ISSN 0020-8671

ACKNOWLEDGEMENTS

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

MEMBERS

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

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

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Pipers Lane, Thatcham, Berkshire, RG19 4NS, United Kingdom

Printed in Wales by Cambrian Printers, Aberystwyth

Addendum I

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

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

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

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

The following example illustrates the changes :-

September 2002

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

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

Epicentral Estimates

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

Observational Data

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

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

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

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

Addendum II

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

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

ISCJB ***01*** *00:22:54.8±0.2, 46.128N±0008×694E±001, h6km±1km, Error ellipse: s-maj=1.7km s-min=1.4km az=178.3*
NEIC ***01*** *00:22:55.9, 46.10N×7.10E, h2km, ML3.0(LDG), ML3.0(SZGRF), ML2.7(ZUR), After ZUR.*
CSEM ***01*** *00:22:55.6±0.1, 4608N×7.11E, h5km, ML3.0/27, Error ellipse: s-maj=1.2km s-min=0.8km az=84.0*
BGR ***01*** *00:22:55.4±0.9, 4605N×702E, h10km, ML3.0, Error ellipse: s-maj=14.5km s-min=8.9km az=111.0*
ROM ***01*** *00:22:56.1±0.2, 4608N×706E, h8km±2km, Md2.7/14, Ml2.2/4, Error ellipse: s-maj=3.1km s-min=1.4km az=29.0*
LDG ***01*** *00:22:56.7±0.1, 46.12N×706E, h3km, Md3.0/2, Ml3.0/27, Error ellipse: s-maj=1.6km s-min=1.1km az=114.0*
GEN ***01*** *00:22:56.7, 46.10N×704E, h4km, ML2.0*
ZUR ***01*** *00:22:56.6, 46.13N×705E, h2km±1km, ML2.6/14*
VIE ***01*** *00:22:57.8±1.1, 4598N×704E, h10km, mb2.3/3, ML2.7/5, Error ellipse: s-maj=16.1km s-min=3.0km az=125.0*
STR ***01*** *00:22:58.1±0.5, 46.19N×7.11E, h10km, Ml2.9, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
PRU ***01*** *00:23:01.1, 46.12N×722E, h25km*
ISC 01 00:22:56.0±0.2, 46118N±0008×698E±001, h9km±1km, n169, σ1 905/335, 14C-9D, Switzerland

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
SALAN	**Lac Salanfe**	**0.03**	**346**	*i* Sg		**Pg**	**00 22 58.1**	**+0.5**
SALAN	**Lac Salanfe**	**0.03**	**346**	⇓*i*Pg		**Sg**	**00 22 59.1**	**+0.3**
EMV	**Vieux Emosson**	**0.08**	**226**	*i* Sg		**Pg**	**00 22 59.2**	**+1.1**
	13μm,0.1s							
EMV	**Vieux Emosson**	**0.08**	**226**	⇑*i*Pg		**Sg**	**00 23 00.8**	**+1.1**
	13μm,0.1s							
EMV	**Vieux Emosson**	**0.08**	**226**	Pg		**Pg**	**00 22 59.2**	**+1.1**
EMV				Sg		**Sg**	**00 23 00.8**	**+1.1**
GRYON	**Gryon**	**0.16**	**34**	⇑*i*Pg		**Pg**	**00 22 59.5**	**+0.1**
	1μm,0.3s							
GRYON				*i* Sg		**Sg**	**00 23 01.6**	**-0.1**
	1μm,0.3s							
AIGLE	**Aigle**	**0.22**	**355**	⇑*i*Pg		**Pg**	**00 23 01.0**	**+0.4**
	2μm,0.3s							
DIX	**Grande Dixence**	**0.30**	**97**	Pg		**Pg**	**00 23 02.1**	**+0.2**
DIX				Sg		**Sg**	**00 23 05.8**	**-0.1**
DIX	**Grande Dixence**	**0.30**	**97**	*i* Sg		**Pg**	**00 23 02.1**	**+0.2**
	4μm,0.2s							
DIX	**Grande Dixence**	**0.30**	**97**	⇑*i*Pg		**Sg**	**00 23 05.8**	**-0.1**
	4μm,0.2s							
SENIN	**Lac Senin/Sane**	**0.33**	**42**	⇓*i*Pg		**Pg**	**00 23 02.5**	**0.0**
	1μm,0.3s							
SENIN				*e*Sg		**Sg**	**00 23 07.0**	**+0.1**
	1μm,0.3s							
MRGE	**Morge**	**0.35**	**171**	Pg		**Pg**	**00 23 03.8**	**+0.9**
MRGE				Sg		**Sg**	**00 23 08.6**	**+1.0**
	565nm,0.2s							
LKBD	**Leukerbad**	**0.52**	**59**	⇓*i*Pg		**Pg**	**00 23 05.9**	**-0.2**
	170nm,0.6s							
LKBD				*i* Sg		**Sg**	**00 23 12.3**	**-0.7**
	170nm,0.6s							
LKBD2	**Leukerbad 2**	**0.53**	**61**	⇓*i*Pg		**Pg**	**00 23 06.0**	**-0.2**
LPL	**La Plagne**	**0.63**	**196**	*e*Pg		**Pg**	**00 23 09.0**	**+0.9**
	SNR=1.0							
LPL				*e*Sg		**Sg**	**00 23 17.1**	**+0.8**
	54nm,0.3s							
LPL	**La Plagne**	**0.63**	**196**	*e*Pg		**Pg**	**00 23 09.0**	**+0.9**
	SNR=1.0							
LPL				*e*Sg		**Sg**	**00 23 17.1**	**+0.8**
	27nm,0.3s							
LPG	**La Plagne**	**0.64**	**195**	*e*Pg		**Pg**	**00 23 09.3**	**+0.9**
	SNR=1.0							
LPG				*e*Sg		**Sg**	**00 23 17.8**	**+1.1**
	50nm,0.2s,SNR=1.0							
LPG	**La Plagne**	**0.64**	**195**	*e*Pg		**Pg**	**00 23 09.3**	**+0.9**
	SNR=1.0							
LPG				*e*Sg		**Sg**	**00 23 17.8**	**+1.1**
	25nm,0.2s,SNR=1.0							
GIMEL	**St. Georges /**	**0.65**	**310**	⇑*i*Pg		**Pg**	**00 23 12.8**	**+4.3**
	321nm,0.3s							
TORNY	**Torny/Romont**	**0.66**	**359**	*e*Pg		**Pg**	**00 23 09.4**	**+0.7**
	1μm,0.2s							
LSD	**Ceresole Reale**	**0.67**	**170**	P		**Pg**	**00 23 09.2**	**+0.3**
LSD				S		**Sg**	**00 23 17.7**	**0.0**
MMK	**Mattmark**	**0.69**	**95**	⇓*i*Pg		**Pg**	**00 23 08.6**	**-0.6**
	236nm,0.2s							
MMK	**Mattmark**	**0.69**	**95**	Pg		**Pg**	**00 23 08.8**	**-0.4**
MMK				Sg		**Sg**	**00 23 17.9**	**-0.3**
WIMIS	**Wimmis**	**0.70**	**39**	*e*Pg		**Pg**	**00 23 09.5**	**-0.1**
	250nm,0.4s							
CABF	**La Chapelle**	**0.79**	**309**	*e*Pn		**Pn**	**00 23 13.7**	**+0.4**
	SNR=1.0							
CABF				*e*Sg		**Sg**	**00 23 22.7**	**+1.2**
	41nm,0.2s,SNR=1.0							
CABF				*e*Sn		**Sn**	**00 23 26.0**	**+0.7**
	115nm,0.6s,SNR=1.0							
CABF	**La Chapelle**	**0.79**	**309**	*e*Pg		**Pg**	**00 23 12.3**	**+1.1**
CABF				*e*Pn		**Pn**	**00 23 13.7**	**+0.4**
CABF				*e*Sg		**Sg**	**00 23 22.7**	**+1.2**
CABF				*e*Sn		**Sn**	**00 23 26.0**	**+0.7**
CABF	**La Chapelle**	**0.79**	**309**	*e*Pn		**Pn**	**00 23 13.7**	**+0.4**
	SNR=1.0							
CABF				*e*Sg		**Sg**	**00 23 22.7**	**+1.2**
	20nm,0.2s,SNR=1.0							
CABF				*e*Sn		**Sn**	**00 23 26.0**	**+0.7**
	58nm,0.6s,SNR=1.0							
TRAV		**0.81**	**138**	P		**Pg**	**00 23 11.1**	**-0.4**
TRAV				S		**Sg**	**00 23 21.0**	**-1.0**
ORX	**Oropa**	**0.85**	**124**	P		**Pg**	**00 23 11.8**	**-0.5**
ORX	**Oropa**	**0.85**	**124**	Pg		**Pg**	**00 23 11.9**	**-0.4**
ORX				S		**Sg**	**00 23 22.3**	**-1.1**
ORX				Sg		**Sg**	**00 23 23.0**	**-0.4**
ORO	**Oropa**	**0.85**	**125**	Pg		**Pg**	**00 23 11.8**	**-0.6**
ORO				Sg		**Sg**	**00 23 25.2**	**+1.7**
	124nm,0.2s							
BRANT	**Les Verrieres**	**0.89**	**337**	⇑*i*P		**Pg**	**00 23 09.9**	**-3.3**
	341nm,0.5s							
RSP	**Reno Superiore**	**0.99**	**169**	P		**Pg**	**00 23 14.7**	**-0.2**
RSP	**Reno Superiore**	**0.99**	**169**	Pg		**Pg**	**00 23 15.2**	**+0.3**
RSP				S		**Sg**	**00 23 26.9**	**-0.8**
RSP				Sg		**Sg**	**00 23 29.2**	**+1.5**
	69nm,0.2s							
HASLI	**Hasliberg/Brie**	**1.03**	**51**	⇑*i*P		**Pg**	**00 23 14.1**	**-1.7**
	870nm,0.4s							
BNI	**Bardonecchia**	**1.09**	**191**	*e*P		**Pg**	**00 23 16.9**	**+0.1**
BNI				*e*S		**Sg**	**00 23 32.2**	**+1.3**
BNI	**Bardonecchia**	**1.09**	**191**	*e*P		**Pg**	**00 23 17.0**	**+0.1**
BNI	**Bardonecchia**	**1.09**	**191**	Pg		**Pg**	**00 23 17.2**	**+0.3**
	14nm,0.3s							
BNI				*e*S		**Sg**	**00 23 32.2**	**+1.2**
RRL	**Cesana Torines**	**1.21**	**187**	P		**Pb**	**00 23 18.7**	**-0.3**
RRL				S		**Sb**	**00 23 34.0**	**-0.6**
FUSIO	**Fusio**	**1.21**	**73**	⇑*i*P		**Pb**	**00 23 15.6**	**-3.5**
	205nm,0.3s							
LOMF	**Lomont**	**1.24**	**355**	Pg		**Pg**	**00 23 20.3**	**+0.6**
LOMF				Sg		**Sg**	**00 23 37.5**	**+1.7**
BNALP	**Bannalp**	**1.25**	**52**	⇑*i*P		**Pn**	**00 23 18.5**	**-1.1**
	165nm,0.3s							
VAI	**Varese**	**1.27**	**101**	Pg		**Pg**	**00 23 19.7**	**-0.7**
VAI				Sg		**Sg**	**00 23 37.9**	**+1.1**
	29nm,0.4s							
BOURR	**Bourrignon**	**1.29**	**8**	*e*Pg		**Pg**	**00 23 20.7**	**0.0**
BOURR				*e*Sg		**Sg**	**00 23 38.8**	**+1.4**
MBDF	**Montbardon**	**1.40**	**186**	*e*Pn		**Pn**	**00 23 22.6**	**+0.9**
	SNR=1.0							
MBDF				*e*Sg		**Sg**	**00 23 41.5**	**+0.5**
	37nm,0.5s,SNR=1.0							
MBDF	**Montbardon**	**1.40**	**186**	*e*Pn		**Pn**	**00 23 22.6**	**+0.9**
	SNR=1.0							
MBDF				*e*Sg		**Sg**	**00 23 41.5**	**+0.5**
	18nm,0.5s,SNR=1.0							
ORIF	**Oris-en-Rattie**	**1.43**	**213**	*e*Pg		**Pg**	**00 23 24.1**	**+0.7**
ORIF				*e*Sg		**Sg**	**00 23 43.1**	**+1.2**
	27nm,0.3s,SNR=1.0							
ORIF	**Oris-en-Rattie**	**1.43**	**213**	*e*Pn		**Pn**	**00 23 22.4**	**+0.3**
ORIF				*e*Pg		**Pg**	**00 23 24.1**	**+0.7**
ORIF				*e*Sg		**Sg**	**00 23 43.1**	**+1.2**
ORIF	**Oris-en-Rattie**	**1.43**	**213**	*e*Pg		**Pg**	**00 23 24.1**	**+0.7**
ORIF				*e*Sg		**Sg**	**00 23 43.1**	**+1.2**
	14nm,0.3s,SNR=1.0							
MUGIO	**Muggio**	**1.45**	**97**	Pg		**Pg**	**00 23 23.1**	**-0.7**
SULZ	**Cheisacher**	**1.61**	**28**	*e*Pg		**Pg**	**00 23 25.0**	**-1.8**
SULZ				*e*Sg		**Sg**	**00 23 48.7**	**+0.9**
PZZ	**Prazzo**	**1.62**	**177**	P		**Pn**	**00 23 25.0**	**+0.4**
PZZ	**Prazzo**	**1.62**	**177**	Pg		**Pg**	**00 23 26.5**	**-0.5**
PZZ				S		**Sn**	**00 23 43.4**	**-2.2**
DOI	**San Damiano**	**1.62**	**173**	Pg		**Pg**	**00 23 26.1**	**-1.0**
	11nm,0.2s							
SURF	**Saint Ours**	**1.64**	**184**	Pn		**Pn**	**00 23 27.0**	**+2.0**
ZUR	**Degenried**	**1.67**	**41**	*e*Pn		**Pn**	**00 23 25.9**	**+0.6**
ZUR				*e*Sg		**Sg**	**00 23 50.1**	**+0.6**
TUE	**Stuetta**	**1.68**	**77**	Pg		**Pg**	**00 23 27.3**	**-0.8**
TUE				Sg		**Sg**	**00 23 51.8**	**+1.9**
	38nm,0.7s							
HINF	**Hinteralfeld**	**1.70**	**357**	*e*Pg		**Pg**	**00 23 28.2**	**-0.4**
HINF				*e*Sn		**Sn**	**00 23 46.3**	**-1.4**
	SNR=1.0							
HINF				*e*Sg		**Sg**	**00 23 50.0**	**-0.7**
	53nm,0.3s							
HINF	**Hinteralfeld**	**1.70**	**357**	*e*Pn		**Pn**	**00 23 25.3**	**-0.5**
HINF				*e*Pg		**Pg**	**00 23 28.2**	**-0.4**
HINF				*e*Sn		**Sn**	**00 23 46.3**	**-1.4**
HINF				*e*Sg		**Sg**	**00 23 50.0**	**-0.7**
HINF	**Hinteralfeld**	**1.70**	**357**	*e*Pg		**Pg**	**00 23 28.2**	**-0.4**
HINF				*e*Sn		**Sn**	**00 23 46.3**	**-1.4**
	SNR=1.0							
HINF				*e*Sg		**Sg**	**00 23 50.0**	**-0.7**
	26nm,0.3s							
MOF	**Molkenrain**	**1.74**	**3**	Pn		**Pn**	**00 23 26.4**	**+0.1**
MOF	**Molkenrain**	**1.74**	**3**	Pg		**Pg**	**00 23 29.3**	**0.0**
MOF				Sg		**Sg**	**00 23 51.7**	**-0.1**
MOF	**Molkenrain**	**1.74**	**3**	Pg		**Pg**	**00 23 29.3**	**0.0**
MOF				Sg		**Sg**	**00 23 51.7**	**-0.1**
WILA	**Wila**	**1.85**	**45**	*e*Pn		**Pn**	**00 23 28.4**	**+0.5**
WILA				*e*Sn		**Sn**	**00 23 51.7**	**+0.3**
STV	**Sta Anna Valdi**	**1.89**	**173**	P		**Pn**	**00 23 27.6**	**-0.8**
STV				S		**Sn**	**00 23 49.0**	**-3.3**
FELD	**Feldberg im Sc**	**1.89**	**21**	Pn		**Pn**	**00 23 27.8**	**-0.7**
FELD	**Feldberg im Sc**	**1.89**	**21**	Pg		**Pg**	**00 23 32.0**	**-0.3**
FELD				Sg		**Sg**	**00 23 56.5**	**-0.3**
ENR	**Entracque**	**1.92**	**171**	P		**Pn**	**00 23 28.6**	**-0.2**
ENR				S		**Sn**	**00 23 49.5**	**-3.5**
PCP	**Pian Castagno**	**1.92**	**144**	P		**Pn**	**00 23 28.5**	**-0.4**
PCP				S		**Sn**	**00 23 50.3**	**-2.9**
ROB	**Roburent**	**1.93**	**161**	P		**Pn**	**00 23 28.7**	**-0.3**
ROB				S		**Sn**	**00 23 50.4**	**-2.9**
HAU	**Haudompre**	**1.94**	**347**	*e*Pg		**Pg**	**00 23 32.6**	**-0.5**
HAU				*e*Sg		**Sg**	**00 23 57.5**	**-0.7**
	26nm,0.2s,SNR=1.0							
HAU	**Haudompre**	**1.94**	**347**	*e*Pn		**Pn**	**00 23 28.7**	**-0.4**
HAU				*e*Pg		**Pg**	**00 23 32.6**	**-0.5**
HAU				*e*Sg		**Sg**	**00 23 57.5**	**-0.7**
HAU	**Haudompre**	**1.94**	**347**	*e*Pg		**Pg**	**00 23 32.6**	**-0.5**
HAU				*e*Sg		**Sg**	**00 23 57.5**	**-0.7**
	13nm,0.2s,SNR=1.0							
SLE	**Schleitheim**	**1.94**	**32**	*e*Pn		**Pn**	**00 23 28.7**	**-0.5**
SLE				*e*Sg		**Sg**	**00 23 58.0**	**-0.5**
VIVF	**Saint-Julien-l**	**2.06**	**233**	*e*P		**Pn**	**00 23 33.4**	**+2.7**
VIVF	**Saint-Julien-l**	**2.06**	**233**	*e*Pg		**Pg**	**00 23 35.9**	**+0.5**
VIVF				*e*Sn		**Sn**	**00 23 56.4**	**-0.1**
	SNR=1.0							
VIVF				*e*Sg		**Sg**	**00 24 02.1**	**0.0**
	35nm,0.3s							
VIVF	**Saint-Julien-l**	**2.06**	**233**	*e*Pn		**Pn**	**00 23 31.3**	**+0.6**
VIVF				*e*P			00 23 33.4	
VIVF				*e*Pg		**Pg**	**00 23 35.9**	**+0.5**
VIVF				*e*Sn		**Sn**	**00 23 56.4**	**-0.1**
VIVF				*e*Sg		**Sg**	**00 24 02.1**	**0.0**
VIVF	**Saint-Julien-l**	**2.06**	**233**	*e*P		**Pn**	**00 23 33.4**	**+2.7**
VIVF	**Saint-Julien-l**	**2.06**	**233**	*e*Pg		**Pg**	**00 23 35.9**	**+0.5**
VIVF				*e*Sn		**Sn**	**00 23 56.4**	**-0.1**
	SNR=1.0							
VIVF				*e*Sg		**Sg**	**00 24 02.1**	**0.0**
	18nm,0.3s							
FIN	**Finale Ligure**	**2.10**	**155**	P		**Pn**	**00 23 30.1**	**-1.2**
FIN				S		**Sn**	**00 23 52.7**	**-4.8**
ECH	**Echery**	**2.10**	**3**	Pn		**Pn**	**00 23 30.9**	**-0.4**
MONE	**Monesi**	**2.11**	**165**	P		**Pn**	**00 23 30.9**	**-0.6**
MONE				S		**Sn**	**00 23 54.5**	**-3.3**
RORO		**2.15**	**159**	P		**Pn**	**00 23 30.8**	**-1.2**
RORO				S		**Sn**	**00 23 54.0**	**-4.7**
SMF	**Signal de Mont**	**2.24**	**285**	*e*Pg		**Pg**	**00 23 38.9**	**0.0**
SMF				*e*Sg		**Sg**	**00 24 07.7**	**-0.1**
	24nm,0.2s,SNR=1.0							
SMF	**Signal de Mont**	**2.24**	**285**	*e*Pn		**Pn**	**00 23 34.4**	**+1.2**
SMF				*e*Pg		**Pg**	**00 23 38.9**	**0.0**
SMF				*e*Sg		**Sg**	**00 24 07.7**	**-0.1**
SMF	**Signal de Mont**	**2.24**	**285**	*e*Pg		**Pg**	**00 23 38.9**	**0.0**
SMF				*e*Sg		**Sg**	**00 24 07.7**	**-0.1**
	12nm,0.2s,SNR=1.0							
SBF	**Sospel**	**2.28**	**172**	*e*Pg		**Pg**	**00 23 39.0**	**-0.6**
	SNR=1.0							
SBF				*e*Sg		**Sg**	**00 24 09.0**	**-0.1**
	35nm,0.6s,SNR=1.0							
SBF	**Sospel**	**2.28**	**172**	*e*Pg		**Pg**	**00 23 39.0**	**-0.6**
	SNR=1.0							
SBF				*e*Sg		**Sg**	**00 24 09.0**	**-0.1**
	18nm,0.6s,SNR=1.0							
IMI	**Imperia**	**2.30**	**163**	P		**Pn**	**00 23 33.2**	**-0.9**
IMI				S		**Sn**	**00 23 57.6**	**-4.9**
CDF	**Champ du Feu**	**2.30**	**5**	*e*Pg		**Pg**	**00 23 39.4**	**-0.7**
	SNR=1.0							
CDF				*e*Sn		**Sn**	**00 24 00.6**	**-2.0**
	SNR=1.0							
CDF				*e*Sg		**Sg**	**00 24 08.7**	**-1.3**
	8.5nm,0.2s,SNR=1.0							
CDF	**Champ du Feu**	**2.30**	**5**	*e*Pn		**Pn**	**00 23 33.8**	**-0.3**
CDF				*e*Pg		**Pg**	**00 23 39.4**	**-0.7**
CDF				*e*Sn		**Sn**	**00 24 00.6**	**-2.0**
CDF				*e*Sg		**Sg**	**00 24 08.7**	**-1.3**
CDF	**Champ du Feu**	**2.30**	**5**	*e*Pg		**Pg**	**00 23 39.4**	**-0.7**
	SNR=1.0							
CDF				*e*Sn		**Sn**	**00 24 00.6**	**-2.0**
	SNR=1.0							
CDF				*e*Sg		**Sg**	**00 24 08.7**	**-1.3**
	4.2nm,0.2s,SNR=1.0							
DAVA	**Damuels**	**2.31**	**59**	⇓*e*Pn		**Pn**	**00 23 35.9**	**+1.7**
	SNR=13							
DAVA				⇑*i*Sn		**Sn**	**00 24 06.8**	**+4.0**
NEGI	**Negi**	**2.33**	**167**	P		**Pn**	**00 23 33.8**	**-0.6**
NEGI				S		**Sn**	**00 24 58.6**	**-4.5**
PLDF	**La Plantade**	**2.34**	**268**	Pn		**Pn**	**00 23 35.5**	**+0.8**
SMRF	**Simiane la Rot**	**2.36**	**205**	*e*Pg		**Pg**	**00 23 40.9**	**-0.4**
SMRF				*e*Sg		**Sg**	**00 24 11.8**	**-0.1**
	3.0nm,0.3s							
SMRF	**Simiane la Rot**	**2.36**	**205**	*e*P		**Pn**	**00 23 37.4**	**+2.5**
SMRF				*e*Pg		**Pg**	**00 23 40.9**	**-0.4**
SMRF				*e*Sg		**Sg**	**00 24 11.8**	**-0.1**
SMRF	**Simiane la Rot**	**2.36**	**205**	*e*Pg		**Pg**	**00 23 40.9**	**-0.4**
SMRF				*e*Sg		**Sg**	**00 24 11.8**	**-0.1**
	1.5nm,0.3s							
BFO	**Black Forest**	**2.40**	**22**	*e*Pn		**Pn**	**00 23 34.2**	**-1.2**
BFO				*e*Sn		**Sn**	**00 24 06.3**	**+1.4**
BFO	**Black Forest**	**2.40**	**22**	*e*Pn		**Pn**	**00 23 34.2**	**-1.2**
BFO				*e*Sn		**Sn**	**00 24 07.7**	**+2.9**
LOR	**Lormes**	**2.44**	**299**	*e*Pn		**Pn**	**00 23 37.0**	**+1.0**
	baz=120,SNR=1.0							
LOR	**Lormes**	**2.44**	**299**	*e*Pg		**Pg**	**00 23 42.4**	**-0.3**
	baz=120							
LOR				*e*Sg		**Sg**	**00 24 14.3**	**0.0**
	15nm,0.2s,SNR=1.0							
LOR	**Lormes**	**2.44**	**299**	*e*Pn		**Pn**	**00 23 37.0**	**+1.0**
LOR				*e*Pg		**Pg**	**00 23 42.4**	**-0.3**
LOR				*e*Sg		**Sg**	**00 24 14.3**	**0.0**
LOR	**Lormes**	**2.44**	**299**	*e*Pg		**Pg**	**00 23 42.4**	**-0.3**
LOR				*e*Sg		**Sg**	**00 24 14.3**	**0.0**
	7.4nm,0.2s,SNR=1.0							
SFTF	**Sexfontaines**	**2.47**	**328**	*e*Pn		**Pn**	**00 23 37.1**	**+0.7**
	baz=140							
SFTF	**Sexfontaines**	**2.47**	**328**	*e*Pg		**Pg**	**00 23 42.5**	**-0.9**
	baz=142							
SFTF				*e*Sn		**Sn**	**00 24 05.3**	**-1.4**
SFTF				*e*Sg		**Sg**	**00 24 14.8**	**-0.6**
	27nm,0.4s							
SFTF	**Sexfontaines**	**2.47**	**328**	*e*Pn		**Pn**	**00 23 37.1**	**+0.7**
SFTF				*e*Pg		**Pg**	**00 23 42.5**	**-0.9**
SFTF				*e*Sn		**Sn**	**00 24 05.3**	**-1.4**
SFTF				*e*Sg		**Sg**	**00 24 14.8**	**-0.6**
SFTF	**Sexfontaines**	**2.47**	**328**	*e*Pg		**Pg**	**00 23 42.5**	**-0.9**
SFTF				*e*Sn		**Sn**	**00 24 05.3**	**-1.4**
SFTF				*e*Sg		**Sg**	**00 24 14.8**	**-0.6**
	14nm,0.4s							
FRF	**La Foret Royal**	**2.57**	**185**	*e*Pg		**Pg**	**00 23 44.4**	**-0.8**
	SNR=1.0							
FRF				*e*Sg		**Sg**	**00 24 17.6**	**-0.9**
	8.1nm,0.3s,SNR=1.0							
FRF	**La Foret Royal**	**2.57**	**185**	*e*P		**Pn**	**00 23 40.4**	**+2.6**
FRF				*e*Pg		**Pg**	**00 23 44.4**	**-0.8**
FRF				*e*Sg		**Sg**	**00 24 17.6**	**-0.9**
FRF	**La Foret Royal**	**2.57**	**185**	*e*Pg		**Pg**	**00 23 44.4**	**-0.8**
	SNR=1.0							
FRF				*e*Sg		**Sg**	**00 24 17.6**	**-0.9**
	4.1nm,0.3s,SNR=1.0							
SSF	**Saint Saulge**	**2.58**	**293**	*e*Pg		**Pg**	**00 23 45.0**	**-0.3**
SSF				*e*Sg		**Sg**	**00 24 19.1**	**+0.4**
	9.8nm,0.3s,SNR=1.0							
SSF	**Saint Saulge**	**2.58**	**293**	*e*Pn		**Pn**	**00 23 38.1**	**+0.2**
SSF				*e*Pg		**Pg**	**00 23 45.0**	**-0.3**
SSF				*e*Sg		**Sg**	**00 24 19.1**	**+0.4**
SSF	**Saint Saulge**	**2.58**	**293**	*e*Pg		**Pg**	**00 23 45.0**	**-0.3**
SSF				*e*Sg		**Sg**	**00 24 19.1**	**+0.4**
	4.9nm,0.3s,SNR=1.0							
AVF	**Avril sur Loir**	**2.60**	**286**	*e*Pg		**Pg**	**00 23 45.0**	**-0.7**
AVF				*e*Sn		**Sn**	**00 24 08.8**	**-1.0**
	SNR=1.0							
AVF				*e*Sg		**Sg**	**00 24 19.3**	**-0.1**
	16nm,0.4s,SNR=1.0							
AVF	**Avril sur Loir**	**2.60**	**286**	*e*Pn		**Pn**	**00 23 39.4**	**+1.3**
AVF				*e*Pg		**Pg**	**00 23 45.0**	**-0.7**
AVF				*e*Sn		**Sn**	**00 24 08.8**	**-1.0**
AVF				*e*Sg		**Sg**	**00 24 19.3**	**-0.1**
AVF	**Avril sur Loir**	**2.60**	**286**	*e*Pg		**Pg**	**00 23 45.0**	**-0.7**
AVF				*e*Sn		**Sn**	**00 24 08.8**	**-1.0**
	SNR=1.0							
AVF				*e*Sg		**Sg**	**00 24 19.3**	**-0.1**
	8.1nm,0.4s,SNR=1.0							
AGO	**Saint Agoulin**	**2.68**	**270**	Pn		**Pn**	**00 23 39.9**	**+0.6**
RFYF	**Reffroy**	**2.71**	**338**	*e*Pn		**Pn**	**00 23 40.9**	**+1.2**
	baz=147							
RFYF	**Reffroy**	**2.71**	**338**	*e*Pg		**Pg**	**00 23 47.6**	**-0.4**
	baz=146							
RFYF				*e*Sg		**Sg**	**00 24 22.3**	**-0.8**
	13nm,0.2s							
RFYF	**Reffroy**	**2.71**	**338**	*e*Pn		**Pn**	**00 23 40.9**	**+1.2**
RFYF				*e*Pg		**Pg**	**00 23 47.6**	**-0.4**
RFYF				*e*Sg		**Sg**	**00 24 22.3**	**-0.8**
RFYF	**Reffroy**	**2.71**	**338**	*e*Pg		**Pg**	**00 23 47.6**	**-0.4**
RFYF				*e*Sg		**Sg**	**00 24 22.3**	**-0.8**
	6.3nm,0.2s							
GRAM		**2.72**	**126**	P		**Pn**	**00 23 39.4**	**-0.4**
MEZF	**Maizieres J'vi**	**2.72**	**332**	*e*Pn		**Pn**	**00 23 41.2**	**+1.3**
	baz=147,SNR=1.0							
MEZF	**Maizieres J'vi**	**2.72**	**332**	*e*Pg		**Pg**	**00 23 47.4**	**-0.7**
	baz=146,SNR=1.0							
MEZF				*e*Sn		**Sn**	**00 24 11.5**	**-1.4**
	SNR=1.0							
MEZF				*e*Sg		**Sg**	**00 24 22.4**	**-1.0**
	16nm,0.4s,SNR=1.0							
MEZF	**Maizieres J'vi**	**2.72**	**332**	*e*Pn		**Pn**	**00 23 41.2**	**+1.3**
MEZF				*e*Pg		**Pg**	**00 23 47.4**	**-0.7**
MEZF				*e*Sn		**Sn**	**00 24 11.5**	**-1.4**
MEZF				*e*Sg		**Sg**	**00 24 22.4**	**-1.0**
MEZF	**Maizieres J'vi**	**2.72**	**332**	*e*Pg		**Pg**	**00 23 47.4**	**-0.7**
	SNR=1.0							
MEZF				*e*Sn		**Sn**	**00 24 11.5**	**-1.4**
	SNR=1.0							
MEZF				*e*Sg		**Sg**	**00 24 22.4**	**-1.0**
	8.1nm,0.4s,SNR=1.0							
LBL	**Lubilhac**	**2.76**	**253**	Pn		**Pn**	**00 23 41.3**	**+0.9**
LMR	**La Mourre**	**2.81**	**187**	*e*Pg		**Pg**	**00 23 48.9**	**-0.8**
LMR				*e*Sg		**Sg**	**00 24 25.3**	**-0.7**
	2.9nm,0.3s							
LMR	**La Mourre**	**2.81**	**187**	*e*Pg		**Pg**	**00 23 48.9**	**-0.8**
LMR				*e*Sg		**Sg**	**00 24 25.3**	**-0.7**
	1.5nm,0.3s							
BGF	**Bois d'Agland**	**2.90**	**280**	*e*Pg		**Pg**	**00 23 51.2**	**-0.3**
BGF				*

baz=121
FLN eSn **Sn** **00 25 24.9** **-1.7**
5.7nm,0.6s,SNR=1.0
FLN **La Foliniere** **5.71 300** ePn **Pn** **00 24 21.1** **+0.2**
FLN eSn **Sn** **00 25 24.9** **-1.7**
2.8nm,0.6s,SNR=1.0
GRR **Gorron** **5.80 296** ePn **Pn** **00 24 22.7** **+0.6**
SNR=1.0
ETSF **Etsaut** **6.28 242** ePn **Pn** **00 24 30.1** **+1.4**
SNR=1.0

*CSEM **01** 00:33:03.3, 3826N×2027E, h11km, MD3.5/7, After ATH*
*NEIC **01** 00:33:03.3, 3826N×2027E, h11km, MD3.5(ATH), After ATH.*

ATH 01 00:33:03.4, 3826N×2027E, h11km±3km, MD3.5/6, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.27**	**108**	ePG	Pg	00 33 08.6	-0.2
VLS				eSG	Sg	00 33 12.5	+0.1
RLS	**Riolos of Patr**	**0.96**	**102**	ePN	Pn	00 33 22.4	-0.5
RLS				eSB	Sb	00 33 35.8	+0.9
EVR	**Evrytania**	**1.37**	**61**	ePB	Pb	00 33 29.7	+0.6
KEK	**Kerkira**	**1.50**	**346**	ePB	Pb	00 33 31.6	+0.4
ITM	**Ithomi**	**1.70**	**129**	ePN	Pn	00 33 35.4	+2.4
THL	**Klokotos Trika**	**1.88**	**46**	ePN	Pn	00 33 37.3	+1.8
VLI	**Veliai**	**2.62**	**125**	ePn	Pn	00 33 43.5	-2.1

IDC 01 00:36:45.8±4.0, 2165S×6806W, h136km±38km, mb3.6/4, mb1 3.6/5, mb1mx3.4/15, mbtmp3.5/5, Error ellipse: s-maj=45.3km s-min=28.3km az=111.0, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**5.33**	**359**	P	Pn	00 38 03.7	+0.2
LPAZ	1.5nm,0.3s,baz=233,slow=14,SNR=23			S	Sn	00 39 05.9	+1.9
DBIC	**Dimbokro**	**68.02**	**73**	P	P	00 47 30.4	-0.5
	baz=295,slow=19,SNR=1.3 2.2nm,0.7s,baz=240,slow=8.0,SNR=7.3						
QSPA	**South Pole Qui**	**68.54**	**180**	P	P	00 47 33.7	+0.6
TORD	**Torodi Ar. Bea**	**76.66**	**70**	P	P	00 48 22.8	+0.6
	0.7nm,0.5s,baz=168,slow=9.3,SNR=6.9 0.8nm,0.5s,baz=258,slow=5.4,SNR=12						
YKA	**Yellowknife Ar**	**91.59**	**340**	P	P	00 49 36.5	-0.3
	0.2nm,0.7s,baz=136,slow=4.7,SNR=5.3						

JMA 01 00:49:06.1±0.2, 4395N×14805E, h0km, M3.6, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**1.77**	**252**	P	Pn	00 49 38.4	+0.4
NEM2				eS	Sn	00 50 01.9	+0.7
JRA	**Rausu**	**2.12**	**271**	P	Pn	00 49 43.3	+0.6
JRA				eS	Sn	00 50 10.5	+0.8
JNK	**Nakash**	**2.44**	**263**	P	Pn	00 49 47.8	+0.6
JNK				eS	Sn	00 50 18.2	+0.5
JAK	**Akkeshi**	**2.62**	**250**	P	Pn	00 49 50.8	+1.2
JAK				eS	Sn	00 50 22.8	+0.7
JTKR	**Abashiri--Toko**	**2.99**	**272**	P	Pn	00 49 56.7	+2.0
JAR	**Ashorobuto**	**3.18**	**260**	P	Pn	00 49 59.2	+1.9
JAR				eS	Sn	00 50 38.1	+2.3
JCH	**Churui**	**3.67**	**250**	P	Pn	00 50 06.2	+2.1
JCH				eS	Sn	00 50 50.6	+2.5
JKB	**Kayabe**	**5.55**	**251**	P	Pn	00 50 32.0	+2.1

CASC 01 00:58:51.6±2.5, 763N×8284W, h17km±9km, MD4.0, 2C-8D, South of Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DVD	**David**	**0.89**	**26**	eP	Pb	00 59 07.9	-0.7
BRU2	**Volcan**	**1.17**	**7**	⇓eP	Pn	00 59 12.3	-0.9
BRU2				eS	Sb	00 59 28.8	+0.6
BAR1		**1.67**	**344**	⇓eP	Pn	00 59 19.4	-0.7
CNI	**Changuinola**	**1.81**	**10**	⇓iP	Pn	00 59 22.2	+0.2
BUS	**Buena Vista**	**2.12**	**335**	eP	Pn	00 59 26.1	-0.1
BUS				eS	Sn	00 59 54.5	+2.3
URSC	**Urasca**	**2.38**	**337**	⇓eP	Pn	00 59 30.0	+0.1
URSC				eS	Sn	00 59 59.9	+1.2
LCR2	**La Lucha 2**	**2.40**	**331**	⇑eP	Pn	00 59 29.9	-0.1
LCR2				eS	Sn	01 00 01.1	+2.0
AZU	**Azuero**	**2.55**	**86**	eP	Pn	00 59 31.3	-0.9
AZU				eS	Sn	01 00 01.1	-1.7
LAJ	**Bijagual**	**2.56**	**330**	⇓eP	Pn	00 59 32.7	+0.4
PRS1	**Puriscal**	**2.76**	**328**	⇓eP	Pn	00 59 33.6	-1.5
PRS1				eS	Sn	01 00 06.5	-1.5
CGA2	**Cerro Gallo 2**	**2.87**	**326**	eP	Pn	00 59 35.8	-0.8
JCR	**Jicaral**	**3.15**	**315**	eP	Pn	00 59 39.6	-0.8
JCR				eS	Sn	01 00 16.9	-0.8
BCIP	**Isla Barro Col**	**3.34**	**63**	⇓eP	Pn	00 59 44.1	+1.0
BCIP				eS	Sn	01 00 26.1	+3.6
2RIO	**Dos Rios de Up**	**3.73**	**321**	eP	Pn	00 59 54.4	+6.0
LAPE	**La Pedrera**	**11.17**	**90**	⇑eP		00 59 53.2	
LAPE				eS		01 00 37.5	
PTP	**Ponta Puerca**	**19.80**	**56**	⇓iP		00 59 03.3	

IDC 01 00:59:08.8±2.6, 153N×12665E, h0km, mb3.7/3, mb1 3.8/3, mb1mx3.5/15, mbtmp3.7/3, Error ellipse: s-maj=261.6km s-min=24.6km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.63**	**161**	P	P	01 04 11.5	+0.1
	1.3nm,0.6s,baz=341,slow=10,SNR=4.5						
WB2	**Warramunga Arr**	**22.63**	**161**	eP	P	01 04 12.0	+0.5
ASAR	**Alice Springs**	**26.02**	**165**	P	P	01 04 43.7	+0.1
	0.2nm,0.3s,baz=342,slow=7.8,SNR=7.2						
MKAR	**Makanchi Array**	**59.32**	**326**	P	P	01 09 12.6	+0.1
	0.8nm,0.4s,baz=115,slow=6.5,SNR=11						

*NEIC **01** 01:04:56.3±0.7, 2262S×17331E, h35km, mb4.6/6, Error ellipse: s-maj=17.6km s-min=12.8km az=57.0*
*ISCJB **01** 01:04:58.1±2.6, 227S±0.1×1732E±0.1, h65km±21km, mb4.2/12, Error ellipse: s-maj=24.6km s-min=12.6km az=147.4*
*IDC **01** 01:05:00.5±4.6, 2277S×17307E, h68km±38km, mb3.8/8, mb1 4.1/11, mb1mx4.0/17, mbtmp4.0/11, ML4.4/3, MS3.7/12, Ms1 3.7/12, ms1mx3.5/23, Error ellipse: s-maj=34.1km s-min=19.5km az=65.0*

ISC 01 01:04:59.4±2.2, 2271S±010×1732E±01, h63km±18km, n42, σ0§91/22, mb4.3/13, 2C-5D, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**6.30**	**275**	P	**Pn**	**01 06 28.8**	**-0.9**
	4.5nm,0.3s,baz=104,slow=16,SNR=26						
DZM				S	**Sn**	**01 07 45.9**	**+5.6**
	3.5nm,0.3s,baz=118,slow=22,SNR=5.0						
RAO	**Raoul Island**	**10.29**	**131**	LR	LR	01 10 30.6	
	comp=Z,304nm,19.4s,baz=332,slow=32						
URZ	**Urewera**	**15.86**	**169**	P	**Pn**	**01 08 38.5**	**-0.1**
	0.3nm,0.3s,baz=4.4,slow=5.4,SNR=4.5						
URZ				LR	LR	01 13 18.5	
	comp=Z,288nm,18.8s,baz=31,slow=32						
HNR	**Honiara**	**18.33**	**314**	P	**Pn**	**01 09 10.3**	**+0.9**
	8.7nm,0.3s,baz=319,slow=1.5,SNR=7.6						
HNR				LR	LR	01 15 07.6	
	comp=Z,194nm,20.6s,baz=358,slow=33						
RPZ	**Rata Peaks**	**21.03**	**184**	P	**P**	**01 09 38.2**	**+0.4**
RPZ				LR	LR	01 16 55.2	
RPZ	**Rata Peaks**	**21.03**	**184**	P	**P**	**01 09 38.2**	**+0.4**
	20nm,0.9s,mb4.5,baz=50,slow=3.1,SNR=6.8						
RPZ				LR	LR	01 16 55.2	
	comp=Z,240nm,20.2s,baz=151,slow=34						
CNB	**Canberra Magne**	**24.28**	**234**	eP	**P**	**01 10 13.2**	**+2.5**
	11nm,0.9s,mb4.3						
CTAO	**Charters Tower**	**25.23**	**271**	P	**P**	**01 10 19.7**	**+0.2**
	13nm,1.1s,mb4.4						
STKA	**Stephens Creek**	**29.46**	**245**	eP	**P**	**01 10 58.1**	**+0.8**
	3.5nm,1.2s,mb4.0						
STKA	**Stephens Creek**	**29.46**	**245**	P	**P**	**01 10 57.7**	**+0.4**
	2.1nm,0.6s,mb4.0,baz=85,slow=7.5,SNR=4.2						
STKA				LR	LR	01 21 14.3	
	comp=Z,212nm,21.8s,baz=28,slow=33						

TBI	**Tubuai**	**34.29**	**99**	eLQ		01 19 01.8
	386nm,32.5s					
TBI				eLR	LR	01 20 30.5
	235nm,27.8s					
PPT	**Papeete**	**35.24**	**89**	eLQ		01 19 23.8
	480nm,28.8s					
PPT				eLR	LR	01 21 03.1
	231nm,23.8s					
PPT	**Papeete**	**35.24**	**89**	LR	LR	01 22 19.7
	comp=Z,223nm,21.2s,baz=267,slow=29					
ASAR	**Alice Springs**	**36.07**	**261**	P	**P**	**01 11 55.0**	**-0.2**
	1.7nm,0.8s,mb4.0,baz=92,slow=9.0,SNR=17					
WRA	**Warramunga Arr**	**36.25**	**267**	P	**P**	**01 11 54.2**	**-2.5**
	0.7nm,0.7s,mb3.7,baz=104,slow=9.1,SNR=3.2					
FITZ	**Fitzroy Crossi**	**44.68**	**267**	P	**P**	**01 13 06.1**	**-0.3**
	4.2nm,0.8s,mb4.3,baz=132,slow=9.1,SNR=7.1					
MBWA	**Marble Bar**	**49.41**	**261**	eP	**P**	**01 13 42.8**	**-0.4**
	18nm,1.1s,mb5.0					
VNDA	**Vanda**	**55.14**	**183**	P	**P**	**01 14 24.8**	**0.0**
	0.8nm,0.6s,mb3.9,baz=9.0,slow=7.9,SNR=6.9					
VNDA				LR	LR	01 32 52.0
	comp=Z,184nm,19.1s,baz=343,slow=30					
SBA	**Scott Base**	**55.28**	**182**	eP	**P**	**01 14 27.0**	**+1.2**
	5.1nm,0.8s,mb4.6					
MJAR	**Matsushiro Arr**	**67.57**	**330**	P	**P**	**01 15 49.6**	**+0.5**
	2.3nm,0.9s,mb4.2,baz=172,slow=8.1,SNR=5.9					
MJAR				LR	LR	01 42 45.6
	comp=Z,46nm,20.5s,baz=250,slow=34					
ASAJ	**Asahikawa**	**72.18**	**337**	LR	LR	01 44 08.9
	comp=Z,38nm,20.5s,baz=171,slow=32					
KSRS	**Korea Array**	**73.47**	**324**	P	**P**	**01 16 25.6**	**+0.5**
	1.4nm,0.7s,mb4.0,baz=134,slow=5.4,SNR=4.2					
KSRS				LR	LR	01 45 09.6
	comp=Z,41nm,18.3s,baz=173,slow=33					
SNAA	**Sanae**	**85.83**	**181**	LR	LR	01 54 10.9
	comp=Z,16nm,21.0s,baz=149,slow=34					
VNA3	**Neumayer Olymp**	**86.28**	**179**	e	**P**	**01 17 33.4**	**-0.4**
VNA3				e		01 17 38.0
VNA2	**Neumayer--Watz**	**86.62**	**180**	e	**P**	**01 17 34.5**	**-1.0**
	baz=203,slow=2.1					
VNA2				e		01 17 38.7
VNA1	**Neumayer--Stat**	**86.89**	**180**	e	**P**	**01 17 35.8**	**-1.0**
VNA1				e		01 17 39.9
HAWA	**Hanford**	**91.71**	**40**	eP	**P**	**01 17 59.5**	**-0.2**
	2.3nm,0.3s,mb5.0					
PDAR	**Pinedale Array**	**96.28**	**46**	LR	LR	01 54 31.6
	comp=Z,51nm,18.2s,baz=357,slow=31					
ARCES	**ARCESS Array B**	**129.34**	**346**	PKP	PKPdf	01 23 58.6	-1.2
	2.2nm,0.8s,baz=345,slow=4.3,SNR=3.8					
NOA	**NORSAR Array B**	**139.71**	**347**	PKP	PKPdf	01 24 19.0	-0.4
	0.4nm,0.8s,baz=23,slow=1.7,SNR=2.7					
VRI	**Vrincioaia**	**144.35**	**319**	⇓iP	PKPdf	01 24 28.4	+0.2
PLOR	**Plostina**	**144.40**	**319**	⇓iP	PKPdf	01 24 28.6	+0.3
MLR	**Muntele Rosu**	**145.01**	**318**	⇑iP	PKPbc	01 24 30.2	+1.4
STHS	**Stebnicka Huta**	**145.39**	**327**	ePKP	PKPdf	01 24 31.5	+1.6
STHS				e		01 24 39.4	
TRPA	**Tarpa**	**145.52**	**325**	⇓iP	PKPdf	01 24 32.1	+1.9
CRVS	**Cervenica-Dubn**	**145.61**	**326**	ePKP	PKPdf	01 24 31.5	+1.2
CRVS				e		01 24 42.8	
DRGR		**146.22**	**323**	⇓iP	PKPbc	01 24 34.3	+1.8
BRG	**Berggiesshubel**	**147.58**	**335**	eP	PKPbc	01 24 36.9	+0.6
	6.0nm,1.2s						
CLL	**Collm**	**147.59**	**337**	i PKIKP	PKPbc	01 24 36.8	+0.5
	comp=Z,6.0nm,0.8s						
CLL				i (PKiKP)		01 24 41.9	
VRAC	**Vranov**	**147.67**	**331**	⇓iP	PKPbc	01 24 37.9	+1.3
PKSM	**Moragy**	**148.80**	**325**	⇑iP	PKPbc	01 24 40.6	+1.0
GERES	**GERESS Array B**	**149.27**	**333**	PKPbc	PKPbc	01 24 41.9	+1.2
	comp=Z,1.3nm,0.9s,baz=62,slow=3.2,SNR=7.1						

MOS 01 01:10:04.6±2.2, 4377N×4436E, h30km, mb3.7/1, 6C-2D, Error ellipse: s-maj=20.9km s-min=9.7km az=82.1, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRTR	**Priterechnaya**	**0.06**	**256**	⇑iPG	Pb	01 10 06.6	-3.1
PRTR				i S	Sb	01 10 12.8	-0.3
TRKR	**Terskaya**	**0.28**	**99**	ePG	Pb	01 10 10.2	-1.5
TRKR				eS	Sb	01 10 19.0	+2.5
KMSR	**Komsomolskaya**	**0.40**	**187**	⇑ePG	Pb	01 10 15.3	+1.9
BTKR	**Batakoyurt**	**0.41**	**161**	ePG	Pb	01 10 16.3	+2.6
ARNR	**Ardon**	**0.58**	**186**	⇑ePG	Pb	01 10 18.1	+1.8
LSNR	**Lesken**	**0.63**	**219**	⇓ePG	Pb	01 10 16.9	-0.2
LSNR				eS	Sb	01 10 29.7	+4.1
KORR	**Kora**	**0.71**	**197**	⇓ePG	Pb	01 10 19.4	+0.9
KORR				eS	Sb	01 10 34.5	+6.6
LACR	**Lac**	**0.94**	**183**	⇑iPG	Pn	01 10 22.9	+1.2
LACR				eS	Sn	01 10 40.4	+6.3
DIGR	**Digorskoe uzhe**	**1.03**	**213**	⇑ePG	Pn	01 10 22.6	-0.4
DIGR				eS	Sn	01 10 39.2	+2.8
ZEI	**Tsey**	**1.05**	**199**	⇑iPG	Pn	01 10 23.4	+0.2
ZEI				eS	Sn	01 10 41.3	+4.5
GOF	**Gofitskoye**	**1.60**	**324**	ePG	Pb	01 10 34.2	+0.7

*NEIC **01** 01:18:18.9±1.4, 3060N×14248E, h10km, mb3.6/1, Error ellipse: s-maj=45.7km s-min=12.0km az=74.0*
*IDC **01** 01:18:18.7±2.5, 3047N×14202E, h0km, mb3.7/4, mb1 3.8/6, mb1mx3.6/18, mbtmp3.7/6, ML3.6/2, Error ellipse: s-maj=112.5km s-min=17.8km az=76.0*
*ISCJB **01** 01:18:20.9±0.8, 3064N±005×1422E±02, h33km, mb3.7/5, Error ellipse: s-maj=24.8km s-min=4.4km az=166.9*

ISC 01 01:18:22.8±0.8, 3065N±005×1424E±02, h35km, n20, σ0§89/32, mb3.7/5, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**3.55**	**182**	P	**Pn**	**01 19 15.9**	**+0.5**
CBIJ	**Chichi jima**	**3.55**	**182**	Pn	**Pn**	**01 19 12.9**	**-2.5**
	7.4nm,0.3s,baz=243,slow=22,SNR=4.9						
CBIJ				Sn	**Sn**	**01 19 52.5**	**-3.6**
	11nm,0.3s,baz=270,slow=20,SNR=4.1						
BSO1	**Boso 1**	**4.16**	**344**	P	**Pn**	**01 19 23.3**	**-0.4**
BSO1				eS	**Sn**	**01 20 10.0**	**-1.1**
BSO2	**Boso 2**	**4.30**	**342**	eS	**Sn**	**01 20 16.2**	**+1.5**
BSO3	**Boso 3**	**4.42**	**340**	P	**Pn**	**01 19 27.2**	**-0.2**
BSO3				eS	**Sn**	**01 20 17.5**	**-0.1**
BSO4	**Boso 4**	**4.65**	**339**	P	**Pn**	**01 19 32.2**	**+1.7**
BSO4				eS	**Sn**	**01 20 22.6**	**-0.6**
JOD2	**Odawara 2**	**5.36**	**330**	P	**Pn**	**01 19 40.6**	**+0.4**
JOD2				eS	**Sn**	**01 20 39.4**	**-1.2**
JHU	**Hanno**	**5.79**	**334**	P	**Pn**	**01 19 46.5**	**+0.3**
JHU				eS	**Sn**	**01 20 51.5**	**+0.2**
JYT	**Yasato**	**5.85**	**343**	P	**Pn**	**01 19 47.6**	**+0.6**
JYT				eS	**Sn**	**01 20 52.1**	**-0.6**
JRY	**Ryogami san**	**6.08**	**333**	P	**Pn**	**01 19 50.6**	**+0.4**
JRY				eS	**Sn**	**01 20 58.5**	**0.0**
JHO	**Hitachi**	**6.13**	**346**	P	**Pn**	**01 19 50.1**	**-0.7**
JHO				eS	**Sn**	**01 20 56.0**	**-3.6**
MJAR	**Matsushiro Arr**	**6.81**	**331**	Pn	**Pn**	**01 20 00.7**	**+0.4**
	1.4nm,0.3s,baz=158,slow=11,SNR=19						
MJAR				Sn	**Sn**	**01 21 16.6**	**0.0**
	0.8nm,0.3s,baz=108,slow=23,SNR=4.3						
MAJO	**Matsushiro**	**6.82**	**331**	ePn	**Pn**	**01 19 59.3**	**-1.0**
MAT	**Matsushiro**	**6.82**	**331**	P	**Pn**	**01 20 01.0**	**+0.7**
MAT				S	**Sn**	**01 21 16.9**	**+0.3**
MAT	**Matsushiro**	**6.82**	**331**	P	**Pn**	**01 20 00.4**	**+0.1**
MAT				eS	**Sn**	**01 21 15.4**	**-1.2**
ENH	**Enshi**	**28.28**	**278**	eP	**P**	**01 24 14.0**	**+1.1**
	0.6nm,0.5s,mb3.5						
MKAR	**Makanchi Array**	**48.39**	**307**	P	**P**	**01 27 01.8**	**+0.6**
	0.3nm,0.4s,mb3.7,baz=81,slow=11,SNR=3.1						
WRA	**Warramunga Arr**	**50.89**	**190**	P	**P**	**01 27 19.7**	**-0.8**
	1.0nm,0.5s,mb4.0,baz=7.6,slow=7.7,SNR=5.6						
ASAR	**Alice Springs**	**54.61**	**190**	P	**P**	**01 27 47.5**	**-0.4**
	0.6nm,0.8s,mb3.6,baz=355,slow=5.1,SNR=6.2						
FINES	**FINESS Array B**	**74.84**	**333**	P	**P**	**01 30 00.6**	**+1.3**
	1.3nm,0.9s,mb3.9,baz=50,slow=18,SNR=2.7						

*ISCJB **01** 01:32:04.0±0.8, 2299S±005×662W±0.1, h233km±10km, mb3.9/11, Error ellipse: s-maj=15.0km s-min=8.1km az=5.7*
*NEIC **01** 01:32:05.1±0.7, 2299S×66.12W, h230km±8km, mb4.3/4, Error ellipse: s-maj=12.9km s-min=7.6km az=98.0*
*IDC **01** 01:32:05.5±1.4, 2288S×66.18W, h236km±13km, mb3.6/9, mb1 3.7/13, mb1mx3.6/18, mbtmp3.6/13, Error ellipse: s-maj=21.4km s-min=11.9km az=96.0*

ISC 01 01:32:04.7±0.8, 2296S±005×6618W±010, h223km±10km, n27, σ1§11/28, mb3.9/11, 3D, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANCH	**Antofagasta**	**3.95**	**259**	⇓iP	**Pn**	**01 33 08.1**	**+1.2**
ANCH				i S	**S**	**01 33 54.1**	**-1.8**
CDCH	**Caldera**	**5.88**	**225**	⇓iP	**Pn**	**01 33 29.8**	**-1.0**
LPAZ	**La Paz**	**6.88**	**344**	P	**Pn**	**01 33 45.7**	**+1.9**
LPAZ				S	**S**	**01 35 01.5**	**-1.2**
LPAZ	**La Paz**	**6.88**	**344**	P	**Pn**	**01 33 45.7**	**+1.9**
	2.5nm,0.3s,baz=156,slow=9.6,SNR=50						
LPAZ				S	**S**	**01 35 01.5**	**-1.2**
	0.9nm,0.3s,baz=270,slow=21,SNR=8.4						
SIV	**San Ignacio**	**8.44**	**36**	P	**Pn**	**01 34 04.1**	**+0.3**
	4.6nm,0.3s,baz=219,slow=11,SNR=135						
CFAA	**Coronel Fontan**	**8.80**	**192**	P	**Pn**	**01 34 08.3**	**+0.1**
CFAA				S	**S**	**01 35 40.5**	**-7.1**
CFAA	**Coronel Fontan**	**8.80**	**192**	P	**Pn**	**01 34 08.3**	**+0.1**
	0.3nm,0.3s,baz=7.4,slow=13,SNR=25						
CFAA				S	**S**	**01 35 40.5**	**-7.1**
	0.7nm,0.3s,baz=111,slow=23,SNR=15						
NNA	**Nana**	**14.90**	**315**	ePn	**Pn**	**01 35 27.0**	**+2.1**
	4.3nm,0.3s						
TRQA	**Tornquist**	**15.48**	**167**	eP	**Pn**	**01 35 31.7**	**+0.1**
	2.3nm,0.6s						
PLCA	**Paso Flores**	**18.10**	**191**	P	**P**	**01 36 01.1**	**+1.1**
	0.7nm,0.3s,baz=15,slow=13,SNR=28						
SDV	**Santo Domingo**	**31.95**	**352**	eP	**P**	**01 38 11.3**	**+1.5**
	2.6nm,0.4s,mb4.1						
RCBR	**Riachuelo**	**33.80**	**64**	eP	**P**	**01 38 24.9**	**-1.0**
	33nm,1.2s,mb4.7						
SNAA	**Sanae**	**60.08**	**161**	P	**P**	**01 41 49.6**	**+1.6**
	0.5nm,0.5s,mb3.4,baz=303,slow=9.3,SNR=7.4						
DBIC	**Dimbokro**	**66.76**	**72**	P	**P**	**01 42 31.2**	**-1.4**
	3.4nm,0.5s,mb4.2,baz=180,slow=5.8,SNR=14						
SYO	**Syowa Base**	**74.25**	**159**	⇓eP	**P**	**01 43 17.6**	**+0.7**
TORD	**Torodi Ar. Bea**	**75.49**	**69**	P	**P**	**01 43 23.6**	**-1.3**
	4.4nm,0.4s,mb4.4,baz=259,slow=5.6,SNR=102						
VNDA	**Vanda**	**75.85**	**190**	P	**P**	**01 43 24.9**	**-1.0**
	1.0nm,0.5s,mb3.8,baz=97,slow=5.7,SNR=6.2						
PDAR	**Pinedale Array**	**76.64**	**329**	P	**P**	**01 43 30.3**	**-0.5**
	0.3nm,0.7s,mb3.0,baz=142,slow=7.5,SNR=3.0						
SCHQ	**Schefferville**	**77.47**	**360**	P	**P**	**01 43 34.4**	**-0.7**
SCHQ	**Schefferville**	**77.47**	**360**	P	**P**	**01 43 34.4**	**-0.7**
	2.1nm,0.8s,mb3.8,baz=121,slow=5.9,SNR=3.2						
ESDC	**Sonseca Array**	**85.12**	**43**	P	**P**	**01 44 15.7**	**+0.1**
	1.8nm,0.7s,mb3.9,baz=224,slow=3.8,SNR=8.5						
KEST	**Kesra**	**92.18**	**52**	P	**P**	**01 44 49.0**	**-0.1**
	0.8nm,0.8s,mb3.7,baz=300,slow=8.1,SNR=3.5						
YKA	**Yellowknife Ar**	**93.41**	**340**	P	**P**	**01 44 53.8**	**-0.3**
	0.2nm,0.5s,mb3.4,baz=134,slow=4.6,SNR=4.4						
ASAR	**Alice Springs**	**129.71**	**204**	PKP	PKPdf	01 50 46.9	-1.0
	0.5nm,1.0s,baz=116,slow=2.2,SNR=4.8						
WRA	**Warramunga Arr**	**132.89**	**207**	PKP	PKPdf	01 50 53.6	-0.5
	0.3nm,0.3s,baz=161,slow=1.6,SNR=2.3						
WRA				SKPbc	SKPbc	01 53 56.8	-3.7
	1.0nm,0.9s,baz=166,slow=2.5,SNR=5.0						
ZALV	**Zalesovo Beam**	**142.12**	**28**	PKP	PKPdf	01 51 06.2	-3.7
	0.3nm,0.4s,baz=343,slow=4.5,SNR=3.1						
MKAR	**Makanchi Array**	**145.25**	**39**	PKPbc	PKPbc	01 51 15.0	-0.8
	2.0nm,0.5s,baz=313,slow=3.6,SNR=17						

*ISCJB **01** 01:35:50.9±1.1, 3832N±004×2041E±007, h5km±6km, Error ellipse: s-maj=10.3km s-min=5.3km az=149.1*
*THE **01** 01:35:51.8, 3836N×2044E, h3km, ML3.0*
*NEIC **01** 01:35:51.4, 3831N×2039E, h15km, MD3.2(ATH), After ATH.*
*ATH **01** 01:35:51.5, 3831N×2039E, h15km±2km, MD3.2/7*
*CSEM **01** 01:35:52.1±0.2, 3836N×2041E, h2km, MD3.2, Error ellipse: s-maj=5.5km s-min=2.2km az=66.0*

ISC 01 01:35:52.0±0.9, 3834N±004×2042E±007, h12km±4km, n17, σ1§19/25, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.21**	**142**	ePB	**Pg**	**01 35 56.5**	**0.0**
VLS				eSB	**Sg**	**01 36 00.3**	**+0.7**
KFL	**Anninata**	**0.37**	**129**	ePg	**Pg**	**01 35 59.2**	**-0.1**
KFL	**Anninata**	**0.37**	**129**	ePg	**Pg**	**01 35 59.2**	**-0.1**
LKD	**Levkas**	**0.41**	**26**	ePg	**Pg**	**01 35 59.4**	**-0.6**
LKD				eSg	**Sg**	**01 36 05.5**	**+0.1**
RLS	**Riolos of Patr**	**0.87**	**109**	ePB	**Pb**	**01 36 08.0**	**-1.0**
RLS				eSN	**Sn**	**01 36 20.9**	**-1.7**
SELA	**Sela**	**1.16**	**93**	ePg	**Pg**	**01 36 12.5**	**-1.8**
SELA				eSg	**Sg**	**01 36 30.3**	**+1.0**
IGT	**Igoumenitsa**	**1.19**	**357**	ePg	**Pg**	**01 36 14.0**	**-0.9**
IGT				eSg	**Sg**	**01 36 31.0**	**+0.6**
EVR	**Evrytania**	**1.23**	**62**	ePN	**Pn**	**01 36 15.5**	**+0.6**
EVR				eSN	**Sn**	**01 36 32.5**	**+1.1**
EVR	**Evrytania**	**1.23**	**62**	ePb	**Pb**	**01 36 14.4**	**-0.7**
JAN	**Janina**	**1.35**	**14**	ePN	**Pn**	**01 36 18.3**	**+1.6**
KEK	**Kerkira**	**1.45**	**341**	ePN	**Pn**	**01 36 18.8**	**+0.8**
ITM	**Ithomi**	**1.66**	**134**	ePN	**Pn**	**01 36 22.6**	**+1.7**
THL	**Klokotos Trika**	**1.74**	**45**	ePN	**Pn**	**01 36 24.1**	**+2.1**
LKR	**

0.3nm,0.3s,baz=344,slow=25,SNR=6.9
STKA Stephens Creek 27.11 157 P P 02 06 31.9 -0.3
1.3nm,0.6s,baz=327,slow=12,SNR=2.6
MKAR Makanchi Array 68.00 327 P P 02 11 46.0 +0.2
0.5nm,0.5s,baz=119,slow=10.0,SNR=4.6

IDC 01 02:06:04.8±3.1,956S×10838E,h0km,mb3.7/5,mb1 3.8/5, mb1mx3.6/15,mbtmp3.7/5,Error ellipse: s-maj=137.8km s-min=22.4km az=53.0,South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**27.11 115**		P	P	02 11 49.7	+0.1
	0.5nm,0.7s,baz=288,slow=11,SNR=3.1						
ASAR	**Alice Springs**	**28.13 123**		P	P	02 11 59.3	+0.5
	0.3nm,0.5s,baz=304,slow=10,SNR=2.9						
STKA	**Stephens Creek**	**37.94 131**		P	P	02 13 23.7	-0.6
	1.8nm,0.7s,baz=305,slow=12,SNR=4.7						
SONM	**Songino Array**	**57.16 358**		P	P	02 15 54.1	+0.7
	1.0nm,0.7s,baz=178,slow=7.2,SNR=4.7						
MKAR	**Makanchi Array**	**60.74 340**		P	P	02 16 17.8	-0.4
	0.4nm,0.5s,baz=151,slow=7.8,SNR=4.1						

NIED ***01*** *02:34:00,4530N×15260E,h11km,Mw3.8 Best double couple: M₀5.09000×10¹⁴ NP1:ϕs186.00000°,δ57.00000°, λ-93.00000°. NP2:ϕs12.00000°,δ33.00000°,λ-85.00000°.*
IDC ***01*** *02:34:38.4±0.8,4472N×15305E,h0km,mb3.7/11, mb1 3.9/13,mb1mx3.8/22,mbtmp3.7/13,ML3.6/2,Error ellipse: s-maj=21.9km s-min=19.5km az=155.0*
NEIC ***01*** *02:34:40.2±0.4,4471N×15299E,h10km,mb4.1/5,Error ellipse: s-maj=12.5km s-min=6.8km az=153.0*
ISCJB ***01*** *02:34:41.9±1.3,446N±0.1×15275E±009,h38km±13km, mb3.8/16,Error ellipse: s-maj=17.9km s-min=10.4km az=168.0*
MOS ***01*** *02:34:41.7±0.6,4469N×15289E,h34km,mb4.1/8,Error ellipse: s-maj=16.7km s-min=13.9km az=155.7*
JMA ***01*** *02:34:43.2±0.5,4527N×15257E,h30km,M4.4*
ISC 01 02:34:44.4±1.1,446N±01×15276E±009,h42km±11km,n61, σ1§10/63,mb3.8/16,East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YUK	**Yuzh-Kuril'sk**	**4.98 266**		*e*PN	**Pn**	**02 35 57.3**	**+0.7**
NEM2	**Nemuro 2**	**5.21 259**		P	**Pn**	**02 35 58.5**	**-1.3**
NEM2				*e*S	**Sn**	**02 36 54.5**	**-4.1**
JRA	**Rausu**	**5.52 266**		P	**Pn**	**02 36 04.9**	**+0.8**
JRA				*e*S	**Sn**	**02 37 06.8**	**+0.5**
JNK	**Nakash**	**5.88 263**		P	**Pn**	**02 36 08.8**	**-0.1**
JNK				*e*S	**Sn**	**02 37 13.6**	**-1.4**
JAK	**Akkeshi**	**6.05 257**		P	**Pn**	**02 36 10.5**	**-0.8**
JAK				*e*S	**Sn**	**02 37 16.8**	**-2.5**
JTKR	**Abashiri--Toko**	**6.38 267**		P	**Pn**	**02 36 16.7**	**+0.8**
JAR	**Ashorobuto**	**6.62 262**		P	**Pn**	**02 36 19.7**	**+0.6**
JAR				*e*S	**Sn**	**02 37 32.0**	**-1.2**
JOB	**Onbets**	**6.68 258**		P	**Pn**	**02 36 19.5**	**-0.5**
JOB				*e*S	**Sn**	**02 37 31.8**	**-3.0**
JMP	**Maruseppu**	**6.77 268**		P	**Pn**	**02 36 22.2**	**+1.0**
JCH	**Churui**	**7.11 257**		P	**Pn**	**02 36 25.6**	**-0.2**
JCH				*e*S	**Sn**	**02 37 41.7**	**-3.5**
JKK2	**Kamakawa 2**	**7.23 268**		P	**Pn**	**02 36 29.1**	**+1.7**
ASAJ	**Asahikawa**	**7.30 270**		P	**Pn**	**02 36 30.2**	**+1.8**
ASAJ	**Asahikawa**	**7.30 270**		PN	**Pn**	**02 36 29.8**	**+1.4**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ	**Asahikawa**	**7.30 270**		Pn	**Pn**	**02 36 29.8**	**+1.3**
	comp=Z,1.1nm,0.3s,baz=83,slow=17,SNR=10						
JEM	**Erimo**	**7.47 253**		P	**Pn**	**02 36 31.7**	**+1.0**
JEM				*e*S	Sx	02 37 51.0	
ERM	**Erimo**	**7.47 253**		*e*Pn	**Pn**	**02 36 31.9**	**+1.2**
ERM	**Erimo**	**7.47 253**		*e*PN	**Pn**	**02 36 32.4**	**+1.7**
JFR	**Furan**	**7.49 262**		P	**Pn**	**02 36 32.0**	**+1.0**
JNBK	**Urakawa-nobuka**	**7.64 256**		P	**Pn**	**02 36 32.7**	**-0.5**
JNBK				*e*S	Sx	02 37 54.7	
JBT2	**Biratori 2**	**7.75 260**		P	**Pn**	**02 36 34.1**	**-0.5**
JNB	**Noboribetsu**	**8.78 260**		P	**Pn**	**02 36 49.3**	**+0.6**
JNB				*e*S	Sx	02 38 24.4	
JKB	**Kayabe**	**8.98 256**		P	**Pn**	**02 36 51.0**	**-0.5**
JKB				*e*S	Sx	02 38 26.1	
JANG	**Nango**	**9.32 247**		P	**Pn**	**02 36 53.8**	**-2.3**
JANG				*e*S	Sx	02 38 31.7	
JTH	**Tanohata**	**9.33 244**		*e*S	Sx	02 38 32.3	
JTM	**Tenmabayashi**	**9.42 250**		P	**Pn**	**02 36 56.8**	**-0.6**
JTM				*e*S	Sx	02 38 34.3	
OFUJ	**Ofunato**	**9.95 240**		P	**Pn**	**02 37 04.2**	**-0.5**
OFUJ				*e*S	Sx	02 38 46.5	
JRG	**Rokugo**	**10.42 244**		*e*S	Sx	02 39 00.4	
JIO	**Ouri**	**10.53 238**		*e*S	Sx	02 38 59.5	
MJAR	**Matsushiro Arr**	**13.67 239**		Pn	**Pn**	**02 37 57.4**	**+1.8**
	comp=Z,0.2nm,0.3s,baz=59,slow=11,SNR=4.2						
SONM	**Songino Array**	**31.86 293**		P	**P**	**02 41 07.4**	**+2.1**
	comp=Z,0.3nm,0.4s,mb3.4,baz=55,slow=11,SNR=2.1						
SVW2	**Sparrevohn**	**34.21 43**		*e*P	**P**	**02 41 25.0**	**-0.6**
EGAK	**Eagle**	**40.84 37**		*e*P	**P**	**02 42 20.4**	**-1.2**
	comp=Z,2.6nm,0.9s,mb3.9						
DAWY	**Dawson**	**41.67 38**		*e*P	**P**	**02 42 22.9**	**-5.5**
INK	**Inuvik**	**43.60 31**		*e*P	**P**	**02 42 43.7**	**-0.3**
ZALV	**Zalesovo Beam**	**43.69 308**		P	**P**	**02 42 44.8**	**-0.1**
	comp=Z,0.3nm,0.3s,mb3.5,baz=100,slow=7.6,SNR=2.7						
ZAL	**Zalesovo**	**43.70 308**		P	**P**	**02 42 44.8**	**-0.2**
MKAR	**Makanchi Array**	**47.73 299**		P	**P**	**02 43 18.4**	**+1.5**
	comp=Z,0.4nm,0.4s,mb3.8,baz=61,slow=9.9,SNR=5.2						
KURK	**Kurchatov**	**48.36 305**		*e*P	**P**	**02 43 22.0**	**+0.3**
	comp=Z,2.3nm,0.8s,mb4.3						
KURK	**Kurchatov**	**48.36 305**		*e*P	**P**	**02 43 22.0**	**+0.3**
KURK				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.2						
YKA	**Yellowknife Ar**	**52.80 36**		P	**P**	**02 43 54.4**	**-0.6**
	comp=Z,0.3nm,0.6s,mb3.4,baz=296,slow=7.5,SNR=5.4						
TKM2	**Tokmak 2**	**53.74 297**		*e*P	**P**	**02 44 03.8**	**+1.6**
	comp=Z,1.7nm,0.8s,mb4.0						
TKM2	**Tokmak 2**	**53.74 297**		*e*P	**P**	**02 44 03.8**	**+1.6**
TKM2				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.1						
BOZ	**Bozeman (W)**	**63.27 51**		*e*P	**P**	**02 45 08.5**	**0.0**
	comp=Z,0.8nm,0.6s,mb4.0						
BOZ	**Bozeman (W)**	**63.27 51**		*e*P	**P**	**02 45 08.5**	**0.0**
BOZ				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb4.1						
NVAR	**Mina Array Bea**	**63.66 61**		P	**P**	**02 45 10.5**	**-0.7**
NVAR	**Mina Array Bea**	**63.66 61**		P	**P**	**02 45 10.5**	**-0.7**
	comp=Z,0.1nm,0.3s,mb3.4,baz=291,slow=7.5,SNR=3.6						
FINES	**FINESS Array B**	**65.87 335**		P	**P**	**02 45 25.3**	**+0.1**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.8s						
FINES	**FINESS Array B**	**65.87 335**		P	**P**	**02 45 24.1**	**-1.1**
	comp=Z,1.4nm,0.8s,mb4.0,baz=62,slow=5.2,SNR=3.8						
PDAR	**Pinedale Array**	**66.22 53**		P	**P**	**02 45 26.2**	**-1.6**
	comp=Z,0.4nm,0.6s,mb3.6,baz=279,slow=2.9,SNR=4.0						
WRA	**Warramunga Arr**	**66.41 199**		P	**P**	**02 45 29.7**	**+0.6**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.3s						
WRA	**Warramunga Arr**	**66.41 199**		P	**P**	**02 45 29.7**	**+0.6**
	comp=Z,0.5nm,0.3s,mb4.0,baz=13,slow=6.5,SNR=5.9						
SRU	**San Rafael**	**67.99 56**		*e*P	**P**	**02 45 38.4**	**-0.7**
	comp=Z,0.7nm,0.7s,mb3.8						
SRU	**San Rafael**	**67.99 56**		*e*P	**P**	**02 45 38.4**	**-0.7**
SRU				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb4.0						
ASAR	**Alice Springs**	**70.10 198**		P	**P**	**02 45 53.5**	**+1.3**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ASAR	**Alice Springs**	**70.10 198**		P	**P**	**02 45 53.5**	**+1.3**
	comp=Z,0.6nm,0.8s,mb3.6,baz=13,slow=5.7,SNR=6.1						
NOA	**NORSAR Array B**	**70.17 341**		P	**P**	**02 45 52.2**	**0.0**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
NOA	**NORSAR Array B**	**70.17 341**		P	**P**	**02 45 52.1**	**-0.1**
	comp=Z,1.3nm,0.8s,mb3.9,baz=28,slow=6.2,SNR=3.3						
AKASG	**Malin Array Be**	**73.19 326**		P	**P**	**02 46 10.4**	**-0.1**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.5s						
AKASG	**Malin Array Be**	**73.19 326**		P	**P**	**02 46 10.4**	**-0.2**
	comp=Z,0.5nm,0.5s,mb3.7,baz=28,slow=6.1,SNR=2.2						
PLCA	**Paso Flores**	**148.20 98**		PKPbc	PKPbc	02 54 25.3	0.0
PLCA	**Paso Flores**	**148.20 98**		PKPbc	PKPbc	02 54 25.3	0.0
	comp=Z,1.4nm,0.7s,baz=236,slow=3.6,SNR=4.3						

ORF ***01*** *02:50:22.2,3184N×13925E,h30km,mb5.6*
NIED ***01*** *02:51:00,3240N×13790E,h400km,Mw5.7 Best double couple: M₀4.12000×10¹⁷ NP1:ϕs173.00000°,δ86.00000°, λ88.00000°. NP2:ϕs24.00000°,δ5.00000°,λ121.00000°.*
BJI ***01*** *02:51:02.8,3234N×13752E,h360km,mb5.8,mB5.8*
JMA ***01*** *02:51:03.1±0.3,3241N×13791E,h405km±4km,M5.8*
JMA Felt II J1.
MOS ***01*** *02:51:03.4±0.7,3232N×13777E,h379km,mb5.5/118, MS4.7/35,Error ellipse: s-maj=10.7km s-min=5.9km az=93.4*
ISCJB ***01*** *02:51:04.4±0.1,3235N±002×13770E±002,h380km, mb5.3/287,Error ellipse: s-maj=2.4km s-min=1.6km az=141.8*
SZGRF ***01*** *02:51:05.7,3265N×13823E,h385km,mb5.7,Southeast of Honshu, Japan*
GCMT ***01*** *02:51:05.3±0.2,3231N×13767E,h378km,MW5.7/89, Moment Tensor Solution. s89,c170; s50,c54; Duration: 1§8 Moment tensor: Scale 10¹⁷Nm; Mrr0.44±.04; Mθθ0.12±.07; Mϕϕ-0.55±.07; Mrθ0.67±.07; Mϕθ-0.79±.07; Mϕr-4.59±.06; Best double couple: M₀4.73300×10¹⁷ NP1:ϕs70.00000°,δ11.00000°,λ167.00000°. NP2: ϕs172.00000°,δ88.00000°,λ80.00000°. Principal axes: T 4.7850, Plg46.0000°, Azm72.0000°; N -0.1050, Plg10.0000°, Azm173.0000°; P -4.6810, Plg42.0000°, Azm272.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to mantle waves, cutoff=125s.*
IDC ***01*** *02:51:05.7±0.3,3241N×13770E,h382km±3km,mb4.7/29, mb1 4.8/34,mb1mx4.8/35,mbtmp4.7/34 Error ellipse: s-maj=8.0km s-min=5.6km az=67.0*
NEIC ***01*** *02:51:05.3±0.1,3235N×13761E,mb5.3/170,MW5.7, MW5.7(NIED),Error ellipse: s-maj=3.2km s-min=2.5km az=165.0,Moment Tensor Solution. s47 Moment tensor: Scale 10¹⁷Nm; Mrr0.54; Mθθ-0.15; Mϕϕ-0.38; Mrθ0.97; Mϕθ-1.63; Mϕr-4.30; Best double couple: M₀4.70000×10¹⁷ NP1:ϕs77.00000°,δ20.00000°,λ174.00000°. NP2: ϕs172.00000°,δ88.00000°,λ70.00000°. Principal axes: T 5.0400, Plg43.0000°, Azm63.0000°; N -0.7100, Plg20.0000°, Azm173.0000°; P -4.3200, Plg40.0000°, Azm281.0000°;*
NEIC Felt [II] at Tokyo. Recorded [2 JMA] in Ibaraki, Saitama, Tochigi and Tokyo; [1 JMA] in Chiba, Fukushima, Gumma, Iwate, Kanagawa and Miyagi Prefectures.
BGS ***01*** *02:51:08.6±1.5,3232N×13544E,h379km,mb5.1*
ISC 01 02:51:05.8±0.1,3240N±002×13766E±002,h382km, h382km±1.2km;pP-P,n1054,σ0§94/1136,mb5.3/286, 195C-192D,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TK01	**Tokai 1**	**1.37 358**		P	**Pn**	**02 51 56.4**	**-0.1**
TK01				S	**S**	**02 52 37.9**	**+0.6**
TK02	**Tokai 2**	**1.55**	**3**	⇓P	**Pn**	**02 51 57.5**	**+0.1**
TK02				S	**S**	**02 52 40.5**	**+1.5**
TK03	**Tokai 3**	**1.78**	**8**	⇓P	**Pn**	**02 51 58.9**	**+0.2**
TK03				S	**S**	**02 52 42.9**	**+1.6**
JHJ	**Hachijo jima 2**	**1.93**	**67**	P	**Pn**	**02 51 58.0**	**-1.6**
	1μm,0.3s,baz=194,slow=6.6,SNR=114						
JHJ				S	**S**	**02 52 41.8**	**-1.2**
	1μm,0.3s,baz=109,slow=20,SNR=7.7						
JHJ2	**Mitsune**	**1.95**	**68**	⇓P	**Pn**	**02 51 57.9**	**-1.8**
JHJ2				*e*S	**S**	**02 52 42.3**	**-0.9**
JWZ	**Kozaga**	**1.99**	**305**	⇑P	**Pn**	**02 51 59.9**	**-0.1**
JWZ				S	**S**	**02 52 43.5**	**-0.2**
TK04	**Tokai 4**	**1.99**	**5**	⇓P	**Pn**	**02 52 00.3**	**+0.3**
TK04				S	**S**	**02 52 44.5**	**+0.8**
JIE	**Ise**	**2.15**	**338**	⇑P	**Pn**	**02 52 01.2**	**+0.2**
JIE				S	**S**	**02 52 45.0**	**-0.5**
JKO	**Kozu shima**	**2.17**	**34**	⇓P	**Pn**	**02 52 00.4**	**-0.8**
JAA	**Atsumi**	**2.27**	**349**	⇑P	**Pn**	**02 52 02.2**	**+0.4**
JSG	**Sagara**	**2.32**	**11**	⇓P	**Pn**	**02 52 02.5**	**+0.3**
JWM	**Minabe**	**2.42**	**307**	⇑P	**Pn**	**02 52 03.2**	**+0.3**
HMMJ	**Hamamatsu 2**	**2.46**	**1**	⇓P	**Pn**	**02 52 03.1**	**-0.1**
HMMJ				S	**S**	**02 52 48.8**	**-0.7**
JWY	**Kouya**	**2.51**	**317**	⇑P	**Pn**	**02 52 04.3**	**+0.7**
JWY				S	**S**	**02 52 50.3**	**0.0**
JIZS	**Izushimoda**	**2.53**	**23**	⇓P	**Pn**	**02 52 03.2**	**-0.5**
TSUJ	**Tsu 2**	**2.53**	**336**	⇑P	**Pn**	**02 52 04.2**	**+0.5**
TSUJ				S	**S**	**02 52 50.4**	**-0.2**
JYZW	**Yoshizawa**	**2.59**	**1**	P	**Pn**	**02 52 04.2**	**0.0**
SHZ3	**Shizuoka 3**	**2.70**	**10**	⇓P	**Pn**	**02 52 05.0**	**-0.1**
SHZ3				S	**S**	**02 52 52.5**	**-0.5**
JIM2	**Oshima 3**	**2.75**	**32**	⇓P	**Pn**	**02 52 03.7**	**-1.8**
JHE	**Heguri**	**2.79**	**324**	⇑P	**Pn**	**02 52 06.3**	**+0.5**
AJI	**Ajiro2**	**2.90**	**24**	⇓P	**Pn**	**02 52 05.6**	**-1.1**
JEG	**Eigenji**	**2.93**	**339**	⇑P	**Pn**	**02 52 07.7**	**+0.8**
JNY	**Yasuok**	**2.96**	**3**	⇓P	**Pn**	**02 52 07.4**	**+0.2**
JAI	**Aioi**	**3.03**	**298**	⇑P	**Pn**	**02 52 08.3**	**+0.5**
JAI				*e*S	**S**	**02 52 57.3**	**-0.7**
JAJ2	**Tsuna**	**3.08**	**312**	⇑P	**Pn**	**02 52 08.5**	**+0.3**
JOD2	**Odawara 2**	**3.10**	**22**	⇓P	**Pn**	**02 52 07.1**	**-1.3**
JOD2				S	**S**	**02 52 56.3**	**-2.6**
MRT2	**Murotomisaki 2**	**3.12**	**289**	⇑P	**Pn**	**02 52 09.0**	**+0.4**
JYN	**Shimob**	**3.18**	**13**	⇓P	**Pn**	**02 52 08.6**	**-0.5**
JGF	**Kuroka**	**3.21**	**356**	⇓P	**Pn**	**02 52 09.3**	**0.0**
BSO3	**Boso 3**	**3.38**	**44**	P	**Pn**	**02 52 07.1**	**-3.7**
JGM	**Miyama**	**3.39**	**347**	⇑P	**Pn**	**02 52 11.2**	**+0.3**
JGM				S	**S**	**02 53 02.4**	**-1.2**
BSO4	**Boso 4**	**3.42**	**40**	⇓P	**Pn**	**02 52 08.1**	**-3.1**
JFM	**Mihama**	**3.42**	**336**	⇑P	**Pn**	**02 52 11.7**	**+0.5**
JFM				*e*S	**S**	**02 53 04.4**	**+0.2**
JWT	**Wachi**	**3.44**	**327**	⇑P	**Pn**	**02 52 11.8**	**+0.4**
JWT				S	**S**	**02 53 03.9**	**-0.5**
JMN	**Monobe**	**3.44**	**294**	⇑P	**Pn**	**02 52 12.3**	**+0.9**
JMN				S	**S**	**02 53 05.8**	**+1.3**
JKS	**Kasai**	**3.49**	**318**	⇑P	**Pn**	**02 52 12.1**	**+0.3**
JNT	**Takato**	**3.49**	**6**	⇓P	**Pn**	**02 52 11.9**	**0.0**
BSO1	**Boso 1**	**3.57**	**50**	P	**Pn**	**02 52 08.3**	**-4.3**
TOK	**Tokyo**	**3.72**	**27**	P	**Pn**	**02 52 12.1**	**-1.8**
JRY	**Ryogami san**	**3.76**	**16**	⇓P	**Pn**	**02 52 13.4**	**-0.9**
JRY				S	**S**	**02 53 06.8**	**-3.0**
JGN	**Niukaw**	**3.83**	**356**	⇓P	**Pn**	**02 52 14.9**	**-0.1**
JGN				S	**S**	**02 53 09.6**	**-1.5**
JKY	**Yasaka**	**3.86**	**327**	⇑P	**Pn**	**02 52 15.7**	**+0.4**
JAD	**Aida**	**3.86**	**312**	⇑P	**Pn**	**02 52 15.8**	**+0.4**
JKU	**Kubokawa**	**3.98**	**284**	⇑P	**Pn**	**02 52 17.3**	**+0.8**
JNG	**Nsakai**	**4.02**	**5**	⇓P	**Pn**	**02 52 16.2**	**-0.6**
JKG	**Kaga**	**4.03**	**345**	⇑P	**Pn**	**02 52 16.9**	**0.0**
JKSM	**Kasumi**	**4.04**	**323**	⇑P	**Pn**	**02 52 17.5**	**+0.4**
JET	**Tanbara**	**4.11**	**291**	⇑P	**Pn**	**02 52 18.8**	**+1.0**
JTO	**Tosashimizu**	**4.12**	**278**	⇑P	**Pn**	**02 52 18.6**	**+0.6**
JTO				S	**S**	**02 53 16.4**	**0.0**
MAJO	**Matsushiro**	**4.16**	**6**	⇓*i*Pn	**Pn**	**02 52 17.2**	**-1.0**
MAJO				*e*S	**S**	**02 53 14.5**	**-2.4**
MAJO	**Matsushiro**	**4.16**	**6**	*e*P	**Pn**	**02 52 17.3**	**-0.9**
MAT	**Matsushiro**	**4.16**	**6**	P	**Pn**	**02 52 17.2**	**-1.0**
MAT				S	**S**	**02 53 13.5**	**-3.4**
MAT	**Matsushiro**	**4.16**	**6**	P	**Pn**	**02 52 17.2**	**-1.0**
MAT				S	**S**	**02 53 13.6**	**-3.3**
MJAR	**Matsushiro Arr**	**4.16**	**6**	P	**Pn**	**02 52 17.0**	**-1.2**
MJAR				S	**S**	**02 53 16.1**	**-0.8**
MJAR				pmax	pmax		
	comp=Z,255nm,0.3s						
MJAR				smax			
	comp=N,87nm,0.3s						
MJAR	**Matsushiro Arr**	**4.16**	**6**	P	**Pn**	**02 52 17.0**	**-1.2**
	comp=N,255nm,0.3s,baz=187,slow=7.5,SNR=1926						
MJAR				S	**S**	**02 53 16.1**	**-0.9**
	comp=N,87nm,0.3s,baz=218,slow=22,SNR=10						
JTT	**Ttatey**	**4.21**	**356**	⇓P	**Pn**	**02 52 19.2**	**+0.5**
JGK	**Kuni**	**4.24**	**11**	P	**Pn**	**02 52 18.0**	**-1.0**
JAG	**Ashikaga**	**4.29**	**20**	⇓P	**Pn**	**02 52 16.8**	**-2.7**
UWA2	**Uwa jima 2**	**4.32**	**282**	⇑P	**Pn**	**02 52 20.9**	**+1.0**
JKR	**Kurayoshi**	**4.37**	**314**	⇑P	**Pn**	**02 52 21.1**	**+0.8**
JJG	**Jouge**	**4.38**	**302**	⇑P	**Pn**	**02 52 21.3**	**+0.8**
JNA	**Nagahama**	**4.51**	**286**	⇑P	**Pn**	**02 52 22.9**	**+1.1**
JKT	**Katashina**	**4.55**	**16**	P	**Pn**	**02 52 20.0**	**-2.2**
JJH	**Hakui**	**4.58**	**351**	P	**Pn**	**02 52 23.1**	**+0.7**
JHS	**Saijyo**	**4.59**	**306**	⇑P	**Pn**	**02 52 23.5**	**+0.9**
JHS				S	**S**	**02 53 26.2**	**+1.3**
JHM	**Kurahashi**	**4.64**	**293**	⇑P	**Pn**	**02 52 24.1**	**+1.0**
JJN	**Nakama**	**4.71**	**5**	⇓P	**Pn**	**02 52 23.0**	**-0.8**
JJN				S	**S**	**02 53 24.1**	**-3.1**
JHO	**Hitachi**	**4.84**	**29**	⇓P	**Pn**	**02 52 21.7**	**-3.5**
JHT	**Toyohira**	**4.92**	**299**	⇑P	**Pn**	**02 52 26.6**	**+0.5**
JSB	**Shiboa**	**4.93**	**22**	⇓P	**Pn**	**02 52 23.7**	**-2.3**
JNM	**Ikuma**	**4.94**	**310**	⇑P	**Pn**	**02 52 27.1**	**+0.9**
JHK	**Hiroka**	**4.97**	**13**	P	**Pn**	**02 52 24.4**	**-2.1**
JUS	**Usuki**	**5.03**	**279**	⇑P	**Pn**	**02 52 28.2**	**+1.0**
JSZ	**Suzu**	**5.05**	**357**	P	**Pn**	**02 52 26.8**	**-0.5**
JKD	**Kudamatsu**	**5.12**	**290**	⇑P	**Pn**	**02 52 29.3**	**+1.1**
JIZZ	**Izumozaki**	**5.20**	**9**	P	**Pn**	**02 52 28.5**	**-0.4**
JIZZ				S	**S**	**02 53 32.7**	**-3.7**
JTSN	**Tsuno**	**5.21**	**270**	P	**Pn**	**02 52 30.5**	**+1.3**
SAI	**Saigo**	**5.22**	**318**	P	**Pn**	**02 52 29.8**	**+0.7**
SAI				S	**S**	**02 53 38.6**	**+1.8**
JHIK	**Hikimi**	**5.24**	**296**	⇑P	**Pn**	**02 52 30.1**	**+0.7**
JKIT	**Kitakata**	**5.25**	**274**	⇑P	**Pn**	**02 52 31.2**	**+1.6**
JKI	**Kunimi**	**5.26**	**285**	⇑P	**Pn**	**02 52 30.9**	**+1.2**
JHG	**Hegura jima**	**5.47**	**354**	⇓P	**Pn**	**02 52 31.8**	**-0.1**
JHG				S	**S**	**02 53 41.3**	**-0.5**
JFT	**Otama**	**5.56**	**23**	⇓P	**Pn**	**02 52 30.3**	**-2.5**
JNS	**Sasagawa**	**5.58**	**14**	P	**Pn**	**02 52 30.9**	**-2.1**
JNS				S	**S**	**02 53 37.6**	**-6.3**
JTZ	**Takazaki**	**5.60**	**267**	⇑P	**Pn**	**02 52 34.8**	**+1.5**
JFK	**Kawauchi**	**5.62**	**27**	⇓P	**Pn**	**02 52 30.6**	**-2.8**
JSD	**Sado**	**5.65**	**5**	P	**Pn**	**02 52 32.6**	**-1.2**
JSD				S	**S**	**02 53 41.2**	**-4.1**
JNU	**Nakatsue**	**5.76**	**279**	P	**Pn**	**02 52 36.4**	**+1.3**
	comp=N,79nm,0.3s,baz=79,slow=12,SNR=439						
JNU				S	**S**	**02 53 47.8**	**+0.1**
	comp=N,22nm,0.3s,baz=290,slow=18,SNR=17						
JIU2	**Izumi 2**	**5.79**	**273**	⇑P	**Pn**	**02 52 36.8**	**+1.4**
JTY	**Toyota**	**5.83**	**290**	⇑P	**Pn**	**02 52 36.8**	**+1.0**
JTSR	**Tashiro 2**	**5.87**	**260**	⇑P	**Pn**	**02 52 37.8**	**+1.5**
JTN	**Tanegashima 3**	**5.96**	**255**	⇑P	**Pn**	**02 52 38.7**	**+1.3**
JZO	**Okuchi**	**5.99**	**269**	⇑P	**Pn**	**02 52 38.8**	**+1.2**
JMM	**Marumori**	**6.03**	**24**	⇓P	**Pn**	**02 52 35.3**	**-2.7**
JAW	**Awa shima**	**6.18**	**12**	P	**Pn**	**02 52 37.9**	**-1.8**
JAW				S	**S**	**02 53 48.8**	**-7.3**
JSU	**Suzuyama**	**6.19**	**264**	⇑P	**Pn**	**02 52 40.8**	**+1.0**
JFI	**Itaya**	**6.20**	**282**	⇑P	**Pn**	**02 52 41.0**	**+1.0**
JHD	**Hondo**	**6.36**	**273**	⇑P	**Pn**	**02 52 42.9**	**+1.1**
JUR	**Ureshino**	**6.53**	**278**	⇑P	**Pn**	**02 52 44.9**	**+1.2**
CBIJ	**Chichi jima**	**6.58**	**142**	P	**Pn**	**02 52 38.9**	**-5.5**
CBIJ				*e*S	**S**	**02 53 54.2**	**-10**
CBIJ	**Chichi jima**	**6.58**	**142**	P	**Pn**	**02 52 39.9**	**-4.5**
	comp=N,240nm,0.3s,baz=346,slow=3.9,SNR=178						
CBIJ				S	**S**	**02 53 55.3**	**-9.3**
	comp=N,1μm,0.3s,baz=302,slow=22,SNR=23						
NGSJ	**Nagasakinomoza**	**6.64**	**274**	⇑P	**Pn**	**02 52 46.2**	**+1.3**
JKC	**Kuchinoerabu**	**6.66**	**255**	⇑P	**Pn**	**02 52 45.9**	**+0.7**
JSJ	**Shimokoshiki**	**6.78**	**266**	⇑P	**Pn**	**02 52 47.7**	**+1.2**
JMK	**Ichinoseki**	**7.15**	**23**	⇓P	**Pn**	**02 52 48.0**	**-2.6**
JMK				S	**S**	**02 54 08.8**	**-7.3**
JTU	**Tsushima**	**7.22**	**289**	⇓P	**Pn**	**02 52 52.6**	**+1.1**
JAM	**Amami Oshima**	**8.01**	**242**	P	**Pn**	**02 53 00.5**	**-0.1**
JMZ	**Minamidaito 2**	**8.64**	**222**	P	**Pn**	**02 53 07.9**	**-0.1**
JTK	**Tokunoshima**	**8.83**	**241**	P	**Pn**	**02 53 10.2**	**0.0**
KSRS	**Korea Array**	**9.45**	**305**	P	**Pn**	**02 53 18.0**	**+0.7**
	comp=N,78nm,0.3s,baz=119,slow=10,SNR=499						
KSRS				S	**S**	**02 55 09.8**	**+4.6**
	baz=112,slow=21,SNR=14						
KSRS				ScP	ScP	03 01 50.7	+0.9
	comp=N,0.4nm,0.3s,baz=178,slow=1.1,SNR=28						
JOW	**Kunigami**	**9.87**	**238**	P	**Pn**	**02 53 22.7**	**+0.4**
JOW	**Kunigami**	**9.87**	**238**	P	**Pn**	**02 53 22.8**

comp=Z,848nm,1.7s
SNY AMB AMB
comp=Z,1μm,3.5s
SNY LR LR
comp=N,4μm,8.8s
SNY LR LR
comp=Z,4μm,9.0s
IRIF Iriomote-Funau 14.65 240 P **P 02 54 14.3 -1.0**
IRIF S **S 02 56 49.9 -2.3**
HATJ Hateruma jima 14.76 239 S **S 02 56 53.2 -1.2**
CN2 Changchun 14.88 323 ⇓P **P 02 54 18.0 +0.4**
CN2 *e*S **S 02 56 55.2 -1.2**
CN2 SCS ScS 03 05 33.8 -2.0
YSS Yuzh-Sakhalins 15.05 14⇑*i*P **P 02 54 19.8 +0.5**
YSS *e*S **S 02 57 00.2 +0.5**
YSS Yuzh-Sakhalins 15.05 14α*i*P **P 02 54 19.9 +0.5**
YSS *i* S **S 02 56 58.7 -1.0**
YSS pmax pmax
comp=N,370nm,1.0s
YSS pmax pmax
comp=Z,590nm,1.0s
YSS pmax pmax
comp=N,1μm,4.0s
YSS pmax pmax
comp=Z,1μm,4.0s
YSS pmax pmax
comp=N,990nm,0.7s
YSS pmax pmax
comp=Z,1μm,0.7s
YSS smax
comp=N,1μm,1.1s
YSS smax
comp=E,1μm,1.1s
YSS smax
comp=N,4μm,4.0s
YSS smax
comp=E,4μm,8.0s
YSS MLR MLR
comp=Z,2μm,12.0s
YSS MLR MLR
comp=E,1μm,13.0s
KUR Kuril'sk 15.07 29⇓*e*P **P 02 54 18.0 -1.6**
KUR *e*S **S 02 57 06.0 +6.0**
KUR pmax pmax
comp=N,110nm,0.8s
KUR pmax pmax
comp=Z,430nm,0.8s
KUR pmax pmax
comp=N,2μm,2.0s
KUR pmax pmax
comp=E,2μm,2.0s
KUR pmax pmax
comp=Z,4μm,2.0s
KUR smax
comp=E,540nm,0.8s
KUR smax
comp=N,12μm,4.0s
KUR smax
comp=E,12μm,4.0s
YOJ Yonaguni jima 15.11 242 P **P 02 54 18.9 -1.4**
NJ2 Nanjing 15.92 274 *e*P **P 02 54 28.1 -0.9**
NJ2 XP 02 55 55.0
NJ2 S **S 02 57 16.0 -1.3**
NJ2 PCP PcP 02 59 03.2 +0.6
NJ2 AMB AMB
comp=Z,1μm,1.2s
NJ2 AMB AMB
comp=Z,4μm,6.0s
NJ2 LR LR
comp=N,3μm,11.8s
NJ2 LR LR
comp=E,4μm,10.3s
NJ2 LR LR
comp=Z,50μm,12.8s
TATO Taipei 15.99 247 *e*P **P 02 54 28.9 -0.9**
comp=Z,279nm,0.8s
TATO Taipei 15.99 247 P **P 02 54 28.9 -0.8**
SNR=5.1
HABR Khabarovsk 16.18 354⇑*i*P **P 02 54 31.4 -0.1**
HABR *e*S **S 02 57 24.4 +2.5**
HABR pmax pmax
comp=Z,128nm,0.8s
YHNB Yeheng 16.24 246⇓*i*P **P 02 54 30.4 -2.1**
YHNB *e*S **S 02 57 20.9 -2.7**
NACB Ninganchiao 16.34 244⇓*e*P **P 02 54 30.1 -3.4**
NACB *e*S **S 02 57 22.4 -3.2**
UGL Uglegorsk 16.99 10⇑*i*P **P 02 54 41.0 +0.8**
UGL *i* S **S 02 57 39.5 +1.8**
UGL pmax pmax
comp=Z,360nm,0.8s
UGL pmax pmax
comp=N,700nm,2.0s
UGL pmax pmax
comp=E,600nm,2.0s
UGL pmax pmax
comp=Z,2μm,2.0s
UGL smax
comp=N,4μm,7.0s
UGL smax
comp=E,12μm,7.0s
UGL smax
comp=Z,3μm,7.0s
UGL smax
comp=N,640nm,1.5s
UGL smax
comp=E,560nm,1.5s
UGL MLR MLR
comp=E,1μm,14.0s
UGL MLR MLR
comp=Z,1μm,14.0s
UGL MLR MLR
comp=N,900nm,16.0s
TIA Tai'an 17.39 288 ⇓P **P 02 54 43.2 -1.4**
TIA AMB AMB
comp=Z,1μm,2.0s
TIA AMB AMB
comp=Z,3μm,4.0s
TIA LR LR
comp=N,2μm,10.0s
KLR Kul'dur 17.39 347⇑*i*P **P 02 54 39.7 -4.8**
KLR *e*S **S 02 57 36.0 -10**
KLR pmax pmax
comp=N,110nm,1.6s
KLR pmax pmax
comp=E,270nm,1.6s
KLR pmax pmax
comp=Z,640nm,1.6s
KLR smax
comp=N,2μm,8.5s
KLR smax
comp=E,9μm,8.5s
KLR MLR MLR
comp=N,1μm,12.0s
KLR MLR MLR
comp=Z,4μm,12.0s
QZH Quanzhou 18.29 251 *i* P **P 02 54 51.7 -2.6**
QZH S **S 02 57 59.4 -4.0**
QZH AMB AMB
comp=Z,1μm,2.0s
QZH AMB AMB
comp=Z,3μm,6.2s
QZH LR LR
comp=N,3μm,11.3s
QZH LR LR
comp=E,4μm,11.8s
QZH LR LR
comp=Z,6μm,10.2s
BJT Baijiatuau 18.91 300 *e*P **P 02 54 59.2 -1.5**
comp=Z,2μm,1.0s
BJT *e*S **S 02 58 13.8 -0.5**
BJT *e*ScP ScP 03 02 06.4 +0.2
BJT Baijiatuau 18.91 300 *e*P **P 02 54 59.2 -1.4**
BJT *e*S **S 02 58 13.8 -0.5**
BJT pmax pmax
comp=Z,2μm,1.0s
BJT Baijiatuau 18.91 300 P **P 02 54 59.2 -1.4**
BJT S **S 02 58 13.1 -1.2**
BJT ScP ScP 03 02 06.9 +0.8
BJT ScS ScS 03 05 48.4 +0.6
BJI Beijing 18.91 300 P **P 02 54 59.3 -1.3**
BJI XP sP 02 56 39.0 -5.0
BJI S **S 02 58 15.5 +1.2**
BJI PCS PcS 03 02 44.4 -0.1
BJI AMB AMB
comp=Z,870nm,1.1s
BJI AMB AMB
comp=Z,8μm,4.3s
BJI LR LR
comp=N,2μm,7.9s
BJI LR LR
comp=E,4μm,15.0s
BJI LR LR
comp=Z,2μm,16.6s
WHN Wuhan 19.96 271 ⇓P **P 02 55 09.3 -1.8**
WHN S **S 02 58 28.3 -3.5**
WHN AMB AMB
comp=Z,9μm,4.1s
WHN LR LR
comp=Z,5μm,11.4s
APYP Conner 20.70 230 *e*P **P 02 55 14.8 -3.2**
TIY Taiyuan 21.29 291 *i* P **P 02 55 22.7 -0.5**
TIY S **S 02 58 45.5 -7.7**
TIY LR LR
comp=N,2μm,11.5s
TIY LR LR
comp=E,886nm,6.7s
TIY LR LR
comp=Z,2μm,10.3s
HIA Hailar 21.54 327⇓*i*P **P 02 55 25.9 +0.6**
comp=Z,2μm,1.4s,mb6.2
HIA *e*S **S 02 58 56.8 0.0**
HIA Hailar 21.54 327⇓*i*P **P 02 55 25.9 +0.6**
HIA *e*S **S 02 58 56.8 0.0**
HIA pmax pmax
comp=Z,2μm,1.4s
HIA Hailar 21.54 327 P **P 02 55 26.1 +0.8**
HIA S **S 02 58 58.1 +1.3**
HIA ScS ScS 03 05 56.2 -0.4
BALP Baler 22.10 225 *e*P **P 02 55 28.6 -2.2**
BCPH Baguio City Da 22.22 228⇓*e*P **P 02 55 29.3 -2.5**
HHC Hu-ho-hao-te 22.52 299 ⇓P **P 02 55 34.6 +0.3**
HHC XP sP 02 57 18.2 -5.4
HHC PCP PcP 02 59 16.8 +2.5
HHC S **S 02 59 18.4 +5.8**
HHC PCS PcS 03 02 52.4 -1.0
HHC SCS ScS 03 06 04.2 +3.5
HHC AMB AMB
comp=Z,677nm,1.0s,mb6.0
HHC LR LR
comp=N,2μm,6.7s
HHC LR LR
comp=E,2μm,9.6s
HHC LR LR
comp=Z,1μm,12.7s
BOLP Bolinao 22.65 229 *e*P **P 02 55 32.2 -3.5**
SKR Severo-Kuril's 22.80 31 *e*P **P 02 55 35.0 -1.6**
SKR pmax pmax
comp=E,160nm,0.9s
SKR pmax pmax
comp=Z,260nm,0.9s,mb5.7
SKR MLR MLR
comp=Z,3μm,12.0s
HKC Hong Kong Obse 23.11 250 P **P 02 55 40.0 +0.1**
GZH Guangzhou 23.39 253 P **P 02 55 36.8 -5.6**
GZH S **S 02 59 20.0 -6.8**
GZH LR LR
comp=N,3μm,8.9s
GZH LR LR
comp=E,492nm,8.6s
GZH LR LR
comp=Z,3μm,15.7s
BTO Baotou 23.61 298 *e*P **P 02 55 44.2 0.0**
BTO AMB AMB
comp=Z,508nm,1.2s,mb5.8
XAN Xi'an 24.07 282 P **P 02 55 46.4 -2.0**
XAN XP sP 02 57 31.7 -8.6
XAN AMB AMB
comp=Z,1μm,0.9s,mb6.3
XAN AMB AMB
comp=Z,2μm,7.6s
XAN LR LR
comp=N,590nm,10.0s
XAN LR LR
comp=E,736nm,10.0s
XAN LR LR
comp=Z,553nm,13.7s
LUBP Lubang 24.46 225 *e*P **P 02 55 49.3 -2.8**
OTRP Odiongan 24.57 219 *e*P **P 02 55 51.5 -1.6**
PET Petropavlovsk 25.57 30⇑*i*P **P 02 56 01.3 -0.2**
comp=Z,156nm,0.9s,mb5.4
PET Petropavlovsk 25.57 30α*i*P **P 02 56 01.6 +0.1**
PET *e**SP sP 02 57 50.2 -5.3
PET *e* 02 59 25.2
PET *e*S **S 02 59 58.4 -2.1**
PET pmax pmax
comp=Z,215nm,0.8s,mb5.6
PET pmax pmax
comp=Z,1μm,5.9s
PET pmax pmax
comp=Z,900nm,14.2s
PET MLR MLR
comp=Z,1μm,15.0s
PET MLR MLR
comp=Z,1μm,13.0s
NRGR Nerungri 25.86 344 *e*P **P 02 56 06.2 +2.2**
NRGR S **S 03 00 09.0 +4.1**
NRGR smax
comp=E,911nm,1.3s
CLNS Chul'man 25.99 344 *e*P **P 02 56 06.2 +1.1**
CLNS *e*S **S 03 00 07.5 +0.6**
CLNS *e* 03 02 07.3
CLNS pmax pmax
comp=Z,150nm,0.7s,mb5.5
CLNS pmax pmax
comp=N,57nm,1.0s
CLNS pmax pmax
comp=E,32nm,0.6s
CLNS smax
comp=N,305nm,1.4s
CLNS smax
comp=Z,74nm,1.5s
CLNS smax
comp=E,159nm,1.2s
CLNS MLR MLR
comp=Z,700nm,14.0s
CLNS MLR MLR
comp=N,300nm,11.0s
CLNS MLR MLR
comp=E,2μm,12.0s
CIT Chita 26.31 325 *e*P **P 02 56 09.5 +1.4**
CIT *e* 02 57 17.4
CIT *e*S **S 03 00 10.2 -2.0**
CIT *e* 03 06 16.8
CIT pmax pmax
comp=Z,596nm,1.3s,mb5.9
GYA Guiyang 27.58 266⇓*i*P **P 02 56 17.4 -2.3**
GYA AP 02 57 26.6
GYA XP sP 02 58 09.0 -4.9
GYA PCP PcP 02 59 28.7 +2.6
GYA S **S 03 00 27.5 -5.2**
GYA SCP ScP 03 02 32.7 +3.0
GYA XS sS 03 02 36.6 -4.6
GYA PCS PcS 03 03 09.4 +0.9
GYA AMB AMB
comp=Z,80nm,1.1s,mb5.0
GYA AMB AMB
comp=Z,730nm,5.1s
GYA LR LR
comp=N,1μm,10.0s
GYA LR LR
comp=E,3μm,11.9s
GYA LR LR
comp=Z,3μm,11.8s
LZH Lanzhou 28.11 287⇓*i*P **P 02 56 24.0 -0.3**
LZH AP 02 57 34.0
LZH XP sP 02 58 17.0 -1.7
LZH PCP PcP 02 59 29.0 +1.8
LZH S **S 03 00 40.4 -0.4**
LZH SCP ScP 03 02 33.2 +2.0
LZH XS sS 03 02 43.0 -6.6
LZH PCS PcS 03 03 08.7 -1.1
LZH SCS ScS 03 06 24.5 -0.1
LZH AMB AMB
comp=Z,792nm,1.5s,mb5.8
LZH AMB AMB
comp=Z,2μm,4.0s
SONM Songino Array 28.21 312 P **P 02 56 26.1 +1.2**
SONM S **S 03 00 44.1 +2.1**
SONM pmax pmax
comp=Z,131nm,0.4s
SONM smax
comp=N,6.0nm,1.0s
SONM Songino Array 28.21 312 P **P 02 56 26.1 +1.2**
comp=N,131nm,0.4s,mb5.6,baz=119,slow=8.4,SNR=515
SONM S **S 03 00 44.1 +2.1**
comp=N,6.3nm,1.0s,baz=134,slow=12,SNR=1.8
SONM ScP ScP 03 02 31.7 +0.5
comp=N,12nm,0.9s,baz=131,slow=3.8,SNR=5.8
QIZ Qiongzhong 28.28 249 ⇓P **P 02 56 25.9 0.0**
QIZ AP 02 57 34.1
QIZ PP PP 02 57 38.5 -0.9
QIZ XP sP 02 58 17.7 -2.6
QIZ S **S 03 00 44.6 +0.9**
QIZ AMB AMB
comp=Z,823nm,4.3s
QIZ Qiongzhong 28.28 249⇓*i*P **P 02 56 25.9 0.0**
comp=Z,256nm,2.0s,mb5.2
QIZ *e* 02 57 35.4
MA2 Magadan 28.56 14⇑*i*P **P 02 56 28.1 +0.2**
comp=Z,204nm,0.8s,mb5.5
MA2 *e*S **S 03 00 46.3 -0.8**
MA2 Magadan 28.56 14 *i* P **P 02 56 28.1 +0.3**
MA2 *i* S **S 03 00 48.2 +1.0**
MA2 *e**SS sS 03 02 48.6 -7.4
MA2 pmax pmax
comp=N,300nm,1.1s
MA2 pmax pmax
comp=Z,500nm,1.1s,mb5.8
CD2 Chengdu 28.83 276⇓*i*P **P 02 56 29.8 -0.8**
CD2 AP 02 57 36.2
CD2 XP sP 02 58 20.5 -4.7
CD2 PCP PcP 02 59 30.5 +1.4
CD2 S **S 03 00 51.2 -1.0**
CD2 XS sS 03 02 51.5 -10
CD2 SCS ScS 03 06 29.8 +1.7
CD2 AMB AMB
comp=Z,520nm,1.4s,mb5.7
CD2 AMB AMB
comp=Z,2μm,3.5s
CD2 LR LR
comp=N,11μm,11.4s
CD2 LR LR
comp=Z,9μm,12.6s
YAK Yakutsk 30.09 353⇑*i*P **P 02 56 40.7 -0.5**
YAK *e*S **S 03 01 10.1 -0.9**
YAK Yakutsk 30.09 353 *e*P **P 02 56 41.4 +0.2**
YAK *e* pP 02 57 54.5 +3.0
YAK *e*PPP 02 58 33.3
YAK *e* 02 59 35.3
YAK *i* S **S 03 01 09.9 -1.1**
YAK *e* 03 06 30.3
YAK pmax pmax
comp=Z,118nm,1.2s,mb5.1
YAK pmax pmax
comp=N,44nm,1.3s
YAK pmax pmax
comp=E,9.0nm,0.8s
YAK pmax pmax
comp=N,109nm,1.4s
YAK pmax pmax
comp=Z,98nm,1.4s,mb5.0
YAK pmax pmax
comp=E,160nm,3.8s
YAK smax
comp=E,2μm,3.3s
YAK smax
comp=N,2μm,2.6s
YAK smax
comp=Z,1μm,2.6s
BOD Bodaibo 30.11 335 *e*P **P 02 56 41.2 -0.2**
BOD pmax pmax
comp=Z,51nm,1.3s,mb4.7
ZAK Zakamensk 31.06 316⇑*i*P **P 02 56 50.5 +0.6**
ZAK *e* 03 01 28.9
ZAK *e* 03 06 39.2
ZAK pmax pmax
comp=Z,254nm,1.4s,mb5.4
IRK Irkutsk 31.26 319⇓*i*P **P 02 56 52.5 +1.0**
IRK pmax pmax
comp=Z,648nm,1.8s,mb5.7
GTA Gaotai 31.27 294⇓*i*P **P 02 56 51.9 0.0**
GTA AP pP 02 58 03.5 +1.0
GTA PP PP 02 58 14.7 +2.5
GTA PCP PcP 02 59 37.6 +2.2
GTA S **S 03 01 28.6 -1.3**
GTA SCP ScP 03 02 42.8 +1.4
GTA PCS PcS 03 03 21.2 +1.1
GTA XS sS 03 03 35.6 -3.9
GTA SS SS 03 03 54.2 -10
GTA SCS ScS 03 06 39.2 -0.5
GTA AMB AMB
comp=Z,449nm,1.2s,mb5.7
GTA AMB AMB
comp=Z,2μm,6.1s
GTA LR LR
comp=N,1μm,13.3s
GTA LR LR
comp=E,1μm,14.5s
GTA LR LR
comp=Z,1μm,16.3s
KMI Kunming 31.36 266 P **P 02 56 51.5 -1.3**
KMI PP PP 02 58 16.3 +2.9
KMI S **S 03 01 31.3 -0.2**
KMI AMB AMB
comp=Z,936nm,5.1s
KMI LR LR
comp=N,982nm,13.1s
KMI LR LR
comp=E,2μm,14.3s
KMI LR LR
comp=Z,2μm,13.7s
TLY Talaya 31.37 318⇓*i*P **P 02 56 53.8 +1.3**
TLY Talaya 31.37 318*d*i P **P 02 56 53.9 +1.4**
TLY *e*S **S 03 01 33.7 +2.7**
TLY *e* 03 04 02.2
TLY pmax pmax
comp=Z,412nm,1.1s,mb5.7
TLY MLR MLR
comp=Z,856nm,15.0s
TLY Talaya 31.37 318 P **P 02 56 54.3 +1.8**
SNR=123
TLY Talaya 31.37 318 P **P 02 56 54.3 +1.8**
SNR=123
KDM Kudat 31.92 222 ⇓P **P 02 56 57.4 -0.2**
SEY Seymchan 31.96 13⇑*e*P **P 02 56 57.5 +0.1**
SEY Seymchan 31.96 13⇑*e*P **P 02 56 57.4 0.0**
MYLDM Lahad Datu 32.46 218 ⇓P **P 02 57 03.1 +0.8**
SDKM Sandakan 32.77 220 ⇓P **P 02 57 04.4 -0.6**
MOY Mondy 32.88 317 *e*P **P 02 57 06.5 +1.0**
MOY pmax pmax
comp=Z,391nm,2.2s,mb5.3
KKM Kota Kinabalu 32.98 222⇓*i*P **P 02 57 06.2 -0.6**
KKM Kota Kinabalu 32.98 222 ⇓P **P 02 57 06.6 -0.2**
TSM Tawau 33.54 218 ⇑P **P 02 57 10.8 -0.9**
UBT Ubonrachathani 34.21 248 ⇓P **P 02 57 18.0 +0.7**
comp=Z,347nm,0.9s,mb5.7
CHRT Chiangrai 36.04 259 ⇓P **P 02 57 32.5 -0.2**
comp=Z,500nm,1.4s,mb5.7
BTM Bintulu 37.09 224 ⇓P **P 02 57 41.3 -0.2**
CHTO Chiang Mai 37.23 258⇓*i*P **P 02 57 42.1 -0.6**
comp=Z,561nm,1.4s,mb5.7
CHTO *e* pP 02 59 00.5 +5.2
CHTO *e*S **S 03 03 01.2 +0.2**
CHTO Chiang Mai 37.23 258⇓*i*P **P 02 57 42.1 -0.6**
CHTO *e*S **S 03 03 01.3 +0.2**
CHTO pmax pmax
comp=Z,561nm,1.4s,mb5.7
CHTO Chiang Mai 37.23 258 P **P 02 57 42.6 -0.1**
SNR=129
NST Nakhon Sawan 37.87 253 P **P 02 57 47.2 -0.7**
comp=Z,197nm,1.4s,mb5.2
BDT Bhumibol Dam 37.96 256 ⇑P **P 02 57 48.8 +0.1**
comp=Z,44nm,1.0s,mb4.8
SBUM Sibu 38.19 224 ⇑P **P 02 57 50.5 -0.1**
ADK Adak 38.29 46 *e*P **P 02 57 50.6 -0.4**
comp=Z,63nm,0.6s,mb5.1
ADK Adak 38.29 46 *e*P **P 02 57 50.6 -0.3**
ADK pmax pmax
comp=Z,510nm,1.7s,mb5.6
IMP Imphal 38.92 270 *e*P **P 02 57 54.0 -2.6**
IMP *ex* x 03 00 24.0
BILL Bilibino 39.34 17⇑*i*P **P 02 57 59.9 +0.6**
comp=Z,340nm,0.8s,mb5.7
BILL Bilibino 39.34 17α*i*P **P 02 58 00.0 +0.7**
BILL *e* 02 59 41.2
BILL 03 00 00.0

BILL *i* S **S** **03 03 32.2 +1.1**
BILL *SS sS 03 05 45.7 +1.5
BILL SS SS 03 06 43.0 -0.2
BILL pmax pmax
comp=Z,735nm,1.3s,mb5.8
TIXI Tiksi 39.60 356⇑*i*P **P** **02 58 00.8 -0.6**
TIXI *e*S **S** **03 03 33.8 -1.1**
TIXI Tiksi 39.60 356*c i*P **P** **02 58 01.0 -0.4**
TIXI *e*S **S** **03 03 33.6 -1.2**
TIXI *e* 03 07 21.3
TIXI pmax pmax
comp=Z,34nm,0.4s,mb5.0
LSA Lhasa 39.70 279 P **P** **02 58 04.4 +1.6**
LSA AMB AMB
comp=Z,250nm,1.2s,mb5.4
LSA AMB AMB
comp=Z,710nm,6.0s
LSA LR LR
comp=N,360nm,15.0s
LSA LR LR
comp=E,750nm,15.0s
LSA LR LR
comp=Z,980nm,22.0s
LSA Lhasa 39.70 279⇓*i*P **P** **02 58 04.0 +1.2**
comp=Z,419nm,1.1s,mb5.7
LSA *e*ScP ScP 03 03 13.9 +1.5
LSA Lhasa 39.70 279⇓*i*P **P** **02 58 04.0 +1.2**
LSA pmax pmax
comp=Z,419nm,1.1s,mb5.7
NNT Nongplab 39.92 249 P **P** **02 58 05.0 +0.2**
KSM Kuching 40.11 225⇓*i*P **P** **02 58 06.5 +0.2**
KSM *e*pP pP 02 59 18.1 -2.0
KSM *e*PcP PcP 02 59 59.1 -3.1
KSM Kuching 40.11 225 ⇑P **P** **02 58 06.9 +0.5**
WMQ Urumqi 40.38 301⇓*i*P **P** **02 58 08.9 +0.8**
WMQ AP pP 02 59 22.3 +0.4
WMQ PP PP 02 59 51.4 +0.7
WMQ PCP PcP 03 00 03.2 +0.5
WMQ SCP ScP 03 03 15.0 +0.2
WMQ S **S** **03 03 47.4 +0.3**
WMQ XS sS 03 06 00.3 -0.4
WMQ SS SS 03 06 56.5 -7.5
WMQ SCS ScS 03 07 32.0 +1.8
WMQ AMB AMB
comp=Z,910nm,1.3s,mb6.0
WMQ AMB AMB
comp=Z,3μm,3.6s
SHL Shillong 40.38 272 *i* P **P** **02 58 07.5 -0.9**
SHL *ex* x 03 03 46.0
KAPI Kappang 40.91 208 P **P** **02 58 11.9 -0.9**
comp=Z,1μm,1.1s,mb6.1,SNR=53
KTGM Kuala Trenggan 41.99 238 ⇑P **P** **02 58 22.1 +0.6**
SNG Songkhla 42.59 242 P **P** **02 58 26.0 -0.3**
comp=Z,312nm,1.0s,mb5.6
ZAA0 Zalesovo Array 42.94 316⇓*i*P **P** **02 58 28.0 -0.4**
ZALV Zalesovo Beam 42.94 316 P **P** **02 58 28.2 -0.2**
ZALV PcP PcP 03 00 10.8 -0.2
ZALV ScP ScP 03 03 24.9 +0.1
ZALV S **S** **03 04 23.1 -0.9**
ZALV Zalesovo Beam 42.94 316 P **P** **02 58 28.2 -0.2**
comp=Z,162nm,0.4s,mb5.8,baz=82,slow=8.5,SNR=387
ZALV PcP PcP 03 00 10.8 -0.2
comp=Z,18nm,0.6s,baz=93,slow=3.3,SNR=4.8
ZALV ScP ScP 03 03 24.9 +0.1
comp=Z,8.9nm,0.5s,baz=112,slow=3.8,SNR=9.4
ZALV S **S** **03 04 23.1 -0.9**
comp=Z,22nm,1.2s,baz=107,slow=13,SNR=5.8
ZAL Zalesovo 42.95 316 P **P** **02 58 28.2 -0.3**
ZAL 03 00 10.8
ZAL S **S** **03 04 23.1 -1.1**
TAPN Taplejung 43.29 277 *e*P **P** **02 58 31.8 +0.1**
comp=Z,1μm,0.9s,mb6.2
ODAN Odare 43.73 276 *e*P **P** **02 58 35.2 +0.1**
comp=Z,1μm,1.0s,mb6.2
KULM Kulim 43.82 240⇓*i*P **P** **02 58 35.4 -0.6**
KULM *e*pP pP 02 59 49.3 -1.9
KULM *e*ScP ScP 03 03 29.6 +0.4
KULM Kulim 43.82 240 ⇑P **P** **02 58 36.2 +0.3**
NVS Novosibirsk 43.98 317⇓*i*P **P** **02 58 36.5 -0.1**
NVS *e* 03 00 26.1
NVS *i* S **S** **03 04 38.5 -0.4**
NVS *i* SS SS 03 07 50.3 -15
NVS pmax pmax
comp=Z,670nm,1.6s,mb5.7
NVS pmax pmax
comp=N,116nm,1.5s
NVS pmax pmax
comp=E,492nm,1.5s
NVS pmax pmax
comp=Z,238nm,2.2s,mb5.1
NVS pmax pmax
comp=E,164nm,2.0s
NVS smax
comp=E,246nm,1.5s
NVS smax
comp=N,247nm,1.4s
MYKOM Kota Tinggi 44.02 233 ⇓P **P** **02 58 38.0 +0.5**
MK31 Makanchi Array 44.13 306 *i* P **P** **02 58 38.2 +0.2**
MK31 pmax pmax
comp=Z,86nm,0.3s,mb5.6
MKAR Makanchi Array 44.13 306 P **P** **02 58 38.5 +0.5**
MKAR pP pP 02 59 54.2 +1.0
MKAR PcP PcP 03 00 16.1 +0.8
MKAR ScP ScP 03 03 30.3 +0.4
MKAR S **S** **03 04 42.1 +0.7**
MKAR Makanchi Array 44.13 306 P **P** **02 58 38.5 +0.5**
MKAR *PP pP 02 59 54.3 +1.0
MKAR 03 00 16.1
MKAR S **S** **03 04 42.1 +0.7**
MKAR pmax pmax
comp=Z,109nm,0.4s
MKAR smax
comp=N,12nm,0.9s
MKAR Makanchi Array 44.13 306 P **P** **02 58 38.5 +0.5**
comp=N,109nm,0.4s,mb5.5,baz=86,slow=10.0,SNR=449
MKAR pP pP 02 59 54.2 +1.0
comp=N,36nm,0.9s,baz=84,slow=11,SNR=2.4
MKAR PcP PcP 03 00 16.1 +0.8
comp=N,17nm,0.8s,baz=93,slow=2.9,SNR=2.3
MKAR ScP ScP 03 03 30.3 +0.4
comp=N,4.9nm,0.6s,baz=80,slow=4.7,SNR=4.5
MKAR S **S** **03 04 42.1 +0.7**
comp=N,12nm,0.9s,baz=86,slow=20,SNR=7.0
KGM Kluang 44.21 234 ⇓P **P** **02 58 39.5 +0.5**
GAMB Gambell 44.27 29 *e*P **P** **02 58 39.5 +0.7**
JIRN Jiri 44.47 278 *e*P **P** **02 58 41.0 +0.1**
comp=N,2μm,0.8s,mb6.5
FRIM Kepong 44.52 237 ⇓P **P** **02 58 41.4 -0.1**
UNV Unalaska Valle 44.69 44 *e*P **P** **02 58 41.3 -0.9**
comp=N,159nm,1.7s,mb5.1
KAKA Kakadu 45.13 187 *e*P **P** **02 58 43.8 -2.3**
comp=N,48nm,0.8s,mb4.9
KKN Kakani 45.19 278 *e*P **P** **02 58 46.7 +0.2**
comp=N,2μm,1.0s,mb6.5
GKN Gorkha 45.66 279 *e*P **P** **02 58 50.1 0.0**
comp=N,3μm,1.2s,mb6.5
PBA Port Blair 46.06 254 *ex* x 02 59 01.3
PBA AMb AMB 02 59 05.8
comp=Z,196nm,0.7s,mb5.6
BOK Bokaro 46.10 273 *e*P **P** **02 58 51.2 -2.4**
BOK AMb AMB 02 58 54.8
comp=Z,515nm,2.0s,mb5.5
TNA Tin City 46.40 28⇑*i*P **P** **02 58 56.2 +1.0**
comp=Z,303nm,1.4s,mb5.4
KURK Kurchatov 46.51 311 P **P** **02 58 56.6 +0.3**
comp=Z,3μm,1.1s,mb6.5
KURK Kurchatov 46.51 311⇓*i*P **P** **02 58 56.2 -0.1**
comp=Z,534nm,0.9s,mb5.9
KURK *e*pP pP 03 00 12.4 -0.1
KURK *e*ScP ScP 03 03 39.5 -0.3
KURK Kurchatov 46.51 311 P **P** **02 58 56.2 -0.1**
KURK pmax pmax
comp=Z,530nm,1.0s,mb5.8
KURK Kurchatov 46.51 311 P **P** **02 58 56.5 +0.1**
SNR=205
KOLN Koldanda 46.60 279 *e*P **P** **02 58 57.7 +0.3**
comp=Z,3μm,1.3s,mb6.5
SDPT Sand Point 48.28 42⇑*i*P **P** **02 59 08.1 -1.6**
comp=Z,116nm,0.6s,mb5.4
SDPT *e*PcP PcP 03 00 29.7 0.0
PTH Pithoragarh 48.83 283 *e*P **P** **02 59 12.9 -1.4**
LGTI Lohaghat 48.84 283 *ex* x 02 59 41.5
ULHL Ulahol 48.88 300 P **P** **02 59 15.2 +0.8**
SNR=181
TKM2 Tokmak 2 49.24 301⇓*i*P **P** **02 59 18.1 +1.0**
comp=Z,1μm,1.6s,mb5.9
TKM2 *e*PcP PcP 03 00 36.4 +2.8
TKM2 *e*ScP ScP 03 03 52.4 +0.9
TKM2 *e*S **S** **03 05 53.7 +0.5**
TKM2 Tokmak 2 49.24 301⇓*i*P **P** **02 59 18.1 +1.0**
TKM2 *e* pP 03 00 36.4 +2.1
TKM2 *e*S **S** **03 05 53.7 +0.5**
TKM2 pmax pmax
comp=Z,1μm,1.6s,mb5.9
TKM2 Tokmak 2 49.24 301 P **P** **02 59 18.0 +0.9**
SNR=215
KSH Kashi 49.59 297 *i* P **P** **02 59 21.8 +2.0**
KSH PCP PcP 03 00 35.2 +0.3
KSH XP sP 03 01 11.3 -8.5
KSH PP PP 03 01 22.1 +3.7
KSH SCP ScP 03 03 53.8 +0.8
KSH PCS PcS 03 04 33.9 +1.7
KSH S **S** **03 06 03.2 +5.1**
KSH SCS ScS 03 08 29.6 -0.3
KSH SS SS 03 09 36.8 +1.2
KSH AMB AMB
comp=Z,1μm,1.2s,mb6.2
KSH LR LR
comp=N,2μm,6.9s
KSH LR LR
comp=E,3μm,8.6s
KSH LR LR
comp=Z,2μm,14.0s
KZA Kyzart 49.63 300 P **P** **02 59 21.9 +1.9**
SNR=54
KBK Karagaybulak 49.75 301 P **P** **02 59 21.9 +0.9**
SNR=107
CHMS Chumysh 49.84 301 P **P** **02 59 21.5 -0.1**
SNR=75
BLSP Bilaspur 49.93 273 *e*P **P** **02 59 22.4 -0.2**
FRU Bishkek 49.96 301⇓*i*P **P** **02 59 23.0 +0.5**
FRU *i* 03 01 24.5
FRU *e*S **S** **03 06 05.0 +1.8**
FRU *e* 03 08 27.0
FRU pmax pmax
comp=Z,870nm,1.8s,mb5.8
USP Ospenovka 49.97 302 P **P** **02 59 23.0 +0.4**
SNR=21
AAK Ala-Archa 50.09 301 P **P** **02 59 24.0 +0.6**
SNR=14
UCH Uchtor 50.15 300⇓*i*P **P** **02 59 25.1 +1.3**
comp=Z,0.5nm,0.6s
UCH *e*ScP ScP 03 03 56.9 +1.5
UCH Uchtor 50.15 300 P **P** **02 59 25.4 +1.5**
SNR=23
EKS2 Erkin-Say 50.60 301⇓*i*P **P** **02 59 27.5 +0.3**
comp=Z,361nm,1.6s,mb5.3
EKS2 *e*PcP PcP 03 00 39.0 +0.4
EKS2 Erkin-Say 50.60 301 P **P** **02 59 27.7 +0.5**
SNR=20
AML Almayashu 50.76 300⇓*i*P **P** **02 59 29.8 +1.3**
comp=Z,661nm,1.2s,mb5.7
AML Almayashu 50.76 300 P **P** **02 59 29.6 +1.2**
SNR=377
SDNR Sundarnagar 50.88 286 *e*P **P** **02 59 30.0 +0.5**
TTA Tatalina 50.99 33⇑*i*P **P** **02 59 30.2 +0.5**
comp=Z,226nm,1.8s,mb5.1
TTA *e*PcP PcP 03 00 40.5 +0.9
TTA Tatalina 50.99 33⇑*i*P **P** **02 59 30.3 +0.6**
TTA *e* 03 00 40.6
TTA pmax pmax
comp=Z,226nm,1.8s,mb5.1
SVW2 Sparrevohn 51.08 35 *e*P **P** **02 59 31.4 +0.9**
SVW2 *e*ScP ScP 03 03 59.6 +0.6
BHK Bhakra 51.35 286 *e*P **P** **02 59 32.6 -0.4**
FITZ Fitzroy Crossi 51.51 195⇓*i*P **P** **02 59 33.6 -0.5**
comp=Z,21nm,0.5s,mb4.6
FITZ *i* S **S** **03 06 18.6 -6.0**
FITZ *i* 03 08 41.3
BRVK Borovoye 51.57 315 P **P** **02 59 34.9 +0.7**
comp=Z,956nm,0.8s,mb6.1,SNR=70
BRVK Borovoye 51.57 315⇓*i*P **P** **02 59 34.2 0.0**
comp=Z,225nm,1.1s,mb5.3
BRVK *e*PcP PcP 03 00 42.0 0.0
BRVK *e*ScP ScP 03 04 01.9 +0.6
BRVK *e*S **S** **03 06 24.9 +0.1**
BRVK Borovoye 51.57 315⇓*i*P **P** **02 59 34.2 0.0**
BRVK *e* 03 00 42.0
BRVK pmax pmax
comp=Z,225nm,1.1s,mb5.3
BRVK Borovoye 51.57 315 P **P** **02 59 34.6 +0.4**
SNR=82
NDI New Delhi 51.59 283 *e*P **P** **02 59 34.4 -0.4**
NDI *i x* x 03 06 25.0
THN Thein Dam 51.61 288 *e*P **P** **02 59 34.0 -0.8**
WB2 Warramunga Arr 52.14 184 *e*P **P** **02 59 37.4 -1.3**
WB2 *e*pP pP 03 00 57.9 +0.9
WB2 *i* S **S** **03 06 28.9 -4.1**
WB2 *e*sS sS 03 08 49.2 -4.0
WRA Warramunga Arr 52.14 184 P **P** **02 59 37.7 -1.0**
WRA 03 00 45.1
WRA *PP pP 03 00 57.5 +0.5
WRA pmax pmax
comp=Z,15nm,0.3s
WRA Warramunga Arr 52.14 184 P **P** **02 59 37.7 -1.0**
comp=Z,15nm,0.3s,mb4.8,baz=0.0,slow=7.7,SNR=48
WRA PcP PcP 03 00 45.1 +0.6
comp=Z,6.8nm,0.6s,baz=0.2,slow=3.8,SNR=7.7
WRA pP pP 03 00 57.5 +0.5
comp=Z,16nm,1.0s,baz=3.0,slow=7.7,SNR=3.2
WRA ScP ScP 03 04 04.4 +0.3
comp=Z,7.4nm,0.9s,baz=356,slow=4.4,SNR=4.4
WRA S **S** **03 06 27.2 -5.8**
comp=Z,4.9nm,1.0s,baz=3.6,slow=14,SNR=4.5
IMA2 Indian Mountai 52.23 29 *e*P **P** **02 59 39.4 +0.6**
IMA2 *e*PcP PcP 03 00 45.4 +1.1
IMA2 *e*ScP ScP 03 04 04.7 +0.7
KDAK Kodiak Island 52.62 39⇑*i*P **P** **02 59 41.5 -0.3**
comp=Z,136nm,0.7s,mb5.3
KDAK *e*PcP PcP 03 00 46.3 +0.3
KDAK *e*ScP ScP 03 04 07.0 +1.2
KDAK Kodiak Island 52.62 39 P **P** **02 59 41.6 -0.2**
comp=Z,116nm,0.6s,mb5.3,baz=278,slow=3.5,SNR=254
CTA Charters Tower 52.83 170⇓*i*P **P** **02 59 43.6 -0.1**
comp=Z,18nm,0.9s,mb4.3
CTA *i* S **S** **03 06 40.1 -2.2**
CTA *e* 03 08 54.7
CTA Charters Tower 52.83 170⇓*i*P **P** **02 59 43.6 -0.1**
CTA *e* 03 08 54.7
CTA pmax pmax
comp=Z,18nm,0.9s
CTAO Charters Tower 52.83 170 *e*P **P** **02 59 42.9 -0.8**
comp=Z,12nm,0.8s,mb4.2
CTAO Charters Tower 52.83 170 P **P** **02 59 43.5 -0.2**
CTAO pmax pmax
comp=Z,12nm,0.9s,mb4.1
KK31 Karatay Array 52.87 302 *i* P **P** **02 59 43.8 0.0**
KK31 pmax pmax
comp=Z,82nm,0.4s,mb5.3
NGP Nagpur 52.95 273 *e*P **P** **02 59 42.6 -2.1**
NGP *ex* x 03 06 43.1
BHPL Bhopal 53.45 276 *e*P **P** **02 59 46.4 -1.9**
BHPL AMb AMB 02 59 50.6
comp=Z,476nm,2.5s,mb5.3
SLKM Skilak Lake 53.71 36 *e*P **P** **02 59 48.4 -1.1**
SLKM *e*PcP PcP 03 00 50.2 +0.2
PMR Palmer 54.19 34⇑*i*P **P** **02 59 52.4 -0.5**
comp=Z,76nm,1.0s,mb4.9
PMR *e*PcP PcP 03 00 51.8 -0.1
PMR Palmer 54.19 34⇑*i*P **P** **02 59 52.4 -0.5**
PMR *e* 03 00 51.8
PMR pmax pmax
comp=Z,76nm,1.0s,mb4.9
MCK McKinley 54.20 32⇑*i*P **P** **02 59 53.1 +0.1**
comp=Z,540nm,1.5s,mb5.6
MCK McKinley 54.20 32 P **P** **02 59 53.1 +0.1**
MCK pmax pmax
comp=Z,260nm,1.4s,mb5.3
AJM Ajmer 54.52 281 *i* P **P** **02 59 55.0 -0.9**
SML Sawmill 54.56 34⇑*i*P **P** **02 59 55.5 0.0**
COLA College 54.64 30⇑*i*P **P** **02 59 56.3 +0.2**
comp=Z,71nm,0.6s,mb5.1
COLA College 54.64 30*c i*P **P** **02 59 56.2 +0.1**
AKL Akola 54.85 274⇓*i*P **P** **02 59 58.7 +0.4**
AKL *ex* x 03 00 00.5
comp=Z,689nm,1.6s
AKL ⇓*i x* x 03 07 12.7
HYB Hyderabad 55.02 269 *e*P **P** **02 59 59.5 0.0**
comp=Z,237nm,0.6s,mb5.6
HYB *e* 03 00 10.0
HYB *e*S **S** **03 07 12.0 +0.3**
HYB Hyderabad 55.02 269 *e*P **P** **02 59 59.5 0.0**
HYB *e*S **S** **03 07 12.0 +0.3**
HYB pmax pmax
comp=Z,237nm,0.6s,mb5.6
HYB Hyderabad 55.02 269 *i* P **P** **02 59 59.5 0.0**
comp=Z,237nm,0.6s,mb5.6
HYB *e* 03 00 10.0
HYB *e*S **S** **03 07 12.0 +0.3**
MDRS Chennai 55.68 264 *e*P **P** **03 00 04.0 -0.3**
MDRS AMb AMB 03 00 07.5
comp=Z,386nm,2.0s,mb5.4
ASAR Alice Springs 55.86 184 P **P** **03 00 04.5 -0.7**
ASAR *PP pP 03 01 25.8 +0.9
ASAR S **S** **03 07 22.0 -0.3**
ASAR smax
comp=N,3.0nm,0.9s
ASAR Alice Springs 55.86 184 P **P** **03 00 04.5 -0.8**
comp=N,12nm,0.6s,mb4.4,baz=12,slow=9.2,SNR=87
ASAR pP pP 03 01 25.8 +0.9
comp=N,2.9nm,0.7s,baz=16,slow=5.6,SNR=1.2
ASAR ScP ScP 03 04 20.6 +0.3
comp=N,3.4nm,0.7s,baz=8.7,slow=4.7,SNR=4.5
ASAR S **S** **03 07 22.0 -0.3**
comp=N,3.1nm,0.9s,baz=15,slow=20,SNR=10
EYAK Cordova Ski Ar 55.91 35⇑*i*P **P** **03 00 05.7 +0.6**
comp=N,45nm,0.6s,mb5.0
EYAK *e*PcP PcP 03 00 59.2 +0.7
MBWA Marble Bar 55.95 200⇓*i*P **P** **03 00 04.7 -1.1**
comp=N,88nm,0.9s,mb5.1
LATR Latur 56.25 271 *ex* **P** **03 00 03.2 -5.0**
SVE Sverdlovsk 56.65 320*c i*P **P** **03 00 10.8 +0.5**
SVE *e* pP 03 01 30.4 +0.3
SVE *e* 03 02 12.2
SVE *e*S **S** **03 07 32.2 +0.3**
SVE *e* 03 09 13.5
SVE *e*SS SS 03 11 24.7 -1.2
SVE *e*SSS 03 14 05.2
SVE pmax pmax
comp=Z,260nm,1.2s,mb5.4
EGAK Eagle 57.50 30⇑*i*P **P** **03 00 15.9 -0.2**
comp=Z,28nm,0.6s,mb4.8
ARU Arti 57.84 320 P **P** **03 00 18.1 -0.5**
comp=Z,2μm,0.4s,SNR=90
ARU Arti 57.84 320⇓*i*P **P** **03 00 18.6 0.0**
comp=Z,149nm,0.4s,mb5.7
ARU Arti 57.84 320*d i*P **P** **03 00 18.6 0.0**
ARU *e* 03 01 05.0
ARU *e**PP pP 03 01 36.3 -2.5
ARU *e**SP sP 03 02 20.0 -0.7
ARU *e* 03 02 29.2
ARU *e*S **S** **03 07 48.4 +1.1**
ARU *e* 03 09 24.2
ARU *e*SS SS 03 11 42.5 -2.2
ARU *e*SSS 03 14 34.8
ARU pmax pmax
comp=Z,498nm,1.7s,mb5.6
SOKR Solikamsk 58.18 324*d i*P **P** **03 00 20.0 -0.8**
SOKR pP pP 03 01 41.7 +0.5
SOKR S **S** **03 07 50.7 -0.8**
SOKR *i* 03 09 25.9
SOKR pmax pmax
comp=Z,240nm,1.4s,mb5.3
SOKR MLR MLR
comp=Z,830nm,18.0s
PALK Pallekele 58.35 258 P **P** **03 00 23.7 +0.9**
comp=Z,1μm,0.8s,mb6.3,SNR=51
PALK Pallekele 58.35 258⇓*i*P **P** **03 00 23.1 +0.3**
comp=Z,209nm,0.9s,mb5.5
PALK *e*pP pP 03 01 40.7 -2.5
PALK Pallekele 58.35 258 P **P** **03 00 23.5 +0.8**
SNR=29
DAWY Dawson 58.36 31⇑*i*P **P** **03 00 22.5 +0.5**
POO Poona 58.49 273 *e*P **P** **03 00 22.9 -0.7**
POO AMb AMB 03 00 26.2
comp=Z,418nm,1.6s,mb5.5
AB31 Akbulak array 58.62 311⇑*e*P **P** **03 00 24.2 +0.1**
KAD Karad 58.77 272 *i* P **P** **03 00 25.2 -0.3**
KOD Kodaikanal 59.47 263 *e*P **P** **03 00 30.7 +0.4**
KOD AMb AMB 03 00 31.4
comp=Z,276nm,0.7s,mb5.7
AKTK Aktyubinsk 59.52 313 *i* P **P** **03 00 29.5 -0.7**
AKTO Aktyubinsk 59.52 313 *i* P **P** **03 00 29.5 -0.7**
AKTO Aktyubinsk 59.52 313 S **S** **03 08 10.2 +1.2**
comp=Z,8.3nm,1.0s,baz=224,slow=18,SNR=10
INK Inuvik 59.91 25⇑*i*P **P** **03 00 32.6 +0.1**
comp=Z,756nm,0.6s,mb6.3
INK *e*PcP PcP 03 01 14.3 0.0
INK Inuvik 59.91 25 P **P** **03 00 32.7 +0.3**
INK Inuvik 59.91 25 S **S** **03 08 14.1 +0.9**
comp=Z,1.1nm,0.9s,baz=11,slow=31,SNR=7.7
GOA Goa 59.92 270 *e*P **P** **03 00 33.0 -0.4**
GOA AMb AMB 03 00 35.5
comp=Z,563nm,1.7s,mb5.7
MNGI Mangalore 60.32 267 *i* P **P** **03 00 35.7 -0.4**
MNGI AMb AMB 03 00 37.8
comp=Z,370nm,2.4s,mb5.4
MNGI *e*S **S** **03 08 25.0 +5.0**
POHA Pohakuloa 60.47 84 *e*P **P** **03 00 37.9 +0.9**
comp=Z,177nm,0.8s,mb5.5
DZM Mont Dzumac 60.75 149 P **P** **03 00 39.3 +0.6**
comp=Z,76nm,1.1s,mb5.1,baz=325,slow=9.0
DZM PcP PcP 03 01 19.8 +1.4
comp=Z,18nm,0.9s,baz=333,slow=4.5,SNR=2.7
TRD Trivandrum 60.80 261 *e*P **P** **03 00 38.3 -0.9**
TRD AMb AMB 03 00 39.9
comp=Z,328nm,2.5s,mb5.3
SKAG Skagway 61.25 36⇑*i*P **P** **03 00 42.5 +0.9**
comp=Z,171nm,1.2s,mb5.3
ABKT Ailbek 63.40 300 P **P** **03 00 56.0 0.0**
comp=Z,448nm,1.1s,mb5.9,SNR=21
FORT Forrest 63.48 189 *e*P **P** **03 00 55.7 -0.8**
comp=Z,46nm,0.9s,mb5.0
CRAG Craig 63.59 39⇑*i*P **P** **03 00 57.7 +0.8**
comp=Z,90nm,1.2s,mb5.2
WRAK Wrangell Islan 63.68 38 *e*P **P** **03 00 58.1 +0.6**
comp=Z,210nm,1.7s,mb5.4
STKA Stephens Creek 64.03 176 *e*P **P** **03 01 00.1 +0.1**
comp=Z,17nm,0.8s,mb4.6
STKA *i* S **S** **03 09 03.3 -1.9**
STKA *i* 03 10 19.2
STKA Stephens Creek 64.03 176 P **P** **03 01 00.0 0.0**
comp=Z,19nm,0.7s,mb4.7,baz=341,slow=7.2,SNR=40
STKA pP pP 03 02 21.3 -1.0
comp=Z,2.5nm,0.5s,baz=340,slow=9.9,SNR=1.4
STKA S **S** **03 09 04.5 -0.7**
comp=Z,9.9nm,1.1s,baz=148,slow=18,SNR=6.0
DLBC Dease Lake 64.18 36⇑*i*P **P** **03 01 02.0 +1.3**
KBS Kingsbay 64.68 350 *e*P **P** **03 01 05.0 +1.3**
KBS *e*S **S** **03 09 15.2 +3.1**
ALE Alert 64.90 3 P **P** **03 01 05.0 0.0**
comp=Z,214nm,1.0s,mb5.7,SNR=12
APA Apatity 65.64 336⇑*i*P **P** **03 01 10.0 +0.2**
APA *i* S S 03 09 23.0 -0.9
APA *i* 03 10 25.0
APA pmax pmax
comp=Z,170nm,1.4s,mb5.5
KLBR Kellerberrin 66.37 198 *e*P **P** **03 01 13.0 -1.8**
comp=Z,58nm,1.0s,mb5.2
KEV Kevo 66.67 339 *e*P **P** **03 01 16.5 +0.2**
comp=Z,25nm,0.6s,mb5.0
KEV Kevo 66.67 339 P **P** **03 01 17.0 +0.7**
KEV pmax pmax
comp=Z,25nm,0.6s,mb5.0
AFI Afiamalu 66.77 125 *e*P **P** **03 01 16.7 -0.9**
comp=Z,38nm,0.8s,mb5.1
AFI Afiamalu 66.77 125 P **P** **03 01 17.7 0.0**
AFI pmax pmax
comp=Z,38nm,0.9s,mb5.0
MUN Mundaring 67.16 200 *e*P **P** **03 01 19.9 +0.1**
ARCES ARCESS Array B 67.24 339 P **P** **03 01 20.3 +0.5**
ARCES pmax pmax
comp=Z,38nm,0.5s
ARCES ARCESS Array B 67.24 339 P **P** **03 01 20.3 +0.5**
comp=Z,38nm,0.5s,mb5.3,baz=66,slow=8.8,SNR=386
NWAO Narrogin (SRO) 67.77 198 *e*P **P** **03 01 22.7 -0.8**
comp=Z,33nm,0.8s,mb5.0
NWAO Narrogin (SRO) 67.77 198 P **P** **03 01 23.0 -0.5**
NWAO pmax pmax
comp=Z,33nm,0.8s
RES Resolute Bay 67.83 13⇑*i*P **P** **03 01 23.7 +0.3**
comp=Z,1μm,0.5s
RES Resolute Bay 67.83 13 P **P** **03 01 23.8 +0.4**
CNB Canberra Magne 68.24 170 *e*P **P** **03 01 26.8 +0.4**

comp=Z,20nm,1.4s,mb4.5
JOF Joensuu 68.59 332 *e*p **P 03 01 27.0 -1.2**
comp=Z,56nm,0.5s,mb5.5
JOF Joensuu 68.59 332 *e*P **P 03 01 27.0 -1.2**
JOF pmax pmax
comp=Z,56nm,0.5s,mb5.5
MAK Makhachkala 68.88 308*d i*P **P 03 01 30.9 +0.5**
MAK *i* PPP 03 05 53.1
MAK *i* S S 03 10 02.6 -0.3
MAK *i* 03 10 49.4
MAK pmax pmax
comp=Z,246nm,1.4s,mb5.6
MAK MLR MLR
comp=Z,942nm,14.0s
WBK Wadi Bani Khal 69.08 284 P **P 03 01 32.8 +0.9**
SNR=25
WBK Wadi Bani Khal 69.08 284 P **P 03 01 32.8 +0.9**
SNR=25
TRO Tromso 69.08 341 *e*P **P 03 01 30.4 -0.7**
TRO *e*S S 03 10 06.1 +1.7
TRO *e*SKS 03 10 52.6
TRO AMS AMS 03 39 22.8
comp=Z,368nm,17.5s
TRO Tromso 69.08 341 *e*P **P 03 01 30.3 -0.8**
TRO MLR MLR
comp=Z,370nm,17.5s
MOS Moscow 69.12 323 *e*P **P 03 01 26.0 -5.6**
MOS *e* 03 01 48.7
MOS pmax pmax
comp=Z,900nm,1.9s,mb6.1
MOS pmax pmax
comp=Z,414nm,1.4s,mb5.9
MOS MLR MLR
comp=Z,700nm,17.0s
BIDO Bidbid 69.35 285 P **P 03 01 34.1 +0.5**
SNR=24
BIDO Bidbid 69.35 285 P **P 03 01 34.1 +0.5**
SNR=24
YKA Yellowknife Ar 69.36 28 P **P 03 01 32.9 0.0**
YKA PcP PcP 03 01 53.7 +0.2
YKA Yellowknife Ar 69.36 28⇑*e*P **P 03 01 32.7 -0.2**
YKA Yellowknife Ar 69.36 28 P **P 03 01 32.8 0.0**
comp=Z,24nm,0.6s,mb5.0,baz=302,slow=6.4,SNR=465
YKA PcP PcP 03 01 53.7 +0.2
comp=Z,3.4nm,0.6s,baz=295,slow=4.0,SNR=5.1
YKA PKiKP PKiKP 03 07 42.8 -1.1
comp=Z,0.2nm,0.4s,baz=322,slow=1.8,SNR=4.7
YKA PKP2bc 03 29 31.3
comp=Z,0.4nm,0.8s,baz=117,slow=2.4,SNR=4.4
SMDO Samad 69.62 285 P **P 03 01 35.8 +0.5**
SNR=24
SMDO Samad 69.62 285 P **P 03 01 35.8 +0.5**
SNR=24
BANOM Banah 69.74 288 P **P 03 01 37.3 +1.4**
SNR=6.5
BANOM Banah 69.74 288 P **P 03 01 37.3 +1.4**
SNR=6.5
JMDO Jabal Madar 69.90 284 P **P 03 01 37.2 +0.3**
SNR=19
JMDO Jabal Madar 69.90 284 P **P 03 01 37.2 +0.3**
SNR=19
OBN Obninsk 69.95 323⇓*i*P **P 03 01 36.3 -0.3**
comp=Z,496nm,1.4s,mb5.8
OBN *e*PP PP 03 04 15.7 -1.1
OBN Obninsk 69.95 323κ*i*P **P 03 01 36.6 0.0**
OBN *e**PP pP 03 03 00.5 +0.1
OBN *e* 03 03 41.4
OBN *e* 03 04 15.7
OBN *i* S S 03 10 14.0 -0.9
OBN *e* 03 10 57.3
OBN pmax pmax
comp=Z,336nm,1.3s,mb5.7
OBN MLR MLR
comp=Z,700nm,19.0s
HOQ Hoqain 69.99 286 P **P 03 01 37.9 +0.5**
SNR=38
HOQ Hoqain 69.99 286 P **P 03 01 37.9 +0.5**
SNR=38
DAG Danmarks Havn 70.10 354⇓*i*P **P 03 01 36.8 -0.4**
DAG pmax pmax
comp=Z,24nm,0.9s,mb4.7
DAG Danmarks Havn 70.10 354⇓*i*P **P 03 01 36.8 -0.4**
comp=Z,24nm,0.9s,mb4.7
VOR Voronezh 70.12 319 *e*P **P 03 01 37.0 -0.7**
VOR pmax pmax
comp=Z,300nm,1.4s,mb5.6
VRSR Storozhevoye 70.36 319*d i*P **P 03 01 39.0 -0.1**
VRSR *e* 03 01 57.5
VRSR *e**PP pP 03 03 01.9 -1.2
VRSR *e*S S 03 10 17.9 -1.8
VRSR *e* 03 10 59.6
VRSR pmax pmax
comp=E,50nm,1.1s
VRSR pmax pmax
comp=Z,40nm,1.1s,mb4.9
VRSR pmax pmax
comp=N,30nm,1.0s
VRSR smax
comp=N,200nm,3.9s
VRSR smax
comp=E,150nm,3.9s
VRSR smax
comp=Z,90nm,5.0s
HATD Hatta, Dubai 70.38 287 P **P 03 01 40.3 +0.6**
SNR=30
HATD Hatta, Dubai 70.38 287 P **P 03 01 40.3 +0.6**
SNR=30
BSY Bisya 70.47 285 P **P 03 01 40.8 +0.5**
SNR=34
BSY Bisya 70.47 285 P **P 03 01 40.8 +0.5**
SNR=34
ASHO Ashiyiah 70.50 287 P **P 03 01 41.1 +0.6**
SNR=38
ASHO Ashiyiah 70.50 287 P **P 03 01 41.1 +0.6**
SNR=38
PUL Pulkovo 70.59 329 *e*P **P 03 01 41.1 +0.7**
GOF Gofitskoye 70.87 312 *e*P **P 03 01 49.1 +6.8**
GOF pmax pmax
comp=Z,400nm,1.3s,mb5.8
DGRG David-gareji 70.96 307 P **P 03 01 41.2 -1.8**
DGRG S S 03 10 27.5 +0.6
KAF Kangasniemi 70.99 332 *e*p **P 03 01 41.3 -1.4**
comp=Z,40nm,0.5s,mb5.2,baz=54,slow=5.6
KAF Kangasniemi 70.99 332 *e*P **P 03 01 41.3 -1.4**
KAF pmax pmax
comp=Z,40nm,0.5s,mb5.2
MTA Mtatsminda 71.24 308 P **P 03 01 44.6 0.0**
MTA S S 03 10 30.8 +0.7
TBLG Delisi 71.26 308 P **P 03 01 46.1 +1.4**
TBLG S S 03 10 32.0 +1.7
FINES FINESS Array B 71.45 332 P **P 03 01 45.5 0.0**
FINES S S 03 10 31.5 -0.4
FINES pmax pmax
comp=Z,61nm,0.4s
FINES smax
comp=N,19nm,1.1s
FINES FINESS Array B 71.45 332 P **P 03 01 45.5 0.0**
comp=N,61nm,0.4s,mb5.5,baz=59,slow=6.4,SNR=1022
FINES S S 03 10 31.5 -0.4
comp=N,19nm,1.1s,baz=55,slow=17,SNR=18
KIV Kislovodsk 71.59 311 P **P 03 01 47.2 +0.6**
comp=N,2μm,1.6s,mb6.3,SNR=52
KIV Kislovodsk 71.59 311⇓*i*P **P 03 01 47.2 +0.6**
comp=N,510nm,1.3s,mb5.9
KIV *e*pP pP 03 03 11.4 +0.5
KIV *e*S S 03 10 35.0 +1.0
KIV Kislovodsk 71.59 311*d i*P **P 03 01 47.4 +0.8**
KIV *e* 03 01 59.3
KIV *e**PP pP 03 03 11.2 +0.3
KIV *e*PPP 03 06 17.9
KIV *e*S S 03 10 34.7 +0.7
KIV *e*SSS 03 18 40.6
KIV pmax pmax
comp=Z,32nm,3.4s
KIV pmax pmax
comp=Z,317nm,1.0s,mb5.8
KIV MLR MLR
comp=Z,355nm,18.0s
KIV Kislovodsk 71.59 311 P **P 03 01 47.6 +1.0**
SNR=110
ONI Oni 71.73 309 P **P 03 01 48.6 +1.1**
ONI S S 03 10 36.7 +1.1
PGC Sidney 71.80 44 *e*P **P 03 01 48.4 +0.6**
comp=Z,358nm,1.2s,mb5.8
NLWA Neilton Lookou 72.15 45⇑*i*P **P 03 01 51.3 +1.4**
comp=Z,50nm,0.7s,mb5.2
VDB Vedder Mountai 72.40 43 P **P 03 01 51.6 +0.3**
MOR8 Moi Rana 72.61 339 *e*P **P 03 01 51.2 -1.0**
comp=Z,101nm,0.4s,mb5.7
MOR8 Moi Rana 72.61 339 *e*P **P 03 01 51.2 -1.0**
MOR8 AMb AMB 03 01 51.9
comp=Z,101nm,0.4s,mb5.7
MBW Mount Baker 72.63 43 P **P 03 01 53.5 +0.9**
CMW Cultus Mountai 72.68 43 P **P 03 01 54.1 +1.2**
DIGO Kars 72.78 307 *i* P **P 03 01 54.8 +1.2**
JCW Jim Creek 72.91 44 P **P 03 01 55.2 +1.0**
STOK Stokkvaagen 72.92 340 *e*P **P 03 01 53.6 -0.4**
comp=Z,124nm,1.3s,mb5.3
STOK Stokkvaagen 72.92 340 *e*P **P 03 01 53.6 -0.4**
STOK AMb AMB 03 01 57.9
comp=Z,124nm,1.3s,mb5.3
DYDN Diyadin 72.97 306 *i* P **P 03 01 56.0 +1.1**
ARTV Artvin 73.38 308 *i* P **P 03 01 57.5 +0.3**
TUTA Tutak 73.64 306 *i* P **P 03 02 00.1 +1.4**
TVAN Van 73.65 305 *i* P **P 03 01 58.6 -0.1**
SOC Sochi 73.66 311*d i*P **P 03 01 58.7 0.0**
SOC *e* 03 02 14.5
SOC *e**PP pP 03 03 22.7 -0.8
SOC *e* 03 04 49.8
SOC *e*PPP 03 06 33.0
SOC *i* S S 03 10 56.3 -0.9
SOC *e* 03 11 28.4
SOC *e*SS SS 03 15 53.9 +4.8
SOC *e*SSS 03 19 14.6
SOC pmax pmax
comp=Z,178nm,1.2s,mb5.6
SOC pmax pmax
comp=Z,738nm,2.3s,mb5.9
FMW Mount Fremont 73.68 45 P **P 03 01 59.5 +0.8**
COR Corvallis 73.86 47 *e*P **P 03 02 01.2 +1.4**
comp=Z,634nm,1.8s,mb6.0
COR Corvallis 73.86 47 P **P 03 02 01.2 +1.4**
COR pmax pmax
comp=Z,630nm,1.7s,mb6.0
NLW Nelson Butte 73.89 43 P **P 03 02 00.6 +0.7**
HAKT HAKKARI 73.90 304 *i* P **P 03 02 00.4 +0.2**
SHAO Shalim 74.01 281 P **P 03 02 01.6 +0.4**
SNR=24
SHAO Shalim 74.01 281 P **P 03 02 01.6 +0.4**
SNR=24
KEBM Edson Butte 74.05 49⇑*i*P **P 03 02 02.2 +1.3**
JMIC Jan Mayen 74.13 349 *e*S S 03 11 03.5 +2.0
SSOR Sweet Springs 74.24 47 P **P 03 02 03.0 +0.9**
EBG Ellensburg 74.35 44 P **P 03 02 03.5 +1.0**
ERZM Erzurum 74.38 307 *i* P **P 03 02 03.7 +0.8**
TDH Tom, Dick, Har 74.44 46 P **P 03 02 04.0 +0.9**
ANN Anapa 74.49 313 *i* P **P 03 02 03.3 -0.1**
ANN Anapa 74.49 313 *e*P **P 03 02 02.2 -1.2**
ANN *e* 03 02 13.5
ANN *e**PP pP 03 03 26.3 -2.1
ANN *e* 03 04 55.8
ANN *e*PPP 03 06 40.3
ANN *i* S S 03 11 05.0 -1.3
ANN *e* 03 11 31.6
ANN pmax pmax
comp=Z,472nm,1.2s,mb6.0
ANN MLR MLR
comp=N,554nm,17.0s
ANN MLR MLR
comp=Z,364nm,17.0s
NSS Namsos 74.50 339 *e*P **P 03 02 02.4 -0.7**
NSS Namsos 74.50 339 *e*P **P 03 02 02.1 -1.0**
NSS *e*S S 03 11 07.4 +1.7
MNK Minsk 74.59 325⇓*e*P **P 03 02 03.0 -0.8**
MNK *e**PP pP 03 03 30.0 +1.2
MNK *e**SP PP 03 04 55.0 -1.0
MNK *e*S S 03 11 07.0 -0.1
MNK pmax pmax
comp=N,450nm,1.0s
MNK pmax pmax
comp=Z,670nm,1.0s,mb6.2
MNK pmax pmax
comp=E,550nm,1.0s
UMR Umm Al-Rimmam 74.79 295 *e*P **P 03 02 05.0 -0.4**
UMR AMb AMB 03 02 05.8
comp=Z,157nm,0.5s,mb5.9
HBO Huckleberry Mo 74.84 48 P **P 03 02 06.3 +0.9**
EDM Edmonton 74.90 36⇑*i*P **P 03 02 05.6 0.0**
MACK Trabzon 74.93 309 *i* P **P 03 02 04.2 -1.7**
MSL Mosul 74.95 303 *ex* x 03 02 05.5
MSL *ex* x 03 11 07.0
MSL *ex* x 03 11 23.5
MSL *ex* x 03 11 38.0
MIB Mutribah 74.96 296 *e*P **P 03 02 06.0 -0.4**
MIB AMb AMB 03 02 06.8
comp=Z,202nm,0.6s,mb5.9
BNGL BINGOL 74.99 307 *i* P **P 03 02 07.2 +0.9**
KBD Kabd 74.99 295 *e*P **P 03 02 06.4 -0.2**
KBD AMb AMB 03 02 07.1
comp=Z,510nm,0.5s,mb6.4
KRMB Red Mountain 74.99 50 *e*P **P 03 02 07.4 +1.1**
QRN Al-Qurain 75.02 295 *e*P **P 03 02 06.3 -0.4**
QRN AMb AMB 03 02 07.1
comp=Z,156nm,0.7s,mb5.8
BBOR Butler Butte 75.10 49 P **P 03 02 07.8 +1.0**
OD2 Odessa Site #2 75.18 43 P **P 03 02 07.5 +0.2**
RSW Rattlesnake Hi 75.19 44 P **P 03 02 08.3 +0.9**
RDF Al-Radifah 75.22 295 *e*P **P 03 02 07.5 -0.3**
RDF AMb AMB 03 02 08.4
comp=Z,217nm,0.7s,mb5.9
HAWA Hanford 75.22 44⇑*i*P **P 03 02 08.0 +0.5**
comp=Z,150nm,1.5s,mb5.4
VTHM Trough 75.24 46 P **P 03 02 08.5 +0.9**
NAY Al-Naaiem 75.30 295 *e*P **P 03 02 07.9 -0.4**
NAY AMb AMB 03 02 08.7
comp=Z,226nm,1.2s,mb5.7
RST Umm Al-Ruwaisa 75.36 296 *e*P **P 03 02 07.9 -0.8**
RST AMb AMB 03 02 08.7
comp=Z,191nm,0.5s,mb6.0
RBK Rabkut 75.44 282 P **P 03 02 08.9 -0.3**
SNR=43
RBK Rabkut 75.44 282 P **P 03 02 08.9 -0.3**
SNR=43
VIPM Ingram Point 75.55 46 P **P 03 02 10.4 +1.0**
WHFO Wadi Hawf 75.59 282 P **P 03 02 09.5 -0.6**
SNR=48
WHFO Wadi Hawf 75.59 282 P **P 03 02 09.5 -0.6**
SNR=48
NEW Newport 75.62 42⇑*i*P **P 03 02 10.0 +0.3**
comp=Z,115nm,1.4s,mb5.3
NEW Newport 75.62 42⇑*i*P **P 03 02 10.0 +0.3**
NEW pmax pmax
comp=Z,115nm,1.4s
YBH Yreka Blue Hor 75.66 50⇑*i*P **P 03 02 11.1 +1.0**
comp=Z,27nm,0.8s,mb4.9
YBH *e*pP pP 03 03 35.1 -0.4
YBH *e*PP PP 03 05 05.5 +0.1
YBH Yreka Blue Hor 75.66 50⇑*i*P **P 03 02 11.1 +1.0**
YBH *e**PP pP 03 03 35.1 -0.3
YBH *e* 03 05 05.5
YBH pmax pmax
comp=Z,27nm,0.8s
GRSN GIRESUNGRSN 75.92 310 *i* P **P 03 02 10.0 -1.5**
AKASG Malin Array Be 76.03 322 *i* P **P 03 02 11.8 -0.2**
AKASG pmax pmax
comp=Z,46nm,0.4s
AKASG Malin Array Be 76.03 322 P **P 03 02 11.9 -0.1**
comp=Z,46nm,0.4s,mb5.4,baz=50,slow=6.0,SNR=438
AKASG pP pP 03 03 37.3 -0.1
comp=Z,8.0nm,0.8s,baz=46,slow=5.6,SNR=1.7
AKASG S S 03 11 21.8 -1.1
comp=Z,0.8nm,0.6s,baz=53,slow=11,SNR=9.9
HOG Hogback Mounta 76.04 49 P **P 03 02 13.4 +1.2**
KIEV Kiev 76.05 322⇓*i*P **P 03 02 11.8 -0.2**
comp=Z,229nm,1.0s,mb5.8
KIEV *e*pP pP 03 03 36.8 -0.7
KIEV Kiev 76.05 322 P **P 03 02 11.8 -0.2**
KIEV pmax pmax
comp=Z,230nm,1.0s,mb5.8
MARD Mardin 76.05 305 *i* P **P 03 02 13.2 +0.8**
KCPM Cahto Peak 76.13 52 *e*P **P 03 02 13.3 +0.6**
KIPM Iron Peak 76.14 52 *e*P **P 03 02 13.5 +0.8**
ABTO Aybut 76.27 282 P **P 03 02 13.7 -0.2**
SNR=44
WDC Whiskeytown Da 76.36 51⇑*i*P **P 03 02 14.4 +0.4**
comp=Z,107nm,1.4s,mb5.3
WDC Whiskeytown Da 76.36 51 P **P 03 02 14.4 +0.4**
WDC pmax pmax
comp=Z,110nm,1.4s,mb5.3
SIM Simferopol' 76.43 315*d i*P **P 03 02 14.6 +0.3**
SIM *i* *PP pP 03 03 39.5 -0.3
SIM *e* 03 05 10.0
SIM *i* S S 03 11 26.0 -1.4
SIM *e* 03 11 55.0
SIM pmax pmax
comp=Z,105nm,1.0s,mb5.4
LASM Arnica Sink 76.46 49 P **P 03 02 15.5 +1.0**
ELZG Elazig 76.68 307 *i* P **P 03 02 16.4 +0.6**
WALA Waterton Lakes 76.96 40⇑*i*P **P 03 02 17.9 +0.7**
comp=Z,45nm,0.6s,mb5.3
HFS Hagfors 77.00 335 P **P 03 02 16.9 -0.2**
HFS S S 03 11 31.9 -1.0
HFS pmax pmax
comp=Z,24nm,0.6s
HFS smax
comp=N,9.0nm,1.0s
HFS Hagfors 77.00 335 P **P 03 02 16.9 -0.2**
comp=N,24nm,0.6s,mb5.0,baz=90,slow=4.4,SNR=187
HFS S S 03 11 31.9 -1.0
comp=N,8.7nm,1.0s,baz=82,slow=11,SNR=6.9
SUW Suwalki 77.08 327 *i* P **P 03 02 17.8 +0.1**
SUW *e*PcP PcP 03 02 21.7 -5.2
SUW *e*pP pP 03 03 43.5 +0.1
SUW *e*sP sP 03 04 06.1 -18
SUW *e*S S 03 11 33.5 -0.6
SUW *e*SKS 03 11 49.7
SUW LMZ 03 38 29.7
comp=N,400nm,21.0s
SUW Suwalki 77.08 327⇓*i*P **P 03 02 17.8 +0.1**
SUW *e*PcP PcP 03 02 21.7 -5.2
SUW *e*pP pP 03 03 43.5 +0.1
SUW *e*sP sP 03 04 06.1 -18
SUW *e*S S 03 11 33.5 -0.6
SUW *e*SKS 03 11 49.7
SUW Suwalki 77.08 327⇓*i*P **P 03 02 17.8 +0.1**
SUW *e* 03 02 21.7
SUW *e**PP pP 03 03 43.5 +0.1
SUW *e*S S 03 11 33.5 -0.6
SUW *e* 03 11 49.7
SUW MLR MLR
comp=Z,400nm,21.0s
MOD Modoc 77.11 49⇓*i*P **P 03 02 18.9 +0.7**
comp=Z,35nm,0.6s,mb5.2
MALT Malatya 77.15 307⇓*i*P **P 03 02 19.7 +1.3**
MALT Malatya 77.15 307⇑*i*P **P 03 02 19.3 +0.9**
BSMT Bassoo Peak 77.16 41 P **P 03 02 19.3 +1.0**
DOMB Dombas 77.20 338 *e*P **P 03 02 18.5 +0.3**
comp=Z,46nm,1.0s,mb5.1
DOMB Dombas 77.20 338 *e*P **P 03 02 18.5 +0.3**
DOMB AMb AMB 03 02 20.5
comp=Z,46nm,1.0s,mb5.1
NB2 NORSAR Subarra 77.22 336 P **P 03 02 18.1 -0.3**
comp=Z,25nm,0.6s,mb5.0,baz=44,slow=5.3
NOA NORSAR Array B 77.22 336 P **P 03 02 18.3 -0.1**
NOA *PP pP 03 03 45.1 +1.0
NOA 03 05 18.6
NOA S S 03 11 34.1 -1.2
NOA pmax pmax
comp=Z,20nm,0.6s
NOA smax
comp=N,3.0nm,1.0s
NOA NORSAR Array B 77.22 336 P **P 03 02 18.3 -0.1**
comp=N,20nm,0.6s,mb5.0,baz=44,slow=5.5,SNR=149
NOA pP pP 03 03 45.1 +1.1
comp=N,0.8nm,0.4s,baz=52,slow=7.9,SNR=1.3
NOA PP PP 03 05 18.6 +0.8
comp=N,5.6nm,0.9s,baz=42,slow=8.4,SNR=3.6
NOA S S 03 11 34.1 -1.2
comp=N,2.8nm,1.0s,baz=49,slow=12,SNR=3.6
MOL Molde 77.28 339 *e*P **P 03 02 18.6 -0.1**
MOL Molde 77.28 339 *e*P **P 03 02 18.5 -0.2**
MOL *e*S S 03 11 37.2 +1.3
BMO Blue Mountains 77.37 45⇑*i*P **P 03 02 20.1 +0.6**
comp=N,135nm,1.3s,mb5.4
NSHM Saint Helena R 77.38 52 *e*P **P 03 02 19.7 +0.1**
ATAB Bozova 77.68 307 *i* P **P 03 02 22.2 +0.9**
OHCM Honcut 77.70 51 *e*P **P 03 02 20.7 -0.7**
OHCM *e*pP pP 03 03 45.6 -1.7
OHCM *e*PP PP 03 05 20.9 -1.6
BOYT Boyabat 77.83 311 *i* P **P 03 02 22.8 +0.7**
WVOR Wild Horse Val 77.87 47⇑*i*P **P 03 02 23.0 +0.7**
comp=N,72nm,1.0s,mb5.3
WVOR Wild Horse Val 77.87 47⇑*i*P **P 03 02 23.0 +0.7**
WVOR pmax pmax
comp=Z,72nm,1.0s,mb5.3
MSO Missoula 78.21 42⇑*i*P **P 03 02 23.8 -0.2**
comp=Z,43nm,1.4s,mb4.9
GZT Gaziantep 78.23 307 *i* P **P 03 02 24.1 -0.3**
CTKT Corum 78.33 311 *i* P **P 03 02 25.1 +0.4**
KIS Kishinev 78.36 319κ*i*P **P 03 02 24.0 -0.9**
KIS *i* 03 02 27.0
KIS *i* S S 03 11 46.0 -1.9
KIS pmax pmax
comp=Z,250nm,1.5s,mb5.6
KIS MLR MLR
comp=Z,700nm,14.0s
KIS MLR MLR
comp=Z,700nm,14.0s
KIS Kishinev 78.36 319⇓*i*P **P 03 02 24.0 -0.9**
comp=Z,300nm,1.5s,mb5.7
KIS *e*S S 03 11 46.0 -1.9
KIS *e*sS sS 03 14 16.0 -4.7
KIS LQM 03 36 22.0
comp=Z,1μm,16.0s
KIS LRM 03 39 24.0
comp=Z,700nm,14.0s
CHMT Chamberlain Mo 78.55 41 *e*P **P 03 02 25.6 -0.3**
BALT Daday 78.72 312 *i* P **P 03 02 21.6 -5.3**
HYA Hoyanger 78.77 338 *e*P **P 03 02 28.2 +1.5**
comp=Z,63nm,1.3s,mb5.1
HYA Hoyanger 78.77 338 *e*P **P 03 02 28.2 +1.5**
HYA AMb AMB 03 02 33.6
comp=Z,63nm,1.3s,mb5.1
KONO Kongsberg 78.79 336 *e*P **P 03 02 26.6 -0.3**
comp=Z,27nm,1.3s,mb4.7
KONO Kongsberg 78.79 336 *e*P **P 03 02 27.0 +0.1**
KONO *e*S S 03 11 50.9 -1.0
KONO Kongsberg 78.79 336⇑*e*P **P 03 02 26.8 -0.1**
ANDN Andirin 78.94 307 *i* P **P 03 02 29.0 +0.8**
SAO San Andreas Ge 79.08 53 *e*P **P 03 02 29.1 +0.1**
comp=Z,20nm,0.7s,mb4.8
SAO San Andreas Ge 79.08 53 *e*P **P 03 02 29.1 +0.1**
SAO pmax pmax
comp=Z,20nm,0.7s,mb4.9
CMB Columbia Colle 79.12 52⇑*i*P **P 03 02 29.2 +0.1**
comp=Z,36nm,0.6s,mb5.2
CMB *e*pP pP 03 03 54.5 -0.8
CMB *e*PP PP 03 05 33.1 -1.1
CMB Columbia Colle 79.12 52⇑*i*P **P 03 02 29.2 +0.1**
CMB *e**PP pP 03 03 54.5 -0.8
CMB *e* 03 05 33.1
CMB pmax pmax
comp=Z,36nm,0.6s,mb5.2
CDAG Cicekdag 79.14 310 *i* P **P 03 02 29.4 +0.3**
WAR Warsaw 79.21 326 *e*P **P 03 02 29.9 +0.5**
WAR *e*PcP PcP 03 02 33.1 -3.1
WAR *e*S S 03 11 58.5 +1.9
WAR *e*SKS 03 12 03.3
WAR *e*sS sS 03 14 26.2 -3.5
WAR Warsaw 79.21 326 *e*P **P 03 02 29.9 +0.6**
WAR *e*PcP PcP 03 02 33.1 -3.1
WAR *e*S S 03 11 58.5 +1.9
WAR *e*SKS 03 12 03.3
WAR *e*sS sS 03 14 26.2 -3.5
WAR Warsaw 79.21 326 *e*P **P 03 02 29.9 +0.6**
WAR *e* 03 02 33.1
WAR *e*S S 03 11 58.5 +1.9
WAR *e* 03 12 03.3
LVV L'vov 79.25 323κ*i*P **P 03 02 29.7 +0.1**
LVV *i* *PP pP 03 03 59.5 +3.7
LVV *e* 03 05 32.5
LVV *i* S S 03 11 56.3 -0.8
FFC Flin Flon 79.27 31 P **P 03 02 29.9 +0.3**
comp=Z,437nm,0.6s,mb6.3,SNR=48
FFC Flin Flon 79.27 31⇑*i*P **P 03 02 29.3 -0.2**
comp=Z,132nm,1.2s,mb5.4
FFC Flin Flon 79.27 31⇑*i*P **P 03 02 29.3 -0.3**
FFC pmax pmax
comp=Z,132nm,1.2s,mb5.4
ELDT Eldivan 79.27 311 *i* P **P 03 02 30.7 +0.8**
AVNT Avonos 79.28 309 *i* P **P 03 02 30.2 +0.2**
URZ Urewera 79.31 149 P **P 03 02 29.3 -0.6**
comp=Z,14nm,0.7s,mb4.7,baz=29,slow=2.2,SNR=6.1

FCC Fort Churchill 79.51 25⇑iP P 03 02 30.4 -0.4
comp=Z,107nm,1.4s,mb5.3
FCC Fort Churchill 79.51 25⇑iP P 03 02 30.4 -0.4
FCC pmax pmax
comp=Z,107nm,1.4s,mb5.3
RUND Rundenannen 79.61 338 eP P 03 02 34.0 +2.8
comp=Z,65nm,1.6s,mb5.0
RUND Rundenannen 79.61 338 eP P 03 02 34.0 +2.8
RUND AMb AMB 03 02 37.9
comp=Z,65nm,1.6s,mb5.0
BER Bergen 79.64 338 eP P 03 02 32.0 +0.5
BER eS S 03 12 01.8 +1.0
EGMT Eagleton 79.80 39⇑iP P 03 02 32.7 +0.2
comp=Z,177nm,1.2s,mb5.6
CFR Carcaliu 79.81 317 P P 03 02 35.6 +2.9
HLID Hailey 79.81 45⇑iP P 03 02 33.8 +1.0
comp=Z,128nm,1.6s,mb5.3
DLMT Dillon 79.83 42⇑iP P 03 02 33.2 +0.5
comp=Z,202nm,1.2s,mb5.6
MCMT McKenzie Canyo 80.00 43 eP P 03 02 33.9 +0.2
BSD Bornholm Skovb 80.01 331⇓iP P 03 02 33.1 -0.4
BSD pmax pmax
comp=Z,78nm,1.1s,mb5.2
BSD Bornholm Skovb 80.01 331⇓iP P 03 02 33.1 -0.4
comp=Z,78nm,1.1s,mb5.2
ANTO Ankara 80.02 311⇓iP P 03 02 34.5 +0.6
comp=Z,140nm,1.2s,mb5.5
ANTO Ankara 80.02 311⇓iP P 03 02 34.5 +0.6
ANTO pmax pmax
comp=Z,140nm,1.2s,mb5.5
ANTO Ankara 80.02 311 P P 03 02 35.0 +1.1
SNR=12
ANTO Ankara 80.02 311⇓iP P 03 02 34.2 +0.3
BLS5 Blasjo 80.02 337 eP P 03 02 35.2 +1.8
comp=Z,26nm,1.3s,mb4.7
BLS5 Blasjo 80.02 337 eP P 03 02 35.2 +1.8
BLS5 AMb AMB 03 02 36.3
comp=Z,26nm,1.3s,mb4.7
KWP Kalwaria 80.04 323 iP P 03 02 34.7 +0.9
comp=Z,700nm,1.5s,mb6.1
KWP ePcP PcP 03 02 38.7 -1.1
KWP epP pP 03 03 42.3 -18
KWP ePP PP 03 05 42.1 +0.9
KWP eS S 03 12 06.1 +0.8
KWP eSKS 03 12 09.0
KWP esS sS 03 14 42.5 +3.8
KWP eSS SS 03 17 21.4 -2.6
KWP LMZ 03 41 11.1
comp=Z,600nm,18.2s
KWP Kalwaria 80.04 323⇓iP P 03 02 34.7 +0.9
KWP ePcP PcP 03 02 38.7 -1.1
KWP epP pP 03 03 42.3 -18
KWP ePP PP 03 05 42.1 +0.8
KWP eS S 03 12 06.1 +0.8
KWP eSKS 03 12 09.0
KWP esS sS 03 14 42.5 +3.7
KWP eSS SS 03 17 21.4 -2.6
KWP Kalwaria 80.04 323⇓iP P 03 02 34.7 +0.9
KWP e 03 05 42.1
KWP eS S 03 12 06.1 +0.8
KWP e 03 12 09.0
KWP pmax pmax
comp=Z,700nm,1.5s,mb6.1
KWP MLR MLR
comp=Z,600nm,18.2s
KWP Kalwaria 80.04 323⇑iP P 03 02 34.2 +0.4
TIRR Tirgusor 80.07 317 P P 03 02 34.5 +0.4
TIRR Tirgusor 80.07 317⇑iP P 03 02 34.0 -0.1
VRI Vrincioaia 80.20 319 P P 03 02 35.3 +0.6
VRI Vrincioaia 80.20 319⇓iP P 03 02 34.8 +0.1
BOZ Bozeman (W) 80.21 42⇑iP P 03 02 35.2 +0.5
comp=Z,25nm,0.6s,mb5.0
BOZ Bozeman (W) 80.21 42⇑iP P 03 02 35.3 +0.6
BOZ pmax pmax
comp=Z,25nm,0.6s,mb5.0
HARR Harsova 80.21 317 P P 03 02 35.6 +0.8
HARR Harsova 80.21 317⇑iP P 03 02 35.2 +0.4
PLOR Plostina 80.25 319⇓iP P 03 02 35.5 +0.5
GKP Gorka Klasztor 80.27 328 iP P 03 02 35.4 +0.4
comp=Z,400nm,2.1s,mb5.7
GKP ePcP PcP 03 02 39.2 -1.6
GKP epP pP 03 03 57.0 -4.4
GKP eS S 03 12 09.1 +1.6
GKP eSKS 03 12 15.2
GKP LMZ 03 43 02.8
comp=Z,600nm,17.7s
GKP Gorka Klasztor 80.27 328⇓iP P 03 02 35.4 +0.5
comp=Z,0.4nm,2.1s
GKP ePcP PcP 03 02 39.2 -1.6
GKP epP pP 03 03 57.0 -4.4
GKP eS S 03 12 09.1 +1.5
GKP eSKS 03 12 15.2
GKP LR LR
comp=Z,600nm,17.7s
GKP Gorka Klasztor 80.27 328⇓iP P 03 02 35.4 +0.5
GKP eS S 03 12 09.1 +1.5
GKP e 03 12 15.2
GKP pmax pmax
comp=Z,400nm,2.1s,mb5.7
GKP MLR MLR
comp=Z,600nm,17.7s
NVAR Mina Array Bea 80.28 51 P P 03 02 36.0 +0.8
comp=Z,23nm,0.6s,mb5.0,baz=306,slow=5.1,SNR=103
NVAR pP pP 03 04 02.1 +0.3
comp=Z,3.9nm,0.8s,baz=302,slow=5.2,SNR=2.9
PTRM Twissleman Ran 80.52 54 eP P 03 02 37.5 +0.8
COP Copenhagen 80.61 332 iP P 03 02 37.0 +0.3
COP pmax pmax
comp=Z,21nm,0.7s,mb5.0
COP Copenhagen 80.61 332 iP P 03 02 37.0 +0.3
comp=Z,21nm,0.7s,mb5.0
PSN Preselentsi 80.66 316 eP P 03 02 37.9 +0.7
PSN Preselentsi 80.66 316 iP P 03 02 37.0 -0.2
KOLS Kolonicke sedl 80.70 323 eP P 03 02 37.2 -0.1
KOLS eS S 03 12 11.2 -0.9
MTUM Tungsten Hills 80.70 52 eP P 03 02 37.9 +0.4
MTUM ePP PP 03 05 46.9 -0.2
SFJD Kangerlussuaq 80.72 3 eP P 03 02 37.0 0.0
comp=Z,38nm,1.0s,mb5.1
SFJD Kangerlussuaq 80.72 3 iP P 03 02 37.3 +0.3
SFJD iS S 03 12 12.5 +0.8
SFJD pmax pmax
comp=Z,87nm,1.7s,mb5.2
SFJD MLR MLR
comp=Z,160nm,20.0s
SFJD Kangerlussuaq 80.72 3 P P 03 02 37.3 +0.2
comp=Z,15nm,0.5s,mb5.0,baz=320,slow=2.3,SNR=22
SFJD Kangerlussuaq 80.72 3 iP P 03 02 37.3 +0.3
comp=Z,87nm,1.7s,mb5.2
SFJD iS S 03 12 12.5 +0.8
SFJD
comp=Z,150nm,20.0s
QLMT Earthquake Lak 80.81 42 eP P 03 02 38.7 +0.8
MLR Muntele Rosu 80.86 319 P P 03 02 39.2 +1.0
MLR Muntele Rosu 80.86 319 S S 03 12 13.9 -0.1
comp=Z,20nm,1.3s,baz=275,slow=23,SNR=12
MLR Muntele Rosu 80.86 319⇑iP P 03 02 38.0 -0.2
MLR Muntele Rosu 80.86 319⇑iP S 03 12 14.3 +0.4
UZH Uzhgorod 80.88 323 iP P 03 02 36.6 -1.6
UZH e*PP pP 03 04 05.0 +0.2
UZH iS S 03 12 12.8 -1.2
UZH eSSS 03 21 00.0
UZH MLR MLR
comp=Z,630nm,13.5s
STHS Stebnicka Huta 80.91 324 iP P 03 02 38.5 +0.1
comp=Z,60nm,1.4s,mb5.1
STHS e pP 03 04 08.9 +3.9
STHS eS S 03 12 15.0 +0.7
STHS Stebnicka Huta 80.91 324 iP P 03 02 38.5 +0.1
STHS e pP 03 04 08.9 +3.9
STHS eS S 03 12 15.0 +0.7
STHS pmax pmax
comp=Z,60nm,1.4s,mb5.1
TRPA Tarpa 81.07 322⇓iP P 03 02 39.1 -0.1
OJC Ojcow 81.11 325 iP P 03 02 39.8 +0.4
OJC iS S 03 12 14.5 -1.7
OJC L 03 42 36.8
comp=Z,0.8nm,18.0s
CRVS Cervenica-Dubn 81.13 323 iP P 03 02 40.0 +0.5
CRVS epP pP 03 04 08.6 +2.4
CRVS eS S 03 12 15.6 -0.9
YMR Madison River 81.17 42⇑iP P 03 02 41.2 +1.4
comp=Z,377nm,1.8s,mb5.8
KDHN Kadinhani 81.21 310 iP P 03 02 39.9 -0.3

GCMT Greycliff 81.21 41 eP P 03 02 40.6 +0.6
YNR Norris Junctio 81.30 42⇑iP P 03 02 42.2 +1.7
MUD Monsted U'grnd 81.31 334 iP P 03 02 39.8 -0.5
MUD e pP 03 04 08.3 +1.3
MUD iS S 03 12 16.7 -1.3
MUD pmax pmax
comp=Z,51nm,1.5s,mb5.0
MUD MLR MLR
comp=Z,180nm,18.0s
MUD Monsted U'grnd 81.31 334 iP P 03 02 39.8 -0.5
comp=Z,51nm,1.5s,mb5.0
MUD e pP 03 04 08.3 +1.3
MUD i 03 04 56.2
MUD iS S 03 12 16.7 -1.3
MUD
comp=Z,180nm,18.0s
NIE Niedzica 81.37 324 eP P 03 02 41.7 +0.9
YFT Old Faithful 81.37 42⇑iP P 03 02 43.4 +2.5
BHL Bhannes 81.39 305 eP P 03 02 41.1 -0.1
PRD Provadia 81.41 316 eP P 03 02 41.8 +0.7
PRD Provadia 81.41 316 iP P 03 02 42.0 +0.9
ESKT Eskisehir 81.45 312 iP P 03 02 40.9 -0.4
BORA Eskisehir 81.49 312 iP P 03 02 41.4 -0.2
BUC1 Bucharest 81.51 318 P P 03 02 42.7 +1.1
LKWY Lake 81.55 42⇑iP P 03 02 44.5 +2.6
comp=Z,137nm,1.3s,mb5.5
LKWY Lake 81.55 42⇑iP P 03 02 44.5 +2.7
LKWY pmax pmax
comp=Z,137nm,1.3s,mb5.5
IMW Indian Meadow 81.65 43⇑iP P 03 02 43.9 +1.6
comp=Z,50nm,0.9s,mb5.2
RPZ Rata Peaks 81.66 156 P P 03 02 42.2 +0.1
comp=Z,11nm,0.8s,mb4.7,baz=333,slow=4.5
FLWY Flagg Ranch 81.67 43⇑iP P 03 02 44.1 +1.7
comp=Z,259nm,1.4s,mb5.8
HRI Mount Hermon 81.69 304 P P 03 02 43.2 +0.5
DCID1 Drake Creek 81.69 43⇑iP P 03 02 43.6 +1.1
ISA Isabella 81.70 53⇑iP P 03 02 42.0 -0.8
comp=Z,11nm,0.7s,mb4.7
ISA Isabella 81.70 53⇑iP P 03 02 42.0 -0.8
ISA pmax pmax
comp=Z,11nm,0.7s,mb4.7
ERMK Ermenek 81.74 308 iP P 03 02 39.3 -3.7
KSDI Kefar Szold 81.78 304⇓iP P 03 02 43.5 +0.3
KSHT Keshet 81.79 304⇓iP P 03 02 44.1 +0.8
LRW Lerwick 81.79 341 AMb AMB 03 02 44.5
comp=Z,140nm,1.6s,mb5.5
LRW Lerwick 81.79 341⇓eP P 03 02 42.8 +0.1
LRW AMb AMB 03 02 44.5
comp=Z,140nm,1.6s,mb5.5
DRGR 81.83 321 P P 03 02 43.8 +0.6
DRGR 81.83 321⇑iP P 03 02 43.3 +0.1
HVU Hansel Valley 81.84 45⇑iP P 03 02 44.3 +0.9
comp=Z,49nm,0.6s,mb5.4
HVU epP pP 03 04 10.1 -0.1
HVU Hansel Valley 81.84 45⇑iP P 03 02 44.3 +1.0
HVU e*PP pP 03 04 10.1 -0.1
HVU pmax pmax
comp=Z,49nm,0.6s,mb5.4
RLMT Red Lodge 81.85 41⇑iP P 03 02 44.3 +1.0
comp=Z,236nm,1.7s,mb5.6
MOOW Moose Ponds 81.85 43⇑iP P 03 02 44.5 +1.1
comp=Z,169nm,1.6s,mb5.5
TPAW Teton Pass 81.89 43⇑iP P 03 02 44.9 +1.4
comp=Z,50nm,0.7s,mb5.3
KECS Kecovo 81.90 323 iP P 03 02 43.0 -0.5
comp=Z,35nm,1.6s,mb4.8
KECS e pP 03 04 14.3 +3.9
KECS ePP PP 03 05 55.2 -1.3
KECS eS S 03 12 23.3 -1.0
KECS Kecovo 81.90 323 iP P 03 02 43.0 -0.5
KECS e pP 03 04 14.3 +3.9
KECS e 03 05 55.2
KECS eS S 03 12 23.3 -1.0
KECS pmax pmax
comp=Z,35nm,1.6s,mb4.8
RAC Raciborz 81.97 325 eP P 03 02 44.7 +0.9
RAC LR LR
comp=Z,700nm,16.8s
ELBA Catalca 82.01 314 iP P 03 02 43.7 -0.5
LOHW Long Hollow 82.02 43⇑iP P 03 02 45.1 +0.9
comp=Z,63nm,1.3s,mb5.2
SNOW Snow King Moun 82.02 43⇑iP P 03 02 45.5 +1.2
comp=Z,41nm,0.7s,mb5.3
REDW Red Top Meadow 82.02 43⇑iP P 03 02 45.2 +0.9
comp=Z,113nm,1.4s,mb5.4
OKC Ostrava-Krasne 82.16 325⇓iP P 03 02 45.2 +0.4
OKC epP pP 03 04 16.1 +4.4
OKC ePP PP 03 06 01.9 +3.3
OKC eSKS 03 12 27.0
OKC e 03 15 01.0
OKC Ostrava-Krasne 82.16 325⇓iP P 03 02 45.2 +0.4
OKC e*PP pP 03 04 16.1 +4.4
OKC e 03 06 01.9
OKC e 03 12 27.0
OKC MLR MLR
comp=Z,700nm,21.4s
OKC Ostrava-Krasne 82.16 325⇓iP P 03 02 45.2 +0.4
OKC epP pP 03 04 16.1 +4.4
OKC ePP PP 03 06 01.9 +3.3
OKC eS S 03 12 27.0 +0.1
OKC ex x 03 15 01.0
OKC AMS AMS 03 42 50.0
comp=Z,700nm,21.4s
HNTI Hanita 82.18 304 P P 03 02 46.1 +0.8
BGU Big Grassy Mou 82.19 46⇑iP P 03 02 46.0 +0.8
SZH Strazhica 82.22 317 P P 03 02 54.2 +8.9
SZH Strazhica 82.22 317 iP P 03 02 45.8 +0.5
AHID Auburn Hatcher 82.24 44⇑iP P 03 02 46.0 +0.6
comp=Z,15nm,0.6s,mb4.9
ZIMR 82.31 317 P P 03 02 46.4 +0.7
SPUT South Promonto 82.31 46⇑iP P 03 02 46.8 +1.0
JMB Yambol 82.33 316 P P 03 02 46.1 +0.3
JMB Yambol 82.33 316 iP P 03 02 46.8 +1.0
KSP Ksiaz 82.35 327 iP P 03 02 46.4 +0.6
comp=Z,600nm,1.5s,mb6.1
KSP ePcP PcP 03 02 48.2 -1.8
KSP eS S 03 12 28.3 -0.5
KSP LMZ 03 41 57.9
comp=Z,800nm,18.7s
KSP Ksiaz 82.35 327⇓iP P 03 02 46.4 +0.6
KSP epP pP 03 04 11.5 -1.2
KSP eSKS 03 12 28.0
KSP esS sS 03 15 01.5 -1.7
KSP Ksiaz 82.35 327⇓iP P 03 02 46.4 +0.6
KSP e*PP pP 03 04 11.5 -1.2
KSP e 03 12 28.0
MMLI Mount Malkishu 82.36 304⇓P P 03 02 46.8 +0.6
HMDT Nahal Hemdat 82.39 303 P P 03 02 46.6 +0.2
DGMT Dagmar 82.39 36⇑iP P 03 02 45.9 -0.2
comp=Z,177nm,1.7s,mb5.5
CSS Prodhromos 82.41 307 P P 03 02 46.4 0.0
TPNV Topopah Spring 82.46 51⇑iP P 03 02 47.0 +0.3
comp=Z,40nm,0.7s,mb5.3
TPNV Topopah Spring 82.46 51⇑iP P 03 02 47.0 +0.4
TPNV pmax pmax
comp=Z,40nm,0.7s,mb5.3
MORC Moravsky Berou 82.49 326 P P 03 02 47.1 +0.6
LAO LASA Array 82.51 39⇑iP P 03 02 47.0 +0.4
comp=Z,235nm,1.6s,mb5.7
GDZ Gediz 82.56 312 iP P 03 02 46.3 -0.9
OFRI 'Ofer 82.56 304⇓iP P 03 02 47.3 0.0
PSZ Piszkesteto 82.56 323 P P 03 02 47.4 +0.5
PSZ Piszkesteto 82.56 323⇓iP P 03 02 46.5 -0.4
PSZ Piszkesteto 82.56 323⇓eP P 03 02 47.6 +0.7
PVL Pavlikeni 82.60 317 P P 03 02 40.0 -7.2
PVL Pavlikeni 82.60 317 iP P 03 02 48.2 +1.0
ISP Isparta 82.63 310 P P 03 02 47.4 -0.1
ISP Isparta 82.63 310 dP P 03 02 47.0 -0.5
HWUT Hardware Ranch 82.67 45⇑iP P 03 02 48.5 +0.9
comp=Z,338nm,1.6s,mb5.8
DPC Dobruska-Polom 82.67 327⇓iP P 03 02 48.2 +0.8
DPC e*PP pP 03 04 15.7 +1.2
DPC e 03 06 00.8
DPC e 03 12 32.9
DPC Dobruska-Polom 82.67 327⇓iP P 03 02 48.2 +0.8
DPC epP pP 03 04 15.7 +1.2
DPC ePP PP 03 06 00.8 -1.9
DPC eS S 03 12 32.9 +0.8
DPC eXS sS 03 15 07.0 +0.3
GZR Gura Zlata 82.67 320 P P 03 02 48.1 +0.5
UPC Upice 82.71 327⇓iP P 03 02 48.0 +0.4
UPC epP pP 03 04 15.9 +1.2

VYHS Vyhne 82.72 324 iP P 03 02 47.8 +0.1
comp=Z,41nm,1.2s,mb5.0
VYHS e pP 03 04 15.1 +0.4
VYHS ePP PP 03 06 01.3 -1.8
VYHS eS S 03 12 31.6 -1.0
VYHS Vyhne 82.72 324 iP P 03 02 47.8 +0.1
VYHS e pP 03 04 15.1 +0.4
VYHS e 03 06 01.3
VYHS eS S 03 12 31.6 -1.0
VYHS pmax pmax
comp=Z,41nm,1.2s,mb5.0
BSEG Bad Segeberg 82.73 332 eP P 03 02 47.9 +0.2
BSEG e 03 06 03.8
BSEG pmax pmax
comp=Z,123nm,1.3s,mb5.5
BSEG Bad Segeberg 82.73 332 eP P 03 02 47.9 +0.2
comp=Z,123nm,1.3s,mb5.5
BSEG ePP PP 03 06 03.8 +0.7
SLTI Sal'it 82.74 304⇓iP P 03 02 49.1 +1.0
DUG Dugway 82.75 47⇑iP P 03 02 48.9 +0.8
comp=Z,154nm,1.1s,mb5.6
DUG Dugway 82.75 47⇑iP P 03 02 48.9 +0.8
DUG pmax pmax
comp=Z,154nm,1.1s,mb5.7
DSI Dead Sea 82.87 303⇓P P 03 02 49.5 +0.7
KOLL Kolacno 82.88 324 iP P 03 02 49.1 +0.6
KOLL ePP PP 03 06 09.9 +5.5
KOLL eS S 03 12 34.5 +0.4
NOQ North Oquirrh 82.90 46⇑iP P 03 02 49.8 +1.0
comp=Z,978nm,1.8s,mb6.2
MZDA Masada 83.02 303 P P 03 02 49.9 +0.3
GSC Goldstone 83.03 53⇓iP P 03 02 49.8 +0.2
comp=Z,188nm,1.5s,mb5.6
GSC ePP PP 03 06 04.8 -1.3
SART Tekirdag 83.04 314 iP P 03 02 48.9 -0.7
CTU Camp Tracy 83.11 46⇑iP P 03 02 50.6 +0.8
comp=Z,144nm,1.3s,mb5.5
BW06 Boulder Array 83.14 43 eP P 03 02 50.1 +0.2
comp=Z,80nm,1.4s,mb5.3
PDAR Pinedale Array 83.14 43 P P 03 02 50.2 +0.2
comp=Z,13nm,0.7s,mb4.8,baz=277,slow=2.4,SNR=128
BZS Buzias 83.16 321 P P 03 02 50.2 +0.2
BZS Buzias 83.16 321⇑iP P 03 02 49.5 -0.5
YTIR Yattir 83.17 303⇓P P 03 02 51.3 +1.0
DIM Dimitrovgrad 83.20 316 P P 03 02 50.3 0.0
DIM Dimitrovgrad 83.20 316 iP P 03 02 50.7 +0.4
VRAC Vranov 83.26 326 P P 03 02 51.0 +0.6
VRAC Vranov 83.26 326 P P 03 02 51.0 +0.6
VRAC *PP pP 03 04 18.2 +0.6
VRAC 03 06 05.5
VRAC pmax pmax
comp=Z,34nm,0.8s
VRAC Vranov 83.26 326 P P 03 02 51.0 +0.6
comp=Z,34nm,0.8s,mb5.1,baz=53,slow=3.9,SNR=52
VRAC pP pP 03 04 18.2 +0.6
comp=Z,9.1nm,0.9s,baz=77,slow=5.7,SNR=2.9
VRAC PP PP 03 06 05.5 -2.0
comp=Z,8.9nm,0.9s,baz=45,slow=6.0,SNR=3.8
VRAC Vranov 83.26 326⇑iP P 03 02 50.5 +0.1
BUD Budapest 83.29 323⇓eP P 03 02 50.7 +0.1
JLU Jordanelle 83.34 46⇑iP P 03 02 51.9 +0.9
NLU North Lily Min 83.35 47⇑iP P 03 02 52.1 +1.0
PVCC Panska Ves 83.36 327⇓iP P 03 02 51.3 +0.4
PVCC e 03 12 39.8
PVCC MLR MLR
comp=Z,400nm,15.4s
PVCC Panska Ves 83.36 327⇓iP P 03 02 51.3 +0.4
PVCC eS S 03 12 39.8 +0.9
PVCC eXS sS 03 15 10.0 -3.8
PVCC AMS AMS 03 43 30.0
comp=Z,400nm,15.4s
SMOL Smolenice 83.40 325 iP P 03 02 51.6 +0.5
BRG Berggiesshubel 83.40 328⇓iP P 03 02 51.3 +0.2
comp=Z,27nm,1.0s,mb4.9
BRG e pP 03 04 19.0 +0.7
BRG e 03 06 04.8
BRG S S 03 12 34.0 -5.3
BRG i 03 15 11.0
BRG SS SS 03 17 51.0 -22
BRG LR LR
comp=Z,280nm,13.8s
BRG Berggiesshubel 83.40 328⇓iP P 03 02 51.3 +0.2
BRG e pP 03 04 19.0 +0.7
BRG e 03 06 04.8
BRG S S 03 12 34.0 -5.3
BRG pmax pmax
comp=Z,27nm,1.0s,mb4.9
BRG MLR MLR
comp=N,273nm,15.0s
BRG MLR MLR
comp=E,196nm,18.3s
BRG MLR MLR
comp=Z,280nm,13.8s
BRG Berggiesshubel 83.40 328 eP P 03 02 51.3 +0.2
comp=Z,46nm,1.0s,mb5.2
BRG epP pP 03 04 18.8 +0.5
BRG eS S 03 12 38.9 -0.4
BRG Berggiesshubel 83.40 328⇓iP P 03 02 51.3 +0.2
comp=Z,46nm,1.0s,mb5.2
BRG e pP 03 04 19.0 +0.7
comp=Z,56nm,1.8s
BRG e 03 06 04.8
comp=Z,19nm,1.2s
BRG S S 03 12 34.0 -5.3
BRG i 03 15 11.0
BRG SS SS 03 17 51.0 -22
BRG
comp=N,456nm,15.0s
BRG
comp=E,327nm,18.3s
BRG
comp=Z,468nm,13.8s
CLL Collm 83.51 329⇓iP P 03 02 51.6 0.0
comp=Z,122nm,1.4s,mb5.4
CLL i PcP PcP 03 02 55.4 +0.4
CLL i pP pP 03 04 18.9 0.0
CLL i 03 04 24.7
CLL eS S 03 12 39.0 -1.3
CLL Collm 83.51 329⇓iP P 03 02 51.6 0.0
CLL i *PP pP 03 04 18.9 0.0
CLL eS S 03 12 39.0 -1.3
CLL pmax pmax
comp=Z,122nm,1.4s,mb5.4
CLL Collm 83.51 329⇓iP P 03 02 51.5 -0.1
comp=Z,88nm,1.2s,mb5.4
CLL ePcP PcP 03 02 55.2 +0.2
CLL epP pP 03 04 19.7 +0.8
CLL esP sP 03 04 53.8 -5.1
CLL ePP PP 03 06 08.6 -0.8
CLL eS S 03 12 39.9 -0.4
CLL eSP 03 13 35.8
CLL esS sS 03 15 13.2 -2.1
CLL eSS SS 03 18 19.5 +4.5
CLL eSSS 03 20 34.9
CLL eSSS 03 21 42.9
CLL eSSSS 03 24 45.8
CLL Collm 83.51 329⇓iP P 03 02 51.6 0.0
comp=Z,122nm,1.4s,mb5.4
CLL i PcP PcP 03 02 55.4 +0.4
CLL i pP pP 03 04 18.9 0.0
CLL i x x 03 04 24.7
comp=Z,37nm,1.2s
CLL esP sP 03 04 58.0 -0.9
CLL i PP PP 03 06 08.3 -1.1
comp=Z,54nm,1.9s
CLL eS S 03 12 39.0 -1.3
comp=N,600nm,16.3s
CLL eS S 03 12 39.0 -1.3
comp=E,800nm,17.6s
CLL eSP 03 13 33.0
CLL esS sS 03 15 08.0 -7.3
CLL ex x 03 16 00.0
CLL eSS SS 03 18 08.0 -7.0
CLL eSSS 03 20 17.0
CLL eSSS 03 21 45.0
CLL eSSSS 03 24 39.0
CLL ex x 03 26 31.0
KDZ Kurdzhali 83.51 316 P P 03 02 52.3 +0.4
KDZ Kurdzhali 83.51 316 iP P 03 02 52.7 +0.8
MODS Modra-Piesok 83.57 325 iP P 03 02 52.7 +0.7
MODS epP pP 03 04 20.1 +0.9
MODS ePP PP 03 06 08.8 -1.2
MODS eS S 03 12 42.7 +1.7

ZFRI Zfri 83.57 302 P P 03 02 53.2 +0.8
DAU Daniels Canyon 83.57 46 eP P 03 02 53.3 +1.1
MPU Maple Canyon 83.58 46⇑iP P 03 02 53.0 +0.7
comp=E,158nm,1.1s,mb5.7
MPU epP pP 03 04 19.0 -0.5
ALN Alexandroupoli 83.60 315 eP P 03 02 52.2 -0.2
PLD Plovdiv 83.65 316 P P 03 02 52.3 -0.3
PLD Plovdiv 83.65 316 iP P 03 02 52.7 +0.1
PGB Panagyurishte 83.68 317 P P 03 02 53.0 +0.3
PRA Prague 83.74 327 ⇓P P 03 02 53.0 +0.2
PRU Pruhonice 83.75 327⇓iP P 03 02 53.1 +0.2
PRU e*PP pP 03 04 20.2 0.0
PRU e 03 06 09.6
PRU e 03 12 43.9
PRU MLR MLR
comp=Z,500nm,13.6s
PRU Pruhonice 83.75 327⇓iP P 03 02 53.1 +0.2
PRU epP pP 03 04 20.2 0.0
PRU ePP PP 03 06 09.6 -1.8
PRU eS S 03 12 43.9 +1.1
PRU eXS sS 03 15 13.5 -4.3
PRU AMS AMS 03 43 50.0
comp=Z,500nm,13.6s
ZST Bratislava 83.77 325 eP P 03 02 53.5 +0.5
comp=Z,25nm,1.4s,mb4.8
ZST e pP 03 04 20.7 +0.4
ZST ePP PP 03 06 08.2 -3.5
ZST eS S 03 12 43.6 +0.5
ZST LR LR
comp=Z,400nm,16.0s
ZST Bratislava 83.77 325 eP P 03 02 53.5 +0.5
ZST e pP 03 04 20.7 +0.4
ZST e 03 06 08.2
ZST eS S 03 12 43.6 +0.5
ZST pmax pmax
comp=Z,25nm,1.4s,mb4.8
ZST MLR MLR
comp=Z,400nm,16.0s
ZST Bratislava 83.77 325 eP P 03 02 53.5 +0.5
ZST epP pP 03 04 20.7 +0.4
ZST ePP PP 03 06 08.2 -3.5
ZST eS S 03 12 43.6 +0.5
ARUT Antelope Range 83.79 49 eP P 03 02 53.8 +0.5
ARUT Antelope Range 83.79 49 eP P 03 02 54.0 +0.7
TREC Trest 83.79 326⇓iP P 03 02 53.3 +0.2
TREC epP pP 03 04 21.4 +1.0
TREC ePP PP 03 06 07.1 -4.7
TREC AMS AMS 03 43 50.0
comp=Z,500nm,17.4s
PRNI Paran 83.81 302 ⇓P P 03 02 54.3 +0.7
ORE Reay 83.85 341 eP P 03 02 53.7 +0.6
RMNI Mount Ramon 83.85 302 ⇓P P 03 02 54.3 +0.5
RZN Rozhen 83.90 316 P P 03 02 54.2 +0.4
RZN Rozhen 83.90 316 iP P 03 02 54.7 +0.9
MLA1 Latheron 83.94 340⇓eP P 03 02 53.8 +0.1
HRFI Mount Harif 83.96 302 ⇓P P 03 02 54.3 0.0
CCUT Cedar City 83.98 49⇑iP P 03 02 54.9 +0.6
MSU Marysvale 84.15 48⇑eP P 03 02 56.4 +1.3
MSU epP pP 03 04 22.5 -0.1
AYVA Ayvalik 84.17 313 iP P 03 02 53.9 -1.3
VTS Vitosha 84.21 317 P P 03 02 56.0 +0.6
VTS Vitosha 84.21 317⇓iP P 03 02 55.3 0.0
VTS Vitosha 84.21 317 P P 03 02 55.4 +0.1
VTS Vitosha 84.21 317 iP P 03 02 55.7 +0.4
EIL Elat 84.23 301 ⇓P P 03 02 55.3 -0.4
EIL Elat 84.23 301 PP PP 03 06 15.0 -1.0
comp=Z,25nm,1.2s,baz=338,slow=5.5,SNR=6.8
PFO Pinyon Flat Ob 84.23 54 P P 03 02 55.0 -0.6
comp=Z,541nm,0.8s,mb6.3,SNR=41
PFO Pinyon Flat Ob 84.23 54⇑iP P 03 02 55.8 +0.2
comp=Z,116nm,1.0s,mb5.6
PFO ePP PP 03 06 15.1 -0.8
PFO Pinyon Flat Ob 84.23 54 P P 03 02 55.8 +0.2
PFO 03 06 14.4
PFO pmax pmax
comp=Z,55nm,0.6s,mb5.5
PFO pmax pmax
comp=Z,3.0nm,1.0s,mb4.0
PFO Pinyon Flat Ob 84.23 54 P P 03 02 55.8 +0.2
comp=Z,55nm,0.6s,mb5.5,baz=327,slow=5.9
PFO PP PP 03 06 14.4 -1.5
comp=Z,2.8nm,1.0s,baz=344,slow=8.4,SNR=5.6
BOZC Bozcaada 84.24 314 iP P 03 02 54.1 -1.4
CLZ Clausthal 84.25 330 eP P 03 02 55.6 +0.3
CLZ e 03 06 14.8
CLZ eS S 03 12 46.3 -1.3
CLZ pmax pmax
comp=Z,99nm,1.5s,mb5.3
CLZ Clausthal 84.25 330 eP P 03 02 55.6 +0.3
comp=Z,99nm,1.5s,mb5.3
CLZ ePP PP 03 06 14.8 -0.6
CLZ eS S 03 12 46.3 -1.3
TMUT Trail Mountain 84.28 47⇑iP P 03 02 56.7 +0.9
PKSM Moragy 84.34 322 P P 03 02 55.8 -0.1
PKSM Moragy 84.34 322⇑iP P 03 02 55.1 -0.8
KDAG Bornova 84.36 312 iP P 03 02 54.9 -1.3
SOP Sopron 84.39 324⇓eP P 03 02 56.4 +0.3
MVH1 Achvaich 84.49 341⇓eP P 03 02 56.5 +0.1
MCD Coleburn Disti 84.52 340⇓eP P 03 02 56.6 0.0
NKC Novy Kostel 84.53 328⇓iP P 03 02 56.8 +0.1
NKC epP pP 03 04 24.4 +0.2
NKC eSKS 03 12 50.3
NKC e 03 15 02.4
NKC Novy Kostel 84.53 328⇓iP P 03 02 56.8 +0.1
NKC e*PP pP 03 04 24.4 +0.2
NKC e 03 12 50.3
NKC MLR MLR
comp=Z,700nm,12.3s
NKC Novy Kostel 84.53 328⇓iP P 03 02 56.8 +0.1
NKC epP pP 03 04 24.4 +0.2
NKC eS S 03 12 50.3 -0.1
NKC ex x 03 15 02.4
NKC AMS AMS 03 44 50.0
comp=Z,700nm,12.3s
MMB Musomiste 84.54 316 P P 03 02 56.9 -0.1
MMB Musomiste 84.54 316 iP P 03 02 56.7 -0.3
CONA Conrad Observa 84.56 325 iP P 03 02 57.4 +0.4
comp=Z,54nm,1.7s,mb5.0,SNR=19
MOX Moxa 84.59 329 eP P 03 02 57.3 +0.2
comp=Z,62nm,1.7s,mb5.1
MOX e pP 03 04 26.0 +1.4
MOX e 03 06 17.3
MOX
comp=Z,300nm,17.0s
MOX Moxa 84.59 329 eP P 03 02 56.9 -0.2
comp=Z,63nm,1.6s,mb5.1
MOX epP pP 03 04 25.5 +0.9
MOX ePP PP 03 06 17.5 -0.7
MOX eS S 03 12 50.0 -1.1
KKB Krupnik 84.74 317 P P 03 02 55.6 -2.4
KKB Krupnik 84.74 317 iP P 03 02 56.9 -1.1
KHC Kasperske Hory 84.80 327⇓iP P 03 02 58.1 0.0
KHC e*PP pP 03 04 25.5 -0.2
KHC e 03 06 14.5
KHC e 03 12 52.8
KHC MLR MLR
comp=Z,500nm,14.3s
KHC Kasperske Hory 84.80 327⇓iP P 03 02 58.1 0.0
KHC ex x 03 03 08.5
KHC epP pP 03 04 25.5 -0.2
KHC ePP PP 03 06 14.5 -5.4
KHC eS S 03 12 52.8 -0.3
KHC ex x 03 15 23.5
KHC AMS AMS 03 46 20.0
comp=Z,500nm,14.3s
SRU San Rafael 84.81 46⇑iP P 03 02 59.0 +0.5
comp=Z,50nm,0.7s,mb5.3
SRU San Rafael 84.81 46⇑iP P 03 02 59.0 +0.6
SRU pmax pmax
comp=Z,50nm,0.7s,mb5.3
SRS Serrai 84.92 316 eP P 03 02 58.0 -0.9
GEC2 GERESS Array S 84.95 327 eP P 03 02 58.5 -0.3
GEC2 eS S 03 12 54.5 -0.1
GEC2 pmax pmax
comp=Z,25nm,1.2s,mb4.8
GEC2 GERESS Array S 84.95 327 eP P 03 02 58.5 -0.3
comp=Z,25nm,1.2s,mb4.8
GEC2 eS S 03 12 54.5 -0.1
GERES GERESS Array B 84.95 327 P P 03 02 58.5 -0.3
comp=Z,5.9nm,0.6s,mb4.5,baz=36,slow=5.8,SNR=61
GERES pP pP 03 04 27.0 +0.5
comp=Z,5.3nm,1.0s,baz=65,slow=3.5,SNR=3.4
GERES PP PP 03 06 20.4 -0.7
comp=Z,1.6nm,0.9s,baz=53,slow=6.9,SNR=3.6
GERES PKKPbc PKKPbc 03 21 04.1 +0.2
comp=Z,0.4nm,0.6s,baz=236,slow=1.4,SNR=4.5
MDO Dochfour 84.96 340 eP P 03 02 58.4 -0.3
ROTZ Rotzenmuhle 84.97 328 eP P 03 02 59.1 +0.2
comp=Z,90nm,1.5s,mb5.3
ROTZ epP pP 03 04 27.7 +1.2
ROTZ eS S 03 12 55.4 +0.7
IBBN Ibbenburen 84.97 332 eP P 03 02 58.7 -0.2
comp=Z,76nm,1.3s,mb5.3
IBBN ePP PP 03 06 21.7 +0.5
IBBN eS S 03 12 52.2 -2.5
BDRM Kayabasi 85.06 311 iP P 03 02 58.8 -0.8
ULM Lac du Bonnet 85.07 31 P P 03 02 58.9 -0.5
ULM Lac du Bonnet 85.07 31 P P 03 02 58.9 -0.5
comp=Z,23nm,0.8s,mb5.0,baz=323,slow=5.9,SNR=39
WET Wettzell 85.11 327 eP P 03 02 59.6 -0.1
WET eS S 03 12 56.3 +0.1
WET pmax pmax
comp=Z,100nm,2.1s,mb5.2
WET Wettzell 85.11 327 eP P 03 02 59.6 -0.1
comp=Z,100nm,2.1s,mb5.2
WET eS S 03 12 56.3 +0.1
UBBA Unterbreizbach 85.16 330 eP P 03 02 59.3 -0.6
comp=Z,49nm,1.8s,mb4.9
UBBA ePP PP 03 06 23.6 +0.8
UBBA eS S 03 12 55.2 -1.4
KAC Achnashellach 85.17 341⇓eP P 03 03 00.2 +0.5
RWWY Rawlins 85.17 43⇑iP P 03 03 00.6 +0.4
comp=Z,739nm,2.2s,mb6.0
OUR Ouranopolis 85.18 315 eP P 03 03 00.8 +0.6
ARSA Arzberg 85.20 325 iP P 03 03 00.1 0.0
comp=Z,25nm,1.4s,mb4.8,SNR=9.3
PMOR Pomariorio Ree 85.29 111 eP P 03 03 00.9 -0.1
comp=Z,116nm,1.5s,mb5.4
KNT Kendrikon 85.29 317 eP P 03 02 60.0 -0.8
STIP Stip 85.37 317 eP P 03 02 58.0 -3.1
VAY Valandovo 85.38 317 eP P 03 02 57.8 -3.4
MOA Molln 85.39 326⇑iP P 03 03 00.0 -1.0
comp=Z,27nm,1.4s,mb4.8,SNR=5.6
KOGS Kog 85.39 324 eP P 03 03 00.2 -0.8
KOGS epP pP 03 04 30.6 +1.8
KOGS eSKSac SKSac 03 12 46.8 -2.1
KPL Plockton 85.41 341⇓eP P 03 03 01.1 +0.2
KPL AMb AMB 03 03 06.1
comp=Z,56nm,1.1s,mb5.2
KSB Sheil Bridge 85.45 341⇓eP P 03 03 01.3 +0.2
PPT Papeete 85.46 114 eS S 03 12 58.1 -2.3
comp=Z,736nm,25.2s
GRA1 Grafenberg Arr 85.46 328 eP P 03 03 01.4 0.0
comp=Z,84nm,1.4s,mb5.3
GRA1 epP pP 03 04 29.6 +0.6
GRA1 ePP PP 03 06 27.3 +2.1
GRA1 eS S 03 13 00.4 +0.9
GRF Grafenberg Arr 85.46 328 eP P 03 03 01.4 0.0
GRF e*PP pP 03 04 29.6 +0.6
GRF e 03 06 27.3
GRF eS S 03 13 00.4 +0.9
GRF pmax pmax
comp=Z,84nm,1.4s,mb5.3
GRF Grafenberg Arr 85.46 328 eP P 03 03 01.4 0.0
GRF epP pP 03 04 29.6 +0.6
GRF ePP PP 03 06 27.3 +2.1
GRF eS S 03 13 00.4 +0.9
GRFO Grafenberg 85.47 328⇓iP P 03 03 01.2 -0.1
comp=Z,45nm,1.3s,mb5.0
GRFO epP pP 03 04 30.2 +1.1
GRFO Grafenberg 85.47 328 P P 03 03 01.8 +0.4
GRFO pmax pmax
comp=Z,44nm,1.2s,mb5.1
PAE Paea 85.51 114 eP P 03 03 01.9 -0.2
comp=Z,128nm,1.4s,mb5.5
PAE Paea 85.51 114 eP P 03 03 01.9 -0.2
PAE pmax pmax
comp=Z,128nm,1.4s,mb5.5
KSK Scoval 85.58 342⇓eP P 03 03 02.2 +0.4
SKO Skopje 85.61 318 eP P 03 03 01.0 -1.3
WTSB Winterswijk 85.62 332 eP P 03 02 59.5 -2.6
comp=Z,42nm,2.8s,mb4.7
VAH Vaihoa 85.64 111 eP P 03 03 02.4 -0.3
comp=Z,54nm,0.9s,mb5.3
GRG Griva 85.71 317 eP P 03 03 01.8 -1.0
KAR1 Arisaig 85.82 341⇓eP P 03 03 03.3 +0.4
PERS Pernice 85.83 324 eP P 03 03 02.7 -0.5
PERS eSKSac SKSac 03 12 48.5 -3.0
TVO Taravao 85.83 114 eP P 03 03 03.8 +0.2
comp=Z,64nm,0.9s,mb5.3
TVO Taravao 85.83 114 eP P 03 03 03.8 +0.2
TVO pmax pmax
comp=Z,64nm,0.9s,mb5.3
EAB Aberfoyle 86.02 340⇓eP P 03 03 05.1 +1.1
KRUS Krusevo 86.11 317 eP P 03 03 03.1 -1.6
LIT Litokhoron 86.21 316 eP P 03 03 04.1 -1.1
CRES Cresnjev 86.22 324 eP P 03 03 04.6 -0.6
CRES e 03 03 34.6
CRES ePP PP 03 06 33.0 +1.6
CRES eSKSac SKSac 03 12 51.2 -2.8
CRES eS S 03 13 05.1 -1.9
CRES e 03 14 06.5
TNS Taunus Mts 86.27 330 eS S 03 13 06.9 -0.4
PDKS Podkum 86.29 324 iP P 03 03 04.7 -0.7
BIA Bitola 86.30 317 eP P 03 03 02.1 -3.5
KBA Koelnbreinsper 86.37 326⇑iP P 03 03 05.0 -0.8
comp=Z,11nm,0.9s,mb4.6,SNR=6.0
KBA Koelnbreinsper 86.37 326⇑iP P 03 03 05.0 -0.8
KBA pmax pmax
comp=Z,11nm,0.9s,mb4.6
PGBU Glenifferbraes 86.39 340 eP P 03 03 06.5 +0.8
PGBU AMb AMB 03 03 08.1
comp=Z,90nm,1.9s,mb5.2
EKA Eskdalemuir Ar 86.40 339 P P 03 03 05.9 +0.1
EKA 03 06 30.6
EKA pmax pmax
comp=Z,3.0nm,0.6s
EKA pmax pmax
comp=Z,20nm,1.2s
EKA Eskdalemuir Ar 86.40 339 P P 03 03 05.9 +0.1
comp=Z,3.0nm,0.6s,mb4.2,baz=38,slow=5.2,SNR=22
EKA PP PP 03 06 30.6 -1.9
comp=Z,20nm,1.2s,baz=32,slow=6.4,SNR=5.8
FNA Florina 86.42 317 eP P 03 03 04.8 -1.4
ESK Eskdalemuir 86.42 339 eP P 03 03 05.5 -0.4
ESK AMb AMB 03 03 06.2
comp=Z,135nm,1.8s,mb5.4
ESK Eskdalemuir 86.42 339 eP P 03 03 06.1 +0.2
comp=Z,13nm,0.9s,mb4.7
ESK Eskdalemuir 86.42 339 eP P 03 03 06.1 +0.2
ESK pmax pmax
comp=Z,13nm,0.9s,mb4.7
PHWY Pilot Hill 86.42 42⇑iP P 03 03 06.8 +0.6
XAL Allendale 86.50 338 eP P 03 03 06.5 +0.3
LJU Ljubljana 86.53 324 eP P 03 03 05.8 -0.8
LJU e 03 03 31.4
LJU epP pP 03 04 34.4 -0.1
LJU ePP PP 03 06 31.8 -2.1
LJU e 03 13 10.1
LJU e 03 14 08.7
OHR Ohrid 86.54 318 eP P 03 03 04.2 -2.6
BOJS Bojanci 86.55 324 eP P 03 03 06.0 -0.7
FUR Furstenfeldbru 86.56 327 eP P 03 03 06.9 +0.2
FUR eS S 03 13 10.7 +0.6
FUR pmax pmax
comp=Z,289nm,2.2s,mb5.6
FUR Furstenfeldbru 86.56 327 eP P 03 03 06.9 +0.2
comp=Z,289nm,2.2s,mb5.6
FUR eS S 03 13 10.7 +0.6
CADS Cadrg 86.79 325 iP P 03 03 06.2 -1.6
VOY Vojsko 86.85 325 eP P 03 03 06.4 -1.7
VOY e pP 03 04 35.6 -0.5
HGN Heimansgroeve 86.89 332 eP P 03 03 06.4 -1.8
comp=Z,26nm,3.1s
HGN Heimansgroeve 86.89 332 ePP PP 03 06 37.8 +1.2
SMCO Snowmass 86.92 45⇑iP P 03 03 09.7 +1.1
comp=Z,81nm,1.4s,mb5.3
MEM Membach 86.98 332 P P 03 03 08.3 -0.4
ABTA Abfaltersbach 87.01 326⇓iP P 03 03 07.6 -1.3
comp=Z,21nm,1.1s,mb4.8,SNR=10.0
WATA Walderalm 87.02 327⇑iP P 03 03 08.2 -0.7
comp=Z,9.9nm,1.1s,mb4.5,SNR=7.8
WATA Walderalm 87.02 327⇑iP P 03 03 08.2 -0.7
WATA pmax pmax
comp=Z,10.0nm,1.1s,mb4.5
STU Stuttgart 87.04 329 eP P 03 03 08.7 -0.2
comp=Z,54nm,1.6s,mb5.0
STU epP pP 03 04 38.3 +1.3
STU ePP PP 03 06 38.1 +0.3
WTTA Wattenberg 87.05 327 iP P 03 03 08.5 -0.5
comp=Z,20nm,1.4s,mb4.7,SNR=9.5
WTTA Wattenberg 87.05 327 iP P 03 03 08.5 -0.5
WTTA pmax pmax
comp=Z,20nm,1.4s,mb4.7
HPK Haverah Park 87.07 337⇓eP P 03 03 09.0 0.0
HPK AMb AMB 03 03 11.2
comp=Z,85nm,1.6s,mb5.2
MOTA Moosalm 87.24 327 iP P 03 03 09.3 -0.6
comp=Z,15nm,1.2s,mb4.6,SNR=13
MOTA Moosalm 87.24 327 iP P 03 03 09.3 -0.6
MOTA pmax pmax
comp=Z,15nm,1.2s,mb4.6
MVCO Mesa Verde 87.25 47⇑iP P 03 03 10.6 +0.4
comp=Z,53nm,1.4s,mb5.1
SQTA Sankt Quirin 87.28 327⇓iP P 03 03 09.6 -0.5
comp=Z,12nm,1.1s,mb4.6,SNR=9.9
SQTA Sankt Quirin 87.28 327⇓iP P 03 03 09.6 -0.5
SQTA pmax pmax
comp=Z,13nm,1.1s,mb4.6
RETA Reutte 87.29 327 iP P 03 03 09.8 -0.3
comp=Z,30nm,1.4s,mb4.8,SNR=12
ISCO Idaho Springs 87.32 44⇑iP P 03 03 11.5 +1.0
comp=Z,12nm,0.7s,mb4.8
ISCO Idaho Springs 87.32 44⇑iP P 03 03 11.5 +1.0
ISCO pmax pmax
comp=Z,12nm,0.7s,mb4.7
BCLA Clavier 87.41 332 P P 03 03 10.3 -0.3
comp=Z,22nm,2.7s,mb4.4
LANF Langenberg 87.48 330 eP P 03 03 12.9 +1.9
LHO Holmfirth 87.49 337⇓eP P 03 03 10.8 -0.1
FETA Feichten 87.65 327 iP P 03 03 11.5 -0.3
comp=Z,23nm,1.0s,mb4.9,SNR=22
WLF Walferdange 87.65 331 P P 03 03 12.0 +0.2
comp=Z,9.7nm,1.5s,mb4.3
SNF Seneffe 87.75 332 P P 03 03 11.9 -0.4
BFO Black Forest 87.75 329 P P 03 03 11.8 -0.5
comp=Z,120nm,2.0s,mb5.3,SNR=6.8
BFO Black Forest 87.75 329 P P 03 03 12.0 -0.3
BFO pmax pmax
comp=Z,26nm,1.2s,mb4.8
BFO Black Forest 87.75 329 eP P 03 03 11.2 -1.1
comp=Z,32nm,1.3s,mb4.9
BFO epP pP 03 04 40.3 -0.2
BFO eS S 03 13 20.0 -1.3
DAVA Damuels 87.84 327 iP P 03 03 12.5 -0.3
comp=Z,30nm,0.9s,mb5.0,SNR=16
IGT Igoumenitsa 87.84 317 eP P 03 03 11.4 -1.5
DOU Dourbes 87.95 332 P P 03 03 12.3 -0.9
comp=Z,9.0nm,2.0s,mb4.2
CWF Charnwood Fore 87.98 336⇓eP P 03 03 12.8 -0.5
CWF AMb AMB 03 03 17.1
comp=Z,75nm,1.8s,mb5.1
BAIF Baives 88.13 332 eP P 03 03 12.7 -1.4
comp=Z,22nm,1.2s,mb4.5
BAIF Baives 88.13 332 eP P 03 03 12.7 -1.4
comp=Z,11nm,1.2s,mb4.5
BAIF Baives 88.13 332 eP P 03 03 12.7 -1.4
BAIF pmax pmax
comp=Z,11nm,1.2s,mb4.5
CDF Champ du Feu 88.14 329 eP P 03 03 13.0 -1.2
comp=Z,34nm,1.1s,mb4.7
CDF Champ du Feu 88.14 329 eP P 03 03 13.0 -1.2
comp=Z,17nm,1.1s,mb4.7
CDF Champ du Feu 88.14 329 eP P 03 03 13.0 -1.2
CDF pmax pmax
comp=Z,17nm,1.1s,mb4.7
TAOE Nuku Hiva Isla 88.16 102 eS S 03 13 26.2 -0.1
comp=Z,626nm,30.4s
TAOE Nuku Hiva Isla 88.16 102 eP P 03 03 14.5 -0.3
comp=Z,429nm,1.0s,mb6.1
TAOE eS S 03 13 26.2 -0.1
DAVOX Davos/Dischmat 88.22 327 P P 03 03 14.6 0.0
comp=Z,16nm,0.6s,mb4.9,baz=44,slow=5.8
ECH Echery 88.34 329 eP P 03 03 14.9 -0.2
SBD1 Bryn Du 88.48 338⇓eP P 03 03 15.8 +0.1
EYMN Ely 88.70 31⇑iP P 03 03 16.8 0.0
comp=Z,213nm,1.6s,mb5.6
SDCO Great Sand Dun 88.73 45⇑iP P 03 03 18.0 +0.9
comp=Z,14nm,0.7s,mb4.8
SDCO epP pP 03 04 45.0 -0.5
DMUB Kingscourt 88.75 340 eP P 03 03 16.5 -0.4
HINF Hinteralfeld 88.78 329 eP P 03 03 15.6 -1.6
comp=Z,21nm,1.1s,mb4.5
HINF Hinteralfeld 88.78 329 eP P 03 03 15.6 -1.6
comp=Z,11nm,1.1s,mb4.5
HINF Hinteralfeld 88.78 329 eP P 03 03 15.6 -1.6
HINF pmax pmax
comp=Z,11nm,1.1s,mb4.5
TUC Tucson 88.83 52⇑iP P 03 03 18.1 +0.4
comp=Z,82nm,1.9s,mb5.1
TUC ePP PP 03 06 50.7 -1.9
TUC Tucson 88.83 52⇑iP P 03 03 18.1 +0.4
TUC e 03 06 50.7
TUC pmax pmax
comp=Z,83nm,1.9s,mb5.1
TUC Tucson 88.83 52 P P 03 03 18.2 +0.5
TUC pmax pmax
comp=Z,83nm,1.9s,mb5.1
HAU Haudompre 88.85 330 eP P 03 03 17.4 -0.1
comp=Z,15nm,0.8s,mb4.5
HAU eMLR MLR
comp=Z,251nm,18.0s
HAU Haudompre 88.85 330 eP P 03 03 17.4 -0.1
comp=Z,7.6nm,0.8s,mb4.5
HAU LR LR
comp=Z,250nm,18.0s
HAU Haudompre 88.85 330 eP P 03 03 17.4 -0.1
HAU pmax pmax
comp=Z,8.0nm,0.8s,mb4.5
HAU MLR MLR
comp=Z,250nm,18.0s
TBI Tubuai 88.92 119 eS S 03 13 32.3 -0.6
comp=Z,538nm,32.5s
MEZF Maizieres J'vi 89.01 331 eP P 03 03 17.2 -1.0
comp=Z,36nm,1.1s,mb4.7
MEZF Maizieres J'vi 89.01 331 eP P 03 03 17.2 -1.0
comp=Z,36nm,1.1s,mb5.0
LOMF Lomont 89.15 329 eP P 03 03 17.7 -1.2
DLF Lyons Farm 89.16 339 eP P 03 03 18.7 -0.1
MCH1 Michaelchurch 89.17 337⇓eP P 03 03 18.7 -0.2
MCH1 ⇓eP 03 03 18.7
MCH1 AMb AMB 03 03 29.6
comp=Z,186nm,1.9s,mb5.5
SWN1 Swindon 89.17 336 eP P 03 03 18.9 0.0
SWN1 AMb AMB 03 03 27.6
comp=Z,226nm,1.8s,mb5.6
HTR Trewern Hill 89.19 337⇓eP P 03 03 18.8 -0.2
DCN Croghan 89.34 340 eP P 03 03 19.6 0.0
HGH Gray Hill 89.41 337 eP P 03 03 19.7 -0.3
SWK Warminster 89.63 336⇓eP P 03 03 20.7 -0.3
AQU L'Aquila 89.72 322 P P 03 03 22.1 +0.4
AQU L'Aquila 89.72 322⇑iP P 03 03 21.2 -0.4
LAZ Ladron 89.89 48 eP P 03 03 23.3 +0.7
ANMO Albuquerque 89.96 48⇑iP P 03 03 23.5 +0.6
comp=Z,92nm,1.6s,mb5.4
ANMO Albuquerque 89.96 48 P P 03 03 23.7 +0.8
ANMO pmax pmax
comp=Z,92nm,1.5s
CABF La Chapelle 90.05 329 eP P 03 03 21.8 -1.3
comp=Z,72nm,1.4s,mb5.0
CABF La Chapelle 90.05 329 eP P 03 03 21.8 -1.3
comp=Z,36nm,1.4s,mb5.0
CABF La Chapelle 90.05 329 eP P 03 03 21.8 -1.3
CABF pmax pmax
comp=Z,36nm,1.4s,mb5.0
LPM Los Pinos Moun 90.26 48 eP P 03 03 24.8 +0.5
BNM Barren Site 90.37 48 eP P 03 03 25.4 +0.6
BNM ePP PP 03 07 03.2 -1.5
LOR Lormes 90.48 331 eP P 03 03 23.6 -1.5
comp=Z,51nm,1.3s,mb4.9
LOR eMLR MLR
comp=Z,249nm,19.0s
LOR Lormes 90.48 331 eP P 03 03 23.6 -1.5
comp=Z,25nm,1.3s,mb4.9
LOR LR LR
comp=Z,250nm,19.0s

LOR	**Lormes**	**90.48**	**331**	*e*P	**P**	**03 03 23.6**	**-1.5**
LOR				pmax	pmax		
	comp=Z,25nm,1.3s,mb4.9						
LOR				MLR	MLR		
	comp=Z,250nm,19.0s						
LPL	**La Plagne**	**90.60**	**328**	*e*P	**P**	**03 03 24.7**	**-1.0**
	comp=Z,22nm,0.7s,mb4.8						
LPL	**La Plagne**	**90.60**	**328**	*e*P	**P**	**03 03 24.7**	**-1.0**
	comp=Z,11nm,0.7s,mb4.8						
LPL	**La Plagne**	**90.60**	**328**	*e*P	**P**	**03 03 24.7**	**-1.0**
LPL				pmax	pmax		
	comp=Z,11nm,0.7s,mb4.8						
SCHQ	**Schefferville**	**90.61**	**14**	P	**P**	**03 03 25.8**	**+0.3**
	comp=Z,2.7nm,0.7s,mb4.2,baz=280,slow=6.1,SNR=14						
LPG	**La Plagne**	**90.61**	**328**	*e*P	**P**	**03 03 24.9**	**-0.8**
	comp=Z,23nm,0.7s,mb4.8						
LPG	**La Plagne**	**90.61**	**328**	*e*P	**P**	**03 03 24.9**	**-0.8**
	comp=Z,12nm,0.7s,mb4.8						
LPG	**La Plagne**	**90.61**	**328**	*e*P	**P**	**03 03 24.9**	**-0.8**
LPG				pmax	pmax		
	comp=Z,12nm,0.7s,mb4.8						
SSF	**Saint Saulge**	**90.79**	**331**	*e*P	**P**	**03 03 25.2**	**-1.3**
	comp=Z,22nm,1.0s,mb4.6						
SSF	**Saint Saulge**	**90.79**	**331**	*e*P	**P**	**03 03 25.2**	**-1.3**
	comp=Z,11nm,1.0s,mb4.6						
SSF	**Saint Saulge**	**90.79**	**331**	*e*P	**P**	**03 03 25.2**	**-1.3**
SSF				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.6						
DYA	**Yadsworthy**	**90.81**	**337**⇓	*e*P	**P**	**03 03 26.0**	**-0.5**
DYA				AMb	AMB	03 03 27.8	
	comp=Z,101nm,1.8s,mb5.3						
SMF	**Signal de Mont**	**90.98**	**330**	*e*P	**P**	**03 03 26.1**	**-1.3**
	comp=Z,35nm,1.0s,mb4.9						
SMF	**Signal de Mont**	**90.98**	**330**	*e*P	**P**	**03 03 26.1**	**-1.3**
	comp=Z,17nm,1.0s,mb4.8						
SMF	**Signal de Mont**	**90.98**	**330**	*e*P	**P**	**03 03 26.1**	**-1.3**
SMF				pmax	pmax		
	comp=Z,17nm,1.0s,mb4.8						
HYF	**Humbligny**	**90.98**	**331**	*e*P	**P**	**03 03 26.7**	**-0.7**
FLN	**La Foliniere**	**90.98**	**334**	*e*P	**P**	**03 03 26.1**	**-1.2**
	comp=Z,19nm,0.7s,mb4.7						
FLN				*e*MLR	MLR		
	comp=Z,305nm,19.2s						
FLN	**La Foliniere**	**90.98**	**334**	*e*P	**P**	**03 03 26.1**	**-1.2**
	comp=Z,9.4nm,0.7s,mb4.7						
FLN				LR	LR		
	comp=Z,310nm,19.3s						
FLN	**La Foliniere**	**90.98**	**334**	*e*P	**P**	**03 03 26.1**	**-1.2**
FLN				pmax	pmax		
	comp=Z,9.0nm,0.7s,mb4.7						
FLN				MLR	MLR		
	comp=Z,310nm,19.3s						
LDF	**La Druitiere**	**90.99**	**334**	*e*P	**P**	**03 03 26.0**	**-1.4**
	comp=Z,47nm,1.1s,mb4.9						
LDF	**La Druitiere**	**90.99**	**334**	*e*P	**P**	**03 03 26.0**	**-1.4**
	comp=Z,23nm,1.1s,mb4.9						
LDF	**La Druitiere**	**90.99**	**334**	*e*P	**P**	**03 03 26.0**	**-1.4**
LDF				pmax	pmax		
	comp=Z,23nm,1.1s,mb4.9						
AVF	**Avril sur Loir**	**91.07**	**331**	*e*P	**P**	**03 03 26.6**	**-1.2**
	comp=Z,93nm,1.3s,mb5.2						
AVF	**Avril sur Loir**	**91.07**	**331**	*e*P	**P**	**03 03 26.6**	**-1.2**
	comp=Z,46nm,1.3s,mb5.2						
AVF	**Avril sur Loir**	**91.07**	**331**	*e*P	**P**	**03 03 26.6**	**-1.2**
AVF				pmax	pmax		
	comp=Z,47nm,1.3s,mb5.2						
MBDF	**Montbardon**	**91.19**	**327**	*e*P	**P**	**03 03 26.5**	**-1.9**
CBKS	**Cedar Bluff**	**91.33**	**41**⇑	*i*P	**P**	**03 03 28.6**	**-0.6**
	comp=Z,92nm,1.3s,mb5.5						
CBKS	**Cedar Bluff**	**91.33**	**41**	*e*P	**P**	**03 03 28.9**	**-0.3**
CBKS				pmax	pmax		
	comp=Z,92nm,1.2s,mb5.5						
GRR	**Gorron**	**91.43**	**334**	*e*P	**P**	**03 03 28.3**	**-1.1**
	comp=Z,64nm,0.8s,mb5.2						
GRR	**Gorron**	**91.43**	**334**	*e*P	**P**	**03 03 28.3**	**-1.1**
	comp=Z,32nm,0.8s,mb5.2						
GRR	**Gorron**	**91.43**	**334**	*e*P	**P**	**03 03 28.3**	**-1.1**
GRR				pmax	pmax		
	comp=Z,32nm,0.8s,mb5.2						
ORIF	**Oris-en-Rattie**	**91.45**	**328**	*e*P	**P**	**03 03 28.2**	**-1.4**
ORIF				*e*MLR	MLR		
	comp=Z,319nm,17.2s						
BGF	**Bois d'Agland**	**91.47**	**331**	*e*P	**P**	**03 03 28.3**	**-1.3**
	comp=Z,21nm,1.1s,mb4.6						
BGF	**Bois d'Agland**	**91.47**	**331**	*e*P	**P**	**03 03 28.3**	**-1.3**
	comp=Z,10nm,1.1s,mb4.6						
BGF	**Bois d'Agland**	**91.47**	**331**	*e*P	**P**	**03 03 28.3**	**-1.3**
BGF				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.6						
PLDF	**La Plantade**	**91.61**	**330**	*e*P	**P**	**03 03 30.3**	**0.0**
AGO	**Saint Agoulin**	**91.75**	**330**	*e*P	**P**	**03 03 30.9**	**0.0**
TCF	**Toulx Ste Croi**	**91.94**	**331**	*e*P	**P**	**03 03 30.8**	**-1.0**
	comp=Z,28nm,0.8s,mb4.9						
TCF	**Toulx Ste Croi**	**91.94**	**331**	*e*P	**P**	**03 03 30.8**	**-1.0**
	comp=Z,14nm,0.8s,mb5.0						
TCF	**Toulx Ste Croi**	**91.94**	**331**	*e*P	**P**	**03 03 30.8**	**-1.0**
TCF				pmax	pmax		
	comp=Z,14nm,0.8s,mb4.9						
VIVF	**Saint-Julien-l**	**92.03**	**329**	*e*P	**P**	**03 03 31.0**	**-1.3**
	comp=Z,40nm,1.0s,mb5.0						
VIVF	**Saint-Julien-l**	**92.03**	**329**	*e*P	**P**	**03 03 31.0**	**-1.3**
	comp=Z,20nm,1.0s,mb5.0						
VIVF	**Saint-Julien-l**	**92.03**	**329**	*e*P	**P**	**03 03 31.0**	**-1.3**
VIVF				pmax	pmax		
	comp=Z,20nm,1.0s,mb5.0						
PYM	**Petit Puy Mans**	**92.04**	**330**	*e*P	**P**	**03 03 32.1**	**-0.2**
SGMF	**Saint Gilles**	**92.17**	**335**	*e*P	**P**	**03 03 32.0**	**-0.8**
	comp=Z,20nm,0.7s,mb4.8						
SGMF	**Saint Gilles**	**92.17**	**335**	*e*P	**P**	**03 03 32.0**	**-0.8**
	comp=Z,9.8nm,0.7s,mb4.8						
SGMF	**Saint Gilles**	**92.17**	**335**	*e*P	**P**	**03 03 32.0**	**-0.8**
SGMF				pmax	pmax		
	comp=Z,10.0nm,0.7s,mb4.8						
LBL	**Lubilhac**	**92.36**	**330**	*e*P	**P**	**03 03 33.8**	**+0.1**
ROSF	**Rostrenen**	**92.36**	**335**	*e*P	**P**	**03 03 32.9**	**-0.8**
	comp=Z,79nm,1.1s,mb5.2						
ROSF	**Rostrenen**	**92.36**	**335**	*e*P	**P**	**03 03 32.9**	**-0.8**
	comp=Z,40nm,1.1s,mb5.3						
ROSF	**Rostrenen**	**92.36**	**335**	*e*P	**P**	**03 03 32.9**	**-0.8**
ROSF				pmax	pmax		
	comp=Z,40nm,1.1s,mb5.3						
MFF	**Saint Martin d**	**92.64**	**332**	*e*P	**P**	**03 03 34.2**	**-0.8**
	comp=Z,43nm,0.9s,mb5.1						
MFF	**Saint Martin d**	**92.64**	**332**	*e*P	**P**	**03 03 34.2**	**-0.8**
	comp=Z,21nm,0.9s,mb5.1						
MFF	**Saint Martin d**	**92.64**	**332**	*e*P	**P**	**03 03 34.2**	**-0.8**
MFF				pmax	pmax		
	comp=Z,21nm,0.9s,mb5.1						
QUIF	**Quistinic**	**92.68**	**335**	*e*P	**P**	**03 03 34.1**	**-1.1**
MNTX	**Cornudas Mount**	**92.76**	**50**⇑	*i*P	**P**	**03 03 36.1**	**+0.3**
	comp=Z,87nm,1.5s,mb5.5						
MNTX				*e*PP	PP	03 07 20.8	-2.5
KSU1	**Kansas State U**	**92.84**	**39**⇑	*i*P	**P**	**03 03 35.6**	**-0.5**
	comp=Z,45nm,0.8s,mb5.5						
AMTX	**Amarillo**	**92.93**	**45**⇑	*i*P	**P**	**03 03 37.3**	**+0.6**
	comp=Z,38nm,0.6s,mb5.5						
AMTX				*e*pP	pP	03 05 05.2	-0.1
LASF	**Ste Croix**	**93.01**	**329**	*e*P	**P**	**03 03 35.3**	**-1.5**
RJF	**Les Rejaudoux**	**93.03**	**331**	*e*P	**P**	**03 03 36.0**	**-0.8**
	comp=Z,32nm,0.9s,mb5.0						
RJF				*e*MLR	MLR		
	comp=Z,242nm,17.8s						
RJF	**Les Rejaudoux**	**93.03**	**331**	*e*P	**P**	**03 03 36.0**	**-0.8**
	comp=Z,16nm,0.9s,mb5.0						
RJF				LR	LR		
	comp=Z,240nm,17.8s						
RJF	**Les Rejaudoux**	**93.03**	**331**	*e*P	**P**	**03 03 36.0**	**-0.8**
RJF				pmax	pmax		
	comp=Z,16nm,0.9s,mb5.0						
RJF				MLR	MLR		
	comp=Z,240nm,17.8s						
CAF	**Calviac**	**93.10**	**330**	*e*P	**P**	**03 03 36.6**	**-0.6**
	comp=Z,41nm,1.1s,mb5.0						
CAF	**Calviac**	**93.10**	**330**	*e*P	**P**	**03 03 36.6**	**-0.6**
	comp=Z,20nm,1.1s,mb5.0						
CAF	**Calviac**	**93.10**	**330**	*e*P	**P**	**03 03 36.6**	**-0.6**
CAF				pmax	pmax		
	comp=Z,20nm,1.1s,mb5.0						
LFF	**La Frestale**	**93.64**	**331**	*e*P	**P**	**03 03 39.0**	**-0.7**
	comp=Z,25nm,0.8s,mb5.0						
LFF	**La Frestale**	**93.64**	**331**	*e*P	**P**	**03 03 39.0**	**-0.7**
	comp=Z,12nm,0.8s,mb5.0						
LFF	**La Frestale**	**93.64**	**331**	*e*P	**P**	**03 03 39.0**	**-0.7**
LFF				pmax	pmax		
	comp=Z,12nm,0.8s,mb5.0						
WMOK	**Wichita Mounta**	**94.75**	**44**	*e*P	**P**	**03 03 44.7**	**-0.2**
	comp=Z,37nm,1.4s,mb5.2						
WMOK				*e*pP	pP	03 05 13.4	-0.3
WMOK	**Wichita Mounta**	**94.75**	**44**	*e*P	**P**	**03 03 44.7**	**-0.2**
WMOK				*e**PP	pP	03 05 13.4	-0.3
WMOK				pmax	pmax		
	comp=Z,37nm,1.4s,mb5.2						
WMOK	**Wichita Mounta**	**94.75**	**44**	P	**P**	**03 03 44.8**	**-0.1**
WMOK				pmax	pmax		
	comp=Z,37nm,1.3s,mb5.2						
KEST	**Kesra**	**96.70**	**320**	P	**P**	**03 03 53.3**	**-0.4**
	comp=Z,1.7nm,0.8s,mb4.2,baz=347,slow=2.9,SNR=7.2						
KEST				PP	PP	03 07 53.5	0.0
	comp=Z,7.7nm,1.2s,baz=225,slow=1.6,SNR=6.8						
JCT	**Junction City**	**97.11**	**47**	*e*P	**P**	**03 03 54.0**	**-1.7**
	comp=Z,12nm,0.7s,mb5.1						
JCT				*e*pP	pP	03 05 24.0	-0.7
JCT	**Junction City**	**97.11**	**47**	*e*P	**P**	**03 03 55.6**	**-0.1**
JCT				pmax	pmax		
	comp=Z,12nm,0.7s,mb5.1						
MIAR	**Mount Ida**	**97.83**	**41**	*e*P	**P**	**03 03 58.4**	**-0.4**
	comp=Z,9.7nm,0.8s,mb5.1						
MIAR	**Mount Ida**	**97.83**	**41**	P	**P**	**03 03 58.7**	**-0.1**
MIAR				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb5.1						
WCI	**Wyandotte Cave**	**98.69**	**34**	*e*P	Pdif	03 04 01.4	-1.0
	comp=Z,5.0nm,0.6s						
WCI	**Wyandotte Cave**	**98.69**	**34**	*e*P	Pdif	03 04 01.5	-1.0
WCI				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb5.0						
KMBO	**Kilima Mbogo**	**99.39**	**275**	*e*Pdif	Pdif	03 04 05.7	+0.2
	comp=Z,5.2nm,1.4s						
KMBO	**Kilima Mbogo**	**99.39**	**275**	P	Pdif	03 04 06.5	+0.9
KMBO						03 08 15.0	
KMBO				pmax	pmax		
	comp=Z,2.0nm,0.8s						
KMBO				pmax	pmax		
	comp=Z,11nm,1.2s						
KMBO	**Kilima Mbogo**	**99.39**	**275**	P	Pdif	03 04 06.5	+0.9
	comp=Z,1.7nm,0.8s,baz=52,slow=3.8,SNR=5.7						
KMBO				PP	PP	03 08 14.9	-0.2
	comp=Z,11nm,1.2s,baz=46,slow=9.0,SNR=7.9						
WVT	**Waverly**	**99.62**	**36**	*e*Pdif	Pdif	03 04 06.2	-0.4
	comp=Z,2.6nm,0.6s						
WVT	**Waverly**	**99.62**	**36**	*e*P	Pdif	03 04 06.2	-0.4
WVT				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.9						
ESDC	**Sonseca Array**	**99.95**	**331**	P	Pdif	03 04 07.7	-0.3
	comp=Z,0.6nm,0.8s,baz=120,slow=5.1,SNR=3.8						
ESDC				PP	PP	03 08 11.7	-6.0
	comp=Z,3.1nm,0.9s,baz=22,slow=7.0,SNR=7.0						
VNDA	**Vanda**	**110.64**	**175**	*i* PKIKP	PKiKP	03 08 52.6	+0.2
VNDA						03 09 36.1	
VNDA				pmax	pmax		
	comp=Z,1.0nm,0.9s						
VNDA	**Vanda**	**110.64**	**175**	PKiKP	PKiKP	03 08 52.6	+0.2
	comp=Z,0.4nm,0.4s,baz=297,slow=4.2,SNR=5.5						
VNDA				PP	PP	03 09 36.1	-0.4
	comp=Z,1.1nm,0.9s,baz=322,slow=5.6,SNR=3.8						
MAW	**Mawson**	**114.04**	**204**	PP	PP	03 09 58.2	-2.5
	comp=Z,6.5nm,0.9s,baz=47,slow=16,SNR=5.0						
LSZ	**Lusaka**	**114.32**	**267**	*e*PKP	PKiKP	03 09 01.4	+0.3
LSZ				*e*PP	PP	03 10 02.5	-1.2
TORD	**Torodi Ar. Bea**	**118.16**	**310**	PKP	PKPdf	03 09 07.8	-0.9
TORD				PP	PP	03 10 24.0	-5.3
TORD				PKKPbc	PKKPbc	03 19 29.8	+2.0
TORD	**Torodi Ar. Bea**	**118.16**	**310**	PKP	PKPdf	03 09 07.8	-0.9
	comp=Z,2.8nm,0.7s,baz=24,slow=1.1,SNR=37						
TORD				PP	PP	03 10 24.0	-5.3
	comp=Z,6.0nm,1.0s,baz=44,slow=7.4,SNR=5.9						
TORD				PKKPbc	PKKPbc	03 19 29.8	+2.0
	comp=Z,0.6nm,0.5s,baz=229,slow=2.8,SNR=5.0						
SYO	**Syowa Base**	**122.69**	**205**⇓	*e*PKPdf	PKPdf	03 09 14.4	-1.3
TSUM	**Tsumeb**	**125.10**	**268**	*e*PKPdf	PKPdf	03 09 22.2	+0.4
DBIC	**Dimbokro**	**127.25**	**311**	PKIKP	PKPdf	03 09 26.2	0.0
DBIC						03 11 28.2	
DBIC				pmax	pmax		
	comp=Z,6.0nm,0.7s						
DBIC				pmax	pmax		
	comp=Z,10.0nm,1.1s						
DBIC	**Dimbokro**	**127.25**	**311**	PKP	PKPdf	03 09 26.1	0.0
	comp=Z,6.1nm,0.7s,baz=356,slow=2.3,SNR=9.6						
DBIC				PP	PP	03 11 28.2	-2.1
	comp=Z,10.0nm,1.1s,baz=356,slow=5.6,SNR=4.3						
LIC	**Lamto**	**127.70**	**310**	*e*PKIKP	PKPdf	03 09 26.7	-0.3
SDV	**Santo Domingo**	**130.87**	**38**	*e*PKPdf	PKPdf	03 09 32.5	-0.6
SDV				*e*SKPbc	SKPbc	03 12 20.1	-0.7
MAIT	**Maitri**	**131.87**	**201**	*e*PKPdf	SKPbc	03 12 23.2	+0.7
ROSC	**El Rosal**	**132.08**	**45**	*e*PKPdf	PKPdf	03 09 36.8	+1.5
ROSC	**El Rosal**	**132.08**	**45**	PKP	PKPdf	03 09 37.0	+1.7
	comp=Z,8.9nm,0.5s,baz=344,slow=1.6,SNR=8.1						
OTAV	**Otavalo**	**132.94**	**54**	*e*PKPdf	PKPdf	03 09 38.0	+1.0
OTAV				*e*SKPbc	SKPbc	03 12 29.3	+1.2
NNA	**Nana**	**142.39**	**65**	*e*PKPpre		03 09 49.2	
ARE	**Arequipa**	**149.22**	**66**	*e*P	PKiKP	03 10 12.0	+0.7
LPAZ	**La Paz**	**151.66**	**62**	*e*PKPdf	PKPdf	03 10 10.9	+1.5
LPAZ				*e*PKPbc	PKPbc	03 10 17.0	+0.9
LPAZ				*e*PKPab	PKPab	03 10 27.1	+0.7
LPAZ	**La Paz**	**151.66**	**62**	PKP	PKPdf	03 10 09.6	+0.2
	comp=Z,1.6nm,0.6s,baz=293,slow=1.8,SNR=7.1						
LPAZ				PKPbc	PKPbc	03 10 17.2	+1.2
	comp=Z,11nm,0.6s,baz=350,slow=3.2,SNR=31						
LPAZ				PKPab	PKPab	03 10 26.9	+0.4
	comp=Z,10nm,0.6s,baz=318,slow=3.6,SNR=13						
LPAZ				pPKPbc	pPKPbc	03 11 50.2	+0.8
	comp=Z,7.4nm,1.0s,baz=353,slow=2.6,SNR=2.9						
RCBR	**Riachuelo**	**152.89**	**346**	*e*PKPdf	PKPdf	03 10 11.8	+0.4
RCBR				*e*PKPbc	PKPbc	03 10 18.9	0.0
RCBR				*e*PKPab	PKPab	03 10 31.3	-0.3
LCO	**Las Campanas**	**155.41**	**90**	*e*PKPdf	PKPdf	03 10 14.3	-0.1
LCO				*e*PKPab	PKPab	03 10 43.1	+0.8
PLCA	**Paso Flores**	**155.94**	**118**	PKPbc	PKPdf	03 10 22.0	+7.3
PLCA				PKPab	PKPab	03 10 44.9	+0.8
PLCA	**Paso Flores**	**155.94**	**118**	PKP2	PKPab	03 10 44.9	+0.7
PLCA				pmax	pmax		
	comp=Z,8.0nm,0.9s						
PLCA	**Paso Flores**	**155.94**	**118**	PKPbc	PKPdf	03 10 22.0	+7.3
	comp=Z,2.4nm,0.7s,baz=261,slow=2.4,SNR=4.2						
PLCA				PKPab	PKPab	03 10 44.9	+0.8
	comp=Z,8.3nm,0.9s,baz=265,slow=5.1,SNR=8.0						
TRQA	**Tornquist**	**163.00**	**115**	*e*PKPdf	PKPdf	03 10 22.4	-0.4
TRQA				*e*PKPab	PKPab	03 11 16.0	+0.9

CASC 01 02:58:34.9±1.5, 869N×8281W, h14km±6km, MD3.7, 1C-3D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRU2	**Volcan**	**0.15**	**47**⇓	*i*P	Pg	02 58 39.1	+0.3
BRU2				*e*S	Sg	02 58 42.6	+1.1
TBS2		**0.18**	**55**⇓	*i*P	Pg	02 58 48.1	+8.9
TBS2				*e*S	Sg	02 58 52.5	+10
CTCR	**Cotoan**	**0.21**	**12**⇑	*i*P	Pg	02 58 40.1	+0.4
CTCR				*e*S	Sg	02 58 43.9	+0.9
BAR1		**0.74**	**318**⇓	*e*P	Pg	02 58 49.0	-0.4
BAR1				*e*S	Sg	02 58 59.8	+0.6
CNI	**Changuinola**	**0.78**	**21**	*e*P	Pg	02 58 49.2	-0.8
URSC	**Urasca**	**1.49**	**320**	*e*P	Pn	02 59 01.1	-0.1
URSC				*e*S	Sn	02 59 21.8	+1.3
LCR2	**La Lucha 2**	**1.58**	**312**	*e*P	Pn	02 59 02.7	+0.2
LCR2				*e*S	Sn	02 59 23.0	+0.3
LAJ	**Bijagual**	**1.75**	**312**	*e*P	Pn	02 59 08.8	+4.1
LAJ				*e*S	Sn	02 59 34.9	+8.1
PRS1	**Puriscal**	**1.97**	**311**	*e*P	Pn	02 59 07.6	-0.2
PRS1				*e*S	Sn	02 59 31.6	-0.6
PTP	**Ponta Puerca**	**19.20**	**59**	*e*S		02 58 52.5	

IDC 01 03:03:27.6±22.0, 2156S×17750W, h418km±207km, mb3.2/2, mb1 3.5/2, mb1mx3.0/13, mbtmp3.2/2, Error ellipse: s-maj=110.8km s-min=47.0km az=60.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**44.74**	**258**	P	P	03 11 02.4	+0.4
	1.2nm,0.5s,baz=95,slow=7.7,SNR=14						
ASAR				PcP	PcP	03 12 35.9	-0.1
	0.4nm,0.6s,baz=100,slow=3.5,SNR=4.8						
WRA	**Warramunga Arr**	**44.93**	**263**	P	P	03 11 03.0	-0.6
	1.0nm,0.2s,baz=97,slow=7.1,SNR=11						
FINES	**FINESS Array B**	**136.91**	**344**	PKhKP		03 21 53.0	
	0.5nm,0.3s,baz=356,slow=38,SNR=9.4						
FINES				PKP	PKPdf	03 21 59.7	-1.3
	1.1nm,0.8s,baz=15,slow=7.9,SNR=3.3						
HFS	**Hagfors**	**140.65**	**351**	PKhKP		03 22 01.5	
	0.4nm,0.3s,baz=46,slow=4.3,SNR=8.8						
AKASG	**Malin Array Be**	**144.16**	**331**	PKP	PKPdf	03 22 11.8	-2.5
	0.9nm,0.3s,baz=43,slow=4.0,SNR=15						
MMAI	**Mount Meron Ar**	**148.73**	**298**	PKPbc	PKPbc	03 22 26.9	0.0
	0.7nm,0.4s,baz=71,slow=6.2,SNR=3.7						
GERES	**GERESS Array B**	**151.34**	**344**	PKPbc	PKPbc	03 22 33.4	+0.8
	0.6nm,0.8s,baz=354,slow=3.0,SNR=3.2						
TORD	**Torodi Ar. Bea**	**171.60**	**175**	PKPab	PKPab	03 24 11.3	-0.3
	0.3nm,0.4s,baz=228,slow=1.7,SNR=2.6						

GUC 01 03:10:28.0±0.7, 2461S×7080W, h44km±3km, MD3.5, ML2.8, 2C, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPN1	**Cerro Paranal**	**0.36**	**93**	*e*P	Pn	03 10 38.0	+0.7
CPN1				*e*S	Sn	03 10 45.8	+2.0
CPN1				AML	AML	03 10 46.4	
	comp=E,1μm,0.4s						
ANCH	**Antofagasta**	**0.99**	**21**	*e*P	Pn	03 10 46.4	+1.0
ANCH				*e*S	Sn	03 10 59.6	+1.4
ANCH				AML	AML	03 11 02.3	
	comp=N,446nm,0.1s						
CEN1	**Los Morros**	**1.33**	**25**⇑	*e*P	Pn	03 10 47.6	-2.5
CEN1				*e*S	Sn	03 11 03.0	-3.6
CDCH	**Caldera**	**2.46**	**181**⇑	*e*P	Pn	03 11 03.7	-1.9
CDCH				*e*S	Sn	03 11 33.0	-1.4
CDCH				AML	AML	03 11 41.2	
	comp=N,82nm,0.3s						
CPCH	**Copiapo**	**2.77**	**172**	*e*P	Pn	03 11 10.3	+0.5
CPCH				*e*S	Sn	03 11 43.2	+1.2

IDC 01 03:12:59.7±59.0, 2276S×17606W, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.7/14, mbtmp3.8/3, MS3.6/1, Ms1 3.6/1, ms1mx2.9/22, Error ellipse: s-maj=1097.0km s-min=180.4km az=87.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**16.19**	**269**	LR	LR	03 21 44.4	
	comp=Z,194nm,19.6s,baz=356,slow=32						
STKA	**Stephens Creek**	**38.50**	**247**	P	P	03 20 23.6	-0.2
	0.8nm,0.5s,baz=104,slow=8.3,SNR=5.2						
ASAR	**Alice Springs**	**45.80**	**259**	P	P	03 21 23.4	-0.1
	0.4nm,0.5s,baz=92,slow=7.4,SNR=7.9						
WRA	**Warramunga Arr**	**46.11**	**264**	P	P	03 21 26.1	+0.1
	1.1nm,0.4s,baz=103,slow=7.8,SNR=7.8						

*BJI **01** 03:20:16.1, 2149S×17339W, h35km, mB5.4, mb5.0, Ms5.2, Msz4.8*
*ISCJB **01** 03:20:18.3±0.3, 2151S±007×17428W±008, h33km, mb4.8/40, MS4.3/9, Error ellipse: s-maj=12.0km s-min=8.2km az=42.5*
*NEIC **01** 03:20:19.7±0.3, 2146S×17432W, h35km, mb4.8/16, Error ellipse: s-maj=10.9km s-min=6.8km az=133.0*
*IDC **01** 03:20:19.1±3.9, 2141S×17437W, h28km±26km, mb4.4/15, mb1 4.5/16, mb1mx4.4/22, mbtmp4.4/16, ML4.0/1, MS4.1/5, Ms1 4.1/5, ms1mx3.6/21, Error ellipse: s-maj=18.7km s-min=13.9km az=118.0*

ISC 01 03:20:20.1±0.3, 2152S±007×17424W±008, h35km, (h34km±1.7km:pP-P), n102, σ1$10/62, mb4.8/40, MS4.3/9, 2C-2D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.92**	**18**	*e*Pn	**Pn**	**03 22 04.4**	**-8.4**
	44nm,0.5s						
AFI				*e*Sn	**Sn**	**03 23 25.8**	**-15**
RAR	**Rarotonga**	**13.48**	**91**	Pn	**Pn**	**03 23 17.8**	**-11**
	18nm,0.3s,baz=243,slow=6.7,SNR=24						
RAR				LR	LR	03 27 36.4	
	comp=Z,509nm,19.4s,baz=268,slow=32						
DZM	**Mont Dzumac**	**17.95**	**265**	P	**Pn**	**03 24 29.8**	**+2.9**
	0.8nm,0.3s,baz=75,slow=17,SNR=13						
URZ	**Urewera**	**18.28**	**202**	P	**Pn**	**03 24 29.0**	**-1.8**
	0.5nm,0.3s,baz=208,slow=6.8,SNR=3.2						
PPT	**Papeete**	**23.56**	**85**	LR	LR	03 33 21.0	
	comp=Z,452nm,19.6s,MS3.9,baz=257,slow=33						
RPZ	**Rata Peaks**	**25.29**	**206**	P	**P**	**03 25 42.2**	**-1.0**
	13nm,0.9s,mb4.5,baz=67,slow=21,SNR=1.7						
HNR	**Honiara**	**27.57**	**292**	LR	LR	03 35 44.9	
	comp=Z,145nm,18.3s,MS3.6,baz=0.8,slow=34						
**ARMA

comp=Z,12nm,1.2s,mb4.9
SYO Syowa Base 86.48 192⇑ *e*PcP PcP 03 33 01.6 +0.4
SYO Syowa Base 86.48 192⇑ *e*pP pP 03 33 12.8 +2.9
SNAA Sanae 86.87 177 P **P 03 33 00.7 0.0**
comp=Z,1.6nm,1.0s,mb4.2,baz=169,slow=6.6,SNR=3.8
MOOW Moose Ponds 87.14 40 *e*P **P 03 33 02.3 -0.1**
comp=Z,0.5nm,0.4s,mb4.1
MCK McKinley 87.25 11 *e*P **P 03 33 01.5 -0.9**
comp=Z,12nm,1.1s,mb5.0
PDAR Pinedale Array 87.33 42 P **P 03 33 01.7 -1.6**
comp=Z,0.6nm,0.8s,mb3.9,baz=207,slow=1.7,SNR=6.0
KULM Kulim 87.39 277 *e*P **P 03 33 05.5 +1.2**
COLA College 88.49 11 *e*P **P 03 33 07.3 -0.9**
comp=Z,12nm,1.3s,mb5.0
IMA2 Indian Mountai 88.70 8 *e*P **P 03 33 08.6 -0.6**
BJI Beijing 89.10 314 P **P 03 33 12.9 +1.1**
BJI AMB AMB
comp=Z,10.0nm,2.1s,mb4.8
DAWY Dawson 89.51 15 *e*P **P 03 33 12.9 -0.1**
EGAK Eagle 89.72 14 *e*P **P 03 33 13.5 -0.5**
comp=Z,28nm,1.8s,mb5.3
GYA Guiyang 90.21 298 P **P 03 33 18.4 +1.1**
GYA AP pP 03 33 29.8 +1.4
GYA XP sP 03 33 33.9 +1.5
GYA PP PP 03 36 54.5 +2.9
GYA SKS 03 43 44.8
GYA S S 03 44 07.2 -1.8
GYA XS sS 03 44 25.0 -2.5
GYA AMB AMB
comp=Z,10.0nm,1.0s,mb5.1
GYA AMB AMB
comp=Z,90nm,5.2s
GYA LR LR
comp=N,410nm,19.0s,MS5.0
GYA LR LR
comp=E,330nm,19.9s,MS5.0
GYA LR LR
comp=Z,470nm,20.8s,MS4.9
BILL Bilibino 90.44 353 *e*P **P 03 33 17.0 -0.3**
comp=Z,6.3nm,0.9s,mb5.0
XAN Xi'an 91.56 306 P **P 03 33 24.6 +1.2**
XAN AMB AMB
comp=Z,10.0nm,1.3s,mb5.0
HHC Hu-ho-hao-te 92.59 313 *e*P **P 03 33 29.5 +1.5**
HHC AP pP 03 33 39.9 +0.8
HHC XP sP 03 33 44.0 +0.9
HHC PP PP 03 37 13.2 +3.1
HHC SKS 03 43 59.4
HHC S S 03 44 29.2 -0.7
HHC XS sS 03 44 46.9 -1.6
HHC SS SS 03 50 44.5 +1.4
HHC AMB AMB
comp=Z,11nm,0.3s,mb5.8
HHC AMB AMB
comp=Z,100nm,5.1s
HHC LR LR
comp=N,84nm,5.7s
HHC LR LR
comp=E,379nm,5.1s
HHC LR LR
comp=Z,133nm,4.9s
KMI Kunming 92.95 296 P **P 03 33 31.7 +1.7**
KMI AP pP 03 33 41.9 +0.8
KMI XP sP 03 33 45.5 +0.4
KMI PP PP 03 37 14.8 +1.5
KMI AMB AMB
comp=Z,16nm,1.1s,mb5.4
KMI LR LR
comp=Z,64nm,22.7s,MS4.0
CHTO Chiang Mai 93.89 289 *e*P **P 03 33 36.0 +1.5**
comp=Z,6.7nm,0.8s,mb5.1
CD2 Chengdu 94.30 301 *e*P **P 03 33 36.4 +0.3**
CD2 AP pP 03 33 47.0 -0.3
CD2 XP sP 03 33 51.0 -0.3
CD2 PP PP 03 37 26.1 +2.3
CD2 SKS 03 44 07.3
CD2 S S 03 44 42.2 -3.3
CD2 XS sS 03 44 59.8 -4.2
CD2 AMB AMB
comp=Z,10.0nm,0.8s,mb5.3
CD2 AMB AMB
comp=Z,20nm,5.8s
CD2 LR LR
comp=N,130nm,18.4s
CD2 LR LR
comp=Z,120nm,16.4s,MS4.4
INK Inuvik 94.37 14 *e*P **P 03 33 35.3 -0.1**
YKA Yellowknife Ar 95.99 24 P **P 03 33 42.2 -0.9**
YKA Yellowknife Ar 95.99 24 P **P 03 33 42.2 -0.8**
comp=Z,0.3nm,0.6s,mb3.9,baz=236,slow=4.4,SNR=4.8
LZH Lanzhou 96.19 306 *e*P **P 03 33 46.8 +2.2**
LZH AP pP 03 33 57.4 +1.6
LZH XP sP 03 34 01.9 +2.1
LZH AMB AMB
comp=Z,15nm,1.0s,mb5.4
LZH AMB AMB
comp=Z,77nm,4.5s
ULM Lac du Bonnet 99.15 40 LR LR 04 15 29.9
comp=Z,117nm,19.3s,MS4.4,baz=214,slow=33
GTA Gaotai 100.35 308 *e*P Pdif 03 34 04.6 +1.5
GTA AP 03 34 15.5
GTA XP 03 34 19.8
GTA AMB AMB
comp=Z,3.0nm,1.1s
WMQ Urumqi 110.25 310 *e*PKP PKiKP 03 38 46.5 -1.8
WMQ *e*PP PP 03 39 25.0 +1.7
WMQ PP PP
comp=Z,288nm,5.2s
WMQ LR LR
comp=Z,234nm,23.4s,MS4.7
ZALV Zalesovo Beam 113.49 321 PKPdf PKiKP 03 38 52.4 -1.7
ZALV Zalesovo Beam 113.49 321 PKiKP PKiKP 03 38 52.4 -1.7
comp=Z,0.7nm,0.5s,baz=182,slow=1.4,SNR=4.8
BRVK Borovoye 122.17 320 *e*PKPdf PKPdf 03 39 10.5 -0.3
ARCES ARCESS Array B 130.51 351 PKP PKPdf 03 39 25.4 -0.9
comp=Z,2.7nm,0.8s,baz=91,slow=3.6,SNR=3.6
AKASG Malin Array Be 145.55 333 PKPbc PKPbc 03 39 53.6 -0.9
comp=Z,3.8nm,0.6s,baz=40,slow=4.1,SNR=33
KIEV Kiev 145.56 333 *e*PKPbc PKPbc 03 39 53.1 -1.5
EKA Eskdalemuir Ar 145.58 9 PKPbc PKPbc 03 39 54.2 -0.2
comp=Z,1.2nm,0.8s,baz=0.0,slow=5.0,SNR=3.2
ELZG Elazig 146.85 308 *i* P PKPab 03 40 00.1 0.0
GZT Gaziantep 148.31 307 *i* P PKPdf 03 39 59.2 -0.2
BOYT Boyabat 148.43 316 *i* P PKPdf 03 40 01.0 +1.5
KIS Kishinev 148.46 329 *e*UNK PKPbc 03 40 05.0 +2.1
CTKT Corum 148.90 314 *i* P PKPdf 03 40 00.9 +0.7
ANDN Andirin 149.13 308 *i* P PKiKP 03 40 05.7 -0.5
KSP Ksiaz 149.59 347 *e*PKP PKPbc 03 40 05.7 +0.1
KSP *e* 03 40 10.0
KOLS Kolonicke sedl 149.64 338 *e*PKP PKPdf 03 40 00.1 -1.1
KOLS *e* 03 40 07.4
AVNT Avonos 149.70 311 *i* P PKPbc 03 40 06.6 +0.3
CLL Collm 149.73 351 *e*PKPdf PKPdf 03 40 02.0 +0.8
CLL *e*PKPbc PKPbc 03 40 06.3 +0.3
comp=Z,36nm,1.9s
CLL *e*PKPab PKPab 03 40 09.9 -1.3
CLL Collm 149.73 351⇓ *i*PKPbc PKPbc 03 40 06.2 +0.2
comp=Z,36nm,1.9s
CLL *i* (PKPab) PKPab 03 40 09.5 -1.7
comp=Z,12nm,1.3s
CLL *i* pPKPbc pPKPbc 03 40 17.0 -0.4
ELDT Eldivan 149.86 315 *i* P PKPbc 03 40 06.2 -0.5
CRVS Cervenica-Dubn 149.94 339 *e*PKP PKPbc 03 40 06.6 +0.1
BRG Berggiesshubel 150.01 350 *e*P PKPbc 03 40 05.3 -1.3
BRG Berggiesshubel 150.01 350 *e*P PKPbc 03 40 05.3 -1.3
comp=Z,26nm,1.9s
ASF Jabal al Asfar 150.36 298 PKPbc PKPbc 03 40 08.0 -0.1
comp=Z,2.7nm,0.8s,baz=339,slow=2.3,SNR=3.6
ASF PKPab PKPab 03 40 13.5 -1.0
comp=Z,2.7nm,0.8s,baz=153,slow=2.3,SNR=3.5
MOX Moxa 150.57 352 *e*PKP PKPbc 03 40 08.4 +0.4
comp=Z,42nm,2.0s
ANTO Ankara 150.59 315 *e*PKPbc PKPbc 03 40 08.5 +0.1
KECS Kecovo 150.62 340 *e*PKP PKPbc 03 40 07.9 -0.3
KECS *e* 03 40 13.1
MLR Muntele Rosu 150.92 330 PKPbc PKPbc 03 40 09.1 +0.1
comp=Z,7.5nm,1.1s,baz=106,slow=2.7,SNR=6.0
VYHS Vyhne 151.12 342 *e*PKP PKPbc 03 40 10.1 +0.7
KOLL Kolacno 151.16 342 *e*PKP PKPbc 03 40 09.8 +0.3
MMAI Mount Meron Ar 151.37 300 PKPbc PKPbc 03 40 10.5 0.0
comp=Z,5.1nm,0.9s,baz=51,slow=6.8,SNR=3.9
MMAI PKPab PKPab 03 40 18.5 -0.2
comp=Z,8.9nm,1.0s,baz=114,slow=5.6,SNR=4.2
GRA1 Grafenberg Arr 151.55 353 *e*PKP PKPab 03 40 18.4 -0.4
GRF Grafenberg Arr 151.55 353 *e*PKP PKPab 03 40 18.4 -0.4
MODS Modra-Piesok 151.66 344 *e*PKP PKPbc 03 40 10.5 -0.1
GERES GERESS Array B 152.00 349 PKPbc PKPbc 03 40 11.6 +0.2
comp=Z,1.9nm,0.9s,baz=48,slow=2.0,SNR=12
GERES PKPab PKPab 03 40 20.5 -0.2
comp=Z,1.4nm,0.8s,baz=38,slow=2.4,SNR=6.5

NIED ***01*** *03:23:00,4440N×14930E,h26km,Mw4.2 Best double couple: M0=2.23000×10^15 NP1:φ=46.00000°,δ=72.00000°,λ=140.00000°. NP2:φ=150.00000°,δ=52.00000°,λ=23.00000°.*
SKHL ***01*** *03:23:04.2±0.8,4418N×14952E,h42km±10km,mb4.7/1*
IDC ***01*** *03:23:05.2±0.8,4424N×14916E,h0km,mb4.1/16, mb1 4.2/18,mb1mx4.1/26,mbtmp4.0/18,ML3.3/2,MS3.2/1, Ms1 3.2/1,ms1mx2.7/31,Error ellipse: s-maj=21.4km s-min=15.9km az=130.0*
BJI ***01*** *03:23:07.0,4433N×14936E,h29km,mB5.0,mb4.5,Ms4.3, Msz4.1*
NEIC ***01*** *03:23:07.7±0.5,4433N×14902E,h10km,mb4.3/21,Error ellipse: s-maj=13.8km s-min=7.6km az=157.0*
JMA ***01*** *03:23:07.6±0.5,4443N×14935E,h30km,M4.2*
ISCJB ***01*** *03:23:10.0±0.8,4417N±005×149.10E±007,h46km±6km, mb4.2/45,Error ellipse: s-maj=9.7km s-min=5.9km az=136.0*
MOS ***01*** *03:23:10.5±1.1,4429N×14904E,h48km,mb4.5/22,Error ellipse: s-maj=13.1km s-min=8.3km az=108.8*
SZGRF ***01*** *03:23:11.7,4428N×14969E,h33km,mb4.0,Kuril Islands, Russia*
ISC 01 03:23:11.8±0.8,4421N±005×14909E±007,h43km±6km, h46km±3.1km:pP-P,n124,σ1§12/135,mb4.2/45,3C-2D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.34**	**320⇑**	*i*PN	**Pn**	**03 23 31.6**	**-2.5**
KUR				*e*S	**Sn**	**03 23 51.5**	**+0.8**
KUR				pmax	pmax		
	comp=N,150nm,0.6s						
KUR				pmax	pmax		
	comp=E,150nm,0.6s						
KUR				pmax	pmax		
	comp=Z,530nm,0.6s						
KUR				pmax	pmax		
	comp=Z,2μm,1.0s						
KUR				smax			
	comp=N,2μm,0.7s						
KUR				smax			
	comp=E,1μm,0.7s						
KUR				smax			
	comp=Z,2μm,1.0s						
KUR				smax			
	comp=N,5μm,2.0s						
KUR				smax			
	comp=E,2μm,2.0s						
KUR	**Kuril'sk**	**1.34**	**320⇑**	*i*P	**Pn**	**03 23 31.6**	**-2.5**
KUR				*i*P		03 23 31.6	
KUR				AMB	AMB	03 23 32.2	
	comp=E,150nm,0.6s						
KUR				AMB	AMB	03 23 32.2	
	comp=E,530nm,0.6s						
KUR				AMB	AMB	03 23 32.2	
	comp=E,2μm,1.0s						
KUR				*e*S	**Sn**	**03 23 51.5**	**+0.8**
KUR				A		03 23 55.6	
	comp=E,5μm,2.0s						
KUR				A		03 23 55.6	
	comp=E,2μm,2.0s						
KUR				A		03 23 56.5	
	comp=E,2μm,0.7s						
KUR				A		03 23 56.5	
	comp=E,1μm,0.7s						
YUK	**Yuzh-Kuril'sk**	**2.33**	**267**	*e*P	**Pn**	**03 23 46.6**	**-1.0**
YUK				*e*S	**Sn**	**03 24 19.0**	**+4.0**
YUK				A		03 24 38.5	
	comp=E,1μm,0.6s						
YUK				A		03 24 38.5	
	comp=E,600nm,0.6s						
NEM2	**Nemuro 2**	**2.57**	**252**	P	**Pn**	**03 23 49.3**	**-1.6**
NEM2				*e*S	**Sn**	**03 24 21.1**	**+0.3**
JRA	**Rausu**	**2.87**	**266**	P	**Pn**	**03 23 55.8**	**+0.8**
JNK	**Nakash**	**3.22**	**260**	P	**Pn**	**03 23 59.4**	**-0.4**
JAK	**Akkeshi**	**3.41**	**251**	P	**Pn**	**03 24 01.3**	**-1.2**
JAK				*e*S	**Sn**	**03 24 41.3**	**-0.4**
JTKR	**Abashiri--Toko**	**3.74**	**268**	P	**Pn**	**03 24 07.7**	**+0.7**
JAR	**Ashorobuto**	**3.96**	**258**	P	**Pn**	**03 24 10.1**	**+0.1**
JOB	**Onbets**	**4.04**	**253**	P	**Pn**	**03 24 10.7**	**-0.3**
JMP	**Maruseppu**	**4.13**	**269**	P	**Pn**	**03 24 13.5**	**+1.2**
JCH	**Churui**	**4.47**	**251**	P	**Pn**	**03 24 16.5**	**-0.5**
JCH				*e*S	**Sn**	**03 25 07.5**	**-0.1**
JKK2	**Kamakawa 2**	**4.58**	**268**	P	**Pn**	**03 24 20.3**	**+1.7**
ASAJ	**Asahikawa**	**4.67**	**271**	PN	**Pn**	**03 24 21.8**	**+2.0**
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ASAJ	**Asahikawa**	**4.67**	**271**	Pn	**Pn**	**03 24 21.8**	**+2.0**
	comp=Z,2.0nm,0.3s,baz=102,slow=16,SNR=14						
JFR	**Furan**	**4.83**	**260**	P	**Pn**	**03 24 23.4**	**+1.5**
ERM	**Erimo**	**4.87**	**245**	*e*Pn	**Pn**	**03 24 22.6**	**+0.2**
ERM	**Erimo**	**4.87**	**245**	*e*P	**Pn**	**03 24 22.8**	**+0.4**
JEM	**Erimo**	**4.87**	**245**	P	**Pn**	**03 24 22.7**	**+0.3**
JNBK	**Urakawa-nobuka**	**5.01**	**250**	P	**Pn**	**03 24 24.0**	**-0.5**
JNBK				*e*S	**Sn**	**03 25 20.7**	**-0.4**
JBT2	**Biratori 2**	**5.10**	**256**	P	**Pn**	**03 24 25.2**	**-0.4**
YSS	**Yuzh-Sakhalins**	**5.22**	**304**	*e*Pn	**Pn**	**03 24 17.9**	**-9.4**
	comp=Z,20nm,0.6s						
YSS	**Yuzh-Sakhalins**	**5.22**	**304**	*e*PN	**Pn**	**03 24 27.6**	**+0.3**
YSS	**Yuzh-Sakhalins**	**5.22**	**304**	*e*P	**Pn**	**03 24 31.0**	**+3.7**
YSS				*e*S	**Sn**	**03 25 32.0**	**+5.8**
YSS				A		03 25 36.0	
	comp=Z,30nm,0.9s						
YSS				AMS	AMS	03 27 55.0	
	comp=Z,400nm,13.0s						
JEW	**Eniwo**	**5.72**	**259**	P	**Pn**	**03 24 35.5**	**+1.3**
JKB	**Kayabe**	**6.34**	**251**	P	**Pn**	**03 24 42.1**	**-0.6**
JKB				*e*S	**Sn**	**03 25 50.9**	**-2.9**
JYM2	**Yakumo 2**	**6.71**	**255**	P	**Pn**	**03 24 47.5**	**-0.2**
JANG	**Nango**	**6.80**	**238**	*e*S	**Sn**	**03 25 59.0**	**-6.0**
JTM	**Tenmabayashi**	**6.84**	**243**	*e*S	**Sn**	**03 26 01.1**	**-5.0**
JTH	**Tanohata**	**6.86**	**234**	*e*S	**Sn**	**03 25 57.6**	**-9.0**
JOSM	**Okushiri--Mats**	**7.35**	**256**	P	**Pn**	**03 24 56.7**	**+0.2**
OFUJ	**Ofunato**	**7.56**	**230**	*e*S	**Sn**	**03 26 15.0**	**-8.7**
JIO	**Ouri**	**8.18**	**228**	*e*S	**Sn**	**03 26 29.2**	**-10**
NKL	**Nikolayevsk**	**10.52**	**331**	*e*P	**Pn**	**03 25 41.0**	**+1.1**
MJAR	**Matsushiro Arr**	**11.29**	**231**	Pn	**Pn**	**03 25 48.0**	**-2.4**
	comp=Z,0.1nm,0.3s,baz=30,slow=15,SNR=3.6						
MJAR				Sn	**Sn**	**03 27 55.1**	**0.0**
	comp=Z,0.3nm,0.3s,baz=29,slow=35,SNR=4.3						
KSRS	**Korea Array**	**17.36**	**254**	P	**Pn**	**03 27 10.4**	**-0.3**
	comp=Z,0.2nm,0.3s,baz=61,slow=38,SNR=3.4						
KSRS				LR	LR	03 33 43.1	
	comp=Z,70nm,19.7s,baz=45,slow=37						
SEY	**Seymchan**	**18.85**	**5**	*e*P	**Pn**	**03 27 24.5**	**-4.3**
YAK	**Yakutsk**	**21.16**	**334**	*e*P	**P**	**03 27 53.5**	**+0.5**
YAK				pmax	pmax		
	comp=N,4.0nm,1.1s						
YAK				pmax	pmax		
	comp=Z,14nm,1.1s,mb4.2						
BILL	**Bilibino**	**25.54**	**15**	*e*P	**P**	**03 28 35.6**	**-0.5**
BILL				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb3.8						
NJ2	**Nanjing**	**26.55**	**253**	*e*P	**P**	**03 28 46.5**	**+1.0**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.5						
TIXI	**Tiksi**	**29.21**	**347**	*e*P	**P**	**03 29 08.1**	**-0.8**
TIXI				pmax	pmax		
	comp=Z,1.0nm,1.3s,mb3.4						
SONM	**Songino Array**	**29.59**	**292**	P	**P**	**03 29 12.0**	**-0.5**
SONM				pmax	pmax		
	comp=Z,2.0nm,0.8s						
SONM	**Songino Array**	**29.59**	**292**	P	**P**	**03 29 12.0**	**-0.5**
	comp=Z,1.6nm,0.8s,mb3.8,baz=84,slow=9.4,SNR=7.0						
SVW2	**Sparrevohn**	**36.28**	**42**	*e*P	**P**	**03 30 10.9**	**+0.3**
GTA	**Gaotai**	**36.59**	**280**	*e*P	**P**	**03 30 15.2**	**+1.6**
GTA				AP	pP	03 30 27.0	+1.7
GTA				XP	sP	03 30 32.5	+2.1
GTA				AMB	AMB		
	comp=Z,4.0nm,0.7s,mb4.4						
IMA2	**Indian Mountai**	**37.51**	**34**	*e*P	**P**	**03 30 20.2**	**-0.8**
CD2	**Chengdu**	**37.84**	**265**	*e*P	**P**	**03 30 24.8**	**+0.5**
CD2				AMB	AMB		
	comp=Z,20nm,0.8s,mb4.9						
KDAK	**Kodiak Island**	**37.90**	**48**	P	**P**	**03 30 22.1**	**-2.4**
	comp=Z,2.6nm,0.9s,mb4.0,baz=260,slow=6.1,SNR=2.7						
COLA	**College**	**39.87**	**36**	*e*P	**P**	**03 30 40.0**	**-0.9**
	comp=Z,4.1nm,0.8s,mb4.2						
COLA	**College**	**39.87**	**36**	*e*P	**P**	**03 30 40.0**	**-0.9**
COLA				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.2						
ZALV	**Zalesovo Beam**	**41.84**	**307**	P	**P**	**03 30 54.8**	**-2.4**
ZALV				PcP	PcP	03 32 52.4	+0.1
ZALV	**Zalesovo Beam**	**41.84**	**307**	P	**P**	**03 30 54.8**	**-2.4**
	comp=Z,0.5nm,0.4s,mb3.5,baz=62,slow=8.2,SNR=4.1						
ZALV				PcP	PcP	03 32 52.4	+0.1
	comp=Z,1.6nm,0.7s,baz=88,slow=3.1,SNR=6.7						
ZAL	**Zalesovo**	**41.85**	**307**	P	**P**	**03 30 54.8**	**-2.5**
ZAL						03 32 52.4	
EGAK	**Eagle**	**42.73**	**36**	*e*P	**P**	**03 31 03.3**	**-1.1**
	comp=Z,1.4nm,0.6s,mb3.9						
INK	**Inuvik**	**45.30**	**31**	*e*P	**P**	**03 31 24.4**	**-0.4**
	comp=Z,52nm,0.6s,mb5.5						
INK	**Inuvik**	**45.30**	**31**	P	**P**	**03 31 24.6**	**-0.3**
	comp=Z,1.5nm,0.8s,mb3.9,baz=266,slow=8.9,SNR=9.8						
MKAR	**Makanchi Array**	**45.61**	**298**	P	**P**	**03 31 28.1**	**+0.5**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
MKAR	**Makanchi Array**	**45.61**	**298**	P	**P**	**03 31 28.1**	**+0.5**
	comp=Z,2.4nm,0.6s,mb4.3,baz=73,slow=8.6,SNR=16						
KURK	**Kurchatov**	**46.43**	**304**	*e*P	**P**	**03 31 32.8**	**-1.1**
	comp=Z,1.8nm,0.5s,mb4.3						
KURK	**Kurchatov**	**46.43**	**304**	*e*P	**P**	**03 31 32.8**	**-1.2**
KURK				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.3						
ULHL	**Ulahol**	**51.47**	**295**	P	**P**	**03 32 13.9**	**+1.2**
	SNR=11						
TKM2	**Tokmak 2**	**51.57**	**296**	*e*P	**P**	**03 32 14.4**	**+1.0**
	comp=Z,6.6nm,1.0s,mb4.5						
TKM2	**Tokmak 2**	**51.57**	**296**	*e*P	**P**	**03 32 14.4**	**+1.0**
TKM2				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.5						
USP	**Ospenovka**	**52.11**	**297**	P	**P**	**03 32 18.3**	**+0.9**
	SNR=8.9						
KZA	**Kyzart**	**52.20**	**295**	P	**P**	**03 32 19.8**	**+1.7**
	SNR=10						
UCH	**Uchtor**	**52.60**	**296**	*e*P	**P**	**03 32 23.1**	**+2.0**
	comp=Z,1.6nm,0.7s,mb4.1						
EKS2	**Erkin-Say**	**52.87**	**296**	*e*P	**P**	**03 32 23.7**	**+0.7**
	comp=Z,2.6nm,0.6s,mb4.3						
EKS2	**Erkin-Say**	**52.87**	**296**	P	**P**	**03 32 24.0**	**+0.9**
	SNR=8.0						
AML	**Almayashu**	**53.18**	**296**	*e*P	**P**	**03 32 26.6**	**+1.2**
	comp=Z,2.8nm,0.7s,mb4.3						
AML	**Almayashu**	**53.18**	**296**	P	**P**	**03 32 26.9**	**+1.5**
	SNR=5.6						
RES	**Resolute Bay**	**54.12**	**17**	*e*P	**P**	**03 32 30.9**	**-0.8**
	comp=Z,105nm,0.9s						
YKA	**Yellowknife Ar**	**54.63**	**34**	*i* P	**P**	**03 32 35.0**	**-0.7**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
YKA	**Yellowknife Ar**	**54.63**	**34**	P	**P**	**03 32 35.1**	**-0.6**
	comp=Z,0.6nm,0.7s,mb3.8,baz=298,slow=7.0,SNR=9.4						
ARU	**Arti**	**54.96**	**317**	*e*P	**P**	**03 32 37.1**	**-1.0**
	comp=Z,2.3nm,0.6s,mb4.4						
ARU	**Arti**	**54.96**	**317**	*c i*P	**P**	**03 32 36.2**	**-1.9**
ARU						03 33 37.1	
ARU				*e*		03 34 38.0	
ARU				*e*S	**S**	**03 40 14.5**	**-2.1**
ARU				*e*SS	SS	03 43 54.3	-5.6
ARU				pmax	pmax		
	comp=Z,4.0nm,1.2s,mb4.3						
AKTK	**Aktyubinsk**	**58.29**	**311**	P	**P**	**03 33 02.0**	**+0.2**
AKTO	**Aktyubinsk**	**58.29**	**311**	P	**P**	**03 33 02.0**	**+0.1**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb4.0						
AKTO	**Aktyubinsk**	**58.29**	**311**	P	**P**	**03 33 02.0**	**+0.2**
	comp=Z,1.0nm,0.6s,mb4.0,baz=55,slow=7.0,SNR=5.4						
JOF	**Joensuu**	**62.33**	**333**	*e*p	**P**	**03 33 27.3**	**-1.9**
	comp=Z,3.6nm,0.4s,mb4.8						
JOF	**Joensuu**	**62.33**	**333**	*e*P	**P**	**03 33 27.3**	**-1.9**
JOF				pmax	pmax		
	comp=Z,4.0nm,0.4s,mb4.9						
FFC	**Flin Flon**	**64.49**	**37**	*e*P	**P**	**03 33 42.8**	**-0.9**
	comp=Z,3.3nm,0.9s,mb4.4						
FFC	**Flin Flon**	**64.49**	**37**	*e*P	**P**	**03 33 42.8**	**-0.9**
FFC				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.3						
KAF	**Kangasniemi**	**64.52**	**334**	*e*p	**P**	**03 33 42.4**	**-1.3**
	comp=Z,3.1nm,0.6s,mb4.5,baz=40,slow=6.2						
KAF	**Kangasniemi**	**64.52**	**334**	*e*P	**P**	**03 33 42.4**	**-1.3**
KAF				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.5						
FIA1	**FINESS Array S**	**65.09**	**334**	*e*P	**P**	**03 33 46.8**	**-0.6**
FINES	**FINESS Array B**	**65.09**	**334**	P	**P**	**03 33 45.8**	**-1.7**
FINES				pmax	pmax		
	comp=Z,3.0nm,0.6s						
FINES	**FINESS Array B**	**65.09**	**334**	P	**P**	**03 33 45.8**	**-1.7**
	comp=Z,3.1nm,0.6s,mb4.5,baz=44,slow=9.0,SNR=17						
WRA	**Warramunga Arr**	**65.25**	**195**	P	**P**	**03 33 47.7**	**-1.2**
	comp=Z,0.3nm,0.6s,mb3.5,baz=12,slow=6.9,SNR=3.0						
HLID	**Hailey**	**65.29**	**53**	*e*P	**P**	**03 33 50.9**	**+1.8**
	comp=Z,1.0nm,0.8s,mb3.9						
BOZ	**Bozeman (W)**	**65.55**	**50**	*e*P	**P**	**03 33 51.3**	**+0.6**
	comp=Z,0.9nm,0.6s,mb4.0						
BOZ	**Bozeman (W)**	**65.55**	**50**	*e*P	**P**	**03 33 51.3**	**+0.6**
BOZ				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb4.0						
OBN	**Obninsk**	**65.76**	**324⇓**	*e*P	**P**	**03 33 51.6**	**-0.3**
OBN				pmax	pmax		
	comp=Z,12nm,1.0s,mb4.9						
MOOW	**Moose Ponds**	**67.24**	**51**	*e*P	**P**	**03 34 01.8**	**+0.3**
	comp=Z,1.8nm,1.1s,mb4.0						
TPAW	**Teton Pass**	**67.29**	**51**	*e*P	**P**	**03 34 02.4**	**+0.6**
	comp=Z,4.2nm,0.8s,mb4.5						
LOHW	**Long Hollow**	**67.41**	**51**	*e*P	**P**	**03 34 05.3**	**+2.7**
	comp=Z,1.4nm,0.8s,mb4.0						
DUG	**Dugway**	**68.34**	**55**	*e*P	**P**	**03 34 12.0**	**+3.5**
	comp=Z,1.4nm,0.7s,mb4.1						
ASAR	**Alice Springs**	**68.96**	**195**	P	**P**	**03 34 13.5**	**+1.1**
	comp=Z,0.3nm,0.9s,baz=9.2,slow=7.5,SNR=2.9						
NB2	**NORSAR Subarra**	**69.67**	**340**	P	**P**	**03 34 15.9**	**-0.5**
	comp=Z,4.2nm,0.5s,mb4.6,baz=30,slow=6.5						
NOA	**NORSAR Array B**	**69.67**	**340**	P	**P**	**03 34 16.2**	**-0.2**
NOA				pmax	pmax		
	comp=Z,4.0nm,0.5s						
NOA	**NORSAR Array B**	**69.67**	**340**	P	**P**	**03 34 16.1**	**-0.3**
	comp=Z,3.6nm,0.5s,mb4.6,baz=30,slow=6.3,SNR=24						
SRU	**San Rafael**	**70.38**	**54**	*e*P	**P**	**03 34 22.1**	**+1.0**
	comp=Z,2.7nm,1.0s,mb4.1						
SRU	**San Rafael**	**70.38**	**54**	*e*P	**P**	**03 34 22.2**	**+1.0**
SRU				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.2						
KIV	**Kislovodsk**	**70.49**	**313**	*e*P	**P**	**03 34 22.0**	**+0.3**
KIV				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.5						
KIV				MLR	MLR		
	comp=Z,87nm,19.0s						
AKASG	**Malin Array Be**	**72.03**	**325**	P	**P**	**03 34 30.4**	**-0.5**
AKASG	**Malin Array Be**	**72.03**	**325**	*i* P	**P**	**03 34 30.3**	**-0.6**
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.5s						
AKASG	**Malin Array Be**	**72.03**	**325**	P	**P**	**03 34 30.4**	**-0.5**
	comp=Z,1.7nm,0.5s,mb4.3,baz=37,slow=5.9,SNR=15						
AKBB	**Malin Array Si**	**72.03**	**325**	*e*P	**P**	**03 34 29.8**	**-1.1**
SMCO	**Snowmass**	**72.39**	**52**	*e*P	**P**	**03 34 35.7**	**+2.4**
	comp=Z,16nm,0.8s,mb5.0						
ANMO	**Albuquerque**	**75.59**	**55**	*e*P	**P**	**03 34 53.5**	**+1.4**
	comp=Z,0.7nm,0.6s,mb3.8			

comp=Z,0.9nm,0.5s,mb4.0,baz=33,slow=6.2,SNR=13
GRA1 Grafenberg Arr 79.51 334 *eP* **P 03 35 14.3 +0.6**
comp=Z,2.0nm,1.0s,mb4.0
GRF Grafenberg Arr 79.51 334 *eP* **P 03 35 14.3 +0.6**
GRF pmax pmax
comp=Z,2.0nm,1.0s,mb4.0
GRF Grafenberg Arr 79.51 334 *eP* **P 03 35 14.3 +0.6**
GRF pmax pmax
comp=Z,2.0nm,1.0s,mb4.0
GRF Grafenberg Arr 79.51 334 *eP* **P 03 35 14.3 +0.6**
comp=Z,2.0nm,1.0s,mb4.0
MMAI Mount Meron Ar 82.29 309 P **P 03 35 29.2 +0.3**
comp=Z,2.0nm,0.6s,mb4.2,baz=53,slow=7.7,SNR=3.1

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*IDC **01** 03:29:51.5±0.8, 4464N×15299E, h0km, mb3.6/11, mb1 3.8/12, mb1mx3.7/23, mbtmp3.6/12, ML3.5/1, MS3.9/1, Ms1 3.9/1, ms1mx2.9/34, Error ellipse: s-maj=25.6km s-min=18.9km az=170.0*
*NEIC **01** 03:29:53.1±0.6, 4461N×15290E, h10km, mb4.1/2, Error ellipse: s-maj=20.1km s-min=14.0km az=177.0*
*ISCJB **01** 03:29:54.4±0.6, 445N±01×15273E±007, h33km, mb3.7/13, Error ellipse: s-maj=19.4km s-min=4.7km az=162.2*
*MOS **01** 03:29:54.8±1.1, 4460N×15301E, h36km, mb4.0/7, Error ellipse: s-maj=22.1km s-min=19.3km az=42.7*
*JMA **01** 03:29:55.3±0.5, 4510N×15271E, h30km, M4.5*
ISC 01 03:29:56.9±0.6, 445N±01×15274E±007, h35km, n48, σ1§26/55, mb3.7/13, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.54**	**283**	*e*PN	**Pn**	**03 30 53.7**	**+4.4**
NEM2	**Nemuro 2**	**5.18**	**260**	P	**Pn**	**03 31 11.7**	**-0.2**
NEM2				*e*S	**Sn**	**03 32 08.9**	**-1.5**
JRA	**Rausu**	**5.50**	**267**	P	**Pn**	**03 31 17.6**	**+1.3**
JRA				*e*S	**Sn**	**03 32 20.0**	**+1.7**
JNK	**Nakash**	**5.85**	**264**	P	**Pn**	**03 31 21.5**	**+0.4**
JNK				*e*S	**Sn**	**03 32 26.4**	**-0.5**
JAK	**Akkeshi**	**6.02**	**258**	P	**Pn**	**03 31 23.4**	**0.0**
JAK				*e*S	**Sn**	**03 32 28.9**	**-2.1**
JTKR	**Abashiri--Toko**	**6.37**	**268**	P	**Pn**	**03 31 29.6**	**+1.4**
JAR	**Ashorobuto**	**6.59**	**262**	P	**Pn**	**03 31 32.5**	**+1.2**
JAR				*e*S	**Sn**	**03 32 45.6**	**+0.5**
JOB	**Onbets**	**6.65**	**259**	P	**Pn**	**03 31 32.5**	**+0.4**
JOB				*e*S	**Sn**	**03 32 43.9**	**-2.7**
JMP	**Maruseppu**	**6.75**	**269**	P	**Pn**	**03 31 35.3**	**+1.8**
JCH	**Churui**	**7.07**	**258**	P	**Pn**	**03 31 38.7**	**+0.9**
JCH				*e*S	**Sn**	**03 32 54.1**	**-2.8**
ASAJ	**Asahikawa**	**7.29**	**270**	P	**Pn**	**03 31 43.4**	**+2.6**
ASAJ	**Asahikawa**	**7.29**	**270**	PN	**Pn**	**03 31 43.1**	**+2.3**
ASAJ				pmax	pmax		
comp=Z,1.0nm,0.3s
ASAJ Asahikawa 7.29 270 Pn **Pn 03 31 43.1 +2.3**
comp=Z,0.7nm,0.3s,baz=79,slow=14,SNR=7.2
JFR Furan 7.46 263 P **Pn 03 31 45.3 +2.1**
JNBK Urakawa-nobuka 7.61 256 P **Pn 03 31 45.6 +0.4**
JNBK *e*S **Sn 03 33 06.8 -3.3**
JBT2 Biratori 2 7.72 261 P **Pn 03 31 46.8 0.0**
JNB Noboribetsu 8.75 261 P **Pn 03 32 02.0 +1.2**
JNB *e*S **Sn 03 33 36.9 -1.2**
JKB Kayabe 8.94 257 P **Pn 03 32 03.8 +0.3**
JKB *e*S **Sn 03 33 39.0 -4.0**
JANG Nango 9.27 247 P **Pn 03 32 06.9 -1.1**
JANG *e*S **Sn 03 33 44.5 -6.5**
JTM Tenmabayashi 9.37 251 P **Pn 03 32 08.8 -0.6**
JTM *e*S **Sn 03 33 47.8 -5.6**
OFUJ Ofunato 9.88 241 *e*S **Sn 03 34 00.1 -6.0**
JIO Ouri 10.47 239 *e*S **Sn 03 34 13.4 -6.9**
JHJ Hachijo jima 2 15.19 226 LR LR 03 40 26.4
comp=Z,427nm,18.3s,baz=185,slow=41
SONM Songino Array 31.89 293 P **P 03 36 19.9 +1.2**
SONM pmax pmax
comp=Z,1.0nm,0.5s
SONM Songino Array 31.89 293 P **P 03 36 19.9 +1.2**
comp=Z,0.5nm,0.5s,mb3.6,baz=92,slow=7.4,SNR=3.2
INK Inuvik 43.69 31 *e*P **P 03 37 56.8 -1.2**
INK Inuvik 43.69 31 P **P 03 37 57.0 -0.9**
INK pmax pmax
comp=Z,1.0nm,0.9s
INK Inuvik 43.69 31 P **P 03 37 57.0 -1.0**
comp=Z,0.8nm,0.9s,mb3.5,baz=278,slow=5.9,SNR=6.2
MKAR Makanchi Array 47.77 299 P **P 03 38 31.6 +1.3**
comp=Z,0.3nm,0.4s,mb3.7,baz=72,slow=6.2,SNR=2.4
YKA Yellowknife Ar 52.89 36 P **P 03 39 08.0 -0.9**
comp=Z,0.2nm,0.5s,mb3.3,baz=297,slow=7.4,SNR=2.9
MOD Modoc 60.45 59 *e*P **P 03 40 04.4 +1.5**
comp=Z,1.7nm,0.6s,mb4.2
BOZ Bozeman (W) 63.34 51 *e*P **P 03 40 21.6 -0.6**
comp=Z,0.5nm,0.6s,mb3.8
BOZ Bozeman (W) 63.34 51 *e*P **P 03 40 21.6 -0.6**
BOZ pmax pmax
comp=Z,1.0nm,0.6s,mb4.1
NVAR Mina Array Bea 63.73 61 P **P 03 40 23.8 -1.1**
comp=Z,0.4nm,0.6s,mb3.6,baz=306,slow=7.7,SNR=2.4
FINES FINESS Array B 65.95 335 P **P 03 40 38.1 -0.9**
FINES pmax pmax
comp=Z,2.0nm,0.9s
FINES FINESS Array B 65.95 335 P **P 03 40 38.1 -0.9**
comp=Z,1.9nm,0.9s,mb4.1,baz=46,slow=8.5,SNR=4.8
PDAR Pinedale Array 66.29 53 P **P 03 40 39.9 -1.6**
comp=Z,0.2nm,0.6s,mb3.3,baz=303,slow=5.0,SNR=2.2
WRA Warramunga Arr 66.31 199 P **P 03 40 42.7 +1.0**
WRA pmax pmax
comp=Z,1.0nm,1.0s
WRA Warramunga Arr 66.31 199 P **P 03 40 42.7 +1.0**
comp=Z,0.7nm,1.0s,mb3.7,baz=15,slow=6.8,SNR=2.5
NOA NORSAR Array B 70.26 341 P **P 03 41 05.0 -1.0**
NOA pmax pmax
comp=Z,1.0nm,0.7s
NOA NORSAR Array B 70.26 341 P **P 03 41 05.0 -1.0**
comp=Z,0.6nm,0.7s,mb3.6,baz=30,slow=6.1,SNR=3.7
HFS Hagfors 70.46 340 P **P 03 41 06.5 -0.8**
HFS pmax pmax
comp=Z,1.0nm,0.5s
HFS Hagfors 70.46 340 P **P 03 41 06.5 -0.7**
comp=Z,1.0nm,0.5s,mb4.0,baz=20,slow=4.6,SNR=6.2
AKASG Malin Array Be 73.26 326 P **P 03 41 23.8 -0.4**
comp=Z,0.3nm,0.3s,mb3.6,baz=36,slow=6.2,SNR=2.2
CFAA Coronel Fontan 145.61 82 PKPbc PKPbc 03 49 30.3 -1.3
CFAA Coronel Fontan 145.61 82 PKPbc PKPbc 03 49 30.3 -1.3
comp=Z,0.2nm,0.6s,baz=334,slow=1.8,SNR=3.7
PLCA Paso Flores 148.20 99 PKP2 PKPab 03 49 38.6 -3.1
PLCA pmax pmax
comp=Z,1.0nm,0.4s
PLCA Paso Flores 148.20 99 PKPbc PKPbc 03 49 38.6 0.0
comp=Z,0.5nm,0.4s,baz=231,slow=5.6,SNR=3.5

IDC 01 04:02:59.4±1.3, 1359N×14488E, h88km±10km, mb3.2/4, mb1 3.4/4, mb1mx3.2/19, mbtmp3.2/4, Error ellipse: s-maj=50.2km s-min=25.3km az=97.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**0.01**	**294**	P	Pn	04 03 11.9	+0.2
380nm,0.3s,baz=143,slow=1.2,SNR=466
GUMO S Sn 04 03 21.1 +0.3
2μm,0.3s,baz=163,slow=20,SNR=246
WRA Warramunga Arr 34.89 198 P P 04 09 42.7 +0.1
0.4nm,0.3s,baz=22,slow=9.3,SNR=3.5
ASAR Alice Springs 38.55 196 P P 04 10 13.4 -0.2
0.2nm,0.4s,baz=20,slow=12,SNR=4.8
MKAR Makanchi Array 61.50 316 P P 04 13 07.0 0.0
0.3nm,0.3s,baz=87,slow=7.4,SNR=3.0
YKA Yellowknife Ar 82.86 27 P P 04 15 13.7 -0.2
0.2nm,0.4s,baz=286,slow=5.0,SNR=5.8

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*NEIC **01** 04:11:47.1±2.6, 3302S×17866W, h22km±17km, mb4.9/10, Error ellipse: s-maj=15.8km s-min=9.3km az=97.0*
*ISCJB **01** 04:11:48.4±0.5, 3288S±003×17900W±009, h33km, mb4.7/15, MS3.8/10, Error ellipse: s-maj=11.8km s-min=3.8km az=16.2*
*IDC **01** 04:11:54.6±2.1, 3264S×17885W, h72km±18km, mb4.2/9, mb1 4.4/11, mb1mx4.3/16, mbtmp4.3/11, MS3.7/12, Ms1 3.7/12, ms1mx3.5/23, Error ellipse: s-maj=16.1km s-min=14.0km az=83.0*
ISC 01 04:11:50.7±0.5, 3292S±004×17902W±010, h35km, (h33km±.5km:pP-P), n108, σ1§53/86, mb4.7/15, MS3.8/10, 1D, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**3.78**	**15**	P	**Pn**	**04 12 44.4**	**-2.0**
120nm,0.3s,baz=73,slow=19,SNR=4.2
RAO S **Sn 04 13 26.4 -3.2**
221nm,0.3s,baz=90,slow=20,SNR=4.9
RAO LR LR 04 13 47.4
comp=Z,157nm,18.8s,baz=163,slow=33
MXZ Matakaoa Point 5.12 205 P **Pn 04 13 06.1 +1.3**
MXZ S **Sn 04 14 07.2 +4.5**
MXZ Matakaoa Point 5.12 205 PN **Pn 04 13 05.8 +0.9**
MXZ SN **Sn 04 14 06.4 +3.7**
PUZ Puketiti 5.60 203 P **Pn 04 13 11.8 +0.4**
PUZ S **Sn 04 14 17.1 +2.6**
PUZ Puketiti 5.60 203 PN **Pn 04 13 11.3 -0.1**
PUZ SN **Sn 04 14 17.1 +2.6**
MWZ Matawai 6.09 207 P **Pn 04 13 18.6 +0.5**
MWZ S **Sn 04 14 29.1 +2.6**
MWZ Matawai 6.09 207 PN **Pn 04 13 18.6 +0.4**
MWZ SN **Sn 04 14 29.1 +2.6**
URZ Urewera 6.19 210 P **Pn 04 13 19.5 0.0**
URZ Urewera 6.19 210 P **Pn 04 13 19.7 +0.2**
18nm,0.3s,baz=278,slow=1.0,SNR=69
URZ S **Sn 04 14 33.0 +4.0**
31nm,0.3s,baz=115,slow=19,SNR=9.2
URZ LR LR 04 15 43.5
comp=Z,326nm,19.8s,baz=31,slow=35
URZ Urewera 6.19 210 PN **Pn 04 13 19.5 0.0**
URZ SN **Sn 04 14 32.1 +3.1**
WCZ Waipu Caves 6.26 239 P **Pn 04 13 26.7 +6.3**
WCZ Waipu Caves 6.26 239 PN **Pn 04 13 26.7 +6.2**
OUZ Omahuta 6.54 247 PN **Pn 04 13 31.0 +6.6**
KNZ Kokohu 6.65 203 *e*P **Pn 04 13 24.8 -1.0**
KNZ Kokohu 6.65 203 PN **Pn 04 13 24.8 -1.0**
BKZ Black Stump Fm 7.21 209 *e*P **Pn 04 13 33.2 -0.4**
BKZ Black Stump Fm 7.21 209 PN **Pn 04 13 34.2 +0.6**
FWVZ Far West T-bar 7.70 213 *e*P **Pn 04 13 42.3 +2.1**
FWVZ Far West T-bar 7.70 213 PN **Pn 04 13 41.6 +1.4**
MOVZ Moawhango 7.73 212 P **Pn 04 13 39.8 -0.8**
MOVZ Moawhango 7.73 212 PN **Pn 04 13 42.3 +1.7**
WNVZ Wahianoa 7.73 213 P **Pn 04 13 41.8 +1.1**
WNVZ Wahianoa 7.73 213 PN **Pn 04 13 41.8 +1.1**
PXZ Pawanui 7.83 204 PN **Pn 04 13 40.5 -1.5**
TSZ Takapari Road 8.19 208 *e*P **Pn 04 13 45.5 -1.4**
TSZ Takapari Road 8.19 208 PN **Pn 04 13 46.0 -1.0**
BFZ Birch Farm 8.62 205 *e*P **Pn 04 13 50.3 -2.6**
BFZ Birch Farm 8.62 205 PN **Pn 04 13 50.8 -2.1**
MRZ Mangatainoka R 8.85 208 P **Pn 04 13 54.7 -1.4**
MRZ Mangatainoka R 8.85 208 PN **Pn 04 13 54.7 -1.3**
KIW Kapiti Island 9.29 210 P **Pn 04 13 59.7 -2.4**
KIW Kapiti Island 9.29 210 PN **Pn 04 13 59.7 -2.4**
MRW Makara Radio 9.69 209 P **Pn 04 14 06.1 -1.4**
MRW Makara Radio 9.69 209 PN **Pn 04 14 06.1 -1.4**
SNZO South Karori 9.75 209 *e*Pn **Pn 04 14 05.3 -3.0**
SNZO *e*Sn **Sn 04 15 52.4 -4.2**
TCW Tory Channel 9.85 211 P **Pn 04 14 06.6 -3.2**
TCW Tory Channel 9.85 211 PN **Pn 04 14 06.6 -3.2**
TUWZ Tuamarina 10.18 211 PN **Pn 04 14 10.0 -4.1**
NNZ Nelson 10.26 214 *e*P **Pn 04 14 12.3 -3.1**
NNZ Nelson 10.26 214 PN **Pn 04 14 12.9 -2.5**
THZ Tophouse 10.91 214 *e*P **Pn 04 14 21.5 -2.7**
THZ Tophouse 10.91 214 PN **Pn 04 14 21.5 -2.7**
KHZ Kahutara 11.16 210 PN **Pn 04 14 24.6 -3.0**
LTZ Lake Taylor 12.00 212 PN **Pn 04 14 36.7 -2.4**
MQZ McQueen's Vall 12.59 209 PN **Pn 04 14 41.8 -5.4**
RPZ Rata Peaks 13.29 213 P **Pn 04 14 56.4 -0.2**
2.9nm,0.3s,baz=0.0,slow=12,SNR=4.0
RPZ S **Sn 04 17 13.2 -10**
2.4nm,0.3s,baz=110,slow=14,SNR=6.1
DZM Mont Dzumac 16.81 306 P **Pn 04 15 45.3 +2.0**
0.4nm,0.3s,baz=119,slow=19,SNR=3.6
DZM S S 04 18 39.2 -20
0.7nm,0.3s,baz=108,slow=19,SNR=2.5
TBI Tubuai 27.68 77 *e*LR LR 04 24 23.0
412nm,28.0s
HNR Honiara 30.39 316 LR LR 04 27 10.3
comp=Z,73nm,19.2s,MS3.3,baz=182,slow=30
PPT Papeete 30.57 67 *e*LR LR 04 25 39.2
335nm,27.0s,baz=242
PPT Papeete 30.57 67 LR LR 04 26 36.9
comp=Z,240nm,21.1s,MS3.8,baz=349,slow=29
STKA Stephens Creek 33.14 261 *e*P **P 04 18 25.9 +2.3**
2.1nm,0.9s,mb4.1
STKA Stephens Creek 33.14 261 P **P 04 18 26.0 +2.4**
2.6nm,0.7s,mb4.3,baz=108,slow=13,SNR=6.0
STKA LR LR 04 31 15.2
comp=Z,236nm,19.1s,MS3.9,baz=142,slow=35
CTA Charters Tower 33.45 284 *e*P **P 04 18 29.2 +2.8**
14nm,0.4s,mb5.2
CTA Charters Tower 33.45 284 P **P 04 18 29.1 +2.6**
17nm,0.5s,mb5.3,baz=117,slow=9.8,SNR=25
CTAO Charters Tower 33.45 284 *e*P **P 04 18 29.0 +2.6**
6.6nm,0.4s,mb4.9
RKT Rikitea 39.85 87 *e*LR LR 04 30 03.8
375nm,27.2s
ASAR Alice Springs 42.18 270 P **P 04 19 41.0 +0.9**
23nm,0.8s,mb4.9,baz=112,slow=7.5,SNR=168
TAOE Nuku Hiva Isla 43.13 65 *e*LR LR 04 31 23.7
618nm,30.5s
WB2 Warramunga Arr 43.39 275 *e*P **P 04 19 50.5 +0.6**
WRA Warramunga Arr 43.40 275 P **P 04 19 50.8 +0.8**
9.7nm,0.3s,mb5.1,baz=113,slow=8.2,SNR=131
WRA S **S 04 26 14.3 -1.5**
0.8nm,0.9s,baz=117,slow=14,SNR=2.8
WRA LR LR 04 36 34.1
comp=Z,114nm,21.9s,MS3.7,baz=165,slow=34
FORT Forrest 44.62 258 *e*P **P 04 19 59.8 +0.1**
33nm,0.7s,mb5.3
VNDA Vanda 45.51 186 P **P 04 20 08.2 +2.1**
1.2nm,0.7s,mb3.9,baz=56,slow=6.7,SNR=8.0
KAKA Kakadu 48.58 283 *e*P **P 04 20 30.0 -0.9**
12nm,0.6s,mb5.1
FITZ Fitzroy Crossi 51.54 272 *e*P **P 04 20 53.2 -0.1**
14nm,0.9s,mb4.9
CASY Casey 52.51 209 *e*P **P 04 21 00.3 +0.4**
NWAO Narrogin (SRO) 52.73 251 LR LR 04 43 35.7
comp=Z,131nm,19.5s,MS4.0,baz=14,slow=36
MBWA Marble Bar 55.13 266 *e*P **P 04 21 18.7 -1.0**
5.4nm,0.6s,mb4.8
BATI Kupang 57.16 280 LR LR 04 44 21.9
comp=Z,99nm,19.4s,MS3.9,baz=116,slow=34
QSPA South Pole Qui 57.19 180 P **P 04 21 36.6 +3.0**
QSPA South Pole Qui 57.19 180 P **P 04 21 36.6 +3.0**
7.1nm,0.6s,mb4.8,baz=54,slow=1.2,SNR=55
MAW Mawson 69.65 201 *e*P **P 04 22 55.9 -0.2**
2.6nm,0.6s,mb4.3
MAW Mawson 69.65 201 P **P 04 22 56.3 +0.3**
2.9nm,0.5s,mb4.5,baz=124,slow=3.6,SNR=4.2
SYO Syowa Base 74.47 193 *e*P **P 04 23 23.6 -1.3**
KSM Kuching 74.67 282 *e*P **P 04 23 25.8 -1.1**
SNAA Sanae 75.66 179 *e* **P 04 23 33.0 +1.3**
SNAA *e* 04 23 38.1
SNAA *e* pP 04 23 42.6 -0.1
SNAA *e* 04 23 47.5
SNAA *e* 04 23 51.3
SNAA *e* 04 23 57.9
SNAA *e* 04 24 02.7
SNAA *e* 04 24 06.1
SNAA *e* 04 24 10.9
VNA3 Neumayer Olymp 75.85 176 *e* **P 04 23 33.9 +1.1**
VNA3 *e* 04 23 39.4
VNA3 *e* pP 04 23 43.9 +0.2
VNA3 *e* 04 23 49.0
VNA3 *e* 04 23 53.3
VNA3 *e* 04 24 00.1
VNA3 *e* 04 24 03.9
VNA3 *e* 04 24 07.3
VNA3 *e* 04 24 12.7
VNA2 Neumayer--Watz 76.27 177 *e* **P 04 23 36.6 +1.4**
baz=178,slow=4.7
VNA2 *e* 04 24 42.1
VNA2 *e* pP 04 24 46.6 +0.4
VNA2 *e* 04 23 51.3
VNA2 *e* 04 23 56.3
VNA2 *e* 04 24 01.9
VNA2 *e* 04 24 06.2
VNA2 *e* 04 24 11.4
VNA2 *e* 04 24 16.1
MJAR Matsushiro Arr 79.83 326 LR LR 04 53 47.2
comp=Z,70nm,19.5s,MS4.0,baz=115,slow=32
PLCA Paso Flores 81.42 133 P **P 04 24 04.8 +0.7**
1.5nm,1.1s,mb3.8,baz=240,slow=18,SNR=2.9
KSRS Korea Array 85.72 320 P **P 04 24 25.6 -0.2**
0.9nm,0.6s,mb4.2,baz=128,slow=5.8,SNR=3.6
KSRS LR LR 04 59 07.8
comp=Z,31nm,20.2s,MS3.7,baz=109,slow=33

LPIG La Paz 86.59 59 LR LR 04 54 03.7
comp=Z,54nm,21.6s,MS3.9,baz=74,slow=29
YSS Yuzh-Sakhalins 86.64 335 *e*P **P 04 24 31.0 +0.8**
8.1nm,0.6s,mb5.1
PDAR Pinedale Array 98.55 44 LR LR 05 00 47.5
comp=Z,57nm,21.9s,MS4.0,baz=243,slow=30
MCK McKinley 99.24 13 *e*P **P 04 25 28.8 +0.8**
1.6nm,0.9s,mb4.5
YKA Yellowknife Ar 108.08 26 PKKPbc PKKPbc 04 41 25.3 -2.3
0.4nm,0.7s,baz=41,slow=3.0,SNR=7.5
MKAR Makanchi Array 118.71 309 PKP PKPdf 04 30 33.0 -1.7
1.2nm,0.7s,baz=111,slow=2.7,SNR=4.1
ZALV Zalesovo Beam 119.32 318 PKP PKPdf 04 30 32.7 -2.9
0.8nm,0.6s,baz=173,slow=2.6,SNR=4.4
TKM2 Tokmak 2 122.07 303 *e*PKPdf PKPdf 04 30 39.9 -1.4
KURK Kurchatov 122.14 313 *e*PKPdf PKPdf 04 30 38.3 -2.8
EKS2 Erkin-Say 123.28 303 *e*PKPdf PKPdf 04 30 42.9 -0.6
TSUM Tsumeb 125.79 199 *e*PKPdf PKPdf 04 30 48.7 -0.5
BRVK Borovoye 127.64 315 *e*PKPdf PKPdf 04 30 50.5 -1.0
AKTK Aktyubinsk 135.12 311 PKP PKPdf 04 31 04.3 -1.4
AKTO Aktyubinsk 135.12 311 PKP PKPdf 04 31 04.3 -1.4
1.1nm,0.6s,baz=180,slow=5.1,SNR=3.3
ARCES ARCESS Array B 140.85 347 PKP PKPdf 04 31 09.8 -6.0
ARCES PKP PKPdf 04 31 14.8 -0.9
ARCES ARCESS Array B 140.85 347 PKhKP 04 31 09.8
2.1nm,0.8s,baz=24,slow=2.2,SNR=18
ARCES PKP PKPdf 04 31 14.8 -0.9
4.2nm,0.8s,baz=76,slow=1.1,SNR=12
JOF Joensuu 144.41 337 *e*pkp PKPdf 04 31 18.9 -3.4
KAF Kangasniemi 146.60 339 *e*pkp PKPdf 04 31 25.5 -0.5
FINES FINESS Array B 147.18 338 PKPbc PKPbc 04 31 27.8 -1.5
7.6nm,0.5s,baz=46,slow=4.5,SNR=101
NB2 NORSAR Subarra151.09 350 PKP PKPdf 04 31 37.7 +4.4
comp=Z,10.0nm,0.7s,baz=17,slow=2.6
NOA NORSAR Array B 151.09 350 PKPbc PKPbc 04 31 38.1 -1.1
comp=Z,7.6nm,0.6s,baz=13,slow=4.1,SNR=52
HFS Hagfors 151.51 347 PKPbc PKPbc 04 31 38.7 -1.5
comp=Z,12nm,0.6s,baz=122,slow=1.9,SNR=41
HFS PKPab PKPab 04 31 48.2 -0.5
comp=Z,3.0nm,0.6s,baz=80,slow=1.7,SNR=5.8
AKASG Malin Array Be 152.70 319 PKPbc PKPbc 04 31 41.8 -1.4
comp=Z,0.4nm,0.2s,baz=65,slow=2.2,SNR=8.0
DBIC Dimbokro 153.32 167 PKPbc PKPbc 04 31 45.4 -0.3
DBIC PKPab PKPab 04 31 57.8 +0.2
DBIC Dimbokro 153.32 167 PKPbc PKPbc 04 31 45.4 -0.3
comp=Z,1.7nm,0.7s,baz=190,slow=1.3,SNR=3.8
DBIC PKPab PKPab 04 31 57.8 +0.2
comp=Z,2.2nm,0.5s,baz=182,slow=4.0,SNR=4.9
EKA Eskdalemuir Ar 157.41 6 PKPab PKPab 04 32 11.5 -2.4
comp=Z,1.7nm,0.8s,baz=352,slow=4.2,SNR=4.6
TORD Torodi Ar. Bea 160.31 182 PKP PKPdf 04 31 46.8 -0.2
comp=Z,0.6nm,0.9s,baz=36,slow=2.7,SNR=2.8
TORD PKPab PKPab 04 32 28.2 +0.7
comp=Z,2.9nm,0.7s,baz=178,slow=3.7,SNR=12

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*ISCJB **01** 04:21:12.5±1.2, 6778N±004×339E±02, h0km, Error ellipse: s-maj=9.4km s-min=5.3km az=5.4*
*HEL **01** 04:21:16.5±0.3, 6772N×3379E, h0km, ML2.2, ML2.3(BER), ML2.5(NAO), Explosion*
*NAO **01** 04:21:17.1±1.1, 6766N×3374E, ML2.5*
*CSEM **01** 04:21:20.0±0.4, 6758N×3333E, h2km, ML2.3, Error ellipse: s-maj=9.6km s-min=4.4km az=66.0, Mining explosion.*
*IDC **01** 04:21:20.0±2.1, 6774N×3338E, h0km, mb1 3.2/4, mb1mx3.0/21, mbtmp3.2/4, ML2.8/4, Error ellipse: s-maj=20.6km s-min=9.1km az=80.0*
ISC 01 04:21:16.3±1.0, 6774N±003×336E±02, h0km, n28, σ1§36/50, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APA0	**Apatity Array**	**0.27**	**241**	*i* P	**Pg**	**04 21 22.4**	**+1.1**
APA0 *i* S **Sg 04 21 26.9 +2.1**
APA0 *e*RG 04 21 28.4
APA0 Apatity Array 0.27 241 Pg **Pg 04 21 22.4 +1.1**
baz=78,slow=14
APA0 Lg 04 21 26.9
baz=83,slow=37
APA0 Rg 04 21 28.4
baz=83,slow=37
KU6 Riekki 2.26 222 *e*P **Pn 04 21 56.3 +1.5**
KU6 *e*S **Sn 04 22 23.8 +0.5**
KU6 MSG 04 22 28.9
comp=Z,6.6nm,0.1s
KU6 Riekki 2.26 222 P **Pn 04 21 56.3 +1.5**
KU6 S **Sn 04 22 23.7 +0.4**
comp=Z,6.6nm,0.1s
MSF Maaselka 2.57 227 *e*P **Pn 04 22 00.5 +1.4**
MSF *e*SB **Sb 04 22 34.9 -0.4**
MSF MSG 04 22 38.8
comp=Z,8.8nm,0.2s
SGF Sodankyl 2.73 267 *e*P **Pn 04 22 02.0 +0.8**
SGF *e*S **Sn 04 22 36.8 +2.0**
SGF MSG 04 22 45.2
comp=Z,14nm,0.2s
SGF Sodankyl 2.73 267 P **Pn 04 22 01.9 +0.7**
SGF S **Sn 04 22 36.8 +2.0**
comp=Z,14nm,0.2s
ARA0 ARCESS Array S 3.47 305 *e*P **Pn 04 22 13.0 +1.6**
ARA0 *e*PG **Pg 04 22 22.1 -0.6**
ARA0 *e*S **Sn 04 22 54.1 +1.1**
ARA0 *e*SG **Sg 04 23 05.0 -2.6**
ARA0 ARCESS Array S 3.47 305 Pn **Pn 04 22 13.0 +1.6**
baz=122,slow=16
ARA0 Pg **Pg 04 22 22.1 -0.6**
baz=115,slow=16
ARA0 Sn **Sn 04 22 54.1 +1.1**
baz=123,slow=28
ARA0 Lg 04 23 05.0
baz=120,slow=37
ARA0 ARCESS Array S 3.47 305 Pg **Pg 04 22 22.0 -0.7**
ARA0 Sn **Sn 04 22 54.2 +1.1**
SNR=50
ARCES ARCESS Array B 3.47 305 Pn **Pn 04 22 13.1 +1.7**
comp=Z,2.8nm,0.3s,baz=122,slow=15,SNR=166
ARCES Pg **Pg 04 22 21.6 -1.1**
comp=Z,2.9nm,0.3s,baz=115,slow=15,SNR=17
ARCES Sn **Sn 04 22 53.8 +0.7**
comp=Z,3.3nm,0.3s,baz=117,slow=24,SNR=10
ARCES Lg 04 23 05.4
comp=Z,7.2nm,0.3s,baz=121,slow=30,SNR=13
HEF Hetta 3.79 285 *e*P **Pn 04 22 16.9 +1.1**
HEF *e*S **Sn 04 23 00.5 -0.5**
HEF Hetta 3.79 285 P **Pn 04 22 16.8 +1.0**
KTK1 Kautokeino 4.04 293 *e*SG **Sg 04 23 25.4 -0.6**
KTK1 AML AML 04 23 27.2
comp=Z,19nm,0.3s
OUL Oulu 4.08 233 *e*PB **Pb 04 22 26.0 -2.9**
OUL *e*SB **Sb 04 23 18.1 -0.6**
KJN Kajaani 4.39 216 *e*P **Pn 04 22 24.6 +0.6**
KJN *e*S **Sn 04 23 13.5 -2.2**
KIF Kilpisjarvi 4.90 291 *e*S **Sn 04 23 27.5 -0.9**
JOF Joensuu 4.94 192 *e*SG **Sg 04 23 47.9 -6.7**
TRO Tromso 5.68 296 *e*P **Pn 04 22 42.5 +0.9**
TRO AML AML 04 24 21.3
comp=Z,6.7nm,0.8s
FIA0 FINESS Array S 7.09 211 Pn **Pn 04 23 00.3 -0.8**
baz=30,slow=12
FIA0 Sn **Sn 04 24 17.5 -4.8**
baz=13,slow=28
FIA0 Lg 04 24 51.4
baz=25,slow=28
FIA0 FINESS Array S 7.09 211 *e*P **Pn 04 23 00.3 -0.8**
FIA0 *e*S **Sn 04 24 17.5 -4.8**
FIA0 *e*SG 04 24 51.4
FINES FINESS Array B 7.09 211 Pn **Pn 04 23 00.9 -0.2**
comp=Z,0.1nm,0.3s,baz=26,slow=11,SNR=4.4
FINES Sn **Sn 04 24 20.9 -1.5**
comp=Z,0.3nm,0.3s,baz=19,slow=24,SNR=5.5
FINES Lg 04 24 53.7
comp=Z,0.8nm,0.3s,baz=39,slow=27,SNR=8.6
HFS Hagfors 11.55 238 Pn **Pn 04 23 59.4 -2.7**
baz=31,slow=9.3
HFS Hagfors 11.55 238 *e*P **Pn 04 23 59.4 -2.7**
HFS Hagfors 11.55 238 Pn **Pn 04 24 01.6 -0.6**
comp=Z,0.1nm,0.3s,baz=35,slow=16,SNR=4.5
HFS Sn **Sn 04 26 04.4 -7.3**
comp=Z,0.1nm,0.3s,baz=80,slow=19,SNR=3.1
HFS Lg 04 27 14.6
comp=Z,0.2nm,0.3s,baz=37,slow=40,SNR=3.7
SPA0 Spitsbergen Ar 11.55 342 Pn **Pn 04 24 00.2 -1.9**
baz=151,slow=16
SPA0 Spitsbergen Ar 11.55 342 *e*P **Pn 04 24 00.2 -1.9**

NOA	**NORSAR Array B**	11.72	246	Pn	Pn	04 24 02.6	-1.9
	comp=Z,0.1nm,0.3s,baz=49,slow=13,SNR=2.5						
NOA				Sn	Sn	04 26 10.1	-5.7
	comp=Z,0.2nm,0.3s,baz=99,slow=13,SNR=3.0						
NOA				Lg		04 27 22.7	
	comp=Z,0.1nm,0.3s,baz=44,slow=25,SNR=3.8						

NIED ***01*** *04:22:00, 44.40N×14.930E, h14km, Mw3.9 Best double couple: M0=8.75000×10^14 NP1:φs=36.00000°, δ=58.00000°, λ=86.00000°. NP2:φs=223.00000°, δ=32.00000°, λ=96.00000°.*
JMA ***01*** *04:22:17.2±0.6, 44.41N×14.932E, h30km, M3.9*
ISCJB ***01*** *04:22:19.1±0.8, 44.2N±0.1×149.1E±0.1, h43km, mb3.8/14, Error ellipse: s-maj=19.6km s-min=5.2km az=149.9*
NEIC ***01*** *04:22:19.7±0.9, 44.89N×14.893E, h10km, mb4.1/4, Error ellipse: s-maj=26.1km s-min=11.3km az=144.0*
MOS ***01*** *04:22:19.6±1.8, 44.67N×14.922E, h34km, mb4.3/7, Error ellipse: s-maj=16.1km s-min=13.0km az=64.6*
IDC ***01*** *04:22:24.6±1.8, 44.96N×14.888E, h43km±6km, mb3.6/10, mb1 3.7/12, mb1mx3.5/23, mbtmp3.6/12, ML3.3/2, MS3.1/1, Ms1 3.1/1, ms1mx2.6/32, Error ellipse: s-maj=45.1km s-min=18.3km az=161.0*

ISC 01 04:22:21.6±0.8, 443N±01×1490E±01, h45km, h45km±2.8km: pP-P, n46, σ1=07/49, mb3.8/14, 1C-2D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.24**	**320**	*i* PN	**Pn**	**04 22 40.9**	**-1.6**
KUR				pmax	pmax		
	comp=N,90nm,0.7s						
KUR				pmax	pmax		
	comp=E,90nm,0.7s						
KUR				pmax	pmax		
	comp=Z,260nm,0.7s						
KUR				pmax	pmax		
	comp=Z,2μm,1.0s						
NEM2	**Nemuro 2**	**2.53**	**250**	P	**Pn**	**04 22 58.7**	**-1.4**
NEM2				*e*S	**Sn**	04 23 29.6	-0.1
JRA	**Rausu**	**2.81**	**264**	P	**Pn**	**04 23 04.7**	**+0.7**
JNK	**Nakash**	**3.17**	**259**	P	**Pn**	**04 23 08.7**	**-0.2**
JAK	**Akkeshi**	**3.38**	**249**	P	**Pn**	**04 23 10.6**	**-1.2**
JAK				*e*S	**Sn**	04 23 49.7	-0.9
JTKR	**Abashiri--Toko**	**3.68**	**267**	P	**Pn**	**04 23 17.1**	**+1.2**
JAR	**Ashorobuto**	**3.92**	**257**	P	**Pn**	**04 23 19.5**	**+0.4**
JOB	**Onbets**	**4.00**	**252**	P	**Pn**	**04 23 19.9**	**-0.3**
JMP	**Maruseppu**	**4.07**	**268**	P	**Pn**	**04 23 22.7**	**+1.5**
JCH	**Churui**	**4.43**	**250**	P	**Pn**	**04 23 25.8**	**-0.4**
ASAJ	**Asahikawa**	**4.61**	**270**	P	**Pn**	**04 23 31.9**	**+3.4**
	comp=Z,1.4nm,0.3s,baz=121,slow=13,SNR=10						
ASAJ				LR	LR	04 25 36.1	
	comp=Z,232nm,21.2s,baz=162,slow=42						
JFR	**Furan**	**4.78**	**259**	P	**Pn**	**04 23 32.6**	**+1.7**
ERM	**Erimo**	**4.84**	**244**	*e*Pn	**Pn**	**04 23 32.9**	**+1.1**
JNBK	**Urakawa-nobuka**	**4.98**	**248**	P	**Pn**	**04 23 33.3**	**-0.4**
JNB	**Noboribetsu**	**6.08**	**255**	P	**Pn**	**04 23 49.1**	**+0.3**
JKB	**Kayabe**	**6.31**	**250**	P	**Pn**	**04 23 51.3**	**-0.6**
JKB				*e*S	**Sn**	04 24 59.5	-3.1
PET	**Petropavlovsk**	**10.82**	**33**	⇑*e*PN	**Pn**	**04 24 46.5**	**-7.1**
MJAR	**Matsushiro Arr**	**11.28**	**230**	P	**Pn**	**04 25 08.6**	**+8.5**
	comp=Z,0.1nm,0.3s,baz=23,slow=16,SNR=3.5						
VLA	**Vladivostok**	**12.44**	**271**	⇓*i*PN	**Pn**	**04 25 12.8**	**-3.0**
SONM	**Songino Array**	**29.50**	**292**	P	**P**	**04 28 22.2**	**+0.9**
	comp=Z,0.4nm,0.6s,mb3.3,baz=61,slow=7.9,SNR=4.1						
IMA2	**Indian Mountai**	**37.48**	**34**	*e*P	**P**	**04 29 29.3**	**-1.0**
COLA	**College**	**39.85**	**36**	⇓*e*P	**P**	**04 29 49.2**	**-1.0**
INK	**Inuvik**	**45.26**	**31**	P	**P**	**04 30 34.7**	**+0.6**
INK	**Inuvik**	**45.26**	**31**	P	**P**	**04 30 34.7**	**+0.7**
INK				pmax	pmax		
	comp=Z,1.0nm,0.5s						
INK	**Inuvik**	**45.26**	**31**	P	**P**	**04 30 34.7**	**+0.6**
	comp=Z,0.5nm,0.5s,mb3.6,baz=270,slow=5.1,SNR=4.6						
MKAR	**Makanchi Array**	**45.52**	**298**	P	**P**	**04 30 36.9**	**+0.5**
MKAR				pP	pP	04 30 49.1	+0.4
MKAR	**Makanchi Array**	**45.52**	**298**	P	**P**	**04 30 36.9**	**+0.6**
MKAR				*PP	pP	04 30 49.1	+0.4
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
MKAR	**Makanchi Array**	**45.52**	**298**	P	**P**	**04 30 36.9**	**+0.5**
	comp=Z,0.6nm,0.3s,mb3.9,baz=75,slow=7.7,SNR=4.0						
MKAR				pP	pP	04 30 49.1	+0.3
	comp=Z,0.9nm,0.5s,baz=69,slow=6.8,SNR=2.8						
TKM2	**Tokmak 2**	**51.48**	**296**	*e*P	**P**	**04 31 23.7**	**+1.5**
	comp=Z,2.2nm,0.6s,mb4.3						
TKM2	**Tokmak 2**	**51.48**	**296**	*e*P	**P**	**04 31 23.7**	**+1.5**
TKM2				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
UCH	**Uchtor**	**52.51**	**296**	*e*P	**P**	**04 31 32.0**	**+2.1**
	comp=Z,1.0nm,0.5s,mb4.0						
EKS2	**Erkin-Say**	**52.78**	**296**	*e*P	**P**	**04 31 32.4**	**+0.5**
	comp=Z,2.0nm,0.8s,mb4.1						
YKA	**Yellowknife Ar**	**54.61**	**34**	P	**P**	**04 31 44.2**	**-0.8**
YKA				pP	pP	04 31 58.1	+0.5
YKA	**Yellowknife Ar**	**54.61**	**34**	P	**P**	**04 31 44.2**	**-0.8**
	comp=Z,0.3nm,0.7s,mb3.5,baz=301,slow=7.2,SNR=4.4						
YKA				pP	pP	04 31 58.2	+0.5
	comp=Z,0.3nm,0.6s,baz=296,slow=6.7,SNR=3.3						
FINES	**FINESS Array B**	**65.00**	**334**	P	**P**	**04 32 55.1**	**-1.2**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.6s						
FINES	**FINESS Array B**	**65.00**	**334**	P	**P**	**04 32 55.1**	**-1.2**
	comp=Z,1.5nm,0.6s,mb4.2,baz=52,slow=9.5,SNR=2.1						
MOOW	**Moose Ponds**	**67.24**	**51**	*e*P	**P**	**04 33 11.8**	**+0.8**
	comp=Z,0.6nm,0.6s,mb3.8						
PDAR	**Pinedale Array**	**68.54**	**51**	P	**P**	**04 33 19.7**	**+0.5**
	comp=Z,0.3nm,0.7s,mb3.3,baz=174,slow=1.3,SNR=2.7						
NB2	**NORSAR Subarra**	**69.58**	**340**	P	**P**	**04 33 25.3**	**0.0**
	comp=Z,1.4nm,0.5s,mb4.2,baz=29,slow=6.5						
NOA	**NORSAR Array B**	**69.58**	**340**	P	**P**	**04 33 24.4**	**-0.9**
NOA				*PP	pP	04 33 36.8	-1.5
NOA				pmax	pmax		
	comp=Z,2.0nm,0.5s						
NOA	**NORSAR Array B**	**69.58**	**340**	P	**P**	**04 33 24.4**	**-0.9**
	comp=Z,2.0nm,0.5s,mb4.3,baz=30,slow=6.3,SNR=6.8						
NOA				pP	pP	04 33 36.8	-1.6
	comp=Z,1.0nm,0.5s,baz=30,slow=6.3,SNR=2.4						
HFS	**Hagfors**	**69.70**	**338**	P	**P**	**04 33 25.5**	**-0.6**
HFS				*PP	pP	04 33 37.7	-1.4
HFS				pmax	pmax		
	comp=Z,2.0nm,0.5s						
HFS	**Hagfors**	**69.70**	**338**	P	**P**	**04 33 25.5**	**-0.6**
	comp=Z,1.5nm,0.5s,mb4.2,baz=50,slow=8.0,SNR=4.1						
HFS				pP	pP	04 33 37.7	-1.5
	comp=Z,0.9nm,0.5s,baz=61,slow=9.3,SNR=1.7						
AKASG	**Malin Array Be**	**71.93**	**325**	P	**P**	**04 33 39.6**	**-0.1**
AKASG				pP	pP	04 33 51.2	-1.7
AKASG	**Malin Array Be**	**71.93**	**325**	P	**P**	**04 33 39.6**	**-0.1**
	comp=Z,0.2nm,0.2s,mb3.6,baz=34,slow=5.6,SNR=4.2						
AKASG				pP	pP	04 33 51.2	-1.7
	comp=Z,0.5nm,0.3s,baz=36,slow=5.7,SNR=3.6						
GERES	**GERESS Array B**	**79.33**	**332**	P	**P**	**04 34 22.2**	**0.0**
	comp=Z,0.3nm,0.5s,mb3.5,baz=37,slow=7.2,SNR=4.1						

NEIC ***01*** *04:29:20.3±0.6, 5.14N×94.10E, h30km, mb4.2/3, Error ellipse: s-maj=21.2km s-min=7.7km az=217.0*
ISCJB ***01*** *04:29:22.2±3.3, 52N±02×94.4E±02, h60km±28km, mb4.1/15, Error ellipse: s-maj=40.2km s-min=14.2km az=141.8*
IDC ***01*** *04:29:23.4±5.3, 5.24N×94.28E, h54km±46km, mb3.9/12, mb1 4.1/13, mb1mx3.8/24, mbtmp3.9/13, ML4.2/1, MS3.6/2, Ms1 3.6/2, ms1mx3.0/33, Error ellipse: s-maj=52.1km s-min=16.6km az=55.0*

ISC 01 04:29:23.7±2.9, 52N±02×943E±02, h57km±25km, n19, σ0=86/20, mb4.1/15, 1D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**5.20**	**117**	P	**Pn**	**04 30 39.7**	**+0.8**
	7.3nm,0.3s,baz=300,slow=13,SNR=35						
PSI				S	**Sn**	**04 31 36.1**	**-1.5**
	0.3nm,0.3s,baz=331,slow=19,SNR=2.7						
PSI				LR	LR	04 32 58.4	
	comp=Z,164nm,19.9s,baz=321,slow=41						
KULM	**Kulim**	**6.33**	**89**	*e*Pn	**Pn**	**04 30 54.6**	**+0.1**
KKM	**Kota Kinabalu**	**21.83**	**87**	*e*P	**P**	**04 34 13.2**	**+1.7**
AML	**Almayashu**	**41.09**	**337**	*e*P	**P**	**04 37 02.0**	**+0.2**
	1.6nm,0.6s,mb3.8						
MKAR	**Makanchi Array**	**42.71**	**348**	P	**P**	**04 37 15.2**	**+0.2**
	1.7nm,0.6s,mb4.0,baz=172,slow=8.4,SNR=10						
SONM	**Songino Array**	**43.73**	**12**	P	**P**	**04 37 22.8**	**-0.3**
	2.1nm,0.8s,mb3.9,baz=189,slow=8.3,SNR=8.1						
WRA	**Warramunga Arr**	**46.63**	**124**	P	**P**	**04 37 46.9**	**+0.2**
	4.8nm,0.6s,mb4.6,baz=302,slow=9.3,SNR=30						
WB2	**Warramunga Arr**	**46.64**	**124**	⇓*i*P	**P**	**04 37 46.8**	**+0.1**
KURK	**Kurchatov**	**47.22**	**346**	*e*P	**P**	**04 37 51.0**	**+0.2**
	2.3nm,0.6s,mb4.3						
ASAR	**Alice Springs**	**48.12**	**128**	P	**P**	**04 37 58.3**	**+0.1**
	1.5nm,0.6s,mb4.2,baz=298,slow=7.9,SNR=20						
ASAR				PcP	PcP	04 39 26.0	+0.9
	0.7nm,0.8s,baz=275,slow=2.9,SNR=4.2						
ZALV	**Zalesovo Beam**	**49.21**	**353**	P	**P**	**04 38 06.5**	**+0.6**
	1.7nm,0.6s,mb4.3,baz=182,slow=6.4,SNR=7.4						
BRVK	**Borovoye**	**51.62**	**342**	*e*P	**P**	**04 38 22.7**	**-1.5**
	2.1nm,0.6s,mb4.2						
MLR	**Muntele Rosu**	**71.19**	**316**	P	**P**	**04 40 37.1**	**+0.5**
	1.3nm,0.6s,mb4.0,baz=144,slow=12,SNR=4.3						
FINES	**FINESS Array B**	**75.13**	**333**	P	**P**	**04 40 59.4**	**-0.1**
	1.7nm,0.7s,mb4.1,baz=86,slow=5.4,SNR=12						
ARCES	**ARCESS Array B**	**77.81**	**340**	P	**P**	**04 41 13.1**	**-1.4**
	6.2nm,1.1s,mb4.5,baz=101,slow=7.4,SNR=2.9						
GERES	**GERESS Array B**	**79.91**	**319**	P	**P**	**04 41 26.7**	**+0.3**
	0.9nm,0.6s,mb3.9,baz=104,slow=5.6,SNR=8.6						
NOA	**NORSAR Array B**	**82.12**	**331**	P	**P**	**04 41 36.0**	**-1.9**
	0.2nm,0.4s,mb3.4,baz=99,slow=5.6,SNR=3.1						
DAVOX	**Davos/Dischmat**	**82.41**	**316**	P	**P**	**04 41 40.5**	**+0.7**
	1.4nm,0.5s,mb4.1,baz=138,slow=11,SNR=7.1						
EKA	**Eskdalemuir Ar**	**89.99**	**325**	P	**P**	**04 42 17.5**	**+0.6**
	1.0nm,0.6s,mb4.3,baz=79,slow=6.0,SNR=4.5						

NIED ***01*** *04:32:00, 42.40N×14.390E, h35km, Mw4.0 Best double couple: M0=1.31000×10^15 NP1:φs=78.00000°, δ=81.00000°, λ=-87.00000°. NP2:φs=242.00000°, δ=9.00000°, λ=-106.00000°.*
ISCJB ***01*** *04:32:11.8±0.3, 42.34N±0.03×14.392E±0.04, h50km, mb4.1/33, Error ellipse: s-maj=4.9km s-min=3.4km az=43.4*
JMA ***01*** *04:32:12.4±0.1, 42.38N×14.387E, h57km±2km, M3.8*
JMA Felt I J1.
MOS ***01*** *04:32:12.3±1.0, 42.40N×14.381E, h55km, mb4.4/19, Error ellipse: s-maj=12.9km s-min=7.3km az=79.5*
NEIC ***01*** *04:32:13.8±0.3, 42.41N×14.378E, mb4.2/14, Error ellipse: s-maj=9.1km s-min=5.8km az=134.0*
IDC ***01*** *04:32:14.0±0.6, 42.36N×14.379E, h52km±4km, mb3.7/17, mb1 3.9/18, mb1mx3.8/24, mbtmp3.7/18, MS4.0/1, Ms1 4.0/1, ms1mx2.8/33, Error ellipse: s-maj=14.5km s-min=9.7km az=61.0*

ISC 01 04:32:13.7±0.3, 4241N±003×14387E±004, h52km, h52km±.7km: pP-P, n94, σ1=05/106, mb4.1/33, 9C, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCH	**Churui**	**0.43**	**299**	⇑P	**Pn**	**04 32 23.7**	**-0.6**
JCH				S	**Sn**	**04 32 31.1**	**-0.8**
JOB	**Onbets**	**0.50**	**357**	⇑P	**Pn**	**04 32 24.5**	**-0.6**
JOB				*e*Sn	**Sn**	**04 32 33.4**	**+0.2**
ERM	**Erimo**	**0.66**	**234**	*e*Pn	**Pn**	**04 32 27.6**	**+0.6**
ERM				*e*Sn	**Sn**	**04 32 35.9**	**-0.7**
ERM	**Erimo**	**0.66**	**234**	*e*PN	**Pn**	**04 32 28.5**	**+1.5**
JEM	**Erimo**	**0.66**	**234**	P	**Pn**	**04 32 25.8**	**-1.2**
JNBK	**Urakawa-nobuka**	**0.84**	**262**	⇑P	**Pn**	**04 32 28.2**	**-1.1**
JAK	**Akkeshi**	**0.85**	**46**	⇑P	**Pn**	**04 32 28.0**	**-1.4**
JAK				*e*S	**Sn**	**04 32 39.5**	**-1.4**
JAR	**Ashorobuto**	**0.89**	**355**	⇑P	**Pn**	**04 32 29.5**	**-0.6**
JAR				*e*S	**Sn**	**04 32 41.6**	**-0.4**
JBT2	**Biratori 2**	**1.17**	**289**	⇑P	**Pn**	**04 32 32.6**	**-1.2**
JFR	**Furan**	**1.21**	**309**	P	**Pn**	**04 32 33.5**	**-0.7**
JNK	**Nakash**	**1.33**	**28**	⇑P	**Pn**	**04 32 34.7**	**-1.2**
JNK				*e*S	**Sn**	**04 32 50.7**	**-1.9**
JTKR	**Abashiri--Toko**	**1.56**	**1**	⇑P	**Pn**	**04 32 39.4**	**+0.3**
JTKR				*e*S	**Sn**	**04 32 59.2**	**+1.0**
JAB	**Ashibetsu**	**1.64**	**313**	P	**Pn**	**04 32 40.6**	**+0.6**
JMP	**Maruseppu**	**1.64**	**347**	⇑P	**Pn**	**04 32 40.3**	**+0.1**
JMP				*e*S	**Sn**	**04 33 00.8**	**+0.6**
NEM2	**Nemuro 2**	**1.68**	**54**	P	**Pn**	**04 32 38.6**	**-2.0**
NEM2				*e*S	**Sn**	**04 32 58.7**	**-2.2**
ASAJ	**Asahikawa**	**1.95**	**332**	PN	**Pn**	**04 32 45.2**	**+0.9**
ASAJ				S	**Sn**	**04 33 09.4**	**+1.8**
ASAJ				pmax	pmax		
	comp=Z,22nm,0.3s						
ASAJ				smax			
	comp=N,19nm,0.3s						
ASAJ	**Asahikawa**	**1.95**	**332**	P	**Pn**	**04 32 45.1**	**+0.8**
	comp=N,22nm,0.3s,baz=190,slow=12,SNR=98						
ASAJ				S	**Sn**	**04 33 09.3**	**+1.8**
	comp=N,19nm,0.3s,baz=162,slow=19,SNR=4.7						
YUK	**Yuzh-Kuril'sk**	**2.18**	**41**	*e*PN	**Pn**	**04 32 46.8**	**-0.7**
YUK				*e*S	**Sn**	**04 33 12.0**	**-1.4**
YUK				pmax	pmax		
	comp=Z,700nm,0.4s						
YUK				pmax	pmax		
	comp=N,200nm,0.5s						
YUK				pmax	pmax		
	comp=E,200nm,0.3s						
YUK				smax			
	comp=N,4μm,0.8s						
YUK				smax			
	comp=E,5μm,0.8s						
YUK				smax			
	comp=N,2μm,0.5s						
YUK				smax			
	comp=E,2μm,0.5s						
KUR	**Kuril'sk**	**4.04**	**44**	PN	**Pn**	**04 33 13.0**	**0.0**
KUR				S	**Sn**	**04 34 02.0**	**+3.0**
KUR				pmax	pmax		
	comp=N,90nm,0.7s						
KUR				pmax	pmax		
	comp=Z,170nm,0.7s						
KUR				smax			
	comp=N,430nm,0.9s						
KUR				smax			
	comp=E,280nm,0.9s						
YSS	**Yuzh-Sakhalins**	**4.62**	**350**	*e*Pn	**Pn**	**04 33 21.9**	**+1.0**
MAJO	**Matsushiro**	**7.31**	**219**	*e*Pn	**Pn**	**04 33 57.7**	**-0.1**
MAT	**Matsushiro**	**7.31**	**219**	P	**Pn**	**04 33 57.6**	**-0.2**
MJAR	**Matsushiro Arr**	**7.31**	**219**	PN	**Pn**	**04 33 57.9**	**+0.1**
MJAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MJAR	**Matsushiro Arr**	**7.31**	**219**	P	**Pn**	**04 33 57.9**	**+0.1**
	comp=Z,1.3nm,0.3s,baz=27,slow=13,SNR=26						
JHJ	**Hachijo jima 2**	**9.82**	**201**	LR	LR	04 37 40.0	
	comp=Z,978nm,20.8s,baz=327,slow=34						
SEY	**Seymchan**	**21.16**	**11**	*e*P	**P**	**04 36 50.7**	**-3.5**
SONM	**Songino Array**	**26.81**	**295**	P	**P**	**04 37 49.4**	**+0.6**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.6s						
SONM	**Songino Array**	**26.81**	**295**	P	**P**	**04 37 49.4**	**+0.7**
	comp=Z,0.5nm,0.6s,baz=106,slow=9.2,SNR=3.6						
BILL	**Bilibino**	**28.34**	**18**	*e*P	**P**	**04 37 55.7**	**-6.5**
BILL				pmax	pmax		
	comp=Z,1.0nm,0.3s,mb3.9						
ZALV	**Zalesovo Beam**	**39.91**	**308**	P	**P**	**04 39 41.9**	**-0.4**
	comp=Z,1.3nm,0.5s,mb3.9,baz=93,slow=7.6,SNR=6.3						
ZALV				PcP	PcP	04 41 47.6	+0.8
	comp=Z,0.5nm,0.4s,baz=95,slow=3.6,SNR=3.8						
ZAL	**Zalesovo**	**39.92**	**308**	P	**P**	**04 39 41.9**	**-0.5**
ZAL						04 41 47.7	
IMA2	**Indian Mountai**	**41.13**	**33**	*e*P	**P**	**04 39 53.5**	**+1.3**
KDAK	**Kodiak Island**	**41.92**	**46**	P	**P**	**04 40 00.5**	**+1.8**
KDAK	**Kodiak Island**	**41.92**	**46**	P	**P**	**04 40 00.5**	**+1.8**
	comp=Z,2.1nm,0.6s,mb3.9,baz=270,slow=6.1,SNR=3.8						
MKAR	**Makanchi Array**	**43.08**	**298**	P	**P**	**04 40 08.7**	**+0.3**
MKAR				*PP	pP	04 40 22.5	+0.4
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
MKAR	**Makanchi Array**	**43.08**	**298**	P	**P**	**04 40 08.7**	**+0.3**
	comp=Z,0.7nm,0.5s,mb3.6,baz=83,slow=10,SNR=4.4						
MKAR				pP	pP	04 40 22.5	+0.4
	comp=Z,0.3nm,0.3s,baz=82,slow=9.9,SNR=2.3						
MCK	**McKinley**	**43.16**	**37**	*e*P	**P**	**04 40 06.6**	**-2.1**
COLA	**College**	**43.56**	**35**	*e*P	**P**	**04 40 12.8**	**+0.8**
	comp=Z,3.1nm,0.8s,mb4.1						
COLA				*e*pP	pP	04 40 26.1	+0.3
COLA	**College**	**43.56**	**35**	*e*P	**P**	**04 40 12.8**	**+0.8**
COLA				*e*PP	pP	04 40 26.1	+0.4
COLA				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.1						
KKM	**Kota Kinabalu**	**43.72**	**222**	*e*P	**P**	**04 40 12.0**	**-1.9**
KURK	**Kurchatov**	**44.30**	**304**	*e*P	**P**	**04 40 18.1**	**+0.1**
	comp=Z,3.1nm,0.8s,mb4.1						
KURK				*e*pP	pP	04 40 31.2	-0.5
KURK	**Kurchatov**	**44.30**	**304**	*e*P	**P**	**04 40 18.3**	**+0.3**
BRVK	**Borovoye**	**48.55**	**309**	*e*P	**P**	**04 40 51.0**	**-0.3**
	comp=Z,2.4nm,0.8s,mb4.3						
BRVK	**Borovoye**	**48.55**	**309**	*e*P	**P**	**04 40 51.0**	**-0.3**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.2						
INK	**Inuvik**	**48.77**	**29**	*e*P	**P**	**04 40 52.9**	**+0.1**
INK	**Inuvik**	**48.77**	**29**	P	**P**	**04 40 52.8**	**0.0**
	comp=Z,1.2nm,0.4s,mb4.3,baz=304,slow=6.5,SNR=36						
TKM2	**Tokmak 2**	**48.91**	**295**	*e*P	**P**	**04 40 54.6**	**+0.3**
	comp=Z,1.6nm,0.7s,mb4.2						
TKM2	**Tokmak 2**	**48.91**	**295**	*e*P	**P**	**04 40 54.6**	**+0.4**
TKM2				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.3						
ARU	**Arti**	**53.68**	**317**	*e*P	**P**	**04 41 29.8**	**0.0**
	comp=Z,2.7nm,0.5s,mb4.4						
ARU	**Arti**	**53.68**	**317**	*e*P	**P**	**04 41 29.8**	**+0.1**
ARU				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.5						
RES	**Resolute Bay**	**56.93**	**16**	*e*P	**P**	**04 41 52.3**	**-0.6**
	comp=Z,107nm,0.7s						
RES				*e*pP	pP	04 42 06.5	-0.6
YKA	**Yellowknife Ar**	**58.24**	**32**	P	**P**	**04 42 04.2**	**+2.0**
YKA				pP	pP	04 42 18.1	+1.6
YKA	**Yellowknife Ar**	**58.24**	**32**	P	**P**	**04 42 04.2**	**+2.0**
	comp=Z,0.3nm,0.5s,mb3.5,baz=303,slow=7.2,SNR=5.4						
YKA				pP	pP	04 42 18.1	+1.6
	comp=Z,0.4nm,0.7s,baz=305,slow=7.2,SNR=4.5						
ARCES	**ARCESS Array B**	**59.66**	**339**	P	**P**	**04 42 12.3**	**+0.4**
ARCES				pmax	pmax		
	comp=Z,3.0nm,0.9s						
ARCES	**ARCESS Array B**	**59.66**	**339**	P	**P**	**04 42 12.3**	**+0.3**
	comp=Z,2.6nm,0.8s,mb4.3,baz=32,slow=7.5,SNR=3.1						
JOF	**Joensuu**	**62.14**	**331**	*e*p	**P**	**04 42 28.0**	**-0.9**
	comp=Z,2.0nm,0.4s,mb4.6						
JOF	**Joensuu**	**62.14**	**331**	*e*P	**P**	**04 42 28.0**	**-0.9**
JOF				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.6						
WRA	**Warramunga Arr**	**62.65**	**190**	P	**P**	**04 42 32.3**	**-0.4**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
WRA	**Warramunga Arr**	**62.65**	**190**	P	**P**	**04 42 32.3**	**-0.4**
	comp=Z,0.5nm,0.7s,mb3.8,baz=9.6,slow=7.3,SNR=4.6						
EDM	**Edmonton**	**64.00**	**41**	*e*P	**P**	**04 42 42.1**	**+0.7**
KAF	**Kangasniemi**	**64.42**	**332**	*e*p	**P**	**04 42 42.3**	**-1.7**
	comp=Z,1.7nm,0.5s,mb4.3,baz=46,slow=6.2						
KAF	**Kangasniemi**	**64.42**	**332**	*e*P	**P**	**04 42 42.3**	**-1.7**
KAF				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.4						
FINES	**FINESS Array B**	**64.96**	**332**	P	**P**	**04 42 47.5**	**0.0**
FINES				pmax	pmax		
	comp=Z,3.0nm,0.5s						
FINES	**FINESS Array B**	**64.96**	**332**	P	**P**	**04 42 47.5**	**0.0**
	comp=Z,2.7nm,0.5s,mb4.6,baz=46,slow=8.2,SNR=31						
NEW	**Newport**	**65.01**	**47**	*e*P	**P**	**04 42 49.8**	**+1.7**
	comp=Z,1.9nm,0.9s,mb4.1						
NEW	**Newport**	**65.01**	**47**	*e*P	**P**	**04 42 49.8**	**+1.7**
NEW				pmax	pmax		
	comp=Z,2.0nm,0.9s						
ASAR	**Alice Springs**	**66.38**	**190**	P	**P**	**04 42 57.9**	**+0.8**
	comp=Z,0.3nm,0.6s,mb3.5,baz=14,slow=6.8,SNR=4.6						
ASAR				pP	pP	04 43 12.2	+0.7
	comp=Z,0.3nm,0.7s,baz=12,slow=5.3,SNR=2.3						
FFC	**Flin Flon**	**68.19**	**35**	*e*P	**P**	**04 43 08.7**	**+0.4**
	comp=Z,2.1nm,0.9s,mb4.2						
FFC	**Flin Flon**	**68.19**	**35**	*e*P	**P**	**04 43 08.7**	**+0.5**
FFC				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.2						
FCC	**Fort Churchill**	**68.37**	**28**	*e*P	**P**	**04 43 09.2**	**-0.1**
KIV	**Kislovodsk**	**68.84**	**311**	*e*P	**P**	**04 43 11.1**	**-1.4**
KIV				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.4						
BOZ	**Bozeman (W)**	**69.59**	**46**	*e*P	**P**	**04 43 18.3**	**+1.2**
	comp=Z,1.3nm,0.8s,mb3.9						
BOZ				*e*pP	pP	04 43 32.4	+0.8
BOZ	**Bozeman (W)**	**69.59**	**46**	*e*P	**P**	**04 43 18.3**	**+1.2**
BOZ				*e*PP	pP	04 43 32.4	+0.7
BOZ				pmax	pmax		
	comp=Z,1.0nm,0.8s,mb3.8						
NB2	**NORSAR Subarra**	**69.96**	**338**	P	**P**	**04 43 19.0**	**-0.1**
	comp=Z,0.9nm,0.5s,mb4.0,baz=34,slow=6.5						
NOA	**NORSAR Array B**	**69.96**	**

STKA Stephens Creek 28.16 155 P P 04 49 15.4 -0.5
1.1nm,0.6s,baz=338,slow=11,SNR=3.6

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*NEIC **01** 04:51:42.0, 38.17N×20.19E, h8km, MD3.7(ATH), ML3.3(THE), After ATH.*
*ATH **01** 04:51:42.0, 38.17N×20.19E, h8km±2km, MD3.7/10*
*ISCJB **01** 04:51:43.6±0.9, 38.31N±003×20.32E±007, h8km, Error ellipse: s-maj=8.1km s-min=4.0km az=156.3*
*THE **01** 04:51:44.9, 38.35N×20.47E, h3km, ML3.3*
*CSEM **01** 04:51:45.0±0.2, 38.30N×20.41E, h0km±1km, MD3.7, Error ellipse: s-maj=4.6km s-min=1.8km az=66.0*
ISC 01 04:51:44.0±1.1, 38.30N±004×20.33E±007, h4km±6km, n17, σ1.9 00/25, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.24**	**121**	*e*PB	**Pg**	**04 51 48.8**	**+0.2**
VLS				*e*SB	**Sg**	**04 51 52.8**	**+1.1**
KFL	**Anninata**	**0.41**	**118**	*e*Pg	**Pg**	**04 51 51.6**	**-0.2**
LKD	**Levkas**	**0.48**	**32**	*e*Pg	**Pg**	**04 51 52.3**	**-0.9**
LKD				*e*Sg	**Sg**	**04 51 58.7**	**-0.7**
RLS	**Riolos of Patr**	**0.93**	**105**	*e*PG	**Pg**	**04 52 01.1**	**-0.7**
RLS				*e*SB	**Sb**	**04 52 15.6**	**+0.4**
IGT	**Igoumenitsa**	**1.23**	**0**	*e*Pg	**Pg**	**04 52 06.5**	**-1.1**
IGT				*e*Sg	**Sg**	**04 52 24.9**	**+1.3**
IGT	**Igoumenitsa**	**1.23**	**0**	*e*Pg	**Pg**	**04 52 06.4**	**-1.2**
IGT				*e*Sg	**Sg**	**04 52 24.9**	**+1.4**
SELA	**Sela**	**1.23**	**91**	*e*Pg	**Pb**	**04 52 05.6**	**-2.1**
SELA				*e*Sg	**Sb**	**04 52 22.5**	**-1.4**
EVR	**Evrytania**	**1.31**	**62**	*e*PB	**Pb**	**04 52 10.1**	**+1.0**
JAN	**Janina**	**1.42**	**17**	*e*PG	**Pg**	**04 52 11.0**	**-0.1**
KEK	**Kerkira**	**1.47**	**344**	*e*PB	**Pb**	**04 52 11.8**	**0.0**
ITM	**Ithomi**	**1.69**	**131**	*e*PN	**Pn**	**04 52 14.8**	**+0.6**
PYL	**PYLOS**	**1.79**	**141**	*e*Pb	**Pn**	**04 52 16.2**	**+0.6**
THL	**Klokotos Trika**	**1.82**	**46**	*e*PN	**Pb**	**04 52 17.3**	**-0.6**
THL				*e*SN	**Sg**	**04 52 45.0**	**+2.5**
LKR	**Lokris**	**2.12**	**80**	*e*PN	**Pb**	**04 52 21.6**	**-1.4**
DID	**Didima**	**2.43**	**108**	*e*Sn	**Sn**	**04 52 54.8**	**+0.2**
DID				*e*Sn	**Sb**	**04 52 58.6**	**0.0**
NEO	**Neokhori**	**2.48**	**65**	*e*PB	**Pn**	**04 52 26.6**	**+1.6**
VLI	**Veliai**	**2.61**	**126**	*e*PN	**Pn**	**04 52 26.9**	**+0.1**

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*BJI **01** 05:08:41.8, 252N×94.64E, h8km, mB5.2, mb4.7, Ms4.6, Msz4.1*
*IDC **01** 05:08:42.8±0.7, 262N×94.48E, h0km, mb4.2/14, mb1 4.3/15, mb1mx4.1/24, mbtmp4.2/15, ML3.6/1, MS3.9/5, Ms1 3.9/5, ms1mx3.4/28, Error ellipse: s-maj=25.5km s-min=14.3km az=44.0*
*NEIC **01** 05:08:44.7±3.5, 255N×94.45E, h12km±21km, mb4.7/16, Error ellipse: s-maj=11.1km s-min=6.0km az=217.0*
*MOS **01** 05:08:46.3±1.2, 267N×94.52E, h33km, mb5.0/19, Error ellipse: s-maj=12.4km s-min=7.4km az=101.4*
*ISCJB **01** 05:08:46.3±1.7, 259N±006×94.51E±004, h33km±12km, mb4.6/57, MS4.1/12, Error ellipse: s-maj=10.1km s-min=5.7km az=23.9*
*SZGRF **01** 05:08:49.8, 324N×95.14E, h33km, mb4.3, Off west coast of northern Sumatera, Indonesia*
ISC 01 05:08:48.7±1.0, 260N±006×94.50E±005, h37km±9km, h29km±4.3km: pP-P, n132, σ0.9 93/130, mb4.6/57, MS4.1/12, 8C-8D, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**4.42**	**87**	Pn	**Pn**	**05 09 53.4**	**+0.1**
	2.7nm,0.3s,baz=281,slow=7.6,SNR=17						
PSI				Sn	**Sn**	**05 10 45.8**	**+2.2**
	1.2nm,0.3s,baz=244,slow=15,SNR=1.9						
KULM	**Kulim**	**6.69**	**66**	*e*Pn	**Pn**	**05 10 22.9**	**-1.7**
KULM	**Kulim**	**6.69**	**66**	⇑P	**Pn**	**05 10 23.9**	**-0.6**
IPM	**Ipoh**	**6.77**	**74**	⇓P	**Pn**	**05 10 24.1**	**-1.5**
FRIM	**Kepong**	**7.14**	**85**	⇓P	**Pn**	**05 10 29.9**	**-0.8**
KGM	**Kluang**	**8.83**	**94**	⇓P	**Pn**	**05 10 53.2**	**-0.6**
MYKOM	**Kota Tinggi**	**9.37**	**95**	⇓P	**Pn**	**05 11 01.0**	**-0.4**
PALK	**Pallekele**	**14.51**	**289**	*e*Pn	**Pn**	**05 12 08.0**	**-3.7**
	9.1nm,1.0s						
PALK				*e*Sn	**Sn**	**05 14 36.2**	**-15**
KSM	**Kuching**	**15.83**	**94**	*e*P	**Pn**	**05 12 28.9**	**-0.1**
CHTO	**Chiang Mai**	**16.69**	**15**	*e*P	**Pn**	**05 12 40.0**	**0.0**
	12nm,0.9s						
CHTO	**Chiang Mai**	**16.69**	**15**	*e*P	**Pn**	**05 12 40.0**	**+0.1**
CHTO				pmax	pmax		
	comp=Z,12nm,0.9s						
SBUM	**Sibu**	**17.70**	**90**	⇑P	**Pn**	**05 12 52.9**	**+0.4**
BTM	**Bintulu**	**18.57**	**88**	⇑P	**Pn**	**05 13 03.9**	**+0.8**
VIS	**Vishakhapatnam**	**18.61**	**325**	*e*P	**Pn**	**05 13 03.9**	**+0.4**
VIS				AMb	AMB	05 13 16.8	
	comp=Z,44nm,1.6s						
HYB	**Hyderabad**	**21.50**	**314**	*e*P	**P**	**05 13 35.0**	**+0.5**
HYB	**Hyderabad**	**21.50**	**314**	*i* P	**P**	**05 13 35.0**	**+0.5**
KKM	**Kota Kinabalu**	**21.91**	**80**	*e*P	**P**	**05 13 38.9**	**-0.1**
KKM	**Kota Kinabalu**	**21.91**	**80**	⇓P	**P**	**05 13 40.4**	**+1.4**
QIZ	**Qiongzhong**	**22.18**	**42**	P	**P**	**05 13 36.9**	**-4.9**
QIZ				S	**S**	**05 17 37.5**	**-6.8**
QIZ				XS	sS	05 17 53.5	-6.3
QIZ				AMB	AMB		
	comp=Z,141nm,3.7s						
QIZ				LR	LR		
	comp=N,448nm,16.6s,MS4.1						
QIZ				LR	LR		
	comp=E,395nm,16.6s,MS4.1						
QIZ				LR	LR		
	comp=Z,567nm,17.8s,MS4.0						
KDM	**Kudat**	**22.66**	**78**	⇓P	**P**	**05 13 48.4**	**+1.5**
BOK	**Bokaro**	**22.66**	**339**	*e*P	**P**	**05 13 47.0**	**+0.2**
BOK				AMb	AMB	05 13 50.0	
	comp=Z,62nm,1.0s,mb5.0						
SDKM	**Sandakan**	**22.83**	**82**	⇓P	**P**	**05 13 49.3**	**+0.5**
BLSP	**Bilaspur**	**22.84**	**329**	*e*P	**P**	**05 13 48.1**	**-0.6**
BLSP				AMb	AMB	05 13 52.1	
	comp=Z,26nm,0.9s,mb4.7						
SHL	**Shillong**	**22.98**	**354**	*e*P	**P**	**05 13 49.0**	**-1.2**
SHL				*ex*	x	05 17 51.0	
TSM	**Tawau**	**23.39**	**85**	⇓P	**P**	**05 13 55.7**	**+1.1**
KMI	**Kunming**	**23.76**	**19**	P	**P**	**05 13 58.3**	**+0.4**
KMI				AMB	AMB		
	comp=Z,21nm,1.3s,mb4.4						
MYLDM	**Lahad Datu**	**24.08**	**83**	⇑P	**P**	**05 14 02.9**	**+2.0**
KAD	**Karad**	**24.74**	**308**	*e*P	**P**	**05 14 09.0**	**+2.1**
KAD				AMb	AMB	05 14 11.4	
	comp=Z,8.0nm,0.7s,mb4.4						
ODAN	**Odare**	**25.07**	**345**	*e*P	**P**	**05 14 10.7**	**+0.9**
TAPN	**Taplejung**	**25.46**	**346**	*e*P	**P**	**05 14 14.5**	**+1.2**
	comp=Z,45nm,1.1s,mb4.9						
JIRN	**Jiri**	**26.16**	**343**	*e*P	**P**	**05 14 20.5**	**+0.8**
	comp=Z,55nm,1.1s,mb5.0						
GYA	**Guiyang**	**26.44**	**25**	P	**P**	**05 14 22.6**	**+0.4**
GYA				AMB	AMB		
	comp=Z,20nm,1.0s,mb4.6						
GYA				AMB	AMB		
	comp=Z,230nm,4.4s						
GYA				LR	LR		
	comp=N,380nm,18.6s,MS4.2						
GYA				LR	LR		
	comp=E,580nm,16.8s,MS4.2						
GYA				LR	LR		
	comp=Z,380nm,15.3s,MS4.1						
KKN	**Kakani**	**26.56**	**341**	*e*P	**P**	**05 14 23.5**	**+0.2**
BOM	**Bombay**	**26.71**	**309**	*ex*	x	05 14 42.0	
BOM				*ex*	x	05 14 42.6	
	comp=Z,23nm,1.2s						
BOM				*ex*	x	05 15 36.7	
GKN	**Gorkha**	**26.97**	**340**	*e*P	**P**	**05 14 27.3**	**+0.4**
	comp=Z,45nm,1.1s,mb4.9						
KOLN	**Koldanda**	**27.12**	**338**	*e*P	**P**	**05 14 28.3**	**0.0**
	comp=Z,35nm,1.2s,mb4.8						
LSA	**Lhasa**	**27.14**	**354**	*e*P	**P**	**05 14 29.9**	**+1.4**
	comp=Z,50nm,1.1s,mb5.0						
LSA	**Lhasa**	**27.14**	**354**	*e*P	**P**	**05 14 29.9**	**+1.4**
LSA				pmax	pmax		
	comp=Z,50nm,1.1s,mb5.0						
CD2	**Chengdu**	**29.49**	**16**	*e*P	**P**	**05 14 49.1**	**-0.3**
CD2				AP	pP	05 14 58.7	-1.2
CD2				XP	sP	05 15 02.9	-1.5
CD2				PP	PP	05 15 46.6	-10
CD2				S	**S**	**05 19 42.2**	**+0.7**
CD2				SS	SS	05 21 18.4	-29
CD2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.7						
CD2				AMB	AMB		
	comp=Z,30nm,5.2s						
CD2				LR	LR		
	comp=N,500nm,18.0s,MS4.6						
CD2				LR	LR		
	comp=E,950nm,13.2s,MS4.6						
CD2				LR	LR		
	comp=Z,220nm,15.6s,MS3.9						
XAN	**Xi'an**	**34.06**	**22**	P	**P**	**05 15 28.2**	**-1.3**
XAN				AP	pP	05 15 34.7	-5.3
MBWA	**Marble Bar**	**34.17**	**135**	*e*P	**P**	**05 15 30.8**	**+0.1**
	comp=Z,18nm,1.3s,mb4.8						
FITZ	**Fitzroy Crossi**	**36.93**	**125**	P	**P**	**05 15 53.4**	**-1.0**
	comp=Z,1.7nm,0.8s,mb3.9,baz=313,slow=18,SNR=3.1						
GTA	**Gaotai**	**36.96**	**7**	*e*P	**P**	**05 15 53.6**	**-0.8**
GTA				AP	pP	05 16 01.1	-3.9
GTA				XP	sP	05 16 05.2	-4.2
GTA				AMB	AMB		
	comp=Z,7.0nm,1.1s,mb4.4						
NJ2	**Nanjing**	**37.19**	**35**	*e*P	**P**	**05 15 51.4**	**-5.1**
NJ2				AP	pP	05 16 01.9	-5.2
NJ2				XP	sP	05 16 06.3	-5.2
NJ2				PP	PP	05 17 17.2	-4.6
NJ2				S	**S**	**05 21 33.0**	**-7.9**
NJ2				XS	sS	05 21 50.0	-8.5
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.8						
NJ2				AMB	AMB		
	comp=Z,340nm,4.0s						
NJ2				LR	LR		
	comp=N,600nm,17.0s,MS4.7						
NJ2				LR	LR		
	comp=E,610nm,12.7s,MS4.7						
NJ2				LR	LR		
	comp=Z,2μm,15.0s,MS5.1						
JOW	**Kunigami**	**40.34**	**50**	LR	LR	05 31 37.6	
	comp=Z,123nm,21.1s,MS3.7,baz=292,slow=34						
BJT	**Baijiatuau**	**42.11**	**25**	*e*P	**P**	**05 16 37.7**	**+0.4**
	comp=Z,15nm,0.9s,mb4.6						
BJT	**Baijiatuau**	**42.11**	**25**	*e*P	**P**	**05 16 37.7**	**+0.4**
BJT				pmax	pmax		
	comp=Z,15nm,0.9s						
ULHL	**Ulahol**	**42.73**	**340**	P	**P**	**05 16 43.2**	**+0.9**
	SNR=13						
KZA	**Kyzart**	**42.93**	**339**	P	**P**	**05 16 45.3**	**+1.4**
	SNR=5.6						
UCH	**Uchtor**	**43.33**	**338**	*e*P	**P**	**05 16 47.8**	**+0.7**
	comp=Z,12nm,1.1s,mb4.5						
UCH	**Uchtor**	**43.33**	**338**	P	**P**	**05 16 48.1**	**+0.9**
	SNR=12						
KBK	**Karagaybulak**	**43.55**	**339**	P	**P**	**05 16 50.4**	**+1.5**
	SNR=11						
TKM2	**Tokmak 2**	**43.55**	**340**	*e*P	**P**	**05 16 49.6**	**+0.7**
	comp=Z,10.0nm,1.1s,mb4.5						
TKM2	**Tokmak 2**	**43.55**	**340**	*e*P	**P**	**05 16 49.6**	**+0.7**
TKM2				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.5						
TKM2	**Tokmak 2**	**43.55**	**340**	P	**P**	**05 16 49.6**	**+0.7**
	SNR=7.3						
AML	**Almayashu**	**43.56**	**337**	*e*P	**P**	**05 16 49.7**	**+0.7**
	comp=Z,15nm,1.0s,mb4.7						
AML	**Almayashu**	**43.56**	**337**	P	**P**	**05 16 49.8**	**+0.8**
	SNR=13						
DL2	**Dalian**	**43.79**	**31**	P	**P**	**05 16 51.5**	**+0.6**
DL2				AMB	AMB		
	comp=Z,20nm,0.8s,mb4.9						
EKS2	**Erkin-Say**	**43.98**	**338**	*e*P	**P**	**05 16 52.7**	**+0.3**
	comp=Z,3.9nm,0.8s,mb4.2						
USP	**Ospenovka**	**44.24**	**339**	P	**P**	**05 16 54.8**	**+0.4**
	SNR=9.8						
WRA	**Warramunga Arr**	**45.05**	**122**	P	**P**	**05 17 00.9**	**-0.4**
	comp=Z,4.5nm,0.9s,mb4.3,baz=301,slow=8.9,SNR=23						
WB2	**Warramunga Arr**	**45.06**	**122**	*e*P	**P**	**05 17 00.4**	**-1.0**
MKAR	**Makanchi Array**	**45.29**	**348**	P	**P**	**05 17 03.0**	**+0.2**
MKAR	**Makanchi Array**	**45.29**	**348**	P	**P**	**05 17 03.0**	**+0.2**
	comp=Z,7.0nm,0.8s,mb4.6,baz=165,slow=8.0,SNR=33						
JNU	**Nakatsue**	**45.62**	**44**	LR	LR	05 38 11.3	
	comp=Z,152nm,18.9s,MS4.0,baz=228,slow=39						
SONM	**Songino Array**	**46.22**	**11**	P	**P**	**05 17 10.3**	**+0.2**
	comp=Z,4.7nm,0.8s,mb4.5,baz=189,slow=8.8,SNR=17						
KSRS	**Korea Array**	**46.31**	**37**	P	**P**	**05 17 09.4**	**-1.6**
	comp=Z,3.1nm,0.9s,mb4.2,baz=228,slow=8.9,SNR=8.5						
KSRS				LR	LR	05 40 35.0	
	comp=Z,115nm,18.9s,MS3.9,baz=356,slow=41						
ASAR	**Alice Springs**	**46.38**	**126**	P	**P**	**05 17 11.8**	**0.0**
	comp=Z,1.4nm,0.8s,mb3.9,baz=298,slow=7.4,SNR=13						
ZAK	**Zakamensk**	**48.19**	**8**	*e*P	**P**	**05 17 24.7**	**-0.7**
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.2s,mb4.2						
CN2	**Changchun**	**49.35**	**29**	*e*P	**P**	**05 17 34.8**	**+0.4**
TLY	**Talaya**	**49.51**	**7**	*e*P	**P**	**05 17 36.3**	**+0.8**
TLY				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.7						
TLY				MLR	MLR		
	comp=Z,90nm,15.0s,MS3.9						
KURK	**Kurchatov**	**49.79**	**347**	*e*P	**P**	**05 17 38.0**	**+0.4**
	comp=Z,16nm,1.3s,mb4.9						
KURK	**Kurchatov**	**49.79**	**347**	*e*P	**P**	**05 17 35.4**	**-2.2**
HIA	**Hailar**	**51.25**	**21**	*e*P	**P**	**05 17 48.6**	**0.0**
	comp=Z,17nm,0.9s,mb5.0						
HIA	**Hailar**	**51.25**	**21**	*e*P	**P**	**05 17 48.6**	**-0.1**
HIA				pmax	pmax		
	comp=Z,17nm,0.9s						
QRN	**Al-Qurain**	**51.36**	**305**	*e*P	**P**	**05 17 50.4**	**+0.5**
QRN				AMb	AMB	05 17 53.4	
	comp=Z,14nm,0.6s,mb5.1						
CIT	**Chita**	**51.77**	**15**	*e*P	**P**	**05 17 52.5**	**0.0**
CIT				*e*		05 17 58.9	
CIT				pmax	pmax		
	comp=Z,25nm,1.2s,mb5.0						
ZAL	**Zalesovo**	**51.79**	**353**	P	**P**	**05 17 52.5**	**-0.2**
ZAA0	**Zalesovo Array**	**51.80**	**353**	*e*P	**P**	**05 17 52.9**	**+0.2**
ZALV	**Zalesovo Beam**	**51.80**	**353**	P	**P**	**05 17 52.5**	**-0.3**
ZALV	**Zalesovo Beam**	**51.80**	**353**	P	**P**	**05 17 52.5**	**-0.2**
	comp=Z,10nm,0.9s,mb4.7,baz=174,slow=5.4,SNR=34						
NAY	**Al-Naaiem**	**52.10**	**306**	*e*P	**P**	**05 17 55.6**	**+0.2**
NAY				AMb	AMB	05 17 59.0	
	comp=Z,12nm,1.1s,mb4.7						
MIB	**Mutribah**	**52.22**	**306**	*e*P	**P**	**05 17 56.7**	**+0.3**
MIB				AMb	AMB	05 18 00.7	
	comp=Z,51nm,0.9s,mb5.4						
MJAR	**Matsushiro Arr**	**52.54**	**45**	LR	LR	05 40 39.2	
	comp=Z,128nm,18.1s,MS4.0,baz=240,slow=36						
NVS	**Novosibirsk**	**52.88**	**352**	*e*P	**P**	**05 18 00.0**	**-0.7**
NVS				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.7						
NVS				pmax	pmax		
	comp=N,11nm,1.3s						
NVS				pmax	pmax		
	comp=E,11nm,1.5s						
BRVK	**Borovoye**	**54.14**	**342**	*e*P	**P**	**05 18 09.1**	**-0.9**
	comp=E,9.9nm,1.1s,mb4.7						
BRVK	**Borovoye**	**54.14**	**342**	*e*P	**P**	**05 18 09.1**	**-0.9**
BRVK				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.7						
CHKZ	**Chkalovo**	**54.58**	**343**	*i* P	**P**	**05 18 12.7**	**-0.5**
CHKZ				pmax	pmax		
	comp=Z,18nm,1.1s,mb5.0						
KLR	**Kul'dur**	**56.27**	**28**	*e*P	**P**	**05 18 21.2**	**-4.2**
STKA	**Stephens Creek**	**56.29**	**131**	*e*P	**P**	**05 18 26.0**	**+0.1**
STKA	**Stephens Creek**	**56.29**	**131**	P	**P**	**05 18 25.1**	**-0.7**
	comp=Z,1.5nm,0.9s,mb4.0,baz=320,slow=4.5,SNR=3.5						
AKTK	**Aktyubinsk**	**56.76**	**333**	P	**P**	**05 18 27.3**	**-1.6**
AKTO	**Aktyubinsk**	**56.76**	**333**	*i* P	**P**	**05 18 27.0**	**-1.9**
AKTO	**Aktyubinsk**	**56.76**	**333**	P	**P**	**05 18 27.3**	**-1.6**
	comp=Z,2.3nm,0.7s,mb4.3,baz=99,slow=6.9,SNR=5.0						
BOD	**Bodaibo**	**57.18**	**12**	⇑*i* P	**P**	**05 18 31.6**	**-0.1**
BOD				pmax	pmax		
	comp=Z,13nm,1.1s,mb4.9						
ASAJ	**Asahikawa**	**59.22**	**39**	LR	LR	05 46 53.1	
	comp=Z,88nm,18.2s,MS3.9,baz=162,slow=39						
SVE	**Sverdlovsk**	**60.42**	**339**	*e*P	**P**	**05 18 53.6**	**-0.7**
SVE				pmax	pmax		
	comp=Z,20nm,1.1s,mb5.1						
YSS	**Yuzh-Sakhalins**	**60.76**	**36**	*e*P	**P**	**05 18 55.7**	**-1.1**
YSS				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.7						
ARU	**Arti**	**60.88**	**338**	*e*P	**P**	**05 18 56.4**	**-1.0**
	comp=Z,14nm,1.1s,mb5.0						
ARU	**Arti**	**60.88**	**338**	*c i*P	**P**	**05 18 55.6**	**-1.8**
ARU						05 19 38.2	
ARU				*e*S	**S**	**05 27 10.9**	**-1.5**
ARU				*e*SS	SS	05 31 12.3	+0.2
ARU				pmax	pmax		
	comp=Z,14nm,1.2s,mb5.0						
KIV	**Kislovodsk**	**61.50**	**320**	*e*P	**P**	**05 19 01.4**	**-0.4**
KIV	**Kislovodsk**	**61.50**	**320**	*e*P	**P**	**05 19 01.4**	**-0.5**
KIV				pmax	pmax		
	comp=Z,10.0nm,1.2s,mb4.8						
KIV				MLR	MLR		
	comp=Z,30nm,17.0s,MS3.5						
SOC	**Sochi**	**63.29**	**318**	*e*P	**P**	**05 19 12.5**	**-1.3**
SOC				pmax	pmax		
	comp=Z,5.0nm,0.5s,mb4.9						
YAK	**Yakutsk**	**64.87**	**17**	⇑*e*P	**P**	**05 19 21.7**	**-2.1**
YAK				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.9						
LSZ	**Lusaka**	**67.94**	**252**	*e*P	**P**	**05 19 45.7**	**+1.3**
	comp=Z,3.5nm,1.0s,mb4.3						
LSZ	**Lusaka**	**67.94**	**252**	*e*P	**P**	**05 19 45.7**	**+1.3**
LSZ				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.3						
LSZ	**Lusaka**	**67.94**	**252**	P	**P**	**05 19 45.5**	**+1.1**
	comp=Z,2.4nm,0.8s,mb4.3,baz=185,slow=3.1,SNR=4.4						
OBN	**Obninsk**	**70.03**	**329**	P	**P**	**05 19 56.0**	**-0.6**
OBN				pmax	pmax		
	comp=Z,11nm,1.3s,mb4.6						
MA2	**Magadan**	**71.27**	**27**	*e*P	**P**	**05 20 05.2**	**+1.1**
MA2				pmax	pmax		
	comp=Z,20nm,1.3s,mb4.9						
TIXI	**Tiksi**	**72.31**	**11**	*e*P	**P**	**05 20 09.5**	**-0.6**
	comp=Z,17nm,1.3s,mb4.8						
TIXI	**Tiksi**	**72.31**	**11**	*e*P	**P**	**05 20 08.7**	**-1.4**
TIXI				pmax	pmax		
	comp=Z,15nm,1.2s,mb4.8						
AKASG	**Malin Array Be**	**72.52**	**323**	*i* P	**P**	**05 20 10.6**	**-1.1**
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.8s						
AKASG	**Malin Array Be**	**72.52**	**323**	P	**P**	**05 20 09.4**	**-2.3**
	comp=Z,1.5nm,0.8s,mb4.0,baz=90,slow=4.5,SNR=8.0						
AKBB	**Malin Array Si**	**72.52**	**323**	*e*P	**P**	**05 20 10.5**	**-1.3**
SEY	**Seymchan**	**73.56**	**24**	⇑*e*P	**P**	**05 20 14.6**	**-3.0**
FINES	**FINESS Array B**	**77.53**	**333**	P	**P**	**05 20 39.9**	**-0.6**
	comp=Z,2.4nm,0.9s,mb4.1,baz=108,slow=12,SNR=6.3						
GCIS	**Gornji Cirnik**	**80.40**	**316**	*i* P	**P**	**05 20 56.7**	**+0.2**
BOJS	**Bojanci**	**80.62**	**316**	*e*P	**P**	**05 20 57.7**	**0.0**
PERS	**Pernice**	**80.83**	**317**	*e*P	**P**	**05 20 59.1**	**+0.3**
BILL	**Bilibino**	**80.84**	**21**	P	**P**	**05 20 58.0**	**-0.4**
BILL				pmax	pmax		
	comp=Z,2.0nm,1.2s,mb3.9						
BILL				MLR	MLR		
	comp=Z,200nm,15.0s,MS4.6						
LJU	**Ljubljana**	**81.18**	**316**	*e*P	**P**	**05 21 01.8**	**+1.1**
GERES	**GERESS Array B**	**82.00**	**319**	P	**P**	**05 21 05.4**	**+0.5**
	comp=Z,1.4nm,0.8s,mb3.9,baz=104,slow=4.5,SNR=13						
GRA1	**Grafenberg Arr**	**83.68**	**320**	*e*P	**P**	**05 21 15.2**	**+1.6**
	comp=Z,2.0nm,1.1s,mb4.2						
GRF	**Grafenberg Arr**	**83.68**	**320**	*e*P	**P**	**05 21 15.2**	**+1.6**
GRF				pmax	pmax		
	comp=Z,2.0nm,1.1s,mb4.2						
GRF	**Grafenberg Arr**	**83.68**	**320**	*e*P	**P**	**05 21 15.2**	**+1.6**
GRF				pmax	pmax		
	comp=Z,2.0nm,1.1s,mb4.2						
GRF	**Grafenberg Arr**	**83.68**	**320**	*e*P	**P**	**05 21 15.2**	**+1.6**
	comp=Z,2.0nm,1.1s,mb4.2						
NOA	**NORSAR Array B**	**84.48**	**331**	P	**P**	**05 21 17.7**	**+0.2**
	comp=Z,0.8nm,0.8s,mb3.9,baz=95,slow=5.0,SNR=3.6						
MEM	**Membach**	**87.06**	**320**	P	**P**	**05 21 30.8**	**+0.3**
BCLA	**Clavier**	**87.51**	**320**	P	**P**	**05 21 32.7**	**0.0**
YKA	**Yellowknife Ar**	**111.43**	**14**	PP	PP	05 27 58.1	-0.8
	comp=Z,0.4nm,0.9s,baz=333,slow=7.2,SNR=4.5						
PDAR	**Pinedale Array**	**129.89**	**23**	PKP	PKPdf	05 27 55.2	+0.6
	comp=Z,0.3nm,0.8s,baz=33,slow=3.5,SNR=3.9						
JCT	**Junction City**	**144.39**	**21**	*e*PKPdf	PKPdf	05 28 19.9	-1.8

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*IDC **01** 05:10:30.6±12.0, 23.97S×179.39W, h479km±101km, mb3.5/6, mb1 3.6/7, mb1mx3.3/16, mbtmp3.5/7, Error ellipse: s-maj=182.2km s-min=38.3km az=57.0*
NEIC 01 05:10:35.1±9.7, 2435S×17990W, h486km±57km, mb4.0/2, 1D, Error ellipse: s-maj=181.2km s-min=33.1km az=57.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**14.10**	**190**	P	P	05 13 35.4	-0.4
	1.2nm,0.3s,baz=349,slow=5.7,SNR=8.4						
RPZ	**Rata Peaks**	**20.70**	**199**	P	P	05 14 41.5	+0.9
	5.6nm,0.6s,baz=20,slow=15,SNR=4.1						
CTA	**Charters Tower**	**31.57**	**271**	⇓*i* P	P	05 16 18.1	+1.1
	7.0nm,0.4s						
CTA	**Charters Tower**	**31.57**	**271**	P	P	05 16 17.9	+0.9
	8.7nm,0.4s,baz=98,slow=11,SNR=20						
CTAO	**Charters Tower**	**31.57**	**271**	*e*P	P	05 16 17.6	+0.7
	5.0nm,0.4s						
STKA	**Stephens Creek**	**34.65**	**249**	*e*P	P	05 16 42.7	-0.2
	1.0nm,0.4s						
STKA	**Stephens Creek**	**34.65**	**249**	P	P	05 16 43.0	+0.1
	1.3nm,0.5s,baz=97,slow=12,SNR=7.0						
ASAR	**Alice Springs**	**42.06**	**261**	P	P	05 17 43.0	-0.5
	1.1nm,0.4s,baz=93,slow=8.3,SNR=20						
WB2	**Warramunga Arr**	**42.46**	**267**	*e

comp=Z,70nm,0.7s,mb5.4
PMOR **Pomariorio Ree** 29.54 89 eP P 05 23 09.7 -0.7
comp=Z,47nm,0.9s,mb5.1
VAH **Vaihoa** 29.75 90 eP P 05 23 11.5 -0.7
comp=Z,22nm,0.8s,mb4.8
ARMA **Armidale** 29.82 240⇓iP P 05 23 14.4 +1.7
CTA **Charters Tower** 33.30 261⇓iP P 05 23 43.2 +0.8
comp=Z,51nm,0.7s,mb5.3
CTA **Charters Tower** 33.30 261⇓iP P 05 23 43.2 +0.8
CTA pmax pmax
comp=Z,51nm,0.7s
CTA **Charters Tower** 33.30 261 P P 05 23 43.3 +0.9
comp=Z,61nm,0.7s,mb5.3,baz=91,slow=10,SNR=67
CTAO **Charters Tower** 33.30 261 eP P 05 23 42.7 +0.2
comp=Z,57nm,0.7s,mb5.3
CTAO **Charters Tower** 33.30 261 eP P 05 23 42.7 +0.3
CTAO pmax pmax
comp=Z,57nm,0.7s,mb5.3
CNB **Canberra Magne** 33.32 232⇓iP P 05 23 43.8 +1.4
comp=Z,82nm,0.6s,mb5.5
STKA **Stephens Creek** 38.51 241⇓iP P 05 24 26.5 +1.3
comp=Z,57nm,1.0s,mb5.1
STKA **Stephens Creek** 38.51 241 P P 05 24 26.5 +1.3
comp=Z,66nm,0.8s,mb5.2,baz=87,slow=9.0,SNR=134
STKA ScP ScP 05 29 17.2 0.0
comp=Z,2.9nm,0.8s,baz=83,slow=3.0,SNR=3.3
STKA S S 05 29 40.3 -0.3
comp=Z,2.5nm,0.8s,baz=308,slow=19,SNR=3.2
RKT **Rikitea** 41.05 105 eP P 05 24 44.7 -0.9
comp=Z,183nm,1.4s,mb5.4
RKT **Rikitea** 41.05 105 eP P 05 24 44.7 -0.9
RKT pmax pmax
comp=Z,183nm,1.4s,mb5.4
WB2 **Warramunga Arr** 44.48 260⇓iP P 05 25 12.2 -0.2
WB2 eS S 05 31 00.7 -6.0
WB2 eSCS ScS 05 34 06.2 -1.1
WRA **Warramunga Arr** 44.49 260 P P 05 25 12.2 -0.3
WRA 05 26 42.8
WRA S S 05 31 02.0 -4.9
WRA **Warramunga Arr** 44.49 260 P P 05 25 12.2 -0.3
comp=Z,43nm,0.7s,mb5.1,baz=95,slow=7.4,SNR=463
WRA PcP PcP 05 26 42.8 -0.5
comp=Z,5.7nm,0.7s,baz=87,slow=3.6,SNR=5.4
WRA ScP ScP 05 29 40.0 -1.4
comp=Z,3.4nm,0.9s,baz=85,slow=4.6,SNR=5.9
WRA S S 05 31 02.0 -4.9
comp=Z,7.1nm,1.0s,baz=97,slow=13,SNR=7.6
ASAR **Alice Springs** 44.66 254 P P 05 25 14.2 +0.5
ASAR 05 26 43.2
ASAR S S 05 31 06.8 -2.3
ASAR **Alice Springs** 44.66 254 P P 05 25 14.2 +0.5
comp=Z,206nm,0.6s,mb5.8,baz=87,slow=8.6,SNR=1969
ASAR PcP PcP 05 26 43.2 -0.7
comp=Z,9.9nm,0.7s,baz=96,slow=4.4,SNR=7.4
ASAR ScP ScP 05 29 41.2 -0.7
comp=Z,4.6nm,1.0s,baz=98,slow=4.7,SNR=5.1
ASAR S S 05 31 06.8 -2.3
comp=Z,15nm,0.9s,baz=90,slow=15,SNR=40
KAKA **Kakadu** 47.44 269⇓iP P 05 25 34.9 0.0
comp=Z,46nm,0.4s,mb5.4
KAKA eS S 05 31 46.3 -1.8
FORT **Forrest** 49.88 245 eP P 05 25 52.6 -0.2
comp=Z,75nm,0.6s,mb5.3
FITZ **Fitzroy Crossi** 52.89 261⇓iP P 05 26 14.9 +0.3
comp=Z,5.3nm,0.8s,mb3.9
FITZ eS S 05 33 03.3 +1.7
FITZ **Fitzroy Crossi** 52.89 261 P P 05 26 15.0 +0.4
comp=Z,3.3nm,0.5s,mb4.0,baz=81,slow=4.3,SNR=17
FITZ S S 05 33 03.7 +2.1
comp=Z,1.8nm,1.0s,baz=240,slow=20,SNR=3.4
BATI **Kupang** 56.38 269 P P 05 26 40.0 +0.9
comp=Z,25nm,0.6s,mb4.6,baz=144,slow=1.8,SNR=4.1
MBWA **Marble Bar** 57.94 256 eP P 05 26 49.4 -0.2
comp=Z,13nm,0.6s,mb4.2
KLBR **Kellerberrin** 58.71 244 eP P 05 26 54.2 -0.4
comp=Z,28nm,0.7s,mb4.5
NWAO **Narrogin (SRO)** 59.09 242 P P 05 26 57.1 0.0
comp=Z,6.1nm,0.5s,mb4.0,baz=85,slow=8.7,SNR=7.8
MUN **Mundaring** 60.00 243 eP P 05 27 02.1 -1.2
VNDA **Vanda** 60.45 185 P P 05 27 06.0 +0.5
comp=Z,4.4nm,0.8s,mb3.8,baz=350,slow=6.6,SNR=30
VNDA ScP ScP 05 30 48.9 -0.7
comp=Z,1.4nm,0.8s,baz=326,slow=4.4,SNR=4.2
MJAR **Matsushiro Arr** 67.80 323 P P 05 27 52.2 -0.4
MJAR **Matsushiro Arr** 67.80 323 P P 05 27 52.2 -0.4
comp=Z,18nm,0.7s,mb4.6,baz=155,slow=5.9,SNR=62
MAJO **Matsushiro** 67.81 323 eP P 05 27 52.2 -0.4
comp=Z,14nm,0.8s,mb4.4
MAJO **Matsushiro** 67.81 323 eP P 05 27 52.2 -0.4
MAJO pmax pmax
comp=Z,14nm,0.8s,mb4.4
MAT **Matsushiro** 67.81 323 P P 05 27 52.2 -0.4
JOW **Kunigami** 68.09 310 P P 05 27 55.5 +1.0
comp=Z,14nm,0.7s,mb4.5,baz=139,slow=20,SNR=3.8
JNU **Nakatsue** 70.02 316 P P 05 28 06.2 +0.2
comp=Z,6.7nm,0.9s,mb4.1,baz=101,slow=13,SNR=4.0
QSPA **South Pole Qui** 72.17 180 eP P 05 28 18.0 +0.3
comp=Z,35nm,0.8s,mb4.9
QSPA **South Pole Qui** 72.17 180 P P 05 28 18.0 +0.3
comp=Z,28nm,0.8s,mb4.8,baz=25,slow=1.2,SNR=137
KSM **Kuching** 72.54 277 eP P 05 28 21.7 +0.6
PET **Petropavlovsk** 73.32 346 eP P 05 28 23.7 -1.0
comp=Z,26nm,0.8s,mb4.8
PET **Petropavlovsk** 73.32 346 eP P 05 28 23.7 -1.0
PET pmax pmax
comp=Z,26nm,0.8s,mb4.8
YSS **Yuzh-Sakhalins** 73.33 333 eP P 05 28 24.6 -0.3
comp=Z,24nm,0.8s,mb4.8
YSS **Yuzh-Sakhalins** 73.33 333⇑eP P 05 28 25.4 +0.5
YSS pmax pmax
comp=Z,39nm,1.1s,mb4.8
SDPT **Sand Point** 74.55 11 eP P 05 28 29.6 -2.0
comp=Z,206nm,1.5s,mb5.4
KSRS **Korea Array** 74.59 318 P P 05 28 32.8 +0.6
comp=Z,3.5nm,0.6s,mb4.0,baz=130,slow=6.2,SNR=18
HAST **Hastings Reser** 76.23 44 P P 05 28 42.0 +0.6
baz=76,SNR=16
V03C **Hunter Liggett** 76.23 45 ⇓P P 05 28 42.1 +0.8
baz=76
BNLO **Ben Lomond (Sa** 76.25 43 ⇓P P 05 28 41.4 0.0
baz=76
JRSC **Jasper Ridge** 76.36 43 ⇑P P 05 28 41.9 -0.2
baz=77
SBC **Santa Barbara** 76.39 47 ⇑P P 05 28 43.4 +1.1
baz=77
SCI **San Clemente I** 76.43 48 ⇑P P 05 28 42.8 +0.3
baz=77
PKM **Peak Mountain** 76.57 46 ⇓P P 05 28 44.1 +0.8
baz=77,SNR=5.5
PKD **Parkfield** 76.66 45 ⇓P P 05 28 43.6 -0.1
baz=77
SMMC **Simmler** 76.67 46 ⇓P P 05 28 44.7 +0.9
baz=77,SNR=6.2
PTRM **Twissleman Ran** 76.72 45 eP P 05 28 43.9 -0.2
U04C **Hernandez Rese** 76.73 45 ⇑P P 05 28 45.1 +1.1
baz=77,SNR=12
HOPS **Hopland** 76.76 41 ⇑P P 05 28 44.5 +0.4
baz=77
PACP **Pacheco Peak** 76.76 44 ⇓P P 05 28 44.7 +0.5
baz=77,SNR=14
CIS **Catalina Islan** 76.76 48 ⇑P P 05 28 43.8 -0.5
baz=77
CVS **Carmenet Viney** 76.77 42 ⇓P P 05 28 44.0 -0.2
baz=77
NSHM **Saint Helena R** 76.77 42 eP P 05 28 44.1 -0.1
WENL **Wente Brothers** 76.80 43 ⇓P P 05 28 44.8 +0.4
baz=77
P01C **Double 8 Ranch** 76.87 41 ⇓P P 05 28 45.0 +0.2
baz=77
BDM **Black Diamond** 76.92 43 ⇓P P 05 28 46.1 +1.0
baz=77
O01C **Eel River Cons** 76.98 40 ⇑P P 05 28 46.1 +0.7
baz=77
KIPM **Iron Peak** 76.99 40 eP P 05 28 45.7 +0.3
FMP **Fort Macarthur** 77.00 48 ⇑P P 05 28 45.9 +0.3
baz=77
S04C **Ingram Canyon,** 77.01 43 P P 05 28 46.0 +0.4
baz=77,SNR=12
V05C **Boulder Hill,** 77.04 45 ⇑P P 05 28 46.5 +0.7
baz=77
MNRC **McLaughlin Nat** 77.09 42 ⇑P P 05 28 46.9 +0.9
baz=77,SNR=9.8
T05C **Eagle Field, D** 77.10 44 ⇑P P 05 28 47.0 +1.0
baz=77
U05C **Westside ANR,** 77.16 45 ⇑P P 05 28 47.2 +0.8
baz=77
Q03C **Winters** 77.22 42 ⇓P P 05 28 47.6 +1.0
baz=77
DECC **Green Verdugo** 77.26 47 ⇑P P 05 28 47.1 +0.1
baz=78,SNR=5.3
GASB **Alder Springs** 77.37 41 ⇑P P 05 28 48.1 +0.6
baz=78,SNR=12
ARVC **Arvin** 77.38 47 P P 05 28 47.8 +0.1
baz=78,SNR=7.7
109C **Camp Elliot, M** 77.42 49 ⇑P P 05 28 47.9 -0.1
baz=78,SNR=6.3
S05C **Merced** 77.58 44 ⇑P P 05 28 48.4 -0.2
baz=78,SNR=22
VES **Vestal, Richgr** 77.59 46 ⇓P P 05 28 48.3 -0.5
baz=78,SNR=13
O02C **Red Bluff** 77.63 40 ⇑P P 05 28 49.6 +0.7
baz=78,SNR=16
R04C **Big Horse Ranc** 77.69 43 ⇓P P 05 28 49.5 +0.2
baz=78
N02C **Big Bar** 77.70 40 ⇑P P 05 28 49.8 +0.5
baz=78,SNR=8.0
BFSC **Mount Baldy St** 77.72 48 P P 05 28 49.4 -0.1
baz=78,SNR=11
RCTC **Rector, Farmer** 77.73 45 P P 05 28 49.1 -0.4
baz=78,SNR=5.3
KRMB **Red Mountain** 77.76 39 eP P 05 28 50.1 +0.6
T06C **Millerton Lake** 77.80 45 P P 05 28 49.8 -0.1
baz=78,SNR=32
NJ2 **Nanjing** 77.81 310 eP P 05 28 51.0 +0.9
NJ2 AP pP 05 30 57.9 +7.5
NJ2 XP sP 05 31 56.8 +7.9
NJ2 PP PP 05 31 57.8 +1.2
NJ2 S S 05 37 56.0 -0.8
NJ2 SKS 05 38 03.0
NJ2 AMB AMB
comp=Z,50nm,1.2s,mb4.8
NJ2 AMB AMB
comp=Z,180nm,3.8s
EDW2 **Edwards Air Fo** 77.83 47 P P 05 28 50.2 +0.1
baz=78,SNR=34
M01C **Crescent City** 77.83 38 ⇑P P 05 28 50.6 +0.7
baz=78
ISA **Isabella** 77.91 46 eP P 05 28 50.4 -0.1
comp=Z,48nm,0.9s,mb4.9
ISA **Isabella** 77.91 46 eP P 05 28 50.4 -0.1
ISA pmax pmax
comp=Z,48nm,0.9s,mb4.9
ISA **Isabella** 77.91 46 P P 05 28 50.8 +0.3
baz=78,SNR=32
MONP **Monument Peak** 77.91 50 ⇓P P 05 28 51.0 +0.4
baz=78,SNR=27
HABR **Khabarovsk** 77.92 330 eP P 05 28 50.2 0.0
HABR e 05 28 54.2
HABR e 05 31 55.9
HABR eS S 05 37 53.2 -4.0
HABR pmax pmax
comp=Z,55nm,1.0s,mb4.9
CMB **Columbia Colle** 77.92 43 eP P 05 28 50.1 -0.4
comp=Z,31nm,0.9s,mb4.7
CMB **Columbia Colle** 77.92 43 eP P 05 28 50.1 -0.4
CMB pmax pmax
comp=Z,31nm,0.9s,mb4.7
CMB **Columbia Colle** 77.92 43 P P 05 28 50.5 0.0
baz=78,SNR=37
OHCM **Honcut** 77.96 42 eP P 05 28 50.0 -0.7
O03C **Acorn Hollow,** 78.00 41 P P 05 28 51.0 +0.1
baz=78,SNR=7.5
WDC **Whiskeytown Da** 78.02 40 eP P 05 28 50.6 -0.3
comp=Z,37nm,1.3s,mb4.7
WDC **Whiskeytown Da** 78.02 40 eP P 05 28 50.6 -0.4
WDC pmax pmax
comp=Z,37nm,1.3s,mb4.7
WDC **Whiskeytown Da** 78.02 40 P P 05 28 51.1 +0.1
baz=78,SNR=14
DVTC **Desert V Tower** 78.03 50 ⇑P P 05 28 51.7 +0.5
baz=78,SNR=7.2
ORV **Oroville** 78.07 42 P P 05 28 51.1 -0.2
baz=78,SNR=32
HELL **Mitchell Peak** 78.08 45 P P 05 28 51.1 -0.3
baz=78,SNR=21
MDJ **Mudanjiang** 78.09 325 P P 05 28 51.6 +0.4
MDJ AP pP 05 31 01.5 +10
MDJ XP sP 05 31 58.6 +8.5
MDJ AMB AMB
comp=Z,42nm,1.0s,mb4.8
MDJ AMB AMB
comp=Z,110nm,4.3s
MDJ **Mudanjiang** 78.09 325 eP P 05 28 51.8 +0.6
comp=Z,39nm,0.9s,mb4.8
LAVA **Lava Cap Winer** 78.10 43 ⇑P P 05 28 51.1 -0.3
baz=78,SNR=13
K01A **Sixes** 78.21 38 ⇓P P 05 28 52.2 +0.2
baz=78
KCC **Kaiser Creek** 78.24 44 P P 05 28 52.4 +0.2
baz=78,SNR=15
PFO **Pinyon Flat Ob** 78.25 49 eP P 05 28 52.1 -0.3
comp=Z,24nm,1.4s,mb4.4
PFO **Pinyon Flat Ob** 78.25 49 eP P 05 28 52.1 -0.3
PFO pmax pmax
comp=Z,24nm,1.4s,mb4.4
PFO **Pinyon Flat Ob** 78.25 49 P P 05 28 52.5 +0.1
baz=78,SNR=7.2
BBRC **Big Bear Sol-O** 78.26 48 ⇓P P 05 28 52.0 -0.4
baz=78
M02C **Callahan** 78.31 39 P P 05 28 53.3 +0.8
baz=79,SNR=17
LRMC **Laurel Mountai** 78.35 47 ⇓P P 05 28 52.7 -0.2
baz=79,SNR=10
SWSC **Sam W. Stewart** 78.39 50 P P 05 28 53.2 +0.1
baz=79,SNR=16
KDAK **Kodiak Island** 78.42 14 eP P 05 28 51.7 -0.9
comp=Z,68nm,1.0s,mb5.0
KDAK **Kodiak Island** 78.42 14 P P 05 28 52.0 -0.7
comp=Z,34nm,0.7s,mb4.9,baz=188,slow=2.9,SNR=29
P05C **Yuba Gap, Truc** 78.50 42 P P 05 28 53.9 +0.3
baz=79,SNR=25
R05C **Kirkwood Meado** 78.50 43 P P 05 28 53.9 +0.3
baz=79,SNR=29
CWC **Cottonwood Cre** 78.59 46 P P 05 28 54.3 +0.2
baz=79,SNR=11
YBH **Yreka Blue Hor** 78.60 39 eP P 05 28 54.2 +0.2
comp=Z,32nm,0.8s,mb4.7
YBH **Yreka Blue Hor** 78.60 39 eP P 05 28 54.2 +0.2
YBH pmax pmax
comp=Z,32nm,0.8s
YBH **Yreka Blue Hor** 78.60 39 P P 05 28 54.6 +0.6
baz=79,SNR=27
O05C **Quincy** 78.67 41 ⇓P P 05 28 54.3 -0.2
baz=79,SNR=27
M03C **McCloud** 78.69 40 P P 05 28 54.7 +0.2
baz=79,SNR=28
MLAC **Mammoth Lakes** 78.72 44 ⇑P P 05 28 55.2 +0.4
baz=79,SNR=13
MTUM **Tungsten Hills** 78.76 45 eP P 05 28 55.2 +0.2
K02A **Glendale** 78.76 38 P P 05 28 55.0 +0.2
baz=79,SNR=6.1
O04C **Chester** 78.77 41 P P 05 28 55.3 +0.3
baz=79,SNR=42
BELC **Belle Mtn.** 78.78 49 P P 05 28 55.4 +0.3
baz=79,SNR=23
MPMC **Manual Prospec** 78.80 46 P P 05 28 55.6 +0.4
baz=79,SNR=35
R06C **Coleville** 78.81 43 P P 05 28 55.8 +0.5
baz=79,SNR=42
TIN **Tinemaha** 78.82 45 P P 05 28 55.9 +0.6
baz=79,SNR=11
HATC **Hat Creek Radi** 78.83 41 ⇑P P 05 28 55.6 +0.3
baz=79,SNR=9.2
R07C **Lee Vining** 78.83 44 P P 05 28 55.9 +0.5
baz=79,SNR=35
GSC **Goldstone** 78.88 47 eP P 05 28 55.5 -0.2
comp=Z,22nm,1.4s,mb4.3
GSC **Goldstone** 78.88 47 eP P 05 28 55.5 -0.1
GSC pmax pmax
comp=Z,22nm,1.4s,mb4.3
GSC **Goldstone** 78.88 47 P P 05 28 55.7 +0.1
baz=79,SNR=9.7
LBCM **Butte Creek Ri** 78.91 41 P P 05 28 55.8 +0.1
HEC **Hector,Ludlow** 78.97 48 P P 05 28 56.1 -0.1
baz=79,SNR=9.5
BEKR **Beckwourth** 78.97 42 P P 05 28 56.3 +0.3
baz=79,SNR=33
BC3 **Big Chuckw Mtn** 79.00 49 P P 05 28 56.8 +0.4
baz=79,SNR=14
WCN **Washoe City** 79.04 43 P P 05 28 56.9 +0.5
baz=79,SNR=23
J02A **Umpqua** 79.07 37 ⇑P P 05 28 56.6 +0.1
baz=79,SNR=5.5
S08C **White Mtn Res** 79.10 45 ⇑P P 05 28 57.4 +0.6
baz=79,SNR=42
M04C **Macdoel** 79.16 40 ⇓P P 05 28 57.4 +0.4
baz=79,SNR=22
P06A **Stead Airport,** 79.16 42 ⇓P P 05 28 57.6 +0.5
baz=79,SNR=12
I02A **Mapleton** 79.31 37 ⇑P P 05 28 58.1 +0.4
baz=80
M05C **Lookout** 79.33 40 P P 05 28 58.2 +0.3
baz=80,SNR=45
GRAC **Grapevine Rang** 79.37 46 P P 05 28 58.7 +0.5
baz=80,SNR=36
GMRC **Granite Mounta** 79.42 48 P P 05 28 58.6 +0.1
baz=80,SNR=13
J03A **Ideyld Park** 79.43 38 P P 05 28 58.6 +0.2
baz=80,SNR=7.0
FURC **Furnace Creek,** 79.44 46 P P 05 28 58.6 0.0
baz=80,SNR=12
IRM **Iron Mountain** 79.47 49 P P 05 28 59.1 +0.3
baz=80,SNR=17
O06A **Flanigan** 79.48 42 P P 05 28 59.0 +0.3
baz=80,SNR=50
NVAR **Mina Array Bea** 79.51 44 P P 05 28 59.1 +0.2
comp=Z,24nm,0.7s,mb4.6,baz=214,slow=7.4,SNR=188
SHOC **Shoshone** 79.55 47 ⇑P P 05 28 58.8 -0.4
baz=80,SNR=15
TUQ **Turquoise Mtn.** 79.56 48 ⇑P P 05 28 59.8 +0.5
baz=80,SNR=12
R08A **Mina** 79.60 44 P P 05 28 59.6 +0.3
baz=80,SNR=36
I03A **Eugene** 79.61 37 ⇑P P 05 28 59.5 +0.2
baz=80
H02A **Toledo** 79.63 36 ⇑P P 05 28 59.1 -0.3
baz=80
M06C **Likely Place G** 79.66 41 P P 05 29 00.1 +0.4
baz=80,SNR=33
K04A **Chiloquin** 79.71 39 ⇓P P 05 29 00.4 +0.5
baz=80
Y12C **Blythe** 79.72 50 P P 05 29 00.5 +0.4
baz=80,SNR=13
P07A **Fallon** 79.73 43 ⇓P P 05 29 00.9 +0.8
baz=80
U10A **Ash Meadows, A** 79.78 46 ⇓P P 05 29 01.0 +0.6
baz=80,SNR=20
N06A **Buffalo Meadow** 79.80 41 P P 05 29 00.6 +0.2
baz=80,SNR=32
J04A **Umpqua Nationa** 79.85 38 ⇓P P 05 29 00.9 +0.3
baz=80,SNR=31
S09A **Goldfield** 79.85 45 P P 05 29 00.6 -0.1
baz=80,SNR=12
CN2 **Changchun** 79.92 322 ⇓P P 05 29 01.5 +0.6
CN2 eS S 05 38 15.1 -2.9
CN2 AMB AMB
comp=Z,40nm,1.3s,mb4.6
L05A **Lakeview** 79.92 40 ⇓P P 05 29 01.5 +0.6
baz=80,SNR=28
Q08A **Gabbs** 79.99 44 P P 05 29 01.3 -0.1
baz=80,SNR=40
I04A **Tendick Farm,** 80.01 38 P P 05 29 01.2 -0.2
baz=80,SNR=10
KLR **Kul'dur** 80.02 329 eP P 05 28 57.0 -4.3
KLR pmax pmax
comp=Z,24nm,1.4s,mb4.3
H03A **Soap Creek Ran** 80.03 37 ⇓P P 05 29 01.3 -0.2
baz=80
HBO **Huckleberry Mo** 80.09 38 P P 05 29 01.8 0.0
TPNV **Topopah Spring** 80.11 46 eP P 05 29 02.0 -0.1
comp=Z,39nm,1.2s,mb4.6
TPNV **Topopah Spring** 80.11 46 eP P 05 29 02.0 -0.1
TPNV pmax pmax
comp=Z,39nm,1.2s,mb4.6
TPNV **Topopah Spring** 80.11 46 P P 05 29 02.4 +0.2
baz=80,SNR=24
V11A **Goodsprings** 80.11 47 ⇓P P 05 29 02.3 +0.1
baz=80
NEE2 **Needles Airpor** 80.15 49 ⇓P P 05 29 02.7 +0.3
baz=80
MOD **Modoc** 80.16 40 eP P 05 29 02.4 +0.1
comp=Z,50nm,0.8s,mb4.9
MOD **Modoc** 80.16 40 P P 05 29 02.5 +0.2
baz=80,SNR=44
R09A **Tonopah** 80.23 45 P P 05 29 02.8 +0.1
baz=80,SNR=19
W12A **Cal Nev Ari** 80.24 48 ⇑P P 05 29 03.2 +0.4
baz=80,SNR=13
Y13A **Salome** 80.25 50 ⇓P P 05 29 03.5 +0.6
baz=80,SNR=32
PDMCI **Parker Dam,Lak** 80.27 49 ⇓P P 05 29 03.5 +0.5
baz=80,SNR=9.6
K05A **Summer Lake** 80.28 39 P P 05 29 03.5 +0.7
baz=80,SNR=35
P08A **Dixie Valley** 80.34 43 ⇑P P 05 29 04.1 +0.8
baz=81,SNR=5.6
N07B **Gerlach** 80.36 42 P P 05 29 03.6 +0.3
baz=81,SNR=25
S10A **Tonopah Range,** 80.38 45 ⇓P P 05 29 03.7 +0.2
baz=81
J05A **Fort Rock** 80.40 39 P P 05 29 04.0 +0.6
baz=81,SNR=69
G03A **Yamhill** 80.42 36 ⇑P P 05 29 03.7 +0.1
baz=81
U11A **Corn Creek** 80.44 47 ⇑P P 05 29 03.7 -0.1
baz=81,SNR=8.0
V12A **Nelson** 80.46 48 ⇓P P 05 29 03.7 -0.2
baz=81,SNR=13
Q09A **Carvers** 80.47 44 P P 05 29 04.3 +0.4
baz=81,SNR=8.2
M07A **Soldier Meadow** 80.58 41 ⇓P P 05 29 04.8 +0.4
baz=81
O08A **Rochester Mine** 80.62 42 ⇑P P 05 29 05.5 +0.8
baz=81
X13A **Yucca** 80.63 49 ⇓P P 05 29 04.9 0.0
baz=81,SNR=20
H04A **Detroit Lake** 80.67 37 P P 05 29 04.5 -0.3
baz=81,SNR=18
Z14A **Wintersburg** 80.68 51 ⇑P P 05 29 05.9 +0.7
baz=81,SNR=7.5
K06A **Valley Falls** 80.71 39 P P 05 29 05.4 +0.4
baz=81,SNR=33
R10A **Warm Springs** 80.77 45 P P 05 29 06.1 +0.6
baz=81,SNR=59
G04A **Mulino** 80.81 36 ⇓P P 05 29 05.5 0.0
baz=81,SNR=6.3
S11A **Rachel** 80.81 46 P P 05 29 06.0 +0.3
baz=81,SNR=14
L07A **Adell** 80.82 40 ⇓P P 05 29 06.2 +0.5
baz=81,SNR=58
W13A **Hualapai Mount** 80.84 49 ⇓P P 05 29 06.3 +0.4
baz=81,SNR=22
SVW2 **Sparrevohn** 80.85 11 eP P 05 29 03.4 -1.9
P09A **Austin** 80.88 43 ⇓P P 05 29 06.0 0.0
baz=81,SNR=11
I05A **Bend** 80.89 38 ⇓P P 05 29 06.2 +0.3
baz=81,SNR=13
N08A **GE Springer Mi** 80.90 42 P P 05 29 06.3 +0.2
baz=81,SNR=44
115A **Sonoran Desert** 80.90 51 ⇓P P 05 29 06.8 +0.5
baz=81
Y14A **Wickenburg** 80.91 50 P P 05 29 06.5 +0.2
baz=81,SNR=22
T11A **Corn Creek, Al** 80.97 46 P P 05 29 07.0 +0.4
baz=81,SNR=38
Q10A **Clear Creek Ra** 80.98 44 P P 05 29 06.8 +0.2
baz=81,SNR=20
E03A **Lebam** 81.02 35 ⇓P P 05 29 06.6 0.0
baz=81,SNR=8.4
J06A **Christmas Vall** 81.02 39 P P 05 29 06.5 -0.2
baz=81,SNR=37
U12A **Valley of Fire** 81.03 47 ⇓P P 05 29 07.4 +0.5
baz=81,SNR=14
M08A **Happy Creek Ra** 81.11 41 P P 05 29 07.6 +0.5
baz=81,SNR=30
MA2 **Magadan** 81.14 345 eP P 05 29 05.4 -1.4
comp=Z,21nm,0.9s,mb4.6
MA2 **Magadan** 81.14 345 eP P 05 29 04.9 -2.0
216A **Three Points,** 81.16 52 ⇓P P 05 29 08.5 +0.8
baz=81,SNR=10.0
O09A **Fish Creek Ran** 81.17 43 P P 05 29 07.7 +0.2
baz=81,SNR=27
H05A **Madras** 81.20 37 ⇓P P 05 29 07.5 -0.1
baz=81,SNR=6.9
116A **Eloy** 81.23 52 P P 05 29 08.8 +0.8
baz=81,SNR=7.7
X14A **Yava** 81.25 50 P P 05 29 08.7 +0.6
baz=82,SNR=43
K07A **Rock Creek Ran** 81.26 40 ⇑P P 05 29 08.3 +0.4
baz=82,SNR=59
D03A **Wishkah Elem.** 81.26 34 ⇑P P 05 29 08.3 +0.5
baz=82

F04A	Amboy	81.28	36	⇑P		P	05 29 07.7 -0.2
	baz=82,SNR=9.4						
R11A	Troy Canyon, C	81.28	45	⇑P		P	05 29 07.9 -0.2
	baz=82,SNR=22						
N09A	Rock Creek Ran	81.32	42	⇑P		P	05 29 08.5 +0.3
	baz=82,SNR=19						
C03A	Quillayute Air	81.36	33	⇑P		P	05 29 09.1 +0.8
	baz=82						
P10A	Eureka	81.36	44	P		P	05 29 08.7 +0.2
	baz=82,SNR=21						
NLWA	Neilton Lookou	81.38	34	P		P	05 29 08.7 +0.3
	baz=82,SNR=5.3						
I06A	Prineville	81.39	38	P		P	05 29 09.1 +0.6
	baz=82,SNR=57						
S12A	Delamar Landin	81.41	46	P		P	05 29 09.7 +0.9
	baz=82,SNR=65						
Y15A	Casa Rosa Ranc	81.41	50	P		P	05 29 09.4 +0.5
	baz=82,SNR=62						
U13A	Pakoon Wash	81.43	47	P		P	05 29 09.5 +0.6
	baz=82,SNR=58						
W14A	Seligman	81.47	49	P		P	05 29 09.9 +0.7
	baz=82,SNR=37						
VIPM	Ingram Point	81.47	38	P		P	05 29 09.0 +0.1
WVOR	Wild Horse Val	81.49	40	eP		P	05 29 09.0 -0.1
	comp=Z,56nm,0.9s,mb5.0						
WVOR	Wild Horse Val	81.49	40	eP		P	05 29 09.0 -0.1
WVOR				pmax	pmax		
	comp=Z,56nm,0.9s,mb5.0						
Q11A	Duckwater	81.49	45	P		P	05 29 09.3 +0.2
	baz=82,SNR=61						
G05A	Wamic	81.49	37	P		P	05 29 09.1 0.0
	baz=82,SNR=8.5						
L08A	Fields	81.53	41	P		P	05 29 09.7 +0.4
	baz=82,SNR=86						
217A	Green Valley	81.54	53	⇓P		P	05 29 10.3 +0.7
	baz=82,SNR=42						
J07A	Hines	81.60	39	P		P	05 29 09.9 +0.3
	baz=82,SNR=32						
M09A	Marrel Ranch,	81.68	42	⇓P		P	05 29 10.5 +0.5
	baz=82,SNR=17						
O10A	Cortez Mining,	81.69	43	⇑P		P	05 29 10.4 +0.3
	baz=82,SNR=5.5						
X15A	Humboldt	81.73	50	P		P	05 29 11.0 +0.5
	baz=82,SNR=38						
K08A	Mann Creek Ran	81.74	40	⇓P		P	05 29 10.9 +0.5
	baz=82,SNR=58						
H06A	Lindquist Farm	81.77	38	P		P	05 29 10.4 0.0
	baz=82,SNR=65						
T13A	Saint George	81.77	47	⇑P		P	05 29 10.9 +0.3
	baz=82						
D04A	Dobbs Creek Ra	81.78	35	⇓P		P	05 29 10.7 +0.3
	baz=82						
F05A	White Salmon	81.79	36	⇓P		P	05 29 10.3 -0.2
	baz=82,SNR=12						
Z16A	Peralta Trail,	81.80	51	⇓P		P	05 29 11.2 +0.3
	baz=82,SNR=20						
TUC	Tucson	81.80	52	eP		P	05 29 11.3 +0.4
	comp=Z,30nm,1.0s,mb4.8						
TUC	Tucson	81.80	52	eP		P	05 29 11.3 +0.4
TUC				pmax	pmax		
	comp=Z,30nm,1.0s,mb4.8						
L09A	Wilkinson Ranc	81.86	41	P		P	05 29 11.3 +0.3
	baz=82,SNR=38						
G06A	Carlson Farm,	81.88	37	⇑P		P	05 29 10.8 -0.2
	baz=82,SNR=16						
I07A	Izee	81.88	39	P		P	05 29 11.4 +0.4
	baz=82,SNR=60						
N10A	Dunphy	81.91	43	⇑P		P	05 29 11.6 +0.3
	baz=82,SNR=7.2						
R12A	Pony Springs,	81.94	46	⇓P		P	05 29 11.8 +0.3
	baz=82,SNR=37						
U14A	Mt Trumbull	81.98	48	⇓P		P	05 29 12.5 +0.8
	baz=82,SNR=109						
Y16A	Circle Bar Ran	82.01	51	P		P	05 29 12.7 +0.7
	baz=82,SNR=37						
318A	Bisbee	82.02	53	P		P	05 29 12.9 +0.9
	baz=82,SNR=37						
E05A	Randle	82.02	36	P		P	05 29 11.4 -0.2
	baz=82,SNR=17						
W15A	Williams	82.04	49	⇓P		P	05 29 12.9 +0.8
	baz=82,SNR=11						
C04A	Brinnon	82.06	34	⇓P		P	05 29 11.9 +0.1
	baz=82						
S13A	Holt Ranch, En	82.08	46	⇑P		P	05 29 12.5 +0.3
	baz=82,SNR=26						
J08A	Circle Bar Ran	82.10	40	⇑P		P	05 29 12.4 +0.2
	baz=82,SNR=54						
F06A	Goldendale	82.11	37	⇓P		P	05 29 12.3 +0.2
	baz=82						
H07A	Lands Inn, Kim	82.14	38	⇓P		P	05 29 12.4 0.0
	baz=82						
Q12A	Willow Creek R	82.14	45	P		P	05 29 12.8 +0.3
	baz=82,SNR=21						
O11A	Cowboy Ranch,	82.15	44	P		P	05 29 12.8 +0.3
	baz=82,SNR=47						
K09A	Rome	82.20	41	P		P	05 29 12.9 +0.3
	baz=82,SNR=34						
218A	Dragoon	82.21	53	P		P	05 29 14.0 +1.0
	baz=82,SNR=27						
D05A	Enumclaw	82.27	35	P		P	05 29 13.2 +0.3
	baz=82,SNR=11						
X16A	Lo Mia Camp, P	82.28	50	P		P	05 29 14.1 +0.8
	baz=82,SNR=61						
FMW	Mount Fremont	82.29	35	P		P	05 29 13.0 0.0
M10A	I.L. Ranch, Tu	82.31	42	⇑P		P	05 29 13.7 +0.5
	baz=82,SNR=60						
P12A	McGill	82.31	44	⇑P		P	05 29 13.6 +0.2
	baz=82,SNR=18						
I08A	Drewsey	82.35	39	P		P	05 29 13.6 +0.2
	baz=83,SNR=45						
T14A	Hurricane	82.36	47	⇓P		P	05 29 13.9 +0.3
	baz=83,SNR=37						
CCUT	Cedar City	82.40	47	eP		P	05 29 14.0 +0.1
E06A	Yakima	82.45	36	P		P	05 29 13.8 0.0
	baz=83,SNR=13						
G07A	Ruggs Ranch, H	82.46	38	P		P	05 29 13.8 -0.1
	baz=83,SNR=27						
N11A	Elko Archery C	82.46	43	⇑P		P	05 29 14.3 +0.2
	baz=83,SNR=5.4						
TTA	Tatalina	82.48	10	eP		P	05 29 12.9 -0.7
	comp=Z,58nm,1.0s,mb5.1						
TTA	Tatalina	82.48	10	eP		P	05 29 12.9 -0.7
TTA				pmax	pmax		
	comp=Z,58nm,1.0s,mb5.1						
EYAK	Cordova Ski Ar	82.53	16	eP		P	05 29 12.6 -1.3
	comp=Z,92nm,1.6s,mb5.1						
J09A	Fry Pan Ranch,	82.53	40	P		P	05 29 14.6 +0.3
	baz=83,SNR=60						
319A	Douglas	82.53	54	P		P	05 29 15.7 +1.1
	baz=83,SNR=19						
RMW	Rattlesnake Mo	82.53	35	P		P	05 29 14.1 -0.1
PMR	Palmer	82.62	14	eP		P	05 29 12.9 -1.4
	comp=Z,27nm,0.7s,mb4.9						
PMR	Palmer	82.62	14	eP		P	05 29 12.9 -1.4
PMR				pmax	pmax		
	comp=Z,27nm,0.7s,mb4.9						
H08A	Prairie City	82.62	39	⇑P		P	05 29 14.4 -0.4
	baz=83,SNR=20						
S14A	Cedar City	82.64	47	⇑P		P	05 29 15.4 +0.4
	baz=83,SNR=15						
L10A	Juniper Basin	82.65	42	⇓P		P	05 29 15.2 +0.2
	baz=83,SNR=68						
F07A	Phinny Hill Vi	82.67	37	⇓P		P	05 29 15.1 +0.1
	baz=83,SNR=9.7						
C05A	Tolt Reservoir	82.73	35	P		P	05 29 14.9 -0.4
	baz=83,SNR=22						
M11A	Holland Ranch,	82.74	42	⇑P		P	05 29 15.9 +0.4
	baz=83,SNR=26						
K10A	MacKenzie Ranc	82.77	41	P		P	05 29 15.8 +0.3
	baz=83,SNR=24						
O12A	Currie	82.82	44	⇓P		P	05 29 15.8 -0.1
	baz=83,SNR=22						
T15A	Red Dirt Ranch	82.83	48	P		P	05 29 16.5 +0.5
	baz=83,SNR=49						
B05A	Bryant	82.86	34	⇑P		P	05 29 15.7 -0.2
	baz=83,SNR=8.8						
I09A	Lost Marbles R	82.88	39	P		P	05 29 15.9 -0.2
	baz=83,SNR=25						
G08A	Pilot Rock	82.88	38	⇑P		P	05 29 15.9 -0.2
	baz=83						
P13A	Bates Ranch, G	82.90	45	P		P	05 29 16.5 +0.2
	baz=83,SNR=43						
D06A	Cle Elum	82.90	36	P		P	05 29 16.0 -0.1
	baz=83,SNR=20						
N12A	Clover Valley,	82.93	43	P		P	05 29 16.7 +0.3
	baz=83,SNR=38						
CMW	Cultus Mountai	82.94	34	P		P	05 29 16.2 0.0
SML	Sawmill	82.99	14	eP		P	05 29 14.7 -1.5
R14A	James Farms, M	83.00	46	⇑P		P	05 29 17.2 +0.3
	baz=83,SNR=11						
HAWA	Hanford	83.18	37	eP		P	05 29 17.3 -0.2
	comp=Z,93nm,1.4s,mb5.1						
J10A	Berg Farm, Mel	83.18	40	⇑P		P	05 29 17.8 +0.3
	baz=83,SNR=7.7						
O13A	Hicks Ranch, I	83.26	44	⇑P		P	05 29 18.1 +0.1
	baz=84,SNR=11						
F08A	Pendleton	83.28	38	⇓P		P	05 29 17.9 -0.1
	baz=84						
K11A	Parker Ranch,	83.29	41	P		P	05 29 18.2 +0.1
	baz=84,SNR=38						
M12A	Wells	83.30	43	⇑P		P	05 29 18.2 0.0
	baz=84,SNR=34						
C06A	Tall Timber Ra	83.30	35	⇓P		P	05 29 17.8 -0.2
	baz=84						
A05A	Maple Falls	83.30	34	⇑P		P	05 29 17.4 -0.6
	baz=84						
B06A	Marblemount	83.33	34	⇑P		P	05 29 17.7 -0.5
	baz=84						
D07A	Quincy	83.39	36	⇑P		P	05 29 18.5 0.0
	baz=84						
T16A	Glen Canyon Da	83.43	48	P		P	05 29 19.6 +0.6
	baz=84,SNR=16						
N13A	Wendover, West	83.47	43	⇑P		P	05 29 19.2 +0.1
	baz=84,SNR=18						
E08A	Dider Farm, El	83.50	37	⇑P		P	05 29 18.9 -0.2
	baz=84						
I10A	Payette	83.51	40	P		P	05 29 19.6 +0.4
	baz=84,SNR=14						
WRAK	Wrangell Islan	83.55	24	eP		P	05 29 18.5 -0.6
	comp=Z,38nm,1.0s,mb4.9						
G09A	Cove	83.57	38	⇓P		P	05 29 19.0 -0.4
	baz=84						
L12A	House Creek Ra	83.61	42	P		P	05 29 20.1 +0.4
	baz=84,SNR=28						
BMO	Blue Mountains	83.62	39	eP		P	05 29 19.0 -0.7
	comp=Z,7.7nm,0.8s,mb4.3						
BMO	Blue Mountains	83.62	39	eP		P	05 29 19.0 -0.7
BMO				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.3						
C07A	Waterville	83.62	35	P		P	05 29 19.1 -0.6
	baz=84,SNR=16						
BJI	Beijing	83.67	315	P		P	05 29 19.5 -0.6
BJI				AP	pP		05 31 34.3 +12
BJI				S	S		05 38 50.6 -5.0
BJI				AMB	AMB		
	comp=Z,7.0nm,0.6s,mb4.4						
A06A	Chilliwack	83.68	34	⇓P		P	05 29 19.8 -0.1
	baz=84						
MSU	Marysvale	83.69	46	eP		P	05 29 20.8 +0.6
WTV	Waterville	83.69	35	P		P	05 29 19.5 -0.5
SEY	Seymchan	83.72	347	⇑eP		P	05 29 18.8 -1.0
F09A	S2 Ranch, Elgi	83.73	38	⇓P		P	05 29 20.0 -0.2
	baz=84,SNR=8.3						
M13A	Montello	83.75	43	⇑P		P	05 29 20.9 +0.5
	baz=84,SNR=7.7						
MFID	Camas Ranch	83.75	41	P		P	05 29 20.5 +0.1
	baz=84,SNR=22						
H10A	Noah's Angus R	83.81	39	P		P	05 29 20.3 -0.4
	baz=84,SNR=70						
MAW	Mawson	83.83	200	eP		P	05 29 19.8 -0.6
	comp=Z,6.0nm,0.6s,mb4.3						
MAW	Mawson	83.83	200	eP		P	05 29 19.8 -0.6
MAW				pmax	pmax		
	comp=Z,6.0nm,0.6s						
MAW	Mawson	83.83	200	P		P	05 29 20.1 -0.4
	comp=Z,10.0nm,0.7s,mb4.5,baz=121,slow=6.4,SNR=11						
D08A	Wollman Farm,	83.90	36	⇓P		P	05 29 21.1 0.0
	baz=84,SNR=20						
K12A	Draper Farm, C	83.93	42	P		P	05 29 21.4 +0.1
	baz=84,SNR=18						
G10A	Bishop Farm, J	83.97	39	P		P	05 29 21.2 -0.3
	baz=84,SNR=20						
B07A	Winthrop	84.04	35	⇓P		P	05 29 21.2 -0.4
	baz=84						
E09A	Wood Farm, Sta	84.04	37	P		P	05 29 21.1 -0.6
	baz=84,SNR=8.8						
DUG	Dugway	84.07	45	eP		P	05 29 21.2 -0.8
	comp=Z,4.7nm,0.8s,mb4.1						
DUG	Dugway	84.07	45	eP		P	05 29 21.2 -0.9
DUG				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.1						
DUG	Dugway	84.07	45	⇓P		P	05 29 21.6 -0.5
	baz=84,SNR=6.9						
J12A	Stokes Ranch,	84.12	41	P		P	05 29 22.6 +0.3
	baz=84,SNR=32						
N14A	Grayback Hills	84.14	44	⇓P		P	05 29 22.1 -0.3
	baz=84						
OD2	Odessa Site #2	84.21	36	P		P	05 29 22.2 -0.4
A07A	Ashnola River,	84.24	34	P		P	05 29 22.4 -0.2
	baz=84,SNR=16						
C08A	Higginbotham F	84.24	36	P		P	05 29 22.6 -0.1
	baz=84,SNR=9.4						
D09A	Jones Farm, Ri	84.25	37	⇑P		P	05 29 22.4 -0.3
	baz=84,SNR=25						
L13A	Double Diamond	84.26	43	P		P	05 29 23.3 +0.4
	baz=84,SNR=8.1						
F10A	Beach Ranch, E	84.27	38	P		P	05 29 22.4 -0.5
	baz=84,SNR=73						
BGU	Big Grassy Mou	84.28	44	eP		P	05 29 22.7 -0.4
H11A	Donnelly	84.32	39	P		P	05 29 23.0 -0.2
	baz=84,SNR=58						
M14A	Sheep Mountain	84.36	43	P		P	05 29 23.5 0.0
	baz=85,SNR=22						
B08A	Colville Reser	84.41	35	⇑P		P	05 29 22.7 -0.8
	baz=85,SNR=35						
K13A	Stover Farm, H	84.46	42	P		P	05 29 24.2 +0.3
	baz=85,SNR=27						
G11A	Walters Elk Ra	84.53	39	P		P	05 29 23.8 -0.4
	baz=85,SNR=95						
MCK	McKinley	84.55	13	eP		P	05 29 22.1 -1.7
	comp=Z,55nm,1.0s,mb5.1						
MCK	McKinley	84.55	13	eP		P	05 29 22.1 -1.8
MCK				pmax	pmax		
	comp=Z,55nm,1.0s,mb5.1						
E10A	Myers Farm, Un	84.62	38	⇓P		P	05 29 24.7 +0.1
	baz=85						
C09A	Chrisman Ranch	84.68	36	⇑P		P	05 29 24.5 -0.4
	baz=85,SNR=11						
HLID	Hailey	84.71	41	eP		P	05 29 25.4 +0.2
	comp=Z,27nm,0.8s,mb4.9						
HLID	Hailey	84.71	41	⇑P		P	05 29 25.5 +0.4
	baz=85,SNR=52						
TMUT	Trail Mountain	84.73	46	eP		P	05 29 25.6 +0.3
SKAG	Skagway	84.73	21	eP		P	05 29 24.9 0.0
	comp=Z,16nm,0.8s,mb4.7						
MPU	Maple Canyon	84.78	45	eP		P	05 29 25.3 -0.2
	comp=Z,10nm,0.8s,mb4.5						
J13A	Cove Ranch, Pi	84.78	41	P		P	05 29 25.9 +0.5
	baz=85,SNR=48						
A08A	Turner Farm, O	84.78	35	P		P	05 29 25.1 -0.3
	baz=85,SNR=37						
D10A	Wagner Farm, O	84.83	37	⇓P		P	05 29 24.8 -0.9
	baz=85						
F11A	Grangeville	84.86	38	P		P	05 29 24.3 -1.5
	baz=85,SNR=21						
HVU	Hansel Valley	84.87	43	eP		P	05 29 25.6 -0.4
	comp=Z,33nm,1.4s,mb4.8						
HVU	Hansel Valley	84.87	43	eP		P	05 29 25.6 -0.3
HVU				pmax	pmax		
	comp=Z,33nm,1.4s,mb4.8						
GYA	Guiyang	84.90	300	P		P	05 29 27.3 +0.8
GYA				AP	pP		05 31 40.6 +11
GYA				PP	PP		05 32 57.2 +3.1
GYA				SKS			05 38 49.5
GYA				S	S		05 39 02.7 -5.5
GYA				XS	sS		05 42 58.6 +11
GYA				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.4						
GYA				AMB	AMB		
	comp=Z,110nm,5.0s						
M15A	Larsen Ranch,	84.93	44	⇓P		P	05 29 25.9 -0.3
	baz=85						
H12A	Diamond D Ranc	84.94	40	⇑P		P	05 29 26.2 -0.1
	baz=85						
K14A	Jones Ranch, D	84.98	42	P		P	05 29 26.7 +0.2
	baz=85,SNR=28						
CTU	Camp Tracy	85.02	45	eP		P	05 29 26.1 -0.6
	comp=Z,14nm,0.9s,mb4.6						
I13A	Wildhorse Cree	85.08	41	P		P	05 29 27.2 +0.3
	baz=85,SNR=23						
E11A	Bogner Ranch,	85.08	38	P		P	05 29 25.4 -1.4
	baz=85,SNR=20						
B09A	Rice	85.10	36	P		P	05 29 26.3 -0.5
	baz=85,SNR=35						
SRU	San Rafael	85.11	46	eP		P	05 29 26.8 -0.3
	comp=Z,15nm,0.8s,mb4.7						
SRU	San Rafael	85.11	46	eP		P	05 29 26.8 -0.4
SRU				pmax	pmax		
	comp=Z,15nm,0.8s,mb4.7						
A09A	Danville	85.17	35	P		P	05 29 26.9 -0.3
	baz=85,SNR=29						
JLU	Jordanelle	85.18	45	eP		P	05 29 26.8 -0.6
C10A	Spilker Farm,	85.23	36	⇓P		P	05 29 27.2 -0.4
	baz=86						
H13A	Challis	85.32	40	P		P	05 29 28.2 +0.1
	baz=86,SNR=29						
F12A	Elk City	85.33	39	P		P	05 29 27.6 -0.4
	baz=86,SNR=92						
LAZ	Ladron	85.46	52	eP		P	05 29 28.8 -0.2
LENM	Lemitar	85.48	52	eP		P	05 29 29.1 0.0
B10A	Chitwood Farm,	85.54	36	⇑P		P	05 29 28.5 -0.5
	baz=86						
HWUT	Hardware Ranch	85.58	44	eP		P	05 29 28.6 -0.7
	comp=Z,9.9nm,0.8s,mb4.5						
NEW	Newport	85.58	36	eP		P	05 29 28.2 -1.0
	comp=Z,33nm,1.3s,mb4.8						
NEW	Newport	85.58	36	eP		P	05 29 28.2 -1.0
NEW				pmax	pmax		
	comp=Z,33nm,1.3s						
G13A	Cobalt	85.60	40	P		P	05 29 29.2 -0.2
	baz=86,SNR=31						
MVCO	Mesa Verde	85.68	49	eP		P	05 29 29.2 -0.7
	comp=Z,4.0nm,0.8s,mb4.1						
MVCO	Mesa Verde	85.68	49	⇑P		P	05 29 29.6 -0.3
	baz=86						
MNTX	Cornudas Mount	85.69	55	eP		P	05 29 29.9 -0.2
	comp=Z,23nm,1.0s,mb4.8						
A10A	Northport	85.73	35	⇑P		P	05 29 29.3 -0.6
	baz=86,SNR=8.9						
BNM	Barren Site	85.74	52	eP		P	05 29 30.1 -0.2
IMA2	Indian Mountai	85.78	10	eP		P	05 29 28.4 -1.3
COLA	College	85.79	13	eP		P	05 29 27.8 -2.0
	comp=Z,63nm,1.1s,mb5.2						
COLA	College	85.79	13	c iP		P	05 29 27.9 -1.9
LPM	Los Pinos Moun	85.80	52	eP		P	05 29 30.5 -0.1
DLBC	Dease Lake	85.87	23	eP		P	05 29 29.6 -0.7
F13A	Darby	85.90	39	⇓P		P	05 29 30.2 -0.6
	baz=86						
D12A	Red Ives Fores	85.95	38	⇑P		P	05 29 30.0 -0.9
	baz=86						
B11A	Sandpoint	86.10	36	P		P	05 29 31.4 -0.3
	baz=86,SNR=27						
XAN	Xi'an	86.13	307	P		P	05 29 32.8 +0.6
XAN				AMB	AMB		
	comp=Z,39nm,1.1s,mb5.0						
G14A	Jackson	86.15	40	⇑P		P	05 29 32.2 +0.2
	baz=86						
ANMO	Albuquerque	86.20	52	eP		P	05 29 31.9 -0.5
	comp=Z,22nm,1.1s,mb4.7						
ANMO	Albuquerque	86.20	52	⇑eP		P	05 29 31.8 -0.7
E13A	Victor	86.32	39	⇑P		P	05 29 31.8 -0.9
	baz=86,SNR=16						
MCMT	McKenzie Canyo	86.32	41	eP		P	05 29 32.7 -0.1
A11A	Hall Mountain,	86.38	36	P		P	05 29 33.1 +0.1
	baz=87,SNR=16						
BILL	Bilibino	86.40	354	eP		P	05 29 31.9 -0.7
	comp=Z,11nm,0.6s,mb4.7						
BILL	Bilibino	86.40	354	κ iP		P	05 29 32.4 -0.2
BILL				pmax	pmax		
	comp=Z,27nm,1.2s,mb4.8						
AHID	Auburn Hatcher	86.43	43	eP		P	05 29 32.9 -0.5
	comp=Z,11nm,0.9s,mb4.5						
F14A	Wisdom	86.49	40	⇓P		P	05 29 33.0 -0.5
	baz=87,SNR=23						
D13A	Huson	86.49	38	P		P	05 29 32.1 -1.4
	baz=87,SNR=19						
B12A	Libby	86.55	36	⇑P		P	05 29 33.6 -0.2
	baz=87,SNR=8.9						
MSO	Missoula	86.66	38	eP		P	05 29 33.0 -1.3
	comp=Z,5.0nm,0.6s,mb4.4						
G15A	Dillon	86.71	40	P		P	05 29 34.8 +0.2
	baz=87,SNR=50						
E14A	Clinton	86.72	39	P		P	05 29 34.2 -0.4
	baz=87,SNR=39						
C13A	Hot Springs	86.72	37	P		P	05 29 33.6 -1.0
	baz=87,SNR=15						
DLMT	Dillon	86.74	40	eP		P	05 29 34.6 -0.1
	comp=Z,35nm,0.8s,mb5.1						
A12A	Yaak River Ran	86.76	36	⇑P		P	05 29 35.0 +0.2
	baz=87						
TPAW	Teton Pass	86.87	42	eP		P	05 29 35.4 0.0
	comp=Z,33nm,1.0s,mb5.0						
REDW	Red Top Meadow	86.87	43	eP		P	05 29 35.4 -0.1
	comp=Z,68nm,1.1s,mb5.3						
SNOW	Snow King Moun	86.98	42	eP		P	05 29 36.1 +0.2
	comp=Z,59nm,1.0s,mb5.3						
F15A	Butte	87.04	40	P		P	05 29 36.0 -0.1
	baz=87,SNR=16						
D14A	Greenough	87.04	38	P		P	05 29 35.1 -1.0
	baz=87,SNR=20						
IMW	Indian Meadow	87.07	42	eP		P	05 29 36.4 +0.1
	comp=Z,52nm,0.8s,mb5.3						
DAWY	Dawson	87.11	16	eP		P	05 29 34.8 -1.2
CHMT	Chamberlain Mo	87.11	39	eP		P	05 29 35.6 -0.8
MOOW	Moose Ponds	87.12	42	eP		P	05 29 36.5 -0.1
	comp=Z,12nm,0.8s,mb4.7						
B13A	Whitefish	87.14	37	P		P	05 29 35.8 -0.7
	baz=87,SNR=13						
LOHW	Long Hollow	87.15	42	eP		P	05 29 36.6 -0.1
	comp=Z,8.7nm,0.6s,mb4.7						
HHC	Hu-ho-hao-te	87.15	315	eP		P	05 29 38.1 +1.3
HHC				PP	PP		05 33 16.2 +4.5
HHC				SKS			05 39 03.9
HHC				S	S		05 39 19.0 -10
HHC				SS	SS		05 45 34.7 +4.0
HHC				AMB	AMB		
	comp=Z,29nm,0.3s,mb5.5						
HHC				AMB	AMB		
	comp=Z,152nm,4.4s						
QLMT	Earthquake Lak	87.20	41	eP		P	05 29 37.3 +0.4
E15A	Deer Lodge	87.23	39	⇓P		P	05 29 36.4 -0.6
	baz=88,SNR=13						
EGAK	Eagle	87.23	15	eP		P	05 29 35.6 -1.0
	comp=Z,38nm,1.1s,mb5.0						
C14A	Swan Lake	87.25	38	⇑P		P	05 29 35.9 -1.2
	baz=88						
FLWY	Flagg Ranch	87.31	42	eP		P	05 29 37.8 +0.3
	comp=Z,52nm,0.9s,mb5.3						
YFT	Old Faithful	87.40	42	eP		P	05 29 39.2 +1.3
YMR	Madison River	87.42	41	eP		P	05 29 38.5 +0.6
	comp=Z,30nm,0.8s,mb5.1						
BW06	Boulder Array	87.44	43	eP		P	05 29 37.3 -0.8
	comp=Z,23nm,0.8s,mb5.0						
PDAR	Pinedale Array	87.44	43	P		P	05 29 38.0 -0.1
	comp=Z,18nm,0.6s,mb5.0,baz=219,slow=3.2,SNR=158						
PDAR				PP	PP		05 33 11.4 -2.5
	comp=Z,1.9nm,1.1s,baz=241,slow=6.1,SNR=6.0						
A13A	Flathead Natio	87.46	36

comp=Z,13nm,1.4s,mb4.6
CHTO Chiang Mai 88.86 290 *e*P **P 05 29 45.5 +0.3**
comp=Z,9.9nm,1.1s,mb4.5
CHTO Chiang Mai 88.86 290 *e*P **P 05 29 45.5 +0.2**
CHTO pmax pmax
comp=Z,10.0nm,1.1s,mb4.6
CD2 Chengdu 88.94 303 *e*P **P 05 29 44.3 -1.1**
CD2 AP pP 05 31 59.3 +9.4
CD2 XP sP 05 32 58.8 +11
CD2 PP PP 05 33 28.3 +2.4
CD2 SKS 05 39 14.5
CD2 S S 05 39 37.8 -7.9
CD2 XS sS 05 43 39.3 +11
CD2 SS SS 05 45 56.3 -0.4
CD2 AMB AMB
comp=Z,10.0nm,0.9s,mb4.7
CD2 AMB AMB
comp=Z,30nm,8.8s
SYO Syowa Base 89.14 193⇓*e*P **P 05 29 42.6 -3.0**
YAK Yakutsk 89.50 338 *e*P **P 05 29 45.9 -1.3**
comp=Z,16nm,0.7s,mb5.0
YAK Yakutsk 89.50 338⇑*e*P **P 05 29 43.9 -3.3**
YAK pmax pmax
comp=Z,9.0nm,0.9s,mb4.6
PHWY Pilot Hill 89.56 46 *e*P **P 05 29 47.7 -0.3**
JCT Junction City 89.65 58 *e*P **P 05 29 47.6 -1.1**
comp=Z,18nm,0.8s,mb4.9
JCT Junction City 89.65 58 *e*P **P 05 29 47.6 -1.1**
JCT pmax pmax
comp=Z,18nm,0.8s,mb5.0
EGMT Eagleton 89.72 39 *e*P **P 05 29 48.0 -0.6**
comp=Z,12nm,1.2s,mb4.6
EGMT Eagleton 89.72 39 ⇑P **P 05 29 48.1 -0.5**
baz=90,SNR=7.3
AMTX Amarillo 89.78 53 *e*P **P 05 29 47.8 -1.4**
comp=Z,23nm,0.9s,mb5.0
EDM Edmonton 90.22 33 *e*P **P 05 29 49.3 -1.4**
SNAA Sanae 90.62 179 *e*P **P 05 29 51.1 -1.3**
SNAA Sanae 90.62 179⇑*e*P **P 05 29 50.2 -2.2**
LZH Lanzhou 90.76 308 *e*P **P 05 29 54.8 +1.1**
LZH AP pP 05 32 06.6 +8.0
LZH XP sP 05 33 05.5 +10
LZH PP PP 05 33 42.9 +2.8
LZH SKS 05 39 30.0
LZH *e*S S 05 39 59.9 -2.0
LZH XS sS 05 43 56.0 +11
LZH SS SS 05 46 27.0 +4.4
LZH AMB AMB
comp=Z,23nm,1.0s,mb5.1
LZH AMB AMB
comp=Z,180nm,4.5s
VNA3 Neumayer Olymp 90.77 176 *e*P **P 05 29 52.4 -0.7**
CIT Chita 91.06 325 *e*P **P 05 29 54.5 -0.2**
VNA2 Neumayer--Watz 91.20 177 *e*P **P 05 29 54.2 -0.9**
baz=208,slow=4.4
LAO LASA Array 91.29 41 *e*P **P 05 29 56.0 +0.1**
comp=Z,43nm,0.9s,mb5.4
VNA1 Neumayer--Stat 91.43 177 *e*P **P 05 29 56.4 +0.2**
PLCA Paso Flores 91.45 134 P **P 05 29 56.6 -0.2**
comp=Z,2.0nm,0.7s,mb4.2,baz=252,slow=4.6,SNR=7.8
WMOK Wichita Mounta 91.95 54 *e*P **P 05 29 57.0 -2.2**
comp=Z,6.1nm,1.2s,mb4.5
WMOK Wichita Mounta 91.95 54 *e*P **P 05 29 57.0 -2.2**
WMOK pmax pmax
comp=Z,6.0nm,1.2s,mb4.5
CBKS Cedar Bluff 92.66 50 *e*P **P 05 30 01.8 -0.6**
comp=Z,32nm,1.2s,mb5.2
CBKS Cedar Bluff 92.66 50 *e*P **P 05 30 01.8 -0.6**
CBKS pmax pmax
comp=Z,32nm,1.2s,mb5.2
DGMT Dagmar 93.27 40 *e*P **P 05 30 04.6 -0.4**
comp=Z,72nm,1.0s,mb5.7
SONM Songino Array 93.44 319 P **P 05 30 05.2 -0.5**
comp=Z,1.6nm,0.6s,mb4.2,baz=128,slow=4.1,SNR=8.6
SONM PKiKP PKiKP 05 34 47.2 -0.5
comp=Z,0.5nm,0.6s,baz=25,slow=3.9,SNR=2.4
YKA Yellowknife Ar 94.38 25 P **P 05 30 08.2 -1.4**
YKA PP PP 05 33 59.2 -8.1
YKA Yellowknife Ar 94.38 25 P **P 05 30 08.2 -1.4**
comp=Z,5.4nm,0.7s,mb4.8,baz=243,slow=4.4,SNR=101
YKA PP PP 05 33 59.2 -8.1
comp=Z,0.6nm,1.0s,baz=239,slow=7.5,SNR=4.0
YKA PKiKP PKiKP 05 34 47.1 -1.8
comp=Z,0.4nm,0.8s,baz=269,slow=1.4,SNR=6.7
YKA PKKPbc PKKPbc 05 47 03.4 -5.3
comp=Z,0.2nm,0.5s,baz=45,slow=2.1,SNR=11
GTA Gaotai 94.91 310 *e*P **P 05 30 13.1 +0.5**
GTA AMB AMB
comp=Z,5.0nm,0.8s,mb4.7
KSU1 Kansas State U 95.05 51 *e*P **P 05 30 13.0 -0.2**
comp=Z,17nm,0.7s,mb5.3
TIXI Tiksi 96.10 345 *e*P **P 05 30 15.0 -2.2**
comp=Z,5.8nm,0.9s,mb4.8
TIXI Tiksi 96.10 345 *e*P **P 05 30 15.4 -1.8**
TIXI pmax pmax
comp=Z,6.0nm,0.9s,mb4.8
ZAK Zakamensk 96.28 321 *e*P **P 05 30 17.9 -0.6**
ZAK pmax pmax
comp=Z,2.0nm,1.3s,mb4.2
TLY Talaya 96.52 322 *e*P **P 05 30 18.7 -0.8**
TLY pmax pmax
comp=Z,4.0nm,1.3s,mb4.5
ECSD EROS,Sioux Fal 96.53 46 *e*P **P 05 30 18.5 -1.3**
comp=Z,4.5nm,0.8s,mb4.8
ULM Lac du Bonnet 98.99 40 P Pdif 05 30 28.9 -1.9
comp=Z,1.6nm,0.8s,baz=330,slow=8.1,SNR=3.4
WVT Waverly 100.90 56 *e*Pdif Pdif 05 30 40.3 +1.1
FCC Fort Churchill 102.29 32 *e*Pdif Pdif 05 30 45.5 +0.1
RES Resolute Bay 105.45 16 *e*PKP PKiKP 05 35 06.4 -2.1
ZALV Zalesovo Beam 108.13 322 PKiKP PKiKP 05 35 11.9 -2.1
comp=Z,2.9nm,0.6s,baz=179,slow=0.7,SNR=18
MKAR Makanchi Array 109.02 314 PKiKP PKiKP 05 35 14.1 -1.9
comp=Z,3.5nm,0.5s,baz=195,slow=0.3,SNR=31
MKAR PKKPbc PKKPbc 05 46 23.7 -2.2
comp=Z,1.4nm,0.9s,baz=270,slow=4.9,SNR=5.3
KURK Kurchatov 111.71 318 *e*PKP PKiKP 05 35 18.5 -2.4
ULHL Ulahol 112.94 309 P PKiKP 05 35 22.9 -0.7
SNR=6.8
TKM2 Tokmak 2 113.46 310 *e*PKP PKiKP 05 35 22.8 -1.7
TKM2 Tokmak 2 113.46 310 P PKiKP 05 35 23.1 -1.5
SNR=7.2
UCH Uchtor 114.22 309 *e*PKP PKiKP 05 35 25.4 -0.7
UCH Uchtor 114.22 309 P PKiKP 05 35 25.5 -0.5
SNR=8.6
USP Ospenovka 114.28 310 P PKiKP 05 35 24.5 -1.6
SNR=7.6
EKS2 Erkin-Say 114.79 309 *e*PKPdf PKPdf 05 35 25.8 -1.3
EKS2 Erkin-Say 114.79 309 P PKPdf 05 35 26.2 -0.9
SNR=5.2
AML Almayashu 114.83 309 *e*PKPdf PKPdf 05 35 25.9 -1.3
AML Almayashu 114.83 309 P PKPdf 05 35 26.4 -0.7
SNR=6.3
BRVK Borovoye 116.80 321 *e*PKPdf PKPdf 05 35 28.5 -2.1
SCHQ Schefferville 116.94 37 PKP PKPdf 05 35 28.7 -2.2
SCHQ Schefferville 116.94 37 PKP PKPdf 05 35 28.7 -2.2
comp=Z,1.5nm,0.7s,baz=246,slow=20,SNR=3.6
ARU Arti 122.75 326 *e*PKPdf PKPdf 05 35 40.4 -1.6
ARU Arti 122.75 326 *i* PKIKP PKPdf 05 35 40.2 -1.8
ARU 05 37 30.6
AKTK Aktyubinsk 124.76 319 PKP PKPdf 05 35 44.9 -1.2
AKTO Aktyubinsk 124.76 319 PKP PKPdf 05 35 44.9 -1.2
comp=Z,7.1nm,0.7s,baz=85,slow=2.7,SNR=30
ARCES ARCESS Array B 126.27 350 PKP PKPdf 05 35 46.8 -1.6
comp=Z,14nm,0.8s,baz=25,slow=1.6,SNR=19
SUR Sutherland 126.68 200 *e*PKPdf PKPdf 05 35 50.0 -0.4
JOF Joensuu 130.50 343 *e*pkp PKPdf 05 35 54.0 -2.6
KAF Kangasniemi 132.51 344 *e*pkp PKPdf 05 35 57.9 -2.5
FINES FINESS Array B 133.13 344 PKP PKPdf 05 35 54.9 -6.7
FINES PKP PKPdf 05 35 59.2 -2.4
FINES FINESS Array B 133.13 344 PKhKP 05 35 54.9
comp=Z,5.6nm,0.7s,baz=116,slow=4.2,SNR=7.0
FINES PKP PKPdf 05 35 59.2 -2.4
comp=Z,5.7nm,0.7s,baz=45,slow=2.2,SNR=15
OBN Obninsk 134.21 333⇓*i*PKIKP PKPdf 05 36 03.6 -0.2
OBN 05 38 39.0
OBN pmax pmax
comp=Z,20nm,0.9s
NB2 NORSAR Subarra136.34 353 PKP 05 35 54.1
comp=Z,3.1nm,0.8s,baz=20,slow=3.7
NOA NORSAR Array B 136.34 353 PKHKP 05 35 54.9
NOA 05 36 06.3
NOA NORSAR Array B 136.34 353 PKhKP 05 35 54.9
comp=Z,2.2nm,0.7s,baz=14,slow=2.3,SNR=11
NOA PKP PKPdf 05 36 06.3 -1.3
comp=Z,3.7nm,0.7s,baz=13,slow=4.1,SNR=14
NOA SKPbc SKPbc 05 38 43.8 -2.8
comp=Z,1.9nm,0.9s,baz=17,slow=4.6,SNR=3.5
KIV Kislovodsk 136.74 316 *e*PKIKP PKPdf 05 36 07.6 -1.3
KIV pmax pmax
comp=Z,7.0nm,1.2s
TSUM Tsumeb 139.87 204 *e*PKPpre 05 36 11.2
KMBO Kilima Mbogo 140.00 246 *e*PKPpre 05 36 09.2
KMBO *e*PKPdf PKPdf 05 36 14.9 -0.9
KMBO PKP PKPdf 05 36 17.1 +1.3
KMBO Kilima Mbogo 140.00 246 PKhKP 05 36 09.2
comp=Z,2.8nm,1.0s,baz=285,slow=4.5,SNR=4.0
KMBO PKP PKPdf 05 36 17.1 +1.3
comp=Z,3.8nm,0.9s,baz=230,slow=22,SNR=6.7
MCD Coleburn Disti 140.22 4 *e*P 05 36 07.0
MDO Dochfour 140.27 5 *e*P 05 36 07.6
AKASG Malin Array Be 140.48 332 PKHKP 05 36 07.6
AKASG 05 36 16.6
AKASG Malin Array Be 140.48 332 PKhKP 05 36 07.6
comp=Z,4.0nm,0.7s,baz=43,slow=4.0,SNR=25
AKASG PKP PKPdf 05 36 16.6 +1.2
comp=Z,1.3nm,0.6s,baz=41,slow=2.6,SNR=5.5
AKASG SKPbc SKPbc 05 38 55.8 -2.5
comp=Z,1.0nm,0.5s,baz=45,slow=3.5,SNR=4.8
AKBB Malin Array Si 140.48 332 *e*PKPpre 05 36 07.4
AKBB *e*PKPdf PKPdf 05 36 13.7 -1.8
KIEV Kiev 140.49 332 *e*PKPpre 05 36 07.0
KIEV *e*PKPdf PKPdf 05 36 13.4 -2.1
EAB Aberfoyle 141.52 5 *e*P PKPdf 05 36 11.5 -5.6
EBH Black Hill 141.53 4⇑*e*P PKPdf 05 36 11.4 -5.7
EAU Auchinoon 141.93 4⇑*e*P PKPdf 05 36 13.1 -4.8
GMK Mull of Kintyr 142.23 7⇑*e*P PKPdf 05 36 13.4 -5.0
XSO Sourhope Farm 142.36 3⇑*e*P PKPdf 05 36 13.8 -4.8
GCL Cushendall 142.43 7⇑*e*P PKPdf 05 36 14.1 -4.7
ESK Eskdalemuir 142.47 4 *e*P PKPdf 05 36 14.1 -4.8
ESK Eskdalemuir 142.47 4 *e*PKIKP PKPdf 05 36 14.2 -4.7
GAL1 Galloway 142.79 6 *e*P PKPdf 05 36 14.9 -4.5
XAL Allendale 142.99 4⇑*e*P PKPdf 05 36 15.8 -3.9
CKE Keswick 143.21 4 *e*P PKPdf 05 36 17.3 -2.9
KIS Kishinev 143.26 328⇓*i*PKIKP PKPdf 05 36 16.0 -4.5
KIS M 05 36 16.0
comp=Z,200nm,1.0s
GMM Mts of Mourne 143.27 7⇑*e*P PKPdf 05 36 16.5 -3.8
LVV L'vov 143.33 335*d i*PKIKP PKPdf 05 36 17.9 -2.6
GIM North Isle of 143.38 6 *e*P PKPdf 05 36 16.9 -3.6
DMUB Kingscourt 143.48 8 *e*P PKPdf 05 36 12.4 -8.3
DMUB Kingscourt 143.48 8⇑*i*P PKPdf 05 36 17.9 -2.8
DMUB Kingscourt 143.48 8⇑*i*P PKPdf 05 36 17.9 -2.8
HPK Haverah Park 143.93 3⇑*e*P PKPdf 05 36 19.3 -2.1
DCN Croghan 143.97 9 *e*Ps PKPdf 05 36 13.9 -7.6
DCN Croghan 143.97 9⇑*i*P PKPdf 05 36 19.5 -2.0
DCN Croghan 143.97 9⇑*i*P PKPdf 05 36 19.5 -2.0
DLF Lyons Farm 144.12 8 *e*P PKPdf 05 36 14.7 -7.1
DLF Lyons Farm 144.12 8⇑*i*P PKPdf 05 36 19.9 -1.9
DLF Lyons Farm 144.12 8⇑*i*P PKPdf 05 36 19.9 -1.9
LHO Holmfirth 144.32 3 *e*P PKPdf 05 36 20.3 -1.8
OJC Ojcow 144.54 340 *e*PKP PKPdf 05 36 21.9 -0.7
KBI1 Birley Grange 144.63 3⇑*e*P PKPdf 05 36 20.4 -2.3
STHS Stebnicka Huta 144.72 337 *i* PKP PKPdf 05 36 23.2 +0.3
KOLS Kolonicke sedl 144.73 336 *e*PKP PKPdf 05 36 22.9 -0.1
KWE Weaver Farm 144.85 3⇑*e*P PKPdf 05 36 22.5 -0.6
SBD1 Bryn Du 144.86 5⇑*e*P PKPdf 05 36 22.5 -0.6
UZH Uzhgorod 144.97 336 *e*PKIKP PKPdf 05 36 20.6 -2.8
UZH *e* 05 38 36.7
NIE Niedzica 145.05 338 *e*PKP PKPdf 05 36 24.3 +0.8
KSP Ksiaz 145.05 344 *e*PKP PKPdf 05 36 23.2 -0.3
KSP Ksiaz 145.05 344 *e*PKPdf PKPdf 05 36 23.0 -0.5
KSP *i* PKPab PKPab 05 36 24.1 -1.3
KSP Ksiaz 145.05 344 *i* PKIKP PKPdf 05 36 24.1 +0.6
CRVS Cervenica-Dubn 145.06 337 *e*PKP PKPdf 05 36 23.4 -0.2
VRI Vrincioaia 145.09 329 P PKPdf 05 36 23.8 +0.1
VRI Vrincioaia 145.09 329⇑*i*P PKPdf 05 36 23.7 0.0
PLOR Plostina 145.14 329 PKIKP PKPdf 05 36 24.4 +0.6
CWF Charnwood Fore 145.16 3⇑*e*P PKPdf 05 36 23.2 -0.4
ANTO Ankara 145.16 315 *e*PKPbc PKPbc 05 36 23.4 -1.7
ANTO Ankara 145.16 315 PKP2 PKPab 05 36 25.4 -0.8
ANTO Ankara 145.16 315⇓*i*P PKPdf 05 36 24.5 +0.5
TIRR Tirgusor 145.17 325⇑P PKPdf 05 36 24.1 +0.2
TIRR Tirgusor 145.17 325⇑*i*P PKPdf 05 36 24.1 +0.2
RAC Raciborz 145.18 341 *e*P PKPdf 05 36 23.9 +0.2
TRPA Tarpa 145.27 335⇓*i*P PKPdf 05 36 24.0 +0.1
HARR Harsova 145.27 326 P PKPdf 05 36 25.3 +1.3
HLM1 Long Mynd 145.28 5 *e*P PKPdf 05 36 22.5 -1.3
IBBN Ibbenburen 145.30 353 *e*PKPbc PKPbc 05 36 24.0 -1.0
CLZ Clausthal 145.39 350 *e*PKPbc PKPbc 05 36 24.4 -0.9
OKC Ostrava-Krasne 145.41 341 *e*PKP PKPdf 05 36 23.9 -0.2
CLL Collm 145.41 347 *e*PKPbc PKPbc 05 36 24.5 -0.9
CLL Collm 145.41 347 *e*PKPdf PKPdf 05 36 23.0 -1.1
CLL ⇑*i*PKPbc PKPbc 05 36 24.6 -0.8
comp=Z,124nm,1.0s
UPC Upice 145.43 344 *e*PKP PKPdf 05 36 23.4 -0.7
UPC *ex* x 05 36 25.0
DPC Dobruska-Polom 145.49 343 *e*PKP PKPdf 05 36 23.6 -0.6
DPC *ex* x 05 36 25.5
BRG Berggiesshubel 145.61 346 *e*PKP2 PKPdf 05 36 23.6 -0.8
BRG *i* 05 36 25.3
BRG Berggiesshubel 145.61 346 *e*PKPbc PKPbc 05 36 25.2 -0.8
BRG Berggiesshubel 145.61 346 *e*P PKPdf 05 36 23.6 -0.9
comp=Z,9.4nm,1.0s
BRG *i* 05 36 25.3
comp=Z,76nm,1.2s
BRG *e* 05 36 31.6
comp=Z,16nm,0.8s
MORC Moravsky Berou 145.65 341 P PKPdf 05 36 26.4 +1.8
MORC Moravsky Berou 145.65 341⇓*i*P PKPdf 05 36 25.4 +0.9
HTR Trewern Hill 145.68 5⇑*e*P PKPdf 05 36 24.6 +0.1
WTSB Winterswijk 145.74 354 *e*PKP PKPdf 05 36 25.3 +0.7
comp=Z,94nm,1.0s
MLR Muntele Rosu 145.74 329⇓*i*P PKPdf 05 36 24.3 -0.5
KECS Kecovo 145.77 337 *i* PKP PKPdf 05 36 25.9 +1.1
MCH1 Michaelchurch 145.79 5⇑*e*P PKPdf 05 36 24.6 -0.1
MCH1 ⇑*e*P 05 36 24.6
SSW Stow on the Wo 145.90 4⇑*e*P PKPdf 05 36 25.3 +0.4
HGH Gray Hill 146.16 5 *e*P PKPdf 05 36 25.4 0.0
SKP1 Kophill 146.20 3⇑*e*P PKPdf 05 36 25.8 +0.4
DRGR 146.26 333 P PKPdf 05 36 27.3 +1.6
DRGR 146.26 333⇓*i*P PKPbc 05 36 27.7 -0.2
PRU Pruhonice 146.29 345 *e*PKP PKPdf 05 36 27.1 +1.5
PRU *ex* x 05 36 29.8
MOX Moxa 146.32 348 *e*PKP PKPdf 05 36 24.8 -0.8
comp=Z,45nm,1.3s
MOX Moxa 146.32 348 *e*PKPdf PKPdf 05 36 24.8 -0.8
MOX *e*PKPbc PKPbc 05 36 27.1 -0.9
VRAC Vranov 146.35 342 P PKPbc 05 36 27.5 -0.6
VRAC Vranov 146.35 342⇑*i*P PKPbc 05 36 27.7 -0.4
VYHS Vyhne 146.35 339 *i* PKP PKPbc 05 36 27.6 -0.5
SWN1 Swindon 146.35 4⇑*e*P PKPdf 05 36 26.8 +1.2
WERD Werda 146.37 347 *e*PKPdf PKPdf 05 36 25.0 -0.7
KOLL Kolacno 146.42 339 *i* PKP PKPbc 05 36 28.0 -0.3
UBBA Unterbreizbach 146.44 350 *e*PKPbc PKPbc 05 36 27.1 -1.2
GUNZ Gunzen 146.45 347 *e*PKPdf PKPdf 05 36 25.4 -0.4
PSZ Piszkesteto 146.46 337 P PKPbc 05 36 27.9 -0.6
PSZ Piszkesteto 146.46 337⇑*i*P PKPbc 05 36 27.7 -0.7
PSZ Piszkesteto 146.46 337⇑*i*PKP PKPbc 05 36 27.8 -0.6
WERN Wernitzgruen 146.51 347 *e*PKPdf PKPdf 05 36 25.6 -0.4
NKC Novy Kostel 146.54 347 *e*PKP PKPbc 05 36 27.8 -0.8
NKC *ex* x 05 36 30.5
WOL Wolverton 146.59 3⇑*e*P PKPdf 05 36 27.3 +1.2
TREC Trest 146.68 343 *e*PKP PKPbc 05 36 28.1 -0.9
SWK Warminster 146.69 4 *e*P PKPdf 05 36 27.5 +1.3
SMOL Smolenice 146.80 340 *i* PKP PKPbc 05 36 29.3 0.0
MANZ Manzenberg 146.85 347 *e*PKPdf PKPdf 05 36 25.6 -0.9
BEBN Eben Emael 147.00 355 PKP PKPdf 05 36 28.9 +2.2
HGN Heimansgroeve 147.01 355 *e*PKP PKPdf 05 36 28.7 +2.0
comp=Z,32nm,0.6s
ROTZ Rotzenmuhle 147.04 347 *e*PKPbc PKPbc 05 36 29.3 -0.6
UCC Uccle 147.09 357 PKP PKPdf 05 36 29.1 +2.2
BUD Budapest 147.15 338⇑*i*P PKPdf 05 36 29.6 +2.5
MEM Membach 147.15 355 PKP PKPdf 05 36 29.3 +2.3
ZST Bratislava 147.18 341 *i* PKP PKPbc 05 36 30.3 0.0
CSA1 St Austell 147.22 7 *e*P PKPdf 05 36 25.3 -1.8
TNS Taunus Mts 147.26 352 *e*PKP2 PKPab 05 36 33.5 -0.7
TNS Taunus Mts 147.26 352 *e*PKPbc PKPbc 05 36 29.7 -0.8
TNS *e*PKPab PKPab 05 36 33.5 -0.7
SZH Strazhica 147.30 326 P PKPdf 05 36 29.4 +1.9
GRA1 Grafenberg Arr 147.31 348 *e*PKPdf PKPdf 05 36 26.7 -0.6
GRA1 *e*PKPbc PKPbc 05 36 30.1 -0.5
GRA1 *e*PKPab PKPab 05 36 34.0 -0.4
GRF Grafenberg Arr 147.31 348 *e*PKP2 PKPab 05 36 34.0 -0.4
GRF Grafenberg Arr 147.31 348 *e*PKIKP PKPdf 05 36 26.7 -0.6
GRF *e* 05 36 30.1
GRF Grafenberg Arr 147.31 348 *e*PKPdf PKPdf 05 36 26.7 -0.6
GRF *e*PKPbc PKPbc 05 36 30.1 -0.5
GRF *e*PKPab PKPab 05 36 34.0 -0.4
GRFO Grafenberg 147.31 348 *e*PKPbc PKPbc 05 36 29.9 -0.7
GZR Gura Zlata 147.31 332 P PKPbc 05 36 29.8 -1.0
KHC Kasperske Hory 147.32 345 *e*PKIKP PKPdf 05 36 26.4 -0.9
KHC *e* 05 36 30.2
KHC Kasperske Hory 147.32 345 *e*PKP PKPdf 05 36 26.4 -0.9
KHC *ex* x 05 36 30.2
KHC *ex* x 05 36 33.7
ZIMR 147.33 327 P PKPbc 05 36 30.5 -0.4
SNF Seneffe 147.38 357 PKP PKPdf 05 36 30.0 +2.6
BCLA Clavier 147.40 355 PKP PKPdf 05 36 29.9 +2.5
MENF Mencas 147.40 359 PKP PKPdf 05 36 23.9 -3.5
WET Wettzell 147.47 346 *e*PKP2 PKPab 05 36 34.9 -0.2
WET Wettzell 147.47 346 *e*PKPbc PKPbc 05 36 30.2 -0.9
WET *e*PKPab PKPab 05 36 34.9 -0.2
GEC2 GERESS Array S 147.56 345 *e*PKP2 PKPab 05 36 34.9 -0.5
GEC2 GERESS Array S 147.56 345 *e*PKPbc PKPbc 05 36 30.6 -0.7
GEC2 *e*PKPab PKPab 05 36 34.9 -0.5
GERES GERESS Array B 147.56 345 PKPbc PKPbc 05 36 30.8 -0.5
comp=Z,28nm,0.6s,baz=25,slow=2.5,SNR=213
BZS Buzias 147.65 333 P PKPbc 05 36 30.8 -0.9
BZS Buzias 147.65 333⇑*i*P PKPbc 05 36 30.6 -1.0
PVL Pavlikeni 147.65 326 P PKPbc 05 36 31.0 -0.7
GIVF Givet 147.75 356 *e*PKP1 PKPbc 05 36 30.9 -0.8
comp=Z,139nm,0.9s
DOU Dourbes 147.77 356 PKP PKPbc 05 36 31.0 -0.8
CONA Conrad Observa 147.80 342⇓*i*PKPdf PKPdf 05 36 27.3 -0.9
comp=Z,86nm,1.5s,SNR=26
SOP Sopron 147.80 341⇑*i*PKP PKPbc 05 36 31.4 -0.6
BAIF Baives 147.83 357 *e*PKP1 PKPbc 05 36 31.1 -0.9
comp=Z,75nm,0.8s
WLF Walferdange 148.07 354 PKP PKPbc 05 36 32.3 -0.2
WLF Walferdange 148.07 354 *e*PKPbc PKPbc 05 36 32.1 -0.5
WLF *e*PKPab PKPab 05 36 36.9 -0.6
MOA Molln 148.33 343⇑*i*P PKPdf 05 36 27.1 -1.9
comp=Z,27nm,0.9s,SNR=14
DIM Dimitrovgrad 148.34 325 P PKPbc 05 36 32.5 -1.0
PKSM Moragy 148.36 337 P PKPbc 05 36 32.5 -1.0
PKSM Moragy 148.36 337⇑*i*P PKPdf 05 36 27.7 -1.4
ARSA Arzberg 148.51 341⇑*i*P PKPdf 05 36 27.8 -1.6
comp=Z,25nm,1.1s,SNR=12
STU Stuttgart 148.56 350 *e*PKPdf PKPdf 05 36 28.3 -1.1
STU *e*PKPbc PKPbc 05 36 33.1 -0.7
STU *e*PKPab PKPab 05 36 38.2 -1.3
LANF Langenberg 148.56 352 PKP PKPdf 05 36 29.1 -0.3
KDZ Kurdzhali 148.67 324 P PKPbc 05 36 34.0 -0.3
PGB Panagyurishte 148.73 327 P PKPbc 05 36 33.3 -1.1
FUR Furstenfeldbru 148.75 347 *e*PKP2 PKPab 05 36 39.9 -0.5
FUR Furstenfeldbru 148.75 347 *e*PKPbc PKPbc 05 36 33.6 -0.7
FUR *e*PKPab PKPab 05 36 39.9 -0.5
KOGS Kog 148.99 340 *i* PKPbc PKPbc 05 36 33.5 -1.5
KOGS *e*PKPab PKPab 05 36 40.7 -0.7
BFO Black Forest 149.12 351 *e*PKP2 PKPab 05 36 41.0 -0.9
BFO Black Forest 149.12 351 *e*PKPbc PKPbc 05 36 33.9 -1.3
BFO *e*PKPab PKPab 05 36 41.0 -0.9
FLN La Foliniere 149.17 2 *e*PKP1 PKPbc 05 36 34.1 -1.2
comp=Z,174nm,0.9s
PERS Pernice 149.18 341 *e*PKPbc PKPbc 05 36 34.0 -1.4
CDF Champ du Feu 149.19 352 *e*PKP1 PKPbc 05 36 34.4 -0.9
comp=Z,90nm,0.9s
VTS Vitosha 149.19 328 P PKPbc 05 36 34.9 -0.6
VTS Vitosha 149.19 328⇑*i*P PKPbc 05 36 34.8 -0.8
VTS Vitosha 149.19 328 P PKPdf 05 36 32.8 +2.2
KBA Koelnbreinsper 149.28 344⇑*i*P PKPdf 05 36 29.5 -1.1
comp=Z,42nm,0.9s,SNR=20
MEZF Maizieres J'vi 149.32 355 *e*PKP1 PKPbc 05 36 35.0 -0.7
LDF La Druitiere 149.35 2 *e*PKP1 PKPbc 05 36 34.5 -1.2
comp=Z,44nm,0.6s
ROSF Rostrenen 149.39 6 *e*PKP1 PKPbc 05 36 34.5 -1.3
comp=Z,67nm,1.0s
ECH Echery 149.39 352 PKP PKPdf 05 36 29.1 -1.6
OBKA Obir 149.47 342⇑*i*P PKPdf 05 36 29.9 -1.0
comp=Z,17nm,0.9s,SNR=11
WATA Walderalm 149.47 346⇓*i* PKPbc 05 36 35.0 -1.1
comp=Z,39nm,1.1s
WATA Walderalm 149.47 346⇑*i*PKPdf PKPdf 05 36 29.6 -1.3
comp=Z,15nm,1.5s,SNR=13
WATA ⇓*i*PKPbc PKPbc 05 36 35.0 -1.1
comp=Z,39nm,1.1s
THEF They Montfort 149.51 354 PKP PKPdf 05 36 29.1 -1.8
GRR Gorron 149.52 3 *e*PKP1 PKPbc 05 36 34.9 -1.2
comp=Z,71nm,0.7s
WTTA Wattenberg 149.53 346⇑*i*P PKPdf 05 36 29.3 -1.7
comp=Z,73nm,0.7s,SNR=37
SGMF Saint Gilles 149.54 5 *e*PKP1 PKPbc 05 36 34.5 -1.7
comp=Z,168nm,1.0s
MOTA Moosalm 149.57 347⇓*i* PKPbc 05 36 35.2 -1.1
comp=Z,41nm,1.0s
MOTA Moosalm 149.57 347⇑*i*PKPdf PKPdf 05 36 29.4 -1.6
comp=Z,6.8nm,1.1s
MOTA ⇓*i*PKPbc PKPbc 05 36 35.2 -1.1
comp=Z,41nm,1.0s
MMB Musomiste 149.64 326 P PKPbc 05 36 35.2 -1.5
SQTA Sankt Quirin 149.66 347⇑*i* PKPbc 05 36 35.7 -0.8
comp=Z,36nm,0.9s
SQTA Sankt Quirin 149.66 347⇓*i*PKPdf PKPdf 05 36 30.0 -1.2
comp=Z,12nm,1.2s,SNR=17
SQTA ⇑*i*PKiKP PKiKP 05 36 35.7 -1.5
comp=Z,36nm,0.9s
HAU Haudompre 149.70 353 *e*PKP1 PKPbc 05 36 35.5 -1.1
comp=Z,71nm,0.8s
PDKS Podkum 149.74 341 *i* PKPbc PKPbc 05 36 35.5 -1.2
MOF Molkenrain 149.75 352 PKP PKPdf 05 36 30.8 -0.5
KKB Krupnik 149.78 327 P PKPbc 05 36 36.0 -1.0
ABTA Abfaltersbach 149.80 345⇓*i*PKPdf PKPdf 05 36 29.8 -1.6
comp=Z,72nm,0.8s,SNR=16
QUIF Quistinic 149.82 6 *e*PKP1 PKPbc 05 36 35.3 -1.6
comp=Z,99nm,1.2s
HINF Hinteralfeld 149.82 353 *e*PKP1 PKPbc 05 36 35.6 -1.3
comp=Z,45nm,0.8s
DAVA Damuels 149.87 349⇓*i*P PKPdf 05 36 30.7 -0.8
comp=Z,70nm,1.1s,SNR=15
LJU Ljubljana 149.90 342 *i* PKPdf PKPdf 05 36 30.2 -1.3
LJU *i* PKPbc PKPbc 05 36 36.0 -1.1
LJU Ljubljana 149.90 342 *i* PKPdf PKPdf 05 36 30.2 -1.3
LJU *i* PKPbc PKPbc 05 36 36.0 -1.1
LJU *e*PKPab PKPab 05 36 43.0 -2.2
FETA Feichten 149.96 347⇑*i*PKPdf PKPdf 05 36 30.6 -1.0
comp=Z,65nm,1.0s,SNR=8.5
CADS Cadrg 149.96 343 *i* PKPbc PKPbc 05 36 35.2 -2.0
CADS *i* PKPab PKPab 05 36 43.5 -2.0
VOY Vojsko 150.09 342 *e*PKPdf PKPdf 05 36 30.7 -1.2
VOY *e*PKPbc PKPbc 05 36 35.8 -1.8
BOJS Bojanci 150.15 340 *e*PKPdf PKPdf 05 36 30.8 -1.2
BOJS *i* PKPbc PKPbc 05 36 37.0 -0.7
LOMF Lomont 150.29 353 PKP PKPdf 05 36 31.0 -1.1
STIP Stip 150.37 328 *e*PKP PKPdf 05 36 35.7 +3.2
VAY Valandovo 150.44 327 *e*PKP PKPdf 05 36 36.0 +3.5
SKO Skopje 150.54 329 *e*PKP PKPdf 05 36 36.3 +3.6
LOR Lormes 150.63 357 *e*PKP1 PKPbc 05 36 37.8 -1.0
comp=Z,88nm,0.8s
HYF Humbligny 150.68 358 *e*PKP1 PKPbc 05 36 38.5 -0.4
SSF Saint Saulge 150.86 357 *e*PKP1 PKPbc 05 36 38.4 -0.9
comp=Z,99nm,0.9s
KRUS Krusevo 151.08 328 *e*PKP PKPdf 05 36 37.6 +4.0
CABF La Chapelle 151.10 353 *e*PKP1 PKPbc 05 36 39.5 -0.4
comp=Z,134nm,1.0s
AVF Avril sur Loir 151.14 357 *e*PKP1 PKPbc 05 36 38.6 -1.3
comp=Z,34nm,0.9s
SMF Signal de Mont 151.26 357 *e*PKP1 PKPbc 05 36 39.0 -1.2
comp=Z,35nm,1.1s
BIA Bitola 151.31 328 *e*PKP PKPdf 05 36 38.0 +4.1
MFF Saint Martin d 151.34 2 *e*PKP1 PKPbc 05 36 39.3 -1.1
comp=Z,112nm,0.9s
BGF Bois d'Agland 151.39 358 *e*PKP1 PKPbc 05 36 39.6 -0.9
comp=Z,80nm,0.8s
OHR Ohrid 151.50 328 *e*PKP PKPdf 05 36 38.6 +4.4
TCF Toulx Ste Croi 151.68 359 *e*PKP1 PKPbc 05 36 40.0 -1.2
comp=Z,57nm,0.9s
AGO Saint Agoulin 151.88 357 PKP PKPdf 05 36 34.7 +0.1
PLDF La Plantade 151.94 357 PKP PKPdf 05 36 34.7 0.0
LPL La Plagne 152.10 352 *e*PKP1

VIVF	Saint-Julien-l	152.98	355	*e*PKP1	PKPbc	05 36 43.3	-0.8
	comp=Z,22nm,0.8s						
LFF	La Frestale	153.02	1	*e*PKP1	PKPbc	05 36 43.0	-1.2
CAF	Calviac	153.04	359	*e*PKP1	PKPbc	05 36 43.2	-1.0
SBF	Sospel	153.62	350	*e*PKP1	PKPbc	05 36 44.7	-0.8
SMRF	Simiane la Rot	153.76	353	*e*PKP1	PKPbc	05 36 44.9	-0.9
LASF	Ste Croix	153.81	356	*e*PKP1	PKPbc	05 36 45.2	-0.7
FRF	La Foret Royal	154.03	351	*e*PKP1	PKPbc	05 36 45.3	-1.0
	comp=Z,64nm,1.1s						
PGF	Pioggiola	154.59	347	*e*PKP1	PKPdf	05 36 45.5	+7.0
PCAB	Cabril	154.91	17	*e*PKPab	PKPab	05 37 06.5	-0.1
PBRG	Braganca	155.16	15	*e*PKPab	PKPab	05 37 06.6	-1.1
PVRL	Vila Real	155.40	17	*e*PKPab	PKPab	05 37 08.0	-0.7
MVO	Moncorvo	155.69	16	*e*PKPab	PKPab	05 37 09.4	-0.6
PVIS	Viseu	155.87	18	*e*PKPab	PKPab	05 37 09.9	-0.9
PCBR	Castelo Branco	156.80	18	*e*PKPdf	PKPdf	05 36 41.5	0.0
PCBR	Castelo Branco	156.80	18	*e*PKPab	PKPab	05 37 13.4	-1.4
PESTR	Estremoz	157.67	19	*e*PKPab	PKPab	05 37 17.3	-1.3
ESDC	Sonseca Array	157.79	11	PKP	PKPdf	05 36 41.7	-1.0
	comp=Z,1.5nm,0.9s,baz=349,slow=2.7,SNR=6.5						
ESDC				PKPab	PKPab	05 37 18.1	-1.0
	comp=Z,5.9nm,0.8s,baz=337,slow=3.7,SNR=16						
EVO	Evora	157.84	20	*e*PKIKP	PKPdf	05 36 39.9	-3.0
	comp=Z,25nm,1.1s						
PBEJ	Beja	158.35	20	*e*PKPab	PKPab	05 37 20.6	-1.0
PBAR	Barrancos	158.47	18	*e*PKPab	PKPab	05 37 21.6	-0.5
PTEO	Sao Teotonio	158.48	22	*e*PKPab	PKPab	05 37 21.4	-0.8
MORF	Marmelete	158.72	23	*e*PKPdf	PKPdf	05 36 44.2	+0.3
PVAQ	Vaqueiros	158.96	21	*e*PKPab	PKPab	05 37 21.1	-3.2
PBDV	Barranco-do-Ve	159.03	21	*e*PKPdf	PKPdf	05 36 44.2	-0.1
KEST	Kesra	160.89	340	PKP	PKPdf	05 36 45.5	-0.9
	comp=Z,1.7nm,1.1s,baz=301,slow=4.9,SNR=3.9						
KEST				PKPab	PKPab	05 37 32.4	-0.4
	comp=Z,2.1nm,0.7s,baz=265,slow=2.5,SNR=8.6						
LIC	Lamto	166.80	151	*e*PKIKP	PKPdf	05 36 49.7	-2.7
	comp=Z,18nm,0.9s						
DBIC	Dimbokro	167.27	150	PKP	PKPdf	05 36 50.2	-2.5
DBIC	Dimbokro	167.27	150	PKP	PKPdf	05 36 50.2	-2.5
	comp=Z,5.0nm,0.8s,baz=57,slow=1.2,SNR=9.8						
TORD	Torodi Ar. Bea	175.28	183	PKP	PKPdf	05 36 54.2	-2.4
TORD				PKPab	PKPab	05 38 34.9	-1.8
TORD	Torodi Ar. Bea	175.28	183	PKP	PKPdf	05 36 54.2	-2.4
	comp=Z,4.5nm,0.9s,baz=306,slow=0.7,SNR=20						
TORD				PKPab	PKPab	05 38 34.9	-1.8
	comp=Z,0.7nm,0.5s,baz=189,slow=2.4,SNR=4.9						

ISK ***01*** *05:33:01.9, 3801N×3094E, h5km, MD3.4, ML3.4*
CSEM ***01*** *05:33:02.5±0.1, 3801N×3093E, h5km, MD3.4, Error ellipse: s-maj=1.4km s-min=1.2km az=122.0*
ISCJB ***01*** *05:33:03.1±0.3, 3803N±002×3095E±003, h5km, Error ellipse: s-maj=3.5km s-min=2.9km az=164.3*
DDA ***01*** *05:33:05.5, 3800N×3101E, h25km±4km, Md3.8*
ISC 01 05:33:03.6±0.6, 3803N±003×**3096E**±003, **h4**km±5km, **n35,** σ**0§89/46, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ISP	Isparta	0.40	242	PG	Pg	05 33 10.5	-0.7
ISP				SG	Sg	05 33 17.1	+0.7
SHUT	Suhut-Afyon	0.61	329	PG	Pg	05 33 15.0	-0.4
BCK	Bucak	0.64	207	PG	Pg	05 33 14.7	-1.1
BCK				SG	Sg	05 33 23.7	-0.4
KDHN	Kadinhani	1.04	61	*i* P	Pg	05 33 23.2	-0.3
KDHN				*i* S	Sg	05 33 37.3	+0.3
KONT	Konya--Tatoy	1.11	94	PN	Pn	05 33 24.2	-1.8
KIZT	Kizilcal	1.12	40	PN	Pn	05 33 24.7	-1.3
ANTB	Antalya	1.15	192	PN	Pn	05 33 25.1	-1.4
KHL	Karahalli	1.17	285	PN	Pn	05 33 25.1	-1.6
ALT	Altintas	1.22	327	PN	Pn	05 33 26.3	-1.1
GOLH	Golhisar	1.36	235	*i* P	Pn	05 33 28.3	-1.1
GOLH				*i* S	Sb	05 33 48.5	+1.2
ESKT	Eskisehir	1.49	357	PN	Pn	05 33 31.1	-0.1
ESKT	Eskisehir	1.49	357	*i* P	Pn	05 33 31.3	+0.1
ESKT				*i* S	Sn	05 33 50.9	-0.2
SEYT	Eskypehyr	1.49	357	*i* P	Pn	05 33 31.3	+0.1
SEYT				*i* S	Sn	05 33 50.9	-0.2
ELL	Elmali	1.53	213	PN	Pn	05 33 31.6	0.0
DENT	Denizli	1.54	260	PN	Pn	05 33 31.0	-0.9
GDZ	Gediz	1.57	313	*i* P	Pn	05 33 31.9	-0.3
GDZ				*i* S	Sn	05 33 53.8	+0.8
FETY	Fethiye	2.04	228	PN	Pn	05 33 39.2	+0.5
ERMK	Ermenek	2.09	131	*i* P	Pn	05 33 40.2	+0.9
ERMK				*i* S	Sn	05 34 06.2	+0.4
ANTO	Ankara	2.33	37	*e*PN	Pn	05 33 42.7	0.0
LOD	Lodumlu	2.33	37	*e*PN	Pn	05 33 43.2	+0.5
GULT	Gulveren	2.42	352	*e*PN	Pn	05 33 45.1	+1.1
ADVT	Abdulvahap	2.58	339	*e*PN	Pn	05 33 46.1	0.0
AKHS	Akhisar	2.61	290	*i* P	Pn	05 33 46.0	-0.5
AKHS				*i* S	Sg	05 34 29.4	+2.0
GEMT	Gemlik	2.77	331	*e*PN	Pn	05 33 48.7	0.0
YLV	Yalova	2.82	335	*e*PN	Pn	05 33 49.7	+0.3
IKL	Isikli	2.82	128	*e*PN	Pn	05 33 50.0	+0.6
NIG	Nigde	2.89	87	*e*PN	Pn	05 33 51.4	+1.1
KDAG	Bornova	2.93	278	*i* P	Pn	05 33 50.6	-0.3
KDAG				*i* S	Sg	05 34 37.8	+0.1
HRT	Hereke	2.96	341	*e*PN	Pn	05 33 52.0	+0.6
MERS	Mersin	3.07	111	*e*PN	Pn	05 33 53.5	+0.7
CDAG	Cicekdag	3.11	58	*i* P	Pn	05 33 52.2	-1.2
CDAG				*i* S	Sn	05 34 29.7	-1.3
KARA	Karaisali	3.34	102	*e*PN	Pn	05 33 57.4	+0.8
CORM	Corum	3.58	52	*e*PN	Pn	05 34 00.6	+0.8
EREN	Erenkoy	3.59	133	*e*PN	Pn	05 34 00.8	+0.8
KOZT	Kozan	3.90	97	*e*PN	Pn	05 34 06.1	+1.8

IDC ***01*** *06:10:26.0±0.9, 180N×12693E, h0km, mb4.2/7, mb1 4.3/8, mb1mx4.0/18, mbtmp4.2/8, ML3.9/1, MS4.4/1, Ms1 4.4/1, ms1mx2.9/24, Error ellipse: s-maj=65.3km s-min=16.3km az=74.0*
NEIC ***01*** *06:10:27.5±0.5, 179N×12693E, h10km, mb4.8/5, Error ellipse: s-maj=33.4km s-min=8.4km az=77.0*
ISCJB ***01*** *06:10:29.1±0.7, 17N±01×126E±03, h33km, mb4.4/10, Error ellipse: s-maj=41.6km s-min=10.6km az=165.0*
ISC 01 06:10:31.2±0.7, 18N±01×**1270E**±03, **h35**km, **n16,** σ**0§64/16, mb4.4/10, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	Kakadu	15.39	159	*e*P	Pn	06 14 12.8	+7.0
	26nm,1.2s						
FITZ	Fitzroy Crossi	19.80	184	*e*P	Pn	06 14 57.2	-3.3
	3.5nm,0.6s						
FITZ	Fitzroy Crossi	19.80	184	P	Pn	06 14 56.9	-3.6
	0.3nm,0.3s,baz=27,slow=7.8,SNR=7.6						
WRA	Warramunga Arr	22.77	162	P	P	06 15 30.5	-0.1
	15nm,0.7s,mb4.5,baz=340,slow=11,SNR=120						
WB2	Warramunga Arr	22.77	162	*e*P	P	06 15 30.8	+0.1
JOW	Kunigami	24.94	3	P	P	06 15 50.1	-1.1
	5.8nm,0.6s,mb4.3,baz=195,slow=19,SNR=4.3						
ASAR	Alice Springs	26.18	165	P	P	06 16 02.6	+0.1
	5.9nm,0.3s,mb4.5,baz=348,slow=12,SNR=101						
FORT	Forrest	32.40	178	*e*P	P	06 16 58.0	+0.3
	12nm,0.5s,mb5.0						
KLBR	Kellerberrin	34.33	194	*e*P	P	06 17 14.0	-0.6
	29nm,1.2s,mb5.1						
STKA	Stephens Creek	36.24	159	*e*P	P	06 17 31.5	+0.5
	1.0nm,0.4s,mb4.1						
STKA	Stephens Creek	36.24	159	P	P	06 17 31.4	+0.4
	0.9nm,0.3s,mb4.1,baz=332,slow=7.5,SNR=6.3						
MKAR	Makanchi Array	59.29	326	P	P	06 20 29.7	+0.3
	0.8nm,0.4s,mb4.1,baz=118,slow=7.8,SNR=10.0						
KURK	Kurchatov	63.50	328	*e*P	P	06 20 58.1	+0.3
	3.0nm,0.4s,mb4.7						
AKTK	Aktyubinsk	75.33	322	P	P	06 22 11.1	+0.2
AKTO	Aktyubinsk	75.33	322	P	P	06 22 11.1	+0.2
	0.7nm,0.5s,mb3.9,baz=104,slow=3.6,SNR=3.6						
VNDA	Vanda	81.48	173	P	P	06 22 45.1	+0.8
	0.7nm,0.4s,mb3.9,baz=329,slow=6.1,SNR=7.7						

NEIC ***01*** *06:19:13.8±2.7, 1747S×17878W, h577km±29km, mb4.1/6, Error ellipse: s-maj=47.1km s-min=19.7km az=142.0*
IDC ***01*** *06:19:13.6±5.7, 1747S×17881W, h567km±61km, mb3.3/5, mb1 3.5/6, mb1mx3.2/16, mbtmp3.3/6, Error ellipse: s-maj=88.4km s-min=32.2km az=149.0*
ISCJB ***01*** *06:19:16.9±3.9, 175S±04×1789W±03, h633km±48km, mb3.9/9, Error ellipse: s-maj=66.7km s-min=30.1km az=142.8*
ISC 01 06:19:14.4±3.7, **174S**±04×**1788W**±03, **h584**km±40km, **n17,** σ**0§55/15, mb3.9/9, 2D, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	14.62	249	P	P	06 22 19.7	0.0
	0.5nm,0.3s,baz=105,slow=19,SNR=5.2						
CNB	Canberra Magne	33.41	232	*e*P	P	06 25 05.7	-0.2
	6.2nm,0.6s,mb4.4						
STKA	Stephens Creek	38.52	241	⇓*i*P	P	06 25 48.2	+0.2
	3.3nm,0.6s,mb4.0						
STKA	Stephens Creek	38.52	241	P	P	06 25 48.2	+0.2
	3.7nm,0.5s,mb4.2,baz=87,slow=9.8,SNR=21						
WB2	Warramunga Arr	44.33	259	⇓*i*P	P	06 26 33.5	-0.4
WRA	Warramunga Arr	44.34	259	P	P	06 26 33.7	-0.3
	1.7nm,0.5s,mb3.9,baz=94,slow=6.8,SNR=39						
WRA				PcP	PcP	06 28 05.8	+0.6
	1.9nm,1.2s,baz=89,slow=3.6,SNR=4.5						
ASAR	Alice Springs	44.55	254	P	P	06 26 35.8	+0.2
	16nm,0.6s,mb4.8,baz=88,slow=8.3,SNR=411						
ASAR				PcP	PcP	06 28 06.0	+0.2
	0.6nm,0.5s,baz=102,slow=4.0,SNR=4.5						
KAKA	Kakadu	47.21	269	*e*P	P	06 26 56.6	+0.8
	4.4nm,0.4s,mb4.3						
FORT	Forrest	49.86	244	*e*P	P	06 27 14.4	-0.8
	5.7nm,0.6s,mb4.2						
FITZ	Fitzroy Crossi	52.73	260	*e*P	P	06 27 36.9	+0.8
	2.4nm,0.7s,mb3.6						
FITZ	Fitzroy Crossi	52.73	260	P	P	06 27 37.0	+0.9
	0.5nm,0.3s,mb3.3,baz=97,slow=19,SNR=3.8						
MBWA	Marble Bar	57.82	256	*e*P	P	06 28 11.3	-0.1
	1.1nm,0.4s,mb3.3						
KKM	Kota Kinabalu	68.26	284	*e*P	P	06 29 11.9	-6.4
GAMB	Gambell	81.14	3	*e*P	P	06 30 28.3	-0.9
PDAR	Pinedale Array	87.28	44	P	P	06 31 00.5	+0.7
	0.2nm,0.8s,mb2.9,baz=225,slow=1.1,SNR=3.3						
GERES	GERESS Array B	147.06	345	PKPbc	PKPbc	06 37 53.6	+1.3
GERES	GERESS Array B	147.06	345	PKPbc	PKPbc	06 37 53.6	+1.3
	0.1nm,0.3s,baz=25,slow=4.9,SNR=4.7						

ISCJB ***01*** *06:41:11.1±1.4, 470N±0.1×1526E±02, h113km±13km, mb3.5/8, Error ellipse: s-maj=24.8km s-min=10.6km az=136.1*
MOS ***01*** *06:41:11.4±1.5, 4700N×15252E, h119km, mb4.0/4, Error ellipse: s-maj=23.7km s-min=12.9km az=63.1*
IDC ***01*** *06:41:12.2±4.0, 4697N×15251E, h109km±38km, mb3.2/9, mb1 3.5/11, mb1mx3.3/22, mbtmp3.3/11, Error ellipse: s-maj=25.1km s-min=19.8km az=126.0*
NEIC ***01*** *06:41:13.0±2.3, 4699N×15249E, h117km±22km, mb4.3/1, Error ellipse: s-maj=22.1km s-min=14.2km az=114.0*
ISC 01 06:41:12.4±1.3, **470N**±01×**1526E**±02, **h108**km±12km, **n27,** σ**0§98/27, mb3.5/8, 5C, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	4.38	31	*e*PN	Pn	06 42 15.7	-1.0
YSS	Yuzh-Sakhalins	6.72	273	*e*Pn	Pn	06 42 47.8	-0.5
	6.2nm,0.5s						
YSS	Yuzh-Sakhalins	6.72	273	⇑*i*PN	Pn	06 42 47.7	-0.6
YSS				pmax	pmax		
	comp=Z,20nm,0.9s						
PET	Petropavlovsk	7.20	31	⇑*e*PN	Pn	06 43 04.8	+10
ASAJ	Asahikawa	7.56	251	PN	Pn	06 42 58.4	-1.5
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ	Asahikawa	7.56	251	P	Pn	06 42 58.4	-1.5
	comp=Z,1.1nm,0.3s,baz=61,slow=16,SNR=12						
ERM	Erimo	8.36	237	⇑*e*PN	Pn	06 43 12.7	+2.0
MJAR	Matsushiro Ar	14.93	231	P	Pn	06 44 38.4	+0.6
	comp=Z,0.2nm,0.3s,baz=45,slow=8.6,SNR=4.6						
SEY	Seymchan	15.98	360	⇑*e*P	Pn	06 44 52.5	+1.9
YAK	Yakutsk	19.92	327	⇑*e*P	P	06 45 29.9	-5.3
YAK				pmax	pmax		
	comp=Z,11nm,0.8s						
KSRS	Korea Array	20.52	251	P	P	06 45 42.0	+0.3
	comp=Z,1.0nm,0.5s,baz=56,slow=10.0,SNR=4.0						
YKA	Yellowknife Ar	50.96	37	P	P	06 50 02.4	+0.1
YKA				PcP	PcP	06 51 16.8	-0.2
YKA	Yellowknife Ar	50.96	37	*i* P	P	06 50 02.7	+0.4
YKA	Yellowknife Ar	50.96	37	P	P	06 50 02.4	+0.1
	comp=Z,0.2nm,0.6s,mb3.4,baz=300,slow=7.3,SNR=5.1						
YKA				PcP	PcP	06 51 16.7	-0.2
	comp=Z,0.2nm,0.4s,baz=302,slow=3.8,SNR=5.2						
NVAR	Mina Array Bea	62.66	62	P	P	06 51 25.7	+0.5
	comp=Z,0.2nm,0.5s,mb3.3,baz=297,slow=7.4,SNR=3.4						
FINES	FINESS Array B	63.67	334	P	P	06 51 31.0	-0.5
FINES	FINESS Array B	63.67	334	*i* P	P	06 51 31.0	-0.5
FINES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
FINES	FINESS Array B	63.67	334	P	P	06 51 31.0	-0.5
	comp=Z,0.8nm,0.5s,mb3.8,baz=49,slow=8.6,SNR=10						
PDAR	Pinedale Array	64.91	54	P	P	06 51 39.8	-0.1
	comp=Z,0.6nm,0.8s,mb3.5,baz=292,slow=2.6,SNR=5.5						
NB2	NORSAR Subarra	67.88	341	P	P	06 51 58.3	-0.3
	comp=Z,0.8nm,0.6s,mb3.7,baz=28,slow=6.2						
NOA	NORSAR Array B	67.88	341	P	P	06 51 58.5	-0.1
NOA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
NOA	NORSAR Array B	67.88	341	P	P	06 51 58.5	-0.1
	comp=Z,1.0nm,0.5s,mb3.9,baz=29,slow=6.2,SNR=5.6						
WRA	Warramunga Arr	68.61	198	P	P	06 52 01.6	-1.9
	comp=Z,0.2nm,0.6s,mb3.1,baz=16,slow=6.6,SNR=3.1						
AKASG	Malin Array Be	71.14	326	*i* P	P	06 52 18.5	-0.3
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.3s						
AKASG	Malin Array Be	71.14	326	P	P	06 52 18.2	-0.6
	comp=Z,0.7nm,0.3s,mb4.0,baz=33,slow=6.0,SNR=7.3						
ASAR	Alice Springs	72.31	198	P	P	06 52 26.5	+0.5
	comp=Z,0.2nm,0.5s,mb3.2,baz=13,slow=5.8,SNR=4.7						
TXAR	Lajitas Array	77.70	60	P	P	06 52 57.4	+0.3
	baz=284,slow=4.5						

IDC 01 06:49:34.2±8.2, 364N×8396W, h0km, mb3.7/4, mb1 3.9/6, mb1mx3.7/19, mbtmp3.7/6, ML2.7/2, MS3.3/3, Ms1 3.3/3, ms1mx2.7/23, Error ellipse: s-maj=192.8km s-min=33.7km az=12.0, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSC	El Rosal	9.68	82	Pn	Pn	06 51 55.5	+0.6
	0.5nm,0.3s,baz=104,slow=17,SNR=3.0						
SDV	Santo Domingo	14.23	68	Pn	Pn	06 52 57.5	+0.3
	0.2nm,0.3s,baz=270,slow=20,SNR=2.3						
SDV				LR	LR	06 58 01.5	
	comp=Z,114nm,19.6s,baz=202,slow=36						
TEIG	Tepich	17.02	346	LR	LR	06 59 29.4	
	comp=Z,100nm,21.1s,baz=204,slow=35						
CMIG	Matias Romero	17.14	322	P	Pn	06 53 44.8	+10
	0.6nm,0.3s,baz=127,slow=10,SNR=12						
PDAR	Pinedale Array	45.13	333	P	P	06 57 51.9	-0.6
	0.7nm,0.9s,baz=126,slow=7.5,SNR=5.8						
NVAR	Mina Array Bea	46.67	322	P	P	06 58 05.5	+0.8
	0.5nm,0.7s,baz=131,slow=7.6,SNR=6.1						
ULM	Lac du Bonnet	47.53	350	P	P	06 58 11.6	+0.5
	2.5nm,0.8s,baz=150,slow=7.5,SNR=5.9						
YKA	Yellowknife Ar	62.97	345	P	P	07 00 02.1	-0.3
	0.4nm,0.8s,baz=143,slow=6.4,SNR=8.7						
YKA				LR	LR	07 29 14.0	
	comp=Z,29nm,18.8s,baz=160,slow=38						

IDC ***01*** *07:08:54.8±0.6, 932N×9177E, h0km, mb4.2/17, mb1 4.3/18, mb1mx4.2/22, mbtmp4.2/18, ML4.0/1, MS4.7/27, Ms1 4.7/27, ms1mx4.6/37, Error ellipse: s-maj=22.9km s-min=13.1km az=51.0*
ISCJB ***01*** *07:08:55.5±0.9, 925N±003×9150E±003, h11km±5km, mb4.8/77, MS4.8/60, Error ellipse: s-maj=5.7km s-min=4.2km az=25.7*
BJI ***01*** *07:08:57.8, 927N×9160E, h24km, mB5.1, mb4.7, Ms5.1, Msz4.8*
MOS ***01*** *07:08:58.4±1.4, 928N×9155E, h33km, mb5.1/26, MS4.7/15, Error ellipse: s-maj=9.8km s-min=5.7km az=107.1*
NEIC ***01*** *07:08:59.9±0.3, 920N×9152E, h30km, mb4.9/39, Error ellipse: s-maj=7.9km s-min=5.7km az=43.0*
GCMT ***01*** *07:08:59.9±0.2, 9.18N×9154E, h12km, MW5.1/83, Moment Tensor Solution. s33,c46; s83,c138; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.93±.12; $M_{\theta\theta}$2.52±.12; $M_{\phi\phi}$-3.45±.13; $M_{r\theta}$1.94±.32; $M_{\theta\phi}$4.58±.10; $M_{\phi r}$-0.78±.33; Best double couple: $M_0$5.85900×10^{16} NP1:ϕ_s16.00000°, δ68.00000°, λ177.00000°. NP2: ϕ_s108.00000°, δ87.00000°, λ22.00000°. Principal axes: T 5.4180, Plg17.0000°, Azm334.0000°; N 0.8810, Plg68.0000°, Azm115.0000°; P -6.3000, Plg13.0000°, Azm240.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
SZGRF ***01*** *07:09:02.3, 993N×92.17E, h33km, mb4.9, MS4.4, Nicobar Islands, India, region*
ISC 01 07:08:58.1±1.0, **925N**±003×**9151E**±003, **h16**km±6km, **h32**km±1.8km: **pP-P, n238,** σ**1§27/252, mb4.8/77, MS4.8/60, 17C-6D, Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	Port Blair	2.68	27	*e*P	Pn	07 09 45.1	+4.4
PBA				*e*S	Sn	07 10 15.1	+2.2
NNT	Nongplab	8.73	67	P	Pn	07 11 04.0	+0.1
PSI	Prapat	9.77	131	Pn	Pn	07 11 13.9	-4.2
	1.3nm,0.3s,baz=311,slow=8.0,SNR=13						
PSI				Sn	Sn	07 13 02.2	-5.2
	1.7nm,0.3s,baz=189,slow=19,SNR=2.8						
KULM	Kulim	9.88	113	*e*Pn	Pn	07 11 18.8	-0.8
KULM	Kulim	9.88	113	⇓P	Pn	07 11 24.2	+4.5
NST	Nakhon Sawan	10.57	52	P	Pn	07 11 19.3	-10
BDT	Bhumibol Dam	10.79	42	P	Pn	07 11 37.0	+5.0
PALK	Pallekele	10.87	260	Pn	Pn	07 11 34.0	+0.8
	204nm,1.2s,SNR=6.6						
PALK	Pallekele	10.87	260	*e*Pn	Pn	07 11 32.9	-0.3
	63nm,0.9s						
VIS	Vishakhapatnam	11.58	318	*e*P	Pn	07 11 41.6	-1.2
VIS				*e*S	Sn	07 13 39.2	-13
MDRS	Chennai	11.68	290	*e*P	Pn	07 11 45.5	+1.3
MDRS				AMb	AMB	07 11 46.4	
	comp=Z,109nm,1.1s						
CHTO	Chiang Mai	11.93	36	*e*Pn	Pn	07 11 48.5	+0.8
KTGM	Kuala Trenggan	12.17	108	⇑P	Pn	07 11 54.1	+3.1
KGM	Kluang	13.77	121	⇓P	Pn	07 12 20.6	+7.7
KOD	Kodaikanal	13.87	275	*e*P	Pn	07 12 14.4	+0.1
KOD				AMb	AMB	07 12 30.9	
	comp=Z,60nm,2.2s						
MYKOM	Kota Tinggi	14.34	120	⇑P	Pn	07 12 28.5	+7.9
TRD	Trivandrum	14.39	268	*e*P	Pn	07 12 23.5	+2.1
TRD				AMb	AMB	07 12 41.9	
	comp=Z,48nm,0.7s						
HYB	Hyderabad	14.99	304	*e*P	Pn	07 12 28.0	-1.4
HYB				*e*S	Sn	07 15 16.0	+0.8
HYB				*e*		07 20 00.0	
HYB	Hyderabad	14.99	304	*e*P	Pn	07 12 28.0	-1.4
HYB				*e*S	Sn	07 15 16.0	+0.8
HYB	Hyderabad	14.99	304	*i* P	Pn	07 12 28.0	-1.4
HYB				*e*S	Sn	07 15 18.0	+2.8
HYB				LR	LR	07 20 00.0	
	comp=Z,6.0nm,16.0s						
BOK	Bokaro	15.43	340	*e*P	Pn	07 12 36.7	+1.4
BOK				*e*S	Sn	07 15 25.4	-0.5
IMP	Imphal	15.62	8	*e*P	Pn	07 12 37.0	-0.7
IMP				*ex*	x	07 15 57.0	
BLSP	Bilaspur	15.66	326	*e*P	Pn	07 12 38.5	+0.3
BLSP				AMb	AMB	07 12 44.9	
	comp=Z,48nm,1.2s						
SHL	Shillong	16.23	1	*e*P	Pn	07 12 46.0	+0.4
SHL				*ex*	x	07 15 26.0	
MNGI	Mangalore	16.78	284	*e*P	Pn	07 12 51.9	-0.7
MNGI				*ex*	x	07 13 04.1	
	comp=Z,103nm,1.1s						
MNGI				*ex*	x	07 15 45.6	
NGP	Nagpur	16.85	316	*e*P	Pn	07 12 51.7	-1.8
NGP				AMb	AMB	07 13 01.9	
	comp=Z,99nm,1.6s						
NGP				*e*S	Sn	07 15 57.7	-2.9
LATR	Latur	17.13	304	*ex*	x	07 13 38.9	
LATR				AMb	AMB	07 14 09.9	
	comp=Z,50nm,1.3s						
JBP	Jabalpur	17.70	323	⇑*e*P	Pn	07 13 05.1	+1.0
JBP				*ex*	x	07 13 38.6	
	comp=Z,108nm,1.0s						
JBP				*i* x	x	07 16 00.2	
ODAN	Odare	17.95	348	*e*P	Pn	07 13 06.1	-1.0
	comp=Z,59nm,0.8s						
AKL	Akola	18.03	311	*e*P	Pn	07 13 08.6	+0.4
AKL				*ex*	x	07 13 29.3	
	comp=Z,62nm,1.1s						
AKL				*i* x	x	07 16 46.0	
GOA	Goa	18.35	292	*e*P	Pn	07 13 14.0	+1.9
GOA				AMb	AMB	07 13 29.9	
	comp=Z,59nm,0.8s						
TAPN	Taplejung	18.36	349	*e*P	Pn	07 13 11.2	-0.9
	comp=Z,418nm,1.7s						
KAD	Karad	18.66	297	*e*P	Pn	07 13 17.1	+1.2
KAD				AMb	AMB	07 13 37.2	
	comp=Z,38nm,0.5s						
JIRN	Jiri	18.99	345	*e*P	Pn	07 13 19.3	-0.5
	comp=Z,274nm,1.3s						
KMI	Kunming	19.07	33	P	Pn	07 13 22.3	+

CD2				AP		07 14 24.2
CD2				XP	sP	07 14 28.2 +5.6
CD2				PP		07 14 53.2
CD2				S	**S**	**07 18 37.3 +2.4**
CD2				XS	sS	07 18 41.8 -1.1
CD2				SS		07 19 24.4
CD2				SCS	ScS	07 25 15.6 -5.2
CD2				AMB	AMB	
	comp=Z,60nm,1.0s,mb5.0					
CD2				AMB	AMB	
	comp=Z,120nm,4.8s					
CD2				LR	LR	
	comp=N,4μm,11.4s,MS5.2					
CD2				LR	LR	
	comp=E,2μm,13.2s,MS5.2					
CD2				LR	LR	
	comp=Z,2μm,12.6s,MS4.8					
KKM	**Kota Kinabalu**	**24.69**	**96**	*e*P	**P**	**07 14 19.3 +0.6**
KKM	**Kota Kinabalu**	**24.69**	**96**	⇑P	**P**	**07 14 19.7 +1.0**
GZH	**Guangzhou**	**25.03**	**54**	P	**P**	**07 14 25.9 +4.2**
GZH				LR	LR	
	comp=N,1μm,12.0s,MS4.8					
GZH				LR	LR	
	comp=E,1μm,10.8s,MS4.8					
GZH				LR	LR	
	comp=Z,2μm,12.0s,MS4.9					
KDM	**Kudat**	**25.18**	**93**	⇓P	**P**	**07 14 23.6 +0.5**
SDKM	**Sandakan**	**25.72**	**96**	⇑P	**P**	**07 14 32.6 +4.6**
TSM	**Tawau**	**26.63**	**99**	⇑P	**P**	**07 14 41.0 +4.7**
ENH	**Enshi**	**26.82**	**36**	*e*P	**P**	**07 14 39.0 +1.1**
	comp=Z,0.5nm,0.4s					
MYLDM	**Lahad Datu**	**27.08**	**97**	⇓P	**P**	**07 14 42.1 +1.8**
THN	**Thein Dam**	**27.31**	**330**	*e*P	**P**	**07 14 42.1 -0.1**
LZH	**Lanzhou**	**28.98**	**21**	*e*P	**P**	**07 14 57.9 +0.8**
LZH				AP	pP	07 15 09.4 +7.5
LZH				XP	sP	07 15 13.0 +9.1
LZH				PP	PP	07 15 52.6 -10
LZH				*e*S	**S**	**07 19 46.0 -1.5**
LZH				XS	sS	07 20 01.0 +5.5
LZH				SS	SS	07 21 15.2 -35
LZH				AMB	AMB	
	comp=Z,39nm,1.5s,mb4.9					
LZH				AMB	AMB	
	comp=Z,180nm,5.9s					
LZH				LR	LR	
	comp=E,2μm,13.4s					
LZH				LR	LR	
	comp=Z,2μm,16.0s,MS4.9					
XAN	**Xi'an**	**29.41**	**30**	P	**P**	**07 14 58.0 -2.9**
XAN				AP	pP	07 15 08.9 +3.1
XAN				PP	PP	07 15 54.0 -13
XAN				S	**S**	**07 19 48.0 -6.3**
XAN				SS	SS	07 21 22.3 -37
XAN				AMB	AMB	
	comp=Z,4.0nm,0.5s,mb4.4					
XAN				AMB	AMB	
	comp=Z,91nm,5.3s					
XAN				LR	LR	
	comp=N,960nm,14.4s,MS4.8					
XAN				LR	LR	
	comp=E,1μm,13.3s,MS4.8					
XAN				LR	LR	
	comp=Z,2μm,14.7s,MS4.8					
QZH	**Quanzhou**	**30.14**	**55**	*e*P	**P**	**07 15 03.9 -3.5**
QZH				S	**S**	**07 20 00.9 -5.0**
QZH				LR	LR	
	comp=N,3μm,9.8s					
QZH				LR	LR	
	comp=E,3μm,15.4s					
QZH				LR	LR	
	comp=Z,3μm,11.6s,MS5.2					
GTA	**Gaotai**	**30.94**	**13**	*e*P	**P**	**07 15 15.0 +0.6**
GTA				AP	pP	07 15 24.3 +5.1
GTA				XP	sP	07 15 28.3 +7.1
GTA				PP	PP	07 16 17.5 -6.9
GTA				PCP	PcP	07 18 10.3 -0.3
GTA				S	**S**	**07 20 16.6 -1.6**
GTA				XS	sS	07 20 32.2 +6.0
GTA				SS	SS	07 22 01.2 -29
GTA				AMB	AMB	
	comp=Z,9.0nm,1.4s,mb4.4					
GTA				AMB	AMB	
	comp=Z,136nm,4.9s					
GTA				LR	LR	
	comp=N,1μm,18.3s,MS4.8					
GTA				LR	LR	
	comp=E,1μm,17.9s,MS4.8					
GTA				LR	LR	
	comp=Z,798nm,17.5s,MS4.4					
KSH	**Kashi**	**33.19**	**338**	*e*P	**P**	**07 15 40.0 +5.9**
KSH				AP	pP	07 15 49.1 +10
KSH				PP	PP	07 16 51.7 +2.4
KSH				PCP	PcP	07 18 20.4 +3.6
KSH				S	**S**	**07 20 58.0 +4.8**
KSH				SCP	ScP	07 22 01.4 +0.7
KSH				PCS	PcS	07 22 05.4 +3.2
KSH				SCS	ScS	07 26 01.3 +0.2
KSH				AMB	AMB	
	comp=Z,434nm,4.2s					
KSH				LR	LR	
	comp=N,2μm,8.6s					
KSH				LR	LR	
	comp=E,10μm,12.8s					
KSH				LR	LR	
	comp=Z,4μm,14.6s,MS5.3					
NJ2	**Nanjing**	**34.01**	**44**	*e*P	**P**	**07 15 44.4 +3.0**
NJ2				AP	pP	07 15 53.8 +7.5
NJ2				XP	sP	07 15 57.8 +10
NJ2				PP	PP	07 16 58.5 0.0
NJ2				S	**S**	**07 21 06.0 -0.2**
NJ2				XS	sS	07 21 22.0 +7.7
NJ2				AMB	AMB	
	comp=Z,20nm,0.9s,mb5.0					
NJ2				AMB	AMB	
	comp=Z,750nm,4.7s					
NJ2				LR	LR	
	comp=N,2μm,11.9s,MS5.2					
NJ2				LR	LR	
	comp=E,2μm,13.4s,MS5.2					
TIY	**Taiyuan**	**34.05**	**30**	*e*P	**P**	**07 15 41.8 +0.1**
TIY				AP	pP	07 15 50.2 +3.6
TIY				PCP	PcP	07 18 14.4 -4.9
TIY				S	**S**	**07 21 10.3 +3.6**
TIY				LR	LR	
	comp=N,3μm,12.1s,MS5.3					
TIY				LR	LR	
	comp=E,2μm,11.0s,MS5.3					
TIY				LR	LR	
	comp=Z,3μm,13.8s,MS5.2					
WMQ	**Urumqi**	**34.60**	**355**	P	**P**	**07 15 48.3 +2.0**
WMQ				AP	pP	07 15 58.0 +6.8
WMQ				XP	sP	07 16 02.0 +8.8
WMQ				PP	PP	07 17 05.0 +0.1
WMQ				PCP	PcP	07 18 23.0 +2.3
WMQ				S	**S**	**07 21 18.0 +3.0**
WMQ				XS	sS	07 21 31.0 +8.0
WMQ				PCS	PcS	07 22 08.0 +1.0
WMQ				SS	SS	07 23 25.0 -20
WMQ				AMB	AMB	
	comp=Z,24nm,1.0s,mb5.1					
WMQ				AMB	AMB	
	comp=Z,239nm,3.8s					
WMQ				LR	LR	
	comp=N,2μm,15.0s,MS5.0					
WMQ				LR	LR	
	comp=E,2μm,14.0s,MS5.0					
WMQ				LR	LR	
	comp=Z,2μm,18.4s,MS4.8					
SSE	**Sheshan**	**35.14**	**48**	P	**P**	**07 15 50.0 -1.1**
SSE				XP	sP	07 16 02.7 +4.7
SSE				S	**S**	**07 21 22.0 -1.6**
SSE				XS	sS	07 21 37.4 +5.7
SSE				AMB	AMB	
	comp=Z,34nm,0.8s,mb5.3					
SSE				AMB	AMB	
	comp=Z,173nm,3.4s					
SSE				LR	LR	
	comp=N,557nm,17.4s,MS4.5					
SSE				LR	LR	
	comp=E,546nm,17.4s,MS4.5					
SSE				LR	LR	
	comp=Z,563nm,10.7s					
HHC	**Hu-ho-hao-te**	**36.15**	**26**	*e*P	**P**	**07 16 00.3 +0.6**
HHC				AP	pP	07 16 09.9 +5.3
HHC				XP	sP	07 16 14.8 +8.2
HHC				PP	PP	07 17 22.8 +0.8
HHC				S	**S**	**07 21 38.3 -0.6**
HHC				XS	sS	07 21 54.4 +7.4
HHC				SCP	ScP	07 22 07.0 -4.3
HHC				PCS	PcS	07 22 12.8 0.0
HHC				SCS	ScS	07 26 12.4 -4.5
HHC				AMB	AMB	
	comp=Z,17nm,0.5s,mb5.2					
HHC				AMB	AMB	
	comp=Z,220nm,5.5s					
HHC				LR	LR	
	comp=N,994nm,10.0s,MS5.1					
HHC				LR	LR	
	comp=E,1μm,11.5s,MS5.1					
HHC				LR	LR	
	comp=Z,987nm,13.8s,MS4.7					
AML	**Almayashu**	**36.31**	**337**	*e*P	**P**	**07 16 02.1 +1.1**
	comp=Z,24nm,1.1s,mb5.0					
TKM2	**Tokmak 2**	**36.32**	**340**	*e*P	**P**	**07 16 02.1 +1.0**
	comp=Z,24nm,1.5s,mb4.9					
TKM2	**Tokmak 2**	**36.32**	**340**	*e*P	**P**	**07 16 02.1 +1.0**
TKM2				pmax	pmax	
	comp=Z,24nm,1.5s,mb4.9					
AAK	**Ala-Archa**	**36.45**	**339**	P	**P**	**07 16 02.4 +0.2**
	comp=Z,57nm,1.1s,mb5.4,SNR=6.8					
FRU	**Bishkek**	**36.58**	**339**	*e*P	**P**	**07 16 06.0 +2.6**
FRU				*e*		07 16 21.0
FRU				*e*		07 17 43.0
FRU				*e*		07 18 26.0
FRU				*e*S	**S**	**07 21 43.5 -1.9**
FRU				MLR	MLR	
	comp=Z,2μm,19.0s,MS4.8					
EKS2	**Erkin-Say**	**36.74**	**338**	*e*P	**P**	**07 16 05.4 +0.7**
	comp=Z,38nm,1.6s,mb5.0					
BJT	**Baijiatuau**	**37.70**	**32**	*e*P	**P**	**07 16 13.5 +0.6**
	comp=Z,53nm,1.4s,mb5.1					
BJT	**Baijiatuau**	**37.70**	**32**	*e*P	**P**	**07 16 13.5 +0.6**
BJT				pmax	pmax	
	comp=Z,53nm,1.4s					
BJI	**Beijing**	**37.72**	**32**	P	**P**	**07 16 14.1 +1.0**
BJI				AP	pP	07 16 23.0 +5.0
BJI				XP	sP	07 16 26.9 +6.9
BJI				PP	PP	07 17 41.4 +2.1
BJI				S	**S**	**07 22 03.7 +0.9**
BJI				AMB	AMB	
	comp=Z,17nm,0.9s,mb4.8					
BJI				AMB	AMB	
	comp=Z,98nm,3.2s					
BJI				LR	LR	
	comp=N,2μm,20.5s,MS5.0					
BJI				LR	LR	
	comp=E,1μm,21.7s,MS5.0					
BJI				LR	LR	
	comp=Z,2μm,23.4s,MS4.9					
MK31	**Makanchi Array**	**38.23**	**350**	*i* P	**P**	**07 16 16.7 -0.6**
MK31				pmax	pmax	
	comp=Z,8.0nm,0.8s,mb4.5					
MKAR	**Makanchi Array**	**38.23**	**350**	P	**P**	**07 16 16.1 -1.1**
	comp=Z,8.5nm,1.0s,mb4.4,baz=163,slow=8.5,SNR=21					
MKAR				LR	LR	07 33 45.7
	comp=Z,1μm,20.9s,MS4.7,baz=176,slow=39					
KK31	**Karatay Array**	**38.40**	**335**	*i* P	**P**	**07 16 18.7 0.0**
JOW	**Kunigami**	**38.90**	**58**	LR	LR	07 35 32.9
	comp=Z,2μm,18.4s,MS4.9,baz=303,slow=41					
SONM	**Songino Array**	**40.47**	**15**	P	**P**	**07 16 35.3 -0.6**
	comp=Z,7.8nm,1.0s,mb4.4,baz=194,slow=9.6,SNR=26					
SONM				LR	LR	07 35 31.7
	comp=Z,1μm,20.3s,MS4.8,baz=314,slow=40					
MBWA	**Marble Bar**	**41.01**	**138**	*e*P	**P**	**07 16 41.2 +0.5**
	comp=Z,48nm,1.3s,mb5.0					
ZAK	**Zakamensk**	**42.15**	**11**	*e*P	**P**	**07 16 48.6 -1.1**
ZAK				pmax	pmax	
	comp=Z,5.0nm,1.8s,mb3.8					
KURK	**Kurchatov**	**42.69**	**348**	P	**P**	**07 16 53.2 -0.9**
	comp=Z,103nm,1.3s,mb5.4,SNR=11					
KURK	**Kurchatov**	**42.69**	**348**	*e*P	**P**	**07 16 53.8 -0.3**
	comp=Z,47nm,1.2s,mb5.1					
SNY	**Shenyang**	**43.01**	**36**	⇑P	**P**	**07 16 58.9 +2.1**
SNY				XP	sP	07 17 12.5 +8.7
SNY				S	**S**	**07 23 23.5 +1.7**
SNY				AMB	AMB	
	comp=Z,26nm,0.8s,mb5.0					
SNY				AMB	AMB	
	comp=Z,250nm,6.0s					
SNY				LR	LR	
	comp=E,1μm,15.7s					
SNY				LR	LR	
	comp=Z,1μm,15.7s,MS5.0					
KSRS	**Korea Array**	**43.21**	**44**	P	**P**	**07 16 56.4 -2.2**
	comp=Z,0.6nm,0.4s,mb3.6,baz=230,slow=8.1,SNR=3.5					
KSRS				LR	LR	07 37 02.8
	comp=Z,1μm,18.1s,MS4.9,baz=242,slow=39					
FITZ	**Fitzroy Crossi**	**43.29**	**129**	*e*P	**P**	**07 16 57.4 -2.0**
	comp=Z,10nm,0.9s,mb4.5					
FITZ	**Fitzroy Crossi**	**43.29**	**129**	P	**P**	**07 16 57.2 -2.3**
	comp=Z,4.5nm,0.8s,mb4.3,baz=333,slow=7.8,SNR=8.0					
FITZ				LR	LR	07 36 14.9
	comp=Z,921nm,20.0s,MS4.7,baz=303,slow=38					
TLY	**Talaya**	**43.46**	**11**	*e*P	**P**	**07 17 01.1 +0.8**
	comp=Z,3.6nm,0.6s,mb4.3					
TLY	**Talaya**	**43.46**	**11**	*e*P	**P**	**07 17 00.9 +0.6**
TLY				*e*SS	SS	07 26 47.6 +5.0
TLY				pmax	pmax	
	comp=Z,15nm,1.5s,mb4.5					
ZAL	**Zalesovo**	**44.89**	**354**	P	**P**	**07 17 10.8 -1.0**
ZALV	**Zalesovo Beam**	**44.90**	**354**	P	**P**	**07 17 10.8 -1.0**
ZALV				LR	LR	07 38 57.9
ZALV	**Zalesovo Beam**	**44.90**	**354**	P	**P**	**07 17 10.8 -1.0**
	comp=Z,14nm,1.0s,mb4.8,baz=182,slow=7.0,SNR=41					
ZALV				LR	LR	07 38 57.9
	comp=Z,754nm,18.1s,MS4.7,baz=19,slow=40					
CN2	**Changchun**	**45.32**	**35**	*e*P	**P**	**07 17 16.0 +0.6**
CN2				*e*AP	pP	07 17 25.9 +5.5
CN2				*e*XP	sP	07 17 29.8 +7.5
CN2				*e*S	**S**	**07 23 54.2 -1.3**
CN2				AMB	AMB	
	comp=Z,10.0nm,0.6s,mb4.8					
CN2				AMB	AMB	
	comp=Z,200nm,5.0s					
CN2				LR	LR	
	comp=N,2μm,17.0s,MS5.1					
CN2				LR	LR	
	comp=E,1μm,17.0s,MS5.1					
CN2				LR	LR	
	comp=Z,1μm,17.0s,MS4.9					
NVS	**Novosibirsk**	**45.95**	**353**	*i* P	**P**	**07 17 19.3 -0.8**
NVS				*e*S	**S**	**07 24 03.7 -0.4**
NVS				pmax	pmax	
	comp=N,67nm,2.0s					
NVS				pmax	pmax	
	comp=Z,44nm,2.0s,mb5.0					
NVS				smax		
	comp=E,173nm,2.7s					
KAKA	**Kakadu**	**46.15**	**118**	*e*P	**P**	**07 17 30.5 +8.2**
	comp=E,3.8nm,0.6s,mb4.5					
CIT	**Chita**	**46.30**	**19**	*e*P	**P**	**07 17 22.0 -0.9**
CIT				*e*		07 17 29.2
CIT				*e*		07 17 35.4
CIT				*e*		07 18 56.2
HIA	**Hailar**	**46.34**	**25**	*e*P	**P**	**07 17 23.0 -0.3**
	comp=E,14nm,1.2s,mb4.8					
HIA	**Hailar**	**46.34**	**25**	*e*P	**P**	**07 17 23.0 -0.3**
HIA				pmax	pmax	
	comp=Z,14nm,1.2s					
BRVK	**Borovoye**	**46.94**	**343**	*e*P	**P**	**07 17 27.5 -0.5**
	comp=Z,15nm,1.4s,mb4.7					
BRVK	**Borovoye**	**46.94**	**343**	*e*P	**P**	**07 17 27.5 -0.5**
BRVK				pmax	pmax	
	comp=Z,15nm,1.4s,mb4.7					
MUN	**Mundaring**	**47.31**	**151**	*e*P	**P**	**07 17 29.6 -1.5**
KLBR	**Kellerberrin**	**47.75**	**149**	*e*P	**P**	**07 17 34.0 -0.6**
	comp=Z,94nm,1.8s,mb5.5					
ATD	**Arta Tunnel**	**47.87**	**277**	LR	LR	07 34 22.2
	comp=Z,380nm,18.9s,MS4.4,baz=339,slow=32					
MDJ	**Mudanjiang**	**48.19**	**36**	P	**P**	**07 17 39.2 +1.4**
MDJ				AP	pP	07 17 48.2 +5.4
MDJ				XP	sP	07 17 52.2 +7.4
MDJ				PCS	PcS	07 23 01.1 +0.4
MDJ				S	**S**	**07 24 40.3 +3.9**
MDJ				AMB	AMB	
	comp=Z,7.0nm,1.4s,mb4.5					
MDJ				AMB	AMB	
	comp=Z,89nm,4.3s					
MDJ				LR	LR	
	comp=E,494nm,21.7s					
MDJ				LR	LR	
	comp=Z,733nm,23.1s,MS4.6					
MDJ	**Mudanjiang**	**48.19**	**36**	*e*P	**P**	**07 17 39.3 +1.5**
	comp=Z,5.8nm,0.9s,mb4.6					
NWAO	**Narrogin (SRO)**	**48.58**	**151**	*e*P	**P**	**07 17 42.0 +1.1**
	comp=Z,423nm,2.6s,mb6.0					
NWAO	**Narrogin (SRO)**	**48.58**	**151**	*e*P	**P**	**07 17 42.0 +1.1**
NWAO				pmax	pmax	
	comp=Z,423nm,2.6s					
NWAO	**Narrogin (SRO)**	**48.58**	**151**	P	**P**	**07 17 42.0 +1.0**
	comp=Z,14nm,1.0s,mb5.0,baz=292,slow=16,SNR=3.3					
NWAO				LR	LR	07 40 14.4
	comp=Z,653nm,18.1s,MS4.7,baz=143,slow=39					
AKTK	**Aktyubinsk**	**49.52**	**332**	P	**P**	**07 17 48.7 +0.8**
AKTK				LR	LR	07 40 15.3
AKTO	**Aktyubinsk**	**49.52**	**332**	P	**P**	**07 17 48.7 +0.8**
	comp=Z,2.0nm,0.9s,mb4.1,baz=121,slow=12,SNR=4.3					
AKTO				LR	LR	07 40 15.3
	comp=Z,713nm,19.0s,MS4.7,baz=296,slow=38					
MAJO	**Matsushiro**	**50.22**	**50**	*e*P	**P**	**07 17 52.6 -0.9**
	comp=Z,24nm,1.6s,mb5.0					
MAJO	**Matsushiro**	**50.22**	**50**	*e*P	**P**	**07 17 52.6 -0.9**
MAJO				pmax	pmax	
	comp=Z,24nm,1.6s,mb5.0					
MJAR	**Matsushiro Arr**	**50.22**	**50**	LR	LR	07 42 51.3
	comp=Z,484nm,18.5s,MS4.5,baz=270,slow=41					
MAK	**Makhachkala**	**50.97**	**319**	*e*P	**P**	**07 18 04.0 +4.9**
MAK				*e*		07 19 13.0
MAK				*e*S	**S**	**07 25 20.1 +4.6**
MAK				pmax	pmax	
	comp=Z,41nm,0.4s,mb5.7					
WRA	**Warramunga Arr**	**51.18**	**125**	P	**P**	**07 17 58.3 -2.6**
WRA				LR	LR	07 40 54.3
WRA	**Warramunga Arr**	**51.18**	**125**	P	**P**	**07 17 58.3 -2.6**
	comp=Z,2.7nm,0.7s,mb4.3,baz=301,slow=9.5,SNR=24					
WRA				LR	LR	07 40 54.3
	comp=Z,722nm,20.4s,MS4.7,baz=310,slow=38					
WB2	**Warramunga Arr**	**51.19**	**125**	*e*P	**P**	**07 17 58.3 -2.7**
BOD	**Bodaibo**	**51.47**	**15**	*e*P	**P**	**07 18 01.3 -1.2**
BOD				pmax	pmax	
	comp=Z,10.0nm,1.6s,mb4.5					
KLR	**Kul'dur**	**52.08**	**32**	*e*P	**P**	**07 18 08.6 +1.3**
KLR				*e*S	**S**	**07 25 26.5 -4.1**
KLR				MLR	MLR	
	comp=Z,3μm,12.5s,MS5.6					
ASAR	**Alice Springs**	**52.79**	**129**	P	**P**	**07 18 10.2 -2.7**
	comp=Z,2.2nm,0.9s,mb4.1,baz=307,slow=7.5,SNR=17					
FORT	**Forrest**	**53.04**	**140**	*e*P	**P**	**07 18 12.8 -1.8**
	comp=Z,19nm,0.7s,mb5.1					
SVE	**Sverdlovsk**	**53.19**	**339**	⇓*e*P	**P**	**07 18 15.4 +0.1**
SVE				*e*S	**S**	**07 25 56.4 +11**
SVE				pmax	pmax	
	comp=Z,37nm,1.2s,mb5.2					
SVE				MLR	MLR	
	comp=Z,1μm,23.0s,MS5.0					
HABR	**Khabarovsk**	**53.46**	**35**	*e*P	**P**	**07 18 13.8 -3.7**
HABR				*e*		07 19 19.8
HABR						07 28 00.5
ARU	**Arti**	**53.63**	**338**	*e*P	**P**	**07 18 18.9 +0.3**
	comp=Z,86nm,1.9s,mb5.3					
ARU	**Arti**	**53.63**	**338**	*c i*P	**P**	**07 18 18.5 -0.1**
ARU				*e*		07 19 22.1
ARU				*e*		07 20 19.4
ARU				*e*S	**S**	**07 25 52.1 +0.6**
ARU				*e*SS	SS	07 29 31.6 -0.5
ARU				pmax	pmax	
	comp=Z,22nm,1.7s,mb4.8					
ARU				MLR	MLR	
	comp=Z,1μm,21.0s,MS5.0					
NRGR	**Nerungri**	**53.90**	**22**	*e*P	**P**	**07 18 25.6 +5.0**
NRGR				S	**S**	**07 26 02.1 +7.0**
NRGR				smax		
	comp=N,37nm,0.6s					
CLNS	**Chul'man**	**54.10**	**22**	*e*P	**P**	**07 18 19.7 -2.3**
CLNS				pmax	pmax	
	comp=Z,15nm,1.0s,mb4.9					
CLNS				pmax	pmax	
	comp=N,8.0nm,0.7s					
CLNS				pmax	pmax	
	comp=E,7.0nm,0.9s					
CLNS				MLR	MLR	
	comp=Z,1μm,12.0s,MS5.1					
CLNS				MLR	MLR	
	comp=N,600nm,10.0s,MS5.1					
CLNS				MLR	MLR	
	comp=E,800nm,14.0s,MS5.1					
KIV	**Kislovodsk**	**54.56**	**318**	*e*P	**P**	**07 18 25.5 -0.1**
	comp=E,19nm,0.8s,mb5.2					
KIV	**Kislovodsk**	**54.56**	**318**	*e*P	**P**	**07 18 25.2 -0.4**
KIV				*e*		07 19 27.4
KIV				*e*S	**S**	**07 26 00.6 -3.9**
KIV				pmax	pmax	
	comp=Z,23nm,1.1s,mb5.1					
KIV				MLR	MLR	
	comp=Z,357nm,17.0s,MS4.5					
KMBO	**Kilima Mbogo**	**55.01**	**262**	*e*P	**P**	**07 18 30.5 +1.1**
	comp=Z,8.8nm,1.2s,mb4.7					
KMBO	**Kilima Mbogo**	**55.01**	**262**	*e*P	**P**	**07 18 30.5 +1.1**
KMBO				pmax	pmax	
	comp=Z,9.0nm,1.2s					
KMBO	**Kilima Mbogo**	**55.01**	**262**	P	**P**	**07 18 30.6 +1.3**
	comp=Z,5.7nm,1.1s,mb4.5,baz=40,slow=13,SNR=8.1					
KMBO				LR	LR	07 39 17.9
	comp=Z,1μm,19.4s,MS5.0,baz=95,slow=33					
SOC	**Sochi**	**56.40**	**317**	*e*P	**P**	**07 18 37.9 -1.0**
SOC				*e**SP	sP	07 18 49.2 +3.3
SOC				*e*PPP		07 22 03.7
SOC				*e*S	**S**	**07 26 31.2 +2.1**
SOC				*e**SS	sS	07 26 51.2 +14
SOC				*e*		07 28 27.1
SOC				*e*SS	SS	07 30 17.0 +0.8
SOC				pmax	pmax	
	comp=Z,5.0nm,0.4s,mb4.9					
SOC				MLR	MLR	
	comp=Z,405nm,18.0s,MS4.6					
SOKR	**Solikamsk**	**56.60**	**340**	*e*P	**P**	**07 18 40.0 0.0**
SOKR				S	**S**	**07 26 34.4 +3.2**
SOKR				SS	SS	07 30 24.2 +5.5
SOKR				pmax	pmax	
	comp=Z,30nm,1.4s,mb5.1					
SOKR				MLR	MLR	
	comp=Z,1μm,19.0s,MS5.0					
MMAI	**Mount Meron Ar**	**56.69**	**303**	LR	LR	07 45 54.0
	comp=Z,402nm,18.5s,MS4.5,baz=95,slow=39					
YSS	**Yuzh-Sakhalins**	**57.34**	**39**	*e*P	**P**	**07 18 45.7 +0.2**
	comp=Z,8.9nm,0.9s,mb4.8					
YSS	**Yuzh-Sakhalins**	**57.34**	**39**	⇑*e*P	**P**	**07 18 43.7 -1.8**
YSS				pmax	pmax	
	comp=Z,16nm,1.6s,mb4.8					
ANN	**Anapa**	**58.37**	**317**	*e*P	**P**	**07 18 49.5 -3.2**
YAK	**Yakutsk**	**59.56**	**20**	*e*P	**P**	**07 19 01.0 +0.3**
	comp=Z,33nm,1.1s,mb5.3					
YAK				*e*pP	pP	07 19 10.7 +4.9
YAK	**Yakutsk**	**59.56**	**20**	*e*P	**P**	**07 19 00.0 -0.7**
YAK				*e*		07 21 15.1
YAK				*e*S	**S**	**07 27 10.1 +0.4**
YAK				*e**SS	sS	07 27 30.3 +12
YAK				pmax	pmax	
	comp=N,7.0nm,1.1s					
YAK				pmax	pmax	
	comp=Z,21nm,1.1s,mb5.1					
YAK				pmax	pmax	
	comp=E,14nm,1.4s					
YAK				smax		
	comp=N,216nm,3.8s					
YAK				smax		
	comp=Z,248nm,6.1s					
YAK				smax		
	comp=E,305nm,3.3s					
YAK				MLR	MLR	
	comp=Z,2μm,17.0s,MS5.2					
YAK				MLR	MLR	
	comp=N,1μm,20.0s,MS5.2					
YAK				MLR	MLR	
	comp=E,1μm,18.0s,MS5.2					
CTA	**Charters Tower**	**61.25**	**119**	LR	LR	07 44 55.1
	comp=E,188nm,20.2s,MS4.2,baz=124,slow=35					
CTAO	**Charters Tower**	**61.25**	**119**	P	**P**	**07 19 14.4 +1.5**
	comp=E,15nm,1.0s,mb5.1					
CTAO	**Charters Tower**	**61.25**	**119**	P	**P**	**07 19 14.4 +1.5**
CTAO				pmax	pmax	
	comp=Z,15nm,1.0s,mb5.1					
ISP	**Isparta**	**61.55**	**308**	⇑*e*P	**P**	**07 19 13.3 -1.4**
MOS	**Moscow**	**62.56**	**329**	*e*P	**P**	**07 19 19.8 -1.4**
MOS				*e*		07 21 39.3

OBN	**Obninsk**	**62.84**	**328**	*e*P	**P**	**07 19 23.1**	**+0.1**
	comp=Z,31nm,1.4s,mb5.2						
OBN	**Obninsk**	**62.84**	**328**	*e*P	**P**	**07 19 22.4**	**-0.6**
OBN				*e*	pP	07 19 28.1	-0.1
OBN				*e*S	**S**	**07 27 57.1**	**+5.4**
OBN				pmax	pmax		
	comp=Z,24nm,1.8s,mb5.0						
OBN				MLR	MLR		
	comp=Z,900nm,17.0s,MS5.0						
STKA	**Stephens Creek**	**62.94**	**133**	*e*P	**P**	**07 19 28.4**	**+4.3**
	comp=Z,5.6nm,1.0s,mb4.7						
STKA	**Stephens Creek**	**62.94**	**133**	P	**P**	**07 19 21.3**	**-2.8**
STKA				LR	LR	07 49 33.5	
STKA	**Stephens Creek**	**62.94**	**133**	P	**P**	**07 19 21.3**	**-2.8**
	comp=Z,2.0nm,0.5s,mb4.5,baz=297,slow=8.4,SNR=4.1						
STKA				LR	LR	07 49 33.5	
	comp=Z,704nm,19.5s,MS4.8,baz=302,slow=39						
KIS	**Kishinev**	**64.76**	**318**	*e*P	**P**	**07 19 35.0**	**-0.9**
KIS				*e*		07 28 25.0	
KIS	**Kishinev**	**64.76**	**318**	*e*P	**P**	**07 19 35.0**	**-0.9**
KIS				LRM		07 53 48.0	
	comp=Z,800nm,16.0s						
AKASG	**Malin Array Be**	**65.47**	**322**	P	**P**	**07 19 38.7**	**-1.7**
AKASG				LR	LR	07 53 26.0	
AKASG	**Malin Array Be**	**65.47**	**322**	P	**P**	**07 19 38.7**	**-1.7**
	comp=Z,0.4nm,0.5s,mb3.7,baz=89,slow=4.7,SNR=6.8						
AKASG				LR	LR	07 53 26.0	
	comp=Z,286nm,18.8s,MS4.5,baz=80,slow=41						
IDI	**Anoyia**	**65.65**	**304**	LR	LR	07 52 56.2	
	comp=Z,356nm,20.0s,MS4.6,baz=269,slow=40						
MLR	**Muntele Rosu**	**66.38**	**316**	LR	LR	07 51 50.1	
	comp=Z,512nm,20.7s,MS4.7,baz=100,slow=39						
TIXI	**Tiksi**	**66.42**	**12**	*e*P	**P**	**07 19 46.0**	**-0.1**
	comp=Z,19nm,1.6s,mb4.9						
TIXI				*e*pP	pP	07 19 56.3	+5.0
TIXI	**Tiksi**	**66.42**	**12**	*e*P	**P**	**07 19 43.9**	**-2.3**
TIXI				*e*S	S	07 28 34.8	-0.7
TIXI				pmax	pmax		
	comp=Z,30nm,1.5s,mb5.1						
MA2	**Magadan**	**66.78**	**28**	*e*P	**P**	**07 19 49.2**	**+0.5**
MA2	**Magadan**	**66.78**	**28**	*e*P	**P**	**07 19 47.6**	**-1.0**
MA2				*e*S	S	07 28 39.1	-1.1
MA2				*e*		07 29 40.0	
MA2				pmax	pmax		
	comp=Z,20nm,1.1s,mb5.1						
LSZ	**Lusaka**	**67.29**	**249**	*e*P	**P**	**07 19 54.0**	**+1.4**
	comp=Z,29nm,1.8s,mb5.0						
LSZ	**Lusaka**	**67.29**	**249**	*e*P	**P**	**07 19 54.0**	**+1.3**
LSZ				pmax	pmax		
	comp=Z,29nm,1.8s,mb5.0						
LSZ	**Lusaka**	**67.29**	**249**	LR	LR	07 44 20.0	
	comp=Z,908nm,21.3s,MS5.0,baz=112,slow=32						
SEY	**Seymchan**	**68.79**	**25⇑**	*e*P	**P**	**07 19 59.9**	**-1.3**
KOLS	**Kolonicke sedl**	**69.46**	**319**	*e*P	**P**	**07 20 07.8**	**+2.1**
APA	**Apatity**	**69.66**	**340⇓**	*e*P	**P**	**07 20 10.6**	**+4.1**
APA				pmax	pmax		
	comp=Z,59nm,1.4s,mb5.3						
CRVS	**Cervenica-Dubn**	**69.98**	**319**	*e*P	**P**	**07 20 08.3**	**-0.6**
STHS	**Stebnicka Huta**	**70.21**	**319**	*e*P	**P**	**07 20 10.6**	**+0.3**
	comp=Z,3.3nm,1.1s,mb4.2						
STHS	**Stebnicka Huta**	**70.21**	**319**	*e*P	**P**	**07 20 10.6**	**+0.3**
STHS				pmax	pmax		
	comp=Z,3.0nm,1.1s,mb4.1						
FINES	**FINESS Array B**	**70.29**	**332**	*i* P	**P**	**07 20 12.0**	**+1.5**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.9s						
FINES	**FINESS Array B**	**70.29**	**332**	P	**P**	**07 20 08.8**	**-1.8**
	comp=Z,2.4nm,0.8s,mb4.2,baz=40,slow=9.9,SNR=4.3						
KECS	**Kecovo**	**70.56**	**318**	*e*P	**P**	**07 20 10.9**	**-1.6**
	comp=Z,4.0nm,1.6s,mb4.1						
KECS	**Kecovo**	**70.56**	**318**	*e*P	**P**	**07 20 10.9**	**-1.6**
KECS				pmax	pmax		
	comp=Z,4.0nm,1.6s,mb4.1						
HNR	**Honiara**	**70.61**	**103**	*e*P	**P**	**07 20 14.3**	**+0.9**
	comp=Z,84nm,0.8s,mb5.7						
OJC	**Ojcow**	**71.25**	**320**	*e*P	**P**	**07 20 10.8**	**-5.8**
VYHS	**Vyhne**	**71.65**	**318**	*e*P	**P**	**07 20 18.7**	**-0.4**
OKC	**Ostrava-Krasne**	**72.26**	**319**	*e*pP	pP	07 20 28.1	+0.2
TAU	**Tasmania Unive**	**72.59**	**140**	*e*P	**P**	**07 20 25.9**	**+1.2**
	comp=Z,26nm,1.1s,mb5.1						
TAU	**Tasmania Unive**	**72.59**	**140**	*e*P	**P**	**07 20 25.9**	**+1.2**
TAU				pmax	pmax		
	comp=Z,26nm,1.1s,mb5.1						
MODS	**Modra-Piesok**	**72.67**	**318**	*e*P	**P**	**07 20 21.9**	**-3.3**
ZST	**Bratislava**	**72.77**	**318**	*e*P	**P**	**07 20 27.0**	**+1.2**
	comp=Z,6.7nm,0.6s,mb4.8						
ZST				LR	LR		
	comp=Z,200nm,17.4s,MS4.5						
ZST	**Bratislava**	**72.77**	**318**	*e*P	**P**	**07 20 27.0**	**+1.2**
ZST				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.8						
ZST				MLR	MLR		
	comp=Z,200nm,17.4s,MS4.5						
ARCES	**ARCESS Array B**	**73.10**	**340**	P	**P**	**07 20 28.1**	**+0.8**
	comp=Z,6.2nm,0.9s,mb4.5,baz=30,slow=18,SNR=5.9						
ARCES				LR	LR	07 54 18.8	
	comp=Z,1μm,21.8s,MS5.1,baz=117,slow=37						
DPC	**Dobruska-Polom**	**73.48**	**320**	*e*P	**P**	**07 20 29.9**	**0.0**
KSP	**Ksiaz**	**73.55**	**320**	*e*P	**P**	**07 20 30.8**	**+0.5**
PRU	**Pruhonice**	**74.59**	**319**	*e*P	**P**	**07 20 34.2**	**-2.2**
BRG	**Berggiesshubel**	**75.04**	**320**	*e*P	**P**	**07 20 39.6**	**+0.6**
	comp=Z,4.3nm,1.5s,mb4.2						
BRG				*e*	pP	07 20 44.3	+0.1
BRG				*e*		07 35 25.0	
BRG				LR	LR		
	comp=Z,310nm,20.6s,MS4.6						
BRG	**Berggiesshubel**	**75.04**	**320**	*e*P	**P**	**07 20 39.6**	**+0.6**
	comp=Z,7.2nm,1.5s,mb4.4						
BRG				*e*	pP	07 20 44.3	+0.1
	comp=Z,31nm,2.0s						
BRG				*e*		07 35 25.0	
BRG							
	comp=N,595nm,14.0s						
BRG							
	comp=E,287nm,14.6s						
BRG							
	comp=Z,523nm,20.6s						
GERES	**GERESS Array B**	**75.07**	**318**	P	**P**	**07 20 38.7**	**-0.6**
	comp=Z,1.8nm,0.9s,mb4.0,baz=99,slow=8.2,SNR=7.3						
GERES				LR	LR	07 53 57.5	
	comp=Z,216nm,21.5s,MS4.4,baz=266,slow=36						
KHC	**Kasperske Hory**	**75.17**	**318**	*e*P	**P**	**07 20 38.5**	**-1.3**
KHC				*e*x	x	07 21 19.0	
CLL	**Collm**	**75.65**	**321**	*e*P	**P**	**07 20 42.0**	**-0.5**
	comp=Z,29nm,2.1s,mb4.8						
CLL				*e*		07 20 50.0	
CLL				LR	LR		
	comp=Z,500nm,17.4s,MS4.9						
CLL	**Collm**	**75.65**	**321**	*e*P	**P**	**07 20 42.0**	**-0.5**
CLL				*e*		07 20 50.0	
CLL				pmax	pmax		
	comp=Z,29nm,2.1s,mb4.8						
CLL				MLR	MLR		
	comp=Z,500nm,17.4s,MS4.9						
CLL	**Collm**	**75.65**	**321**	*e*P	**P**	**07 20 42.0**	**-0.5**
	comp=Z,29nm,2.1s,mb4.8						
CLL				*e*pP	pP	07 20 50.0	+2.2
CLL				*e*SS	SS	07 35 24.0	+10
CLL				Lm		07 59 00.0	
	comp=N,200nm,19.1s						
CLL				Lm		07 59 00.0	
	comp=E,400nm,19.0s						
BILL	**Bilibino**	**75.79**	**22**	*e*P	**P**	**07 20 44.0**	**+1.0**
	comp=E,20nm,1.8s,mb4.7						
BILL	**Bilibino**	**75.79**	**22⇑**	*e*P	**P**	**07 20 43.0**	**0.0**
BILL				*e*	pP	07 20 48.9	+0.7
BILL				*e*		07 20 52.4	
BILL				S	S	07 30 29.8	+5.7
BILL				SSS		07 38 35.0	
BILL				pmax	pmax		
	comp=Z,9.0nm,1.4s,mb4.5						
BILL				MLR	MLR		
	comp=Z,700nm,17.0s,MS5.0						
CASY	**Casey**	**76.61**	**172**	*e*P	**P**	**07 20 48.4**	**+0.8**
	comp=Z,103nm,1.6s,mb5.5						
GRA1	**Grafenberg Arr**	**76.73**	**319**	*e*P	**P**	**07 20 50.0**	**+1.3**
	comp=Z,15nm,1.5s,mb4.7						
GRA1				LR	LR		
	comp=Z,200nm,21.0s,MS4.4						
GRF	**Grafenberg Arr**	**76.73**	**319**	*e*P	**P**	**07 20 50.0**	**+1.3**
GRF				pmax	pmax		
	comp=Z,15nm,1.5s,mb4.7						
GRF				MLR	MLR		
	comp=Z,200nm,21.0s,MS4.4						
GRF	**Grafenberg Arr**	**76.73**	**319**	*e*P	**P**	**07 20 50.0**	**+1.3**
	comp=Z,15nm,1.5s,mb4.7						
GRF				*e*L		07 57 22.4	
	comp=Z,194nm,21.0s						
NOA	**NORSAR Array B**	**77.26**	**331**	P	**P**	**07 20 50.9**	**-0.6**
NOA				LR	LR	07 59 29.0	
NOA	**NORSAR Array B**	**77.26**	**331**	P	**P**	**07 20 50.9**	**-0.6**
	comp=Z,0.9nm,0.9s,mb3.7,baz=43,slow=9.1,SNR=3.0						
NOA				LR	LR	07 59 29.0	
	comp=Z,743nm,18.1s,MS5.0,baz=95,slow=39						
TSUM	**Tsumeb**	**78.10**	**248**	*e*P	**P**	**07 20 58.1**	**+1.2**
	comp=Z,3.6nm,0.9s,mb4.3						
KEST	**Kesra**	**78.32**	**305**	P	**P**	**07 20 59.8**	**+1.9**
	comp=Z,2.2nm,0.9s,mb4.1,baz=131,slow=3.1,SNR=4.9						
SUR	**Sutherland**	**78.98**	**234**	*e*P	**P**	**07 21 02.1**	**+0.5**
	comp=Z,18nm,1.1s,mb4.9						
MAW	**Mawson**	**79.36**	**191**	LR	LR	07 53 36.3	
	comp=Z,244nm,18.2s,MS4.6,baz=266,slow=34						
LPG	**La Plagne**	**79.81**	**315**	*e*P	**P**	**07 21 05.8**	**0.0**
	comp=Z,54nm,1.5s,mb5.0						
LPG	**La Plagne**	**79.81**	**315**	*e*P	**P**	**07 21 05.8**	**0.0**
	comp=Z,27nm,1.5s,mb5.0						
LPG	**La Plagne**	**79.81**	**315**	*e*P	**P**	**07 21 05.8**	**0.0**
LPG				pmax	pmax		
	comp=Z,27nm,1.5s,mb5.0						
LPL	**La Plagne**	**79.82**	**315**	*e*P	**P**	**07 21 05.6**	**-0.3**
SYO	**Syowa Base**	**85.96**	**197⇑**	*e*X	**P**	**07 21 35.8**	**-1.3**
TORD	**Torodi Ar. Bea**	**87.75**	**283**	P	**P**	**07 21 47.0**	**-0.1**
TORD				LR	LR	08 02 50.0	
TORD	**Torodi Ar. Bea**	**87.75**	**283**	P	**P**	**07 21 47.0**	**-0.1**
	comp=Z,2.9nm,0.8s,mb4.5,baz=99,slow=4.9,SNR=13						
TORD				LR	LR	08 02 50.0	
	comp=Z,439nm,18.3s,MS4.9,baz=90,slow=37						
ESDC	**Sonseca Array**	**88.34**	**310**	LR	LR	08 01 08.3	
	comp=Z,166nm,20.7s,MS4.4,baz=125,slow=35						
RPZ	**Rata Peaks**	**88.86**	**135**	LR	LR	08 02 12.4	
	comp=Z,534nm,19.6s,MS5.0,baz=290,slow=36						
IMA2	**Indian Mountai**	**91.33**	**22**	*e*P	**P**	**07 22 03.7**	**+0.9**
TTA	**Tatalina**	**91.76**	**25**	*e*P	**P**	**07 22 05.9**	**+1.0**
SVW2	**Sparrevohn**	**92.70**	**27**	*e*P	**P**	**07 22 10.4**	**+1.1**
COLA	**College**	**94.04**	**22⇑**	*e*P	**P**	**07 22 11.7**	**-3.7**
MCK	**McKinley**	**94.23**	**23**	*e*P	**P**	**07 22 17.3**	**+1.1**
DBIC	**Dimbokro**	**95.18**	**278**	LR	LR	08 04 33.2	
	comp=Z,373nm,18.8s,MS4.9,baz=66,slow=35						
INK	**Inuvik**	**96.39**	**15**	*e*P	**P**	**07 22 26.8**	**+0.8**
TBI	**Tubuai**	**120.21**	**112**	*e*LR	LR	08 04 54.3	
	comp=Z,258nm,26.0s						
PPT	**Papeete**	**120.22**	**105**	*e*LR	LR	08 04 53.1	
	comp=Z,205nm,23.0s						
LKWY	**Lake**	**122.89**	**19**	*e*PKPdf	PKPdf	07 27 57.7	+3.8
PDAR	**Pinedale Array**	**124.78**	**19**	PKP	PKPdf	07 27 56.3	-1.2
	comp=Z,0.9nm,1.0s,baz=48,slow=2.2,SNR=5.1						
NVAR	**Mina Array Bea**	**125.02**	**28**	PKP	PKPdf	07 27 58.9	+0.8
NVAR	**Mina Array Bea**	**125.02**	**28**	PKP	PKPdf	07 27 58.9	+0.8
	comp=Z,0.9nm,0.7s,baz=290,slow=0.6,SNR=5.3						
TAOE	**Nuku Hiva Isla**	**129.02**	**94**	*e*LR	LR	08 09 05.9	
	comp=Z,425nm,26.0s						
SDMD	**Soldier's Deli**	**130.40**	**348**	*e*PKPdf	PKPdf	07 28 08.4	0.0
RKT	**Rikitea**	**133.48**	**113**	*e*LR	LR	08 11 10.5	
	comp=Z,397nm,33.8s						
PLCA	**Paso Flores**	**144.83**	**204**	PKPbc	PKPdf	07 28 34.2	-0.5
	comp=Z,6.2nm,0.9s,baz=101,slow=4.5,SNR=11						

*NIED **01** 07:19:00,3160N×14220E,h5km,Mw3.8 Best double couple: M0=6.27000×10^14 NP1:φs=350.00000°,δ69.00000°, λ64.00000°. NP2:φs=224.00000°,δ33.00000°,λ138.00000°.*
*IDC **01** 07:19:50.9±0.7,31.18N×141.97E,h0km,mb3.9/14, mb1 4.0/18,mb1mx4.0/24,mbtmp3.9/18,ML3.8/4,MS3.1/1, Ms1 3.1/1,ms1mx2.6/29,Error ellipse: s-maj=22.8km s-min=15.2km az=78.0*
*ISCJB **01** 07:19:53.7±1.8,31.22N±005×14194E±0.10,h31km±13km, mb3.9/14,Error ellipse: s-maj=14.9km s-min=7.1km az=158.3*
*JMA **01** 07:19:54.4±0.9,3164N×142.19E,h0km,M4.2*
*NEIC **01** 07:19:56.2±1.4,31.15N×14189E,h36km±12km, MG4.2(JMA),Error ellipse: s-maj=12.9km s-min=9.4km az=107.0*

ISC 01 07:19:55.0±1.9,3117N±004×14191E±010,h28km±14km, n32,σ1§04/39,mb3.9/14,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**2.63**	**318**	P	**Pn**	**07 20 37.0**	**+1.5**
JHJ	**Hachijo jima 2**	**2.65**	**318**	Pn	**Pn**	**07 20 35.5**	**-0.4**
	14nm,0.3s,baz=75,slow=19,SNR=11						
JHJ				Sn	**Sn**	**07 21 06.4**	**-0.7**
	48nm,0.3s,baz=260,slow=20,SNR=6.2						
BSO1	**Boso 1**	**3.56**	**348**	P	**Pn**	**07 20 46.7**	**-1.7**
BSO4	**Boso 4**	**4.03**	**341**	P	**Pn**	**07 20 56.0**	**+1.1**
CBIJ	**Chichi jima**	**4.06**	**177**	Pn	**Pn**	**07 20 55.5**	**+0.3**
	20nm,0.3s,baz=304,slow=21,SNR=12						
CBIJ				Sn	**Sn**	**07 21 39.9**	**-2.1**
	49nm,0.3s,baz=291,slow=23,SNR=9.1						
CBIJ				LR	LR	07 22 32.8	
	comp=Z,218nm,18.6s,baz=154,slow=40						
JOD2	**Odawara 2**	**4.72**	**331**	P	**Pn**	**07 21 04.9**	**+0.6**
JHU	**Hanno**	**5.16**	**336**	P	**Pn**	**07 21 11.5**	**+1.1**
JRY	**Ryogami san**	**5.45**	**333**	P	**Pn**	**07 21 15.3**	**+1.0**
JHO	**Hitachi**	**5.54**	**349**	P	**Pn**	**07 21 14.0**	**-1.6**
JHO				*e*S	**Sn**	**07 22 13.4**	**-5.0**
JAG	**Ashikaga**	**5.63**	**339**	P	**Pn**	**07 21 17.1**	**+0.3**
JAG				*e*S	**Sn**	**07 22 18.8**	**-1.7**
MJAR	**Matsushiro Arr**	**6.18**	**331**	Pn	**Pn**	**07 21 25.0**	**+0.6**
	2.2nm,0.3s,baz=156,slow=11,SNR=27						
MJAR				Sn	**Sn**	**07 22 32.1**	**-1.9**
	0.5nm,0.3s,baz=230,slow=29,SNR=3.1						
MAJO	**Matsushiro**	**6.18**	**331**	*e*Pn	**Pn**	**07 21 25.3**	**+0.9**
	12nm,0.6s						
MAT	**Matsushiro**	**6.18**	**331**	P	**Pn**	**07 21 25.2**	**+0.8**
MAT				S	**Sn**	**07 22 35.6**	**+1.5**
JFK	**Kawauchi**	**6.24**	**352**	P	**Pn**	**07 21 23.1**	**-2.1**
ASAJ	**Asahikawa**	**12.94**	**2**	Pn	**Pn**	**07 22 55.1**	**-1.8**
	0.8nm,0.3s,baz=272,slow=9.6,SNR=8.1						
ASAJ				Sn	**Sn**	**07 25 08.3**	**-12**
	0.2nm,0.3s,baz=179,slow=18,SNR=2.7						
NACB	**Ninganchiao**	**19.28**	**254**	*e*P	**Pn**	**07 24 17.5**	**-1.2**
SONM	**Songino Array**	**31.72**	**312**	P	**P**	**07 26 17.1**	**+0.9**
	1.8nm,0.9s,mb3.9,baz=120,slow=8.8,SNR=7.1						
ZALV	**Zalesovo Beam**	**46.31**	**317**	P	**P**	**07 28 18.2**	**+0.2**
	1.2nm,0.5s,mb4.0,baz=96,slow=7.8,SNR=6.1						
MKAR	**Makanchi Array**	**47.77**	**307**	P	**P**	**07 28 29.6**	**0.0**
	0.8nm,0.5s,mb4.0,baz=88,slow=7.7,SNR=6.4						
WRA	**Warramunga Arr**	**51.33**	**189**	P	**P**	**07 28 57.0**	**+0.1**
	1.4nm,0.3s,mb4.4,baz=6.2,slow=7.7,SNR=34						
ASAR	**Alice Springs**	**55.06**	**189**	P	**P**	**07 29 24.6**	**+0.3**
	1.0nm,0.5s,mb4.1,baz=2.1,slow=6.0,SNR=26						
INK	**Inuvik**	**59.46**	**25**	P	**P**	**07 29 55.0**	**+0.2**
	1.1nm,1.0s,mb3.8,baz=260,slow=5.5,SNR=3.5						
AKTK	**Aktyubinsk**	**62.98**	**314**	P	**P**	**07 30 18.6**	**-0.4**
AKTO	**Aktyubinsk**	**62.98**	**314**	P	**P**	**07 30 18.6**	**-0.4**
	0.9nm,0.5s,mb4.2,baz=67,slow=16,SNR=4.5						
YKA	**Yellowknife Ar**	**68.70**	**29**	P	**P**	**07 30 55.3**	**-0.3**
	0.2nm,0.7s,mb3.2,baz=296,slow=6.3,SNR=3.7						
ARCES	**ARCESS Array B**	**69.63**	**340**	P	**P**	**07 31 01.4**	**+0.1**
	3.1nm,0.8s,mb4.3,baz=54,slow=9.2,SNR=2.6						
FINES	**FINESS Array B**	**74.21**	**333**	P	**P**	**07 31 30.2**	**+1.3**
	0.7nm,0.6s,mb3.8,baz=46,slow=8.2,SNR=8.5						
NVAR	**Mina Array Bea**	**78.21**	**52**	P	**P**	**07 31 52.6**	**+0.6**
	0.6nm,0.7s,mb3.6,baz=284,slow=7.3,SNR=5.6						
AKASG	**Malin Array Be**	**79.21**	**323**	P	**P**	**07 31 57.9**	**+0.5**
	0.6nm,0.5s,mb3.8,baz=51,slow=5.4,SNR=4.3						
NB2	**NORSAR Subarra**	**79.76**	**338**	P	**P**	**07 32 00.1**	**0.0**
	comp=Z,0.5nm,0.7s,mb3.5,baz=41,slow=5.6						
NOA	**NORSAR Array B**	**79.76**	**338**	P	**P**	**07 32 00.1**	**+0.1**
	comp=Z,0.8nm,0.8s,mb3.7,baz=42,slow=5.6,SNR=4.5						
PDAR	**Pinedale Array**	**81.50**	**45**	P	**P**	**07 32 10.8**	**+0.9**
	comp=Z,0.3nm,0.5s,mb3.5,baz=336,slow=7.9,SNR=3.2						

*TEH **01** 07:34:11.1,2690N×5604E,h23km,ML3.8*
*IDC **01** 07:34:43.8±0.8,2688N×5598E,h0km,mb3.7/14, mb1 3.8/15,mb1mx3.8/23,mbtmp3.7/15,ML4.2/1,Error ellipse: s-maj=22.2km s-min=16.7km az=145.0*
*OMAN **01** 07:34:43.8,2709N×5619E*
*THR **01** 07:34:44.0±0.3,2668N×5576E,h15km,ML3.5*
*ISCJB **01** 07:34:45.4±0.3,2692N±003×5572E±004,h10km, mb3.7/15,Error ellipse: s-maj=4.6km s-min=4.2km az=10.0*
*CSEM **01** 07:34:45.8±0.2,2674N×5592E,h30km,ML3.8,Error ellipse: s-maj=4.4km s-min=2.6km az=137.0*
*NEIC **01** 07:34:46.1±0.7,2696N×5584E,h10km,mb3.8/1,Error ellipse: s-maj=19.3km s-min=10.0km az=132.0*
*KISR **01** 07:34:48.8±0.8,2750N×5569E,h33km,ML4.2*

ISC 01 07:34:46.9±0.3,2689N±003×5579E±003,h10km,n58, σ1§41/65,mb3.7/15,1C,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBND	**Bandar-abas**	**0.87**	**50**	*e*Pg	**Pg**	**07 35 03.1**	**-0.6**
IBND				*e*Sg	**Sg**	**07 35 12.6**	**-2.5**
BANOM	**Banah**	**1.07**	**154**	P	**Pg**	**07 35 06.0**	**-1.4**
	SNR=1681						
BANOM				P		07 35 06.8	
	SNR=22						
NAZ	**Nazwa, Dubai**	**1.90**	**183**	P	**Pn**	**07 35 20.9**	**+1.5**
	SNR=13						
HATD	**Hatta, Dubai**	**2.08**	**171**	P	**Pn**	**07 35 22.4**	**+0.5**
	SNR=15						
ASHO	**Ashiyiah**	**2.21**	**174**	P	**Pn**	**07 35 24.4**	**+0.7**
	SNR=84						
ASHO	**Ashiyiah**	**2.21**	**174**	P	**Pn**	**07 35 24.4**	**+0.7**
	SNR=84						
ASHO				P		07 35 24.7	
	SNR=24						
KRBR	**Kerman**	**3.20**	**15**	*e*PN5	**Pn**	**07 35 39.0**	**+1.7**
KRBR				AML	AML	07 36 30.8	
	comp=N,252nm,0.5s						
ISRV	**Sarvestan**	**3.42**	**317**	*e*Pn	**Pn**	**07 35 43.7**	**+3.3**
ISRV				*e*		07 37 07.9	
	comp=Z,4μm,0.4s						
IMOK	**Mouk**	**3.46**	**309**	*e*Pn	**Pn**	**07 35 44.4**	**+3.5**
IMOK				*e*		07 37 08.4	
	comp=Z,3μm,0.4s						
IMEH	**Mehriz**	**4.60**	**347**	*e*Pn	**Pn**	**07 35 58.2**	**+1.7**
IMEH				*e*		07 37 01.9	
	comp=Z,307nm,0.2s						
IBAF	**Bafgh**	**4.69**	**358**	*e*Pn	**Pn**	**07 35 58.6**	**+0.9**
IBAF				*e*		07 35 59.9	
	comp=Z,749nm,0.1s						
ZHSF	**Zahedan**	**5.17**	**57**	*e*Pn	**Pn**	**07 36 05.1**	**+0.8**
ZHSF				AML	AML	07 37 41.9	
	comp=E,10nm,0.6s						
BTHS		**5.29**	**239**	P	**Pn**	**07 36 06.5**	**+0.4**
BTHS		**5.29**	**239**	P	**Pn**	**07 36 06.5**	**+0.5**
BTHS				S	**Sn**	**07 37 06.5**	**-0.6**
ISAD	**Sadrabad**	**5.33**	**340**	*e*Sn	**Sn**	**07 37 06.7**	**-1.3**
ICHK	**Chekchek**	**5.47**	**348**	*e*Pn	**Pn**	**07 36 09.7**	**+1.2**
ICHK				*e*		07 36 24.6	
	comp=Z,511nm,0.2s						
BOQSS		**5.84**	**261**	P	**Pn**	**07 36 14.4**	**+0.8**
IGAR	**Gharneh**	**6.18**	**330**	*e*Pn	**Pn**	**07 36 23.4**	**+5.1**
IGAR				*e*		07 38 40.2	
	comp=Z,957nm,0.0s						
NASN	**Na'in**	**6.43**	**337**	*e*Pn	**Pn**	**07 36 23.3**	**+1.6**
IZEF	**Zefreh**	**6.69**	**334⇑**	*e*Pn	**Pn**	**07 36 26.6**	**+1.3**
IZEF				*e*		07 36 37.7	
	comp=Z,261nm,0.2s						
IPIR	**Pirpir**	**7.17**	**325**	*e*Pn	**Pn**	**07 36 33.8**	**+2.0**
IPIR				*e*Sn	**Sn**	**07 37 51.7**	**-1.7**
QRN	**Al-Qurain**	**7.21**	**287**	*e*P	**Pn**	**07 36 33.6**	**+1.2**
QRN				*e*S	**Sn**	**07 37 52.7**	**-1.6**
QRN				AML	AML	07 37 54.9	
	comp=Z,80nm,0.3s						
RDF	**Al-Radifah**	**7.56**	**287**	*e*S	**Sn**	**07 38 00.7**	**-2.4**
UMR	**Umm Al-Rimmam**	**7.60**	**292**	*e*P	**Pn**	**07 36 38.7**	**+1.0**
UMR				*e*S	**Sn**	**07 38 00.6**	**-3.3**
UMR				AML	AML	07 38 05.0	
	comp=Z,36nm,0.3s						
NAY	**Al-Naaiem**	**7.91**	**289**	*e*P	**Pn**	**07 36 43.0**	**+1.0**
NAY				*e*S	**Sn**	**07 38 08.7**	**-2.8**
NAY				AML	AML	07 38 08.9	
	comp=Z,9.6nm,0.5s						
MIB	**Mutribah**	**7.99**	**293**	*e*P	**Pn**	**07 36 44.1**	**+1.0**
MIB				*e*S	**Sn**	**07 38 09.9**	**-3.7**
MIB				AML	AML	07 38 13.8	
	comp=Z,26nm,0.5s						
RST	**Umm Al-Ruwaisa**	**8.18**	**291**	*e*P	**Pn**	**07 36 46.3**	**+0.6**
GHVR	**GHOM**	**8.49**	**334**	*e*Pn	**Pn**	**07 36 51.8**	**+1.7**
ASAO	**Ashtian**	**9.10**	**328**	*e*Pn	**Pn**	**07 37 00.0**	**+1.7**
WHFO	**Wadi Hawf**	**9.12**	**192**	P	**Pn**	**07 37 00.0**	**+1.3**
	SNR=6.3						
DAMV	**Damavand**	**9.30**	**340**	*e*Pn	**Pn**	**07 37 03.4**	**+2.3**
CHTH	**Charan**	**9.83**	**337**	*e*Pn	**Pn**	**07 37 10.4**	**+2.1**
ASYS		**10.21**	**276**	S	**Sn**	**07 39 02.5**	**-5.6**
ASYS		**10.21**	**276**	P	**Pn**	**07 37 12.4**	**-1.2**
SNGE	**Sanandaj**	**10.92**	**321**	*e*Pn	**Pn**	**07 37 24.5**

SEYT				*i* S	Sn	07 39 28.0	+1.4
GDZ	**Gediz**	**1.56**	**314**	*i* P	Pn	07 39 07.1	-0.1
GDZ				*i* S	Sn	07 39 28.7	+0.9
KULA	**Kula-Manisa**	**1.85**	**287**	PN	Pn	07 39 10.4	-0.7
BORA	**Eskisehir**	**1.91**	**349**	*i* P	Pn	07 39 11.8	-0.1
BORA				*i* S	Sg	07 39 39.8	-0.4
FETY	**Fethiye**	**2.00**	**228**	PN	Pn	07 39 13.0	-0.2
ERMK	**Ermenek**	**2.09**	**130**	*i* P	Pn	07 39 12.6	-1.9
ERMK				*i* S	Sn	07 39 43.0	+2.1
GPA	**Golpazari**	**2.33**	**348**	PN	Pn	07 39 17.3	-0.4
ANTO	**Ankara**	**2.37**	**38**	PN	Pn	07 39 17.7	-0.6
ANTO	**Ankara** SNR=17	**2.37**	**38**	P	Pg	07 39 23.4	-0.8
LOD	**Lodumlu**	**2.37**	**37**	PN	Pn	07 39 18.1	-0.2
DST	**Dursunbey**	**2.40**	**313**	PN	Pn	07 39 18.3	-0.4
AYDN	**Tasoluk**	**2.43**	**263**	*i* P	Pg	07 39 33.2	+7.9
AYDN				*i* S	Sg	07 40 00.7	+3.8
GULT	**Gulveren**	**2.45**	**353**	PN	Pn	07 39 19.4	+0.1
IZI	**Iznik**	**2.59**	**335**	PN	Pn	07 39 20.7	-0.6
AKHS	**Akhisar**	**2.59**	**291**	*i* P	Pn	07 39 21.1	-0.2
AKHS				*i* S	Sg	07 40 05.1	+3.1
AKS	**Akhisar**	**2.59**	**291**	PN	Pn	07 39 20.6	-0.7
MLSB	**Milas**	**2.59**	**255**	*e*PN	Pn	07 39 21.3	0.0
ADVT	**Abdulvahap**	**2.59**	**340**	*e*PN	Pn	07 39 21.2	-0.1
GEMT	**Gemlik**	**2.77**	**332**	*e*PN	Pn	07 39 23.7	-0.1
HENT	**Hendek**	**2.82**	**360**	*i* P	Pn	07 39 27.2	+2.8
HENT				*i* S	Sg	07 40 12.8	+3.5
YLV	**Yalova**	**2.83**	**335**	*e*PN	Pn	07 39 24.8	+0.2
IKL	**Isikli**	**2.83**	**128**	*e*PN	Pn	07 39 25.2	+0.6
BALB	**Balikesir**	**2.88**	**306**	*e*PN	Pn	07 39 25.0	-0.3
KDAG	**Bornova**	**2.90**	**279**	*i* P	Pn	07 39 26.0	+0.4
KDAG				*i* S	Sg	07 40 12.0	0.0
NIG	**Nigde**	**2.92**	**87**	*e*PN	Pn	07 39 26.1	+0.3
DAT	**Datca**	**2.95**	**245**	*e*PN	Pn	07 39 26.0	-0.2
HRT	**Hereke**	**2.98**	**341**	*e*PN	Pn	07 39 26.0	-0.6
KCT	**Karacabey**	**3.01**	**319**	*e*PN	Pn	07 39 26.8	-0.3
BODT	**Bodrum**	**3.02**	**253**	*e*PN	Pn	07 39 27.2	0.0
MERS	**Mersin**	**3.08**	**110**	*e*PN	Pn	07 39 28.5	+0.4
CDAG	**Cicekdag**	**3.15**	**58**	*i* P	Pn	07 39 28.1	-0.8
CDAG				*i* S	Sn	07 40 05.9	-0.9
ELDT	**Eldivan**	**3.16**	**37**	*i* P	Pn	07 39 29.1	0.0
ELDT				*i* S	Sn	07 40 01.8	-5.3
AVNT	**Avonos**	**3.19**	**75**	*i* P	Pn	07 39 29.4	-0.2
AVNT				*i* S	Sg	07 40 24.3	+3.1
BNT	**Bandirma**	**3.31**	**316**	*e*PN	Pn	07 39 31.5	+0.3
EDC	**Edincik**	**3.33**	**316**	*e*PN	Pn	07 39 31.4	-0.1
KARA	**Karaisali**	**3.37**	**101**	*e*PN	Pn	07 39 32.3	+0.3
ISK	**Istanbul-Kandi**	**3.38**	**335**	*e*PN	Pn	07 39 32.4	+0.3
SAFT	**Safranbolu**	**3.51**	**22**	*e*PN	Pn	07 39 33.8	-0.1
EREN	**Erenkoy**	**3.59**	**132**	*e*PN	Pn	07 39 35.7	+0.6
CORM	**Corum**	**3.62**	**52**	*e*PN	Pn	07 39 35.4	0.0
YOZ	**Yozgat**	**3.81**	**63**	*e*PN	Pn	07 39 37.6	-0.4
KRTS	**Karatas**	**3.83**	**111**	*e*PN	Pn	07 39 39.0	+0.6
KOZT	**Kozan**	**3.93**	**96**	*e*PN	Pn	07 39 40.4	+0.7
RKY	**Sarkoy-Tekirda**	**3.95**	**314**	*e*PN	Pn	07 39 40.4	+0.4
BNN	**Bunyan**	**3.96**	**76**	*e*PN	Pn	07 39 40.6	+0.4
CEYT	**Ceyhan**	**3.97**	**103**	*e*PN	Pn	07 39 40.4	+0.2
EZN	**Ezine**	**4.02**	**298**	*e*PN	Pn	07 39 41.3	+0.4
ENEZ	**Enez**	**4.59**	**308**	*e*PN	Pn	07 39 49.5	+0.7
KMRS	**Kahramanmaras**	**4.77**	**94**	*e*PN	Pn	07 39 52.7	+1.5
DIKM	**Dikmen**	**4.94**	**41**	*e*PN	Pn	07 39 55.5	+1.9
TIRR	**Tirgusor**	**6.72**	**344**	⇓*i*P	Pn	07 40 18.0	0.0
MLR	**Muntele Rosu**	**8.35**	**335**	⇓*i*P	Pn	07 40 40.5	+0.1
PLOR	**Plostina**	**8.46**	**339**	⇓*i*P	Pn	07 40 43.2	+1.3

IDC ***01*** *07:57:59.8±2.0, 3320S×17838W, h0km, mb4.3/2, mb1 4.5/3, mb1mx4.0/13, mbtmp4.3/3, ML4.0/1, Error ellipse: s-maj=64.7km s-min=33.1km az=140.0*

ISC 01 07:58:07.4±3.0, 334S±01×1788W±05, h35km, n8, σ0§82/8, mb4.1/2, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUZ	**Puketiti**	**5.27**	**206**	PN	**Pn**	07 59 22.5	-1.0
PUZ				SN	**Sn**	08 00 24.4	+1.5
MWZ	**Matawai**	**5.78**	**210**	PN	**Pn**	07 59 30.6	0.0
URZ	**Urewera** 3.8nm,0.3s,baz=312,slow=3.0,SNR=34	**5.90**	**213**	Pn	**Pn**	07 59 32.5	+0.2
URZ	1.7nm,0.3s,baz=163,slow=11,SNR=2.2			Sn	**Sn**	08 00 37.6	-1.1
URZ	**Urewera** 3.5nm,0.7s,mb4.1,baz=110,slow=7.4,SNR=50	**5.90**	**213**	PN	**Pn**	07 59 32.7	+0.4
ASAR	**Alice Springs** 2.2nm,0.6s,mb4.1,baz=116,slow=7.7,SNR=36	**42.38**	**271**	P	**P**	08 05 58.9	+0.5
WRA	**Warramunga Arr**	**43.64**	**276**	P	**P**	08 06 08.5	-0.1
FINES	**FINESS Array B** 0.7nm,0.4s,baz=36,slow=3.5,SNR=12	**147.68**	**338**	PKPbc	PKPbc	08 17 45.4	-2.0
NOA	**NORSAR Array B** 0.6nm,0.9s,baz=18,slow=4.2,SNR=3.3	**151.57**	**350**	PKPbc	PKPbc	08 17 54.4	-2.5
NOA	0.7nm,0.9s,baz=15,slow=4.6,SNR=3.0			PKPab	PKPab	08 18 02.2	-3.3

ISCJB ***01*** *08:16:19.7±2.2, 235S±0.1×1773W±02, h135km±25km, mb3.9/7, Error ellipse: s-maj=26.2km s-min=15.8km az=25.1*

NEIC ***01*** *08:16:20.5±1.7, 2355S×17726W, h131km±20km, mb4.2/2, Error ellipse: s-maj=18.2km s-min=11.4km az=114.0*

IDC ***01*** *08:16:31.9±7.7, 2393S×17731W, h238km±70km, mb3.5/5, mb1 3.7/7, mb1mx3.4/17, mbtmp3.6/7, Error ellipse: s-maj=39.8km s-min=26.2km az=38.0*

ISC 01 08:16:20.2±2.1, 235S±01×1773W±02, h125km±24km, n19, σ0§67/16, mb4.0/7, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu** 7.7nm,0.3s	**10.91**	**30**	*e*Pn	**Pn**	08 18 52.7	-0.1
DZM	**Mont Dzumac** 0.4nm,0.3s,baz=149,slow=17,SNR=3.9	**15.05**	**272**	P	**Pn**	08 19 55.1	+8.7
URZ	**Urewera** 4.9nm,0.3s,baz=18,slow=3.2,SNR=37	**15.44**	**197**	P	**Pn**	08 19 51.8	+0.6
URZ	0.7nm,0.3s,baz=126,slow=17,SNR=5.5			S	**Sn**	08 22 26.4	-16
RPZ	**Rata Peaks** 2.7nm,0.3s,mb4.0,baz=0.0,slow=3.0,SNR=2.9	**22.30**	**203**	P	**P**	08 21 06.3	-1.0
CTA	**Charters Tower** 4.7nm,0.4s,mb4.7,baz=91,slow=12,SNR=16	**33.94**	**269**	P	**P**	08 22 53.1	+1.4
CTAO	**Charters Tower** 1.9nm,0.4s,mb4.3	**33.94**	**269**	*e*P	**P**	08 22 52.7	+1.1
ASAR	**Alice Springs** 0.7nm,0.6s,mb3.5,baz=96,slow=7.4,SNR=16	**44.52**	**260**	P	**P**	08 24 20.1	+0.6
WB2	**Warramunga Arr**	**44.88**	**265**	*e*P	**P**	08 24 21.8	-0.6
WB2	**Warramunga Arr**	**44.88**	**265**	*e*P	**P**	08 24 21.9	-0.5
WRA	**Warramunga Arr** 0.5nm,0.3s,mb3.7,baz=96,slow=8.4,SNR=33	**44.89**	**265**	P	**P**	08 24 21.8	-0.7
KAKA	**Kakadu** 4.4nm,0.9s,mb4.4	**48.73**	**274**	*e*P	**P**	08 24 51.6	-0.9
QSPA	**South Pole Qui**	**66.56**	**180**	P	**P**	08 26 56.3	+0.1
QSPA	**South Pole Qui** 1.8nm,0.6s,mb4.1,baz=48,slow=3.7,SNR=14	**66.56**	**180**	P	**P**	08 26 56.3	+0.1
KSM	**Kuching**	**74.47**	**279**	*e*P	**P**	08 27 45.7	+0.4
PDAR	**Pinedale Array** 0.3nm,0.7s,mb3.5,baz=226,slow=2.4,SNR=3.8	**90.73**	**43**	P	**P**	08 29 09.1	+0.2
FINES	**FINESS Array B** 1.5nm,1.0s,baz=29,slow=3.2,SNR=4.4	**138.84**	**343**	PKhKP		08 35 25.1	
FINES	0.7nm,0.5s,baz=75,slow=4.5,SNR=7.1			PKP	PKPdf	08 35 30.9	-0.1
AKASG	**Malin Array Be** 5.5nm,0.5s,baz=42,slow=4.2,SNR=51	**145.94**	**330**	PKPbc	PKPbc	08 35 43.6	-1.3
CLL	**Collm**	**151.14**	**347**	*i* PKPbc	PKPbc	08 35 57.5	-0.8
CLL	comp=Z,5.0nm,0.9s			*i* PKPab	PKPab	08 36 05.9	-0.6
BRG	**Berggiesshubel** comp=Z,2.8nm,0.6s	**151.34**	**345**	*e*P	PKPbc	08 35 58.1	-0.7

ISCJB ***01*** *08:17:54.3±0.5, 372S±0.1×95.1W±0.1, h10km, mb4.3/10, Error ellipse: s-maj=18.9km s-min=11.3km az=44.0*

IDC ***01*** *08:17:54.0±0.8, 3716S×95.16W, h0km, mb4.4/7, mb1 4.5/8, mb1mx4.4/13, mbtmp4.3/8, ML3.7/1, MS3.0/1, Ms1 3.0/1, ms1mx2.7/17, Error ellipse: s-maj=27.1km s-min=21.0km az=78.0*

NEIC ***01*** *08:17:55.7±0.6, 3716S×95.16W, h10km, mb4.4/3, Error ellipse: s-maj=17.0km s-min=13.6km az=60.0*

ISC 01 08:17:56.0±0.5, 372S±01×951W±01, h10km, n131, σ0§40/127, mb4.3/10, 55C-54D, Southeast of Easter Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores** 0.1nm,0.3s,baz=276,slow=12,SNR=4.5	**19.40**	**108**	P	**Pn**	08 22 22.8	-0.4
CFAA	**Coronel Fontan** 0.3nm,1.1s,baz=243,slow=10,SNR=2.8	**22.82**	**84**	P	**P**	08 22 59.3	+0.3
CFAA	comp=Z,45nm,21.8s,baz=192,slow=30			LR	LR	08 29 14.1	
LPAZ	**La Paz** 2.2nm,0.8s,mb4.0,baz=232,slow=7.5,SNR=5.5	**31.65**	**56**	P	**P**	08 24 19.1	-0.3
ROSC	**El Rosal** 5.1nm,0.8s,mb4.5,baz=289,slow=4.8,SNR=4.4	**46.10**	**29**	P	**P**	08 26 21.7	+1.3
QSPA	**South Pole Qui** 1.8nm,0.9s,mb4.0,baz=110,slow=2.3,SNR=9.2	**53.03**	**180**	P	**P**	08 27 12.3	-0.2
JCT	**Junction City** 2.3nm,0.8s,mb4.3	**67.46**	**356**	*e*P	**P**	08 28 50.6	-1.2
319A	**Douglas** baz=70	**69.49**	**347**	⇓P	**P**	08 29 04.5	0.0
318A	**Bisbee** baz=70,SNR=7.5	**69.68**	**346**	⇓P	**P**	08 29 05.6	0.0
217A	**Green Valley** baz=70	**70.16**	**346**	⇓P	**P**	08 29 08.1	-0.5
218A	**Dragoon** baz=70	**70.21**	**347**	⇓P	**P**	08 29 08.8	-0.1
216A	**Three Points,** baz=71,SNR=6.1	**70.51**	**345**	P	**P**	08 29 11.2	+0.5
116A	**Eloy** baz=71	**71.10**	**345**	⇑P	**P**	08 29 14.5	+0.2
115A	**Sonoran Desert** baz=72	**71.34**	**345**	⇓P	**P**	08 29 16.1	+0.3
Z16A	**Peralta Trail,** baz=72	**71.80**	**346**	⇓P	**P**	08 29 18.8	+0.3
Y16A	**Circle Bar Ran** baz=73	**72.33**	**346**	⇓P	**P**	08 29 22.0	+0.4
MONP	**Monument Peak** baz=73	**72.50**	**341**	⇑P	**P**	08 29 22.8	0.0
ANMO	**Albuquerque** 1.4nm,0.8s,mb3.9	**72.55**	**350**	*e*P	**P**	08 29 22.8	-0.1
Y15A	**Casa Rosa Ranc** baz=73	**72.58**	**345**	⇓P	**P**	08 29 22.4	-0.8
Y14A	**Wickenburg** baz=73	**72.70**	**344**	⇓P	**P**	08 29 23.5	-0.3
X16A	**Lo Mia Camp, P** baz=73	**72.85**	**346**	⇑P	**P**	08 29 24.9	+0.2
X15A	**Humboldt** baz=73,SNR=6.7	**73.07**	**345**	P	**P**	08 29 26.3	+0.2
X14A	**Yava** baz=74	**73.19**	**345**	⇑P	**P**	08 29 26.4	-0.4
IRM	**Iron Mountain** baz=74	**73.40**	**343**	⇓P	**P**	08 29 27.7	-0.3
BELC	**Belle Mtn.** baz=74	**73.45**	**342**	⇓P	**P**	08 29 28.2	-0.2
W14A	**Seligman** baz=74,SNR=5.5	**73.95**	**345**	⇓P	**P**	08 29 31.2	0.0
W13A	**Hualapai Mount** baz=74	**74.01**	**344**	⇑P	**P**	08 29 31.3	-0.3
GMRC	**Granite Mounta** baz=74	**74.11**	**343**	⇓P	**P**	08 29 31.6	-0.6
MAW	**Mawson** 5.9nm,0.8s,mb4.6,baz=207,slow=9.0,SNR=5.2	**74.20**	**171**	P	**P**	08 29 33.0	+0.6
V12A	**Nelson** baz=75	**74.83**	**343**	⇑P	**P**	08 29 36.1	-0.2
MVCO	**Mesa Verde** baz=75	**75.06**	**349**	⇑P	**P**	08 29 37.7	+0.1
V11A	**Goodsprings** baz=75	**75.07**	**343**	⇑P	**P**	08 29 37.7	0.0
ARVC	**Arvin** baz=76	**75.25**	**340**	⇓P	**P**	08 29 38.6	-0.2
U13A	**Pakoon Wash** baz=76	**75.30**	**344**	⇑P	**P**	08 29 39.1	+0.1
U12A	**Valley of Fire** baz=76	**75.44**	**344**	⇓P	**P**	08 29 39.8	0.0
T15A	**Red Dirt Ranch** baz=76	**75.55**	**346**	⇑P	**P**	08 29 40.7	+0.3
ISA	**Isabella** baz=76	**75.66**	**341**	⇓P	**P**	08 29 41.2	0.0
MPMC	**Manual Prospec** baz=76	**75.78**	**341**	⇓P	**P**	08 29 41.9	+0.1
U10A	**Ash Meadows, A** baz=76	**75.84**	**342**	⇓P	**P**	08 29 42.4	+0.3
T13A	**Saint George** baz=76	**75.86**	**345**	⇓P	**P**	08 29 42.2	0.0
TPNV	**Topopah Spring** baz=77	**76.32**	**343**	⇑P	**P**	08 29 44.8	-0.1
S13A	**Holt Ranch, En** baz=77,SNR=5.1	**76.39**	**345**	⇑P	**P**	08 29 45.5	+0.3
S12A	**Delamar Landin** baz=77	**76.63**	**344**	⇑P	**P**	08 29 47.2	+0.6
S09A	**Goldfield** baz=78,SNR=5.9	**77.30**	**342**	⇑P	**P**	08 29 50.4	+0.1
S08C	**White Mtn Res** baz=78	**77.32**	**341**	⇑P	**P**	08 29 50.7	+0.3
S10A	**Topopah Range,** baz=78	**77.33**	**343**	⇑P	**P**	08 29 50.3	-0.2
R11A	**Troy Canyon, C** baz=78	**77.51**	**344**	⇑P	**P**	08 29 52.0	+0.6
R09A	**Tonopah** baz=78,SNR=5.4	**77.75**	**342**	P	**P**	08 29 52.8	0.0
Q10A	**Clear Creek Ra** baz=78	**78.15**	**343**	⇓P	**P**	08 29 55.3	+0.3
P13A	**Bates Ranch, G** baz=79	**78.23**	**345**	⇑P	**P**	08 29 55.8	+0.3
NVAR	**Mina Array Bea** 2.9nm,0.8s,mb4.3,baz=154,slow=7.0,SNR=23	**78.23**	**342**	P	**P**	08 29 56.1	+0.6
WENL	**Wente Brothers** baz=79	**78.41**	**339**	⇓P	**P**	08 29 56.3	-0.3
DUG	**Dugway** 4.9nm,1.2s,mb4.3	**78.71**	**346**	*e*P	**P**	08 29 57.6	-0.5
DUG	**Dugway** baz=79	**78.71**	**346**	⇑P	**P**	08 29 58.5	+0.4
R05C	**Kiwood Meado** baz=79	**78.95**	**340**	⇑P	**P**	08 29 59.8	+0.4
O12A	**Currie** baz=80	**79.16**	**345**	⇓P	**P**	08 30 00.8	+0.2
O11A	**Cowboy Ranch,** baz=80	**79.23**	**344**	⇑P	**P**	08 30 01.3	+0.3
CVS	**Carmenet Viney** baz=80	**79.29**	**338**	⇑P	**P**	08 30 01.2	-0.2
N14A	**Grayback Hills** baz=80	**79.41**	**346**	⇓P	**P**	08 30 01.1	-0.9
O10A	**Cortez Mining,** baz=80	**79.57**	**344**	⇓P	**P**	08 30 03.1	+0.3
O09A	**Fish Creek Ran** baz=80,SNR=5.6	**79.61**	**343**	⇑P	**P**	08 30 03.3	+0.3
N13A	**Wendover, West** baz=80	**79.62**	**345**	⇑P	**P**	08 30 03.0	-0.1
N12A	**Clover Valley,** baz=80,SNR=6.0	**79.79**	**345**	⇑P	**P**	08 30 04.3	+0.3
M15A	**Larsen Ranch,** baz=80,SNR=5.2	**79.87**	**347**	⇓P	**P**	08 30 03.8	-0.6
O07A	**Toulon** baz=80,SNR=6.9	**80.01**	**342**	⇑P	**P**	08 30 05.7	+0.5
HOPS	**Hopland** baz=80	**80.07**	**338**	⇑P	**P**	08 30 05.6	0.0
M14A	**Sheep Mountain** baz=80	**80.08**	**346**	⇓P	**P**	08 30 05.0	-0.5
BEKR	**Beckwourth** baz=80	**80.12**	**341**	⇓P	**P**	08 30 05.8	0.0
ORV	**Oroville** baz=80	**80.14**	**340**	⇓P	**P**	08 30 06.1	+0.2
N07B	**Gerlach** baz=81,SNR=8.7	**80.62**	**342**	P	**P**	08 30 08.8	+0.3
PDAR	**Pinedale Array** 5.5nm,0.8s,mb4.6,baz=162,slow=6.4,SNR=52	**80.66**	**349**	P	**P**	08 30 08.3	-0.3
L13A	**Double Diamond** baz=81,SNR=6.6	**80.75**	**346**	⇓P	**P**	08 30 09.1	-0.1
N06A	**Buffalo Meadow** baz=81,SNR=11	**80.81**	**341**	⇑P	**P**	08 30 09.5	+0.1
M07A	**Soldier Meadow** baz=82	**81.24**	**342**	⇓P	**P**	08 30 11.9	+0.1
HATC	**Hat Creek Radi** baz=82	**81.30**	**340**	⇑P	**P**	08 30 11.9	-0.2
K13A	**Stover Farm, H** baz=82	**81.32**	**346**	⇓P	**P**	08 30 12.4	+0.2
WDC	**Whiskeytown Da** baz=82	**81.38**	**339**	⇓P	**P**	08 30 11.5	-1.1
M06C	**Likely Place G** baz=82	**81.40**	**341**	⇑P	**P**	08 30 12.9	+0.3
K12A	**Draper Farm, C** baz=82	**81.47**	**345**	⇓P	**P**	08 30 13.1	+0.1
L09A	**Wilkinson Ranc** baz=82	**81.48**	**343**	⇓P	**P**	08 30 13.2	+0.1
M05C	**Lookout** baz=82	**81.72**	**340**	⇑P	**P**	08 30 14.2	-0.2
K11A	**Parker Ranch,** baz=82	**81.84**	**345**	⇓P	**P**	08 30 14.4	-0.5
L07A	**Adell** baz=82,SNR=5.5	**81.88**	**342**	⇑P	**P**	08 30 14.8	-0.3
MOD	**Modoc** baz=82	**82.01**	**341**	⇓P	**P**	08 30 16.2	+0.3
K10A	**MacKenzie Ranc** baz=82	**82.02**	**344**	⇑P	**P**	08 30 15.3	-0.6
J13A	**Cove Ranch, Pi** baz=82,SNR=5.3	**82.06**	**346**	⇓P	**P**	08 30 16.5	+0.4
J12A	**Stokes Ranch,** baz=82	**82.10**	**345**	⇓P	**P**	08 30 16.2	0.0
M02C	**Callahan** baz=83	**82.22**	**339**	⇑P	**P**	08 30 17.0	+0.1
HLID	**Hailey** baz=83,SNR=12	**82.27**	**346**	P	**P**	08 30 17.4	+0.3
L05A	**Lakeview** baz=83	**82.29**	**341**	⇑P	**P**	08 30 17.8	+0.5
M04C	**Macdoel** baz=83	**82.31**	**340**	⇑P	**P**	08 30 17.3	-0.1
K08A	**Mann Creek Ran** baz=83,SNR=7.6	**82.35**	**343**	⇓P	**P**	08 30 17.8	+0.3
K07A	**Rock Creek Ran** baz=83	**82.49**	**342**	⇓P	**P**	08 30 18.8	+0.4
I13A	**Wildhorse Cree** baz=83,SNR=6.0	**82.55**	**346**	⇑P	**P**	08 30 18.4	-0.2
J09A	**Fry Pan Ranch,** baz=83,SNR=5.7	**82.76**	**344**	⇑P	**P**	08 30 19.6	-0.2
J08A	**Circle Bar Ran** baz=83,SNR=5.4	**82.94**	**343**	P	**P**	08 30 21.0	+0.4
H13A	**Challis** baz=84	**83.20**	**346**	⇓P	**P**	08 30 21.7	-0.3
J06A	**Christmas Vall** baz=84,SNR=7.4	**83.24**	**342**	⇓P	**P**	08 30 22.1	-0.1
I09A	**Lost Marbles R** baz=84	**83.36**	**344**	⇑P	**P**	08 30 22.4	-0.4
G15A	**Dillon** baz=84	**83.47**	**348**	⇑P	**P**	08 30 23.8	+0.4
I08A	**Drewsey** baz=84	**83.48**	**343**	⇑P	**P**	08 30 24.0	+0.6
J05A	**Fort Rock** baz=84,SNR=5.2	**83.55**	**341**	⇑P	**P**	08 30 23.9	+0.1
H11A	**Donnelly** baz=84	**83.68**	**345**	⇑P	**P**	08 30 23.8	-0.6
G13A	**Cobalt** baz=84	**83.71**	**346**	⇓P	**P**	08 30 24.2	-0.4
H10A	**Noah's Angus R** baz=84	**83.73**	**345**	⇑P	**P**	08 30 24.6	-0.1
I07A	**Izee** baz=84,SNR=6.6	**83.87**	**343**	⇑P	**P**	08 30 25.6	+0.2
I06A	**Prineville** baz=84,SNR=6.6	**83.91**	**342**	⇓P	**P**	08 30 25.9	+0.3
H08A	**Prairie City** baz=84	**84.08**	**343**	⇓P	**P**	08 30 26.7	+0.2
F15A	**Butte** baz=84	**84.12**	**348**	⇓P	**P**	08 30 26.9	+0.3
F14A	**Wisdom** baz=85,SNR=8.5	**84.25**	**347**	⇑P	**P**	08 30 27.1	-0.2
H07A	**Lands Inn, Kim** baz=85,SNR=9.3	**84.36**	**343**	⇓P	**P**	08 30 28.1	+0.2
F13A	**Darby** baz=85	**84.40**	**347**	⇓P	**P**	08 30 27.5	-0.5
G11A	**Walters Elk Ra** baz=85	**84.40**	**345**	⇑P	**P**	08 30 27.9	-0.2
G10A	**Bishop Farm, J** baz=85,SNR=6.0	**84.48**	**345**	⇓P	**P**	08 30 28.2	-0.3
F12A	**Elk City** baz=85,SNR=7.6	**84.54**	**346**	⇓P	**P**	08 30 28.5	-0.3
G09A	**Cove** baz=85	**84.60**	**344**	⇑P	**P**	08 30 29.1	0.0
H06A	**Lindquist Farm** baz=85	**84.68**	**342**	⇑P	**P**	08 30 30.0	+0.4
E15A	**Deer Lodge** baz=85	**84.72**	**348**	⇓P	**P**	08 30 30.0	+0.4
G08A	**Pilot Rock** baz=85,SNR=5.3	**84.88**	**343**	⇑P	**P**	08 30 30.5	0.0
E11A	**Bogner Ranch,** baz=86,SNR=6.0	**85.31**	**346**	⇑P	**P**	08 30 32.0	-0.6
D14A	**Greenough** baz=86,SNR=10	**85.50**	**347**	⇓P	**P**	08 30 33.7	+0.1
D13A	**Huson** baz=86,SNR=5.2	**85.68**	**347**	⇑P	**P**	08 30 34.2	-0.3
C14A	**Swan Lake** baz=86	**86.21**	**348**	⇑P	**P**	08 30 37.5	+0.5
C13A	**Hot Springs** baz=87	**86.27**	**347**	⇓P	**P**	08 30 37.2	-0.1
D08A	**Wollman Farm,** baz=87	**86.54**	**344**	⇑P	**P**	08 30 38.8	0.0
ULM	**Lac du Bonnet** 2.6nm,0.6s,mb4.6,baz=208,slow=3.7,SNR=5.8	**87.07**	**360**	P	**P**	08 30 39.3	-1.9
C07A	**Waterville** baz=88	**87.40**	**343**	⇑P	**P**	08 30 43.1	+0.2
B09A	**Rice** baz=88,SNR=7.8	**87.67**	**345**	⇓P	**P**	08 30 44.2	0.0
YKA	**Yellowknife Ar** 0.3nm,0.8s,baz=163,slow=4.4,SNR=6.0	**100.58**	**351**	P	Pdif	08 31 42.2	-1.7
AKTO	**Aktyubinsk** 1.7nm,0.9s,baz=270,slow=3.0,SNR=5.0	**156.67**	**47**	PKPab	PKPab	08 38 19.0	-1.0
SONM	**Songino Array** 0.9nm,1.1s,baz=48,slow=2.2,SNR=4.6	**160.98**	**311**	PKPab	PKPab	08 38 38.8	0.0
ZALV	**Zalesovo Beam** 0.8nm,0.7s,baz=328,slow=5.3,SNR=3.7	**163.24**	**0**	PKPab	PKPab	08 38 47.1	-1.3

IDC ***01*** *08:21:31.7±6.3, 2149N×9468E, h106km±60km, mb3.6/11, mb1 3.7/12, mb1mx3.5/22, mbtmp3.6/12, Error ellipse: s-maj=39.7km s-min=13.2km az=60.0*

ISCJB ***01*** *08:21:32.4±1.4, 2148N±009×943E±0.1, h129km±12km, mb3.8/12, Error ellipse: s-maj=20.3km s-min=10.0km az=137.3*

NEIC ***01*** *08:21:32.3±1.0, 2151N×9478E, h112km±10km, mb4.2/2, Error ellipse: s-maj=22.6km s-min=6.8km az=61.0*

ISC 01 08:21:33.1±1.2, 2147N±009×943E±01, h114km±11km, n26, σ1§24/33, mb3.9/12, Myanmar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHL	**Shillong**	**4.64**	**332**	*i* PN	**Pn**	08 22 42.0	+0.8
SHL				*i* SN	**Sn**	08 23 33.0	-1.1
CHTO	**Chiang Mai**	**5.09**	**120**	*e*Pn	**Pn**	08 22 41.4	-5.8
ODAN	**Odare**	**8.29**	**312**	*e*Pn	**Pn**	08 23 32.0	+1.5
ODAN	105nm,0.4s			*e*Sn	**Sn**	08 25 01.6	-0.7
TAPN	**Taplejung**	**8.39**	**316**	*e*Pn	**Pn**	08 23 32.6	+0.7
TAPN	53nm,0.4s			*e*Sn	**Sn**	08 25 03.7	-1.2
LSA	**Lhasa** 2.2nm,0.3s	**8.68**	**341**	*e*Pn	**Pn**	08 23 37.0	+1.3
JIRN	**Jiri**	**9.62**	**311**	*e*Pn	**Pn**	08 23 49.6	+1.1
JIRN	59nm,0.6s			*e*Sn	**Sn**	08 25 32.3	-2.4
KKN	**Kakani**	**10.34**	**309**	*e*Pn	**Pn**	08 23 58.8	+0.5
KKN	24nm,0.4s			*e*Sn	**Sn**	08 25 51.0	-1.3
GKN	**Gorkha**	**10.93**	**308**	*e*Pn	**

NOA	**NORSAR Array B**	**68.14**	**329**	P	**P**	**08 32 20.5**	**0.0**
NOA	**NORSAR Array B**	**68.14**	**329**	P	**P**	**08 32 20.5**	**0.0**
	comp=Z,1.3nm,0.7s,mb3.9,baz=85,slow=6.2,SNR=6.8						
STKA	**Stephens Creek**	**69.74**	**138**	*e*P	**P**	**08 32 24.6**	**-6.2**
	comp=Z,3.1nm,1.2s,mb4.0						

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*ISCJB **01** 08:22:14.8±4.0, 363N±03×708E±02, h178km±28km, mb3.2/4, Error ellipse: s-maj=49.2km s-min=17.8km az=16.7*
*NEIC **01** 08:22:14.9±3.0, 3624N×7083E, h167km±22km, mb4.6/4, Error ellipse: s-maj=32.1km s-min=15.5km az=206.0*
*IDC **01** 08:22:14.8±8.8, 3623N×7080E, h167km±73km, mb3.0/5, mb1 3.2/7, mb1mx3.0/22, mbtmp3.0/7, Error ellipse: s-maj=59.2km s-min=27.4km az=31.0*
*NNC **01** 08:22:22.7±6.0, 3731N×7072E, h0km, mb4.1, mpv3.9, Error ellipse: s-maj=56.6km s-min=47.0km az=78.0*

ISC 01 08:22:15.7±3.4, 363N±02×709E±02, h173km±25km, n25, σ0§48/28, mb3.2/4, 4C-2D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**6.25**	**20**	*e*Pn	**Pn**	**08 23 45.8**	**+0.1**
	49nm,0.5s						
AML	**Almayashu**	**6.25**	**20**	P	**Pn**	**08 23 45.9**	**+0.2**
	SNR=76						
UCH	**Uchtor**	**6.59**	**24**	*e*Pn	**Pn**	**08 23 50.3**	**+0.2**
	20nm,0.6s						
UCH	**Uchtor**	**6.59**	**24**	P	**Pn**	**08 23 50.5**	**+0.4**
	SNR=28						
KZA	**Kyzart**	**6.72**	**29**	P	**Pn**	**08 23 52.0**	**0.0**
	SNR=5.9						
EKS2	**Erkin-Say**	**6.76**	**19**	*e*Pn	**Pn**	**08 23 52.6**	**+0.1**
	8.7nm,0.6s						
EKS2	**Erkin-Say**	**6.76**	**19**	P	**Pn**	**08 23 52.8**	**+0.3**
	SNR=16						
KK31	**Karatay Array**	**6.82**	**358**	⇑Pn	**Pn**	**08 23 52.6**	**-0.6**
	1.5nm,0.3s,baz=187,slow=13,SNR=75						
KK31				⇑Sn	**Sn**	**08 25 03.1**	**-7.0**
	4.6nm,0.5s,baz=185,slow=20,SNR=7.7						
AAK	**Ala-Archa**	**6.95**	**23**	P	**Pn**	**08 23 55.1**	**+0.3**
	SNR=8.3						
KBK	**Karagaybulak**	**7.11**	**25**	P	**Pn**	**08 23 57.4**	**+0.2**
	SNR=9.1						
USP	**Ospenovka**	**7.52**	**21**	P	**Pn**	**08 24 01.4**	**-1.1**
	SNR=8.6						
TKM2	**Tokmak 2**	**7.58**	**27**	⇑Pn	**Pn**	**08 24 03.1**	**-0.1**
	14nm,0.6s						
TKM2				⇑Sn	**Sn**	**08 25 22.1**	**-6.1**
TKM2	**Tokmak 2**	**7.58**	**27**	*e*Pn	**Pn**	**08 24 03.1**	**-0.1**
	17nm,0.6s						
TKM2	**Tokmak 2**	**7.58**	**27**	P	**Pn**	**08 24 03.2**	**0.0**
	SNR=22						
MKAR	**Makanchi Array**	**13.54**	**36**	P	**Pn**	**08 25 20.9**	**+0.2**
	0.1nm,0.3s,baz=207,slow=8.1,SNR=2.7						
AB31	**Akbulak array**	**15.22**	**332**	⇓Pn	**Pn**	**08 25 42.9**	**+1.4**
	1.0nm,0.6s,baz=227,slow=14,SNR=13						
AB31				⇓Sn	**Sn**	**08 28 31.0**	**-0.1**
	3.5nm,0.8s,baz=106,slow=9.7,SNR=14						
AKTK	**Aktyubinsk**	**16.91**	**331**	P	**Pn**	**08 26 01.9**	**-0.1**
AKTO	**Aktyubinsk**	**16.91**	**331**	P	**Pn**	**08 26 01.9**	**-0.1**
	0.3nm,0.3s,baz=142,slow=8.5,SNR=6.0						
ZALV	**Zalesovo Beam**	**20.17**	**24**	P	**P**	**08 26 36.5**	**0.0**
	0.5nm,0.3s,baz=220,slow=13,SNR=2.3						
FINES	**FINESS Array B**	**37.60**	**326**	P	**P**	**08 29 13.1**	**-0.1**
FINES	**FINESS Array B**	**37.60**	**326**	P	**P**	**08 29 13.1**	**-0.1**
	0.6nm,0.9s,mb3.2,baz=108,slow=12,SNR=4.0						
NOA	**NORSAR Array B**	**44.48**	**323**	P	**P**	**08 30 08.5**	**-0.8**
NOA	**NORSAR Array B**	**44.48**	**323**	P	**P**	**08 30 08.5**	**-0.8**
	0.5nm,0.7s,mb3.2,baz=97,slow=7.8,SNR=3.3						
YKA	**Yellowknife Ar**	**81.47**	**3**	P	**P**	**08 34 13.3**	**+0.3**
	0.3nm,0.5s,mb3.2,baz=351,slow=5.3,SNR=12						
WRA	**Warramunga Arr**	**81.98**	**122**	P	**P**	**08 34 16.3**	**0.0**
	0.5nm,1.1s,mb3.1,baz=324,slow=5.3,SNR=4.5						

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*CSEM **01** 08:25:00.8±0.1, 3912N×4104E, h2km, MD3.2, Error ellipse: s-maj=1.9km s-min=1.6km az=139.0*
*ISK **01** 08:25:00.4, 3913N×4103E, h5km, MD3.2*
*ISCJB **01** 08:25:01.7±0.3, 3912N±002×4106E±003, h2km, Error ellipse: s-maj=3.2km s-min=2.5km az=37.7*
*TIF **01** 08:25:01.1, 3913N×4102E, h13km±2km*
*DDA **01** 08:25:02.3, 3916N×4115E, h1km±4km, Md3.5*

ISC 01 08:25:02.4±0.5, 3913N±002×4102E±003, h2km±4km, n34, σ1§01/52, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNGL	**BINGOL**	**0.20**	**150**	*i*P	**Pg**	**08 25 05.5**	**-0.8**
BNGL				*i*S	**Sg**	**08 25 09.6**	**+0.7**
BINT	**Bingol**	**0.49**	**239**	*i*PG	**Pg**	**08 25 11.2**	**-0.5**
BINT				*i*SG	**Sg**	**08 25 19.0**	**+1.0**
EZM	**Erzurum**	**0.82**	**19**	*i*PG	**Pg**	**08 25 17.2**	**-0.9**
EZM				*i*SG	**Sg**	**08 25 29.4**	**+0.6**
ERZM	**Erzurum**	**0.82**	**19**	*i*P	**Pg**	**08 25 17.2**	**-0.9**
ERZM				*i*S	**Sg**	**08 25 29.0**	**+0.2**
BTMT	**Batman**	**1.00**	**159**	*i*PG	**Pg**	**08 25 21.3**	**-0.3**
EZC	**Erzincan**	**1.12**	**304**	PN	**Pn**	**08 25 27.9**	**+2.8**
DIY	**Diyarbakir**	**1.38**	**207**	*i*PN	**Pn**	**08 25 27.7**	**-0.9**
TUTA	**Tutak**	**1.42**	**78**	*i*P	**Pn**	**08 25 26.1**	**-3.0**
TUTA				*i*S	**Sg**	**08 25 44.0**	**-3.9**
AGRB	**Hanur-Agry**	**1.59**	**73**	PN	**Pn**	**08 25 30.8**	**-0.8**
AGRB				SN	**Sn**	**08 25 53.1**	**+0.4**
ELZG	**Elazig**	**1.71**	**249**	*i*P	**Pn**	**08 25 33.1**	**-0.1**
ELZG				*i*S	**Sg**	**08 25 59.8**	**+2.4**
GUMT	**Gumushane**	**1.78**	**319**	PN	**Pn**	**08 25 34.5**	**+0.3**
MARD	**Mardin**	**1.82**	**186**	*i*P	**Pn**	**08 25 34.1**	**-0.6**
MARD				*i*S	**Sn**	**08 25 57.0**	**-1.3**
VANB	**Van**	**1.92**	**105**	PN	**Pn**	**08 25 35.2**	**-0.9**
TVAN	**Van**	**1.96**	**107**	*i*P	**Pn**	**08 25 35.6**	**-0.9**
TVAN				*i*S	**Sg**	**08 26 05.4**	**+0.2**
SIRT	**Sirnak**	**1.97**	**145**	*e*PN	**Pn**	**08 25 36.9**	**+0.2**
VANT	**Van**	**1.97**	**109**	*e*PN	**Pn**	**08 25 35.6**	**-1.2**
PZAR	**Pazar-Rize**	**2.05**	**357**	*e*PN	**Pn**	**08 25 37.3**	**-0.6**
KTUT	**Trabzon**	**2.09**	**333**	*e*PN	**Pn**	**08 25 38.6**	**+0.1**
DYDN	**Diyadin**	**2.11**	**78**	*i*P	**Pn**	**08 25 37.0**	**-1.7**
DYDN				*i*S	**Sn**	**08 26 07.3**	**+1.8**
ARTV	**Artvin**	**2.17**	**18**	*i*P	**Pn**	**08 25 39.5**	**0.0**
ARTV				*i*S	**Sg**	**08 26 10.5**	**-1.6**
MYA	**Malataya**	**2.18**	**249**	*e*PN	**Pn**	**08 25 39.8**	**+0.1**
MALT	**Malatya**	**2.19**	**249**	*e*PN	**Pn**	**08 25 40.0**	**+0.3**
DIGO	**Kars**	**2.22**	**54**	*i*P	**Pn**	**08 25 39.8**	**-0.4**
DIGO				*i*S	**Sg**	**08 26 15.4**	**+1.6**
CLDR	**Caldiran**	**2.25**	**89**	*e*PN	**Pn**	**08 25 40.7**	**+0.1**
BCA	**Borcka**	**2.36**	**11**	*e*PN	**Pn**	**08 25 41.6**	**-0.5**
URFA	**Urfa**	**2.42**	**227**	*e*PN	**Pn**	**08 25 42.8**	**-0.1**
HAKT	**HAKKARI**	**2.63**	**126**	*i*P	**Pn**	**08 25 47.4**	**+1.5**
HAKT				*i*S	**Sn**	**08 26 19.8**	**+1.5**
HAKT	**HAKKARI**	**2.63**	**126**	*i*P	**Pn**	**08 25 47.3**	**+1.5**
HAKT				*i*S	**Sn**	**08 26 19.8**	**+1.5**
CUKT	**Cukurca**	**2.77**	**132**	*e*PN	**Pn**	**08 25 47.7**	**-0.1**
MSL	**Mosul**	**3.27**	**149**	*ex*	x	08 26 02.5	
MSL				*ex*	x	08 26 40.5	
MSL				*ex*	**Sg**	**08 26 48.0**	**+0.5**
GOR	**Gori**	**3.70**	**38**	P	**Pg**	**08 26 12.7**	**-0.5**
GOR				S	**Sg**	**08 27 01.6**	**+0.5**
TBLG	**Delisi**	**3.85**	**46**	P	**Pn**	**08 26 06.9**	**+4.3**
TBLG				S	**Sb**	**08 26 58.3**	**+0.3**
MTA	**Mtatsminda**	**3.85**	**47**	P	**Pb**	**08 26 11.3**	**+0.3**
MTA				S	**Sb**	**08 27 00.8**	**+2.7**
ONI	**Oni**	**3.91**	**27**	P	**Pb**	**08 26 12.1**	**+0.1**
ONI				S	**Sb**	**08 27 05.5**	**+5.8**

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*ISCJB **01** 08:29:06.7±0.8, 5146N±004×1615E±004, h0km, Error ellipse: s-maj=6.2km s-min=2.8km az=16.7*
*CSEM **01** 08:29:09.3±0.2, 5143N×1614E, h2km, ML3.2/5*
*WAR **01** 08:29:09.5, 5145N×1618E, ML2.5, Mining Induced*
*PRU **01** 08:29:09.7, 5139N×1616E, h0km*
*IPEC **01** 08:29:10.6±0.4, 5135N×1650E, h0km, ML1.8/4, Error ellipse: s-maj=2.9km s-min=2.1km az=100.0*
*NEIC **01** 08:29:11.5±1.2, 5132N×1586E, h5km, ML2.5(SZGRF), Error ellipse: s-maj=13.9km s-min=8.1km az=7.0*

ISC 01 08:29:08.2±0.8, 5146N±004×1615E±004, h0km, n22, σ1§06/41, 1D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.62**	**172**	*e*Pg	**Pg**	**08 29 20.6**	**+0.6**
KSP				*e*Sg	**Sg**	**08 29 28.7**	**+0.7**
KSP	**Ksiaz**	**0.62**	**172**	⇓*i*Pg	**Pg**	**08 29 20.7**	**+0.7**
KSP				*e*Sg	**Sg**	**08 29 28.6**	**+0.6**
KSP	**Ksiaz**	**0.62**	**172**	*e*Pg	**Pg**	**08 29 20.6**	**+0.6**
KSP				*e*Sg	**Sg**	**08 29 28.6**	**+0.6**
UPC	**Upice**	**0.95**	**185**	*e*PG	**Pg**	**08 29 26.8**	**+0.4**
DPC	**Dobruska-Polom**	**1.11**	**174**	*e*PG	**Pg**	**08 29 29.5**	**+0.1**
DPC				*e*SG	**Sg**	**08 29 43.6**	**-0.2**
	25nm,0.3s						
PVCC	**Panska Ves**	**1.36**	**228**	*e*PG	**Pg**	**08 29 34.6**	**+0.3**
PVCC				*e*SG	**Sg**	**08 29 52.8**	**+0.8**
	80nm,0.2s						
BRG	**Berggiesshubel**	**1.51**	**248**	PN	**Pn**	**08 29 35.9**	**-0.5**
BRG				PG	**Pg**	**08 29 37.4**	**+0.3**
BRG				SG	**Sg**	**08 29 57.7**	**+1.1**
	34nm,0.4s						
PRU	**Pruhonice**	**1.79**	**216**	*e*PG	**Pg**	**08 29 41.8**	**-0.7**
PRU				*e*SG	**Sg**	**08 30 05.4**	**-0.2**
	24nm,0.3s						
MORC	**Moravsky Berou**	**1.90**	**152**	*e*Pn	**Pn**	**08 29 41.4**	**-0.4**
MORC				*e*Sg	**Sn**	**08 30 04.9**	**-1.5**
CLL	**Collm**	**1.98**	**267**	*e*Pg	**Pg**	**08 29 45.0**	**-1.1**
CLL				*i* Sg	**Sg**	**08 30 12.2**	**+0.5**
OKC	**Ostrava-Krasne**	**2.06**	**141**	*e*SG	**Sg**	**08 30 12.5**	**-1.7**
	13nm,0.6s						
VRAC	**Vranov**	**2.17**	**172**	*e*Pn	**Pn**	**08 29 46.4**	**+0.9**
VRAC				*e*Sg	**Sn**	**08 30 13.9**	**+0.9**
KRUC	**Moravsky**	**2.40**	**176**	*e*Pg	**Pg**	**08 29 53.2**	**-1.0**
OJC	**Ojcow**	**2.62**	**117**	*e*Pg	**Pg**	**08 29 58.4**	**0.0**
OJC				*e*Sg	**Sg**	**08 30 33.0**	**+0.7**
NKC	**Novy Kostel**	**2.65**	**244**	*e*PN	**Pn**	**08 29 50.0**	**-2.1**
NKC				*e*PG	**Pg**	**08 29 57.3**	**-1.6**
NKC				*e*SG	**Sg**	**08 30 33.7**	**+0.5**
	20nm,0.3s						
JAVC	**Velka Javorina**	**2.78**	**159**	*e*Sg	**Sg**	**08 30 38.0**	**+0.7**
	5.1nm,0.5s						
KHC	**Kasperske Hory**	**2.85**	**216**	*e*PN	**Pn**	**08 29 55.6**	**+0.7**
KHC				*e*PG	**Pg**	**08 30 01.2**	**-1.6**
KHC				*e*SN	**Sn**	**08 30 29.7**	**-0.2**
KHC				*e*SG	**Sg**	**08 30 38.2**	**-1.6**
	7.1nm,0.4s						
MOX	**Moxa**	**2.98**	**256**	*e*PG	**Pg**	**08 30 05.7**	**+0.5**
MOX				*e*SG	**Sg**	**08 30 45.4**	**+1.7**
GEC2	**GERESS Array S**	**3.05**	**212**	*e*Pn	**Pn**	**08 29 58.9**	**+1.3**
GEC2				*e*Sg	**Sg**	**08 30 43.6**	**-2.5**
WET	**Wettzell**	**3.12**	**224**	*e*Pn	**Pn**	**08 29 59.2**	**+0.6**
MODS	**Modra-Piesok**	**3.17**	**166**	*e*SG	**Sg**	**08 30 52.1**	**+2.2**
STHS	**Stebnicka Huta**	**3.84**	**120**	*e*SG	**Sg**	**08 31 15.4**	**+3.9**

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*ISCJB **01** 08:35:34.7±0.5, 3509N±004×2967E±006, h10km, Error ellipse: s-maj=7.8km s-min=5.4km az=150.6*
*CSEM **01** 08:35:35.5±0.3, 3500N×2962E, h10km, ML3.4, Error ellipse: s-maj=9.6km s-min=2.5km az=34.0*
*NEIC **01** 08:35:37.1±2.9, 3557N×2959E, h10km, ML3.2(ATH), Error ellipse: s-maj=248.0km s-min=10.3km az=183.0*
*HLW **01** 08:35:39.9, 3488N×2969E, h12km, Mb3.4*

ISC 01 08:35:36.2±0.4, 3516N±004×2964E±006, h10km, n21, σ0§80/25, 5C-4D, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FETY	**Fethiye**	**1.54**	**343**	*e*PN	**Pn**	**08 36 03.6**	**-0.1**
ELL	**Elmali**	**1.60**	**8**	*e*PN	**Pn**	**08 36 03.5**	**-1.0**
KARP	**Karpathos**	**2.07**	**282**	P	**Pn**	**08 36 10.3**	**-0.6**
DAT	**Datca**	**2.29**	**314**	*e*PN	**Pn**	**08 36 12.0**	**-2.0**
BCK	**Bucak**	**2.42**	**18**	*e*PN	**Pn**	**08 36 15.5**	**-0.3**
MLSB	**Milas**	**2.61**	**325**	*e*PN	**Pn**	**08 36 18.9**	**+0.5**
BODT	**Bodrum**	**2.68**	**316**	*e*PN	**Pn**	**08 36 20.7**	**+1.3**
CSS	**Prodhromos**	**3.03**	**93**	P	**Pn**	**08 36 26.4**	**+2.2**
NPS	**Neapolis**	**3.30**	**273**	P	**Pn**	**08 36 28.4**	**+0.5**
LAST	**Lasithi**	**3.41**	**271**	P	**Pn**	**08 36 29.6**	**+0.2**
IKL	**Isikli**	**3.46**	**71**	*e*P	**Pn**	**08 36 29.9**	**-0.2**
IDI	**Anoyia**	**3.89**	**273**	P	**Pn**	**08 36 37.0**	**+1.0**
HMAT	**Matruh**	**4.58**	**209**	⇑*i*P	**Pn**	**08 36 45.7**	**+0.1**
HMAT				S	**Sn**	**08 37 33.3**	**-5.5**
AMAG	**Maghara**	**5.41**	**145**	⇓*i*P	**Pn**	**08 36 56.2**	**-0.7**
KOT	**Kottamia**	**5.53**	**160**	⇓*e*P	**Pn**	**08 36 58.0**	**-0.6**
KOT				S	**Sn**	**08 37 55.1**	**-7.2**
HSAF	**As Saff**	**5.75**	**163**	⇓*i*P	**Pn**	**08 37 01.2**	**-0.4**
GLL	**Jalalah**	**5.83**	**162**	⇑*e*P	**Pn**	**08 37 02.6**	**-0.1**
HNKL	**Nakhl**	**6.37**	**144**	⇑P	**Pn**	**08 37 10.4**	**+0.3**
HNKL				S	**Sn**	**08 38 16.1**	**-6.8**
SWA1		**6.76**	**211**	⇓P	**Pn**	**08 37 15.4**	**0.0**
SWA1				S	**Sn**	**08 38 26.2**	**-6.2**
HKAT	**Jabal Katrina**	**7.58**	**150**	⇑P	**Pn**	**08 37 27.0**	**+0.3**
HFRF	**Wahat Farafira**	**8.07**	**188**	⇑P	**Pn**	**08 37 33.0**	**-0.3**

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*NIED **01** 08:46:00, 4680N×153.10E, h32km, Mw4.0 Best double couple: M0 1.04000×10^15 NP1:φs232.00000°, δ74.00000°, λ-156.00000°. NP2:φs135.00000°, δ67.00000°, λ-17.00000°.*
*SZGRF **01** 08:46:02.1, 4618N×1547E, h33km, mb4.4, East of Kuril Islands, Russia*
*BJI **01** 08:46:03.9, 4706N×15336E, h23km, mB4.7, mb4.4, Ms4.5, Msz4.2*
*NEIC **01** 08:46:04.4±0.3, 4691N×15309E, h10km, mb4.5/35, Error ellipse: s-maj=8.7km s-min=5.6km az=151.0*
*SKHL **01** 08:46:05.8±0.8, 4684N×15308E, h74km±42km, mb4.7/6*
*ISCJB **01** 08:46:06.9±0.7, 4690N±005×15307E±005, h40km±6km, mb4.4/59, MS3.3/4, Error ellipse: s-maj=8.8km s-min=4.4km az=145.4*
*MOS **01** 08:46:07.6±1.0, 4694N×15304E, h48km, mb4.4/24, Error ellipse: s-maj=10.6km s-min=6.4km az=70.0*
*JMA **01** 08:46:08.8±0.8, 4675N×153.10E, h30km, M4.6*
*IDC **01** 08:46:10.0±0.7, 4696N×15289E, h54km±6km, mb3.9/18, mb1 4.1/19, mb1mx4.0/23, mbtmp3.9/19, MS3.2/5, Ms1 3.2/5, ms1mx2.9/34, Error ellipse: s-maj=15.5km s-min=12.7km az=147.0*

ISC 01 08:46:09.4±0.5, 4693N±004×15305E±005, h45km±5km, h55km±4.5km: pP-P, n176, σ1§17/189, mb4.4/59, MS3.3/4, 9C-3D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.98**	**247**	PN	**Pn**	**08 47 07.0**	**-0.9**
KUR				*e*S	**Sn**	**08 47 53.5**	**+0.2**
KUR				pmax	pmax		
	comp=N,80nm,0.6s						
KUR				pmax	pmax		
	comp=Z,150nm,0.6s						
KUR				smax			
	comp=N,230nm,0.6s						
KUR				smax			
	comp=E,300nm,0.6s						
KUR	**Kuril'sk**	**3.98**	**247**	⇑*i*P	**Pn**	**08 47 07.0**	**-0.9**
KUR				*e*S	**Sn**	**08 47 53.5**	**+0.2**
SKR	**Severo-Kuril'**	**4.27**	**27**	*e*P	**Pn**	**08 47 12.0**	**+0.2**
SKR				AMB	AMB	08 47 13.5	
	comp=E,80nm,0.5s						
SKR				*e*S	**Sn**	**08 47 57.0**	**-3.3**
SKR				A		08 48 23.5	
	comp=E,220nm,0.5s						
SKR				A		08 48 23.5	
	comp=E,80nm,0.5s						
SKR				A		08 48 23.5	
	comp=E,110nm,0.5s						
SKR				AMS	AMS	08 49 38.0	
	comp=E,2μm,12.0s						
YUK	**Yuzh-Kuril'sk**	**5.82**	**243**	*e*PN	**Pn**	**08 47 34.8**	**+1.7**
YUK				*e*S	**Sn**	**08 48 40.9**	**+2.3**
YUK				pmax	pmax		
	comp=Z,200nm,0.4s						
YUK				smax			
	comp=N,200nm,0.5s						
YUK				smax			
	comp=E,300nm,0.5s						
YUK				smax			
	comp=N,2μm,1.0s						
YUK				smax			
	comp=E,2μm,0.8s						
YUK	**Yuzh-Kuril'sk**	**5.82**	**243**	*e*P	**Pn**	**08 47 34.8**	**+1.7**
YUK				AMB	AMB	08 47 36.0	
	comp=E,200nm,0.4s						
YUK				*e*S	**Sn**	**08 48 40.9**	**+2.3**
YUK				A		08 48 55.1	
	comp=E,200nm,0.5s						
YUK				A		08 48 55.1	
	comp=E,300nm,0.5s						
YUK				A		08 49 06.0	
	comp=E,2μm,1.0s						
YUK				A		08 49 06.0	
	comp=E,2μm,0.8s						
NEM2	**Nemuro 2**	**6.28**	**238**	P	**Pn**	**08 47 38.0**	**-1.4**
NEM2				*e*S	**Sn**	**08 48 44.6**	**-5.1**
JRA	**Rausu**	**6.33**	**245**	P	**Pn**	**08 47 41.4**	**+1.3**
JRA				*e*S	**Sn**	**08 48 51.1**	**+0.1**
JNK	**Nakash**	**6.76**	**243**	P	**Pn**	**08 47 46.6**	**+0.6**
JNK				*e*S	**Sn**	**08 49 00.8**	**-0.8**
YSS	**Yuzh-Sakhalins**	**7.05**	**274**	*e*Pn	**Pn**	**08 47 52.4**	**+2.5**
YSS	**Yuzh-Sakhalins**	**7.05**	**274**	⇓*e*PN	**Pn**	**08 47 51.3**	**+1.4**
YSS	**Yuzh-Sakhalins**	**7.05**	**274**	*e*P	**Pn**	**08 47 52.0**	**+2.1**
YSS				AMB	AMB	08 47 53.7	
	comp=E,30nm,0.8s						
YSS				*e*S	**Sn**	**08 49 05.3**	**-3.3**
JTKR	**Abashiri--Toko**	**7.08**	**249**	P	**Pn**	**08 47 51.9**	**+1.6**
PET	**Petropavlovsk**	**7.09**	**29**	*e*PN	**Pn**	**08 47 50.1**	**-0.4**
PET	**Petropavlovsk**	**7.09**	**29**	*e*P	**Pn**	**08 47 50.2**	**-0.3**
JAK	**Akkeshi**	**7.11**	**239**	P	**Pn**	**08 47 49.2**	**-1.6**
JAK				*e*S	**Sn**	**08 49 04.2**	**-6.0**
JMP	**Maruseppu**	**7.41**	**250**	P	**Pn**	**08 47 57.6**	**+2.7**
JAR	**Ashorobuto**	**7.50**	**244**	P	**Pn**	**08 47 56.8**	**+0.7**
JAR				*e*S	**Sn**	**08 49 19.4**	**-0.4**
UGL	**Uglegorsk**	**7.67**	**290**	*e*P	**Pn**	**08 47 56.0**	**-2.5**
UGL				AMB	AMB	08 48 03.0	
	comp=E,60nm,0.8s						
JOB	**Onbets**	**7.68**	**242**	P	**Pn**	**08 47 58.0**	**-0.6**
JOB				*e*S	**Sn**	**08 49 20.4**	**-3.8**
ASAJ	**Asahikawa**	**7.86**	**253**	P	**Pn**	**08 48 03.9**	**+2.8**
ASAJ	**Asahikawa**	**7.86**	**253**	P	**Pn**	**08 48 03.3**	**+2.2**
	comp=E,1.9nm,0.3s,baz=85,slow=12,SNR=20						
ASAJ				LR	LR	08 50 50.4	
	comp=E,149nm,19.3s,baz=115,slow=36						
JKK2	**Kamakawa 2**	**7.87**	**251**	P	**Pn**	**08 48 03.3**	**+2.1**
TYV	**Tymovskoe**	**7.89**	**304**	*e*P	**Pn**	**08 48 02.0**	**+0.5**
TYV				AMB	AMB	08 48 04.0	
	comp=E,11nm,0.8s						
TYV				AMB	AMB	08 48 04.0	
	comp=E,20nm,0.8s						
JWK2	**Keihoku**	**7.91**	**262**	P	**Pn**	**08 48 07.1**	**+5.3**
JCH	**Churui**	**8.13**	**241**	P	**Pn**	**08 48 03.7**	**-1.1**
JCH				*e*S	**Sn**	**08 49 29.6**	**-5.6**
JEM	**Erimo**	**8.61**	**239**	*e*S	**Sn**	**08 49 38.7**	**-8.3**
ERM	**Erimo**	**8.61**	**239**	*e*Pn	**Pn**	**08 48 11.5**	**+0.1**
	comp=E,54nm,0.6s						
ERM	**Erimo**	**8.61**	**239**	⇑*e*PN	**Pn**	**08 48 11.4**	**+0.1**
JBT2	**Biratori 2**	**8.65**	**245**	P	**Pn**	**08 48 12.2**	**+0.3**
JBT2				*e*S	**Sn**	**08 49 45.9**	**-2.1**
JNBK	**Urakawa-nobuka**	**8.69**	**241**	*e*S	**Sn**	**08 49 42.3**	**-6.7**
JEW	**Eniwo**	**9.19**	**248**	P	**Pn**	**08 48 20.2**	**+0.9**
JNB	**Noboribetsu**	**9.64**	**247**	P	**Pn**	**08 48 24.7**	**-0.8**
JNB				*e*S	**Sn**	**08 50 08.7**	**-3.7**
JKB	**Kayabe**	**9.96**	**244**	P	**Pn**	**08 48 28.1**	**-1.8**
JKB				*e*S	**Sn**	**08 50 12.1**	**-8.1**
NKL	**Nikolayevsk**	**10.09**	**313**	*e*P	**Pn**	**08 48 29.3**	**-2.3**
NKL				AMB	AMB	08 48 32.5	
	comp=E,19nm,1.0s						
NKL				AMB	AMB	08 48 32.5	
	comp=E,22nm,1.0s						
NKL				AMB	AMB	08 48 32.5	
	comp=E,26nm,1.0s						
JTM	**Tenmabayashi**	**10.60**	**239**	*e*S	**Sn**	**08 50 27.8**	**-8.1**
JANG	**Nango**	**10.61**	**236**	P	**Pn**	**08 48 34.8**	**-4.0**
JTH	**Tanohata**	**10.71**	**233**	*e*S	**Sn**	**08 50 26.1**	**-13**
OFUJ	**Ofunato**	**11.43**	**231**	*e*S	**Sn**	**08 50 43.1**	**-13**
MA2	**Magadan**	**12.74**	**355**	*e*Pn	**Pn**	**08 49 08.6**	**+0.9**
MA2	**Magadan**	**12.74**	**355**	*e*PN	**Pn**	**08 49 07.8**	**+0.1**
MA2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
KLR	**Kul'dur**	**14.41**	**287**	*e*P	**Pn**	**08 49 35.1**	**+4.5**
MJAR	**Matsushiro Arr**	**15.15**	**232**	P	**Pn**	**08 49 40.2**	**-0.2**
MJAR				LR	LR	08 55 47.9	
MJAR	**Matsushiro Arr**	**15.15**	**232**	P	**Pn**	**08 49 40.2**	**-0.2**
	comp=Z,0.1nm,0.3s,baz=42,slow=8.2,SNR=4.0						
MJAR				LR	LR	08 55 47.9	
	comp=Z,30nm,18.8s,baz=110,slow=38						
MAJO	**Matsushiro**	**15.15**	**232**	*e*Pn	**Pn**	**08 49 39.1**	**-1.2**
	comp=Z,3.5nm,0.4s						
MAJO	**Matsushiro**	**15.15**	**232**	*e*P	**Pn**	**08 49 39.1**	**-1.2**
MAJO				pmax	pmax		
	comp=Z,3.0nm,0.4s						
MAT	**Matsushiro**	**15.15**	**232**	P	**Pn**	**08 49 40.0**	**-0.3**
SEY	**Seymchan**	**16.04**	**359**	⇑*e*P	**Pn**	**08 49 53.9**	**+2.3**
MDJ	**Mudanjiang**	**16.52**	**271**	P	**Pn**	**08 49 59.5**	**+1.8**
MDJ				AP	pP	08 50 04.7	-5.6
MDJ				PP		08 50 14.3	
MDJ				S	**S**	**08 53 09.9**	**-0.1**
MDJ				AMB	AMB		
	comp=Z,8.0nm,0.7s						
MDJ				AMB	AMB		
	comp=Z,107nm,3.8s						
CN2	**Changchun**

INK Inuvik 41.52 33 P **P 08 53 52.8 +0.9**
comp=Z,3.6nm,0.6s,mb4.2,baz=289,slow=7.8,SNR=40
GYA Guiyang 41.71 257 P **P 08 53 56.8 +3.0**
GYA AMB AMB
comp=Z,10.0nm,0.8s,mb4.5
ZALV Zalesovo Beam 42.47 306 P **P 08 53 58.9 -0.7**
comp=Z,1.6nm,0.4s,mb4.0,baz=99,slow=11,SNR=5.2
ZALV PcP PcP 08 55 51.0 -0.8
comp=Z,0.7nm,0.3s,baz=54,slow=2.5,SNR=4.3
ZALV LR LR 09 12 47.0
comp=Z,55nm,19.0s,MS3.5,baz=76,slow=38
ZAL Zalesovo 42.48 306 P **P 08 53 58.9 -0.9**
ZAL 08 55 51.0
NVS Novosibirsk 43.04 307 *eP* **P 08 53 59.9 -4.4**
WMQ Urumqi 44.82 291 *eP* **P 08 54 20.5 +1.8**
WMQ AMB AMB
comp=Z,12nm,0.7s,mb4.8
KMI Kunming 45.23 259 P **P 08 54 23.3 +1.1**
KMI AP pP 08 54 28.4 -6.1
KMI XP sP 08 54 30.8 -9.0
KMI AMB AMB
comp=Z,9.0nm,1.2s,mb4.5
DLBC Dease Lake 45.50 46 *eP* **P 08 54 24.1 +0.2**
MKAR Makanchi Array 46.82 297 P **P 08 54 32.6 -1.8**
MKAR *PP pP 08 54 48.5 +1.7
MKAR 08 56 06.1
MKAR pmax pmax
comp=Z,1.0nm,0.5s
MKAR Makanchi Array 46.82 297 P **P 08 54 32.6 -1.8**
comp=Z,0.5nm,0.5s,mb3.7,baz=59,slow=7.3,SNR=5.3
MKAR pP pP 08 54 48.5 +1.6
comp=Z,0.6nm,0.6s,baz=64,slow=9.8,SNR=5.0
MKAR PcP PcP 08 56 06.1 -0.7
comp=Z,0.2nm,0.3s,baz=93,slow=2.9,SNR=4.3
KURK Kurchatov 47.23 303 *eP* **P 08 54 37.9 +0.4**
comp=Z,1.7nm,0.5s,mb4.2
KURK Kurchatov 47.23 303 *eP* **P 08 54 37.9 +0.3**
KURK pmax pmax
comp=Z,2.0nm,0.5s,mb4.3
POHA Pohakuloa 49.67 105 *eP* **P 08 54 54.9 -1.8**
comp=Z,54nm,1.0s,mb5.5
RES Resolute Bay 50.68 19 *eP* **P 08 55 04.3 +0.6**
YKA Yellowknife Ar 50.81 37 P **P 08 55 05.1 +0.4**
YKA pP pP 08 55 19.6 +2.3
YKA PcP PcP 08 56 20.2 -0.8
YKA Yellowknife Ar 50.81 37 *i* P **P 08 55 04.8 0.0**
YKA pmax pmax
comp=Z,2.0nm,0.8s
YKA Yellowknife Ar 50.81 37 P **P 08 55 05.1 +0.4**
comp=Z,2.3nm,0.8s,mb4.2,baz=295,slow=7.1,SNR=31
YKA pP pP 08 55 19.5 +2.3
comp=Z,0.4nm,0.4s,baz=297,slow=6.9,SNR=4.8
YKA PcP PcP 08 56 20.2 -0.8
comp=Z,0.6nm,0.6s,baz=300,slow=3.8,SNR=8.0
TAPN Taplejung 54.04 273 *eP* **P 08 55 29.1 -0.2**
EKS2 Erkin-Say 54.14 297 *eP* **P 08 55 29.0 -0.7**
comp=Z,2.3nm,0.7s,mb4.2
AML Almayashu 54.49 296 *eP* **P 08 55 34.1 +1.8**
comp=Z,0.8nm,0.6s,mb3.8
ARU Arti 54.85 317 *eP* **P 08 55 36.8 +2.2**
comp=Z,8.1nm,0.3s,mb5.2
ARU Arti 54.85 317 *eP* **P 08 55 36.8 +2.1**
ARU pmax pmax
comp=Z,8.0nm,0.3s,mb5.2
JIRN Jiri 54.89 274 *eP* **P 08 55 35.4 0.0**
comp=Z,8.9nm,0.5s,mb5.1
KKN Kakani 55.42 275 *eP* **P 08 55 39.8 +0.5**
KOLN Koldanda 56.58 276 *eP* **P 08 55 47.4 -0.1**
comp=Z,15nm,0.9s,mb5.0
ARCES ARCESS Array B 57.67 341 P **P 08 55 53.1 -1.5**
ARCES pmax pmax
comp=Z,2.0nm,0.9s
ARCES ARCESS Array B 57.67 341 P **P 08 55 53.1 -1.5**
comp=Z,2.1nm,0.9s,mb4.2,baz=34,slow=6.1,SNR=8.5
WALA Waterton Lakes 58.36 50 *eP* **P 08 55 60.0 +0.3**
comp=Z,2.6nm,0.6s,mb4.4
FFC Flin Flon 60.63 40 *eP* **P 08 56 15.7 +0.4**
comp=Z,39nm,2.4s,mb5.1
FFC Flin Flon 60.63 40 *eP* **P 08 56 15.7 +0.4**
FFC pmax pmax
comp=Z,39nm,2.4s,mb5.1
FCC Fort Churchill 61.14 33 *eP* **P 08 56 19.1 +0.5**
comp=Z,24nm,1.8s,mb5.0
FCC Fort Churchill 61.14 33 *eP* **P 08 56 19.1 +0.5**
FCC pmax pmax
comp=Z,24nm,1.8s,mb5.0
CMB Columbia Colle 61.37 64 *eP* **P 08 56 18.8 -1.7**
comp=Z,0.5nm,0.3s,mb4.1
CMB Columbia Colle 61.37 64 *eP* **P 08 56 18.8 -1.7**
CMB pmax pmax
comp=Z,1.0nm,0.3s,mb4.4
HLID Hailey 61.45 56 *eP* **P 08 56 21.7 +0.7**
comp=Z,1.4nm,0.9s,mb4.1
BOZ Bozeman (W) 61.68 53 *eP* **P 08 56 23.4 +0.9**
comp=Z,1.8nm,0.6s,mb4.4
BOZ Bozeman (W) 61.68 53 *eP* **P 08 56 23.4 +0.9**
BOZ pmax pmax
comp=Z,2.0nm,0.6s,mb4.4
NVAR Mina Array Bea 62.39 62 P **P 08 56 28.4 +1.0**
NVAR Mina Array Bea 62.39 62 P **P 08 56 28.4 +1.0**
comp=Z,1.1nm,0.7s,mb4.1,baz=288,slow=8.8,SNR=12
ELK Elko 62.75 59 *eP* **P 08 56 30.4 +0.6**
comp=Z,4.8nm,0.4s,mb5.0
ELK Elko 62.75 59 *eP* **P 08 56 30.4 +0.6**
ELK pmax pmax
comp=Z,5.0nm,0.4s
SNOW Snow King Moun 63.56 54 *eP* **P 08 56 35.8 +0.7**
FINES FINESS Array B 63.86 335 *i* P **P 08 56 35.2 -1.6**
FINES pmax pmax
comp=Z,4.0nm,0.6s
FINES FINESS Array B 63.86 335 P **P 08 56 35.1 -1.6**
comp=Z,3.7nm,0.6s,mb4.6,baz=36,slow=7.5,SNR=29
ISA Isabella 64.06 65 *eP* **P 08 56 37.2 -1.3**
comp=Z,1.4nm,0.9s,mb4.0
ISA Isabella 64.06 65 *eP* **P 08 56 37.2 -1.3**
ISA pmax pmax
comp=Z,1.0nm,0.9s,mb3.9
HWUT Hardware Ranch 64.31 56 *eP* **P 08 56 40.4 +0.3**
comp=Z,1.3nm,0.4s,mb4.3
DUG Dugway 64.52 58 *eP* **P 08 56 41.7 +0.2**
comp=Z,2.1nm,0.8s,mb4.2
DUG Dugway 64.52 58 *eP* **P 08 56 41.7 +0.3**
DUG pmax pmax
comp=Z,2.0nm,0.8s,mb4.2
TPNV Topopah Spring 64.59 62 *eP* **P 08 56 41.9 -0.1**
comp=Z,1.5nm,0.9s,mb4.0
TPNV Topopah Spring 64.59 62 *eP* **P 08 56 41.9 -0.1**
TPNV pmax pmax
comp=Z,2.0nm,0.9s,mb4.2
BW06 Boulder Array 64.68 54 *eP* **P 08 56 42.8 +0.3**
comp=Z,1.2nm,0.4s,mb4.3
PDAR Pinedale Array 64.68 54 P **P 08 56 42.9 +0.4**
comp=Z,2.0nm,0.8s,mb4.2,baz=278,slow=1.6,SNR=17
OBN Obninsk 65.14 325 *eP* **P 08 56 46.5 +1.3**
comp=Z,8.2nm,0.4s,mb5.1
ULM Lac du Bonnet 66.42 41 P **P 08 56 52.8 -0.8**
comp=Z,1.5nm,0.8s,mb4.0,baz=0.0,slow=7.1,SNR=2.9
SRU San Rafael 66.56 57 *eP* **P 08 56 55.4 +0.7**
NB2 NORSAR Subarra 68.04 341 P **P 08 57 02.2 -1.4**
comp=Z,6.4nm,0.7s,mb4.8,baz=27,slow=6.5
NOA NORSAR Array B 68.04 341 P **P 08 57 02.5 -1.2**
NOA NORSAR Array B 68.04 341 P **P 08 57 02.5 -1.1**
NOA pmax pmax
comp=Z,6.0nm,0.8s
NOA NORSAR Array B 68.04 341 P **P 08 57 02.5 -1.2**
comp=Z,6.4nm,0.8s,mb4.7,baz=26,slow=6.3,SNR=28
SMCO Snowmass 68.54 55 *eP* **P 08 57 07.3 +0.1**
comp=Z,50nm,2.8s,mb5.0
WRA Warramunga Arr 68.67 199 *i* P **P 08 57 07.3 -0.7**
WRA Warramunga Arr 68.67 199 P **P 08 57 06.7 -1.2**
comp=Z,0.3nm,0.6s,mb3.4,baz=17,slow=6.8,SNR=6.9
WRA pP pP 08 57 21.3 +0.3
comp=Z,0.7nm,0.8s,baz=21,slow=6.8,SNR=3.8
ISCO Idaho Springs 68.87 54 *eP* **P 08 57 09.7 +0.5**
comp=Z,2.7nm,1.1s,mb4.1
ISCO Idaho Springs 68.87 54 *eP* **P 08 57 09.7 +0.5**
ISCO pmax pmax
comp=Z,3.0nm,1.1s,mb4.1
SDCO Great Sand Dun 70.36 56 *eP* **P 08 57 18.6 +0.2**
comp=Z,0.7nm,0.7s,mb3.7
KIV Kislovodsk 70.64 314 *eP* **P 08 57 21.2 +1.3**
comp=Z,6.2nm,0.4s,mb4.9
KIV Kislovodsk 70.64 314 *eP* **P 08 57 20.7 +0.7**
KIV pmax pmax
comp=Z,8.0nm,1.1s,mb4.6
KIV MLR MLR
comp=Z,39nm,18.0s,MS3.7
AKASG Malin Array Be 71.37 326 P **P 08 57 22.5 -1.8**
AKASG Malin Array Be 71.37 326 *i* P **P 08 57 22.5 -1.8**
AKASG pmax pmax
comp=Z,6.0nm,0.4s
AKASG Malin Array Be 71.37 326 P **P 08 57 22.5 -1.8**
comp=Z,5.7nm,0.4s,mb4.9,baz=34,slow=6.0,SNR=36
KIEV Kiev 71.38 326 *eP* **P 08 57 22.5 -1.9**
comp=Z,2.4nm,0.4s,mb4.5
KIEV Kiev 71.38 326 *eP* **P 08 57 22.5 -1.9**
KIEV pmax pmax
comp=Z,2.0nm,0.4s,mb4.4
ANMO Albuquerque 71.78 58 *eP* **P 08 57 27.2 +0.2**
comp=Z,1.0nm,0.8s,mb3.8
ANMO Albuquerque 71.78 58 *eP* **P 08 57 27.2 +0.2**
ANMO pmax pmax
comp=Z,1.0nm,0.8s
ASAR Alice Springs 72.36 198 P **P 08 57 30.4 0.0**
ASAR *PP pP 08 57 44.9 +1.4
ASAR pmax pmax
comp=Z,1.0nm,0.6s
ASAR Alice Springs 72.36 198 P **P 08 57 30.4 0.0**
comp=Z,0.9nm,0.6s,mb3.9,baz=13,slow=5.7,SNR=19
ASAR pP pP 08 57 44.9 +1.4
comp=Z,0.9nm,0.5s,baz=12,slow=5.7,SNR=7.2
PALK Pallekele 72.67 262 *eP* **P 08 57 32.0 -0.6**
comp=Z,3.4nm,0.7s,mb4.4
SCHQ Schefferville 73.16 23 P **P 08 57 34.1 -0.8**
comp=Z,0.8nm,0.3s,mb4.2,baz=49,slow=16,SNR=5.9
STHS Stebnicka Huta 75.34 330 *i* P **P 08 57 47.5 -0.2**
comp=Z,3.6nm,0.8s,mb4.3
STHS Stebnicka Huta 75.34 330 *i* P **P 08 57 47.5 -0.2**
STHS pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
KOLS Kolonicke sedl 75.39 329 *eP* **P 08 57 47.3 -0.7**
CLL Collm 76.28 335⇑ *i P* **P 08 57 51.4 -1.6**
comp=Z,6.0nm,0.7s,mb4.6
CLL Collm 76.28 335⇑ *i P* **P 08 57 51.4 -1.6**
CLL pmax pmax
comp=Z,6.0nm,0.7s,mb4.6
CLL Collm 76.28 335⇑ *i P* **P 08 57 51.4 -1.6**
comp=Z,6.0nm,0.7s,mb4.6
WMOK Wichita Mounta 76.29 54 *eP* **P 08 57 52.8 -0.6**
comp=Z,1.2nm,0.6s,mb4.0
WMOK Wichita Mounta 76.29 54 *eP* **P 08 57 52.8 -0.6**
WMOK pmax pmax
comp=Z,1.0nm,0.6s,mb3.9
KECS Kecovo 76.39 330 *eP* **P 08 57 52.9 -0.8**
KECS *ePP* PP 09 00 40.2 -4.8
VYHS Vyhne 76.95 331 *eP* **P 08 57 55.8 -1.0**
TXAR Lajitas Array 77.44 61 P **P 08 58 00.2 +0.2**
TXAR pmax pmax
comp=Z,2.0nm,0.5s
TXAR Lajitas Array 77.44 61 P **P 08 58 00.2 +0.2**
comp=Z,1.8nm,0.5s,mb4.2,baz=302,slow=5.1
KHC Kasperske Hory 78.06 334 *eP* **P 08 58 01.5 -1.5**
GRA1 Grafenberg Arr 78.24 336 *eP* **P 08 58 03.3 -0.7**
comp=Z,3.0nm,0.8s,mb4.3
GRF Grafenberg Arr 78.24 336 *eP* **P 08 58 03.3 -0.7**
GRF pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
GRF Grafenberg Arr 78.24 336 *eP* **P 08 58 03.3 -0.7**
GRF pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
GRF Grafenberg Arr 78.24 336 *eP* **P 08 58 03.3 -0.7**
comp=Z,3.0nm,0.8s,mb4.3
GERES GERESS Array B 78.27 334 P **P 08 58 03.0 -1.2**
GERES pmax pmax
comp=Z,1.0nm,0.5s
GERES GERESS Array B 78.27 334 P **P 08 58 03.0 -1.2**
comp=Z,0.9nm,0.5s,mb4.0,baz=43,slow=5.8,SNR=11
LHS Liberty Hill 85.62 42 P **P 08 58 43.2 +0.2**
NWAO Narrogin (SRO) 85.79 210 *eP* **P 08 58 44.1 +0.5**
NNA Nana 125.61 67 *e*PKPdf PKPdf 09 05 06.6 +0.6
QSPA South Pole Qui 136.67 180 *e*PKPdf PKPdf 09 05 25.3 +0.4
CFAA Coronel Fontan 145.00 79 PKPbc PKPbc 09 05 39.9 -1.0
comp=Z,0.2nm,0.8s,baz=281,slow=5.2,SNR=4.3
PLCA Paso Flores 148.27 95 PKPbc PKPbc 09 05 49.9 -0.1
comp=Z,1.6nm,1.0s,baz=315,slow=2.9,SNR=3.3

IDC 01 08:50:51.8±1.2, 3472S×11233W, h0km, mb4.2/5, mb1 4.5/5, mb1mx4.2/14, mbtmp4.2/5, MS4.0/13, Ms1 4.0/13, ms1mx3.8/21, Error ellipse: s-maj=44.3km s-min=34.8km az=160.0, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RKT	**Rikitea**	**22.89**	**294**	*e*LR	LR	09 01 27.4	
	797nm,27.5s,baz=118						
PLCA	**Paso Flores**	**33.35**	**113**	LR	LR	09 08 20.7	
	comp=Z,289nm,21.0s,baz=219,slow=32						
TBI	**Tubuai**	**34.21**	**279**	*e*LR	LR	09 06 42.5	
	880nm,26.0s,baz=115						
TAOE	**Nuku Hiva Isla**	**36.23**	**309**	*e*LR	LR	09 07 43.3	
	1μm,25.3s						
CFAA	**Coronel Fontan**	**36.82**	**98**	LR	LR	09 09 27.3	
	comp=Z,65nm,19.6s,baz=238,slow=30						
PPT	**Papeete**	**37.29**	**288**	*e*LR	LR	09 08 01.1	
	746nm,25.0s,baz=118						
LPAZ	**La Paz**	**43.52**	**76**	P	P	08 58 58.6	+1.3
	4.0nm,0.9s,baz=241,slow=8.2,SNR=7.7						
LPAZ				LR	LR	09 12 52.1	
	comp=Z,179nm,18.1s,baz=89,slow=30						
ROSC	**El Rosal**	**53.19**	**50**	LR	LR	09 19 24.9	
	comp=Z,147nm,18.1s,baz=237,slow=32						
URZ	**Urewera**	**55.57**	**244**	LR	LR	09 18 36.6	
	comp=Z,262nm,19.1s,baz=177,slow=30						
RPZ	**Rata Peaks**	**58.08**	**236**	LR	LR	09 21 19.6	
	comp=Z,133nm,18.4s,baz=20,slow=32						
LPIG	**La Paz**	**58.53**	**2**	LR	LR	09 20 21.9	
	comp=Z,73nm,21.7s,baz=45,slow=30						
DZM	**Mont Dzumac**	**70.83**	**256**	LR	LR	09 24 44.1	
	comp=Z,120nm,18.7s,baz=199,slow=29						
NVAR	**Mina Array Bea**	**72.99**	**355**	P	P	09 02 24.6	+1.6
	2.1nm,0.9s,baz=168,slow=8.2,SNR=13						
PDAR	**Pinedale Array**	**77.16**	**2**	P	P	09 02 46.8	-0.1
	3.5nm,1.0s,baz=166,slow=4.2,SNR=19						
PDAR				LR	LR	09 32 33.2	
	comp=Z,42nm,18.6s,baz=276,slow=32						
STKA	**Stephens Creek**	**84.03**	**235**	P	P	09 03 25.1	+0.6
	1.6nm,0.8s,baz=95,slow=11,SNR=4.4						
STKA				LR	LR	09 36 03.2	
	comp=Z,118nm,18.9s,baz=206,slow=32						
ULM	**Lac du Bonnet**	**85.85**	**11**	LR	LR	09 38 07.9	
	comp=Z,64nm,19.0s,baz=38,slow=33						
CTA	**Charters Tower**	**87.69**	**247**	LR	LR	09 38 28.8	
	comp=Z,98nm,18.4s,baz=65,slow=33						
WRA	**Warramunga Arr**	**96.58**	**240**	LR	LR	09 38 59.6	
	comp=Z,105nm,21.1s,baz=145,slow=30						
YKA	**Yellowknife Ar**	**96.89**	**359**	P	P	09 04 23.3	-0.8
	0.1nm,0.7s,baz=185,slow=6.1,SNR=4.3						
AKASG	**Malin Array Be**	**147.98**	**48**	PKPbc	PKPbc	09 10 36.4	-2.2
	0.1nm,0.3s,baz=277,slow=3.3,SNR=6.2						
SONM	**Songino Array**	**148.43**	**306**	PKPbc	PKPbc	09 10 39.4	-0.5
	3.2nm,1.0s,baz=98,slow=2.9,SNR=14						
ZALV	**Zalesovo Beam**	**157.31**	**333**	PKPab	PKPab	09 11 19.6	-0.6
	0.5nm,0.4s,baz=64,slow=3.4,SNR=4.8						

*IDC **01** 08:57:40.0±10.0, 2438S×17902W, h506km±56km, mb3.3/4, mb1 3.5/6, mb1mx3.2/15, mbtmp3.4/6, Error ellipse: s-maj=166.6km s-min=39.8km az=66.0*

ISC 01 08:57:41.9±5.2, 245S±02×1792W±06, h512km±33km, n9, σ0°39/10, mb3.9/4, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**13.38**	**277**	P	**P**	**09 00 34.9**	**-0.1**
	0.5nm,0.3s,baz=90,slow=18,SNR=4.9						
URZ	**Urewera**	**14.08**	**192**	P	**P**	**09 00 42.2**	**+0.1**
	1.5nm,0.3s,baz=80,slow=5.8,SNR=9.0						
URZ				S	**S**	**09 03 10.5**	**-0.1**
	0.2nm,0.3s,baz=184,slow=18,SNR=5.6						
CTA	**Charters Tower**	**32.19**	**271**	*e*P	**P**	**09 03 27.7**	**+0.3**
	3.9nm,0.3s,mb4.4						
CTA	**Charters Tower**	**32.19**	**271**	P	**P**	**09 03 27.9**	**+0.5**
	5.2nm,0.3s,mb4.5,baz=99,slow=11,SNR=20						
STKA	**Stephens Creek**	**35.16**	**249**	*e*P	**P**	**09 03 53.0**	**+0.6**
	0.8nm,0.4s,mb3.6						
STKA	**Stephens Creek**	**35.16**	**249**	P	**P**	**09 03 53.0**	**+0.6**
	1.0nm,0.4s,mb3.7,baz=81,slow=11,SNR=8.4						
ASAR	**Alice Springs**	**42.64**	**261**	P	**P**	**09 04 53.1**	**+0.1**
	0.9nm,0.5s,mb3.6,baz=90,slow=7.6,SNR=29						
WB2	**Warramunga Arr**	**43.06**	**267**	*e*P	**P**	**09 04 55.6**	**-0.8**
WRA	**Warramunga Arr**	**43.07**	**267**	P	**P**	**09 04 56.3**	**-0.2**
	1.7nm,0.3s,mb4.0,baz=104,slow=8.2,SNR=115						

IDC 01 09:00:35.7±69.0, 1997S×17988W, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.5/13, mbtmp3.6/3, Error ellipse: s-maj=1236.0km s-min=161.1km az=81.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**36.44**	**243**	P	P	09 07 42.6	+0.2
	0.6nm,0.4s,baz=91,slow=13,SNR=4.9						
ASAR	**Alice Springs**	**42.93**	**256**	P	P	09 08 36.1	-0.4
	0.4nm,0.5s,baz=95,slow=7.6,SNR=9.1						
WRA	**Warramunga Arr**	**42.93**	**262**	P	P	09 08 36.7	+0.1
	0.2nm,0.3s,baz=97,slow=7.7,SNR=6.8						

IDC 01 09:30:20.2±4.2, 2023S×16789E, h0km, mb3.4/4, mb1 3.5/5, mb1mx3.4/13, mbtmp3.4/5, ML2.7/1, Error ellipse: s-maj=102.6km s-min=29.4km az=113.0, Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**2.27**	**216**	Pn	Pn	09 30 57.4	-1.7
	1.8nm,0.3s,baz=73,slow=24,SNR=44						
DZM				Sn	Sn	09 31 29.6	+1.8
	6.2nm,0.3s,baz=265,slow=23,SNR=8.5						
STKA	**Stephens Creek**	**26.24**	**238**	P	P	09 35 57.3	+0.2
	0.3nm,0.4s,baz=66,slow=12,SNR=3.6						
WRA	**Warramunga Arr**	**31.48**	**265**	P	P	09 36 44.9	+1.0
	0.5nm,0.9s,baz=89,slow=8.5,SNR=5.5						
ASAR	**Alice Springs**	**31.66**	**258**	P	P	09 36 45.0	-0.4
	0.4nm,0.8s,baz=90,slow=9.4,SNR=5.0						
SONM	**Songino Array**	**87.25**	**324**	P	P	09 43 08.8	+0.3
	0.2nm,0.6s,baz=116,slow=3.4,SNR=2.3						

IDC 01 09:32:23.4±1.4, 771N×3625W, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.5/18, mbtmp3.7/3, MS3.4/1, Ms1 3.5/1, ms1mx2.7/21, Error ellipse: s-maj=52.7km s-min=31.7km az=155.0, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TORD	**Torodi Ar. Bea**	**37.68**	**79**	P	P	09 39 40.8	-0.1
	1.5nm,1.0s,baz=251,slow=9.0,SNR=3.9						
LPAZ	**La Paz**	**39.55**	**233**	P	P	09 39 57.1	+0.6
	1.7nm,0.7s,baz=67,slow=7.7,SNR=6.0						
ESDC	**Sonseca Array**	**43.00**	**37**	LR	LR	09 55 17.8	
	comp=Z,42nm,18.7s,baz=130,slow=32						
YKA	**Yellowknife Ar**	**77.83**	**332**	P	P	09 44 22.6	+0.1
	0.1nm,0.5s,baz=94,slow=5.6,SNR=4.0						

IDC 01 09:47:36.5±45.0, 1530S×17090W, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.6/16, mbtmp3.7/3, Error ellipse: s-maj=888.8km s-min=199.7km az=79.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**46.18**	**240**	P	P	09 56 04.1	+0.8
	0.3nm,0.4s,baz=63,slow=11,SNR=3.7						
WRA	**Warramunga Arr**	**52.22**	**256**	P	P	09 56 49.0	-0.7
	0.3nm,0.5s,baz=98,slow=6.8,SNR=8.3						
ASAR	**Alice Springs**	**52.44**	**252**	P	P	09 56 51.4	0.0
	1.8nm,0.5s,baz=88,slow=8.2,SNR=49						

*NEIC **01** 10:01:40.2, 3822N×2020E, h15km, MD3.6(ATH), ML3.5(THE), After ATH.*
*ATH **01** 10:01:40.3, 3822N×2020E, h15km±2km, MD3.6/6*
*CSEM **01** 10:01:41.5±0.3, 3829N×2023E, h2km, MD3.6, Error ellipse: s-maj=6.5km s-min=2.2km az=56.0*
*ISCJB **01** 10:01:42.8±0.9, 3837N±003×2042E±007, h10km, Error ellipse: s-maj=8.4km s-min=3.8km az=154.7*
*SKO **01** 10:01:42.9, 3848N×1978E, h18km*
*THE **01** 10:01:43.4, 3839N×2049E, h3km, ML3.5*

ISC 01 10:01:43.2±0.9, 3836N±004×2040E±007, h10km, n22, σ1°22/31, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.23**	**140**	*e*PB	**Pg**	**10 01 47.4**	**-0.5**
VLS				*e*SB	**Sg**	**10 01 51.8**	**+0.7**
KFL	**Anninata**	**0.39**	**129**	*e*Pg	**Pg**	**10 01 50.0**	**-0.9**
LKD	**Levkas**	**0.40**	**29**	*e*Pg	**Pg**	**10 01 49.6**	**-1.5**
LKD				*e*Sg	**Sg**	**10 01 55.4**	**-1.1**
LKD	**Levkas**	**0.40**	**29**	*e*Pg	**Pg**	**10 01 49.6**	**-1.5**
LKD				*e*Sg	**Sg**	**10 01 55.3**	**-1.1**
RLS	**Riolos of Patr**	**0.89**	**109**	*e*PN	**Pg**	**10 01 59.3**	**-1.0**
RLS				*e*SN	**Sg**	**10 02 13.6**	**+1.7**
SELA	**Sela**	**1.17**	**93**	*e*Pg	**Pg**	**10 02 03.7**	**-2.1**
SELA				*e*Sg	**Sg**	**10 02 19.9**	**-1.1**
IGT	**Igoumenitsa**	**1.18**	**357**	*e*Pg	**Pg**	**10 02 03.4**	**-2.5**
IGT				*e*Sg	**Sg**	**10 02 21.5**	**+0.4**
IGT	**Igoumenitsa**	**1.18**	**357**	*e*Pg	**Pg**	**10 02 03.3**	**-2.5**
IGT				*e*Sg	**Sg**	**10 02 21.5**	**+0.4**
EVR	**Evrytania**	**1.23**	**63**	*e*PN	**Pn**	**10 02 08.0**	**+1.5**
JAN	**Janina**	**1.35**	**15**	*e*PN	**Pn**	**10 02 08.8**	**+0.8**
KEK	**Kerkira**	**1.44**	**341**	*e*PN	**Pn**	**10 02 08.8**	**-0.5**
MEV	**Metsovon**	**1.57**	**24**	*e*Pg	**Pg**	**10 02 12.6**	**-0.6**
AGG	**Agios Georgios**	**1.65**	**66**	*e*Pg	**Pn**	**10 02 12.0**	**-0.1**
THL	**Klokotos Trika**	**1.74**	**46**	*e*PN	**Pn**	**10 02 15.0**	**+1.5**
LIT	**Litokhoron**	**2.38**	**42**	*e*Sn	**Sn**	**10 02 53.0**	**+1.6**
FNA	**Florina**	**2.54**	**17**	*e*Pn	**Pn**	**10 02 25.1**	**+0.7**
FNA				*e*Sn	**Sn**	**10 02 55.5**	**+0.1**
FNA	**Florina**	**2.54**	**17**	*e*Pn	**Pn**	**10 02 25.1**	**+0.7**
FNA				*e*Sn	**Sn**	**10 02 55.5**	**+0.1**
BIA	**Bitola**	**2.75**	**15**	*e*Pn	**Pn**	**10 02 30.4**	**+3.0**
BIA	**Bitola**	**2.75**	**15**	*e*Pn	**Pn**	**10 02 30.3**	**+2.9**
OHR	**Ohrid**	**2.77**	**6**	*e*Pn	**Pn**	**10 02 27.1**	**-0.5**
KRUS	**Krusevo**	**3.08**	**12**	*e*Pn	**Pn**	**10 02 31.4**	**-0.4**
VAY	**Valandovo**	**3.40**	**29**	*e*Pn	**Pn**	**10 02 38.2**	**+1.9**

IDC 01 10:05:32.5±9.4, 1700S×17169W, h0km, mb4.1/4, mb1 4.3/4, mb1mx3.8/16, mbtmp4.1/4, Error ellipse: s-maj=222.0km s-min=44.6km az=35.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**44.70**	**242**	P	P	10 13 48.1	+0.6
	1.3nm,0.4s,baz=94,slow=12,SNR=13						
WRA	**Warramunga Arr**	**51.10**	**258**	P	P	10 14 37.0	-0.3
	1.4nm,0.4s,baz=98,slow=7.2,SNR=34						
ASAR	**Alice Springs**	**51.20**	**253**	P	P	10 14 37.7	-0.4
	2.2nm,0.5s,baz=89,slow=8.0,SNR=40						
VNDA	**Vanda**	**61.97**	**186**	P	P	10 15 53.8	0.0
	0.5nm,0.7s,baz=38,slow=6.7,SNR=3.6						

*IDC **01** 10:07:17.2±0.9, 123N×12266E, h0km, mb3.9/8, mb1 4.1/9, mb1mx3.9/19, mbtmp3.9/9, ML3.7/1, MS3.5/7, Ms1 3.5/7, ms1mx3.3/27, Error ellipse: s-maj=48.8km s-min=16.0km az=62.0*
*ISCJB **01** 10:07:20.0±0.7, 12N±01×1226E±02, h33km, mb3.9/8, MS3.5/6, Error ellipse: s-maj=31.3km s-min=9.7km az=146.4*
*NEIC **01** 10:07:21.4±0.6, 121N×12265E, h30km, mb4.1/2, Error ellipse: s-maj=26.3km s-min=8.2km az=56.0*

ISC 01 10:07:22.2±0.7, 12N±01×1226E±02, h35km, n23, σ0°68/17, mb3.9/8, MS3.5/6, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKM	**Kota Kinabalu**	**8.01**	**308**	*e*Pn	**Pn**	**10 09 15.3**	**-0.9**
FITZ	**Fitzroy Crossi**	**19.36**	**171**	*e*P	**Pn**	**10 11 45.9**	**-0.3**
	4.4nm,1.0s						
FITZ	**Fitzroy Crossi**	**19.36**	**171**	P	**Pn**	**10 11 45.7**	**-0.5**
	0.2nm,0.3s,baz=342,slow=7.0,SNR=3.9						
FITZ				LR	LR	10 20 23.3	
	comp=Z,71nm,20.1s,baz=82,slow=40						
PSI	**Prapat**	**23.71**	**274**	P	**P**	**10 12 31.8**	**+0.5**
	3.0nm,0.7s,mb3.9,baz=65,slow=6.7,SNR=

ASAR	Alice Springs	27.01	157	P	P	10 13 01.2	+0.2
	1.4nm,0.9s,mb3.5,baz=351,slow=18,SNR=13						
JNU	Nakatsue	32.74	13	LR	LR	10 25 49.3	
	comp=Z,48nm,19.9s,MS3.2,baz=63,slow=34						
JHJ	Hachijo jima 2	35.67	25	LR	LR	10 26 17.7	
	comp=Z,79nm,20.9s,MS3.5,baz=220,slow=32						
KSRS	Korea Array	36.46	7	LR	LR	10 31 57.7	
	comp=Z,67nm,18.9s,MS3.4,baz=26,slow=41						
STKA	Stephens Creek	37.46	153	eP	P	10 14 33.1	+0.7
	4.7nm,0.9s,mb4.3						
STKA	Stephens Creek	37.46	153	eP	P	10 14 33.3	+0.9
	6.1nm,0.8s,mb4.5						
STKA	Stephens Creek	37.46	153	P	P	10 14 33.8	+1.4
	5.3nm,0.8s,mb4.4,baz=329,slow=8.8,SNR=13						
SONM	Songino Array	48.58	345	P	P	10 16 01.6	-0.5
	1.1nm,0.8s,mb3.9,baz=150,slow=9.5,SNR=8.7						
SONM				LR	LR	10 38 28.7	
	comp=Z,96nm,18.6s,MS3.8,baz=233,slow=39						
MKAR	Makanchi Array	57.43	328	P	P	10 17 08.3	+0.9
MKAR	Makanchi Array	57.43	328	P	P	10 17 08.3	+0.9
	1.1nm,1.1s,mb3.8,baz=120,slow=7.2,SNR=4.9						
AKTK	Aktyubinsk	73.15	323	P	P	10 18 49.2	0.0
AKTO	Aktyubinsk	73.15	323	P	P	10 18 49.2	0.0
	0.8nm,0.8s,mb3.7,baz=90,slow=13,SNR=3.4						
VNDA	Vanda	81.43	172	P	P	10 19 35.7	+0.6
VNDA	Vanda	81.43	172	P	P	10 19 35.7	+0.6
	2.9nm,0.8s,mb4.3,baz=314,slow=5.9,SNR=18						
CFAA	Coronel Fontan	148.03	162	PKPbc	PKPbc	10 27 04.7	+0.1
CFAA	Coronel Fontan	148.03	162	PKPbc	PKPbc	10 27 04.7	+0.1
	0.2nm,0.5s,baz=205,slow=5.8,SNR=5.0						

*ISCJB **01** 10:10:51.6±1.2, 472N±0.1×1528E±02, h69km±11km, mb3.8/9, Error ellipse: s-maj=24.2km s-min=6.5km az=136.1*
*MOS **01** 10:10:51.2±2.3, 4723N×15265E, h67km, mb4.2/5, Error ellipse: s-maj=18.6km s-min=9.4km az=62.4*
*IDC **01** 10:10:54.2±3.7, 4694N×15272E, h88km±36km, mb3.6/9, mb1 3.8/11, mb1mx3.5/24, mbtmp3.6/11, Error ellipse: s-maj=27.5km s-min=19.6km az=146.0*

ISC 01 10:10:53.5±1.1, 472N±01×1528E±02, h68km±10km, n27, σ1°03/30, mb3.8/9, 3C-2D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	Kuril'sk	3.96	242	ePN	Pn	10 11 44.5	-7.3
KUR				eS	Sn	10 12 31.5	-5.4
KUR				pmax	pmax		
	comp=Z,80nm,0.5s						
KUR				smax			
	comp=N,90nm,0.7s						
KUR				smax			
	comp=E,220nm,0.7s						
SKR	Severo-Kuril's	4.11	31	ePN	Pn	10 11 53.9	+0.1
SKR				eS	Sn	10 12 41.0	+0.4
SKR				pmax	pmax		
	comp=N,80nm,0.5s						
SKR				pmax	pmax		
	comp=E,60nm,0.5s						
SKR				pmax	pmax		
	comp=Z,140nm,0.5s						
SKR				smax			
	comp=N,100nm,0.6s						
SKR				smax			
	comp=E,170nm,0.6s						
YUK	Yuzh-Kuril'sk	5.82	240	PN	Pn	10 12 19.0	+1.9
YUK				eS	Sn	10 13 23.6	+1.2
YUK				smax			
	comp=E,1μm,0.5s						
YUK				smax			
	comp=N,300nm,0.6s						
YUK				smax			
	comp=E,200nm,0.6s						
YSS	Yuzh-Sakhalins	6.88	272⇑	ePN	Pn	10 12 31.6	-0.1
PET	Petropavlovsk	6.94	31⇑	ePN	Pn	10 12 31.1	-1.2
ASAJ	Asahikawa	7.80	251	PN	Pn	10 12 42.5	-1.7
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ	Asahikawa	7.80	251	P	Pn	10 12 42.5	-1.8
	comp=Z,0.9nm,0.3s,baz=104,slow=13,SNR=11						
ERM	Erimo	8.62	237⇑	ePN	Pn	10 12 56.3	+0.9
MA2	Magadan	12.47	355	ePN	Pn	10 13 47.2	-0.6
MA2				pmax	pmax		
	comp=Z,8.0nm,0.6s						
MJAR	Matsushiro Arr	15.20	231	P	Pn	10 14 22.9	-1.2
	comp=Z,0.2nm,0.3s,baz=37,slow=9.1,SNR=5.7						
YAK	Yakutsk	19.85	327⇓	eP	Pn	10 15 14.8	-5.8
YAK				pmax	pmax		
	comp=Z,10.0nm,0.8s						
KDAK	Kodiak Island	33.98	51	P	P	10 17 29.2	-0.9
	comp=Z,3.0nm,0.8s,mb4.2,baz=260,slow=11,SNR=3.0						
COLA	College	35.91	39⇓	iP	P	10 17 47.7	+1.1
INK	Inuvik	41.38	33	P	P	10 18 33.8	+1.4
INK				pmax	pmax		
	comp=Z,2.0nm,0.7s						
INK	Inuvik	41.38	33	P	P	10 18 33.8	+1.4
	comp=Z,2.2nm,0.7s,mb4.1,baz=290,slow=6.1,SNR=19						
YKA	Yellowknife Ar	50.69	37	i P	P	10 19 46.0	+0.5
YKA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
YKA	Yellowknife Ar	50.69	37	P	P	10 19 46.1	+0.6
	comp=Z,0.7nm,0.8s,mb3.7,baz=297,slow=7.3,SNR=11						
YKA				PcP	PcP	10 21 01.2	-0.6
	comp=Z,0.2nm,0.5s,baz=311,slow=3.9,SNR=4.9						
NVAR	Mina Array Bea	62.40	62	P	P	10 21 09.3	+0.3
	comp=Z,0.6nm,0.6s,mb3.8,baz=301,slow=7.3,SNR=8.6						
FINES	FINESS Array B	63.56	335	i P	P	10 21 17.0	+0.7
FINES				pmax	pmax		
	comp=Z,1.0nm,0.9s						
FINES	FINESS Array B	63.56	335	P	P	10 21 16.3	0.0
	comp=Z,1.4nm,0.9s,mb3.8,baz=43,slow=8.6,SNR=8.1						
PDAR	Pinedale Array	64.64	54	P	P	10 21 24.0	+0.3
	comp=Z,1.1nm,0.8s,mb3.7,baz=302,slow=2.8,SNR=7.0						
NB2	NORSAR Subarra	67.75	341	P	P	10 21 43.0	-0.3
	comp=Z,0.9nm,0.6s,mb3.8,baz=28,slow=6.5						
NOA	NORSAR Array B	67.75	341	P	P	10 21 43.4	+0.1
NOA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
NOA	NORSAR Array B	67.75	341	P	P	10 21 43.4	+0.1
	comp=Z,1.1nm,0.6s,mb3.9,baz=28,slow=6.4,SNR=6.0						
AKASG	Malin Array Be	71.07	326	P	P	10 22 03.1	-0.8
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.5s						
AKASG	Malin Array Be	71.07	326	P	P	10 22 03.1	-0.9
	comp=Z,1.2nm,0.5s,mb4.0,baz=34,slow=6.1,SNR=7.9						
ASAR	Alice Springs	72.56	198	P	P	10 22 10.1	-3.0
	comp=Z,0.3nm,0.8s,mb3.2,baz=14,slow=4.9,SNR=5.5						

*ISCJB **01** 10:12:20.3±0.4, 682N±005×7300W±006, h165km±5km, mb4.0/18, Error ellipse: s-maj=11.6km s-min=5.3km az=41.8*
*IDC **01** 10:12:20.6±0.7, 673N×7297W, h157km±7km, mb3.7/9, mb1 3.9/12, mb1mx3.7/21, mbtmp3.8/12, Error ellipse: s-maj=20.5km s-min=7.4km az=131.0*
*NEIC **01** 10:12:21.7±0.5, 668N×7298W, h171km±6km, mb4.1/12, Error ellipse: s-maj=10.6km s-min=7.0km az=135.0*
*FUNV **01** 10:12:21.8, 680N×7308W, h170km, MW4.4*

ISC 01 10:12:21.3±0.4, 677N±006×7297W±006, h161km±5km, n47, σ0°95/52, mb4.0/18, 10C, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	Capacho	1.27	31⇑	eP	Pn	10 12 50.4	+1.0
CAPV				eS	Sn	10 13 11.9	+0.9
ROSC	El Rosal	2.34	216	P	Pn	10 13 02.2	+1.2
	96nm,0.3s,baz=101,slow=22,SNR=170						
ROSC				S	Sn	10 13 30.5	-1.1
	94nm,0.3s,baz=98,slow=17,SNR=8.8						
SOCV	Socops	2.58	54⇑	iP	Pn	10 13 05.1	+1.2
SOCV				eS	Sn	10 13 37.0	+0.3
VIGV	El Vigia	2.60	38⇑	iP	Pn	10 13 04.7	+0.6
VIGV				eS	Sn	10 13 35.6	-1.7
SDV	Santo Domingo	3.12	48⇑	iPn	Pn	10 13 11.7	+1.1
SDV				eSn	Sn	10 13 49.8	+0.9
SDV	Santo Domingo	3.12	48	P	Pn	10 13 11.7	+1.1
	54nm,0.3s,baz=244,slow=9.2,SNR=318						
SDV				S	Sn	10 13 48.7	-0.2
	56nm,0.3s,baz=76,slow=20,SNR=30						
ELOV	Elorza	3.47	86⇑	iP	Pn	10 13 16.4	+1.4
VIRV	Villa del Rosa	3.75	8	eP	Pn	10 13 17.0	-1.5
VIRV				eS	Sn	10 13 59.9	-3.3
QARV	Quebrada Arrib	4.18	35⇑	iP	Pn	10 13 24.6	+0.5
SANV	Sanarito	4.35	51	eP	Pn	10 13 26.4	+0.1
SANV				eS	Sn	10 14 14.2	-2.8
CURV	Curarigua	4.38	43⇑	eP	Pn	10 13 26.9	+0.1
CURV				eS	Sn	10 14 15.1	-2.9
DABV	Dabajuro	4.72	29	eP	Pn	10 13 31.3	+0.1
TEPV	Terepaima	4.90	49⇑	iP	Pn	10 13 33.8	+0.2
SIQV	Siquisique	4.96	39⇑	iP	Pn	10 13 34.0	-0.3
CAOV	Caicara del Or	6.62	85⇑	iP	Pn	10 13 55.5	-0.8
MERV	Las Mercedes	7.05	69	eP	Pn	10 14 01.0	-1.0
OTAV	Otavalo	8.49	220	ePn	Pn	10 14 20.1	-1.0
	3.7nm,0.8s						
OTAV				eSn	Sn	10 15 55.2	-0.6
PCRV	Puerto La Cruz	8.91	67	eP	Pn	10 14 26.6	0.0
PCRV	Puerto La Cruz	8.91	67	P	Pn	10 14 27.9	+1.2
	1.0nm,0.3s,baz=193,slow=8.1,SNR=8.9						
SDDR	Presa de Saban	12.25	8	ePn	Pn	10 15 13.6	+3.1
	14nm,0.7s						
TEIG	Tepich	19.98	313	P	P	10 16 41.8	+0.4
	11nm,0.5s,baz=159,slow=8.6,SNR=12						
LPAZ	La Paz	23.41	168	pP	pP	10 17 47.9	+1.3
	2.4nm,0.7s,baz=340,slow=15,SNR=7.4						
SIV	San Ignacio	25.50	153	pP	pP	10 18 08.1	0.0
	0.9nm,0.4s,baz=350,slow=12,SNR=4.2						
WVT	Waverly	32.24	337	eP	P	10 18 34.5	+0.1
	4.0nm,0.5s,mb4.4						
WMOK	Wichita Mounta	36.61	323	eP	P	10 19 10.8	-1.2
	1.8nm,0.5s,mb4.0						
KSU1	Kansas State U	38.60	330	eP	P	10 19 27.4	-1.3
	8.9nm,0.7s,mb4.5						
JFWS	Jewell Farm	39.09	340	eP	P	10 19 32.3	-0.4
	12nm,0.6s,mb4.7						
MNTX	Cornudas Mount	39.12	314	eP	P	10 19 32.9	-0.2
	3.1nm,0.7s,mb4.0						
LAZ	Ladron	41.82	316	eP	P	10 19 55.9	+0.6
SDCO	Great Sand Dun	42.68	321	eP	P	10 20 03.0	+0.8
	2.3nm,0.9s,mb3.8						
ISCO	Idaho Springs	44.04	323	eP	P	10 20 13.9	+0.9
	2.2nm,0.8s,mb3.8						
WUAZ	Wupatki	45.36	315	eP	P	10 20 24.2	+0.6
	6.5nm,0.9s,mb4.3						
ULM	Lac du Bonnet	47.38	340	P	P	10 20 38.3	-0.8
	3.7nm,0.4s,mb4.4,baz=143,slow=7.8,SNR=17						
ARUT	Antelope Range	47.93	316	eP	P	10 20 44.0	+0.4
SCHQ	Schefferville	48.18	5	P	P	10 20 45.6	+0.5
	1.2nm,0.5s,mb3.8,baz=225,slow=7.1,SNR=8.1						
PDAR	Pinedale Array	48.21	324	P	P	10 20 45.6	0.0
	1.2nm,0.6s,mb3.7,baz=128,slow=9.4,SNR=10						
HLID	Hailey	51.57	322	eP	P	10 21 11.1	+0.2
	2.2nm,0.8s,mb3.8						
NVAR	Mina Array Bea	51.63	315	P	P	10 21 12.1	+0.6
NVAR	Mina Array Bea	51.63	315	P	P	10 21 12.1	+0.6
	0.8nm,0.7s,mb3.5,baz=121,slow=8.0,SNR=8.6						
WVOR	Wild Horse Val	53.66	319	eP	P	10 21 26.5	+0.1
	5.8nm,1.3s,mb4.2						
YKA	Yellowknife Ar	63.36	340	P	P	10 22 32.6	-0.5
	2.7nm,0.6s,mb4.3,baz=133,slow=6.6,SNR=80						
INK	Inuvik	73.13	340	P	P	10 23 33.9	+0.2
	0.7nm,0.4s,mb3.7,baz=83,slow=3.3,SNR=16						
NOA	NORSAR Array B	81.30	29	P	P	10 24 19.2	-0.2
	0.3nm,0.5s,mb3.1,baz=268,slow=5.3,SNR=2.6						
ARCES	ARCESS Array B	86.67	20	P	P	10 24 45.8	-0.6
	3.3nm,0.9s,mb4.2,baz=261,slow=3.6,SNR=3.0						
SONM	Songino Array	125.63	1	PKP	PKPdf	10 31 03.9	+0.2
	0.5nm,1.1s,baz=352,slow=1.1,SNR=3.7						
ASAR	Alice Springs	149.21	234	PKP	PKPdf	10 31 46.4	-0.8
	0.7nm,0.6s,baz=131,slow=3.1,SNR=3.5						
ASAR				PKPbc	PKPbc	10 31 50.8	-0.8
	0.7nm,0.5s,baz=118,slow=3.5,SNR=15						
WRA	Warramunga Arr	150.45	241	PKP	PKPdf	10 31 48.9	-0.4
	0.7nm,0.4s,baz=102,slow=2.4,SNR=3.8						
WRA				PKPbc	PKPbc	10 31 53.9	-0.8
	0.7nm,0.4s,baz=108,slow=2.6,SNR=47						

*ISCJB **01** 10:35:17.0±1.1, 3837N±004×2036E±008, h5km±6km, Error ellipse: s-maj=11.7km s-min=5.1km az=159.4*
*CSEM **01** 10:35:17.3±0.4, 3836N×2036E, h2km, MD3.5, Error ellipse: s-maj=9.3km s-min=3.7km az=69.0*
*THE **01** 10:35:17.9, 3840N×2044E, h5km, ML3.1*
*NEIC **01** 10:35:17.9, 3836N×2040E, h9km, MD3.5(ATH), ML3.1(THE), After ATH.*
*ATH **01** 10:35:17.9, 3836N×2040E, h9km±4km, MD3.5/6*

ISC 01 10:35:17.6±1.0, 3837N±004×2038E±008, h7km±6km, n12, σ0°88/19, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	Valsamata	0.25	138	ePG	Pg	10 35 22.4	-0.2
VLS				eSG	Sg	10 35 27.2	+1.2
LKD	Levkas	0.40	32	ePg	Pg	10 35 25.0	-0.4
LKD				eSg	Sg	10 35 31.4	+0.7
KFL	Anninata	0.41	128	ePg	Pg	10 35 25.4	-0.2
RLS	Riolos of Patr	0.91	109	ePG	Pg	10 35 34.5	-0.6
IGT	Igoumenitsa	1.17	358	ePg	Pg	10 35 39.0	-1.0
IGT				eSg	Sg	10 35 54.9	-0.2
SELA	Sela	1.20	94	eSg	Sg	10 35 54.8	-1.2
SELA				eSg	Sg	10 36 08.6	+13
EVR	Evrytania	1.25	63	ePN	Pn	10 35 40.3	-1.2
EVR				eSB	Sb	10 35 58.7	+0.9
KEK	Kerkira	1.42	342	ePB	Pb	10 35 44.9	+0.5
ITM	Ithomi	1.71	134	ePB	Pb	10 35 50.7	+1.4
THL	Klokotos Trika	1.75	46	ePN	Pn	10 35 50.4	+2.0
VLX	Vlachokerasia	1.87	122	ePb	Pn	10 35 49.4	-0.6
VLX				eSb	Sb	10 36 15.2	-0.5
DID	Didima	2.42	110	ePn	Pn	10 35 57.5	-0.1
DID				eSn	Sn	10 36 26.7	-0.7

*IDC **01** 10:37:25.7±0.7, 235N×12654E, h0km, mb3.8/11, mb1 3.9/11, mb1mx3.9/17, mbtmp3.8/11, MS4.0/1, Ms1 4.0/1, ms1mx2.7/23, Error ellipse: s-maj=50.5km s-min=13.7km az=76.0*
*ISCJB **01** 10:37:36.7±4.8, 24N±01×1266E±03, h108km±49km, mb3.9/12, Error ellipse: s-maj=48.5km s-min=14.2km az=169.4*
*NEIC **01** 10:37:40.1±3.7, 236N×12676E, h125km±37km, mb4.1/4, Error ellipse: s-maj=35.5km s-min=11.0km az=77.0*

ISC 01 10:37:38.9±4.5, 235N±010×1267E±03, h113km±45km, n21, σ0°79/20, mb3.9/12, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	Kakadu	16.01	159	eP	Pn	10 41 18.8	+1.1
	2.8nm,0.4s						
FITZ	Fitzroy Crossi	20.35	183	eP	P	10 42 07.1	+0.6
	10nm,2.0s						
FITZ	Fitzroy Crossi	20.35	183	P	P	10 42 04.6	-1.9
	1.7nm,0.7s,baz=346,slow=17,SNR=3.9						
WRA	Warramunga Arr	23.38	162	P	P	10 42 36.2	-1.4
	2.0nm,0.6s,mb3.6,baz=342,slow=11,SNR=56						
WB2	Warramunga Arr	23.39	162	eP	P	10 42 37.1	-0.5
WB2	Warramunga Arr	23.39	162	eP	P	10 42 37.0	-0.7
ASAR	Alice Springs	26.79	165	P	P	10 43 08.2	-0.2
	0.4nm,0.4s,mb3.3,baz=347,slow=7.9,SNR=18						
CBIJ	Chichi jima	28.72	30	LR	LR	10 53 35.5	
	comp=Z,282nm,19.9s,baz=131,slow=34						
KSRS	Korea Array	34.95	2	P	P	10 44 19.2	-0.8
	0.5nm,0.4s,mb3.7,baz=180,slow=10,SNR=4.4						
MJAR	Matsushiro Arr	35.63	16	P	P	10 44 26.1	+0.2
	1.1nm,0.7s,mb3.9,baz=176,slow=8.7,SNR=3.5						
STKA	Stephens Creek	36.85	159	eP	P	10 44 36.5	+0.2
	2.4nm,0.6s,mb4.3						
STKA	Stephens Creek	36.85	159	eP	P	10 44 36.9	+0.6
	2.9nm,0.7s,mb4.3						
STKA	Stephens Creek	36.85	159	P	P	10 44 36.6	+0.3
	2.6nm,0.5s,mb4.4,baz=331,slow=7.7,SNR=14						
SONM	Songino Array	48.59	342	P	P	10 46 11.3	+0.5
	0.3nm,0.5s,mb3.5,baz=161,slow=7.8,SNR=3.9						
MKAR	Makanchi Array	58.68	326	P	P	10 47 24.7	+0.2
	0.9nm,0.4s,mb4.2,baz=118,slow=7.7,SNR=12						
ZALV	Zalesovo Beam	61.81	333	P	P	10 47 45.0	-0.6
	0.7nm,0.3s,mb4.1,baz=122,slow=6.7,SNR=4.0						
KURK	Kurchatov	62.89	328	eP	P	10 47 52.7	-0.2
	3.7nm,0.4s,mb4.7						
AKTK	Aktyubinsk	74.73	322	P	P	10 49 06.5	+0.2
AKTO	Aktyubinsk	74.73	322	P	P	10 49 06.5	+0.2
	0.5nm,0.4s,mb3.6,baz=108,slow=6.4,SNR=3.9						
VNDA	Vanda	82.07	173	P	P	10 49 47.5	+1.3
	0.7nm,0.9s,mb3.5,baz=354,slow=5.4,SNR=3.2						
ARCES	ARCESS Array B	91.73	340	P	P	10 50 37.4	+4.1
	4.8nm,1.1s,mb4.6,baz=80,slow=5.0,SNR=3.8						

JMA 01 11:04:34.0±0.4, 3246N×13920E, h240km±4km, M3.6, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	Mitsune	0.83	38	P	Pn	11 05 07.3	+0.3
TK02	Tokai 2	1.91	321	P	Pn	11 05 14.6	-0.2
TK04	Tokai 4	2.22	330	P	Pn	11 05 18.2	+0.6
BSO3	Boso 3	2.58	25	P	Pn	11 05 21.4	+0.1
BSO3				eS	S	11 05 58.1	-0.5
BSO1	Boso 1	2.64	34	P	Pn	11 05 21.8	-0.1
BSO1				eS	S	11 05 59.7	-0.2
JOD2	Odawara 2	2.80	358	P	Pn	11 05 25.0	+1.4
JOD2				eS	S	11 06 03.6	+0.8
JIE	Ise	2.84	313	P	Pn	11 05 24.0	0.0
JYN	Shimob	3.08	350	P	Pn	11 05 28.7	+2.1
JWY	Kouya	3.49	301	P	Pn	11 05 31.5	+0.2
JRY	Ryogami san	3.56	356	P	Pn	11 05 33.4	+1.3
JRY				eS	S	11 06 17.8	-0.3
JAG	Ashikaga	3.96	3	P	Pn	11 05 36.5	-0.3
JAG				eS	S	11 06 23.0	-3.7
MAT	Matsushiro	4.15	349	P	Pn	11 05 41.3	+2.2

*GII **01** 11:24:00.0±1.4, 2995N×3624E, h0km, ML1.9/1*
*SGS **01** 11:24:05.7, 2982N×3583E, h11km*
*CSEM **01** 11:24:05.7, 2982N×3583E, h11km, ML2.6, After SNSN*

ISC 01 11:23:57.8±1.2, 2986N±004×3640E±007, h0km, n13, σ0°84/21, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HRFI	Mount Harif	1.20	279	Pg	Pg	11 24 19.9	-0.8
HRFI				Sg	Sg	11 24 35.9	-0.3
ZFRI	Zfri	1.27	304	Pg	Pg	11 24 22.0	-0.1
ZFRI				Sg	Sg	11 24 37.9	-0.6
EIL	Elat	1.27	262	Pg	Pg	11 24 22.6	+0.4
EIL				Sg	Sg	11 24 40.4	+1.7
HQLS		1.29	245	P	Pg	11 24 21.8	-0.7
HQLS		1.29	245	P	Pg	11 24 21.8	-0.7
HQLS				S	Sg	11 24 33.4	-5.8
MBH	Mount Berech	1.29	268	Pg	Pg	11 24 23.0	+0.5
MBH				Sg	Sg	11 24 40.5	+1.2
PRNI	Paran	1.30	293	Pg	Pg	11 24 22.3	-0.5
PRNI				Sg	Sg	11 24 39.3	-0.5
JLOS		1.37	216	P	Pg	11 24 25.3	+1.3
JLOS		1.37	216	P	Pg	11 24 25.3	+1.2
JLOS				S	Sg	11 24 40.2	-1.6
KRMI	Paran Flat	1.48	281	Pn	Pn	11 24 25.4	-0.3
KRMI				Sn	Sn	11 24 45.1	-0.6
YTIR	Yattir	1.87	324	Pn	Pn	11 24 30.8	-0.2
DSI	Dead Sea	1.92	333	Pn	Pn	11 24 33.1	+1.3
RSHS		2.09	223	P	Pn	11 24 34.1	0.0

*ISCJB **01** 11:41:41.4±0.7, 3029N±007×1392E±02, h456km±11km, mb2.8/2, Error ellipse: s-maj=34.2km s-min=9.0km az=168.5*
*JMA **01** 11:41:41.8±0.3, 3029N×13936E, h455km, M3.5*
*IDC **01** 11:41:41.8±2.7, 3009N×13864E, h414km±98km, mb2.6/2, mb1 2.8/5, mb1mx2.6/21, mbtmp2.8/5, Error ellipse: s-maj=232.0km s-min=15.0km az=69.0*

ISC 01 11:41:42.7±0.7, 3031N±007×1394E±02, h449km±11km, n14, σ0°97/20, mb2.8/2, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	Mitsune	2.81	8	P	P	11 42 49.4	+1.2
JHJ2				S	S	11 43 41.1	-0.4
JHJ	Hachijo jima 2	2.82	7	P	P	11 42 49.1	+0.9
	6.8nm,0.3s,baz=229,slow=20,SNR=11						
JHJ				S	S	11 43 40.5	-1.0
	12nm,0.3s,baz=78,slow=23,SNR=5.6						
CBIJ	Chichi jima	4.05	142	P	P	11 42 57.7	-0.6
CBIJ				eS	S	11 43 59.1	-0.7
CBIJ	Chichi jima	4.05	142	P	P	11 42 59.3	+0.9
	2.4nm,0.3s,baz=243,slow=14,SNR=3.2						
CBIJ				S	S	11 43 59.1	-0.7
	14nm,0.3s,baz=280,slow=23,SNR=11						
BSO1	Boso 1	4.54	17	eS	S	11 44 09.0	+1.4
BSO3	Boso 3	4.58	12	eS	S	11 44 09.2	+0.9
JIE	Ise	4.65	332	P	P	11 43 03.8	+0.3
TATJ	Tateyama 2	4.72	5	P	P	11 43 04.8	+0.6
TATJ				eS	S	11 44 09.4	-1.4
JAG	Ashikaga	6.09	1	P	P	11 43 17.3	-0.5
JAG				S	S	11 44 31.5	-4.1
MJAR	Matsushiro Arr	6.29	351	P	P	11 43 18.9	-0.8
	0.3nm,0.3s,baz=173,slow=12,SNR=5.3						
JHO	Hitachi	6.36	9	P	P	11 43 22.0	+1.5
ONAJ	Iwakimizuishy	6.87	10	eS	S	11 44 48.9	-1.5
WRA	Warramunga Arr	50.20	186	P	P	11 49 55.2	-0.7
	0.5nm,0.6s,mb3.0,baz=3.5,slow=7.9,SNR=14						
ASAR	Alice Springs	53.93	186	P	P	11 50 22.9	+0.2
	0.1nm,0.4s,mb2.5,baz=359,slow=5.6,SNR=9.4						

WEL 01 11:53:37.4±0.3, 4006S×17362E, h189km±2km, ML3.6/12, Error ellipse: s-maj=2.4km s-min=1.3km az=90.0, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUWZ	D'Urville Isla	0.78	163	PN	Pn	11 54 04.9	+0.3
DUWZ				SN	Sn	11 54 24.8	-0.9
NWEZ	Newall Road	0.81	14	PN	Pn	11 54 04.9	+0.1
NEZ	North Egmont	0.87	25	PN	Pn	11 54 05.2	0.0
PKE	Pukeiti	0.91	19	PN	Pn	11 54 05.4	-0.1
WAZ	Wanganui	1.09	75	PN	Pn	11 54 07.4	+0.7
WAZ				SN	Sn	11 54 29.9	+0.6
QRZ	Quartz Range	1.13	227	PN	Pn	11 54 06.5	-0.4
QRZ				SN	Sn	11 54 27.9	-2.1
TCW	Tory Channel	1.26	157	PN	Pn	11 54

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**2.85**	**129**	P	Pn	12 00 31.8	+0.9
	8.7nm,0.3s,baz=305,slow=9.4,SNR=154						
LPAZ				S	Sn	12 01 09.1	+1.4
	8.0nm,0.3s,baz=159,slow=23,SNR=16						
SIV	**San Ignacio**	**9.17**	**100**	P	Pn	12 01 53.3	+0.9
	0.4nm,0.3s,baz=282,slow=10,SNR=6.3						
TORD	**Torodi Ar. Bea**	**76.52**	**72**	P	P	12 11 13.7	-0.2
	0.3nm,0.3s,baz=265,slow=4.4,SNR=7.9						
YKA	**Yellowknife Ar**	**84.13**	**341**	P	P	12 11 53.1	-0.4
	0.7nm,0.6s,baz=134,slow=5.2,SNR=19						
WRA	**Warramunga Arr**	**137.98**	**216**	PKP	PKPdf	12 18 46.9	-0.3
	0.1nm,0.4s,baz=143,slow=1.9,SNR=4.6						
SONM	**Songino Array**	**146.66**	**4**	PKPbc	PKPbc	12 19 04.1	+0.5
	0.5nm,0.4s,baz=328,slow=2.0,SNR=5.6						

IDC 01 12:05:03.5±13.0, 223N×9674E, h51km±97km, mb3.3/5, mb1 3.4/6, mb1mx3.2/20, mbtmp3.3/6, ML2.5/1, Error ellipse: s-maj=146.4km s-min=20.4km az=60.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.26**	**75**	P	Pn	12 05 38.3	-0.1
	1.3nm,0.3s,baz=293,slow=11,SNR=5.5						
WRA	**Warramunga Arr**	**42.97**	**123**	P	P	12 12 57.7	-0.3
	0.4nm,0.8s,baz=302,slow=8.9,SNR=3.5						
WRA				pP	pP	12 13 04.7	-6.8
	0.3nm,0.4s,baz=299,slow=9.0,SNR=5.5						
ASAR	**Alice Springs**	**44.38**	**128**	P	P	12 13 09.4	+0.2
	0.3nm,0.9s,baz=299,slow=8.5,SNR=3.2						
ASAR				pP	pP	12 13 16.4	-6.5
	1.0nm,1.1s,baz=301,slow=8.1,SNR=4.7						
MKAR	**Makanchi Array**	**46.14**	**346**	P	P	12 13 22.7	-0.1
	0.8nm,0.6s,baz=153,slow=7.6,SNR=5.9						
SONM	**Songino Array**	**46.19**	**9**	P	P	12 13 23.6	+0.4
	0.5nm,0.5s,baz=187,slow=8.5,SNR=7.4						
ZALV	**Zalesovo Beam**	**52.48**	**351**	P	P	12 14 10.9	-0.2
	1.4nm,0.4s,baz=178,slow=6.9,SNR=7.8						

*MOS **01** 12:07:13.6±0.9, 1851N×121.10E, h33km, mb4.7/10, Error ellipse: s-maj=20.9km s-min=10.1km az=94.5*
*BJI **01** 12:07:15.2, 1840N×12100E, h50km, mb4.0*
*ISCJB **01** 12:07:16.0±0.3, 1880N±002×12086E±005, h33km, mb4.2/27, MS3.5/6, Error ellipse: s-maj=7.0km s-min=3.2km az=177.2*
*NEIC **01** 12:07:17.3±1.1, 1844N×12104E, h50km±10km, mb4.4/13, Error ellipse: s-maj=11.8km s-min=9.2km az=92.0*
NEIC Felt [III PIVS] at Claveria and Sanchez Mira; [II PIVS] at Pasuquin.
*MAN **01** 12:07:17, 1868N×12090E, h19km, mb4.6, ML3.5, MS3.5*
MAN INTENSITY III - SANCHEZ, MIRA, CLAVERIA, CAGAYAN VALLEY; INTENSITY II - PASUQUIN, ILOCOS NORTE.
*IDC **01** 12:07:19.1±3.9, 1853N×121.16E, h64km±35km, mb3.8/14, mb1 3.9/17, mb1mx3.9/24, mbtmp3.9/17, ML3.9/3, MS3.3/8, Ms1 3.3/8, ms1mx3.2/26, Error ellipse: s-maj=30.7km s-min=11.6km az=73.0*

ISC 01 12:07:17.7±0.3, 1875N±002×12085E±004, h35km, n76, σ1§36/82, mb4.2/27, MS3.5/6, 2D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PIP	**Pasuquin**	**0.47**	**208**	⇓*i*P	**Pn**	**12 07 26.9**	**-1.0**
PIP				*e*S	**Sn**	**12 07 33.8**	**-1.3**
APYP	**Conner**	**0.96**	**157**	*e*P	**Pn**	**12 07 33.7**	**-0.9**
APYP				*e*S	**Sn**	**12 07 46.6**	**-0.4**
ABRA	**Dolores**	**1.10**	**187**	*e*P	**Pn**	**12 07 35.5**	**-1.1**
SGCP	**Mt. Cagua**	**1.24**	**114**	*e*P	**Pn**	**12 07 38.5**	**0.0**
CVP	**Callao Caves**	**1.39**	**138**	*e*P	**Pn**	**12 07 40.3**	**-0.3**
CVP				*i*S	**Sn**	**12 07 57.8**	**+0.1**
CAUP	**Cauayan**	**2.02**	**153**	*e*P	**Pn**	**12 07 50.9**	**+1.7**
BCPH	**Baguio City Da**	**2.37**	**186**	⇓*e*P	**Pn**	**12 07 54.5**	**+0.5**
BCPH				*i*S	**Sn**	**12 08 22.9**	**+1.0**
BOLP	**Bolinao**	**2.52**	**201**	*e*P	**Pn**	**12 07 57.3**	**+1.2**
BALP	**Baler**	**3.07**	**167**	*e*P	**Pn**	**12 08 04.1**	**+0.4**
SCZP	**Santa Cruz**	**3.09**	**197**	*e*P	**Pn**	**12 08 05.6**	**+1.6**
PCPH	**Palayan**	**3.18**	**176**	*e*P	**Pn**	**12 08 05.8**	**+0.6**
PCPH				*e*S	**Sn**	**12 08 44.8**	**+2.9**
POLP	**Polilio Island**	**4.13**	**165**	*e*P	**Pn**	**12 08 18.7**	**+0.4**
LUBP	**Lubang**	**5.02**	**187**	*e*P	**Pn**	**12 08 31.1**	**+0.6**
NACB	**Ninganchiao**	**5.44**	**7**	*e*Pn	**Pn**	**12 08 38.4**	**+2.1**
NACB				*e*Sn	**Sn**	**12 09 35.1**	**-2.7**
YHNB	**Yeheng**	**5.91**	**5**	*e*Pn	**Pn**	**12 08 46.4**	**+3.7**
YHNB				*e*Sn	**Sn**	**12 09 52.8**	**+3.5**
PVCP	**Virac**	**6.03**	**148**	*e*P	**Pn**	**12 08 43.8**	**-0.6**
TATO	**Taipei**	**6.23**	**5**	*e*Pn	**Pn**	**12 08 53.5**	**+6.4**
TATO				*e*Sn	**Sn**	**12 10 01.0**	**+4.0**
OTRP	**Odiongan**	**6.45**	**170**	*e*P	**Pn**	**12 08 53.7**	**+3.5**
BUSP	**Coron**	**6.74**	**185**	*e*P	**Pn**	**12 08 54.5**	**+0.4**
QIZ	**Qiongzhong**	**10.43**	**273**	P	**Pn**	**12 09 43.9**	**-0.8**
QIZ				S	**Sn**	**12 11 37.9**	**-2.4**
QIZ	**Qiongzhong**	**10.43**	**273**	*e*Pn	**Pn**	**12 09 43.9**	**-0.8**
	52nm,0.6s						
JOW	**Kunigami**	**10.56**	**39**	P	**Pn**	**12 09 47.5**	**+0.9**
	1.6nm,0.3s,baz=233,slow=15,SNR=5.1						
JOW				LR	LR	12 13 56.9	
	comp=Z,60nm,19.5s,baz=288,slow=38						
JNU	**Nakatsue**	**16.90**	**30**	P	**Pn**	**12 11 13.7**	**+2.2**
	0.4nm,0.3s,baz=168,slow=5.7,SNR=6.7						
JNU				LR	LR	12 17 30.2	
	comp=Z,32nm,21.4s,baz=219,slow=36						
KSRS	**Korea Array**	**19.64**	**17**	P	**Pn**	**12 11 44.2**	**-0.7**
	0.6nm,0.3s,baz=200,slow=11,SNR=15						
MJAR	**Matsushiro Arr**	**23.40**	**37**	P	**P**	**12 12 22.1**	**-1.5**
	1.2nm,0.8s,mb3.4,baz=196,slow=6.9,SNR=4.1						
GUMO	**Guam**	**23.62**	**99**	LR	LR	12 20 12.6	
	comp=Z,65nm,20.9s,MS3.1,baz=49,slow=33						
SONM	**Songino Array**	**31.32**	**341**	P	**P**	**12 13 36.2**	**+1.7**
SONM						12 16 27.0	
SONM	**Songino Array**	**31.32**	**341**	P	**P**	**12 13 36.2**	**+1.7**
	1.0nm,0.6s,mb3.8,baz=156,slow=9.4,SNR=11						
SONM				PcP	PcP	12 16 27.0	-1.0
	0.4nm,0.5s,baz=152,slow=4.8,SNR=5.1						
SONM				LR	LR	12 27 23.4	
	comp=Z,80nm,18.8s,MS3.4,baz=155,slow=38						
YSS	**Yuzh-Sakhalins**	**33.38**	**28**	*e*P	**P**	**12 13 52.1**	**-0.5**
	5.9nm,0.6s,mb4.7						
YSS	**Yuzh-Sakhalins**	**33.38**	**28**	*e*P	**P**	**12 13 52.3**	**-0.3**
YSS				pmax	pmax		
	comp=Z,20nm,1.0s,mb5.0						
FITZ	**Fitzroy Crossi**	**36.92**	**172**	*e*P	**P**	**12 14 19.1**	**-4.2**
	comp=Z,3.2nm,0.9s,mb4.2						
WRA	**Warramunga Arr**	**40.66**	**160**	P	**P**	**12 14 49.5**	**-5.2**
	comp=Z,1.4nm,0.4s,mb4.0,baz=342,slow=9.1,SNR=46						
WRA				PcP	PcP	12 16 54.5	-1.6
	comp=Z,3.0nm,0.6s,baz=344,slow=3.2,SNR=27						
WB2	**Warramunga Arr**	**40.67**	**160**	*e*P	**P**	**12 14 49.9**	**-4.8**
WB2				*e*PCP	PcP	12 16 54.4	-1.7
MKAR	**Makanchi Array**	**42.16**	**320**	P	**P**	**12 15 09.4**	**+2.6**
	comp=Z,2.3nm,0.7s,mb4.0,baz=111,slow=10,SNR=12						
MKAR				PcP	PcP	12 17 00.4	-0.3
	comp=Z,1.1nm,0.6s,baz=85,slow=4.4,SNR=4.2						
ASAR	**Alice Springs**	**44.04**	**163**	P	**P**	**12 15 18.1**	**-4.0**
	comp=Z,2.0nm,0.6s,mb4.1,baz=342,slow=6.9,SNR=80						
ASAR				PcP	PcP	12 17 05.5	-1.8
	comp=Z,1.0nm,0.5s,baz=341,slow=3.0,SNR=13						
ZALV	**Zalesovo Beam**	**44.71**	**330**	P	**P**	**12 15 28.7**	**+1.5**
	comp=Z,1.0nm,0.5s,mb3.9,baz=107,slow=7.9,SNR=6.3						
ZALV				PcP	PcP	12 17 07.4	-1.7
	comp=Z,0.5nm,0.4s,baz=119,slow=4.8,SNR=2.9						
ZALV				LR	LR	12 35 51.3	
	comp=Z,20nm,18.0s,MS3.1,baz=81,slow=38						
ZAL	**Zalesovo**	**44.72**	**330**	P	**P**	**12 15 28.7**	**+1.5**
ZAL						12 17 07.4	
UCH	**Uchtor**	**45.59**	**311**	*e*P	**P**	**12 15 37.3**	**+3.0**
	comp=Z,4.2nm,0.9s,mb4.4						
CTA	**Charters Tower**	**45.94**	**146**	LR	LR	12 35 04.5	
	comp=Z,89nm,18.7s,MS3.7,baz=46,slow=36						
AML	**Almayashu**	**46.15**	**311**	*e*P	**P**	**12 15 41.7**	**+3.0**
	comp=Z,3.6nm,0.8s,mb4.3						
KURK	**Kurchatov**	**46.16**	**324**	*e*P	**P**	**12 15 39.8**	**+1.1**
	comp=Z,4.2nm,0.8s,mb4.4						
KURK	**Kurchatov**	**46.16**	**324**	*e*P	**P**	**12 15 39.8**	**+1.1**
KURK				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
NWAO	**Narrogin (SRO)**	**51.50**	**184**	P	**P**	**12 16 17.3**	**-2.5**
	comp=Z,12nm,1.0s,mb4.8,baz=4.1,slow=8.6,SNR=4.1						
BRVK	**Borovoye**	**51.83**	**324**	*e*P	**P**	**12 16 23.6**	**+1.5**
	comp=Z,1.6nm,0.5s,mb4.2						
BRVK	**Borovoye**	**51.83**	**324**	*e*P	**P**	**12 16 23.6**	**+1.5**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.3						
TIXI	**Tiksi**	**53.11**	**3**	*e*P	**P**	**12 16 30.1**	**-1.3**
TIXI				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.3						
STKA	**Stephens Creek**	**54.12**	**158**	*e*P	**P**	**12 16 35.9**	**-3.3**
	comp=Z,2.7nm,0.8s,mb4.2						
STKA	**Stephens Creek**	**54.12**	**158**	*e*P	**P**	**12 16 35.7**	**-3.6**
	comp=Z,3.5nm,0.8s,mb4.3						
STKA	**Stephens Creek**	**54.12**	**158**	P	**P**	**12 16 35.4**	**-3.9**
	comp=Z,2.8nm,0.7s,mb4.3,baz=335,slow=3.6,SNR=8.1						
STKA				LR	LR	12 39 30.9	
	comp=Z,66nm,19.6s,MS3.7,baz=26,slow=36						
BILL	**Bilibino**	**56.89**	**19**	*e*P	**P**	**12 16 57.7**	**-1.0**
	comp=Z,4.2nm,0.6s,mb4.7						
BILL	**Bilibino**	**56.89**	**19**	*e*P	**P**	**12 16 57.7**	**-1.0**
BILL				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.6						
AKTK	**Aktyubinsk**	**58.52**	**318**	P	**P**	**12 17 10.9**	**+0.5**
AKTO	**Aktyubinsk**	**58.52**	**318**	P	**P**	**12 17 10.9**	**+0.5**
	comp=Z,1.0nm,0.5s,mb4.1,baz=102,slow=10,SNR=4.5						
ARU	**Arti**	**59.31**	**325**	*e*P	**P**	**12 17 10.3**	**-5.5**
	comp=Z,4.9nm,0.5s,mb4.8						
ARU	**Arti**	**59.31**	**325**	*e*P	**P**	**12 17 10.3**	**-5.5**
ARU				pmax	pmax		
	comp=Z,5.0nm,0.5s,mb4.8						
TTA	**Tatalina**	**70.37**	**29**	*e*P	**P**	**12 18 27.5**	**-0.2**
	comp=Z,1.7nm,0.5s,mb4.2						
TTA				*e*		12 18 44.1	
TTA				*e*		12 18 54.8	
TTA				*e*PP	PP	12 21 04.3	+0.8
TTA	**Tatalina**	**70.37**	**29**	*e*P	**P**	**12 18 27.5**	**-0.2**
TTA				*e*		12 18 44.1	
TTA				*e*		12 21 04.3	
TTA				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.3						
SVW2	**Sparrevohn**	**70.68**	**31**	*e*P	**P**	**12 18 29.7**	**0.0**
MCK	**McKinley**	**73.47**	**28**	*e*P	**P**	**12 18 45.1**	**-1.2**
	comp=Z,5.1nm,1.1s,mb4.4						
MCK	**McKinley**	**73.47**	**28**	*e*P	**P**	**12 18 45.1**	**-1.2**
MCK				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.4						
PMR	**Palmer**	**73.72**	**30**	*e*P	**P**	**12 18 45.7**	**-2.0**
	comp=Z,4.8nm,0.8s,mb4.5						
PMR	**Palmer**	**73.72**	**30**	*e*P	**P**	**12 18 45.7**	**-2.1**
PMR				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.5						
COLA	**College**	**73.76**	**26**	*e*P	**P**	**12 18 46.6**	**-1.4**
	comp=Z,1.9nm,0.6s,mb4.2						
COLA	**College**	**73.76**	**26**	*e*P	**P**	**12 18 46.6**	**-1.3**
COLA				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
SML	**Sawmill**	**74.05**	**30**	*e*P	**P**	**12 18 45.8**	**-3.9**
ARCES	**ARCESS Array B**	**74.45**	**339**	P	**P**	**12 18 51.7**	**-0.3**
ARCES	**ARCESS Array B**	**74.45**	**339**	P	**P**	**12 18 51.7**	**-0.3**
	comp=Z,2.3nm,0.9s,mb4.1,baz=79,slow=9.3,SNR=4.7						
FINES	**FINESS Array B**	**75.98**	**330**	P	**P**	**12 19 00.1**	**-0.8**
	comp=Z,1.4nm,0.9s,mb3.9,baz=110,slow=12,SNR=3.7						
INK	**Inuvik**	**78.37**	**21**	*e*P	**P**	**12 19 12.7**	**-1.5**
	comp=Z,58nm,0.7s						
HFS	**Hagfors**	**82.14**	**331**	P	**P**	**12 19 33.5**	**-1.1**
	comp=Z,1.0nm,0.6s,mb3.9,baz=83,slow=4.6,SNR=6.5						
NB2	**NORSAR Subarra**	**82.87**	**332**	P	**P**	**12 19 37.1**	**-1.3**
	comp=Z,0.1nm,0.6s,mb3.0,baz=65,slow=5.9						
NOA	**NORSAR Array B**	**82.87**	**332**	P	**P**	**12 19 37.3**	**-1.1**
	comp=Z,1.3nm,0.8s,mb4.0,baz=63,slow=5.1,SNR=5.4						
NOA				LR	LR	12 59 31.9	
	comp=Z,40nm,18.8s,MS3.8,baz=180,slow=38						
RES	**Resolute Bay**	**84.05**	**9**	*e*P	**P**	**12 19 42.6**	**-1.6**
	comp=Z,52nm,0.9s						
YKA	**Yellowknife Ar**	**88.08**	**22**	P	**P**	**12 20 03.5**	**-0.8**
YKA	**Yellowknife Ar**	**88.08**	**22**	P	**P**	**12 20 03.5**	**-0.8**
	comp=Z,2.1nm,0.6s,mb4.5,baz=310,slow=4.5,SNR=66						
PCRV	**Puerto La Cruz**	**150.75**	**11**	PKPbc	PKPbc	12 27 04.5	-2.7
	comp=Z,7.7nm,0.6s,baz=0.0,slow=3.0,SNR=5.5						

MAN 01 12:19:39, 969N×12609E, h4km, mb3.7, ML2.4, MS1.9, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**0.60**	**279**	⇓*e*P	Pg	12 19 51.2	+0.7
SCPH				*e*S	Sg	12 20 03.1	+4.8
MSLP	**Maasin**	**1.29**	**290**	*e*P	Pg	12 20 02.4	-1.4
MSLP				*e*S	Sg	12 20 22.1	+1.7
BUKP	**Musuan**	**2.06**	**209**	*e*P	Pn	12 20 15.0	+0.6

*NIED **01** 12:21:00, 3820N×14220E, h47km, Mw3.9 Best double couple: M0 8.72000×10^14 NP1:φs325.00000°, δ50.00000°, λ101.00000°. NP2:φs128.00000°, δ41.00000°, λ78.00000°.*
*MOS **01** 12:21:30.6±0.9, 3810N×14231E, h33km, mb4.2/15, Error ellipse: s-maj=15.6km s-min=8.0km az=101.5*
*ISCJB **01** 12:21:32.2±0.9, 3815N±004×14223E±008, h43km±7km, mb3.9/21, Error ellipse: s-maj=10.7km s-min=5.7km az=24.7*
*JMA **01** 12:21:33.0±0.2, 3818N×142.16E, h42km±1km, M4.0*
*IDC **01** 12:21:34.5±2.0, 3808N×142.17E, h48km±20km, mb3.6/13, mb1 3.7/17, mb1mx3.7/25, mbtmp3.7/17, ML3.8/3, MS3.1/2, Ms1 3.1/2, ms1mx2.7/29, Error ellipse: s-maj=21.1km s-min=13.6km az=93.0*

ISC 01 12:21:33.4±0.8, 3815N±004×14219E±007, h35km±7km, n55, σ0§99/65, mb3.9/21, 10C-8D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**0.73**	**295**	⇑P	**Pn**	**12 21 46.6**	**-0.6**
JIO				*e*S	**Sn**	**12 21 56.1**	**-1.0**
OFUJ	**Ofunato**	**1.01**	**336**	⇓P	**Pn**	**12 21 50.3**	**-0.8**
OFUJ				*e*S	**Sn**	**12 22 02.8**	**-1.3**
JMK	**Ichinoseki**	**1.10**	**317**	⇓P	**Pn**	**12 21 52.1**	**-0.2**
JMM	**Marumori**	**1.14**	**256**	⇓P	**Pn**	**12 21 52.3**	**-0.6**
JMM				*e*S	**Sn**	**12 22 06.1**	**-1.2**
JOU	**Okura**	**1.22**	**280**	⇓P	**Pn**	**12 21 54.2**	**+0.2**
JOU				*e*S	**Sn**	**12 22 09.0**	**-0.2**
JFK	**Kawauchi**	**1.31**	**233**	⇓P	**Pn**	**12 21 54.4**	**-0.7**
JFK				*e*S	**Sn**	**12 22 09.7**	**-1.6**
JOM	**Ohasama**	**1.49**	**332**	⇓P	**Pn**	**12 21 57.7**	**0.0**
JFT	**Otama**	**1.60**	**247**	⇓P	**Pn**	**12 21 59.6**	**+0.4**
JFT				*e*S	**Sn**	**12 22 18.9**	**+0.3**
JYK	**Kaneyama**	**1.63**	**299**	P	**Pn**	**12 21 59.8**	**+0.3**
JYS	**Shirataka**	**1.68**	**273**	P	**Pn**	**12 22 00.8**	**+0.6**
MJAR	**Matsushiro Arr**	**3.56**	**244**	P	**Pn**	**12 22 28.1**	**+2.0**
MJAR				S	**Sn**	**12 23 16.5**	**+10**
MJAR				pmax	pmax		
	comp=Z,5.0nm,0.3s						
MJAR				smax			
	comp=N,7.0nm,0.3s						
MJAR	**Matsushiro Arr**	**3.56**	**244**	P	**Pn**	**12 22 28.1**	**+2.0**
	comp=N,5.1nm,0.3s,baz=65,slow=11,SNR=55						
MJAR				S	**Sn**	**12 23 16.5**	**+10**
	comp=N,6.6nm,0.3s,baz=91,slow=27,SNR=5.9						
MJAR				LR	LR	12 24 08.4	
	comp=N,298nm,18.8s,baz=60,slow=44						
MAT	**Matsushiro**	**3.56**	**244**	P	**Pn**	**12 22 28.1**	**+2.0**
MAT				S	**Sn**	**12 23 09.6**	**+2.7**
JHJ	**Hachijo jima 2**	**5.39**	**202**	P	**Pn**	**12 22 50.9**	**-0.4**
	comp=N,13nm,0.3s,baz=42,slow=17,SNR=6.6						
JHJ				S	**Sn**	**12 23 49.9**	**-2.2**
	comp=N,25nm,0.3s,baz=108,slow=20,SNR=3.7						
ASAJ	**Asahikawa**	**5.97**	**3**	P	**Pn**	**12 23 00.7**	**+1.5**
ASAJ				S	**Sn**	**12 24 04.7**	**-1.5**
ASAJ				pmax	pmax		
	comp=Z,3.0nm,0.3s						
ASAJ				smax			
	comp=N,2.0nm,0.3s						
ASAJ	**Asahikawa**	**5.97**	**3**	P	**Pn**	**12 23 00.7**	**+1.5**
	comp=N,2.6nm,0.3s,baz=210,slow=10,SNR=25						
ASAJ				S	**Sn**	**12 24 04.7**	**-1.5**
	comp=N,1.6nm,0.3s,baz=197,slow=26,SNR=3.7						
YSS	**Yuzh-Sakhalins**	**8.80**	**3**	⇑*e*P	**Pn**	**12 23 39.2**	**+1.1**
VLA	**Vladivostok**	**9.27**	**306**	⇑*e*P	**Pn**	**12 23 47.3**	**+2.9**
JNU	**Nakatsue**	**10.48**	**245**	LR	LR	12 28 28.4	
	comp=N,96nm,18.8s,baz=240,slow=40						
KSRS	**Korea Array**	**11.31**	**271**	P	**Pn**	**12 24 15.5**	**+3.0**
	baz=79,slow=14,SNR=2.4						
MA2	**Magadan**	**22.13**	**12**	⇑*e*P	**P**	**12 26 26.1**	**+0.5**
MA2				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.0						
CIT	**Chita**	**24.32**	**314**	*e*P	**P**	**12 26 48.0**	**+0.5**
YAK	**Yakutsk**	**25.12**	**346**	⇑*e*P	**P**	**12 26 53.9**	**-0.8**
YAK				pmax	pmax		
	comp=Z,10.0nm,0.6s,mb4.5						
SEY	**Seymchan**	**25.58**	**11**	⇑*e*P	**P**	**12 26 59.3**	**+0.5**
BOD	**Bodaibo**	**26.93**	**326**	*e*P	**P**	**12 27 10.5**	**-0.6**
BOD				pmax	pmax		
	comp=Z,3.0nm,1.2s,mb3.7						
SONM	**Songino Array**	**27.70**	**302**	P	**P**	**12 27 17.9**	**-0.1**
	comp=Z,0.3nm,0.4s,mb3.3,baz=108,slow=8.1,SNR=6.2						
ZAK	**Zakamensk**	**30.08**	**307**	*e*P	**P**	**12 27 38.6**	**-0.6**
ZAK				pmax	pmax		
	comp=Z,1.0nm,0.8s,mb3.6						
TLY	**Talaya**	**30.08**	**309**	*e*P	**P**	**12 27 39.8**	**+0.6**
TLY				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb3.9						
BILL	**Bilibino**	**32.78**	**16**	⇑*e*P	**P**	**12 28 01.2**	**-1.6**
BILL				pmax	pmax		
	comp=Z,2.0nm,1.3s,mb3.9						
TIXI	**Tiksi**	**34.26**	**353**	⇑*e*P	**P**	**12 28 16.5**	**+0.9**
TIXI				pmax	pmax		
	comp=Z,6.0nm,1.7s,mb4.2						
ZALV	**Zalesovo Beam**	**41.63**	**311**	P	**P**	**12 29 17.9**	**0.0**
	comp=Z,2.2nm,0.5s,mb4.0,baz=90,slow=7.8,SNR=13						
MKAR	**Makanchi Array**	**44.06**	**301**	⇑*e*P	**P**	**12 29 37.9**	**+0.2**
MKAR	**Makanchi Array**	**44.06**	**301**	P	**P**	**12 29 37.9**	**+0.2**
	comp=Z,1.5nm,0.7s,mb3.9,baz=83,slow=9.9,SNR=6.7						
KURK	**Kurchatov**	**45.74**	**307**	⇑*e*P	**P**	**12 29 49.9**	**-1.1**
INK	**Inuvik**	**53.11**	**28**	P	**P**	**12 30 47.3**	**+0.3**
	comp=Z,0.4nm,0.5s,mb3.6,baz=262,slow=9.0,SNR=8.4						
ARU	**Arti**	**55.94**	**318**	*d*iP	**P**	**12 31 07.4**	**-0.2**
ARU						12 33 11.5	
ARU				*e*S	**S**	**12 38 55.3**	**+2.5**
ARU				SS	SS	12 42 40.2	+1.8
ARU				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.6						
WRA	**Warramunga Arr**	**58.25**	**189**	P	**P**	**12 31 23.7**	**-0.7**
WRA				pmax	pmax		
	comp=Z,1.0nm,1.1s						
WRA	**Warramunga Arr**	**58.25**	**189**	P	**P**	**12 31 23.7**	**-0.7**
	comp=Z,1.2nm,1.1s,mb3.9,baz=7.1,slow=7.3,SNR=5.6						
ASAR	**Alice Springs**	**61.98**	**189**	P	**P**	**12 31 49.7**	**-0.1**
	comp=Z,0.3nm,0.7s,mb3.5,baz=1.5,slow=4.4,SNR=5.6						
YKA	**Yellowknife Ar**	**62.53**	**31**	P	**P**	**12 31 53.3**	**+0.2**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
YKA	**Yellowknife Ar**	**62.53**	**31**	P	**P**	**12 31 53.3**	**+0.1**
	comp=Z,0.5nm,0.8s,mb3.7,baz=305,slow=6.9,SNR=11						
ARCES	**ARCESS Array B**	**63.17**	**339**	P	**P**	**12 31 57.3**	**0.0**
ARCES				pmax	pmax		
	comp=Z,3.0nm,0.9s						
ARCES	**ARCESS Array B**	**63.17**	**339**	P	**P**	**12 31 57.3**	**0.0**
	comp=Z,3.0nm,0.9s,mb4.4,baz=76,slow=10,SNR=3.6						
FINES	**FINESS Array B**	**68.11**	**332**	*i*P	**P**	**12 32 29.2**	**-0.1**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
FINES	**FINESS Array B**	**68.11**	**332**	P	**P**	**12 32 29.1**	**-0.1**
	comp=Z,1.3nm,0.6s,mb4.2,baz=35,slow=10,SNR=9.2						
HFS	**Hagfors**	**73.32**	**336**	P	**P**	**12 33 00.8**	**-0.2**
HFS				pmax	pmax		
	comp=Z,1.0nm,0.4s						
HFS	**Hagfors**	**73.32**	**336**	P	**P**	**12 33 00.8**	**-0.2**
	comp=Z,0.6nm,0.4s,mb3.9,baz=51,slow=4.7,SNR=8.3						
NB2	**NORSAR Subarra**	**73.39**	**337**	P	**P**	**12 33 01.2**	**-0.2**
	comp=Z,0.7nm,0.6s,mb3.8,baz=38,slow=5.9						
NOA	**NORSAR Array B**	**73.39**	**337**	P	**P**	**12 33 01.2**	**-0.2**
NOA				pmax	pmax		
	comp=Z,2.0nm,1.0s						
NOA	**NORSAR Array B**	**73.39**	**337**	P	**P**	**12 33 01.2**	**-0.2**
	comp=Z,2.2nm,1.0s,mb4.1,baz=39,slow=5.8,SNR=5.3						
AKASG	**Malin Array Be**	**73.79**	**322**	*i*P	**P**	**12 33 04.5**	**+0.6**
AKASG	**Malin Array Be**	**73.79**	**322**	P	**P**	**12 33 03.6**	**-0.3**
	comp=Z,0.2nm,0.2s,mb3.6,baz=44,slow=5.3,SNR=4.2						
PDAR	**Pinedale Array**	**76.44**	**46**	P	**P**	**12 33 19.8**	**+0.4**
	comp=Z,0.7nm,0.5s,mb3.9,baz=12,slow=0.8

KSRS LR LR 13 01 49.8
comp=Z,86nm,18.1s,baz=60,slow=40
JNU Nakatsue 17.93 238 LR LR 13 01 19.3
comp=Z,74nm,19.2s,baz=248,slow=37
SEY Seymchan 18.96 5||*eP* **Pn 12 54 29.6 -3.0**
YAK Yakutsk 21.25 334||*iP* **P 12 54 54.0 -2.6**
YAK pmax pmax
comp=Z,5.0nm,0.5s,mb4.1
YAK MLR MLR
comp=Z,100nm,18.0s,MS3.2
SONM Songino Array 29.63 292 P **P 12 56 16.7 +1.1**
SONM pmax pmax
comp=Z,1.0nm,0.8s
SONM MLR MLR
comp=Z,112nm,18.1s
SONM Songino Array 29.63 292 P **P 12 56 16.7 +1.1**
comp=Z,1.0nm,0.8s,mb3.6,baz=79,slow=7.9,SNR=9.1
SONM LR LR 13 09 09.6
comp=Z,112nm,18.1s,MS3.5,baz=33,slow=38
COLA College 39.95 36||*eP* **P 12 57 40.3 -4.0**
ZALV Zalesovo Beam 41.90 307 P **P 12 58 01.6 +1.1**
comp=Z,0.2nm,0.3s,mb3.2,baz=51,slow=4.6,SNR=2.3
INK Inuvik 45.38 31 P **P 12 58 28.5 +0.3**
INK pmax pmax
comp=Z,2.0nm,1.0s
INK Inuvik 45.38 31 P **P 12 58 28.5 +0.3**
comp=Z,1.7nm,1.0s,mb3.8,baz=299,slow=5.2,SNR=6.7
MKAR Makanchi Array 45.66 298 *iP* **P 12 58 31.5 +0.8**
MKAR pmax pmax
comp=Z,2.0nm,0.8s
MKAR Makanchi Array 45.66 298 P **P 12 58 31.4 +0.7**
comp=Z,2.2nm,0.8s,mb4.2,baz=72,slow=7.9,SNR=11
KURK Kurchatov 46.49 304||*eP* **P 12 58 37.4 +0.2**
YKA Yellowknife Ar 54.72 34 *iP* **P 12 59 39.2 +0.1**
YKA Yellowknife Ar 54.72 34 P **P 12 59 38.8 -0.2**
comp=Z,0.2nm,0.6s,mb3.3,baz=301,slow=7.1,SNR=5.8
FINES FINESS Array B 65.19 334 *iP* **P 13 00 49.7 -1.2**
FINES pmax pmax
comp=Z,3.0nm,0.8s
FINES FINESS Array B 65.19 334 P **P 13 00 49.7 -1.2**
comp=Z,2.7nm,0.8s,mb4.3,baz=35,slow=7.0,SNR=7.0
NB2 NORSAR Subarra 69.77 340 P **P 13 01 19.0 -0.8**
comp=Z,1.8nm,0.8s,mb4.0,baz=30,slow=6.5
NOA NORSAR Array B 69.77 340 P **P 13 01 19.8 0.0**
NOA pmax pmax
comp=Z,2.0nm,0.8s
NOA NORSAR Array B 69.77 340 P **P 13 01 19.8 0.0**
comp=Z,2.4nm,0.8s,mb4.2,baz=32,slow=6.2,SNR=10
AKASG Malin Array Be 72.11 325 P **P 13 01 34.2 0.0**
AKASG pmax pmax
comp=Z,1.0nm,0.5s
AKASG Malin Array Be 72.11 325 P **P 13 01 34.2 0.0**
comp=Z,0.9nm,0.5s,mb3.9,baz=34,slow=6.1,SNR=7.2
GERES GERESS Array B 79.52 332 P **P 13 02 16.9 +0.4**
GERES pmax pmax
comp=Z,1.0nm,0.6s
GERES GERESS Array B 79.52 332 P **P 13 02 16.9 +0.4**
comp=Z,0.5nm,0.6s,mb3.6,baz=23,slow=4.4,SNR=5.4

*ISCJB **01** 12:52:35.9±2.2, 585S±010×14732E±010, h132km±22km, mb4.2/12, Error ellipse: s-maj=18.9km s-min=12.1km az=136.8*
*NEIC **01** 12:52:36.5±2.5, 586S×14733E, h124km±24km, mb4.5/7, Error ellipse: s-maj=18.5km s-min=13.1km az=150.0*
*IDC **01** 12:52:40.2±2.6, 595S×14732E, h156km±26km, mb3.9/8, mb1 4.0/11, mb1mx3.9/17, mbtmp3.9/11, MS3.4/7, Ms1 3.4/7, ms1mx3.2/22, Error ellipse: s-maj=23.7km s-min=11.6km az=108.0*
ISC 01 12:52:37.3±1.9, 588S±010×14734E±010, h130km±19km, n26, σ1§15/23, mb4.2/12, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**12.98 107**		P	**Pn**	**12 55 38.3**	**+1.2**
	6.5nm,0.3s,baz=270,slow=15,SNR=3.7						
CTA	**Charters Tower**	**14.17 184**		P	**Pn**	**12 55 51.3**	**-0.9**
	0.3nm,0.3s,baz=360,slow=11,SNR=5.3						
CTAO	**Charters Tower**	**14.17 184**		*e*Pn	**Pn**	**12 55 49.9**	**-2.3**
KAKA	**Kakadu**	**16.19 244**		*e*P	**Pn**	**12 56 16.4**	**-1.2**
	26nm,0.5s						
WB2	**Warramunga Arr**	**18.84 221**		*e*P	**P**	**12 56 46.7**	**-0.6**
WRA	**Warramunga Arr**	**18.85 221**		P	**P**	**12 56 46.7**	**-0.7**
	1.9nm,0.3s,baz=45,slow=11,SNR=135						
WRA				S	**S**	**13 00 10.6**	**-4.4**
	0.1nm,0.3s,baz=40,slow=22,SNR=3.4						
ASAR	**Alice Springs**	**21.91 215**		P	**P**	**12 57 20.2**	**-0.1**
	27nm,0.9s,mb4.7,baz=56,slow=8.4,SNR=208						
ASAR				S	**S**	**13 01 13.8**	**-0.2**
	7.0nm,1.0s,baz=32,slow=22,SNR=14						
BATI	**Kupang**	**23.83 258**		P	**P**	**12 57 40.6**	**+1.9**
	13nm,0.3s,mb4.9,baz=116,slow=4.2,SNR=7.4						
FITZ	**Fitzroy Crossi**	**24.42 238**		*e*P	**P**	**12 57 45.5**	**+1.5**
	18nm,0.4s,mb4.9						
FITZ	**Fitzroy Crossi**	**24.42 238**		P	**P**	**12 57 45.9**	**+1.9**
	12nm,0.5s,mb4.7,baz=69,slow=9.2,SNR=44						
FITZ				LR	LR	13 08 25.2	
	comp=Z,75nm,20.4s,baz=80,slow=39						
DZM	**Mont Dzumac**	**24.50 133**		LR	LR	13 04 51.3	
	comp=Z,107nm,20.4s,baz=204,slow=30						
STKA	**Stephens Creek**	**26.42 191**		*e*P	**P**	**12 58 02.8**	**+0.9**
	3.6nm,0.6s,mb4.2						
STKA	**Stephens Creek**	**26.42 191**		*e*P	**P**	**12 58 01.9**	**0.0**
	4.4nm,0.6s,mb4.3						
STKA	**Stephens Creek**	**26.42 191**		P	**P**	**12 58 02.5**	**+0.5**
	3.4nm,0.5s,mb4.3,baz=357,slow=8.9,SNR=14						
STKA				LR	LR	13 08 34.3	
	comp=Z,89nm,20.7s,baz=24,slow=36						
MBWA	**Marble Bar**	**30.76 238**		*e*P	**P**	**12 58 41.2**	**+0.5**
	6.3nm,1.0s,mb4.3						
KLBR	**Kellerberrin**	**37.70 224**		*e*P	**P**	**12 59 42.4**	**+2.1**
	87nm,1.9s,mb5.1						
JNU	**Nakatsue**	**41.81 339**		LR	LR	13 14 46.7	
	comp=Z,33nm,18.1s,baz=47,slow=32						
KSRS	**Korea Array**	**46.76 339**		LR	LR	13 19 25.4	
	comp=Z,37nm,19.5s,baz=0.7,slow=34						
SONM	**Songino Array**	**64.46 331**		P	**P**	**13 03 00.8**	**+0.9**
	1.0nm,0.8s,mb3.7,baz=141,slow=5.8,SNR=7.1						
SONM				LR	LR	13 30 50.1	
	comp=Z,57nm,18.5s,baz=152,slow=36						
VNDA	**Vanda**	**72.02 177**		P	**P**	**13 03 46.3**	**-0.2**
	1.0nm,0.8s,mb3.6,baz=292,slow=8.2,SNR=3.9						
MKAR	**Makanchi Array**	**77.62 320**		P	**P**	**13 04 19.0**	**-0.3**
	0.3nm,0.4s,mb3.3,baz=97,slow=8.6,SNR=6.5						
ZALV	**Zalesovo Beam**	**79.09 328**		P	**P**	**13 04 25.6**	**-1.6**
	0.7nm,0.4s,mb3.7,baz=107,slow=7.1,SNR=5.3						
ZALV				LR	LR	13 37 22.0	
	comp=Z,19nm,20.3s,baz=241,slow=34						
QSPA	**South Pole Qui**	**84.09 180**		*e*P	**P**	**13 04 52.8**	**-0.3**
	4.2nm,0.9s,mb4.2						
COLA	**College**	**84.90 23**		*e*P	**P**	**13 04 55.7**	**-1.6**
	0.8nm,0.5s,mb3.7						
TORD	**Torodi Ar. Bea**	**145.39 285**		PKPbc	PKPbc	13 12 00.8	-0.3
TORD	**Torodi Ar. Bea**	**145.39 285**		PKPbc	PKPbc	13 12 00.8	-0.3
	0.7nm,0.3s,baz=64,slow=4.3,SNR=7.5						

*ATH **01** 13:02:55.6, 4076N×2181E, h9km, MD3.5/3*
*ISCJB **01** 13:03:02.8±0.9, 4040N±004×220E±0.1, h16km±14km, Error ellipse: s-maj=14.6km s-min=6.6km az=164.3*
*CSEM **01** 13:03:02.6±0.1, 4044N×2180E, h15km±3km, ML1.8, Error ellipse: s-maj=3.1km s-min=2.6km az=63.0*
*SKO **01** 13:03:03.6, 4042N×2189E, h4km, M1.5, ML1.8*
ISC 01 13:03:02.7±0.8, 4040N±004×2186E±009, h18km±7km, n11, σ1§18/20, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KZN	**Kozani**	**0.12 217**		*e*PB	**Pg**	**13 03 04.7**	**-1.9**
KZN				*e*SB	**Sg**	**13 03 11.3**	**+2.1**
BIA	**Bitola**	**0.74 327**		*e*Pg	**Pg**	**13 03 16.1**	**-1.1**
BIA				*e*Sg	**Sg**	**13 03 26.9**	**-0.2**
	comp=N,9.5nm,0.5s						
BIA				*e*Lg		13 03 28.1	
BIA				*e*Lg		13 03 28.3	
BIA	**Bitola**	**0.74 327**		*e*Pg	**Pg**	**13 03 16.1**	**-1.2**
BIA				*e*Sg	**Sg**	**13 03 26.9**	**-0.2**
	comp=N,9.5nm,0.5s						
THL	**Klokotos Trika**	**0.84 172**		*e*PB	**Pb**	**13 03 18.4**	**-0.3**
VAY	**Valandovo**	**1.06 30**		*e*Pg	**Pg**	**13 03 22.4**	**-0.9**
VAY				*e*Sg	**Sg**	**13 03 40.1**	**+2.8**
	comp=E,74nm,1.1s						
VAY				*e*Lg		13 03 40.7	
VAY				*e*Lg		13 03 41.2	
VAY	**Valandovo**	**1.06 30**		*e*Pg	**Pg**	**13 03 22.4**	**-0.9**
VAY				*e*Sg	**Sg**	**13 03 40.1**	**+2.8**
KRUS	**Krusevo**	**1.07 334**		*e*Pg	**Pg**	**13 03 23.1**	**-0.4**
KRUS				*e*Sg	**Sg**	**13 03 38.2**	**+0.6**
KRUS	**Krusevo**	**1.07 334**		*e*Pg	**Pg**	**13 03 23.1**	**-0.4**
KRUS				*e*Sg	**Sg**	**13 03 38.1**	**+0.5**
OHR	**Ohrid**	**1.08 312**		*e*Pg	**Pg**	**13 03 23.3**	**-0.2**
OHR				*e*Sg	**Sg**	**13 03 38.5**	**+0.8**
	comp=N,36nm,0.8s						
OHR				*e*Lg		13 03 39.0	
OHR				*e*Lg		13 03 39.3	
OHR	**Ohrid**	**1.08 312**		*e*Pg	**Pg**	**13 03 23.3**	**-0.3**
OHR				*e*Sg	**Sg**	**13 03 38.4**	**+0.7**
EVR	**Evrytania**	**1.48 182**		*e*PN	**Pn**	**13 03 29.5**	**+1.1**

*ISCJB **01** 13:15:46.2±0.9, 3838N±003×2044E±008, h2km, Error ellipse: s-maj=9.7km s-min=4.2km az=164.0*
*THE **01** 13:15:46.9, 3839N×2045E, h3km, ML3.1*
*CSEM **01** 13:15:47.0±0.2, 3838N×2049E, h2km, MD3.4, Error ellipse: s-maj=5.4km s-min=1.7km az=77.0*
*NEIC **01** 13:15:47.2, 3827N×2047E, h17km, MD3.4(ATH), After ATH.*
*ATH **01** 13:15:47.1, 3825N×2046E, h18km±2km, MD3.4/6*
ISC 01 13:15:46.6±1.0, 3838N±004×2043E±009, h1km±6km, n14, σ0§98/19, 4C, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VLS	**Valsamata**	**0.24 148**		↑*i*PB	**Pg**	**13 15 50.9**	**-0.2**
VLS				*e*SB	**Sg**	**13 15 54.8**	**+0.6**
LKD	**Levkas**	**0.37 28**		*e*Pg	**Pg**	**13 15 53.9**	**+0.2**
LKD				*e*Sg	**Sg**	**13 15 59.1**	**+0.6**
KFL	**Anninata**	**0.39 133**		*e*Pg	**Pg**	**13 15 53.8**	**-0.3**
RLS	**Riolos of Patr**	**0.88 111**		↑*i*PN	**Pg**	**13 16 02.7**	**-0.7**
IGT	**Igoumenitsa**	**1.16 356**		*e*Pg	**Pn**	**13 16 08.5**	**-1.3**
IGT				*e*Sg	**Sn**	**13 16 24.7**	**-1.5**
SELA	**Sela**	**1.16 95**		*e*Pg	**Pg**	**13 16 07.4**	**-1.4**
EVR	**Evrytania**	**1.21 63**		*e*PN	**Pn**	**13 16 10.3**	**-0.2**
JAN	**Janina**	**1.32 14**		*e*PN	**Pn**	**13 16 14.2**	**+2.1**
KEK	**Kerkira**	**1.42 340**		↑*i*PN	**Pg**	**13 16 15.8**	**+2.0**
MEV	**Metsovon**	**1.54 24**		*e*Pg	**Pg**	**13 16 15.1**	**-1.0**
AGG	**Agios Georgios**	**1.62 66**		*e*Pg	**Pn**	**13 16 15.6**	**-0.6**
AGG				*e*Sg	**Sn**	**13 16 38.3**	**+0.6**
THL	**Klokotos Trika**	**1.71 46**		↑*i*PN	**Pg**	**13 16 19.6**	**+0.2**
PYL	**PYLOS**	**1.81 144**		*e*Pb	**Pn**	**13 16 18.4**	**-0.4**
DID	**Didima**	**2.38 111**		*e*Pn	**Pn**	**13 16 27.7**	**+1.0**
DID				*e*Sn	**Sn**	**13 16 57.3**	**+0.8**

*IDC **01** 13:28:39.4±0.7, 1219N×12548E, h0km, mb4.0/12, mb1 4.1/12, mb1mx4.0/19, mbtmp4.0/12, MS3.1/4, Ms1 3.2/4, ms1mx2.9/29, Error ellipse: s-maj=64.1km s-min=13.7km az=73.0*
*MAN **01** 13:28:42, 1236N×12568E, h24km, mb4.6, ML3.5, MS3.5*
*ISCJB **01** 13:28:43.3±1.1, 1232N±004×12568E±009, h41km±9km, mb4.2/14, MS3.5/2, Error ellipse: s-maj=15.6km s-min=6.0km az=167.4*
ISC 01 13:28:44.8±1.1, 1229N±004×12568E±010, h39km±10km, n46, σ1§06/46, mb4.2/14, MS3.5/2, 2C-1D, Samar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BESP	**Borongan**	**0.72 199**		*e*P	**Pn**	**13 28 57.1**	**-1.4**
BESP				*e*S	**Sn**	**13 29 09.0**	**+0.6**
CNP	**Catarman**	**1.01 283**		*e*P	**Pn**	**13 29 00.2**	**-2.3**
PLP	**Palo**	**1.31 212**		*e*P	**Pn**	**13 29 05.1**	**-1.5**
PLP				*e*S	**Sn**	**13 29 21.8**	**-1.0**
OCLP	**Ormoc**	**1.61 221**		*e*P	**Pn**	**13 29 10.6**	**-0.2**
PVCP	**Virac**	**1.97 311**		||*iP*	**Pn**	**13 29 13.8**	**-1.9**
PVCP				*i* S	**Sn**	**13 29 49.0**	**+10**
PVCP	**Virac**	**1.97 311**		*e*P	**Pn**	**13 29 14.0**	**-1.7**
MMPH	**Masbate**	**2.01 272**		*e*P	**Pn**	**13 29 16.8**	**+0.6**
MSLP	**Maasin**	**2.29 201**		*e*P	**Pn**	**13 29 21.0**	**+1.0**
MSLP				*e*S	**Sn**	**13 29 52.0**	**+5.1**
SCPH	**Surigao**	**2.50 184**		↑*e*P	**Pn**	**13 29 23.3**	**+0.4**
SCPH						01 26 25.1	
LLP	**Lapu-Lapu**	**2.58 221**		*e*P	**Pn**	**13 29 22.9**	**-1.1**
LLP				*e*S	**Sn**	**13 29 55.7**	**+1.5**
RCP	**Roxas**	**2.96 256**		↑*e*P	**Pn**	**13 29 29.2**	**0.0**
TBP	**Tagbilaran**	**3.13 215**		*e*P	**Pn**	**13 29 32.2**	**+0.5**
GUIM	**Jordan**	**3.45 242**		*e*P	**Pn**	**13 29 35.9**	**-0.1**
OTRP	**Odiongan**	**3.57 272**		*e*P	**Pn**	**13 29 37.2**	**-0.6**
SNPH	**Sibulan**	**3.78 220**		*e*P	**Pn**	**13 29 41.0**	**+0.4**
POLP	**Polilio Island**	**4.37 304**		*e*P	**Pn**	**13 29 51.4**	**+2.7**
BUKP	**Musuan**	**4.42 188**		*e*P	**Pn**	**13 29 54.9**	**+5.5**
CUYO	**Cuyo Island**	**4.78 253**		*e*P	**Pn**	**13 29 54.9**	**+0.5**
PAGZ	**Pagadian**	**4.96 207**		*e*P	**Pn**	**13 29 59.4**	**+2.6**
BALP	**Baler**	**5.26 311**		*e*P	**Pn**	**13 30 00.3**	**-0.5**
LUBP	**Lubang**	**5.48 286**		*e*P	**Pn**	**13 30 04.6**	**+0.6**
CAUP	**Cauayan**	**5.95 322**		*e*P	**Pn**	**13 30 09.4**	**-0.9**
BOLP	**Bolinao**	**6.91 307**		*e*P	**Pn**	**13 30 25.7**	**+2.1**
APYP	**Conner**	**7.00 323**		*e*P	**Pn**	**13 30 24.9**	**0.0**
GUMO	**Guam**	**18.75 84**		LR	LR	13 37 50.9	
	comp=Z,16nm,21.1s,baz=97,slow=29						
JNU	**Nakatsue**	**21.28 12**		LR	LR	13 40 31.9	
	comp=Z,39nm,18.8s,baz=55,slow=33						
BATI	**Kupang**	**22.44 185**		P	**P**	**13 33 40.1**	**-0.2**
	14nm,0.5s,mb4.6,baz=54,slow=22,SNR=6.6						
KSRS	**Korea Array**	**25.14 4**		P	**P**	**13 34 07.7**	**+1.5**
	1.4nm,0.9s,mb3.5,baz=184,slow=13,SNR=4.2						
PSI	**Prapat**	**28.11 253**		LR	LR	13 46 20.0	
	comp=Z,113nm,18.6s,MS3.5,baz=68,slow=38						
WRA	**Warramunga Arr**	**33.14 165**		P	**P**	**13 35 15.9**	**-1.6**
	0.2nm,0.6s,mb3.2,baz=344,slow=9.1,SNR=3.3						
WRA				PcP	PcP	13 38 00.0	-0.1
	0.7nm,0.8s,baz=344,slow=3.1,SNR=6.1						
ASAR	**Alice Springs**	**36.63 167**		P	**P**	**13 35 47.2**	**-0.3**
	0.6nm,0.4s,mb3.8,baz=341,slow=6.9,SNR=27						
SONM	**Songino Array**	**38.94 339**		P	**P**	**13 36 07.6**	**+0.8**
	1.7nm,0.9s,mb3.8,baz=155,slow=9.8,SNR=10						
JIRN	**Jiri**	**39.94 299**		*e*P	**P**	**13 36 14.1**	**-1.4**
	16nm,0.7s,mb4.9						
KKN	**Kakani**	**40.75 298**		*e*P	**P**	**13 36 21.9**	**-0.3**
GKN	**Gorkha**	**41.36 299**		*e*P	**P**	**13 36 26.5**	**-0.7**
KOLN	**Koldanda**	**42.20 298**		*e*P	**P**	**13 36 34.3**	**+0.2**
	20nm,0.5s,mb5.0						
STKA	**Stephens Creek**	**46.49 161**		P	**P**	**13 37 08.7**	**+0.5**
	0.6nm,0.4s,mb3.9,baz=349,slow=15,SNR=2.2						
MKAR	**Makanchi Array**	**50.08 322**		P	**P**	**13 37 36.4**	**+0.6**
	3.4nm,0.7s,mb4.5,baz=113,slow=9.3,SNR=21						
ZALV	**Zalesovo Beam**	**52.59 331**		P	**P**	**13 37 54.5**	**+0.1**
	0.9nm,0.7s,mb3.8,baz=124,slow=4.5,SNR=5.5						
RAR	**Rarotonga**	**80.39 114**		LR	LR	14 07 49.0	
	comp=Z,910nm,21.2s,baz=204,slow=29						
ARCES	**ARCESS Array B**	**82.11 340**		P	**P**	**13 41 02.4**	**+1.5**
	4.9nm,1.0s,mb4.4,baz=67,slow=7.9,SNR=2.8						
FINES	**FINESS Array B**	**83.85 332**		P	**P**	**13 41 10.3**	**+0.2**
	3.4nm,0.9s,mb4.5,baz=96,slow=4.6,SNR=8.1						
AKASG	**Malin Array Be**	**84.64 321**		P	**P**	**13 41 13.8**	**-0.5**
	1.2nm,0.8s,mb4.1,baz=67,slow=4.3,SNR=6.4						
NB2	**NORSAR Subarra**	**90.70 334**		P	**P**	**13 41 42.1**	**-1.2**
	comp=Z,2.3nm,1.1s,mb4.4,baz=68,slow=5.1						
NOA	**NORSAR Array B**	**90.70 334**		P	**P**	**13 41 42.1**	**-1.2**
	comp=Z,1.0nm,0.8s,mb4.2,baz=65,slow=4.7,SNR=4.2						
NOA				LR	LR	14 26 24.6	
	comp=Z,18nm,19.8s,MS3.5,baz=315,slow=38						
PLCA	**Paso Flores**	**148.28 156**		PKPbc	PKPbc	13 48 27.9	+0.9
	comp=Z,1.0nm,0.8s,baz=313,slow=3.9,SNR=3.7						

*NEIC **01** 13:40:31.6, 3199S×7155W, h59km, MD3.6(GUC), After GUC.*
GUC 01 13:40:31.6±0.7, 3199S×7155W, h59km±5km, MD3.1, ML2.6, 3C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHNG	**Los Chungos**	**0.12 24**		||*iP*	**Pn**	13 40 24.1	-16
CHNG				*i* S	Sn	13 40 31.1	-16
CHNG				AML	AML	13 40 31.5	
	comp=N,436nm,0.3s						
PACH	**Papudo**	**0.56 170**		*i* P	Pn	13 40 44.8	+0.6
PACH				*i* S	Sn	13 40 54.4	+1.2
CMCH	**Combarbala**	**0.94 30**		↑*i*P	Pn	13 40 49.2	+0.4
CMCH				*i* S	Sn	13 41 02.5	+1.0
CMCH	**Combarbala**	**0.94 30**		↑*i*P	Pn	13 40 49.2	+0.4
CMCH				*i* S	Sn	13 41 02.5	+1.0
CMCH				AML	AML	13 41 03.5	
	comp=E,668nm,0.3s						
JACH	**Jahuel**	**1.07 131**		||*iP*	Pn	13 40 51.5	+1.0
JACH				*i* S	Sn	13 41 05.9	+1.4
PEL	**Peldehue**	**1.37 148**		*i* S	Sn	13 41 12.5	+0.9
PEL				AML	AML	13 41 13.0	
	comp=E,128nm,0.3s						
LCCH	**Las Cruces**	**1.48 181**		↑*iP*	Pn	13 40 56.3	+0.2
LCCH				*i* S	Sn	13 41 14.7	+0.3
CLCH	**Cerro Calan**	**1.65 149**		*e*P	Pn	13 40 59.0	+0.8
CLCH				*i* S	Sn	13 41 19.3	+0.9
CLCH				AML	AML	13 41 23.2	
	comp=N,74nm,0.3s						
FCH	**Farellones**	**1.71 142**		*e*P	Pn	13 41 00.7	+1.6
FCH				*i* S	Sn	13 41 22.0	+2.1
FCH				AML	AML	13 41 24.1	
	comp=E,56nm,0.3s						
TACH	**Talagante**	**1.74 163**		*i* S	Sn	13 41 21.7	+1.1
PCH	**Pirque**	**1.85 152**		*e*P	Pn	13 41 01.9	+0.9
PCH				*i* S	Sn	13 41 24.6	+1.3
LMEL	**Las Melosas**	**2.17 149**		*e*P	Pn	13 41 06.7	+1.3
LMEL				*i* S	Sn	13 41 33.2	+2.0
LMEL	**Las Melosas**	**2.17 149**		*e*P	Pn	13 41 06.7	+1.3
LMEL				*i* S	Sn	13 41 33.2	+2.0
LMEL				AML	AML	13 41 34.6	
	comp=N,91nm,0.2s						
SFDO	**San Fernando**	**2.66 170**		*e*P	Pn	13 41 12.9	+0.9
SFDO				*i* S	Sn	13 41 43.8	+0.8

IDC 01 13:56:41.5±3.1, 2076S×16824E, h32km±7km, mb3.4/2, mb1 3.6/3, mb1mx3.3/13, mbtmp3.3/3, ML2.7/1, MS3.5/2, Ms1 3.5/2, ms1mx3.0/13, Error ellipse: s-maj=102.2km s-min=27.0km az=138.0, Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**2.12 232**		Pn	Pn	13 57 13.7	-1.0
	2.5nm,0.3s,baz=71,slow=19,SNR=54						
DZM				Sn	Sn	13 57 41.1	+1.2
	23nm,0.3s,baz=135,slow=19,SNR=14						
STKA	**Stephens Creek**	**26.26 240**		LR	LR	14 12 10.7	
	comp=Z,70nm,18.7s,baz=205,slow=35						
WRA	**Warramunga Arr**	**31.77 265**		P	P	14 03 02.3	-0.7
	0.7nm,1.0s,baz=96,slow=8.4,SNR=4.8						
WRA				pP	pP	14 03 12.5	+0.2
	0.7nm,0.9s,baz=92,slow=10.0,SNR=3.8						
ASAR	**Alice Springs**	**31.88 258**		P	P	14 03 04.3	+0.4
	1.0nm,0.5s,baz=85,slow=8.9,SNR=44						
ASAR				pP	pP	14 03 13.9	+0.6
	2.3nm,0.7s,baz=90,slow=9.3,SNR=16						
JHJ	**Hachijo jima 2**	**60.08 333**		LR	LR	14 30 50.1	
	comp=Z,69nm,20.7s,baz=106,slow=34						
GERES	**GERESS Array B**	**145.36 330**		PKPbc	PKPbc	14 16 15.5	-0.3
	0.5nm,0.8s,baz=39,slow=3.8,SNR=2.6						
GERES				pPKPbc	pPKPbc	14 16 25.3	-1.0
	0.8nm,0.7s,baz=44,slow=4.1,SNR=3.7						

*NIED **01** 14:06:00, 4430N×149.10E, h17km, Mw3.6 Best double couple: M0=2.39000×10^14 NP1:φ=37.00000°, δ=61.00000°, λ=99.00000°. NP2:φ=199.00000°, δ=30.00000°, λ=75.00000°.*
*JMA **01** 14:06:10.1±0.5, 4433N×149.11E, h30km, M3.9*
*ISCJB **01** 14:06:11.2±1.6, 437N±02×149.1E±0.1, h75km±14km, mb3.5/5, Error ellipse: s-maj=32.3km s-min=13.0km az=159.4*
*IDC **01** 14:06:13.3±5.5, 4536N×14858E, h0km, mb3.7/5, mb1 3.7/6, mb1mx3.5/21, mbtmp3.6/6, ML2.9/1, Error ellipse: s-maj=136.1km s-min=28.2km az=156.0*
ISC 01 14:06:12.8±1.6, 437N±02×1491E±01, h68km±14km, n25, σ0§80/27, mb3.5/5, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NEM2	**Nemuro 2**	**2.45 262**		P	**Pn**	**14 06 49.4**	**-1.0**
NEM2				*e*S	**Sn**	**14 07 18.3**	**-0.9**
JRA	**Rausu**	**2.86 275**		P	**Pn**	**14 06 55.3**	**-0.7**
JNK	**Nakash**	**3.16 269**		P	**Pn**	**14 06 59.5**	**-0.6**
JNK				*e*S	**Sn**	**14 07 37.0**	**+0.4**
JAK	**Akkeshi**	**3.27 258**		P	**Pn**	**14 07 01.3**	**-0.4**
JAK				*e*S	**Sn**	**14 07 38.2**	**-1.2**
JTKR	**Abashiri--Toko**	**3.74 275**		P	**Pn**	**14 07 07.8**	**-0.2**
JAR	**Ashorobuto**	**3.88 265**		P	**Pn**	**14 07 10.2**	**+0.3**
JAR				*e*S	**Sn**	**14 07 55.9**	**+1.7**
JMP	**Maruseppu**	**4.14 276**		P	**Pn**	**14 07 13.6**	**+0.2**
JCH	**Churui**	**4.32 257**		P	**Pn**	**14 07 16.6**	**+0.6**
JCH				*e*S	**Sn**	**14 08 05.0**	**-0.1**
JEM	**Erimo**	**4.67 250**		*e*S	**Sn**	**14 08 14.2**	**+0.5**
ASAJ	**Asahikawa**	**4.69 277**		Pn	**Pn**	**14 07 21.8**	**+0.8**
	0.5nm,0.3s,baz=84,slow=10,SNR=7.1						
JNBK	**Urakawa-nobuka**	**4.86 255**		P	**Pn**	**14 07 24.0**	**+0.7**
JBT2	**Biratori 2**	**4.99 261**		P	**Pn**	**14 07 25.1**	**0.0**
JNB	**Noboribetsu**	**6.01 261**		P	**Pn**	**14 07 39.7**	**+0.6**
JKB	**Kayabe**	**6.19 255**		P	**Pn**	**14 07 42.1**	**+0.5**
JKB				*e*S	**Sn**	**14 08 49.0**	**-1.9**
JTH	**Tanohata**	**6.59 237**		*e*S	Sx	14 08 57.6	
JYM2	**Yakumo 2**	**6.59 259**		P	**Pn**	**14 07 47.6**	**+0.7**
JTM	**Tenmabayashi**	**6.63 246**		*e*S	Sx	14 08 59.7	
OFUJ	**Ofunato**	**7.25 233**		*e*S	Sx	14 09 15.2	
JIO	**Ouri**	**7.87 230**		*e

mb1 4.3/12, mb1mx4.3/16, mbtmp4.2/12, ML4.2/1, MS3.9/9, Ms1 3.9/9, ms1mx3.6/23, Error ellipse: s-maj=23.4km s-min=19.0km az=119.0
*BJI **01** 14:56:14.2, 805S×15695E, h10km, mB5.3, mb4.7*
*NEIC **01** 14:56:14.1±0.5, 841S×15684E, h10km, mb4.8/3, Error ellipse: s-maj=14.9km s-min=11.9km az=166.0*
*MOS **01** 14:56:15.6±1.3, 848S×15685E, h33km, mb4.8/9, Error ellipse: s-maj=16.9km s-min=12.6km az=116.9*

ISC 01 14:56:14.0±7.7, 846S±010×15688E±009, h9km±49km, n49, σ1§13/48, mb4.5/25, MS3.8/9, 8C-1D, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**3.18**	**108**	*e*Pn	**Pn**	**14 57 04.4**	**+0.1**
HNR				LR	LR	14 57 45.7	
HNR				Sn	**Sn**	**14 57 49.9**	**+7.6**
HNR				*e*S	**Sn**	**14 57 50.8**	**+8.4**
HNR	**Honiara**	**3.18**	**108**	Pn	**Pn**	**14 57 03.9**	**-0.4**
	28nm,0.3s,baz=262,slow=1.4,SNR=15						
HNR				LR	LR	14 57 45.7	
	comp=Z,582nm,19.5s,baz=356,slow=29						
HNR				Sn	**Sn**	**14 57 49.9**	**+7.6**
	176nm,0.3s,baz=84,slow=15,SNR=6.5						
CTA	**Charters Tower**	**15.47**	**221**	Pn	**Pn**	**14 59 59.9**	**+7.3**
	0.3nm,0.3s,baz=54,slow=14,SNR=5.0						
KAKA	**Kakadu**	**24.39**	**258**	*e*P	**P**	**15 01 33.6**	**+0.7**
	30nm,1.4s,mb4.5						
WB2	**Warramunga Arr**	**24.61**	**240**	*e*P	**P**	**15 01 34.8**	**-0.1**
WRA	**Warramunga Arr**	**24.61**	**240**	P	**P**	**15 01 35.1**	**+0.2**
WRA						15 05 12.8	
WRA	**Warramunga Arr**	**24.61**	**240**	P	**P**	**15 01 35.1**	**+0.2**
	5.2nm,0.6s,mb4.3,baz=67,slow=10,SNR=42						
WRA				PcP	PcP	15 05 12.8	-0.1
	1.4nm,0.8s,baz=59,slow=2.2,SNR=6.0						
WRA				LR	LR	15 10 45.6	
	comp=Z,567nm,20.3s,MS4.1,baz=60,slow=36						
GUMO	**Guam**	**24.94**	**331**	LR	LR	15 10 38.5	
	comp=Z,13nm,18.1s,MS2.5,baz=110,slow=35						
ASAR	**Alice Springs**	**26.69**	**233**	P	**P**	**15 01 53.2**	**-0.6**
	0.5nm,1.0s,baz=11,slow=14,SNR=4.8						
STKA	**Stephens Creek**	**27.29**	**209**	*e*P	**P**	**15 02 01.3**	**+2.3**
	6.2nm,0.7s,mb4.2						
STKA	**Stephens Creek**	**27.29**	**209**	*e*P	**P**	**15 01 59.9**	**+0.9**
STKA	**Stephens Creek**	**27.29**	**209**	P	**P**	**15 01 59.2**	**+0.2**
	8.5nm,1.0s,mb4.2,baz=24,slow=12,SNR=15						
STKA				LR	LR	15 12 10.2	
	comp=Z,464nm,19.5s,MS4.1,baz=26,slow=35						
FITZ	**Fitzroy Crossing**	**31.83**	**249**	P	**P**	**15 02 38.7**	**-0.9**
	0.7nm,0.6s,mb3.7,baz=63,slow=11,SNR=3.3						
FITZ				LR	LR	15 15 21.5	
	comp=Z,296nm,20.1s,MS4.0,baz=80,slow=36						
BATI	**Kupang**	**32.81**	**264**	LR	LR	15 16 48.8	
	comp=Z,363nm,18.6s,MS4.1,baz=114,slow=38						
RAR	**Rarotonga**	**43.63**	**112**	LR	LR	15 19 45.9	
	comp=Z,132nm,19.3s,MS3.9,baz=252,slow=32						
KSRS	**Korea Array**	**53.11**	**331**	P	**P**	**15 05 30.9**	**-1.1**
	3.3nm,1.1s,mb4.2,baz=151,slow=7.3,SNR=3.4						
KSRS				LR	LR	15 26 43.7	
	comp=Z,58nm,19.1s,MS3.6,baz=126,slow=34						
NJ2	**Nanjing**	**54.23**	**320**	*e*P	**P**	**15 05 41.2**	**+0.8**
NJ2				AMB	AMB		
	comp=Z,30nm,1.0s,mb5.2						
YSS	**Yuzh-Sakhalins**	**56.59**	**348⇑**	*e*P	**P**	**15 05 57.4**	**+0.3**
YSS				pmax	pmax		
	comp=Z,8.0nm,1.2s,mb4.6						
HABR	**Khabarovsk**	**59.87**	**343**	*e*P	**P**	**15 06 18.9**	**-1.1**
HABR				*e*		15 07 04.7	
KLR	**Kul'dur**	**61.53**	**342**	*e*P	**P**	**15 06 28.9**	**-2.4**
CHTO	**Chiang Mai**	**63.22**	**296**	*e*P	**P**	**15 06 40.7**	**-2.6**
	comp=Z,14nm,1.2s,mb5.0						
CHTO	**Chiang Mai**	**63.22**	**296**	*e*P	**P**	**15 06 40.7**	**-2.6**
CHTO				pmax	pmax		
	comp=Z,14nm,1.2s,mb5.0						
HIA	**Hailar**	**66.04**	**334⇑**	*e*P	**P**	**15 07 03.5**	**+2.4**
VNDA	**Vanda**	**69.08**	**179**	P	**P**	**15 07 20.2**	**+0.3**
	comp=Z,2.1nm,1.1s,mb4.0,baz=337,slow=6.2,SNR=5.2						
SBA	**Scott Base**	**69.55**	**178**	P	**P**	**15 07 22.1**	**-0.8**
	comp=Z,0.3nm,0.7s						
GTA	**Gaotai**	**71.08**	**317**	*e*P	**P**	**15 07 35.8**	**+3.0**
GTA				AP	pP	15 07 43.6	+7.9
GTA				XP	sP	15 07 47.0	+10
GTA				AMB	AMB		
	comp=Z,4.0nm,1.5s,mb4.1						
SEY	**Seymchan**	**71.27**	**358⇑**	*e*P	**P**	**15 07 34.0**	**+0.6**
SONM	**Songino Array**	**71.58**	**327**	P	**P**	**15 07 37.0**	**+1.3**
SONM				LR	LR	15 35 01.4	
SONM	**Songino Array**	**71.58**	**327**	P	**P**	**15 07 37.0**	**+1.3**
	comp=Z,2.4nm,1.1s,mb4.0,baz=132,slow=4.9,SNR=13						
SONM				LR	LR	15 35 01.4	
	comp=Z,51nm,20.1s,MS3.8,baz=255,slow=33						
YAK	**Yakutsk**	**73.39**	**347⇑**	*e*P	**P**	**15 07 47.6**	**+1.5**
YAK				pmax	pmax		
	comp=Z,27nm,1.9s,mb4.8						
BOD	**Bodaibo**	**74.67**	**338**	*e*P	**P**	**15 07 49.6**	**-4.1**
BOD				pmax	pmax		
	comp=Z,4.0nm,1.4s,mb4.2						
ZAK	**Zakamensk**	**74.72**	**328**	*e*P	**P**	**15 07 54.7**	**+0.5**
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.5s,mb4.0						
BILL	**Bilibino**	**76.61**	**4⇑**	*e*P	**P**	**15 08 04.6**	**0.0**
BILL				*e*		15 08 12.1	
BILL				pmax	pmax		
	comp=Z,8.0nm,1.2s,mb4.5						
JIRN	**Jiri**	**77.14**	**301**	*e*P	**P**	**15 08 09.6**	**+1.1**
	comp=Z,37nm,1.4s,mb5.1						
KKN	**Kakani**	**77.95**	**301**	*e*P	**P**	**15 08 14.1**	**+1.1**
	comp=Z,8.2nm,0.7s,mb4.8						
GKN	**Gorkha**	**78.55**	**301**	*e*P	**P**	**15 08 16.7**	**+0.3**
	comp=Z,69nm,1.5s,mb5.4						
KOLN	**Koldanda**	**79.37**	**300**	*e*P	**P**	**15 08 21.4**	**+0.5**
	comp=Z,45nm,1.3s,mb5.2						
TIXI	**Tiksi**	**82.07**	**351**	*e*P	**P**	**15 08 34.4**	**0.0**
	comp=Z,12nm,1.6s,mb4.6						
TIXI	**Tiksi**	**82.07**	**351⇑**	*e*P	**P**	**15 08 34.3**	**-0.1**
TIXI				pmax	pmax		
	comp=Z,9.0nm,1.7s,mb4.4						
COLA	**College**	**83.78**	**21⇓**	*e*P	**P**	**15 08 43.8**	**+0.5**
MKAR	**Makanchi Array**	**85.73**	**318**	*i* P	**P**	**15 08 53.2**	**-0.4**
MKAR				pmax	pmax		
	comp=Z,4.0nm,0.9s						
MKAR	**Makanchi Array**	**85.73**	**318**	P	**P**	**15 08 53.3**	**-0.4**
	comp=Z,4.2nm,0.9s,mb4.7,baz=91,slow=7.3,SNR=12						
ZALV	**Zalesovo Beam**	**86.44**	**326**	P	**P**	**15 08 55.0**	**-2.0**
	comp=Z,0.6nm,0.3s,mb4.2,baz=90,slow=7.4,SNR=5.2						
ZAL	**Zalesovo**	**86.44**	**326**	P	**P**	**15 08 55.0**	**-2.0**
KURK	**Kurchatov**	**89.14**	**322⇑**	*e*P	**P**	**15 09 09.1**	**-0.8**
AAK	**Ala-Archa**	**90.11**	**313⇑**	*e*P	**P**	**15 09 14.3**	**-0.4**
AAK				pmax	pmax		
	comp=Z,4.0nm,1.5s,mb4.5						
NVAR	**Mina Array Bea**	**91.16**	**51**	P	**P**	**15 09 20.9**	**+1.2**
	comp=Z,1.2nm,1.1s,mb4.2,baz=244,slow=4.5,SNR=6.6						
YKA	**Yellowknife Ar**	**96.75**	**28**	P	**P**	**15 09 43.6**	**-1.2**
	comp=Z,1.3nm,1.1s,mb4.3,baz=264,slow=3.9,SNR=7.7						
YKA				LR	LR	15 48 36.3	
	comp=Z,55nm,19.4s,MS4.0,baz=170,slow=32						
LPAZ	**La Paz**	**129.12**	**119**	PKP	PKPdf	15 15 26.0	+2.3
	comp=Z,0.7nm,0.8s,baz=259,slow=6.2,SNR=3.7						

IDC 01 14:56:36.3±7.7, 266S×14088E, h0km, mb3.8/2, mb1 3.8/3, mb1mx3.5/12, mbtmp3.6/3, ML3.2/1, Error ellipse: s-maj=147.3km s-min=87.5km az=133.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.33**	**200**	P	Pn	15 00 51.6	-0.5
	0.1nm,0.3s,baz=18,slow=12,SNR=6.7						
ASAR	**Alice Springs**	**21.95**	**197**	P	P	15 01 32.8	+1.1
	0.4nm,0.5s,baz=30,slow=9.2,SNR=18						
STKA	**Stephens Creek**	**29.07**	**179**	P	P	15 02 37.9	-0.7
	5.4nm,0.8s,baz=9.9,slow=8.8,SNR=4.1						

IDC 01 14:57:18.5±9.8, 1793S×17856W, h609km±135km, mb3.0/5, mb1 3.3/5, mb1mx3.0/14, mbtmp3.0/5, Error ellipse: s-maj=137.9km s-min=37.3km az=161.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**38.49**	**241**	P	P	15 03 50.2	-0.1
	1.1nm,0.5s,baz=101,slow=10,SNR=3.3						
WRA	**Warramunga Arr**	**44.48**	**260**	P	P	15 04 37.4	-0.2
	1.0nm,0.4s,baz=96,slow=7.4,SNR=23						
ASAR	**Alice Springs**	**44.64**	**254**	P	P	15 04 38.9	+0.1
	3.8nm,0.5s,baz=88,slow=8.7,SNR=64						
NVAR	**Mina Array Bea**	**79.54**	**44**	P	P	15 08 24.1	+0.7
	0.4nm,0.6s,baz=211,slow=8.2,SNR=5.0						
PDAR	**Pinedale Array**	**87.47**	**43**	P	P	15 09 02.5	0.0
	0.3nm,0.6s,baz=246,slow=7.8,SNR=3.3						
GERES	**GERESS Array B**	**147.59**	**345**	PKPbc	PKPbc	15 15 55.0	-0.3
	0.5nm,0.6s,baz=54,slow=5.0,SNR=2.8						

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*ATH **01** 15:02:49.8, 38.14N×2025E, h4km±1km, MD3.5/6*
*THE **01** 15:02:50.3, 3835N×2040E, h1km, ML3.2*
*ISCJB **01** 15:02:51.6±1.0, 3835N±004×2045E±008, h2km, Error ellipse: s-maj=9.7km s-min=4.9km az=165.0*
*NEIC **01** 15:02:51.0, 3823N×2032E, h2km, MD3.5(ATH), ML3.2(THE), After ATH.*
*CSEM **01** 15:02:53.6±0.3, 3837N×2053E, h2km, MD3.5, Error ellipse: s-maj=7.7km s-min=4.0km az=64.0*

ISC 01 15:02:51.5±1.3, 3834N±004×2041E±009, h2km±10km, n11, σ0§82/14, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.21**	**139**	*e*PG	**Pg**	**15 02 55.5**	**0.0**
VLS				*e*SG	**Sg**	**15 02 59.3**	**+1.1**
KFL	**Anninata**	**0.37**	**127**	*e*Pg	**Pg**	**15 02 57.6**	**-1.0**
LKD	**Levkas**	**0.41**	**27**	*e*Pg	**Pg**	**15 02 58.6**	**-0.8**
LKD				*e*Sg	**Sg**	**15 03 04.0**	**-0.8**
RLS	**Riolos of Patr**	**0.88**	**108**	*e*PG	**Pg**	**15 03 08.1**	**-0.1**
RLS				*e*SG	**Sb**	**15 03 21.1**	**-0.4**
SELA	**Sela**	**1.17**	**93**	*e*Sg	**Sg**	**15 03 29.7**	**+0.8**
SELA	**Sela**	**1.17**	**93**	*e*Sg	**Sg**	**15 03 28.7**	**-0.2**
EVR	**Evrytania**	**1.24**	**62**	*e*PN	**Pn**	**15 03 17.1**	**+1.4**
KEK	**Kerkira**	**1.46**	**341**	*e*PB	**Pb**	**15 03 19.9**	**+0.6**
ITM	**Ithomi**	**1.66**	**133**	*e*PB	**Pn**	**15 03 20.4**	**-1.2**
ITM	**Ithomi**	**1.66**	**133**	*e*Pb	**Pb**	**15 03 22.6**	**-0.2**
THL	**Klokotos Trika**	**1.75**	**45**	*e*PN	**Pg**	**15 03 26.1**	**+1.1**

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*CSEM **01** 15:19:45.1±0.6, 3815N×2023E, h2km, MD3.3, Error ellipse: s-maj=15.0km s-min=4.3km az=36.0*
*NEIC **01** 15:19:45.3, 3826N×2028E, h6km, MD3.3(ATH), After ATH.*
*ATH **01** 15:19:45.4, 3827N×2029E, h6km±1km, MD3.3/5*
*ISCJB **01** 15:19:46.4±1.4, 3838N±004×205E±01.1, h6km, Error ellipse: s-maj=16.0km s-min=5.5km az=172.8*
*THE **01** 15:19:47.1, 3840N×2057E, h11km, ML2.6*

ISC 01 15:19:46.1±1.8, 3837N±005×204E±02, h1km±18km, n7, σ0§61/9, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.25**	**143**	*e*PG	**Pg**	**15 19 50.6**	**-0.2**
VLS				*e*SG	**Sg**	**15 19 54.7**	**+0.7**
LKD	**Levkas**	**0.39**	**30**	*e*Pg	**Pg**	**15 19 53.2**	**-0.3**
LKD				*e*Sg	**Sg**	**15 19 58.2**	**-0.4**
KFL	**Anninata**	**0.40**	**131**	*e*Pg	**Pg**	**15 19 53.2**	**-0.6**
RLS	**Riolos of Patr**	**0.90**	**110**	*e*PB	**Pb**	**15 20 03.4**	**-1.0**
EVR	**Evrytania**	**1.23**	**63**	*e*PB	**Pb**	**15 20 10.9**	**+0.8**
KEK	**Kerkira**	**1.42**	**341**	*e*PB	**Pb**	**15 20 13.5**	**+0.2**
THL	**Klokotos Trika**	**1.73**	**46**	*e*PN	**Pg**	**15 20 20.0**	**+0.7**

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*PGC **01** 15:21:21.1±15.0, 5820N×13676W, h0km±2km, ML3.2/3, 134km Wsw of Haines, Ak Southeastern Alaska*

NEIC 01 15:21:21.5, 5813N×13679W, h4km, ML3.2(PGC), **ML3.0**(AEIC), **After AEIC., Southeastern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIT	**Sitka**	**1.33**	**143**	P	Pn	15 21 44.4	-2.5
SIT				S	Sg	15 22 03.4	-0.9
SKAG	**Skagway**	**1.53**	**29**	P	Pn	15 21 47.8	-1.7
SKAG				S	Sn	15 22 07.6	-2.2
PNL	**Peninsula**	**2.05**	**320**	P	Pn	15 21 55.2	-1.5
PNL				S	Sn	15 22 21.9	-0.7
WHY	**Whitehorse**	**2.71**	**20**	Pn	Pn	15 22 04.6	-1.2
WHY				Pg	Pg	15 22 08.7	-4.8
WHY				S	Sn	15 22 37.5	-1.5
WHY				Sg	Sg	15 22 43.5	-5.1
WHY	**Whitehorse**	**2.71**	**20**	Pn	Pn	15 22 04.6	-1.2
WHY				Pg	Pg	15 22 08.7	-4.8
WHY				Sg	Sg	15 22 43.5	-5.1
HYT	**Haines Junctio**	**2.73**	**353**	Pn	Pn	15 22 04.8	-1.1
HYT				Pg	Pg	15 22 09.2	-4.5
HYT				Sg	Sg	15 22 43.1	-5.9
WRAK	**Wrangell Islan**	**2.96**	**124**	*e*Pn	Pn	15 22 10.2	+1.1
WRAK				*e*Sn	Sn	15 22 53.9	+8.9
CRAG	**Craig**	**3.34**	**141**	P	Pn	15 22 12.3	-2.1
DLBC	**Dease Lake**	**3.58**	**82**	*e*Pn	Pn	15 22 17.3	-0.4
DLBC				*e*Pg	Pg	15 22 25.3	-4.8
DLBC				*e*Sg	Sg	15 23 12.5	-4.0
DLBC	**Dease Lake**	**3.58**	**82**	Pn	Pn	15 22 17.4	-0.3
DLBC				Pg	Pg	15 22 25.5	-4.6
DLBC				Sg	Sg	15 23 12.9	-3.5
DAWY	**Dawson**	**6.09**	**349**	*e*Pn	Pn	15 22 51.2	-0.8
DAWY	**Dawson**	**6.09**	**349**	Pn	Pn	15 22 51.7	-0.3
DAWY				Sn	Sn	15 23 59.1	-2.9
DAWY				Sg	Sg	15 24 30.7	-6.0

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*SZGRF **01** 15:23:24.3, 896S×2609E, h33km, mb4.5, MS4.2, Zaire*
*ISCJB **01** 15:23:30.6±0.4, 654S±005×2986E±009, h10km, mb4.3/17, MS4.1/5, Error ellipse: s-maj=13.2km s-min=7.3km az=9.2*
*IDC **01** 15:23:31.5±0.7, 645S×2995E, h0km, mb4.1/14, mb1 4.3/18, mb1mx4.3/23, mbtmp4.3/18, ML4.5/4, MS4.0/7, Ms1 4.0/7, ms1mx3.7/22, Error ellipse: s-maj=21.2km s-min=14.7km az=94.0*
*NEIC **01** 15:23:32.6±0.5, 650S×2998E, h10km, mb4.5/3, MS4.3/2, Error ellipse: s-maj=15.6km s-min=9.8km az=102.0*

ISC 01 15:23:32.8±0.4, 654S±005×2986E±009, h10km, n41, σ1§02/42, mb4.3/17, MS4.1/5, 1C, Lake Tanganyika region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSZ	**Lusaka**	**8.84**	**191**	*e*Pn	**Pn**	**15 25 42.5**	**+1.7**
	53nm,0.8s						
LSZ				Sn	**Sn**	**15 27 12.7**	**-7.7**
LSZ	**Lusaka**	**8.84**	**191**	Pn	**Pn**	**15 25 43.0**	**+2.3**
	4.6nm,0.3s,baz=5.7,slow=11,SNR=59						
LSZ				Sn	**Sn**	**15 27 20.5**	**0.0**
	13nm,0.3s,baz=156,slow=13,SNR=6.4						
LSZ				Lg		15 28 13.5	
	18nm,0.3s,baz=104,slow=18,SNR=9.7						
KMBO	**Kilima Mbogo**	**9.13**	**54**	*e*Pn	**Pn**	**15 25 40.5**	**-4.3**
	43nm,0.6s						
KMBO				*e*Sn	**Sn**	**15 27 17.2**	**-10**
KMBO	**Kilima Mbogo**	**9.13**	**54**	Pn	**Pn**	**15 25 41.2**	**-3.6**
	6.1nm,0.3s,baz=225,slow=14,SNR=51						
KMBO				Sn	**Sn**	**15 27 20.1**	**-7.5**
	13nm,0.3s,baz=340,slow=23,SNR=12						
KMBO				Lg		15 28 11.8	
	21nm,0.3s,baz=290,slow=20,SNR=12						
KMBO				LR	LR	15 29 12.4	
	comp=Z,402nm,21.6s,baz=189,slow=38						
MATP	**Matopo**	**13.87**	**185**	Pn	**Pn**	**15 26 49.5**	**-0.1**
	1.8nm,0.3s,baz=7.0,slow=13,SNR=78						
MATP				Sn	**Sn**	**15 29 20.0**	**-3.8**
	1.7nm,0.3s,baz=274,slow=7.5,SNR=3.8						
MATP				Lg		15 30 51.3	
	0.9nm,0.3s,baz=100,slow=23,SNR=9.3						
MATP				LR	LR	15 32 24.1	
	comp=Z,746nm,18.9s,baz=9.4,slow=38						
TSUM	**Tsumeb**	**17.35**	**222**	*e*Pn	**Pn**	**15 27 33.9**	**-1.4**
	18nm,0.8s						
TSUM				*e*Sn	**Sn**	**15 30 35.6**	**-13**
TSUM	**Tsumeb**	**17.35**	**222**	P	**Pn**	**15 27 33.8**	**-1.5**
	0.8nm,0.3s,baz=31,slow=13,SNR=14						
TSUM				S	**Sn**	**15 30 39.7**	**-8.8**
	0.8nm,0.3s,baz=309,slow=23,SNR=5.8						
LBTB	**Lobatse**	**18.82**	**192**	P	**Pn**	**15 27 53.8**	**+0.5**
	1.1nm,0.3s,baz=23,slow=13,SNR=30						
LBTB				LR	LR	15 35 48.5	
	comp=Z,167nm,20.8s,baz=32,slow=39						
OPO	**Ambohidratompo**	**20.69**	**127**	P	**P**	**15 28 12.5**	**-0.8**
	1.1nm,0.4s,baz=280,slow=17,SNR=5.9						
ATD	**Arta Tunnel**	**22.12**	**36**	LR	LR	15 36 37.8	
	comp=Z,175nm,18.3s,MS3.5,baz=33,slow=36						
SUR	**Sutherland**	**27.06**	**197**	LR	LR	15 40 11.3	
	comp=Z,642nm,18.4s,MS4.2,baz=190,slow=37						
TORD	**Torodi Ar. Bea**	**34.13**	**305**	P	**P**	**15 30 18.2**	**0.0**
	8.6nm,0.9s,mb4.7,baz=121,slow=8.0,SNR=28						
DBIC	**Dimbokro**	**37.04**	**290**	P	**P**	**15 30 43.2**	**-0.1**
DBIC	**Dimbokro**	**37.04**	**290**	P	**P**	**15 30 43.2**	**-0.1**
	2.9nm,0.6s,mb4.3,baz=63,slow=7.7,SNR=4.5						
KEST	**Kesra**	**46.26**	**337**	P	**P**	**15 31 58.8**	**+0.3**
	1.3nm,0.8s,mb3.9,baz=332,slow=9.9,SNR=4.2						
ESDC	**Sonseca Array**	**55.59**	**329**	P	**P**	**15 33 08.9**	**+0.2**
	1.5nm,0.8s,mb4.1,baz=142,slow=7.0,SNR=6.7						
GERES	**GERESS Array B**	**56.94**	**347**	P	**P**	**15 33 17.4**	**-0.7**
	0.8nm,0.6s,mb3.9,baz=157,slow=7.2,SNR=7.2						
AKASG	**Malin Array Be**	**57.01**	**360**	P	**P**	**15 33 17.0**	**-1.6**
AKASG	**Malin Array Be**	**57.01**	**360**	P	**P**	**15 33 17.0**	**-1.6**
	0.2nm,0.4s,mb3.5,baz=186,slow=6.9,SNR=4.5						
GRA1	**Grafenberg Arr**	**58.30**	**346**	*e*P	**P**	**15 33 28.5**	**+0.7**
	5.0nm,1.0s,mb4.5						
GRA1				*e*PP	PP	15 35 40.4	+3.4
GRA1				LR	LR		
	comp=Z,200nm,19.1s,MS4.2						
GRF	**Grafenberg Arr**	**58.30**	**346**	*e*P	**P**	**15 33 28.5**	**+0.7**
	comp=Z,5.0nm,1.0s,mb4.5						
GRF				*e*PP	PP	15 35 40.4	+3.4
GRF				*e*L		16 00 28.5	
	comp=Z,164nm,19.1s						
KOLN	**Koldanda**	**62.08**	**54**	*e*P	**P**	**15 33 54.2**	**+0.1**
	comp=Z,13nm,0.9s,mb5.0						
SYO	**Syowa Base**	**62.72**	**176⇑**	*e*P	**P**	**15 34 01.4**	**+3.7**
GKN	**Gorkha**	**63.01**	**54**	*e*P	**P**	**15 34 00.4**	**0.0**
	comp=Z,16nm,0.8s,mb5.2						
KKN	**Kakani**	**63.44**	**55**	*e*P	**P**	**15 34 03.8**	**+0.6**
JIRN	**Jiri**	**64.13**	**55**	*e*P	**P**	**15 34 08.2**	**+0.4**
	comp=Z,17nm,1.0s,mb5.0						
FINES	**FINESS Array B**	**67.84**	**358**	P	**P**	**15 34 29.4**	**-1.6**
	comp=Z,1.1nm,0.7s,mb4.0,baz=160,slow=6.1,SNR=4.6						
NB2	**NORSAR Subarra**	**68.94**	**350**	P	**P**	**15 34 37.5**	**-0.3**
	comp=Z,3.7nm,0.9s,mb4.3,baz=160,slow=6.5						
NOA	**NORSAR Array B**	**68.94**	**350**	P	**P**	**15 34 37.4**	**-0.4**
NOA	**NORSAR Array B**	**68.94**	**350**	P	**P**	**15 34 37.4**	**-0.4**
	comp=Z,2.8nm,0.9s,mb4.2,baz=163,slow=5.6,SNR=7.5						
PSI	**Prapat**	**69.57**	**85**	LR	LR	16 02 52.8	
	comp=Z,110nm,18.1s,MS4.1,baz=262,slow=34						
MKAR	**Makanchi Array**	**70.49**	**35**	P	**P**	**15 34 47.6**	**0.0**
	comp=Z,1.2nm,0.6s,mb4.0,baz=250,slow=5.6,SNR=8.7						
ZALV	**Zalesovo Beam**	**75.76**	**30**	P	**P**	**15 35 18.3**	**-0.4**
ZALV	**Zalesovo Beam**	**75.76**	**30**	P	**P**	**15 35 18.3**	**-0.4**
	comp=Z,0.5nm,0.5s,mb3.7,baz=270,slow=5.9,SNR=4.9						
ARCES	**ARCESS Array B**	**75.96**	**358**	P	**P**	**15 35 20.0**	**+0.5**
ARCES	**ARCESS Array B**	**75.96**	**358**	P	**P**	**15 35 20.0**	**+0.5**
	comp=Z,2.0nm,0.8s,mb4.1,baz=272,slow=3.2,SNR=4.2						
SONM	**Songino Array**	**85.86**	**41**	P	**P**	**15 36 14.6**	**+1.8**
	comp=Z,0.9nm,0.9s,mb4.0,baz=212,slow=5.3,SNR=7.0						
SIV	**San Ignacio**	**89.11**	**254**	P	**P**	**15 36 31.8**	**+2.6**
	comp=Z,2.1nm,0.8s,mb4.5,baz=95,slow=6.4,SNR=5.2						
VNDA	**Vanda**	**91.96**	**171**	LR	LR	16 17 06.8	
	comp=Z,187nm,19.2s,MS4.5,baz=158,slow=35						
PDAR	**Pinedale Array**	**129.21**	**322**	PKP	PKPdf	15 42 43.8	+2.1
	comp=Z,0.5nm,0.8s,baz=71,slow=5.5,SNR=3.7						
NVAR	**Mina Array Bea**	**137.13**	**322**	PKP	PKPdf	15 42 57.2	+0.4
	comp=Z,0.5nm,0.6s,baz=59,slow=3.7,SNR=3.6						

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*ISCJB **01** 15:24:15.9±2.8, 5656S±009×266W±02, h85km±26km, mb4.6/17, Error ellipse: s-maj=17.8km s-min=11.1km az=42.2*
*NEIC **01** 15:24:17.5±2.5, 5658S×2650W, h86km±21km, mb4.8/6, Error ellipse: s-maj=12.7km s-min=8.4km az=46.0*
*IDC **01** 15:24:19.0±1.7, 5660S×2649W, h98km±13km, mb4.6/12, mb1 4.6/14, mb1mx4.4/19, mbtmp4.5/14, MS3.9/2, Ms1 3.9/2, ms1mx3.3/24, Error ellipse: s-maj=18.5km s-min=12.5km az=73.0*

ISC 01 15:24:17.4±2.4, 5661S±009×266W±02, h84km±23km, n49, σ0§84/31, mb4.6/17, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA3	**Neumayer Olymp**	**16.35**	**160**	*e*P	**Pn**	**15 28 02.3**	**+0.9**
VNA3				*e*		15 28 03.5	
VNA3				*e*		15 28 06.5	
VNA3				*e*		15 28 09.2	
VNA3				*e*		15 30 48.8	
VNA3				*e*		15 30 53.7	
VNA3				*e*		15 30 59.1	
VNA2	**Neumayer--Watz**	**16.55**	**158**	*e*P	**Pn**	**15 28 05.2**	**+1.4**
	baz=316,slow=14						
VNA2				*e*		15 28 06.5	
VNA2				*e*		15 28 09.1	
VNA2				*e*		15 28 12.1	
VNA2				*e*		15 30 52.8	
VNA2				*e*		15 30 57.9	
VNA2				*e*		15 31 03.3	
SNAA	**Sanae**	**18.10**	**156**	*e

0.7nm,0.7s,baz=182,slow=6.8,SNR=6.3
WRA Warramunga Arr 102.07 162 P Pdif 15 38 01.1 -1.2
0.4nm,0.6s,baz=195,slow=4.4,SNR=7.1
WRA PP PP 15 42 09.7 -4.0
0.3nm,0.5s,baz=187,slow=6.0,SNR=3.8
PDAR Pinedale Array 120.92 302 PKP PKPdf 15 43 00.0 +1.1
0.3nm,0.4s,baz=131,slow=6.1,SNR=4.4
NVAR Mina Array Bea 121.91 292 PKP PKPdf 15 43 02.1 +1.1
NVAR Mina Array Bea 121.91 292 PKP PKPdf 15 43 02.1 +1.1
0.5nm,0.5s,baz=131,slow=4.4,SNR=6.5
FINES FINESS Array B 124.73 28 PKP PKPdf 15 43 04.9 -0.7
2.1nm,0.9s,baz=126,slow=2.6,SNR=8.8
ARCES ARCESS Array B 131.34 22 PKP PKPdf 15 43 17.2 -0.8
3.2nm,0.8s,baz=205,slow=4.0,SNR=5.3
MKAR Makanchi Array 136.75 72 PKP PKPdf 15 43 28.9 0.0
0.7nm,0.9s,baz=220,slow=2.2,SNR=3.1
YKA Yellowknife Ar 136.81 317 PKP PKPdf 15 43 27.8 -0.6
YKA PP PP 15 46 10.7 -2.6
YKA SKPbc SKPbc 15 46 50.5 -2.9
YKA Yellowknife Ar 136.81 317 PKP PKPdf 15 43 27.8 -0.6
1.5nm,0.5s,baz=133,slow=2.1,SNR=21
YKA PP PP 15 46 10.6 -2.6
0.4nm,0.7s,baz=118,slow=6.7,SNR=5.1
YKA SKPbc SKPbc 15 46 50.5 -2.9
2.3nm,0.9s,baz=117,slow=1.9,SNR=15
ZALV Zalesovo Beam 142.32 64 PKP PKPdf 15 43 40.0 +1.2
2.1nm,0.5s,baz=232,slow=4.4,SNR=11
INK Inuvik 146.44 320 *e*PKPdf PKPdf 15 43 46.3 +0.8
DAWY Dawson 147.41 311 *e*PKPdf PKPdf 15 43 48.9 +1.7
EYAK Cordova Ski Ar 149.03 303 *e*PKPbc PKPbc 15 43 53.9 -0.3
SONM Songino Array 150.43 87 PKPbc PKPbc 15 43 57.4 -0.6
1.2nm,0.5s,baz=221,slow=3.3,SNR=15
SONM PKPab PKPab 15 44 04.3 -0.6
2.5nm,0.6s,baz=232,slow=3.0,SNR=8.1
SLKM Skilak Lake 151.11 301 *e*PKPbc PKPbc 15 43 58.7 -0.5
COLA College 151.16 311 *e*PKPbc PKPbc 15 43 58.1 -1.1
KDAK Kodiak Island 151.36 295 *e*PKPbc PKPbc 15 43 59.4 -0.4
KDAK Kodiak Island 151.36 295 PKPbc PKPbc 15 43 59.5 -0.3
7.3nm,0.4s,baz=190,slow=0.7,SNR=27
MCK McKinley 151.38 308 *e*PKPbc PKPbc 15 43 59.1 -0.6

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*ISCJB **01** 15:25:56.3±0.6, 332S×10.0×116.6W±02, h10km, mb4.7/20, MS4.0/14, Error ellipse: s-maj=25.0km s-min=12.8km az=15.0*
*MOS **01** 15:25:56.5±1.3, 321S×1170W, h10km, mb5.2/7, Error ellipse: s-maj=44.0km s-min=10.1km az=65.5*
*GCMT **01** 15:25:56.2±0.3, 3.18S×1232W, h12km, MW4.9/65, Moment Tensor Solution. s21,c21; s65,c84; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-2.87±.10; Mθθ0.30±.10; Mφφ2.57±.11; Mrθ0.30±.39; Mθφ-1.05±.08; Mφr0.33±.37; Best double couple: M0 2.96000×10^16 NP1:φs331.00000°, δ44.00000°, λ-102.00000°. NP2: φs167.00000°, δ47.00000°, λ-79.00000°. Principal axes: T 2.9880, Plg2.0000°, Azm249.0000°; N -0.0560, Plg8.0000°, Azm339.0000°; P -2.9320, Plg82.0000°, Azm145.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **01** 15:25:56.1±0.7, 342S×1196W, h10km, mb5.1/5 Error ellipse: s-maj=25.3km s-min=13.9km az=98.0*
*IDC **01** 15:25:56.5±0.8, 339S×1145W, h0km, mb4.4/12, mb1 4.5/12, mb1mx4.3/22, mbtmp4.4/12, MS3.9/12, Ms1 3.9/12, ms1mx3.8/27, Error ellipse: s-maj=37.6km s-min=18.8km az=103.0*

ISC 01 15:25:58.2±0.6, 337S±010×115W±02, h10km, n50, σ1$02/39, mb4.6/21, MS4.0/14, 5C, North of Ascension Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DBIC	**Dimbokro**	**12.00**	**34**	Pn	**Pn**	**15 28 52.8**	**+3.4**
	0.1nm,0.3s,baz=194,slow=17,SNR=3.2						
BBTS	**Babate**	**18.58**	**345**	LR	LR	15 36 32.8	
	comp=Z,180nm,18.3s,baz=222,slow=34						
TORD	**Torodi Ar. Bea**	**21.02**	**38**	P	**P**	**15 30 42.7**	**+0.5**
TORD				LR	LR	15 37 59.5	
TORD	**Torodi Ar. Bea**	**21.02**	**38**	P	**P**	**15 30 42.7**	**+0.5**
	10nm,0.9s,mb4.2,baz=222,slow=11,SNR=22						
TORD				LR	LR	15 37 59.5	
	comp=Z,581nm,21.9s,MS3.9,baz=205,slow=34						
TSUM	**Tsumeb**	**32.52**	**121**	P	**P**	**15 32 28.8**	**-0.6**
TSUM	**Tsumeb**	**32.52**	**121**	P	**P**	**15 32 28.8**	**-0.6**
	27nm,0.9s,mb5.2,baz=299,slow=19,SNR=4.0						
ESDC	**Sonseca Array**	**43.39**	**9**	LR	LR	15 52 11.5	
	comp=Z,103nm,18.4s,MS3.8,baz=190,slow=36						
KEST	**Kesra**	**43.54**	**25**	P	**P**	**15 34 02.7**	**+0.5**
	5.5nm,1.1s,mb4.2,baz=187,slow=8.1,SNR=5.5						
KMBO	**Kilima Mbogo**	**48.80**	**89**	LR	LR	15 54 12.3	
	comp=Z,427nm,18.2s,MS4.5,baz=278,slow=35						
GEC2	**GERESS Array S**	**56.45**	**20**	*e*P	**P**	**15 35 39.5**	**-0.5**
GERES	**GERESS Array B**	**56.45**	**20**	P	**P**	**15 35 40.7**	**+0.6**
	3.4nm,0.8s,mb4.4,baz=189,slow=6.2,SNR=13						
KHC	**Kasperske Hory**	**56.65**	**20**	*e*P	**P**	**15 35 40.8**	**-0.7**
LPAZ	**La Paz**	**57.03**	**253**	LR	LR	15 57 48.2	
	comp=Z,139nm,21.4s,MS4.0,baz=112,slow=34						
NKC	**Novy Kostel**	**57.25**	**18**	*e*P	**P**	**15 35 45.0**	**-0.7**
NKC				AMS	AMS	16 01 20.0	
	comp=Z,200nm,18.3s,MS4.3						
TRQA	**Tornquist**	**57.47**	**226**	*e*P	**P**	**15 35 40.5**	**-7.1**
	comp=Z,13nm,1.3s,mb4.8						
PRU	**Pruhonice**	**57.71**	**20**	*e*P	**P**	**15 35 46.3**	**-2.7**
CLL	**Collm**	**58.36**	**18**	*i* P	**P**	**15 35 53.1**	**-0.4**
CLL				*i*		15 35 59.5	
CLL				pmax	pmax		
	comp=Z,17nm,1.7s,mb4.8						
CLL	**Collm**	**58.36**	**18**	*i* P	**P**	**15 35 53.1**	**-0.4**
	comp=Z,17nm,1.7s,mb4.8						
CLL				*i* x	x	15 35 59.5	
DPC	**Dobruska-Polom**	**58.63**	**21**	*e*P	**P**	**15 35 55.1**	**-0.3**
UPC	**Upice**	**58.65**	**20**	*e*P	**P**	**15 35 54.3**	**-1.2**
OKC	**Ostrava-Krasne**	**58.86**	**22**	*e*P	**P**	**15 35 57.9**	**+0.9**
UZH	**Uzhgorod**	**59.57**	**25**	*e*P	**P**	**15 36 10.0**	**+8.0**
KIEV	**Kiev**	**64.15**	**27**	*e*P	**P**	**15 36 32.0**	**-0.8**
	comp=Z,20nm,1.3s,mb5.0						
KIEV	**Kiev**	**64.15**	**27**	*e*P	**P**	**15 36 32.0**	**-0.8**
KIEV				pmax	pmax		
	comp=Z,20nm,1.3s,mb5.0						
AKASG	**Malin Array Be**	**64.16**	**27**	P	**P**	**15 36 33.0**	**+0.2**
	comp=Z,4.1nm,0.9s,mb4.4,baz=228,slow=6.9,SNR=14						
AKASG				LR	LR	16 06 39.0	
	comp=Z,73nm,21.3s,MS3.8,baz=225,slow=38						
PLCA	**Paso Flores**	**64.62**	**226**	P	**P**	**15 36 37.8**	**+1.7**
	comp=Z,1.7nm,0.9s,mb4.1,baz=110,slow=8.5,SNR=3.6						
PLCA				LR	LR	16 00 19.0	
	comp=Z,217nm,18.7s,MS4.4,baz=22,slow=32						
ANN	**Anapa**	**64.81**	**36**	*e*P	**P**	**15 36 30.5**	**-6.7**
ANN				*e**PP	pP	15 36 33.6	-6.9
ANN				pmax	pmax		
	comp=Z,32nm,1.0s,mb5.3						
KONO	**Kongsberg**	**65.00**	**12**	⇑P	**P**	**15 36 43.2**	**+5.1**
NOA	**NORSAR Array B**	**66.60**	**12**	P	**P**	**15 36 46.8**	**-1.6**
	comp=Z,1.2nm,0.9s,mb3.9,baz=206,slow=6.5,SNR=3.6						
KIV	**Kislovodsk**	**67.60**	**39**	*e*P	**P**	**15 36 56.5**	**+1.4**
KIV				pmax	pmax		
	comp=Z,16nm,1.2s,mb4.9						
KIV				MLR	MLR		
	comp=Z,53nm,18.0s,MS3.8						
SNAA	**Sanae**	**68.44**	**177**	⇑*e*P	**P**	**15 37 05.5**	**+5.6**
OBN	**Obninsk**	**70.41**	**27**	P	**P**	**15 37 13.0**	**+0.6**
OBN				*e*		15 37 18.6	
OBN				pmax	pmax		
	comp=Z,25nm,1.5s,mb4.9						
OBN				MLR	MLR		
	comp=Z,100nm,21.0s,MS4.0						
FINES	**FINESS Array B**	**70.80**	**18**	P	**P**	**15 37 13.9**	**-0.8**
	comp=Z,5.7nm,1.1s,mb4.4,baz=235,slow=3.7,SNR=8.3						
ARCES	**ARCESS Array B**	**76.96**	**13**	P	**P**	**15 37 49.6**	**-1.0**
	comp=Z,5.8nm,0.9s,mb4.5,baz=208,slow=2.3,SNR=5.9						
ARCES				LR	LR	16 13 37.7	
	comp=Z,66nm,19.4s,MS4.0,baz=80,slow=37						
TEIG	**Tepich**	**78.75**	**291**	LR	LR	16 05 35.0	
	comp=Z,79nm,19.8s,MS4.0,baz=276,slow=30						
MAW	**Mawson**	**80.99**	**158**	P	**P**	**15 38 12.3**	**-0.5**
	comp=Z,6.2nm,1.0s,mb4.5,baz=269,slow=12,SNR=4.1						
ARU	**Arti**	**81.94**	**32**	*c i* P	**P**	**15 38 19.4**	**+1.4**
ARU				*e*		15 41 21.0	
ARU				*e*S	S	15 48 30.0	-1.8
ARU				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.6						
CMIG	**Matias Romero**	**84.63**	**287**	LR	LR	16 16 23.4	
	comp=Z,8.7nm,19.2s,MS3.2,baz=195,slow=36						
QSPA	**South Pole Qui**	**86.72**	**180**	*e*P	**P**	**15 38 41.6**	**-0.3**
	comp=Z,18nm,1.0s,mb5.3						
QSPA	**South Pole Qui**	**86.72**	**180**	P	**P**	**15 38 41.1**	**-0.7**
	comp=Z,8.0nm,1.0s,mb4.9,baz=209,slow=5.5,SNR=5.5						
ECSD	**EROS,Sioux Fal**	**88.74**	**314**	*e*P	**P**	**15 38 47.6**	**-4.7**
	comp=Z,24nm,1.6s,mb5.3						
ULM	**Lac du Bonnet**	**88.94**	**320**	LR	LR	16 15 13.5	
	comp=Z,37nm,18.2s,MS3.8,baz=17,slow=33						
AAK	**Ala-Archa**	**89.34**	**47**	⇑*e*P	**P**	**15 38 55.7**	**+0.6**
AAK				pmax	pmax		
	comp=Z,12nm,2.0s,mb4.9						
KURK	**Kurchatov**	**92.68**	**40**	⇑*e*P	**P**	**15 39 10.9**	**+0.5**
PDAR	**Pinedale Array**	**98.16**	**313**	LR	LR	16 19 39.9	
	comp=Z,48nm,19.9s,MS4.0,baz=333,slow=33						
YKA	**Yellowknife Ar**	**99.00**	**333**	P	**P**	**15 39 40.0**	**+1.2**
YKA	**Yellowknife Ar**	**99.00**	**333**	P	**P**	**15 39 40.0**	**+1.2**
	comp=Z,0.6nm,1.0s,mb4.1,baz=74,slow=6.2,SNR=4.0						
BOD	**Bodaibo**	**111.09**	**28**	*e*PKIKP	PKiKP	15 44 38.6	+6.8
BOD				pmax	pmax		
	comp=Z,4.0nm,0.9s						
ASAR	**Alice Springs**	**136.93**	**130**	PKhKP		15 45 10.3	
	comp=Z,0.7nm,1.0s,baz=228,slow=2.6,SNR=6.3						
ASAR				PKP	PKPdf	15 45 22.1	-0.1
	comp=Z,1.1nm,1.0s,baz=223,slow=3.0,SNR=4.3						
WRA	**Warramunga Arr**	**139.26**	**126**	PKhKP		15 45 18.4	
	comp=Z,0.4nm,0.6s,baz=242,slow=2.5,SNR=5.3						

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*NEIC **01** 15:32:31.5, 3821N×2025E, h4km, MD3.3(ATH), ML2.7(THE), After ATH.*
*CSEM **01** 15:32:32.1±0.2, 3838N×2042E, h15km, MD3.3, Error ellipse: s-maj=5.9km s-min=0.9km az=87.0*
*THE **01** 15:32:33.1, 3840N×2053E, h3km, ML2.7*

ATH 01 15:32:31.5, 3821N×2025E, h4km±2km, MD3.3/4, 1C, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VLS	**Valsamata**	**0.27**	**97**	⇑*i*PG	Pg	15 32 37.2	+0.5
VLS				*e*SG	Sg	15 32 41.1	+0.9
KFL	**Anninata**	**0.44**	**103**	*e*Pg	Pg	15 32 39.7	-0.2
LKD	**Levkas**	**0.59**	**32**	*e*Pg	Pg	15 32 39.6	-3.1
LKD				*e*Sg	Sg	15 32 44.9	-5.5
RLS	**Riolos of Patr**	**0.97**	**99**	*e*PB	Pb	15 32 49.7	-1.2
EVR	**Evrytania**	**1.41**	**60**	*e*PB	Pb	15 32 57.9	-0.5
THL	**Klokotos Trika**	**1.93**	**45**	*e*PN	Pn	15 33 07.2	+2.1

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*NEIC **01** 15:36:37.8±0.7, 5091N×17603E, h5km, ML3.3(AEIC), Error ellipse: s-maj=39.9km s-min=10.3km az=150.0*
*IDC **01** 15:36:37.7±2.6, 5054N×17633E, h0km, mb3.7/4, mb1 3.9/5, mb1mx3.5/24, mbtmp3.7/5, ML3.6/1, Error ellipse: s-maj=274.9km s-min=25.3km az=145.0*
*ISCJB **01** 15:36:41.2±3.2, 509N±03×1763E±03, h40km±28km, mb3.7/4, Error ellipse: s-maj=57.2km s-min=19.2km az=149.2*

ISC 01 15:36:42.2±5.1, 509N±03×1763E±02, h34km±37km, n9, σ0$89/11, mb3.7/4, Rat Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AMKA	**Amchitka**	**1.99**	**74**	*e*Pn	**Pn**	**15 37 13.0**	**-0.3**
AMKA				*e*Sn	**Sn**	**15 37 35.8**	**-1.3**
ADK	**Adak**	**4.54**	**74**	P	**Pn**	**15 37 49.2**	**+0.8**
ADK				S	**Sn**	**15 38 40.6**	**+0.7**
KDAK	**Kodiak Island**	**19.31**	**57**	P	**Pn**	**15 41 04.3**	**-1.0**
KDAK	**Kodiak Island**	**19.31**	**57**	P	**Pn**	**15 41 04.3**	**-1.0**
	0.2nm,0.3s,baz=278,slow=7.1,SNR=3.4						
EGAK	**Eagle**	**25.99**	**41**	*e*Pn	**P**	**15 42 11.3**	**0.0**
PDAR	**Pinedale Array**	**49.42**	**69**	P	**P**	**15 45 30.5**	**+2.1**
	0.6nm,0.6s,mb3.8,baz=310,slow=5.6,SNR=5.3						
WRA	**Warramunga Arr**	**79.55**	**220**	P	**P**	**15 48 44.8**	**-0.7**
	0.4nm,0.6s,mb3.5,baz=30,slow=6.0,SNR=6.3						
FITZ	**Fitzroy Crossi**	**81.75**	**228**	P	**P**	**15 48 57.2**	**0.0**
	0.7nm,0.6s,mb3.8,baz=67,slow=13,SNR=3.3						
ASAR	**Alice Springs**	**83.07**	**218**	P	**P**	**15 49 04.0**	**-0.1**
	0.4nm,0.7s,mb3.5,baz=28,slow=5.9,SNR=7.9						

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*ISCJB **01** 15:44:31.0±0.4, 4514N±001×12093W±002, h13km±3km, Error ellipse: s-maj=2.5km s-min=2.3km az=139.6*
*NEIC **01** 15:44:31.0, 4513N×12095W, h20km, MD2.6(SEA), After SEA.*

ISC 01 15:44:31.0±0.3, 4514N±001×12093W±002, h13km±2km, n56, σ0$73/82, 36C-25D, Washington-Oregon border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CROR	**Criterion Ridg**	**0.16**	**195**	P	**Pg**	**15 44 35.5**	**+0.7**
G06A	**Carlson Farm,**	**0.23**	**64**	⇑P	**Pg**	**15 44 35.1**	**-0.9**
	baz=0.2						
G06A				⇑S	**Sg**	**15 44 40.2**	**+0.8**
	baz=0.2						
VTHM	**Trough**	**0.27**	**80**	⇑P	**Pg**	**15 44 37.2**	**+0.6**
G05A	**Wamic**	**0.29**	**291**	⇑P	**Pg**	**15 44 37.8**	**+0.7**
	baz=0.3						
G05A				⇑S	**Sg**	**15 44 41.9**	**+0.7**
	baz=0.3						
VGB	**Gordon Butte**	**0.40**	**16**	⇓P	**Pg**	**15 44 39.5**	**+0.5**
VFP	**Flag Point**	**0.42**	**296**	⇑P	**Pg**	**15 44 39.7**	**+0.3**
VBEM	**Beaver Butte**	**0.47**	**261**	P	**Pg**	**15 44 40.4**	**+0.1**
H05A	**Madras**	**0.53**	**203**	P	**Pg**	**15 44 41.2**	**-0.2**
	baz=0.5,SNR=38						
H05A				⇓S	**Sg**	**15 44 48.7**	**+0.2**
	baz=0.5						
HOOD	**Mount Hood Mea**	**0.54**	**290**	P	**Pg**	**15 44 41.2**	**-0.4**
H06A	**Lindquist Farm**	**0.58**	**133**	⇓P	**Pg**	**15 44 42.0**	**-0.4**
	baz=0.6,SNR=30						
H06A				⇑S	**Sg**	**15 44 49.8**	**-0.3**
	baz=0.6						
TDH	**Tom, Dick, Har**	**0.63**	**285**	⇑P	**Pg**	**15 44 42.7**	**-0.6**
F06A	**Goldendale**	**0.64**	**9**	⇑P	**Pg**	**15 44 43.6**	**+0.1**
	baz=0.6						
F06A				⇑S	**Sg**	**15 44 52.4**	**+0.4**
	baz=0.6						
VIPM	**Ingram Point**	**0.67**	**160**	⇑P	**Pg**	**15 44 43.7**	**-0.3**
GL2	**New Goldendale**	**0.83**	**5**	P	**Pg**	**15 44 46.9**	**-0.2**
F05A	**White Salmon**	**0.83**	**334**	⇓P	**Pg**	**15 44 46.7**	**-0.5**
	baz=0.8						
F05A				⇓S	**Sg**	**15 44 58.8**	**+0.6**
	baz=0.8						
VLMM	**Larch Mountain**	**0.88**	**298**	P	**Pg**	**15 44 47.6**	**-0.4**
G07A	**Ruggs Ranch, H**	**0.90**	**81**	P	**Pg**	**15 44 47.8**	**-0.6**
	baz=0.9,SNR=44						
G07A				⇑S	**Sg**	**15 45 00.0**	**-0.2**
	baz=0.9						
BKCOR	**Black Crater**	**1.00**	**213**	P	**Pb**	**15 44 49.5**	**-0.7**
H04A	**Detroit Lake**	**1.00**	**244**	⇓P	**Pb**	**15 44 48.8**	**-1.4**
	baz=1.0,SNR=28						
H04A				⇑S	**Sb**	**15 45 02.2**	**-1.0**
	baz=1.0						
I05A	**Bend**	**1.00**	**194**	⇓P	**Pb**	**15 44 49.4**	**-0.8**
	baz=1.0						
I05A				⇓S	**Sb**	**15 45 02.7**	**-0.6**
	baz=1.0						
F07A	**Phinny Hill Vi**	**1.04**	**43**	⇓P	**Pb**	**15 44 50.5**	**-0.3**
	baz=1.0						
F07A				⇓S	**Sb**	**15 45 04.0**	**-0.3**
	baz=1.0						
G04A	**Mulino**	**1.10**	**274**	P	**Pb**	**15 44 51.0**	**-0.8**
	baz=1.1,SNR=7.3						
G04A				⇑S	**Sb**	**15 45 06.2**	**+0.2**
	baz=1.1						
H07A	**Lands Inn, Kim**	**1.11**	**119**	⇓P	**Pb**	**15 44 51.3**	**-0.8**
	baz=1.1,SNR=67						
SSOR	**Sweet Springs**	**1.12**	**256**	P	**Pb**	**15 44 51.5**	**-0.8**
HUOR	**Husband**	**1.21**	**213**	P	**Pn**	**15 44 52.7**	**-0.9**
MTMW	**Mount Mitchell**	**1.27**	**315**	P	**Pn**	**15 44 53.5**	**-0.9**
I06A	**Prineville**	**1.30**	**156**	P	**Pn**	**15 44 54.3**	**-0.5**
	baz=1.3,SNR=16						
I06A				⇓S	**Sb**	**15 45 11.5**	**-0.2**
	baz=1.3						
F04A	**Amboy**	**1.31**	**308**	P	**Pn**	**15 44 54.5**	**-0.5**
	baz=1.3,SNR=11						
F04A				⇑S	**Sb**	**15 45 12.0**	**-0.3**
	baz=1.3						
JLK	**June Lake**	**1.33**	**320**	P	**Pn**	**15 44 54.9**	**-0.3**
G08A	**Pilot Rock**	**1.40**	**83**	P	**Pn**	**15 44 55.6**	**-0.6**
	baz=1.4,SNR=31						
G08A				⇓S	**Sn**	**15 45 13.9**	**-0.6**
	baz=1.4						
E06A	**Yakima**	**1.41**	**359**	⇓P	**Pn**	**15 44 56.1**	**-0.2**
	baz=1.4,SNR=39						
E06A				⇓S	**Sn**	**15 45 14.9**	**+0.1**
	baz=1.4						
I07A	**Izee**	**1.47**	**135**	⇑P	**Pn**	**15 44 57.2**	**+0.1**
	baz=1.4,SNR=74						
I07A				⇓S	**Sn**	**15 45 16.9**	**+0.8**
	baz=1.4						
IRO	**Indian Ridge**	**1.47**	**220**	P	**Pn**	**15 44 56.8**	**-0.4**
MXC	**Moxie City**	**1.51**	**17**	P	**Pn**	**15 44 57.5**	**-0.2**
E05A	**Randle**	**1.54**	**338**	⇑P	**Pn**	**15 44 58.6**	**+0.4**
	baz=1.5,SNR=7.5						
E05A				⇓S	**Sn**	**15 45 19.4**	**+1.4**
	baz=1.5						
HAWA	**Hanford**	**1.59**	**37**	*e*Pn	**Pn**	**15 44 58.7**	**-0.2**
HAWA				*e*Sn	**Sn**	**15 45 18.3**	**-0.9**
F08A	**Pendleton**	**1.65**	**66**	⇑P	**Pn**	**15 44 58.9**	**-0.8**
	baz=1.6,SNR=7.7						
F08A				⇑S	**Sn**	**15 45 19.8**	**-1.0**
	baz=1.6						
G03A	**Yamhill**	**1.67**	**277**	⇑P	**Pn**	**15 45 00.1**	**+0.1**
	baz=1.7						
I04A	**Tendick Farm,**	**1.71**	**219**	⇓P	**Pn**	**15 44 60.0**	**-0.5**
	baz=1.7						
I04A				⇑Sn	**Sn**	**15 45 22.2**	**0.0**
	baz=1.7						
H08A	**Prairie City**	**1.72**	**110**	⇑P	**Pn**	**15 45 00.0**	**-0.6**
	baz=1.7,SNR=23						
H03A	**Soap Creek Ran**	**1.74**	**256**	⇑P	**Pn**	**15 45 01.0**	**+0.1**
	baz=1.7						
H03A				⇑Sn	**Sn**	**15 45 23.4**	**+0.5**
	baz=1.7						
J05A	**Fort Rock**	**1.86**	**187**	⇓P	**Pn**	**15 45 03.0**	**+0.4**
	baz=1.9,SNR=10						
J05A				⇑Sb	**Sb**	**15 45 29.3**	**+1.2**
	baz=1.9						
E08A	**Dider Farm, El**	**1.88**	**43**	⇑P	**Pn**	**15 45 02.8**	**-0.1**
	baz=1.9						
E08A				⇓Sn	**Sn**	**15 45 26.1**	**-0.4**
	baz=1.9						
J06A	**Christmas Vall**	**1.96**	**163**	⇓P	**Pn**	**15 45 04.7**	**+0.7**
	baz=2.0,SNR=7.2						
F03A	**Seaside**	**2.01**	**294**	⇑Pn	**Pn**	**15 45 04.6**	**-0.1**
	baz=2.0,SNR=10						
F03A				⇓Sn	**Sn**	**15 45 32.0**	**+2.4**
	baz=2.0						
I03A	**Eugene**	**2.04**	**236**	⇑Pn	**Pn**	**15 45 04.9**	**-0.1**
	baz=2.0						
D06A	**Cle Elum**	**2.06**	**2**	⇓Pn	**Pn**	**15 45 06.8**	**+1.6**
	baz=2.1						
D06A				⇑Sb	**Sb**	**15 45 34.7**	**+1.0**
	baz=2.1						
J04A	**Umpqua Nationa**	**2.08**	**205**	⇑Pn	**Pn**	**15 45 06.1**	**+0.6**
	baz=2.1						
G09A	**Cove**	**2.23**	**85**	⇑Pn	**Pn**	**15 45 07.1**	**-0.6**
	baz=2.2						
G09A				⇓Sb	**Sb**	**15 45 40.1**	**+1.5**
	baz=2.2						
J03A	**Ideyld Park**	**2.29**	**220**	⇑Pn	**Pn**	**15 45 08.7**	**+0.3**
	baz=2.3						
H09A	**Durkee**	**2.37**	**100**	⇓Sb	**Sb**	**15 45 43.3**	**+0.7**
	baz=2.3						
D08A	**Wollman Farm,**	**2.38**	**35**	⇑Pn	**Pn**	**15 45 09.2**	**-0.4**
	baz=2.4,SNR=5.8						
E09A	**Wood Farm, Sta**	**2.38**	**54**	⇑Sb	**Sb**	**15 45 43.3**	**+0.2**
	baz=2.4						
K06A	**Valley Falls**	**2.39**	**168**	⇑Sb	**Sb**	**15 45 45.0**	**+1.8**
	baz=2.4						
K05A	**Summer Lake**	**2.41**	**179**	⇑Sb	**Sb**	**15 45 45.4**	**+1.6**
	baz=2.4						
BMO	**Blue Mountains**	**2.59**	**95**	*e*Pn	**Pn**	**15 45 14.4**	**+1.9**

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*IDC **01** 15:52:57.8±0.8, 1185N×14358E, h0km, mb3.9/10, mb1 4.1/11, mb1mx3.9/22, mbtmp3.9/11, ML3.6/1, Error ellipse: s-maj=32.0km s-min=18.6km az=104.0*
*ISCJB **01** 15:52:58.6±5.5, 119N±01×1435E±01, h15km±35km, mb3.9/10, Error ellipse: s-maj=28.1km s-min=12.2km az=34.7*
*NEIC **01** 15:52:59.3±0.5, 1185N×14359E, h10km, Error ellipse: s-maj=18.5km s-min=10.5km az=112.0*

ISC 01 15:52:59.0±6.6, 119N±01×1436E±02, h8km±41km, n16, σ0$69/18, mb3.9/10, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**2.09**	**35**	*e*Pn	**Pn**	**15 53 34.7**	**+0.3**
GUMO				*e*Sn	**Sn**	**15 54 01.1**	**+0.4**
GUMO	**Guam**	**2.09**	**35**	Pn	**Pn**	**15 53 34.2**	**-0.2**
	20nm,0.3s,baz=197,slow=14,SNR=5.1						
GUMO				Sn	**Sn**	**15 53 58.8**	**-1.9**
	39nm,0.3s,baz=26,slow=23,SNR=6.6						
WRA	**Warramunga Arr**	**32.91**	**196**	P	**P**	**15 59 33.3**	**-0.7**
	0.8nm,0.5s,mb3.9,baz=19,slow=9.8,SNR=23						
ASAR	**Alice Springs**	**36.58**	**195**	P	**P**	**16 00 05.5**	**-0.2**
	0.2nm,0.5s,mb3.2,baz=18,slow=11,SNR=8.7						
SONM	**Songino Array**	**47.47**	**326**	P	**P**	**16 01 34.8**	**+0.4**
	0.2nm,0.5s,mb3.3,baz=139,slow=5.9,SNR=2.9						
MKAR	**Makanchi Array**	**61.90**	**317**	P	**P**	**16 03 19.5**	**+0.3**
	0.2nm,0.3s,mb3.7,baz=93,slow=14,SNR=3.9						
ZALV	**Zalesovo Beam**	**62.33**	**325**	P	**P**	**16 03 21.2**	**-0.8**
	0.4nm,0.4s,mb3.9,baz=105,slow=7.3,SNR=2.9						
INK	**Inuvik**	**76.41**	**22**	*e*P	**P**	**16 04 48.3**	**-0.5**
INK	**Inuvik**	**76.41**	**22**	P	**P**	**16 04 48.7**	**-0.1**
	1.8nm,0.9s,mb4.0,baz=251,slow=4.4,SNR=4.8						
YKA	**Yellowknife Ar**	**84.93**	**27**	P	**P**	**16 05 34.4**	**-0.1**
YKA	**Yellowknife Ar**	**

comp=E,13μm,0.2s
YUK AMB AMB 16 01 58.5
comp=E,10μm,0.2s
YUK AMB AMB 16 01 58.5
comp=E,4μm,0.2s
YUK AMB AMB 16 01 58.5
comp=E,11μm,0.2s
YUK *i* S **Sn** **16 02 10.0 -0.2**
YUK A 16 02 13.1
comp=E,12μm,0.5s
YUK A 16 02 13.1
comp=E,10μm,0.4s
YUK A 16 02 20.0
comp=E,11μm,0.5s
YUK A 16 02 20.0
comp=E,8μm,0.5s
JRA Rausu 1.02 318 P **Pn** **16 01 59.9 +0.4**
JRA *e*S **Sn** **16 02 14.4 +0.8**
JAK Akkeshi 1.03 260 P **Pn** **16 01 59.5 0.0**
JAK *e*S **Sn** **16 02 13.3 -0.4**
JNK Nakash 1.07 293 P **Pn** **16 01 59.9 -0.1**
JNK *e*S **Sn** **16 02 13.6 -1.0**
JOB Onbets 1.67 261 P **Pn** **16 02 08.0 +0.3**
JOB *e*S **Sn** **16 02 27.9 -0.5**
JAR Ashorobuto 1.69 275 P **Pn** **16 02 08.5 +0.5**
JAR *e*S **Sn** **16 02 28.7 -0.2**
JTKR Abashiri--Toko 1.76 297 P **Pn** **16 02 09.8 +0.8**
JTKR *e*S **Sn** **16 02 31.1 +0.5**
JCH Churui 2.08 255 P **Pn** **16 02 13.0 -0.2**
JCH *e*S **Sn** **16 02 36.8 -1.3**
KUR Kuril'sk 2.42 31 *i* PN **Pn** **16 02 17.0 -0.8**
KUR *e*S **Sn** **16 02 45.2 -1.2**
KUR pmax pmax
comp=N,80nm,0.6s
KUR pmax pmax
comp=E,80nm,0.6s
KUR pmax pmax
comp=Z,300nm,0.6s
KUR smax
comp=N,2μm,0.5s
KUR smax
comp=E,910nm,0.5s
KUR Kuril'sk 2.42 31⇑ *i* P **Pn** **16 02 17.0 -0.8**
KUR AMB AMB 16 02 17.5
comp=E,80nm,0.6s
KUR AMB AMB 16 02 17.5
comp=E,300nm,0.6s
KUR *e*S **Sn** **16 02 45.2 -1.2**
KUR A 16 02 47.0
comp=E,2μm,0.5s
KUR A 16 02 47.0
comp=E,910nm,0.5s
KUR A 16 02 47.0
comp=E,5μm,2.0s
KUR A 16 02 47.0
comp=E,2μm,2.0s
ERM Erimo 2.45 243 *e*Pn **Pn** **16 02 19.6 +1.4**
ERM *e*Sn **Sn** **16 02 46.4 -0.9**
ERM Erimo 2.45 243 *d i* PN **Pn** **16 02 19.6 +1.3**
ASAJ Asahikawa 2.69 291 PN **Pn** **16 02 23.1 +1.6**
ASAJ 16 02 52.8
ASAJ pmax pmax
comp=Z,89nm,0.3s
ASAJ smax
comp=N,25nm,0.3s
ASAJ Asahikawa 2.69 291 Pn **Pn** **16 02 23.1 +1.5**
comp=N,89nm,0.3s,baz=112,slow=11,SNR=1121
ASAJ Sn **Sn** **16 02 52.8 -0.3**
comp=N,25nm,0.3s,baz=196,slow=23,SNR=7.4
YSS Yuzh-Sakhalins 4.44 329 *e*Pn **Pn** **16 02 46.6 +1.2**
YSS *e*Sn **Sn** **16 03 33.1 -2.6**
YSS Yuzh-Sakhalins 4.44 329⇑ *i* PN **Pn** **16 02 46.4 +1.1**
YSS *i* S **Sn** **16 03 35.0 -0.7**
YSS pmax pmax
comp=N,70nm,0.5s
YSS pmax pmax
comp=E,50nm,0.5s
YSS pmax pmax
comp=Z,90nm,0.5s
YSS smax
comp=N,120nm,1.0s
YSS smax
comp=E,120nm,1.0s
YSS Yuzh-Sakhalins 4.44 329⇑ *i* P **Pn** **16 02 46.4 +1.1**
YSS AMB AMB 16 02 47.1
comp=E,70nm,0.5s
YSS AMB AMB 16 02 47.1
comp=E,50nm,0.5s
YSS AMB AMB 16 02 47.1
comp=E,90nm,0.5s
YSS *i* S **Sn** **16 03 35.0 -0.7**
YSS A 16 03 36.8
comp=E,120nm,1.0s
UGL Uglegorsk 6.52 336 *e*P **Pn** **16 03 15.5 +1.9**
UGL AMB AMB 16 03 16.0
comp=E,33nm,0.7s
TYV Tymovskoe 8.03 344 *e*P **Pn** **16 03 34.2 0.0**
TYV AMB AMB 16 03 36.8
comp=E,22nm,1.0s
TYV AMB AMB 16 03 36.8
comp=E,18nm,0.8s
TYV AMB AMB 16 03 36.8
comp=E,28nm,0.8s
MAJO Matsushiro 8.97 225 *e*Pn **Pn** **16 03 46.5 -0.7**
comp=E,7.5nm,0.7s
MAJO Matsushiro 8.97 225 *e*PN **Pn** **16 03 46.5 -0.7**
MAJO pmax pmax
comp=Z,8.0nm,0.7s
MAT Matsushiro 8.97 225 P **Pn** **16 03 46.3 -0.9**
MAT S **Sn** **16 05 30.3 +3.6**
MJAR Matsushiro Arr 8.97 225 Pn **Pn** **16 03 46.3 -0.9**
comp=Z,0.4nm,0.3s,baz=31,slow=13,SNR=7.6
HABR Khabarovsk 9.34 308 *e*PN **Pn** **16 03 53.5 +1.4**
HABR *e*S **Sn** **16 05 36.2 +0.9**
NKL Nikolayevsk 10.60 342 *e*P **Pn** **16 04 07.7 -1.6**
NKL AMB AMB 16 04 08.0
comp=Z,7.0nm,0.3s
NKL AMB AMB 16 04 08.0
comp=Z,10.0nm,0.3s
MDJ Mudanjiang 11.98 283 P **Pn** **16 04 28.2 0.0**
MDJ AMB AMB
comp=Z,5.0nm,1.6s
MDJ AMB AMB
comp=Z,67nm,6.0s
MA2 Magadan 16.67 8 *e*P **Pn** **16 05 25.4 -3.6**
MA2 Magadan 16.67 8⇑ *e*P **Pn** **16 05 31.4 +2.4**
MA2 pmax pmax
comp=Z,10.0nm,1.7s
SEY Seymchan 20.12 8⇑ *e*P **P** **16 06 09.3 +1.2**
YAK Yakutsk 21.22 338⇑ *e*P **P** **16 06 19.0 -0.9**
YAK pmax pmax
comp=Z,5.0nm,0.7s,mb4.0
NJ2 Nanjing 24.16 252 *e*P **P** **16 06 50.4 +0.8**
NJ2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.2
HHC Hu-ho-hao-te 25.64 277 *e*P **P** **16 07 03.2 +0.2**
HHC AP pP 16 07 20.4 +0.1
HHC XP sP 16 07 29.6 +0.6
HHC PP 16 07 45.4
HHC S **S** **16 11 27.2 +1.3**
HHC XS sS 16 11 55.7 0.0
HHC SS 16 12 31.3
HHC SCP ScP 16 14 07.6 +3.1
HHC PCS PcS 16 14 11.1 -1.2
HHC SCS ScS 16 17 49.2 -4.4
HHC AMB AMB
comp=Z,12nm,0.6s,mb4.5
HHC AMB AMB
comp=Z,156nm,5.3s
HHC LR LR
comp=N,122nm,14.3s
HHC LR LR
comp=E,497nm,10.4s
HHC LR LR
comp=Z,157nm,5.1s
BILL Bilibino 27.12 17 *e*P **P** **16 07 13.7 -2.3**
BILL Bilibino 27.12 17⇑ *e*P **P** **16 07 17.3 +1.3**
BILL pmax pmax
comp=Z,2.0nm,0.8s,mb3.7
SONM Songino Array 27.98 293 P **P** **16 07 24.3 +0.4**
SONM pmax pmax
comp=Z,3.0nm,0.7s
SONM Songino Array 27.98 293 P **P** **16 07 24.3 +0.5**
comp=Z,2.9nm,0.7s,mb3.9,baz=85,slow=8.2,SNR=33
TIXI Tiksi 29.76 349 ⇓ *i* P **P** **16 07 39.6 +0.1**
TIXI pmax pmax
comp=Z,2.0nm,1.6s,mb3.5
ZAK Zakamensk 29.84 299 *e*P **P** **16 07 39.9 -0.5**
ZAK pmax pmax
comp=Z,1.0nm,1.0s,mb3.4
LZH Lanzhou 33.01 272 *e*P **P** **16 08 08.5 +0.1**
LZH AP pP 16 08 26.4 +0.4
LZH XP sP 16 08 36.2 +1.6
LZH AMB AMB
comp=Z,15nm,1.0s,mb4.8
LZH AMB AMB
comp=Z,63nm,4.1s
CD2 Chengdu 35.57 264 *e*P **P** **16 08 31.0 +0.4**
CD2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.8
CD2 AMB AMB
comp=Z,20nm,5.2s
GYA Guiyang 36.02 255 *e*P **P** **16 08 36.2 +1.7**
GYA AMB AMB
comp=Z,10.0nm,0.8s,mb4.8
KMI Kunming 39.63 257 P **P** **16 09 04.4 -0.5**
KMI AP pP 16 09 26.8 +4.0
KMI XP sP 16 09 36.6 +5.2
KMI AMB AMB
comp=Z,5.0nm,0.7s,mb4.5
KDAK Kodiak Island 40.21 47 P **P** **16 09 09.1 -0.2**
KDAK Kodiak Island 40.21 47 P **P** **16 09 09.1 -0.2**
comp=Z,4.4nm,0.5s,mb4.6,baz=293,slow=3.4,SNR=21
ZALV Zalesovo Beam 40.72 307 P **P** **16 09 13.4 -0.2**
ZALV PcP PcP 16 11 13.3 -0.3
ZALV Zalesovo Beam 40.72 307 P **P** **16 09 13.4 -0.2**
comp=Z,0.5nm,0.3s,mb3.8,baz=90,slow=7.4,SNR=6.3
ZALV PcP PcP 16 11 13.3 -0.3
comp=Z,1.3nm,0.5s,baz=90,slow=2.7,SNR=8.7
ZAL Zalesovo 40.73 307 P **P** **16 09 13.4 -0.3**
ZAL 16 11 13.3
SLKM Skilak Lake 41.16 42 *e*P **P** **16 09 16.8 -0.2**
MCK McKinley 41.56 37 *e*P **P** **16 09 20.2 -0.1**
comp=Z,4.6nm,0.8s,mb4.3
MCK McKinley 41.56 37 *e*P **P** **16 09 20.2 -0.1**
MCK pmax pmax
comp=Z,5.0nm,0.8s,mb4.3
WMQ Urumqi 41.58 292 *e*P **P** **16 09 22.0 +1.3**
COLA College 41.99 36 *e*P **P** **16 09 24.5 +0.7**
comp=Z,8.5nm,0.8s,mb4.5
COLA College 41.99 36 *d i* P **P** **16 09 24.7 +0.9**
MKAR Makanchi Array 44.16 298 P **P** **16 09 41.6 +0.1**
MKAR pmax pmax
comp=Z,2.0nm,0.4s
MKAR Makanchi Array 44.16 298 P **P** **16 09 41.6 +0.1**
comp=Z,1.6nm,0.4s,mb4.1,baz=83,slow=12,SNR=27
EGAK Eagle 44.85 35 *e*P **P** **16 09 45.8 -1.0**
comp=Z,4.3nm,0.6s,mb4.4
KURK Kurchatov 45.20 304 P **P** **16 09 49.2 -0.6**
comp=Z,3.7nm,0.6s,mb4.3
KURK Kurchatov 45.20 304 P **P** **16 09 49.2 -0.6**
KURK pmax pmax
comp=Z,4.0nm,0.6s,mb4.3
INK Inuvik 47.28 30 *e*P **P** **16 10 06.2 +0.3**
comp=Z,252nm,1.0s
INK Inuvik 47.28 30 P **P** **16 10 06.1 +0.3**
comp=Z,2.5nm,0.4s,mb4.3,baz=280,slow=6.1,SNR=17
AAK Ala-Archa 50.90 296⇑ *e*P **P** **16 10 32.5 -1.3**
AAK pmax pmax
comp=Z,1.0nm,0.8s,mb3.9
RES Resolute Bay 55.73 16 *e*P **P** **16 11 08.0 -0.8**
comp=Z,479nm,0.5s
YKA Yellowknife Ar 56.70 33 P **P** **16 11 15.6 -0.3**
YKA pmax pmax
comp=Z,1.0nm,0.6s
YKA Yellowknife Ar 56.70 33 P **P** **16 11 15.6 -0.3**
comp=Z,1.0nm,0.6s,mb4.0,baz=301,slow=7.0,SNR=21
ARCES ARCESS Array B 59.51 339 P **P** **16 11 34.7 -0.6**
ARCES pmax pmax
comp=Z,3.0nm,0.6s
ARCES ARCESS Array B 59.51 339 P **P** **16 11 34.7 -0.6**
comp=Z,2.6nm,0.6s,mb4.5,baz=28,slow=6.8,SNR=20
JOF Joensuu 62.22 332 *e*p **P** **16 11 52.1 -1.7**
comp=Z,5.1nm,0.4s,mb4.9
JOF Joensuu 62.22 332 *e*P **P** **16 11 52.1 -1.7**
JOF pmax pmax
comp=Z,5.0nm,0.4s,mb4.9
NEW Newport 63.29 48 P **P** **16 12 01.5 +0.3**
NEW pmax pmax
comp=Z,1.0nm,0.5s
NEW Newport 63.29 48 P **P** **16 12 01.5 +0.3**
comp=Z,0.6nm,0.5s,mb3.8,baz=346,slow=4.2,SNR=3.1
WRA Warramunga Arr 63.73 192 P **P** **16 12 03.9 -0.4**
comp=Z,0.4nm,0.6s,mb3.5,baz=7.2,slow=6.7,SNR=11
KAF Kangasniemi 64.47 333 *e*p **P** **16 12 06.6 -2.0**
comp=Z,4.2nm,0.5s,mb4.5,baz=44,slow=6.2
KAF Kangasniemi 64.47 333 *e*P **P** **16 12 06.6 -2.0**
KAF pmax pmax
comp=Z,4.0nm,0.5s,mb4.5
FINES FINESS Array B 65.02 333 *i* P **P** **16 12 11.8 -0.5**
FINES pmax pmax
comp=Z,6.0nm,0.4s
FINES FINESS Array B 65.02 333 P **P** **16 12 11.6 -0.7**
comp=Z,6.1nm,0.4s,mb4.8,baz=49,slow=7.8,SNR=117
FCC Fort Churchill 66.90 29 *e*P **P** **16 12 23.6 -0.7**
comp=Z,7.2nm,1.3s,mb4.3
FCC Fort Churchill 66.90 29 *e*P **P** **16 12 23.6 -0.8**
FCC pmax pmax
comp=Z,7.0nm,1.3s,mb4.3
ASAR Alice Springs 67.45 192 P **P** **16 12 28.7 +0.5**
ASAR pmax pmax
comp=Z,1.0nm,0.6s
ASAR Alice Springs 67.45 192 P **P** **16 12 28.7 +0.5**
comp=Z,0.7nm,0.6s,mb3.7,baz=11,slow=6.1,SNR=21
BOZ Bozeman (W) 67.87 48 *e*P **P** **16 12 31.3 +0.6**
comp=Z,1.0nm,0.6s,mb3.8
BOZ Bozeman (W) 67.87 48 *e*P **P** **16 12 31.3 +0.6**
BOZ pmax pmax
comp=Z,1.0nm,0.6s,mb3.8
NVAR Mina Array Bea 68.54 57 P **P** **16 12 36.1 +1.1**
comp=Z,2.0nm,0.7s,mb4.1,baz=284,slow=8.5,SNR=21
NB2 NORSAR Subarra 69.85 338 P **P** **16 12 42.0 -0.7**
comp=Z,3.3nm,0.5s,mb4.4,baz=32,slow=6.5
NOA NORSAR Array B 69.85 338 P **P** **16 12 42.3 -0.4**
NOA pmax pmax
comp=Z,4.0nm,0.6s
NOA NORSAR Array B 69.85 338 P **P** **16 12 42.3 -0.4**
comp=Z,3.7nm,0.6s,mb4.4,baz=33,slow=6.3,SNR=22
TPNV Topopah Spring 70.74 57 *e*P **P** **16 12 49.2 +0.6**
comp=Z,2.5nm,0.8s,mb4.1
TPNV Topopah Spring 70.74 57 *e*P **P** **16 12 49.2 +0.6**
TPNV pmax pmax
comp=Z,2.0nm,0.8s,mb4.0
BW06 Boulder Array 70.87 49 *e*P **P** **16 12 49.3 0.0**
PDAR Pinedale Array 70.87 49 P **P** **16 12 49.7 +0.4**
comp=Z,1.2nm,0.5s,mb4.0,baz=275,slow=0.7,SNR=14
AKASG Malin Array Be 71.57 323 *i* P **P** **16 12 52.5 -0.8**
AKASG pmax pmax
comp=Z,2.0nm,0.4s
AKASG Malin Array Be 71.57 323 P **P** **16 12 52.6 -0.8**
comp=Z,1.6nm,0.4s,mb4.2,baz=41,slow=6.1,SNR=11
STKA Stephens Creek 74.81 184 P **P** **16 13 13.2 +0.7**
comp=Z,0.4nm,0.4s,mb3.5,baz=300,slow=20,SNR=3.2
ANMO Albuquerque 77.96 53⇑ *e*P **P** **16 13 32.4 +1.9**
SCHQ Schefferville 78.41 19 P **P** **16 13 32.2 -0.5**
SCHQ Schefferville 78.41 19 P **P** **16 13 32.2 -0.5**
comp=Z,1.3nm,0.4s,mb4.0,baz=43,slow=18,SNR=6.4
TKL Tuckaleechee C 89.33 39 P **P** **16 14 28.4 -0.2**
TKL pmax pmax
comp=Z,3.0nm,0.7s,mb4.4
TKL Tuckaleechee C 89.33 39 P **P** **16 14 28.4 -0.2**
comp=Z,2.5nm,0.7s,mb4.4,baz=152,slow=5.0,SNR=4.3
SIV San Ignacio 144.36 49 PKP PKPdf 16 21 06.6 -1.7
comp=Z,0.7nm,0.6s,baz=288,slow=2.2,SNR=8.2

*ISCJB **01** 16:19:59.0±0.5,3856N±003×2163E±004,h9km±7km, Error ellipse: s-maj=5.9km s-min=4.5km az=44.1*
*CSEM **01** 16:19:59.4±0.1,3856N×2162E,h8km,ML3.0,Error ellipse: s-maj=1.7km s-min=1.2km az=134.0*
*THE **01** 16:19:59.2,3855N×2162E,h3km,ML3.0*
*NEIC **01** 16:19:59.1,3855N×2163E,h22km,MD3.3(ATH), ML3.0(THE),After ATH.*
*ATH **01** 16:19:59.1,3856N×2162E,h22km±2km,MD3.3/7*
ISC 01 16:19:59.5±0.5,**3856N**±003×**2164E**±004,**h12**km±7km,**n11,**
σ0§76/17,5C-2D,Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SELA	**Sela**	**0.34**	**144**	*e*Pg	**Pg**	**16 20 05.9**	**-0.6**
SELA				*e*Sg	**Sg**	**16 20 11.2**	**+0.1**
EVR	**Evrytania**	**0.38**	**20**⇑	*i*PB	**Pg**	**16 20 07.2**	**0.0**
EVR				*e*SB	**Sg**	**16 20 13.5**	**+1.2**
RLS	**Riolos of Patr**	**0.52**	**195**⇓	*i*PN	**Pg**	**16 20 09.2**	**-0.4**
RLS				*e*SN	**Sg**	**16 20 17.8**	**+1.3**
AGG	**Agios Georgios**	**0.71**	**49**	*e*Pg	**Pg**	**16 20 13.0**	**-0.3**
AGG				*e*Sg	**Sg**	**16 20 22.4**	**-0.3**
LKD	**Levkas**	**0.79**	**281**	*e*Pg	**Pg**	**16 20 14.1**	**-0.6**
LKD				*e*Sg	**Sg**	**16 20 25.4**	**+0.3**
KFL	**Anninata**	**0.80**	**237**	*e*Pg	**Pg**	**16 20 14.1**	**-1.0**
VLS	**Valsamata**	**0.91**	**246**⇑	*i*PB	**Pg**	**16 20 15.7**	**-1.3**
VLS				*e*SN	**Sg**	**16 20 29.8**	**+0.9**
THL	**Klokotos Trika**	**1.05**	**16**⇑	*i*PN	**Pn**	**16 20 19.8**	**-0.2**
LKR	**Lokris**	**1.07**	**85**⇓	*i*PN	**Pn**	**16 20 19.5**	**-0.8**
ITM	**Ithomi**	**1.39**	**170**⇑	*i*PN	**Pn**	**16 20 25.3**	**+0.6**
NEO	**Neokhori**	**1.45**	**58**⇑	*i*PN	**Pn**	**16 20 26.4**	**+1.0**

*IDC **01** 16:50:32.8±1.3,3155S×72.15W,h0km,mb4.4/1,mb1 3.9/5, mb1mx3.7/16,mbtmp3.8/5,ML3.6/4,Error ellipse: s-maj=34.4km s-min=31.0km az=118.0*
*ISCJB **01** 16:50:35.5±1.2,3157S±003×7197W±008,h21km±8km, mb4.3/1,Error ellipse: s-maj=12.0km s-min=4.5km az=177.1*
*GUC **01** 16:50:37.1±0.9,3161S×7184W,h27km±5km,MD4.0, ML3.9*
*NEIC **01** 16:50:37.1,3161S×7184W,h27km,ML3.9(GUC),After GUC.*
ISC 01 16:50:35.5±1.2,**3158S**±003×**7190W**±008,**h9**km±6km,**n40,**
σ0§82/47,mb4.3/1,6C-6D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHNG	**Los Chungos**	**0.46**	**131**⇓	*i*P	**Pg**	**16 50 28.3**	**-16**
CHNG				*i* S	**Sg**	**16 50 34.6**	**-16**
CHNG				AML	AML	16 50 35.1	
comp=N,11μm,0.4s							
CMCH	**Combarbala**	**0.87**	**62**⇑	*i*P	**Pg**	**16 50 52.4**	**+0.1**
CMCH				*i* S	**Sg**	**16 51 04.1**	**+0.5**
CMCH	**Combarbala**	**0.87**	**62**⇑	*i*P	**Pg**	**16 50 52.4**	**+0.1**
CMCH				*i* S	**Sg**	**16 51 04.1**	**+0.5**
CMCH				AML	AML	16 51 06.0	
comp=E,12μm,0.7s							
PACH	**Papudo**	**1.03**	**158**	*e*P	**Pg**	**16 50 54.8**	**-0.6**
PTCH	**Petorca**	**1.07**	**130**	*e*P	**Pg**	**16 50 55.4**	**-0.7**
PTCH				*i* S	**Sg**	**16 51 08.9**	**-1.1**
PTCH	**Petorca**	**1.07**	**130**	*e*P	**Pg**	**16 50 55.4**	**-0.7**
PTCH				*i* S	**Sg**	**16 51 08.9**	**-1.1**
PTCH				AML	AML	16 51 11.4	
comp=N,3μm,0.1s							
OVCH	**Ovalle**	**1.14**	**32**	*e*P	**Pb**	**16 50 57.3**	**0.0**
OVCH				AML	AML	16 51 17.2	
comp=E,7μm,0.8s							
IHA	**Instituto Hidr**	**1.46**	**171**⇑	*i*P	**Pn**	**16 51 01.1**	**-0.9**
JACH	**Jahuel**	**1.56**	**135**	*e*P	**Pn**	**16 51 03.5**	**+0.1**
ROCH	**El Roble**	**1.58**	**152**	*i* P	**Pn**	**16 51 03.9**	**+0.3**
ROCH				*i* S	**Sn**	**16 51 23.2**	**-1.0**
TLL	**Tololo Astrono**	**1.69**	**34**⇑	*i*P	**Pn**	**16 51 06.0**	**+0.8**
TLL				*e*P		16 51 06.7	
TLL	**Tololo Astrono**	**1.69**	**34**⇑	*i*P	**Pn**	**16 51 06.0**	**+0.8**
TLL				*e*P		16 51 06.7	
TLL				AML	AML	16 51 43.7	
comp=N,2μm,0.7s							
LSCH	**La Serena**	**1.76**	**19**	AML	AML	16 51 43.9	
comp=E,350nm,0.7s							
PEL	**Peldehue**	**1.87**	**147**⇓	*i*P	**Pn**	**16 51 07.8**	**+0.2**
PEL				*i* S	**Sn**	**16 51 30.8**	**-0.5**
PEL				AML	AML	16 51 41.4	
comp=N,5μm,0.5s							
DSCH	**Colegio Aleman**	**2.13**	**149**	*e*P	**Pn**	**16 51 11.7**	**+0.4**
DSCH				AML	AML	16 51 44.2	
comp=N,679nm,0.5s							
CLCH	**Cerro Calan**	**2.15**	**148**	*e*P	**Pn**	**16 51 11.9**	**+0.5**
CLCH				*i* S	**Sn**	**16 51 37.9**	**-0.3**
CLCH				AML	AML	16 51 43.6	
comp=E,4μm,0.8s							
FCH	**Farellones**	**2.21**	**142**	*e*P	**Pn**	**16 51 13.0**	**+0.7**
FCH				*i* S	**Sn**	**16 51 40.4**	**+0.6**
FCH				AML	AML	16 51 45.2	
comp=E,1μm,0.5s							
TACH	**Talagante**	**2.22**	**159**⇓	*i*P	**Pn**	**16 51 12.9**	**+0.4**
PCH	**Pirque**	**2.35**	**150**⇑	*i*P	**Pn**	**16 51 15.0**	**+0.7**
CHCH	**Chadas Angostu**	**2.57**	**156**	*e*P	**Pn**	**16 51 17.8**	**+0.5**
CHCH				*i* S	**Sn**	**16 51 48.2**	**-0.5**
LMEL	**Las Melosas**	**2.68**	**148**⇓	*i*P	**Pn**	**16 51 19.7**	**+1.0**
LMEL				S	**Sn**	**16 51 52.4**	**+1.2**
LMEL	**Las Melosas**	**2.68**	**148**⇓	*i*P	**Pn**	**16 51 19.7**	**+1.0**
LMEL				*i* S	**Sn**	**16 51 52.4**	**+1.2**
LMEL				AML	AML	16 52 01.7	
comp=E,1μm,0.7s							
LCO	**Las Campanas**	**2.76**	**22**	*e*Pn	**Pn**	**16 51 20.5**	**+0.5**
LCO				*e*		16 51 26.4	
LCO				Sn	**Sn**	**16 51 52.2**	**-1.2**
CICH	**Cipreses**	**3.00**	**156**	*e*P	**Pn**	**16 51 23.8**	**+0.6**
SFDO	**San Fernando**	**3.12**	**166**⇓	*i*P	**Pn**	**16 51 24.7**	**-0.1**
CFAA	**Coronel Fontan**	**3.13**	**91**	Pn	**Pn**	**16 51 28.0**	**+3.1**
comp=E,3.4nm,0.3s,baz=262,slow=9.2,SNR=132							
CFAA				Sn	**Sn**	**16 52 08.4**	**+6.0**
comp=E,7.2nm,0.3s,baz=92,slow=15,SNR=17							
PLCA	**Paso Flores**	**9.20**	**174**	Pn	**Pn**	**16 52 48.0**	**-0.3**
comp=E,0.3nm,0.3s,baz=334,slow=10.0,SNR=8.6							
TRQA	**Tornquist**	**10.40**	**131**	*e*Pn	**Pn**	**16 53 04.6**	**-0.2**
comp=E,5.8nm,0.7s							
LPAZ	**La Paz**	**15.61**	**14**	Pn	**Pn**	**16 54 16.8**	**+1.1**
LPAZ	**La Paz**	**15.61**	**14**	Pn	**Pn**	**16 54 16.8**	**+1.1**
comp=E,0.1nm,0.3s,baz=214,slow=11,SNR=4.3							
SIV	**San Ignacio**	**18.39**	**35**	P	**Pn**	**16 54 49.5**	**-1.3**
comp=E,0.1nm,0.3s,baz=224,slow=15,SNR=5.9							
TOA0	**Torodi Ar. Sit**	**83.28**	**70**	*e*P	**P**	**17 03 01.6**	**-1.3**
TORD	**Torodi Ar. Bea**	**83.28**	**70**	P	**P**	**17 03 01.0**	**-1.9**
TORD	**Torodi Ar. Bea**	**83.28**	**70**	P	**P**	**17 03 01.0**	**-1.9**
comp=E,2.8nm,0.8s,mb4.3,baz=244,slow=5.9,SNR=9.6							
WRA	**Warramunga Arr**	**122.92**	**210**	PKP	PKPdf	17 09 31.2	-1.5
comp=E,0.6nm,1.1s,baz=158,slow=1.4,SNR=3.1							
BRVK	**Borovoye**	**145.33**	**41**	*e*PKP	PKPdf	17 10 12.7	-0.4
ZAA0	**Zalesovo Array**	**152.10**	**30**	*e*PKPbc	PKPbc	17 10 29.8	-1.0
ZALV	**Zalesovo Beam**	**152.10**	**30**	PKPbc	PKPbc	17 10 30.2	-0.5
comp=E,3.0nm,0.6s,baz=299,slow=3.4,SNR=19							
ZALV				PKPab	PKPab	17 10 39.7	-0.6
comp=E,2.7nm,0.5s,baz=300,slow=3.3,SNR=7.5							
MKAR	**Makanchi Array**	**155.03**	**45**	PKPab	PKPab	17 10 52.4	-0.5
MKAR	**Makanchi Array**	**155.03**	**45**	PKPab	PKPab	17 10 52.4	-0.5
comp=E,0.9nm,0.9s,baz=291,slow=6.0,SNR=4.6							

*ISCJB **01** 16:54:57.9±1.2,3832N±004×2026E±009,h8km,Error ellipse: s-maj=10.5km s-min=5.2km az=163.7*
*THE **01** 16:54:59.5,3837N×2035E,h3km,ML3.0*
*NEIC **01** 16:54:59.7,3833N×2046E,h20km±1km,MD3.5(ATH), ML3.0(THE),After ATH.*
*ATH **01** 16:54:59.0,3825N×2032E,h20km±1km,MD3.5/5*
*CSEM **01** 16:55:00.6±0.2,3838N×2047E,h8km,MD3.5,Error ellipse: s-maj=7.4km s-min=2.4km az=72.0*
ISC 01 16:54:58.6±1.2,**3833N**±004×**2029E**±009,**h6**km±6km,**n12,**
σ1§05/18,2C-2D,Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.28**	**122**⇓	*i*PB	**Pg**	**16 55 04.9**	**+0.8**
VLS				*e*SB	**Sg**	**16 55 08.8**	**+1.0**
KFL	**Anninata**	**0.45**	**119**	*e*Pg	**Pg**	**16 55 07.6**	**+0.3**
LKD	**Levkas**	**0.47**	**37**	*e*Pg	**Pg**	**16 55 07.3**	**-0.5**
LKD				*e*Sg	**Sg**	**16 55 13.2**	**-0.8**
LKD	**Levkas**	**0.47**	**37**	*e*Pg	**Pg**	**16 55 07.3**	**-0.5**
LKD				*e*Sg	**Sg**	**16 55 13.1**	**-0.9**
RLS	**Riolos of Patr**	**0.97**	**106**⇓	*i*PN	**Pn**	**16 55 16.9**	**-1.7**
IGT	**Igoumenitsa**	**1.20**	**2**	*e*Pg	**Pg**	**16 55 21.6**	**-0.1**
IGT				*e*Sg	**Sg**	**16 55 37.9**	**+0.6**
EVR	**Evrytania**	**1.33**	**63**⇑	*i*PB	**Pb**	**16 55 23.5**	**-0.4**
EVR				*e*SN	**Sn**	**16 55 43.0**	**+1.4**
EVR	**Evrytania**	**1.33**	**63**⇑	*i*Pn	**Pn**	**16 55 22.4**	**-1.2**
KEK	**Kerkira**	**1.44**	**345**	*e*PN	**Pn**	**16 55 27.2**	**+2.1**
ITM	**Ithomi**	**1.73**	**131**	*e*PN	**Pn**	**16 55 29.1**	**-0.1**
AGG	**Agios Georgios**	**1.74**	**66**	*e*Pb	**Pb**	**16 55 29.4**	**-1.6**
AGG				*e*Sb	**Sb**	**16 55 54.2**	**+1.1**
VLX	**Vlachokerasia**	**1.91**	**119**	*e*Pb	**Pb**	**16 55 33.2**	**-0.6**

*IDC **01** 17:06:00.1±1.4,2081S×168.13E,h0km,mb3.9/4, mb1 4.1/5,mb1mx3.9/13,mbtmp4.0/5,ML3.9/1,MS3.7/9,*

Ms1 3.7/9, ms1mx3.4/25, Error ellipse: s-maj=38.2km s-min=34.5km az=163.0
*ISCJB **01** 17:06:04.0±1.6, 211.5±0.2×168.1E±0.2, h33km, mb4.1/6, MS3.7/8, Error ellipse: s-maj=39.9km s-min=17.2km az=43.0*
*NEIC **01** 17:06:06.3±8.4, 2091S×168.13E, h44km±74km, mb4.7/2, Error ellipse: s-maj=44.4km s-min=16.5km az=207.0*
*SZGRF **01** 17:06:14.4, 1952S×17159E, h33km, Vanuatu Islands region*

ISC 01 17:06:05.8±1.6, 210S±02×1681E±02, h35km, n35, σ0§58/10, mb4.1/6, MS3.7/8, Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**13.92**	**324**	LR	LR	17 13 33.8	
	comp=Z,60nm,19.9s,baz=141,slow=33						
URZ	**Urewera**	**18.89**	**158**	P	**Pn**	**17 10 23.7**	**-0.2**
	0.3nm,0.3s,baz=338,slow=5.4,SNR=4.0						
CTA	**Charters Tower**	**20.50**	**269**	LR	LR	17 17 58.6	
	comp=Z,389nm,20.0s,MS3.8,baz=77,slow=35						
RPZ	**Rata Peaks**	**22.80**	**175**	LR	LR	17 18 45.0	
	comp=Z,57nm,20.4s,MS3.0,baz=6.4,slow=33						
STKA	**Stephens Creek**	**26.05**	**240**	*e*P	**P**	**17 11 45.8**	**+10**
	6.8nm,1.2s,mb4.0						
STKA	**Stephens Creek**	**26.05**	**240**	*e*P	**P**	**17 11 45.8**	**+10**
STKA				LR	LR	17 21 36.8	
STKA	**Stephens Creek**	**26.05**	**240**	P	**P**	**17 11 37.1**	**+1.3**
	1.4nm,0.7s,mb3.6,baz=66,slow=16,SNR=3.3						
STKA				LR	LR	17 21 36.8	
	comp=Z,237nm,18.0s,MS3.8,baz=25,slow=36						
RAR	**Rarotonga**	**29.93**	**96**	LR	LR	17 20 51.3	
	comp=Z,188nm,18.0s,MS3.8,baz=195,slow=30						
WB2	**Warramunga Arr**	**31.62**	**266**	*e*P	**P**	**17 12 32.7**	**+7.1**
WRA	**Warramunga Arr**	**31.63**	**266**	P	**P**	**17 12 25.0**	**-0.7**
	0.5nm,0.6s,mb3.5,baz=83,slow=5.8,SNR=11						
ASAR	**Alice Springs**	**31.72**	**259**	P	**P**	**17 12 25.9**	**-0.6**
	2.0nm,0.8s,mb4.0,baz=86,slow=9.0,SNR=24						
TBI	**Tubuai**	**39.26**	**102**	*e*LR	LR	17 24 20.0	
	115nm,26.2s						
PPT	**Papeete**	**40.00**	**93**	*e*LR	LR	17 24 40.9	
	169nm,25.2s						
PPT	**Papeete**	**40.00**	**93**	LR	LR	17 25 51.1	
	comp=Z,176nm,21.9s,MS3.9,baz=244,slow=30						
FITZ	**Fitzroy Crossi**	**40.05**	**267**	*e*P	**P**	**17 13 38.7**	**+0.8**
	7.0nm,0.7s,mb4.5						
FITZ				*i*	pP	17 13 46.3	-1.9
FITZ	**Fitzroy Crossi**	**40.05**	**267**	LR	LR	17 30 08.2	
	comp=Z,184nm,18.5s,MS4.0,baz=174,slow=36						
BATI	**Kupang**	**44.00**	**277**	LR	LR	17 32 34.4	
	comp=Z,158nm,19.1s,MS4.0,baz=249,slow=36						
SBA	**Scott Base**	**56.92**	**180**	*e*P	**P**	**17 15 47.2**	**+0.3**
	10nm,1.2s,mb4.7						
JNU	**Nakatsue**	**64.49**	**326**	LR	LR	17 39 09.2	
	comp=Z,27nm,19.9s,MS3.4,baz=53,slow=31						
SONM	**Songino Array**	**87.98**	**324**	P	**P**	**17 18 52.0**	**0.0**
	0.5nm,0.7s,mb3.8,baz=139,slow=3.8,SNR=4.3						
ARCES	**ARCESS Array B**	**126.47**	**345**	PKP	PKPdf	17 25 03.4	-0.9
ARCES	**ARCESS Array B**	**126.47**	**345**	PKP	PKPdf	17 25 03.4	-0.9
	3.6nm,0.9s,baz=64,slow=2.1,SNR=4.7						
CLZ	**Clausthal**	**144.66**	**336**	*e*PKPbc	PKPdf	17 25 44.0	+5.5
WERD	**Werda**	**144.96**	**333**	*e*PKPbc	PKPdf	17 25 46.1	+7.0
GUNZ	**Gunzen**	**145.01**	**333**	*e*PKPbc	PKPbc	17 25 46.4	+7.9
MOX	**Moxa**	**145.10**	**334**	*e*PKP	PKPdf	17 25 46.6	+7.3
IBBN	**Ibbenburen**	**145.22**	**339**	*e*PKPbc	PKPbc	17 25 46.7	+7.5
KHC	**Kasperske Hory**	**145.35**	**330**	*e*PKP	PKPdf	17 25 39.0	-0.8
GEC2	**GERESS Array S**	**145.49**	**330**	*e*PKPbc	PKPbc	17 25 48.8	+8.7
GERES	**GERESS Array B**	**145.49**	**330**	PKPbc	PKPbc	17 25 39.2	-0.9
	1.0nm,0.7s,baz=40,slow=2.3,SNR=8.6						
ROTZ	**Rotzenmuhle**	**145.51**	**332**	*e*PKPbc	PKPbc	17 25 48.0	+7.8
UBBA	**Unterbreizbach**	**145.62**	**335**	*e*PKPbc	PKPbc	17 25 48.5	+8.0
GRA1	**Grafenberg Arr**	**145.99**	**333**	*e*PKPbc	PKPbc	17 25 50.3	+8.7
GRF	**Grafenberg Arr**	**145.99**	**333**	*e*PKPbc	PKPbc	17 25 50.3	+8.7
WLF	**Walferdange**	**147.99**	**338**	*e*PKPbc	PKPbc	17 25 55.4	+8.1

*IDC **01** 17:17:49.0±2.3, 457N×9579E, h0km, mb3.5/3, mb1 3.7/4, mb1mx3.4/20, mbtmp3.5/4, ML3.4/1, Error ellipse: s-maj=65.9km s-min=20.7km az=50.0*
*NEIC **01** 17:17:54.8±1.9, 478N×9608E, h30km, Error ellipse: s-maj=37.0km s-min=20.9km az=62.0*

ISC 01 17:17:55.0±1.9, 48N±02×960E±02, h35km, n5, σ1§73/6, mb3.5/3, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**3.57**	**124**	Pn	**Pn**	**17 18 48.9**	**+1.0**
	3.4nm,0.3s,baz=306,slow=12,SNR=11						
PSI				Sn	**Sn**	**17 19 29.8**	**+0.9**
	1.3nm,0.3s,baz=204,slow=18,SNR=3.8						
PSI				Lg		17 19 44.6	
	4.0nm,0.3s,baz=187,slow=19,SNR=6.7						
KULM	**Kulim**	**4.67**	**84**	*e*Pn	**Pn**	**17 19 01.7**	**-1.4**
SONM	**Songino Array**	**43.76**	**10**	P	**P**	**17 25 58.7**	**+1.7**
	0.3nm,0.5s,mb3.3,baz=186,slow=8.1,SNR=4.0						
WRA	**Warramunga Arr**	**45.04**	**124**	P	**P**	**17 26 06.4**	**-1.2**
	0.4nm,0.6s,mb3.4,baz=302,slow=9.1,SNR=7.7						
ASAR	**Alice Springs**	**46.59**	**129**	P	**P**	**17 26 18.9**	**-0.9**
	0.8nm,0.6s,mb3.8,baz=300,slow=7.9,SNR=15						

MAN 01 17:19:38, 1460N×12313E, h14km, mb4.1, ML2.9, MS2.6, 2C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GQP	**Guinayangan**	**0.96**	**224**	↑*e*P	Pb	17 19 55.5	-0.9
GQP				*e*S	Sb	17 20 08.2	-0.7
POLP	**Polilio Island**	**1.16**	**276**	*e*P	Pn	17 19 59.1	-0.8
POLP				*e*S	Sb	17 20 15.6	+0.9
PVCP	**Virac**	**1.41**	**135**	↑*i*P	Pn	17 20 03.1	-0.1
PVCP				*i* S	Sn	17 20 21.5	-0.1
PVCP	**Virac**	**1.41**	**135**	*e*P	Pn	17 20 01.2	-2.0
BALP	**Baler**	**1.88**	**307**	*e*P	Pn	17 20 09.1	-0.7
PCPH	**Palayan**	**2.19**	**296**	*e*P	Pn	17 20 14.5	+0.5
PCPH				*e*S	Sn	17 20 41.9	+1.1
CNP	**Catarman**	**2.56**	**144**	*e*P	Pn	17 20 20.5	+1.4
CAUP	**Cauayan**	**2.65**	**332**	*e*P	Pn	17 20 20.7	+0.3

*IDC **01** 17:26:59.2±7.9, 5517N×16204W, h0km, mb3.6/3, mb1 3.7/3, mb1mx3.4/22, mbtmp3.6/3, Error ellipse: s-maj=211.5km s-min=38.0km az=174.0*
*ISCJB **01** 17:27:00.6±2.2, 544N±02×1615W±02, h61km±13km, mb3.6/3, Error ellipse: s-maj=44.7km s-min=8.1km az=152.5*
*NEIC **01** 17:27:02.7±1.8, 5455N×16172W, h50km±12km, ML3.2(AEIC), Error ellipse: s-maj=41.3km s-min=9.0km az=153.0*

ISC 01 17:27:02.4±2.1, 544N±02×1616W±02, h53km±13km, n10, σ1§04/12, mb3.6/3, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDPT	**Sand Point**	**1.12**	**35**	P	**Pn**	**17 27 19.8**	**-2.0**
SDPT				S	**Sn**	**17 27 36.8**	**+0.8**
FALS	**False Pass**	**1.13**	**292**	P	**Pn**	**17 27 20.9**	**-1.0**
AKUT	**Akutan**	**2.46**	**264**	*e*Pn	**Pn**	**17 27 40.3**	**+0.3**
AKUT				*e*Sn	**Sn**	**17 28 10.6**	**+1.7**
UNV	**Unalaska Valle**	**2.94**	**260**	*e*Pn	**Pn**	**17 27 45.7**	**-0.9**
SVW2	**Sparrevohn**	**7.40**	**23**	*e*Pn	**Pn**	**17 28 48.0**	**+0.3**
SLKM	**Skilak Lake**	**8.63**	**41**	*e*Pn	**Pn**	**17 29 05.0**	**+0.7**
YKA	**Yellowknife Ar**	**25.33**	**53**	P	**P**	**17 32 25.1**	**+1.3**
YKA	**Yellowknife Ar**	**25.33**	**53**	P	**P**	**17 32 25.1**	**+1.3**
	0.1nm,0.5s,mb2.6,baz=270,slow=9.1,SNR=4.6						
SONM	**Songino Array**	**54.12**	**304**	P	**P**	**17 36 21.1**	**-0.4**
	0.6nm,0.7s,mb3.6,baz=40,slow=5.4,SNR=6.6						
FINES	**FINESS Array B**	**64.30**	**356**	P	**P**	**17 37 30.7**	**-0.9**
	5.1nm,1.2s,mb4.4,baz=2.9,slow=3.8,SNR=3.8						

*ISCJB **01** 17:42:05.3±0.8, 84S±01×15694E±007, h10km, mb3.6/6, MS3.8/2, Error ellipse: s-maj=21.5km s-min=8.3km az=13.2*
*IDC **01** 17:42:05.2±1.1, 844S×15692E, h0km, mb3.7/6, mb1 3.8/7, mb1mx3.7/15, mbtmp3.7/7, ML4.2/1, MS3.7/3, Ms1 3.7/3, ms1mx3.0/24, Error ellipse: s-maj=31.3km s-min=25.0km az=112.0*
*NEIC **01** 17:42:06.3±0.9, 850S×15703E, h10km, Error ellipse: s-maj=26.9km s-min=17.6km az=181.0*

ISC 01 17:42:11.8±0.8, 84S±01×15673E±008, h35km, n13, σ1§23/13, mb3.6/6, MS3.8/2, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**3.36**	**109**	*e*Pn	**Pn**	**17 42 54.4**	**-7.4**
HNR				*e*S	**Sn**	**17 43 40.4**	**0.0**
HNR	**Honiara**	**3.36**	**109**	Pn	**Pn**	**17 42 54.3**	**-7.4**
	27nm,0.3s,baz=251,slow=6.6,SNR=15						
HNR				Sn	**Sn**	**17 43 40.2**	**-0.2**
	91nm,0.3s,baz=105,slow=19,SNR=6.2						
CTA	**Charters Tower**	**15.45**	**220**	LR	LR	17 50 57.9	
	comp=Z,142nm,19.1s,baz=67,slow=34						
WB2	**Warramunga Arr**	**24.52**	**240**	*e*P	**P**	**17 47 30.4**	**+2.2**
WRA	**Warramunga Arr**	**24.53**	**240**	P	**P**	**17 47 26.8**	**-1.4**
	2.1nm,0.8s,mb3.8,baz=67,slow=10,SNR=19						
WRA				PcP	PcP	17 51 07.7	+1.5
	0.5nm,0.9s,baz=67,slow=2.6,SNR=4.8						
ASAR	**Alice Springs**	**26.63**	**232**	P	**P**	**17 47 45.8**	**-1.5**
	0.3nm,0.8s,mb2.9,baz=63,slow=9.8,SNR=3.4						
STKA	**Stephens Creek**	**27.31**	**209**	*e*P	**P**	**17 47 56.3**	**+3.1**
	3.2nm,0.9s,mb3.9						
STKA	**Stephens Creek**	**27.31**	**209**	*e*P	**P**	**17 47 56.3**	**+3.1**
STKA				LR	LR	17 58 35.9	
STKA	**Stephens Creek**	**27.31**	**209**	P	**P**	**17 47 53.1**	**-0.1**
	3.8nm,0.9s,mb3.9,baz=29,slow=14,SNR=8.2						
STKA				LR	LR	17 58 35.9	
	comp=Z,136nm,19.9s,MS3.5,baz=27,slow=36						
SONM	**Songino Array**	**71.41**	**327**	P	**P**	**17 53 27.8**	**-0.5**
	0.2nm,0.6s,mb3.2,baz=143,slow=5.0,SNR=2.2						
MKAR	**Makanchi Array**	**85.56**	**318**	P	**P**	**17 54 46.8**	**+0.5**
	0.7nm,0.7s,mb4.0,baz=55,slow=44,SNR=5.2						
ZALV	**Zalesovo Beam**	**86.26**	**326**	P	**P**	**17 54 50.0**	**+0.2**
	0.3nm,0.6s,mb3.7,baz=90,slow=5.8,SNR=2.4						
PDAR	**Pinedale Array**	**98.33**	**48**	LR	LR	18 33 23.5	
	comp=Z,66nm,20.6s,MS4.1,baz=247,slow=31						

*NIED **01** 17:51:00.3720N×13670E, h8km, Mw3.5 Best double couple: M=2.11000×10^14 NP1:φs15.00000°, δ53.00000°, λ62.00000°. NP2:φs237.00000°, δ45.00000°, λ122.00000°.*
*ISCJB **01** 17:51:43.4±1.0, 3722N±003×13664E±005, h13km±6km, mb3.4/3, Error ellipse: s-maj=6.7km s-min=5.5km az=5.4*
*IDC **01** 17:51:43.1±1.5, 3696N×13656E, h0km, mb3.4/3, mb1 3.5/4, mb1mx3.3/21, mbtmp3.3/4, ML2.9/1, Error ellipse: s-maj=40.6km s-min=14.4km az=15.0*
*NEIC **01** 17:51:44.4, 3721N×13669E, h12km, MG4.2(JMA), After JMA.*
*JMA **01** 17:51:44.3, 3721N×13669E, h12km, M4.2 Broadband fault plane solution: P waves. NP1:φs13.00000°, δ41.00000°, λ73.00000°. NP2:φs215.00000°, δ51.00000°, λ104.00000°. Principal axes: T Plg78.0000°, Azm181.0000°; N Plg11.0000°, Azm26.0000°; P Plg5.0000°, Azm295.0000°;*
JMA Felt II J1.

ISC 01 17:51:44.1±0.6, 3721N±003×13669E±005, h15km±5km, n14, σ0§92/22, mb3.4/3, 1C-5D, Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JJH	**Hakui**	**0.29**	**166**	⇓P	**Pg**	**17 51 50.5**	**+0.2**
JJH				S	**Sg**	**17 51 55.0**	**+0.5**
JSZ	**Suzu**	**0.59**	**66**	⇓P	**Pg**	**17 51 55.5**	**-0.1**
JSZ				S	**Sg**	**17 52 03.6**	**+0.1**
JHG	**Hegura jima**	**0.66**	**16**	⇓P	**Pg**	**17 51 56.8**	**-0.3**
JHG				S	**Sg**	**17 52 06.1**	**+0.2**
JTT	**Ttatey**	**0.79**	**139**	⇓P	**Pg**	**17 51 59.4**	**-0.2**
JTT				*e*S	**Sg**	**17 52 10.6**	**+0.6**
JKG	**Kaga**	**0.98**	**197**	⇑P	**Pb**	**17 52 02.4**	**-0.3**
JKG				*e*S	**Sb**	**17 52 15.2**	**-0.2**
JGN	**Niukaw**	**1.11**	**153**	⇓P	**Pb**	**17 52 04.4**	**-0.6**
JGN				S	**Sb**	**17 52 19.2**	**0.0**
MAJO	**Matsushiro**	**1.39**	**118**	*e*Pn	**Pn**	**17 52 08.1**	**-0.8**
MAT	**Matsushiro**	**1.39**	**118**	P	**Pn**	**17 52 08.9**	**-0.1**
MAT				S	**Sn**	**17 52 28.0**	**+1.0**
MJAR	**Matsushiro Arr**	**1.39**	**118**	Pg	**Pg**	**17 52 09.0**	**-1.9**
	31nm,0.3s,baz=298,slow=16,SNR=274						
MJAR				Lg		17 52 29.2	
	49nm,0.3s,baz=308,slow=26,SNR=15						
JNU	**Nakatsue**	**6.27**	**231**	Pn	**Pn**	**17 53 18.1**	**+2.0**
	0.5nm,0.3s,baz=204,slow=32,SNR=5.6						
KSRS	**Korea Array**	**6.99**	**275**	Pn	**Pn**	**17 53 26.7**	**+0.8**
	0.2nm,0.3s,baz=90,slow=14,SNR=4.0						
KSRS				Sn	**Sn**	**17 54 42.5**	**-2.6**
	0.3nm,0.3s,baz=91,slow=25,SNR=3.1						
SONM	**Songino Array**	**24.57**	**305**	P	**P**	**17 57 05.2**	**+1.9**
	0.4nm,0.6s,mb3.1,baz=116,slow=7.7,SNR=4.2						
WRA	**Warramunga Arr**	**56.89**	**183**	P	**P**	**18 01 27.9**	**-0.5**
	0.4nm,0.5s,mb3.7,baz=359,slow=7.6,SNR=18						
ASAR	**Alice Springs**	**60.61**	**183**	P	**P**	**18 01 54.0**	**-0.2**
	0.2nm,0.6s,mb3.4,baz=13,slow=13,SNR=6.9						

*IDC **01** 17:58:19.1±1.3, 1033S×16099E, h0km, mb4.0/7, mb1 4.2/8, mb1mx4.0/16, mbtmp4.0/8, ML3.5/1, MS3.4/2, Ms1 3.4/2, ms1mx3.0/17, Error ellipse: s-maj=27.2km s-min=19.8km az=72.0*
*NEIC **01** 17:58:20.5±1.1, 1037S×16100E, h10km, mb4.3/1, Error ellipse: s-maj=21.9km s-min=16.1km az=100.0*
*ISCJB **01** 17:58:22.6±1.1, 1045S±008×1609E±0.1, h33km, mb3.8/7, Error ellipse: s-maj=19.2km s-min=8.1km az=155.2*

ISC 01 17:58:24.5±1.1, 1037S±009×1609E±01, h35km, n15, σ0§95/16, mb3.8/7, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.34**	**314**	*e*P	**Pn**	**17 58 46.9**	**+0.1**
HNR				*e*S	**Sn**	**17 59 04.1**	**+0.7**
HNR	**Honiara**	**1.34**	**314**	Pn	**Pn**	**17 58 47.1**	**+0.3**
	71nm,0.3s,baz=121,slow=2.5,SNR=85						
HNR				Sn	**Sn**	**17 59 03.0**	**-0.4**
	797nm,0.3s,baz=93,slow=13,SNR=28						
CTA	**Charters Tower**	**17.14**	**234**	P	**Pn**	**18 02 19.4**	**-1.9**
CTA				LR	LR	18 07 34.3	
CTA	**Charters Tower**	**17.14**	**234**	P	**Pn**	**18 02 19.4**	**-1.9**
	0.1nm,0.3s,baz=135,slow=14,SNR=3.6						
CTA				LR	LR	18 07 34.3	
	comp=Z,113nm,20.8s,baz=51,slow=32						
WB2	**Warramunga Arr**	**27.33**	**246**	*e*P	**P**	**18 04 07.4**	**+1.1**
WRA	**Warramunga Arr**	**27.34**	**246**	P	**P**	**18 04 06.1**	**-0.4**
	1.8nm,0.8s,mb3.7,baz=74,slow=9.8,SNR=17						
STKA	**Stephens Creek**	**27.90**	**217**	P	**P**	**18 04 12.0**	**+0.8**
STKA	**Stephens Creek**	**27.90**	**217**	P	**P**	**18 04 12.0**	**+0.8**
	1.8nm,0.7s,mb3.8,baz=31,slow=14,SNR=5.3						
ASAR	**Alice Springs**	**28.96**	**239**	P	**P**	**18 04 21.0**	**+0.1**
	0.9nm,0.8s,mb3.6,baz=62,slow=9.9,SNR=9.3						
FITZ	**Fitzroy Crossi**	**35.02**	**253**	*e*P	**P**	**18 05 13.5**	**-0.5**
	3.0nm,0.6s,mb4.4						
FITZ	**Fitzroy Crossi**	**35.02**	**253**	P	**P**	**18 05 13.6**	**-0.4**
	2.2nm,0.8s,mb4.2,baz=80,slow=12,SNR=5.4						
KSRS	**Korea Array**	**56.75**	**329**	LR	LR	18 28 21.7	
	comp=Z,42nm,19.1s,baz=135,slow=32						
VNDA	**Vanda**	**67.14**	**180**	P	**P**	**18 09 15.2**	**+1.0**
	1.9nm,0.8s,mb4.2,baz=340,slow=6.0,SNR=8.7						
SONM	**Songino Array**	**75.38**	**325**	P	**P**	**18 10 05.1**	**+0.7**
	0.4nm,0.6s,mb3.5,baz=130,slow=4.5,SNR=6.3						
YKA	**Yellowknife Ar**	**96.56**	**28**	P	**P**	**18 11 48.6**	**-1.6**
	0.2nm,0.8s,mb3.6,baz=255,slow=4.3,SNR=3.1						

*ISCJB **01** 18:07:11.5±0.7, 1309S±004×16850E±003, h608km±10km, mb4.8/81, Error ellipse: s-maj=6.0km s-min=4.4km az=176.5*
*MOS **01** 18:07:11.0±0.9, 1295S×16858E, h603km, mb4.6/24, Error ellipse: s-maj=9.7km s-min=9.2km az=18.8*
*BJI **01** 18:07:11.8, 1256S×16848E, h590km, mB4.9, mb5.0*
*NEIC **01** 18:07:13.2±0.5, 1303S×16858E, h621km±6km, mb4.7/40, Error ellipse: s-maj=5.2km s-min=4.6km az=164.0*
*IDC **01** 18:07:13.8±1.0, 1308S×16852E, h625km±11km, mb4.2/23, mb1 4.3/24, mb1mx4.3/24, mbtmp4.3/24, Error ellipse: s-maj=8.8km s-min=7.8km az=175.0*

ISC 01 18:07:12.9±0.6, 1306S±004×16852E±003, h608km±8km, h599km±2.1km: pP-P, n510, σ0§70/361, mb4.8/81, 93C-107D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**9.15**	**292**	*e*P	**P**	**18 09 24.2**	**+0.7**
HNR				*e*S	**S**	**18 11 10.5**	**-0.1**
HNR	**Honiara**	**9.15**	**292**	P	**P**	**18 09 24.3**	**+0.8**
	98nm,0.3s,baz=130,slow=1.4,SNR=154						
HNR				S	**S**	**18 11 11.2**	**+0.6**
	baz=90,slow=20,SNR=4.2						
FUNA	**Funafuti**	**11.41**	**68**	*e*P	**P**	**18 09 43.6**	**-2.2**
	653nm,1.1s						
AFI	**Afiamalu**	**19.18**	**95**	*e*P	**P**	**18 10 58.1**	**-0.9**
	148nm,0.9s						
AFI	**Afiamalu**	**19.18**	**95**	*e*P	**P**	**18 10 58.1**	**-0.9**
AFI				pmax	pmax		
	comp=Z,148nm,0.9s						
CTA	**Charters Tower**	**22.44**	**249**	*e*P	**P**	**18 11 29.0**	**+0.9**
	comp=Z,13nm,0.6s,mb4.8						
CTA	**Charters Tower**	**22.44**	**249**	*e*P	**P**	**18 11 29.0**	**+0.9**
CTA				pmax	pmax		
	comp=Z,13nm,0.6s						
CTA	**Charters Tower**	**22.44**	**249**	P	**P**	**18 11 28.6**	**+0.5**
	comp=Z,16nm,0.8s,mb4.7,baz=65,slow=7.2,SNR=9.9						
CTAO	**Charters Tower**	**22.44**	**249**	*e*P	**P**	**18 11 28.7**	**+0.5**
	comp=Z,20nm,0.7s,mb4.9						
CTAO	**Charters Tower**	**22.44**	**249**	*e*P	**P**	**18 11 28.7**	**+0.6**
CTAO				pmax	pmax		
	comp=Z,20nm,0.7s,mb4.9						
ARMA	**Armidale**	**23.28**	**219**	*e*P	**P**	**18 11 37.2**	**+1.7**
URZ	**Urewera**	**26.24**	**165**	P	**P**	**18 12 01.2**	**-0.2**
	comp=Z,36nm,0.4s,mb5.4,baz=295,slow=4.5,SNR=32						
URZ				S	**S**	**18 15 52.2**	**-0.3**
	comp=Z,9.7nm,0.8s,baz=54,slow=19,SNR=3.8						
VRZ	**Vera Road**	**26.55**	**169**	*e*P	**P**	**18 12 05.3**	**+1.2**
VRZ	**Vera Road**	**26.55**	**169**	PN	**P**	**18 12 05.3**	**+1.2**
FWVZ	**Far West T-bar**	**26.83**	**168**	P	**P**	**18 12 08.0**	**+1.5**
FWVZ	**Far West T-bar**	**26.83**	**168**	PN	**P**	**18 12 08.0**	**+1.5**
WNVZ	**Wahianoa**	**26.91**	**168**	P	**P**	**18 12 08.3**	**+1.1**
WNVZ	**Wahianoa**	**26.91**	**168**	PN	**P**	**18 12 08.3**	**+1.0**
BKZ	**Black Stump Fm**	**26.95**	**166**	PN	**P**	**18 12 07.2**	**-0.4**
TSZ	**Takapari Road**	**27.69**	**168**	P	**P**	**18 12 13.2**	**-0.8**
TSZ	**Takapari Road**	**27.69**	**168**	PN	**P**	**18 12 13.2**	**-0.8**
PXZ	**Pawanui**	**27.86**	**166**	PN	**P**	**18 12 14.3**	**-1.2**
QRZ	**Quartz Range**	**27.89**	**173**	*e*P	**P**	**18 12 16.7**	**+1.0**
QRZ	**Quartz Range**	**27.89**	**173**	PN	**P**	**18 12 16.7**	**+1.0**
CNB	**Canberra Magne**	**28.11**	**215**	*e*P	**P**	**18 12 19.1**	**+1.3**
	comp=Z,14nm,0.5s,mb4.9						
MRZ	**Mangatainoka R**	**28.19**	**169**	P	**P**	**18 12 17.1**	**-1.3**
MRZ	**Mangatainoka R**	**28.19**	**169**	PN	**P**	**18 12 17.1**	**-1.3**
BFZ	**Birch Farm**	**28.34**	**168**	P	**P**	**18 12 16.9**	**-2.8**
BFZ	**Birch Farm**	**28.34**	**168**	PN	**P**	**18 12 18.7**	**-1.0**
NNZ	**Nelson**	**28.38**	**172**	*e*P	**P**	**18 12 19.7**	**-0.3**
NNZ	**Nelson**	**28.38**	**172**	PN	**P**	**18 12 20.5**	**+0.5**
CAW	**Cannon Point**	**28.53**	**170**	P	**P**	**18 12 20.4**	**-0.9**
CAW	**Cannon Point**	**28.53**	**170**	PN	**P**	**18 12 20.4**	**-0.9**
SNZO	**South Karori**	**28.66**	**170**	P	**P**	**18 12 21.5**	**-0.9**
SNZO	**South Karori**	**28.66**	**170**	PN	**P**	**18 12 21.5**	**-0.9**
THZ	**Tophouse**	**28.85**	**173**	*e*P	**P**	**18 12 23.9**	**-0.2**
THZ	**Tophouse**	**28.85**	**173**	PN	**P**	**18 12 23.9**	**-0.2**
KHZ	**Kahutara**	**29.58**	**172**	*e*P	**P**	**18 12 29.0**	**-1.3**
KHZ	**Kahutara**	**29.58**	**172**	PN	**P**	**18 12 29.0**	**-1.3**
RPZ	**Rata Peaks**	**30.63**	**176**	P	**P**	**18 12 38.9**	**-0.4**
	comp=Z,55nm,0.7s,mb5.3,baz=349,slow=2.1,SNR=38						
STKA	**Stephens Creek**	**31.00**	**228**	*e*P	**P**	**18 12 43.9**	**+1.2**
	comp=Z,20nm,0.5s,mb5.0						
STKA				*e*		18 14 19.0	
STKA				*e*PCP	PcP	18 15 19.0	-0.2
STKA				*e*S	**S**	**18 17 07.2**	**+1.0**
STKA				*e*SCP	ScP	18 18 06.0	+0.6
STKA	**Stephens Creek**	**31.00**	**228**	P	**P**	**18 12 44.0**	**+1.3**
	comp=Z,22nm,0.5s,mb5.0,baz=54,slow=7.8,SNR=170						
STKA				PcP	PcP	18 15 18.8	-0.5
	comp=Z,17nm,0.8s,baz=62,slow=2.3,SNR=6.3						
STKA				ScP	ScP	18 18 05.5	+0.1
	comp=Z,2.8nm,0.6s,baz=84,slow=5.0,SNR=5.6						
RAR	**Rarotonga**	**31.32**	**109**	P	**P**	**18 12 45.2**	**-0.4**
	comp=Z,20nm,0.5s,mb5.0,baz=162,slow=2.2,SNR=3.4						
WB2	**Warramunga Arr**	**33.42**	**254**	⇓*i*P	**P**	**18 13 03.2**	**-0.1**
WB2				*e*PCP	PcP	18 15 26.2	-0.1
WB2				*e*S	**S**	**18 17 40.1**	**-3.2**
WRA	**Warramunga Arr**	**33.43**	**254**	P	**P**	**18 13 03.2**	**-0.2**
WRA				PcP	PcP	18 15 25.5	-0.9
WRA				S	**S**	**18 17 39.5**	**-3.9**
WRA	**Warramunga Arr**	**33.43**	**254**	P	**P**	**18 13 03.2**	**-0.2**
	comp=Z,20nm,0.3s,mb5.2,baz=84,slow=8.7,SNR=666						
WRA				PcP	PcP	18 15 25.5	-0.9
	comp=Z,8.9nm,0.8s,baz=84,slow=3.1,SNR=8.6						
WRA				S	**S**	**18 17 39.5**	**-3.9**
	comp=Z,31nm,0.9s,baz=87,slow=13,SNR=10						
WRA				PKiKP	PKiKP	18 22 47.6	-2.5
	comp=Z,0.9nm,0.8s,baz=8.0,slow=0.6,SNR=5.

KSRS PcP PcP 18 17 13.3 +0.2
comp=Z,4.5nm,0.8s,baz=142,slow=5.3,SNR=4.5
INCN Inchon 63.83 324 *e*P **P 18 16 47.4 +0.4**
comp=Z,21nm,1.0s,mb4.4
YSS Yuzh-Sakhalins 64.04 341 *e*P **P 18 16 48.6 +0.5**
comp=Z,37nm,1.0s,mb4.7
YSS Yuzh-Sakhalins 64.04 341⇑*e*P **P 18 16 46.6 -1.5**
YSS pmax pmax
comp=Z,49nm,1.2s,mb4.7
VNDA Vanda 64.55 182 P **P 18 16 51.2 +0.2**
comp=Z,8.5nm,0.7s,mb4.3,baz=358,slow=6.9,SNR=69
SBA Scott Base 64.81 180 *e*P **P 18 16 53.6 +1.1**
comp=Z,25nm,0.9s,mb4.7
SBA *e*PcP PcP 18 17 20.4 +0.7
SBA Scott Base 64.81 180 *e*P **P 18 16 53.7 +1.2**
SBA *e* 18 17 20.4
SBA pmax pmax
comp=Z,25nm,0.9s,mb4.6
VLA Vladivostok 65.18 331 *e*P **P 18 16 54.5 -0.9**
VLA pmax pmax
comp=Z,111nm,2.0s,mb4.9
MYKOM Kota Tinggi 65.81 278 ⇓P **P 18 17 00.4 +0.5**
KGM Kluang 66.38 278 ⇑P **P 18 17 04.3 +0.8**
MDJ Mudanjiang 67.40 331 P **P 18 17 09.2 +0.2**
MDJ AP pP 18 19 08.8 -1.4
MDJ XP sP 18 20 10.9 -2.5
MDJ S S 18 25 19.7 +1.7
MDJ SS SS 18 29 55.9 +0.9
MDJ AMB AMB
comp=Z,64nm,1.0s,mb5.0
MDJ AMB AMB
comp=Z,87nm,4.6s
KTGM Kuala Trenggan 67.45 281 ⇑P **P 18 17 10.9 +0.8**
DL2 Dalian 67.72 322 ⇓*i*P **P 18 17 11.1 0.0**
DL2 S S 18 25 24.4 +2.5
DL2 AMB AMB
comp=Z,70nm,0.7s,mb5.2
WHN Wuhan 67.75 311 *e*P **P 18 17 10.2 -1.3**
WHN AMB AMB
comp=Z,129nm,0.7s,mb5.5
HABR Khabarovsk 68.07 337 ⇓*i*P **P 18 17 14.0 +1.0**
HABR *e*S S 18 25 33.1 +7.5
HABR pmax pmax
comp=Z,100nm,1.7s,mb5.0
FRIM Kepong 68.33 279 ⇑P **P 18 17 15.3 0.0**
CN2 Changchun 68.86 328 ⇓P **P 18 17 17.5 -0.4**
CN2 AMB AMB
comp=Z,50nm,1.0s,mb4.9
KULM Kulim 69.82 281 *e*P **P 18 17 24.0 -0.2**
KULM Kulim 69.82 281 ⇑P **P 18 17 24.0 -0.3**
KLR Kul'dur 69.99 335 *e*P **P 18 17 20.8 -3.7**
KLR pmax pmax
comp=Z,64nm,1.8s,mb4.8
BJI Beijing 71.75 320 P **P 18 17 35.4 +0.4**
BJI PCP PcP 18 17 49.7 +0.1
BJI AP pP 18 19 37.3 -1.1
BJI S S 18 26 07.8 +0.2
BJI SS SS 18 31 02.9 +1.6
BJI AMB AMB
comp=Z,52nm,0.8s,mb5.1
BJI AMB AMB
comp=Z,181nm,3.3s
GYA Guiyang 71.78 304 P **P 18 17 36.0 +0.5**
GYA AMB AMB
comp=Z,10.0nm,1.0s,mb4.3
NST Nakhon Sawan 73.41 291 P **P 18 17 44.2 -0.8**
XAN Xi'an 73.47 312 P **P 18 17 45.2 +0.2**
XAN AMB AMB
comp=Z,31nm,0.9s,mb4.8
MA2 Magadan 73.79 351 *e*P **P 18 17 45.1 -1.1**
MA2 *e* 18 17 55.2
MA2 pmax pmax
comp=N,10.0nm,0.8s
MA2 pmax pmax
comp=Z,30nm,0.8s,mb4.9
KMI Kunming 74.48 301 P **P 18 17 51.7 +0.9**
KMI PCP PcP 18 18 03.2 +1.5
KMI AMB AMB
comp=Z,33nm,1.2s,mb4.7
HHC Hu-ho-hao-te 75.12 319 *e*P **P 18 17 55.0 +0.9**
HHC S S 18 26 35.5 -9.0
HHC SS SS 18 31 54.0 +2.1
HHC AMB AMB
comp=Z,36nm,1.2s,mb4.8
HHC AMB AMB
comp=Z,132nm,3.7s
CHRT Chiangrai 75.12 295 ⇓P **P 18 17 56.0 +1.5**
comp=Z,513nm,0.8s
CHG Chiang Mai 75.51 294 ⇓P **P 18 17 57.4 +0.7**
comp=Z,98nm,0.9s,mb5.2
CHTO Chiang Mai 75.51 294 *e*P **P 18 17 57.5 +0.8**
comp=Z,36nm,0.8s,mb4.8
CHTO Chiang Mai 75.51 294 *e*P **P 18 17 57.5 +0.8**
CHTO pmax pmax
comp=Z,36nm,0.8s,mb4.8
CD2 Chengdu 75.97 307 *e*P **P 18 17 59.8 +0.8**
CD2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.4
BTO Baotou 75.99 318 *e*P **P 18 17 58.3 -0.6**
SEY Seymchan 76.78 352⇑*e*P **P 18 18 02.1 -0.6**
RPN Rapa Nui 77.26 115 P **P 18 18 04.8 -1.4**
comp=Z,36nm,0.7s,mb4.9,baz=180,slow=5.1,SNR=2.8
LZH Lanzhou 78.11 312 ⇓P **P 18 18 11.7 +1.2**
LZH AP pP 18 20 17.3 +0.5
LZH XP sP 18 21 18.3 -0.3
LZH PP PP 18 21 21.5 +2.7
LZH *e*S S 18 27 17.5 +1.1
LZH SS SS 18 32 41.0 +4.3
LZH AMB AMB
comp=Z,117nm,1.0s,mb5.3
SVW2 Sparrevohn 79.20 17 *e*P **P 18 18 14.9 -0.8**
CIT Chita 80.26 329 *e*P **P 18 18 21.8 +0.4**
CIT pmax pmax
comp=Z,97nm,1.1s,mb5.0
TNA Tin City 80.36 10 *e*P **P 18 18 20.7 -0.9**
comp=Z,16nm,1.2s,mb4.2
SLKM Skilak Lake 80.36 19 *e*P **P 18 18 20.9 -0.8**
TTA Tatalina 80.59 16 *e*P **P 18 18 22.4 -0.5**
comp=Z,6.6nm,0.8s,mb4.1
TTA Tatalina 80.59 16 *e*P **P 18 18 22.4 -0.5**
TTA pmax pmax
comp=Z,7.0nm,0.8s,mb4.1
YAK Yakutsk 80.80 343 *e*P **P 18 18 23.3 -0.7**
comp=Z,29nm,0.6s,mb4.9
YAK Yakutsk 80.80 343⇑*e*P **P 18 18 22.7 -1.3**
YAK pmax pmax
comp=Z,32nm,0.6s,mb4.9
BILL Bilibino 80.89 359 *e*P **P 18 18 23.3 -1.0**
comp=Z,25nm,1.1s,mb4.6
BILL Bilibino 80.89 359κ *i*P **P 18 18 23.5 -0.8**
BILL *e**PP pP 18 20 30.3 -1.6
BILL pmax pmax
comp=Z,28nm,1.1s,mb4.6
SONM Songino Array 81.89 323 P **P 18 18 29.6 -0.2**
comp=Z,16nm,0.6s,mb4.7,baz=138,slow=5.4,SNR=170
BNLO Ben Lomond (Sa 81.94 49 ⇑P **P 18 18 30.1 -0.3**
baz=82
P01C Double 8 Ranch 82.03 47 ⇑P **P 18 18 30.4 -0.3**
baz=82
HAST Hastings Reser 82.11 50 ⇑P **P 18 18 31.5 +0.2**
baz=82
V03C Hunter Liggett 82.21 50 ⇑P **P 18 18 32.5 +0.7**
baz=82
GTA Gaotai 82.40 313 ⇓P **P 18 18 33.4 +0.8**
GTA AP pP 18 20 41.7 +0.8
GTA XP sP 18 21 41.9 -0.2
GTA PP PP 18 21 50.6 -2.9
GTA SKS 18 27 51.9
GTA S S 18 27 53.4 -6.3
GTA XS sS 18 31 36.9 -11
GTA AMB AMB
comp=Z,63nm,1.1s,mb5.1
GTA AMB AMB
comp=Z,139nm,4.9s
MNRC McLaughlin Nat 82.43 47 ⇓P **P 18 18 33.3 +0.5**
baz=82
GASB Alder Springs 82.54 47 ⇓P **P 18 18 34.2 +0.8**
baz=83
PACP Pacheco Peak 82.54 49 P **P 18 18 33.8 +0.4**
baz=83,SNR=6.0
N02C Big Bar 82.60 45 ⇓P **P 18 18 34.0 +0.4**
baz=83
O02C Red Bluff 82.70 46 P **P 18 18 34.8 +0.7**
baz=83,SNR=10
S04C Ingram Canyon, 82.70 49 ⇑P **P 18 18 34.4 +0.2**
baz=83
WDC Whiskeytown Da 83.03 46 ⇑P **P 18 18 35.5 -0.3**
baz=83
M02C Callahan 83.15 45 ⇓P **P 18 18 37.1 +0.8**
baz=83,SNR=6.0
MCK McKinley 83.20 18 *e*P **P 18 18 34.5 -1.5**
comp=Z,11nm,0.9s,mb4.4
MCK McKinley 83.20 18 *e*P **P 18 18 34.5 -1.5**
MCK pmax pmax
comp=Z,11nm,0.9s,mb4.4
K02A Glendale 83.28 43 ⇑P **P 18 18 36.8 -0.1**
baz=83
ORV Oroville 83.37 47 ⇑P **P 18 18 36.6 -0.8**
baz=83
S05C Merced 83.38 49 ⇓P **P 18 18 37.9 +0.3**
baz=83
YBH Yreka Blue Hor 83.38 45 *e*P **P 18 18 37.4 -0.1**
comp=Z,2.2nm,0.4s,mb4.0
YBH Yreka Blue Hor 83.38 45 *e*P **P 18 18 37.4 -0.1**
YBH pmax pmax
comp=Z,2.0nm,0.4s
YBH Yreka Blue Hor 83.38 45 ⇑P **P 18 18 37.7 +0.2**
baz=83,SNR=6.2
J02A Umpqua 83.47 43 ⇑P **P 18 18 38.1 +0.2**
baz=84
BOD Bodaibo 83.50 334 ⇓*i*P **P 18 18 36.8 -0.9**
BOD pmax pmax
comp=Z,9.0nm,1.3s,mb4.1
I02A Mapleton 83.57 42 ⇓P **P 18 18 38.6 +0.2**
baz=84
CMB Columbia Colle 83.59 49 *e*P **P 18 18 37.4 -1.3**
comp=Z,6.0nm,0.9s,mb4.1
CMB Columbia Colle 83.59 49 *e*P **P 18 18 37.4 -1.2**
CMB pmax pmax
comp=Z,6.0nm,0.9s,mb4.1
CMB Columbia Colle 83.59 49 ⇑P **P 18 18 37.9 -0.7**
baz=84,SNR=9.4
M03C McCloud 83.60 45 ⇓P **P 18 18 38.7 +0.1**
baz=84
LAVA Lava Cap Winer 83.61 48 ⇓P **P 18 18 38.5 -0.2**
baz=84
T06C Millerton Lake 83.72 50 P **P 18 18 39.0 -0.3**
baz=84,SNR=10
IMA2 Indian Mountai 83.73 15 *e*P **P 18 18 38.2 -0.5**
VES Vestal, Richgr 83.77 51 ⇑P **P 18 18 39.1 -0.4**
baz=84
J03A Ideyld Park 83.88 43 ⇓P **P 18 18 40.7 +0.8**
baz=84
MAW Mawson 83.88 202 *e*P **P 18 18 39.5 0.0**
comp=Z,24nm,0.8s,mb4.8
MAW Mawson 83.88 202 *e*P **P 18 18 39.5 0.0**
MAW pmax pmax
comp=Z,24nm,0.8s
MAW Mawson 83.88 202 P **P 18 18 39.6 +0.1**
comp=Z,30nm,0.8s,mb4.9,baz=108,slow=6.0,SNR=28
HATC Hat Creek Radi 83.88 46 ⇑P **P 18 18 40.4 +0.4**
baz=84
P05C Yuba Gap, Truc 83.91 47 ⇑P **P 18 18 40.5 +0.4**
baz=84
BUOR Burton Butte 83.92 44 P **P 18 18 40.2 +0.1**
O05C Quincy 83.94 47 ⇑P **P 18 18 40.2 -0.1**
baz=84
O04C Chester 83.95 46 ⇓P **P 18 18 40.8 +0.4**
baz=84
MPOR Mary's Peak 83.96 42 P **P 18 18 40.8 +0.5**
LBCM Butte Creek Ri 83.97 46 P **P 18 18 40.5 +0.1**
R05C Kirkwood Meado 84.07 48 ⇑P **P 18 18 41.1 +0.1**
baz=84,SNR=5.3
HELL Mitchell Peak 84.11 50 P **P 18 18 40.9 -0.3**
baz=84,SNR=9.1
KCC Kaiser Creek 84.12 50 ⇓P **P 18 18 40.9 -0.3**
baz=84
ISA Isabella 84.17 52 *e*P **P 18 18 40.8 -0.8**
comp=Z,6.3nm,1.0s,mb4.1
ISA Isabella 84.17 52 *e*P **P 18 18 40.8 -0.7**
ISA pmax pmax
comp=Z,6.0nm,1.0s,mb4.1
ISA Isabella 84.17 52 ⇑P **P 18 18 41.0 -0.5**
baz=84,SNR=5.7
H03A Soap Creek Ran 84.20 42 ⇑P **P 18 18 41.9 +0.4**
baz=84
EDW2 Edwards Air Fo 84.27 52 P **P 18 18 42.1 +0.1**
baz=84,SNR=8.9
109C Camp Elliot, M 84.29 55 ⇑P **P 18 18 41.8 -0.4**
baz=84
BEKR Beckwourth 84.30 47 ⇓P **P 18 18 42.1 +0.1**
baz=84
BFSC Mount Baldy St 84.31 53 ⇓P **P 18 18 42.1 -0.1**
baz=84,SNR=6.6
M05C Lookout 84.31 45 ⇑P **P 18 18 42.1 0.0**
baz=84
COLA College 84.37 17 *e*P **P 18 18 39.2 -2.6**
comp=Z,11nm,0.8s,mb4.4
COLA College 84.37 17*c i*P **P 18 18 39.9 -1.9**
J04A Umpqua Nationa 84.40 43 ⇑P **P 18 18 42.7 +0.2**
baz=84
I04A Tendick Farm, 84.42 43 ⇑P **P 18 18 42.3 -0.2**
baz=84
R06C Coleville 84.46 49 ⇑P **P 18 18 42.6 -0.2**
baz=84
G03A Yamhill 84.47 41 ⇑P **P 18 18 43.6 +0.8**
baz=84
WCN Washoe City 84.52 48 ⇓P **P 18 18 43.3 +0.1**
baz=84
MTUM Tungsten Hills 84.69 50 *e*P **P 18 18 44.0 0.0**
LRMC Laurel Mountai 84.70 52 P **P 18 18 44.4 +0.2**
baz=85,SNR=7.7
O06A Flanigan 84.79 47 ⇑P **P 18 18 44.6 +0.2**
baz=85,SNR=5.1
E03A Lebam 84.81 40 ⇓P **P 18 18 44.2 -0.2**
baz=85
MONP Monument Peak 84.83 55 P **P 18 18 45.2 +0.4**
baz=85,SNR=7.3
ZAK Zakamensk 84.90 324 ⇓*i*P **P 18 18 43.8 -0.9**
ZAK pmax pmax
comp=Z,4.0nm,1.1s,mb4.0
H04A Detroit Lake 84.92 42 ⇑P **P 18 18 44.5 -0.5**
baz=85,SNR=5.2
NLWA Neilton Lookou 84.98 39 *e*P **P 18 18 45.0 -0.2**
comp=Z,3.0nm,0.5s,mb4.2
J05A Fort Rock 85.00 44 P **P 18 18 45.9 +0.6**
baz=85,SNR=11
N06A Buffalo Meadow 85.00 46 P **P 18 18 45.3 -0.2**
baz=85,SNR=6.5
DVTC Desert V Tower 85.01 55 ⇓P **P 18 18 45.9 +0.2**
baz=85
K05A Summer Lake 85.01 44 ⇑P **P 18 18 45.9 +0.5**
baz=85,SNR=5.4
S08C White Mtn Res 85.04 50 P **P 18 18 46.1 +0.4**
baz=85,SNR=5.4
PFO Pinyon Flat Ob 85.04 54 *e*P **P 18 18 44.5 -1.3**
comp=Z,6.3nm,0.9s,mb4.2
PFO Pinyon Flat Ob 85.04 54 *e*P **P 18 18 44.5 -1.3**
PFO pmax pmax
comp=Z,6.0nm,0.9s,mb4.2
PFO Pinyon Flat Ob 85.04 54 P **P 18 18 45.4 -0.4**
comp=Z,5.7nm,0.6s,mb4.4,baz=260,slow=2.9,SNR=9.2
PFO Pinyon Flat Ob 85.04 54 ⇓P **P 18 18 45.8 0.0**
baz=85
MPMC Manual Prospec 85.06 51 P **P 18 18 45.9 +0.1**
baz=85,SNR=7.7
NVAR Mina Array Bea 85.27 49 P **P 18 18 46.7 -0.1**
NVAR PKKPbc PKKPbc 18 36 46.5 -2.5
NVAR Mina Array Bea 85.27 49 P **P 18 18 46.7 -0.1**
comp=Z,1.9nm,0.6s,mb3.9,baz=234,slow=8.9,SNR=15
NVAR PKKPbc PKKPbc 18 36 46.5 -2.5
comp=Z,0.9nm,0.6s,baz=110,slow=5.6,SNR=9.2
F04A Amboy 85.28 41 ⇓P **P 18 18 46.4 -0.3**
baz=85
TLY Talaya 85.30 326 *e*P **P 18 18 45.5 -1.1**
comp=Z,6.7nm,0.7s,mb4.4
TLY Talaya 85.30 326⇓*e*P **P 18 18 45.8 -0.8**
TLY pmax pmax
comp=Z,8.0nm,0.9s,mb4.3
GSC Goldstone 85.32 52 ⇓P **P 18 18 47.3 +0.2**
baz=85
SWSC Sam W. Stewart 85.35 55 ⇑P **P 18 18 47.6 +0.3**
baz=85
K06A Valley Falls 85.48 44 ⇑P **P 18 18 48.2 +0.5**
baz=86
BELC Belle Mtn. 85.53 54 P **P 18 18 48.4 +0.2**
baz=86,SNR=9.6
HEC Hector,Ludlow 85.54 53 ⇓P **P 18 18 48.2 0.0**
baz=86
N07B Gerlach 85.62 47 ⇑P **P 18 18 48.5 +0.1**
baz=86
FURC Furnace Creek, 85.67 51 ⇑P **P 18 18 48.8 0.0**
baz=86
G05A Wamic 85.71 42 ⇑P **P 18 18 48.6 -0.1**
baz=86
LSA Lhasa 85.71 302 P **P 18 18 50.0 +0.9**
LSA AMB AMB
comp=Z,30nm,1.0s,mb4.9
J06A Christmas Vall 85.72 44 ⇓P **P 18 18 48.5 -0.3**
baz=86
L07A Adell 85.81 45 ⇓P **P 18 18 49.4 +0.1**
baz=86
S09A Goldfield 85.82 50 P **P 18 18 49.3 -0.1**
baz=86,SNR=5.3
BC3 Big Chuckw Mtn 85.85 54 ⇓P **P 18 18 49.7 +0.1**
baz=86,SNR=6.2
I06A Prineville 85.94 43 P **P 18 18 50.4 +0.6**
baz=86,SNR=7.6
GMRC Granite Mounta 86.04 53 P **P 18 18 50.6 +0.1**
baz=86,SNR=9.7
TUQ Turquoise Mtn. 86.05 52 ⇑P **P 18 18 50.8 +0.3**
baz=86
U10A Ash Meadows, A 86.06 51 ⇑P **P 18 18 51.0 +0.4**
baz=86
R09A Tonopah 86.11 49 ⇓P **P 18 18 50.8 0.0**
baz=86
K07A Rock Creek Ran 86.12 45 P **P 18 18 50.9 +0.1**
baz=86,SNR=5.2
FMW Mount Fremont 86.16 40 P **P 18 18 50.9 +0.1**
H06A Lindquist Farm 86.16 43 ⇓P **P 18 18 50.2 -0.6**
baz=86
IRM Iron Mountain 86.25 54 P **P 18 18 51.7 +0.2**
baz=86,SNR=9.3
TPNV Topopah Spring 86.29 51 *e*P **P 18 18 51.3 -0.4**
comp=Z,3.0nm,0.6s,mb4.1
TPNV Topopah Spring 86.29 51 *e*P **P 18 18 51.3 -0.4**
TPNV pmax pmax
comp=Z,3.0nm,0.6s,mb4.1
TPNV Topopah Spring 86.29 51 ⇓P **P 18 18 52.0 +0.3**
baz=86
EGAK Eagle 86.34 19 *e*P **P 18 18 49.3 -2.0**
comp=Z,1.7nm,0.6s,mb3.9
S10A Tonopah Range, 86.36 50 P **P 18 18 52.4 +0.5**
baz=86,SNR=7.0
E06A Yakima 86.44 41 ⇓P **P 18 18 51.7 -0.4**
baz=86
C05A Tolt Reservoir 86.45 39 ⇓P **P 18 18 51.9 -0.2**
baz=86
WVOR Wild Horse Val 86.45 45 *e*P **P 18 18 52.1 -0.2**
comp=Z,2.1nm,0.6s,mb3.9
WVOR Wild Horse Val 86.45 45 *e*P **P 18 18 52.1 -0.2**
WVOR pmax pmax
comp=Z,2.0nm,0.6s,mb3.9
I07A Izee 86.47 43 P **P 18 18 52.5 +0.2**
baz=86,SNR=11
CMW Cultus Mountai 86.48 39 P **P 18 18 52.7 +0.4**
V11A Goodsprings 86.56 52 ⇓P **P 18 18 52.9 -0.1**
baz=87
L08A Fields 86.57 45 ⇑P **P 18 18 53.3 +0.5**
baz=87
Y12C Blythe 86.61 54 ⇑P **P 18 18 53.7 +0.5**
baz=87
H07A Lands Inn, Kim 86.61 43 P **P 18 18 53.1 +0.1**
baz=87,SNR=6.8
O09A Fish Creek Ran 86.68 48 ⇑P **P 18 18 53.2 -0.2**
baz=87
G07A Ruggs Ranch, H 86.80 42 P **P 18 18 53.8 -0.1**
baz=87,SNR=7.5
J08A Circle Bar Ran 86.89 44 ⇑P **P 18 18 54.7 +0.3**
baz=87
S11A Rachel 86.90 50 ⇑P **P 18 18 54.7 +0.2**
baz=87
V12A Nelson 86.97 52 P **P 18 18 55.1 +0.3**
baz=87,SNR=5.1
L09A Wilkinson Ranc 86.98 46 ⇓P **P 18 18 55.2 +0.4**
baz=87
P10A Eureka 87.02 48 ⇑P **P 18 18 55.4 +0.3**
baz=87
I08A Drewsey 87.03 44 ⇓P **P 18 18 54.9 -0.1**
baz=87
PDMCI Parker Dam,Lak 87.08 54 ⇓P **P 18 18 55.8 +0.4**
baz=87
T11A Corn Creek, Al 87.17 51 P **P 18 18 56.1 +0.3**
baz=87,SNR=6.3
K09A Rome 87.18 45 P **P 18 18 55.6 -0.1**
baz=87,SNR=8.2
H08A Prairie City 87.18 43 P **P 18 18 55.6 0.0**
baz=87,SNR=7.0
Y13A Salome 87.18 55 P **P 18 18 56.5 +0.6**
baz=87,SNR=9.5
G08A Pilot Rock 87.27 42 ⇓P **P 18 18 56.3 +0.2**
baz=87,SNR=10.0
D07A Quincy 87.33 40 ⇓P **P 18 18 56.3 +0.1**
baz=87
J09A Fry Pan Ranch, 87.38 45 P **P 18 18 57.0 +0.3**
baz=87,SNR=13
X13A Yucca 87.42 54 P **P 18 18 57.0 0.0**
baz=87,SNR=10
U12A Valley of Fire 87.43 52 ⇓P **P 18 18 57.6 +0.5**
baz=87
C07A Waterville 87.46 40 ⇑P **P 18 18 55.9 -1.0**
baz=88
W13A Hualapai Mount 87.53 53 ⇑P **P 18 18 58.1 +0.6**
baz=88,SNR=5.9
S12A Delamar Landin 87.56 51 ⇓P **P 18 18 58.6 +1.0**
baz=88
M10A I.L. Ranch, Tu 87.60 47 ⇓P **P 18 18 58.1 +0.5**
baz=88
I09A Lost Marbles R 87.61 44 ⇓P **P 18 18 57.5 -0.2**
baz=88
E08A Dider Farm, El 87.65 41 ⇑P **P 18 18 58.7 +0.9**
baz=88
B07A Winthrop 87.72 39 ⇑P **P 18 18 57.5 -0.6**
baz=88
O11A Cowboy Ranch, 87.77 48 P **P 18 18 59.2 +0.7**
baz=88,SNR=5.6
A07A Ashnola River, 87.78 39 ⇓P **P 18 18 58.6 +0.2**
baz=88
K10A MacKenzie Ranc 87.79 45 ⇑P **P 18 18 58.9 +0.3**
baz=88
L10A Juniper Basin 87.83 46 P **P 18 18 59.2 +0.5**
baz=88,SNR=7.2
U13A Pakoon Wash 87.87 52 P **P 18 18 59.7 +0.6**
baz=88,SNR=9.4
D08A Wollman Farm, 87.94 41 ⇑P **P 18 18 59.3 +0.2**
baz=88
Q12A Willow Creek R 88.03 49 ⇑P **P 18 19 00.3 +0.5**
baz=88
G09A Cove 88.04 43 ⇑P **P 18 18 59.7 0.0**
baz=88
M11A Holland Ranch, 88.10 47 P **P 18 19 01.0 +1.0**
baz=88,SNR=6.4
P12A McGill 88.11 49 ⇓P **P 18 19 00.8 +0.6**
baz=88
X14A Yava 88.12 54 P **P 18 19 00.9 +0.6**
baz=88,SNR=6.8
115A Sonoran Desert 88.14 56 P **P 18 19 00.9 +0.5**
baz=88,SNR=10.0
W14A Seligman 88.19 53 ⇓P **P 18 19 01.1 +0.5**
baz=88
S13A Holt Ranch, En 88.30 51 ⇑P **P 18 19 01.5 +0.4**
baz=88
D09A Jones Farm, Ri 88.33 41 ⇓P **P 18 19 01.0 0.0**
baz=88
K11A Parker Ranch, 88.37 45 ⇑P **P 18 19 01.7 +0.5**
baz=88
Y15A Casa Rosa Ranc 88.41 55 P **P 18 19 02.4 +0.7**
baz=88,SNR=5.5
A08A Turner Farm, O 88.43 39 ⇑P **P 18 19 01.5 +0.2**
baz=88
N12A Clover Valley, 88.45 48 ⇑P **P 18 19 01.9 +0.2**
baz=88
U14A Mt Trumbull 88.47 52 P **P 18 19 02.5 +0.7**
baz=88,SNR=8.2
O12A Currie 88.48 48 ⇑P **P 18 19 02.0 +0.2**
baz=88
G10A Bishop Farm, J 88.49 43 P **P 18 19 01.5 -0.2**
baz=88,SNR=19
H10A Noah's Angus R 88.49 44 ⇑P **P 18 19 01.5 -0.3**
baz=88,SNR=7.4
116A Eloy 88.52 56 P **P 18 19 03.2 +1.0**
baz=88,SNR=5.5
216A Three Points, 88.56 57 P **P 18 19 03.2 +0.8**
baz=88,SNR=6.3
TIXI Tiksi 88.58 348 *e*P **P 18 19 00.1 -1.5**
comp=Z,4.7nm,0.8s,mb4.4
TIXI Tiksi 88.58 348⇑*e*P **P 18 19 00.2 -1.4**
TIXI *i* *PP pP 18 21 10.0 -2.3
TIXI pmax pmax
comp=Z,6.0nm,0.9s,mb4.4
X15A Humboldt 88.64 54 P **P 18 19 03.6 +0.9**

baz=89,SNR=6.0
M12A Wells 88.72 47 ⇑P P 18 19 03.3 +0.4
baz=89
MFID Camas Ranch 88.73 45 ⇑P P 18 19 03.5 +0.6
baz=89
T14A Hurricane 88.73 52 ⇓P P 18 19 03.7 +0.6
baz=89
P13A Bates Ranch, G 88.76 49 ⇑P P 18 19 03.5 +0.3
baz=89
A09A Danville 88.86 39 ⇑P P 18 19 02.9 -0.5
baz=89
L12A House Creek Ra 88.88 46 ⇑P P 18 19 04.1 +0.4
baz=89
B09A Rice 88.92 40 ⇑P P 18 19 03.7 0.0
baz=89
D10A Wagner Farm, O 88.99 41 ⇑P P 18 19 03.6 -0.4
baz=89
217A Green Valley 89.03 57 P P 18 19 05.2 +0.6
baz=89,SNR=10
H11A Donnelly 89.03 44 ⇓P P 18 19 04.1 -0.1
baz=89
Y16A Circle Bar Ran 89.07 55 ⇑P P 18 19 05.3 +0.6
baz=89,SNR=5.9
G11A Walters Elk Ra 89.09 43 ⇑P P 18 19 03.7 -0.8
baz=89,SNR=6.4
K12A Draper Farm, C 89.12 46 ⇑P P 18 19 04.2 -0.5
baz=89
TUC Tucson 89.20 57 *eP* **P 18 19 05.2 -0.2**
comp=Z,4.8nm,1.1s,mb4.2
TUC Tucson 89.20 57 *eP* **P 18 19 05.2 -0.2**
TUC pmax pmax
comp=Z,5.0nm,1.1s,mb4.3
M13A Montello 89.24 47 ⇑P P 18 19 05.7 +0.3
baz=89
T15A Red Dirt Ranch 89.26 52 ⇓P P 18 19 05.8 +0.3
baz=89
JIRN Jiri 89.33 298 *eP* **P 18 19 05.0 -1.1**
comp=Z,18nm,0.6s,mb5.0
318A Bisbee 89.61 58 ⇓P P 18 19 08.1 +0.8
baz=90
218A Dragoon 89.71 57 ⇓P P 18 19 08.5 +0.8
baz=90
F12A Elk City 89.88 43 P P 18 19 07.8 -0.3
baz=90,SNR=6.2
KKN Kakani 90.14 298 *eP* **P 18 19 09.3 -0.5**
comp=Z,10nm,0.6s,mb4.8
H13A Challis 90.17 44 P P 18 19 10.2 +0.6
baz=90,SNR=5.3
319A Douglas 90.18 58 P P 18 19 10.7 +0.7
baz=90,SNR=5.6
A11A Hall Mountain, 90.22 40 ⇓P P 18 19 10.6 +0.9
baz=90
G13A Cobalt 90.35 44 ⇑P P 18 19 10.3 -0.1
baz=90
SYO Syowa Base 90.64 196⇓*eP* **P 18 19 09.2 -2.1**
SYO Syowa Base 90.64 196⇑*e*PcP PcP 18 19 11.2 -0.8
GKN Gorkha 90.75 298 *eP* **P 18 19 11.6 -1.0**
comp=Z,28nm,1.0s,mb5.2
KOLN Koldanda 91.58 298 *eP* **P 18 19 15.0 -1.5**
comp=Z,7.0nm,0.6s,mb4.9
WMQ Urumqi 92.43 314 P P 18 19 19.9 -0.1
WMQ AMB AMB
comp=Z,31nm,0.9s,mb5.3
WMQ AMB AMB
comp=Z,253nm,4.8s
PDAR Pinedale Array 92.93 47 P P 18 19 21.4 -0.9
comp=Z,0.6nm,0.6s,mb3.8,baz=247,slow=4.6,SNR=2.4
PDAR PKKPbc PKKPbc 18 36 27.9 -2.4
comp=Z,0.8nm,0.9s,baz=100,slow=6.2,SNR=6.3
ANMO Albuquerque 93.36 55⇑*eP* **P 18 19 22.2 -2.2**
HYB Hyderabad 93.80 287 *eP* **P 18 19 26.0 -0.8**
HYB Hyderabad 93.80 287 *i P* **P 18 19 26.0 -0.8**
SNAA Sanae 95.27 183 *eP* **P 18 19 30.9 -1.5**
SNAA *e* 18 19 33.4
SNAA *e* 18 19 39.5
SNAA *e* 18 19 42.6
SNAA Sanae 95.27 183⇓*eP* **P 18 19 32.9 +0.5**
YKA Yellowknife Ar 95.51 27 P P 18 19 31.9 -1.6
YKA PKKPbc PKKPbc 18 36 19.9 -4.4
YKA Yellowknife Ar 95.51 27 P P 18 19 31.9 -1.6
comp=Z,2.5nm,0.7s,mb4.5,baz=255,slow=4.5,SNR=44
YKA PKKPbc PKKPbc 18 36 19.9 -4.4
comp=Z,0.5nm,0.7s,baz=74,slow=2.5,SNR=6.6
VNA3 Neumayer Olymp 95.89 181 *eP* **P 18 19 34.2 -1.0**
VNA3 *e* 18 19 36.8
VNA3 *e* 18 19 42.9
VNA3 *e* 18 19 47.4
VNA2 Neumayer--Watz 96.18 181 *eP* **P 18 19 35.7 -0.8**
VNA2 *e* 18 19 39.3
VNA2 *e* 18 19 45.6
VNA2 *e* 18 19 48.4
ZAA0 Zalesovo Array 96.77 324 *eP* **P 18 19 37.8 -1.6**
ZALV Zalesovo Beam 96.77 324 P P 18 19 38.0 -1.3
comp=Z,7.8nm,0.8s,mb5.0,baz=115,slow=4.6,SNR=33
ZAL Zalesovo 96.78 324 P P 18 19 38.1 -1.3
MKAR Makanchi Array 96.84 316 P P 18 19 39.9 0.0
MKAR PKKPbc PKKPbc 18 36 16.0 -4.2
MKAR Makanchi Array 96.84 316 P P 18 19 39.9 0.0
comp=Z,12nm,0.8s,mb5.2,baz=93,slow=7.1,SNR=68
MKAR PKKPbc PKKPbc 18 36 16.0 -4.2
comp=Z,0.7nm,0.7s,baz=5.7,slow=3.7,SNR=5.3
NVS Novosibirsk 97.86 324 *i P* Pdif 18 19 41.6 -2.8
TKL Tuckaleechee C 111.82 57 PKiKP PKiKP 18 24 37.3 -2.8
comp=Z,3.2nm,0.8s,baz=218,slow=7.1,SNR=3.8
LPAZ La Paz 116.87 116 PKP PKPdf 18 24 47.4 -2.9
LPAZ PKKPbc PKKPbc 18 35 17.7 -0.7
LPAZ La Paz 116.87 116 PKP PKPdf 18 24 47.4 -2.9
comp=Z,1.0nm,0.5s,baz=188,slow=6.9,SNR=4.5
LPAZ PKKPbc PKKPbc 18 35 17.7 -0.7
comp=Z,0.9nm,0.9s,baz=10,slow=11,SNR=3.3
ARCES ARCESS Array B 118.94 346 PKP PKPdf 18 24 51.4 -1.4
comp=Z,13nm,0.6s,baz=67,slow=1.4,SNR=78
ARCES PKKPbc PKKPbc 18 35 06.6 -5.5
comp=Z,4.2nm,0.9s,baz=297,slow=0.8,SNR=4.4
SCHQ Schefferville 120.24 33 PKP PKPdf 18 24 53.6 -2.0
comp=Z,2.7nm,0.6s,baz=237,slow=4.0,SNR=7.0
SCHQ PKKPbc PKKPbc 18 35 04.7 -2.4
comp=Z,2.9nm,0.7s,baz=155,slow=6.7,SNR=7.3
JOF Joensuu 121.79 339 *ep* PKPdf 18 24 56.3 -2.1
SDV Santo Domingo 121.89 88 PKP PKPdf 18 24 58.1 -1.9
SDV Santo Domingo 121.89 88 PKP PKPdf 18 24 58.1 -1.9
comp=Z,4.2nm,0.7s,baz=313,slow=6.3,SNR=8.7
QRN Al-Qurain 122.89 296 *eP* PKPdf 18 25 00.9 -0.7
QRN AMb AMB 18 25 01.8
comp=Z,83nm,0.8s
SIV San Ignacio 123.10 119 PKP PKPdf 18 25 01.0 -1.4
comp=Z,2.8nm,0.5s,baz=299,slow=4.0,SNR=6.0
SIV PKKPbc PKKPbc 18 34 53.6 -2.4
comp=Z,1.0nm,0.6s,baz=26,slow=5.5,SNR=5.0
RDF Al-Radifah 123.20 296 *eP* PKPdf 18 25 01.4 -0.8
RDF AMb AMB 18 25 02.4
comp=Z,51nm,0.6s
MIB Mutribah 123.33 297 *eP* PKPdf 18 25 01.4 -1.1
MIB AMb AMB 18 25 03.0
comp=Z,36nm,0.9s
NAY Al-Naaiem 123.45 296 *eP* PKPdf 18 25 01.5 -1.2
NAY AMb AMB 18 25 03.6
comp=Z,18nm,1.0s
OBN Obninsk 123.92 329⇑*i*PKIKP PKPdf 18 25 01.8 -0.9
OBN pmax pmax
comp=Z,6.0nm,1.3s
KAF Kangasniemi 124.07 340 *ep* PKPdf 18 25 00.7 -2.1
KIV Kislovodsk 124.56 315 *e*PKIKP PKPdf 18 25 04.6 +0.3
KIV pmax pmax
comp=Z,7.0nm,1.1s
FINES FINESS Array B 124.61 339 PKP PKPdf 18 25 01.7 -2.2
comp=Z,4.4nm,0.8s,baz=77,slow=2.3,SNR=21
LBTB Lobatse 127.66 224 PKP PKPdf 18 25 09.5 -1.4
comp=Z,5.3nm,0.6s,baz=81,slow=2.1
MATP Matopo 128.50 230 PKP PKPdf 18 25 11.7 -0.9
comp=Z,6.4nm,0.8s,baz=131,slow=2.8
MATP SKPbc 18 27 37.2
comp=Z,8.0nm,0.7s,baz=134,slow=5.4,SNR=15
MALT Malatya 129.22 309 ⇓P PKPdf 18 25 13.9 +0.5
MALT Malatya 129.22 309 ⇓*i*P PKPdf 18 25 13.9 +0.5
NB2 NORSAR Subarra 129.32 346 PKPdf PKPdf 18 25 12.1 -0.8
comp=Z,2.6nm,0.6s,baz=31,slow=1.9
NOA NORSAR Array B 129.32 346 PKP PKPdf 18 25 11.9 -0.9
NOA SKPbc SKPbc 18 27 39.0 +0.4
NOA PKKPbc 18 34 31.9
NOA NORSAR Array B 129.32 346 PKIKP PKPdf 18 25 11.9 -1.0
NOA 18 27 39.0
NOA NORSAR Array B 129.32 346 PKP PKPdf 18 25 11.9 -1.0
comp=Z,4.0nm,0.6s,baz=32,slow=2.0,SNR=19
NOA SKPbc SKPbc 18 27 39.0 +0.4
comp=Z,1.2nm,0.5s,baz=30,slow=3.2,SNR=9.3
NOA PKKPbc 18 34 31.9
comp=Z,0.7nm,0.8s,baz=209,slow=5.0,SNR=3.3
KMBO Kilima Mbogo 129.66 257 PKP PKPdf 18 25 14.9 -0.1
comp=Z,3.1nm,0.8s,baz=56,slow=4.4,SNR=12
KMBO SKPbc SKPbc 18 27 42.3 +0.8
comp=Z,2.2nm,0.9s,baz=42,slow=24,SNR=6.2
AKASG Malin Array Be 130.02 327 PKP PKPdf 18 25 13.6 -1.0
comp=Z,3.4nm,0.6s,baz=48,slow=2.1,SNR=21
AKASG SKPbc SKPbc 18 27 42.1 +0.5
comp=Z,6.2nm,0.6s,baz=48,slow=4.3,SNR=48
KIEV Kiev 130.03 327 *e*PKPdf PKPdf 18 25 13.5 -1.0
LSZ Lusaka 131.69 236 *e*PKPdf PKPdf 18 25 18.4 -0.4
LSZ Lusaka 131.69 236 PKP PKPdf 18 25 18.2 -0.6
comp=Z,4.5nm,0.7s,baz=308,slow=0.2,SNR=6.4
LSZ SKPbc SKPbc 18 27 49.1 +0.4
comp=Z,2.6nm,0.7s,baz=97,slow=4.3,SNR=4.2
KOLS Kolonicke sedl 134.67 329 *e*PKP PKPdf 18 25 23.4 +0.1
MLR Muntele Rosu 134.74 323 ⇓*i*P PKPdf 18 25 23.3 -0.2
MLR Muntele Rosu 134.74 323 ⇓*i*P PKPdf 18 25 23.3 -0.3
OJC Ojcow 134.99 332 *e*PKP PKPdf 18 25 24.7 +0.8
CRVS Cervenica-Dubn 135.10 329 *e*PKP PKPdf 18 25 23.6 -0.5
DPC Dobruska-Polom 136.43 334 *e*PKPdf PKPdf 18 25 26.3 -0.3
UPC Upice 136.44 335 *e*PKPdf PKPdf 18 25 25.1 -1.5
GZR Gura Zlata 136.62 325 ⇑*i*P PKPdf 18 25 25.7 -1.4
GZR Gura Zlata 136.62 325 ⇑*i*P PKPdf 18 25 25.7 -1.4
VYHS Vyhne 136.65 331 *e*PKP PKPdf 18 25 26.3 -0.7
KOLL Kolacno 136.80 331 *e*PKP PKPdf 18 25 25.6 -1.7
BRG Berggiesshubel 137.00 336 *e*PKPdf PKPdf 18 25 26.8 -0.8
BRG Berggiesshubel 137.00 336 *e* PKPdf 18 25 28.9 +1.3
comp=Z,6.7nm,0.9s
CLL Collm 137.01 338 *e*PKPdf PKPdf 18 25 26.9 -0.7
CLL Collm 137.01 338 *i* PKPpre 18 25 16.7
CLL *i* PKiKP PKiKP 18 25 28.7 -0.9
comp=Z,10.0nm,1.1s
PVCC Panska Ves 137.02 336 *e*PKPdf PKPdf 18 25 27.2 -0.4
PVCC *ex* x 18 25 29.3
BZS Buzias 137.13 326 ⇓P PKPdf 18 25 27.2 -0.8
BZS Buzias 137.13 326 ⇓*i*P PKPdf 18 25 27.2 -0.8
PRU Pruhonice 137.45 335 *e*PKPdf PKPdf 18 25 29.8 +1.4
MODS Modra-Piesok 137.47 332 *e*PKP PKPdf 18 25 26.1 -2.4
CLZ Clausthal 137.49 340 *e*PKPdf PKPdf 18 25 28.2 -0.3
VTS Vitosha 137.99 321 ⇑P PKPdf 18 25 29.2 -0.5
VTS Vitosha 137.99 321 ⇑*i*P PKPdf 18 25 29.2 -0.5
NKC Novy Kostel 138.08 337 *e*PKPdf PKPdf 18 25 30.8 +1.2
PKSM Moragy 138.32 328 ⇑P PKPdf 18 25 29.7 -0.4
PKSM Moragy 138.32 328 ⇑*i*P PKPdf 18 25 29.7 -0.5
MANZ Manzenberg 138.41 337 *e*PKPdf PKPdf 18 25 29.8 -0.4
KHC Kasperske Hory 138.51 335 *e*PKIKP PKPdf 18 25 29.6 -0.8
KHC Kasperske Hory 138.51 335 *e*PKPpre 18 25 20.5
KHC *e*PKPdf PKPdf 18 25 29.6 -0.8
GEC2 GERESS Array S 138.68 335 *e*PKPdf PKPdf 18 25 30.2 -0.5
GERES GERESS Array B 138.68 335 PKHKP 18 25 20.5
GERES 18 25 29.3
GERES GERESS Array B 138.68 335 PKhKP 18 25 20.5
comp=Z,1.1nm,0.5s,baz=20,slow=4.3,SNR=11
GERES PKP PKPdf 18 25 29.3 -1.5
comp=Z,3.5nm,0.8s,baz=66,slow=3.3,SNR=11
GERES SKPbc SKPbc 18 28 08.6 -0.6
comp=Z,1.3nm,0.7s,baz=48,slow=2.0,SNR=7.4
GRA1 Grafenberg Arr 138.98 338 *e*PKPdf PKPdf 18 25 30.6 -0.7
GRF Grafenberg Arr 138.98 338 *e*PKPdf PKPdf 18 25 30.6 -0.7
MEM Membach 139.93 343 PKPdf PKPdf 18 25 34.9 +1.9
CRES Cresnjev 140.17 330 *e*PKPdf PKPdf 18 25 26.8 -6.7
CRES *e* 18 25 35.4
FUR Furstenfeldbru 140.21 336 *e*PKPdf PKPdf 18 25 33.3 -0.2
LJU Ljubljana 140.45 331 *e*PKPdf PKPdf 18 25 27.9 -6.1
LJU *e* 18 25 35.9
STU Stuttgart 140.49 338 *e*PKPdf PKPdf 18 25 33.9 -0.1
BOJS Bojanci 140.50 330 *e*PKPdf PKPdf 18 25 28.6 -5.6
BOJS *i* 18 25 36.3
WLF Walferdange 140.72 342 PKPdf PKPdf 18 25 36.2 +1.9
WLF Walferdange 140.72 342 *e*PKPdf PKPdf 18 25 35.4 +1.0
VOY Vojsko 140.75 332 *e*PKPdf PKPdf 18 25 28.3 -6.3
WTTA Wattenberg 140.78 335⇑*i*P PKPdf 18 25 29.1 -5.5
comp=Z,10nm,0.9s
ABTA Abfaltersbach 140.82 334 *i* PKPdf PKPdf 18 25 28.4 -6.3
comp=Z,5.6nm,0.6s,SNR=8.3
MOTA Moosalm 140.94 336⇑*i*P PKPdf 18 25 28.9 -6.0
comp=Z,4.9nm,1.0s
SQTA Sankt Quirin 140.99 335⇑*i*P PKPdf 18 25 29.3 -5.6
comp=Z,3.7nm,0.8s,SNR=8.9
BFO Black Forest 141.17 339 *e*PKPpre 18 25 28.2
FETA Feichten 141.35 336⇑*i*PKPdf PKPdf 18 25 30.8 -4.8
comp=Z,9.7nm,0.7s,SNR=11
CDF Champ du Feu 141.46 340 *e*PKP1 PKPdf 18 25 30.7 -5.1
comp=Z,25nm,0.6s
ECH Echery 141.67 340 PKP PKPdf 18 25 31.4 -4.7
MOF Molkenrain 141.99 340 PKP PKPdf 18 25 32.5 -4.2
THEF They Montfort 142.04 341 PKP PKPdf 18 25 32.7 -4.1
MEZF Maizieres J'vi 142.09 342 *e*PKP1 PKPdf 18 25 33.1 -3.8
comp=Z,40nm,0.9s
HINF Hinteralfeld 142.12 340 *e*PKP1 PKPdf 18 25 32.6 -4.3
comp=Z,24nm,0.7s
HAU Haudompre 142.12 340 *e*PKP1 PKPdf 18 25 32.9 -4.0
comp=Z,47nm,0.7s
FLN La Foliniere 143.25 348⇓*i*PKP1 PKPdf 18 25 36.5 -2.4
comp=Z,80nm,0.6s
LDF La Druitiere 143.34 347⇓*i*PKP1 PKPdf 18 25 36.7 -2.4
comp=Z,79nm,0.7s
CABF La Chapelle 143.42 340⇓*i*PKP1 PKPdf 18 25 38.0 -1.3
comp=Z,123nm,0.8s
LOR Lormes 143.55 342⇓*i*PKP1 PKPdf 18 25 37.9 -1.6
comp=Z,54nm,0.7s
GRR Gorron 143.68 348⇓*i*PKP1 PKPdf 18 25 38.2 -1.5
comp=Z,205nm,0.6s
AQU L'Aquila 143.70 328 ⇓P PKPdf 18 25 38.9 -1.0
AQU L'Aquila 143.70 328 ⇓*i*P PKPdf 18 25 38.9 -1.0
SSF Saint Saulge 143.84 343⇓*i*PKP1 PKPdf 18 25 39.1 -0.9
comp=Z,216nm,0.9s
HYF Humbligny 143.90 344⇓*i*PKP1 PKPdf 18 25 39.5 -0.6
SMF Signal de Mont 144.12 342⇓*i*PKP1 PKPdf 18 25 39.6 -0.9
comp=Z,103nm,0.7s
AVF Avril sur Loir 144.13 343⇓*i*PKP1 PKPdf 18 25 39.5 -1.0
comp=Z,55nm,0.7s
SGMF Saint Gilles 144.13 350⇓*i*PKP1 PKPdf 18 25 39.6 -0.9
comp=Z,113nm,0.6s
LPL La Plagne 144.14 338⇓*i*PKP1 PKPdf 18 25 40.5 -0.1
comp=Z,46nm,0.7s
LPG La Plagne 144.15 338⇓*i*PKP1 PKPdf 18 25 40.6 0.0
comp=Z,71nm,0.8s
ROSF Rostrenen 144.17 351 *e*PKP1 PKPdf 18 25 39.6 -0.9
comp=Z,124nm,0.8s
BGF Bois d'Agland 144.49 343⇓*i*PKP1 PKPdf 18 25 40.9 -0.2
comp=Z,61nm,0.7s
QUIF Quistinic 144.56 350⇓*i*PKP1 PKPdf 18 25 40.7 -0.5
comp=Z,37nm,0.5s
PLDF La Plantade 144.79 342 PKP PKPdf 18 25 42.4 +0.7
MBDF Montbardon 144.80 337⇓*i*PKP1 PKPdf 18 25 41.9 +0.2
comp=Z,32nm,0.6s
AGO Saint Agoulin 144.86 342 PKP PKPdf 18 25 42.0 +0.2
TCF Toulx Ste Croi 144.91 343⇓*i*PKP1 PKPdf 18 25 42.2 +0.3
comp=Z,44nm,0.8s
ORIF Oris-en-Rattie 144.96 338⇓*i*PKP1 PKPdf 18 25 42.7 +0.7
comp=Z,68nm,0.6s
COLF Collangettes 145.17 341 PKP PKPdf 18 25 44.2 +1.9
PYM Petit Puy Mans 145.17 342 PKP PKPdf 18 25 43.5 +1.2
TOUF Mont Tournerai 145.21 336 PKP PKPdf 18 25 42.9 +0.4
MFF Saint Martin d 145.22 346⇓*i*PKP1 PKPbc 18 25 43.0 -0.6
comp=Z,130nm,0.5s
SBF Sospel 145.26 336⇓*i*PKP1 PKPbc 18 25 42.9 -0.9
comp=Z,120nm,0.7s
LUCF Luceram 145.28 336 PKP PKPdf 18 25 43.8 +1.2
VIVF Saint-Julien-l 145.44 340⇓*i*PKP1 PKPbc 18 25 43.9 -0.3
LBL Lubilhac 145.57 341 PKP PKPbc 18 25 45.0 +0.4
FRNF Fournols 145.64 342 PKP PKPbc 18 25 44.9 +0.1
PGF Pioggiola 145.67 333⇓*i*PKP1 PKPbc 18 25 44.4 -0.6
comp=Z,114nm,0.8s
FRF La Foret Royal 145.83 336⇓*i*PKP1 PKPbc 18 25 44.6 -0.8
comp=Z,58nm,0.5s
SMRF Simiane la Rot 145.88 338⇓*i*PKP1 PKPbc 18 25 45.4 -0.1
comp=Z,45nm,0.7s
RJF Les Rejaudoux 146.01 344 *e*PKP1 PKPbc 18 25 45.5 -0.3
comp=Z,35nm,0.5s
LMR La Mourre 146.08 336⇓*i*PKP1 PKPbc 18 25 45.4 -0.7
comp=Z,76nm,0.7s
CAF Calviac 146.20 343⇓*i*PKP1 PKPbc 18 25 46.1 -0.3
comp=Z,54nm,0.9s
OSPF L'Ospedale 146.28 332 PKP PKPbc 18 25 46.0 -0.7
LASF Ste Croix 146.40 340⇓*i*PKP1 PKPbc 18 25 46.7 -0.3
comp=Z,52nm,0.8s
LFF La Frestale 146.56 344⇓*i*PKP1 PKPbc 18 25 47.0 -0.3
comp=Z,101nm,0.6s
MTLF Montolieu 147.59 341⇓*i*PKP1 PKPbc 18 25 49.8 -0.3
comp=Z,77nm,0.8s
EPF Esparros 148.43 343⇓*i*PKP1 PKPbc 18 25 51.7 -0.5
comp=Z,23nm,0.8s
RESF Ens 148.64 343 PKP PKPbc 18 25 53.4 +0.7
ATE Arette 148.66 345 PKP PKPbc 18 25 52.3 -0.5
SJPF Ste Jean 148.77 345 *e*PKP1 PKPbc 18 25 52.7 -0.3
comp=Z,37nm,0.9s
LARF Larrau 148.78 345 PKP PKPbc 18 25 53.2 +0.1
ETSF Etsaut 148.80 344 *e*PKP1 PKPbc 18 25 53.2 +0.1
comp=Z,23nm,0.7s
KEST Kesra 150.64 324 PKPbc PKPbc 18 25 57.2 -0.4
comp=Z,13nm,0.7s,baz=228,slow=1.0,SNR=36
PBRG Braganca 151.06 353 *e*PKPbc PKPbc 18 25 57.7 -0.7
PBRG Braganca 151.06 353 *e*PKPab PKPab 18 26 08.8 -0.1
PVRL Vila Real 151.70 354 *e*PKPbc PKPbc 18 25 59.6 -0.3
PVRL Vila Real 151.70 354 *e*PKPab PKPab 18 26 11.7 +0.1
MVO Moncorvo 151.73 353 *e*PKPbc PKPbc 18 25 59.6 -0.4
MVO Moncorvo 151.73 353 *e*PKPab PKPab 18 26 11.7 0.0
PVIS Viseu 152.27 354 *e*PKPbc PKPbc 18 26 00.6 -0.6
PVIS Viseu 152.27 354 *e*PKPab PKPab 18 26 14.2 +0.2
MTE Manteigas 152.54 353 *e*PKPbc PKPbc 18 26 01.2 -0.6
MTE Manteigas 152.54 353 *e*PKPab PKPab 18 26 15.3 +0.1
ESDC Sonseca Array 152.67 347 PKP PKPdf 18 25 53.4 -1.0
ESDC PKPbc PKPbc 18 26 01.6 -0.5
ESDC PKPab PKPab 18 26 15.3 -0.5
ESDC Sonseca Array 152.67 347 PKP PKPdf 18 25 53.4 -1.0
comp=Z,0.7nm,0.8s,baz=4.1,slow=2.5,SNR=4.1
ESDC PKPbc PKPbc 18 26 01.6 -0.5
comp=Z,3.1nm,0.7s,baz=9.3,slow=3.2,SNR=17
ESDC PKPab PKPab 18 26 15.3 -0.5
comp=Z,2.9nm,0.6s,baz=16,slow=3.9,SNR=10
PCBR Castelo Branco 153.09 353 *e*PKPbc PKPbc 18 26 01.3 -1.7
PCBR Castelo Branco 153.09 353 *e*PKPab PKPab 18 26 17.3 -0.2
PESTR Estremoz 154.06 353 *e*PKPab PKPab 18 26 21.6 -0.1
PBAR Barrancos 154.67 352 *e*PKPab PKPab 18 26 24.5 +0.1
PBEJ Beja 154.93 353 *e*PKPab PKPab 18 26 25.8 +0.3
PVAQ Vaqueiros 155.52 353 *e*PKPab PKPab 18 26 28.4 +0.3
PBDV Barranco-do-Ve 155.71 353 *e*PKPab PKPab 18 26 29.5 +0.6
PFVI Vila Bisbo 155.91 355 *e*PKPab PKPab 18 26 30.0 +0.3
MDT Midelt 159.35 343 PKPab PKPab 18 26 45.0 +0.1
comp=Z,4.2nm,0.6s,baz=25,slow=4.4,SNR=14
TORD Torodi Ar. Bea 167.16 272 PKP PKPdf 18 26 09.3 -1.7
TORD PKPab PKPab 18 27 19.6 -0.4
TORD PP PP 18 31 13.8 +3.7
TORD Torodi Ar. Bea 167.16 272 PKP PKPdf 18 26 09.3 -1.7
comp=Z,5.8nm,1.0s,baz=234,slow=1.3,SNR=12
TORD PKPab PKPab 18 27 19.6 -0.4
comp=Z,12nm,1.0s,baz=86,slow=5.7,SNR=18
TORD PP PP 18 31 13.8 +3.7
comp=Z,1.8nm,0.9s,baz=109,slow=4.2,SNR=4.0
DBIC Dimbokro 170.90 226 PKP PKPdf 18 26 11.4 -1.9
comp=Z,4.9nm,0.9s,baz=160,slow=3.4,SNR=4.3
DBIC PKPab PKPab 18 27 36.0 -0.4
comp=Z,4.4nm,0.7s,baz=139,slow=4.8,SNR=7.5

IDC ***01*** *18:15:08.5±0.9, 1625N×9748W, h0km, mb3.8/8, mb1 4.0/10, mb1mx3.9/24, mbtmp3.9/10, ML4.0/2, MS3.2/2, Ms1 3.2/2, ms1mx2.5/27, Error ellipse: s-maj=18.8km s-min=16.7km az=164.0*
ISCJB ***01*** *18:15:12.9±0.5, 1624N±004×9731W±003, h47km±5km, mb4.0/14, Error ellipse: s-maj=6.3km s-min=3.8km az=19.6*
NEIC ***01*** *18:15:14.1±0.8, 1627N×9729W, h37km±7km, mb4.0/12, MD4.4(MEX), Error ellipse: s-maj=9.7km s-min=6.7km az=198.0*
MEX ***01*** *18:15:15.3±0.8, 1623N×9736W, h20km±18km, MD4.4*
ISC 01 18:15:14.2±0.6, 1624N±004×9731W±003, h39km±6km, n50, σ1§31/72, mb4.0/14, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.80**	**281**	*eP*	**Pn**	**18 15 27.5**	**-1.6**
PNIG				*eS*	**Sn**	**18 15 37.2**	**-2.6**
OXX	**Oaxaca**	**1.00**	**34**	*eP*	**Pn**	**18 15 30.5**	**-1.4**
OXX				*eS*	**Sn**	**18 15 44.2**	**-0.6**
HUIG	**Huatulco**	**1.25**	**112**	*eP*	**Pn**	**18 15 34.5**	**-0.6**
HUIG				*i S*	**Sn**	**18 15 50.8**	**+0.1**
HUIG				*eS*	**Sn**	**18 15 50.9**	**+0.2**
UTMO	**Huajuapan**	**1.65**	**343**	*eP*	**Pn**	**18 15 40.7**	**+0.1**
UTMO				*eS*	**Sn**	**18 15 59.6**	**-1.1**
TPIG	**Tehuac#an**	**2.17**	**359**	*eP*	**Pn**	**18 15 48.9**	**+1.1**
TPIG				*eS*	**Sn**	**18 16 13.3**	**-0.1**
CMIG	**Matias Romero**	**2.47**	**70**	*eP*	**Pn**	**18 15 52.1**	**+0.2**
CMIG				*i S*	**Sn**	**18 16 21.9**	**+1.0**
CMIG				Sn	**Sn**	**18 16 26.9**	**+5.9**
CMIG				Lg		18 16 32.4	
CMIG				LR	LR	18 17 09.9	
CMIG	**Matias Romero**	**2.47**	**70**	Pn	**Pn**	**18 15 51.6**	**-0.4**
	12nm,0.3s,baz=250,slow=12,SNR=124						
CMIG				Sn	**Sn**	**18 16 26.9**	**+5.9**
	110nm,0.3s,baz=288,slow=15,SNR=9.7						
CMIG				Lg		18 16 32.4	
	116nm,0.3s,baz=293,slow=15,SNR=14						
CMIG				LR	LR	18 17 09.9	
	comp=Z,500nm,18.6s,baz=243,slow=46						
CMIG	**Matias Romero**	**2.47**	**70**	*eP*	**Pn**	**18 15 52.1**	**+0.2**
CMIG				*i S*	**Sn**	**18 16 21.9**	**+1.0**
ACX	**Acapulco**	**2.58**	**284**	*eP*	**Pn**	**18 15 50.7**	**-2.8**
ACX				*eS*	**Sn**	**18 16 26.3**	**+2.7**
MEIG	**Mezcala**	**2.77**	**307**	*eP*	**Pn**	**18 15 56.3**	**+0.2**
MEIG				*i S*	**Sn**	**18 16 27.9**	**-0.6**
CAIG	**El Cayaco**	**2.95**	**286**	*eP*	**Pn**	**18 15 57.8**	**-0.8**
CAIG				*i S*	**Sn**	**18 16 31.0**	**-1.7**
PPM	**Popocatepetl**	**3.08**	**336**	*eP*	**Pn**	**18 16 02.3**	**+2.0**
PPM				*eS*	**Sn**	**18 16 36.7**	**+0.8**
YAIG	**Yautepec**	**3.10**	**327**	*eP*	**Pn**	**18 16 02.0**	**+1.4**
YAIG				*eS*	**Sn**	**18 16 37.2**	**+0.7**
TUIG	**Tuzandepetl**	**3.28**	**57**	*i P*	**Pn**	**18 16 02.4**	**-0.7**
TUIG				*i S*	**Sn**	**18 16 41.7**	**+0.7**
LVIG	**Laguna Verde**	**3.56**	**14**	*eP*	**Pn**	**18 16 05.8**	**-1.2**
LVIG				*i S*	**Sn**	**18 16 48.5**	**+0.5**
IIO	**Organos**	**3.59**	**338**	*eP*	**Pn**	**18 16 11.6**	**+4.2**
IIO				*i S*	**Sn**	**18 16 53.0**	**+4.4**
PBVM	**Pinon**	**3.60**	**332**	*eP*	**Pn**	**18 16 08.6**	**+1.0**
PBVM				*eS*	**Sn**	**18 16 47.0**	**-1.9**
SZVM	**Salazar**	**3.65**	**327**	*eP*	**Pn**	**18 16 09.6**	**+1.4**
SZVM				*i S*	**Sn**	**18 16 52.4**	**+2.4**
PTVM	**Pico Tres Padr**	**3.75**	**333**	*i P*	**Pn**	**18 16 08.2**	**-1.3**
PTVM				*eS*	**Sn**	**18 16 54.2**	**+1.7**
DEIG	**Demacu**	**4.36**	**338**	*eP*	**Pn**	**18 16 29.1**	**+11**
DEIG				*eS*	**Sn**	**18 17 18.9**	**+11**
CCIG	**Comitan**	**4.96**	**89**	*i P*	**Pn**	**18 16 28.4**	**+2.1**
CCIG				*i S*	**Sn**	**18 17 23.4**	**+0.9**
TEIG	**Tepich**	**9.45**	**64**	*e*Pn	**Pn**	**18 17 27.0**	**-0.9**
	25nm,0.5s						
TEIG	**Tepich**	**9.45**	**64**	Pn	**Pn**	**18 17 27.6**	**-0.3**
	4.1nm,0.3s,baz=257,slow=19,SNR=21						
TEIG				Sn	**Sn**	**18 19 05.6**	**-7.2**
	12nm,0.3s,baz=68,slow=22,SNR=15						
JCT	**Junction City**	**14.36**	**351**	P	**Pn**	**18 18 35.7**	**+0.8**
	8.1nm,0.8s						
MNTX	**Cornudas Mount**	**17.05**	**336**	*eP*	**Pn**	**18 19 10.3**	**+0.6**
	4.9nm,1.1s						
WMOK	**Wichita Mounta**	**18.47**	**356**	*eP*	**Pn**	**18 19 25.1**	**-1.9**
MIAR	**Mount Ida**	**18.53**	**10**	*eP*	**Pn**	**18 19 26.0**	**-1.9**
	10nm,0.8s						
LRAL	**Lakeview Retre**	**19.14**	**27**	*eP*	**Pn**	**18 19 33.9**	**-1.3**
	4.1nm,0.6s						
TUC	**Tucson**	**20.14**	**325**	*eP*	**P**	**18 19 47.0**	**+2.0**
	7.8nm,1.3s						
ANMO	**Albuquerque**	**20.36**	**338**	*eP*	**P**	**18 19 48.3**	**+1.0**
	3.1nm,0.8s						
**AN

2.8nm,0.8s,mb3.8
SDV Santo Domingo 27.02 102 P **P** 18 20 54.7 +1.8
1.1nm,0.4s,mb3.8,baz=120,slow=20,SNR=2.2
PDAR Pinedale Array 28.44 341 P **P** 18 21 04.4 -0.9
0.3nm,0.7s,mb3.0,baz=140,slow=14,SNR=2.4
SCHQ Schefferville 45.11 24 P **P** 18 23 25.5 -1.0
SCHQ Schefferville 45.11 24 P **P** 18 23 25.5 -1.0
3.5nm,0.9s,mb4.2,baz=197,slow=14,SNR=2.2
YKA Yellowknife Ar 47.78 349 P **P** 18 23 47.0 -0.3
0.3nm,0.5s,mb3.5,baz=153,slow=7.5,SNR=7.6
CFAA Coronel Fontan 55.15 150 P **P** 18 24 43.9 +1.1
0.2nm,0.8s,mb3.2,baz=298,slow=4.8,SNR=4.2
PLCA Paso Flores 61.89 157 P **P** 18 25 30.2 +0.6
3.4nm,0.8s,mb4.5,baz=284,slow=5.1,SNR=8.7
WRA Warramunga Arr 130.92 258 PKP PKPdf 18 34 22.2 0.0
0.3nm,0.6s,baz=88,slow=3.0,SNR=5.3
ASAR Alice Springs 131.51 253 PKP PKPdf 18 34 23.0 -0.2
0.3nm,0.9s,baz=105,slow=1.1,SNR=3.5

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*ISCJB **01** 18:19:33.8±0.6,3856N±002×2352E±004,h4km±5km, Error ellipse: s-maj=5.7km s-min=3.4km az=11.9*
*NEIC **01** 18:19:34.8,3859N×2352E,h18km,ML3.7(THE), ML3.4(ATH),After ATH.*
*CSEM **01** 18:19:35.5±0.1,3855N×2346E,h5km,ML3.4, Error ellipse: s-maj=2.5km s-min=1.4km az=101.0*
*THE **01** 18:19:35.8,3856N×2347E,h8km,ML3.7*
*ATH **01** 18:19:35.0,3859N×2349E,h21km±2km,MD3.5/9,ML3.4*
ISC 01 18:19:34.6±0.6,3858N±002×2353E±004,h4km±5km,n30, σ1º04/43,9C-5D,Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKR	**Lokris**	**0.42**	**279**	⇑iPB	**Pg**	**18 19 42.6**	**-0.1**
LKR				eSB	**Sg**	**18 19 49.0**	**+0.8**
ATH	**Athens Observa**	**0.63**	**166**	⇑iPB	**Pg**	**18 19 47.1**	**+0.5**
ATH				eSN	**Sg**	**18 19 56.7**	**+1.9**
AOS	**Alonnisos**	**0.65**	**25**	ePg	**Pg**	**18 19 48.5**	**+1.5**
AOS				eSg	**Sg**	**18 19 59.7**	**+4.3**
LTK	**Loutraki**	**0.71**	**219**	ePg	**Pg**	**18 19 47.6**	**-0.6**
LTK				eSg	**Sg**	**18 19 57.9**	**+0.4**
NEO	**Neokhori**	**0.76**	**342**	⇑iPN	**Pn**	**18 19 50.7**	**-1.4**
NEO	**Neokhori**	**0.76**	**342**	⇑iPn	**Pn**	**18 19 50.4**	**-1.7**
AGG	**Agios Georgios**	**1.03**	**295**	ePg	**Pg**	**18 19 53.6**	**-0.8**
AGG				eSg	**Sg**	**18 20 09.1**	**+1.2**
DID	**Didima**	**1.10**	**192**	ePg	**Pg**	**18 19 55.0**	**-0.7**
DID				eSg	**Sg**	**18 20 10.6**	**+0.7**
SELA	**Sela**	**1.32**	**257**	ePg	**Pg**	**18 19 58.8**	**-1.2**
SELA				eSg	**Sg**	**18 20 17.8**	**+0.7**
PAIG	**Paliouri**	**1.35**	**5**	ePg	**Pg**	**18 20 00.4**	**0.0**
PAIG				eSg	**Sg**	**18 20 18.5**	**+0.6**
EVR	**Evrytania**	**1.39**	**284**	⇓iPN	**Pn**	**18 20 00.9**	**+0.2**
EVR	**Evrytania**	**1.39**	**284**	⇓ePn	**Pn**	**18 20 00.9**	**+0.2**
VLX	**Vlachokerasia**	**1.51**	**217**	ePg	**Pg**	**18 20 02.6**	**-1.0**
VLX				eSg	**Sg**	**18 20 21.2**	**-2.0**
THL	**Klokotos Trika**	**1.53**	**310**	⇓ePN	**Pn**	**18 20 02.8**	**+0.1**
RLS	**Riolos of Patr**	**1.71**	**253**	⇑iPN	**Pn**	**18 20 05.4**	**+0.3**
RLS	**Riolos of Patr**	**1.71**	**253**	⇑iPn	**Pn**	**18 20 06.7**	**+1.6**
LIT	**Litokhoron**	**1.72**	**332**	ePb	**Pb**	**18 20 05.4**	**-1.3**
LIT				eSb	**Sb**	**18 20 27.5**	**-1.1**
OUR	**Ouranopolis**	**1.78**	**11**	ePb	**Pb**	**18 20 06.8**	**-1.0**
PLG	**Polygyros**	**1.79**	**358**	ePb	**Pb**	**18 20 06.7**	**-1.3**
PLG	**Polygyros**	**1.79**	**358**	⇑iPN	**Pn**	**18 20 06.7**	**+0.4**
PLG				eSN	**Sn**	**18 20 29.0**	**-0.4**
LOS	**Limnos**	**1.81**	**41**	ePb	**Pb**	**18 20 07.0**	**-1.3**
ITM	**Ithomi**	**1.89**	**223**	⇓iPN	**Pn**	**18 20 08.9**	**+1.3**
ITM	**Ithomi**	**1.89**	**223**	⇓ePn	**Pn**	**18 20 08.9**	**+1.3**
VLI	**Veliai**	**1.92**	**194**	⇑iPB	**Pb**	**18 20 08.1**	**-2.1**
VLI	**Veliai**	**1.92**	**194**	⇑iPb	**Pb**	**18 20 07.9**	**-2.3**
HORT	**Hortiatis**	**2.04**	**351**	ePn	**Pn**	**18 20 10.5**	**+0.8**
HORT				eSn	**Sn**	**18 20 35.7**	**+0.1**
PYL	**PYLOS**	**2.20**	**221**	ePn	**Pn**	**18 20 12.2**	**+0.2**
SOH	**Sokhos**	**2.24**	**357**	ePn	**Pn**	**18 20 13.5**	**+1.0**
SOH				eSn	**Sn**	**18 20 40.9**	**+0.3**
KNT	**Kendrikon**	**2.62**	**350**	ePn	**Pn**	**18 20 19.0**	**+1.3**
IGT	**Igoumenitsa**	**2.66**	**292**	ePn	**Pn**	**18 20 19.7**	**+1.4**

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*IDC **01** 18:36:41.2±1.1,843S×15677E,h0km,mb3.9/6,mb1 4.0/7, mb1mx3.8/15,mbtmp3.9/7,ML4.2/1,MS4.5/1,Ms1 4.5/1, ms1mx3.0/15,Error ellipse: s-maj=26.5km s-min=25.0km az=157.0*
*NEIC **01** 18:36:42.6±0.7,843S×15683E,h10km,mb4.2/1,Error ellipse: s-maj=18.5km s-min=13.9km az=177.0*
*ISCJB **01** 18:36:45.4±0.8,85S±0.1×15666E±006,h33km,mb3.8/5, Error ellipse: s-maj=20.4km s-min=7.5km az=9.9*
ISC 01 18:36:47.2±0.8,84S±01×15666E±008,h35km,n10, σ0º49/12,mb3.8/5,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**3.40**	**107**	ePn	**Pn**	**18 37 33.1**	**-4.6**
HNR				eS	**Sn**	**18 38 16.8**	**0.0**
HNR	**Honiara**	**3.40**	**107**	Pn	**Pn**	**18 37 33.0**	**-4.7**
HNR	26nm,0.3s,baz=266,slow=4.0,SNR=11			Sn	**Sn**	**18 38 16.8**	**-0.1**
WB2	**Warramunga Arr**	**24.43**	**240**	ePP	**P**	**18 42 03.0**	**+0.2**
WRA	**Warramunga Arr**	**24.44**	**240**	P	**P**	**18 42 02.6**	**-0.2**
WRA	2.7nm,0.7s,mb3.8,baz=67,slow=10,SNR=26			PcP	PcP	18 45 41.2	-0.2
ASAR	**Alice Springs**	**26.53**	**233**	P	**P**	**18 42 21.1**	**-0.7**
STKA	**Stephens Creek**	**27.21**	**209**	eP	**P**	**18 42 28.9**	**+1.1**
STKA	**Stephens Creek**	**27.21**	**209**	P	**P**	**18 42 28.0**	**+0.2**
SONM	**Songino Array**	**71.43**	**327**	P	**P**	**18 48 04.3**	**+0.3**
MKAR	**Makanchi Array**	**85.57**	**318**	P	**P**	**18 49 21.3**	**-0.6**
ZALV	**Zalesovo Beam**	**86.29**	**326**	P	**P**	**18 49 25.7**	**+0.4**

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*NEIC **01** 18:47:28.1±0.9,1533S×17349W,h10km,mb3.9/1,Error ellipse: s-maj=41.0km s-min=18.6km az=135.0*
IDC 01 18:47:26.6±1.1,1532S×17349W,h0km,mb3.9/6, mb1 4.1/6,mb1mx3.9/16,mbtmp3.9/6,Error ellipse: s-maj=53.8km s-min=22.5km az=138.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**24.31**	**198**	P	P	18 52 45.6	-0.2
	5.3nm,0.8s,baz=10,slow=10,SNR=2.6						
STKA	**Stephens Creek**	**44.00**	**240**	eP	P	18 55 35.7	-0.3
	1.5nm,0.8s						
STKA	**Stephens Creek**	**44.00**	**240**	P	P	18 55 35.5	-0.5
	1.6nm,0.7s,baz=72,slow=9.5,SNR=5.8						
WRA	**Warramunga Arr**	**49.77**	**257**	P	P	18 56 21.1	-0.2
	0.6nm,0.7s,baz=91,slow=6.8,SNR=11						
ASAR	**Alice Springs**	**50.05**	**252**	P	P	18 56 24.1	+0.7
	2.9nm,0.6s,baz=86,slow=8.1,SNR=87						
NVAR	**Mina Array Bea**	**74.33**	**42**	P	P	18 59 07.3	+1.2
	0.3nm,0.6s,baz=226,slow=9.8,SNR=3.0						
YKA	**Yellowknife Ar**	**90.06**	**23**	P	P	19 00 26.5	-1.4
	0.1nm,0.5s,baz=242,slow=4.5,SNR=5.3						

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*NNC **01** 18:50:29.5±7.0,4028N×7205E,h0km,mb3.1,mpv2.8, Error ellipse: s-maj=68.2km s-min=36.6km az=26.0*
ISC 01 18:50:18.5±3.7,397N±02×725E±02,h8km±15km,n8, σ0º74/11,4C-2D,Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**2.62**	**20**	P	**Pn**	**18 51 01.6**	**+0.5**
	SNR=22						
UCH	**Uchtor**	**2.98**	**30**	P	**Pn**	**18 51 05.2**	**-0.8**
	SNR=15						
EKS2	**Erkin-Say**	**3.14**	**18**	P	**Pn**	**18 51 10.2**	**+2.0**
	SNR=7.8						
AAK	**Ala-Archa**	**3.32**	**26**	P	**Pn**	**18 51 10.6**	**-0.1**
	SNR=20						
CHMS	**Chumysh**	**3.73**	**26**	P	**Pn**	**18 51 16.0**	**-0.4**
	SNR=20						
KK31	**Karatay Array**	**3.74**	**337**	Pn	**Pn**	**18 51 21.2**	**+4.8**
	0.6nm,0.5s,baz=144,slow=13,SNR=36						
KK31				⇓Pg	**Pg**	**18 51 30.1**	**0.0**
	1.5nm,0.4s,baz=142,slow=14,SNR=11						
KK31				Sn	**Sn**	**18 52 00.4**	**-0.2**
	7.2nm,0.7s,baz=152,slow=17,SNR=7.3						
KK31				⇓Lg		18 52 10.9	
	9.9nm,0.5s,baz=150,slow=23,SNR=9.3						
TKM2	**Tokmak 2**	**4.00**	**35**	⇑Pn	**Pb**	**18 51 28.8**	**-0.4**
	3.6nm,0.6s						
TKM2				⇑Lg		18 52 28.0	
	11nm,0.7s						
AB31	**Akbulak array**	**13.10**	**321**	⇑Pn	**Pn**	**18 53 24.5**	**-0.3**
	baz=127,slow=13,SNR=5.0						
AB31				⇑Sn	**Sn**	**18 55 45.3**	**-5.3**
	baz=138,slow=13,SNR=4.5						

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*IDC **01** 18:53:17.6±1.0,1545S×17325W,h0km,mb4.0/7, mb1 4.2/7,mb1mx4.0/17,mbtmp4.0/7,MS4.0/9,Ms1 4.0/9, ms1mx3.7/29,Error ellipse: s-maj=58.6km s-min=21.1km az=140.0*
*NEIC **01** 18:53:19.2±0.7,1534S×17320W,h10km,mb4.4/4,Error ellipse: s-maj=43.8km s-min=13.8km az=138.0*
*ISCJB **01** 18:53:21.3±0.6,155S±02×1734W±02,h33km,mb4.0/10, MS4.0/8,Error ellipse: s-maj=31.2km s-min=13.3km az=39.2*
ISC 01 18:53:23.3±0.6,155S±02×1733W±02,h35km,n30, σ0º35/17,mb4.0/10,MS4.0/8,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.16**	**45**	ePn	**Pn**	**18 53 49.6**	**-7.2**
AFI				eSn	**Sn**	**18 54 10.9**	**-11**
RAR	**Rarotonga**	**14.09**	**116**	LR	LR	19 00 15.2	
	comp=Z,524nm,20.1s,baz=270,slow=30						
PPT	**Papeete**	**22.88**	**99**	eLR	LR	19 03 36.6	
	421nm,24.8s,baz=262						
TBI	**Tubuai**	**23.82**	**113**	eLR	LR	19 04 06.2	
	586nm,26.0s,baz=291						
URZ	**Urewera**	**24.22**	**199**	P	**P**	**18 58 36.4**	**-0.4**
	2.0nm,0.4s,mb3.9,baz=21,slow=8.6,SNR=3.7						
URZ				LR	LR	19 07 20.6	
	comp=Z,135nm,18.4s,MS3.5,baz=31,slow=35						
HNR	**Honiara**	**26.75**	**280**	LR	LR	19 08 25.9	
	comp=Z,375nm,19.6s,MS4.0,baz=179,slow=34						
RKT	**Rikitea**	**36.92**	**108**	eLR	LR	19 10 09.3	
	299nm,25.8s						
STKA	**Stephens Creek**	**44.06**	**240**	eP	**P**	**19 01 27.7**	**-0.3**
	4.2nm,1.5s,mb4.0						
STKA	**Stephens Creek**	**44.06**	**240**	P	**P**	**19 01 27.4**	**-0.6**
	3.4nm,0.8s,mb4.1,baz=78,slow=9.7,SNR=7.6						
STKA				LR	LR	19 19 38.8	
	comp=Z,161nm,18.2s,MS4.0,baz=26,slow=36						
WRA	**Warramunga Arr**	**49.89**	**257**	P	**P**	**19 02 13.7**	**0.0**
	1.4nm,0.8s,mb4.1,baz=95,slow=6.9,SNR=14						
ASAR	**Alice Springs**	**50.15**	**252**	P	**P**	**19 02 15.9**	**+0.3**
	5.3nm,0.7s,mb4.7,baz=86,slow=8.2,SNR=88						
SBA	**Scott Base**	**63.19**	**185**	eP	**P**	**19 03 48.0**	**+0.6**
MJAR	**Matsushiro Arr**	**69.02**	**320**	LR	LR	19 28 03.3	
	comp=Z,141nm,20.7s,MS4.2,baz=75,slow=30						
NVAR	**Mina Array Bea**	**74.33**	**42**	P	**P**	**19 04 57.3**	**0.0**
NVAR	**Mina Array Bea**	**74.33**	**42**	P	**P**	**19 04 57.3**	**0.0**
	0.3nm,0.7s,mb3.3,baz=218,slow=5.6,SNR=3.2						
KSRS	**Korea Array**	**76.24**	**316**	LR	LR	19 32 13.1	
	comp=Z,44nm,20.2s,MS3.8,baz=60,slow=31						
HLID	**Hailey**	**79.64**	**39**	P	**P**	**19 05 27.1**	**0.0**
	6.6nm,1.5s,mb4.3						
MCK	**McKinley**	**81.17**	**11**	eP	**P**	**19 05 34.9**	**+0.1**
	7.3nm,1.3s,mb4.5						
PDAR	**Pinedale Array**	**82.27**	**42**	P	**P**	**19 05 40.5**	**-0.7**
	0.5nm,0.8s,mb3.5,baz=218,slow=1.7,SNR=5.0						
BOZ	**Bozeman (W)**	**82.43**	**39**	eP	**P**	**19 05 42.3**	**+0.4**
	4.0nm,1.5s,mb4.1						
DAWY	**Dawson**	**83.47**	**14**	eP	**P**	**19 05 47.0**	**+0.2**
USHA	**Ushuaia**	**85.84**	**146**	LR	LR	19 36 00.5	
	comp=Z,363nm,18.8s,MS4.8,baz=214,slow=30						
YKA	**Yellowknife Ar**	**90.13**	**23**	P	**P**	**19 06 19.1**	**-0.2**
YKA	**Yellowknife Ar**	**90.13**	**23**	P	**P**	**19 06 19.1**	**-0.2**
	0.3nm,0.7s,mb3.8,baz=239,slow=4.9,SNR=7.6						
ULM	**Lac du Bonnet**	**93.94**	**39**	LR	LR	19 41 07.6	
	comp=Z,70nm,21.4s,MS4.1,baz=344,slow=31						
SONM	**Songino Array**	**94.93**	**318**	LR	LR	19 42 57.5	
	comp=Z,61nm,19.6s,MS4.1,baz=311,slow=31						
DPC	**Dobruska-Polom**	**144.33**	**349**	ePKP	PKPdf	19 12 55.7	+0.1
DPC				ex	x	19 13 09.6	
PRU	**Pruhonice**	**144.97**	**351**	ePKP	PKPdf	19 12 53.3	-3.4
PRU				ex	x	19 13 12.0	
KMBO	**Kilima Mbogo**	**145.56**	**244**	PKPbc	PKPbc	19 13 00.4	+1.3
	2.9nm,1.1s,baz=201,slow=2.6,SNR=5.3						
KHC	**Kasperske Hory**	**145.95**	**352**	ePKP	PKPdf	19 13 00.2	+1.8

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*ISCJB **01** 18:55:19.9±0.6,3425N±006×2631E±009,h33km,Error ellipse: s-maj=12.1km s-min=5.6km az=147.5*
*NEIC **01** 18:55:28.0±1.8,3495N×2616E,h32km±8km,MD3.6(ATH), Error ellipse: s-maj=28.9km s-min=8.6km az=169.0*
*ATH **01** 18:55:28.5,3561N×2601E,h43km±1km,MD3.6/5*
*CSEM **01** 18:55:28.5,3560N×2600E,h44km,MD3.6/5,After ATH*
*HLW **01** 18:55:35.3,3381N×2742E,h33km,Mb3.6*
ISC 01 18:55:21.4±0.6,3430N±006×2627E±009,h35km,n19, σ0º92/21,3C-5D,Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZKR	**Zakros**	**0.81**	**357**	P	**Pn**	**18 55 34.8**	**-1.5**
LAST	**Lasithi**	**1.07**	**323**	P	**Pn**	**18 55 39.2**	**-0.7**
NPS	**Neapolis**	**1.10**	**331**	⇓iP	**Pn**	**18 55 39.3**	**-1.0**
NPS				eS	**Sn**	**18 55 47.0**	**-7.2**
NPS	**Neapolis**	**1.10**	**331**	⇓ePn	**Pn**	**18 55 39.3**	**-1.0**
KARP	**Karpathos**	**1.44**	**30**	⇑iP	**Pn**	**18 55 46.5**	**+1.5**
IDI	**Anoyia**	**1.50**	**311**	P	**Pn**	**18 55 47.1**	**+1.3**
GVD	**Gavdhos**	**1.88**	**287**	eP	**Pn**	**18 55 57.5**	**+6.5**
GVD	**Gavdhos**	**1.88**	**287**	eP	**Pn**	**18 55 57.0**	**+6.0**
VAM	**Vamos**	**2.02**	**304**	⇓eP	**Pn**	**18 55 54.3**	**+1.3**
VAM				P		18 55 59.7	
VAM	**Vamos**	**2.02**	**304**	⇓iP	**Pn**	**18 55 54.3**	**+1.3**
ARG	**Arkhangelos**	**2.44**	**38**	⇑iP	**Pn**	**18 55 58.9**	**+0.2**
APE	**Apeiranthos**	**2.83**	**348**	P	**Pn**	**18 56 03.4**	**-0.6**
HMAT	**Matruh**	**3.27**	**167**	P	**Pn**	**18 56 16.4**	**+6.2**
HMAT				S	**Sn**	**18 56 46.8**	**-1.1**
VLI	**Veliai**	**3.63**	**313**	P	**Pn**	**18 56 15.0**	**-0.1**
KOT	**Kottamia**	**6.42**	**131**	⇑eP	**Pn**	**18 56 53.9**	**+0.4**
GLL	**Jalalah**	**6.60**	**134**	eP	**Pn**	**18 56 56.6**	**+0.7**
AMAG	**Maghara**	**6.91**	**120**	P	**Pn**	**18 56 59.6**	**-0.6**
HFRF	**Wahat Farafira**	**7.34**	**166**	⇓eP	**Pn**	**18 57 11.4**	**+5.3**
HNKL	**Nakhl**	**7.86**	**122**	P	**Pn**	**18 57 13.2**	**0.0**

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*NEIC **01** 19:05:57.5,1593N×9901W,h16km,MD4.2(MEX),After MEX.*
MEX 01 19:05:57.4±0.5,1594N×9901W,h16km±21km,MD4.2,Off coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.96**	**62**	eP	Pb	19 06 12.5	-3.2
PNIG				*i* S	Sb	19 06 24.3	-3.9
ACX	**Acapulco**	**1.27**	**317**	eP	Pn	19 06 16.1	-4.3
ACX				*i* S	Sb	19 06 31.8	-5.1
CAIG	**El Cayaco**	**1.63**	**313**	eP	Pn	19 06 22.8	-2.7
CAIG				*i* S	Sn	19 06 40.9	-5.2
MEIG	**Mezcala**	**2.06**	**344**	eP	Pn	19 06 28.7	-2.6
MEIG				*i* S	Sn	19 06 52.2	-4.4
UTMO	**Huajuapan**	**2.21**	**31**	*i* P	Pn	19 06 30.9	-2.5
UTMO				*i* S	Sn	19 06 56.1	-4.4
OXX	**Oaxaca**	**2.47**	**62**	eP	Pn	19 06 34.3	-2.7
OXX				*i* S	Sn	19 07 03.1	-3.7
PLIG	**Platanillo**	**2.48**	**349**	eP	Pn	19 06 34.2	-2.9
PLIG				*i* S	Sn	19 07 03.0	-4.1
HUIG	**Huatulco**	**2.80**	**93**	*i* S	Sn	19 07 10.9	-4.0
YAIG	**Yautepec**	**2.91**	**359**	*i* P	Pn	19 06 41.3	-1.6
YAIG				*i* S	Sn	19 07 15.0	-2.5
TPIG	**Tehuac#an**	**2.93**	**32**	*i* P	Pn	19 06 40.6	-2.7
TPIG				*i* S	Sn	19 07 15.0	-3.0
PPM	**Popocatepetl**	**3.13**	**7**	eP	Pn	19 06 52.4	+6.3
PPM				*i* S	Sn	19 07 25.2	+2.1
PPM	**Popocatepetl**	**3.13**	**7**	eP	Pn	19 06 45.5	-0.6
PPM				eP		19 06 52.4	
PPM				*i* S	Sn	19 07 25.2	+2.1
SZVM	**Salazar**	**3.38**	**354**	eP	Pn	19 06 45.5	-4.0
SZVM				*i* S	Sn	19 07 25.7	-3.7
PTVM	**Pico Tres Padr**	**3.63**	**358**	eP	Pn	19 06 53.8	+0.9
PTVM				*i* S	Sn	19 07 32.5	-3.1
IIO	**Organos**	**3.64**	**4**	eP	Pn	19 06 57.5	+4.4
IIO				*i* S	Sn	19 07 39.9	+4.1
CMIG	**Matias Romero**	**4.12**	**73**	*i* P	Pn	19 06 57.9	-1.8
CMIG				*i* S	Sn	19 07 43.4	-4.2

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*ISCJB **01** 19:33:19.6±0.3,4834N±002×659E±002,h8km±3km,Error ellipse: s-maj=2.6km s-min=2.2km az=166.3*
*CSEM **01** 19:33:21.8±0.1,4833N×667E,h12km,ML2.8/20,Error ellipse: s-maj=1.1km s-min=0.9km az=3.0*
*STR **01** 19:33:21.4±0.2,4835N×667E,h10km,Ml2.4,Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
*NEIC **01** 19:33:22.2,4833N×663E,h10km,ML2.8(LDG), ML2.5(SZGRF),After LDG.*
*BGR **01** 19:33:22.2±0.4,4834N×669E,h10km,ML2.1/7,Error ellipse: s-maj=4.4km s-min=3.3km az=56.0*
*LDG **01** 19:33:22.2±0.1,4833N×663E,h10km,Md2.9/4,Ml2.8/20, Error ellipse: s-maj=1.1km s-min=0.9km az=171.0*
*ZUR **01** 19:33:22.7,4836N×670E,h10km,ML2.3/6*
ISC 01 19:33:20.8±0.2,4833N±001×664E±002,h16km±2km,n86, σ0º93/157,1D,France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ECH	**Echery**	**0.37**	**108**	ePg	**Pg**	**19 33 29.1**	**+0.7**
	SNR=39						
ECH	**Echery**	**0.37**	**108**	Pg	**Pg**	**19 33 29.1**	**+0.7**
ECH				Sg	**Sg**	**19 33 33.7**	**+0.2**
HAU	**Haudompre**	**0.38**	**210**	ePg	**Pg**	**19 33 29.7**	**+1.1**
	SNR=1.0						
HAU				eSg	**Sg**	**19 33 34.8**	**+0.9**
	78nm,0.3s,SNR=1.0						
HAU	**Haudompre**	**0.38**	**210**	ePg	**Pg**	**19 33 29.7**	**+1.1**
	SNR=1.0						
HAU				eSg	**Sg**	**19 33 34.8**	**+0.9**
	39nm,0.3s,SNR=1.0						
CDF	**Champ du Feu**	**0.43**	**79**	ePg	**Pg**	**19 33 30.2**	**+0.6**
	SNR=1.0						
CDF				eSg	**Sg**	**19 33 35.8**	**+0.3**
	47nm,0.2s,SNR=1.0						
CDF				eSn	**Sg**	**19 33 39.4**	**+3.9**
CDF	**Champ du Feu**	**0.43**	**79**	ePg	**Pg**	**19 33 30.2**	**+0.6**
	SNR=1.0						
CDF				eSg	**Sg**	**19 33 35.8**	**+0.3**
	23nm,0.2s,SNR=1.0						
CDF				eSn	**Sg**	**19 33 39.4**	**+3.9**
THEF	**They Montfort**	**0.45**	**256**	ePg	**Pg**	**19 33 30.8**	**+1.0**
	SNR=46						
THEF	**They Montfort**	**0.45**	**256**	Pg	**Pg**	**19 33 30.7**	**+0.9**
THEF				Sg	**Sg**	**19 33 37.0**	**+1.1**
HINF	**Hinteralfeld**	**0.54**	**164**	ePg	**Pg**	**19 33 32.3**	**+0.8**
	SNR=1.0						
HINF				eSg	**Sg**	**19 33 39.2**	**+0.5**
	81nm,0.2s,SNR=1.0						
HINF				eSn	**Sg**	**19 33 42.2**	**+3.5**
HINF	**Hinteralfeld**	**0.54**	**164**	ePg	**Pg**	**19 33 32.3**	**+0.8**
	SNR=1.0						
HINF				eSg	**Sg**	**19 33 39.2**	**+0.5**
	40nm,0.2s,SNR=1.0						
HINF				eSn	**Sg**	**19 33 42.2**	**+3.5**
MOF	**Molkenrain**	**0.59**	**145**	ePg	**Pg**	**19 33 33.2**	**+0.9**
	SNR=6.3						
MOF	**Molkenrain**	**0.59**	**145**	Pg	**Pg**	**19 33 33.2**	**+0.8**
RFYF	**Reffroy**	**0.83**	**291**	ePg	**Pg**	**19 33 38.3**	**+1.4**
	baz=108						
RFYF				eSn	**Sn**	**19 33 50.2**	**+0.6**
	74nm,0.2s,baz=112						
RFYF	**Reffroy**	**0.83**	**291**	ePg	**Pg**	**19 33 38.3**	**+1.4**
RFYF				eSn	**Sn**	**19 33 50.2**	**+0.6**
	37nm,0.2s						
LOMF	**Lomont**	**0.99**	**172**	ePg	**Pg**	**19 33 41.2**	**+1.2**
	SNR=18						
LOMF	**Lomont**	**0.99**	**172**	Pg	**Pg**	**19 33 41.1**	**+1.1**
LOMF				Sg	**Sg**	**19 33 53.9**	**+0.9**
LANF	**Langenberg**	**1.01**	**50**	ePg	**Pg**	**19 33 40.6**	**+0.2**
	SNR=3.8						
LANF	**Langenberg**	**1.01**	**50**	Pg	**Pg**	**19 33 40.3**	**-0.1**
LANF				Sg	**Sg**	**19 33 53.3**	**-0.3**
BOURR	**Bourrignon**	**1.02**	**157**	⇓iPn	**Pn**	**19 33 41.7**	**+1.3**
	156nm,0.5s						
BOURR				*i* Sn	**Sn**	**19 33 55.2**	**+0.8**
	156nm,0.5s						
FELD	**Feldberg im Sc**	**1.02**	**116**	ePg	**Pg**	**19 33 40.9**	**+0.3**
	SNR=12						
FELD	**Feldberg im Sc**	**1.02**	**116**	Pg	**Pg**	**19 33 40.9**	**+0.2**
FELD				Sg	**Sg**	**19 33 54.4**	**+0.3**
MEZF	**Maizieres J'vi**	**1.07**	**280**	ePg	**Pg**	**19 33 42.3**	**+0.8**
	baz=105						
MEZF				eSg	**Sg**	**19 33 56.6**	**+1.1**
	26nm,0.3s,SNR=1.0						
MEZF	**Maizieres J'vi**	**1.07**	**280**	ePg	**Pg**	**19 33 42.3**	**+0.8**
MEZF				eSg	**Sg**	**19 33 56.6**	**+1.1**
	13nm,0.3s,SNR=1.0						
SFTF	**Sexfontaines**	**1.07**	**264**	ePn	**Pn**	**19 33 42.2**	**+1.0**
	baz=87						
SFTF	**Sexfontaines**	**1.07**	**264**	ePg	**Pg**	**19 33 42.8**	**+1.2**
SFTF				eSg	**Sg**	**19 33 56.7**	**+1.0**
	20nm,0.2s						
SFTF	**Sexfontaines**	**1.07**	**264**	ePn	**Pn**	**19 33 42.2**	**+1.0**
SFTF				ePg	**Pg**	**19 33 42.8**	**+1.2**
SFTF				eSg	**Sg**	**19 33 56.7**	**+1.0**
SFTF	**Sexfontaines**	**1.07**	**264**	ePg	**Pg**	**19 33 42.8**	**+1.2**
SFTF				eSg	**Sg**	**19 33 56.7**	**+1.0**
	9.8nm,0.2s						
BFO	**Black Forest**	**1.13**	**90**	ePg	**Pg**	**19 33 42.9**	**+0.2**
	SNR=14						
BFO				eSg	**Sg**	**19 33 55.9**	**-1.5**
BFO	**Black Forest**	**1.13**	**90**	ePg	**Pg**	**19 33 42.8**	**+0.1**
BFO				eSg	**S

BAIF	**Baives**	**2.35**	**318**	*e*Pg	**Pg**	**19 34 05.7**	**-0.2**
	SNR=1.0						
BAIF				*e*Sn	**Sn**	**19 34 25.6**	**-1.5**
	SNR=1.0						
BAIF				*e*Sg	**Sg**	**19 34 35.3**	**-1.0**
	4.9nm,0.3s,SNR=1.0						
BAIF	**Baives**	**2.35**	**318**	*e*Pg	**Pg**	**19 34 05.7**	**-0.2**
	SNR=1.0						
BAIF				*e*Sn	**Sn**	**19 34 25.6**	**-1.5**
	SNR=1.0						
BAIF				*e*Sg	**Sg**	**19 34 35.3**	**-1.0**
	2.5nm,0.3s,SNR=1.0						
SSF	**Saint Saulge**	**2.47**	**240**	*e*Pg	**Pg**	**19 34 07.7**	**-0.4**
	SNR=1.0						
SSF				*e*Sg	**Sg**	**19 34 38.6**	**-1.5**
	12nm,0.3s,SNR=1.0						
SSF	**Saint Saulge**	**2.47**	**240**	*e*Pn	**Pn**	**19 34 00.6**	**+0.3**
SSF				*e*Pg	**Pg**	**19 34 07.7**	**-0.4**
SSF				*e*Sg	**Sg**	**19 34 38.6**	**-1.5**
SSF	**Saint Saulge**	**2.47**	**240**	*e*Sg	**Sg**	**19 34 38.6**	**-1.5**
	5.9nm,0.3s,SNR=1.0						
SMF	**Signal de Mont**	**2.54**	**229**	*e*Pg	**Pg**	**19 34 09.0**	**-0.5**
	SNR=1.0						
SMF				*e*Sg	**Sg**	**19 34 41.7**	**-0.7**
	22nm,0.3s,SNR=1.0						
SMF	**Signal de Mont**	**2.54**	**229**	*e*Pn	**Pn**	**19 34 01.4**	**+0.1**
SMF				*e*Pg	**Pg**	**19 34 09.0**	**-0.5**
SMF				*e*Sg	**Sg**	**19 34 41.7**	**-0.7**
SMF	**Signal de Mont**	**2.54**	**229**	*e*Pg	**Pg**	**19 34 09.0**	**-0.5**
	SNR=1.0						
SMF				*e*Sg	**Sg**	**19 34 41.7**	**-0.7**
	11nm,0.3s,SNR=1.0						
AVF	**Avril sur Loir**	**2.71**	**236**	*e*Pg	**Pg**	**19 34 12.5**	**-0.2**
	SNR=1.0						
AVF				*e*Sg	**Sg**	**19 34 47.4**	**-0.4**
	5.0nm,0.2s,SNR=1.0						
AVF	**Avril sur Loir**	**2.71**	**236**	*e*Pn	**Pn**	**19 34 03.9**	**+0.3**
AVF				*e*Pg	**Pg**	**19 34 12.5**	**-0.2**
AVF				*e*Sg	**Sg**	**19 34 47.4**	**-0.4**
AVF	**Avril sur Loir**	**2.71**	**236**	*e*Pg	**Pg**	**19 34 12.5**	**-0.2**
	SNR=1.0						
AVF				*e*Sg	**Sg**	**19 34 47.4**	**-0.4**
	2.5nm,0.2s,SNR=1.0						
LPL	**La Plagne**	**2.82**	**179**	*e*Pg	**Pg**	**19 34 14.7**	**-0.2**
	SNR=1.0						
LPL				*e*Sg	**Sg**	**19 34 51.1**	**-0.3**
	2.0nm,0.3s						
LPL	**La Plagne**	**2.82**	**179**	*e*Pg	**Pg**	**19 34 14.7**	**-0.2**
	SNR=1.0						
LPL				*e*Sg	**Sg**	**19 34 51.1**	**-0.3**
	1.0nm,0.3s						
LPG	**La Plagne**	**2.84**	**178**	*e*Pg	**Pg**	**19 34 14.5**	**-0.7**
	SNR=1.0						
LPG				*e*Sg	**Sg**	**19 34 51.4**	**-0.6**
	3.2nm,0.4s						
LPG	**La Plagne**	**2.84**	**178**	*e*Pg	**Pg**	**19 34 14.5**	**-0.7**
	SNR=1.0						
LPG				*e*Sg	**Sg**	**19 34 51.4**	**-0.6**
	1.6nm,0.4s						
HYF	**Humbligny**	**2.90**	**250**	*e*Pg	**Pg**	**19 34 16.0**	**-0.3**
HYF				*e*Sg	**Sg**	**19 34 53.8**	**-0.1**
FUR	**Furstenfeldbru**	**3.11**	**91**	*e*Sg	**Sg**	**19 34 60.0**	**-0.6**
BGF	**Bois d'Agland**	**3.12**	**237**	*e*Pg	**Pg**	**19 34 20.1**	**-0.6**
BGF				*e*Sg	**Sg**	**19 34 59.3**	**-1.9**
	12nm,0.3s,SNR=1.0						
BGF	**Bois d'Agland**	**3.12**	**237**	*e*Pn	**Pn**	**19 34 09.3**	**0.0**
BGF				*e*Pg	**Pg**	**19 34 20.1**	**-0.6**
BGF				*e*Sg	**Sg**	**19 34 59.3**	**-1.9**
BGF	**Bois d'Agland**	**3.12**	**237**	*e*Pg	**Pg**	**19 34 20.1**	**-0.6**
BGF				*e*Sg	**Sg**	**19 34 59.3**	**-1.9**
	6.0nm,0.3s,SNR=1.0						
GRA1	**Grafenberg Arr**	**3.31**	**64**	Sg	**Sg**	**19 35 06.0**	**-1.1**
GRF	**Grafenberg Arr**	**3.31**	**64**	*e*Sg	**Sg**	**19 35 06.0**	**-1.1**
ORIF	**Oris-en-Rattie**	**3.46**	**189**	*e*Pg	**Pg**	**19 34 25.8**	**-1.2**
ORIF				*e*Sg	**Sg**	**19 35 10.8**	**-1.0**
	2.8nm,0.2s						
ORIF	**Oris-en-Rattie**	**3.46**	**189**	*e*Pg	**Pg**	**19 34 25.8**	**-1.2**
ORIF				*e*Sg	**Sg**	**19 35 10.8**	**-1.0**
	1.4nm,0.2s						
TCF	**Toulx Ste Croi**	**3.64**	**237**	*e*Sg	**Sg**	**19 35 15.8**	**-1.9**
	4.3nm,0.3s,SNR=1.0						
TCF	**Toulx Ste Croi**	**3.64**	**237**	*e*Sg	**Sg**	**19 35 15.8**	**-1.9**
	2.2nm,0.3s,SNR=1.0						
VIVF	**Saint-Julien-l**	**3.73**	**202**	*e*Sg	**Sg**	**19 35 18.6**	**-2.0**
	6.5nm,0.5s,SNR=1.0						
VIVF	**Saint-Julien-l**	**3.73**	**202**	*e*Sg	**Sg**	**19 35 18.6**	**-2.0**
	3.2nm,0.5s,SNR=1.0						
WET	**Wettzell**	**4.21**	**77**	*e*Pg	**Pg**	**19 34 40.6**	**-0.8**
	SNR=1.8						
WET				*e*Sn	**Sn**	**19 35 11.8**	**-1.2**
WET				*e*Sg	**Sg**	**19 35 32.1**	**-3.8**
RJF	**Les Rejaudoux**	**4.64**	**231**	*e*Sg	**Sg**	**19 35 47.5**	**-2.2**
	3.7nm,0.3s						
RJF	**Les Rejaudoux**	**4.64**	**231**	*e*Sg	**Sg**	**19 35 47.5**	**-2.2**
	1.9nm,0.3s						
CAF	**Calviac**	**4.64**	**224**	*e*Sg	**Sg**	**19 35 47.9**	**-1.8**
	1.6nm,0.2s						
CAF	**Calviac**	**4.64**	**224**	*e*Sg	**Sg**	**19 35 47.9**	**-1.8**
	0.8nm,0.2s						
GEC2	**GERESS Array S**	**4.72**	**81**	*e*Sn	**Sn**	**19 35 24.8**	**-0.8**
GEC2				*e*Sg	**Sg**	**19 35 50.3**	**-1.9**
LFF	**La Frestale**	**5.29**	**232**	*e*Sn	**Sn**	**19 35 35.4**	**-4.3**
	5.2nm,0.6s,SNR=1.0						
LFF	**La Frestale**	**5.29**	**232**	*e*Sn	**Sn**	**19 35 35.4**	**-4.3**
	2.6nm,0.6s,SNR=1.0						

*IDC **01** 19:38:33.0±5.1, 15.11N×9784W, h0km, mb3.5/4, mb1 4.0/6, mb1mx3.7/21, mbtmp3.7/6, ML4.2/2, Error ellipse: s-maj=85.6km s-min=21.6km az=169.0*
*ISCJB **01** 19:38:40.1±1.0, 1586N±005×9785W±003, h28km±7km, mb3.6/7, Error ellipse: s-maj=8.2km s-min=4.3km az=21.8*
*NEIC **01** 19:38:41.6, 1579N×9788W, h20km, mb3.7/6, MD4.3(MEX), After MEX.*
*MEX **01** 19:38:41.4±0.8, 1582N×9785W, h13km±14km, MD4.3*

ISC 01 19:38:40.8±1.0, 1588N±005×9787W±003, h19km±5km, n34, σ1§20/56, mb3.6/7, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.57**	**334**	*e*P	**Pg**	**19 38 51.3**	**-0.8**
PNIG				*e*S	**Sg**	**19 39 00.2**	**+0.4**
OXX	**Oaxaca**	**1.62**	**42**	*e*P	**Pn**	**19 39 06.4**	**-2.0**
OXX				*e*S	**Sn**	**19 39 28.1**	**-0.8**
OXX	**Oaxaca**	**1.62**	**42**	*e*P	**Pn**	**19 39 06.4**	**-2.0**
OXX				*e*S	**Sn**	**19 39 26.7**	**-2.2**
HUIG	**Huatulco**	**1.70**	**93**	*i* P	**Pn**	**19 39 07.6**	**-1.9**
HUIG				*e*S	**Sn**	**19 39 26.4**	**-4.2**
UTMO	**Huajuapan**	**1.94**	**2**	*e*P	**Pn**	**19 39 13.4**	**+0.6**
UTMO				*e*S	**Sn**	**19 39 35.3**	**-1.4**
ACX	**Acapulco**	**2.20**	**297**	*e*P	**Pn**	**19 39 16.0**	**-0.4**
ACX				*e*S	**Sn**	**19 39 42.0**	**-1.0**
TPIG	**Tehuac#an**	**2.57**	**11**	*e*P	**Pn**	**19 39 21.9**	**+0.4**
TPIG				*i* S	**Sn**	**19 39 52.1**	**-0.2**
CAIG	**El Cayaco**	**2.58**	**297**	*e*P	**Pn**	**19 39 20.9**	**-0.7**
CAIG				*i* S	**Sn**	**19 39 51.7**	**-0.7**
MEIG	**Mezcala**	**2.64**	**321**	*e*P	**Pn**	**19 39 21.3**	**-1.1**
MEIG				*i* S	**Sn**	**19 39 52.5**	**-1.4**
PLIG	**Platanillo**	**2.95**	**328**	*e*P	**Pn**	**19 39 26.2**	**-0.4**
PLIG				*i* S	**Sn**	**19 39 59.9**	**-1.7**
CMIG	**Matias Romero**	**3.11**	**67**	Pn	**Pn**	**19 39 28.0**	**-0.8**
	14nm,0.3s,baz=242,slow=10,SNR=128						
CMIG				Sn	**Sn**	**19 40 06.5**	**+1.0**
	9.5nm,0.3s,baz=231,slow=17,SNR=6.8						
CMIG				Lg		19 40 23.4	
	46nm,0.3s,baz=337,slow=18,SNR=16						
YAIG	**Yautepec**	**3.18**	**339**	*e*P	**Pn**	**19 39 31.0**	**+1.1**
YAIG				*e*S	**Sn**	**19 40 06.4**	**-0.9**
PPM	**Popocatepetl**	**3.25**	**347**	*e*P	**Pn**	**19 39 30.3**	**-0.6**
PPM				*e*S	**Sn**	**19 40 10.4**	**+1.3**
PPM	**Popocatepetl**	**3.25**	**347**	*e*P	**Pn**	**19 39 30.3**	**-0.6**
PPM				*e*S	**Sn**	**19 40 09.3**	**+0.2**
UNM	**Universidad Na**	**3.65**	**340**	*i* S	**Sn**	**19 40 20.8**	**+1.9**
SZVM	**Salazar**	**3.72**	**337**	*e*P	**Pn**	**19 39 40.2**	**+3.0**
SZVM				*i* S	**Sn**	**19 40 26.6**	**+6.1**
PBVM	**Pinon**	**3.73**	**342**	*i* P	**Pn**	**19 39 39.1**	**+1.8**
PBVM				*i* S	**Sn**	**19 40 21.4**	**+0.6**
IIO	**Organos**	**3.78**	**348**	*e*P	**Pn**	**19 39 39.5**	**+1.4**
IIO				*i* S	**Sn**	**19 40 22.6**	**+0.5**
PTVM	**Pico Tres Padr**	**3.88**	**342**	*e*P	**Pn**	**19 39 44.8**	**+5.3**
PTVM				*i* S	**Sn**	**19 40 24.2**	**-0.3**
SCX	**San Cristobal**	**5.10**	**80**	*i* P	**Pn**	**19 39 56.5**	**+0.3**
SCX				*i* S	**Sn**	**19 40 55.1**	**+0.5**
TEIG	**Tepich**	**10.09**	**63**	*e*Pn	**Pn**	**19 41 04.2**	**-0.7**
TEIG				Sn	**Sn**	**19 42 50.5**	**-7.2**
TEIG				*e*Sn	**Sn**	**19 42 53.7**	**-4.0**
TEIG	**Tepich**	**10.09**	**63**	Pn	**Pn**	**19 41 03.9**	**-0.9**
	2.8nm,0.3s,baz=253,slow=7.4,SNR=11						
TEIG				Sn	**Sn**	**19 42 50.5**	**-7.2**
	1.8nm,0.3s,baz=218,slow=22,SNR=8.2						
MNTX	**Cornudas Mount**	**17.17**	**338**	*e*P	**Pn**	**19 42 44.1**	**+4.3**
	1.1nm,0.8s						
WMOK	**Wichita Mounta**	**18.80**	**358**	*e*P	**Pn**	**19 42 59.0**	**-0.7**
	1.5nm,0.8s						
ANMO	**Albuquerque**	**20.50**	**339**	*e*P	**P**	**19 43 20.8**	**+3.1**
ANMO	**Albuquerque**	**20.50**	**339**	P	**P**	**19 43 20.9**	**+3.1**
	3.0nm,0.9s,baz=153,slow=10,SNR=7.9						
SWET	**Sewanee**	**22.03**	**27**	*e*P	**P**	**19 43 34.4**	**+0.2**
SDCO	**Great Sand Dun**	**22.80**	**344**	*e*P	**P**	**19 43 45.3**	**+2.8**
	2.0nm,1.0s,mb3.5						
WUAZ	**Wupatki**	**22.99**	**331**	*e*P	**P**	**19 43 49.1**	**+4.7**
	5.6nm,0.9s,mb4.0						
SMCO	**Snowmass**	**24.55**	**343**	P	**P**	**19 44 03.3**	**+4.0**
	9.5nm,1.3s,mb4.2						
ISCO	**Idaho Springs**	**24.77**	**346**	*e*P	**P**	**19 44 05.5**	**+4.0**
	1.8nm,0.8s,mb3.6						
PDAR	**Pinedale Array**	**28.61**	**342**	P	**P**	**19 44 37.2**	**+1.3**
	0.2nm,0.7s,mb3.0,baz=143,slow=11,SNR=2.5						
NVAR	**Mina Array Bea**	**28.77**	**325**	P	**P**	**19 44 39.3**	**+1.8**
	0.4nm,0.8s,mb3.2,baz=144,slow=7.7,SNR=3.5						
YKA	**Yellowknife Ar**	**48.03**	**350**	P	**P**	**19 47 19.1**	**+0.6**
	0.7nm,0.9s,mb3.7,baz=154,slow=7.2,SNR=7.0						

IDC 01 19:44:36.9±1.8, 302S×12781E, h0km, mb3.7/3, mb1 3.9/4, mb1mx3.6/15, mbtmp3.8/4, ML3.9/1, Error ellipse: s-maj=106.8km s-min=15.1km az=68.0, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**17.98**	**160**	P	Pn	19 48 49.9	+1.4
	0.4nm,0.3s,baz=341,slow=12,SNR=28						
WRA				S	Sn	19 52 11.2	+1.4
	0.1nm,0.3s,baz=337,slow=21,SNR=3.8						
WB2	**Warramunga Arr**	**17.99**	**160**	*e*P	Pn	19 48 51.3	+2.8
ASAR	**Alice Springs**	**21.35**	**165**	P	P	19 49 27.1	+1.3
	2.4nm,0.6s,baz=344,slow=12,SNR=47						
ASAR				S	S	19 53 22.8	-1.1
	0.4nm,0.8s,baz=343,slow=18,SNR=4.2						
STKA	**Stephens Creek**	**31.50**	**157**	P	P	19 51 01.9	+1.4
	0.5nm,0.5s,baz=336,slow=13,SNR=4.9						
MKAR	**Makanchi Array**	**63.73**	**327**	P	P	19 55 09.9	-0.5
	0.2nm,0.2s,baz=134,slow=8.4,SNR=2.4						

*ISCJB **01** 19:45:41.3±0.9, 1585N±004×9784W±003, h12km±5km, mb4.0/4, Error ellipse: s-maj=7.8km s-min=4.0km az=25.6*
*MEX **01** 19:45:43.6±0.8, 1571N×9791W, h24km±16km, MD4.4*
*NEIC **01** 19:45:45.5±1.9, 1608N×9766W, h10km, mb3.8/8, MD4.4(MEX), Error ellipse: s-maj=32.3km s-min=8.8km az=202.0*

ISC 01 19:45:42.0±1.0, 1580N±004×9783W±003, h16km±5km, n45, σ1§25/79, mb4.0/4, 2C, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.65**	**334**	*i* P	**Pg**	**19 45 55.1**	**+0.3**
PNIG				*i* S	**Sg**	**19 46 03.6**	**+0.2**
PNIG	**Pinotepa**	**0.65**	**334**	*i* P	**Pg**	**19 45 55.1**	**+0.3**
PNIG				*i* S	**Sg**	**19 46 04.0**	**+0.5**
OXX	**Oaxaca**	**1.66**	**40**	*i* P	**Pn**	**19 46 09.8**	**-0.7**
OXX				*i* S	**Sn**	**19 46 29.9**	**-1.6**
OXX	**Oaxaca**	**1.66**	**40**	*i* P	**Pn**	**19 46 09.8**	**-0.7**
OXX				*i* S	**Sn**	**19 46 32.5**	**+1.0**
HUIG	**Huatulco**	**1.66**	**91**	*e*P	**Pn**	**19 46 10.1**	**-0.4**
HUIG				*e*S	**Sn**	**19 46 29.5**	**-2.1**
UTMO	**Huajuapan**	**2.02**	**1**	*e*P	**Pn**	**19 46 15.8**	**+0.4**
UTMO				*i* S	**Sn**	**19 46 40.0**	**-0.3**
ACX	**Acapulco**	**2.26**	**298**	*e*P	**Pn**	**19 46 13.4**	**-5.5**
ACX				*i* S	**Sn**	**19 46 44.5**	**-1.9**
ACX	**Acapulco**	**2.26**	**298**	*e*P	**Pn**	**19 46 17.4**	**-1.5**
ACX				*i* S	**Sn**	**19 46 43.2**	**-3.3**
TPIG	**Tehuac#an**	**2.64**	**10**	*e*P	**Pn**	**19 46 24.5**	**+0.5**
TPIG				*i* S	**Sn**	**19 46 56.6**	**+0.8**
CAIG	**El Cayaco**	**2.64**	**298**	*e*P	**Pn**	**19 46 22.8**	**-1.3**
CAIG				*e*S	**Sn**	**19 46 50.5**	**-5.3**
CAIG	**El Cayaco**	**2.64**	**298**	*e*P	**Pn**	**19 46 22.8**	**-1.3**
CAIG				*i* S	**Sn**	**19 46 50.7**	**-5.2**
MEIG	**Mezcala**	**2.72**	**321**	*e*P	**Pn**	**19 46 24.1**	**-1.0**
MEIG				*i* S	**Sn**	**19 46 56.6**	**-1.1**
PLIG	**Platanillo**	**3.03**	**328**	*e*P	**Pn**	**19 46 30.8**	**+1.4**
PLIG				*e*S	**Sn**	**19 47 06.7**	**+1.3**
PLIG	**Platanillo**	**3.03**	**328**	*e*P	**Pn**	**19 46 29.6**	**+0.2**
PLIG				*e*S	**Sn**	**19 47 03.9**	**-1.5**
CMIG	**Matias Romero**	**3.10**	**65**	*e*P	**Pn**	**19 46 30.6**	**+0.1**
CMIG				*e*S	**Sn**	**19 47 07.5**	**+0.3**
YAIG	**Yautepec**	**3.26**	**339**	*e*P	**Pn**	**19 46 32.8**	**+0.2**
YAIG				*i* S	**Sn**	**19 47 10.0**	**-1.1**
PPM	**Popocatepetl**	**3.33**	**347**	*e*P	**Pn**	**19 46 38.1**	**+4.6**
PPM				*e*S	**Sn**	**19 47 09.8**	**-3.0**
PPM				*e*S	**Sn**	**19 47 20.4**	**+7.6**
PPM	**Popocatepetl**	**3.33**	**347**	*e*P	**Pn**	**19 46 34.1**	**+0.6**
PPM				*e*P		19 46 37.3	
PPM				*i* S	**Sn**	**19 47 12.7**	**-0.2**
PPM				*e*S	**Sn**	**19 47 16.9**	**+4.0**
UNM	**Universidad Na**	**3.73**	**340**	*e*P	**Pn**	**19 46 45.0**	**+5.9**
UNM				*i* S	**Sn**	**19 47 26.6**	**+3.9**
UNM	**Universidad Na**	**3.73**	**340**	*e*P	**Pn**	**19 46 39.5**	**+0.4**
UNM				*i* S	**Sn**	**19 47 23.6**	**+0.8**
SZVM	**Salazar**	**3.80**	**337**	*e*P	**Pn**	**19 46 40.1**	**+0.2**
SZVM				*i* S	**Sn**	**19 47 26.6**	**+2.2**
PBVM	**Pinon**	**3.81**	**342**	*e*P	**Pn**	**19 46 40.3**	**+0.2**
PBVM				*e*S	**Sg**	**19 47 40.5**	**-4.0**
PBVM	**Pinon**	**3.81**	**342**	*e*P	**Pn**	**19 46 40.3**	**+0.2**
PBVM				*e*S	**Sn**	**19 47 25.1**	**+0.5**
IIO	**Organos**	**3.86**	**347**	*e*P	**Pg**	**19 46 55.0**	**-1.1**
IIO				*e*S	**Sg**	**19 47 45.5**	**-0.6**
IIO	**Organos**	**3.86**	**347**	*e*P	**Pn**	**19 46 41.0**	**+0.2**
IIO				*e*S	**Sn**	**19 47 25.4**	**-0.5**
TUIG	**Tuzandepetl**	**3.94**	**55**	*i* S	**Sb**	**19 47 38.2**	**-0.6**
TUIG	**Tuzandepetl**	**3.94**	**55**	*e*P	**Pn**	**19 46 41.4**	**-0.6**
TUIG				*i* S	**Sn**	**19 47 28.2**	**+0.2**
PTVM	**Pico Tres Padr**	**3.96**	**342**	*e*P	**Pn**	**19 46 44.4**	**+2.2**
PTVM				*e*S	**Sb**	**19 47 39.0**	**-0.3**
PTVM	**Pico Tres Padr**	**3.96**	**342**	*e*P	**Pn**	**19 46 41.3**	**-0.9**
PTVM				*e*S	**Sn**	**19 47 26.5**	**-1.9**
DEIG	**Demacu**	**4.62**	**346**	*e*P	**Pn**	**19 46 54.6**	**+3.4**
DEIG				*i* S	**Sn**	**19 47 47.7**	**+3.2**
MOIG	**Morelia**	**5.01**	**321**	*i* S	**Sn**	**19 47 52.7**	**-1.5**
CCIG	**Comitan**	**5.50**	**84**	*e*P	**Pn**	**19 47 07.5**	**+4.1**
CCIG				*i* S	**Sn**	**19 48 11.2**	**+4.9**
MMIG	**Aquila**	**5.82**	**296**	*e*P	**Pn**	**19 47 09.6**	**+1.8**
MMIG				*e*S	**Sn**	**19 48 09.9**	**-4.5**
LNIG	**Linares**	**9.18**	**351**	*e*P	**Pn**	**19 47 57.8**	**+4.0**
LNIG				*e*S	**Sn**	**19 49 39.9**	**+3.0**
TEIG	**Tepich**	**10.10**	**63**	*e*Pn	**Pn**	**19 48 07.4**	**+0.9**
MNTX	**Cornudas Mount**	**17.25**	**338**	*e*P	**Pn**	**19 49 44.9**	**+2.5**
	1.9nm,1.0s						
WMOK	**Wichita Mounta**	**18.87**	**358**	P	**Pn**	**19 50 00.1**	**-2.1**
	3.0nm,0.8s						
MIAR	**Mount Ida**	**19.05**	**11**	*e*P	**Pn**	**19 50 03.5**	**-1.0**
	2.3nm,0.6s						
BNM	**Barren Site**	**19.91**	**338**	P	**Pn**	**19 50 19.0**	**+4.2**
ANMO	**Albuquerque**	**20.58**	**339**	*e*P	**P**	**19 50 23.7**	**+3.5**
	5.8nm,1.0s						
GOGA	**Godfrey**	**21.82**	**34**	P	**P**	**19 50 34.5**	**+0.8**
SDCO	**Great Sand Dun**	**22.88**	**344**	*e*P	**P**	**19 50 48.0**	**+3.0**
	4.4nm,1.1s,mb3.8						
SMCO	**Snowmass**	**24.63**	**343**	*e*P	**P**	**19 51 06.6**	**+4.9**
	12nm,1.2s,mb4.3						
ISCO	**Idaho Springs**	**24.85**	**346**	*e*P	**P**	**19 51 08.2**	**+4.3**
	6.1nm,0.9s,mb4.1						
SRU	**San Rafael**	**25.75**	**337**	*e*P	**P**	**19 51 16.6**	**+4.6**
	2.4nm,0.8s,mb3.8						

MEX 01 19:49:37.2±0.8, 1596N×9782W, h7km±7km, MD4.1, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.52**	**325**	*e*P	Pg	19 49 46.2	-1.1
PNIG				*e*S	Sg	19 49 54.8	+0.6
OXX	**Oaxaca**	**1.53**	**43**	*i* P	Pn	19 50 01.1	-3.9
OXX				*i* S	Sn	19 50 20.5	-4.7
UTMO	**Huajuapan**	**1.86**	**0**	*e*P	Pn	19 50 07.0	-2.5
UTMO				*i* S	Sn	19 50 29.6	-3.7
ACX	**Acapulco**	**2.21**	**294**	*i* P	Pn	19 50 11.6	-2.7
ACX				*i* S	Sn	19 50 37.2	-4.6
TPIG	**Tehuac#an**	**2.48**	**10**	*e*P	Pn	19 50 16.3	-1.8
TPIG				*i* S	Sn	19 50 42.7	-6.0
CAIG	**El Cayaco**	**2.59**	**295**	*e*P	Pn	19 50 17.3	-2.2
CAIG				*i* S	Sn	19 50 46.3	-5.0
MEIG	**Mezcala**	**2.61**	**319**	*e*P	Pn	19 50 17.5	-2.3
MEIG				*i* S	Sn	19 50 48.0	-3.8
CMIG	**Matias Romero**	**3.03**	**68**	*e*P	Pn	19 50 22.7	-2.9
CMIG				*i* S	Sn	19 50 58.6	-3.6
PPM	**Popocatepetl**	**3.19**	**346**	*e*P	Pn	19 50 26.0	-1.7
PPM				*i* P		19 50 28.9	
PPM				*i* S	Sn	19 51 04.2	-1.8
PPM				*i* S	Sn	19 51 06.2	+0.1
UNM	**Universidad Na**	**3.59**	**339**	*e*P	Pn	19 50 32.2	-1.2
UNM				*i* S	Sn	19 51 12.2	-3.9
PBVM	**Pinon**	**3.67**	**341**	*e*P	Pn	19 50 34.2	-0.2
PBVM				*i* S	Sn	19 51 17.2	-0.7
IIO	**Organos**	**3.71**	**347**	*e*P	Pn	19 50 35.8	+0.8
IIO				*i* S	Sn	19 51 16.6	-2.4
PTVM	**Pico Tres Padr**	**3.82**	**341**	*e*P	Pn	19 50 36.7	+0.2
PTVM				*i* S	Sn	19 51 22.7	+1.0

*TEH **01** 19:50:30.1, 3075N×5682E, h10km, ML4.2*
*IDC **01** 19:51:22.0±1.0, 3064N×5670E, h0km, mb3.8/12, mb1 4.0/14, mb1mx3.9/24, mbtmp3.8/14, ML3.5/2, MS3.0/3, Ms1 3.0/3, ms1mx2.6/31, Error ellipse: s-maj=25.8km s-min=18.2km az=7.0*
*NEIC **01** 19:51:24.3±0.7, 3072N×5689E, h10km, mb4.2/1, MN4.2(TEH), Error ellipse: s-maj=10.0km s-min=7.0km az=151.0*
*ISCJB **01** 19:51:24.3±0.3, 3083N±002×5677E±003, h10km, mb3.7/13, Error ellipse: s-maj=4.2km s-min=3.5km az=178.7*
*THR **01** 19:51:25.4±0.7, 3080N×5673E, h18km±10km, ML4.2*
*CSEM **01** 19:51:26.2±0.1, 3083N×5678E, h25km, Ms4.0, Error ellipse: s-maj=2.3km s-min=2.1km az=104.0*

ISC 01 19:51:25.7±0.3, 3081N±002×5679E±003, h10km, n94, σ1§37/98, mb3.7/13, 1C-1D, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRBR	**Kerman**	**0.82**	**181**	*e*Pg	**Pg**	**19 51 40.7**	**-1.0**
KRBR				*e*Sg	**Sg**	**19 51 52.7**	**+0.3**
KRBR				AML	AML	19 51 56.2	
	comp=N,3μm,0.4s						
KRBR	**Kerman**	**0.82**	**181**	*e*Pg	**Pg**	**19 51 40.7**	**-0.9**
	SNR=94						
KRBR				*e*Sg	**Sg**	**19 51 52.7**	**+0.3**
	SNR=94						
IBAF	**Bafgh**	**1.30**	**307**	Pn	**Pn**	**19 51 47.7**	**-2.3**
IBAF	**Bafgh**	**1.30**	**307**	*e*Pn	**Pn**	**19 51 47.8**	**-2.2**
IBAF				*e*		19 52 11.4	
	comp=Z,41μm,0.1s						
IMEH	**Mehriz**	**1.95**	**288**	*e*Pn	**Pn**	**19 51 58.9**	**0.0**
IMEH				*e*		19 52 27.6	
	comp=Z,24μm,0.2s						
IMEH	**Mehriz**	**1.95**	**288**	Pn	**Pn**	**19 51 58.8**	**-0.1**
ICHK	**Chekchek**	**2.48**	**306**	*e*Pn	**Pn**	**19 52 07.2**	**+1.0**
ICHK				*e*		19 52 46.5	
	comp=Z,17μm,0.2s						
ICHK	**Chekchek**	**2.48**	**306**	Pn	**Pn**	**19 52 07.1**	**+0.9**
IKOO	**Kooshah**	**2.48**	**49**	*e*Pn	**Pn**	**19 52 06.9**	**+0.6**
ITEG	**Tejag**	**2.67**	**38**	*e*Pn	**Pn**	**19 52 08.7**	**-0.1**
ISAD	**Sadrabad**	**2.87**	**293**	*e*Sn	**Sn**	**19 52 47.2**	**+1.1**
IDAH	**Dahanechah**	**3.25**	**53**	*e*Pn	**Pn**	**19 52 17.9**	**+1.1**
IBND	**Bandar-abas**	**3.36**	**184**	*e*Pn	**Pn**	**19 52 21.0**	**+2.8**
IPAR	**Pars**	**3.37**	**254**	*e*Pn	**Pn**	**19 52 19.4**	**+1.0**
IPAR				*e*		19 53 28.4	
	comp=Z,5μm,0.4s						
IPAR

DAMV	**Damavand**	**6.28**	**321**	*e*Pn	**Pn**	**19 52 59.5**	**+1.2**
DAMV				AML	AML	19 54 57.1	
	comp=E,33nm,0.7s						
DAMV				AML	AML	19 54 59.5	
	comp=N,36nm,0.7s						
DAMV	**Damavand**	**6.28**	**321**	*e*Pn	**Pn**	**19 52 59.5**	**+1.2**
	SNR=52						
ASUD	**Al Ashush, Dub**	**6.29**	**192**	P	**Pn**	**19 53 00.3**	**+1.7**
	SNR=10						
ISFR	**Sfrayin**	**6.30**	**9**	*e*Pn	**Pn**	**19 52 59.5**	**+0.8**
ISFR				*e*		19 55 11.6	
	comp=Z,803nm,0.4s						
ISFR	**Sfrayin**	**6.30**	**9**	Pn	**Pn**	**19 52 59.4**	**+0.7**
IAFJ	**Afjeh**	**6.58**	**321**	*e*Pn	**Pn**	**19 53 03.8**	**+1.2**
IAFJ				*e*		19 55 06.9	
	comp=Z,763nm,0.2s						
IPRN	**Peran**	**6.61**	**326**	Pn	**Pn**	**19 53 03.4**	**+0.4**
IPRN	**Peran**	**6.61**	**326**	*e*Pn	**Pn**	**19 53 03.5**	**+0.5**
IPRN				*e*		19 55 08.5	
	comp=Z,1μm,0.5s						
IEMG	**Emamgholi**	**6.76**	**13**	*e*Pn	**Pn**	**19 53 02.7**	**-2.3**
IEMG				*e*		19 55 07.8	
	comp=Z,440nm,0.6s						
ASAO	**Ashtian**	**6.81**	**305**	*e*Pn	**Pn**	**19 53 06.9**	**+1.2**
UMR	**Umm Al-Rimmam**	**7.95**	**263**	*e*P	**Pn**	**19 53 20.5**	**-0.9**
UMR				AML	AML	19 54 49.0	
	comp=Z,7.4nm,0.4s						
KBD	**Kabd**	**8.05**	**261**	*e*P	**Pn**	**19 53 21.4**	**-1.4**
KFJS		**8.14**	**253**	P	**Pn**	**19 53 22.1**	**-1.8**
MIB	**Mutribah**	**8.23**	**265**	*e*P	**Pn**	**19 53 23.5**	**-1.7**
MIB				AML	AML	19 54 57.2	
	comp=Z,7.8nm,0.5s						
RDF	**Al-Radifah**	**8.24**	**259**	*e*P	**Pn**	**19 53 24.1**	**-1.2**
RDF				AML	AML	19 54 58.7	
	comp=Z,11nm,0.6s						
NAY	**Al-Naaiem**	**8.42**	**262**	*e*P	**Pn**	**19 53 26.8**	**-1.0**
NAY				AML	AML	19 55 00.2	
	comp=Z,6.3nm,0.7s						
BTHS		**8.56**	**219**	P	**Pn**	**19 53 26.8**	**-2.9**
BTHS		**8.56**	**219**	P	**Pn**	**19 53 26.8**	**-2.9**
BTHS				S	**Sn**	**19 54 55.6**	**-11**
HRDDS		**10.21**	**222**	S	**Sn**	**19 55 35.9**	**-11**
HRDDS		**10.21**	**222**	P	**Pn**	**19 53 49.7**	**-2.7**
KK31	**Karatay Array**	**16.43**	**38**	⇑Pn	**Pn**	**19 55 22.3**	**+6.0**
	comp=Z,1.2nm,0.4s,baz=162,slow=16,SNR=48						
ASF	**Jabal al Asfar**	**17.02**	**280**	Pn	**Pn**	**19 55 19.4**	**-4.5**
	comp=Z,0.2nm,0.3s,baz=166,slow=2.4,SNR=3.2						
ASF				LR	LR	20 02 06.0	
	comp=Z,24nm,18.6s,baz=176,slow=38						
MMAI	**Mount Meron Ar**	**18.29**	**282**	LR	LR	20 03 58.6	
	comp=Z,31nm,20.0s,baz=65,slow=42						
EIL	**Elat**	**18.90**	**272**	LR	LR	20 04 30.1	
	comp=Z,101nm,18.1s,baz=101,slow=42						
AKTK	**Aktyubinsk**	**19.63**	**2**	P	**Pn**	**19 55 54.5**	**-1.1**
AKTK	**Aktyubinsk**	**19.63**	**2**	P	**Pn**	**19 55 54.5**	**-1.1**
AKTO	**Aktyubinsk**	**19.63**	**2**	P	**Pn**	**19 55 54.5**	**-1.1**
	comp=Z,0.1nm,0.3s,baz=197,slow=11,SNR=7.6						
MKAR	**Makanchi Array**	**25.33**	**44**	P	**P**	**19 56 52.7**	**+0.1**
	comp=Z,0.6nm,0.5s,mb3.4,baz=227,slow=6.4,SNR=4.8						
MLR	**Muntele Rosu**	**28.13**	**310**	P	**P**	**19 57 18.2**	**+0.4**
	comp=Z,1.5nm,0.8s,mb3.7,baz=82,slow=16,SNR=5.6						
AKASG	**Malin Array Be**	**28.55**	**322**	P	**P**	**19 57 20.0**	**-1.5**
	comp=Z,1.1nm,0.7s,mb3.7,baz=126,slow=8.4,SNR=5.9						
KIEV	**Kiev**	**28.56**	**322**	*e*P	**P**	**19 57 21.1**	**-0.5**
	comp=Z,2.6nm,0.6s,mb4.1						
KIEV	**Kiev**	**28.56**	**322**	*e*P	**P**	**19 57 21.1**	**-0.5**
ZALV	**Zalesovo Beam**	**30.68**	**33**	P	**P**	**19 57 38.3**	**-2.0**
	comp=Z,1.1nm,0.5s,mb4.0,baz=249,slow=9.1,SNR=7.7						
FINES	**FINESS Array B**	**36.64**	**336**	P	**P**	**19 58 31.3**	**-0.8**
	comp=Z,0.9nm,0.6s,mb3.8,baz=128,slow=12,SNR=7.5						
GERES	**GERESS Array B**	**37.09**	**312**	P	**P**	**19 58 33.6**	**-2.4**
	comp=Z,0.7nm,0.8s,mb3.6,baz=108,slow=8.6,SNR=6.7						
SONM	**Songino Array**	**41.22**	**51**	P	**P**	**19 59 10.3**	**-0.3**
	comp=Z,0.1nm,0.5s,mb2.7,baz=280,slow=8.6,SNR=2.7						
NOA	**NORSAR Array B**	**42.41**	**329**	P	**P**	**19 59 18.1**	**-2.0**
	comp=Z,0.9nm,0.8s,mb3.5,baz=115,slow=7.9,SNR=4.0						
TORD	**Torodi Ar. Bea**	**53.50**	**264**	P	**P**	**20 00 43.8**	**-2.8**
	comp=Z,3.4nm,0.7s,mb4.4,baz=61,slow=6.7,SNR=15						
YKA	**Yellowknife Ar**	**86.77**	**356**	P	**P**	**20 04 08.1**	**-1.6**
	comp=Z,0.4nm,0.6s,mb3.8,baz=2.5,slow=5.1,SNR=11						
YKA	**Yellowknife Ar**	**86.77**	**356**	P	**P**	**20 04 08.1**	**-1.7**
WRA	**Warramunga Arr**	**89.91**	**113**	P	**P**	**20 04 23.4**	**-2.0**
	comp=Z,0.5nm,0.9s,mb3.8,baz=311,slow=4.2,SNR=3.2						
ASAR	**Alice Springs**	**91.58**	**117**	P	**P**	**20 04 30.9**	**-2.2**
	comp=Z,0.6nm,0.7s,mb4.1,baz=303,slow=4.4,SNR=9.9						

*NEIC **01** 19:58:03.6, 1572N×9791W, h12km, MD4.2(MEX), After MEX.*

MEX 01 19:58:03.6±0.6, 1572N×9791W, h12km±10km, MD4.2, 1C, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.70**	**343**	⇑*i*P	Pg	19 58 15.3	-1.8
PNIG				*i* S	Sg	19 58 24.5	-1.8
HUIG	**Huatulco**	**1.73**	**88**	*e*P	Pn	19 58 30.9	-2.6
HUIG				*i* S	Sn	19 58 50.5	-5.2
OXX	**Oaxaca**	**1.77**	**40**	*e*P	Pn	19 58 30.6	-3.4
OXX				*i* S	Sn	19 58 52.5	-3.9
UTMO	**Huajuapan**	**2.10**	**3**	*i* P	Pn	19 58 35.3	-3.2
UTMO				*i* S	Sn	19 59 01.4	-3.1
ACX	**Acapulco**	**2.24**	**301**	*e*P	Pn	19 58 37.4	-3.1
ACX				*i* S	Sn	19 59 03.3	-4.8
CAIG	**El Cayaco**	**2.62**	**301**	*e*P	Pn	19 58 42.9	-2.9
CAIG				*i* S	Sn	19 59 14.9	-2.6
TPIG	**Tehuac#an**	**2.73**	**11**	*e*P	Pn	19 58 51.3	+4.0
TPIG				*i* S	Sn	19 59 20.8	+0.5
MEIG	**Mezcala**	**2.73**	**323**	*e*P	Pn	19 58 43.6	-3.7
MEIG				*i* S	Sn	19 59 16.5	-3.9
PLIG	**Platanillo**	**3.06**	**330**	*e*P	Pn	19 58 59.9	+8.1
PLIG				*i* S	Sn	19 59 24.5	-3.9
PLIG	**Platanillo**	**3.06**	**330**	*e*P	Pn	19 58 49.9	-1.9
PLIG				*i* S	Sn	19 59 24.5	-3.9
CMIG	**Matias Romero**	**3.21**	**64**	*e*P	Pn	19 58 50.2	-3.6
CMIG				*i* S	Sn	19 59 25.5	-6.5
YAIG	**Yautepec**	**3.31**	**341**	*e*P	Pn	19 58 53.2	-2.1
YAIG				*i* S	Sn	19 59 30.9	-3.7
PPM	**Popocatepetl**	**3.39**	**348**	*e*P	Pn	19 59 06.0	+10
PPM				*i* S	Sn	19 59 33.5	-3.1
PPM				*i* S	Sn	19 59 39.7	+3.1
PPM	**Popocatepetl**	**3.39**	**348**	*e*P	Pn	19 58 53.8	-2.6
PPM				*e*P		19 58 56.0	
PPM				*i* S	Sn	19 59 33.5	-3.1
PPM				*i* S	Sn	19 59 39.7	+3.1
IIO	**Organos**	**3.92**	**349**	*e*P	Pn	19 58 59.6	-4.1
IIO				*i* S	Sn	19 59 45.6	-4.1
PTVM	**Pico Tres Padr**	**4.01**	**344**	*e*P	Pn	19 59 06.0	+1.1
PTVM				*i* S	Sn	19 59 50.8	-1.1

*IDC **01** 20:10:44.1±1.6, 511S×10321E, h0km, mb4.0/9, mb1 4.0/9, mb1mx3.9/19, mbtmp4.0/9, Error ellipse: s-maj=72.9km s-min=15.5km az=51.0*
*ISCJB **01** 20:10:47.3±1.0, 495S±02×1034E±02, h33km, mb4.0/11, Error ellipse: s-maj=44.7km s-min=9.3km az=142.0*
*NEIC **01** 20:10:49.6±0.9, 495S×10339E, h35km, mb4.2/4, Error ellipse: s-maj=42.0km s-min=7.6km az=54.0*

ISC 01 20:10:49.5±1.0, 50S±02×1033E±02, h35km, σ0s74/20, mb4.0/11, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**10.56**	**345**	Pn	**Pn**	**20 13 16.7**	**-1.8**
BATI	**Kupang**	**20.80**	**106**	P	**P**	**20 15 28.5**	**+0.5**
	7.9nm,0.6s,baz=264,slow=9.2,SNR=4.1						
FITZ	**Fitzroy Crossi**	**25.40**	**123**	P	**P**	**20 16 14.8**	**+0.8**
	0.7nm,0.7s,mb3.3,baz=300,slow=9.2,SNR=2.4						
WRA	**Warramunga Arr**	**33.63**	**119**	P	**P**	**20 17 26.4**	**-0.7**
	0.4nm,0.4s,mb3.7,baz=310,slow=8.9,SNR=22						
WB2	**Warramunga Arr**	**33.64**	**119**	*e*P	**P**	**20 17 26.4**	**-0.7**
ASAR	**Alice Springs**	**34.82**	**125**	P	**P**	**20 17 37.0**	**-0.3**
	0.4nm,0.3s,mb3.8,baz=300,slow=7.9,SNR=13						
LSA	**Lhasa**	**36.42**	**342**	*e*P	**P**	**20 17 51.4**	**+0.4**
	4.8nm,1.3s,mb4.3						
CTAO	**Charters Tower**	**44.34**	**114**	P	**P**	**20 18 56.9**	**+0.2**
STKA	**Stephens Creek**	**44.69**	**131**	*e*P	**P**	**20 18 59.5**	**+0.2**
	1.5nm,0.8s,mb3.9						
STKA	**Stephens Creek**	**44.69**	**131**	P	**P**	**20 18 59.5**	**+0.2**
	1.9nm,0.5s,mb4.2,baz=308,slow=7.2,SNR=16						
SONM	**Songino Array**	**52.67**	**3**	P	**P**	**20 20 01.6**	**+1.3**
	2.1nm,0.5s,mb4.3,baz=180,slow=9.2,SNR=30						
SONM				PcP	PcP	20 21 10.2	+0.4
	0.4nm,0.3s,baz=189,slow=4.3,SNR=7.5						

TAU	**Tasmania Unive**	**54.18**	**141**	*e*P	**P**	**20 20 10.7**	**-0.8**
MKAR	**Makanchi Array**	**54.83**	**342**	P	**P**	**20 20 16.9**	**+0.8**
MKAR	**Makanchi Array**	**54.83**	**342**	P	**P**	**20 20 16.9**	**+0.8**
	1.4nm,0.6s,mb4.2,baz=156,slow=8.3,SNR=15						
KURK	**Kurchatov**	**59.43**	**342**	*e*P	**P**	**20 20 47.9**	**-0.6**
	1.3nm,0.7s,mb4.1						
ZALV	**Zalesovo Beam**	**60.75**	**348**	P	**P**	**20 20 57.4**	**-0.1**
ZALV	**Zalesovo Beam**	**60.75**	**348**	P	**P**	**20 20 57.4**	**-0.1**
	1.9nm,0.5s,mb4.5,baz=164,slow=5.2,SNR=13						
BRVK	**Borovoye**	**64.21**	**339**	*e*P	**P**	**20 21 20.9**	**+0.2**
	1.3nm,0.5s,mb4.2						
AKASG	**Malin Array Be**	**83.87**	**322**	P	**P**	**20 23 16.0**	**+0.4**
AKASG	**Malin Array Be**	**83.87**	**322**	P	**P**	**20 23 16.0**	**+0.4**
	0.2nm,0.3s,mb3.7,baz=89,slow=4.8,SNR=4.8						

*NEIC **01** 20:19:05.9, 1571N×9798W, h20km, MD4.2(MEX), After MEX.*

MEX 01 20:19:05.8±0.8, 1570N×9798W, h20km±30km, MD4.2, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.71**	**348**	*i* P	Pb	20 19 17.0	-2.5
PNIG				*i* S	Sb	20 19 25.5	-3.3
HUIG	**Huatulco**	**1.80**	**87**	*e*P	Pn	20 19 32.6	-3.1
HUIG				*i* S	Sn	20 19 53.3	-4.7
OXX	**Oaxaca**	**1.83**	**41**	*i* P	Pn	20 19 34.1	-2.0
OXX				*i* S	Sn	20 19 55.0	-3.7
UTMO	**Huajuapan**	**2.13**	**4**	*i* P	Pn	20 19 39.0	-1.2
UTMO				*i* S	Sn	20 20 02.9	-3.2
ACX	**Acapulco**	**2.20**	**302**	*e*P	Pn	20 19 39.2	-2.0
ACX				*i* S	Sn	20 20 04.5	-3.3
CAIG	**El Cayaco**	**2.58**	**302**	*e*P	Pn	20 19 44.8	-1.6
CAIG				*i* S	Sn	20 20 13.1	-4.0
MEIG	**Mezcala**	**2.72**	**325**	*e*P	Pn	20 19 45.8	-2.6
MEIG				*i* S	Sn	20 20 17.4	-3.2
TPIG	**Tehuac#an**	**2.77**	**12**	*i* P	Pn	20 19 48.1	-1.0
TPIG				*i* S	Sn	20 20 22.0	+0.1
PLIG	**Platanillo**	**3.05**	**332**	*e*P	Pn	20 19 50.1	-2.8
PLIG				*i* S	Sn	20 20 24.0	-4.9
PLIG	**Platanillo**	**3.05**	**332**	*e*P	Pn	20 19 50.1	-2.8
PLIG				*i* S	Sn	20 20 27.1	-1.8
CMIG	**Matias Romero**	**3.28**	**65**	*e*P	Pn	20 19 51.8	-4.2
CMIG				*i* S	Sn	20 20 35.5	+1.1
CMIG	**Matias Romero**	**3.28**	**65**	*e*P	Pn	20 19 53.3	-2.8
CMIG				*i* S	Sn	20 20 35.5	+1.1
YAIG	**Yautepec**	**3.31**	**342**	*e*P	Pn	20 19 53.4	-3.1
YAIG				*i* S	Sn	20 20 31.9	-3.5
PPM	**Popocatepetl**	**3.41**	**350**	*e*P	Pn	20 19 56.5	-1.4
PPM				*e*P		20 20 00.2	
PPM				*i* S	Sn	20 20 35.2	-2.5
PPM				*i* S	Sn	20 20 36.0	-1.7
UNM	**Universidad Na**	**3.79**	**343**	*i* S	Sn	20 20 45.6	-1.5
SZVM	**Salazar**	**3.85**	**340**	*e*P	Pn	20 20 02.0	-1.8
SZVM				*i* S	Sn	20 20 46.2	-2.3
PBVM	**Pinon**	**3.87**	**344**	*e*P	Pn	20 20 00.4	-3.8
PBVM				*i* S	Sn	20 20 44.4	-4.7
IIO	**Organos**	**3.94**	**350**	*e*P	Pn	20 20 08.6	+3.5
IIO				*i* S	Sn	20 20 55.9	+5.1
PTVM	**Pico Tres Padr**	**4.02**	**345**	*e*P	Pn	20 20 11.5	+5.2
PTVM				*i* S	Sn	20 20 51.4	-1.5
MOIG	**Morelia**	**5.00**	**323**	*i* S	Sn	20 21 21.7	+4.6

*ISCJB **01** 20:19:33.8±0.7, 3840N±003×2047E±005, h2km, Error ellipse: s-maj=6.0km s-min=3.6km az=159.1*
*THE **01** 20:19:33.9, 3839N×2043E, h3km, ML3.2*
*NEIC **01** 20:19:33.9, 3837N×2044E, h11km, MD3.6(ATH), ML3.2(THE), After ATH.*
*ATH **01** 20:19:33.9, 3837N×2043E, h8km, MD3.6/6*
*CSEM **01** 20:19:34.3±0.3, 3839N×2048E, h2km, MD3.6, Error ellipse: s-maj=7.2km s-min=3.6km az=68.0*

ISC 01 20:19:34.0±0.9, 3838N±003×2044E±006, h6km±6km, n16, σ0s99/28, 3C-4D, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.23**	**149**	⇑*i*PG	**Pg**	**20 19 38.7**	**+0.1**
VLS				*e*SG	**Sg**	**20 19 43.1**	**+1.4**
LKD	**Levkas**	**0.37**	**27**	*e*Pg	**Pg**	**20 19 40.1**	**-1.0**
LKD				*e*Sg	**Sg**	**20 19 45.6**	**-0.4**
KFL	**Anninata**	**0.39**	**134**	*e*Pg	**Pg**	**20 19 41.4**	**0.0**
RLS	**Riolos of Patr**	**0.87**	**111**	⇑*i*PG	**Pg**	**20 19 50.2**	**-0.5**
SELA	**Sela**	**1.15**	**95**	*e*Pg	**Pg**	**20 19 54.5**	**-1.5**
SELA				*e*Sg	**Sg**	**20 20 12.7**	**+1.8**
IGT	**Igoumenitsa**	**1.16**	**356**	*e*Pg	**Pg**	**20 19 55.0**	**-1.2**
IGT				*e*Sg	**Sg**	**20 20 12.1**	**+0.9**
EVR	**Evrytania**	**1.20**	**63**	⇓*i*PN	**Pn**	**20 19 55.8**	**-1.5**
EVR				*e*SB	**Sb**	**20 20 13.3**	**+0.3**
EVR	**Evrytania**	**1.20**	**63**	⇓*e*Pb	**Pb**	**20 19 55.4**	**-1.8**
EVR				*e*Sb	**Sb**	**20 20 13.3**	**+0.3**
JAN	**Janina**	**1.32**	**14**	*e*PB	**Pb**	**20 19 59.5**	**+0.4**
KEK	**Kerkira**	**1.42**	**340**	⇓*i*PG	**Pn**	**20 20 00.6**	**+0.2**
KEK				*e*SB	**Sb**	**20 20 20.5**	**+1.2**
KEK	**Kerkira**	**1.42**	**340**	⇓*e*Pg	**Pn**	**20 20 00.6**	**+0.2**
KEK				*e*Sb	**Sb**	**20 20 20.5**	**+1.2**
MEV	**Metsovon**	**1.54**	**23**	*e*Pg	**Pn**	**20 20 03.1**	**+1.2**
AGG	**Agios Georgios**	**1.62**	**66**	*e*Pg	**Pn**	**20 20 02.9**	**-0.2**
AGG				*e*Sg	**Sg**	**20 20 26.1**	**+0.1**
AGG	**Agios Georgios**	**1.62**	**66**	*e*Pg	**Pn**	**20 20 02.9**	**-0.1**
AGG				*e*Sg	**Sg**	**20 20 26.0**	**+0.1**
THL	**Klokotos Trika**	**1.71**	**46**	⇑*i*PN	**Pg**	**20 20 06.1**	**-0.6**
THL				*e*SN	**Sg**	**20 20 30.0**	**+1.1**
VLX	**Vlachokerasia**	**1.84**	**123**	*e*Sb	**Sb**	**20 20 31.0**	**-0.3**
VLX				*e*Sb	**Sb**	**20 20 44.6**	**+13**

*BJI **01** 20:23:05.4, 837S×15749E, h16km, mB5.2, mb4.7*
*IDC **01** 20:23:06.4±0.8, 846S×15688E, h0km, mb4.2/12, mb1 4.3/14, mb1mx4.3/16, mbtmp4.2/14, ML3.9/2, Error ellipse: s-maj=25.6km s-min=17.7km az=122.0*
*NEIC **01** 20:23:08.1±0.4, 837S×15685E, h10km, mb4.5/7, Error ellipse: s-maj=10.6km s-min=7.8km az=132.0*
*ISCJB **01** 20:23:10.5±0.4, 833S±007×15669E±006, h33km, mb4.1/20, Error ellipse: s-maj=9.9km s-min=8.3km az=160.4*

ISC 01 20:23:11.5±0.5, 847S±008×15689E±008, h35km, n43, σ0s84/43, mb4.1/20, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**3.17**	**108**	**Pn**	**Pn**	**20 23 58.0**	**-0.9**
	61nm,0.3s,baz=260,slow=6.1,SNR=7.1						
HNR				Sn	**Sn**	**20 24 43.2**	**+7.8**
	273nm,0.3s,baz=93,slow=23,SNR=12						
CTA	**Charters Tower**	**15.47**	**221**	*e*P	**Pn**	**20 26 53.7**	**+6.6**
	7.5nm,0.9s						
CTA	**Charters Tower**	**15.47**	**221**	Pn	**Pn**	**20 26 47.4**	**+0.3**
CTA	**Charters Tower**	**15.47**	**221**	Pn	**Pn**	**20 26 47.4**	**+0.3**
	0.1nm,0.3s,baz=38,slow=16,SNR=2.0						
KAKA	**Kakadu**	**24.39**	**258**	*e*P	**P**	**20 28 27.2**	**+0.4**
	7.7nm,0.9s,mb4.1						
WB2	**Warramunga Arr**	**24.61**	**240**	*e*P	**P**	**20 28 28.0**	**-0.7**
WRA	**Warramunga Arr**	**24.62**	**240**	P	**P**	**20 28 29.2**	**+0.4**
	8.7nm,0.8s,mb4.3,baz=67,slow=10,SNR=42						
WRA				PcP	PcP	20 32 07.1	+1.0
	1.4nm,0.8s,baz=64,slow=2.3,SNR=7.8						
ASAR	**Alice Springs**	**26.70**	**233**	P	**P**	**20 28 47.0**	**-0.5**
	1.8nm,0.9s,mb3.6,baz=64,slow=8.7,SNR=15						
ASAR				PcP	PcP	20 32 11.7	+0.9
	0.3nm,0.7s,baz=61,slow=2.9,SNR=4.1						
STKA	**Stephens Creek**	**27.29**	**209**	*e*P	**P**	**20 28 54.3**	**+1.5**
	6.5nm,0.6s,mb4.3						
STKA	**Stephens Creek**	**27.29**	**209**	P	**P**	**20 28 52.1**	**-0.7**
	9.9nm,0.8s,mb4.4,baz=34,slow=13,SNR=27						
FITZ	**Fitzroy Crossi**	**31.84**	**249**	P	**P**	**20 29 33.1**	**-0.2**
	1.9nm,1.0s,mb3.9,baz=80,slow=11,SNR=3.4						
MBWA	**Marble Bar**	**37.97**	**246**	*e*P	**P**	**20 30 25.3**	**-0.8**
KKM	**Kota Kinabalu**	**43.04**	**288**	P	**P**	**20 31 09.3**	**+1.1**
NWAO	**Narrogin (SRO)**	**43.97**	**231**	*e*P	**P**	**20 31 14.9**	**-0.6**
	12nm,0.9s,mb4.6						
NACB	**Ninganchiao**	**47.33**	**314**	P	**P**	**20 31 41.0**	**-1.0**
KSM	**Kuching**	**47.47**	**280**	*e*P	**P**	**20 31 43.2**	**-0.2**
MJAR	**Matsushiro Arr**	**48.09**	**340**	P	**P**	**20 31 46.8**	**-1.0**
	0.7nm,0.6s,mb3.9,baz=170,slow=8.4,SNR=4.6						
MAJO	**Matsushiro**	**48.09**	**340**	P	**P**	**20 31 47.4**	**-0.4**
KSRS	**Korea Array**	**53.12**	**331**	P	**P**	**20 32 26.0**	**+0.3**
	1.6nm,0.8s,mb4.0,baz=127,slow=5.6,SNR=3.7						
YSS	**Yuzh-Sakhalins**	**56.60**	**348**	P	**P**	**20 32 50.0**	**-0.7**

KULM	**Kulim**	**57.72**	**282**	*e*P	**P**	**20 32 59.3**	**0.0**
HIA	**Hailar**	**66.05**	**334**	P	**P**	**20 33 55.0**	**+0.4**
MA2	**Magadan**	**68.00**	**357**	*e*P	**P**	**20 34 06.4**	**-0.4**
VNDA	**Vanda**	**69.07**	**179**	P	**P**	**20 34 17.2**	**+3.8**
VNDA	**Vanda**	**69.07**	**179**	P	**P**	**20 34 17.2**	**+3.8**
	0.6nm,0.9s,mb3.5,baz=4.2,slow=5.7,SNR=2.3						
GTA	**Gaotai**	**71.09**	**317**	*e*P	**P**	**20 34 31.1**	**+4.7**
GTA				AP	pP	20 34 36.1	-1.1
GTA				XP	sP	20 34 39.4	-1.9
GTA				AMB	AMB		
	comp=Z,4.0nm,1.7s,mb4.1						
SONM	**Songino Array**	**71.59**	**327**	P	**P**	**20 34 30.3**	**+1.2**
	comp=Z,1.4nm,0.8s,mb4.0,baz=146,slow=5.1,SNR=13						
LSA	**Lhasa**	**73.65**	**304**	*e*P	**P**	**20 34 45.7**	**+3.9**
	comp=Z,3.0nm,0.9s,mb4.2						
SVW2	**Sparrevohn**	**78.66**	**21**	*e*P	**P**	**20 35 10.8**	**+1.2**
SVW2				*e*PcP	PcP	20 35 18.4	-0.1
PMR	**Palmer**	**81.39**	**23**	*e*P	**P**	**20 35 25.6**	**+1.2**
	comp=Z,6.1nm,1.5s,mb4.3						
MCK	**McKinley**	**82.73**	**21**	*e*P	**P**	**20 35 29.9**	**-1.4**
	comp=Z,8.0nm,0.9s,mb4.8						
MKAR	**Makanchi Array**	**85.75**	**318**	P	**P**	**20 35 47.6**	**+0.6**
	comp=Z,3.2nm,0.7s,mb4.7,baz=100,slow=6.6,SNR=15						
ZALV	**Zalesovo Beam**	**86.45**	**326**	P	**P**	**20 35 50.2**	**-0.1**
ZALV	**Zalesovo Beam**	**86.45**	**326**	P	**P**	**20 35 50.2**	**-0.1**
	comp=Z,1.2nm,0.6s,mb4.3,baz=116,slow=6.8,SNR=5.7						
KURK	**Kurchatov**	**89.15**	**322**	P	**P**	**20 36 03.0**	**-0.3**
TKM2	**Tokmak 2**	**89.39**	**313**	*e*P	**P**	**20 36 05.5**	**+0.8**
EKS2	**Erkin-Say**	**90.65**	**313**	*e*P	**P**	**20 36 10.0**	**-0.5**
	comp=Z,1.4nm,0.7s,mb4.4						
NVAR	**Mina Array Bea**	**91.16**	**51**	P	**P**	**20 36 14.8**	**+1.8**
NVAR	**Mina Array Bea**	**91.16**	**51**	P	**P**	**20 36 14.8**	**+1.8**
	comp=Z,0.7nm,0.8s,mb4.1,baz=222,slow=4.9,SNR=4.4						
YKA	**Yellowknife Ar**	**96.75**	**28**	P	**P**	**20 36 37.7**	**-0.5**
YKA	**Yellowknife Ar**	**96.75**	**28**	P	**P**	**20 36 37.7**	**-0.5**
	comp=Z,0.3nm,0.7s,mb3.9,baz=263,slow=4.7,SNR=6.1						
PDAR	**Pinedale Array**	**98.29**	**48**	P	**P**	**20 36 44.6**	**-0.9**
	comp=Z,0.2nm,0.6s,mb3.8,baz=208,slow=4.8,SNR=2.4						
AKASG	**Malin Array Be**	**119.82**	**325**	PKP	PKPdf	20 41 58.9	+0.8
	comp=Z,0.1nm,0.4s,baz=77,slow=0.5,SNR=3.0						

IDC 01 20:27:26.6±1.8, 809S×15590E, h0km, mb3.7/5, mb1 3.9/5, mb1mx3.7/14, mbtmp3.7/5, Error ellipse: s-maj=76.7km s-min=28.5km az=123.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.97**	**238**	P	P	20 32 43.9	+0.9
	1.9nm,0.9s,baz=67,slow=10,SNR=5.9						
ASAR	**Alice Springs**	**26.15**	**231**	P	P	20 33 02.6	-0.2
	0.6nm,0.8s,baz=64,slow=8.7,SNR=3.5						
STKA	**Stephens Creek**	**27.15**	**207**	P	P	20 33 11.4	-0.3
	2.0nm,0.9s,baz=32,slow=15,SNR=4.2						
MKAR	**Makanchi Array**	**84.81**	**319**	P	P	20 40 03.0	-0.1
	0.5nm,0.7s,baz=93,slow=4.5,SNR=4.0						
YKA	**Yellowknife Ar**	**96.88**	**28**	P	P	20 40 59.4	-0.1
	0.1nm,0.5s,baz=272,slow=5.7,SNR=2.5						

*CRAAG **01** 20:39:55.2, 833S×15692E, Mw7.9*
*IDC **01** 20:39:55.0±0.3, 840S×15694E, h0km, mb5.5/31, mb1 5.5/32, mb1mx5.5

FUNA eS S 20 48 56.7 +3.9
FUNA LR LR
comp=Z,1403μm,21.0s,MS7.3
ARMA Armidale 22.43 192 eP P 20 44 56.4 +0.7
ARMA i S S 20 49 17.7 +15
KAKA Kakadu 24.53 258⇓iP P 20 45 14.6 -2.0
comp=Z,4μm,1.8s,mb6.7
WB2 Warramunga Arr 24.74 240 eP P 20 45 16.3 -2.1
WB2 i S S 20 49 50.2 +9.5
WRA Warramunga Arr 24.75 240 iP P 20 45 16.6 -1.9
WRA Warramunga Arr 24.75 240 P P 20 45 18.1 -0.4
comp=Z,108nm,1.1s,baz=65,slow=9.7,SNR=107
GUMO Guam 25.00 331 eP P 20 45 19.7 -1.1
comp=Z,14μm,1.4s,mb7.3
GUMO ePcP PcP 20 48 49.4 -6.7
GUMO eS S 20 49 45.1 +0.2
GUMO LR LR
comp=Z,1863μm,21.0s,MS7.6
RIV Riverview 25.83 191 eP P 20 45 29.2 +1.0
ASAR Alice Springs 26.82 233 P P 20 45 35.6 -1.6
comp=Z,67nm,1.2s,baz=64,slow=7.9,SNR=71
STKA Stephens Creek 27.38 209⇓iP P 20 45 41.4 -0.8
comp=Z,374nm,0.9s,mb5.9
STKA eS S 20 50 29.0 +6.7
STKA Stephens Creek 27.38 209 P P 20 45 42.4 +0.2
comp=Z,140nm,1.0s,baz=13,slow=8.6,SNR=43
CNB Canberra Magne 27.65 194 eP P 20 45 44.8 +0.2
comp=Z,410nm,1.1s,mb6.0
KNA Kununurra 28.55 253 P P 20 45 51.9 -0.9
AAI Ambon 29.05 278 P P 20 46 00.2 +2.9
AFI Afiamalu 31.06 103⇑eP P 20 46 13.3 -1.8
comp=Z,3μm,1.0s,mb7.0
AFI ePP PP 20 47 24.1 -1.2
AFI ePcP PcP 20 49 13.9 +3.0
AFI Afiamalu 31.06 103⇑eP P 20 46 13.3 -1.8
AFI e 20 47 24.1
AFI e 20 49 13.9
AFI pmax pmax
comp=Z,3μm,1.0s,mb7.0
ADE Adelaide 31.29 210 eP P 20 46 16.4 -0.5
RAO Raoul Island 31.34 135⇑eP P 20 46 15.2 -2.2
comp=Z,7μm,1.1s,mb7.4
RAO PP PP 20 47 28.8 +0.6
RAO eS S 20 51 36.6 +12
RAO LR LR 20 56 55.4
RAO Raoul Island 31.34 135⇑eP P 20 46 15.2 -2.2
RAO 20 47 28.8
RAO eS S 20 51 36.6 +12
RAO pmax pmax
comp=Z,7μm,1.1s,mb7.4
RAO Raoul Island 31.34 135 P P 20 46 19.0 +1.6
comp=Z,406nm,0.5s,mb6.5,baz=298,slow=12,SNR=4.7
RAO LR LR 20 56 55.4
comp=Z,185μm,20.1s,MS6.8,baz=146,slow=32
FITZ Fitzroy Crossi 31.97 249 eP P 20 46 19.7 -3.4
FITZ eS S 20 51 38.0 +3.2
FITZ Fitzroy Crossi 31.97 249 P P 20 46 22.4 -0.7
comp=Z,12nm,0.6s,baz=68,slow=13,SNR=38
FITZ LR LR 21 00 04.4
comp=Z,2108μm,18.5s,baz=247,slow=38
BATI Kupang 32.96 264 P P 20 46 32.0 +0.1
comp=Z,118nm,1.0s,baz=115,slow=4.3,SNR=22
BATI LR LR 21 01 33.1
comp=Z,3636μm,18.9s,baz=107,slow=40
MNI Manado 33.56 286 P P 20 46 37.3 +0.2
MATI Mati 34.27 296 eP P 20 46 41.3 -2.0
BIPH Bislig 34.74 298⇓eP P 20 46 52.0 +4.7
URZ Urewera 34.77 152 P P 20 46 47.5 +0.2
comp=Z,64nm,1.2s,baz=327,slow=5.4,SNR=6.9
WPVZ Whakapapa 34.84 154 P P 20 46 50.9 +3.0
DAV Davao City (W) 34.93 295 eP P 20 46 47.2 -1.7
comp=Z,1μm,0.6s,mb7.0
DAV ePP PP 20 48 17.5 +9.2
DAV ePcP PcP 20 49 37.3 +16
DAV LR LR
comp=Z,1169μm,21.0s,MS7.6
DAV Davao City (W) 34.93 295 P P 20 46 51.4 +2.4
SNR=20
DAV Davao City (W) 34.93 295 P P 20 46 51.4 +2.4
SNR=20
DAV Davao City (W) 34.93 295⇓iP P 20 46 46.0 -3.0
FORT Forrest 34.99 227 eP P 20 46 47.4 -1.9
comp=Z,400nm,0.8s,mb6.4
FORT eS S 20 52 18.7 -2.7
GSPH General Santos 35.09 293⇑eP P 20 46 48.5 -1.9
BKZ Black Stump Fm 35.23 153 P P 20 46 54.8 +3.6
TAU Tasmania Unive 35.37 192 eP P 20 46 49.5 -2.9
comp=Z,2μm,1.4s,mb6.8
TAU PcP PcP 20 49 23.3 +0.8
TAU eS S 20 52 35.0 +8.1
TAU LR LR
comp=Z,817μm,20.0s,MS7.5
TAU Tasmania Unive 35.37 192 eP P 20 46 49.5 -2.9
TAU pmax pmax
comp=Z,2μm,1.4s,mb6.8
TAU MLR MLR
comp=Z,820μm,20.0s,MS7.5
BUKP Musuan 35.75 296 eP P 20 47 00.9 +4.9
CTBH Cotabato--PC H 36.19 295 eP P 20 46 59.5 -0.4
SCPH Surigao 36.25 299⇑eP P 20 47 01.7 +1.4
SCPH Surigao 36.25 299⇓eP S 20 52 48.6 +7.5
WSI Waingapu 36.28 265 P P 20 47 00.7 +0.1
WSI Waingapu 36.28 265⇑eP P 20 47 02.0 +1.4
WSI eS PcS 20 53 24.5 +11
SNZO South Karori 36.29 157 eP P 20 46 58.5 -1.7
comp=Z,730nm,1.1s,mb6.5
SNZO ePP PP 20 48 32.4 +9.5
SNZO S S 20 52 42.3 +1.3
SNZO LR LR
comp=Z,426μm,20.0s,MS7.2
KHZ Kahutara 36.83 159 P P 20 47 06.2 +1.3
MSLP Maasin 36.96 299 eP P 20 47 07.0 +0.7
MSLP Maasin 36.96 299 eP S 20 53 09.1 +17
KAPI Kappang 37.16 273 P P 20 47 07.0 -1.1
RPZ Rata Peaks 37.21 163 P P 20 47 07.9 -0.2
comp=Z,34nm,0.9s,baz=275,slow=7.2,SNR=10
PAGZ Pagadian 37.23 295 eP P 20 47 11.2 +2.5
PLP Palo 37.36 301 eP P 20 47 10.2 +0.4
PLP Palo 37.36 301 eP S 20 53 07.2 +9.2
TBP Tagbilaran 37.62 298 eP P 20 47 14.6 +2.6
OCLP Ormoc 37.62 300 eP P 20 47 13.9 +1.9
PCI Palu 37.79 279 P P 20 47 13.7 +0.3
LLP Lapu-Lapu 37.82 299 eP P 20 47 12.9 -0.8
MBWA Marble Bar 38.10 246⇓eP P 20 47 14.3 -1.6
comp=Z,3μm,1.5s,mb6.8
MBWA ePcP PcP 20 49 09.1 -22
MBWA eS S 20 53 09.3 +0.2
MBWA LR LR
comp=Z,2085μm,20.0s,MS7.9
MBWA Marble Bar 38.10 246 P P 20 47 15.1 -0.8
SNR=41
MBWA Marble Bar 38.10 246 S S 20 53 21.1 +12
CBIJ Chichi jima 38.15 338 P P 20 47 20.7 +4.5
comp=Z,151nm,0.6s,mb5.9,baz=302,slow=20,SNR=4.3
CBIJ LR LR 21 01 13.7
comp=Z,605μm,22.0s,MS7.4,baz=352,slow=34
CNP Cataman 38.31 303 eP P 20 47 17.2 -0.6
GUIM Jordan 39.16 298 eP P 20 47 26.9 +2.0
PVCP Virac 39.30 304⇑eP P 20 47 26.2 +0.2
PVCP Virac 39.30 304 eP P 20 47 29.2 +3.1
RCP Roxas 39.47 300⇑eP P 20 47 29.6 +2.2
RCP Roxas 39.47 300 eP S 20 53 36.8 +6.9
KALP Kalibo 39.87 300⇑eP P 20 47 39.5 +8.6
KALP Kalibo 39.87 300 eP Sx 20 53 15.0
OTRP Odiongan 40.47 300 eP P 20 47 37.6 +1.8
CUYO Cuyo Island 40.64 298 eP P 20 47 38.5 +1.3
GQP Guinayangan 40.88 303⇓eP P 20 47 39.1 -0.1
comp=Z,602μm,1.0s
TSM Tawau 41.05 286 ⇓P P 20 47 42.0 +1.4
DNP Denpasar 41.34 266 P P 20 47 41.8 -1.2
POLP Polilio Island 41.72 303 eP P 20 47 54.7 +8.6
BUSP Coron 41.87 299 eP P 20 47 51.1 +3.8
SDKM Sandakan 42.11 288 ⇑P P 20 47 50.9 +1.5
ENPP El Nido 42.19 297 eP P 20 47 52.5 +2.5
ENPP El Nido 42.19 297 eP S 20 53 57.8 -13
PPR Puerto Princes 42.21 295⇓iP P 20 47 52.6 +2.5
BALP Baler 42.55 304 eP P 20 47 54.1 +1.3
LUBP Lubang 42.64 301 eP P 20 47 54.1 +0.4
BATP Bataraza 42.67 293 eP P 20 47 53.9 +0.1
KMMI Kalianget 42.67 269 P P 20 47 53.5 -0.5
PCPH Palayan 42.85 304⇓eP P 20 48 00.7 +5.5
KDM Kudat 42.88 290 ⇓P P 20 47 57.1 +1.5
CAUP Cauayan 42.99 306 eP P 20 47 59.0 +2.6

KLBR Kellerberrin 43.14 232 eP P 20 47 54.8 -2.7
comp=Z,598nm,1.2s,mb6.2
KKM Kota Kinabalu 43.16 288⇓eP P 20 47 57.0 -0.9
KKM ePP PP 20 49 45.9 +7.6
KKM eS S 20 54 25.1 +0.2
KKM Kota Kinabalu 43.16 288 ⇓P P 20 47 59.8 +1.8
RAR Rarotonga 43.50 112 P P 20 48 00.1 -0.5
comp=Z,174nm,0.9s,mb5.8,baz=279,slow=4.8,SNR=9.8
RAR LR LR 21 03 21.6
comp=Z,448μm,21.4s,MS7.3,baz=280,slow=32
BCPH Baguio City Da 43.70 304⇑iP P 20 48 01.6 -0.5
SCZP Santa Cruz 43.94 303 eP P 20 48 08.5 +4.4
APYP Conner 43.96 307 eP P 20 48 07.7 +3.5
NWAO Narrogin (SRO) 44.09 231⇓eP P 20 48 04.2 -1.0
comp=Z,2μm,1.5s,mb6.7
NWAO e 20 49 58.5
NWAO eS S 20 54 44.0 +6.1
NWAO LR LR
comp=Z,999μm,20.0s,MS7.7
NWAO Narrogin (SRO) 44.09 231⇓eP P 20 48 04.2 -0.9
NWAO e 20 49 58.5
NWAO eS S 20 54 44.1 +6.1
NWAO pmax pmax
comp=Z,2μm,1.5s
NWAO MLR MLR
comp=Z,999μm,20.0s
NWAO Narrogin (SRO) 44.09 231 P P 20 48 05.2 +0.1
SNR=14
NWAO Narrogin (SRO) 44.09 231 P P 20 48 05.2 +0.1
SNR=14
NWAO Narrogin (SRO) 44.09 231 P P 20 48 04.2 -0.9
comp=Z,106nm,1.0s,baz=85,slow=6.4,SNR=14
NWAO LR LR 21 07 12.2
comp=Z,1238μm,18.9s,MS7.8,baz=60,slow=37
NWAO Narrogin (SRO) 44.09 231 PcS sS 20 54 48.3 +5.5
BOLP Bolinao 44.24 304 eP P 20 48 06.7 +0.1
JHJ Hachijo jima 2 44.47 339 P P 20 48 13.1 +4.9
comp=Z,178nm,0.8s,mb5.8,baz=203,slow=8.8,SNR=5.6
JHJ LR LR 21 06 02.5
comp=Z,393μm,18.8s,MS7.4,baz=164,slow=35
MUN Mundaring 44.51 232 eP P 20 48 06.7 -1.8
PIP Pasuquin 44.71 307⇓eP P 20 48 16.7 +6.5
JOW Kunigami 44.81 322 P P 20 48 13.8 +2.9
comp=Z,122nm,0.8s,mb5.8,baz=164,slow=5.7,SNR=5.6
JOW LR LR 21 05 38.8
comp=Z,991μm,19.6s,MS7.7,baz=168,slow=34
BTM Bintulu 45.32 283 ⇓P P 20 48 17.2 +1.9
MCQ Macquarie Isla 45.95 178 eP P 20 48 26.9 +7.3
MCQ eS S 20 55 20.2 +16
SBUM Sibu 45.97 282 ⇑P P 20 48 22.8 +2.4
JYT Yasato 47.17 341 eS Sx 20 55 53.7
JMN Monobe 47.35 334 eS Sx 20 55 55.9
JRY Ryogami san 47.40 340 eS Sx 20 55 56.9
NACB Ninganchiao 47.41 314⇑eP P 20 48 34.8 +3.4
comp=Z,2μm,1.0s,mb7.0
NACB eS S 20 55 18.8 -7.1
KSM Kuching 47.60 280⇓eP P 20 48 31.6 -1.6
KSM PcP PcP 20 50 05.0 +1.9
KSM ePP PP 20 50 31.9 +7.1
KSM S S 20 55 21.8 -7.2
KSM Kuching 47.60 280 ⇑P P 20 48 33.8 +0.7
YHNB Yeheng 47.87 314⇑eP P 20 48 38.9 +3.9
comp=Z,2μm,1.0s,mb7.2
YHNB ePcP PcP 20 50 13.4 +10
YHNB S S 20 55 31.4 -1.1
TATO Taipei 47.98 315⇑eP P 20 48 40.2 +4.3
comp=Z,4μm,1.5s,mb7.2
TATO ePP PP 20 50 28.5 +0.4
TATO eScP ScP 20 54 10.0 +11
TATO eS S 20 55 29.7 -4.4
TATO LR LR
comp=Z,1154μm,21.0s,MS7.8
MJAR Matsushiro Arr 48.12 340 P P 20 48 35.0 -1.8
comp=Z,13nm,1.0s,baz=168,slow=7.8,SNR=20
MJAR LR LR 21 07 20.1
comp=Z,385μm,18.3s,MS7.4,baz=155,slow=34
MAJO Matsushiro 48.12 340⇑eP P 20 48 33.5 -3.2
comp=Z,2μm,0.9s,mb7.1
MAJO ePcP PcP 20 50 01.1 -3.3
MAJO LR LR
comp=Z,853μm,22.0s,MS7.7
MAJO Matsushiro 48.12 340⇑eP P 20 48 33.5 -3.2
MAJO e 20 50 01.1
MAJO pmax pmax
comp=Z,2μm,0.9s,mb7.1
MAJO MLR MLR
comp=Z,853μm,22.0s,MS7.7
MAT Matsushiro 48.12 340 P P 20 48 34.4 -2.3
MAT S S 20 55 36.0 +0.4
MAT Matsushiro 48.12 340 eS Sx 20 56 00.4
JNU Nakatsue 48.25 330 P P 20 48 37.2 -0.6
comp=Z,152nm,1.0s,mb6.0,baz=120,slow=9.0,SNR=20
JNU LR LR 21 04 50.9
comp=Z,431μm,20.7s,MS7.4,baz=326,slow=31
JMM Marumori 48.50 343 eS S 20 55 59.2 +18
JFU Fukue jima 2 48.96 328 eS S 20 56 05.4 +18
LEM Lembang 48.97 268 P P 20 48 42.9 -0.9
TPI Tanjungpandan 49.43 274 P P 20 48 45.8 -1.5
JSD Sado 49.45 340 eS S 20 56 11.4 +17
JYA Atsumi 49.50 342 eS Sx 20 56 15.0
CBJI Citeko 49.77 269 P P 20 48 48.4 -1.5
JOM Ohasama 49.86 344 eS S 20 56 16.6 +17
QZH Quanzhou 50.04 313⇑iP P 20 48 54.3 +2.6
QZH AMB AMB
comp=Z,810nm,0.9s,mb6.8
QZH AMB AMB
comp=Z,11μm,7.8s
QZH LR LR
comp=N,962μm,16.6s,MS8.0
QZH LR LR
comp=E,871μm,17.2s,MS8.0
QZH LR LR
comp=Z,1785μm,18.2s,MS8.1
SBJI Serang 50.51 269 P P 20 48 53.9 -1.6
JTM Tenmabayashi 51.15 344 eS S 20 56 22.9 +5.0
JOT Ohata 51.71 345 eS S 20 56 29.3 +3.7
ERM Erimo 51.80 347⇓eP P 20 49 05.7 +1.1
comp=Z,598nm,1.0s,mb6.5
ERM ePcP PcP 20 50 25.9 +8.3
ERM eScP ScP 20 54 11.1 -3.7
ERM LR LR
comp=Z,1091μm,19.0s,MS7.9
ERM Erimo 51.80 347⇓eP P 20 49 05.7 +1.1
ERM pmax pmax
comp=Z,598nm,1.0s,mb6.5
ERM MLR MLR
comp=Z,1091μm,19.0s,MS7.9
JEM Erimo 51.80 347 eS S 20 56 32.7 +5.9
HKC Hong Kong Obse 51.93 307⇑iP P 20 49 10.0 +4.0
SSE Sheshan 52.20 321 P P 20 49 08.5 +0.7
SSE XP sP 20 49 12.7 +0.7
SSE S S 20 56 32.1 -0.6
SSE XS sS 20 56 37.8 +0.2
SSE SS SS 21 00 10.6 +0.2
SSE LR LR
comp=N,351μm,15.0s,MS7.7
SSE LR LR
comp=E,388μm,15.0s,MS7.7
SSE LR LR
comp=Z,739μm,12.7s,MS7.9
SSE Sheshan 52.20 321 P P 20 49 08.5 +0.7
comp=Z,90nm,1.0s
SSE sP sP 20 49 12.7 +0.7
SSE S S 20 56 32.1 -0.6
SSE sS sS 20 56 37.8 +0.2
SSE SS SS 21 00 10.6 +0.2
SSE LR LR
comp=Z,739μm,12.7s,MS7.9
PPT Papeete 52.66 106 eP P 20 49 11.8 +0.3
comp=Z,176nm,1.4s
PPT eS S 20 56 39.4 -0.2
comp=Z,341μm,33.5s
PPT eLQ 21 02 04.0
comp=Z,930μm,35.8s
PPT eLR LR 21 04 22.3
comp=Z,1276μm,35.5s
PPT Papeete 52.66 106 P P 20 49 12.1 +0.5
comp=Z,122nm,1.1s,baz=307,slow=8.4,SNR=7.4
PPT LR LR 21 07 28.4
comp=Z,220μm,21.1s,MS7.2,baz=283,slow=31
PAE Paea 52.66 106 eP P 20 49 11.4 -0.2
comp=Z,412nm,1.2s,mb6.2
PAE Paea 52.66 106 eP P 20 49 11.4 -0.2
PAE pmax pmax
comp=Z,412nm,1.2s,mb6.2

JEW Eniwo 52.98 346 eS S 20 56 39.4 -3.6
TVO Taravao 52.98 106 eP P 20 49 14.2 +0.3
comp=Z,391nm,0.9s,mb6.3
TVO Taravao 52.98 106 eP P 20 49 14.2 +0.3
TVO pmax pmax
comp=Z,391nm,0.9s,mb6.3
GZH Guangzhou 52.99 307 P P 20 49 18.6 +4.8
GZH S S 20 56 51.0 +7.2
GZH LR LR
comp=N,373μm,25.5s,MS7.6
GZH LR LR
comp=E,570μm,24.6s,MS7.6
GZH LR LR
comp=Z,1302μm,24.0s,MS7.9
HON Honolulu 53.15 55⇑eP P 20 49 14.1 -1.0
HON ePP PP 20 51 12.1 -3.1
HON eScP ScP 20 54 08.4 -13
HON eS S 20 56 58.1 +12
HON Honolulu 53.15 55⇑eP P 20 49 14.1 -0.9
HON e 20 51 12.1
HON eS S 20 56 58.1 +12
JSH Shimam 53.16 344 eS S 20 56 38.9 -6.5
KSRS Korea Array 53.16 331 P P 20 49 14.4 -0.4
comp=Z,53nm,1.1s,baz=147,slow=8.3,SNR=25
KSRS LR LR 21 12 12.1
comp=Z,400μm,18.1s,baz=142,slow=36
KIP Kipapa 53.18 55⇑eP P 20 49 14.8 -0.4
comp=Z,2μm,1.4s,mb6.8
KIP ePcP PcP 20 50 24.6 +1.2
KIP LR LR
comp=Z,410μm,19.0s,MS7.5
KIP Kipapa 53.18 55⇑eP P 20 49 14.9 -0.4
KIP e 20 50 24.6
KIP pmax pmax
comp=Z,2μm,1.4s,mb6.8
KIP MLR MLR
comp=Z,410μm,19.0s,MS7.5
YUK Yuzh-Kuril'sk 53.20 350 eP P 20 49 15.0 0.0
YUK e 20 51 10.0
YUK i S S 20 56 51.0 +5.0
YUK pmax pmax
comp=Z,85μm,12.0s
YUK pmax pmax
comp=N,52μm,10.0s
YUK pmax pmax
comp=E,18μm,9.0s
YUK pmax pmax
comp=Z,2μm,1.2s,mb6.9
TBI Tubuai 53.26 113 eP P 20 49 15.9 0.0
comp=Z,1μm,1.3s,mb6.7
TBI Tubuai 53.26 113 eLR LR 21 04 38.9
comp=Z,1μm,37.2s
JMP Maruseppu 53.66 348 eS S 20 56 45.5 -6.6
INCN Inchon 53.81 330⇑eP P 20 49 19.0 -0.6
comp=Z,8μm,1.6s,mb7.4
INCN ePcP PcP 20 50 24.3 -1.1
INCN eS S 20 56 52.6 -1.9
INCN LR LR
comp=Z,588μm,20.0s,MS7.6
INCN Inchon 53.81 330 P P 20 49 20.1 +0.5
SNR=56
INCN Inchon 53.81 330 P P 20 49 20.1 +0.5
SNR=56
ASAJ Asahikawa 53.92 347 eS S 20 56 47.1 -8.7
ASAJ Asahikawa 53.92 347 P P 20 49 20.6 +0.3
comp=Z,36nm,0.6s,baz=229,slow=14,SNR=20
QIZ Qiongzhong 53.93 301 P P 20 49 22.9 +2.1
QIZ LR LR
comp=E,665μm,20.6s
QIZ LR LR
comp=Z,1355μm,36.0s
QIZ Qiongzhong 53.93 301 P P 20 49 21.9 +1.1
comp=Z,1μm,1.1s,mb6.8
QIZ ePcP PcP 20 50 20.9 -5.3
QIZ eScP ScP 20 54 35.9 +11
QIZ LR LR
comp=Z,1122μm,21.0s,MS7.9
MYKOM **Kota Tinggi 53.98 278** ⇓P P 20 49 21.1 -0.2
KUR Kuril'sk 54.06 352 eP P 20 49 20.0 -1.3
KUR eS S 20 56 47.8 -10
KUR pmax pmax
comp=N,190nm,1.0s
KUR pmax pmax
comp=E,190nm,1.0s
KUR pmax pmax
comp=Z,940nm,1.0s,mb6.7
KUR smax
comp=N,350nm,0.9s
KUR smax
comp=E,570nm,0.9s
MEH Mehetia 54.12 106 eP P 20 49 22.3 +0.1
comp=E,247nm,1.2s,mb6.0
HPO Honuapo 54.16 59 eP P 20 49 22.6 +0.2
KHU Kahuku 54.17 59⇑eP P 20 49 22.1 -0.4
KHU e 20 49 32.1
KHU ePcP PcP 20 50 29.3 +2.1
PMOR Pomariorio Ree 54.21 102 eP P 20 49 23.1 +0.1
comp=E,1μm,1.4s,mb6.6
KSI Kapahiang 54.30 272 P P 20 49 23.1 -0.6
NJ2 Nanjing 54.31 320 eP P 20 49 24.6 +1.2
NJ2 AP pP 20 49 29.2 +2.8
NJ2 XP sP 20 49 31.6 +4.0
NJ2 PP PP 20 51 26.5 +1.0
NJ2 SCP ScP 20 54 23.1 -3.0
NJ2 AMB AMB
comp=Z,150nm,1.2s,mb5.8
NJ2 LR LR
comp=N,1158μm,19.4s,MS8.1
NJ2 LR LR
comp=E,732μm,17.0s,MS8.1
NJ2 LR LR
comp=Z,1131μm,19.8s,MS7.9
POHA Pohakuloa 54.47 58⇑eP P 20 49 21.7 -3.0
comp=Z,2μm,1.1s,mb6.9
POHA ePcP PcP 20 50 23.2 -5.1
POHA eS S 20 57 04.4 +0.5
POHA LR LR
comp=Z,639μm,19.0s,MS7.7
VAH Vaihoa 54.47 103 eP P 20 49 24.8 0.0
comp=Z,311nm,1.2s,mb6.1
KGM Kluang 54.54 279 ⇓P P 20 49 25.1 -0.3
JWK2 Keihoku 55.22 347 eS S 20 56 57.0 -16
KTGM Kuala Trenggan 55.45 282 ⇑P P 20 49 31.9 -0.1
WHN Wuhan 56.38 315 eP P 20 49 37.8 -0.5
WHN AMB AMB
comp=Z,62μm,8.4s
FRIM Kepong 56.45 280 ⇓P P 20 49 38.2 -1.0
YSS Yuzh-Sakhalins 56.60 348⇑eP P 20 49 38.3 -1.2
comp=Z,707nm,0.8s,mb6.8
YSS ePcP PcP 20 50 40.1 +4.2
YSS PP PP 20 52 06.4 +21
YSS eS S 20 57 15.9 -16
YSS LR LR
comp=Z,895μm,20.0s,MS7.9
YSS Yuzh-Sakhalins 56.60 348α iP P 20 49 38.4 -1.1
YSS e 20 50 35.0
YSS i S S 20 57 26.0 -5.5
YSS ePS 20 57 46.0
YSS pmax pmax
comp=Z,890nm,1.2s,mb6.7
YSS pmax pmax
comp=N,400nm,1.0s
YSS pmax pmax
comp=E,300nm,1.0s
YSS MLR MLR
comp=N,770μm,19.0s
YSS MLR MLR
comp=Z,1017μm,19.0s,MS7.9
PPI Padang Panjang 56.95 275 P P 20 49 41.1 -1.7
DL2 Dalian 57.46 328⇑iP P 20 49 45.4 -0.4
DL2 PP PP 20 51 53.3 -0.2
DL2 AMB AMB
comp=Z,930nm,0.9s,mb6.8
DL2 AMB AMB
comp=Z,17μm,9.6s
DL2 LR LR
comp=N,193μm,21.1s,MS7.4
DL2 LR LR
comp=E,217μm,20.1s,MS7.4
DL2 LR LR
comp=Z,421μm,24.3s,MS7.5
KULM Kulim 57.85 282⇓eP P 20 49 47.1 -2.0
KULM eS S 20 57 33.2 -16
KULM Kulim 57.85 282 ⇑P P 20 49 48.8 -0.3
TIA Tai'an 58.13 322 eP P 20 49 49.3 -1.3

TIA			AP	pP	20 49 59.9	+6.2
TIA			S	**S**	**20 57 52.7**	**+0.6**
TIA			LR	LR		
	comp=N,176μm,18.0s,MS7.3					
TIA			LR	LR		
	comp=E,107μm,17.0s,MS7.3					
MDJ	**Mudanjiang**	**58.34 337**	P	**P**	**20 49 51.2**	**-0.6**
MDJ			AP	pP	20 49 54.5	-0.4
MDJ			PCP	PcP	20 50 41.9	-0.9
MDJ			SCP	ScP	20 54 41.0	-2.5
MDJ			PCS	PcS	20 54 42.3	-1.8
MDJ			S	**S**	**20 57 53.5**	**-0.9**
MDJ			SCS	ScS	20 59 41.1	-0.7
MDJ			SS	SS	21 01 46.0	-0.8
MDJ			LR	LR		
	comp=Z,642μm,33.3s,MS7.5					
SNY	**Shenyang**	**58.67 331**	⇑P	**P**	**20 49 53.3**	**-0.9**
SNY			AP	pP	20 49 57.9	+0.6
SNY			XP	sP	20 50 00.2	+1.8
SNY			LR	LR		
	comp=E,407μm,18.6s					
SNY			LR	LR		
	comp=Z,588μm,18.6s,MS7.7					
SKR	**Severo-Kuril's**	**58.89 359**	*e*P	**P**	**20 49 56.0**	**+0.4**
SKR			*i*		20 50 39.0	
SKR			*i* S	**S**	**20 58 07.0**	**+5.6**
SKR			*e*SS	SS	21 01 53.0	-2.3
SKR			pmax	pmax		
	comp=E,18μm,8.0s					
SKR			pmax	pmax		
	comp=N,2μm,1.5s					
SKR			pmax	pmax		
	comp=E,960nm,1.5s					
SKR			pmax	pmax		
	comp=Z,2μm,1.5s,mb6.9					
SKR			MLR	MLR		
	comp=N,570μm,20.0s,MS7.7					
SKR			MLR	MLR		
	comp=Z,706μm,20.0s,MS7.8					
SKR			MLR	MLR		
	comp=E,171μm,18.0s,MS7.7					
PSI	**Prapat**	**59.00 278**	P	**P**	**20 49 55.7**	**-1.4**
	comp=E,33nm,1.2s,baz=115,slow=3.1,SNR=24					
DRV	**Dumont d'Urvil**	**59.29 188**	S	**S**	**20 58 14.0**	**+7.7**
DRV			SS	SS	21 02 12.0	+11
DRV			L		21 05 00.0	
DRV			R		21 09 00.0	
CN2	**Changchun**	**59.36 334**	⇑P	**P**	**20 50 00.4**	**+1.4**
CN2			*e*XP	sP	20 50 07.4	+4.2
TSI	**Tuntungan**	**59.49 279**	P	**P**	**20 49 59.6**	**-0.9**
HABR	**Khabarovsk**	**59.89 343**	⇑*i*P	**P**	**20 50 01.3**	**-1.3**
HABR			*e*		20 52 09.3	
HABR			*e*S	**S**	**20 58 14.0**	**-0.5**
HABR			pmax	pmax		
	comp=Z,889nm,2.0s,mb6.5					
GYA	**Guiyang**	**59.93 307**	⇑*i*P	**P**	**20 50 04.4**	**+1.1**
GYA			AP	pP	20 50 08.6	+2.3
GYA			XP	sP	20 50 11.4	+3.9
GYA			PCP	PcP	20 50 50.6	+1.0
GYA			PP	PP	20 52 19.4	+3.8
GYA			SCP	ScP	20 54 50.8	-0.2
GYA			AMB	AMB		
	comp=Z,300nm,1.0s,mb6.3					
GYA			LR	LR		
	comp=N,471μm,22.0s,MS7.8					
GYA			LR	LR		
	comp=E,582μm,22.0s,MS7.8					
GYA			LR	LR		
	comp=Z,522μm,23.4s,MS7.6					
GSI	**Gunungsitoli**	**60.04 276**	P	**P**	**20 50 03.2**	**-1.1**
NNT	**Nongplab**	**60.64 290**	P	**P**	**20 50 08.5**	**+0.1**
NST	**Nakhon Sawan**	**61.23 293**	P	**P**	**20 50 10.5**	**-1.8**
	comp=Z,975nm,1.0s,mb6.9					
BJT	**Baijiatuau**	**61.24 325**	⇑*e*P	**P**	**20 50 10.5**	**-1.4**
	comp=Z,7μm,1.8s,mb7.5					
BJT			*e*PcP	PcP	20 50 50.0	-4.6
BJT			*e*PP	PP	20 52 23.9	-3.1
BJT			*e*S	**S**	**20 58 29.6**	**-2.4**
BJT			LR	LR		
	comp=Z,1051μm,20.0s,MS8.0					
BJT	**Baijiatuau**	**61.24 325**	⇑*e*P	**P**	**20 50 10.5**	**-1.4**
BJT			*e*		20 50 50.0	
BJT			*e*		20 52 23.9	
BJT			*e*S	**S**	**20 58 29.6**	**-2.4**
BJT			pmax	pmax		
	comp=Z,7μm,1.8s					
BJT			MLR	MLR		
	comp=Z,1051μm,20.0s					
PET	**Petropavlovsk**	**61.24**	1⇑*e*P	**P**	**20 50 11.4**	**-0.2**
	comp=Z,2μm,1.4s,mb7.1					
PET			*e*PcP	PcP	20 50 52.5	-1.7
PET			*e*PP	PP	20 52 24.5	-2.2
PET			ScP	ScP	20 54 49.9	-6.2
PET			*e*S	**S**	**20 58 41.0**	**+9.4**
PET			LR	LR		
	comp=Z,731μm,20.0s,MS7.8					
PET	**Petropavlovsk**	**61.24**	1*c*e*P	**P**	**20 50 13.4**	**+1.7**
PET			*e*		20 50 56.7	
PET			*e*S	**S**	**20 58 32.4**	**+0.8**
PET			*e*PS		20 58 49.8	
PET			pmax	pmax		
	comp=Z,98μm,21.5s					
PET			pmax	pmax		
	comp=Z,552nm,1.4s,mb6.5					
PET			pmax	pmax		
	comp=Z,76μm,11.2s					
BJI	**Beijing**	**61.25 325**	P	**P**	**20 50 11.0**	**-1.0**
BJI			PCP	PcP	20 50 53.6	-1.0
BJI			PP	PP	20 52 25.6	-1.5
BJI			AMB	AMB		
	comp=Z,26μm,10.1s					
BJI			LR	LR		
	comp=N,802μm,19.9s,MS7.9					
BJI			LR	LR		
	comp=E,495μm,20.9s,MS7.9					
BJI			LR	LR		
	comp=Z,1353μm,35.2s					
BJI	**Beijing**	**61.25 325**	P	**P**	**20 50 11.0**	**-1.0**
	comp=Z,30nm,1.7s					
BJI			pP	pP	20 50 14.2	-0.9
BJI			sP	sP	20 50 15.5	-0.7
BJI			PcP	PcP	20 50 53.6	-1.0
BJI			PP	PP	20 52 25.6	-1.5
BJI			S	**S**	**20 58 30.8**	**-1.4**
BJI			SS	SS	21 02 32.2	-0.5
BJI			LR	LR		
	comp=Z,1354μm,35.2s					
KLR	**Kul'dur**	**61.56 341**	*e*P	**P**	**20 50 08.5**	**-5.4**
KLR			pmax	pmax		
	comp=N,340nm,2.2s					
KLR			pmax	pmax		
	comp=E,470nm,2.2s					
KLR			pmax	pmax		
	comp=Z,2μm,2.2s,mb6.8					
TIY	**Taiyuan**	**61.98 321**	⇑*e*P	**P**	**20 50 18.3**	**+1.3**
TIY			PP	PP	20 52 40.4	+6.9
TIY			S	**S**	**20 58 49.7**	**+8.2**
TIY			LR	LR		
	comp=N,459μm,16.4s,MS7.8					
TIY			LR	LR		
	comp=E,98μm,12.6s,MS7.8					
TIY			LR	LR		
	comp=Z,506μm,20.4s					
TAOE	**Nuku Hiva Isla**	**62.04 96**	*e*P	**P**	**20 50 17.9**	**0.0**
	comp=Z,808nm,1.0s,mb6.8					
TAOE			*e*S	**S**	**20 58 42.0**	**-1.2**
	comp=Z,778μm,28.3s					
TAOE			*e*SS	SS	21 02 46.0	0.0
	comp=Z,720μm,29.7s					
TAOE			*e*LQ		21 06 15.1	
	comp=Z,953μm,24.7s					
TAOE			*e*LR	LR	21 08 40.4	
	comp=Z,1347μm,22.6s					
TAOE	**Nuku Hiva Isla**	**62.04 96**	*e*P	**P**	**20 50 17.9**	**0.0**
	comp=Z,808nm,1.0s,mb6.8					
TAOE			*e*S	**S**	**20 58 42.0**	**-1.2**
TAOE			*e*SS	SS	21 02 46.0	0.0
TAOE			*e*LQ		21 06 15.1	
XAN	**Xi'an**	**62.14 316**	P	**P**	**20 50 17.0**	**-1.2**
XAN			AP	pP	20 50 22.5	+1.3
XAN			LR	LR		
	comp=N,287μm,21.3s,MS7.7					
XAN			LR	LR		
	comp=E,438μm,22.4s,MS7.7					
XAN			LR	LR		
	comp=Z,665μm,21.1s,MS7.8					
KMI	**Kunming**	**62.49 304**	P	**P**	**20 50 23.0**	**+2.3**
KMI			AP	pP	20 50 26.7	+2.9
KMI			XP	sP	20 50 28.3	+3.4
KMI			PCP	PcP	20 51 02.2	+2.2
KMI			PP	PP	20 52 42.3	+4.0
KMI			PCS	PcS	20 55 03.6	+0.2
KMI			AMB	AMB		
	comp=Z,938nm,1.7s,mb6.6					
KMI			AMB	AMB		
	comp=Z,66μm,9.7s					
KMI			LR	LR		
	comp=N,329μm,20.5s,MS7.8					
KMI			LR	LR		
	comp=E,587μm,21.7s,MS7.8					
KMI			LR	LR		
	comp=Z,997μm,24.9s,MS7.9					
KMI	**Kunming**	**62.49 304**	P	**P**	**20 50 23.0**	**+2.3**
	comp=Z,938nm,1.7s,mb6.6					
KMI			pP	pP	20 50 26.7	+2.9
KMI			sP	sP	20 50 28.3	+3.4
KMI			PcP	PcP	20 51 02.2	+2.2
KMI			PP	PP	20 52 42.3	+4.0
KMI			PPP		20 54 13.5	
KMI			PcS	PcS	20 55 03.6	+0.2
KMI			S	**S**	**20 58 47.7**	**-0.7**
KMI			PS		20 59 06.2	
KMI			ScS	ScS	21 00 11.2	-2.5
KMI			SS	SS	21 02 53.2	+0.5
KMI			SSS		21 05 35.2	
KMI			LR	LR		
	comp=Z,997μm,24.9s,MS7.9					
SMY	**Shemya**	**62.66**	12⇑*e*P	**P**	**20 50 21.4**	**+0.2**
SMY			*e*PcP	PcP	20 51 03.6	+3.7
SMY			*e*PP	PP	20 52 45.7	+6.5
SMY			*e*ScP	ScP	20 55 12.7	+10
SMY			*e*S	S	20 59 09.8	+20
SMY	**Shemya**	**62.66**	12⇑*e*P	**P**	**20 50 21.4**	**+0.2**
SMY			*e*		20 51 03.6	
SMY			*e*		20 52 45.7	
SMY			*e*S	S	20 59 09.8	+20
BDT	**Bhumibol Dam**	**62.76 294**	P	**P**	**20 50 24.0**	**+1.4**
CHRT	**Chiangrai**	**62.97 297**	⇑PN	**P**	**20 50 25.0**	**+1.1**
BSI	**Banda Aceh**	**63.09 281**	P	**P**	**20 50 23.9**	**-1.0**
CHG	**Chiang Mai**	**63.34 296**	⇑P	**P**	**20 50 25.9**	**-0.5**
	comp=Z,150nm,1.3s,mb6.0					
CHTO	**Chiang Mai**	**63.34 296**	*e*P	**P**	**20 50 27.9**	**+1.5**
	comp=Z,3μm,1.4s,mb7.2					
CHTO			*e*PcP	PcP	20 51 04.5	+1.0
CHTO			*e*PP	PP	20 52 52.8	+6.9
CHTO			*e*S	**S**	**20 59 02.1**	**+2.8**
CHTO			LR	LR		
	comp=Z,517μm,20.0s,MS7.7					
CHTO	**Chiang Mai**	**63.34 296**	*e*P	**P**	**20 50 28.0**	**+1.6**
CHTO			*e*		20 51 04.5	
CHTO			*e*		20 52 52.8	
CHTO			*e*S	**S**	**20 59 02.1**	**+2.8**
CHTO			pmax	pmax		
	comp=Z,3μm,1.4s,mb7.2					
CHTO			MLR	MLR		
	comp=Z,517μm,20.0s,MS7.7					
CHTO	**Chiang Mai**	**63.34 296**	P	**P**	**20 50 26.8**	**+0.4**
	SNR=166					
CHTO	**Chiang Mai**	**63.34 296**	P	**P**	**20 50 26.8**	**+0.4**
	SNR=166					
ADK	**Adak**	**64.20**	18⇑*e*P	**P**	**20 50 30.6**	**-0.9**
	comp=Z,2μm,1.1s,mb7.1					
ADK			*e*PcP	PcP	20 51 07.3	+1.0
ADK			*e*S	**S**	**20 59 09.3**	**+0.6**
ADK			LR	LR		
	comp=Z,914μm,20.0s,MS8.0					
ADK	**Adak**	**64.20**	18⇑*e*P	**P**	**20 50 30.6**	**-0.8**
ADK			*e*		20 51 07.3	
ADK			*e*S	**S**	**20 59 09.3**	**+0.6**
ADK			pmax	pmax		
	comp=Z,2μm,1.1s,mb7.1					
ADK			MLR	MLR		
	comp=Z,914μm,20.0s,MS8.0					
CD2	**Chengdu**	**64.28 310**	P	**P**	**20 50 34.5**	**+2.1**
CD2			XP	sP	20 50 41.2	+4.5
CD2			PCP	PcP	20 51 08.6	+1.5
CD2			PP	PP	20 52 58.0	+4.0
CD2			PCS		20 55 11.3	
CD2			AMB	AMB		
	comp=Z,1μm,0.8s,mb7.1					
CD2			AMB	AMB		
	comp=Z,141μm,9.6s					
CD2			LR	LR		
	comp=E,689μm,24.0s					
CD2			LR	LR		
	comp=Z,832μm,21.5s,MS7.9					
HHC	**Hu-ho-hao-te**	**64.45 323**	*e*P	**P**	**20 50 34.7**	**+1.4**
HHC			AP	pP	20 50 38.8	+2.4
HHC			XP	sP	20 50 41.8	+4.3
HHC			PP	PP	20 52 57.9	+2.6
HHC			SCP		20 55 07.3	
HHC			PCS		20 55 11.5	
HHC			AMB	AMB		
	comp=Z,116nm,1.3s,mb5.8					
HHC			AMB	AMB		
	comp=Z,29μm,12.7s					
HHC			LR	LR		
	comp=N,364μm,18.4s,MS7.8					
HHC			LR	LR		
	comp=E,401μm,19.6s,MS7.8					
HHC			LR	LR		
	comp=Z,597μm,21.5s,MS7.8					
BTO	**Baotou**	**65.23 322**	*e*P	**P**	**20 50 37.9**	**-0.5**
BTO			S	S	20 59 17.8	-4.1
CASY	**Casey**	**65.86 199**	*e*P	**P**	**20 50 46.7**	**+4.6**
CASY			*i* S	S	20 59 36.8	+8.0
CASY	**Casey**	**65.86 199**	⇑*e*P	**P**	**20 50 47.3**	**+5.2**
	comp=Z,2μm,1.6s,mb6.9					
CASY			*e*PcP	PcP	20 51 13.5	+0.6
CASY			PP	PP	20 53 18.1	+11
CASY			*e*S	S	20 59 28.6	-0.3
CASY			*i* S	S	20 59 36.8	+8.0
CASY			LR	LR		
	comp=Z,890μm,20.0s,MS8.0					
HIA	**Hailar**	**66.09 334**	PFAKE		20 50 50.0	+6.3
HIA			LR	LR		
	comp=Z,669μm,20.0s,MS7.8					
RKT	**Rikitea**	**66.54 111**	*e*P	**P**	**20 50 46.5**	**-0.8**
	comp=Z,657nm,1.3s,mb6.5					
RKT			*e*S	S	20 59 38.5	-0.1
	comp=Z,395μm,41.0s					
RKT			*e*S	S	20 59 38.5	-0.1
	comp=Z,157μm,40.5s					
RKT			*e*LQ		21 07 47.6	
	comp=Z,717μm,33.0s					
RKT			*e*LR	LR	21 10 47.4	
	comp=Z,860μm,37.8s					
RKT	**Rikitea**	**66.54 111**	*e*P	**P**	**20 50 46.5**	**-0.8**
	comp=Z,657nm,1.3s,mb6.5					
RKT			*e*S	S	20 59 38.5	-0.1
RKT			*e*LQ		21 07 47.6	
RKT	**Rikitea**	**66.54 111**	*e*P	**P**	**20 50 46.5**	**-0.8**
RKT			*e*S	S	20 59 38.5	-0.1
RKT			pmax	pmax		
	comp=Z,657nm,1.3s,mb6.5					
LZH	**Lanzhou**	**66.76 315**	⇑P	**P**	**20 50 49.3**	**+1.0**
LZH			AP	pP	20 50 53.4	+2.0
LZH			XP	sP	20 50 56.4	+3.8
LZH			PP	PP	20 53 18.7	+3.1
LZH			AMB	AMB		
	comp=Z,4μm,1.8s,mb7.1					
LZH			AMB	AMB		
	comp=Z,24μm,7.9s					
LZH			LR	LR		
	comp=E,384μm,15.6s					
LZH			LR	LR		
	comp=Z,562μm,16.6s,MS7.9					
LZH	**Lanzhou**	**66.76 315**	⇑P	**P**	**20 50 49.3**	**+1.0**
	comp=Z,4μm,1.8s,mb7.1					
LZH			pP	pP	20 50 53.4	+2.0
LZH			sP	sP	20 50 56.4	+3.8
LZH			PP	PP	20 53 18.7	+3.1
LZH			PPP		20 54 55.0	
LZH			S	S	20 59 39.9	-0.8
LZH			sS	sS	20 59 47.5	+1.7
LZH			SS	SS	21 04 02.0	+3.1
LZH			LR	LR		
	comp=Z,562μm,16.6s,MS7.9					
PBA	**Port Blair**	**66.97 286**	*e*P	**P**	**20 50 48.1**	**-2.0**
PBA			AMb	AMB	20 51 46.6	
	comp=Z,923nm,1.7s,mb6.5					
MA2	**Magadan**	**67.98 357**	⇑*e*P	**P**	**20 50 53.8**	**-1.8**
MA2	**Magadan**	**67.98 357**	*c*e*P	**P**	**20 50 53.7**	**-1.9**
MA2			*e*		20 51 16.2	
MA2			*e*S	S	20 59 48.7	-5.8
MA2			*e*		21 04 07.4	
MA2			pmax	pmax		
	comp=N,200nm,1.2s					
MA2			pmax	pmax		
	comp=Z,400nm,1.2s,mb6.3					
MA2			MLR	MLR		
	comp=Z,485μm,17.7s,MS7.8					
VNDA	**Vanda**	**69.09 179**	P	**P**	**20 51 02.5**	**+0.1**
	comp=Z,16nm,0.9s,baz=339,slow=6.6,SNR=30					
VNDA			PKP2ab		21 19 16.1	
	comp=Z,6.5nm,1.1s,baz=133,slow=3.4,SNR=3.9					
UNV	**Unalaska Valle**	**69.28 22**	⇑*e*P	**P**	**20 51 02.2**	**-1.5**
	comp=Z,1μm,1.4s,mb6.7					
UNV			*e*PcP	PcP	20 51 25.8	-1.6
UNV			PP	PP	20 53 29.1	-8.0
UNV			LR	LR		
	comp=Z,1506μm,21.0s,MS8.2					
SBA	**Scott Base**	**69.56 178**	⇑*e*P	**P**	**20 51 04.7**	**-0.6**
	comp=Z,104nm,1.4s					
SBA			*e*PcP	PcP	20 51 29.6	+1.3
SBA			PP	PP	20 53 39.3	+0.4
SBA			LR	LR		
	comp=Z,343μm,21.0s,MS7.6					
SBA	**Scott Base**	**69.56 178**	⇑*e*P	**P**	**20 51 04.7**	**-0.6**
SBA			*e*		20 51 29.7	
SBA			pmax	pmax		
	comp=Z,104nm,1.4s					
SBA			MLR	MLR		
	comp=Z,343μm,21.0s,MS7.6					
IMP	**Imphal**	**69.75 300**	*i* P	**P**	**20 51 09.0**	**+1.6**
AKUT	**Akutan**	**69.77 22**	⇑*e*P	**P**	**20 51 06.2**	**-0.6**
	comp=Z,3μm,1.3s,mb7.0					
AKUT			PcP	PcP	20 51 29.0	-0.5
AKUT			*e*PP	PP	20 53 43.3	+1.9
AKUT			*e*S	S	21 00 24.9	+8.9
NRGR	**Nerungri**	**70.12 342**	*e*P	**P**	**20 51 09.8**	**+0.9**
NRGR			S	S	21 00 31.5	+12
CLNS	**Chul'man**	**70.21 342**	*e*P	**P**	**20 51 09.8**	**+0.3**
CLNS			*e*PP	pP	20 51 18.0	+5.4
CLNS			*e*		20 51 32.5	
CLNS			*e*		20 53 41.4	
CLNS			*e*		20 55 28.8	
CLNS			*e*S	S	21 00 15.8	-5.2
CLNS			*e*SS	SS	21 04 42.7	-8.8
CLNS			pmax	pmax		
	comp=Z,476nm,1.1s,mb6.3					
CLNS			pmax	pmax		
	comp=N,244nm,1.5s					
CLNS			pmax	pmax		
	comp=E,72nm,1.3s					
CLNS			pmax	pmax		
	comp=Z,274nm,1.0s,mb6.1					
CLNS			pmax	pmax		
	comp=N,275nm,1.4s					
CLNS			pmax	pmax		
	comp=E,568nm,1.3s					
CLNS			smax			
	comp=E,80μm,13.5s					
CLNS			smax			
	comp=Z,43μm,12.6s					
CLNS			smax			
	comp=N,25μm,14.0s					
CLNS			MLR	MLR		
	comp=Z,434μm,18.0s,MS7.8					
CLNS			MLR	MLR		
	comp=N,325μm,17.0s,MS7.7					
CLNS			MLR	MLR		
	comp=E,209μm,20.0s,MS7.7					
CIT	**Chita**	**70.80 333**	*e*P	**P**	**20 51 13.5**	**+0.3**
CIT			*e*		20 51 24.3	
CIT			*e*		20 51 35.2	
CIT			*e*		20 55 32.5	
PTCN	**Pitcairn Islan**	**71.00 114**	*e*P	**P**	**20 51 12.1**	**-3.0**
	comp=E,621nm,1.1s,mb6.5					
PTCN			PcP	PcP	20 51 38.2	+2.8
PTCN			PP	PP	20 54 04.7	+12
PTCN			LR	LR		
	comp=Z,159μm,20.0s,MS7.3					
GTA	**Gaotai**	**71.17 317**	P	**P**	**20 51 15.8**	**+0.1**
GTA			AP	pP	20 51 19.4	+0.6
GTA			XP	sP	20 51 21.1	+1.1
GTA			PCP	PcP	20 51 35.4	-0.4
GTA			PP	PP	20 53 56.7	+3.0
GTA			AMB	AMB		
	comp=Z,11μm,3.1s					
GTA			LR	LR		
	comp=N,264μm,22.1s,MS7.7					
GTA			LR	LR		
	comp=E,335μm,22.1s,MS7.7					
GTA			LR	LR		
	comp=Z,444μm,22.1s,MS7.7					
FALS	**False Pass**	**71.22 23**	⇑*e*P	**P**	**20 51 13.7**	**-1.9**
	comp=Z,2μm,1.2s,mb6.9					
FALS			*e*PcP	PcP	20 51 36.1	+0.5
FALS			*e*PP	PP	20 53 48.7	-5.1
SEY	**Seymchan**	**71.26 358**	⇑*e*P	**P**	**20 51 14.4**	**-1.3**
SEY	**Seymchan**	**71.26 358**	⇑*e*P	**P**	**20 51 14.3**	**-1.4**
SONM	**Songino Array**	**71.64 327**	P	**P**	**20 51 18.6**	**+0.2**
	comp=Z,23nm,0.8s,baz=141,slow=5.4,SNR=64					
SONM			LR	LR	21 21 00.0	
	comp=Z,344μm,21.9s,baz=127,slow=34					
SHL	**Shillong**	**71.76 300**	*e*P	**P**	**20 51 19.2**	**-0.4**
SHL			AMb	AMB	20 51 43.0	
	comp=Z,8μm,1.3s,mb7.5					
MIR	**Mirnyy**	**72.11 202**	*α i*P	**P**	**20 51 26.0**	**+5.1**
MIR			pmax	pmax		
	comp=Z,7μm,2.5s,mb7.2					
SDPT	**Sand Point**	**72.73 24**	*e*P	**P**	**20 51 22.5**	**-2.2**
	comp=Z,343nm,1.6s,mb6.0					
SDPT			LR	LR		
	comp=Z,396μm,18.0s,MS7.7					
YAK	**Yakutsk**	**73.41 347**	⇑*e*P	**P**	**20 51 27.7**	**-0.9**
YAK	**Yakutsk**	**73.41 347**	*c i*P	**P**	**20 51 28.2**	**-0.4**
YAK			*e*PP	pP	20 51 52.5	+21
YAK			*i* S	S	21 00 58.5	+0.9
YAK			*e*SS	sS	21 01 40.4	+38
YAK			pmax	pmax		
	comp=Z,489nm,0.9s,mb6.4					
YAK			pmax	pmax		
	comp=N,183nm,1.6s					
YAK			pmax	pmax		
	comp=E,128nm,1.9s					
YAK			smax			
	comp=N,20μm,5.7s					
YAK			smax			
	comp=Z,9μm,6.3s					
YAK			smax			
	comp=E,32μm,8.3s					
LSA	**Lhasa**	**73.75 304**	P	**P**	**20 51 34.6**	**+3.3**
LSA			S	S	21 01 01.3	-1.5
LSA			AMB	AMB		
	comp=Z,900nm,1.5s,mb6.5					
LSA			AMB	AMB		
	comp=Z,22μm,9.0s					
LSA			LR	LR		
	comp=N,400μm,33.0s,MS7.7					
LSA			LR	LR		
	comp=E,600μm,33.0s,MS7.7					
LSA			LR	LR		
	comp=Z,700μm,40.0s					
LSA	**Lhasa**	**73.75 304**	⇑*e*P	**P**	**20 51 32.3**	**+0.9**
	comp=Z,2μm,5.9s					
LSA			PcP	PcP	20 51 49.8	+2.8
LSA			PP	PP	20 54 02.0	-14
LSA			LR	LR		
	comp=Z,592μm,22.0s,MS7.8					
LSA	**Lhasa**	**73.75 304**	⇑*e*P	**P**	**20 51 32.3**	**+1.0**
LSA					20 51 49.8	
LSA			MLR	MLR		
	comp=Z,592μm,22.0s,MS7.8					
BOD	**Bodaibo**	**74.70 338**	⇓*i*P	**P**	**20 51 34.6**	**-1.7**
BOD			pmax	pmax		
	comp=Z,338nm,1.4s,mb6.1					
ZAK	**Zakamensk**	**74.78 328**	*e*P	**P**	**20 51 36.4**	**-0.5**
ZAK			pmax	pmax		
	comp=Z,980nm,1.3s,mb6.6					
SLGI	**Shiliguri**	**75.08 300**	*ex*	PcP	20 51 52.4	-0.4
TLY	**Talaya**	**75.33 329**	⇑*e*P	**P**	**20 51 39.5**	**-0.5**

TLY	**Talaya**	**75.33**	**329**	*c i*P	**P**	**20 51 39.4**	**-0.6**
TLY				*e*S	S	21 01 22.4	+2.8
TLY				*e*		21 01 46.7	
TLY				*e*PS		21 01 59.0	
TLY				*e*PPS		21 02 10.2	
TLY				*e*		21 05 59.0	
TLY				pmax	pmax		
	comp=Z,1μm,1.4s,mb6.7						
TLY				MLR	MLR		
	comp=Z,364μm,18.0s,MS7.7						
TLY	**Talaya**	**75.33**	**329**	P	**P**	**20 51 40.0**	**-0.1**
	SNR=161						
TLY	**Talaya**	**75.33**	**329**	P	**P**	**20 51 40.0**	**-0.1**
	SNR=161						
IRK	**Irkutsk**	**75.34**	**330**	*e*P	**P**	**20 51 40.4**	**+0.3**
IRK				*e*		21 01 45.3	
IRK				pmax	pmax		
	comp=Z,4μm,2.6s,mb6.9						
BWNR	**Bhubaneshwar**	**75.60**	**293**	*ex*	x	20 51 25.0	
GAMB	**Gambell**	**75.82**	**14⇑**	*e*P	**P**	**20 51 41.1**	**-1.5**
	comp=Z,1μm,0.8s,mb6.8						
BOK	**Bokaro**	**76.44**	**297**	*e*P	**P**	**20 51 48.4**	**+1.4**
BILL	**Bilibino**	**76.58**	**4⇑**	*i*P	**P**	**20 51 46.2**	**-0.6**
BILL	**Bilibino**	**76.58**	**4α**	*i*P	**P**	**20 51 46.1**	**-0.7**
BILL				*i*		20 51 56.5	
BILL				*i* PPP		20 56 31.5	
BILL				*i* S	S	21 01 30.1	-2.7
BILL				PS		21 02 22.0	
BILL				pmax	pmax		
	comp=Z,300nm,1.3s,mb6.1						
BILL				pmax	pmax		
	comp=Z,348nm,1.7s,mb6.0						
BILL				MLR	MLR		
	comp=Z,270μm,18.0s,MS7.6						
MOY	**Mondy**	**76.70**	**328**	*e*P	**P**	**20 51 48.1**	**+0.3**
MOY				pmax	pmax		
	comp=Z,7μm,2.8s,mb7.1						
VIS	**Vishakhapatnam**	**77.26**	**290**	*e*P	**P**	**20 51 51.8**	**+0.1**
VIS				AMb	AMB	20 52 07.1	
	comp=Z,704nm,1.7s,mb6.3						
VIS				*i* x	x	21 01 48.4	
KDAK	**Kodiak Island**	**77.60**	**25**	P	**P**	**20 51 51.7**	**-1.1**
KDAK				LR	LR	21 22 46.7	
KDAK	**Kodiak Island**	**77.60**	**25**	P	**P**	**20 51 51.7**	**-1.1**
	comp=Z,41nm,0.8s,baz=145,slow=4.2,SNR=16						
KDAK				LR	LR	21 22 46.7	
	comp=Z,409μm,20.6s,MS7.7,baz=92,slow=33						
PALK	**Pallekele**	**77.66**	**279⇓**	*e*P	**P**	**20 51 53.5**	**-0.6**
	comp=Z,4μm,1.8s,mb7.0						
PALK				PcP	PcP	20 52 04.2	0.0
PALK				*e*S	S	21 01 49.8	+3.1
PALK				LR	LR		
	comp=Z,675μm,21.0s,MS7.9						
PALK	**Pallekele**	**77.66**	**279**	P	**P**	**20 51 55.7**	**+1.6**
	SNR=104						
TNA	**Tin City**	**78.21**	**14⇑**	*e*P	**P**	**20 51 54.9**	**-1.1**
	comp=Z,2μm,1.5s,mb6.9						
TNA				PP	PP	20 54 30.3	-23
TNA				*e*S	S	21 01 50.2	-0.3
TNA				LR	LR		
	comp=Z,399μm,20.0s,MS7.7						
SVW2	**Sparrevohn**	**78.59**	**21⇑**	*i*P	**P**	**20 51 57.7**	**-0.5**
SVW2				*e*		20 52 08.9	
SVW2				*e*PP	PP	20 54 54.5	-1.6
MDRS	**Chennai**	**79.18**	**285**	*e*P	**P**	**20 52 02.6**	**+0.2**
MDRS				AMb	AMB	20 52 19.5	
	comp=Z,757nm,1.5s,mb6.4						
BLSP	**Bilaspur**	**79.37**	**294**	*e*P	**P**	**20 52 04.3**	**+1.0**
BLSP				AMb	AMB	20 52 19.4	
	comp=Z,829nm,1.3s,mb6.5						
TTA	**Tatalina**	**79.68**	**20⇑**	*i*P	**P**	**20 52 03.3**	**-0.8**
	comp=Z,3μm,1.6s,mb6.9						
TTA				*e*PP	PP	20 55 14.3	+9.2
TTA	**Tatalina**	**79.68**	**20⇑**	*i*P	**P**	**20 52 03.3**	**-0.8**
TTA				pmax	pmax		
	comp=Z,3μm,1.6s,mb6.9						
SLKM	**Skilak Lake**	**80.24**	**24⇑**	*e*P	**P**	**20 52 06.0**	**-1.1**
SLKM				PP	PP	20 55 08.9	-1.0
ALBI	**Allahabad**	**80.42**	**297**	*ex*	x	20 52 31.5	
WMQ	**Urumqi**	**81.25**	**317**	P	**P**	**20 52 13.1**	**+0.1**
WMQ				AP	pP	20 52 18.0	+1.8
WMQ				XP	sP	20 52 20.5	+3.2
WMQ				PP	PP	20 55 23.0	+4.3
WMQ				AMB	AMB		
	comp=Z,2μm,1.1s,mb6.9						
WMQ				AMB	AMB		
	comp=Z,57μm,5.6s						
WMQ				LR	LR		
	comp=N,381μm,25.6s,MS7.8						
WMQ				LR	LR		
	comp=E,360μm,20.7s,MS7.8						
WMQ				LR	LR		
	comp=Z,418μm,28.4s						
PMR	**Palmer**	**81.32**	**23**	*e*P	**P**	**20 52 11.1**	**-1.8**
	comp=Z,292nm,1.4s,mb6.0						
PMR				LR	LR		
	comp=Z,416μm,19.0s,MS7.8						
PMR	**Palmer**	**81.32**	**23**	*e*P	**P**	**20 52 11.1**	**-1.8**
PMR				pmax	pmax		
	comp=Z,292nm,1.4s,mb6.0						
PMR				MLR	MLR		
	comp=Z,416μm,19.0s,MS7.8						
KOD	**Kodaikanal**	**81.33**	**282**	*ex*	x	20 52 18.6	
KOD				AMb	AMB	20 52 40.4	
	comp=Z,1μm,0.8s,mb6.8						
TRD	**Trivandrum**	**81.53**	**280**	*e*P	**P**	**20 52 16.0**	**+0.9**
TRD				AMb	AMB	20 52 33.3	
	comp=Z,918nm,1.6s,mb6.5						
QSPA	**South Pole Qui**	**81.54**	**180**	P	**P**	**20 52 14.2**	**+0.2**
	comp=Z,55nm,1.0s,baz=356,slow=2.4,SNR=29						
JBP	**Jabalpur**	**81.54**	**295⇓**	*i*P	**P**	**20 52 14.9**	**-0.1**
JBP				*ex*	x	21 02 31.8	
HYB	**Hyderabad**	**81.64**	**289**	*e*P	**P**	**20 52 15.0**	**-0.6**
HYB				*e*S	S	21 02 26.0	-2.7
HYB	**Hyderabad**	**81.64**	**289**	*i* P	**P**	**20 52 16.0**	**+0.4**
	comp=Z,810nm,1.0s,mb6.6						
HYB				*e*S	S	21 02 27.0	-1.7
HYB				LR	LR	21 28 08.0	
	comp=Z,300nm,19.0s						
SML	**Sawmill**	**81.75**	**23⇑**	*e*P	**P**	**20 52 13.3**	**-1.9**
NGP	**Nagpur**	**81.95**	**293**	*e*P	**P**	**20 52 17.3**	**+0.1**
NGP				*i* P	pP	20 52 18.2	-2.1
NGP				AMb	AMB	20 52 30.8	
	comp=Z,1μm,1.2s,mb6.6						
NGP				*ex*	x	21 02 34.0	
TIXI	**Tiksi**	**82.08**	**351⇑**	*e*P	**P**	**20 52 14.7**	**-2.1**
TIXI	**Tiksi**	**82.08**	**351**	*c i*P	**P**	**20 52 14.2**	**-2.6**
TIXI				*e*S	S	21 02 31.2	+0.1
TIXI				*e*SS	SS	21 07 43.8	-6.7
TIXI				pmax	pmax		
	comp=Z,1μm,1.5s,mb6.7						
TIXI				pmax	pmax		
	comp=N,543nm,1.5s						
TIXI				pmax	pmax		
	comp=E,589nm,1.6s						
TIXI				smax			
	comp=N,137μm,21.4s						
TIXI				smax			
	comp=E,330μm,23.4s						
TIXI				MLR	MLR		
	comp=Z,449μm,18.0s,MS7.9						
TIXI				MLR	MLR		
	comp=N,240μm,18.0s,MS7.8						
TIXI				MLR	MLR		
	comp=E,273μm,19.0s,MS7.8						
EYAK	**Cordova Ski Ar**	**82.08**	**25⇑**	*e*P	**P**	**20 52 15.7**	**-1.3**
	comp=E,4μm,2.0s,mb7.0						
EYAK				*e*PP	PP	20 55 22.3	-2.8
EYAK				*e*S	S	21 02 32.1	+0.7
IMA2	**Indian Mountai**	**82.53**	**18⇑**	*i*P	**P**	**20 52 18.3**	**-0.9**
IMA2				*e*PP	PP	20 55 30.6	+1.9
MCK	**McKinley**	**82.66**	**21⇑**	*e*P	**P**	**20 52 17.9**	**-2.0**
	comp=E,2μm,1.1s,mb7.1						
MCK				*e*PP	PP	20 55 24.4	-5.3
MCK				*e*S	S	21 02 52.1	+15
MCK				LR	LR		
	comp=Z,327μm,20.0s,MS7.7						
MCK	**McKinley**	**82.66**	**21⇑**	*e*P	**P**	**20 52 17.9**	**-2.0**
MCK				*e*		20 55 24.4	
MCK				pmax	pmax		
	comp=Z,2μm,1.1s,mb7.1						
MCK				MLR	MLR		
	comp=Z,327μm,20.0s,MS7.7						
LGTI	**Lohaghat**	**82.77**	**301**	*e*P	**P**	**20 52 23.5**	**+2.2**
PTH	**Pithoragarh**	**82.81**	**301**	*e*P	**P**	**20 52 21.9**	**+0.4**
PTH				*ex*	x	21 02 48.8	
LATR	**Latur**	**83.70**	**290**	*ex*	x	20 53 06.3	
LATR				AMb	AMB	20 53 20.8	
	comp=Z,1μm,1.5s,mb6.8						
COLA	**College**	**83.71**	**21⇑**	*i*P	**P**	**20 52 23.5**	**-1.8**
COLA	**College**	**83.71**	**21**	P	**P**	**20 52 22.6**	**-2.7**
COLA				pmax	pmax		
	comp=Z,1μm,1.2s,mb6.9						
COLA				MLR	MLR		
	comp=Z,500μm,20.0s,MS7.9						
AKL	**Akola**	**83.72**	**292**	*e*P	**P**	**20 52 27.8**	**+1.4**
AKL				*ex*	x	20 52 56.9	
	comp=Z,2μm,1.6s						
AKL				*i x*	x	21 02 50.8	
MAW	**Mawson**	**83.84**	**203**	*i* S	S	21 02 53.1	+3.8
MAW	**Mawson**	**83.84**	**203**	*e*P	**P**	**20 52 25.6**	**-0.5**
	comp=Z,95nm,0.8s,mb6.0						
MAW				*i* S	S	21 02 53.1	+3.8
MAW	**Mawson**	**83.84**	**203**	*e*P	**P**	**20 52 25.6**	**-0.5**
MAW				*i* S	S	21 02 53.1	+3.8
MAW				pmax	pmax		
	comp=Z,95nm,0.8s						
MAW	**Mawson**	**83.84**	**203**	P	**P**	**20 52 26.4**	**+0.3**
	comp=Z,74nm,1.1s,baz=100,slow=6.5,SNR=13						
BHPL	**Bhopal**	**83.86**	**295**	*e*P	**P**	**20 52 26.5**	**-0.5**
BHPL				AMb	AMB	20 52 41.2	
	comp=Z,548nm,1.7s,mb6.4						
MNGI	**Mangalore**	**84.36**	**284**	*i* P	**P**	**20 52 30.9**	**+1.2**
MNGI				AMb	AMB	20 52 47.3	
	comp=Z,952nm,1.2s,mb6.8						
MNGI				*i x*	x	21 03 02.6	
DDI	**Dehra Dun**	**84.82**	**302**	*e*P	**P**	**20 52 33.0**	**+1.2**
DDI				*ex*	x	20 59 57.5	
NDI	**New Delhi**	**85.17**	**300**	*e*P	**P**	**20 52 31.0**	**-2.6**
NDI				*ex*	x	20 59 50.0	
SIT	**Sitka**	**85.22**	**30**	*e*P	**P**	**20 52 32.7**	**-0.5**
	comp=Z,197nm,1.3s,mb6.1						
SIT				LR	LR		
	comp=Z,471μm,19.0s,MS7.9						
SIT	**Sitka**	**85.22**	**30**	*e*P	**P**	**20 52 32.7**	**-0.5**
SIT				pmax	pmax		
	comp=Z,197nm,1.3s,mb6.1						
SIT				MLR	MLR		
	comp=Z,471μm,19.0s,MS7.9						
KAD	**Karad**	**85.72**	**288**	*e*P	**P**	**20 52 37.0**	**+0.4**
KAD				AMb	AMB	20 52 52.5	
	comp=Z,1μm,1.3s,mb6.9						
GOA	**Goa**	**85.75**	**286**	*ex*	x	20 52 40.6	
GOA				AMb	AMB	20 53 12.2	
	comp=Z,2μm,2.0s,mb7.0						
CRAG	**Craig**	**85.75**	**32⇑**	*e*P	**P**	**20 52 35.2**	**-0.6**
	comp=Z,2μm,1.7s,mb7.0						
CRAG				*e*PP	PP	20 55 57.7	+2.5
CRAG				S	S	21 03 08.8	+0.2
MKAR	**Makanchi Array**	**85.82**	**318**	P	**P**	**20 52 36.2**	**-0.1**
	comp=Z,58nm,0.8s,mb5.9,baz=84,slow=6.2,SNR=144						
SDNR	**Sundarnagar**	**85.98**	**302**	*e*P	**P**	**20 52 37.5**	**-0.1**
EGAK	**Eagle**	**86.08**	**22⇑**	*e*P	**P**	**20 52 36.3**	**-1.0**
	comp=Z,2μm,0.9s,mb7.3						
EGAK				*e*PP	PP	20 55 44.6	-13
EGAK				*e*S	S	21 03 20.3	+8.9
EGAK				LR	LR		
	comp=Z,511μm,20.0s,MS7.9						
SKAG	**Skagway**	**86.18**	**28⇑**	*i*P	**P**	**20 52 37.2**	**-0.6**
	comp=Z,5μm,1.9s,mb7.4						
SKAG				*e*PcP	PcP	20 52 40.9	+0.5
SKAG				*e*PP	PP	20 56 08.6	+10
SKAG				S	S	21 03 21.5	+8.9
POO	**Poona**	**86.25**	**289**	*e*P	**P**	**20 52 39.5**	**+0.3**
POO				*e*PCP	PcP	20 52 44.0	+2.3
POO				AMb	AMB	20 52 54.9	
	comp=Z,874nm,1.1s,mb6.9						
DAWY	**Dawson**	**86.42**	**23⇑**	*i*P	**P**	**20 52 38.5**	**-0.4**
DAWY				PcP	PcP	20 52 42.5	+1.0
DAWY				*e*PP	PP	20 55 47.4	-13
BHK	**Bhakra**	**86.43**	**302**	*e*P	**P**	**20 52 41.2**	**+1.4**
BHK				*ex*	x	21 00 06.8	
WRAK	**Wrangell Islan**	**86.50**	**32⇑**	*i*P	**P**	**20 52 38.9**	**-0.6**
	comp=Z,6μm,2.0s,mb7.5						
WRAK				*e*PP	PP	20 55 57.5	-3.8
WRAK				*e*S	S	21 03 18.1	+2.2
WRAK				LR	LR		
	comp=Z,379μm,20.0s,MS7.8						
ZALV	**Zalesovo Beam**	**86.50**	**326**	P	**P**	**20 52 37.8**	**-1.8**
ZALV				⇑*e*		21 18 14.3	
ZALV				LR	LR	21 32 47.7	
ZALV	**Zalesovo Beam**	**86.50**	**326**	P	**P**	**20 52 37.8**	**-1.8**
	comp=Z,14nm,0.7s,baz=108,slow=4.8,SNR=64						
ZALV				PKP2bc		21 18 14.3	
	comp=Z,4.8nm,0.7s,baz=259,slow=1.0,SNR=5.2						
ZALV				LR	LR	21 32 47.7	
	comp=Z,320μm,20.9s,MS7.7,baz=110,slow=37						
ZAL	**Zalesovo**	**86.51**	**326**	P	**P**	**20 52 37.8**	**-1.8**
AJM	**Ajmer**	**86.97**	**297**	*e*P	**P**	**20 52 42.8**	**+0.2**
AJM				AMb	AMB	20 53 00.9	
	comp=Z,2μm,2.0s,mb6.9						
DLH	**Dalhousie**	**87.03**	**303**	*e*P	**P**	**20 52 44.0**	**+1.3**
O01C	**Eel River Cons**	**87.19**	**49**	⇓P	**P**	**20 52 43.2**	**-0.1**
	baz=87						
THN	**Thein Dam**	**87.22**	**303**	*e*P	**P**	**20 52 42.0**	**-1.6**
THN				*ex*	x	21 00 10.9	
KCPM	**Cahto Peak**	**87.26**	**49⇑**	*e*P	**P**	**20 52 44.0**	**+0.4**
KCPM				PP	PP	20 56 01.5	-6.4
BOM	**Bombay**	**87.28**	**289**	*i x*	x	20 52 55.6	
BOM				*ex*	x	20 53 15.1	
	comp=Z,1μm,1.6s						
BOM				*i x*	x	21 03 10.8	
M01C	**Crescent City**	**87.37**	**47**	⇓P	**P**	**20 52 45.9**	**+1.8**
	baz=88						
KIPM	**Iron Peak**	**87.37**	**49**	*e*P	**P**	**20 52 42.4**	**-1.8**
KIPM				*e*PcP	PcP	20 52 47.2	+1.0
KIPM				PP	PP	20 56 10.4	+1.7
KBO	**Bosley Butte**	**87.38**	**47⇑**	*e*P	**P**	**20 52 44.9**	**+0.7**
KBO				PP	PP	20 55 54.5	-14
P01C	**Double 8 Ranch**	**87.40**	**50**	⇑P	**P**	**20 52 44.0**	**-0.4**
	baz=88						
KRMB	**Red Mountain**	**87.45**	**48⇑**	*i*P	**P**	**20 52 44.7**	**+0.2**
KRMB				*e*PP	PP	20 56 15.1	+5.8
MCCM	**Marconi Confer**	**87.45**	**51⇑**	*i*P	**P**	**20 52 44.3**	**-0.3**
	comp=Z,7μm,2.5s,mb7.5						
MCCM				*e*PP	PP	20 56 04.9	-4.6
MCCM				*e*S	S	21 03 35.2	+9.3
MCCM				LR	LR		
	comp=Z,325μm,22.0s,MS7.7						
KEBM	**Edson Butte**	**87.46**	**46⇑**	*e*P	**P**	**20 52 44.2**	**-0.4**
KEBM				PP	PP	20 56 26.3	+17
BBB	**Bella Bella**	**87.47**	**37**	P	**P**	**20 52 47.3**	**+3.0**
	comp=Z,23nm,0.9s,baz=252,slow=10.0,SNR=3.2						
HOPS	**Hopland**	**87.49**	**50⇑**	*i*P	**P**	**20 52 43.3**	**-1.5**
	comp=Z,741nm,1.4s,mb6.7						
HOPS				*e*PP	PP	20 56 22.4	+13
HOPS				*e*S	S	21 03 28.4	+2.1
HOPS				LR	LR		
	comp=Z,283μm,22.0s,MS7.6						
HOPS	**Hopland**	**87.49**	**50**	⇑P	**P**	**20 52 45.2**	**+0.4**
	baz=88						
NVS	**Novosibirsk**	**87.67**	**326**	*i* P	**P**	**20 52 44.6**	**-0.6**
NVS				*i* S	S	21 03 22.8	-4.4
NVS				pmax	pmax		
	comp=N,2μm,1.8s						
NVS				pmax	pmax		
	comp=Z,5μm,1.8s,mb7.4						
NVS				pmax	pmax		
	comp=E,3μm,1.6s						
NVS				smax			
	comp=N,966nm,2.0s						
NVS				smax			
	comp=E,1μm,2.1s						
N02C	**Big Bar**	**87.73**	**48**	⇑P	**P**	**20 52 45.7**	**-0.1**
	baz=88,SNR=13						
NSHM	**Saint Helena R**	**87.74**	**51**	*e*P	**P**	**20 52 45.8**	**-0.2**
BNLO	**Ben Lomond (Sa**	**87.78**	**52**	⇓P	**P**	**20 52 46.5**	**+0.2**
	baz=88,SNR=10						
JRSC	**Jasper Ridge**	**87.79**	**52**	⇓P	**P**	**20 52 46.4**	**+0.1**
	baz=88						
CVS	**Carmenet Viney**	**87.82**	**51**	⇓P	**P**	**20 52 46.9**	**+0.5**
	baz=88						
GASB	**Alder Springs**	**87.91**	**50**	⇑P	**P**	**20 52 47.1**	**+0.3**
	baz=88,SNR=14						
MNRC	**McLaughlin Nat**	**87.95**	**50**	⇓P	**P**	**20 52 47.1**	**+0.2**
	baz=88,SNR=8.1						
O02C	**Red Bluff**	**87.97**	**49**	⇑P	**P**	**20 52 47.4**	**+0.4**
	baz=88,SNR=31						
K02A	**Glendale**	**88.04**	**46**	⇓P	**P**	**20 52 47.0**	**-0.3**
	baz=88						
I02A	**Mapleton**	**88.08**	**45**	⇓P	**P**	**20 52 47.1**	**-0.4**
	baz=88						
J02A	**Umpqua**	**88.11**	**46**	⇑P	**P**	**20 52 46.7**	**-1.0**
	baz=88						
HAST	**Hastings Reser**	**88.12**	**53**	⇓P	**P**	**20 52 48.1**	**+0.3**
	baz=88,SNR=16						
M02C	**Callahan**	**88.19**	**48**	⇓P	**P**	**20 52 48.1**	**+0.1**
	baz=88,SNR=16						
WENL	**Wente Brothers**	**88.21**	**52**	⇑P	**P**	**20 52 47.8**	**-0.4**
	baz=88						
Q03C	**Winters**	**88.22**	**51**	⇓P	**P**	**20 52 48.0**	**-0.3**
	baz=88						
WDC	**Whiskeytown Da**	**88.24**	**49⇑**	*i*P	**P**	**20 52 47.4**	**-1.0**
	comp=E,508nm,0.6s,mb6.9						
WDC				*e*PP	PP	20 55 50.3	-25
WDC				*e*S	S	21 03 36.0	+2.6
WDC				LR	LR		
	comp=Z,365μm,20.0s,MS7.8						
WDC	**Whiskeytown Da**	**88.24**	**49⇑**	*i*P	**P**	**20 52 47.4**	**-0.9**
WDC				*e*S	S	21 03 36.0	+2.7
WDC				pmax	pmax		
	comp=Z,508nm,0.6s,mb6.9						
WDC				MLR	MLR		
	comp=Z,365μm,20.0s,MS7.8						
WDC	**Whiskeytown Da**	**88.24**	**49**	⇑P	**P**	**20 52 48.6**	**+0.3**
	baz=88,SNR=15						
SAO	**San Andreas Ge**	**88.28**	**53⇑**	*e*P	**P**	**20 52 48.3**	**-0.3**
	comp=Z,3μm,2.2s,mb7.1						
SAO				PP	PP	20 55 50.7	-25
SAO				*e*S	S	21 03 40.3	+6.4
SAO				LR	LR		
	comp=Z,299μm,19.0s,MS7.7						
SAO	**San Andreas Ge**	**88.28**	**53⇑**	*e*P	**P**	**20 52 48.3**	**-0.3**
SAO				pmax	pmax		
	comp=Z,2μm,2.2s,mb7.1						
SAO				MLR	MLR		
	comp=Z,299μm,19.0s,MS7.7						
V03C	**Hunter Liggett**	**88.29**	**53**	⇓P	**P**	**20 52 49.7**	**+1.0**
	baz=88,SNR=14						
DLBC	**Dease Lake**	**88.37**	**30⇑**	*i*P	**P**	**20 52 47.5**	**-0.9**
DLBC				*e*PP	PP	20 55 57.4	-19
DLBC	**Dease Lake**	**88.37**	**30**	P	**P**	**20 52 48.8**	**+0.3**
	baz=254,slow=4.8						
YBH	**Yreka Blue Hor**	**88.37**	**48⇑**	*e*P	**P**	**20 52 48.3**	**-0.6**
	comp=Z,1μm,0.7s,mb7.3						
YBH				PP	PP	20 56 37.2	+20
YBH				*e*S	S	21 03 36.4	+1.9
YBH				LR	LR		
	comp=Z,577μm,21.0s,MS8.0						
YBH	**Yreka Blue Hor**	**88.37**	**48⇑**	*e*P	**P**	**20 52 48.3**	**-0.6**
YBH				*e*S	S	21 03 36.4	+1.9
YBH				pmax	pmax		
	comp=Z,1μm,0.7s						
YBH				MLR	MLR		
	comp=Z,577μm,21.0s						
YBH	**Yreka Blue Hor**	**88.37**	**48**	⇓P	**P**	**20 52 49.1**	**+0.2**
	baz=88,SNR=25						
BHV	**Bhavnagar**	**88.38**	**292**	*ex*	x	20 52 55.5	
PACP	**Pacheco Peak**	**88.45**	**52**	⇓P	**P**	**20 52 50.2**	**+0.8**
	baz=89,SNR=11						
I03A	**Eugene**	**88.46**	**45**	⇑P	**P**	**20 52 49.2**	**-0.1**
	baz=89						
KSH	**Kashi**	**88.48**	**310**	P	**P**	**20 52 50.5**	**+1.0**
KSH				AP	pP	20 52 54.5	+1.8
KSH				XP	sP	20 52 57.9	+4.1
KSH				PP	PP	20 56 21.1	+3.5
KSH				AMB	AMB		
	comp=Z,5μm,2.1s,mb7.4						
KSH				AMB	AMB		
	comp=Z,225μm,8.2s						
KSH				LR	LR		
	comp=N,255μm,15.0s						
KSH				LR	LR		
	comp=E,993μm,16.7s						
KSH				LR	LR		
	comp=Z,506μm,28.7s,MS7.8						
HSO	**Harness Mounta**	**88.50**	**46**	P	**P**	**20 52 52.3**	**+2.8**
O03C	**Acorn Hollow,**	**88.50**	**49**	⇓P	**P**	**20 52 49.3**	**-0.2**
	baz=89						
S04C	**Ingram Canyon,**	**88.52**	**52**	⇑P	**P**	**20 52 50.1**	**+0.4**
	baz=89,SNR=19						
J03A	**Ideyld Park**	**88.55**	**46**	⇑P	**P**	**20 52 49.6**	**-0.1**
	baz=89						
AAA	**Alma-Ata**	**88.58**	**314**	*i* P	**P**	**20 52 53.6**	**+3.7**
AAA				pmax	pmax		
	comp=Z,28μm,6.3s						
AAA				MLR	MLR		
	comp=Z,290μm,21.8s,MS7.7						
COR	**Corvallis**	**88.59**	**45⇑**	*e*P	**P**	**20 52 49.4**	**-0.4**
	comp=Z,428nm,1.4s,mb6.6						
COR				*e*PP	PP	20 56 08.9	-9.4
COR				*e*S	S	21 03 47.2	+11
COR				LR	LR		
	comp=Z,571μm,20.0s,MS8.0						
COR	**Corvallis**	**88.59**	**45⇑**	*e*P	**P**	**20 52 49.4**	**-0.5**
COR				pmax	pmax		
	comp=Z,428nm,1.4s,mb6.6						
COR				MLR	MLR		
	comp=Z,571μm,20.0s,MS8.0						
H03A	**Soap Creek Ran**	**88.61**	**45**	⇓P	**P**	**20 52 50.0**	**0.0**
	baz=89,SNR=14						
M03C	**McCloud**	**88.70**	**48**	⇓P	**P**	**20 52 50.5**	**0.0**
	baz=89,SNR=18						
U04C	**Hernandez Rese**	**88.72**	**53**	⇑P	**P**	**20 52 51.7**	**+1.0**
	baz=89,SNR=18						
Q04C	**Lincoln**	**88.75**	**51**	⇓P	**P**	**20 52 52.7**	**+1.9**
	baz=89						
G03A	**Yamhill**	**88.77**	**44**	⇑P	**P**	**20 52 51.1**	**+0.4**
	baz=89						
OHCM	**Honcut**	**88.77**	**50⇓**	*e*P	**P**	**20 52 51.2**	**+0.3**
ORV	**Oroville**	**88.81**	**50**	P	**P**	**20 52 51.4**	**+0.4**
	baz=89,SNR=23						
BUOR	**Burton Butte**	**88.83**	**47**	P	**P**	**20 52 51.5**	**+0.5**
PKD	**Parkfield**	**88.83**	**54**	⇓P	**P**	**20 52 52.1**	**+0.8**
	baz=89,SNR=37						
NLWA	**Neilton Lookou**	**88.86**	**42⇑**	*e*P	**P**	**20 52 49.5**	**-1.6**
	comp=Z,2μm,1.5s,mb7.2						
NLWA				*e*PP	PP	20 56 24.5	+4.1
NLWA				*e*S	S	21 03 45.7	+6.9
NLWA				LR	LR		
	comp=Z,466μm,20.0s,MS7.9						
NLWA	**Neilton Lookou**	**88.86**	**42**	⇓P	**P**	**20 52 51.1**	**+0.1**
	baz=89						
E03A	**Lebam**	**88.86**	**43**	⇓P	**P**	**20 52 50.9**	**-0.2**
	baz=89,SNR=10						
ULHL	**Ulahol**	**88.86**	**313**	P	**P**	**20 52 54.6**	**+3.4**
	SNR=9.0						
T05C	**Eagle Field, D**	**88.91**	**53**	⇑P	**P**	**20 52 53.4**	**+1.8**
	baz=89						
R04C	**Big Horse Ranc**	**88.97**	**51**	⇑P	**P**	**20 52 52.3**

KURK **Kurchatov** 89.21 321 P P 20 52 51.5 -1.2
SNR=184
LAVA **Lava Cap Winer** 89.22 51 ⇓P P 20 52 52.5 -0.5
baz=89,SNR=29
U05C **Westside ANR,** 89.24 53 ⇓P P 20 52 54.6 +1.5
baz=89
S05C **Merced** 89.27 52 ⇓P P 20 52 53.4 +0.2
baz=89,SNR=14
O04C **Chester** 89.27 49 ⇑P P 20 52 53.8 +0.6
baz=89,SNR=12
G04A **Mulino** 89.30 44 ⇑P P 20 52 52.8 -0.4
baz=89
V05C **Boulder Hill,** 89.32 54 ⇑P P 20 52 54.5 +1.0
baz=89,SNR=8.0
O05C **Quincy** 89.33 50 ⇓P P 20 52 53.7 +0.2
baz=90,SNR=8.0
CMB **Columbia Colle** 89.36 52⇑*iP* P 20 52 52.9 -0.7
comp=Z,459nm,1.5s,mb6.6
CMB *e*PP PP 20 56 23.7 -1.0
CMB *e*S S 21 03 44.5 +0.6
CMB LR LR
comp=Z,371μm,21.0s,MS7.8
CMB **Columbia Colle** 89.36 52⇑*iP* P 20 52 52.9 -0.7
CMB *e* 20 56 23.7
CMB *e*S S 21 03 44.5 +0.6
CMB pmax pmax
comp=Z,459nm,1.5s,mb6.6
CMB MLR MLR
comp=Z,371μm,21.0s,MS7.8
CMB **Columbia Colle** 89.36 52 ⇓P P 20 52 54.0 +0.4
baz=90,SNR=39
H04A **Detroit Lake** 89.39 45 P P 20 52 53.2 -0.4
baz=90,SNR=9.4
RPN **Rapa Nui** 89.42 117⇑*eP* P 20 52 54.2 0.0
comp=Z,4μm,1.8s,mb7.5
RPN PP PP 20 56 36.9 +12
RPN *e*S S 21 03 51.4 +6.4
RPN LR LR
comp=Z,150μm,21.0s,MS7.4
RPN **Rapa Nui** 89.42 117 P P 20 52 56.2 +2.0
comp=Z,116nm,1.0s,mb6.2,baz=328,slow=3.3,SNR=3.7
PGC **Sidney** 89.42 41⇑*eP* P 20 52 53.5 -0.2
comp=Z,8.1nm,1.0s
PGC *e*PP PP 20 56 39.6 +15
P05C **Yuba Gap, Truc** 89.43 50 ⇓P P 20 52 54.8 +0.9
baz=90,SNR=41
E04A **Onalaska** 89.44 43 ⇓P P 20 52 54.6 +0.8
baz=90
M05C **Lookout** 89.44 48 ⇓P P 20 52 54.3 +0.3
baz=90,SNR=15
TKM2 **Tokmak 2** 89.47 313⇑*iP* P 20 52 53.2 -0.8
comp=Z,574nm,0.8s,mb7.0
TKM2 *e*PP PP 20 56 39.8 +14
TKM2 *e*S S 21 03 48.2 +3.4
TKM2 LR LR
comp=Z,333μm,19.0s,MS7.8
TKM2 **Tokmak 2** 89.47 313*iP* P 20 52 53.3 -0.7
TKM2 *e*S S 21 03 48.2 +3.4
TKM2 pmax pmax
comp=Z,574nm,0.8s,mb7.0
TKM2 MLR MLR
comp=Z,333μm,19.0s,MS7.8
TKM2 **Tokmak 2** 89.47 313 P P 20 52 53.8 -0.2
SNR=22
F04A **Amboy** 89.50 44 ⇑P P 20 52 53.8 -0.3
baz=90,SNR=8.6
D04A **Dobbs Creek Ra** 89.50 42 ⇑P P 20 52 55.4 +1.3
baz=90
C04A **Brinnon** 89.52 42 ⇓P P 20 52 53.1 -1.1
baz=90
KZA **Kyzart** 89.55 313 P P 20 52 55.3 +0.9
SNR=30
GNW **Green Mountain** 89.58 42 P P 20 52 53.5 -1.0
BLG **Laguna Peak** 89.68 56 ⇓P P 20 52 55.9 +0.6
baz=90
T06C **Millerton Lake** 89.69 53 ⇑P P 20 52 54.7 -0.5
baz=90,SNR=60
R05C **Kirkwood Meado** 89.72 51 P P 20 52 55.7 +0.4
baz=90,SNR=38
BEKR **Beckwourth** 89.73 50 ⇑P P 20 52 54.4 -1.0
baz=90,SNR=18
J05A **Fort Rock** 89.76 46 ⇑P P 20 52 55.2 -0.2
baz=90,SNR=46
L05A **Lakeview** 89.81 48 ⇓P P 20 52 55.8 +0.1
baz=90,SNR=19
KBK **Karagaybulak** 89.88 313 P P 20 52 55.8 -0.2
SNR=15
K05A **Summer Lake** 89.90 47 P P 20 52 56.2 +0.1
baz=90,SNR=36
M06C **Likely Place G** 89.90 48 P P 20 52 56.6 +0.5
baz=90,SNR=23
SCI **San Clemente I** 89.90 57 ⇑P P 20 52 56.9 +0.5
baz=90,SNR=12
I05A **Bend** 89.92 45 ⇑P P 20 52 56.3 +0.2
baz=90,SNR=6.2
RCTC **Rector, Farmer** 89.93 53 ⇑P P 20 52 56.3 -0.1
baz=90,SNR=5.8
VES **Vestal, Richgr** 89.97 54 P P 20 52 56.9 +0.3
baz=90,SNR=35
P06A **Stead Airport,** 90.04 50 ⇓P P 20 52 58.7 +1.9
baz=90,SNR=6.0
OSI **Osito Adit** 90.04 55 ⇑P P 20 52 57.9 +1.0
baz=90
H05A **Madras** 90.05 45 ⇑P P 20 52 56.3 -0.5
baz=90,SNR=11
ARVC **Arvin** 90.05 55 ⇑P P 20 52 57.9 +0.9
baz=90,SNR=33
KCC **Kaiser Creek** 90.05 52 ⇓P P 20 52 57.6 +0.7
baz=90,SNR=31
D05A **Enumclaw** 90.06 42 ⇑P P 20 52 56.6 -0.1
baz=90,SNR=10.0
E05A **Randle** 90.08 43 ⇓P P 20 52 55.1 -1.7
baz=90,SNR=10
WCN **Washoe City** 90.08 50 ⇑P P 20 52 58.3 +1.3
baz=90,SNR=10
LON **Longmire** 90.08 43 P P 20 52 55.3 -1.5
CHMS **Chumysh** 90.09 313 P P 20 52 56.6 -0.4
SNR=14
CIS **Catalina Islan** 90.09 56 ⇓P P 20 52 57.8 +0.6
baz=90,SNR=32
G05A **Wamic** 90.11 44 ⇑P P 20 52 56.6 -0.4
baz=90
UCH **Uchtor** 90.11 313⇑*eP* P 20 52 57.3 +0.2
comp=Z,90nm,0.9s,mb6.1
UCH *e*PP PP 20 56 35.0 +4.4
UCH *e*S S 21 03 42.2 -8.6
UCH LR LR
comp=Z,305μm,20.0s,MS7.7
UCH **Uchtor** 90.11 313 P P 20 52 57.6 +0.5
SNR=42
F05A **White Salmon** 90.14 44 ⇓P P 20 52 57.4 +0.2
baz=90
FRU **Bishkek** 90.16 313⇑*iP* P 20 52 56.5 -0.8
FRU *i* 21 03 22.0
FRU pmax pmax
comp=Z,900nm,2.1s,mb6.7
FRU MLR MLR
comp=Z,340μm,22.0s,MS7.7
MOD **Modoc** 90.17 48⇑*eP* P 20 52 57.5 +0.2
comp=Z,347nm,1.2s,mb6.6
MOD *e*PP PP 20 56 31.9 +0.9
MOD *e*S S 21 03 52.0 +0.7
MOD LR LR
comp=Z,584μm,20.0s,MS8.0
MOD **Modoc** 90.17 48 ⇓P P 20 52 57.1 -0.3
baz=90,SNR=40
R06C **Coleville** 90.17 51 P P 20 52 58.1 +0.7
baz=90,SNR=32
HELL **Mitchell Peak** 90.17 53 ⇓P P 20 52 56.9 -0.6
baz=90,SNR=88
O06A **Flanigan** 90.19 50 P P 20 52 57.6 +0.2
baz=90,SNR=84
AAK **Ala-Archa** 90.20 313⇑*eP* P 20 52 55.7 -1.8
comp=Z,458nm,0.9s,mb6.8
AAK *e*PP PP 20 56 39.9 +8.6
AAK *e*S S 21 03 46.7 -4.9
AAK LR LR
comp=Z,365μm,19.0s,MS7.8
AAK **Ala-Archa** 90.20 313 *eP* P 20 52 55.7 -1.8
AAK pmax pmax
comp=Z,460nm,1.0s,mb6.8
AAK MLR MLR
comp=Z,360μm,19.0s,MS7.8
AAK **Ala-Archa** 90.20 313 P P 20 52 56.8 -0.8
SNR=69
AAK **Ala-Archa** 90.20 313 P P 20 52 56.8 -0.8
SNR=69
AAK **Ala-Archa** 90.20 313 P P 20 52 57.4 -0.1
SNR=26
FMW **Mount Fremont** 90.21 43 P P 20 52 57.0 -0.5
B05A **Bryant** 90.22 41 ⇓P P 20 52 57.1 -0.3
baz=90,SNR=13
FMP **Fort Macarthur** 90.24 56 ⇓P P 20 52 58.2 +0.3
baz=90
WPW **White Pass** 90.25 43 P P 20 52 56.9 -0.7
N06A **Buffalo Meadow** 90.29 49 ⇑P P 20 52 58.2 +0.2
baz=90,SNR=50
DECC **Green Verdugo** 90.30 56 P P 20 52 59.0 +0.8
baz=90,SNR=12
USP **Ospenovka** 90.33 314 P P 20 52 57.6 -0.4
SNR=26
C05A **Tolt Reservoir** 90.36 42 ⇑P P 20 52 57.1 -1.1
baz=90,SNR=14
INK **Inuvik** 90.36 20⇑*eP* P 20 52 56.7 -1.0
INK **Inuvik** 90.36 20 P P 20 52 56.3 -1.4
INK pmax pmax
comp=Z,41nm,1.3s
INK **Inuvik** 90.36 20 P P 20 52 56.5 -1.1
comp=Z,20nm,1.0s,baz=255,slow=5.2,SNR=26
K06A **Valley Falls** 90.38 47 ⇑P P 20 52 58.2 -0.1
baz=90,SNR=23
A05A **Maple Falls** 90.38 41 ⇑P P 20 52 57.7 -0.5
baz=90
R07C **Lee Vining** 90.40 52 ⇓P P 20 52 59.5 +1.0
baz=90,SNR=27
ISA **Isabella** 90.43 54⇑*eP* P 20 52 58.5 -0.2
comp=Z,2μm,0.8s,mb7.5
ISA *e*PP PP 20 56 33.9 +0.5
ISA *e*S S 21 04 00.0 +6.0
ISA LR LR
comp=Z,284μm,20.0s,MS7.7
ISA **Isabella** 90.43 54⇑*eP* P 20 52 58.5 -0.2
ISA *e* 20 56 33.9
ISA pmax pmax
comp=Z,2μm,0.8s,mb7.5
ISA MLR MLR
comp=Z,284μm,20.0s,MS7.7
ISA **Isabella** 90.43 54 P P 20 52 59.0 +0.3
baz=91,SNR=26
MLAC **Mammoth Lakes** 90.49 52 ⇑P P 20 52 59.6 +0.7
baz=91
J06A **Christmas Vall** 90.53 46 ⇑P P 20 52 58.3 -0.7
baz=91,SNR=39
G06A **Carlson Farm,** 90.58 44 ⇑P P 20 52 58.4 -0.8
baz=91,SNR=10
F06A **Goldendale** 90.58 44 ⇑P P 20 52 59.1 0.0
baz=91,SNR=8.0
E06A **Yakima** 90.60 43 ⇓P P 20 52 59.0 -0.3
baz=91,SNR=22
I06A **Prineville** 90.62 46 P P 20 52 59.3 -0.1
baz=91,SNR=33
MTUM **Tungsten Hills** 90.65 52 *eP* P 20 52 59.7 0.0
B06A **Marblemount** 90.67 41 ⇓P P 20 52 57.9 -1.6
baz=91
EDW2 **Edwards Air Fo** 90.69 55 ⇓P P 20 53 00.9 +1.0
baz=91,SNR=73
H06A **Lindquist Farm** 90.69 45 ⇑P P 20 52 59.4 -0.3
baz=91,SNR=23
AML **Almayashu** 90.69 312⇑*eP* P 20 52 59.7 -0.1
comp=Z,384nm,0.6s,mb6.9
AML *e*PP PP 20 56 48.4 +13
AML *e*S S 21 04 04.7 +8.5
AML LR LR
comp=Z,408μm,22.0s,MS7.8
AML **Almayashu** 90.69 312 P P 20 53 00.2 +0.4
SNR=33
EKS2 **Erkin-Say** 90.73 313⇑*iP* P 20 52 59.7 -0.2
comp=Z,384nm,0.6s,mb6.9
EKS2 PP PP 20 56 40.6 +5.1
EKS2 *e*S S 21 04 10.9 +14
EKS2 LR LR
comp=Z,362μm,20.0s,MS7.8
EKS2 **Erkin-Say** 90.73 313 P P 20 53 00.3 +0.4
SNR=22
Q07A **Schurz** 90.74 51 ⇑P P 20 53 02.0 +1.9
baz=91
P07A **Fallon** 90.78 50 ⇓P P 20 53 01.8 +1.6
baz=91
A06A **Chilliwack** 90.79 41 ⇑P P 20 53 00.2 +0.1
baz=91
D06A **Cle Elum** 90.82 43 ⇓P P 20 53 00.3 +0.1
baz=91
BFSC **Mount Baldy St** 90.85 56 ⇓P P 20 53 01.3 +0.6
baz=91,SNR=34
TIN **Tinemaha** 90.86 53 ⇓P P 20 53 01.8 +1.1
baz=91,SNR=28
CWC **Cottonwood Cre** 90.88 53 ⇓P P 20 53 01.6 +0.8
baz=91,SNR=15
BHJ **Bhuj** 90.89 293 *eP* P 20 53 00.7 -0.4
BHJ AMb AMB 20 53 18.9
comp=Z,1μm,1.4s,mb7.0
BHJ *ex* x 21 03 40.5
L07A **Adell** 90.89 48 ⇓P P 20 53 01.2 +0.4
baz=91,SNR=22
M07A **Soldier Meadow** 90.90 48 P P 20 53 01.2 +0.4
baz=91,SNR=55
O07A **Toulon** 90.90 50 ⇓P P 20 53 00.9 +0.1
baz=91,SNR=43
N07B **Gerlach** 90.94 49 ⇑P P 20 53 01.8 +0.8
baz=91
S08C **White Mtn Res** 90.98 52 ⇑P P 20 53 01.4 +0.2
baz=91,SNR=80
LRMC **Laurel Mountai** 91.03 54 P P 20 53 02.3 +0.7
baz=91,SNR=66
NVAR **Mina Array Bea** 91.04 51 P P 20 53 01.7 +0.2
NVAR PKKPab 21 11 03.8
NVAR P'P' 21 18 36.8
NVAR **Mina Array Bea** 91.04 51 P P 20 53 01.7 +0.2
comp=Z,44nm,1.0s,baz=237,slow=3.5,SNR=124
NVAR PKKPab 21 11 03.8
comp=Z,4.8nm,0.9s,baz=92,slow=2.1,SNR=3.8
NVAR PKPPKP 21 18 36.8
comp=Z,1.7nm,0.7s,baz=251,slow=1.8,SNR=3.7
109C **Camp Elliot, M** 91.08 57 ⇑P P 20 53 02.7 +0.9
baz=91,SNR=14
K07A **Rock Creek Ran** 91.08 47 ⇓P P 20 53 00.6 -1.0
baz=91,SNR=65
I07A **Izee** 91.15 46 ⇑P P 20 53 01.1 -0.8
baz=91,SNR=50
J07A **Hines** 91.16 46 ⇓P P 20 53 02.3 +0.3
baz=91,SNR=27
R08A **Mina** 91.18 52 P P 20 53 03.4 +1.2
baz=91,SNR=11
F07A **Phinny Hill Vi** 91.19 44 ⇑P P 20 53 02.4 +0.4
baz=91
H07A **Lands Inn, Kim** 91.20 45 ⇑P P 20 53 01.9 -0.2
baz=91
G07A **Ruggs Ranch, H** 91.25 45 ⇑P P 20 53 01.8 -0.5
baz=91,SNR=29
MPMC **Manual Prospec** 91.28 54 ⇑P P 20 53 03.5 +0.9
baz=91,SNR=104
Q08A **Gabbs** 91.40 51 ⇓P P 20 53 03.8 +0.7
baz=92,SNR=58
D07A **Quincy** 91.40 43 ⇓P P 20 53 02.5 -0.5
baz=92,SNR=20
P08A **Dixie Valley** 91.43 50 ⇓P P 20 53 04.7 +1.5
baz=92,SNR=6.0
C07A **Waterville** 91.44 42 ⇑P P 20 53 02.1 -1.0
baz=92,SNR=20
MDW **Midway** 91.44 43 P P 20 53 02.7 -0.5
BBRC **Big Bear Sol-O** 91.45 56 ⇑P P 20 53 04.7 +1.2
baz=92
O08A **Rochester Mine** 91.47 50 ⇑P P 20 53 05.6 +2.1
baz=92
WVOR **Wild Horse Val** 91.48 47 P P 20 53 03.3 -0.2
WVOR **Wild Horse Val** 91.48 47 *eP* P 20 53 03.3 -0.1
WVOR pmax pmax
comp=Z,160nm,0.8s,mb6.4
WVOR MLR MLR
comp=Z,450μm,21.0s,MS7.9
A07A **Ashnola River,** 91.49 41 ⇓P P 20 53 02.1 -1.2
baz=92,SNR=26
RRX **Edison Barstow** 91.49 55 ⇓P P 20 53 05.2 +1.5
baz=92
M08A **Happy Creek Ra** 91.50 48 ⇑P P 20 53 03.8 +0.2
baz=92,SNR=40
GRAC **Grapevine Rang** 91.53 53 ⇑P P 20 53 04.8 +1.0
baz=92,SNR=18
B07A **Winthrop** 91.55 41 ⇑P P 20 53 03.0 -0.6
baz=92,SNR=22
HAWA **Hanford** 91.55 43⇑*iP* P 20 53 02.9 -0.8
comp=Z,164nm,0.8s,mb6.4
HAWA *e*PP PP 20 56 43.8 +1.8
HAWA S S 21 04 01.1 -2.7
HAWA LR LR
comp=Z,478μm,20.0s,MS7.9
SYO **Syowa Base** 91.61 199⇓*eP* P 20 53 01.0 -2.6
SYO **Syowa Base** 91.61 199⇓*iP* P 20 53 09.6 +6.0
K08A **Mann Creek Ran** 91.64 47 ⇑P P 20 53 04.1 -0.1
baz=92,SNR=22
L08A **Fields** 91.65 48 ⇑P P 20 53 03.9 -0.3
baz=92,SNR=32
MONP **Monument Peak** 91.65 57 ⇑P P 20 53 04.7 +0.3
baz=92,SNR=49
GSC **Goldstone** 91.71 55⇓*iP* P 20 53 04.9 +0.2
comp=Z,286nm,0.7s,mb6.7
GSC *e*PP PP 20 56 34.2 -9.3
GSC **Goldstone** 91.71 55⇓*iP* P 20 53 04.9 +0.2
GSC pmax pmax
comp=Z,277nm,0.7s,mb6.7
GSC **Goldstone** 91.71 55 P P 20 53 05.0 +0.3
baz=92,SNR=63
PFO **Pinyon Flat Ob** 91.73 56 P P 20 53 04.8 -0.1
comp=Z,28nm,1.0s,baz=270,slow=3.4,SNR=6.6
PFO **Pinyon Flat Ob** 91.73 56 ⇓P P 20 53 04.8 0.0
baz=92,SNR=24
G08A **Pilot Rock** 91.75 45 ⇓P P 20 53 03.6 -1.0
baz=92,SNR=46
J08A **Circle Bar Ran** 91.76 47 P P 20 53 04.6 -0.1
baz=92,SNR=39
S09A **Goldfield** 91.76 52 P P 20 53 05.0 +0.2
baz=92,SNR=130
I08A **Drewsey** 91.78 46 ⇓P P 20 53 04.2 -0.6
baz=92,SNR=13
H08A **Prairie City** 91.82 45 ⇑P P 20 53 04.1 -0.9
baz=92,SNR=37
FURC **Furnace Creek,** 91.85 54 ⇑P P 20 53 05.8 +0.5
baz=92,SNR=128
DVTC **Desert V Tower** 91.88 57 ⇓P P 20 53 06.2 +0.6
baz=92,SNR=11
E08A **Dider Farm, El** 91.89 43 ⇓P P 20 53 04.6 -0.6
baz=92,SNR=14
R09A **Tonopah** 91.96 52 P P 20 53 06.0 +0.3
baz=92,SNR=103
F08A **Pendleton** 91.97 44 ⇓P P 20 53 05.1 -0.5
baz=92,SNR=9.5
Q09A **Carvers** 91.97 51 ⇓P P 20 53 06.8 +1.0
baz=92,SNR=12
HEC **Hector,Ludlow** 92.02 55 ⇓P P 20 53 06.8 +0.6
baz=92,SNR=25
N09A **Rock Creek Ran** 92.04 49 ⇓P P 20 53 06.8 +0.8
baz=92,SNR=24
B08A **Colville Reser** 92.04 42 ⇓P P 20 53 04.4 -1.5
baz=92,SNR=29
D08A **Wollman Farm,** 92.09 43 ⇓P P 20 53 05.0 -1.1
baz=92,SNR=14
P09A **Austin** 92.12 51 ⇑P P 20 53 07.2 +0.7
baz=92,SNR=9.8
L09A **Wilkinson Ranc** 92.12 48 ⇑P P 20 53 06.3 -0.1
baz=92,SNR=39
C08A **Higginbotham F** 92.13 42 ⇑P P 20 53 05.4 -0.9
baz=92,SNR=12
BELC **Belle Mtn.** 92.17 56 ⇑P P 20 53 07.0 +0.2
baz=92,SNR=77
SWSC **Sam W. Stewart** 92.18 57 ⇓P P 20 53 07.0 +0.1
baz=92,SNR=16
O09A **Fish Creek Ran** 92.18 50 ⇑P P 20 53 07.1 +0.4
baz=92,SNR=19
M09A **Marrel Ranch,** 92.18 49 ⇑P P 20 53 07.5 +0.8
baz=92,SNR=29
A08A **Turner Farm, O** 92.19 41 ⇑P P 20 53 04.9 -1.6
baz=92,SNR=25
SHOC **Shoshone** 92.23 54 ⇓P P 20 53 06.7 -0.4
baz=92,SNR=35
U10A **Ash Meadows, A** 92.27 54 ⇑P P 20 53 07.1 -0.2
baz=92,SNR=41
J09A **Fry Pan Ranch,** 92.27 47 ⇑P P 20 53 06.6 -0.5
baz=92,SNR=54
S10A **Tonopah Range,** 92.29 52 ⇑P P 20 53 06.9 -0.4
baz=92,SNR=162
I09A **Lost Marbles R** 92.38 46 ⇓P P 20 53 07.4 -0.2
baz=92,SNR=7.2
TPNV **Topopah Spring** 92.41 53⇑*iP* P 20 53 08.0 +0.2
comp=Z,410nm,0.7s,mb6.9
TPNV *e*PP PP 20 56 45.2 -3.8
TPNV *e*S S 21 04 04.0 -8.0
TPNV LR LR
comp=Z,302μm,20.0s,MS7.7
TPNV **Topopah Spring** 92.41 53⇑*iP* P 20 53 08.0 +0.1
TPNV *e* 20 56 45.2
TPNV *e*S S 21 04 04.0 -7.9
TPNV pmax pmax
comp=Z,411nm,0.7s,mb6.9
TPNV MLR MLR
comp=Z,302μm,20.0s,MS7.7
TPNV **Topopah Spring** 92.41 53 ⇑P P 20 53 07.4 -0.5
baz=92,SNR=128
TUQ **Turquoise Mtn.** 92.44 55 ⇓P P 20 53 09.0 +0.9
baz=93,SNR=25
D09A **Jones Farm, Ri** 92.50 43 ⇓P P 20 53 07.6 -0.5
baz=93,SNR=9.3
E09A **Wood Farm, Sta** 92.52 44 ⇑P P 20 53 07.3 -0.8
baz=93,SNR=19
F09A **S2 Ranch, Elgi** 92.55 44 ⇓P P 20 53 08.2 -0.1
baz=93
H09A **Durkee** 92.55 45 ⇑P P 20 53 07.9 -0.5
baz=93
GMRC **Granite Mounta** 92.56 55 ⇓P P 20 53 09.0 +0.3
baz=93,SNR=64
BC3 **Big Chuckw Mtn** 92.57 57 ⇑P P 20 53 09.0 +0.3
baz=93,SNR=41
G09A **Cove** 92.57 45 ⇑P P 20 53 07.3 -1.1
baz=93,SNR=33
R10A **Warm Springs** 92.57 52 ⇓P P 20 53 08.9 +0.3
baz=93,SNR=25
Q10A **Clear Creek Ra** 92.58 51 ⇓P P 20 53 08.6 0.0
baz=93,SNR=30
A09A **Danville** 92.64 41 ⇑P P 20 53 08.0 -0.6
baz=93,SNR=17
C09A **Chrisman Ranch** 92.65 42 ⇑P P 20 53 07.4 -1.3
baz=93,SNR=7.5
P10A **Eureka** 92.65 51 ⇑P P 20 53 09.8 +0.8
baz=93,SNR=11
O10A **Cortez Mining,** 92.72 50 ⇓P P 20 53 10.2 +1.0
baz=93,SNR=16
N10A **Dunphy** 92.78 49 ⇑P P 20 53 10.3 +0.8
baz=93
K10A **MacKenzie Ranc** 92.82 47 ⇓P P 20 53 09.4 -0.2
baz=93,SNR=30
B09A **Rice** 92.83 42 ⇓P P 20 53 08.6 -0.9
baz=93,SNR=18
BMO **Blue Mountains** 92.83 45⇑*iP* P 20 53 08.7 -0.9
comp=Z,553nm,1.6s,mb6.7
BMO *e*PP PP 20 56 52.4 +0.3
BMO *e*S S 21 04 40.9 +26
BMO LR LR
comp=Z,510μm,19.0s,MS8.0
BMO **Blue Mountains** 92.83 45⇑*iP* P 20 53 08.7 -0.9
BMO *e* 20 56 52.4
BMO pmax pmax
comp=Z,553nm,1.6s,mb6.7
BMO MLR MLR
comp=Z,510μm,19.0s,MS8.0
M10A **I.L. Ranch, Tu** 92.88 49 P P 20 53 10.5 +0.6
baz=93,SNR=34
IRM **Iron Mountain** 92.89 56 ⇑P P 20 53 10.9 +0.8
baz=93,SNR=67
V11A **Goodsprings** 92.90 54 ⇓P P 20 53 10.9 +0.7
baz=93,SNR=51
S11A **Rachel** 92.91 53 ⇓P P 20 53 10.1 -0.1
baz=93,SNR=9.8
J10A **Berg Farm, Mel** 93.00 47 ⇓P P 20 53 10.2 -0.3
baz=93,SNR=16
L10A **Juniper Basin** 93.01 48 P P 20 53 10.8 +0.3
baz=93,SNR=80
U11A **Corn Creek** 93.02 54 ⇓P P 20 53 11.7 +0.9
baz=93,SNR=13
G10A **Bishop Farm, J** 93.03 45 P P 20 53 09.8 -0.8
baz=93,SNR=63
I10A **Payette** 93.07 46 ⇓P P 20 53 10.3 -0.4
baz=93
R11A **Troy Canyon, C** 93.14 52 ⇓P P 20 53 10.7 -0.5
baz=93,SNR=97
Q11A **Duckwater** 93.15 51 ⇑P P 20 53 11.2 -0.1
baz=93,SNR=102
KK31 **Karatay Array** 93.17 313 *iP* P 20 53 10.3 -0.9
KK31 **Karatay Array** 93.17 313 *iP* P 20 53 10.2 -1.0
KK31 pmax pmax
comp=Z,963nm,1.4s,mb7.0
H10A **Noah's Angus R** 93.19 46 ⇑P P 20 53 10.0 -1.3
baz=93,SNR=32
D10A **Wagner Farm, O** 93.19 43 ⇑P P 20 53 10.5 -0.8

baz=93,SNR=32
E10A Myers Farm, Un 93.22 44 ⇊P P 20 53 10.9 -0.5
baz=93
T11A Corn Creek, Al 93.27 53 P P 20 53 12.3 +0.4
baz=93,SNR=68
A10A Northport 93.31 41 ⇑P P 20 53 11.5 -0.2
baz=93
O11A Cowboy Ranch, 93.33 50 ⇊P P 20 53 12.2 +0.1
baz=94,SNR=47
Y12C Blythe 93.35 57 ⇑P P 20 53 13.2 +0.9
baz=94,SNR=15
V12A Nelson 93.35 55 P P 20 53 12.9 +0.7
baz=94,SNR=33
N11A Elko Archery C 93.37 49 ⇊P P 20 53 13.3 +1.1
baz=94
NEE2 Needles Airpor 93.41 56 ⇑P P 20 53 14.0 +1.4
baz=94,SNR=5.2
M11A Holland Ranch, 93.42 49 P P 20 53 13.8 +1.4
baz=94,SNR=39
B10A Chitwood Farm, 93.42 42 ⇑P P 20 53 11.8 -0.4
baz=94
K11A Parker Ranch, 93.43 47 ⇊P P 20 53 12.0 -0.4
baz=94,SNR=87
NEW Newport 93.48 42 P P 20 53 11.6 -0.9
NEW pmax pmax
comp=Z,160nm,0.8s
NEW MLR MLR
comp=Z,660μm,19.0s
NEW Newport 93.48 42 P P 20 53 11.7 -0.8
comp=Z,14nm,0.9s,baz=244,slow=3.9,SNR=17
S12A Delamar Landin 93.61 53 ⇊P P 20 53 14.7 +1.3
baz=94,SNR=12
G11A Walters Elk Ra 93.64 45 ⇊P P 20 53 12.3 -1.0
baz=94,SNR=26
MFID Camas Ranch 93.67 47 ⇑P P 20 53 13.6 +0.1
baz=94,SNR=17
U12A Valley of Fire 93.70 54 ⇊P P 20 53 14.4 +0.6
baz=94,SNR=23
H11A Donnelly 93.72 46 ⇑P P 20 53 12.7 -1.1
baz=94,SNR=31
ELK Elko 93.74 50 *e*P **P 20 53 15.5 +1.6**
ELK *e*PP PP 20 57 07.3 +8.1
ELK *e*S S 21 04 07.3 -16
ELK LR LR
comp=Z,5μm,19.0s
PDMCI Parker Dam,Lak 93.74 56 ⇑P P 20 53 14.9 +0.8
baz=94,SNR=11
F11A Grangeville 93.79 44 P P 20 53 12.4 -1.6
baz=94,SNR=12
P12A McGill 93.82 51 P P 20 53 15.2 +0.8
baz=94,SNR=66
E11A Bogner Ranch, 93.82 44 P P 20 53 13.1 -1.1
baz=94,SNR=34
Q12A Willow Creek R 93.82 51 ⇑P P 20 53 14.9 +0.6
baz=94,SNR=58
R12A Pony Springs, 93.89 52 ⇊P P 20 53 15.8 +1.1
baz=94,SNR=19
N12A Clover Valley, 93.90 49 P P 20 53 15.2 +0.6
baz=94,SNR=37
Y13A Salome 93.93 57 ⇑P P 20 53 16.5 +1.6
baz=94,SNR=6.2
B11A Sandpoint 94.01 42 ⇑P P 20 53 14.2 -0.8
baz=94,SNR=8.5
X13A Yucca 94.03 56 ⇊P P 20 53 16.0 +0.6
baz=94,SNR=19
O12A Currie 94.05 50 P P 20 53 15.9 +0.6
baz=94,SNR=36
W13A Hualapai Mount 94.05 55 ⇑P P 20 53 16.5 +1.0
baz=94,SNR=24
M12A Wells 94.07 49 P P 20 53 15.8 +0.4
baz=94,SNR=33
A11A Hall Mountain, 94.08 41 ⇑P P 20 53 14.8 -0.5
baz=94,SNR=22
L12A House Creek Ra 94.09 48 ⇑P P 20 53 15.6 +0.1
baz=94,SNR=68
U13A Pakoon Wash 94.15 54 P P 20 53 17.2 +1.3
baz=94,SNR=24
J12A Stokes Ranch, 94.18 47 ⇊P P 20 53 15.6 -0.2
baz=94,SNR=85
K12A Draper Farm, C 94.24 48 P P 20 53 16.4 +0.2
baz=94,SNR=72
T13A Saint George 94.28 53 ⇊P P 20 53 16.9 +0.5
baz=94,SNR=54
S13A Holt Ranch, En 94.39 53 ⇑P P 20 53 17.2 +0.2
baz=94,SNR=46
F12A Elk City 94.39 45 ⇊P P 20 53 15.2 -1.6
baz=94,SNR=22
D12A Red Ives Fores 94.50 43 ⇊P P 20 53 16.0 -1.2
baz=95,SNR=31
P13A Bates Ranch, G 94.50 51 ⇊P P 20 53 16.9 -0.6
baz=95,SNR=42
H12A Diamond D Ranc 94.52 46 ⇑P P 20 53 16.7 -0.7
baz=95,SNR=14
B12A Libby 94.52 42 ⇑P P 20 53 17.3 -0.1
baz=95
N13A Wendover, West 94.53 50 P P 20 53 18.5 +1.0
baz=95,SNR=10
Z14A Wintersburg 94.60 57 ⇊P P 20 53 20.8 +2.7
baz=95
O13A Hicks Ranch, I 94.61 50 P P 20 53 18.8 +0.8
baz=95,SNR=18
CHKZ Chkalovo 94.61 323 *i*P **P 20 53 14.1 -3.5**
CHKZ Chkalovo 94.61 323 *i*P **P 20 53 14.0 -3.6**
CHKZ pmax pmax
comp=Z,1μm,1.2s,mb7.2
M13A Montello 94.62 49 ⇊P P 20 53 18.1 +0.2
baz=95,SNR=49
Y14A Wickenburg 94.63 57 ⇊P P 20 53 19.7 +1.6
baz=95,SNR=7.9
HLID Hailey 94.71 47⇑*i*P **P 20 53 18.2 -0.1**
comp=Z,231nm,1.3s,mb6.5
HLID *e*PP PP 20 57 05.9 -0.9
HLID *e*S SP 21 05 29.1 -18
HLID LR LR
comp=Z,503μm,21.0s,MS8.0
HLID Hailey 94.71 47 ⇊P P 20 53 18.0 -0.3
baz=95,SNR=64
W14A Seligman 94.72 55 ⇊P P 20 53 19.7 +1.1
baz=95,SNR=20
BRVK Borovoye 94.73 323⇑*e*P **P 20 53 15.9 -2.2**
BRVK Borovoye 94.73 323 P **P 20 53 16.3 -1.9**
BRVK pmax pmax
comp=Z,20nm,1.2s
BRVK MLR MLR
comp=Z,370μm,20.0s,MS7.8
BRVK Borovoye 94.73 323 P **P 20 53 16.6 -1.5**
SNR=112
ARUT Antelope Range 94.74 53 P **P 20 53 18.7 +0.1**
CCUT Cedar City 94.77 53⇑*i*P **P 20 53 19.2 +0.5**
CCUT *e*PP PP 20 57 01.4 -6.0
U14A Mt Trumbull 94.78 54 ⇊P P 20 53 20.0 +1.1
baz=95,SNR=31
X14A Yava 94.78 56 ⇊P P 20 53 19.4 +0.5
baz=95,SNR=18
K13A Stover Farm, H 94.84 48 ⇑P P 20 53 19.5 +0.6
baz=95,SNR=25
J13A Cove Ranch, Pi 94.86 47 ⇊P P 20 53 19.5 +0.5
baz=95,SNR=22
L13A Double Diamond 94.87 48 P P 20 53 19.6 +0.5
baz=95,SNR=19
T14A Hurricane 94.94 53 ⇊P P 20 53 20.3 +0.8
baz=95,SNR=25
H13A Challis 94.95 46 ⇑P P 20 53 18.6 -0.8
baz=95,SNR=43
S14A Cedar City 94.95 53 ⇑P P 20 53 20.7 +1.2
baz=95,SNR=7.3
I13A Wildhorse Cree 94.97 46 ⇑P P 20 53 19.2 -0.3
baz=95,SNR=54
G13A Cobalt 95.03 45 ⇊P P 20 53 18.5 -1.2
baz=95,SNR=23
F13A Darby 95.04 45 P P 20 53 18.5 -1.3
baz=95,SNR=28
C13A Hot Springs 95.10 43 ⇑P P 20 53 19.2 -0.8
baz=95
D13A Huson 95.11 43 ⇑P P 20 53 18.3 -1.7
baz=95
115A Sonoran Desert 95.12 58 ⇊P P 20 53 22.8 +2.3
baz=95,SNR=12
R14A James Farms, M 95.13 52 ⇊P P 20 53 21.5 +1.2
baz=95
Y15A Casa Rosa Ranc 95.18 57 ⇑P P 20 53 22.3 +1.6
baz=95
E13A Victor 95.22 44 ⇊P P 20 53 20.0 -0.5
baz=95
M14A Sheep Mountain 95.25 49 P P 20 53 20.9 +0.1
baz=95,SNR=55
B13A Whitefish 95.25 42 ⇑P P 20 53 20.1 -0.6
baz=95,SNR=16

N14A Grayback Hills 95.30 50 ⇊P P 20 53 21.5 +0.4
baz=95,SNR=14
X15A Humboldt 95.32 56 ⇑P P 20 53 22.3 +0.9
baz=95,SNR=16
A13A Flathead Natio 95.35 41 ⇑P P 20 53 20.9 -0.2
baz=96
W15A Williams 95.38 55 ⇑P P 20 53 23.3 +1.7
baz=96,SNR=7.5
BGU Big Grassy Mou 95.42 50⇑*i*P **P 20 53 21.0 -0.6**
BGU *e*PP PP 20 57 13.5 +1.1
MSO Missoula 95.43 44⇑*i*P **P 20 53 19.3 -2.3**
comp=Z,424nm,0.7s,mb7.0
MSO *e*PP PP 20 57 07.9 -4.4
MSO S S 21 04 38.9 +0.9
MSO LR LR
comp=Z,313μm,20.0s,MS7.8
T15A Red Dirt Ranch 95.49 54 ⇑P P 20 53 22.9 +0.9
baz=96,SNR=8.9
K14A Jones Ranch, D 95.49 48 P P 20 53 22.3 +0.4
baz=96,SNR=52
DUG Dugway 95.50 50⇑*i*P **P 20 53 21.0 -1.1**
comp=Z,847nm,2.0s,mb6.8
DUG *e*PP PP 20 57 18.7 +5.7
DUG *e*S S 21 04 47.5 +8.6
DUG LR LR
comp=Z,285μm,19.0s,MS7.8
DUG Dugway 95.50 50⇑*i*P **P 20 53 21.0 -1.0**
DUG *e* 20 57 18.7
DUG pmax pmax
comp=Z,847nm,2.0s,mb6.8
DUG MLR MLR
comp=Z,285μm,19.0s,MS7.8
DUG Dugway 95.50 50 ⇊P P 20 53 22.0 0.0
baz=96,SNR=18
116A Eloy 95.55 58 ⇑P P 20 53 22.8 +0.4
baz=96
G14A Jackson 95.59 45 ⇑P P 20 53 21.9 -0.4
baz=96,SNR=13
E14A Clinton 95.69 44 ⇊P P 20 53 21.6 -1.1
baz=96
216A Three Points, 95.69 59 ⇑P P 20 53 23.7 +0.6
baz=96
WALA Waterton Lakes 95.70 41⇑*i*P **P 20 53 21.8 -0.9**
comp=Z,8.6nm,0.7s
WALA *e*PP PP 20 57 03.5 -11
HVU Hansel Valley 95.71 49⇑*e*P **P 20 53 23.0 +0.1**
comp=Z,912nm,1.8s,mb6.9
HVU *e*PP PP 20 57 18.1 +3.5
HVU Hansel Valley 95.71 49⇑*e*P **P 20 53 23.0 +0.1**
HVU *e* 20 57 18.1
HVU pmax pmax
comp=Z,912nm,1.8s,mb6.9
D14A Greenough 95.75 43 ⇑P P 20 53 20.9 -2.1
baz=96,SNR=7.7
N15A Stansbury Isla 95.80 50 ⇊P P 20 53 23.8 +0.4
baz=96,SNR=20
MSU Marysvale 95.81 52 *e*P **P 20 53 24.3 +0.9**
MSU *e*PP PP 20 57 14.0 -1.5
LPIG La Paz 95.81 67 P **P 20 53 25.1 +1.3**
comp=Z,9.1nm,0.3s,baz=30,slow=2.2,SNR=3.1
Y16A Circle Bar Ran 95.88 57 ⇑P P 20 53 26.1 +2.2
baz=96,SNR=11
SPUT South Promonto 95.90 49⇑*i*P **P 20 53 23.8 -0.1**
SPUT *e*PP PP 20 57 10.0 -6.1
CHMT Chamberlain Mo 95.91 44 *e*P **P 20 53 22.6 -1.1**
CHMT *e*PP PP 20 57 09.4 -6.6
M15A Larsen Ranch, 95.92 49 ⇊P P 20 53 23.4 -0.4
baz=96,SNR=32
X16A Lo Mia Camp, P 95.97 56 ⇑P P 20 53 25.7 +1.4
baz=96
MCMT McKenzie Canyo 95.97 46 *e*P **P 20 53 23.9 -0.1**
NLU North Lily Min 96.04 51⇑*i*P **P 20 53 24.7 +0.2**
NLU *e*PP PP 20 57 34.9 +18
NOQ North Oquirrh 96.08 50⇑*e*P **P 20 53 24.5 -0.1**
comp=Z,914nm,1.8s,mb6.9
NOQ *e*PP PP 20 57 15.0 -2.5
WUAZ Wupatki 96.14 55⇑*e*P **P 20 53 25.2 +0.2**
comp=Z,401nm,1.5s,mb6.6
DLMT Dillon 96.20 45⇑*e*P **P 20 53 24.7 -0.3**
comp=Z,597nm,1.9s,mb6.7
DLMT *e*PP PP 20 57 28.0 +10
217A Green Valley 96.21 59 ⇊P P 20 53 26.2 +0.7
baz=96,SNR=20
G15A Dillon 96.26 45 ⇑P P 20 53 25.0 -0.3
baz=96,SNR=10
E15A Deer Lodge 96.28 44 ⇊P P 20 53 23.5 -1.9
baz=96,SNR=13
TUC Tucson 96.29 58⇑*i*P **P 20 53 26.0 +0.1**
comp=Z,21μm,2.9s
TUC *e*PP PP 20 57 28.7 +9.3
TUC *e*S S 21 05 07.3 +21
TUC LR LR
comp=Z,554μm,20.0s
CTU Camp Tracy 96.36 50⇑*e*P **P 20 53 26.0 0.0**
comp=Z,436nm,1.6s,mb6.6
CTU *e*PP PP 20 57 18.7 -0.9
MPU Maple Canyon 96.39 51⇑*e*P **P 20 53 26.3 +0.3**
comp=Z,705nm,0.6s,mb7.3
MPU *e*PP PP 20 57 19.1 -0.8
MPU S SP 21 05 44.1 -22
MPU LR LR
comp=Z,315μm,19.0s,MS7.8
D15A Lincoln 96.42 43 ⇑P P 20 53 27.1 +1.1
baz=96,SNR=6.0
EDM Edmonton 96.47 37⇑*i*P **P 20 53 24.5 -1.6**
EDM *e*PP PP 20 57 12.2 -7.9
JLU Jordanelle 96.58 50⇑*e*P **P 20 53 26.8 -0.1**
JLU *e*PP PP 20 57 16.5 -4.8
HWUT Hardware Ranch 96.59 49⇑*e*P **P 20 53 26.2 -0.7**
comp=Z,16nm,0.1s,mb6.4
HWUT *e*PP PP 20 57 19.8 -1.6
HWUT *e*S S 21 04 50.8 +2.5
HWUT LR LR
comp=Z,255μm,21.0s,MS7.7
TMUT Trail Mountain 96.64 51⇑*i*P **P 20 53 27.4 +0.2**
TMUT *e*PP PP 20 57 16.7 -5.2
YKA Yellowknife Ar 96.67 28 P **P 20 53 26.4 -0.4**
YKA PKKPbc PKKPbc 21 10 10.4 -2.1
YKA LR LR 21 36 09.8
YKA Yellowknife Ar 96.67 28 P **P 20 53 26.4 -0.4**
comp=Z,19nm,0.9s,baz=265,slow=4.7,SNR=141
YKA PKKPbc PKKPbc 21 10 10.4 -2.1
comp=Z,2.7nm,0.8s,baz=57,slow=2.7,SNR=4.0
YKA LR LR 21 36 09.7
comp=Z,151μm,18.3s,MS7.5,baz=225,slow=35
DAU Daniels Canyon 96.71 50 P **P 20 53 27.5 0.0**
DAU PP PP 20 57 21.8 -0.6
318A Bisbee 96.88 59 ⇑P P 20 53 29.2 +0.7
baz=97,SNR=15
218A Dragoon 96.88 59 P **P 20 53 29.6 +1.1**
baz=97,SNR=13
BOZ Bozeman (W) 96.91 45⇑*e*P **P 20 53 27.4 -0.9**
comp=Z,124nm,0.8s,mb6.4
BOZ *e*PP PP 20 57 15.1 -8.7
BOZ *e*S SKSac 21 04 12.9 +7.4
BOZ LR LR
comp=Z,399μm,20.0s,MS7.9
BOZ Bozeman (W) 96.91 45⇑*e*P **P 20 53 27.4 -0.9**
BOZ pmax pmax
comp=Z,124nm,0.8s,mb6.4
BOZ MLR MLR
comp=Z,399μm,20.0s,MS7.9
BOZ Bozeman (W) 96.91 45 ⇑P P 20 53 27.7 -0.6
baz=97,SNR=27
QLMT Earthquake Lak 96.98 46 *e*P **P 20 53 28.4 -0.2**
AHID Auburn Hatcher 97.04 48⇑*e*P **P 20 53 28.2 -0.7**
comp=Z,74nm,1.2s,mb6.0
AHID *e*PP PP 20 57 18.4 -6.4
AHID S S 21 05 10.3 +18
AHID LR LR
comp=Z,243μm,20.0s,MS7.7
DCID1 Drake Creek 97.05 47⇑*e*P **P 20 53 29.1 +0.1**
comp=Z,153nm,1.0s,mb6.4
DCID1 *e*PP PP 20 57 14.4 -11
SRU San Rafael 97.16 52⇑*i*P **P 20 53 29.4 -0.2**
comp=Z,70nm,0.7s,mb6.2
SRU *e*PP PP 20 57 18.5 -7.3
SRU San Rafael 97.16 52 P **P 20 53 25.8 -3.8**
SRU pmax pmax
comp=Z,70nm,0.7s,mb6.2
TPAW Teton Pass 97.21 47⇑*e*P **P 20 53 30.0 +0.4**
comp=Z,57nm,0.9s,mb6.0
TPAW *e*PP PP 20 57 18.1 -8.0
IMW Indian Meadow 97.25 47 *e*P **P 20 53 29.8 -0.1**
comp=Z,48nm,0.9s,mb5.9

IMW *e*PP PP 20 57 19.4 -7.1
REDW Red Top Meadow 97.27 47⇑*e*P **P 20 53 29.8 -0.2**
comp=Z,546nm,1.9s,mb6.7
REDW *e*PP PP 20 57 20.7 -5.9
YMR Madison River 97.30 46⇑*e*P **P 20 53 30.3 +0.2**
comp=Z,278nm,1.3s,mb6.5
YMR PP PP 20 57 17.2 -10
YMR LR LR
comp=Z,614μm,19.0s,MS8.1
SNOW Snow King Moun 97.35 47⇑*e*P **P 20 53 30.1 -0.2**
comp=Z,913nm,2.3s,mb6.8
SNOW *e*PP PP 20 57 24.9 -2.3
YFT Old Faithful 97.37 46⇑*e*P **P 20 53 31.3 +0.9**
YFT *e*PP PP 20 57 14.8 -13
MOOW Moose Ponds 97.38 47⇑*e*P **P 20 53 30.0 -0.4**
comp=Z,1μm,0.7s,mb7.4
MOOW *e*PP PP 20 57 19.4 -8.0
FLWY Flagg Ranch 97.44 47⇑*e*P **P 20 53 29.6 -1.1**
comp=Z,287nm,1.5s,mb6.5
FLWY *e*PP PP 20 57 19.5 -8.3
LOHW Long Hollow 97.47 47⇑*e*P **P 20 53 30.7 -0.1**
comp=Z,57nm,0.9s,mb6.0
LOHW *e*PP PP 20 57 20.8 -7.3
319A Douglas 97.47 59 ⇊P P 20 53 32.3 +1.1
baz=98
YNR Norris Junctio 97.50 46⇑*e*P **P 20 53 31.1 +0.2**
YNR *e*PP PP 20 57 29.1 +0.8
NVL N'lazarevskaya 97.56 191 *i*P pP 20 53 41.0 +7.1
NVL pmax pmax
comp=N,26nm,1.7s
NVL pmax pmax
comp=Z,89nm,1.7s,mb6.0
NVL pmax pmax
comp=E,17nm,2.1s
NVL MLR MLR
comp=N,215μm,19.9s,MS7.8
NVL MLR MLR
comp=E,271μm,19.9s,MS7.8
NVL MLR MLR
comp=Z,288μm,19.9s,MS7.8
LKWY Lake 97.69 46⇑*e*P **P 20 53 32.4 +0.6**
comp=Z,33nm,0.9s,mb5.9
LKWY *e*PP PP 20 57 29.9 +0.1
LKWY *e*S S 21 04 39.9 -18
LKWY LR LR
comp=Z,650μm,20.0s,MS8.1
LKWY Lake 97.69 46⇑*e*P **P 20 53 32.4 +0.6**
LKWY *e* 20 57 29.9
LKWY pmax pmax
comp=Z,33nm,0.9s,mb5.9
LKWY MLR MLR
comp=Z,650μm,20.0s,MS8.1
BW06 Boulder Array 98.17 48⇑*e*P **P 20 53 33.2 -0.8**
comp=Z,200nm,0.8s,mb6.7
BW06 *e*PP PP 20 57 28.2 -5.3
BW06 *e*S SKSac 21 04 11.3 -0.9
BW06 LR LR
comp=Z,321μm,20.0s,MS7.8
PDAR Pinedale Array 98.17 48 P **P 20 53 33.6 -0.4**
comp=Z,9.2nm,0.7s,baz=245,slow=2.5,SNR=49
GCMT Greycliff 98.29 45 *e*P **P 20 53 34.1 -0.4**
EGMT Eagleton 98.36 43⇑*e*P **P 20 53 33.3 -1.5**
comp=Z,987nm,2.2s,mb7.0
EGMT *e*PP PP 20 57 29.8 -5.0
EGMT S SP 21 06 23.5 -3.6
EGMT LR LR
comp=Z,291μm,20.0s,MS7.8
EGMT Eagleton 98.36 43 ⇑P P 20 53 34.0 -0.8
baz=98
RLMT Red Lodge 98.53 46⇑*e*P **P 20 53 35.5 -0.1**
comp=Z,730nm,1.1s,mb7.1
RLMT *e*PP PP 20 57 29.9 -6.4
RLMT *e*S S 21 05 19.6 +15
RLMT LR LR
comp=Z,338μm,20.0s,MS7.8
MVCO Mesa Verde 98.60 54⇑*e*P **P 20 53 36.3 +0.2**
comp=Z,617nm,1.8s,mb6.8
MVCO *e*PP PP 20 57 34.6 -2.4
MVCO *e*S S 21 04 52.8 -13
MVCO LR LR
comp=Z,372μm,20.0s,MS7.9
SNAA Sanae 98.94 186 *e*Pdiff **P 20 53 42.3 +5.4**
SNAA *e* pP 20 53 45.3 +5.2
SNAA *e* 20 53 48.9
SNAA *e* 20 53 53.7
SNAA *e* 20 54 11.8
SNAA *e* 20 54 19.9
SNAA *e* 20 54 28.4
SNAA *e* 20 54 48.0
SNAA *e* 20 54 51.6
SNAA *e* 20 54 53.1
SNAA *e* 20 55 04.8
SNAA *e* 20 55 15.1
SNAA *e* 20 55 23.2
SNAA *e* 20 58 30.6
SNAA *e* 20 58 57.5
SNAA *e* 20 59 02.7
SNAA *e* 20 59 29.8
SNAA *e* 20 59 47.3
SNAA *e* 21 01 25.5
SNAA *e* 21 01 41.6
SNAA *e* 21 01 48.4
SNAA *e* 21 01 58.8
SNAA *e* 21 02 11.5
SNAA *e* 21 05 49.3
SNAA *e* 21 06 00.3
SNAA *e* 21 17 34.7
SNAA *e* 21 17 42.8
SNAA *e* 21 17 46.0
SNAA *e* 21 17 49.2
SNAA Sanae 98.94 186 P **P 20 53 38.9 +2.0**
comp=Z,1.2nm,0.9s,baz=274,slow=8.4,SNR=1.9
LAZ Ladron 99.51 57 PcP PcP 20 53 40.9 +0.6
LENM Lemitar 99.63 57 *e*Pdif 20 53 43.3
LENM *e*PP PP 20 57 42.9 -2.0
RWWY Rawlins 99.85 49 *e*Pdif Pdif 20 53 42.9 +1.6
comp=Z,217nm,1.3s
RWWY *e*PP PP 20 57 51.4 +5.0
SMCO Snowmass 99.92 52 *e*Pdif Pdif 20 53 42.2 +0.6
comp=Z,911nm,2.3s
SMCO *e*PP PP 20 57 45.8 -1.1
BNM Barren Site 99.92 57 *e*Pdif Pdif 20 53 43.5 +1.9
BNM PP PP 20 57 46.6 -0.5
LPM Los Pinos Moun 99.92 57 Pdif Pdif 20 53 44.4 +2.8
LPM *e*PP PP 20 57 42.6 -4.5
VNA3 Neumayer Olymp 99.98 184 *e*Pdiff Pdif 20 53 40.5 -1.4
VNA3 *e* 20 53 44.8
VNA3 *e* 20 53 46.6
VNA3 *e* 20 53 49.5
VNA3 *e* 20 53 52.8
VNA3 *e* 20 53 56.3
VNA3 *e* 20 54 04.7
VNA3 *e* 20 54 16.6
VNA3 *e* 20 54 24.1
VNA3 *e* 20 54 30.6
VNA3 *e* 20 54 39.6
VNA3 *e* 20 54 47.8
VNA3 *e* 20 54 52.7
VNA3 *e* 20 54 54.8
VNA3 *e* 20 55 07.4
VNA3 *e* 20 55 17.7
VNA3 *e* 20 55 25.2
VNA3 *e* 20 55 47.2
VNA3 *e* 20 56 09.0
VNA3 *e* 20 56 33.8
VNA3 *e* 20 57 43.7
VNA3 *e* 20 58 01.4
VNA3 *e* 20 58 07.4
VNA3 *e* 20 58 35.0
VNA3 *e* 20 58 43.8
VNA3 *e* 20 58 56.8
VNA3 *e* 20 59 12.2
VNA3 *e* 20 59 27.7
VNA3 *e* 20 59 30.3
VNA3 *e* 20 59 51.7
VNA3 *e* 21 00 00.5
VNA3 *e* 21 01 33.1
VNA3 *e* 21 01 44.8
VNA3 *e* 21 01 52.7
VNA3 *e* 21 02 05.4
VNA3 *e* 21 02 18.0
VNA3 *e* 21 05 51.1
VNA3 *e* 21 05 54.7

VNA3				*e*		21 05 59.1	
VNA3				*e*		21 06 01.6	
VNA3				*e*		21 06 12.9	
VNA3				*e*		21 17 32.0	
VNA3				*e*		21 17 36.1	
VNA3				*e*		21 17 39.9	
VNA3				*e*		21 17 44.4	
ANMO	**Albuquerque**	**100.10**	**56**	*i* P	Pdif	20 53 39.6	-2.8
ANMO	**Albuquerque**	**100.10**	**56**	P	Pdif	20 53 43.8	+1.4
comp=Z,3.4nm,1.1s,baz=250,slow=6.5,SNR=3.0							
VNA2	**Neumayer--Watz**	**100.11**	**185**	*e*Pdiff	Pdif	20 53 41.4	-1.0
VNA2				*e*		20 53 46.1	
VNA2				*e*		20 53 47.8	
VNA2				*e*		20 53 51.1	
VNA2				*e*		20 53 53.9	
VNA2				*e*		20 53 58.0	
VNA2				*e*		20 54 06.0	
VNA2				*e*		20 54 18.3	
VNA2				*e*		20 54 24.9	
VNA2				*e*		20 54 32.3	
VNA2				*e*		20 54 42.2	
VNA2				*e*		20 54 46.3	
VNA2				*e*		20 54 50.6	
VNA2				*e*		20 54 53.7	
VNA2				*e*		20 54 57.3	
VNA2				*e*		20 55 10.0	
VNA2				*e*		20 55 19.0	
VNA2				*e*		20 55 26.5	
VNA2				*e*		20 55 49.2	
VNA2				*e*		20 56 10.8	
VNA2				*e*		20 56 35.4	
VNA2				*e*		20 57 45.8	
VNA2				*e*		20 58 03.0	
VNA2				*e*		20 58 09.2	
VNA2				*e*		20 58 38.7	
VNA2				*e*		20 58 45.9	
VNA2				*e*		20 58 58.9	
VNA2				*e*		20 59 14.5	
VNA2				*e*		20 59 29.3	
VNA2				*e*		20 59 32.1	
VNA2				*e*		20 59 53.1	
VNA2				*e*		21 00 02.1	
VNA2				*e*		21 01 33.1	
VNA2				*e*		21 01 44.7	
VNA2				*e*		21 01 52.9	
VNA2				*e*		21 02 06.3	
VNA2				*e*		21 02 18.7	
VNA2				*e*		21 05 51.3	
VNA2				*e*		21 05 55.2	
VNA2				*e*		21 06 00.4	
VNA2				*e*		21 06 02.9	
VNA2				*e*		21 06 15.0	
VNA2				*e*		21 17 31.1	
VNA2				*e*		21 17 36.5	
VNA2				*e*		21 17 40.8	
VNA1	**Neumayer--Stat**	**100.45**	**185**	*e*Pdiff	Pdif	20 53 42.1	-1.9
VNA1				*e*		20 53 47.2	
VNA1				*e*		20 53 49.9	
VNA1				*e*		20 54 42.2	
VNA1				*e*		20 54 45.7	
VNA1				*e*		20 54 57.4	
VNA1				*e*		20 55 09.3	
VNA1				*e*		20 55 20.4	
VNA1				*e*		20 55 28.6	
VNA1				*e*		20 55 51.2	
VNA1				*e*		20 56 13.1	
VNA1				*e*		20 56 35.7	
VNA1				*e*		20 57 48.9	
VNA1				*e*		20 58 05.4	
VNA1				*e*		20 58 38.6	
VNA1				*e*		20 58 47.4	
VNA1				*e*		20 58 59.4	
VNA1				*e*		20 59 13.0	
VNA1				*e*		20 59 36.8	
VNA1				*e*		20 59 54.7	
VNA1				*e*		21 00 04.0	
VNA1				*e*		21 01 31.6	
VNA1				*e*		21 01 43.5	
VNA1				*e*		21 01 51.5	
VNA1				*e*		21 02 03.9	
VNA1				*e*		21 02 15.9	
VNA1				*e*		21 05 52.5	
VNA1				*e*		21 05 59.4	
VNA1				*e*		21 06 02.7	
VNA1				*e*		21 06 14.7	
VNA1				*e*		21 17 31.4	
VNA1				*e*		21 17 37.3	
VNA1				*e*		21 17 40.6	
VNA1				*e*		21 17 44.5	
SVE	**Sverdlovsk**	**100.51**	**326**	*ce*P	Pdif	20 53 49.5	+5.3
SVE				*e*S	SKSac	21 04 25.6	+2.4
SVE				pmax	pmax		
comp=Z,22μm,18.0s							
LAO	**LASA Array**	**100.71**	**44**	*e*Pdif	Pdif	20 53 44.4	-0.8
comp=Z,5.0nm,1.1s							
LAO				*e*PP	PP	20 57 49.4	-3.3
LAO				LR	LR		
comp=Z,366μm,20.0s,MS7.9							
MNTX	**Cornudas Mount**	**100.82**	**59**	*e*Pdif	Pdif	20 53 47.1	+1.5
comp=Z,386nm,0.6s							
MNTX				*e*PP	PP	20 57 48.5	-5.6
MNTX				LR	LR		
comp=Z,487μm,20.0s,MS8.0							
PMSA	**Palmer Station**	**100.82**	**163**	Pdif	Pdif	20 53 47.0	+1.4
PMSA				LR	LR		
comp=Z,166μm,20.0s,MS7.5							
ISCO	**Idaho Springs**	**100.99**	**51**	*e*Pdif	Pdif	20 53 46.6	+0.2
comp=Z,9μm,0.5s							
ISCO				*e*PP	PP	20 57 58.6	+3.6
ISCO				LR	LR		
comp=Z,241μm,21.0s,MS7.7							
ISCO	**Idaho Springs**	**100.99**	**51**	*e*P	Pdif	20 53 46.6	+0.2
ISCO				*e*		20 57 58.7	
ISCO				pmax	pmax		
comp=Z,9μm,0.5s							
ISCO				MLR	MLR		
comp=Z,241μm,21.0s,MS7.7							
SDCO	**Great Sand Dun**	**101.01**	**53**	*e*Pdif	Pdif	20 53 47.0	+0.6
comp=Z,211nm,1.4s							
SDCO				*e*PP	PP	20 57 56.7	+1.4
SDCO				LR	LR		
comp=Z,393μm,21.0s,MS7.9							
ARU	**Arti**	**101.67**	**326**	*e*Pdif	Pdif	20 53 46.4	-3.0
comp=Z,345nm,1.0s							
ARU				*e*PP	PP	20 57 54.4	-5.3
ARU				LR	LR		
comp=Z,373μm,20.0s,MS7.9							
ARU	**Arti**	**101.67**	**326**	*e*P	Pdif	20 53 46.8	-2.6
ARU				*e*		20 57 57.7	
ARU				*e*S	SKSac	21 04 26.3	-2.5
ARU				*e*SP	SP	21 06 53.3	-8.8
ARU				*e*PS	PS	21 07 03.8	-0.1
DGMT	**Dagmar**	**102.09**	**42**	*e*Pdif	Pdif	20 53 50.8	-0.4
comp=Z,360nm,1.8s							
DGMT				*e*PP	PP	20 58 04.6	+1.5
DGMT				LR	LR		
comp=Z,314μm,20.0s,MS7.8							
AKTK	**Aktyubinsk**	**102.20**	**320**	P	Pdif	20 53 49.5	-2.3
AKTO	**Aktyubinsk**	**102.20**	**320**	P	Pdif	20 53 49.5	-2.3
comp=Z,6.9nm,0.7s,baz=92,slow=6.4,SNR=11							
RSSD	**Black Hills**	**102.23**	**47**	Pdif	Pdif	20 53 52.2	+0.3
RSSD				PP	PP	20 58 05.3	+1.0
RSSD				LR	LR		
comp=Z,427μm,20.0s,MS8.0							
RES	**Resolute Bay**	**102.84**	**15**	*e*Pdif	Pdif	20 53 50.5	-4.1
comp=Z,149nm,1.9s							
RES				*e*PP	PP	20 58 07.8	-0.1
RES	**Resolute Bay**	**102.84**	**15**	*e*P	Pdif	20 53 50.5	-4.1
RES				*e*		20 58 07.8	
RES				pmax	pmax		
comp=Z,149nm,1.9s							
FFC	**Flin Flon**	**103.20**	**36**	*e*Pdif	Pdif	20 53 54.7	-1.5
comp=Z,12nm,1.2s							
FFC				*e*PP	PP	20 58 12.0	+0.8
FFC				LR	LR		
comp=Z,749μm,20.0s,MS8.2							
FFC	**Flin Flon**	**103.20**	**36**	P	Pdif	20 53 54.7	-1.5
FFC				pmax	pmax		
comp=Z,12nm,1.2s							
FFC				MLR	MLR		
comp=Z,750μm,20.0s,MS8.2							
HATD	**Hatta, Dubai**	**103.35**	**294**	Pdiff	Pdif	20 53 59.3	+2.5
SNR=14							
ASHO	**Ashiyiah**	**103.41**	**293**	Pdiff	Pdif	20 53 59.8	+2.7
SNR=20							
CBKS	**Cedar Bluff**	**105.55**	**52**	PFAKE		20 58 30.0	+10
CBKS				LR	LR		
comp=Z,326μm,20.0s,MS7.9							
JCT	**Junction City**	**105.56**	**61**	*e*Pdif	Pdif	20 54 06.9	+0.2
comp=Z,50nm,1.1s							
JCT				*e*PP	PP	20 58 33.4	+3.8
JCT				LR	LR		
comp=Z,668μm,20.0s,MS8.2							
JCT	**Junction City**	**105.56**	**61**	P	Pdif	20 54 08.3	+1.6
JCT				pmax	pmax		
comp=Z,50nm,1.1s							
JCT				MLR	MLR		
comp=Z,670μm,20.0s,MS8.2							
OPO	**Ambohidratompo**	**105.80**	**248**	Pdiff	Pdif	20 54 12.6	+4.9
comp=Z,2.8nm,0.9s,baz=63,slow=2.3,SNR=2.0							
WMOK	**Wichita Mounta**	**106.41**	**56**	*e*Pdif	Pdif	20 54 09.2	-1.3
comp=Z,15nm,1.1s							
WMOK				LR	LR		
comp=Z,243μm,20.0s,MS7.8							
WMOK	**Wichita Mounta**	**106.41**	**56**	P	Pdif	20 54 15.6	+5.1
WMOK				pmax	pmax		
comp=Z,15nm,1.1s							
WMOK				MLR	MLR		
comp=Z,240μm,20.0s,MS7.7							
FCC	**Fort Churchill**	**106.94**	**31**	*e*Pdif	Pdif	20 54 14.2	+1.4
comp=Z,0.8nm,0.8s							
FCC				*e*PP	PP	20 58 37.3	-1.4
FCC	**Fort Churchill**	**106.94**	**31**	P	Pdif	20 54 14.8	+2.0
FCC				pmax	pmax		
comp=Z,1.0nm,0.9s							
KVTX	**Kingsville**	**107.20**	**64**	PKiKP	PKiKP	20 58 23.1	-0.7
KVTX				LR	LR		
comp=Z,306μm,19.0s,MS7.9							
ULM	**Lac du Bonnet**	**107.38**	**40**	Pdiff	Pdif	20 54 16.1	+1.4
comp=Z,6.1nm,1.0s,baz=277,slow=6.9,SNR=4.1							
KBS	**Kingsbay**	**107.46**	**353**	*e*	Pdif	20 54 11.4	-3.7
KBS				*e*PP	PP	20 58 41.0	-1.0
KBS				*e*SS	SS	21 13 57.1	+6.3
KBS	**Kingsbay**	**107.46**	**353**	*e*	PP	20 58 45.7	+3.7
KBS	**Kingsbay**	**107.46**	**353**	*e*P	Pdif	20 54 12.2	-2.9
KBS				*e*		20 58 41.0	
KBS				MLR	MLR		
comp=Z,281μm,20.0s,MS7.8							
ECSD	**EROS,Sioux Fal**	**107.61**	**47**	*e*Pdif	Pdif	20 54 15.1	-0.7
comp=Z,671nm,0.5s							
ECSD				*e*PP	PP	20 58 43.5	-0.7
ECSD				LR	LR		
comp=Z,386μm,22.0s,MS7.9							
AGMN	**Agassiz Refuge**	**107.64**	**42**	Pdif	Pdif	20 54 15.7	-0.2
comp=Z,1μm,2.2s							
AGMN				*e*PP	PP	20 58 45.4	+1.2
KSU1	**Kansas State U**	**107.97**	**52**	Pdif	Pdif	20 54 18.1	+0.7
KSU1				LR	LR		
comp=Z,327μm,21.0s,MS7.9							
HKT	**Hockley**	**109.00**	**61**	*e*Pdif	Pdif	20 54 24.2	+2.2
comp=Z,187nm,1.6s							
HKT				*e*PP	PP	20 58 54.1	-0.7
HKT				LR	LR		
comp=Z,738μm,19.0s							
HKT	**Hockley**	**109.00**	**61**	*e*P	Pdif	20 54 24.2	+2.2
HKT				*e*		20 58 54.1	
HKT				pmax	pmax		
comp=Z,187nm,1.6s							
HKT				MLR	MLR		
comp=Z,738μm,19.0s							
BJO	**Bjornoya**	**109.74**	**349**	*e*PKPdf	Pdif	20 54 26.6	+1.3
BJO				*e*		20 58 57.2	
BJO				*e*		21 14 26.5	
BJO				AMS	AMS	21 48 26.1	
comp=Z,322μm,15.7s,MS8.0							
BJO	**Bjornoya**	**109.74**	**349**	*e*	PP	20 58 57.2	-1.4
BJO1	**Bjornoya**	**109.77**	**349**	*e*P	Pdif	20 54 26.6	+1.1
BJO1				*e*PP	PP	20 58 57.2	-1.7
TMCR	**Tamitsa**	**109.95**	**336**	*e*P	Pdif	20 54 33.4	+7.2
TMCR				*e*		20 59 03.3	
TMCR				pmax	pmax		
comp=Z,59nm,1.1s							
MAK	**Makhachkala**	**109.98**	**313**	*d* P	Pdif	20 54 32.5	+6.1
MAK				*i*		20 59 06.6	
MAK				*i* PPP		21 01 26.0	
MAK				*e*		21 05 36.2	
MAK				*e*SS	SS	21 14 24.3	-2.6
MAK				pmax	pmax		
comp=Z,325nm,3.4s							
MAK				MLR	MLR		
comp=Z,393μm,22.0s,MS7.9							
MAK				MLR	MLR		
comp=N,306μm,18.0s							
APA	**Apatity**	**110.18**	**340**	*i* P	Pdif	20 54 36.3	+9.1
EYMN	**Ely**	**110.58**	**42**	PFAKE		20 58 40.0	+10
EYMN				LR	LR		
comp=Z,407μm,20.0s,MS8.0							
MIAR	**Mount Ida**	**110.71**	**56**	Pdif	Pdif	20 54 32.2	+2.6
MIAR				LR	LR		
comp=Z,358μm,20.0s,MS8.0							
QRN	**Al-Qurain**	**110.75**	**297**	*e*P	PP	20 59 06.7	-0.8
QRN				AMb	AMB	20 59 15.0	
comp=Z,246nm,0.8s							
KEV	**Kevo**	**110.99**	**343**	PFAKE		20 58 40.0	+10
KEV				LR	LR		
comp=Z,309μm,22.0s,MS7.8							
RDF	**Al-Radifah**	**111.06**	**298**	*e*P	PP	20 59 06.5	-3.3
RDF				AMb	AMB	20 59 15.7	
comp=Z,363nm,1.1s							
MIB	**Mutribah**	**111.21**	**299**	*e*P	PP	20 59 07.5	-3.3
MIB				AMb	AMB	20 59 20.3	
comp=Z,109nm,1.2s							
NAY	**Al-Naaiem**	**111.32**	**298**	*e*P	PP	20 59 07.9	-3.7
NAY				AMb	AMB	20 59 35.8	
comp=Z,142nm,1.2s							
ARCES	**ARCESS Array B**	**111.55**	**344**	Pdiff	Pdif	20 54 38.7	+5.4
comp=Z,9.8nm,1.0s,baz=96,slow=1.2,SNR=3.6							
DAG	**Danmarks Havn**	**111.67**	**359⇑**	*e*P	Pdif	20 54 30.5	-3.3
DAG				pmax	pmax		
comp=Z,8.0nm,1.1s							
DAG	**Danmarks Havn**	**111.67**	**359⇑**	*i*P	Pdif	20 54 30.5	-3.3
comp=Z,7.6nm,1.1s							
MTA	**Mtatsminda**	**112.15**	**312**	P	SP	21 08 45.6	-3.5
TBLG	**Delisi**	**112.19**	**312**	P	SP	21 09 01.1	+12
JFWS	**Jewell Farm**	**112.32**	**47**	PFAKE		20 58 40.0	+7.0
JFWS				LR	LR		
comp=Z,273μm,19.0s,MS7.9							
COWI	**Conover**	**112.52**	**44**	PFAKE		20 58 40.0	+6.7
COWI				LR	LR		
comp=Z,270μm,20.0s,MS7.8							
EFI	**East Falkland**	**112.95**	**157**	PFAKE		20 58 40.0	+6.0
EFI				LR	LR		
comp=Z,110μm,22.0s,MS7.4							
ONI	**Oni**	**112.99**	**313**	P	PKKPbc	21 09 19.4	-2.9
CLDR	**Caldiran**	**113.19**	**309**	*e*P	Pdif	20 54 46.0	+5.4
JOF	**Joensuu**	**113.21**	**336**	*e*PKP	Pdif	20 54 43.6	+2.9
JOF				*e*PKP	PKiKP	20 58 30.1	-4.0
TRO	**Tromso**	**113.23**	**345**	*e*P	Pdif	20 54 36.5	-4.3
TRO				*e*PP	PP	20 59 26.1	+2.4
TRO	**Tromso**	**113.23**	**345**	*e*	Pdif	20 54 48.2	+7.4
TRO				*e*PP	PP	20 59 26.1	+2.4
TRO				*e*SS	SS	21 15 10.2	+1.8
TRO				AMS	AMS	21 48 36.2	
comp=Z,219μm,14.7s,MS7.9							
TRO	**Tromso**	**113.23**	**345**	*e*	PP	20 59 25.8	+2.1
MOS	**Moscow**	**113.27**	**328**	*i* P	Pdif	20 54 41.5	+0.6
MOS				*e*		20 59 31.0	
MOS				*e*PPP		21 01 54.5	
MOS				*e*SP	SP	21 09 03.5	+5.1
MOS				*e*SS	SS	21 15 27.2	+18
MOS				pmax	pmax		
comp=Z,2μm,6.1s							
KIV	**Kislovodsk**	**113.29**	**314**	PFAKE		20 58 40.0	+5.2
KIV				LR	LR		
comp=Z,216μm,20.0s,MS7.7							
KIV	**Kislovodsk**	**113.29**	**314**	*e*P	Pdif	20 54 43.3	+2.2
KIV				*e*		20 59 28.3	
KIV				*e*PS	PS	21 08 58.3	-2.9
KIV				*e*SS	SS	21 15 12.7	+1.8
KIV				*e*SSS		21 19 12.0	
KIV				pmax	pmax		
comp=Z,29nm,1.0s							
KIV				MLR	MLR		
comp=Z,212μm,24.0s,MS7.7							
KIV	**Kislovodsk**	**113.29**	**314**	‖ *i*P	PP	20 59 13.4	-12
HDIL	**Hopedale**	**113.41**	**49**	PFAKE		20 58 50.0	+15
HDIL				LR	LR		
comp=Z,247μm,19.0s,MS7.8							
BHD	**Baghdad**	**113.50**	**303**	*ex*	x	20 54 40.0	
BHD				*ex*	x	20 54 44.0	
BHD				*ex*	x	20 58 36.0	
BHD				*ex*	x	20 59 26.0	
BHD				*ex*	x	21 02 10.0	
BHD				*ex*	x	21 05 18.0	
BHD				*ex*	x	21 06 25.0	
BHD				*i* x	x	21 08 58.0	
BHD				*i* x	x	21 09 05.0	
BHD				*i* x	x	21 15 13.0	
VOR	**Voronezh**	**113.67**	**323**	P	Pdif	20 54 39.0	-3.7
VOR				pmax	pmax		
comp=Z,250nm,2.0s							
VANB	**Van**	**113.67**	**308**	*e*P	Pdif	20 54 48.0	+5.3
CUKT	**Cukurca**	**113.69**	**307**	*e*P	Pdif	20 54 45.5	+2.7
VRSR	**Storozhevoye**	**113.83**	**323**	*e*P	Pdif	20 54 49.8	+6.4
VRSR				*i*		20 59 28.4	
AGRB	**Hanur-Agry**	**113.83**	**309**	*e*P	Pdif	20 54 46.8	+3.3
VORD	**Divnogorie**	**113.84**	**322**	*e*P	Pdif	20 54 39.1	-4.4
VORD				pmax	pmax		
comp=N,40nm,0.6s							
VORD				pmax	pmax		
comp=Z,10.0nm,0.6s							
VORD				pmax	pmax		
comp=E,100nm,0.8s							
OBN	**Obninsk**	**114.05**	**327**	PFAKE		20 58 50.0	+14
OBN				LR	LR		
comp=Z,326μm,22.0s,MS7.9							
OBN	**Obninsk**	**114.05**	**327**	*c i*P	Pdif	20 54 46.0	+1.6
OBN				*e*		20 59 35.9	
OBN				*e*PS	PS	21 09 09.9	+2.2
OBN				*e*SS	SS	21 15 30.3	+10
OBN				*e*SSS		21 19 32.9	
OBN				pmax	pmax		
comp=Z,96nm,1.4s							
OBN				MLR	MLR		
comp=Z,290μm,23.0s,MS7.8							
MSL	**Mosul**	**114.22**	**306**	*ex*	x	20 54 55.5	
PLCA	**Paso Flores**	**114.35**	**142**	PKP	PKiKP	20 58 39.2	+2.2
comp=Z,5.8nm,0.9s,baz=201,slow=1.1,SNR=5.4							
PLCA				PP	PP	20 59 25.3	-6.9
comp=Z,19nm,0.7s,baz=222,slow=3.9,SNR=9.6							
PLCA				PKKPab	PKKPab	21 09 28.1	+3.9
comp=Z,11nm,0.8s,baz=46,slow=6.0,SNR=4.5							
BCA	**Borcka**	**114.54**	**312**	*e*P	Pdif	20 54 47.4	+0.8
EZM	**Erzurum**	**115.01**	**310**	*e*P	Pdif	20 54 48.0	-0.7
PZAR	**Pazar-Rize**	**115.12**	**312**	*e*P	Pdif	20 54 51.9	+2.7
PLAL	**Pickwick Lake**	**115.17**	**55**	PFAKE		20 58 50.0	+11
PLAL				LR	LR		
comp=Z,305μm,20.0s,MS7.9							
WVT	**Waverly**	**115.21**	**54**	PFAKE		20 58 50.0	+11
WVT				LR	LR		
comp=Z,351μm,22.0s,MS7.9							
SOC	**Sochi**	**115.47**	**314**	*d i*P	Pdif	20 54 54.1	+3.4
SOC				*i*		20 58 41.5	
SOC				*e*		20 59 46.4	
SOC				*e*PPP		21 02 02.2	
SOC				*e*		21 05 40.7	
SOC				*e*PS	PS	21 09 23.4	+2.2
SOC				*e*SS	SS	21 15 48.8	+9.2
SOC				*e*SSS		21 19 47.0	
SOC				pmax	pmax		
comp=Z,52nm,1.2s							
SOC				MLR	MLR		
comp=Z,348μm,23.0s,MS7.9							
KAF	**Kangasniemi**	**115.61**	**337**	*e*pkp	pPKPdf	20 58 50.1	+8.1
KAF	**Kangasniemi**	**115.61**	**337**	*e*PKP	Pdif	20 55 00.9	+10
KAF				*e*PKP	pPKPdf	20 58 50.1	+8.1
GLMI	**Grayling**	**115.91**	**44**	PFAKE		20 58 50.0	+10
GLMI				LR	LR		
comp=Z,258μm,20.0s,MS7.8							
TEIG	**Tepich**	**116.00**	**72**	PKPdf	PKPdf	20 58 50.1	+9.4
TEIG				*e*PP	PP	20 59 44.5	-0.6
TEIG				LR	LR		
comp=Z,281μm,21.0s,MS7.8							
KTUT	**Trabzon**	**116.00**	**312**	*e*P	Pdif	20 54 55.0	+1.9
FINES	**FINESS Array B**	**116.07**	**336**	PKP	PKPdf	20 58 40.2	+0.5
comp=Z,7.9nm,0.9s,baz=63,slow=1.9,SNR=4.2							
FINES				PP	PP	20 59 34.5	-9.5
comp=Z,55nm,0.8s,baz=85,slow=4.2,SNR=7.2							
WCI	**Wyandotte Cave**	**116.09**	**52**	PKPdf	PKPdf	20 58 39.8	-0.6
WCI				LR	LR		
comp=Z,373μm,19.0s,MS8.0							
EZC	**Erzincan**	**116.21**	**310**	*e*P	Pdif	20 54 59.5	+5.4
LRAL	**Lakeview Retre**	**116.31**	**57**	*e*PKPdf	PKPdf	20 58 41.8	+0.9
LRAL				LR	LR		
comp=Z,409μm,20.0s,MS8.0							
BRAL	**Brewton**	**116.49**	**60**	PFAKE		20 58 50.0	+8.6
BRAL				LR	LR		
comp=Z,390μm,21.0s,MS8.0							
ANN	**Anapa**	**116.76**	**316**	*i* P	Pdif	20 54 58.1	+1.6
ANN				*i*		20 58 43.4	
ANN				*e*		21 05 36.1	
ANN				*e*SS	SS	21 16 07.3	+11
ANN				pmax	pmax		
comp=Z,939nm,7.0s							
ESPY	**Espiye-Giresun**	**116.78**	**312**	*e*P	Pdif	20 54 58.8	+2.3
JMIC	**Jan Mayen**	**116.86**	**355**	*e*	Pdif	20 55 06.1	+9.2
JMIC				*e*PP	PP	20 59 48.9	-0.2
SWET	**Sewanee**	**116.88**	**55**	*e*PKPdf	PKPdf	20 58 40.6	-1.4
SWET				*e*PP	PP	20 59 51.8	+1.1
URFA	**Urfa**	**117.42**	**308**	*e*P	Pdif	20 54 58.8	-0.6
MALT	**Malatya**	**117.56**	**309**	*e*P	Pdif	20 55 02.0	+2.0
MALT	**Malatya**	**117.56**	**309**	‖ *i*P	PKPdf	20 58 47.6	+4.4
ACSO	**Alum Creek Sta**	**118.19**	**49**	*e*PKPdf	PKPdf	20 58 43.3	-1.1
ACSO				LR	LR		
comp=Z,307μm,21.0s,MS7.9							
TKL	**Tuckaleechee C**	**118.54**	**54**	PKP	PKPdf	20 58 48.0	+2.8
comp=Z,15nm,0.8s,baz=262,slow=4.5,SNR=3.6							
TKL				PP	PP	21 00 01.0	-1.2
comp=Z,84nm,1.1s,baz=252,slow=9.3,SNR=2.6							
TZTN	**Tazewell**	**118.55**	**53**	PFAKE		20 59 00.0	+15
TZTN				LR	LR		
comp=Z,372μm,20.0s,MS8.0							
CLCH	**Cerro Calan**	**118.59**	**135**	*e*P	PKPdf	20 58 53.0	+7.5
SFJD	**Kangerlussuaq**	**118.59**	**12**	*e*PKIKP	PKPdf	20 58 45.6	+1.2
SFJD				MLR	MLR		
comp=Z,240μm,19.0s,MS7.8							
SFJD	**Kangerlussuaq**	**118.59**	**12**	PKP	PKPdf	20 58 48.2	+3.9
comp=Z,24nm,1.0s,baz=343,slow=5.2,SNR=6.0							
SFJD	**Kangerlussuaq**	**118.59**	**12**	*i* P	Pdif	20 55 09.4	+4.8
SFJD	**Kangerlussuaq**	**118.59**	**12**	*i* P	PKPdf	20 58 45.6	+1.2
SFJD				*i*		20 59 07.0	
SFJD				*i* S	PS	21 09 59.2	+11
SFJD				*i*		21 17 02.5	
SFJD							
comp=Z,240μm,19.0s							
KVT	**Kavak**	**118.72**	**312**	*e*P	Pdif	20 55 07.1	+1.9
FCH	**Farellones**	**118.80**	**135**	*e*P	PKPdf	20 58 49.0	+3.2
NSS	**Namsos**	**118.83**	**344**	*e*Pdif	Pdif	20 55 05.3	-0.4
NSS				*e*PP	PP	21 00 01.9	-1.1
NSS				LR	LR		
comp=Z,306μm,20.8s,MS7.9							
NSS	**Namsos**	**118.83**	**344**	*e*PP	PP	21 00 01.9	-1.1
NSS				*e*		21 16 36.3	
NSS				AMS	AMS	21 51 14.3	
comp=Z,306μm,20.8s,MS7.9							
MNK	**Minsk**	**118.89**	**329**	*de*P	Pdif	20 55 12.0	+6.0
MNK				*e*		20 58 44.0	
MNK				*e*		21 00 08.0	
MNK				*e*		21 05 36.0	
MNK				*e*SS	SS	21 16 28.0	+4.9
KMRS	**Kahramanmaras**	**118.91**	**308**	*e*P	Pdif	20 55 06.5	+0.5
SIM	**Simferopol'**	**118.98**	**317**	*ce*P	P

comp=Z,312µm,20.0s,MS7.9
KMBO Kilima Mbogo 119.23 264 PKP PKPdf 20 58 47.0 -0.1
comp=Z,6.0nm,1.1s,baz=82,slow=2.2,SNR=2.3
IIGN Ignalina 119.28 330 *e*P PP 20 59 29.4 -37
IIGN AMb AMB 20 59 32.3
comp=Z,89nm,1.7s
BNN Bunyan 119.41 310 *e*P Pdif 20 55 12.7 +4.5
CMCH Combarbala 119.47 133 *e*P PKPdf 20 58 46.6 -0.6
SADO Sadowa 119.65 43 PKP PKPdf 20 58 47.2 +0.2
baz=282,slow=4.1
KOZT Kozan 119.74 308 *e*P Pdif 20 55 13.4 +3.7
ERPA Erie 119.88 46 PKPdf PKPdf 20 58 47.9 +0.3
ERPA LR LR
comp=Z,309µm,21.0s,MS7.9
AKASG Malin Array Be 119.88 325 P Pdif 20 55 12.2 +1.8
AKASG pmax pmax
comp=Z,2.0nm,0.9s
AKASG Malin Array Be 119.88 325 PKP PKPdf 20 58 48.5 +1.2
comp=Z,14nm,0.8s,baz=64,slow=2.2,SNR=11
AKASG PP PP 21 00 16.1 +5.3
comp=Z,35nm,0.9s,baz=66,slow=5.6,SNR=2.2
AKBB Malin Array Si 119.88 325 *e*Pdif Pdif 20 55 08.4 -2.0
AKBB *e*PKPdf PKPdf 20 58 47.4 +0.1
KIEV Kiev 119.89 325 Pdif Pdif 20 55 08.4 -2.0
KIEV *e*PKPdf PKPdf 20 58 47.9 +0.6
KIEV LR LR
comp=Z,252µm,20.0s,MS7.8
ASF Jabal al Asfar 119.90 302 PKP PKPdf 20 58 48.2 +0.3
comp=Z,3.2nm,1.0s,baz=39,slow=1.9,SNR=2.1
CEYT Ceyhan 119.91 308 *e*P Pdif 20 55 13.2 +2.7
BZK Bozkurt 119.95 314 *e*P Pdif 20 55 18.4 +7.7
CORM Corum 119.99 312 *e*P Pdif 20 55 12.2 +1.3
KARA Karaisali 120.39 308 *e*P Pdif 20 55 12.3 -0.4
RCY Rachaya 120.57 304 *e*P PKPdf 20 58 51.5 +2.4
CANT Cankiri 120.62 312 *e*P Pdif 20 55 19.8 +6.1
MCWV Mont Chateau 120.67 49 *e*PKPdf PKPdf 20 58 49.5 +0.4
MCWV LR LR
comp=Z,382µm,19.0s,MS8.1
LCO Las Campanas 120.83 131 *e*PKPdf PKPdf 20 58 49.0 -0.8
LCO LR LR
comp=Z,134µm,21.0s,MS7.6
BLA Blacksburg 120.85 52 *e*PKPdf PKPdf 20 58 49.8 +0.2
BLA LR LR
comp=Z,326µm,22.0s,MS7.9
MERS Mersin 120.90 308 *e*P Pdif 20 55 18.8 +4.0
MMAI Mount Meron Ar 121.00 303 PKP PKPdf 20 58 48.1 -1.9
comp=Z,8.2nm,1.0s,baz=85,slow=2.4,SNR=2.3
TRQA Tornquist 121.15 145 *e*PKPdf PKPdf 20 58 49.9 -0.3
TRQA LR LR
comp=Z,101µm,19.0s,MS7.5
LHS Liberty Hill 121.15 55 *e*PKIKP PKPdf 20 58 55.7 +5.4
CFAA Coronel Fontan 121.20 135 PKP PKPdf 20 58 50.3 -0.2
comp=Z,2.0nm,0.7s,baz=248,slow=3.0,SNR=12
ANTO Ankara 121.43 312 *e*P Pdif 20 55 16.0 -1.2
ANTO Ankara 121.43 312 *e*PKPdf PKPdf 20 58 48.9 -1.8
ANTO LR LR
comp=Z,138µm,21.0s,MS7.6
ANTO Ankara 121.43 312 ⇑*i*P PKPdf 20 58 54.5 +3.9
LOD Lodumlu 121.45 312 *e*P Pdif 20 55 20.4 +3.1
EREN Erenkoy 121.48 307 *e*P Pdif 20 55 17.3 -0.2
SUW Suwalki 121.48 330 *e*Pdiff Pdif 20 55 21.8 +4.3
SUW *e*PKP PKPdf 20 58 49.9 -0.4
SUW *e*PKiKP PKiKP 20 59 03.1 +13
SUW *e*PP PP 21 00 27.6 +6.0
SUW *e*SKS SKSdf 21 06 18.0 +16
SUW *e*PS PS 21 10 12.0 -2.8
SUW *e*SP SP 21 10 15.5 +2.9
SUW *e*SS SS 21 17 07.6 +11
SUW LMZ 21 50 43.5
comp=Z,406µm,23.2s
SUW Suwalki 121.48 330 *e*Pdif Pdif 20 55 21.8 +4.3
SUW *e*PKP PKPdf 20 58 49.8 -0.5
SUW *e*PKPdf PKPdf 20 59 03.1 +13
SUW *e*PP PP 21 00 27.5 +5.9
SUW *e*SKS SKSdf 21 06 18.0 +16
SUW Suwalki 121.48 330 *e*PKIKP PKPdf 20 58 49.8 -0.5
SUW Suwalki 121.48 330 *e*SP SP 21 10 15.5 +2.9
SUW *e*SP SP 21 10 15.5 +2.9
SUW *e*SS SS 21 17 07.6 +11
SUW Suwalki 121.48 330 *e*PS PS 21 10 12.0 -2.8
HFS Hagfors 121.57 339 PKP PKPdf 20 58 52.0 +1.8
comp=Z,6.4nm,0.8s,baz=39,slow=2.9,SNR=3.3
MOL Molde 121.60 344 *e*Pdif Pdif 20 55 20.0 +2.0
MOL *e*PP PP 21 00 25.8 +3.8
MOL Molde 121.60 344 *e* Pdif 20 55 26.3 +8.3
MOL *e*PP PP 21 00 25.8 +3.8
MOL *e*SS SS 21 17 00.1 +3.0
KIS Kishinev 121.68 321 *e*P Pdif 20 55 20.0 +1.6
KIS *i* 21 00 22.0
KIS Kishinev 121.68 321 *e*P Pdif 20 55 20.0 +1.6
comp=Z,3µm,20.0s
KIS Kishinev 121.68 321 *i* PP PP 21 01 02.0 +39
comp=Z,45µm,20.0s
KIS Kishinev 121.68 321 *i* PS PS 21 10 48.0 +31
KIS *i* SKKS SKKSac 21 07 40.0 +17
KIS Kishinev 121.68 321 *i* SKS SKSdf 21 06 07.0 +3.9
IKL Isikli 121.70 307 *e*P Pdif 20 55 17.4 -1.1
DWPF Disney 121.70 62 PFAKE 20 59 00.0 +8.5
DWPF LR LR
comp=Z,70µm,20.0s,MS7.3
NB2 NORSAR Subarra121.72 341 PKPdf PKPdf 20 58 52.6 +2.1
comp=Z,61nm,1.0s,baz=39,slow=1.9
NB2 NORSAR Subarra121.72 341 *e* PKPdf 20 58 52.6 +2.1
baz=39,slow=1.9
NOA NORSAR Array B121.72 341 PKP PKPdf 20 58 52.6 +2.1
comp=Z,7.8nm,0.8s,baz=40,slow=2.1,SNR=11
SUR Sutherland 121.77 224 *e*PKPdf PKPdf 20 58 52.2 +0.6
SUR Sutherland 121.77 224 PKP PKPdf 20 58 53.3 +1.7
comp=Z,8.6nm,0.8s,baz=170,slow=3.3,SNR=5.7
SSPA Standing Stone 121.83 47 *e*PKPdf PKPdf 20 58 49.7 -1.7
SSPA LR LR
comp=Z,77µm,20.0s,MS7.3
NHSC New Hope 121.94 56 *e*PKPdf PKPdf 20 58 54.5 +2.7
NHSC *e*PP PP 21 00 25.4 -0.4
NHSC LR LR
comp=Z,319µm,21.0s,MS8.0
EIL Elat 121.94 300 PKP PKPdf 20 58 57.3 +5.4
comp=Z,18nm,1.1s,baz=102,slow=1.6,SNR=3.3
NAO01 NORSAR Array S 121.97 341 PKPdf PKPdf 20 58 53.3 +2.3
KDZE Karadeniz Ereo 121.98 314 *e*P Pdif 20 55 24.0 +4.3
SCHQ Schefferville 122.12 28 PKP PKPdf 20 58 53.8 +2.3
comp=Z,11nm,0.8s,baz=322,slow=4.5,SNR=5.5
LBTB Lobatse 122.18 233 PKP PKPdf 20 58 51.9 -0.7
comp=Z,5.7nm,0.7s,baz=105,slow=2.4,SNR=3.2
KONT Konya--Tatoy 122.29 310 *e*P Pdif 20 55 12.8 -8.3
MSNY Massena 122.42 41 *e*PKPdf PKPdf 20 58 50.4 -2.0
LEF Lefka 122.59 306 *e*P Pdif 20 55 24.9 +2.5
ATAH Atahualpa 122.66 104 PKP PKPdf 20 58 54.9 +1.1
comp=Z,12nm,0.9s,baz=288,slow=2.5,SNR=7.1
BINY Binghamton 122.68 45 *e*PKPdf PKPdf 20 58 51.9 -1.0
BINY LR LR
comp=Z,528µm,21.0s,MS8.2
NNA Nana 122.73 110 *e*PKPdf PKPdf 20 58 52.8 -1.0
NNA PKP PKPdf 20 58 53.9 +0.1
NNA LR LR
comp=Z,95µm,20.0s,MS7.5
NNA Nana 122.73 110 PKP PKPdf 20 58 53.9 +0.1
comp=Z,8.2nm,0.8s,baz=280,slow=5.5,SNR=2.9
LONY Lake Ozonia 122.75 42 *e*PKPdf PKPdf 20 58 53.4 +0.4
LONY LR LR
comp=Z,495µm,20.0s,MS8.2
CBN Corbin 122.93 50 *e*PKPdf PKPdf 20 58 55.8 +2.3
CBN *e*PP PP 21 00 30.4 -1.7
CBN LR LR
comp=Z,269µm,21.0s,MS7.9
TIRR Tirgusor 122.95 318 ⇑P PKPdf 20 59 02.9 +9.5
TIRR P 20 59 07.8
TIRR Tirgusor 122.95 318 ⇑*i*P PKPdf 20 59 02.9 +9.5
SDMD Soldier's Deli 122.97 48 *e*PKPdf PKPdf 20 58 55.0 +1.4
URVA University of 122.98 51 *e*PKPdf PKPdf 20 58 59.5 +5.8
URVA *e*PP PP 21 00 28.6 -3.9
MVL Millersville 123.15 47 *e*PKPdf PKPdf 20 58 55.3 +1.4
MVL *e*PP PP 21 00 29.7 -3.8
HARR Harsova 123.18 319 ⇑P PKPdf 20 58 57.0 +3.2
HARR Harsova 123.18 319 ⇑*i*P PKPdf 20 58 57.0 +3.2
NCB Newcomb 123.23 42 *e*PKPdf PKPdf 20 58 55.4 +1.4
NCB *e*PP PP 21 00 25.9 -8.0
NCB LR LR
comp=Z,527µm,21.0s,MS8.2
LVV L'vov 123.24 325 *e*P Pdif 20 55 32.3 +7.0
LVV *e* 21 00 37.9
LVV *i* SS SS 21 17 29.6 +11
LVV MLR MLR
comp=N,111µm,23.0s,MS7.6
LVV MLR MLR
comp=E,125µm,23.0s,MS7.6
LVV MLR MLR
comp=Z,178µm,23.0s,MS7.7
KONO Kongsberg 123.30 341 *e*PKPdf PKPdf 20 58 57.4 +3.8
KONO *e*PP PP 21 00 36.9 +3.3
KONO LR LR
comp=Z,301µm,20.0s,MS8.0
KONO Kongsberg 123.30 341 *e* Pdif 20 55 35.4 +10
KONO *e* 20 59 02.7
KONO *e*PP PP 21 00 35.2 +1.7
FRNY Flat Rock 123.31 41 *e*PKPdf PKPdf 20 58 52.6 -1.5
CNNC Cliffs of the 123.32 53 *e*PKPdf PKPdf 20 59 03.7 +9.3
CNNC *e*PP PP 21 00 32.1 -2.8
CNNC LR LR
comp=Z,344µm,20.0s,MS8.0
SHUT Suhut-Afyon 123.48 311 *e*P Pdif 20 55 27.3 +0.9
ADVT Abdulvahap 123.49 313 *e*P Pdif 20 55 25.9 -0.5
PLOR Plostina 123.53 320 ⇓*i*P PKPdf 20 58 53.3 -1.2
WAR Warsaw 123.55 329 *e*Pdiff Pdif 20 55 38.2 +12
WAR *e*PKP PKPdf 20 58 29.6 -25
WAR *e*PKiKP PKiKP 20 59 12.6 +18
WAR *e*PP PP 21 00 55.1 +20
WAR *e*SKS SKSdf 21 06 23.8 +17
WAR *e*PS PS 21 10 31.2 -2.0
WAR *e*SS SS 21 17 36.7 +14
WAR LMZ 21 57 29.8
comp=Z,383µm,23.1s
WAR *e*SS SS 21 17 36.7 +14
WAR Warsaw 123.55 329 *e*PS PS 21 10 31.2 -2.0
ALT Altintas 123.66 312 *e*P Pdif 20 55 28.2 +1.1
YLV Yalova 123.71 314 *e*P Pdif 20 55 30.0 +2.6
ISP Isparta 123.72 310 *e*P Pdif 20 55 29.6 +2.1
ISK Istanbul-Kandi 123.76 314 *e*P Pdif 20 55 33.8 +6.2
BCK Bucak 123.78 310 *e*P Pdif 20 55 28.7 +1.0
BORG Borgarnes 123.78 359 PKP PKPdf 20 58 59.0 +4.6
BORG LR LR
comp=Z,170µm,22.0s,MS7.7
BORG Borgarnes 123.78 359 PKP PKPdf 20 58 59.0 +4.6
comp=Z,20nm,0.9s,baz=204,slow=2.2,SNR=2.5
ACCN Adirondack Com 123.83 43 *e*PKPdf PKPdf 20 58 58.7 +3.5
ACCN *e*PP PP 21 00 36.4 -1.6
GEMT Gemlik 123.88 313 *e*P Pdif 20 55 31.0 +2.9
ANTB Antalya 123.89 309 *e*P Pdif 20 55 31.2 +3.1
BER Bergen 124.01 343 *e* Pdif 20 55 37.7 +9.0
BER *e*PP PP 21 00 38.5 +0.2
BER *e*SS SS 21 17 31.9 +4.2
KWP Kalwaria 124.08 326 *e*Pdiff Pdif 20 55 29.2 +0.2
KWP *e*PKP PKPdf 20 59 08.8 +13
KWP *e*PKiKP PKiKP 20 59 21.5 +26
KWP *e*SKS SKSdf 21 06 14.6 +7.1
KWP *e*SP SP 21 10 36.7 +1.0
KWP *e*PS PS 21 10 57.1 +19
KWP *e*SS SS 21 17 42.6 +13
KWP LMZ 21 54 57.1
comp=Z,312µm,23.0s
KWP Kalwaria 124.08 326 *e*Pdif Pdif 20 55 29.2 +0.2
KWP ⇓P 20 58 58.4
KWP *e*PKP PKPdf 20 59 08.8 +13
KWP *e*PKPdf PKPdf 20 59 21.5 +26
KWP *e*SKS SKSdf 21 06 14.6 +7.1
KWP Kalwaria 124.08 326 ⇓*i*P PKPdf 20 58 58.3 +2.9
KWP Kalwaria 124.08 326 *e*SP SP 21 10 36.7 +0.9
KWP *e*PS PS 21 10 57.1 +19
KWP *e*SS SS 21 17 42.6 +13
KWP Kalwaria 124.08 326 *e*SP SP 21 10 36.7 +0.9
LSZ Lusaka 124.09 245 PFAKE 20 59 10.0 +14
LSZ LR LR
comp=Z,352µm,20.0s,MS8.0
PRD Provadia 124.12 317 P PKPdf 20 59 00.0 +4.3
MLR Muntele Rosu 124.13 320 ⇓P PKPdf 20 58 56.3 +0.7
MLR Muntele Rosu 124.13 320 PKP PKPdf 20 58 57.9 +2.3
comp=Z,19nm,1.1s,baz=19,slow=4.4,SNR=5.1
MLR Muntele Rosu 124.13 320 ⇓*i*P PKPdf 20 58 56.3 +0.7
OTAV Otavalo 124.14 95 *e*PKPdf PKPdf 20 59 01.7 +5.1
OTAV LR LR
comp=Z,135µm,20.0s,MS7.6
BRNJ Basking Ridge 124.20 46 PKPdf PKPdf 20 58 56.2 +0.3
BRNJ *e*PP PP 21 00 47.4 +6.8
ELL Elmali 124.50 309 *e*P Pdif 20 55 37.1 +6.2
PAL Palisades 124.56 46 *e*PKPdf PKPdf 20 58 58.2 +1.6
PAL *e*PP PP 21 00 40.5 -2.5
CPNY Central Park 124.60 46 *e*PKPdf PKPdf 20 58 50.9 -5.8
CPNY *e*PP PP 21 00 49.7 +6.5
BSD Bornholm Skovb 124.61 335 *i* P PKPdf 20 59 03.2 +7.0
BSD *e* 20 59 38.0
BSD *i* 21 00 45.8
BSD *i* 21 10 41.8
BSD *i* 21 17 41.0
BSD *i* 21 22 11.3
BSD
comp=Z,449µm,19.0s
HNH Hanover 124.63 42 *e*PKPdf PKPdf 20 58 57.4 +0.8
LBNH Lisbon 124.64 41 *e*PKPdf PKPdf 20 58 56.4 -0.2
LBNH *e*PP PP 21 00 40.8 -2.5
LBNH LR LR
comp=Z,592µm,20.0s,MS8.2
KOLS Kolonicke sedl 124.68 325 *e*PKP PKPdf 20 58 56.4 -0.2
KOLS *e* 20 59 28.7
KOLS *e* 20 59 40.9
KOLS *e*SP SP 21 10 42.9 +1.7
KOLS *e*SS SS 21 17 36.3 -0.9
VOIR 124.72 320 P PKPdf 20 59 02.6 +5.9
GKP Gorka Klasztor 124.78 332 *e*Pdiff Pdif 20 55 40.4 +8.3
GKP *e*PKP PKPdf 20 58 55.5 -1.1
GKP *e*PKiKP PKiKP 20 59 23.0 +26
GKP *e*PP PP 21 00 43.5 -0.3
GKP *e*SKS SKSdf 21 05 59.2 -9.4
GKP *e*PS PS 21 10 43.0 -0.9
GKP *e*SP SP 21 10 52.5 +11
GKP *e*SS SS 21 17 53.6 +16
GKP LMZ 21 57 03.9
comp=Z,522µm,21.7s
GKP Gorka Klasztor 124.78 332 *e*Pdif Pdif 20 55 40.4 +8.3
GKP *e*PKP PKPdf 20 58 55.5 -1.1
GKP *e*PKPdf PKPdf 20 59 23.0 +26
GKP *e*PP PP 21 00 43.5 -0.3
GKP *e*SKS SKSdf 21 05 59.2 -9.4
GKP Gorka Klasztor 124.78 332 *e*PKIKP PKPdf 20 58 55.5 -1.1
GKP *e*SP SP 21 10 52.4 +11
GKP *e*SS SS 21 17 53.6 +16
GKP Gorka Klasztor 124.78 332 *e*PS PS 21 10 43.0 -1.0
UZH Uzhgorod 124.83 325 ⇓*i*P Pdif 20 55 34.0 +1.7
UZH *i* 20 58 57.0
UZH *e* 20 59 11.2
UZH *i* 21 00 44.6
UZH *i* SS SS 21 17 50.0 +11
UZH MLR MLR
comp=Z,144µm,22.0s,MS7.6
KULA Kula-Manisa 124.90 311 *e*P Pdif 20 55 34.4 +1.8
TRPA Tarpa 124.94 324 ⇓*i*P PKPdf 20 59 06.7 +10
JMB Yambol 124.96 317 P PKPdf 20 59 01.2 +3.9
STHS Stebnicka Huta 125.00 326 *e*PKP PKPdf 20 58 59.7 +2.5
STHS *e* 20 59 40.7
STHS *e* 20 59 52.6
STHS *e*PP PP 21 00 53.0 +7.6
SZH Strazhica 125.08 318 P PKPdf 20 59 03.0 +5.5
BALB Balikesir 125.10 313 *e*P Pdif 20 55 39.5 +5.9
MFT Murefte 125.12 314 *e*P Pdif 20 55 39.2 +5.6
FFD Franklin Falls 125.14 42 *e*PKPdf PKPdf 20 59 03.0 +5.4
FFD *e*PP PP 21 00 49.9 +3.3
CRVS Cervenica-Dubn 125.15 326 *e*PKP PKPdf 20 59 00.6 +3.1
CRVS *e* 20 59 43.9
CRVS *e* 21 11 01.9
CRVS *e*SS SS 21 17 40.5 -2.6
QUA2 Belchertown 125.16 44 *e*PKPdf PKPdf 20 58 55.0 -2.7
QUA2 *e*PP PP 21 00 55.1 +8.3
FETY Fethiye 125.17 309 *e*P Pdif 20 55 39.5 +5.6
RKY Sarkoy-Tekirda 125.23 314 *e*P Pdif 20 55 36.3 +2.2
COP Copenhagen 125.23 336 *e*PKIKP PKPdf 20 59 03.3 +5.9
COP *i* 21 00 50.7
COP MLR MLR
comp=Z,180µm,19.0s,MS7.8
COP Copenhagen 125.23 336 *i* P PKPdf 20 59 03.3 +5.9
COP *i* 21 00 50.7
COP *i* 21 08 40.2
COP *i* 21 17 49.4
COP *i* 21 30 42.1
COP
comp=Z,176µm,19.0s
ZIMR 125.29 318 ⇑P PKPdf 20 59 02.3 +4.4
ZIMR P 20 59 09.4
ZIMR 125.29 318 ⇑*i*P PKPdf 20 59 02.3 +4.4
OJC Ojcow 125.33 328 *e*Pdiff Pdif 20 55 41.8 +7.2
OJC *e*PKPdf PKPdf 20 59 04.7 +6.9
OJC *e*PP PP 21 00 57.8 +10
OJC *e*SP SP 21 10 54.1 +7.4
OJC *e*SS SS 21 17 53.3 +8.0
OJC L 21 56 41.4
comp=Z,287nm,19.2s
PVL Pavlikeni 125.49 318 P PKPdf 20 59 01.9 +3.6
NIE Niedzica 125.51 327 *e*PKP PKPdf 20 58 58.2 +0.1
DRGR 125.51 323 ⇓P PKPdf 20 59 00.1 +1.9
DRGR 125.51 323 ⇓*i*P PKPdf 20 59 00.1 +1.9
MRKH Merkhyat 125.53 283 *e*PP PP 21 01 13.3 +23
MRKH *e* 21 17 47.9
HRV Adam Dziewonsk 125.60 43 *e*PKPdf PKPdf 20 59 08.2 +10
HRV *e*PP PP 21 00 44.0 -5.8
HRV LR LR
comp=Z,420µm,20.0s,MS8.1
HRV Adam Dziewonsk 125.60 43 PKIKP PKPdf 20 59 00.5 +2.0
HRV MLR MLR
comp=Z,420µm,20.0s,MS8.1
RGN Rugen 125.67 335 *e*Pdiff Pdif 20 55 43.2 +7.1
RGN *e*PKPdf PKPdf 20 58 57.8 -0.5
RGN *e*PP PP 21 00 54.0 +4.4
RGN *e*Sdiff Sdif 21 09 04.1 +13
RGN *e*SS SS 21 17 50.8 +1.7
LPA La Plata 125.68 145 *e*sP 20 55 45.0
LPA
comp=Z,135µm,20.0s
LPA La Plata 125.68 145 *ce*PKP PKPdf 20 58 57.0 -2.0
WES Weston 125.81 43 *e*PKPdf PKPdf 20 58 56.4 -2.5
WES *e*PP PP 21 00 48.0 -3.3
WES LR LR
comp=Z,335µm,20.0s,MS8.0
BRYW Bryant College 125.86 44 *e*PKPdf PKPdf 20 58 58.4 -0.7
BRYW *e*PP PP 21 00 50.3 -1.2
PKME Peaks-Kenny Pk 125.86 39 *e*PKPdf PKPdf 20 59 01.0 +2.0
PKME *e*PP PP 21 00 44.2 -7.2
PKME LR LR
comp=Z,818µm,20.0s,MS8.4
WAL1 Walls 125.87 347 *e*P PKPdf 20 59 00.3 +1.8
LRW Lerwick 125.88 347 *e*P PKPdf 20 58 57.8 -0.8
MUD Monsted U'grnd 125.90 339 *e*PKIKP PKPdf 20 58 59.4 +0.7
MUD *i* 21 00 59.0
MUD MLR MLR
comp=Z,360µm,20.0s,MS8.0
MUD Monsted U'grnd 125.90 339 *i* P PKPdf 20 58 59.4 +0.7
MUD *i* 21 00 59.0
MUD *i* 21 18 00.6
MUD
comp=Z,362µm,20.0s
KECS Kecovo 125.92 326 *e*PKP PKPdf 20 59 01.5 +2.5
KECS *e* 20 59 43.3
KECS *e*PP PP 21 00 57.2 +5.6
ENEZ Enez 125.93 315 *e*P Pdif 20 55 41.8 +4.6
ALN Alexandroupoli 125.94 315 *e*P PKPdf 20 59 00.2 +1.0
ARE Arequipa 125.99 117 *e*P PKPdf 20 59 06.0 +6.0
ARG Arkhangelos 126.03 309 *e*P PKPdf 20 59 00.0 +0.4
EZN Ezine 126.15 314 *e*P Pdif 20 55 40.8 +2.6
GZR Gura Zlata 126.16 321 P PKPdf 20 59 03.2 +3.7
GZR Gura Zlata 126.16 321 ⇓*i*P PKPdf 20 59 01.4 +1.9
RDO Rodhopi 126.20 315 *e*P PKPdf 20 58 58.0 -1.7
RAC Raciborz 126.25 328 *e*Pdif Pdif 20 55 45.6 +6.9
RAC *e*PKPdf PKPdf 20 58 59.8 +0.3
RAC *e*PP PP 21 00 55.2 +1.5
RAC LR LR
comp=Z,215µm,20.8s,MS7.8
RAC Raciborz 126.25 328 *e*PKIKP PKPdf 20 58 59.8 +0.3
RAC *e* 21 00 55.2
RAC MLR MLR
comp=E,810µm,24.9s
RAC MLR MLR
comp=Z,215µm,20.8s,MS7.8
GADA Gvkgeada 126.32 314 *e*P Pdif 20 55 41.4 +2.5
PLD Plovdiv 126.38 317 P PKPdf 20 59 09.9 +10
PRK Paraskevi 126.40 313 *e*P PKPdf 20 59 06.0 +5.8
OKC Ostrava-Krasne 126.42 328 *e*PKP PKPdf 20 58 59.5 -0.4
OKC *e*PP PP 21 01 02.0 +7.2
OKC *e* 21 11 02.5
OKC *e* 21 12 57.0
OKC *e* 21 18 12.6
OKC Ostrava-Krasne 126.42 328 *e*PKIKP PKPdf 20 58 59.5 -0.4
OKC *e* 21 01 02.0
OKC *e* 21 18 12.6
OKC Ostrava-Krasne 126.42 328 *e*PKP PKPdf 20 58 59.5 -0.4
OKC *e*PP PP 21 01 02.0 +7.2
OKC *e*PS PS 21 11 02.5 +3.9
OKC *ex* x 21 12 57.0
OKC *ex* x 21 18 12.6
OKC AMS AMS 21 55 30.0
comp=Z,168µm,19.1s,MS7.7
SMG Samos 126.53 311 *e*P PKPdf 20 59 05.0 +4.5
RZN Rozhen 126.55 316 P PKPdf 20 59 10.9 +11
PSZ Piszkesteto 126.56 325 P PKPdf 20 59 03.7 +3.5
PSZ ⇓P 20 59 10.3
PSZ Piszkesteto 126.56 325 ⇓*i*P PKPdf 20 59 10.3 +10
LMGC Las Mercedes 126.58 71 *e*P PKPdf 20 59 08.0 +6.9
BZS Buzias 126.76 322 P PKPdf 20 59 00.5 -0.1
BZS Buzias 126.76 322 ⇓*i*P PKPdf 20 59 03.4 +2.7
KSP Ksiaz 126.76 330 *e*Pdiff Pdif 20 55 50.2 +9.3
KSP *e*PKP PKPdf 20 59 10.9 +10
KSP *e*PKiKP PKiKP 20 59 30.7 +30
KSP *e*PP PP 21 01 01.6 +4.7
KSP *e*SKS SKSdf 21 06 02.4 -10
KSP *e*PS PS 21 10 55.6 -5.9
KSP *e*SP SP 21 11 03.4 +4.2
KSP *e*SS SS 21 18 19.2 +16
KSP *e*SS SS 21 18 19.4 +16
KSP LMZ 21 53 29.0
comp=Z,812µm,26.8s
KSP Ksiaz 126.76 330 *e*Pdif Pdif 20 55 49.0 +8.1
KSP *e*PKP PKPdf 20 59 01.4 +0.9
KSP *e*PP PP 21 00 55.0 -2.0
KSP *e*SP SP 21 11 01.5 +2.4
KSP *e*SKKP 21 12 53.5
KSP *e*SS SS 21 18 14.0 +11
KSP LR LR
comp=Z,936µm,26.8s,MS8.3
KSP Ksiaz 126.76 330 *e*PKIKP PKPdf 20 59 01.4 +0.9
KSP *e* 21 00 55.0
KSP *e*SP SP 21 11 01.5 +2.4
KSP *e*SS SS 21 18 14.0 +11
MORC Moravsky Berou 126.78 328 P PKPdf 20 59 01.1 +0.5
MORC ⇑P 20 59 04.5
MORC Moravsky Berou 126.78 328 ⇑*i*P PKPdf 20 59 04.5 +3.9
VYHS Vyhne 126.83 326 *e*PKP PKPdf 20 58 59.2 -1.5
VYHS *e* 20 59 30.9
VYHS *e* 20 59 44.4
VYHS *e* 20 59 51.7
VYHS *e*SP SP 21 11 24.2 +24
VYHS *e*SS SS 21 18 01.5 -2.6
VYHS LR LR
comp=Z,287µm,30.5s,MS7.8
VYHS Vyhne 126.83 326 *e*PKP PKPdf 20 58 59.2 -1.5
VYHS *e* 20 59 30.9
VYHS *e* 20 59 44.4
VYHS *e* 20 59 51.6
VYHS *e* 21 11 24.2
VYHS *e*SS SS 21 18 01.5 -2.6
RUE Ruedersdorf 126.89 333 *e*Pdiff Pdif 20 55 48.5 +7.0
RUE *e*PKPdf PKPdf 20 59 00.2 -0.5
RUE *e*PP PP 21 00 59.3 +1.6
RUE *e*Sdiff Sdif 21 09 13.1 +12
RUE *e*SS SS 21 18 05.6 +1.2
KOLL Kolacno 127.02 327 *e*PKP PKPdf 20 59 00.7 -0.4
KOLL *e* 20 59 33.4
KOLL *e* 20 59 44.5
KOLL *e*PP PP 21 01 08.9 +10
OWE Westray 127.03 347 *e*P PKPdf 20 59 02.2 +1.5
DPC Dobruska-Polom 127.05 329 *e*PKP PKPdf 20 58 59.4 -1.7
DPC *e*PP PP 21 01 03.5 +4.6
DPC *e* 21 11 04.4
DPC *e* 21 13 00.7
DPC *e* 21 18 21.8
DPC LR LR
comp=Z,345µm,19.8s,MS8.0
DPC Dobruska-Polom 127.05 329 *e*PKIKP PKPdf 20 58 59.4 -1.7
DPC *e* 21 01 03.5
DPC *e* 21 11 04.4

DPC			*e*		21 18 21.8	
DPC			MLR	MLR		
	comp=Z,345µm,19.8s,MS8.0					
DPC	**Dobruska-Polom**	**127.05 329**	*e*PKP	PKPdf	20 58 59.4	-1.7
DPC			*e*PP	PP	21 01 03.5	+4.6
DPC			*e*PS	PS	21 11 04.4	+0.4
DPC			*ex*	x	21 13 00.7	
DPC			*ex*	x	21 18 21.8	
DPC			AMS	AMS	21 58 10.0	
	comp=Z,345µm,19.8s,MS8.0					
UPC	**Upice**	**127.11 330**	*e*PKP	PKPdf	20 59 00.6	-0.6
VTS	**Vitosha**	**127.17 318**	P	PKPdf	20 59 05.2	+3.6
VTS	**Vitosha**	**127.17 318**	⇑*i*P	PKPdf	20 59 08.0	+6.5
VTS	**Vitosha**	**127.17 318**	P	PKPdf	20 59 11.6	+10
MMB	**Musomiste**	**127.26 317**	P	PKPdf	20 59 13.6	+12
BSEG	**Bad Segeberg**	**127.35 336**	*e*PKIKP	PKPdf	20 59 01.0	-0.5
BSEG			*e*		21 01 00.9	
BSEG	**Bad Segeberg**	**127.35 336**	*e*Pdiff	Pdif	20 55 50.9	+7.4
BSEG			*e*PKPdf	PKPdf	20 59 01.0	-0.5
BSEG			*e*PP	PP	21 01 00.9	+0.2
BSEG			*e*Sdiff	Sdif	21 09 16.5	+12
BSEG			*e*SS	SS	21 18 11.6	+1.7
VRAC	**Vranov**	**127.55 328**	P	PKPdf	20 59 05.8	+3.8
VRAC	**Vranov**	**127.55 328**	PKP	PKPdf	20 59 04.8	+2.8
	comp=Z,15nm,1.1s,baz=30,slow=4.5,SNR=7.0					
VRAC	**Vranov**	**127.55 328**	⇑*i*P	PKPdf	20 59 04.9	+2.8
KKB	**Krupnik**	**127.58 317**	P	PKPdf	20 59 14.3	+12
SMOL	**Smolenice**	**127.58 327**	*e*PKP	PKPdf	20 59 04.4	+2.3
SMOL			*e*		20 59 34.0	
SMOL			*e*		20 59 45.1	
SMOL			*e*		20 59 56.0	
SMOL			*e*PP	PP	21 01 10.8	+8.3
OUR	**Ouranopolis**	**127.61 315**	*e*P	PKPdf	20 59 04.1	+1.7
APE	**Apeiranthos**	**127.72 311**	*e*P	PKPdf	20 59 03.0	+0.2
MODS	**Modra-Piesok**	**127.75 327**	*e*PKP	PKPdf	20 59 03.0	+0.5
MODS			*e*		20 59 33.6	
MODS			*e*		20 59 47.2	
MODS			*e*		21 11 35.4	
MODS			*e*SS	SS	21 18 16.5	+1.0
PVCC	**Panska Ves**	**127.81 331**	*e*PKP	PKPdf	20 59 02.3	-0.2
PVCC			*e*PP	PP	21 01 08.5	+4.6
PVCC			*e*		21 11 30.2	
PVCC			*e*		21 18 30.9	
PVCC			LR	LR		
	comp=Z,340µm,19.3s,MS8.0					
PVCC	**Panska Ves**	**127.81 331**	*e*PKIKP	PKPdf	20 59 02.3	-0.2
PVCC			*e*		21 01 08.5	
PVCC			*e*		21 18 30.9	
PVCC			MLR	MLR		
	comp=Z,340µm,19.3s,MS8.0					
PVCC	**Panska Ves**	**127.81 331**	*e*PKP	PKPdf	20 59 02.3	-0.2
PVCC			*e*PP	PP	21 01 08.5	+4.6
PVCC			*ex*	x	21 11 30.2	
PVCC			*ex*	x	21 18 30.9	
PVCC			AMS	AMS	22 01 20.0	
	comp=Z,340µm,19.3s,MS8.0					
BRG	**Berggiesshubel**	**127.88 331**	*i* PKP	PKPdf	20 59 02.0	-0.6
BRG			*i*		20 59 16.4	
BRG			*i*		20 59 33.5	
BRG			*i*		20 59 53.5	
BRG			*i*		20 59 56.9	
BRG			*i*		21 01 09.0	
BRG			*i*		21 08 50.4	
BRG			LR	LR		
	comp=Z,169µm,20.9s,MS7.7					
BRG	**Berggiesshubel**	**127.88 331**	*i* PKIKP	PKPdf	20 59 02.0	-0.6
BRG			*i*		20 59 16.4	
BRG			*i*		21 01 09.0	
BRG			pmax	pmax		
	comp=Z,95nm,1.9s					
BRG			MLR	MLR		
	comp=N,146µm,19.5s,MS7.8					
BRG			MLR	MLR		
	comp=E,137µm,19.1s,MS7.8					
BRG			MLR	MLR		
	comp=Z,169µm,21.0s,MS7.7					
BRG	**Berggiesshubel**	**127.88 331**	*e*Pdiff	Pdif	20 55 53.5	+7.6
BRG			*e*PKPdf	PKPdf	20 59 02.1	-0.5
BRG			*e*PP	PP	21 01 06.3	+1.9
BRG			*e*Sdiff	Sdif	21 09 23.0	+14
BRG			*e*SS	SS	21 18 20.0	+3.1
BRG	**Berggiesshubel**	**127.88 331**	*i* PKP	PKPdf	20 59 02.0	-0.6
	comp=Z,159nm,1.9s					
BRG			*i*		20 59 16.4	
	comp=Z,195nm,1.5s					
BRG			*i*		20 59 33.5	
	comp=Z,1µm,2.2s					
BRG			*i*		20 59 53.5	
	comp=Z,1µm,1.5s					
BRG			*i*		20 59 56.9	
	comp=Z,603nm,1.4s					
BRG			*i*		21 01 09.0	
BRG			*i*		21 08 50.4	
	comp=Z,352nm,2.4s					
BRG						
	comp=N,244µm,19.4s					
BRG						
	comp=E,229µm,19.1s					
BRG						
	comp=Z,282µm,20.9s					
ORE	**Reay**	**127.89 347**	*e*P	PKPdf	20 59 02.7	+0.3
ZST	**Bratislava**	**127.95 327**	*e*PKP	PKPdf	20 59 02.2	-0.6
ZST			*e*		20 59 33.7	
ZST			*e*		20 59 45.8	
ZST			*e*		20 59 54.1	
ZST			*e*PP	PP	21 01 09.8	+4.9
ZST			*e*SP	SP	21 11 38.3	+29
ZST			LR	LR		
	comp=Z,284µm,19.3s,MS8.0					
ZST	**Bratislava**	**127.95 327**	*e*PKIKP	PKPdf	20 59 02.2	-0.6
ZST			*e*		21 01 09.8	
ZST	**Bratislava**	**127.95 327**	*e*PKP	PKPdf	20 59 02.2	-0.6
ZST			*e*		20 59 33.7	
ZST			*e*		20 59 45.8	
ZST			*e*		20 59 54.1	
ZST			*e*PP	PP	21 01 09.8	+4.9
ZST			*e*		21 11 38.3	
PLG	**Polygyros**	**127.97 315**	*e*P	PKPdf	20 59 01.0	-2.1
PAIG	**Paliouri**	**127.99 315**	*e*P	PKPdf	20 59 04.6	+1.4
KNT	**Kendrikon**	**128.01 317**	*e*P	PKPdf	20 59 04.2	+1.0
CLL	**Collm**	**128.03 332**	*e*Pdif	Pdif	20 55 47.0	+0.4
CLL			*e*PKP	PKPdf	20 59 03.0	+0.1
CLL			*i* PKP	PKPdf	20 59 16.4	+13
CLL	**Collm**	**128.03 332**	*e*P	Pdif	20 55 47.0	+0.4
CLL			*e*		20 59 03.0	
CLL			*i*		20 59 16.4	
CLL			pmax	pmax		
	comp=Z,40nm,2.5s					
CLL			MLR	MLR		
	comp=Z,407µm,20.7s,MS8.1					
CLL	**Collm**	**128.03 332**	*e*Pdiff	Pdif	20 55 46.4	-0.2
CLL			*e*PKPdf	PKPdf	20 59 02.1	-0.8
CLL			*e*PP	PP	21 01 25.4	+20
CLL			*e*PKSdf		21 02 44.3	
CLL			*e*Sdiff	Sdif	21 09 14.4	+3.9
CLL			*e*SP	SP	21 11 10.1	0.0
CLL			*e*PS	PS	21 11 21.4	+8.9
CLL			*e*PPS		21 12 50.5	
CLL			*e*SKKSdf	SKKSdf	21 16 46.6	+19
CLL			*e*SS	SS	21 18 26.2	+7.5
CLL			*e*SSS		21 23 07.5	
CLL	**Collm**	**128.03 332**	*e*Pdif	Pdif	20 55 47.0	+0.4
	comp=Z,40nm,2.5s					
CLL			*i* Pdif	Pdif	20 56 08.1	+22
	comp=Z,12nm,1.4s					
CLL			*i* Pdiffmax		20 56 28.0	
	comp=Z,21nm,1.3s					
CLL			*i* x	x	20 56 53.3	
CLL			*e*PKPdf	PKPdf	20 59 03.0	+0.1
CLL			*i* PKPdf	PKPdf	20 59 16.4	+13
CLL			*i* PKPdfmax		20 59 46.5	
	comp=Z,548nm,1.5s					
CLL			*i* pP		20 59 53.9	
	comp=Z,1µm,1.7s					
CLL			*e*PP	PP	21 01 21.0	+16
CLL			*e*PPmax		21 01 45.0	
	comp=Z,1µm,2.0s					
CLL			*e*PPIp		21 01 49.0	
	comp=Z,59µm,25.2s					
CLL			*ex*	x	21 02 12.0	
CLL			*e*PKSmax		21 03 13.0	
CLL			*e*PPP		21 04 07.0	
CLL			*e*PPPmax		21 04 25.0	
CLL			*e*Sdif	Sdif	21 08 58.0	-13
CLL			*ex*	x	21 10 33.0	
CLL			*e*SP	SP	21 11 18.0	+7.9
CLL			*e*(PS)		21 11 41.0	
CLL			*e*PPS		21 12 52.0	
CLL			*e*PKKSdf		21 13 05.0	
CLL			*ex*	x	21 15 44.0	
CLL			*e*SKKSdf	SKKSdf	21 16 26.0	-1.8
CLL			*ex*	x	21 17 19.0	
CLL			*e*SS	SS	21 18 37.0	+18
CLL			*ex*	x	21 20 14.0	
CLL			*e*SSS		21 23 05.0	
CLL			Lm		21 59 00.0	
	comp=N,268µm,21.3s					
CLL			Lm		21 59 00.0	
	comp=E,295µm,21.3s					
CLL			Lm		21 59 00.0	
	comp=Z,407µm,20.7s					
HORT	**Hortiatis**	**128.11 316**	*e*P	PKPdf	20 59 02.9	-0.5
HLG	**Helgoland**	**128.11 337**	*e*Pdiff	Pdif	20 55 57.1	+10
HLG			*e*PKPdf	PKPdf	20 59 04.0	+1.0
HLG			*e*PP	PP	21 01 07.3	+1.6
HLG			*e*Sdiff	Sdif	21 09 23.7	+12
HLG			*e*SS	SS	21 18 19.5	+0.1
FBE	**Freiberg**	**128.13 332**	*e*PKPdf	PKPdf	20 59 02.8	-0.3
TREC	**Trest**	**128.13 329**	*e*PKP	PKPdf	20 59 00.2	-3.0
TREC			*ex*	x	21 13 13.3	
TREC			AMS	AMS	22 04 20.0	
	comp=Z,356µm,19.1s,MS8.1					
VAY	**Valandovo**	**128.16 317**	*e*PKP	PKPdf	20 59 01.5	-2.0
PRU	**Pruhonice**	**128.17 330**	*e*PKP	PKPdf	20 59 03.0	-0.2
PRU			*e*PP	PP	21 01 12.4	+6.1
PRU			*e*PP	PP	21 01 16.1	+10
PRU			*e*		21 11 00.3	
PRU			*e*		21 13 13.9	
PRU			*e*		21 18 33.6	
PRU			LR	LR		
	comp=Z,420µm,19.3s,MS8.1					
PRU	**Pruhonice**	**128.17 330**	*e*PKIKP	PKPdf	20 59 03.0	-0.2
PRU			*e*		21 01 12.4	
PRU			*e*		21 11 00.3	
PRU			*e*		21 18 33.6	
PRU			MLR	MLR		
	comp=Z,420µm,19.3s,MS8.1					
PRU	**Pruhonice**	**128.17 330**	*e*PKP	PKPdf	20 59 03.0	-0.2
PRU			*e*PP	PP	21 01 12.4	+6.1
PRU			*ex*	x	21 01 16.1	
PRU			*ex*	x	21 11 00.3	
PRU			*ex*	x	21 13 13.9	
PRU			*ex*	x	21 18 33.6	
PRU			AMS	AMS	22 01 20.0	
	comp=Z,420µm,19.3s,MS8.1					
PRA	**Prague**	**128.17 330**	PKPdf	PKPdf	20 59 10.0	+6.8
PRA			*ex*	x	20 59 33.0	
PRA			*ex*	x	21 01 48.0	
THE	**Thessaloniki**	**128.19 316**	*e*P	PKPdf	20 59 01.9	-1.6
PKSM	**Moragy**	**128.22 324**	P	PKPdf	20 59 03.4	0.0
PKSM			⇓P		20 59 07.3	
PKSM	**Moragy**	**128.22 324**	⇓*i*P	PKPdf	20 59 07.3	+3.9
STIP	**Stip**	**128.25 317**	*e*PKP	PKPdf	20 59 01.6	-2.0
NPS	**Neapolis**	**128.27 309**	*e*P	PKPdf	20 59 15.0	+11
NEO	**Neokhori**	**128.56 314**	*e*P	PKPdf	20 59 10.0	+5.7
PTL	**Penteli**	**128.60 313**	*e*P	PKPdf	20 59 03.5	-0.9
SKO	**Skopje**	**128.62 318**	*e*PKP	PKPdf	20 59 02.4	-1.9
ATH	**Athens Observa**	**128.74 313**	*e*P	PKPdf	20 59 08.0	+3.3
LIT	**Litokhoron**	**128.74 315**	*e*P	PKPdf	20 59 05.9	+1.3
KVR	**Kavouri**	**128.75 312**	*e*P	PKPdf	20 59 17.5	+13
CONA	**Conrad Observa**	**128.78 327**	⇑*i*PKiKP	PKiKP	20 59 05.0	-0.1
	comp=Z,10µm,8.4s					
IDI	**Anoyia**	**128.82 309**	PKP	PKPdf	20 59 11.1	+6.1
	comp=Z,31nm,1.0s,baz=79,slow=1.8,SNR=3.4					
CLZ	**Clausthal**	**128.84 334**	*e*PKIKP	PKPdf	20 59 04.2	-0.2
CLZ			*e*		21 01 12.9	
CLZ	**Clausthal**	**128.84 334**	*e*Pdiff	Pdif	20 55 58.1	+7.9
CLZ			*e*PKPdf	PKPdf	20 59 04.2	-0.2
CLZ			*e*PP	PP	21 01 12.9	+2.3
CLZ			*e*Sdiff	Sdif	21 09 30.5	+13
CLZ			*e*SS	SS	21 18 31.5	+2.9
ROSC	**El Rosal**	**128.89 91**	PKP	PKPdf	20 59 05.7	+0.1
	comp=Z,7.0nm,0.6s,baz=265,slow=19,SNR=7.3					
WERD	**Werda**	**128.94 332**	*e*PKPdf	PKPdf	20 59 04.1	-0.6
NAIG	**Nisos Aigina**	**128.98 312**	*e*P	PKPdf	20 59 00.5	-4.7
GUNZ	**Gunzen**	**128.99 332**	*e*PKPdf	PKPdf	20 59 04.5	-0.3
LPAZ	**La Paz**	**129.00 119**	PKP	PKPdf	20 59 06.7	+0.9
	comp=Z,29nm,1.1s,baz=344,slow=0.8,SNR=27					
WERN	**Wernitzgruen**	**129.02 331**	*e*PKPdf	PKPdf	20 59 04.6	-0.2
NKC	**Novy Kostel**	**129.02 331**	*e*PKP	PKPdf	20 59 03.8	-1.0
NKC			*e*PP	PP	21 01 18.8	+7.0
NKC			*e*		21 13 16.8	
NKC	**Novy Kostel**	**129.02 331**	*e*PKIKP	PKPdf	20 59 03.8	-1.0
NKC			*e*		21 01 18.8	
NKC	**Novy Kostel**	**129.02 331**	*e*PKP	PKPdf	20 59 03.8	-1.0
NKC			*e*PP	PP	21 01 18.8	+7.0
NKC			*ex*	x	21 13 16.8	
NKC			AMS	AMS	21 54 30.0	
	comp=Z,363µm,23.9s,MS8.0					
KRUS	**Krusevo**	**129.03 317**	*e*PKP	PKPdf	20 59 03.1	-2.0
MOX	**Moxa**	**129.13 332**	*e*PKP	PKPdf	20 59 05.4	+0.4
MOX			*e*		20 59 19.0	
	comp=Z,618nm,2.0s					
MOX	**Moxa**	**129.13 332**	*e*Pdiff	Pdif	20 55 59.3	+7.8
MOX			*e*PKPdf	PKPdf	20 59 04.5	-0.5
MOX			*e*PP	PP	21 01 15.4	+2.9
MOX			*e*Sdiff	Sdif	21 09 34.2	+15
MOX			*e*SS	SS	21 18 35.9	+3.7
BIA	**Bitola**	**129.14 317**	*e*PKP	PKPdf	20 59 03.4	-1.9
KZN	**Kozani**	**129.15 316**	*e*P	PKPdf	20 59 08.0	+2.6
IVA	**Berane**	**129.19 320**	⇓*i*PKP	PKPdf	20 59 08.2	+2.8
KHC	**Kasperske Hory**	**129.20 330**	*e*PKP	PKPdf	20 59 04.6	-0.6
KHC			*e*		21 11 13.5	
KHC			*e*		21 13 02.5	
KHC			*e*		21 18 37.2	
KHC			LR	LR		
	comp=Z,393µm,18.9s,MS8.1					
KHC	**Kasperske Hory**	**129.20 330**	*e*PKIKP	PKPdf	20 59 04.6	-0.6
KHC			*e*		21 11 13.5	
KHC			MLR	MLR		
	comp=Z,393µm,18.9s,MS8.1					
KHC	**Kasperske Hory**	**129.20 330**	*e*PDIF	Pdif	20 56 03.0	+11
KHC			*ex*	x	20 56 23.0	
KHC			*ex*	x	20 56 33.0	
KHC			*e*PKP	PKPdf	20 59 04.6	-0.6
KHC			*ex*	x	21 11 13.5	
KHC			*ex*	x	21 13 02.5	
KHC			*e*SS	SS	21 18 37.2	+3.9
KHC			AMS	AMS	22 04 00.0	
	comp=Z,393µm,18.9s,MS8.1					
FNA	**Florina**	**129.21 317**	*e*P	PKPdf	20 59 04.0	-1.5
DID	**Didima**	**129.26 312**	*e*P	PKPdf	20 59 10.5	+4.8
PVY	**Plav**	**129.28 319**	⇓*i*PKP	PKPdf	20 59 07.8	+2.2
PLE	**Pljevlja**	**129.28 321**	⇓*i*PKP	PKPdf	20 59 08.7	+3.2
AGG	**Agios Georgios**	**129.31 314**	*e*P	PKPdf	20 59 00.0	-5.7
GEC2	**GERESS Array S**	**129.32 329**	*e*PKIKP	PKPdf	20 59 05.0	-0.4
GEC2			*e*		21 01 15.9	
GEC2	**GERESS Array S**	**129.32 329**	*e*Pdiff	Pdif	20 55 59.8	+7.5
GEC2			*e*PKPdf	PKPdf	20 59 05.0	-0.4
GEC2			*e*PP	PP	21 01 15.9	+2.0
GEC2			*e*Sdiff	Sdif	21 09 37.3	+16
GEC2			*e*SS	SS	21 18 39.9	+5.1
GERES	**GERESS Array B**	**129.32 329**	PKP	PKPdf	20 59 05.7	+0.2
	comp=Z,12nm,1.1s,baz=96,slow=2.7,SNR=9.3					
MANZ	**Manzenberg**	**129.35 331**	*e*Pdiff	Pdif	20 56 00.4	+8.0
MANZ			*e*PKPdf	PKPdf	20 59 05.0	-0.5
MANZ			*e*PP	PP	21 01 17.0	+3.0
MANZ			*e*Sdiff	Sdif	21 09 37.1	+16
MANZ			*e*SS	SS	21 18 39.7	+4.7
ARSA	**Arzberg**	**129.37 327**	⇑*i*P	PKPdf	20 59 05.9	+0.3
	comp=Z,5µm,5.5s					
KPL	**Plockton**	**129.40 348**	*e*P	PKPdf	20 59 07.3	+2.0
PHP	**Peshkopia**	**129.42 318**	*i* PN	PKPdf	20 59 10.7	+4.8
KOGS	**Kog**	**129.44 326**	*e*PKP	PKPdf	20 59 04.3	-1.4
KOGS			*e*PKPdf	PKPdf	20 59 07.6	+1.9
OHR	**Ohrid**	**129.45 317**	*e*PKP	PKPdf	20 59 04.0	-1.9
ROTZ	**Rotzenmuhle**	**129.45 331**	*e*Pdiff	Pdif	20 56 01.0	+8.1
ROTZ			*e*PKPdf	PKPdf	20 59 05.2	-0.5
ROTZ			*e*PP	PP	21 01 18.0	+3.4
ROTZ			*e*Sdiff	Sdif	21 09 37.9	+16
ROTZ			*e*SS	SS	21 18 41.6	+5.3
WET	**Wettzell**	**129.54 330**	*e*PKIKP	PKPdf	20 59 05.5	-0.3
WET			*e*		21 01 18.6	
WET	**Wettzell**	**129.54 330**	*e*Pdiff	Pdif	20 56 01.4	+8.1
WET			*e*PKPdf	PKPdf	20 59 05.5	-0.3
WET			*e*PP	PP	21 01 18.6	+3.3
WET			*e*Sdiff	Sdif	21 09 38.8	+16
WET			*e*SS	SS	21 18 43.2	+5.8
IBBN	**Ibbenburen**	**129.59 336**	*e*Pdiff	Pdif	20 56 01.1	+7.6
IBBN			*e*PKPdf	PKPdf	20 59 05.7	-0.1
IBBN			*e*PP	PP	21 01 17.5	+2.1
IBBN			*e*Sdiff	Sdif	21 09 36.3	+13
IBBN			*e*SS	SS	21 18 38.0	+0.3
GVD	**Gavdhos**	**129.59 309**	*e*P	PKPdf	20 59 14.0	+7.6
UPM	**Unac-Piva**	**129.65 321**	⇓*i*PKP	PKPdf	20 59 06.0	-0.3
MOA	**Molln**	**129.67 328**	⇑*i*P	PKPdf	20 59 06.1	-0.1
	comp=Z,10µm,8.2s					
KBN	**Korca**	**129.68 317**	*i* PN	PKPdf	20 59 10.9	+4.5
EVR	**Evrytania**	**129.72 314**	*e*P	PKPdf	20 59 07.5	+1.0
VLI	**Velíai**	**129.79 311**	*e*P	PKPdf	20 59 16.5	+10
NKY	**Niksic**	**129.79 320**	⇓*i*PKP	PKPdf	20 59 07.2	+0.7
TTG	**Podgorica**	**129.82 320**	⇓*i*PKP	PKPdf	20 59 08.5	+1.9
KYTH	**Kithira**	**129.88 311**	*e*P	PKPdf	20 59 10.0	+3.1
SELA	**Sela**	**129.93 314**	*e*P	PKPdf	20 59 08.4	+1.5
SISC	**Sisak**	**129.94 324**	P	PKPdf	20 59 08.8	+2.1
VLX	**Vlachokerasia**	**129.95 312**	*e*P	PKPdf	20 59 12.7	+5.7
TIR	**Tirane**	**129.96 318**	*i* PN	PKPdf	20 59 08.2	+1.3
PERS	**Pernice**	**129.96 326**	*e*Pdiff	Pdif	20 55 58.1	+3.0
PERS			*e*		21 13 31.0	
PERS			*e*		21 14 46.6	
PERS			*e*		21 18 47.3	
PERS			*e*		21 20 35.7	
GRA1	**Grafenberg Arr**	**129.97 332**	*e*Pdif	Pdif	20 56 03.1	+7.9
GRA1			*e*PKPdf	PKPdf	20 59 06.2	-0.4
GRA1			*e*PP	PP	21 01 21.3	+3.3
GRA1			*e*Sdif	Sdif	21 09 40.8	+14
GRA1			*e*SS	SS	21 18 47.6	+5.0
GRA1			LR	LR		
	comp=Z,260µm,21.9s,MS7.9					
GRF	**Grafenberg Arr**	**129.97 332**	*e*PKIKP	PKPdf	20 59 06.2	-0.4
GRF			*e*		21 01 21.3	
GRF	**Grafenberg Arr**	**129.97 332**	*e*P	Pdif	20 56 03.1	+7.9
GRF			*e*		20 59 06.2	
GRF			*e*		21 01 21.3	
GRF			MLR	MLR		
	comp=Z,260µm,21.9s,MS7.9					
GRF	**Grafenberg Arr**	**129.97 332**	*e*Pdiff	Pdif	20 56 03.1	+7.9
GRF			*e*PKPdf	PKPdf	20 59 06.2	-0.4
GRF			*e*PP	PP	21 01 21.3	+3.3
GRF			*e*Sdiff	Sdif	21 09 40.8	+14
GRF			*e*SS	SS	21 18 47.6	+5.0
GRF			*e*L		21 59 57.3	
	comp=Z,260µm,21.9s					
GRFO	**Grafenberg**	**129.97 332**	*e*PKPdf	PKPdf	20 59 08.5	+1.9
GRFO			*e*PP	PP	21 01 17.3	-0.7
GRFO			LR	LR		
	comp=Z,260µm,21.0s,MS7.9					
GRFO	**Grafenberg**	**129.97 332**	*e*Sdiff	Sdif	21 09 40.6	+14
GRFO			*e*SS	SS	21 18 47.7	+5.1
BRY	**Bratogost**	**130.04 320**	⇑*i*PKP	PKPdf	20 59 05.3	-1.7
ULC	**Ulcinj**	**130.06 319**	⇓*i*PKP	PKPdf	20 59 08.6	+1.5
JAN	**Janina**	**130.07 316**	*e*P	PKPdf	20 59 08.0	+0.8
BUM	**Brajici-Budva**	**130.12 320**	⇓*i*PKP	PKPdf	20 59 09.1	+1.9
EDI	**Edinburgh**	**130.14 346**	*e*P	PKPdf	20 59 08.4	+1.6
EDI			AMS	AMS	22 03 57.4	
	comp=Z,272µm,19.9s,MS8.0					
WTSB	**Winterswijk**	**130.24 336**	*e*Pdif	Pdif	20 55 59.5	+3.1
WTSB	**Winterswijk**	**130.24 336**	*e*PKiKP	PKiKP	20 59 07.7	-0.2
	comp=Z,2µm,2.2s					
CRES	**Cresnjev**	**130.26 325**	*e*PKPdf	PKPdf	20 59 09.8	+2.5
CRES			*e*		21 01 42.7	
CRES			*e*		21 02 39.8	
CRES			*e*		21 02 54.5	
HCY	**Herceg Novi**	**130.30 320**	⇓*i*PKP	PKPdf	20 59 08.6	+1.1
OBKA	**Obir**	**130.35 326**	⇑*i*P	PKPdf	20 59 09.1	+1.6
	comp=Z,13µm,9.1s					
ITM	**Ithomi**	**130.35 312**	*e*P	PKPdf	20 59 09.0	+1.2
IGT	**Igoumenitsa**	**130.49 316**	*e*P	PKPdf	20 59 05.1	-2.9
BOJS	**Bojanci**	**130.56 325**	*e*Pdiff	Pdif	20 56 02.6	+4.7
BOJS			*e*PKPdf	PKPdf	20 59 05.6	-2.3
BOJS			*e*		21 09 20.5	
BOJS			*e*		21 12 22.1	
STON	**Ston**	**130.58 321**	P	PKPdf	20 59 13.5	+5.5
PYL	**PYLOS**	**130.60 312**	*e*P	PKPdf	20 59 09.8	+1.6
LKD	**Levkas**	**130.63 315**	*e*P	PKPdf	20 59 10.9	+2.7
KBA	**Koelnbreinsper**	**130.64 328**	⇑*i*P	PKPdf	20 59 06.2	-1.8
	comp=Z,8µm,8.4s					
LJU	**Ljubljana**	**130.65 326**	*e*Pdiff	Pdif	20 56 01.6	+3.3
LJU			*e*PKPdf	PKPdf	20 59 10.7	+2.7
LJU			*e*		20 59 20.0	
LJU			*e*		20 59 38.1	
LJU			*e*		21 01 39.0	
LJU			*e*		21 09 20.0	
LJU			*e*		21 12 24.1	
LJU			*e*		21 13 34.6	
LJU			*e*		21 14 49.1	
LJU			*e*		21 19 08.0	
LJU			*e*		21 34 12.6	
EKA	**Eskdalemuir Ar**	**130.66 345**	PKP	PKPdf	20 59 11.5	+3.7
	comp=Z,14nm,1.1s,baz=28,slow=3.2,SNR=7.9					
ESK	**Eskdalemuir**	**130.69 345**	*e*P	PKPdf	20 59 09.4	+1.6
ESK			AMS	AMS	22 04 14.1	
	comp=Z,236µm,19.3s,MS7.9					
ESK	**Eskdalemuir**	**130.69 345**	*e*PKPdf	PKPdf	20 59 08.9	+1.1
ESK			*e*PP	PP	21 01 32.6	+10
ESK			*e*PKKPdf	PKKPdf	21 08 54.9	-15
ESK			LR	LR		
	comp=Z,260µm,21.0s,MS7.9					
MYKA	**Terra Mystica**	**130.77 327**	⇓*i*PKiKP	PKiKP	20 59 08.1	-1.1
	comp=Z,537µm,7.6s					
KEK	**Kerkira**	**130.77 316**	*e*P	PKPdf	20 59 10.0	+1.5
KFL	**Anninata**	**130.79 314**	*e*P	PKPdf	20 59 12.2	+3.7
TNS	**Taunus Mts**	**130.85 334**	*e*PKIKP	PKPdf	20 59 08.0	-0.3
TNS			*e*		21 01 27.7	
TNS	**Taunus Mts**	**130.85 334**	*e*Pdiff	Pdif	20 56 07.2	+8.1
TNS			*e*PKPdf	PKPdf	20 59 08.0	-0.3
TNS			*e*PP	PP	21 01 27.7	+4.0
TNS			*e*Sdiff	Sdif	21 09 48.5	+14
TNS			*e*SS	SS

MOTA	Moosalm	131.62 329	⇓ i P		PKPdf	20 59 09.3	-0.5
	comp=Z,861nm,2.2s						
SQTA	Sankt Quirin	131.65 329	⇑ i P		PKPdf	20 59 10.7	+0.8
	comp=Z,2μm,2.4s						
RETA	Reutte	131.70 330	⇑ i PKiKP		PKiKP	20 59 09.9	-1.1
	comp=Z,14μm,8.0s						
AEU	East Anglia Un	131.74 340	e P		PKPdf	20 59 12.4	+2.5
RUP	Ruppelstein	131.84 334	PKP		PKPdf	20 59 10.5	+0.3
LHO	Holmfirth	131.90 343	e P		PKPdf	20 59 11.6	+1.4
GIM	North Isle of	131.93 346	e P		PKPdf	20 59 12.3	+2.0
BCLA	Clavier	132.03 336	PKPdf		PKPdf	20 59 14.4	+3.9
FETA	Feichten	132.03 329	⇑ i PKiKP		PKiKP	20 59 12.8	+1.1
	comp=Z,8μm,5.2s						
LANF	Langenberg	132.05 333	PKP		PKPdf	20 59 10.3	-0.3
LANF	Langenberg	132.05 333	PKP		SKSac	21 06 26.3	+4.6
SDDR	Presa de Saban	132.05 72	e PKPdf		PKPdf	20 59 17.2	+5.8
SDDR			e PP		PP	21 01 33.6	+0.5
SDDR			LR		LR		
	comp=Z,232μm,21.0s,MS7.9						
UCC	Uccle	132.11 337	PKPdf		PKPdf	20 59 14.2	+3.6
SPAK	Spaichingen-Ko	132.23 332	PKP		PKPdf	20 59 12.3	+1.3
WLF	Walferdange	132.26 335	PKPdf		PKPdf	20 59 14.3	+3.3
WLF	Walferdange	132.26 335	e Pdiff		Pdif	20 56 13.9	+8.5
WLF			e PKPdf		PKPdf	20 59 11.2	+0.2
WLF			e PP		PP	21 01 36.8	+4.1
WLF			e Sdiff		Sdif	21 10 02.5	+17
WLF			e SS		SS	21 19 15.6	+5.2
DAVA	Damuels	132.27 330	⇓ i P		PKPdf	20 59 11.4	+0.3
	comp=Z,11μm,6.2s						
BFO	Black Forest	132.28 332	e PKIKP		PKPdf	20 59 10.4	-0.7
BFO			e			21 01 36.2	
BFO	Black Forest	132.28 332	e Pdiff		Pdif	20 56 13.4	+7.9
BFO			e PKPdf		PKPdf	20 59 10.4	-0.7
BFO			e PP		PP	21 01 36.2	+3.3
BFO			e Sdiff		Sdif	21 10 01.4	+15
BFO			e SS		SS	21 19 16.7	+5.8
STR	Strasbourg	132.35 333	PKP		PKPdf	20 59 12.2	+1.0
STR	Strasbourg	132.35 333	PKP		SKSac	21 06 28.5	+5.9
SNF	Seneffe	132.37 337	PKPdf		PKPdf	20 59 13.3	+2.1
GIVF	Givet	132.47 336	e PKIKP		PKPdf	20 59 12.4	+1.0
	comp=Z,5μm,1.8s						
DOU	Dourbes	132.57 336	PKPdf		PKPdf	20 59 13.9	+2.4
DAVOX	Davos/Dischmat	132.62 330	PKP		PKPdf	20 59 15.6	+3.9
	comp=Z,17nm,0.8s,baz=66,slow=6.1,SNR=6.2						
CDF	Champ du Feu	132.70 333	e PKIKP		PKPdf	20 59 12.5	+0.6
	comp=Z,4μm,1.9s						
BAIF	Baives	132.75 336	e PKIKP		PKPdf	20 59 12.9	+1.0
	comp=Z,2μm,1.8s						
FELD	Feldberg im Sc	132.76 332	PKP		PKPdf	20 59 11.1	-0.9
DMUB	Kingscourt	132.86 347	e P		PKPdf	20 59 13.3	+1.3
SBD1	Bryn Du	132.86 344	e P		PKPdf	20 59 12.8	+0.8
ECH	Echery	132.90 333	PKP		PKPdf	20 59 13.0	+0.8
SDV	Santo Domingo	132.91 86	PKP		PKPdf	20 59 12.5	-0.7
	comp=Z,34nm,1.1s,baz=295,slow=2.9,SNR=5.8						
HLM1	Long Mynd	133.10 343	e P		PKPdf	20 59 12.9	+0.4
MENF	Mencas	133.13 338	PKP		PKPdf	20 59 14.3	+1.7
MENF	Mencas	133.13 338	PKP		SKSac	21 06 33.4	+8.9
MOF	Molkenrain	133.18 332	PKP		PKPdf	20 59 12.5	-0.3
MOF	Molkenrain	133.18 332	PKP		SKSac	21 06 27.4	+2.6
BBS	Basel-Blauen	133.29 332	PKP		PKPdf	20 59 14.4	+1.4
HINF	Hinteralfeld	133.33 333	e PKIKP		PKPdf	20 59 13.8	+0.7
	comp=Z,5μm,1.9s						
DLF	Lyons Farm	133.34 346	e P		PKPdf	20 59 13.9	+1.0
THEF	They Montfort	133.42 334	PKP		PKPdf	20 59 15.1	+1.9
HAU	Haudompre	133.42 333	e PKIKP		PKPdf	20 59 14.2	+1.0
	comp=Z,3μm,1.7s						
HAU			e MLR		MLR		
	comp=Z,525μm,21.0s,MS7.9						
HAU	Haudompre	133.42 333	e PKIKP		PKPdf	20 59 14.2	+1.0
HAU			MLR		MLR		
	comp=Z,525μm,21.0s,MS8.2						
DCN	Croghan	133.46 347	e P		PKPdf	20 59 14.8	+1.7
AQU	L'Aquila	133.50 323	⇓ P		PKPdf	20 59 14.5	+0.9
AQU	L'Aquila	133.50 323	⇓ i P		PKPdf	20 59 14.5	+0.9
MCH1	Michaelchurch	133.59 343	e P		PKPdf	20 59 12.9	-0.5
HTR	Trewern Hill	133.60 343	e P		PKPdf	20 59 14.3	+0.9
MEZF	Maizieres J'vi	133.61 334	e PKIKP		PKPdf	20 59 15.0	+1.4
	comp=Z,8μm,1.9s						
TRIS	Tristan da Cun	133.64 192	PFAKE			20 59 20.0	+6.0
TRIS			LR		LR		
	comp=Z,153μm,21.0s,MS7.7						
LOMF	Lomont	133.69 332	PKP		PKPdf	20 59 13.7	-0.1
LOMF	Lomont	133.69 332	PKP		SKSac	21 06 22.9	-3.2
HGH	Gray Hill	133.86 343	e P		PKPdf	20 59 14.4	+0.5
CABF	La Chapelle	134.58 332	e PKIKP		PKPdf	20 59 17.1	+1.7
	comp=Z,4μm,1.7s						
BBSR	BB Station	134.63 52	PFAKE			20 59 30.0	+14
BBSR			LR		LR		
	comp=Z,272μm,22.0s,MS7.9						
HTL	Hartland	134.91 344	e P		PKPdf	20 59 14.8	-1.1
LPL	La Plagne	135.07 330	e PKIKP		PKPdf	20 59 18.1	+1.7
	comp=Z,2μm,1.5s						
LPG	La Plagne	135.07 330	e PKIKP		PKPdf	20 59 18.1	+1.7
	comp=Z,1μm,1.3s						
LOR	Lormes	135.08 334	e PKIKP		PKPdf	20 59 17.5	+1.1
	comp=Z,2μm,1.7s						
LOR			e MLR		MLR		
	comp=Z,354μm,21.2s,MS7.8						
LOR	Lormes	135.08 334	e PKIKP		PKPdf	20 59 17.5	+1.1
LOR			MLR		MLR		
	comp=Z,354μm,21.3s,MS8.1						
SIV	San Ignacio	135.14 123	PKP		PKPdf	20 59 18.4	+1.0
SIV	San Ignacio	135.14 123	PKhKP			20 59 06.4	
	comp=Z,5.9nm,1.0s,baz=249,slow=3.7,SNR=6.9						
SIV			PKP		PKPdf	20 59 18.4	+1.0
	comp=Z,9.2nm,0.7s,baz=220,slow=2.3,SNR=15						
DYA	Yadsworthy	135.25 343	AMS		AMS	22 08 31.3	
DYA	Yadsworthy	135.25 343	AMS		AMS	22 08 31.3	
	comp=Z,244μm,19.0s,MS8.0						
SSF	Saint Saulge	135.39 334	e PKIKP		PKPdf	20 59 18.1	+1.2
	comp=Z,3μm,1.9s						
VAE	Valguarnera	135.54 316	PKP		PKPdf	20 59 22.4	+4.8
	comp=Z,15nm,0.9s,baz=315,slow=1.4,SNR=4.1						
SMF	Signal de Mont	135.57 334	e PKIKP		PKPdf	20 59 18.4	+1.1
	comp=Z,2μm,1.6s						
FLN	La Foliniere	135.58 339	e PKIKP		PKPdf	20 59 18.2	+1.0
	comp=Z,3μm,1.8s						
FLN			e MLR		MLR		
	comp=Z,535μm,23.0s,MS7.9						
FLN	La Foliniere	135.58 339	e PKIKP		PKPdf	20 59 18.2	+1.0
FLN			MLR		MLR		
	comp=Z,535μm,23.0s,MS8.2						
LDF	La Druitiere	135.59 338	e PKIKP		PKPdf	20 59 18.2	+0.9
	comp=Z,2μm,1.8s						
GDM	Grand'Maison	135.59 331	PKP		PKPdf	20 59 21.3	+3.9
HYF	Humbligny	135.59 335	e PKIKP		PKPdf	20 59 18.8	+1.5
CSA1	St Austell	135.60 343	e P		PKPdf	20 59 16.3	-1.0
MBDF	Montbardon	135.61 330	e PKIKP		PKPdf	20 59 18.7	+1.3
	comp=Z,1μm,1.5s						
AVF	Avril sur Loir	135.67 334	e PKIKP		PKPdf	20 59 18.4	+0.9
	comp=Z,2μm,1.9s						
SAOF	Saorge	135.73 328	PKP		PKPdf	20 59 18.8	+1.1
GRN	Grenoble	135.74 331	PKP		PKPdf	20 59 18.7	+1.0
SURF	Saint Ours	135.77 329	PKP		PKPdf	20 59 20.3	+2.6
AUTN	L'Aution	135.79 328	PKP		PKPdf	20 59 22.2	+4.4
CCA1	Carnmenellis	135.85 344	e P		PKPdf	20 59 18.2	+0.5
TOUF	Mont Tournerai	135.87 329	PKP		PKPdf	20 59 18.3	+0.3
SBF	Sospel	135.88 328	e PKIKP		PKPdf	20 59 18.7	+0.7
	comp=Z,1μm,1.2s						
LUCF	Luceram	135.91 328	PKP		PKPdf	20 59 18.8	+0.8
CMA1	Manaccan	135.91 344	e P		PKPdf	20 59 17.7	-0.1
ORIF	Oris-en-Rattie	135.92 330	e PKIKP		PKPdf	20 59 19.3	+1.3
	comp=Z,2μm,1.7s						
ORIF			e MLR		MLR		
	comp=Z,399μm,21.0s,MS7.8						
PGF	Pioggiola	135.93 326	e PKIKP		PKPdf	20 59 19.1	+1.0
	comp=Z,3μm,1.4s						
MVIF	Mont Vial	136.01 329	PKP		PKPdf	20 59 20.1	+1.9
GRR	Gorron	136.03 339	e PKIKP		PKPdf	20 59 19.2	+1.1
	comp=Z,2μm,1.7s						
BGF	Bois d'Agland	136.07 334	e PKIKP		PKPdf	20 59 19.6	+1.4
	comp=Z,2μm,1.5s						
PLDF	La Plantade	136.18 333	PKP		PKPdf	20 59 24.4	+5.9
PLDF	La Plantade	136.18 333	PKP		SKSac	21 06 35.6	+3.2
CALN	Calern	136.24 329	PKP		PKPdf	20 59 21.6	+3.0
AGO	Saint Agoulin	136.34 334	PKP		PKPdf	20 59 24.6	+5.9
OCF	Saint Nazaire	136.44 331	PKP		PKPdf	20 59 22.7	+3.7
OG26	St.-Nazaire-De	136.44 331	PKP		PKPdf	20 59 22.7	+3.7
COLF	Collangettes	136.50 333	PKP		PKPdf	20 59 24.4	+5.3
FRF	La Foret Royal	136.50 329	e PKIKP		PKPdf	20 59 20.1	+1.0
	comp=Z,2μm,1.7s						
VIVF	Saint-Julien-I	136.54 331	e PKIKP		PKPdf	20 59 20.5	+1.3
	comp=Z,2μm,1.6s						
TCF	Toulx Ste Croi	136.55 335	e PKIKP		PKPdf	20 59 20.5	+1.4
	comp=Z,3μm,1.9s						
PYM	Petit Puy Mans	136.62 333	PKP		PKPdf	20 59 24.7	+5.4
PYM	Petit Puy Mans	136.62 333	PKP		SKSac	21 06 38.4	+4.9
LMR	La Mourre	136.73 328	e PKIKP		PKPdf	20 59 20.7	+1.1
	comp=Z,613nm,1.2s						
SGMF	Saint Gilles	136.74 340	e PKIKP		PKPdf	20 59 20.3	+0.9
	comp=Z,1μm,1.5s						
SMRF	Simiane la Rot	136.75 330	e PKIKP		PKPdf	20 59 21.4	+1.8
	comp=Z,2μm,1.4s						
VERF	Verneugheol	136.86 334	PKP		PKPdf	20 59 22.2	+2.5
ROSF	Rostrenen	136.90 341	e PKIKP		PKPdf	20 59 20.6	+0.9
	comp=Z,819nm,1.6s						
LBL	Lubilhac	136.92 333	PKP		PKPdf	20 59 25.8	+5.9
LBL	Lubilhac	136.92 333	PKP		SKSac	21 06 38.4	+4.2
FRNF	Fournols	137.10 333	PKP		PKPdf	20 59 21.9	+1.7
CPD	Cerro la Pandu	137.22 73	e PKPdf		PKPdf	20 59 22.1	+1.0
CPD			PP		PP	21 02 17.7	+12
QUIF	Quistinic	137.23 340	e PKIKP		PKPdf	20 59 21.3	+1.0
	comp=Z,2μm,1.9s						
MFF	Saint Martin d	137.25 337	e PKIKP		PKPdf	20 59 21.7	+1.3
	comp=Z,2μm,1.6s						
LASF	Ste Croix	137.51 331	e PKIKP		PKPdf	20 59 22.6	+1.6
	comp=Z,2μm,1.5s						
MTP	Monte Pirata	137.56 72	e PKPdf		PKPdf	20 59 18.0	-3.8
MTP			e PP		PP	21 02 19.5	+12
RJF	Les Rejaudoux	137.62 334	e PKIKP		PKPdf	20 59 22.8	+1.6
	comp=Z,774nm,1.5s						
RJF			e MLR		MLR		
	comp=Z,492μm,21.5s,MS7.9						
RJF	Les Rejaudoux	137.62 334	e PKIKP		PKPdf	20 59 22.8	+1.6
RJF			MLR		MLR		
	comp=Z,492μm,21.5s,MS8.2						
CAF	Calviac	137.69 333	e PKIKP		PKPdf	20 59 23.2	+1.9
	comp=Z,1μm,1.5s						
LFF	La Frestale	138.25 335	e PKIKP		PKPdf	20 59 23.3	+1.0
	comp=Z,875nm,1.3s						
MTLF	Montolieu	138.84 332	e PKIKP		PKPdf	20 59 24.3	+0.8
	comp=Z,355nm,1.0s						
PCRV	Puerto La Cruz	138.87 84	PKP		PKPdf	20 59 25.7	+1.4
	comp=Z,33nm,1.0s,baz=263,slow=4.9,SNR=3.7						
KEST	Kesra	139.91 318	PKhKP			20 59 22.4	
	comp=Z,2.8nm,1.1s,baz=7.9,slow=1.9,SNR=3.9						
KEST			PKP		PKPdf	20 59 26.8	+1.1
	comp=Z,5.1nm,0.8s,baz=71,slow=3.2,SNR=7.8						
EPF	Esparros	139.94 333	e PKIKP		PKPdf	20 59 26.6	+1.1
	comp=Z,808nm,1.3s						
RESF	Ens	140.12 333	PKP		PKPdf	20 59 27.1	+1.3
VIEF	Viey	140.20 333	PKP		PKPdf	20 59 28.8	+2.8
EBIE	Bielsa	140.31 333	PKP		PKPdf	20 59 22.4	-3.8
EBIE			PKP		PKPdf	20 59 33.9	+7.8
ETSF	Etsaut	140.45 334	e PKIKP		PKPdf	20 59 26.3	-0.1
	comp=Z,2μm,1.5s						
LARF	Larrau	140.52 334	PKP		PKPdf	20 59 30.6	+4.1
SJPF	Ste Jean	140.56 335	e PKIKP		PKPdf	20 59 26.4	-0.2
	comp=Z,2μm,1.8s						
CMAH	Djebel Manchou	140.64 320	P		PKPdf	20 59 27.0	+0.1
ELIZ	Elizondo	140.64 335	PKP		PKPdf	20 59 26.9	+0.2
ELIZ			PKP		PKPdf	20 59 35.0	+8.2
ABSA	Djebel Ababsia	140.82 320	P		PKPdf	20 59 27.0	-0.3
CAEH	'Ain El Ouahch	140.90 321	P		PKPdf	20 59 30.0	+2.6
EPOB	Poblet	140.91 331	PKP		PKPdf	20 59 17.9	-9.3
EPOB			PKP		PKPdf	20 59 35.0	+7.7
BPA	Boggy Peak	141.19 73	e P		PKPdf	20 59 26.1	-2.4
BPA	Boggy Peak	141.19 73	e		PKPdf	20 59 26.1	-2.4
ETOS	Mallorca	141.22 328	PKP		PKPdf	20 59 22.9	-5.0
ETOS			PKP		PKPdf	20 59 34.5	+6.6
CKFL	Kef-Lekhel	141.22 320	P		PKPdf	20 59 28.0	0.0
ESAC	San Caprasio	141.35 333	PKP		PKPdf	20 59 26.0	-2.1
ESAC			PKP		PKPdf	20 59 35.8	+7.8
ELAN	Lanestosa	141.35 337	PKP		PKPdf	20 59 19.2	-8.8
ELAN			PKP		PKPdf	20 59 36.5	+8.5
CASM	Ain Smara	141.45 320	P		PKPdf	20 59 30.0	+1.6
ECRI	Cripan	141.51 336	PKP		PKPdf	20 59 35.4	+7.1
ECRI			PKP		PKPdf	20 59 37.2	+8.9
ERTA	Horta de San J	141.57 331	PKP		PKPdf	20 59 22.9	-5.6
ERTA			PKP		PKPdf	20 59 36.1	+7.6
CTEI	Djebel Teioual	141.63 320	P		PKPdf	20 59 31.0	+2.3
DFRA	Djebel Bou Aff	141.66 321	P		PKPdf	20 59 30.0	+1.2
GRGR	Grenville	141.79 81	e PKPdf		PKPdf	20 59 27.0	-2.6
GRGR			e PP		PP	21 02 38.7	+4.5
EARI	Arriondas	141.96 339	PKP		PKPdf	20 59 29.2	+0.1
EARI			PKP		PKPdf	20 59 36.3	+7.2
TRN	Trinidad (W)	142.06 84	e P		PKPdf	20 59 37.3	+7.2
SET	Setif	142.17 321	P		PKPdf	20 59 31.0	+1.3
CKHR	Kef el Ahmar	142.22 321	P		PKPdf	20 59 31.0	+1.2
CMER	Merouana	142.23 320	P		PKPdf	20 59 31.0	+1.2
EMOS	Mosqueruela	142.42 331	PKP		PKPdf	20 59 24.2	-5.8
EMOS			PKP		PKPdf	20 59 35.6	+5.6
EIBI	Ibiza	142.54 328	PKP		PKPdf	20 59 29.2	-1.1
EIBI			PKP		PKPdf	20 59 35.5	+5.2
EPON	Pontenova	142.59 341	PKP		PKPdf	20 59 25.4	-4.8
EPON			PKP		PKPdf	20 59 36.6	+6.4
TPR	Prospect	142.67 83	e P		PKPdf	20 59 37.7	+6.5
ETOR	Torete	142.78 333	PKP		PKPdf	20 59 30.4	-0.2
ETOR			PKP		PKPdf	20 59 38.0	+7.4
ABA	Alger-Bouzarea	143.19 324	P		PKPdf	20 59 29.0	-2.5
AKET	Djebel Ketaf	143.20 322	P		PKPdf	20 59 30.4	-1.1
ECHE	Chera	143.26 331	PKP		PKPdf	20 59 32.9	+1.4
ECHE			PKP		PKPdf	20 59 36.0	+4.5
STS	Santiago	143.43 342	PKP		PKPdf	20 59 29.3	-2.5
STS			PKP		PKPdf	20 59 36.5	+4.8
EMAZ	Mazaricos	143.50 343	PKP		PKPdf	20 59 26.7	-5.2
EMAZ			PKP		PKPdf	20 59 35.1	+3.3
EBEN	Beniarda	143.58 329	PKP		PKPdf	20 59 29.2	-3.0
EBEN			PKP		PKPdf	20 59 36.2	+4.1
EMHD	Djebel Mahouad	143.66 323	P		PKPdf	20 59 30.0	-2.3
ECAL	Calabor	143.69 339	PKP		PKPdf	20 59 27.9	-4.3
ECAL			PKP		PKPdf	20 59 39.2	+7.0
BBGH	Gun Hill	143.78 79	PFAKE			20 59 40.0	+6.9
BBGH			LR		LR		
	comp=Z,267μm,21.0s,MS8.0						
PBRG	Braganca	143.81 339	e PKIKP		PKPdf	20 59 31.4	-1.0
GUD	Guadarrama	143.83 335	PKP		PKPdf	20 59 32.9	+0.4
GUD			PKP		PKPdf	20 59 36.7	+4.2
BBSP	Saint Philip	143.88 79	e P		PKPdf	20 59 30.6	-2.7
BBSP	Saint Philip	143.88 79	e		PKPdf	20 59 30.6	-2.7
ELOB	Lobios	144.20 341	PKP		PKPdf	20 59 29.2	-3.9
ELOB			PKP		PKPdf	20 59 37.0	+3.9
ETOB	Tobarra	144.28 331	PKP		PKPdf	20 59 32.9	-0.4
ETOB			PKP		PKPdf	20 59 36.7	+3.3
PCAB	Cabril	144.33 341	e PKIKP		PKPdf	20 59 33.8	+0.5
EBNR	Beni Rached	144.42 325	P		PKPdf	20 59 31.0	-2.7
MVO	Moncorvo	144.48 339	e PKIKP		PKPdf	20 59 33.7	+0.1
MVO	Moncorvo	144.48 339	e SS		SS	21 21 40.5	+5.9
MVO	Moncorvo	144.48 339	e LQ			21 40 12.6	
MVO			e LR		LR	21 48 18.8	
	comp=Z,219μm,16.7s						
ESDC	Sonseca Array	144.56 334	PKP		PKPdf	20 59 31.7	-2.1
ESDC			PKP		PKPdf	20 59 37.3	+3.5
ESDC	Sonseca Array	144.56 334	PKP		PKPdf	20 59 32.1	-1.7
	comp=Z,14nm,1.0s,baz=26,slow=3.8,SNR=27						
ESDC			SKPbc		SKPbc	21 03 14.5	+1.2
	comp=Z,52nm,1.0s,baz=30,slow=2.9,SNR=5.1						
ECHA	Ech Chlef	144.61 325	P		PKPdf	20 59 32.5	-1.5
PVRL	Vila Real	144.62 340	e PKIKP		PKPdf	20 59 32.3	-1.6
EVIA	Vianos	144.74 332	PKP		PKPdf	20 59 34.2	0.0
EVIA			PKP		PKPdf	20 59 39.1	+4.9
EMUR	La Murta	144.76 329	PKP		PKPdf	20 59 30.4	-3.8
EMUR			PKP		PKPdf	20 59 37.4	+3.2
PAB	San Pablo	144.83 335	e PKPdf		PKPdf	20 59 32.9	-1.4
PAB			e PP		PP	21 03 28.3	+38
PAB			LR		LR		
	comp=Z,259μm,21.0s,MS8.0						
EANR	'Ain N'Sour	144.90 325	P		PKPdf	20 59 34.0	-0.5
PTO	Porto	145.03 341	e PKP		PKPdf	20 59 33.9	-0.7
OKGL	Djebel Kef Gue	145.10 325	P		PKPbc	20 59 35.0	+0.7
PVIS	Viseu	145.18 340	e PKP		PKPdf	20 59 33.9	-0.9
ETRT	Tiaret	145.18 324	P		PKPbc	20 59 35.0	+0.4
MTE	Manteigas	145.34 339	e PKP		PKPdf	20 59 34.1	-1.0
MTE	Manteigas	145.34 339	e SS		SS	21 22 05.9	+21
MTE	Manteigas	145.34 339	e LQ			21 39 16.3	
MTE			e LR		LR	21 48 37.8	
	comp=Z,301μm,22.8s						
OJGS	Djebel Guires	145.42 325	P		PKPbc	20 59 36.0	+0.7
EHUE	Huescar	145.44 331	PKP		PKPdf	20 59 39.5	+4.1
EHUE			PKP		PKPdf	20 59 40.4	+5.0
OJBR	Djebel Berber	145.59 325	P		PKPdf	20 59 34.0	-1.7
EQES	Quesada	145.68 331	PKP		PKPdf	20 59 35.4	-0.4
EQES			PKP		PKPdf	20 59 36.7	+0.9
EBAN	Banos Encina	145.72 333	PKP		PKPdf	20 59 35.4	-0.4
EBAN			PKP		PKPbc	20 59 39.0	+2.8
PCBR	Castelo Branco	145.81 339	e PKP		PKPdf	20 59 34.7	-1.2
ENIJ	Nijar	145.92 330	PKP		PKPdf	20 59 35.4	-0.8
ENIJ			PKP		PKPdf	20 59 37.6	+1.4
USTO	Oran	145.98 326	P		PKPdf	20 59 44.0	+7.6
ODJA	Bouhanifia	146.06 325	P		PKPdf	20 59 39.0	+2.5
EADA	Adamuz	146.07 334	PKP		PKPdf	20 59 36.7	+0.2
EADA			PKP		PKPdf	20 59 37.3	+0.9
EBER	Berja	146.31 330	PKP		PKPdf	20 59 36.4	-0.5
EBER			PKP		PKPdf	20 59 37.9	+1.0
ECOG	Cogollos-Vega	146.34 331	PKP		PKPdf	20 59 32.9	-4.0
ECOG			PKP		PKPdf	20 59 38.6	+1.7
ELUQ	Luque	146.43 333	PKP		PKPdf	20 59 36.7	-0.4
ELUQ			PKP		PKPbc	20 59 39.1	+0.8
ECAB	El Cabril	146.51 334	PKP		PKPdf	20 59 37.9	+0.7
ECAB			PKP		PKPbc	20 59 40.3	+1.7
EBAD	Badajoz	146.58 337	PKP		PKPdf	20 59 39.7	+2.4
EBAD			PKP		PKPbc	20 59 40.4	+1.6
ERON	Agron	146.66 331	PKP		PKPdf	20 59 37.9	+0.4
ERON			PKP		PKPbc	20 59 39.5	+0.4
ODZI	Dziouia	146.68 327	P		PKPdf	20 59 47.0	+9.4
EGUA	Guajares	146.69 331	PKP		PKPdf	20 59 37.9	+0.4
EGUA			PKP		PKPdf	20 59 38.6	+1.1
PESTR	Estremoz	146.70 338	e PKP		PKPdf	20 59 38.2	+0.7
PESTR	Estremoz	146.70 338	e SS		SS	21 22 15.9	+16
PESTR	Estremoz	146.70 338	e LQ			21 40 38.9	
PESTR			e LR		LR	21 49 36.1	
	comp=Z,193μm,22.8s						
ELOJ	Sierra Loja	146.72 332	PKP		PKPdf	20 59 38.6	+1.1
ELOJ			PKP		PKPdf	20 59 39.8	+2.2
ALMR	Almeirim	146.80 339	e P		PKPdf	20 59 39.5	+1.9
ALMR	Almeirim	146.80 339	e P		PKPdf	20 59 39.5	+1.8
OLHC	Oulhaca	146.82 327	P		PKPdf	20 59 49.0	+11
PBAR	Barrancos	147.09 337	e PKP		PKPdf	20 59 39.0	+0.8
PBAR	Barrancos	147.09 337	e SS		SS	21 22 24.6	+20
PBAR	Barrancos	147.09 337	e LQ			21 40 57.2	
PBAR			e LR		LR	21 50 35.8	
	comp=Z,207μm,20.6s						
EALB	Alboran	147.14 329	PKP		PKPdf	20 59 39.0	+0.7
EALB			PKP		PKPdf	20 59 40.6	+2.3
EVO	Evora	147.15 338	⇑ i PKIKP		PKPdf	20 59 39.0	+0.7
	comp=Z,14μm,1.9s						
EVO			e MLR		MLR		
	comp=Z,326μm,22.0s,MS7.8						
PMAFR	Mafra	147.23 340	e PKP		PKPdf	20 59 37.8	-0.6
PMAFR	Mafra	147.23 340	e SS		SS	21 22 20.4	+15
PMAFR	Mafra	147.23 340	e LQ			21 42 01.0	
PMAFR			e LR		LR	21 48 55.6	
	comp=Z,274μm,19.7s						
EMIN	Mina Concepcio	147.30 336	PKP		PKPdf	20 59 40.4	+1.9
EMIN			PKP		PKPdf	20 59 40.9	+2.3
LIS	Lisbon	147.40 340	e P		PKPdf	20 59 40.1	+1.5
EMIJ	Mijas	147.48 332	PKP		PKPdf	20 59 39.9	+1.1
EMIJ			PKP		PKPdf	20 59 40.4	+1.5
PBEJ	Beja	147.54 337	e PKP		PKPdf	20 59 41.2	+2.3
ESPR	Espera	147.72 334	PKP		PKPdf	20 59 39.9	+0.6
ESPR			PKP		PKPdf	20 59 42.9	+3.6
EGRO	El Granado	147.82 337	PKP		PKPdf	20 59 41.6	+2.2
EGRO			PKP		PKPdf	20 59 41.8	+2.4
EJIF	Jimena Fronter	147.89 333	PKP		PKPdf	20 59 41.0	+1.5
EJIF			PKP		PKPdf	20 59 42.9	+3.3
PVAQ	Vaqueiros	148.03 337	e PKP		PKPdf	20 59 42.4	+2.6
PVAQ	Vaqueiros	148.03 337	e SS		SS	21 22 35.1	+20
PVAQ	Vaqueiros	148.03 337	e L

comp=N,9μm,0.2s
SKR smax
comp=E,8μm,0.2s
MIPR Malaya Ipel'ka 2.08 347 *e*P Pn 20 44 04.3 +3.0
MIPR *i* S Sn 20 44 26.5 +0.6
RUS Russkaya 2.27 16 *e*P Pn 20 44 05.5 +1.6
RUS *i* S Sn 20 44 29.5 -1.0
GRL Gorelyy 2.32 8 *e*P Pn 20 44 07.2 +2.5
GRL *i* S Sn 20 44 32.5 +0.6
PET Petropavlovsk 2.86 14 *e*PN Pn 20 44 14.1 +2.1
PET *i* S Sn 20 44 45.8 +0.7
PET Petropavlovsk 2.86 14 P Pn 20 44 13.9 +1.9
PET *i* S Sn 20 44 43.8 -1.3
NLC Nalytchevo 3.13 21 *e*P Pn 20 44 16.6 +0.9
NLC *i* S Sn 20 44 48.7 -3.1
SDLR Sedlovina 3.14 15 *e*P Pn 20 44 18.5 +2.6
SDLR *i* S Sn 20 44 51.1 -1.0
SPN Mys Shipunski 3.24 28 P Pn 20 44 18.3 +1.0
SPN *i* S Sn 20 44 51.0 -3.6
GNL Ganaly 3.45 4 *e*P Pn 20 44 23.9 +3.8
GNL *i* S Sn 20 45 01.5 +1.8
KMNR Kamenistaya 5.75 16 P Pn 20 44 55.8 +4.2
KBTR Krutoberegovo 6.75 26 P Pn 20 45 07.9 +2.5
MA2 Magadan 10.11 340 *e*PN Pn 20 45 54.2 +2.9
YSS Yuzh-Sakhalins 10.32 257 *i* PN Pn 20 45 57.6 +3.3

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*BJI **01** 20:46:14.8, 965S×15669E, h10km, mB6.6, mb6.0*
*IDC **01** 20:46:15.4±0.5, 949S×15695E, h0km, mb5.8/19, mb1 5.8/19, mb1mx5.7/21, mbtmp5.8/19, Error ellipse: s-maj=20.8km s-min=14.6km az=102.0*
*ISCJB **01** 20:46:18.9±0.3, 948S±004×15690E±005, h33km, mb5.9/55, Error ellipse: s-maj=7.5km s-min=6.1km az=3.3*
*MOS **01** 20:46:19.3±1.0, 947S×15693E, h33km, mb6.0/31, Error ellipse: s-maj=11.9km s-min=9.8km az=67.4*
*NEIC **01** 20:46:19.4±2.1, 951S×15693E, h24km±15km, mb6.1/29, Error ellipse: s-maj=5.8km s-min=5.4km az=122.0*
ISC 01 20:46:21.0±0.3, 949S±004×15692E±005, h35km, n178, σ0990/129, mb5.9/55, 2C-2D, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.98**	**89**	Pn	**Pn**	**20 47 04.1**	**-1.7**
HNR				*e*Sn	**Sn**	**20 47 35.7**	**-4.7**
CTAO	**Charters Tower**	**14.73**	**223**	*e*Pn	**Pn**	**20 49 47.1**	**+0.2**
ARMA	**Armidale**	**21.40**	**193**	*e*P	**P**	**20 51 05.0**	**-0.7**
WRA	**Warramunga Arr**	**24.16**	**242**	P	**P**	**20 51 35.6**	**+1.6**
WRA				pmax	pmax		
comp=Z,326nm,0.8s							
WRA	**Warramunga Arr**	**24.16**	**242**	P	**P**	**20 51 35.6**	**+1.5**
comp=Z,326nm,0.8s,mb5.8,baz=71,slow=10.0,SNR=7.5							
RIV	**Riverview**	**24.79**	**192**	*e*P	**P**	**20 51 39.6**	**-0.1**
ASAR	**Alice Springs**	**26.12**	**235**	P	**P**	**20 51 51.6**	**-0.3**
ASAR				pmax	pmax		
comp=Z,195nm,0.8s							
ASAR	**Alice Springs**	**26.12**	**235**	P	**P**	**20 51 51.6**	**-0.2**
comp=Z,195nm,0.8s,mb5.7,baz=69,slow=10,SNR=12							
STKA	**Stephens Creek**	**26.42**	**210**	*e*P	**P**	**20 51 53.4**	**-1.1**
comp=Z,326nm,0.6s,mb6.0							
STKA	**Stephens Creek**	**26.42**	**210**	P	**P**	**20 51 53.9**	**-0.7**
comp=Z,326nm,0.7s,mb6.0,baz=188,slow=7.8,SNR=11							
CNB	**Canberra Magne**	**26.61**	**194**	*e*P	**P**	**20 51 56.3**	**+0.1**
comp=Z,583nm,0.8s,mb6.2							
RAO	**Raoul Island**	**30.69**	**133**	P	**P**	**20 52 31.9**	**-0.7**
MBWA	**Marble Bar**	**37.60**	**248**	*e*P	**P**	**20 53 31.2**	**-1.4**
comp=Z,622nm,1.6s,mb6.1							
CBIJ	**Chichi jima**	**39.08**	**339**	P	**P**	**20 53 42.7**	**-2.2**
comp=Z,179nm,0.8s,mb5.9,baz=245,slow=7.9,SNR=4.3							
PVCP	**Virac**	**39.80**	**305**	*e*P	**P**	**20 53 55.4**	**+4.3**
OTRP	**Odiongan**	**40.92**	**301**	*e*P	**P**	**20 53 54.6**	**-5.7**
CUYO	**Cuyo Island**	**41.04**	**299**	*e*P	**P**	**20 54 01.2**	**-0.1**
GQP	**Guinayangan**	**41.36**	**304**	*e*P	**P**	**20 54 04.6**	**+0.6**
POLP	**Polilio Island**	**42.22**	**304**	*e*P	**P**	**20 54 10.8**	**-0.1**
BATP	**Bataraza**	**42.98**	**294**	*e*P	**P**	**20 54 07.9**	**-9.3**
NWAO	**Narrogin (SRO)**	**43.36**	**231**	P	**P**	**20 54 19.8**	**-0.2**
NWAO				pmax	pmax		
comp=Z,137nm,0.8s							
NWAO	**Narrogin (SRO)**	**43.36**	**231**	P	**P**	**20 54 19.8**	**-0.2**
comp=Z,137nm,0.8s,mb5.8,baz=15,slow=7.4,SNR=4.7							
SCZP	**Santa Cruz**	**44.43**	**304**	*e*P	**P**	**20 54 25.7**	**-3.1**
JHJ	**Hachijo jima 2**	**45.41**	**340**	P	**P**	**20 54 35.2**	**-1.2**
comp=Z,178nm,0.8s,mb6.0,baz=132,slow=12,SNR=4.0							
YOJ	**Yonaguni jima**	**47.27**	**316**	P	**P**	**20 54 50.4**	**-0.7**
JWZ	**Kozaga**	**47.30**	**336**	P	**P**	**20 54 49.7**	**-1.5**
JSG	**Sagara**	**47.38**	**339**	P	**P**	**20 54 50.5**	**-1.3**
JIE	**Ise**	**47.67**	**337**	P	**P**	**20 54 53.5**	**-0.6**
KSM	**Kuching**	**47.69**	**281**	*e*P	**P**	**20 54 54.5**	**-0.1**
NACB	**Ninganchiao**	**48.06**	**315**	*e*P	**P**	**20 54 56.8**	**-0.5**
JYT	**Yasato**	**48.13**	**342**	P	**P**	**20 54 57.1**	**-0.5**
JMN	**Monobe**	**48.24**	**334**	P	**P**	**20 54 59.8**	**+1.3**
JRY	**Ryogami san**	**48.35**	**340**	P	**P**	**20 54 58.6**	**-0.7**
YHNB	**Yeheng**	**48.53**	**315**	*e*P	**P**	**20 55 01.2**	**+0.3**
TATO	**Taipei**	**48.65**	**315**	*e*P	**P**	**20 55 01.5**	**-0.3**
comp=Z,310nm,0.9s,mb6.3							
JWT	**Wachi**	**48.96**	**337**	P	**P**	**20 55 04.2**	**+0.2**
MJAR	**Matsushiro Arr**	**49.06**	**340**	P	**P**	**20 55 04.2**	**-0.5**
MJAR				pmax	pmax		
comp=Z,38nm,0.6s							
MJAR	**Matsushiro Arr**	**49.06**	**340**	P	**P**	**20 55 04.2**	**-0.5**
comp=Z,38nm,0.6s,mb5.6,baz=95,slow=0.7,SNR=12							
MAJO	**Matsushiro**	**49.06**	**340**	*e*P	**P**	**20 55 04.2**	**-0.5**
comp=Z,90nm,0.6s,mb6.0							
MAJO	**Matsushiro**	**49.06**	**340**	*e*P	**P**	**20 55 04.2**	**-0.5**
MAJO				pmax	pmax		
comp=Z,90nm,0.6s,mb6.0							
MAT	**Matsushiro**	**49.06**	**340**	P	**P**	**20 55 04.7**	**0.0**
MAT	**Matsushiro**	**49.06**	**340**	P	**P**	**20 55 03.0**	**-1.7**
JNU	**Nakatsue**	**49.10**	**331**	P	**P**	**20 55 05.0**	**-0.1**
JNU	**Nakatsue**	**49.10**	**331**	P	**P**	**20 55 05.3**	**+0.2**
comp=Z,130nm,0.8s,mb6.0,baz=90,slow=8.6,SNR=5.2							
JMM	**Marumori**	**49.47**	**343**	P	**P**	**20 55 07.5**	**-0.3**
JFU	**Fukue jima 2**	**49.79**	**329**	P	**P**	**20 55 09.5**	**-0.9**
JSD	**Sado**	**50.40**	**341**	P	**P**	**20 55 16.5**	**+1.6**
QZH	**Quanzhou**	**50.67**	**313⇑**	*i*P	**P**	**20 55 17.9**	**+0.7**
QZH				AMB	AMB		
comp=Z,560nm,0.8s,mb6.5							
JTM	**Tenmabayashi**	**52.12**	**345**	P	**P**	**20 55 26.5**	**-1.3**
JOT	**Ohata**	**52.69**	**345**	P	**P**	**20 55 31.3**	**-0.7**
KSRS	**Korea Array**	**54.03**	**332**	P	**P**	**20 55 41.8**	**-0.1**
comp=Z,130nm,1.0s,mb5.8,baz=144,slow=7.1,SNR=12							
QIZ	**Qiongzhong**	**54.38**	**302**	*e*P	**P**	**20 55 45.5**	**+0.7**
comp=Z,148nm,1.0s,mb5.9							
INCN	**Inchon**	**54.67**	**331**	*e*P	**P**	**20 55 46.6**	**+0.1**
comp=Z,278nm,0.9s,mb6.3							
KHU	**Kahuku**	**54.80**	**58**	*e*P	**P**	**20 55 48.0**	**+0.1**
NJ2	**Nanjing**	**55.04**	**320**	*e*P	**P**	**20 55 49.9**	**+0.5**
NJ2				AMB	AMB		
comp=Z,106nm,1.0s,mb5.8							
WHN	**Wuhan**	**57.05**	**316**	⇑P	**P**	**20 56 03.5**	**-0.3**
YSS	**Yuzh-Sakhalins**	**57.60**	**349**	*e*P	**P**	**20 56 07.4**	**+0.2**
comp=Z,152nm,1.0s,mb6.0							
YSS	**Yuzh-Sakhalins**	**57.60**	**349**	*e*P	**P**	**20 56 07.5**	**+0.2**
KULM	**Kulim**	**57.97**	**282**	*e*P	**P**	**20 56 09.8**	**-0.7**
DL2	**Dalian**	**58.28**	**326⇓**	*i*P	**P**	**20 56 13.2**	**+0.9**
DL2				AMB	AMB		
comp=Z,120nm,0.8s,mb6.0							
PSI	**Prapat**	**59.06**	**279**	P	**P**	**20 56 16.7**	**-1.5**
PSI				pmax	pmax		
comp=Z,45nm,0.9s,mb5.5							
PSI	**Prapat**	**59.06**	**279**	P	**P**	**20 56 16.6**	**-1.5**
comp=Z,45nm,0.9s,mb5.5,baz=110,slow=11,SNR=5.1							
CN2	**Changchun**	**60.25**	**334**	*e*P	**P**	**20 56 26.3**	**+0.5**
CN2				AMB	AMB		
comp=Z,20nm,1.1s,mb5.1							
BJT	**Baijiatuau**	**62.03**	**325**	*e*P	**P**	**20 56 38.5**	**+0.5**
comp=Z,194nm,1.2s,mb6.1							
BJT	**Baijiatuau**	**62.03**	**325**	*e*P	**P**	**20 56 38.5**	**+0.6**
BJT				pmax	pmax		
comp=Z,194nm,1.2s							
CM31	**Chiang Mai Arr**	**63.58**	**296**	*e*P	**P**	**20 56 49.5**	**+0.8**
comp=Z,27nm,0.6s,mb5.5							
CASY	**Casey**	**64.84**	**199**	*e*P	**P**	**20 56 56.6**	**+0.5**
comp=Z,53nm,0.8s,mb5.6							
ADK	**Adak**	**65.22**	**18**	*e*P	**P**	**20 56 58.5**	**-0.2**
comp=Z,229nm,1.1s,mb6.1							
ADK	**Adak**	**65.22**	**18**	*e*P	**P**	**20 56 58.5**	**-0.2**
ADK				pmax	pmax		
comp=Z,229nm,1.1s,mb6.1							
HIA	**Hailar**	**66.98**	**335**	*e*P	**P**	**20 57 10.4**	**+0.3**
comp=Z,265nm,1.1s,mb6.2							
HIA	**Hailar**	**66.98**	**335**	*e*P	**P**	**20 57 10.4**	**+0.3**
HIA				pmax	pmax		
comp=Z,265nm,1.1s							
LZH	**Lanzhou**	**67.42**	**315**	*e*P	**P**	**20 57 15.0**	**+1.8**
LZH				AP	pP	20 57 18.0	-6.0
LZH				XP	sP	20 57 19.8	-8.3
LZH				AMB	AMB		
comp=Z,770nm,1.3s,mb6.6							
LZH				AMB	AMB		
comp=Z,3μm,5.1s							
VNDA	**Vanda**	**68.05**	**179**	P	**P**	**20 57 16.3**	**-0.2**
VNDA				pmax	pmax		
comp=Z,54nm,0.9s							
VNDA	**Vanda**	**68.05**	**179**	P	**P**	**20 57 16.3**	**-0.2**
comp=Z,54nm,0.9s,mb5.6,baz=352,slow=6.4,SNR=5.1							
SBA	**Scott Base**	**68.53**	**178**	*e*P	**P**	**20 57 20.4**	**+0.9**
comp=Z,74nm,0.9s,mb5.6							
SBA	**Scott Base**	**68.53**	**178**	*e*P	**P**	**20 57 20.4**	**+0.9**
SBA				pmax	pmax		
comp=Z,74nm,0.9s,mb5.6							
MA2	**Magadan**	**69.02**	**357**	*e*P	**P**	**20 57 22.6**	**0.0**
comp=Z,46nm,0.8s,mb5.5							
MA2	**Magadan**	**69.02**	**357**	*e*P	**P**	**20 57 22.6**	**0.0**
MA2				pmax	pmax		
comp=Z,46nm,0.8s,mb5.5							
GTA	**Gaotai**	**71.86**	**317**	P	**P**	**20 57 42.0**	**+1.6**
GTA				AP	pP	20 57 47.1	-4.2
GTA				XP	sP	20 57 50.5	-4.9
GTA				AMB	AMB		
comp=Z,378nm,1.4s,mb6.1							
FALS	**False Pass**	**72.22**	**23**	*e*P	**P**	**20 57 41.4**	**-0.9**
comp=Z,604nm,0.5s,mb6.8							
SONM	**Songino Array**	**72.46**	**327**	P	**P**	**20 57 45.5**	**+1.7**
SONM				pmax	pmax		
comp=Z,137nm,1.0s							
SONM	**Songino Array**	**72.46**	**327**	P	**P**	**20 57 45.5**	**+1.7**
comp=Z,137nm,1.0s,mb5.8,baz=134,slow=5.4,SNR=7.7							
LSA	**Lhasa**	**74.25**	**304**	*e*P	**P**	**20 57 55.9**	**+1.0**
comp=Z,121nm,1.0s,mb5.8							
LSA	**Lhasa**	**74.25**	**304**	*e*P	**P**	**20 57 55.9**	**+1.1**
LSA				pmax	pmax		
comp=Z,121nm,1.0s,mb5.8							
YAK	**Yakutsk**	**74.39**	**347**	*e*P	**P**	**20 57 55.1**	**+0.2**
comp=Z,134nm,0.8s,mb5.9							
YAK	**Yakutsk**	**74.39**	**347**	*e*P	**P**	**20 57 55.1**	**+0.2**
YAK				pmax	pmax		
comp=Z,134nm,0.8s,mb5.9							
ZAK	**Zakamensk**	**75.61**	**328**	*e*P	**P**	**20 58 03.2**	**+1.0**
ZAK				pmax	pmax		
comp=Z,161nm,1.3s,mb5.8							
TLY	**Talaya**	**76.17**	**329**	*e*P	**P**	**20 58 06.1**	**+0.7**
comp=Z,126nm,1.0s,mb5.8							
TLY	**Talaya**	**76.17**	**329**	*e*P	**P**	**20 58 06.4**	**+1.0**
TLY				pmax	pmax		
comp=Z,176nm,1.2s,mb5.9							
BILL	**Bilibino**	**77.62**	**4**	*e*P	**P**	**20 58 13.9**	**+0.7**
comp=Z,221nm,1.0s,mb6.0							
BILL	**Bilibino**	**77.62**	**4⇓**	*i*P	**P**	**20 58 14.0**	**+0.8**
BILL				*e*	pP	20 58 25.8	+1.6
BILL				pmax	pmax		
comp=Z,344nm,1.2s,mb6.2							
PALK	**Pallekele**	**77.73**	**280**	*e*P	**P**	**20 58 15.5**	**+0.4**
comp=Z,97nm,0.9s,mb5.7							
KDAK	**Kodiak Island**	**78.59**	**25**	P	**P**	**20 58 18.1**	**-0.7**
comp=Z,53nm,1.1s,mb5.4,baz=289,slow=7.0,SNR=4.1							
QSPA	**South Pole Qui**	**80.50**	**180**	P	**P**	**20 58 28.4**	**-0.5**
comp=Z,81nm,0.9s,mb5.7,baz=18,slow=5.6,SNR=3.6							
WMQ	**Urumqi**	**81.94**	**317**	*e*P	**P**	**20 58 36.5**	**-0.7**
PMR	**Palmer**	**82.31**	**23**	*e*P	**P**	**20 58 38.6**	**-0.1**
comp=Z,248nm,1.3s,mb6.0							
PMR	**Palmer**	**82.31**	**23**	*e*P	**P**	**20 58 38.6**	**-0.1**
PMR				pmax	pmax		
comp=Z,248nm,1.3s,mb6.0							
SML	**Sawmill**	**82.75**	**23**	*e*P	**P**	**20 58 42.0**	**+1.1**
MCK	**McKinley**	**83.66**	**21**	*e*P	**P**	**20 58 45.6**	**0.0**
comp=Z,288nm,1.2s,mb6.3							
MCK	**McKinley**	**83.66**	**21**	*e*P	**P**	**20 58 45.7**	**+0.1**
MCK				pmax	pmax		
comp=Z,288nm,1.2s,mb6.3							
COLA	**College**	**84.72**	**21**	*e*P	**P**	**20 58 50.4**	**-0.6**
comp=Z,35nm,0.8s,mb5.5							
COLA	**College**	**84.72**	**21**	*e*P	**P**	**20 58 50.4**	**-0.6**
COLA				pmax	pmax		
comp=Z,35nm,0.8s,mb5.5							
MKAR	**Makanchi Array**	**86.53**	**318**	P	**P**	**20 59 00.4**	**0.0**
MKAR						21 02 24.1	
MKAR				pmax	pmax		
comp=Z,64nm,0.7s							
MKAR				pmax	pmax		
comp=Z,67nm,0.9s							
MKAR	**Makanchi Array**	**86.53**	**318**	P	**P**	**20 59 00.3**	**-0.1**
comp=Z,64nm,0.7s,mb6.0,baz=77,slow=6.1,SNR=6.1							
MKAR				PP	PP	21 02 24.1	+1.5
comp=Z,66nm,0.9s,baz=98,slow=6.0,SNR=3.6							
ZAA0	**Zalesovo Array**	**87.31**	**326**	P	**P**	**20 59 03.2**	**-0.8**
ZALV	**Zalesovo Beam**	**87.31**	**326**	P	**P**	**20 59 03.1**	**-0.9**
comp=Z,32nm,0.8s,mb5.6,baz=97,slow=4.4,SNR=3.5							
ZALV				PP	PP	21 02 26.3	-2.3
comp=Z,40nm,0.8s,baz=116,slow=5.3,SNR=2.8							
ZAL	**Zalesovo**	**87.31**	**326**	P	**P**	**20 59 03.1**	**-0.9**
ZAL						21 02 26.3	
KCPM	**Cahto Peak**	**88.02**	**49**	P	**P**	**20 59 09.2**	**+1.4**
KIPM	**Iron Peak**	**88.12**	**49**	P	**P**	**20 59 08.5**	**+0.2**
KRMB	**Red Mountain**	**88.22**	**48**	P	**P**	**20 59 10.7**	**+2.0**
SNCC	**San Nicolas Is**	**89.80**	**56**	*e*P	**P**	**20 59 17.7**	**+1.4**
comp=Z,116nm,1.0s,mb6.2							
KURK	**Kurchatov**	**89.96**	**321**	P	**P**	**20 59 16.1**	**-0.6**
TKM2	**Tokmak 2**	**90.11**	**313**	*e*P	**P**	**20 59 17.6**	**+0.1**
comp=Z,48nm,0.8s,mb5.9							
TKM2	**Tokmak 2**	**90.11**	**313**	*e*P	**P**	**20 59 17.6**	**+0.1**
TKM2				pmax	pmax		
comp=Z,48nm,0.8s,mb5.9							
UCH	**Uchtor**	**90.74**	**313**	*e*P	**P**	**20 59 22.0**	**+1.5**
comp=Z,153nm,1.0s,mb6.3							
AAK	**Ala-Archa**	**90.84**	**313**	*e*P	**P**	**20 59 20.7**	**-0.2**
comp=Z,82nm,0.8s,mb6.1							
AAK	**Ala-Archa**	**90.84**	**313**	*e*P	**P**	**20 59 20.7**	**-0.2**
AAK				pmax	pmax		
comp=Z,82nm,0.8s,mb6.1							
EKS2	**Erkin-Say**	**91.36**	**313**	*e*P	**P**	**20 59 24.5**	**+1.1**
comp=Z,115nm,0.9s,mb6.2							
INK	**Inuvik**	**91.38**	**20**	P	**P**	**20 59 23.9**	**+1.1**
INK				pmax	pmax		
comp=Z,23nm,1.0s							
INK	**Inuvik**	**91.38**	**20**	P	**P**	**20 59 23.9**	**+1.1**
comp=Z,23nm,1.0s,mb5.5,baz=228,slow=3.2,SNR=2.8							
NVAR	**Mina Array Bea**	**91.77**	**51**	P	**P**	**20 59 26.3**	**+1.0**
NVAR				PKKPbc	PKKPbc	21 16 45.6	+0.5
NVAR	**Mina Array Bea**	**91.77**	**51**	P	**P**	**20 59 26.3**	**+1.0**
comp=Z,32nm,1.1s,mb5.6,baz=245,slow=5.9,SNR=4.6							
NVAR				PKKPbc	PKKPbc	21 16 45.6	+0.5
comp=Z,1.2nm,0.8s,baz=128,slow=2.6,SNR=2.2							
ELK	**Elko**	**94.49**	**50**	P	**P**	**20 59 38.0**	**+0.2**
BRVK	**Borovoye**	**95.50**	**323**	P	**P**	**20 59 41.4**	**-0.7**
YKA	**Yellowknife Ar**	**97.64**	**28**	P	**P**	**20 59 52.3**	**+0.7**
YKA	**Yellowknife Ar**	**97.64**	**28**	P	**P**	**20 59 52.3**	**+0.7**
YKA				pmax	pmax		
comp=Z,19nm,1.0s							
YKA	**Yellowknife Ar**	**97.64**	**28**	P	**P**	**20 59 52.3**	**+0.7**
comp=Z,19nm,1.0s,mb5.6,baz=289,slow=3.4,SNR=3.7							
PDAR	**Pinedale Array**	**98.94**	**48**	P	**P**	**20 59 54.7**	**-3.3**
comp=Z,15nm,1.0s,mb5.5,baz=250,slow=2.6,SNR=2.6							
ULM	**Lac du Bonnet**	**108.23**	**40**	PKiKP	PKiKP	21 04 43.7	-1.7
comp=Z,13nm,0.9s,baz=270,slow=2.0,SNR=3.1							
ARCES	**ARCESS Array B**	**112.51**	**343**	*i* PKIKP	PKiKP	21 04 52.5	-0.5
ARCES				pmax	pmax		
comp=Z,4.0nm,0.6s							
ARCES	**ARCESS Array B**	**112.51**	**343**	PKiKP	PKiKP	21 04 52.5	-0.5
comp=Z,4.2nm,0.6s,baz=132,slow=1.3,SNR=2.9							
FINES	**FINESS Array B**	**116.98**	**336**	PKIKP	PKPdf	21 05 01.3	-0.5
FINES				pmax	pmax		
comp=Z,6.0nm,0.7s							
FINES	**FINESS Array B**	**116.98**	**336**	PKP	PKPdf	21 05 01.3	-0.5
comp=Z,6.0nm,0.7s,baz=103,slow=4.4,SNR=5.8							
KMBO	**Kilima Mbogo**	**119.02**	**263**	PKIKP	PKPdf	21 05 07.8	+0.7
KMBO				pmax	pmax		
comp=Z,6.0nm,0.9s							
KMBO	**Kilima Mbogo**	**119.02**	**263**	PKP	PKPdf	21 05 07.8	+0.6
comp=Z,5.5nm,0.8s,baz=61,slow=2.8,SNR=3.4							
SFJD	**Kangerlussuaq**	**119.63**	**12**	PKIKP	PKPdf	21 05 06.2	-0.5
SFJD				pmax	pmax		
comp=Z,16nm,0.8s							
SFJD	**Kangerlussuaq**	**119.63**	**12**	PKP	PKPdf	21 05 06.2	-0.5
comp=Z,16nm,0.8s,baz=261,slow=1.4,SNR=3.8							
AKASG	**Malin Array Be**	**120.67**	**324**	PKIKP	PKPdf	21 05 08.4	-0.8
AKASG						21 06 41.0	
AKASG				pmax	pmax		
comp=Z,10.0nm,0.6s							
AKASG				pmax	pmax		
comp=Z,18nm,0.6s							
AKASG	**Malin Array Be**	**120.67**	**324**	PKP	PKPdf	21 05 08.4	-0.7
comp=Z,9.8nm,0.6s,baz=58,slow=2.1,SNR=10							
AKASG				PP	PP	21 06 41.0	+4.1
comp=Z,18nm,0.6s,baz=63,slow=2.1,SNR=4.6							
NNA	**Nana**	**122.46**	**111**	PKP	PKPdf	21 05 13.2	-0.4
NNA				*e*PKPdf	PKPdf	21 05 14.0	+0.3
NNA	**Nana**	**122.46**	**111**	PKP	PKPdf	21 05 13.2	-0.4
comp=Z,32nm,1.0s,baz=275,slow=4.8,SNR=4.2							
ATAH	**Atahualpa**	**122.50**	**105**	PKP	PKPdf	21 05 14.4	+0.6
comp=Z,13nm,0.9s,baz=135,slow=4.3,SNR=3.4							
NB2	**NORSAR Subarra**	**122.67**	**341**	PKPdf	PKPdf	21 05 11.1	-1.6
comp=Z,8.3nm,0.8s,baz=39,slow=1.9							
NB2	**NORSAR Subarra**	**122.67**	**341**	PKPdf	PKPdf	21 05 11.1	-1.6
baz=39,slow=1.9							
NOA	**NORSAR Array B**	**122.67**	**341**	PKIKP	PKPdf	21 05 12.0	-0.7
NOA				pmax	pmax		
comp=Z,9.0nm,0.7s							
NOA	**NORSAR Array B**	**122.67**	**341**	PKP	PKPdf	21 05 12.0	-0.7
comp=Z,8.8nm,0.7s,baz=45,slow=2.0,SNR=6.8							
SCHQ	**Schefferville**	**123.08**	**29**	PKP	PKPdf	21 05 12.5	-1.2
comp=Z,15nm,0.8s,baz=319,slow=0.8,SNR=3.1							
BORG	**Borgarnes**	**124.82**	**359**	PKP	PKPdf	21 05 17.8	+1.1
comp=Z,21nm,0.7s,baz=355,slow=1.8,SNR=4.3							
LPAZ	**La Paz**	**128.58**	**120**	PKIKP	PKPdf	21 05 26.0	+0.7
LPAZ				pmax	pmax		
comp=Z,38nm,1.1s							
LPAZ	**La Paz**	**128.58**	**120**	PKP	PKPdf	21 05 26.0	+0.6
comp=Z,38nm,1.1s,baz=317,slow=5.5,SNR=3.0							
ROSC	**El Rosal**	**128.98**	**91**	PKP	PKPdf	21 05 26.2	0.0
comp=Z,28nm,0.6s,baz=214,slow=2.1,SNR=4.3							
GERES	**GERESS Array B**	**130.16**	**329**	PKIKP	PKPdf	21 05 28.0	+0.6
GERES				pmax	pmax		
comp=Z,6.0nm,0.6s							
GERES	**GERESS Array B**	**130.16**	**329**	PKP	PKPdf	21 05 28.0	+0.6
comp=Z,6.3nm,0.6s,baz=86,slow=1.9,SNR=6.2							
SDV	**Santo Domingo**	**133.08**	**87**	PKP	PKPdf	21 05 34.3	+0.4
SDV	**Santo Domingo**	**133.08**	**87**	PKP	PKPdf	21 05 34.3	+0.4
comp=Z,64nm,0.7s,baz=236,slow=2.8,SNR=7.0							
SIV	**San Ignacio**	**134.66**	**124**	PKP	PKPdf	21 05 38.2	+1.3
comp=Z,10nm,0.7s,baz=158,slow=5.4,SNR=2.2							
PCRV	**Puerto La Cruz**	**139.06**	**85**	PKP	PKPdf	21 05 45.8	+0.7
comp=Z,21nm,0.8s,baz=270,slow=4.0,SNR=3.3							
PBRG	**Braganca**	**144.75**	**339**	*e*PKP	PKPdf	21 05 53.4	-1.0
PCAB	**Cabril**	**145.28**	**340**	*e*PKP	PKPdf	21 05 55.1	-0.2
MVO	**Moncorvo**	**145.41**	**338**	*e*PKP	PKPdf	21 05 55.6	0.0
ESDC	**Sonseca Array**	**145.44**	**334**	PKPbc	PKPbc	21 05 55.8	+0.1
comp=Z,84nm,1.0s,baz=26,slow=3.3,SNR=9.9							
PVRL	**Vila Real**	**145.56**	**339**	*e*PKP	PKPdf	21 05 56.5	+0.7
PTO	**Porto**	**145.98**	**340**	*e*PKP	PKPdf	21 05 57.8	+1.2
PVIS	**Viseu**	**146.11**	**339**	*e*PKP	PKPdf	21 05 58.1	+1.3
MTE	**Manteigas**	**146.27**	**338**	*e*PKP	PKPdf	21 05 58.6	+1.5
PCBR	**Castelo Branco**	**146.73**	**338**	*e*PKP	PKPdf	21 05 59.3	+1.4
PESTR	**Estremoz**	**147.62**	**337**	*e*PKP	PKPbc	21 06 02.7	+0.6
PBAR	**Barrancos**	**148.00**	**336**	*e*PKP	PKPbc	21 06 03.8	+0.7
PMAFR	**Mafra**	**148.17**	**339**	*e*PKP	PKPbc	21 06 04.1	+0.6
PBEJ	**Beja**	**148.46**	**337**	*e*PKP	PKPbc	21 06 04.7	+0.4
PVAQ	**Vaqueiros**	**148.94**	**336**	*e*PKP	PKPbc	21 06 06.7	+1.1
PBDV	**Barranco-do-Ve**	**149.16**	**336**	*e*PKP	PKPbc	21 06 07.7	+1.5
PTEO	**Sao Teotonio**	**149.21**	**337**	*e*PKP	PKPbc	21 06 07.5	+1.2
MORF	**Marmelete**	**149.39**	**337**	*e*PKP	PKPbc	21 06 07.4	+0.7
PFVI	**Vila B

comp=Z,278nm,0.7s,mb6.2,baz=130,slow=8.3,SNR=6.3
GUIM Jordan 37.49 298 eP P 20 54 47.9 +1.6
MBWA Marble Bar 37.52 244 eP P 20 54 51.8 +5.3
comp=Z,439nm,0.9s,mb6.2
SNZO South Karori 37.93 157 eP P 20 54 49.7 +0.1
RPZ Rata Peaks 38.78 162 P **P 20 54 57.7 +1.0**
RPZ LR LR 21 08 23.1
RPZ Rata Peaks 38.78 162 P **P 20 54 57.7 +1.0**
comp=Z,222nm,0.9s,mb5.9,baz=68,slow=1.2,SNR=5.8
RPZ LR LR 21 08 23.1
comp=Z,728μm,19.0s,MS7.5,baz=332,slow=32
PPR Puerto Princes 40.58 294 eP P 20 55 14.4 +2.2
BALP Baler 40.83 304 eP P 20 55 13.5 -0.6
LUBP Lubang 40.95 300 eP P 20 55 12.7 -2.5
CAUP Cauayan 41.27 306 eP P 20 55 09.6 -8.2
KKM Kota Kinabalu 41.62 287 eP P 20 55 23.4 +2.7
KLBR Kellerberrin 42.98 230 eP P 20 55 28.0 -3.7
comp=Z,435nm,0.7s,mb6.3
NWAO Narrogin (SRO) 43.98 229 P **P 20 55 39.5 -0.1**
comp=Z,158nm,0.8s,mb5.8
NWAO Narrogin (SRO) 43.98 229 P **P 20 55 39.2 -0.4**
NWAO pmax pmax
comp=Z,75nm,0.9s
NWAO Narrogin (SRO) 43.98 229 P **P 20 55 39.2 -0.4**
comp=Z,75nm,0.9s,mb5.4,baz=12,slow=3.1,SNR=5.3
RAR Rarotonga 45.11 113 P **P 20 55 45.8 -3.0**
RAR pmax pmax
comp=Z,85nm,0.8s
RAR MLR MLR
comp=Z,130μm,18.1s
RAR Rarotonga 45.11 113 P **P 20 55 45.8 -3.0**
comp=Z,85nm,0.8s,mb5.7,baz=220,slow=7.9,SNR=2.3
RAR LR LR 21 12 20.2
comp=Z,130μm,18.1s,MS6.9,baz=284,slow=33
NACB Ninganchiao 45.65 314 eP P 20 55 53.3 +0.2
YHNB Yeheng 46.12 314 eP P 20 55 55.0 -1.8
KSM Kuching 46.19 279 eP P 20 55 55.4 -2.2
TATO Taipei 46.23 315 eP P 20 55 57.1 -0.5
MJAR Matsushiro Arr 46.51 340 P **P 20 55 58.5 -1.1**
comp=Z,110nm,0.8s,mb5.9,baz=161,slow=7.5,SNR=12
MJAR PcP PcP 20 57 34.5 +0.6
comp=Z,58nm,0.8s,baz=168,slow=3.6,SNR=2.9
MJAR ScP ScP 21 01 31.6 +4.7
comp=Z,42nm,1.1s,baz=162,slow=4.6,SNR=5.5
MAJO Matsushiro 46.51 340 eP P 20 55 56.9 -2.7
MAT Matsushiro 46.51 340 P **P 20 55 56.5 -3.1**
JNU Nakatsue 46.55 331 P **P 20 56 00.0 0.0**
comp=Z,418nm,1.0s,mb6.3,baz=152,slow=13,SNR=10
JNU LR LR 21 13 21.2
comp=Z,569μm,19.0s,MS7.5,baz=161,slow=33
MCQ Macquarie Isla 47.26 177 eP P 20 56 11.4 +6.2
QZH Quanzhou 48.28 313 P **P 20 56 15.6 +1.9**
QZH S **S 21 03 16.2 +3.2**
QZH AMB AMB
comp=Z,1μm,0.8s,mb7.0
ERM Erimo 50.30 348 eP P 20 56 27.7 -1.0
ERM Erimo 50.30 348⇑ eP P 20 56 29.6 +0.9
KSRS Korea Array 51.47 332 P **P 20 56 38.6 +1.0**
comp=Z,277nm,0.9s,mb6.2,baz=149,slow=7.8,SNR=16
KSRS PcP PcP 20 57 51.6 -0.3
comp=Z,35nm,0.8s,baz=146,slow=4.1,SNR=1.9
KSRS ScP ScP 21 01 50.0 +2.1
comp=Z,6.2nm,0.8s,baz=146,slow=3.4,SNR=2.6
QIZ Qiongzhong 52.24 301 P **P 20 56 42.9 -0.8**
QIZ AP pP 20 56 45.8 -3.4
QIZ S **S 21 04 06.7 -1.5**
QIZ AMB AMB
comp=Z,423nm,1.2s,mb6.2
QIZ Qiongzhong 52.24 301 eP P 20 56 42.6 -1.1
comp=Z,13nm,3.3s
ASAJ Asahikawa 52.43 348 P **P 20 56 44.7 +0.1**
ASAJ pmax pmax
comp=Z,502nm,1.0s
ASAJ Asahikawa 52.43 348 P **P 20 56 44.7 +0.1**
comp=Z,502nm,1.0s,mb6.4,baz=229,slow=14,SNR=13
NJ2 Nanjing 52.56 320 eP P 20 56 46.4 +0.5
NJ2 AP pP 20 56 51.2 -0.2
NJ2 XP sP 20 56 53.4 -0.2
NJ2 PP PP 20 58 49.1 +4.0
NJ2 S **S 21 04 10.0 -2.2**
NJ2 AMB AMB
comp=Z,510nm,1.0s
NJ2 AMB AMB
comp=Z,89μm,7.8s
NJ2 LR LR
comp=N,473μm,17.7s
NJ2 LR LR
comp=E,356μm,17.8s
NJ2 LR LR
comp=Z,330μm,17.8s
KIP Kipapa 53.49 57 eP P 20 56 55.7 +2.8
comp=Z,694nm,1.3s,mb6.4
KIP Kipapa 53.49 57⇑ eP P 20 56 55.8 +2.9
PPT Papeete 54.18 106 eP P 20 56 57.6 -0.5
comp=Z,1μm,1.3s,mb6.6
PPT Papeete 54.18 106 P **P 20 56 59.5 +1.4**
PPT pmax pmax
comp=Z,79nm,0.6s
PPT MLR MLR
comp=Z,151μm,19.3s
PPT Papeete 54.18 106 P **P 20 56 59.5 +1.4**
comp=Z,79nm,0.6s,mb5.8,baz=267,slow=6.2,SNR=5.7
PPT LR LR 21 17 06.9
comp=Z,151μm,19.3s,MS7.1,baz=36,slow=33
PAE Paea 54.19 107 eP P 20 56 57.3 -0.8
comp=Z,2μm,1.1s,mb7.0
PAE Paea 54.19 107 eP P 20 56 57.3 -0.8
PAE pmax pmax
comp=Z,2μm,1.1s,mb7.0
TVO Taravao 54.51 107 eP P 20 56 59.9 -0.6
comp=Z,2μm,0.9s,mb7.1
TVO Taravao 54.51 107 eP P 20 56 59.9 -0.6
TVO pmax pmax
comp=Z,2μm,0.9s,mb7.2
KHU Kahuku 54.58 60 P **P 20 57 03.9 +2.9**
WHN Wuhan 54.62 316 ⇓P **P 20 57 00.7 -0.4**
POHA Pohakuloa 54.86 60 P **P 20 57 03.0 0.0**
comp=Z,532nm,0.8s,mb6.6
TBI Tubuai 54.88 113 eP P 20 57 02.4 -0.7
comp=Z,4μm,1.4s,mb7.3
YSS Yuzh-Sakhalins 55.12 349⇑ eP P 20 57 05.9 +1.6
YSS Yuzh-Sakhalins 55.12 349⇑ iP P 20 57 06.0 +1.7
YSS e pP 20 57 13.0 +3.1
YSS eS **S 21 04 54.8 +8.4**
YSS pmax pmax
comp=N,360nm,1.0s
YSS pmax pmax
comp=E,30nm,1.0s
YSS pmax pmax
comp=Z,810nm,1.0s,mb6.7
MEH Mehetia 55.64 107 eP P 20 57 07.7 -0.9
comp=Z,1μm,1.1s,mb6.8
PMOR Pomariorio Ree 55.68 103 eP P 20 57 08.2 -0.8
comp=Z,3μm,1.0s,mb7.3
VAH Vaihoa 55.94 103 eP P 20 57 09.8 -1.1
comp=Z,2μm,1.0s,mb7.1
SNY Shenyang 56.98 332 ⇓P **P 20 57 21.1 +3.4**
SNY S **S 21 05 20.1 +8.8**
SNY XS sS 21 05 31.6 +11
SNY SS SS 21 09 02.7 +2.5
SNY AMB AMB
comp=Z,320nm,2.3s,mb5.9
SNY LR LR
comp=E,337μm,18.6s
SNY LR LR
comp=Z,314μm,21.1s,MS7.4
PSI Prapat 57.62 278 P **P 20 57 25.3 +2.5**
PSI pmax pmax
comp=Z,56nm,0.8s,mb5.7
PSI Prapat 57.62 278 P **P 20 57 25.3 +2.5**
comp=Z,56nm,0.8s,mb5.7,baz=84,slow=13,SNR=7.5
SKR Severo-Kuril's 57.62 0 eP P 20 57 22.0 -0.1
SKR e 20 57 40.0
SKR pmax pmax
comp=N,550nm,1.2s
SKR pmax pmax
comp=E,400nm,1.2s
SKR pmax pmax
comp=Z,1μm,1.2s,mb6.8
ENH Enshi 57.95 312 eP P 20 57 24.0 -0.8
comp=Z,0.5nm,0.5s
GYA Guiyang 58.20 307⇑ iP P 20 57 27.8 +1.2
GYA AP pP 20 57 31.6 -0.6
GYA XP sP 20 57 32.8 -1.5
GYA PCP PcP 20 58 19.6 +1.6
GYA PP PP 20 59 39.2 +3.5
GYA SCP ScP 21 02 18.5 +0.8
GYA S **S 21 05 28.2 +0.4**
GYA SCS ScS 21 07 14.5 -1.5
GYA AMB AMB
comp=Z,180nm,1.0s,mb6.1
GYA AMB AMB
comp=Z,86μm,16.6s
GYA LR LR
comp=N,42μm,23.0s,MS6.7
GYA LR LR
comp=E,53μm,24.0s,MS6.7
GYA LR LR
comp=Z,41μm,20.4s,MS6.5
COCO West Island 58.25 260 P **P 20 57 32.1 +4.9**
comp=Z,6μm,1.4s,mb7.5,SNR=5.9
HABR Khabarovsk 58.34 344 eP P 20 57 26.2 -0.9
HABR eS **S 21 05 28.1 -0.8**
HABR pmax pmax
comp=Z,1μm,1.3s,mb6.8
BJI Beijing 59.52 325 P **P 20 57 35.7 +0.2**
BJI AP pP 20 57 38.9 -2.2
BJI XP sP 20 57 40.2 -3.0
BJI PCP PcP 20 58 22.8 -0.1
BJI SS SS 21 09 42.5 +2.3
BJI AMB AMB
comp=Z,15μm,5.5s
BJI LR LR
comp=Z,828μm,21.7s
KLR Kul'dur 59.98 342 eP P 20 57 36.2 -2.3
PET Petropavlovsk 60.01 2⇑ eP P 20 57 40.1 +1.4
PET Petropavlovsk 60.01 2 eP P 20 57 41.1 +2.4
PET eS **S 21 05 39.9 -10**
PET pmax pmax
comp=Z,627nm,0.9s,mb6.6
PET MLR MLR
comp=Z,552μm,17.0s
PET MLR MLR
comp=Z,504μm,17.0s,MS7.7
XAN Xi'an 60.39 316 P **P 20 57 42.5 +0.9**
XAN AP pP 20 57 48.3 +1.0
XAN S **S 21 06 09.4 +13**
XAN AMB AMB
comp=Z,200nm,1.0s,mb6.1
XAN LR LR
comp=N,55μm,15.7s,MS6.9
XAN LR LR
comp=E,56μm,17.2s,MS6.9
XAN LR LR
comp=Z,75μm,13.7s,MS7.0
KMI Kunming 60.78 304 P **P 20 57 46.0 +1.5**
KMI XP sP 20 57 52.4 +0.2
KMI S **S 21 06 03.5 +2.3**
KMI AMB AMB
comp=Z,642nm,1.4s,mb6.6
KMI LR LR
comp=N,171μm,17.8s,MS7.5
KMI LR LR
comp=E,308μm,19.7s,MS7.5
KMI LR LR
comp=Z,398μm,20.0s,MS7.6
CM31 Chiang Mai Arr 61.58 295 eP P 20 57 50.3 +0.3
comp=Z,100nm,1.3s,mb5.8
CD2 Chengdu 62.54 310 P **P 20 57 56.7 +0.5**
CD2 XP sP 20 58 03.8 -0.2
CD2 PP PP 21 00 12.6 -1.4
CD2 PCS PcS 21 02 38.2 -0.5
CD2 S **S 21 06 23.1 -0.3**
CD2 SCS ScS 21 07 41.5 -6.7
CD2 AMB AMB
comp=Z,610nm,0.7s,mb6.8
CD2 AMB AMB
comp=Z,82μm,8.4s
CD2 LR LR
comp=N,380μm,19.2s
CD2 LR LR
comp=E,362μm,21.6s
CD2 LR LR
comp=Z,550μm,19.2s
HHC Hu-ho-hao-te 62.71 323 eP P 20 57 57.5 +0.3
HHC AP pP 20 58 02.5 -0.3
HHC XP sP 20 58 05.4 +0.5
HHC PP PP 21 00 15.6 +0.2
HHC S **S 21 06 22.6 -2.5**
HHC AMB AMB
comp=Z,151nm,1.3s
HHC AMB AMB
comp=Z,31μm,16.2s
HHC LR LR
comp=N,104μm,13.7s
HHC LR LR
comp=E,123μm,16.2s
HHC LR LR
comp=Z,160μm,14.9s
ADK Adak 63.38 19 eP P 20 58 01.8 +0.4
comp=Z,382nm,0.9s,mb6.5
ADK Adak 63.38 19 eP P 20 58 01.8 +0.4
ADK pmax pmax
comp=Z,382nm,0.9s,mb6.5
TAOE Nuku Hiva Isla 63.38 96 eP P 20 58 01.1 -1.1
comp=Z,7μm,1.2s
HIA Hailar 64.42 335 eP P 20 58 08.5 +0.2
comp=Z,574nm,1.0s,mb6.6
HIA Hailar 64.42 335 eP P 20 58 08.5 +0.2
HIA pmax pmax
comp=Z,573nm,1.0s
LZH Lanzhou 65.00 315 eP P 20 58 13.8 +1.4
LZH AP pP 20 58 17.0 -1.0
LZH XP sP 20 58 18.1 -2.0
LZH PP PP 21 00 39.4 +3.8
LZH AMB AMB
comp=Z,1μm,1.4s,mb6.8
LZH AMB AMB
comp=Z,4μm,4.5s
MA2 Magadan 66.65 357⇑ eP P 20 58 21.3 -1.2
MA2 Magadan 66.65 357 eP P 20 58 21.6 -0.9
MA2 pmax pmax
comp=N,400nm,0.9s
MA2 pmax pmax
comp=Z,900nm,0.9s,mb6.8
CASY Casey 66.67 198 eP P 20 58 23.1 +0.5
RKT Rikitea 68.14 112 eP P 20 58 30.8 -1.9
comp=Z,924nm,1.2s,mb6.7
RKT Rikitea 68.14 112 eP P 20 58 30.8 -1.9
RKT pmax pmax
comp=Z,924nm,1.2s,mb6.7
UNV Unalaska Valle 68.57 23 eP P 20 58 34.9 +0.2
comp=Z,214nm,0.9s,mb6.1
CLNS Chul'man 68.64 342 eP P 20 58 36.3 +1.2
CLNS e*PP pP 20 58 43.5 +2.7
CLNS e 20 58 57.7
CLNS e 21 01 07.5
CLNS ePPP 21 02 42.8
CLNS eSP 21 08 01.3
CLNS ePS 21 08 08.1
CLNS e 21 08 29.7
CLNS eSS SS 21 12 02.7 +0.9
CLNS pmax pmax
comp=N,209nm,0.9s
CLNS pmax pmax
comp=Z,596nm,0.9s,mb6.5
CLNS pmax pmax
comp=E,138nm,1.0s
CLNS MLR MLR
comp=Z,224μm,16.0s,MS7.5
CLNS MLR MLR
comp=N,176μm,17.0s,MS7.5
CLNS MLR MLR
comp=E,201μm,19.0s,MS7.5
AKUT Akutan 69.08 23 eP P 20 58 38.4 +0.5
comp=E,151nm,0.6s,mb6.1
CIT Chita 69.12 334 eP P 20 58 33.9 -4.3
CIT e pP 20 58 40.4 -3.5
CIT e 20 58 50.1
CIT e 20 59 06.7
GTA Gaotai 69.41 317 P **P 20 58 42.7 +2.4**
GTA AP pP 20 58 46.4 +0.4
GTA XP sP 20 58 48.0 -0.1
GTA PP PP 21 01 20.0 +6.0
GTA S S 21 07 52.4 +5.5
GTA XS sS 21 08 00.4 +4.1
GTA SKS 21 08 39.2
GTA SS SS 21 12 23.9 +9.4
GTA AMB AMB
comp=Z,253nm,1.3s,mb6.0
GTA AMB AMB
comp=Z,20μm,5.3s
GTA LR LR
comp=N,156μm,18.3s,MS7.5
GTA LR LR
comp=E,232μm,19.8s,MS7.5
GTA LR LR
comp=Z,411μm,18.3s
SONM Songino Array 69.92 327 P **P 20 58 44.6 +1.4**
SONM pmax pmax
comp=Z,393nm,1.0s
SONM Songino Array 69.92 327 P **P 20 58 44.6 +1.3**
comp=Z,393nm,1.0s,mb6.3,baz=145,slow=5.5,SNR=11
SEY Seymchan 69.95 358⇑ eP P 20 58 43.4 +0.3
SEY Seymchan 69.95 358⇑ eP P 20 58 43.3 +0.2
VNDA Vanda 70.38 179 P **P 20 58 46.2 +0.6**
comp=Z,55nm,0.9s,mb5.5,baz=306,slow=2.2,SNR=5.7
FALS False Pass 70.54 24 eP P 20 58 47.3 +0.4
comp=Z,605nm,0.9s,mb6.5
SBA Scott Base 70.88 178 P **P 20 58 50.0 +1.3**
comp=Z,3μm,2.1s,mb6.8
SBA Scott Base 70.88 178 P **P 20 58 50.0 +1.3**
SBA pmax pmax
comp=Z,3μm,2.1s,mb6.8
YAK Yakutsk 71.90 347⇑ eP P 20 58 56.5 +1.5
YAK Yakutsk 71.90 347 eP P 20 58 54.5 -0.5
YAK e*PP pP 20 59 03.3 +2.6
YAK e 20 59 14.1
YAK eS S 21 08 13.1 -1.9
YAK pmax pmax
comp=Z,444nm,0.9s,mb6.4
YAK pmax pmax
comp=N,194nm,1.3s
YAK pmax pmax
comp=E,113nm,1.4s
YAK smax
comp=E,27μm,12.3s
YAK smax
comp=Z,13μm,7.6s
YAK smax
comp=N,40μm,9.4s
YAK MLR MLR
comp=Z,253μm,17.0s,MS7.6
YAK MLR MLR
comp=N,271μm,18.0s,MS7.6
YAK MLR MLR
comp=E,136μm,19.0s,MS7.6
LSA Lhasa 72.03 304 eP P 20 58 57.6 +1.1
comp=E,351nm,0.9s,mb6.3
LSA Lhasa 72.03 304 eP P 20 58 57.6 +1.1
LSA pmax pmax
comp=Z,351nm,0.9s,mb6.3
SDPT Sand Point 72.08 25 eP pP 20 59 06.4 +4.5
MIR Mirnyy 72.82 202⇓ iP pP 20 59 10.0 +3.8
MIR pmax pmax
comp=Z,20μm,4.0s
BOD Bodaibo 73.08 338 eP P 20 59 00.4 -1.7
BOD pmax pmax
comp=Z,319nm,2.4s,mb5.8
CHGN Chignik 73.58 25 eP P 20 59 11.6 +6.5
TLY Talaya 73.62 329⇑ eP P 20 59 06.4 +1.0
TLY Talaya 73.62 329 ceP P 20 59 06.3 +0.9
TLY pmax pmax
comp=Z,193nm,2.5s,mb5.6
GAMB Gambell 74.89 14 eP P 20 59 13.0 +0.4
comp=Z,538nm,1.2s,mb6.3
BILL Bilibino 75.40 4⇑ eP P 20 59 15.7 +0.3
BILL Bilibino 75.40 4⇑ eP P 20 59 15.9 +0.5
BILL e pP 20 59 22.7 +1.5
BILL e 20 59 28.4
BILL pmax pmax
comp=Z,700nm,2.7s,mb6.1
PALK Pallekele 76.26 279 P **P 20 59 28.6 +7.1**
comp=Z,1μm,1.1s,mb6.8,SNR=5.2
PALK Pallekele 76.26 279 eP P 20 59 20.0 -1.5
comp=Z,365nm,1.2s,mb6.2
KDAK Kodiak Island 76.98 26 P **P 20 59 23.0 -1.6**
comp=Z,64nm,0.9s,mb5.5,baz=272,slow=3.2,SNR=7.3
TNA Tin City 77.29 15 P **P 20 59 27.8 +1.6**
comp=Z,336nm,0.9s,mb6.3
TTA Tatalina 78.91 20 eP P 20 59 42.9 +7.7
WMQ Urumqi 79.50 317 eP P 20 59 38.6 -0.3
WMQ AP pP 20 59 43.1 -1.6
WMQ PP PP 21 02 44.0 +4.5
WMQ eS S 21 09 38.0 -1.7
WMQ AMB AMB
comp=Z,202nm,1.5s,mb5.8
WMQ AMB AMB
comp=Z,6μm,5.8s
WMQ LR LR
comp=N,78μm,22.4s,MS7.2
WMQ LR LR
comp=E,110μm,21.6s,MS7.2
WMQ LR LR
comp=Z,111μm,24.2s,MS7.1
HYB Hyderabad 80.08 289 eP P 20 59 42.0 -0.6
HYB Hyderabad 80.08 289 i P P 20 59 42.0 -0.6
comp=Z,327nm,0.8s,mb6.3
PMR Palmer 80.63 23 eP P 20 59 44.6 0.0
comp=Z,278nm,0.9s,mb6.2
PMR Palmer 80.63 23 eP P 20 59 44.6 0.0
PMR pmax pmax
comp=Z,278nm,0.9s,mb6.2
TIXI Tiksi 80.64 352⇑ eP P 20 59 44.8 +0.3
TIXI pmax pmax
comp=Z,297nm,1.3s,mb6.1
SML Sawmill 81.07 23 eP P 20 59 47.2 +0.2
IMA2 Indian Mountai 81.71 19 eP P 20 59 55.9 +5.6
MCK McKinley 81.92 22 eP P 20 59 50.5 -1.0
comp=Z,1μm,1.0s,mb6.7
MCK McKinley 81.92 22 eP P 20 59 50.5 -0.9
MCK pmax pmax
comp=Z,500nm,1.0s,mb6.4
QSPA South Pole Qui 82.80 180 P **P 20 59 54.7 -1.2**
comp=Z,276nm,1.0s,mb6.2,baz=35,slow=3.0,SNR=7.0
QSPA PKKPbc PKKPbc 21 18 20.2 -2.7
comp=Z,19nm,0.8s,baz=233,slow=2.4,SNR=7.4
COLA College 82.96 21⇓ eP P 20 59 57.4 +0.6
MKAR Makanchi Array 84.06 319 i P P 21 00 03.2 +0.3
MKAR pmax pmax
comp=Z,331nm,0.9s
MKAR Makanchi Array 84.06 319 P **P 21 00 01.1 -1.8**
comp=Z,331nm,0.9s,mb6.5,baz=83,slow=5.0,SNR=13
MAW Mawson 84.54 203 P **P 21 00 05.9 +0.9**
MAW pmax pmax
comp=Z,144nm,0.7s
MAW Mawson 84.54 203 P **P 21 00 05.9 +0.9**
comp=Z,144nm,0.7s,mb6.2,baz=96,slow=6.4,SNR=11
SIT Sitka 84.75 31 eP P 21 00 04.7 -1.5
ZAA0 Zalesovo Array 84.77 326 eP P 21 00 03.2 -3.2
ZALV Zalesovo Beam 84.77 326 P **P 21 00 03.1 -3.2**
comp=Z,149nm,0.8s,mb6.2,baz=104,slow=5.0,SNR=11
ZAL Zalesovo 84.78 326 P **P 21 00 03.2 -3.2**
CRAG Craig 85.34 33 eP P 21 00 10.0 +0.8
comp=Z,245nm,1.1s,mb6.2
DAWY Dawson 85.74 24 eP P 21 00 11.5 +0.5
NVS Novosibirsk 85.94 326 i P P 21 00 11.2 -0.9
NVS i S S 21 10 38.2 -6.8
NVS pmax pmax
comp=N,560nm,2.4s
NVS pmax pmax
comp=E,1μm,2.4s
NVS smax
comp=N,215nm,1.8s
NVS smax
comp=E,824nm,2.6s
WRAK Wrangell Islan 86.07 32 eP P 21 00 13.7 +1.0
comp=E,646nm,1.4s,mb6.7
KSH Kashi 86.73 310 P **P 21 00 15.9 -0.5**
KSH AP pP 21 00 20.4 -1.8
KSH XP sP 21 00 22.9 -1.4
KSH PP PP 21 03 39.3 +0.3
KSH SKS 21 10 39.4
KSH S S 21 10 50.6 -2.8
KSH AMB AMB
comp=Z,49μm,6.6s
KSH LR LR
comp=Z,506μm,28.7s
KURK Kurchatov 87.47 322 P **P 21 00 20.9 +1.2**
comp=Z,400nm,1.1s,mb6.6
KURK Kurchatov 87.47 322⇑ eP P 21 00 19.3 -0.4
TKM2 Tokmak 2 87.72 314 P **P 21 00 19.4 -1.7**
NSHM Saint Helena R 87.89 51 eP P 21 00 22.6 +0.5
UCH Uchtor 88.36 313 eP P 21 00 24.6 +0.4
comp=Z,705nm,1.5s,mb6.7
AAK Ala-Archa 88.45 313⇑ eP P 21 00 23.4 -1.2

AAK **Ala-Archa** 88.45 313⇑ *eP* **P** 21 00 23.3 -1.3
AAK pmax pmax
comp=Z,430nm,2.3s,mb6.3
NLWA **Neilton Lookou** 88.73 42 *eP* **P** 21 00 27.1 +1.3
comp=Z,41nm,0.9s,mb5.8
EKS2 **Erkin-Say** 88.98 313 *eP* **P** 21 00 26.8 -0.2
comp=Z,95nm,0.7s,mb6.2
SNCC **San Nicolas Is** 89.46 57 *eP* **P** 21 00 30.7 +1.1
comp=Z,421nm,1.1s,mb6.7
INK **Inuvik** 89.61 21 P **P** 21 00 27.8 -1.7
INK **Inuvik** 89.61 21 P **P** 21 00 27.8 -1.6
INK pmax pmax
comp=Z,179nm,1.1s
INK **Inuvik** 89.61 21 P **P** 21 00 27.8 -1.7
comp=Z,179nm,1.1s,mb6.3,baz=217,slow=6.4,SNR=8.2
RPN **Rapa Nui** 91.08 117 P **P** 21 00 40.0 +2.7
comp=Z,3μm,2.1s,mb7.2,SNR=5.5
RPN **Rapa Nui** 91.08 117 P **P** 21 00 40.0 +2.7
comp=Z,1μm,1.5s,mb7.1
NVAR **Mina Array Bea** 91.20 52 P **P** 21 00 36.2 -1.4
NVAR PKKPbc PKKPbc 21 18 02.0 +0.6
NVAR **Mina Array Bea** 91.20 52 P **P** 21 00 36.2 -1.4
comp=Z,12nm,0.8s,mb5.2,baz=266,slow=3.6,SNR=2.4
NVAR PKKPbc PKKPbc 21 18 02.0 +0.6
comp=Z,2.1nm,0.9s,baz=126,slow=2.6,SNR=3.7
KK31 **Karatay Array** 91.42 313 *i* P **P** 21 00 31.1 -7.4
KK31 pmax pmax
comp=Z,2μm,2.4s,mb6.9
WVOR **Wild Horse Val** 91.52 48 *eP* **P** 21 00 39.5 +0.5
comp=Z,617nm,1.8s,mb6.6
WVOR **Wild Horse Val** 91.52 48 *eP* **P** 21 00 39.5 +0.5
WVOR pmax pmax
comp=Z,620nm,1.8s,mb6.6
SYO **Syowa Base** 92.42 199 ⇓ *iX* **P** 21 00 39.0 -3.6
CHKZ **Chkalovo** 92.87 324 *i* P **P** 21 00 41.5 -3.4
CHKZ pmax pmax
comp=Z,337nm,1.2s,mb6.7
BRVK **Borovoye** 92.98 323 P **P** 21 00 42.5 -3.0
NEW **Newport** 93.35 42 *eP* **P** 21 00 47.7 +0.4
comp=Z,28nm,0.8s,mb5.8
NEW **Newport** 93.35 42 P **P** 21 00 46.2 -1.1
NEW pmax pmax
comp=Z,15nm,1.0s
NEW **Newport** 93.35 42 P **P** 21 00 46.1 -1.1
comp=Z,15nm,1.0s,mb5.4,baz=260,slow=6.2,SNR=2.9
YKA **Yellowknife Ar** 96.12 28 P **P** 21 00 57.4 -2.2
comp=Z,26nm,0.8s,mb5.7,baz=267,slow=4.7,SNR=7.6
YKA PKKPbc PKKPbc 21 17 47.9 -1.5
comp=Z,3.5nm,0.8s,baz=78,slow=2.6,SNR=6.6
HWUT **Hardware Ranch** 96.68 49 P **P** 21 01 02.9 +0.3
BW06 **Boulder Array** 98.23 48 *eP* **P** 21 01 10.6 +1.0
PDAR **Pinedale Array** 98.23 48 P **P** 21 01 09.9 +0.2
comp=Z,14nm,0.9s,mb5.5,baz=250,slow=2.7,SNR=3.3
PDAR PKKPbc PKKPbc 21 17 48.7 +5.8
comp=Z,2.4nm,0.8s,baz=109,slow=3.3,SNR=3.5
ARU **Arti** 99.94 326 *ePdif* Pdif 21 01 15.6 -1.5
ARU **Arti** 99.94 326 *eP* Pdif 21 01 15.6 -1.4
SNAA **Sanae** 100.06 187 P Pdif 21 01 19.3 +1.8
comp=Z,5.7nm,0.8s,baz=294,slow=3.9,SNR=2.5
SNAA PKKPbc PKKPbc 21 17 34.2 -4.3
comp=Z,4.4nm,1.0s,baz=353,slow=1.3,SNR=3.8
AKTK **Aktyubinsk** 100.44 320 P Pdif 21 01 18.0 -1.3
AKTO **Aktyubinsk** 100.44 320 P Pdif 21 01 18.0 -1.3
AKTO pmax pmax
comp=Z,21nm,1.0s
AKTO **Aktyubinsk** 100.44 320 P Pdif 21 01 18.0 -1.3
comp=Z,21nm,0.9s,baz=85,slow=13,SNR=2.7
ISCO **Idaho Springs** 101.14 51 Pdif Pdif 21 01 23.7 +1.3
MAK **Makhachkala** 108.23 313 *eP* Pdif 21 01 48.4 -5.5
TMCR **Tamitsa** 108.30 336 *eP* Pdif 21 01 47.6 -6.6
TMCR pmax pmax
comp=Z,216nm,1.4s
ARCES **ARCESS Array B** 109.99 343 PKPdf PKiKP 21 06 01.2 -1.9
ARCES PKKPbc PKKPbc 21 17 05.8 -2.5
ARCES **ARCESS Array B** 109.99 343 PKiKP PKiKP 21 06 01.2 -1.9
comp=Z,9.6nm,0.4s,baz=98,slow=1.4,SNR=13
ARCES PKKPbc PKKPbc 21 17 05.8 -2.5
comp=Z,5.5nm,0.8s,baz=242,slow=2.6,SNR=4.3
KIV **Kislovodsk** 111.54 314 PKiKP PKiKP 21 06 06.7 -0.1
KIV *ePP* PP 21 06 47.0 -1.0
KIV **Kislovodsk** 111.54 314 PKIKP PKiKP 21 06 06.7 -0.1
KIV *e* 21 06 47.0
FINES **FINESS Array B** 114.42 336 PKP PKiKP 21 06 10.8 -0.9
FINES PKKPbc PKKPbc 21 16 53.7 +0.4
FINES **FINESS Array B** 114.42 336 PKP PKiKP 21 06 10.8 -0.9
comp=Z,30nm,0.8s,baz=90,slow=2.9,SNR=11
FINES PKKPbc PKKPbc 21 16 53.7 +0.4
comp=Z,8.5nm,0.7s,baz=174,slow=1.4,SNR=5.2
ANN **Anapa** 115.01 316 *i* PKIKP PKiKP 21 06 10.2 -3.2
ANN pmax pmax
comp=Z,182nm,1.6s
MOR8 **Moi Rana** 115.36 344 *e* PKiKP 21 06 12.7 -0.8
MALT **Malatya** 115.81 309 ⇑P PKPdf 21 06 14.2 -1.0
MALT **Malatya** 115.81 309 ⇑ *iP* PKPdf 21 06 14.1 -1.1
PLCA **Paso Flores** 116.09 142 PKP PKPdf 21 06 14.6 -1.1
comp=Z,21nm,1.0s,baz=228,slow=3.8,SNR=7.3
PLCA PKKPbc PKKPbc 21 16 47.0 0.0
comp=Z,17nm,0.9s,baz=44,slow=4.6,SNR=4.0
AAM **Ann Arbor** 117.21 46 *ePKPdf* PKPdf 21 06 18.1 +0.3
IDID **Didziasalis** 117.34 330 *eP* PKPdf 21 06 18.5 +1.0
IDID AMb AMB 21 06 27.0
comp=Z,38nm,1.2s
IDID AMb AMB 21 06 27.0
comp=Z,0.2nm,0.0s
IDID AMb AMB 21 06 27.0
comp=Z,0.2nm,0.0s
IDID AMb AMB 21 06 27.0
comp=Z,0.2nm,0.0s
IZAR **Zarasai** 117.36 331 *eP* PKPdf 21 06 18.6 +1.0
IZAR AMb AMB 21 06 27.4
comp=Z,38nm,1.7s
IIGN **Ignalina** 117.57 330 *eP* PKPdf 21 06 19.1 +1.1
IIGN AMb AMB 21 06 27.5
comp=Z,47nm,0.9s
SFJD **Kangerlussuaq** 117.60 11 PKIKP PKPdf 21 06 15.9 -1.8
SFJD pmax pmax
comp=Z,21nm,0.8s
SFJD **Kangerlussuaq** 117.60 11 PKP PKPdf 21 06 15.9 -1.8
comp=Z,21nm,0.8s,baz=17,slow=0.9,SNR=5.3
KMBO **Kilima Mbogo** 118.14 265 *ePKPdf* PKPdf 21 06 21.1 +0.7
KMBO **Kilima Mbogo** 118.14 265 PKIKP PKPdf 21 06 19.6 -0.8
KMBO pmax pmax
comp=Z,6.0nm,1.0s
KMBO **Kilima Mbogo** 118.14 265 PKP PKPdf 21 06 19.6 -0.8
comp=Z,6.0nm,1.0s,baz=115,slow=1.8,SNR=2.9
AKASG **Malin Array Be** 118.15 325 PKP PKPdf 21 06 17.1 -2.2
comp=Z,16nm,0.5s,baz=49,slow=2.4,SNR=15
AKASG PKKPbc PKKPbc 21 16 37.3 -2.6
comp=Z,14nm,0.9s,baz=263,slow=4.0,SNR=10.0
AKBB **Malin Array Si** 118.15 325 *ePKPdf* PKPdf 21 06 18.9 -0.4
KIEV **Kiev** 118.16 325 *ePKPdf* PKPdf 21 06 18.0 -1.3
ANTO **Ankara** 119.68 312 ⇓ *iP* PKPdf 21 06 23.5 +0.9
SUW **Suwalki** 119.78 330 *ePKP* PKPdf 21 06 23.3 +1.0
SUW **Suwalki** 119.78 330 *ePKIKP* PKPdf 21 06 23.3 +1.0
KIS **Kishinev** 119.93 321 *i* PPP 21 02 40.0
DOMB **Dombas** 120.03 343 *e* PKPdf 21 06 22.7 +0.2
NB2 **NORSAR Subarra** 120.13 341 PKPdf PKPdf 21 06 19.6 -3.2
comp=Z,149nm,1.0s,baz=41,slow=2.0
NB2 **NORSAR Subarra** 120.13 341 PKPdf PKPdf 21 06 19.6 -3.2
baz=41,slow=2.0
NOA **NORSAR Array B** 120.13 341 PKIKP PKPdf 21 06 20.4 -2.4
NOA pmax pmax
comp=Z,31nm,0.7s
NOA **NORSAR Array B** 120.13 341 PKP PKPdf 21 06 20.4 -2.4
comp=Z,31nm,0.7s,baz=45,slow=2.0,SNR=14
MCWV **Mont Chateau** 120.74 48 PKPdf PKPdf 21 06 24.2 -0.4
BLA **Blacksburg** 121.01 51 *ePKPdf* PKPdf 21 06 24.3 -0.9
JSC **Jenkinsville** 121.09 54 *ePKPdf* PKPdf 21 06 24.0 -1.5
MATP **Matopo** 121.39 241 PKP PKPdf 21 06 26.1 -0.3
comp=Z,34nm,0.8s,baz=134,slow=3.0,SNR=10
MATP PKKPbc PKKPbc 21 16 28.9 +1.7
comp=Z,21nm,1.1s,baz=287,slow=4.4,SNR=3.7
HARR **Harsova** 121.43 319 ⇑P PKPdf 21 06 24.8 -1.0
HARR **Harsova** 121.43 319 ⇑ *iP* PKPdf 21 06 24.8 -1.0
LVV **L'vov** 121.51 325 *ePKIKP* PKPdf 21 06 33.4 +7.6
HYA **Hoyanger** 121.56 343 *eP* PKPdf 21 06 24.7 -0.8
HYA **Hoyanger** 121.56 343 *e* PKPdf 21 06 24.6 -0.9
SCHQ **Schefferville** 121.57 27 PKP PKPdf 21 06 24.5 -1.2
SCHQ *ePKPdf* PKPdf 21 06 25.8 +0.1
SCHQ PKKPbc PKKPbc 21 16 27.9 +0.6
SCHQ **Schefferville** 121.57 27 PKP PKPdf 21 06 24.5 -1.2
comp=Z,25nm,1.1s,baz=342,slow=3.2,SNR=2.9
SCHQ PKKPbc PKKPbc 21 16 27.9 +0.6
comp=Z,12nm,0.8s,baz=118,slow=4.8,SNR=6.7
KONO **Kongsberg** 121.71 341 *eP* PKPdf 21 06 22.8 -3.0
KONO *ePKPdf* PKPdf 21 06 26.0 +0.2
VRI **Vrincioaia** 121.72 320 ⇓P PKPdf 21 06 34.5 +8.2
VRI **Vrincioaia** 121.72 320 ⇓ *iP* PKPdf 21 06 34.5 +8.2
SUR **Sutherland** 121.83 225 PKP PKPdf 21 06 28.1 +1.1
comp=Z,17nm,0.6s,baz=112,slow=1.3,SNR=7.6
WAR **Warsaw** 121.84 329 *ePKP* PKPdf 21 06 34.6 +8.3
LBTB **Lobatse** 121.94 235 PKP PKPdf 21 06 27.2 -0.1
comp=Z,18nm,0.5s,baz=96,slow=1.1,SNR=4.2
LBTB PKKPbc PKKPbc 21 16 25.3 0.0
comp=Z,11nm,1.1s,baz=285,slow=5.0,SNR=2.8
ISP **Isparta** 121.98 310 ⇑P PKPdf 21 06 26.1 -0.9
ISP **Isparta** 121.98 310 ⇑ *iP* PKPdf 21 06 26.1 -0.9
SUE **Sulen** 122.05 344 *eP* PKPdf 21 06 23.8 -2.7
SUE **Sulen** 122.05 344 *e* PKPdf 21 06 23.6 -2.8
DWPF **Disney** 122.18 61 *ePKPdf* PKPdf 21 06 25.5 -2.2
MSNY **Massena** 122.26 40 *ePKPdf* PKPdf 21 06 26.5 -0.9
KWP **Kalwaria** 122.35 326 *ePKP* PKPdf 21 06 21.0 -6.4
KWP ⇑P 21 06 26.3
KWP **Kalwaria** 122.35 326 *ePKIKP* PKPdf 21 06 21.0 -6.4
KWP **Kalwaria** 122.35 326 ⇑ *iP* PKPdf 21 06 26.3 -1.1
MLR **Muntele Rosu** 122.38 320 ⇑P PKPdf 21 06 28.1 +0.5
MLR **Muntele Rosu** 122.38 320 ⇑ *iP* PKPdf 21 06 28.0 +0.4
ASK **Askoy** 122.40 343 *eP* PKPdf 21 06 25.7 -1.4
ASK **Askoy** 122.40 343 *e* PKPdf 21 06 24.7 -2.4
RUND **Rundenannen** 122.41 343 *eP* PKPdf 21 06 25.9 -1.3
RUND **Rundenannen** 122.41 343 *e* PKPdf 21 06 25.2 -2.0
BER **Bergen** 122.44 343 *e* PKPdf 21 06 26.3 -1.0
BER **Bergen** 122.44 343 *ePKIKP* PKPdf 21 06 26.5 -0.7
BORG **Borgarnes** 122.49 359 PKP PKPdf 21 06 26.0 -1.2
BORG **Borgarnes** 122.49 359 PKP PKPdf 21 06 26.0 -1.2
comp=Z,18nm,0.5s,baz=350,slow=0.9,SNR=4.4
EGD **Espegrend** 122.57 343 *eP* PKPdf 21 06 25.5 -2.0
EGD **Espegrend** 122.57 343 *e* PKPdf 21 06 25.4 -2.0
LONY **Lake Ozonia** 122.60 41 *ePKPdf* PKPdf 21 06 27.7 -0.3
BINY **Binghamton** 122.62 44 *ePKPdf* PKPdf 21 06 27.4 -0.7
BLS5 **Blasjo** 122.89 342 *eP* PKPdf 21 06 27.3 -0.8
BLS5 **Blasjo** 122.89 342 *e* PKPdf 21 06 26.4 -1.7
KOLS **Kolonicke sedl** 122.95 325 *ePKP* PKPdf 21 06 29.1 +0.6
KOLS *e* 21 16 30.1
KOLS *e* 21 16 47.4
KOLS *e* 21 20 03.9
KOLS *e* 21 20 42.0
KOLS *ePKPdf* 21 16 47.4 -12
KOLS *e* 21 20 03.9
KOLS *e* 21 20 42.0
KOLS **Kolonicke sedl** 122.95 325 *e* PKKPbc 21 16 30.1 +8.2
CFAA **Coronel Fontan** 122.95 135 PKP PKPdf 21 06 27.1 -2.0
comp=Z,12nm,0.9s,baz=249,slow=5.0,SNR=6.2
CFAA PKKPbc PKKPbc 21 16 32.3 +11
comp=Z,1.7nm,1.0s,baz=66,slow=5.9,SNR=3.8
VOIR 122.97 321 ⇑P PKPdf 21 06 28.7 0.0
VOIR 122.97 321 ⇑ *iP* PKPdf 21 06 28.7 0.0
SDMD **Soldier's Deli** 123.02 47 *ePKPdf* PKPdf 21 06 27.6 -1.4
GKP **Gorka Klasztor** 123.09 332 *ePKP* PKPdf 21 06 29.9 +1.2
GKP **Gorka Klasztor** 123.09 332 *ePKIKP* PKPdf 21 06 29.9 +1.2
UZH **Uzhgorod** 123.09 325 *ePKIKP* PKPdf 21 06 27.2 -1.6
NCB **Newcomb** 123.10 41 *ePKPdf* PKPdf 21 06 28.4 -0.6
FRNY **Flat Rock** 123.14 40 *ePKPdf* PKPdf 21 06 28.1 -1.0
MVL **Millersville** 123.17 46 *ePKPdf* PKPdf 21 06 28.6 -0.7
JMB **Yambol** 123.21 317 P pPKPdf 21 06 40.8 +5.6
TRPA **Tarpa** 123.21 324 ⇓ *iP* PKPdf 21 06 28.6 -0.5
STHS **Stebnicka Huta** 123.27 326 *ePKP* PKPdf 21 06 30.1 +0.9
STHS *e* 21 16 36.6
STHS *e* 21 19 49.9
STHS *e* 21 20 11.7
STHS *e* 21 19 49.9
STHS *e* 21 20 11.7
STHS **Stebnicka Huta** 123.27 326 *e* PKKPab 21 16 36.6 +18
SZH **Strazhica** 123.32 318 P PKPdf 21 06 36.5 +7.1
CRVS **Cervenica-Dubn** 123.42 326 *ePKP* PKPdf 21 06 30.1 +0.6
CRVS *e* 21 06 44.7
CRVS *e* 21 16 15.9
CRVS *e* 21 16 28.9
CRVS *e* 21 20 03.2
CRVS **Cervenica-Dubn** 123.42 326 *ePKP* PKPdf 21 06 30.1 +0.6
CRVS *e* 21 06 44.7
CRVS *e* PKKPab 21 16 28.9 +11
CRVS *e* 21 36 17.5
CRVS **Cervenica-Dubn** 123.42 326 *e* PKKPbc 21 16 15.9 -4.1
SNART **Snartemo** 123.51 341 *e* PKPdf 21 06 25.9 -3.5
STAV **Stavanger** 123.51 342 *eP* PKPdf 21 06 26.7 -2.6
STAV **Stavanger** 123.51 342 *e* PKPdf 21 06 26.6 -2.7
ZIMR 123.53 318 ⇓P PKPdf 21 06 30.4 +0.5
ZIMR 123.53 318 ⇓ *iP* PKPdf 21 06 30.4 +0.6
OJC **Ojcow** 123.61 328 *ePKP* PKPdf 21 06 30.2 +0.4
PVL **Pavlikeni** 123.74 318 P PKPdf 21 06 31.0 +0.7
DRGR 123.77 323 ⇑P PKPdf 21 06 27.3 -2.9
DRGR 123.77 323 ⇑ *iP* PKPdf 21 06 27.3 -2.9
NIE **Niedzica** 123.78 327 *ePKP* PKPdf 21 06 28.6 -1.5
RGN **Rugen** 124.01 335 *ePKPdf* PKPdf 21 06 31.8 +1.4
DIM **Dimitrovgrad** 124.09 317 P PKPdf 21 06 37.5 +6.5
ATAH **Atahualpa** 124.14 103 PKP PKPdf 21 06 30.8 -1.1
comp=Z,98nm,1.0s,baz=145,slow=2.3,SNR=10
BRNJ **Basking Ridge** 124.19 45 *ePKPdf* PKPdf 21 06 30.0 -1.2
KECS **Kecovo** 124.19 326 *ePKP* PKPdf 21 06 32.0 +1.1
KECS *e* 21 06 44.0
KECS *e* 21 16 15.2
KECS *e* 21 16 29.6
KECS *e* 21 20 05.2
KECS *e* 21 20 13.3
KECS **Kecovo** 124.19 326 *ePKP* PKPdf 21 06 32.0 +1.1
KECS *e* 21 06 44.0
KECS *e* PKKPab 21 16 29.6 +15
KECS *e* 21 20 05.2
KECS *e* 21 20 13.3
KECS **Kecovo** 124.19 326 *e* PKKPbc 21 16 15.2 -1.7
NNA **Nana** 124.30 110 *ePKPdf* PKPdf 21 06 29.3 -2.8
NNA **Nana** 124.30 110 PKP PKPdf 21 06 29.4 -2.8
comp=Z,60nm,0.9s,baz=256,slow=5.5,SNR=8.0
KDZ **Kurdzhali** 124.33 316 P PKPdf 21 06 31.0 -0.4
WAL1 **Walls** 124.36 347 *eP* PKPdf 21 06 28.6 -2.3
LRW **Lerwick** 124.36 346 *eP* PKPdf 21 06 27.7 -3.2
GZR **Gura Zlata** 124.41 321 ⇑P PKPdf 21 06 32.9 +1.4
GZR **Gura Zlata** 124.41 321 ⇑ *iP* PKPdf 21 06 32.9 +1.4
LBNH **Lisbon** 124.47 40 *ePKPdf* PKPdf 21 06 30.6 -1.0
HNH **Hanover** 124.48 41 *ePKPdf* PKPdf 21 06 31.4 -0.3
PAL **Palisades** 124.52 44 *ePKPdf* PKPdf 21 06 30.5 -1.3
CPNY **Central Park** 124.57 45 *ePKPdf* PKPdf 21 06 31.5 -0.4
OKC **Ostrava-Krasne** 124.71 328 *ePKPdf* PKPdf 21 06 33.1 +1.2
PSZ **Piszkesteto** 124.83 325 ⇑P PKPdf 21 06 32.7 +0.5
PSZ **Piszkesteto** 124.83 325 ⇑ *iP* PKPdf 21 06 32.7 +0.5
BCIP **Isla Barro Col** 124.94 84 *ePKPdf* PKPdf 21 06 30.0 -3.4
FFD **Franklin Falls** 125.00 41 *ePKPdf* PKPdf 21 06 33.2 +0.6
BZS **Buzias** 125.01 322 ⇑P PKPdf 21 06 30.7 -1.9
BZS **Buzias** 125.01 322 ⇑ *iP* PKPdf 21 06 30.7 -1.9
KSP **Ksiaz** 125.05 330 *ePKP* PKPdf 21 06 34.4 +1.9
KSP **Ksiaz** 125.05 330 *ePKIKP* PKPdf 21 06 30.4 -2.1
KSP *e* 21 06 40.0
QUA2 **Belchertown** 125.06 42 PKPdf PKPdf 21 06 32.4 -0.4
VYHS **Vyhne** 125.10 326 *ePKP* PKPdf 21 06 31.6 -1.1
VYHS *e* 21 06 40.1
VYHS *e* 21 19 54.4
VYHS *e* 21 20 10.6
VYHS **Vyhne** 125.10 326 *ePKP* PKPdf 21 06 31.6 -1.1
VYHS *e* 21 06 40.1
VYHS *e* 21 20 10.6
VYHS **Vyhne** 125.10 326 *e* 21 19 54.4
RUE **Ruedersdorf** 125.20 333 *ePKPdf* PKPdf 21 06 34.1 +1.3
KOLL **Kolacno** 125.29 327 *ePKP* PKPdf 21 06 34.4 +1.3
KOLL *e* 21 06 43.6
KOLL *e* 21 19 50.6
KOLL *e* 21 20 13.1
KOLL **Kolacno** 125.29 327 *ePKP* PKPdf 21 06 34.4 +1.3
KOLL *e* 21 06 43.6
KOLL *e* 21 20 13.1
KOLL **Kolacno** 125.29 327 *e* 21 19 50.6
DPC **Dobruska-Polom** 125.34 329 *ePKPdf* PKPdf 21 06 33.9 +0.8
UPC **Upice** 125.40 330 *ePKPdf* PKPdf 21 06 32.9 -0.3
VTS **Vitosha** 125.42 318 ⇑P PKPdf 21 06 33.9 +0.4
VTS **Vitosha** 125.42 318 ⇑ *iP* PKPdf 21 06 33.9 +0.4
VTS **Vitosha** 125.42 318 P PKPdf 21 06 33.0 -0.5
HRV **Adam Dziewonsk** 125.49 42 *ePKPdf* PKPdf 21 06 32.2 -1.4
MMB **Musomiste** 125.50 317 P PKPdf 21 06 31.0 -2.7
OWE **Westray** 125.52 347 *eP* PKPdf 21 06 31.0 -2.2
PKME **Peaks-Kenny Pk** 125.63 38 *ePKPdf* PKPdf 21 06 33.8 0.0
BSEG **Bad Segeberg** 125.69 336 *ePKPdf* PKPdf 21 06 35.1 +1.4
WES **Weston** 125.70 42 *ePKPdf* PKPdf 21 06 32.7 -1.3
BRYW **Bryant College** 125.76 43 *ePKPdf* PKPdf 21 06 33.7 -0.4
VRAC **Vranov** 125.84 328 ⇓P PKPdf 21 06 35.5 +1.4
VRAC **Vranov** 125.84 328 PKIKP PKPdf 21 06 35.1 +1.0
VRAC pmax pmax
comp=Z,116nm,1.2s
VRAC **Vranov** 125.84 328 PKP PKPdf 21 06 35.1 +1.0
comp=Z,116nm,1.2s,baz=346,slow=5.1,SNR=7.1
VRAC **Vranov** 125.84 328 ⇓ *iP* PKPdf 21 06 35.5 +1.4
SMOL **Smolenice** 125.86 327 *ePKP* PKPdf 21 06 33.1 -1.0
MODS **Modra-Piesok** 126.03 327 *ePKP* PKPdf 21 06 35.1 +0.6
MODS *e* 21 06 43.3
MODS *e* 21 19 53.9
MODS *e* 21 20 11.3
MODS **Modra-Piesok** 126.03 327 *ePKIKP* PKPdf 21 06 35.1 +0.6
MODS *e* 21 06 43.3
MODS **Modra-Piesok** 126.03 327 *ePKP* PKPdf 21 06 35.1 +0.6
MODS *e* 21 06 43.2
MODS *e* 21 20 11.3
MODS **Modra-Piesok** 126.03 327 *e* 21 19 53.9
PVCC **Panska Ves** 126.11 330 *ePKPdf* PKPdf 21 06 32.8 -1.7
BRG **Berggiesshubel** 126.19 331 *i PKIKP* PKPdf 21 06 32.8 -1.9
BRG *i* 21 06 42.4
BRG pmax pmax
comp=Z,192nm,1.4s
BRG **Berggiesshubel** 126.19 331 *ePKPdf* PKPdf 21 06 36.0 +1.3
BRG **Berggiesshubel** 126.19 331 *i PKP* PKPdf 21 06 32.8 -1.9
comp=Z,321nm,1.4s
BRG *i* 21 06 42.4
comp=Z,696nm,1.3s
ZST **Bratislava** 126.22 327 *ePKP* PKPdf 21 06 35.9 +1.1
ZST *e* 21 06 43.1
ZST *e* 21 20 13.1
ZST **Bratislava** 126.22 327 *ePKP* PKPdf 21 06 35.9 +1.1
ZST *e* 21 06 43.1
ZST **Bratislava** 126.22 327 *e* 21 20 13.1
CLL **Collm** 126.35 332 *e* PKPdf 21 06 34.0 -1.0
CLL pmax pmax
comp=Z,164nm,1.1s
CLL **Collm** 126.35 332 *ePKPdf* PKPdf 21 06 36.0 +1.0
CLL **Collm** 126.35 332 *ePKPdf* PKPdf 21 06 34.0 -1.0
comp=Z,164nm,1.1s
CLL *i PKPdf* PKPdf 21 06 42.3 +7.3
CLL *i PKPdfmax* 21 06 47.3
comp=Z,521nm,1.4s
CLL *ePP* PP 21 08 29.0 -0.5
ORE **Reay** 126.38 347 *eP* PKPdf 21 06 32.0 -2.8
VAY **Valandovo** 126.41 317 *ePKPdf* PKPdf 21 06 29.9 -5.6
TREC **Trest** 126.42 329 *ePKPdf* PKPdf 21 06 34.9 -0.3
FBE **Freiberg** 126.44 331 *ePKPdf* PKPdf 21 06 36.6 +1.4
PRU **Pruhonice** 126.46 330 *ePKPdf* PKPdf 21 06 35.1 -0.2
PRA **Prague** 126.47 330 PKPdf PKPdf 21 06 34.0 -1.3
HLG **Helgoland** 126.48 337 *ePKPdf* PKPdf 21 06 36.6 +1.5
PKSM **Moragy** 126.48 324 ⇓P PKPdf 21 06 33.5 -1.9
PKSM **Moragy** 126.48 324 ⇓ *iP* PKPdf 21 06 33.5 -1.9
STIP **Stip** 126.50 318 *ePKP* PKPdf 21 06 35.2 -0.4
MLA1 **Latheron** 126.51 346 *eP* PKPdf 21 06 32.2 -2.9
SKO **Skopje** 126.87 318 *ePKP* PKPdf 21 06 32.7 -3.6
RSC **Scourie** 126.87 348 *eP* PKPdf 21 06 36.1 +0.4
MVH1 **Achvaich** 127.04 347 *eP* PKPdf 21 06 33.5 -2.6
CONA **Conrad Observa** 127.05 327 ⇑ *iPKiKP* PKiKP 21 06 38.4 +1.5
comp=Z,316nm,1.4s
RTO **Tolsta** 127.06 348 *eP* PKPdf 21 06 34.7 -1.5
REB **Eisghbrachaidh** 127.11 348 *eP* PKPdf 21 06 33.7 -2.6
MCD **Coleburn Disti** 127.13 346 *eP* PKPdf 21 06 30.7 -5.6
CLZ **Clausthal** 127.17 334 *ePKPdf* PKPdf 21 06 38.2 +1.7
WERD **Werda** 127.25 331 *ePKPdf* PKPdf 21 06 38.1 +1.4
KRUS **Krusevo** 127.27 318 *ePKP* PKPdf 21 06 35.6 -1.5
GUNZ **Gunzen** 127.30 331 *ePKPdf* PKPdf 21 06 38.4 +1.6
MME1 **Meikle Cairn** 127.30 346 *eP* PKPdf 21 06 33.6 -3.0
WERN **Wernitzgruen** 127.33 331 *ePKPdf* PKPdf 21 06 38.4 +1.5
NKC **Novy Kostel** 127.33 331 *ePKPdf* PKPdf 21 06 38.2 +1.3
BIA **Bitola** 127.38 317 *ePKP* PKPdf 21 06 36.4 -0.9
MOX **Moxa** 127.44 332 *ePKP* PKPdf 21 06 37.2 +0.1
comp=Z,890nm,2.0s
MOX **Moxa** 127.44 332 *ePKIKP* PKPdf 21 06 37.2 +0.1
MOX pmax pmax
comp=Z,618nm,2.0s
MOX **Moxa** 127.44 332 *ePKPdf* PKPdf 21 06 38.4 +1.3
RRR **Rubha Reidh** 127.46 348 *eP* PKPdf 21 06 33.7 -3.2
KHC **Kasperske Hory** 127.49 330 *ePKPdf* PKPdf 21 06 38.3 +1.1
MDO **Dochfour** 127.52 347 *eP* PKPdf 21 06 34.9 -2.1
GEC2 **GERESS Array S** 127.61 329 *ePKPdf* PKPdf 21 06 38.7 +1.2
GERES **GERESS Array B** 127.61 329 PKIKP PKPdf 21 06 35.5 -2.0
GERES pmax pmax
comp=Z,42nm,0.8s
GERES **GERESS Array B** 127.61 329 PKP PKPdf 21 06 35.5 -2.0
comp=Z,42nm,0.8s,baz=67,slow=1.8,SNR=12
MANZ **Manzenberg** 127.65 331 *ePKPdf* PKPdf 21 06 38.9 +1.4
KAC **Achnashellach** 127.68 347 *eP* PKPdf 21 06 34.2 -3.2
OHR **Ohrid** 127.69 318 *ePKP* PKPdf 21 06 36.4 -1.5
ROTZ **Rotzenmuhle** 127.75 331 *ePKPdf* PKPdf 21 06 39.0 +1.3
WET **Wettzell** 127.84 330 *ePKPdf* PKPdf 21 06 39.3 +1.4
IBBN **Ibbenburen** 127.94 336 *ePKPdf* PKPdf 21 06 39.4 +1.4
KSB **Sheil Bridge** 127.97 347 *eP* PKPdf 21 06 35.4 -2.5
GRA1 **Grafenberg Arr** 128.28 331 *ePKP* PKPdf 21 06 40.0 +1.3
GRF **Grafenberg Arr** 128.28 331 *ePKPdf* PKPdf 21 06 40.0 +1.3
GRFO **Grafenberg** 128.28 331 PKPdf PKPdf 21 06 38.9 +0.2
KAR1 **Arisaig** 128.33 347 *eP* PKPdf 21 06 36.9 -1.7
EBH **Black Hill** 128.39 345 *eP* PKPdf 21 06 35.9 -2.8
ESY **Stoneypath** 128.46 345 *eP* PKPdf 21 06 37.0 -1.9
WTSB **Winterswijk** 128.59 336 *ePKiKP* PKiKP 21 06 38.0 -1.9
comp=Z,568nm,2.8s
EDI **Edinburgh** 128.60 345 *eP* PKPdf 21 06 39.7 +0.6
EAB **Aberfoyle** 128.65 346 *eP* PKPdf 21 06 36.4 -2.9
EBL **Broad Law** 128.70 345 *eP* PKPdf 21 06 36.5 -2.8
EAU **Auchinoon** 128.74 345 *eP* PKPdf 21 06 36.5 -2.9
LJU **Ljubljana** 128.92 326 *ePKPdf* PKPdf 21 06 38.2 -1.9
PGBU **Glenifferbraes** 129.03 346 *eP* PKPdf 21 06 40.7 +0.7
ESK **Eskdalemuir** 129.15 345 *eP* PKPdf 21 06 36.2 -4.0
ESK **Eskdalemuir** 129.15 345 *ePKIKP* PKPdf 21 06 39.7 -0.5
TNS **Taunus Mts** 129.18 333 *ePKPdf* PKPdf 21 06 41.9 +1.5
ECK **Cauldkaine Hil** 129.25 345 *eP* PKPdf 21 06 40.0 -0.4
FUR **Furstenfeldbru** 129.28 330 *ePKPdf* PKPdf 21 06 41.9 +1.2
XAL **Allendale** 129.28 344 *eP* PKPdf 21 06 37.7 -2.8
ABTA **Abfaltersbach** 129.57 328 ⇓ *iPKiKP* PKiKP 21 06 41.7 -0.3
comp=Z,328nm,1.6s
WATA **Walderalm** 129.68 329 ⇑ *iP* PKPdf 21 06 42.0 +0.5
comp=Z,572nm,1.5s
WTTA **Wattenberg** 129.70 329 ⇑ *iP* PKPdf 21 06 42.0 +0.5
comp=Z,756nm,1.8s
GCD **Castle Douglas** 129.75 345 *eP* PKPdf 21 06 38.5 -2.9
CKE **Keswick** 129.77 344 *eP* PKPdf 21 06 41.8 +0.3
HGN **Heimansgroeve** 129.85 335 *ePKiKP* PKiKP 21 06 42.7 +0.2
comp=Z,356nm,1.7s
STU **Stuttgart** 129.87 332 *ePKPdf* PKPdf 21 06 43.1 +1.3
HPK **Haverah Park** 129.91 343 *eP* PKPdf 21 06 39.3 -2.4
MOTA **Moosalm** 129.91 329 ⇑ *iP* PKPdf 21 06 42.1 +0.2
comp=Z,357nm,1.4s
BEBN **Eben Emael** 129.93 336 PKPdf PKPdf 21 06 37.2 -4.6
GAL1 **Galloway** 129.94 345 *eP* PKPdf 21 06 39.0 -2.7
MEM **Membach** 129.94 335 PKPdf PKPdf 21 06 40.2 -1.7
SQTA **Sankt Quirin** 129.94 329 ⇑ *iP* PKPdf 21 06 42.3 +0.3
comp=Z,626nm,1.6s
LDU **Leeds Universi** 130.02 343 *eP* PKPdf 21 06 42.1 +0.2
GCL **Cushendall** 130.09 347 *eP* PKPdf 21 06 39.1 -2.9
ROSC **El Rosal** 130.11 90 PKP PKPdf 21 06 41.7 -1.6
comp=Z,76nm,0.8s,baz=56,slow=3.6,SNR=6.3
ROSC SKPbc 21 10 05.9
comp=Z,24nm,0.8s,baz=301,slow=0.6,SNR=3.5
ROSC SKP 21 10 18.2
comp=Z,68nm,0.9s,baz=225,slow=1.4,SNR=4.8
AEU **East Anglia Un** 130.14 340 *eP* PKPdf 21 06 41.8 -0.4
FETA **Feichten** 130.32 329 ⇑ *iPKiKP* PKiKP 21 06 43.4 -0.1
comp=Z,295nm,1.1s
LHO **Holmfirth** 130.33 343 *eP* PKPdf 21 06 40.1 -2.5
BCLA **Clavier** 130.

comp=Z,808nm,1.4s
BAIF Baives 131.10 336 *e*PKIKP PKPdf 21 06 43.0 -1.1
comp=Z,796nm,1.6s
SBD1 Bryn Du 131.30 343 *e*P PKPdf 21 06 43.3 -1.1
DMUB Kingscourt 131.35 346 *e*P PKPdf 21 06 37.3 -7.1
DMUB Kingscourt 131.35 346 *e*P PKPdf 21 06 42.7 -1.7
DMUB Kingscourt 131.35 346 *e*P SKPbc 21 10 10.3 +1.5
DMUB Kingscourt 131.35 346 *e*P PKPdf 21 06 42.7 -1.7
HLM1 Long Mynd 131.53 343 *e*P PKPdf 21 06 43.5 -1.3
SKP1 Kophill 131.58 341 *e*P PKPdf 21 06 43.1 -1.8
HINF Hinteralfeld 131.65 332 *e*PKIKP PKPdf 21 06 43.7 -1.5
comp=Z,3μm,1.8s
HAU Haudompre 131.74 333 *e*PKIKP PKPdf 21 06 44.1 -1.3
comp=Z,2μm,1.5s
AQU L'Aquila 131.76 323 ⇑*e*P PKPdf 21 06 50.8 +5.2
DLF Lyons Farm 131.82 346 *e*P PKPdf 21 06 38.3 -7.0
DLF Lyons Farm 131.82 346 *e*P PKPdf 21 06 43.5 -1.8
DLF Lyons Farm 131.82 346 *e*P SKPbc 21 10 12.2 +1.7
DLF Lyons Farm 131.82 346 *e*P PKPdf 21 06 43.5 -1.8
HAE Alders End 131.85 342 *e*P PKPdf 21 06 49.4 +4.0
MEZF Maizieres J'vi 131.95 334 *e*PKIKP PKPdf 21 06 44.9 -0.8
comp=Z,4μm,1.6s
DCN Croghan 131.95 346 *e*P PKPdf 21 06 38.6 -7.0
DCN Croghan 131.95 346 *e*P PKPdf 21 06 43.8 -1.8
DCN Croghan 131.95 346 *e*P SKPbc 21 10 12.8 +1.8
DCN Croghan 131.95 346 *e*P PKPdf 21 06 43.8 -1.8
MCH1 Michaelchurch 132.03 342 *e*P PKPdf 21 06 43.5 -2.3
MCH1 *e*P 21 06 43.5
HTR Trewern Hill 132.03 343 *e*P PKPdf 21 06 43.4 -2.4
WOL Wolverton 132.06 341 *e*P PKPdf 21 06 44.0 -1.9
SWN1 Swindon 132.08 341 *e*P PKPdf 21 06 43.2 -2.7
HGH Gray Hill 132.28 342 *e*P PKPdf 21 06 45.1 -1.2
SWK Warminster 132.53 341 *e*P PKPdf 21 06 44.6 -2.2
CABF La Chapelle 132.89 332 *e*PKIKP PKPdf 21 06 47.0 -0.6
comp=Z,1μm,1.2s
LPL La Plagne 133.37 330 *e*PKIKP PKPdf 21 06 48.0 -0.5
comp=Z,1μm,1.4s
LPG La Plagne 133.37 330 *e*PKIKP PKPdf 21 06 48.3 -0.2
comp=Z,744nm,1.2s
LOR Lormes 133.41 334 *e*PKIKP PKPdf 21 06 47.5 -1.0
comp=Z,408nm,1.0s
SSF Saint Saulge 133.72 334 *e*PKIKP PKPdf 21 06 48.2 -0.9
comp=Z,1μm,1.5s
VAE Valguarnera 133.79 317 PKP PKPdf 21 06 57.0 +7.4
comp=Z,31nm,0.9s,baz=135,slow=4.3,SNR=4.4
SMF Signal de Mont 133.89 333 *e*PKIKP PKPdf 21 06 48.4 -1.1
comp=Z,1μm,1.6s
MBDF Montbardon 133.91 329 *e*PKIKP PKPdf 21 06 48.6 -0.9
comp=Z,1μm,1.8s
HYF Humbligny 133.93 335 *e*PKIKP PKPdf 21 06 48.9 -0.6
FLN La Foliniere 133.96 338 *e*PKIKP PKPdf 21 06 48.5 -1.0
comp=Z,606nm,1.1s
LDF La Druitiere 133.97 338 *e*PKIKP PKPdf 21 06 48.4 -1.1
AVF Avril sur Loir 134.00 334 *e*PKIKP PKPdf 21 06 48.5 -1.1
comp=Z,323nm,1.2s
SDV Santo Domingo 134.01 85 PKP PKPdf 21 06 49.5 -1.1
SDV SKPbc SKPbc 21 10 18.1 -1.2
SDV Santo Domingo 134.01 85 PKP PKPdf 21 06 49.5 -1.1
comp=Z,171nm,0.7s,baz=307,slow=3.8,SNR=8.2
SDV SKPbc SKPbc 21 10 18.1 -1.2
comp=Z,27nm,0.9s,baz=239,slow=3.8,SNR=3.4
CSA1 St Austell 134.04 343 *e*P PKPdf 21 06 50.4 +0.7
PGF Pioggiola 134.20 326 *e*PKIKP PKPdf 21 06 49.2 -1.0
comp=Z,1μm,1.3s
ORIF Oris-en-Rattie 134.21 330 *e*PKIKP PKPdf 21 06 49.2 -0.9
comp=Z,285nm,0.9s
CCA1 Carnmenellis 134.29 343 *e*P PKPdf 21 06 47.8 -2.3
CRQ2 Rosemanowes 2 134.29 343 *e*P PKPdf 21 06 48.4 -1.7
CMA1 Manaccan 134.35 343 *e*P PKPdf 21 06 49.8 -0.4
BGF Bois d'Agland 134.40 334 *e*PKIKP PKPdf 21 06 49.7 -0.7
GRR Gorron 134.41 338 *e*PKIKP PKPdf 21 06 49.6 -0.8
comp=Z,482nm,1.0s
FRF La Foret Royal 134.79 328 *e*PKIKP PKPdf 21 06 50.1 -1.1
VIVF Saint-Julien-l 134.85 331 *e*PKIKP PKPdf 21 06 49.9 -1.4
comp=Z,491nm,1.2s
TCF Toulx Ste Croi 134.88 334 *e*PKIKP PKPdf 21 06 50.7 -0.6
comp=Z,937nm,1.3s
LMR La Mourre 135.02 328 *e*PKIKP PKPdf 21 06 50.6 -1.1
comp=Z,1μm,1.4s
SMRF Simiane la Rot 135.04 330 *e*PKIKP PKPdf 21 06 51.4 -0.3
comp=Z,700nm,1.3s
SGMF Saint Gilles 135.13 340 *e*PKIKP PKPdf 21 06 50.7 -1.0
ROSF Rostrenen 135.30 340 *e*PKIKP PKPdf 21 06 50.9 -1.1
comp=Z,663nm,1.6s
MFF Saint Martin d 135.61 336 *e*PKIKP PKPdf 21 06 51.2 -1.5
QUIF Quistinic 135.63 340 *e*PKIKP PKPdf 21 06 51.7 -1.0
comp=Z,422nm,1.4s
LASF Ste Croix 135.82 331 *e*PKIKP PKPdf 21 06 51.9 -1.2
comp=Z,363nm,1.1s
RJF Les Rejaudoux 135.96 334 *e*PKIKP PKPdf 21 06 53.0 -0.4
comp=Z,657nm,1.5s
CAF Calviac 136.01 333 *e*PKIKP PKPdf 21 06 53.2 -0.3
LFF La Frestale 136.58 334 *e*PKIKP PKPdf 21 06 54.2 -0.3
comp=Z,380nm,1.1s
SIV San Ignacio 136.85 122 PKhKP 21 06 39.3
comp=Z,15nm,0.8s,baz=168,slow=1.6,SNR=2.6
SIV PKP PKPdf 21 06 54.8 -1.0
comp=Z,50nm,0.8s,baz=182,slow=4.4,SNR=7.8
SIV SKPbc SKPbc 21 10 27.0 -1.1
comp=Z,26nm,0.9s,baz=292,slow=5.2,SNR=3.3
MTLF Montolieu 137.15 331 *e*PKIKP PKPdf 21 06 55.3 -0.3
comp=Z,726nm,1.5s
KEST Kesra 138.16 318 PKP PKPdf 21 06 55.2 -2.5
comp=Z,16nm,1.1s,baz=40,slow=1.7,SNR=4.1
KEST SKPbc SKPbc 21 10 32.4 +1.0
comp=Z,17nm,0.9s,baz=58,slow=2.7,SNR=3.9
EPF Esparros 138.26 333 *e*PKIKP PKPdf 21 06 55.1 -2.6
comp=Z,623nm,1.4s
ETSF Etsaut 138.77 333 *e*PKIKP PKPdf 21 06 57.7 -0.9
comp=Z,307nm,0.8s
SJPF Ste Jean 138.89 334 *e*PKIKP PKPdf 21 06 57.9 -1.0
PCRV Puerto La Cruz 139.94 83 PKP PKPdf 21 06 59.0 -2.6
comp=Z,62nm,0.9s,baz=258,slow=2.1,SNR=3.6
PBRG Braganca 142.19 339 *e*PKP PKPdf 21 07 04.7 -0.2
PCAB Cabril 142.73 340 *e*PKP PKPdf 21 07 03.8 -2.0
MVO Moncorvo 142.86 338 *e*PKP PKPdf 21 07 02.6 -3.5
ESDC Sonseca Array 142.89 334 PKP PKPdf 21 07 03.3 -2.8
comp=Z,78nm,1.0s,baz=22,slow=2.7,SNR=5.6
ESDC PP PP 21 10 14.9 +0.6
comp=Z,24nm,1.0s,baz=31,slow=7.0,SNR=3.9
FDF Fort de France 143.00 75 *e*P PKPdf 21 07 05.0 -2.0
PVRL Vila Real 143.01 339 *e*PKP PKPdf 21 07 03.3 -3.0
TPP Pointe-a-Pierr 143.07 82 *e*P PKPdf 21 07 11.2 +4.0
TPP Pointe-a-Pierr 143.07 82 *e* PKPdf 21 07 11.2 +4.0
TRN Trinidad (W) 143.10 82 *e*P PKPdf 21 07 09.9 +2.7
TRN Trinidad (W) 143.10 82 *e* PKPdf 21 07 09.9 +2.7
SLB Belfond 143.21 77 *e*P PKPdf 21 07 06.4 -1.0
SLB Belfond 143.21 77 *e* PKPdf 21 07 06.4 -1.0
MVM Montagne Vaucl 143.26 75 *e*P PKPdf 21 07 06.2 -1.3
PTO Porto 143.43 340 *e*PKP PKPdf 21 07 05.5 -1.6
TBH Brigand Hill 143.44 82 *e*P PKPdf 21 07 10.9 +3.1
TBH Brigand Hill 143.44 82 *e* PKPdf 21 07 10.9 +3.1
PVIS Viseu 143.56 339 *e*PKP PKPdf 21 07 05.1 -2.2
TPR Prospect 143.69 81 *e*P PKPdf 21 07 12.8 +4.5
TPR Prospect 143.69 81 *e* PKPdf 21 07 12.8 +4.5
MTE Manteigas 143.72 338 *e*PKP PKPdf 21 07 06.2 -1.4
PCBR Castelo Branco 144.18 338 *e*PKP PKPdf 21 07 06.4 -2.0
PESTR Estremoz 145.07 337 *e*PKP PKPdf 21 07 08.0 -2.0
ALMR Almeirim 145.19 338 *e*P PKPbc 21 07 11.4 +1.7
PBAR Barrancos 145.44 336 *e*PKP PKPdf 21 07 09.5 -1.2
EVO Evora 145.52 337 *e*PKIKP PKPdf 21 07 08.6 -2.2
comp=Z,9μm,1.7s
PMAFR Mafra 145.62 339 *e*PKP PKPdf 21 07 09.2 -1.8
MOE Montemor 145.66 338 *e*PKP PKPdf 21 07 09.7 -1.3
LIS Lisbon 145.78 339 *e*P PKPbc 21 07 13.3 +1.7
PBEJ Beja 145.90 337 *e*PKP PKPdf 21 07 12.1 +0.6
PVAQ Vaqueiros 146.38 336 *e*PKP PKPdf 21 07 13.0 +0.7
PBDV Barranco-do-Ve 146.61 336 *e*PKP PKPdf 21 07 14.0 +1.3
PTEO Sao Teotonio 146.66 337 *e*PKP PKPdf 21 07 12.7 -0.1
MORF Marmelete 146.84 337 *e*PKP PKPdf 21 07 13.9 +0.8
PFVI Vila Bisbo 147.06 337 *e*PKP PKPdf 21 07 14.2 +0.8
PLUZ Luz 148.01 7 *e*PKP PKPab 21 07 21.7 +1.1
STGR Santa Cruz 148.05 6 *e*PKP PKPab 21 07 22.2 +1.4
PVIA Vitoria 148.06 6 *e*PKP PKPab 21 07 21.1 +0.3
PGRA Graciosa 148.10 6 *e*PKP PKPbc 21 07 19.6 +1.3
ROSA Rosais 148.38 6 *e*PKP PKPbc 21 07 19.4 +0.4
PAMA Santo Amaro 148.43 6 *e*PKP PKPab 21 07 25.5 +3.2
PBIS Biscoitos 148.43 5 *e*PKP PKPbc 21 07 20.7 +1.5
PVNV Vila Nova 148.44 4 *e*PKP PKPbc 21 07 20.0 +0.8
PTCA Ponta do Capel 148.46 7 *e*PKP PKPab 21 07 22.1 -0.3
ASBA Santa Barbara 148.47 5 *e*PKP PKPab 21 07 22.1 -0.4
CALA Caldeira 148.47 7 *e*PKP PKPbc 21 07 20.7 +1.4
PMAN Manadas 148.49 6 *e*PKP PKPbc 21 07 20.5 +1.2
PPAD Pico dos Padre 148.49 5 *e*PKP PKPbc 21 07 20.9 +1.6
PFAV Pico das Favas 148.50 4 *e*PKP PKPbc 21 07 20.3 +1.0
RIB2 Ribeirinha 148.53 4 *e*PKP PKPbc 21 07 20.3 +0.9
HOR Horta 148.53 7 *e*PKP PKPbc 21 07 20.8 +1.4
PICO Pico 148.58 6 *e*PKP PKPbc 21 07 21.3 +1.8
PTEI Pico do Teixo 148.59 6 *e*PKP PKPab 21 07 21.8 -1.2
PCND Candelaria 148.61 6 *e*PKP PKPbc 21 07 20.7 +1.1
PBOI Pico dos Bois 148.65 6 *e*PKP PKPbc 21 07 21.6 +1.9
MDT Midelt 148.66 327 PKPbc PKPbc 21 07 20.3 +0.3
comp=Z,182nm,0.9s,baz=74,slow=2.7,SNR=11
PID Ribeirinha 148.67 6 *e*PKP PKPbc 21 07 21.1 +1.3
PIED Piedade 148.70 6 *e*PKP PKPab 21 07 22.5 -0.9
SET4 Mosteiros 149.40 2 *e*PKP PKPbc 21 07 23.3 +1.6
PSAN Santo Antonio 149.43 2 *e*PKP PKPbc 21 07 23.8 +2.1
SET2 Ginetes 149.44 2 *e*PKP PKPbc 21 07 23.9 +2.2
PFAD Fenais da Ajud 149.46 2 *e*PKP PKPbc 21 07 23.9 +2.1
PSET Sete Cidades 149.46 2 *e*PKP PKPbc 21 07 22.5 +0.7
PFET Feteiras 149.46 2 *e*PKP PKPbc 21 07 23.9 +2.1
PMAT Coroa da Mata 149.47 2 *e*PKP PKPab 21 07 25.4 -1.2
PVER Pico Vermelho 149.49 2 *e*PKP PKPbc 21 07 23.9 +2.0
MESC Monte Escuro 149.50 2 *e*PKP PKPab 21 07 25.1 -1.6
MIRA Miradouro 149.51 2 *e*PKP PKPab 21 07 24.8 -1.9
CML Cha da Macela 149.52 2 *e*PKP PKPbc 21 07 20.8 -1.1
LFA Lagoa do Fogo 149.52 2 *e*PKP PKPbc 21 07 21.6 -0.3
PCNG Congro 149.53 2 *e*PKP PKPbc 21 07 23.9 +1.9
VIF Vila Franca 149.55 2 *e*PKP PKPab 21 07 24.9 -2.0
FRA1 Furnas 149.55 2 *e*PKP PKPab 21 07 25.0 -1.9
PRCH Ribeira Ch 149.56 2 *e*PKP PKPab 21 07 24.4 -2.5
PSMN Pico do Norte, 150.30 1 *e*PKP PKPbc 21 07 24.4 +0.5
PMPS Porto Santo 153.23 345 *e*PKP PKPbc 21 07 28.4 -2.3
PMAR Madeira 153.69 346 *e*PKP PKPbc 21 07 30.9 -0.8
TOA0 Torodi Ar. Sit 153.84 285 PKPdf PKPdf 21 07 26.0 +1.4
TORD Torodi Ar. Bea 153.84 285 PKPbc PKPbc 21 07 31.3 -1.3
TORD PKPab PKPab 21 07 43.9 -1.6
TORD PP PP 21 11 25.8 +5.7
TORD Torodi Ar. Bea 153.84 285 PKPbc PKPbc 21 07 31.3 -1.2
comp=Z,34nm,0.9s,baz=78,slow=1.6,SNR=10
TORD PKPab PKPab 21 07 43.9 -1.6
comp=Z,80nm,0.6s,baz=82,slow=1.5,SNR=17
TORD PP PP 21 11 25.8 +5.7
comp=Z,16nm,0.9s,baz=60,slow=5.7,SNR=2.8
DBIC Dimbokro 160.79 270 PKP2 PKPab 21 08 15.4 -0.2
DBIC 21 12 05.8
DBIC pmax pmax
comp=Z,106nm,0.8s
DBIC Dimbokro 160.79 270 PKPab PKPab 21 08 15.4 -0.2
comp=Z,106nm,0.8s,baz=30,slow=3.8,SNR=6.4
DBIC PP PP 21 12 05.8 +7.1
comp=Z,19nm,0.8s,baz=62,slow=15,SNR=2.8
BBTS Babate 169.42 315 PKP PKPdf 21 07 40.3 -0.3
comp=Z,162nm,1.0s,baz=2.8,slow=2.8,SNR=4.3
BBTS PKPab PKPab 21 08 53.3 0.0
comp=Z,115nm,0.9s,baz=4.6,slow=2.4,SNR=2.7

IDC 01 20:54:46.4±2.4, 839S×15655E, h0km, mb4.9/7, mb1 4.8/7, mb1mx4.8/16, mbtmp4.9/7, Error ellipse: s-maj=199.7km s-min=56.5km az=64.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOW	**Kunigami**	**44.48**	**323**	P		21 03 00.9	+1.3
	24nm,1.0s,baz=124,slow=15,SNR=2.4						
MJAR	**Matsushiro Arr**	**47.91**	**340**	P		21 03 27.0	+0.6
	14nm,1.2s,baz=170,slow=8.4,SNR=1.5						
JNU	**Nakatsue**	**47.97**	**331**	P		21 03 25.1	-1.9
	22nm,1.1s,baz=68,slow=5.5,SNR=2.0						
KSRS	**Korea Array**	**52.89**	**331**	P		21 04 04.3	+0.1
	5.4nm,1.0s,baz=148,slow=7.0,SNR=1.6						
SONM	**Songino Array**	**71.34**	**327**	P		21 06 08.3	+0.3
	2.0nm,0.4s,baz=135,slow=5.8,SNR=1.3						
MKAR	**Makanchi Array**	**85.47**	**318**	P		21 07 25.9	-0.1
	22nm,0.6s,baz=103,slow=6.2,SNR=6.4						
ZALV	**Zalesovo Beam**	**86.20**	**326**	P		21 07 28.7	-0.8
	7.6nm,0.6s,baz=112,slow=5.0,SNR=2.8						
AKASG	**Malin Array Be**	**119.57**	**324**	PKP	PKPdf	21 13 38.5	+0.3
	5.2nm,1.0s,baz=72,slow=2.2,SNR=3.2						
MDT	**Midelt**	**150.09**	**327**	PKPbc	PKPbc	21 14 39.4	-0.3
	4.8nm,0.9s,baz=90,slow=1.0,SNR=3.5						

*ISCJB **01** 20:54:56.4±0.4, 800S±007×156.16E±008, h10km, mb5.3/28, Error ellipse: s-maj=11.9km s-min=9.1km az=139.6*
*IDC **01** 20:54:56.6±1.0, 806S×156.15E, h0km, mb5.1/12, mb1 5.1/12, mb1mx5.0/19, mbtmp5.1/12, Error ellipse: s-maj=42.7km s-min=23.1km az=78.0*
*NEIC **01** 20:54:58.0±0.3, 800S×156.19E, h10km, mb5.5/16, Error ellipse: s-maj=9.9km s-min=7.7km az=49.0*
*MOS **01** 20:54:59.6±1.1, 802S×15621E, h33km, mb5.5/15, Error ellipse: s-maj=18.9km s-min=10.1km az=118.4*

ISC 01 20:54:59.0±6.7, 802S±008×15618E±008, h16km±41km, n70, σ0°95/65, mb5.3/28, 1C, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**3.98**	**111**	Pn	**Pn**	**20 55 59.2**	**-0.1**
RAO	**Raoul Island**	**32.23**	**134**	P	**P**	**21 01 27.8**	**+1.0**
TAU	**Tasmania Unive**	**35.62**	**191**	P	**P**	**21 01 54.2**	**-1.7**
MBWA	**Marble Bar**	**37.51**	**246**	*e*P	**P**	**21 02 12.1**	**-0.4**
	250nm,1.7s,mb5.7						
KKM	**Kota Kinabalu**	**42.24**	**288**	*e*P	**P**	**21 02 52.0**	**0.0**
JOW	**Kunigami**	**43.96**	**323**	P	**P**	**21 03 07.0**	**+1.4**
	37nm,0.7s,mb5.2,baz=123,slow=12,SNR=5.3						
NACB	**Ninganchiao**	**46.51**	**314**	*e*P	**P**	**21 03 23.2**	**-2.7**
KSM	**Kuching**	**46.71**	**280**	*e*P	**P**	**21 03 26.4**	**-1.2**
YHNB	**Yeheng**	**46.98**	**315**	*e*P	**P**	**21 03 29.7**	**+0.2**
MJAR	**Matsushiro Arr**	**47.43**	**340**	P	**P**	**21 03 32.0**	**-0.9**
MJAR				pmax	pmax		
	comp=Z,10.0nm,0.9s						
MJAR	**Matsushiro Arr**	**47.43**	**340**	P	**P**	**21 03 32.0**	**-0.9**
	comp=Z,10nm,0.8s,mb4.8,baz=158,slow=6.0,SNR=5.8						
MAJO	**Matsushiro**	**47.43**	**340**	*e*P	**P**	**21 03 32.9**	**+0.1**
	comp=Z,123nm,1.7s,mb5.6						
MAJO	**Matsushiro**	**47.43**	**340**	*e*P	**P**	**21 03 32.9**	**0.0**
MAJO				pmax	pmax		
	comp=Z,123nm,1.7s,mb5.6						
JNU	**Nakatsue**	**47.47**	**331**	P	**P**	**21 03 33.8**	**+0.6**
	comp=Z,19nm,0.7s,mb5.2,baz=145,slow=10,SNR=5.5						
KSRS	**Korea Array**	**52.39**	**332**	P	**P**	**21 04 10.8**	**+0.2**
	comp=Z,26nm,0.9s,mb5.2,baz=146,slow=7.1,SNR=14						
INCN	**Inchon**	**53.03**	**331**	*e*P	**P**	**21 04 16.0**	**+0.7**
ASAJ	**Asahikawa**	**53.33**	**348**	P	**P**	**21 04 18.1**	**+0.7**
ASAJ				pmax	pmax		
	comp=Z,16nm,0.8s						
ASAJ	**Asahikawa**	**53.33**	**348**	P	**P**	**21 04 18.1**	**+0.7**
	comp=Z,16nm,0.8s,mb5.0,baz=233,slow=10,SNR=4.6						
YSS	**Yuzh-Sakhalins**	**56.02**	**349**	*e*P	**P**	**21 04 39.2**	**+2.4**
	comp=Z,1μm,2.8s						
YSS	**Yuzh-Sakhalins**	**56.02**	**349**	*e*P	**P**	**21 04 39.2**	**+2.4**
YSS				pmax	pmax		
	comp=Z,1μm,2.8s						
KULM	**Kulim**	**56.95**	**282**	*e*P	**P**	**21 04 43.8**	**-0.4**
PSI	**Prapat**	**58.11**	**278**	P	**P**	**21 04 51.4**	**-1.0**
PSI				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.8						
PSI	**Prapat**	**58.11**	**278**	P	**P**	**21 04 51.4**	**-0.9**
	comp=Z,10nm,1.1s,mb4.8,baz=144,slow=6.7,SNR=9.8						
ENH	**Enshi**	**58.79**	**313**	*e*P	**P**	**21 04 57.6**	**+0.8**
	comp=Z,0.4nm,0.3s						
BJT	**Baijiatuau**	**60.41**	**325**	*e*P	**P**	**21 05 08.3**	**+0.5**
	comp=Z,15nm,0.6s,mb5.2						
BJT	**Baijiatuau**	**60.41**	**325**	*e*P	**P**	**21 05 08.3**	**+0.5**
BJT				pmax	pmax		
	comp=Z,15nm,0.6s						
HIA	**Hailar**	**65.34**	**335**	*e*P	**P**	**21 05 40.5**	**+0.1**
	comp=Z,30nm,0.9s,mb5.3						
HIA	**Hailar**	**65.34**	**335**	*e*P	**P**	**21 05 40.5**	**+0.1**
HIA				pmax	pmax		
	comp=Z,30nm,0.9s						
CASY	**Casey**	**66.00**	**198**	P	**P**	**21 05 45.6**	**+1.2**
MA2	**Magadan**	**67.51**	**357**	P	**P**	**21 05 52.4**	**-1.6**
SONM	**Songino Array**	**70.83**	**327**	P	**P**	**21 06 16.4**	**+1.5**
SONM				pmax	pmax		
	comp=Z,109nm,0.8s						
SONM	**Songino Array**	**70.83**	**327**	P	**P**	**21 06 16.4**	**+1.5**
	comp=Z,109nm,0.8s,mb5.8,baz=134,slow=6.1,SNR=25						
YAK	**Yakutsk**	**72.81**	**347**	*e*P	**P**	**21 06 26.8**	**+0.4**
	comp=Z,103nm,0.7s,mb5.9						
YAK	**Yakutsk**	**72.81**	**347**	*e*P	**P**	**21 06 26.8**	**+0.3**
YAK				pmax	pmax		
	comp=Z,103nm,0.7s,mb5.9						
ZAK	**Zakamensk**	**73.98**	**328**	*e*P	**P**	**21 06 33.2**	**-0.4**
ZAK				*e*		21 11 05.4	
ZAK				pmax	pmax		
	comp=Z,43nm,1.1s,mb5.3						
TLY	**Talaya**	**74.54**	**329**	*e*P	**P**	**21 06 37.8**	**+0.9**
	comp=Z,41nm,0.8s,mb5.4						
TLY	**Talaya**	**74.54**	**329**	*e*P	**P**	**21 06 37.8**	**+0.9**
TLY				pmax	pmax		
	comp=Z,41nm,0.8s,mb5.4						
GAMB	**Gambell**	**75.61**	**14**	*e*P	**P**	**21 06 42.9**	**+0.1**
	comp=Z,38nm,1.4s,mb5.1						
MOY	**Mondy**	**75.90**	**328**	*e*P	**P**	**21 06 46.0**	**+1.3**
BILL	**Bilibino**	**76.21**	**4**	*e*P	**P**	**21 06 45.5**	**-0.6**
	comp=Z,42nm,1.1s,mb5.3						
BILL	**Bilibino**	**76.21**	**4**	⇑*e*P	**P**	**21 06 45.3**	**-0.8**
BILL				pmax	pmax		
	comp=Z,45nm,1.1s,mb5.3						
PALK	**Pallekele**	**76.77**	**279**	*e*P	**P**	**21 06 51.0**	**+0.5**
	comp=Z,21nm,1.0s,mb5.0						
PMR	**Palmer**	**81.25**	**23**	*e*P	**P**	**21 07 13.3**	**-0.7**
	comp=Z,14nm,0.7s,mb5.0						
PMR	**Palmer**	**81.25**	**23**	*e*P	**P**	**21 07 13.3**	**-0.7**
PMR				pmax	pmax		
	comp=Z,14nm,0.7s,mb5.0						
QSPA	**South Pole Qui**	**81.96**	**180**	P	**P**	**21 07 17.8**	**+0.2**
	comp=Z,13nm,0.6s,mb5.0,baz=335,slow=2.8,SNR=4.7						
MCK	**McKinley**	**82.56**	**22**	*e*P	**P**	**21 07 19.8**	**-1.1**
	comp=Z,37nm,0.8s,mb5.5						
MCK	**McKinley**	**82.56**	**22**	*e*P	**P**	**21 07 19.8**	**-1.1**
MCK				pmax	pmax		
	comp=Z,37nm,0.8s,mb5.5						
COLA	**College**	**83.61**	**21**	*e*P	**P**	**21 07 24.7**	**-1.5**
	comp=Z,17nm,0.8s,mb5.2						
COLA	**College**	**83.61**	**21**	*e*P	**P**	**21 07 24.7**	**-1.5**
COLA				pmax	pmax		
	comp=Z,17nm,0.8s,mb5.2						
MAW	**Mawson**	**83.91**	**203**	P	**P**	**21 07 29.1**	**+1.2**
MAW				pmax	pmax		
	comp=Z,7.0nm,0.6s						
MAW	**Mawson**	**83.91**	**203**	P	**P**	**21 07 29.1**	**+1.2**
	comp=Z,6.8nm,0.6s,mb5.0,baz=92,slow=9.1,SNR=4.5						
MKAR	**Makanchi Array**	**84.95**	**318**	P	**P**	**21 07 33.6**	**+0.1**
MKAR				pmax	pmax		
	comp=Z,18nm,0.6s						
MKAR	**Makanchi Array**	**84.95**	**318**	P	**P**	**21 07 33.6**	**+0.1**
	comp=Z,18nm,0.6s,mb5.4,baz=76,slow=7.2,SNR=8.1						
ZAA0	**Zalesovo Array**	**85.68**	**326**	*e*P	**P**	**21 07 35.9**	**-1.0**
ZALV	**Zalesovo Beam**	**85.68**	**326**	P	**P**	**21 07 35.8**	**-1.2**
	comp=Z,8.9nm,0.7s,mb5.1,baz=121,slow=6.1,SNR=6.1						
ZAL	**Zalesovo**	**85.69**	**326**	P	**P**	**21 07 35.8**	**-1.2**
KURK	**Kurchatov**	**88.36**	**322**	*e*P	**P**	**21 07 49.5**	**-0.6**
	comp=Z,6.8nm,0.5s,mb5.1						
KURK	**Kurchatov**	**88.36**	**322**	*e*P	**P**	**21 07 49.5**	**-0.6**
KURK				pmax	pmax		
	comp=Z,7.0nm,0.5s,mb5.2						
TKM2	**Tokmak 2**	**88.57**	**314**	*e*P	**P**	**21 07 51.7**	**+0.5**
	comp=Z,98nm,1.7s,mb5.9						
AAK	**Ala-Archa**	**89.31**	**313**	*e*P	**P**	**21 07 55.4**	**+0.7**
	comp=Z,24nm,1.1s,mb5.5						
AAK	**Ala-Archa**	**89.31**	**313**	*e*P	**P**	**21 07 55.4**	**+0.7**
AAK				pmax	pmax		
	comp=Z,24nm,1.1s,mb5.4						
EKS2	**Erkin-Say**	**89.83**	**313**	P	**P**	**21 07 58.2**	**+1.0**
NVAR	**Mina Array Bea**	**91.43**	**52**	P	**P**	**21 08 05.0**	**+0.3**
	comp=Z,6.6nm,1.1s,mb4.9,baz=245,slow=5.8,SNR=2.1						
NVAR				PKKPbc	PKKPbc	21 25 27.0	+0.1
	comp=Z,14nm,0.9s,baz=82,slow=3.6,SNR=2.9						
BRVK	**Borovoye**	**93.89**	**323**	*e*P	**P**	**21 08 15.0**	**-0.7**
ELK	**Elko**	**94.09**	**50**	P	**P**	**21 08 17.0**	**0.0**
ISCO	**Idaho Springs**	**101.37**	**51**	Pdif	Pdif	21 08 57.2	+7.7
WMOK	**Wichita Mounta**	**106.87**	**56**	PKiKP	PKiKP	21 13 25.2	+0.8
AKASG	**Malin Array Be**	**119.05**	**324**	PKIKP	PKPdf	21 13 46.5	-0.6
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
AKASG	**Malin Array Be**	**119.05**	**324**	PKP	PKPdf	21 13 46.5	-0.6
	comp=Z,1.1nm,0.4s,baz=44,slow=2.6,SNR=7.1						
MDT	**Midelt**	**149.57**	**327**	PKPbc	PKPbc	21 14 50.1	+1.8
	comp=Z,15nm,0.9s,baz=22,slow=0.5,SNR=4.3						

IDC 01 20:55:26.2±1.6, 854S×15539E, h0km, mb5.1/8, mb1 5.0/8, mb1mx4.9/16, mbtmp5.1/8, Error ellipse: s-maj=52.5km s-min=34.2km az=104.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**25.48**	**231**	P	P	21 00 55.5	-0.8
	5.2nm,0.4s,baz=58,slow=9.5,SNR=0.9						
JOW	**Kunigami**	**43.91**	**324**	P	P	21 03 36.4	+1.4
	44nm,1.0s,baz=121,slow=5.7,SNR=4.0						
KSRS	**Korea Array**	**52.48**	**332**	P	P	21 04 39.6	-1.4
	8.7nm,0.8s,baz=148,slow=8.4,SNR=2.4						
ASAJ	**Asahikawa**	**53.68**	**349**	P	P	21 04 49.0	-0.6
	22nm,0.8s,baz=199,slow=12,SNR=5.0						
SONM	**Songino Array**	**70.84**	**327**	P	P	21 06 45.6	+0.8
	14nm,0.8s,baz=143,slow=6.2,SNR=3.2						
MKAR	**Makanchi Array**	**84.82**	**319**	P	P	21 08 02.8	+0.1
	22nm,0.7s,baz=90,slow=6.1,SNR=3.7						
ZALV	**Zalesovo Beam**	**85.67**	**326**	P	P	21

comp=Z,64nm,0.9s
ASAJ Asahikawa 52.59 348 P **P 21 05 32.9 +0.6**
comp=Z,64nm,0.9s,mb5.5,baz=224,slow=8.9,SNR=7.0
PAE Paea 54.37 106 *eP* **P 21 05 46.4 +0.4**
comp=Z,54nm,1.0s,mb5.4
PAE Paea 54.37 106 *eP* **P 21 05 46.4 +0.4**
PAE pmax pmax
comp=Z,55nm,1.0s,mb5.4
TBI Tubuai 55.03 113 *eP* **P 21 05 51.6 +1.0**
comp=Z,426nm,1.3s,mb6.3
YSS Yuzh-Sakhalins 55.29 349 *eP* **P 21 05 52.4 +0.4**
PMOR Pomariorio Ree 55.88 103 *eP* **P 21 05 57.2 +0.3**
comp=Z,164nm,1.1s,mb6.0
VAH Vaihoa 56.14 103 *eP* **P 21 05 58.7 -0.1**
comp=Z,73nm,1.0s,mb5.7
KULM Kulim 56.20 281 *eP* **P 21 05 58.0 -1.2**
BJT Baijiatuau 59.54 326 P **P 21 06 21.9 -0.2**
HIA Hailar 64.51 335 *eP* **P 21 06 55.6 +0.3**
comp=Z,36nm,0.8s,mb5.5
HIA Hailar 64.51 335 *eP* **P 21 06 55.6 +0.3**
HIA pmax pmax
comp=Z,36nm,0.8s
LZH Lanzhou 64.97 315 *eP* **P 21 06 59.9 +1.3**
LZH AP pP 21 07 02.9 -6.9
LZH XP sP 21 07 04.8 -9.3
LZH AMB AMB
comp=Z,66nm,1.3s,mb5.5
LZH AMB AMB
comp=Z,273nm,4.2s
CASY Casey 66.39 198 P **P 21 07 05.5 -1.7**
MA2 Magadan 66.86 357 *eP* **P 21 07 10.4 +0.2**
comp=Z,57nm,1.1s,mb5.5
MA2 Magadan 66.86 357 *eP* **P 21 07 10.4 +0.2**
MA2 pmax pmax
comp=Z,57nm,1.1s,mb5.5
RKT Rikitea 68.29 112 *eP* **P 21 07 19.2 -0.9**
comp=Z,151nm,1.2s,mb5.9
RKT Rikitea 68.29 112 *eP* **P 21 07 19.2 -0.9**
RKT pmax pmax
comp=Z,151nm,1.2s,mb5.9
SONM Songino Array 69.96 327 P **P 21 07 30.6 +0.7**
SONM pmax pmax
comp=Z,31nm,0.9s
SONM Songino Array 69.96 327 P **P 21 07 30.6 +0.7**
comp=Z,31nm,0.9s,mb5.2,baz=146,slow=5.9,SNR=4.1
VNDA Vanda 70.17 179 P **P 21 07 31.6 +0.8**
VNDA pmax pmax
comp=Z,7.0nm,1.0s
VNDA Vanda 70.17 179 P **P 21 07 31.6 +0.8**
comp=Z,6.8nm,1.0s,mb4.5,baz=331,slow=6.9,SNR=3.1
SBA Scott Base 70.67 177 P **P 21 07 33.9 +0.1**
LSA Lhasa 71.94 304 *eP* **P 21 07 43.7 +1.3**
comp=Z,39nm,1.1s,mb5.2
LSA Lhasa 71.94 304 *eP* **P 21 07 43.7 +1.4**
LSA pmax pmax
comp=Z,39nm,1.1s,mb5.2
YAK Yakutsk 72.06 348 *eP* **P 21 07 43.0 +0.7**
comp=Z,61nm,0.8s,mb5.6
YAK Yakutsk 72.06 348 *eP* **P 21 07 43.1 +0.8**
YAK pmax pmax
comp=Z,61nm,0.8s,mb5.6
TLY Talaya 73.68 329 *eP* **P 21 07 52.2 +0.1**
BILL Bilibino 75.63 4 *eP* **P 21 08 02.8 -0.4**
comp=Z,24nm,0.7s,mb5.2
BILL Bilibino 75.63 4⇓ *eP* **P 21 08 02.8 -0.3**
BILL pmax pmax
comp=Z,47nm,1.2s,mb5.3
PALK Pallekele 76.04 279 P **P 21 08 07.7 +1.1**
KDAK Kodiak Island 77.29 26 P **P 21 08 13.1 +0.4**
comp=Z,6.2nm,0.8s,mb4.6,baz=235,slow=10.0,SNR=2.5
PMR Palmer 80.93 23 *eP* **P 21 08 30.9 -1.6**
comp=Z,24nm,1.1s,mb5.0
PMR Palmer 80.93 23 *eP* **P 21 08 31.0 -1.6**
PMR pmax pmax
comp=Z,24nm,1.1s,mb5.0
MCK McKinley 82.22 22 *eP* **P 21 08 37.3 -2.0**
comp=Z,21nm,0.7s,mb5.2
MCK McKinley 82.22 22 *eP* **P 21 08 37.3 -2.0**
MCK pmax pmax
comp=Z,21nm,0.7s,mb5.2
QSPA South Pole Qui 82.59 180 P **P 21 08 42.5 +1.4**
comp=Z,25nm,1.0s,mb5.2,baz=68,slow=3.0,SNR=5.0
COLA College 83.25 21 *eP* **P 21 08 43.4 -1.3**
comp=Z,8.3nm,0.6s,mb4.9
COLA College 83.25 21 *eP* **P 21 08 43.4 -1.3**
COLA pmax pmax
comp=Z,8.0nm,0.6s,mb4.9
MKAR Makanchi Array 84.06 319 P **P 21 08 49.5 +0.3**
MKAR pmax pmax
comp=Z,55nm,0.8s
MKAR Makanchi Array 84.06 319 P **P 21 08 49.5 +0.2**
comp=Z,55nm,0.8s,mb5.7,baz=81,slow=7.5,SNR=8.5
MAW Mawson 84.24 203 P **P 21 08 51.1 +1.3**
MAW pmax pmax
comp=Z,23nm,1.0s
MAW Mawson 84.24 203 P **P 21 08 51.1 +1.3**
comp=Z,23nm,1.0s,mb5.3,baz=86,slow=7.9,SNR=6.0
ZAA0 Zalesovo Array 84.81 326 *eP* **P 21 08 52.3 -0.5**
ZALV Zalesovo Beam 84.81 326 P **P 21 08 51.1 -1.7**
comp=Z,27nm,0.7s,mb5.5,baz=112,slow=6.1,SNR=6.7
ZAL Zalesovo 84.81 326 P **P 21 08 51.1 -1.8**
NVS Novosibirsk 85.98 326 *i P* **P 21 08 57.7 -1.0**
KURK Kurchatov 87.47 322 *eP* **P 21 09 05.4 -0.7**
comp=Z,44nm,1.1s,mb5.6
KURK Kurchatov 87.47 322 *eP* **P 21 09 05.4 -0.7**
KURK pmax pmax
comp=Z,44nm,1.1s,mb5.6
TKM2 Tokmak 2 87.68 314 *eP* **P 21 09 07.5 +0.3**
comp=Z,13nm,0.6s,mb5.3
TKM2 Tokmak 2 87.68 314 *eP* **P 21 09 07.5 +0.3**
TKM2 pmax pmax
comp=Z,13nm,0.6s,mb5.3
UCH Uchtor 88.32 313 *eP* **P 21 09 11.3 +1.0**
comp=Z,21nm,1.0s,mb5.3
AAK Ala-Archa 88.41 313 *eP* **P 21 09 10.5 -0.2**
comp=Z,15nm,0.8s,mb5.3
AAK Ala-Archa 88.41 313 *eP* **P 21 09 10.5 -0.2**
AAK pmax pmax
comp=Z,15nm,0.8s,mb5.3
EKS2 Erkin-Say 88.94 313 *eP* **P 21 09 13.7 +0.4**
comp=Z,8.9nm,0.7s,mb5.2
NVAR Mina Array Bea 91.54 52 P **P 21 09 26.6 +1.2**
comp=Z,2.1nm,0.7s,mb4.6,baz=255,slow=3.5,SNR=2.3
NVAR PKKPbc PKKPbc 21 26 43.7 -3.1
comp=Z,18nm,1.1s,baz=72,slow=2.9,SNR=2.5
BRVK Borovoye 93.00 323 *eP* **P 21 09 30.9 -0.9**
comp=Z,33nm,1.0s,mb5.7
BRVK Borovoye 93.00 323 *eP* **P 21 09 30.9 -0.9**
BRVK pmax pmax
comp=Z,33nm,1.0s,mb5.7
YKA Yellowknife Ar 96.43 28 P **P 21 09 46.3 -1.0**
YKA pmax pmax
comp=Z,4.0nm,0.9s
YKA Yellowknife Ar 96.43 28 P **P 21 09 46.3 -1.0**
comp=Z,3.7nm,0.9s,mb4.8,baz=266,slow=4.7,SNR=4.2
ARU Arti 99.97 326 Pdif Pdif 21 10 01.8 -1.7
ARU Arti 99.97 326 P Pdif 21 10 01.8 -1.7
SDCO Great Sand Dun 101.56 53 Pdif Pdif 21 10 13.0 +2.5
JCT Junction City 106.33 60 Pdif Pdif 21 10 28.4 -3.3
comp=Z,58nm,1.1s
JCT Junction City 106.33 60 P Pdif 21 10 28.4 -3.3
JCT pmax pmax
comp=Z,58nm,1.1s
ARCES ARCESS Array B 110.12 343 *i* PKIKP PKiKP 21 14 49.1 -0.5
ARCES pmax pmax
comp=Z,3.0nm,0.7s
ARCES ARCESS Array B 110.12 343 PKiKP PKiKP 21 14 49.1 -0.5
comp=Z,2.9nm,0.7s,baz=74,slow=1.2,SNR=8.5
FINES FINESS Array B 114.52 336 *i* PKIKP PKiKP 21 14 57.4 -0.8
FINES pmax pmax
comp=Z,2.0nm,0.4s
FINES FINESS Array B 114.52 336 PKiKP PKiKP 21 14 57.4 -0.8
comp=Z,1.5nm,0.4s,baz=85,slow=2.1,SNR=5.3
KMBO Kilima Mbogo 117.87 265 PKPdf PKPdf 21 15 06.0 0.0
AKASG Malin Array Be 118.17 324 PKIKP PKPdf 21 15 04.6 -0.9
AKASG pmax pmax
comp=Z,1.0nm,0.5s
AKASG Malin Array Be 118.17 324 PKP PKPdf 21 15 04.5 -1.0
comp=Z,1.4nm,0.5s,baz=46,slow=2.6,SNR=6.3
NOA NORSAR Array B 120.25 341 PKIKP PKPdf 21 15 08.4 -0.8
NOA pmax pmax
comp=Z,3.0nm,0.7s
NOA NORSAR Array B 120.25 341 PKP PKPdf 21 15 08.4 -0.8
comp=Z,3.3nm,0.7s,baz=44,slow=1.8,SNR=5.4
MATP Matopo 121.06 241 PKP PKPdf 21 15 11.8 -0.1
comp=Z,6.8nm,0.6s,baz=205,slow=3.7,SNR=6.1

LBTB Lobatse 121.60 235 PKIKP PKPdf 21 15 12.9 0.0
LBTB pmax pmax
comp=Z,13nm,1.0s
LBTB Lobatse 121.60 235 PKP PKPdf 21 15 12.9 -0.1
comp=Z,13nm,1.0s,baz=204,slow=5.1,SNR=4.2
CFAA Coronel Fontan 122.98 135 PKP PKPdf 21 15 14.6 -0.8
CFAA Coronel Fontan 122.98 135 PKP PKPdf 21 15 14.6 -0.8
comp=Z,1.2nm,0.8s,baz=254,slow=1.9,SNR=4.1
ATAH Atahualpa 124.34 104 PKP PKPdf 21 15 19.6 +1.1
comp=Z,7.0nm,0.7s,baz=300,slow=1.5,SNR=3.2
CLL Collm 126.42 332 *e*PKPdf PKPdf 21 15 20.0 -1.3
CLL *ex* x 21 15 37.0
GERES GERESS Array B 127.67 329 PKIKP PKPdf 21 15 24.0 +0.2
GERES pmax pmax
comp=Z,2.0nm,0.5s
GERES GERESS Array B 127.67 329 PKP PKPdf 21 15 24.0 +0.2
comp=Z,1.6nm,0.5s,baz=72,slow=1.5,SNR=6.8
SDV Santo Domingo 134.29 85 PKP PKPdf 21 15 37.0 -0.4
comp=Z,18nm,0.8s,baz=321,slow=4.8,SNR=3.9
MDT Midelt 148.70 327 PKPbc PKPbc 21 16 07.9 +1.7
comp=Z,14nm,0.8s,baz=57,slow=4.8,SNR=4.7
DBIC Dimbokro 160.53 269 PKP2 PKPab 21 17 00.9 +0.1
DBIC pmax pmax
comp=Z,8.0nm,0.7s
DBIC Dimbokro 160.53 269 PKPab PKPab 21 17 00.9 +0.1
comp=Z,7.8nm,0.7s,baz=47,slow=6.9,SNR=2.7

*IDC **01** 20:56:32.3±1.1, 7.10S×155.80E, h0km, mb5.0/9, mb1 5.1/9, mb1mx5.0/16, mbtmp5.0/9, Error ellipse: s-maj=49.8km s-min=20.8km az=89.0*
*ISCJB **01** 20:56:36.1±1.1, 7.1S±0.1×155.7E±0.3, h33km, mb5.0/9, Error ellipse: s-maj=42.2km s-min=17.5km az=179.8*
ISC 01 20:56:37.9±1.1, 71S±0.1×157E±0.3, h35km, n14, σ0 93/9, mb5.0/9, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**26.66**	**229**	P	**P**	**21 02 13.2**	**-0.5**
	13nm,0.8s,mb4.5,baz=57,slow=8.9,SNR=2.6						
NWAO	**Narrogin (SRO)**	**43.98**	**229**	P	**P**	**21 04 42.0**	**0.0**
	17nm,0.7s,mb4.9,baz=69,slow=8.6,SNR=3.1						
MJAR	**Matsushiro Arr**	**46.40**	**340**	P	**P**	**21 04 59.5**	**-1.6**
	6.7nm,0.7s,mb4.7,baz=156,slow=5.7,SNR=6.4						
KSRS	**Korea Array**	**51.36**	**332**	P	**P**	**21 05 40.1**	**+1.0**
	4.4nm,0.7s,mb4.5,baz=150,slow=6.7,SNR=3.1						
VNDA	**Vanda**	**70.47**	**179**	P	**P**	**21 07 49.3**	**+0.9**
	5.1nm,0.9s,mb4.4,baz=335,slow=9.2,SNR=3.7						
QSPA	**South Pole Qui**	**82.89**	**180**	P	**P**	**21 08 57.4**	**-1.0**
	22nm,0.8s,mb5.3,baz=39,slow=2.8,SNR=5.3						
MKAR	**Makanchi Array**	**83.95**	**319**	P	**P**	**21 09 05.9**	**+1.4**
	31nm,0.8s,mb5.5,baz=79,slow=6.5,SNR=4.2						
MAW	**Mawson**	**84.59**	**203**	P	**P**	**21 09 07.7**	**+0.3**
	32nm,0.9s,mb5.5,baz=66,slow=6.8,SNR=7.8						
ZALV	**Zalesovo Beam**	**84.66**	**326**	P	**P**	**21 09 07.4**	**-0.5**
	20nm,0.8s,mb5.3,baz=112,slow=5.7,SNR=4.5						
FINES	**FINESS Array B**	**114.31**	**336**	PKiKP	PKiKP	21 15 12.9	-0.7
	2.7nm,0.8s,baz=20,slow=4.4,SNR=2.6						
NOA	**NORSAR Array B**	**120.02**	**341**	PKP	PKPdf	21 15 24.6	0.0
	3.2nm,0.7s,baz=46,slow=2.0,SNR=5.1						
GERES	**GERESS Array B**	**127.50**	**329**	PKP	PKPdf	21 15 39.9	+0.6
	2.8nm,0.8s,baz=126,slow=3.4,SNR=3.6						
MDT	**Midelt**	**148.55**	**327**	PKPbc	PKPbc	21 16 22.4	+0.7
	25nm,0.9s,baz=38,slow=2.7,SNR=5.0						
DBIC	**Dimbokro**	**160.72**	**270**	PKPab	PKPab	21 17 16.2	-1.2
	20nm,0.9s,baz=142,slow=4.8,SNR=3.8						

IDC 01 20:57:37.1±1.4, 687S×15810E, h0km, mb4.9/7, mb1 5.0/7, mb1mx4.8/15, mbtmp4.9/7, Error ellipse: s-maj=47.5km s-min=36.6km az=111.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**28.61**	**232**	P	P	21 03 35.0	-0.3
	3.5nm,0.4s,baz=56,slow=9.7,SNR=4.2						
JNU	**Nakatsue**	**47.45**	**329**	P	P	21 06 13.8	+0.1
	12nm,0.6s,baz=79,slow=5.2,SNR=2.2						
KSRS	**Korea Array**	**52.33**	**330**	P	P	21 06 50.3	-0.5
	3.7nm,0.6s,baz=143,slow=7.4,SNR=2.3						
SONM	**Songino Array**	**70.93**	**326**	P	P	21 08 57.3	+1.1
	13nm,1.0s,baz=140,slow=6.2,SNR=2.8						
MKAR	**Makanchi Array**	**85.36**	**318**	P	P	21 10 15.9	-0.4
	40nm,0.7s,baz=95,slow=9.5,SNR=9.8						
ZALV	**Zalesovo Beam**	**85.82**	**325**	P	P	21 10 17.8	-0.6
	18nm,0.6s,baz=114,slow=5.7,SNR=6.7						
NVAR	**Mina Array Bea**	**89.23**	**51**	P	P	21 10 34.3	-0.9
	2.4nm,0.9s,baz=242,slow=1.9,SNR=2.4						
ARCES	**ARCESS Array B**	**110.34**	**344**	PKiKP	PKiKP	21 16 13.1	+2.4
	7.8nm,1.0s,baz=62,slow=4.2,SNR=3.2						
NOA	**NORSAR Array B**	**120.57**	**342**	PKP	PKPdf	21 16 31.1	+0.5
	0.9nm,0.9s,baz=49,slow=3.8,SNR=4.0						
GERES	**GERESS Array B**	**128.50**	**331**	PKP	PKPdf	21 16 46.0	-0.1
	1.5nm,0.8s,baz=56,slow=3.7,SNR=2.1						
ESDC	**Sonseca Array**	**143.58**	**336**	PKP	PKPdf	21 17 13.5	-0.8
	10nm,1.2s,baz=60,slow=5.2,SNR=4.2						

IDC 01 20:59:04.0±1.9, 780S×15662E, h0km, mb4.5/7, mb1 4.6/7, mb1mx4.6/15, mbtmp4.5/7, Error ellipse: s-maj=68.3km s-min=24.9km az=93.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**26.90**	**232**	P	P	21 04 47.2	+0.2
	9.7nm,0.9s,baz=54,slow=9.4,SNR=3.4						
MJAR	**Matsushiro Arr**	**47.37**	**340**	P	P	21 07 39.4	-0.6
	4.2nm,0.7s,baz=169,slow=7.9,SNR=4.4						
KSRS	**Korea Array**	**52.40**	**331**	P	P	21 08 18.1	-0.1
	4.5nm,1.1s,baz=150,slow=7.7,SNR=4.0						
ASAJ	**Asahikawa**	**53.20**	**347**	P	P	21 08 24.5	+0.5
	4.0nm,0.6s,baz=256,slow=4.2,SNR=3.7						
VNDA	**Vanda**	**69.75**	**179**	P	P	21 10 15.5	0.0
	1.8nm,0.9s,baz=27,slow=2.3,SNR=2.9						
SONM	**Songino Array**	**70.88**	**327**	P	P	21 10 23.5	+0.7
	4.1nm,0.6s,baz=142,slow=6.0,SNR=4.2						
MKAR	**Makanchi Array**	**85.07**	**318**	P	P	21 11 41.4	-0.4
	13nm,0.8s,baz=98,slow=10.0,SNR=4.0						

*IDC **01** 20:59:27.3±1.1, 740S×156.58E, h0km, mb4.7/7, mb1 4.8/7, mb1mx4.7/14, mbtmp4.7/7, Error ellipse: s-maj=44.3km s-min=29.1km az=84.0*
*ISCJB **01** 20:59:30.6±1.0, 74S±0.2×156.5E±0.2, h33km, mb4.8/8, Error ellipse: s-maj=33.1km s-min=23.3km az=2.1*
ISC 01 20:59:32.6±1.0, 74S±0.2×156.5E±0.2, h35km, n10, σ0 83/8, mb4.8/8, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**31.89**	**248**	P	**P**	**21 05 53.9**	**-1.1**
	76nm,0.5s,mb5.8,baz=90,slow=5.9,SNR=3.0						
MJAR	**Matsushiro Arr**	**46.98**	**340**	P	**P**	**21 07 59.6**	**-0.8**
	2.6nm,0.7s,mb4.3,baz=157,slow=6.7,SNR=1.1						
KSRS	**Korea Array**	**52.03**	**331**	P	**P**	**21 08 39.4**	**+0.6**
	4.1nm,0.8s,mb4.4,baz=147,slow=7.2,SNR=4.2						
VNDA	**Vanda**	**70.13**	**179**	P	**P**	**21 10 41.9**	**+0.9**
	5.7nm,1.0s,mb4.4,baz=354,slow=3.7,SNR=3.5						
SONM	**Songino Array**	**70.52**	**327**	P	**P**	**21 10 44.9**	**+1.1**
	13nm,0.7s,mb5.0,baz=148,slow=5.1,SNR=6.4						
MKAR	**Makanchi Array**	**84.73**	**318**	P	**P**	**21 12 03.7**	**+0.6**
	11nm,0.7s,mb5.1,baz=98,slow=7.7,SNR=3.8						
ZALV	**Zalesovo Beam**	**85.38**	**326**	P	**P**	**21 12 05.9**	**-0.3**
	7.2nm,0.6s,mb5.0,baz=120,slow=5.3,SNR=4.5						
NVAR	**Mina Array Bea**	**90.78**	**52**	P	**P**	**21 12 31.4**	**-1.0**
	2.8nm,0.8s,mb4.7,baz=256,slow=1.9,SNR=1.6						
GERES	**GERESS Array B**	**128.19**	**329**	PKP	PKPdf	21 18 36.8	+1.5
	1.6nm,0.7s,baz=93,slow=2.0,SNR=2.8						
MDT	**Midelt**	**149.26**	**328**	PKPbc	PKPbc	21 19 17.7	-0.5
	4.7nm,0.8s,baz=72,slow=6.4,SNR=4.0						

IDC 01 20:59:54.8±2.4, 756S×15596E, h0km, mb4.7/5, mb1 4.7/5, mb1mx4.6/14, mbtmp4.7/5, Error ellipse: s-maj=88.0km s-min=38.3km az=103.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**26.53**	**230**	P	P	21 05 34.5	+0.1
	2.8nm,0.5s,baz=58,slow=9.8,SNR=1.2						
KSRS	**Korea Array**	**51.88**	**332**	P	P	21 09 05.2	0.0
	2.4nm,0.7s,baz=142,slow=6.8,SNR=3.1						
SONM	**Songino Array**	**70.33**	**327**	P	P	21 11 10.9	+0.7
	8.6nm,0.8s,baz=126,slow=6.5,SNR=2.8						
MKAR	**Makanchi Array**	**84.46**	**319**	P	P	21 12 29.6	+0.1
	15nm,0.7s,baz=107,slow=6.3,SNR=4.6						
ZALV	**Zalesovo Beam**	**85.18**	**326**	P	P	21 12 32.2	-0.7
	6.7nm,0.7s,baz=116,slow=6.4,SNR=2.4						
AKASG	**Malin Array Be**	**118.55**	**325**	PKP	PKPdf	21 18 44.3	-0.4
	0.9nm,0.6s,baz=49,slow=2.6,SNR=3.1						
GERES	**GERESS Array B**	**128.03**	**329**	PKP	PKPdf	21 19 03.2	+0.3
	1.6nm,0.8s,baz=64,slow=2.3,SNR=2.9						

*NEIC **01** 21:02:19.2, 3164S×7192W, h26km, ML3.9(GUC), After GUC.*
GUC 01 21:02:19.2±0.9, 3164S×7192W, h26km±4km, MD4.0, ML3.9, 8C-9D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHNG	**Los Chungos**	**0.43**	**125**	⇓*iP*	Pb	21 02 10.5	-18
CHNG				*i* S	Sb	21 02 16.6	-18
CHNG				AML	AML	21 02 17.5	
	comp=N,5μm,0.4s						
PACH	**Papudo**	**0.99**	**156**	⇑*iP*	Pn	21 02 36.9	-0.4
PACH				*i* S	Sb	21 02 50.7	+0.5
PTCH	**Petorca**	**1.05**	**127**	⇑*iP*	Pn	21 02 37.7	-0.5
PTCH				*i* S	Sn	21 02 51.9	0.0
PTCH	**Petorca**	**1.05**	**127**	⇑*iP*	Pn	21 02 37.7	-0.5
PTCH				*i* S	Sn	21 02 51.9	0.0
PTCH				AML	AML	21 02 55.4	
	comp=E,1μm,0.2s						
OVCH	**Ovalle**	**1.20**	**31**	⇓*iP*	Pn	21 02 39.8	-0.4
OVCH				*i* S	Sn	21 02 55.7	+0.1
OVCH	**Ovalle**	**1.20**	**31**	⇓*iP*	Pn	21 02 39.8	-0.4
OVCH				*i* S	Sn	21 02 55.7	+0.1
OVCH				AML	AML	21 02 59.3	
	comp=N,5μm,0.3s						
IHA	**Instituto Hidr**	**1.40**	**170**	⇑*iP*	Pn	21 02 43.2	+0.1
IHA				*i* S	Sn	21 03 01.0	+0.2
JACH	**Jahuel**	**1.53**	**133**	⇑*iP*	Pn	21 02 46.1	+1.2
ROCH	**El Roble**	**1.54**	**150**	*i P*	Pn	21 02 46.2	+1.3
ROCH				*e*S	Sn	21 03 05.8	+1.8
TLL	**Tololo Astrono**	**1.75**	**33**	⇓*iP*	Pn	21 02 49.5	+1.7
TLL				*i* S	Sn	21 03 12.3	+3.1
TLL	**Tololo Astrono**	**1.75**	**33**	⇓*iP*	Pn	21 02 49.5	+1.7
TLL				*i* S	Sn	21 03 12.3	+3.1
TLL				AML	AML	21 03 19.1	
	comp=N,2μm,0.8s						
LSCH	**La Serena**	**1.82**	**19**	*eP*	Pn	21 02 49.8	+1.1
LSCH				*i* S	Sn	21 03 13.0	+2.0
LSCH	**La Serena**	**1.82**	**19**	*eP*	Pn	21 02 49.8	+1.1
LSCH				*i* S	Sn	21 03 13.0	+2.0
LSCH				AML	AML	21 03 20.6	
	comp=N,495nm,0.3s						
PEL	**Peldehue**	**1.83**	**146**	⇓*iP*	Pn	21 02 50.0	+1.1
PEL				*i* S	Sn	21 03 13.4	+2.2
PEL				AML	AML	21 03 19.5	
	comp=N,4μm,0.4s						
DSCH	**Colegio Aleman**	**2.09**	**147**	*eP*	Pn	21 02 53.1	+0.6
DSCH				*i* S	Sn	21 03 19.9	+2.1
DSCH	**Colegio Aleman**	**2.09**	**147**	*eP*	Pn	21 02 53.1	+0.6
DSCH				*i* S	Sn	21 03 19.9	+2.1
DSCH				AML	AML	21 03 25.6	
	comp=N,422nm,0.3s						
CLCH	**Cerro Calan**	**2.11**	**147**	*eP*	Pn	21 02 54.8	+2.0
CLCH				*i* S	Sn	21 03 21.2	+3.2
CLCH	**Cerro Calan**	**2.11**	**147**	*eP*	Pn	21 02 54.8	+2.0
CLCH				*i* S	Sn	21 03 21.2	+3.2
CLCH				AML	AML	21 03 29.6	
	comp=E,4μm,0.5s						
TACH	**Talagante**	**2.17**	**158**	⇑*iP*	Pn	21 02 55.1	+1.5
ANTU	**Antumapu**	**2.21**	**151**	*eP*	Pn	21 02 55.9	+1.7
ANTU				AML	AML	21 03 34.6	
	comp=E,1μm,0.3s						
PCH	**Pirque**	**2.31**	**149**	⇑*iP*	Pn	21 02 56.8	+1.3
PCH				*i* S	Sn	21 03 25.1	+2.2
LNV	**Longovilo**	**2.35**	**170**	⇓*iP*	Pn	21 02 56.1	0.0
CHCH	**Chadas Angostu**	**2.52**	**155**	*eP*	Pn	21 02 59.8	+1.3
LMEL	**Las Melosas**	**2.63**	**147**	⇓*iP*	Pn	21 03 01.8	+1.8
LMEL				*i* S	Sn	21 03 34.5	+3.3
LMEL	**Las Melosas**	**2.63**	**147**	⇓*iP*	Pn	21 03 01.8	+1.8
LMEL				*i* S	Sn	21 03 34.5	+3.3
LMEL				AML	AML	21 03 47.4	
	comp=N,999nm,0.3s						
CACH	**El Canelo**	**2.71**	**156**	*eP*	Pn	21 03 03.2	+2.2
CICH	**Cipreses**	**2.96**	**155**	*i P*	Pn	21 03 06.3	+1.9
SFDO	**San Fernando**	**3.06**	**166**	⇑*iP*	Pn	21 03 06.9	+1.0
VACH	**Vallenar**	**3.21**	**18**	*eP*	Pn	21 03 10.2	+2.3
VACH				*i* S	Sn	21 03 49.0	+3.7
VACH	**Vallenar**	**3.21**	**18**	*eP*	Pn	21 03 10.2	+2.3
VACH				*i* S	Sn	21 03 49.0	+3.7
VACH				AML	AML	21 04 01.5	
	comp=E,2μm,0.3s						

*IDC **01** 21:02:36.0±0.5, 723S×155.59E, h0km, mb4.9/15, mb1 5.0/15, mb1mx5.0/19, mbtmp4.9/15, Error ellipse: s-maj=25.1km s-min=15.1km az=81.0*
*NEIC **01** 21:02:37.1±0.2, 703S×156.18E, h10km, mb5.2/10, Error ellipse: s-maj=27.8km s-min=9.8km az=67.0*
*ISCJB **01** 21:02:39.7±0.3, 7.16S±006×155.70E±008, h33km, mb5.1/32, Error ellipse: s-maj=10.9km s-min=8.6km az=161.7*
*MOS **01** 21:02:40.4±0.6, 707S×155.74E, h33km, mb5.4/5, Error ellipse: s-maj=21.8km s-min=11.6km az=96.8*
ISC 01 21:02:43.4±3.4, 719S±008×1556E±008, h51km±31km, n101, σ0 92/48, mb5.1/32, 1D, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.77**	**118**	Pn	**Pn**	**21 03 45.5**	**-7.3**
CTAO	**Charters Tower**	**15.75**	**215**	*eP*	**Pn**	**21 06 22.6**	**+0.6**
WRA	**Warramunga Arr**	**24.27**	**236**	P	**P**	**21 07 52.7**	**-3.4**
	356nm,1.1s,mb5.7,baz=68,slow=9.2,SNR=0.4						
ASAR	**Alice Springs**	**26.56**	**230**	P	**P**	**21 08 14.8**	**-2.1**
	2.2nm,0.5s,mb4.0,baz=57,slow=10,SNR=4.6						
TAU	**Tasmania Unive**	**36.33**	**190**	*eP*	**P**	**21 09 42.7**	**+0.3**
	5.4nm,0.6s,mb4.7						
TAU	**Tasmania Unive**	**36.33**	**190**	*eP*	**P**	**21 09 42.7**	**+0.3**
TAU				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.6						
URZ	**Urewera**	**36.50**	**151**	P	**P**	**21 09 44.4**	**+0.5**
	comp=Z,7.4nm,0.6s,mb4.7,baz=32,slow=5.6,SNR=7.3						
RPZ	**Rata Peaks**	**38.80**	**162**	P	**P**	**21 10 03.0**	**-0.2**
	comp=Z,16nm,0.8s,mb4.8,baz=49,slow=18,SNR=5.4						
KKM	**Kota Kinabalu**	**41.52**	**287**	*eP*	**P**	**21 10 26.8**	**+0.6**
NACB	**Ninganchiao**	**45.59**	**314**	P	**P**	**21 10 57.7**	**-1.1**
KSM	**Kuching**	**46.09**	**279**	*eP*	**P**	**21 11 03.2**	**+0.3**
MJAR	**Matsushiro Arr**	**46.49**	**341**	P	**P**	**21 11 05.3**	**-0.4**
	comp=Z,4.5nm,0.7s,mb4.5,baz=166,slow=8.2,SNR=7.8						
MAJO	**Matsushiro**	**46.49**	**341**	*eP*	**P**	**21 11 05.6**	**-0.1**
	comp=Z,18nm,0.6s,

TLY	Talaya	73.58	329	P	P	21 14 14.4	+3.3
	comp=Z,20nm,1.3s,mb4.9						
TLY	Talaya	73.58	329	P	P	21 14 14.4	+3.3
TLY				pmax	pmax		
	comp=Z,21nm,1.3s,mb4.9						
BILL	Bilibino	75.43	4	*e*P	P	21 14 20.4	-1.2
	comp=Z,50nm,1.1s,mb5.4						
BILL	Bilibino	75.43	4⇓	*e*P	P	21 14 21.5	0.0
BILL				pmax	pmax		
	comp=Z,22nm,0.7s,mb5.2						
JIRN	Jiri	75.47	301	*e*P	P	21 14 23.2	+0.5
	comp=Z,55nm,0.7s,mb5.6						
PALK	Pallekele	76.15	279	*e*P	P	21 14 27.7	+0.9
	comp=Z,6.2nm,0.9s,mb4.5						
KKN	Kakani	76.28	301	*e*P	P	21 14 27.4	+0.1
	comp=Z,56nm,0.8s,mb5.5						
GKN	Gorkha	76.89	301	*e*P	P	21 14 30.6	-0.1
	comp=Z,64nm,0.7s,mb5.7						
KDAK	Kodiak Island	77.05	26	P	P	21 14 29.8	-1.1
	comp=Z,4.9nm,0.7s,mb4.5,baz=195,slow=4.7,SNR=3.6						
KOLN	Koldanda	77.71	300	*e*P	P	21 14 35.2	-0.1
	comp=Z,66nm,0.9s,mb5.6						
MCK	McKinley	81.98	22	*e*P	P	21 14 55.8	-1.8
QSPA	South Pole Qui	82.78	180	P	P	21 15 01.8	+0.2
	comp=Z,11nm,0.6s,mb5.0,baz=338,slow=0.2,SNR=8.3						
MKAR	Makanchi Array	84.00	319	P	P	21 15 09.0	+0.6
MKAR	Makanchi Array	84.00	319	P	P	21 15 09.0	+0.6
	comp=Z,24nm,0.7s,mb5.5,baz=102,slow=6.0,SNR=18						
MAW	Mawson	84.48	203	P	P	21 15 11.2	+0.7
	comp=Z,11nm,0.6s,mb5.2,baz=106,slow=7.9,SNR=13						
ZALV	Zalesovo Beam	84.73	326	P	P	21 15 11.7	-0.2
	comp=Z,17nm,0.6s,mb5.4,baz=117,slow=5.3,SNR=15						
ZAL	Zalesovo	84.73	326	P	P	21 15 11.7	-0.3
UCH	Uchtor	88.29	313	P	P	21 15 31.8	+2.1
	comp=Z,9.7nm,0.8s,mb5.1						
NVAR	Mina Array Bea	91.31	52	P	P	21 15 44.8	+1.0
	comp=Z,3.1nm,1.1s,mb4.6,baz=258,slow=7.9,SNR=3.1						
YKA	Yellowknife Ar	96.19	28	P	P	21 16 05.2	-0.5
	comp=Z,2.9nm,0.8s,mb4.8,baz=269,slow=4.6,SNR=5.8						
ARCES	ARCESS Array B	109.97	343	PKiKP	PKiKP	21 21 08.5	-0.2
	comp=Z,2.6nm,0.6s,baz=78,slow=1.4,SNR=10						
KIV	Kislovodsk	111.47	314	*e*PKIKP	PKiKP	21 21 08.5	-3.8
KIV				pmax	pmax		
	comp=Z,20nm,1.1s						
MOS	Moscow	111.50	328	*e*PKIKP	PKiKP	21 21 04.0	-8.0
KAF	Kangasniemi	113.94	337	*e*pkp	PKiKP	21 21 12.0	-4.4
FINES	FINESS Array B	114.40	336	PKiKP	PKiKP	21 21 16.8	-0.5
	comp=Z,3.8nm,0.8s,baz=100,slow=2.6,SNR=7.6						
KMBO	Kilima Mbogo	118.03	265	PKPdf	PKPdf	21 21 30.4	+4.6
AKASG	Malin Array Be	118.10	325	PKP	PKPdf	21 21 24.1	-0.6
	comp=Z,3.8nm,0.7s,baz=48,slow=2.4,SNR=11						
NB2	NORSAR Subarra	120.11	341	PKPdf	PKPdf	21 21 26.8	-1.5
	comp=Z,2.0nm,0.6s,baz=39,slow=1.9						
NOA	NORSAR Array B	120.11	341	PKP	PKPdf	21 21 27.5	-0.8
NOA	NORSAR Array B	120.11	341	PKP	PKPdf	21 21 27.5	-0.8
	comp=Z,4.3nm,0.6s,baz=45,slow=2.0,SNR=16						
CLL	Collm	126.31	332	*i* P	PKPdf	21 21 41.0	+0.5
CLL	Collm	126.31	332	*i* PKIKP	PKPdf	21 21 41.0	+0.5
CLL				pmax	pmax		
	comp=Z,16nm,0.9s						
CLL	Collm	126.31	332	*i* PKPdf	PKPdf	21 21 41.0	+0.5
	comp=Z,16nm,0.9s						
GERES	GERESS Array B	127.57	329	PKP	PKPdf	21 21 43.6	+0.6
	comp=Z,5.1nm,0.7s,baz=88,slow=1.6,SNR=12						
LPAZ	La Paz	130.76	119	PKP	PKPdf	21 21 50.0	0.0
	comp=Z,3.9nm,0.9s,baz=51,slow=3.1,SNR=4.2						
GIVF	Givet	130.79	336	*e*PKIKP	PKPdf	21 21 49.0	-0.1
CDF	Champ du Feu	130.99	332	*e*PKIKP	PKPdf	21 21 49.3	-0.2
BAIF	Baives	131.07	336	*e*PKIKP	PKPdf	21 21 49.5	-0.2
	comp=Z,9.9nm,0.8s						
HINF	Hinteralfeld	131.61	332	*e*PKIKP	PKPdf	21 21 50.6	-0.1
	comp=Z,30nm,1.1s						
HAU	Haudompre	131.71	333	*e*PKIKP	PKPdf	21 21 50.8	-0.1
	comp=Z,11nm,0.7s						
MEZF	Maizieres J'vi	131.91	334	*e*PKIKP	PKPdf	21 21 51.0	-0.3
	comp=Z,31nm,1.1s						
CABF	La Chapelle	132.85	332	*e*PKIKP	PKPdf	21 21 52.9	-0.2
	comp=Z,32nm,1.0s						
LPL	La Plagne	133.33	330	*e*PKIKP	PKPdf	21 21 54.1	0.0
	comp=Z,24nm,1.1s						
LPG	La Plagne	133.33	330	*e*PKIKP	PKPdf	21 21 54.2	+0.1
	comp=Z,16nm,0.8s						
LOR	Lormes	133.37	334	*e*PKIKP	PKPdf	21 21 54.2	+0.1
	comp=Z,19nm,1.0s						
SSF	Saint Saulge	133.69	334	*e*PKIKP	PKPdf	21 21 54.0	-0.7
	comp=Z,25nm,1.1s						
SMF	Signal de Mont	133.86	333	*e*PKIKP	PKPdf	21 21 54.8	-0.2
	comp=Z,22nm,1.1s						
MBDF	Montbardon	133.87	329	*e*PKIKP	PKPdf	21 21 55.0	-0.1
	comp=Z,6.9nm,0.8s						
FLN	La Foliniere	133.93	338	*e*PKIKP	PKPdf	21 21 54.9	-0.2
	comp=Z,37nm,0.8s						
AVF	Avril sur Loir	133.96	334	*e*PKIKP	PKPdf	21 21 54.9	-0.3
SDV	Santo Domingo	134.13	85	PKP	PKPdf	21 21 55.9	-0.5
	comp=Z,11nm,0.7s,baz=306,slow=5.4,SNR=8.2						
PGF	Pioggiola	134.15	326	*e*PKIKP	PKPdf	21 21 55.2	-0.5
	comp=Z,58nm,0.9s						
ORIF	Oris-en-Rattie	134.18	330	*e*PKIKP	PKPdf	21 21 55.6	-0.1
	comp=Z,8.2nm,0.6s						
BGF	Bois d'Agland	134.37	334	*e*PKIKP	PKPdf	21 21 55.8	-0.2
	comp=Z,24nm,0.9s						
GRR	Gorron	134.38	338	*e*PKIKP	PKPdf	21 21 55.7	-0.2
	comp=Z,17nm,0.7s						
FRF	La Foret Royal	134.75	328	*e*PKIKP	PKPdf	21 21 56.4	-0.4
VIVF	Saint-Julien-l	134.81	331	*e*PKIKP	PKPdf	21 21 56.5	-0.4
TCF	Toulx Ste Croi	134.85	334	*e*PKIKP	PKPdf	21 21 56.5	-0.4
	comp=Z,23nm,0.9s						
LMR	La Mourre	134.97	328	*e*PKIKP	PKPdf	21 21 56.9	-0.3
SMRF	Simiane la Rot	135.00	329	*e*PKIKP	PKPdf	21 21 57.0	-0.2
SGMF	Saint Gilles	135.11	339	*e*PKIKP	PKPdf	21 21 57.1	-0.2
	comp=Z,132nm,1.5s						
MFF	Saint Martin d	135.58	336	*e*PKIKP	PKPdf	21 21 58.0	-0.2
	comp=Z,17nm,0.9s						
QUIF	Quistinic	135.61	340	*e*PKIKP	PKPdf	21 21 58.0	-0.2
LASF	Ste Croix	135.78	331	*e*PKIKP	PKPdf	21 21 58.3	-0.4
	comp=Z,21nm,0.9s						
SIV	San Ignacio	136.93	123	PKP	PKPdf	21 22 01.0	-0.7
	baz=270,slow=5.1						
MTLF	Montolieu	137.12	331	*e*PKIKP	PKPdf	21 22 00.5	-0.7
ETSF	Etsaut	138.74	333	*e*PKIKP	PKPdf	21 22 03.7	-0.5
	comp=Z,52nm,1.1s						
SJPF	Ste Jean	138.86	334	*e*PKIKP	PKPdf	21 22 03.9	-0.5
ESDC	Sonseca Array	142.85	334	PKhKP		21 22 07.9	
	comp=Z,1.2nm,0.6s,baz=26,slow=2.4,SNR=4.2						
EVO	Evora	145.50	337	*e*PKIKP	PKPdf	21 22 16.6	+0.2
	comp=Z,31nm,0.8s						
MDT	Midelt	148.62	327	PKPbc	PKPbc	21 22 24.5	-0.9
	comp=Z,13nm,0.8s,baz=49,slow=3.2,SNR=10						
TORD	Torodi Ar. Bea	153.74	285	PKPbc	PKPbc	21 22 37.0	-0.9
	comp=Z,3.1nm,0.7s,baz=104,slow=1.1,SNR=3.4						
TORD				PKPab	PKPab	21 22 48.7	-2.2
	comp=Z,1.8nm,0.7s,baz=80,slow=2.3,SNR=2.9						
DBIC	Dimbokro	160.68	270	PKPab	PKPab	21 23 21.2	+0.3
	comp=Z,3.5nm,0.8s,baz=94,slow=6.0,SNR=4.8						

*IDC **01** 21:03:02.8±0.6, 726S×15565E, h0km, mb5.2/16, mb1 5.2/17, mb1mx5.2/20, mbtmp5.2/17, ML5.3/1, Error ellipse: s-maj=23.1km s-min=16.0km az=88.0*
*ISCJB **01** 21:03:06.4±0.4, 725S±007×15561E±007, h33km, mb5.2/29, Error ellipse: s-maj=12.0km s-min=8.1km az=44.2*
*MOS **01** 21:03:06.5±0.7, 723S×15564E, h33km, mb5.5/19, Error ellipse: s-maj=17.5km s-min=10.6km az=112.0*

ISC 01 21:03:08.6±0.4, 725S±007×15556E±008, h35km, n65, σ0°78/46, mb5.2/29, 6C-2D, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	4.85	117	P	Pn	21 04 17.5	-1.7
HNR				pmax	pmax		
	comp=Z,120nm,0.3s						
HNR	Honiara	4.85	117	Pn	Pn	21 04 17.5	-1.7
	comp=Z,120nm,0.3s,baz=89,slow=18,SNR=2.3						
GUMO	Guam	23.26	333	P	P	21 08 12.2	-1.1
GUMO				pmax	pmax		
	comp=Z,130nm,0.9s,mb5.4						
GUMO	Guam	23.26	333	P	P	21 08 12.2	-1.2
	comp=Z,130nm,0.9s,mb5.4,baz=324,slow=8.7						
WRA	Warramunga Arr	24.14	236	P	P	21 08 22.1	+0.5
WRA				pmax	pmax		
	comp=Z,160nm,0.9s						
WRA	Warramunga Arr	24.14	236	P	P	21 08 22.1	+0.5
	comp=Z,160nm,0.9s,mb5.4,baz=69,slow=8.5,SNR=4.5						
ASAR	Alice Springs	26.43	229	P	P	21 08 41.7	-0.6
ASAR				pmax	pmax		
	comp=Z,6.0nm,0.6s						
ASAR	Alice Springs	26.43	229	P	P	21 08 41.7	-0.6
	comp=Z,6.1nm,0.6s,mb4.3,baz=66,slow=9.1,SNR=4.7						
FITZ	Fitzroy Crossi	31.07	247	P	P	21 09 24.2	+0.5
	comp=Z,21nm,0.5s,mb5.2,baz=90,slow=3.8,SNR=2.9						
JOW	Kunigami	42.98	323	P	P	21 11 05.3	+0.7
	comp=Z,13nm,0.7s,mb4.8,baz=156,slow=13,SNR=4.1						
JNU	Nakatsue	46.50	331	P	P	21 11 31.4	-1.3
	comp=Z,22nm,0.8s,mb5.1,baz=124,slow=10,SNR=3.8						
MJAR	Matsushiro Arr	46.50	341	P	P	21 11 31.5	-1.1
MJAR						21 13 03.6	
MJAR				pmax	pmax		
	comp=Z,12nm,0.7s						
MJAR				pmax	pmax		
	comp=Z,13nm,0.7s						
MJAR	Matsushiro Arr	46.50	341	P	P	21 11 31.5	-1.1
	comp=Z,12nm,0.7s,mb5.0,baz=165,slow=7.8,SNR=12						
MJAR				PcP	PcP	21 13 03.6	-3.0
	comp=Z,13nm,0.7s,baz=157,slow=4.6,SNR=9.2						
MAT	Matsushiro	46.50	341	P	P	21 11 31.7	-0.9
KSRS	Korea Array	51.42	332	P	P	21 12 10.7	+0.4
	comp=Z,19nm,0.8s,mb5.1,baz=148,slow=8.0,SNR=16						
KSRS				PcP	PcP	21 13 25.1	+0.6
	comp=Z,3.6nm,0.7s,baz=141,slow=4.7,SNR=4.7						
ASAJ	Asahikawa	52.45	348	P	P	21 12 18.9	+1.1
ASAJ				pmax	pmax		
	comp=Z,54nm,0.8s						
ASAJ	Asahikawa	52.45	348	P	P	21 12 18.9	+1.1
	comp=Z,54nm,0.8s,mb5.5,baz=226,slow=11,SNR=13						
TVO	Taravao	54.71	107	*e*P	P	21 12 35.9	+1.0
	comp=Z,30nm,0.7s,mb5.4						
YSS	Yuzh-Sakhalins	55.15	349⇑	*e*P	P	21 12 37.9	+0.4
YSS				pmax	pmax		
	comp=Z,82nm,1.0s,mb5.7						
PMOR	Pomariorio Ree	55.89	103	*e*P	P	21 12 44.0	+0.6
	comp=Z,47nm,0.8s,mb5.6						
VAH	Vaihoa	56.15	103	*e*P	P	21 12 45.6	+0.3
	comp=Z,50nm,1.1s,mb5.5						
MA2	Magadan	66.71	357	*e*P	P	21 13 55.5	-0.3
MA2				pmax	pmax		
	comp=Z,40nm,0.9s,mb5.5						
CLNS	Chul'man	68.63	342	*e*P	P	21 14 07.9	-0.1
CLNS				pmax	pmax		
	comp=Z,68nm,0.9s,mb5.6						
CLNS				pmax	pmax		
	comp=N,26nm,0.8s						
CLNS				pmax	pmax		
	comp=E,12nm,0.8s						
SONM	Songino Array	69.85	327	P	P	21 14 16.7	+1.0
SONM				pmax	pmax		
	comp=Z,32nm,0.8s						
SONM	Songino Array	69.85	327	P	P	21 14 16.7	+1.0
	comp=Z,32nm,0.8s,mb5.3,baz=145,slow=5.9,SNR=12						
SEY	Seymchan	70.02	358⇑	*e*P	P	21 14 16.6	+0.2
VNDA	Vanda	70.32	179	P	P	21 14 17.8	-0.4
VNDA				pmax	pmax		
	comp=Z,6.0nm,0.9s						
VNDA	Vanda	70.32	179	P	P	21 14 17.8	-0.4
	comp=Z,5.9nm,0.8s,mb4.5,baz=330,slow=4.2,SNR=3.7						
YAK	Yakutsk	71.92	347⇑	*e*P	P	21 14 29.1	+1.1
YAK				pmax	pmax		
	comp=Z,64nm,0.8s,mb5.6						
ZAK	Zakamensk	73.00	328	*e*P	P	21 14 34.8	+0.1
ZAK				*e*		21 14 56.6	
ZAK				pmax	pmax		
	comp=Z,13nm,1.3s,mb4.7						
BOD	Bodaibo	73.06	338	*e*P	P	21 14 34.7	-0.1
BOD				pmax	pmax		
	comp=Z,25nm,0.8s,mb5.2						
TLY	Talaya	73.56	329⇑	*e*P	P	21 14 38.0	0.0
TLY				pmax	pmax		
	comp=Z,13nm,0.6s,mb5.0						
BILL	Bilibino	75.49	4⇓	*i*P	P	21 14 49.1	+0.3
BILL					pP	21 14 58.0	-1.8
BILL				pmax	pmax		
	comp=Z,53nm,1.0s,mb5.4						
TIXI	Tiksi	80.68	352⇓	*e*P	P	21 15 18.2	+0.6
TIXI				pmax	pmax		
	comp=Z,12nm,1.0s,mb4.8						
MKAR	Makanchi Array	83.96	319	P	P	21 15 35.8	+0.6
MKAR				pmax	pmax		
	comp=Z,59nm,0.8s						
MKAR	Makanchi Array	83.96	319	P	P	21 15 35.8	+0.6
	comp=Z,58nm,0.8s,mb5.8,baz=102,slow=6.3,SNR=19						
MAW	Mawson	84.38	203	P	P	21 15 37.1	+0.1
MAW				pmax	pmax		
	comp=Z,36nm,0.9s						
MAW	Mawson	84.38	203	P	P	21 15 37.1	+0.1
	comp=Z,36nm,0.9s,mb5.5,baz=83,slow=5.4,SNR=11						
ZALV	Zalesovo Beam	84.70	326	P	P	21 15 38.3	-0.5
	comp=Z,46nm,0.8s,mb5.7,baz=113,slow=5.8,SNR=20						
KURK	Kurchatov	87.38	322⇑	*e*P	P	21 15 51.4	-0.7
AAK	Ala-Archa	88.33	313⇑	*e*P	P	21 15 56.2	-0.7
KK31	Karatay Array	91.30	313	*i* P	P	21 16 04.7	-6.0
KK31				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb5.2						
NVAR	Mina Array Bea	91.43	52	P	P	21 16 12.8	+1.3
	comp=Z,1.3nm,0.8s,mb4.3,baz=249,slow=7.6,SNR=2.3						
NVAR				PKKPbc	PKKPbc	21 33 32.7	-0.9
	comp=Z,1.8nm,0.9s,baz=90,slow=2.7,SNR=2.8						
CHKZ	Chkalovo	92.79	324	*i* P	P	21 16 13.5	-3.9
CHKZ				pmax	pmax		
	comp=Z,300nm,6.0s						
YKA	Yellowknife Ar	96.29	28	P	P	21 16 32.1	-1.1
YKA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
YKA	Yellowknife Ar	96.29	28	P	P	21 16 32.1	-1.1
	comp=Z,2.2nm,0.7s,mb4.7,baz=267,slow=4.6,SNR=4.7						
AKTO	Aktyubinsk	100.35	320	P	Pdif	21 16 50.0	-1.6
AKTO				pmax	pmax		
	comp=Z,2.0nm,0.7s						
AKTO	Aktyubinsk	100.35	320	P	Pdif	21 16 50.0	-1.6
	comp=Z,2.2nm,0.7s,baz=181,slow=3.6,SNR=3.5						
ARCES	ARCESS Array B	109.99	343	PKiKP	PKiKP	21 21 35.4	-0.5
	comp=Z,3.9nm,0.8s,baz=13,slow=1.2,SNR=5.1						
FINES	FINESS Array B	114.39	336	*i* PKIKP	PKiKP	21 21 43.2	-1.2
FINES				pmax	pmax		
	comp=Z,4.0nm,0.8s						
FINES	FINESS Array B	114.39	336	PKiKP	PKiKP	21 21 43.2	-1.2
	comp=Z,4.0nm,0.8s,baz=74,slow=2.0,SNR=4.8						
AKASG	Malin Array Be	118.07	325	PKIKP	PKPdf	21 21 50.7	-1.1
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.5s						
AKASG	Malin Array Be	118.07	325	PKP	PKPdf	21 21 50.7	-1.2
	comp=Z,2.2nm,0.5s,baz=49,slow=2.4,SNR=10						
NOA	NORSAR Array B	120.12	341	PKIKP	PKPdf	21 21 54.8	-0.7
NOA				pmax	pmax		
	comp=Z,4.0nm,0.7s						
NOA	NORSAR Array B	120.12	341	PKP	PKPdf	21 21 54.8	-0.7
	comp=Z,4.4nm,0.7s,baz=45,slow=1.9,SNR=11						
CLL	Collm	126.30	332	*i* (PKPdf)	PKPdf	21 22 07.9	+0.3
GERES	GERESS Array B	127.56	329	PKIKP	PKPdf	21 22 09.6	-0.5
GERES				pmax	pmax		
	comp=Z,3.0nm,0.9s						
GERES	GERESS Array B	127.56	329	PKP	PKPdf	21 22 09.6	-0.5
	comp=Z,3.4nm,0.9s,baz=74,slow=1.9,SNR=6.0						
LPAZ	La Paz	130.84	119	PKIKP	PKPdf	21 22 17.4	+0.1
LPAZ				pmax	pmax		
	comp=Z,7.0nm,0.9s						
LPAZ	La Paz	130.84	119	PKP	PKPdf	21 22 17.4	+0.1
	comp=Z,6.6nm,0.9s,baz=322,slow=2.6,SNR=5.3						
SDV	Santo Domingo	134.25	85	PKP	PKPdf	21 22 22.7	-1.1
	comp=Z,6.7nm,0.8s,baz=98,slow=0.7,SNR=3.9						
ESDC	Sonseca Array	142.85	333	PKhKP		21 22 34.9	
	comp=Z,3.8nm,0.8s,baz=25,slow=2.8,SNR=7.7						
MDT	Midelt	148.59	327	PKPbc	PKPbc	21 22 53.2	+0.6
	comp=Z,14nm,0.8s,baz=24,slow=4.0,SNR=6.5						
DBIC	Dimbokro	160.55	270	PKPab	PKPab	21 23 46.8	-0.6
	comp=Z,5.4nm,0.6s,baz=76,slow=5.7,SNR=7.4						
BBTS	Babate	169.30	314	PKPab	PKPab	21 24 25.0	-0.6
	comp=Z,29nm,1.1s,baz=63,slow=2.7,SNR=3.5						

IDC 01 21:04:34.4±1.5, 787S×15462E, h0km, mb4.8/7, mb1 4.7/7, mb1mx4.6/16, mbtmp4.8/7, Error ellipse: s-maj=67.3km s-min=28.9km az=92.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	Alice Springs	25.32	229	P	P	21 10 02.2	-0.8
	2.5nm,0.8s,baz=57,slow=8.7,SNR=0.8						
KSRS	Korea Array	51.54	333	P	P	21 13 42.1	-0.1
	4.5nm,0.9s,baz=150,slow=6.9,SNR=3.0						
ASAJ	Asahikawa	52.87	349	P	P	21 13 52.2	+0.2
	15nm,0.8s,baz=213,slow=9.4,SNR=3.7						
SONM	Songino Array	69.87	328	P	P	21 15 48.6	+1.6
	9.9nm,1.0s,baz=133,slow=6.3,SNR=3.2						
QSPA	South Pole Qui	82.11	180	P	P	21 16 58.9	+2.4
	12nm,1.0s,baz=79,slow=3.0,SNR=2.7						
MKAR	Makanchi Array	83.81	319	P	P	21 17 07.2	+1.4
	17nm,0.8s,baz=101,slow=6.4,SNR=5.0						
ZALV	Zalesovo Beam	84.69	326	P	P	21 17 09.5	-0.6
	12nm,0.8s,baz=103,slow=6.5,SNR=5.6						
AKASG	Malin Array Be	118.03	324	PKP	PKPdf	21 23 21.7	-1.6
	1.0nm,0.7s,baz=47,slow=2.6,SNR=2.9						
NOA	NORSAR Array B	120.39	340	PKP	PKPdf	21 23 25.7	-1.8
	1.0nm,0.7s,baz=41,slow=2.1,SNR=3.8						

IDC 01 21:05:26.8±1.6, 725S×15598E, h0km, mb4.6/5, mb1 4.6/5, mb1mx4.4/13, mbtmp4.6/5, Error ellipse: s-maj=60.4km s-min=28.7km az=113.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	24.48	237	P	P	21 10 48.9	+1.0
	612nm,0.9s,baz=64,slow=9.4,SNR=6.6						
ASAR	Alice Springs	26.74	230	P	P	21 11 07.0	-1.3
	1.3nm,0.4s,baz=56,slow=10.0,SNR=1.3						
MJAR	Matsushiro Arr	46.64	340	P	P	21 13 55.8	-1.2
	2.0nm,0.6s,baz=168,slow=7.5,SNR=4.4						
SONM	Songino Array	70.08	327	P	P	21 16 41.7	+1.0
	6.6nm,0.9s,baz=139,slow=6.3,SNR=5.0						
MKAR	Makanchi Array	84.24	318	P	P	21 18 00.9	+0.5
	11nm,0.7s,baz=103,slow=6.0,SNR=5.6						
ZALV	Zalesovo Beam	84.94	326	P	P	21 18 03.0	-0.7
	4.6nm,0.5s,baz=120,slow=5.4,SNR=5.4						
AKASG	Malin Array Be	118.31	325	PKP	PKPdf	21 24 14.7	-1.5
	0.3nm,0.4s,baz=45,slow=2.6,SNR=3.7						
GERES	GERESS Array B	127.77	329	PKP	PKPdf	21 24 34.6	+0.2
	0.8nm,0.6s,baz=18,slow=1.6,SNR=3.6						
SDV	Santo Domingo	133.85	85	PKP	PKPdf	21 24 47.0	0.0
	2.0nm,0.7s,baz=311,slow=11,SNR=2.0						
MDT	Midelt	148.82	327	PKPbc	PKPbc	21 25 17.8	+0.8
	3.6nm,0.7s,baz=32,slow=2.9,SNR=4.3						

*ISCJB **01** 21:06:12.8±1.0, 3839N±004×2045E±008, h2km, Error ellipse: s-maj=9.6km s-min=4.4km az=161.8*
*THE **01** 21:06:12.9, 3837N×2045E, h14km, ML3.5*
*ATH **01** 21:06:12.7, 3834N×2040E, h2km, MD3.6/4*
*CSEM **01** 21:06:13.4±0.1, 3836N×2043E, h0km±2km, ML3.5, Error ellipse: s-maj=4.4km s-min=1.6km az=76.0*
*NEIC **01** 21:06:13.3, 3834N×2043E, h4km, MD3.5(ATH), ML3.5(ATH), ML3.5(THE), After ATH.*

ISC 01 21:06:13.0±1.2, 3838N±004×2043E±009, h2km±15km, n10, σ0°77/15, 2C-1D, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	Valsamata	0.24	148⇑	*i*Pg	Pg	21 06 17.6	0.0
VLS				*e*Sg	Sg	21 06 21.2	+0.5
LKD	Levkas	0.37	28	*e*Pg	Pg	21 06 20.9	+0.7
LKD				*e*Sg	Sg	21 06 25.9	+0.9
KFL	Anninata	0.39	134	*e*Pg	Pg	21 06 20.4	-0.1
RLS	Riolos of Patr	0.88	111	⇓*i*PG	Pg	21 06 30.1	+0.3
IGT	Igoumenitsa	1.15	356	*e*Pg	Pg	21 06 35.0	-0.1
IGT				*e*Sg	Sg	21 06 49.4	-0.8
IGT	Igoumenitsa	1.15	356	*e*Pg	Pg	21 06 35.0	-0.2
IGT				*e*Sg	Sg	21 06 49.4	-0.8
SELA	Sela	1.15	95	*e*Pg	Pg	21 06 32.8	-2.3
SELA				*e*Sg	Sg	21 06 50.3	+0.2
EVR	Evrytania	1.21	63⇑	*i*PB	Pb	21 06 36.2	-0.4
KEK	Kerkira	1.42	340	*e*PN	Pn	21 06 40.0	+0.1
KEK	Kerkira	1.42	340	*e*Pn	Pn	21 06 40.7	+0.8

*IDC **01** 21:07:49.4±3.0, 778S×15702E, h0km, mb4.5/9, mb1 4.5/9, mb1mx4.4/16, mbtmp4.5/9, Error ellipse: s-maj=91.8km s-min=24.9km az=110.0*
*NEIC **01** 21:07:50.5±0.3, 775S×157.11E, h10km, mb5.4/8, Error ellipse: s-maj=9.7km s-min=8.0km az=76.0*
*ISCJB **01** 21:07:52.1±0.4, 779S±006×15711E±008, h33km, mb5.0/16, Error ellipse: s-maj=11.1km s-min=8.9km az=170.4*
*MOS **01** 21:07:52.4±1.0, 781S×157.16E, h33km, mb5.3/5, Error ellipse: s-maj=14.8km s-min=11.5km az=115.1*

**ISC 01 21:07:54.2±0.4, 779S±006×15712E±008, h35km, n54, σ1°08/46, mb5.0/16, Bougainville - Solom

TKM2 pmax pmax
comp=Z,17nm,1.3s,mb5.2
UCH Uchtor 89.74 313 P **P 21 20 50.5 +1.5**
AAK Ala-Archa 89.83 313 P **P 21 20 50.1 +0.6**
ISCO Idaho Springs 100.51 51 Pdif Pdif 21 21 39.4 +1.4
SDCO Great Sand Dun 100.55 53 *e*Pdif Pdif 21 21 39.9 +1.9
WMOK Wichita Mounta 105.97 56 PKiKP PKiKP 21 26 15.7 +0.7
AKASG Malin Array Be 119.41 325 PKP PKPdf 21 26 39.3 -0.7
comp=Z,7.8nm,1.0s,baz=51,slow=4.5,SNR=19
KIEV Kiev 119.42 325 *e*PKIKP PKPdf 21 26 39.4 -0.6
NB2 NORSAR Subarra121.13 341 PKPdf PKPdf 21 26 48.8 +5.8
comp=Z,6.8nm,1.2s,baz=41,slow=2.0
NB2 NORSAR Subarra121.13 341 PKPdf PKPdf 21 26 48.8 +5.8
baz=41,slow=2.0
KONO Kongsberg 122.72 341 *e*PKPdf PKPdf 21 26 46.6 +0.6

IDC 01 21:09:07.2±0.9, 732S×15610E, h0km, mb4.8/11, mb1 4.9/11, mb1mx4.8/17, mbtmp4.8/11, Error ellipse: s-maj=35.8km s-min=19.6km az=89.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.54**	**237**	P	P	P	21 14 29.5	+0.7
	25nm,0.8s,baz=61,slow=9.7,SNR=8.4							
ASAR	**Alice Springs**	**26.79**	**230**	P	P	P	21 14 48.4	-0.7
	3.4nm,0.7s,baz=62,slow=8.9,SNR=3.8							
FITZ	**Fitzroy Crossi**	**31.53**	**247**	P	P	P	21 15 31.6	+0.3
	22nm,0.6s,baz=80,slow=2.6,SNR=1.5							
RPZ	**Rata Peaks**	**38.55**	**163**	P	P	P	21 16 31.9	+0.3
	10nm,0.7s,baz=325,slow=12,SNR=3.8							
MJAR	**Matsushiro Arr**	**46.75**	**340**	P	P	P	21 17 38.5	+0.2
	1.3nm,0.7s,baz=159,slow=8.4,SNR=1.7							
KSRS	**Korea Array**	**51.74**	**331**	P	P	P	21 18 15.1	-1.4
	1.7nm,0.7s,baz=153,slow=7.0,SNR=2.7							
SONM	**Songino Array**	**70.20**	**327**	P	P	P	21 20 23.3	+1.4
	51nm,1.1s,baz=146,slow=6.4,SNR=6.2							
QSPA	**South Pole Qui**	**82.66**	**180**	P	P	P	21 21 32.2	+0.2
	9.0nm,0.9s,baz=280,slow=3.7,SNR=5.8							
MKAR	**Makanchi Array**	**84.37**	**318**	P	P	P	21 21 41.5	+0.1
	17nm,0.7s,baz=102,slow=6.5,SNR=12							
MAW	**Mawson**	**84.52**	**203**	P	P	P	21 21 41.7	-0.1
	10nm,0.9s,baz=130,slow=7.5,SNR=4.6							
ZALV	**Zalesovo Beam**	**85.06**	**326**	P	P	P	21 21 44.1	-0.6
	7.3nm,0.5s,baz=119,slow=6.0,SNR=11							
AKASG	**Malin Array Be**	**118.44**	**325**	PKP	PKPdf	21 27 55.6	-1.3	
	1.0nm,0.7s,baz=50,slow=3.4,SNR=2.9							
GERES	**GERESS Array B**	**127.89**	**329**	PKP	PKPdf	21 28 15.6	+0.6	
	0.7nm,0.7s,baz=72,slow=3.2,SNR=2.7							
MDT	**Midelt**	**148.95**	**327**	PKPbc	PKPbc	21 28 57.9	+0.2	
	5.6nm,0.9s,baz=76,slow=4.4,SNR=6.1							

IDC 01 21:09:30.1±0.9, 815S×15685E, h0km, mb4.8/8, mb1 4.9/9, mb1mx4.7/16, mbtmp4.8/9, ML5.2/1, Error ellipse: s-maj=29.1km s-min=22.8km az=157.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**3.32**	**113**	Pn	Pn	Pn	21 10 22.0	-1.3
	275nm,0.3s,baz=297,slow=0.2,SNR=15							
HNR					Sn	Sn	21 11 04.0	+0.5
	933nm,0.3s,baz=264,slow=23,SNR=11							
WRA	**Warramunga Arr**	**24.75**	**239**	P	P	P	21 14 52.9	-0.7
	16nm,0.8s,baz=64,slow=9.8,SNR=3.5							
ASAR	**Alice Springs**	**26.86**	**232**	P	P	P	21 15 12.1	-0.6
	5.5nm,0.9s,baz=60,slow=10.0,SNR=4.5							
STKA	**Stephens Creek**	**27.55**	**209**	P	P	P	21 15 20.5	+1.7
	22nm,0.7s,baz=40,slow=14,SNR=4.2							
QSPA	**South Pole Qui**	**81.84**	**180**	P	P	P	21 21 50.8	+0.1
	23nm,1.0s,baz=349,slow=4.3,SNR=5.4							
MAW	**Mawson**	**84.05**	**203**	P	P	P	21 22 02.3	0.0
	9.5nm,0.8s,baz=36,slow=5.9,SNR=4.3							
ZALV	**Zalesovo Beam**	**86.16**	**326**	P	P	P	21 22 12.8	-0.3
	2.0nm,0.5s,baz=115,slow=3.4,SNR=3.4							
NVAR	**Mina Array Bea**	**90.99**	**51**	P	P	P	21 22 37.5	+1.0
	1.2nm,0.8s,baz=246,slow=5.5,SNR=2.9							
YKA	**Yellowknife Ar**	**96.49**	**28**	P	P	P	21 23 01.1	-0.1
	1.2nm,0.8s,baz=265,slow=4.7,SNR=4.0							
LPAZ	**La Paz**	**129.29**	**119**	PKP	PKPdf	21 28 42.8	+1.2	
	3.2nm,1.0s,baz=344,slow=5.8,SNR=3.9							

IDC 01 21:09:58.7±2.0, 777S×15493E, h0km, mb4.8/9, mb1 4.8/9, mb1mx4.7/16, mbtmp4.8/9, Error ellipse: s-maj=60.7km s-min=25.4km az=114.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.33**	**237**	P	P	P	21 15 07.1	-1.8
	17nm,0.6s,baz=65,slow=9.9,SNR=6.1							
ASAR	**Alice Springs**	**25.62**	**230**	P	P	P	21 15 31.7	+1.7
	1.7nm,0.5s,baz=60,slow=9.9,SNR=1.5							
JHJ	**Hachijo jima 2**	**43.14**	**341**	P	P	P	21 18 00.7	-0.3
	130nm,1.1s,baz=76,slow=19,SNR=2.4							
JNU	**Nakatsue**	**46.66**	**331**	P	P	P	21 18 29.6	+0.5
	17nm,0.8s,baz=78,slow=9.3,SNR=5.3							
KSRS	**Korea Array**	**51.59**	**333**	P	P	P	21 19 06.5	-0.3
	3.7nm,0.7s,baz=150,slow=7.2,SNR=4.5							
SONM	**Songino Array**	**69.95**	**327**	P	P	P	21 21 12.6	+0.8
	8.9nm,0.9s,baz=134,slow=5.1,SNR=2.7							
MKAR	**Makanchi Array**	**83.94**	**319**	P	P	P	21 22 31.0	+0.3
	14nm,0.8s,baz=96,slow=6.2,SNR=6.3							
ZALV	**Zalesovo Beam**	**84.79**	**326**	P	P	P	21 22 34.1	-0.7
	9.3nm,0.7s,baz=121,slow=5.6,SNR=5.5							
YKA	**Yellowknife Ar**	**97.05**	**28**	P	P	P	21 23 31.6	-0.7
	0.7nm,0.6s,baz=264,slow=4.5,SNR=3.2							
MDT	**Midelt**	**148.68**	**326**	PKPbc	PKPbc	21 29 48.7	+0.2	
	3.7nm,0.8s,baz=4.8,slow=1.8,SNR=3.1							

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*ORF **01** 21:11:24.2, 1443S×15830E, h30km, mb6.3*
*IDC **01** 21:11:31.8±0.3, 732S×15581E, h0km, mb6.1/32, mb1 6.0/34, mb1mx6.0/34, mbtmp6.1/34, ML5.4/2, MS7.0/10, Ms1 7.0/10, ms1mx6.6/32, Error ellipse: s-maj=12.3km s-min=9.3km az=67.0*
*CRAAG **01** 21:11:32.7, 735S×15581E, Mb6.4*
*BGS **01** 21:11:32.8±2.0, 731S×15574E, h10km, mb6.3(NEIC)*
*BJI **01** 21:11:32.2, 733S×15633E, h26km, mB7.1, mb6.3, Ms6.9, Msz6.9*
*ISCJB **01** 21:11:32.6±0.1, 733S±003×15575E±002, h10km, mb6.2/146, MS7.0/21, Error ellipse: s-maj=4.3km s-min=2.8km az=3.7*
*NEIC **01** 21:11:33.1±0.1, 731S×15574E, h10km, mb6.3/72, Error ellipse: s-maj=4.9km s-min=4.9km az=167.0*
*GCMT **01** 21:11:33.2±0.3, 746S×15580E, h30km±1km, MW6.9/56, Moment Tensor Solution. s18,c20; s56,c113; Duration: 6s7 Moment tensor: Scale 10^{19}Nm; M_{rr}1.98±.14; $M_{\theta\theta}$-1.03±.08; $M_{\phi\phi}$-0.95±.08; $M_{r\theta}$-0.29±.12; $M_{\theta\phi}$1.26±.04; $M_{\phi r}$-1.41±.12; Best double couple: $M_0$2.55600×10^{19} NP1:ϕ_s291.00000°, δ40.00000°, λ49.00000°. NP2: ϕ_s160.00000°, δ61.00000°, λ119.00000°. Principal axes: T 2.7080, Plg62.0000°, Azm117.0000°; N -0.3020, Plg25.0000°, Azm325.0000°; P -2.4050, Plg11.0000°, Azm229.0000°; nsta1 refers to body waves, cutoff=50s. nsta2 refers to surface/mantle waves, cutoff=50s.*
*IGIL **01** 21:11:34.0, 744S×15577E, h10km*
*MOS **01** 21:11:36.0±1.0, 725S×15579E, h33km, mb6.5/63, MS7.1/8, Error ellipse: s-maj=7.8km s-min=5.8km az=97.7*
ISC 01 21:11:34.9±1.8, 732S±003×15578E±002, h15km±10km, h17km±1.9km:pP-P,n1161,σ=88/592, mb6.3/145, MS7.0/21, 184C-132D, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.62**	**117**	Pn	**Pn**	**Pn**	**21 12 43.6**	**-0.7**
HNR					Sn	**Sn**	**21 13 39.0**	**+1.1**
HNR	**Honiara**	**4.62**	**117**	P	**Pn**	**21 12 43.9**	**-0.4**	
HNR							21 13 33.2	
HNR				pmax	pmax			
	comp=Z,410nm,0.3s							
HNR				MLR	MLR			
	comp=Z,570μm,18.1s							
HNR	**Honiara**	**4.62**	**117**	Pn	**Pn**	**21 12 43.9**	**-0.4**	
	comp=Z,410nm,0.3s,baz=279,slow=3.4,SNR=2.2							
HNR				Sn	**Sn**	**21 13 33.2**	**-4.6**	
	comp=Z,2μm,0.3s,baz=266,slow=11,SNR=4.8							
HNR				LR	LR	21 13 49.0		
	comp=Z,570μm,18.1s,baz=354,slow=30							
CTA	**Charters Tower**	**15.70**	**215**	*e*P		**Pn**	**21 15 18.2**	**+2.5**
	comp=Z,674nm,1.0s							
CTA	**Charters Tower**	**15.70**	**215**	P		**Pn**	**21 15 16.4**	**+0.7**
CTA				pmax	pmax			
	comp=Z,6.0nm,0.3s							
CTA	**Charters Tower**	**15.70**	**215**	Pn		**Pn**	**21 15 16.4**	**+0.7**
	comp=Z,6.1nm,0.3s,baz=37,slow=14,SNR=16							
CTAO	**Charters Tower**	**15.70**	**215**	*e*Pn		**Pn**	**21 15 17.8**	**+2.1**
	comp=Z,1μm,1.1s							
CTAO	**Charters Tower**	**15.70**	**215**	*e*P		**Pn**	**21 15 17.8**	**+2.1**
CTAO				pmax	pmax			
	comp=Z,1μm,1.1s							
FUNA	**Funafuti**	**23.22**	**95**	*e*P		**P**	**21 16 41.0**	**-0.8**
	comp=Z,2μm,1.2s,mb6.5							
ARMA	**Armidale**	**23.30**	**189**	*e*P		**P**	**21 16 42.5**	**0.0**
GUMO	**Guam**	**23.43**	**332**	P		**P**	**21 16 44.8**	**+0.8**
GUMO				pmax	pmax			
	comp=Z,534nm,0.8s,mb6.0							
GUMO				MLR	MLR			
	comp=Z,315μm,19.0s,MS6.8							
GUMO	**Guam**	**23.43**	**332**	P		**P**	**21 16 44.8**	**+0.9**
	comp=Z,534nm,0.8s,mb6.0,baz=182,slow=8.6,SNR=12							
GUMO				LR	LR		21 23 49.9	
	comp=Z,315μm,19.0s,MS6.8,baz=152,slow=32							
KAKA	**Kakadu**	**23.59**	**255**	*e*P		**P**	**21 16 44.5**	**-1.2**
	comp=Z,10μm,2.0s,mb6.9							
WB2	**Warramunga Arr**	**24.27**	**237**	*e*P		**P**	**21 16 51.6**	**-0.2**
WRA	**Warramunga Arr**	**24.28**	**237**	*i* P		**P**	**21 16 51.7**	**-0.2**
WRA				pmax	pmax			
	comp=Z,466nm,0.9s							
WRA	**Warramunga Arr**	**24.28**	**237**	P		**P**	**21 16 51.8**	**-0.1**
	comp=Z,466nm,0.9s,mb5.9,baz=62,slow=9.6,SNR=48							
WRA				LR	LR		21 25 31.5	
	comp=Z,299μm,21.4s,MS6.7,baz=70,slow=34							
ASAR	**Alice Springs**	**26.55**	**230**	P		**P**	**21 17 12.1**	**-0.4**
ASAR							21 20 33.9	
ASAR				pmax	pmax			
	comp=Z,87nm,0.5s							
ASAR	**Alice Springs**	**26.55**	**230**	P		**P**	**21 17 12.1**	**-0.4**
	comp=Z,87nm,0.5s,mb5.5,baz=59,slow=9.9,SNR=9.4							
ASAR				PcP	PcP		21 20 33.9	-3.2
	comp=Z,39nm,1.0s,baz=46,slow=4.0,SNR=2.0							
RIV	**Riverview**	**26.72**	**189**	*e*P		**P**	**21 17 15.5**	**+1.6**
STKA	**Stephens Creek**	**27.78**	**207**	*e*P		**P**	**21 17 22.9**	**-0.5**
	comp=Z,230nm,0.8s,mb5.9							
STKA	**Stephens Creek**	**27.78**	**207**	P		**P**	**21 17 23.1**	**-0.4**
	comp=Z,233nm,0.7s,mb5.9,baz=11,slow=9.6,SNR=20							
STKA				PP			21 18 08.4	
	comp=Z,686nm,1.2s,baz=33,slow=16,SNR=7.4							
STKA				PcP	PcP		21 20 37.5	-2.4
	comp=Z,129nm,1.1s,baz=330,slow=8.1,SNR=1.7							
CNB	**Canberra Magne**	**28.48**	**191**	*e*P		**P**	**21 17 29.8**	**+0.2**
	comp=Z,463nm,1.4s,mb5.9							
FITZ	**Fitzroy Crossi**	**31.24**	**247**	P		**P**	**21 17 53.6**	**-0.7**
	comp=Z,198nm,0.8s,mb6.0,baz=91,slow=9.2,SNR=23							
FITZ				LR	LR		21 30 53.1	
	comp=Z,176μm,18.0s,MS6.8,baz=206,slow=37							
BATI	**Kupang**	**31.86**	**262**	P		**P**	**21 18 01.0**	**+1.1**
	comp=Z,311nm,1.1s,mb6.0,baz=92,slow=2.1,SNR=15							
MATI	**Mati**	**32.68**	**295**	*e*P		**P**	**21 18 05.7**	**-1.3**
RAO	**Raoul Island**	**33.00**	**135**	*e*P		**P**	**21 18 09.5**	**-0.1**
	comp=Z,3μm,1.0s,mb7.2							
RAO	**Raoul Island**	**33.00**	**135**	P		**P**	**21 18 08.9**	**-0.7**
RAO				pmax	pmax			
	comp=Z,398nm,0.5s,mb6.6							
RAO	**Raoul Island**	**33.00**	**135**	P		**P**	**21 18 08.9**	**-0.7**
	comp=Z,398nm,0.5s,mb6.7,baz=45,slow=20,SNR=11							
DAV	**Davao City (W)**	**33.34**	**295**	P		**P**	**21 18 12.5**	**-0.3**
	comp=Z,1μm,1.2s,mb6.7							
DAV	**Davao City (W)**	**33.34**	**295**	P		**P**	**21 18 14.9**	**+2.1**
	SNR=19							
GSPH	**General Santos**	**33.52**	**293**	⇑*e*P		**P**	**21 18 20.0**	**+5.6**
BUKP	**Musuan**	**34.15**	**296**	*e*P		**P**	**21 18 19.5**	**-0.3**
SCPH	**Surigao**	**34.63**	**299**	⇑*e*P		**P**	**21 18 24.6**	**+0.7**
FORT	**Forrest**	**34.90**	**224**	*e*P		**P**	**21 18 26.2**	**+0.1**
	comp=Z,678nm,0.8s,mb6.6							
WSI	**Waingapu**	**35.16**	**264**	⇑*e*P		**P**	**21 18 30.5**	**+1.9**
MSLP	**Maasin**	**35.34**	**299**	*e*P		**P**	**21 18 30.2**	**+0.1**
PAGZ	**Pagadian**	**35.65**	**294**	*e*P		**P**	**21 18 33.5**	**+0.7**
PLP	**Palo**	**35.73**	**301**	*e*P		**P**	**21 18 33.4**	**-0.1**
KAPI	**Kappang**	**35.89**	**272**	P		**P**	**21 18 34.9**	**0.0**
	comp=Z,6μm,0.8s,SNR=31							
DCPH	**Dipolog City**	**35.98**	**295**	⇓*e*P		**P**	**21 18 39.4**	**+3.8**
OCLP	**Ormoc**	**35.99**	**300**	*e*P		**P**	**21 18 37.2**	**+1.5**
TBP	**Tagbilaran**	**36.01**	**298**	*e*P		**P**	**21 18 36.0**	**+0.1**
LLP	**Lapu-Lapu**	**36.20**	**299**	*e*P		**P**	**21 18 37.2**	**-0.3**
TAU	**Tasmania Unive**	**36.22**	**191**	P		**P**	**21 18 38.6**	**+1.3**
	comp=Z,3μm,1.1s,mb7.1,SNR=15							
TAU	**Tasmania Unive**	**36.22**	**191**	*e*P		**P**	**21 18 38.2**	**+0.9**
	comp=Z,2μm,1.6s,mb6.8							
TAU	**Tasmania Unive**	**36.22**	**191**	*e*P		**P**	**21 18 38.2**	**+0.9**
TAU				pmax	pmax			
	comp=Z,2μm,1.6s,mb6.8							
URZ	**Urewera**	**36.34**	**151**	P		**P**	**21 18 38.5**	**+0.1**
	comp=Z,318nm,1.2s,mb6.1,baz=41,slow=3.8,SNR=20							
URZ				PcP	PcP		21 21 01.0	-2.0
	comp=Z,95nm,0.9s,baz=278,slow=6.0,SNR=3.2							
CBIJ	**Chichi jima**	**36.66**	**339**	P		**P**	**21 18 40.2**	**-1.0**
	comp=Z,310nm,0.7s,mb6.2,baz=162,slow=2.5,SNR=20							
CNP	**Cataman**	**36.67**	**302**	*e*P		**P**	**21 18 41.1**	**-0.4**
MBWA	**Marble Bar**	**37.44**	**245**	*e*P		**P**	**21 18 46.6**	**-1.4**
	comp=Z,2.4nm,1.3s							
GUIM	**Joran**	**37.55**	**298**	*e*P		**P**	**21 18 49.1**	**+0.2**
PVCP	**Virac**	**37.66**	**303**	*e*P		**P**	**21 18 50.1**	**+0.2**
SNZO	**South Karori**	**37.80**	**157**	*e*P		**P**	**21 18 49.2**	**-1.6**
	comp=Z,957nm,1.5s,mb6.3							
RCP	**Roxas**	**37.84**	**299**	⇑*e*P		**P**	**21 18 52.7**	**+1.3**
KALP	**Kalibo**	**38.25**	**299**	⇑*e*P		**P**	**21 18 59.8**	**+4.9**
RPZ	**Rata Peaks**	**38.64**	**162**	P		**P**	**21 18 57.2**	**-0.7**
	comp=Z,343nm,1.0s,mb6.0,baz=29,slow=1.3,SNR=45							
RPZ				LR	LR		21 32 02.4	
	comp=Z,295μm,19.8s,MS7.1,baz=320,slow=32							
OTRP	**Odiongan**	**38.84**	**302**	*e*P		**P**	**21 19 00.6**	**+0.7**
CUYO	**Cuyo Island**	**39.03**	**297**	*e*P		**P**	**21 19 02.3**	**+0.9**
GQP	**Guinayangan**	**39.24**	**302**	⇑*e*P		**P**	**21 19 03.9**	**+0.7**
TSM	**Tawau**	**39.55**	**286**	⇓P		**P**	**21 19 06.6**	**+0.7**
POLP	**Polilio Island**	**40.08**	**303**	*e*P		**P**	**21 19 10.5**	**+0.4**
BUSP	**Coron**	**40.26**	**298**	*e*P		**P**	**21 19 12.5**	**+0.8**
ENPP	**El Nido**	**40.59**	**297**	*e*P		**P**	**21 19 14.7**	**+0.2**
SDKM	**Sandakan**	**40.60**	**287**	⇑P		**P**	**21 19 15.6**	**+1.0**
PPR	**Puerto Princes**	**40.63**	**294**	⇓*i* P		**P**	**21 19 16.2**	**+1.5**
BALP	**Baler**	**40.90**	**304**	*e*P		**P**	**21 19 16.8**	**-0.1**
PALP	**Palanan**	**40.92**	**307**	*e*P		**P**	**21 19 17.5**	**+0.4**
LUBP	**Lubang**	**41.01**	**301**	*e*P		**P**	**21 19 17.6**	**-0.3**
BATP	**Bataraza**	**41.10**	**292**	*e*P		**P**	**21 19 18.9**	**+0.2**
PCPH	**Palayan**	**41.20**	**304**	⇓*e*P		**P**	**21 19 19.8**	**+0.4**
CAUP	**Cauayan**	**41.34**	**306**	*e*P		**P**	**21 19 21.8**	**+1.2**
KDM	**Kudat**	**41.34**	**289**	⇓P		**P**	**21 19 22.1**	**+1.4**
KKM	**Kota Kinabalu**	**41.65**	**288**	*e*P		**P**	**21 19 23.4**	**+0.2**
KKM	**Kota Kinabalu**	**41.65**	**288**	⇓P		**P**	**21 19 24.1**	**+0.8**
CVP	**Callao Caves**	**41.75**	**307**	*e*P		**P**	**21 19 23.8**	**-0.2**
SGCP	**Mt. Cagua**	**41.88**	**308**	*e*P		**P**	**21 19 25.6**	**+0.6**
SCZP	**Santa Cruz**	**42.29**	**303**	*e*P		**P**	**21 19 27.1**	**-1.4**
APYP	**Conner**	**42.30**	**307**	*e*P		**P**	**21 19 28.3**	**-0.1**
BOLP	**Bolinao**	**42.60**	**304**	*e*P		**P**	**21 19 29.5**	**-1.4**
ABRA	**Dolores**	**42.61**	**306**	*e*P		**P**	**21 19 30.2**	**-0.7**
KLBR	**Kellerberrin**	**42.88**	**231**	*e*P		**P**	**21 19 32.4**	**-0.6**
	comp=Z,596nm,0.5s,mb6.6							
JHJ	**Hachijo jima 2**	**43.00**	**340**	P		**P**	**21 19 33.6**	**-0.2**
	comp=Z,162nm,0.8s,mb5.8,baz=206,slow=10,SNR=5.8							
JOW	**Kunigami**	**43.17**	**323**	P		**P**	**21 19 36.2**	**+0.8**
	comp=Z,361nm,1.0s,mb6.1,baz=153,slow=8.2,SNR=30							
NWAO	**Narrogin (SRO)**	**43.87**	**229**	*e*P		**P**	**21 19 40.5**	**-0.4**
	comp=Z,653nm,1.3s,mb6.2							
NWAO	**Narrogin (SRO)**	**43.87**	**229**	*e*P		**P**	**21 19 40.5**	**-0.5**
NWAO				pmax	pmax			
	comp=Z,650nm,1.2s							
NWAO	**Narrogin (SRO)**	**43.87**	**229**	P		**P**	**21 19 40.7**	**-0.3**
	SNR=8.8							
NWAO	**Narrogin (SRO)**	**43.87**	**229**	P		**P**	**21 19 41.3**	**+0.4**
	comp=Z,316nm,0.8s,mb6.1,baz=58,slow=7.7,SNR=92							
NWAO				LR	LR		21 37 56.4	
	comp=Z,397μm,18.2s,MS7.4,baz=40,slow=36							
BTM	**Bintulu**	**43.87**	**282**	⇓P		**P**	**21 19 42.9**	**+1.6**
SBUM	**Sibu**	**44.54**	**281**	⇑P		**P**	**21 19 48.4**	**+1.7**
RAR	**Rarotonga**	**45.06**	**113**	P		**P**	**21 19 51.0**	**+0.3**
RAR				pmax	pmax			
	comp=Z,333nm,0.9s							
RAR				MLR	MLR			
	comp=Z,124μm,20.4s							
RAR	**Rarotonga**	**45.06**	**113**	P		**P**	**21 19 51.0**	**+0.3**
	comp=Z,333nm,0.8s,mb6.2,baz=253,slow=7.4,SNR=16							
RAR				LR	LR		21 33 49.5	
	comp=Z,124μm,20.4s,MS6.8,baz=279,slow=30							
NACB	**Ninganchiao**	**45.74**	**314**	*e*P		**P**	**21 19 56.4**	**+0.3**
KSM	**Kuching**	**46.20**	**279**	*e*P		**P**	**21 19 59.5**	**-0.4**
YHNB	**Yeheng**	**46.21**	**315**	*e*P		**P**	**21 20 00.6**	**+0.9**
TATO	**Taipei**	**46.32**	**315**	*e*P		**P**	**21 20 00.9**	**+0.4**
	comp=Z,545nm,1.0s,mb6.4							
MJAR	**Matsushiro Arr**	**46.65**	**340**	P		**P**	**21 20 01.8**	**-1.1**
MJAR							21 21 35.7	
MJAR				pmax	pmax			
	comp=Z,198nm,0.8s							
MJAR	**Matsushiro Arr**	**46.65**	**340**	P		**P**	**21 20 01.8**	**-1.0**
	comp=Z,198nm,0.8s,mb6.1,baz=165,slow=7.2,SNR=102							
MJAR				PcP	PcP		21 21 35.7	-0.9
	comp=Z,61nm,0.7s,baz=164,slow=3.9,SNR=5.0							
MAJO	**Matsushiro**	**46.65**	**340**	*e*P		**P**	**21 20 01.9**	**-1.0**
	comp=Z,353nm,0.7s,mb6.4							
MAJO				*e*PcP	PcP		21 21 36.5	-0.2
MAJO	**Matsushiro**	**46.65**	**340**	*e*P		**P**	**21 20 01.9**	**-1.0**
MAJO				*e*			21 21 36.5	
MAJO				pmax	pmax			
	comp=Z,353nm,0.7s,mb6.4							
MAT	**Matsushiro**	**46.65**	**340**	P		**P**	**21 20 00.8**	**-2.1**
JNU	**Nakatsue**	**46.67**	**331**	P		**P**	**21 20 03.6**	**+0.4**
	comp=Z,612nm,1.1s,mb6.4,baz=99,slow=7.5,SNR=56							
MCQ	**Macquarie Isla**	**47.11**	**177**	*e*P		**P**	**21 20 07.2**	**+0.9**
QZH	**Quanzhou**	**48.37**	**313**	⇑*i* P		**P**	**21 20 17.3**	**+0.7**
QZH				AMB	AMB			
	comp=Z,990nm,0.8s,mb6.9							
ERM	**Erimo**	**50.44**	**348**	P		**P**	**21 20 33.1**	**+1.1**
	comp=Z,731nm,0.7s,mb6.8,SNR=5.8							
ERM	**Erimo**	**50.44**	**348**	*e*P		**P**	**21 20 33.4**	**+1.4**
	comp=Z,89nm,0.8s,mb5.8							
ERM	**Erimo**	**50.44**	**348**	⇑*e*P		**P**	**21 20 32.1**	**+0.1**
KSRS	**Korea Array**	**51.59**	**332**	P		**P**	**21 20 41.3**	**+0.5**
	comp=Z,358nm,1.0s,mb6.2,baz=149,slow=7.7,SNR=108							
KSRS				PcP	PcP		21 21 54.1	-0.5
	comp=Z,36nm,0.7s,baz=145,slow=4.8,SNR=5.9							
YUK	**Yuzh-Kuril'sk**	**51.90**	**351**	*e*P		**P**	**21 20 47.1**	**+4.2**
YUK				pmax	pmax			
	comp=Z,980nm,1.0s,mb6.7							
INCN	**Inchon**	**52.23**	**331**	*e*P		**P**	**21 20 46.2**	**+0.6**
	comp=Z,1μm,1.1s,mb6.8							
INCN				*e*PcP	PcP		21 21 54.9	-2.1
INCN	**Inchon**	**52.23**	**331**	P		**P**	**21 20 46.9**	**+1.3**
	SNR=14							
INCN	**Inchon**	**52.23**	**331**	P		**P**	**21 20 46.9**	**+1.3**
	SNR=14							
QIZ	**Qiongzhong**	**52.30**	**301**	P		**P**	**21 20 47.1**	**+0.7**
QIZ				AMB	AMB			
	comp=Z,747nm,1.2s,mb6.5							
ASAJ	**Asahikawa**	**52.57**	**348**	P		**P**	**21 20 47.9**	**0.0**
ASAJ				pmax	pmax			
	comp=Z,91nm,0.5s							
ASAJ				MLR	MLR			
	comp=Z,127μm,19.2s							
ASAJ	**Asahikawa**	**52.57**	**348**	P		**P**	**21 20 47.9**	**-0.1**
	comp=Z,91nm,0.5s,mb5.9,baz=225,slow=12,SNR=43							
ASAJ				LR	LR		21 40 50.6	
	comp=Z,127μm,19.2s,MS7.0,baz=176,slow=34							
MYKOM	**Kota Tinggi**	**52.60**	**278**	⇑P		**P**	**21 20 49.3**	**+0.5**
NJ2	**Nanjing**	**52.66**	**320**	*e*P		**P**	**21 20 49.9**	**+1.0**
NJ2				AP	pP		21 20 54.5	+1.0
NJ2				XP	sP		21 20 56.8	+1.5
NJ2				PP	PP		21 22 49.4	+1.2
NJ2				AMB	AMB			
	comp=Z,660nm,1.0s,mb6.5							
NJ2				LR	LR			
	comp=Z,35μm,10.8

GYA AMB AMB
comp=Z,130nm,1.0s,mb5.9
GYA AMB AMB
comp=Z,46µm,18.6s
GYA LR LR
comp=N,32µm,22.0s,MS6.6
GYA LR LR
comp=E,43µm,23.0s,MS6.6
GYA LR LR
comp=Z,31µm,21.4s,MS6.4
HABR Khabarovsk 58.48 344 *e*P **P 21 21 29.7 -0.6**
HABR *e*S **S 21 29 33.2 0.0**
HABR pmax pmax
comp=Z,1µm,1.6s,mb6.7
BJI Beijing 59.63 325 P **P 21 21 39.9 +1.4**
BJI AMB AMB
comp=Z,169nm,1.1s,mb6.0
PET Petropavlovsk 60.16 2 P **P 21 21 41.1 -0.8**
comp=Z,125nm,0.7s,mb6.0
PET Petropavlovsk 60.16 2 *e*P **P 21 21 44.4 +2.5**
PET pmax pmax
comp=Z,230nm,0.8s,mb6.3
TIY Taiyuan 60.33 321 P **P 21 21 43.5 +0.1**
TIY LR LR
comp=N,31µm,14.5s
TIY LR LR
comp=E,13µm,9.0s
TIY LR LR
comp=Z,45µm,15.3s,MS6.7
XAN Xi'an 60.48 316 P **P 21 21 44.0 -0.5**
XAN AP pP 21 21 49.6 +0.4
XAN S **S 21 30 01.6 +1.9**
XAN AMB AMB
comp=Z,115nm,1.2s,mb5.8
XAN LR LR
comp=N,5µm,12.5s,MS6.1
XAN LR LR
comp=E,7µm,13.0s,MS6.1
XAN LR LR
comp=Z,11µm,15.9s,MS6.1
KMI Kunming 60.85 304 P **P 21 21 48.1 +0.9**
KMI AMB AMB
comp=Z,463nm,1.7s,mb6.3
CHTO Chiang Mai 61.75 296 *e*P **P 21 21 54.0 +0.6**
comp=Z,549nm,1.1s,mb6.6
CHTO Chiang Mai 61.75 296 *e*P **P 21 21 54.0 +0.6**
CHTO pmax pmax
comp=Z,549nm,1.1s,mb6.6
CHTO Chiang Mai 61.75 296 P **P 21 21 55.1 +1.8**
SNR=12
CHTO Chiang Mai 61.75 296 P **P 21 21 55.1 +1.8**
SNR=12
CD2 Chengdu 62.62 310⇑ *i*P **P 21 21 59.4 +0.4**
CD2 PP PP 21 24 19.2 +2.2
CD2 AMB AMB
comp=Z,680nm,0.8s,mb6.8
HHC Hu-ho-hao-te 62.82 324 *e*P **P 21 22 02.4 +2.3**
HHC AP pP 21 22 06.7 +1.9
HHC XP sP 21 22 08.9 +2.3
HHC AMB AMB
comp=Z,450nm,0.4s,mb7.0
ADK Adak 63.52 19 *e*P **P 21 22 04.4 -0.1**
comp=Z,514nm,1.2s,mb6.4
ADK Adak 63.52 19 *e*P **P 21 22 04.4 -0.2**
ADK pmax pmax
comp=Z,514nm,1.2s,mb6.4
HIA Hailar 64.55 335⇑ *e*P **P 21 22 12.2 +0.8**
HIA Hailar 64.55 335 P **P 21 22 10.7 -0.7**
HIA pmax pmax
comp=Z,600nm,1.0s
LZH Lanzhou 65.09 315 *e*P **P 21 22 16.5 +1.3**
LZH AP pP 21 22 19.8 -0.2
LZH PP PP 21 24 41.2 +2.5
LZH AMB AMB
comp=Z,456nm,1.0s,mb6.5
PBA Port Blair 65.47 286 *e*P **P 21 22 15.0 -3.0**
PBA AMb AMB 21 22 41.4
comp=Z,202nm,2.3s,mb5.8
CASY Casey 66.53 198 *e*P **P 21 22 22.8 -1.1**
MA2 Magadan 66.80 357 *e*P **P 21 22 25.0 -0.7**
MA2 pmax pmax
comp=Z,300nm,1.3s,mb6.2
RKT Rikitea 68.09 112 *e*P **P 21 22 34.3 -0.4**
comp=Z,298nm,1.2s,mb6.2
RKT Rikitea 68.09 112 *e*P **P 21 22 34.3 -0.4**
RKT pmax pmax
comp=Z,299nm,1.2s,mb6.2
UNV Unalaska Valle 68.72 23 *e*P **P 21 22 39.5 +1.5**
comp=Z,76nm,0.7s,mb5.7
CLNS Chul'man 68.77 342 *e*P **P 21 22 37.3 -0.9**
CLNS *e**PP pP 21 22 44.4 +1.5
CLNS *e* 21 23 01.8
CLNS *e* 21 25 06.0
CLNS *e*PPP 21 26 45.8
CLNS *e*S S 21 31 43.5 +2.4
CLNS *e*SS SS 21 36 10.3 +3.9
CLNS pmax pmax
comp=Z,517nm,1.1s,mb6.4
CLNS pmax pmax
comp=N,259nm,1.2s
CLNS pmax pmax
comp=E,42nm,0.9s
CLNS pmax pmax
comp=Z,74nm,2.1s,mb5.2
CLNS pmax pmax
comp=N,71nm,1.3s
CLNS pmax pmax
comp=E,116nm,1.4s
CLNS smax
comp=E,89µm,17.7s
CLNS smax
comp=Z,120µm,17.3s
CLNS smax
comp=N,150µm,17.4s
CLNS MLR MLR
comp=Z,128µm,18.0s,MS7.2
CLNS MLR MLR
comp=N,59µm,15.0s,MS7.0
CLNS MLR MLR
comp=E,43µm,14.0s,MS7.0
AKUT Akutan 69.22 23 *e*P **P 21 22 42.3 +1.3**
comp=E,402nm,1.2s,mb6.2
GTA Gaotai 69.51 317 *e*P **P 21 22 44.6 +1.4**
GTA AP pP 21 22 48.4 +0.5
GTA PP PP 21 25 20.8 +3.7
GTA AMB AMB
comp=Z,69nm,1.2s,mb5.5
SONM Songino Array 70.03 327 P **P 21 22 46.8 +0.7**
SONM ⇑ *e* 21 50 49.8
SONM Songino Array 70.03 327 P **P 21 22 46.8 +0.7**
comp=Z,826nm,1.0s,mb6.6,baz=136,slow=4.5,SNR=76
SONM PKP2bc 21 50 49.8
comp=Z,55nm,1.1s,baz=262,slow=1.3,SNR=22
SEY Seymchan 70.10 358⇑ *e*P **P 21 22 45.2 -1.1**
SHL Shillong 70.13 300 *e*P **P 21 22 44.9 -2.4**
SHL AMb AMB 21 22 47.6
comp=Z,4µm,1.5s,mb7.2
VNDA Vanda 70.23 179 P **P 21 22 47.4 +0.3**
VNDA ⇑ *e* 21 50 47.1
VNDA Vanda 70.23 179 P **P 21 22 47.4 +0.3**
comp=Z,223nm,1.1s,mb6.0,baz=341,slow=6.4,SNR=41
VNDA PKP2bc 21 50 47.1
comp=Z,6.9nm,1.1s,baz=298,slow=3.0,SNR=5.7
FALS False Pass 70.68 24 *e*P **P 21 22 49.0 -1.0**
comp=Z,193nm,0.9s,mb6.0
SBA Scott Base 70.73 178 *e*P **P 21 22 51.1 +1.1**
YAK Yakutsk 72.04 347⇓ *e*P **P 21 22 59.9 +1.8**
YAK Yakutsk 72.04 347 *e*P **P 21 22 59.5 +1.4**
YAK *e**PP pP 21 23 08.8 +6.0
YAK *e* 21 23 20.2
YAK *e*S S 21 32 21.2 +2.1
YAK *e* 21 33 00.0
YAK pmax pmax
comp=Z,523nm,1.1s,mb6.4
YAK pmax pmax
comp=N,78nm,1.0s
YAK pmax pmax
comp=E,72nm,1.3s
YAK smax
comp=N,47µm,10.9s
YAK MLR MLR
comp=Z,110µm,16.0s,MS7.2
YAK MLR MLR
comp=N,96µm,18.0s,MS7.3
YAK MLR MLR
comp=E,103µm,17.0s,MS7.3

LSA Lhasa 72.10 304 P **P 21 23 00.1 +1.0**
LSA Lhasa 72.10 304 *e*P **P 21 22 59.3 +0.2**
comp=E,386nm,0.9s,mb6.3
LSA Lhasa 72.10 304 *e*P **P 21 22 59.3 +0.2**
LSA pmax pmax
comp=Z,390nm,1.0s,mb6.3
SDPT Sand Point 72.22 25 *e*P **P 21 22 57.8 -1.4**
comp=Z,245nm,1.0s,mb6.1
SDPT *e*PcP PcP 21 23 17.1 -0.3
ZAK Zakamensk 73.18 328⇑ *i*P **P 21 23 04.8 -0.3**
ZAK pmax pmax
comp=Z,406nm,1.1s,mb6.3
BOD Bodaibo 73.21 338 *e*P **P 21 23 03.8 -1.3**
BOD pmax pmax
comp=Z,275nm,1.2s,mb6.1
TLY Talaya 73.74 329 P **P 21 23 08.9 +0.5**
comp=Z,2µm,1.1s,mb6.9,SNR=6.9
TLY Talaya 73.74 329⇓ *e*P **P 21 23 08.4 0.0**
TLY Talaya 73.74 329⇓ *e*P **P 21 23 08.3 -0.1**
TLY pmax pmax
comp=Z,372nm,1.0s,mb6.3
TLY Talaya 73.74 329 P **P 21 23 08.5 +0.2**
SNR=21
TLY Talaya 73.74 329 P **P 21 23 08.5 +0.2**
SNR=21
IRK Irkutsk 73.75 330⇓ *i*P **P 21 23 08.0 -0.4**
IRK pmax pmax
comp=Z,879nm,1.2s,mb6.6
GAMB Gambell 75.04 14 *e*P **P 21 23 14.8 -0.9**
comp=Z,49nm,0.9s,mb5.4
MOY Mondy 75.10 328 *e*P **P 21 23 16.4 +0.1**
MOY pmax pmax
comp=Z,1µm,2.9s,mb6.3
BILL Bilibino 75.55 4⇓ *e*P **P 21 23 18.2 -0.3**
BILL Bilibino 75.55 4⇑ *e*P **P 21 23 17.6 -0.9**
BILL *e* 21 23 24.3
BILL 21 23 29.0
BILL pmax pmax
comp=Z,368nm,1.0s,mb6.3
JIRN Jiri 75.62 301 *e*P **P 21 23 19.5 -0.3**
comp=Z,1µm,1.1s,mb6.7
VIS Vishakhapatnam 75.72 290 *e*P **P 21 23 18.5 -2.0**
PALK Pallekele 76.26 279 P **P 21 23 24.9 +1.1**
comp=Z,629nm,1.3s,mb6.4,SNR=9.7
PALK Pallekele 76.26 279 *e*P **P 21 23 24.4 +0.6**
comp=Z,2µm,2.4s,mb6.6
PALK Pallekele 76.26 279 P **P 21 23 24.3 +0.5**
SNR=22
PALK Pallekele 76.26 279 P **P 21 23 24.3 +0.5**
SNR=22
KKN Kakani 76.43 301 *e*P **P 21 23 23.1 -1.4**
comp=Z,1µm,1.1s,mb6.8
GKN Gorkha 77.04 301 *e*P **P 21 23 27.0 -0.9**
comp=Z,3µm,1.2s,mb7.1
KDAK Kodiak Island 77.12 26 P **P 21 23 27.1 -0.5**
comp=Z,548nm,0.7s,mb6.6,SNR=8.7
KDAK Kodiak Island 77.12 26 *e*P **P 21 23 27.6 -0.1**
comp=Z,82nm,0.9s,mb5.7
KDAK *e*PcP PcP 21 23 39.0 +0.6
KDAK Kodiak Island 77.12 26 P **P 21 23 27.4 -0.2**
comp=Z,52nm,0.7s,mb5.5,baz=130,slow=2.3,SNR=37
TNA Tin City 77.44 15 *e*P **P 21 23 29.0 -0.3**
comp=Z,15µm,0.7s
KOLN Koldanda 77.86 300 *e*P **P 21 23 31.4 -1.1**
comp=Z,1µm,1.1s,mb6.8
WMQ Urumqi 79.60 317 *e*P **P 21 23 42.0 +0.3**
SLKM Skilak Lake 79.72 24 *e*P **P 21 23 41.0 -1.0**
KOD Kodaikanal 79.90 282 *e*P **P 21 23 43.7 -0.2**
KOD AMb AMB 21 23 48.0
comp=Z,200nm,0.9s,mb6.0
TRD Trivandrum 80.12 280 *e*P **P 21 23 44.4 -0.8**
NGP Nagpur 80.38 293 *e*P **P 21 23 44.9 -1.5**
NGP AMb AMB 21 23 48.6
comp=Z,546nm,0.9s,mb6.5
PMR Palmer 80.78 23 *e*P **P 21 23 46.5 -1.1**
comp=Z,3µm,5.9s
PMR LR LR
comp=Z,139µm,17.0s,MS7.4
PMR Palmer 80.78 23 *e*P **P 21 23 46.5 -1.1**
PMR pmax pmax
comp=Z,3µm,5.9s
PMR MLR MLR
comp=Z,139µm,17.0s,MS7.4
TIXI Tiksi 80.79 352⇑ *e*P **P 21 23 47.1 -0.4**
TIXI Tiksi 80.79 352 *e*P **P 21 23 46.5 -1.0**
TIXI pmax pmax
comp=Z,462nm,2.5s,mb6.0
LGTI Lohaghat 81.13 301 *e*P **P 21 23 50.0 -0.3**
LGTI *e*x x 21 27 38.0
PTH Pithoragarh 81.18 301 *e*P **P 21 23 49.8 -0.7**
PTH *e*x x 21 33 54.2
SML Sawmill 81.21 23 *e*P **P 21 23 49.1 -0.9**
EYAK Cordova Ski Ar 81.59 25 *e*P **P 21 23 51.7 -0.2**
comp=Z,48nm,0.9s,mb5.4
IMA2 Indian Mountai 81.86 19 *e*P **P 21 23 52.2 -1.1**
MCK McKinley 82.07 22 *e*P **P 21 23 51.7 -2.7**
comp=Z,243nm,0.9s,mb6.1
MCK McKinley 82.07 22 *e*P **P 21 23 51.7 -2.7**
MCK pmax pmax
comp=Z,243nm,0.9s,mb6.1
AKL Akola 82.16 292 *e*P **P 21 23 55.0 -0.9**
AKL AMb AMB 21 24 05.1
comp=Z,991nm,2.3s,mb6.3
LATR Latur 82.16 290 *e*x x 21 24 36.2
LATR AMb AMB 21 24 39.0
comp=Z,335nm,2.9s,mb5.8
BHPL Bhopal 82.27 295 *e*P **P 21 23 55.5 -0.9**
BHPL AMb AMB 21 23 59.8
comp=Z,380nm,1.3s,mb6.2
QSPA South Pole Qui 82.66 180 P **P 21 23 57.0 -0.4**
comp=Z,585nm,1.0s,mb6.6,baz=3.8,slow=1.8,SNR=68
QSPA PKKPbc PKKPbc 21 42 20.6 -4.8
comp=Z,23nm,1.0s,baz=240,slow=3.0,SNR=6.5
QSPA SKKPbc 21 46 05.8
comp=Z,9.2nm,1.0s,baz=214,slow=3.6,SNR=4.5
MNGI Mangalore 82.89 284 *e*P **P 21 23 58.3 -1.5**
MNGI AMb AMB 21 24 08.1
comp=Z,190nm,2.0s,mb5.8
COLA College 83.10 21⇓ *e*P **P 21 23 57.7 -2.1**
MKAR Makanchi Array 84.17 319 P **P 21 24 04.9 -0.8**
MKAR PKKPbc PKKPbc 21 42 19.4 -1.8
MKAR P'P' 21 50 24.7
MKAR Makanchi Array 84.17 319⇓ *e*P **P 21 24 04.9 -0.8**
MKAR Makanchi Array 84.17 319 P **P 21 24 04.9 -0.8**
comp=Z,1µm,1.1s,mb6.9,baz=85,slow=4.0,SNR=104
MKAR PKKPbc PKKPbc 21 42 19.4 -1.8
comp=Z,4.9nm,0.7s,baz=343,slow=1.3,SNR=3.8
MKAR PKPPKP 21 50 24.7
comp=Z,5.3nm,0.9s,baz=27,slow=3.3,SNR=6.8
KAD Karad 84.20 288 *e*P **P 21 24 05.7 -0.8**
KAD AMb AMB 21 24 09.4
comp=Z,476nm,1.0s,mb6.6
GOA Goa 84.25 286 *e*P **P 21 24 04.9 -1.9**
GOA AMb AMB 21 24 16.3
comp=Z,349nm,1.4s,mb6.3
MAW Mawson 84.40 203 *e*P **P 21 24 05.9 -0.6**
comp=Z,568nm,1.1s,mb6.6
MAW Mawson 84.40 203 *e*P **P 21 24 05.9 -0.6**
MAW pmax pmax
comp=Z,568nm,1.1s
MAW Mawson 84.40 203 P **P 21 24 06.7 +0.2**
comp=Z,745nm,1.1s,mb6.7,baz=85,slow=6.5,SNR=74
POO Poona 84.72 289 *e*P **P 21 24 08.1 -1.0**
POO AMb AMB 21 24 17.6
comp=Z,614nm,1.8s,mb6.4
SIT Sitka 84.89 31 *e*P **P 21 24 08.3 -0.8**
comp=Z,101nm,1.2s,mb5.8
SIT LR LR
comp=Z,200µm,17.0s,MS7.6
SIT Sitka 84.89 31 *e*P **P 21 24 08.3 -0.8**
SIT pmax pmax
comp=Z,101nm,1.2s,mb5.8
SIT MLR MLR
comp=Z,200µm,17.0s,MS7.6
ZAA0 Zalesovo Array 84.89 326 *e*P **P 21 24 07.4 -1.7**
ZALV Zalesovo Beam 84.89 326 P **P 21 24 07.3 -1.8**
comp=Z,371nm,0.9s,mb6.5,baz=110,slow=5.3,SNR=96
ZALV PKKPbc PKKPbc 21 42 17.5 -2.4
comp=Z,3.9nm,0.6s,baz=290,slow=2.4,SNR=5.4
ZALV PKPPKP 21 50 22.1
comp=Z,9.2nm,1.0s,baz=297,slow=4.3,SNR=6.1
ZAL Zalesovo 84.89 326 P **P 21 24 07.3 -1.9**
AJM Ajmer 85.37 297 *e*P **P 21 24 11.2 -1.1**
AJM AMb AMB 21 24 13.9
comp=Z,863nm,1.0s,mb6.8
DLH Dalhousie 85.39 303 *e*P **P 21 24 11.0 -1.2**

CRAG Craig 85.47 33 *e*P **P 21 24 11.6 -0.4**
comp=Z,2µm,4.8s
EGAK Eagle 85.52 23 *e*P **P 21 24 11.3 -0.8**
comp=Z,5µm,1.7s,mb7.5
THN Thein Dam 85.58 303 *e*P **P 21 24 11.2 -1.9**
THN *e*x x 21 30 06.6
SKAG Skagway 85.78 29 *e*P **P 21 24 13.1 -0.4**
comp=Z,2µm,4.8s
DAWY Dawson 85.88 24 *e*P **P 21 24 13.0 -0.9**
NVS Novosibirsk 86.05 326 *i*P **P 21 24 12.0 -3.0**
NVS *i*S S 21 34 38.4 -10
NVS pmax pmax
comp=N,644nm,2.0s
NVS pmax pmax
comp=E,1µm,2.0s
NVS pmax pmax
comp=Z,2µm,2.0s,mb6.9
NVS smax
comp=N,1µm,2.8s
NVS smax
comp=E,659nm,2.6s
WRAK Wrangell Islan 86.20 32 *e*P **P 21 24 14.7 -1.0**
comp=E,164nm,1.1s,mb6.2
KSH Kashi 86.82 310 P **P 21 24 20.1 +1.0**
KSH AP pP 21 24 25.8 +1.9
KSH XP sP 21 24 27.6 +1.9
KSH PP PP 21 27 46.2 +4.3
KSH SKS 21 34 44.4
KSH S S 21 34 56.6 -0.1
KSH SS SS 21 40 42.0 +3.0
ULHL Ulahol 87.20 313 P **P 21 24 21.4 +0.5**
SNR=16
O01C Eel River Cons 87.39 49⇓ P **P 21 24 22.0 +0.1**
baz=88
KBO Bosley Butte 87.52 47 *e*P **P 21 24 24.3 +1.9**
KURK Kurchatov 87.57 322 P **P 21 24 20.6 -1.9**
comp=E,1µm,1.1s,mb7.1,SNR=37
KURK Kurchatov 87.57 322⇑ *e*P **P 21 24 21.2 -1.3**
KURK Kurchatov 87.57 322 P **P 21 24 21.8 -0.7**
SNR=24
KURK Kurchatov 87.57 322 P **P 21 24 21.8 -0.7**
SNR=24
KIPM Iron Peak 87.58 50 *e*P **P 21 24 22.7 0.0**
KRMB Red Mountain 87.61 48 *e*P **P 21 24 23.0 +0.1**
MCCM Marconi Confer 87.71 51 P **P 21 24 22.0 -1.4**
MCCM *e*PP PP 21 27 46.7 -2.5
TKM2 Tokmak 2 87.81 314 *e*P **P 21 24 22.8 -1.0**
comp=E,167nm,0.9s,mb6.3
TKM2 Tokmak 2 87.81 314 *e*P **P 21 24 22.8 -1.0**
TKM2 pmax pmax
comp=Z,167nm,0.9s,mb6.3
TKM2 Tokmak 2 87.81 314 P **P 21 24 22.7 -1.1**
SNR=54
KZA Kyzart 87.88 313 P **P 21 24 24.6 +0.5**
SNR=48
N02C Big Bar 87.91 49⇓ P **P 21 24 25.1 +0.7**
baz=88
NSHM Saint Helena R 87.99 51 P **P 21 24 26.1 +1.3**
DLBC Dease Lake 88.03 30 *e*P **P 21 24 24.2 -0.3**
GASB Alder Springs 88.13 50⇑ P **P 21 24 26.0 +0.6**
baz=88
K02A Glendale 88.16 47⇑ P **P 21 24 26.2 +0.7**
baz=88
O02C Red Bluff 88.17 49⇑ P **P 21 24 26.7 +1.1**
baz=88
I02A Mapleton 88.17 45 P **P 21 24 26.5 +1.0**
baz=88,SNR=6.5
MNRC McLaughlin Nat 88.19 51⇑ P **P 21 24 27.3 +1.6**
baz=88
KBK Karagaybulak 88.22 313 P **P 21 24 24.8 -0.9**
SNR=37
J02A Umpqua 88.22 46⇓ P **P 21 24 26.7 +0.9**
baz=88
M02C Callahan 88.36 48⇑ P **P 21 24 28.0 +1.5**
baz=88
CHMS Chumysh 88.43 314 P **P 21 24 25.7 -1.1**
SNR=80
HAST Hastings Reser 88.43 53⇑ P **P 21 24 26.6 -0.3**
baz=89
WDC Whiskeytown Da 88.43 49 *e*P **P 21 24 27.1 +0.2**
comp=Z,1µm,3.0s
WDC PP PP 21 27 56.7 +1.8
WDC Whiskeytown Da 88.43 49 *e*P **P 21 24 27.1 +0.3**
WDC 21 27 56.7
WDC pmax pmax
comp=Z,1µm,3.0s
WDC Whiskeytown Da 88.43 49⇑ P **P 21 24 27.4 +0.5**
baz=89
UCH Uchtor 88.45 313 *e*P **P 21 24 27.1 +0.2**
comp=Z,2µm,2.2s,mb6.9
UCH Uchtor 88.45 313 P **P 21 24 27.6 +0.7**
SNR=58
YBH Yreka Blue Hor 88.53 48 *e*P **P 21 24 27.1 -0.1**
comp=Z,360nm,2.2s,mb6.3
YBH Yreka Blue Hor 88.53 48 *e*P **P 21 24 27.1 -0.1**
YBH pmax pmax
comp=Z,360nm,2.2s
YBH Yreka Blue Hor 88.53 48⇑ P **P 21 24 27.5 +0.3**
baz=89
AAK Ala-Archa 88.54 313 P **P 21 24 26.6 -0.7**
comp=Z,811nm,0.8s,mb7.1,SNR=28
AAK Ala-Archa 88.54 313⇑ *e*P **P 21 24 26.4 -0.9**
AAK Ala-Archa 88.54 313⇑ *e*P **P 21 24 26.3 -1.0**
AAK pmax pmax
comp=Z,160nm,1.1s,mb6.3
AAK Ala-Archa 88.54 313 P **P 21 24 26.6 -0.7**
SNR=18
AAK Ala-Archa 88.54 313 P **P 21 24 26.6 -0.7**
SNR=18
AAK Ala-Archa 88.54 313 P **P 21 24 27.5 +0.3**
SNR=45
I03A Eugene 88.56 45⇓ P **P 21 24 27.3 0.0**
baz=89
SAO San Andreas Ge 88.58 53 P **P 21 24 29.6 +2.0**
comp=Z,4µm,3.6s
V03C Hunter Liggett 88.62 54⇑ P **P 21 24 28.7 +0.9**
baz=89
J03A Ideyld Park 88.66 46⇓ P **P 21 24 28.5 +0.6**
baz=89
USP Ospenovka 88.66 314 P **P 21 24 26.9 -1.0**
SNR=101
H03A Soap Creek Ran 88.69 45 P **P 21 24 28.8 +0.9**
baz=89,SNR=7.1
O03C Acorn Hollow, 88.71 50⇓ P **P 21 24 28.6 +0.5**
baz=89
PACP Pacheco Peak 88.75 53⇑ P **P 21 24 30.0 +1.6**
baz=89
F03A Seaside 88.76 44⇑ P **P 21 24 27.5 -0.7**
baz=89
S04C Ingram Canyon, 88.80 52⇑ P **P 21 24 29.9 +1.2**
baz=89
G03A Yamhill 88.82 44⇓ P **P 21 24 29.5 +1.0**
baz=89
NLWA Neilton Lookou 88.85 42 *e*P **P 21 24 28.9 +0.3**
comp=Z,60nm,1.3s,mb5.8
NLWA Neilton Lookou 88.85 42⇑ P **P 21 24 29.0 +0.4**
baz=89
M03C McCloud 88.88 48 P **P 21 24 30.0 +1.1**
baz=89,SNR=19
E03A Lebam 88.88 43 P **P 21 24 29.8 +1.0**
baz=89,SNR=7.8
OHCM Honcut 89.00 50 *e*P **P 21 24 29.7 +0.1**
AML Almayashu 89.03 313 *e*P **P 21 24 29.7 +0.1**
comp=Z,303nm,1.1s,mb6.5
AML Almayashu 89.03 313 P **P 21 24 29.6 0.0**
SNR=72
ORV Oroville 89.03 50 P **P 21 24 30.3 +0.7**
baz=89,SNR=12
U04C Hernandez Rese 89.04 53⇑ P **P 21 24 30.7 +0.9**
baz=89
EKS2 Erkin-Say 89.07 313 *e*P **P 21 24 28.8 -0.9**
comp=Z,121nm,1.0s,mb6.2
EKS2 Erkin-Say 89.07 313 P **P 21 24 28.9 -0.8**
SNR=35
I04A Tendick Farm, 89.14 46⇑ P **P 21 24 30.1 0.0**
baz=89
PKD Parkfield 89.16 54 P **P 21 24 30.7 +0.3**
baz=89,SNR=10
M04C Macdoel 89.18 48 P **P 21 24 31.4 +1.1**
baz=89,SNR=7.2
J04A Umpqua Nationa 89.25 46⇓ P **P 21 24 31.2 +0.7**
baz=89
HATC Hat Creek Radi 89.28 49⇓ P **P 21 24 31.9 +1.1**
baz=90
BHJ Bhuj 89.32 293 *e*P **P 21 24 29.4 -2.0**
BHJ AMb AMB 21 24 34.9
comp=Z,452nm,1.2s,mb6.7

G04A	Mulino	89.36	44	⇑P	P	21 24 31.7	+0.6
	baz=90						
H04A	Detroit Lake	89.46	45	⇑P	P	21 24 30.8	-0.8
	baz=90						
LAVA	Lava Cap Winer	89.47	51	⇑P	P	21 24 32.2	+0.4
	baz=90						
O04C	Chester	89.48	49	⇓P	P	21 24 32.6	+0.9
	baz=90						
SMMC	Simmler	89.49	54	⇑P	P	21 24 32.9	+1.0
	baz=90						
C04A	Brinnon	89.51	42	⇑P	P	21 24 31.7	0.0
	baz=90						
F04A	Amboy	89.54	44	⇓P	P	21 24 32.4	+0.5
	baz=90						
O05C	Quincy	89.54	50	⇑P	P	21 24 32.8	+0.8
	baz=90						
SNCC	San Nicolas Is	89.55	57	eP	P	21 24 32.4	+0.2
	comp=Z,165nm,1.0s,mb6.3						
SNCC	San Nicolas Is	89.55	57	⇑P	P	21 24 33.3	+1.0
	baz=90						
S05C	Merced	89.56	52	⇓P	P	21 24 33.4	+1.2
	baz=90						
PKM	Peak Mountain	89.57	55	P	P	21 24 33.0	+0.7
	baz=90,SNR=15						
BSC	Santa Cruz Isl	89.58	56	P	P	21 24 32.5	+0.2
	baz=90,SNR=12						
M05C	Lookout	89.61	48	⇑P	P	21 24 33.4	+1.1
	baz=90						
CMB	Columbia Colle	89.63	52	eP	P	21 24 32.0	-0.4
	comp=Z,586nm,2.5s,mb6.5						
CMB	Columbia Colle	89.63	52	eP	P	21 24 32.1	-0.4
CMB				pmax	pmax		
	comp=Z,586nm,2.5s,mb6.5						
CMB	Columbia Colle	89.63	52	⇓P	P	21 24 32.6	+0.1
	baz=90						
P05C	Yuba Gap, Truc	89.67	50	P	P	21 24 32.9	+0.2
	baz=90,SNR=8.1						
INK	Inuvik	89.75	21	eP	P	21 24 30.6	-1.7
	comp=Z,160nm,3.0s						
INK	Inuvik	89.75	21	P	P	21 24 30.5	-1.9
INK				pmax	pmax		
	comp=Z,160nm,2.9s						
INK	Inuvik	89.75	21	PKKPbc	PKKPbc	21 42 05.3	-3.2
	comp=Z,12nm,1.0s,baz=62,slow=2.1,SNR=4.0						
J05A	Fort Rock	89.89	46	⇓P	P	21 24 34.6	+1.0
	baz=90,SNR=17						
BEKR	Beckwourth	89.95	50	⇓P	P	21 24 34.2	+0.3
	baz=90,SNR=6.4						
L05A	Lakeview	89.96	48	⇑P	P	21 24 35.4	+1.5
	baz=90						
R05C	Kirkwood Meado	89.98	51	⇑P	P	21 24 35.2	+1.1
	baz=90						
T06C	Millerton Lake	89.99	53	P	P	21 24 33.7	-0.5
	baz=90,SNR=7.5						
I05A	Bend	90.02	46	⇓P	P	21 24 35.1	+0.9
	baz=90						
K05A	Summer Lake	90.03	47	P	P	21 24 35.3	+1.0
	baz=90,SNR=12						
D05A	Enumclaw	90.06	43	⇓P	P	21 24 34.2	-0.1
	baz=90						
M06C	Likely Place G	90.08	49	⇑P	P	21 24 35.7	+1.1
	baz=90						
E05A	Randle	90.10	43	P	P	21 24 34.4	-0.1
	baz=90,SNR=7.2						
H05A	Madras	90.13	45	⇓P	P	21 24 35.4	+0.8
	baz=90						
F05A	White Salmon	90.19	44	⇑P	P	21 24 35.2	+0.3
	baz=90						
B05A	Bryant	90.19	41	⇓P	P	21 24 35.0	+0.1
	baz=90						
RCTC	Rector, Farmer	90.26	54	⇑P	P	21 24 36.5	+1.0
	baz=90						
VES	Vestal, Richgr	90.31	54	P	P	21 24 35.4	-0.4
	baz=90,SNR=10						
SCI	San Clemente I	90.32	57	⇓P	P	21 24 36.3	+0.5
	baz=90						
MOD	Modoc	90.33	48	eP	P	21 24 35.0	-0.7
	comp=Z,48nm,1.0s,mb5.8						
MOD	Modoc	90.33	48	⇑P	P	21 24 35.8	+0.2
	baz=90,SNR=16						
A05A	Maple Falls	90.33	41	⇓P	P	21 24 35.6	+0.1
	baz=90						
KCC	Kaiser Creek	90.35	53	P	P	21 24 35.6	-0.2
	baz=90,SNR=6.3						
C05A	Tolt Reservoir	90.36	42	⇑P	P	21 24 36.0	+0.3
	baz=90						
O06A	Flanigan	90.40	50	⇓P	P	21 24 35.3	-0.7
	baz=91,SNR=12						
ARVC	Arvin	90.41	55	⇑P	P	21 24 36.3	+0.1
	baz=91,SNR=10						
R06C	Coleville	90.43	51	⇑P	P	21 24 36.5	+0.3
	baz=91						
HELL	Mitchell Peak	90.49	53	P	P	21 24 36.1	-0.5
	baz=91,SNR=12						
N06A	Buffalo Meadow	90.49	49	P	P	21 24 37.5	+1.0
	baz=91,SNR=12						
CIS	Catalina Islan	90.50	57	⇑P	P	21 24 36.4	-0.3
	baz=91,SNR=13						
K06A	Valley Falls	90.51	47	P	P	21 24 37.2	+0.7
	baz=91,SNR=8.4						
E06A	Yakima	90.63	43	⇑P	P	21 24 37.0	0.0
	baz=91,SNR=6.7						
F06A	Goldendale	90.63	44	⇓P	P	21 24 36.6	-0.4
	baz=91,SNR=6.7						
J06A	Christmas Vall	90.66	47	⇑P	P	21 24 37.4	+0.2
	baz=91,SNR=13						
R07C	Lee Vining	90.68	52	⇑P	P	21 24 38.2	+0.8
	baz=91						
DECC	Green Verdugo	90.69	56	⇓P	P	21 24 37.8	+0.3
	baz=91						
I06A	Prineville	90.73	46	⇓P	P	21 24 37.5	0.0
	baz=91						
H06A	Lindquist Farm	90.77	45	P	P	21 24 37.9	+0.2
	baz=91,SNR=9.2						
ISA	Isabella	90.78	54	eP	P	21 24 37.9	0.0
	comp=Z,831nm,3.0s						
ISA	Isabella	90.78	54	eP	P	21 24 37.9	0.0
ISA				pmax	pmax		
	comp=Z,831nm,3.0s						
ISA	Isabella	90.78	54	⇓P	P	21 24 38.0	+0.1
	baz=91						
D06A	Cle Elum	90.83	43	⇑P	P	21 24 37.2	-0.7
	baz=91						
RPN	Rapa Nui	91.02	117	P	P	21 24 39.6	+0.3
	comp=Z,121nm,0.9s,mb6.2,baz=310,slow=5.7,SNR=7.3						
EDW2	Edwards Air Fo	91.06	55	⇑P	P	21 24 38.9	-0.3
	baz=91,SNR=21						
L07A	Adell	91.06	48	P	P	21 24 40.5	+1.5
	baz=91,SNR=7.3						
M07A	Soldier Meadow	91.08	49	⇑P	P	21 24 39.5	+0.3
	baz=91,SNR=22						
O07A	Toulon	91.12	50	⇓P	P	21 24 39.8	+0.4
	baz=91,SNR=11						
N07B	Gerlach	91.14	49	⇓P	P	21 24 39.8	+0.3
	baz=91						
TIN	Tinemaha	91.17	53	⇑P	P	21 24 40.0	+0.3
	baz=91						
CWC	Cottonwood Cre	91.20	54	⇑P	P	21 24 40.0	+0.1
	baz=91						
K07A	Rock Creek Ran	91.23	47	⇑P	P	21 24 40.4	+0.6
	baz=91,SNR=13						
BFSC	Mount Baldy St	91.24	56	⇓P	P	21 24 39.4	-0.7
	baz=91,SNR=15						
F07A	Phinny Hill Vi	91.24	44	⇑P	P	21 24 40.4	+0.6
	baz=91						
I07A	Izee	91.25	46	⇑P	P	21 24 40.1	+0.2
	baz=91,SNR=12						
S08C	White Mtn Res	91.28	53	⇓P	P	21 24 39.6	-0.6
	baz=91,SNR=6.2						
J07A	Hines	91.28	47	⇓P	P	21 24 40.3	+0.2
	baz=92						
H07A	Lands Inn, Kim	91.29	45	⇑P	P	21 24 40.3	+0.2
	baz=92						
NVAR	Mina Array Bea	91.31	52	P	P	21 24 41.1	+0.8
	comp=Z,10nm,0.9s,mb5.2,baz=241,slow=3.7,SNR=20						
NVAR				PKKPbc	PKKPbc	21 42 03.8	+0.4
	comp=Z,1.4nm,0.8s,baz=57,slow=5.3,SNR=4.0						
NVAR				PKPPKP		21 50 11.6	
	comp=Z,2.1nm,1.1s,baz=77,slow=5.2,SNR=4.1						
G07A	Ruggs Ranch, H	91.32	45	⇓P	P	21 24 39.7	-0.5
	baz=92,SNR=6.5						
LRMC	Laurel Mountai	91.38	55	⇑P	P	21 24 40.5	-0.2
	baz=92,SNR=15						
D07A	Quincy	91.42	43	⇑P	P	21 24 40.1	-0.5
	baz=92,SNR=7.9						
C07A	Waterville	91.44	42	⇓P	P	21 24 39.1	-1.6
	baz=92,SNR=8.3						
A07A	Ashnola River,	91.45	41	⇑P	P	21 24 39.9	-0.8
	baz=92						
KK31	Karatay Array	91.51	313	i P	P	21 24 39.5	-1.6
KK31				pmax	pmax		
	comp=Z,1μm,2.4s,mb6.8						
109C	Camp Elliot, M	91.51	57	⇓P	P	21 24 40.2	-1.2
	baz=92						
B07A	Winthrop	91.52	41	P	P	21 24 41.0	0.0
	baz=92,SNR=7.2						
HAWA	Hanford	91.59	44	eP	P	21 24 40.3	-1.2
	comp=Z,100nm,1.6s,mb5.9						
MPMC	Manual Prospec	91.62	54	⇓P	P	21 24 41.5	-0.3
	baz=92,SNR=14						
WVOR	Wild Horse Val	91.64	48	eP	P	21 24 41.2	-0.5
	comp=Z,118nm,1.3s,mb6.1						
WVOR				ePP	PP	21 28 22.0	+1.7
WVOR	Wild Horse Val	91.64	48	eP	P	21 24 41.2	-0.5
WVOR				e		21 28 22.0	
WVOR				pmax	pmax		
	comp=Z,118nm,1.3s,mb6.1						
Q08A	Gabbs	91.66	51	P	P	21 24 41.9	-0.1
	baz=92,SNR=11						
P08A	Dixie Valley	91.66	50	⇑P	P	21 24 42.2	+0.3
	baz=92						
M08A	Happy Creek Ra	91.68	49	P	P	21 24 42.0	0.0
	baz=92,SNR=15						
K08A	Mann Creek Ran	91.79	47	⇑P	P	21 24 42.6	+0.2
	baz=92						
L08A	Fields	91.81	48	⇓P	P	21 24 42.6	0.0
	baz=92,SNR=17						
G08A	Pilot Rock	91.82	45	P	P	21 24 42.9	+0.4
	baz=92,SNR=13						
J08A	Circle Bar Ran	91.89	47	⇓P	P	21 24 42.9	0.0
	baz=92						
I08A	Drewsey	91.90	46	⇑P	P	21 24 43.4	+0.5
	baz=92						
H08A	Prairie City	91.91	46	⇑P	P	21 24 43.1	+0.1
	baz=92						
E08A	Dider Farm, El	91.93	44	⇑P	P	21 24 42.6	-0.4
	baz=92,SNR=7.5						
F08A	Pendleton	92.02	44	⇑P	P	21 24 43.5	0.0
	baz=92						
B08A	Colville Reser	92.03	42	⇓P	P	21 24 42.3	-1.1
	baz=92,SNR=8.4						
S09A	Goldfield	92.06	52	P	P	21 24 43.6	-0.2
	baz=92,SNR=16						
GSC	Goldstone	92.07	55	eP	P	21 24 42.7	-1.2
	comp=Z,832nm,3.0s						
GSC	Goldstone	92.07	55	eP	P	21 24 42.7	-1.2
GSC				pmax	pmax		
	comp=Z,832nm,3.0s						
GSC	Goldstone	92.07	55	⇑P	P	21 24 42.9	-1.0
	baz=92,SNR=21						
MONP	Monument Peak	92.08	57	P	P	21 24 44.5	+0.5
	baz=92,SNR=14						
D08A	Wollman Farm,	92.11	43	⇓P	P	21 24 42.9	-0.9
	baz=92						
C08A	Higginbotham F	92.13	42	⇑P	P	21 24 43.1	-0.8
	baz=92,SNR=9.4						
PFO	Pinyon Flat Ob	92.14	57	P	P	21 24 44.0	-0.3
	comp=Z,182nm,1.1s,mb6.3,SNR=6.0						
PFO	Pinyon Flat Ob	92.14	57	⇑P	P	21 24 44.8	+0.4
	baz=92						
A08A	Turner Farm, O	92.15	41	⇓P	P	21 24 43.1	-0.9
	baz=92						
FURC	Furnace Creek,	92.18	54	P	P	21 24 44.3	-0.1
	baz=92,SNR=16						
Q09A	Carvers	92.23	51	⇑P	P	21 24 46.3	+1.7
	baz=92						
N09A	Rock Creek Ran	92.24	49	⇑P	P	21 24 44.4	-0.2
	baz=92,SNR=8.7						
R09A	Tonopah	92.24	52	P	P	21 24 44.6	0.0
	baz=92,SNR=11						
SYO	Syowa Base	92.27	199	⇓eP	P	21 24 41.0	-3.2
SYO	Syowa Base	92.27	199	⇓/PcP	PcP	21 24 44.0	-0.9
L09A	Wilkinson Ranc	92.29	48	⇓P	P	21 24 45.4	+0.6
	baz=92,SNR=20						
DVTC	Desert V Tower	92.32	58	⇑P	P	21 24 45.7	+0.6
	baz=92						
K09A	Rome	92.34	47	⇓P	P	21 24 45.8	+0.9
	baz=92						
P09A	Austin	92.36	51	⇑P	P	21 24 47.0	+1.8
	baz=92						
M09A	Marrel Ranch,	92.37	49	⇓P	P	21 24 45.7	+0.6
	baz=92,SNR=18						
HEC	Hector,Ludlow	92.40	55	⇑P	P	21 24 45.0	-0.4
	baz=92,SNR=12						
O09A	Fish Creek Ran	92.40	50	⇓P	P	21 24 44.9	-0.5
	baz=93,SNR=12						
J09A	Fry Pan Ranch,	92.41	47	⇓P	P	21 24 45.6	+0.3
	baz=93,SNR=13						
I09A	Lost Marbles R	92.50	46	⇑P	P	21 24 46.0	+0.3
	baz=93						
D09A	Jones Farm, Ri	92.52	43	⇓P	P	21 24 45.2	-0.5
	baz=93,SNR=7.2						
E09A	Wood Farm, Sta	92.56	44	⇓P	P	21 24 45.9	0.0
	baz=93,SNR=6.5						
BELC	Belle Mtn.	92.57	56	P	P	21 24 45.7	-0.6
	baz=93,SNR=27						
SHOC	Shoshone	92.58	54	⇑P	P	21 24 46.5	+0.2
	baz=93						
S10A	Tonopah Range,	92.58	52	P	P	21 24 46.3	+0.1
	baz=93,SNR=23						
U10A	Ash Meadows, A	92.60	54	⇑P	P	21 24 46.5	+0.1
	baz=93,SNR=12						
A09A	Danville	92.61	41	⇓P	P	21 24 45.4	-0.6
	baz=93						
SWSC	Sam W. Stewart	92.61	57	⇓P	P	21 24 46.7	+0.3
	baz=93						
F09A	S2 Ranch, Elgi	92.61	44	⇓P	P	21 24 46.0	-0.2
	baz=93						
G09A	Cove	92.64	45	⇑P	P	21 24 45.6	-0.8
	baz=93,SNR=8.0						
H09A	Durkee	92.64	45	⇓P	P	21 24 45.7	-0.6
	baz=93						
C09A	Chrisman Ranch	92.65	42	⇓P	P	21 24 45.4	-0.9
	baz=93						
TPNV	Topopah Spring	92.73	53	eP	P	21 24 47.1	+0.2
	comp=Z,39nm,0.8s,mb5.9						
TPNV				ePP	PP	21 28 29.4	+0.4
TPNV	Topopah Spring	92.73	53	eP	P	21 24 47.1	+0.2
TPNV				e		21 28 29.4	
TPNV				pmax	pmax		
	comp=Z,39nm,0.8s,mb5.9						
TPNV	Topopah Spring	92.73	53	⇓P	P	21 24 46.8	-0.1
	baz=93,SNR=20						
TUQ	Turquoise Mtn.	92.81	55	⇓P	P	21 24 47.7	+0.3
	baz=93						
B09A	Rice	92.82	42	P	P	21 24 46.9	-0.1
	baz=93,SNR=7.4						
Q10A	Clear Creek Ra	92.84	51	P	P	21 24 47.5	+0.1
	baz=93,SNR=12						
R10A	Warm Springs	92.85	52	⇓P	P	21 24 48.2	+0.8
	baz=93						
P10A	Eureka	92.89	51	⇓P	P	21 24 49.3	+1.7
	baz=93						
BMO	Blue Mountains	92.92	45	eP	P	21 24 46.6	-1.0
	comp=Z,36nm,1.3s,mb5.6						
BMO				ePP	PP	21 28 29.3	-1.1
BMO	Blue Mountains	92.92	45	eP	P	21 24 46.6	-1.0
BMO				e		21 28 29.3	
BMO				pmax	pmax		
	comp=Z,35nm,1.3s,mb5.6						
GMRC	Granite Mounta	92.94	55	⇓P	P	21 24 47.8	-0.2
	baz=93,SNR=20						
O10A	Cortez Mining,	92.94	50	P	P	21 24 47.9	+0.1
	baz=93,SNR=6.2						
K10A	MacKenzie Ranc	92.97	47	⇓P	P	21 24 47.9	-0.1
	baz=93						
BC3	Big Chuckw Mtn	92.98	57	⇓P	P	21 24 48.0	-0.1
	baz=93,SNR=13						
CHKZ	Chkalovo	92.98	324	i P	P	21 24 44.9	-2.8
CHKZ	Chkalovo	92.98	324	i P	P	21 24 44.8	-2.9
CHKZ				pmax	pmax		
	comp=Z,425nm,1.6s,mb6.6						
M10A	I.L. Ranch, Tu	93.06	49	⇑P	P	21 24 48.1	-0.3
	baz=93,SNR=8.0						
BRVK	Borovoye	93.09	323	P	P	21 24 46.3	-1.9
	comp=Z,2μm,0.9s,mb7.4,SNR=64						
BRVK	Borovoye	93.09	323	eP	P	21 24 45.8	-2.4
	comp=Z,239nm,0.9s,mb6.6						
BRVK	Borovoye	93.09	323	eP	P	21 24 45.8	-2.4
BRVK				pmax	pmax		
	comp=Z,240nm,0.9s,mb6.6						
BRVK	Borovoye	93.09	323	P	P	21 24 45.8	-2.4
	SNR=35						
G10A	Bishop Farm, J	93.11	45	⇓P	P	21 24 46.7	-1.8
	baz=93,SNR=12						
L10A	Juniper Basin	93.18	48	⇑P	P	21 24 48.0	-0.9
	baz=93,SNR=14						
S11A	Rachel	93.21	53	⇑P	P	21 24 49.5	+0.3
	baz=93						
D10A	Wagner Farm, O	93.22	43	⇑P	P	21 24 49.0	0.0
	baz=93,SNR=7.7						
V11A	Goodsprings	93.25	54	P	P	21 24 48.9	-0.5
	baz=93,SNR=15						
E10A	Myers Farm, Un	93.26	44	⇓P	P	21 24 48.2	-1.0
	baz=93						
A10A	Northport	93.28	41	⇓P	P	21 24 49.3	+0.2
	baz=94						
H10A	Noah's Angus R	93.28	46	⇓P	P	21 24 48.7	-0.6
	baz=94,SNR=9.2						
IRM	Iron Mountain	93.29	56	⇑P	P	21 24 49.2	-0.4
	baz=93						
C10A	Spilker Farm,	93.30	42	⇑P	P	21 24 49.5	+0.2
	baz=94						
B10A	Chitwood Farm,	93.41	42	⇑P	P	21 24 49.9	+0.1
	baz=94						
R11A	Troy Canyon, C	93.42	52	⇓P	P	21 24 49.5	-0.6
	baz=94,SNR=11						
Q11A	Duckwater	93.42	51	⇓P	P	21 24 49.8	-0.3
	baz=94,SNR=16						
NEW	Newport	93.47	42	eP	P	21 24 49.7	-0.4
	comp=Z,26nm,1.2s,mb5.5						
NEW				ePP	PP	21 28 30.1	-4.5
NEW	Newport	93.47	42	eP	P	21 24 49.7	-0.4
NEW				e		21 28 30.1	
NEW				pmax	pmax		
	comp=Z,26nm,1.2s						
NEW	Newport	93.47	42	LR	LR	22 01 12.8	
	comp=Z,177μm,18.2s,MS7.6,baz=353,slow=32						
O11A	Cowboy Ranch,	93.56	50	⇑P	P	21 24 50.3	-0.4
	baz=94,SNR=15						
T11A	Corn Creek, Al	93.58	53	⇑P	P	21 24 50.2	-0.7
	baz=94,SNR=16						
K11A	Parker Ranch,	93.58	48	⇓P	P	21 24 50.2	-0.6
	baz=94,SNR=11						
M11A	Holland Ranch,	93.61	49	⇑P	P	21 24 51.2	+0.4
	baz=94,SNR=11						
V12A	Nelson	93.71	55	⇓P	P	21 24 52.1	+0.6
	baz=94						
G11A	Walters Elk Ra	93.72	45	⇑P	P	21 24 51.3	0.0
	baz=94						
MFID	Camas Ranch	93.81	47	⇓P	P	21 24 49.7	-2.0
	baz=94						
H11A	Donnelly	93.82	46	⇑P	P	21 24 49.8	-2.0
	baz=94						
E11A	Bogner Ranch,	93.87	44	⇑P	P	21 24 50.5	-1.4
	baz=94						
S12A	Delamar Landin	93.91	53	⇓P	P	21 24 52.5	+0.1
	baz=94,SNR=6.2						
B11A	Sandpoint	94.00	42	⇑P	P	21 24 52.3	-0.1
	baz=94						
U12A	Valley of Fire	94.03	54	⇑P	P	21 24 53.5	+0.6
	baz=94						
A11A	Hall Mountain,	94.06	41	⇑P	P	21 24 52.4	-0.4
	baz=94						
P12A	McGill	94.07	51	P	P	21 24 52.7	-0.4
	baz=94,SNR=11						
Q12A	Willow Creek R	94.08	51	P	P	21 24 53.6	+0.5
	baz=94,SNR=16						
N12A	Clover Valley,	94.11	50	⇑P	P	21 24 52.8	-0.4
	baz=94,SNR=19						
PDMCI	Parker Dam,Lak	94.14	56	⇓P	P	21 24 53.3	-0.2
	baz=94						
R12A	Pony Springs,	94.18	52	⇓P	P	21 24 54.5	+0.9
	baz=94						
L12A	House Creek Ra	94.26	48	⇑P	P	21 24 55.4	+1.5
	baz=94,SNR=13						
M12A	Wells	94.26	49	⇓P	P	21 24 55.2	+1.3
	baz=94,SNR=8.0						
O12A	Currie	94.27	50	⇓P	P	21 24 53.4	-0.5
	baz=94,SNR=12						
J12A	Stokes Ranch,	94.32	47	⇓P	P	21 24 53.4	-0.7
	baz=94,SNR=11						
K12A	Draper Farm, C	94.40	48	P	P	21 24 55.4	+0.9
	baz=95,SNR=9.6						
X13A	Yucca	94.42	56	⇑P	P	21 24 54.7	-0.1
	baz=95						
W13A	Hualapai Mount	94.43	55	⇓P	P	21 24 54.7	-0.1
	baz=95						
F12A	Elk City	94.46	45	⇓P	P	21 24 55.0	+0.3
	baz=95						
U13A	Pakoon Wash	94.49	54	⇓P	P	21 24 55.5	+0.4
	baz=95						
B12A	Libby	94.51	42	⇑P	P	21 24 55.1	+0.2
	baz=95						
A12A	Yaak River Ran	94.52	41	⇑P	P	21 24 55.6	+0.8
	baz=95						
D12A	Red Ives Fores	94.53	43	⇓P	P	21 24 53.8	-1.2
	baz=95						
T13A	Saint George	94.60	53	⇑P	P	21 24 54.2	-1.4
	baz=95						
S13A	Holt Ranch, En	94.69	53	⇓P	P	21 24 55.6	-0.4
	baz=95						
N13A	Wendover, West	94.74	50	⇓P	P	21 24 56.1	0.0
	baz=95						
P13A	Bates Ranch, G	94.75	51	⇑P	P	21 24 56.1	-0.1
	baz=95,SNR=8.3						
M13A	Montello	94.82	49	⇑P	P	21 24 55.8	-0.7
	baz=95,SNR=16						
HLID	Hailey	94.85	47	eP	P	21 24 55.9	-0.6
	comp=Z,65nm,1.5s,mb5.8						
HLID				ePP	PP	21 28 45.0	-0.5
HLID	Hailey	94.85	47	⇑P	P	21 24 56.0	-0.5
	baz=95						
K13A	Stover Farm, H	95.00	48	⇑P	P	21 24 56.7	-0.5
	baz=95						
J13A	Cove Ranch, Pi	95.00	47	⇑P	P	21 24 56.3	-0.9
	baz=95						
Y14A	Wickenburg	95.04	57	⇓P	P	21 24 57.0	-0.6
	baz=95						
L13A	Double Diamond	95.05	48	⇑P	P	21 24 58.4	+0.9
	baz=95						
H13A	Challis	95.05	46	⇓P	P	21 24 57.3	-0.2
	baz=95,SNR=6.5						
W14A	Seligman	95.09	55	⇓P	P	21 24 56.8	-1.1
	baz=95						
I13A	Wildhorse Cree	95.09	47	P	P	21 24 58.4	+0.8
	baz=95,SNR=6.8						
F13A	Darby	95.11	45	⇑P	P	21 24 57.5	-0.2
	baz=95						
C13A	Hot Springs	95.11	43	⇓P	P	21 24 57.2	-0.5
	baz=95						
G13A	Cobalt	95.12	45	⇓P	P	21 24 56.3	-1.4
	baz=95						
U14A	Mt Trumbull	95.12	54	⇓P	P	21 24 58.9	+0.9
	baz=95						
B13A	Whitefish	95.25	42	⇑P	P	21 24 57.5	-0.7
	baz=95						
S14A	Cedar City	95.25	53	⇓P	P	21 24 59.3	+0.8
	baz=95						
T14A	Hurricane	95.26	53	⇓P	P	21 24 59.4	+0.9
	baz=95						
A13A	Flathead Natio	95.33	41	⇓P	P	21 24 58.1	-0.5
	baz=96						
M14A	Sheep Mountain	95.44	49	⇓P	P	21 24 59.3	0.0
	baz=96,SNR=13						
N14A	Grayback Hills	95.51	50	⇑P	P	21 24 60.0	+0.3
	baz=96,SNR=7.6						
K14A	Jones Ranch, D	95.66	48	⇑P	P	21 25 00.7	+0.5
	baz=96,SNR=6.3						
G14A	Jackson	95.67	45	⇑P	P	21 25 00.3	+0.1
	baz=96				

YKA Yellowknife Ar 96.26 28 P **P 21 25 00.6 -1.9**
comp=Z,28nm,0.9s,mb5.7,baz=267,slow=4.4,SNR=42
YKA PKKPbc PKKPbc 21 41 47.5 -3.8
comp=Z,8.1nm,1.1s,baz=82,slow=2.7,SNR=16
YKA SKKPbc 21 45 35.7
comp=Z,1.1nm,0.5s,baz=80,slow=2.7,SNR=9.4
YKA PKPPKP 21 50 00.9
comp=Z,2.0nm,1.1s,baz=87,slow=2.6,SNR=3.7
MPU Maple Canyon 96.63 51 *e*P **P 21 25 04.4 -0.3**
comp=Z,182nm,2.0s,mb6.2
HWUT Hardware Ranch 96.79 49 *e*P **P 21 25 05.3 -0.1**
comp=Z,15nm,1.0s,mb5.4
HWUT *e*PP PP 21 29 01.5 +1.0
BOZ Bozeman (W) 96.99 45 *e*P **P 21 25 05.9 -0.3**
comp=Z,183nm,2.5s,mb6.1
BOZ Bozeman (W) 96.99 45 *e*P **P 21 25 05.9 -0.3**
BOZ pmax pmax
comp=Z,183nm,2.5s,mb6.1
BOZ Bozeman (W) 96.99 45 ⇓P **P 21 25 06.0 -0.2**
baz=97
AHID Auburn Hatcher 97.20 48 *e*P **P 21 25 07.3 0.0**
comp=Z,12nm,0.8s,mb5.4
TPAW Teton Pass 97.35 47 *e*P **P 21 25 07.8 -0.1**
comp=Z,30nm,1.3s,mb5.6
IMW Indian Meadow 97.38 47 *e*P **P 21 25 09.3 +1.2**
comp=Z,11nm,0.9s,mb5.3
SNOW Snow King Moun 97.49 47 *e*P **P 21 25 07.8 -0.7**
comp=Z,9.4nm,0.9s,mb5.2
YNR Norris Junctio 97.61 46 *e*P **P 21 25 09.8 +0.8**
PDAR Pinedale Array 98.34 48 P **P 21 25 11.4 -0.9**
comp=Z,12nm,0.9s,mb5.4,baz=246,slow=2.6,SNR=30
PDAR PKKPbc PKKPbc 21 41 53.9 +9.0
comp=Z,1.6nm,0.8s,baz=104,slow=6.6,SNR=3.7
PDAR PKPPKP 21 49 58.2
comp=Z,3.3nm,1.1s,baz=111,slow=3.3,SNR=6.4
GCMT Greycliff 98.37 45 *e*P **P 21 25 12.6 +0.1**
NVL N'lazarevskaya 98.41 191 *e*P **P 21 25 12.5 +0.3**
NVL pmax pmax
comp=N,42nm,1.6s
NVL pmax pmax
comp=E,19nm,1.6s
NVL pmax pmax
comp=Z,101nm,1.6s,mb6.1
RLMT Red Lodge 98.63 46 *e*P **P 21 25 13.1 -0.5**
comp=Z,2μm,3.9s
SVE Sverdlovsk 98.90 326 *e*P **P 21 25 12.3 -2.2**
SVE pmax pmax
comp=Z,238nm,2.0s,mb6.4
AB31 Akbulak array 99.31 319 *i*P **P 21 25 13.1 -3.4**
SNAA Sanae 99.91 187 *e*Pdiff Pdif 21 25 18.5 -0.6
SNAA *e* 21 25 22.3
SNAA *e* 21 25 26.4
SNAA *e* 21 25 29.3
SNAA *e* 21 25 36.2
SNAA *e* 21 25 40.8
SNAA *e* 21 25 44.1
SNAA *e* 21 25 47.7
SNAA Sanae 99.91 187 P Pdif 21 25 16.8 -2.3
SNAA pmax pmax
comp=Z,8.0nm,1.0s
SNAA Sanae 99.91 187 P Pdif 21 25 16.8 -2.3
comp=Z,7.7nm,1.0s,baz=155,slow=3.2,SNR=11
ARU Arti 100.05 326 *e*P Pdif 21 25 17.7 -2.1
ARU *e* 21 29 23.8
ARU S SKSac 21 35 53.4 -4.5
ARU SS SS 21 43 39.2 -8.1
AKTK Aktyubinsk 100.55 320 P Pdif 21 25 19.6 -2.4
AKTO Aktyubinsk 100.55 320 *i*P Pdif 21 25 18.9 -3.1
AKTO pmax pmax
comp=Z,2.0nm,1.3s
AKTO Aktyubinsk 100.55 320 P Pdif 21 25 19.6 -2.4
comp=Z,34nm,1.0s,baz=84,slow=5.4,SNR=31
LAO LASA Array 100.77 44 *e*Pdif Pdif 21 25 23.2 +0.2
comp=Z,123nm,1.8s
VNA3 Neumayer Olymp 101.00 185 *e*Pdiff Pdif 21 25 23.3 -0.7
VNA3 *e* 21 25 26.9
VNA3 *e* 21 25 29.8
VNA3 *e* 21 25 32.4
VNA3 *e* 21 25 34.8
VNA3 *e* 21 25 41.2
VNA3 *e* 21 25 45.6
VNA3 *e* 21 25 50.2
VNA3 *e* 21 25 55.6
VNA3 *e* 21 29 49.1
VNA2 Neumayer--Watz 101.11 186 *e*Pdiff Pdif 21 25 24.0 -0.4
baz=160,slow=5.5
VNA2 *e* 21 25 27.3
VNA2 *e* 21 25 31.0
VNA2 *e* 21 25 34.1
VNA2 *e* 21 25 35.9
VNA2 *e* 21 25 41.9
VNA2 *e* 21 25 46.9
VNA2 *e* 21 25 51.1
VNA2 *e* 21 25 56.2
VNA2 *e* 21 29 48.6
VNA1 Neumayer--Stat 101.45 185 *e*Pdiff Pdif 21 25 25.8 -0.2
VNA1 *e* 21 25 29.3
VNA1 *e* 21 25 32.2
VNA1 *e* 21 25 34.8
VNA1 *e* 21 25 41.7
VNA1 *e* 21 25 46.2
VNA1 *e* 21 25 50.1
VNA1 *e* 21 25 55.5
VNA1 *e* 21 29 48.6
BANOM Banah 101.67 295 Pdiff Pdif 21 25 27.6 +0.6
SNR=10
OPO Ambohidratompo 105.07 249 Pdiff Pdif 21 25 42.1 0.0
comp=Z,13nm,1.1s,baz=110,slow=8.6,SNR=4.7
OPO PKiKP PKiKP 21 29 57.1 -0.6
comp=Z,10nm,1.0s,baz=60,slow=5.2,SNR=2.9
OPO PKKPbc PKKPbc 21 41 23.8 -0.7
comp=Z,2.0nm,0.7s,baz=307,slow=5.1,SNR=3.5
ULM Lac du Bonnet 107.31 40 Pdiff Pdif 21 25 50.6 -1.4
comp=Z,4.8nm,1.1s,baz=348,slow=2.3,SNR=3.7
ULM PKiKP PKiKP 21 29 58.9 -2.0
comp=Z,8.2nm,0.9s,baz=298,slow=3.6,SNR=4.9
ULM PKKP PKKPbc 21 41 30.0 +11
comp=Z,8.3nm,1.0s,baz=90,slow=4.4,SNR=5.4
ECSD EROS,Sioux Fal 107.74 47 *e*Pdif Pdif 21 25 49.8 -4.2
comp=Z,88nm,2.0s
USHA Ushuaia 107.94 155 PKKPbc PKKPbc 21 41 14.4 -2.2
comp=Z,23nm,0.8s,baz=0.6,slow=4.4,SNR=13
USHA PKKPab PKKPab 21 41 24.1 -6.1
comp=Z,16nm,0.8s,baz=308,slow=2.3,SNR=5.6
TMCR Tamitsa 108.43 336 *e*P Pdif 21 25 46.3 -11
TMCR pmax pmax
comp=Z,61nm,1.0s
APA Apatity 108.71 340 ⇑*i*P PKiKP 21 30 04.0 +1.0
APA pmax pmax
comp=Z,31nm,1.0s
QRN Al-Qurain 109.14 298 *e*P PKiKP 21 30 01.2 -3.8
QRN AMb AMB 21 30 39.1
comp=Z,146nm,1.2s
UMR Umm Al-Rimmam 109.28 299 *e*P PKiKP 21 30 02.1 -3.2
RDF Al-Radifah 109.45 298 *e*P PKiKP 21 30 02.8 -2.7
RDF AMb AMB 21 30 47.2
comp=Z,122nm,1.5s
MIB Mutribah 109.60 299 *e*P PKiKP 21 30 02.8 -3.1
MIB AMb AMB 21 30 48.1
comp=Z,141nm,1.0s
NAY Al-Naaiem 109.71 298 *e*P PKiKP 21 30 03.1 -2.9
NAY AMb AMB 21 30 43.1
comp=Z,120nm,1.5s
ARCES ARCESS Array B 110.12 343 Pdif Pdif 21 26 03.3 -1.3
ARCES PKPdf PKiKP 21 30 04.4 -1.2
ARCES PKKPbc PKKPbc 21 41 07.6 -2.5
ARCES PKKPab PKKPab 21 41 18.3 -0.2
ARCES SKKPbc 21 44 56.1
ARCES ARCESS Array B 110.12 343 Pdiff Pdif 21 26 03.3 -1.3
comp=Z,4.5nm,0.8s,baz=27,slow=3.0,SNR=5.3
ARCES PKiKP PKiKP 21 30 04.4 -1.2
comp=Z,26nm,0.9s,baz=83,slow=1.8,SNR=39
ARCES PKKPbc PKKPbc 21 41 07.6 -2.5
comp=Z,19nm,1.1s,baz=300,slow=2.4,SNR=4.8
ARCES PKKPab PKKPab 21 41 18.3 -0.2
comp=Z,6.9nm,0.9s,baz=220,slow=3.2,SNR=4.7
ARCES SKKPbc 21 44 56.1
comp=Z,8.7nm,0.9s,baz=33,slow=2.9,SNR=4.6
GOF Gofitskoye 111.17 315 *e*PKIKP PKiKP 21 30 05.5 -2.8
KIV Kislovodsk 111.63 314 *e*Pdif Pdif 21 26 11.6 +0.4
KIV Kislovodsk 111.63 314 *e*P Pdif 21 26 11.0 -0.2
KIV pmax pmax
comp=Z,12nm,1.1s
JOF Joensuu 111.69 336 *e*pkp Pdif 21 26 08.8 -2.7
JOF Joensuu 111.69 336 *e*PKP Pdif 21 26 08.8 -2.7

OBN Obninsk 112.44 327 *e*Pdif Pdif 21 26 13.3 -1.6
OBN ⇑*e*PKP PKiKP 21 30 09.6 -0.8
OBN Obninsk 112.44 327 ⇑*i*P Pdif 21 26 13.6 -1.2
OBN *i* 21 30 09.2
OBN *i* 21 30 57.9
OBN pmax pmax
comp=Z,58nm,1.2s
HDIL Hopedale 113.61 49 PKiKP PKiKP 21 30 12.1 -1.1
SOC Sochi 113.81 314 *i*PKIKP SKPdf 21 33 47.6 -1.1
SOC pmax pmax
comp=Z,35nm,0.9s
KAF Kangasniemi 114.10 337 *e*pkp Pdif 21 26 19.3 -2.9
KAF Kangasniemi 114.10 337 *e*pkp PKiKP 21 30 11.4 -2.0
KAF Kangasniemi 114.10 337 *e*PKP Pdif 21 26 19.3 -2.9
KAF *e*PKP PKiKP 21 30 11.4 -2.0
FINES FINESS Array B 114.55 336 *i*PKIKP PKiKP 21 30 12.5 -1.8
FINES 21 31 14.9
FINES 21 40 53.0
FINES pmax pmax
comp=Z,24nm,0.9s
FINES FINESS Array B 114.55 336 PKiKP PKiKP 21 30 12.5 -1.8
comp=Z,24nm,0.9s,baz=93,slow=3.5,SNR=24
FINES PP PP 21 31 14.9 +4.0
baz=64,slow=8.7,SNR=4.8
FINES PKKPbc PKKPbc 21 40 53.0 -2.1
comp=Z,11nm,0.8s,baz=176,slow=3.9,SNR=13
FINES SKKPbc 21 44 39.8
comp=Z,2.7nm,0.8s,baz=132,slow=2.8,SNR=3.7
MOR8 Moi Rana 115.49 344 *e*PKPdf PKPdf 21 30 15.6 -0.4
MOR8 Moi Rana 115.49 344 *e*PKPdf PKPdf 21 30 15.6 -0.4
MALT Malatya 115.90 309 ⇑P PKPdf 21 30 16.5 -1.1
MALT Malatya 115.90 309 ⇑*i*P PKPdf 21 30 16.5 -1.1
MALT Malatya 115.90 309 ⇑*i*P PKKPbc 21 40 49.9 +0.1
PLCA Paso Flores 115.99 142 PKP PKPdf 21 30 15.8 -2.0
comp=Z,33nm,1.1s,baz=221,slow=3.1,SNR=23
PLCA PKKPbc PKKPbc 21 40 48.2 -1.4
comp=Z,18nm,1.0s,baz=52,slow=5.8,SNR=18
PLCA SKKPbc 21 44 33.7
comp=Z,9.8nm,1.1s,baz=59,slow=11,SNR=3.9
AAM Ann Arbor 117.33 46 *e*PKPdf PKPdf 21 30 19.5 -0.7
NSS Namsos 117.41 343 *e*PKPdf PKPdf 21 30 16.2 -3.5
NSS Namsos 117.41 343 *e*PKPdf PKPdf 21 30 16.2 -3.5
IDID Didziasalis 117.46 330 *e*P PKPdf 21 30 19.9 -0.1
IDID AMb AMB 21 30 21.9
comp=Z,1μm,0.9s
IZAR Zarasai 117.48 331 *e*P PKPdf 21 30 20.2 +0.1
IZAR AMb AMB 21 30 21.9
comp=Z,913nm,1.0s
IIGN Ignalina 117.69 330 *e*P PKPdf 21 30 20.7 +0.2
IIGN AMb AMB 21 30 22.7
comp=Z,2μm,1.4s
SFJD Kangerlussuaq 117.75 11 *i*PKIKP PKPdf 21 30 19.7 -0.6
SFJD pmax pmax
comp=Z,24nm,0.9s
SFJD Kangerlussuaq 117.75 11 *i*P PKPdf 21 30 19.7 -0.6
comp=Z,24nm,0.9s
SFJD Kangerlussuaq 117.75 11 *i*P PKKPbc 21 40 44.7 +0.7
comp=Z,40nm,1.5s
TGUH Tegucigalpa,Un 117.82 78 *e*PKPdf PKPdf 21 30 21.6 -0.3
KMBO Kilima Mbogo 118.11 265 PKP PKPdf 21 30 21.4 -1.2
KMBO *e*PKPdf PKPdf 21 30 21.9 -0.7
KMBO PKKPbc PKKPbc 21 40 42.5 +1.3
KMBO Kilima Mbogo 118.11 265 PKP PKPdf 21 30 21.4 -1.2
comp=Z,8.0nm,1.1s,baz=60,slow=3.5,SNR=6.9
KMBO PKKPbc PKKPbc 21 40 42.5 +1.3
comp=Z,3.1nm,0.9s,baz=332,slow=2.0,SNR=5.4
AKASG Malin Array Be 118.26 325 PKP PKPdf 21 30 19.4 -2.4
AKASG PP PP 21 31 37.2 +0.1
AKASG PKKPbc PKKPbc 21 40 38.8 -3.0
AKASG SKKPbc 21 44 27.2
AKASG Malin Array Be 118.26 325 PKPdf 21 30 19.4 -2.3
AKASG 21 31 37.3
AKASG Malin Array Be 118.26 325 PKP PKPdf 21 30 19.4 -2.4
comp=Z,66nm,1.0s,baz=64,slow=2.1,SNR=47
AKASG PP PP 21 31 37.3 +0.1
comp=Z,15nm,0.9s,baz=55,slow=6.3,SNR=7.6
AKASG PKKPbc PKKPbc 21 40 38.8 -3.0
comp=Z,23nm,1.0s,baz=260,slow=3.8,SNR=24
AKASG SKKPbc 21 44 27.2
comp=Z,1.9nm,0.6s,baz=264,slow=3.9,SNR=8.3
ASF Jabal al Asfar 118.26 303 PKKPbc PKKPbc 21 40 38.1 -3.1
comp=Z,7.1nm,0.9s,baz=297,slow=5.6,SNR=3.1
ASF SKKPbc 21 44 28.2
comp=Z,13nm,1.2s,baz=293,slow=1.2,SNR=3.9
KIEV Kiev 118.27 325 *e*PKPdf PKPdf 21 30 20.4 -1.4
KIEV Kiev 118.27 325 *e* PKPdf 21 30 21.4 -0.3
ACSO Alum Creek Sta 118.38 48 *e*PKPdf PKPdf 21 30 20.1 -2.2
MMAI Mount Meron Ar 119.35 304 PKKPbc PKKPbc 21 40 38.3 +1.0
comp=Z,7.6nm,0.7s,baz=31,slow=0.5,SNR=10
MMAI SKKPbc 21 44 23.6
comp=Z,1.6nm,0.5s,baz=11,slow=0.9,SNR=4.8
GOGA Godfrey 119.58 56 *e*PKPdf PKPdf 21 30 22.8 -2.0
ANTO Ankara 119.77 312 ⇑P PKKPbc 21 40 36.5 +0.5
ANTO Ankara 119.77 312 PKPdf PKPdf 21 30 24.5 -0.5
SNR=23
ANTO Ankara 119.77 312 ⇑*i*P PKPdf 21 30 24.8 -0.2
ANTO Ankara 119.77 312 ⇑*i*P PKKPbc 21 40 36.5 +0.6
SUW Suwalki 119.90 330 *e*Pdiff Pdif 21 26 41.4 -6.6
SUW Suwalki 119.90 330 *e*Pdiff PKKPbc 21 40 34.7 -1.1
SUW Suwalki 119.90 330 *e*Pdif Pdif 21 26 41.4 -6.6
ALLY Alegheny Colle 120.02 46 *e*PKPdf PKPdf 21 30 25.0 -0.4
KIS Kishinev 120.04 321 *e*PKIKP PKPdf 21 30 22.0 -3.3
KIS *e* 21 30 33.0
DOMB Dombas 120.17 343 *e*P PKPdf 21 30 23.4 -1.6
MOL Molde 120.19 344 *e*P PKPdf 21 30 23.1 -1.9
NB2 NORSAR Subarra 120.26 341 PKPdf PKPdf 21 30 22.6 -2.7
comp=Z,18nm,0.9s,baz=39,slow=1.9
NB2 NORSAR Subarra 120.26 341 PKPdf PKPdf 21 30 22.6 -2.7
NB2 NORSAR Subarra 120.26 341 PKPdf PKPdf 21 30 22.6 -2.7
baz=39,slow=1.9
NOA NORSAR Array B 120.26 341 PKP PKPdf 21 30 23.1 -2.1
comp=Z,45nm,1.0s,baz=44,slow=2.1,SNR=47
NOA PP PP 21 31 51.9 +1.4
comp=Z,14nm,1.0s,baz=43,slow=6.9,SNR=4.3
NOA PKKPbc PKKPbc 21 40 33.0 -1.7
comp=Z,14nm,1.0s,baz=42,slow=3.6,SNR=19
NOA SKKPbc 21 44 21.6
comp=Z,2.8nm,0.9s,baz=42,slow=3.5,SNR=4.0
EIL Elat 120.32 300 PKKPbc PKKPbc 21 40 33.5 -0.1
comp=Z,17nm,0.8s,baz=338,slow=5.6,SNR=8.7
FCH Farellones 120.46 136 *e*P PKPdf 21 30 26.5 0.0
IAS Iasi 120.74 321 P PKPdf 21 30 25.7 -0.9
IAS Iasi 120.74 321 ⇑*i*P PKPdf 21 30 27.0 +0.4
ELN Prospectdale 120.86 51 *e*PKPdf PKPdf 21 30 25.2 -1.9
BLA Blacksburg 121.11 51 *e*PKPdf PKPdf 21 30 26.1 -1.6
CFR Carcaliu 121.20 319 P PKPdf 21 30 28.4 +0.9
TIRR Tirgusor 121.30 318 P PKPdf 21 30 27.0 -0.8
TIRR Tirgusor 121.30 318 P PKKPbc 21 40 29.1 -1.3
TIRR Tirgusor 121.30 318 ⇑*i*P PKPdf 21 30 26.3 -1.5
TIRR Tirgusor 121.30 318 ⇑*i*P PKKPbc 21 40 28.1 -2.2
HARR Harsova 121.53 319 P PKPdf 21 30 28.0 -0.2
HARR Harsova 121.53 319 P PKKPbc 21 40 28.6 -0.9
HARR Harsova 121.53 319 ⇓*i*P PKPdf 21 30 26.4 -1.8
LVV L'vov 121.62 325 *e*PKIKP PKPdf 21 30 27.4 -0.8
SCHQ Schefferville 121.71 27 PKP PKPdf 21 30 25.0 -3.2
comp=Z,5.7nm,1.0s,baz=274,slow=2.5,SNR=4.7
SCHQ PKKPbc PKKPbc 21 40 27.7 -1.4
comp=Z,29nm,1.0s,baz=129,slow=5.2,SNR=10.0
SCHQ SKKPbc 21 44 16.2
comp=Z,18nm,1.0s,baz=127,slow=6.2,SNR=6.8
SUR Sutherland 121.72 225 PKP PKPdf 21 30 29.3 +0.3
comp=Z,44nm,1.0s,baz=34,slow=3.6,SNR=17
TLL Tololo Astrono 121.81 132 ⇓*e*P PKPdf 21 30 28.7 -0.5
VRI Vrincioaia 121.82 320 P PKPdf 21 30 28.2 -0.6
VRI Vrincioaia 121.82 320 P PKKPbc 21 40 28.4 0.0
VRI Vrincioaia 121.82 320 ⇓*i*P PKPdf 21 30 28.3 -0.4
VRI Vrincioaia 121.82 320 ⇑*i*P PKKPbc 21 40 27.0 -1.4
LBTB Lobatse 121.84 235 PKP PKPdf 21 30 28.4 -1.0
LBTB PKKPbc PKKPbc 21 40 28.1 +0.2
LBTB Lobatse 121.84 235 PKP PKPdf 21 30 28.4 -1.0
comp=Z,40nm,1.0s,baz=151,slow=4.9,SNR=24
LBTB PKKPbc PKKPbc 21 40 28.1 +0.2
comp=Z,5.1nm,0.7s,baz=330,slow=5.3,SNR=3.8
KONO Kongsberg 121.84 341 *i*PKP PKPdf 21 30 27.2 -1.2
KONO Kongsberg 121.84 341 *e*P PKPdf 21 30 25.9 -2.5
KONO Kongsberg 121.84 341 PKIKP PKPdf 21 30 27.6 -0.8
PLOR Plostina 121.88 320 ⇑*i*P PKPdf 21 30 27.7 -1.1
PLOR Plostina 121.88 320 ⇑*i*P PKKPbc 21 40 25.9 -2.3
WAR Warsaw 121.96 329 *e*PKIKP PKPdf 21 30 27.7 -1.1
WAR MLR MLR
comp=Z,383μm,23.1s,MS8.0
ISP Isparta 122.06 310 ⇓P PKPdf 21 30 27.9 -1.6
ISP Isparta 122.06 310 ⇓*i*P PKPdf 21 30 27.9 -1.6
ISP Isparta 122.06 310 ⇓*i*P PKKPbc 21 40 27.4 +0.2

MSNY Massena 122.38 41 *e*PKPdf PKPdf 21 30 27.4 -2.5
KWP Kalwaria 122.46 326 *e*Pdiff Pdif 21 26 59.1 -0.3
KWP Kalwaria 122.46 326 *e*Pdiff PKiKP 21 30 33.9 +3.9
KWP Kalwaria 122.46 326 *e*Pdiff PKKPbc 21 40 24.9 -1.2
KWP Kalwaria 122.46 326 *e*Pdif Pdif 21 26 59.1 -0.3
KWP ⇓P PKPdf 21 30 29.9 0.0
KWP Kalwaria 122.46 326 ⇓*i*P PKPdf 21 30 29.9 +0.1
KWP Kalwaria 122.46 326 ⇓*i*P PKKPbc 21 40 24.8 -1.3
MLR Muntele Rosu 122.48 320 P PKPdf 21 30 29.3 -0.7
MLR Muntele Rosu 122.48 320 PKKPbc PKKPbc 21 40 24.9 -0.9
comp=Z,20nm,0.7s,baz=247,slow=2.0,SNR=16
MLR SKKPbc 21 44 14.2
comp=Z,16nm,1.1s,baz=215,slow=3.0,SNR=5.6
MLR Muntele Rosu 122.48 320 ⇑*i*P PKPdf 21 30 28.5 -1.5
LCO Las Campanas 122.49 131 *e*PKPdf PKPdf 21 30 29.9 -0.7
RUND Rundenannen 122.55 343 *e*P PKPdf 21 30 30.7 +1.0
RUND Rundenannen 122.55 343 *e*P PKPdf 21 30 30.4 +0.7
LONY Lake Ozonia 122.72 41 *e*PKPdf PKPdf 21 30 28.8 -1.7
CFAA Coronel Fontan 122.86 135 PKP PKPdf 21 30 29.3 -2.0
CFAA PKKPbc PKKPbc 21 40 24.1 -0.1
CFAA Coronel Fontan 122.86 135 PKP PKPdf 21 30 29.3 -2.0
comp=Z,8.9nm,0.9s,baz=238,slow=2.2,SNR=54
CFAA PKKPbc PKKPbc 21 40 24.1 -0.1
comp=Z,0.4nm,0.5s,baz=42,slow=4.2,SNR=3.8
BLS5 Blasjo 123.02 342 *e*P PKPdf 21 30 29.9 -0.8
KOLS Kolonicke sedl 123.06 325 *e*PKP PKPdf 21 30 30.2 -0.8
KOLS Kolonicke sedl 123.06 325 *e*P PKKPbc 21 40 26.5 +2.8
VOIR 123.07 320 P PKPdf 21 30 32.2 +1.0
VOIR 123.07 320 ⇑*i*P PKPdf 21 30 32.1 +1.0
VOIR 123.07 320 ⇓*i*P PKKPbc 21 40 24.4 +0.8
BSD Bornholm Skovb 123.07 334 *i*PKIKP PKPdf 21 30 30.2 -0.6
BSD pmax pmax
comp=Z,82nm,1.0s
BSD Bornholm Skovb 123.07 334 *i*P PKPdf 21 30 30.2 -0.6
comp=Z,82nm,1.0s
CBN Corbin 123.13 49 *e*PKPdf PKPdf 21 30 30.2 -1.3
UZH Uzhgorod 123.20 325 *e*P Pdif 21 26 59.4 -3.3
JMB Yambol 123.30 317 P PKPdf 21 30 30.1 -1.6
TRPA Tarpa 123.32 324 ⇓*i*P PKPdf 21 30 30.8 -0.7
TRPA Tarpa 123.32 324 ⇑*i*P PKKPbc 21 40 21.3 -1.4
STHS Stebnicka Huta 123.39 326 *e*PKP PKPdf 21 30 31.5 -0.1
STHS *e* 21 30 42.2
STHS Stebnicka Huta 123.39 326 PDIF Pdif 21 27 03.8 +0.3
STHS Stebnicka Huta 123.39 326 *e*PKP PKPdf 21 30 31.5 -0.1
STHS *e* 21 30 42.1
STHS Stebnicka Huta 123.39 326 *e*P PKKPbc 21 40 23.0 +0.6
SZH Strazhica 123.42 318 P PKPdf 21 30 31.1 -0.8
LSZ Lusaka 123.43 246 PKPdf PKPdf 21 30 32.9 +0.2
SNR=13
LSZ Lusaka 123.43 246 PKKPbc PKKPbc 21 40 21.6 +0.1
comp=Z,2.6nm,0.7s,baz=344,slow=7.4,SNR=2.8
CRVS Cervenica-Dubn 123.54 326 *e*PKIKP PKPdf 21 30 31.0 -0.9
CRVS *e* 21 30 45.2
CRVS Cervenica-Dubn 123.54 326 PDIF Pdif 21 27 04.5 +0.3
CRVS Cervenica-Dubn 123.54 326 *e*PKP PKPdf 21 30 31.0 -0.9
CRVS *e* 21 30 45.2
CRVS *e*PP PP 21 32 28.7 +15
CNNC Cliffs of the 123.62 52 *e*PKPdf PKPdf 21 30 31.4 -1.1
ZIMR 123.63 318 P PKPdf 21 30 31.9 -0.3
ZIMR 123.63 318 ⇑*i*P PKPdf 21 30 31.7 -0.6
ZIMR 123.63 318 ⇑*i*P PKKPbc 21 40 20.4 -0.9
SNART Snartemo 123.64 341 *e*P PKPdf 21 30 30.1 -1.7
STAV Stavanger 123.65 342 *e*P PKPdf 21 30 30.2 -1.6
COP Copenhagen 123.72 336 *i*PKIKP PKPdf 21 30 31.7 -0.4
COP pmax pmax
comp=Z,69nm,0.8s
COP Copenhagen 123.72 336 *i*P PKPdf 21 30 31.7 -0.4
comp=Z,69nm,0.8s
OJC Ojcow 123.73 328 *e*PKP PKPdf 21 30 31.8 -0.5
DRGR 123.88 323 P PKPdf 21 30 32.2 -0.5
DRGR 123.88 323 ⇓*i*P PKPdf 21 30 31.6 -1.1
DRGR 123.88 323 ⇓*i*P PKKPbc 21 40 19.7 -0.7
NIE Niedzica 123.90 327 *e*PKP PKPdf 21 30 32.0 -0.6
ATAH Atahualpa 124.12 104 SKKPbc 21 44 05.6
comp=Z,9.0nm,1.0s,baz=80,slow=8.5,SNR=4.0
RGN Rugen 124.14 335 *e*PKPdf PKPdf 21 30 31.7 -1.2
DIM Dimitrovgrad 124.18 317 P PKPdf 21 30 32.5 -0.9
BRNJ Basking Ridge 124.31 45 *e*PKPdf PKPdf 21 30 33.1 -0.6
KECS Kecovo 124.31 325 *e*PKP PKPdf 21 30 32.9 -0.5
KECS *e* 21 30 41.0
KECS Kecovo 124.31 325 PDIF Pdif 21 27 05.4 -2.2
KECS Kecovo 124.31 325 *e*PKP PKPdf 21 30 32.9 -0.5
KECS *e* 21 30 41.0
KECS Kecovo 124.31 325 *e*P Sdif 21 40 17.7 +1.3
MUD Monsted U'grnd 124.41 338 *i*PKIKP PKPdf 21 30 32.3 -1.1
MUD pmax pmax
comp=Z,86nm,1.1s
MUD Monsted U'grnd 124.41 338 *i*P PKPdf 21 30 32.3 -1.1
comp=Z,86nm,1.1s
KDZ Kurdzhali 124.42 316 P PKPdf 21 30 32.5 -1.4
GZR Gura Zlata 124.51 321 P PKPdf 21 30 33.2 -0.7
GZR Gura Zlata 124.51 321 ⇓*i*P PKPdf 21 30 33.6 -0.3
GZR Gura Zlata 124.51 321 ⇑*i*P Sdif 21 40 17.3 -0.9
RAC Raciborz 124.66 328 *e*PKPdf PKPdf 21 30 33.9 -0.1
LIKS Likavka 124.76 327 *e*PKP PKPdf 21 30 35.1 +0.8
OKC Ostrava-Krasne 124.82 328 *e*PKPdf PKPdf 21 30 33.6 -0.8
OKC *ep*PKP pPKPdf 21 30 39.6 +0.2
PSZ Piszkesteto 124.94 325 P PKPdf 21 30 34.3 -0.4
PSZ Piszkesteto 124.94 325 ⇓*i*P PKPdf 21 30 33.8 -0.9
PSZ Piszkesteto 124.94 325 ⇑*i*P Sdif 21 40 13.9 -7.9
BCIP Isla Barro Col 124.97 84 *e*PKPdf PKPdf 21 30 32.8 -2.9
BZS Buzias 125.12 322 P PKPdf 21 30 34.3 -0.7
BZS Buzias 125.12 322 ⇑*i*P PKPdf 21 30 34.7 -0.4
BZS Buzias 125.12 322 ⇓*i*P Sdif 21 40 15.2 -8.0
KSP Ksiaz 125.17 330 *e*Pdiff PKPdf 21 30 33.5 -1.5
KSP Ksiaz 125.17 330 *e*PKIKP PKPdf 21 30 34.7 -0.3
KSP *e* 21 30 41.4
MORC Moravsky Berou 125.18 328 P PKPdf 21 30 34.7 -0.4
MORC Moravsky Berou 125.18 328 ⇑*i*P PKPdf 21 30 35.0 -0.1
VYHS Vyhne 125.22 326 *e*PKP PKPdf 21 30 34.0 -1.2
VYHS *e* 21 30 43.8
VYHS *e*PP PP 21 32 28.3 +3.8
VYHS Vyhne 125.22 326 PDIF Pdif 21 27 11.3 -0.3
VYHS Vyhne 125.22 326 *e*PKP PKPdf 21 30 34.0 -1.2
VYHS *e* 21 30 43.8
VYHS *e*PP PP 21 32 28.3 +3.8
VYHS Vyhne 125.22 326 *e*P Sdif 21 40 14.2 -10
RUE Ruedersdorf 125.33 333 *e*PKPdf PKPdf 21 30 34.0 -1.3
LOS Limnos 125.33 314 *e*P PKPdf 21 30 34.0 -1.7
KOLL Kolacno 125.41 327 PDIF Pdif 21 27 13.0 +0.5
KOLL Kolacno 125.41 327 *i*PKP PKPdf 21 30 35.5 0.0
DPC Dobruska-Polom 125.46 329 *e*PKPdf PKPdf 21 30 35.1 -0.5
DPC *ep*PKP pPKPdf 21 30 41.2 +0.6
VTS Vitosha 125.52 318 P PKPdf 21 30 34.6 -1.3
VTS Vitosha 125.52 318 ⇑*i*P PKPdf 21 30 36.0 +0.1
VTS Vitosha 125.52 318 ⇑*i*P Sdif 21 40 14.1 -12
VTS Vitosha 125.52 318 P PKPdf 21 30 34.0 -1.9
UPC Upice 125.52 330 *e*PKPdf PKPdf 21 30 35.0 -0.7
UPC *ep*PKP pPKPdf 21 30 41.6 +0.9
MMB Musomiste 125.60 317 P PKPdf 21 30 34.5 -1.6
OWE Westray 125.66 347 *e*P PKPdf 21 30 34.9 -0.8
PKME Peaks-Kenny Pk 125.76 38 *e*PKPdf PKPdf 21 30 35.5 -0.8
BSEG Bad Segeberg 125.82 336 *e*PKPdf PKPdf 21 30 35.0 -1.2
OUR Ouranopolis 125.95 315 *e*P PKPdf 21 30 34.6 -2.3
VRAC Vranov 125.95 328 P PKPdf 21 30 36.5 0.0
VRAC Vranov 125.95 328 SKKPbc 21 44 03.2
comp=Z,9.7nm,1.1s,baz=221,slow=3.3,SNR=4.2
VRAC Vranov 125.95 328 ⇑*i*P PKPdf 21 30 36.4 -0.2
SMOL Smolenice 125.98 327 *i*PKP PKPdf 21 30 36.7 +0.1
SMOL *e* 21 30 43.0
MODS Modra-Piesok 126.14 327 *e*PKP PKPdf 21 30 36.4 -0.5
MODS *e* 21 30 44.1
MODS *e*PP PP 21 32 34.0 +3.4
MODS Modra-Piesok 126.14 327 *e*PKIKP PKPdf 21 30 36.4 -0.5
MODS *e* 21 30 44.1
MODS *e* 21 32 34.0
MODS *e* 22 27 15.0
MODS Modra-Piesok 126.14 327 PDIF Pdif 21 27 15.0 -0.7
MODS Modra-Piesok 126.14 327 *e*PKP PKPdf 21 30 36.4 -0.5
MODS *e* 21 30 44.1
MODS *e*PP PP 21 32 34.0 +3.4
OHO Hoy 126.15 347 ⇑*e*P PKPdf 21 30 34.9 -1.8
PVCC Panska Ves 126.23 330 *e*PKPdf PKPdf 21 30 36.2 -0.8
BRG Berggiesshubel 126.31 331 *e*PKPdf PKPdf 21 30 35.9 -1.3
BRG Berggiesshubel 126.31 331 *i*PKP PKPdf 21 30 36.4 -0.8
comp=Z,160nm,1.1s
BRG *i* 21 30 42.9
comp=Z,332nm,1.5s
BRG *e* 21 32 24.0
comp=Z,87nm,1.4s
PAIG Paliouri 126.33 315 *e*P PKPdf 21 30 35.1 -2.5

ZST **Bratislava** **126.34 327** *e*PKP PKPdf 21 30 36.8 -0.5
ZST *e* 21 30 45.9
ZST *e*PP PP 21 32 39.9 +8.0
KNT Kendrikon **126.35 317** *e*P PKPdf 21 30 34.7 -2.9
CLL Collm **126.47 332** *e*P Pdif 21 27 18.0 +0.8
CLL *i* PKP PKPdf 21 30 36.2 -1.3
CLL *i* 21 30 47.2
CLL Collm **126.47 332** *i* PKIKP PKPdf 21 30 36.2 -1.3
CLL *i* 21 30 47.2
CLL pmax pmax
comp=Z,146nm,1.0s
CLL Collm **126.47 332** *e*PKPdf PKPdf 21 30 35.9 -1.6
CLL Collm **126.47 332** *e*PKPdf Pdif 21 27 18.0 +0.8
comp=Z,9.0nm,1.0s
CLL Collm **126.47 332** *i* PKPdf PKPdf 21 30 36.2 -1.3
comp=Z,146nm,1.0s
CLL *i* (pPKPdf) 21 30 47.2
comp=Z,133nm,1.0s
CLL *e*PP PP 21 32 33.0 +0.4
VAY Valandovo **126.50 317** *e*PKP PKPdf 21 30 35.0 -2.8
ORE Reay **126.52 347** *e*P PKPdf 21 30 36.2 -1.1
TREC Trest **126.54 329** *e*PKPdf PKPdf 21 30 36.5 -1.2
TREC *e*pPKP pPKPdf 21 30 43.3 +0.6
FBE Freiberg **126.56 331** *e*PKPdf PKPdf 21 30 36.5 -1.2
PRU Pruhonice **126.58 330** *e*PKPdf PKPdf 21 30 36.7 -1.0
PRU *e*pPKP pPKPdf 21 30 43.5 +0.8
PRA Prague **126.58 330** ⇑PKPdf PKPdf 21 30 38.0 +0.3
PKSM Moragy **126.59 324** P PKPdf 21 30 36.9 -1.0
PKSM Moragy **126.59 324** ⇑*i*P PKPdf 21 30 37.7 -0.2
STIP Stip **126.60 318** *e*PKP PKPdf 21 30 36.0 -2.1
HLG Helgoland **126.61 337** *e*PKPdf PKPdf 21 30 36.6 -1.1
SKO Skopje **126.97 318** *e*PKP PKPdf 21 30 37.5 -1.3
RSC Scourie **127.01 348**⇑*e*P PKPdf 21 30 36.4 -1.9
IDI Anoyia **127.16 309** PKP PKPdf 21 30 38.4 -0.9
comp=Z,47nm,0.9s,baz=184,slow=14
CONA Conrad Observa **127.17 327** *i* PKiKP PKiKP 21 30 38.4 -1.0
comp=Z,191nm,1.6s,SNR=15
MVH1 Achvaich **127.18 347**⇑*e*P PKPdf 21 30 36.7 -1.9
RTO Tolsta **127.20 348** *e*P PKPdf 21 30 36.3 -2.4
MCD Coleburn Disti **127.27 346**⇑*e*P PKPdf 21 30 36.4 -2.4
CLZ Clausthal **127.30 334** *e*PKPdf PKPdf 21 30 38.1 -0.9
KRUS Krusevo **127.37 318** *e*PKP PKPdf 21 30 37.2 -2.3
WERD Werda **127.37 331** *e*PKPdf PKPdf 21 30 38.0 -1.2
GUNZ Gunzen **127.42 331** *e*PKPdf PKPdf 21 30 38.3 -1.0
MME1 Meikle Cairn **127.44 346**⇑*e*P PKPdf 21 30 37.6 -1.5
WERN Wernitzgruen **127.45 331** *e*PKPdf PKPdf 21 30 38.3 -1.1
NKC Novy Kostel **127.45 331** *e*PKPdf PKPdf 21 30 38.5 -0.9
BIA Bitola **127.48 317** *e*PKP PKPdf 21 30 37.0 -2.8
IVA Berane **127.55 320**⇑*i*PKP PKPdf 21 30 37.9 -1.9
FNA Florina **127.55 317** *e*P PKPdf 21 30 38.1 -1.8
MOX Moxa **127.56 332** *e*PKP PKPdf 21 30 38.7 -0.9
comp=Z,372nm,1.9s
MOX *e* 21 32 40.5
MOX Moxa **127.56 332** *e*PKIKP PKPdf 21 30 38.7 -0.9
MOX *e* 21 32 40.5
MOX pmax pmax
comp=Z,87nm,1.9s
MOX Moxa **127.56 332** *e*PKPdf PKPdf 21 30 38.3 -1.3
ARE Arequipa **127.60 117** *e*P PKPdf 21 30 41.0 +0.4
RRR Rubha Reidh **127.60 348** *e*P PKPdf 21 30 37.7 -1.7
KHC Kasperske Hory **127.61 329** *e*PKPdf PKPdf 21 30 38.8 -0.9
KHC *e*pPKP pPKPdf 21 30 45.8 +1.1
KHC *e*x x 21 30 51.0
PVY Plav **127.63 319**⇑*i*PKP PKPdf 21 30 37.9 -2.1
PLE Pljevlja **127.64 321**⇑*i*PKP PKPdf 21 30 39.0 -1.0
AGG Agios Georgios **127.65 314** *e*P PKPdf 21 30 38.0 -2.1
MDO Dochfour **127.66 347**⇑*e*P PKPdf 21 30 37.1 -2.4
RRH Rhenigidale **127.72 348** *e*P PKPdf 21 30 39.0 -0.7
GEC2 GERESS Array S **127.73 329** *e*PKPdf PKPdf 21 30 38.7 -1.3
GERES GERESS Array B **127.73 329** PKP PKPdf 21 30 38.1 -1.8
GERES PKKP 21 40 52.3
GERES ⇑*e* 21 43 36.9
GERES SKKPbc 21 43 55.0
GERES GERESS Array B **127.73 329** PKP PKPdf 21 30 38.1 -1.8
comp=Z,74nm,1.0s,baz=96,slow=1.3,SNR=76
GERES PKKP 21 40 52.3
comp=Z,4.1nm,1.0s,baz=204,slow=2.9,SNR=4.0
GERES PKP2bc 21 43 36.9
comp=Z,3.5nm,1.1s,baz=224,slow=4.1,SNR=3.9
GERES SKKPbc 21 43 55.0
comp=Z,4.7nm,1.0s,baz=241,slow=5.5,SNR=4.1
ARSA Arzberg **127.76 327**⇑*i*P PKPdf 21 30 38.4 -1.7
comp=Z,93nm,1.6s,SNR=8.2
MANZ Manzenberg **127.78 331** *e*PKPdf PKPdf 21 30 38.9 -1.1
OHR Ohrid **127.79 317** *e*PKP PKPdf 21 30 37.9 -2.5
KOGS Kog **127.83 325** *e*PKPdf PKPdf 21 30 38.7 -1.6
ROTZ Rotzenmuhle **127.88 331** *e*PKPdf PKPdf 21 30 39.0 -1.2
WET Wettzell **127.96 330** *e*PKPdf PKPdf 21 30 39.3 -1.1
UPM Unac-Piva **128.01 321**⇑*i*PKP PKPdf 21 30 39.4 -1.3
IBBN Ibbenburen **128.07 336** *e*PKPdf PKPdf 21 30 39.3 -1.2
MOA Molln **128.07 328**⇓*i*P PKPdf 21 30 39.7 -0.9
comp=Z,92nm,1.1s,SNR=10
MEV Metsovon **128.09 316** *e*P PKPdf 21 30 39.9 -1.1
NKY Niksic **128.15 320**⇑*i*PKP PKPdf 21 30 38.8 -2.2
TTG Podgorica **128.17 320**⇑*i*PKP PKPdf 21 30 38.4 -2.6
BRY Bratogost **128.39 320**⇑*i*PKP PKPdf 21 30 38.8 -2.6
GRA1 Grafenberg Arr **128.40 331** *e*PKPdf PKPdf 21 30 40.0 -1.2
GRA1 *e*PP PP 21 32 49.3 +4.0
GRF Grafenberg Arr **128.40 331** *e*PKPdf PKPdf 21 30 40.0 -1.2
GRF *e*PP PP 21 32 49.3 +4.0
ULC Ulcinj **128.41 319**⇑*i*PKP PKPdf 21 30 39.4 -2.1
BUM Brajici-Budva **128.47 320**⇑*i*PKP PKPdf 21 30 39.6 -2.0
CRES Cresnjev **128.64 325** *e*PKPdf PKPdf 21 30 40.8 -1.0
HCY Herceg Novi **128.65 320**⇑*i*PKP PKPdf 21 30 39.8 -2.1
WTSB Winterswijk **128.72 336** *e*PKiKP PKiKP 21 30 39.8 -2.6
comp=Z,134nm,0.7s
OBKA Obir **128.74 326**⇑*i*P PKPdf 21 30 40.3 -1.7
comp=Z,92nm,1.7s,SNR=9.5
EDI Edinburgh **128.74 345** *e*P PKPdf 21 30 40.2 -1.4
IGT Igoumenitsa **128.83 316** *e*P PKPdf 21 30 40.4 -2.0
BOJS Bojanci **128.94 325** *e*PKPdf PKPdf 21 30 41.2 -1.2
LKD Levkas **128.97 315** *e*P PKPdf 21 30 42.1 -0.5
LJU Ljubljana **129.03 326** *e*PKPdf PKPdf 21 30 41.3 -1.2
KBA Koelnbreinsper **129.04 328**⇓*i*P PKPdf 21 30 40.9 -1.6
comp=Z,88nm,1.2s,SNR=13
ESK Eskdalemuir **129.29 345** *e*P PKPdf 21 30 40.2 -2.5
TNS Taunus Mts **129.31 333** *e*PKPdf PKPdf 21 30 41.8 -1.1
FUR Furstenfeldbru **129.40 330** *e*PKPdf PKPdf 21 30 41.9 -1.3
WATA Walderalm **129.80 329**⇓*i*P PKPdf 21 30 39.7 -4.2
comp=Z,248nm,1.5s,SNR=16
WTTA Wattenberg **129.81 329**⇑*i*P PKPdf 21 30 38.7 -5.3
comp=Z,464nm,1.6s,SNR=18
GCD Castle Douglas **129.88 345** *e*P PKPdf 21 30 42.4 -1.5
CKE Keswick **129.91 344** *e*P PKPdf 21 30 43.0 -1.0
HGN Heimansgroeve **129.98 335** *e*PKiKP PKiKP 21 30 42.8 -2.1
comp=Z,109nm,1.4s
HGN Heimansgroeve **129.98 335** *ex* SKSac 21 37 52.1 -0.8
STU Stuttgart **130.00 332** *e*PKPdf PKPdf 21 30 43.1 -1.2
MOTA Moosalm **130.03 329**⇓*i*P PKPdf 21 30 39.2 -5.2
comp=Z,260nm,1.4s,SNR=17
HPK Haverah Park **130.04 343** *e*P PKPdf 21 30 42.9 -1.3
BEBN Eben Emael **130.06 336** PKPdf PKPdf 21 30 43.0 -1.3
BEBN Eben Emael **130.06 336** PKPdf SKPdf 21 34 03.6 -16
BEBN Eben Emael **130.06 336** PKPdf SKSac 21 37 54.7 +1.5
SQTA Sankt Quirin **130.06 329**⇑*i*P PKPdf 21 30 39.0 -5.4
comp=Z,119nm,1.3s,SNR=19
MEM Membach **130.07 335** PKPdf PKPdf 21 30 43.9 -0.5
MEM Membach **130.07 335** PKPdf SKPdf 21 34 03.3 -16
MEM Membach **130.07 335** PKPdf SKSac 21 37 54.8 +1.6
GAL1 Galloway **130.08 345** *e*P PKPdf 21 30 42.9 -1.3
RETA Reutte **130.11 329**⇑*i*PKPdf PKPdf 21 30 39.8 -4.7
comp=Z,103nm,1.3s,SNR=7.8
ROSC El Rosal **130.13 90** PKP PKPdf 21 30 45.5 -0.1
comp=Z,30nm,0.4s,baz=78,slow=2.8,SNR=22
ROSC SKPbc 21 34 07.0
comp=Z,30nm,0.9s,baz=7.7,slow=2.3,SNR=5.6
GCL Cushendall **130.23 346** *e*P PKPdf 21 30 43.2 -1.3
AEU East Anglia Un **130.27 340** *e*P PKPdf 21 30 43.0 -1.7
FETA Feichten **130.44 329**⇑*i*PKPdf PKPdf 21 30 39.9 -5.3
comp=Z,180nm,1.6s,SNR=12
LHO Holmfirth **130.47 343** *e*P PKPdf 21 30 41.9 -3.1
LANF Langenberg **130.49 333** PKP PKPdf 21 30 37.8 -7.4
LANF Langenberg **130.49 333** PKP SKSac 21 37 58.3 +3.9
BCLA Clavier **130.50 336** PKPdf PKPdf 21 30 45.1 -0.1
BCLA Clavier **130.50 336** PKPdf SKPbc 21 34 05.9 -2.4
BCLA Clavier **130.50 336** PKPdf SKSac 21 37 55.7 +1.3
UCC Uccle **130.59 336** PKPdf PKPdf 21 30 44.8 -0.5
LPAZ La Paz **130.62 119** PKP PKPdf 21 30 45.8 -0.6
LPAZ SKPbc SKPbc 21 34 10.3 +0.5
LPAZ SKKPbc 21 43 44.1
LPAZ La Paz **130.62 119** PKIKP PKPdf 21 30 45.8 -0.6
LPAZ pmax pmax
comp=Z,101nm,1.1s
LPAZ La Paz **130.62 119** PKhKP 21 30 35.2
comp=Z,3.4nm,0.7s,baz=353,slow=4.1,SNR=8.9
LPAZ PKP PKPdf 21 30 45.8 -0.6
comp=Z,101nm,1.1s,baz=352,slow=3.4,SNR=12
LPAZ SKPbc SKPbc 21 34 10.3 +0.5
comp=Z,22nm,0.7s,baz=152,slow=7.1,SNR=9.0
LPAZ SKKPbc 21 43 44.1
comp=Z,8.3nm,1.1s,baz=28,slow=8.1,SNR=4.2
DAVA Damuels **130.69 330**⇑*i*P PKPdf 21 30 36.9 -8.8
comp=Z,150nm,1.6s,SNR=9.9
DAVA Damuels **130.69 330**⇑*i*PKPdf PKPdf 21 30 40.4 -5.2
comp=Z,150nm,1.6s,SNR=9.9
BFO Black Forest **130.72 332** *e*PKPdf PKPdf 21 30 44.1 -1.6
BFO *e*PKPdf PKPdf 21 30 44.4 -1.3
WLF Walferdange **130.72 334** PKPdf PKPdf 21 30 45.7 +0.1
WLF Walferdange **130.72 334** PKPdf SKPbc 21 34 07.6 -1.5
WLF Walferdange **130.72 334** PKPdf SKSac 21 37 57.7 +2.7
WLF Walferdange **130.72 334** *e*PKPdf PKPdf 21 30 45.2 -0.4
STR Strasbourg **130.79 332** PKP PKPdf 21 30 33.9 -12
SNF Seneffe **130.85 336** PKPdf PKPdf 21 30 45.6 -0.2
SNF Seneffe **130.85 336** PKPdf SKPbc 21 34 07.2 -2.4
SNF Seneffe **130.85 336** PKPdf SKSac 21 37 57.3 +1.9
GIVF Givet **130.94 336** *e*PKIKP PKPdf 21 30 32.6 -13
comp=Z,312nm,1.1s
GMM Mts of Mourne **130.95 346** *e*P PKPdf 21 30 44.3 -1.6
DAVOX Davos/Dischmat **131.03 329** SKPbc SKPbc 21 34 09.9 -0.5
comp=Z,58nm,1.0s,baz=202,slow=3.1,SNR=8.4
DAVOX SKKPbc 21 43 44.3
comp=Z,15nm,1.1s,baz=192,slow=5.1,SNR=5.0
DOU Dourbes **131.04 336** PKPdf PKPdf 21 30 46.0 -0.2
DOU Dourbes **131.04 336** PKPdf SKPbc 21 34 07.5 -2.8
DOU Dourbes **131.04 336** PKPdf SKSac 21 37 57.9 +2.0
TSUM Tsumeb **131.10 237** PKP PKPdf 21 30 45.1 -2.2
comp=Z,29nm,0.9s,baz=134,slow=2.6,SNR=13
TSUM SKPbc SKPbc 21 34 10.7 -0.9
comp=Z,27nm,1.1s,baz=94,slow=3.6,SNR=8.3
CDF Champ du Feu **131.15 332** *e*PKIKP PKPdf 21 30 32.6 -14
comp=Z,154nm,1.2s
BAIF Baives **131.23 336** *e*PKIKP PKPdf 21 30 33.1 -13
comp=Z,167nm,1.1s
ECH Echery **131.34 332** PKP PKPdf 21 30 36.1 -11
ECH Echery **131.34 332** PKP SKSac 21 37 58.8 +2.0
SBD1 Bryn Du **131.44 343** *e*P PKPdf 21 30 44.6 -2.3
DMUB Kingscourt **131.49 346** *e*P PKPdf 21 30 45.1 -1.9
DMUB Kingscourt **131.49 346** *e*P SKPbc 21 34 06.2 -5.7
MOF Molkenrain **131.62 332** PKP PKPdf 21 30 39.3 -8.1
MOF Molkenrain **131.62 332** PKP SKSac 21 38 01.4 +3.8
MENF Mencas **131.63 338** PKP PKPdf 21 30 36.7 -11
MENF Mencas **131.63 338** PKP SKSac 21 38 00.0 +2.5
HLM1 Long Mynd **131.67 343** *e*P PKPdf 21 30 45.0 -2.3
HINF Hinteralfeld **131.77 332** *e*PKIKP PKPdf 21 30 34.0 -14
comp=Z,342nm,1.2s
AQU L'Aquila **131.87 323** P PKPdf 21 30 47.7 -0.4
HAU Haudompre **131.87 333** *e*PKIKP PKPdf 21 30 34.3 -14
comp=Z,263nm,1.1s
THEF They Montfort **131.87 333** PKP PKPdf 21 30 35.6 -12
THEF They Montfort **131.87 333** PKP SKSac 21 38 01.2 +2.9
DLF Lyons Farm **131.96 346** *e*P PKPdf 21 30 46.1 -1.8
DLF Lyons Farm **131.96 346** *e*P SKPbc 21 34 07.9 -5.7
MEZF Maizieres J'vi **132.07 334** *e*PKIKP PKPdf 21 30 35.2 -13
comp=Z,459nm,1.1s
DCN Croghan **132.09 346** *e*P PKPdf 21 30 46.4 -1.7
DCN Croghan **132.09 346** *e*P SKPbc 21 34 08.6 -5.5
LOMF Lomont **132.12 332** PKP PKPdf 21 30 35.8 -13
LOMF Lomont **132.12 332** PKP SKSac 21 38 01.8 +2.8
MCH1 Michaelchurch **132.16 342**⇑*e*P PKPdf 21 30 46.6 -1.7
HTR Trewern Hill **132.17 343** *e*P PKPdf 21 30 45.6 -2.7
HGH Gray Hill **132.42 342** *e*P PKPdf 21 30 47.6 -1.2
SWK Warminster **132.67 341** *e*P PKPdf 21 30 49.0 -0.3
SDDR Presa de Saban **132.86 71** *e*PKPdf PKPdf 21 30 49.3 -1.3
CABF La Chapelle **133.01 332** *e*PKIKP PKPdf 21 30 37.3 -13
comp=Z,321nm,1.1s
LPL La Plagne **133.49 330** *e*PKIKP PKPdf 21 30 38.1 -13
comp=Z,245nm,1.1s
LPG La Plagne **133.49 330** *e*PKIKP PKPdf 21 30 38.2 -13
comp=Z,278nm,1.0s
LOR Lormes **133.53 334** *e*PKIKP PKPdf 21 30 37.8 -13
comp=Z,209nm,1.0s
DYA Yadsworthy **133.82 342** *e*P PKPdf 21 30 48.8 -2.7
SSF Saint Saulge **133.85 344** *e*PKIKP PKPdf 21 30 38.5 -13
comp=Z,268nm,1.1s
VAE Valguarnera **133.88 316** PKP PKPdf 21 30 49.7 -2.3
comp=Z,14nm,0.8s,baz=326,slow=7.3
SMF Signal de Mont **134.02 333** *e*PKIKP PKPdf 21 30 38.8 -13
comp=Z,194nm,1.0s
MBDF Montbardon **134.03 329** *e*PKIKP PKPdf 21 30 38.9 -13
comp=Z,39nm,0.7s
SDV Santo Domingo **134.04 85** *e*PKPdf PKPdf 21 30 51.2 -1.7
HYF Humbligny **134.06 335** *e*PKIKP PKPdf 21 30 39.3 -13
FLN La Foiniere **134.09 338** *e*PKIKP PKPdf 21 30 38.7 -13
comp=Z,334nm,0.9s
LDF La Druitiere **134.10 338** *e*PKIKP PKPdf 21 30 38.5 -14
comp=Z,180nm,1.1s
AVF Avril sur Loir **134.12 334** *e*PKIKP PKPdf 21 30 38.6 -14
comp=Z,95nm,1.0s
SAOF Saorge **134.13 328** PKP PKPdf 21 30 41.3 -11
CSA1 St Austell **134.18 343** *e*P PKPdf 21 30 52.2 +0.1
SURF Saint Ours **134.18 329** PKP PKPdf 21 30 41.3 -11
TOUF Mont Tournerai **134.28 328** PKP PKPdf 21 30 40.8 -12
SBF Sospel **134.28 328** *e*PKIKP PKPdf 21 30 38.9 -14
comp=Z,146nm,1.0s
LUCF Luceram **134.31 328** PKP PKPdf 21 30 41.3 -11
PGF Pioggiola **134.31 326** *e*PKIKP PKPdf 21 30 38.3 -14
comp=Z,390nm,1.0s
ORIF Oris-en-Rattie **134.34 330** *e*PKIKP PKPdf 21 30 39.3 -13
comp=Z,138nm,0.9s
MVIF Mont Vial **134.41 328** PKP PKPdf 21 30 41.0 -12
CCA1 Carnmenellis **134.42 343** *e*P PKPdf 21 30 49.4 -3.2
CRQ2 Rosemanowes 2 **134.42 343** *e*P PKPdf 21 30 51.6 -1.0
CMA1 Manaccan **134.49 343** *e*P PKPdf 21 30 50.7 -2.0
BGF Bois d'Agland **134.52 334** *e*PKIKP PKPdf 21 30 38.9 -14
comp=Z,181nm,0.9s
GRR Gorron **134.54 338** *e*PKIKP PKPdf 21 30 39.7 -13
comp=Z,141nm,0.8s
PLDF La Plantade **134.63 333** PKP PKPdf 21 30 40.4 -13
PLDF La Plantade **134.63 333** PKP SKSac 21 38 11.3 +5.7
CALN Calern **134.65 328** PKP PKPdf 21 30 41.0 -12
AGO Saint Agoulin **134.79 333** PKP PKPdf 21 30 42.8 -11
AGO Saint Agoulin **134.79 333** PKP SKSac 21 38 10.9 +4.9
FRF La Foret Royal **134.91 328** *e*PKIKP PKPdf 21 30 39.3 -14
comp=Z,160nm,1.1s
COLF Collangettes **134.94 332** PKP PKPdf 21 30 43.8 -10
VIVF Saint-Julien-l **134.97 331** *e*PKIKP PKPdf 21 30 40.8 -13
comp=Z,230nm,1.1s
TCF Toulx Ste Croi **135.01 334** *e*PKIKP PKPdf 21 30 40.8 -13
comp=Z,290nm,1.0s
PYM Petit Puy Mans **135.07 333** PKP PKPdf 21 30 41.9 -12
PYM Petit Puy Mans **135.07 333** PKP SKSac 21 38 13.4 +6.7
LMR La Mourre **135.13 328** *e*PKIKP PKPdf 21 30 40.9 -13
comp=Z,332nm,1.2s
SMRF Simiane la Rot **135.16 329** *e*PKIKP PKPdf 21 30 41.4 -13
comp=Z,306nm,1.2s
SGMF Saint Gilles **135.26 339** *e*PKIKP PKPdf 21 30 39.8 -14
comp=Z,140nm,1.0s
VERF Verneugheol **135.31 333** PKP PKPdf 21 30 46.9 -7.5
LBIL Lubilhac **135.36 332** PKP PKPdf 21 30 41.8 -13
LBIL Lubilhac **135.36 332** PKP SKSac 21 38 13.9 +6.5
ROSF Rostrenen **135.44 340** *e*PKIKP PKPdf 21 30 40.1 -14
comp=Z,153nm,1.2s
FRNF Fournols **135.55 333** PKP PKPdf 21 30 45.5 -9.4
MFF Saint Martin d **135.74 336** *e*PKIKP PKPdf 21 30 42.1 -13
comp=Z,187nm,1.0s
QUIF Quistinic **135.76 340** *e*PKIKP PKPdf 21 30 40.8 -14
comp=Z,165nm,1.1s
LASF Ste Croix **135.94 331** *e*PKIKP PKPdf 21 30 42.6 -13
comp=Z,342nm,1.1s
RJF Les Rejaudoux **136.08 334** *e*PKIKP PKPdf 21 30 43.0 -13
comp=Z,83nm,1.1s
CAF Calviac **136.13 333** *e*PKIKP PKPdf 21 30 42.4 -14
comp=Z,100nm,1.1s
LFF La Frestale **136.71 334** *e*PKIKP PKPdf 21 30 44.3 -13
comp=Z,205nm,1.2s
MTLF Montolieu **137.28 331** *e*PKIKP PKPdf 21 30 44.2 -14
comp=Z,115nm,1.1s
CPD Cerro la Pandu **138.04 71** PKPdf PKPdf 21 30 53.2 -7.1
KEST Kesra **138.26 317** PKhKP 21 30 49.5
comp=Z,5.4nm,1.0s,baz=300,slow=6.3,SNR=7.6
KEST PKP PKPdf 21 30 57.5 -2.7
comp=Z,8.4nm,0.9s,baz=228,slow=2.7,SNR=12
MTP Monte Pirata **138.38 71** PKPdf PKPdf 21 30 52.0 -8.9
EPF Esparros **138.39 333** *e*PKIKP PKPdf 21 30 47.0 -13
comp=Z,80nm,1.0s
EBIE Bielsa **138.75 333** PKP PKPdf 21 30 58.7 -2.2
ETSF Etsaut **138.90 333** *e*PKIKP PKPdf 21 30 47.0 -14
comp=Z,241nm,1.1s
CMAH Djebel Manchou **138.99 320** P PKPdf 21 31 05.0 +3.5
SJPF Ste Jean **139.02 334** *e*PKIKP PKPdf 21 30 46.7 -15
comp=Z,120nm,1.2s
ELIZ Elizondo **139.11 334** PKP PKPdf 21 30 59.0 -2.5
CAEH 'Ain El Ouahch **139.26 321** P PKPdf 21 31 07.0 +5.0
EPOB Poblet **139.33 330** PKP PKPdf 21 30 58.7 -3.3
CKFL Kef-Lekhel **139.57 320** P PKPdf 21 31 07.0 +4.4
ESAC San Caprasio **139.79 332** PKP PKPdf 21 30 59.2 -3.6
CASM Ain Smara **139.81 320** P PKPdf 21 31 03.0 0.0
ELAN Lanestosa **139.84 336** PKP PKPdf 21 30 58.4 -4.5
ECRI Cripan **139.98 335** PKP PKPdf 21 30 57.4 -5.7
CTEI Djebel Teioual **139.98 320** P PKPdf 21 31 05.0 +1.7
ERTA Horta de San J **140.00 331** PKP PKPdf 21 31 00.4 -2.8
DFRA Djebel Bou Aff **140.01 321** P PKPdf 21 31 01.0 -2.4
EARI Arriondas **140.46 338** PKP PKPdf 21 30 59.7 -4.3
SET Setif **140.53 321** P PKPdf 21 31 01.0 -3.3
CKHR Kef el Ahmar **140.58 321** P PKPdf 21 31 02.0 -2.4
CMER Merouana **140.58 320** P PKPdf 21 31 07.0 +2.6
EIBI Ibiza **140.94 328** PKP PKPdf 21 31 02.8 -2.2
EPON Pontenova **141.13 340** PKP PKPdf 21 31 01.4 -3.8
ETOR Torete **141.23 333** PKP PKPdf 21 31 02.1 -3.3
AKET Djebel Ketaf **141.56 322** P PKPdf 21 31 00.0 -6.2
ABA Alger-Bouzarea **141.57 324** P PKPdf 21 31 02.4 -3.8
ECHE Chera **141.69 331** PKP PKPdf 21 31 03.7 -2.5
ADJB Djebel Djouab **141.76 323** P PKPdf 21 31 01.6 -4.9
STS Santiago **141.98 341** PKP PKPdf 21 31 02.4 -4.3
EBEN Beniarda **141.99 329** PKP PKPdf 21 31 04.3 -2.5
EMAZ Mazaricos **142.06 342** PKP PKPdf 21 31 02.6 -4.3
ECAL Calabor **142.20 339** PKP PKPdf 21 31 02.3 -4.8
LZG Guadaloupe-1 **142.25 73** *e*P PKPdf 21 31 02.9 -5.0
GUD Guadarrama **142.29 335** PKP PKPdf 21 31 03.1 -4.3
PBRG Braganca **142.32 338** *e*PKP PKPdf 21 31 03.0 -4.4
TBG Guadaloupe-3 **142.42 74** *e*P PKPdf 21 31 03.0 -5.3
ETOB Tobarra **142.70 330** PKP PKPdf 21 31 03.9 -4.2
MGG Marie-Galante **142.72 73** *e*P PKPdf 21 30 57.9 -11
ELOB Lobios **142.73 340** PKP PKPdf 21 31 02.8 -5.2
GRGR Grenville **142.82 80** *e*PKPdf PKPdf 21 31 06.5 -2.5
PCAB Cabril **142.86 340** *e*PKP PKPdf 21 31 05.5 -2.8
MVO Moncorvo **142.99 338** *e*PKP PKPdf 21 31 05.1 -3.5
ESDC Sonseca Array **143.01 334** PKP PKPdf 21 31 05.1 -3.6
ESDC PKP PKPdf 21 31 08.2 -0.4
ESDC SKKPbc 21 42 56.8
ESDC Sonseca Array **143.01 334** PKhKP 21 31 04.1
comp=Z,53nm,0.9s,baz=22,slow=3.1,SNR=70
ESDC PKP PKPdf 21 31 08.2 -0.4
comp=Z,62nm,1.0s,baz=26,slow=2.1,SNR=46
ESDC SKKPbc 21 42 56.8
comp=Z,2.7nm,0.9s,baz=231,slow=4.8,SNR=4.4
PVRL Vila Real **143.14 339** *e*PKP PKPdf 21 31 06.8 -2.0
EMUR La Murta **143.17 329** PKP PKPdf 21 31 05.8 -3.2
EVIA Vianos **143.17 331** PKP PKPdf 21 31 06.2 -2.8
SLB Belfond **143.26 77** *e*P PKPdf 21 31 09.2 -0.6
SLB Belfond **143.26 77** *e* PKPdf 21 31 09.2 -0.6
PAB San Pablo **143.29 334** *e*PKPdf PKPdf 21 31 05.3 -3.9
OKGL Djebel Kef Gue **143.48 325** P PKPdf 21 31 10.0 +0.4
PTO Porto **143.57 340** *e*PKP PKPdf 21 31 06.9 -2.7
PVIS Viseu **143.70 339** *e*PKP PKPdf 21 31 06.6 -3.2
OJGS Djebel Guires **143.80 324** P PKPdf 21 31 09.0 -1.2
MTE Manteigas **143.85 338** *e*PKP PKPdf 21 31 07.3 -2.8
OJBR Djebel Berber **143.97 325** P PKPdf 21 31 08.0 -2.5
EQES Quesada **144.11 331** PKP PKPdf 21 31 07.4 -3.3
EBAN Banos Encina **144.16 332** PKP PKPdf 21 31 07.7 -3.0
PCBR Castelo Branco **144.31 338** *e*PKP PKPdf 21 31 08.4 -2.5
ENIJ Nijar **144.33 329** PKP PKPdf 21 31 08.2 -2.8
USTO Oran **144.37 326** P PKPdf 21 31 14.0 +2.8
ODJA Bouhanifia **144.44 325** P PKPdf 21 31 11.0 -0.3
EADA Adamuz **144.52 333** PKP PKPdf 21 31 08.3 -3.0
EBER Berja **144.73 330** PKP PKPdf 21 31 10.1 -1.6
ECOG Cogollos-Vega **144.76 331** PKP PKPdf 21 31 09.9 -1.9
ELUQ Luque **144.87 332** PKP PKPdf 21 31 09.8 -2.1
ECAB El Cabril **144.97 334** PKP PKPdf 21 31 09.9 -2.2
EBAD Badajoz **145.07 336** PKP PKPdf 21 31 09.3 -3.0
ODZI Dzioula **145.07 326** P PKPbc 21 31 11.0 -0.8
ERON Agron **145.08 331** PKP PKPdf 21 31 09.3 -3.1
EGUA Guajares **145.11 330** PKP PKPdf 21 31 10.3 -2.1
ECOJ Sierra Loja **145.15 331** PKP PKPdf 21 31 10.2 -2.3
PESTR Estremoz **145.20 337** *e*PKP PKPdf 21 31 11.0 -1.5
OLHC Oulhaca **145.21 326** P PKPbc 21 31 12.0 -0.2
ALMR Almeirim **145.32 338** *e*P PKPbc 21 31 10.4 -2.1
EALB Alboran **145.54 329** PKP PKPdf 21 31 11.6 -1.6
PBAR Barrancos **145.57 336** *e*PKP PKPdf 21 31 12.5 -0.7
EVO Evora **145.65 337** *e*PKP2 PKPab 21 31 12.1 -1.7
comp=Z,2μm,1.3s
PMAFR Mafra **145.75 339** *e*PKP PKPdf 21 31 13.0 -0.4
EMIN Mina Concepcio **145.77 335** PKP PKPdf 21 31 11.1 -2.4
MOE Montemor **145.79 338** *e*PKP PKPdf 21 31 13.9 +0.4
EMIJ Mijas **145.91 331** PKP PKPdf 21 31 12.0 -1.8
LIS Lisbon **145.91 339** *e*P PKPdf 21 31 12.1 -1.7
PBEJ Beja **146.03 337** *e*PKP PKPdf 21 31 14.1 +0.2
ESPR Espera **146.16 333** PKP PKPdf 21 31 12.1 -2.1
EGRO El Granado **146.30 336** PKP PKPdf 21 31 10.2 -2.4
EJIF Jimena Fronter **146.33 332** PKP PKPdf 21 31 14.7 +0.2
PVAQ Vaqueiros **146.51 336** *e*PKP PKPdf 21 31 15.5 +0.7
PBDV Barranco-do-Ve **146.74 336** *e*PKP PKPdf 21 31 16.7 +1.5
PTEO Sao Teotonio **146.79 337** *e*PKP PKPdf 21 31 16.5 +1.3
MORF Marmelete **146.97 337** *e*PKP PKPdf 21 31 16.2 +0.7
PFVI Vila Bisbo **147.19 337** *e*PKP PKPdf 21 31 16.6 +0.7
PLUZ Luz **148.16 7** *e*PKP PKPbc 21 31 21.5 +0.8
STGR Santa Cruz **148.20 6** *e*PKP PKPbc 21 31 22.6 +1.8
PVIA Vitoria **148.21 6** *e*PKP PKPbc 21 31 22.7 +1.9
ROSA Rosais **148.53 6** *e*PKP PKPbc 21 31 21.6 -0.1
PAMA Santo Amaro **148.58 6** *e*PKP PKPbc 21 31 23.5 +1.7
PBIS Biscoitos **148.58 5** *e*PKP PKPbc 21 31 21.9 +0.1
PVNV Vila Nova **148.59 4** *e*PKP PKPbc 21 31 24.0 +2.2
PTCA Ponta do Capel **148.60 7** *e*PKP PKPbc 21 31 23.4 +1.5
ASBA Santa Barbara **148.62 5** *e*PKP PKPbc 21 31 22.6 +0.7
CALA Caldeira **148.62 7** *e*PKP PKPbc 21 31 22.0 +0.1
PPAD Pico dos Padre **148.64 5** *e*PKP PKPbc 21 31 22.6 +0.7
PFAV Pico das Favas **148.64 4** *e*PKP PKPbc 21 31 23.4 +1.4
RIB2 Ribeirinha **148.68 4** *e*PKP PKPbc 21 31 23.1 +1.1
PICO Pico **148.73 6** *e*PKP PKPbc 21 31 22.7 +0.5
PTEI Pico do Teixo **148.74 6** *e*PKP PKPbc 21 31 22.5 +0.3
PCND Candelaria **148.76 6** *e

ellipse: s-maj=5.8km s-min=4.8km az=81.0
MOS ***01*** *21:15:25.3±1.0, 7.24S±15.59E, h33km, mb6.0/30, Error*
ellipse: s-maj=11.5km s-min=7.7km az=92.5
ISC 01 21:15:27.5±2.1, 7.35S±.004×15.562E±.005, h42km±19km, h12km±6.6km; pP-P, n262, σ0.81/154, mb5.8/62, 10C-7D, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
CTA	**Charters Tower**	**15.58**	**215**	*eP*	**Pn**	**21 19 06.8**	**+2.5**
	390nm,1.2s						
CTA	**Charters Tower**	**15.58**	**215**	P	**Pn**	**21 19 05.4**	**+1.1**
CTA				pmax	pmax		
	comp=Z,6.0nm,0.3s						
CTA	**Charters Tower**	**15.58**	**215**	Pn	**Pn**	**21 19 05.4**	**+1.0**
	comp=Z,5.6nm,0.3s,baz=54,slow=13,SNR=4.7						
CTAO	**Charters Tower**	**15.58**	**215**	*e*Pn	**Pn**	**21 19 06.4**	**+2.1**
ARMA	**Armidale**	**23.25**	**189**	*eP*	**P**	**21 20 31.3**	**-0.1**
KAKA	**Kakadu**	**23.43**	**255**	*eP*	**P**	**21 20 33.0**	**-0.4**
	comp=Z,1μm,1.0s,mb6.2						
WB2	**Warramunga Arr**	**24.13**	**237**	*eP*	**P**	**21 20 40.0**	**+0.4**
WRA	**Warramunga Arr**	**24.14**	**237**	P	**P**	**21 20 40.1**	**+0.4**
WRA				pmax	pmax		
	comp=Z,665nm,1.0s						
WRA	**Warramunga Arr**	**24.14**	**237**	P	**P**	**21 20 40.1**	**+0.4**
	comp=Z,665nm,1.0s,mb6.0,baz=62,slow=9.4,SNR=12						
ASAR	**Alice Springs**	**26.41**	**230**	P	**P**	**21 21 00.1**	**-0.3**
	comp=Z,98nm,1.0s,mb5.3,baz=62,slow=8.7,SNR=6.8						
ASAR				PcP	PcP	21 24 24.0	-1.2
	comp=Z,22nm,0.8s,baz=58,slow=2.5,SNR=5.6						
ASAR				ScP	ScP	21 28 06.8	+4.8
	comp=Z,12nm,0.9s,baz=28,slow=5.3,SNR=4.3						
STKA	**Stephens Creek**	**27.69**	**206**	*eP*	**P**	**21 21 11.8**	**+0.1**
	comp=Z,134nm,0.7s,mb5.7						
STKA	**Stephens Creek**	**27.69**	**206**	P	**P**	**21 21 10.7**	**-1.0**
	comp=Z,161nm,0.7s,mb5.7,baz=18,slow=11,SNR=3.8						
STKA				ScP	ScP	21 28 09.9	+4.2
	comp=Z,17nm,0.8s,baz=0.0,slow=6.1,SNR=3.3						
CNB	**Canberra Magne**	**28.42**	**191**	*eP*	**P**	**21 21 18.6**	**+0.4**
	comp=Z,284nm,1.5s,mb5.7						
FITZ	**Fitzroy Crossi**	**31.09**	**247**	*eP*	**P**	**21 21 42.6**	**+0.5**
	comp=Z,719nm,1.0s,mb6.5						
FITZ	**Fitzroy Crossi**	**31.09**	**247**	P	**P**	**21 21 42.4**	**+0.3**
	comp=Z,406nm,0.9s,mb6.2,baz=79,slow=8.3,SNR=10.0						
BATI	**Kupang**	**31.70**	**263**	P	**P**	**21 21 47.5**	**-0.1**
	comp=Z,258nm,1.0s,mb6.0,baz=19,slow=3.2,SNR=3.3						
MATI	**Mati**	**32.55**	**295**	*eP*	**P**	**21 21 54.0**	**-1.0**
RAO	**Raoul Island**	**33.09**	**135**	*eP*	**P**	**21 21 57.8**	**-1.8**
	comp=Z,951nm,1.0s,mb6.7						
RAO	**Raoul Island**	**33.09**	**135**	*eP*	**P**	**21 21 57.8**	**-1.8**
RAO				pmax	pmax		
	comp=Z,951nm,1.0s,mb6.7						
BUKP	**Musuan**	**34.02**	**296**	*eP*	**P**	**21 22 07.9**	**+0.1**
FORT	**Forrest**	**34.77**	**224**	*eP*	**P**	**21 22 13.5**	**-0.6**
	comp=Z,234nm,0.8s,mb6.2						
MSLP	**Maasin**	**35.22**	**299**	*eP*	**P**	**21 22 16.3**	**-1.8**
PAGZ	**Pagadian**	**35.52**	**295**	*eP*	**P**	**21 22 20.6**	**-0.1**
KAPI	**Kappang**	**35.73**	**272**	P	**P**	**21 22 22.5**	**-0.1**
	comp=Z,4μm,0.9s,SNR=17						
OCLP	**Ormoc**	**35.87**	**300**	*eP*	**P**	**21 22 23.8**	**+0.1**
TAU	**Tasmania Unive**	**36.17**	**190**	P	**P**	**21 22 27.4**	**+1.5**
	comp=Z,1μm,1.2s,mb6.7,SNR=6.1						
TAU	**Tasmania Unive**	**36.17**	**190**	*eP*	**P**	**21 22 26.0**	**+0.1**
	comp=Z,606nm,1.5s,mb6.3						
TAU	**Tasmania Unive**	**36.17**	**190**	*eP*	**P**	**21 22 26.0**	**+0.1**
TAU				pmax	pmax		
	comp=Z,606nm,1.5s,mb6.3						
URZ	**Urewera**	**36.40**	**151**	P	**P**	**21 22 25.5**	**-2.4**
	comp=Z,24nm,0.9s,mb5.1,baz=72,slow=6.4,SNR=2.4						
MBWA	**Marble Bar**	**37.28**	**245**	*eP*	**P**	**21 22 35.8**	**+0.1**
	comp=Z,269nm,1.2s,mb6.0						
GUIM	**Jordan**	**37.42**	**298**	*eP*	**P**	**21 22 35.9**	**-1.0**
PVCP	**Virac**	**37.54**	**304**	*eP*	**P**	**21 22 37.3**	**-0.6**
SNZO	**South Karori**	**37.84**	**156**	*eP*	**P**	**21 22 39.8**	**-0.3**
	comp=Z,148nm,1.2s,mb5.6						
RPZ	**Rata Peaks**	**38.67**	**162**	P	**P**	**21 22 47.0**	**0.0**
	comp=Z,136nm,0.9s,mb5.7,baz=48,slow=3.1,SNR=7.3						
OTRP	**Odiongan**	**38.72**	**300**	*eP*	**P**	**21 22 48.2**	**+0.3**
CUYO	**Cuyo Island**	**38.90**	**297**	*eP*	**P**	**21 22 50.0**	**+0.6**
POLP	**Polillo Island**	**39.96**	**303**	*eP*	**P**	**21 22 58.5**	**+0.3**
BUSP	**Coron**	**40.13**	**298**	*eP*	**P**	**21 23 00.7**	**+1.0**
ENPP	**El Nido**	**40.46**	**297**	*eP*	**P**	**21 23 03.2**	**+0.8**
BALP	**Baler**	**40.78**	**304**	*eP*	**P**	**21 23 04.5**	**-0.5**
LUBP	**Lubang**	**40.89**	**301**	*eP*	**P**	**21 23 05.1**	**-0.9**
BATP	**Bataraza**	**40.97**	**292**	*eP*	**P**	**21 23 07.3**	**+0.7**
CAUP	**Cauayan**	**41.23**	**306**	*eP*	**P**	**21 23 07.1**	**-1.6**
KKM	**Kota Kinabalu**	**41.51**	**288**	*eP*	**P**	**21 23 11.0**	**0.0**
SGCP	**Mt. Cagua**	**41.77**	**308**	*eP*	**P**	**21 23 13.7**	**+0.6**
SCZP	**Santa Cruz**	**42.17**	**303**	*eP*	**P**	**21 23 14.4**	**-2.1**
APYP	**Conner**	**42.19**	**307**	*eP*	**P**	**21 23 16.4**	**-0.1**
BOLP	**Bolinao**	**42.48**	**304**	*eP*	**P**	**21 23 17.6**	**-1.3**
ABRA	**Dolores**	**42.50**	**306**	*eP*	**P**	**21 23 18.1**	**-1.0**
KLBR	**Kellerberrin**	**42.74**	**231**	*eP*	**P**	**21 23 20.3**	**-0.6**
	comp=Z,434nm,0.8s,mb6.2						
JOW	**Kunigami**	**43.10**	**323**	P	**P**	**21 23 24.0**	**+0.3**
	comp=Z,73nm,0.9s,mb5.4,baz=134,slow=9.4,SNR=3.9						
NWAO	**Narrogin (SRO)**	**43.73**	**229**	*eP*	**P**	**21 23 28.5**	**-0.4**
	comp=Z,19nm,0.5s,mb5.1						
NWAO	**Narrogin (SRO)**	**43.73**	**229**	P	**P**	**21 23 28.1**	**-0.8**
NWAO				pmax	pmax		
	comp=Z,214nm,1.0s						
NWAO	**Narrogin (SRO)**	**43.73**	**229**	P	**P**	**21 23 28.1**	**-0.8**
	comp=Z,214nm,1.0s,mb5.8,baz=62,slow=7.9,SNR=5.8						
NACB	**Ninganchiao**	**45.65**	**314**	*eP*	**P**	**21 23 43.9**	**-0.4**
KSM	**Kuching**	**46.05**	**279**	*eP*	**P**	**21 23 47.5**	**-0.1**
YHNB	**Yeheng**	**46.12**	**315**	*eP*	**P**	**21 23 49.3**	**+1.4**
MJAR	**Matsushiro Arr**	**46.62**	**341**	P	**P**	**21 23 50.0**	**-1.6**
	comp=Z,38nm,0.8s,mb5.4,baz=165,slow=8.0,SNR=10						
MJAR				PcP	PcP	21 25 25.4	+0.3
	comp=Z,42nm,0.9s,baz=167,slow=3.8,SNR=6.9						
MJAR				ScP	ScP	21 29 18.4	+2.8
	comp=Z,17nm,1.1s,baz=174,slow=4.5,SNR=4.2						
JNU	**Nakatsue**	**46.62**	**331**	P	**P**	**21 23 51.6**	**-0.1**
	comp=Z,70nm,0.8s,mb5.7,baz=127,slow=2.0,SNR=6.4						
MAJO	**Matsushiro**	**46.62**	**341**	*eP*	**P**	**21 23 50.8**	**-0.8**
QZH	**Quanzhou**	**48.28**	**313**	⇓*iP*	**P**	**21 24 06.0**	**+1.3**
QZH				AMB	AMB		
	comp=Z,510nm,0.9s,mb6.5						
KSRS	**Korea Array**	**51.54**	**332**	P	**P**	**21 24 29.2**	**-0.1**
	comp=Z,64nm,1.0s,mb5.5,baz=148,slow=8.0,SNR=11						
QIZ	**Qiongzhong**	**52.18**	**301**	P	**P**	**21 24 35.1**	**+0.7**
QIZ	**Qiongzhong**	**52.18**	**301**	*eP*	**P**	**21 24 35.6**	**+1.2**
	comp=Z,250nm,1.0s,mb6.1						
INCN	**Inchon**	**52.18**	**331**	*eP*	**P**	**21 24 34.1**	**+0.1**
ASAJ	**Asahikawa**	**52.56**	**348**	P	**P**	**21 24 37.9**	**+1.1**
ASAJ				pmax	pmax		
	comp=Z,143nm,0.8s						
ASAJ	**Asahikawa**	**52.56**	**348**	P	**P**	**21 24 37.9**	**+1.1**
	comp=Z,143nm,0.8s,mb5.9,baz=222,slow=10,SNR=12						
NJ2	**Nanjing**	**52.58**	**320**	*eP*	**P**	**21 24 37.5**	**+0.3**
NJ2				AP	pP	21 24 47.0	-2.1
NJ2				XP	sP	21 24 51.6	-2.3
NJ2				PP	PP	21 26 36.9	+0.3
NJ2				S	**S**	**21 32 02.0**	**+0.5**
NJ2				XS	sS	21 32 20.0	-1.3
NJ2				AMB	AMB		
	comp=Z,150nm,1.2s						
NJ2				AMB	AMB		
	comp=Z,2μm,4.8s						
NJ2				LR	LR		
	comp=Z,35μm,10.8s						
PAE	**Paea**	**54.30**	**106**	*eP*	**P**	**21 24 49.9**	**-0.2**
	comp=Z,148nm,1.0s,mb5.9						
PAE	**Paea**	**54.30**	**106**	*eP*	**P**	**21 24 49.9**	**-0.2**
PAE				pmax	pmax		
	comp=Z,148nm,1.0s,mb5.9						
TVO	**Taravao**	**54.62**	**107**	*eP*	**P**	**21 24 52.7**	**+0.3**
	comp=Z,127nm,0.9s,mb6.0						
TVO	**Taravao**	**54.62**	**107**	*eP*	**P**	**21 24 52.7**	**+0.3**
TVO				pmax	pmax		
	comp=Z,127nm,0.9s,mb6.0						
WHN	**Wuhan**	**54.63**	**316**	⇓P	**P**	**21 24 53.0**	**+0.8**
VLA	**Vladivostok**	**54.67**	**339**	⇑*eP*	**P**	**21 24 52.6**	**+0.4**
VLA	**Vladivostok**	**54.67**	**339**	*eP*	**P**	**21 24 51.7**	**-0.5**
VLA				pmax	pmax		
	comp=Z,274nm,1.2s,mb6.2						
KHU	**Kahuku**	**54.82**	**60**	P	**P**	**21 24 54.7**	**+0.9**
TBI	**Tubuai**	**54.97**	**113**	*eP*	**P**	**21 24 55.5**	**+0.7**
	comp=Z,504nm,1.2s,mb6.4						
POHA	**Pohakuloa**	**55.10**	**60**	P	**P**	**21 24 58.5**	**+2.6**
YSS	**Yuzh-Sakhalins**	**55.26**	**349**	*eP*	**P**	**21 24 56.8**	**+0.3**
YSS	**Yuzh-Sakhalins**	**55.26**	**349**	⇓*iP*	**P**	**21 24 56.9**	**+0.5**
YSS				pmax	pmax		
	comp=Z,160nm,1.1s,mb6.0						
MEH	**Mehetia**	**55.76**	**107**	*eP*	**P**	**21 25 01.1**	**+0.5**
	comp=Z,55nm,0.9s,mb5.6						
DL2	**Dalian**	**55.79**	**328**	⇓*iP*	**P**	**21 25 00.6**	**+0.2**
DL2				AMB	AMB		
	comp=Z,70nm,1.0s						
DL2				LR	LR		
	comp=N,28μm,15.3s						
DL2				LR	LR		
	comp=E,29μm,15.5s						
DL2				LR	LR		
	comp=Z,42μm,17.7s						
PMOR	**Pomariorio Ree**	**55.81**	**103**	*eP*	**P**	**21 25 01.4**	**+0.4**
	comp=Z,178nm,0.9s,mb6.1						
VAH	**Vaihoa**	**56.07**	**103**	*eP*	**P**	**21 25 03.0**	**+0.1**
	comp=Z,97nm,0.9s,mb5.8						
KULM	**Kulim**	**56.27**	**281**	*eP*	**P**	**21 25 03.7**	**-0.6**
MDJ	**Mudanjiang**	**56.80**	**338**	P	**P**	**21 25 07.7**	**+0.2**
MDJ				AMB	AMB		
	comp=Z,75nm,1.4s,mb5.5						
MDJ				AMB	AMB		
	comp=Z,24μm,9.4s						
CN2	**Changchun**	**57.77**	**335**	*eP*	**P**	**21 25 13.6**	**-0.8**
BJT	**Baijiatuau**	**59.55**	**326**	*eP*	**P**	**21 25 26.6**	**-0.2**
PET	**Petropavlovsk**	**60.19**	**2**	*eP*	**P**	**21 25 31.7**	**+0.7**
PET				pmax	pmax		
	comp=Z,68nm,0.9s,mb5.7						
KMI	**Kunming**	**60.73**	**304**	P	**P**	**21 25 36.5**	**+1.3**
KMI				AP	pP	21 25 42.4	-4.9
KMI				XP	sP	21 25 45.4	-6.7
KMI				AMB	AMB		
	comp=Z,235nm,1.0s,mb6.3						
CHTO	**Chiang Mai**	**61.62**	**296**	*eP*	**P**	**21 25 41.7**	**+0.4**
CD2	**Chengdu**	**62.52**	**310**	P	**P**	**21 25 47.6**	**+0.4**
CD2				AMB	AMB		
	comp=Z,280nm,0.9s,mb6.4						
HIA	**Hailar**	**64.50**	**335**	*eP*	**P**	**21 26 00.0**	**+0.1**
LZH	**Lanzhou**	**65.00**	**315**	*eP*	**P**	**21 26 04.4**	**+1.0**
LZH				AP	pP	21 26 07.7	-8.0
LZH				PP	PP	21 28 31.3	+4.4
LZH				AMB	AMB		
	comp=Z,197nm,1.1s,mb6.0						
LZH				AMB	AMB		
	comp=Z,583nm,4.3s						
CASY	**Casey**	**66.45**	**198**	*eP*	**P**	**21 26 12.1**	**-0.2**
	comp=Z,113nm,1.1s,mb5.8						
MA2	**Magadan**	**66.82**	**357**	⇑*eP*	**P**	**21 26 14.5**	**-0.1**
MA2	**Magadan**	**66.82**	**357**	*eP*	**P**	**21 26 14.7**	**+0.1**
MA2				pmax	pmax		
	comp=Z,200nm,1.6s,mb5.9						
CLNS	**Chul'man**	**68.75**	**342**	*eP*	**P**	**21 26 27.1**	**+0.3**
CLNS				pmax	pmax		
	comp=N,44nm,0.9s						
CLNS				pmax	pmax		
	comp=Z,202nm,0.9s,mb6.0						
CLNS				pmax	pmax		
	comp=E,27nm,1.1s						
GTA	**Gaotai**	**69.42**	**317**	*eP*	**P**	**21 26 32.6**	**+1.2**
GTA				AP	pP	21 26 36.3	-7.4
GTA				XP	sP	21 26 37.9	-11
GTA				AMB	AMB		
	comp=Z,87nm,1.2s,mb5.6						
SONM	**Songino Array**	**69.97**	**327**	P	**P**	**21 26 35.7**	**+1.1**
SONM				pmax	pmax		
	comp=Z,106nm,0.8s						
SONM	**Songino Array**	**69.97**	**327**	P	**P**	**21 26 35.7**	**+1.1**
	comp=Z,106nm,0.8s,mb5.8,baz=145,slow=6.2,SNR=13						
SEY	**Seymchan**	**70.12**	**358**	⇑*eP*	**P**	**21 26 35.3**	**+0.1**
VNDA	**Vanda**	**70.21**	**179**	P	**P**	**21 26 35.7**	**+0.1**
VNDA				pmax	pmax		
	comp=Z,60nm,1.2s						
VNDA	**Vanda**	**70.21**	**179**	P	**P**	**21 26 35.7**	**+0.1**
	comp=Z,60nm,1.1s,mb5.4,baz=326,slow=8.9,SNR=5.0						
SBA	**Scott Base**	**70.71**	**178**	*eP*	**P**	**21 26 40.3**	**+1.6**
	comp=Z,224nm,1.4s,mb5.9						
SBA	**Scott Base**	**70.71**	**178**	*eP*	**P**	**21 26 40.3**	**+1.6**
SBA				pmax	pmax		
	comp=Z,224nm,1.4s,mb5.9						
LSA	**Lhasa**	**71.98**	**304**	*eP*	**P**	**21 26 48.2**	**+1.0**
	comp=Z,180nm,1.0s,mb6.0						
LSA	**Lhasa**	**71.98**	**304**	*eP*	**P**	**21 26 48.2**	**+1.0**
LSA				pmax	pmax		
	comp=Z,180nm,1.0s,mb6.0						
YAK	**Yakutsk**	**72.03**	**347**	⇑*eP*	**P**	**21 26 47.3**	**+0.5**
ZAK	**Zakamensk**	**73.12**	**328**	*eP*	**P**	**21 26 52.8**	**-0.7**
ZAK				pmax	pmax		
	comp=Z,52nm,1.4s,mb5.3						
BOD	**Bodaibo**	**73.17**	**338**	*eP*	**P**	**21 26 53.3**	**-0.3**
BOD				pmax	pmax		
	comp=Z,99nm,1.0s,mb5.7						
TLY	**Talaya**	**73.68**	**329**	*eP*	**P**	**21 26 57.2**	**+0.4**
	comp=Z,46nm,0.9s,mb5.4						
TLY	**Talaya**	**73.68**	**329**	*eP*	**P**	**21 26 56.5**	**-0.3**
TLY				pmax	pmax		
	comp=Z,191nm,1.9s,mb5.7						
BILL	**Bilibino**	**75.58**	**4**	⇓*iP*	**P**	**21 27 06.8**	**-0.7**
BILL	**Bilibino**	**75.58**	**4**	⇓*iP*	**P**	**21 27 07.5**	**0.0**
BILL				*e*		21 27 15.1	
BILL				*e*		21 27 26.0	
BILL				pmax	pmax		
	comp=Z,176nm,1.1s,mb5.9						
PALK	**Pallekele**	**76.11**	**279**	*eP*	**P**	**21 27 12.5**	**+0.9**
	comp=Z,105nm,1.2s,mb5.6						
KDAK	**Kodiak Island**	**77.21**	**26**	P	**P**	**21 27 16.6**	**-0.3**
	comp=Z,20nm,0.9s,mb5.0,baz=189,slow=5.2,SNR=4.1						
TIXI	**Tiksi**	**80.79**	**352**	⇑*eP*	**P**	**21 27 35.5**	**-0.7**
TIXI	**Tiksi**	**80.79**	**352**	*eP*	**P**	**21 27 36.9**	**+0.7**
TIXI				pmax	pmax		
	comp=Z,120nm,1.7s,mb5.5						
MCK	**McKinley**	**82.15**	**22**	*eP*	**P**	**21 27 42.2**	**-1.3**
QSPA	**South Pole Qui**	**82.63**	**180**	P	**P**	**21 27 46.2**	**+0.3**
	comp=Z,132nm,1.0s,mb5.9,baz=352,slow=1.9,SNR=11						
COLA	**College**	**83.18**	**21**	⇓*eP*	**P**	**21 27 47.8**	**-1.1**
MKAR	**Makanchi Array**	**84.08**	**319**	P	**P**	**21 27 54.3**	**+0.4**
MKAR				pmax	pmax		
	comp=Z,252nm,0.9s						
MKAR	**Makanchi Array**	**84.08**	**319**	P	**P**	**21 27 54.2**	**+0.3**
	comp=Z,252nm,0.9s,mb6.4,baz=88,slow=6.2,SNR=19						
MAW	**Mawson**	**84.31**	**203**	*eP*	**P**	**21 27 55.1**	**+0.4**
	comp=Z,170nm,1.4s,mb6.0						
MAW	**Mawson**	**84.31**	**203**	P	**P**	**21 27 54.7**	**0.0**
MAW				pmax	pmax		
	comp=Z,192nm,1.1s						
MAW	**Mawson**	**84.31**	**203**	P	**P**	**21 27 54.7**	**-0.1**
	comp=Z,192nm,1.1s,mb6.1,baz=87,slow=6.1,SNR=17						
ZAA0	**Zalesovo Array**	**84.82**	**326**	*eP*	**P**	**21 27 56.7**	**-0.8**
ZALV	**Zalesovo Beam**	**84.82**	**326**	P	**P**	**21 27 56.7**	**-0.8**
ZALV				PKKPbc	PKKPbc	21 46 06.2	-2.4
ZALV	**Zalesovo Beam**	**84.82**	**326**	P	**P**	**21 27 56.7**	**-0.8**
	comp=Z,119nm,0.8s,mb6.1,baz=116,slow=5.6,SNR=17						
ZALV				PKKPbc	PKKPbc	21 46 06.2	-2.4
	comp=Z,1.2nm,0.5s,baz=300,slow=2.2,SNR=4.3						
ZAL	**Zalesovo**	**84.83**	**326**	P	**P**	**21 27 56.7**	**-0.8**
ULHL	**Ulahol**	**87.10**	**313**	P	**P**	**21 28 10.0**	**+1.0**
	SNR=7.0						
KURK	**Kurchatov**	**87.49**	**322**	*eP*	**P**	**21 28 10.2**	**-0.5**
	comp=Z,83nm,1.0s,mb5.9						
KURK	**Kurchatov**	**87.49**	**322**	*eP*	**P**	**21 28 10.2**	**-0.5**
KURK				pmax	pmax		
	comp=Z,83nm,1.0s,mb5.9						
TKM2	**Tokmak 2**	**87.71**	**314**	*eP*	**P**	**21 28 11.9**	**-0.1**
	comp=Z,60nm,0.9s,mb5.8						
TKM2	**Tokmak 2**	**87.71**	**314**	*eP*	**P**	**21 28 11.9**	**-0.1**
TKM2				pmax	pmax		
	comp=Z,60nm,0.9s,mb5.8						
TKM2	**Tokmak 2**	**87.71**	**314**	P	**P**	**21 28 12.1**	**+0.2**
	SNR=5.4						
CHMS	**Chumysh**	**88.33**	**314**	P	**P**	**21 28 15.2**	**+0.3**
	SNR=12						
UCH	**Uchtor**	**88.35**	**313**	*eP*	**P**	**21 28 16.5**	**+1.5**
AAK	**Ala-Archa**	**88.44**	**313**	⇑*eP*	**P**	**21 28 14.8**	**-0.7**
AAK	**Ala-Archa**	**88.44**	**313**	P	**P**	**21 28 16.3**	**+0.8**
	SNR=5.9						
USP	**Ospenovka**	**88.57**	**314**	P	**P**	**21 28 16.4**	**+0.4**
	SNR=10.0						
EKS2	**Erkin-Say**	**88.97**	**313**	*eP*	**P**	**21 28 18.0**	**+0.1**
	comp=Z,53nm,0.9s,mb5.9						
EKS2	**Erkin-Say**	**88.97**	**313**	P	**P**	**21 28 18.3**	**+0.3**
	SNR=5.1						
RPN	**Rapa Nui**	**91.15**	**117**	*eP*	**P**	**21 28 27.5**	**-1.1**
	comp=Z,10.0nm,2.3s						
BRVK	**Borovoye**	**93.02**	**323**	⇑*eP*	**P**	**21 28 35.5**	**-1.0**
ELK	**Elko**	**94.09**	**50**	*eP*	**P**	**21 28 42.3**	**+0.6**
	comp=Z,3.9nm,0.4s,mb5.2						
ELK	**Elko**	**94.09**	**50**	*eP*	**P**	**21 28 42.3**	**+0.6**
ELK				pmax	pmax		
	comp=Z,4.0nm,0.4s						
YKA	**Yellowknife Ar**	**96.36**	**28**	P	**P**	**21 28 51.2**	**-0.4**
YKA	**Yellowknife Ar**	**96.36**	**28**	P	**P**	**21 28 51.2**	**-0.4**
YKA				pmax	pmax		
	comp=Z,5.0nm,0.6s						
YKA	**Yellowknife Ar**	**96.36**	**28**	P	**P**	**21 28 51.2**	**-0.4**
	comp=Z,4.5nm,0.6s,mb5.1,baz=266,slow=4.4,SNR=8.4						
PDAR	**Pinedale Array**	**98.47**	**48**	P	**P**	**21 29 01.0**	**-0.6**
	comp=Z,5.7nm,0.9s,mb5.1,baz=245,slow=3.9,SNR=3.3						
SVE	**Sverdlovsk**	**98.83**	**326**	*eP*	**P**	**21 29 01.1**	**-1.8**
SVE				pmax	pmax		
	comp=Z,112nm,2.2s,mb6.0						
SNAA	**Sanae**	**99.87**	**187**	*e*PKiKP	PP	21 33 21.2	+10
SNAA				*e*		21 33 22.2	
SNAA				*e*		21 33 25.2	
SNAA	**Sanae**	**99.87**	**187**	P	Pdif	21 29 07.7	+0.1
SNAA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
SNAA	**Sanae**	**99.87**	**187**	P	Pdif	21 29 07.7	+0.1
	comp=Z,3.3nm,0.8s,baz=187,slow=5.7,SNR=5.3						
ARU	**Arti**	**99.98**	**326**	*eP*	Pdif	21 29 06.0	-2.0
	comp=Z,56nm,0.9s						
ARU	**Arti**	**99.98**	**326**	*eP*	Pdif	21 29 06.4	-1.7
ARU				*e*		21 33 13.1	
ARU				S	SKSac	21 39 42.6	-0.7
AKTK	**Aktyubinsk**	**100.47**	**320**	P	Pdif	21 29 08.7	-1.5
AKTO	**Aktyubinsk**	**100.47**	**320**	P	Pdif	21 29 08.7	-1.5
AKTO				pmax	pmax		
	comp=Z,5.0nm,0.7s						
AKTO	**Aktyubinsk**	**100.47**	**320**	P	Pdif	21 29 08.7	-1.5
	comp=Z,4.9nm,0.7s,baz=84,slow=14,SNR=4.1						
VNA3	**Neumayer Olymp**	**100.96**	**185**	*e*PKiKP	PP	21 33 01.4	-19
VNA3				*e*		21 33 02.6	
VNA3				*e*		21 33 07.1	
VNA3				*e*		21 33 11.1	
VNA2	**Neumayer--Watz**	**101.06**	**186**	*e*PKiKP	PP	21 33 01.7	-19
	baz=327,slow=13						
VNA2				*e*		21 33 03.0	
VNA2				*e*		21 33 07.3	
VNA2				*e*		21 33 10.1	
VNA1	**Neumayer--Stat**	**101.41**	**185**	*e*PKiKP	PP	21 32 57.4	-26
VNA1				*e*		21 32 58.6	
VNA1				*e*		21 33 02.6	
VNA1				*e*		21 33 06.1	
OPO	**Ambohidratompo**	**104.91**	**249**	Pdif	Pdif	21 29 29.4	-0.6
OPO	**Ambohidratompo**	**104.91**	**249**	Pdiff	Pdif	21 29 29.4	-0.6
	comp=Z,24nm,1.2s,baz=154,slow=3.6,SNR=5.1						
WMOK	**Wichita Mounta**	**106.96**	**56**	P	PKiKP	21 33 48.5	-0.8
ARCES	**ARCESS Array B**	**110.11**	**343**	Pdiff	Pdif	21 29 49.3	-3.8
	comp=Z,7.2nm,1.0s,baz=76,slow=5.1,SNR=4.2						
ARCES				PKiKP	PKiKP	21 33 53.8	-0.3
	comp=Z,2.7nm,0.4s,baz=96,slow=2.0,SNR=12						
JOF	**Joensuu**	**111.65**	**336**	*e*pkp	Pdif	21 29 56.3	-3.6
FINES	**FINESS Array B**	**114.51**	**336**	*i* PKiKP	PKiKP	21 34 02.0	-0.7
FINES				pmax	pmax		
	comp=Z,2.0nm,0.4s						
FINES	**FINESS Array B**	**114.51**	**336**	PKiKP	PKiKP	21 34 02.0	-0.7
	comp=Z,2.0nm,0.4s,baz=91,slow=2.4,SNR=7.7						
PLCA	**Paso Flores**	**116.06**	**142**	PKP	PKPdf	21 34 04.9	-1.5
	comp=Z,6.2nm,0.8s,baz=233,slow=2.7,SNR=6.4						
TEIG	**Tepich**	**116.97**	**71**	*e*PKPdf	PKPdf	21 34 09.1	+0.4
SWET	**Sewanee**	**117.37**	**54**	*e*PKPdf	PKPdf	21 34 08.3	-0.8
AKASG	**Malin Array Be**	**118.19**	**324**	PKP	PKPdf	21 34 08.7	-1.4
	comp=Z,5.2nm,0.6s,baz=45,slow=2.6,SNR=9.0						
MMAI	**Mount Meron Ar**	**119.23**	**304**	PKP	PKPdf	21 34 11.7	-0.9
	comp=Z,6.0nm,0.9s,baz=262,slow=27,SNR=4.8						
KIS	**Kishinev**	**119.96**	**321**	*e*PKP	PKPdf	21 34 10.0	-3.

DCN	Croghan	132.08 346	⇑ *i*P	PKPdf	21 34 38.5	+1.9
VAE	Valguarnera	133.79 316	SKPbc	SKPbc	21 38 08.3	+2.2
	comp=Z,15nm,0.9s,baz=57,slow=16,SNR=2.4					
SIV	San Ignacio	136.90 123	SKPbc	SKPbc	21 38 18.4	+1.9
	comp=Z,9.1nm,1.0s,baz=94,slow=4.2,SNR=5.5					
PBRG	Braganca	142.29 338	*e*PKP	PKPdf	21 34 53.9	-1.9
MVO	Moncorvo	142.95 338	*e*PKP	PKPdf	21 34 54.0	-3.0
ESDC	Sonseca Array	142.96 333	PKhKP		21 34 53.7	
	comp=Z,28nm,1.2s,baz=36,slow=2.5,SNR=4.7					
PVIS	Viseu	143.66 339	*e*PKP	PKPdf	21 34 56.3	-2.0
MTE	Manteigas	143.81 338	*e*PKP	PKPdf	21 34 57.0	-1.5
PCBR	Castelo Branco	144.27 337	*e*PKP	PKPdf	21 34 57.7	-1.7
PESTR	Estremoz	145.16 337	*e*PKP	PKPdf	21 35 00.8	-0.1
PBAR	Barrancos	145.53 335	*e*PKP	PKPdf	21 35 02.0	+0.4
PMAFR	Mafra	145.72 339	*e*PKP	PKPdf	21 35 02.3	+0.4
MOE	Montemor	145.75 337	*e*PKP	PKPdf	21 35 02.7	+0.7
PBEJ	Beja	146.00 336	*e*PKP	PKPab	21 35 03.7	0.0
PVAQ	Vaqueiros	146.47 336	*e*PKP	PKPab	21 35 04.9	-0.6
PBDV	Barranco-do-Ve	146.69 336	*e*PKP	PKPab	21 35 05.9	-0.5
PTEO	Sao Teotonio	146.75 337	*e*PKP	PKPab	21 35 05.8	-0.8
MORF	Marmelete	146.93 337	*e*PKP	PKPab	21 35 06.2	-1.1
PFVI	Vila Bisbo	147.15 337	*e*PKP	PKPab	21 35 06.9	-1.3
PLUZ	Luz	148.20 7	*e*PKP	PKPab	21 35 11.8	-0.4
STGR	Santa Cruz	148.24 5	*e*PKP	PKPab	21 35 11.0	-1.4
PVIA	Vitoria	148.25 5	*e*PKP	PKPab	21 35 12.1	-0.3
PAMA	Santo Amaro	148.62 6	*e*PKP	PKPab	21 35 12.1	-1.8
PBIS	Biscoitos	148.62 4	*e*PKP	PKPab	21 35 12.4	-1.5
PVNV	Vila Nova	148.63 4	*e*PKP	PKPab	21 35 12.8	-1.2
ASBA	Santa Barbara	148.66 4	*e*PKP	PKPab	21 35 13.4	-0.7
PPAD	Pico dos Padre	148.68 4	*e*PKP	PKPab	21 35 12.7	-1.5
MDT	Midelt	148.71 327	PKPbc	PKPbc	21 35 10.5	-0.4
	comp=Z,111nm,1.2s,baz=62,slow=4.1,SNR=5.0					
RIB2	Ribeirinha	148.72 4	*e*PKP	PKPab	21 35 12.8	-1.5
LFA	Lagoa do Fogo	149.70 2	*e*PKP	PKPbc	21 35 14.4	+1.2
PRCH	Ribeira Ch	149.74 2	*e*PKP	PKPab	21 35 15.6	-2.9
PSMN	Pico do Norte,	150.48 1	*e*PKP	PKPab	21 35 16.4	-5.1
PMPS	Porto Santo	153.35 345	*e*PKP	PKPbc	21 35 18.1	-3.6
TORD	Torodi Ar. Bea	153.72 285	PKPbc	PKPbc	21 35 21.3	-1.8
TORD			PKPab	PKPab	21 35 35.2	-0.7
TORD	Torodi Ar. Bea	153.72 285	PKPbc	PKPbc	21 35 21.3	-1.8
	comp=Z,18nm,0.9s,baz=24,slow=1.5,SNR=4.3					
TORD			PKPab	PKPab	21 35 35.2	-0.7
	comp=Z,62nm,1.1s,baz=66,slow=4.4,SNR=5.9					
PMAR	Madeira	153.82 346	*e*PKP	PKPbc	21 35 23.5	+0.7
DBIC	Dimbokro	160.61 269	PKPab	PKPab	21 36 05.8	+0.1
	comp=Z,52nm,1.0s,baz=99,slow=5.1,SNR=6.0					
BBTS	Babate	169.42 314	PKP	PKPdf	21 35 32.5	+1.1
	comp=Z,70nm,1.1s,baz=286,slow=3.1,SNR=3.6					
BBTS			PKPab	PKPab	21 36 43.6	-0.6
	comp=Z,101nm,1.0s,baz=336,slow=1.8,SNR=5.5					

*IDC **01** 21:17:14.6±0.7, 759S×15627E, h0km, mb5.4/11, mb1 5.5/11, mb1mx5.3/16, mbtmp5.4/11, Error ellipse: s-maj=31.9km s-min=21.8km az=116.0*
*ISCJB **01** 21:17:19.1±0.9, 75S±01×156.1E±02, h33km, mb5.3/11, Error ellipse: s-maj=28.8km s-min=15.2km az=29.2*
*MOS **01** 21:17:19.3±0.6, 753S×156.13E, h33km, mb5.4/12, Error ellipse: s-maj=28.9km s-min=22.0km az=50.5*

ISC 01 21:17:20.7±0.9, 76S±01×1562E±02, h35km, n50, σ0$52/18, mb5.3/11, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	24.47	238	P	P	21 22 37.0	+0.4
WRA				pmax	pmax		
	comp=Z,70nm,0.8s						
WRA	Warramunga Arr	24.47	238	P	P	21 22 37.0	+0.3
	comp=Z,70nm,0.8s,mb5.1,baz=62,slow=9.4,SNR=4.2						
ASAR	Alice Springs	26.69	231	P	P	21 22 56.8	+0.1
ASAR				pmax	pmax		
	comp=Z,18nm,0.8s						
ASAR	Alice Springs	26.69	231	P	P	21 22 56.8	+0.1
	comp=Z,18nm,0.8s,mb4.6,baz=57,slow=8.9,SNR=2.6						
FITZ	Fitzroy Crossi	31.50	248	P	P	21 23 39.2	-0.3
	comp=Z,14nm,0.3s,mb5.2,baz=79,slow=16,SNR=3.4						
JNU	Nakatsue	47.08	331	P	P	21 25 48.9	-0.3
	comp=Z,72nm,0.9s,mb5.6,baz=137,slow=5.5,SNR=4.3						
KSRS	Korea Array	52.00	331	P	P	21 26 26.6	0.0
	comp=Z,16nm,0.9s,mb5.0,baz=145,slow=7.3,SNR=4.3						
SONM	Songino Array	70.46	327	P	P	21 28 31.8	+0.3
SONM				pmax	pmax		
	comp=Z,70nm,0.9s						
SONM				pmax	pmax		
	comp=Z,2.0nm,0.9s						
SONM	Songino Array	70.46	327	P	P	21 28 31.8	+0.4
	comp=Z,70nm,0.9s,mb5.6,baz=136,slow=6.4,SNR=7.8						
SONM				PKKPbc		21 48 30.9	
	comp=Z,2.0nm,0.9s,baz=235,slow=0.6,SNR=3.7						
MOY	Mondy	75.52	328	*e*P	P	21 29 02.3	+0.9
MAW	Mawson	84.31	203	P	P	21 29 48.4	-0.3
MAW				pmax	pmax		
	comp=Z,18nm,0.9s						
MAW	Mawson	84.31	203	P	P	21 29 48.4	-0.3
	comp=Z,18nm,0.9s,mb5.2,baz=56,slow=4.9,SNR=4.9						
MKAR	Makanchi Array	84.61	318	P	P	21 29 50.7	+0.1
MKAR				pmax	pmax		
	comp=Z,109nm,0.8s						
MKAR	Makanchi Array	84.61	318	P	P	21 29 50.7	+0.1
	comp=Z,109nm,0.8s,mb6.0,baz=91,slow=7.3,SNR=12						
ZALV	Zalesovo Beam	85.31	326	P	P	21 29 53.1	-0.8
	comp=Z,74nm,0.8s,mb5.8,baz=109,slow=5.5,SNR=12						
NVAR	Mina Array Bea	91.16	52	P	P	21 30 23.0	+0.7
	comp=Z,6.1nm,1.0s,mb4.9,baz=244,slow=5.7,SNR=2.8						
YKA	Yellowknife Ar	96.30	28	P	P	21 30 44.5	-0.8
YKA				pmax	pmax		
	comp=Z,5.0nm,0.8s						
YKA	Yellowknife Ar	96.30	28	P	P	21 30 44.5	-0.8
	comp=Z,5.1nm,0.8s,mb5.0,baz=269,slow=4.4,SNR=3.7						
FINES	FINESS Array B	114.94	336	*i* PKIKP	PKiKP	21 35 57.4	-0.1
FINES				pmax	pmax		
	comp=Z,2.0nm,0.7s						
FINES	FINESS Array B	114.94	336	PKiKP	PKiKP	21 35 57.4	-0.1
	comp=Z,1.9nm,0.7s,baz=85,slow=2.9,SNR=2.6						
AKASG	Malin Array Be	118.69	325	PKIKP	PKPdf	21 36 03.7	-1.4
AKASG				pmax	pmax		
	comp=Z,6.0nm,0.8s						
AKASG	Malin Array Be	118.69	325	PKP	PKPdf	21 36 03.6	-1.4
	comp=Z,6.2nm,0.8s,baz=52,slow=2.4,SNR=5.1						
MMAI	Mount Meron Ar	119.81	304	PKP	PKPdf	21 36 08.2	+0.4
	comp=Z,5.6nm,1.1s,baz=79,slow=9.4,SNR=4.8						
NOA	NORSAR Array B	120.63	341	PKIKP	PKPdf	21 36 07.4	-1.1
NOA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
NOA	NORSAR Array B	120.63	341	PKP	PKPdf	21 36 07.4	-1.1
	comp=Z,2.3nm,0.9s,baz=60,slow=2.1,SNR=3.6						
EIL	Elat	120.78	300	PKP	PKPdf	21 36 08.9	-0.9
	comp=Z,11nm,0.8s,baz=14,slow=2.9,SNR=3.9						
LBTB	Lobatse	122.00	234	PKIKP	PKPdf	21 36 11.7	-0.6
LBTB				pmax	pmax		
	comp=Z,11nm,1.0s						
LBTB	Lobatse	122.00	234	PKP	PKPdf	21 36 11.7	-0.6
	comp=Z,11nm,1.0s,baz=165,slow=5.8,SNR=3.9						
MLR	Muntele Rosu	122.92	320	PKIKP	PKPdf	21 36 12.8	-0.6
MLR				pmax	pmax		
	comp=Z,12nm,1.0s						
MLR	Muntele Rosu	122.92	320	PKP	PKPdf	21 36 12.8	-0.6
	comp=Z,12nm,1.0s,baz=94,slow=5.7,SNR=3.7						
KOLS	Kolonicke sedl	123.49	325	*e*	PKPdf	21 36 14.2	-0.2
LSZ	Lusaka	123.68	246	PKIKP	PKPdf	21 36 15.5	-0.2
LSZ				pmax	pmax		
	comp=Z,7.0nm,0.9s						
LSZ	Lusaka	123.68	246	PKP	PKPdf	21 36 15.5	-0.2
	comp=Z,6.8nm,0.9s,baz=114,slow=8.1,SNR=4.8						
STHS	Stebnicka Huta	123.81	326	*e*	PKPdf	21 36 15.1	+0.1
KECS	Kecovo	124.73	326	*e*	PKPdf	21 36 16.8	0.0
VYHS	Vyhne	125.64	326	*e*	PKPdf	21 36 16.2	-2.3
BRG	Berggiesshubel	126.72	331	*i* PKIKP	PKPdf	21 36 19.2	-1.3
BRG				pmax	pmax		
	comp=Z,40nm,0.7s						
BRG	Berggiesshubel	126.72	331	*i* PKP	PKPdf	21 36 19.2	-1.3
	comp=Z,66nm,0.7s						
GERES	GERESS Array B	128.15	329	PKIKP	PKPdf	21 36 22.8	-0.5
GERES				pmax	pmax		
	comp=Z,5.0nm,0.8s						
GERES	GERESS Array B	128.15	329	PKP	PKPdf	21 36 22.8	-0.5
	comp=Z,4.6nm,0.8s,baz=80,slow=1.6,SNR=4.4						
LPAZ	La Paz	130.15	119	PKIKP	PKPdf	21 36 27.9	-0.1
LPAZ				pmax	pmax		
	comp=Z,10.0nm,1.0s						
LPAZ	La Paz	130.15	119	PKP	PKPdf	21 36 27.9	-0.1
	comp=Z,10nm,1.0s,baz=0.0,slow=2.0,SNR=3.6						
TSUM	Tsumeb	131.29	236	PKP	PKPdf	21 36 30.3	+0.1
	comp=Z,8.1nm,1.0s,baz=226,slow=3.7,SNR=3.3						
DAVOX	Davos/Dischmat	131.45	329	PKP	PKPdf	21 36 29.3	-0.3
	comp=Z,7.5nm,0.7s,baz=91,slow=7.3,SNR=3.4						
DAVOS	Davos	131.45	330	PKIKP	PKPdf	21 36 29.3	-0.3
ESDC	Sonseca Array	143.41	334	PKP	PKPdf	21 36 48.7	-3.2
	comp=Z,9.9nm,0.9s,baz=24,slow=3.0,SNR=5.5						
MDT	Midelt	149.20	327	PKPbc	PKPbc	21 37 06.4	+0.3
	comp=Z,12nm,0.8s,baz=98,slow=8.6,SNR=2.6						
TORD	Torodi Ar. Bea	154.30	285	PKPbc	PKPbc	21 37 16.2	-2.1
	comp=Z,14nm,0.9s,baz=49,slow=1.1,SNR=3.5						
DBIC	Dimbokro	161.16	268	PKP2	PKPab	21 38 01.8	-0.3
DBIC				pmax	pmax		
	comp=Z,26nm,0.8s						
DBIC	Dimbokro	161.16	268	PKPab	PKPab	21 38 01.8	-0.3
	comp=Z,26nm,0.8s,baz=73,slow=7.0,SNR=5.4						

*ISCJB **01** 21:18:08.5±1.0, 69S±01×15729E±0.10, h10km, mb5.1/7, Error ellipse: s-maj=20.2km s-min=9.9km az=33.5*
*IDC **01** 21:18:09.1±0.7, 692S×15729E, h0km, mb5.2/6, mb1 5.4/8, mb1mx5.0/16, mbtmp5.3/8, ML4.6/1, Error ellipse: s-maj=27.8km s-min=22.5km az=88.0*

ISC 01 21:18:16.6±3.9, 70S±02×1573E±01, h57km±35km, n19, σ0$97/10, mb5.1/7, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	3.61	132	Pn	Pn	21 19 04.7	-5.3
HNR				Sn	Sn	21 19 51.4	0.0
	baz=272,slow=22,SNR=1.5						
CTA	Charters Tower	16.83	218	Pn	Pn	21 22 08.2	-0.3
	1.3nm,0.3s,baz=48,slow=14,SNR=3.0						
WRA	Warramunga Arr	25.68	238	P	P	21 23 42.9	+1.3
	81nm,0.8s,mb5.3,baz=65,slow=9.6,SNR=4.2						
ASAR	Alice Springs	27.88	231	P	P	21 24 00.8	-0.5
	16nm,0.9s,mb4.7,baz=62,slow=9.1,SNR=2.3						
STKA	Stephens Creek	28.75	209	P	P	21 24 08.7	-0.2
	74nm,0.9s,mb5.4,baz=37,slow=15,SNR=7.8						
SONM	Songino Array	70.56	326	P	P	21 29 26.6	+1.0
	8.1nm,0.9s,mb4.6,baz=148,slow=5.7,SNR=0.9						
QSPA	South Pole Qui	82.98	180	P	P	21 30 36.5	+1.4
	35nm,1.1s,mb5.3,baz=83,slow=2.8,SNR=2.8						
MKAR	Makanchi Array	84.88	318	P	P	21 30 44.0	-1.4
	14nm,0.7s,mb5.2,baz=98,slow=6.0,SNR=1.9						
MAW	Mawson	85.26	203	P	P	21 30 45.5	-1.3
	15nm,0.9s,mb5.1,baz=93,slow=10,SNR=3.0						
ARCES	ARCESS Array B	110.22	344	PKiKP	PKiKP	21 36 42.7	+1.1
	5.9nm,1.0s,baz=74,slow=1.3,SNR=6.0						
FINES	FINESS Array B	114.84	337	PKiKP	PKiKP	21 36 51.0	+0.4
	2.2nm,0.8s,baz=113,slow=3.6,SNR=3.2						
PLCA	Paso Flores	115.35	141	PKP	PKPdf	21 36 54.3	+2.0
	4.2nm,1.0s,baz=116,slow=2.1,SNR=2.8						
AKASG	Malin Array Be	118.83	325	PKP	PKPdf	21 36 57.6	-1.0
	0.8nm,0.6s,baz=62,slow=1.8,SNR=4.4						
NOA	NORSAR Array B	120.42	342	PKP	PKPdf	21 37 01.6	+0.2
	2.7nm,0.8s,baz=42,slow=1.8,SNR=3.7						
CFAA	Coronel Fontan	122.06	134	PKP	PKPdf	21 37 07.9	+2.4
	0.6nm,0.8s,baz=263,slow=3.9						
VRAC	Vranov	126.43	329	PKP	PKPdf	21 37 13.9	+0.7
	8.2nm,1.0s,baz=84,slow=2.6,SNR=3.2						
CLL	Collm	126.85	333	*e*(PKPdf)	PKPdf	21 37 14.0	0.0
GERES	GERESS Array B	128.19	330	PKP	PKPdf	21 37 17.7	+1.0
	4.7nm,0.8s,baz=45,slow=2.1,SNR=4.0						
MDT	Midelt	149.27	329	PKPbc	PKPbc	21 38 00.6	+1.0
	19nm,0.9s,baz=304,slow=1.9,SNR=2.9						

*BJI **01** 21:18:20.9, 785S×15764E, h6km, mb5.3*
*IDC **01** 21:18:21.4±2.3, 856S×15670E, h0km, mb5.0/7, mb1 5.1/8, mb1mx5.0/16, mbtmp5.1/8, ML5.8/1, Error ellipse: s-maj=97.7km s-min=24.0km az=28.0*
*NEIC **01** 21:18:22.8±0.3, 852S×15674E, h10km, mb5.8/15, Error ellipse: s-maj=10.3km s-min=7.2km az=213.0*
*ISCJB **01** 21:18:24.5±0.3, 858S±007×15675E±006, h33km, mb5.5/22, Error ellipse: s-maj=11.4km s-min=6.8km az=29.9*
*MOS **01** 21:18:24.3±1.3, 855S×15676E, h33km, mb5.6/9, Error ellipse: s-maj=13.9km s-min=11.3km az=130.7*

ISC 01 21:18:26.7±0.3, 858S±007×15669E±005, h35km, n61, σ1$13/59, mb5.5/22, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	3.33	105	P	Pn	21 19 13.8	-2.5
HNR						22 19 56.7	
HNR	Honiara	3.33	105	Pn	Pn	21 19 13.8	-2.5
	1μm,0.3s,baz=262,slow=4.0,SNR=5.2						
HNR				Sn	Sn	21 19 56.7	+2.1
	2μm,0.3s,baz=91,slow=18,SNR=4.7						
CTAO	Charters Tower	15.26	220	Pn	Pn	21 21 57.6	-2.0
	265nm,1.5s						
CTAO	Charters Tower	15.26	220	P	Pn	21 21 57.7	-1.9
CTAO				pmax	pmax		
	comp=Z,265nm,1.5s						
RAO	Raoul Island	31.48	134	*e*P	P	21 24 45.0	-0.2
TAU	Tasmania Unive	35.17	192	P	P	21 25 18.0	+0.7
KKM	Kota Kinabalu	42.89	288	*e*P	P	21 26 21.9	-0.3
NWAO	Narrogin (SRO)	43.75	231	*e*P	P	21 26 30.6	+1.7
	comp=Z,31nm,0.8s,mb5.1						
NWAO	Narrogin (SRO)	43.75	231	*e*P	P	21 26 30.6	+1.7
NWAO				pmax	pmax		
	comp=Z,31nm,0.8s						
JOW	Kunigami	44.71	323	P	P	21 26 37.5	+0.9
	comp=Z,42nm,0.9s,mb5.3,baz=159,slow=11,SNR=5.3						
NACB	Ninganchiao	47.26	314	*e*P	P	21 26 56.9	+0.1
MJAR	Matsushiro Arr	48.12	340	P	P	21 27 02.3	-0.9
MJAR				pmax	pmax		
	comp=Z,8.0nm,0.8s						
MJAR	Matsushiro Arr	48.12	340	P	P	21 27 02.3	-0.9
	comp=Z,7.5nm,0.8s,mb4.8,baz=165,slow=8.6,SNR=2.1						
MAJO	Matsushiro	48.12	340	P	P	21 27 03.9	+0.6
PPT	Papeete	52.95	105	*e*P	P	21 27 40.1	0.0
	comp=Z,70nm,1.4s,mb5.4						
PPT	Papeete	52.95	105	*e*P	P	21 27 40.1	0.0
PPT				pmax	pmax		
	comp=Z,70nm,1.4s						
PAE	Paea	52.95	106	*e*P	P	21 27 39.9	-0.2
	comp=Z,225nm,1.2s,mb6.0						
PAE	Paea	52.95	106	*e*P	P	21 27 39.9	-0.2
PAE				pmax	pmax		
	comp=Z,225nm,1.2s,mb6.0						
KSRS	Korea Array	53.12	331	P	P	21 27 39.0	-1.9
	comp=Z,10nm,0.9s,mb4.7,baz=145,slow=6.6,SNR=4.4						
TVO	Taravao	53.27	106	*e*P	P	21 27 42.3	-0.1
	comp=Z,248nm,1.3s,mb6.0						
TVO	Taravao	53.27	106	*e*P	P	21 27 42.3	-0.1
TVO				pmax	pmax		
	comp=Z,248nm,1.3s,mb6.0						
INCN	Inchon	53.76	330	*e*P	P	21 27 45.5	-0.1
	comp=Z,6μm,3.4s						
MEH	Mehetia	54.40	106	*e*P	P	21 27 50.3	-0.4
	comp=Z,89nm,1.4s,mb5.5						
PMOR	Pomariorio Ree	54.51	102	*e*P	P	21 27 51.6	+0.1
	comp=Z,183nm,1.2s,mb6.0						
VAH	Vaihoa	54.77	103	*e*P	P	21 27 53.3	-0.1
	comp=Z,143nm,1.1s,mb5.9						
POHA	Pohakuloa	54.82	59	P	P	21 27 54.0	+0.3
	comp=Z,300nm,1.3s,mb6.2						
DL2	Dalian	57.39	328	P	P	21 28 14.0	+2.3
DL2				AMB	AMB		
	comp=Z,40nm,1.0s,mb5.4						
ENH	Enshi	59.54	313	*e*P	P	21 28 26.3	-0.6
	comp=Z,0.6nm,0.5s						
HIA	Hailar	66.06	334	*e*P	P	21 29 09.7	-0.3
	comp=Z,485nm,2.3s,mb6.1						
HIA	Hailar	66.06	334	*e*P	P	21 29 09.7	-0.2
HIA				pmax	pmax		
	comp=Z,485nm,2.3s						
RKT	Rikitea	66.80	111	*e*P	P	21 29 15.2	-0.1
	comp=Z,173nm,1.3s,mb5.9						
RKT	Rikitea	66.80	111	*e*P	P	21 29 15.2	-0.1
RKT				pmax	pmax		
	comp=Z,173nm,1.3s,mb5.9						
SBA	Scott Base	69.45	178	P	P	21 29 30.4	-0.5
SONM	Songino Array	71.57	327	P	P	21 29 45.0	+0.8
SONM				pmax	pmax		
	comp=Z,17nm,0.8s						
SONM	Songino Array	71.57	327	P	P	21 29 45.0	+0.7
	comp=Z,17nm,0.8s,mb5.0,baz=139,slow=6.1,SNR=4.0						
YAK	Yakutsk	73.46	347	*e*P	P	21 29 52.6	-2.6
	comp=Z,38nm,0.6s,mb5.5						
YAK	Yakutsk	73.46	347	*e*P	P	21 29 52.6	-2.6
YAK				pmax	pmax		
	comp=Z,38nm,0.6s,mb5.5						
LSA	Lhasa	73.55	304	P	P	21 29 56.2	-0.3
TLY	Talaya	75.27	329	P	P	21 30 05.1	-0.9
BILL	Bilibino	76.73	4	P	P	21 30 11.1	-2.8
BILL				*e*PcP	PcP	21 30 25.5	+0.4
BILL	Bilibino	76.73	4	P	P	21 30 11.1	-2.8
BILL				*e*		21 30 25.5	
PALK	Pallekele	77.36	279	P	P	21 30 20.1	+1.4
MCK	McKinley	82.90	21	P	P	21 30 48.0	+0.6
	comp=Z,85nm,1.2s,mb5.7						
MCK	McKinley	82.90	21	P	P	21 30 48.0	+0.6
MCK				pmax	pmax		
	comp=Z,85nm,1.2s,mb5.7						
COLA	College	83.95	21	P	P	21 30 52.2	-0.6
MKAR	Makanchi Array	85.69	318	P	P	21 31 01.1	-0.9
MKAR				pmax	pmax		
	comp=Z,10.0nm,0.6s						
MKAR	Makanchi Array	85.69	318	P	P	21 31 01.1	-0.9
	comp=Z,9.7nm,0.6s,mb5.2,baz=99,slow=9.2,SNR=2.6						
ZAA0	Zalesovo Array	86.42	326	*e*P	P	21 31 06.4	+1.0
ZALV	Zalesovo Beam	86.42	326	P	P	21 31 07.3	+1.9
	comp=Z,10nm,0.8s,mb5.2,baz=108,slow=4.7,SNR=2.6						
ZAL	Zalesovo	86.43	326	P	P	21 31 07.3	+1.8
TKM2	Tokmak 2	89.32	313	*e*P	P	21 31 19.9	+0.3
	comp=Z,5.1nm,0.5s,mb5.1						
TKM2	Tokmak 2	89.32	313	*e*P	P	21 31 19.9	+0.4
TKM2				pmax	pmax		
	comp=Z,5.0nm,0.5s,mb5.1						
UCH	Uchtor	89.95	313	P	P	21 31 23.4	+0.9
AAK	Ala-Archa	90.05	313	P	P	21 31 22.5	-0.5
EKS2	Erkin-Say	90.58	313	P	P	21 31 25.3	-0.1
NVAR	Mina Array Bea	91.38	52	P	P	21 31 30.5	+1.2
	comp=Z,4.6nm,1.0s,mb4.8,baz=253,slow=4.6,SNR=4.0						
WVOR	Wild Horse Val	91.81	48	*e*P	P	21 31 28.7	-2.4
	comp=Z,34nm,1.4s,mb5.5						
WVOR	Wild Horse Val	91.81	48	*e*P	P	21 31 28.7	-2.5
WVOR				pmax	pmax		
	comp=Z,34nm,1.4s,mb5.5						
AKASG	Malin Array Be	119.80	324	PKIKP	PKPdf	21 37 13.0	-0.2
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.6s						
AKASG	Malin Array Be	119.80	324	PKP	PKPdf	21 37 13.0	-0.2
	comp=Z,1.2nm,0.6s,baz=58,slow=2.0,SNR=3.4						
LBTB	Lobatse	121.83	234	*e*PKPdf	PKPdf	21 37 19.7	+1.7

*IDC **01** 21:19:48.2±0.9, 718S×157.18E, h0km, mb5.1/9, mb1 5.1/9, mb1mx5.0/15, mbtmp5.1/9, Error ellipse: s-maj=39.3km s-min=23.4km az=96.0*
*ISCJB **01** 21:19:52.8±1.1, 71S±02×1570E±03, h33km, mb5.1/11, Error ellipse: s-maj=37.3km s-min=19.3km az=19.6*

ISC 01 21:19:58.1±0.7, 67S±02×1564E±01, h35km, n17, σ1$04/11, mb5.1/11, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	25.08	236	P	P	21 25 19.8	+0.2
	28nm,0.6s,mb5.0,baz=64,slow=9.5,SNR=2.9						
ASAR	Alice Springs	27.36	230	P	P	21 25 39.9	-0.3
	4.4nm,0.6s,mb4.2,baz=57,slow=9.4,SNR=1.1						
KSRS	Korea Array	51.34	331	P	P	21 29 00.5	+1.4
	6.0nm,0.7s,mb4.6,baz=147,slow=7.4,SNR=4.0						
PMOR	Pomariorio Ree	55.25	104	*e*P	P	21 29 28.9	+0.6
	112nm,1.1s,mb5.8						
VAH	Vaihoa	55.51	104	*e*P	P	21 29 30.5	+0.3
	75nm,1.2s,mb5.6						
SONM	Songino Array	69.85	327	P	P	21 31 06.3	+1.1
	14nm,0.8s,mb4.9,baz=130,slow=6.1,SNR=4.0						
QSPA	South Pole Qui	83.25	180	P	P	21 32 14.6	-5.9
	20nm,1.0s,mb5.1,baz=31,slow=1.2,SNR=5.8						
MKAR	Makanchi Array	84.10	318	P	P	21 32 24.7	-0.7
	52nm,0.7s,mb5.8,baz=86,slow=6.5,SNR=13						
ZALV	Zalesovo Beam	84.72	326	P	P	21 32 27.3	-1.0
	26nm,0.6s,mb5.5,baz=116,slow=5.6,SNR=15						
MAW	Mawson	85.16	203	P	P	21 32 23.8	-6.5
	4.0nm,0.5s,mb4.8,baz=80,slow=9.3,SNR=3.7						
YKA	Yellowknife Ar	95.47	28	P	P	21 33 16.4	-2.6
	3.8nm,1.0s,mb4.8,baz=266,slow=4.6,SNR=2.6						
AKASG	Malin Array Be	118.10	325	PKP	PKPdf	21 38 38.1	-3.3
	1.3nm,0.6s,baz=52,slow=4.0,SNR=4.1						
MMAI	Mount Meron Ar	119.49

IDC 01 21:20:42.5±2.0, 822S×15612E, h0km, mb4.8/7, mb1 4.9/7, mb1mx4.7/14, mbtmp4.8/7, Error ellipse: s-maj=66.0km s-min=29.8km az=120.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.09**	**239**	P	P	21 25 59.6	-0.3
	16nm,0.8s,baz=62,slow=9.6,SNR=2.6						
ASAR	**Alice Springs**	**26.24**	**232**	P	P	21 26 19.7	+0.2
	4.5nm,0.5s,baz=60,slow=9.6,SNR=1.4						
KSRS	**Korea Array**	**52.53**	**332**	P	P	21 29 57.5	-0.2
	5.8nm,0.9s,baz=143,slow=6.2,SNR=2.8						
SONM	**Songino Array**	**70.96**	**327**	P	P	21 32 01.6	-0.1
	7.0nm,0.8s,baz=144,slow=5.2,SNR=3.6						
MKAR	**Makanchi Array**	**85.05**	**319**	P	P	21 33 21.4	+1.3
	22nm,0.8s,baz=90,slow=7.2,SNR=4.4						
ZALV	**Zalesovo Beam**	**85.81**	**326**	P	P	21 33 23.4	-0.3
	5.2nm,0.5s,baz=108,slow=4.7,SNR=3.7						
YKA	**Yellowknife Ar**	**96.89**	**28**	P	P	21 34 15.0	-0.3
	2.0nm,0.7s,baz=261,slow=4.3,SNR=4.6						
NOA	**NORSAR Array B**	**121.21**	**341**	PKP	PKPdf	21 39 37.1	0.0
	0.6nm,0.6s,baz=45,slow=1.9,SNR=2.5						

IDC 01 21:22:57.9±0.8, 718S×15456E, h0km, mb4.7/11, mb1 4.8/11, mb1mx4.7/15, mbtmp4.7/11, Error ellipse: s-maj=28.7km s-min=20.5km az=88.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.35**	**235**	P	P	21 28 09.2	+0.9
	11nm,1.0s,baz=65,slow=11,SNR=2.3						
STKA	**Stephens Creek**	**27.39**	**205**	P	P	21 28 45.6	+0.5
	7.7nm,0.7s,baz=323,slow=8.7,SNR=3.0						
MJAR	**Matsushiro Arr**	**46.12**	**342**	P	P	21 31 23.6	-0.4
	4.4nm,0.8s,baz=159,slow=6.2,SNR=4.5						
KSRS	**Korea Array**	**50.90**	**333**	P	P	21 32 02.2	+1.4
	6.0nm,0.8s,baz=149,slow=7.7,SNR=5.7						
ASAJ	**Asahikawa**	**52.19**	**349**	P	P	21 32 10.5	+0.1
	13nm,0.9s,baz=242,slow=14,SNR=3.8						
PPT	**Papeete**	**55.36**	**106**	P	P	21 32 35.3	+1.1
	15nm,0.6s,baz=24,slow=19,SNR=2.5						
SONM	**Songino Array**	**69.25**	**328**	P	P	21 34 08.0	+1.3
	7.8nm,0.9s,baz=139,slow=3.6,SNR=6.3						
MKAR	**Makanchi Array**	**83.25**	**319**	P	P	21 35 26.6	+0.2
	9.5nm,0.8s,baz=85,slow=7.4,SNR=3.8						
MAW	**Mawson**	**84.06**	**203**	P	P	21 35 28.7	-1.4
	5.6nm,0.7s,baz=162,slow=9.6,SNR=5.2						
ZALV	**Zalesovo Beam**	**84.09**	**326**	P	P	21 35 28.6	-1.9
	7.8nm,0.9s,baz=120,slow=2.6,SNR=4.5						
YKA	**Yellowknife Ar**	**96.70**	**28**	P	P	21 36 28.4	-1.5
	1.5nm,0.9s,baz=268,slow=4.5,SNR=3.7						
AKASG	**Malin Array Be**	**117.43**	**324**	PKP	PKPdf	21 41 46.6	+1.0
	1.9nm,0.7s,baz=65,slow=2.1,SNR=3.0						
NOA	**NORSAR Array B**	**119.73**	**340**	PKP	PKPdf	21 41 47.2	-2.5
	1.3nm,0.9s,baz=228,slow=3.8,SNR=2.2						
GERES	**GERESS Array B**	**126.98**	**329**	PKP	PKPdf	21 42 05.7	+1.7
	2.2nm,0.8s,baz=82,slow=2.0,SNR=4.5						
MDT	**Midelt**	**147.98**	**326**	PKPbc	PKPbc	21 42 44.9	-1.0
	7.3nm,1.1s,baz=270,slow=2.0,SNR=2.1						

IDC 01 21:23:10.7±3.7, 761S×15638E, h0km, mb4.7/7, mb1 4.8/7, mb1mx4.6/14, mbtmp4.7/7, Error ellipse: s-maj=114.9km s-min=26.9km az=111.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.63**	**238**	P	P	21 28 33.4	+0.3
	13nm,0.8s,baz=62,slow=9.7,SNR=4.2						
ASAR	**Alice Springs**	**26.18**	**231**	P	P	21 28 52.8	-0.2
	3.1nm,0.6s,baz=56,slow=9.9,SNR=4.1						
MJAR	**Matsushiro Arr**	**47.11**	**340**	P	P	21 31 44.0	-0.6
	5.6nm,0.8s,baz=164,slow=7.0,SNR=4.1						
KSRS	**Korea Array**	**52.12**	**331**	P	P	21 32 22.8	0.0
	2.6nm,0.7s,baz=150,slow=7.7,SNR=2.9						
SONM	**Songino Array**	**70.59**	**327**	P	P	21 34 28.7	+0.9
	6.5nm,0.7s,baz=144,slow=6.1,SNR=4.9						
MKAR	**Makanchi Array**	**84.77**	**318**	P	P	21 35 47.1	+0.2
	9.3nm,0.7s,baz=84,slow=6.5,SNR=4.3						
ZALV	**Zalesovo Beam**	**85.45**	**326**	P	P	21 35 49.5	-0.7
	10.0nm,0.6s,baz=114,slow=5.8,SNR=6.0						
AKASG	**Malin Array Be**	**118.83**	**325**	PKP	PKPdf	21 42 01.2	+0.1
	0.8nm,0.5s,baz=56,slow=2.0,SNR=4.6						

IDC 01 21:24:15.1±9.3, 675S×15631E, h0km, mb4.5/6, mb1 4.6/6, mb1mx4.4/14, mbtmp4.5/6, Error ellipse: s-maj=276.5km s-min=27.9km az=110.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**25.04**	**236**	P	P	21 29 41.5	+0.4
	17nm,1.0s,baz=61,slow=9.1,SNR=2.9						
ASAR	**Alice Springs**	**27.32**	**230**	P	P	21 30 01.5	-0.3
	1.9nm,0.5s,baz=57,slow=10,SNR=3.0						
KSRS	**Korea Array**	**51.34**	**331**	P	P	21 33 20.1	-1.3
	3.6nm,0.8s,baz=146,slow=3.7,SNR=4.7						
SONM	**Songino Array**	**69.84**	**327**	P	P	21 35 29.5	+1.9
	5.3nm,0.9s,baz=144,slow=6.2,SNR=4.4						
MKAR	**Makanchi Array**	**84.09**	**318**	P	P	21 36 48.0	+0.2
	4.8nm,0.7s,baz=87,slow=6.2,SNR=2.7						
ZALV	**Zalesovo Beam**	**84.71**	**326**	P	P	21 36 50.1	-0.8
	2.4nm,0.6s,baz=102,slow=5.2,SNR=2.7						
BRG	**Berggiesshubel**	**126.06**	**331**	*i* (P)	PKPdf	21 43 14.8	-4.6
	9.7nm,1.2s						
CLL	**Collm**	**126.21**	**332**	*e*(PKP)	PKPdf	21 43 20.0	+0.4

IDC 01 21:24:53.5±4.6, 706S×15545E, h0km, mb4.7/4, mb1 4.8/4, mb1mx4.4/14, mbtmp4.7/4, MS6.5/1, Ms1 6.5/1, ms1mx4.8/32, Error ellipse: s-maj=133.7km s-min=41.8km az=118.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.15**	**236**	P	P	21 30 11.7	+0.2
	8.9nm,0.7s,baz=61,slow=9.4,SNR=2.0						
RAR	**Rarotonga**	**45.47**	**113**	LR	LR	21 47 57.9	
	comp=Z,52μm,18.0s,baz=296,slow=30						
SONM	**Songino Array**	**69.63**	**327**	P	P	21 36 06.3	+1.6
	4.5nm,0.8s,baz=136,slow=5.9,SNR=2.6						
MKAR	**Makanchi Array**	**83.75**	**319**	P	P	21 37 24.8	+0.2
	11nm,0.7s,baz=89,slow=6.2,SNR=5.1						
ZALV	**Zalesovo Beam**	**84.48**	**326**	P	P	21 37 26.9	-1.2
	5.2nm,0.5s,baz=116,slow=5.7,SNR=5.8						

*IDC **01** 21:25:03.5±0.5, 868S×15705E, h0km, mb4.9/17, mb1 5.0/18, mb1mx5.0/19, mbtmp4.9/18, ML4.6/1, Error ellipse: s-maj=20.5km s-min=14.7km az=90.0*
*ISCJB **01** 21:25:07.3±0.2, 869S±005×15699E±004, h33km, mb5.2/56, Error ellipse: s-maj=6.9km s-min=6.0km az=19.5*
*MOS **01** 21:25:07.8±1.4, 859S×15690E, h33km, mb5.6/17, Error ellipse: s-maj=10.8km s-min=8.5km az=84.6*
*BJI **01** 21:25:07.3, 870S×15700E, h28km, mb5.5*
*NEIC **01** 21:25:08.4±3.5, 865S×15699E, h28km±24km, mb5.4/24, Error ellipse: s-maj=9.0km s-min=8.0km az=158.0*

ISC 01 21:25:09.4±0.2, 868S±005×15701E±004, h35km, n137, σ1§16/117, mb5.2/56, 8C-1D, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**3.00**	**105**	*e*Pn	**Pn**	21 25 54.7	+0.3
HNR				*e*Sn	**Sn**	21 26 30.6	+1.4
HNR	**Honiara**	**3.00**	**105**	Pn	**Pn**	21 25 52.2	-2.2
	77nm,0.3s,baz=81,slow=21,SNR=2.1						
HNR				Sn	**Sn**	21 26 33.4	+4.2
	278nm,0.3s,baz=270,slow=16,SNR=2.9						
CTAO	**Charters Tower**	**15.39**	**221**	Pn	**Pn**	21 28 43.1	-0.9
WRA	**Warramunga Arr**	**24.62**	**241**	P	**P**	21 30 27.0	+0.4
	13nm,0.8s,mb4.5,baz=64,slow=9.7,SNR=4.4						
ASAR	**Alice Springs**	**26.66**	**233**	P	**P**	21 30 43.6	-1.5
	7.0nm,1.0s,mb4.2,baz=60,slow=9.1,SNR=3.5						
STKA	**Stephens Creek**	**27.16**	**210**	P	**P**	21 30 49.0	-0.5
	24nm,1.0s,mb4.7,baz=23,slow=13,SNR=2.0						
TAU	**Tasmania Unive**	**35.14**	**192**	P	**P**	21 32 01.7	+2.1
RPZ	**Rata Peaks**	**36.99**	**163**	P	**P**	21 32 14.3	-1.2
	31nm,1.1s,mb5.0,baz=319,slow=6.9,SNR=2.8						
MBWA	**Marble Bar**	**37.99**	**247**	*e*P	**P**	21 32 22.9	-1.4
	321nm,2.4s,mb5.6						
NWAO	**Narrogin (SRO)**	**43.93**	**231**	P	**P**	21 33 12.8	-0.2
JOW	**Kunigami**	**44.98**	**323**	P	**P**	21 33 22.4	+1.1
	22nm,0.6s,mb5.1,baz=174,slow=6.6,SNR=5.0						
NACB	**Ninganchiao**	**47.55**	**314**	*e*P	**P**	21 33 40.4	-1.3
KSM	**Kuching**	**47.62**	**280**	*e*P	**P**	21 33 43.7	+1.3
YHNB	**Yeheng**	**48.02**	**315**	P	**P**	21 33 45.6	+0.3
MJAR	**Matsushiro Arr**	**48.32**	**340**	P	**P**	21 33 46.9	-0.6
	3.2nm,0.9s,mb4.4,baz=169,slow=7.7,SNR=4.0						
MAJO	**Matsushiro**	**48.33**	**340**	*e*P	**P**	21 33 46.2	-1.2
	22nm,1.1s,mb5.1						
MAJO	**Matsushiro**	**48.33**	**340**	*e*P	**P**	21 33 46.2	-1.3
MAJO				pmax	pmax		
	comp=Z,22nm,1.1s,mb5.1						
PPT	**Papeete**	**52.62**	**105**	*e*P	**P**	21 34 20.2	-0.1
	comp=Z,42nm,1.3s,mb5.2						
PAE	**Paea**	**52.62**	**106**	*e*P	**P**	21 34 19.8	-0.5
	comp=Z,104nm,1.3s,mb5.6						
TVO	**Taravao**	**52.94**	**106**	*e*P	**P**	21 34 22.5	-0.2
	comp=Z,134nm,1.2s,mb5.8						
KSRS	**Korea Array**	**53.35**	**331**	P	**P**	21 34 24.2	-1.1
	comp=Z,14nm,1.1s,mb4.8,baz=150,slow=8.4,SNR=8.9						
INCN	**Inchon**	**54.00**	**330**	*e*P	**P**	21 34 32.1	+2.0
	comp=Z,109nm,1.3s,mb5.6						
QIZ	**Qiongzhong**	**54.03**	**301**	*e*P	**P**	21 34 32.0	+1.4
	comp=Z,28nm,1.1s,mb5.1						
MEH	**Mehetia**	**54.07**	**106**	*e*P	**P**	21 34 30.9	-0.1
	comp=Z,66nm,1.2s,mb5.4						
PMOR	**Pomariorio Ree**	**54.18**	**102**	*e*P	**P**	21 34 31.6	-0.2
	comp=Z,91nm,1.2s,mb5.6						
VAH	**Vaihoa**	**54.44**	**102**	*e*P	**P**	21 34 33.4	-0.3
	comp=Z,76nm,1.3s,mb5.5						
NJ2	**Nanjing**	**54.48**	**320**	*e*P	**P**	21 34 36.8	+3.2
NJ2				AMB	AMB		
	comp=Z,150nm,1.0s,mb5.9						
VLA	**Vladivostok**	**56.40**	**338⇑**	*e*P	**P**	21 34 49.2	+2.0
VLA				pmax	pmax		
	comp=Z,95nm,1.7s,mb5.5						
YSS	**Yuzh-Sakhalins**	**56.82**	**348**	*e*P	**P**	21 34 49.0	-1.2
YSS	**Yuzh-Sakhalins**	**56.82**	**348⇑**	*e*P	**P**	21 34 51.2	+1.0
YSS				pmax	pmax		
	comp=Z,38nm,1.2s,mb5.3						
KULM	**Kulim**	**57.88**	**282**	*e*P	**P**	21 34 57.5	-0.8
MDJ	**Mudanjiang**	**58.54**	**337**	P	**P**	21 35 03.0	+0.7
ENH	**Enshi**	**59.84**	**312**	P	**P**	21 35 11.3	-0.2
HABR	**Khabarovsk**	**60.11**	**343**	*e*P	**P**	21 35 12.5	-0.6
HABR						21 45 00.3	
BJT	**Baijiatuau**	**61.42**	**325**	*e*P	**P**	21 35 19.5	-2.7
	comp=Z,5.7nm,0.5s,mb5.0						
BJT	**Baijiatuau**	**61.42**	**325**	*e*P	**P**	21 35 19.5	-2.7
BJT				pmax	pmax		
	comp=Z,6.0nm,0.5s						
TAOE	**Nuku Hiva Isla**	**62.04**	**95**	*e*P	**P**	21 35 26.9	0.0
	comp=Z,730nm,1.5s						
CHTO	**Chiang Mai**	**63.42**	**296**	*e*P	**P**	21 35 36.5	+0.5
	comp=Z,34nm,1.1s,mb5.4						
CHTO	**Chiang Mai**	**63.42**	**296**	*e*P	**P**	21 35 36.5	+0.5
CHTO				pmax	pmax		
	comp=Z,35nm,1.1s,mb5.4						
CASY	**Casey**	**65.63**	**199**	P	**P**	21 35 49.6	0.0
HIA	**Hailar**	**66.28**	**334**	*e*P	**P**	21 35 53.5	-0.5
	comp=Z,20nm,0.9s,mb5.1						
HIA	**Hailar**	**66.28**	**334⇑**	*e*P	**P**	21 35 55.0	+1.0
MA2	**Magadan**	**68.21**	**357**	P	**P**	21 36 06.0	0.0
	comp=Z,6.7nm,0.4s,mb5.0						
MA2	**Magadan**	**68.21**	**357⇓**	*e*P	**P**	21 36 04.0	-2.0
MA2				pmax	pmax		
	comp=Z,22nm,1.1s,mb5.1						
VNDA	**Vanda**	**68.86**	**179**	P	**P**	21 36 09.7	-0.2
	comp=Z,6.1nm,1.0s,mb4.5,baz=350,slow=4.9,SNR=3.8						
SBA	**Scott Base**	**69.33**	**178**	*e*P	**P**	21 36 12.8	0.0
	comp=Z,104nm,1.6s,mb5.5						
SBA	**Scott Base**	**69.33**	**178**	*e*P	**P**	21 36 12.8	0.0
SBA				pmax	pmax		
	comp=Z,104nm,1.6s,mb5.5						
CLNS	**Chul'man**	**70.42**	**342**	*e*P	**P**	21 36 21.3	+1.5
CLNS				pmax	pmax		
	comp=E,17nm,1.0s						
CLNS				pmax	pmax		
	comp=Z,29nm,1.0s,mb5.2						
CLNS				pmax	pmax		
	comp=N,29nm,1.1s						
SEY	**Seymchan**	**71.49**	**358⇑**	*e*P	**P**	21 36 26.9	+0.8
SEY	**Seymchan**	**71.49**	**358⇑**	*e*P	**P**	21 36 26.8	+0.7
SONM	**Songino Array**	**71.82**	**327**	P	**P**	21 36 29.1	+0.7
	comp=N,5.0nm,0.8s,mb4.5,baz=146,slow=6.3,SNR=4.7						
SDPT	**Sand Point**	**72.95**	**24**	*e*P	**P**	21 36 33.0	-2.0
	comp=N,161nm,1.9s,mb5.6						
YAK	**Yakutsk**	**73.62**	**347⇑**	*e*P	**P**	21 36 37.9	-0.9
YAK	**Yakutsk**	**73.62**	**347⇑**	*e*P	**P**	21 36 37.8	-1.0
YAK				pmax	pmax		
	comp=Z,67nm,1.2s,mb5.5						
LSA	**Lhasa**	**73.86**	**304**	*e*P	**P**	21 36 42.5	+1.6
	comp=Z,16nm,0.8s,mb5.0						
LSA	**Lhasa**	**73.86**	**304**	*e*P	**P**	21 36 42.5	+1.6
LSA				pmax	pmax		
	comp=Z,16nm,0.8s,mb5.0						
ZAK	**Zakamensk**	**74.97**	**328**	*e*P	**P**	21 36 44.8	-2.1
ZAK				pmax	pmax		
	comp=Z,17nm,1.9s,mb4.7						
TLY	**Talaya**	**75.52**	**329**	*e*P	**P**	21 36 52.3	+2.3
TLY				pmax	pmax		
	comp=Z,16nm,1.2s,mb4.8						
BILL	**Bilibino**	**76.81**	**4**	P	**P**	21 36 55.0	-2.0
BILL				pmax	pmax		
	comp=Z,23nm,1.4s,mb4.9						
MOY	**Mondy**	**76.88**	**328**	*e*P	**P**	21 37 03.0	+5.2
PALK	**Pallekele**	**77.68**	**279**	*e*P	**P**	21 37 05.0	+1.9
	comp=Z,50nm,1.4s,mb5.2						
KDAK	**Kodiak Island**	**77.82**	**25**	P	**P**	21 37 03.2	+0.3
	comp=Z,4.6nm,0.7s,mb4.5,baz=205,slow=4.3,SNR=4.2						
TNA	**Tin City**	**78.44**	**14**	*e*P	**P**	21 37 04.7	-1.5
	comp=Z,23nm,0.8s,mb5.2						
SVW2	**Sparrevohn**	**78.81**	**21**	*e*P	**P**	21 37 06.7	-1.6
TTA	**Tatalina**	**79.90**	**20**	*e*P	**P**	21 37 12.7	-1.5
QSPA	**South Pole Qui**	**81.31**	**180**	P	**P**	21 37 22.2	+0.6
	comp=Z,21nm,1.1s,mb5.0,baz=314,slow=3.8,SNR=5.6						
PMR	**Palmer**	**81.54**	**23**	*e*P	**P**	21 37 21.7	-1.3
SML	**Sawmill**	**81.97**	**23**	*e*P	**P**	21 37 24.1	-1.2
TIXI	**Tiksi**	**82.30**	**351⇑**	*e*P	**P**	21 37 26.8	0.0
TIXI				pmax	pmax		
	comp=Z,75nm,2.6s,mb5.2						
MCK	**McKinley**	**82.88**	**21**	*e*P	**P**	21 37 28.6	-1.3
	comp=Z,69nm,1.1s,mb5.6						
MCK	**McKinley**	**82.88**	**21**	*e*P	**P**	21 37 28.6	-1.4
MCK				pmax	pmax		
	comp=Z,69nm,1.1s,mb5.6						
MAW	**Mawson**	**83.62**	**203**	P	**P**	21 37 33.9	+0.1
	comp=Z,4.5nm,0.9s,mb4.6,baz=90,slow=4.0,SNR=2.5						
COLA	**College**	**83.93**	**21**	*e*P	**P**	21 37 35.2	-0.2
MKAR	**Makanchi Array**	**85.98**	**318**	P	**P**	21 37 45.3	-0.7
	comp=Z,24nm,0.9s,mb5.4,baz=87,slow=7.7,SNR=7.9						
EGAK	**Eagle**	**86.30**	**22**	*e*P	**P**	21 37 52.2	+4.9
SKAG	**Skagway**	**86.39**	**28**	*e*P	**P**	21 37 46.9	-0.9
DAWY	**Dawson**	**86.64**	**23**	*e*P	**P**	21 37 48.1	-0.8
ZAA0	**Zalesovo Array**	**86.68**	**326**	P	**P**	21 37 49.5	+0.1
ZALV	**Zalesovo Beam**	**86.68**	**326**	P	**P**	21 37 47.4	-2.0
	comp=Z,9.6nm,1.1s,mb5.0,baz=96,slow=4.5,SNR=3.7						
ZAL	**Zalesovo**	**86.69**	**326**	P	**P**	21 37 47.4	-2.0
NVS	**Novosibirsk**	**87.85**	**326**	*i* P	**P**	21 37 56.3	+1.3
YBH	**Yreka Blue Hor**	**88.54**	**48**	*e*P	**P**	21 38 01.1	+2.6
	comp=Z,189nm,2.7s,mb6.0						
YBH	**Yreka Blue Hor**	**88.54**	**48**	*e*P	**P**	21 38 01.1	+2.5
YBH				pmax	pmax		
	comp=Z,189nm,2.7s						
DLBC	**Dease Lake**	**88.58**	**30**	*e*P	**P**	21 37 58.0	-0.4
SNCC	**San Nicolas Is**	**89.29**	**56**	*e*P	**P**	21 38 03.6	+1.3
KURK	**Kurchatov**	**89.38**	**321**	*e*P	**P**	21 38 02.1	-0.2
	comp=Z,28nm,1.5s,mb5.4						
KURK	**Kurchatov**	**89.38**	**321**	*e*P	**P**	21 38 02.1	-0.2
KURK				pmax	pmax		
	comp=Z,28nm,1.5s,mb5.4						
UCH	**Uchtor**	**90.25**	**313**	*e*P	**P**	21 38 07.1	+0.5
	comp=Z,67nm,1.7s,mb5.7						
AAK	**Ala-Archa**	**90.35**	**313**	P	**P**	21 38 07.1	+0.1
ISA	**Isabella**	**90.58**	**54**	*e*P	**P**	21 38 09.4	+1.1
INK	**Inuvik**	**90.59**	**20**	*e*P	**P**	21 38 08.6	+1.0
	comp=Z,6μm,2.4s						
MWC	**Mount Wilson**	**90.67**	**56**	*e*P	**P**	21 38 10.1	+1.4
MTUM	**Tungsten Hills**	**90.81**	**52**	*e*P	**P**	21 38 10.3	+1.0
EKS2	**Erkin-Say**	**90.87**	**313**	*e*P	**P**	21 38 10.8	+1.3
	comp=Z,5.0nm,0.7s,mb5.0						
NVAR	**Mina Array Bea**	**91.20**	**51**	P	**P**	21 38 10.8	-0.3
NVAR	**Mina Array Bea**	**91.20**	**51**	P	**P**	21 38 10.8	-0.3
	comp=Z,14nm,1.1s,mb5.2,baz=238,slow=4.1,SNR=16						
WVOR	**Wild Horse Val**	**91.65**	**47**	*e*P	**P**	21 38 12.6	-0.5
	comp=Z,19nm,1.1s,mb5.3						
WVOR	**Wild Horse Val**	**91.65**	**47**	*e*P	**P**	21 38 12.6	-0.5
WVOR				pmax	pmax		
	comp=Z,19nm,1.1s,mb5.3						
HAWA	**Hanford**	**91.73**	**43**	*e*P	**P**	21 38 13.6	+0.2
	comp=Z,9.7nm,1.2s,mb5.0						
GSC	**Goldstone**	**91.86**	**55**	*e*P	**P**	21 38 13.5	-0.7
	comp=Z,9.9nm,1.1s,mb5.0						
GSC	**Goldstone**	**91.86**	**55**	*e*P	**P**	21 38 13.5	-0.7
GSC				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb5.1						
TPNV	**Topopah Spring**	**92.56**	**53**	*e*P	**P**	21 38 18.8	+1.3
	comp=Z,43nm,1.4s,mb5.7						
TPNV	**Topopah Spring**	**92.56**	**53**	*e*P	**P**	21 38 18.8	+1.3
TPNV				pmax	pmax		
	comp=Z,43nm,1.4s,mb5.7						
BMO	**Blue Mountains**	**93.01**	**45**	*e*P	**P**	21 38 17.8	-1.5
	comp=Z,41nm,1.8s,mb5.6						
BMO	**Blue Mountains**	**93.01**	**45**	*e*P	**P**	21 38 17.8	-1.5
BMO				pmax	pmax		
	comp=Z,41nm,1.8s,mb5.6						
ELK	**Elko**	**93.90**	**50**	*e*P	**P**	21 38 24.5	+1.0
HLID	**Hailey**	**94.88**	**47**	*e*P	**P**	21 38 29.7	+1.8
	comp=Z,28nm,1.4s,mb5.5						
ARUT	**Antelope Range**	**94.90**	**53**	*e*P	**P**	21 38 31.1	+3.0
BRVK	**Borovoye**	**94.90**	**323**	*e*P	**P**	21 38 28.6	+0.9
SPUT	**South Promonto**	**96.06**	**49**	*e*P	**P**	21 38 33.8	+0.4
EDM	**Edmonton**	**96.67**	**37**	*e*P	**P**	21 38 37.0	+1.1
YKA	**Yellowknife Ar**	**96.88**	**28**	P	**P**	21 38 35.5	-1.1
YKA	**Yellowknife Ar**	**96.88**	**28**	P	**P**	21 38 35.5	-1.1
	comp=Z,13nm,1.0s,mb5.3,baz=263,slow=4.6,SNR=16						
BW06	**Boulder Array**	**98.34**	**48**	P	**P**	21 38 44.1	+0.5
PDAR	**Pinedale Array**	**98.34**	**48**	P	**P**	21 38 44.4	+0.7
	comp=Z,3.1nm,1.0s,mb4.8,baz=243,slow=2.7,SNR=5.6						
ISCO	**Idaho Springs**	**101.15**	**51**	*e*Pdif	Pdif	21 38 56.0	+0.1
AKASG	**Malin Array Be**	**120.06**	**324**	PKP	PKPdf	21 43 55.1	-1.3
	comp=Z,1.4nm,0.7s,baz=51,slow=2.6,SNR=4.3						
LBTB	**Lobatse**	**122.03**	**233**	*e*PKPdf	PKPdf	21 44 01.2	+0.2
SCHQ	**Schefferville**	**122.33**	**28**	PKP	PKPdf	21 43 59.7	-0.9
	comp=Z,8.3nm,1.1s,baz=61,slow=10,SNR=2.5						
NNA	**Nana**	**122.67**	**110**	*e*PKPdf	PKPdf	21 44 02.9	+0.4
LSZ	**Lusaka**	**123.98**	**245**	PKP	PKPdf	21 44 05.9	+1.0
	comp=Z,4.2nm,1.0s,baz=135,slow=4.3,SNR=2.2						
MLR	**Muntele Rosu**	**124.29**	**320**	PKP	PKPdf	21 44 03.7	-0.9
	comp=Z,13nm,1.2s,baz=123,slow=5.2,SNR=2.8						
KOLS	**Kolonicke sedl**	**124.86**	**325**	*e*PKP	PKPdf	21 44 15.5	+10
KOLS				*e*		21 44 20.9	
STHS	**Stebnicka Huta**	**125.18**	**326**	*e*PKP	PKPdf	21 44 18.5	+12
STHS				*e*		21 44 34.9	
KECS	**Kecovo**	**126.10**	**325**	*e*PKP	PKPdf	21 44 08.5	+0.5
KECS				*e*		21 44 15.4	
KSP	**Ksiaz**	**126.95**	**330**	*e*P	PKPdf	21 44 10.7	+1.1
VYHS	**Vyhne**	**127.01**	**326**	*e*PKP	PKPdf	21 44 04.7	-5.1
KOLL	**Kolacno**	**127.20**	**327**	*e*PKP	PKPdf	21 44 07.8	-2.3
DPC	**Dobruska-Polom**	**127.24**	**329**	*e*PKPdf	PKPdf	21 44 10.3	+0.1
DPC				*e*SKP		21 47 40.9	
UPC	**Upice**	**127.30**	**330**	*e*PKPdf	PKPdf	21 44 11.6	+1.3
UPC				*e*SKP		21 47 32.7	
PVCC	**Panska Ves**	**128.00**	**330**	*e*PKP	PKPdf	21 44 17.9	+6.3
PVCC				*e*SKP		21 47 30.1	
PRU	**Pruhonice**	**128.36**	**330**	*e*PKP	PKPdf	21 44 03.0	-9.3
PRU				*e*SKP		21 47 36.1	
CPD	**Cerro la Pandu**	**137.31**	**73**	*e*Pdif	Pdif	21 41 38.9	+2.2
CPD				*e*PKPdf	PKPdf	21 44 33.2	+3.2
ESDC	**Sonseca Array**	**144

comp=Z,126nm,1.0s,mb5.9
PAE Paea 54.54 106 *e*P **P 21 35 57.2 +1.3**
PAE pmax pmax
comp=Z,126nm,1.0s,mb5.9
TVO Taravao 54.86 107 *e*P **P 21 35 59.9 +1.6**
comp=Z,195nm,1.0s,mb6.1
TVO Taravao 54.86 107 *e*P **P 21 35 59.9 +1.6**
TVO pmax pmax
comp=Z,195nm,1.0s,mb6.1
YSS Yuzh-Sakhalins 55.17 349 *e*P **P 21 35 58.0 -2.0**
comp=Z,66nm,0.8s,mb5.7
YSS Yuzh-Sakhalins 55.17 349⇑ *i*P **P 21 36 04.0 +4.1**
YSS pmax pmax
comp=N,40nm,1.0s
YSS pmax pmax
comp=Z,90nm,1.0s,mb5.8
DL2 Dalian 55.63 328⇓ *i*P **P 21 36 03.2 -0.2**
DL2 AMB AMB
comp=Z,30nm,0.8s,mb5.4
KULM Kulim 56.03 281 *e*P **P 21 36 06.6 -0.1**
PMOR Pomariorio Ree 56.04 103 *e*P **P 21 36 08.0 +1.2**
comp=Z,371nm,1.1s,mb6.3
VAH Vaihoa 56.31 103 *e*P **P 21 36 09.6 +0.9**
comp=Z,232nm,1.0s,mb6.2
MDJ Mudanjiang 56.67 338 P **P 21 36 10.3 -0.4**
MDJ AMB AMB
comp=Z,27nm,1.9s,mb5.0
ENH Enshi 57.73 313 P **P 21 36 18.4 -0.1**
BJT Baijiatuau 59.38 326 *e*P **P 21 36 28.5 -1.3**
comp=Z,6.9nm,0.6s,mb4.9
BJT Baijiatuau 59.38 326 *e*P **P 21 36 28.5 -1.3**
BJT pmax pmax
comp=Z,7.0nm,0.6s
XAN Xi'an 60.20 316 P **P 21 36 34.9 -0.6**
XAN AP pP 21 36 40.0 -12
XAN AMB AMB
comp=Z,20nm,1.1s,mb5.1
XAN LR LR
comp=N,4μm,14.6s
XAN LR LR
comp=E,8μm,12.3s
XAN LR LR
comp=Z,10μm,14.6s
KMI Kunming 60.51 304 P **P 21 36 39.7 +1.9**
KMI AMB AMB
comp=Z,65nm,1.4s,mb5.6
CD2 Chengdu 62.31 310⇓ *i*P **P 21 36 50.7 +0.8**
CD2 XP sP 21 36 58.0 -15
CD2 PP PP 21 39 10.1 +2.4
CD2 AMB AMB
comp=Z,110nm,1.0s,mb5.9
HHC Hu-ho-hao-te 62.57 324 *e*P **P 21 36 52.6 +1.2**
HHC AP pP 21 36 57.1 -11
HHC XP sP 21 37 00.4 -14
HHC AMB AMB
comp=Z,199nm,1.3s,mb6.1
HIA Hailar 64.37 335 *e*P **P 21 37 03.2 +0.1**
comp=Z,14nm,0.6s,mb5.2
HIA Hailar 64.37 335 *e*P **P 21 37 03.2 +0.2**
HIA pmax pmax
comp=Z,14nm,0.6s
LZH Lanzhou 64.81 315 *e*P **P 21 37 05.1 -1.1**
LZH AP pP 21 37 08.5 -14
LZH AMB AMB
comp=Z,20nm,1.1s,mb5.1
LZH AMB AMB
comp=Z,83nm,4.2s
MA2 Magadan 66.77 357 *e*P **P 21 37 16.9 -1.3**
RKT Rikitea 68.46 112 *e*P **P 21 37 31.1 +1.3**
comp=Z,135nm,1.2s,mb5.8
RKT Rikitea 68.46 112 *e*P **P 21 37 31.1 +1.3**
RKT pmax pmax
comp=Z,135nm,1.2s,mb5.8
GTA Gaotai 69.23 317 P **P 21 37 36.1 +1.9**
GTA AP pP 21 37 39.7 -11
GTA XP sP 21 37 41.3 -16
GTA PP PP 21 40 11.6 +3.6
GTA S S 21 46 42.0 +6.2
GTA XS sS 21 46 49.2 -15
GTA SS SS 21 51 10.8 +7.1
GTA AMB AMB
comp=Z,20nm,1.6s,mb4.8
SONM Songino Array 69.81 327 P **P 21 37 38.2 +0.6**
SONM pmax pmax
comp=Z,23nm,0.8s
SONM Songino Array 69.81 327 P **P 21 37 38.2 +0.6**
comp=Z,23nm,0.8s,mb5.1,baz=146,slow=5.8,SNR=12
VNDA Vanda 70.26 179 P **P 21 37 40.6 +0.7**
comp=Z,4.8nm,1.0s,mb4.4,baz=349,slow=6.6,SNR=3.7
SBA Scott Base 70.77 177 *e*P **P 21 37 41.0 -2.0**
LSA Lhasa 71.77 304 *e*P **P 21 37 52.0 +2.1**
comp=Z,31nm,0.8s,mb5.3
LSA Lhasa 71.77 304 *e*P **P 21 37 52.0 +2.1**
LSA pmax pmax
comp=Z,31nm,0.8s,mb5.3
YAK Yakutsk 71.94 348 *e*P **P 21 37 50.6 +0.4**
comp=Z,56nm,0.8s,mb5.5
YAK Yakutsk 71.94 348 *e*P **P 21 37 50.6 +0.4**
YAK pmax pmax
comp=Z,56nm,0.8s,mb5.5
ZAK Zakamensk 72.96 328 *e*P **P 21 37 55.9 -0.7**
ZAK pmax pmax
comp=Z,17nm,1.1s,mb4.9
BOD Bodaibo 73.05 338 *e*P **P 21 37 55.5 -1.4**
BOD pmax pmax
comp=Z,22nm,1.9s,mb4.8
TLY Talaya 73.53 329 P **P 21 37 58.6 -1.3**
CHGN Chignik 73.87 25 *e*P **P 21 38 02.4 +0.7**
GAMB Gambell 75.12 14 *e*P **P 21 38 09.2 +0.4**
comp=Z,247nm,2.1s,mb5.8
JIRN Jiri 75.28 301 *e*P **P 21 38 11.4 +0.8**
comp=Z,96nm,0.8s,mb5.8
BILL Bilibino 75.56 4 *e*P **P 21 38 11.5 +0.2**
comp=Z,90nm,1.2s,mb5.6
BILL Bilibino 75.56 4⇓ *i*P **P 21 38 12.0 +0.7**
BILL *e* 21 38 21.0
BILL *e* pP 21 38 30.0 +1.8
BILL pmax pmax
comp=Z,96nm,1.2s,mb5.6
PALK Pallekele 75.88 279 *e*P **P 21 38 14.7 +0.4**
comp=Z,25nm,1.2s,mb5.0
PALK *e*PcP PcP 21 38 25.4 -1.2
KKN Kakani 76.09 301 *e*P **P 21 38 15.9 +0.7**
comp=Z,156nm,0.9s,mb6.0
GKN Gorkha 76.69 301 *e*P **P 21 38 19.3 +0.7**
comp=Z,369nm,1.1s,mb6.2
KDAK Kodiak Island 77.27 26 P **P 21 38 21.0 -0.2**
comp=Z,21nm,1.0s,mb5.0,baz=254,slow=4.9,SNR=6.7
KOLN Koldanda 77.52 300 *e*P **P 21 38 23.7 +0.4**
comp=Z,219nm,1.1s,mb6.0
SVW2 Sparrevohn 78.14 22 *e*P **P 21 38 26.5 +0.6**
TTA Tatalina 79.17 20 *e*P **P 21 38 31.6 0.0**
TTA pP 21 38 44.1 -4.5
WMQ Urumqi 79.32 317 *e*P **P 21 38 33.3 +0.5**
WMQ AMB AMB
comp=Z,16nm,1.2s,mb4.8
SLKM Skilak Lake 79.86 24 *e*P **P 21 38 33.8 -1.6**
TIXI Tiksi 80.72 352 *e*P **P 21 38 39.3 -0.5**
comp=Z,559nm,2.6s,mb6.0
TIXI Tiksi 80.72 352 *e*P **P 21 38 39.3 -0.5**
TIXI pmax pmax
comp=Z,559nm,2.6s,mb6.0
LGTI Lohaghat 80.79 301 *e*P **P 21 38 41.5 +0.4**
PMR Palmer 80.91 24 *e*P **P 21 38 40.2 -0.9**
PMR *e*PcP PcP 21 38 45.3 -2.0
SML Sawmill 81.35 24 *e*P **P 21 38 43.3 0.0**
MCK McKinley 82.20 22 *e*P **P 21 38 47.3 -0.4**
MCK pmax pmax
comp=Z,47nm,0.9s,mb5.4
QSPA South Pole Qui 82.67 180 P **P 21 38 49.8 -0.3**
comp=Z,16nm,1.0s,mb5.0,baz=335,slow=3.6,SNR=4.4
COLA College 83.23 21 *e*P **P 21 38 52.0 -1.1**
comp=Z,54nm,0.9s,mb5.6
COLA College 83.23 21 *e*P **P 21 38 52.0 -1.1**
COLA pmax pmax
comp=Z,54nm,0.9s,mb5.6
MKAR Makanchi Array 83.89 319 P **P 21 38 56.3 -0.6**
MKAR pmax pmax
comp=Z,14nm,0.8s
MKAR Makanchi Array 83.89 319 P **P 21 38 56.3 -0.6**
comp=Z,14nm,0.8s,mb5.1,baz=81,slow=6.6,SNR=4.9
MAW Mawson 84.26 203 P **P 21 38 58.1 -0.3**
MAW pmax pmax
comp=Z,23nm,1.0s
MAW Mawson 84.26 203 P **P 21 38 58.1 -0.4**
comp=Z,23nm,1.0s,mb5.3,baz=66,slow=5.4,SNR=6.4
ZAA0 Zalesovo Array 84.65 326 *e*P **P 21 39 00.3 -0.2**
ZALV Zalesovo Beam 84.65 326 P **P 21 39 00.5 -0.1**
ZALV Zalesovo Beam 84.65 326 P **P 21 39 00.5 -0.1**
comp=Z,13nm,0.8s,mb5.1,baz=113,slow=5.3,SNR=7.8
ZAL Zalesovo 84.66 326 P **P 21 39 00.5 -0.1**
THN Thein Dam 85.24 303 *e*P **P 21 39 03.9 -0.1**
EGAK Eagle 85.65 23 P **P 21 39 03.1 -2.2**
comp=Z,24nm,0.8s,mb5.5
WRAK Wrangell Islan 86.39 32 *e*P **P 21 39 09.5 +0.4**
KURK Kurchatov 87.31 322 *e*P **P 21 39 13.7 -0.1**
comp=Z,12nm,0.8s,mb5.2
KURK Kurchatov 87.31 322 *e*P **P 21 39 13.7 -0.1**
KURK pmax pmax
comp=Z,12nm,0.8s,mb5.2
UCH Uchtor 88.15 313 *e*P **P 21 39 20.2 +2.2**
comp=Z,24nm,1.4s,mb5.2
AAK Ala-Archa 88.25 313 *e*P **P 21 39 16.8 -1.7**
comp=Z,13nm,1.0s,mb5.1
AAK Ala-Archa 88.25 313 *e*P **P 21 39 16.8 -1.6**
AAK pmax pmax
comp=Z,13nm,1.0s,mb5.1
EKS2 Erkin-Say 88.77 313 *e*P **P 21 39 20.2 -0.7**
comp=Z,17nm,1.0s,mb5.3
INK Inuvik 89.87 21 *e*P **P 21 39 25.7 +0.2**
INK Inuvik 89.87 21 P **P 21 39 24.8 -0.7**
INK pmax pmax
comp=Z,33nm,1.0s
INK Inuvik 89.87 21 P **P 21 39 24.8 -0.7**
comp=Z,33nm,1.0s,mb5.6,baz=254,slow=6.6,SNR=17
SNCC San Nicolas Is 89.87 57 *e*P **P 21 39 28.6 +2.3**
KBL Kabul 91.09 305 *e*P **P 21 39 31.2 -0.8**
NVAR Mina Array Bea 91.61 52 P **P 21 39 36.3 +2.1**
comp=Z,12nm,1.0s,mb5.2,baz=253,slow=9.5,SNR=9.1
BRVK Borovoye 92.84 323 P **P 21 39 36.7 -2.9**
comp=Z,14nm,1.0s,mb5.3
BRVK Borovoye 92.84 323 P **P 21 39 36.7 -2.9**
BRVK pmax pmax
comp=Z,14nm,1.0s,mb5.3
YKA Yellowknife Ar 96.42 28 P **P 21 39 55.7 0.0**
YKA Yellowknife Ar 96.42 28 P **P 21 39 55.7 -0.1**
YKA pmax pmax
comp=Z,12nm,0.8s
YKA Yellowknife Ar 96.42 28 P **P 21 39 55.7 0.0**
comp=Z,12nm,0.8s,mb5.4,baz=266,slow=4.7,SNR=18
HRY Holter Researc 97.17 44 *e*P **P 21 40 06.0 +6.5**
BW06 Boulder Array 98.61 48 *e*P **P 21 40 05.3 -0.8**
PDAR Pinedale Array 98.61 48 P **P 21 40 04.9 -1.2**
comp=Z,2.6nm,0.7s,mb4.8,baz=253,slow=1.7,SNR=5.8
SVE Sverdlovsk 98.67 326 *e*P **P 21 40 05.7 -0.3**
ISCO Idaho Springs 101.54 51 Pdif Pdif 21 40 17.1 -1.8
SDCO Great Sand Dun 101.62 53 *e*P Pdif 21 40 18.0 -1.3
KIV Kislovodsk 111.34 314⇑P Pdif 21 41 03.8 +1.3
KIV Kislovodsk 111.34 314 *e*P Pdif 21 41 02.0 -0.5
KIV pmax pmax
comp=Z,28nm,1.1s
KIV Kislovodsk 111.34 314⇑ *i*P Pdif 21 41 03.8 +1.3
MOS Moscow 111.44 327 *e*P Pdif 21 41 02.9 0.0
MOS *e* 21 44 54.1
OBN Obninsk 112.22 327⇑ *e*P Pdif 21 40 59.8 -6.6
OBN pmax pmax
comp=Z,29nm,1.3s
JFWS Jewell Farm 112.73 47 *e*Pdif Pdif 21 41 07.7 -0.9
JFWS Jewell Farm 112.73 47 P Pdif 21 41 09.1 +0.5
COWI Conover 112.81 43 *e*Pdif Pdif 21 41 05.2 -3.8
FINES FINESS Array B 114.38 336 PKPdf PKiKP 21 45 04.7 -1.5
FINES FINESS Array B 114.38 336 *i*PKIKP PKiKP 21 45 04.7 -1.5
FINES pmax pmax
comp=Z,4.0nm,0.8s
FINES FINESS Array B 114.38 336 PKiKP PKiKP 21 45 04.7 -1.5
comp=Z,3.5nm,0.8s,baz=139,slow=2.6,SNR=4.1
JMIC Jan Mayen 115.58 354 PKiKP PKiKP 21 45 06.6 -1.7
comp=Z,277nm,0.4s,baz=152,slow=11,SNR=3.5
PLCA Paso Flores 116.24 142 PKKPbc PKKPbc 21 55 39.4 -1.8
comp=Z,3.6nm,1.0s,baz=21,slow=3.2,SNR=5.4
SFJD Kangerlussuaq 117.81 11 PKiKP PKiKP 21 45 12.2 -0.5
comp=Z,11nm,0.8s,baz=311,slow=4.8,SNR=4.6
AKASG Malin Array Be 118.02 324 PKP PKPdf 21 45 13.1 -0.5
comp=Z,4.3nm,0.7s,baz=63,slow=1.9,SNR=10
AKASG PKKPbc PKKPbc 21 55 34.0 -1.1
comp=Z,1.2nm,0.7s,baz=253,slow=4.4,SNR=6.7
SADO Sadowa 119.91 42 PKP PKPdf 21 45 15.5 -1.9
baz=293,slow=15
NB2 NORSAR Subarra120.22 341 PKPdf PKPdf 21 45 16.6 -0.7
comp=Z,2.5nm,0.8s,baz=39,slow=1.9
NOA NORSAR Array B120.22 341 PKP PKPdf 21 45 17.2 0.0
NOA NORSAR Array B120.22 341 PKP PKPdf 21 45 17.2 0.0
comp=Z,3.7nm,0.8s,baz=45,slow=1.9,SNR=9.0
LVV L'vov 121.39 325 *e*PKIKP PKPdf 21 45 26.0 +5.9
LBTB Lobatse 121.53 235 PKP PKPdf 21 45 20.8 -0.4
comp=Z,9.9nm,0.8s,baz=153,slow=3.7,SNR=9.3
SCHQ Schefferville 121.87 27 PKP PKPdf 21 45 19.8 -1.1
SCHQ Schefferville 121.87 27 PKP PKPdf 21 45 19.8 -1.1
comp=Z,6.1nm,0.9s,baz=18,slow=6.4,SNR=2.8
LSZ Lusaka 123.08 247 PKIKP PKPdf 21 45 24.5 +0.2
LSZ pmax pmax
comp=Z,10.0nm,1.0s
LSZ Lusaka 123.08 247 PKP PKPdf 21 45 24.5 +0.2
comp=Z,9.8nm,1.0s,baz=156,slow=2.0,SNR=6.3
CFAA Coronel Fontan 123.15 135 PKP PKPdf 21 45 24.6 +0.5
comp=Z,2.6nm,0.9s,baz=232,slow=1.7,SNR=9.2
STHS Stebnicka Huta 123.15 326 *e*PKP PKPdf 21 45 24.6 +1.1
ATAH Atahualpa 124.51 104 PKP PKPdf 21 45 29.4 +2.3
comp=Z,22nm,0.8s,baz=143,slow=2.6,SNR=9.5
OKC Ostrava-Krasne 124.60 328 *e*PKPdf PKPdf 21 45 26.7 +0.5
NNA Nana 124.64 110 PKP PKPdf 21 45 27.8 +0.5
comp=Z,21nm,0.9s,baz=297,slow=3.6,SNR=5.5
DPC Dobruska-Polom 125.25 329 *e*PKP PKPdf 21 45 28.4 +0.9
UPC Upice 125.31 329 *e*PKPdf PKPdf 21 45 28.8 +1.2
VRAC Vranov 125.73 328 PKIKP PKPdf 21 45 28.9 +0.5
VRAC pmax pmax
comp=Z,5.0nm,1.0s
VRAC Vranov 125.73 328 PKP PKPdf 21 45 28.9 +0.5
comp=Z,5.1nm,1.0s,baz=0.0,slow=8.1,SNR=3.8
PVCC Panska Ves 126.02 330 *e*PKPdf PKPdf 21 45 30.0 +1.1
BRG Berggiesshubel 126.10 331 *i*P Pdif 21 41 60.0 -8.1
BRG *i*PKP PKPdf 21 45 30.1 +1.0
BRG Berggiesshubel 126.10 331 *i*P Pdif 21 42 00.0 -8.1
BRG pmax pmax
comp=Z,5.0nm,1.1s
BRG Berggiesshubel 126.10 331 *i*P Pdif 21 41 60.0 -8.1
comp=Z,7.7nm,1.1s
BRG Berggiesshubel 126.10 331 *i*PKP PKPdf 21 45 30.1 +1.0
comp=Z,21nm,1.2s
CLL Collm 126.27 332 P Pdif 21 42 06.0 -2.8
CLL ⇓*i*PKP PKPdf 21 45 30.0 +0.6
CLL *i* 21 45 38.1
CLL Collm 126.27 332 *e*(Pdif) Pdif 21 42 06.0 -2.8
CLL ⇓*i*PKPdf PKPdf 21 45 30.0 +0.6
comp=Z,16nm,1.0s
CLL *i* (pPKPdf) pPKPdf 21 45 38.1 -9.3
TREC Trest 126.32 328 *e*PKPdf PKPdf 21 45 30.6 +1.1
PRU Pruhonice 126.37 330 *e*PKPdf PKPdf 21 45 30.4 +0.8
NKC Novy Kostel 127.24 331 *e*PKPdf PKPdf 21 45 32.1 +0.8
KHC Kasperske Hory 127.40 329 *e*PKPdf PKPdf 21 45 32.5 +0.9
KHC *ex* x 21 45 40.0
GERES GERESS Array B 127.52 329 PKP PKPdf 21 45 33.1 +1.3
GERES GERESS Array B 127.52 329 PKP PKPdf 21 45 33.1 +1.3
comp=Z,6.5nm,0.8s,baz=70,slow=1.6,SNR=12
GRA1 Grafenberg Arr 128.19 331 *e*PKPdf PKPdf 21 45 34.1 +1.0
GRF Grafenberg Arr 128.19 331 *e*PKPdf PKPdf 21 45 34.1 +1.0
ROSC El Rosal 130.52 90 PKP PKPdf 21 45 39.0 +0.3
comp=Z,24nm,0.8s,baz=94,slow=8.5,SNR=11
GIVF Givet 130.77 335 *e*PKIKP PKPdf 21 45 32.1 -5.9
TSUM Tsumeb 130.79 237 PKP PKPdf 21 45 39.6 +0.6
TSUM Tsumeb 130.79 237 PKP PKPdf 21 45 39.6 +0.6
comp=Z,7.8nm,0.9s,baz=45,slow=2.9,SNR=6.6
DAVOX Davos/Dischmat 130.82 329 PKP PKPdf 21 45 38.2 0.0
comp=Z,5.5nm,0.7s,baz=68,slow=4.3,SNR=7.3
DAVOS Davos 130.82 329 PKIKP PKPdf 21 45 38.2 0.0
CDF Champ du Feu 130.95 332 *e*PKIKP PKPdf 21 45 31.9 -6.5
comp=Z,46nm,1.4s
LPAZ La Paz 130.97 119 PKIKP PKPdf 21 45 40.5 +1.2
LPAZ pmax pmax
comp=Z,30nm,1.0s
LPAZ La Paz 130.97 119 PKP PKPdf 21 45 40.5 +1.2
comp=Z,30nm,0.9s,baz=330,slow=1.6,SNR=16
BAIF Baives 131.05 336 *e*PKIKP PKPdf 21 45 32.2 -6.3
HINF Hinteralfeld 131.57 332 *e*PKIKP PKPdf 21 45 32.8 -6.8
comp=Z,20nm,1.0s
HAU Haudompre 131.67 332 *e*PKIKP PKPdf 21 45 33.3 -6.5
MEZF Maizieres J'vi 131.88 334 *e*PKIKP PKPdf 21 45 33.7 -6.5
CABF La Chapelle 132.81 331 *e*PKIKP PKPdf 21 45 35.7 -6.3
comp=Z,62nm,1.1s
LPL La Plagne 133.28 330 *e*PKIKP PKPdf 21 45 36.9 -6.0
comp=Z,20nm,1.0s
LPG La Plagne 133.28 330 *e*PKIKP PKPdf 21 45 37.0 -5.9
comp=Z,29nm,1.0s
LOR Lormes 133.34 333 *e*PKIKP PKPdf 21 45 36.6 -6.4
comp=Z,16nm,0.9s
SSF Saint Saulge 133.66 334 *e*PKIKP PKPdf 21 45 36.8 -6.7
comp=Z,35nm,1.1s
MBDF Montbardon 133.81 329 *e*PKIKP PKPdf 21 45 37.6 -6.3
SMF Signal de Mont 133.82 333 *e*PKIKP PKPdf 21 45 37.6 -6.3
FLN La Foliniere 133.93 338 *e*PKIKP PKPdf 21 45 37.4 -6.6
comp=Z,47nm,1.2s
LDF La Druitiere 133.93 338 *e*PKIKP PKPdf 21 45 37.4 -6.6
AVF Avril sur Loir 133.93 333 *e*PKIKP PKPdf 21 45 37.6 -6.5
SBF Sospel 134.06 328 *e*PKIKP PKPdf 21 45 37.9 -6.5
comp=Z,82nm,1.1s
PGF Pioggiola 134.07 325 *e*PKIKP PKPdf 21 45 37.8 -6.7
comp=Z,133nm,1.3s
ORIF Oris-en-Rattie 134.12 330 *e*PKIKP PKPdf 21 45 38.0 -6.5
comp=Z,22nm,1.0s
BGF Bois d'Agland 134.33 334 *e*PKIKP PKPdf 21 45 37.9 -6.9
comp=Z,28nm,1.1s
GRR Gorron 134.38 338 *e*PKIKP PKPdf 21 45 38.4 -6.5
FRF La Foret Royal 134.68 328 *e*PKIKP PKPdf 21 45 38.6 -7.0
comp=Z,69nm,1.2s
VIVF Saint-Julien-l 134.76 331 *e*PKIKP PKPdf 21 45 39.2 -6.5
comp=Z,35nm,1.2s
TCF Toulx Ste Croi 134.82 334 *e*PKIKP PKPdf 21 45 39.3 -6.5
comp=Z,49nm,1.2s
SMRF Simiane la Rot 134.95 329 *e*PKIKP PKPdf 21 45 39.4 -6.7
MFF Saint Martin d 135.56 336 *e*PKIKP PKPdf 21 45 40.4 -6.7
LASF Ste Croix 135.73 331 *e*PKIKP PKPdf 21 45 40.9 -6.6
comp=Z,33nm,1.1s
LFF La Frestale 136.52 334 *e*PKIKP PKPdf 21 45 41.9 -7.1
comp=Z,97nm,1.5s
MTLF Montolieu 137.07 331 *e*PKIKP PKPdf 21 45 43.2 -6.8
SIV San Ignacio 137.12 123 PKhKP 21 45 41.7
comp=Z,1.7nm,0.7s,baz=25,slow=0.8,SNR=5.0
SIV PKP PKPdf 21 45 51.6 +0.7
comp=Z,21nm,0.9s,baz=285,slow=1.3,SNR=14
EPF Esparros 138.19 332 *e*PKIKP PKPdf 21 45 45.3 -6.8
ETSF Etsaut 138.71 333 *e*PKIKP PKPdf 21 45 46.4 -6.7
comp=Z,34nm,1.0s
SJPF Ste Jean 138.83 334 *e*PKIKP PKPdf 21 45 46.7 -6.6
PBRG Braganca 142.16 338 *e*PKP PKPdf 21 45 56.4 -3.0
ESDC Sonseca Array 142.82 333 PKhKP 21 45 57.2
comp=Z,4.7nm,1.0s,baz=24,slow=3.2,SNR=4.6
PVIS Viseu 143.54 338 *e*PKP PKPdf 21 46 00.5 -1.3
MTE Manteigas 143.68 338 *e*PKP PKPdf 21 46 00.2 -1.9
PCBR Castelo Branco 144.14 337 *e*PKP PKPdf 21 46 00.9 -2.0
PESTR Estremoz 145.03 337 *e*PKP PKPdf 21 46 04.4 -0.1
PBAR Barrancos 145.40 335 *e*PKP PKPdf 21 46 06.1 +1.0
EVO Evora 145.48 337⇑ *i*PKP2 PKPab 21 46 05.9 +0.3
comp=Z,352nm,1.4s
EVO Evora 145.48 337 *e*PKP PKPdf 21 46 06.3 +1.0
PMAFR Mafra 145.59 339 *e*PKP PKPdf 21 46 06.8 +1.4
PBEJ Beja 145.86 336 *e*PKP PKPdf 21 46 07.5 +1.6
PVAQ Vaqueiros 146.33 335 *e*PKP PKPdf 21 46 08.3 +1.5
PBDV Barranco-do-Ve 146.56 335 *e*PKP PKPbc 21 46 09.5 +0.8
PTEO Sao Teotonio 146.62 337 *e*PKP PKPbc 21 46 09.7 +0.9
MORF Marmelete 146.79 336 *e*PKP PKPbc 21 46 10.6 +1.3
MDT Midelt 148.55 327 PKPbc PKPbc 21 46 15.4 +1.1
comp=Z,22nm,1.0s,baz=30,slow=4.9,SNR=8.0
TORD Torodi Ar. Bea 153.48 285 PKPbc PKPbc 21 46 26.4 0.0
TORD PKPab PKPab 21 46 38.2 -0.6
TORD Torodi Ar. Bea 153.48 285 PKPbc PKPbc 21 46 26.4 0.0
comp=Z,12nm,0.8s,baz=51,slow=2.7,SNR=9.1
TORD PKPab PKPab 21 46 38.2 -0.6
comp=Z,11nm,0.9s,baz=77,slow=2.3,SNR=5.4
DBIC Dimbokro 160.38 269 PKP2 PKPab 21 47 09.3 +0.7
DBIC pmax pmax
comp=Z,15nm,0.8s
DBIC Dimbokro 160.38 269 PKPab PKPab 21 47 09.3 +0.7
comp=Z,15nm,0.8s,baz=86,slow=4.9,SNR=9.7

*IDC **01** 21:28:35.5±0.9, 726S×1556E, h0km, mb4.7/8, mb1 4.8/8, mb1mx4.6/16, mbtmp4.7/8, Error ellipse: s-maj=41.6km s-min=23.1km az=112.0*
*ISCJB **01** 21:28:38.4±1.4, 73S±01×1556E±03, h33km, mb4.8/11, Error ellipse: s-maj=44.2km s-min=15.9km az=20.1*
ISC 01 21:28:40.4±1.4, 73S±01×1556E±03, h35km, n30, σ0°35/12, mb4.8/11, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.13 237**		P		**21 33 52.8**	**-0.4**
	14nm,0.8s,mb4.4,baz=60,slow=9.3,SNR=5.2						
ASAR	**Alice Springs**	**26.41 230**		P		**21 34 13.9**	**0.0**
	4.9nm,0.9s,mb4.0,baz=63,slow=8.5,SNR=2.8						
STKA	**Stephens Creek**	**27.69 206**		P		**21 34 25.8**	**+0.4**
	10.0nm,0.9s,mb4.5,baz=13,slow=11,SNR=2.7						
ASAJ	**Asahikawa**	**52.55 348**		P		**21 37 50.5**	**+0.2**
	13nm,0.8s,mb4.9,baz=163,slow=14,SNR=2.3						
SONM	**Songino Array**	**69.95 327**		P		**21 39 48.7**	**+0.5**
	5.1nm,0.7s,mb4.5,baz=148,slow=5.8,SNR=6.1						
JIRN	**Jiri**	**75.47 301**		*e*P		**21 40 21.9**	**+0.5**
KKN	**Kakani**	**76.28 301**		*e*P		**21 40 26.3**	**+0.2**
	35nm,0.8s,mb5.3						
GKN	**Gorkha**	**76.89 301**		*e*P		**21 40 29.3**	**-0.2**
	78nm,1.0s,mb5.6						
KOLN	**Koldanda**	**77.71 300**		*e*P		**21 40 34.1**	**0.0**
	47nm,0.9s,mb5.4						
MKAR	**Makanchi Array**	**84.06 319**		P		**21 41 07.1**	**-0.4**
	4.6nm,0.7s,mb4.7,baz=90,slow=6.3,SNR=3.8						
ZALV	**Zalesovo Beam**	**84.80 326**		P		**21 41 10.6**	**-0.5**
	3.3nm,0.7s,mb4.6,baz=120,slow=5.9,SNR=4.5						
INK	**Inuvik**	**89.82 21**		P		**21 41 34.9**	**-0.2**
	6.9nm,0.9s,mb5.0,baz=173,slow=8.3,SNR=3.5						
AKASG	**Malin Array Be**	**118.17 324**		PKP		21 47 23.3	-0.5
	0.3nm,0.4s,baz=54,slow=2.1,SNR=5.5						
NB2	**NORSAR Subarra120.22 341**			PKPdf		21 47 26.8	-0.7
	comp=Z,0.5nm,0.7s,baz=39,slow=1.9						
NOA	**NORSAR Array B120.22 341**			PKPdf		21 47 27.3	-0.2
	comp=Z,1.0nm,0.6s,baz=45,slow=2.0,SNR=4.6						
ATAH	**Atahualpa 124.29 104**			PKPdf		21 47 38.8	+2.1
	comp=Z,5.5nm,0.8s,baz=90,slow=2.0,SNR=2.2						
GERES	**GERESS Array B 127.65 329**			PKPdf		21 47 42.7	+0.6
	comp=Z,1.4nm,0.8s,baz=90,slow=1.9,SNR=3.9						
LPAZ	**La Paz 130.77 119**			PKPdf		21 47 50.6	+1.6
	comp=Z,5.2nm,0.9s,baz=27,slow=4.5,SNR=4.0						
DAVOX	**Davos/Dischmat 130.95 329**			PKPdf		21 47 48.7	+0.2
	comp=Z,4.5nm,0.9s,baz=59,slow=13,SNR=4.9						
SIV	**San Ignacio 136.92 123**			PKPdf		21 48 01.7	+1.1
	comp=Z,4.1nm,0.9s,baz=302,slow=4.8,SNR=3.6						
PVIS	**Viseu 143.64 339**			*e*PKPdf		21 48 10.1	-1.9
PESTR	**Estremoz 145.14 337**			*e*PKPdf		21 48 14.8	+0.1
PBAR	**Barrancos 145.51 335**			*e*PKPdf		21 48 16.1	+0.8
EVO	**Evora 145.59 337**			*e*PKPdf		21 48 16.0	+0.5
PBEJ	**Beja 145.97 336**			*e*PKPdf		21 48 17.8	+1.7
PVAQ	**Vaqueiros 146.45 336**			*e*PKPbc		21 48 19.5	+1.2
PTEO	**Sao Teotonio 146.73 337**			*e*PKPbc		21 48 21.3	+2.2
MDT	**Midelt 148.69 327**			PKPbc		21 48 25.5	+0.9
	comp=Z,4.1nm,0.9s,baz=25,slow=6.7,SNR=4.1						
TORD	**Torodi Ar. Bea 153.70 285**			PKPbc		21 48 35.9	-0.9
	comp=Z,2.1nm,0.7s,baz=20,slow=3.1,SNR=4.1						
DBIC	**Dimbokro 160.59 269**			PKPab		21 49 19.1	-0.2
	comp=Z,4.4nm,0.8s,baz=136,slow=3.8,SNR=5.3						

*BJI **01** 21:30:14.1, 720S×1557.0E, h10km, mb5.5*
*IDC **01** 21:30:14.5±0.4, 731S×1557.8E, h0km, mb4.9/20, mb1 4.9/20, mb1mx4.9/22, mbtmp4.8/20, MS5.9/1, Ms1 5.9/1, ms1mx4.5/28, Error ellipse: s-maj=21.7km s-min=12.6km az=91.0*
*NEIC **01** 21:30:16.1±0.2, 720S×1556.9E, h10km, mb5.3/14, Error ellipse: s-maj=7.5km s-min=7.1km az=186.0*
*ISCJB **01** 21:30:17.3±4.2, 729S±006×1557.0E±006, h27km±30km, mb5.0/38, Error ellipse: s-maj=10.4km s-min=9.3km az=16.4*
*MOS **01** 21:30:18.6±0.9, 727S×1556.9E, h33km, mb5.3/8, Error ellipse: s-maj=15.1km s-min=11.5km az=125.3*
ISC 01 21:30:20.0±4.5, 730S±006×1556.8E±006, h32km±32km, n103, σ0°83/64, mb5.0/38, 2C, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.72 117**		Pn		**21 31 28.1**	**-0.9**
HNR				Sn		**21 32 41.6**	**+19**
HNR	**Honiara**	**4.72 117**		LR		21 33 02.0	
	comp=Z,135μm,18.4s,baz=174,slow=36						
CTA	**Charters Tower**	**15.66 215**		*e*P		**21 34 00.7**	**+2.4**
	52nm,1.1s						
CTA	**Charters Tower**	**15.66 215**		Pn		**21 34 00.6**	**+2.2**

1.8nm,0.3s,baz=30,slow=15,SNR=9.4
CTAO Charters Tower 15.66 215 Pn **Pn 21 34 08.6 +10**
KAKA Kakadu 23.50 255 *eP* **P 21 35 27.3 -0.2**
35nm,0.5s,mb5.0
WB2 Warramunga Arr 24.20 237 *eP* **P 21 35 33.7 -0.1**
WRA Warramunga Arr 24.21 237 P **P 21 35 34.0 +0.1**
9.9nm,0.5s,mb4.5,baz=60,slow=9.6,SNR=7.5
WRA PcP PcP 21 39 14.2 +0.1
3.0nm,0.5s,baz=60,slow=3.0,SNR=5.2
ASAR Alice Springs 26.49 230 P **P 21 35 54.6 +0.1**
3.4nm,0.4s,mb4.2,baz=58,slow=9.7,SNR=7.8
ASAR PcP PcP 21 39 18.9 -0.2
2.2nm,0.6s,baz=64,slow=2.9,SNR=4.4
STKA Stephens Creek 27.76 206 *eP* **P 21 36 06.0 +0.2**
34nm,0.9s,mb5.0
STKA Stephens Creek 27.76 206 P **P 21 36 06.1 +0.3**
10nm,0.5s,mb4.7,baz=34,slow=12,SNR=9.8
ARPS Mount Arapiles 31.93 201 *eP* **P 21 36 42.6 -0.2**
98nm,0.6s,mb5.8
RAO Raoul Island 33.08 135 *eP* **P 21 36 54.3 +1.3**
FORT Forrest 34.84 224 *eP* **P 21 37 07.4 -0.8**
24nm,0.5s,mb5.4
URZ Urewera 36.41 151 P **P 21 37 20.8 -0.8**
4.4nm,0.7s,mb4.5,baz=324,slow=17,SNR=3.2
MBWA Marble Bar 37.36 245 *eP* **P 21 37 31.1 +1.2**
24nm,1.1s,mb4.9
RPZ Rata Peaks 38.69 162 P **P 21 37 39.6 -1.2**
17nm,0.9s,mb4.8,baz=63,slow=8.5,SNR=5.0
KKM Kota Kinabalu 41.55 288 *eP* **P 21 38 05.2 +0.3**
KLBR Kellerberrin 42.82 231 *eP* **P 21 38 14.3 -0.7**
45nm,0.5s,mb5.5
NWAO Narrogin (SRO) 43.81 229 P **P 21 38 22.1 -0.9**
NWAO Narrogin (SRO) 43.81 229 P **P 21 38 22.5 -0.5**
13nm,0.8s,mb4.7,baz=91,slow=13,SNR=6.7
NACB Ninganchiao 45.66 314 P **P 21 38 31.3 -6.5**
KSM Kuching 46.10 279 P **P 21 38 40.4 -1.1**
YHNB Yeheng 46.12 315 P **P 21 38 36.3 -5.3**
MJAR Matsushiro Arr 46.59 341 P **P 21 38 44.0 -1.0**
3.0nm,0.7s,mb4.3,baz=126,slow=2.4,SNR=7.5
MAJO Matsushiro 46.59 341 *eP* **P 21 38 36.4 -8.6**
6.1nm,0.7s,mb4.6
JNU Nakatsue 46.61 331 P **P 21 38 44.5 -0.7**
8.7nm,0.8s,mb4.7,baz=81,slow=2.7,SNR=3.4
KSRS Korea Array 51.53 332 P **P 21 39 22.9 +0.1**
4.8nm,0.6s,mb4.6,baz=147,slow=7.7,SNR=10
ASAJ Asahikawa 52.53 348 P **P 21 39 30.8 +0.7**
16nm,0.5s,mb5.2,baz=217,slow=5.8,SNR=20
TVO Taravao 54.58 107 *eP* **P 21 39 46.2 +0.5**
43nm,0.8s,mb5.5
TVO Taravao 54.58 107 *eP* **P 21 39 46.2 +0.5**
TVO pmax pmax
comp=Z,43nm,0.8s,mb5.5
YSS Yuzh-Sakhalins 55.23 349⇑ *eP* **P 21 39 51.0 +1.2**
YSS pmax pmax
comp=Z,30nm,1.0s,mb5.3
PMOR Pomariorio Ree 55.76 103 *eP* **P 21 39 54.6 +0.4**
comp=Z,73nm,0.8s,mb5.8
VAH Vaihoa 56.02 103 *eP* **P 21 39 56.3 +0.2**
comp=Z,53nm,1.0s,mb5.5
KULM Kulim 56.32 281 *eP* **P 21 39 57.4 -0.9**
ENH Enshi 57.95 313 P **P 21 40 04.3 -5.2**
KMI Kunming 60.75 304 P **P 21 40 29.8 +0.8**
KMI AMB AMB
comp=Z,21nm,1.3s,mb5.1
CHTO Chiang Mai 61.65 296 *eP* **P 21 40 36.2 +1.1**
comp=Z,32nm,1.1s,mb5.4
CHTO Chiang Mai 61.65 296 *eP* **P 21 40 36.2 +1.0**
CHTO pmax pmax
comp=Z,32nm,1.1s,mb5.4
CD2 Chengdu 62.53 310 P **P 21 40 40.7 -0.2**
CD2 XP sP 21 40 47.9 -6.8
CD2 AMB AMB
comp=Z,60nm,0.5s,mb6.0
TAOE Nuku Hiva Isla 63.48 96 *eP* **P 21 40 47.7 +0.2**
comp=Z,408nm,0.9s
LZH Lanzhou 65.01 315 *eP* **P 21 40 58.8 +1.7**
LZH AP pP 21 41 02.3 -4.9
LZH XP sP 21 41 03.9 -7.1
LZH AMB AMB
comp=Z,30nm,1.2s,mb5.2
MA2 Magadan 66.78 357 P **P 21 41 00.2 -7.8**
SONM Songino Array 69.96 327 P **P 21 41 29.0 +0.8**
comp=Z,9.4nm,0.5s,mb5.0,baz=145,slow=6.3,SNR=39
VNDA Vanda 70.26 179 P **P 21 41 29.4 -0.2**
comp=Z,2.7nm,0.8s,mb4.3,baz=327,slow=7.7,SNR=5.9
SBA Scott Base 70.75 178 P **P 21 41 33.7 +1.1**
comp=Z,379nm,2.9s,mb5.8
LSA Lhasa 72.01 304 *eP* **P 21 41 38.0 -3.0**
comp=Z,11nm,0.8s,mb4.8
LSA Lhasa 72.01 304 *eP* **P 21 41 38.0 -3.0**
LSA pmax pmax
comp=Z,11nm,0.8s,mb4.8
ZAK Zakamensk 73.11 328 *eP* **P 21 41 47.2 +0.1**
BOD Bodaibo 73.15 338 *eP* **P 21 41 45.6 -1.5**
BOD pmax pmax
comp=Z,17nm,1.4s,mb4.8
MOY Mondy 75.03 328 *eP* **P 21 41 58.8 +0.5**
BILL Bilibino 75.53 4⇑ *eP* **P 21 42 01.4 +0.6**
BILL pmax pmax
comp=Z,44nm,1.5s,mb5.2
KDAK Kodiak Island 77.14 26 P **P 21 42 10.9 +0.8**
comp=Z,3.9nm,0.6s,mb4.5,baz=328,slow=16,SNR=8.5
QSPA South Pole Qui 82.68 180 P **P 21 42 40.2 +0.4**
comp=Z,14nm,0.7s,mb5.1,baz=281,slow=1.6,SNR=8.2
MKAR Makanchi Array 84.08 319 P **P 21 42 47.8 +0.2**
comp=Z,12nm,0.6s,mb5.2,baz=73,slow=7.2,SNR=19
MAW Mawson 84.38 203 P **P 21 42 49.0 +0.2**
comp=Z,8.4nm,0.6s,mb5.0,baz=83,slow=9.2,SNR=11
ZALV Zalesovo Beam 84.81 326 P **P 21 42 50.4 -0.8**
comp=Z,15nm,0.5s,mb5.3,baz=117,slow=5.5,SNR=28
ZAL Zalesovo 84.82 326 P **P 21 42 50.4 -0.8**
TKM2 Tokmak 2 87.72 314 *eP* **P 21 43 05.6 -0.1**
INK Inuvik 89.76 21 P **P 21 43 14.3 -0.5**
comp=Z,4.6nm,0.5s,mb5.0,baz=263,slow=6.7,SNR=5.5
YKA Yellowknife Ar 96.29 28 P **P 21 43 44.0 -0.9**
YKA Yellowknife Ar 96.29 28 P **P 21 43 44.0 -0.9**
comp=Z,1.8nm,0.7s,mb4.6,baz=266,slow=4.6,SNR=6.5
BW06 Boulder Array 98.40 48 P **P 21 43 48.7 -6.2**
PDAR Pinedale Array 98.40 48 P **P 21 43 54.6 -0.4**
comp=Z,1.9nm,0.9s,mb4.6,baz=197,slow=1.5,SNR=3.0
ARCES ARCESS Array B 110.08 343 PKiKP PKiKP 21 48 47.5 -0.3
comp=Z,5.3nm,1.0s,baz=104,slow=2.0,SNR=9.4
KIV Kislovodsk 111.55 314 *eP* Pdif 21 44 52.4 -0.8
KIV pmax pmax
comp=Z,13nm,1.1s
FINES FINESS Array B 114.49 336 PKiKP PKiKP 21 48 54.1 -2.3
comp=Z,1.5nm,0.6s,baz=97,slow=1.0,SNR=9.6
PLCA Paso Flores 116.06 142 PKP PKPdf 21 48 59.6 -0.5
comp=Z,3.9nm,1.1s,baz=122,slow=1.4,SNR=5.5
AKASG Malin Array Be 118.18 325 PKP PKPdf 21 49 02.5 -1.3
comp=Z,2.5nm,0.5s,baz=45,slow=2.4,SNR=24
NB2 NORSAR Subarra120.21 341 PKPdf PKPdf 21 49 05.8 -1.6
comp=Z,1.9nm,0.7s,baz=39,slow=1.9
NOA NORSAR Array B120.21 341 PKP PKPdf 21 49 06.4 -1.0
comp=Z,2.2nm,0.6s,baz=45,slow=2.0,SNR=13
EIL Elat 120.22 300 PKP PKPdf 21 49 07.2 -1.3
comp=Z,1.9nm,0.4s,baz=120,slow=20,SNR=3.0
SCHQ Schefferville 121.74 27 PKP PKPdf 21 49 09.4 -1.1
comp=Z,3.2nm,1.0s,baz=225,slow=7.1,SNR=2.9
LBTB Lobatse 121.77 235 PKP PKPdf 21 49 11.2 -0.3
comp=Z,2.3nm,0.7s,baz=178,slow=4.8,SNR=6.9
MLR Muntele Rosu 122.40 320 PKP PKPdf 21 49 10.6 -1.5
comp=Z,1.7nm,0.6s,baz=85,slow=9.3,SNR=4.4
CFAA Coronel Fontan 122.94 135 PKP PKPdf 21 49 12.7 -1.0
comp=Z,0.6nm,0.6s,baz=268,slow=3.3,SNR=6.0
LSZ Lusaka 123.35 246 PKP PKPdf 21 49 13.4 -1.4
comp=Z,0.9nm,0.4s,baz=88,slow=5.4,SNR=4.1
BRG Berggiesshubel 126.24 331 *i* PKIKP PKPdf 21 49 19.9 +0.6
BRG pmax pmax
comp=Z,26nm,1.3s
BRG Berggiesshubel 126.24 331 *i* P PKPdf 21 49 19.9 +0.6
comp=Z,8.3nm,1.3s
CLL Collm 126.40 332 *e*PKPdf PKPdf 21 49 19.0 -0.6
CLL *e*(pPKPdf) 21 49 31.0
GERES GERESS Array B 127.67 329 PKP PKPdf 21 49 22.5 +0.4
comp=Z,1.9nm,0.5s,baz=68,slow=2.2,SNR=22
LPAZ La Paz 130.71 119 PKP PKPdf 21 49 28.7 -0.1
comp=Z,4.6nm,0.6s,baz=146,slow=0.8,SNR=7.7
DAVOX Davos/Dischmat 130.97 329 PKP PKPdf 21 49 28.9 +0.5
comp=Z,4.8nm,0.5s,baz=230,slow=8.0,SNR=13
DAVOS Davos 130.97 329 PKiKP PKPdf 21 49 28.9 +0.5
TSUM Tsumeb 131.03 237 PKP PKPdf 21 49 29.1 -0.3
comp=Z,1.3nm,0.6s,baz=65,slow=5.5,SNR=4.9
KEST Kesra 138.17 317 PKhKP 21 49 38.2
comp=Z,1.9nm,0.9s,baz=249,slow=8.6,SNR=3.3
ESDC Sonseca Array 142.95 334 PKhKP 21 49 46.7
comp=Z,1.3nm,0.6s,baz=14,slow=3.7,SNR=7.0

PVIS Viseu 143.64 339 *e*PKP PKPdf 21 49 49.2 -2.8
MTE Manteigas 143.79 338 *e*PKP PKPdf 21 49 49.7 -2.5
PCBR Castelo Branco 144.25 338 *e*PKP PKPdf 21 49 52.3 -0.8
PESTR Estremoz 145.14 337 *e*PKP PKPdf 21 49 53.9 -0.7
PBAR Barrancos 145.51 336 *e*PKP PKPdf 21 49 55.5 +0.2
EVO Evora 145.59 337 *e*PKP PKPdf 21 49 55.6 +0.2
PMAFR Mafra 145.69 339 *e*PKP PKPdf 21 49 56.0 +0.4
PBEJ Beja 145.98 336 *e*PKP PKPdf 21 49 57.0 +0.9
PVAQ Vaqueiros 146.45 336 *e*PKP PKPdf 21 49 59.5 +2.6
PBDV Barranco-do-Ve 146.68 336 *e*PKP PKPbc 21 50 00.4 +1.5
PTEO Sao Teotonio 146.73 337 *e*PKP PKPbc 21 50 00.1 +1.1
PFVI Vila Bisbo 147.13 337 *e*PKP PKPdf 21 50 00.4 +2.3
MDT Midelt 148.71 327 PKPbc PKPbc 21 50 04.9 +0.3
comp=Z,4.0nm,0.5s,baz=60,slow=4.3,SNR=17
TORD Torodi Ar. Bea 153.76 285 PKPbc PKPbc 21 50 16.0 -0.9
comp=Z,1.8nm,0.7s,baz=33,slow=3.1,SNR=4.1
TORD PKPab PKPab 21 50 29.0 -0.8
comp=Z,2.0nm,0.5s,baz=81,slow=3.9,SNR=5.8
PMAR Madeira 153.79 346 *e*PKP PKPbc 21 50 16.0 -0.4
DBIC Dimbokro 160.67 269 PKPab PKPab 21 50 59.6 0.0
comp=Z,4.7nm,0.5s,baz=64,slow=4.7,SNR=12

*ISCJB **01** 21:30:58.3±8.3, 727S±007×15602E±0.10, h6km±51km, mb5.0/29, Error ellipse: s-maj=16.8km s-min=10.9km az=164.2*
*BJI **01** 21:30:58.5, 743S×15580E, h10km, mb5.2*
*IDC **01** 21:30:58.3±0.6, 731S×156.13E, h0km, mb5.0/14, mb1 5.0/14, mb1mx4.9/18, mbtmp4.9/14, Error ellipse: s-maj=31.1km s-min=16.2km az=83.0*
*NEIC **01** 21:31:00.0±0.3, 730S×15608E, h10km, mb5.2/15, Error ellipse: s-maj=10.6km s-min=7.9km az=95.0*
*MOS **01** 21:31:02.4±1.0, 732S×15599E, h33km, mb5.0/23, Error ellipse: s-maj=15.7km s-min=10.1km az=92.7*
ISC 01 21:31:03.0±6.4, 730S±007×15600E±010, h26km±44km, n116, ₙ0°75/68, mb5.0/29, 2C, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTAO	**Charters Tower**	**15.84**	**216**	P	**Pn**	**21 34 44.4**	**0.0**
KAKA	**Kakadu**	**23.80**	**255**	*eP*	**P**	**21 36 13.9**	**-0.2**
47nm,0.6s,mb5.1							
WB2	**Warramunga Arr**	**24.46**	**237**	*eP*	**P**	**21 36 21.9**	**+1.8**
WRA	**Warramunga Arr**	**24.47**	**237**	P	**P**	**21 36 20.6**	**+0.4**
WRA				pmax	pmax		
comp=Z,27nm,0.9s							
WRA	**Warramunga Arr**	**24.47**	**237**	P	**P**	**21 36 20.6**	**+0.4**
comp=Z,27nm,0.9s,mb4.7,baz=61,slow=9.7,SNR=4.7							
ASAR	**Alice Springs**	**26.73**	**230**	P	**P**	**21 36 39.4**	**-1.2**
ASAR				pmax	pmax		
comp=Z,5.0nm,0.7s							
ASAR	**Alice Springs**	**26.73**	**230**	P	**P**	**21 36 39.4**	**-1.2**
comp=Z,4.5nm,0.7s,mb4.1,baz=59,slow=8.9,SNR=3.5							
TAU	**Tasmania Unive**	**36.28**	**191**	*eP*	**P**	**21 38 04.0**	**-0.3**
comp=Z,14nm,0.7s,mb5.0							
TAU	**Tasmania Unive**	**36.28**	**191**	*eP*	**P**	**21 38 04.0**	**-0.3**
TAU				pmax	pmax		
comp=Z,14nm,0.7s,mb5.0							
MBWA	**Marble Bar**	**37.64**	**245**	*eP*	**P**	**21 38 15.6**	**-0.5**
comp=Z,11nm,0.6s,mb4.8							
RPZ	**Rata Peaks**	**38.60**	**162**	P	**P**	**21 38 24.1**	**+0.1**
comp=Z,23nm,0.8s,mb4.9,baz=159,slow=3.7,SNR=3.9							
KKM	**Kota Kinabalu**	**41.84**	**287**	*eP*	**P**	**21 38 51.3**	**0.0**
NACB	**Ninganchiao**	**45.88**	**314**	*eP*	**P**	**21 39 24.0**	**+0.4**
YHNB	**Yeheng**	**46.34**	**314**	*eP*	**P**	**21 39 26.5**	**-0.6**
KSM	**Kuching**	**46.41**	**279**	*eP*	**P**	**21 39 27.5**	**-0.4**
MJAR	**Matsushiro Arr**	**46.69**	**340**	P	**P**	**21 39 29.0**	**-0.7**
MJAR				pmax	pmax		
comp=Z,6.0nm,0.6s							
MJAR	**Matsushiro Arr**	**46.69**	**340**	P	**P**	**21 39 28.9**	**-0.7**
comp=Z,6.4nm,0.6s,mb4.7,baz=168,slow=8.4,SNR=8.0							
MAJO	**Matsushiro**	**46.69**	**340**	*eP*	**P**	**21 39 29.5**	**-0.2**
MAT	**Matsushiro**	**46.69**	**340**	P	**P**	**21 39 29.1**	**-0.6**
JNU	**Nakatsue**	**46.75**	**331**	P	**P**	**21 39 29.8**	**-0.4**
comp=Z,14nm,0.6s,mb5.0,baz=179,slow=10,SNR=4.8							
KSRS	**Korea Array**	**51.67**	**331**	P	**P**	**21 40 08.2**	**+0.4**
comp=Z,8.2nm,0.8s,mb4.7,baz=148,slow=7.2,SNR=7.6							
PMOR	**Pomariorio Ree**	**55.46**	**103**	*eP*	**P**	**21 40 37.4**	**+1.4**
comp=Z,52nm,1.0s,mb5.5							
KULM	**Kulim**	**56.62**	**281**	*eP*	**P**	**21 40 43.6**	**-0.8**
ENH	**Enshi**	**58.17**	**312**	P	**P**	**21 40 55.3**	**+0.3**
BJT	**Baijiatuau**	**59.72**	**325**	*eP*	**P**	**21 41 05.5**	**-0.1**
comp=Z,36nm,1.5s,mb5.2							
BJT	**Baijiatuau**	**59.72**	**325**	*eP*	**P**	**21 41 05.5**	**0.0**
BJT				pmax	pmax		
comp=Z,36nm,1.5s							
CM31	**Chiang Mai Arr**	**61.81**	**295**	P	**P**	**21 41 20.3**	**+0.1**
CD2	**Chengdu**	**62.77**	**310**	P	**P**	**21 41 26.5**	**+0.1**
CD2				AMB	AMB		
comp=Z,30nm,0.6s,mb5.6							
HIA	**Hailar**	**64.62**	**335**	*eP*	**P**	**21 41 37.6**	**-0.6**
comp=Z,6.6nm,0.5s,mb4.9							
HIA	**Hailar**	**64.62**	**335**	*eP*	**P**	**21 41 37.6**	**-0.6**
HIA				pmax	pmax		
comp=Z,7.0nm,0.5s							
SONM	**Songino Array**	**70.13**	**327**	P	**P**	**21 42 14.4**	**+1.3**
SONM				pmax	pmax		
comp=Z,19nm,0.6s							
SONM	**Songino Array**	**70.13**	**327**	P	**P**	**21 42 14.4**	**+1.2**
comp=Z,19nm,0.6s,mb5.2,baz=148,slow=6.0,SNR=17							
VNDA	**Vanda**	**70.25**	**179**	P	**P**	**21 42 13.8**	**+0.3**
VNDA				pmax	pmax		
comp=Z,4.0nm,0.9s							
VNDA	**Vanda**	**70.25**	**179**	P	**P**	**21 42 13.8**	**+0.3**
comp=Z,3.7nm,0.9s,mb4.3,baz=335,slow=7.3,SNR=2.4							
SBA	**Scott Base**	**70.75**	**178**	P	**P**	**21 42 15.4**	**-1.1**
YAK	**Yakutsk**	**72.06**	**347**	P	**P**	**21 42 26.1**	**+1.5**
LSA	**Lhasa**	**72.26**	**304**	*eP*	**P**	**21 42 28.1**	**+1.6**
comp=Z,14nm,0.9s,mb4.9							
LSA	**Lhasa**	**72.26**	**304**	*eP*	**P**	**21 42 28.1**	**+1.6**
LSA				pmax	pmax		
comp=Z,14nm,0.9s,mb4.9							
ZAK	**Zakamensk**	**73.27**	**328**	*eP*	**P**	**21 42 31.2**	**-0.8**
ZAK				pmax	pmax		
comp=Z,11nm,1.7s,mb4.5							
TLY	**Talaya**	**73.83**	**329**	*eP*	**P**	**21 42 36.0**	**+0.8**
comp=Z,9.7nm,0.8s,mb4.8							
TLY	**Talaya**	**73.83**	**329**	*eP*	**P**	**21 42 36.0**	**+0.8**
TLY				pmax	pmax		
comp=Z,10.0nm,0.8s,mb4.8							
BILL	**Bilibino**	**75.51**	**4**	*eP*	**P**	**21 42 45.6**	**+1.0**
comp=Z,32nm,1.0s,mb5.2							
BILL	**Bilibino**	**75.51**	**4**	*eP*	**P**	**21 42 45.7**	**+1.1**
BILL				pmax	pmax		
comp=Z,32nm,1.0s,mb5.2							
PALK	**Pallekele**	**76.47**	**279**	*eP*	**P**	**21 42 52.4**	**+1.0**
PALK				*e*PcP	PcP	21 43 02.9	0.0
PMR	**Palmer**	**80.67**	**23**	P	**P**	**21 43 13.1**	**-0.3**
QSPA	**South Pole Qui**	**82.68**	**180**	P	**P**	**21 43 24.2**	**+0.3**
comp=Z,20nm,0.9s,mb5.1,baz=7.6,slow=1.9,SNR=2.7							
COLA	**College**	**83.00**	**21**	P	**P**	**21 43 25.1**	**-0.6**
MKAR	**Makanchi Array**	**84.29**	**318**	P	**P**	**21 43 33.2**	**+0.6**
MKAR				pmax	pmax		
comp=Z,43nm,0.7s							
MKAR	**Makanchi Array**	**84.29**	**318**	P	**P**	**21 43 33.2**	**+0.6**
comp=Z,43nm,0.7s,mb5.7,baz=94,slow=9.4,SNR=16							
MAW	**Mawson**	**84.50**	**203**	P	**P**	**21 43 32.6**	**-0.8**
MAW				pmax	pmax		
comp=Z,22nm,1.1s							
MAW	**Mawson**	**84.50**	**203**	P	**P**	**21 43 32.6**	**-0.7**
comp=Z,22nm,1.1s,mb5.2,baz=64,slow=4.5,SNR=5.9							
ZAA0	**Zalesovo Array**	**84.98**	**326**	*eP*	**P**	**21 43 35.5**	**-0.5**
ZALV	**Zalesovo Beam**	**84.98**	**326**	P	**P**	**21 43 35.5**	**-0.5**
comp=Z,26nm,0.6s,mb5.5,baz=116,slow=5.7,SNR=16							
ZAL	**Zalesovo**	**84.99**	**326**	P	**P**	**21 43 35.5**	**-0.5**
KURK	**Kurchatov**	**87.68**	**322**	*eP*	**P**	**21 43 48.7**	**-0.6**
comp=Z,7.6nm,0.4s,mb5.3							
KURK	**Kurchatov**	**87.68**	**322**	*eP*	**P**	**21 43 48.7**	**-0.6**
KURK				pmax	pmax		
comp=Z,8.0nm,0.4s,mb5.3							
TKM2	**Tokmak 2**	**87.94**	**314**	*eP*	**P**	**21 43 50.9**	**+0.1**
comp=Z,7.4nm,0.7s,mb5.0							
TKM2	**Tokmak 2**	**87.94**	**314**	*eP*	**P**	**21 43 50.9**	**+0.1**
TKM2				pmax	pmax		
comp=Z,7.0nm,0.7s,mb5.0							
UCH	**Uchtor**	**88.59**	**313**	P	**P**	**21 43 55.1**	**+1.3**
AAK	**Ala-Archa**	**88.68**	**313**	*eP*	**P**	**21 43 53.8**	**-0.5**
comp=Z,7.6nm,0.8s,mb5.1							
AAK	**Ala-Archa**	**88.68**	**313**	*eP*	**P**	**21 43 53.8**	**-0.5**
AAK				pmax	pmax		
comp=Z,8.0nm,0.8s,mb5.1							
EKS2	**Erkin-Say**	**89.20**	**313**	P	**P**	**21 43 57.2**	**+0.5**

INK Inuvik 89.65 21 P **P 21 43 57.2 -1.0**
INK pmax pmax
comp=Z,1.0nm,0.5s
INK Inuvik 89.65 21 P **P 21 43 57.1 -1.1**
comp=Z,1.3nm,0.5s,mb4.5,baz=248,slow=5.4,SNR=1.9
BRVK Borovoye 93.20 323 *eP* **P 21 44 14.5 -0.5**
comp=Z,26nm,0.9s,mb5.7
BRVK Borovoye 93.20 323 *eP* **P 21 44 14.5 -0.5**
BRVK pmax pmax
comp=Z,26nm,0.9s,mb5.7
YKA Yellowknife Ar 96.14 28 P **P 21 44 27.6 -0.7**
YKA pmax pmax
comp=Z,2.0nm,0.7s
YKA Yellowknife Ar 96.14 28 P **P 21 44 27.6 -0.6**
comp=Z,1.8nm,0.7s,mb4.6,baz=264,slow=4.5,SNR=3.8
ARU Arti 100.15 326 *e*Pdif Pdif 21 44 45.0 -1.6
ARU Arti 100.15 326 *e*P Pdif 21 44 45.0 -1.5
WMOK Wichita Mounta 106.62 56 *e*Pdif Pdif 21 45 15.1 -0.2
comp=Z,39nm,1.8s
WMOK Wichita Mounta 106.62 56 *e*P Pdif 21 45 15.1 -0.2
WMOK pmax pmax
comp=Z,39nm,1.8s
ECSD EROS,Sioux Fal 107.57 47 Pdif Pdif 21 45 17.1 -2.4
comp=Z,12nm,1.3s
KIV Kislovodsk 111.76 314 *e*PKIKP PKiKP 21 49 35.3 -0.5
KIV pmax pmax
comp=Z,8.0nm,1.1s
OBN Obninsk 112.54 327 PKIKP PKiKP 21 49 30.0 -6.9
OBN pmax pmax
comp=Z,6.0nm,0.9s
HDIL Hopedale 113.43 49 Pdif Pdif 21 45 44.1 -1.4
FINES FINESS Array B 114.62 336 *i* PKIKP PKiKP 21 49 38.3 -2.4
FINES pmax pmax
comp=Z,3.0nm,1.0s
FINES FINESS Array B 114.62 336 PKiKP PKiKP 21 49 38.3 -2.4
comp=Z,3.0nm,1.0s,baz=110,slow=1.0,SNR=4.1
AKASG Malin Array Be 118.36 325 PKP PKPdf 21 49 47.2 -1.0
AKASG Malin Array Be 118.36 325 PKIKP PKPdf 21 49 47.2 -1.0
AKASG pmax pmax
comp=Z,2.0nm,0.5s
AKASG Malin Array Be 118.36 325 PKP PKPdf 21 49 47.2 -1.0
comp=Z,1.6nm,0.5s,baz=47,slow=2.7,SNR=6.8
TKL Tuckaleechee C 118.68 53 PKIKP PKPdf 21 49 46.8 -2.5
TKL pmax pmax
comp=Z,2.0nm,0.9s
TKL Tuckaleechee C 118.68 53 PKP PKPdf 21 49 46.8 -2.5
comp=Z,2.0nm,0.9s,baz=72,slow=6.4,SNR=1.7
MMAI Mount Meron Ar 119.51 304 PKP PKPdf 21 49 50.6 -0.4
comp=Z,1.7nm,0.7s,baz=83,slow=3.6,SNR=2.6
NB2 NORSAR Subarra120.31 341 PKPdf PKPdf 21 49 50.8 -0.8
comp=Z,3.1nm,0.7s,baz=41,slow=1.9
NOA NORSAR Array B120.31 341 PKIKP PKPdf 21 49 50.6 -1.0
NOA pmax pmax
comp=Z,1.0nm,0.7s
NOA NORSAR Array B120.31 341 PKP PKPdf 21 49 50.5 -1.1
comp=Z,1.1nm,0.7s,baz=45,slow=2.0,SNR=2.2
LBTB Lobatse 122.02 235 PKP PKPdf 21 49 54.8 -1.3
LBTB PKPdf PKPdf 21 49 56.2 +0.1
LBTB Lobatse 122.02 235 PKIKP PKPdf 21 49 54.8 -1.3
LBTB pmax pmax
comp=Z,2.0nm,0.7s
LBTB Lobatse 122.02 235 PKP PKPdf 21 49 54.8 -1.3
comp=Z,1.9nm,0.7s,baz=169,slow=5.2,SNR=3.2
CFAA Coronel Fontan 122.73 135 PKP PKPdf 21 49 55.5 -1.8
comp=Z,0.4nm,0.5s,baz=355,slow=4.1,SNR=3.2
KOLS Kolonicke sedl 123.16 325 *e*PKP PKPdf 21 50 06.7 +9.2
STHS Stebnicka Huta 123.48 326 *e*PKP PKPdf 21 50 06.2 +8.1
DPC Dobruska-Polom 125.55 329 *e*PKPdf PKPdf 21 50 03.9 +1.9
DPC *ex* x 21 50 10.5
UPC Upice 125.61 330 *e*PKPdf PKPdf 21 50 02.5 +0.4
MODS Modra-Piesok 126.23 327 *e*PKP PKPdf 21 50 04.3 +0.9
MODS *e* 21 50 12.6
PVCC Panska Ves 126.31 330 *e*PKPdf PKPdf 21 50 04.0 +0.5
BRG Berggiesshubel 126.39 331 *i* PKIKP PKPdf 21 50 01.4 -2.2
BRG pmax pmax
comp=Z,5.0nm,1.7s
BRG Berggiesshubel 126.39 331 *i* PKP PKPdf 21 50 01.4 -2.2
comp=Z,31nm,1.7s
CLL Collm 126.55 332 *e*PKP PKPdf 21 50 04.0 +0.1
CLL ⇑ *i*P 21 50 13.2
CLL Collm 126.55 332⇑ *i*P PKPdf 21 50 13.2 +9.3
comp=Z,13nm,0.8s
TREC Trest 126.62 329 *e*PKPdf PKPdf 21 50 04.4 +0.3
TREC *ex* x 21 50 12.4
PRU Pruhonice 126.67 330 *e*PKPdf PKPdf 21 50 04.2 0.0
PRU *ex* x 21 50 12.4
NKC Novy Kostel 127.53 331 *e*PKPdf PKPdf 21 50 02.7 -3.1
NKC *ex* x 21 50 14.1
KHC Kasperske Hory 127.70 330 *e*PKPdf PKPdf 21 50 06.4 +0.2
KHC *ex* x 21 50 14.2
GERES GERESS Array B 127.82 329 PKIKP PKPdf 21 50 06.7 +0.3
GERES pmax pmax
comp=Z,2.0nm,0.8s
GERES GERESS Array B 127.82 329 PKP PKPdf 21 50 06.7 +0.2
comp=Z,2.4nm,0.8s,baz=85,slow=1.6,SNR=6.1
GRA1 Grafenberg Arr 128.48 331 *e*PKPdf PKPdf 21 50 17.2 +10
GRF Grafenberg Arr 128.48 331 *e*PKP PKPdf 21 50 17.2 +10
DAVOX Davos/Dischmat 131.12 329 PKP PKPdf 21 50 12.2 -0.6
comp=Z,3.0nm,0.7s,baz=198,slow=6.4,SNR=2.5
DAVOS Davos 131.12 330 PKiKP PKPdf 21 50 12.2 -0.6
TSUM Tsumeb 131.29 237 PKP PKPdf 21 50 13.3 -0.6
comp=Z,1.5nm,0.7s,baz=281,slow=10,SNR=2.9
ESDC Sonseca Array 143.08 334 PKhKP 21 50 32.1
comp=Z,2.2nm,0.8s,baz=11,slow=2.9,SNR=5.0
MDT Midelt 148.87 327 PKPbc PKPbc 21 50 49.8 +0.8
comp=Z,11nm,0.8s,baz=98,slow=7.0,SNR=6.4
TORD Torodi Ar. Bea 154.06 285 PKPbc PKPbc 21 51 00.4 -1.2
comp=Z,2.5nm,0.7s,baz=66,slow=2.2,SNR=2.8
DBIC Dimbokro 160.98 269 PKPab PKPab 21 51 44.9 -0.2
comp=Z,5.8nm,0.7s,baz=40,slow=4.9,SNR=7.2

IDC 01 21:32:48.3±5.4, 826S×15578E, h0km, mb4.6/4, mb1 4.7/4, mb1mx4.3/14, mbtmp4.6/4, Error ellipse: s-maj=157.1km s-min=38.1km az=121.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.78**	**239**	P	P	**21 38 03.0**	**+0.1**
6.6nm,0.7s,baz=65,slow=9.9,SNR=3.2							
SONM	**Songino Array**	**70.81**	**327**	P	P	**21 44 07.2**	**+0.5**
1.7nm,0.4s,baz=145,slow=4.9,SNR=5.3							
MKAR	**Makanchi Array**	**84.86**	**319**	P	P	**21 45 24.7**	**-0.3**
4.7nm,0.7s,baz=99,slow=4.7,SNR=4.5							
ZALV	**Zalesovo Beam**	**85.65**	**326**	P	P	**21 45 28.8**	**0.0**
2.2nm,0.4s,baz=102,slow=6.1,SNR=7.2							

**IDC 01 21:34:54.1±2.4, 709S×15678E, h0km, mb4.4/5, mb1 4.5/5, mb1mx4.2/14, mbtmp4.4/5, Error ellipse: s-maj=77.4km s-min=35.4km az

3.4nm,0.6s,baz=119,slow=5.7,SNR=6.7
MLR Muntele Rosu 122.38 321 PKP PKPdf 21 55 17.2 +1.3
2.3nm,0.8s,baz=287,slow=11,SNR=4.4
GERES GERESS Array B 127.55 329 PKP PKPdf 21 55 26.1 +0.4
0.5nm,0.5s,baz=48,slow=1.5,SNR=3.7

IDC 01 21:37:33.5±8.3,763S×15670E,h0km,mb4.2/6,mb1 4.3/6, mb1mx4.1/13,mbtmp4.2/6,Error ellipse: s-maj=245.1km s-min=27.7km az=111.0,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	24.89	238	P	P	21 42 58.6	+0.4
1.8nm,0.5s,baz=65,slow=9.2,SNR=3.9							
ASAR	Alice Springs	27.06	231	P	P	21 43 17.6	-0.3
0.9nm,0.6s,baz=62,slow=9.3,SNR=3.3							
KSRS	Korea Array	52.29	331	P	P	21 46 46.6	-0.3
1.1nm,0.7s,baz=156,slow=9.3,SNR=3.2							
SONM	Songino Array	70.78	327	P	P	21 48 52.1	+0.4
2.5nm,0.8s,baz=144,slow=5.6,SNR=4.7							
MKAR	Makanchi Array	84.99	318	P	P	21 50 11.5	+0.6
4.7nm,0.8s,baz=93,slow=6.1,SNR=5.2							
ZALV	Zalesovo Beam	85.65	326	P	P	21 50 13.7	-0.2
2.9nm,0.5s,baz=114,slow=5.7,SNR=6.1							

*IDC **01** 21:37:59.8±1.0,762S×15620E,h0km,mb4.4/9,mb1 4.5/9, mb1mx4.3/15,mbtmp4.4/9,Error ellipse: s-maj=40.6km s-min=23.4km az=111.0*
*NEIC **01** 21:38:00.9±0.5,769S×15632E,h10km,mb4.7/5,Error ellipse: s-maj=17.5km s-min=11.7km az=112.0*
*ISCJB **01** 21:38:03.2±0.6,768S±009×1562E±01,h33km,mb4.4/14, Error ellipse: s-maj=18.6km s-min=12.1km az=20.4*

ISC 01 21:38:05.1±0.6,769S±009×1562E±01,h35km,n26, σ0°91/22,mb4.4/14,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WB2	Warramunga Arr	24.46	238	eP	P	21 43 21.2	+0.3
WRA	Warramunga Arr	24.47	238	P	P	21 43 21.3	+0.3
8.3nm,0.4s,mb4.5,baz=65,slow=9.5,SNR=11							
ASAR	Alice Springs	26.67	231	P	P	21 43 40.6	-0.3
1.7nm,0.6s,mb3.8,baz=64,slow=9.0,SNR=5.1							
TAU	Tasmania Unive	35.95	191	P	P	21 45 00.1	-2.1
MBWA	Marble Bar	37.70	245	eP	P	21 45 16.9	-0.7
2.8nm,0.5s,mb4.2							
KKM	Kota Kinabalu	42.20	288	P	P	21 45 56.5	+1.5
MAJO	Matsushiro	47.14	340	eP	P	21 46 34.4	+0.4
2.7nm,0.3s,mb4.7							
KSRS	Korea Array	52.13	331	P	P	21 47 11.2	-0.9
2.0nm,0.7s,mb4.2,baz=142,slow=7.4,SNR=5.0							
KULM	Kulim	56.94	281	P	P	21 47 46.6	-0.8
CASY	Casey	66.32	198	P	P	21 48 50.6	+0.8
SBA	Scott Base	70.35	178	P	P	21 49 15.8	+0.9
SONM	Songino Array	70.59	327	P	P	21 49 17.2	+0.5
6.4nm,0.8s,mb4.6,baz=150,slow=6.6,SNR=9.6							
LSA	Lhasa	72.68	304	eP	P	21 49 29.6	-0.2
2.9nm,0.7s,mb4.3							
MCK	McKinley	82.24	22	P	P	21 50 23.1	+0.7
7.9nm,1.2s,mb4.5							
QSPA	South Pole Qui	82.29	180	P	P	21 50 23.4	+0.9
10nm,1.1s,mb4.7,baz=7.5,slow=14,SNR=4.8							
MKAR	Makanchi Array	84.74	318	P	P	21 50 35.5	-0.2
MKAR	Makanchi Array	84.74	318	P	P	21 50 35.5	-0.2
2.5nm,0.4s,mb4.7,baz=80,slow=11,SNR=8.0							
ZALV	Zalesovo Beam	85.44	326	P	P	21 50 38.1	-0.9
4.0nm,0.5s,mb4.8,baz=114,slow=5.9,SNR=9.4							
EKS2	Erkin-Say	89.65	313	P	P	21 50 59.8	+0.2
INK	Inuvik	89.93	20	P	P	21 51 00.9	+0.6
0.3nm,0.4s,mb4.0,baz=352,slow=10,SNR=3.3							
YKA	Yellowknife Ar	96.37	28	P	P	21 51 30.1	+0.1
0.1nm,0.4s,mb3.6,baz=270,slow=4.4,SNR=3.6							
REDW	Red Top Meadow	97.33	47	eP	P	21 51 32.3	-2.6
10nm,0.6s,mb5.4							
AKASG	Malin Array Be	118.82	325	PKP	PKPdf	21 56 48.8	-1.0
0.3nm,0.4s,baz=56,slow=2.4,SNR=3.6							
GERES	GERESS Array B	128.28	329	PKP	PKPdf	21 57 08.8	+0.9
0.2nm,0.4s,baz=354,slow=1.0,SNR=3.0							
TORD	Torodi Ar. Bea	154.40	284	PKP	PKPdf	21 57 53.3	-1.3
0.9nm,0.5s,baz=74,slow=2.6,SNR=3.7							
TORD				PKPbc	PKPbc	21 58 04.0	+1.1
1.1nm,0.6s,baz=69,slow=3.1,SNR=3.0							
DBIC	Dimbokro	161.22	268	PKPab	PKPab	21 58 46.6	-0.2
1.9nm,0.9s,baz=141,slow=17,SNR=4.0							

*IDC **01** 21:39:18.1±0.9,714S×15580E,h0km,mb4.5/13, mb1 4.5/13,mb1mx4.5/17,mbtmp4.4/13,Error ellipse: s-maj=36.9km s-min=21.3km az=99.0*
*ISCJB **01** 21:39:22.3±0.8,713S±01×1557E±02,h33km,mb4.4/13, Error ellipse: s-maj=26.8km s-min=15.5km az=17.8*

ISC 01 21:39:23.9±0.8,71S±01×1557E±02,h35km,n16,σ0°75/13, mb4.4/13,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	24.36	236	P	P	21 44 38.3	-0.5
5.7nm,0.8s,mb4.1,baz=62,slow=9.5,SNR=3.0							
ASAR	Alice Springs	26.65	229	P	P	21 45 00.2	+0.6
2.2nm,0.7s,mb3.8,baz=58,slow=8.9,SNR=3.7							
MJAR	Matsushiro Arr	46.43	340	P	P	21 47 47.3	0.0
1.5nm,0.7s,mb4.0,baz=163,slow=7.8,SNR=4.2							
JNU	Nakatsue	46.47	331	P	P	21 47 47.8	+0.2
12nm,0.8s,mb4.9,baz=108,slow=3.4,SNR=5.2							
KSRS	Korea Array	51.38	332	P	P	21 48 25.6	+0.3
2.5nm,0.7s,mb4.2,baz=145,slow=7.0,SNR=4.4							
SONM	Songino Array	69.83	327	P	P	21 50 31.7	+0.8
3.6nm,0.8s,mb4.4,baz=137,slow=6.8,SNR=5.5							
QSPA	South Pole Qui	82.86	180	P	P	21 51 44.1	-0.2
7.8nm,1.0s,mb4.7,baz=42,slow=1.1,SNR=3.7							
MKAR	Makanchi Array	83.97	319	P	P	21 51 50.5	-0.1
15nm,0.8s,mb5.2,baz=86,slow=6.4,SNR=14							
MAW	Mawson	84.57	203	P	P	21 51 53.5	+0.2
3.5nm,0.8s,mb4.5,baz=132,slow=5.1,SNR=3.6							
ZALV	Zalesovo Beam	84.69	326	P	P	21 51 52.7	-1.3
7.6nm,0.7s,mb4.9,baz=114,slow=6.0,SNR=7.6							
INK	Inuvik	89.57	21	P	P	21 52 18.3	+0.9
2.6nm,1.2s,mb4.5,baz=45,slow=11,SNR=3.6							
YKA	Yellowknife Ar	96.10	28	P	P	21 52 45.9	-1.7
0.1nm,0.5s,mb3.5,baz=266,slow=5.1,SNR=2.8							
PDAR	Pinedale Array	98.23	48	P	P	21 52 58.6	+0.8
0.5nm,0.9s,mb4.0,baz=166,slow=26,SNR=3.6							
AKASG	Malin Array Be	118.06	325	PKP	PKPdf	21 58 06.6	-0.5
0.1nm,0.3s,baz=56,slow=1.9,SNR=2.9							
GERES	GERESS Array B	127.53	329	PKP	PKPdf	21 58 26.2	+0.9
0.5nm,0.3s,baz=22,slow=32,SNR=3.2							
TORD	Torodi Ar. Bea	153.76	285	PKPbc	PKPbc	21 59 19.0	-1.4
1.7nm,0.7s,baz=77,slow=2.0,SNR=3.1							

*IDC **01** 21:40:07.0±1.2,723S×15577E,h0km,mb4.4/9,mb1 4.5/9, mb1mx4.4/15,mbtmp4.4/9,Error ellipse: s-maj=50.5km s-min=21.4km az=115.0*
*ISCJB **01** 21:40:10.7±1.1,73S±02×1557E±03,h33km,mb4.3/9, Error ellipse: s-maj=42.2km s-min=16.0km az=24.7*

ISC 01 21:40:12.5±1.1,72S±02×1557E±03,h35km,n16,σ0°56/9, mb4.3/9,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	24.30	237	P	P	21 45 27.0	+0.2
5.8nm,0.9s,mb4.0,baz=60,slow=9.6,SNR=2.2							
ASAR	Alice Springs	26.57	230	P	P	21 45 46.5	-1.0
1.0nm,0.7s,mb3.5,baz=59,slow=9.8,SNR=3.0							
STKA	Stephens Creek	27.84	206	P	P	21 45 59.4	+0.6
4.6nm,0.7s,mb4.2,baz=26,slow=12,SNR=3.1							
MJAR	Matsushiro Arr	46.55	340	P	P	21 48 36.5	-0.3
1.9nm,0.6s,mb4.2,baz=165,slow=7.4,SNR=3.0							
SONM	Songino Array	69.94	327	P	P	21 51 21.2	+1.1
9.6nm,1.0s,mb4.7,baz=140,slow=6.0,SNR=3.3							
MKAR	Makanchi Array	84.08	319	P	P	21 52 39.8	+0.1
6.7nm,0.7s,mb4.9,baz=80,slow=8.9,SNR=3.6							
ZALV	Zalesovo Beam	84.80	326	P	P	21 52 42.8	-0.3
5.3nm,0.7s,mb4.8,baz=115,slow=5.3,SNR=4.3							
INK	Inuvik	89.69	21	P	P	21 53 06.3	-0.2
1.2nm,0.8s,mb4.3,baz=256,slow=4.2,SNR=3.5							
YKA	Yellowknife Ar	96.20	28	P	P	21 53 36.5	-0.1
0.3nm,0.6s,mb3.9,baz=265,slow=4.6,SNR=3.5							
AKASG	Malin Array Be	118.17	325	PKP	PKPdf	21 58 55.4	-0.5
0.1nm,0.3s,baz=50,slow=2.9,SNR=3.2							
NB2	NORSAR Subarra	120.17	341	PKPdf	PKPdf	21 58 57.9	-1.5
comp=Z,1.6nm,0.9s,baz=39,slow=1.9							
NOA	NORSAR Array B	120.17	341	PKP	PKPdf	21 58 59.3	-0.1
comp=Z,0.8nm,0.6s,baz=45,slow=2.2,SNR=4.8							
MLR	Muntele Rosu	122.30	320	PKP	PKPdf	21 59 04.3	+0.2
comp=Z,1.4nm,0.7s,baz=129,slow=6.5,SNR=5.4							
CLL	Collm	126.38	332	*i* PKPdf	PKPdf	21 59 12.8	+1.2
CLL				*i* (pPKPdf)		21 59 20.8	
GERES	GERESS Array B	127.64	329	PKP	PKPdf	21 59 14.3	+0.2
comp=Z,0.6nm,0.5s,baz=90,slow=4.1,SNR=5.0							
DAVOX	Davos/Dischmat	130.94	329	PKP	PKPdf	21 59 22.0	+1.6
comp=Z,1.3nm,0.5s,baz=53,slow=2.3,SNR=4.2							

IDC 01 21:40:45.4±8.6,720S×15582E,h0km,mb4.4/7,mb1 4.5/7, mb1mx4.4/14,mbtmp4.4/7,Error ellipse: s-maj=258.5km s-min=25.9km az=110.0,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	24.38	237	P	P	21 46 06.4	+0.9
9.4nm,0.9s,baz=60,slow=9.6,SNR=4.4							
ASAR	Alice Springs	26.66	230	P	P	21 46 25.1	-1.0
2.3nm,0.8s,baz=64,slow=10,SNR=3.0							
MJAR	Matsushiro Arr	46.54	340	P	P	21 49 13.4	-1.4
1.4nm,0.8s,baz=171,slow=8.6,SNR=2.9							
KSRS	Korea Array	51.50	332	P	P	21 49 52.5	-0.4
1.9nm,0.7s,baz=147,slow=7.3,SNR=4.6							
SONM	Songino Array	69.95	327	P	P	21 51 59.1	+0.6
4.7nm,1.0s,baz=139,slow=4.5,SNR=4.4							
MKAR	Makanchi Array	84.10	319	P	P	21 53 19.4	+1.2
11nm,0.7s,baz=87,slow=6.6,SNR=6.7							
ZALV	Zalesovo Beam	84.81	326	P	P	21 53 21.6	0.0
6.5nm,0.6s,baz=114,slow=5.7,SNR=6.8							

IDC 01 21:41:43.7±1.9,723S×15609E,h0km,mb4.4/7,mb1 4.5/7, mb1mx4.2/14,mbtmp4.4/7,Error ellipse: s-maj=70.4km s-min=25.5km az=105.0,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	24.59	237	P	P	21 47 06.3	+0.6
3.2nm,0.5s,baz=61,slow=9.8,SNR=4.8							
ASAR	Alice Springs	26.85	230	P	P	21 47 25.3	-0.9
1.0nm,0.5s,baz=54,slow=9.3,SNR=3.0							
STKA	Stephens Creek	28.01	207	P	P	21 47 37.6	+1.2
3.1nm,1.0s,baz=24,slow=11,SNR=3.6							
SONM	Songino Array	70.12	327	P	P	21 52 57.4	-0.5
4.3nm,0.8s,baz=144,slow=6.0,SNR=4.1							
MKAR	Makanchi Array	84.30	318	P	P	21 54 19.1	+1.5
2.1nm,0.4s,baz=92,slow=7.8,SNR=3.5							
MAW	Mawson	84.60	203	P	P	21 54 18.0	-0.7
2.8nm,0.7s,baz=27,slow=11,SNR=3.8							
ZALV	Zalesovo Beam	84.98	326	P	P	21 54 20.9	+0.1
3.2nm,0.5s,baz=118,slow=5.7,SNR=6.2							
FINES	FINESS Array B	114.59	336	PKiKP	PKiKP	22 00 26.6	+1.0
1.2nm,0.5s,baz=79,slow=4.2,SNR=10.0							
AKASG	Malin Array Be	118.36	325	PKP	PKPdf	22 00 31.8	-1.4
0.2nm,0.4s,baz=44,slow=2.5,SNR=3.0							

*IDC **01** 21:42:10.8±0.5,734S×15584E,h0km,mb4.9/22, mb1 4.9/23,mb1mx4.9/24,mbtmp4.9/23,ML4.3/1,Error ellipse: s-maj=21.0km s-min=12.5km az=100.0*
*BJI **01** 21:42:11.3,708S×15628E,h17km,mb5.4*
*NEIC **01** 21:42:12.6±0.2,732S×15582E,h10km,mb5.2/23,Error ellipse: s-maj=7.0km s-min=6.5km az=105.0*
*ISCJB **01** 21:42:15.5±1.9,735S±005×15580E±006,h41km±17km, mb5.0/48,Error ellipse: s-maj=9.6km s-min=8.7km az=40.0*
*MOS **01** 21:42:15.2±1.1,720S×15579E,h33km,mb5.2/12,Error ellipse: s-maj=11.8km s-min=9.1km az=88.0*

ISC 01 21:42:18.4±1.7,737S±005×15582E±006,h52km±15km, n132,σ0°85/98,mb5.0/48,1C,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	4.57	117	Pn	Pn	21 43 24.8	-0.2
76nm,0.3s,baz=285,slow=3.9,SNR=2.1							
CTA	Charters Tower	15.68	215	eP	Pn	21 45 58.7	+2.7
24nm,0.6s							
CTA	Charters Tower	15.68	215	eP	Pn	21 45 58.7	+2.7
CTA				pmax	pmax		
comp=Z,24nm,0.6s							
CTA	Charters Tower	15.68	215	Pn	Pn	21 45 55.5	-0.5
comp=Z,0.8nm,0.3s,baz=27,slow=14,SNR=4.3							
CTAO	Charters Tower	15.68	215	ePn	Pn	21 45 58.9	+2.8
comp=Z,22nm,0.6s							
CTAO	Charters Tower	15.68	215	eP	Pn	21 45 58.9	+2.9
CTAO				pmax	pmax		
comp=Z,22nm,0.6s							
KAKA	Kakadu	23.61	255	eP	P	21 47 25.4	+0.4
comp=Z,83nm,1.0s,mb5.1							
WB2	Warramunga Arr	24.28	237	eP	P	21 47 31.6	+0.6
WB2	Warramunga Arr	24.28	237	eP	P	21 47 30.5	-0.5
WRA	Warramunga Arr	24.29	237	P	P	21 47 31.8	+0.8
comp=Z,54nm,0.7s,mb5.1,baz=61,slow=9.7,SNR=22							
ASAR	Alice Springs	26.55	230	P	P	21 47 51.3	-0.3
comp=Z,7.0nm,0.7s,mb4.3,baz=63,slow=9.1,SNR=9.2							
STKA	Stephens Creek	27.76	207	eP	P	21 48 02.7	+0.4
comp=Z,9.5nm,0.7s,mb4.5							
STKA	Stephens Creek	27.76	207	P	P	21 48 02.0	-0.3
comp=Z,12nm,0.8s,mb4.6,baz=30,slow=13,SNR=8.4							
CNB	Canberra Magne	28.44	191	eP	P	21 48 08.2	-0.1
FITZ	Fitzroy Crossi	31.26	247	eP	P	21 48 33.8	+0.3
comp=Z,31nm,0.7s,mb5.2							
FITZ	Fitzroy Crossi	31.26	247	P	P	21 48 32.5	-1.0
comp=Z,16nm,0.7s,mb4.9,baz=100,slow=8.9,SNR=7.9							
RAO	Raoul Island	32.95	135	P	P	21 48 46.5	-1.7
FORT	Forrest	34.89	224	eP	P	21 49 04.7	-0.4
comp=Z,49nm,0.7s,mb5.5							
CBIJ	Chichi jima	36.71	339	P	P	21 49 19.6	-1.1
comp=Z,65nm,0.7s,mb5.6,baz=103,slow=8.7,SNR=4.3							
MBWA	Marble Bar	37.45	245	eP	P	21 49 26.3	-0.8
comp=Z,13nm,0.6s,mb4.9							
RPZ	Rata Peaks	38.59	162	P	P	21 49 35.9	-0.5
comp=Z,16nm,0.8s,mb4.8,baz=109,slow=2.4,SNR=5.1							
KKM	Kota Kinabalu	41.69	288	eP	P	21 50 03.0	+0.5
KLBR	Kellerberrin	42.88	231	eP	P	21 50 11.6	-0.3
comp=Z,25nm,0.5s,mb5.2							
NWAO	Narrogin (SRO)	43.87	229	P	P	21 50 19.0	-0.8
NWAO	Narrogin (SRO)	43.87	229	P	P	21 50 19.0	-0.8
comp=Z,8.4nm,0.6s,mb4.7,baz=130,slow=7.3,SNR=6.9							
NACB	Ninganchiao	45.80	314	eP	P	21 50 35.8	+0.5
KSM	Kuching	46.24	279	eP	P	21 50 39.1	+0.1
YHNB	Yeheng	46.26	315	P	P	21 50 39.2	+0.3
MJAR	Matsushiro Arr	46.70	340	P	P	21 50 40.2	-1.9
comp=Z,5.4nm,0.5s,mb4.7,baz=169,slow=8.0,SNR=12							
MAJO	Matsushiro	46.70	340	eP	P	21 50 40.8	-1.4
comp=Z,327nm,2.3s,mb5.8							
MAJO	Matsushiro	46.70	340	eP	P	21 50 40.8	-1.3
MAJO				pmax	pmax		
comp=Z,327nm,2.3s,mb5.8							
JNU	Nakatsue	46.73	331	P	P	21 50 42.6	+0.2
comp=Z,34nm,0.7s,mb5.4,baz=86,slow=9.8,SNR=15							
KSRS	Korea Array	51.65	332	P	P	21 51 19.9	-0.1
comp=Z,1.0nm,0.4s,mb4.1,baz=152,slow=8.8,SNR=4.9							
INCN	Inchon	52.29	331	eP	P	21 51 23.4	-1.3
comp=Z,62nm,1.0s,mb5.5							
QIZ	Qiongzhong	52.35	301	eP	P	21 51 26.1	+0.6
comp=Z,56nm,1.3s,mb5.3							
ASAJ	Asahikawa	52.62	348	P	P	21 51 28.2	+1.2
comp=Z,15nm,0.8s,mb5.0,baz=229,slow=14,SNR=6.2							
PMOR	Pomariorio Ree	55.62	103	eP	P	21 51 50.6	+1.1
comp=Z,64nm,1.1s,mb5.5							
KULM	Kulim	56.46	281	eP	P	21 51 55.2	-0.4
ENH	Enshi	58.09	313	P	P	21 52 06.8	+0.1
BJT	Baijiatuau	59.67	325	P	P	21 52 17.3	-0.2
CD2	Chengdu	62.67	310	P	P	21 52 38.0	0.0
CD2				AMB	AMB		
comp=Z,30nm,0.6s,mb5.6							
MA2	Magadan	66.84	357	eP	P	21 53 05.0	+0.5
comp=Z,9.6nm,0.5s,mb5.1							
MA2	Magadan	66.84	357	eP	P	21 53 05.0	+0.4
MA2				pmax	pmax		
comp=Z,10.0nm,0.5s,mb5.1							
SONM	Songino Array	70.09	327	P	P	21 53 26.1	+1.0
comp=Z,37nm,0.6s,mb5.5,baz=144,slow=6.0,SNR=42							
VNDA	Vanda	70.19	179	P	P	21 53 25.4	+0.2
comp=Z,2.7nm,0.9s,mb4.2,baz=316,slow=3.8,SNR=4.1							
SBA	Scott Base	70.69	178	eP	P	21 53 29.2	+0.9
comp=Z,15nm,1.2s,mb4.8							
SBA	Scott Base	70.69	178	eP	P	21 53 29.2	+0.9
SBA				pmax	pmax		
comp=Z,15nm,1.2s,mb4.8							
LSA	Lhasa	72.15	304	eP	P	21 53 39.5	+1.5
comp=Z,14nm,0.8s,mb5.0							
LSA	Lhasa	72.15	304	eP	P	21 53 39.5	+1.5
LSA				pmax	pmax		
comp=Z,14nm,0.8s,mb4.9							
ZAK	Zakamensk	73.24	328	eP	P	21 53 44.3	+0.3
ZAK				pmax	pmax		
comp=Z,17nm,1.1s,mb4.9							
BOD	Bodaibo	73.26	338	eP	P	21 53 43.4	-0.5
BOD				pmax	pmax		
comp=Z,7.0nm,1.4s,mb4.4							
TLY	Talaya	73.80	329	eP	P	21 53 47.7	+0.5
comp=Z,9.1nm,0.9s,mb4.7							
TLY	Talaya	73.80	329	eP	P	21 53 47.7	+0.5
TLY				pmax	pmax		
comp=Z,9.0nm,0.9s,mb4.7							
MOY	Mondy	75.15	328	eP	P	21 53 56.6	+1.5
BILL	Bilibino	75.59	4	eP	P	21 53 56.9	-0.4
comp=Z,22nm,1.0s,mb5.0							
BILL	Bilibino	75.59	4	eP	P	21 53 57.3	+0.1
BILL				*e*	pP	21 54 08.2	-3.8
BILL				pmax	pmax		
comp=Z,27nm,1.3s,mb5.0							
JIRN	Jiri	75.67	301	eP	P	21 53 59.7	+1.1
comp=Z,17nm,0.6s,mb5.2							
PALK	Pallekele	76.31	279	eP	P	21 54 02.4	-0.1
PALK				ePcP	PcP	21 54 14.5	+0.2
KKN	Kakani	76.48	301	eP	P	21 54 03.8	+0.6
comp=Z,39nm,1.0s,mb5.3							
GKN	Gorkha	77.09	301	eP	P	21 54 06.0	-0.6
comp=Z,156nm,1.3s,mb5.8							
KDAK	Kodiak Island	77.14	26	P	P	21 54 06.7	+0.5
KDAK	Kodiak Island	77.14	26	P	P	21 54 06.7	+0.5
comp=Z,4.6nm,0.8s,mb4.5,baz=246,slow=3.4,SNR=5.2							
KOLN	Koldanda	77.91	300	eP	P	21 54 11.5	+0.2
comp=Z,21nm,0.6s,mb5.2							
SVW2	Sparrevohn	78.03	22	eP	P	21 54 12.8	+1.7
SLKM	Skilak Lake	79.74	24	eP	P	21 54 21.2	+0.7
PMR	Palmer	80.80	23	eP	P	21 54 26.0	-0.2
comp=Z,4.4nm,0.7s,mb4.5							
PMR	Palmer	80.80	23	eP	P	21 54 26.0	-0.2
PMR				pmax	pmax		
comp=Z,4.0nm,0.7s,mb4.5							
SML	Sawmill	81.24	23	eP	P	21 54 30.1	+1.6
QSPA	South Pole Qui	82.61	180	P	P	21 54 35.6	+0.1
QSPA	South Pole Qui	82.61	180	P	P	21 54 35.6	+0.1
comp=Z,15nm,0.9s,mb5.0,baz=350,slow=3.9,SNR=6.8							
COLA	College	83.13	21	P	P	21 54 38.1	-0.2
MKAR	Makanchi Array	84.22	319	P	P	21 54 42.7	-1.6
MKAR	Makanchi Array	84.22	319	P	P	21 54 42.7	-1.6
comp=Z,24nm,0.6s,mb5.5,baz=81,slow=7.6,SNR=12							
MAW	Mawson	84.37	203	P	P	21 54 44.6	-0.2
comp=Z,12nm,1.0s,mb5.0,baz=90,slow=1.8,SNR=6.1							
ZAA0	Zalesovo Array	84.94	326	eP	P	21 54 47.2	-0.6
ZALV	Zalesovo Beam	84.94	326	P	P	21 54 47.0	-0.9
ZALV	Zalesovo Beam	84.94	326	P	P	21 54 47.0	-0.9
comp=Z,18nm,0.6s,mb5.4,baz=115,slow=5.5,SNR=19							
ZAL	Zalesovo	84.95	326	P	P	21 54 47.0	-0.9
KURK	Kurchatov	87.62	322	eP	P	21 55 00.4	-0.7
comp=Z,2.7nm,0.6s,mb4.7							
KURK	Kurchatov	87.62	322	eP	P	21 55 00.4	-0.7
KURK				pmax	pmax		
comp=Z,3.0nm,0.6s,mb4.7							
TKM2	Tokmak 2	87.86	314	eP	P	21 55 02.9	+0.5
comp=Z,9.7nm,0.7s,mb5.1							
TKM2	Tokmak 2	87.86	314	eP	P	21 55 02.9	+0.5
TKM2				pmax	pmax		
comp=Z,10.0nm,0.7s,mb5.2							
UCH	Uchtor	88.50	313	eP	P	21 55 05.1	-0.4
AAK	Ala-Archa	88.60	313	eP	P	21 55 05.5	-0.4
comp=Z,6.8nm,0.7s,mb5.1							
AAK	Ala-Archa	88.60	313	eP	P	21 55 05.5	-0.4
AAK				pmax	pmax		
comp=Z,7.0nm,0.7s,mb5.1							
EKS2	Erkin-Say	89.12	313	eP	P	21 55 09.0	+0.6
INK	Inuvik	89.78	21	P	P	21 55 10.6	-0.2
comp=Z,1.4nm,0.6s,mb4.5,baz=291,slow=9.2,SNR=3.9							
NVAR	Mina Array Bea	91.31	52	P	P	21 55 20.3	+1.6
comp=Z,0.5nm,0.6s,mb4.0,baz=218,slow=5.8,SNR=3.7							
BRVK	Borovoye	93.15	323	eP	P	21 55 26.1	-0.7
comp=Z,29nm,1.4s,mb5.5							
BRVK	Borovoye	93.15	323	eP	P	21 55 26.1	-0.7
BRVK				pmax	pmax		
comp=Z,29nm,1.4s,mb5.5							
YKA	Yellowknife Ar	96.28	28	P	P	21 55 39.9	-1.0
YKA	Yellowknife Ar	96.28	28	P	P	21 55 39.9	-1.0
comp=Z,1.3nm,0.7s,mb4

*IDC **01** 21:43:16.3±0.5, 737S×15574E, h0km, mb4.9/17, mb1 5.0/18, mb1mx4.9/21, mbtmp4.9/18, Error ellipse: s-maj=21.5km s-min=15.9km az=101.0*
*BJI **01** 21:43:17.8, 726S×15596E, h26km, mB5.3, mb5.3, Ms5.5, Ms25.2*
*ISCJB **01** 21:43:20.0±0.2, 733S±005×15562E±005, h33km, mb5.2/53, Error ellipse: s-maj=7.4km s-min=6.9km az=160.3*
*MOS **01** 21:43:20.4±1.1, 728S×15557E, h33km, mb5.6/17, Error ellipse: s-maj=12.8km s-min=8.4km az=86.9*
*NEIC **01** 21:43:20.1±3.2, 732S×15562E, h23km±22km, mb5.4/24, Error ellipse: s-maj=7.2km s-min=6.3km az=212.0*

ISC 01 21:43:22.0±0.2, 735S±005×15564E±005, h35km, (h11km±5.0km:pP-P), n151, σ0°93/108, mb5.2/53, 3C-1D, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.74**	**116**	Pn	**Pn**	**21 44 24.8**	**-6.2**
	216nm,0.3s,baz=75,slow=16,SNR=4.3						
CTA	**Charters Tower**	**15.60**	**215**	Pn	**Pn**	**21 46 58.4**	**-0.8**
CTA	**Charters Tower**	**15.60**	**215**	Pn	**Pn**	**21 46 58.4**	**-0.8**
	baz=34,slow=15,SNR=5.0						
CTAO	**Charters Tower**	**15.60**	**215**	*e*Pn	**Pn**	**21 46 59.1**	**-0.1**
	272nm,1.8s						
CTAO	**Charters Tower**	**15.60**	**215**	*e*P	**Pn**	**21 46 59.1**	**-0.1**
CTAO				pmax	pmax		
	comp=Z,272nm,1.8s						
FUNA	**Funafuti**	**23.36**	**94**	*e*P	**P**	**21 48 27.4**	**-0.4**
	comp=Z,250nm,1.4s,mb5.5						
WB2	**Warramunga Arr**	**24.14**	**237**	*e*P	**P**	**21 48 34.3**	**-0.6**
WRA	**Warramunga Arr**	**24.15**	**237**	P	**P**	**21 48 34.4**	**-0.6**
	comp=Z,14nm,0.8s,mb4.5,baz=61,slow=9.9,SNR=7.1						
ASAR	**Alice Springs**	**26.43**	**230**	P	**P**	**21 48 54.4**	**-1.2**
	comp=Z,4.1nm,0.8s,baz=60,slow=9.7,SNR=2.8						
STKA	**Stephens Creek**	**27.70**	**206**	P	**P**	**21 49 06.8**	**-0.1**
	comp=Z,12nm,0.9s,mb4.5,baz=36,slow=14,SNR=2.8						
TAU	**Tasmania Unive**	**36.17**	**190**	P	**P**	**21 50 21.2**	**+0.1**
MBWA	**Marble Bar**	**37.30**	**245**	*e*P	**P**	**21 50 30.8**	**-0.2**
	comp=Z,9.7nm,0.6s,mb4.8						
RPZ	**Rata Peaks**	**38.66**	**162**	P	**P**	**21 50 42.2**	**0.0**
	comp=Z,11nm,0.9s,mb4.6,baz=285,slow=13,SNR=1.9						
KKM	**Kota Kinabalu**	**41.52**	**288**	P	**P**	**21 51 03.9**	**-2.4**
RAR	**Rarotonga**	**45.19**	**113**	P	**P**	**21 51 33.4**	**-2.4**
	comp=Z,21nm,0.4s,mb5.3,baz=187,slow=8.6,SNR=3.5						
NACB	**Ninganchiao**	**45.66**	**314**	*e*P	**P**	**21 51 39.6**	**+0.1**
KSM	**Kuching**	**46.06**	**279**	*e*P	**P**	**21 51 44.2**	**+1.3**
YHNB	**Yeheng**	**46.12**	**315**	*e*P	**P**	**21 51 42.9**	**-0.2**
MJAR	**Matsushiro Arr**	**46.62**	**341**	P	**P**	**21 51 46.8**	**0.0**
	comp=Z,9.3nm,0.8s,mb4.8,baz=161,slow=7.4,SNR=6.8						
MAJO	**Matsushiro**	**46.62**	**341**	*e*P	**P**	**21 51 45.9**	**-0.9**
	comp=Z,50nm,1.6s,mb5.2						
MAJO	**Matsushiro**	**46.62**	**341**	*e*P	**P**	**21 51 45.9**	**-0.9**
MAJO				pmax	pmax		
	comp=Z,50nm,1.6s,mb5.2						
QZH	**Quanzhou**	**48.28**	**313**	P	**P**	**21 52 01.0**	**+1.0**
QZH				AMB	AMB		
	comp=Z,150nm,1.3s,mb5.9						
KSRS	**Korea Array**	**51.55**	**332**	P	**P**	**21 52 24.5**	**0.0**
	comp=Z,9.9nm,0.9s,mb4.7,baz=151,slow=7.9,SNR=5.8						
QIZ	**Qiongzhong**	**52.19**	**301**	P	**P**	**21 52 29.3**	**-0.3**
QIZ	**Qiongzhong**	**52.19**	**301**	P	**P**	**21 52 30.1**	**+0.5**
ASAJ	**Asahikawa**	**52.56**	**348**	P	**P**	**21 52 32.6**	**+0.7**
	comp=Z,60nm,1.0s,mb5.5,baz=228,slow=14,SNR=7.4						
PAE	**Paea**	**54.29**	**106**	*e*P	**P**	**21 52 46.6**	**+1.4**
	comp=Z,66nm,1.1s,mb5.5						
PAE	**Paea**	**54.29**	**106**	*e*P	**P**	**21 52 46.6**	**+1.4**
PAE				pmax	pmax		
	comp=Z,66nm,1.1s,mb5.5						
TVO	**Taravao**	**54.61**	**107**	*e*P	**P**	**21 52 49.4**	**+1.9**
	comp=Z,160nm,1.4s,mb5.9						
TVO	**Taravao**	**54.61**	**107**	*e*P	**P**	**21 52 49.4**	**+1.9**
TVO				pmax	pmax		
	comp=Z,160nm,1.4s,mb5.9						
WHN	**Wuhan**	**54.63**	**316**	P	**P**	**21 52 47.5**	**+0.1**
VLA	**Vladivostok**	**54.67**	**339**	*e*P	**P**	**21 52 48.5**	**+1.1**
VLA	**Vladivostok**	**54.67**	**339**	*e*P	**P**	**21 52 47.5**	**+0.1**
VLA				pmax	pmax		
	comp=Z,148nm,1.8s,mb5.7						
YSS	**Yuzh-Sakhalins**	**55.26**	**349**	*e*P	**P**	**21 52 51.9**	**+0.3**
	comp=Z,70nm,1.0s,mb5.7						
YSS	**Yuzh-Sakhalins**	**55.26**	**349**	*e*P	**P**	**21 52 51.9**	**+0.3**
YSS				pmax	pmax		
	comp=N,40nm,1.0s						
YSS				pmax	pmax		
	comp=Z,80nm,1.0s,mb5.7						
MEH	**Mehetia**	**55.74**	**107**	*e*P	**P**	**21 52 57.1**	**+1.4**
	comp=Z,72nm,1.2s,mb5.6						
PMOR	**Pomariorio Ree**	**55.79**	**103**	*e*P	**P**	**21 52 57.5**	**+1.4**
	comp=Z,168nm,1.2s,mb6.0						
VAH	**Vaihoa**	**56.06**	**103**	*e*P	**P**	**21 52 59.1**	**+1.1**
	comp=Z,92nm,1.1s,mb5.7						
MDJ	**Mudanjiang**	**56.80**	**338**	P	**P**	**21 53 03.3**	**+0.6**
MDJ				AMB	AMB		
	comp=Z,35nm,1.5s,mb5.2						
CN2	**Changchun**	**57.78**	**335**	*e*P	**P**	**21 53 09.6**	**0.0**
CN2				AMB	AMB		
	comp=Z,30nm,1.2s,mb5.2						
CN2				AMB	AMB		
	comp=Z,200nm,5.0s						
ENH	**Enshi**	**57.94**	**313**	P	**P**	**21 53 10.3**	**-0.7**
GYA	**Guiyang**	**58.17**	**307**	⇑*i*P	**P**	**21 53 14.4**	**+1.7**
GYA				AP	pP	21 53 17.8	-5.6
GYA				PCP	PcP	21 54 04.6	+0.6
GYA				PP	PP	21 55 25.7	+3.8
GYA				AMB	AMB		
	comp=Z,90nm,1.0s,mb5.8						
BJT	**Baijiatuau**	**59.56**	**326**	P	**P**	**21 53 21.9**	**-0.2**
KLR	**Kul'dur**	**60.09**	**342**	*e*P	**P**	**21 53 22.3**	**-3.2**
KMI	**Kunming**	**60.74**	**304**	P	**P**	**21 53 30.6**	**+0.1**
KMI				AMB	AMB		
	comp=Z,38nm,1.5s,mb5.3						
CD2	**Chengdu**	**62.52**	**310**	P	**P**	**21 53 42.9**	**+0.5**
CD2				PP	PP	21 56 02.9	+2.5
CD2				AMB	AMB		
	comp=Z,50nm,1.0s,mb5.6						
HHC	**Hu-ho-hao-te**	**62.75**	**324**	*e*P	**P**	**21 53 45.2**	**+1.5**
HHC				AP	pP	21 53 49.4	-5.0
HHC				XP	sP	21 53 52.5	-6.0
HHC				AMB	AMB		
	comp=Z,103nm,2.1s,mb5.6						
HIA	**Hailar**	**64.51**	**335**	*e*P	**P**	**21 53 55.8**	**+0.7**
	comp=Z,299nm,2.0s,mb6.0						
HIA	**Hailar**	**64.51**	**335**	*e*P	**P**	**21 53 55.8**	**+0.7**
HIA				pmax	pmax		
	comp=Z,299nm,2.0s						
LZH	**Lanzhou**	**65.01**	**315**	*e*P	**P**	**21 54 00.7**	**+2.0**
LZH				AP	pP	21 54 04.0	-5.5
LZH				AMB	AMB		
	comp=Z,30nm,1.0s,mb5.3						
LZH				AMB	AMB		
	comp=Z,133nm,4.2s						
CASY	**Casey**	**66.46**	**198**	P	**P**	**21 54 07.0**	**-0.5**
MA2	**Magadan**	**66.82**	**357**	*e*P	**P**	**21 54 09.7**	**-0.1**
	comp=Z,28nm,1.1s,mb5.2						
MA2	**Magadan**	**66.82**	**357**	P	**P**	**21 54 09.4**	**-0.4**
MA2				pmax	pmax		
	comp=Z,30nm,0.9s,mb5.3						
CLNS	**Chul'man**	**68.75**	**342**	*e*P	**P**	**21 54 18.8**	**-3.2**
CLNS				pmax	pmax		
	comp=Z,46nm,1.0s,mb5.4						
CLNS				pmax	pmax		
	comp=N,21nm,0.9s						
CLNS				pmax	pmax		
	comp=E,14nm,0.9s						
GTA	**Gaotai**	**69.43**	**317**	P	**P**	**21 54 28.0**	**+1.3**
GTA				AP	pP	21 54 33.5	-4.0
GTA				XP	sP	21 54 36.5	-5.1
GTA				AMB	AMB		
	comp=Z,22nm,1.3s,mb4.9						
SONM	**Songino Array**	**69.97**	**327**	P	**P**	**21 54 31.0**	**+1.2**
	comp=Z,19nm,0.8s,mb5.0,baz=134,slow=6.1,SNR=5.1						
SEY	**Seymchan**	**70.12**	**358**	*e*P	**P**	**21 54 30.8**	**+0.4**
SBA	**Scott Base**	**70.71**	**178**	*e*P	**P**	**21 54 34.6**	**+0.7**
	comp=Z,64nm,1.8s,mb5.2						
SBA	**Scott Base**	**70.71**	**178**	*e*P	**P**	**21 54 34.6**	**+0.7**
SBA				pmax	pmax		
	comp=Z,64nm,1.8s,mb5.2						
LSA	**Lhasa**	**72.00**	**304**	*e*P	**P**	**21 54 43.9**	**+1.4**
YAK	**Yakutsk**	**72.03**	**347**	*e*P	**P**	**21 54 42.6**	**+0.6**
	comp=Z,37nm,0.9s,mb5.3						
YAK	**Yakutsk**	**72.03**	**347**	⇑*i*P	**P**	**21 54 42.4**	**+0.4**
YAK				pmax	pmax		
	comp=Z,144nm,1.7s,mb5.6						
TLY	**Talaya**	**73.69**	**329**	*e*P	**P**	**21 54 52.7**	**+0.7**
TLY	**Talaya**	**73.69**	**329**	*e*P	**P**	**21 54 52.6**	**+0.6**
TLY				pmax	pmax		
	comp=Z,26nm,1.7s,mb4.9						
BILL	**Bilibino**	**75.58**	**4**	*e*P	**P**	**21 55 03.2**	**+0.6**
	comp=Z,48nm,1.0s,mb5.4						
BILL	**Bilibino**	**75.58**	**4**	⇓*i*P	**P**	**21 55 03.2**	**+0.5**
BILL				*e*	pP	21 55 12.1	-1.5
BILL				pmax	pmax		
	comp=Z,59nm,1.0s,mb5.5						
PALK	**Pallekele**	**76.13**	**279**	P	**P**	**21 55 07.0**	**+0.1**
KDAK	**Kodiak Island**	**77.20**	**26**	P	**P**	**21 55 10.9**	**-1.2**
	comp=Z,6.9nm,0.9s,mb4.6,baz=235,slow=8.9,SNR=12						
TTA	**Tatalina**	**79.13**	**20**	*e*P	**P**	**21 55 22.3**	**-0.3**
	comp=Z,19nm,0.9s,mb5.0						
TTA	**Tatalina**	**79.13**	**20**	*e*P	**P**	**21 55 22.3**	**-0.3**
TTA				pmax	pmax		
	comp=Z,19nm,1.0s,mb5.0						
WMQ	**Urumqi**	**79.52**	**317**	*e*P	**P**	**21 55 26.0**	**+0.8**
WMQ				AMB	AMB		
	comp=Z,18nm,1.2s,mb4.9						
SLKM	**Skilak Lake**	**79.80**	**24**	*e*P	**P**	**21 55 25.0**	**-1.3**
TIXI	**Tiksi**	**80.79**	**352**	*e*P	**P**	**21 55 30.5**	**-1.0**
	comp=Z,114nm,1.9s,mb5.5						
TIXI	**Tiksi**	**80.79**	**352**	*e*P	**P**	**21 55 30.6**	**-0.9**
TIXI				pmax	pmax		
	comp=Z,37nm,1.6s,mb5.1						
PMR	**Palmer**	**80.85**	**23**	*e*P	**P**	**21 55 30.5**	**-1.5**
	comp=Z,25nm,1.2s,mb5.0						
PMR	**Palmer**	**80.85**	**23**	*e*P	**P**	**21 55 30.5**	**-1.5**
PMR				pmax	pmax		
	comp=Z,25nm,1.2s,mb5.0						
SML	**Sawmill**	**81.29**	**23**	*e*P	**P**	**21 55 34.0**	**-0.3**
IMA2	**Indian Mountai**	**81.93**	**19**	*e*P	**P**	**21 55 37.2**	**-0.4**
MCK	**McKinley**	**82.14**	**22**	*e*P	**P**	**21 55 37.6**	**-1.2**
	comp=Z,37nm,1.0s,mb5.3						
MCK	**McKinley**	**82.14**	**22**	*e*P	**P**	**21 55 37.6**	**-1.2**
MCK				pmax	pmax		
	comp=Z,37nm,1.0s,mb5.3						
QSPA	**South Pole Qui**	**82.63**	**180**	P	**P**	**21 55 41.4**	**+0.3**
	comp=Z,8nm,1.3s,mb5.0,baz=340,slow=7.1,SNR=2.3						
COLA	**College**	**83.17**	**21**	*e*P	**P**	**21 55 42.0**	**-2.1**
COLA	**College**	**83.17**	**21**	*e*P	**P**	**21 55 44.3**	**+0.2**
COLA				pmax	pmax		
	comp=Z,29nm,0.9s,mb5.3						
MKAR	**Makanchi Array**	**84.09**	**319**	P	**P**	**21 55 49.7**	**+0.5**
MKAR	**Makanchi Array**	**84.09**	**319**	P	**P**	**21 55 49.7**	**+0.5**
	comp=Z,20nm,0.8s,mb5.3,baz=80,slow=7.5,SNR=5.3						
ZAA0	**Zalesovo Array**	**84.83**	**326**	*e*P	**P**	**21 55 51.4**	**-1.3**
ZALV	**Zalesovo Beam**	**84.83**	**326**	P	**P**	**21 55 52.1**	**-0.7**
	comp=Z,10nm,0.9s,mb5.0,baz=108,slow=4.8,SNR=4.2						
ZAL	**Zalesovo**	**84.83**	**326**	P	**P**	**21 55 52.1**	**-0.7**
EGAK	**Eagle**	**85.59**	**23**	*e*P	**P**	**21 55 56.6**	**+0.2**
	comp=Z,29nm,1.1s,mb5.4						
DAWY	**Dawson**	**85.96**	**24**	*e*P	**P**	**21 55 58.3**	**+0.1**
NVS	**Novosibirsk**	**85.99**	**326**	*i* P	**P**	**21 55 57.2**	**-1.4**
KURK	**Kurchatov**	**87.50**	**322**	P	**P**	**21 56 05.3**	**-0.7**
KURK	**Kurchatov**	**87.50**	**322**	⇑*i*P	**P**	**21 56 05.2**	**-0.8**
TKM2	**Tokmak 2**	**87.72**	**314**	*e*P	**P**	**21 56 07.5**	**+0.2**
	comp=Z,7.0nm,0.7s,mb5.0						
TKM2	**Tokmak 2**	**87.72**	**314**	*e*P	**P**	**21 56 07.5**	**+0.2**
TKM2				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb5.0						
DLBC	**Dease Lake**	**88.12**	**30**	*e*P	**P**	**21 56 08.6**	**-0.2**
UCH	**Uchtor**	**88.36**	**313**	*e*P	**P**	**21 56 11.2**	**+0.9**
	comp=Z,4.6nm,0.7s,mb4.8						
AAK	**Ala-Archa**	**88.45**	**313**	P	**P**	**21 56 10.4**	**-0.3**
EKS2	**Erkin-Say**	**88.98**	**313**	*e*P	**P**	**21 56 13.7**	**+0.5**
	comp=Z,5.7nm,0.8s,mb5.0						
INK	**Inuvik**	**89.82**	**21**	*e*P	**P**	**21 56 16.0**	**-0.6**
INK	**Inuvik**	**89.82**	**21**	P	**P**	**21 56 15.9**	**-0.6**
	comp=Z,15nm,1.1s,mb5.2,baz=225,slow=7.5,SNR=8.0						
NVAR	**Mina Array Bea**	**91.44**	**52**	P	**P**	**21 56 24.9**	**+0.1**
	comp=Z,3.1nm,1.0s,mb4.6,baz=241,slow=4.0,SNR=6.8						
BRVK	**Borovoye**	**93.03**	**323**	*e*P	**P**	**21 56 30.7**	**-1.1**
	comp=Z,18nm,1.0s,mb5.4						
BRVK	**Borovoye**	**93.03**	**323**	*e*P	**P**	**21 56 30.7**	**-1.1**
BRVK				pmax	pmax		
	comp=Z,18nm,1.0s,mb5.5						
YKA	**Yellowknife Ar**	**96.35**	**28**	P	**P**	**21 56 46.4**	**-0.3**
YKA	**Yellowknife Ar**	**96.35**	**28**	P	**P**	**21 56 46.4**	**-0.3**
	comp=Z,3.8nm,0.8s,mb4.9,baz=266,slow=4.6,SNR=9.1						
BW06	**Boulder Array**	**98.46**	**48**	P	**P**	**21 56 56.2**	**-0.6**
PDAR	**Pinedale Array**	**98.46**	**48**	P	**P**	**21 56 56.1**	**-0.6**
	comp=Z,1.5nm,0.8s,mb4.5,baz=219,slow=2.0,SNR=5.9						
ARU	**Arti**	**99.99**	**326**	*e*P	Pdif	21 57 02.3	-1.1
ARU	**Arti**	**99.99**	**326**	*e*P	Pdif	21 57 02.6	-0.8
SDCO	**Great Sand Dun**	**101.45**	**53**	*e*Pdif	Pdif	21 57 10.1	+0.2
RSSD	**Black Hills**	**102.48**	**47**	Pdif	Pdif	21 57 13.9	-0.6
LTX	**Lajitas**	**102.86**	**62**	Pdif	Pdif	21 57 16.3	+0.1
WMOK	**Wichita Mounta**	**106.95**	**56**	*e*PKiKP	PKiKP	22 01 44.9	+0.3
OBN	**Obninsk**	**112.39**	**327**	*i* PKP	PKiKP	22 01 52.4	-1.7
FINES	**FINESS Array B**	**114.52**	**336**	PKiKP	PKiKP	22 01 57.8	-0.2
	comp=Z,1.5nm,0.8s,baz=336,slow=23,SNR=3.0						
AKASG	**Malin Array Be**	**118.19**	**325**	PKP	PKPdf	22 02 05.1	-0.3
	comp=Z,1.0nm,0.7s,baz=62,slow=2.2,SNR=3.4						
NOA	**NORSAR Array B**	**120.24**	**341**	PKP	PKPdf	22 02 09.8	+0.7
	comp=Z,1.0nm,0.7s,baz=44,slow=1.9,SNR=3.1						
KOLS	**Kolonicke sedl**	**123.00**	**325**	*e*PKP	PKPdf	22 02 22.2	+7.5
STHS	**Stebnicka Huta**	**123.32**	**326**	*e*PKP	PKPdf	22 02 17.8	+2.5
STHS				*e*		22 02 26.1	
ATAH	**Atahualpa**	**124.26**	**104**	PKP	PKPdf	22 02 18.2	+0.1
	comp=Z,6.8nm,0.8s,baz=355,slow=6.2,SNR=3.8						
OKC	**Ostrava-Krasne**	**124.77**	**328**	*e*PKPdf	PKPdf	22 02 14.8	-3.3
OKC				*ex*	x	22 02 18.7	
UPC	**Upice**	**125.47**	**329**	*e*PKPdf	PKPdf	22 02 20.3	+0.9
UPC				*ep*PKP	pPKPdf	22 02 26.5	-4.3
PVCC	**Panska Ves**	**126.17**	**330**	*e*PKPdf	PKPdf	22 02 21.8	+1.1
PVCC				*ep*PKP	pPKPdf	22 02 28.5	-3.7
BRG	**Berggiesshubel**	**126.26**	**331**	*i* PKIKP	PKPdf	22 02 22.2	+1.3
BRG				*i*		22 02 27.9	
BRG				pmax	pmax		
	comp=Z,8.0nm,1.4s						
BRG	**Berggiesshubel**	**126.26**	**331**	*i* PKP	PKPdf	22 02 22.2	+1.3
	comp=Z,13nm,1.4s						
BRG				*i*		22 02 27.9	
	comp=Z,8.9nm,0.9s						
CLL	**Collm**	**126.42**	**332**	*e*PKPdf	PKPdf	22 02 21.0	-0.2
CLL				*i* pPKPdf	pPKPdf	22 02 28.1	-4.5
TREC	**Trest**	**126.48**	**329**	*e*PKPdf	PKPdf	22 02 22.4	+1.0
TREC				*ep*PKP	pPKPdf	22 02 28.7	-4.1
PRU	**Pruhonice**	**126.53**	**330**	*e*PKPdf	PKPdf	22 02 22.4	+1.0
PRU				*ep*PKP	pPKPdf	22 02 28.0	-4.9
KHC	**Kasperske Hory**	**127.56**	**329**	*e*PKPdf	PKPdf	22 02 24.2	+0.8
KHC				*ep*PKP	pPKPdf	22 02 31.0	-3.9
GERES	**GERESS Array B**	**127.68**	**329**	PKP	PKPdf	22 02 23.8	+0.1
GERES	**GERESS Array B**	**127.68**	**329**	PKP	PKPdf	22 02 23.8	+0.1
	comp=Z,4.8nm,0.7s,baz=120,slow=2.2,SNR=4.2						
GRA1	**Grafenberg Arr**	**128.35**	**331**	*e*PKPdf	PKPdf	22 02 32.5	+7.6
GRF	**Grafenberg Arr**	**128.35**	**331**	*e*PKPdf	PKPdf	22 02 32.5	+7.6
MEM	**Membach**	**130.03**	**335**	PKPdf	PKPdf	22 02 26.4	-1.7
ROSC	**El Rosal**	**130.27**	**90**	PKP	PKPdf	22 02 29.9	+0.2
	comp=Z,8.8nm,0.8s,baz=97,slow=22,SNR=6.4						
BCLA	**Clavier**	**130.47**	**335**	PKPdf	PKPdf	22 02 27.9	-1.0
WLF	**Walferdange**	**130.68**	**334**	PKPdf	PKPdf	22 02 27.2	-2.1
LPAZ	**La Paz**	**130.73**	**119**	PKP	PKPdf	22 02 32.0	+1.6
	comp=Z,12nm,1.1s,baz=337,slow=2.4,SNR=12						
SNF	**Seneffe**	**130.81**	**336**	PKPdf	PKPdf	22 02 27.9	-1.7
DAVOX	**Davos/Dischmat**	**130.98**	**329**	PKP	PKPdf	22 02 30.7	+0.7
DAVOX	**Davos/Dischmat**	**130.98**	**329**	PKP	PKPdf	22 02 30.7	+0.7
	comp=Z,3.1nm,0.8s,baz=333,slow=6.8,SNR=2.7						
DAVOS	**Davos**	**130.98**	**329**	P	Pdif	21 59 22.0	+0.8
DOU	**Dourbes**	**131.00**	**336**	PKPdf	PKPdf	22 02 29.0	-1.0
ESDC	**Sonseca Array**	**142.97**	**333**	PKhKP		22 02 49.1	
	comp=Z,1.7nm,0.9s,baz=25,slow=2.8,SNR=3.6						
ESDC				PKP	PKPdf	22 02 53.8	+1.4
	comp=Z,2.1nm,0.8s,baz=19,slow=1.8,SNR=5.1						
PCBR	**Castelo Branco**	**144.28**	**337**	*e*PKP	PKPdf	22 02 53.5	-1.2
PESTR	**Estremoz**	**145.16**	**337**	*e*PKP	PKPdf	22 02 56.1	-0.1
PBAR	**Barrancos**	**145.54**	**335**	*e*PKP	PKPdf	22 02 58.1	+1.2
PBEJ	**Beja**	**146.00**	**336**	*e*PKP	PKPdf	22 02 59.6	+1.9
PTEO	**Sao Teotonio**	**146.75**	**337**	*e*PKP	PKPdf	22 03 01.5	+2.5
DBIC	**Dimbokro**	**160.63**	**269**	PKPab	PKPab	22 04 01.1	0.0
	comp=Z,6.5nm,0.9s,baz=329,slow=5.9,SNR=1.8						

*IDC **01** 21:44:52.1±0.6, 724S×15599E, h0km, mb4.8/14, mb1 4.8/15, mb1mx4.8/18, mbtmp4.7/15, ML3.7/1, Error ellipse: s-maj=28.8km s-min=17.7km az=89.0*
*ISCJB **01** 21:44:56.1±0.6, 722S±010×1559E±02, h33km, mb4.7/14, Error ellipse: s-maj=22.5km s-min=12.7km az=16.2*

ISC 01 21:44:57.9±0.6, 724S±010×1559E±02, h35km, n29, σ0°87/15, mb4.7/14, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**15.84**	**215**	Pn	**Pn**	**21 48 38.3**	**0.0**
	0.2nm,0.3s,baz=43,slow=13,SNR=1.7						
WRA	**Warramunga Arr**	**24.44**	**237**	P	**P**	**21 50 12.7**	**-0.8**
	12nm,0.9s,mb4.3,baz=60,slow=9.7,SNR=2.9						
MJAR	**Matsushiro Arr**	**46.61**	**340**	P	**P**	**21 53 20.5**	**-2.2**
	5.7nm,0.7s,mb4.6,baz=144,slow=2.0,SNR=6.0						
JNU	**Nakatsue**	**46.67**	**331**	P	**P**	**21 53 24.2**	**+1.1**
	23nm,0.8s,mb5.1,baz=108,slow=6.8,SNR=4.3						
KSRS	**Korea Array**	**51.59**	**332**	P	**P**	**21 54 01.7**	**+1.0**
	9.2nm,0.7s,mb4.8,baz=143,slow=7.1,SNR=7.0						
SONM	**Songino Array**	**70.04**	**327**	P	**P**	**21 56 07.3**	**+1.1**
	16nm,0.7s,mb5.1,baz=141,slow=5.0,SNR=15						
VNDA	**Vanda**	**70.31**	**179**	P	**P**	**21 56 08.9**	**+1.5**
	1.9nm,1.0s,mb4.0,baz=113,slow=1.6,SNR=7.0						
QSPA	**South Pole Qui**	**82.74**	**180**	P	**P**	**21 57 17.1**	**-0.5**
	7.0nm,0.9s,mb4.7,baz=288,slow=4.6,SNR=3.1						
MKAR	**Makanchi Array**	**84.19**	**318**	P	**P**	**21 57 25.8**	**+0.2**
	37nm,0.7s,mb5.6,baz=85,slow=5.7,SNR=13						
MAW	**Mawson**	**84.53**	**203**	P	**P**	**21 57 26.8**	**-0.2**
	9.5nm,0.8s,mb5.0,baz=45,slow=3.2,SNR=4.1						
ZALV	**Zalesovo Beam**	**84.89**	**326**	P	**P**	**21 57 28.4**	**-0.7**
	14nm,0.4s,mb5.4,baz=116,slow=5.5,SNR=15						
INK	**Inuvik**	**89.62**	**21**	P	**P**	**21 57 51.2**	**-0.4**
	1.2nm,0.5s,mb4.5,baz=194,slow=4.2,SNR=2.9						
NVAR	**Mina Array Bea**	**91.15**	**52**	P	**P**	**21 57 59.6**	**+0.2**
	0.9nm,0.8s,mb4.1,baz=258,slow=4.5,SNR=2.3						
YKA	**Yellowknife Ar**	**96.12**	**28**	P	**P**	**21 58 21.5**	**-0.2**
	1.1nm,0.7s,mb4.4,baz=266,slow=4.5,SNR=3.3						
PDAR	**Pinedale Array**	**98.18**	**48**	P	**P**	**21 58 31.0**	**-0.5**
	0.7nm,0.8s,mb4.2,baz=267,slow=3.6,SNR=2.6						
FINES	**FINESS Array B**	**114.53**	**336**	PKiKP	PKiKP	22 03 32.4	-1.5
	1.1nm,0.8s,baz=117,slow=6.6,SNR=2.6						
AKASG	**Malin Array Be**	**118.27**	**325**	PKP	PKPdf	22 03 40.3	-1.2
	1.4nm,0.5s,baz=46,slow=2.6,SNR=6.4						
NOA	**NORSAR Array B**	**120.23**	**341**	PKP	PKPdf	22 03 43.5	-1.4
	1.3nm,0.9s,baz=346,slow=1.7,SNR=3.3						
SUR	**Sutherland**	**121.87**	**225**	PKP	PKPdf	22 03 48.6	-0.4
	5.8nm,0.9s,baz=170,slow=17,SNR=3.2						
BRG	**Berggiesshubel**	**126.30**	**331**	*i* P	PKPdf	22 03 57.3	+0.4
BRG				pmax	pmax		
	comp=Z,5.0nm,1.2s						
BRG	**Berggiesshubel**	**126.30**	**331**	*i* PKP	PKPdf	22 03 57.3	+0.5
	comp=Z,9.2nm,1.2s						
CLL	**Collm**	**126.46**	**332**	*i* PKPdf	PKPdf	22 03 57.2	0.0
CLL				*i* (pPKPdf)		22 04 07.3	
PRU	**Pruhonice**	**126.58**	**330**	*e*P	PKPdf	22 03 57.6	+0.2
NKC	**Novy Kostel**	**127.44**	**331**	*e*P	PKPdf	22 03 57.1	-2.0
KHC	**Kasperske Hory**	**127.61**	**330**	*e*P	PKPdf	22 03 59.7	+0.3
GERES	**GERESS Array B**	**127.73**	**329**	PKP	PKPdf	22 03 59.6	-0.1
	comp=Z,2.1nm,0.7s,baz=80,

BTM	**Bintulu**	43.78 282	⇓P		**P**	**21 53 46.1 +1.8**
NWAO	**Narrogin (SRO)**	43.80 229	*e*P		**P**	**21 53 43.3 -0.9**
	comp=Z,72nm,0.8s,mb5.5					
NWAO	**Narrogin (SRO)**	43.80 229	*e*P		**P**	**21 53 43.3 -0.9**
NWAO			pmax	pmax		
	comp=Z,72nm,0.8s					
NWAO	**Narrogin (SRO)**	43.80 229	P		**P**	**21 53 43.6 -0.6**
	comp=Z,81nm,0.8s,mb5.5,baz=66,slow=6.6,SNR=18					
SBUM	**Sibu**	44.44 281	⇑P		**P**	**21 53 52.3 +2.6**
RAR	**Rarotonga**	45.16 113	P		**P**	**21 53 54.0 -1.2**
RAR			pmax	pmax		
	comp=Z,56nm,0.8s					
RAR	**Rarotonga**	45.16 113	P		**P**	**21 53 54.0 -1.3**
	comp=Z,56nm,0.8s,mb5.4,baz=59,slow=19,SNR=2.4					
NACB	**Ninganchiao**	45.67 314	*e*P		**P**	**21 53 59.4 +0.2**
KSM	**Kuching**	46.10 279	*e*P		**P**	**21 54 02.5 -0.4**
KSM	**Kuching**	46.10 279	⇓P		**P**	**21 54 03.8 +1.0**
YHNB	**Yeheng**	46.14 315	*e*P		**P**	**21 54 03.9 +1.0**
MJAR	**Matsushiro Arr**	46.61 341	P		**P**	**21 54 05.2 -1.2**
MJAR			PcP	PcP		21 55 41.2 +0.9
MJAR	**Matsushiro Arr**	46.61 341	P		**P**	**21 54 05.2 -1.2**
MJAR						21 55 41.2
MJAR			pmax	pmax		
	comp=Z,32nm,0.9s					
MJAR	**Matsushiro Arr**	46.61 341	P		**P**	**21 54 05.2 -1.2**
	comp=Z,32nm,0.8s,mb5.3,baz=163,slow=7.5,SNR=12					
MJAR			PcP	PcP		21 55 41.2 +0.9
	comp=Z,19nm,0.8s,baz=158,slow=3.8,SNR=6.7					
MAJO	**Matsushiro**	46.61 341	*e*P		**P**	**21 54 04.8 -1.6**
	comp=Z,58nm,0.8s,mb5.6					
MAJO	**Matsushiro**	46.61 341	*e*P		**P**	**21 54 04.8 -1.6**
MAJO			pmax	pmax		
	comp=Z,58nm,0.9s,mb5.5					
MAT	**Matsushiro**	46.61 341	P		**P**	**21 54 04.3 -2.1**
JNU	**Nakatsue**	46.62 331	P		**P**	**21 54 06.0 -0.6**
	comp=Z,96nm,1.0s,mb5.7,baz=102,slow=6.3,SNR=14					
QZH	**Quanzhou**	48.30 313	P		**P**	**21 54 20.4 +0.6**
QZH			AMB	AMB		
	comp=Z,310nm,1.2s,mb6.2					
KSRS	**Korea Array**	51.54 332	P		**P**	**21 54 44.2 +0.1**
	comp=Z,36nm,0.8s,mb5.3,baz=149,slow=8.5,SNR=18					
KSRS			PcP	PcP		21 55 57.9 -0.3
	comp=Z,8.5nm,0.7s,baz=173,slow=3.3,SNR=5.6					
INCN	**Inchon**	52.18 331	*e*P		**P**	**21 54 50.0 +1.0**
	comp=Z,152nm,1.0s,mb5.9					
INCN	**Inchon**	52.18 331	P		**P**	**21 54 49.8 +0.8**
	SNR=6.2					
INCN	**Inchon**	52.18 331	P		**P**	**21 54 49.8 +0.8**
	SNR=6.2					
QIZ	**Qiongzhong**	52.21 301	P		**P**	**21 54 49.6 +0.1**
QIZ	**Qiongzhong**	52.21 301	*e*P		**P**	**21 54 49.8 +0.3**
	comp=Z,232nm,1.2s,mb6.0					
MYKOM	**Kota Tinggi**	52.50 278	⇑P		**P**	**21 54 52.7 +0.9**
ASAJ	**Asahikawa**	52.54 348	P		**P**	**21 54 52.0 +0.5**
ASAJ			pmax	pmax		
	comp=Z,135nm,1.0s					
ASAJ	**Asahikawa**	52.54 348	P		**P**	**21 54 52.0 +0.4**
	comp=Z,135nm,1.0s,mb5.8,baz=217,slow=11,SNR=19					
NJ2	**Nanjing**	52.60 320	*e*P		**P**	**21 54 53.1 +0.9**
NJ2			AP	pP		21 54 58.4 +2.6
NJ2			XP	sP		21 55 01.3 +4.1
NJ2			PP	PP		21 56 54.2 +2.8
NJ2			S	**S**		**22 02 18.0 -1.4**
NJ2			AMB	AMB		
	comp=Z,70nm,0.9s,mb5.6					
NJ2			AMB	AMB		
	comp=Z,2μm,5.2s					
KGM	**Kluang**	53.06 278	⇑P		**P**	**21 54 56.8 +0.8**
KTGM	**Kuala Trenggan**	53.92 282	⇑P		**P**	**21 55 02.4 +0.1**
PPT	**Papeete**	54.25 106	*e*P		**P**	**21 55 05.2 +0.6**
	comp=Z,43nm,1.3s,mb5.2					
PPT	**Papeete**	54.25 106	P		**P**	**21 55 05.1 +0.5**
PPT			pmax	pmax		
	comp=Z,20nm,0.6s					
PPT	**Papeete**	54.25 106	P		**P**	**21 55 05.1 +0.5**
	comp=Z,20nm,0.6s,mb5.2,baz=65,slow=8.0,SNR=2.7					
PAE	**Paea**	54.25 106	*e*P		**P**	**21 55 04.7 +0.1**
	comp=Z,70nm,1.0s,mb5.5					
PAE	**Paea**	54.25 106	*e*P		**P**	**21 55 04.7 +0.1**
PAE			pmax	pmax		
	comp=Z,70nm,1.0s,mb5.5					
TVO	**Taravao**	54.57 107	*e*P		**P**	**21 55 07.5 +0.5**
	comp=Z,85nm,0.9s,mb5.8					
TVO	**Taravao**	54.57 107	*e*P		**P**	**21 55 07.5 +0.5**
TVO			pmax	pmax		
	comp=Z,85nm,0.9s,mb5.8					
WHN	**Wuhan**	54.65 316	P		**P**	**21 55 06.3 -0.9**
WHN			AMB	AMB		
	comp=Z,159nm,1.0s,mb6.0					
VLA	**Vladivostok**	54.66 339	⇑*e*P		**P**	**21 55 07.6 +0.5**
FRIM	**Kepong**	54.95 279	⇓P		**P**	**21 55 10.0 +0.2**
YSS	**Yuzh-Sakhalins**	55.24 349	*e*P		**P**	**21 55 12.0 +0.8**
	comp=Z,141nm,1.0s,mb6.0					
YSS	**Yuzh-Sakhalins**	55.24 349	⇓*i*P		**P**	**21 55 12.0 +0.8**
YSS			*e*			21 55 20.0
YSS			*e*S		**S**	**22 02 55.0 +0.4**
YSS			pmax	pmax		
	comp=N,70nm,1.0s					
YSS			pmax	pmax		
	comp=Z,130nm,1.0s,mb5.9					
MEH	**Mehetia**	55.71 107	*e*P		**P**	**21 55 15.5 +0.3**
	comp=Z,39nm,0.9s,mb5.4					
PMOR	**Pomariorio Ree**	55.76 103	*e*P		**P**	**21 55 15.9 +0.4**
	comp=Z,216nm,1.0s,mb6.1					
DL2	**Dalian**	55.80 328	⇓*i*P		**P**	**21 55 16.5 +1.1**
DL2			AMB	AMB		
	comp=Z,30nm,0.9s,mb5.3					
VAH	**Vaihoa**	56.02 103	*e*P		**P**	**21 55 17.5 +0.1**
	comp=Z,150nm,1.0s,mb6.0					
KULM	**Kulim**	56.32 281	*e*P		**P**	**21 55 18.9 -0.7**
KULM	**Kulim**	56.32 281	⇑P		**P**	**21 55 19.9 +0.3**
MDJ	**Mudanjiang**	56.79 338	P		**P**	**21 55 21.9 -0.5**
MDJ			AMB	AMB		
	comp=Z,74nm,1.6s,mb5.5					
MDJ			LR	LR		
	comp=N,38μm,38.2s					
MDJ			LR	LR		
	comp=Z,30μm,31.2s					
SNY	**Shenyang**	57.05 332	⇑P		**P**	**21 55 23.9 -0.3**
SNY			AMB	AMB		
	comp=Z,80nm,1.8s,mb5.5					
PSI	**Prapat**	57.52 278	P		**P**	**21 55 27.4 -0.8**
	comp=Z,4.1nm,0.6s,mb4.7,baz=112,slow=14,SNR=5.4					
CN2	**Changchun**	57.77 334	*e*P		**P**	**21 55 32.5 +3.2**
CN2			*e*XP	sP		21 55 39.5 +5.1
CN2			*e*S	**S**		**22 03 30.8 +2.5**
CN2			AMB	AMB		
	comp=Z,90nm,1.1s,mb5.7					
CN2			AMB	AMB		
	comp=Z,200nm,5.0s					
GYA	**Guiyang**	58.19 307	⇑*i*P		**P**	**21 55 35.2 +2.6**
GYA			AP	pP		21 55 38.4 +2.1
GYA			XP	sP		21 55 39.8 +2.1
GYA			PCP	PcP		21 56 26.2 +2.1
GYA			PP	PP		21 57 46.2 +4.6
GYA			SCP	ScP		22 00 25.0 +0.5
GYA			S	**S**		**22 03 35.8 +1.4**
GYA			SCS	ScS		22 05 21.4 -1.3
GYA			SS	SS		22 07 28.6 +2.2
GYA			AMB	AMB		
	comp=Z,90nm,1.0s,mb5.8					
GYA			LR	LR		
	comp=N,12μm,20.0s,MS6.1					
GYA			LR	LR		
	comp=E,12μm,21.0s,MS6.1					
GYA			LR	LR		
	comp=Z,10μm,19.4s,MS6.0					
HABR	**Khabarovsk**	58.44 344	*e*P		**P**	**21 55 32.4 -1.5**
HABR			*e*S	**S**		**22 03 34.5 -2.4**
HABR			pmax	pmax		
	comp=Z,191nm,1.1s,mb6.0					
BJT	**Baijiatuau**	59.56 325	*e*P		**P**	**21 55 42.1 +0.2**
	comp=Z,17nm,0.6s,mb5.2					
BJT	**Baijiatuau**	59.56 325	*e*P		**P**	**21 55 42.1 +0.3**
BJT			pmax	pmax		
	comp=Z,17nm,0.6s					
BJI	**Beijing**	59.57 325	P		**P**	**21 55 42.0 +0.1**
BJI			AMB	AMB		
	comp=Z,30nm,1.7s,mb5.0					
KLR	**Kul'dur**	60.08 342	*e*P		**P**	**21 55 40.3 -4.9**
XAN	**Xi'an**	60.41 316	P		**P**	**21 55 48.1 +0.3**
XAN			AP	pP		21 55 52.8 +1.3
XAN			AMB	AMB		
	comp=Z,74nm,1.1s,mb5.6					
XAN			LR	LR		
	comp=N,5μm,12.5s,MS6.0					
XAN			LR	LR		
	comp=E,3μm,11.5s,MS6.0					
XAN			LR	LR		
	comp=Z,5μm,13.1s,MS5.9					
KMI	**Kunming**	60.76 304	P		**P**	**21 55 51.3 +0.9**
KMI			AMB	AMB		
	comp=Z,186nm,1.3s,mb6.1					
CM31	**Chiang Mai Arr**	61.54 295	*e*P		**P**	**21 55 57.1 +1.3**
CHTO	**Chiang Mai**	61.66 296	*e*P		**P**	**21 55 56.1 -0.4**
	comp=Z,360nm,1.5s,mb6.3					
CHTO	**Chiang Mai**	61.66 296	*e*P		**P**	**21 55 56.1 -0.5**
CHTO			pmax	pmax		
	comp=Z,360nm,1.5s,mb6.3					
CHTO	**Chiang Mai**	61.66 296	P		**P**	**21 55 57.4 +0.8**
	SNR=17					
CHTO	**Chiang Mai**	61.66 296	P		**P**	**21 55 57.4 +0.8**
	SNR=17					
CD2	**Chengdu**	62.54 310	P		**P**	**21 56 03.7 +1.4**
CD2			XP	sP		21 56 10.9 +3.5
CD2			PP	PP		21 58 23.0 +2.9
CD2			S	**S**		**22 04 30.8 +0.7**
CD2			AMB	AMB		
	comp=Z,200nm,0.8s					
CD2			LR	LR		
	comp=N,63μm,16.8s					
CD2			LR	LR		
	comp=Z,53μm,15.7s					
HHC	**Hu-ho-hao-te**	62.76 324	*e*P		**P**	**21 56 03.6 +0.1**
HHC			AP	pP		21 56 08.1 +0.9
HHC			XP	sP		21 56 10.8 +2.2
HHC			PP	PP		21 58 21.1 -0.7
HHC			S	**S**		**22 04 32.9 +0.5**
HHC			AMB	AMB		
	comp=Z,53nm,1.2s,mb5.5					
HHC			LR	LR		
	comp=N,14μm,17.0s,MS6.3					
HHC			LR	LR		
	comp=E,13μm,17.8s,MS6.3					
HHC			LR	LR		
	comp=Z,17μm,12.3s					
TAOE	**Nuku Hiva Isla**	63.48 96	*e*P		**P**	**21 56 09.2 +0.3**
	comp=Z,740nm,1.1s,mb6.7					
HIA	**Hailar**	64.50 335	⇑*e*P		**P**	**21 56 14.5 -0.4**
LZH	**Lanzhou**	65.02 315	*e*P		**P**	**21 56 19.2 +0.6**
LZH			AP	pP		21 56 22.4 +0.1
LZH			AMB	AMB		
	comp=Z,140nm,1.2s,mb5.9					
LZH			AMB	AMB		
	comp=Z,423nm,4.1s					
PBA	**Port Blair**	65.38 286	*e*P		**P**	**21 56 20.4 -0.8**
PBA			AMb	AMB		21 56 55.9
	comp=Z,65nm,1.6s,mb5.4					
CASY	**Casey**	66.50 198	P		**P**	**21 56 27.8 +0.2**
MA2	**Magadan**	66.79 357	⇑*e*P		**P**	**21 56 30.2 +0.8**
MA2	**Magadan**	66.79 357	⇑*e*P		**P**	**21 56 30.1 +0.7**
MA2			pmax	pmax		
	comp=Z,56nm,1.4s,mb5.4					
IMP	**Imphal**	68.04 300	*e*P		**P**	**21 56 36.0 -2.1**
CLNS	**Chul'man**	68.74 342	*e*P		**P**	**21 56 40.9 -0.9**
CLNS			*e**PP	pP		21 56 49.5 +4.0
CLNS			*e*			21 57 06.6
CLNS			*e*			21 59 11.2
CLNS			*e*S	S		22 05 35.5 -9.3
CLNS			*e*			22 06 39.1
CLNS			pmax	pmax		
	comp=Z,158nm,0.9s,mb5.9					
CLNS			pmax	pmax		
	comp=N,67nm,0.8s					
CLNS			pmax	pmax		
	comp=E,22nm,0.6s					
CLNS			smax			
	comp=E,42μm,16.7s					
CLNS			smax			
	comp=Z,47μm,14.9s					
CLNS			smax			
	comp=N,27μm,14.7s					
GTA	**Gaotai**	69.44 317	*e*P		**P**	**21 56 47.0 +0.5**
GTA			AP	pP		21 56 50.4 +0.1
GTA			PP	PP		21 59 23.3 +3.1
GTA			S	S		22 05 53.2 -0.7
GTA			AMB	AMB		
	comp=Z,46nm,1.7s					
GTA			LR	LR		
	comp=N,38μm,17.1s					
GTA			LR	LR		
	comp=E,22μm,16.3s					
GTA			LR	LR		
	comp=Z,36μm,16.0s					
SONM	**Songino Array**	69.97 327	P		**P**	**21 56 49.8 +0.2**
SONM			pmax	pmax		
	comp=Z,45nm,0.5s					
SONM	**Songino Array**	69.97 327	P		**P**	**21 56 49.8 +0.2**
	comp=Z,45nm,0.5s,mb5.6,baz=145,slow=6.0,SNR=30					
SHL	**Shillong**	70.05 300	*e*P		**P**	**21 56 48.0 -2.6**
SEY	**Seymchan**	70.09 358	⇑*e*P		**P**	**21 56 50.0 0.0**
VNDA	**Vanda**	70.24 179	P		**P**	**21 56 51.1 +0.2**
VNDA			PKKP			22 16 42.7
VNDA	**Vanda**	70.24 179	P		**P**	**21 56 51.1 +0.2**
	comp=Z,13nm,1.0s,mb4.8,baz=344,slow=6.8,SNR=15					
VNDA			PKKP			22 16 42.7
	comp=Z,0.9nm,0.3s,baz=221,slow=1.9,SNR=21					
SBA	**Scott Base**	70.74 178	*e*P		**P**	**21 56 55.4 +1.5**
	comp=Z,354nm,1.9s,mb6.0					
SBA			*e*PP	PP		21 59 30.0 -0.5
SBA	**Scott Base**	70.74 178	*e*P		**P**	**21 56 55.4 +1.5**
SBA			*e*			21 59 30.0
SBA			pmax	pmax		
	comp=Z,354nm,1.9s,mb6.0					
YAK	**Yakutsk**	72.02 347	*e*P		**P**	**21 57 02.0 +0.2**
	comp=Z,116nm,0.8s,mb5.9					
YAK	**Yakutsk**	72.02 347	*e*P		**P**	**21 57 02.2 +0.5**
YAK			*e**PP	pP		21 57 09.1 +3.6
YAK			*e*			21 57 18.1
YAK			*e*S	S		22 06 23.2 +0.2
YAK			*e*			22 07 04.4
YAK			pmax	pmax		
	comp=Z,142nm,1.0s					
YAK			pmax	pmax		
	comp=N,46nm,1.6s					
YAK			pmax	pmax		
	comp=E,39nm,1.9s					
YAK			smax			
	comp=E,33μm,16.4s					
YAK			MLR	MLR		
	comp=Z,27μm,21.0s					
YAK			MLR	MLR		
	comp=N,12μm,17.0s					
YAK			MLR	MLR		
	comp=E,20μm,14.0s					
LSA	**Lhasa**	72.02 304	*e*P		**P**	**21 57 03.4 +1.0**
	comp=E,111nm,0.9s,mb5.8					
LSA	**Lhasa**	72.02 304	*e*P		**P**	**21 57 03.4 +0.9**
LSA			pmax	pmax		
	comp=Z,111nm,0.9s,mb5.8					
ZAK	**Zakamensk**	73.13 328	*e*P		**P**	**21 57 08.1 -0.5**
ZAK			pmax	pmax		
	comp=Z,49nm,1.4s,mb5.2					
BOD	**Bodaibo**	73.17 338	*e*P		**P**	**21 57 06.9 -1.8**
BOD			pmax	pmax		
	comp=Z,77nm,1.0s,mb5.6					
TLY	**Talaya**	73.69 329	P		**P**	**21 57 12.2 +0.3**
	comp=Z,264nm,1.2s,mb6.0,SNR=5.2					
TLY	**Talaya**	73.69 329	⇓*e*P		**P**	**21 57 11.4 -0.5**
TLY			pmax	pmax		
	comp=Z,54nm,1.7s,mb5.2					
TLY	**Talaya**	73.69 329	P		**P**	**21 57 12.3 +0.5**
	SNR=9.7					
TLY	**Talaya**	73.69 329	P		**P**	**21 57 12.3 +0.5**
	SNR=9.7					
IRK	**Irkutsk**	73.70 330	⇓*i*P		**P**	**21 57 11.1 -0.8**
IRK			*e*			22 06 43.0
IRK			pmax	pmax		
	comp=Z,199nm,2.3s,mb5.6					
BOK	**Bokaro**	74.75 297	*e*P		**P**	**21 57 18.0 -0.7**
BOK			AMb	AMB		21 57 22.1
	comp=Z,174nm,1.1s,mb5.9					
MOY	**Mondy**	75.04 328	*e*P		**P**	**21 57 20.5 +0.7**
MOY			pmax	pmax		
	comp=Z,287nm,3.6s					
GAMB	**Gambell**	75.06 14	*e*P		**P**	**21 57 20.9 +1.3**
	comp=Z,16nm,0.9s,mb5.0					
JIRN	**Jiri**	75.53 301	*e*P		**P**	**21 57 22.8 -0.3**
	comp=Z,176nm,0.6s,mb6.2					
BILL	**Bilibino**	75.55 4	⇑*e*P		**P**	**21 57 21.6 -0.7**
BILL	**Bilibino**	75.55 4	⇑*e*P		**P**	**21 57 21.5 -0.8**
BILL			pmax	pmax		
	comp=Z,90nm,0.8s,mb5.8					
VIS	**Vishakhapatnam**	75.62 290	*e*P		**P**	**21 57 23.0 -0.9**
VIS			AMb	AMB		21 57 28.7
	comp=Z,86nm,2.0s,mb5.3					
PALK	**Pallekele**	76.17 279	P		**P**	**21 57 27.5 +0.5**
	comp=Z,171nm,1.1s,mb5.9,SNR=5.4					
PALK	**Pallekele**	76.17 279	*e*P		**P**	**21 57 26.4 -0.6**
	comp=Z,37nm,0.9s,mb5.3					
PALK			*e*PcP	PcP		21 57 40.3 +1.1
PALK	**Pallekele**	76.17 279	P		**P**	**21 57 28.2 +1.1**
	SNR=8.3					
KKN	**Kakani**	76.34 301	*e*P		**P**	**21 57 27.0 -0.8**
	comp=Z,233nm,0.7s,mb6.2					
GKN	**Gorkha**	76.95 301	*e*P		**P**	**21 57 30.1 -1.1**
	comp=Z,482nm,0.9s,mb6.4					
KDAK	**Kodiak Island**	77.16 26	P		**P**	**21 57 31.7 0.0**
	comp=Z,14nm,0.8s,mb4.9					
KDAK	**Kodiak Island**	77.16 26	P		**P**	**21 57 32.0 +0.4**
	comp=Z,7.3nm,0.6s,mb4.8,baz=296,slow=7.0,SNR=6.3					
TNA	**Tin City**	77.46 15	*e*P		**P**	**21 57 34.3 +1.1**
	comp=Z,25nm,1.0s,mb5.1					
TNA			PcP	PcP		21 57 44.9 +1.3
KOLN	**Koldanda**	77.77 300	*e*P		**P**	**21 57 34.8 -1.0**
	comp=Z,332nm,0.9s,mb6.2					
SVW2	**Sparrevohn**	78.04 22	*e*P		**P**	**21 57 37.4 +0.8**
TTA	**Tatalina**	79.08 20	*e*P		**P**	**21 57 42.4 +0.2**
	comp=Z,34nm,1.0s,mb5.2					
TTA	**Tatalina**	79.08 20	*e*P		**P**	**21 57 42.4 +0.1**
TTA			pmax	pmax		
	comp=Z,34nm,1.0s,mb5.2					
WMQ	**Urumqi**	79.53 317	⇑*i*P		**P**	**21 57 45.6 +0.5**
WMQ			AMB	AMB		
	comp=Z,50nm,1.4s,mb5.2					
SLKM	**Skilak Lake**	79.75 24	*e*P		**P**	**21 57 46.5 +0.5**
KOD	**Kodaikanal**	79.80 282	*e*P		**P**	**21 57 46.2 -1.0**
KOD			AMb	AMB		21 57 51.3
	comp=Z,93nm,1.4s,mb5.5					
TRD	**Trivandrum**	80.02 280	*e*P		**P**	**21 57 48.0 -0.5**
TRD			AMb	AMB		21 57 51.9
	comp=Z,91nm,1.2s,mb5.6					
NGP	**Nagpur**	80.29 293	*e*P		**P**	**21 57 47.6 -2.1**
NGP			AMb	AMB		21 57 51.1
	comp=Z,159nm,1.7s,mb5.7					
TIXI	**Tiksi**	80.77 352	⇑*e*P		**P**	**21 57 50.7 -0.5**
TIXI			pmax	pmax		
	comp=Z,80nm,1.8s,mb5.3					
PMR	**Palmer**	80.81 23	P		**P**	**21 57 52.1 +0.5**
LGTI	**Lohaghat**	81.05 301	*e*P		**P**	**21 57 53.0 -0.6**
PTH	**Pithoragarh**	81.09 301	*e*P		**P**	**21 57 53.4 -0.5**
SML	**Sawmill**	81.25 23	*e*P		**P**	**21 57 55.0 +1.1**
EYAK	**Cordova Ski Ar**	81.63 25	*e*P		**P**	**21 57 56.5 +0.5**
	comp=Z,391nm,2.4s,mb5.9					
IMA2	**Indian Mountai**	81.89 19	*e*P		**P**	**21 57 56.8 -0.4**
AKL	**Akola**	82.07 292	*e*P		**P**	**21 57 58.9 -0.3**
AKL			AMb	AMB		21 58 01.9
	comp=Z,201nm,2.3s,mb5.6					
LATR	**Latur**	82.07 290	*e*x		x	21 58 37.9
LATR			AMb	AMB		21 58 41.3
	comp=Z,101nm,1.7s,mb5.5					
MCK	**McKinley**	82.10 22	*e*P		**P**	**21 57 57.6 -0.8**
BHPL	**Bhopal**	82.18 295	*e*P		**P**	**21 57 58.8 -0.9**
BHPL			AMb	AMB		21 58 03.6
	comp=Z,165nm,1.7s,mb5.7					
QSPA	**South Pole Qui**	82.66 180	P		**P**	**21 58 01.2 0.0**
QSPA	**South Pole Qui**	82.66 180	P		**P**	**21 58 01.2 0.0**
	comp=Z,61nm,1.0s,mb5.6,baz=16,slow=1.9,SNR=19					
COLA	**College**	83.13 21	⇑*e*P		**P**	**21 58 03.5 -0.3**
MKAR	**Makanchi Array**	84.10 319	P		**P**	**21 58 08.6 -0.5**
MKAR			pmax	pmax		
	comp=Z,138nm,0.8s					
MKAR	**Makanchi Array**	84.10 319	P		**P**	**21 58 08.6 -0.6**
	comp=Z,138nm,0.8s,mb6.1,baz=78,slow=7.6,SNR=29					
KAD	**Karad**	84.11 288	*e*P		**P**	**21 58 08.9 -1.0**
KAD			AMb	AMB		21 58 11.5
	comp=Z,141nm,1.1s,mb6.0					
MAW	**Mawson**	84.36 203	*e*P		**P**	**21 58 09.3 -0.8**
	comp=Z,67nm,1.1s,mb5.7					
MAW	**Mawson**	84.36 203	*e*P		**P**	**21 58 09.3 -0.8**
MAW			pmax	pmax		
	comp=Z,67nm,1.1s					
MAW	**Mawson**	84.36 203	P		**P**	**21 58 09.6 -0.5**
	comp=Z,57nm,0.8s,mb5.7,baz=93,slow=6.5,SNR=20					
POO	**Poona**	84.62 289	*e*P		**P**	**21 58 11.8 -0.6**
POO			AMb	AMB		21 58 16.1
	comp=Z,162nm,2.0s,mb5.8					
ZAA0	**Zalesovo Array**	84.83 326	*e*P		**P**	**21 58 11.3 -1.3**
ZALV	**Zalesovo Beam**	84.83 326	P		**P**	**21 58 10.9 -1.7**
	comp=Z,64nm,0.6s,mb6.0,baz=114,slow=5.4,SNR=29					
ZAL	**Zalesovo**	84.83 326	P		**P**	**21 58 10.9 -1.8**
AJM	**Ajmer**	85.28 297	*e*P		**P**	**21 58 13.9 -1.6**
AJM			AMb	AMB		21 58 17.5
	comp=Z,335nm,1.3s,mb6.3					
DLH	**Dalhousie**	85.31 304	*e*P		**P**	**21 58 14.0 -1.6**
THN	**Thein Dam**	85.49 303	*e*P		**P**	**21 58 15.0 -1.5**
CRAG	**Craig**	85.52 33	P		**P**	**21 58 13.6 -2.5**
	comp=Z,91nm,1.6s,mb5.8					
EGAK	**Eagle**	85.55 23	*e*P		**P**	**21 58 14.7 -1.4**
	comp=Z,50nm,1.1s,mb5.7					
SKAG	**Skagway**	85.82 29	P		**P**	**21 58 17.9 +0.4**
	comp=Z,15nm,1.1s,mb5.1					
DAWY	**Dawson**	85.92 24	*e*P		**P**	**21 58 19.3 +1.4**
NVS	**Novosibirsk**	86.00 326	*i* P		**P**	**21 58 16.9 -1.6**
NVS			*i* S	S		22 08 50.8 -1.4
NVS			pmax	pmax		
	comp=N,102nm,1.7s					
NVS			pmax	pmax		
	comp=E,207nm,1.7s					
NVS			pmax	pmax		
	comp=Z,324nm,1.7s,mb6.3					
NVS			smax			
	comp=N,26nm,1.5s					
NVS			smax			
	comp=E,80nm,1.9s					
KSH	**Kashi**	86.74 310	P		**P**	**21 58 23.4 +0.9**
KSH			AP	pP		21 58 28.0 +1.7
KSH			XP	sP		21 58 30.0 +2.3
KSH			PP	PP		22 01 48.1 +3.1
KSH			SKS			22 08 47.1
KSH			S	S		22 08 59.4 -0.7
KSH			SS	SS		22 14 43.8 +1.8
KSH			AMB	AMB		
	comp=Z,3μm,3.4s					
KSH			LR	LR		
	comp=Z,95μm,19.5s					
ULHL	**Ulahol**	87.12 313	P		**P**	**21 58 25.0 +0.7**
	SNR=9.8					
KURK	**Kurchatov**	87.51 322	P		**P**	**21 58 25.5 -0.5**
	comp=Z,378nm,1.2s,mb6.5,SNR=5.5					
KURK	**Kurchatov**	87.51 322	⇑*e*P		**P**	**21 58 24.8 -1.2**
KURK	**Kurchatov**	87.51 322	⇑*e*P		**P**	**21 58 24.7 -1.3**
KURK	**Kurchatov**	87.51 322	P		**P**	**21 58 25.1 -0.9**
	SNR=15					
KURK	**Kurchatov**	87.51 322	P		**P**	**21 58 25.1 -0.9**
	SNR=15					
TKM2	**Tokmak 2**	87.73 314	*e*P		**P**	**21 58 26.7 -0.5**
	comp=Z,32nm,0.6s,mb5.7					
TKM2	**Tokmak 2**	87.73 314	*e*P		**P**	**21 58 26.7 -0.5**
TKM2			pmax	pmax		
	comp=Z,32nm,0.6s,mb5.7					
TKM2	**Tokmak 2**	87.73 314	P		**P**	**21 58 28.6 +1.4**
	SNR=24					
KZA	**Kyzart**	87.81 313	P		**P**	**21 58 29.9 +2.3**
	SNR=20					
DLBC	**Dease Lake**	88.07 30

SNR=21
USP Ospenovka 88.59 314 P **P 21 58 32.5 +1.2**
SNR=26
YBH Yreka Blue Hor 88.60 48 *eP* **P 21 58 32.4 +1.0**
comp=Z,7.0nm,1.1s,mb4.9
YBH Yreka Blue Hor 88.60 48 *eP* **P 21 58 32.4 +1.0**
YBH pmax pmax
comp=Z,7.0nm,1.1s
AML Almayashu 88.95 313 P **P 21 58 35.6 +2.5**
SNR=15
EKS2 Erkin-Say 88.99 313 *eP* **P 21 58 33.9 +0.7**
comp=Z,37nm,0.9s,mb5.7
EKS2 Erkin-Say 88.99 313 P **P 21 58 34.8 +1.6**
SNR=16
BHJ Bhuj 89.23 293 *eP* **P 21 58 33.7 -1.1**
BHJ AMb AMB 21 58 37.3
comp=Z,174nm,1.4s,mb6.2
CMB Columbia Colle 89.70 52 *eP* **P 21 58 36.8 +0.2**
comp=Z,46nm,2.0s,mb5.5
CMB Columbia Colle 89.70 52 *eP* **P 21 58 36.8 +0.1**
CMB pmax pmax
comp=Z,47nm,2.0s,mb5.5
INK Inuvik 89.78 21 P **P 21 58 35.5 -0.9**
comp=Z,9.4nm,0.6s,mb5.3,baz=265,slow=2.5,SNR=12
INK PKKPbc PKKPbc 22 16 08.9 -3.3
comp=Z,3.2nm,0.9s,baz=76,slow=6.1,SNR=6.1
MOD Modoc 90.40 48 *eP* **P 21 58 42.0 +2.2**
comp=Z,26nm,1.5s,mb5.3
NVAR Mina Array Bea 91.38 52 P **P 21 58 45.3 +0.8**
comp=Z,3.0nm,1.0s,mb4.6,baz=239,slow=3.7,SNR=6.2
WVOR Wild Horse Val 91.70 48 *eP* **P 21 58 47.0 +1.1**
comp=Z,5.9nm,0.6s,mb5.1
WVOR Wild Horse Val 91.70 48 *eP* **P 21 58 47.0 +1.1**
WVOR pmax pmax
comp=Z,6.0nm,0.6s,mb5.1
GSC Goldstone 92.15 55 *eP* **P 21 58 48.3 +0.2**
comp=Z,89nm,2.1s,mb5.7
GSC Goldstone 92.15 55 *eP* **P 21 58 48.3 +0.2**
GSC pmax pmax
comp=Z,89nm,2.1s,mb5.7
TPNV Topopah Spring 92.81 53 *eP* **P 21 58 51.4 +0.3**
comp=Z,124nm,2.1s,mb6.0
TPNV Topopah Spring 92.81 53 *eP* **P 21 58 51.4 +0.3**
TPNV pmax pmax
comp=Z,124nm,2.1s,mb6.0
CHKZ Chkalovo 92.92 324 *i P* **P 21 58 47.7 -3.5**
CHKZ Chkalovo 92.92 324 *i P* **P 21 58 47.6 -3.6**
CHKZ pmax pmax
comp=Z,69nm,1.0s,mb6.0
BMO Blue Mountains 92.99 45 *eP* **P 21 58 51.7 0.0**
comp=Z,10nm,1.4s,mb5.1
BMO Blue Mountains 92.99 45 *eP* **P 21 58 51.7 -0.1**
BMO pmax pmax
comp=Z,10.0nm,1.4s,mb5.0
BRVK Borovoye 93.03 323 P **P 21 58 49.0 -2.7**
comp=Z,422nm,1.0s,mb6.8,SNR=7.1
BRVK Borovoye 93.03 323 *eP* **P 21 58 49.4 -2.3**
comp=Z,56nm,0.9s,mb6.0
BRVK Borovoye 93.03 323 *eP* **P 21 58 49.4 -2.3**
BRVK pmax pmax
comp=Z,56nm,0.9s,mb6.0
BRVK Borovoye 93.03 323 P **P 21 58 50.2 -1.6**
SNR=12
BRVK Borovoye 93.03 323 P **P 21 58 50.2 -1.6**
SNR=12
NEW Newport 93.54 42 P **P 21 58 53.8 -0.4**
NEW pmax pmax
comp=Z,3.0nm,0.8s
NEW Newport 93.54 42 P **P 21 58 53.8 -0.4**
comp=Z,3.0nm,0.8s,mb4.8,baz=224,slow=6.2,SNR=4.6
BGU Big Grassy Mou 95.71 50 *eP* **P 21 59 06.7 +2.4**
DUG Dugway 95.81 50 *eP* **P 21 59 05.5 +0.7**
comp=Z,12nm,1.5s,mb5.1
DUG Dugway 95.81 50 *eP* **P 21 59 05.5 +0.7**
DUG pmax pmax
comp=Z,12nm,1.5s,mb5.1
YKA Yellowknife Ar 96.30 28 P **P 21 59 06.8 +0.3**
YKA PKKPbc PKKPbc 22 15 50.1 -4.8
YKA Yellowknife Ar 96.30 28 P **P 21 59 06.8 +0.3**
YKA pmax pmax
comp=Z,5.0nm,0.7s
YKA Yellowknife Ar 96.30 28 P **P 21 59 06.8 +0.3**
comp=Z,5.1nm,0.7s,mb5.1,baz=265,slow=4.6,SNR=14
YKA PKKPbc PKKPbc 22 15 50.1 -4.8
comp=Z,1.0nm,0.5s,baz=79,slow=2.7,SNR=14
EDM Edmonton 96.38 37 *eP* **P 21 59 07.0 0.0**
JLU Jordanelle 96.88 50 *eP* **P 21 59 10.3 +0.7**
BW06 Boulder Array 98.41 48 P **P 21 59 15.6 -0.9**
PDAR Pinedale Array 98.41 48 P **P 21 59 16.7 +0.2**
comp=Z,3.1nm,0.8s,mb4.9,baz=233,slow=2.2,SNR=12
SVE Sverdlovsk 98.84 326 *eP* **P 21 59 13.8 -4.3**
SVE pmax pmax
comp=Z,43nm,1.6s,mb5.7
AB31 Akbulak array 99.24 319⇑ *eP* **P 21 59 18.4 -1.7**
SNAA Sanae 99.91 187 P Pdif 21 59 21.3 -1.6
SNAA pmax pmax
comp=Z,2.0nm,0.9s
SNAA Sanae 99.91 187 P Pdif 21 59 21.3 -1.6
comp=Z,1.8nm,0.9s,baz=212,slow=4.2,SNR=4.2
ARU Arti 99.99 326⇑ *eP* Pdif 21 59 20.6 -2.7
ARU pmax pmax
comp=Z,57nm,1.7s,mb5.7
AKTK Aktyubinsk 100.48 320 P Pdif 21 59 24.4 -1.1
AKTO Aktyubinsk 100.48 320 P Pdif 21 59 24.4 -1.1
AKTO pmax pmax
comp=Z,9.0nm,1.0s
AKTO Aktyubinsk 100.48 320 P Pdif 21 59 24.4 -1.1
comp=Z,8.6nm,1.0s,baz=90,slow=4.5,SNR=13
LAO LASA Array 100.83 44 Pdif Pdif 21 59 28.1 +1.0
comp=Z,4.1nm,0.8s
ISCO Idaho Springs 101.32 51 Pdif Pdif 21 59 30.9 +1.7
RES Resolute Bay 102.10 15 Pdif Pdif 21 59 33.9 +1.2
comp=Z,93nm,0.8s
RES Resolute Bay 102.10 15 P Pdif 21 59 33.9 +1.2
RES pmax pmax
comp=Z,93nm,0.8s
ULM Lac du Bonnet 107.36 40 PKiKP PKiKP 22 04 04.7 -0.2
comp=Z,0.9nm,0.4s,baz=270,slow=3.0,SNR=3.3
ECSD EROS,Sioux Fal 107.81 46 PKiKP PKiKP 22 04 05.8 0.0
ARCES ARCESS Array B 110.09 343 Pdiff Pdif 22 00 07.4 -0.8
comp=Z,7.2nm,1.0s,baz=17,slow=8.9,SNR=4.3
ARCES PKiKP PKiKP 22 04 09.8 +0.4
comp=Z,3.8nm,0.4s,baz=93,slow=1.4,SNR=26
MOS Moscow 111.61 328 *eP*KIKP PKiKP 22 04 13.1 +0.5
MOS *e* 22 04 51.3
OBN Obninsk 112.39 327 *i* P Pdif 22 00 17.4 -1.0
OBN *i* 22 04 13.0
OBN *e* 22 04 23.3
OBN 22 04 59.0
FINES FINESS Array B 114.51 336 PKPdf PKiKP 22 04 17.5 -0.5
FINES FINESS Array B 114.51 336 PKiKP PKiKP 22 04 17.5 -0.5
comp=Z,5.9nm,0.7s,baz=103,slow=2.9,SNR=20
PLCA Paso Flores 116.05 142 PKIKP PKPdf 22 04 20.4 -1.3
PLCA pmax pmax
comp=Z,8.0nm,0.9s
PLCA Paso Flores 116.05 142 PKP PKPdf 22 04 20.4 -1.3
comp=Z,7.5nm,0.9s,baz=207,slow=4.1,SNR=12
KMBO Kilima Mbogo 118.02 265 PKIKP PKPdf 22 04 25.3 -0.9
KMBO pmax pmax
comp=Z,1.0nm,0.7s
KMBO Kilima Mbogo 118.02 265 PKP PKPdf 22 04 25.3 -0.9
comp=Z,1.1nm,0.7s,baz=62,slow=8.2,SNR=4.4
ASF Jabal al Asfar 118.17 303 PKIKP PKPdf 22 04 27.0 +1.0
ASF pmax pmax
comp=Z,2.0nm,0.5s
ASF Jabal al Asfar 118.17 303 PKP PKPdf 22 04 27.0 +1.0
comp=Z,1.7nm,0.5s,baz=355,slow=8.9,SNR=4.0
AKASG Malin Array Be 118.20 325 PKP PKPdf 22 04 23.5 -1.9
AKASG Malin Array Be 118.20 325 PKIKP PKPdf 22 04 23.5 -1.9
AKASG pmax pmax
comp=Z,4.0nm,0.5s
AKASG Malin Array Be 118.20 325 PKP PKPdf 22 04 23.5 -1.9
comp=Z,3.7nm,0.5s,baz=56,slow=2.2,SNR=15
TKL Tuckaleechee C 118.94 53 PKIKP PKPdf 22 04 27.2 -0.2
TKL pmax pmax
comp=Z,2.0nm,0.5s
TKL Tuckaleechee C 118.94 53 PKP PKPdf 22 04 27.1 -0.2
comp=Z,1.7nm,0.5s,baz=143,slow=5.5,SNR=4.9
MMAI Mount Meron Ar 119.27 304 PKP PKPdf 22 04 28.5 +0.5
comp=Z,1.7nm,0.5s,baz=83,slow=8.5,SNR=8.3
ANTO Ankara 119.69 312⇓ *iP* PKPdf 22 04 26.2 -2.5
SUW Suwalki 119.85 330 *e*PKP PKPdf 22 04 29.1 +0.5
NOA NORSAR Array B 120.23 341 PKIKP PKPdf 22 04 28.1 -0.9
NOA pmax pmax
comp=Z,10.0nm,0.7s
NOA NORSAR Array B 120.23 341 PKP PKPdf 22 04 28.1 -0.9
comp=Z,9.7nm,0.7s,baz=45,slow=1.9,SNR=28
LVV L'vov 121.56 325 *e*PKIKP PKPdf 22 04 31.4 -0.5
SUR Sutherland 121.65 225 PKP PKPdf 22 04 32.4 -0.3
comp=Z,14nm,0.9s,baz=130,slow=6.2,SNR=2.8
SCHQ Schefferville 121.75 27 PKP PKPdf 22 04 31.6 -0.6
comp=Z,3.8nm,0.9s,baz=360,slow=4.0,SNR=4.0
KWP Kalwaria 122.40 326 *e*PKP PKPdf 22 04 33.2 -0.4
KWP Kalwaria 122.40 326⇑ *iP* PKPdf 22 04 34.0 +0.4
MLR Muntele Rosu 122.41 320⇑ *iP* PKPdf 22 04 30.0 -3.7
BORG Borgarnes 122.63 358 PKP PKPdf 22 04 34.2 +0.6
comp=Z,18nm,0.8s,baz=297,slow=4.5,SNR=2.3
TRQA Tornquist 122.83 145 *e*PKPdf PKPdf 22 04 33.0 -1.8
KOLS Kolonicke sedl 123.00 325 *e*PKP PKPdf 22 04 36.3 +1.6
BSD Bornholm Skovb 123.03 334 *i* PKIKP PKPdf 22 04 36.0 +1.4
BSD pmax pmax
comp=Z,26nm,0.9s
BSD Bornholm Skovb 123.03 334 *i* P PKPdf 22 04 36.0 +1.4
comp=Z,26nm,0.9s
UZH Uzhgorod 123.14 325⇑ *i*PKIKP PKPdf 22 04 34.0 -1.0
UZH *i* 22 04 42.0
GKP Gorka Klasztor 123.16 332 *e*PKP PKPdf 22 04 36.5 +1.6
SDMD Soldier's Deli 123.20 47 *e*PKPdf PKPdf 22 04 36.0 +0.6
STHS Stebnicka Huta 123.33 326 *e*PKP PKPdf 22 04 35.5 +0.2
FRNY Flat Rock 123.33 40 *e*PKPdf PKPdf 22 04 35.0 -0.4
COP Copenhagen 123.67 336 *i* PKIKP PKPdf 22 04 36.2 +0.4
COP pmax pmax
comp=Z,26nm,0.9s
COP Copenhagen 123.67 336 *i* P PKPdf 22 04 36.2 +0.4
comp=Z,26nm,0.9s
DRGR 123.82 323⇓ *iP* PKPdf 22 04 35.2 -1.2
ATAH Atahualpa 124.22 104 PKP PKPdf 22 04 38.7 +0.6
comp=Z,22nm,0.8s,baz=84,slow=1.6,SNR=11
NNA Nana 124.36 110 *e*PKPdf PKPdf 22 04 38.6 +0.2
MUD Monsted U'grnd 124.37 338 *i* P PKPdf 22 04 37.2 +0.1
GZR Gura Zlata 124.45 321⇑ *iP* PKPdf 22 04 37.7 +0.1
OKC Ostrava-Krasne 124.77 328 *e*PKP PKPdf 22 04 39.4 +1.3
OKC *e* 22 04 47.7
OKC Ostrava-Krasne 124.77 328 *e*PKPdf PKPdf 22 04 39.4 +1.3
OKC *ex* x 22 04 47.7
BZS Buzias 125.05 322⇓ *iP* PKPdf 22 04 38.6 -0.2
KSP Ksiaz 125.12 330 *e*PKP PKPdf 22 04 40.5 +1.7
KSP Ksiaz 125.12 330 *e*PKIKP PKPdf 22 04 38.7 0.0
KSP *e* 22 04 46.8
MORC Moravsky Berou 125.12 328⇓ *iP* PKPdf 22 04 39.6 +0.8
VYHS Vyhne 125.16 326 *e*PKP PKPdf 22 04 39.5 +0.6
VYHS *e*PP PP 22 06 19.3 -8.6
KOLL Kolacno 125.35 326 *e*PKP PKPdf 22 04 39.9 +0.6
DPC Dobruska-Polom 125.41 329 *e*PKPdf PKPdf 22 04 41.0 +1.7
DPC *ex* x 22 04 48.7
VTS Vitosha 125.45 318⇑ *iP* PKPdf 22 04 40.7 +1.1
UPC Upice 125.47 330 *e*PKP PKPdf 22 04 40.0 +0.6
UPC *e* 22 04 48.9
UPC Upice 125.47 330 *e*PKPdf PKPdf 22 04 40.0 +0.6
UPC *ex* x 22 04 48.9
VRAC Vranov 125.90 328⇓ *iP* PKPdf 22 04 41.0 +0.7
MODS Modra-Piesok 126.08 327 *e*PKP PKPdf 22 04 40.1 -0.6
PVCC Panska Ves 126.17 330 *e*PKPdf PKPdf 22 04 40.8 0.0
PVCC *ex* x 22 04 50.7
BRG Berggiesshubel 126.26 331 *i* PKIKP PKPdf 22 04 39.3 -1.6
BRG *i* 22 04 49.1
BRG *e* 22 06 31.6
BRG pmax pmax
comp=Z,6.0nm,1.2s
BRG Berggiesshubel 126.26 331 *i* PKP PKPdf 22 04 39.3 -1.6
comp=Z,44nm,1.2s
BRG *i* 22 04 49.1
comp=Z,52nm,1.1s
BRG *e* 22 06 31.6
comp=Z,12nm,1.1s
ZST Bratislava 126.28 327 *e*PKP PKPdf 22 04 42.6 +1.6
CLL Collm 126.42 332 *i* PKP PKPdf 22 04 39.6 -1.6
CLL *i* 22 04 42.1
CLL *i* 22 04 50.2
CLL Collm 126.42 332 *i* PKIKP PKPdf 22 04 39.6 -1.6
CLL *i* 22 04 50.2
CLL pmax pmax
comp=Z,45nm,1.2s
CLL Collm 126.42 332 *i* PKPdf PKPdf 22 04 39.6 -1.6
CLL *i* PKPdfmax 22 04 42.1
comp=Z,45nm,1.2s
CLL *i* (pPKPdf) 22 04 50.2
CLL *e*PP PP 22 06 44.0 +7.9
VAY Valandovo 126.43 317 *e*PKP PKPdf 22 04 40.6 -1.0
TREC Trest 126.48 329 *e*PKPdf PKPdf 22 04 41.7 +0.3
TREC *ex* x 22 04 50.6
PRU Pruhonice 126.53 330 *e*PKP PKPdf 22 04 41.8 +0.3
PRU *e* 22 04 50.7
PRU Pruhonice 126.53 330 *e*PKPdf PKPdf 22 04 41.8 +0.3
PRU *ex* x 22 04 50.7
SKO Skopje 126.90 318 *e*PKP PKPdf 22 04 41.5 -0.9
CONA Conrad Observa 127.11 327⇑ *iP*KIKP PKiKP 22 04 42.7 -0.5
comp=Z,36nm,1.5s,SNR=9.0
NKC Novy Kostel 127.40 331 *e*PKPdf PKPdf 22 04 44.8 +1.7
NKC *ex* x 22 04 52.6
MOX Moxa 127.51 332 *e*PKP PKPdf 22 04 44.3 +1.0
comp=Z,65nm,1.8s
KHC Kasperske Hory 127.56 329 *e*PKPdf PKPdf 22 04 43.3 -0.2
KHC *ex* x 22 04 52.7
GERES GERESS Array B 127.68 329 PKIKP PKPdf 22 04 43.8 +0.1
GERES pmax pmax
comp=Z,7.0nm,0.7s
GERES GERESS Array B 127.68 329 PKP PKPdf 22 04 43.8 +0.1
comp=Z,6.5nm,0.7s,baz=71,slow=1.3,SNR=15
ARSA Arzberg 127.70 327⇓ *iP* PKPdf 22 04 42.7 -1.1
comp=Z,15nm,1.4s
OHR Ohrid 127.72 317 *e*PKP PKPdf 22 04 42.8 -1.2
GRA1 Grafenberg Arr 128.35 331 *e*PKPdf PKPdf 22 04 45.0 +0.1
GRF Grafenberg Arr 128.35 331 *e*PKPdf PKPdf 22 04 45.0 +0.1
WTSB Winterswijk 128.67 336 *e*PKiKP PKiKP 22 04 45.4 -0.7
WTTA Wattenberg 129.76 329⇓ *iP* PKPdf 22 04 48.0 +0.3
comp=Z,71nm,1.2s,SNR=11
HGN Heimansgroeve 129.94 335 *e*PKiKP PKiKP 22 04 45.6 -3.1
MEM Membach 130.02 335 PKPdf PKPdf 22 04 48.2 +0.1
ROSC El Rosal 130.23 90 PKP PKPdf 22 04 50.2 +0.6
comp=Z,10nm,0.4s,baz=93,slow=6.6,SNR=13
LANF Langenberg 130.44 333 PKP PKPdf 22 04 50.3 +1.3
BCLA Clavier 130.46 335 PKPdf PKPdf 22 04 50.3 +1.3
WLF Walferdange 130.67 334 PKPdf PKPdf 22 04 49.4 +0.1
LPAZ La Paz 130.71 119 PKP PKPdf 22 04 51.1 +0.7
comp=Z,16nm,0.8s,baz=17,slow=3.3,SNR=18
LPAZ SKPbc SKPbc 22 08 15.1 +0.8
comp=Z,13nm,1.0s,baz=272,slow=3.0,SNR=9.3
STR Strasbourg 130.75 332 PKP PKPdf 22 04 48.8 -0.7
SNF Seneffe 130.80 336 PKPdf PKPdf 22 04 50.1 +0.5
GIVF Givet 130.90 335 *e*PKIKP PKPdf 22 04 37.9 -12
DAVOX Davos/Dischmat 130.98 329 PKP PKPdf 22 04 51.0 +1.0
comp=Z,12nm,0.6s,baz=134,slow=4.0,SNR=15
DAVOS Davos 130.98 329 PKIKP PKPdf 22 04 51.1 +1.1
DOU Dourbes 131.00 336 PKPdf PKPdf 22 04 50.9 +1.0
CDF Champ du Feu 131.09 332 *e*PKIKP PKPdf 22 04 37.6 -13
BAIF Baives 131.19 336 *e*PKIKP PKPdf 22 04 38.5 -12
comp=Z,47nm,1.0s
ECH Echery 131.29 332 PKP PKPdf 22 04 51.4 +0.8
DMUB Kingscourt 131.46 346⇑ *iP* PKPdf 22 05 01.3 +11
DMUB Kingscourt 131.46 346 *e*P PKPdf 22 04 50.9 +0.2
MOF Molkenrain 131.57 332 PKP PKPdf 22 04 50.3 -0.8
MENF Mencas 131.59 338 PKP PKPdf 22 04 50.8 -0.3
HINF Hinteralfeld 131.72 332 *e*PKIKP PKPdf 22 04 39.1 -12
AQU L'Aquila 131.80 323⇓ *iP* PKPdf 22 04 51.1 -0.6
HAU Haudompre 131.82 333 *e*PKIKP PKPdf 22 04 39.5 -12
comp=Z,58nm,1.0s
THEF They Montfort 131.82 333 PKP PKPdf 22 04 52.9 +1.3
DLF Lyons Farm 131.93 346⇑ *iP* PKPdf 22 05 02.0 +10
DLF Lyons Farm 131.93 346 *e*P PKPdf 22 04 51.7 +0.1
MEZF Maizieres J'vi 132.03 334 *e*PKIKP PKPdf 22 04 40.3 -12
comp=Z,114nm,1.1s
DCN Croghan 132.06 346⇑ *iP* PKPdf 22 05 02.2 +10
DCN Croghan 132.06 346 *e*P PKPdf 22 04 52.1 +0.2
LOMF Lomont 132.07 332 PKP PKPdf 22 04 51.9 -0.2
CABF La Chapelle 132.96 332 *e*PKIKP PKPdf 22 04 42.4 -11
LPL La Plagne 133.43 330 *e*PKIKP PKPdf 22 04 43.3 -11
comp=Z,67nm,1.2s
LPG La Plagne 133.44 330 *e*PKIKP PKPdf 22 04 43.4 -11
comp=Z,19nm,0.7s
LOR Lormes 133.49 334 *e*PKIKP PKPdf 22 04 43.3 -11
comp=Z,55nm,1.0s
SSF Saint Saulge 133.80 334 *e*PKIKP PKPdf 22 04 43.6 -12
comp=Z,60nm,1.1s
SMF Signal de Mont 133.97 333 *e*PKIKP PKPdf 22 04 43.7 -12
HYF Humbligny 134.01 335 *e*PKIKP PKPdf 22 04 44.4 -11
FLN La Foliniere 134.05 338 *e*PKIKP PKPdf 22 04 43.8 -12
comp=Z,119nm,1.0s
LDF La Druitiere 134.05 338 *e*PKIKP PKPdf 22 04 43.7 -12
comp=Z,52nm,1.0s
AVF Avril sur Loir 134.07 334 *e*PKIKP PKPdf 22 04 43.8 -12
comp=Z,27nm,1.0s
SBF Sospel 134.23 328 *e*PKIKP PKPdf 22 04 44.2 -12
PGF Pioggiola 134.25 325 *e*PKIKP PKPdf 22 04 44.3 -12
BGF Bois d'Agland 134.47 334 *e*PKIKP PKPdf 22 04 45.0 -12
comp=Z,76nm,1.2s
GRR Gorron 134.50 338 *e*PKIKP PKPdf 22 04 44.9 -12
comp=Z,20nm,0.6s
FRF La Foret Royal 134.85 328 *e*PKIKP PKPdf 22 04 45.3 -12
VIVF Saint-Julien-l 134.92 331 *e*PKIKP PKPdf 22 04 45.9 -12
comp=Z,81nm,1.3s
TCF Toulx Ste Croi 134.96 334 *e*PKIKP PKPdf 22 04 45.9 -12
comp=Z,71nm,1.1s
LMR La Mourre 135.08 328 *e*PKIKP PKPdf 22 04 46.0 -12
SMRF Simiane la Rot 135.11 329 *e*PKIKP PKPdf 22 04 46.7 -11
SGMF Saint Gilles 135.22 339 *e*PKIKP PKPdf 22 04 46.0 -12
MFF Saint Martin d 135.70 336 *e*PKIKP PKPdf 22 04 47.2 -12
QUIF Quistinic 135.72 340 *e*PKIKP PKPdf 22 04 47.0 -12
RJF Les Rejaudoux 136.03 334 *e*PKIKP PKPdf 22 04 47.2 -12
CAF Calviac 136.08 333 *e*PKIKP PKPdf 22 04 48.6 -11
KEST Kesra 138.19 317 PKP PKPdf 22 05 02.1 -1.7
comp=Z,1.4nm,0.7s,baz=333,slow=5.7,SNR=5.2
EPON Pontenova 141.09 340 PKP PKPdf 22 05 04.8 -4.2
ETOR Torete 141.18 333 PKP PKPdf 22 05 07.9 -1.2
ECHE Chera 141.63 330 PKP PKPdf 22 05 06.6 -3.5
STS Santiago 141.95 341 PKP PKPdf 22 05 06.3 -4.2
ECAL Calabor 142.16 338 PKP PKPdf 22 05 07.3 -3.6
GUD Guadarrama 142.25 335 PKP PKPdf 22 05 08.1 -3.0
MVO Moncorvo 142.95 338 *e*PKP PKPdf 22 05 09.9 -2.4
ESDC Sonseca Array 142.96 334 PKP PKPdf 22 05 10.2 -2.2
comp=Z,9.8nm,0.8s,baz=27,slow=2.8,SNR=20
PVRL Vila Real 143.10 339 *e*PKP PKPdf 22 05 10.3 -2.3
EVIA Vianos 143.12 331 PKP PKPdf 22 05 10.2 -2.5
PVIS Viseu 143.66 339 *e*PKP PKPdf 22 05 10.5 -3.1
MTE Manteigas 143.81 338 *e*PKP PKPdf 22 05 12.7 -1.2
EQES Quesada 144.06 331 PKP PKPdf 22 05 11.2 -3.2
EBAN Banos Encina 144.11 332 PKP PKPdf 22 05 11.3 -3.2
PCBR Castelo Branco 144.27 338 *e*PKP PKPdf 22 05 11.9 -2.8
ENIJ Nijar 144.27 329 PKP PKPdf 22 05 13.0 -1.8
EADA Adamuz 144.47 333 PKP PKPdf 22 05 12.4 -2.7
EBER Berja 144.67 330 PKP PKPdf 22 05 13.9 -1.6
ECOG Cogollos-Vega 144.71 331 PKP PKPdf 22 05 11.9 -3.6
ELUQ Luque 144.82 332 PKP PKPdf 22 05 13.0 -2.7
ECAB El Cabril 144.92 334 PKP PKPdf 22 05 13.6 -2.3
EBAD Badajoz 145.02 336 PKP PKPdf 22 05 13.9 -2.2
ERON Agron 145.03 331 PKP PKPdf 22 05 13.0 -3.1
EGUA Guajares 145.06 330 PKP PKPdf 22 05 14.0 -2.2
ELOJ Sierra Loja 145.10 331 PKP PKPdf 22 05 14.0 -2.2
PESTR Estremoz 145.16 337 *e*PKP PKPdf 22 05 15.1 -1.1
ALMR Almeirim 145.28 338 *e*P PKPbc 22 05 15.2 -0.9
EALB Alboran 145.49 329 PKP PKPdf 22 05 15.0 -1.9
PBAR Barrancos 145.53 336 *e*PKP PKPdf 22 05 16.3 -0.6
EVO Evora 145.61 337 *e*PKIKP PKPdf 22 05 16.0 -1.0
comp=Z,863nm,1.6s
PMAFR Mafra 145.71 339 *e*PKP PKPdf 22 05 17.0 -0.2
EMIN Mina Concepcio 145.72 335 PKP PKPdf 22 05 16.2 -1.0
MOE Montemor 145.75 337 *e*PKP PKPdf 22 05 19.1 +1.8
EMIJ Mijas 145.86 331 PKP PKPdf 22 05 16.3 -1.3
PBEJ Beja 145.99 336 *e*PKP PKPdf 22 05 18.0 +0.3
ESPR Espera 146.12 333 PKP PKPdf 22 05 18.1 +0.2
EGRO El Granado 146.26 336 PKP PKPdf 22 05 17.3 -0.9
EJIF Jimena Fronter 146.28 332 PKP PKPdf 22 05 20.0 +1.8
PVAQ Vaqueiros 146.47 336 *e*PKP PKPdf 22 05 21.0 +2.5
PBDV Barranco-do-Ve 146.69 336 *e*PKP PKPdf 22 05 21.3 +2.4
PTEO Sao Teotonio 146.74 337 *e*PKP PKPdf 22 05 20.3 +1.3
MORF Marmelete 146.92 337 *e*PKP PKPdf 22 05 21.0 +1.7
PFVI Vila Bisbo 147.14 337 *e*PKP PKPdf 22 05 22.4 +2.7
ROSA Rosais 148.54 6 *e*PKP PKPbc 22 05 27.1 +1.6
CALA Caldeira 148.62 7 *e*PKP PKPbc 22 05 29.1 +3.4
PICO Pico 148.74 6 *e*PKP PKPbc 22 05 28.2 +2.2
PID Ribeirinha 148.82 6 *e*PKP PKPbc 22 05 27.6 +1.3
PMPS Porto Santo 153.34 345 *e*PKP PKPbc 22 05 37.4 +0.4
TOA0 Torodi Ar. Sit 153.77 285 *e*PKP PKPbc 22 05 38.5 0.0
TORD Torodi Ar. Bea 153.77 285 PKPbc PKPbc 22 05 36.4 -2.0
TORD PKPab PKPab 22 05 50.4 -0.9
TORD Torodi Ar. Bea 153.77 285 PKPbc PKPbc 22 05 36.4 -2.0
comp=Z,14nm,1.0s,baz=18,slow=1.6,SNR=11
TORD PKPab PKPab 22 05 50.4 -0.9
comp=Z,11nm,0.8s,baz=60,slow=1.7,SNR=7.1
PMAR Madeira 153.80 346 *e*PKP PKPbc 22 05 38.4 +0.4
DBIC Dimbokro 160.67 269 PKP PKPdf 22 05 37.6 -1.8
comp=Z,7.9nm,0.9s,baz=29,slow=4.2,SNR=5.8
DBIC PKPab PKPab 22 06 20.9 -0.3
comp=Z,12nm,0.5s,baz=80,slow=4.3,SNR=12

IDC 01 21:47:21.8±15.0, 765S×15585E, h0km, mb4.8/4, mb1 4.8/4, mb1mx4.5/14, mbtmp4.8/4, Error ellipse: s-maj=840.1km s-min=175.4km az=81.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSRS	Korea Array	51.91	332	P	P	21 56 32.0	-0.3
	2.3nm,0.7s,baz=152,slow=8.2,SNR=0.7						
SONM	Songino Array	70.34	327	P	P	21 58 38.1	+0.8
	7.8nm,1.0s,baz=134,slow=6.2,SNR=1.8						
MKAR	Makanchi Array	84.45	319	P	P	21 59 56.6	+0.2
	13nm,0.7s,baz=121,slow=6.9,SNR=3.9						
ZALV	Zalesovo Beam	85.19	326	P	P	21 59 59.5	-0.4
	8.9nm,0.7s,baz=124,slow=5.7,SNR=3.6						

IDC 01 21:47:32.4±2.0, 816S×15595E, h0km, mb5.0/7, mb1 5.1/7, mb1mx4.8/15, mbtmp4.9/7, Error ellipse: s-maj=62.6km s-min=33.4km az=132.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	23.98	238	P	P	21 52 48.3	-0.4
	66nm,1.2s,baz=63,slow=9.8,SNR=2.7						
KSRS	Korea Array	52.40	332	P	P	21 56 45.4	-1.2
	8.6nm,0.8s,baz=147,slow=6.6,SNR=2.5						
SONM	Songino Array	70.82	327	P	P	21 58 51.6	+0.8
	20nm,0.7s,baz=136,slow=6.8,SNR=5.3						
MKAR	Makanchi Array	84.89	319	P	P	22 00 11.0	+1.7
	14nm,0.7s,baz=74,slow=7.7,SNR=4.5						
ZALV	Zalesovo Beam	85.66	326	P	P	22 00 12.5	-0.4
	11nm,0.6s,baz=122,slow=5.4,SNR=5.1						
INK	Inuvik	90.47	21	P	P	22 00 34.9	-0.7
	2.7nm,0.9s,baz=259,slow=4.4,SNR=2.2						
YKA	Yellowknife Ar	96.92	28	P	P	22 01 05.6	+0.2
	1.1nm,0.6s,baz=263,slow=4.8,SNR=4.8						

*IDC **01** 21:48:06.5±1.3, 729S×15598E, h0km, mb5.0/8, mb1 5.0/8, mb1mx4.8/15, mbtmp5.0/8, Error ellipse: s-maj=74.0km s-min=33.2km az=80.0*
*NEIC **01** 21:48:08.4±0.6, 726S×15574E, h10km, mb5.3/4, Error ellipse: s-maj=27.0km s-min=18.2km az=52.0*
*ISCJB **01** 21:48:10.9±0.8, 72S±02.2×1558E±02, h33km, mb5.1/13, Error ellipse: s-maj=30.3km s-min=19.7km az=143.8*
*MOS **01** 21:48:10.7±0.5, 717S×15584E, h33km, mb5.3/12, Error ellipse: s-maj=48.5km s-min=17.7km az=102.8*

ISC 01 21:48:12.7±0.8, 72S±02×1557E±02, h35km, n36, σ0§66/26, mb5.1/13, 1D, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	Matsushiro Arr	46.55	340	P	P	21 56 36.4	-0.6
MJAR				pmax	pmax		
	comp=Z,9.0nm,0.7s						
MJAR	Matsushiro Arr	46.55	340	P	P	21 56 36.4	-0.7
	comp=Z,8.5nm,0.7s,mb4.8,baz=163,slow=8.0,SNR=4.4						
KSRS	Korea Array	51.50	332	P	P	21 57 15.5	+0.6
	comp=Z,8.8nm,0.8s,mb4.7,baz=147,slow=7.6,SNR=4.4						
ASAJ	Asahikawa	52.48	348	P	P	21 57 21.9	-0.2
ASAJ				pmax	pmax		
	comp=Z,25nm,0.9s						
ASAJ	Asahikawa	52.48	348	P	P	21 57 21.9	-0.2
	comp=Z,25nm,0.9s,mb5.1,baz=207,slow=11,SNR=3.4						
YSS	Yuzh-Sakhalins	55.17	349	*eP*	P	21 57 42.3	+0.6
YSS				pmax	pmax		
	comp=Z,40nm,1.0s,mb5.4						
PMOR	Pomariorio Ree	55.72	103	*eP*	P	21 57 47.3	+1.0
	comp=Z,84nm,1.2s,mb5.6						
HIA	Hailar	64.45	335	*eP*	P	21 58 46.1	+0.6
	comp=Z,31nm,0.9s,mb5.3						
HIA	Hailar	64.45	335	*eP*	P

SONM Songino Array 69.94 327 P **P** **21 59 21.1 +0.8**
SONM pmax pmax
comp=Z,13nm,0.9s
SONM Songino Array 69.94 327 P **P** **21 59 21.1 +0.8**
comp=Z,13nm,0.9s,mb4.9,baz=143,slow=5.7,SNR=4.5
BILL Bilibino 75.47 4 *eP* **P** **21 59 53.0 +0.3**
comp=Z,20nm,0.8s,mb5.1
BILL Bilibino 75.47 4⇓*iP* **P** **21 59 53.4 +0.6**
BILL pmax pmax
comp=Z,31nm,1.1s,mb5.2
PMR Palmer 80.72 23 P **P** **22 00 20.8 -1.2**
comp=Z,20nm,0.9s,mb5.0
PMR Palmer 80.72 23 P **P** **22 00 20.8 -1.2**
PMR pmax pmax
comp=Z,20nm,0.9s,mb5.0
MKAR Makanchi Array 84.08 319 P **P** **22 00 40.4 +0.6**
MKAR Makanchi Array 84.08 319 P **P** **22 00 40.4 +0.5**
MKAR pmax pmax
comp=Z,31nm,0.8s
MKAR Makanchi Array 84.08 319 P **P** **22 00 40.4 +0.6**
comp=Z,31nm,0.8s,mb5.5,baz=81,slow=7.5,SNR=5.8
MAW Mawson 84.46 203 P **P** **22 00 41.0 -0.4**
MAW pmax pmax
comp=Z,14nm,0.9s
MAW Mawson 84.46 203 P **P** **22 00 41.0 -0.4**
comp=Z,14nm,0.9s,mb5.1,baz=57,slow=5.1,SNR=3.6
ZAA0 Zalesovo Array 84.80 326 *eP* **P** **22 00 42.9 -0.5**
ZALV Zalesovo Beam 84.80 326 P **P** **22 00 43.0 -0.4**
ZALV Zalesovo Beam 84.80 326 P **P** **22 00 43.0 -0.4**
comp=Z,15nm,0.6s,mb5.3,baz=120,slow=5.6,SNR=5.2
ZAL Zalesovo 84.80 326 P **P** **22 00 43.0 -0.4**
YKA Yellowknife Ar 96.21 28 P **P** **22 01 35.9 -1.0**
YKA pmax pmax
comp=Z,1.0nm,0.7s
YKA Yellowknife Ar 96.21 28 P **P** **22 01 35.9 -0.9**
comp=Z,1.4nm,0.7s,mb4.5,baz=269,slow=4.4,SNR=3.7
ARCES ARCESS Array B 110.03 343 PKiKP PKiKP 22 06 40.1 +0.1
comp=Z,5.8nm,0.9s,baz=37,slow=3.0,SNR=4.2
FINES FINESS Array B 114.46 336 *i* PKIKP PKiKP 22 06 47.8 -0.8
FINES pmax pmax
comp=Z,2.0nm,0.8s
FINES FINESS Array B 114.46 336 PKiKP PKiKP 22 06 47.8 -0.8
comp=Z,1.7nm,0.8s,baz=45,slow=2.2,SNR=4.0
AKASG Malin Array Be 118.17 325 PKIKP PKPdf 22 06 55.3 -0.8
AKASG pmax pmax
comp=Z,1.0nm,0.4s
AKASG Malin Array Be 118.17 325 PKP PKPdf 22 06 55.3 -0.8
comp=Z,1.0nm,0.4s,baz=46,slow=2.5,SNR=6.4
NOA NORSAR Array B 120.17 341 PKIKP PKPdf 22 06 59.0 -0.6
NOA pmax pmax
comp=Z,3.0nm,0.8s
NOA NORSAR Array B 120.17 341 PKP PKPdf 22 06 59.0 -0.7
comp=Z,3.2nm,0.8s,baz=46,slow=1.9,SNR=4.8
BLA Blacksburg 121.10 51 PKPdf PKPdf 22 07 00.2 -1.9
GERES GERESS Array B 127.64 329 PKP PKPdf 22 07 14.7 +0.4
GERES GERESS Array B 127.64 329 PKP PKPdf 22 07 14.7 +0.4
comp=Z,4.3nm,0.8s,baz=64,slow=3.1,SNR=4.8

IDC 01 21:50:26.8±3.5, 739S×15627E, h0km, mb4.4/6, mb1 4.5/6, mb1mx4.3/15, mbtmp4.4/6, Error ellipse: s-maj=121.0km s-min=27.4km az=113.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.65 237**		P	P	21 55 50.2	+0.8
5.2nm,0.8s,baz=63,slow=8.8,SNR=3.2							
ASAR	**Alice Springs**	**26.88 231**		P	P	21 56 08.9	-0.6
1.6nm,0.6s,baz=55,slow=11,SNR=3.2							
NWAO	**Narrogin (SRO)**	**44.19 229**		P	P	21 58 37.7	0.0
18nm,1.0s,baz=89,slow=6.6,SNR=3.2							
SONM	**Songino Array**	**70.35 327**		P	P	22 01 42.7	+0.3
3.5nm,0.9s,baz=139,slow=6.3,SNR=5.8							
MKAR	**Makanchi Array**	**84.53 318**		P	P	22 03 02.0	+0.2
3.5nm,0.8s,baz=108,slow=6.0,SNR=6.5							
ZALV	**Zalesovo Beam**	**85.21 326**		P	P	22 03 04.8	-0.3
3.3nm,0.8s,baz=113,slow=5.2,SNR=3.2							
AKASG	**Malin Array Be**	**118.59 325**		PKP	PKPdf	22 09 16.8	+0.1
0.3nm,0.5s,baz=78,slow=0.7,SNR=2.4							

IDC 01 21:52:01.7±1.6, 725S×15575E, h0km, mb4.4/8, mb1 4.5/8, mb1mx4.3/15, mbtmp4.4/8, Error ellipse: s-maj=62.4km s-min=24.9km az=106.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.29 237**		P	P	21 57 20.9	-0.1
5.9nm,0.8s,baz=62,slow=9.4,SNR=2.8							
STKA	**Stephens Creek**	**27.83 206**		P	P	21 57 53.1	+0.3
8.2nm,0.7s,baz=31,slow=12,SNR=4.3							
MJAR	**Matsushiro Arr**	**46.57 340**		P	P	22 00 30.2	-1.1
1.6nm,0.7s,baz=164,slow=7.8,SNR=4.1							
ASAJ	**Asahikawa**	**52.49 348**		P	P	22 01 16.6	+0.1
6.2nm,0.8s,baz=252,slow=20,SNR=8.3							
SONM	**Songino Array**	**69.96 327**		P	P	22 03 16.0	+1.2
4.2nm,0.9s,baz=145,slow=5.9,SNR=4.9							
MKAR	**Makanchi Array**	**84.09 319**		P	P	22 04 34.8	+0.3
3.8nm,0.7s,baz=69,slow=7.9,SNR=4.3							
ZALV	**Zalesovo Beam**	**84.81 326**		P	P	22 04 37.8	-0.2
2.5nm,0.6s,baz=123,slow=5.1,SNR=3.9							
YKA	**Yellowknife Ar**	**96.21 28**		P	P	22 05 31.7	+0.2
0.6nm,0.7s,baz=266,slow=4.5,SNR=4.1							
AKASG	**Malin Array Be**	**118.18 325**		PKP	PKPdf	22 10 49.8	-1.1
0.7nm,0.7s,baz=82,slow=1.4,SNR=3.6							

IDC 01 21:52:39.5±2.2, 782S×15623E, h0km, mb4.4/4, mb1 4.6/4, mb1mx4.1/14, mbtmp4.3/4, Error ellipse: s-maj=81.8km s-min=29.4km az=126.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.39 238**		P	P	21 57 58.7	-1.0
5.6nm,0.7s,baz=63,slow=9.5,SNR=3.5							
ASAR	**Alice Springs**	**26.57 231**		P	P	21 58 20.5	+1.0
5.1nm,1.1s,baz=57,slow=9.1,SNR=3.1							
SONM	**Songino Array**	**70.69 327**		P	P	22 03 58.5	+1.2
3.8nm,0.8s,baz=142,slow=5.6,SNR=4.0							
YKA	**Yellowknife Ar**	**96.49 28**		P	P	22 06 09.5	-1.1
1.0nm,0.8s,baz=263,slow=4.7,SNR=3.8							

IDC 01 21:55:44.2±2.2, 742S×15767E, h0km, mb4.1/5, mb1 4.2/5, mb1mx3.9/14, mbtmp4.1/5, Error ellipse: s-maj=79.1km s-min=35.6km az=108.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**27.94 232**		P	P	22 01 36.5	0.0
1.1nm,0.9s,baz=56,slow=9.4,SNR=2.4							
KSRS	**Korea Array**	**52.59 330**		P	P	22 04 59.0	-0.8
1.3nm,0.7s,baz=153,slow=7.1,SNR=4.0							
SONM	**Songino Array**	**71.14 326**		P	P	22 07 05.4	+0.7
1.4nm,0.6s,baz=146,slow=5.7,SNR=7.5							
MKAR	**Makanchi Array**	**85.48 318**		P	P	22 08 24.3	+0.3
2.0nm,0.6s,baz=75,slow=6.4,SNR=6.6							
ZALV	**Zalesovo Beam**	**86.02 326**		P	P	22 08 26.6	0.0
1.1nm,0.4s,baz=111,slow=5.9,SNR=5.3							
NOA	**NORSAR Array B 120.96 342**			PKP	PKPdf	22 14 38.4	0.0
1.5nm,0.8s,baz=42,slow=3.5,SNR=5.7							
GERES	**GERESS Array B 128.77 330**			PKP	PKPdf	22 14 53.9	+0.2
0.3nm,0.4s,baz=333,slow=1.5,SNR=4.1							
ESDC	**Sonseca Array 143.90 336**			PKP	PKPdf	22 15 20.0	-2.0
1.9nm,0.9s,baz=59,slow=2.1,SNR=7.3							

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*IDC **01** 21:56:06.0±1.0, 753S×15647E, h0km, mb4.4/12, mb1 4.5/12, mb1mx4.4/16, mbtmp4.4/12, Error ellipse: s-maj=34.3km s-min=18.7km az=121.0*
*ISCJB **01** 21:56:09.5±0.9, 75S±01×1564E±02, h33km, mb4.3/12, Error ellipse: s-maj=30.6km s-min=14.4km az=30.3*
ISC 01 21:56:11.3±0.9, 76S±01×1564E±02, h35km, n17, σ0°81/12, mb4.3/12, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.70 238**		P	P	**22 01 29.7**	**+0.3**
27nm,0.9s,mb4.8,baz=64,slow=9.4,SNR=16							
ASAR	**Alice Springs**	**26.91 231**		P	P	**22 01 48.8**	**-0.5**
3.2nm,0.7s,mb3.9,baz=56,slow=9.6,SNR=5.8							
STKA	**Stephens Creek**	**27.88 208**		P	P	**22 01 59.1**	**+1.2**
4.6nm,0.8s,mb4.1,baz=34,slow=11,SNR=3.4							
FITZ	**Fitzroy Crossi**	**31.75 248**		P	P	**22 02 30.9**	**-1.5**
9.1nm,0.9s,mb4.6,baz=90,slow=9.2,SNR=4.6							
MJAR	**Matsushiro Arr**	**47.07 340**		P	P	**22 04 40.1**	**+0.4**
1.3nm,0.6s,mb4.0,baz=160,slow=7.3,SNR=4.1							
KSRS	**Korea Array**	**52.09 331**		P	P	**22 05 17.2**	**-0.8**
3.4nm,1.0s,mb4.2,baz=142,slow=8.0,SNR=5.5							
SONM	**Songino Array**	**70.57 327**		P	P	**22 07 24.4**	**+1.5**
6.8nm,0.9s,mb4.6,baz=139,slow=6.8,SNR=13							
MKAR	**Makanchi Array**	**84.76 318**		P	P	**22 08 42.6**	**+0.7**
12nm,0.8s,mb5.1,baz=75,slow=7.1,SNR=28							
ZALV	**Zalesovo Beam**	**85.43 326**		P	P	**22 08 45.0**	**-0.2**
7.6nm,0.7s,mb5.0,baz=114,slow=5.9,SNR=21							
INK	**Inuvik**	**89.73 20**		P	P	**22 09 05.0**	**-0.5**
0.8nm,0.8s,mb4.1,baz=58,slow=31,SNR=9.8							
NVAR	**Mina Array Bea**	**90.94 52**		P	P	**22 09 11.3**	**-0.6**
0.5nm,0.8s,mb3.9,baz=64,slow=33,SNR=3.6							
YKA	**Yellowknife Ar**	**96.15 28**		P	P	**22 09 35.3**	**0.0**
0.3nm,0.8s,mb3.8,baz=272,slow=4.1,SNR=3.3							
FINES	**FINESS Array B**	**115.02 336**		PKiKP	PKiKP	22 14 49.3	+1.0
1.4nm,0.9s,baz=12,slow=20,SNR=2.4							
PLCA	**Paso Flores**	**115.42 142**		PKiKP	PKiKP	22 14 51.6	+1.8
6.4nm,0.8s,baz=54,slow=3.9,SNR=9.1							
BRG	**Berggiesshubel**	**126.81 331**		*eP*	PKPdf	22 15 14.5	+3.2
4.0nm,1.2s							
ESDC	**Sonseca Array**	**143.49 334**		PKhKP		22 15 41.0	
1.6nm,0.9s,baz=205,slow=1.6,SNR=5.4							
DBIC	**Dimbokro**	**161.41 269**		PKPab	PKPab	22 16 53.9	+0.1
5.9nm,0.9s,baz=208,slow=4.8,SNR=3.5							

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*IDC **01** 21:56:26.3±0.7, 735S×15601E, h0km, mb4.6/15, mb1 4.7/15, mb1mx4.6/18, mbtmp4.6/15, Error ellipse: s-maj=30.1km s-min=16.2km az=112.0*
*ISCJB **01** 21:56:29.6±0.7, 74S±01×1560E±02, h33km, mb4.6/16, Error ellipse: s-maj=25.7km s-min=12.8km az=25.4*
ISC 01 21:56:31.3±0.7, 74S±01×1561E±02, h35km, n24, σ0°80/16, mb4.6/16, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.48 237**		P	P	**22 01 47.0**	**-0.3**
9.3nm,0.7s,mb4.3,baz=62,slow=9.5,SNR=6.1							
ASAR	**Alice Springs**	**26.72 230**		P	P	**22 02 08.2**	**+0.6**
1.9nm,0.8s,mb3.7,baz=57,slow=9.9,SNR=4.8							
STKA	**Stephens Creek**	**27.85 207**		P	P	**22 02 18.6**	**+0.9**
6.4nm,0.6s,mb4.4,baz=19,slow=11,SNR=11							
NWAO	**Narrogin (SRO)**	**44.03 229**		P	P	**22 04 35.3**	**-0.5**
6.5nm,0.8s,mb4.4,baz=69,slow=11,SNR=4.4							
MJAR	**Matsushiro Arr**	**46.80 340**		P	P	**22 04 57.0**	**-0.6**
2.6nm,0.6s,mb4.4,baz=166,slow=8.7,SNR=7.6							
KSRS	**Korea Array**	**51.78 331**		P	P	**22 05 35.0**	**-0.7**
3.1nm,0.7s,mb4.4,baz=147,slow=6.6,SNR=6.0							
ASAJ	**Asahikawa**	**52.69 348**		P	P	**22 05 42.6**	**+0.4**
14nm,0.7s,mb5.0,baz=200,slow=7.1,SNR=13							
PMOR	**Pomariorio Ree**	**55.37 103**		*eP*	P	**22 06 08.4**	**+6.0**
33nm,1.0s,mb5.3							
SONM	**Songino Array**	**70.24 327**		P	P	**22 07 41.4**	**+0.6**
6.9nm,0.6s,mb4.8,baz=146,slow=6.0,SNR=11							
MKAR	**Makanchi Array**	**84.40 318**		P	P	**22 09 00.1**	**0.0**
7.7nm,0.6s,mb5.0,baz=39,slow=9.8,SNR=13							
MAW	**Mawson**	**84.44 203**		P	P	**22 08 59.1**	**-0.9**
2.8nm,0.5s,mb4.6,baz=53,slow=13,SNR=4.3							
ZALV	**Zalesovo Beam**	**85.10 326**		P	P	**22 09 03.2**	**-0.2**
7.9nm,0.5s,mb5.1,baz=121,slow=5.1,SNR=6.2							
INK	**Inuvik**	**89.71 21**		P	P	**22 09 26.8**	**+1.3**
2.0nm,0.5s,mb4.7,baz=248,slow=3.8,SNR=7.5							
NVAR	**Mina Array Bea**	**91.13 52**		P	P	**22 09 31.9**	**-0.9**
0.7nm,0.7s,mb4.1,baz=242,slow=2.4,SNR=4.3							
PFO	**Pinyon Flat Ob**	**91.95 57**		P	P	**22 09 35.6**	**-1.0**
4.3nm,0.7s,mb4.9,baz=332,slow=7.2,SNR=3.7							
YKA	**Yellowknife Ar**	**96.19 28**		P	P	**22 09 57.0**	**+1.6**
1.3nm,0.8s,mb4.4,baz=266,slow=4.7,SNR=8.3							
ARCES	**ARCESS Array B 110.27 343**			PKiKP	PKiKP	22 14 59.6	+0.5
6.1nm,1.0s,baz=20,slow=2.9,SNR=4.0							
FINES	**FINESS Array B 114.73 336**			PKiKP	PKiKP	22 15 07.6	-0.2
3.3nm,1.0s,baz=342,slow=28,SNR=4.6							
AKASG	**Malin Array Be 118.47 325**			PKP	PKPdf	22 15 15.7	+0.4
0.9nm,0.5s,baz=47,slow=2.4,SNR=7.3							
NB2	**NORSAR Subarra120.42 341**			PKPdf	PKPdf	22 15 19.5	+0.8
comp=Z,1.0nm,0.7s,baz=39,slow=1.9							
NOA	**NORSAR Array B 120.42 341**			PKP	PKPdf	22 15 19.6	+0.8
comp=Z,1.2nm,0.7s,baz=46,slow=2.0,SNR=5.8							
GERES	**GERESS Array B 127.94 329**			PKP	PKPdf	22 15 35.6	+2.0
comp=Z,0.6nm,0.5s,baz=48,slow=2.0,SNR=6.2							
LPAZ	**La Paz 130.34 119**			PKP	PKPdf	22 15 42.8	+3.7
comp=Z,1.0nm,0.5s,baz=314,slow=7.9,SNR=3.8							
DBIC	**Dimbokro 161.05 269**			PKPab	PKPab	22 17 11.5	-0.7
comp=Z,4.3nm,0.7s,baz=64,slow=2.8,SNR=6.8							

BJI 01 21:56:54.2, 714S×156.16E, h10km, mB5.6, mb5.2
*ISCJB **01** 21:56:55.8±0.3, 728S±005×15569E±006, h10km, mb5.2/62, Error ellipse: s-maj=8.4km s-min=6.5km az=25.5*
*IDC **01** 21:56:55.8±0.6, 729S×15570E, h0km, mb5.1/21, mb1 5.1/22, mb1mx5.1/23, mbtmp5.0/22, ML4.1/1, Error ellipse: s-maj=21.9km s-min=12.7km az=110.0*
*NEIC **01** 21:56:57.4±0.2, 724S×15568E, h10km, mb5.4/29, Error ellipse: s-maj=6.4km s-min=4.8km az=120.0*
*MOS **01** 21:56:59.6±1.1, 724S×15569E, h33km, mb5.5/19, Error ellipse: s-maj=11.3km s-min=8.4km az=96.4*
ISC 01 21:56:59.5±3.7, 732S±006×15570E±006, h23km±26km, h17km±2.0km: pP-P, n152, σ0°80/126, mb5.2/62, 1C-3D, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.69 117**		Pn	**Pn**	**21 58 08.6**	**-0.3**
CTA	**Charters Tower**	**15.66 215**		*eP*	**Pn**	**22 00 41.0**	**+2.3**
40nm,1.3s							
CTA	**Charters Tower**	**15.66 215**		*eP*	**Pn**	**22 00 41.0**	**+2.3**
CTA pmax pmax							
comp=Z,40nm,1.3s							
CTA	**Charters Tower**	**15.66 215**		Pn	**Pn**	**22 00 37.3**	**-1.4**
comp=Z,0.5nm,0.3s,baz=35,slow=18,SNR=3.0							
CTAO	**Charters Tower**	**15.66 215**		*eP*n	**Pn**	**22 00 39.1**	**+0.4**
comp=Z,30nm,0.6s							
CTAO	**Charters Tower**	**15.66 215**		*eP*	**Pn**	**22 00 39.1**	**+0.4**
CTAO pmax pmax							
comp=Z,30nm,0.6s							
KAKA	**Kakadu**	**23.52 255**		*eP*	**P**	**22 02 07.7**	**-0.5**
comp=Z,186nm,0.6s,mb5.7							
WB2	**Warramunga Arr**	**24.21 237**		*eP*	**P**	**22 02 14.9**	**+0.4**
WRA	**Warramunga Arr**	**24.22 237**		P	**P**	**22 02 15.0**	**+0.4**
comp=Z,115nm,0.9s,mb5.3,baz=62,slow=9.6,SNR=28							
ASAR	**Alice Springs**	**26.49 230**		P	**P**	**22 02 35.0**	**-0.2**
comp=Z,15nm,0.8s,mb4.6,baz=60,slow=8.7,SNR=13							
ASAR				PcP	PcP	22 06 00.6	+0.6
comp=Z,5.2nm,0.9s,baz=45,slow=3.8,SNR=5.3							
STKA	**Stephens Creek**	**27.75 206**		*eP*	**P**	**22 02 46.1**	**-0.3**
comp=Z,42nm,0.7s,mb5.2							
STKA	**Stephens Creek**	**27.75 206**		P	**P**	**22 02 46.5**	**+0.1**
comp=Z,51nm,0.7s,mb5.2,baz=21,slow=11,SNR=14							
FITZ	**Fitzroy Crossi**	**31.17 247**		*eP*	**P**	**22 03 16.5**	**-0.4**
comp=Z,121nm,0.8s,mb5.8							
FITZ	**Fitzroy Crossi**	**31.17 247**		P	**P**	**22 03 17.1**	**+0.1**
comp=Z,73nm,0.8s,mb5.5,baz=89,slow=9.2,SNR=23							
FITZ				PcP	PcP	22 06 12.9	+1.1
comp=Z,13nm,0.8s,baz=98,slow=4.3,SNR=4.0							
BATI	**Kupang**	**31.79 262**		P	**P**	**22 03 22.9**	**+0.5**
comp=Z,38nm,0.9s,mb5.2,baz=211,slow=3.6,SNR=6.5							
FORT	**Forrest**	**34.84 224**		*eP*	**P**	**22 03 48.4**	**-0.5**
comp=Z,59nm,0.6s,mb5.7							
MBWA	**Marble Bar**	**37.37 245**		*eP*	**P**	**22 04 10.0**	**-0.6**
comp=Z,54nm,1.1s,mb5.3							
KKM	**Kota Kinabalu**	**41.57 288**		*eP*	**P**	**22 04 45.6**	**-0.2**
KLBR	**Kellerberrin**	**42.82 231**		*eP*	**P**	**22 04 54.8**	**-0.9**
comp=Z,87nm,0.7s,mb5.6							
JOW	**Kunigami**	**43.12 323**		P	**P**	**22 04 56.0**	**-2.1**
comp=Z,16nm,0.7s,mb4.8,baz=125,slow=12,SNR=3.1							
NWAO	**Narrogin (SRO)**	**43.81 229**		*eP*	**P**	**22 05 03.6**	**-0.1**
comp=Z,33nm,0.7s,mb5.2							
NWAO	**Narrogin (SRO)**	**43.81 229**		*eP*	**P**	**22 05 03.6**	**-0.1**
NWAO pmax pmax							
comp=Z,33nm,0.7s							
NWAO	**Narrogin (SRO)**	**43.81 229**		P	**P**	**22 05 03.0**	**-0.7**
comp=Z,39nm,0.7s,mb5.2,baz=62,slow=7.3,SNR=13							
NACB	**Ninganchiao**	**45.68 314**		*eP*	**P**	**22 05 18.4**	**-0.4**
KSM	**Kuching**	**46.12 279**		*eP*	**P**	**22 05 22.4**	**0.0**
YHNB	**Yeheng**	**46.15 315**		*eP*	**P**	**22 05 23.2**	**+0.8**
MJAR	**Matsushiro Arr**	**46.61 341**		P	**P**	**22 05 25.0**	**-0.8**
comp=Z,6.8nm,0.7s,mb4.7,baz=164,slow=8.1,SNR=11							
MJAR				PcP	PcP	22 06 60.0	+0.3
comp=Z,9.2nm,0.8s,baz=158,slow=3.9,SNR=7.6							

MAJO Matsushiro 46.62 341 P **P** **22 05 24.2 -1.7**
comp=Z,10.0nm,0.6s,mb4.9
MAJO Matsushiro 46.62 341 P **P** **22 05 24.2 -1.6**
MAJO pmax pmax
comp=Z,10.0nm,0.6s,mb4.9
MAT Matsushiro 46.62 341 P **P** **22 05 24.9 -0.9**
JNU Nakatsue 46.63 331 P **P** **22 05 25.1 -0.9**
comp=Z,25nm,1.0s,mb5.1,baz=109,slow=11,SNR=4.9
QZH Quanzhou 48.31 313 P **P** **22 05 41.1 +1.8**
QZH AMB AMB
comp=Z,160nm,1.1s,mb6.0
KSRS Korea Array 51.55 332 P **P** **22 06 04.1 +0.4**
comp=Z,14nm,0.8s,mb4.9,baz=148,slow=7.6,SNR=18
KSRS PcP PcP 22 07 18.2 +0.7
comp=Z,3.3nm,0.7s,baz=148,slow=4.6,SNR=4.6
QIZ Qiongzhong 52.23 301 *eP* **P** **22 06 10.3 +1.3**
comp=Z,47nm,0.9s,mb5.4
ASAJ Asahikawa 52.55 348 P **P** **22 06 12.3 +1.4**
comp=Z,41nm,0.8s,mb5.4,baz=217,slow=12,SNR=10
WHN Wuhan 54.66 316 ⇓P **P** **22 06 27.7 +1.0**
WHN AMB AMB
comp=Z,73nm,1.1s,mb5.6
YSS Yuzh-Sakhalins 55.24 349 *eP* **P** **22 06 30.9 +0.4**
comp=Z,66nm,1.0s,mb5.6
YSS Yuzh-Sakhalins 55.24 349⇑*iP* **P** **22 06 31.0 +0.4**
YSS pmax pmax
comp=N,30nm,1.0s
YSS pmax pmax
comp=Z,70nm,1.0s,mb5.7
PMOR Pomariorio Ree 55.74 103 *eP* **P** **22 06 36.5 +1.7**
comp=Z,36nm,0.9s,mb5.4
PMOR Pomariorio Ree 55.74 103 *eP* **P** **22 06 44.5 +10**
comp=Z,45nm,1.0s,mb5.5
KULM Kulim 56.34 281 *eP* **P** **22 06 38.1 -1.0**
MDJ Mudanjiang 56.80 338 P **P** **22 06 41.7 -0.1**
MDJ AMB AMB
comp=Z,29nm,1.2s,mb5.2
CN2 Changchun 57.78 334 *eP* **P** **22 06 48.5 -0.2**
CN2 AMB AMB
comp=Z,40nm,1.2s,mb5.3
BJT Baijiatuau 59.57 325 *eP* **P** **22 07 01.1 -0.2**
comp=Z,22nm,1.2s,mb5.0
BJT Baijiatuau 59.57 325 *eP* **P** **22 07 01.1 -0.2**
BJT pmax pmax
comp=Z,22nm,1.2s
KLR Kul'dur 60.08 342 *eP* **P** **22 07 00.0 -4.6**
KLR pmax pmax
comp=E,50nm,1.8s
KLR pmax pmax
comp=Z,110nm,1.8s,mb5.6
XAN Xi'an 60.42 316 P **P** **22 07 06.9 -0.4**
XAN AP pP 22 07 13.2 -1.5
XAN AMB AMB
comp=Z,21nm,1.0s,mb5.1
KMI Kunming 60.78 304 P **P** **22 07 10.7 +0.8**
KMI AMB AMB
comp=Z,56nm,1.3s,mb5.5
CHTO Chiang Mai 61.67 296 *eP* **P** **22 07 15.8 -0.2**
comp=Z,11nm,1.3s,mb4.8
CHTO Chiang Mai 61.67 296 *eP* **P** **22 07 15.8 -0.2**
CHTO pmax pmax
comp=Z,11nm,1.3s,mb4.8
CD2 Chengdu 62.56 310 *eP* **P** **22 07 21.2 -0.6**
CD2 AMB AMB
comp=Z,60nm,1.0s,mb5.7
HIA Hailar 64.51 335 *eP* **P** **22 07 34.6 +0.3**
comp=Z,30nm,0.8s,mb5.4
HIA Hailar 64.51 335 *eP* **P** **22 07 34.6 +0.3**
HIA pmax pmax
comp=Z,30nm,0.8s
LZH Lanzhou 65.04 315 *eP* **P** **22 07 39.4 +1.4**
LZH AP pP 22 07 43.4 -2.1
LZH AMB AMB
comp=Z,82nm,1.4s,mb5.6
LZH AMB AMB
comp=Z,333nm,4.2s
MA2 Magadan 66.79 357 *eP* **P** **22 07 49.0 +0.2**
CLNS Chul'man 68.74 342 *eP* **P** **22 08 01.4 +0.3**
CLNS pmax pmax
comp=Z,52nm,0.8s,mb5.5
CLNS pmax pmax
comp=N,19nm,1.0s
CLNS pmax pmax
comp=E,9.0nm,0.9s
CIT Chita 69.21 334 *eP* **P** **22 08 04.7 +0.6**
GTA Gaotai 69.45 317 *eP* **P** **22 08 07.1 +1.1**
GTA AP pP 22 08 10.8 -2.7
GTA XP sP 22 08 12.2 -4.1
GTA AMB AMB
comp=Z,24nm,1.3s,mb5.0
SONM Songino Array 69.99 327 P **P** **22 08 10.0 +1.0**
comp=Z,29nm,0.9s,mb5.2,baz=132,slow=6.3,SNR=18
SHL Shillong 70.06 300 *eP* **P** **22 08 09.5 -0.5**
VNDA Vanda 70.24 179 P **P** **22 08 11.3 +1.1**
VNDA Vanda 70.24 179 P **P** **22 08 11.3 +1.1**
comp=Z,3.6nm,1.0s,mb4.2,baz=342,slow=4.1,SNR=6.3
SBA Scott Base 70.74 178 P **P** **22 08 13.8 +0.6**
comp=Z,101nm,2.2s,mb5.4
SBA Scott Base 70.74 178 P **P** **22 08 13.8 +0.6**
SBA pmax pmax
comp=Z,101nm,2.2s,mb5.4
YAK Yakutsk 72.02 347 P **P** **22 08 20.8 -0.3**
comp=Z,75nm,0.9s,mb5.6
YAK Yakutsk 72.02 347 *eP* **P** **22 08 21.2 +0.1**
YAK pmax pmax
comp=Z,59nm,0.9s,mb5.5
YAK pmax pmax
comp=N,21nm,1.4s
YAK pmax pmax
comp=E,9.0nm,1.0s
LSA Lhasa 72.03 304 *eP* **P** **22 08 23.2 +1.3**
comp=E,92nm,1.4s,mb5.5
LSA Lhasa 72.03 304 *eP* **P** **22 08 23.2 +1.3**
LSA pmax pmax
comp=Z,92nm,1.4s,mb5.5
ZAK Zakamensk 73.14 328 *eP* **P** **22 08 27.9 -0.1**
ZAK *e* 22 11 06.7
ZAK *e* 22 12 53.8
ZAK pmax pmax
comp=Z,16nm,1.3s,mb4.8
TLY Talaya 73.70 329 *eP* **P** **22 08 31.5 +0.3**
BOK Bokaro 74.77 297 *eP* **P** **22 08 38.6 +0.5**
BOK AMb AMB 22 08 40.8
comp=Z,45nm,1.5s,mb5.2
GAMB Gambell 75.05 14 *eP* **P** **22 08 38.5 -0.4**
comp=Z,4μm,1.2s
GAMB *e*PcP PcP 22 08 52.4 -0.1
MOY Mondy 75.05 328 *eP* **P** **22 08 39.4 +0.3**
BILL Bilibino 75.55 4 *eP* **P** **22 08 42.0 +0.4**
comp=Z,33nm,0.8s,mb5.3
BILL Bilibino 75.55 4⇓*iP* **P** **22 08 42.5 +0.9**
BILL *e* pP 22 08 48.3 -1.0
BILL pmax pmax
comp=Z,44nm,1.1s,mb5.3
PALK Pallekele 76.19 279 *eP* **P** **22 08

COLA pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
MKAR Makanchi Array 84.11 319 P P 22 09 28.6 +0.2
comp=Z,49nm,0.8s,mb5.7,baz=80,slow=6.8,SNR=26
KAD Karad 84.13 288 *eP* **P 22 09 27.9 -1.3**
KAD AMb AMB 22 09 30.2
comp=Z,50nm,0.8s,mb5.7
MAW Mawson 84.37 203 *eP* **P 22 09 30.1 +0.6**
comp=Z,25nm,1.0s,mb5.3
MAW Mawson 84.37 203 *eP* **P 22 09 30.1 +0.6**
MAW pmax pmax
comp=Z,25nm,1.0s
MAW Mawson 84.37 203 P **P 22 09 29.3 -0.2**
comp=Z,30nm,1.0s,mb5.4,baz=91,slow=5.6,SNR=15
ZAA0 Zalesovo Array 84.84 326 *eP* **P 22 09 31.4 -0.7**
ZALV Zalesovo Beam 84.84 326 P **P 22 09 31.5 -0.5**
ZALV Zalesovo Beam 84.84 326 P **P 22 09 31.5 -0.5**
comp=Z,30nm,0.7s,mb5.5,baz=111,slow=5.5,SNR=22
ZAL Zalesovo 84.85 326 P **P 22 09 31.5 -0.6**
AJM Ajmer 85.29 297 *eP* **P 22 09 34.2 -0.7**
AJM AMb AMB 22 09 36.8
comp=Z,78nm,1.1s,mb5.8
EGAK Eagle 85.54 23 *eP* **P 22 09 35.9 +0.6**
comp=Z,11nm,0.9s,mb5.1
DAWY Dawson 85.91 24 *eP* **P 22 09 37.6 +0.5**
KURK Kurchatov 87.52 322 *eP* **P 22 09 44.8 -0.5**
comp=Z,21nm,0.9s,mb5.4
KURK Kurchatov 87.52 322 *eP* **P 22 09 44.8 -0.5**
KURK pmax pmax
comp=Z,21nm,0.9s,mb5.4
TKM2 Tokmak 2 87.75 314 *eP* **P 22 09 47.1 +0.5**
comp=Z,16nm,0.7s,mb5.3
TKM2 Tokmak 2 87.75 314 *eP* **P 22 09 47.1 +0.5**
TKM2 pmax pmax
comp=Z,16nm,0.7s,mb5.4
TKM2 Tokmak 2 87.75 314 P **P 22 09 46.6 0.0**
SNR=9.3
KBK Karagaybulak 88.16 313 P **P 22 09 48.9 +0.4**
SNR=7.1
CHMS Chumysh 88.37 314 P **P 22 09 49.5 0.0**
SNR=12
UCH Uchtor 88.39 313 *eP* **P 22 09 50.7 +1.0**
AAK Ala-Archa 88.48 313 *eP* **P 22 09 49.6 -0.5**
AAK Ala-Archa 88.48 313 P **P 22 09 50.9 +0.8**
SNR=7.9
USP Ospenovka 88.60 314 P **P 22 09 50.8 +0.1**
SNR=8.6
AML Almayashu 88.97 313 P **P 22 09 53.6 +1.3**
SNR=6.6
EKS2 Erkin-Say 89.01 313 *eP* **P 22 09 52.6 +0.1**
comp=Z,12nm,0.8s,mb5.3
EKS2 Erkin-Say 89.01 313 P **P 22 09 53.0 +0.4**
SNR=6.2
INK Inuvik 89.77 21 P **P 22 09 55.6 +0.1**
comp=Z,7.5nm,1.0s,mb5.0,baz=228,slow=7.1,SNR=8.9
NVAR Mina Array Bea 91.37 52 P **P 22 10 04.5 +0.9**
comp=Z,1.2nm,0.9s,mb4.2,baz=237,slow=3.8,SNR=4.0
SYO Syowa Base 92.25 199 *eP* **P 22 10 05.6 -1.6**
BRVK Borovoye 93.04 323 *eP* **P 22 10 09.8 -1.2**
comp=Z,17nm,0.8s,mb5.5
BRVK Borovoye 93.04 323 *eP* **P 22 10 09.9 -1.2**
BRVK pmax pmax
comp=Z,17nm,0.8s,mb5.5
ELK Elko 94.01 50 P **P 22 10 16.5 +0.7**
YKA Yellowknife Ar 96.29 28 P **P 22 10 25.6 -0.1**
YKA Yellowknife Ar 96.29 28 P **P 22 10 25.6 -0.1**
comp=Z,2.2nm,0.8s,mb4.6,baz=265,slow=4.7,SNR=9.9
PDAR Pinedale Array 98.39 48 P **P 22 10 34.8 -0.9**
comp=Z,1.3nm,0.9s,mb4.4,baz=156,slow=1.5,SNR=5.8
AKTK Aktyubinsk 100.49 320 P Pdif 22 10 43.1 -1.7
AKTO Aktyubinsk 100.49 320 P Pdif 22 10 43.1 -1.7
comp=Z,0.7nm,0.3s,baz=90,slow=5.8,SNR=7.4
ARCES ARCESS Array B 110.10 343 PKPdf PKiKP 22 15 28.8 +0.1
ARCES ARCESS Array B 110.10 343 PKiKP PKiKP 22 15 28.8 +0.1
comp=Z,5.0nm,0.9s,baz=97,slow=2.2,SNR=3.6
FINES FINESS Array B 114.52 336 PKPdf PKiKP 22 15 36.2 -1.1
FINES FINESS Array B 114.52 336 PKiKP PKiKP 22 15 36.2 -1.1
comp=Z,1.2nm,0.8s,baz=134,slow=8.2,SNR=2.7
AKASG Malin Array Be 118.21 325 PKP PKPdf 22 15 44.0 -0.7
comp=Z,1.5nm,0.6s,baz=49,slow=2.4,SNR=7.1
NB2 NORSAR Subarra120.23 341 PKPdf PKPdf 22 15 47.8 -0.5
comp=Z,1.2nm,0.7s,baz=39,slow=1.9
NOA NORSAR Array B120.23 341 PKP PKPdf 22 15 48.2 0.0
comp=Z,3.1nm,0.8s,baz=45,slow=1.8,SNR=9.1
STHS Stebnicka Huta 123.34 326 *e*PKP PKPdf 22 15 53.8 -0.8
STHS *e*PP PP 22 17 28.2 -6.8
NNA Nana 124.34 110 *e*PKPdf PKPdf 22 15 57.7 +0.2
DPC Dobruska-Polom 125.42 329 *ep*PKP pPKPdf 22 16 06.5 0.0
UPC Upice 125.48 330 *e*PKPdf PKPdf 22 16 00.5 +1.8
PVCC Panska Ves 126.18 330 *e*PKPdf PKPdf 22 16 00.6 +0.6
BRG Berggiesshubel 126.27 331 *e*PKP PKPdf 22 16 01.3 +1.1
comp=Z,32nm,1.6s
BRG *e* 22 18 10.7
comp=Z,28nm,2.0s
CLL Collm 126.43 332 *e*PKPdf PKPdf 22 16 01.0 +0.5
CLL *e*PP PP 22 17 52.0 -3.5
TREC Trest 126.49 329 *e*PKPdf PKPdf 22 16 00.8 +0.2
PRU Pruhonice 126.54 330 *e*PKPdf PKPdf 22 16 01.1 +0.4
KHC Kasperske Hory 127.57 329 *e*PKPdf PKPdf 22 16 03.3 +0.6
GERES GERESS Array B 127.69 329 PKP PKPdf 22 16 03.7 +0.8
comp=Z,1.7nm,0.8s,baz=90,slow=2.7,SNR=6.3
LPAZ La Paz 130.69 119 PKP PKPdf 22 16 10.6 +1.0
comp=Z,6.4nm,0.9s,baz=217,slow=8.0,SNR=9.9
ESDC Sonseca Array 142.97 334 PKnKP 22 16 28.7
comp=Z,3.4nm,0.9s,baz=15,slow=3.1,SNR=8.8
TORD Torodi Ar. Bea 153.79 285 PKPbc PKPbc 22 16 57.1 -0.6
comp=Z,5.3nm,0.9s,baz=38,slow=3.8,SNR=5.9
TORD PKPab PKPab 22 17 10.3 -0.3
comp=Z,5.3nm,0.7s,baz=70,slow=3.4,SNR=6.0
DBIC Dimbokro 160.69 269 PKP PKPdf 22 16 59.4 +0.8
DBIC PKPab PKPab 22 17 40.6 +0.1
DBIC Dimbokro 160.69 269 PKP PKPdf 22 16 59.4 +0.8
comp=Z,6.2nm,0.9s,baz=33,slow=6.9,SNR=3.8
DBIC PKPab PKPab 22 17 40.6 +0.1
comp=Z,9.4nm,0.7s,baz=64,slow=5.5,SNR=8.9

IDC 01 21:58:19.1±1.5,779S×15621E,h0km,mb4.5/4,mb1 4.7/5, mb1mx4.4/15,mbtmp4.7/5,ML5.0/1,MS5.2/1,Ms1 5.2/1, ms1mx4.1/31,Error ellipse: s-maj=40.3km s-min=34.8km az=21.0,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.04**	**114**	Pn		Pn		21 59 22.1	-0.2
	92nm,0.3s,baz=274,slow=13,SNR=2.7								
HNR				LR		LR		22 00 39.2	
	comp=Z,33μm,20.6s,baz=3.0,slow=35								
WRA	**Warramunga Arr**	**24.39**	**238**	P		P		22 03 39.4	0.0
	6.9nm,0.9s,baz=63,slow=9.2,SNR=1.7								
SONM	**Songino Array**	**70.66**	**327**	P		P		22 09 37.3	+0.7
	2.1nm,0.6s,baz=137,slow=6.6,SNR=4.1								
MKAR	**Makanchi Array**	**84.80**	**318**	P		P		22 10 56.2	+0.6
	5.9nm,1.0s,baz=100,slow=6.8,SNR=2.2								
ZALV	**Zalesovo Beam**	**85.51**	**326**	P		P		22 10 58.1	-0.8
	4.0nm,0.7s,baz=111,slow=5.4,SNR=3.8								

IDC 01 21:58:56.0±3.7,712S×15539E,h0km,mb4.4/5,mb1 4.5/5, mb1mx4.2/14,mbtmp4.4/5,Error ellipse: s-maj=111.9km s-min=29.2km az=114.0,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.07**	**236**	P		P		22 04 14.4	+1.2
	6.5nm,0.6s,baz=62,slow=9.7,SNR=4.1								
ASAR	**Alice Springs**	**26.39**	**229**	P		P		22 04 33.8	-0.5
	2.3nm,0.7s,baz=57,slow=9.6,SNR=2.5								
SONM	**Songino Array**	**69.65**	**327**	P		P		22 10 08.8	+1.5
	0.8nm,0.4s,baz=143,slow=5.9,SNR=4.3								
MKAR	**Makanchi Array**	**83.75**	**319**	P		P		22 11 26.8	-0.3
	4.2nm,0.8s,baz=102,slow=6.8,SNR=3.4								
ZALV	**Zalesovo Beam**	**84.50**	**326**	P		P		22 11 29.1	-1.6
	3.0nm,0.7s,baz=123,slow=6.8,SNR=3.6								

*IDC **01** 21:59:27.6±8.2,767S×15666E,h0km,mb4.5/7,mb1 4.6/7, mb1mx4.3/15,mbtmp4.5/7,Error ellipse: s-maj=253.2km s-min=23.3km az=110.0*
*ISCJB **01** 21:59:36.3±0.9,73S±02×1556E±02,h33km,mb4.5/8, Error ellipse: s-maj=27.4km s-min=19.5km az=31.4*
ISC 01 21:59:38.4±0.9,73S±02×1555E±02,h35km,n8,σ0§80/8, mb4.5/8,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.09**	**236**	P		P		22 04 52.0	+1.1
	6.8nm,0.7s,mb4.2,baz=60,slow=9.1,SNR=3.9								
ASAR	**Alice Springs**	**26.38**	**229**	P		P		22 05 11.0	-0.7
	2.0nm,0.5s,mb3.9,baz=57,slow=9.2,SNR=3.4								
NWAO	**Narrogin (SRO)**	**43.70**	**229**	P		P		22 07 39.7	-0.5
	8.4nm,0.7s,mb4.6,baz=90,slow=2.0,SNR=3.6								
MJAR	**Matsushiro Arr**	**46.51**	**341**	P		P		22 08 01.7	-0.7
	1.8nm,0.7s,mb4.1,baz=170,slow=8.9,SNR=3.6								
PMOR	**Pomariorio Ree**	**55.93**	**103**	*eP*		P		22 09 13.7	+0.2
	13nm,0.9s,mb5.0								
SONM	**Songino Array**	**69.84**	**327**	P		P		22 10 46.8	+1.3
	3.8nm,0.4s,mb4.7,baz=146,slow=6.1,SNR=15								
MKAR	**Makanchi Array**	**83.95**	**319**	P		P		22 12 05.2	+0.3
	5.4nm,0.7s,mb4.8,baz=91,slow=6.1,SNR=3.9								
ZALV	**Zalesovo Beam**	**84.69**	**326**	P		P		22 12 07.6	-0.9
	3.5nm,0.6s,mb4.6,baz=107,slow=5.3,SNR=4.0								

IDC 01 22:00:00.7±1.8,720S×15603E,h0km,mb4.4/7,mb1 4.5/7, mb1mx4.3/14,mbtmp4.3/7,Error ellipse: s-maj=58.5km s-min=33.4km az=116.0,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.55**	**237**	P		P		22 05 22.8	+0.5
	2.5nm,0.8s,baz=61,slow=9.5,SNR=2.9								
MJAR	**Matsushiro Arr**	**46.61**	**340**	P		P		22 08 30.3	-0.4
	1.3nm,0.6s,baz=161,slow=8.1,SNR=4.1								
KSRS	**Korea Array**	**51.60**	**331**	P		P		22 09 08.9	-0.1
	1.3nm,0.5s,baz=154,slow=8.1,SNR=3.3								
SONM	**Songino Array**	**70.06**	**327**	P		P		22 11 15.5	+1.0
	2.2nm,0.4s,baz=144,slow=6.3,SNR=7.5								
MKAR	**Makanchi Array**	**84.24**	**318**	P		P		22 12 34.2	0.0
	5.6nm,0.7s,baz=104,slow=6.5,SNR=3.9								
ZALV	**Zalesovo Beam**	**84.92**	**326**	P		P		22 12 36.7	-0.8
	3.9nm,0.5s,baz=104,slow=5.6,SNR=4.7								
YKA	**Yellowknife Ar**	**96.04**	**28**	P		P		22 13 30.3	+0.6
	0.5nm,0.7s,baz=263,slow=4.5,SNR=3.9								
AKASG	**Malin Array Be**	**118.30**	**325**	PKP		PKPdf		22 18 48.8	-1.2
	0.6nm,0.4s,baz=53,slow=2.5,SNR=4.8								
GERES	**GERESS Array B**	**127.76**	**329**	PKP		PKPdf		22 19 08.3	0.0
	0.3nm,0.4s,baz=135,slow=0.1,SNR=4.3								
ESDC	**Sonseca Array**	**143.01**	**334**	PKP		PKPdf		22 19 35.7	-1.2
	0.1nm,0.3s,baz=34,slow=7.9,SNR=4.2								

IDC 01 22:00:20.0±1.9,744S×15585E,h0km,mb4.5/4,mb1 4.5/4, mb1mx4.1/14,mbtmp4.5/4,Error ellipse: s-maj=108.2km s-min=54.8km az=38.0,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**70.17**	**327**	P		P		22 11 34.1	-0.4
	1.5nm,0.6s,baz=134,slow=6.5,SNR=1.5								
MKAR	**Makanchi Array**	**84.30**	**319**	P		P		22 12 54.5	+0.7
	7.5nm,0.7s,baz=99,slow=6.2,SNR=5.6								
ZALV	**Zalesovo Beam**	**85.02**	**326**	P		P		22 12 57.3	0.0
	4.0nm,0.6s,baz=114,slow=5.4,SNR=4.5								
YKA	**Yellowknife Ar**	**96.33**	**28**	P		P		22 13 50.4	+0.1
	0.4nm,0.7s,baz=270,slow=4.4,SNR=3.8								
GERES	**GERESS Array B**	**127.87**	**329**	PKP		PKPdf		22 19 28.0	+0.1
	0.7nm,0.7s,baz=113,slow=3.0,SNR=4.0								
LPAZ	**La Paz**	**130.50**	**119**	PKP		PKPdf		22 19 34.0	+0.2
	7.8nm,1.0s,baz=292,slow=3.4,SNR=8.7								

*IDC **01** 22:01:23.4±0.9,733S×155.18E,h0km,mb4.4/12, mb1 4.5/12,mb1mx4.5/15,mbtmp4.3/12,Error ellipse: s-maj=35.1km s-min=18.8km az=105.0*
*ISCJB **01** 22:01:27.1±0.7,73S±0.1×155.1E±02,h33km,mb4.5/16, Error ellipse: s-maj=24.4km s-min=14.3km az=16.9*
ISC 01 22:01:29.0±0.7,73S±01×1551E±02,h35km,n18,σ0§87/17, mb4.5/16,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**15.32**	**213**	Pn		**Pn**		**22 05 08.5**	**+5.8**
	0.4nm,0.3s,baz=38,slow=7.3,SNR=5.3								
WRA	**Warramunga Arr**	**23.73**	**236**	P		**P**		**22 06 38.5**	**+0.3**
	9.2nm,0.8s,mb4.3,baz=61,slow=10,SNR=7.9								
ASAR	**Alice Springs**	**26.05**	**229**	P		**P**		**22 07 00.2**	**+1.0**
	3.7nm,0.9s,mb3.9,baz=64,slow=9.5,SNR=4.3								
STKA	**Stephens Creek**	**27.49**	**206**	P		**P**		**22 07 11.5**	**-0.6**
	12nm,0.7s,mb4.6,baz=19,slow=10,SNR=8.9								
MJAR	**Matsushiro Arr**	**46.44**	**341**	P		**P**		**22 09 53.8**	**+1.3**
	0.9nm,0.7s,mb3.8,baz=164,slow=8.5,SNR=4.2								
KSRS	**Korea Array**	**51.30**	**332**	P		**P**		**22 10 29.5**	**-0.2**
	2.8nm,0.9s,mb4.2,baz=156,slow=7.7,SNR=4.1								
SONM	**Songino Array**	**69.69**	**327**	P		**P**		**22 12 35.4**	**+0.3**
	3.6nm,0.9s,mb4.3,baz=142,slow=5.6,SNR=6.6								
VNDA	**Vanda**	**70.24**	**178**	P		**P**		**22 12 38.0**	**-0.1**
	1.3nm,0.8s,mb3.9,baz=296,slow=5.0,SNR=3.7								
JIRN	**Jiri**	**75.07**	**301**	*eP*		**P**		**22 13 07.8**	**+0.1**
	89nm,1.5s,mb5.5								
KKN	**Kakani**	**75.88**	**301**	*eP*		**P**		**22 13 12.8**	**+0.5**
	61nm,1.1s,mb5.4								
GKN	**Gorkha**	**76.48**	**301**	*eP*		**P**		**22 13 15.5**	**-0.3**
	90nm,1.3s,mb5.5								
KOLN	**Koldanda**	**77.30**	**301**	*eP*		**P**		**22 13 19.5**	**-0.9**
	52nm,1.2s,mb5.3								
MKAR	**Makanchi Array**	**83.74**	**319**	P		**P**		**22 13 54.0**	**-0.5**
	5.3nm,0.8s,mb4.7,baz=95,slow=7.3,SNR=5.1								
ZALV	**Zalesovo Beam**	**84.53**	**326**	P		**P**		**22 13 56.9**	**-1.4**
	1.7nm,0.5s,mb4.4,baz=108,slow=4.8,SNR=4.1								
INK	**Inuvik**	**89.99**	**21**	P		**P**		**22 14 25.8**	**+1.3**
	2.0nm,0.9s,mb4.5,baz=260,slow=11,SNR=3.3								
NVAR	**Mina Array Bea**	**91.83**	**52**	P		**P**		**22 14 34.5**	**+0.9**
	1.3nm,1.1s,mb4.2,baz=253,slow=2.7,SNR=5.0								
YKA	**Yellowknife Ar**	**96.57**	**28**	P		**P**		**22 14 53.0**	**-1.9**
	0.7nm,0.9s,mb4.1,baz=267,slow=4.4,SNR=3.6								
TORD	**Torodi Ar. Bea**	**153.24**	**285**	PKP		PKPdf		22 21 14.3	-2.5
	1.0nm,0.5s,baz=107,slow=0.2,SNR=4.0								
TORD				PKPbc		PKPbc		22 21 25.2	+0.8
	1.1nm,0.7s,baz=66,slow=3.5,SNR=3.6								
TORD				PKPab		PKPab		22 21 34.8	-1.4
	1.2nm,0.7s,baz=204,slow=3.3,SNR=4.1								

IDC 01 22:03:51.9±2.2,759S×15613E,h0km,mb4.3/8,mb1 4.5/8, mb1mx4.3/14,mbtmp4.3/8,Error ellipse: s-maj=69.5km s-min=25.0km az=116.0,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WB2	**Warramunga Arr**	**24.41**	**238**	*eP*		P		22 09 13.0	+0.7
WRA	**Warramunga Arr**	**24.43**	**238**	P		P		22 09 13.3	+0.9
	12nm,0.9s,baz=62,slow=9.5,SNR=6.7								
ASAR	**Alice Springs**	**26.64**	**231**	P		P		22 09 32.8	+0.2
	1.2nm,0.7s,baz=59,slow=8.6,SNR=3.9								
MJAR	**Matsushiro Arr**	**47.01**	**340**	P		P		22 12 26.1	+1.0
	2.1nm,0.8s,baz=156,slow=7.6,SNR=5.4								
KSRS	**Korea Array**	**51.99**	**331**	P		P		22 13 03.9	+0.8
	2.4nm,0.8s,baz=152,slow=9.2,SNR=4.6								
SONM	**Songino Array**	**70.44**	**327**	P		P		22 15 08.7	+0.6
	4.8nm,0.8s,baz=139,slow=6.2,SNR=10								
MKAR	**Makanchi Array**	**84.59**	**318**	P		P		22 16 25.8	-1.5
	4.2nm,0.7s,baz=99,slow=5.7,SNR=8.4								
ZALV	**Zalesovo Beam**	**85.30**	**326**	P		P		22 16 29.0	-1.6
	1.9nm,0.4s,baz=121,slow=4.7,SNR=7.8								
YKA	**Yellowknife Ar**	**96.34**	**28**	P		P		22 17 22.9	+0.6
	0.4nm,0.7s,baz=265,slow=4.8,SNR=4.5								

IDC 01 22:04:14.5±1.5,751S×15515E,h0km,mb4.4/8,mb1 4.6/8, mb1mx4.3/15,mbtmp4.4/8,Error ellipse: s-maj=50.9km s-min=21.5km az=114.0,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**15.19**	**214**	*eP*		Pn		22 07 58.1	+7.6
	14nm,0.9s								
CTA	**Charters Tower**	**15.19**	**214**	Pn		Pn		22 07 57.6	+7.1
	2.0nm,0.3s,baz=49,slow=12,SNR=5.7								
WRA	**Warramunga Arr**	**23.66**	**236**	P		P		22 09 28.5	+0.5
	13nm,0.8s,baz=62,slow=9.6,SNR=6.6								
ASAR	**Alice Springs**	**25.95**	**229**	P		P		22 09 48.8	-0.1
	3.3nm,0.9s,baz=62,slow=8.9,SNR=4.9								
STKA	**Stephens Creek**	**27.34**	**206**	P		P		22 10 00.2	-1.1
	9.9nm,0.8s,baz=27,slow=11,SNR=6.7								
FITZ	**Fitzroy Crossi**	**30.59**	**247**	P		P		22 10 30.8	+0.4
	8.1nm,0.8s,baz=90,slow=8.4,SNR=6.2								
KSRS	**Korea Array**	**51.46**	**332**	P		P		22 13 22.3	+0.5
	2.2nm,0.7s,baz=145,slow=6.1,SNR=4.8								
SONM	**Songino Array**	**69.85**	**327**	P		P		22 15 26.0	-1.1
	4.8nm,1.0s,baz=146,slow=5.5,SNR=6.2								
MKAR	**Makanchi Array**	**83.89**	**319**	P		P		22 16 46.0	-0.3
	2.1nm,0.6s,baz=97,slow=4.9,SNR=3.7								
YKA	**Yellowknife Ar**	**96.72**	**28**	P		P		22 17 45.8	-0.8
	0.3nm,0.5s,baz=273,slow=4.4,SNR=4.8								
NB2	**NORSAR Subarra120.23**	**341**		PKPdf		PKPdf		22 23 08.8	+1.5
	comp=Z,0.7nm,0.7s,baz=40,slow=1.9								
NOA	**NORSAR Array B120.23**	**341**		PKP		PKPdf		22 23 08.4	+1.0
	comp=Z,0.7nm,0.6s,baz=46,slow=1.9,SNR=4.6								
GERES	**GERESS Array B 127.57**	**329**		PKP		PKPdf		22 23 23.1	+1.3
	comp=Z,0.5nm,0.5s,baz=48,slow=2.0,SNR=6.1								

IDC 01 22:07:50.3±7.8,750S×15626E,h0km,mb4.4/7,mb1 4.5/7, mb1mx4.2/15,mbtmp4.4/7,Error ellipse: s-maj=226.6km s-min=31.8km az=114.0,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.59**	**238**	P		P		22 13 12.8	+0.6
	3.8nm,0.8s,baz=60,slow=9.3,SNR=4.3								
MJAR	**Matsushiro Arr**	**46.97**	**340**	P		P		22 16 22.6	-0.4
	2.3nm,0.8s,baz=156,slow=7.2,SNR=6.6								
KSRS	**Korea Array**	**51.97**	**331**	P		P		22 17 01.5	+0.2
	3.3nm,0.9s,baz=146,slow=8.6,SNR=5.5								
ASAJ	**Asahikawa**	**52.84**	**348**	P		P		22 17 08.7	+1.1
	5.0nm,0.2s,baz=164,slow=28,SNR=14								
SONM	**Songino Array**	**70.43**	**327**	P		P		22 19 06.2	-0.2
	4.0nm,0.5s,baz=144,slow=5.9,SNR=24								
MKAR	**Makanchi Array**	**84.61**	**318**	P		P		22 20 25.9	+0.2
	1.3nm,0.4s,baz=81,slow=7.5,SNR=5.3								
ZALV	**Zalesovo Beam**	**85.29**	**326**	P		P		22 20 27.9	-1.0
	2.2nm,0.6s,baz=115,slow=5.2,SNR=6.8								

IDC 01 22:08:24.4±2.8,708S×15558E,h0km,mb4.3/5,mb1 4.5/5, mb1mx4.1/15,mbtmp4.3/5,Error ellipse: s-maj=73.4km s-min=36.6km az=109.0,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.25**	**236**	P		P		22 13 43.3	0.0
	4.2nm,0.5s,baz=63,slow=9.5,SNR=6.9								
ASAR	**Alice Springs**	**26.55**	**229**	P		P		22 14 03.8	-0.4
	2.5nm,0.6s,baz=56,slow=10,SNR=7.4								
STKA	**Stephens Creek**	**27.91**	**206**	P		P		22 14 16.5	+0.2
	1.8nm,0.4s,baz=14,slow=9.9,SNR=4.5								
FITZ	**Fitzroy Crossi**	**31.15**	**247**	P		P		22 14 46.0	+0.8
	3.2nm,0.6s,baz=85,slow=9.2,SNR=3.2								
MKAR	**Makanchi Array**	**83.85**	**319**	P		P		22 20 55.5	-0.4
	1.9nm,0.6s,baz=90,slow=6.9,SNR=3.7								
ESDC	**Sonseca Array**	**142.70**	**334**	PKP		PKPdf		22 28 00.6	+0.5
	0.3nm,0.3s,baz=69,slow=7.0,SNR=3.6								

*ISCJB **01** 22:09:06.4±5.7,8.14S±008×15620E±007,h2km±36km, mb4.6/26,Error ellipse: s-maj=13.8km s-min=11.6km az=157.4*
*IDC **01** 22:09:07.4±0.8,8.14S×15623E,h0km,mb4.5/12, mb1 4.6/14,mb1mx4.5/17,mbtmp4.5/14,ML3.5/1,Error ellipse: s-maj=25.4km s-min=18.7km az=101.0*
*BJI **01** 22:09:08.1,8.105S×15620E,h10km,mb4.7*
*NEIC **01** 22:09:09.1±0.3,8.14S×15623E,h10km,mb4.8/11,Error ellipse: s-maj=9.5km s-min=7.6km az=113.0*
*MOS **01** 22:09:11.1±1.0,8.24S×156.19E,h33km,mb5.0/10,Error ellipse: s-maj=12.4km s-min=10.3km az=81.5*
ISC 01 22:09:10.9±4.5,819S±008×15628E±006,h22km±32km, n66,σ1§05/61,mb4.6/26,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**3.83**	**109**	Pn		**Pn**		**22 10 09.8**	**+1.3**
	86nm,0.3s,baz=336,slow=1.0,SNR=6.0								
HNR				Sn		**Sn**		**22 10 50.8**	**-2.2**
	109nm,0.3s,baz=78,slow=22,SNR=5.4								
CTA	**Charters Tower**	**15.30**	**218**	Pn		**Pn**		**22 12 46.2**	**+0.5**
	0.1nm,0.3s,baz=68,slow=12,SNR=2.1								
CTAO	**Charters Tower**	**15.30**	**218**	*eP*		**Pn**		**22 12 44.0**	**-1.7**
WRA	**Warramunga Arr**	**24.24**	**239**	P		**P**		**22 14 25.7**	**-0.7**
	11nm,1.1s,mb4.2,baz=65,slow=9.3,SNR=4.4								
ASAR	**Alice Springs**	**26.39**	**232**	P		**P**		**22 14 45.5**	**-0.4**
	2.2nm,0.8s,mb3.7,baz=66,slow=10.0,SNR=4.4								
STKA	**Stephens Creek**	**27.24**	**208**	P		**P**		**22 14 53.7**	**+0.2**
	3.6nm,0.6s,mb4.0,baz=32,slow=13,SNR=4.5								
RAO	**Raoul Island**	**32.05**	**134**	*eP*		**P**		**22 15 35.8**	**-0.4**
TAU	**Tasmania Unive**	**35.47**	**191**	P		**P**		**22 16 05.7**	**0.0**
MBWA	**Marble Bar**	**37.52**	**246**	*eP*		**P**		**22 16 25.9**	**+2.3**
	3.7nm,0.5s,mb4.4								
KKM	**Kota Kinabalu**	**42.38**	**288**	P		**P**		**22 17 03.1**	**-1.0**
NWAO	**Narrogin (SRO)**	**43.68**	**230**	*eP*		**P**		**22 17 17.4**	**+3.0**
	32nm,1.2s,mb4.9								
NWAO	**Narrogin (SRO)**	**43.68**	**230**	*eP*		**P**		**22 17 17.4**	**+3.0**
NWAO				pmax		pmax			

TKM2 **Tokmak 2** 88.76 314 P P 22 22 04.0 +0.9
TKM2 pmax pmax
comp=Z,2.0nm,0.6s,mb4.6
UCH **Uchtor** 89.40 313 P P 22 22 06.4 +0.3
AAK **Ala-Archa** 89.49 313 eP P 22 22 10.0 +3.5
EKS2 **Erkin-Say** 90.02 313 eP P 22 22 10.6 +1.7
comp=Z,4.8nm,1.0s,mb4.8
NVAR **Mina Array Bea** 91.46 52 P P 22 22 15.1 -0.7
comp=Z,0.3nm,0.3s,mb4.0,baz=232,slow=4.4,SNR=5.9
TPNV **Topopah Spring** 92.85 53 P P 22 22 23.1 +0.8
comp=Z,4.9nm,1.1s,mb4.8
TPNV **Topopah Spring** 92.85 53 P P 22 22 23.1 +0.8
TPNV pmax pmax
comp=Z,5.0nm,1.1s,mb4.9
BRVK **Borovoye** 94.08 323 eP P 22 22 27.2 -0.4
comp=Z,8.2nm,1.5s,mb4.9
BRVK **Borovoye** 94.08 323 eP P 22 22 27.2 -0.3
BRVK pmax pmax
comp=Z,8.0nm,1.5s,mb4.9
HVU **Hansel Valley** 96.09 49 eP P 22 22 37.0 0.0
YKA **Yellowknife Ar** 96.79 28 P P 22 22 39.9 +0.2
comp=Z,0.4nm,0.7s,mb4.0,baz=265,slow=4.4,SNR=5.5
AKASG **Malin Array Be** 119.25 324 PKP PKPdf 22 27 58.2 -0.1
comp=Z,0.2nm,0.2s,baz=58,slow=3.0,SNR=4.2
LBTB **Lobatse** 121.73 234 PKPdf PKPdf 22 28 03.7 -0.3
GERES **GERESS Array B** 128.73 329 PKP PKPdf 22 28 17.4 +0.7
comp=Z,0.1nm,0.3s,baz=158,slow=1.1,SNR=3.1
LPAZ **La Paz** 129.77 119 PKP PKPdf 22 28 19.8 +0.3
comp=Z,0.6nm,0.4s,baz=248,slow=5.4,SNR=2.7
ESDC **Sonseca Array** 144.00 334 PKP PKPdf 22 28 45.3 +0.2
comp=Z,0.5nm,0.4s,baz=330,slow=0.8,SNR=4.3
TORD **Torodi Ar. Bea** 154.55 283 PKPbc PKPbc 22 29 10.2 -0.8
comp=Z,1.1nm,0.8s,baz=43,slow=2.3,SNR=2.3

*IDC **01** 22:11:21.6±2.2, 706S×15531E, h0km, mb4.2/6, mb1 4.3/6, mb1mx4.1/15, mbtmp4.2/6, Error ellipse: s-maj=74.0km s-min=36.6km az=135.0*
*ISCJB **01** 22:11:25.0±1.7, 72S±03×1555E±03, h33km, mb4.4/9, Error ellipse: s-maj=54.1km s-min=24.8km az=136.9*
ISC 01 22:11:26.2±1.7, 73S±03×1556E±03, h35km, n10, σ0º81/10, mb4.4/9, Bougainville - Solomon Islands region
Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
WRA **Warramunga Arr** 24.12 237 P P 22 16 38.5 -0.3
3.1nm,0.8s,mb3.8,baz=60,slow=9.6,SNR=2.5
SONM **Songino Array** 69.93 327 P P 22 22 33.1 -0.6
1.5nm,0.6s,mb4.1,baz=143,slow=6.5,SNR=4.4
JIRN **Jiri** 75.45 301 eP P 22 23 07.9 +0.9
12nm,0.9s,mb4.8
KKN **Kakani** 76.26 301 eP P 22 23 12.4 +0.7
9.9nm,0.7s,mb4.9
GKN **Gorkha** 76.87 301 eP P 22 23 15.5 +0.4
23nm,1.0s,mb5.1
KOLN **Koldanda** 77.69 300 eP P 22 23 19.9 +0.2
MKAR **Makanchi Array** 84.04 319 P P 22 23 53.1 0.0
3.5nm,0.8s,mb4.5,baz=92,slow=6.3,SNR=4.5
ZALV **Zalesovo Beam** 84.78 326 P P 22 23 54.5 -2.2
1.3nm,0.6s,mb4.3,baz=116,slow=6.8,SNR=4.1
INK **Inuvik** 89.82 21 P P 22 24 21.5 +0.7
0.8nm,0.7s,mb4.2,baz=224,slow=7.3,SNR=3.2
YKA **Yellowknife Ar** 96.35 28 P P 22 24 50.9 -0.1
0.4nm,0.8s,mb3.9,baz=264,slow=4.8,SNR=4.0

IDC 01 22:12:06.9±1.5, 731S×15569E, h0km, mb4.5/8, mb1 4.6/8, mb1mx4.3/16, mbtmp4.5/8, Error ellipse: s-maj=48.9km s-min=23.6km az=104.0, Bougainville - Solomon Islands region
Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
WB2 **Warramunga Arr** 24.20 237 eP P 22 17 25.9 +0.6
WRA **Warramunga Arr** 24.21 237 P P 22 17 25.7 +0.3
14nm,0.9s,baz=62,slow=9.5,SNR=7.9
ASAR **Alice Springs** 26.49 230 P P 22 17 45.1 -0.9
1.5nm,0.7s,baz=62,slow=9.2,SNR=3.7
STKA **Stephens Creek** 27.75 206 P P 22 17 58.5 +1.2
11nm,0.8s,baz=33,slow=9.9,SNR=9.5
FITZ **Fitzroy Crossi** 31.16 247 P P 22 18 27.6 -0.2
7.0nm,0.7s,baz=80,slow=5.2,SNR=7.3
SONM **Songino Array** 69.97 327 P P 22 23 20.9 +0.7
2.9nm,0.7s,baz=137,slow=6.7,SNR=4.6
QSPA **South Pole Qui** 82.66 180 P P 22 24 31.9 +0.1
4.1nm,0.8s,baz=359,slow=3.6,SNR=4.0
MKAR **Makanchi Array** 84.10 319 P P 22 24 40.4 +0.7
4.8nm,0.8s,baz=98,slow=6.4,SNR=6.8
ZALV **Zalesovo Beam** 84.83 326 P P 22 24 42.8 -0.4
3.5nm,0.8s,baz=112,slow=4.5,SNR=5.2
NOA **NORSAR Array B** 120.22 341 PKP PKPdf 22 30 58.9 -0.7
0.8nm,0.8s,baz=3.3,slow=4.3,SNR=3.3

IDC 01 22:13:00.0±1.4, 750S×15630E, h0km, mb4.5/7, mb1 4.5/7, mb1mx4.3/15, mbtmp4.4/7, Error ellipse: s-maj=48.2km s-min=25.9km az=108.0, Bougainville - Solomon Islands region
Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
WRA **Warramunga Arr** 24.62 238 P P 22 18 22.9 +0.6
5.7nm,0.7s,baz=63,slow=9.8,SNR=5.7
ASAR **Alice Springs** 26.83 231 P P 22 18 42.0 -0.4
1.0nm,0.5s,baz=57,slow=10.0,SNR=3.7
SONM **Songino Array** 70.46 327 P P 22 24 17.2 +0.9
2.4nm,0.6s,baz=142,slow=6.1,SNR=12
QSPA **South Pole Qui** 82.48 180 P P 22 25 24.6 +0.7
3.8nm,0.8s,baz=30,slow=1.3,SNR=5.3
MKAR **Makanchi Array** 84.64 318 P P 22 25 35.7 +0.1
3.3nm,0.5s,baz=83,slow=9.9,SNR=6.9
ZALV **Zalesovo Beam** 85.32 326 P P 22 25 38.0 -0.8
5.2nm,0.4s,baz=118,slow=6.1,SNR=18
YKA **Yellowknife Ar** 96.17 28 P P 22 26 29.5 -0.1
0.2nm,0.5s,baz=262,slow=4.7,SNR=5.6

*NEIC **01** 22:13:22.8, 4022N×2402E, h4km, MD3.1(ATH), After ATH.*
*ATH **01** 22:13:22.4, 4020N×2399E, h19km±7km, MD3.1/4*
*ISCJB **01** 22:13:23.5±0.6, 4035N±004×2391E±005, h4km, Error ellipse: s-maj=6.3km s-min=4.6km az=32.0*
*CSEM **01** 22:13:24.4±0.1, 4033N×2391E, h8km, ML2.2, Error ellipse: s-maj=3.5km s-min=1.9km az=33.0*
*THE **01** 22:13:24.6, 4032N×2388E, h10km, ML2.2*
ISC 01 22:13:23.9±0.7, 4033N±005×2391E±006, h14km±8km, n12, σ0º64/17, 1C-1D, Greece
Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
OUR **Ouranopolis** 0.06 87 ePg Pg 22 13 26.4 -0.1
PLG **Polygyros** 0.36 277 ePg Pg 22 13 32.0 +0.8
PLG eSg Sg 22 13 36.4 +0.4
PLG **Polygyros** 0.36 277 ⇓iPg Pg 22 13 31.8 +0.7
PLG eSg Sg 22 13 37.0 +1.0
PAIG **Paliouri** 0.44 204 ePg Pg 22 13 33.5 +0.9
PAIG eSg Sg 22 13 38.1 -0.4
HORT **Hortiatis** 0.67 294 ePg Pg 22 13 37.2 +0.2
HORT eSg Sg 22 13 45.6 -0.2
LOS **Limnos** 0.98 113 ePg Pg 22 13 42.7 -0.2
NVR **Nevrokopi** 1.02 358 ePN Pn 22 13 44.4 +0.7
LIA **Limnos Island** 1.07 114 ⇑iPN Pn 22 13 40.8 -3.6
KNT **Kendrikon** 1.13 317 ePg Pg 22 13 45.5 -0.2
AOS **Alonnisos** 1.16 181 ePg Pg 22 13 45.9 -0.3
GRG **Griva** 1.31 299 ePg Pg 22 13 48.6 -0.5
GRG eSg Sg 22 14 05.0 -1.0
RDO **Rodhopi** 1.48 56 ePN Pn 22 13 50.4 +0.3

*BJI **01** 22:13:45.2, 8.13S×15556E, h25km, mb4.9*
*IDC **01** 22:13:45.0±1.0, 726S×15587E, h0km, mb4.7/11, mb1 4.7/12, mb1mx4.6/17, mbtmp4.7/12, Error ellipse: s-maj=34.4km s-min=17.9km az=104.0*
*NEIC **01** 22:13:46.8±0.3, 722S×15577E, h10km, mb4.8/12, Error ellipse: s-maj=9.0km s-min=6.8km az=102.0*
*MOS **01** 22:13:48.7±0.9, 724S×15576E, h33km, mb4.9/6, Error ellipse: s-maj=12.5km s-min=10.3km az=97.4*
*ISCJB **01** 22:13:50.9±2.1, 731S±007×15573E±007, h53km±20km, mb4.7/24, Error ellipse: s-maj=13.7km s-min=10.0km az=141.0*
ISC 01 22:13:53.3±1.8, 733S±007×15574E±007, h60km±18km, n65, σ0º89/56, mb4.7/24, Bougainville - Solomon Islands region
Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
HNR **Honiara** 4.66 117 Pn Pn 22 15 00.3 -0.8
72nm,0.3s,baz=253,slow=3.3,SNR=5.0
HNR Sn Sn 22 15 55.4 +1.5
baz=264,slow=12,SNR=1.8
CTA **Charters Tower** 15.67 215 Pn Pn 22 17 30.9 +0.5
CTA **Charters Tower** 15.67 215 Pn Pn 22 17 30.9 +0.5
baz=28,slow=16,SNR=2.4
CTAO **Charters Tower** 15.67 215 ePn Pn 22 17 29.3 -1.1
17nm,0.9s
CTAO **Charters Tower** 15.67 215 eP Pn 22 17 29.3 -1.1
CTAO pmax pmax
comp=Z,17nm,0.9s
WB2 **Warramunga Arr** 24.24 237 eP P 22 19 05.3 +0.5
WRA **Warramunga Arr** 24.25 237 P P 22 19 04.8 0.0
comp=Z,47nm,1.0s,mb4.9,baz=63,slow=9.6,SNR=15
ASAR **Alice Springs** 26.52 230 P P 22 19 25.1 -0.3
comp=Z,3.3nm,0.7s,mb4.0,baz=53,slow=9.3,SNR=5.4
STKA **Stephens Creek** 27.76 207 P P 22 19 36.5 0.0
STKA **Stephens Creek** 27.76 207 P P 22 19 36.5 0.0
comp=Z,4.3nm,0.8s,mb4.2,baz=39,slow=11,SNR=3.7
FITZ **Fitzroy Crossi** 31.20 247 eP P 22 20 07.1 -0.1
comp=Z,21nm,0.8s,mb5.0
FITZ **Fitzroy Crossi** 31.20 247 P P 22 20 07.1 -0.1
comp=Z,11nm,0.7s,mb4.8,baz=116,slow=7.0,SNR=6.9
RAO **Raoul Island** 33.03 135 eP P 22 20 21.6 -1.4
FORT **Forrest** 34.86 224 eP P 22 20 37.8 -1.2
comp=Z,20nm,0.7s,mb5.2
MBWA **Marble Bar** 37.40 245 eP P 22 21 00.6 -0.2
comp=Z,6.6nm,0.6s,mb4.6
KLBR **Kellerberrin** 42.84 231 eP P 22 21 44.7 -1.0
comp=Z,16nm,0.6s,mb4.9
NWAO **Narrogin (SRO)** 43.83 229 P P 22 21 53.4 -0.2
KSM **Kuching** 46.16 279 eP P 22 22 13.1 +0.6
MJAR **Matsushiro Arr** 46.64 341 P P 22 22 14.5 -1.3
comp=Z,4.0nm,0.8s,mb4.4,baz=163,slow=7.3,SNR=5.0
MAJO **Matsushiro** 46.64 341 P P 22 22 15.6 -0.1
JNU **Nakatsue** 46.66 331 P P 22 22 16.6 +0.7
comp=Z,14nm,0.8s,mb5.0,baz=84,slow=14,SNR=6.3
KSRS **Korea Array** 51.58 332 P P 22 22 54.5 +0.9
comp=Z,3.7nm,0.6s,mb4.5,baz=146,slow=7.0,SNR=8.0
KULM **Kulim** 56.38 281 eP P 22 23 29.3 +0.3
ENH **Enshi** 58.01 313 P P 22 23 39.8 -0.4
BJT **Baijiatuau** 59.60 325 eP P 22 23 50.8 -0.2
HIA **Hailar** 64.53 335 P P 22 24 23.5 -0.4
CIT **Chita** 69.23 334 eP P 22 24 52.6 -1.1
CIT e pP 22 25 09.2 -0.9
GTA **Gaotai** 69.49 317 eP P 22 24 56.9 +1.3
GTA AP pP 22 25 02.6 -9.3
GTA XP sP 22 25 05.2 -13
GTA AMB AMB
comp=Z,36nm,1.7s,mb5.0
SONM **Songino Array** 70.01 327 P P 22 24 54.2 -4.5
comp=Z,7.2nm,0.9s,mb4.6,baz=122,slow=3.8,SNR=14
SBA **Scott Base** 70.73 178 eP P 22 25 02.9 +0.4
LSA **Lhasa** 72.07 304 eP P 22 25 13.4 +1.9
comp=Z,5.0nm,0.6s,mb4.6
LSA **Lhasa** 72.07 304 eP P 22 25 13.4 +1.9
LSA pmax pmax
comp=Z,5.0nm,0.6s,mb4.6
ZAK **Zakamensk** 73.17 328 eP P 22 25 18.3 +0.8
ZAK pmax pmax
comp=Z,4.0nm,1.1s,mb4.3
TLY **Talaya** 73.72 329 eP P 22 25 21.4 +0.6
BILL **Bilibino** 75.56 4 P P 22 25 32.0 +0.9
PALK **Pallekele** 76.22 279 eP P 22 25 36.5 +0.4
comp=Z,7.0nm,1.0s,mb4.5
MCK **McKinley** 82.09 22 eP P 22 26 06.1 -0.8
QSPA **South Pole Qui** 82.65 180 P P 22 26 12.1 +2.4
comp=Z,3.8nm,0.8s,mb4.5,baz=357,slow=4.2,SNR=2.8
COLA **College** 83.12 21 P P 22 26 11.4 -0.9
MKAR **Makanchi Array** 84.14 319 P P 22 26 18.4 +0.5
comp=Z,18nm,0.6s,mb5.3,baz=82,slow=8.7,SNR=14
ZAA0 **Zalesovo Array** 84.87 326 eP P 22 26 20.9 -0.5
ZAA0 ePcP PcP 22 26 25.1 +0.4
ZALV **Zalesovo Beam** 84.87 326 P P 22 26 20.4 -1.0
comp=Z,16nm,0.5s,mb5.4,baz=117,slow=7.1,SNR=18
ZAL **Zalesovo** 84.88 326 P P 22 26 20.4 -1.1
KURK **Kurchatov** 87.55 322 eP P 22 26 34.1 -0.6
comp=Z,6.4nm,0.6s,mb5.0
KURK **Kurchatov** 87.55 322 eP P 22 26 34.1 -0.6
KURK pmax pmax
comp=Z,6.0nm,0.6s,mb5.0
TKM2 **Tokmak 2** 87.78 314 eP P 22 26 36.1 +0.1
comp=Z,2.4nm,0.5s,mb4.7
TKM2 **Tokmak 2** 87.78 314 eP P 22 26 36.1 +0.1
TKM2 pmax pmax
comp=Z,2.0nm,0.5s,mb4.6
UCH **Uchtor** 88.42 313 eP P 22 26 40.9 +1.9
AAK **Ala-Archa** 88.52 313 eP P 22 26 39.7 +0.2
comp=Z,1.8nm,0.6s,mb4.6
AAK **Ala-Archa** 88.52 313 eP P 22 26 39.7 +0.2
AAK pmax pmax
comp=Z,2.0nm,0.6s,mb4.6
AML **Almayashu** 89.00 313 eP P 22 26 42.1 +0.3
comp=Z,6.7nm,1.0s,mb4.9
EKS2 **Erkin-Say** 89.04 313 eP P 22 26 42.7 +0.8
BRVK **Borovoye** 93.07 323 eP P 22 26 59.7 -0.7
comp=Z,3.0nm,0.6s,mb4.9
BRVK **Borovoye** 93.07 323 eP P 22 26 59.7 -0.7
BRVK pmax pmax
comp=Z,3.0nm,0.6s,mb4.9
YKA **Yellowknife Ar** 96.28 28 P P 22 27 13.6 -1.3
comp=Z,0.1nm,0.3s,mb3.8,baz=261,slow=3.9,SNR=4.3
ARU **Arti** 100.03 326 ePdif Pdif 22 27 32.4 +0.4
ARU **Arti** 100.03 326 eP Pdif 22 27 32.4 +0.4
LBTB **Lobatse** 121.80 235 ePKPdf PKPdf 22 32 42.2 +0.7
PKME **Peaks-Kenny Pk** 125.79 38 PKPdf PKPdf 22 32 48.1 -0.4
GERES **GERESS Array B** 127.72 329 PKP PKPdf 22 32 51.6 -0.4
comp=Z,0.3nm,0.4s,baz=28,slow=4.4,SNR=3.4
LPAZ **La Paz** 130.65 119 PKP PKPdf 22 32 58.9 +0.3
comp=Z,1.5nm,0.6s,baz=11,slow=3.5,SNR=4.5
ESDC **Sonseca Array** 143.00 334 PKP PKPdf 22 33 19.5 -1.2
comp=Z,0.9nm,0.7s,baz=26,slow=2.2,SNR=4.2
TORD **Torodi Ar. Bea** 153.83 285 PKPbc PKPbc 22 33 47.9 +1.1
TORD PKPab PKPab 22 34 00.4 +0.3
TORD **Torodi Ar. Bea** 153.83 285 PKPbc PKPbc 22 33 47.9 +1.1
comp=Z,0.6nm,0.5s,baz=99,slow=1.6,SNR=4.5
TORD PKPab PKPab 22 34 00.4 +0.3
comp=Z,3.9nm,0.9s,baz=66,slow=3.1,SNR=6.2
DBIC **Dimbokro** 160.73 269 PKPab PKPab 22 34 31.7 +1.8
comp=Z,6.3nm,1.1s,baz=181,slow=8.9,SNR=4.3

*IDC **01** 22:16:19.1±1.6, 795S×15591E, h0km, mb4.5/12, mb1 4.6/12, mb1mx4.4/17, mbtmp4.5/12, Error ellipse: s-maj=50.3km s-min=20.9km az=120.0*
*NEIC **01** 22:16:20.6±0.4, 789S×15596E, h10km, mb4.8/7, Error ellipse: s-maj=11.2km s-min=7.1km az=113.0*
*ISCJB **01** 22:16:22.4±0.5, 792S±007×15593E±0.10, h33km, mb4.5/20, Error ellipse: s-maj=14.4km s-min=9.7km az=21.8*
*MOS **01** 22:16:22.5±1.1, 792S×15595E, h33km, mb4.8/5, Error ellipse: s-maj=16.9km s-min=11.8km az=72.2*
ISC 01 22:16:24.3±0.5, 794S±007×15594E±010, h35km, n48, σ0º75/47, mb4.5/20, 1C, Bougainville - Solomon Islands region
Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
CTA **Charters Tower** 15.29 217 Pn Pn 22 20 00.1 +2.4
0.1nm,0.3s,baz=55,slow=17,SNR=3.8
CTAO **Charters Tower** 15.29 217 ePn Pn 22 19 56.0 -1.7
WRA **Warramunga Arr** 24.09 238 P P 22 21 36.8 0.0
25nm,1.1s,mb4.6,baz=64,slow=9.8,SNR=9.4
ASAR **Alice Springs** 26.28 231 P P 22 21 56.0 -0.7
4.1nm,1.0s,mb3.9,baz=59,slow=9.7,SNR=5.0
STKA **Stephens Creek** 27.31 207 P P 22 22 09.9 +4.1
4.1nm,0.9s,mb3.9,baz=20,slow=12,SNR=2.6
FITZ **Fitzroy Crossi** 31.16 248 P P 22 22 39.5 -0.6
2.6nm,0.4s,mb4.4,baz=353,slow=10,SNR=4.3
RAO **Raoul Island** 32.46 134 P P 22 22 51.4 -0.1
MBWA **Marble Bar** 37.33 245 eP P 22 23 33.1 -0.5
32nm,1.4s,mb5.0
KKM **Kota Kinabalu** 41.99 288 P P 22 24 13.5 +1.0
KSM **Kuching** 46.46 280 eP P 22 24 47.9 -0.4
YHNB **Yeheng** 46.75 315 P P 22 24 50.1 -0.3
MJAR **Matsushiro Arr** 47.27 340 P P 22 24 53.5 -0.8
7.1nm,0.7s,mb4.7,baz=163,slow=7.9,SNR=17
MAJO **Matsushiro** 47.27 340 eP P 22 24 53.9 -0.4
9.3nm,0.7s,mb4.8
MAJO **Matsushiro** 47.27 340 eP P 22 24 53.9 -0.4
MAJO pmax pmax
comp=Z,9.0nm,0.7s,mb4.8
MAT **Matsushiro** 47.27 340 P P 22 24 53.5 -0.8
JNU **Nakatsue** 47.28 331 P P 22 24 55.1 +0.7
comp=Z,5.7nm,0.7s,mb4.6,baz=283,slow=16,SNR=3.8
KSRS **Korea Array** 52.20 332 P P 22 25 31.9 +0.1
comp=Z,2.3nm,0.9s,mb4.1,baz=150,slow=7.0,SNR=5.2
ASAJ **Asahikawa** 53.20 348 P P 22 25 39.1 +0.1
comp=Z,8.0nm,1.0s,mb4.6,baz=254,slow=16,SNR=4.2
KULM **Kulim** 56.70 282 P P 22 26 05.0 +0.1
ENH **Enshi** 58.56 313 P P 22 26 17.4 -0.4
CHTO **Chiang Mai** 62.16 296 eP P 22 26 43.2 +0.7
HIA **Hailar** 65.17 335 P P 22 27 01.8 0.0
MA2 **Magadan** 67.42 357 P P 22 27 14.5 -1.5
comp=Z,17nm,0.4s,mb5.4
MA2 **Magadan** 67.42 357 P P 22 27 14.5 -1.5
MA2 pmax pmax
comp=Z,17nm,0.4s,mb5.4
SBA **Scott Base** 70.11 178 P P 22 27 32.5 -0.1
SONM **Songino Array** 70.63 327 P P 22 27 36.5 +0.3
comp=Z,2.8nm,0.9s,mb4.2,baz=139,slow=5.0,SNR=3.6
LSA **Lhasa** 72.58 304 eP P 22 27 50.1 +1.8
comp=Z,3.6nm,0.7s,mb4.4
LSA **Lhasa** 72.58 304 eP P 22 27 50.1 +1.8
LSA pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
YAK **Yakutsk** 72.67 347 P P 22 27 47.3 -0.9
BILL **Bilibino** 76.14 4 eP P 22 28 09.1 +0.9
comp=Z,8.0nm,0.9s,mb4.7
BILL ePcP PcP 22 28 19.6 -0.7
BILL **Bilibino** 76.14 4⇑eP P 22 28 09.3 +1.0
BILL e pP 22 28 19.7 +0.5
BILL pmax pmax
comp=Z,12nm,1.1s,mb4.7
PALK **Pallekele** 76.52 279 P P 22 28 12.5 +0.9
MCK **McKinley** 82.58 22 eP P 22 28 43.5 +0.1
comp=Z,5.5nm,0.9s,mb4.6
MCK **McKinley** 82.58 22 eP P 22 28 43.5 +0.1
MCK pmax pmax
comp=Z,6.0nm,0.9s,mb4.6
COLA **College** 83.62 21 P P 22 28 49.0 +0.3
MKAR **Makanchi Array** 84.73 319 P P 22 28 55.5 +0.7
MKAR **Makanchi Array** 84.73 319 P P 22 28 55.5 +0.7
comp=Z,5.0nm,0.8s,mb4.7,baz=91,slow=6.4,SNR=5.8
ZAA0 **Zalesovo Array** 85.48 326 eP P 22 28 57.5 -0.9
ZALV **Zalesovo Beam** 85.48 326 P P 22 28 57.9 -0.5
comp=Z,1.9nm,0.7s,mb4.3,baz=102,slow=6.2,SNR=4.4
ZAL **Zalesovo** 85.49 326 P P 22 28 57.9 -0.5
TKM2 **Tokmak 2** 88.34 314 eP P 22 29 13.2 +0.6
AAK **Ala-Archa** 89.08 313 P P 22 29 16.9 +0.9
INK **Inuvik** 90.27 21 P P 22 29 21.4 +0.4
comp=Z,0.8nm,0.5s,mb4.3,baz=222,slow=3.1,SNR=4.1
BRVK **Borovoye** 93.68 323 eP P 22 29 36.2 -1.0
comp=Z,1.1nm,0.7s,mb4.4
BRVK **Borovoye** 93.68 323 eP P 22 29 36.2 -1.0
BRVK pmax pmax
comp=Z,1.0nm,0.7s,mb4.3
YKA **Yellowknife Ar** 96.72 28 P P 22 29 51.5 +0.7
YKA **Yellowknife Ar** 96.72 28 P P 22 29 51.5 +0.7
comp=Z,0.6nm,0.6s,mb4.2,baz=264,slow=4.5,SNR=6.2
GERES **GERESS Array B** 128.34 329 PKP PKPdf 22 35 27.6 +0.3
comp=Z,0.8nm,0.8s,baz=79,slow=2.9,SNR=4.8

IDC 01 22:16:55.3±2.5, 821S×15608E, h0km, mb4.4/5, mb1 4.5/5, mb1mx4.2/14, mbtmp4.4/5, Error ellipse: s-maj=73.8km s-min=26.3km az=105.0, Bougainville - Solomon Islands region
Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
WRA **Warramunga Arr** 24.06 239 P P 22 22 14.3 +1.8
9.3nm,0.8s,baz=66,slow=9.6,SNR=4.8
ASAR **Alice Springs** 26.22 232 P P 22 22 30.8 -1.3
1.3nm,0.7s,baz=56,slow=10.0,SNR=4.2
STKA **Stephens Creek** 27.13 208 P P 22 22 40.4 +0.2
8.5nm,0.5s,baz=35,slow=14,SNR=9.8
SONM **Songino Array** 70.93 327 P P 22 28 14.2 -0.3
1.0nm,0.7s,baz=136,slow=5.3,SNR=2.8
MKAR **Makanchi Array** 85.02 319 P P 22 29 33.3 +0.5
1.3nm,0.6s,baz=111,slow=5.0,SNR=3.3

IDC 01 22:18:55.0±6.5, 624S×15696E, h0km, mb4.2/3, mb1 4.3/3, mb1mx3.8/14, mbtmp4.2/3, Error ellipse: s-maj=201.1km s-min=43.4km az=115.0, Bougainville - Solomon Islands region
Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
WRA **Warramunga Arr** 25.85 236 P P 22 24 28.6 0.0
3.3nm,0.8s,baz=62,slow=9.2,SNR=6.0
MKAR **Makanchi Array** 84.14 318 P P 22 31 28.6 +0.5
1.9nm,0.7s,baz=97,slow=7.6,SNR=4.1
ZALV **Zalesovo Beam** 84.65 326 P P 22 31 30.2 -0.3
1.0nm,0.5s,baz=123,slow=5.9,SNR=4.0

IDC 01 22:19:39.9±1.8, 814S×15788E, h0km, mb4.2/5, mb1 4.2/5, mb1mx4.0/15, mbtmp4.2/5, Error ellipse: s-maj=69.8km s-min=32.8km az=88.0, Bougainville - Solomon Islands region
Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
ASAR **Alice Springs** 27.68 233 P P 22 25 29.9 +0.1
1.3nm,0.6s,baz=60,slow=9.4,SNR=4.5
SONM **Songino Array** 71.85 326 P P 22 31 04.6 +0.1
1.3nm,0.7s,baz=143,slow=5.9,SNR=3.6
QSPA **South Pole Qui** 81.85 180 P P 22 32 00.9 +0.4
5.8nm,1.0s,baz=272,slow=1.5,SNR=6.7
MKAR **Makanchi Array** 86.15 318 P P 22 32 23.2 +0.2
1.3nm,0.6s,baz=95,slow=4.6,SNR=3.8
ZALV **Zalesovo Beam** 86.72 326 P P 22 32 25.8 +0.2
0.4nm,0.3s,baz=103,slow=6.4,SNR=2.8

*IDC **01** 22:19:35.9±2.6, 722S×15655E, h0km, mb4.3/6, mb1 4.5/6, mb1mx4.2/14, mbtmp4.3/6, Error ellipse: s-maj=87.5km s-min=27.6km az=120.0*
*ISCJB **01** 22:19:39.5±1.8, 72S±02×1565E±03, h33km, mb4.4/9, Error ellipse: s-maj=53.3km s-min=19.9km az=35.7*
ISC 01 22:19:41.3±1.8, 72S±02×1565E±03, h35km, n11, σ0º61/11, mb4.4/9, Bougainville - Solomon Islands region
Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
KAKA **Kakadu** 24.33 255 eP P 22 24 56.4 +0.5
18nm,0.8s,mb4.6
WRA **Warramunga Arr** 24.95 237 P P 22 25 02.0 +0.4
10nm,0.9s,mb4.4,baz=63,slow=9.5,SNR=9.1
ASAR **Alice Springs** 27.17 231 P P 22 25 21.1 -0.5
2.8nm,0.9s,mb3.8,baz=62,slow=8.9,SNR=8.2
SONM **Songino Array** 70.36 327 P P 22 30 52.6 +1.1
1.9nm,0.8s,mb4.1,baz=138,slow=5.4,SNR=6.3
JIRN **Jiri** 76.21 301 eP P 22 31 26.7 +0.2
KKN **Kakani** 77.02 301 eP P 22 31 30.9 -0.2
GKN **Gorkha** 77.63 301 eP P 22 31 34.1 -0.3
33nm,1.1s,mb5.2
KOLN **Koldanda** 78.46 300 eP P 22 31 38.4 -0.6
14nm,0.9s,mb4.9
MKAR **Makanchi Array** 84.59 318 P P 22 32 11.2 +0.2
6.1nm,0.7s,mb4.8,baz=80,slow=6.7,SNR=13
ZALV **Zalesovo Beam** 85.23 326 P P 22 32 12.9 -1.2
1.3nm,0.6s,mb4.2,baz=110,slow=6.2,SNR=4.6
YKA **Yellowknife Ar** 95.84 28 P P 22 33 04.1 +0.4
0.3nm,0.8s,mb3.8,baz=267,slow=4.8,SNR=4.2

*IDC **01** 22:19:55.1±0.6, 840S×15725E, h0km, mb4.6/15, mb1 4.8/15, mb1mx4.8/16, mbtmp4.6/15, Error ellipse: s-maj=24.3km s-min=16.5km az=100.0*
*BJI **01** 22:19:56.7, 830S×15720E, h10km, mB5.0, mb5.0*
*NEIC **01** 22:19:56.8±0.2, 832S×157.15E, h10km, mb4.9/10, Error ellipse: s-maj=9.0km s-min=7.8km az=164.0*
*MOS **01** 22:19:58.9±0.8, 834S×157.12E, h33km, mb5.0/8, Error ellipse: s-maj=14.2km s-min=12.8km az=44.6*
*ISCJB **01** 22:19:59.3±2.0, 837S±009×157.14E±008, h36km±18km, mb4.6/31, Error ellipse: s-maj=14.7km s-min=12.0km az=157.1*
ISC 01 22:20:02.4±1.8, 837S±008×15722E±007, h49km±17km, n62, σ0º83/56, mb4.6/31, 2D, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.89**	**112**	Pn		**Pn**	**22 20 45.4**	**-0.5**
	204nm,0.3s,baz=305,slow=0.3,SNR=14							
HNR				Sn		**Sn**	**22 21 26.9**	**+7.4**
	385nm,0.3s,baz=80,slow=19,SNR=14							
CTA	**Charters Tower**	**15.76**	**221**	Pn		**Pn**	**22 23 43.7**	**+2.5**
CTA	**Charters Tower**	**15.76**	**221**	Pn		**Pn**	**22 23 43.7**	**+2.5**
	0.5nm,0.3s,baz=33,slow=12,SNR=4.7							
WRA	**Warramunga Arr**	**24.96**	**240**	P		**P**	**22 25 19.8**	**-1.6**
	12nm,0.8s,mb4.5,baz=64,slow=9.7,SNR=7.9							
ASAR	**Alice Springs**	**27.02**	**233**	P		**P**	**22 25 38.2**	**-1.8**
	3.7nm,0.9s,mb3.9,baz=62,slow=8.7,SNR=6.8							
STKA	**Stephens Creek**	**27.54**	**210**	*eP*		**P**	**22 25 44.9**	**+0.3**
	17nm,0.9s,mb4.7							
STKA	**Stephens Creek**	**27.54**	**210**	P		**P**	**22 25 44.9**	**+0.3**
	20nm,0.8s,mb4.8,baz=40,slow=13,SNR=13							
KSM	**Kuching**	**47.78**	**280**	*eP*		**P**	**22 28 34.6**	**-0.7**
MJAR	**Matsushiro Arr**	**48.11**	**339**	P		**P**	**22 28 36.3**	**-1.0**
	1.6nm,0.8s,mb4.1,baz=146,slow=5.9,SNR=4.2							
KSRS	**Korea Array**	**53.19**	**331**	P		**P**	**22 29 16.1**	**+0.4**
	4.1nm,1.0s,mb4.3,baz=146,slow=8.2,SNR=8.7							
PMOR	**Pomariorio Ree**	**54.04**	**102**	*eP*		**P**	**22 29 22.6**	**+0.3**
	57nm,1.1s,mb5.4							
MDJ	**Mudanjiang**	**58.34**	**337**	P		**P**	**22 29 52.3**	**-0.1**
MDJ				AMB		AMB		
	comp=Z,13nm,2.0s,mb4.6							
PSI	**Prapat**	**59.18**	**278**	P		**P**	**22 29 59.8**	**+0.9**
	comp=Z,1.2nm,0.3s,mb4.3,baz=316,slow=16,SNR=8.3							
CN2	**Changchun**	**59.38**	**334**	*eP*		**P**	**22 29 59.9**	**+0.2**
KLR	**Kul'dur**	**61.55**	**341**	*eP*		**P**	**22 30 10.0**	**-4.3**
CHTO	**Chiang Mai**	**63.48**	**296**	*eP*		**P**	**22 30 28.4**	**+0.6**
LZH	**Lanzhou**	**66.84**	**315**	*eP*		**P**	**22 30 54.8**	**+5.5**
LZH				AMB		AMB		
	comp=Z,20nm,1.1s,mb5.1							
LZH				AMB		AMB		
	comp=Z,83nm,4.2s							
VNDA	**Vanda**	**69.16**	**179**	P		**P**	**22 31 02.7**	**-0.5**
	comp=Z,7.0nm,1.0s,mb4.5,baz=344,slow=7.3,SNR=9.3							
GTA	**Gaotai**	**71.25**	**316**	*eP*		**P**	**22 31 17.9**	**+1.3**
GTA				AP		pP	22 31 21.8	-8.9
GTA				XP		sP	22 31 23.0	-13
GTA				AMB		AMB		
	comp=Z,9.0nm,1.9s,mb4.4							
SONM	**Songino Array**	**71.69**	**327**	P		**P**	**22 31 19.0**	**0.0**
	comp=Z,5.1nm,0.9s,mb4.5,baz=137,slow=6.0,SNR=9.4							
LSA	**Lhasa**	**73.87**	**304**	P		**P**	**22 31 33.4**	**+1.0**
LSA	**Lhasa**	**73.87**	**304**	*eP*		**P**	**22 31 32.6**	**+0.2**
	comp=Z,22nm,1.4s,mb4.9							
LSA				*e*PcP		PcP	22 31 48.6	+0.9
LSA	**Lhasa**	**73.87**	**304**	*eP*		**P**	**22 31 32.6**	**+0.2**
LSA				*e*		pP	22 31 48.6	+2.0
LSA				pmax		pmax		
	comp=Z,22nm,1.4s,mb4.9							
BOD	**Bodaibo**	**74.71**	**338**	*eP*		**P**	**22 31 35.2**	**-1.4**
BOD				pmax		pmax		
	comp=Z,5.0nm,1.2s,mb4.3							
ZAK	**Zakamensk**	**74.82**	**328**	*eP*		**P**	**22 31 37.4**	**-0.1**
ZAK				pmax		pmax		
	comp=Z,4.0nm,1.1s,mb4.3							
BILL	**Bilibino**	**76.49**	**3⇓**	*eP*		**P**	**22 31 47.1**	**+0.4**
MOY	**Mondy**	**76.74**	**328**	*eP*		**P**	**22 31 49.3**	**+0.9**
SLKM	**Skilak Lake**	**80.09**	**24**	*eP*		**P**	**22 32 06.4**	**-0.3**
WMQ	**Urumqi**	**81.33**	**317⇓**	*iP*		**P**	**22 32 14.8**	**+1.1**
WMQ				AMB		AMB		
	comp=Z,14nm,1.4s,mb4.7							
SML	**Sawmill**	**81.60**	**23**	*eP*		**P**	**22 32 15.4**	**+0.6**
SML				PcP		PcP	22 32 20.0	-0.5
QSPA	**South Pole Qui**	**81.61**	**180**	P		**P**	**22 32 14.5**	**-0.1**
	comp=Z,25nm,0.9s,mb5.1,baz=358,slow=1.8,SNR=14							
TIXI	**Tiksi**	**82.03**	**351**	*eP*		**P**	**22 32 11.4**	**-5.4**
TIXI				pmax		pmax		
	comp=Z,15nm,2.1s,mb4.5							
MCK	**McKinley**	**82.51**	**21**	*eP*		**P**	**22 32 18.5**	**-0.9**
	comp=Z,10μm,0.7s							
MCK	**McKinley**	**82.51**	**21**	*eP*		**P**	**22 32 18.5**	**-1.0**
MCK				pmax		pmax		
	comp=Z,10μm,0.7s							
COLA	**College**	**83.57**	**21**	*eP*		**P**	**22 32 23.6**	**-1.3**
	comp=Z,4.5nm,0.8s,mb4.7							
COLA	**College**	**83.57**	**21**	*eP*		**P**	**22 32 23.6**	**-1.3**
COLA				pmax		pmax		
	comp=Z,5.0nm,0.8s,mb4.7							
MAW	**Mawson**	**83.99**	**203**	P		**P**	**22 32 27.2**	**+0.1**
	comp=Z,9.5nm,0.9s,mb4.9,baz=110,slow=6.6,SNR=6.2							
MKAR	**Makanchi Array**	**85.89**	**318**	P		**P**	**22 32 37.3**	**+0.3**
	comp=Z,8.2nm,0.9s,mb4.9,baz=81,slow=7.5,SNR=11							
EGAK	**Eagle**	**85.94**	**22**	*eP*		**P**	**22 32 36.7**	**-0.1**
	comp=Z,8.3nm,1.1s,mb4.9							
DAWY	**Dawson**	**86.27**	**23**	*eP*		**P**	**22 32 38.9**	**+0.5**
ZAA0	**Zalesovo Array**	**86.55**	**326**	*eP*		**P**	**22 32 38.9**	**-1.2**
ZALV	**Zalesovo Beam**	**86.55**	**326**	P		**P**	**22 32 39.8**	**-0.3**
	comp=Z,1.0nm,0.4s,mb4.4,baz=106,slow=4.8,SNR=6.4							
ZAL	**Zalesovo**	**86.56**	**326**	P		**P**	**22 32 39.8**	**-0.3**
KURK	**Kurchatov**	**89.27**	**321**	*eP*		**P**	**22 32 52.6**	**-0.6**
	comp=Z,14nm,1.5s,mb5.1							
KURK	**Kurchatov**	**89.27**	**321**	*eP*		**P**	**22 32 52.6**	**-0.6**
KURK				pmax		pmax		
	comp=Z,14nm,1.5s,mb5.1							
ISA	**Isabella**	**90.22**	**54**	*eP*		**P**	**22 32 57.4**	**-0.6**
	comp=Z,9.3nm,1.4s,mb4.9							
ISA	**Isabella**	**90.22**	**54**	*eP*		**P**	**22 32 57.4**	**-0.6**
ISA				pmax		pmax		
	comp=Z,9.0nm,1.4s,mb4.9							
NVAR	**Mina Array Bea**	**90.84**	**51**	P		**P**	**22 33 02.2**	**+1.5**
	comp=Z,3.0nm,1.0s,mb4.6,baz=240,slow=4.0,SNR=13							
WVOR	**Wild Horse Val**	**91.28**	**47**	*eP*		**P**	**22 33 03.0**	**+0.2**
	comp=Z,5.5nm,1.3s,mb4.7							
WVOR	**Wild Horse Val**	**91.28**	**47**	*eP*		**P**	**22 33 03.0**	**+0.3**
WVOR				pmax		pmax		
	comp=Z,6.0nm,1.3s,mb4.8							
TPNV	**Topopah Spring**	**92.21**	**53**	*eP*		**P**	**22 33 08.0**	**+0.8**
	comp=Z,7.9nm,1.1s,mb5.0							
TPNV	**Topopah Spring**	**92.21**	**53**	*eP*		**P**	**22 33 08.0**	**+0.8**
TPNV				pmax		pmax		
	comp=Z,8.0nm,1.1s,mb5.0							
HLID	**Hailey**	**94.52**	**47**	*eP*		**P**	**22 33 18.2**	**+0.6**
	comp=Z,3.2nm,1.3s,mb4.6							
YKA	**Yellowknife Ar**	**96.51**	**28**	P		**P**	**22 33 26.0**	**-0.3**
	comp=Z,2.1nm,0.9s,mb4.6,baz=263,slow=4.6,SNR=15							
PDAR	**Pinedale Array**	**97.97**	**48**	P		**P**	**22 33 33.5**	**+0.2**
	comp=Z,0.7nm,0.8s,mb4.2,baz=270,slow=3.0,SNR=5.2							
AKASG	**Malin Array Be**	**119.93**	**325**	PKP		PKPdf	22 38 46.7	-0.7
AKASG	**Malin Array Be**	**119.93**	**325**	PKP		PKPdf	22 38 46.7	-0.7
	comp=Z,0.4nm,0.4s,baz=75,slow=1.8,SNR=4.1							
CLL	**Collm**	**128.06**	**32**	*e*PKPdf		PKPdf	22 39 03.0	0.0
LPAZ	**La Paz**	**128.86**	**119**	PKP		PKPdf	22 39 05.9	+0.4
	comp=Z,3.9nm,1.0s,baz=6.0,slow=2.3,SNR=10.0							
GERES	**GERESS Array B**	**129.36**	**329**	PKP		PKPdf	22 39 05.2	-0.3
	comp=Z,0.8nm,0.8s,baz=177,slow=5.3,SNR=5.3							
ESDC	**Sonseca Array**	**144.57**	**335**	PKP		PKPdf	22 39 32.5	-1.3
	comp=Z,2.8nm,1.1s,baz=28,slow=2.3,SNR=5.5							
DBIC	**Dimbokro**	**162.15**	**266**	PKPab		PKPab	22 40 46.5	0.0
	comp=Z,3.5nm,0.8s,baz=87,slow=6.1,SNR=5.0							

IDC 01 22:22:58.3±1.9, 683S×15578E, h0km, mb4.0/7, mb1 4.1/7, mb1mx3.9/15, mbtmp4.0/7, Error ellipse: s-maj=65.6km s-min=25.1km az=96.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.55**	**236**	P		P	22 28 20.6	+0.6
	2.2nm,0.7s,baz=60,slow=9.5,SNR=3.5							
ASAR	**Alice Springs**	**26.87**	**229**	P		P	22 28 40.7	-0.2
	0.4nm,0.6s,baz=59,slow=9.8,SNR=2.7							
STKA	**Stephens Creek**	**28.22**	**206**	P		P	22 28 52.6	-0.4
	2.1nm,0.6s,baz=37,slow=14,SNR=4.0							
SONM	**Songino Array**	**69.63**	**327**	P		P	22 34 09.5	+0.1
	0.5nm,0.7s,baz=121,slow=5.4,SNR=2.5							
QSPA	**South Pole Qui**	**83.14**	**180**	P		P	22 35 26.4	+0.7
	5.1nm,1.1s,baz=346,slow=2.8,SNR=3.8							
MKAR	**Makanchi Array**	**83.80**	**318**	P		P	22 35 30.1	+0.5
	0.9nm,0.6s,baz=95,slow=6.2,SNR=4.0							
ZALV	**Zalesovo Beam**	**84.48**	**326**	P		P	22 35 32.7	-0.2
	0.7nm,0.5s,baz=120,slow=5.8,SNR=3.2							

IDC 01 22:23:10.1±8.3, 671S×15656E, h0km, mb4.1/5, mb1 4.2/5, mb1mx3.9/14, mbtmp4.1/5, Error ellipse: s-maj=257.2km s-min=32.0km az=111.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**25.26**	**236**	P		P	22 28 39.1	+0.8
	1.8nm,0.8s,baz=61,slow=8.9,SNR=3.5							
ASAR	**Alice Springs**	**27.53**	**230**	P		P	22 28 58.3	-0.5
	2.7nm,0.9s,baz=61,slow=9.6,SNR=7.5							
SONM	**Songino Array**	**69.94**	**327**	P		P	22 34 24.1	+0.8
	0.8nm,0.5s,baz=134,slow=5.0,SNR=3.5							
MKAR	**Makanchi Array**	**84.22**	**318**	P		P	22 35 43.2	-0.3
	1.4nm,0.6s,baz=104,slow=5.8,SNR=4.8							
ZALV	**Zalesovo Beam**	**84.81**	**326**	P		P	22 35 46.3	-0.1
	0.8nm,0.4s,baz=118,slow=6.0,SNR=3.7							

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*IDC **01** 22:23:53.3±1.0, 720S×15586E, h0km, mb4.3/8, mb1 4.5/9, mb1mx4.3/16, mbtmp4.4/9, ML4.6/1, Error ellipse: s-maj=26.1km s-min=23.3km az=114.0*
*ISCJB **01** 22:23:58.8±4.4, 73S±02×1559E±0.1, h54km±44km, mb4.2/8, Error ellipse: s-maj=34.6km s-min=19.0km az=151.8*

ISC 01 22:24:00.4±4.2, 73S±02×1559E±02, h53km±45km, n10, σ0.967/10, mb4.2/8, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.54**	**118**	Pn		**Pn**	**22 25 06.3**	**-0.3**
	29nm,0.3s,baz=272,slow=7.0,SNR=2.6							
HNR				Sn		**Sn**	**22 25 58.4**	**+0.3**
	61nm,0.3s,baz=253,slow=10,SNR=4.4							
WRA	**Warramunga Arr**	**24.39**	**237**	P		**P**	**22 29 13.9**	**-0.1**
	7.8nm,0.7s,mb4.3,baz=62,slow=9.4,SNR=9.8							
ASAR	**Alice Springs**	**26.66**	**230**	P		**P**	**22 29 33.4**	**-1.0**
	1.2nm,0.8s,mb3.5,baz=59,slow=8.7,SNR=3.5							
STKA	**Stephens Creek**	**27.86**	**207**	P		**P**	**22 29 46.0**	**+0.9**
	3.7nm,0.8s,mb4.0,baz=49,slow=12,SNR=2.9							
FITZ	**Fitzroy Crossi**	**31.36**	**247**	P		**P**	**22 30 16.2**	**0.0**
	4.3nm,0.6s,mb4.4,baz=82,slow=5.7,SNR=4.1							
SONM	**Songino Array**	**70.06**	**327**	P		**P**	**22 35 07.8**	**+1.0**
	2.4nm,0.8s,mb4.2,baz=133,slow=5.4,SNR=5.3							
MKAR	**Makanchi Array**	**84.21**	**319**	P		**P**	**22 36 26.3**	**+0.1**
	5.0nm,0.7s,mb4.8,baz=81,slow=7.5,SNR=12							
ZALV	**Zalesovo Beam**	**84.92**	**326**	P		**P**	**22 36 29.9**	**+0.3**
	2.4nm,0.6s,mb4.5,baz=104,slow=5.4,SNR=9.2							
YKA	**Yellowknife Ar**	**96.18**	**28**	P		**P**	**22 37 21.1**	**-1.2**
	0.5nm,0.8s,mb4.0,baz=266,slow=4.5,SNR=4.3							
TORD	**Torodi Ar. Bea**	**153.96**	**285**	PKPbc		PKPbc	22 43 54.2	-0.8
	0.7nm,0.8s,baz=74,slow=1.9,SNR=2.8							

IDC 01 22:26:56.0±3.6, 752S×15543E, h0km, mb3.9/6, mb1 4.0/6, mb1mx3.9/14, mbtmp3.9/6, Error ellipse: s-maj=116.3km s-min=26.5km az=106.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.89**	**237**	P		P	22 32 11.9	+0.3
	3.7nm,0.9s,baz=60,slow=9.0,SNR=3.3							
ASAR	**Alice Springs**	**26.16**	**230**	P		P	22 32 31.9	-0.4
	1.1nm,0.7s,baz=57,slow=9.8,SNR=4.9							
STKA	**Stephens Creek**	**27.45**	**206**	P		P	22 32 44.1	+0.4
	4.5nm,1.1s,baz=36,slow=8.7,SNR=3.2							
SONM	**Songino Array**	**70.00**	**327**	P		P	22 38 10.8	+1.4
	0.6nm,0.5s,baz=141,slow=6.0,SNR=5.3							
MKAR	**Makanchi Array**	**84.08**	**319**	P		P	22 39 27.4	-1.3
	0.5nm,0.3s,baz=76,slow=6.1,SNR=2.7							
ZALV	**Zalesovo Beam**	**84.85**	**326**	P		P	22 39 32.6	+0.2
	0.9nm,0.6s,baz=129,slow=5.8,SNR=4.0							

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*BJI **01** 22:29:51.5, 722S×15581E, h12km, mB6.2, mb5.1, Ms6.1, Msz5.7*
*IDC **01** 22:29:51.4±0.5, 746S×15552E, h0km, mb4.9/24, mb1 4.9/25, mb1mx4.9/26, mbtmp4.8/25, ML3.9/1, Error ellipse: s-maj=17.5km s-min=11.8km az=93.0*
*ISCJB **01** 22:29:52.6±0.2, 742S±004×15548E±005, h17km, mb5.1/69, MS5.8/3, Error ellipse: s-maj=7.3km s-min=5.3km az=0.0*
*NEIC **01** 22:29:53.5±0.2, 740S×15545E, h10km, mb5.3/24, Error ellipse: s-maj=7.2km s-min=5.4km az=100.0*
*MOS **01** 22:29:55.7±1.0, 731S×15531E, h33km, mb5.5/18, Error ellipse: s-maj=10.1km s-min=7.4km az=93.7*

ISC 01 22:29:54.6±0.2, 743S±004×15549E±005, h18km, h18km±2.3km: pP-P, n165, σ0.998/144, mb5.1/69, MS5.8/3, 10C-6D, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.84**	**115**	*e*Pn		**Pn**	**22 31 12.6**	**+5.9**
HNR				*e*Sn		**Sn**	**22 32 10.5**	**+8.2**
HNR	**Honiara**	**4.84**	**115**	Pn		**Pn**	**22 31 12.1**	**+5.5**
	50nm,0.3s,baz=256,slow=8.5,SNR=2.7							
HNR				Sn		**Sn**	**22 32 16.5**	**+14**
	84nm,0.3s,baz=254,slow=7.9,SNR=3.0							
CTA	**Charters Tower**	**15.44**	**214**	*eP*		**Pn**	**22 33 33.3**	**+1.6**
	42nm,1.0s							
CTA	**Charters Tower**	**15.44**	**214**	*eP*		**Pn**	**22 33 33.3**	**+1.6**
CTA				pmax		pmax		
	comp=Z,42nm,1.0s							
CTA	**Charters Tower**	**15.44**	**214**	Pn		**Pn**	**22 33 30.3**	**-1.4**
	comp=Z,0.3nm,0.3s,baz=39,slow=13,SNR=6.0							
CTAO	**Charters Tower**	**15.44**	**214**	*e*Pn		**Pn**	**22 33 33.3**	**+1.7**
	comp=Z,405nm,1.8s							
CTAO	**Charters Tower**	**15.44**	**214**	*eP*		**Pn**	**22 33 33.3**	**+1.6**
CTAO				pmax		pmax		
	comp=Z,405nm,1.8s							
ARMA	**Armidale**	**23.15**	**188**	*eP*		**P**	**22 35 00.2**	**0.0**
KAKA	**Kakadu**	**23.28**	**255⇓**	*iP*		**P**	**22 35 01.1**	**-0.6**
	comp=Z,78nm,0.7s,mb5.2							
WB2	**Warramunga Arr**	**23.97**	**237⇓**	*iP*		**P**	**22 35 08.0**	**-0.2**
WRA	**Warramunga Arr**	**23.98**	**237**	P		**P**	**22 35 08.2**	**-0.1**
	comp=Z,47nm,0.8s,mb5.0,baz=62,slow=9.7,SNR=50							
ASAR	**Alice Springs**	**26.26**	**230**	P		**P**	**22 35 27.4**	**-1.6**
	comp=Z,17nm,1.0s,mb4.5,baz=61,slow=9.1,SNR=35							
RIV	**Riverview**	**26.57**	**188**	*eP*		**P**	**22 35 34.4**	**+2.6**
STKA	**Stephens Creek**	**27.55**	**206**	*eP*		**P**	**22 35 39.7**	**-0.9**
	comp=Z,28nm,0.9s,mb4.9							
STKA	**Stephens Creek**	**27.55**	**206**	P		**P**	**22 35 39.8**	**-0.9**
	comp=Z,42nm,1.0s,mb5.0,baz=28,slow=13,SNR=22							
CNB	**Canberra Magne**	**28.32**	**191**	*eP*		**P**	**22 35 47.4**	**0.0**
	comp=Z,30nm,1.1s,mb4.8							
FITZ	**Fitzroy Crossi**	**30.93**	**247**	*eP*		**P**	**22 36 10.1**	**-0.7**
	comp=Z,36nm,0.7s,mb5.3							
FITZ	**Fitzroy Crossi**	**30.93**	**247**	P		**P**	**22 36 10.3**	**-0.5**
	comp=Z,23nm,0.8s,mb5.0,baz=75,slow=12,SNR=32							
BATI	**Kupang**	**31.56**	**263**	P		**P**	**22 36 17.6**	**+1.2**
	comp=Z,18nm,0.8s,mb4.9,baz=344,slow=5.0,SNR=4.2							
RAO	**Raoul Island**	**33.13**	**134**	P		**P**	**22 36 30.9**	**+0.9**
FORT	**Forrest**	**34.61**	**224**	*eP*		**P**	**22 36 41.8**	**-1.1**
	comp=Z,29nm,0.7s,mb5.3							
KAPI	**Kappang**	**35.60**	**272**	P		**P**	**22 36 51.7**	**+0.1**
	comp=Z,364nm,0.8s,SNR=7.3							
TAU	**Tasmania Unive**	**36.06**	**190**	P		**P**	**22 36 56.6**	**+1.5**
URZ	**Urewera**	**36.39**	**151**	P		**P**	**22 36 59.1**	**+1.1**
	comp=Z,6.0nm,0.7s,mb4.7,baz=97,slow=1.4,SNR=3.2							
MBWA	**Marble Bar**	**37.13**	**245**	*eP*		**P**	**22 37 03.7**	**-0.8**
	comp=Z,87nm,1.6s,mb5.3							
RPZ	**Rata Peaks**	**38.63**	**162**	P		**P**	**22 37 16.2**	**-0.7**
	comp=Z,7.6nm,0.6s,mb4.6,baz=281,slow=5.6,SNR=3.6							
KKM	**Kota Kinabalu**	**41.40**	**288**	*eP*		**P**	**22 37 40.8**	**+0.4**
KLBR	**Kellerberrin**	**42.58**	**231**	*eP*		**P**	**22 37 48.3**	**-1.5**
	comp=Z,39nm,0.9s,mb5.1							
JOW	**Kunigami**	**43.08**	**323**	P		**P**	**22 37 55.1**	**+1.2**
	comp=Z,18nm,0.6s,mb5.0,baz=142,slow=3.0,SNR=6.4							
NWAO	**Narrogin (SRO)**	**43.57**	**229**	P		**P**	**22 37 57.4**	**-0.4**
NWAO	**Narrogin (SRO)**	**43.57**	**229**	P		**P**	**22 37 57.4**	**-0.4**
	comp=Z,25nm,1.1s,mb4.9,baz=122,slow=7.4,SNR=5.4							
MUN	**Mundaring**	**43.94**	**231**	*eP*		**P**	**22 38 00.2**	**-0.5**
NACB	**Ninganchiao**	**45.61**	**315**	*eP*		**P**	**22 38 15.2**	**+1.1**
KSM	**Kuching**	**45.93**	**279**	*eP*		**P**	**22 38 17.2**	**+0.3**
YHNB	**Yeheng**	**46.08**	**315**	*eP*		**P**	**22 38 19.8**	**+2.0**
JNU	**Nakatsue**	**46.62**	**331**	P		**P**	**22 38 22.4**	**+0.4**
	comp=Z,10nm,0.7s,mb4.9,baz=97,slow=11,SNR=7.7							
MJAR	**Matsushiro Arr**	**46.65**	**341**	P		**P**	**22 38 21.6**	**-0.5**
	comp=Z,3.4nm,0.6s,mb4.4,baz=164,slow=8.0,SNR=13							
MAJO	**Matsushiro**	**46.65**	**341**	*eP*		**P**	**22 38 22.1**	**-0.1**
MAT	**Matsushiro**	**46.65**	**341**	P		**P**	**22 38 21.8**	**-0.3**
QZH	**Quanzhou**	**48.23**	**313⇓**	*iP*		**P**	**22 38 36.4**	**+1.7**
QZH				AMB		AMB		
	comp=Z,150nm,0.9s,mb6.0							
KSRS	**Korea Array**	**51.55**	**332**	P		**P**	**22 38 59.6**	**0.0**
	comp=Z,9.7nm,0.9s,mb4.7,baz=146,slow=7.8,SNR=16							
QIZ	**Qiongzhong**	**52.10**	**301**	P		**P**	**22 39 04.3**	**+0.2**
QIZ	**Qiongzhong**	**52.10**	**301**	*eP*		**P**	**22 39 04.0**	**-0.1**
NJ2	**Nanjing**	**52.56**	**320**	*eP*		**P**	**22 39 07.6**	**+0.3**
NJ2				AP		pP	22 39 17.6	+4.7
NJ2				XP		sP	22 39 22.0	+7.0
NJ2				PP		PP	22 41 06.9	+0.4
NJ2				AMB		AMB		
	comp=Z,20nm,0.8s,mb5.1							
NJ2				AMB		AMB		
	comp=Z,1μm,4.2s							
ASAJ	**Asahikawa**	**52.61**	**348**	P		**P**	**22 39 08.3**	**+0.9**
	comp=Z,19nm,0.7s,mb5.1,baz=196,slow=11,SNR=16							
WHN	**Wuhan**	**54.59**	**316**	P		**P**	**22 39 22.0**	**-0.2**
YSS	**Yuzh-Sakhalins**	**55.31**	**349**	*eP*		**P**	**22 39 27.8**	**+0.6**
	comp=Z,26nm,0.7s,mb5.4							
YSS	**Yuzh-Sakhalins**	**55.31**	**349⇑**	*iP*		**P**	**22 39 27.4**	**+0.3**
YSS				*e*			22 39 37.0	
YSS				pmax		pmax		
	comp=Z,40nm,1.0s,mb5.4							
PMOR	**Pomariorio Ree**	**55.92**	**103**	*eP*		**P**	**22 39 33.6**	**+1.5**
	comp=Z,72nm,1.2s,mb5.6							
KULM	**Kulim**	**56.15**	**281**	*eP*		**P**	**22 39 33.2**	**-0.6**
VAH	**Vaihoa**	**56.19**	**103**	*eP*		**P**	**22 39 33.6**	**-0.4**
	comp=Z,30nm,0.9s,mb5.3							
MDJ	**Mudanjiang**	**56.82**	**338**	P		**P**	**22 39 38.0**	**0.0**
MDJ				XP		sP	22 39 42.2	-3.6
MDJ				AMB		AMB		
	comp=Z,16nm,1.9s,mb4.7							
MDJ				AMB		AMB		
	comp=Z,12μm,13.5s							
PSI	**Prapat**	**57.34**	**278**	P		**P**	**22 39 41.0**	**-1.4**
	comp=Z,1.0nm,0.5s,mb4.2,baz=153,slow=2.3,SNR=5.3							
CN2	**Changchun**	**57.79**	**335**	*eP*		**P**	**22 39 43.2**	**-1.6**
CN2				AMB		AMB		
	comp=Z,20nm,1.2s,mb5.0							
ENH	**Enshi**	**57.89**	**313**	P		**P**	**22 39 45.2**	**-0.6**
GYA	**Guiyang**	**58.10**	**307⇑**	*iP*		**P**	**22 39 50.0**	**+2.6**
GYA				AP		pP	22 39 53.4	+0.4
GYA				XP		sP	22 39 55.2	0.0
GYA				PCP		PcP	22 40 41.9	+2.8
GYA				PP		PP	22 42 01.2	+4.9
GYA				SCP		ScP	22 44 40.8	+2.1
GYA				S		**S**	**22 47 48.6**	**+0.6**
GYA				SCS		ScS	22 49 36.0	-0.7
GYA				AMB		AMB		
	comp=Z,60nm,1.0s,mb5.6							
GYA				LR		LR		
	comp=N,7μm,20.6s,MS5.9							
GYA				LR		LR		
	comp=E,7μm,21.2s,MS5.9							
GYA				LR		LR		
	comp=Z,6μm,19.0s,MS5.7							
HABR	**Khabarovsk**	**58.50**	**344**	*eP*		**P**	**22 39 47.5**	**-2.2**
HABR				*e*S		**S**	**22 47 51.1**	**-1.2**
BJT	**Baijiatuau**	**59.54**	**326**	*eP*		**P**	**22 39 57.0**	**-0.1**
	comp=Z,46nm,1.9s,mb5.2							
BJT	**Baijiatuau**	**59.54**	**326**	*eP*		**P**	**22 39 57.0**	**-0.1**
BJT				pmax		pmax		
	comp=Z,47nm,1.9s							
KLR	**Kul'dur**	**60.13**	**342**	*eP*		**P**	**22 39 57.0**	**-3.9**
XAN	**Xi'an**	**60.36**	**316**	P		**P**	**22 40 02.4**	**-0.4**
XAN				AP		pP	22 40 07.7	-0.8
XAN				AMB		AMB		
	comp=Z,11nm,1.1s,mb4.8							
XAN				LR		LR		
	comp=N,2μm,12.0s,MS5.6							
XAN				LR		LR

comp=Z,23nm,0.9s,mb5.1
BILL Bilibino 75.68 4⇑ *eP* **P** **22 41 38.6 +0.2**
BILL *e* pP 22 41 45.7 +1.5
BILL pmax pmax
comp=Z,37nm,1.2s,mb5.2
PALK Pallekele 75.99 279 *eP* **P** **22 41 42.0 +0.5**
KKN Kakani 76.23 301 *eP* **P** **22 41 42.5 0.0**
comp=Z,45nm,0.9s,mb5.4
GKN Gorkha 76.84 301 *eP* **P** **22 41 45.7 -0.2**
comp=Z,114nm,1.1s,mb5.7
KOLN Koldanda 77.66 300 *eP* **P** **22 41 50.4 -0.2**
comp=Z,35nm,0.8s,mb5.3
SVW2 Sparrevohn 78.22 22 *eP* **P** **22 41 50.2 -2.6**
WMQ Urumqi 79.47 317 P **P** **22 42 00.8 +0.6**
WMQ AMB AMB
comp=Z,19nm,1.6s,mb4.8
TIXI Tiksi 80.85 352 *eP* **P** **22 42 06.4 -0.6**
comp=Z,41nm,1.5s,mb5.1
TIXI Tiksi 80.85 352⇑ *eP* **P** **22 42 05.6 -1.4**
TIXI pmax pmax
comp=Z,35nm,1.8s,mb5.0
PMR Palmer 80.99 23 P **P** **22 42 07.0 -1.0**
MCK McKinley 82.28 22 *eP* **P** **22 42 13.8 -0.9**
QSPA South Pole Qui 82.55 180 P **P** **22 42 16.0 +0.1**
QSPA South Pole Qui 82.55 180 P **P** **22 42 16.0 +0.1**
comp=Z,14nm,0.8s,mb5.0,baz=354,slow=1.8,SNR=12
COLA College 83.31 21 *eP* **P** **22 42 18.9 -1.1**
MKAR Makanchi Array 84.05 319⇑ *eP* **P** **22 42 24.5 +0.2**
MKAR Makanchi Array 84.05 319 P **P** **22 42 23.8 -0.5**
comp=Z,14nm,0.8s,mb5.1,baz=85,slow=7.4,SNR=45
MAW Mawson 84.18 203 *eP* **P** **22 42 24.9 +0.3**
comp=Z,14nm,0.9s,mb5.1
MAW Mawson 84.18 203 *eP* **P** **22 42 24.9 +0.3**
MAW pmax pmax
comp=Z,14nm,0.9s
MAW Mawson 84.18 203 P **P** **22 42 24.5 -0.1**
comp=Z,18nm,0.9s,mb5.2,baz=89,slow=5.7,SNR=17
ZALV Zalesovo Beam 84.81 326 P **P** **22 42 26.6 -1.3**
comp=Z,7.3nm,0.8s,mb4.9,baz=111,slow=5.5,SNR=24
ZAL Zalesovo 84.82 326 P **P** **22 42 26.7 -1.3**
NVS Novosibirsk 85.98 326 *i* P **P** **22 42 32.8 -1.0**
NVS *e*S S 22 53 06.4 -0.4
NVS pmax pmax
comp=Z,191nm,3.1s
NVS pmax pmax
comp=N,21nm,1.8s
NVS pmax pmax
comp=E,27nm,1.8s
NVS smax
comp=N,9.0nm,1.7s
NVS smax
comp=E,75nm,3.8s
KURK Kurchatov 87.47 322 P **P** **22 42 40.2 -1.0**
comp=E,37nm,1.0s,mb5.6,SNR=5.2
KURK Kurchatov 87.47 322 *eP* **P** **22 42 40.4 -0.8**
comp=E,63nm,2.1s,mb5.5
KURK Kurchatov 87.47 322 *eP* **P** **22 42 40.4 -0.8**
KURK pmax pmax
comp=E,63nm,2.1s,mb5.5
TKM2 Tokmak 2 87.67 314 *eP* **P** **22 42 42.8 +0.5**
comp=Z,4.5nm,0.7s,mb4.8
TKM2 Tokmak 2 87.67 314 *eP* **P** **22 42 42.8 +0.5**
TKM2 pmax pmax
comp=Z,5.0nm,0.7s,mb4.8
DLBC Dease Lake 88.27 30 *eP* **P** **22 42 45.5 +0.7**
UCH Uchtor 88.31 313 P **P** **22 42 46.5 +1.1**
comp=Z,33nm,1.7s,mb5.3
AAK Ala-Archa 88.40 313 *eP* **P** **22 42 45.2 -0.5**
AAK Ala-Archa 88.40 313⇑ *eP* **P** **22 42 44.7 -1.1**
AAK pmax pmax
comp=Z,9.0nm,1.1s,mb4.9
EKS2 Erkin-Say 88.93 313 *eP* **P** **22 42 48.4 +0.1**
comp=Z,9.5nm,1.2s,mb5.0
INK Inuvik 89.95 21 P **P** **22 42 51.8 -0.7**
comp=Z,4.7nm,0.9s,mb4.8,baz=264,slow=5.4,SNR=11
ISA Isabella 91.08 54 *eP* **P** **22 42 58.9 +0.4**
MWC Mount Wilson 91.21 56 *eP* **P** **22 43 00.1 +1.0**
KBL Kabul 91.24 305 *eP* **P** **22 42 57.9 -1.4**
NVAR Mina Array Bea 91.61 52 P **P** **22 43 00.1 -0.8**
comp=Z,2.1nm,0.7s,mb4.6,baz=212,slow=6.7,SNR=13
SYO Syowa Base 92.08 199⇓ *eP* **P** **22 43 00.6 -1.8**
SYO Syowa Base 92.08 199⇓ *ep*P pP 22 43 09.4 +1.1
BRVK Borovoye 93.00 323 P **P** **22 43 05.2 -1.8**
comp=Z,43nm,0.9s,mb5.9,SNR=5.2
BRVK Borovoye 93.00 323 *eP* **P** **22 43 05.7 -1.3**
TPNV Topopah Spring 93.03 53 *eP* **P** **22 43 08.6 +1.1**
comp=Z,30nm,1.8s,mb5.4
TPNV Topopah Spring 93.03 53 *eP* **P** **22 43 08.6 +1.1**
TPNV pmax pmax
comp=Z,30nm,1.8s,mb5.4
YKA Yellowknife Ar 96.49 28 P **P** **22 43 20.9 -1.8**
comp=Z,1.7nm,0.7s,mb4.6,baz=267,slow=4.5,SNR=21
LKWY Lake 98.09 46 P **P** **22 43 33.0 +2.6**
comp=Z,10nm,0.8s,mb5.4
LKWY Lake 98.09 46 P **P** **22 43 33.0 +2.6**
LKWY pmax pmax
comp=Z,10.0nm,0.8s,mb5.4
BW06 Boulder Array 98.63 48 *eP* **P** **22 43 36.8 +4.0**
PDAR Pinedale Array 98.63 48 P **P** **22 43 32.3 -0.5**
comp=Z,1.8nm,0.8s,mb4.7,baz=222,slow=2.0,SNR=9.0
ARU Arti 99.98 326 *e*Pdif Pdif 22 43 38.4 -0.2
ARU Arti 99.98 326 *e*P Pdif 22 43 36.9 -1.7
SDCO Great Sand Dun 101.62 53 *e*Pdif Pdif 22 43 49.4 +3.5
LTX Lajitas 103.04 62 Pdif Pdif 22 43 53.1 +0.9
ARCES ARCESS Array B 110.14 343 PKiKP PKiKP 22 48 25.1 +0.3
comp=Z,3.9nm,0.9s,baz=70,slow=3.4,SNR=4.8
FINES FINESS Array B 114.53 336 PKiKP PKiKP 22 48 32.6 -0.8
comp=Z,0.6nm,0.6s,baz=89,slow=2.6,SNR=4.6
PLCA Paso Flores 116.08 142 PKP PKPdf 22 48 35.9 -1.2
comp=Z,1.3nm,0.8s,baz=59,slow=2.1,SNR=3.9
AKASG Malin Array Be 118.17 324 PKP PKPdf 22 48 40.4 -0.3
comp=Z,0.5nm,0.3s,baz=53,slow=1.5,SNR=3.0
NB2 NORSAR Subarra120.27 341 PKPdf PKPdf 22 48 43.7 -0.7
comp=Z,1.6nm,0.9s,baz=39,slow=1.9
NOA NORSAR Array B 120.27 341 PKP PKPdf 22 48 44.1 -0.3
comp=Z,1.0nm,0.8s,baz=47,slow=2.0,SNR=4.9
LBTB Lobatse 121.53 235 *e*PKPdf PKPdf 22 48 47.8 -0.3
LVV L'vov 121.54 325 *e*PKIKP PKPdf 22 48 49.6 +2.4
NNA Nana 124.51 110 PKPdf PKPdf 22 48 56.6 +2.7
UPC Upice 125.47 329 *e*PKPdf PKPdf 22 48 59.3 +4.6
UPC *ex* x 22 49 08.5
BRG Berggiesshubel 126.26 331 *e*PKIKP PKPdf 22 49 00.5 +4.2
BRG *e* 22 49 11.0
BRG pmax pmax
comp=Z,17nm,1.3s
BRG Berggiesshubel 126.26 331 *e*PKP PKPdf 22 49 00.5 +4.3
comp=Z,9.2nm,1.3s
BRG *e* 22 49 11.0
comp=Z,19nm,1.4s
CLL Collm 126.42 332 *e*PKPdf PKPdf 22 48 56.0 -0.6
CLL *e*(sPKPdf) 22 49 08.0
PRU Pruhonice 126.53 330 *e*PKPdf PKPdf 22 48 59.8 +3.0
PRU *ex* x 22 49 11.8
KHC Kasperske Hory 127.56 329 *e*PKPdf PKPdf 22 49 01.2 +2.4
KHC *ex* x 22 49 14.4
GERES GERESS Array B 127.67 329 PKP PKPdf 22 48 58.9 -0.1
comp=Z,1.2nm,0.7s,baz=90,slow=1.3,SNR=8.9
GRF Grafenberg Arr 128.35 331 *e*PKPdf pPKPdf 22 49 10.4 +4.1
LPAZ La Paz 130.82 119 PKP PKPdf 22 49 07.2 +1.3
comp=Z,3.7nm,1.0s,baz=298,slow=1.4,SNR=12
SDV Santo Domingo 134.35 85 PKP PKPdf 22 49 12.8 +0.1
comp=Z,6.6nm,0.6s,baz=284,slow=5.1,SNR=11
ESDC Sonseca Array 142.98 333 PKP PKPdf 22 49 28.2 +0.4
comp=Z,1.3nm,0.8s,baz=33,slow=3.3,SNR=5.4
TORD Torodi Ar. Bea 153.61 285 PKPbc PKPbc 22 49 53.7 +0.3
comp=Z,4.7nm,0.9s,baz=88,slow=1.7,SNR=7.6
TORD PKPab PKPab 22 50 05.2 -0.7
comp=Z,6.2nm,0.9s,baz=58,slow=2.9,SNR=7.8
DBIC Dimbokro 160.47 269 PKPab PKPab 22 50 34.7 -1.0
comp=Z,7.3nm,1.0s,baz=49,slow=2.9,SNR=4.5

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*NEIC **01** 22:31:21.2±1.9, 2138S×17899W, h394km±19km, mb4.3/9, Error ellipse: s-maj=17.9km s-min=12.3km az=170.0*
*ISCJB **01** 22:31:30.2±4.1, 217S±0.1×1792W±0.1, h518km±50km, mb4.1/17, Error ellipse: s-maj=24.3km s-min=16.7km az=27.9*
*IDC **01** 22:31:37.0±2.7, 2172S×17930W, h594km±31km, mb3.5/10, mb1 3.7/10, mb1mx3.6/16, mbtmp3.5/10, Error ellipse: s-maj=18.1km s-min=14.8km az=11.0*
ISC 01 22:31:24.5±2.1, 216S±01×1790W±01, h439km±24km, n77, σ0 75/33, mb4.0/17, 1C-9D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**		**7.72 173**	P		**P**		**22 33 15.8**	**-0.8**
URZ	**Urewera**		**16.97 190**	P		**P**		**22 34 57.2**	**+0.6**
	4.2nm,0.3s,baz=348,slow=2.9,SNR=24								
URZ				S		**S**		**22 37 40.3**	**-12**
	1.1nm,0.3s,baz=99,slow=22,SNR=6.4								
SNZO	**South Karori**		**20.39 194**	*e*P		**P**		**22 35 30.2**	**+0.3**
	43nm,1.3s								
RPZ	**Rata Peaks**		**23.59 198**	P		**P**		**22 35 59.9**	**+1.1**
	4.8nm,0.5s,mb4.2,baz=344,slow=7.4,SNR=3.7								
CTA	**Charters Tower**		**32.45 266**	P		**P**		**22 37 17.9**	**+1.0**
CTA	**Charters Tower**		**32.45 266**	P		**P**		**22 37 17.9**	**+1.0**
	6.6nm,0.4s,mb4.3,baz=96,slow=11,SNR=8.5								
CTAO	**Charters Tower**		**32.45 266**	*e*P		**P**		**22 37 18.2**	**+1.3**
	6.5nm,0.5s,mb4.2								
STKA	**Stephens Creek**		**36.47 245**	P		**P**		**22 37 51.5**	**+0.7**
STKA	**Stephens Creek**		**36.47 245**	P		**P**		**22 37 51.5**	**+0.7**
	4.4nm,0.5s,mb4.0,baz=73,slow=10,SNR=6.8								
ASAR	**Alice Springs**		**43.35 258**	P		**P**		**22 38 46.5**	**-0.1**
	5.0nm,0.9s,mb3.9,baz=89,slow=7.8,SNR=6.3								
ASAR				PcP		PcP		22 40 22.7	-3.2
	1.3nm,0.5s,baz=66,slow=4.7,SNR=4.1								
ASAR				S		**S**		**22 44 30.9**	**-10**
	1.7nm,0.9s,baz=94,slow=15,SNR=6.2								
WRA	**Warramunga Arr**		**43.52 263**	P		**P**		**22 38 47.0**	**-0.8**
	1.6nm,0.4s,mb3.7,baz=94,slow=7.9,SNR=7.2								
MBWA	**Marble Bar**		**56.70 258**	P		**P**		**22 40 25.1**	**0.0**
VNDA	**Vanda**		**56.77 185**	P		**P**		**22 40 23.8**	**-1.0**
	0.7nm,0.6s,mb3.2,baz=342,slow=7.8,SNR=6.8								
QSPA	**South Pole Qui**		**68.51 180**	P		**P**		**22 41 40.2**	**-0.9**
	6.2nm,0.8s,mb4.3,baz=2.9,slow=1.4,SNR=18								
MJAR	**Matsushiro Arr**		**70.50 325**	P		**P**		**22 41 52.7**	**-0.9**
	3.0nm,0.7s,mb4.0,baz=154,slow=5.4,SNR=4.9								
TATO	**Taipei**		**74.01 306**	*e*P		**P**		**22 42 13.6**	**-0.8**
CMB	**Columbia Colle**		**80.89 43**	*e*P		**P**		**22 42 52.5**	**+0.9**
PMR	**Palmer**		**86.27 14**	P		**P**		**22 43 16.2**	**-1.7**
HAWA	**Hanford**		**86.36 37**	*e*P		**P**		**22 43 19.2**	**+0.5**
	12nm,1.4s,mb4.4								
BMO	**Blue Mountains**		**86.74 39**	*e*P		**P**		**22 43 20.8**	**+0.2**
	3.2nm,1.0s,mb4.0								
TXAR	**Lajitas Array**		**88.43 58**	P		**P**		**22 43 29.5**	**+0.6**
	baz=208,slow=7.2								
ANMO	**Albuquerque**		**88.81 52**	*e*P		**P**		**22 43 30.8**	**+0.2**
	2.0nm,1.1s,mb3.8								
PLCA	**Paso Flores**		**89.23 134**	*e*P		**P**		**22 43 31.9**	**-0.7**
PLCA	**Paso Flores**		**89.23 134**	P		**P**		**22 43 32.2**	**-0.4**
	1.4nm,0.7s,mb3.8,baz=245,slow=5.6,SNR=4.2								
COLA	**College**		**89.44 13**	*e*P		**P**		**22 43 31.5**	**-1.3**
	7.5nm,0.9s,mb4.4								
BILL	**Bilibino**		**89.99 355**	*e*P		**P**		**22 43 36.1**	**+0.9**
	15nm,1.3s,mb4.7								
PDAR	**Pinedale Array**		**90.38 44**	P		**P**		**22 43 37.8**	**+0.2**
	1.8nm,0.8s,mb4.0,baz=213,slow=3.1,SNR=14								
BOZ	**Bozeman (W)**		**90.54 40**	*e*P		**P**		**22 43 38.4**	**+0.1**
	0.7nm,0.7s,mb3.6								
ISCO	**Idaho Springs**		**91.61 48**	*e*P		**P**		**22 43 43.7**	**+0.3**
	0.7nm,0.6s,mb3.8								
YAK	**Yakutsk**		**92.74 338**	P		**P**		**22 43 48.5**	**+0.5**
NATX	**Nacogdoches**		**96.52 59**	P		**P**		**22 44 06.5**	**+0.6**
LPAZ	**La Paz**		**102.53 113**	*e*Pdif		Pdif		22 44 34.6	+2.1
ZALV	**Zalesovo Beam**		**110.72 321**	PKiKP		PKiKP		22 49 01.9	-4.1
	0.6nm,0.5s,baz=111,slow=3.2,SNR=2.9								
MKAR	**Makanchi Array**		**111.23 313**	PKPdf		PKiKP		22 49 04.4	-2.8
MKAR	**Makanchi Array**		**111.23 313**	PKiKP		PKiKP		22 49 04.4	-2.8
	0.3nm,0.3s,baz=119,slow=1.8,SNR=2.6								
SJG	**San Juan**		**117.19 80**	PKPdf		PKPdf		22 49 20.4	+1.0
BRVK	**Borovoye**		**119.33 320**	PKPdf		PKPdf		22 49 23.1	+0.5
ARCES	**ARCESS Array B 129.78 349**			PKP		PKPdf		22 49 38.3	-3.8
	5.7nm,0.7s,baz=66,slow=1.5,SNR=9.2								
FINES	**FINESS Array B 136.51 343**			PKP		PKPdf		22 49 51.1	-3.8
	0.9nm,0.5s,baz=104,slow=2.3,SNR=6.7								
NB2	**NORSAR Subarra139.91 352**			PKP				22 49 51.1	
	comp=Z,1.4nm,0.9s,baz=39,slow=2.6								
NOA	**NORSAR Array B 139.91 352**			PKP		PKPdf		22 49 59.8	-1.3
NOA	**NORSAR Array B 139.91 352**			PKhKP				22 49 51.3	
	comp=Z,1.2nm,0.8s,baz=15,slow=4.6,SNR=3.3								
NOA				PKP		PKPdf		22 49 59.8	-1.3
	comp=Z,0.8nm,0.6s,baz=12,slow=4.2,SNR=3.8								
AKASG	**Malin Array Be 143.46 330**			PKP		PKPdf		22 50 02.9	-4.9
	comp=Z,3.1nm,0.4s,baz=43,slow=4.3,SNR=19								
SUW	**Suwalki 143.47 338**			*e*PKP		PKPdf		22 50 03.5	-4.2
SUW	**Suwalki 143.47 338**			*e*PKP		PKPdf		22 50 03.5	-4.2
MALT	**Malatya 143.79 306**⇓ *i*P					PKPdf		22 50 05.8	-3.0
KWP	**Kalwaria 147.12 334**			*e*PKP		PKPdf		22 50 14.7	+0.6
KWP	**Kalwaria 147.12 334**			*e*PKP		PKPdf		22 50 14.7	+0.6
KWP	**Kalwaria 147.12 334**⇓ *i*P					PKPdf		22 50 15.2	+1.1
ANTO	**Ankara 147.36 311**⇓ *i*P					PKPdf		22 50 15.1	+0.3
KOLS	**Kolonicke sedl 147.84 333**			*e*PKP		PKPdf		22 50 16.7	+1.4
STHS	**Stebnicka Huta 147.88 335**			*e*PKP		PKPdf		22 50 17.0	+1.7
CRVS	**Cervenica-Dubn 148.20 334**			*e*PKP		PKPdf		22 50 16.7	+0.8
MLR	**Muntele Rosu 148.57 325**⇓ *i*P					PKPdf		22 50 18.0	+1.4
OKC	**Ostrava-Krasne 148.68 338**			*e*PKPdf		PKPdf		22 50 19.2	+2.6
UPC	**Upice 148.78 341**			*e*PKPdf		PKPdf		22 50 19.2	+2.4
DPC	**Dobruska-Polom 148.83 341**			*e*PKPdf		PKPdf		22 50 19.5	+2.7
DPC				*e*PKPab		PKPab		22 50 26.2	-0.6
CLL	**Collm 148.86 345**⇓ *i*PKP					PKPdf		22 50 19.0	+2.1
CLL				*e*				22 50 25.0	
CLL	**Collm 148.86 345**⇓ *i*PKPbc					PKPbc		22 50 19.0	-2.4
	comp=Z,19nm,1.1s								
CLL				*e*PKPab		PKPab		22 50 25.0	-1.9
KECS	**Kecovo 148.93 334**			*e*PKP		PKPdf		22 50 19.3	+2.2
BRG	**Berggiesshubel 149.03 344**			*e*PKP		PKPdf		22 50 19.6	+2.4
	comp=Z,11nm,1.1s								
PVCC	**Panska Ves 149.18 343**			*e*PKPdf		PKPdf		22 50 20.2	+2.8
DRGR	**149.27 330**⇓ *i*P					PKPdf		22 50 19.9	+2.2
VYHS	**Vyhne 149.56 336**			*e*PKP		PKPdf		22 50 20.8	+2.7
KOLL	**Kolacno 149.65 337**			*e*PKP		PKPdf		22 50 21.0	+2.8
PRU	**Pruhonice 149.67 343**			*e*PKPdf		PKPdf		22 50 20.9	+2.7
PRU				*e*PKPab		PKPab		22 50 31.0	+0.7
NKC	**Novy Kostel 149.99 345**			*e*PKPdf		PKPdf		22 50 21.5	+2.8
TREC	**Trest 150.02 341**			*e*PKPdf		PKPdf		22 50 21.9	+3.1
SMOL	**Smolenice 150.06 338**			*e*PKP		PKPdf		22 50 21.8	+3.0
MODS	**Modra-Piesok 150.23 338**			*e*PKP		PKPdf		22 50 22.7	+3.6
GZR	**Gura Zlata 150.26 328**⇑ *i*P					PKPdf		22 50 22.0	+2.7
BZS	**Buzias 150.65 330**⇓ *i*P					PKPdf		22 50 22.9	+3.0
KHC	**Kasperske Hory 150.72 343**			*e*PKPdf		PKPdf		22 50 23.6	+3.8
KHC				*e*PKPab		PKPab		22 50 33.9	-0.8
GRA1	**Grafenberg Arr 150.78 346**			*e*P		PKPbc		22 50 24.5	-1.5
GRF	**Grafenberg Arr 150.78 346**			*e*P		PKPbc		22 50 24.5	-1.5
	comp=Z,1.0nm,0.6s								
GERES	**GERESS Array B 150.94 343**			PKPbc		PKPbc		22 50 22.7	-3.7
	comp=Z,3.1nm,0.8s,baz=28,slow=2.2,SNR=9.5								
PKSM	**Moragy 151.50 334**⇓ *i*P					PKPdf		22 50 23.6	+2.5

IDC 01 22:31:50.4±2.0, 713S×15566E, h0km, mb4.8/7, mb1 4.9/7, mb1mx4.5/15, mbtmp4.7/7, Error ellipse: s-maj=64.8km s-min=26.3km az=115.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**		**24.29 236**	P		P		22 37 09.6	0.0
	13nm,0.7s,baz=60,slow=9.4,SNR=3.5								
STKA	**Stephens Creek**		**27.90 206**	P		P		22 37 43.2	+1.0
	3.3nm,0.4s,baz=21,slow=11,SNR=3.3								
FITZ	**Fitzroy Crossi**		**31.21 247**	P		P		22 38 10.7	-1.1
	15nm,0.8s,baz=118,slow=7.8,SNR=4.4								
SONM	**Songino Array**		**69.80 327**	P		P		22 43 03.9	+1.3
	4.9nm,0.8s,baz=146,slow=5.6,SNR=5.3								
MKAR	**Makanchi Array**		**83.94 319**	P		P		22 44 22.8	+0.4
	10.0nm,0.8s,baz=88,slow=6.2,SNR=5.0								
ZALV	**Zalesovo Beam**		**84.66 326**	P		P		22 44 25.4	-0.5
	4.4nm,0.6s,baz=114,slow=5.1,SNR=5.2								
YKA	**Yellowknife Ar**		**96.14 28**	P		P		22 45 18.8	-1.0
	0.8nm,0.7s,baz=269,slow=4.9,SNR=3.7								

IDC 01 22:33:14.1±1.5, 670S×15442E, h0km, mb4.5/4, mb1 4.7/4, mb1mx4.2/14, mbtmp4.5/4, Error ellipse: s-maj=52.1km s-min=39.6km az=111.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**		**23.52 234**	P		P		22 38 26.1	-0.2
	6.7nm,0.6s,baz=62,slow=9.5,SNR=5.7								
SONM	**Songino Array**		**68.78 328**	P		P		22 44 21.3	+1.3
	4.8nm,0.9s,baz=136,slow=5.5,SNR=3.7								
MKAR	**Makanchi Array**		**82.80 319**	P		P		22 45 41.0	+0.7
	5.6nm,0.7s,baz=81,slow=7.5,SNR=5.3								
ZALV	**Zalesovo Beam**		**83.61 326**	P		P		22 45 42.9	-1.5
	3.9nm,0.8s,baz=108,slow=4.7,SNR=2.9								
ROSC	**El Rosal**		**131.48 89**	PKP		PKPdf		22 52 29.7	-0.1
	3.3nm,0.4s,baz=280,slow=23,SNR=6.2								
LPAZ	**La Paz**		**132.10 119**	PKP		PKPdf		22 52 31.9	+1.0
	12nm,1.3s,baz=306,slow=8.0,SNR=8.6								

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*IDC **01** 22:34:01.6±0.8, 727S×15584E, h0km, mb4.5/13, mb1 4.6/13, mb1mx4.5/17, mbtmp4.5/13, Error ellipse: s-maj=33.0km s-min=16.3km az=104.0*
*ISCJB **01** 22:34:05.0±0.9, 73S±0.1×1558E±0.2, h33km, mb4.6/16, Error ellipse: s-maj=26.8km s-min=12.8km az=17.3*
ISC 01 22:34:06.9±0.9, 73S±01×1559E±0.2, h35km, n26, σ0 72/18, mb4.6/16, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**		**24.36 237**	P		P		**22 39 22.0**	**+0.2**
	2.7nm,0.5s,mb4.0,baz=63,slow=9.2,SNR=3.6								
ASAR	**Alice Springs**		**26.62 230**	P		P		**22 39 42.4**	**+0.1**
	1.1nm,0.4s,mb3.7,baz=62,slow=9.0,SNR=3.8								
STKA	**Stephens Creek**		**27.84 207**	P		P		**22 39 51.9**	**-1.2**
	2.8nm,0.6s,mb4.0,baz=39,slow=9.9,SNR=2.4								
FITZ	**Fitzroy Crossi**		**31.32 247**	P		P		**22 40 23.3**	**-0.9**
	7.2nm,0.7s,mb4.6,baz=94,slow=7.5,SNR=3.6								
MJAR	**Matsushiro Arr**		**46.64 340**	P		P		**22 42 31.3**	**-0.7**
	4.9nm,0.7s,mb4.6,baz=162,slow=8.0,SNR=9.5								
MAT	**Matsushiro**		**46.65 340**	P		P		**22 42 31.5**	**-0.4**
KSRS	**Korea Array**		**51.60 332**	P		P		**22 43 09.8**	**-0.1**
	4.5nm,0.7s,mb4.5,baz=147,slow=7.6,SNR=7.4								
ASAJ	**Asahikawa**		**52.56 348**	P		P		**22 43 17.7**	**+0.8**
	7.3nm,0.5s,mb4.8,baz=196,slow=6.8,SNR=9.7								
SONM	**Songino Array**		**70.05 327**	P		P		**22 45 16.2**	**+1.0**
	7.1nm,0.5s,mb4.8,baz=145,slow=5.9,SNR=42								
VNDA	**Vanda**		**70.26 179**	P		P		**22 45 17.7**	**+1.7**
	1.0nm,0.8s,mb3.8,baz=23,slow=7.7,SNR=2.3								
JIRN	**Jiri**		**75.67 301**	*e*P		P		**22 45 49.6**	**+0.6**
	17nm,0.6s,mb5.2								
KKN	**Kakani**		**76.48 301**	*e*P		P		**22 45 54.1**	**+0.5**
	22nm,0.6s,mb5.3								
GKN	**Gorkha**		**77.09 301**	*e*P		P		**22 45 57.4**	**+0.4**
KOLN	**Koldanda**		**77.91 300**	*e*P		P		**22 46 01.8**	**+0.1**
	18nm,0.6s,mb5.2								
MKAR	**Makanchi Array**		**84.19 319**	P		P		**22 46 34.9**	**+0.2**
	11nm,0.7s,mb5.1,baz=86,slow=6.2,SNR=12								
ZALV	**Zalesovo Beam**		**84.91 326**	P		P		**22 46 37.4**	**-0.7**
	7.5nm,0.6s,mb5.0,baz=117,slow=5.7,SNR=15								
INK	**Inuvik**		**89.70 21**	P		P		**22 47 00.2**	**-0.8**
	1.0nm,0.5s,mb4.4,baz=256,slow=5.1,SNR=5.7								
YKA	**Yellowknife Ar**		**96.20 28**	P		P		**22 47 30.4**	**-0.6**
	0.4nm,0.6s,mb4.1,baz=267,slow=4.6,SNR=4.2								
ARCES	**ARCESS Array B 110.12 343**			PKiKP		PKiKP		22 52 34.7	+0.3
	3.3nm,0.9s,baz=40,slow=1.5,SNR=3.7								
FINES	**FINESS Array B 114.56 336**			PKiKP		PKiKP		22 52 43.0	0.0
	2.0nm,0.9s,baz=99,slow=4.4,SNR=4.9								
AKASG	**Malin Array Be 118.28 325**			PKP		PKPdf		22 52 50.1	-0.4
	0.4nm,0.3s,baz=51,slow=2.5,SNR=3.4								
NB2	**NORSAR Subarra120.26 341**			PKPdf		PKPdf		22 52 54.4	+0.4
	comp=Z,0.9nm,0.6s,baz=40,slow=1.9								
NOA	**NORSAR Array B 120.26 341**			PKP		PKPdf		22 52 54.1	+0.1
	comp=Z,1.1nm,0.7s,baz=46,slow=1.9,SNR=4.7								
GERES	**GERESS Array B 127.75 329**			PKP		PKPdf		22 53 09.6	+0.8
	comp=Z,0.9nm,0.5s,baz=86,slow=1.7,SNR=8.6								
TORD	**Torodi Ar. Bea 153.93 285**			PKPbc		PKPbc		22 54 03.7	0.0
	comp=Z,0.5nm,0.4s,baz=98,slow=1.5,SNR=4.1								
TORD				PKPab		PKPab		22 54 16.8	-0.2
	comp=Z,1.2nm,0.6s,baz=85,slow=3.4,SNR=2.9								
DBIC	**Dimbokro 160.85 269**			PKPab		PKPab		22 54 46.6	-0.3
	comp=Z,3.5nm,0.8s,baz=142,slow=7.4,SNR=6.6								

IDC 01 22:37:58.1±3.9, 722S×15557E, h0km, mb4.0/5, mb1 4.1/5, mb1mx3.9/14, mbtmp4.0/5, Error ellipse: s-maj=118.5km s-min=29.7km az=114.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**		**24.16 236**	P		P		22 43 14.9	-1.4
	3.0nm,0.7s,baz=62,slow=9.3,SNR=3.8								
ASAR	**Alice Springs**		**26.46 229**	P		P		22 43 38.3	+1.2
	0.5nm,0.5s,baz=61,slow=9.0,SNR=4.0								
SONM	**Songino Array**		**69.83 327**	P	

NWAO Narrogin (SRO) 43.57 230 *eP* **P 22 49 06.1 +0.1**
comp=Z,38nm,1.3s,mb5.0
NWAO Narrogin (SRO) 43.57 230 *eP* **P 22 49 06.1 +0.1**
NWAO pmax pmax
comp=Z,38nm,1.3s
NWAO Narrogin (SRO) 43.57 230 P **P 22 49 04.9 -1.1**
comp=Z,3.8nm,0.2s,mb4.7,baz=79,slow=6.7,SNR=8.2
NACB Ninganchiao 46.09 315 *eP* **P 22 49 24.6 -1.6**
KSM Kuching 46.30 280 *eP* **P 22 49 28.3 +0.3**
YHNB Yeheng 46.56 315 P **P 22 49 28.7 -1.1**
JNU Nakatsue 47.10 331 P **P 22 49 34.6 +0.7**
comp=Z,32nm,1.0s,mb5.2,baz=115,slow=9.2,SNR=9.1
MJAR Matsushiro Arr 47.10 341 P **P 22 49 34.0 +0.1**
comp=Z,30nm,0.8s,mb5.3,baz=164,slow=7.7,SNR=20
MAJO Matsushiro 47.11 341 *eP* **P 22 49 34.1 +0.2**
comp=Z,52nm,0.7s,mb5.6
MAJO Matsushiro 47.11 341 *eP* **P 22 49 34.1 +0.2**
MAJO pmax pmax
comp=Z,52nm,0.7s,mb5.6
MAT Matsushiro 47.11 341 P **P 22 49 34.0 +0.1**
KSRS Korea Array 52.02 332 P **P 22 50 12.5 +1.1**
comp=Z,6.2nm,0.9s,mb4.5,baz=154,slow=8.2,SNR=15
QIZ Qiongzhong 52.56 301 *eP* **P 22 50 15.9 +0.2**
comp=Z,49nm,1.2s,mb5.3
ASAJ Asahikawa 53.04 348 P **P 22 50 20.6 +1.7**
comp=Z,23nm,0.8s,mb5.1,baz=222,slow=12,SNR=18
VLA Vladivostok 55.15 339 *eP* **P 22 50 34.7 +0.4**
VLA pmax pmax
comp=Z,125nm,1.5s,mb5.7
PMOR Pomariorio Ree 55.53 103 *eP* **P 22 50 40.2 +2.7**
comp=Z,75nm,1.4s,mb5.5
PMOR Pomariorio Ree 55.53 103 *eP* **P 22 50 40.0 +2.5**
comp=Z,75nm,1.4s,mb5.5
PMOR Pomariorio Ree 55.53 103 *eP* **P 22 50 40.0 +2.5**
comp=Z,75nm,1.4s,mb5.5
YSS Yuzh-Sakhalins 55.74 349 *eP* **P 22 50 38.8 +0.4**
comp=Z,16nm,0.8s,mb5.1
YSS *e*PcP PcP 22 51 37.1 -0.4
YSS Yuzh-Sakhalins 55.74 349⇑*eP* **P 22 50 39.8 +1.4**
YSS *e* 22 50 52.8
YSS pmax pmax
comp=Z,30nm,0.9s,mb5.3
KULM Kulim 56.54 282 *eP* **P 22 50 43.9 -0.9**
CN2 Changchun 58.26 335 *eP* **P 22 50 55.9 -0.4**
CN2 AMB AMB
comp=Z,20nm,1.0s,mb5.1
ENH Enshi 58.37 313 P **P 22 50 55.2 -2.2**
GYA Guiyang 58.58 307⇑*iP* **P 22 50 58.4 -0.5**
GYA AP pP 22 51 01.4 -2.1
GYA XP sP 22 51 03.8 -1.5
GYA PCP PcP 22 51 50.9 +1.7
GYA PP PP 22 53 08.2 -0.5
GYA AMB AMB
comp=Z,60nm,1.0s,mb5.6
GYA LR LR
comp=N,7μm,20.8s,MS5.9
GYA LR LR
comp=E,7μm,21.0s,MS5.9
GYA LR LR
comp=Z,6μm,19.0s,MS5.7
NST Nakhon Sawan 59.86 293 P **P 22 51 09.0 +1.0**
BJT Baijiatuau 60.03 326 *eP* **P 22 51 07.0 -1.7**
KLR Kul'dur 60.58 342 *eP* **P 22 51 09.7 -2.5**
KLR pmax pmax
comp=Z,120nm,1.8s,mb5.7
KLR pmax pmax
comp=E,56nm,1.9s
XAN Xi'an 60.84 316 P **P 22 51 13.7 -0.7**
XAN AP pP 22 51 19.1 +0.1
XAN AMB AMB
comp=Z,5.0nm,1.1s,mb4.6
XAN LR LR
comp=N,2μm,12.0s
XAN LR LR
comp=Z,3μm,12.0s,MS5.6
KMI Kunming 61.13 304 P **P 22 51 17.2 +0.7**
KMI AMB AMB
comp=Z,14nm,1.5s,mb4.9
CHG Chiang Mai 61.98 296⇑P **P 22 51 23.3 +1.0**
comp=Z,29nm,1.0s,mb5.4
CD2 Chengdu 62.95 310 P **P 22 51 29.1 +0.5**
CD2 XP sP 22 51 36.8 +1.8
CD2 PP PP 22 53 47.8 +0.5
CD2 AMB AMB
comp=Z,30nm,1.0s,mb5.4
HHC Hu-ho-hao-te 63.22 324 *eP* **P 22 51 27.8 -2.4**
HHC AP pP 22 51 32.5 -2.3
HHC XP sP 22 51 35.2 -1.4
HHC PP PP 22 53 48.3 -1.2
HHC AMB AMB
comp=Z,45nm,0.3s,mb6.1
HHC LR LR
comp=N,6μm,27.3s
HHC LR LR
comp=E,4μm,20.0s
HHC LR LR
comp=Z,10μm,31.9s,MS5.8
HIA Hailar 64.99 335 *eP* **P 22 51 42.2 +0.6**
comp=Z,9.3nm,0.6s,mb5.0
HIA Hailar 64.99 335 *eP* **P 22 51 42.2 +0.5**
HIA pmax pmax
comp=Z,9.0nm,0.6s
LZH Lanzhou 65.45 315 *eP* **P 22 51 46.2 +1.2**
LZH AP pP 22 51 50.5 +0.9
LZH XP sP 22 51 52.2 +0.8
LZH AMB AMB
comp=Z,15nm,1.0s,mb5.0
MA2 Magadan 67.28 357 *eP* **P 22 51 56.1 0.0**
comp=Z,29nm,0.9s,mb5.3
MA2 Magadan 67.28 357 *eP* **P 22 51 56.1 0.0**
MA2 pmax pmax
comp=Z,29nm,0.9s,mb5.3
CLNS Chul'man 69.23 342 *eP* **P 22 52 09.8 +1.3**
CLNS pmax pmax
comp=Z,37nm,0.9s,mb5.3
CLNS pmax pmax
comp=N,18nm,1.0s
CLNS pmax pmax
comp=E,16nm,0.9s
CIT Chita 69.69 334 *eP* **P 22 52 12.2 +0.8**
CIT *e* 22 52 21.8
VNDA Vanda 69.76 179 P **P 22 52 12.7 +1.2**
comp=E,1.3nm,0.9s,mb3.9,baz=338,slow=7.3,SNR=6.2
GTA Gaotai 69.88 317 *eP* **P 22 52 14.7 +1.9**
GTA AP pP 22 52 18.4 +0.9
GTA XP sP 22 52 19.8 +0.5
GTA PP PP 22 54 52.8 +5.2
GTA AMB AMB
comp=Z,7.0nm,1.2s,mb4.5
SBA Scott Base 70.25 178 P **P 22 52 16.6 +2.0**
SONM Songino Array 70.45 327 P **P 22 52 17.3 +1.2**
comp=Z,2.0nm,0.4s,mb4.4,baz=144,slow=6.0,SNR=16
LSA Lhasa 72.39 304 *eP* **P 22 52 30.4 +2.1**
LSA Lhasa 72.39 304 *eP* **P 22 52 30.3 +2.0**
comp=Z,160nm,2.6s,mb5.5
LSA Lhasa 72.39 304 *eP* **P 22 52 30.3 +2.0**
LSA pmax pmax
comp=Z,160nm,2.6s,mb5.5
YAK Yakutsk 72.52 347 *eP* **P 22 52 28.1 -0.2**
comp=Z,101nm,1.1s,mb5.7
YAK Yakutsk 72.52 347 *eP* **P 22 52 29.3 +1.0**
YAK pmax pmax
comp=Z,103nm,1.6s,mb5.5
YAK pmax pmax
comp=N,38nm,1.5s
YAK pmax pmax
comp=E,23nm,1.5s
ZAK Zakamensk 73.60 328 *eP* **P 22 52 35.4 +0.4**
ZAK pmax pmax
comp=Z,5.0nm,1.8s,mb4.1
BOD Bodaibo 73.66 338 *eP* **P 22 52 35.7 +0.5**
BOD pmax pmax
comp=Z,19nm,1.7s,mb4.8
TLY Talaya 74.16 329 P **P 22 52 36.3 -1.9**
comp=Z,11nm,1.3s,mb4.6
TLY Talaya 74.16 329 P **P 22 52 36.3 -2.0**
TLY pmax pmax
comp=Z,11nm,1.3s,mb4.6
MOY Mondy 75.52 328 *eP* **P 22 52 50.5 +4.4**
JIRN Jiri 75.89 301 *eP* **P 22 52 49.9 +1.1**
comp=Z,167nm,1.9s,mb5.7
BILL Bilibino 76.02 4 *eP* **P 22 52 45.0 -3.6**
comp=Z,61nm,1.0s,mb5.5
BILL Bilibino 76.02 4*eiP* **P 22 52 49.8 +1.2**
BILL *e* 22 53 03.3
BILL pmax pmax
comp=Z,58nm,1.0s,mb5.5
PALK Pallekele 76.36 279 *eP* **P 22 52 51.7 -0.1**
KKN Kakani 76.70 301 *eP* **P 22 52 54.1 +0.7**
comp=Z,79nm,1.6s,mb5.4
GKN Gorkha 77.30 301 *eP* **P 22 52 56.6 -0.2**
comp=Z,100nm,1.3s,mb5.6
KDAK Kodiak Island 77.54 25 P **P 22 52 56.9 -0.5**
comp=Z,5.9nm,1.0s,mb4.5,baz=271,slow=4.6,SNR=5.2
KOLN Koldanda 78.12 300 *eP* **P 22 53 01.5 +0.1**
comp=Z,73nm,1.3s,mb5.5
SVW2 Sparrevohn 78.44 22 *eP* **P 22 53 03.0 +0.7**
TTA Tatalina 79.50 20 *eP* **P 22 53 08.3 +0.2**
comp=Z,28nm,1.5s,mb5.0
TTA Tatalina 79.50 20 *eP* **P 22 53 08.3 +0.2**
TTA pmax pmax
comp=Z,28nm,1.5s,mb5.0
WMQ Urumqi 79.96 317 *eP* **P 22 53 08.1 -3.0**
WMQ AMB AMB
comp=Z,10.0nm,1.5s,mb4.5
KOD Kodaikanal 80.02 282 *eP* **P 22 53 11.5 -0.5**
KOD AMb AMB 22 53 15.4
comp=Z,22nm,1.9s,mb4.8
SLKM Skilak Lake 80.15 24 *eP* **P 22 53 10.8 -0.8**
HYB Hyderabad 80.29 289 *eP* **P 22 53 13.5 +0.1**
HYB Hyderabad 80.29 289 *iP* **P 22 53 13.5 +0.1**
TIXI Tiksi 81.27 352 *eP* **P 22 53 17.9 +0.5**
comp=Z,23nm,1.3s,mb4.9
TIXI Tiksi 81.27 352 *eP* **P 22 53 16.9 -0.6**
TIXI pmax pmax
comp=Z,34nm,2.0s,mb4.9
SML Sawmill 81.64 23 *eP* **P 22 53 20.8 +1.1**
IMA2 Indian Mountai 82.31 19 *eP* **P 22 53 22.2 -0.8**
AKL Akola 82.36 292 *eP* **P 22 53 24.1 -0.2**
AKL AMb AMB 22 53 26.1
comp=Z,33nm,0.6s,mb5.4
BHPL Bhopal 82.49 295 *eP* **P 22 53 24.9 0.0**
BHPL AMb AMB 22 53 27.7
comp=Z,27nm,1.7s,mb4.9
MCK McKinley 82.50 22 *eP* **P 22 53 23.8 -0.4**
COLA College 83.54 21 *eP* **P 22 53 28.4 -1.1**
comp=Z,27nm,1.3s,mb5.2
COLA College 83.54 21 *eP* **P 22 53 28.4 -1.1**
COLA pmax pmax
comp=Z,27nm,1.3s,mb5.2
KAD Karad 84.37 288 *eP* **P 22 53 34.9 +0.1**
KAD AMb AMB 22 53 35.8
comp=Z,30nm,0.9s,mb5.4
MKAR Makanchi Array 84.54 319 P **P 22 53 34.9 -0.1**
comp=Z,18nm,0.8s,mb5.2,baz=87,slow=7.4,SNR=47
ZALV Zalesovo Beam 85.30 326 P **P 22 53 37.8 -0.8**
comp=Z,9.2nm,0.9s,mb4.9,baz=106,slow=5.3,SNR=31
ZAL Zalesovo 85.30 326 P **P 22 53 37.8 -0.8**
AJM Ajmer 85.61 297 *eP* **P 22 53 40.6 -0.2**
EGAK Eagle 85.95 23 *eP* **P 22 53 41.8 +0.2**
DAWY Dawson 86.31 23 *eP* **P 22 53 44.6 +1.2**
NVS Novosibirsk 86.47 326 *iP* **P 22 53 44.1 -0.3**
KURK Kurchatov 87.96 322 *eP* **P 22 53 49.3 -2.4**
comp=Z,2.1nm,0.5s,mb4.6
KURK Kurchatov 87.96 322 *eP* **P 22 53 49.3 -2.4**
KURK pmax pmax
comp=Z,2.0nm,0.5s,mb4.6
DLBC Dease Lake 88.43 30 *eP* **P 22 53 54.6 +0.9**
UCH Uchtor 88.79 313 *eP* **P 22 53 55.3 -0.6**
AAK Ala-Archa 88.89 313 *eP* **P 22 53 55.1 -1.2**
EKS2 Erkin-Say 89.41 313 *eP* **P 22 53 57.8 -1.0**
INK Inuvik 90.19 21 *eP* **P 22 54 02.2 +0.4**
MWC Mount Wilson 91.16 56 *eP* **P 22 54 09.2 +2.1**
NVAR Mina Array Bea 91.59 52 P **P 22 54 09.6 +0.6**
comp=Z,1.2nm,0.8s,mb4.3,baz=243,slow=3.8,SNR=8.7
KBL Kabul 91.72 304 *eP* **P 22 54 09.3 -0.4**
BRVK Borovoye 93.49 323 *eP* **P 22 54 15.8 -1.7**
YKA Yellowknife Ar 96.67 28 P **P 22 54 31.3 -0.5**
comp=Z,3.9nm,0.7s,mb4.9,baz=267,slow=4.5,SNR=50
YKW3 Yellowknife Ar 96.67 28 *eP* **P 22 54 32.1 +0.4**
PDAR Pinedale Array 98.64 48 P **P 22 54 40.5 -0.6**
comp=Z,0.7nm,0.8s,mb4.2,baz=246,slow=2.0,SNR=7.2
WMOK Wichita Mounta 107.06 56 *e*PKIKP PKiKP 22 59 28.5 +0.1
FINES FINESS Array B 115.00 336 PKiKP PKiKP 22 59 41.8 -0.7
comp=Z,1.7nm,0.8s,baz=157,slow=6.2,SNR=4.1
AKASG Malin Array Be 118.66 324 PKP PKPdf 22 59 48.8 -1.1
comp=Z,1.6nm,0.6s,baz=67,slow=2.1,SNR=8.7
TKL Tuckaleechee C 119.14 54 PKP PKPdf 22 59 50.4 -0.9
comp=Z,2.7nm,0.8s,baz=251,slow=1.4,SNR=4.5
NB2 NORSAR Subarra 120.72 341 PKPdf PKPdf 22 59 53.6 0.0
comp=Z,1.1nm,0.8s,baz=39,slow=1.9
NOA NORSAR Array B 120.72 341 PKP PKPdf 22 59 53.7 +0.2
comp=Z,1.7nm,0.8s,baz=40,slow=2.0,SNR=5.8
CFAA Coronel Fontan 122.51 135 PKP PKPdf 22 59 58.0 0.0
CFAA Coronel Fontan 122.51 135 PKP PKPdf 22 59 58.0 0.0
comp=Z,0.1nm,0.3s,baz=298,slow=4.0,SNR=4.3
KOLS Kolonicke sedl 123.47 325 *e*PKP PKPdf 22 59 58.4 -0.8
STHS Stebnicka Huta 123.80 326 *e*PKP PKPdf 23 00 01.4 +1.6
CRVS Cervenica-Dubn 123.94 325 *e*PKP PKPdf 22 59 59.9 -0.2
OKC Ostrava-Krasne 125.24 328 *e*PKPDF PKPdf 23 00 04.2 +1.6
VYHS Vyhne 125.63 326 *e*PKP PKPdf 23 00 03.7 +0.3
DPC Dobruska-Polom 125.89 329 *e*PKP PKPdf 22 59 56.3 -7.5
MODS Modra-Piesok 126.55 327 *e*PKP PKPdf 23 00 05.8 +0.7
PVCC Panska Ves 126.65 330 *e*PKPDF PKPdf 23 00 06.8 +1.5
BRG Berggiesshubel 126.74 331 *i* PKIKP PKPdf 23 00 06.5 +1.1
BRG pmax pmax
comp=Z,7.0nm,1.1s
BRG Berggiesshubel 126.74 331 *i* PKP PKPdf 23 00 06.5 +1.1
comp=Z,11nm,1.1s
CLL Collm 126.90 332 *i* PKIKP PKPdf 23 00 06.4 +0.7
CLL pmax pmax
comp=Z,9.0nm,0.9s
CLL Collm 126.90 332 *i* PKPdf PKPdf 23 00 06.4 +0.7
comp=Z,9.0nm,0.9s
CLL *ex* x 23 00 26.0
TREC Trest 126.96 328 *e*PKPDF PKPdf 23 00 07.1 +1.2
PRU Pruhonice 127.01 330 *e*PKPDF PKPdf 23 00 07.4 +1.4
NKC Novy Kostel 127.88 331 *e*PKPDF PKPdf 23 00 08.7 +1.1
KHC Kasperske Hory 128.04 329 *e*PKPDF PKPdf 23 00 09.1 +1.2
GERES GERESS Array B 128.16 329 PKP PKPdf 23 00 08.4 +0.2
comp=Z,2.2nm,0.8s,baz=64,slow=3.1,SNR=17
GRA1 Grafenberg Arr 128.83 331 *e*PKPdf PKPdf 23 00 10.3 +0.9
GRF Grafenberg Arr 128.83 331 *e*PKPdf PKPdf 23 00 10.3 +0.9
ROSC El Rosal 130.11 90 PKP PKPdf 23 00 13.4 +0.4
comp=Z,5.7nm,0.4s,baz=80,slow=18,SNR=4.1
LPAZ La Paz 130.37 119 PKP PKPdf 23 00 11.2 -2.1
comp=Z,3.7nm,0.3s,baz=179,slow=12,SNR=22
HINF Hinteralfeld 132.21 332 *e*PKIKP PKPdf 23 00 12.1 -3.8
comp=Z,16nm,1.1s
HAU Haudompre 132.30 333 *e*PKIKP PKPdf 23 00 12.5 -3.6
comp=Z,15nm,1.0s
MEZF Maizieres J'vi 132.51 334 *e*PKIKP PKPdf 23 00 13.3 -3.2
CABF La Chapelle 133.44 331 *e*PKIKP PKPdf 23 00 15.9 -2.4
comp=Z,38nm,1.2s
LPL La Plagne 133.91 330 *e*PKIKP PKPdf 23 00 16.5 -2.7
comp=Z,21nm,1.2s
LOR Lormes 133.97 334 *e*PKIKP PKPdf 23 00 15.7 -3.5
comp=Z,23nm,1.2s
SDV Santo Domingo 134.06 85 PKP PKPdf 23 00 20.4 0.0
comp=Z,9.4nm,0.7s,baz=217,slow=3.0,SNR=12
SSF Saint Saulge 134.28 334 *e*PKIKP PKPdf 23 00 16.1 -3.7
comp=Z,23nm,1.2s
MVO Moncorvo 143.44 338 *e*PKP PKPdf 23 00 35.6 -1.2
ESDC Sonseca Array 143.45 333 PKP PKPdf 23 00 34.4 -2.4
comp=Z,1.4nm,0.8s,baz=16,slow=2.5,SNR=8.3
MTE Manteigas 144.30 338 *e*PKP PKPdf 23 00 37.1 -1.2
PCBR Castelo Branco 144.76 337 *e*PKP PKPdf 23 00 39.2 +0.1
PESTR Estremoz 145.65 337 *e*PKP PKPdf 23 00 41.2 +0.5
PBAR Barrancos 146.02 335 *e*PKP PKPdf 23 00 42.9 +1.6
EVO Evora 146.10 337 *e*PKIKP PKPdf 23 00 37.0 -4.5
comp=Z,59nm,1.4s
EVO Evora 146.10 337 *e*PKP PKPdf 23 00 43.1 +1.6
PBEJ Beja 146.48 336 *e*PKP PKPdf 23 00 44.8 +2.7
PVAQ Vaqueiros 146.96 336 *e*PKP PKPdf 23 00 46.4 +3.5
TORD Torodi Ar. Bea 154.00 284 PKPbc PKPbc 23 01 01.9 -0.7
TORD PKPab PKPab 23 01 15.8 -0.1
TORD Torodi Ar. Bea 154.00 284 PKPbc PKPbc 23 01 01.9 -0.7
comp=Z,3.1nm,0.9s,baz=37,slow=3.7,SNR=6.6
TORD PKPab PKPab 23 01 15.8 -0.1
comp=Z,3.4nm,1.0s,baz=51,slow=1.4,SNR=5.6
DBIC Dimbokro 160.78 268 PKPab PKPab 23 01 45.7 +0.5
comp=Z,5.8nm,0.9s,baz=14,slow=1.4,SNR=4.8

BJI ***01*** *22:41:59.5,730S×15540E,h10km,mB5.2,mb4.9*
IDC ***01*** *22:41:59.0±0.7,729S×15537E,h0km,mb4.8/11, mb1 5.0/12,mb1mx4.8/16,mbtmp4.9/12,MS5.6/1, Ms1 5.6/1,ms1mx4.3/31,Error ellipse: s-maj=23.1km s-min=18.7km az=101.0*

NEIC ***01*** *22:42:00.6±0.2,729S×15541E,h10km,mb5.0/21,Error ellipse: s-maj=7.8km s-min=6.1km az=92.0*
MOS ***01*** *22:42:02.6±1.3,727S×15540E,h33km,mb5.1/11,Error ellipse: s-maj=13.4km s-min=10.4km az=96.7*
ISCJB ***01*** *22:42:03.5±2.2,732S±006×15545E±007,h44km±20km, mb4.8/31,Error ellipse: s-maj=12.6km s-min=10.2km az=18.7*

ISC 01 22:42:05.6±1.9,734S±006×15546E±008,h48km±18km, n76,σ0s86/68,mb4.8/31,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.91**	**115**	Pn	**Pn**	**22 43 16.2**	**-0.7**
	53nm,0.3s,baz=266,slow=16,SNR=4.4						
HNR				Sn	**Sn**	**22 44 26.6**	**+14**
	38nm,0.3s,baz=110,slow=12,SNR=2.0						
CTA	**Charters Tower**	**15.50**	**214**	*e*P	**Pn**	**22 45 46.1**	**+5.0**
	54nm,1.0s						
CTA	**Charters Tower**	**15.50**	**214**	*e*P	**Pn**	**22 45 46.1**	**+5.0**
CTA				pmax	pmax		
	comp=Z,54nm,1.0s						
CTA	**Charters Tower**	**15.50**	**214**	Pn	**Pn**	**22 45 43.2**	**+2.1**
	comp=Z,0.5nm,0.3s,baz=38,slow=12,SNR=7.4						
CTA				LR	LR	22 50 09.5	
	comp=Z,22μm,20.6s,baz=183,slow=32						
CTAO	**Charters Tower**	**15.50**	**214**	*e*P	**Pn**	**22 45 43.3**	**+2.2**
	comp=Z,112nm,1.1s						
CTAO	**Charters Tower**	**15.50**	**214**	*e*P	**Pn**	**22 45 43.3**	**+2.2**
CTAO				pmax	pmax		
	comp=Z,112nm,1.1s						
ARMA	**Armidale**	**23.24**	**188**	*e*P	**P**	**22 47 09.1**	**+0.2**
KAKA	**Kakadu**	**23.28**	**255**	*e*P	**P**	**22 47 08.7**	**-0.8**
	comp=Z,50nm,0.8s,mb5.0						
WB2	**Warramunga Arr**	**23.99**	**236**	*e*P	**P**	**22 47 16.2**	**+0.2**
WRA	**Warramunga Arr**	**24.00**	**236**	P	**P**	**22 47 15.7**	**-0.4**
	comp=Z,60nm,1.0s,mb5.0,baz=61,slow=9.9,SNR=12						
ASAR	**Alice Springs**	**26.29**	**229**	P	**P**	**22 47 35.0**	**-1.9**
	comp=Z,19nm,1.1s,mb4.5,baz=57,slow=10.0,SNR=8.7						
STKA	**Stephens Creek**	**27.63**	**206**	*e*P	**P**	**22 47 48.6**	**-0.1**
	comp=Z,31nm,0.9s,mb4.9						
STKA	**Stephens Creek**	**27.63**	**206**	P	**P**	**22 47 48.9**	**+0.1**
	comp=Z,46nm,0.9s,mb5.1,baz=24,slow=12,SNR=9.1						
CNB	**Canberra Magne**	**28.40**	**191**	*e*P	**P**	**22 47 56.5**	**+0.9**
	comp=Z,18nm,0.9s,mb4.7						
FITZ	**Fitzroy Crossi**	**30.94**	**247**	*e*P	**P**	**22 48 18.0**	**-0.3**
	comp=Z,32nm,0.8s,mb5.2						
FITZ	**Fitzroy Crossi**	**30.94**	**247**	P	**P**	**22 48 18.1**	**-0.2**
	comp=Z,17nm,0.7s,mb5.0,baz=86,slow=8.4,SNR=5.4						
RAO	**Raoul Island**	**33.22**	**134**	*e*P	**P**	**22 48 42.4**	**+4.2**
TAU	**Tasmania Unive**	**36.15**	**190**	P	**P**	**22 49 04.2**	**+0.9**
	comp=Z,88nm,1.3s,mb5.5						
TAU	**Tasmania Unive**	**36.15**	**190**	P	**P**	**22 49 04.2**	**+0.9**
TAU				pmax	pmax		
	comp=Z,88nm,1.3s,mb5.5						
MBWA	**Marble Bar**	**37.14**	**245**	*e*P	**P**	**22 49 11.5**	**-0.6**
	comp=Z,12nm,0.9s,mb4.7						
RPZ	**Rata Peaks**	**38.73**	**162**	P	**P**	**22 49 25.4**	**+0.3**
	comp=Z,13nm,0.8s,mb4.7,baz=331,slow=7.0,SNR=3.6						
KKM	**Kota Kinabalu**	**41.34**	**288**	P	**P**	**22 49 47.2**	**-0.1**
KLBR	**Kellerberrin**	**42.62**	**230**	*e*P	**P**	**22 49 56.8**	**-0.6**
	comp=Z,27nm,1.0s,mb4.9						
NWAO	**Narrogin (SRO)**	**43.61**	**229**	*e*P	**P**	**22 50 03.9**	**-1.6**
	comp=Z,49nm,1.4s,mb5.0						
NWAO	**Narrogin (SRO)**	**43.61**	**229**	*e*P	**P**	**22 50 03.9**	**-1.5**
NWAO				pmax	pmax		
	comp=Z,49nm,1.4s						
NACB	**Ninganchiao**	**45.52**	**315**	*e*P	**P**	**22 50 20.8**	**0.0**
KSM	**Kuching**	**45.88**	**279**	*e*P	**P**	**22 50 24.9**	**+1.1**
YHNB	**Yeheng**	**45.99**	**315**	*e*P	**P**	**22 50 25.1**	**+0.6**
MAJO	**Matsushiro**	**46.55**	**341**	P	**P**	**22 50 28.9**	**+0.2**
PMOR	**Pomariorio Ree**	**55.97**	**103**	*e*P	**P**	**22 51 46.5**	**+6.8**
	comp=Z,50nm,1.1s,mb5.5						
KMI	**Kunming**	**60.59**	**304**	P	**P**	**22 52 12.6**	**+0.9**
KMI				AMB	AMB		
	comp=Z,19nm,1.8s,mb4.9						
HIA	**Hailar**	**64.42**	**335**	*e*P	**P**	**22 52 36.5**	**-0.4**
	comp=Z,5.8nm,0.7s,mb4.7						
HIA	**Hailar**	**64.42**	**335**	*e*P	**P**	**22 52 36.5**	**-0.3**
HIA				pmax	pmax		
	comp=Z,6.0nm,0.7s						
LZH	**Lanzhou**	**64.88**	**315**	*e*P	**P**	**22 52 42.2**	**+2.1**
LZH				AP	pP	22 52 48.3	-5.4
LZH				XP	sP	22 52 51.6	-7.5
LZH				AMB	AMB		
	comp=Z,30nm,1.3s,mb5.2						
LZH				AMB	AMB		
	comp=Z,133nm,4.4s						
CASY	**Casey**	**66.41**	**198**	*e*P	**P**	**22 52 49.5**	**0.0**
MA2	**Magadan**	**66.80**	**357**	*e*P	**P**	**22 52 51.3**	**-0.6**
SONM	**Songino Array**	**69.87**	**327**	P	**P**	**22 53 12.1**	**+0.7**
	comp=Z,9.5nm,1.0s,mb4.7,baz=146,slow=6.6,SNR=4.1						
VNDA	**Vanda**	**70.23**	**179**	P	**P**	**22 53 13.1**	**-0.1**
VNDA	**Vanda**	**70.23**	**179**	P	**P**	**22 53 13.1**	**-0.1**
	comp=Z,2.6nm,0.9s,mb4.2,baz=329,slow=5.9,SNR=5.5						
SBA	**Scott Base**	**70.73**	**177**	*e*P	**P**	**22 53 16.6**	**+0.4**
LSA	**Lhasa**	**71.84**	**304**	*e*P	**P**	**22 53 24.8**	**+1.0**
	comp=Z,7.4nm,0.7s,mb4.7						
LSA	**Lhasa**	**71.84**	**304**	*e*P	**P**	**22 53 24.8**	**+1.0**
LSA				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.7						
YAK	**Yakutsk**	**71.99**	**348**	P	**P**	**22 53 23.9**	**-0.1**
BILL	**Bilibino**	**75.58**	**4**	*e*P	**P**	**22 53 45.5**	**+0.6**
	comp=Z,27nm,1.0s,mb5.1						
BILL	**Bilibino**	**75.58**	**4**	*e*P	**P**	**22 53 45.5**	**+0.6**
BILL				pmax	pmax		
	comp=Z,27nm,1.0s,mb5.1						
PALK	**Pallekele**	**75.95**	**279**	*e*P	**P**	**22 53 47.7**	**-0.5**
COLA	**College**	**83.23**	**21**	*e*P	**P**	**22 54 26.6**	**0.0**
	comp=Z,3.6nm,0.7s,mb4.5						
COLA	**College**	**83.23**	**21**	*e*P	**P**	**22 54 26.6**	**0.0**
COLA				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.6						
MKAR	**Makanchi Array**	**83.96**	**319**	P	**P**	**22 54 30.5**	**-0.3**
	comp=Z,3.0nm,0.6s,mb4.6,baz=100,slow=9.4,SNR=5.2						
MAW	**Mawson**	**84.26**	**203**	P	**P**	**22 54 32.2**	**+0.3**
	comp=Z,7.4nm,0.9s,mb4.8,baz=81,slow=8.2,SNR=5.6						
ZALV	**Zalesovo Beam**	**84.72**	**326**	P	**P**	**22 54 32.5**	**-1.9**
ZALV	**Zalesovo Beam**	**84.72**	**326**	P	**P**	**22 54 32.5**	**-1.9**
	comp=Z,4.5nm,0.5s,mb4.8,baz=113,slow=5.5,SNR=6.9						
ZAL	**Zalesovo**	**84.72**	**326**	P	**P**	**22 54 32.5**	**-1.9**
KURK	**Kurchatov**	**87.38**	**322**	*e*P	**P**	**22 54 47.4**	**-0.2**
	comp=Z,6.5nm,1.0s,mb4.8						
KURK	**Kurchatov**	**87.38**	**322**	*e*P	**P**	**22 54 47.4**	**-0.2**
KURK				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.8						
TKM2	**Tokmak 2**	**87.58**	**314**	*e*P	**P**	**22 54 48.6**	**-0.2**
	comp=Z,3.2nm,0.7s,mb4.7						
TKM2	**Tokmak 2**	**87.58**	**314**	*e*P	**P**	**22 54 48.6**	**-0.2**
TKM2				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.6						
UCH	**Uchtor**	**88.22**	**313**	*e*P	**P**	**22 54 53.1**	**+1.2**
AAK	**Ala-Archa**	**88.32**	**313**	*e*P	**P**	**22 54 52.8**	**+0.5**
	comp=Z,2.3nm,0.6s,mb4.6						
AAK	**Ala-Archa**	**88.32**	**313**	*e*P	**P**	**22 54 52.8**	**+0.5**
AAK				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.5						
EKS2	**Erkin-Say**	**88.84**	**313**	*e*P	**P**	**22 54 54.7**	**0.0**
	comp=Z,5.2nm,0.9s,mb4.9						
NVAR	**Mina Array Bea**	**91.57**	**52**	P	**P**	**22 55 08.9**	**+1.3**
	comp=Z,0.2nm,0.6s,mb3.6,baz=237,slow=5.0,SNR=2.2						
BRVK	**Borovoye**	**92.91**	**323**	*e*P	**P**	**22 55 13.1**	**-0.3**
	comp=Z,3.3nm,0.7s,mb4.9						
BRVK	**Borovoye**	**92.91**	**323**	*e*P	**P**	**22 55 13.1**	**-0.3**
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.8						
YKA	**Yellowknife Ar**	**96.42**	**28**	P	**P**	**22 55 28.7**	**-0.6**
YKA	**Yellowknife Ar**	**96.42**	**28**	P	**P**	**22 55 28.7**	**-0.6**
	comp=Z,0.5nm,0.4s,mb4.3,baz=268,slow=4.4,SNR=6.1						
LKWY	**Lake**	**98.05**	**46**	P	**P**	**22 55 35.5**	**-1.5**
	comp=Z,36nm,1.4s,mb5.7						
ARU	**Arti**	**99.88**	**326**	Pdif	Pdif	22 55 44.1	-1.0
ARU	**Arti**	**99.88**	**326**	P	Pdif	22 55 44.1	-1.0
ECSD	**EROS,Sioux Fal**	**107.98**	**46**	*e*Pdif	Pdif	22 56 22.5	+1.4
FINES	**FINESS Array B**	**114.43**	**336**	PKiKP	PKiKP	23

comp=Z,4.0nm,0.9s,baz=48,slow=3.7,SNR=4.8
DBIC Dimbokro 160.43 269 PKPab PKPab 23 02 43.6 +1.2
comp=Z,3.5nm,0.9s,baz=280,slow=7.8,SNR=3.0

IDC 01 22:43:23.7±2.5,733S×15581E,h0km,mb4.5/8,mb1 4.6/8, mb1mx4.4/15,mbtmp4.5/8,Error ellipse: s-maj=79.4km s-min=22.0km az=109.0,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.30**	**237**	P	P	22 48 43.7	+0.7
	9.0nm,0.9s,baz=60,slow=9.5,SNR=2.4						
ASAR	**Alice Springs**	**26.57**	**230**	P	P	22 49 03.3	-0.3
	3.0nm,0.8s,baz=57,slow=9.6,SNR=2.1						
STKA	**Stephens Creek**	**27.79**	**207**	P	P	22 49 14.7	+0.2
	6.1nm,0.8s,baz=56,slow=15,SNR=2.6						
FITZ	**Fitzroy Crossi**	**31.26**	**247**	P	P	22 49 45.0	-0.5
	7.2nm,0.7s,baz=85,slow=11,SNR=3.0						
MJAR	**Matsushiro Arr**	**46.66**	**340**	P	P	22 51 53.8	-0.2
	3.1nm,0.7s,baz=159,slow=7.1,SNR=4.5						
SONM	**Songino Array**	**70.05**	**327**	P	P	22 54 38.5	+1.1
	2.7nm,0.6s,baz=145,slow=6.7,SNR=5.4						
MKAR	**Makanchi Array**	**84.18**	**319**	P	P	22 55 56.5	-0.4
	8.6nm,0.7s,baz=97,slow=12,SNR=6.8						
ZALV	**Zalesovo Beam**	**84.90**	**326**	P	P	22 55 59.8	-0.6
	5.4nm,0.7s,baz=108,slow=5.9,SNR=6.0						
GERES	**GERESS Array B**	**127.75**	**329**	PKP	PKPdf	23 02 31.2	-0.1
	0.6nm,0.6s,baz=41,slow=2.5,SNR=3.8						
DBIC	**Dimbokro**	**160.79**	**269**	PKPab	PKPab	23 04 09.1	0.0
	2.2nm,0.6s,baz=357,slow=15,SNR=3.8						

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*IDC **01** 22:45:33.6±0.5,707S×15538E,h0km,mb4.6/17, mb1 4.6/17,mb1mx4.6/19,mbtmp4.5/17,Error ellipse: s-maj=18.8km s-min=13.1km az=108.0*
*ISCJB **01** 22:45:34.5±0.3,709S±005×15543E±006,h15km, mb4.8/49,MS6.2/3,Error ellipse: s-maj=8.7km s-min=7.0km az=15.8*
*NEIC **01** 22:45:35.0±0.3,718S×15554E,h10km,mb5.0/21,Error ellipse: s-maj=10.2km s-min=8.7km az=110.0*
*BJI **01** 22:45:36.5,686S×15532E,h18km,mB5.5,mb5.0,Ms6.0, Msz5.8*
*MOS **01** 22:45:37.1±1.1,704S×15545E,h33km,mb5.2/12,Error ellipse: s-maj=16.1km s-min=10.7km az=92.3*
ISC 01 22:45:36.3±0.3,712S±005×15544E±006,h16km, h16km±1.5km:pP-P,n122,σ1°12/100,mb4.8/49,MS6.2/3, 2C-1D,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.02**	**118**	Pn	**Pn**	**22 46 45.4**	**-5.6**
	122nm,0.3s,baz=317,slow=0.8,SNR=4.7						
HNR				Sn	**Sn**	**22 47 38.1**	**-11**
	163nm,0.3s,baz=269,slow=18,SNR=3.9						
CTA	**Charters Tower**	**15.67**	**214**	*e*P	**Pn**	**22 49 13.6**	**-3.0**
	27nm,1.2s						
CTA	**Charters Tower**	**15.67**	**214**	*e*P	**Pn**	**22 49 13.6**	**-3.0**
CTA				pmax	pmax		
	comp=Z,27nm,1.2s						
CTA	**Charters Tower**	**15.67**	**214**	Pn	**Pn**	**22 49 13.6**	**-3.0**
	comp=Z,0.2nm,0.3s,baz=163,slow=12,SNR=2.2						
CTAO	**Charters Tower**	**15.67**	**214**	*e*Pn	**Pn**	**22 49 21.1**	**+4.6**
	comp=Z,25nm,0.9s						
CTAO	**Charters Tower**	**15.67**	**214**	*e*P	**Pn**	**22 49 21.2**	**+4.6**
CTAO				pmax	pmax		
	comp=Z,25nm,0.9s						
KAKA	**Kakadu**	**23.32**	**254**	*e*P	**P**	**22 50 43.6**	**-0.4**
	comp=Z,30nm,0.6s,mb4.9						
ARMA	**Armidale**	**23.45**	**188**	*e*P	**P**	**22 50 45.9**	**+0.6**
WB2	**Warramunga Arr**	**24.10**	**236**	*e*P	**P**	**22 50 50.7**	**-0.7**
WRA	**Warramunga Arr**	**24.11**	**236**	P	**P**	**22 50 50.6**	**-0.9**
	comp=Z,42nm,1.0s,mb4.8,baz=60,slow=9.9,SNR=15						
WRA				S	**S**	**22 55 13.2**	**+4.5**
	comp=Z,1.9nm,0.9s,baz=57,slow=12,SNR=4.7						
ASAR	**Alice Springs**	**26.42**	**229**	P	**P**	**22 51 12.1**	**-0.4**
	comp=Z,4.7nm,0.9s,mb4.0,baz=60,slow=8.9,SNR=5.6						
STKA	**Stephens Creek**	**27.81**	**206**	*e*P	**P**	**22 51 25.0**	**+0.1**
	comp=Z,20nm,0.9s,mb4.7						
STKA	**Stephens Creek**	**27.81**	**206**	P	**P**	**22 51 24.1**	**-0.8**
	comp=Z,12nm,0.8s,mb4.5,baz=33,slow=13,SNR=7.3						
CNB	**Canberra Magne**	**28.61**	**190**	*e*P	**P**	**22 51 40.8**	**+8.8**
	comp=Z,18nm,0.8s,mb4.8						
FITZ	**Fitzroy Crossi**	**31.01**	**247**	*e*P	**P**	**22 51 52.3**	**-1.1**
	comp=Z,27nm,0.8s,mb5.1						
FITZ	**Fitzroy Crossi**	**31.01**	**247**	P	**P**	**22 51 52.4**	**-1.1**
	comp=Z,14nm,0.8s,mb4.8,baz=86,slow=8.7,SNR=9.5						
URZ	**Urewera**	**36.69**	**151**	P	**P**	**22 52 43.4**	**+0.9**
	comp=Z,6.0nm,0.5s,mb4.7,baz=285,slow=5.5,SNR=3.5						
MBWA	**Marble Bar**	**37.22**	**244**	*e*P	**P**	**22 52 46.5**	**-0.8**
	comp=Z,14nm,0.8s,mb4.9						
RPZ	**Rata Peaks**	**38.94**	**162**	P	**P**	**22 53 01.6**	**+0.1**
	comp=Z,9.5nm,0.7s,mb4.7,baz=316,slow=4.2,SNR=5.2						
NWAO	**Narrogin (SRO)**	**43.74**	**229**	P	**P**	**22 53 42.2**	**+1.1**
NACB	**Ninganchiao**	**45.36**	**314**	*e*P	**P**	**22 53 55.6**	**+1.5**
YHNB	**Yeheng**	**45.82**	**315**	*e*P	**P**	**22 53 59.4**	**+1.7**
KSM	**Kuching**	**45.83**	**279**	*e*P	**P**	**22 53 59.4**	**+1.3**
MJAR	**Matsushiro Arr**	**46.34**	**341**	P	**P**	**22 54 01.4**	**-0.2**
	comp=Z,3.6nm,0.7s,mb4.4,baz=166,slow=8.6,SNR=6.6						
MAJO	**Matsushiro**	**46.34**	**341**	*e*P	**P**	**22 54 04.8**	**+3.2**
	comp=Z,4.7nm,0.4s,mb4.8						
MAJO	**Matsushiro**	**46.34**	**341**	*e*P	**P**	**22 54 04.8**	**+3.2**
MAJO				pmax	pmax		
	comp=Z,5.0nm,0.4s,mb4.8						
KSRS	**Korea Array**	**51.25**	**332**	P	**P**	**22 54 38.8**	**-0.6**
	comp=Z,6.4nm,1.1s,mb4.5,baz=148,slow=8.2,SNR=6.0						
QIZ	**Qiongzhong**	**51.90**	**301**	P	**P**	**22 54 50.4**	**+5.8**
ASAJ	**Asahikawa**	**52.30**	**348**	P	**P**	**22 54 48.2**	**+1.1**
	comp=Z,6.7nm,0.7s,mb4.7,baz=135,slow=16,SNR=4.6						
YSS	**Yuzh-Sakhalins**	**55.00**	**349**	P	**P**	**22 55 08.8**	**+2.0**
PMOR	**Pomariorio Ree**	**56.04**	**103**	*e*P	**P**	**22 55 15.6**	**+0.7**
	comp=Z,64nm,1.1s,mb5.6						
KULM	**Kulim**	**56.05**	**281**	*e*P	**P**	**22 55 13.9**	**-1.1**
VAH	**Vaihoa**	**56.30**	**104**	*e*P	**P**	**22 55 17.3**	**+0.5**
	comp=Z,52nm,1.2s,mb5.4						
MDJ	**Mudanjiang**	**56.52**	**338**	P	**P**	**22 55 17.9**	**+0.2**
MDJ				AMB	AMB		
	comp=Z,10.0nm,1.6s,mb4.6						
MDJ				AMB	AMB		
	comp=Z,17μm,16.4s						
CN2	**Changchun**	**57.49**	**335**	*e*P	**P**	**22 55 23.4**	**-1.3**
ENH	**Enshi**	**57.64**	**313**	*e*P	**P**	**22 55 27.2**	**+1.2**
GYA	**Guiyang**	**57.88**	**307**	⇑*i*P	**P**	**22 55 32.0**	**+4.3**
GYA				AP	pP	22 55 36.4	+3.4
GYA				XP	sP	22 55 39.6	+4.6
GYA				PCP	PcP	22 56 22.0	+1.9
GYA				SCP	ScP	23 00 21.4	+1.6
GYA				AMB	AMB		
	comp=Z,60nm,1.0s,mb5.6						
GYA				LR	LR		
	comp=N,5μm,20.8s,MS5.8						
GYA				LR	LR		
	comp=E,6μm,21.0s,MS5.8						
GYA				LR	LR		
	comp=Z,5μm,19.2s,MS5.6						
BJT	**Baijiatuau**	**59.26**	**326**	*e*P	**P**	**22 55 37.7**	**+0.6**
XAN	**Xi'an**	**60.10**	**316**	P	**P**	**22 55 42.3**	**-0.7**
XAN				AP	pP	22 55 46.2	-2.1
XAN				AMB	AMB		
	comp=Z,8.0nm,1.5s,mb4.5						
KMI	**Kunming**	**60.45**	**304**	P	**P**	**22 55 45.9**	**+0.3**
KMI				AMB	AMB		
	comp=Z,22nm,1.5s,mb5.0						
CHTO	**Chiang Mai**	**61.35**	**296**	*e*P	**P**	**22 55 52.6**	**+0.8**
CD2	**Chengdu**	**62.23**	**310**	P	**P**	**22 55 57.8**	**+0.3**
CD2				XP	sP	22 56 05.9	+1.1
CD2				PP	PP	22 58 18.0	+3.3
CD2				AMB	AMB		
	comp=Z,20nm,1.2s,mb5.1						
HHC	**Hu-ho-hao-te**	**62.45**	**324**	*e*P	**P**	**22 56 01.9**	**+3.1**
HHC				AP	pP	22 56 06.2	+2.1
HHC				XP	sP	22 56 09.5	+3.4
HHC				PP	PP	22 58 21.3	+4.8
HHC				SCP	ScP	23 00 40.1	+0.3
HHC				PCS	PcS	23 00 42.1	+0.8
HHC				XS	sS	23 04 40.2	+6.1
HHC				SCS	ScS	23 05 50.3	-0.3
HHC				AMB	AMB		
	comp=Z,17nm,0.3s,mb5.7						
HHC				LR	LR		
	comp=N,6μm,25.5s						
HHC				LR	LR		
	comp=E,6μm,17.8s						
HHC				LR	LR		
	comp=Z,6μm,15.9s						
HIA	**Hailar**	**64.22**	**335**	P	**P**	**22 56 10.2**	**-0.1**
	comp=Z,7.4nm,1.0s,mb4.7						
HIA	**Hailar**	**64.22**	**335**	P	**P**	**22 56 10.3**	**-0.1**
HIA				pmax	pmax		
	comp=Z,7.0nm,1.0s						
LZH	**Lanzhou**	**64.71**	**315**	*e*P	**P**	**22 56 14.5**	**+0.6**
LZH				AP	pP	22 56 21.0	+1.8
LZH				XP	sP	22 56 25.5	+4.4
LZH				AMB	AMB		
	comp=Z,60nm,1.6s,mb5.4						
LZH				AMB	AMB		
	comp=Z,243nm,4.1s						
GTA	**Gaotai**	**69.13**	**317**	*e*P	**P**	**22 56 42.7**	**+0.8**
GTA				AP	pP	22 56 46.4	-0.9
GTA				PP	PP	22 59 19.2	+4.3
GTA				AMB	AMB		
	comp=Z,7.0nm,1.5s,mb4.4						
GTA				LR	LR		
	comp=N,12μm,19.0s,MS6.3						
GTA				LR	LR		
	comp=E,12μm,18.2s,MS6.3						
GTA				LR	LR		
	comp=Z,13μm,19.0s,MS6.2						
SONM	**Songino Array**	**69.68**	**327**	P	**P**	**22 56 45.0**	**-0.2**
	comp=Z,7.7nm,1.0s,mb4.6,baz=125,slow=5.5,SNR=11						
VNDA	**Vanda**	**70.45**	**179**	P	**P**	**22 56 50.8**	**+1.4**
	comp=Z,1.8nm,0.9s,mb4.0,baz=352,slow=8.5,SNR=2.5						
SBA	**Scott Base**	**70.95**	**177**	P	**P**	**22 56 53.0**	**+0.5**
	comp=Z,57nm,1.8s,mb5.2						
SBA	**Scott Base**	**70.95**	**177**	P	**P**	**22 56 53.0**	**+0.5**
SBA				pmax	pmax		
	comp=Z,57nm,1.8s,mb5.2						
LSA	**Lhasa**	**71.70**	**304**	*e*P	**P**	**22 56 59.0**	**+1.1**
	comp=Z,14nm,0.9s,mb4.9						
LSA	**Lhasa**	**71.70**	**304**	*e*P	**P**	**22 56 59.0**	**+1.1**
LSA				pmax	pmax		
	comp=Z,14nm,0.9s,mb4.9						
ZAK	**Zakamensk**	**72.83**	**328**	*e*P	**P**	**22 57 01.9**	**-2.3**
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.3s,mb3.6						
BOD	**Bodaibo**	**72.89**	**338**	*e*P	**P**	**22 57 03.3**	**-1.1**
BOD				*e*		22 57 19.0	
BOD				pmax	pmax		
	comp=Z,6.0nm,1.4s,mb4.3						
CHGN	**Chignik**	**73.68**	**25**	*e*pP	pP	22 57 17.8	+3.4
MOY	**Mondy**	**74.75**	**328**	*e*P	**P**	**22 57 15.6**	**+0.2**
MOY				pmax	pmax		
	comp=Z,27nm,1.3s,mb5.0						
GAMB	**Gambell**	**74.93**	**14**	*e*P	**P**	**22 57 17.1**	**+1.0**
JIRN	**Jiri**	**75.22**	**301**	*e*P	**P**	**22 57 18.5**	**-0.2**
	comp=Z,34nm,0.8s,mb5.3						
BILL	**Bilibino**	**75.37**	**4**	*e*P	**P**	**22 57 18.8**	**+0.2**
	comp=Z,32nm,1.3s,mb5.1						
BILL				*e*PcP	PcP	22 57 35.1	+3.3
BILL	**Bilibino**	**75.37**	**4**	⇓*i*P	**P**	**22 57 19.3**	**+0.7**
BILL				*e*		22 57 28.2	
BILL				pmax	pmax		
	comp=Z,32nm,1.2s,mb5.1						
PALK	**Pallekele**	**75.89**	**279**	P	**P**	**22 57 26.0**	**+3.2**
PALK				*e*PcP	PcP	22 57 38.5	+3.2
KKN	**Kakani**	**76.03**	**301**	*e*P	**P**	**22 57 22.6**	**-0.7**
	comp=Z,35nm,0.9s,mb5.3						
GKN	**Gorkha**	**76.64**	**301**	*e*P	**P**	**22 57 26.1**	**-0.7**
	comp=Z,134nm,1.3s,mb5.7						
KDAK	**Kodiak Island**	**77.08**	**26**	P	**P**	**22 57 29.6**	**+1.0**
	comp=Z,4.5nm,1.0s,mb4.4,baz=252,slow=3.2,SNR=3.1						
KOLN	**Koldanda**	**77.46**	**300**	*e*P	**P**	**22 57 30.8**	**-0.6**
SVW2	**Sparrevohn**	**77.95**	**22**	*e*P	**P**	**22 57 31.6**	**-1.7**
TTA	**Tatalina**	**78.98**	**20**	*e*P	**P**	**22 57 36.6**	**-2.4**
WMQ	**Urumqi**	**79.21**	**317**	*e*P	**P**	**22 57 39.9**	**-0.8**
WMQ				AMB	AMB		
	comp=Z,13nm,1.0s,mb4.8						
SLKM	**Skilak Lake**	**79.67**	**24**	*e*P	**P**	**22 57 42.4**	**-0.5**
TIXI	**Tiksi**	**80.54**	**352**	*e*P	**P**	**22 57 46.7**	**-0.7**
	comp=Z,25nm,1.5s,mb4.9						
TIXI	**Tiksi**	**80.54**	**352**	*e*P	**P**	**22 57 46.0**	**-1.3**
TIXI				pmax	pmax		
	comp=Z,22nm,1.8s,mb4.8						
PMR	**Palmer**	**80.72**	**24**	*e*P	**P**	**22 57 45.6**	**-2.9**
	comp=Z,23nm,1.4s,mb4.9						
PMR				LR	LR		
	comp=Z,34μm,17.0s,MS6.8						
SML	**Sawmill**	**81.16**	**24**	*e*P	**P**	**22 57 51.3**	**+0.4**
SML				*e*pP	pP	22 57 57.4	+1.1
IMA2	**Indian Mountai**	**81.78**	**19**	*e*P	**P**	**22 57 52.9**	**-1.1**
MCK	**McKinley**	**82.01**	**22**	*e*P	**P**	**22 57 54.2**	**-1.0**
	comp=Z,40nm,1.0s,mb5.3						
MCK	**McKinley**	**82.01**	**22**	*e*P	**P**	**22 57 54.3**	**-0.9**
MCK				pmax	pmax		
	comp=Z,40nm,1.0s,mb5.3						
COLA	**College**	**83.04**	**21**	*e*P	**P**	**22 57 59.2**	**-1.4**
	comp=Z,16nm,0.9s,mb5.0						
COLA	**College**	**83.04**	**21**	*e*P	**P**	**22 57 59.2**	**-1.4**
COLA				pmax	pmax		
	comp=Z,16nm,0.9s,mb5.0						
MKAR	**Makanchi Array**	**83.79**	**319**	P	**P**	**22 58 04.0**	**-0.8**
	comp=Z,2.0nm,0.7s,mb4.4,baz=101,slow=8.6,SNR=6.1						
MAW	**Mawson**	**84.45**	**203**	P	**P**	**22 58 07.1**	**-0.8**
	comp=Z,3.1nm,0.7s,mb4.5,baz=56,slow=11,SNR=3.8						
ZALV	**Zalesovo Beam**	**84.53**	**326**	P	**P**	**22 58 07.1**	**-1.3**
	comp=Z,2.4nm,0.6s,mb4.5,baz=117,slow=5.4,SNR=8.6						
ZAL	**Zalesovo**	**84.53**	**326**	P	**P**	**22 58 07.1**	**-1.4**
EGAK	**Eagle**	**85.46**	**23**	*e*P	**P**	**22 58 13.1**	**+0.2**
SKAG	**Skagway**	**85.76**	**29**	*e*P	**P**	**22 58 12.2**	**-2.3**
	comp=Z,5.7nm,0.8s,mb4.8						
DAWY	**Dawson**	**85.83**	**24**	*e*P	**P**	**22 58 15.6**	**+0.8**
KURK	**Kurchatov**	**87.20**	**322**	*e*P	**P**	**22 58 21.7**	**-0.1**
	comp=Z,3.8nm,0.8s,mb4.7						
KURK	**Kurchatov**	**87.20**	**322**	*e*P	**P**	**22 58 21.7**	**-0.1**
KURK				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.7						
TKM2	**Tokmak 2**	**87.42**	**314**	P	**P**	**22 58 24.0**	**+1.0**
DLBC	**Dease Lake**	**88.02**	**30**	*e*P	**P**	**22 58 26.1**	**+0.5**
AAK	**Ala-Archa**	**88.15**	**313**	*e*P	**P**	**22 58 29.5**	**+3.0**
EKS2	**Erkin-Say**	**88.68**	**313**	*e*P	**P**	**22 58 31.8**	**+2.7**
	comp=Z,2.8nm,0.6s,mb4.8						
INK	**Inuvik**	**89.68**	**21**	*e*P	**P**	**22 58 32.7**	**-0.4**
NVAR	**Mina Array Bea**	**91.45**	**52**	P	**P**	**22 58 43.3**	**+1.2**
	comp=Z,0.5nm,0.6s,mb4.0,baz=240,slow=3.5,SNR=5.4						
SYO	**Syowa Base**	**92.35**	**199**	⇑*e*X		22 58 46.0	
BRVK	**Borovoye**	**92.72**	**323**	P	**P**	**22 58 47.9**	**+0.3**
ELK	**Elko**	**94.08**	**50**	P	**P**	**22 58 58.6**	**+4.4**
YKA	**Yellowknife Ar**	**96.24**	**28**	P	**P**	**22 59 02.9**	**-0.6**
YKA	**Yellowknife Ar**	**96.24**	**28**	P	**P**	**22 59 02.9**	**-0.6**
	comp=Z,1.2nm,0.5s,mb4.5,baz=266,slow=4.5,SNR=15						
BW06	**Boulder Array**	**98.45**	**48**	P	**P**	**22 59 18.5**	**+4.5**
ISCO	**Idaho Springs**	**101.39**	**51**	P	Pdif	22 59 31.4	+4.6
ARCES	**ARCESS Array B**	**109.83**	**343**	PKiKP	PKiKP	23 04 06.0	-0.3
	comp=Z,6.5nm,1.0s,baz=35,slow=4.4,SNR=3.8						
FINES	**FINESS Array B**	**114.23**	**336**	PKiKP	PKiKP	23 04 13.7	-1.0
	comp=Z,1.3nm,0.9s,baz=5.7,slow=1.9,SNR=3.4						
AKASG	**Malin Array Be**	**117.89**	**325**	PKP	PKPdf	23 04 20.7	-1.5
AKASG	**Malin Array Be**	**117.89**	**325**	PKP	PKPdf	23 04 20.7	-1.5
	comp=Z,0.4nm,0.3s,baz=94,slow=3.0,SNR=3.0						
NB2	**NORSAR Subarra**	**119.96**	**341**	PKPdf	PKPdf	23 04 23.9	-1.9
	comp=Z,4.2nm,1.4s,baz=39,slow=1.9						
NOA	**NORSAR Array B**	**119.96**	**341**	PKP	PKPdf	23 04 25.3	-0.5
	comp=Z,0.9nm,0.8s,baz=62,slow=20,SNR=3.0						
CFAA	**Coronel Fontan**	**123.25**	**135**	PKP	PKPdf	23 04 32.0	-1.0
	comp=Z,0.2nm,0.4s,baz=230,slow=3.0,SNR=5.6						
OKC	**Ostrava-Krasne**	**124.47**	**328**	*e*PKP	PKPdf	23 04 31.9	-2.9
UPC	**Upice**	**125.17**	**329**	*e*PKP	pPKPdf	23 04 48.0	+6.2
PVCC	**Panska Ves**	**125.88**	**330**	*e*PKP	PKPdf	23 04 45.2	+7.7
BRG	**Berggiesshubel**	**125.97**	**331**	*e*PKIKP	PKPdf	23 04 33.3	-4.4
BRG				pmax	pmax		
	comp=Z,7.0nm,1.5s						
BRG	**Berggiesshubel**	**125.97**	**331**	*e*PKP	PKPdf	23 04 33.3	-4.3
	comp=Z,8.3nm,1.5s						
TREC	**Trest**	**126.19**	**329**	*e*PKP	PKPdf	23 04 45.4	+7.3
KHC	**Kasperske Hory**	**127.27**	**329**	*e*PKP	PKPdf	23 04 43.6	+3.4
GERES	**GERESS Array B**	**127.38**	**329**	PKP	PKPdf	23 04 40.2	-0.2
	comp=Z,0.6nm,0.6s,baz=64,slow=2.3,SNR=3.6						
LPAZ	**La Paz**	**131.01**	**119**	PKP	PKPdf	23 04 49.1	+0.9
	comp=Z,1.8nm,0.6s,baz=42,slow=4.6,SNR=6.2						
SDV	**Santo Domingo**	**134.37**	**85**	PKP	PKPdf	23 04 56.1	+1.4
	comp=Z,5.8nm,0.8s,baz=290,slow=7.3,SNR=4.0						
SIV	**San Ignacio**	**137.18**	**123**	PKP	PKPdf	23 04 57.8	-2.1
	comp=Z,2.6nm,0.9s,baz=251,slow=2.9,SNR=6.4						
ESDC	**Sonseca Array**	**142.68**	**333**	PKP	PKPdf	23 05 12.1	+2.9
	comp=Z,0.5nm,0.6s,baz=19,slow=2.8,SNR=3.6						
TORD	**Torodi Ar. Bea**	**153.48**	**285**	PKPbc	PKPbc	23 05 34.9	-0.3
	comp=Z,1.8nm,0.7s,baz=160,slow=1.1,SNR=4.1						
TORD				PKPab	PKPab	23 05 44.6	-2.8
	comp=Z,4.5nm,0.8s,baz=66,slow=1.5,SNR=8.0						
DBIC	**Dimbokro**	**160.43**	**270**	PKPab	PKPab	23 06 17.3	-0.1
	comp=Z,5.5nm,1.1s,baz=180,slow=4.0,SNR=2.8						

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*IDC **01** 22:50:13.6±0.7,726S×15606E,h0km,mb4.8/15, mb1 4.8/15,mb1mx4.7/18,mbtmp4.8/15,Error ellipse: s-maj=26.7km s-min=14.6km az=94.0*
*NEIC **01** 22:50:15.4±0.3,725S×15601E,h10km,mb5.0/19,Error ellipse: s-maj=9.3km s-min=5.8km az=106.0*
*BJI **01** 22:50:17.3,691S×15563E,h12km,mb4.9*
*MOS **01** 22:50:18.2±1.0,720S×15576E,h33km,mb5.0/14,Error ellipse: s-maj=14.1km s-min=10.5km az=110.6*
*ISCJB **01** 22:50:20.4±1.9,729S±006×15588E±007,h57km±18km, mb4.8/40,Error ellipse: s-maj=11.5km s-min=9.5km az=31.4*
ISC 01 22:50:22.8±1.7,731S±006×15590E±007,h64km±17km, n98,σ0°83/78,mb4.8/40,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.53**	**118**	Pn	**Pn**	**22 51 29.7**	**+0.8**
HNR				*e*Sn	**Sn**	**22 52 15.9**	**-4.3**
HNR	**Honiara**	**4.53**	**118**	Pn	**Pn**	**22 51 29.7**	**+0.8**
	50nm,0.3s,baz=260,slow=11,SNR=3.3						
HNR				Sn	**Sn**	**22 52 19.6**	**-0.6**
	186nm,0.3s,baz=273,slow=15,SNR=3.0						
CTA	**Charters Tower**	**15.78**	**215**	Pn	**Pn**	**22 54 05.6**	**+4.5**
CTA	**Charters Tower**	**15.78**	**215**	Pn	**Pn**	**22 54 05.6**	**+4.5**
	0.8nm,0.3s,baz=40,slow=12,SNR=6.5						
CTAO	**Charters Tower**	**15.78**	**215**	*e*Pn	**Pn**	**22 54 05.3**	**+4.2**
	4.1nm,0.5s						
KAKA	**Kakadu**	**23.71**	**255**	*e*P	**P**	**22 55 29.1**	**0.0**
	52nm,0.9s,mb5.0						
WB2	**Warramunga Arr**	**24.38**	**237**	*e*P	**P**	**22 55 35.6**	**+0.4**
WRA	**Warramunga Arr**	**24.39**	**237**	P	**P**	**22 55 35.7**	**+0.4**
	39nm,0.9s,mb4.9,baz=64,slow=9.4,SNR=22						
ASAR	**Alice Springs**	**26.65**	**230**	P	**P**	**22 55 55.3**	**-0.4**
	6.2nm,0.9s,mb4.2,baz=62,slow=8.6,SNR=8.4						
STKA	**Stephens Creek**	**27.85**	**207**	*e*P	**P**	**22 56 06.5**	**+0.2**
	5.8nm,0.6s,mb4.4						
STKA	**Stephens Creek**	**27.85**	**207**	P	**P**	**22 56 06.1**	**-0.2**
	8.9nm,0.8s,mb4.4,baz=27,slow=12,SNR=7.9						
FITZ	**Fitzroy Crossi**	**31.36**	**247**	*e*P	**P**	**22 56 37.5**	**-0.1**
	24nm,0.7s,mb5.1						
FITZ	**Fitzroy Crossi**	**31.36**	**247**	P	**P**	**22 56 37.4**	**-0.2**
	14nm,0.7s,mb4.9,baz=91,slow=9.0,SNR=9.9						
FORT	**Forrest**	**34.99**	**225**	*e*P	**P**	**22 57 08.7**	**-0.4**
	26nm,0.7s,mb5.3						
TAU	**Tasmania Unive**	**36.26**	**191**	*e*P	**P**	**22 57 19.6**	**-0.2**
	16nm,0.7s,mb5.0						
MBWA	**Marble Bar**	**37.55**	**245**	*e*P	**P**	**22 57 30.9**	**-0.2**
	7.3nm,0.5s,mb4.7						
RPZ	**Rata Peaks**	**38.62**	**162**	P	**P**	**22 57 38.3**	**-1.5**
	13nm,0.8s,mb4.7,baz=138,slow=5.3,SNR=5.1						
KKM	**Kota Kinabalu**	**41.76**	**288**	*e*P	**P**	**22 58 05.7**	**-0.4**
KLBR	**Kellerberrin**	**42.98**	**231**	*e*P	**P**	**22 58 15.3**	**-0.6**
	30nm,0.6s,mb5.2						
NWAO	**Narrogin (SRO)**	**43.97**	**229**	*e*P	**P**	**22 58 23.8**	**0.0**
	8.7nm,0.6s,mb4.7						
NWAO	**Narrogin (SRO)**	**43.97**	**229**	P	**P**	**22 58 23.5**	**-0.3**
	5.3nm,0.7s,mb4.4,baz=67,slow=5.4,SNR=6.0						
MUN	**Mundaring**	**44.33**	**231**	*e*P	**P**	**22 58 27.2**	**+0.5**
MUN	**Mundaring**	**44.33**	**231**	*e*P	**P**	**22 58 27.2**	**+0.5**
NACB	**Ninganchiao**	**45.82**	**314**	P	**P**	**22 58 38.7**	**+0.1**
YHNB	**Yeheng**	**46.28**	**314**	*e*P	**P**	**22 58 43.6**	**+1.4**
KSM	**Kuching**	**46.31**	**279**	*e*P	**P**	**22 58 42.5**	**-0.2**
MJAR	**Matsushiro Arr**	**46.67**	**340**	P	**P**	**22 58 44.6**	**-0.4**
	3.5nm,0.6s,mb4.5,baz=168,slow=8.2,SNR=7.9						
MAJO	**Matsushiro**	**46.67**	**340**

YKA Yellowknife Ar 96.19 28 P **P 23 03 43.0 -0.5**
comp=Z,0.4nm,0.8s,mb3.9,baz=266,slow=4.6,SNR=5.4
AHID Auburn Hatcher 97.11 48 P **P 23 03 47.4 -0.8**
BW06 Boulder Array 98.24 48 *eP* **P 23 03 53.2 0.0**
ARU Arti 100.11 326 *e*Pdif Pdif 23 03 59.7 -1.6
ARU Arti 100.11 326 *eP* Pdif 23 03 59.7 -1.6
ARU Arti 100.11 326 *eP* Pdif 23 03 59.7 -1.6
KIV Kislovodsk 111.70 314 PKiKP PKiKP 23 08 50.2 -0.2
KIV Kislovodsk 111.70 314 PKIKP PKiKP 23 08 50.3 -0.1
KIV Kislovodsk 111.70 314 *eP* Pdif 23 04 53.8 +1.0
KIV pmax pmax
comp=Z,5.0nm,1.1s
FINES FINESS Array B 114.59 336 PKPdf PKiKP 23 08 56.4 +1.0
FINES FINESS Array B 114.59 336 PKiKP PKiKP 23 08 56.4 +1.1
comp=Z,1.2nm,0.8s,baz=163,slow=2.0,SNR=3.9
AKASG Malin Array Be 118.31 325 PKP PKPdf 23 09 02.2 -0.7
AKASG Malin Array Be 118.31 325 PKP PKPdf 23 09 02.2 -0.7
comp=Z,0.2nm,0.3s,baz=69,slow=2.0,SNR=4.1
HFS Hagfors 120.11 339 PKP PKPdf 23 09 05.9 -0.1
HFS Hagfors 120.11 339 PKP PKPdf 23 09 05.9 -0.1
comp=Z,1.6nm,0.8s,baz=64,slow=6.8,SNR=4.5
NOA NORSAR Array B 120.29 341 PKP PKPdf 23 09 06.0 -0.4
NOA NORSAR Array B 120.29 341 PKP PKPdf 23 09 06.0 -0.4
comp=Z,0.6nm,0.8s,baz=44,slow=1.9,SNR=3.2
GERES GERESS Array B 127.78 329 PKP PKPdf 23 09 19.9 -1.2
GERES GERESS Array B 127.78 329 PKP PKPdf 23 09 19.9 -1.2
comp=Z,1.1nm,0.8s,baz=48,slow=2.0,SNR=7.8
SDV Santo Domingo 133.93 85 PKP PKPdf 23 09 33.7 -0.1
SDV Santo Domingo 133.93 85 PKP PKPdf 23 09 33.7 -0.1
comp=Z,1.8nm,0.6s,baz=269,slow=6.0,SNR=4.2
ESDC Sonseca Array 143.05 334 PKP PKPdf 23 09 47.2 -2.5
ESDC Sonseca Array 143.05 334 PKP PKPdf 23 09 47.2 -2.5
comp=Z,0.7nm,0.8s,baz=135,slow=0.2,SNR=3.1
TORD Torodi Ar. Bea 153.97 285 PKPbc PKPbc 23 10 15.9 -0.2
comp=Z,1.5nm,0.7s,baz=59,slow=1.6,SNR=3.6
DBIC Dimbokro 160.89 269 PKPab PKPab 23 11 00.3 +0.8
comp=Z,5.2nm,0.8s,baz=98,slow=4.0,SNR=6.3

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*IDC **01** 22:50:23.8±0.6, 744S×15583E, h0km, mb4.7/13, mb1 4.8/14, mb1mx4.7/17, mbtmp4.7/14, ML5.3/1, Error ellipse: s-maj=26.5km s-min=15.9km az=83.0*
*NEIC **01** 22:50:25.4±0.2, 742S×15582E, h10km, mb4.9/9, Error ellipse: s-maj=8.3km s-min=6.1km az=61.0*
*ISCJB **01** 22:50:26.0±4.5, 743S±007×15584E±008, h27km±32km, mb4.7/24, Error ellipse: s-maj=13.8km s-min=11.7km az=158.7*
*MOS **01** 22:50:27.9±1.4, 745S×15573E, h33km, mb5.0/16, Error ellipse: s-maj=15.6km s-min=10.2km az=83.7*

ISC 01 22:50:29.1±2.0, 743S±007×15585E±009, h37km±19km, n91, σ0972/51, mb4.7/24, 3C, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**		**4.51 116**	Pn	**Pn**	**22 51 34.9**	**-0.1**
HNR	**Honiara**		**4.51 116**	Pn	**Pn**	**22 51 34.9**	**-0.1**
159nm,0.3s,baz=290,slow=2.4,SNR=6.9							
WRA	**Warrramunga Arr**	**24.28 237**		P	**P**	**22 55 43.0**	**-0.1**
WRA	**Warrramunga Arr**	**24.28 237**		P	**P**	**22 55 43.0**	**-0.1**
13nm,0.8s,mb4.4,baz=62,slow=9.5,SNR=6.0							
ASAR	**Alice Springs**	**26.53 230**		P	**P**	**22 56 03.5**	**-0.1**
ASAR	**Alice Springs**	**26.53 230**		P	**P**	**22 56 03.5**	**-0.1**
ASAR	**Alice Springs**	**26.53 230**		P	**P**	**22 56 03.5**	**-0.1**
4.5nm,0.9s,mb4.0,baz=60,slow=9.4,SNR=4.8							
STKA	**Stephens Creek**	**27.71 207**		P	**P**	**22 56 14.6**	**+0.5**
STKA	**Stephens Creek**	**27.71 207**		P	**P**	**22 56 14.6**	**+0.5**
2.7nm,0.6s,mb4.1,baz=0.8,slow=12,SNR=5.1							
RAO	**Raoul Island**	**32.87 135**		P	**P**	**22 56 59.7**	**0.0**
MBWA	**Marble Bar**	**37.45 245**		*eP*	**P**	**22 57 39.6**	**+0.3**
8.4nm,0.7s,mb4.7							
RPZ	**Rata Peaks**	**38.52 162**		P	**P**	**22 57 47.6**	**-0.3**
RPZ	**Rata Peaks**	**38.52 162**		P	**P**	**22 57 47.6**	**-0.3**
11nm,0.7s,mb4.7,baz=39,slow=0.9,SNR=4.3							
KKM	**Kota Kinabalu**	**41.75 288**		*eP*	**P**	**22 58 15.2**	**+0.1**
NACB	**Ninganchiao**	**45.87 314**		P	**P**	**22 58 46.7**	**-1.4**
KSM	**Kuching**	**46.29 279**		*eP*	**P**	**22 58 51.0**	**-0.7**
YHNB	**Yeheng**	**46.34 315**		P	**P**	**22 58 52.0**	**+0.2**
MJAR	**Matsushiro Arr**	**46.77 340**		P	**P**	**22 58 54.5**	**-0.5**
1.6nm,0.4s,mb4.3,baz=166,slow=7.4,SNR=4.8							
MAJO	**Matsushiro**	**46.77 340**		P	**P**	**22 58 55.1**	**+0.1**
JNU	**Nakatsue**	**46.80 331**		P	**P**	**22 58 56.2**	**+0.9**
8.6nm,0.8s,mb4.7,baz=134,slow=21,SNR=3.7							
KSRS	**Korea Array**	**51.72 332**		P	**P**	**22 59 33.5**	**+0.7**
3.0nm,0.9s,mb4.2,baz=152,slow=7.3,SNR=3.7							
QIZ	**Qiongzhong**	**52.41 301**		*eP*	**P**	**22 59 38.3**	**0.0**
12nm,0.8s,mb4.9							
YSS	**Yuzh-Sakhalins**	**55.39 349**		*eP*	**P**	**22 59 60.0**	**+0.5**
10.0nm,0.4s,mb5.2							
YSS	**Yuzh-Sakhalins**	**55.39 349**		*eP*	**P**	**23 00 03.1**	**+3.6**
HIA	**Hailar**	**64.68 335**		*eP*	**P**	**23 01 03.0**	**-0.2**
3.0nm,0.4s,mb4.7							
VNDA	**Vanda**	**70.12 179**		P	**P**	**23 01 38.1**	**+0.9**
VNDA	**Vanda**	**70.12 179**		P	**P**	**23 01 38.1**	**+0.9**
2.7nm,1.0s,mb4.1,baz=301,slow=5.2,SNR=4.7							
SONM	**Songino Array**	**70.16 327**		P	**P**	**23 01 38.9**	**+0.9**
17nm,0.8s,mb5.0,baz=140,slow=6.7,SNR=16							
SBA	**Scott Base**	**70.62 178**		P	**P**	**23 01 40.8**	**+0.5**
YAK	**Yakutsk**	**72.17 347**		P	**P**	**23 01 49.8**	**0.0**
ZAK	**Zakamensk**	**73.31 328**		*e*	**P**	**23 01 57.7**	**+0.9**
BILL	**Bilibino**	**75.65 4⇑**		*eP*	**P**	**23 02 10.5**	**+0.5**
BILL				pmax	pmax		
comp=Z,21nm,1.4s,mb4.9							
TIXI	**Tiksi**	**80.91 352**		*eP*	**P**	**23 02 37.4**	**-1.7**
TIXI				pmax	pmax		
comp=Z,6.0nm,1.5s,mb4.3							
MKAR	**Makanchi Array**	**84.29 319**		P	**P**	**23 02 57.4**	**+0.2**
comp=Z,47nm,0.9s,mb5.6,baz=92,slow=7.3,SNR=26							
MAW	**Mawson**	**84.32 203**		P	**P**	**23 02 55.6**	**-1.4**
MAW	**Mawson**	**84.32 203**		P	**P**	**23 02 55.6**	**-1.4**
comp=Z,6.4nm,0.8s,mb4.8,baz=79,slow=8.8,SNR=5.8							
ZAA0	**Zalesovo Array**	**85.02 326**		*eP*	**P**	**23 03 00.4**	**-0.2**
ZALV	**Zalesovo Beam**	**85.02 326**		P	**P**	**23 02 59.8**	**-0.9**
comp=Z,17nm,0.5s,mb5.4,baz=119,slow=5.6,SNR=19							
ZAL	**Zalesovo**	**85.03 326**		P	**P**	**23 02 59.8**	**-0.9**
KURK	**Kurchatov**	**87.70 322**		*eP*	**P**	**23 03 13.9**	**-0.1**
comp=Z,8.5nm,0.5s,mb5.2							
TKM2	**Tokmak 2**	**87.93 314**		*eP*	**P**	**23 03 14.6**	**-0.6**
comp=Z,5.0nm,0.6s,mb4.9							
UCH	**Uchtor**	**88.58 313**		*eP*	**P**	**23 03 20.2**	**+1.9**
comp=Z,4.8nm,0.9s,mb4.8							
AAK	**Ala-Archa**	**88.67 313**		*eP*	**P**	**23 03 19.0**	**+0.2**
comp=Z,6.4nm,0.7s,mb5.1							
EKS2	**Erkin-Say**	**89.19 313**		*eP*	**P**	**23 03 21.7**	**+0.5**
comp=Z,4.5nm,0.7s,mb4.9							
BRVK	**Borovoye**	**93.22 323**		*e*	**P**	**23 03 38.9**	**-0.8**
BRVK	**Borovoye**	**93.22 323**		*e*	**P**	**23 03 38.9**	**-0.8**
BRVK	**Borovoye**	**93.22 323**		*e*	**P**	**23 03 38.9**	**-0.7**
ELK	**Elko**	**93.97 50**		P	**P**	**23 03 42.5**	**-0.9**
YKA	**Yellowknife Ar**	**96.32 28**		P	**P**	**23 03 54.5**	**+0.9**
YKA	**Yellowknife Ar**	**96.32 28**		P	**P**	**23 03 54.5**	**+0.9**
comp=Z,0.6nm,0.9s,mb4.0,baz=262,slow=4.5,SNR=4.3							
BW06	**Boulder Array**	**98.36 48**		P	**P**	**23 04 03.4**	**+0.1**
FINES	**FINESS Array B**	**114.68 336**		PKPdf	PKiKP	23 09 05.5	+0.2
FINES	**FINESS Array B**	**114.68 336**		PKiKP	PKiKP	23 09 05.5	+0.2
FINES	**FINESS Array B**	**114.68 336**		PKiKP	PKiKP	23 09 05.5	+0.2
comp=Z,1.1nm,0.7s,baz=126,slow=3.3,SNR=3.7							
AKASG	**Malin Array Be**	**118.39 325**			PKPdf	23 09 12.8	+0.1
AKASG	**Malin Array Be**	**118.39 325**		PKIKP	PKPdf	23 09 12.8	+0.1
AKASG				pmax	pmax		
comp=Z,2.0nm,0.7s							
AKASG	**Malin Array Be**	**118.39 325**		PKP	PKPdf	23 09 12.8	+0.1
comp=Z,2.4nm,0.7s,baz=60,slow=2.1,SNR=8.4							
AKASG	**Malin Array Be**	**118.39 325**		PKP	PKPdf	23 09 12.8	+0.1
HFS	**Hagfors**	**120.22 339**		PKP	PKPdf	23 09 15.5	-0.4
comp=Z,0.8nm,0.5s,baz=23,slow=8.0,SNR=3.8							
HFS	**Hagfors**	**120.22 339**		PKP	PKPdf	23 09 15.6	-0.4
NOA	**NORSAR Array B**	**120.39 341**		PKP	PKPdf	23 09 16.4	+0.2
comp=Z,1.5nm,0.9s,baz=44,slow=2.1,SNR=2.9							
NOA	**NORSAR Array B**	**120.39 341**		PKP	PKPdf	23 09 16.4	+0.2
KOLS	**Kolonicke sedl**	**123.19 325**		*e*PKP	PKPdf	23 09 21.6	-0.4
STHS	**Stebnicka Huta**	**123.52 326**		*e*PKP	PKPdf	23 09 24.2	+1.6
VYHS	**Vyhne**	**125.35 326**		*e*PKP	PKPdf	23 09 24.7	-1.5
DPC	**Dobruska-Polom**	**125.59 329**		*e*PKP	PKPdf	23 09 27.4	+0.8
DPC	**Dobruska-Polom**	**125.59 329**		*e*PKP	PKPdf	23 09 27.4	+0.8
UPC	**Upice**	**125.65 330**		*e*PKP	PKPdf	23 09 28.1	+1.4
PVCC	**Panska Ves**	**126.36 330**		*e*PKP	PKPdf	23 09 29.5	+1.5
PVCC	**Panska Ves**	**126.36 330**		*e*PKP	PKPdf	23 09 29.5	+1.5
BRG	**Berggiesshubel**	**126.44 331**		*e*PKP	PKPdf	23 09 29.1	+1.0
BRG	**Berggiesshubel**	**126.44 331**		*e*PKP	PKPdf	23 09 29.1	+1.0
comp=Z,9.2nm,1.1s							
CLL	**Collm**	**126.60 332⇑**		*i*(pPKP	PKPdf)	23 09 29.3	+0.8
CLL	**Collm**	**126.60 332⇑**		*i*(pPKP	PKPdf)	23 09 29.3	+0.8
comp=Z,8.0nm,1.0s							
TREC	**Trest**	**126.67 329**		*e*PKP	PKPdf	23 09 30.0	+1.3
PRU	**Pruhonice**	**126.71 330**		*e*PKP	PKPdf	23 09 30.0	+1.3
PRU	**Pruhonice**	**126.71 330**		*e*PKP	PKPdf	23 09 30.0	+1.3
NKC	**Novy Kostel**	**127.58 331**		*e*PKP	PKPdf	23 09 31.7	+1.3
NKC	**Novy Kostel**	**127.58 331**		*e*PKP	PKPdf	23 09 31.7	+1.3
KHC	**Kasperske Hory**	**127.75 329**		*e*PKP	PKPdf	23 09 31.9	+1.2
KHC	**Kasperske Hory**	**127.75 329**		*e*PKP	PKPdf	23 09 31.9	+1.2
GERES	**GERESS Array B**	**127.86 329**		PKP	PKPdf	23 09 32.3	+1.4
comp=Z,2.9nm,0.7s,baz=76,slow=1.7,SNR=15							
GERES	**GERESS Array B**	**127.86 329**		PKP	PKPdf	23 09 32.3	+1.3
GRA1	**Grafenberg Arr**	**128.53 331**		*e*PKPdf	PKPdf	23 09 33.7	+1.5
GRF	**Grafenberg Arr**	**128.53 331**		*e*PKP	PKPdf	23 09 33.7	+1.5
SDV	**Santo Domingo**	**133.98 85**		PKP	PKPdf	23 09 44.4	+0.9
comp=Z,2.5nm,0.6s,baz=307,slow=9.6,SNR=3.9							
SDV	**Santo Domingo**	**133.98 85**		PKP	PKPdf	23 09 44.4	+0.9
ESDC	**Sonseca Array**	**143.14 334**		PKP	PKPdf	23 09 57.3	-2.3
comp=Z,2.7nm,0.8s,baz=24,slow=2.8,SNR=8.9							
ESDC	**Sonseca Array**	**143.14 334**		PKP	PKPdf	23 09 57.3	-2.3
TORD	**Torodi Ar. Bea**	**153.96 285**		PKPbc	PKPbc	23 10 26.1	+0.4
comp=Z,1.9nm,0.7s,baz=41,slow=3.9,SNR=4.4							
DBIC	**Dimbokro**	**160.84 269**		PKPab	PKPab	23 11 09.8	+0.9
comp=Z,5.2nm,1.0s,baz=75,slow=7.0,SNR=5.9							

IDC 01 22:53:40.8±1.1, 834S×15786E, h0km, mb4.4/7, mb1 4.5/7, mb1mx4.3/14, mbtmp4.4/7, Error ellipse: s-maj=40.3km s-min=23.8km az=90.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warrramunga Arr**	**25.51 241**		P	P	22 59 11.0	-0.2
7.7nm,0.7s,baz=62,slow=9.8,SNR=5.2							
ASAR	**Alice Springs**	**27.54 234**		P	P	22 59 30.4	+0.9
1.5nm,0.5s,baz=58,slow=9.7,SNR=5.6							
KSRS	**Korea Array**	**53.47 330**		P	P	23 03 01.9	-1.0
1.6nm,0.7s,baz=147,slow=7.0,SNR=4.4							
VNDA	**Vanda**	**69.18 179**		P	P	23 04 48.0	-0.8
1.0nm,0.3s,baz=87,slow=4.5,SNR=14							
SONM	**Songino Array**	**72.01 326**		P	P	23 05 06.4	-0.1
3.7nm,0.6s,baz=146,slow=6.1,SNR=9.2							
MKAR	**Makanchi Array**	**86.29 318**		P	P	23 06 26.0	+1.4
2.8nm,0.7s,baz=106,slow=6.2,SNR=5.0							
ZALV	**Zalesovo Beam**	**86.88 326**		P	P	23 06 27.9	+0.5
1.4nm,0.4s,baz=110,slow=5.4,SNR=4.1							
AKASG	**Malin Array Be**	**120.27 325**		PKP	PKPdf	23 12 32.6	-1.4
0.1nm,0.3s,baz=54,slow=4.0,SNR=6.9							
LPAZ	**La Paz**	**128.33 118**		PKP	PKPdf	23 12 53.1	+2.7
1.2nm,1.0s,baz=228,slow=1.7,SNR=3.6							

IDC 01 22:54:12.1±3.0, 733S×15548E, h0km, mb4.5/5, mb1 4.6/5, mb1mx4.3/14, mbtmp4.5/5, Error ellipse: s-maj=105.9km s-min=30.2km az=114.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warrramunga Arr**	**24.02 236**		P	P	22 59 29.4	+0.5
4.5nm,0.5s,baz=58,slow=9.0,SNR=5.2							
ASAR	**Alice Springs**	**26.31 230**		P	P	22 59 49.1	-0.6
3.3nm,0.6s,baz=58,slow=9.9,SNR=6.0							
SONM	**Songino Array**	**69.88 327**		P	P	23 05 25.7	+0.9
2.4nm,0.7s,baz=142,slow=6.4,SNR=4.1							
MKAR	**Makanchi Array**	**83.97 319**		P	P	23 06 44.5	+0.2
6.8nm,0.7s,baz=102,slow=6.8,SNR=9.5							
ZALV	**Zalesovo Beam**	**84.72 326**		P	P	23 06 47.0	-1.0
4.9nm,0.7s,baz=107,slow=6.0,SNR=9.8							
GERES	**GERESS Array B**	**127.59 329**		PKP	PKPdf	23 13 18.8	-0.6
0.4nm,0.7s,baz=107,slow=3.2,SNR=4.2							
TORD	**Torodi Ar. Bea**	**153.57 285**		PKPbc	PKPbc	23 14 15.1	+1.2
1.5nm,0.6s,baz=17,slow=1.5,SNR=4.8							
DBIC	**Dimbokro**	**160.47 269**		PKPab	PKPab	23 14 56.1	0.0
1.5nm,0.5s,baz=137,slow=9.1,SNR=4.6							

IDC 01 22:56:57.4±4.2, 707S×15548E, h0km, mb4.1/5, mb1 4.2/5, mb1mx4.0/14, mbtmp4.2/5, Error ellipse: s-maj=127.7km s-min=27.6km az=113.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warrramunga Arr**	**24.17 236**		P	P	23 02 15.4	-0.1
2.8nm,0.7s,baz=63,slow=9.4,SNR=14							
ASAR	**Alice Springs**	**26.48 229**		P	P	23 02 36.8	+0.3
0.6nm,0.6s,baz=56,slow=9.8,SNR=3.0							
SONM	**Songino Array**	**69.66 327**		P	P	23 08 08.5	-0.3
0.7nm,0.6s,baz=124,slow=7.2,SNR=3.0							
MKAR	**Makanchi Array**	**83.78 319**		P	P	23 09 29.6	+1.1
4.5nm,0.7s,baz=101,slow=6.5,SNR=14							
ZALV	**Zalesovo Beam**	**84.51 326**		P	P	23 09 31.8	-0.4
2.9nm,0.6s,baz=112,slow=6.0,SNR=11							

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*IDC **01** 22:57:21.0±0.3, 751S×156.18E, h0km, mb5.2/26, mb1 5.2/27, mb1mx5.2/28, mbtmp5.2/27, ML5.3/1, MS6.1/9, Ms1 6.1/9, ms1mx5.7/32, Error ellipse: s-maj=14.0km s-min=11.0km az=85.0*
*BJI **01** 22:57:22.9, 710S×156.07E, h12km, mB6.3, mb5.4, Ms6.3, Msz6.1*
*ISCJB **01** 22:57:22.1±0.1, 755S±003×156.04E±002, h14km, mb5.6/122, MS6.3/54, Error ellipse: s-maj=5.0km s-min=3.3km az=2.6*
*CRAAG **01** 22:57:22.3, 722S×155.97E, Mb5.9*
*IGIL **01** 22:57:23.0, 732S×156.00E, h10km*
*NEIC **01** 22:57:23.7±3.0, 753S×156.05E, h18km±18km, mb5.7/59, Error ellipse: s-maj=6.0km s-min=5.1km az=168.0*
*MOS **01** 22:57:25.5±1.4, 746S×156.06E, h33km, mb5.7/42, MS6.3/14, Error ellipse: s-maj=7.9km s-min=6.3km az=97.6*

ISC 01 22:57:23.8±0.1, 756S±003×15608E±002, h14km, h14km±.8km: pP-P, n677, σ1914/418, mb5.6/122, MS6.3/54, 97C-81D, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**		**4.26 116**	Pn	**Pn**	**22 58 27.6**	**-0.6**
193nm,0.3s,baz=260,slow=4.7,SNR=6.4							
HNR				LR	LR	22 59 24.4	
comp=Z,64μm,19.0s,baz=336,slow=30							
HNR				Sn	**Sn**	**22 59 25.3**	**+7.6**
482nm,0.3s,baz=288,slow=16,SNR=2.5							
CTA	**Charters Tower**	**15.68 216**		*eP*	**Pn**	**23 01 07.6**	**+3.3**
144nm,1.0s							
CTA				*e*S	Sn	23 04 21.0	+23
CTA	**Charters Tower**	**15.68 216**		Pn	**Pn**	**23 01 08.7**	**+4.4**
1.2nm,0.3s,baz=42,slow=15,SNR=17							
CTA				LR	LR	23 06 32.3	
comp=Z,82μm,19.0s,baz=22,slow=35							
CTAO	**Charters Tower**	**15.68 216**		*e*Pn	**Pn**	**23 01 06.0**	**+1.7**
3μm,2.2s							
DZM	**Mont Dzumac**	**17.55 146**		*eP*	**Pn**	**23 01 27.2**	**-0.9**
FUNA	**Funafuti**	**22.91 94**		*eP*	**P**	**23 02 25.7**	**-1.8**
849nm,1.6s,mb5.9							
ARMA	**Armidale**	**23.12 190**		*eP*	**P**	**23 02 29.3**	**-0.2**
ARMA				*e*S	**S**	**23 06 49.3**	**+9.0**
GUMO	**Guam**	**23.77 332**		P	**P**	**23 02 35.2**	**-0.9**
GUMO				pmax	pmax		
comp=Z,87nm,0.7s,mb5.3							
GUMO				MLR	MLR		
comp=Z,15μm,19.9s,MS5.5							
GUMO	**Guam**	**23.77 332**		P	**P**	**23 02 35.2**	**-0.9**
comp=Z,87nm,0.7s,mb5.3,baz=166,slow=4.2,SNR=2.4							
GUMO				LR	LR	23 10 07.5	
comp=Z,15μm,19.9s,MS5.5,baz=310,slow=32							
KAKA	**Kakadu**	**23.82 256**		*eP*	**P**	**23 02 37.2**	**+0.6**
comp=Z,328nm,0.6s,mb5.9							
WB2	**Warramunga Arr**	**24.39 237**		*eP*	**P**	**23 02 42.6**	**+0.8**
WB2				*e*S	**S**	**23 07 11.7**	**+11**
WRA	**Warramunga Arr**	**24.40 238**		P	**P**	**23 02 41.7**	**-0.1**
comp=Z,17nm,0.6s,mb4.7,baz=61,slow=9.4,SNR=9.6							
WRA				PcP	PcP	23 06 21.6	+0.5
comp=Z,19nm,0.8s,baz=63,slow=2.3,SNR=5.9							
WRA				ScP	ScP	23 10 02.0	+2.4
comp=Z,3.3nm,0.8s,baz=71,slow=3.8,SNR=4.9							
WRA				LR	LR	23 11 53.1	
comp=Z,71μm,20.8s,MS6.1,baz=50,slow=36							
RIV	**Riverview**	**26.54 189**		*eP*	**P**	**23 03 06.0**	**+4.9**
ASAR	**Alice Springs**	**26.62 231**		P	**P**	**23 03 00.7**	**-1.4**
comp=Z,24nm,0.9s,mb4.7,baz=60,slow=9.0,SNR=18							
ASAR				PcP	PcP	23 06 28.4	+2.3
comp=Z,6.7nm,0.7s,baz=60,slow=2.5,SNR=4.1							
ASAR				ScP	ScP	23 10 10.2	+4.2
comp=Z,6.7nm,0.9s,baz=64,slow=2.6,SNR=5.4							
STKA	**Stephens Creek**	**27.70 207**		P	**P**	**23 03 13.0**	**+1.3**
comp=Z,36nm,0.9s,mb5.0,baz=36,slow=14,SNR=19							
STKA				ScP	ScP	23 10 11.0	+2.0
comp=Z,12nm,0.8s,baz=18,slow=2.2,SNR=6.6							
STKA				LR	LR	23 14 17.5	
comp=Z,60μm,18.4s,MS6.2,baz=3.8,slow=37							
CNB	**Canberra Magne**	**28.30 192**		*eP*	**P**	**23 03 20.4**	**+3.5**
comp=Z,111nm,1.4s,mb5.3							
FITZ	**Fitzroy Crossi**	**31.42 248**		*eP*	**P**	**23 03 44.7**	**-0.1**
comp=Z,68nm,0.6s,mb5.7							
FITZ				*e*S	**S**	**23 09 00.7**	**+8.5**
FITZ	**Fitzroy Crossi**	**31.42 248**		P	**P**	**23 03 45.1**	**+0.3**
comp=Z,32nm,0.8s,mb5.2,baz=94,slow=6.9,SNR=15							
FITZ				LR	LR	23 16 42.8	
comp=Z,36μm,18.7s,MS6.1,baz=271,slow=37							
ADE	**Adelaide**	**31.61 208**		P	**P**	**23 03 44.0**	**-2.2**
BATI	**Kupang**	**32.12 263**		P	**P**	**23 03 53.3**	**+2.3**
comp=Z,132nm,1.0s,mb5.7,baz=54,slow=8.7,SNR=12							
AFI	**Afiamalu**	**32.18 104**		*eP*	**P**	**23 03 49.8**	**-1.7**
comp=Z,186nm,1.0s,mb5.9							
AFI	**Afiamalu**	**32.18 104**		*eP*	**P**	**23 03 49.8**	**-1.7**
AFI				pmax	pmax		
comp=Z,186nm,1.0s,mb5.9							
RAO	**Raoul Island**	**32.63 135**		PFAKE		23 04 10.0	+15
RAO				LR	LR		
comp=Z,19μm,19.0s,MS5.8							
BUKP	**Musuan**	**34.51 296**		*eP*	**P**	**23 04 13.4**	**+1.6**
FORT	**Forrest**	**34.93 225**		*eP*	**P**	**23 04 15.1**	**-0.2**
comp=Z,150nm,0.8s,mb6.0							
MSLP	**Maasin**	**35.71 299**		*eP*	**P**	**23 04 22.3**	**+0.1**
URZ	**Urewera**	**36.00 151**		P	**P**	**23 04 24.8**	**+0.4**
comp=Z,23nm,1.0s,mb5.1,baz=34,slow=4.2,SNR=7.1							
TAU	**Tasmania Unive**	**36.04 191**		*eP*	**P**	**23 04 26.5**	**+1.9**
TAU				LR	LR		
comp=Z,12μm,19.0s,MS5.7							
KAPI	**Kappang**	**36.19 272**		P	**P**	**23 04 26.6**	**+0.3**
comp=Z,388nm,1.4s,mb6.1,SNR=15							
LLP	**Lapu-Lapu**	**36.57 299**		*eP*	**P**	**23 04 29.3**	**-0.2**
CBIJ	**Chichi jima**	**36.98 339**		P	**P**	**23 04 33.5**	**+0.7**
comp=Z,70nm,0.6s,mb5.7,baz=278,slow=17,SNR=5.8							
CNP	**Catarman**	**37.05 302**		*eP*	**P**	**23 04 32.9**	**-0.7**
MBWA	**Marble Bar**	**37.60 245**		*eP*	**P**	**23 04 34.2**	**-4.0**
comp=Z,204nm,1.4s,mb5.7							
MBWA				LR	LR		
comp=Z,48μm,20.0s,MS6.3							
GUIM	**Jordan**	**37.91 298**		*eP*	**P**	**23 04 42.5**	**+1.6**
PVCP	**Virac**	**38.03 303**		*eP*	**P**	**23 04 41.5**	**-0.4**
RCP	**Roxas**	**38.21 299⇑**		*eP*	**P**	**23 04 44.0**	**+0.6**
RPZ	**Rata Peaks**	**38.33 162**		P	**P**	**23 04 43.4**	**-0.6**
comp=Z,87nm,0.7s,mb5.6,baz=132,slow=3.4,SNR=14							
OTRP	**Odiongan**	**39.21 300**		*eP*	**P**	**23 04 52.0**	**+0.2**
CUYO	**Cuyo Island**	**39.39 297**		*eP*	**P**	**23 04 54.4**	**+1.0**
MYLDM	**Lahad Datu**	**39.57 288**		⇓P	**P**	**23 04 57.3**	**+2.4**
TSM	**Tawau**	**39.90 286**		⇑P	**P**	**23 05 00.1**	**+2.4**
POLP	**Polilio Island**	**40.45 303**		*eP*	**P**	**23 05 01.9**	**-0.2**
SDKM	**Sandakan**	**40.95 288**		⇑P	**P**	**23 05 08.7**	**+2.3**
ENPP	**El Nido**	**40.96 297**		*eP*	**P**	**23 05 07.8**	**+1.5**
PPR	**Puerto Princes**	**40.99 294⇑**		*eP*	**P**	**23 05 08.7**	**+2.0**
BALP

comp=Z,208nm,1.0s,mb6.1
VLA Vladivostok 55.02 339⇑eP P 23 06 54.9 +0.1
VLA Vladivostok 55.02 339 eP P 23 06 54.4 -0.4
VLA pmax pmax
comp=Z,177nm,1.9s,mb5.8
WHN Wuhan 55.09 316 P **P 23 06 55.5 0.0**
WHN AMB AMB
comp=Z,48nm,0.8s,mb5.6
PMOR Pomariorio Ree 55.32 103 eP **P 23 06 56.6 -0.9**
comp=Z,313nm,1.2s,mb6.2
FRIM Kepong 55.38 279 ⇑P **P 23 06 59.1 +1.2**
YSS Yuzh-Sakhalins 55.55 349 eP **P 23 06 57.9 -0.6**
comp=Z,18nm,0.5s,mb5.4
YSS LR LR
comp=Z,33μm,21.0s,MS6.4
YSS Yuzh-Sakhalins 55.55 349⇓eP P 23 07 02.1 +3.6
YSS e 23 07 17.8
YSS eS **S 23 14 48.0 +4.5**
YSS pmax pmax
comp=Z,60nm,1.0s,mb5.6
VAH Vaihoa 55.59 103 eP **P 23 06 58.2 -1.2**
comp=Z,195nm,1.2s,mb6.0
DL2 Dalian 56.21 328 P **P 23 07 03.5 +0.1**
DL2 PCP PcP 23 07 59.1 -1.9
DL2 eS **S 23 14 53.8 +1.2**
DL2 AMB AMB
comp=Z,60nm,1.0s,mb5.6
DL2 LR LR
comp=N,7μm,17.6s,MS6.0
DL2 LR LR
comp=E,9μm,19.2s,MS6.0
DL2 LR LR
comp=Z,12μm,17.9s,MS6.0
KULM Kulim 56.75 281 eP **P 23 07 06.3 -1.5**
KULM Kulim 56.75 281 ⇑P **P 23 07 08.5 +0.7**
MDJ Mudanjiang 57.16 338 P **P 23 07 10.0 0.0**
MDJ AP pP 23 07 13.1 -1.6
MDJ AMB AMB
comp=Z,39nm,2.3s,mb5.0
MDJ AMB AMB
comp=Z,14μm,18.7s
MDJ Mudanjiang 57.16 338 PFAKE 23 07 20.0 +10
MDJ LR LR
comp=Z,21μm,20.0s,MS6.2
SNG Songkhla 57.21 284 P **P 23 07 14.0 +3.0**
comp=Z,272nm,1.0s,mb6.2
PSI Prapat 57.94 278 P **P 23 07 15.6 -0.6**
PSI Prapat 57.94 278 P **P 23 07 15.6 -0.6**
comp=Z,3.4nm,0.5s,mb4.6,baz=84,slow=13,SNR=11
CN2 Changchun 58.16 334 ⇑P **P 23 07 17.5 +0.4**
CN2 eXP sP 23 07 24.5 +1.1
CN2 eS **S 23 15 15.8 -2.3**
CN2 AMB AMB
comp=Z,40nm,1.5s,mb5.2
CN2 AMB AMB
comp=Z,300nm,5.0s
CN2 LR LR
comp=N,16μm,18.0s,MS6.3
CN2 LR LR
comp=E,12μm,18.0s,MS6.3
CN2 LR LR
comp=Z,11μm,19.0s,MS6.0
GYA Guiyang 58.65 307⇑i P **P 23 07 22.4 +1.5**
GYA AP pP 23 07 26.5 +1.0
GYA XP sP 23 07 29.4 +2.2
GYA PCP PcP 23 08 12.0 +1.1
GYA PP PP 23 09 33.2 +2.4
GYA SCP ScP 23 12 11.4 +0.2
GYA S **S 23 15 24.6 -0.5**
GYA SCS ScS 23 17 08.8 -2.0
GYA SS SS 23 19 17.9 -0.5
GYA AMB AMB
comp=Z,110nm,1.0s,mb5.8
GYA AMB AMB
comp=Z,20μm,11.8s
GYA LR LR
comp=N,17μm,20.4s,MS6.3
GYA LR LR
comp=E,18μm,21.3s,MS6.3
GYA LR LR
comp=Z,18μm,19.8s,MS6.2
HABR Khabarovsk 58.78 344 eP **P 23 07 22.6 +1.3**
HABR eS **S 23 15 26.7 +0.7**
NNT Nongplab 59.46 289 P **P 23 07 27.0 +0.3**
BJT Baijiatuau 59.98 325 eP **P 23 07 29.6 -0.2**
comp=Z,45nm,0.8s,mb5.5
BJT LR LR
comp=Z,31μm,22.0s,MS6.4
BJT Baijiatuau 59.98 325 eP **P 23 07 29.6 -0.2**
BJT pmax pmax
comp=Z,45nm,0.8s
BJT MLR MLR
comp=Z,31μm,22.0s
BJI Beijing 59.99 325 P **P 23 07 29.1 -0.8**
BJI AP pP 23 07 32.3 -2.2
BJI XP sP 23 07 33.6 -2.6
BJI PCP PcP 23 08 11.1 -4.8
BJI AMB AMB
comp=Z,32nm,0.8s,mb5.4
BJI AMB AMB
comp=Z,2μm,6.0s
BJI LR LR
comp=N,15μm,17.3s,MS6.3
BJI LR LR
comp=E,16μm,19.5s,MS6.3
BJI LR LR
comp=Z,22μm,17.2s,MS6.4
NST Nakhon Sawan 60.02 293 P **P 23 07 28.3 -2.2**
comp=Z,120nm,0.7s,mb6.0
KLR Kul'dur 60.43 342 eP **P 23 07 28.9 -3.8**
XAN Xi'an 60.85 316 P **P 23 07 34.7 -1.2**
XAN AP pP 23 07 39.2 -1.4
XAN AMB AMB
comp=Z,19nm,1.5s,mb5.0
XAN LR LR
comp=N,3μm,14.4s,MS5.7
XAN LR LR
comp=E,2μm,13.0s,MS5.7
XAN LR LR
comp=Z,4μm,15.2s,MS5.6
KMI Kunming 61.22 304 P **P 23 07 39.3 +0.7**
KMI AMB AMB
comp=Z,101nm,1.8s,mb5.7
BDT Bhumibol Dam 61.54 294 P **P 23 07 43.0 +2.1**
SMY Shemya 61.99 12 eP **P 23 07 40.0 -3.2**
comp=Z,1μm,1.5s,mb6.8
SMY Shemya 61.99 12 eP **P 23 07 40.0 -3.2**
SMY pmax pmax
comp=Z,1μm,1.5s,mb6.8
CHG Chiang Mai 62.11 296 ⇑P **P 23 07 45.1 +0.4**
comp=Z,150nm,1.3s,mb6.0
CHTO Chiang Mai 62.11 296 eP **P 23 07 44.1 -0.6**
comp=Z,410nm,1.8s,mb6.3
CHTO Chiang Mai 62.11 296 eP **P 23 07 44.1 -0.6**
CHTO pmax pmax
comp=Z,410nm,1.8s,mb6.3
CHTO Chiang Mai 62.11 296 P **P 23 07 45.1 +0.4**
SNR=61
CD2 Chengdu 62.99 310⇑i P **P 23 07 50.6 +0.2**
CD2 XP sP 23 07 58.1 +1.3
CD2 PP PP 23 10 12.3 +3.1
CD2 S **S 23 16 18.8 -1.7**
CD2 AMB AMB
comp=Z,110nm,0.9s,mb6.0
CD2 LR LR
comp=N,18μm,18.0s
CD2 LR LR
comp=Z,16μm,17.4s,MS6.2
HHC Hu-ho-hao-te 63.18 323 eP **P 23 07 51.8 +0.4**
HHC AP pP 23 07 56.2 +0.1
HHC XP sP 23 07 59.2 +1.4
HHC SCP ScP 23 12 27.0 -4.0
HHC PCS PcS 23 12 32.4 +0.1
HHC S **S 23 16 23.0 +0.5**
HHC XS sS 23 16 28.1 -2.0
HHC SCS ScS 23 17 39.2 -4.9
HHC AMB AMB
comp=Z,30nm,1.4s,mb5.2
HHC AMB AMB
comp=Z,9μm,12.0s
HHC LR LR
comp=N,9μm,17.1s,MS6.1
HHC LR LR
comp=E,8μm,16.3s,MS6.1
HHC LR LR

comp=Z,10μm,14.9s,MS6.1
BTO Baotou 63.95 322 eP **P 23 07 55.7 -0.8**
HIA Hailar 64.88 335 eP **P 23 08 01.7 -0.8**
comp=Z,30nm,0.8s,mb5.4
HIA LR LR
comp=Z,26μm,20.0s,MS6.4
HIA Hailar 64.88 335 eP **P 23 08 01.7 -0.7**
HIA pmax pmax
comp=Z,30nm,0.8s
HIA MLR MLR
comp=Z,26μm,20.0s
LZH Lanzhou 65.47 315 eP **P 23 08 08.7 +2.2**
LZH AP pP 23 08 12.7 +1.5
LZH XP sP 23 08 15.4 +2.5
LZH PP PP 23 10 34.6 +3.8
LZH AMB AMB
comp=Z,190nm,1.4s,mb5.9
LZH AMB AMB
comp=Z,763nm,4.4s
PBA Port Blair 65.82 286 eP **P 23 08 08.2 -1.0**
PBA AMb AMB 23 08 24.1
comp=Z,50nm,0.7s,mb5.7
CASY Casey 66.39 198 P **P 23 08 09.8 -2.2**
CASY LR LR
comp=Z,40μm,20.0s,MS6.6
MA2 Magadan 67.05 357 eP **P 23 08 14.6 -1.5**
MA2 LR LR
comp=Z,24μm,21.0s,MS6.4
MA2 Magadan 67.05 357 eP **P 23 08 14.5 -1.7**
MA2 e 23 08 32.1
MA2 e 23 08 42.7
MA2 eS S 23 17 03.4 -5.9
MA2 pmax pmax
comp=N,40nm,0.9s
MA2 pmax pmax
comp=Z,100nm,0.9s,mb5.8
IMP Imphal 68.49 300 eP **P 23 08 26.0 0.0**
CLNS Chul'man 69.08 342 eP **P 23 08 29.3 +0.3**
CLNS pmax pmax
comp=N,16nm,0.8s
CLNS pmax pmax
comp=E,7.0nm,0.8s
CLNS pmax pmax
comp=Z,43nm,0.8s,mb5.4
AKUT Akutan 69.32 23 P **P 23 08 31.8 +1.3**
CIT Chita 69.59 334 eP **P 23 08 33.0 +0.8**
CIT e 23 08 51.8
CIT pmax pmax
comp=Z,411nm,2.2s,mb6.0
GTA Gaotai 69.88 317 eP **P 23 08 34.5 +0.2**
GTA AP pP 23 08 38.2 -0.8
GTA XP sP 23 08 39.6 -1.2
GTA PP PP 23 11 12.2 +3.1
GTA S S 23 17 44.1 +0.3
GTA XS sS 23 17 52.1 +0.6
GTA SKS 23 18 30.9
GTA AMB AMB
comp=Z,12nm,1.3s,mb4.7
GTA LR LR
comp=N,13μm,17.9s,MS6.4
GTA LR LR
comp=E,12μm,17.9s,MS6.4
GTA LR LR
comp=Z,16μm,19.8s,MS6.3
VNDA Vanda 69.99 179 P **P 23 08 33.0 -1.4**
VNDA pmax pmax
comp=Z,7.0nm,0.9s
VNDA Vanda 69.99 179 P **P 23 08 33.0 -1.5**
comp=Z,7.4nm,0.9s,mb4.6,baz=334,slow=6.4,SNR=20
SEY Seymchan 70.34 358⇑eP **P 23 08 35.6 -1.0**
SONM Songino Array 70.39 327 P **P 23 08 36.2 -1.0**
SONM pmax pmax
comp=Z,24nm,0.8s
SONM Songino Array 70.39 327 P **P 23 08 36.2 -1.1**
comp=Z,24nm,0.8s,mb5.2,baz=136,slow=5.6,SNR=37
SBA Scott Base 70.48 178 eP **P 23 08 38.0 +0.6**
comp=Z,81nm,1.4s,mb5.5
SBA ePcP PcP 23 08 55.6 -3.0
SBA LR LR
comp=Z,21μm,21.0s,MS6.4
SBA Scott Base 70.48 178 eP **P 23 08 38.0 +0.6**
SBA e 23 08 55.6
SBA pmax pmax
comp=Z,81nm,1.4s,mb5.5
SBA MLR MLR
comp=Z,21μm,21.0s,MS6.4
SHL Shillong 70.50 300 eP **P 23 08 36.3 -2.2**
SHL ex x 23 17 45.0
SDPT Sand Point 72.31 24 eP **P 23 08 46.5 -2.2**
comp=Z,105nm,1.4s,mb5.6
YAK Yakutsk 72.33 347 eP **P 23 08 48.1 -0.5**
comp=Z,91nm,1.0s,mb5.7
YAK LR LR
comp=Z,17μm,19.0s,MS6.3
YAK Yakutsk 72.33 347 eP **P 23 08 51.0 +2.3**
YAK e*PP pP 23 09 04.4 +11
YAK e 23 09 09.5
YAK eS S 23 18 13.0 +1.6
YAK e 23 18 50.8
YAK eSSS 23 25 58.3
YAK pmax pmax
comp=Z,76nm,1.3s,mb5.5
YAK pmax pmax
comp=N,27nm,1.2s
YAK pmax pmax
comp=E,12nm,1.1s
YAK smax
comp=N,4μm,10.3s
YAK smax
comp=E,6μm,9.1s
YAK MLR MLR
comp=Z,8μm,17.0s,MS6.0
YAK MLR MLR
comp=N,8μm,18.0s,MS6.2
YAK MLR MLR
comp=E,7μm,19.0s,MS6.2
LSA Lhasa 72.47 304 P **P 23 08 51.4 +1.1**
LSA AMB AMB
comp=Z,20nm,0.9s,mb5.0
LSA Lhasa 72.47 304 eP **P 23 08 50.8 +0.5**
comp=Z,82nm,1.0s,mb5.6
LSA LR LR
comp=Z,20μm,20.0s,MS6.4
BOD Bodaibo 73.53 338 eP **P 23 08 54.6 -1.3**
BOD pmax pmax
comp=Z,62nm,1.9s,mb5.2
ZAK Zakamensk 73.54 328⇓eP **P 23 08 48.7 -7.4**
ZAK i 23 08 55.9
ZAK e 23 11 45.8
ZAK pmax pmax
comp=Z,2.0nm,1.4s
CHGN Chignik 73.81 24 eP **P 23 08 58.5 +0.9**
TLY Talaya 74.09 329 P **P 23 08 59.9 +0.6**
comp=Z,269nm,1.5s,mb6.0,SNR=18
TLY Talaya 74.09 329 eP **P 23 08 59.4 +0.1**
TLY e 23 09 11.5
TLY MLR MLR
comp=Z,15μm,20.0s,MS6.3
TLY Talaya 74.09 329 P **P 23 08 59.2 -0.1**
SNR=49
TLY Talaya 74.09 329 P **P 23 08 59.2 -0.1**
SNR=49
IRK Irkutsk 74.10 330 eP **P 23 09 00.0 +0.6**
IRK e 23 18 57.3
IRK pmax pmax
comp=Z,262nm,2.2s,mb5.8
BOK Bokaro 75.21 297 eP **P 23 09 06.5 +0.1**
BOK AMb AMB 23 09 14.1
comp=Z,191nm,1.8s,mb5.7
MOY Mondy 75.45 328 eP **P 23 09 07.4 +0.2**
MOY pmax pmax
comp=Z,296nm,3.3s
BILL Bilibino 75.76 4 eP **P 23 09 07.4 -1.2**
BILL LR LR
comp=Z,21μm,19.0s,MS6.5
BILL Bilibino 75.76 4 P **P 23 09 08.0 -0.6**
BILL e 23 09 17.9
BILL e 23 09 25.6
BILL pmax pmax
comp=Z,45nm,1.5s,mb5.2
JIRN Jiri 75.99 301 eP **P 23 09 10.6 -0.2**
comp=Z,257nm,1.1s,mb6.1
VIS Vishakhapatnam 76.07 290 eP **P 23 09 10.7 -0.7**
VIS AMb AMB 23 09 17.1
comp=Z,111nm,1.7s,mb5.5

PALK Pallekele 76.59 279 P **P 23 09 13.0 -1.5**
comp=Z,272nm,1.4s,mb6.0,SNR=7.6
PALK Pallekele 76.59 279 eP **P 23 09 14.9 +0.3**
comp=Z,99nm,1.4s,mb5.5
PALK LR LR
comp=Z,15μm,19.0s,MS6.3
PALK Pallekele 76.59 279 P **P 23 09 16.7 +2.2**
SNR=14
PALK Pallekele 76.59 279 P **P 23 09 16.7 +2.2**
SNR=14
KKN Kakani 76.80 301 eP **P 23 09 14.7 -0.7**
comp=Z,336nm,1.3s,mb6.1
KDAK Kodiak Island 77.21 25 eP **P 23 09 14.6 -2.5**
comp=Z,50nm,1.1s,mb5.4
KDAK Kodiak Island 77.21 25 P **P 23 09 16.1 -0.9**
comp=Z,6.1nm,0.6s,mb4.7,baz=200,slow=6.4,SNR=4.4
GKN Gorkha 77.41 301 eP **P 23 09 18.0 -0.8**
SVW2 Sparrevohn 78.12 22 eP **P 23 09 21.3 -0.7**
KOLN Koldanda 78.23 300 eP **P 23 09 22.5 -0.9**
TTA Tatalina 79.17 20 eP **P 23 09 26.3 -1.5**
comp=Z,37nm,1.2s,mb5.2
TTA Tatalina 79.17 20 eP **P 23 09 26.3 -1.5**
TTA pmax pmax
comp=Z,37nm,1.2s,mb5.2
SLKM Skilak Lake 79.81 24 eP **P 23 09 30.2 -1.2**
WMQ Urumqi 79.97 317 P **P 23 09 32.2 -0.4**
WMQ AP pP 23 09 37.5 +0.2
WMQ PP PP 23 12 35.0 +0.5
WMQ eS S 23 19 33.5 -2.6
WMQ XS sS 23 19 41.9 -2.0
WMQ AMB AMB
comp=Z,155nm,1.2s,mb5.8
WMQ LR LR
comp=N,12μm,18.5s,MS6.4
WMQ LR LR
comp=E,10μm,21.6s,MS6.4
WMQ LR LR
comp=Z,8μm,18.7s,MS6.1
KOD Kodaikanal 80.23 282 eP **P 23 09 35.4 +0.7**
KOD AMb AMB 23 09 41.7
comp=Z,126nm,0.9s,mb5.8
TRD Trivandrum 80.45 280 eP **P 23 09 34.4 -1.4**
TRD AMb AMB 23 09 42.1
comp=Z,123nm,1.5s,mb5.6
HYB Hyderabad 80.47 289 eP **P 23 09 35.0 -0.8**
HYB Hyderabad 80.47 289 i P **P 23 09 35.0 -0.8**
NGP Nagpur 80.74 293 eP **P 23 09 36.2 -1.0**
NGP AMb AMB 23 09 41.1
comp=Z,137nm,1.6s,mb5.6
PMR Palmer 80.88 23 P **P 23 09 38.0 +1.0**
PMR LR LR
comp=Z,21μm,20.0s,MS6.5
TIXI Tiksi 81.06 352⇑eP **P 23 09 36.4 -1.5**
TIXI Tiksi 81.06 352 eP **P 23 09 35.9 -2.0**
TIXI pmax pmax
comp=Z,85nm,1.4s,mb5.5
LGTI Lohaghat 81.50 301 eP **P 23 09 41.0 -0.1**
IMA2 Indian Mountai 81.99 18 eP **P 23 09 42.0 -0.9**
MCK McKinley 82.18 22 eP **P 23 09 41.4 -2.5**
comp=Z,15nm,1.4s,mb4.7
MCK LR LR
comp=Z,12μm,20.0s,MS6.3
MCK McKinley 82.18 22 eP **P 23 09 41.4 -2.5**
MCK pmax pmax
comp=Z,15nm,1.4s,mb4.7
MCK MLR MLR
comp=Z,12μm,20.0s,MS6.3
QSPA South Pole Qui 82.42 180 PFAKE 23 10 00.0 +15
QSPA LR LR
comp=Z,13μm,19.0s,MS6.3
LATR Latur 82.52 290 ex x 23 10 22.0
LATR AMb AMB 23 10 30.8
comp=Z,94nm,2.7s,mb5.3
AKL Akola 82.52 292 eP **P 23 09 45.5 -1.1**
AKL AMb AMB 23 09 51.6
comp=Z,159nm,0.0s
BHPL Bhopal 82.64 295 eP **P 23 09 46.3 -0.9**
BHPL AMb AMB 23 09 53.8
comp=Z,118nm,1.9s,mb5.6
COLA College 83.22 21⇓eP **P 23 09 48.2 -1.1**
COLA LR LR
comp=Z,25μm,19.0s,MS6.6
COLA College 83.22 21⇓eP **P 23 09 48.1 -1.2**
MAW Mawson 84.29 203 eP **P 23 09 54.6 -0.2**
comp=Z,63nm,1.2s,mb5.6
MAW Mawson 84.29 203 eP **P 23 09 54.6 -0.2**
MAW pmax pmax
comp=Z,63nm,1.2s
MAW Mawson 84.29 203 P **P 23 09 54.4 -0.5**
comp=Z,25nm,0.8s,mb5.4,baz=95,slow=8.5,SNR=15
MKAR Makanchi Array 84.53 318 P **P 23 09 55.4 -1.0**
MKAR Makanchi Array 84.53 318 P **P 23 09 55.4 -1.0**
MKAR pmax pmax
comp=Z,196nm,0.7s
MKAR Makanchi Array 84.53 318 P **P 23 09 55.4 -1.0**
comp=Z,196nm,0.7s,mb6.3,baz=101,slow=6.5,SNR=101
KAD Karad 84.55 288 eP **P 23 09 55.8 -1.4**
KAD AMb AMB 23 10 01.8
comp=Z,191nm,1.3s,mb6.1
SIT Sitka 84.94 31 eP **P 23 09 58.2 0.0**
comp=Z,244nm,2.1s,mb6.0
SIT Sitka 84.94 31 eP **P 23 09 58.2 0.0**
SIT pmax pmax
comp=Z,244nm,2.1s,mb6.0
POO Poona 85.07 289 eP **P 23 09 58.0 -1.7**
ZAA0 Zalesovo Array 85.24 326 eP **P 23 09 58.1 -1.8**
ZALV Zalesovo Beam 85.24 326 P **P 23 09 58.0 -1.8**
comp=Z,86nm,0.6s,mb6.0,baz=108,slow=5.7,SNR=72
ZAL Zalesovo 85.25 326 P **P 23 09 58.0 -1.9**
CRAG Craig 85.51 33 eP **P 23 10 02.9 +1.8**
comp=Z,127nm,1.6s,mb5.9
EGAK Eagle 85.62 22 eP **P 23 10 01.5 +0.1**
comp=Z,100nm,1.5s,mb5.8
AJM Ajmer 85.73 297 i P **P 23 10 01.0 -1.9**
AJM eP 23 10 01.9
AJM AMb AMB 23 10 07.3
comp=Z,214nm,1.6s,mb6.1
SKAG Skagway 85.85 28 eP **P 23 10 02.8 +0.1**
comp=Z,244nm,1.9s,mb6.1
THN Thein Dam 85.95 303 eP **P 23 10 02.6 -1.3**
WRAK Wrangell Islan 86.25 32 eP **P 23 10 06.8 +2.1**
comp=Z,127nm,1.6s,mb5.9
NVS Novosibirsk 86.41 326 i P **P 23 10 03.9 -1.7**
NVS eS S 23 20 26.1 -15
NVS pmax pmax
comp=Z,806nm,2.8s,mb6.5
NVS pmax pmax
comp=N,161nm,2.0s
NVS pmax pmax
comp=E,283nm,2.0s
KSH Kashi 87.19 310 eP **P 23 10 11.3 +1.5**
KSH AP pP 23 10 16.3 +1.7
KSH XP sP 23 10 18.5 +2.2
KSH PP PP 23 13 38.2 +4.4
KSH SKS 23 20 36.6
KSH S S 23 20 49.1 -0.2
KSH XS sS 23 20 57.5 +0.3
KSH LR LR
comp=N,17μm,15.0s,MS6.8
KSH LR LR
comp=E,22μm,15.6s,MS6.8
KSH LR LR
comp=Z,27μm,18.1s,MS6.7
KURK Kurchatov 87.94 322 P **P 23 10 11.0 -2.1**
comp=Z,520nm,1.7s,mb6.5,SNR=22
KURK Kurchatov 87.94 322 eP **P 23 10 11.3 -1.8**
comp=Z,198nm,1.4s,mb6.2
KURK LR LR
comp=Z,15μm,20.0s,MS6.4
KURK Kurchatov 87.94 322⇑eP **P 23 10 11.2 -1.9**
KURK Kurchatov 87.94 322 P **P 23 10 11.7 -1.4**
SNR=47
KURK Kurchatov 87.94 322 P **P 23 10 11.7 -1.4**
SNR=47
DLBC Dease Lake 88.08 30 eP **P 23 10 14.5 +0.9**
O02C Red Bluff 88.10 49 ⇓P **P 23 10 13.8 -0.4**
baz=88
J02A Umpqua 88.18 46 ⇑P **P 23 10 14.0 -0.4**
baz=88
TKM2 Tokmak 2 88.18 314 eP **P 23 10 14.5 +0.1**
comp=Z,43nm,0.7s,mb5.8
TKM2 LR LR
comp=Z,12μm,21.0s,MS6.3
TKM2 Tokmak 2 88.18 314 eP **P 23 10 14.5 +0.1**
TKM2 pmax pmax
comp=Z,43nm,0.7s,mb5.8

TKM2 MLR MLR
comp=Z,12µm,21.0s,MS6.3
TKM2 Tokmak 2 88.18 314 P **P** **23 10 14.3 -0.1**
SNR=20
KZA Kyzart 88.26 313 P **P** **23 10 16.0 +1.2**
SNR=16
M02C Callahan 88.30 48 ⇓P **P** **23 10 14.4 -0.6**
baz=88
KBK Karagaybulak 88.59 313 P **P** **23 10 16.3 -0.1**
SNR=12
CHMS Chumysh 88.80 313 P **P** **23 10 16.9 -0.5**
SNR=14
M03C McCloud 88.81 48 ⇓P **P** **23 10 16.9 -0.5**
baz=89
UCH Uchtor 88.82 313 *e*P **P** **23 10 18.8 +1.3**
comp=Z,333nm,1.9s,mb6.3
UCH *e*PP PP 23 13 45.5 -1.4
UCH LR LR
comp=Z,11µm,20.0s,MS6.3
UCH Uchtor 88.82 313 P **P** **23 10 18.5 +1.0**
SNR=19
FRU Bishkek 88.87 313 ⇑*i*P **P** **23 10 18.0 +0.3**
FRU pmax pmax
comp=Z,3µm,2.1s
AAK Ala-Archa 88.92 313 P **P** **23 10 17.0 -0.9**
comp=Z,193nm,0.6s,mb6.6,SNR=8.6
AAK Ala-Archa 88.92 313 *e*P **P** **23 10 17.2 -0.7**
comp=Z,22nm,0.7s,mb5.6
AAK LR LR
comp=Z,12µm,19.0s,MS6.3
AAK Ala-Archa 88.92 313 *e*P **P** **23 10 17.2 -0.7**
AAK pmax pmax
comp=Z,21nm,0.7s,mb5.6
AAK MLR MLR
comp=Z,12µm,19.0s,MS6.3
AAK Ala-Archa 88.92 313 P **P** **23 10 18.6 +0.7**
SNR=12
AAK Ala-Archa 88.92 313 P **P** **23 10 18.6 +0.7**
SNR=12
AAK Ala-Archa 88.92 313 P **P** **23 10 18.0 +0.1**
SNR=11
OHCM Honcut 88.93 50 *e*P **P** **23 10 19.2 +1.2**
ORV Oroville 88.96 50 ⇓P **P** **23 10 18.8 +0.6**
baz=89
USP Ospenovka 89.03 314 P **P** **23 10 18.2 -0.3**
SNR=15
PTRM Twissleman Ran 89.28 54 *e*P **P** **23 10 20.9 +1.1**
SMMC Simmler 89.39 54 ⇑P **P** **23 10 23.2 +2.9**
baz=89
LAVA Lava Cap Winer 89.40 51 ⇓P **P** **23 10 22.8 +2.5**
baz=89
AML Almayashu 89.40 312 P **P** **23 10 18.9 -1.3**
SNR=16
EKS2 Erkin-Say 89.44 313 *e*P **P** **23 10 20.4 +0.1**
comp=Z,23nm,0.8s,mb5.5
EKS2 LR LR
comp=Z,13µm,21.0s,MS6.3
EKS2 Erkin-Say 89.44 313 P **P** **23 10 20.6 +0.2**
SNR=12
SNCC San Nicolas Is 89.44 57 ⇑P **P** **23 10 20.8 +0.1**
baz=89
CMB Columbia Colle 89.55 52 *e*P **P** **23 10 22.9 +1.9**
comp=Z,52nm,2.0s,mb5.5
CMB *e*PP PP 23 13 55.0 +2.3
CMB Columbia Colle 89.55 52 *e*P **P** **23 10 22.9 +1.9**
CMB *e* 23 13 55.0
CMB pmax pmax
comp=Z,52nm,2.0s,mb5.5
CMB Columbia Colle 89.55 52 ⇑P **P** **23 10 22.9 +1.9**
baz=90
M05C Lookout 89.55 48 ⇓P **P** **23 10 25.0 +4.1**
baz=90
P05C Yuba Gap, Truc 89.59 50 ⇑P **P** **23 10 23.0 +1.8**
baz=90
BHJ Bhuj 89.68 293 *ex* x 23 10 25.3
BHJ AMb AMB 23 10 27.0
comp=Z,133nm,1.6s,mb6.0
J05A Fort Rock 89.83 46 ⇑P **P** **23 10 22.8 +0.6**
baz=90
BEKR Beckwourth 89.88 50 ⇑P **P** **23 10 26.1 +3.6**
baz=90
R05C Kirkwood Meado 89.90 51 ⇓P **P** **23 10 26.7 +4.0**
baz=90
T06C Millerton Lake 89.90 53 ⇓P **P** **23 10 24.5 +1.8**
baz=90
L05A Lakeview 89.91 48 ⇓P **P** **23 10 26.2 +3.7**
baz=90
K05A Summer Lake 89.98 47 ⇓P **P** **23 10 23.2 +0.2**
baz=90
MOD Modoc 90.27 48 *e*P **P** **23 10 25.4 +1.1**
comp=Z,15nm,0.9s,mb5.3
ISA Isabella 90.68 54 *e*P **P** **23 10 26.9 +0.6**
comp=Z,35nm,1.3s,mb5.5
ISA Isabella 90.68 54 *e*P **P** **23 10 26.9 +0.6**
ISA pmax pmax
comp=Z,35nm,1.3s,mb5.5
MTUM Tungsten Hills 90.86 53 *e*P **P** **23 10 28.4 +1.3**
EDW2 Edwards Air Fo 90.95 55 ⇑P **P** **23 10 27.3 -0.3**
baz=91,SNR=13
M07A Soldier Meadow 91.02 49 ⇑P **P** **23 10 27.1 -0.7**
baz=91
O07A Toulon 91.05 50 ⇑P **P** **23 10 27.5 -0.4**
baz=91
N07B Gerlach 91.08 49 ⇑P **P** **23 10 27.6 -0.5**
baz=91
BFSC Mount Baldy St 91.13 56 P **P** **23 10 27.0 -1.4**
baz=91,SNR=16
S08C White Mtn Res 91.19 52 P **P** **23 10 30.1 +1.4**
baz=91,SNR=11
I07A Izee 91.21 46 ⇓P **P** **23 10 28.2 -0.4**
baz=91
NVAR Mina Array Bea 91.23 52 P **P** **23 10 27.8 -1.1**
NVAR Mina Array Bea 91.23 52 P **P** **23 10 27.8 -1.0**
comp=Z,12nm,1.0s,mb5.2,baz=246,slow=3.8,SNR=17
H07A Lands Inn, Kim 91.25 45 ⇑P **P** **23 10 28.8 0.0**
baz=91
LRMC Laurel Mountai 91.28 55 ⇑P **P** **23 10 29.0 -0.2**
baz=91
G07A Ruggs Ranch, H 91.28 45 ⇑P **P** **23 10 27.1 -1.8**
baz=91,SNR=6.1
A07A Ashnola River, 91.43 41 ⇑P **P** **23 10 29.8 +0.3**
baz=91,SNR=6.2
MPMC Manual Prospec 91.53 54 ⇑P **P** **23 10 29.5 -0.7**
baz=92,SNR=28
HAWA Hanford 91.56 44 *e*P **P** **23 10 30.7 +0.5**
comp=Z,55nm,1.7s,mb5.6
HAWA *e*PP PP 23 14 09.2 +0.7
Q08A Gabbs 91.58 51 P **P** **23 10 29.6 -0.9**
baz=92,SNR=5.5
N08A GE Springer Mi 91.70 49 ⇑P **P** **23 10 30.5 -0.4**
baz=92
G08A Pilot Rock 91.78 45 ⇓P **P** **23 10 31.5 +0.2**
baz=92,SNR=7.6
J08A Circle Bar Ran 91.83 47 ⇑P **P** **23 10 30.9 -0.6**
baz=92
H08A Prairie City 91.87 46 ⇓P **P** **23 10 31.4 -0.3**
baz=92,SNR=7.3
KK31 Karatay Array 91.88 313 *i*P **P** **23 10 31.5 -0.2**
KK31 pmax pmax
comp=Z,86nm,1.2s,mb6.0
MONP Monument Peak 91.97 57 P **P** **23 10 32.6 +0.2**
baz=92,SNR=7.6
GSC Goldstone 91.97 55 *e*P **P** **23 10 31.7 -0.6**
comp=Z,30nm,1.0s,mb5.6
GSC Goldstone 91.97 55 *e*P **P** **23 10 31.7 -0.6**
GSC pmax pmax
comp=Z,30nm,1.0s,mb5.6
GSC Goldstone 91.97 55 ⇓P **P** **23 10 31.8 -0.5**
baz=92,SNR=5.5
B08A Colville Reser 92.01 42 ⇑P **P** **23 10 31.7 -0.4**
baz=92,SNR=8.0
PFO Pinyon Flat Ob 92.03 57 P **P** **23 10 32.2 -0.4**
PFO Pinyon Flat Ob 92.03 57 P **P** **23 10 32.2 -0.5**
PFO pmax pmax
comp=Z,20nm,1.0s,mb5.4
PFO Pinyon Flat Ob 92.03 57 P **P** **23 10 32.2 -0.4**
comp=Z,20nm,1.0s,mb5.4,baz=268,slow=3.7,SNR=18
PFO Pinyon Flat Ob 92.03 57 ⇑P **P** **23 10 32.2 -0.5**
baz=92,SNR=5.8
FURC Furnace Creek, 92.09 54 ⇓P **P** **23 10 32.1 -0.8**
baz=92
A08A Turner Farm, O 92.14 41 ⇑P **P** **23 10 33.1 +0.3**
baz=92,SNR=6.1
SYO Syowa Base 92.14 199⇓*e*P **P** **23 10 30.2 -2.3**
SYO Syowa Base 92.14 199⇓*e*PcP PcP 23 10 32.0 -1.2
Q09A Carvers 92.16 51 ⇓P **P** **23 10 33.3 +0.1**
baz=92

R09A Tonopah 92.16 52 ⇑P **P** **23 10 32.5 -0.6**
baz=92,SNR=7.5
N09A Rock Creek Ran 92.17 49 ⇓P **P** **23 10 32.6 -0.5**
baz=92,SNR=6.2
DVTC Desert V Tower 92.20 58 ⇓P **P** **23 10 34.7 +1.2**
baz=92,SNR=6.3
L09A Wilkinson Ranc 92.23 48 P **P** **23 10 36.2 +2.9**
baz=92,SNR=12
K09A Rome 92.28 47 ⇓P **P** **23 10 34.2 +0.6**
baz=92,SNR=6.8
HEC Hector,Ludlow 92.30 55 P **P** **23 10 33.0 -0.8**
baz=92,SNR=24
M09A Marrel Ranch, 92.31 49 ⇓P **P** **23 10 34.3 +0.6**
baz=92
J09A Fry Pan Ranch, 92.35 47 ⇑P **P** **23 10 33.3 -0.6**
baz=92,SNR=8.7
BELC Belle Mtn. 92.46 56 ⇑P **P** **23 10 33.8 -0.8**
baz=92,SNR=35
SHOC Shoshone 92.47 54 ⇓P **P** **23 10 34.2 -0.5**
baz=92
S10A Tonopah Range, 92.49 52 P **P** **23 10 34.1 -0.5**
baz=92,SNR=28
SWSC Sam W. Stewart 92.49 57 ⇑P **P** **23 10 35.8 +0.9**
baz=92,SNR=5.4
U10A Ash Meadows, A 92.50 54 ⇓P **P** **23 10 34.7 -0.1**
baz=92
E09A Wood Farm, Sta 92.53 44 P **P** **23 10 37.1 +2.5**
baz=92,SNR=6.7
A09A Danville 92.59 41 ⇑P **P** **23 10 35.0 +0.2**
baz=92
G09A Cove 92.61 45 ⇓P **P** **23 10 35.8 +0.8**
baz=93
TPNV Topopah Spring 92.64 53 *e*P **P** **23 10 35.0 -0.4**
comp=Z,32nm,1.0s,mb5.7
TPNV Topopah Spring 92.64 53 P **P** **23 10 35.1 -0.3**
TPNV pmax pmax
comp=Z,33nm,1.0s,mb5.7
TPNV Topopah Spring 92.64 53 ⇑P **P** **23 10 34.7 -0.7**
baz=93
TUQ Turquoise Mtn. 92.70 55 ⇓P **P** **23 10 34.9 -0.8**
baz=93,SNR=5.3
R10A Warm Springs 92.77 52 ⇓P **P** **23 10 35.5 -0.4**
baz=93,SNR=9.7
GMRC Granite Mounta 92.84 55 P **P** **23 10 35.8 -0.6**
baz=93,SNR=40
BC3 Big Chucker Mtn 92.87 57 ⇑P **P** **23 10 36.4 -0.2**
baz=93,SNR=14
O10A Cortez Mining, 92.87 50 ⇑P **P** **23 10 37.2 +0.8**
baz=93,SNR=7.7
BMO Blue Mountains 92.88 45 *e*P **P** **23 10 36.0 -0.4**
comp=Z,86nm,1.9s,mb5.8
BMO *e*PP PP 23 14 19.6 +0.7
BMO Blue Mountains 92.88 45 *e*P **P** **23 10 36.0 -0.3**
BMO *e* 23 14 19.6
BMO pmax pmax
comp=Z,86nm,1.9s,mb5.9
K10A MacKenzie Ranc 92.92 47 ⇑P **P** **23 10 36.3 -0.2**
baz=93,SNR=7.4
M10A I.L. Ranch, Tu 93.00 49 ⇓P **P** **23 10 38.2 +1.2**
baz=93,SNR=8.6
G10A Bishop Farm, J 93.07 45 P **P** **23 10 37.8 +0.6**
baz=93,SNR=7.1
L10A Juniper Basin 93.12 48 P **P** **23 10 39.1 +1.6**
baz=93,SNR=23
V11A Goodsprings 93.15 54 ⇓P **P** **23 10 37.3 -0.5**
baz=93,SNR=6.9
IRM Iron Mountain 93.18 56 P **P** **23 10 37.5 -0.4**
baz=93,SNR=45
H10A Noah's Angus R 93.24 46 ⇓P **P** **23 10 36.1 -1.9**
baz=93,SNR=11
R11A Troy Canyon, C 93.33 52 ⇑P **P** **23 10 37.8 -0.8**
baz=93,SNR=20
Q11A Duckwater 93.34 51 ⇓P **P** **23 10 37.0 -1.6**
baz=93,SNR=10
NEW Newport 93.45 42 P **P** **23 10 38.8 -0.1**
NEW pmax pmax
comp=Z,2.0nm,0.7s
NEW MLR MLR
comp=Z,22µm,21.2s
NEW Newport 93.45 42 P **P** **23 10 38.8 -0.1**
comp=Z,2.3nm,0.7s,mb4.7,baz=212,slow=5.8,SNR=10
NEW LR LR 23 43 14.0
comp=Z,22µm,21.2s,MS6.6,baz=179,slow=30
BRVK Borovoye 93.46 323 P **P** **23 10 36.6 -2.2**
comp=Z,316nm,1.2s,mb6.6,SNR=14
BRVK Borovoye 93.46 323⇑*e*P **P** **23 10 36.2 -2.6**
BRVK MLR MLR
comp=Z,14µm,20.0s,MS6.4
BRVK Borovoye 93.46 323 P **P** **23 10 37.0 -1.7**
SNR=37
BRVK Borovoye 93.46 323 P **P** **23 10 37.0 -1.7**
SNR=37
T11A Corn Creek, Al 93.49 53 ⇓P **P** **23 10 38.7 -0.6**
baz=94,SNR=7.2
O11A Cowboy Ranch, 93.49 50 P **P** **23 10 38.7 -0.6**
baz=94,SNR=17
K11A Parker Ranch, 93.53 47 ⇓P **P** **23 10 39.7 +0.4**
baz=94,SNR=18
M11A Holland Ranch, 93.55 49 ⇑P **P** **23 10 39.1 -0.4**
baz=94,SNR=10
V12A Nelson 93.61 55 ⇓P **P** **23 10 41.1 +1.2**
baz=94,SNR=6.8
G11A Walters Elk Ra 93.68 45 ⇑P **P** **23 10 41.7 +1.7**
baz=94,SNR=8.9
MFID Camas Ranch 93.75 47 ⇑P **P** **23 10 42.9 +2.5**
baz=94,SNR=8.8
H11A Donnelly 93.78 46 P **P** **23 10 41.0 +0.6**
baz=94,SNR=5.8
S12A Delamar Landin 93.82 53 ⇓P **P** **23 10 40.9 0.0**
baz=94,SNR=6.0
E11A Bogner Ranch, 93.83 44 ⇓P **P** **23 10 41.3 +0.6**
baz=94,SNR=12
ELK Elko 93.88 50 PFAKE 23 10 50.0 +9.0
ELK LR LR
comp=Z,242nm,20.0s
P12A McGill 93.99 51 ⇑P **P** **23 10 41.5 -0.1**
baz=94,SNR=5.5
Q12A Willow Creek R 94.00 51 ⇑P **P** **23 10 41.2 -0.5**
baz=94,SNR=7.0
PDMCI Parker Dam,Lak 94.03 56 ⇑P **P** **23 10 44.7 +2.9**
baz=94
A11A Hall Mountain, 94.04 41 ⇓P **P** **23 10 42.5 +1.0**
baz=94,SNR=5.7
N12A Clover Valley, 94.04 49 P **P** **23 10 43.0 +1.3**
baz=94,SNR=16
R12A Pony Springs, 94.09 52 ⇑P **P** **23 10 42.4 +0.3**
baz=94,SNR=5.9
M12A Wells 94.20 49 ⇑P **P** **23 10 44.5 +2.0**
baz=94,SNR=7.0
O12A Currie 94.20 50 P **P** **23 10 41.8 -0.7**
baz=94,SNR=15
L12A House Creek Ra 94.20 48 ⇓P **P** **23 10 44.2 +1.7**
baz=94,SNR=12
Y13A Salome 94.23 57 ⇑P **P** **23 10 45.4 +2.6**
baz=94
J12A Stokes Ranch, 94.27 47 P **P** **23 10 44.0 +1.3**
baz=94,SNR=12
W13A Hualapai Mount 94.32 55 ⇑P **P** **23 10 42.9 -0.3**
baz=94,SNR=19
K12A Draper Farm, C 94.34 48 ⇑P **P** **23 10 42.4 -0.7**
baz=94,SNR=11
U13A Pakoon Wash 94.40 54 ⇓P **P** **23 10 43.5 0.0**
baz=94,SNR=6.7
F12A Elk City 94.43 45 ⇑P **P** **23 10 43.4 0.0**
baz=94,SNR=8.9
D12A Red Ives Fores 94.50 43 ⇓P **P** **23 10 43.2 -0.5**
baz=94
T13A Saint George 94.51 53 ⇓P **P** **23 10 44.0 0.0**
baz=94,SNR=32
N13A Wendover, West 94.67 50 ⇓P **P** **23 10 47.6 +2.9**
baz=95,SNR=6.8
P13A Bates Ranch, G 94.67 51 ⇓P **P** **23 10 45.1 +0.4**
baz=95,SNR=8.2
HLID Hailey 94.79 47 *e*P **P** **23 10 45.1 -0.1**
comp=Z,88nm,2.1s,mb5.8
HLID *e*PP PP 23 14 35.9 +2.0
HLID Hailey 94.79 47 ⇓P **P** **23 10 44.6 -0.5**
baz=95,SNR=6.8
K13A Stover Farm, H 94.94 48 ⇓P **P** **23 10 46.2 +0.3**
baz=95,SNR=6.7
J13A Cove Ranch, Pi 94.95 47 ⇓P **P** **23 10 49.3 +3.5**
baz=95,SNR=6.5
W14A Seligman 94.99 55 ⇓P **P** **23 10 46.7 +0.5**
baz=95,SNR=8.1
H13A Challis 95.01 46 ⇓P **P** **23 10 45.7 -0.4**
baz=95
V14A Boquillas Ranc 95.01 55 ⇑P **P** **23 10 45.7 -0.7**
baz=95,SNR=6.1

U14A Mt Trumbull 95.03 54 ⇑P **P** **23 10 46.2 -0.2**
baz=95
I13A Wildhorse Cree 95.04 47 ⇑P **P** **23 10 46.3 0.0**
baz=95,SNR=13
X14A Yava 95.07 56 ⇑P **P** **23 10 48.9 +2.3**
baz=95,SNR=5.3
F13A Darby 95.07 45 ⇓P **P** **23 10 46.4 0.0**
baz=95,SNR=6.8
G13A Cobalt 95.07 45 ⇑P **P** **23 10 46.7 +0.4**
baz=95
T14A Hurricane 95.17 53 ⇓P **P** **23 10 46.8 -0.2**
baz=95,SNR=8.4
M14A Sheep Mountain 95.38 49 ⇓P **P** **23 10 48.6 +0.7**
baz=95,SNR=14
N14A Grayback Hills 95.44 50 ⇓P **P** **23 10 48.2 +0.1**
baz=95,SNR=14
K14A Jones Ranch, D 95.60 48 ⇑P **P** **23 10 50.0 +1.1**
baz=96,SNR=5.9
X15A Humboldt 95.61 56 ⇑P **P** **23 10 49.9 +0.8**
baz=96
DUG Dugway 95.67 50 *e*P **P** **23 10 51.5 +2.2**
comp=Z,49nm,1.8s,mb5.6
DUG Dugway 95.67 50 *e*P **P** **23 10 51.5 +2.3**
DUG pmax pmax
comp=Z,49nm,1.8s,mb5.6
DUG Dugway 95.67 50 ⇓P **P** **23 10 52.1 +2.9**
baz=96,SNR=9.8
T15A Red Dirt Ranch 95.72 54 ⇑P **P** **23 10 52.6 +3.1**
baz=96
N15A Stansbury Isla 95.95 50 ⇑P **P** **23 10 52.6 +2.1**
baz=96,SNR=6.2
MSU Marysvale 96.01 52 *e*P **P** **23 10 52.6 +1.8**
M15A Larsen Ranch, 96.05 49 P **P** **23 10 53.6 +2.7**
baz=96,SNR=8.6
YKA Yellowknife Ar 96.33 28 P **P** **23 10 50.0 -1.7**
YKA Yellowknife Ar 96.33 28 P **P** **23 10 50.0 -1.7**
YKA pmax pmax
comp=Z,5.0nm,0.7s
YKA Yellowknife Ar 96.33 28 P **P** **23 10 50.0 -1.7**
comp=Z,5.2nm,0.7s,mb5.1,baz=265,slow=4.6,SNR=30
YKA PKiKP PKiKP 23 15 29.5 0.0
comp=Z,0.5nm,0.7s,baz=239,slow=1.2,SNR=3.8
YKA PKKPbc PKKPbc 23 27 35.5 -4.4
comp=Z,1.1nm,0.8s,baz=72,slow=2.2,SNR=5.4
YKA LR LR 23 48 13.0
comp=Z,6µm,19.7s,MS6.0,baz=185,slow=32
HWUT Hardware Ranch 96.72 49 *e*P **P** **23 10 54.7 +0.7**
comp=Z,17nm,1.5s,mb5.3
DAU Daniels Canyon 96.87 50 *e*P **P** **23 10 55.6 +0.9**
BOZ Bozeman (W) 96.95 45 ⇑P **P** **23 10 54.6 -0.3**
baz=97
TPAW Teton Pass 97.30 47 *e*P **P** **23 10 59.5 +2.9**
comp=Z,18nm,1.4s,mb5.3
REDW Red Top Meadow 97.36 47 *e*P **P** **23 10 58.6 +1.8**
comp=Z,18nm,1.4s,mb5.3
MOOW Moose Ponds 97.46 47 *e*P **P** **23 10 57.7 +0.4**
comp=Z,175nm,2.9s,mb6.0
BW06 Boulder Array 98.28 48 *e*P **P** **23 11 01.4 +0.4**
comp=Z,3.7nm,0.7s,mb5.0
BW06 LR LR
comp=Z,14µm,21.0s,MS6.4
PDAR Pinedale Array 98.28 48 P **P** **23 10 58.8 -2.1**
comp=Z,1.7nm,0.7s,mb4.7,baz=200,slow=2.0,SNR=9.3
RLMT Red Lodge 98.58 46 *e*P **P** **23 11 04.4 +2.1**
comp=Z,161nm,3.1s
SVE Sverdlovsk 99.25 326 *e*P **P** **23 11 03.8 -1.2**
SVE pmax pmax
comp=Z,58nm,2.1s,mb5.7
AB31 Akbulak array 99.68 319 *i*P Pdif 23 11 03.0 -4.0
SMCO Snowmass 100.11 52 *e*Pdif Pdif 23 11 09.8 +0.9
comp=Z,8.0nm,1.3s
ANMO Albuquerque 100.39 56 *e*Pdif Pdif 23 11 11.6 +1.5
comp=Z,34nm,2.3s
ANMO Albuquerque 100.39 56⇑*e*P Pdif 23 11 11.1 +1.0
ARU Arti 100.41 326⇑*e*P Pdif 23 11 07.5 -2.7
ARU LR LR
comp=Z,9µm,20.0s,MS6.3
ARU Arti 100.41 326*c i*P Pdif 23 11 07.3 -2.9
ARU 23 15 13.7
ARU S SKSac 23 21 43.4 -5.2
ARU SS SS 23 29 33.0 -8.2
ARU pmax pmax
comp=Z,51nm,2.5s
AKTK Aktyubinsk 100.92 320 P Pdif 23 11 12.7 +0.2
AKTO Aktyubinsk 100.92 320 *i*P Pdif 23 11 09.4 -3.1
AKTO pmax pmax
comp=Z,1.0nm,1.5s
AKTO Aktyubinsk 100.92 320 P Pdif 23 11 12.7 +0.2
comp=Z,3.1nm,0.7s,baz=104,slow=4.1,SNR=11
ISCO Idaho Springs 101.17 51 *e*Pdif Pdif 23 11 15.6 +2.0
comp=Z,14nm,1.8s
ISCO LR LR
comp=Z,16µm,20.0s,MS6.5
ISCO Idaho Springs 101.17 51 *e*P Pdif 23 11 15.6 +2.0
ISCO pmax pmax
comp=Z,14nm,1.8s
ISCO MLR MLR
comp=Z,16µm,20.0s,MS6.5
SDCO Great Sand Dun 101.23 53 *e*Pdif Pdif 23 11 15.8 +1.9
SDCO LR LR
comp=Z,13µm,19.0s,MS6.5
LTX Lajitas 102.58 62 *e*Pdif Pdif 23 11 21.2 +1.3
WMOK Wichita Mounta 106.70 56 *e*PKiKP PKiKP 23 15 48.5 -0.6
WMOK LR LR
comp=Z,12µm,20.0s,MS6.4
ARCES ARCESS Array B 110.43 343 *i*PKIKP PKiKP 23 15 54.4 -0.7
ARCES pmax pmax
comp=Z,7.0nm,1.0s
ARCES ARCESS Array B 110.43 343 PKiKP PKiKP 23 15 54.4 -0.7
comp=Z,6.9nm,1.0s,baz=74,slow=1.8,SNR=9.7
KIV Kislovodsk 112.00 314 PFAKE 23 16 10.0 +11
KIV LR LR
comp=Z,8µm,19.0s,MS6.3
KIV Kislovodsk 112.00 314 *e*P Pdif 23 12 07.0 +5.2
KIV pmax pmax
comp=Z,9.0nm,1.0s
OBN Obninsk 112.80 327 *e*PKiKP PKiKP 23 15 59.7 -0.2
OBN LR LR
comp=Z,10µm,21.0s,MS6.4
OBN Obninsk 112.80 327 *i*P Pdif 23 12 04.0 -1.3
OBN 23 16 52.0
OBN pmax pmax
comp=Z,28nm,1.6s
FINES FINESS Array B 114.89 336 PKPdf PKiKP 23 16 02.1 -1.7
FINES FINESS Array B 114.89 336 *i*PKIKP PKiKP 23 16 02.1 -1.7
FINES pmax pmax
comp=Z,1.0nm,0.4s
FINES FINESS Array B 114.89 336 PKiKP PKiKP 23 16 02.1 -1.7
comp=Z,0.9nm,0.4s,baz=87,slow=3.9,SNR=15
PLCA Paso Flores 115.62 142 PKIKP PKPdf 23 16 05.4 -0.5
PLCA 23 19 41.0
PLCA 23 26 39.5
PLCA pmax pmax
comp=Z,3.0nm,1.0s
PLCA Paso Flores 115.62 142 PKP PKPdf 23 16 05.4 -0.5
comp=Z,2.6nm,0.9s,baz=187,slow=2.8,SNR=4.5
PLCA SKP 23 19 41.0
comp=Z,2.5nm,1.0s,baz=132,slow=5.4,SNR=3.0
PLCA PKKPbc PKKPbc 23 26 39.5 -0.3
comp=Z,3.5nm,0.8s,baz=44,slow=6.0,SNR=8.8
MALT Malatya 116.27 309 ⇓P PKPdf 23 16 06.4 -0.7
MALT Malatya 116.27 309 ⇓*i*P PKPdf 23 16 06.4 -0.8
ACSO Alum Creek Sta 118.31 48 PKPdf PKPdf 23 16 08.8 -2.2
KMBO Kilima Mbogo 118.38 265 PKP PKPdf 23 16 11.0 -1.0
KMBO LR LR
comp=Z,11µm,20.0s,MS6.5
KMBO Kilima Mbogo 118.38 265 PKP PKPdf 23 16 11.0 -1.0
comp=Z,2.2nm,0.8s,baz=50,slow=22,SNR=4.4
AKASG Malin Array Be 118.62 325 PKP PKPdf 23 16 09.2 -2.0
AKASG PKKPbc PKKPbc 23 26 29.1 -0.2
AKASG Malin Array Be 118.62 325 PKP PKPdf 23 16 09.2 -2.0
comp=Z,6.5nm,0.7s,baz=64,slow=2.4,SNR=12
AKASG PKKPbc PKKPbc 23 26 29.1 -0.2
comp=Z,0.4nm,0.4s,baz=258,slow=3.8,SNR=6.5
ASF Jabal al Asfar 118.63 302 PKIKP PKPdf 23 16 11.0 -0.9
ASF pmax pmax
comp=Z,6.0nm,0.9s
ASF Jabal al Asfar 118.63 302 PKP PKPdf 23 16 11.0 -0.9
comp=Z,5.7nm,0.9s,baz=175,slow=1.5,SNR=5.2
ANTO Ankara 120.14 312 ⇓P PKPdf 23 16 13.3 -1.3
ANTO Ankara 120.14 312 PKPdf PKPdf 23 16 14.5 -0.1
SNR=6.7
ANTO Ankara 120.14 312 ⇓*i*P PKPdf 23 16 13.3 -1.3
KIS Kishinev 120.40 321 *e*PKP PKPdf 23 16 15.0 +0.1
HFS Hagfors 120.41 339 PKIKP PKPdf 23 16 13.4 -1.1
HFS pmax pmax

comp=Z,1.0nm,0.4s
HFS Hagfors 120.41 339 PKP PKPdf 23 16 13.4 -1.1
comp=Z,1.1nm,0.4s,baz=125,slow=7.4,SNR=8.2
NOA NORSAR Array B 120.58 341 PKIKP PKPdf 23 16 14.2 -0.6
NOA pmax pmax
comp=Z,2.0nm,0.8s
NOA NORSAR Array B 120.58 341 PKP PKPdf 23 16 14.2 -0.6
comp=Z,1.8nm,0.8s,baz=44,slow=2.0,SNR=5.7
BLA Blacksburg 121.04 51 *e*PKPdf PKPdf 23 16 15.9 -0.5
LHS Liberty Hill 121.41 54 PKIKP PKPdf 23 16 18.6 +1.4
TIRR Tirgusor 121.67 318 ⇑P PKPdf 23 16 16.2 -1.2
TIRR Tirgusor 121.67 318 ⇑*i*P PKPdf 23 16 16.2 -1.2
SCHQ Schefferville 121.78 28 PKP PKPdf 23 16 16.3 -1.0
SCHQ Schefferville 121.78 28 PKP PKPdf 23 16 16.3 -1.0
comp=Z,5.4nm,0.8s,baz=216,slow=12,SNR=7.2
LVV L'vov 121.98 325 *e*PKIKP PKPdf 23 16 21.0 +3.2
VRI Vrincioaia 122.19 320 ⇑P PKPdf 23 16 17.2 -1.1
VRI Vrincioaia 122.19 320 ⇑*i*P PKPdf 23 16 17.2 -1.1
PLOR Plostina 122.24 320 ⇓*i*P PKPdf 23 16 20.3 +1.9
ISP Isparta 122.44 310 ⇓P PKPdf 23 16 11.6 -7.4
ISP Isparta 122.44 310 ⇓*i*P PKPdf 23 16 11.6 -7.5
LONY Lake Ozonia 122.70 41 *e*PKPdf PKPdf 23 16 17.4 -1.9
BINY Binghamton 122.71 44 *e*PKPdf PKPdf 23 16 18.6 -0.8
KWP Kalwaria 122.82 326 ⇑P PKPdf 23 16 18.5 -0.9
KWP Kalwaria 122.82 326 ⇑*i*P PKPdf 23 16 18.5 -0.9
MLR Muntele Rosu 122.84 320 ⇓P PKPdf 23 16 17.9 -1.7
MLR Muntele Rosu 122.84 320 ⇓*i*P PKPdf 23 16 17.9 -1.7
KOLS Kolonicke sedl 123.42 325 *e*PKP PKPdf 23 16 20.1 -0.5
KOLS Kolonicke sedl 123.42 325 *e*PKP PKPdf 23 16 20.0 -0.6
VOIR 123.44 320 ⇑P PKPdf 23 16 23.6 +2.8
VOIR 123.44 320 ⇑*i*P PKPdf 23 16 23.6 +2.9
UZH Uzhgorod 123.56 325 *e*PKIKP PKPdf 23 16 21.8 +0.9
LSZ Lusaka 123.60 246 PKPdf PKPdf 23 16 26.7 +4.8
SNR=5.7
JMB Yambol 123.67 317 P PKPdf 23 16 21.0 -0.3
STHS Stebnicka Huta 123.74 326 *e*PKP PKPdf 23 16 20.8 -0.4
ATAH Atahualpa 123.78 104 PKP PKPdf 23 16 22.5 +0.2
comp=Z,10nm,0.7s,baz=212,slow=7.2,SNR=6.8
SZH Strazhica 123.79 318 P PKPdf 23 16 20.5 -1.0
CRVS Cervenica-Dubn 123.89 326 *e*PKP PKPdf 23 16 20.5 -1.0
NNA Nana 123.91 110 PKP PKPdf 23 16 21.8 -0.7
NNA *e*PKPdf PKPdf 23 16 22.8 +0.3
NNA LR LR
comp=Z,6μm,21.0s,MS6.3
NNA Nana 123.91 110 PKP PKPdf 23 16 21.8 -0.7
comp=Z,11nm,0.7s,baz=239,slow=9.6,SNR=2.9
OJC Ojcow 124.08 328 *e*PKP PKPdf 23 16 25.8 +4.0
DRGR 124.24 323 PKIKP PKPdf 23 16 24.8 +2.6
DRGR 124.24 323 ⇑*i*P PKPdf 23 16 20.6 -1.6
NIE Niedzica 124.25 327 *e*PKP PKPdf 23 16 21.8 -0.4
DIM Dimitrovgrad 124.55 317 P PKPdf 23 16 22.4 -0.6
KECS Kecovo 124.66 326 *e*PKP PKPdf 23 16 24.5 +1.5
GZR Gura Zlata 124.88 321 ⇑P PKPdf 23 16 22.6 -0.9
GZR Gura Zlata 124.88 321 PKIKP PKPdf 23 16 22.9 -0.6
GZR Gura Zlata 124.88 321 ⇑*i*P PKPdf 23 16 22.6 -0.9
FFD Franklin Falls 125.11 41 *e*PKPdf PKPdf 23 16 23.9 -0.1
OKC Ostrava-Krasne 125.18 328 *e*PKPdf PKPdf 23 16 23.7 -0.2
OKC *ep*PKP pPKPdf 23 16 27.7 -1.2
PSZ Piszkesteto 125.30 325 ⇓P PKPdf 23 16 22.6 -1.7
PSZ Piszkesteto 125.30 325 ⇓*i*P PKPdf 23 16 22.6 -1.6
PSZ Piszkesteto 125.30 325 *epp*PKP/D pPKPdf 23 16 26.9 -2.3
BZS Buzias 125.48 322 ⇓P PKPdf 23 16 23.9 -0.8
BZS Buzias 125.48 322 ⇓*i*P PKPdf 23 16 23.9 -0.8
KSP Ksiaz 125.52 330 *e*PKP PKPdf 23 16 25.2 +0.6
MORC Moravsky Berou 125.53 328 ⇑P PKPdf 23 16 24.3 -0.3
MORC Moravsky Berou 125.53 328 ⇑*i*P PKPdf 23 16 24.3 -0.3
VYHS Vyhne 125.58 326 *e*PKP PKPdf 23 16 23.5 -1.2
VYHS *e*PP PP 23 18 16.0 +0.3
PKME Peaks-Kenny Pk 125.76 38 *e*PKPdf PKPdf 23 16 23.6 -1.6
KOLL Kolacno 125.77 327 *e*PKP PKPdf 23 16 24.2 -0.9
DPC Dobruska-Polom 125.81 329 *e*PKPdf PKPdf 23 16 25.0 -0.1
DPC *ep*PKP pPKPdf 23 16 29.3 -0.8
UPC Upice 125.87 330 *e*PKPdf PKPdf 23 16 26.3 +1.1
UPC *ep*PKP pPKPdf 23 16 29.3 -0.9
VTS Vitosha 125.89 318 ⇑P PKPdf 23 16 25.0 -0.6
VTS Vitosha 125.89 318 ⇑*i*P PKPdf 23 16 25.0 -0.5
VTS Vitosha 125.89 318 P PKPdf 23 16 24.0 -1.5
MMB Musomiste 125.97 317 P PKPdf 23 16 27.1 +1.4
BUD Budapest 126.03 325 ⇓*ep*PKP pPKPdf 23 16 28.3 -2.3
BSEG Bad Segeberg 126.16 336 *e*PKPdf PKPdf 23 16 25.8 +0.1
VRAC Vranov 126.31 328 ⇑P PKPdf 23 16 25.5 -0.6
VRAC Vranov 126.31 328 ⇑*i*P PKPdf 23 16 25.5 -0.6
SMOL Smolenice 126.33 327 *e*PKP PKPdf 23 16 29.9 +3.7
MODS Modra-Piesok 126.50 327 *e*PKP PKPdf 23 16 26.0 -0.5
PVCC Panska Ves 126.57 330 *e*PKPdf PKPdf 23 16 25.8 -0.8
PVCC *ep*PKP pPKPdf 23 16 30.1 -1.4
BRG Berggiesshubel 126.66 331 *e*PKPdf PKPdf 23 16 26.7 0.0
BRG Berggiesshubel 126.66 331 *e*PKP PKPdf 23 16 30.7 +4.0
comp=Z,125nm,1.7s
BRG *e* 23 18 17.6
comp=Z,142nm,1.4s
ZST Bratislava 126.69 327 *e*PKP PKPdf 23 16 29.9 +3.0
ZST *e* 00 01 32.4
CLL Collm 126.81 332 *e*PKP PKPdf 23 16 26.0 -1.0
CLL *i* 23 16 30.5
CLL Collm 126.81 332 *e*PKIKP PKPdf 23 16 26.0 -1.0
CLL *i* 23 16 30.5
CLL pmax pmax
comp=Z,11nm,1.1s
CLL Collm 126.81 332 *e*PKPdf PKPdf 23 16 26.0 -1.0
comp=Z,11nm,1.1s
CLL *i* pPKPdf pPKPdf 23 16 30.5 -1.4
comp=Z,54nm,1.5s
CLL *ex* x 23 17 58.0
CLL *ex* x 23 18 46.0
VAY Valandovo 126.87 317 *e*PKP PKPdf 23 16 27.4 -0.1
TREC Trest 126.89 329 *e*PKPdf PKPdf 23 16 28.0 +0.8
TREC *ep*PKP pPKPdf 23 16 30.2 -2.0
PRU Pruhonice 126.93 330 *e*PKPdf PKPdf 23 16 27.4 +0.1
PRU *ep*PKP pPKPdf 23 16 31.1 -1.1
PKSM Moragy 126.95 324 ⇑P PKPdf 23 16 26.6 -0.9
PKSM Moragy 126.95 324 ⇑*i*P PKPdf 23 16 26.5 -0.9
STIP Stip 126.97 318 *e*PKP PKPdf 23 16 26.0 -1.7
SOP Sopron 127.29 327 ⇓*ep*PKP pPKPdf 23 16 30.8 -2.2
SKO Skopje 127.34 318 *e*PKP PKPdf 23 16 27.5 -0.8
CONA Conrad Observa 127.52 327 ⇑*i*PKiKP PKiKP 23 16 29.5 +0.5
comp=Z,59nm,1.8s,SNR=13
CLZ Clausthal 127.64 334 *e*PKPdf PKPdf 23 16 28.9 +0.3
KRUS Krusevo 127.74 318 *e*PKP PKPdf 23 16 27.1 -2.0
NKC Novy Kostel 127.79 331 *e*PKPdf PKPdf 23 16 28.5 -0.4
NKC *ep*PKP pPKPdf 23 16 33.1 -0.8
MOX Moxa 127.91 332 *e*PKP PKPdf 23 16 30.1 +1.0
comp=Z,84nm,2.0s
MOX *e* 23 18 32.9
MOX Moxa 127.91 332 *e*PKIKP PKPdf 23 16 30.1 +1.0
MOX *e* 23 18 32.9
MOX pmax pmax
comp=Z,65nm,2.0s
MOX Moxa 127.91 332 *e*PKPdf PKPdf 23 16 29.1 0.0
KHC Kasperske Hory 127.96 330 *e*PKPdf PKPdf 23 16 28.5 -0.8
KHC *ep*PKP pPKPdf 23 16 33.4 -0.8
GERES GERESS Array B 128.09 329 PKP PKPdf 23 16 28.1 -1.4
GERES GERESS Array B 128.09 329 PKIKP PKPdf 23 16 28.1 -1.4
GERES pmax pmax
comp=Z,8.0nm,0.9s
GERES GERESS Array B 128.09 329 PKP PKPdf 23 16 28.1 -1.4
comp=Z,8.3nm,0.9s,baz=90,slow=1.3,SNR=19
OHR Ohrid 128.16 317 *e*PKP PKPdf 23 16 29.1 -0.8
ROTZ Rotzenmuhle 128.22 331 *e*PKPdf PKPdf 23 16 29.7 -0.1
WET Wettzell 128.31 330 *e*PKPdf PKPdf 23 16 30.0 +0.1
IBBN Ibbenburen 128.40 336 *e*PKPdf PKPdf 23 16 30.0 0.0
GROS Grobnik 128.60 326 *e*PKPdf PKPdf 23 16 30.7 +0.2
GRA1 Grafenberg Arr 128.74 331 *e*PKP PKPdf 23 16 30.8 0.0
GRF Grafenberg Arr 128.74 331 *e*PKP PKPdf 23 16 30.8 0.0
WTSB Winterswijk 129.05 336 *e*PKiKP PKiKP 23 16 31.6 -0.4
comp=Z,68nm,2.6s
OBKA Obir 129.09 326 ⇑*i*P PKPdf 23 16 30.9 -0.6
comp=Z,25nm,1.8s,SNR=6.6
PDKS Podkum 129.12 326 *e*PKPdf PKPdf 23 16 30.9 -0.7
BOJS Bojanci 129.30 325 *e*PKPdf PKPdf 23 16 31.7 -0.3
KBA Koelnbreinsper 129.39 328 ⇑*i*P PKPdf 23 16 32.4 +0.3
comp=Z,1.9nm,1.2s,SNR=9.3
TNS Taunus Mts 129.65 333 *e*PKPdf PKPdf 23 16 32.4 0.0
VOY Vojsko 129.75 326 *e*PKPdf PKPdf 23 16 31.4 -1.4
VOY *e* 23 16 34.3
FUR Furstenfeldbru 129.75 330 *e*PKPdf PKPdf 23 16 32.4 -0.3
ROSC El Rosal 129.84 90 PKP PKPdf 23 16 33.6 -0.3
comp=Z,8.5nm,0.6s,baz=84,slow=15,SNR=11
LPAZ La Paz 130.25 119 PKIKP PKPdf 23 16 34.3 -0.3
LPAZ pmax pmax
comp=Z,10.0nm,0.7s
LPAZ La Paz 130.25 119 PKP PKPdf 23 16 34.3 -0.3
comp=Z,10nm,0.7s,baz=7.9,slow=3.9,SNR=19
HGN Heimansgroeve 130.32 336 *e*PKiKP PKiKP 23 16 34.6 0.0
comp=Z,52nm,2.6s
STU Stuttgart 130.34 332 *e*PKPdf PKPdf 23 16 33.7 -0.1
LANF Langenberg 130.83 333 PKP PKPdf 23 16 35.0 +0.3
WLF Walferdange 131.06 334 *e*PKPdf PKPdf 23 16 35.8 +0.7
BFO Black Forest 131.06 332 PKIKP PKPdf 23 16 38.4 +3.2
BFO Black Forest 131.06 332 *e*PKPdf PKPdf 23 16 34.7 -0.5
GIVF Givet 131.28 336 *e*PKIKP PKPdf 23 16 28.8 -6.8
CDF Champ du Feu 131.49 333 *e*PKIKP PKPdf 23 16 29.8 -6.2
comp=Z,150nm,1.8s
BAIF Baives 131.56 336 *e*PKIKP PKPdf 23 16 29.3 -6.8
comp=Z,129nm,1.8s
ECH Echery 131.68 332 PKP PKPdf 23 16 34.8 -1.6
MOF Molkenrain 131.96 332 PKP PKPdf 23 16 35.6 -1.3
HINF Hinteralfeld 132.12 332 *e*PKIKP PKPdf 23 16 30.9 -6.3
comp=Z,273nm,1.8s
HAU Haudompre 132.21 333 *e*PKIKP PKPdf 23 16 30.8 -6.6
comp=Z,84nm,1.4s
AQU L'Aquila 132.23 323 ⇓P PKPdf 23 16 31.5 -6.1
AQU L'Aquila 132.23 323 PKIKP PKPdf 23 16 36.6 -1.0
AQU L'Aquila 132.23 323 ⇓*i*P PKPdf 23 16 31.5 -6.1
MEZF Maizieres J'vi 132.41 334 *e*PKIKP PKPdf 23 16 31.3 -6.4
comp=Z,292nm,1.7s
LOMF Lomont 132.47 332 PKP PKPdf 23 16 35.2 -2.7
CABF La Chapelle 133.35 332 *e*PKIKP PKPdf 23 16 33.7 -5.9
SDV Santo Domingo 133.78 85 PKP PKPdf 23 16 41.4 +0.1
comp=Z,13nm,0.8s,baz=282,slow=4.4,SNR=14
LPL La Plagne 133.83 330 *e*PKIKP PKPdf 23 16 34.1 -6.4
comp=Z,79nm,1.4s
LPG La Plagne 133.84 330 *e*PKIKP PKPdf 23 16 34.3 -6.2
comp=Z,65nm,1.3s
LOR Lorres 133.87 334 *e*PKIKP PKPdf 23 16 33.7 -6.8
comp=Z,78nm,1.5s
SSF Saint Saulge 134.18 334 *e*PKIKP PKPdf 23 16 34.4 -6.7
comp=Z,132nm,1.8s
SMF Signal de Mont 134.36 333 *e*PKIKP PKPdf 23 16 35.0 -6.5
comp=Z,85nm,1.4s
MBDF Montbardon 134.38 329 *e*PKIKP PKPdf 23 16 35.2 -6.4
FLN La Foliniere 134.41 338 *e*PKIKP PKPdf 23 16 35.3 -6.2
LDF La Druitiere 134.42 338 *e*PKIKP PKPdf 23 16 34.9 -6.6
AVF Avril sur Loir 134.46 334 *e*PKIKP PKPdf 23 16 35.3 -6.4
comp=Z,99nm,1.7s
SBF Sospel 134.64 328 *e*PKIKP PKPdf 23 16 35.2 -6.9
PGF Pioggiola 134.67 326 *e*PKIKP PKPdf 23 16 35.5 -6.7
comp=Z,138nm,1.2s
ORIF Oris-en-Rattie 134.68 330 *e*PKIKP PKPdf 23 16 35.6 -6.5
comp=Z,39nm,1.0s
BGF Bois d'Agland 134.86 334 *e*PKIKP PKPdf 23 16 35.8 -6.6
GRR Gorron 134.87 338 *e*PKIKP PKPdf 23 16 35.9 -6.5
PLDF La Plantade 134.97 333 PKP PKPdf 23 16 38.9 -3.7
FRF La Foret Royal 135.26 328 *e*PKIKP PKPdf 23 16 36.4 -6.9
VIVF Saint-Julien-l 135.31 331 *e*PKIKP PKPdf 23 16 36.9 -6.4
comp=Z,38nm,1.1s
TCF Toulx Ste Croi 135.35 334 *e*PKIKP PKPdf 23 16 36.2 -7.1
LMR La Mourre 135.49 328 *e*PKIKP PKPdf 23 16 36.8 -6.9
SMRF Simiane la Rot 135.51 330 *e*PKIKP PKPdf 23 16 37.3 -6.4
comp=Z,236nm,1.7s
LBL Lubilhac 135.70 332 PKP PKPdf 23 16 39.5 -4.5
MFF Saint Martin d 136.07 336 *e*PKIKP PKPdf 23 16 37.9 -6.8
LASF Ste Croix 136.28 331 *e*PKIKP PKPdf 23 16 38.3 -6.9
comp=Z,70nm,1.2s
RJF Les Rejaudoux 136.42 334 *e*PKIKP PKPdf 23 16 38.7 -6.7
CAF Calviac 136.47 333 *e*PKIKP PKPdf 23 16 38.9 -6.6
LFF La Frestale 137.04 334 *e*PKIKP PKPdf 23 16 40.0 -6.5
comp=Z,58nm,1.3s
MTLF Montolieu 137.62 332 *e*PKIKP PKPdf 23 16 40.7 -7.0
comp=Z,108nm,1.7s
KEST Kesra 138.62 318 PKhKP 23 16 40.5
comp=Z,1.3nm,0.7s,baz=11,slow=3.4,SNR=5.2
KEST PKP PKPdf 23 16 49.9 +0.2
comp=Z,2.8nm,0.8s,baz=315,slow=2.9,SNR=5.8
EPF Esparros 138.73 333 *e*PKIKP PKPdf 23 16 42.3 -7.4
comp=Z,18nm,0.9s
ETSF Etsaut 139.24 333 *e*PKIKP PKPdf 23 16 44.3 -6.3
comp=Z,35nm,0.8s
SJPF Ste Jean 139.36 334 *e*PKIKP PKPdf 23 16 43.6 -7.2
CMAH Djebel Manchou 139.36 320 P PKPdf 23 16 53.0 +1.9
CKFL Kef-Lekhel 139.94 320 P PKPdf 23 16 54.0 +1.9
ECRI Cripan 140.31 335 PKP PKPdf 23 16 46.5 -6.1
DFRA Djebel Bou Aff 140.38 321 P PKPdf 23 16 52.0 -0.9
ETOR Torete 141.57 333 PKP PKPdf 23 16 49.7 -5.2
ABA Alger-Bouzarea 141.93 324 P PKPdf 23 16 54.2 -1.5
AKET Djebel Ketaf 141.93 322 P PKPdf 23 16 55.1 -0.6
ECHE Chera 142.03 331 PKP PKPdf 23 16 52.6 -3.2
ADJB Djebel Djouab 142.12 323 P PKPdf 23 16 55.5 -0.6
EMHD Djebel Mahouad 142.38 323 P PKPdf 23 16 55.0 -1.5
GUD Guadarrama 142.63 335 PKP PKPdf 23 16 52.4 -4.4
PBRG Braganca 142.65 339 *e*PKP PKPdf 23 16 52.8 -4.0
ETOB Tobarra 143.05 330 PKP PKPdf 23 16 51.8 -5.9
PCAB Cabril 143.18 340 *e*PKP PKPdf 23 16 54.6 -3.2
MVO Moncorvo 143.31 338 *e*PKP PKPdf 23 16 57.4 -0.6
ESDC Sonseca Array 143.35 334 PKP PKPdf 23 16 53.5 -4.7
ESDC PKP PKPdf 23 16 58.3 +0.2
ESDC Sonseca Array 143.35 334 PKhKP 23 16 52.3
comp=Z,13nm,0.8s,baz=25,slow=3.2,SNR=24
ESDC PKP PKPdf 23 16 58.3 +0.2
comp=Z,13nm,0.8s,baz=15,slow=3.9,SNR=24
PVRL Vila Real 143.46 339 *e*PKP PKPdf 23 16 56.3 -2.0
EMUR La Murta 143.52 329 PKP PKPdf 23 16 56.0 -2.5
EVIA Vianos 143.52 331 PKP PKPdf 23 16 55.3 -3.2
EANR 'Ain N'Sour 143.64 325 P PKPdf 23 16 56.0 -2.8
ETRT Tiaret 143.92 324 P PKPdf 23 16 58.0 -1.3
PVIS Viseu 144.02 339 *e*PKP PKPdf 23 16 56.2 -3.1
MTE Manteigas 144.17 338 *e*PKP PKPdf 23 16 57.1 -2.4
EHUE Huescar 144.21 330 PKP PKPdf 23 17 00.6 +0.9
EQES Quesada 144.45 331 PKP PKPdf 23 16 58.5 -1.6
EBAN Banos Encina 144.50 332 PKP PKPdf 23 16 57.9 -2.3
PCBR Castelo Branco 144.64 338 *e*PKP PKPdf 23 16 58.3 -2.1
ENIJ Nijar 144.68 329 PKP PKPdf 23 16 58.2 -2.4
EADA Adamuz 144.86 333 PKP PKPdf 23 16 58.7 -2.1
EBER Berja 145.08 330 PKP PKPdf 23 16 59.6 -1.6
ECOG Cogollos-Vega 145.11 331 PKP PKPdf 23 16 59.8 -1.5
ELUQ Luque 145.21 332 PKP PKPdf 23 17 01.6 +0.2
ECAB El Cabril 145.31 334 PKP PKPdf 23 17 01.2 -0.4
EBAD Badajoz 145.40 336 PKP PKPdf 23 17 00.4 -1.4
ERON Agron 145.43 331 PKP PKPdf 23 17 00.5 -1.4
EGUA Guajares 145.46 331 PKP PKPdf 23 17 00.2 -1.7
ELOJ Sierra Loja 145.49 332 PKP PKPdf 23 16 59.8 -2.1
PESTR Estremoz 145.53 337 *e*PKP PKPdf 23 17 00.8 -1.1
ALMR Almeirim 145.64 339 *e*P PKPdf 23 17 01.9 -0.3
EALB Alboran 145.90 329 PKP PKPdf 23 17 01.5 -1.2
PBAR Barrancos 145.91 336 *e*PKP PKPdf 23 17 03.4 +0.8
EVO Evora 145.98 337 *e*PKIKP PKPdf 23 17 01.1 -1.6
comp=Z,517nm,1.4s
PMAFR Mafra 146.07 339 *e*PKP PKPdf 23 17 02.8 -0.1
EMIN Mina Concepcio 146.10 335 PKP PKPdf 23 17 03.7 +0.7
MOE Montemor 146.12 338 *e*PKP PKPdf 23 17 03.5 +0.5
LIS Lisbon 146.24 339 *e*P PKPdf 23 17 03.8 +0.6
EMIJ Mijas 146.26 332 PKP PKPdf 23 17 04.4 +1.1
PBEJ Beja 146.36 337 *e*PKP PKPdf 23 17 04.0 +0.6
ESPR Espera 146.50 333 PKP PKPdf 23 17 03.9 +0.3
EGRO El Granado 146.64 336 PKP PKPdf 23 17 03.2 -0.6
EJIF Jimena Fronter 146.67 332 PKP PKPdf 23 17 03.8 -0.1
PVAQ Vaqueiros 146.84 336 *e*PKP PKPdf 23 17 05.9 +1.7
PBDV Barranco-do-Ve 147.07 336 *e*PKP PKPdf 23 17 06.3 +1.7
PTEO Sao Teotonio 147.11 337 *e*PKP PKPdf 23 17 06.1 +1.4
MORF Marmelete 147.30 337 *e*PKP PKPdf 23 17 06.7 +1.7
PFVI Vila Bisbo 147.51 337 *e*PKP PKPdf 23 17 07.2 +1.9
TORD Torodi Ar. Bea 154.21 285 PKP PKPdf 23 17 15.9 -0.3
TORD PKPbc PKPbc 23 17 26.1 +1.7
TORD PKPab PKPab 23 17 38.7 +0.4
TORD Torodi Ar. Bea 154.21 285 PKP PKPdf 23 17 15.9 -0.3
comp=Z,4.3nm,0.9s,baz=30,slow=0.9,SNR=7.6
TORD PKPbc PKPbc 23 17 26.1 +1.7
comp=Z,19nm,0.8s,baz=57,slow=2.0,SNR=15
TORD PKPab PKPab 23 17 38.7 +0.4
comp=Z,9.9nm,0.8s,baz=41,slow=0.8,SNR=6.5
DBIC Dimbokro 161.06 269 PKP PKPdf 23 17 25.5 +0.6
comp=Z,25nm,1.1s,baz=344,slow=6.6,SNR=4.4
DBIC PKPab PKPab 23 18 08.5 +0.6
comp=Z,22nm,0.9s,baz=77,slow=6.1,SNR=14
BBTS Babate 169.88 315 PKP PKPdf 23 17 33.8 +1.7
comp=Z,45nm,1.1s,baz=341,slow=1.4,SNR=4.2
BBTS PKPab PKPab 23 18 49.1 +2.6
comp=Z,40nm,1.0s,baz=20,slow=1.2,SNR=3.7

NEIC ***01*** *23:01:21.9, 3721N×13665E, h7km, MG4.1(JMA), After JMA.*
NEIC Recorded [3 JMA] in Ishikawa Prefecture.
JMA ***01*** *23:01:21.9, 3721N×13665E, h7km±1km, M4.1*
JMA Felt III J1.
ISCJB ***01*** *23:01:22.2±0.9, 3719N±004×13672E±005, h9km±6km, mb3.7/2, Error ellipse: s-maj=7.9km s-min=5.7km az=37.7*
IDC ***01*** *23:01:22.9±1.3, 37.19N×13675E, h0km, mb3.8/2, mb1 3.8/3, mb1mx3.5/21, mbtmp3.8/3, ML3.1/1, MS4.6/1, Ms1 4.6/1, ms1mx3.7/39, Error ellipse: s-maj=24.2km s-min=13.7km az=27.0*

ISC 01 23:01:22.9±0.8, 3718N±004×13676E±005, h4km±6km, n12, σ1§07/17, mb3.7/2, 3C-2D, Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JJH	**Hakui**	**0.25**	**175**	⇓P		**Pg**		**23 01 28.1**	**+0.2**
JJH					S		**Sg**	**23 01 32.2**	**+1.0**
JSZ	**Suzu**	**0.56**	**61**	⇑P		**Pg**		**23 01 33.7**	**+0.1**
JSZ					S		**Sg**	**23 01 42.3**	**+1.5**
JHG	**Hegura jima**	**0.68**	**11**	⇑P		**Pg**		**23 01 34.6**	**-1.4**
JTT	**Ttatey**	**0.74**	**141**	⇓P		**Pg**		**23 01 37.4**	**+0.3**
JKG	**Kaga**	**0.96**	**201**	⇑P		**Pg**		**23 01 40.0**	**-1.4**
JKG					S		**Sg**	**23 01 53.3**	**-0.6**
MAJO	**Matsushiro**	**1.33**	**118**	*e*Pn		**Pn**		**23 01 46.4**	**-1.8**
MAJO				*e*Sn		**Sn**		**23 02 05.0**	**-1.4**
MAT	**Matsushiro**	**1.33**	**118**	P		**Pn**		**23 01 47.0**	**-1.2**
MAT				S		**Sb**		**23 02 07.4**	**+1.7**
MJAR	**Matsushiro Arr**	**1.33**	**118**	Pg		**Pg**		**23 01 48.1**	**-0.3**
	55nm,0.3s,baz=294,slow=13,SNR=209								
MJAR				Lg				23 02 07.1	
	47nm,0.3s,baz=301,slow=27,SNR=15								
JHJ	**Hachijo jima 2**	**4.75**	**148**	LR		LR		23 03 58.1	
	comp=Z,7μm,20.5s,baz=332,slow=32								
JNU	**Nakatsue**	**6.29**	**232**	Pn		**Pn**		**23 02 57.5**	**+1.0**
	0.5nm,0.3s,baz=42,slow=16,SNR=3.6								
JNU				Sn		**Sn**		**23 04 09.5**	**+0.7**
	0.3nm,0.3s,baz=174,slow=17,SNR=6.5								
SONM	**Songino Array**	**24.64**	**305**	P		**P**		**23 06 44.6**	**+0.3**
	0.9nm,0.7s,mb3.4,baz=115,slow=9.2,SNR=2.7								
FINES	**FINESS Array B**	**66.91**	**331**	P		**P**		**23 12 17.1**	**+1.1**
	2.0nm,1.1s,mb4.1,baz=58,slow=7.2,SNR=4.5								

THE ***01*** *23:02:46.8, 3842N×2040E, h3km, ML3.3*
NEIC ***01*** *23:02:46.8, 3842N×2040E, h1km, MD3.6(ATH), ML3.3(THE), After THE.*
ISCJB ***01*** *23:02:47.6±0.6, 3843N±003×2050E±005, h3km, Error ellipse: s-maj=5.9km s-min=3.4km az=156.3*
CSEM ***01*** *23:02:47.9±0.1, 3842N×2049E, h0km±1km, MD3.6, Error ellipse: s-maj=2.1km s-min=1.3km az=77.0*
ATH ***01*** *23:02:47.6, 3841N×2048E, h6km±5km, MD3.6/8*

ISC 01 23:02:48.0±0.7, 3842N±003×2054E±005, h3km±7km, n19, σ0§73/26, 4C-8D, Greece

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.25**	**170**	⇑*i*PG		**Pg**		**23 02 52.4**	**-0.4**
VLS				*e*SG		**Sg**		**23 02 56.8**	**+0.8**
LKD	**Levkas**	**0.30**	**17**	*e*Pg		**Pg**		**23 02 53.8**	**0.0**
LKD				*e*Sg		**Sg**		**23 02 58.6**	**+1.0**
KFL	**Anninata**	**0.37**	**148**	*e*Pg		**Pg**		**23 02 55.0**	**-0.1**
RLS	**Riolos of Patr**	**0.82**	**116**	⇑*i*PB		**Pb**		**23 03 04.0**	**-0.9**
SELA	**Sela**	**1.07**	**97**	*e*Pg		**Pg**		**23 03 08.5**	**-0.2**
SELA				*e*Sg		**Sg**		**23 03 26.7**	**+4.1**
EVR	**Evrytania**	**1.11**	**63**	⇓*i*PG		**Pg**		**23 03 09.0**	**-0.3**
EVR	**Evrytania**	**1.11**	**63**	⇓*e*Pg		**Pg**		**23 03 09.0**	**-0.3**
IGT	**Igoumenitsa**	**1.12**	**352**	*e*Pg		**Pg**		**23 03 08.6**	**-0.9**
IGT				*e*Sg		**Sg**		**23 03 23.5**	**-0.5**
JAN	**Janina**	**1.26**	**11**	⇓*i*PB		**Pb**		**23 03 12.0**	**-0.4**
JAN	**Janina**	**1.26**	**11**	⇓*e*Pb		**Pb**		**23 03 13.1**	**+0.7**
KEK	**Kerkira**	**1.41**	**336**	⇑*i*PB		**Pb**		**23 03 14.4**	**-0.6**
KEK				*e*SB		**Sb**		**23 03 32.9**	**-0.5**
SRN	**Sarande**	**1.51**	**344**	*i* Pn		**Pn**		**23 03 15.8**	**-0.2**
SRN				*i* Sn		**Sg**		**23 03 38.2**	**+1.5**
AGG	**Agios Georgios**	**1.52**	**66**	*e*Pb		**Pb**		**23 03 16.1**	**-0.8**
AGG				*e*Sb		**Sb**		**23 03 37.9**	**+1.3**
THL	**Klokotos Trika**	**1.62**	**45**	⇓*i*PG		**Pg**		**23 03 18.5**	**-0.6**
THL	**Klokotos Trika**	**1.62**	**45**	⇓*e*Pg		**Pg**		**23 03 18.5**	**-0.6**
ITM	**Ithomi**	**1.66**	**138**	⇑*i*PB		**Pb**		**23 03 19.8**	**+0.6**
LKR	**Lokris**	**1.94**	**83**	⇓*i*PN		**Pb**		**23 03 23.8**	**-0.3**
LKR	**Lokris**	**1.94**	**83**	⇓*e*Pn		**Pb**		**23 03 23.8**	**-0.3**
TIP	**Timpagrande**	**3.05**	**286**	P		**Pn**		**23 03 38.1**	**+1.0**

IDC 01 23:02:55.7±6.4, 7425×15614E, h0km, mb4.4/4, mb1 4.5/4, mb1mx4.1/14, mbtmp4.4/4, Error ellipse: s-maj=191.0km s-min=39.5km az=115.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.53**	**237**	P		P	P	23 08 17.5	+0.3
	2.9nm,0.6s,baz=63,slow=9.5,SNR=3.9								
SONM	**Songino Array**	**70.30**	**327**	P		P	P	23 14 12.2	+1.1
	1.1nm,0.7s,baz=139,slow=6.4,SNR=3.9								
MKAR	**Makanchi Array**	**84.47**	**318**	P		P	P	23 15 30.4	-0.1
	6.2nm,0.7s,baz=104,slow=8.0,SNR=5.7								
ZALV	**Zalesovo Beam**	**85.16**	**326**	P		P	P	23 15 32.5	-1.3
	3.7nm,0.6s,baz=114,slow=5.9,SNR=4.6								

IDC 01 23:05:46.8±3.3, 7255×15599E, h0km, mb4.3/4, mb1 4.4/4, mb1mx4.0/14, mbtmp4.3/4, Error ellipse: s-maj=104.0km s-min=41.1km az=115.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.49**	**237**	P		P	P	23 11 08.4	+0.5
	2.4nm,0.6s,baz=62,slow=9.7,SNR=5.1								
SONM	**Songino Array**	**70.08**	**327**	P		P	P	23 17 01.6	+0.9
	0.7nm,

MOS ***01*** *23:09:41.4±1.1, 7.17S×155.67E, h33km, mb5.3/16, Error ellipse: s-maj=10.8km s-min=7.8km az=96.6*
ISC 01 23:09:39.3±2.4, 728S×004×15568E×004, h9km±14km, h20km±5.1km: pP-P, n203, σ0=91/137, mb5.0/70, MS6.0/3, 11C-2D, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.73**	**117**	*e*Pn	**Pn**	**23 10 52.0**	**+1.1**
HNR				*e*Sn	**Sn**	**23 11 47.0**	**+1.0**
CTA	**Charters Tower**	**15.67**	**215**	*e*P	**Pn**	**23 13 24.0**	**+3.5**
	56nm,1.7s						
CTA	**Charters Tower**	**15.67**	**215**	*e*P	**Pn**	**23 13 24.0**	**+3.5**
CTA				pmax	pmax		
	comp=Z,56nm,1.7s						
CTA	**Charters Tower**	**15.67**	**215**	Pn	**Pn**	**23 13 23.8**	**+3.3**
	comp=Z,0.9nm,0.3s,baz=30,slow=13,SNR=9.5						
CTAO	**Charters Tower**	**15.67**	**215**	*e*P	**Pn**	**23 13 24.2**	**+3.8**
	comp=Z,51nm,1.0s						
CTAO	**Charters Tower**	**15.67**	**215**	*e*P	**Pn**	**23 13 24.2**	**+3.7**
CTAO				pmax	pmax		
	comp=Z,51nm,1.0s						
ARMA	**Armidale**	**23.33**	**189**	*e*P	**P**	**23 14 47.0**	**-1.0**
KAKA	**Kakadu**	**23.50**	**255**	*e*P	**P**	**23 14 49.9**	**-0.1**
	comp=Z,105nm,0.6s,mb5.4						
WB2	**Warramunga Arr**	**24.21**	**237**	*e*P	**P**	**23 14 56.9**	**+0.4**
WRA	**Warramunga Arr**	**24.22**	**237**	P	**P**	**23 14 57.1**	**+0.5**
	comp=Z,25nm,0.9s,mb4.6,baz=61,slow=10.0,SNR=13						
WRA				PcP	PcP	23 18 37.3	0.0
	comp=Z,2.4nm,0.5s,baz=63,slow=2.5,SNR=7.5						
ASAR	**Alice Springs**	**26.50**	**230**	P	**P**	**23 15 17.0**	**-0.3**
	comp=Z,4.4nm,0.6s,mb4.2,baz=60,slow=9.3,SNR=15						
ASAR				PcP	PcP	23 18 42.2	-0.1
	comp=Z,1.8nm,0.5s,baz=68,slow=2.6,SNR=4.9						
STKA	**Stephens Creek**	**27.77**	**206**	*e*P	**P**	**23 15 28.6**	**0.0**
	comp=Z,13nm,0.7s,mb4.7						
STKA	**Stephens Creek**	**27.77**	**206**	P	**P**	**23 15 28.9**	**+0.3**
	comp=Z,13nm,0.8s,mb4.6,baz=32,slow=13,SNR=14						
FITZ	**Fitzroy Crossi**	**31.16**	**247**	*e*P	**P**	**23 15 58.7**	**-0.2**
	comp=Z,15nm,0.7s,mb4.9						
FITZ	**Fitzroy Crossi**	**31.16**	**247**	P	**P**	**23 15 58.8**	**-0.1**
	comp=Z,18nm,0.8s,mb5.0,baz=86,slow=7.5,SNR=19						
BATI	**Kupang**	**31.77**	**262**	P	**P**	**23 16 05.3**	**+1.1**
	comp=Z,12nm,0.5s,mb5.0,baz=91,slow=19,SNR=4.0						
FORT	**Forrest**	**34.85**	**224**	*e*P	**P**	**23 16 30.4**	**-0.6**
	comp=Z,28nm,0.6s,mb5.4						
KAPI	**Kappang**	**35.78**	**272**	P	**P**	**23 16 38.8**	**-0.4**
	comp=Z,249nm,0.6s,SNR=9.9						
TAU	**Tasmania Unive**	**36.24**	**190**	P	**P**	**23 16 43.1**	**+0.3**
MBWA	**Marble Bar**	**37.36**	**245**	*e*P	**P**	**23 16 52.4**	**-0.2**
	comp=Z,9.2nm,0.4s,mb5.0						
KKM	**Kota Kinabalu**	**41.54**	**288**	*e*P	**P**	**23 17 28.3**	**+0.7**
KLBR	**Kellerberrin**	**42.83**	**230**	*e*P	**P**	**23 17 37.0**	**-0.8**
	comp=Z,44nm,0.6s,mb5.4						
JOW	**Kunigami**	**43.08**	**323**	P	**P**	**23 17 41.1**	**+1.2**
	comp=Z,10.0nm,0.5s,mb4.8,baz=191,slow=10,SNR=6.3						
NWAO	**Narrogin (SRO)**	**43.82**	**229**	*e*P	**P**	**23 17 45.8**	**0.0**
	comp=Z,10nm,0.5s,mb4.8						
NWAO	**Narrogin (SRO)**	**43.82**	**229**	*e*P	**P**	**23 17 45.8**	**0.0**
NWAO				pmax	pmax		
	comp=Z,10.0nm,0.5s						
NWAO	**Narrogin (SRO)**	**43.82**	**229**	P	**P**	**23 17 45.5**	**-0.3**
	comp=Z,17nm,0.6s,mb5.0,baz=58,slow=6.9,SNR=11						
MUN	**Mundaring**	**44.18**	**231**	*e*P	**P**	**23 17 48.3**	**-0.5**
NACB	**Ninganchiao**	**45.64**	**314**	*e*P	**P**	**23 18 01.2**	**+0.7**
KSM	**Kuching**	**46.09**	**279**	*e*P	**P**	**23 18 04.5**	**+0.2**
YHNB	**Yeheng**	**46.10**	**315**	*e*P	**P**	**23 18 05.5**	**+1.4**
MJAR	**Matsushiro Arr**	**46.57**	**341**	P	**P**	**23 18 06.9**	**-0.6**
	comp=Z,14nm,0.7s,mb5.0,baz=162,slow=8.1,SNR=35						
MJAR				PcP	PcP	23 19 41.4	-0.4
	comp=Z,4.9nm,0.6s,baz=160,slow=4.3,SNR=5.9						
MAJO	**Matsushiro**	**46.57**	**341**	*e*P	**P**	**23 18 06.9**	**-0.7**
	comp=Z,20nm,0.5s,mb5.3						
MAJO	**Matsushiro**	**46.57**	**341**	*e*P	**P**	**23 18 06.9**	**-0.7**
MAJO				pmax	pmax		
	comp=Z,20nm,0.5s,mb5.3						
MAT	**Matsushiro**	**46.57**	**341**	P	**P**	**23 18 06.7**	**-0.9**
JNU	**Nakatsue**	**46.58**	**331**	P	**P**	**23 18 08.0**	**+0.2**
	comp=Z,18nm,0.8s,mb5.0,baz=74,slow=7.9,SNR=8.9						
KSRS	**Korea Array**	**51.51**	**332**	P	**P**	**23 18 46.0**	**+0.5**
	comp=Z,10nm,0.5s,mb5.0,baz=146,slow=7.4,SNR=31						
KSRS				PcP	PcP	23 20 00.2	+0.6
	comp=Z,2.9nm,0.6s,baz=142,slow=4.3,SNR=4.8						
QIZ	**Qiongzhong**	**52.19**	**301**	*e*P	**P**	**23 18 52.3**	**+1.4**
	comp=Z,12nm,0.5s,mb5.1						
ASAJ	**Asahikawa**	**52.51**	**348**	P	**P**	**23 18 54.0**	**+1.2**
	comp=Z,23nm,0.5s,mb5.3,baz=222,slow=6.2,SNR=27						
NJ2	**Nanjing**	**52.56**	**320**	*e*P	**P**	**23 18 54.0**	**+0.6**
NJ2				AP	pP	23 19 04.4	+8.2
NJ2				PP	PP	23 20 53.9	+1.3
NJ2				S	**S**	**23 26 15.0**	**-5.7**
NJ2				XS	sS	23 26 31.0	+5.7
NJ2				AMB	AMB		
	comp=Z,20nm,0.9s,mb5.0						
NJ2				AMB	AMB		
	comp=Z,80nm,4.2s						
NJ2				LR	LR		
	comp=N,10μm,11.3s,MS6.3						
NJ2				LR	LR		
	comp=E,13μm,12.3s,MS6.3						
NJ2				LR	LR		
	comp=Z,25μm,12.8s,MS6.4						
YSS	**Yuzh-Sakhalins**	**55.20**	**349**	*e*P	**P**	**23 19 11.7**	**-0.7**
	comp=Z,13nm,0.4s,mb5.3						
YSS				*e*PcP	PcP	23 20 12.4	-1.0
YSS	**Yuzh-Sakhalins**	**55.20**	**349**	⇑*e*P	**P**	**23 19 12.8**	**+0.4**
YSS				pmax	pmax		
	comp=Z,20nm,0.5s,mb5.4						
PMOR	**Pomariorio Ree**	**55.77**	**103**	*e*P	**P**	**23 19 18.6**	**+1.5**
	comp=Z,20nm,0.7s,mb5.2						
KULM	**Kulim**	**56.31**	**281**	*e*P	**P**	**23 19 20.4**	**-0.7**
KULM				*e*PcP	PcP	23 20 18.7	+0.2
MDJ	**Mudanjiang**	**56.75**	**338**	P	**P**	**23 19 23.7**	**+0.1**
MDJ				XP	sP	23 19 28.2	+0.7
MDJ				PCP	PcP	23 20 18.4	-1.1
MDJ				AMB	AMB		
	comp=Z,10.0nm,1.3s,mb4.7						
MDJ				AMB	AMB		
	comp=Z,11μm,19.5s						
CN2	**Changchun**	**57.74**	**334**	*e*P	**P**	**23 19 30.3**	**-0.3**
CN2				AMB	AMB		
	comp=Z,20nm,1.1s,mb5.1						
CN2				AMB	AMB		
	comp=Z,200nm,5.0s						
GYA	**Guiyang**	**58.16**	**307**	⇑*i*P	**P**	**23 19 36.8**	**+2.9**
GYA				AP	pP	23 19 40.8	+4.1
GYA				XP	sP	23 19 43.6	+5.8
GYA				PCP	PcP	23 20 27.4	+1.9
GYA				PP	PP	23 21 48.0	+5.1
GYA				SCP	ScP	23 24 26.0	-0.2
GYA				S	**S**	**23 27 37.9**	**+2.1**
GYA				SCS	ScS	23 29 23.0	-1.3
GYA				SS	SS	23 31 31.2	+3.5
GYA				AMB	AMB		
	comp=Z,30nm,1.0s,mb5.3						
GYA				AMB	AMB		
	comp=Z,860nm,8.8s						
GYA				LR	LR		
	comp=N,2μm,20.8s,MS5.4						
GYA				LR	LR		
	comp=E,3μm,21.0s,MS5.4						
GYA				LR	LR		
	comp=Z,2μm,19.2s,MS5.2						
BJT	**Baijiatuau**	**59.52**	**325**	*e*P	**P**	**23 19 42.5**	**-0.6**
	comp=Z,7.0nm,0.4s,mb5.0						
BJT	**Baijiatuau**	**59.52**	**325**	*e*P	**P**	**23 19 42.5**	**-0.6**
BJT				pmax	pmax		
	comp=Z,7.0nm,0.4s						
NST	**Nakhon Sawan**	**59.55**	**293**	P	**P**	**23 19 44.3**	**+0.6**
KLR	**Kul'dur**	**60.04**	**342**	*e*P	**P**	**23 19 43.0**	**-3.5**
KLR				pmax	pmax		
	comp=Z,64nm,1.8s,mb5.3						
KMI	**Kunming**	**60.74**	**304**	P	**P**	**23 19 53.3**	**+1.6**
KMI				AMB	AMB		
	comp=Z,28nm,0.8s,mb5.4						
CHG	**Chiang Mai**	**61.63**	**296**	⇓P	**P**	**23 19 59.2**	**+1.3**
	comp=Z,37nm,0.7s,mb5.6						
CHTO	**Chiang Mai**	**61.63**	**296**	*e*P	**P**	**23 19 58.6**	**+0.7**
CD2	**Chengdu**	**62.51**	**310**	P	**P**	**23 20 03.7**	**+0.1**
CD2				XP	sP	23 20 10.6	+3.1
CD2				PP	PP	23 22 23.5	+2.2
CD2				S	**S**	**23 28 30.7**	**-0.8**
CD2				SS	SS	23 32 37.6	+1.8
CD2				AMB	AMB		
	comp=Z,50nm,0.5s,mb5.9						
HHC	**Hu-ho-hao-te**	**62.72**	**324**	*e*P	**P**	**23 20 05.9**	**+1.1**
HHC				AP	pP	23 20 10.3	+2.6
HHC				XP	sP	23 20 13.3	+4.6
HHC				PP	PP	23 22 26.5	+3.6
HHC				SCP	ScP	23 24 42.1	-3.9
HHC				PCS	PcS	23 24 47.5	+0.8
HHC				S	**S**	**23 28 36.0**	**+2.3**
HHC				XS	sS	23 28 43.3	+4.9
HHC				SCS	ScS	23 29 54.2	-3.5
HHC				AMB	AMB		
	comp=Z,19nm,0.4s,mb5.6						
HHC				LR	LR		
	comp=N,1μm,11.8s						
HHC				LR	LR		
	comp=E,2μm,16.9s						
HHC				LR	LR		
	comp=Z,7μm,17.1s						
HIA	**Hailar**	**64.47**	**335**	*e*P	**P**	**23 20 16.4**	**+0.3**
	comp=Z,15nm,0.5s,mb5.3						
HIA	**Hailar**	**64.47**	**335**	*e*P	**P**	**23 20 16.4**	**+0.3**
HIA				pmax	pmax		
	comp=Z,15nm,0.5s						
LZH	**Lanzhou**	**64.99**	**315**	*e*P	**P**	**23 20 21.1**	**+1.2**
LZH				AP	pP	23 20 31.0	+8.3
LZH				AMB	AMB		
	comp=Z,20nm,1.0s,mb5.1						
LZH				AMB	AMB		
	comp=Z,83nm,4.1s						
MA2	**Magadan**	**66.75**	**357**	*e*P	**P**	**23 20 32.0**	**+1.4**
	comp=Z,7.4nm,0.5s,mb5.0						
MA2	**Magadan**	**66.75**	**357**	⇑*e*P	**P**	**23 20 32.0**	**+1.3**
MA2				pmax	pmax		
	comp=Z,10.0nm,0.7s,mb5.0						
GTA	**Gaotai**	**69.41**	**317**	⇑P	**P**	**23 20 48.9**	**+1.1**
GTA				AP	pP	23 20 52.6	+1.9
GTA				XP	sP	23 20 53.9	+2.1
GTA				PP	PP	23 23 26.5	+5.1
GTA				AMB	AMB		
	comp=Z,11nm,0.6s,mb5.0						
GTA				LR	LR		
	comp=N,9μm,18.6s,MS6.1						
GTA				LR	LR		
	comp=E,7μm,19.4s,MS6.1						
GTA				LR	LR		
	comp=Z,16μm,18.6s,MS6.3						
SONM	**Songino Array**	**69.94**	**327**	P	**P**	**23 20 51.8**	**+0.9**
	comp=Z,19nm,0.5s,mb5.3,baz=145,slow=6.2,SNR=158						
SHL	**Shillong**	**70.02**	**300**	*e*P	**P**	**23 20 50.9**	**-1.0**
SEY	**Seymchan**	**70.05**	**358**	⇑*e*P	**P**	**23 20 52.9**	**+1.6**
VNDA	**Vanda**	**70.28**	**179**	*e*P	**P**	**23 20 53.2**	**+0.6**
	comp=Z,2.4nm,0.7s,mb4.2						
VNDA	**Vanda**	**70.28**	**179**	*e*P	**P**	**23 20 53.2**	**+0.6**
VNDA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
VNDA	**Vanda**	**70.28**	**179**	P	**P**	**23 20 53.1**	**+0.5**
	comp=Z,0.7nm,0.7s,baz=357,slow=4.6,SNR=3.8						
SBA	**Scott Base**	**70.78**	**178**	P	**P**	**23 20 56.1**	**+0.5**
YAK	**Yakutsk**	**71.98**	**347**	P	**P**	**23 21 01.5**	**-1.5**
YAK	**Yakutsk**	**71.98**	**347**	*e*P	**P**	**23 21 03.5**	**+0.5**
YAK				pmax	pmax		
	comp=Z,22nm,0.8s,mb5.1						
YAK				pmax	pmax		
	comp=N,7.0nm,0.7s						
LSA	**Lhasa**	**71.99**	**304**	*e*P	**P**	**23 21 04.4**	**+0.6**
	comp=N,8.5nm,0.6s,mb4.8						
LSA	**Lhasa**	**71.99**	**304**	*e*P	**P**	**23 21 04.4**	**+0.6**
LSA				pmax	pmax		
	comp=Z,9.0nm,0.6s,mb4.9						
ZAK	**Zakamensk**	**73.09**	**328**	*e*P	**P**	**23 21 09.4**	**-0.5**
ZAK				pmax	pmax		
	comp=Z,7.0nm,1.3s,mb4.4						
BOD	**Bodaibo**	**73.13**	**338**	*e*P	**P**	**23 21 09.2**	**-0.7**
BOD				pmax	pmax		
	comp=Z,11nm,0.8s,mb4.8						
TLY	**Talaya**	**73.65**	**329**	⇑*e*P	**P**	**23 21 13.4**	**+0.2**
TLY				pmax	pmax		
	comp=Z,9.0nm,1.7s,mb4.4						
BOK	**Bokaro**	**74.73**	**297**	*e*P	**P**	**23 21 19.5**	**-0.6**
BOK				AMb	AMB	23 21 24.7	
	comp=Z,24nm,1.7s,mb4.8						
MOY	**Mondy**	**75.01**	**328**	*e*P	**P**	**23 21 21.9**	**+0.8**
JIRN	**Jiri**	**75.51**	**301**	*e*P	**P**	**23 21 25.2**	**+0.7**
	comp=Z,64nm,0.6s,mb5.7						
BILL	**Bilibino**	**75.51**	**4**	*e*P	**P**	**23 21 23.3**	**-0.4**
	comp=Z,19nm,0.8s,mb5.1						
BILL	**Bilibino**	**75.51**	**4**	⇑*e*P	**P**	**23 21 23.6**	**0.0**
BILL				*e*		23 21 37.4	
BILL				pmax	pmax		
	comp=Z,16nm,0.7s,mb5.1						
PALK	**Pallekele**	**76.16**	**279**	P	**P**	**23 21 28.8**	**+0.3**
	comp=Z,5.1nm,0.8s,mb4.5						
KKN	**Kakani**	**76.32**	**301**	*e*P	**P**	**23 21 29.4**	**+0.3**
	comp=Z,51nm,0.5s,mb5.7						
GKN	**Gorkha**	**76.93**	**301**	*e*P	**P**	**23 21 32.5**	**-0.1**
	comp=Z,39nm,0.5s,mb5.6						
KDAK	**Kodiak Island**	**77.13**	**26**	P	**P**	**23 21 34.0**	**+1.0**
	comp=Z,3.3nm,0.6s,mb4.4,baz=188,slow=3.4,SNR=9.1						
KOLN	**Kolanda**	**77.75**	**300**	*e*P	**P**	**23 21 37.0**	**-0.2**
	comp=Z,32nm,0.6s,mb5.5						
SVW2	**Sparrevohn**	**78.01**	**22**	*e*P	**P**	**23 21 38.3**	**+0.4**
WMQ	**Urumqi**	**79.49**	**317**	*e*P	**P**	**23 21 46.5**	**+0.1**
WMQ				AMB	AMB		
	comp=Z,9.0nm,1.3s,mb4.5						
SLKM	**Skilak Lake**	**79.72**	**24**	*e*P	**P**	**23 21 45.6**	**-1.7**
HYB	**Hyderabad**	**80.00**	**289**	*e*P	**P**	**23 21 49.0**	**-0.8**
HYB	**Hyderabad**	**80.00**	**289**	*i*P	**P**	**23 21 50.0**	**+0.2**
NGP	**Nagpur**	**80.27**	**293**	*e*P	**P**	**23 21 48.8**	**-2.4**
NGP				AMb	AMB	23 21 51.3	
	comp=Z,21nm,1.2s,mb4.9						
TIXI	**Tiksi**	**80.73**	**352**	*e*P	**P**	**23 21 45.4**	**-7.2**
TIXI	**Tiksi**	**80.73**	**352**	⇑*e*P	**P**	**23 21 51.9**	**-0.6**
TIXI				pmax	pmax		
	comp=Z,5.0nm,0.5s,mb4.7						
IMA2	**Indian Mountai**	**81.85**	**19**	*e*P	**P**	**23 21 58.0**	**-0.5**
AKL	**Akola**	**82.05**	**292**	*e*P	**P**	**23 21 58.8**	**-1.8**
AKL				AMb	AMB	23 22 02.5	
	comp=Z,27nm,1.8s,mb4.9						
MCK	**McKinley**	**82.07**	**22**	*e*P	**P**	**23 21 58.6**	**-1.2**
BHPL	**Bhopal**	**82.16**	**295**	*e*P	**P**	**23 22 01.3**	**+0.2**
BHPL				AMb	AMB	23 22 02.7	
	comp=Z,16nm,0.7s,mb5.1						
COLA	**College**	**83.10**	**21**	*e*P	**P**	**23 22 03.7**	**-1.4**
	comp=Z,6.2nm,0.6s,mb4.8						
COLA	**College**	**83.10**	**21**	⇑*e*P	**P**	**23 22 03.2**	**-1.9**
MKAR	**Makanchi Array**	**84.06**	**319**	P	**P**	**23 22 10.3**	**-0.2**
MKAR	**Makanchi Array**	**84.06**	**319**	⇑*e*P	**P**	**23 22 10.8**	**+0.3**
MKAR	**Makanchi Array**	**84.06**	**319**	P	**P**	**23 22 10.3**	**-0.2**
	comp=Z,23nm,0.6s,mb5.5,baz=78,slow=6.3,SNR=45						
KAD	**Karad**	**84.09**	**288**	*e*P	**P**	**23 22 10.4**	**-0.9**
KAD				AMb	AMB	23 22 12.6	
	comp=Z,16nm,1.1s,mb5.1						
MAW	**Mawson**	**84.40**	**203**	P	**P**	**23 22 11.8**	**0.0**
	comp=Z,4.0nm,0.5s,mb4.8,baz=89,slow=8.6,SNR=9.2						
ZAA0	**Zalesovo Array**	**84.79**	**326**	*e*P	**P**	**23 22 13.3**	**-0.7**
ZALV	**Zalesovo Beam**	**84.79**	**326**	P	**P**	**23 22 13.2**	**-0.9**
	comp=Z,20nm,0.6s,mb5.5,baz=115,slow=5.8,SNR=48						
ZAL	**Zalesovo**	**84.80**	**326**	P	**P**	**23 22 13.2**	**-0.8**
EGAK	**Eagle**	**85.52**	**23**	*e*P	**P**	**23 22 17.2**	**-0.2**
	comp=Z,3.8nm,0.8s,mb4.7						
DAWY	**Dawson**	**85.88**	**24**	*e*P	**P**	**23 22 20.0**	**+0.8**
NVS	**Novosibirsk**	**85.96**	**326**	*i*P	**P**	**23 22 19.0**	**-0.8**
KURK	**Kurchatov**	**87.47**	**322**	P	**P**	**23 22 26.0**	**-1.3**
	comp=Z,58nm,0.4s,SNR=9.5						
KURK	**Kurchatov**	**87.47**	**322**	*e*P	**P**	**23 22 26.7**	**-0.6**
	comp=Z,3.8nm,0.4s,mb5.0						
KURK	**Kurchatov**	**87.47**	**322**	⇑*e*P	**P**	**23 22 26.4**	**-0.9**
TKM2	**Tokmak 2**	**87.70**	**314**	*e*P	**P**	**23 22 28.7**	**+0.1**
	comp=Z,13nm,0.6s,mb5.3						
TKM2	**Tokmak 2**	**87.70**	**314**	*e*P	**P**	**23 22 28.7**	**+0.1**
TKM2				pmax	pmax		
	comp=Z,13nm,0.6s,mb5.3						
UCH	**Uchtor**	**88.34**	**313**	*e*P	**P**	**23 22 32.4**	**+0.7**
	comp=Z,3.8nm,0.8s,mb4.7						
AAK	**Ala-Archa**	**88.44**	**313**	P	**P**	**23 22 31.4**	**-0.7**
	comp=Z,68nm,0.6s,mb6.0,SNR=6.0						
AAK	**Ala-Archa**	**88.44**	**313**	*e*P	**P**	**23 22 31.2**	**-0.9**
	comp=Z,6.9nm,0.6s,mb5.1						
AAK	**Ala-Archa**	**88.44**	**313**	*e*P	**P**	**23 22 31.2**	**-0.9**
AAK				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb5.1						
EKS2	**Erkin-Say**	**88.96**	**313**	*e*P	**P**	**23 22 35.0**	**+0.4**
	comp=Z,4.8nm,0.6s,mb5.0						
INK	**Inuvik**	**89.75**	**21**	P	**P**	**23 22 37.1**	**-0.6**
	comp=Z,2.6nm,0.5s,mb4.8,baz=249,slow=4.3,SNR=19						
KBL	**Kabul**	**91.32**	**304**	*e*P	**P**	**23 22 45.2**	**-0.5**
NVAR	**Mina Array Bea**	**91.36**	**52**	P	**P**	**23 22 45.4**	**-0.6**
	comp=Z,0.2nm,0.4s,baz=253,slow=5.6,SNR=2.6						
KK31	**Karatay Array**	**91.40**	**313**	*i*P	**P**	**23 22 45.0**	**-1.0**
KK31				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.6						
SYO	**Syowa Base**	**92.28**	**199**	⇓*e*P	**P**	**23 22 48.6**	**-0.9**
CHKZ	**Chkalovo**	**92.89**	**324**	*i*P	**P**	**23 22 50.3**	**-2.3**
CHKZ				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb5.2						
BRVK	**Borovoye**	**93.00**	**323**	P	**P**	**23 22 51.8**	**-1.3**
	comp=Z,62nm,0.9s,mb6.0,SNR=5.4						
BRVK	**Borovoye**	**93.00**	**323**	*e*P	**P**	**23 22 52.0**	**-1.1**
ELK	**Elko**	**94.00**	**50**	P	**P**	**23 22 58.3**	**+0.2**
YKA	**Yellowknife Ar**	**96.27**	**28**	P	**P**	**23 23 07.1**	**-0.7**
YKA	**Yellowknife Ar**	**96.27**	**28**	P	**P**	**23 23 07.1**	**-0.7**
	comp=Z,1.5nm,0.6s,mb4.6,baz=266,slow=4.6,SNR=23						
PDAR	**Pinedale Array**	**98.39**	**48**	P	**P**	**23 23 17.0**	**-1.0**
	comp=Z,0.5nm,0.8s,mb4.1,baz=252,slow=3.0,SNR=4.3						
ARU	**Arti**	**99.96**	**326**	*e*Pdif	Pdif	23 23 22.6	-2.1
ARU	**Arti**	**99.96**	**326**	P	Pdif	23 23 22.8	-1.9
AKTK	**Aktyubinsk**	**100.45**	**320**	P	Pdif	23 23 24.8	-2.0
AKTO	**Aktyubinsk**	**100.45**	**320**	P	Pdif	23 23 24.8	-2.0
	comp=Z,1.4nm,0.6s,baz=99,slow=6.7,SNR=5.1						
ARCES	**ARCESS Array B**	**110.05**	**343**	PKiKP	PKiKP	23 28 10.1	-0.8
	comp=Z,2.1nm,0.7s,baz=56,slow=4.5,SNR=5.6						
FINES	**FINESS Array B**	**114.47**	**336**	PKPdf	PKiKP	23 28 17.9	-1.6
FINES	**FINESS Array B**	**114.47**	**336**	PKiKP	PKiKP	23 28 17.9	-1.6
	comp=Z,1.7nm,0.7s,baz=62,slow=3.2,SNR=7.7						
PLCA	**Paso Flores**	**116.08**	**142**	PKP	PKPdf	23 28 22.9	-0.4
	comp=Z,0.7nm,0.6s,baz=58,slow=4.2,SNR=3.1						
AKASG	**Malin Array Be**	**118.16**	**325**	PKP	PKPdf	23 28 25.5	-1.4
AKASG	**Malin Array Be**	**118.16**	**325**	PKP	PKPdf	23 28 25.5	-1.4
	comp=Z,3.0nm,0.6s,baz=51,slow=2.3,SNR=15						
KIS	**Kishinev**	**119.94**	**321**	*e*PKP	PKPdf	23 28 33.0	+2.6
NB2	**NORSAR Subarra**	**120.19**	**341**	PKPdf	PKPdf	23 28 29.5	-1.0
	comp=Z,2.1nm,0.6s,baz=40,slow=1.9						
NOA	**NORSAR Array B**	**120.19**	**341**	PKP	PKPdf	23 28 29.5	-1.0
	comp=Z,2.3nm,0.6s,baz=45,slow=1.9,SNR=15						
KOLS	**Kolonicke sedl**	**122.97**	**325**	*e*PKP	PKPdf	23 28 36.3	+0.1
STHS	**Stebnicka Huta**	**123.29**	**326**	*e*PKP	PKPdf	23 28 36.9	+0.1
OJC	**Ojcow**	**123.64**	**328**	*e*PKP	PKPdf	23 28 33.4	-4.0
VYHS	**Vyhne**	**125.13**	**326**	*e*PKP	PKPdf	23 28 34.2	-6.2
DPC	**Dobruska-Polom**	**125.37**	**329**	*e*PKP	PKPdf	23 28 45.5	+4.7
DPC				*e*		23 28 56.6	
DPC	**Dobruska-Polom**	**125.37**	**329**	*ep*PKP	pPKPdf	23 28 45.8	+1.7
DPC				*ex*	x	23 28 56.6	
UPC	**Upice**	**125.43**	**330**	*e*PKP	PKPdf	23 28 45.1	+4.2
UPC	**Upice**	**125.43**	**330**	*ep*PKP	pPKPdf	23 28 45.1	+1.2
PVCC	**Panska Ves**	**126.14**	**330**	*e*PKPdf	PKPdf	23 28 42.1	-0.1
PVCC				*ex*	x	23 28 51.9	
BRG	**Berggiesshubel**	**126.22**	**331**	*e*PKP	PKPdf	23 28 43.1	+0.7
	comp=Z,3.8nm,0.6s						
CLL	**Collm**	**126.38**	**332**	*e*PKPdf	PKPdf	23 28 42.0	-0.7
	comp=Z,4.0nm,0.6s						
CLL				*e*(pPKPdf)		23 28 51.0	
PRU	**Pruhonice**	**126.49**	**330**	*e*PKPdf	PKPdf	23 28 42.6	-0.3
PRU				*ex*	x	23 28 52.5	
NKC	**Novy Kostel**	**127.36**	**331**	*e*PKP	PKPdf	23 28 38.6	-6.0
KHC	**Kasperske Hory**	**127.52**	**329**	*e*PKPdf	PKPdf	23 28 45.6	+0.7
KHC				*ex*	x	23 28 54.0	
GERES	**GERESS Array B**	**127.64**	**329**	PKP	PKPdf	23 28 45.3	+0.2
	comp=Z,2.6nm,0.6s,baz=75,slow=1.6,SNR=23						
GRA1	**Grafenberg Arr**	**128.31**	**331**	*e*PKPdf	PKPdf	23 28 47.9	+1.5
GRF	**Grafenberg Arr**	**128.31**	**331**	*e*PKPdf	PKPdf	23 28 47.9	+1.5
ROSC	**El Rosal**	**130.23**	**90**	PKP	PKPdf	23 28 51.1	0.0
	comp=Z,4.8nm,0.6s,baz=94,slow=19,SNR=3.9						
LPAZ	**La Paz**	**130.73**	**119**	PKP	PKPdf	23 28 52

IDC 01 23:14:24.1±1.2, 776S×15644E, h0km, mb4.3/4, mb1 4.4/5, mb1mx4.1/15, mbtmp4.4/5, ML5.1/1, Error ellipse: s-maj=28.9km s-min=27.2km az=41.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**3.84**	**116**	Pn	Pn	23 15 24.8	+0.3
	130nm,0.3s,baz=252,slow=5.2,SNR=5.3						
HNR				Sn	Sn	23 16 11.1	+0.7
	133nm,0.3s,baz=90,slow=19,SNR=3.8						
WRA	**Warramunga Arr**	**24.60**	**238**	P	P	23 19 46.0	-0.2
	5.7nm,0.7s,baz=64,slow=9.2,SNR=5.1						
ASAR	**Alice Springs**	**26.78**	**231**	P	P	23 20 05.7	-0.2
	0.9nm,0.8s,baz=54,slow=9.3,SNR=3.2						
STKA	**Stephens Creek**	**27.69**	**208**	P	P	23 20 14.8	+0.8
	4.2nm,0.9s,baz=31,slow=10,SNR=4.4						
SONM	**Songino Array**	**70.76**	**327**	P	P	23 25 43.0	+0.9
	7.0nm,0.7s,baz=139,slow=6.4,SNR=18						
AKASG	**Malin Array Be**	**118.99**	**325**	PKP	PKPdf	23 33 13.2	-1.6
	0.2nm,0.4s,baz=71,slow=1.7,SNR=3.1						

*NEIC **01** 23:14:29.9, 4237S×174.16E, h21km, ML3.8(WEL), After WEL.*

WEL 01 23:14:30.8±0.2, 4235S×17411E, h12km, ML3.6/27, Error ellipse: s-maj=1.7km s-min=1.3km az=0.0, Off east coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.43**	**260**	P	Pg	23 14 39.2	0.0
KHZ				S	Sg	23 14 46.3	+1.3
KHZ	**Kahutara**	**0.43**	**260**	PG	Pg	23 14 39.2	-0.1
KHZ				SG	Sg	23 14 46.3	+1.3
CMWZ	**Cape Campbell**	**0.60**	**7**	P*	Pb	23 14 43.4	+0.1
BSWZ	**Blackbirch Sta**	**0.66**	**345**	P	Pg	23 14 43.0	-0.5
BSWZ	**Blackbirch Sta**	**0.66**	**345**	P*	Pb	23 14 43.0	-1.2
BSWZ				SG	Sg	23 14 51.4	-0.7
TUWZ	**Tuamarina**	**0.93**	**352**	P*	Pb	23 14 48.3	-0.5
TUWZ				SG	Sg	23 15 02.5	+1.8
THZ	**Tophouse**	**1.07**	**303**	P	Pb	23 14 50.1	-1.1
THZ				S	Sb	23 15 03.9	-1.3
THZ	**Tophouse**	**1.07**	**303**	P*	Pb	23 14 50.1	-1.1
THZ				SG	Sg	23 15 03.9	-1.5
BHW	**Baring Head**	**1.10**	**31**	P*	Pb	23 14 51.6	-0.1
BHW				SG	Sg	23 15 06.7	+0.5
SNZO	**South Karori**	**1.13**	**23**	*e*P	Pb	23 14 52.0	-0.2
SNZO				*e*S	Sb	23 15 08.3	+1.5
SNZO	**South Karori**	**1.13**	**23**	P*	Pb	23 14 52.0	-0.2
SNZO				S*	Sb	23 15 07.3	+0.4
TCW	**Tory Channel**	**1.14**	**6**	P*	Pb	23 14 51.8	-0.7
WEL	**Wellington**	**1.17**	**25**	P*	Pb	23 14 52.7	-0.2
MRW	**Makara Radio**	**1.20**	**22**	P*	Pb	23 14 52.9	-0.6
NNZ	**Nelson**	**1.25**	**334**	P*	Pb	23 14 53.4	-1.0
MSWZ	**Moikau Station**	**1.26**	**43**	P*	Pb	23 14 53.7	-0.8
PAWZ	**Paruwai Farm**	**1.38**	**46**	P*	Pb	23 14 55.1	-1.4
CAW	**Cannon Point**	**1.43**	**30**	P*	Pb	23 14 56.2	-1.2
TRWZ	**Traveller**	**1.51**	**52**	PN	Pn	23 14 57.1	-0.6
TRWZ				S*	Sb	23 15 15.7	-2.2
DUWZ	**D'Urville Isla**	**1.55**	**355**	PN	Pn	23 14 58.0	-0.2
DUWZ				S*	Sb	23 15 20.5	+1.5
MTW	**Mount Morrison**	**1.58**	**42**	PN	Pn	23 14 57.9	-0.7
KIW	**Kapiti Island**	**1.60**	**22**	PN	Pn	23 14 58.6	-0.3
MQZ	**McQueen's Vall**	**1.73**	**218**	PN	Pn	23 14 59.2	-1.4
DSZ	**Denniston Nort**	**1.82**	**289**	PN	Pn	23 15 02.5	+0.6
QRZ	**Quartz Range**	**1.93**	**322**	PN	Pn	23 15 03.7	+0.3
QRZ				SN	Sn	23 15 28.6	+1.1
MRZ	**Mangatainoka R**	**2.01**	**34**	PN	Pn	23 15 03.9	-0.7
MRZ				S*	Sb	23 15 29.0	-3.4
TIWZ	**Tintock**	**2.06**	**41**	PN	Pn	23 15 04.1	-1.1
BFZ	**Birch Farm**	**2.31**	**45**	PN	Pn	23 15 07.3	-1.4
BFZ				S*	Sb	23 15 36.0	-4.9
RPZ	**Rata Peaks**	**2.62**	**238**	PN	Pn	23 15 12.1	-0.8
RPZ				SN	Sn	23 15 42.3	-2.4
WAZ	**Wanganui**	**2.67**	**15**	PN	Pn	23 15 15.0	+1.4
WNVZ	**Wahianoa**	**3.22**	**21**	PN	Pn	23 15 21.6	+0.4
TRVZ	**Turoa**	**3.23**	**20**	PN	Pn	23 15 22.3	+1.0
VRZ	**Vera Road**	**3.26**	**9**	PN	Pn	23 15 22.9	+1.2
FWVZ	**Far West T-bar**	**3.28**	**20**	PN	Pn	23 15 23.2	+1.3
TUVZ	**Tukino**	**3.29**	**21**	PN	Pn	23 15 22.4	+0.3
FOZ	**Fox Glacier**	**3.46**	**248**	PN	Pn	23 15 23.6	-0.9
LBZ	**Lake Benmore**	**3.51**	**233**	PN	Pn	23 15 25.1	-0.1
ODZ	**Otahua Downs**	**3.69**	**222**	PN	Pn	23 15 27.1	-0.4
HIZ	**Hauiti**	**3.87**	**9**	PN	Pn	23 15 30.7	+0.6

*BJI **01** 23:16:48.1, 733S×156.66E, h11km, mb4.8*
*IDC **01** 23:16:48.8±0.7, 750S×156.34E, h0km, mb4.5/14, mb1 4.6/15, mb1mx4.5/18, mbtmp4.5/15, ML4.3/1, Error ellipse: s-maj=23.4km s-min=16.5km az=103.0*
*NEIC **01** 23:16:50.4±0.3, 746S×156.32E, h10km, mb4.7/9, Error ellipse: s-maj=9.1km s-min=7.8km az=110.0*
*ISCJB **01** 23:16:52.3±0.4, 751S±006×156.31E±008, h33km, mb4.5/24, Error ellipse: s-maj=11.2km s-min=9.0km az=15.0*
*MOS **01** 23:16:52.5±0.9, 747S×156.32E, h33km, mb4.7/7, Error ellipse: s-maj=18.2km s-min=13.8km az=124.1*

ISC 01 23:16:54.3±0.4, 751S±006×15632E±008, h35km, n53, σ0970/48, mb4.5/24, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.06**	**118**	Pn	**Pn**	23 17 52.9	**-1.1**
	21nm,0.3s,baz=264,slow=9.2,SNR=1.7						
KAKA	**Kakadu**	**24.06**	**256**	*e*P	**P**	23 22 06.1	**-0.5**
	17nm,0.6s,mb4.6						
WB2	**Warramunga Arr**	**24.62**	**238**	*e*P	**P**	23 22 11.5	**-0.1**
WRA	**Warramunga Arr**	**24.63**	**238**	P	**P**	23 22 11.6	**-0.1**
	14nm,0.6s,mb4.6,baz=60,slow=9.3,SNR=19						
ASAR	**Alice Springs**	**26.84**	**231**	P	**P**	23 22 30.6	**-1.1**
	3.6nm,0.8s,mb4.0,baz=64,slow=8.6,SNR=12						
STKA	**Stephens Creek**	**27.86**	**208**	P	**P**	23 22 40.6	**-0.1**
	2.6nm,0.8s,mb3.9,baz=36,slow=14,SNR=2.9						
FITZ	**Fitzroy Crossi**	**31.66**	**248**	*e*P	**P**	23 23 13.7	**-0.9**
	8.0nm,0.8s,mb4.6						
FITZ	**Fitzroy Crossi**	**31.66**	**248**	P	**P**	23 23 13.7	**-0.9**
	3.3nm,0.6s,mb4.4,baz=71,slow=8.6,SNR=4.3						
MBWA	**Marble Bar**	**37.84**	**245**	*e*P	**P**	23 24 08.7	**+0.8**
	11nm,0.9s,mb4.6						
NWAO	**Narrogin (SRO)**	**44.15**	**230**	P	**P**	23 25 00.3	**+0.6**
NWAO	**Narrogin (SRO)**	**44.15**	**230**	P	**P**	23 25 00.3	**+0.6**
	12nm,1.0s,mb4.6,baz=159,slow=8.6,SNR=3.0						
KSM	**Kuching**	**46.76**	**279**	*e*P	**P**	23 25 20.1	**-0.6**
MJAR	**Matsushiro Arr**	**47.00**	**340**	P	**P**	23 25 21.7	**-0.4**
	1.1nm,0.4s,mb4.1,baz=167,slow=8.4,SNR=4.8						
MJAR				PcP	PcP	23 26 52.1	-2.0
	2.1nm,0.7s,baz=169,slow=4.9,SNR=3.2						
MAJO	**Matsushiro**	**47.00**	**340**	P	**P**	23 25 21.3	**-0.8**
JNU	**Nakatsue**	**47.09**	**331**	P	**P**	23 25 23.1	**+0.2**
	8.5nm,0.7s,mb4.8,baz=89,slow=12,SNR=5.9						
KSRS	**Korea Array**	**52.01**	**331**	P	**P**	23 26 00.6	**+0.3**
	2.8nm,0.8s,mb4.3,baz=151,slow=7.5,SNR=6.8						
KULM	**Kulim**	**56.98**	**281**	P	**P**	23 26 36.5	**-0.4**
HIA	**Hailar**	**64.94**	**334**	*e*P	**P**	23 27 30.0	**-0.3**
CASY	**Casey**	**66.52**	**198**	P	**P**	23 27 40.2	**0.0**
GTA	**Gaotai**	**70.01**	**317**	*e*P	**P**	23 28 04.0	**+1.4**
GTA				AP	pP	23 28 07.6	-5.8
GTA				XP	sP	23 28 09.0	-8.5
GTA				AMB	AMB		
	comp=Z,9.0nm,1.3s,mb4.5						
VNDA	**Vanda**	**70.04**	**179**	*e*P	**P**	23 28 03.0	**+0.9**
	comp=Z,1.9nm,0.9s,mb4.0						
VNDA	**Vanda**	**70.04**	**179**	*e*P	**P**	23 28 03.0	**+0.9**
VNDA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
VNDA	**Vanda**	**70.04**	**179**	P	**P**	23 28 02.7	**+0.6**
	comp=Z,1.5nm,0.8s,mb4.0,baz=330,slow=7.2,SNR=6.1						
SONM	**Songino Array**	**70.48**	**327**	P	**P**	23 28 06.2	**+1.0**
	comp=Z,5.2nm,0.8s,mb4.5,baz=134,slow=5.9,SNR=13						
SBA	**Scott Base**	**70.53**	**178**	*e*P	**P**	23 28 06.5	**+1.4**
YAK	**Yakutsk**	**72.34**	**347**	P	**P**	23 28 16.0	**-0.2**
LSA	**Lhasa**	**72.65**	**304**	*e*P	**P**	23 28 19.5	**+0.7**
	comp=Z,4.9nm,0.8s,mb4.5						
LSA	**Lhasa**	**72.65**	**304**	*e*P	**P**	23 28 19.5	**+0.8**
LSA				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.5						
BOD	**Bodaibo**	**73.58**	**338**	*e*P	**P**	23 28 23.2	**-0.4**
BOD				pmax	pmax		
	comp=Z,4.0nm,1.9s,mb4.0						
ZAK	**Zakamensk**	**73.62**	**328**	*e*P	**P**	23 28 24.6	**+0.6**
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.2s,mb4.2						
TLY	**Talaya**	**74.17**	**329**	P	**P**	23 28 27.4	**+0.2**
PALK	**Pallekele**	**76.82**	**279**	*e*P	**P**	23 28 43.1	**-0.1**
PMR	**Palmer**	**80.73**	**23**	P	**P**	23 29 03.6	**-0.1**
MCK	**McKinley**	**82.04**	**22**	*e*P	**P**	23 29 10.2	**-0.3**
	comp=Z,11nm,1.3s,mb4.6						
MCK	**McKinley**	**82.04**	**22**	*e*P	**P**	23 29 10.2	**-0.4**
MCK				pmax	pmax		
	comp=Z,11nm,1.3s,mb4.6						
MKAR	**Makanchi Array**	**84.66**	**318**	P	**P**	23 29 25.1	**+0.7**
	comp=Z,26nm,0.7s,mb5.5,baz=84,slow=6.5,SNR=59						
ZAA0	**Zalesovo Array**	**85.34**	**326**	*e*P	**P**	23 29 26.9	**-0.7**
ZALV	**Zalesovo Beam**	**85.34**	**326**	P	**P**	23 29 27.1	**-0.5**
	comp=Z,12nm,0.7s,mb5.1,baz=111,slow=5.6,SNR=36						
ZAL	**Zalesovo**	**85.35**	**326**	P	**P**	23 29 27.2	**-0.5**
NVS	**Novosibirsk**	**86.50**	**326**	*i* P	**P**	23 29 32.8	**-0.6**
KURK	**Kurchatov**	**88.05**	**322**	*e*P	**P**	23 29 40.6	**-0.4**
	comp=Z,4.5nm,0.8s,mb4.8						
KURK	**Kurchatov**	**88.05**	**322**	*e*P	**P**	23 29 40.6	**-0.4**
KURK				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.7						
AML	**Almayashu**	**89.55**	**312**	*e*P	**P**	23 29 50.1	**+1.9**
	comp=Z,24nm,0.5s,mb5.8						
NVAR	**Mina Array Bea**	**91.00**	**52**	P	**P**	23 29 56.0	**+0.9**
	comp=Z,0.7nm,0.8s,mb4.0,baz=224,slow=4.2,SNR=4.3						
BRVK	**Borovoye**	**93.56**	**323**	*e*P	**P**	23 30 05.7	**-0.9**
	comp=Z,2.2nm,0.7s,mb4.7						
BRVK	**Borovoye**	**93.56**	**323**	*e*P	**P**	23 30 05.7	**-0.9**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.7						
YKA	**Yellowknife Ar**	**96.17**	**28**	P	**P**	23 30 18.3	**0.0**
YKA	**Yellowknife Ar**	**96.17**	**28**	P	**P**	23 30 18.3	**0.0**
	comp=Z,0.7nm,0.8s,mb4.1,baz=258,slow=4.5,SNR=3.9						
AKASG	**Malin Array Be**	**118.72**	**325**	PKP	PKPdf	23 35 38.1	-0.6
	comp=Z,0.1nm,0.4s,baz=64,slow=2.1,SNR=4.1						
SCHQ	**Schefferville**	**121.62**	**28**	PKP	PKPdf	23 35 41.8	-2.4
	comp=Z,3.2nm,0.9s,baz=216,slow=17,SNR=5.2						
LPAZ	**La Paz**	**130.06**	**119**	PKP	PKPdf	23 36 03.1	+1.6
	comp=Z,0.5nm,0.5s,baz=349,slow=2.0,SNR=4.3						
ESDC	**Sonseca Array**	**143.41**	**334**	PKP	PKPdf	23 36 22.9	-2.6
	comp=Z,0.8nm,0.7s,baz=12,slow=3.1,SNR=5.1						
DBIC	**Dimbokro**	**161.30**	**269**	PKPab	PKPab	23 37 36.2	-0.1
	comp=Z,3.0nm,0.8s,baz=29,slow=3.0,SNR=3.9						

*ISCJB **01** 23:18:49.4±4.7, 743S±007×156.02E±006, h12km±29km, mb4.4/27, Error ellipse: s-maj=12.7km s-min=8.3km az=38.3*
*IDC **01** 23:18:49.4±0.6, 740S×156.03E, h0km, mb4.3/14, mb1 4.4/15, mb1mx4.4/18, mbtmp4.3/15, ML4.7/1, Error ellipse: s-maj=20.4km s-min=16.7km az=91.0*
*NEIC **01** 23:18:50.9±0.3, 739S×156.02E, h10km, mb4.8/10, Error ellipse: s-maj=10.1km s-min=9.0km az=93.0*
*MOS **01** 23:18:52.8±1.3, 748S×156.02E, h33km, mb4.8/9, Error ellipse: s-maj=14.5km s-min=11.8km az=109.3*

ISC 01 23:18:50.3±5.5, 740S±007×15603E±006, h7km±34km, n54, σ1902/47, mb4.4/27, 1C, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.37**	**118**	Pn	**Pn**	23 19 57.1	**-0.1**
	36nm,0.3s,baz=252,slow=6.4,SNR=2.2						
HNR				Sn	**Sn**	23 20 48.3	**-0.1**
	33nm,0.3s,baz=90,slow=19,SNR=2.2						
CTAO	**Charters Tower**	**15.77**	**216**	Pn	**Pn**	23 22 32.5	**-0.7**
WB2	**Warramunga Arr**	**24.43**	**237**	*e*P	**P**	23 24 12.2	**+2.3**
WRA	**Warramunga Arr**	**24.45**	**237**	P	**P**	23 24 11.4	**+1.3**
	11nm,0.6s,mb4.5,baz=62,slow=9.5,SNR=14						
ASAR	**Alice Springs**	**26.69**	**230**	P	**P**	23 24 30.1	**-0.3**
	2.0nm,0.7s,mb3.8,baz=64,slow=8.8,SNR=4.6						
STKA	**Stephens Creek**	**27.82**	**207**	P	**P**	23 24 41.6	**+1.1**
	3.7nm,0.8s,mb4.1,baz=19,slow=10,SNR=2.9						
FITZ	**Fitzroy Crossi**	**31.44**	**247**	P	**P**	23 25 12.0	**-0.7**
	4.4nm,0.7s,mb4.4,baz=37,slow=10,SNR=2.3						
RAO	**Raoul Island**	**32.77**	**135**	P	**P**	23 25 24.2	**-0.1**
MBWA	**Marble Bar**	**37.63**	**245**	*e*P	**P**	23 26 04.9	**-1.4**
	9.6nm,1.0s,mb4.5						
KKM	**Kota Kinabalu**	**41.91**	**288**	P	**P**	23 26 42.6	**+0.6**
YHNB	**Yeheng**	**46.44**	**314**	*e*P	**P**	23 27 20.0	**+1.8**
KSM	**Kuching**	**46.46**	**279**	*e*P	**P**	23 27 17.8	**-0.7**
MJAR	**Matsushiro Arr**	**46.80**	**340**	P	**P**	23 27 18.9	**-1.9**
MJAR	**Matsushiro Arr**	**46.80**	**340**	P	**P**	23 27 18.9	**-1.9**
	1.0nm,0.6s,mb4.0,baz=157,slow=9.2,SNR=2.9						
JNU	**Nakatsue**	**46.86**	**331**	P	**P**	23 27 21.2	**-0.1**
	4.7nm,0.6s,mb4.6,baz=264,slow=9.2,SNR=1.9						
KSRS	**Korea Array**	**51.78**	**331**	P	**P**	23 27 58.8	**-0.1**
	1.1nm,0.5s,mb4.0,baz=139,slow=9.2,SNR=2.9						
QIZ	**Qiongzhong**	**52.55**	**301**	*e*P	**P**	23 28 02.9	**-2.0**
	27nm,1.2s,mb5.1						
BJT	**Baijiatuan**	**59.82**	**325**	*e*P	**P**	23 28 58.0	**+1.4**
	4.4nm,0.4s,mb4.8						
BJT	**Baijiatuan**	**59.82**	**325**	*e*P	**P**	23 28 58.0	**+1.4**
BJT				pmax	pmax		
	comp=Z,4.0nm,0.4s						
CASY	**Casey**	**66.53**	**198**	*e*P	**P**	23 29 41.9	**+1.2**
	comp=Z,38nm,0.9s,mb5.4						
VNDA	**Vanda**	**70.15**	**179**	P	**P**	23 30 02.0	**-1.1**
	comp=Z,0.9nm,0.9s,mb3.7,baz=342,slow=3.2,SNR=2.6						
SONM	**Songino Array**	**70.23**	**327**	P	**P**	23 30 04.8	**+0.7**
	comp=Z,4.4nm,1.0s,mb4.3,baz=148,slow=6.5,SNR=8.7						
SBA	**Scott Base**	**70.64**	**178**	P	**P**	23 30 05.5	**-0.7**
LSA	**Lhasa**	**72.35**	**304**	*e*P	**P**	23 30 18.4	**+1.1**
	comp=Z,6.7nm,1.0s,mb4.5						
LSA	**Lhasa**	**72.35**	**304**	*e*P	**P**	23 30 18.4	**+1.1**
LSA				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.5						
BOD	**Bodaibo**	**73.37**	**338**	*e*P	**P**	23 30 22.7	**-0.1**
BOD				pmax	pmax		
	comp=Z,4.0nm,1.4s,mb4.2						
ZAK	**Zakamensk**	**73.38**	**328**	*e*P	**P**	23 30 22.9	**-0.1**
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.4						
BILL	**Bilibino**	**75.61**	**4**	P	**P**	23 30 34.5	**-1.1**
	comp=Z,1μm,3.8s						
BILL	**Bilibino**	**75.61**	**4**	*e*P	**P**	23 30 37.3	**+1.7**
BILL				*e*		23 30 42.1	
BILL				pmax	pmax		
	comp=Z,7.0nm,1.2s,mb4.5						
MCK	**McKinley**	**82.05**	**22**	*e*P	**P**	23 31 10.9	**-0.1**
	comp=Z,6.7nm,1.0s,mb4.5						
MCK				*e*PcP	PcP	23 31 16.1	-0.4
MCK	**McKinley**	**82.05**	**22**	*e*P	**P**	23 31 11.0	**-0.1**
MCK				*e*		23 31 16.2	
MCK				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.5						
COLA	**College**	**83.09**	**21**	P	**P**	23 31 17.1	**+0.6**
	comp=Z,3.4nm,0.8s,mb4.4						
COLA	**College**	**83.09**	**21**	P	**P**	23 31 17.1	**+0.6**
COLA				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.4						
MKAR	**Makanchi Array**	**84.39**	**318**	P	**P**	23 31 23.9	**+0.4**
	comp=Z,8.5nm,0.8s,mb4.9,baz=79,slow=6.4,SNR=7.7						
ZALV	**Zalesovo Beam**	**85.09**	**326**	P	**P**	23 31 26.4	**-0.5**
	comp=Z,5.2nm,0.9s,mb4.7,baz=114,slow=4.5,SNR=7.3						
ZAL	**Zalesovo**	**85.10**	**326**	P	**P**	23 31 26.5	**-0.4**
KURK	**Kurchatov**	**87.78**	**322**	*e*P	**P**	23 31 39.5	**-0.7**
	comp=Z,2.9nm,0.9s,mb4.5						
KURK	**Kurchatov**	**87.78**	**322**	*e*P	**P**	23 31 39.5	**-0.7**
KURK				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.5						
TKM2	**Tokmak 2**	**88.04**	**314**	*e*P	**P**	23 31 39.9	**-1.7**
	comp=Z,15nm,1.0s,mb5.2						
TKM2	**Tokmak 2**	**88.04**	**314**	*e*P	**P**	23 31 39.9	**-1.7**
TKM2				pmax	pmax		
	comp=Z,15nm,1.0s,mb5.2						
INK	**Inuvik**	**89.74**	**21**	P	**P**	23 31 50.7	**+1.7**
	comp=Z,0.4nm,0.5s,mb4.0,baz=308,slow=6.4,SNR=3.0						
NVAR	**Mina Array Bea**	**91.17**	**52**	P	**P**	23 31 56.3	**-0.1**
	comp=Z,0.4nm,0.8s,mb3.8,baz=230,slow=3.9,SNR=3.1						
BRVK	**Borovoye**	**93.31**	**323**	*e*P	**P**	23 32 04.7	**-1.2**
	comp=Z,2.3nm,0.8s,mb4.7						
BRVK	**Borovoye**	**93.31**	**323**	*e*P	**P**	23 32 04.7	**-1.2**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.6						
YKA	**Yellowknife Ar**	**96.21**	**28**	P	**P**	23 32 19.6	**+0.6**
YKA	**Yellowknife Ar**	**96.21**	**28**	P	**P**	23 32 19.6	**+0.6**
	comp=Z,0.5nm,0.8s,mb4.0,baz=267,slow=4.3,SNR=5.0						
AKTK	**Aktyubinsk**	**100.77**	**320**	P	Pdif	23 32 39.6	-0.1
AKTO	**Aktyubinsk**	**100.77**	**320**	P	Pdif	23 32 39.6	-0.1
	comp=Z,1.1nm,0.5s,baz=104,slow=10.0,SNR=4.5						
PLCA	**Paso Flores**	**115.78**	**142**	PKP	PKPdf	23 37 34.7	+0.6
PLCA	**Paso Flores**	**115.78**	**142**	PKP	PKPdf	23 37 34.7	+0.6
	comp=Z,1.3nm,0.8s,baz=255,slow=13,SNR=3.0						
AKASG	**Malin Array Be**	**118.47**	**325**	PKP	PKPdf	23 37 39.3	+0.4
	comp=Z,0.3nm,0.4s,baz=52,slow=2.0,SNR=3.4						
GERES	**GERESS Array B**	**127.93**	**329**	PKP	PKPdf	23 37 58.2	+1.1
	comp=Z,0.2nm,0.3s,baz=47,slow=3.7,SNR=3.1						
LPAZ	**La Paz**	**130.36**	**119**	PKP	PKPdf	23 38 04.0	+1.3
LPAZ	**La Paz**	**130.36**	**119**	PKP	PKPdf	23 38 04.0	+1.3
	comp=Z,0.9nm,0.6s,baz=331,slow=6.3,SNR=4.1						

IDC 01 23:22:08.9±7.6, 800S×15721E, h0km, mb4.2/6, mb1 4.3/6, mb1mx4.0/14, mbtmp4.2/6, Error ellipse: s-maj=223.9km s-min=27.4km az=112.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**25.13**	**239**	P	P	23 27 36.7	+0.9
	1.7nm,0.8s,baz=63,slow=9.6,SNR=2.4						
ASAR	**Alice Springs**	**27.23**	**232**	P	P	23 27 53.9	-0.9
	0.5nm,0.7s,baz=66,slow=10,SNR=2.9						
KSRS	**Korea Array**	**52.87**	**331**	P	P	23 31 25.8	-0.7
	1.6nm,0.7s,baz=142,slow=7.0,SNR=3.4						
SONM	**Songino Array**	**71.37**	**327**	P	P	23 33 31.3	+0.6
	2.1nm,0.7s,baz=139,slow=6.6,SNR=8.7						
MKAR	**Makanchi Array**	**85.61**	**318**	P	P	23 34 49.9	+0.6
	7.5nm,0.8s,baz=90,slow=7.3,SNR=14						
ZALV	**Zalesovo Beam**	**86.24**	**326**	P	P	23 34 52.1	-0.2
	4.9nm,0.6s,baz=114,slow=5.9,SNR=14						

IDC 01 23:22:41.6±2.4, 748S×15566E, h0km, mb4.2/6, mb1 4.3/6, mb1mx4.0/14, mbtmp4.1/6, Error ellipse: s-maj=81.4km s-min=28.3km az=122.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.10**	**237**	P	P	23 27 59.1	-0.1
	4.3nm,0.7s,baz=63,slow=9.3,SNR=9.2						
ASAR	**Alice Springs**	**26.36**	**230**	P	P	23 28 20.1	+0.4
	1.1nm,0.8s,baz=63,slow=8.9,SNR=4.2						
SONM	**Songino Array**	**70.10**	**327**	P	P	23 33 56.7	+1.0
	1.4nm,0.9s,baz=137,slow=5.8,SNR=4.4						
MKAR	**Makanchi Array**	**84.21**	**319**	P	P	23 35 15.2	+0.2
	2.3nm,0.5s,baz=90,slow=5.3,SNR=5.3						
ZALV	**Zalesovo Beam**	**84.95**	**326**	P	P	23 35 17.3	-1.3
	2.1nm,0.6s,baz=95,slow=4.9,SNR=4.7						
YKA	**Yellowknife Ar**	**96.45**	**28**	P	P	23 36 12.6	+0.1
	0.1nm,0.4s,baz=270,slow=4.3,SNR=4.3						

IDC 01 23:23:37.7±5.0, 857S×15843E, h0km, mb4.3/5, mb1 4.4/5, mb1mx4.1/14, mbtmp4.3/5, Error ellipse: s-maj=149.7km s-min=32.7km az=115.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**25.90**	**242**	P	P	23 29 11.2	-0.5
	5.1nm,0.7s,baz=69,slow=9.3,SNR=6.9						
ASAR	**Alice Springs**	**27.86**	**235**	P	P	23 29 30.0	+0.7
	0.7nm,0.5s,baz=63,slow=9.2,SNR=3.4						
SONM	**Songino Array**	**72.51**	**326**	P	P	23 35 07.4	+1.0
	0.7nm,0.4s,baz=140,slow=7.6,SNR=7.2						
MKAR	**Makanchi Array**	**86.84**	**318**	P	P	23 36 23.8	-0.4
	2.0nm,0.7s,baz=89,slow=6.2,SNR=3.8						
ZALV	**Zalesovo Beam**	**87.39**	**325**	P	P	23 36 26.2	-0.5
	1.9nm,0.4s,baz=113,slow=6.1,SNR=5.8						

**IDC 01 23:24:19.5±2.5, 747S×15582E, h0km, mb4.1/8, mb1 4.2/8, mb1mx4.1/15, mbtmp4.1/8, Error ellipse: s-maj=

NWAO **Narrogin (SRO)** **44.04 229** *eP* **P** **23 33 36.1 -0.2**
NWAO pmax pmax
comp=Z,58nm,1.2s
NWAO **Narrogin (SRO)** **44.04 229** P **P** **23 33 36.3 0.0**
comp=Z,29nm,1.1s,mb4.9,baz=35,slow=8.6,SNR=4.2
MUN **Mundaring** **44.42 231** *eP* **P** **23 33 37.3 -2.0**
NACB **Ninganchiao** **46.11 314** *eP* **P** **23 33 52.3 -0.5**
YHNB **Yeheng** **46.58 314** P **P** **23 33 57.4 +0.9**
KSM **Kuching** **46.59 279** *eP* **P** **23 33 56.8 +0.1**
MJAR **Matsushiro Arr** **46.91 340** P **P** **23 33 57.5 -1.4**
MJAR **Matsushiro Arr** **46.91 340** P **P** **23 33 57.5 -1.4**
comp=Z,4.4nm,0.6s,mb4.6,baz=174,slow=8.5,SNR=12
MAJO **Matsushiro** **46.91 340** P **P** **23 33 58.5 -0.4**
comp=Z,20nm,0.8s,mb5.1
MAJO **Matsushiro** **46.91 340** P **P** **23 33 58.5 -0.3**
MAJO pmax pmax
comp=Z,20nm,0.8s,mb5.1
JNU **Nakatsue** **46.98 331** P **P** **23 33 59.6 +0.1**
comp=Z,26nm,0.8s,mb5.2,baz=88,slow=8.7,SNR=10
QZH **Quanzhou** **48.75 313** *eP* **P** **23 34 13.8 +0.5**
KSRS **Korea Array** **51.90 331** P **P** **23 34 37.2 +0.3**
comp=Z,6.9nm,0.7s,mb4.7,baz=147,slow=7.1,SNR=14
ASAJ **Asahikawa** **52.80 348** P **P** **23 34 46.8 +3.3**
comp=Z,3.5nm,0.5s,mb4.5,baz=229,slow=11,SNR=3.6
NJ2 **Nanjing** **53.02 320** *eP* **P** **23 34 44.6 -0.7**
NJ2 AP pP 23 34 54.5 -1.2
NJ2 XP sP 23 34 56.9 -2.9
NJ2 PP PP 23 36 43.9 -1.5
NJ2 S **S** **23 42 11.0 -1.9**
NJ2 AMB AMB
comp=Z,30nm,1.0s,mb5.2
NJ2 AMB AMB
comp=Z,1μm,4.2s
NJ2 LR LR
comp=N,10μm,12.3s,MS6.3
NJ2 LR LR
comp=E,13μm,12.3s,MS6.3
NJ2 LR LR
comp=Z,15μm,12.8s,MS6.2
WHN **Wuhan** **55.08 315** *eP* **P** **23 35 01.2 +0.8**
PMOR **Pomariorio Ree** **55.27 103** *eP* **P** **23 35 03.2 +1.1**
comp=Z,161nm,1.4s,mb5.8
YSS **Yuzh-Sakhalins** **55.48 349⇑** *eP* **P** **23 35 03.5 +0.5**
YSS pmax pmax
comp=Z,16nm,1.4s,mb4.9
VAH **Vaihoa** **55.53 103** *eP* **P** **23 35 04.6 +0.7**
comp=Z,72nm,1.3s,mb5.5
KULM **Kulim** **56.81 281** *eP* **P** **23 35 12.2 -1.0**
MDJ **Mudanjiang** **57.11 338** P **P** **23 35 15.1 +0.5**
MDJ PP PP 23 37 22.4 +0.5
MDJ AMB AMB
comp=Z,9.0nm,2.2s,mb4.4
MDJ AMB AMB
comp=Z,5μm,15.0s
PSI **Prapat** **58.00 278** P **P** **23 35 23.3 +1.7**
comp=Z,2.6nm,0.6s,mb4.5,baz=163,slow=21,SNR=5.9
CN2 **Changchun** **58.12 334** *eP* **P** **23 35 22.1 +0.4**
CN2 AMB AMB
comp=Z,10.0nm,1.1s,mb4.8
GYA **Guiyang** **58.66 307⇑** *iP* **P** **23 35 28.4 +2.6**
GYA AP pP 23 35 32.5 -3.9
GYA XP sP 23 35 35.8 -4.6
GYA PCP PcP 23 36 17.5 +1.8
GYA PP PP 23 37 39.6 +3.6
GYA SCP ScP 23 40 16.8 +3.1
GYA S **S** **23 43 30.9 +2.7**
GYA SCS ScS 23 45 14.2 +0.7
GYA SS SS 23 47 25.4 +3.6
GYA AMB AMB
comp=Z,60nm,1.0s,mb5.6
GYA AMB AMB
comp=Z,9μm,11.8s
GYA LR LR
comp=N,5μm,20.6s,MS5.8
GYA LR LR
comp=E,5μm,21.2s,MS5.8
GYA LR LR
comp=Z,5μm,19.4s,MS5.6
BJT **Baijiatuau** **59.95 325** *eP* **P** **23 35 33.6 -0.9**
comp=Z,20nm,0.9s,mb5.1
BJT **Baijiatuau** **59.95 325** *eP* **P** **23 35 33.6 -0.9**
BJT pmax pmax
comp=Z,19nm,0.9s
KLR **Kul'dur** **60.37 342** *eP* **P** **23 35 32.6 -4.6**
XAN **Xi'an** **60.85 316** P **P** **23 35 40.2 -0.6**
XAN AP pP 23 35 45.1 -6.3
XAN AMB AMB
comp=Z,9.0nm,1.2s,mb4.8
XAN LR LR
comp=N,627nm,12.3s,MS5.2
XAN LR LR
comp=E,849nm,14.6s,MS5.2
XAN LR LR
comp=Z,1μm,12.3s,MS5.3
KMI **Kunming** **61.23 304** P **P** **23 35 43.9 +0.3**
KMI AMB AMB
comp=Z,31nm,1.5s,mb5.2
AMKA **Amchitka** **61.92 16** *eP* **P** **23 35 39.8 -7.8**
CHTO **Chiang Mai** **62.14 296** *eP* **P** **23 35 49.7 -0.1**
CD2 **Chengdu** **63.00 310** P **P** **23 35 55.8 +0.5**
CD2 PP PP 23 38 15.7 +1.4
CD2 S **S** **23 44 23.8 +0.3**
CD2 SS SS 23 48 31.3 +1.5
CD2 AMB AMB
comp=Z,30nm,0.5s,mb5.7
HHC **Hu-ho-hao-te** **63.16 323** *eP* **P** **23 35 56.9 +0.7**
HHC AP pP 23 36 01.0 -5.8
HHC XP sP 23 36 04.6 -6.2
HHC PP PP 23 38 18.2 +2.7
HHC SCP ScP 23 40 35.4 +2.0
HHC S **S** **23 44 26.6 +1.4**
HHC XS sS 23 44 34.2 -8.5
HHC SS SS 23 48 34.1 +2.2
HHC AMB AMB
comp=Z,26nm,0.6s,mb5.5
HHC LR LR
comp=N,2μm,12.5s,MS5.8
HHC LR LR
comp=E,3μm,14.1s,MS5.8
HHC LR LR
comp=Z,6μm,30.9s
HIA **Hailar** **64.84 335** *eP* **P** **23 36 07.0 0.0**
comp=Z,6.3nm,0.5s,mb4.9
HIA **Hailar** **64.84 335** *eP* **P** **23 36 07.0 0.0**
HIA pmax pmax
comp=Z,6.0nm,0.5s
LZH **Lanzhou** **65.46 315** *eP* **P** **23 36 12.5 +1.1**
LZH AP pP 23 36 16.0 -6.0
LZH XP sP 23 36 17.3 -8.8
LZH PP PP 23 38 39.3 +3.5
LZH AMB AMB
comp=Z,60nm,1.5s,mb5.4
LZH AMB AMB
comp=Z,313nm,5.1s
PBA **Port Blair** **65.86 286** *eP* **P** **23 36 13.7 -0.7**
CASY **Casey** **66.50 198** P **P** **23 36 19.2 +1.7**
MA2 **Magadan** **66.97 357** P **P** **23 36 19.2 -1.3**
MA2 **Magadan** **66.97 357** *eP* **P** **23 36 19.3 -1.2**
MA2 pmax pmax
comp=Z,20nm,0.9s,mb5.2
CLNS **Chul'man** **69.03 342** *eP* **P** **23 36 37.9 +4.4**
CLNS pmax pmax
comp=Z,13nm,1.0s,mb4.8
CLNS pmax pmax
comp=N,8.0nm,0.8s
CLNS pmax pmax
comp=E,7.0nm,0.8s
CIT **Chita** **69.55 333** *eP* **P** **23 36 38.2 +1.4**
CIT *e* 23 37 01.8
CIT pmax pmax
comp=Z,67nm,2.2s,mb5.2
GTA **Gaotai** **69.87 317** ⇑P **P** **23 36 40.3 +1.2**
GTA AP pP 23 36 43.9 -6.0
GTA XP sP 23 36 45.4 -8.5
GTA PP PP 23 39 18.1 +4.0
GTA AMB AMB
comp=Z,18nm,1.6s,mb4.8
GTA LR LR
comp=N,6μm,19.0s,MS6.0
GTA LR LR
comp=E,7μm,20.1s,MS6.0
GTA LR LR
comp=Z,9μm,19.4s,MS6.0
VNDA **Vanda** **70.07 179** P **P** **23 36 39.8 0.0**
comp=Z,1.9nm,0.9s,mb4.0,baz=307,slow=2.4,SNR=5.9

SEY **Seymchan** **70.26 358⇓** *eP* **P** **23 36 36.6 -4.4**
SONM **Songino Array** **70.36 327** P **P** **23 36 42.3 +0.4**
comp=Z,12nm,0.8s,mb4.9,baz=134,slow=6.7,SNR=36
SHL **Shillong** **70.53 300** *ex* x 23 37 22.9
SBA **Scott Base** **70.56 178** *eP* **P** **23 36 38.4 -4.3**
YAK **Yakutsk** **72.27 347** *eP* **P** **23 36 53.9 +0.7**
YAK *e* 23 37 18.9
YAK pmax pmax
comp=Z,21nm,1.0s,mb5.0
YAK pmax pmax
comp=N,14nm,1.5s
YAK pmax pmax
comp=E,5.0nm,1.2s
LSA **Lhasa** **72.49 304** P **P** **23 36 56.2 +1.0**
LSA **Lhasa** **72.49 304** *eP* **P** **23 36 56.9 +1.7**
BOD **Bodaibo** **73.48 338** *eP* **P** **23 36 59.7 -0.7**
BOD pmax pmax
comp=Z,16nm,1.9s,mb4.6
TLY **Talaya** **74.06 329** P **P** **23 37 04.4 +0.4**
comp=Z,79nm,1.4s,mb5.5,SNR=6.2
TLY **Talaya** **74.06 329** *eP* **P** **23 37 03.9 0.0**
TLY **Talaya** **74.06 329** *eP* **P** **23 37 03.9 -0.1**
TLY pmax pmax
comp=Z,30nm,1.5s,mb5.0
BOK **Bokaro** **75.23 297** *eP* **P** **23 37 07.9 -3.5**
BOK AMb AMB 23 37 21.4
comp=Z,47nm,1.8s,mb5.1
MOY **Mondy** **75.42 328** *eP* **P** **23 37 12.9 +1.1**
MOY pmax pmax
comp=Z,52nm,2.0s,mb5.1
BILL **Bilibino** **75.67 4** *eP* **P** **23 37 13.0 +0.1**
comp=Z,33nm,1.1s,mb5.2
BILL **Bilibino** **75.67 4⇑** *iP* **P** **23 37 13.1 +0.1**
BILL *e* 23 37 18.9
BILL *e* 23 37 27.1
BILL pmax pmax
comp=Z,40nm,1.7s,mb5.1
JIRN **Jiri** **76.01 301** *eP* **P** **23 37 15.5 -0.3**
PALK **Pallekele** **76.65 279** *eP* **P** **23 37 19.9 +0.2**
KKN **Kakani** **76.82 301** *eP* **P** **23 37 20.7 +0.3**
comp=Z,30nm,0.8s,mb5.3
KDAK **Kodiak Island** **77.10 25** P **P** **23 37 22.6 +1.4**
comp=Z,10nm,1.0s,mb4.7,baz=190,slow=7.4,SNR=4.1
GKN **Gorkha** **77.43 301** *eP* **P** **23 37 23.5 -0.3**
comp=Z,108nm,1.3s,mb5.6
SVW2 **Sparrevohn** **78.01 22** *eP* **P** **23 37 26.9 +0.6**
KOLN **Koldanda** **78.25 300** *eP* **P** **23 37 27.9 -0.5**
comp=Z,36nm,0.8s,mb5.4
TTA **Tatalina** **79.07 20** *eP* **P** **23 37 31.9 -0.1**
comp=Z,6.5nm,0.9s,mb4.6
TTA **Tatalina** **79.07 20** *eP* **P** **23 37 31.9 -0.2**
TTA pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
SLKM **Skilak Lake** **79.71 24** *eP* **P** **23 37 35.0 -0.6**
WMQ **Urumqi** **79.96 317** P **P** **23 37 38.2 +0.9**
WMQ AMB AMB
comp=Z,24nm,1.4s,mb4.9
KOD **Kodaikanal** **80.29 282** *eP* **P** **23 37 40.3 +0.6**
KOD AMb AMB 23 37 48.1
comp=Z,44nm,2.0s,mb5.0
HYB **Hyderabad** **80.51 289** *eP* **P** **23 37 34.5 -6.4**
HYB **Hyderabad** **80.51 289** *iP* **P** **23 37 41.0 +0.1**
PMR **Palmer** **80.77 23** *eP* **P** **23 37 40.6 -0.7**
NGP **Nagpur** **80.78 293** *eP* **P** **23 37 41.4 -0.9**
NGP AMb AMB 23 37 49.2
comp=Z,43nm,2.0s,mb5.0
TIXI **Tiksi** **80.99 352⇑** *eP* **P** **23 37 41.0 -1.3**
TIXI pmax pmax
comp=Z,17nm,1.7s,mb4.7
SML **Sawmill** **81.21 23** *eP* **P** **23 37 43.7 +0.1**
IMA2 **Indian Mountai** **81.89 18** *eP* **P** **23 37 46.5 -0.6**
MCK **McKinley** **82.08 22** *eP* **P** **23 37 47.1 -1.1**
BHPL **Bhopal** **82.67 295** *eP* **P** **23 37 51.5 -0.7**
BHPL AMb AMB 23 37 59.4
comp=Z,25nm,0.9s,mb5.2
COLA **College** **83.11 21** *eP* **P** **23 37 52.0 -1.5**
comp=Z,12nm,0.9s,mb4.9
COLA **College** **83.11 21⇑** *eP* **P** **23 37 51.9 -1.6**
NDI **New Delhi** **83.94 300** *eP* **P** **23 37 58.0 -0.6**
MAW **Mawson** **84.40 203** *eP* **P** **23 38 00.5 +0.3**
comp=Z,16nm,1.0s,mb5.1
MAW **Mawson** **84.40 203** *eP* **P** **23 38 00.5 +0.3**
MAW pmax pmax
comp=Z,16nm,1.0s
MAW **Mawson** **84.40 203** P **P** **23 38 00.6 +0.4**
comp=Z,7.9nm,0.7s,mb5.0,baz=99,slow=8.3,SNR=11
MKAR **Makanchi Array** **84.52 318** P **P** **23 38 01.2 +0.1**
comp=Z,51nm,0.6s,mb5.8,baz=80,slow=6.7,SNR=110
KAD **Karad** **84.60 288** *eP* **P** **23 38 00.9 -1.3**
KAD AMb AMB 23 38 10.5
comp=Z,62nm,1.2s,mb5.6
POO **Poona** **85.11 289** *ex* x 23 38 09.5
ZALV **Zalesovo Beam** **85.22 326** P **P** **23 38 03.6 -0.9**
comp=Z,30nm,0.5s,mb5.6,baz=116,slow=5.7,SNR=88
ZAL **Zalesovo** **85.23 326** P **P** **23 38 03.6 -0.9**
EGAK **Eagle** **85.52 22** *eP* **P** **23 38 06.0 +0.3**
comp=Z,6.4nm,0.8s,mb4.9
AJM **Ajmer** **85.76 297** *iP* **P** **23 38 07.0 -0.8**
AJM *eP* 23 38 07.5
AJM AMb AMB 23 38 14.4
comp=Z,46nm,1.9s,mb5.4
THN **Thein Dam** **85.97 303** *eP* **P** **23 38 08.1 -0.6**
NVS **Novosibirsk** **86.38 326** *iP* **P** **23 38 08.5 -1.7**
NVS *e*S S 23 48 41.9 -1.6
NVS pmax pmax
comp=N,23nm,1.3s
NVS pmax pmax
comp=E,30nm,1.3s
NVS pmax pmax
comp=Z,65nm,1.3s,mb5.7
NVS smax
comp=N,28nm,2.3s
NVS smax
comp=E,41nm,2.7s
KURK **Kurchatov** **87.92 322** P **P** **23 38 16.5 -1.3**
comp=E,136nm,0.9s,mb6.2,SNR=11
KURK **Kurchatov** **87.92 322** *eP* **P** **23 38 16.5 -1.2**
KURK **Kurchatov** **87.92 322⇑** *eP* **P** **23 38 16.2 -1.6**
DLBC **Dease Lake** **87.97 30** *eP* **P** **23 38 19.2 +1.4**
TKM2 **Tokmak 2** **88.17 314** *eP* **P** **23 38 20.1 +0.9**
comp=E,13nm,0.9s,mb5.2
TKM2 **Tokmak 2** **88.17 314** *eP* **P** **23 38 20.1 +0.9**
TKM2 pmax pmax
comp=Z,13nm,0.9s,mb5.2
TKM2 **Tokmak 2** **88.17 314** P **P** **23 38 19.7 +0.5**
SNR=6.3
WDC **Whiskeytown Da** **88.26 49** *eP* **P** **23 38 19.3 -0.3**
KBK **Karagaybulak** **88.59 313** P **P** **23 38 22.2 +1.1**
SNR=5.5
CHMS **Chumysh** **88.80 313** P **P** **23 38 22.0 -0.1**
SNR=6.9
UCH **Uchtor** **88.82 313** *eP* **P** **23 38 23.4 +1.1**
comp=Z,27nm,1.4s,mb5.4
AAK **Ala-Archa** **88.91 313** *eP* **P** **23 38 21.5 -1.2**
AAK **Ala-Archa** **88.91 313⇑** *eP* **P** **23 38 21.5 -1.2**
AAK pmax pmax
comp=Z,15nm,1.5s,mb5.1
USP **Ospenovka** **89.03 314** P **P** **23 38 22.5 -0.7**
SNR=6.3
AML **Almayashu** **89.40 312** P **P** **23 38 26.2 +1.2**
SNR=8.8
EKS2 **Erkin-Say** **89.44 313** *eP* **P** **23 38 26.1 +1.0**
comp=Z,13nm,1.2s,mb5.1
INK **Inuvik** **89.76 20** P **P** **23 38 25.9 -0.2**
comp=Z,3.1nm,0.8s,mb4.7,baz=224,slow=5.5,SNR=7.6
MWC **Mount Wilson** **90.69 56** *eP* **P** **23 38 32.4 +1.2**
NVAR **Mina Array Bea** **91.12 52** P **P** **23 38 34.1 +1.0**
comp=Z,1.8nm,0.8s,mb4.4,baz=243,slow=4.1,SNR=9.8
WVOR **Wild Horse Val** **91.47 48** *eP* **P** **23 38 32.9 -1.7**
comp=Z,32nm,1.6s,mb5.4
WVOR **Wild Horse Val** **91.47 48** *eP* **P** **23 38 32.9 -1.7**
WVOR pmax pmax
comp=Z,32nm,1.6s,mb5.4
KBL **Kabul** **91.81 304** *eP* **P** **23 38 35.3 -1.1**
KK31 **Karatay Array** **91.88 313** *iP* **P** **23 38 34.7 -1.8**
KK31 pmax pmax
comp=Z,13nm,1.0s,mb5.2
PFO **Pinyon Flat Ob** **91.92 57** P **P** **23 38 37.2 +0.3**
PFO **Pinyon Flat Ob** **91.92 57** P **P** **23 38 37.2 +0.3**
comp=Z,2.4nm,0.8s,mb4.6,baz=264,slow=4.7,SNR=3.6
SYO **Syowa Base** **92.25 199⇓** *eP* **P** **23 38 41.7 +4.0**
SYO **Syowa Base** **92.25 199⇓** *e*SP sP 23 38 44.6 -8.1
TPNV **Topopah Spring** **92.53 53** *eP* **P** **23 38 40.8 +1.1**
comp=Z,73nm,2.5s,mb5.7
TPNV **Topopah Spring** **92.53 53** *eP* **P** **23 38 40.8 +1.2**

TPNV pmax pmax
comp=Z,73nm,2.5s,mb5.7
BMO **Blue Mountains** **92.77 45** *eP* **P** **23 38 41.1 +0.6**
comp=Z,24nm,2.0s,mb5.3
BMO **Blue Mountains** **92.77 45** *eP* **P** **23 38 41.1 +0.5**
BMO pmax pmax
comp=Z,24nm,2.0s,mb5.3
CHKZ **Chkalovo** **93.32 324** *iP* **P** **23 38 40.6 -2.3**
CHKZ pmax pmax
comp=Z,21nm,1.2s,mb5.4
BRVK **Borovoye** **93.44 323** P **P** **23 38 42.5 -0.9**
comp=Z,94nm,1.2s,mb6.1,SNR=8.6
BRVK **Borovoye** **93.44 323** *eP* **P** **23 38 42.0 -1.4**
YKA **Yellowknife Ar** **96.22 28** P **P** **23 38 55.6 -0.4**
comp=Z,2.2nm,0.7s,mb4.7,baz=266,slow=4.6,SNR=24
YKW3 **Yellowknife Ar** **96.22 28** *eP* **P** **23 38 55.7 -0.2**
BW06 **Boulder Array** **98.17 48** *eP* **P** **23 39 05.0 -0.2**
PDAR **Pinedale Array** **98.17 48** P **P** **23 39 04.6 -0.6**
comp=Z,1.4nm,1.0s,mb4.5,baz=242,slow=1.0,SNR=7.7
ARU **Arti** **100.38 326** *e*Pdif Pdif 23 39 12.9 -1.9
ARU **Arti** **100.38 326** *eP* Pdif 23 39 12.9 -2.0
AKTK **Aktyubinsk** **100.90 320** P Pdif 23 39 15.3 -1.8
AKTO **Aktyubinsk** **100.90 320** P Pdif 23 39 15.3 -1.8
comp=Z,1.0nm,0.7s,baz=96,slow=10,SNR=3.3
KIV **Kislovodsk** **112.00 314** *e*PKIKP PKiKP 23 44 03.5 0.0
KIV **Kislovodsk** **112.00 314** *e*PKIKP PKiKP 23 44 03.5 0.0
FINES **FINESS Array B** **114.84 336⇑** *iP*KIKP PKiKP 23 44 08.1 -0.3
FINES **FINESS Array B** **114.84 336** PKiKP PKiKP 23 44 07.6 -0.7
comp=Z,0.3nm,0.4s,baz=111,slow=3.0,SNR=6.7
PLCA **Paso Flores** **115.64 142** PKP PKPdf 23 44 09.7 -0.9
comp=Z,1.2nm,0.8s,baz=140,slow=10.0,SNR=4.1
KMBO **Kilima Mbogo** **118.46 265** *e*PKPdf PKPbc 23 44 17.7 +0.9
AKASG **Malin Array Be** **118.59 325** PKP PKPdf 23 44 14.8 -1.1
comp=Z,1.3nm,0.6s,baz=62,slow=1.5,SNR=9.3
ANTO **Ankara** **120.14 312⇓** *iP* PKPdf 23 44 19.6 +0.3
KIS **Kishinev** **120.39 321** *e*PKP PKPdf 23 44 15.0 -4.5
NB2 **NORSAR Subarra** **120.53 341** PKPdf PKPdf 23 44 18.5 -0.8
comp=Z,2.5nm,0.9s,baz=34,slow=1.7
NOA **NORSAR Array B** **120.53 341** PKP PKPdf 23 44 18.6 -0.7
comp=Z,0.8nm,0.7s,baz=39,slow=2.1,SNR=2.7
MLR **Muntele Rosu** **122.83 320⇓** *iP* PKPdf 23 44 24.4 +0.2
KOLS **Kolonicke sedl** **123.39 325** *e*PKP PKPdf 23 44 25.5 +0.3
STHS **Stebnicka Huta** **123.72 326** *e*PKP PKPdf 23 44 26.1 +0.3
CRVS **Cervenica-Dubn** **123.87 326** *e*PKP PKPdf 23 44 26.5 +0.4
NIE **Niedzica** **124.22 327** *e*PKP PKPdf 23 44 27.5 +0.7
KECS **Kecovo** **124.64 326** *e*PKP PKPdf 23 44 28.5 +0.9
OKC **Ostrava-Krasne** **125.15 328** *e*PKPdf PKPdf 23 44 29.0 +0.5
BZS **Buzias** **125.46 322⇑** *iP* PKPdf 23 44 29.0 -0.3
MORC **Moravsky Berou** **125.50 328⇑** *iP* PKPdf 23 44 29.6 +0.4
VYHS **Vyhne** **125.55 326** *e*PKP PKPdf 23 44 29.3 -0.1
KOLL **Kolacno** **125.74 327** *e*PKP PKPdf 23 44 29.8 +0.1
DPC **Dobruska-Polom** **125.78 329** *e*PKPdf PKPdf 23 44 29.9 +0.2
UPC **Upice** **125.84 330** *e*PKPdf PKPdf 23 44 23.3 -6.5
MODS **Modra-Piesok** **126.47 327** *e*PKP PKPdf 23 44 31.4 +0.3
MODS *e* 00 01 32.4
PVCC **Panska Ves** **126.54 330** *e*PKPdf PKPdf 23 44 30.5 -0.7
BRG **Berggiesshubel** **126.62 331** *e*PKP PKPdf 23 44 31.4 +0.1
comp=Z,19nm,1.5s
BRG *e* 23 47 09.4
comp=Z,4.5nm,1.0s
CLL **Collm** **126.78 332** *e*PKIKP PKPdf 23 44 32.0 +0.4
CLL *i* 23 44 37.2
CLL pmax pmax
comp=Z,11nm,1.3s
CLL **Collm** **126.78 332** *e*PKPdf PKPdf 23 44 32.0 +0.4
comp=Z,11nm,1.3s
CLL *i* (pPKPdf) 23 44 37.2
TREC **Trest** **126.86 329** *e*PKPdf PKPdf 23 44 31.5 -0.3
PRU **Pruhonice** **126.90 330** *e*PKPdf PKPdf 23 44 31.4 -0.5
PKSM **Moragy** **126.92 324⇓** *iP* PKPdf 23 44 32.5 +0.4
KHC **Kasperske Hory** **127.93 330** *e*PKPdf PKPdf 23 44 33.8 -0.1
KHC *ex* x 23 44 42.0
GERES **GERESS Array B** **128.05 329** PKP PKPdf 23 44 34.3 +0.2
GERES **GERESS Array B** **128.05 329** PKP PKPdf 23 44 34.3 +0.2
comp=Z,1.7nm,0.8s,baz=325,slow=1.6,SNR=11
GRA1 **Grafenberg Arr** **128.71 331** *e*PKP PKPdf 23 44 34.8 -0.6
GRF **Grafenberg Arr** **128.71 331** *e*PKP PKPdf 23 44 34.8 -0.6
ROSC **El Rosal** **129.76 90** PKP PKPdf 23 44 38.5 0.0
comp=Z,3.6nm,0.7s,baz=94,slow=19,SNR=2.0
LPAZ **La Paz** **130.22 119** PKP PKPdf 23 44 40.4 +1.2
LPAZ **La Paz** **130.22 119** PKP PKPdf 23 44 40.4 +1.2
comp=Z,5.2nm,0.8s,baz=354,slow=3.6,SNR=15
HAU **Haudompre** **132.17 333** *e*PKIKP PKPdf 23 44 39.1 -2.9
comp=Z,20nm,1.3s
LPG **La Plagne** **133.80 330** *e*PKIKP PKPdf 23 44 42.8 -2.3
comp=Z,7.8nm,0.8s
SSF **Saint Saulge** **134.14 334** *e*PKIKP PKPdf 23 44 43.0 -2.7
comp=Z,22nm,1.2s
ETSF **Etsaut** **139.20 334** *e*PKIKP PKPdf 23 44 51.4 -3.8
comp=Z,66nm,1.5s
ETOR **Torete** **141.53 333** PKP PKPdf 23 44 54.8 -4.8
GUD **Guadarrama** **142.59 335** PKP PKPdf 23 45 00.4 -1.1
ESDC **Sonseca Array** **143.31 334** PKP PKPdf 23 44 59.3 -3.5
ESDC **Sonseca Array** **143.31 334** PKhKP 23 44 59.5
comp=Z,3.7nm,0.9s,baz=27,slow=2.9,SNR=14
EVIA **Vianos** **143.48 331** PKP PKPdf 23 45 00.6 -2.4
PVIS **Viseu** **143.97 339** *e*PKP PKPdf 23 45 01.9 -1.9
MTE **Manteigas** **144.12 339** *e*PKP PKPdf 23 45 02.5 -1.6
EQES **Quesada** **144.42 331** PKP PKPdf 23 45 02.6 -2.1
EBAN **Banos Encina** **144.46 332** PKP PKPdf 23 45 03.5 -1.3
PCBR **Castelo Branco** **144.59 338** *e*PKP PKPdf 23 45 03.9 -1.1
ENIJ **Nijar** **144.64 329** PKP PKPdf 23 45 03.1 -2.0
EADA **Adamuz** **144.82 333** PKP PKPdf 23 45 03.3 -2.1
EBER **Berja** **145.04 330** PKP PKPdf 23 45 04.0 -1.8
ECOG **Cogollos-Vega** **145.07 331** PKP PKPdf 23 45 04.6 -1.3
ELUQ **Luque** **145.18 332** PKP PKPdf 23 45 05.8 -0.2
ECAB **El Cabril** **145.27 334** PKP PKPdf 23 45 05.8 -0.4
EBAD **Badajoz** **145.35 337** PKP PKPdf 23 45 05.0 -1.3
ERON **Agron** **145.40 331** PKP PKPdf 23 45 05.4 -1.0
EGUA **Guajares** **145.43 331** PKP PKPdf 23 45 05.9 -0.6
ELOJ **Sierra Loja** **145.46 332** PKP PKPdf 23 45 05.4 -1.1
PESTR **Estremoz** **145.48 337** *e*PKP PKPdf 23 45 06.4 -0.1
PBAR **Barrancos** **145.86 336** *e*PKP PKPdf 23 45 07.8 +0.6
EALB **Alboran** **145.86 329** PKP PKPdf 23 45 06.6 -0.7
PMAFR **Mafra** **146.02 339** *e*PKP PKPdf 23 45 08.0 +0.6
EMIN **Mina Concepcio** **146.06 335** PKP PKPdf 23 45 07.8 +0.3
EMIJ **Mijas** **146.22 332** PKP PKPdf 23 45 07.0 -0.8
PBEJ **Beja** **146.32 337** *e*PKP PKPdf 23 45 09.1 +1.1
ESPR **Espera** **146.47 333** PKP PKPdf 23 45 09.0 +0.8
EGRO **El Granado** **146.59 336** PKP PKPdf 23 45 10.0 +1.5
PVAQ **Vaqueiros** **146.80 336** *e*PKP PKPdf 23 45 11.1 +2.3
PBDV **Barranco-do-Ve** **147.02 336** *e*PKP PKPdf 23 45 11.7 +2.5
PTEO **Sao Teotonio** **147.07 338** *e*PKP PKPdf 23 45 11.6 +2.3
MORF **Marmelete** **147.25 337** *e*PKP PKPdf 23 45 12.2 +2.6
PFVI **Vila Bisbo** **147.47 337** *e*PKP PKPdf 23 45 12.7 +2.8
TORD **Torodi Ar. Bea** **154.26 285** PKP PKPdf 23 45 20.6 -0.4
comp=Z,2.9nm,1.3s,baz=219,slow=3.7,SNR=3.6
TORD PKPbc PKPbc 23 45 28.7 -0.5
comp=Z,2.8nm,0.7s,baz=64,slow=2.5,SNR=3.6
TORD PKPab PKPab 23 45 43.4 +0.2
comp=Z,1.1nm,0.4s,baz=79,slow=3.2,SNR=5.1
DBIC **Dimbokro** **161.13 269** PKP PKPdf 23 45 29.4 -0.1
comp=Z,4.8nm,1.0s,baz=126,slow=8.7,SNR=2.8
DBIC PKPab PKPab 23 46 12.8 -0.3
comp=Z,4.5nm,0.5s,baz=90,slow=3.9,SNR=17

BJI ***01*** *23:28:04.0, 821S×15588E, h27km, mb5.0*
IDC ***01*** *23:28:04.9±0.7, 754S×15598E, h0km, mb4.8/15, mb1 4.9/15, mb1mx4.8/18, mbtmp4.8/15, Error ellipse: s-maj=24.5km s-min=15.9km az=106.0*
NEIC ***01*** *23:28:06.7±0.3, 744S×15598E, h10km, mb5.1/14, Error ellipse: s-maj=9.2km s-min=8.7km az=119.0*
MOS ***01*** *23:28:09.0±1.1, 733S×15607E, h33km, mb5.1/8, Error ellipse: s-maj=12.5km s-min=10.2km az=97.8*
ISCJB ***01*** *23:28:12.7±1.9, 754S±007×15599E±006, h70km±18km, mb4.7/30, Error ellipse: s-maj=12.6km s-min=9.4km az=149.5*
ISC 01 23:28:14.8±1.6, 755S±007×15599E±006, h75km±17km, n81, c0±99/62, mb4.7/30, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.33**	**116**	Pn	**Pn**	**23 29 16.6**	**-1.7**
	84nm,0.3s,baz=280,slow=12,SNR=2.5						
HNR				Sn	**Sn**	**23 30 08.7**	**+1.1**
	baz=259,slow=19,SNR=1.6						
CTA	**Charters Tower**	**15.63**	**216**	*e*P	**Pn**	**23 31 53.6**	**+2.8**
	20nm,0.9s						
CTA	**Charters Tower**	**15.63**	**216**	*e*P	**Pn**	**23 31 53.6**	**+2.8**
CTA				pmax	pmax		

comp=Z,21nm,0.9s
CTA Charters Tower 15.63 216 Pn **Pn 23 31 51.7 +1.0**
comp=Z,0.5nm,0.3s,baz=47,slow=12,SNR=4.2
CTAO Charters Tower 15.63 216 *eP* **Pn 23 31 52.9 +2.1**
comp=Z,152nm,1.8s
CTAO Charters Tower 15.63 216 *eP* **Pn 23 31 52.9 +2.1**
CTAO pmax pmax
comp=Z,152nm,1.8s
KAKA Kakadu 23.74 256 *eP* **P 23 33 21.0 +0.6**
comp=Z,67nm,1.0s,mb4.9
WB2 Warramunga Arr 24.32 237 *eP* **P 23 33 26.0 +0.3**
WRA Warramunga Arr 24.33 237 P **P 23 33 25.7 0.0**
comp=Z,73nm,1.0s,mb5.0,baz=64,slow=9.4,SNR=9.0
ASAR Alice Springs 26.56 230 P **P 23 33 45.8 -0.1**
comp=Z,7.1nm,0.8s,mb4.2,baz=61,slow=9.2,SNR=6.9
STKA Stephens Creek 27.67 207 *eP* **P 23 33 56.1 +0.3**
comp=Z,9.3nm,0.8s,mb4.4
STKA Stephens Creek 27.67 207 P **P 23 33 55.5 -0.2**
comp=Z,12nm,0.8s,mb4.5,baz=20,slow=12,SNR=3.9
FITZ Fitzroy Crossi 31.35 248 *eP* **P 23 34 29.2 +0.7**
comp=Z,19nm,0.7s,mb4.9
FITZ Fitzroy Crossi 31.35 248 P **P 23 34 26.2 -2.3**
comp=Z,10nm,0.8s,mb4.7,baz=109,slow=13,SNR=3.9
RAO Raoul Island 32.69 135 P **P 23 34 39.4 -0.7**
FORT Forrest 34.88 225 *eP* **P 23 34 58.1 -1.0**
comp=Z,41nm,0.7s,mb5.4
MBWA Marble Bar 37.53 245 *eP* **P 23 35 20.7 -1.2**
comp=Z,20nm,0.9s,mb4.9
RPZ Rata Peaks 38.36 162 P **P 23 35 27.9 -0.6**
comp=Z,18nm,0.8s,mb5.0,baz=141,slow=4.1,SNR=5.1
KKM Kota Kinabalu 41.92 288 *eP* **P 23 35 59.4 +1.0**
KLBR Kellerberrin 42.90 231 *eP* **P 23 36 05.3 -0.8**
comp=Z,44nm,0.9s,mb5.2
MUN Mundaring 44.25 231 *eP* **P 23 36 17.8 +0.8**
KSM Kuching 46.44 279 *eP* **P 23 36 33.9 -0.7**
MJAR Matsushiro Arr 46.93 340 P **P 23 36 36.7 -1.3**
comp=Z,2.6nm,0.7s,mb4.1,baz=174,slow=9.9,SNR=3.4
MAJO Matsushiro 46.93 340 *eP* **P 23 36 38.4 +0.4**
JNU Nakatsue 46.97 331 P **P 23 36 37.8 -0.6**
comp=Z,24nm,0.9s,mb4.9,baz=126,slow=9.7,SNR=5.1
KSRS Korea Array 51.89 332 P **P 23 37 15.8 0.0**
comp=Z,5.2nm,0.7s,mb4.7,baz=153,slow=7.6,SNR=4.9
PMOR Pomariorio Ree 55.41 103 *eP* **P 23 37 42.5 +0.6**
comp=Z,25nm,1.1s,mb5.2
KULM Kulim 56.67 281 *eP* **P 23 37 50.1 -0.9**
HIA Hailar 64.84 335 P **P 23 38 45.7 -0.1**
MA2 Magadan 67.04 357 *eP* **P 23 38 58.2 -1.5**
GTA Gaotai 69.82 317 *eP* **P 23 39 19.0 +1.5**
GTA AP pP 23 39 22.6 -15
GTA AMB AMB
comp=Z,9.0nm,1.2s,mb4.5
SONM Songino Array 70.34 327 P **P 23 39 21.3 +0.9**
comp=Z,14nm,0.9s,mb4.8,baz=132,slow=4.9,SNR=9.4
LSA Lhasa 72.40 304 P **P 23 39 34.9 +1.7**
ZAK Zakamensk 73.49 328 *eP* **P 23 39 39.3 +0.1**
ZAK pmax pmax
comp=Z,9.0nm,1.1s,mb4.5
BOD Bodaibo 73.50 338 *eP* **P 23 39 39.9 +0.8**
BOD pmax pmax
comp=Z,7.0nm,1.1s,mb4.4
MOY Mondy 75.40 328 *eP* **P 23 39 52.1 +1.8**
BILL Bilibino 75.76 4 *eP* **P 23 39 50.8 -1.2**
comp=Z,15nm,1.2s,mb4.6
BILL Bilibino 75.76 4 *eP* **P 23 39 50.8 -1.2**
BILL pmax pmax
comp=Z,15nm,1.2s,mb4.6
PALK Pallekele 76.51 279 *eP* **P 23 39 57.5 +0.1**
KDAK Kodiak Island 77.24 25 P **P 23 40 02.0 +1.5**
comp=Z,4.4nm,1.1s,mb4.1,baz=298,slow=12,SNR=12
WMQ Urumqi 79.91 317 P **P 23 40 16.1 +0.5**
WMQ AMB AMB
comp=Z,14nm,1.0s,mb4.8
TIXI Tiksi 81.05 352 *eP* **P 23 40 22.2 +1.1**
TIXI pmax pmax
comp=Z,8.0nm,1.4s,mb4.4
MCK McKinley 82.20 22 *eP* **P 23 40 26.2 -1.1**
MAW Mawson 84.27 203 P **P 23 40 38.0 +0.1**
comp=Z,3.2nm,0.8s,mb4.2,baz=306,slow=2.8,SNR=3.6
MKAR Makanchi Array 84.47 319 P **P 23 40 39.7 +0.3**
MKAR Makanchi Array 84.47 319 P **P 23 40 39.7 +0.3**
comp=Z,41nm,0.9s,mb5.2,baz=90,slow=7.4,SNR=16
ZAA0 Zalesovo Array 85.19 326 *eP* **P 23 40 41.9 -0.9**
ZALV Zalesovo Beam 85.19 326 P **P 23 40 42.0 -0.8**
comp=Z,20nm,0.6s,mb5.2,baz=114,slow=5.6,SNR=17
ZAL Zalesovo 85.20 326 P **P 23 40 42.0 -0.8**
NVS Novosibirsk 86.36 326 *i* P **P 23 40 47.2 -1.4**
KURK Kurchatov 87.88 322 *eP* **P 23 40 55.9 -0.1**
comp=Z,6.9nm,0.6s,mb4.9
KURK Kurchatov 87.88 322 *eP* **P 23 40 55.9 -0.1**
KURK pmax pmax
comp=Z,7.0nm,0.6s,mb4.9
TKM2 Tokmak 2 88.11 314 *eP* **P 23 40 58.6 +1.3**
comp=Z,5.8nm,0.5s,mb4.9
TKM2 Tokmak 2 88.11 314 *eP* **P 23 40 58.6 +1.3**
TKM2 pmax pmax
comp=Z,6.0nm,0.5s,mb4.9
AAK Ala-Archa 88.85 313 *eP* **P 23 41 01.2 +0.4**
comp=Z,3.8nm,0.7s,mb4.5
AAK Ala-Archa 88.85 313 *eP* **P 23 41 01.2 +0.4**
AAK pmax pmax
comp=Z,4.0nm,0.7s,mb4.6
EKS2 Erkin-Say 89.38 313 *eP* **P 23 41 03.4 +0.1**
NVAR Mina Array Bea 91.29 52 P **P 23 41 14.0 +1.7**
comp=Z,1.2nm,0.8s,mb4.1,baz=248,slow=4.8,SNR=4.4
BRVK Borovoye 93.40 323 *eP* **P 23 41 20.3 -1.4**
comp=Z,19nm,1.4s,mb5.2
BRVK Borovoye 93.40 323 *eP* **P 23 41 20.3 -1.4**
BRVK pmax pmax
comp=Z,19nm,1.4s,mb5.2
YKA Yellowknife Ar 96.36 28 P **P 23 41 34.4 -0.6**
comp=Z,0.9nm,0.8s,mb4.3,baz=266,slow=4.5,SNR=4.3
FINES FINESS Array B 114.85 336 PKP PKiKP 23 46 45.9 -0.6
comp=Z,1.0nm,0.8s,baz=72,slow=4.5,SNR=3.5
KMBO Kilima Mbogo 118.30 265 PKP PKPdf 23 46 55.4 +0.7
comp=Z,0.7nm,0.2s,baz=60,slow=20,SNR=3.3
KMBO PKPPKP 00 05 54.0
comp=Z,0.4nm,0.3s,baz=60,slow=20,SNR=3.0
AKASG Malin Array Be 118.57 325 PKP PKPdf 23 46 52.9 -1.1
comp=Z,0.2nm,0.3s,baz=63,slow=2.2,SNR=5.5
CLL Collm 126.77 332 *e*PKPdf PKPdf 23 47 11.0 +1.2
GERES GERESS Array B 128.04 329 PKP PKPdf 23 47 11.3 -1.0
comp=Z,1.1nm,0.8s,baz=54,slow=2.3,SNR=4.3
LPAZ La Paz 130.32 119 PKP PKPdf 23 47 18.4 +0.9
LPAZ La Paz 130.32 119 PKP PKPdf 23 47 18.4 +0.9
comp=Z,1.1nm,0.7s,baz=27,slow=13,SNR=4.2
ESDC Sonseca Array 143.31 334 PKhKP 23 47 37.8
comp=Z,2.6nm,0.9s,baz=30,slow=3.5,SNR=6.2
PVIS Viseu 143.99 339 *e*PKP PKPdf 23 47 40.1 -1.9
MTE Manteigas 144.14 338 *e*PKP PKPdf 23 47 41.3 -1.0
PCBR Castelo Branco 144.60 338 *e*PKP PKPdf 23 47 42.5 -0.6
PESTR Estremoz 145.49 337 *e*PKP PKPdf 23 47 45.1 +0.4
PBAR Barrancos 145.87 336 *e*PKP PKPdf 23 47 46.9 +1.5
PMAFR Mafra 146.04 339 *e*PKP PKPdf 23 47 48.9 +3.3
PBEJ Beja 146.33 337 *e*PKP PKPdf 23 47 49.0 +2.9
PVAQ Vaqueiros 146.81 336 *e*PKP PKPdf 23 47 50.1 +3.1
PBDV Barranco-do-Ve 147.03 336 *e*PKP PKPdf 23 47 51.2 +3.9
PTEO Sao Teotonio 147.08 337 *e*PKP PKPdf 23 47 50.1 +2.7
TORD Torodi Ar. Bea 154.12 285 PKPbc PKPbc 23 48 06.9 -0.3
comp=Z,2.0nm,0.9s,baz=39,slow=4.4,SNR=3.5
TORD PKPab PKPab 23 48 22.4 +1.4
comp=Z,1.3nm,0.6s,baz=48,slow=2.1,SNR=3.4
DBIC Dimbokro 160.98 269 PKPab PKPab 23 48 50.5 -0.2
comp=Z,7.6nm,0.9s,baz=88,slow=5.1,SNR=4.7

NNC 01 23:28:44.2±2.5, 3775N×7271E, h0km, mb3.9, mpv3.6, 3C-3D, Error ellipse: s-maj=20.0km s-min=17.3km az=20.0, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**5.60**	**343**	⇑Pn	Pn	23 30 11.5	+2.7
	1.5nm,0.3s,baz=147,slow=11,SNR=100						
KK31				⇓Sn	Sn	23 31 20.6	+6.7
	5.2nm,0.5s,baz=151,slow=22,SNR=6.9						
TKM2	**Tokmak 2**	**5.62**	**22**	⇓Pn	Pn	23 30 09.3	+0.4
	3.8nm,0.5s						
TKM2				⇑Sn	Sn	23 31 15.7	+1.5
	13nm,1.2s						
AB31	**Akbulak array**	**14.74**	**325**	⇑Pn	Pn	23 32 14.0	+0.1
	1.1nm,0.7s						
AB31				⇓Sn	Sn	23 34 57.5	-0.4
	0.6nm,0.5s						
NB2	**NORSAR Subarra**	**44.22**	**322**	P	P	23 36 54.3	-0.5
	comp=Z,4.3nm,1.4s,baz=95,slow=8.6						

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*IDC **01** 23:29:35.1±1.5, 742S×15580E, h0km, mb4.7/11, mb1 4.7/11, mb1mx4.6/17, mbtmp4.6/11, MS5.0/1, Ms1 5.0/1, ms1mx4.0/26, Error ellipse: s-maj=54.0km s-min=19.4km az=112.0*
*ISCJB **01** 23:29:38.9±1.3, 74S±01×1557E±03, h33km, mb4.5/11, Error ellipse: s-maj=43.5km s-min=14.4km az=22.4*
ISC 01 23:29:40.8±1.3, 74S±01×1557E±03, h35km, n15, σ0§56/11, mb4.5/11, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.62**	**116**	LR	LR	23 31 42.2	
	comp=Z,15μm,18.4s,baz=174,slow=28						
WRA	**Warramunga Arr**	**24.20**	**237**	P	**P**	**23 34 55.1**	**+0.9**
	17nm,0.9s,mb4.5,baz=63,slow=9.4,SNR=4.4						
ASAR	**Alice Springs**	**26.46**	**230**	P	**P**	**23 35 14.8**	**+0.1**
	2.5nm,0.4s,mb4.1,baz=59,slow=9.7,SNR=4.2						
STKA	**Stephens Creek**	**27.68**	**207**	P	**P**	**23 35 26.0**	**+0.4**
	13nm,1.0s,mb4.5,baz=27,slow=13,SNR=2.7						
FITZ	**Fitzroy Crossi**	**31.17**	**247**	P	**P**	**23 35 55.5**	**-1.3**
	10nm,0.9s,mb4.7,baz=68,slow=7.2,SNR=3.6						
NWAO	**Narrogin (SRO)**	**43.77**	**229**	P	**P**	**23 37 43.0**	**-0.2**
	24nm,1.0s,mb4.9,baz=21,slow=8.0,SNR=5.4						
KSRS	**Korea Array**	**51.66**	**332**	P	**P**	**23 38 44.2**	**0.0**
	2.1nm,0.5s,mb4.3,baz=151,slow=7.2,SNR=4.0						
ASAJ	**Asahikawa**	**52.65**	**348**	P	**P**	**23 38 52.0**	**+0.5**
	3.6nm,0.5s,mb4.6,baz=259,slow=14,SNR=4.3						
SONM	**Songino Array**	**70.09**	**327**	P	**P**	**23 40 49.8**	**+0.4**
	3.5nm,0.4s,mb4.6,baz=144,slow=6.0,SNR=10						
MKAR	**Makanchi Array**	**84.21**	**319**	P	**P**	**23 42 08.8**	**+0.1**
	8.5nm,0.7s,mb5.0,baz=91,slow=8.7,SNR=4.2						
ZALV	**Zalesovo Beam**	**84.94**	**326**	P	**P**	**23 42 11.7**	**-0.5**
	6.2nm,0.7s,mb4.8,baz=118,slow=5.5,SNR=3.8						
YKA	**Yellowknife Ar**	**96.36**	**28**	P	**P**	**23 43 05.2**	**-0.5**
	0.5nm,0.9s,mb3.9,baz=256,slow=5.0,SNR=3.0						
FINES	**FINESS Array B**	**114.62**	**336**	PKiKP	PKiKP	23 48 16.3	-0.8
	2.3nm,1.1s,baz=90,slow=0.7,SNR=3.2						
GERES	**GERESS Array B**	**127.79**	**329**	PKP	PKPdf	23 48 43.4	+0.7
	0.3nm,0.6s,baz=64,slow=2.3,SNR=4.5						
TORD	**Torodi Ar. Bea**	**153.85**	**285**	PKPbc	PKPbc	23 49 36.3	-1.2
	1.2nm,0.9s,baz=90,slow=2.9,SNR=2.7						
TORD				PKPab	PKPab	23 49 49.7	-0.9
	1.1nm,0.9s,baz=59,slow=3.7,SNR=4.4						

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*IDC **01** 23:32:14.8±1.7, 757S×15624E, h0km, mb4.6/9, mb1 4.7/9, mb1mx4.5/14, mbtmp4.5/9, Error ellipse: s-maj=56.3km s-min=21.2km az=114.0*
*ISCJB **01** 23:32:18.8±1.4, 76S±02×1561E±03, h33km, mb4.4/9, Error ellipse: s-maj=44.0km s-min=16.0km az=25.6*
ISC 01 23:32:20.7±1.4, 76S±02×1562E±03, h35km, n11, σ0§65/10, mb4.4/9, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WB2	**Warramunga Arr**	**24.46**	**238**	*eP*	**P**	**23 37 37.2**	**+0.7**
WRA	**Warramunga Arr**	**24.47**	**238**	P	**P**	**23 37 37.0**	**+0.4**
	8.8nm,0.3s,mb4.6,baz=64,slow=9.3,SNR=12						
ASAR	**Alice Springs**	**26.69**	**231**	P	**P**	**23 37 56.0**	**-0.7**
	2.9nm,0.6s,mb4.0,baz=65,slow=8.6,SNR=6.2						
STKA	**Stephens Creek**	**27.74**	**207**	P	**P**	**23 38 06.4**	**+0.4**
	4.0nm,0.9s,mb4.1,baz=46,slow=12,SNR=3.5						
FITZ	**Fitzroy Crossi**	**31.49**	**248**	P	**P**	**23 38 38.4**	**-1.1**
	6.9nm,1.0s,mb4.4,baz=36,slow=8.7,SNR=3.3						
KSRS	**Korea Array**	**51.97**	**331**	P	**P**	**23 41 26.2**	**-0.2**
	2.0nm,0.9s,mb4.0,baz=152,slow=7.7,SNR=4.4						
SONM	**Songino Array**	**70.43**	**327**	P	**P**	**23 43 32.5**	**+1.1**
	5.1nm,0.9s,mb4.5,baz=139,slow=7.2,SNR=8.2						
MKAR	**Makanchi Array**	**84.58**	**318**	P	**P**	**23 44 50.7**	**+0.2**
	13nm,0.8s,mb5.1,baz=86,slow=7.4,SNR=17						
ZALV	**Zalesovo Beam**	**85.29**	**326**	P	**P**	**23 44 53.2**	**-0.6**
	9.5nm,0.7s,mb5.0,baz=115,slow=5.8,SNR=16						
YKA	**Yellowknife Ar**	**96.29**	**28**	P	**P**	**23 45 44.9**	**-0.4**
	0.4nm,0.8s,mb3.9,baz=267,slow=4.5,SNR=3.9						
GERES	**GERESS Array B**	**128.12**	**329**	PKP	PKPdf	23 51 21.7	-1.6
	0.3nm,0.7s,baz=90,slow=2.0,SNR=3.6						

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*IDC **01** 23:36:33.2±1.1, 712S×15578E, h0km, mb4.3/6, mb1 4.4/7, mb1mx4.2/15, mbtmp4.3/7, Error ellipse: s-maj=34.9km s-min=27.7km az=122.0*
*ISCJB **01** 23:36:36.3±0.8, 73S±02×1560E±01, h33km, mb4.3/6, Error ellipse: s-maj=23.0km s-min=13.0km az=22.5*
ISC 01 23:36:38.2±0.8, 73S±02×15597E±010, h35km, n8, σ1§38/8, mb4.3/6, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.46**	**118**	Pn	**Pn**	**23 37 45.1**	**+1.8**
	19nm,0.3s,baz=262,slow=7.1,SNR=2.6						
HNR				Sn	**Sn**	**23 38 32.6**	**-1.4**
	24nm,0.3s,baz=90,slow=19,SNR=2.5						
WRA	**Warramunga Arr**	**24.44**	**237**	P	**P**	**23 41 54.3**	**+0.6**
	8.5nm,0.9s,mb4.2,baz=62,slow=9.4,SNR=7.9						
ASAR	**Alice Springs**	**26.69**	**230**	P	**P**	**23 42 13.8**	**-0.4**
	1.4nm,0.7s,mb3.6,baz=59,slow=9.4,SNR=5.8						
SONM	**Songino Array**	**70.13**	**327**	P	**P**	**23 47 46.0**	**-1.0**
	2.9nm,0.8s,mb4.3,baz=144,slow=6.9,SNR=6.4						
MKAR	**Makanchi Array**	**84.29**	**318**	P	**P**	**23 49 07.0**	**+0.6**
	7.4nm,0.6s,mb5.0,baz=84,slow=6.5,SNR=26						
ZALV	**Zalesovo Beam**	**84.99**	**326**	P	**P**	**23 49 07.3**	**-2.5**
	6.2nm,0.7s,mb4.8,baz=118,slow=6.2,SNR=16						
YKA	**Yellowknife Ar**	**96.17**	**28**	P	**P**	**23 50 04.0**	**+1.8**
	0.3nm,0.5s,mb4.0,baz=264,slow=4.7,SNR=5.5						
GERES	**GERESS Array B**	**127.83**	**329**	PKP	PKPdf	23 55 38.8	-1.3
	0.3nm,0.7s,baz=15,slow=4.1,SNR=2.4						

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*IDC **01** 23:38:06.4±0.9, 767S×15624E, h0km, mb4.4/9, mb1 4.5/10, mb1mx4.4/15, mbtmp4.5/10, ML5.2/1, Error ellipse: s-maj=25.8km s-min=19.9km az=97.0*
*ISCJB **01** 23:38:09.0±0.5, 770S±009×15637E±008, h33km, mb4.4/12, Error ellipse: s-maj=13.5km s-min=10.8km az=25.7*
*MOS **01** 23:38:08.8±1.3, 769S×15630E, h33km, mb4.7/5, Error ellipse: s-maj=24.8km s-min=19.0km az=35.4*
ISC 01 23:38:11.9±0.5, 762S±009×15616E±007, h35km, n24, σ0§97/24, mb4.3/12, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.16**	**116**	P	**Pn**	**23 39 08.4**	**-4.5**
HNR						23 40 00.5	
HNR				pmax	pmax		
	comp=Z,147nm,0.3s						
HNR				smax			
	comp=N,166nm,0.3s						
HNR	**Honiara**	**4.16**	**116**	Pn	**Pn**	**23 39 08.4**	**-4.5**
	comp=N,147nm,0.3s,baz=278,slow=1.7,SNR=8.3						
HNR				Sn	**Sn**	**23 40 00.5**	**+0.1**
	comp=N,166nm,0.3s,baz=270,slow=22,SNR=3.9						
KAKA	**Kakadu**	**23.88**	**256**	*eP*	**P**	**23 43 25.2**	**+2.7**
	comp=N,21nm,0.7s,mb4.7						
WB2	**Warramunga Arr**	**24.43**	**238**	*eP*	**P**	**23 43 27.0**	**-0.4**
WRA	**Warramunga Arr**	**24.44**	**238**	P	**P**	**23 43 27.1**	**-0.4**
WRA				pmax	pmax		
	comp=Z,11nm,0.7s						
WRA	**Warramunga Arr**	**24.44**	**238**	P	**P**	**23 43 27.1**	**-0.4**
	comp=Z,11nm,0.7s,mb4.4,baz=63,slow=9.2,SNR=14						
ASAR	**Alice Springs**	**26.65**	**231**	P	**P**	**23 43 47.0**	**-0.6**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ASAR	**Alice Springs**	**26.65**	**231**	P	**P**	**23 43 47.0**	**-0.6**
	comp=Z,1.4nm,0.7s,mb3.6,baz=64,slow=7.7,SNR=2.6						
STKA	**Stephens Creek**	**27.69**	**207**	P	**P**	**23 43 56.8**	**0.0**
	comp=Z,5.0nm,0.8s,mb4.2,baz=32,slow=11,SNR=8.2						
MJAR	**Matsushiro Arr**	**47.05**	**340**	P	**P**	**23 46 38.9**	**-1.2**
MJAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
MJAR	**Matsushiro Arr**	**47.05**	**340**	P	**P**	**23 46 38.9**	**-1.2**
	comp=Z,1.1nm,0.4s,mb4.2,baz=168,slow=6.8,SNR=5.6						
KSRS	**Korea Array**	**52.03**	**331**	P	**P**	**23 47 19.0**	**+0.9**
	comp=Z,2.5nm,0.6s,mb4.3,baz=146,slow=7.7,SNR=6.6						
KLR	**Kul'dur**	**60.51**	**342**	*eP*	**P**	**23 48 13.2**	**-5.1**
SONM	**Songino Array**	**70.48**	**327**	P	**P**	**23 49 24.1**	**+1.2**
SONM				pmax	pmax		
	comp=Z,9.0nm,0.7s						
SONM	**Songino Array**	**70.48**	**327**	P	**P**	**23 49 24.1**	**+1.2**
	comp=Z,9.4nm,0.7s,mb4.8,baz=138,slow=5.8,SNR=26						
BOD	**Bodaibo**	**73.62**	**338**	*eP*	**P**	**23 49 39.1**	**-2.3**
BOD				*e*	pP	23 49 47.2	-5.1
BOD				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.8						
ZAK	**Zakamensk**	**73.63**	**328**	*eP*	**P**	**23 49 41.9**	**+0.2**
ZAK				*e*		23 49 47.6	
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.4						
BILL	**Bilibino**	**75.81**	**4**	P	**P**	**23 50 00.0**	**+6.1**
MKAR	**Makanchi Array**	**84.63**	**318**	P	**P**	**23 50 42.0**	**+0.1**
MKAR				pmax	pmax		
	comp=Z,5.0nm,0.7s						
MKAR	**Makanchi Array**	**84.63**	**318**	P	**P**	**23 50 42.0**	**+0.1**
	comp=Z,4.5nm,0.7s,mb4.7,baz=81,slow=7.5,SNR=8.4						
ZALV	**Zalesovo Beam**	**85.34**	**326**	P	**P**	**23 50 45.1**	**-0.1**
	comp=Z,3.5nm,0.7s,mb4.6,baz=107,slow=6.0,SNR=5.9						
ZAL	**Zalesovo**	**85.34**	**326**	P	**P**	**23 50 45.2**	**-0.1**
YKA	**Yellowknife Ar**	**96.34**	**28**	P	**P**	**23 51 37.3**	**+0.6**
	comp=Z,0.2nm,0.7s,mb3.6,baz=263,slow=4.9,SNR=3.6						
TORD	**Torodi Ar. Bea**	**154.30**	**284**	PKPbc	PKPbc	23 58 10.7	+1.1
	comp=Z,0.5nm,0.4s,baz=27,slow=1.6,SNR=3.1						

IDC 01 23:40:43.2±1.5, 741S×15590E, h0km, mb4.3/8, mb1 4.3/8, mb1mx4.2/15, mbtmp4.2/8, Error ellipse: s-maj=53.6km s-min=21.6km az=116.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.33**	**237**	P	P	23 46 03.6	+0.8
	3.9nm,0.9s,baz=60,slow=9.2,SNR=5.1						
ASAR	**Alice Springs**	**26.58**	**230**	P	P	23 46 24.6	+1.4
	0.3nm,0.3s,baz=59,slow=9.1,SNR=2.9						
STKA	**Stephens Creek**	**27.76**	**207**	P	P	23 46 33.8	+0.1
	1.7nm,0.6s,baz=25,slow=14,SNR=2.6						
FITZ	**Fitzroy Crossi**	**31.32**	**247**	P	P	23 47 03.5	-2.0
	1.7nm,0.6s,baz=104,slow=9.2,SNR=3.7						
SONM	**Songino Array**	**70.17**	**327**	P	P	23 51 58.8	+1.1
	4.0nm,0.7s,baz=144,slow=6.5,SNR=8.1						
MKAR	**Makanchi Array**	**84.31**	**319**	P	P	23 53 17.6	+0.6
	6.2nm,0.7s,baz=79,slow=6.5,SNR=12						
ZALV	**Zalesovo Beam**	**85.02**	**326**	P	P	23 53 19.8	-0.7
	1.8nm,0.4s,baz=112,slow=4.9,SNR=7.6						
YKA	**Yellowknife Ar**	**96.28**	**28**	P	P	23 54 13.5	+0.2
	0.3nm,0.6s,baz=270,slow=4.8,SNR=4.1						
NOA	**NORSAR Array B**	**120.38**	**341**	PKP	PKPdf	23 59 35.8	-0.4
	0.6nm,0.8s,baz=24,slow=3.9,SNR=2.5						
GERES	**GERESS Array B**	**127.87**	**329**	PKP	PKPdf	23 59 50.0	-1.0
	0.4nm,0.6s,baz=81,slow=1.8,SNR=4.9						

IDC 01 23:42:35.5±1.9, 798S×15748E, h0km, mb4.1/7, mb1 4.3/7, mb1mx4.1/14, mbtmp4.1/7, Error ellipse: s-maj=59.4km s-min=26.7km az=121.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**25.37**	**240**	P	P	23 48 04.6	0.0
	2.7nm,0.6s,baz=64,slow=10.0,SNR=4.3						
ASAR	**Alice Springs**	**27.46**	**233**	P	P	23 48 24.0	+0.5
	1.5nm,0.9s,baz=59,slow=9.8,SNR=4.4						
KSRS	**Korea Array**	**52.98**	**331**	P	P	23 51 54.9	+0.9
	1.3nm,0.5s,baz=126,slow=8.6,SNR=3.4						
SONM	**Songino Array**	**71.50**	**326**	P	P	23 53 58.9	+0.8
	2.5nm,1.0s,baz=136,slow=6.5,SNR=4.4						
MKAR	**Makanchi Array**	**85.77**	**318**	P	P	23 55 15.9	-0.9
	1.1nm,0.5s,baz=85,slow=6.4,SNR=3.3						
ZALV	**Zalesovo Beam**	**86.38**	**326**	P	P	23 55 18.5	-1.0
	2.7nm,0.4s,baz=110,slow=6.3,SNR=2.5						
PDAR	**Pinedale Array**	**97.53**	**48**	P	P	23 56 12.3	+0.6
	0.2nm,0.6s,baz=222,slow=1.2,SNR=2.6						

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*IDC **01** 23:43:26.7±0.7, 853S×15685E, h0km, mb4.4/12, mb1 4.5/13, mb1mx4.4/16, mbtmp4.4/13, ML5.1/1, Error ellipse: s-maj=22.1km s-min=18.5km az=89.0*
*ISCJB **01** 23:43:28.5±5.5, 85S±01×15682E±007, h22km±40km, mb4.3/12, Error ellipse: s-maj=18.2km s-min=11.1km az=4.4*
ISC 01 23:43:28.9±6.5, 85S±01×15684E±007, h14km±40km, n17, σ0§79/16, mb4.3/12, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**3.21**	**107**	Pn	**Pn**	**23 44 18.7**	**-0.3**
	211nm,0.3s,baz=274,slow=6.0,SNR=9.6						
HNR				Sn	**Sn**	**23 44 57.3**	**+0.3**
	101nm,0.3s,baz=97,slow=19,SNR=3.3						
WB2	**Warramunga Arr**	**24.54**	**240**	*eP*	**P**	**23 48 48.4**	**0.0**
WRA	**Warramunga Arr**	**24.55**	**240**	P	**P**	**23 48 47.9**	**-0.6**
	12nm,0.8s,mb4.5,baz=65,slow=9.5,SNR=14						
WRA				PcP	PcP	23 52 25.7	-1.0
	3.3nm,0.9s,baz=65,slow=3.0,SNR=6.0						
ASAR	**Alice Springs**	**26.63**	**233**	P	**P**	**23 49 06.8**	**-0.4**
	3.5nm,0.9s,mb3.9,baz=63,slow=9.4,SNR=6.3						
STKA	**Stephens Creek**	**27.23**	**209**	*eP*	**P**	**23 49 14.1**	**+1.5**
	7.5nm,1.0s,mb4.2						
STKA	**Stephens Creek**	**27.23**	**209**	P	**P**	**23 49 13.3**	**+0.8**
	13nm,1.0s,mb4.4,baz=36,slow=14,SNR=9.1						
JOW	**Kunigami**	**44.74**	**323**	P	**P**	**23 51 42.4**	**+0.3**
	7.7nm,0.7s,mb4.7,baz=126,slow=11,SNR=4.2						
MJAR	**Matsushiro Arr**	**48.11**	**340**	P	**P**	**23 52 09.5**	**+1.1**
	0.9nm,0.3s,mb4.3,baz=162,slow=5.3,SNR=4.3						
KSRS	**Korea Array**	**53.13**	**331**	P	**P**	**23 52 46.1**	**-0.1**
	2.4nm,0.8s,mb4.2,baz=156,slow=8.7,SNR=5.6						
VNDA	**Vanda**	**69.03**	**179**	P	**P**	**23 54 33.6**	**-0.1**
	1.2nm,0.8s,mb3.9,baz=359,slow=7.6,SNR=3.6						
**S

ZALV **Zalesovo Beam 85.38 326** P **P 23 59 50.5 -0.6**
5.7nm,0.8s,mb4.8,baz=112,slow=5.3,SNR=19

IDC 01 23:49:29.4±6.1,795S×15713E,h0km,mb3.8/5,mb1 3.9/5, mb1mx3.7/14,mbtmp3.8/5,Error ellipse: s-maj=185.3km s-min=30.5km az=113.0,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**25.08 239**		P	P	23 54 56.2	+0.4
	4.6nm,0.9s,baz=64,slow=9.9,SNR=5.4						
ASAR	**Alice Springs**	**27.20 232**		P	P	23 55 14.5	-0.5
	0.5nm,0.8s,baz=61,slow=9.6,SNR=2.3						
SONM	**Songino Array**	**71.29 327**		P	P	00 00 51.1	+0.4
	0.2nm,0.4s,baz=141,slow=5.7,SNR=3.0						
MKAR	**Makanchi Array**	**85.52 318**		P	P	00 02 09.8	+0.5
	1.4nm,0.5s,baz=105,slow=5.7,SNR=5.9						
ZALV	**Zalesovo Beam**	**86.15 326**		P	P	00 02 12.0	-0.3
	0.7nm,0.4s,baz=110,slow=6.8,SNR=3.4						

IDC 01 23:49:39.8±5.1,771S×15656E,h0km,mb4.2/5,mb1 4.3/5, mb1mx4.0/14,mbtmp4.2/5,Error ellipse: s-maj=154.0km s-min=29.6km az=112.0,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.73 238**		P	P	23 55 03.1	+0.1
	3.9nm,0.6s,baz=65,slow=9.5,SNR=7.4						
ASAR	**Alice Springs**	**26.90 231**		P	P	23 55 22.9	+0.2
	1.4nm,0.8s,baz=60,slow=9.5,SNR=4.3						
SONM	**Songino Array**	**70.77 327**		P	P	00 00 58.5	+0.5
	1.9nm,0.5s,baz=144,slow=6.1,SNR=15						
MKAR	**Makanchi Array**	**84.96 318**		P	P	00 02 17.2	+0.2
	1.8nm,0.7s,baz=100,slow=6.9,SNR=5.1						
ZALV	**Zalesovo Beam**	**85.63 326**		P	P	00 02 19.4	-0.7
	1.0nm,0.4s,baz=120,slow=5.9,SNR=4.3						

IDC 01 23:50:07.6±3.8,784S×15516E,h0km,mb4.1/5,mb1 4.2/5, mb1mx4.0/14,mbtmp4.2/5,Error ellipse: s-maj=114.4km s-min=28.7km az=115.0,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.48 237**		P	P	23 55 19.2	-0.1
	2.0nm,0.5s,baz=60,slow=9.5,SNR=5.4						
ASAR	**Alice Springs**	**25.75 230**		P	P	23 55 39.2	-0.9
	0.7nm,0.5s,baz=59,slow=9.4,SNR=3.9						
SONM	**Songino Array**	**70.13 327**		P	P	00 01 22.8	+1.0
	1.0nm,0.4s,baz=141,slow=5.8,SNR=4.4						
MKAR	**Makanchi Array**	**84.14 319**		P	P	00 02 41.6	+1.0
	2.0nm,0.6s,baz=103,slow=7.0,SNR=4.5						
ZALV	**Zalesovo Beam**	**84.97 326**		P	P	00 02 44.1	-0.6
	2.4nm,0.4s,baz=117,slow=5.6,SNR=7.6						

IDC 01 23:53:32.6±3.6,709S×15544E,h0km,mb4.1/5,mb1 4.2/5, mb1mx3.9/14,mbtmp4.1/5,Error ellipse: s-maj=107.2km s-min=27.5km az=113.0,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.13 236**		P	P	23 58 49.7	-0.7
	1.9nm,0.7s,baz=62,slow=9.5,SNR=6.6						
ASAR	**Alice Springs**	**26.44 229**		P	P	23 59 12.4	+1.0
	0.7nm,0.7s,baz=59,slow=7.8,SNR=3.4						
SONM	**Songino Array**	**69.66 327**		P	P	00 04 45.3	+1.3
	2.8nm,0.9s,baz=134,slow=6.2,SNR=12						
MKAR	**Makanchi Array**	**83.77 319**		P	P	00 06 03.8	0.0
	2.1nm,0.6s,baz=101,slow=6.8,SNR=10						
ZALV	**Zalesovo Beam**	**84.51 326**		P	P	00 06 06.0	-1.3
	1.4nm,0.4s,baz=110,slow=6.3,SNR=8.1						

IDC 01 23:54:51.4±5.6,736S×15606E,h0km,mb3.8/4,mb1 3.9/4, mb1mx3.7/14,mbtmp3.8/4,Error ellipse: s-maj=167.0km s-min=39.1km az=115.0,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.49 237**		P	P	00 00 12.6	+0.1
	0.6nm,0.3s,baz=62,slow=9.1,SNR=8.7						
SONM	**Songino Array**	**70.21 327**		P	P	00 06 07.9	+1.7
	1.0nm,0.8s,baz=129,slow=7.0,SNR=4.7						
MKAR	**Makanchi Array**	**84.37 318**		P	P	00 07 25.7	0.0
	0.7nm,0.7s,baz=93,slow=5.8,SNR=3.6						
ZALV	**Zalesovo Beam**	**85.07 326**		P	P	00 07 27.9	-1.2
	0.5nm,0.5s,baz=103,slow=6.4,SNR=2.8						

IDC 01 23:55:43.9±1.6,669S×15486E,h0km,mb3.8/5,mb1 3.9/5, mb1mx3.7/14,mbtmp3.8/5,Error ellipse: s-maj=49.1km s-min=31.3km az=95.0,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.88 235**		P	P	00 00 59.4	+0.1
	1.0nm,0.7s,baz=60,slow=9.6,SNR=3.4						
ASAR	**Alice Springs**	**26.27 228**		P	P	00 01 20.9	-0.2
	0.4nm,0.7s,baz=67,slow=8.2,SNR=3.0						
VNDA	**Vanda**	**70.88 178**		P	P	00 07 02.5	+0.2
	0.7nm,0.3s,baz=331,slow=6.4,SNR=10						
MKAR	**Makanchi Array**	**83.09 319**		P	P	00 08 12.5	+0.9
	1.1nm,0.7s,baz=102,slow=6.4,SNR=5.3						
ZALV	**Zalesovo Beam**	**83.86 326**		P	P	00 08 14.4	-0.9
	0.4nm,0.4s,baz=113,slow=6.7,SNR=2.3						

IDC 01 23:56:03.1±3.6,733S×15569E,h0km,mb4.1/6,mb1 4.1/6, mb1mx4.0/14,mbtmp4.1/6,Error ellipse: s-maj=115.2km s-min=24.5km az=105.0,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.20 237**		P	P	00 01 22.1	+0.6
	1.8nm,0.7s,baz=62,slow=9.4,SNR=3.4						
ASAR	**Alice Springs**	**26.47 230**		P	P	00 01 41.5	-0.7
	0.3nm,0.5s,baz=55,slow=10,SNR=3.2						
STKA	**Stephens Creek**	**27.73 206**		P	P	00 01 53.9	+0.5
	1.7nm,0.6s,baz=24,slow=14,SNR=4.7						
SONM	**Songino Array**	**69.99 327**		P	P	00 07 17.3	+0.8
	1.2nm,0.4s,baz=146,slow=6.4,SNR=14						
MKAR	**Makanchi Array**	**84.11 319**		P	P	00 08 36.1	+0.2
	2.6nm,0.7s,baz=106,slow=6.0,SNR=9.9						
ZALV	**Zalesovo Beam**	**84.84 326**		P	P	00 08 38.7	-0.8
	1.9nm,0.5s,baz=104,slow=5.4,SNR=9.2						

IDC 01 23:57:23.8±4.3,760S×15557E,h0km,mb4.2/3,mb1 4.3/3, mb1mx3.8/14,mbtmp4.2/3,Error ellipse: s-maj=128.8km s-min=42.4km az=124.0,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.96 237**		P	P	00 02 39.1	-1.0
	1.4nm,0.6s,baz=61,slow=9.3,SNR=3.1						
MKAR	**Makanchi Array**	**84.23 319**		P	P	00 09 58.5	+1.1
	2.4nm,0.7s,baz=102,slow=6.6,SNR=6.4						
ZALV	**Zalesovo Beam**	**84.99 326**		P	P	00 10 00.5	-0.5
	1.4nm,0.5s,baz=113,slow=5.1,SNR=5.3						

IDC 01 23:58:20.3±2.1,779S×15639E,h0km,mb4.1/7,mb1 4.2/7, mb1mx4.1/15,mbtmp4.1/7,Error ellipse: s-maj=73.8km s-min=24.7km az=124.0,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**3.88 115**		Pn	Pn	23 59 26.3	+5.1
	30nm,0.3s,baz=251,slow=5.4,SNR=2.7						
HNR				Sn	Sn	00 00 16.0	+8.5
	22nm,0.3s,baz=80,slow=18,SNR=3.4						
WB2	**Warramunga Arr**	**24.54 238**		*e*P	P	00 03 42.6	+0.8
WRA	**Warramunga Arr**	**24.55 238**		P	P	00 03 42.8	+0.9
	8.1nm,0.6s,baz=62,slow=9.4,SNR=13						
ASAR	**Alice Springs**	**26.73 231**		P	P	00 04 01.7	0.0
	0.6nm,0.7s,baz=61,slow=8.8,SNR=4.2						
FITZ	**Fitzroy Crossi**	**31.62 248**		P	P	00 04 44.9	-0.4
	1.2nm,0.5s,baz=97,slow=10,SNR=4.8						
SONM	**Songino Array**	**70.75 327**		P	P	00 09 39.5	+1.2
	4.3nm,0.9s,baz=139,slow=6.1,SNR=16						
MKAR	**Makanchi Array**	**84.91 318**		P	P	00 10 57.2	0.0
	2.1nm,0.7s,baz=85,slow=6.5,SNR=7.6						
ZALV	**Zalesovo Beam**	**85.61 326**		P	P	00 10 58.6	-1.9
	0.5nm,0.4s,baz=89,slow=6.3,SNR=3.6						
YKA	**Yellowknife Ar**	**96.38 28**		P	P	00 11 51.5	+0.6
	0.1nm,0.4s,baz=269,slow=5.6,SNR=4.3						
AKASG	**Malin Array Be**	**118.98 325**		PKP	PKPdf	00 17 10.2	-0.8
	0.1nm,0.3s,baz=83,slow=1.4,SNR=3.3						

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*IDC **01** 23:59:48.7±0.9,802S×15663E,h0km,mb4.1/8,mb1 4.3/9, mb1mx4.2/14,mbtmp4.2/9,ML4.8/1,Error ellipse: s-maj=29.6km s-min=22.0km az=100.0*
*ISCJB **01** 23:59:52.5±0.7,80S±01×15652E±007,h33km,mb4.0/9, Error ellipse: s-maj=17.7km s-min=9.2km az=13.4*
ISC 01 23:59:54.3±0.7,80S±01×15652E±007,h35km,n12, σ1§08/13,mb4.0/9,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**3.68 113**		Pn	**Pn**	**00 00 47.2**	**-1.5**
	83nm,0.3s,baz=259,slow=20,SNR=3.6						
HNR				Sn	**Sn**	**00 01 32.3**	**+1.4**
	73nm,0.3s,baz=270,slow=18,SNR=3.4						
WB2	**Warramunga Arr**	**24.54 239**		*e*P	**P**	**00 05 11.0**	**+0.1**
WRA	**Warramunga Arr**	**24.55 239**		P	**P**	**00 05 11.2**	**+0.3**
	5.6nm,0.7s,mb4.2,baz=65,slow=9.5,SNR=8.0						
WRA				PcP	PcP	00 08 48.7	-0.1
	0.8nm,0.7s,baz=63,slow=2.9,SNR=4.2						
ASAR	**Alice Springs**	**26.70 232**		P	**P**	**00 05 30.2**	**-0.2**
	0.7nm,0.7s,mb3.3,baz=60,slow=9.9,SNR=3.5						
STKA	**Stephens Creek**	**27.53 208**		*e*P	**P**	**00 05 38.8**	**+1.0**
	4.5nm,0.6s,mb4.3						
STKA	**Stephens Creek**	**27.53 208**		P	**P**	**00 05 38.2**	**+0.4**
	5.3nm,0.6s,mb4.3,baz=33,slow=12,SNR=12						
KSRS	**Korea Array**	**52.53 331**		P	**P**	**00 09 10.5**	**+6.3**
	1.3nm,0.6s,mb4.0,baz=142,slow=7.0,SNR=3.8						
VNDA	**Vanda**	**69.55 179**		P	**P**	**00 10 57.5**	**-1.6**
	1.0nm,0.9s,mb3.8,baz=307,slow=3.7,SNR=5.1						
SONM	**Songino Array**	**70.99 327**		P	**P**	**00 11 09.2**	**+0.8**
	3.3nm,0.8s,mb4.3,baz=141,slow=6.4,SNR=8.1						
MKAR	**Makanchi Array**	**85.15 318**		P	**P**	**00 12 28.8**	**+1.8**
	0.9nm,0.5s,mb4.2,baz=90,slow=6.5,SNR=4.4						
ZALV	**Zalesovo Beam**	**85.85 326**		P	**P**	**00 12 29.6**	**-0.7**
	0.3nm,0.3s,mb4.0,baz=102,slow=6.5,SNR=2.6						
YKA	**Yellowknife Ar**	**96.51 28**		P	**P**	**00 13 18.7**	**-1.1**
	0.2nm,0.5s,mb3.8,baz=262,slow=5.0,SNR=4.6						

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*NEIC **02** 00:01:24.4±2.3,740S×15608E,h10km,Error ellipse: s-maj=75.8km s-min=18.0km az=113.0*
IDC 02 00:01:23.0±3.1,739S×15605E,h0km,mb4.3/7,mb1 4.4/7, mb1mx4.2/14,mbtmp4.3/7,Error ellipse: s-maj=98.0km s-min=26.4km az=110.0,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.46 237**		P	P	00 06 44.6	+0.7
	2.7nm,0.6s,baz=63,slow=9.6,SNR=4.9						
ASAR	**Alice Springs**	**26.71 230**		P	P	00 07 03.6	-0.6
	1.0nm,0.8s,baz=64,slow=8.6,SNR=4.9						
MJAR	**Matsushiro Arr**	**46.80 340**		P	P	00 09 54.0	-0.4
	2.7nm,0.6s,baz=161,slow=8.1,SNR=7.6						
KSRS	**Korea Array**	**51.78 331**		P	P	00 10 32.5	-0.1
	1.2nm,0.7s,baz=152,slow=9.7,SNR=3.6						
SONM	**Songino Array**	**70.23 327**		P	P	00 12 38.7	+0.8
	2.6nm,0.7s,baz=140,slow=6.4,SNR=8.5						
MKAR	**Makanchi Array**	**84.39 318**		P	P	00 13 57.6	+0.3
	5.4nm,0.7s,baz=79,slow=6.5,SNR=14						
ZALV	**Zalesovo Beam**	**85.09 326**		P	P	00 14 00.0	-0.7
	2.2nm,0.5s,baz=112,slow=5.8,SNR=9.5						
GERES	**GERESS Array B**	**127.93 329**		PKP	PKPdf	00 20 31.1	+0.2
	0.4nm,0.7s,baz=92,slow=2.9,SNR=2.9						

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*NEIC **02** 00:04:25.3±0.4,728S×15591E,h10km,mb4.9/8,Error ellipse: s-maj=13.5km s-min=9.6km az=118.0*
*MOS **02** 00:04:27.9±1.1,726S×15595E,h33km,mb5.0/1,Error ellipse: s-maj=15.3km s-min=12.9km az=70.1*
*IDC **02** 00:04:29.7±6.9,756S×156.15E,h45km±60km,mb4.3/13, mb1 4.4/14,mb1mx4.3/18,mbtmp4.3/14,ML3.9/1,Error ellipse: s-maj=42.8km s-min=17.7km az=101.0*
*ISCJB **02** 00:04:30.0±2.3,742S±008×15593E±008,h57km±23km, mb4.6/24,Error ellipse: s-maj=16.3km s-min=11.3km az=135.4*
ISC 02 00:04:32.3±2.1,743S±009×15594E±009,h64km±22km, n51,σ1§01/37,mb4.6/24,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.43 117**		P	**Pn**	**00 05 35.5**	**-1.5**
	20nm,0.3s,baz=259,slow=7.7,SNR=2.7						
HNR				S	**Sn**	**00 06 28.6**	**+1.2**
	24nm,0.3s,baz=268,slow=14,SNR=2.4						
CTA	**Charters Tower**	**15.70 216**		*e*P	**Pn**	**00 08 13.9**	**+4.3**
	9.5nm,0.7s						
CTA	**Charters Tower**	**15.70 216**		P	**Pn**	**00 08 10.2**	**+0.5**
	0.3nm,0.3s,baz=48,slow=15,SNR=2.5						
CTAO	**Charters Tower**	**15.70 216**		*e*P	**Pn**	**00 08 12.2**	**+2.6**
	18nm,0.9s						
CTAO	**Charters Tower**	**15.70 216**		*e*P	**Pn**	**00 08 12.2**	**+2.6**
CTAO				pmax	pmax		
	comp=Z,18nm,0.9s						
GUMO	**Guam**	**23.60 332**		P	**P**	**00 09 34.8**	**-2.8**
	comp=Z,445nm,1.3s,mb5.7						
GUMO	**Guam**	**23.60 332**		P	**P**	**00 09 34.8**	**-2.8**
GUMO				pmax	pmax		
	comp=Z,44nm,1.3s,mb4.7						
KAKA	**Kakadu**	**23.72 255**		*e*P	**P**	**00 09 38.8**	**+0.1**
	comp=Z,17nm,0.8s,mb4.5						
WB2	**Warramunga Arr**	**24.34 237**		*e*P	**P**	**00 09 44.6**	**+0.2**
WRA	**Warramunga Arr**	**24.35 237**		P	**P**	**00 09 45.1**	**+0.6**
	comp=Z,20nm,0.8s,mb4.6,baz=63,slow=9.8,SNR=22						
ASAR	**Alice Springs**	**26.60 230**		P	**P**	**00 10 04.3**	**-0.5**
	comp=Z,3.5nm,0.6s,mb4.1,baz=60,slow=9.5,SNR=28						
STKA	**Stephens Creek**	**27.75 207**		P	**P**	**00 10 13.8**	**-1.3**
STKA	**Stephens Creek**	**27.75 207**		P	**P**	**00 10 13.8**	**-1.3**
	comp=Z,7.6nm,0.8s,mb4.3,baz=20,slow=11,SNR=11						
FITZ	**Fitzroy Crossi**	**31.34 247**		*e*P	**P**	**00 10 47.1**	**0.0**
	comp=Z,8.4nm,0.8s,mb4.6						
FITZ	**Fitzroy Crossi**	**31.34 247**		P	**P**	**00 10 47.1**	**+0.1**
	comp=Z,4.7nm,0.7s,mb4.4,baz=84,slow=9.7,SNR=9.9						
FORT	**Forrest**	**34.93 225**		*e*P	**P**	**00 11 17.8**	**-0.3**
	comp=Z,29nm,0.6s,mb5.4						
MBWA	**Marble Bar**	**37.53 245**		*e*P	**P**	**00 11 39.8**	**-0.8**
	comp=Z,4.1nm,0.5s,mb4.4						
KLBR	**Kellerberrin**	**42.93 231**		*e*P	**P**	**00 12 24.7**	**-0.3**
	comp=Z,13nm,0.5s,mb4.9						
MJAR	**Matsushiro Arr**	**46.80 340**		P	**P**	**00 12 55.1**	**-0.6**
	comp=Z,3.0nm,0.5s,mb4.5,baz=166,slow=8.0,SNR=11						
KSRS	**Korea Array**	**51.76 332**		P	**P**	**00 13 34.1**	**+0.6**
	comp=Z,3.6nm,0.8s,mb4.3,baz=150,slow=8.0,SNR=8.2						
ASAJ	**Asahikawa**	**52.71 348**		P	**P**	**00 13 42.5**	**+2.2**
	comp=Z,2.5nm,0.4s,mb4.5,baz=95,slow=7.9,SNR=3.6						
CASY	**Casey**	**66.47 198**		P	**P**	**00 15 15.8**	**+1.1**
	comp=Z,17nm,0.6s,mb5.2						
SONM	**Songino Array**	**70.21 327**		P	**P**	**00 15 40.0**	**+1.6**
	comp=Z,5.7nm,0.5s,mb4.8,baz=143,slow=6.1,SNR=70						
ZAK	**Zakamensk**	**73.36 328**		*e*P	**P**	**00 15 57.1**	**-0.2**
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.2s,mb4.1						
JIRN	**Jiri**	**75.81 301**		*e*P	**P**	**00 16 12.1**	**+0.1**
	comp=Z,3.7nm,0.4s,mb4.6						
KKN	**Kakani**	**76.62 301**		*e*P	**P**	**00 16 16.8**	**+0.2**
	comp=Z,12nm,0.8s,mb4.9						
GKN	**Gorkha**	**77.23 301**		*e*P	**P**	**00 16 20.6**	**+0.6**
	comp=Z,11nm,0.7s,mb4.9						
KOLN	**Koldanda**	**78.05 300**		*e*P	**P**	**00 16 26.3**	**+1.7**
	comp=Z,6.5nm,0.6s,mb4.7						
MKAR	**Makanchi Array**	**84.35 319**		P	**P**	**00 16 58.2**	**+0.6**
MKAR	**Makanchi Array**	**84.35 319**		P	**P**	**00 16 58.2**	**+0.6**
	comp=Z,7.3nm,0.7s,mb4.9,baz=81,slow=7.5,SNR=32						
MAW	**Mawson**	**84.36 203**		P	**P**	**00 16 56.4**	**-0.8**
	comp=Z,2.8nm,0.9s,mb4.4,baz=345,slow=5.0,SNR=3.9						
ZALV	**Zalesovo Beam**	**85.07 326**		P	**P**	**00 17 00.6**	**-0.4**
	comp=Z,6.4nm,0.5s,mb5.0,baz=112,slow=5.7,SNR=36						
ZAL	**Zalesovo**	**85.07 326**		P	**P**	**00 17 00.6**	**-0.4**
NVS	**Novosibirsk**	**86.23 326**		*i* P	**P**	**00 17 05.5**	**-1.3**
INK	**Inuvik**	**89.80 21**		P	**P**	**00 17 22.1**	**-1.3**
	comp=Z,0.8nm,0.6s,mb4.2,baz=243,slow=1.8,SNR=3.6						
YKA	**Yellowknife Ar**	**96.28 28**		P	**P**	**00 17 53.4**	**-0.1**
	comp=Z,0.4nm,0.5s,mb4.1,baz=266,slow=4.6,SNR=11						
FINES	**FINESS Array B**	**114.72 336**		PKP	PKiKP	00 23 04.9	-0.3
	comp=Z,2.5nm,1.1s,baz=100,slow=4.2,SNR=5.2						
AKASG	**Malin Array Be**	**118.44 325**		PKP	PKPdf	00 23 12.5	-0.2
AKASG	**Malin Array Be**	**118.44 325**		PKP	PKPdf	00 23 12.5	-0.2
	comp=Z,0.4nm,0.3s,baz=45,slow=2.5,SNR=6.6						
BRG	**Berggiesshubel**	**126.48 331**		*e*(P)	PKPdf	00 23 29.2	+1.1
	comp=Z,8.2nm,1.3s						
GERES	**GERESS Array B**	**127.91 329**		PKP	PKPdf	00 23 31.9	+1.0
	comp=Z,0.4nm,0.5s,baz=29,slow=3.0,SNR=5.7						
EQES	**Quesada**	**144.28 331**		PKP	PKPdf	00 24 00.1	-1.5
EBAN	**Banos Encina**	**144.33 332**		PKP	PKPdf	00 24 00.6	-1.0
ENIJ	**Nijar**	**144.50 329**		PKP	PKPdf	00 24 00.4	-1.6
ELUQ	**Luque**	**145.04 332**		PKP	PKPdf	00 24 02.7	-0.2
EBAD	**Badajoz**	**145.23 336**		PKP	PKPdf	00 24 03.3	+0.1
ERON	**Agron**	**145.26 331**		PKP	PKPdf	00 24 02.7	-0.6
ELOJ	**Sierra Loja**	**145.32 331**		PKP	PKPdf	00 24 03.4	0.0
EMIN	**Mina Concepcio**	**145.93 335**		PKP	PKPdf	00 24 05.9	+1.5
ESPR	**Espera**	**146.33 333**		PKP	PKPdf	00 24 07.3	+2.2
DBIC	**Dimbokro**	**160.93 269**		PKPab	PKPab	00 25 10.0	+0.7
	comp=Z,1.3nm,0.6s,baz=64,slow=2.6,SNR=4.5						

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*IDC **02** 00:06:33.0±8.9,739S×15538E,h0km,mb4.0/4,mb1 4.1/4, mb1mx3.8/14,mbtmp4.0/4,Error ellipse: s-maj=308.2km s-min=75.2km az=6.0*
*NEIC **02** 00:06:34.7±1.3,737S×15539E,h10km,mb4.7/2,Error ellipse: s-maj=46.5km s-min=14.7km az=115.0*
*ISCJB **02** 00:06:36.8±1.7,74S±02×1553E±04,h33km,mb4.2/5, Error ellipse: s-maj=60.6km s-min=19.2km az=25.1*
ISC 02 00:06:38.3±1.7,75S±02×1554E±04,h35km,n8,σ0§22/8, mb4.2/5,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTAO	**Charters Tower**	**15.38 214**		Pn	**Pn**	**00 10 12.7**	**0.0**
	40nm,1.5s						
MBWA	**Marble Bar**	**37.05 245**		*e*P	**P**	**00 13 45.3**	**+0.1**
	36nm,1.6s,mb5.0						
SONM	**Songino Array**	**69.94 327**		P	**P**	**00 17 45.9**	**0.0**
	0.6nm,0.7s,mb3.6,baz=143,slow=6.7,SNR=2.7						
MKAR	**Makanchi Array**	**84.02 319**		P	**P**	**00 19 05.5**	**+0.3**
MKAR	**Makanchi Array**	**84.02 319**		P	**P**	**00 19 05.5**	**+0.3**
	1.7nm,0.7s,mb4.3,baz=102,slow=6.1,SNR=4.7						
ZALV	**Zalesovo Beam**	**84.78 326**		P	**P**	**00 19 08.4**	**-0.4**
	0.8nm,0.4s,mb4.2,baz=121,slow=5.4,SNR=3.7						
YKA	**Yellowknife Ar**	**96.55 28**		P	**P**	**00 20 04.1**	**+0.1**
YKA	**Yellowknife Ar**	**96.55 28**		P	**P**	**00 20 04.1**	**+0.1**
	0.2nm,0.6s,mb3.7,baz=264,slow=4.6,SNR=2.6						

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*IDC **02** 00:07:31.6±0.9,779S×15630E,h0km,mb4.5/11, mb1 4.6/11,mb1mx4.4/16,mbtmp4.5/11,Error ellipse: s-maj=31.1km s-min=19.3km az=101.0*
*NEIC **02** 00:07:33.1±0.7,773S×15633E,h10km,Error ellipse: s-maj=23.1km s-min=14.7km az=111.0*
*ISCJB **02** 00:07:35.1±0.8,78S±01×1563E±02,h33km,mb4.3/12, Error ellipse: s-maj=24.7km s-min=14.9km az=17.2*
ISC 02 00:07:36.9±0.8,78S±01×1563E±02,h35km,n16,σ0§86/14, mb4.3/12,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WB2	**Warramunga Arr**	**24.47 238**		*e*P	**P**	**00 12 53.2**	**+0.4**
WRA	**Warramunga Arr**	**24.48 238**		P	**P**	**00 12 53.2**	**+0.3**
	14nm,0.6s,mb4.6,baz=62,slow=9.4,SNR=25						
ASAR	**Alice Springs**	**26.67 231**		P	**P**	**00 13 12.3**	**-0.5**
	1.7nm,0.7s,mb3.7,baz=58,slow=8.9,SNR=4.6						
STKA	**Stephens Creek**	**27.63 208**		P	**P**	**00 13 23.9**	**+2.6**
	7.2nm,0.9s,mb4.3,baz=50,slow=8.8,SNR=7.0						
FITZ	**Fitzroy Crossi**	**31.55 248**		P	**P**	**00 13 55.3**	**-0.9**
	3.0nm,0.5s,mb4.3,baz=84,slow=9.2,SNR=5.0						
RPZ	**Rata Peaks**	**38.08 163**		P	**P**	**00 14 51.3**	**-0.9**
	9.8nm,0.8s,mb4.6,baz=24,slow=5.1,SNR=3.4						
NWAO	**Narrogin (SRO)**	**43.97 230**		P	**P**	**00 15 40.7**	**-0.2**
	7.6nm,0.7s,mb4.5,baz=63,slow=11,SNR=2.7						
KSRS	**Korea Array**	**52.22 331**		P	**P**	**00 16 43.8**	**-0.7**
	1.2nm,0.6s,mb4.0,baz=175,slow=7.5,SNR=4.7						
SONM	**Songino Array**	**70.67 327**		P	**P**	**00 18 50.3**	**+1.3**
	5.7nm,0.8s,mb4.6,baz=141,slow=6.4,SNR=20						
MAW	**Mawson**	**84.19 203**		P	**P**	**00 20 04.1**	**-0.3**
	1.5nm,0.7s,mb4.2,baz=45,slow=5.7,SNR=4.2						
MKAR	**Makanchi Array**	**84.83 318**		P	**P**	**00 20 08.0**	**+0.1**
MKAR	**Makanchi Array**	**84.83 318**		P	**P**	**00 20 08.0**	**+0.1**
	2.8nm,0.6s,mb4.6,baz=81,slow=7.6,SNR=10						
ZALV	**Zalesovo Beam**	**85.53 326**		P	**P**	**00 20 10.6**	**-0.7**
	1.4nm,0.5s,mb4.4,baz=109,slow=5.6,SNR=6.3						
YKA	**Yellowknife Ar**	**96.40 28**		P	**P**	**00 21 02.5**	**+0.5**
	0.8nm,0.9s,mb4.2,baz=265,slow=4.7,SNR=6.9						
AKASG	**Malin Array Be**	**118.91 325**		PKP	PKPdf

comp=Z,5.5nm,0.8s,mb4.5,baz=39,slow=6.5,SNR=2.9
KAPI Kappang 36.26 272 P **P 00 17 57.2 -0.4**
comp=Z,135nm,1.2s,mb5.8,SNR=6.0
RPZ Rata Peaks 38.36 163 P **P 00 18 14.8 -0.2**
comp=Z,12nm,0.7s,mb4.7,baz=81,slow=2.9,SNR=8.2
BALP Baler 41.31 304 *e*P **P 00 18 40.6 +0.7**
BCPH Baguio City Da 42.45 304⇑ *e*P **P 00 18 50.0 +0.7**
BOLP Bolinao 43.00 304 *e*P **P 00 18 53.2 -0.5**
KLBR Kellerberrin 43.05 231 *e*P **P 00 18 53.8 -0.1**
comp=Z,22nm,0.7s,mb5.0
NWAO Narrogin (SRO) 44.02 229 P **P 00 19 02.9 +1.1**
comp=Z,9.5nm,0.8s,mb4.6,baz=346,slow=4.2,SNR=2.9
KSM Kuching 46.59 279 *e*P **P 00 19 22.9 +0.4**
MJAR Matsushiro Arr 46.94 340 P **P 00 19 25.9 +1.2**
MJAR Matsushiro Arr 46.94 340 P **P 00 19 25.9 +1.2**
comp=Z,3.6nm,0.7s,mb4.4,baz=159,slow=8.0,SNR=7.6
MAT Matsushiro 46.94 340 P **P 00 19 26.8 +2.1**
JNU Nakatsue 47.01 331 P **P 00 19 25.4 +0.1**
comp=Z,29nm,0.9s,mb5.2,baz=86,slow=7.0,SNR=7.7
QZH Quanzhou 48.77 313 *e*P **P 00 19 44.3 +5.2**
KSRS Korea Array 51.93 331 P **P 00 20 02.9 +0.1**
comp=Z,6.9nm,0.8s,mb4.7,baz=149,slow=7.5,SNR=9.4
NJ2 Nanjing 53.04 320 *e*P **P 00 20 10.5 -0.7**
NJ2 AP pP 00 20 15.9 -0.1
NJ2 XP sP 00 20 18.5 +0.7
NJ2 PP PP 00 22 11.1 -0.1
NJ2 S **S 00 27 36.0 -4.8**
NJ2 AMB AMB
comp=Z,20nm,0.8s,mb5.1
NJ2 AMB AMB
comp=Z,1μm,4.5s
NJ2 LR LR
comp=N,10μm,14.2s,MS6.2
NJ2 LR LR
comp=E,8μm,12.6s,MS6.2
NJ2 LR LR
comp=Z,4μm,18.2s
PMOR Pomariorio Ree 55.26 103 *e*P **P 00 20 28.2 +0.5**
comp=Z,40nm,1.1s,mb5.4
YSS Yuzh-Sakhalins 55.51 349 *i* P **P 00 20 28.1 -0.8**
YSS pmax pmax
comp=Z,6.0nm,0.6s,mb4.8
VAH Vaihoa 55.52 103 *e*P **P 00 20 29.7 +0.1**
comp=Z,21nm,0.7s,mb5.3
KULM Kulim 56.81 281 *e*P **P 00 20 37.4 -1.5**
MDJ Mudanjiang 57.14 338 P **P 00 20 40.6 0.0**
MDJ AMB AMB
comp=Z,8.0nm,2.9s,mb4.2
CN2 Changchun 58.14 334 *e*P **P 00 20 49.1 +1.5**
CN2 *e*XP sP 00 20 56.1 +1.8
CN2 AMB AMB
comp=Z,10.0nm,1.6s,mb4.6
GYA Guiyang 58.67 307⇑ *i*P **P 00 20 53.0 +1.3**
GYA AP pP 00 20 57.2 +0.7
GYA XP sP 00 21 01.3 +2.9
GYA PCP PcP 00 21 44.8 +3.1
GYA PP PP 00 23 04.6 +2.9
GYA SCP ScP 00 25 43.9 +2.0
GYA S **S 00 28 54.3 -1.8**
GYA SCS ScS 00 30 39.6 -2.0
GYA SS SS 00 32 47.5 -1.9
GYA AMB AMB
comp=Z,30nm,1.0s,mb5.3
GYA AMB AMB
comp=Z,660nm,8.6s
GYA LR LR
comp=N,2μm,20.6s,MS5.3
GYA LR LR
comp=E,2μm,21.4s,MS5.3
GYA LR LR
comp=Z,2μm,19.6s,MS5.2
HABR Khabarovsk 58.75 344 *e*P **P 00 20 46.1 -5.7**
HABR *e*S **S 00 28 50.3 -6.0**
BJI Beijing 59.99 325 P **P 00 21 00.9 +0.4**
BJI S **S 00 29 11.5 -1.1**
BJI LR LR
comp=N,3μm,17.6s,MS5.6
BJI LR LR
comp=E,2μm,17.6s,MS5.6
BJI LR LR
comp=Z,4μm,19.0s,MS5.5
KLR Kul'dur 60.40 342 *e*P **P 00 21 00.0 -3.2**
XAN Xi'an 60.87 316 P **P 00 21 06.4 -0.3**
XAN AP pP 00 21 12.5 +1.0
XAN AMB AMB
comp=Z,5.0nm,1.2s,mb4.5
KMI Kunming 61.25 304 P **P 00 21 10.6 +1.1**
KMI AP pP 00 21 13.9 -0.4
KMI AMB AMB
comp=Z,17nm,1.1s,mb5.1
CHTO Chiang Mai 62.16 296 *e*P **P 00 21 16.0 +0.3**
CD2 Chengdu 63.02 310 *e*P **P 00 21 21.5 +0.3**
CD2 S **S 00 29 48.5 -2.9**
CD2 SS SS 00 33 56.3 -1.1
CD2 AMB AMB
comp=Z,10.0nm,0.5s,mb5.2
CD2 LR LR
comp=N,4μm,19.2s
CD2 LR LR
comp=Z,2μm,15.6s,MS5.4
HHC Hu-ho-hao-te 63.18 323 *e*P **P 00 21 22.2 +0.1**
HHC AP pP 00 21 26.9 -0.1
HHC XP sP 00 21 29.8 +1.0
HHC PP PP 00 23 42.7 +1.4
HHC PCS PcS 00 25 59.3 -3.7
HHC SCP ScP 00 26 00.6 -1.0
HHC S **S 00 29 51.3 -1.8**
HHC XS sS 00 30 00.1 -1.0
HHC SCS ScS 00 31 12.3 -2.4
HHC SS SS 00 33 55.6 -4.0
HHC AMB AMB
comp=Z,10.0nm,0.3s,mb5.4
HHC AMB AMB
comp=Z,2μm,8.8s
HHC LR LR
comp=N,719nm,23.3s,MS5.0
HHC LR LR
comp=E,883nm,21.0s,MS5.0
HHC LR LR
comp=Z,2μm,20.2s,MS5.2
LZH Lanzhou 65.48 315 *e*P **P 00 21 39.6 +2.3**
LZH AP pP 00 21 43.2 +1.0
LZH XP sP 00 21 45.4 +1.4
LZH PP PP 00 24 05.7 +4.1
LZH AMB AMB
comp=Z,30nm,1.2s,mb5.2
LZH AMB AMB
comp=Z,120nm,4.2s
LZH Lanzhou 65.48 315 *e*P **P 00 21 39.6 +2.3**
LZH pP pP 00 21 43.2 +1.0
LZH sP sP 00 21 45.4 +1.4
LZH PP PP 00 24 05.7 +4.1
PBA Port Blair 65.87 286 *e*P **P 00 21 39.1 -1.2**
MA2 Magadan 67.00 357 P **P 00 21 43.8 -2.7**
MA2 pmax pmax
comp=Z,20nm,1.4s,mb5.0
CIT Chita 69.57 333 *e*P **P 00 22 04.4 +1.6**
CIT *e* 00 22 19.4
GTA Gaotai 69.89 317 *e*P **P 00 22 05.3 +0.2**
GTA AP pP 00 22 08.9 -1.1
GTA XP sP 00 22 10.4 -1.4
GTA PP PP 00 24 41.9 +2.0
GTA S S 00 31 12.8 -1.8
GTA SKS 00 32 02.6
GTA SS SS 00 35 43.1 -0.8
GTA AMB AMB
comp=Z,4.0nm,1.7s,mb4.1
GTA AMB AMB
comp=Z,2μm,7.6s
GTA LR LR
comp=N,2μm,17.9s,MS5.4
GTA LR LR
comp=E,1μm,17.9s,MS5.4
GTA LR LR
comp=Z,3μm,18.6s,MS5.5
VNDA Vanda 70.04 179 P **P 00 22 05.1 -0.2**
comp=Z,3.6nm,1.0s,mb4.3,baz=347,slow=7.1,SNR=12
SEY Seymchan 70.29 358⇑ *e*P **P 00 22 06.8 -0.2**
SONM Songino Array 70.39 327 P **P 00 22 08.4 +0.5**
comp=Z,7.9nm,0.9s,mb4.7,baz=141,slow=6.8,SNR=22
YAK Yakutsk 72.30 347 *e*P **P 00 22 21.0 +1.9**
YAK pmax pmax
comp=Z,23nm,1.3s,mb5.0
YAK pmax pmax
comp=N,11nm,1.8s
YAK pmax pmax
comp=E,6.0nm,1.4s
BOD Bodaibo 73.51 338 *e*P **P 00 22 25.9 -0.5**
BOD pmax pmax
comp=Z,8.0nm,1.8s,mb4.3
ZAK Zakamensk 73.53 328 *e*P **P 00 22 26.5 -0.2**
ZAK *e* 00 25 17.1
ZAK pmax pmax
comp=Z,10.0nm,1.7s,mb4.5
TLY Talaya 74.09 329 *e*P **P 00 22 30.9 +1.0**
TLY Talaya 74.09 329⇑ *e*P **P 00 22 31.0 +1.1**
TLY pmax pmax
comp=Z,11nm,1.7s,mb4.5
IRK Irkutsk 74.10 330 *e*P **P 00 22 29.5 -0.5**
IRK pmax pmax
comp=Z,66nm,2.5s,mb5.1
BOK Bokaro 75.25 297 *e*P **P 00 22 37.1 -0.2**
BOK AMb AMB 00 22 47.5
comp=Z,15nm,1.3s,mb4.8
MOY Mondy 75.45 328 *e*P **P 00 22 39.0 +1.2**
MOY pmax pmax
comp=Z,77nm,3.0s
BILL Bilibino 75.70 4⇑ *e*P **P 00 22 37.7 -1.2**
BILL *e* 00 25 29.4
BILL pmax pmax
comp=Z,23nm,1.2s,mb5.0
BILL MLR MLR
comp=Z,2μm,18.0s,MS5.3
JIRN Jiri 76.03 301 *e*P **P 00 22 42.4 +0.7**
comp=Z,48nm,1.1s,mb5.3
KKN Kakani 76.84 301 *e*P **P 00 22 46.2 -0.1**
comp=Z,32nm,0.9s,mb5.3
KDAK Kodiak Island 77.13 25 P **P 00 22 47.8 +0.6**
comp=Z,5.4nm,1.0s,mb4.5,baz=279,slow=3.9,SNR=4.8
GKN Gorkha 77.44 301 *e*P **P 00 22 49.4 -0.3**
comp=Z,67nm,1.2s,mb5.5
SVW2 Sparrevohn 78.04 22 *e*P **P 00 22 54.1 +1.8**
KOLN Koldanda 78.27 300 *e*P **P 00 22 52.6 -1.7**
comp=Z,26nm,0.9s,mb5.2
WMQ Urumqi 79.98 317⇑ *i*P **P 00 23 04.5 +1.2**
WMQ XP sP 00 23 11.7 +1.6
WMQ PP PP 00 26 07.0 +1.7
WMQ *e*S S 00 33 05.5 -1.3
WMQ AMB AMB
comp=Z,24nm,1.4s,mb4.9
WMQ LR LR
comp=N,2μm,21.3s,MS5.5
WMQ LR LR
comp=E,2μm,23.6s,MS5.5
WMQ LR LR
comp=Z,3μm,23.7s,MS5.5
KOD Kodaikanal 80.30 282 *e*P **P 00 23 05.5 -0.1**
KOD AMb AMB 00 23 11.8
comp=Z,19nm,0.9s,mb5.0
HYB Hyderabad 80.52 289 *e*P **P 00 23 06.5 -0.3**
HYB Hyderabad 80.52 289 *i* P **P 00 23 06.5 -0.3**
PMR Palmer 80.80 23 *e*P **P 00 23 09.1 +1.8**
comp=Z,66nm,2.1s,mb5.2
PMR Palmer 80.80 23 *e*P **P 00 23 09.1 +1.8**
PMR pmax pmax
comp=Z,66nm,2.1s,mb5.2
TIXI Tiksi 81.02 352 *e*P **P 00 23 07.5 -0.8**
comp=Z,97nm,2.8s,mb5.2
TIXI Tiksi 81.02 352 *e*P **P 00 23 06.0 -2.3**
TIXI pmax pmax
comp=Z,12nm,1.5s,mb4.6
SML Sawmill 81.23 23 *e*P **P 00 23 09.9 +0.3**
IMA2 Indian Mountai 81.92 18 *e*P **P 00 23 11.6 -1.5**
MCK McKinley 82.10 22 *e*P **P 00 23 13.5 -0.6**
comp=Z,14nm,1.0s,mb4.9
MCK McKinley 82.10 22 *e*P **P 00 23 13.5 -0.7**
MCK pmax pmax
comp=Z,14nm,1.0s,mb4.8
BHPL Bhopal 82.68 295 *e*P **P 00 23 18.3 +0.2**
BHPL AMb AMB 00 23 21.8
comp=Z,8.2nm,0.5s,mb5.0
COLA College 83.14 21⇑ *e*P **P 00 23 18.6 -0.9**
MAW Mawson 84.37 203 *e*P **P 00 23 25.4 -0.5**
comp=Z,10nm,0.9s,mb5.0
MAW Mawson 84.37 203 *e*P **P 00 23 25.4 -0.5**
MAW pmax pmax
comp=Z,10.0nm,0.9s
MAW Mawson 84.37 203 P **P 00 23 25.9 0.0**
comp=Z,7.8nm,0.9s,mb4.9,baz=47,slow=7.5,SNR=6.9
MKAR Makanchi Array 84.54 318 *i* P **P 00 23 25.6 -1.5**
MKAR pmax pmax
comp=Z,28nm,0.8s
MKAR Makanchi Array 84.54 318 P **P 00 23 27.1 0.0**
comp=Z,28nm,0.8s,mb5.5,baz=86,slow=7.1,SNR=100
KAD Karad 84.61 288 *e*P **P 00 23 27.4 -0.6**
KAD AMb AMB 00 23 32.5
comp=Z,23nm,1.0s,mb5.2
ZAA0 Zalesovo Array 85.24 326 *e*P **P 00 23 29.1 -1.3**
ZALV Zalesovo Beam 85.24 326 P **P 00 23 29.4 -1.1**
comp=Z,19nm,0.6s,mb5.4,baz=109,slow=5.5,SNR=54
ZAL Zalesovo 85.25 326 P **P 00 23 29.4 -1.1**
EGAK Eagle 85.55 22 *e*P **P 00 23 34.4 +2.6**
AJM Ajmer 85.78 297 *e*P **P 00 23 33.7 -0.1**
AJM AMb AMB 00 23 50.9
comp=Z,26nm,1.2s,mb5.3
DAWY Dawson 85.90 23 *e*P **P 00 23 34.2 +0.7**
NVS Novosibirsk 86.41 326 *i* P **P 00 23 35.8 -0.4**
NVS pmax pmax
comp=N,21nm,2.0s
NVS pmax pmax
comp=Z,72nm,2.0s,mb5.6
NVS pmax pmax
comp=E,34nm,1.6s
KURK Kurchatov 87.94 322 P **P 00 23 42.3 -1.5**
comp=E,84nm,1.1s,mb5.9,SNR=8.8
KURK Kurchatov 87.94 322⇑ *e*P **P 00 23 42.0 -1.8**
DLBC Dease Lake 88.00 30 *e*P **P 00 23 45.7 +1.8**
AAK Ala-Archa 88.94 313⇑ *e*P **P 00 23 48.6 -0.1**
AAK pmax pmax
comp=Z,12nm,1.3s,mb5.1
INK Inuvik 89.79 20 P **P 00 23 51.7 -0.4**
comp=Z,3.0nm,1.0s,mb4.6,baz=243,slow=6.2,SNR=6.5
MWC Mount Wilson 90.71 56 *e*P **P 00 24 01.2 +4.1**
NVAR Mina Array Bea 91.14 52 P **P 00 23 59.2 +0.1**
NVAR Mina Array Bea 91.14 52 P **P 00 23 59.2 +0.1**
comp=Z,1.4nm,1.0s,mb4.3,baz=263,slow=4.4,SNR=4.3
KK31 Karatay Array 91.90 313 *i* P **P 00 24 02.0 -0.5**
KK31 pmax pmax
comp=Z,2.0nm,0.5s,mb4.7
PFO Pinyon Flat Ob 91.94 57 P **P 00 24 05.0 +2.2**
comp=Z,4.4nm,1.0s,mb4.8,baz=281,slow=1.3,SNR=5.1
CHKZ Chkalovo 93.35 324 *i* P **P 00 24 06.4 -2.5**
CHKZ pmax pmax
comp=Z,11nm,1.1s,mb5.2
BRVK Borovoye 93.46 323 P **P 00 24 08.5 -0.9**
comp=Z,63nm,1.0s,mb6.0,SNR=5.9
MSU Marysvale 95.92 52 *e*P **P 00 24 25.5 +4.4**
YKA Yellowknife Ar 96.25 28 P **P 00 24 21.1 -0.9**
YKA Yellowknife Ar 96.25 28 P **P 00 24 21.1 -0.9**
comp=Z,0.9nm,0.5s,mb4.5,baz=264,slow=4.6,SNR=23
PDAR Pinedale Array 98.19 48 P **P 00 24 30.5 -0.7**
comp=Z,0.7nm,0.8s,mb4.2,baz=288,slow=1.4,SNR=5.9
ANMO Albuquerque 100.30 56⇑ *e*P Pdif 00 24 38.1 -2.3
KIV Kislovodsk 112.02 314 *e*PKIKP PKiKP 00 29 25.7 -3.8
KIV pmax pmax
comp=Z,5.0nm,1.0s
AKASG Malin Array Be 118.62 325 PKP PKPdf 00 29 40.7 -1.2
AKASG Malin Array Be 118.62 325 PKP PKPdf 00 29 40.7 -1.2
comp=Z,0.9nm,0.5s,baz=45,slow=2.4,SNR=7.1
NOA NORSAR Array B 120.56 341 PKP PKPdf 00 29 44.6 -0.8
comp=Z,0.9nm,0.8s,baz=28,slow=2.0,SNR=3.5
BRG Berggiesshubel 126.65 331 *e*PKIKP PKPdf 00 29 57.8 +0.4
BRG pmax pmax
comp=Z,5.0nm,1.3s
BRG Berggiesshubel 126.65 331 *e*P PKPdf 00 29 57.8 +0.4
comp=Z,5.7nm,1.3s
CLL Collm 126.80 332 *i* PKIKP PKPdf 00 29 57.7 +0.1
CLL pmax pmax
comp=Z,6.0nm,0.8s
CLL Collm 126.80 332 *i* PKPdf PKPdf 00 29 57.7 +0.1
comp=Z,4.0nm,0.8s
KHC Kasperske Hory 127.96 330 *e*PKPdf PKPdf 00 30 00.0 +0.1
GERES GERESS Array B 128.08 329 PKP PKPdf 00 29 59.6 -0.6
GERES GERESS Array B 128.08 329 PKP PKPdf 00 29 59.6 -0.6
comp=Z,1.1nm,0.8s,baz=76,slow=0.6,SNR=9.6
PERS Pernice 128.70 326 *i* PKPdf PKPdf 00 30 03.2 +1.8
GRA1 Grafenberg Arr 128.74 331 *e*PKPdf PKPdf 00 30 01.1 -0.3
GRF Grafenberg Arr 128.74 331 *e*PKPdf PKPdf 00 30 01.1 -0.3
BOJS Bojanci 129.30 325 *i* PKPdf PKPdf 00 30 03.1 +0.5
JAVS Javornik 129.73 326 *i* PKPdf PKPdf 00 30 05.3 +1.9
LPAZ La Paz 130.21 119 PKP PKPdf 00 30 06.2 +1.1
comp=Z,4.5nm,0.9s,baz=289,slow=1.7,SNR=11
MVO Moncorvo 143.29 339 *e*PKP PKPdf 00 30 26.3 -2.3
ESDC Sonseca Array 143.34 334 PKP PKPdf 00 30 25.7 -3.1
comp=Z,3.1nm,0.9s,baz=18,slow=2.8,SNR=10
EVIA Vianos 143.51 331 PKP PKPdf 00 30 28.6 -0.5
PVIS Viseu 144.00 339 *e*PKP PKPdf 00 30 27.7 -2.2
MTE Manteigas 144.15 339 *e*PKP PKPdf 00 30 29.3 -0.9
EQES Quesada 144.44 331 PKP PKPdf 00 30 26.7 -4.1
EBAN Banos Encina 144.49 332 PKP PKPdf 00 30 29.1 -1.7
PCBR Castelo Branco 144.62 338 *e*PKP PKPdf 00 30 30.2 -0.8
ENIJ Nijar 144.67 329 PKP PKPdf 00 30 28.6 -2.6
EADA Adamuz 144.85 333 PKP PKPdf 00 30 30.9 -0.6
ECOG Cogollos-Vega 145.10 331 PKP PKPdf 00 30 30.1 -1.8
ELUQ Luque 145.20 332 PKP PKPdf 00 30 31.9 -0.1
ECAB El Cabril 145.30 334 PKP PKPdf 00 30 31.6 -0.6
EBAD Badajoz 145.38 337 PKP PKPdf 00 30 31.2 -1.1
ERON Agron 145.42 331 PKP PKPdf 00 30 28.9 -3.6
EGUA Guajares 145.45 331 PKP PKPdf 00 30 30.6 -1.9
ELOJ Sierra Loja 145.48 332 PKP PKPdf 00 30 32.0 -0.5
PESTR Estremoz 145.51 337 *e*PKP PKPdf 00 30 32.5 -0.1
EALB Alboran 145.89 329 PKP PKPdf 00 30 32.1 -1.2
PBAR Barrancos 145.89 336 *e*PKP PKPdf 00 30 33.5 +0.3
PMAFR Mafra 146.05 339 *e*PKP PKPdf 00 30 34.4 +0.9
EMIN Mina Concepcio 146.09 335 PKP PKPdf 00 30 35.1 +1.5
EMIJ Mijas 146.25 332 PKP PKPdf 00 30 33.0 -0.8
PBEJ Beja 146.35 337 *e*PKP PKPbc 00 30 36.0 +0.8
ESPR Espera 146.49 333 PKP PKPdf 00 30 34.4 +0.1
EGRO El Granado 146.62 336 PKP PKPbc 00 30 36.6 +0.6
PTEO Sao Teotonio 147.09 338 *e*PKP PKPbc 00 30 38.9 +1.5
MORF Marmelete 147.28 337 *e*PKP PKPbc 00 30 38.8 +0.9
TORD Torodi Ar. Bea 154.26 285 PKPbc PKPbc 00 30 54.8 -0.4
comp=Z,3.1nm,0.8s,baz=187,slow=0.4,SNR=7.8
DBIC Dimbokro 161.13 269 PKPab PKPab 00 31 38.4 -0.5
comp=Z,3.2nm,0.6s,baz=78,slow=2.6,SNR=6.2

IDC 02 00:15:48.3±5.5, 722S×15583E, h0km, mb4.1/3, mb1 4.2/3, mb1mx3.9/14, mbtmp4.1/3, Error ellipse: s-maj=158.5km s-min=39.7km az=114.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.38**	**237**	P	P	00 21 08.6	+0.2
	1.8nm,0.4s,baz=63,slow=9.3,SNR=3.9						
SONM	**Songino Array**	**69.97**	**327**	P	P	00 27 01.8	+0.2
	0.7nm,0.7s,baz=141,slow=5.5,SNR=2.8						
MKAR	**Makanchi Array**	**84.12**	**319**	P	P	00 28 21.4	+0.1
	2.4nm,0.7s,baz=98,slow=6.0,SNR=6.2						

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*NEIC **02** 00:17:59.4, 1840N×10339W, h12km, MD4.3(MEX), After MEX.*

MEX 02 00:17:59.4±0.7, 1840N×10339W, h12km±13km, MD4.3, Near coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMIG	**Aquila**	**0.12**	**158**	*i* P	Pg	00 18 01.7	-0.8
MMIG				*i* S	Sg	00 18 04.4	-0.4
ZIIG	**Zihuatanejo**	**2.00**	**113**	*i* S	Sn	00 18 53.0	-4.9
MOIG	**Morelia**	**2.44**	**58**	*i* P	Pn	00 18 37.5	-1.5
MOIG				*i* S	Sn	00 19 04.0	-4.8
MEIG	**Mezcala**	**3.62**	**97**	*e*P	Pn	00 18 54.4	-0.9
MEIG				*i* S	Sn	00 19 36.1	-1.8
PLIG	**Platanillo**	**3.69**	**90**	*e*P	Pn	00 18 54.2	-2.1
PLIG				*i* S	Sn	00 19 36.0	-3.8
PTVM	**Pico Tres Padr**	**4.22**	**73**	*e*P	Pn	00 19 01.2	-2.3
PTVM				*i* S	Sn	00 19 49.3	-3.4
PPM	**Popocatepetl**	**4.56**	**81**	*e*P	Pn	00 19 06.9	-1.4
PPM				*i* S	Sn	00 20 00.2	-1.1
IIO	**Organos**	**4.57**	**74**	*e*P	Pn	00 19 07.4	-1.0
IIO				*i* S	Sn	00 19 57.5	-4.0
UTMO	**Huajuapan**	**5.35**	**95**	*e*P	Pn	00 19 17.8	-1.3
UTMO				*i* S	Sn	00 20 18.9	-1.7

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*IDC **02** 00:17:54.3±3.4, 756S×15582E, h0km, mb4.1/8, mb1 4.3/8, mb1mx4.1/14, mbtmp4.2/8, Error ellipse: s-maj=109.0km s-min=20.8km az=104.0*

*NEIC **02** 00:17:55.9±2.2, 753S×15578E, h10km, mb4.2/1, Error ellipse: s-maj=69.9km s-min=15.3km az=106.0*

*ISCJB **02** 00:17:57.1±2.4, 76S±02×1559E±05, h33km, mb4.0/8, Error ellipse: s-maj=71.9km s-min=15.9km az=17.1*

ISC 02 00:17:59.9±2.6, 76S±02×1558E±05, h35km, n10, σ0°74/10, mb4.0/8, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WB2	**Warramunga Arr**	**24.12**	**237**	*e*P	P	00 23 12.6	0.0
WRA	**Warramunga Arr**	**24.13**	**237**	P	P	00 23 12.6	-0.1
	5.8nm,0.7s,mb4.1,baz=63,slow=9.4,SNR=10						
ASAR	**Alice Springs**	**26.38**	**230**	P	P	00 23 32.7	-0.3
	1.7nm,1.2s,mb3.5,baz=58,slow=8.8,SNR=2.8						
STKA	**Stephens Creek**	**27.55**	**207**	*e*P	P	00 23 43.9	+0.3
	4.5nm,1.0s,mb4.0						
STKA	**Stephens Creek**	**27.55**	**207**	P	P	00 23 44.0	+0.5
	6.4nm,1.0s,mb4.2,baz=34,slow=7.8,SNR=5.8						
MJAR	**Matsushiro Arr**	**46.86**	**341**	P	P	00 26 26.3	-0.3
	0.5nm,0.3s,mb4.0,baz=178,slow=9.7,SNR=3.2						
KSRS	**Korea Array**	**51.79**	**332**	P	P	00 27 04.9	+0.6
	0.7nm,0.5s,mb3.9,baz=155,slow=8.3,SNR=5.2						
SONM	**Songino Array**	**70.22**	**327**	P	P	00 29 10.4	+1.1
	4.2nm,0.8s,mb4.4,baz=135,slow=6.2,SNR=18						
MKAR	**Makanchi Array**	**84.33**	**319**	P	P	00 30 28.6	+0.2
	1.5nm,0.6s,mb4.3,baz=90,slow=7.3,SNR=6.1						
ZALV	**Zalesovo Beam**	**85.07**	**326**	P	P	00 30 30.1	-1.8
	0.5nm,0.6s,mb3.8,baz=126,slow=2.5,SNR=2.7						

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*BJI **02** 00:18:13.2, 2464N×12799E, h19km, mb4.3*

*NEIC **02** 00:18:13.2±0.6, 2454N×12773E, h10km, mb4.3/1, Error ellipse: s-maj=13.1km s-min=10.5km az=73.0*

*ISCJB **02** 00:18:14.6±0.5, 2455N±003×12772E±004, h35km, mb4.1/6, Error ellipse: s-maj=5.6km s-min=3.9km az=135.7*

*JMA **02** 00:18:15.9±0.3, 2463N×12768E, h82km, M3.8*

*IDC **02** 00:18:16.8±0.9, 2457N×12769E, h35km±6km, mb4.0/6, mb1 4.2/7, mb1mx3.8/21, mbtmp4.0/7, ML3.6/1, MS4.8/1, Ms1 4.8/1, ms1mx3.9/42, Error ellipse: s-maj=48.2km s-min=14.9km az=81.0*

ISC 02 00:18:16.4±0.5, 2461N±003×12770E±004, h37km, h37km±1.4km: pP-P, n30, σ1°04/45, mb4.1/6, Southeast of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JJT2	**Tamagusuku 2**	**1.52**	**2**	P	Pn	00 18 41.7	+0.6
NAH1	**Naha**	**1.59**	**360**	P	Pn	00 18 42.7	+0.7
NAH1				*e*S	Sn	00 19 01.9	+0.6
JKE	**Kume jima 2**	**1.90**	**334**	P	Pn	00 18 46.9	+0.6
JKE				S	Sn	00 19 09.6	+0.6
JAGN	**Aguni-jima**	**2.01**	**348**	P	Pn	00 18 48.5	+0.6
JAGN				*e*S	Sn	00 19 12.3	+0.5
JOGS	**Gusukube**	**2.10**	**275**	P	Pn	00 18 49.7	+0.7
JOGS				*e*S	Sn	00 19 14.9	+1.1
JMJ	**Miyako jima 2**	**2.20**	**276**	P	Pn	00 18 50.8	+0.4
JMJ				S	Sn	00 19 16.5	+0.1
JOW	**Kunigami**	**2.27**	**13**	P	Pn	00 18 51.1	-0.3
JOW				*e*S	Sn	00 19 16.1	-2.1
JOW	**Kunigami**	**2.27**	**13**	Pn	Pn	00 18 51.5	0.0
	26nm,0.3s,baz=174,slow=15,SNR=96						
JOW				Sn	Sn	00 19 16.2	-1.9
	44nm,0.3s,baz=108,slow=24,SNR=15						
JIH	**Iheya**	**2.43**	**6**	P	Pn	00 18 54.3	+0.8
JIH				S	Sn	00 19 21.9	-0.1
JTJ	**Tarama**	**2.73**	**271**	P	Pn	00 18 57.4	-0.3
JTJ				S	Sn	00 19 29.0	-0.5
JIJ	**Ishigaki jima**	**3.25**	**266**	P	Pn	00 19 04.3	-0.6
JIJ				*e*S	Sn	00 19 39.7	-2.7
JTK	**Tokunoshima**	**3.35**	**19**	P	Pn	00 19 06.9	+0.6
JTK				*e*S	Sn	00 19 42.4	-2.5
JKRS	**Kuro-shima**	**3.39**	**264**	P	Pn	00 19 06.7	-0.1
JKRS				*e*S	Sn	00 19 43.9	-1.8
JMZ	**Minamidaito 2**	**3.41**	**69**	P	Pn	00 19 03.8	-3.2
JMZ				*e*S	Sn	00 19 39.3	-6.9
HATJ	**Hateruma jima**	**3.60**	**262**	P	Pn	00 19 08.8	-0.9
IRIF	**Iriomote-Funau**	**3.63**	**266**	P	Pn	00 19 09.6	-0.5
IRIF				*e*S	Sn	00 19 52.2	+0.5

JAM	**Amami Oshima**	**4.15**	**24**	P	**Pn**	**00 19 17.3**	**0.0**
JAM				S	**Sn**	**00 20 01.7**	**-2.9**
NACB	**Ninganchiao**	**5.59**	**267**	*e*Pn	**Pn**	**00 19 35.1**	**-1.9**
NACB				*e*Sn	**Sn**	**00 20 32.8**	**-7.2**
TATO	**Taipei**	**5.66**	**275**	*e*Pn	**Pn**	**00 19 39.5**	**+1.5**
XAN	**Xi'an**	**18.86**	**304**	P	**Pn**	**00 22 35.5**	**+1.4**
XAN				AP	pP	00 22 40.0	-2.8
XAN				AMB	AMB		
	comp=Z,6.0nm,0.6s						
GUMO	**Guam**	**19.55**	**121**	LR	LR	00 29 06.8	
	comp=Z,3μm,19.6s,baz=235,slow=33						
FITZ	**Fitzroy Crossi**	**42.50**	**183**	*e*P	**P**	**00 26 08.0**	**-0.2**
	comp=Z,3.7nm,0.6s,mb4.2						
FITZ	**Fitzroy Crossi**	**42.50**	**183**	P	**P**	**00 26 08.0**	**-0.2**
	comp=Z,1.0nm,0.7s,mb3.6,baz=9.3,slow=17,SNR=3.8						
FITZ				pP	pP	00 26 17.9	-1.0
	comp=Z,2.2nm,0.8s,baz=0.0,slow=10,SNR=3.1						
ZALV	**Zalesovo Beam**	**43.26**	**324**	P	**P**	**00 26 15.2**	**+1.1**
	comp=Z,1.6nm,0.6s,mb3.9,baz=116,slow=8.2,SNR=2.8						
ZALV				pP	pP	00 26 24.8	+0.1
	comp=Z,2.4nm,0.6s,baz=108,slow=5.6,SNR=3.3						
WRA	**Warramunga Arr**	**44.75**	**171**	P	**P**	**00 26 26.4**	**+0.1**
	comp=Z,7.8nm,0.7s,mb4.7,baz=352,slow=8.6,SNR=21						
WRA				pP	pP	00 26 37.0	-0.1
	comp=Z,4.2nm,0.7s,baz=352,slow=8.5,SNR=9.2						
WB2	**Warramunga Arr**	**44.75**	**171**	*e*P	**P**	**00 26 26.3**	**0.0**
ASAR	**Alice Springs**	**48.36**	**172**	P	**P**	**00 26 55.1**	**+0.6**
	comp=Z,3.1nm,0.8s,mb4.4,baz=358,slow=8.3,SNR=23						
ASAR				pP	pP	00 27 06.2	+0.7
	comp=Z,2.1nm,0.7s,baz=353,slow=6.8,SNR=7.9						
STKA	**Stephens Creek**	**57.72**	**166**	P	**P**	**00 28 03.7**	**+0.3**
	comp=Z,3.1nm,0.7s,mb4.5,baz=0.8,slow=4.9,SNR=4.1						
YKA	**Yellowknife Ar**	**80.19**	**25**	P	**P**	**00 30 23.8**	**+1.2**
YKA	**Yellowknife Ar**	**80.19**	**25**	P	**P**	**00 30 23.8**	**+1.2**
	comp=Z,0.2nm,0.6s,mb3.2,baz=295,slow=5.1,SNR=4.4						

*IDC **02** 00:18:45.6±1.0, 793S×15629E, h0km, mb4.3/12, mb1 4.4/13, mb1mx4.3/18, mbtmp4.4/13, ML4.7/1, Error ellipse: s-maj=28.8km s-min=18.6km az=105.0*
*NEIC **02** 00:18:47.2±0.5, 791S×15627E, h10km, mb4.7/1, Error ellipse: s-maj=12.8km s-min=11.8km az=110.0*
*ISCJB **02** 00:18:49.8±3.0, 79S±01×1563E±02, h41km±34km, mb4.3/14, Error ellipse: s-maj=28.3km s-min=15.0km az=32.7*

ISC 02 00:18:51.5±2.8, 80S±01×1563E±02, h42km±34km, n19, σ0°66/18, mb4.3/14, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**3.88**	**113**	Pn	**Pn**	**00 19 48.5**	**-0.1**
	51nm,0.3s,baz=270,slow=19,SNR=4.5						
KAKA	**Kakadu**	**23.95**	**257**	*e*P	**P**	**00 24 02.3**	**+0.2**
	36nm,1.5s,mb4.6						
GUMO	**Guam**	**24.23**	**332**	*e*P	**P**	**00 24 04.1**	**-0.5**
	24nm,0.4s,mb5.0						
WB2	**Warramunga Arr**	**24.38**	**238**	*e*P	**P**	**00 24 05.8**	**-0.2**
WRA	**Warramunga Arr**	**24.39**	**238**	P	**P**	**00 24 06.0**	**-0.1**
	9.6nm,0.8s,mb4.3,baz=64,slow=9.9,SNR=9.6						
ASAR	**Alice Springs**	**26.56**	**231**	P	**P**	**00 24 24.8**	**-0.9**
	0.9nm,0.8s,mb3.3,baz=78,slow=11,SNR=3.0						
STKA	**Stephens Creek**	**27.47**	**208**	*e*P	**P**	**00 24 36.0**	**+2.3**
	5.0nm,0.9s,mb4.0						
STKA	**Stephens Creek**	**27.47**	**208**	*e*P	**P**	**00 24 35.3**	**+1.5**
STKA	**Stephens Creek**	**27.47**	**208**	P	**P**	**00 24 35.5**	**+1.8**
	5.1nm,0.8s,mb4.1,baz=33,slow=13,SNR=5.4						
FITZ	**Fitzroy Crossi**	**31.50**	**248**	P	**P**	**00 25 08.9**	**-0.7**
	1.8nm,0.6s,mb4.1,baz=71,slow=7.8,SNR=5.0						
JOW	**Kunigami**	**43.99**	**323**	P	**P**	**00 26 55.5**	**+0.5**
	19nm,0.7s,mb4.9,baz=169,slow=17,SNR=7.0						
MJAR	**Matsushiro Arr**	**47.42**	**340**	P	**P**	**00 27 22.0**	**+0.1**
	1.7nm,0.5s,mb4.2,baz=162,slow=8.9,SNR=5.1						
JNU	**Nakatsue**	**47.48**	**331**	P	**P**	**00 27 22.9**	**+0.5**
	11nm,0.8s,mb4.8,baz=78,slow=14,SNR=4.6						
KSRS	**Korea Array**	**52.40**	**331**	P	**P**	**00 28 00.1**	**+0.4**
	1.4nm,0.4s,mb4.2,baz=146,slow=6.5,SNR=4.2						
SONM	**Songino Array**	**70.85**	**327**	P	**P**	**00 30 04.7**	**+0.8**
	5.5nm,0.8s,mb4.6,baz=139,slow=6.0,SNR=13						
MKAR	**Makanchi Array**	**84.99**	**318**	P	**P**	**00 31 22.1**	**-0.4**
	2.8nm,0.7s,mb4.5,baz=88,slow=6.4,SNR=8.4						
ZALV	**Zalesovo Beam**	**85.70**	**326**	P	**P**	**00 31 25.3**	**-0.6**
	0.4nm,0.4s,mb4.0,baz=109,slow=5.5,SNR=2.8						
YKA	**Yellowknife Ar**	**96.57**	**28**	P	**P**	**00 32 15.9**	**-0.6**
	0.2nm,0.5s,mb3.8,baz=264,slow=4.9,SNR=4.5						
TORD	**Torodi Ar. Bea**	**154.53**	**284**	PKPbc	PKPbc	00 38 47.3	-1.5
	0.8nm,0.9s,baz=45,slow=3.4,SNR=2.5						

IDC 02 00:20:48.5±4.3, 685S×15506E, h0km, mb4.1/3, mb1 4.2/3, mb1mx3.7/14, mbtmp4.1/3, Error ellipse: s-maj=127.8km s-min=40.0km az=121.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.95**	**235**	P	P	00 26 05.0	+0.3
	0.5nm,0.4s,baz=61,slow=9.8,SNR=4.9						
MKAR	**Makanchi Array**	**83.34**	**319**	P	P	00 33 18.7	+1.2
	3.0nm,0.7s,baz=107,slow=7.7,SNR=6.7						
ZALV	**Zalesovo Beam**	**84.10**	**326**	P	P	00 33 20.0	-1.2
	1.3nm,0.6s,baz=112,slow=6.2,SNR=5.7						

*IDC **02** 00:21:42.4±0.9, 816S×15696E, h0km, mb4.1/7, mb1 4.3/8, mb1mx4.1/15, mbtmp4.2/8, ML4.3/1, Error ellipse: s-maj=26.6km s-min=22.9km az=61.0*
*NEIC **02** 00:21:44.1±0.7, 811S×15700E, h10km, mb4.3/2, Error ellipse: s-maj=17.1km s-min=15.8km az=151.0*
*ISCJB **02** 00:21:45.3±6.0, 82S±01×15698E±008, h29km±43km, mb4.0/7, Error ellipse: s-maj=25.0km s-min=12.5km az=8.0*

ISC 02 00:21:45.8±6.2, 81S±01×15699E±008, h21km±44km, n13, σ0°92/14, mb4.0/7, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**3.19**	**114**	Pn	**Pn**	**00 22 34.3**	**-0.4**
	33nm,0.3s,baz=260,slow=6.1,SNR=3.1						
HNR				Sn	**Sn**	**00 23 12.3**	**+0.1**
	40nm,0.3s,baz=271,slow=15,SNR=2.9						
CTA	**Charters Tower**	**15.78**	**220**	Pn	**Pn**	**00 25 31.0**	**+4.1**
	0.1nm,0.3s,baz=34,slow=7.0,SNR=3.1						
CTAO	**Charters Tower**	**15.78**	**220**	*e*P	**Pn**	**00 25 28.3**	**+1.4**
	24nm,1.2s						
WRA	**Warramunga Arr**	**24.87**	**239**	P	**P**	**00 27 06.0**	**-1.2**
	3.0nm,0.7s,mb3.9,baz=65,slow=9.6,SNR=3.4						
STKA	**Stephens Creek**	**27.62**	**209**	*e*P	**P**	**00 27 31.7**	**-0.2**
	4.1nm,0.6s,mb4.2						
STKA	**Stephens Creek**	**27.62**	**209**	P	**P**	**00 27 31.6**	**-0.3**
	3.7nm,0.6s,mb4.2,baz=56,slow=14,SNR=7.2						
VNDA	**Vanda**	**69.39**	**179**	P	**P**	**00 32 52.2**	**+0.5**
VNDA	**Vanda**	**69.39**	**179**	P	**P**	**00 32 52.2**	**+0.6**
	1.2nm,0.9s,mb3.8,baz=350,slow=6.1,SNR=5.6						
SONM	**Songino Array**	**71.37**	**327**	P	**P**	**00 33 06.2**	**+2.0**
	1.4nm,0.7s,mb4.0,baz=138,slow=5.1,SNR=5.1						
MKAR	**Makanchi Array**	**85.57**	**318**	P	**P**	**00 34 22.2**	**-0.4**
MKAR	**Makanchi Array**	**85.57**	**318**	P	**P**	**00 34 22.2**	**-0.4**
	2.3nm,0.7s,mb4.5,baz=74,slow=9.0,SNR=7.4						
ZALV	**Zalesovo Beam**	**86.23**	**326**	P	**P**	**00 34 24.6**	**-1.0**
	0.7nm,0.6s,mb4.0,baz=130,slow=6.2,SNR=3.0						
YKA	**Yellowknife Ar**	**96.42**	**28**	P	**P**	**00 35 13.0**	**0.0**
	0.1nm,0.3s,mb3.7,baz=263,slow=4.9,SNR=5.1						

*IDC **02** 00:23:29.9±1.3, 801S×156.16E, h0km, mb4.1/8, mb1 4.2/8, mb1mx4.1/14, mbtmp4.0/8, Error ellipse: s-maj=49.4km s-min=22.8km az=121.0*
*NEIC **02** 00:23:32.0±0.5, 796S×15603E, h10km, mb4.5/2, Error ellipse: s-maj=17.8km s-min=10.4km az=133.0*
*ISCJB **02** 00:23:33.9±0.7, 81S±01×1561E±01, h33km, mb4.0/9, Error ellipse: s-maj=23.4km s-min=13.3km az=43.7*

ISC 02 00:23:35.8±0.7, 80S±01×1560E±01, h35km, n12, σ0°60/12, mb4.0/9, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTAO	**Charters Tower**	**15.28**	**217**	Pn	**Pn**	**00 27 08.3**	**-0.6**
	7.8nm,0.8s						
WB2	**Warramunga Arr**	**24.10**	**238**	*e*P	**P**	**00 28 48.4**	**+0.1**
WRA	**Warramunga Arr**	**24.11**	**238**	P	**P**	**00 28 48.7**	**+0.3**
	13nm,0.8s,mb4.4,baz=64,slow=9.8,SNR=15						
ASAR	**Alice Springs**	**26.29**	**231**	P	**P**	**00 29 08.5**	**+0.3**
	0.4nm,0.6s,mb3.1,baz=64,slow=10,SNR=2.7						
STKA	**Stephens Creek**	**27.27**	**208**	P	**P**	**00 29 16.8**	**-0.1**
	2.7nm,0.8s,mb3.8,baz=49,slow=14,SNR=3.6						
AFI	**Afiamalu**	**32.13**	**103**	P	**P**	**00 30 00.9**	**+0.7**
	12nm,0.8s,mb4.8						
SONM	**Songino Array**	**70.74**	**327**	P	**P**	**00 34 48.1**	**-0.2**
	1.5nm,0.9s,mb3.9,baz=137,slow=7.1,SNR=5.5						
MKAR	**Makanchi Array**	**84.84**	**319**	P	**P**	**00 36 07.3**	**+0.5**
	0.8nm,0.5s,mb4.2,baz=91,slow=8.6,SNR=4.6						
ZALV	**Zalesovo Beam**	**85.59**	**326**	P	**P**	**00 36 11.1**	**+0.7**
	0.4nm,0.4s,mb4.0,baz=147,slow=7.0,SNR=2.5						
NVAR	**Mina Array Bea**	**91.56**	**52**	P	**P**	**00 36 39.1**	**-0.1**
	0.3nm,0.3s,mb4.1,baz=282,slow=4.5,SNR=4.1						
YKA	**Yellowknife Ar**	**96.76**	**28**	P	**P**	**00 37 00.9**	**-1.5**
YKA	**Yellowknife Ar**	**96.76**	**28**	P	**P**	**00 37 00.9**	**-1.5**
	0.2nm,0.6s,mb3.7,baz=266,slow=4.8,SNR=4.9						

*IDC **02** 00:24:28.2±4.1, 705S×15533E, h0km, mb4.2/5, mb1 4.3/5, mb1mx4.0/15, mbtmp4.2/5, Error ellipse: s-maj=116.8km s-min=30.8km az=120.0*
*NEIC **02** 00:24:29.1±0.8, 713S×15545E, h10km, mb4.6/1, Error ellipse: s-maj=24.9km s-min=18.4km az=171.0*
*ISCJB **02** 00:24:30.8±1.0, 72S±02×1555E±02, h33km, mb4.2/6, Error ellipse: s-maj=30.0km s-min=21.9km az=168.0*

ISC 02 00:24:32.9±1.0, 72S±02×1555E±02, h35km, n8, σ0°54/8, mb4.2/6, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.08**	**236**	P	**P**	**00 29 45.8**	**+0.6**
	3.0nm,0.9s,mb3.7,baz=61,slow=9.5,SNR=2.4						
FITZ	**Fitzroy Crossi**	**30.99**	**247**	P	**P**	**00 30 46.6**	**-0.6**
	2.2nm,0.7s,mb4.1,baz=64,slow=9.8,SNR=4.1						
AFI	**Afiamalu**	**32.88**	**104**	P	**P**	**00 31 03.9**	**0.0**
	3.9nm,0.5s,mb4.6						
SONM	**Songino Array**	**69.74**	**327**	P	**P**	**00 35 39.8**	**+0.5**
	1.0nm,0.6s,mb3.9,baz=141,slow=5.4,SNR=5.3						
MKAR	**Makanchi Array**	**83.84**	**319**	P	**P**	**00 36 59.2**	**+0.3**
MKAR	**Makanchi Array**	**83.84**	**319**	P	**P**	**00 36 59.2**	**+0.3**
	3.0nm,0.6s,mb4.6,baz=129,slow=5.7,SNR=10						
ZALV	**Zalesovo Beam**	**84.59**	**326**	P	**P**	**00 37 01.7**	**-0.8**
ZALV	**Zalesovo Beam**	**84.59**	**326**	P	**P**	**00 37 01.7**	**-0.8**
	1.4nm,0.6s,mb4.3,baz=116,slow=6.6,SNR=7.0						

IDC 02 00:26:52.1±6.5, 767S×15640E, h0km, mb4.1/3, mb1 4.2/3, mb1mx3.7/14, mbtmp4.1/3, Error ellipse: s-maj=201.5km s-min=43.0km az=117.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.61**	**238**	P	P	00 32 14.4	+0.2
	1.1nm,0.9s,baz=64,slow=9.3,SNR=3.5						
MKAR	**Makanchi Array**	**84.83**	**318**	P	P	00 39 29.2	+0.6
	2.6nm,0.7s,baz=97,slow=6.5,SNR=12						
ZALV	**Zalesovo Beam**	**85.51**	**326**	P	P	00 39 31.3	-0.5
	1.5nm,0.6s,baz=124,slow=5.8,SNR=8.2						

IDC 02 00:29:51.8±10.0, 779S×15778E, h0km, mb3.9/4, mb1 4.0/4, mb1mx3.7/14, mbtmp3.9/4, Error ellipse: s-maj=298.1km s-min=39.8km az=117.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**25.72**	**240**	P	P	00 35 24.1	0.0
	1.0nm,1.0s,baz=66,slow=8.9,SNR=2.7						
SONM	**Songino Array**	**71.51**	**326**	P	P	00 41 14.8	+0.4
	0.4nm,0.8s,baz=129,slow=6.8,SNR=3.0						
MKAR	**Makanchi Array**	**85.83**	**318**	P	P	00 42 33.3	0.0
	1.6nm,0.6s,baz=88,slow=5.4,SNR=7.5						
ZALV	**Zalesovo Beam**	**86.38**	**326**	P	P	00 42 35.8	-0.1
	1.1nm,0.6s,baz=119,slow=6.0,SNR=4.7						

IDC 02 00:30:41.2±4.1, 711S×15532E, h0km, mb4.1/4, mb1 4.2/4, mb1mx3.8/14, mbtmp4.1/4, Error ellipse: s-maj=119.2km s-min=37.9km az=120.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.02**	**236**	P	P	00 35 57.9	0.0
	0.4nm,0.6s,baz=61,slow=9.5,SNR=4.5						
SONM	**Songino Array**	**69.60**	**327**	P	P	00 41 53.4	+1.2
	0.9nm,0.7s,baz=130,slow=5.9,SNR=4.7						
MKAR	**Makanchi Array**	**83.70**	**319**	P	P	00 43 12.4	+0.4
	2.6nm,0.6s,baz=88,slow=6.3,SNR=14						
ZALV	**Zalesovo Beam**	**84.45**	**326**	P	P	00 43 14.6	-1.1
	2.1nm,0.6s,baz=114,slow=5.8,SNR=7.9						

*NEIC **02** 00:31:37.7±1.9, 729S×15605E, h10km, Error ellipse: s-maj=66.0km s-min=26.2km az=128.0*

IDC 02 00:31:36.3±2.4, 727S×15599E, h0km, mb4.1/5, mb1 4.2/5, mb1mx3.9/14, mbtmp4.1/5, Error ellipse: s-maj=76.7km s-min=35.9km az=126.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.49**	**237**	P	P	00 36 57.7	+0.3
	2.9nm,0.8s,baz=63,slow=9.4,SNR=3.4						
SONM	**Songino Array**	**70.10**	**327**	P	P	00 42 51.5	+1.1
	0.7nm,0.8s,baz=132,slow=6.4,SNR=3.1						
MKAR	**Makanchi Array**	**84.26**	**318**	P	P	00 44 09.8	-0.1
	3.5nm,0.7s,baz=90,slow=6.1,SNR=9.9						
ZALV	**Zalesovo Beam**	**84.96**	**326**	P	P	00 44 12.3	-0.9
	1.5nm,0.6s,baz=118,slow=4.7,SNR=6.5						
YKA	**Yellowknife Ar**	**96.11**	**28**	P	P	00 45 05.5	-0.1
	0.1nm,0.5s,baz=273,slow=4.6,SNR=3.3						

*NEIC **02** 00:32:43.6±0.6, 745S×15638E, h10km, Error ellipse: s-maj=16.0km s-min=14.2km az=199.0*
*IDC **02** 00:32:43.2±1.9, 728S×156.14E, h0km, mb4.3/7, mb1 4.4/7, mb1mx4.2/14, mbtmp4.3/7, Error ellipse: s-maj=66.1km s-min=23.8km az=111.0*
*ISCJB **02** 00:32:45.4±0.8, 75S±01×1564E±01, h33km, mb4.1/7, Error ellipse: s-maj=20.1km s-min=16.9km az=13.8*

ISC 02 00:32:47.2±0.8, 75S±01×1564E±01, h35km, n9, σ0°74/9, mb4.1/7, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**3.97**	**119**	*e*Pn	**Pn**	**00 33 45.3**	**-0.3**
WRA	**Warramunga Arr**	**24.71**	**238**	P	**P**	**00 38 04.7**	**-0.6**
	6.6nm,0.9s,mb4.2,baz=59,slow=10,SNR=4.3						
ASAR	**Alice Springs**	**26.91**	**231**	P	**P**	**00 38 24.9**	**-0.4**
	0.7nm,0.5s,mb3.4,baz=57,slow=9.0,SNR=4.4						
STKA	**Stephens Creek**	**27.90**	**208**	*e*P	**P**	**00 38 35.4**	**+1.4**
STKA	**Stephens Creek**	**27.90**	**208**	P	**P**	**00 38 37.2**	**+3.3**
	2.9nm,0.9s,mb3.9,baz=20,slow=14,SNR=5.4						
SONM	**Songino Array**	**70.55**	**327**	P	**P**	**00 43 59.3**	**+0.7**
	2.1nm,0.8s,mb4.1,baz=135,slow=6.5,SNR=8.5						
MKAR	**Makanchi Array**	**84.73**	**318**	P	**P**	**00 45 17.6**	**-0.1**
	6.1nm,0.7s,mb4.8,baz=87,slow=7.4,SNR=17						
ZALV	**Zalesovo Beam**	**85.41**	**326**	P	**P**	**00 45 20.1**	**-0.8**
	3.3nm,0.7s,mb4.6,baz=119,slow=5.2,SNR=10						
YKA	**Yellowknife Ar**	**96.14**	**28**	P	**P**	**00 46 11.3**	**+0.3**
	0.3nm,0.7s,mb3.8,baz=267,slow=4.5,SNR=5.5						

IDC 02 00:35:18.9±4.6, 747S×15561E, h0km, mb4.0/4, mb1 4.0/4, mb1mx3.8/14, mbtmp4.0/4, Error ellipse: s-maj=134.2km s-min=36.9km az=119.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.06**	**237**	P	P	00 40 36.0	0.0
	0.6nm,0.6s,baz=62,slow=9.4,SNR=3.3						
SONM	**Songino Array**	**70.06**	**327**	P	P	00 46 33.3	+0.6
	0.5nm,0.6s,baz=143,slow=7.9,SNR=3.8						
MKAR	**Makanchi Array**	**84.16**	**319**	P	P	00 47 52.6	+0.6
	3.0nm,0.7s,baz=98,slow=8.3,SNR=12						
ZALV	**Zalesovo Beam**	**84.91**	**326**	P	P	00 47 54.8	-0.9
	1.3nm,0.6s,baz=112,slow=5.9,SNR=6.1						

*NEIC **02** 00:36:59.4±2.2, 817S×15641E, h10km, Error ellipse: s-maj=62.5km s-min=21.3km az=105.0*

IDC 02 00:36:57.9±3.4, 814S×15639E, h0km, mb4.0/5, mb1 4.1/5, mb1mx3.8/15, mbtmp4.0/5, Error ellipse: s-maj=96.3km s-min=30.8km az=107.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.36**	**239**	P	P	00 42 18.3	+0.5
	0.7nm,0.4s,baz=47,slow=7.3,SNR=4.9						
STKA	**Stephens Creek**	**27.34**	**208**	P	P	00 42 44.4	-0.2
	2.5nm,0.9s,baz=27,slow=14,SNR=3.9						
FITZ	**Fitzroy Crossi**	**31.49**	**249**	P	P	00 43 21.4	-0.3
	0.9nm,0.6s,baz=90,slow=15,SNR=2.7						
SONM	**Songino Array**	**71.04**	**327**	P	P	00 48 17.9	+0.3
	0.8nm,0.7s,baz=139,slow=7.2,SNR=5.3						
MKAR	**Makanchi Array**	**85.17**	**318**	P	P	00 49 36.4	+0.3
	1.8nm,0.7s,baz=90,slow=5.8,SNR=5.8						

*IDC **02** 00:39:21.9±1.8, 736S×15542E, h0km, mb4.1/8, mb1 4.3/8, mb1mx4.1/15, mbtmp4.1/8, Error ellipse: s-maj=62.5km s-min=23.0km az=117.0*
*NEIC **02** 00:39:23.4±0.9, 736S×15545E, h10km, mb4.3/2, Error ellipse: s-maj=35.6km s-min=12.9km az=122.0*
*ISCJB **02** 00:39:25.2±1.1, 74S±02×1555E±03, h33km, mb4.0/8, Error ellipse: s-maj=43.0km s-min=15.2km az=32.7*

ISC 02 00:39:27.2±1.2, 74S±02×1554E±03, h35km, n13, σ0°73/13, mb4.0/8, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WB2	**Warramunga Arr**	**23.95**	**237**	*e*P	**P**	**00 44 38.5**	**+0.2**
WRA	**Warramunga Arr**	**23.96**	**237**	P	**P**	**00 44 38.1**	**-0.3**
	8.9nm,0.9s,mb4.2,baz=61,slow=9.5,SNR=13						
ASAR	**Alice Springs**	**26.24**	**230**	P	**P**	**00 44 58.8**	**-0.4**
	3.4nm,0.9s,mb3.9,baz=58,slow=9.3,SNR=12						
STKA	**Stephens Creek**	**27.57**	**206**	*e*P	**P**	**00 45 12.0**	**+1.1**
	4.3nm,0.9s,mb4.1						
STKA	**Stephens Creek**	**27.57**	**206**	P	**P**	**00 45 11.9**	**+1.0**
	8.4nm,1.1s,mb4.3,baz=339,slow=9.7,SNR=3.0						
FITZ	**Fitzroy Crossi**	**30.90**	**247**	*e*P	**P**	**00 45 39.8**	**-0.9**
	5.2nm,0.8s,mb4.4						
FITZ	**Fitzroy Crossi**	**30.90**	**247**	P	**P**	**00 45 39.7**	**-1.1**
	4.2nm,1.0s,mb4.2,baz=72,slow=9.4,SNR=4.4						
SONM	**Songino Array**	**69.91**	**327**	P	**P**	**00 50 35.5**	**+0.9**
	1.0nm,1.0s,mb3.7,baz=134,slow=6.2,SNR=3.8						
SVW2	**Sparrevohn**	**78.20**	**22**	P	**P**	**00 51 22.4**	**-0.4**
MKAR	**Makanchi Array**	**83.99**	**319**	P	**P**	**00 51 55.1**	**+1.2**
	0.3nm,0.2s,mb4.0,baz=107,slow=7.7,SNR=3.8						
ZALV	**Zalesovo Beam**	**84.76**	**326**	P	**P**	**00 51 57.0**	**-0.6**
	0.4nm,0.4s,mb3.9,baz=132,slow=6.2,SNR=2.5						
YKA	**Yellowknife Ar**	**96.48**	**28**	P	**P**	**00 52 52.0**	**-0.6**
YKA	**Yellowknife Ar**	**96.48**	**28**	P	**P**	**00 52 52.0**	**-0.6**
	0.5nm,0.7s,mb4.0,baz=265,slow=4.6,SNR=6.5						

*IDC **02** 00:40:22.5±4.7, 3514N×7625E, h0km, mb3.7/6, mb1 3.8/7, mb1mx3.6/21, mbtmp3.7/7, ML4.0/1, Error ellipse: s-maj=98.5km s-min=33.5km az=5.0*
*NEIC **02** 00:40:25.9±1.0, 3483N×7626E, h35km, mb3.9/2, Error ellipse: s-maj=25.8km s-min=14.8km az=77.0*
*ISCJB **02** 00:40:26.5±0.8, 3496N±004×762E±0.1, h61km±11km, mb3.6/6, Error ellipse: s-maj=14.1km s-min=7.1km az=173.0*
*NNC **02** 00:40:30.0±5.8, 3497N×7588E, h61km±41km, mb3.4, mpv3.9, Error ellipse: s-maj=53.9km s-min=36.7km az=20.0*

ISC 02 00:40:27.4±0.6, 3488N±003×7626E±009, h53km±9km, n33, σ1°28/41, mb3.6/6, 5C-3D, Eastern Kashmir

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DLH	**Dalhousie**	**2.34**	**186**	*e*P	**Pn**	**00 41 05.0**	**+1.5**
DLH				*e*S	**Sn**	**00 41 38.0**	**+7.0**
THN	**Thein Dam**	**2.48**	**191**	*e*P	**Pn**	**00 41 07.1**	**+1.8**
THN				*e*S	**Sn**	**00 41 42.9**	**+8.5**
CHCP	**Chirah Chowk**	**2.76**	**245**	⇑P	**Pn**	**00 41 10.7**	**+1.5**
SDNR	**Sundarnagar**	**3.42**	**170**	*e*P	**Pn**	**00 41 23.5**	**+5.3**
SDNR				*e*S	**Sn**	**00 42 08.0**	**+10**
CEP	**Cherat**	**3.75**	**255**	P	**Pn**	**00 41 23.1**	**+0.4**
CEP				S	**Sn**	**00 42 11.0**	**+5.4**
SMLA	**Simla**	**3.81**	**168**	*e*P	**Pn**	**00 41 31.2**	**+7.6**
SMLA				*e*S	**Sn**	**00 42 20.0**	**+13**
THW	**Thamme Wali**	**4.29**	**242**	P	**Pn**	**00 41 29.7**	**-0.5**
DDI	**Dehra Dun**	**4.79**	**161**	*ex*	x	00 41 49.0	
JOSI	**Joshimath**	**5.13**	**146**	*e*P	**Pn**	**00 41 40.8**	**-0.9**
JOSI				*e*S	**Sn**	**00 42 38.0**	**-1.5**
JOSI				AML	AML	00 42 42.9	
	comp=E,115nm,0.9s						
JOSI				AML	AML	00 42 45.5	
	comp=N,89nm,0.7s						
KUDL	**Kundal**	**6.71**	**178**	*e*P	**Pn**	**00 42 04.4**	**+0.9**
KUDL				*e*S	**Sn**	**00

*IDC **02** 00:42:13.0±1.2, 752S×15608E, h0km, mb4.4/9, mb1 4.4/9, mb1mx4.3/15, mbtmp4.3/9, Error ellipse: s-maj=45.8km s-min=20.5km az=114.0*
*NEIC **02** 00:42:14.4±0.9, 749S×156.10E, h10km, mb4.9/4, Error ellipse: s-maj=32.8km s-min=11.9km az=114.0*
*MOS **02** 00:42:17.3±1.1, 749S×15593E, h33km, mb5.0/1, Error ellipse: s-maj=22.5km s-min=15.3km az=62.2*
*ISCJB **02** 00:42:19.3±5.5, 75S±0.1×1559E±0.3, h53km±47km, mb4.4/11, Error ellipse: s-maj=43.6km s-min=19.1km az=14.8*

ISC 02 00:42:19.9±4.7, 75S±01×1559E±03, h43km±41km, n29, σ0§80/20, mb4.4/11, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTAO	**Charters Tower**	**15.63**	**216**	Pn	**Pn**	**00 45 56.8**	**-0.5**
	46nm,1.5s						
CTAO	**Charters Tower**	**15.63**	**216**	P	**Pn**	**00 45 56.8**	**-0.5**
CTAO				pmax	pmax		
	comp=Z,46nm,1.5s						
GUMO	**Guam**	**23.65**	**332**	*e*P	**P**	**00 47 27.6**	**0.0**
	comp=Z,172nm,0.8s,mb5.5						
WB2	**Warramunga Arr**	**24.29**	**237**	*e*P	**P**	**00 47 34.4**	**+1.0**
WRA	**Warramunga Arr**	**24.30**	**237**	P	**P**	**00 47 34.5**	**+1.0**
	comp=Z,6.4nm,0.8s,mb4.1,baz=62,slow=9.5,SNR=7.8						
ASAR	**Alice Springs**	**26.54**	**230**	P	**P**	**00 47 54.0**	**+0.2**
	comp=Z,0.7nm,0.5s,mb3.4,baz=58,slow=9.7,SNR=7.2						
ASAR				PcP	PcP	00 51 18.1	+0.3
	comp=Z,0.6nm,0.6s,baz=69,slow=2.4,SNR=4.7						
STKA	**Stephens Creek**	**27.68**	**207**	P	**P**	**00 48 04.3**	**+0.3**
STKA	**Stephens Creek**	**27.68**	**207**	P	**P**	**00 48 04.3**	**+0.3**
	comp=Z,1.4nm,0.6s,mb3.8,baz=16,slow=12,SNR=4.5						
FITZ	**Fitzroy Crossi**	**31.30**	**247**	*e*P	**P**	**00 48 34.9**	**-1.3**
	comp=Z,3.2nm,0.4s,mb4.5						
FITZ	**Fitzroy Crossi**	**31.30**	**247**	P	**P**	**00 48 34.6**	**-1.6**
	comp=Z,2.6nm,0.6s,mb4.2,baz=111,slow=8.5,SNR=6.2						
NWAO	**Narrogin (SRO)**	**43.85**	**229**	*e*P	**P**	**00 50 21.9**	**-0.2**
	comp=Z,56nm,1.6s,mb5.0						
NWAO	**Narrogin (SRO)**	**43.85**	**229**	*e*P	**P**	**00 50 21.9**	**-0.2**
NWAO				pmax	pmax		
	comp=Z,56nm,1.6s						
KSRS	**Korea Array**	**51.81**	**332**	P	**P**	**00 51 24.2**	**+0.6**
	comp=Z,1.6nm,0.5s,mb4.2,baz=152,slow=7.3,SNR=4.2						
SONM	**Songino Array**	**70.25**	**327**	P	**P**	**00 53 30.4**	**+1.8**
	comp=Z,4.2nm,0.6s,mb4.6,baz=145,slow=6.6,SNR=28						
ZAK	**Zakamensk**	**73.40**	**328**	*e*P	**P**	**00 53 46.7**	**-0.7**
BILL	**Bilibino**	**75.71**	**4**	*e*P	**P**	**00 54 01.0**	**+0.5**
MKAR	**Makanchi Array**	**84.38**	**319**	P	**P**	**00 54 47.0**	**-0.7**
	comp=Z,6.7nm,0.8s,mb4.8,baz=81,slow=7.5,SNR=23						
ZALV	**Zalesovo Beam**	**85.11**	**326**	P	**P**	**00 54 50.5**	**-0.7**
	comp=Z,5.4nm,0.5s,mb4.9,baz=109,slow=5.4,SNR=26						
ZAL	**Zalesovo**	**85.11**	**326**	P	**P**	**00 54 50.5**	**-0.7**
YKA	**Yellowknife Ar**	**96.35**	**28**	P	**P**	**00 55 43.6**	**-0.2**
	comp=Z,0.3nm,0.7s,mb3.9,baz=264,slow=4.6,SNR=8.4						
AKASG	**Malin Array Be**	**118.48**	**325**	PKP	PKPdf	01 01 02.8	-0.2
	comp=Z,0.5nm,0.5s,baz=50,slow=2.4,SNR=6.0						
NOA	**NORSAR Array B**	**120.47**	**341**	PKP	PKPdf	01 01 06.1	-0.3
	comp=Z,0.6nm,0.9s,baz=33,slow=2.4,SNR=3.2						
GERES	**GERESS Array B**	**127.95**	**329**	PKP	PKPdf	01 01 18.9	-2.2
	comp=Z,0.2nm,0.5s,baz=23,slow=1.3,SNR=3.6						
EQES	**Quesada**	**144.32**	**331**	PKP	PKPdf	01 01 50.8	-1.0
ELUQ	**Luque**	**145.09**	**332**	PKP	PKPdf	01 01 53.5	+0.4
EBAD	**Badajoz**	**145.28**	**336**	PKP	PKPdf	01 01 52.2	-1.2
ERON	**Agron**	**145.30**	**331**	PKP	PKPdf	01 01 52.5	-1.0
ELOJ	**Sierra Loja**	**145.36**	**331**	PKP	PKPdf	01 01 52.7	-0.9
ESPR	**Espera**	**146.38**	**333**	PKP	PKPdf	01 01 53.2	-2.2

*IDC **02** 00:45:18.5±1.1, 1205N×14120E, h0km, mb4.0/5, mb1 4.2/5, mb1mx3.9/19, mbtmp4.0/5, Error ellipse: s-maj=58.7km s-min=23.8km az=92.0*

NEIC 02 00:45:20.1±0.7, 1203N×14120E, h10km, Error ellipse: s-maj=22.2km s-min=12.2km az=124.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**3.90**	**66**	Pn	Pn	00 46 20.1	+0.1
WRA	**Warramunga Arr**	**32.48**	**192**	P	P	00 51 50.7	-0.2
	1.5nm,0.8s,baz=13,slow=9.1,SNR=6.0						
ASAR	**Alice Springs**	**36.19**	**191**	P	P	00 52 23.7	+0.7
	1.6nm,0.6s,baz=18,slow=12,SNR=12						
STKA	**Stephens Creek**	**43.66**	**180**	P	P	00 53 24.9	-0.1
	0.7nm,0.4s,baz=345,slow=9.9,SNR=3.6						
AKTK	**Aktyubinsk**	**76.50**	**319**	P	P	00 57 10.3	0.0
AKTO	**Aktyubinsk**	**76.50**	**319**	P	P	00 57 10.3	0.0
	0.5nm,0.5s,baz=66,slow=10.0,SNR=3.1						
YKA	**Yellowknife Ar**	**85.87**	**27**	P	P	00 58 00.0	+0.2
	0.5nm,0.9s,baz=289,slow=4.9,SNR=5.1						
LPAZ	**La Paz**	**151.26**	**102**	PKPbc	PKPbc	01 05 15.4	+0.6
	1.3nm,0.6s,baz=305,slow=2.9,SNR=5.8						

*ISCJB **02** 00:49:45.5±0.2, 7.17S±005×15560E±004, h13km, mb4.8/50, MS5.1/6, Error ellipse: s-maj=6.8km s-min=6.1km az=30.3*
*BJI **02** 00:49:45.7, 705S×15567E, h9km, mB5.7, mb4.7, Ms5.2, Msz5.1*
*IDC **02** 00:49:45.2±0.5, 7.19S×15562E, h0km, mb4.8/21, mb1 4.8/21, mb1mx4.8/22, mbtmp4.8/21, MS4.7/1, Ms1 4.7/1, ms1mx3.8/32, Error ellipse: s-maj=18.6km s-min=12.6km az=100.0*
*NEIC **02** 00:49:46.8±0.2, 7.15S×15554E, h10km, mb5.0/18, Error ellipse: s-maj=7.9km s-min=5.7km az=128.0*
*MOS **02** 00:49:49.6±1.1, 698S×15550E, h33km, mb5.2/8, Error ellipse: s-maj=11.2km s-min=8.7km az=95.2*

ISC 02 00:49:47.6±0.3, 715S±005×15555E±006, h14km, h14km±2.0km: pP-P, n151, σ1§03/99, mb4.8/50, MS5.1/6, 15C-6D, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.90**	**118**	*e*Pn	**Pn**	**00 51 05.8**	**+4.9**
HNR				*e*Sn	**Sb**	**00 52 07.3**	**-4.9**
HNR	**Honiara**	**4.90**	**118**	Pn	**Pn**	**00 51 02.6**	**+1.7**
	50nm,0.3s,baz=263,slow=6.7,SNR=8.9						
CTA	**Charters Tower**	**15.71**	**214**	*e*P	**Pn**	**00 53 31.8**	**+3.2**
	26nm,1.5s						
CTA				*e*pP	pP	00 53 35.4	-1.1
CTA	**Charters Tower**	**15.71**	**214**	*e*P	**Pn**	**00 53 31.8**	**+3.2**
CTA				pmax	pmax		
	comp=Z,26nm,1.5s						
CTA	**Charters Tower**	**15.71**	**214**	Pn	**Pn**	**00 53 31.6**	**+3.1**
	comp=Z,1.1nm,0.3s,baz=37,slow=12,SNR=15						
CTAO	**Charters Tower**	**15.71**	**214**	*e*Pn	**Pn**	**00 53 32.7**	**+4.2**
	comp=Z,63nm,0.9s						
CTAO	**Charters Tower**	**15.71**	**214**	*e*P	**Pn**	**00 53 32.7**	**+4.1**
CTAO				pmax	pmax		
	comp=Z,63nm,0.9s						
TLE	**Tual**	**22.72**	**272**	⇓*e*P	**P**	**00 54 47.0**	**-2.4**
KAKA	**Kakadu**	**23.42**	**255**	*e*P	**P**	**00 54 56.5**	**-0.2**
	comp=Z,69nm,0.6s,mb5.3						
WB2	**Warramunga Arr**	**24.18**	**236**	*e*P	**P**	**00 55 04.2**	**+0.5**
WB2				*e*		00 55 12.0	
WRA	**Warramunga Arr**	**24.19**	**236**	P	**P**	**00 55 04.1**	**+0.3**
	comp=Z,61nm,0.9s,mb5.0,baz=62,slow=9.6,SNR=37						
WRA				ScP	ScP	01 02 23.7	+0.7
	comp=Z,1.8nm,0.7s,baz=66,slow=3.2,SNR=5.6						
WRA				LR	LR	01 04 29.6	
	comp=Z,1μm,18.6s,MS4.5,baz=65,slow=36						
ASAR	**Alice Springs**	**26.49**	**229**	P	**P**	**00 55 24.2**	**-0.4**
ASAR				PcP	PcP	00 58 49.8	+0.1
ASAR				ScP	ScP	01 02 30.5	+1.1
ASAR	**Alice Springs**	**26.49**	**229**	P	**P**	**00 55 24.3**	**-0.4**
ASAR						00 58 49.8	
ASAR	**Alice Springs**	**26.49**	**229**	P	**P**	**00 55 24.2**	**-0.4**
	comp=Z,12nm,1.0s,mb4.4,baz=62,slow=9.1,SNR=35						
ASAR				ScP	ScP	01 02 30.5	+1.1
	comp=Z,2.5nm,0.8s,baz=60,slow=3.5,SNR=8.6						
STKA	**Stephens Creek**	**27.84**	**206**	*e*P	**P**	**00 55 35.6**	**-1.1**
	comp=Z,18nm,1.1s,mb4.6						
STKA				*e*pP	pP	00 55 38.3	-2.7
STKA	**Stephens Creek**	**27.84**	**206**	P	**P**	**00 55 36.6**	**-0.1**
	comp=Z,25nm,1.0s,mb4.8,baz=19,slow=8.7,SNR=23						
FITZ	**Fitzroy Crossi**	**31.10**	**247**	*e*P	**P**	**00 56 05.9**	**+0.1**
	comp=Z,75nm,0.7s,mb5.6						
FITZ				*e*		00 56 14.3	
FITZ	**Fitzroy Crossi**	**31.10**	**247**	P	**P**	**00 56 05.9**	**+0.1**
	comp=Z,44nm,0.7s,mb5.4,baz=85,slow=9.3,SNR=68						
BATI	**Kupang**	**31.66**	**262**	P	**P**	**00 56 13.0**	**+2.2**
	comp=Z,16nm,0.5s,mb5.1,baz=239,slow=5.0,SNR=3.8						
FORT	**Forrest**	**34.86**	**224**	*e*P	**P**	**00 56 38.2**	**-0.3**
	comp=Z,30nm,0.6s,mb5.4						
URZ	**Urewera**	**36.60**	**151**	P	**P**	**00 56 53.6**	**+0.2**
	comp=Z,2.1nm,0.4s,mb4.3,baz=333,slow=4.5,SNR=2.3						
MBWA	**Marble Bar**	**37.31**	**244**	*e*P	**P**	**00 56 59.3**	**-0.3**
	comp=Z,12nm,0.7s,mb4.8						
RPZ	**Rata Peaks**	**38.88**	**162**	P	**P**	**00 57 12.5**	**0.0**
	comp=Z,23nm,0.8s,mb5.0,baz=40,slow=0.8,SNR=9.5						
KKM	**Kota Kinabalu**	**41.38**	**288**	*e*P	**P**	**00 57 31.9**	**-1.8**
KLBR	**Kellerberrin**	**42.81**	**230**	*e*P	**P**	**00 57 44.7**	**-0.5**
	comp=Z,26nm,0.7s,mb5.1						
NWAO	**Narrogin (SRO)**	**43.81**	**229**	P	**P**	**00 57 51.3**	**-1.9**
	comp=Z,10nm,0.8s,mb4.6						
NWAO	**Narrogin (SRO)**	**43.81**	**229**	P	**P**	**00 57 51.3**	**-1.9**
NWAO				pmax	pmax		
	comp=Z,10.0nm,0.8s						
NWAO	**Narrogin (SRO)**	**43.81**	**229**	P	**P**	**00 57 51.1**	**-2.1**
	comp=Z,13nm,0.8s,mb4.7,baz=58,slow=9.2,SNR=4.0						
MUN	**Mundaring**	**44.16**	**231**	*e*P	**P**	**00 57 56.2**	**+0.1**
KSM	**Kuching**	**45.95**	**279**	*e*P	**P**	**00 58 10.3**	**-0.3**
MJAR	**Matsushiro Arr**	**46.41**	**341**	P	**P**	**00 58 13.5**	**-0.3**
	comp=Z,1.3nm,0.5s,mb4.1,baz=165,slow=7.6,SNR=5.9						
MJAR				PcP	PcP	00 59 49.0	+0.5
	comp=Z,0.9nm,0.4s,baz=162,slow=3.2,SNR=4.0						
KSRS	**Korea Array**	**51.34**	**332**	P	**P**	**00 58 52.3**	**+0.7**
	comp=Z,5.5nm,0.9s,mb4.5,baz=152,slow=8.6,SNR=7.3						
KSRS				PcP	PcP	01 00 07.5	+1.1
	comp=Z,2.5nm,0.7s,baz=146,slow=3.4,SNR=2.9						
QIZ	**Qiongzhong**	**52.02**	**301**	*e*P	**P**	**00 58 58.4**	**+1.4**
	comp=Z,49nm,1.3s,mb5.3						
ASAJ	**Asahikawa**	**52.35**	**348**	P	**P**	**00 59 00.6**	**+1.5**
	comp=Z,8.8nm,0.7s,mb4.8,baz=210,slow=16,SNR=6.0						
NJ2	**Nanjing**	**52.39**	**320**	*e*P	**P**	**00 59 00.6**	**+1.0**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.8						
YSS	**Yuzh-Sakhalins**	**55.05**	**349**	⇑*e*P	**P**	**00 59 18.7**	**-0.1**
YSS				pmax	pmax		
	comp=Z,13nm,0.8s,mb5.0						
PMOR	**Pomariorio Ree**	**55.92**	**103**	*e*P	**P**	**00 59 26.8**	**+1.1**
	comp=Z,32nm,1.0s,mb5.3						
KULM	**Kulim**	**56.16**	**281**	*e*P	**P**	**00 59 27.2**	**-0.3**
GYA	**Guiyang**	**57.99**	**307**	⇑*i*P	**P**	**00 59 41.8**	**+1.7**
GYA				AP	pP	00 59 45.8	+1.2
GYA				XP	sP	00 59 48.6	+2.2
GYA				PCP	PcP	01 00 34.0	+1.8
GYA				PP	PP	01 01 52.8	+4.0
GYA				SCP	ScP	01 04 33.3	+1.1
GYA				S	**S**	**01 07 39.9**	**-0.5**
GYA				SCS	ScS	01 09 28.6	-1.2
GYA				SS	SS	01 11 28.4	-3.5
GYA				AMB	AMB		
	comp=Z,20nm,1.0s,mb5.1						
GYA				AMB	AMB		
	comp=Z,360nm,8.6s						
GYA				LR	LR		
	comp=N,880nm,20.6s,MS5.0						
GYA				LR	LR		
	comp=E,930nm,21.4s,MS5.0						
GYA				LR	LR		
	comp=Z,790nm,19.6s,MS4.8						
KLR	**Kul'dur**	**59.88**	**342**	*e*P	**P**	**00 59 49.2**	**-3.6**
XAN	**Xi'an**	**60.20**	**316**	P	**P**	**00 59 55.5**	**+0.1**
XAN				AP	pP	00 59 59.5	-0.4
XAN				AMB	AMB		
	comp=Z,6.0nm,0.7s,mb4.7						
KMI	**Kunming**	**60.56**	**304**	P	**P**	**01 00 00.0**	**+2.0**
KMI				AMB	AMB		
	comp=Z,12nm,1.0s,mb5.0						
CHTO	**Chiang Mai**	**61.47**	**296**	*e*P	**P**	**01 00 05.8**	**+1.5**
CD2	**Chengdu**	**62.34**	**310**	*e*P	**P**	**01 00 11.7**	**+1.8**
CD2				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.9						
LZH	**Lanzhou**	**64.81**	**315**	*e*P	**P**	**01 00 28.5**	**+2.3**
LZH				AP	pP	01 00 32.0	+1.3
LZH				XP	sP	01 00 33.6	+1.2
LZH				PP	PP	01 02 52.5	+3.6
LZH				AMB	AMB		
	comp=Z,21nm,1.1s,mb5.1						
LZH				AMB	AMB		
	comp=Z,102nm,4.5s						
LZH				LR	LR		
	comp=E,2μm,17.7s						
LZH				LR	LR		
	comp=Z,2μm,18.2s,MS5.4						
GTA	**Gaotai**	**69.23**	**317**	*e*P	**P**	**01 00 59.4**	**+5.2**
GTA				AP	pP	01 01 02.9	+4.1
GTA				XP	sP	01 01 04.4	+3.9
GTA				AMB	AMB		
	comp=Z,4.0nm,0.9s,mb4.3						
GTA				AMB	AMB		
	comp=Z,1μm,6.5s						
GTA				LR	LR		
	comp=N,758nm,19.4s,MS5.0						
GTA				LR	LR		
	comp=E,530nm,19.0s,MS5.0						
GTA				LR	LR		
	comp=Z,2μm,19.8s,MS5.3						
SONM	**Songino Array**	**69.77**	**327**	P	**P**	**01 00 58.5**	**+1.2**
	comp=Z,4.6nm,0.8s,mb4.5,baz=140,slow=5.3,SNR=22						
SEY	**Seymchan**	**69.92**	**358**	⇓*e*P	**P**	**01 00 56.5**	**-1.4**
VNDA	**Vanda**	**70.41**	**179**	P	**P**	**01 01 01.3**	**+0.5**
	comp=Z,2.6nm,0.9s,mb4.2,baz=342,slow=7.9,SNR=6.3						
SBA	**Scott Base**	**70.91**	**178**	*e*P	**P**	**01 01 05.5**	**+1.6**
	comp=Z,186nm,3.0s						
SBA	**Scott Base**	**70.91**	**178**	*e*P	**P**	**01 01 05.5**	**+1.6**
SBA				pmax	pmax		
	comp=Z,186nm,3.0s						
LSA	**Lhasa**	**71.82**	**304**	*e*P	**P**	**01 01 10.8**	**+0.6**
	comp=Z,5.1nm,0.3s,mb4.9						
LSA	**Lhasa**	**71.82**	**304**	*e*P	**P**	**01 01 10.8**	**+0.6**
LSA				pmax	pmax		
	comp=Z,5.0nm,0.3s,mb4.9						
YAK	**Yakutsk**	**71.83**	**347**	⇓*e*P	**P**	**01 01 07.2**	**-2.3**
YAK				pmax	pmax		
	comp=Z,19nm,0.7s,mb5.1						
ZAK	**Zakamensk**	**72.92**	**328**	⇓*e*P	**P**	**01 01 16.9**	**+0.6**
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.2s,mb4.1						
BOD	**Bodaibo**	**72.96**	**338**	*e*P	**P**	**01 01 16.1**	**-0.3**
JIRN	**Jiri**	**75.34**	**301**	*e*P	**P**	**01 01 31.2**	**+0.2**
	comp=Z,24nm,0.7s,mb5.2						
BILL	**Bilibino**	**75.39**	**4**	*e*P	**P**	**01 01 30.6**	**+0.2**
	comp=Z,13nm,0.9s,mb4.9						
BILL	**Bilibino**	**75.39**	**4**	*c*e*P	**P**	**01 01 30.9**	**+0.5**
BILL				*e**PP	pP	01 01 38.2	+3.2
BILL				*e*SS	SS	01 15 54.1	-6.0
BILL				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.7						
BILL				MLR	MLR		
	comp=Z,1μm,17.0s,MS5.2						
PALK	**Pallekele**	**76.01**	**279**	*e*P	**P**	**01 01 34.4**	**-0.7**
	comp=Z,5.7nm,0.9s,mb4.5						
KKN	**Kakani**	**76.15**	**301**	*e*P	**P**	**01 01 35.4**	**-0.2**
	comp=Z,41nm,0.9s,mb5.4						
GKN	**Gorkha**	**76.75**	**301**	*e*P	**P**	**01 01 38.7**	**-0.3**
	comp=Z,57nm,0.9s,mb5.5						
KDAK	**Kodiak Island**	**77.06**	**26**	P	**P**	**01 01 39.5**	**-0.6**
	comp=Z,2.4nm,0.6s,mb4.3,baz=36,slow=2.2,SNR=6.5						
KOLN	**Koldanda**	**77.58**	**300**	*e*P	**P**	**01 01 43.7**	**0.0**
	comp=Z,32nm,0.8s,mb5.3						
SVW2	**Sparrevohn**	**77.93**	**22**	*e*P	**P**	**01 01 45.6**	**+0.7**
TTA	**Tatalina**	**78.97**	**20**	*e*P	**P**	**01 01 50.0**	**-0.6**
	comp=Z,11nm,1.2s,mb4.7						
TTA	**Tatalina**	**78.97**	**20**	*e*P	**P**	**01 01 50.0**	**-0.6**
TTA				pmax	pmax		
	comp=Z,11nm,1.2s,mb4.7						
WMQ	**Urumqi**	**79.32**	**317**	*e*P	**P**	**01 01 52.9**	**0.0**
WMQ				AMB	AMB		
	comp=Z,7.0nm,0.9s,mb4.6						
SLKM	**Skilak Lake**	**79.65**	**24**	*e*P	**P**	**01 01 53.1**	**-1.2**
HYB	**Hyderabad**	**79.84**	**289**	*e*P	**P**	**01 01 56.5**	**+0.2**
HYB	**Hyderabad**	**79.84**	**289**	*i* P	**P**	**01 01 56.5**	**+0.2**
TIXI	**Tiksi**	**80.59**	**352**	⇑*e*P	**P**	**01 01 56.8**	**-2.4**
TIXI				pmax	pmax		
	comp=Z,5.0nm,1.7s,mb4.2						
SML	**Sawmill**	**81.14**	**24**	*e*P	**P**	**01 02 02.3**	**0.0**
IMA2	**Indian Mountai**	**81.77**	**19**	*e*P	**P**	**01 02 05.8**	**+0.2**
MCK	**McKinley**	**81.99**	**22**	*e*P	**P**	**01 02 06.0**	**-0.8**
COLA	**College**	**83.02**	**21**	⇑*e*P	**P**	**01 02 11.1**	**-1.1**
NDI	**New Delhi**	**83.27**	**300**	*e*P	**P**	**01 02 12.0**	**-2.3**
MKAR	**Makanchi Array**	**83.89**	**319**	⇑*e*P	**P**	**01 02 17.7**	**+0.7**
MKAR	**Makanchi Array**	**83.89**	**319**	P	**P**	**01 02 17.8**	**+0.7**
	comp=Z,15nm,0.7s,mb5.2,baz=102,slow=6.2,SNR=74						
MAW	**Mawson**	**84.47**	**203**	*e*P	**P**	**01 02 19.6**	**0.0**
	comp=Z,9.8nm,0.6s,mb5.1						
MAW	**Mawson**	**84.47**	**203**	*e*P	**P**	**01 02 19.6**	**0.0**
MAW				pmax	pmax		
	comp=Z,10.0nm,0.6s						
MAW	**Mawson**	**84.47**	**203**	P	**P**	**01 02 19.5**	**-0.1**
	comp=Z,21nm,1.0s,mb5.2,baz=83,slow=7.7,SNR=14						
ZAA0	**Zalesovo Array**	**84.62**	**326**	*e*P	**P**	**01 02 19.9**	**-0.6**
ZALV	**Zalesovo Beam**	**84.62**	**326**	P	**P**	**01 02 20.6**	**0.0**
	comp=Z,10nm,0.5s,mb5.2,baz=114,slow=5.9,SNR=58						
ZAL	**Zalesovo**	**84.63**	**326**	P	**P**	**01 02 20.6**	**0.0**
AJM	**Ajmer**	**85.09**	**297**	*i* P	**P**	**01 02 23.0**	**-0.6**
EGAK	**Eagle**	**85.44**	**23**	*e*P	**P**	**01 02 24.9**	**+0.4**
NVS	**Novosibirsk**	**85.79**	**326**	*i* P	**P**	**01 02 26.2**	**-0.2**
KURK	**Kurchatov**	**87.30**	**322**	*e*P	**P**	**01 02 33.5**	**-0.4**
	comp=Z,11nm,1.2s,mb5.0						
KURK	**Kurchatov**	**87.30**	**322**	⇑*e*P	**P**	**01 02 33.3**	**-0.6**
AAK	**Ala-Archa**	**88.26**	**313**	⇑*e*P	**P**	**01 02 38.7**	**0.0**
AAK				pmax	pmax		
	comp=Z,11nm,1.7s,mb4.8						
INK	**Inuvik**	**89.67**	**21**	P	**P**	**01 02 44.3**	**-0.4**
	comp=Z,2.1nm,0.6s,mb4.7,baz=252,slow=3.3,SNR=16						
NVAR	**Mina Array Bea**	**91.38**	**52**	P	**P**	**01 02 54.4**	**+1.0**
NVAR	**Mina Array Bea**	**91.38**	**52**	P	**P**	**01 02 54.4**	**+1.0**
	comp=Z,0.8nm,0.8s,mb4.1,baz=235,slow=5.3,SNR=5.1						
SYO	**Syowa Base**	**92.36**	**199**	⇑*e*P	**P**	**01 02 55.0**	**-2.3**
SYO	**Syowa Base**	**92.36**	**199**	⇓*e*pP	pP	01 03 02.2	+0.2
YKA	**Yellowknife Ar**	**96.21**	**28**	P	**P**	**01 03 14.6**	**-0.4**
	comp=Z,1.5nm,0.7s,mb4.5,baz=266,slow=4.6,SNR=25						
PDAR	**Pinedale Array**	**98.39**	**48**	P	**P**	**01 03 24.8**	**-0.6**
	comp=Z,0.4nm,0.7s,mb4.1,baz=299,slow=3.1,SNR=3.8						
ARU	**Arti**	**99.78**	**326**	*d* i P	Pdif	01 03 29.1	-2.2
ARU						01 07 32.8	
ARU				S	SKSac	01 14 04.8	-4.6
ARU				SS	SS	01 21 49.0	-7.4
ARU				pmax	pmax		
	comp=Z,19nm,2.5s,mb5.1						
AKTK	**Aktyubinsk**	**100.27**	**320**	P	Pdif	01 03 32.1	-1.4
AKTO	**Aktyubinsk**	**100.27**	**320**	P	Pdif	01 03 32.1	-1.4
	comp=Z,0.8nm,0.6s,baz=86,slow=11,SNR=3.9						
OBN	**Obninsk**	**112.18**	**327**	*e*P	Pdif	01 04 23.4	-3.0
OBN				pmax	pmax		
	comp=Z,4.0nm,0.9s						
OBN				MLR	MLR		
	comp=Z,600nm,20.0s,MS5.2						
PLCA	**Paso Flores**	**116.26**	**142**	PKP	PKPdf	01 08 28.6	-2.5
	comp=Z,2.0nm,0.8s,baz=234,slow=5.1,SNR=4.8						
AKASG	**Malin Array Be**	**117.99**	**325**	PKP	PKPdf	01 08 33.0	-0.9
	comp=Z,1.9nm,0.5s,baz=49,slow=2.4,SNR=18						
NOA	**NORSAR Array B**	**120.03**	**341**	PKP	PKPdf	01 08 37.0	-0.6
	comp=Z,2.3nm,0.6s,baz=45,slow=1.9,SNR=14						
KWP	**Kalwaria**	**122.19**	**326**	⇑*i*P	PKPdf	01 08 42.2	+0.1
MLR	**Muntele Rosu**	**122.20**	**320**	⇑*i*P	PKPdf	01 08 41.8	-0.4
KOLS	**Kolonicke sedl**	**122.79**	**325**	*e*PKP	PKPdf	01 08 43.2	-0.1
STHS	**Stebnicka Huta**	**123.12**	**326**	*e*PKP	PKPdf	01 08 43.6	-0.3
KECS	**Kecovo**	**124.04**	**325**	*e*PKP	PKPdf	01 08 44.4	-1.3
BZS	**Buzias**	**124.84**	**322**	⇑*i*P	PKPdf	01 08 47.1	-0.2
VYHS	**Vyhne**	**124.95**	**326**	*e*PKP	PKPdf	01 08 47.4	0.0
VYHS	**Vyhne**	**124.95**	**326**	*e*PKP	PKPdf	01 08 47.3	-0.1
KOLL	**Kolacno**	**125.14**	**326**	*e*PKP	PKPdf	01 08 48.1	+0.3
DPC	**Dobruska-Polom**	**125.20**	**329**	*e*PKPdf	PKPdf	01 08 48.9	+1.1
PVCC	**Panska Ves**	**125.97**	**330**	*e*PKPdf	PKPdf	01 08 49.8	+0.5
BRG	**Berggiesshubel**	**126.05**	**331**	*e*P	PKPdf	01 08 49.6	+0.2
	comp=Z,7.5nm,1.3s						
CLL	**Collm**	**126.21**	**332**	⇑*i*PKP	PKPdf	01 08 49.6	-0.1
CLL				*i*		01 08 56.0	
CLL	**Collm**	**126.21**	**332**	⇑*i*PKPdf	PKPdf	01 08 49.6	-0.1
	comp=Z,7.0nm,0.9s						
CLL				*i* (pPKPdf)		01 08 56.0	
PKSM	**Moragy**	**126.32**	**324**	⇑*i*P	PKPdf	01 08 49.9	-0.2
PRU	**Pruhonice**	**126.32**	**330**	*e*PKPdf	PKPdf	01 08 50.3	+0.3

KSRS	Korea Array	51.85	332	P	P	01 03 45.8 -1.1
	comp=Z,0.5nm,0.3s,mb3.9,baz=163,slow=4.9,SNR=3.1					
ASAJ	Asahikawa	52.84	348	P	P	01 03 54.2 +0.1
	comp=Z,2.5nm,0.4s,mb4.5,baz=220,slow=16,SNR=2.7					
YSS	Yuzh-Sakhalins	55.53	349	*e*P	P	01 04 19.8 +6.1
GTA	Gaotai	69.73	317	*e*P	P	01 05 51.0 +2.4
GTA				AMB	AMB	
	comp=Z,3.0nm,1.0s,mb4.2					
VNDA	Vanda	69.97	179	P	P	01 05 50.0 +0.6
	comp=Z,1.3nm,1.0s,mb3.8,baz=319,slow=5.0,SNR=4.7					
SONM	Songino Array	70.28	327	P	P	01 05 52.8 +1.1
	comp=Z,1.4nm,0.6s,mb4.1,baz=147,slow=6.1,SNR=10					
ZAK	Zakamensk	73.43	328	*e*P	P	01 06 11.0 +0.4
ZAK				pmax	pmax	
	comp=Z,3.0nm,1.2s,mb4.1					
BOD	Bodaibo	73.47	338	*e*P	P	01 06 01.1 -10
BILL	Bilibino	75.81	4	*e*P	P	01 06 24.8 +0.8
BILL				*e*		01 06 31.2
BILL				pmax	pmax	
	comp=Z,2.0nm,0.9s,mb4.0					
MKAR	Makanchi Array	84.39	319	P	P	01 07 11.5 +0.8
	comp=Z,4.0nm,0.6s,mb4.7,baz=102,slow=6.5,SNR=15					
ZALV	Zalesovo Beam	85.13	326	P	P	01 07 14.1 -0.2
	comp=Z,5.9nm,0.6s,mb4.9,baz=120,slow=5.2,SNR=9.6					
ZAL	Zalesovo	85.14	326	P	P	01 07 14.1 -0.2
NVS	Novosibirsk	86.30	326	*e*P	P	01 07 25.4 +5.3
INK	Inuvik	89.98	21	P	P	01 07 37.0 -0.4
	comp=Z,1.1nm,0.8s,mb4.2,baz=211,slow=7.2,SNR=3.0					
YKA	Yellowknife Ar	96.47	28	P	P	01 08 07.4 +0.1
	comp=Z,0.3nm,0.7s,mb3.8,baz=267,slow=4.5,SNR=5.8					
AKASG	Malin Array Be	118.50	324	PKP	PKPdf	01 13 26.0 +0.1
	comp=Z,0.4nm,0.5s,baz=45,slow=2.6,SNR=4.7					
NOA	NORSAR Array B	120.53	341	PKP	PKPdf	01 13 29.9 +0.4
	comp=Z,0.4nm,0.7s,baz=45,slow=1.8,SNR=2.6					
BRG	Berggiesshubel	126.56	331	*e*P	PKPdf	01 13 47.9 +6.5
	comp=Z,1.5nm,0.6s					
GERES	GERESS Array B	127.98	329	PKP	PKPdf	01 13 45.7 +1.5
	comp=Z,0.5nm,0.6s,baz=95,slow=3.3,SNR=3.2					
ESDC	Sonseca Array	143.27	334	PKP	PKPdf	01 14 13.6 +0.8
ESDC	Sonseca Array	143.27	334	PKP	PKPdf	01 14 13.6 +0.8
	comp=Z,0.7nm,0.8s,baz=19,slow=4.0,SNR=3.7					

IDC 02 00:58:40.0±8.9, 243S×14742E, h0km, mb4.0/3, mb1 4.3/3, mb1mx3.9/12, mbtmp4.1/3, Error ellipse: s-maj=301.3km s-min=32.1km az=97.0, Admiralty Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	21.59	215	P	P	01 03 31.5	-0.1
	2.0nm,0.8s,baz=41,slow=10,SNR=5.1						
ASAR	Alice Springs	24.84	211	P	P	01 04 04.3	+0.2
	0.8nm,0.5s,baz=39,slow=6.8,SNR=4.8						
SONM	Songino Array	61.53	330	P	P	01 09 04.2	+5.4
	0.3nm,0.4s,baz=145,slow=8.1,SNR=4.8						
MKAR	Makanchi Array	75.04	320	P	P	01 10 23.7	+0.1
	0.3nm,0.3s,baz=108,slow=6.5,SNR=2.9						

IDC 02 01:00:43.8±3.8, 728S×15558E, h0km, mb4.3/5, mb1 4.4/5, mb1mx4.1/14, mbtmp4.3/5, Error ellipse: s-maj=115.4km s-min=28.2km az=113.0

NEIC 02 01:00:41.9±6.5, 757S×15626E, h10km, mb3.9/1, Error ellipse: s-maj=202.0km s-min=20.8km az=115.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	24.55	238	P	P	01 06 02.3	+0.4
	0.9nm,0.5s,baz=63,slow=9.6,SNR=4.8						
ASAR	Alice Springs	26.76	231	P	P	01 06 22.5	+0.5
	0.3nm,0.5s,baz=60,slow=9.7,SNR=4.0						
MBWA	Marble Bar	37.76	245	P	P	01 07 57.7	-0.7
	1.3nm,0.6s						
SONM	Songino Array	70.49	327	P	P	01 11 57.9	+1.2
	1.1nm,0.5s,baz=135,slow=6.2,SNR=15						
MKAR	Makanchi Array	84.66	318	P	P	01 13 15.8	-0.1
	2.4nm,0.7s,baz=121,slow=6.9,SNR=12						
ZALV	Zalesovo Beam	85.35	326	P	P	01 13 18.5	-0.7
	2.4nm,0.6s,baz=119,slow=6.8,SNR=10.0						

IDC 02 01:03:34.5±13.0, 796S×15714E, h0km, mb3.8/4, mb1 3.9/4, mb1mx3.7/14, mbtmp3.8/4, Error ellipse: s-maj=406.3km s-min=39.7km az=117.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	25.09	239	P	P	01 09 01.1	0.0
	0.9nm,0.6s,baz=65,slow=10.0,SNR=4.9						
SONM	Songino Array	71.30	327	P	P	01 14 55.9	0.0
	0.5nm,0.9s,baz=127,slow=4.2,SNR=3.9						
MKAR	Makanchi Array	85.53	318	P	P	01 16 15.2	+0.6
	0.6nm,0.3s,baz=92,slow=4.6,SNR=4.9						
ZALV	Zalesovo Beam	86.17	326	P	P	01 16 17.4	-0.1
	0.3nm,0.3s,baz=123,slow=4.3,SNR=3.3						

ISCJB 02 01:04:14.4±0.3, 3737N±001×11836W±001, h4km±3km, Error ellipse: s-maj=2.0km s-min=1.8km az=170.8

NEIC 02 01:04:15.0, 3737N×11838W, h15km, ML3.9(NCEDC), After NCEDC.

NEIC Felt [III] at Bishop and [II] at Three Rivers. Also felt at Big Pine, Folsom, Kings Canyon National Park and Prather.

ISC 02 01:04:15.1±0.3, 3737N±001×11838W±001, h7km±2km, n100, σ0=91/157, 61C-48D, California-Nevada border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTUM	Tungsten Hills	0.15	264	*e*P	Pg	01 04 18.7	+0.6
MTUM				*e*S	Sg	01 04 22.2	+2.0
S08C	White Mtn Res	0.21	52	⇑P	Pg	01 04 19.9	+0.6
	baz=0.2,SNR=1000						
S08C				⇑S	Sg	01 04 23.7	+1.5
	baz=0.2						
TIN	Tinemaha	0.34	158	⇓P	Pg	01 04 22.2	+0.6
	baz=0.3,SNR=204						
TIN				⇓S	Sg	01 04 27.2	+1.2
	baz=0.3						
MLAC	Mammoth Lakes	0.45	306	⇑P	Pg	01 04 24.1	+0.4
	baz=0.5,SNR=62						
MLAC				⇑S	Sg	01 04 30.8	+1.2
	baz=0.5						
KCC	Kaiser Creek	0.75	267	P	Pg	01 04 29.3	-0.2
	baz=0.7,SNR=174						
KCC				⇓S	Sg	01 04 39.4	+0.2
	baz=0.7						
HELL	Mitchell Peak	0.86	217	P	Pg	01 04 31.3	-0.2
	baz=0.9,SNR=630						
HELL				⇓S	Sg	01 04 42.8	+0.1
	baz=0.9						
GRAC	Grapevine Rang	0.89	114	⇑P	Pg	01 04 32.2	+0.1
	baz=0.9						
GRAC				⇑S	Sg	01 04 44.5	+0.9
	baz=0.9						
R07C	Lee Vining	0.89	324	⇑P	Pg	01 04 32.1	-0.1
	baz=0.9,SNR=47						
R07C				⇓S	Sg	01 04 44.2	+0.3
	baz=0.9						
CWC	Cottonwood Cre	0.96	165	P	Pg	01 04 33.0	-0.4
	baz=1.0,SNR=64						
CWC				⇓S	Sg	01 04 45.8	-0.1
	baz=1.0						
S09A	Goldfield	0.99	68	P	Pg	01 04 33.9	-0.1
	baz=1.0,SNR=1000						
S09A				⇑S	Sg	01 04 47.3	+0.5
	baz=1.0						
R08A	Mina	1.00	12	⇑P	Pg	01 04 34.4	+0.1
	baz=1.0,SNR=44						
R08A				⇓S	Sg	01 04 48.1	+0.7
	baz=1.0						
T06C	Millerton Lake	1.12	252	⇑P	Pg	01 04 36.0	-0.6
	baz=1.1,SNR=600						
T06C				⇑S	Sg	01 04 50.5	-0.6
	baz=1.1						
RCTC	Rector, Farmer	1.26	213	⇑P	Pn	01 04 38.5	-0.6
	baz=1.3,SNR=70						
RCTC				⇓S	Sb	01 04 55.3	-0.2
	baz=1.3						
R09A	Tonopah	1.35	50	⇓P	Pn	01 04 40.0	-0.4
	baz=1.4						
R09A				⇑S	Sb	01 04 58.8	+0.6
	baz=1.4						
R06C	Coleville	1.43	324	⇑P	Pn	01 04 40.4	-1.0
	baz=1.4,SNR=44						
MPMC	Manual Prospec	1.49	151	⇓P	Pn	01 04 41.8	-0.4
	baz=1.5						
MPMC				⇑S	Sn	01 05 01.7	-0.2
	baz=1.5						
FURC	Furnace Creek,	1.51	126	⇓P	Pn	01 04 42.1	-0.4
	baz=1.5,SNR=31						
S10A	Tonopah Range,	1.52	68	⇑P	Pn	01 04 42.2	-0.5
	baz=1.5						
Q08A	Gabbs	1.53	13	⇓Pb	Pb	01 04 43.0	-0.7
	baz=1.5,SNR=71						
Q08A				⇓Sb	Sb	01 05 04.1	+0.7
	baz=1.5						
S05C	Merced	1.55	270	⇑Pb	Pb	01 04 43.5	-0.6
	baz=1.6,SNR=86						
S05C				⇓Sb	Sb	01 05 04.6	+0.6
	baz=1.6						
VES	Vestal, Richgr	1.62	200	⇑Pb	Pb	01 04 45.0	-0.4
	baz=1.6,SNR=216						
VES				⇓Sb	Sb	01 05 06.5	+0.5
	baz=1.6						
ISA	Isabella	1.70	183	*e*Pn	Pn	01 04 45.4	+0.2
ISA				*e*S	Sn	01 05 08.2	+1.0
ISA	Isabella	1.70	183	⇓Pb	Pb	01 04 46.1	-0.6
	baz=1.7						
ISA				⇓Sb	Sb	01 05 08.4	+0.1
	baz=1.7						
CMB	Columbia Colle	1.72	293	*e*P	Pn	01 04 45.5	0.0
CMB				*e*S	Sn	01 05 07.8	+0.1
CMB	Columbia Colle	1.72	293	⇓Pb	Pb	01 04 45.9	-1.2
	baz=1.7,SNR=193						
CMB				⇓Sb	Sb	01 05 09.2	+0.3
	baz=1.7						
U05C	Westside ANR,	1.73	234	⇓Pb	Pb	01 04 46.7	-0.5
	baz=1.7,SNR=34						
U05C				⇑Sb	Sb	01 05 09.4	+0.3
	baz=1.7						
Q09A	Carvers	1.74	33	⇓Pb	Pb	01 04 47.1	-0.3
	baz=1.7,SNR=17						
Q09A				⇓Sg	Sg	01 05 12.9	+1.8
	baz=1.7						
TPNV	Topopah Spring	1.75	103	*e*P	Pn	01 04 45.8	-0.1
TPNV				*e*S	Sg	01 05 10.5	-0.9
TPNV	Topopah Spring	1.75	103	⇑P	Pn	01 04 45.5	-0.4
	baz=1.7						
TPNV				⇑Sg	Sg	01 05 12.8	+1.3
	baz=1.7						
R10A	Warm Springs	1.89	60	⇓P	Pn	01 04 47.7	0.0
	baz=1.9						
R10A				⇓Sg	Sg	01 05 17.1	+1.4
	baz=1.9						
R05C	Kirkwood Meado	1.89	315	⇑P	Pn	01 04 47.6	-0.1
	baz=1.9,SNR=31						
R05C				⇑Sg	Sg	01 05 16.8	+1.0
	baz=1.9						
T05C	Eagle Field, D	1.89	256	⇓P	Pn	01 04 47.7	-0.1
	baz=1.9,SNR=26						
T05C				⇑Sg	Sg	01 05 16.7	+0.9
	baz=1.9						
U10A	Ash Meadows, A	1.90	119	⇑P	Pn	01 04 47.9	+0.1
	baz=1.9,SNR=29						
U10A				⇑Sg	Sg	01 05 17.4	+1.3
	baz=1.9						
V05C	Boulder Hill,	1.93	220	⇑Pb	Pb	01 04 50.1	-0.5
	baz=1.9,SNR=52						
V05C				⇑Sb	Sb	01 05 16.3	+1.3
	baz=1.9						
LRMC	Laurel Mountai	1.97	163	⇓P	Pn	01 04 48.7	-0.1
	baz=2.0,SNR=9.7						
LRMC				⇓Sb	Sb	01 05 17.4	+1.4
	baz=2.0						
S11A	Rachel	2.11	82	⇑P	Pn	01 04 50.8	-0.1
	baz=2.1,SNR=32						
Q10A	Clear Creek Ra	2.14	46	⇓P	Pn	01 04 51.5	+0.3
	baz=2.1						
Q10A				⇑Sb	Sb	01 05 22.1	+1.4
	baz=2.1						
U04C	Hernandez Rese	2.17	243	⇑Pb	Pb	01 04 53.2	-1.5
	baz=2.2,SNR=109						
U04C				⇑Sb	Sb	01 05 21.9	+0.1
	baz=2.2						
R04C	Big Horse Ranc	2.21	294	⇑Pb	Pb	01 04 53.9	-1.4
	baz=2.2						
R04C				⇑Sb	Sb	01 05 23.5	+0.7
	baz=2.2						
WCN	Washoe City	2.21	331	⇑Pb	Pb	01 04 55.2	-0.2
	baz=2.2,SNR=35						
SHOC	Shoshone	2.24	130	⇑P	Pn	01 04 51.8	-0.7
	baz=2.2						
PKD	Parkfield	2.24	231	⇓P	Pn	01 04 52.7	+0.1
	baz=2.2,SNR=110						
PTRM	Twissleman Ran	2.26	221	*e*P	Pn	01 04 53.9	+1.1
PTRM				*e*S	Sn	01 05 25.0	+4.2
ARVC	Arvin	2.27	189	Pb	Pb	01 04 56.1	-0.2
	baz=2.3,SNR=66						
ARVC				⇑Sb	Sb	01 05 25.9	+1.4
	baz=2.3						
LAVA	Lava Cap Winer	2.32	307	⇓P	Pn	01 04 54.4	+0.8
	baz=2.3,SNR=6.9						
LAVA				⇑Sb	Sb	01 05 27.2	+1.1
	baz=2.3						
PACP	Pacheco Peak	2.35	262	⇑Pb	Pb	01 04 56.2	-1.5
	baz=2.3,SNR=26						
S04C	Ingram Canyon,	2.35	274	⇓Pb	Pb	01 04 56.5	-1.2
	baz=2.3,SNR=88						
P09A	Austin	2.39	24	⇑Pb	Pb	01 04 58.6	+0.2
	baz=2.4,SNR=12						
R11A	Troy Canyon, C	2.42	65	⇓P	Pn	01 04 54.9	-0.1
	baz=2.4						
R11A				Pb	Pb	01 04 59.2	+0.3
	baz=2.4,SNR=72						
GSC	Goldstone	2.42	148	*e*Pn	Pn	01 04 54.4	-0.7
GSC				*e*Sn	Sg	01 05 32.3	-0.6
GSC	Goldstone	2.42	148	⇓P	Pn	01 04 54.9	-0.1
	baz=2.4						
SMMC	Simmler	2.43	213	⇑Sb	Sb	01 05 30.5	+1.1
	baz=2.4						
EDW2	Edwards Air Fo	2.50	173	⇑P	Pn	01 04 56.2	+0.1
	baz=2.5						
EDW2				Pb	Pb	01 05 00.5	+0.1
	baz=2.5,SNR=24						
T11A	Corn Creek, Al	2.52	92	P	Pn	01 04 56.5	0.0
	baz=2.5,SNR=9.7						
SAO	San Andreas Ge	2.52	257	*e*Pn	Pn	01 04 57.7	+1.2
SAO				*e*Sn	Sg	01 05 35.2	-1.0
U11A	Corn Creek	2.58	111	⇑Pb	Pb	01 05 02.1	+0.4
	baz=2.6						
P05C	Yuba Gap, Truc	2.61	319	⇑Pb	Pb	01 05 02.1	0.0
	baz=2.6						
Q11A	Duckwater	2.61	55	⇑P	Pn	01 04 57.9	+0.2
	baz=2.6						
Q11A				⇑Pb	Pb	01 05 02.5	+0.3
	baz=2.6,SNR=90						
V03C	Hunter Liggett	2.66	240	⇓Pb	Pb	01 05 02.8	-0.2
	baz=2.7						
WENL	Wente Brothers	2.70	276	⇑P	Pn	01 04 58.6	-0.2
	baz=2.7						
HAST	Hastings Reser	2.72	250	⇓P	Pn	01 04 59.1	-0.1
	baz=2.7,SNR=25						
PKM	Peak Mountain	2.73	206	⇑Sb	Sb	01 05 38.7	+0.9
	baz=2.7						
TUQ	Turquoise Mtn.	2.77	133	⇑P	Pn	01 04 58.9	-0.9
	baz=2.8						
Q04C	Lincoln	2.78	303	⇑Pb	Pb	01 05 04.3	-0.8
	baz=2.8						
O07A	Toulon	2.82	352	⇑Pb	Pb	01 05 04.8	-0.9
	baz=2.8						
S12A	Delamar Landin	2.82	84	⇑P	Pn	01 05 00.3	-0.2
	baz=2.8						
V11A	Goodsprings	2.82	122	⇓P	Pn	01 04 59.8	-0.8
	baz=2.8						
BDM	Black Diamond	2.83	283	⇓Pb	Pb	01 05 04.5	-1.3
	baz=2.8						
HEC	Hector,Ludlow	3.03	146	⇓P	Pn	01 05 02.9	-0.5
	baz=3.0						
BNLO	Ben Lomond (Sa	3.03	267	⇓P	Pn	01 05 03.6	+0.1
	baz=3.0,SNR=7.9						
OHCM	Honcut	3.13	310	*e*Pn	Pn	01 05 07.8	+3.0
OHCM				*e*Sn	Sg	01 05 51.2	-4.5
Q03C	Winters	3.13	295	⇓Pb	Pb	01 05 09.4	-1.7
	baz=3.1						
R12A	Pony Springs,	3.14	71	⇑P	Pn	01 05 04.8	-0.1
	baz=3.1						
BFSC	Mount Baldy St	3.18	169	⇑P	Pn	01 05 05.9	+0.4
	baz=3.2						
O10A	Cortez Mining,	3.27	26	⇑P	Pn	01 05 07.3	+0.6
	baz=3.3						
ORV	Oroville	3.28	313	⇓Pb	Pb	01 05 11.9	-1.7
	baz=3.3						
CVS	Carmenet Viney	3.37	288	⇑Pb	Pb	01 05 13.5	-1.6
	baz=3.4						
GMRC	Granite Mounta	3.40	139	⇑P	Pn	01 05 07.9	-0.6
	baz=3.4						
N08A	GE Springer Mi	3.41	3	⇑P	Pn	01 05 09.0	+0.3
	baz=3.4						
N07B	Gerlach	3.44	353	⇑P	Pn	01 05 08.2	-0.9
	baz=3.5						
NSHM	Saint Helena R	3.53	290	*e*Pn	Pn	01 05 12.6	+2.3
NSHM				*e*Sn	Sg	01 06 01.4	-7.1
S13A	Holt Ranch, En	3.60	85	⇓P	Pn	01 05 11.4	+0.1
	baz=3.6						
U13A	Pakoon Wash	3.67	104	⇑P	Pn	01 05 12.2	0.0
	baz=3.7						
BELC	Belle Mtn.	3.88	149	⇑P	Pn	01 05 15.0	-0.1
	baz=3.9						
ARUT	Antelope Range	3.95	82	*e*Pn	Pn	01 05 16.6	+0.6
ARUT				*e*Pg	Pg	01 05 29.5	-1.2
ARUT				*e*S	Sg	01 06 21.3	-0.6
CCUT	Cedar City	4.00	86	*e*Pn	Pn	01 05 17.7	+1.0
CCUT				*e*Sn	Sn	01 06 04.2	+0.4
O12A	Currie	4.06	43	⇓P	Pn	01 05 18.3	+0.7
	baz=4.1						
PFO	Pinyon Flat Ob	4.07	157	*e*Pn	Pn	01 05 16.0	-1.7
PFO				*e*Pg	Pg	01 05 30.1	-2.9
S14A	Cedar City	4.16	83	⇓P	Pn	01 05 17.8	-1.2
	baz=4.1						
T14A	Hurricane	4.24	93	⇓P	Pn	01 05 19.6	-0.5
	baz=4.2						
U14A	Mt Trumbull	4.28	101	⇓P	Pn	01 05 20.5	0.0
	baz=4.3						
N12A	Clover Valley,	4.34	36	⇓P	Pn	01 05 21.9	+0.4
	baz=4.3						
BC3	Big Chuckw Mtn	4.41	146	⇓P	Pn	01 05 22.1	-0.2
	baz=4.4						
WDC	Whiskeytown Da	4.56	316	*e*Pn	Pn	01 05 30.1	+5.7
WDC				*e*Sn	Sn	01 06 24.1	+6.5
MSU	Marysvale	5.04	75	Pn	Pn	01 05 33.2	+2.2
MSU				*e*Pg	Pg	01 05 49.1	-2.4
MSU				*e*S	Sb	01 06 40.8	-3.5
DUG	Dugway	5.19	55	*e*Pn	Pn	01 05 40.8	+7.8
DUG				*e*Pg	Pg	01 05 52.4	-2.0
DUG				*e*Sg	Sg	01 06 59.7	-1.9
BGU	Big Grassy Mou	5.47	48	*e*Pn	Pn	01 05 44.1	+7.2
BGU				*e*Pg	Pg	01 05 56.2	-3.7
BGU				*e*Sg	Sg	01 07 06.0	-4.7
NLU	North Lily Min	5.57	60	*e*Pg	Pg	01 05 59.7	-2.0
NLU				*e*Sg	Sg	01 07 13.7	-0.2
TMUT	Trail Mountain	5.96	69	Pn	Pn	01 05 47.8	+4.2
SRU	San Rafael	6.42	72	*e*Pn	Pn	01 05 52.7	+2.6

BJI 02 01:04:44.9, 750S×15620E, h10km, mB5.2, mb4.7

IDC 02 01:04:44.8±0.7, 747S×156.16E, h0km, mb4.6/15, mb1 4.6/16, mb1mx4.6/18, mbtmp4.6/16, ML4.2/1, Error ellipse: s-maj=24.0km s-min=15.9km az=99.0

NEIC 02 01:04:45.9±0.3, 746S×156.18E, h10km, mb4.7/6, Error ellipse: s-maj=9.9km s-min=8.9km az=135.0

ISCJB 02 01:04:47.8±0.5, 751S±007×15618E±009, h33km, mb4.6/27, Error ellipse: s-maj=12.7km s-min=10.0km az=17.2

MOS 02 01:04:48.0±1.0, 750S×15623E, h33km, mb4.9/3, Error ellipse: s-maj=19.4km s-min=14.5km az=134.1

ISC 02 01:04:49.8±0.5, 752S±007×15617E±009, h35km, n41, σ0=79/35, mb4.6/27, 2C, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	4.19	117	Pn	Pn	01 05 49.3	-1.9
	14nm,0.3s,baz=259,slow=6.7,SNR=5.7						
KAKA	Kakadu	23.92	256	*e*P	P	01 10 00.0	-0.7
	16nm,0.6s,mb4.6						
WB2	Warramunga Arr	24.49	238	*e*P	P	01 10 06.5	+0.6
WRA	Warramunga Arr	24.50	238	P	P	01 10 06.8	+0.8
	7.1nm,0.5s,mb4.4,baz=63,slow=9.7,SNR=28						
ASAR	Alice Springs	26.72	231	P	P	01 10 26.8	+0.7
	3.0nm,0.9s,mb3.8,baz=63,slow=9.4,SNR=12						
ASAR				PcP	PcP	01 13 50.4	+1.2
	0.7nm,0.7s,baz=51,slow=1.5,SNR=5.2						
STKA	Stephens Creek	27.78	207	P	P	01 10 35.6	+0.1
	2.2nm,0.7s,mb3.9,baz=347,slow=13,SNR=4.5						
FITZ	Fitzroy Crossi	31.52	248	*e*P	P	01 11 08.5	-0.4
	10.0nm,0.8s,mb4.7						
FITZ	Fitzroy Crossi	31.52	248	P	P	01 11 08.8	-0.1
	5.7nm,0.8s,mb4.5,baz=95,slow=9.6,SNR=11						
MBWA	Marble Bar	37.70	245	*e*P	P	01 12 02.0	-0.3
	9.5nm,1.0s,mb4.5						
KLBR	Kellerberrin	43.05	231	*e*P	P	01 12 46.5	+0.1
	18nm,0.7s,mb4.9						
MJAR	Matsushiro Arr	46.96	340	P	P	01 13 16.4	-1.0
	2.4nm,0.4s,mb4.4,baz=165,slow=8.3,SNR=7.1						
JNU	Nakatsue	47.03	331	P	P	01 13 17.6	-0.4
	8.4nm,0.9s,mb4.7,baz=260,slow=15,SNR=3.6						
KSRS	Korea Array	51.95	331	P	P	01 13 55.4	0.0
	3.5nm,0.7s,mb4.4,baz=152,slow=7.5,SNR=7.9						
ASAJ	Asahikawa	52.84	348	P	P	01 14 02.8	+0.9
	2.9nm,0.5s,mb4.5,baz=246,slow=21,SNR=4.2						
CHTO	Chiang Mai	62.18	296	*e*P	P	01 15 08.4	+0.2
	4.5nm,0.8s,mb4.7						
CHTO	Chiang Mai	62.18	296	*e*P	P	01 15 08.4	+0.2
CHTO				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.7						
LZH	Lanzhou	65.50	315	*e*P	P	01 15 35.0	+5.2
LZH				AP	pP	01 15 39.3	-1.2
LZH				XP	sP	01 15 41.4	-3.2
LZH				AMB	AMB		
	comp=Z,15nm,1.3s,mb4.9						
LZH				AMB	AMB		
	comp=Z,73nm,5.1s						
VNDA	Vanda	70.03	179	P	P	01 15 58.0	+0.4
	comp=Z,0.2nm,0.5s,mb3.3,baz=317,slow=6.1,SNR=3.6						
SONM	Songino Array	70.41	327	P	P	01 16 00.8	+0.5
	comp=Z,11nm,0.8s,mb4.9,baz=136,slow=6.5,SNR=70						
ZAK	Zakamensk	73.55	328	*e*P	P	01 16 19.5	+0.4
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.3						
MOY	Mondy	75.47	328	*e*P	P	01 16 31.0	+0.8
BILL	Bilibino	75.72	4	*e*P	P	01 16 33.0	+1.7
BILL				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.5						
JIRN	Jiri	76.05	301	*e*P	P	01 16 33.8	-0.3
	comp=Z,14nm,0.8s,mb4.9						
KKN	Kakani	76.86	301	*e*P	P	01 16 38.4	-0.3
	comp=Z,17nm,0.8s,mb5.0						
GKN	Gorkha	77.47	301	*e*P	P	01 16 41.6

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.95**	**235**	P	P	01 10 42.0	-0.1
1.3nm,0.6s,baz=59,slow=9.6,SNR=5.0							
ASAR	**Alice Springs**	**26.31**	**228**	P	P	01 11 04.0	+0.4
1.1nm,0.8s,baz=60,slow=9.0,SNR=4.1							
SONM	**Songino Array**	**69.24**	**327**	P	P	01 16 36.7	+2.0
1.9nm,0.8s,baz=134,slow=4.4,SNR=1.9							
MKAR	**Makanchi Array**	**83.33**	**319**	P	P	01 17 53.4	-1.5
3.8nm,0.8s,baz=101,slow=7.5,SNR=3.6							
ZALV	**Zalesovo Beam**	**84.08**	**326**	P	P	01 17 57.4	-1.2
2.8nm,0.6s,baz=106,slow=6.1,SNR=4.0							

IDC 02 01:08:25.2±5.1, 817S×15614E, h0km, mb4.2/3, mb1 4.5/3, mb1mx3.9/14, mbtmp4.3/3, Error ellipse: s-maj=156.0km s-min=42.8km az=118.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.14**	**239**	P	P	01 13 43.1	0.0
2.7nm,0.8s,baz=65,slow=9.5,SNR=4.5							
ASAR	**Alice Springs**	**26.30**	**232**	P	P	01 14 02.9	+0.2
0.6nm,0.6s,baz=66,slow=10,SNR=4.2							
MKAR	**Makanchi Array**	**85.03**	**319**	P	P	01 21 02.8	0.0
0.8nm,0.6s,baz=99,slow=4.8,SNR=3.9							

IDC 02 01:10:08.9±2.6, 794S×15594E, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.7/14, mbtmp3.8/4, Error ellipse: s-maj=84.8km s-min=35.8km az=130.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.08**	**238**	P	P	01 15 26.5	+0.2
1.4nm,0.9s,baz=63,slow=9.5,SNR=3.1							
SONM	**Songino Array**	**70.63**	**327**	P	P	01 21 27.3	+1.1
0.2nm,0.4s,baz=139,slow=8.2,SNR=3.1							
MKAR	**Makanchi Array**	**84.73**	**319**	P	P	01 22 43.7	-1.3
1.1nm,0.6s,baz=97,slow=5.1,SNR=4.4							
YKA	**Yellowknife Ar**	**96.73**	**28**	P	P	01 23 40.9	-0.1
0.4nm,0.8s,baz=265,slow=5.2,SNR=4.7							

*ISCJB **02** 01:13:01.9±0.7, 70S±0.1×15564E±0.10, h10km, mb4.0/10, Error ellipse: s-maj=16.5km s-min=13.7km az=174.9*
*IDC **02** 01:13:02.2±1.0, 697S×15562E, h0km, mb4.1/8, mb1 4.3/9, mb1mx4.1/16, mbtmp4.2/9, ML4.3/1, Error ellipse: s-maj=31.5km s-min=22.5km az=119.0*
*NEIC **02** 01:13:03.5±0.7, 696S×15565E, h10km, mb4.6/3, Error ellipse: s-maj=18.0km s-min=15.0km az=178.0*
ISC 02 01:13:03.5±0.7, 70S±01×15564E±010, h10km, n19, σ1§21/14, mb4.0/10, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.92**	**120**	Pn	Pn	01 14 19.3	+1.7
12nm,0.3s,baz=270,slow=6.1,SNR=3.3							
WB2	**Warramunga Arr**	**24.35**	**236**	*e*P	P	01 18 20.3	-1.5
WRA	**Warramunga Arr**	**24.36**	**236**	P	pP	01 18 24.8	-0.1
2.5nm,0.5s,baz=64,slow=9.5,SNR=10							
WRA	**Warramunga Arr**	**24.36**	**236**	P	P	01 18 21.2	-0.7
2.5nm,0.5s,mb3.9,baz=62,slow=9.4,SNR=4.5							
ASAR	**Alice Springs**	**26.67**	**229**	P	P	01 18 42.8	0.0
0.5nm,0.5s,mb3.3,baz=64,slow=8.8,SNR=4.9							
STKA	**Stephens Creek**	**28.03**	**206**	P	P	01 18 55.5	+0.6
0.9nm,0.5s,mb3.6,baz=29,slow=14,SNR=2.8							
FITZ	**Fitzroy Crossi**	**31.25**	**246**	*e*P	P	01 19 25.7	+2.0
4.0nm,0.6s,mb4.4							
FITZ	**Fitzroy Crossi**	**31.25**	**246**	P	P	01 19 23.9	+0.2
1.7nm,0.7s,mb4.0,baz=100,slow=6.1,SNR=5.0							
AFI	**Afiamalu**	**32.75**	**105**	*e*P	P	01 19 35.0	-1.9
7.6nm,0.7s,mb4.7							
TAU	**Tasmania Unive**	**36.54**	**190**	P	P	01 20 09.3	0.0
8.2nm,0.7s,mb4.7							
SONM	**Songino Array**	**69.66**	**327**	P	pP	01 24 19.2	+2.7
3.4nm,0.6s,baz=145,slow=6.0,SNR=25							
SONM	**Songino Array**	**69.66**	**327**	P	P	01 24 14.9	+1.7
1.0nm,0.8s,mb3.8,baz=139,slow=4.5,SNR=3.9							
MKAR	**Makanchi Array**	**83.80**	**319**	*e*P	P	01 25 34.2	+1.1
MKAR	**Makanchi Array**	**83.80**	**319**	P	pP	01 25 37.8	+1.3
1.8nm,0.6s,baz=90,slow=5.8,SNR=8.2							
MKAR	**Makanchi Array**	**83.80**	**319**	P	P	01 25 34.2	+1.1
1.7nm,0.6s,mb4.4,baz=79,slow=6.4,SNR=7.8							
ZALV	**Zalesovo Beam**	**84.51**	**326**	P	pP	01 25 40.1	+0.1
1.8nm,0.6s,baz=116,slow=4.5,SNR=6.4							
ZALV	**Zalesovo Beam**	**84.51**	**326**	P	P	01 25 36.1	-0.5
1.7nm,0.6s,mb4.3,baz=95,slow=3.6,SNR=6.6							
YKA	**Yellowknife Ar**	**96.02**	**28**	P	P	01 26 29.2	-1.5
0.1nm,0.6s,mb3.4,baz=264,slow=4.4,SNR=2.6							
GERES	**GERESS Array B**	**127.36**	**329**	PKP	PKPdf	01 32 08.7	+0.1
0.2nm,0.6s,baz=44,slow=3.0,SNR=2.4							

IDC 02 01:13:12.8±5.3, 731S×15577E, h0km, mb4.1/4, mb1 4.2/4, mb1mx3.9/14, mbtmp4.2/4, Error ellipse: s-maj=156.0km s-min=40.4km az=116.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.28**	**237**	P	P	01 18 32.1	+0.2
2.8nm,0.9s,baz=62,slow=9.4,SNR=5.3							
SONM	**Songino Array**	**70.02**	**327**	P	P	01 24 27.0	+0.7
0.9nm,0.5s,baz=142,slow=7.3,SNR=4.6							
MKAR	**Makanchi Array**	**84.15**	**319**	P	P	01 25 46.5	+0.7
1.7nm,0.5s,baz=91,slow=5.8,SNR=5.7							
ZALV	**Zalesovo Beam**	**84.87**	**326**	P	P	01 25 48.3	-1.0
1.1nm,0.5s,baz=118,slow=6.0,SNR=4.9							

IDC 02 01:15:47.5±3.8, 724S×15559E, h0km, mb4.0/5, mb1 4.1/5, mb1mx3.9/14, mbtmp4.0/5, Error ellipse: s-maj=114.2km s-min=28.9km az=114.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.17**	**236**	P	P	01 21 06.7	+1.1
1.6nm,0.5s,baz=62,slow=9.7,SNR=6.9							
ASAR	**Alice Springs**	**26.46**	**230**	P	P	01 21 26.1	-0.3
0.3nm,0.6s,baz=62,slow=9.8,SNR=2.7							
SONM	**Songino Array**	**69.86**	**327**	P	P	01 27 01.2	+1.1
0.4nm,0.5s,baz=140,slow=5.6,SNR=4.2							
MKAR	**Makanchi Array**	**83.98**	**319**	P	P	01 28 19.8	+0.1
2.3nm,0.6s,baz=90,slow=7.2,SNR=8.8							
ZALV	**Zalesovo Beam**	**84.72**	**326**	P	P	01 28 22.2	-1.0
1.6nm,0.4s,baz=118,slow=5.5,SNR=7.8							

*IDC **02** 01:17:57.5±3.5, 719S×15539E, h0km, mb4.2/6, mb1 4.2/6, mb1mx4.0/15, mbtmp4.2/6, Error ellipse: s-maj=101.0km s-min=24.6km az=116.0*
*NEIC **02** 01:18:07.3±0.9, 654S×15404E, h10km, mb4.7/3, Error ellipse: s-maj=26.1km s-min=16.6km az=9.0*
*ISCJB **02** 01:18:08.1±0.9, 65S±02×1541E±0.1, h33km, mb4.3/9, Error ellipse: s-maj=24.0km s-min=16.0km az=12.7*
ISC 02 01:18:10.5±0.9, 66S±02×1541E±01, h35km, n11, σ1§23/11, mb4.3/9, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.47**	**117**	*e*Pn	Pn	01 19 43.4	+0.1
1μm,0.9s							
KAKA	**Kakadu**	**22.19**	**252**	*e*P	P	01 23 11.2	+7.3
8.0nm,0.6s,mb4.3							
WRA	**Warramunga Arr**	**23.33**	**233**	P	P	01 23 15.6	-0.4
1.7nm,0.5s,mb3.7,baz=60,slow=9.9,SNR=11							
ASAR	**Alice Springs**	**25.80**	**227**	P	P	01 23 33.8	-4.7
ASAR	**Alice Springs**	**25.80**	**227**	P	P	01 23 33.8	-4.7
0.6nm,0.8s,mb3.2,baz=68,slow=10,SNR=4.1							
FITZ	**Fitzroy Crossi**	**30.01**	**245**	P	P	01 24 17.8	+1.6
0.7nm,0.4s,mb3.7,baz=90,slow=10,SNR=3.6							
MBWA	**Marble Bar**	**36.26**	**243**	P	P	01 25 09.8	-0.9
17nm,1.3s,mb4.8							
LZH	**Lanzhou**	**63.38**	**316**	*e*P	P	01 28 41.5	+5.0
14nm,1.2s,mb5.0							
LZH				pP	pP	01 28 45.6	-1.7
LZH				sP	sP	01 28 47.0	-4.4
SONM	**Songino Array**	**68.49**	**328**	P	P	01 29 10.5	+1.4
2.6nm,0.8s,mb4.3,baz=143,slow=5.9,SNR=16							
MKAR	**Makanchi Array**	**82.49**	**319**	P	P	01 30 28.9	-0.6
9.8nm,0.8s,mb4.8,baz=90,slow=7.2,SNR=34							
ZALV	**Zalesovo Beam**	**83.32**	**326**	P	P	01 30 30.9	-2.8
2.6nm,0.5s,mb4.5,baz=107,slow=5.0,SNR=13							

*IDC **02** 01:18:15.7±1.7, 726S×15569E, h0km, mb4.2/6, mb1 4.4/6, mb1mx4.1/15, mbtmp4.2/6, Error ellipse: s-maj=54.8km s-min=23.9km az=118.0*
*NEIC **02** 01:18:17.4±1.5, 715S×15565E, h10km, mb4.0/1, Error ellipse: s-maj=51.8km s-min=17.9km az=115.0*
*ISCJB **02** 01:18:19.3±1.5, 72S±02×1556E±03, h33km, mb4.0/6, Error ellipse: s-maj=50.7km s-min=18.6km az=27.6*
ISC 02 01:18:21.1±1.5, 72S±02×1557E±03, h35km, n9, σ1§04/9, mb4.0/6, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**15.70**	**215**	Pn	Pn	01 22 01.7	+1.9
CTA	**Charters Tower**	**15.70**	**215**	Pn	Pn	01 22 01.7	+1.9
0.2nm,0.3s,baz=48,slow=14,SNR=3.7							
CTAO	**Charters Tower**	**15.70**	**215**	*e*Pn	Pn	01 21 59.3	-0.5
8.8nm,0.8s							
WRA	**Warramunga Arr**	**24.23**	**236**	P	P	01 23 35.8	+0.9
7.7nm,0.8s,mb4.2,baz=62,slow=9.4,SNR=14							
ASAR	**Alice Springs**	**26.52**	**230**	P	P	01 23 56.0	+0.4
1.6nm,0.8s,mb3.6,baz=67,slow=8.6,SNR=5.9							
STKA	**Stephens Creek**	**27.81**	**206**	P	P	01 24 06.0	-1.1
4.1nm,0.8s,mb4.1,baz=14,slow=12,SNR=6.3							
FITZ	**Fitzroy Crossi**	**31.17**	**247**	P	P	01 24 35.3	-1.8
4.8nm,0.9s,mb4.3,baz=61,slow=11,SNR=5.8							
SONM	**Songino Array**	**69.90**	**327**	P	P	01 29 28.9	+0.4
0.9nm,0.4s,mb4.0,baz=146,slow=5.6,SNR=12							
YKA	**Yellowknife Ar**	**96.24**	**28**	P	P	01 31 45.6	+0.1
0.4nm,0.6s,mb4.0,baz=266,slow=4.5,SNR=7.3							

*IDC **02** 01:19:17.4±1.6, 773S×15576E, h0km, mb4.4/9, mb1 4.5/9, mb1mx4.4/14, mbtmp4.3/9, Error ellipse: s-maj=55.5km s-min=20.9km az=109.0*
*NEIC **02** 01:19:18.9±0.9, 770S×15573E, h10km, Error ellipse: s-maj=35.5km s-min=13.0km az=111.0*
*ISCJB **02** 01:19:20.9±1.4, 77S±0.1×1557E±03, h33km, mb4.2/9, Error ellipse: s-maj=45.6km s-min=15.3km az=18.3*
ISC 02 01:19:22.7±1.4, 78S±01×1558E±03, h35km, n13, σ0§55/12, mb4.2/9, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.02**	**238**	P	P	01 24 34.7	+0.1
13nm,1.1s,mb4.3,baz=64,slow=9.9,SNR=11							
ASAR	**Alice Springs**	**26.25**	**230**	P	P	01 24 54.4	-0.4
3.9nm,0.9s,mb3.9,baz=57,slow=9.4,SNR=7.6							
STKA	**Stephens Creek**	**27.38**	**207**	P	P	01 25 04.9	0.0
4.1nm,1.0s,mb3.9,baz=7.9,slow=9.2,SNR=2.8							
MJAR	**Matsushiro Arr**	**47.04**	**341**	P	P	01 27 49.7	-1.1
MJAR	**Matsushiro Arr**	**47.04**	**341**	P	P	01 27 49.7	-1.1
5.7nm,0.7s,mb4.6,baz=164,slow=7.9,SNR=18							
MAT	**Matsushiro**	**47.04**	**341**	P	P	01 27 50.9	0.0
KSRS	**Korea Array**	**51.95**	**332**	P	P	01 28 29.1	+0.7
2.2nm,0.8s,mb4.1,baz=152,slow=8.5,SNR=6.3							
SONM	**Songino Array**	**70.37**	**327**	P	P	01 30 32.8	-0.2
0.8nm,0.8s,mb3.7,baz=142,slow=4.4,SNR=2.0							
MKAR	**Makanchi Array**	**84.46**	**319**	P	P	01 31 52.9	+1.0
1.3nm,0.8s,mb4.7,baz=90,slow=7.3,SNR=8.2							
ZALV	**Zalesovo Beam**	**85.22**	**326**	P	P	01 31 55.3	-0.2
1.7nm,0.7s,mb4.3,baz=106,slow=5.4,SNR=6.0							
YKA	**Yellowknife Ar**	**96.66**	**28**	P	P	01 32 49.0	0.0
YKA	**Yellowknife Ar**	**96.66**	**28**	P	P	01 32 49.0	0.0
0.9nm,0.8s,mb4.3,baz=271,slow=4.5,SNR=8.6							
GERES	**GERESS Array B**	**128.08**	**329**	PKP	PKPdf	01 38 25.5	+0.3
0.1nm,0.3s,baz=48,slow=2.0,SNR=4.1							

IDC 02 01:21:58.9±3.1, 752S×15555E, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.6/14, mbtmp3.9/3, Error ellipse: s-maj=89.7km s-min=32.7km az=105.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.99**	**237**	P	P	01 27 15.3	-0.1
1.5nm,0.7s,baz=60,slow=9.4,SNR=3.6							
STKA	**Stephens Creek**	**27.51**	**206**	P	P	01 27 47.0	-0.2
1.3nm,0.6s,baz=30,slow=11,SNR=2.9							
SONM	**Songino Array**	**70.07**	**327**	P	P	01 33 13.2	+0.5
1.0nm,0.9s,baz=138,slow=6.0,SNR=3.4							

*IDC **02** 01:22:11.2±1.8, 741S×15555E, h0km, mb4.0/8, mb1 4.2/8, mb1mx4.1/15, mbtmp4.0/8, Error ellipse: s-maj=59.0km s-min=22.4km az=115.0*
NEIC 02 01:22:12.7±1.0, 742S×15556E, h10km, Error ellipse: s-maj=36.0km s-min=13.9km az=116.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.04**	**237**	P	P	01 27 28.7	+0.5
3.5nm,0.8s,baz=59,slow=9.3,SNR=5.8							
ASAR	**Alice Springs**	**26.32**	**230**	P	P	01 27 48.3	-0.6
0.5nm,0.5s,baz=64,slow=9.4,SNR=3.7							
STKA	**Stephens Creek**	**27.59**	**206**	P	P	01 28 00.7	+0.4
2.3nm,0.6s,baz=26,slow=11,SNR=5.4							
FITZ	**Fitzroy Crossi**	**31.00**	**247**	P	P	01 28 30.4	-0.3
2.7nm,0.7s,baz=79,slow=9.9,SNR=4.9							
SONM	**Songino Array**	**69.99**	**327**	P	P	01 33 24.8	+0.3
0.7nm,0.5s,baz=146,slow=6.4,SNR=7.2							
MKAR	**Makanchi Array**	**84.09**	**319**	P	P	01 34 44.4	+0.6
1.0nm,0.7s,baz=88,slow=7.9,SNR=3.9							
ZALV	**Zalesovo Beam**	**84.84**	**326**	P	P	01 34 47.3	-0.1
0.4nm,0.4s,baz=108,slow=9.3,SNR=3.9							
YKA	**Yellowknife Ar**	**96.45**	**28**	P	P	01 35 41.7	-0.2
YKA	**Yellowknife Ar**	**96.45**	**28**	P	P	01 35 41.7	-0.2
0.5nm,0.7s,baz=267,slow=4.6,SNR=8.3							

IDC 02 01:22:45.6±4.9, 3577S×7869E, h0km, mb4.1/3, mb1 4.3/3, mb1mx3.8/15, mbtmp4.1/3, Error ellipse: s-maj=186.7km s-min=40.8km az=29.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**48.87**	**92**	P	P	01 31 33.4	+0.2
1.6nm,0.9s,baz=236,slow=6.0,SNR=8.7							
WRA	**Warramunga Arr**	**51.02**	**88**	P	P	01 31 49.2	-0.3
2.8nm,1.0s,baz=238,slow=7.4,SNR=4.0							
MKAR	**Makanchi Array**	**82.25**	**2**	P	P	01 35 08.2	0.0
2.0nm,0.7s,baz=168,slow=7.4,SNR=5.3							
YKA	**Yellowknife Ar**	**151.99**	**13**	PKPbc	PKPbc	01 42 41.8	+0.1
0.3nm,0.9s,baz=334,slow=2.6,SNR=4.9							

*IDC **02** 01:24:37.1±1.1, 760S×15649E, h0km, mb4.4/6, mb1 4.5/7, mb1mx4.3/14, mbtmp4.5/7, ML4.1/1, Error ellipse: s-maj=32.6km s-min=27.4km az=124.0*
*NEIC **02** 01:24:38.6±0.7, 760S×15648E, h10km, Error ellipse: s-maj=20.1km s-min=15.0km az=196.0*
*ISCJB **02** 01:24:40.4±0.8, 77S±02×1565E±01, h33km, mb4.2/6, Error ellipse: s-maj=23.2km s-min=17.0km az=13.6*
ISC 02 01:24:42.2±0.8, 77S±02×1565E±01, h35km, n7, σ0§61/7, mb4.2/6, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**3.81**	**117**	Pn	Pn	01 25 38.7	+0.3
13nm,0.3s,baz=263,slow=16,SNR=2.0							
WRA	**Warramunga Arr**	**24.71**	**238**	P	P	01 30 00.3	+0.1
2.4nm,0.6s,mb3.9,baz=62,slow=9.7,SNR=8.2							
WRA				PcP	PcP	01 33 38.4	+1.4
0.7nm,0.7s,baz=64,slow=2.3,SNR=4.8							
ASAR	**Alice Springs**	**26.89**	**231**	P	P	01 30 19.8	-0.3
1.2nm,0.7s,mb3.5,baz=61,slow=8.6,SNR=5.9							
SONM	**Songino Array**	**70.72**	**327**	P	P	01 35 55.8	+1.2
1.8nm,0.8s,mb4.1,baz=140,slow=6.2,SNR=8.7							
MKAR	**Makanchi Array**	**84.91**	**318**	P	P	01 37 13.7	+0.1
4.9nm,0.7s,mb4.7,baz=85,slow=6.7,SNR=19							
ZALV	**Zalesovo Beam**	**85.59**	**326**	P	P	01 37 16.4	-0.3
3.9nm,0.6s,mb4.8,baz=117,slow=5.7,SNR=16							
YKA	**Yellowknife Ar**	**96.23**	**28**	P	P	01 38 05.4	-1.0
0.2nm,0.5s,mb3.8,baz=266,slow=5.0,SNR=4.9							

*IDC **02** 01:25:35.6±0.9, 723S×15544E, h0km, mb4.1/10, mb1 4.2/10, mb1mx4.1/17, mbtmp4.1/10, ML5.3/1, Error ellipse: s-maj=28.4km s-min=20.4km az=114.0*
*NEIC **02** 01:25:37.1±0.5, 730S×15546E, h10km, mb4.7/3, Error ellipse: s-maj=13.1km s-min=12.2km az=222.0*
*ISCJB **02** 01:25:38.9±0.6, 737S±010×15549E±009, h33km, mb4.1/13, Error ellipse: s-maj=14.0km s-min=13.1km az=18.8*
ISC 02 01:25:40.7±0.6, 732S±010×15547E±010, h35km, n15, σ0§99/15, mb4.1/13, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.90**	**116**	Pn	Pn	01 26 50.7	-1.2
122nm,0.3s,baz=270,slow=19,SNR=9.0							
GUMO	**Guam**	**23.29**	**333**	*e*P	P	01 30 44.9	-0.9
34nm,0.7s,mb4.9							
WRA	**Warramunga Arr**	**24.03**	**236**	P	P	01 30 51.7	-0.9
5.8nm,1.0s,mb4.0,baz=62,slow=9.6,SNR=4.7							
ASAR	**Alice Springs**	**26.32**	**229**	P	P	01 31 13.2	-0.2
0.7nm,0.6s,mb3.4,baz=60,slow=7.6,SNR=2.9							
STKA	**Stephens Creek**	**27.64**	**206**	P	P	01 31 27.6	+2.3
2.1nm,0.8s,mb3.8,baz=5.2,slow=11,SNR=1.8							
FITZ	**Fitzroy Crossi**	**30.96**	**247**	P	P	01 31 55.7	+0.8
1.2nm,0.6s,mb3.9,baz=61,slow=13,SNR=2.7							
AFI	**Afiamalu**	**32.82**	**104**	*e*P	P	01 32 12.2	+1.0
4.6nm,0.5s,mb4.7							
TAU	**Tasmania Unive**	**36.16**	**190**	P	P	01 32 38.1	-1.7
9.4nm,1.0s,mb4.7							
SONM	**Songino Array**	**69.87**	**327**	P	P	01 36 48.0	0.0
1.1nm,0.9s,mb3.8,baz=115,slow=6.5,SNR=2.6							
QSPA	**South Pole Qui**	**82.65**	**180**	P	P	01 38 00.4	+0.4
4.5nm,1.0s,mb4.4,baz=284,slow=1.6,SNR=3.8							
MKAR	**Makanchi Array**	**83.96**	**319**	P	P	01 38 06.4	-1.0
1.2nm,0.8s,mb4.1,baz=92,slow=7.4,SNR=2.1							
ZALV	**Zalesovo Beam**	**84.72**	**326**	P	P	01 38 11.3	+0.3
0.5nm,0.5s,mb3.9,baz=137,slow=4.9,SNR=2.2							
INK	**Inuvik**	**89.86**	**21**	P	P	01 38 36.4	+0.8
1.6nm,0.8s,mb4.4,baz=252,slow=7.7,SNR=4.4							
YKA	**Yellowknife Ar**	**96.40**	**28**	P	P	01 39 06.3	+0.5
YKA	**Yellowknife Ar**	**96.40**	**28**	P	P	01 39 06.3	+0.5
0.5nm,0.8s,mb4.0,baz=266,slow=4.3,SNR=5.0							

IDC 02 01:30:04.6±2.6, 775S×15572E, h0km, mb3.9/4, mb1 4.1/4, mb1mx3.8/14, mbtmp3.9/4, Error ellipse: s-maj=77.1km s-min=29.6km az=106.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.00**	**237**	P	P	01 35 21.8	+0.6
4.0nm,0.7s,baz=64,slow=9.7,SNR=14							
STKA	**Stephens Creek**	**27.38**	**207**	P	P	01 35 51.2	-0.4
0.9nm,0.3s,baz=43,slow=13,SNR=4.0							
SONM	**Songino Array**	**70.35**	**327**	P	P	01 41 19.8	-0.4
0.7nm,0.7s,baz=139,slow=5.4,SNR=6.6							
MKAR	**Makanchi Array**	**84.44**	**319**	P	P	01 42 40.0	+0.9
0.5nm,0.7s,baz=98,slow=5.4,SNR=3.6							

*IDC **02** 01:31:00.3±0.5, 844S×157.18E, h0km, mb4.8/21, mb1 4.8/24, mb1mx4.8/25, mbtmp4.7/24, ML3.8/3, Error ellipse: s-maj=13.7km s-min=12.8km az=0.0*
*ISCJB **02** 01:31:01.4±0.2, 826S±004×15701E±003, h10km, mb5.2/88, MS5.1/7, Error ellipse: s-maj=6.0km s-min=4.1km az=171.5*
*BJI **02** 01:31:02.2, 785S×15748E, h13km, mB5.5, mb5.1, Ms5.3, Msz5.0*
*NEIC **02** 01:31:02.4±0.2, 833S×157.12E, h10km, mb5.4/31, Error ellipse: s-maj=6.8km s-min=5.0km az=130.0*
*MOS **02** 01:31:04.8±1.1, 821S×15700E, h33km, mb5.5/25, Error ellipse: s-maj=10.1km s-min=7.6km az=81.8*
ISC 02 01:31:08.1±1.5, 833S±005×15703E±003, h48km±13km, h11km±3.3km: pP-P, n318, σ0§79/293, mb5.2/88, MS5.1/7, 70C-60D, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**3.08**	**111**	*e*Pn	Pn	01 31 49.5	-4.8
HNR				eSn	Sn	01 32 30.1	+0.2
HNR	**Honiara**	**3.08**	**111**	Pn	Pn	01 31 47.4	-7.0
124nm,0.3s,baz=275,slow=6.7,SNR=9.6							
HNR				Lg		01 32 33.3	
792nm,0.3s,baz=267,slow=20,SNR=9.4							
CTA	**Charters Tower**	**15.67**	**221**	*e*P	Pn	01 34 49.8	+4.0
52nm,2.0s							
CTA	**Charters Tower**	**15.67**	**221**	Pn	Pn	01 34 44.5	-1.4
0.2nm,0.3s,baz=48,slow=14,SNR=3.8							
CTAO	**Charters Tower**	**15.67**	**221**	*e*Pn	Pn	01 34 45.9	+0.1
376nm,1.9s							
CTAO	**Charters Tower**	**15.67**	**221**	*e*P	Pn	01 34 45.9	+0.1
CTAO				pmax	pmax		
comp=Z,376nm,1.9s							
DZM	**Mont Dzumac**	**16.40**	**148**	Pn	Pn	01 34 50.8	-4.3
comp=Z,0.0nm,0.3s,baz=338,slow=17,SNR=2.3							
ARMA	**Armidale**	**22.55**	**192**	*e*P	P	01 36 05.0	+0.8
KAKA	**Kakadu**	**24.56**	**258**	*e*P	P	01 36 24.4	+0.7
comp=Z,18nm,0.6s,mb4.8							
WB2	**Warramunga Arr**	**24.80**	**240**	*e*P	P	01 36 25.6	-0.3
WRA	**Warramunga Arr**	**24.82**	**240**	P	P	01 36 25.7	-0.3
comp=Z,52nm,0.7s,mb5.2,baz=66,slow=9.5,SNR=62							
WRA				PcP	PcP	01 40 01.1	-0.4
comp=Z,4.9nm,0.8s,baz=64,slow=2.5,SNR=4.9							
ASAR	**Alice Springs**	**26.90**	**233**	P	P	01 36 42.6	-2.1
comp=Z,8.3nm,0.8s,mb4.3,baz=63,slow=8.9,SNR=40							
ASAR				PcP	PcP	01 40 04.1	-2.1
comp=Z,2.0nm,0.6s,baz=56,slow=2.5,SNR=4.2							
STKA	**Stephens Creek**

YSS pmax pmax
comp=Z,12nm,0.9s,mb4.9
KULM Kulim 57.83 282 *e*P **P 01 40 54.0 -1.4**
TIA Tai'an 58.04 322 *e*P **P 01 40 56.0 -0.4**
MDJ Mudanjiang 58.23 337 P **P 01 40 56.9 -0.6**
MDJ AP pP 01 40 59.2 -12
MDJ PP PP 01 43 08.6 +1.6
MDJ AMB AMB
comp=Z,29nm,1.7s,mb5.0
MDJ AMB AMB
comp=Z,839nm,14.1s
MDJ Mudanjiang 58.23 337 *e*P **P 01 40 56.4 -1.0**
comp=Z,141nm,1.8s,mb5.7
PSI Prapat 58.99 278 P **P 01 41 03.1 -0.4**
comp=Z,1.7nm,0.3s,mb4.5,baz=337,slow=20,SNR=8.4
CN2 Changchun 59.26 334 *e*P **P 01 41 05.4 +0.7**
CN2 *e*XP sP 01 41 12.0 -12
CN2 AMB AMB
comp=Z,30nm,0.7s,mb5.4
HABR Khabarovsk 59.78 343 *e*P **P 01 41 06.8 -1.4**
HABR *e*S **S 01 49 15.0 -0.8**
HABR pmax pmax
comp=Z,96nm,1.6s,mb5.6
GYA Guiyang 59.86 307⇑ *i*P **P 01 41 11.6 +2.4**
GYA AP pP 01 41 15.8 -6.9
GYA XP sP 01 41 18.9 -9.4
GYA PCP PcP 01 41 57.6 +2.3
GYA PP PP 01 43 26.4 +4.6
GYA SCP ScP 01 45 57.3 +4.8
GYA AMB AMB
comp=Z,60nm,1.0s,mb5.6
GYA AMB AMB
comp=Z,7μm,10.8s
GYA LR LR
comp=N,5μm,20.2s,MS5.8
GYA LR LR
comp=E,6μm,21.0s,MS5.8
GYA LR LR
comp=Z,5μm,19.8s,MS5.6
BJT Baijiatuau 61.14 325 *e*P **P 01 41 16.8 -0.9**
comp=Z,39nm,1.3s,mb5.4
BJT Baijiatuau 61.14 325 *e*P **P 01 41 16.8 -0.9**
BJT pmax pmax
comp=Z,39nm,1.3s
BJI Beijing 61.16 325 P **P 01 41 18.0 +0.3**
BJI AMB AMB
comp=Z,21nm,1.5s,mb5.0
NST Nakhon Sawan 61.19 293 P **P 01 41 20.0 +1.6**
KLR Kul'dur 61.45 341 *e*P **P 01 41 15.0 -4.5**
KLR pmax pmax
comp=E,42nm,1.8s
KLR pmax pmax
comp=Z,100nm,1.8s,mb5.6
TIY Taiyuan 61.89 321 P **P 01 41 28.2 +5.5**
TIY LR LR
comp=N,603nm,14.5s,MS5.0
TIY LR LR
comp=E,320nm,12.1s,MS5.0
XAN Xi'an 62.06 316 P **P 01 41 23.8 -0.2**
XAN AP pP 01 41 28.9 -8.7
XAN AMB AMB
comp=Z,13nm,1.3s,mb4.9
XAN LR LR
comp=N,469nm,19.5s,MS4.8
XAN LR LR
comp=E,406nm,19.5s,MS4.8
XAN LR LR
comp=Z,571nm,19.5s,MS4.7
KMI Kunming 62.43 304 P **P 01 41 30.7 +4.1**
KMI AMB AMB
comp=Z,21nm,1.4s,mb5.1
CHG Chiang Mai 63.30 296 ⇓P **P 01 41 33.7 +1.2**
comp=Z,22nm,1.2s,mb5.2
CHTO Chiang Mai 63.30 296 *e*P **P 01 41 33.8 +1.3**
CD2 Chengdu 64.21 310 *e*P **P 01 41 38.9 +0.6**
CD2 AP pP 01 41 43.6 -8.4
CD2 XP sP 01 41 46.2 -11
CD2 PP PP 01 44 00.1 0.0
CD2 PCS 01 46 17.8
CD2 AMB AMB
comp=Z,30nm,1.0s,mb5.3
HHC Hu-ho-hao-te 64.36 323 ⇓P **P 01 41 40.3 +1.2**
HHC AP pP 01 41 44.8 -7.9
HHC XP sP 01 41 47.5 -11
HHC PP PP 01 44 06.7 +5.5
HHC SCP 01 46 14.2
HHC PCS 01 46 19.4
HHC AMB AMB
comp=Z,35nm,0.5s,mb5.7
HHC AMB AMB
comp=Z,432nm,4.4s
HHC LR LR
comp=N,490nm,15.7s,MS5.0
HHC LR LR
comp=E,804nm,19.8s,MS5.0
HHC LR LR
comp=Z,1μm,32.2s
BTO Baotou 65.14 322 *e*P **P 01 41 44.6 +0.5**
HIA Hailar 65.98 334 *e*P **P 01 41 49.2 -0.1**
comp=Z,26nm,1.0s,mb5.2
HIA Hailar 65.98 334⇓ *e*P **P 01 41 47.0 -2.4**
LZH Lanzhou 66.67 315 *e*P **P 01 41 56.0 +1.9**
LZH AP pP 01 41 59.5 -8.4
LZH XP sP 01 42 01.0 -12
LZH PP PP 01 44 25.0 +3.4
LZH AMB AMB
comp=Z,69nm,1.5s,mb5.5
LZH AMB AMB
comp=Z,280nm,7.0s
LZH LR LR
comp=N,1μm,16.2s
LZH LR LR
comp=Z,1μm,17.2s,MS5.2
LZH Lanzhou 66.67 315 *e*P **P 01 41 56.0 +1.9**
LZH pP pP 01 41 59.5 -8.4
LZH sP sP 01 42 01.0 -12
LZH PP PP 01 44 25.0 +3.4
LZH *e*S S 01 50 46.7 +4.3
LZH sS sS 01 50 52.7 -13
LZH SS SS 01 55 01.0 0.0
LZH Lanzhou 66.67 315 *e*P **P 01 41 56.0 +1.9**
LZH *SP sP 01 42 01.0 -12
LZH 01 44 25.0
LZH *e*S S 01 50 46.7 +4.3
LZH SS SS 01 55 01.0 0.0
MA2 Magadan 67.86 357 *e*P **P 01 41 59.8 -1.3**
MA2 pmax pmax
comp=Z,50nm,1.9s,mb5.2
SBA Scott Base 69.69 178 *e*P **P 01 42 12.4 +0.1**
comp=Z,64nm,1.7s,mb5.3
SBA Scott Base 69.69 178 *e*P **P 01 42 12.4 +0.1**
SBA pmax pmax
comp=Z,64nm,1.7s,mb5.3
NRGR Nerungri 70.00 342 *e*P **P 01 42 16.0 +1.5**
CLNS Chul'man 70.10 342 *e*P **P 01 42 15.4 +0.3**
CLNS *e**PP pP 01 42 22.9 -6.0
CLNS *e* 01 42 39.3
CLNS *e*S S 01 51 19.8 -2.5
CLNS pmax pmax
comp=Z,31nm,1.0s,mb5.2
CLNS pmax pmax
comp=N,10.0nm,1.1s
CLNS pmax pmax
comp=E,8.0nm,1.1s
CLNS smax
comp=E,588nm,19.5s
CLNS smax
comp=Z,263nm,11.8s
CLNS smax
comp=N,307nm,14.2s
CLNS MLR MLR
comp=Z,500nm,15.0s,MS4.9
CLNS MLR MLR
comp=N,700nm,23.0s
CLNS MLR MLR
comp=E,1μm,25.0s
CIT Chita 70.69 333 *e*P **P 01 42 18.4 -0.4**
CIT *e* pP 01 42 35.5 +2.9
CIT pmax pmax
comp=Z,70nm,2.0s,mb5.2
GTA Gaotai 71.09 316 P **P 01 42 23.3 +1.8**
GTA AP pP 01 42 27.1 -8.2
GTA XP sP 01 42 28.8 -12
GTA PP PP 01 45 04.1 +4.4
GTA AMB AMB
comp=Z,23nm,1.5s,mb4.9
GTA AMB AMB
comp=Z,591nm,6.5s
GTA LR LR
comp=N,457nm,17.9s,MS4.9
GTA LR LR
comp=E,328nm,17.9s,MS4.9
GTA LR LR
comp=Z,2μm,19.0s,MS5.3
SEY Seymchan 71.14 358⇑ *e*P **P 01 42 18.6 -2.7**
SONM Songino Array 71.54 327 P **P 01 42 24.8 +0.7**
comp=Z,7.8nm,0.7s,mb4.7,baz=134,slow=5.0,SNR=37
YAK Yakutsk 73.29 347 *e*P **P 01 42 32.5 -1.6**
comp=Z,33nm,0.6s,mb5.4
YAK Yakutsk 73.29 347 *e*P **P 01 42 33.7 -0.4**
YAK pmax pmax
comp=Z,37nm,1.1s,mb5.2
YAK pmax pmax
comp=N,19nm,1.5s
YAK pmax pmax
comp=E,19nm,1.9s
LSA Lhasa 73.69 304 *e*P **P 01 42 39.4 +2.2**
comp=E,20nm,1.1s,mb5.0
LSA Lhasa 73.69 304 *e*P **P 01 42 39.4 +2.2**
LSA pmax pmax
comp=Z,20nm,1.1s,mb5.0
BOD Bodaibo 74.59 338 *e*P **P 01 42 40.8 -1.1**
BOD pmax pmax
comp=Z,16nm,1.5s,mb4.7
ZAK Zakamensk 74.69 328⇑ *e*P **P 01 42 42.8 +0.2**
ZAK pmax pmax
comp=Z,11nm,1.3s,mb4.6
TLY Talaya 75.23 329 *e*P **P 01 42 45.4 -0.3**
TLY Talaya 75.23 329⇓ *i*P **P 01 42 43.6 -2.1**
TLY pmax pmax
comp=Z,13nm,1.7s,mb4.6
IRK Irkutsk 75.24 330⇑ *i*P **P 01 42 45.2 -0.5**
IRK pmax pmax
comp=Z,33nm,0.9s,mb5.3
BOK Bokaro 76.40 297 *e*P **P 01 42 52.4 -0.5**
BOK AMb AMB 01 42 57.6
comp=Z,38nm,1.4s,mb5.1
BILL Bilibino 76.46 4 *e*P **P 01 42 52.1 -0.2**
comp=Z,40nm,1.3s,mb5.2
BILL Bilibino 76.46 4⇓ *i*P **P 01 42 50.1 -2.2**
BILL *e**PP pP 01 43 00.1 -6.2
BILL *e*SS SS 01 57 28.0 -1.7
BILL pmax pmax
comp=Z,41nm,1.7s,mb5.1
MOY Mondy 76.60 328 *e*P **P 01 42 53.7 +0.2**
MOY pmax pmax
comp=Z,39nm,1.5s,mb5.1
JIRN Jiri 77.20 301 *e*P **P 01 42 58.1 +0.7**
comp=Z,220nm,1.7s,mb5.8
VIS Vishakhapatnam 77.22 290 *e*P **P 01 42 57.5 -0.2**
VIS AMb AMB 01 43 08.7
comp=Z,40nm,1.6s,mb5.1
KDAK Kodiak Island 77.49 25 P **P 01 42 57.2 -1.1**
comp=Z,3.1nm,0.7s,mb4.4,baz=305,slow=9.1,SNR=5.6
PALK Pallekele 77.65 279 *e*P **P 01 43 00.2 0.0**
KKN Kakani 78.01 301 *e*P **P 01 43 02.4 +0.5**
comp=Z,174nm,1.6s,mb5.8
SVW2 Sparrevohn 78.47 21 *e*P **P 01 43 04.3 +0.6**
GKN Gorkha 78.61 301 *e*P **P 01 43 05.5 +0.2**
comp=Z,408nm,1.7s,mb6.1
KOLN Koldanda 79.43 300 *e*P **P 01 43 09.6 -0.2**
comp=Z,157nm,1.2s,mb5.8
TTA Tatalina 79.56 20 *e*P **P 01 43 09.5 -0.1**
SLKM Skilak Lake 80.13 24 *e*P **P 01 43 11.7 -1.0**
WMQ Urumqi 81.17 317⇓ *i*P **P 01 43 19.8 +1.1**
WMQ AMB AMB
comp=Z,43nm,1.8s,mb5.1
WMQ AMB AMB
comp=Z,279nm,6.0s
PMR Palmer 81.20 23 *e*P **P 01 43 17.8 -0.7**
comp=Z,64nm,1.8s,mb5.2
PMR Palmer 81.20 23 *e*P **P 01 43 17.8 -0.7**
PMR pmax pmax
comp=Z,65nm,1.8s,mb5.3
KOD Kodaikanal 81.31 282 *e*P **P 01 43 21.2 +1.0**
KOD AMb AMB 01 43 30.4
comp=Z,36nm,1.1s,mb5.2
HYB Hyderabad 81.61 289 *e*P **P 01 43 22.5 +0.9**
HYB Hyderabad 81.61 289 *i* P **P 01 43 22.5 +0.9**
SML Sawmill 81.64 23 *e*P **P 01 43 20.0 -0.8**
QSPA South Pole Qui 81.66 180 P **P 01 43 19.5 -1.2**
comp=Z,12nm,1.0s,mb4.8,baz=22,slow=2.3,SNR=17
NGP Nagpur 81.91 293 *ex* x 01 43 16.8
TIXI Tiksi 81.96 351 *e*P **P 01 43 21.7 -0.6**
comp=Z,57nm,1.6s,mb5.2
TIXI Tiksi 81.96 351 *e*P **P 01 43 21.6 -0.7**
TIXI pmax pmax
comp=Z,42nm,1.6s,mb5.1
IMA2 Indian Mountai 82.41 18 *e*P **P 01 43 24.6 -0.1**
MCK McKinley 82.54 21 *e*P **P 01 43 24.5 -1.0**
comp=Z,37nm,1.1s,mb5.3
MCK McKinley 82.54 21 *e*P **P 01 43 24.5 -1.0**
MCK pmax pmax
comp=Z,37nm,1.1s,mb5.3
LGTI Lohaghat 82.71 301 *e*P **P 01 43 28.0 +0.8**
COLA College 83.59 21 *e*P **P 01 43 29.1 -1.8**
comp=Z,13nm,0.9s,mb5.0
COLA College 83.59 21⇓ *i*P **P 01 43 29.2 -1.7**
LATR Latur 83.67 290 *ex* x 01 44 09.4
LATR AMb AMB 01 44 15.3
comp=Z,50nm,2.7s,mb5.2
AKL Akola 83.68 292 *e*P **P 01 43 32.7 +0.4**
AKL AMb AMB 01 43 35.3
comp=Z,74nm,0.8s,mb5.9
BHPL Bhopal 83.81 294 *e*P **P 01 43 33.2 +0.2**
BHPL AMb AMB 01 43 36.4
comp=Z,56nm,1.7s,mb5.4
MAW Mawson 83.95 203 P **P 01 43 32.4 -0.4**
comp=Z,5.6nm,0.9s,mb4.7,baz=106,slow=12,SNR=4.6
MENT Mentasta 84.06 23 *e*P **P 01 43 35.4 +2.1**
DDI Dehra Dun 84.76 302 *e*P **P 01 43 40.0 +2.4**
KAD Karad 85.69 288 *e*P **P 01 43 41.8 -0.7**
KAD *e*P 01 43 42.7
KAD AMb AMB 01 43 45.8
comp=Z,42nm,1.6s,mb5.4
GOA Goa 85.72 286 *ex* x 01 43 35.2
GOA AMb AMB 01 43 49.2
comp=Z,36nm,0.9s,mb5.6
MKAR Makanchi Array 85.73 318 P **P 01 43 41.5 -0.6**
MKAR Makanchi Array 85.73 318 P **P 01 43 41.5 -0.6**
comp=Z,6.9nm,0.6s,mb5.0,baz=78,slow=7.6,SNR=47
EGAK Eagle 85.97 22 *e*P **P 01 43 43.1 +0.2**
SKAG Skagway 86.06 28 *e*P **P 01 43 43.9 +0.5**
comp=Z,138nm,2.3s,mb5.8
DAWY Dawson 86.30 23 *e*P **P 01 43 45.0 +0.5**
ZAA0 Zalesovo Array 86.41 326 *e*P **P 01 43 43.5 -1.8**
ZALV Zalesovo Beam 86.41 326 P **P 01 43 44.1 -1.2**
comp=Z,3.5nm,0.6s,mb4.8,baz=104,slow=4.8,SNR=17
ZAL Zalesovo 86.42 326 P **P 01 43 44.1 -1.2**
AJM Ajmer 86.92 297 *e*P **P 01 43 47.6 -0.9**
AJM AMb AMB 01 43 53.1
comp=Z,83nm,1.6s,mb5.7
THN Thein Dam 87.16 303 *e*P **P 01 43 48.5 -1.0**
NVS Novosibirsk 87.57 326 *i* P **P 01 43 49.1 -1.8**
NVS pmax pmax
comp=Z,30nm,1.5s,mb5.3
NVS pmax pmax
comp=E,34nm,1.6s
O02C Red Bluff 87.88 49 ⇓P **P 01 43 52.3 -0.5**
baz=88
WDC Whiskeytown Da 88.16 49 ⇓P **P 01 43 51.5 -2.5**
baz=88
V03C Hunter Liggett 88.21 53 ⇑P **P 01 43 55.3 +0.9**
baz=88
DLBC Dease Lake 88.26 30 *e*P **P 01 43 52.4 -1.7**
KSH Kashi 88.41 310 P **P 01 43 57.9 +2.7**
KSH AP pP 01 44 02.0 -7.5
KSH XP sP 01 44 05.0 -10
KSH PP PP 01 47 29.7 +6.0
KSH AMB AMB
comp=Z,1μm,5.3s
KSH LR LR
comp=N,697nm,4.3s
KSH LR LR
comp=E,1μm,6.2s
U04C Hernandez Rese 88.64 53 ⇓P **P 01 43 54.8 -1.6**
baz=89
OHCM Honcut 88.69 50 *e*P **P 01 43 55.3 -1.3**
ORV Oroville 88.72 50 ⇑P **P 01 43 56.8 0.0**
baz=89
PKD Parkfield 88.75 54 ⇑P **P 01 43 57.4 +0.4**
baz=89
KURK Kurchatov 89.12 321 P **P 01 43 57.4 -0.9**
comp=E,78nm,1.6s,mb5.8,SNR=9.2
KURK Kurchatov 89.12 321 *e*P **P 01 43 57.0 -1.4**
comp=E,45nm,1.5s,mb5.6
KURK Kurchatov 89.12 321 *e*P **P 01 43 57.0 -1.3**
KURK pmax pmax
comp=Z,45nm,1.5s,mb5.6
PKM Peak Mountain 89.13 55 ⇓P **P 01 43 58.9 +0.1**
baz=89
LAVA Lava Cap Winer 89.14 51 ⇑P **P 01 43 59.1 +0.4**
baz=89
CMB Columbia Colle 89.27 52 ⇑P **P 01 43 59.7 +0.4**
baz=89
P05C Yuba Gap, Truc 89.35 50 ⇑P **P 01 44 00.1 +0.4**
baz=89
TKM2 Tokmak 2 89.39 313 *e*P **P 01 43 59.4 -0.4**
comp=Z,20nm,1.3s,mb5.3
TKM2 Tokmak 2 89.39 313 *e*P **P 01 43 59.4 -0.4**
TKM2 pmax pmax
comp=Z,20nm,1.3s,mb5.3
T06C Milleton Lake 89.61 53 P **P 01 44 01.3 +0.4**
baz=90,SNR=6.7
R05C Kirkwood Meado 89.64 51 ⇑P **P 01 44 01.3 +0.3**
baz=90
BEKR Beckwourth 89.65 50 ⇓P **P 01 44 01.5 +0.4**
baz=90
J05A Fort Rock 89.67 46 ⇑P **P 01 44 01.4 +0.3**
baz=90
K05A Summer Lake 89.81 47 ⇓P **P 01 44 02.2 +0.5**
baz=90
M06C Likely Place G 89.81 48 ⇑P **P 01 44 02.4 +0.5**
baz=90
ARVC Arvin 89.97 55 ⇑P **P 01 44 02.9 +0.2**
baz=90
KCC Kaiser Creek 89.97 52 ⇓P **P 01 44 02.9 +0.2**
baz=90
UCH Uchtor 90.04 313 *e*P **P 01 44 04.2 +1.4**
comp=Z,58nm,1.6s,mb5.7
HELL Mitchell Peak 90.09 53 ⇓P **P 01 44 02.7 -0.5**
baz=90
O06A Flanigan 90.10 50 ⇑P **P 01 44 03.0 -0.2**
baz=90
AAK Ala-Archa 90.13 313 *e*P **P 01 44 02.5 -0.7**
N06A Buffalo Meadow 90.21 49 ⇑P **P 01 44 03.8 +0.1**
baz=90
C05A Tolt Reservoir 90.27 42 ⇓P **P 01 44 03.2 -0.6**
baz=90
ISA Isabella 90.35 54 *e*P **P 01 44 04.5 0.0**
comp=Z,43nm,1.8s,mb5.5
ISA Isabella 90.35 54 *e*P **P 01 44 04.5 0.0**
ISA pmax pmax
comp=Z,43nm,1.8s,mb5.5
ISA Isabella 90.35 54 ⇑P **P 01 44 04.3 -0.2**
baz=90
J06A Christmas Vall 90.44 46 ⇓P **P 01 44 04.8 +0.1**
baz=90
MWC Mount Wilson 90.44 56 *e*P **P 01 44 04.6 -0.3**
I06A Prineville 90.53 46 ⇑P **P 01 44 05.0 -0.1**
baz=90
H06A Lindquist Farm 90.60 45 ⇑P **P 01 44 05.8 +0.4**
baz=90
EDW2 Edwards Air Fo 90.61 55 ⇓P **P 01 44 05.9 +0.2**
baz=90,SNR=6.0
AML Almayashu 90.62 312 *e*P **P 01 44 06.4 +0.8**
comp=Z,65nm,1.6s,mb5.7
EKS2 Erkin-Say 90.65 313 *e*P **P 01 44 05.7 0.0**
comp=Z,39nm,1.6s,mb5.5
BFSC Mount Baldy St 90.77 56 ⇓P **P 01 44 06.3 -0.1**
baz=91
L07A Adell 90.81 48 P **P 01 44 07.3 +0.9**
baz=91,SNR=7.6
M07A Soldier Meadow 90.82 48 ⇑P **P 01 44 06.7 +0.2**
baz=91
O07A Toulon 90.82 50 ⇓P **P 01 44 07.0 +0.5**
baz=91
N07B Gerlach 90.86 49 ⇑P **P 01 44 07.4 +0.7**
baz=91
S08C White Mtn Res 90.90 52 ⇑P **P 01 44 07.6 +0.6**
baz=91
LRMC Laurel Mountai 90.95 54 P **P 01 44 08.3 +1.1**
baz=91,SNR=6.0
NVAR Mina Array Bea 90.96 51 P **P 01 44 08.0 +0.8**
comp=Z,5.5nm,1.1s,mb4.8,baz=242,slow=3.7,SNR=17
K07A Rock Creek Ran 90.99 47 P **P 01 44 07.8 +0.6**
baz=91,SNR=6.5
I07A Izee 91.06 46 ⇓P **P 01 44 07.7 +0.1**
baz=91
H07A Lands Inn, Kim 91.11 45 ⇓P **P 01 44 08.1 +0.3**
baz=91
G07A Ruggs Ranch, H 91.16 45 ⇓P **P 01 44 07.3 -0.7**
baz=91
MPMC Manual Prospec 91.21 54 ⇓P **P 01 44 08.7 +0.3**
baz=91,SNR=9.7
D07A Quincy 91.31 43 ⇑P **P 01 44 09.0 +0.4**
baz=91
Q08A Gabbs 91.32 51 ⇓P **P 01 44 09.2 +0.3**
baz=91
A07A Ashnola River, 91.39 41 ⇑P **P 01 44 09.1 +0.2**
baz=91
WVOR Wild Horse Val 91.39 47 *e*P **P 01 44 08.6 -0.5**
comp=Z,55nm,1.5s,mb5.5
WVOR Wild Horse Val 91.39 47 *e*P **P 01 44 08.6 -0.5**
WVOR pmax pmax
comp=Z,35nm,1.5s,mb5.5
GRAC Grapevine Rang 91.45 53 ⇑P **P 01 44 09.5 -0.1**
baz=91
N08A GE Springer Mi 91.48 49 ⇑P **P 01 44 09.3 -0.3**
baz=91
L08A Fields 91.56 48 ⇑P **P 01 44 10.1 +0.2**
baz=92
MONP Monument Peak 91.58 57 ⇓P **P 01 44 10.3 +0.1**
baz=92
GSC Goldstone 91.64 55 *e*P **P 01 44 10.2 -0.3**
GSC Goldstone 91.64 55 ⇓P **P 01 44 10.2 -0.2**
baz=92
G08A Pilot Rock 91.66 45 ⇑P **P 01 44 09.8 -0.5**
baz=92
PFO Pinyon Flat Ob 91.66 56 P **P 01 44 10.3 -0.2**
comp=Z,4.4nm,1.0s,mb4.7,baz=289,slow=7.5,SNR=4.5
J08A Circle Bar Ran 91.67 47 ⇑P **P 01 44 10.2 -0.2**
baz=92
S09A Goldfield 91.68 52 P **P 01 44 11.2 +0.6**
baz=92,SNR=13
H08A Prairie City 91.73 45 ⇓P **P 01 44 10.2 -0.4**
baz=92
SYO Syowa Base 91.73 199⇑ *e*pP pP 01 44 15.2 -9.3
FURC Furnace Creek, 91.77 54 ⇑P **P 01 44 10.9 -0.1**
baz=92
E08A Dider Farm, El 91.80 43 ⇑P **P 01 44 10.6 -0.3**
baz=92
R09A Tonopah 91.88 52 ⇓P **P 01 44 11.5 0.0**
baz=92,SNR=12
B08A Colville Reser 91.95 42 ⇓P **P 01 44 11.0 -0.5**
baz=92
D08A Wollman Farm, 91.99 43 ⇓P **P 01 44 12.1 +0.3**
baz=92
L09A Wilkinson Ranc 92.03 48 ⇑P **P 01 44 12.5 +0.4**
baz=92
A08A Turner Farm, O 92.09 41 ⇓P **P 01 44 12.9 +0.7**
baz=92
BELC Belle Mtn. 92.10 56 ⇑P **P 01 44 13.1 +0.5**
baz=92,SNR=6.9
K09A Rome 92.10 47 P **P 01 44 12.7 +0.3**
baz=92,SNR=8.5
SWSC Sam W. Stewart 92.11 57 ⇓P **P 01 44 12.9 +0.2**
baz=92
SHOC Shoshone 92.15 54 ⇑P **P 01 44 13.0 +0.2**
baz=92
U10A Ash Meadows, A 92.19 54 ⇑P **P 01 44 13.4 +0.4**
baz=92
S10A Tonopah Range, 92.21 52 ⇓P **P 01 44 13.4 +0.4**
baz=92,SNR=12
TPNV Topopah Spring 92.33 53 *e*P **P 01 44 14.4 +0.8**
TPNV Topopah Spring 92.33 53 ⇓P **P 01 44 13.9 +0.3**
baz=92
E09A Wood Farm, Sta 92.43 44 ⇑P **P 01 44 13.6 -0.2**
baz=92
GMRC Granite Mounta 92.49 55 ⇓P **P 01 44 14.5 +0.1**
baz=92,SNR=6.4
R10A Warm Springs 92.49 52 ⇑P **P 01 44 14.8 +0.5**
baz=92
Q10A Clear Creek Ra 92.49 51 ⇓P **P 01 44 14.6 +0.2**
baz=92
BC3 Big Chuckw Mtn 92.49 57 ⇓P **P 01 44 15.0 +0.6**
baz=92
A09A Danville 92.54 41 ⇑P **P 01 44 14.8 +0.5**

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     baz=92
B09A Rice                92.73 42 ⇑P          P          01 44 14.8 -0.3
     baz=93
K10A MacKenzie Ranc      92.73 47 ⇑P          P          01 44 15.1 -0.2
     baz=93
BMO  Blue Mountains      92.74 45 eP          P          01 44 14.9 -0.4
     comp=Z,24nm,1.6s,mb5.4
BMO  Blue Mountains      92.74 45 eP          P          01 44 15.0 -0.3
BMO                                pmax       pmax
     comp=Z,24nm,1.6s,mb5.4
M10A I.L. Ranch, Tu      92.79 49 ⇑P          P          01 44 15.5 -0.1
     baz=93
IRM  Iron Mountain       92.81 56 ⇓P          P          01 44 16.4 +0.5
     baz=93
V11A Goodsprings         92.82 54 ⇑P          P          01 44 16.7 +0.7
     baz=93,SNR=7.2
S11A Rachel              92.83 53 ⇓P          P          01 44 16.6 +0.7
     baz=93
L10A Juniper Basin       92.92 48 P           P          01 44 16.9 +0.7
     baz=93,SNR=10
G10A Bishop Farm, J      92.94 45 P           P          01 44 16.0 -0.2
     baz=93,SNR=6.0
F10A Beach Ranch, E      92.97 44 ⇑P          P          01 44 15.8 -0.5
     baz=93
KBL  Kabul               93.01 304 eP         P          01 44 16.2 -0.6
     comp=Z,14nm,1.2s,mb5.3
R11A Troy Canyon, C      93.06 52 P           P          01 44 17.5 +0.6
     baz=93,SNR=11
Q11A Duckwater           93.07 51 ⇓P          P          01 44 17.2 +0.2
     baz=93,SNR=13
H10A Noah's Angus R      93.09 46 ⇓P          P          01 44 16.2 -0.7
     baz=93
D10A Wagner Farm, O      93.10 43 ⇓P          P          01 44 16.3 -0.7
     baz=93
T11A Corn Creek, Al      93.19 53 ⇓P          P          01 44 17.7 +0.1
     baz=93,SNR=9.7
O11A Cowboy Ranch,       93.25 50 ⇑P          P          01 44 18.0 +0.2
     baz=93
V12A Nelson              93.28 55 ⇑P          P          01 44 18.6 +0.6
     baz=93
M11A Holland Ranch,      93.33 49 ⇑P          P          01 44 18.6 +0.5
     baz=93
K11A Parker Ranch,       93.34 47 ⇓P          P          01 44 18.1  0.0
     baz=93,SNR=11
G11A Walters Elk Ra      93.55 45 ⇑P          P          01 44 18.7 -0.3
     baz=94
MFID Camas Ranch         93.58 47 ⇑P          P          01 44 19.5 +0.3
     baz=94
U12A Valley of Fire      93.62 54 ⇑P          P          01 44 19.4 -0.2
     baz=94
H11A Donnelly            93.63 46 ⇑P          P          01 44 18.5 -0.9
     baz=94
E11A Bogner Ranch,       93.72 44 ⇑P          P          01 44 18.9 -1.0
     baz=94
P12A McGill              93.73 51 ⇑P          P          01 44 20.0  0.0
     baz=94
Q12A Willow Creek R      93.74 51 ⇑P          P          01 44 20.4 +0.4
     baz=94
R12A Pony Springs,       93.81 52 ⇑P          P          01 44 20.3 -0.1
     baz=94
N12A Clover Valley,      93.82 49 ⇓P          P          01 44 20.3 -0.1
     baz=94
B11A Sandpoint           93.91 42 ⇓P          P          01 44 20.3 -0.3
     baz=94
X13A Yucca               93.95 56 ⇓P          P          01 44 21.2  0.0
     baz=94
O12A Currie              93.96 50 ⇓P          P          01 44 21.2 +0.2
     baz=94
M12A Wells               93.98 49 ⇑P          P          01 44 21.2 +0.1
     baz=94
A11A Hall Mountain,      93.99 41 ⇑P          P          01 44 21.1 +0.1
     baz=94
L12A House Creek Ra      94.00 48 ⇓P          P          01 44 21.7 +0.5
     baz=94
U13A Pakoon Wash         94.08 54 ⇑P          P          01 44 22.0 +0.3
     baz=94
J12A Stokes Ranch,       94.09 47 P           P          01 44 22.2 +0.6
     baz=94,SNR=11
K12A Draper Farm, C      94.15 48 ⇓P          P          01 44 22.3 +0.5
     baz=94
T13A Saint George        94.20 53 ⇓P          P          01 44 22.4 +0.2
     baz=94
F12A Elk City            94.30 45 ⇓P          P          01 44 22.4 -0.1
     baz=94
S13A Holt Ranch, En      94.31 53 ⇑P          P          01 44 22.5 -0.2
     baz=94
D12A Red Ives Fores      94.40 43 ⇑P          P          01 44 22.5 -0.4
     baz=94
P13A Bates Ranch, G      94.42 51 ⇑P          P          01 44 23.4 +0.3
     baz=94
M13A Montello            94.54 49 ⇑P          P          01 44 23.6 -0.1
     baz=94
HLID Hailey              94.62 47 eP          P          01 44 24.9 +0.9
HLID Hailey              94.62 47 ⇓P          P          01 44 24.0  0.0
     baz=94
BRVK Borovoye            94.64 323 P          P          01 44 22.3 -1.5
     comp=Z,58nm,1.5s,mb5.8,SNR=5.1
BRVK Borovoye            94.64 323 eP         P          01 44 23.0 -0.8
W14A Seligman            94.64 55 ⇑P          P          01 44 24.1 -0.2
     baz=95
ARUT Antelope Range      94.66 53 eP          P          01 44 24.6 +0.3
V14A Boquillas Ranc      94.67 55 ⇓P          P          01 44 24.6 +0.2
     baz=95
CCUT Cedar City          94.69 53 eP          P          01 44 25.4 +0.9
U14A Mt Trumbull         94.70 54 ⇓P          P          01 44 24.0 -0.6
     baz=95
K13A Stover Farm, H      94.75 48 ⇑P          P          01 44 24.4 -0.2
     baz=95
J13A Cove Ranch, Pi      94.78 47 ⇓P          P          01 44 24.7  0.0
     baz=95
H13A Challis             94.86 46 ⇑P          P          01 44 24.7 -0.4
     baz=95
I13A Wildhorse Cree      94.88 46 ⇓P          P          01 44 25.7 +0.5
     baz=95,SNR=6.7
G13A Cobalt              94.94 45 ⇓P          P          01 44 25.1 -0.3
     baz=95
F13A Darby               94.95 45 ⇓P          P          01 44 25.2 -0.2
     baz=95
B13A Whitefish           95.16 42 ⇑P          P          01 44 25.9 -0.4
     baz=95
M14A Sheep Mountain      95.16 49 ⇑P          P          01 44 26.7 +0.2
     baz=95
N14A Grayback Hills      95.21 50 ⇑P          P          01 44 27.0 +0.3
     baz=95
MSU  Marysvale           95.73 52 eP          P          01 44 29.9 +0.8
M15A Larsen Ranch,       95.83 49 ⇑P          P          01 44 30.2 +0.7
     baz=96
EDM  Edmonton            96.37 37 eP          P          01 44 31.2 -0.5
JLU  Jordanelle          96.50 50 eP          P          01 44 34.7 +2.1
YKA  Yellowknife Ar      96.56 28 P           P          01 44 31.2 -1.2
YKA  Yellowknife Ar      96.56 28 P           P          01 44 31.2 -1.2
     comp=Z,1.7nm,0.8s,mb4.5,baz=264,slow=4.4,SNR=23
YKW3 Yellowknife Ar      96.56 28 eP          P          01 44 31.6 -0.7
PDAR Pinedale Array      98.08 48 P           P          01 44 38.6 -1.1
     comp=Z,0.8nm,0.6s,mb4.4,baz=227,slow=1.8,SNR=9.4
FINES FINESS Array B     115.97 336 PKP       PKPdf      01 49 44.4 -1.0
     comp=Z,1.7nm,0.9s,baz=114,slow=3.4,SNR=3.2
AKASG Malin Array Be     119.79 325 PKP       PKPdf      01 49 51.6 -1.4
     comp=Z,0.2nm,0.3s,baz=69,slow=1.1,SNR=4.3
KOLS Kolonicke sedl      124.59 325 ePKP      PKPdf      01 50 02.0 -0.3
KECS Kecovo              125.83 326 ePKP      PKPdf      01 50 03.7 -1.0
OKC  Ostrava-Krasne      126.33 328 ePKPdf    PKPdf      01 50 07.7 +2.1
DPC  Dobruska-Polom      126.95 329 ePKPdf    PKPdf      01 50 08.3 +1.5
MODS Modra-Piesok        127.65 327 ePKP      PKPdf      01 50 05.8 -2.4
PVCC Panska Ves          127.70 331 ePKPdf    PKPdf      01 50 09.9 +1.7
BRG  Berggiesshubel      127.78 331 ePKIKP    PKPdf      01 50 08.6 +0.3
BRG                                pmax       pmax
     comp=Z,2.0nm,2.0s
BRG  Berggiesshubel      127.78 331 ePKP      PKPdf      01 50 08.6 +0.2
     comp=Z,48nm,2.0s
ZST  Bratislava          127.85 327 ePKP      PKPdf      01 50 09.3 +0.7
CLL  Collm               127.93 332 ePKIKP    PKPdf      01 50 08.0 -0.6
CLL                                pmax       pmax
     comp=Z,7.0nm,1.4s
CLL  Collm               127.93 332 ePKPdf    PKPdf      01 50 08.0 -0.6
     comp=Z,9.0nm,1.4s
TREC Trest               128.03 329 ePKPdf    PKPdf      01 50 09.5 +0.6
PRU  Pruhonice           128.07 330 ePKPdf    PKPdf      01 50 09.2 +0.3
MOX  Moxa                129.03 332 ePKP      PKPdf      01 50 10.1 -0.6
LPAZ La Paz              129.05 119 PKP       PKPdf      01 50 11.3 -0.4
     comp=Z,3.0nm,1.0s,baz=28,slow=5.0,SNR=9.6
KHC  Kasperske Hory      129.10 330 ePKPdf    PKPdf      01 50 10.9  0.0
GERES GERESS Array B     129.22 329 PKP       PKPdf      01 50 12.1 +1.0
     comp=Z,0.4nm,0.7s,baz=76,slow=4.1,SNR=5.8
DAVOX Davos/Dischmat     132.52 330 PKP       PKPdf      01 50 17.8 +0.3
     comp=Z,2.7nm,0.9s,baz=358,slow=7.8,SNR=3.5
ESDC Sonseca Array       144.45 334 PKP       PKPdf      01 50 38.7 -0.8
     comp=Z,0.2nm,0.3s,baz=37,slow=2.4,SNR=5.5
MDT  Midelt              150.28 328 PKPbc     PKPbc      01 50 55.6 +1.0
     comp=Z,6.8nm,1.2s,baz=50,slow=5.6,SNR=6.6
TORD Torodi Ar. Bea      155.31 283 PKPbc     PKPdf      01 51 07.0 +10
     comp=Z,0.9nm,0.7s,baz=44,slow=2.8,SNR=3.0
TORD                                PKPab     PKPab      01 51 21.9 -0.7
     comp=Z,3.8nm,1.1s,baz=65,slow=2.3,SNR=4.6
```

IDC ***02*** *01:32:14.4±1.0, 7.43S×155.52E, h0km, mb4.7/10, mb1 4.8/10, mb1mx4.6/16, mbtmp4.7/10, Error ellipse: s-maj=38.3km s-min=19.9km az=102.0*
NEIC ***02*** *01:32:15.9±0.8, 7.42S×155.53E, h10km, Error ellipse: s-maj=31.4km s-min=16.5km az=110.0*
ISCJB ***02*** *01:32:19.0±1.2, 7.4S±0.1×155.3E±0.3, h33km, mb4.7/10, Error ellipse: s-maj=37.6km s-min=16.7km az=12.2*
ISC 02 01:32:20.7±1.2, 7.4S±0.1×155.3E±0.3, h35km, n18, σ1.9 02/10, mb4.7/10, Bougainville - Solomon Islands region

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Code Station Name          Δ°   AZ°  Phase ID                Time      Res
                                    Op        ISC           h m s     ISC
WRA  Warramunga Arr      23.85 236  P          P            01 37 29.9 -1.1
     16nm,1.0s,mb4.4,baz=65,slow=10,SNR=1.7
ASAR Alice Springs       26.14 229  P          P            01 37 50.6 -1.1
     3.7nm,0.7s,mb4.0,baz=61,slow=9.2,SNR=2.3
FITZ Fitzroy Crossi      30.78 247  P          P            01 38 35.2 +2.0
     8.6nm,0.7s,mb4.7,baz=71,slow=5.1,SNR=5.6
MJAR Matsushiro Arr      46.56 341  P          P            01 40 43.8 -1.3
     2.8nm,0.6s,mb4.3,baz=159,slow=7.8,SNR=4.7
KSRS Korea Array         51.44 332  P          P            01 41 22.1 -0.4
     5.8nm,0.9s,mb4.5,baz=143,slow=7.7,SNR=3.0
SONM Songino Array       69.84 327  P          P            01 43 29.0 +1.3
     3.9nm,0.4s,mb4.7,baz=146,slow=6.2,SNR=12
QSPA South Pole Qui      82.58 180  P          P            01 44 39.7 +0.1
     6.6nm,0.8s,mb4.7,baz=312,slow=1.6,SNR=3.6
MKAR Makanchi Array      83.91 319  P          P            01 44 47.9 +0.8
     13nm,0.7s,mb5.2,baz=79,slow=6.3,SNR=9.1
MAW  Mawson              84.14 203  P          P            01 44 48.2 +0.3
     8.4nm,0.9s,mb4.8,baz=75,slow=12,SNR=3.6
ZALV Zalesovo Beam       84.68 326  P          P            01 44 50.4 -0.4
     10nm,0.7s,mb5.0,baz=108,slow=5.9,SNR=11
AKASG Malin Array Be     118.04 324 PKP        PKPdf        01 51 02.6 -1.3
     0.5nm,0.5s,baz=48,slow=2.5,SNR=5.3
HFS  Hagfors             119.99 339 PKP        PKPdf        01 51 05.6 -1.7
     1.1nm,0.7s,baz=19,slow=6.1,SNR=2.5
NB2  NORSAR Subarra120.18 341 PKPdf            PKPdf        01 51 03.9 -3.8
     comp=Z,1.4nm,0.9s,baz=39,slow=1.9
NOA  NORSAR Array B 120.18 341 PKP             PKPdf        01 51 05.8 -1.8
NOA  NORSAR Array B 120.18 341 PKP             PKPdf        01 51 05.8 -1.8
     comp=Z,1.0nm,0.7s,baz=42,slow=1.8,SNR=4.1
GERES GERESS Array B 127.55 329 PKP            PKPdf        01 51 21.9 -0.3
     comp=Z,0.5nm,0.5s,baz=17,slow=1.4,SNR=4.9
EKA  Eskdalemuir Ar      129.21 344 PKP        PKPdf        01 51 24.6 -0.5
     comp=Z,0.7nm,0.6s,baz=8,2,slow=2.5,SNR=3.5
MDT  Midelt              148.58 326 PKPbc      PKPbc        01 52 05.4 +0.8
     comp=Z,1.9nm,0.6s,baz=17,slow=4.6,SNR=5.3
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IDC ***02*** *01:35:51.8±5.7, 7.16S×155.62E, h0km, mb4.0/4, mb1 4.0/4, mb1mx3.8/13, mbtmp4.0/4, Error ellipse: s-maj=167.5km s-min=38.1km az=116.0*
NEIC 02 01:35:55.0±2.0, 7.13S×155.19E, h10km, mb3.6/1, Error ellipse: s-maj=63.9km s-min=16.3km az=103.0, Bougainville - Solomon Islands region

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Code Station Name          Δ°   AZ°  Phase ID                Time      Res
                                    Op        ISC           h m s     ISC
CTAO Charters Tower      15.53 213  Pn         Pn           01 39 33.0 -1.2
     2.3nm,0.6s
GUMO Guam                22.99 334  eP         P            01 40 59.4 -0.7
WRA  Warramunga Arr      23.90 236  P          P            01 41 10.7 +1.6
     0.5nm,0.6s,baz=62,slow=9.3,SNR=2.8
SONM Songino Array       69.55 327  P          P            01 47 04.7 +0.7
     0.7nm,0.8s,baz=111,slow=8.7,SNR=3.5
MKAR Makanchi Array      83.63 319  P          P            01 48 24.3 +0.5
MKAR Makanchi Array      83.63 319  P          P            01 48 24.3 +0.5
     2.9nm,0.8s,baz=106,slow=5.1,SNR=7.5
ZALV Zalesovo Beam       84.40 326  P          P            01 48 26.5 -1.0
     1.6nm,0.6s,baz=111,slow=5.1,SNR=5.6
KAF  Kangasniemi         113.68 336 epkp       PKiKP        01 54 34.0 +0.6
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IDC ***02*** *01:36:13.9±0.3, 7.17S×155.43E, h0km, mb5.0/25, mb1 5.1/28, mb1mx5.1/28, mbtmp5.0/28, ML4.4/3, MS4.8/5, Ms1 4.8/5, ms1mx4.3/30, Error ellipse: s-maj=13.4km s-min=11.3km az=90.0*
ISCJB ***02*** *01:36:14.1±0.2, 7.18S±0.04×155.44E±0.04, h10km, mb5.2/80, MS5.0/9, Error ellipse: s-maj=5.7km s-min=5.1km az=139.8*
BJI ***02*** *01:36:15.6, 7.10S×155.40E, h10km, mB5.6, mb5.1, Ms5.2, Msz5.0*
NEIC ***02*** *01:36:15.7±0.1, 7.13S×155.41E, h10km, mb5.3/33, Error ellipse: s-maj=5.1km s-min=4.5km az=107.0*
MOS ***02*** *01:36:18.2±1.1, 7.11S×155.39E, h33km, mb5.5/22, Error ellipse: s-maj=9.6km s-min=7.8km az=95.1*
ISC 02 01:36:15.9±1.8, 7.19S±0.04×155.45E±0.04, h11km±11km, h15km±1.5km: pP-P, n279, σ1.9 01/181, mb5.2/80, MS5.0/9, 8C-7D, Bougainville - Solomon Islands region

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Code Station Name          Δ°   AZ°  Phase ID                Time      Res
                                    Op        ISC           h m s     ISC
HNR  Honiara             4.98 117   ePn        Pn           01 37 30.2 -0.5
HNR                                 eSn        Sn           01 38 24.2 -4.1
HNR  Honiara             4.98 117   Pn         Pn           01 37 30.5 -0.2
     16nm,0.3s,baz=278,slow=7.6,SNR=1.6
HNR                                 LR         LR           01 39 00.6
     comp=Z,2μm,19.7s,baz=260,slow=33
CTA  Charters Tower      15.62 214  eP         Pn           01 39 59.2 +3.1
     69nm,0.9s
CTA  Charters Tower      15.62 214  eP         Pn           01 39 59.2 +3.1
CTA                                 pmax       pmax
     comp=Z,69nm,0.9s
CTA  Charters Tower      15.62 214  Pn         Pn           01 39 56.6 +0.5
     comp=Z,0.9nm,0.3s,baz=38,slow=14,SNR=9.3
CTA                                 LR         LR           01 44 58.2
     comp=Z,6μm,21.7s,baz=93,slow=34
CTAO Charters Tower      15.62 214  ePn        Pn           01 39 55.4 -0.8
     comp=Z,179nm,1.1s
CTAO Charters Tower      15.62 214  eP         Pn           01 39 55.4 -0.7
CTAO                                pmax       pmax
     comp=Z,179nm,1.1s
DZM  Mont Dzumac         18.21 146  P          Pn           01 40 29.4 +0.6
     comp=Z,1.1nm,0.3s,baz=341,slow=19,SNR=6.1
KAKA Kakadu              23.31 255  eP         P            01 41 24.7 +0.4
     comp=Z,65nm,0.6s,mb5.2
ARMA Armidale            23.39 188  eP         P            01 41 25.4 +0.5
WB2  Warramunga Arr      24.07 236  eP         P            01 41 31.4 -0.1
WRA  Warramunga Arr      24.08 236  P          P            01 41 31.4 -0.2
WRA                                 LR         LR           01 45 13.5
WRA  Warramunga Arr      24.08 236  P          P            01 41 31.4 -0.2
     comp=Z,84nm,1.0s,mb5.1,baz=59,slow=9.3,SNR=54
WRA                                 PcP        PcP          01 45 13.5 +0.3
     comp=Z,6.0nm,0.8s,baz=65,slow=2.8,SNR=5.7
WRA                                 ScP        ScP          01 48 52.5 +0.6
     comp=Z,5.2nm,1.1s,baz=58,slow=3.5,SNR=6.0
WRA                                 LR         LR           01 50 32.2
     comp=Z,3μm,18.4s,MS4.8,baz=65,slow=36
ASAR Alice Springs       26.39 229  P          P            01 41 51.7 -0.8
ASAR                                                        01 45 19.0
ASAR Alice Springs       26.39 229  P          P            01 41 51.7 -0.8
     comp=Z,21nm,1.1s,mb4.6,baz=58,slow=9.3,SNR=22
ASAR                                PcP        PcP          01 45 18.9 +0.7
     comp=Z,3.8nm,0.8s,baz=57,slow=2.4,SNR=4.7
ASAR                                ScP        ScP          01 48 59.1 +0.8
     comp=Z,1.9nm,0.8s,baz=59,slow=1.6,SNR=5.6
STKA Stephens Creek      27.75 206  eP         P            01 42 03.9 -0.8
     comp=Z,33nm,0.6s,mb5.1
STKA Stephens Creek      27.75 206  P          P            01 42 04.5 -0.3
     comp=Z,41nm,0.7s,mb5.2,baz=21,slow=10.0,SNR=25
STKA                                ScP        ScP          01 49 03.1 +0.9
     comp=Z,12nm,1.1s,baz=38,slow=3.3,SNR=7.7
STKA                                LR         LR           01 53 20.6
     comp=Z,5μm,18.1s,MS5.2,baz=104,slow=37
CNB  Canberra Magne      28.55 190  eP         P            01 42 12.0 +0.3
     comp=Z,22nm,1.0s,mb4.8
FITZ Fitzroy Crossi      30.99 247  eP         P            01 42 33.2 -0.4
     comp=Z,71nm,0.6s,mb5.7
FITZ Fitzroy Crossi      30.99 247  eP         P            01 42 33.2 -0.4
     comp=Z,235nm,1.3s,mb5.9
FITZ Fitzroy Crossi      30.99 247  P          P            01 42 33.3 -0.3
     comp=Z,47nm,0.8s,mb5.4,baz=80,slow=9.0,SNR=45
BATI Kupang              31.55 262  P          P            01 42 39.0 +0.3
     comp=Z,22nm,0.5s,mb5.3,baz=144,slow=1.2,SNR=6.9
AFI  Afiamalu            32.88 104  eP         P            01 42 51.6 +1.3
     comp=Z,97nm,0.8s,mb5.8
AFI  Afiamalu            32.88 104  eP         P            01 42 51.6 +1.3
AFI                                 pmax       pmax
     comp=Z,97nm,0.8s,mb5.8
RAO  Raoul Island        33.33 135  LR         LR           01 54 03.0
     comp=Z,1μm,21.2s,MS4.5,baz=231,slow=32
KAPI Kappang             35.55 271  P          P            01 43 13.8 +0.3
     comp=Z,906nm,0.8s,SNR=24
TAU  Tasmania Unive      36.29 190  eP         P            01 43 13.2 -6.2
     comp=Z,79nm,1.0s,mb5.6
TAU  Tasmania Unive      36.29 190  eP         P            01 43 13.2 -6.2
TAU                                 pmax       pmax
     comp=Z,79nm,1.0s,mb5.6
URZ  Urewera             36.62 151  P          P            01 43 21.2 -1.2
     comp=Z,5.0nm,0.8s,mb4.4,baz=197,slow=11,SNR=2.8
MBWA Marble Bar          37.20 244  eP         P            01 43 26.6 -0.9
     comp=Z,36nm,1.0s,mb5.2
RPZ  Rata Peaks          38.87 162  P          P            01 43 40.4 -0.9
     comp=Z,12nm,0.8s,mb4.7,baz=298,slow=3.4,SNR=5.4
PPR  Puerto Princes      40.27 294  eP         P            01 43 52.7 -0.7
KLBR Kellerberrin        42.71 230  eP         P            01 44 12.0 -1.2
     comp=Z,20nm,0.5s,mb5.1
NWAO Narrogin (SRO)      43.70 229  eP         P            01 44 19.8 -1.4
     comp=Z,10.0nm,0.8s,mb4.6
NWAO Narrogin (SRO)      43.70 229  eP         P            01 44 19.8 -1.4
NWAO                                pmax       pmax
     comp=Z,10.0nm,0.8s
NWAO Narrogin (SRO)      43.70 229  P          P            01 44 20.0 -1.2
     comp=Z,8.1nm,0.6s,mb4.6,baz=83,slow=6.9,SNR=6.0
MUN  Mundaring           44.06 231  eP         P            01 44 24.5 +0.4
NACB Ninganchiao         45.41 314  eP         P            01 44 34.3 -0.6
RAR  Rarotonga           45.42 113  P          P            01 44 34.7 -0.4
     comp=Z,24nm,0.7s,mb5.1,baz=239,slow=9.6,SNR=3.9
KSM  Kuching             45.85 279  eP         P            01 44 38.6  0.0
YHNB Yeheng              45.88 315  eP         P            01 44 38.9 +0.3
JNU  Nakatsue            46.39 331  P          P            01 44 41.7 -0.8
     comp=Z,14nm,0.6s,mb5.0,baz=51,slow=5.5,SNR=4.2
MJAR Matsushiro Arr      46.41 341  P          P            01 44 41.2 -1.4
MJAR                                                        01 46 17.4
MJAR Matsushiro Arr      46.41 341  P          P            01 44 41.1 -1.4
     comp=Z,11nm,0.6s,mb5.0,baz=166,slow=8.4,SNR=17
MJAR                                PcP        PcP          01 46 17.4  0.0
     comp=Z,5.0nm,0.6s,baz=170,slow=3.8,SNR=5.5
MJAR                                ScP        ScP          01 50 13.8 +2.8
     comp=Z,1.3nm,0.3s,baz=157,slow=4.6,SNR=4.0
MAJO Matsushiro          46.41 341  eP         P            01 44 41.8 -0.8
     comp=Z,23nm,0.6s,mb5.3
MAJO Matsushiro          46.41 341  eP         P            01 44 41.8 -0.8
MAJO                                pmax       pmax
     comp=Z,23nm,0.6s,mb5.3
MAT  Matsushiro          46.41 341  P          P            01 44 42.0 -0.6
QZH  Quanzhou            48.04 313 ⇓iP          P            01 44 56.9 +1.4
QZH                                 AMB        AMB
     comp=Z,200nm,1.2s,mb6.0
KSRS Korea Array         51.32 332  P          P            01 45 19.4 -0.9
     comp=Z,8.4nm,0.8s,mb4.8,baz=147,slow=7.6,SNR=19
QIZ  Qiongzhong          51.94 301 ⇓P           P            01 45 27.3 +2.0
NJ2  Nanjing             52.35 320  eP         P            01 45 30.2 +2.1
NJ2                                 AP         pP           01 45 34.8 +3.2
NJ2                                 XP         sP           01 45 37.9 +4.9
NJ2                                 PP         PP           01 47 30.6 +3.7
NJ2                                 S          S            01 52 54.0 +0.3
NJ2                                 XS         sS           01 53 02.0 +2.4
NJ2                                 AMB        AMB
     comp=Z,20nm,0.7s,mb5.2
NJ2                                 AMB        AMB
     comp=Z,2μm,4.6s
ASAJ Asahikawa           52.37 348  P          P            01 45 29.1 +1.2
     comp=Z,38nm,0.8s,mb5.4,baz=238,slow=13,SNR=12
PPT  Papeete             54.51 106  eP         P            01 45 46.1 +1.8
     comp=Z,56nm,1.3s,mb5.4
PPT  Papeete             54.51 106  P          P            01 45 45.8 +1.5
     comp=Z,24nm,0.6s,mb5.4,baz=246,slow=14,SNR=4.7
PAE  Paea                54.52 106  eP         P            01 45 46.3 +2.0
     comp=Z,78nm,0.9s,mb5.7
PAE  Paea                54.52 106  eP         P            01 45 46.3 +2.0
PAE                                 pmax       pmax
     comp=Z,79nm,0.9s,mb5.7
TVO  Taravao             54.84 107  eP         P            01 45 48.5 +1.9
     comp=Z,156nm,0.9s,mb6.0
TVO  Taravao             54.84 107  eP         P            01 45 48.5 +1.9
TVO                                 pmax       pmax
     comp=Z,156nm,0.9s,mb6.0
YSS  Yuzh-Sakhalins      55.07 349  eP         P            01 45 47.7  0.0
     comp=Z,69nm,0.8s,mb5.7
YSS  Yuzh-Sakhalins      55.07 349⇑eP           P            01 45 48.0 +0.3
YSS                                 e                       01 46 53.9
YSS                                 eS         S            01 53 26.0 -4.1
YSS                                 eSS        SS           01 57 16.0 +1.7
YSS                                 pmax       pmax
     comp=Z,30nm,0.9s,mb5.3
YSS                                 MLR        MLR
     comp=N,600nm,19.0s
YSS                                 MLR        MLR
     comp=Z,600nm,19.0s,MS4.7
PMOR Pomariorio Ree      56.13 103  eP         P            01 45 56.7 +1.5
     comp=Z,296nm,1.1s,mb6.2
KULM Kulim               56.07 281  eP         P            01 45 55.0 -0.5
VAH  Vaihoa              56.28 103  eP         P            01 45 58.3 +1.3
     comp=Z,126nm,0.9s,mb6.0
MDJ  Mudanjiang          56.58 338  P          P            01 46 00.4 +1.8
MDJ                                 AMB        AMB
     comp=Z,12nm,1.2s,mb4.8
MDJ                                 AMB        AMB
     comp=Z,607nm,13.2s
MDJ  Mudanjiang          56.58 338  eP         P            01 45 57.9 -0.8
     comp=Z,18nm,1.1s,mb5.0
CN2  Changchun           57.56 335  eP         P            01 46 05.8 +0.3
CN2                                 eXP        sP           01 46 12.6 +2.1
CN2                                 eS         S            01 54 03.0 -0.2
CN2                                 AMB        AMB
     comp=Z,10.0nm,0.6s,mb5.0
GYA  Guiyang             57.93 307⇑iP           P            01 46 11.4 +2.9
GYA                                 AP         pP           01 46 15.8 +3.7
GYA                                 XP         sP           01 46 18.7 +5.2
GYA                                 PCP        PcP          01 47 03.0 +2.2
GYA                                 PP         PP           01 48 22.4 +5.4
GYA                                 SCP        ScP          01 51 02.4 +1.3
GYA                                 S          S            01 54 10.8 +2.1
GYA                                 SCS        ScS          01 55 57.5 -1.0
GYA                                 SS         SS           01 58 02.9 +2.9
GYA                                 AMB        AMB
     comp=Z,60nm,1.0s,mb5.6
GYA                                 AMB        AMB
     comp=Z,7μm,10.6s
GYA                                 LR         LR
     comp=N,5μm,22.2s,MS5.8
GYA                                 LR         LR
     comp=E,6μm,19.0s,MS5.8
GYA                                 LR         LR
     comp=Z,5μm,20.8s,MS5.6
NST  Nakhon Sawan        59.30 293  P          P            01 46 18.4 +0.2
KLR  Kul'dur             59.88 342  eP         P            01 46 18.0 -3.6
KLR                                 pmax       pmax
     comp=Z,50nm,1.6s,mb5.3
XAN  Xi'an               60.16 316  P          P            01 46 23.9 +0.1
XAN                                 AP         pP           01 46 30.9 +3.5
XAN                                 AMB        AMB
     comp=Z,10.0nm,0.9s,mb4.8
XAN                                 LR         LR
     comp=N,361nm,20.8s,MS4.7
XAN                                 LR         LR
     comp=E,417nm,20.8s,MS4.7
XAN                                 LR         LR
     comp=Z,690nm,19.9s,MS4.8
KMI  Kunming             60.49 304  P          P            01 46 28.2 +1.9
KMI                                 AMB        AMB
     comp=Z,33nm,0.9s,mb5.4
CHRT Chiangrai           61.00 297 ⇓P           P            01 46 31.0 +1.1
     comp=Z,368nm,1.1s,mb6.4
CHG  Chiang Mai          61.39 296  PG         P            01 46 34.1 +1.6
CHTO Chiang Mai          61.39 296  eP         P            01 46 32.9 +0.4
CD2  Chengdu             62.28 310  eP         P            01 46 38.9 +0.6
CD2                                 PP         PP           01 48 58.2 +2.7
CD2                                 S          S            01 55 03.7 -0.9
CD2                                 SS         SS           01 59 09.1 +0.9
CD2                                 AMB        AMB
     comp=Z,40nm,0.8s,mb5.6
HHC  Hu-ho-hao-te        62.51 324  eP         P            01 46 41.0 +1.3
HHC                                 AP         pP           01 46 45.6 +2.3
HHC                                 XP         sP           01 46 48.1 +3.5
HHC                                 PP         PP           01 49 01.0 +3.6
HHC                                 SCP        ScP          01 51 18.9 -2.2
HHC                                 PCS        PcS          01 51 22.0  0.0
HHC                                 S          S            01 55 07.7 +0.6
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HHC XS sS 01 55 15.8 +2.7
HHC SCS ScS 01 56 29.4 -2.7
HHC SS SS 01 59 13.4 +1.9
HHC AMB AMB
comp=Z,12nm,0.4s,mb5.4
HHC AMB AMB
comp=Z,518nm,5.0s
HHC LR LR
comp=N,591nm,17.2s,MS5.0
HHC LR LR
comp=E,723nm,16.9s,MS5.0
HHC LR LR
comp=Z,2μm,34.3s
HIA Hailar 64.28 335 *e*P **P 01 46 51.5 +0.3**
comp=Z,20nm,0.8s,mb5.2
HIA Hailar 64.28 335 *e*P **P 01 46 51.5 +0.3**
HIA pmax pmax
comp=Z,20nm,0.8s
LZH Lanzhou 64.77 315 *e*P **P 01 46 56.1 +1.4**
LZH AP pP 01 46 59.4 +1.1
LZH PP PP 01 49 20.9 +3.6
LZH *e*S **S 01 55 36.0 +0.6**
LZH XS sS 01 55 41.2 -0.2
LZH *e*SS SS 01 59 48.2 +1.3
LZH AMB AMB
comp=Z,37nm,1.3s,mb5.2
LZH AMB AMB
comp=Z,125nm,4.6s
LZH LR LR
comp=E,732nm,15.9s
LZH LR LR
comp=Z,1μm,16.9s,MS5.1
LZH Lanzhou 64.77 315 *e*P **P 01 46 56.1 +1.4**
LZH 01 49 20.9
LZH *e*S **S 01 55 36.0 +0.6**
LZH *e*SS SS 01 59 48.2 +1.3
MA2 Magadan 66.65 357 *e*P **P 01 47 04.8 -1.5**
MA2 Magadan 66.65 357 *e*P **P 01 47 06.4 +0.1**
MA2 *e* 01 47 24.1
MA2 *e* 01 47 34.3
MA2 pmax pmax
comp=Z,20nm,0.7s,mb5.3
IMP Imphal 67.77 300 *e*P **P 01 47 14.0 -0.2**
CLNS Chul'man 68.54 343 *e*P **P 01 47 21.9 +3.6**
CLNS pmax pmax
comp=Z,29nm,0.7s,mb5.3
CLNS pmax pmax
comp=N,23nm,0.6s
CLNS pmax pmax
comp=E,17nm,0.7s
CIT Chita 68.98 334 *e*P **P 01 47 22.2 +1.1**
GTA Gaotai 69.19 317 P **P 01 47 23.5 +0.8**
GTA AP pP 01 47 27.1 +0.7
GTA XP sP 01 47 28.5 +0.8
GTA PP PP 01 49 59.5 +3.7
GTA S S 01 56 29.9 +1.3
GTA XS sS 01 56 37.9 +3.2
GTA SS SS 02 00 58.8 +3.4
GTA AMB AMB
comp=Z,7.0nm,1.4s,mb4.4
GTA AMB AMB
comp=Z,899nm,7.2s
GTA LR LR
comp=N,605nm,17.1s,MS5.0
GTA LR LR
comp=E,601nm,17.9s,MS5.0
GTA LR LR
comp=Z,906nm,17.5s,MS5.1
SONM Songino Array 69.74 327 P **P 01 47 26.5 +0.6**
SONM ⇑*e* 02 15 30.9
SONM Songino Array 69.74 327 P **P 01 47 26.5 +0.6**
comp=Z,20nm,0.8s,mb5.1,baz=135,slow=6.2,SNR=64
SONM PKP2bc 02 15 30.9
comp=Z,2.2nm,0.9s,baz=291,slow=1.4,SNR=6.3
SHL Shillong 69.78 300 *e*P **P 01 47 27.0 +0.3**
SHL *e*S S 01 56 38.0 +1.8
comp=E,13nm,1.0s
VNDA Vanda 70.38 179 P **P 01 47 29.8 +0.3**
VNDA Vanda 70.38 179 P **P 01 47 29.8 +0.3**
comp=E,4.6nm,1.1s,mb4.3,baz=354,slow=7.2
SBA Scott Base 70.88 177 *e*P **P 01 47 34.4 +1.9**
comp=E,85nm,1.6s,mb5.4
SBA Scott Base 70.88 177 *e*P **P 01 47 34.4 +1.9**
SBA pmax pmax
comp=Z,85nm,1.6s,mb5.4
LSA Lhasa 71.75 304 P **P 01 47 40.7 +2.1**
LSA AMB AMB
comp=Z,30nm,1.0s,mb5.2
LSA Lhasa 71.75 304 *e*P **P 01 47 40.3 +1.7**
comp=Z,9.4nm,1.0s,mb4.7
LSA Lhasa 71.75 304 *e*P **P 01 47 40.3 +1.7**
LSA pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
YAK Yakutsk 71.84 348 *e*P **P 01 47 39.1 +0.7**
YAK Yakutsk 71.84 348 *e*P **P 01 47 38.9 +0.5**
YAK pmax pmax
comp=Z,67nm,0.9s,mb5.6
YAK pmax pmax
comp=N,12nm,1.0s
YAK pmax pmax
comp=E,7.0nm,1.1s
SDPT Sand Point 72.23 25 *e*P **P 01 47 40.8 -0.2**
ZAK Zakamensk 72.89 328⇓*e*P **P 01 47 45.2 +0.2**
ZAK pmax pmax
comp=Z,13nm,1.1s,mb4.8
BOD Bodaibo 72.96 338 *e*P **P 01 47 45.0 -0.2**
BOD pmax pmax
comp=Z,15nm,1.4s,mb4.7
TLY Talaya 73.46 329 *e*P **P 01 47 48.1 -0.2**
comp=Z,14nm,1.0s,mb4.8
TLY Talaya 73.46 329 *e*P **P 01 47 48.1 -0.2**
TLY pmax pmax
comp=Z,14nm,1.0s,mb4.8
CHGN Chignik 73.74 25 *e*P **P 01 47 48.3 -1.5**
BOK Bokaro 74.48 297 *e*P **P 01 47 53.6 -1.3**
BOK AMb AMB 01 48 04.8
comp=Z,106nm,1.8s,mb5.5
MOY Mondy 74.81 328 *e*P **P 01 47 57.3 +1.1**
MOY pmax pmax
comp=Z,20nm,2.0s,mb4.7
GAMB Gambell 74.99 14 *e*P **P 01 47 57.8 +0.8**
JIRN Jiri 75.27 301 *e*P **P 01 48 00.1 +0.7**
comp=Z,95nm,0.8s,mb5.8
VIS Vishakhapatnam 75.36 290 *e*P **P 01 47 58.1 -1.9**
VIS AMb AMB 01 48 09.6
comp=Z,74nm,1.5s,mb5.4
BILL Bilibino 75.44 4 *e*P **P 01 47 59.7 +0.2**
comp=Z,64nm,1.1s,mb5.5
BILL Bilibino 75.44 4 *e*P **P 01 48 00.6 +1.1**
BILL pmax pmax
comp=Z,30nm,1.0s,mb5.2
PALK Pallekele 75.92 279 *e*P **P 01 48 02.8 -0.5**
KKN Kakani 76.08 301 *e*P **P 01 48 04.5 +0.5**
comp=Z,80nm,0.7s,mb5.8
GKN Gorkha 76.68 301 *e*P **P 01 48 07.6 +0.2**
comp=Z,384nm,1.3s,mb6.2
KDAK Kodiak Island 77.14 26 *e*P **P 01 48 09.8 +0.4**
KDAK Kodiak Island 77.14 26 P **P 01 48 08.7 -0.7**
comp=Z,12nm,0.8s,mb4.9,baz=170,slow=3.4,SNR=13
TNA Tin City 77.39 15 *e*P **P 01 48 11.8 +1.2**
KOLN Koldanda 77.51 300 *e*P **P 01 48 12.2 +0.1**
comp=Z,196nm,1.2s,mb5.9
SVW2 Sparrevohn 78.01 22 *e*P **P 01 48 13.0 -1.1**
TTA Tatalina 79.04 20 *e*P **P 01 48 18.6 -1.2**
WMQ Urumqi 79.27 317 *e*P **P 01 48 23.5 +2.0**
WMQ AMB AMB
comp=Z,10.0nm,1.2s,mb4.6
SLKM Skilak Lake 79.73 24 *e*P **P 01 48 22.3 -1.3**
HYB Hyderabad 79.76 289 *e*P **P 01 48 24.5 -0.2**
HYB Hyderabad 79.76 289 *i* P **P 01 48 24.5 -0.2**
TIXI Tiksi 80.61 352 *e*P **P 01 48 28.1 -0.1**
comp=Z,60nm,1.7s,mb5.2
TIXI Tiksi 80.61 352 *e*P **P 01 48 27.4 -0.7**
TIXI *e* 01 48 33.9
TIXI pmax pmax
comp=Z,25nm,2.0s,mb4.8
LGTI Lohaghat 80.78 301 *e*P **P 01 48 30.0 0.0**
PMR Palmer 80.78 24 *e*P **P 01 48 28.3 -1.0**
comp=Z,20nm,0.8s,mb5.1
PMR Palmer 80.78 24 *e*P **P 01 48 28.3 -1.0**
PMR pmax pmax
comp=Z,20nm,0.8s,mb5.1
SML Sawmill 81.22 24 *e*P **P 01 48 31.9 +0.4**
IMA2 Indian Mountai 81.84 19 *e*P **P 01 48 34.2 -0.6**
BHPL Bhopal 81.92 295 *e*P **P 01 48 36.0 -0.1**
BHPL AMb AMB 01 48 43.4
comp=Z,64nm,0.9s,mb5.6
MCK McKinley 82.07 22 *e*P **P 01 48 35.2 -0.8**
comp=Z,46nm,0.9s,mb5.4
MCK McKinley 82.07 22 *e*P **P 01 48 35.2 -0.8**
MCK pmax pmax
comp=Z,45nm,0.9s,mb5.4
DDI Dehra Dun 82.83 302 *e*P **P 01 48 38.5 -2.3**
COLA College 83.10 21 *e*P **P 01 48 39.1 -2.3**
comp=Z,20nm,0.8s,mb5.2
COLA College 83.10 21 *e*P **P 01 48 39.1 -2.3**
COLA pmax pmax
comp=Z,20nm,0.8s,mb5.2
MKAR Makanchi Array 83.84 319 P **P 01 48 45.4 -0.2**
comp=Z,6.0nm,0.7s,mb4.8,baz=108,slow=11,SNR=14
KAD Karad 83.84 288 *e*P **P 01 48 46.1 -0.1**
KAD AMb AMB 01 48 54.7
comp=Z,68nm,1.5s,mb5.6
POO Poona 84.36 289 *e*P **P 01 48 48.0 -0.9**
MAW Mawson 84.39 203 *e*P **P 01 48 48.9 +0.8**
comp=Z,20nm,0.8s,mb5.3
MAW Mawson 84.39 203 *e*P **P 01 48 48.9 +0.8**
MAW pmax pmax
comp=Z,20nm,0.8s
MAW Mawson 84.39 203 P **P 01 48 47.9 -0.2**
comp=Z,32nm,1.0s,mb5.4,baz=95,slow=6.6,SNR=21
ZAA0 Zalesovo Array 84.59 326 *e*P **P 01 48 48.0 -1.2**
ZALV Zalesovo Beam 84.59 326 P **P 01 48 48.1 -1.1**
comp=Z,6.0nm,0.7s,mb4.9,baz=118,slow=5.7,SNR=14
ZAL Zalesovo 84.60 326 P **P 01 48 48.1 -1.2**
AJM Ajmer 85.01 297 *e*P **P 01 48 51.5 -0.5**
THN Thein Dam 85.22 303 *e*P **P 01 48 51.7 -1.2**
EGAK Eagle 85.52 23 *e*P **P 01 48 54.0 +0.3**
NVS Novosibirsk 85.76 326 *i* P **P 01 48 54.3 -0.8**
SKAG Skagway 85.82 29 *e*P **P 01 48 53.8 -1.5**
comp=Z,9.6nm,1.0s,mb5.0
DAWY Dawson 85.89 24 *e*P **P 01 48 56.2 +0.6**
KSH Kashi 86.48 310 P **P 01 49 01.3 +2.3**
KSH AP pP 01 49 05.8 +3.1
KSH XP sP 01 49 08.1 +4.0
KSH PP PP 01 52 25.2 +4.5
KSH SKS 01 59 24.4
KSH S S 01 59 36.2 +0.8
KSH XS sS 01 59 44.4 +2.8
KSH SS SS 02 05 21.3 +5.4
KSH AMB AMB
comp=Z,139nm,0.8s,mb6.2
KSH AMB AMB
comp=Z,902nm,4.2s
KSH LR LR
comp=N,798nm,6.5s
KSH LR LR
comp=E,951nm,4.5s
KSH LR LR
comp=Z,767nm,4.5s
KURK Kurchatov 87.26 322 *e*P **P 01 49 01.6 -0.9**
comp=Z,19nm,1.3s,mb5.2
KURK Kurchatov 87.26 322 *e*P **P 01 49 01.6 -0.9**
KURK pmax pmax
comp=Z,19nm,1.3s,mb5.2
DLBC Dease Lake 88.08 30 *e*P **P 01 49 07.2 +0.9**
DLBC Dease Lake 88.08 30 P **P 01 49 05.5 -0.8**
baz=289,slow=5.1
AAK Ala-Archa 88.21 313 *e*P **P 01 49 06.4 -0.9**
comp=Z,3.7nm,0.7s,mb4.7
AAK Ala-Archa 88.21 313 *e*P **P 01 49 06.4 -0.9**
AAK pmax pmax
comp=Z,4.0nm,0.7s,mb4.8
AML Almayashu 88.69 313 *e*P **P 01 49 10.2 +0.7**
comp=Z,14nm,0.9s,mb5.3
INK Inuvik 89.74 21 *e*P **P 01 49 13.7 -0.2**
INK Inuvik 89.74 21 P **P 01 49 13.2 -0.7**
comp=Z,30nm,1.2s,mb5.5,baz=223,slow=6.3,SNR=14
KBL Kabul 91.08 305 *e*P **P 01 49 19.9 -1.1**
comp=Z,8.5nm,0.6s,mb5.2
MWC Mount Wilson 91.11 56 *e*P **P 01 49 20.5 -0.6**
NVAR Mina Array Bea 91.49 52 P **P 01 49 23.0 +0.2**
comp=Z,2.9nm,0.8s,mb4.7,baz=245,slow=4.0,SNR=16
SYO Syowa Base 92.29 199⇑*e*P **P 01 49 24.2 -1.6**
SYO Syowa Base 92.29 199⇑*e*pP pP 01 49 29.6 0.0
PFO Pinyon Flat Ob 92.35 57 P **P 01 49 27.1 +0.3**
comp=Z,1.8nm,0.7s,mb4.5,baz=139,slow=6.8,SNR=2.7
BRVK Borovoye 92.79 323 *e*P **P 01 49 27.9 -0.5**
BMO Blue Mountains 93.06 45 *e*P **P 01 49 29.1 -0.8**
YKW3 Yellowknife Ar 96.30 28 *e*P **P 01 49 44.0 -0.2**
YKA Yellowknife Ar 96.30 28 P **P 01 49 43.8 -0.4**
comp=Z,6.1nm,0.7s,mb5.1,baz=265,slow=4.5,SNR=37
YKA PKKPbc PKKPbc 02 06 29.2 -3.5
comp=Z,0.3nm,0.6s,baz=78,slow=2.7,SNR=7.4
EDM Edmonton 96.42 37 *e*P **P 01 49 44.7 -0.3**
PDAR Pinedale Array 98.49 48 P **P 01 49 53.9 -0.7**
comp=Z,1.4nm,0.8s,mb4.5,baz=234,slow=2.5,SNR=11
ARCES ARCESS Array B 109.90 343 PKiKP PKiKP 01 54 46.8 0.0
comp=Z,4.6nm,0.8s,baz=68,slow=2.1,SNR=10
FINES FINESS Array B 114.30 336 PKP PKiKP 01 54 54.7 -0.7
comp=Z,1.8nm,0.8s,baz=91,slow=2.7,SNR=12
FINES PKKPbc PKKPbc 02 05 34.3 -3.2
comp=Z,1.5nm,0.8s,baz=149,slow=4.4,SNR=4.7
PLCA Paso Flores 116.30 142 PKP PKPdf 01 55 00.3 +0.4
PLCA PKKPbc PKKPbc 02 05 29.1 -1.0
PLCA Paso Flores 116.30 142 PKP PKPdf 01 55 00.3 +0.4
comp=Z,3.2nm,0.7s,baz=179,slow=2.5,SNR=9.5
PLCA PKKPbc PKKPbc 02 05 29.1 -1.0
comp=Z,1.1nm,0.8s,baz=50,slow=9.9,SNR=4.3
SFJD Kangerlussuaq 117.68 11 PKP PKPdf 01 55 01.5 -0.2
comp=Z,4.7nm,0.7s,baz=72,slow=4.3,SNR=3.6
AKASG Malin Array Be 117.96 324 PKP PKPdf 01 55 01.6 -1.1
comp=Z,2.4nm,0.6s,baz=62,slow=2.0,SNR=16
AKASG PKKPbc PKKPbc 02 05 21.4 -3.0
comp=Z,0.5nm,0.5s,baz=258,slow=4.2,SNR=7.9
MMAI Mount Meron Ar 119.00 304 PKP PKPdf 01 55 06.1 +0.7
comp=Z,1.8nm,0.5s,baz=98,slow=10,SNR=2.7
TKL Tuckaleechee C 119.05 53 PKP PKPdf 01 55 04.8 -0.5
TKL Tuckaleechee C 119.05 53 PKP PKPdf 01 55 04.8 -0.5
comp=Z,2.6nm,0.7s,baz=126,slow=20,SNR=3.6
HFS Hagfors 119.84 339 PKP PKPdf 01 55 05.2 -0.9
comp=Z,1.3nm,0.5s,baz=46,slow=4.7,SNR=7.8
HFS PKKPbc PKKPbc 02 05 15.6 -2.2
comp=Z,1.4nm,0.6s,baz=317,slow=6.1,SNR=4.2
EIL Elat 119.96 300 PKP PKPdf 01 55 06.9 -0.4
comp=Z,5.8nm,0.9s,baz=180,slow=8.1,SNR=2.6
NB2 NORSAR Subarra120.03 341 PKPdf PKPdf 01 55 05.0 -1.4
comp=Z,1.7nm,0.8s,baz=39,slow=1.9
NOA NORSAR Array B120.03 341 PKP PKPdf 01 55 05.9 -0.5
comp=Z,2.9nm,0.8s,baz=44,slow=2.0,SNR=8.6
SCHQ Schefferville 121.74 27 PKP PKPdf 01 55 09.4 -0.5
comp=Z,3.8nm,0.9s,baz=245,slow=8.2,SNR=4.5
MLR Muntele Rosu 122.16 320⇑*i*P PKPdf 01 55 11.2 +0.2
KOLS Kolonicke sedl 122.76 325 *e*PKP PKPdf 01 55 12.5 +0.5
LCO Las Campanas 122.83 131 *e*PKPdf PKPdf 01 55 13.1 +0.2
UZH Uzhgorod 122.90 325 *e*PKIKP PKPdf 01 55 09.4 -2.9
UZH *e* 01 55 18.6
STHS Stebnicka Huta 123.09 326 *e*PKP PKPdf 01 55 12.7 0.0
LSZ Lusaka 123.18 247 *e*PKPdf PKPdf 01 55 14.4 +0.6
CRVS Cervenica-Dubn 123.24 325 *e*PKP PKPdf 01 55 11.9 -1.1
KECS Kecovo 124.01 325 *e*PKP PKPdf 01 55 13.7 -0.7
GZR Gura Zlata 124.20 321⇓*i*P PKPdf 01 55 15.4 +0.5
OKC Ostrava-Krasne 124.53 328 *e*PKPdf PKPdf 01 55 18.7 +3.3
OKC *ex* x 01 55 23.7
PSZ Piszkesteto 124.64 325 *e*PKPdf PKPdf 01 55 18.9 +3.3
BZS Buzias 124.81 322⇓*i*P PKPdf 01 55 15.9 -0.2
MORC Moravsky Berou 124.89 328 *e*PKPdf PKPdf 01 55 16.5 +0.4
MORC Moravsky Berou 124.89 328⇓*i*P PKPdf 01 55 16.6 +0.5
VYHS Vyhne 124.92 326 *e*PKP PKPdf 01 55 15.4 -0.8
KOLL Kolacno 125.11 326 *e*PKP PKPdf 01 55 17.1 +0.5
DPC Dobruska-Polom 125.18 329 *e*PKP pPKPdf 01 55 24.4 +3.9
DPC Dobruska-Polom 125.18 329 *ep*PKP pPKPdf 01 55 24.4 +3.9
UPC Upice 125.24 329 *e*PKPdf PKPdf 01 55 17.1 +0.4
UPC *ex* x 01 55 24.8
VRAC Vranov 125.66 328 PKP PKPdf 01 55 18.0 +0.4
comp=Z,1.9nm,0.7s,baz=41,slow=11,SNR=3.2
MODS Modra-Piesok 125.85 327 *e*PKP PKPdf 01 55 18.5 +0.5
PVCC Panska Ves 125.94 330 *e*PKPdf PKPdf 01 55 18.7 +0.6
PVCC *ex* x 01 55 25.0
BRG Berggiesshubel 126.03 331 *e*P Pdif 01 52 04.9 +8.1
BRG *e* 01 52 10.4
BRG *e*PKP PKPdf 01 55 18.2 0.0
BRG *e* 01 55 25.9
BRG Berggiesshubel 126.03 331 *e*PKIKP PKPdf 01 55 18.2 0.0
BRG *e* 01 55 25.9
BRG pmax pmax
comp=Z,50nm,1.1s
BRG Berggiesshubel 126.03 331 *e*P Pdif 01 52 04.9 +8.1
comp=Z,84nm,2.0s
BRG *e* 01 52 10.4
comp=Z,83nm,2.5s
BRG Berggiesshubel 126.03 331 *e*PKP PKPdf 01 55 18.2 0.0
comp=Z,9.0nm,1.1s
BRG *e* 01 55 25.9
comp=Z,16nm,1.3s
CLL Collm 126.19 332 *i* PKIKP PKPdf 01 55 18.6 +0.1
CLL *e* 01 55 26.0
CLL pmax pmax
comp=Z,9.0nm,1.1s
CLL Collm 126.19 332 *i* PKPdf PKPdf 01 55 18.6 +0.1
comp=Z,9.0nm,1.1s
CLL *e*(pPKPdf) 01 55 26.0
comp=Z,10.0nm,1.0s
TREC Trest 126.25 329 *e*PKPdf PKPdf 01 55 18.9 +0.2
TREC *ex* x 01 55 26.1
PKSM Moragy 126.28 324⇑*i*P PKPdf 01 55 18.6 -0.3
PRU Pruhonice 126.30 330 *e*PKP PKPdf 01 55 21.9 +3.1
NKC Novy Kostel 127.17 331 *e*PKPdf PKPdf 01 55 21.1 +0.7
NKC *ex* x 01 55 28.1
MOX Moxa 127.29 332 *e*PKP PKPdf 01 55 22.5 +1.8
comp=Z,34nm,1.9s
MOX Moxa 127.29 332 *e*PKIKP PKPdf 01 55 22.5 +1.8
MOX pmax pmax
comp=Z,84nm,1.9s
KHC Kasperske Hory 127.33 329 *e*PKPdf PKPdf 01 55 21.4 +0.6
KHC *ex* x 01 55 29.0
GERES GERESS Array B 127.45 329 PKP PKPdf 01 55 21.3 +0.3
comp=Z,2.4nm,0.7s,baz=70,slow=2.0,SNR=17
PERS Pernice 128.05 326 *i* PKPdf PKPdf 01 55 24.9 +2.6
GRA1 Grafenberg Arr 128.12 331 *e*PKPdf PKPdf 01 55 22.0 -0.3
GRA1 *ep*PKPdf pPKPdf 01 55 29.4 +3.3
GRF Grafenberg Arr 128.12 331 *e*PKPdf PKPdf 01 55 22.0 -0.3
GRF *ep*PKPdf pPKPdf 01 55 29.4 +3.3
BOJS Bojanci 128.64 325 *i* PKPdf PKPdf 01 55 24.2 +0.8
BOJS *i* 01 55 32.2
EKA Eskdalemuir Ar 129.04 344 PKP PKPdf 01 55 24.6 +0.7
comp=Z,2.0nm,0.6s,baz=17,slow=2.8,SNR=12
EKA SKPbc 01 58 46.8
comp=Z,2.5nm,0.9s,baz=29,slow=4.2,SNR=5.6
JAVS Javornik 129.08 326 *i* PKPdf PKPdf 01 55 24.7 +0.4
MEM Membach 129.81 335 PKPdf PKPdf 01 55 26.6 +1.1
WLF Walferdange 130.45 334 PKPdf PKPdf 01 55 27.2 +0.5
ROSC El Rosal 130.46 90 PKP PKPdf 01 55 28.4 +0.6
comp=Z,7.6nm,0.4s,baz=103,slow=23,SNR=11
ROSC SKPbc SKPbc 01 58 51.7 +0.4
comp=Z,2.3nm,0.6s,baz=119,slow=23,SNR=4.4
DAVOX Davos/Dischmat 130.75 329 PKP PKPdf 01 55 27.8 +0.5
comp=Z,4.2nm,0.7s,baz=36,slow=9.6,SNR=10
DAVOX SKPbc SKPbc 01 58 52.3 +0.9
comp=Z,2.0nm,0.6s,baz=2.4,slow=17,SNR=3.0
LPAZ La Paz 130.97 119 PKP PKPdf 01 55 29.9 +1.2
comp=Z,7.9nm,0.6s,baz=307,slow=1.2,SNR=30
LPAZ SKPbc SKPbc 01 58 54.1 +1.0
comp=Z,2.8nm,0.4s,baz=318,slow=3.7,SNR=9.6
LPL La Plagne 133.20 330 *e*PKIKP PKPdf 01 55 25.8 -6.3
LPG La Plagne 133.21 330 *e*PKIKP PKPdf 01 55 26.1 -6.0
comp=Z,12nm,0.8s
SSF Saint Saulge 133.58 334 *e*PKIKP PKPdf 01 55 26.3 -6.4
SDV Santo Domingo 134.36 85 *e*PKPdf PKPdf 01 55 34.7 -0.4
TCF Toulx Ste Croi 134.74 334 *e*PKIKP PKPdf 01 55 28.3 -6.6
comp=Z,23nm,1.0s
ETOR Torete 140.96 333 PKP PKPdf 01 55 42.1 -4.5
ECHE Chera 141.41 330 PKP PKPdf 01 55 42.7 -4.7
GUD Guadarrama 142.03 334 PKP PKPdf 01 55 44.5 -4.0
MVO Moncorvo 142.74 338 *e*PKP PKPdf 01 55 46.1 -3.6
ESDC Sonseca Array 142.74 333 PKhKP 01 55 45.8
comp=Z,2.4nm,0.9s,baz=22,slow=3.1,SNR=7.4
ESDC PP PP 01 58 55.4 -1.8
comp=Z,0.6nm,0.6s,baz=16,slow=6.6,SNR=4.1
EVIA Vianos 142.89 331 PKP PKPdf 01 55 49.4 -0.7
PVIS Viseu 143.45 339 *e*PKP PKPdf 01 55 48.5 -2.5
MTE Manteigas 143.60 338 *e*PKP PKPdf 01 55 49.2 -2.1
MTE Manteigas 143.60 338 *e*PKPdf PKPdf 01 55 49.6 -1.7
EQES Quesada 143.83 331 PKP PKPdf 01 55 49.4 -2.3
EBAN Banos Encina 143.88 332 PKP PKPdf 01 55 49.9 -1.9
ENIJ Nijar 144.04 329 PKP PKPdf 01 55 49.1 -3.0
PCBR Castelo Branco 144.06 337 *e*PKP PKPdf 01 55 50.5 -1.6
EADA Adamuz 144.25 333 PKP PKPdf 01 55 49.9 -2.6
EBER Berja 144.44 329 PKP PKPdf 01 55 50.4 -2.5
ECOG Cogollos-Vega 144.48 331 PKP PKPdf 01 55 50.8 -2.1
ELUQ Luque 144.59 332 PKP PKPdf 01 55 52.0 -1.1
ECAB El Cabril 144.70 333 PKP PKPdf 01 55 52.5 -0.7
ERON Agron 144.81 331 PKP PKPdf 01 55 51.6 -1.9
EBAD Badajoz 144.81 336 PKP PKPdf 01 55 51.8 -1.6
EGUA Guajares 144.83 330 PKP PKPdf 01 55 51.9 -1.6
ELOJ Sierra Loja 144.87 331 PKP PKPdf 01 55 51.9 -1.7
PESTR Estremoz 144.94 337 *e*PKP PKPdf 01 55 53.1 -0.5
EALB Alboran 145.26 329 PKP PKPdf 01 55 51.1 -3.2
PBAR Barrancos 145.31 335 *e*PKP PKPdf 01 55 54.4 +0.1
EVO Evora 145.40 337⇑*i*PKIKP PKPdf 01 55 54.8 +0.4
comp=Z,164nm,1.2s
PMAFR Mafra 145.50 339 *e*PKP PKPdf 01 55 55.1 +0.5
EMIN Mina Concepcio 145.50 335 PKP PKPdf 01 55 55.0 +0.3
EMIJ Mijas 145.63 331 PKP PKPdf 01 55 51.4 -3.5
PBEJ Beja 145.78 336 *e*PKP PKPdf 01 55 56.1 +1.0
ESPR Espera 145.89 333 PKP PKPdf 01 55 56.6 +1.3
EGRO El Granado 146.04 335 PKP PKPdf 01 55 55.5 -0.1
PVAQ Vaqueiros 146.25 335 *e*PKP PKPdf 01 55 57.6 +1.7
PBDV Barranco-do-Ve 146.48 336 *e*PKP PKPdf 01 55 58.6 +2.3
PTEO Sao Teotonio 146.53 337 *e*PKP PKPdf 01 55 58.6 +2.2
MORF Marmelete 146.71 337 *e*PKP PKPdf 01 55 59.1 +2.4
PFVI Vila Bisbo 146.93 337 *e*PKP PKPdf 01 55 59.8 +2.7
MDT Midelt 148.48 327 PKPbc PKPbc 01 56 02.4 -1.0
comp=Z,18nm,1.0s,baz=78,slow=3.6,SNR=16
TORD Torodi Ar. Bea 153.51 285 PKP PKPdf 01 56 07.2 -0.7
comp=Z,1.3nm,0.8s,baz=29,slow=3.4,SNR=3.6
TORD PKPbc PKPbc 01 56 13.9 -1.7
comp=Z,7.1nm,0.7s,baz=55,slow=2.5,SNR=12

*NEIC **02** 01:38:41.9, 34.05S×70.13W, h3km, ML2.5(GUC), After GUC.*
GUC 02 01:38:41.9±0.8, 34.05S×70.13W, h3km±2km, MD4.1, ML2.5, 5C-5D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CACH	**El Canelo**	**0.40**	**260**	⇑*i*P		Pg	01 38 50.1	+0.6
CACH				*i* S		Sg	01 38 56.0	+1.4
CHCH	**Chadas Angostu**	**0.45**	**285**	⇓*i*P		Pg	01 38 51.6	+1.1
CHCH				*i* S		Sg	01 38 58.2	+1.9
SJCH	**San Jose de Ma**	**0.45**	**335**	*e*P		Pg	01 38 50.7	+0.2
SJCH				*i* S		Sg	01 38 58.1	+1.8
SJCH	**San Jose de Ma**	**0.45**	**335**	*e*P		Pg	01 38 50.7	+0.2
SJCH				*i* S		Sg	01 38 58.1	+1.8
SJCH				AML		AML	01 38 59.8	
comp=N,441nm,0.3s								
PCH	**Pirque**	**0.53**	**323**	⇓*i*P		Pg	01 38 53.1	+1.0
ANTU	**Antumapu**	**0.64**	**319**⇑*e*P			Pg	01 38 54.7	+0.6
ANTU				*i* S		Sg	01 39 04.7	+2.4
ANTU	**Antumapu**	**0.64**	**319**⇑*e*P			Pg	01 38 54.7	+0.6
ANTU				*i* S		Sg	01 39 04.7	+2.4
ANTU				AML		AML	01 39 05.6	
comp=E,666nm,0.1s								
FCH	**Farellones**	**0.73**	**349**	⇓*i*P		Pg	01 38 56.0	+0.1
FCH				*i* S		Sg	01 39 07.7	+2.3
FCH				AML		AML	01 39 10.0	
comp=N,314nm,0.3s								
CLCH	**Cerro Calan**	**0.73**	**332**⇑*e*P			Pg	01 38 56.6	+0.6
CLCH				*i* S		Sg	01 39 08.1	+2.6
CLCH				AML		AML	01 39 10.7	
comp=N,376nm,0.6s								
TACH	**Talagante**	**0.78**	**300**⇓*e*P			Pg	01 38 57.2	+0.4
TACH				*i* S		Sg	01 39 09.2	+2.2
SFDO	**San Fernando**	**0.92**	**232**⇑*i*P			Pg	01 38 59.1	-0.5
SFDO				*i* S		Sg	01 39 12.2	+0.6
PEL	**Peldehue**	**1.01**	**333**	*e*P		Pg	01 39 01.5	+0.2
PEL				*i* S		Sg	01 39 16.3	+1.8
PEL				AML		AML	01 39 18.0	
comp=E,345nm,0.5s								
LNV	**Longovilo**	**1.07**	**275**	*e*P		Pg	01 39 01.7	-0.6
JACH	**Jahuel**	**1.42**	**344**⇓*i*P			Pn	01 39 08.2	-0.4
JACH				*i* S		Sb	01 39 27.6	+0.2

*CSEM **02** 01:44:06.7±0.5, 37.96N×17.88W, h20km, ML4.2/8, Error ellipse: s-maj=12.3km s-min=7.2km az=120.0*
*IGIL **02** 01:44:10.6, 37.54N×17.50W, h10km, ML3.7*
*INMG **02** 01:44:16.3±2.6, 37.56N×17.53W, h10km, Mb3.9, ML3.1, Error ellipse: s-maj=14.7km s-min=5.2km az=112.0*
MDD 02 01:44:10.3±1.6, 37.62N×17.44W, h0km, mb4.2/9, Error ellipse: s-maj=18.6km s-min=10.3km az=131.0, PRXIMO,

Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMPS	**Porto Santo**	**4.64**	**168**	*e*Pn	Pn	01 45 20.3	-1.3
PMPS				*e*Sn	Sn	01 46 06.7	-10
PMPS				A		01 46 11.9	
	34nm,0.2s						
PMPS	**Porto Santo**	**4.64**	**168**	P	Pn	01 45 20.3	-1.3
PMPS				S	Sn	01 46 06.7	-10
	17nm,0.2s						
PMAR	**Madeira**	**4.91**	**175**	*e*Pn	Pn	01 45 24.0	-1.3
PMAR				*e*Sn	Sn	01 46 11.8	-11
PMAR				A		01 46 13.3	
	67nm,0.3s						
PMAR	**Madeira**	**4.91**	**175**	P	Pn	01 45 24.0	-1.3
PMAR				S	Sn	01 46 11.8	-11
	34nm,0.3s						
PMAFR	**Mafra**	**6.55**	**76**	*e*Pn	Pn	01 45 47.6	-0.2
PMAFR				*e*Sn	Sn	01 46 57.1	-6.2
PMAFR				A		01 47 03.9	
	41nm,0.4s						
PMAFR	**Mafra**	**6.55**	**76**	*e*Pn	Pn	01 45 47.6	-0.2
PMAFR				*e*Sn	Sn	01 46 57.1	-6.2
	41nm,0.4s						
LIS	**Lisbon**	**6.62**	**78**	*e*P	Pn	01 45 46.4	-2.4
LIS				*e*S	Sn	01 46 56.5	-8.4
LIS				*e*S	Sn	01 46 56.5	-8.4
LIS				AML	AML	01 47 04.9	
	comp=E,159nm,0.2s						
LIS	**Lisbon**	**6.62**	**78**	*e*P	Pn	01 45 46.4	-2.4
LIS				*e*S	Sn	01 46 56.5	-8.5
PFVI	**Vila Bisbo**	**6.88**	**91**	*e*Pn	Pn	01 45 51.5	-0.8
PFVI				*e*Sn	Sn	01 47 03.6	-7.6
PFVI				A		01 47 10.3	
	comp=E,7.6nm,0.3s						
PFVI	**Vila Bisbo**	**6.88**	**91**	*e*Pn	Pn	01 45 51.5	-0.8
PFVI				*e*Sn	Sn	01 47 03.6	-7.6
	comp=E,7.6nm,0.3s						
PTEO	**Sao Teotonio**	**6.92**	**88**	*e*Pn	Pn	01 45 52.3	-0.6
PTEO				*e*Sn	Sn	01 47 04.4	-7.9
PTEO				A		01 47 10.6	
	comp=E,15nm,0.3s						
PTEO	**Sao Teotonio**	**6.92**	**88**	*e*Pn	Pn	01 45 52.3	-0.6
PTEO				*e*Sn	Sn	01 47 04.4	-7.9
	comp=E,15nm,0.3s						
MORF	**Marmelete**	**7.00**	**90**	*e*Pn	Pn	01 45 52.7	-1.3
MORF				*e*Sn	Sn	01 47 05.6	-8.6
MORF				A		01 47 15.6	
	comp=E,10nm,0.2s						
MORF	**Marmelete**	**7.00**	**90**	P	Pn	01 45 52.7	-1.3
MORF				S	Sn	01 47 05.6	-8.6
	comp=E,10nm,0.2s						
MOE	**Montemor**	**7.23**	**80**	*e*Sn	Sn	01 47 13.4	-6.4
PBDV	**Barranco-do-Ve**	**7.57**	**90**	*e*Pn	Pn	01 46 01.1	-0.8
PBDV				*e*Sn	Sn	01 47 21.3	-7.1
PBDV				A		01 47 27.0	
	comp=E,9.0nm,0.3s						
PBDV	**Barranco-do-Ve**	**7.57**	**90**	*e*Pn	Pn	01 46 01.1	-0.8
PBDV				*e*Sn	Sn	01 47 21.3	-7.1
	comp=E,9.0nm,0.3s						
PBEJ	**Beja**	**7.59**	**84**	*e*Sn	Sn	01 47 20.7	-8.0
PBEJ				A		01 47 25.6	
	comp=E,10nm,0.2s						
PBEJ	**Beja**	**7.59**	**84**	*e*Sn	Sn	01 47 20.7	-8.0
	comp=E,10nm,0.2s						
PVAQ	**Vaqueiros**	**7.73**	**89**	*e*Pn	Pn	01 46 03.3	-0.7
PVAQ				*e*Sn	Sn	01 47 25.1	-7.2
PVAQ				A		01 47 31.6	
	comp=E,10nm,0.2s						
PVAQ	**Vaqueiros**	**7.73**	**89**	P	Pn	01 46 03.3	-0.7
PVAQ				S	Sn	01 47 25.1	-7.2
	comp=E,5.2nm,0.2s						
PESTR	**Estremoz**	**7.85**	**78**	*e*Sn	Sn	01 47 27.8	-7.4
PESTR				A		01 47 32.0	
	comp=E,8.0nm,0.6s						
PESTR	**Estremoz**	**7.85**	**78**	*e*Sn	Sn	01 47 27.8	-7.4
	comp=E,8.0nm,0.6s						
EGRO	**El Granado**	**7.91**	**88**	P	Pn	01 46 06.4	0.0
	comp=E,1.3nm,0.3s,SNR=7.9						
EGRO				S	Sn	01 47 28.8	-7.8
	comp=E,6.1nm,0.2s,SNR=7.9						
EGRO	**El Granado**	**7.91**	**88**	P	Pn	01 46 06.4	0.0
	comp=E,0.2nm,0.1s,SNR=7.9						
PVIS	**Viseu**	**8.03**	**64**	*e*Pn	Pn	01 46 07.9	-0.2
PVIS				*e*Sn	Sn	01 47 31.2	-8.4
PVIS				A		01 47 36.4	
	comp=E,3.4nm,0.1s						
PVIS	**Viseu**	**8.03**	**64**	P	Pn	01 46 07.9	-0.2
PVIS				S	Sn	01 47 31.2	-8.4
	comp=E,1.7nm,0.1s						
PCBR	**Castelo Branco**	**8.09**	**71**	*e*Pn	Pn	01 46 07.4	-1.6
PCBR				*e*Sn	Sn	01 47 33.4	-7.8
PCBR				A		01 47 38.5	
	comp=E,3.0nm,0.2s						
PCBR	**Castelo Branco**	**8.09**	**71**	P	Pn	01 46 07.4	-1.6
PCBR				S	Sn	01 47 33.4	-7.8
	comp=E,1.5nm,0.2s						
MTE	**Manteigas**	**8.19**	**67**	*e*Sn	Sn	01 47 37.0	-6.5
MTE				A		01 47 43.3	
	comp=E,6.2nm,0.2s						
MTE	**Manteigas**	**8.19**	**67**	S	Sn	01 47 37.0	-6.5
	comp=E,3.1nm,0.2s						
PBAR	**Barrancos**	**8.24**	**83**	*e*Sn	Sn	01 47 36.2	-8.6
PBAR				A		01 47 43.7	
	comp=E,8.5nm,0.3s						
PBAR	**Barrancos**	**8.24**	**83**	S	Sn	01 47 36.2	-8.6
	comp=E,4.2nm,0.3s						
EBAD	**Badajoz**	**8.29**	**79**	P	Pn	01 46 11.3	-0.4
	comp=E,1.1nm,0.5s,SNR=7.9						
EBAD				S	Sn	01 47 39.0	-7.0
	comp=E,14nm,0.3s,SNR=7.9						
EBAD	**Badajoz**	**8.29**	**79**	P	Pn	01 46 11.3	-0.4
	SNR=7.9						
PCAB	**Cabril**	**8.33**	**58**	*e*Pn	Pn	01 46 11.4	-0.8
PCAB				*e*Sn	Sn	01 47 39.3	-7.6
PCAB				A		01 47 42.5	
	comp=E,4.1nm,0.1s						
PCAB	**Cabril**	**8.33**	**58**	P	Pn	01 46 11.4	-0.8
PCAB				S	Sn	01 47 39.3	-7.6
	comp=E,2.0nm,0.1s						
PVRL	**Vila Real**	**8.36**	**61**	*e*Sn	Sn	01 47 40.0	-7.7
PVRL				A		01 47 45.5	
	comp=E,4.1nm,0.2s						
PVRL	**Vila Real**	**8.36**	**61**	S	Sn	01 47 40.0	-7.7
	comp=E,2.0nm,0.2s						
EMAZ	**Mazaricos**	**8.37**	**48**	P	Pn	01 46 11.3	-1.5
	comp=E,2.8nm,0.3s,SNR=4.0						
EMAZ				S	Sn	01 47 38.0	-10
	comp=E,2.2nm,0.1s,SNR=7.9						
EMAZ	**Mazaricos**	**8.37**	**48**	P	Pn	01 46 11.3	-1.5
	comp=E,0.1nm,0.0s,SNR=4.0						
ELOB	**Lobios**	**8.37**	**57**	P	Pn	01 46 11.2	-1.6
	comp=E,1.3nm,0.2s,SNR=11						
ELOB				S	Sn	01 47 39.6	-8.5
	comp=E,1.4nm,0.1s,SNR=7.9						
ELOB	**Lobios**	**8.37**	**57**	P	Pn	01 46 11.2	-1.6
	comp=E,1.4nm,0.2s,SNR=11						
EMIN	**Mina Concepcio**	**8.54**	**86**	P	Pn	01 46 13.9	-1.2
	comp=E,0.7nm,0.4s,SNR=7.9						
EMIN				S	Sn	01 47 43.8	-8.3
	comp=E,2.8nm,0.2s,SNR=7.9						
EMIN	**Mina Concepcio**	**8.54**	**86**	P	Pn	01 46 13.9	-1.2
	comp=E,0.4nm,0.1s,SNR=7.9						
STS	**Santiago**	**8.59**	**49**	P	Pn	01 46 14.4	-1.4
	comp=E,4.3nm,0.4s,SNR=7.9						
STS				S	Sn	01 47 44.9	-8.4
	comp=E,2.6nm,0.1s,SNR=7.9						
MVO	**Moncorvo**	**8.80**	**63**	*e*Pn	Pn	01 46 18.1	-0.6
MVO				*e*Sn	Sn	01 47 50.3	-8.2
MVO				A		01 47 56.2	
	comp=E,5.3nm,0.3s						
MVO	**Moncorvo**	**8.80**	**63**	P	Pn	01 46 18.1	-0.6
MVO				S	Sn	01 47 50.3	-8.2
	comp=E,2.7nm,0.3s						
PBRG	**Braganca**	**9.24**	**60**	*e*Sn	Sn	01 48 02.1	-7.2
PBRG				A		01 48 08.3	
	comp=E,2.3nm,0.2s						
PBRG	**Braganca**	**9.24**	**60**	S	Sn	01 48 02.1	-7.2
	comp=E,1.2nm,0.2s						
ESPR	**Espera**	**9.27**	**91**	P	Pn	01 46 24.9	-0.3
	comp=E,0.9nm,0.2s,SNR=7.9						
ESPR				S	Sn	01 48 02.3	-7.7
	comp=E,7.6nm,0.3s,SNR=7.9						
ECAL	**Calabor**	**9.30**	**59**	P	Pn	01 46 23.8	-1.7
	comp=E,1.3nm,0.2s,SNR=7.9						
ECAL				S	Sn	01 48 02.2	-8.6
	comp=E,7.6nm,0.3s,SNR=7.9						
ECAL	**Calabor**	**9.30**	**59**	P	Pn	01 46 23.8	-1.7
	comp=E,0.7nm,0.2s,SNR=7.9						
CRAJ	**Montana Rajada**	**9.36**	**175**	S	Sn	01 47 58.8	-14
	comp=E,7.3nm,0.2s,SNR=7.9						
CHIO	**Chio**	**9.37**	**177**	S	Sn	01 47 59.4	-13
	comp=E,1.8nm,0.1s,SNR=7.9						
CFUE	**Fuerteventura**	**9.42**	**161**	P	Pn	01 46 24.4	-2.8
	comp=E,5.0nm,0.5s,SNR=7.9						
CFUE				S	Sn	01 48 01.9	-12
	comp=E,4.6nm,0.2s,SNR=7.9						
EGOM	**La Gomera**	**9.44**	**179**	S	Sn	01 47 57.3	-17
	comp=E,9.7nm,0.2s,SNR=7.9						
ECAB	**El Cabril**	**9.52**	**84**	P	Pn	01 46 28.3	-0.3
	comp=E,0.3nm,0.0s,SNR=7.9						
ECAB				S	Sn	01 48 08.6	-7.7
	comp=E,11nm,0.3s,SNR=7.9						
EPON	**Pontenova**	**9.69**	**51**	P	Pn	01 46 28.2	-2.6
	comp=E,1.9nm,0.4s,SNR=7.9						
EPON				S	Sn	01 48 08.4	-12
	comp=E,2.8nm,0.3s,SNR=7.9						
EPON	**Pontenova**	**9.69**	**51**	P	Pn	01 46 28.2	-2.6
	comp=E,0.6nm,0.2s,SNR=7.9						
EMIJ	**Mijas**	**10.17**	**92**	S	Sn	01 48 24.7	-7.6
	comp=E,1.0nm,0.2s,SNR=7.9						
EADA	**Adamuz**	**10.18**	**83**	P	Pn	01 46 36.2	-1.4
	comp=E,0.7nm,0.3s,SNR=7.9						
EADA				S	Sn	01 48 24.6	-7.9
	comp=E,0.2nm,0.1s,SNR=7.9						
EADA	**Adamuz**	**10.18**	**83**	P	Pn	01 46 36.2	-1.4
	comp=E,0.1nm,0.1s,SNR=7.9						
ELUQ	**Luque**	**10.46**	**86**	S	Sn	01 48 31.5	-7.7
	comp=E,2.1nm,0.2s,SNR=7.9						
ESDC	**Sonseca Array**	**10.74**	**75**	P	Pn	01 46 44.0	-1.2
	comp=E,0.2nm,0.2s,baz=268,slow=13,SNR=7.9						
ESDC				S	Sn	01 48 37.9	-8.2
	comp=E,0.8nm,0.4s,baz=264,slow=23,SNR=7.9						
ESDC	**Sonseca Array**	**10.74**	**75**	P	Pn	01 46 44.0	-1.2
	comp=E,0.2nm,0.2s,SNR=7.9						
GUD	**Guadarrama**	**10.75**	**70**	S	Sn	01 48 38.5	-7.9
	comp=E,0.9nm,0.2s,SNR=7.9						
EBAN	**Banos Encina**	**10.80**	**83**	S	Sn	01 48 39.1	-8.7
	comp=E,4.5nm,0.4s,SNR=7.9						
EARI	**Arriondas**	**10.90**	**55**	P	Pn	01 46 47.1	-0.4
	comp=E,3.6nm,0.7s,SNR=5.5						
EARI				S	Sn	01 48 40.7	-9.5
	comp=E,0.5nm,0.4s,SNR=7.9						
EARI	**Arriondas**	**10.90**	**55**	P	Pn	01 46 47.1	-0.4
	comp=E,0.6nm,0.2s,SNR=5.5						
ECOG	**Cogollos-Vega**	**11.04**	**88**	S	Sn	01 48 44.3	-9.2
	comp=E,0.4nm,0.2s,SNR=7.9						
EQUE	**Quentar**	**11.14**	**88**	S	Sn	01 48 46.8	-9.3
	comp=E,2.5nm,0.3s,SNR=7.9						
EQES	**Quesada**	**11.38**	**85**	S	Sn	01 48 53.3	-8.7
	comp=E,0.5nm,0.2s,SNR=7.9						
ETOR	**Torete**	**12.35**	**70**	S	Sn	01 49 15.2	-10
	comp=E,2.0nm,0.3s,SNR=7.9						
ETOB	**Tobarra**	**12.56**	**80**	S	Sn	01 49 19.8	-11
	comp=E,0.7nm,0.4s,SNR=7.9						

IDC 02 01:44:26.1±3.4, 705S×15538E, h0km, mb3.9/6, mb1 4.0/6, mb1mx3.9/13, mbtmp3.9/6, Error ellipse: s-maj=110.4km s-min=25.3km az=103.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.10**	**236**	P	P	01 49 43.0	-0.6
	2.2nm,1.0s,baz=60,slow=9.6,SNR=3.4						
ASAR	**Alice Springs**	**26.42**	**229**	P	P	01 50 05.5	+0.8
	0.7nm,0.8s,baz=70,slow=8.0,SNR=2.2						
SONM	**Songino Array**	**69.59**	**327**	P	P	01 55 37.4	+0.4
	0.6nm,0.6s,baz=136,slow=7.4,SNR=5.2						
MKAR	**Makanchi Array**	**83.70**	**319**	P	P	01 56 57.3	+0.4
	1.0nm,0.5s,baz=111,slow=9.2,SNR=5.1						
ZALV	**Zalesovo Beam**	**84.44**	**326**	P	P	01 57 00.1	-0.4
	0.9nm,0.5s,baz=111,slow=5.1,SNR=4.8						

*NEIC **02** 01:44:21.6±0.8, 729S×15689E, h10km, mb4.0/2, Error ellipse: s-maj=18.9km s-min=16.3km az=193.0*
*IDC **02** 01:44:25.2±1.3, 765S×15701E, h0km, mb4.2/6, mb1 4.3/7, mb1mx4.1/14, mbtmp4.3/7, ML4.0/1, Error ellipse: s-maj=34.3km s-min=26.7km az=97.0*
*ISCJB **02** 01:44:28.1±0.8, 78S±01×1570E±01, h33km, mb4.1/8, Error ellipse: s-maj=16.7km s-min=16.0km az=166.5*

ISC 02 01:44:29.6±0.7, 78S±01×1571E±01, h35km, n11, σ1°28/11, mb4.2/8, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**3.28**	**120**	Pn	**Pn**	**01 45 19.4**	**+0.8**
	14nm,0.3s,baz=263,slow=12,SNR=4.2						
CTAO	**Charters Tower**	**16.08**	**219**	*e*Pn	**Pn**	**01 48 11.9**	**-1.2**
	1.8nm,0.6s						
WRA	**Warramunga Arr**	**25.10**	**239**	P	**P**	**01 49 50.6**	**-0.7**
WRA	**Warramunga Arr**	**25.10**	**239**	P	**P**	**01 49 50.6**	**-0.7**
	0.9nm,0.4s,mb3.6,baz=61,slow=9.6,SNR=3.7						
ASAR	**Alice Springs**	**27.23**	**232**	P	**P**	**01 50 13.4**	**+2.9**
	0.7nm,0.8s,mb3.2,baz=63,slow=9.0,SNR=4.1						
STKA	**Stephens Creek**	**27.95**	**209**	P	**P**	**01 50 17.3**	**+0.5**
	1.6nm,0.6s,mb3.9,baz=26,slow=12,SNR=2.7						
AFI	**Afiamalu**	**31.18**	**104**	P	**P**	**01 50 42.8**	**-2.9**
	4.2nm,0.5s,mb4.5						
MJAR	**Matsushiro Arr**	**47.53**	**339**	P	**P**	**01 53 00.1**	**-1.5**
	1.4nm,0.5s,mb4.2,baz=166,slow=8.6,SNR=6.8						
SONM	**Songino Array**	**71.12**	**327**	P	**P**	**01 55 45.4**	**+0.9**
	1.8nm,0.5s,mb4.2,baz=141,slow=6.0,SNR=15						
MKAR	**Makanchi Array**	**85.36**	**318**	P	**P**	**01 57 04.1**	**+0.8**
	4.0nm,0.7s,mb4.7,baz=88,slow=6.3,SNR=15						
ZALV	**Zalesovo Beam**	**85.99**	**326**	P	**P**	**01 57 06.5**	**+0.3**
	4.2nm,0.6s,mb4.8,baz=110,slow=5.4,SNR=14						

*CSEM **02** 01:44:42.7±0.1, 3215N×3523E, h5km, ML3.0, Error ellipse: s-maj=3.1km s-min=1.5km az=108.0*
*ISCJB **02** 01:44:43.6±0.3, 3216N±001×3529E±004, h8km±3km, Error ellipse: s-maj=5.6km s-min=2.3km az=9.7*
*GRAL **02** 01:44:43.7±1.7, 3208N×3532E, h0km±17km, MD3.0*
*GII **02** 01:44:44.1±0.5, 3217N×3529E, h7km±1km, ML2.8/18*
*HLW **02** 01:44:45.7, 3212N×3522E, h16km, Mb3.4*

ISC 02 01:44:44.3±0.3, 3216N±001×3528E±004, h10km±3km, n31, σ0°81/55, Dead Sea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLTI	**Sal'it**	**0.22**	**290**	Pg	**Pg**	**01 44 49.8**	**+0.9**
SLTI				Sg	**Sg**	**01 44 53.3**	**+1.4**
HMDT	**Nahal Hemdat**	**0.22**	**66**	Pg	**Pg**	**01 44 49.4**	**+0.5**
HMDT				Sg	**Sg**	**01 44 53.3**	**+1.3**
MMLI	**Mount Malkishu**	**0.30**	**23**	Pg	**Pg**	**01 44 50.3**	**+0.1**
MMLI				Sg	**Sg**	**01 44 55.2**	**+1.0**
OFRI	**'Ofer**	**0.52**	**331**	Pg	**Pg**	**01 44 54.2**	**-0.2**
OFRI				Sg	**Sg**	**01 45 02.0**	**+0.7**
DSI	**Dead Sea**	**0.60**	**172**	Pg	**Pg**	**01 44 55.6**	**-0.2**
DSI				Sg	**Sg**	**01 45 04.2**	**+0.5**
YTIR	**Yattir**	**0.81**	**190**	Pg	**Pg**	**01 44 60.0**	**+0.1**
YTIR				Sg	**Sg**	**01 45 11.1**	**+0.7**
MZDA	**Masada**	**0.85**	**175**	Pg	**Pg**	**01 45 00.2**	**-0.5**
MZDA				Sg	**Sg**	**01 45 11.8**	**0.0**
MMA1	**Mount Meron ar**	**0.86**	**7**	Pg	**Pg**	**01 44 59.8**	**-1.0**
MMA1				Sg	**Sg**	**01 45 11.2**	**-0.8**
MMC7	**Mount Meron ar**	**0.86**	**6**	Pg	**Pg**	**01 44 59.8**	**-1.1**
MMC7				Sg	**Sg**	**01 45 11.8**	**-0.3**
HNTI	**Hanita**	**0.92**	**354**	Pg	**Pg**	**01 45 01.4**	**-0.6**
HNTI				Sg	**Sg**	**01 45 14.0**	**-0.1**
KSHT	**Keshet**	**0.93**	**28**	Pg	**Pg**	**01 45 01.5**	**-0.7**
KSHT				Sg	**Sg**	**01 45 14.3**	**0.0**
KSDI	**Kefar Szold**	**1.07**	**17**	Pg	**Pg**	**01 45 04.0**	**-0.9**
KSDI				Sg	**Sg**	**01 45 18.3**	**-0.6**
MATL	**Matirih**	**1.32**	**2**	*e*P	**Pn**	**01 45 08.7**	**-0.2**
RCY	**Rachaya**	**1.39**	**19**	*e*P	**Pn**	**01 45 08.8**	**-1.0**
RCY				*e*S	**Sb**	**01 45 27.7**	**-0.6**
KZIT	**Kziot**	**1.46**	**211**	Pn	**Pn**	**01 45 10.6**	**-0.2**
KZIT				Sn	**Sn**	**01 45 30.5**	**+0.4**
ZFRI	**Zfri**	**1.61**	**183**	Pn	**Pn**	**01 45 12.2**	**-0.5**
ZFRI				Sn	**Sn**	**01 45 33.6**	**0.0**
RMNI	**Mount Ramon**	**1.62**	**196**	Sn	**Sn**	**01 45 35.4**	**+1.4**
BHL	**Bhannes**	**1.76**	**10**	*e*P	**Pn**	**01 45 14.5**	**-0.4**
BHL				*e*S	**Sn**	**01 45 39.0**	**+1.6**
PRNI	**Paran**	**1.82**	**188**	Pn	**Pn**	**01 45 15.4**	**-0.3**
PRNI				Sn	**Sn**	**01 45 39.0**	**+0.1**
KRMI	**Paran Flat**	**2.10**	**193**	Pn	**Pn**	**01 45 19.2**	**-0.3**
KRMI				Sn	**Sn**	**01 45 47.1**	**+1.5**
HRFI	**Mount Harif**	**2.13**	**186**	Pn	**Pn**	**01 45 19.8**	**-0.2**
HRFI				Sn	**Sn**	**01 45 47.2**	**+0.7**
HWQ	**Hawqa**	**2.18**	**15**	*e*P	**Pn**	**01 45 21.6**	**+1.0**
HWQ				*e*S	**Sn**	**01 45 48.9**	**+1.1**
HWQ	**Hawqa**	**2.18**	**15**	*e*P	**Pn**	**01 45 21.6**	**+0.9**
HWQ				*e*S	**Sn**	**01 45 48.9**	**+1.2**
FKH	**Fakeheh**	**2.27**	**24**	*e*S	**Sn**	**01 45 51.2**	**+1.3**
AMAG	**Maghara**	**2.33**	**230**	P	**Pn**	**01 45 21.9**	**-0.8**
MBH	**Mount Berech**	**2.38**	**188**	Pn	**Pn**	**01 45 23.3**	**-0.2**
HNKL	**Nakhl**	**2.49**	**207**	P	**Pn**	**01 45 24.5**	**-0.4**
HNKL				S	**Sn**	**01 45 52.5**	**-2.9**
EIL	**Elat**	**2.50**	**187**	Pn	**Pn**	**01 45 24.4**	**-0.7**
EIL				Sn	**Sn**	**01 45 55.9**	**+0.2**
HBST	**Basata**	**2.98**	**189**	P	**Pn**	**01 45 31.5**	**-0.1**
HDHB	**Dhahab**	**3.48**	**190**	P	**Pn**	**01 45 38.0**	**-0.5**
HKAT	**Jabal Katrina**	**3.80**	**197**	P	**Pn**	**01 45 42.0**	**-0.8**
HKAT				S	**Sn**	**01 46 24.0**	**-3.6**

IDC 02 01:45:28.7±4.8, 682S×15525E, h0km, mb3.9/5, mb1 4.0/5, mb1mx3.9/13, mbtmp3.9/5, Error ellipse: s-maj=145.2km s-min=28.9km az=112.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.13**	**235**	P	P	01 50 46.2	-0.3
	1.5nm,0.6s,baz=62,slow=9.4,SNR=3.7						
ASAR	**Alice Springs**	**26.48**	**228**	P	P	01 51 08.3	+0.5
	1.3nm,0.9s,baz=58,slow=8.9,SNR=3.4						
SONM	**Songino Array**	**69.33**	**327**	P	P	01 56 38.5	+0.4
	0.6nm,0.7s,baz=108,slow=4.7,SNR=2.2						
MKAR	**Makanchi Array**	**83.44**	**319**	P	P	01 57 58.7	+0.5
	0.4nm,0.3s,baz=87,slow=6.3,SNR=3.7						
ZALV	**Zalesovo Beam**	**84.18**	**326**	P	P	01 58 01.1	-0.6
	0.9nm,0.6s,baz=129,slow=5.9,SNR=3.9						

IDC 02 01:47:56.6±4.7, 742S×15602E, h0km, mb4.2/5, mb1 4.2/5, mb1mx4.0/13, mbtmp4.2/5, Error ellipse: s-maj=143.0km s-min=29.3km az=113.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.43**	**237**	P	P	01 53 17.5	+0.3
	3.5nm,0.9s,baz=63,slow=9.3,SNR=4.4						
ASAR	**Alice Springs**	**26.67**	**230**	P	P	01 53 37.5	0.0
	0.7nm,0.7s,baz=58,slow=9.3,SNR=3.3						
SONM	**Songino Array**	**70.24**	**327**	P	P	01 59 12.8	+1.2
	2.0nm,1.0s,baz=139,slow=6.0,SNR=5.1						
MKAR	**Makanchi Array**	**84.39**	**318**	P	P	02 00 30.9	0.0
	5.2nm,0.7s,baz=100,slow=7.6,SNR=16						
ZALV	**Zalesovo Beam**	**85.09**	**326**	P	P	02 00 33.5	-0.8
	2.2nm,0.6s,baz=111,slow=5.4,SNR=9.5						

*ISCJB **02** 01:49:26.8±0.6, 783S±008×1559E±01, h10km, mb4.7/33, Error ellipse: s-maj=18.3km s-min=8.4km az=30.9*
*BJI **02** 01:49:26.0, 784S×15638E, h16km, mB5.3, mb4.8, Ms5.0, Msz4.9*
*IDC **02** 01:49:26.9±0.8, 787S×15591E, h0km, mb4.5/14, mb1 4.7/14, mb1mx4.6/17, mbtmp4.5/14, Error ellipse: s-maj=29.4km s-min=15.9km az=111.0*
*NEIC **02** 01:49:28.4±0.4, 785S×15586E, h10km, mb4.8/13, Error ellipse: s-maj=18.2km s-min=8.0km az=126.0*
*MOS **02** 01:49:32.2±1.2, 756S×15581E, h33km, mb5.1/14, Error ellipse: s-maj=19.2km s-min=10.8km az=92.6*

ISC 02 01:49:33.4±4.9, 790S±009×1559E±01, h47km±44km, n71, σ0°96/59, mb4.7/33, 5C, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**15.29**	**217**	*e*P	**Pn**	**01 53 08.8**	**+2.6**
	11nm,0.8s						
CTA	**Charters Tower**	**15.29**	**217**	*e*P	**Pn**	**01 53 08.8**	**+2.6**
CTA				pmax	pmax		
	comp=Z,11nm,0.8s						
CTA	**Charters Tower**	**15.29**	**217**	Pn	**Pn**	**01 53 07.8**	**+1.6**
	comp=Z,11nm,1.0s						
CTAO	**Charters Tower**	**15.29**	**217**	*e*Pn	**Pn**	**01 53 00.8**	**-5.4**
	comp=Z,11nm,1.0s						
CTAO	**Charters Tower**	**15.29**	**217**	*e*P	**Pn**	**01 53 00.9**	**-5.3**
CTAO				pmax	pmax		
	comp=Z,11nm,1.0s						
KAKA	**Kakadu**	**23.55**	**256**	*e*P	**P**	**01 54 39.8**	**0.0**
	comp=Z,6.8nm,0.6s,mb4.2						
WB2	**Warramunga Arr**	**24.05**	**238**	*e*P	**P**	**01 54 44.1**	**-0.2**
WRA	**Warramunga Arr**	**24.06**	**238**	P	**P**	**01 54 44.7**	**+0.3**
	comp=Z,25nm,1.1s,mb4.6,baz=64,slow=9.8,SNR=20						
WRA				PcP	PcP	01 58 26.3	+1.0
	comp=Z,1.3nm,0.7s,baz=63,slow=2.3,SNR=7.9						
ASAR	**Alice Springs**	**26.26**	**231**	P	**P**	**01 55 03.8**	**-0.6**
	comp=Z,2.0nm,0.7s,mb3.8,baz=58,slow=9.8,SNR=12						
ASAR				PcP	PcP	01 58 32.4	+2.2
	comp=Z,0.5nm,0.8s,baz=

ZAK **Zakamensk** 73.72 328 *eP* P 02 01 03.1 +0.8
ZAK pmax pmax
comp=Z,3.0nm,1.0s,mb4.2
BOD **Bodaibo** 73.78 338 *eP* P 02 01 01.4 -1.1
BOD pmax pmax
comp=Z,7.0nm,1.5s,mb4.4
BILL **Bilibino** 76.11 4 *eP* P 02 01 16.1 +0.3
comp=Z,26nm,1.0s,mb5.1
BILL **Bilibino** 76.11 4 *ceP* P 02 01 16.0 +0.2
BILL pmax pmax
comp=Z,24nm,1.0s,mb5.1
SVW2 **Sparrevohn** 78.50 22 *eP* P 02 01 30.2 +1.0
TTA **Tatalina** 79.56 20 *eP* P 02 01 34.7 -0.3
comp=Z,2.5nm,0.5s,mb4.4
TTA **Tatalina** 79.56 20 *eP* P 02 01 34.7 -0.3
TTA pmax pmax
comp=Z,2.0nm,0.5s,mb4.3
SLKM **Skilak Lake** 80.20 24 *eP* P 02 01 38.2 -0.4
TIXI **Tiksi** 81.37 352 *eP* P 02 01 44.4 -0.2
TIXI pmax pmax
comp=Z,11nm,1.5s,mb4.6
QSPA **South Pole Qui** 82.08 180 P P 02 01 49.5 +1.2
comp=Z,6.1nm,1.1s,mb4.5,baz=17,slow=2.2,SNR=6.4
MCK **McKinley** 82.56 22 *eP* P 02 01 50.4 -0.6
comp=Z,11nm,1.0s,mb4.8
MCK **McKinley** 82.56 22 *eP* P 02 01 50.4 -0.6
MCK pmax pmax
comp=Z,11nm,1.0s,mb4.8
COLA **College** 83.60 21 *eP* P 02 01 54.4 -1.9
comp=Z,7.7nm,1.1s,mb4.8
COLA **College** 83.60 21 *eP* P 02 01 54.4 -1.9
COLA pmax pmax
comp=Z,8.0nm,1.1s,mb4.8
MKAR **Makanchi Array** 84.66 319 *i P* P 02 02 02.7 +0.6
MKAR pmax pmax
comp=Z,8.0nm,0.8s
MKAR **Makanchi Array** 84.66 319 P P 02 02 02.3 +0.2
comp=Z,7.6nm,0.8s,mb4.9,baz=81,slow=7.5,SNR=16
ZALV **Zalesovo Beam** 85.42 326 P P 02 02 05.1 -0.7
ZALV **Zalesovo Beam** 85.42 326 P P 02 02 05.1 -0.7
comp=Z,6.3nm,1.0s,mb4.7,baz=115,slow=5.6,SNR=12
ZAL **Zalesovo** 85.42 326 P P 02 02 05.1 -0.7
KURK **Kurchatov** 88.08 322 *eP* P 02 02 19.1 +0.3
AAK **Ala-Archa** 89.01 313 *eP* P 02 02 26.0 +2.6
AAK pmax pmax
comp=Z,5.0nm,1.3s,mb4.7
INK **Inuvik** 90.25 21 P P 02 02 28.6 0.0
comp=Z,2.4nm,0.8s,mb4.6,baz=231,slow=5.0,SNR=5.3
NVAR **Mina Array Bea** 91.59 52 P P 02 02 34.9 -0.6
NVAR **Mina Array Bea** 91.59 52 P P 02 02 34.9 -0.6
comp=Z,0.3nm,0.6s,mb3.8,baz=240,slow=15,SNR=3.1
YKA **Yellowknife Ar** 96.72 28 P P 02 02 58.6 +0.1
comp=Z,2.8nm,1.0s,mb4.7,baz=268,slow=4.5,SNR=19
AKASG **Malin Array Be** 118.78 324 PKP PKPdf 02 08 16.5 0.0
comp=Z,1.8nm,0.9s,baz=66,slow=1.9,SNR=9.4
NOA **NORSAR Array B** 120.84 341 PKP PKPdf 02 08 20.9 +0.8
comp=Z,0.9nm,0.9s,baz=38,slow=2.2,SNR=3.4
KWP **Kalwaria** 122.99 326 *e*PKP PKPdf 02 08 26.4 +1.8
OKC **Ostrava-Krasne** 125.36 328 *e*PKPdf PKPdf 02 08 33.6 +4.5
PVCC **Panska Ves** 126.77 330 *e*PKPdf PKPdf 02 08 34.1 +2.3
BRG *i* 02 13 17.4
comp=Z,7.0nm,0.8s
BRG **Berggiesshubel** 126.86 331 *e* PKPdf 02 08 33.9 +1.9
comp=Z,8.0nm,1.5s
CLL **Collm** 127.02 332 *eP* PKPdf 02 08 33.0 +0.7
CLL *i* 02 09 02.8
CLL **Collm** 127.02 332 *e*PKPdf PKPdf 02 08 33.0 +0.7
comp=Z,5.0nm,1.1s
PRU **Pruhonice** 127.13 330 *e*PKP PKPdf 02 08 34.5 +2.0
KHC **Kasperske Hory** 128.16 329 *e*PKPdf PKPdf 02 08 36.8 +2.3
GERES **GERESS Array B** 128.28 329 PKP PKPdf 02 08 36.1 +1.4
comp=Z,2.2nm,1.0s,baz=259,slow=3.4,SNR=10.0
TORD **Torodi Ar. Bea** 154.10 284 PKPbc PKPbc 02 09 30.2 +1.1
comp=Z,1.6nm,1.0s,baz=67,slow=2.7,SNR=6.0

IDC ***02*** *01:54:13.1±0.6, 707S×15570E, h0km, mb4.5/16, mb1 4.6/16, mb1mx4.5/19, mbtmp4.5/16, Error ellipse: s-maj=24.0km s-min=14.7km az=95.0*
MOS ***02*** *01:54:17.3±1.2, 702S×15561E, h33km, mb4.8/5, Error ellipse: s-maj=16.3km s-min=11.3km az=77.3*
ISCJB ***02*** *01:54:18.0±3.5, 703S±008×15559E±008, h42km±31km, mb4.6/31, Error ellipse: s-maj=14.1km s-min=12.8km az=0.9*
NEIC ***02*** *01:54:18.9±2.6, 699S×15562E, h39km±22km, mb4.9/13, Error ellipse: s-maj=11.4km s-min=10.5km az=54.0*
ISC 02 01:54:20.5±3.0, 706S±008×15558E±009, h49km±28km, n76, σ0§84/51, mb4.6/31, 1C-2D, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CTAO	**Charters Tower**	15.80	214	*e*Pn			**Pn**	01 57 58.8	-1.0
	2.8nm,0.6s								
CTAO	**Charters Tower**	15.80	214	*e*P			**Pn**	01 57 58.8	-1.0
CTAO						pmax	pmax		
	comp=Z,3.0nm,0.6s								
DZM	**Mont Dzumac**	18.24	146	P			**Pn**	01 58 30.8	+0.7
	comp=Z,0.6nm,0.3s,baz=342,slow=19,SNR=4.4								
KAKA	**Kakadu**	23.47	254	*e*P			**P**	01 59 25.5	-0.5
	comp=Z,6.4nm,0.4s,mb4.4								
WB2	**Warramunga Arr**	24.25	236	*e*P			**P**	01 59 33.8	+0.7
WRA	**Warramunga Arr**	24.27	236	P			**P**	01 59 33.8	+0.6
	comp=Z,2.2nm,0.5s,mb3.8,baz=60,slow=10.0,SNR=8.1								
WRA						PcP	PcP	02 03 12.5	-0.1
	comp=Z,1.0nm,0.6s,baz=59,slow=2.9,SNR=4.0								
ASAR	**Alice Springs**	26.57	229	P			**P**	01 59 54.0	0.0
	comp=Z,0.8nm,0.6s,mb3.4,baz=59,slow=9.4,SNR=5.2								
ASAR						PcP	PcP	02 03 18.1	+0.4
	comp=Z,1.2nm,0.6s,baz=66,slow=2.9,SNR=6.2								
STKA	**Stephens Creek**	27.93	206	P			**P**	02 00 06.8	+0.6
	comp=Z,2.9nm,0.7s,mb4.0,baz=19,slow=14,SNR=5.0								
FITZ	**Fitzroy Crossi**	31.16	247	*e*P			**P**	02 00 35.4	+0.4
	comp=Z,9.4nm,0.6s,mb4.8								
FITZ	**Fitzroy Crossi**	31.16	247	P			**P**	02 00 34.1	-0.9
	comp=Z,4.0nm,0.6s,mb4.5,baz=81,slow=9.6,SNR=15								
TAU	**Tasmania Unive**	36.45	190	*e*P			**P**	02 01 20.4	-0.1
	comp=Z,76nm,1.4s,mb5.4								
MBWA	**Marble Bar**	37.38	244	*e*P			**P**	02 01 28.7	-0.1
	comp=Z,12nm,1.0s,mb4.7								
RPZ	**Rata Peaks**	38.96	162	P			**P**	02 01 41.5	-0.2
	comp=Z,8.8nm,0.8s,mb4.5,baz=289,slow=14,SNR=3.9								
MJAR	**Matsushiro Arr**	46.33	341	P			**P**	02 02 40.5	-1.1
	comp=Z,1.5nm,0.4s,mb4.3,baz=165,slow=8.2,SNR=4.7								
KSRS	**Korea Array**	51.27	332	P			**P**	02 03 19.9	+0.5
	comp=Z,2.1nm,0.8s,mb4.1,baz=156,slow=8.3,SNR=3.8								
ASAJ	**Asahikawa**	52.27	348	P			**P**	02 03 28.0	+1.2
	comp=Z,5.2nm,0.5s,mb4.8,baz=246,slow=18,SNR=6.3								
YSS	**Yuzh-Sakhalins**	54.97	349	*eP*			**P**	02 03 47.2	+0.7
PSI	**Prapat**	57.39	278	P			**P**	02 04 03.4	-1.1
	comp=Z,1.3nm,0.3s,mb4.4,baz=222,slow=14,SNR=3.6								
KLR	**Kul'dur**	59.80	342	*eP*			**P**	02 04 16.4	-4.1
SONM	**Songino Array**	69.70	327	P			**P**	02 05 26.5	+1.5
	comp=Z,4.9nm,0.6s,mb4.6,baz=139,slow=6.8,SNR=20								
SONM						PcP	PcP	02 05 48.1	+0.5
	comp=Z,1.5nm,0.6s,baz=144,slow=4.2,SNR=3.7								
SBA	**Scott Base**	71.00	178	P			**P**	02 05 32.9	+0.3
	comp=Z,1.1nm,0.5s,mb4.0								
SBA	**Scott Base**	71.00	178	P			**P**	02 05 32.9	+0.3
SBA						pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.0								
ZAK	**Zakamensk**	72.85	328	*e*P			**P**	02 05 44.8	+0.8
ZAK						pmax	pmax		
	comp=Z,3.0nm,1.2s,mb4.1								
BOD	**Bodaibo**	72.89	338	*e*P			**P**	02 05 44.3	+0.2
BOD						pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4								
BILL	**Bilibino**	75.30	4	*i*			**P**	02 05 59.0	+1.1
JIRN	**Jiri**	75.31	301	*eP*			**P**	02 05 58.5	-0.4
	comp=Z,12nm,0.4s,mb5.2								
KKN	**Kakani**	76.13	301	*e*P			**P**	02 06 03.1	-0.5
	comp=Z,29nm,0.8s,mb5.2								
KKN	**Kakani**	76.13	301	*e*P			**P**	02 06 03.1	-0.5
KKN						pmax	pmax		
	comp=Z,29nm,0.8s,mb5.3								
GKN	**Gorkha**	76.73	301	*eP*			**P**	02 06 06.3	-0.7
	comp=Z,24nm,0.5s,mb5.4								
KOLN	**Koldanda**	77.56	300	*eP*			**P**	02 06 10.9	-0.7
	comp=Z,14nm,0.5s,mb5.1								
SVW2	**Sparrevohn**	77.83	22	*eP*			**P**	02 06 12.5	+0.1
MCK	**McKinley**	81.89	22	*eP*			**P**	02 06 32.2	-2.1
	comp=Z,6.3nm,0.9s,mb4.5								
MCK	**McKinley**	81.89	22	*eP*			**P**	02 06 32.2	-2.1
MCK						pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.5								
QSPA	**South Pole Qui**	82.92	180	P			**P**	02 06 39.8	+0.3
QSPA	**South Pole Qui**	82.92	180	P			**P**	02 06 39.8	+0.3
	comp=Z,7.5nm,0.9s,mb4.7,baz=347,slow=0.6,SNR=12								
COLA	**College**	82.93	21	*eP*			**P**	02 06 38.1	-1.5
	comp=Z,2.9nm,0.6s,mb4.5								
COLA	**College**	82.93	21	*eP*			**P**	02 06 38.2	-1.5
COLA						pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.5								
MKAR	**Makanchi Array**	83.83	319	P			**P**	02 06 45.5	+0.8
	comp=Z,14nm,0.7s,mb5.2,baz=80,slow=6.5,SNR=38								
ZALV	**Zalesovo Beam**	84.56	326	P			**P**	02 06 48.6	+0.3
	comp=Z,8.4nm,0.5s,mb5.1,baz=114,slow=5.4,SNR=35								
ZAL	**Zalesovo**	84.56	326	P			**P**	02 06 48.6	+0.3
MAW	**Mawson**	84.57	203	P			**P**	02 06 48.1	0.0
	comp=Z,6.8nm,0.8s,mb4.8,baz=90,slow=9.2,SNR=8.0								
AAK	**Ala-Archa**	88.22	313	*eP*			**P**	02 07 06.9	+0.4
	comp=Z,3.7nm,0.7s,mb4.7								
AAK	**Ala-Archa**	88.22	313	*eP*			**P**	02 07 06.9	+0.4
AAK						pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.8								
INK	**Inuvik**	89.57	21	P			**P**	02 07 12.1	-0.2
INK	**Inuvik**	89.57	21	P			**P**	02 07 12.1	-0.2
	comp=Z,1.8nm,0.5s,mb4.7,baz=271,slow=4.9,SNR=20								
ISA	**Isabella**	90.78	54	*eP*			**P**	02 07 16.0	-2.6
	comp=Z,5.8nm,0.2s,mb5.6								
ISA	**Isabella**	90.78	54	*eP*			**P**	02 07 16.0	-2.7
ISA						pmax	pmax		
	comp=Z,6.0nm,0.2s,mb5.6								
WVOR	**Wild Horse Val**	91.60	48	*eP*			**P**	02 07 23.3	+1.0
	comp=Z,8.7nm,0.9s,mb5.1								
WVOR	**Wild Horse Val**	91.60	48	*eP*			**P**	02 07 23.3	+1.0
WVOR						pmax	pmax		
	comp=Z,9.0nm,0.9s,mb5.1								
YKA	**Yellowknife Ar**	96.12	28	P			**P**	02 07 42.2	-0.4
YKA	**Yellowknife Ar**	96.12	28	P			**P**	02 07 42.2	-0.4
	comp=Z,0.7nm,0.4s,mb4.4,baz=267,slow=4.5,SNR=18								
JOF	**Joensuu**	111.36	336	*e*pkp			PKiKP	02 12 47.2	-1.5
KAF	**Kangasniemi**	113.77	337	*e*pkp			PKiKP	02 12 50.3	-3.0
FINES	**FINESS Array B**	114.23	336	PKP			PKiKP	02 12 53.2	-1.0
	comp=Z,0.8nm,0.3s,baz=114,slow=3.2,SNR=8.3								
PLCA	**Paso Flores**	116.32	142	PKP			PKPdf	02 12 58.6	-0.3
	comp=Z,1.0nm,0.5s,baz=188,slow=2.7,SNR=8.0								
AKASG	**Malin Array Be**	117.93	325	PKP			PKPdf	02 13 01.1	-0.5
	comp=Z,2.1nm,0.6s,baz=59,slow=2.1,SNR=20								
HFS	**Hagfors**	119.77	339	PKP			PKPdf	02 13 03.5	-1.3
	comp=Z,2.1nm,0.6s,baz=102,slow=3.6,SNR=13								
NB2	**NORSAR Subarra**	119.95	341	PKPdf			PKPdf	02 13 04.5	-0.7
	comp=Z,2.6nm,0.6s,baz=42,slow=1.8								
NOA	**NORSAR Array B**	119.95	341	PKP			PKPdf	02 13 04.8	-0.4
	comp=Z,1.8nm,0.5s,baz=45,slow=1.9,SNR=9.2								
KOLS	**Kolonicke sedl**	122.73	325	*e*PKP			PKPdf	02 13 12.2	+1.3
STHS	**Stebnicka Huta**	123.06	326	*e*PKP			PKPdf	02 13 12.6	+1.1
CFAA	**Coronel Fontan**	123.19	135	PKP			PKPdf	02 13 11.8	-0.6
CFAA	**Coronel Fontan**	123.19	135	PKP			PKPdf	02 13 11.8	-0.6
	comp=Z,0.2nm,0.3s,baz=267,slow=4.7,SNR=5.6								
CRVS	**Cervenica-Dubn**	123.20	326	*e*PKP			PKPdf	02 13 12.9	+1.1
CRVS	**Cervenica-Dubn**	123.20	326	*e*PKP			PKPdf	02 13 12.8	+1.0
KECS	**Kecovo**	123.98	326	*e*PKP			PKPdf	02 13 13.2	-0.1
VYHS	**Vyhne**	124.89	326	*e*PKP			PKPdf	02 13 15.3	+0.2
CLL	**Collm**	126.14	332	||*i*P			PKPdf	02 13 17.8	+0.4
CLL	**Collm**	126.14	332	||*i*PKPdf			PKPdf	02 13 17.8	+0.4
	comp=Z,10.0nm,1.0s								
KHC	**Kasperske Hory**	127.28	329	*e*P			PKPdf	02 13 20.5	+0.8
GERES	**GERESS Array B**	127.41	329	PKP			PKPdf	02 13 20.4	+0.5
	comp=Z,2.8nm,0.7s,baz=90,slow=1.3,SNR=22								
GRA1	**Grafenberg Arr**	128.07	331	*e*PKPdf			PKPdf	02 13 21.6	+0.5
GRF	**Grafenberg Arr**	128.07	331	*e*PKP			PKPdf	02 13 21.6	+0.5
ESDC	**Sonseca Array**	142.69	334	PKhKP				02 13 45.4	
	comp=Z,0.8nm,0.7s,baz=40,slow=3.2,SNR=4.7								
TORD	**Torodi Ar. Bea**	153.60	285	PKP			PKPdf	02 14 05.9	-1.2
TORD						PKPbc	PKPbc	02 14 13.3	-1.6
TORD	**Torodi Ar. Bea**	153.60	285	PKP			PKPdf	02 14 05.9	-1.2
	comp=Z,0.6nm,0.6s,baz=50,slow=2.3,SNR=2.8								
TORD						PKPbc	PKPbc	02 14 13.3	-1.5
	comp=Z,2.5nm,0.7s,baz=41,slow=1.8,SNR=11								

IDC ***02*** *01:57:14.7±0.7, 802S×15649E, h0km, mb4.4/15, mb1 4.5/16, mb1mx4.5/18, mbtmp4.4/16, ML4.7/1, Error ellipse: s-maj=17.8km s-min=15.6km az=66.0*
NEIC ***02*** *01:57:16.4±0.5, 798S×15645E, h10km, mb4.6/4, Error ellipse: s-maj=11.7km s-min=9.7km az=110.0*
ISCJB ***02*** *01:57:17.3±4.7, 799S±009×15645E±009, h27km±35km, mb4.3/16, Error ellipse: s-maj=17.3km s-min=13.8km az=135.6*
ISC 02 01:57:19.8±5.0, 802S±010×15647E±010, h33km±37km, n22, σ0§85/22, mb4.3/16, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	3.71	112	Pn			**Pn**	01 58 15.1	+0.1
	60nm,0.3s,baz=25,slow=0.2,SNR=5.0								
HNR						Lg		01 59 11.3	
	142nm,0.3s,baz=68,slow=20,SNR=6.4								
CTAO	**Charters Tower**	15.54	218	*e*Pn			**Pn**	02 00 55.4	-1.2
	24nm,1.1s								
ARMA	**Armidale**	22.73	191	*eP*			**P**	02 02 19.2	+0.1
KAKA	**Kakadu**	24.08	257	*eP*			**P**	02 02 33.3	+0.8
	34nm,1.1s,mb4.7								
WB2	**Warramunga Arr**	24.47	239	*eP*			**P**	02 02 36.7	+0.7
WRA	**Warramunga Arr**	24.48	239	P			**P**	02 02 36.9	+0.7
	23nm,0.8s,mb4.6,baz=64,slow=9.5,SNR=31								
WRA						PcP	PcP	02 06 14.8	+0.3
	1.1nm,0.8s,baz=61,slow=2.9,SNR=5.2								
ASAR	**Alice Springs**	26.63	232	P			**P**	02 02 54.1	-1.5
	1.1nm,0.8s,mb3.4,baz=58,slow=9.3,SNR=4.2								
STKA	**Stephens Creek**	27.48	208	*eP*			**P**	02 03 04.9	+1.8
	8.6nm,0.7s,mb4.4								
STKA	**Stephens Creek**	27.48	208	P			**P**	02 03 04.0	+0.9
	12nm,0.8s,mb4.5,baz=34,slow=13,SNR=19								
FITZ	**Fitzroy Crossi**	31.61	248	*eP*			**P**	02 03 30.1	-10
	5.1nm,0.7s,mb4.5								
FITZ	**Fitzroy Crossi**	31.61	248	P			**P**	02 03 39.4	-0.5
	2.5nm,0.6s,mb4.2,baz=73,slow=11,SNR=5.0								
JOW	**Kunigami**	44.13	323	P			**P**	02 05 25.2	-0.2
	11nm,0.7s,mb4.7,baz=166,slow=14,SNR=2.7								
MJAR	**Matsushiro Arr**	47.53	340	P			**P**	02 05 51.9	-0.1
	0.8nm,0.3s,mb4.2,baz=122,slow=11,SNR=3.7								
JNU	**Nakatsue**	47.61	331	P			**P**	02 05 53.5	+0.8
	19nm,1.1s,mb5.0,baz=42,slow=9.4,SNR=4.8								
KSRS	**Korea Array**	52.53	331	P			**P**	02 06 30.4	+0.5
	2.7nm,0.8s,mb4.2,baz=146,slow=8.4,SNR=5.4								
SONM	**Songino Array**	70.99	327	P			**P**	02 08 35.4	+1.2
	6.1nm,0.7s,mb4.6,baz=142,slow=6.6,SNR=28								
QSPA	**South Pole Qui**	81.96	180	P			**P**	02 09 36.0	+0.2
	3.1nm,0.8s,mb4.3,baz=356,slow=2.4,SNR=4.5								
MAW	**Mawson**	84.01	203	P			**P**	02 09 46.4	-0.2
	2.0nm,0.4s,mb4.6,baz=92,slow=10,SNR=4.4								
MKAR	**Makanchi Array**	85.14	318	P			**P**	02 09 51.4	-1.2
	1.8nm,0.6s,mb4.4,baz=101,slow=6.6,SNR=7.4								
ZALV	**Zalesovo Beam**	85.84	326	P			**P**	02 09 54.6	-1.4
	0.9nm,0.6s,mb4.2,baz=124,slow=7.8,SNR=4.5								
NVAR	**Mina Array Bea**	91.21	52	P			**P**	02 10 22.2	+0.3
	0.4nm,0.6s,mb3.9,baz=258,slow=13,SNR=2.3								
YKA	**Yellowknife Ar**	96.56	28	P			**P**	02 10 45.1	-0.8
	0.3nm,0.6s,mb3.9,baz=263,slow=4.6,SNR=7.8								

IDC ***02*** *02:02:33.8±0.8, 739S×15562E, h0km, mb4.3/11, mb1 4.4/12, mb1mx4.3/16, mbtmp4.3/12, ML4.3/1, Error ellipse: s-maj=23.6km s-min=18.0km az=97.0*
NEIC ***02*** *02:02:35.6±0.5, 727S×15563E, h10km, mb4.5/5, Error ellipse: s-maj=13.1km s-min=10.3km az=125.0*
ISCJB ***02*** *02:02:38.3±2.7, 74S±01×15565E±009, h44km±28km, mb4.4/14, Error ellipse: s-maj=20.1km s-min=12.7km az=151.7*
ISC 02 02:02:40.5±2.4, 74S±01×15563E±009, h49km±25km, n24, σ0§88/24, mb4.4/14, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	4.73	116	Pn			**Pn**	02 03 48.1	-1.2
	14nm,0.3s,baz=217,slow=2.7,SNR=2.1								
HNR						Sn	**Sn**	02 04 43.8	+0.9
	42nm,0.3s,baz=270,slow=3.0,SNR=2.4								
CTA	**Charters Tower**	15.56	215	Pn			**Pn**	02 06 18.1	+1.3
	0.3nm,0.3s,baz=57,slow=17,SNR=1.8								
CTAO	**Charters Tower**	15.56	215	Pn			**Pn**	02 06 16.5	-0.2
	11nm,0.9s								
KAKA	**Kakadu**	23.43	255	*eP*			**P**	02 07 45.9	+0.2
	13nm,0.6s,mb4.5								
KAKA	**Kakadu**	23.43	255	*eP*			**P**	02 07 45.8	+0.1
WB2	**Warramunga Arr**	24.11	237	*eP*			**P**	02 07 52.4	+0.6
WRA	**Warramunga Arr**	24.12	237	P			**P**	02 07 52.6	+0.6
	8.9nm,0.6s,mb4.3,baz=63,slow=9.1,SNR=32								
ASAR	**Alice Springs**	26.40	230	P			**P**	02 08 12.3	-0.2
	2.6nm,0.6s,mb3.9,baz=59,slow=9.7,SNR=20								
STKA	**Stephens Creek**	27.66	206	*eP*			**P**	02 08 25.3	+1.5
	2.3nm,0.6s,mb4.0								
STKA	**Stephens Creek**	27.66	206	P			**P**	02 08 23.0	-0.8
	2.0nm,0.6s,mb4.0,baz=21,slow=13,SNR=6.0								
FITZ	**Fitzroy Crossi**	31.08	247	*eP*			**P**	02 08 55.4	+1.1
	3.8nm,0.6s,mb4.4								
FITZ	**Fitzroy Crossi**	31.08	247	P			**P**	02 08 53.5	-0.8
	2.6nm,0.7s,mb4.2,baz=68,slow=12,SNR=4.1								
FORT	**Forrest**	34.75	224	*eP*			**P**	02 09 23.6	-2.6
	15nm,0.7s,mb5.0								
KLBR	**Kellerberrin**	42.73	231	*eP*			**P**	02 10 32.4	-0.6
	14nm,0.6s,mb4.9								
MJAR	**Matsushiro Arr**	46.65	341	P			**P**	02 11 03.5	-0.7
	1.3nm,0.3s,mb4.4,baz=166,slow=8.7,SNR=4.7								
KSRS	**Korea Array**	51.57	332	P			**P**	02 11 42.2	+0.4
	1.1nm,0.5s,mb4.1,baz=146,slow=6.2,SNR=4.0								
SONM	**Songino Array**	70.00	327	P			**P**	02 13 48.1	+1.2
	5.5nm,0.8s,mb4.5,baz=138,slow=6.0,SNR=35								
QSPA	**South Pole Qui**	82.59	180	P			**P**	02 14 57.7	-0.2
	1.9nm,0.8s,mb4.2,baz=347,slow=3.5,SNR=6.5								
MKAR	**Makanchi Array**	84.11	319	P			**P**	02 15 06.6	+0.4
MKAR	**Makanchi Array**	84.11	319	P			**P**	02 15 06.6	+0.4
	3.3nm,0.7s,mb4.6,baz=79,slow=6.3,SNR=13								
ZALV	**Zalesovo Beam**	84.85	326	P			**P**	02 15 09.1	-0.7
	2.7nm,0.7s,mb4.5,baz=101,slow=4.5,SNR=13								
YKA	**Yellowknife Ar**	96.38	28	P			**P**	02 16 03.7	-0.1
YKA	**Yellowknife Ar**	96.38	28	P			**P**	02 16 03.7	0.0
	0.3nm,0.8s,mb3.8,baz=264,slow=4.7,SNR=5.2								
GERES	**GERESS Array B**	127.71	329	PKP			PKPdf	02 21 42.9	+2.4
	0.5nm,0.6s,baz=22,slow=1.4,SNR=4.6								

IDC 02 02:03:55.6±6.4, 718S×15679E, h0km, mb4.2/4, mb1 4.3/4, mb1mx4.0/13, mbtmp4.2/4, Error ellipse: s-maj=192.7km s-min=38.7km az=114.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	25.20	238	P			P	02 09 23.1	0.0
	1.5nm,0.6s,baz=63,slow=9.5,SNR=3.7								
SONM	**Songino Array**	70.47	327	P			P	02 15 12.9	+1.0
	1.1nm,0.7s,baz=130,slow=6.4,SNR=2.9								
MKAR	**Makanchi Array**	84.73	318	P			P	02 16 31.6	0.0
	2.2nm,0.7s,baz=86,slow=7.4,SNR=4.8								
ZALV	**Zalesovo Beam**	85.34	326	P			P	02 16 33.8	-0.7
	2.0nm,0.5s,baz=118,slow=5.9,SNR=8.2								

IDC ***02*** *02:04:45.0±0.8, 843S×15692E, h0km, mb4.4/11, mb1 4.6/12, mb1mx4.5/15, mbtmp4.4/12, ML5.0/1, MS4.4/1, Ms1 4.4/1, ms1mx3.4/21, Error ellipse: s-maj=25.1km s-min=19.0km az=133.0*
BJI ***02*** *02:04:46.3, 840S×15690E, h10km, mB5.2, mb4.8, Ms5.2, Msz4.9*
NEIC ***02*** *02:04:46.3±0.4, 838S×15692E, h10km, mb4.9/2, Error ellipse: s-maj=12.9km s-min=10.0km az=144.0*
ISCJB ***02*** *02:04:49.9±2.4, 86S±01×1570E±01, h48km±23km, mb4.5/17, Error ellipse: s-maj=21.4km s-min=13.4km az=42.1*
ISC 02 02:04:52.2±2.2, 86S±01×1570E±01, h55km±23km, n25, σ0§91/23, mb4.5/17, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	2.99	106	Pn			**Pn**	02 05 36.9	-0.2
	168nm,0.3s,baz=282,slow=4.3,SNR=10								
HNR						LR	LR	02 06

9.3nm,0.5s,mb4.5,baz=37,slow=13,SNR=16
FITZ Fitzroy Crossi 31.88 249 P **P 02 12 34.9 -0.4**
1.1nm,0.5s,mb3.9,baz=83,slow=12,SNR=2.9
KSRS Korea Array 53.13 331 P **P 02 15 28.1 +0.5**
0.8nm,0.3s,mb4.1,baz=144,slow=8.6,SNR=4.2
LZH Lanzhou 66.70 315 *e*P **P 02 17 02.1 +1.3**
LZH AP pP 02 17 06.5 -5.1
LZH XP sP 02 17 08.3 -7.4
LZH AMB AMB
comp=Z,15nm,1.3s,mb4.9
LZH AMB AMB
comp=Z,68nm,4.3s
GTA Gaotai 71.12 317 *e*P **P 02 17 29.5 +1.3**
GTA AP pP 02 17 34.1 -5.0
GTA XP sP 02 17 36.6 -6.5
GTA AMB AMB
comp=Z,8.0nm,1.4s,mb4.5
SONM Songino Array 71.61 327 P **P 02 17 31.5 +0.6**
comp=Z,4.4nm,0.8s,mb4.4,baz=136,slow=6.1,SNR=8.6
MKAR Makanchi Array 85.77 318 P **P 02 18 48.8 -0.1**
comp=Z,5.9nm,0.9s,mb4.8,baz=81,slow=7.5,SNR=8.2
ZALV Zalesovo Beam 86.47 326 P **P 02 18 50.4 -1.7**
ZALV Zalesovo Beam 86.47 326 P **P 02 18 50.4 -1.7**
comp=Z,1.4nm,0.7s,mb4.3,baz=106,slow=4.8,SNR=4.6
YKA Yellowknife Ar 96.73 28 P **P 02 19 38.2 -1.5**
YKA Yellowknife Ar 96.73 28 P **P 02 19 38.2 -1.5**
comp=Z,0.8nm,0.9s,mb4.1,baz=264,slow=4.6,SNR=4.8
AKASG Malin Array Be 119.84 325 PKP PKPdf 02 24 57.9 -1.8
comp=Z,0.2nm,0.4s,baz=58,slow=2.1,SNR=3.4

IDC 02 02:08:06.2±2.2, 738S×15594E, h0km, mb4.0/5, mb1 4.1/5, mb1mx3.9/13, mbtmp4.0/5, Error ellipse: s-maj=81.2km s-min=28.4km az=125.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.38**	**237**	P	P	02 13 26.5	+0.2
	2.9nm,0.9s,baz=63,slow=9.3,SNR=3.8						
ASAR	**Alice Springs**	**26.63**	**230**	P	P	02 13 46.6	0.0
	0.4nm,0.8s,baz=54,slow=9.3,SNR=3.0						
MKAR	**Makanchi Array**	**84.31**	**319**	P	P	02 20 40.9	+0.8
	3.8nm,0.7s,baz=88,slow=7.4,SNR=8.3						
ZALV	**Zalesovo Beam**	**85.02**	**326**	P	P	02 20 42.8	-0.7
	1.3nm,0.5s,baz=111,slow=6.5,SNR=6.3						
YKA	**Yellowknife Ar**	**96.24**	**28**	P	P	02 21 36.0	-0.2
	0.2nm,0.7s,baz=257,slow=4.8,SNR=3.3						

IDC 02 02:09:39.8±4.6, 717S×15563E, h0km, mb4.2/4, mb1 4.3/4, mb1mx3.9/13, mbtmp4.2/4, Error ellipse: s-maj=135.7km s-min=37.7km az=117.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.24**	**236**	P	P	02 14 59.4	+0.8
	0.7nm,0.5s,baz=63,slow=9.8,SNR=2.6						
SONM	**Songino Array**	**69.82**	**327**	P	P	02 20 53.6	+1.4
	1.3nm,0.8s,baz=134,slow=6.4,SNR=4.6						
MKAR	**Makanchi Array**	**83.95**	**319**	P	P	02 22 12.0	+0.1
	6.7nm,0.7s,baz=90,slow=7.2,SNR=15						
ZALV	**Zalesovo Beam**	**84.67**	**326**	P	P	02 22 14.1	-1.4
	3.2nm,0.6s,baz=115,slow=5.4,SNR=11						

*BJI **02** 02:10:41.4, 691S×15608E, h7km, mB5.2, mb4.9*
*IDC **02** 02:10:41.4±0.7, 735S×15588E, h0km, mb4.6/14, mb1 4.6/14, mb1mx4.6/16, mbtmp4.5/14, MS4.3/1, Ms1 4.3/1, ms1mx3.4/18, Error ellipse: s-maj=28.6km s-min=15.8km az=110.0*
*NEIC **02** 02:10:42.8±0.4, 723S×15585E, h10km, mb4.8/9, Error ellipse: s-maj=15.0km s-min=7.2km az=113.0*
*MOS **02** 02:10:45.6±0.8, 720S×15573E, h33km, mb4.8/6, Error ellipse: s-maj=16.5km s-min=10.6km az=85.0*
*ISCJB **02** 02:10:48.8±4.2, 729S±007×1557E±01, h66km±36km, mb4.6/31, Error ellipse: s-maj=24.7km s-min=11.9km az=9.8*
ISC 02 02:10:50.3±3.9, 730S±008×1557E±01, h65km±34km, n62, σ0§80/52, mb4.6/31, 1C, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**15.66**	**215**	*e*P	**Pn**	**02 14 31.0**	**+3.9**
	19nm,1.0s						
CTA	**Charters Tower**	**15.66**	**215**	Pn	**Pn**	**02 14 27.4**	**+0.3**
	0.4nm,0.3s,baz=22,slow=17,SNR=3.9						
CTAO	**Charters Tower**	**15.66**	**215**	*e*Pn	**Pn**	**02 14 27.1**	**0.0**
	34nm,1.0s						
CTAO	**Charters Tower**	**15.66**	**215**	*e*P	**Pn**	**02 14 27.1**	**0.0**
CTAO				pmax	pmax		
	comp=Z,34nm,1.0s						
GUMO	**Guam**	**23.36**	**333**	*e*P	**P**	**02 15 52.5**	**-0.8**
	comp=Z,604nm,1.5s,mb5.7						
KAKA	**Kakadu**	**23.51**	**255**	*e*P	**P**	**02 15 54.7**	**0.0**
	comp=Z,19nm,0.6s,mb4.6						
KAKA	**Kakadu**	**23.51**	**255**	*e*P	**P**	**02 15 54.6**	**-0.1**
WB2	**Warramunga Arr**	**24.21**	**237**	*e*P	**P**	**02 16 01.3**	**+0.3**
WRA	**Warramunga Arr**	**24.22**	**237**	P	**P**	**02 16 01.6**	**+0.5**
WRA						02 19 41.1	
WRA	**Warramunga Arr**	**24.22**	**237**	P	**P**	**02 16 01.6**	**+0.4**
	comp=Z,5.2nm,0.5s,mb4.1,baz=60,slow=9.6,SNR=14						
WRA				PcP	PcP	02 19 41.1	+0.7
	comp=Z,1.0nm,0.6s,baz=60,slow=2.4,SNR=5.3						
WRA				LR	LR	02 25 31.3	
	comp=Z,572nm,18.1s,baz=75,slow=36						
ASAR	**Alice Springs**	**26.49**	**230**	P	**P**	**02 16 21.3**	**-0.5**
	comp=Z,2.3nm,0.7s,mb3.7,baz=60,slow=8.7,SNR=9.6						
ASAR				PcP	PcP	02 19 46.5	+1.0
	comp=Z,0.6nm,0.5s,baz=83,slow=2.0,SNR=4.3						
STKA	**Stephens Creek**	**27.76**	**206**	*e*P	**P**	**02 16 32.9**	**-0.1**
	comp=Z,4.9nm,0.7s,mb4.2						
STKA	**Stephens Creek**	**27.76**	**206**	P	**P**	**02 16 33.0**	**0.0**
	comp=Z,4.5nm,0.7s,mb4.1,baz=17,slow=11,SNR=7.6						
FITZ	**Fitzroy Crossi**	**31.16**	**247**	*e*P	**P**	**02 17 03.5**	**+0.1**
	comp=Z,12nm,0.6s,mb4.8						
FITZ	**Fitzroy Crossi**	**31.16**	**247**	P	**P**	**02 17 03.4**	**0.0**
	comp=Z,10.0nm,0.9s,mb4.6,baz=57,slow=8.3,SNR=11						
FORT	**Forrest**	**34.85**	**224**	*e*P	**P**	**02 17 34.9**	**-0.4**
	comp=Z,13nm,0.6s,mb5.0						
KLBR	**Kellerberrin**	**42.82**	**231**	*e*P	**P**	**02 18 41.5**	**-0.5**
	comp=Z,12nm,0.5s,mb4.9						
MJAR	**Matsushiro Arr**	**46.59**	**341**	P	**P**	**02 19 11.4**	**-0.5**
	comp=Z,6.4nm,0.6s,mb4.5,baz=72,slow=1.0,SNR=22						
MJAR				PcP	PcP	02 20 45.9	+0.8
	comp=Z,1.6nm,0.6s,baz=161,slow=3.8,SNR=4.9						
MAJO	**Matsushiro**	**46.59**	**341**	*e*P	**P**	**02 19 11.7**	**-0.2**
	comp=Z,10nm,0.7s,mb4.7						
MAJO	**Matsushiro**	**46.59**	**341**	*e*P	**P**	**02 19 11.7**	**-0.2**
MAJO				pmax	pmax		
	comp=Z,11nm,0.7s,mb4.7						
MAT	**Matsushiro**	**46.59**	**341**	P	**P**	**02 19 11.6**	**-0.3**
KSRS	**Korea Array**	**51.52**	**332**	P	**P**	**02 19 50.6**	**+1.1**
	comp=Z,2.6nm,0.5s,mb4.6,baz=147,slow=7.3,SNR=9.1						
ASAJ	**Asahikawa**	**52.52**	**348**	P	**P**	**02 19 58.2**	**+1.4**
	comp=Z,8.6nm,0.5s,mb5.0,baz=60,slow=12,SNR=6.6						
YSS	**Yuzh-Sakhalins**	**55.22**	**349**	*e*P	**P**	**02 20 17.1**	**+0.6**
CN2	**Changchun**	**57.75**	**334**	*e*P	**P**	**02 20 31.8**	**-2.8**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb5.0						
KLR	**Kul'dur**	**60.06**	**342**	*e*P	**P**	**02 20 46.2**	**-4.2**
XAN	**Xi'an**	**60.40**	**316**	P	**P**	**02 20 53.3**	**+0.2**
XAN				AMB	AMB		
	comp=Z,6.0nm,0.8s,mb4.7						
LZH	**Lanzhou**	**65.01**	**315**	*e*P	**P**	**02 21 25.5**	**+1.7**
LZH				AMB	AMB		
	comp=Z,29nm,1.2s,mb5.0						
LZH				AMB	AMB		
	comp=Z,120nm,4.5s						
SONM	**Songino Array**	**69.96**	**327**	P	**P**	**02 21 56.6**	**+1.8**
	comp=Z,4.0nm,0.4s,mb4.6,baz=146,slow=6.4,SNR=51						
SBA	**Scott Base**	**70.76**	**178**	*e*P	**P**	**02 21 59.5**	**+0.3**
	comp=Z,12nm,1.8s,mb4.4						
SBA	**Scott Base**	**70.76**	**178**	*e*P	**P**	**02 21 59.5**	**+0.3**
SBA				pmax	pmax		
	comp=Z,12nm,1.8s,mb4.4						
ZAK	**Zakamensk**	**73.11**	**328**	*e*P	**P**	**02 22 12.7**	**-0.9**
ZAK				pmax	pmax		
	comp=Z,6.0nm,1.5s,mb4.2						
BOD	**Bodaibo**	**73.14**	**338**	*e*P	**P**	**02 22 13.6**	**-0.1**
BOD				pmax	pmax		
	comp=Z,8.0nm,1.4s,mb4.4						
MOY	**Mondy**	**75.03**	**328**	*e*P	**P**	**02 22 25.7**	**+0.9**
JIRN	**Jiri**	**75.52**	**301**	*e*P	**P**	**02 22 28.7**	**+0.5**
	comp=Z,12nm,0.5s,mb4.8						
BILL	**Bilibino**	**75.53**	**4**	*e*P	**P**	**02 22 27.4**	**+0.1**
	comp=Z,3.8nm,0.6s,mb4.3						
BILL	**Bilibino**	**75.53**	**4**	*e*P	**P**	**02 22 26.6**	**-0.7**
BILL				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.3						
KKN	**Kakani**	**76.33**	**301**	*e*P	**P**	**02 22 32.6**	**-0.2**
	comp=Z,6.4nm,0.2s,mb5.0						
GKN	**Gorkha**	**76.94**	**301**	*e*P	**P**	**02 22 34.3**	**-1.9**
	comp=Z,10nm,0.3s,mb5.0						
KOLN	**Koldanda**	**77.76**	**300**	*e*P	**P**	**02 22 40.2**	**-0.7**
	comp=Z,20nm,1.0s,mb4.8						
MKAR	**Makanchi Array**	**84.08**	**319**	P	**P**	**02 23 14.9**	**+0.9**
	comp=Z,11nm,0.7s,mb4.8,baz=75,slow=6.4,SNR=23						
MAW	**Mawson**	**84.38**	**203**	P	**P**	**02 23 16.0**	**+0.7**
	comp=Z,2.6nm,0.9s,mb4.1,baz=84,slow=9.2,SNR=3.2						
ZAA0	**Zalesovo Array**	**84.81**	**326**	*e*P	**P**	**02 23 17.1**	**-0.5**
ZALV	**Zalesovo Beam**	**84.81**	**326**	P	**P**	**02 23 17.6**	**+0.1**
	comp=Z,8.8nm,0.5s,mb4.9,baz=118,slow=5.7,SNR=35						
ZAL	**Zalesovo**	**84.82**	**326**	P	**P**	**02 23 17.7**	**+0.1**
NVS	**Novosibirsk**	**85.98**	**326**	*i* P	**P**	**02 23 23.1**	**-0.3**
KURK	**Kurchatov**	**87.49**	**322**	*e*P	**P**	**02 23 30.5**	**-0.3**
	comp=Z,3.0nm,0.7s,mb4.3						
KURK	**Kurchatov**	**87.49**	**322**	*e*P	**P**	**02 23 30.5**	**-0.3**
KURK				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.3						
INK	**Inuvik**	**89.76**	**21**	P	**P**	**02 23 40.7**	**-0.5**
	comp=Z,1.0nm,0.5s,mb4.2,baz=271,slow=6.2,SNR=7.1						
YKA	**Yellowknife Ar**	**96.28**	**28**	P	**P**	**02 24 10.9**	**-0.4**
YKA	**Yellowknife Ar**	**96.28**	**28**	P	**P**	**02 24 10.9**	**-0.4**
	comp=Z,0.6nm,0.6s,mb4.2,baz=265,slow=4.7,SNR=16						
PDAR	**Pinedale Array**	**98.39**	**48**	P	**P**	**02 24 21.3**	**0.0**
	comp=Z,0.3nm,0.7s,mb4.0,baz=224,slow=3.8,SNR=3.2						
FINES	**FINESS Array B**	**114.49**	**336**	PKP	PKiKP	02 29 22.5	-0.1
	comp=Z,0.6nm,0.5s,baz=125,slow=3.0,SNR=5.8						
PLCA	**Paso Flores**	**116.07**	**142**	PKP	PKPdf	02 29 27.0	+0.6
	comp=Z,1.2nm,0.9s,baz=199,slow=3.8,SNR=4.3						
AKASG	**Malin Array Be**	**118.18**	**325**	PKP	PKPdf	02 29 29.8	-0.3
	comp=Z,1.1nm,0.5s,baz=48,slow=2.3,SNR=15						
NOA	**NORSAR Array B**	**120.21**	**341**	PKP	PKPdf	02 29 33.6	-0.1
	comp=Z,0.8nm,0.8s,baz=46,slow=1.9,SNR=3.1						
CLL	**Collm**	**126.40**	**332**	*i* PKPdf	PKPdf	02 29 47.5	+1.7
GERES	**GERESS Array B**	**127.66**	**329**	PKP	PKPdf	02 29 49.4	+1.1
	comp=Z,1.4nm,0.5s,baz=76,slow=1.8,SNR=13						
LPAZ	**La Paz**	**130.71**	**119**	PKP	PKPdf	02 29 56.0	+1.0
	comp=Z,1.2nm,0.8s,baz=270,slow=2.0,SNR=3.8						
ESDC	**Sonseca Array**	**142.94**	**334**	PKhKP		02 30 14.6	
	comp=Z,0.4nm,0.6s,baz=14,slow=3.4,SNR=3.9						
TORD	**Torodi Ar. Bea**	**153.76**	**285**	PKPbc	PKPbc	02 30 43.0	-0.1
	comp=Z,0.7nm,0.6s,baz=105,slow=1.2,SNR=3.4						
TORD				PKPab	PKPab	02 30 56.6	+0.5
	comp=Z,1.4nm,0.6s,baz=84,slow=4.2,SNR=4.5						
DBIC	**Dimbokro**	**160.68**	**269**	PKPab	PKPab	02 31 26.5	+0.4
	comp=Z,3.4nm,0.6s,baz=83,slow=4.4,SNR=10						

*ISCJB **02** 02:17:38.2±1.2, 3830N±004×2032E±008, h5km±6km, Error ellipse: s-maj=11.2km s-min=5.0km az=159.3*
*CSEM **02** 02:17:39.2±0.2, 3831N×2033E, h2km, MD3.5, Error ellipse: s-maj=4.7km s-min=1.6km az=64.0*
*THE **02** 02:17:40.0, 3834N×2037E, h4km, ML2.9*
*NEIC **02** 02:17:40.5, 3826N×2050E, h16km, MD3.5(ATH), After ATH.*
*ATH **02** 02:17:40.2, 3821N×2049E, h20km±2km, MD3.5/5*
ISC 02 02:17:39.4±1.2, 3830N±004×2036E±008, h8km±5km, n14, σ1§05/22, 3C-2D, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.21**	**124**	⇑*i*PB	**Pg**	**02 17 43.9**	**+0.2**
VLS				*e*SB	**Sg**	**02 17 47.5**	**+0.9**
KFL	**Anninata**	**0.38**	**119**	*e*Pg	**Pg**	**02 17 46.8**	**0.0**
LKD	**Levkas**	**0.47**	**29**	*e*Pg	**Pg**	**02 17 47.7**	**-0.8**
LKD				*e*Sg	**Sg**	**02 17 54.3**	**-0.3**
RLS	**Riolos of Patr**	**0.90**	**105**	⇑*i*PN	**Pn**	**02 17 55.4**	**-2.9**
SELA	**Sela**	**1.20**	**91**	*e*Pg	**Pg**	**02 18 02.1**	**-0.4**
SELA				*e*Sg	**Sg**	**02 18 20.6**	**+2.5**
IGT	**Igoumenitsa**	**1.23**	**359**	*e*Pg	**Pg**	**02 18 02.0**	**-1.1**
IGT				*e*Sg	**Sg**	**02 18 19.4**	**+0.3**
EVR	**Evrytania**	**1.29**	**61**	⇑*i*PN	**Pn**	**02 18 03.6**	**-0.1**
KEK	**Kerkira**	**1.48**	**343**	*e*PN	**Pn**	**02 18 09.5**	**+3.2**
AGG	**Agios Georgios**	**1.70**	**64**	*e*Pb	**Pb**	**02 18 10.1**	**-0.8**
AGG				*e*Sb	**Sb**	**02 18 31.4**	**-1.0**
PYL	**PYLOS**	**1.78**	**142**	*e*Pb	**Pb**	**02 18 11.9**	**-0.2**
PYL				*e*Sb	**Sb**	**02 18 35.1**	**+0.6**
THL	**Klokotos Trika**	**1.81**	**45**	⇓*i*PN	**Pn**	**02 18 12.5**	**+1.8**
THL	**Klokotos Trika**	**1.81**	**45**	⇓*e*Pn	**Pn**	**02 18 12.5**	**+1.8**
VLX	**Vlachokerasia**	**1.84**	**119**	*e*Pb	**Pb**	**02 18 12.2**	**-1.1**
VLX				*e*Sb	**Sb**	**02 18 36.0**	**-0.5**
FNA	**Florina**	**2.60**	**17**	*e*Pn	**Pn**	**02 18 21.8**	**+0.1**
FNA				*e*Sn	**Sn**	**02 18 54.5**	**+1.0**

IDC 02 02:17:51.3±1.6, 898S×15639E, h0km, mb3.4/3, mb1 3.7/4, mb1mx3.5/14, mbtmp3.6/4, Error ellipse: s-maj=50.1km s-min=29.3km az=161.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**3.54**	**98**	Pn	Pn	02 18 47.4	-0.2
	29nm,0.3s,baz=285,slow=4.0,SNR=5.3						
HNR				Sn	Sn	02 19 28.8	-1.5
	44nm,0.3s,baz=273,slow=16,SNR=8.9						
WRA	**Warramunga Arr**	**23.93**	**241**	P	P	02 23 06.6	-0.7
	0.6nm,0.8s,baz=67,slow=9.7,SNR=4.5						
ASAR	**Alice Springs**	**25.99**	**233**	P	P	02 23 26.9	+0.8
	0.5nm,0.8s,baz=64,slow=8.5,SNR=4.7						
MKAR	**Makanchi Array**	**85.80**	**319**	P	P	02 30 32.9	+0.2
	0.3nm,0.5s,baz=92,slow=4.3,SNR=2.6						

IDC 02 02:18:36.9±1.4, 727S×15556E, h0km, mb3.9/8, mb1 4.0/8, mb1mx3.9/14, mbtmp3.9/8, MS4.7/2, Ms1 4.7/2, ms1mx3.8/17, Error ellipse: s-maj=56.4km s-min=22.4km az=117.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.12**	**236**	P	P	02 23 54.0	-0.6
	1.6nm,0.5s,baz=58,slow=9.1,SNR=5.9						
ASAR	**Alice Springs**	**26.41**	**230**	P	P	02 24 15.8	+0.4
	0.3nm,0.6s,baz=62,slow=7.9,SNR=2.5						
STKA	**Stephens Creek**	**27.73**	**206**	P	P	02 24 27.6	+0.4
	2.1nm,0.7s,baz=25,slow=13,SNR=4.0						
RAR	**Rarotonga**	**45.29**	**113**	LR	LR	02 41 52.3	
	comp=Z,896nm,19.1s,baz=356,slow=31						
SONM	**Songino Array**	**69.87**	**327**	P	P	02 29 50.1	+0.6
	0.7nm,0.6s,baz=140,slow=5.7,SNR=7.9						
MKAR	**Makanchi Array**	**83.98**	**319**	P	P	02 31 09.7	+0.6
	1.1nm,0.8s,baz=106,slow=6.4,SNR=5.1						
ZALV	**Zalesovo Beam**	**84.72**	**326**	P	P	02 31 12.2	-0.5
	0.5nm,0.4s,baz=119,slow=4.7,SNR=3.6						
INK	**Inuvik**	**89.78**	**21**	P	P	02 31 36.7	-0.1
	0.7nm,0.8s,baz=234,slow=1.0,SNR=3.4						
PFO	**Pinyon Flat Ob**	**92.30**	**57**	LR	LR	03 03 21.1	
	comp=Z,315nm,21.2s,baz=167,slow=29						
YKA	**Yellowknife Ar**	**96.32**	**28**	P	P	02 32 07.1	0.0
	0.2nm,0.5s,baz=266,slow=4.7,SNR=7.6						
TORD	**Torodi Ar. Bea**	**153.64**	**285**	PKPbc	PKPbc	02 38 38.2	-0.6
	0.3nm,0.4s,baz=90,slow=1.9,SNR=3.1						

IDC 02 02:20:40.7±4.0, 711S×15527E, h0km, mb4.0/4, mb1 4.1/4, mb1mx3.9/13, mbtmp4.0/4, Error ellipse: s-maj=115.8km s-min=35.6km az=119.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.98**	**236**	P	P	02 25 57.9	+0.7
	0.8nm,0.5s,baz=62,slow=9.9,SNR=5.5						
SONM	**Songino Array**	**69.58**	**327**	P	P	02 31 52.6	+1.0
	1.4nm,0.9s,baz=136,slow=6.2,SNR=7.6						
MKAR	**Makanchi Array**	**83.67**	**319**	P	P	02 33 11.5	+0.1
	2.2nm,0.7s,baz=90,slow=7.7,SNR=13						
ZALV	**Zalesovo Beam**	**84.43**	**326**	P	P	02 33 13.6	-1.5
	1.1nm,0.6s,baz=114,slow=6.6,SNR=6.3						

*IDC **02** 02:20:47.3±1.4, 746S×15584E, h0km, mb4.1/9, mb1 4.2/9, mb1mx4.2/14, mbtmp4.1/9, Error ellipse: s-maj=51.1km s-min=20.7km az=114.0*
*NEIC **02** 02:20:48.5±0.8, 754S×15586E, h10km, mb4.7/1, Error ellipse: s-maj=33.0km s-min=11.5km az=111.0*
*ISCJB **02** 02:20:50.3±1.0, 76S±01×1559E±01, h33km, mb4.1/10, Error ellipse: s-maj=37.8km s-min=13.3km az=21.6*
ISC 02 02:20:52.3±1.0, 76S±01×1558E±03, h35km, n14, σ0§96/13, mb4.1/10, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTAO	**Charters Tower**	**15.53**	**216**	*e*Pn	**Pn**	**02 24 26.9**	**-1.8**
	66nm,1.6s						
WRA	**Warramunga Arr**	**24.20**	**237**	P	**P**	**02 26 06.6**	**+0.9**
	2.3nm,0.8s,mb3.7,baz=61,slow=9.4,SNR=7.0						
ASAR	**Alice Springs**	**26.44**	**230**	P	**P**	**02 26 26.4**	**+0.3**
	1.8nm,0.9s,mb3.6,baz=62,slow=8.8,SNR=8.4						
STKA	**Stephens Creek**	**27.59**	**207**	P	**P**	**02 26 37.5**	**+1.2**
	1.9nm,0.5s,mb4.0,baz=42,slow=13,SNR=5.7						
MJAR	**Matsushiro Arr**	**46.89**	**340**	P	**P**	**02 29 18.4**	**-0.9**
	1.8nm,0.6s,mb4.2,baz=159,slow=8.1,SNR=5.0						
CASY	**Casey**	**66.31**	**198**	P	**P**	**02 31 36.5**	**-0.4**
	6.2nm,0.6s,mb4.8						
SONM	**Songino Array**	**70.27**	**327**	P	**P**	**02 32 03.0**	**+1.1**
	0.9nm,0.5s,mb4.0,baz=145,slow=6.4,SNR=10						
MKAR	**Makanchi Array**	**84.39**	**319**	P	**P**	**02 33 21.6**	**+0.6**
	3.2nm,0.6s,mb4.6,baz=79,slow=6.5,SNR=17						
ZALV	**Zalesovo Beam**	**85.12**	**326**	P	**P**	**02 33 23.0**	**-1.5**
ZALV	**Zalesovo Beam**	**85.12**	**326**	P	**P**	**02 33 23.0**	**-1.5**
	1.2nm,0.5s,mb4.3,baz=108,slow=6.1,SNR=6.4						
INK	**Inuvik**	**89.96**	**21**	P	**P**	**02 33 47.8**	**+0.2**
	0.4nm,0.5s,mb4.0,baz=273,slow=5.7,SNR=3.7						
YKA	**Yellowknife Ar**	**96.45**	**28**	P	**P**	**02 34 17.6**	**0.0**
YKA	**Yellowknife Ar**	**96.45**	**28**	P	**P**	**02 34 17.6**	**0.0**
	0.3nm,0.7s,mb3.8,baz=267,slow=4.7,SNR=6.2						
GERES	**GERESS Array B**	**127.97**	**329**	PKP	PKPdf	02 39 55.2	+0.7
	0.3nm,0.6s,baz=318,slow=1.8,SNR=3.7						

IDC 02 02:25:08.6±4.0, 722S×15547E, h0km, mb3.8/4, mb1 3.9/4, mb1mx3.7/13, mbtmp3.8/4, Error ellipse: s-maj=115.9km s-min=36.5km az=119.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.09**	**236**	P	P	02 30 26.7	+0.8
	1.8nm,0.7s,baz=63,slow=9.8,SNR=8.2						
SONM	**Songino Array**	**69.78**	**327**	P	P	02 36 21.9	+1.3
	0.2nm,0.4s,baz=137,slow=5.8,SNR=4.6						
MKAR	**Makanchi Array**	**83.88**	**319**	P	P	02 37 40.4	+0.1
	0.8nm,0.7s,baz=88,slow=6.1,SNR=6.3						
ZALV	**Zalesovo Beam**	**84.63**	**326**	P	P	02 37 42.5	-1.4
	0.4nm,0.3s,baz=101,slow=7.5,SNR=2.8						

*ISCJB **02** 02:27:21.8±0.5, 823S±009×15689E±006, h10km, mb4.3/15, Error ellipse: s-maj=13.6km s-min=7.9km az=14.2*
*IDC **02** 02:27:21.3±0.7, 827S×15694E, h0km, mb4.4/11, mb1 4.5/12, mb1mx4.5/15, mbtmp4.4/12, ML4.5/1, Error ellipse: s-maj=22.5km s-min=18.3km az=138.0*
*BJI **02** 02:27:22.3, 808S×15737E, h22km, mB5.2, mb4.9*
*NEIC **02** 02:27:22.8±0.5, 821S×15695E, h10km, mb4.4/2, Error ellipse: s-maj=17.5km s-min=11.7km az=161.0*
ISC 02 02:27:27.5±2.8, 83S±01×1569E±01, h39km±30km, n21, σ1§05/22, mb4.3/15, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**3.20**	**111**	Pn	**Pn**	**02 28 13.4**	**-1.8**
	54nm,0.3s,baz=60,slow=1.5,SNR=14						
HNR				Sn	**Sn**	**02 28 53.7**	**+1.5**
	39nm,0.3s,baz=270,slow=19,SNR=5.4						
KAKA	**Kakadu**	**24.45**	**258**	*e*P	**P**	**02 32 43.7**	**+0.8**
	7.4nm,0.8s,mb4.2						
WB2	**Warramunga Arr**	**24.72**	**240**	*e*P	**P**	**02 32 45.2**	**0.0**
WRA	**Warramunga Arr**	**24.73**	**240**	P	**P**	**02 32 45.2**	**-0.1**
	10.0nm,0.7s,mb4.4,baz=66,slow=9.7,SNR=26						
WRA				PcP	PcP	02 36 21.6	-0.2
	1.8nm,0.8s,baz=64,slow=2.2,SNR=5.8						
ASAR	**Alice Springs**	**26.82**	**233**	P	**P**	**02 33 03.4**	**-0.9**
	2.6nm,0.8s,mb3.8,baz=64,slow=8.7,SNR=15						
ASAR				PcP	PcP	02 36 25.1	-1.4
	0.7nm,0.5s,baz=40,slow=2.5,SNR=4.4						
STKA	**Stephens Creek**	**27.45**	**209**	*e*P	**P**	**02 33 11.4**	**+1.6**
	6.8nm,0.7s,mb4.3						
STKA	**Stephens Creek**	**27.45**	**209**	P	**P**	**02 33 11.0**	**+1.2**
	7.9nm,0.7s,mb4.3,baz=41,slow=13,SNR=12						
FITZ	**Fitzroy Crossi**	**31.92**	**249**	P	**P**	**02 33 48.0**	**-1.6**
	2.1nm,0.9s,mb4.0,baz=98,slow=7.1,SNR=3.1						
KSRS	**Korea Array**	**52.98**	**331**	P	**P**	**02 36 40.8**	**+0.5**
	1.6n

s-maj=26.8km s-min=23.5km az=114.0
NEIC ***02*** *02:35:26.7±0.6, 758S×15589E, h10km, Error ellipse: s-maj=16.2km s-min=14.1km az=186.0*
ISCJB ***02*** *02:35:28.5±0.8, 77S±0.1×1559E±0.1, h33km, mb3.8/7, Error ellipse: s-maj=19.4km s-min=16.5km az=2.4*
ISC 02 02:35:30.3±0.8, 76S±0.1×1559E±0.1, h35km, n9, σ0§59/10, mb3.8/7, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.34**	**114**	Pn	**Pn**	**02 36 33.9**	**+0.1**
	28nm,0.3s,baz=275,slow=6.3,SNR=4.9						
HNR				Sn	**Sn**	**02 37 30.4**	**+7.0**
	36nm,0.3s,baz=80,slow=17,SNR=7.3						
WRA	**Warramunga Arr**	**24.24**	**238**	P	**P**	**02 40 44.3**	**+0.2**
	3.1nm,0.6s,mb3.9,baz=63,slow=9.3,SNR=27						
ASAR	**Alice Springs**	**26.47**	**231**	P	**P**	**02 41 03.4**	**-0.9**
	0.1nm,0.3s,mb2.8,baz=59,slow=9.6,SNR=4.2						
STKA	**Stephens Creek**	**27.57**	**207**	P	**P**	**02 41 14.8**	**+0.6**
STKA	**Stephens Creek**	**27.57**	**207**	P	**P**	**02 41 14.8**	**+0.6**
	1.0nm,0.8s,mb3.5,baz=24,slow=14,SNR=2.3						
SONM	**Songino Array**	**70.38**	**327**	P	**P**	**02 46 41.1**	**+0.4**
	1.2nm,1.0s,mb3.8,baz=149,slow=6.0,SNR=6.4						
MKAR	**Makanchi Array**	**84.50**	**319**	P	**P**	**02 47 59.1**	**-0.6**
	1.8nm,0.8s,mb4.2,baz=79,slow=7.5,SNR=7.2						
ZALV	**Zalesovo Beam**	**85.24**	**326**	P	**P**	**02 48 04.0**	**+0.8**
	1.3nm,0.6s,mb4.2,baz=66,slow=3.6,SNR=4.8						
YKA	**Yellowknife Ar**	**96.47**	**28**	P	**P**	**02 48 55.1**	**-0.6**
	0.4nm,0.9s,mb3.8,baz=260,slow=5.5,SNR=3.5						

IDC ***02*** *02:44:14.5±0.9, 706S×15527E, h0km, mb4.2/9, mb1 4.3/10, mb1mx4.2/16, mbtmp4.2/10, ML4.4/1, Error ellipse: s-maj=27.9km s-min=20.8km az=120.0*
NEIC ***02*** *02:44:15.9±0.6, 704S×15528E, h10km, mb4.6/1, Error ellipse: s-maj=16.1km s-min=12.6km az=164.0*
ISCJB ***02*** *02:44:17.5±0.6, 70S±0.1×15528E±0.10, h33km, mb4.4/13, Error ellipse: s-maj=15.8km s-min=14.1km az=169.8*
ISC 02 02:44:19.4±0.6, 70S±0.1×15528E±0.10, h35km, n17, σ1§00/18, mb4.4/13, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.20**	**118**	Pn	**Pn**	**02 45 34.1**	**-0.7**
	13nm,0.3s,baz=259,slow=5.2,SNR=3.1						
HNR				Sn	**Sn**	**02 46 44.2**	**+11**
	34nm,0.3s,baz=278,slow=15,SNR=6.1						
WB2	**Warramunga Arr**	**24.01**	**236**	*e*P	**P**	**02 49 31.3**	**+0.2**
WRA	**Warramunga Arr**	**24.02**	**236**	P	**P**	**02 49 31.5**	**+0.3**
	5.9nm,0.9s,mb4.0,baz=61,slow=9.5,SNR=13						
ASAR	**Alice Springs**	**26.35**	**229**	P	**P**	**02 49 51.8**	**-0.6**
	0.7nm,0.8s,mb3.2,baz=65,slow=9.3,SNR=4.4						
STKA	**Stephens Creek**	**27.81**	**206**	P	**P**	**02 50 07.1**	**+1.7**
	4.4nm,0.9s,mb4.1,baz=12,slow=9.9,SNR=9.6						
FITZ	**Fitzroy Crossi**	**30.89**	**246**	*e*P	**P**	**02 50 32.0**	**-0.9**
	7.4nm,0.8s,mb4.6						
FITZ	**Fitzroy Crossi**	**30.89**	**246**	P	**P**	**02 50 31.6**	**-1.3**
	3.5nm,0.9s,mb4.2,baz=73,slow=12,SNR=6.1						
SONM	**Songino Array**	**69.52**	**327**	P	**P**	**02 55 26.2**	**+1.7**
	2.6nm,0.8s,mb4.2,baz=133,slow=7.0,SNR=18						
JIRN	**Jiri**	**75.05**	**301**	*e*P	**P**	**02 55 55.7**	**-2.2**
	15nm,0.9s,mb4.9						
KKN	**Kakani**	**75.86**	**301**	*e*P	**P**	**02 56 01.1**	**-1.5**
	11nm,0.6s,mb5.0						
GKN	**Gorkha**	**76.46**	**301**	*e*P	**P**	**02 56 06.6**	**+0.6**
	28nm,0.9s,mb5.2						
KOLN	**Koldanda**	**77.28**	**300**	*e*P	**P**	**02 56 10.8**	**+0.1**
	22nm,1.0s,mb5.0						
QSPA	**South Pole Qui**	**82.93**	**180**	P	**P**	**02 56 40.4**	**+0.2**
	2.5nm,0.9s,mb4.2,baz=27,slow=2.3,SNR=4.3						
MKAR	**Makanchi Array**	**83.62**	**319**	P	**P**	**02 56 45.1**	**+0.8**
	1.4nm,0.8s,mb4.1,baz=115,slow=5.5,SNR=7.0						
YKA	**Yellowknife Ar**	**96.25**	**28**	P	**P**	**02 57 44.2**	**+0.5**
YKA	**Yellowknife Ar**	**96.25**	**28**	P	**P**	**02 57 44.2**	**+0.5**
	0.9nm,0.8s,mb4.2,baz=264,slow=4.5,SNR=14						
PDAR	**Pinedale Array**	**98.52**	**48**	P	**P**	**02 57 54.4**	**-0.2**
	0.4nm,0.8s,mb4.0,baz=215,slow=2.9,SNR=4.4						

IDC ***02*** *02:44:39.0±4.9, 787S×15484E, h0km, mb4.2/5, mb1 4.3/5, mb1mx4.1/14, mbtmp4.2/5, Error ellipse: s-maj=139.7km s-min=31.1km az=121.0*
NEIC 02 02:44:40.8±0.8, 791S×15483E, h10km, Error ellipse: s-maj=25.2km s-min=15.4km az=185.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.29**	**107**	*e*Pn	Pn	02 45 59.8	0.0
	271nm,0.8s						
WRA	**Warramunga Arr**	**23.17**	**237**	P	P	02 49 48.8	+1.0
	4.4nm,0.8s,baz=61,slow=9.9,SNR=5.8						
FITZ	**Fitzroy Crossi**	**30.14**	**247**	P	P	02 50 49.9	-1.2
	1.5nm,0.4s,baz=84,slow=8.8,SNR=13						
SONM	**Songino Array**	**70.01**	**328**	P	P	02 55 53.5	+0.9
	1.2nm,0.8s,baz=145,slow=6.3,SNR=4.2						
MKAR	**Makanchi Array**	**83.97**	**319**	P	P	02 57 11.8	+0.5
	0.6nm,0.3s,baz=81,slow=6.8,SNR=6.3						
ZALV	**Zalesovo Beam**	**84.84**	**326**	P	P	02 57 14.7	-0.8
	1.2nm,0.6s,baz=119,slow=5.6,SNR=5.6						

IDC ***02*** *02:45:18.0±0.9, 713S×15486E, h0km, mb4.5/10, mb1 4.7/10, mb1mx4.5/14, mbtmp4.5/10, Error ellipse: s-maj=42.1km s-min=19.5km az=124.0*
NEIC ***02*** *02:45:19.4±0.5, 720S×15490E, h10km, mb5.0/2, Error ellipse: s-maj=22.9km s-min=10.7km az=126.0*
BJI ***02*** *02:45:20.8, 652S×155.18E, h14km, mB5.2, mb4.7*
ISCJB ***02*** *02:45:21.7±0.7, 72S±0.1×1548E±0.1, h33km, mb4.5/16, Error ellipse: s-maj=23.5km s-min=12.5km az=30.7*
MOS ***02*** *02:45:21.7±0.4, 714S×15484E, h33km, mb5.0/2, Error ellipse: s-maj=30.2km s-min=25.7km az=70.0*
ISC 02 02:45:23.5±0.7, 72S±0.1×1549E±0.1, h35km, n26, σ0§77/24, mb4.5/16, 1D, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WB2	**Warramunga Arr**	**23.57**	**235**	*e*P	**P**	**02 50 30.6**	**-0.6**
WRA	**Warramunga Arr**	**23.58**	**236**	P	**P**	**02 50 31.1**	**-0.2**
	12nm,0.8s,mb4.4,baz=59,slow=9.8,SNR=11						
ASAR	**Alice Springs**	**25.93**	**229**	P	**P**	**02 50 52.7**	**+0.1**
	3.8nm,0.8s,mb4.0,baz=60,slow=9.2,SNR=7.1						
STKA	**Stephens Creek**	**27.48**	**205**	*e*P	**P**	**02 51 06.8**	**+0.3**
	7.5nm,0.6s,mb4.4						
STKA	**Stephens Creek**	**27.48**	**205**	P	**P**	**02 51 07.0**	**+0.5**
	9.8nm,0.7s,mb4.5,baz=24,slow=12,SNR=13						
CN2	**Changchun**	**57.32**	**335**	*e*P	**P**	**02 55 08.0**	**+0.1**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.9						
KLR	**Kul'dur**	**59.73**	**343**	*e*P	**P**	**02 55 18.7**	**-5.8**
XAN	**Xi'an**	**59.76**	**316**	P	**P**	**02 55 23.0**	**-2.1**
XAN				AMB	AMB		
	comp=Z,8.0nm,1.5s,mb4.5						
CD2	**Chengdu**	**61.84**	**311**	*e*P	**P**	**02 55 40.0**	**+0.6**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb5.2						
LZH	**Lanzhou**	**64.37**	**316**	*e*P	**P**	**02 55 57.2**	**+1.2**
LZH				AP	pP	02 56 01.3	-5.5
LZH				XP	sP	02 56 03.5	-7.4
LZH				AMB	AMB		
	comp=Z,40nm,1.3s,mb5.3						
LZH				AMB	AMB		
	comp=Z,143nm,4.9s						
LZH	**Lanzhou**	**64.37**	**316**	*e*P	**P**	**02 55 57.2**	**+1.2**
	comp=Z,40nm,1.3s,mb5.3						
LZH				pP	pP	02 56 01.3	-5.5
LZH				sP	sP	02 56 03.5	-7.4
GTA	**Gaotai**	**68.80**	**317**	‖P	**P**	**02 56 25.8**	**+1.5**
GTA				AP	pP	02 56 32.0	-3.1
GTA				XP	sP	02 56 35.4	-3.8
GTA				AMB	AMB		
	comp=Z,10.0nm,1.1s,mb4.7						
SONM	**Songino Array**	**69.44**	**327**	P	**P**	**02 56 28.1**	**+0.1**
	comp=Z,2.2nm,0.8s,mb4.1,baz=134,slow=7.0,SNR=4.6						
ZAK	**Zakamensk**	**72.60**	**328**	*e*P	**P**	**02 56 47.0**	**-0.1**
ZAK				eS	PcP	02 57 03.0	-1.5
BILL	**Bilibino**	**75.50**	**4**	*e*P	**P**	**02 57 03.7**	**0.0**
BILL				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.5						
KDAK	**Kodiak Island**	**77.42**	**26**	P	**P**	**02 57 14.1**	**-0.6**
	comp=Z,4.0nm,0.9s,mb4.4,baz=170,slow=6.1,SNR=4.0						
MKAR	**Makanchi Array**	**83.47**	**319**	P	**P**	**02 57 48.2**	**+0.7**
MKAR	**Makanchi Array**	**83.47**	**319**	P	**P**	**02 57 48.2**	**+0.7**
	comp=Z,4.9nm,0.8s,mb4.6,baz=89,slow=6.4,SNR=8.6						
ZALV	**Zalesovo Beam**	**84.28**	**326**	P	**P**	**02 57 50.7**	**-0.8**
ZALV	**Zalesovo Beam**	**84.28**	**326**	P	**P**	**02 57 50.7**	**-0.8**
	comp=Z,0.5nm,0.4s,mb4.0,baz=104,slow=6.3,SNR=3.9						
ZAL	**Zalesovo**	**84.28**	**326**	P	**P**	**02 57 50.7**	**-0.8**
NVAR	**Mina Array Bea**	**91.96**	**52**	P	**P**	**02 58 29.6**	**+0.8**
	comp=Z,1.2nm,0.8s,mb4.3,baz=252,slow=4.4,SNR=7.1						
YKA	**Yellowknife Ar**	**96.59**	**28**	P	**P**	**02 58 49.1**	**-0.2**
	comp=Z,4.6nm,1.0s,mb4.9,baz=268,slow=4.6,SNR=20						
PDAR	**Pinedale Array**	**98.94**	**48**	P	**P**	**02 59 00.3**	**-0.2**
	comp=Z,0.6nm,0.9s,mb4.1,baz=318,slow=2.0,SNR=4.2						
MDT	**Midelt**	**148.17**	**326**	PKPbc	PKPbc	03 05 06.2	-0.1
	comp=Z,4.8nm,0.9s,baz=55,slow=6.0,SNR=5.5						
TORD	**Torodi Ar. Bea**	**152.95**	**285**	PKPbc	PKPbc	03 05 17.1	-1.0
	comp=Z,1.5nm,0.7s,baz=71,slow=2.1,SNR=7.0						

NEIC ***02*** *02:49:35.9, 4538S×7306W, h5km, mb5.5/39, ML5.4(GUC), After GUC.*
NEIC Felt [IV] at Coihaique.
GCMT ***02*** *02:49:35.9±0.4, 4541S×7304W, h30km±1km, MW6.2/54, Moment Tensor Solution. s18,c22; s54,c78; Duration: 2±9 Moment tensor: Scale 10^18Nm; Mrr-1.59±.18; Mθθ1.14±.12; Mφφ0.45±.14; Mrθ0.12±.15; Mφθ1.71±.07; Mφr0.13±.18; Best double couple: M0 2.07300×10^18 NP1:φs53.00000°, δ43.00000°, λ-86.00000°. NP2: φs228.00000°, δ47.00000°, λ-94.00000°. Principal axes: T 2.5470, Plg2.0000°, Azm321.0000°; N -0.9480, Plg3.0000°, Azm231.0000°; P -1.5990, Plg86.0000°, Azm93.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
GUC ***02*** *02:49:35.9±0.3, 4538S×7306W, h5km±1km, ML5.4*
ISCJB ***02*** *02:49:37.2±1.4, 4540S±0.04×7284W±0.08, h15km±10km, mb5.4/58, MS5.8/31, Error ellipse: s-maj=10.1km s-min=5.9km az=167.5*
BJI ***02*** *02:49:38.2, 4540S×73.10W, h14km, mB5.6, Ms6.0, Msz5.9*
IDC ***02*** *02:49:39.8±2.4, 4531S×7266W, h26km±15km, mb5.0/22, mb1 5.0/23, mb1mx5.0/25, mbtmp4.9/23, ML5.0/1, MS5.7/18, Ms1 5.7/18, ms1mx5.5/25, Error ellipse: s-maj=22.1km s-min=9.6km az=88.0*
MOS ***02*** *02:49:40.7±1.3, 4529S×7296W, h33km, mb5.4/28, MS5.9/19, Error ellipse: s-maj=18.6km s-min=8.1km az=98.7*
ISC 02 02:49:39.3±1.3, 4540S±0.04×7280W±0.08, h18km±8km, n496, σ0§81/353, mb5.4/58, MS5.8/31, 73C-89D, Southern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COYC	**Coyhaique**	**0.54**	**109**	*e*P	**Pg**	**02 49 48.7**	**-1.2**
COYC				*i* S	**Sg**	**02 49 58.1**	**+0.9**
PLCA	**Paso Flores**	**4.95**	**20**	Pn	**Pn**	**02 50 52.9**	**+0.3**
PLCA				Lg		02 52 10.7	
PLCA				LR	LR	02 52 60.0	
PLCA	**Paso Flores**	**4.95**	**20**	Pn	**Pn**	**02 50 52.9**	**+0.3**
	16nm,0.3s,baz=197,slow=13,SNR=89						
PLCA				Lg		02 52 10.7	
	289nm,0.3s,baz=92,slow=22,SNR=12						
PLCA				LR	LR	02 52 60.0	
	comp=Z,122μm,18.7s,baz=198,slow=41						
VLCH	**Valdivia**	**5.60**	**356**	*e*P	**Sb**	**02 52 29.7**	**+6.5**
CCHI	**Chillan**	**8.81**	**4**	*e*P	**Pn**	**02 51 45.1**	**-0.5**
USHA	**Ushuaia**	**9.85**	**165**	Pn	**Pn**	**02 51 59.2**	**-0.6**
	0.3nm,0.3s,baz=325,slow=16,SNR=2.6						
USHA				Lg		02 54 49.3	
	2.8nm,0.3s,baz=84,slow=9.2,SNR=2.0						
USHA				LR	LR	02 55 59.0	
	comp=Z,53μm,19.1s,baz=309,slow=38						
TRQA	**Tornquist**	**10.91**	**52**	*e*Pn	**Pn**	**02 52 16.3**	**+1.8**
EFI	**East Falkland**	**11.60**	**128**	Pn	**Pn**	**02 52 28.4**	**+4.6**
	469nm,1.3s,SNR=5.0						
EFI	**East Falkland**	**11.60**	**128**	*e*Pn	**Pn**	**02 52 28.0**	**+4.2**
EFI	**East Falkland**	**11.60**	**128**	*de*P	**Pn**	**02 52 27.4**	**+3.6**
CFAA	**Coronel Fontan**	**14.23**	**16**	Pn	**Pn**	**02 52 54.0**	**-5.7**
	0.3nm,0.3s,baz=188,slow=12,SNR=19						
CFAA				Lg		02 57 04.8	
	0.1nm,0.3s,baz=253,slow=10,SNR=3.3						
CFAA				LR	LR	02 58 03.5	
	comp=Z,10μm,19.5s,baz=183,slow=36						
LPA	**La Plata**	**15.44**	**52**	*de*P	**Pn**	**02 53 17.0**	**+1.0**
	346nm,0.8s						
LPA	**La Plata**	**15.44**	**52**	*e*P	**Pn**	**02 53 20.0**	**+4.0**
LPA				*es*P	sP	02 53 29.0	+1.2
LPA				*es*P	sP	02 53 33.0	+5.2
LPA				*es*S	sS	02 56 19.0	-11
LPA				*es*S	sS	02 56 37.0	+6.8
LPA				*e*PCP	PcP	02 58 18.0	-1.0
LCO	**Las Campanas**	**16.44**	**7**	*e*Pn	**Pn**	**02 53 27.8**	**-1.3**
	243nm,1.2s						
PMSA	**Palmer Station**	**20.02**	**169**	P	**P**	**02 54 11.0**	**+0.4**
	70nm,1.1s,baz=76,slow=3.1,SNR=4.0						
PMSA				LR	LR	03 00 58.5	
	comp=Z,29μm,21.3s,MS5.6,baz=333,slow=34						
ARE	**Arequipa**	**28.87**	**3**	*e*P	**P**	**02 55 35.0**	**-1.8**
LPAZ	**La Paz**	**29.29**	**9**	P	**P**	**02 55 39.5**	**-1.0**
LPAZ				pmax	pmax		
	comp=Z,66nm,1.1s						
LPAZ				MLR	MLR		
	comp=Z,18μm,19.6s						
LPAZ	**La Paz**	**29.29**	**9**	P	**P**	**02 55 39.5**	**-1.0**
	comp=Z,66nm,1.1s,mb5.3,baz=171,slow=8.5,SNR=46						
LPAZ				LR	LR	03 09 26.1	
	comp=Z,18μm,19.6s,MS5.7,baz=317,slow=41						
SIV	**San Ignacio**	**30.93**	**22**	P	**P**	**02 55 52.9**	**-2.1**
	comp=Z,28nm,0.9s,mb5.1,baz=196,slow=8.8,SNR=44						
NNA	**Nana**	**33.48**	**353**	*e*P	**P**	**02 56 16.9**	**-0.4**
	comp=Z,42nm,0.9s,mb5.4						
NNA	**Nana**	**33.48**	**353**	P	**P**	**02 56 16.1**	**-1.2**
	comp=Z,28nm,0.9s,mb5.2,baz=188,slow=13,SNR=8.2						
NNA				LR	LR	03 08 01.4	
	comp=Z,9μm,18.6s,MS5.5,baz=178,slow=33						
ATAH	**Atahualpa**	**38.56**	**351**	P	**P**	**02 56 59.9**	**-1.0**
	comp=Z,39nm,1.0s,mb5.1,baz=187,slow=7.1,SNR=17						
ATAH				S	**S**	**03 03 00.7**	**+4.7**
	comp=Z,1.8nm,0.5s,baz=126,slow=19,SNR=1.9						
VNA3	**Neumayer Olymp**	**39.24**	**153**	*e*P	**P**	**02 57 04.7**	**-1.3**
VNA3				*e*		02 57 06.9	
VNA3				*e*		02 57 13.6	
VNA3				*e*		02 57 18.7	
VNA3				*e*		02 57 23.8	
VNA3				*e*		02 57 33.8	
VNA3				*e*		02 57 37.7	
VNA3				*e*		02 57 47.7	
VNA3				*e*		02 57 50.1	
VNA3				*e*		02 59 17.8	
VNA3				*e*		02 59 22.6	
VNA3				*e*		02 59 26.9	
VNA1	**Neumayer--Stat**	**39.64**	**152**	*e*P	**P**	**02 57 07.9**	**-1.5**
VNA1				*e*		02 57 10.7	
VNA1				*e*		02 57 17.2	
VNA1				*e*		02 57 22.1	
VNA1				*e*		02 57 26.7	
VNA1				*e*		02 57 35.3	
VNA1				*e*		02 57 39.5	
VNA1				*e*		02 57 49.9	
VNA1				*e*		02 57 52.7	
VNA2	**Neumayer--Watz**	**39.95**	**152**	*e*P	**P**	**02 57 10.9**	**-1.1**
VNA2				*e*		02 57 13.0	
VNA2				*e*		02 57 19.0	
VNA2				*e*		02 57 24.6	
VNA2				*e*		02 57 29.2	
VNA2				*e*		02 57 39.7	
VNA2				*e*		02 57 43.3	
VNA2				*e*		02 57 53.7	
VNA2				*e*		02 57 56.7	
VNA2				*e*		02 59 17.1	
VNA2				*e*		02 59 22.4	
VNA2				*e*		02 59 26.6	
SNAA	**Sanae**	**41.45**	**153**	*e*P	**P**	**02 57 22.7**	**-1.6**
SNAA				*e*		02 57 25.3	
SNAA				*e*		02 57 32.1	
SNAA				*e*		02 57 37.7	
SNAA				*e*		02 57 42.4	
SNAA				*e*		02 57 50.8	
SNAA				*e*		02 58 02.1	
SNAA				*e*		02 58 04.8	
SNAA	**Sanae**	**41.45**	**153**	‖*i*P	**P**	**02 57 24.3**	**0.0**
SNAA	**Sanae**	**41.45**	**153**	P	**P**	**02 57 24.8**	**+0.5**
	comp=Z,10nm,1.0s,mb4.4,baz=269,slow=8.5,SNR=15						
QSPA	**South Pole Qui**	**44.85**	**180**	P	**P**	**02 57 53.0**	**+1.3**
	comp=Z,81nm,1.1s,mb5.5,baz=154,slow=6.4,SNR=26						
OTAV	**Otavalo**	**45.72**	**352**	*e*P	**P**	**02 57 59.5**	**+0.3**
	comp=Z,76nm,1.2s,mb5.5						
MAIT	**Maitri**	**46.23**	**153**	*e*P	**P**	**02 58 03.2**	**+0.5**
NVL	**N'lazarevskaya**	**46.26**	**153**	*i* P	**P**	**02 58 02.0**	**-1.0**
NVL				*e*S	**S**	**03 04 51.3**	**+2.9**
NVL				pmax	pmax		
	comp=N,6.0nm,1.1s						
NVL				pmax	pmax		
	comp=E,24nm,1.1s						
NVL				pmax	pmax		
	comp=Z,41nm,1.1s,mb5.3						
NVL				MLR	MLR		
	comp=N,1μm,11.4s,MS5.4						
NVL				MLR	MLR		
	comp=E,2μm,11.4s,MS5.4						
NVL				MLR	MLR		
	comp=Z,4μm,11.4s,MS5.6						
ROSC	**El Rosal**	**50.05**	**358**	P	**P**	**02 58 32.4**	**-0.4**
	comp=Z,24nm,0.9s,mb5.2,baz=126,slow=2.9,SNR=24						
ROSC				S	**S**	**03 05 42.6**	**-0.4**
	comp=Z,1.6nm,0.4s,baz=98,slow=19,SNR=1.6						
ROSC				LR	LR	03 19 22.7	
	comp=Z,12μm,18.8s,MS5.9,baz=186,slow=36						
SBA	**Scott Base**	**51.83**	**193**	*e*P	**P**	**02 58 47.2**	**+1.6**
	comp=Z,72nm,1.4s,mb5.4						
SBA	**Scott Base**	**51.83**	**193**	*e*P	**P**	**02 58 47.2**	**+1.6**
SBA				pmax	pmax		
	comp=Z,72nm,1.4s,mb5.4						
SDV	**Santo Domingo**	**54.07**	**3**	*e*P	**P**	**02 59 00.8**	**-1.9**
	comp=Z,37nm,0.9s,mb5.3						
SDV	**Santo Domingo**	**54.07**	**3**	P	**P**	**02 59 00.8**	**-1.9**
	comp=Z,32nm,1.1s,mb5.2,baz=214,slow=4.5,SNR=15						
SDV				S	**S**	**03 06 35.9**	**-2.3**
	comp=Z,1.0nm,0.4s,baz=101,slow=19,SNR=3.2						
RKT	**Rikitea**	**54.56**	**272**	*e*S	**S**	**03 06 42.0**	**-2.9**
	comp=Z,2μm,33.5s						
RKT				*e*LQ		03 12 38.9	
	comp=Z,8μm,31.8s						
RKT				*e*LR	LR	03 14 58.3	
	comp=Z,8μm,27.8s,baz=133						
SYO	**Syowa Base**	**55.58**	**156**	‖*e*P	**P**	**02 59 11.6**	**-1.5**
SYO	**Syowa Base**	**55.58**	**156**	‖*e*pP	pP	02 59 20.2	+1.4
PCRV	**Puerto La Cruz**	**55.80**	**10**	P	**P**	**02 59 15.1**	**-0.1**
	comp=Z,45nm,0.9s,mb5.5,baz=73,slow=2.5,SNR=9.9						
GRGR	**Grenville**	**58.14**	**13**	*e*P	**P**	**02 59 32.2**	**+0.4**
	comp=Z,283nm,1.1s,mb6.2						
TGUH	**Tegucigalpa,Un**	**60.61**	**344**	*e*P	**P**	**02 59 48.8**	**-0.1**
MAW	**Mawson**	**62.46**	**162**	P	**P**	**03 00 01.3**	**+0.5**
MAW				pmax	pmax		
	comp=Z,19nm,1.1s						
MAW				MLR	MLR		
	comp=Z,8μm,19.8s						
MAW	**Mawson**	**62.46**	**162**	P	**P**	**03 00 01.3**	**+0.5**
	comp=Z,19nm,1.1s,mb5.2,baz=206,slow=9.4,SNR=7.3						
MAW				LR	LR	03 27 23.8	
	comp=Z,8μm,19.8s,MS5.9,baz=209,slow=36						
CBYP	**Canovanas**	**63.68**	**7**	*e*P	**P**	**03 00 07.7**	**-1.7**
TBI	**Tubuai**	**64.59**	**262**	*e*S	**S**	**03 08 51.6**	**-2.8**
	comp=Z,2μm,33.5s						
TBI				*e*LQ		03 16 53.6	
	comp=Z,6μm,32.5s						
TBI				*e*LR	LR	03 19 34.0	
	comp=Z,13μm,25.0s,baz=134						
TEIG	**Tepich**	**66.81**	**344**	*e*P	**P**	**03 00 28.0**	**-1.7**
TEIG	**Tepich**	**66.81**	**344**	P	**P**	**03 00 29.9**	**+0.2**
	comp=Z,49nm,0.8s,mb5.6,baz=170,slow=6.5,SNR=11						
TAOE	**Nuku Hiva Isla**	**67.87**	**280**	*e*S	S	03 09 28.8	-5.6
	comp=Z,4μm,25.7s						
TAOE				*e*LQ		03 18 15.5	
	comp=Z,42μm,31.3s						
TAOE				*e*LR	LR	03 21 10.7	
	comp=Z,12μm,24.4s						
TVO	**Taravao**	**68.12**	**267**	*e*P	**P**	**03 00 38.0**	**-0.2**
	comp=Z,128nm,1.2s,mb5.8						
TVO	**Taravao**	**68.12**	**267**	*e*P	**P**	**03 00 38.0**	**-0.2**
TVO				pmax	pmax		
	comp=Z,128nm,1.2s,mb5.8						
PAE	**Paea**	**68.43**	**266**	*e*P	**P**	**03 00 39.8**	**-0.3**
	comp=Z,72nm,0.9s,mb5.7						
PAE	**Paea**	**68.43**	**266**	*e*P	**P**	**03 00 39.8**	**-0.3**
PAE				pmax	pmax		
	comp=Z,72nm,0.9s,mb5.7						
PPT	**Papeete**	**68.49**	**267**	*e*P	**P**	**03 00 40.2**	**-0.3**
	comp=Z,109nm,1.3s,mb5.7						
PPT				*e*S	S	03 09 39.9	-1.8
	comp=Z,2μm,26.8s						
PPT				*e*LQ		03 18 31.6	
	comp=Z,4μm,26.0s						
PPT				*e*LR	LR	03 21 26.3	
	comp=Z,5μm,25.0s,baz=132						
PPT	**Papeete**	**68.49**	**267**	*e*P	**P**	**03 00 40.2**	**-0.3**
	comp=Z,109nm,1.3s,mb5.7						
PPT				*e*S	S	03 09 39.9	-1.8
PPT				*e*LQ		03 18 31.6	
PPT	**Papeete**	**68.49**	**267**	*e*P	**P**	**03 00 40.2**	**-0.3**
PPT				*e*S	S	03 09 39.9	-1.8
PPT				pmax	pmax		
	comp=Z,109nm,1.3s						
PPT	**Papeete**	**68.49**	**267**	LR	LR	03 23 17.1	
	comp=Z,2μm,18.1s,MS5.5,baz=324,slow=29						
SOR	**Soroa**	**68.50**	**350**	*e*PN	**P**	**03 00 40.4**	**+0.2**
	baz=219						
SOR				*e*			
	comp=E,5.2nm,5.3s						
VAH	**Vaihoa**	**68.69**	**270**	*e*P	**P**	**03 00 41.4**	**-0.4**

GDL2 Guadalupe Moun 82.38 333 eP P 03 01 59.6 -0.2
GNAR Gosnell 82.47 346 eP P 03 02 01.6 +1.4
BLA Blacksburg 82.52 354 eP P 03 02 00.1 -0.3
comp=Z,33nm,1.0s,mb5.3
BLA Blacksburg 82.52 354 eP P 03 02 00.1 -0.3
BLA pmax pmax
comp=Z,33nm,1.0s,mb5.3
ELN Prospectdale 82.56 354 eP P 03 01 59.6 -1.0
GLAT Glass 82.65 347 eP P 03 02 02.5 +1.4
URVA University of 82.70 356 eP P 03 02 01.1 -0.3
PARMO Parma 83.11 346 eP P 03 02 02.4 -1.0
WMOK Wichita Mounta 83.16 339 eP P 03 02 02.1 -1.6
comp=Z,50nm,1.0s,mb5.5
WMOK Wichita Mounta 83.16 339 eP P 03 02 02.1 -1.7
WMOK pmax pmax
comp=Z,50nm,1.0s,mb5.5
319A Douglas 83.29 329 ⇓P P 03 02 04.5 0.0
baz=83,SNR=30
318A Bisbee 83.60 329 P P 03 02 06.3 +0.2
baz=84,SNR=32
AMTX Amarillo 84.08 336 eP P 03 02 07.7 -0.8
218A Dragoon 84.11 329 P P 03 02 08.8 +0.1
baz=84,SNR=29
WCI Wyandotte Cave 84.13 349 eP P 03 02 08.5 -0.2
217A Green Valley 84.21 328 P P 03 02 09.1 -0.2
baz=84,SNR=22
SDMD Soldier's Deli 84.51 357 eP P 03 02 11.3 +0.8
119A Ashpeak Ranch, 84.55 330 ⇑P P 03 02 11.1 +0.1
baz=85
216A Three Points, 84.65 328 ⇓P P 03 02 11.6 +0.1
baz=85,SNR=12
TUC Tucson 84.68 328 eP P 03 02 11.5 -0.1
BNM Barren Site 84.90 332 eP P 03 02 12.6 0.0
MCWV Mont Chateau 84.91 355 eP P 03 02 13.4 +0.8
comp=Z,32nm,0.9s,mb5.5
Y22C IRIS PASSCAL I 84.93 332 ⇓P P 03 02 13.0 +0.2
baz=85
LENM Lemitar 85.03 332 eP P 03 02 13.1 -0.2
LPM Los Pinos Moun 85.05 332 eP P 03 02 13.3 -0.1
116A Eloy 85.25 328 ⇓P P 03 02 14.7 +0.2
baz=85,SNR=14
LAZ Ladron 85.30 332 eP P 03 02 15.0 +0.3
115A Sonoran Desert 85.57 328 ⇑P P 03 02 16.2 +0.2
baz=86,SNR=51
ANMO Albuquerque 85.58 333 eP P 03 02 15.8 -0.3
comp=Z,49nm,1.2s,mb5.6
ANMO Albuquerque 85.58 333d iP P 03 02 15.4 -0.7
ANMO Albuquerque 85.58 333 P P 03 02 15.8 -0.3
comp=Z,33nm,1.2s,mb5.5,baz=168,slow=6.0,SNR=26
ACSO Alum Creek Sta 85.74 352 eP P 03 02 17.0 +0.4
SSPA Standing Stone 85.77 356 eP P 03 02 16.8 0.0
Z16A Peralta Trail, 85.84 328 ⇑P P 03 02 17.5 +0.1
baz=86
Y16A Circle Bar Ran 86.34 329 P P 03 02 20.5 +0.7
baz=86,SNR=11
Z14A Wintersburg 86.43 327 ⇓P P 03 02 20.1 -0.2
baz=87,SNR=7.4
Y15A Casa Rosa Ranc 86.72 328 P P 03 02 21.6 -0.1
baz=87,SNR=32
LSZ Lusaka 86.78 108 eP P 03 02 23.4 +0.9
KSU1 Kansas State U 86.80 342 eP P 03 02 22.8 +0.8
comp=Z,40nm,0.8s,mb5.7
X16A Lo Mia Camp, P 86.81 329 P P 03 02 22.4 +0.3
baz=87,SNR=36
HDIL Hopedale 86.84 347 eP P 03 02 21.5 -0.6
ALLY Alegheny Colle 86.91 354 eP P 03 02 22.9 +0.4
BRYW Bryant College 86.94 1 eP P 03 02 23.6 +1.1
Y14A Wickenburg 86.96 327 ⇓P P 03 02 23.1 +0.2
baz=87
DVTC Desert V Tower 87.05 325 ⇑P P 03 02 24.0 +0.6
baz=87
X15A Humboldt 87.16 328 ⇓P P 03 02 24.1 +0.2
baz=87,SNR=36
Y13A Salome 87.17 327 ⇓P P 03 02 24.0 +0.1
baz=87
SWSC Sam W. Stewart 87.18 325 ⇑P P 03 02 24.2 +0.3
baz=87
BINY Binghamton 87.26 358 eP P 03 02 24.9 +0.8
comp=Z,43nm,1.1s,mb5.6
CBKS Cedar Bluff 87.27 339 eP P 03 02 23.8 -0.5
QUA2 Belchertown 87.30 0 eP P 03 02 24.2 -0.1
comp=Z,107nm,1.3s,mb5.9
BAR Barrett 87.31 324 eP P 03 02 25.0 +0.4
ERPA Erie 87.37 355 eP P 03 02 25.7 +1.1
comp=Z,53nm,1.1s,mb5.7
Y12C Blythe 87.38 326 ⇓P P 03 02 25.2 +0.3
baz=88
MONP Monument Peak 87.39 324 ⇓P P 03 02 25.5 +0.5
baz=88
X14A Yava 87.39 328 ⇓P P 03 02 25.2 +0.2
baz=88,SNR=10
WES Weston 87.41 1 eP P 03 02 26.6 +1.7
comp=Z,39nm,1.1s,mb5.5
WES Weston 87.41 1 eP P 03 02 26.6 +1.8
WES pmax pmax
comp=Z,39nm,1.1s,mb5.5
HRV Adam Dziewonsk 87.53 1 eP P 03 02 27.1 +1.7
BC3 Big Chuckw Mtn 87.66 326 ⇓P P 03 02 26.4 +0.2
baz=88
109C Camp Elliot, M 87.67 324 ⇑P P 03 02 26.2 -0.1
baz=88
PDMCI Parker Dam,Lak 87.72 327 ⇑P P 03 02 26.7 +0.2
baz=88
W15A Williams 87.79 329 ⇑P P 03 02 27.6 +0.7
baz=88,SNR=11
AAM Ann Arbor 87.85 352 eP P 03 02 26.7 -0.2
comp=Z,24nm,0.9s,mb5.4
AAM Ann Arbor 87.85 352 eP P 03 02 26.7 -0.2
AAM pmax pmax
comp=Z,24nm,0.9s,mb5.4
SDCO Great Sand Dun 87.86 335 eP P 03 02 26.9 -0.2
X13A Yucca 87.86 327 ⇓P P 03 02 27.2 +0.1
baz=88
IRM Iron Mountain 87.99 326 ⇓P P 03 02 27.8 0.0
baz=88
PFO Pinyon Flat Ob 88.03 325 P P 03 02 28.9 +0.9
comp=Z,332nm,1.2s,mb6.4,SNR=19
PFO Pinyon Flat Ob 88.03 325 eP P 03 02 28.6 +0.6
PFO Pinyon Flat Ob 88.03 325 ⇓P P 03 02 28.3 +0.3
baz=88
W14A Seligman 88.12 328 P P 03 02 28.9 +0.5
baz=88,SNR=20
BELC Belle Mtn. 88.18 325 ⇑P P 03 02 28.9 +0.2
baz=88
MVCO Mesa Verde 88.31 332 eP P 03 02 28.9 -0.4
MVCO Mesa Verde 88.31 332 ⇓P P 03 02 29.2 -0.1
baz=88
NEE2 Needles Airpor 88.31 327 ⇓P P 03 02 29.2 -0.2
baz=88
W13A Hualapai Mount 88.32 327 ⇓P P 03 02 29.8 +0.5
baz=88,SNR=7.3
SCI San Clemente I 88.35 323 ⇓P P 03 02 30.4 +0.8
baz=88
FFD Franklin Falls 88.49 1 eP P 03 02 29.3 -0.7
comp=Z,25nm,0.9s,mb5.5
V14A Boquillas Ranc 88.50 328 P P 03 02 30.9 +0.6
baz=89,SNR=22
CIS Catalina Islan 88.66 323 ⇓P P 03 02 31.0 0.0
baz=89
TORD Torodi Ar. Bea 88.68 70 P P 03 02 29.8 -1.7
comp=Z,19nm,0.9s,mb5.4,baz=233,slow=4.3,SNR=24
TORD PKKP PKKPbc 03 20 04.4 -6.2
comp=Z,1.0nm,0.6s,baz=42,slow=2.8,SNR=2.8
TORD LR LR 03 39 54.6
comp=Z,4µm,18.4s,MS5.8,baz=235,slow=34
HNH Hanover 88.72 0 eP P 03 02 32.8 +1.7
GMRC Granite Mounta 88.73 326 ⇓P P 03 02 31.8 +0.4
baz=89
LDFC Landfair 88.78 326 eP P 03 02 32.2 +0.7
BBRC Big Bear Sol-O 88.78 325 ⇓P P 03 02 32.0 +0.4
baz=89
FMP Fort Macarthur 88.88 324 ⇑P P 03 02 32.5 +0.5
baz=89
W12A Cal Nev Ari 88.88 327 ⇑P P 03 02 31.7 -0.3
baz=89
NCB Newcomb 88.99 359 eP P 03 02 33.3 +1.0
comp=Z,20nm,1.0s,mb5.4
SNCC San Nicolas Is 89.00 322 ⇑P P 03 02 32.3 -0.3
baz=89
HEC Hector,Ludlow 89.04 325 ⇓P P 03 02 32.9 +0.2
baz=89
BFSC Mount Baldy St 89.07 324 ⇑P P 03 02 33.0 +0.1
baz=89
T16A Glen Canyon Da 89.13 330 ⇑P P 03 02 33.3 +0.1
baz=89
MWC Mount Wilson 89.22 324 eP P 03 02 34.3 +0.7

U14A Mt Trumbull 89.23 328 ⇓P P 03 02 33.7 +0.1
baz=89,SNR=12
V12A Nelson 89.25 327 ⇓P P 03 02 33.5 -0.2
baz=89
LBNH Lisbon 89.26 1 eP P 03 02 34.8 +1.3
comp=Z,33nm,1.3s,mb5.5
LBNH Lisbon 89.26 1 eP P 03 02 34.8 +1.3
LBNH pmax pmax
comp=Z,33nm,1.3s,mb5.5
JFWS Jewell Farm 89.29 347 eP P 03 02 34.3 +0.6
DECC Green Verdugo 89.35 324 ⇓P P 03 02 34.6 +0.4
baz=90
RRX Edison Barstow 89.35 325 ⇓P P 03 02 34.2 0.0
baz=90
TUQ Turquoise Mtn. 89.41 326 ⇑P P 03 02 34.5 +0.1
baz=90
T15A Red Dirt Ranch 89.47 329 P P 03 02 35.0 +0.2
baz=90,SNR=26
U13A Pakoon Wash 89.52 328 ⇑P P 03 02 35.1 +0.1
baz=90,SNR=7.8
BLG Laguna Peak 89.54 323 ⇓P P 03 02 35.1 0.0
baz=90
V11A Goodsprings 89.57 327 ⇑P P 03 02 35.0 -0.2
baz=90
SMCO Snowmass 89.62 334 eP P 03 02 36.0 +0.7
GSC Goldstone 89.64 325 eP P 03 02 36.3 +0.7
GSC Goldstone 89.64 325 ⇑P P 03 02 35.7 +0.2
baz=90
LONY Lake Ozonia 89.65 359 eP P 03 02 36.3 +1.0
comp=Z,35nm,1.2s,mb5.6
BSC Santa Cruz Isl 89.68 323 ⇑P P 03 02 35.7 -0.1
baz=90
U12A Valley of Fire 89.75 328 ⇑P P 03 02 35.9 -0.1
baz=90
EDW2 Edwards Air Fo 89.76 324 ⇓P P 03 02 35.7 -0.5
baz=90
T14A Hurricane 89.77 329 ⇑P P 03 02 35.7 -0.4
baz=90,SNR=6.2
ISCO Idaho Springs 89.79 335 eP P 03 02 36.3 +0.1
comp=Z,80nm,2.0s,mb5.7
ISCO Idaho Springs 89.79 335 eP P 03 02 36.3 +0.2
ISCO pmax pmax
comp=Z,80nm,2.0s,mb5.7
OSI Osito Adit 89.83 324 ⇑P P 03 02 36.2 -0.2
baz=90
EMMW East Machias 89.85 4 eP P 03 02 36.6 +0.4
FRNY Flat Rock 89.85 359 eP P 03 02 37.3 +1.0
SHOC Shoshone 89.95 326 ⇑P P 03 02 36.8 -0.2
baz=90
T13A Saint George 90.03 328 ⇓P P 03 02 37.3 0.0
baz=90,SNR=10
U11A Corn Creek 90.06 327 ⇓P P 03 02 37.6 +0.1
baz=90
T12A Moapa 90.07 328 ⇓P P 03 02 37.9 +0.4
baz=90
SBC Santa Barbara 90.10 323 ⇑P P 03 02 37.4 -0.4
baz=90
LRMC Laurel Mountai 90.15 325 ⇑P P 03 02 38.0 0.0
baz=90
CCUT Cedar City 90.30 329 eP P 03 02 38.9 +0.3
ARVC Arvin 90.32 324 ⇓P P 03 02 38.8 0.0
baz=90
S14A Cedar City 90.42 329 ⇑P P 03 02 39.3 +0.1
baz=91,SNR=8.6
U10A Ash Meadows, A 90.43 326 ⇑P P 03 02 39.2 0.0
baz=91
S13A Holt Ranch, En 90.51 329 P P 03 02 39.8 +0.2
baz=91,SNR=21
PKM Peak Mountain 90.53 323 ⇑P P 03 02 40.1 +0.3
baz=91
ARUT Antelope Range 90.54 329 eP P 03 02 39.9 +0.2
MPMC Manual Prospec 90.58 325 ⇑P P 03 02 40.2 +0.3
baz=91
ISA Isabella 90.63 324 eP P 03 02 41.8 +1.6
ISA Isabella 90.63 324 ⇓P P 03 02 40.8 +0.7
baz=91
FURC Furnace Creek, 90.68 326 ⇓P P 03 02 40.2 -0.2
baz=91
SRU San Rafael 90.70 332 eP P 03 02 42.1 +1.6
T11A Corn Creek, Al 90.72 327 ⇓P P 03 02 41.0 +0.5
baz=91
MSU Marysvale 90.73 330 eP P 03 02 41.0 +0.4
R14A James Farms, M 90.84 329 ⇑P P 03 02 41.1 0.0
baz=91
TPNV Topopah Spring 90.86 327 eP P 03 02 41.9 +0.7
TPNV Topopah Spring 90.86 327 ⇓P P 03 02 41.5 +0.3
baz=91
S12A Delamar Landin 90.90 328 ⇑P P 03 02 41.9 +0.5
baz=91,SNR=8.9
VES Vestal, Richgr 91.03 324 ⇑P P 03 02 43.5 +1.4
baz=91
TMUT Trail Mountain 91.10 331 eP P 03 02 44.4 +2.2
PHWY Pilot Hill 91.13 336 eP P 03 02 41.9 -0.4
ECSD EROS,Sioux Fal 91.24 343 eP P 03 02 41.0 -1.8
S11A Rachel 91.27 327 ⇑P P 03 02 44.0 +0.9
baz=91
GRAC Grapevine Rang 91.34 326 ⇓P P 03 02 44.7 +1.3
baz=92
R12A Pony Springs, 91.45 328 ⇓P P 03 02 44.8 +0.9
baz=92
HELL Mitchell Peak 91.73 324 ⇓P P 03 02 46.2 +0.9
baz=92
R11A Troy Canyon, C 91.83 328 ⇑P P 03 02 45.7 0.0
baz=92
S10A Tonopah Range, 91.84 327 ⇑P P 03 02 45.8 +0.1
baz=92
MPU Maple Canyon 91.89 331 eP P 03 02 45.8 -0.1
S09A Goldfield 91.91 326 ⇓P P 03 02 46.0 0.0
baz=92
NLU North Lily Min 91.99 331 eP P 03 02 46.9 +0.6
RWWY Rawlins 92.00 335 eP P 03 02 45.9 -0.4
comp=Z,26nm,0.9s,mb5.6
R10A Warm Springs 92.05 327 ⇓P P 03 02 47.1 +0.4
baz=92
S08C White Mtn Res 92.09 326 ⇓P P 03 02 47.9 +0.9
baz=92
DAU Daniels Canyon 92.12 332 eP P 03 02 47.0 0.0
MTUM Tungsten Hills 92.12 325 eP P 03 02 49.8 +2.7
U04C Hernandez Rese 92.19 323 ⇓P P 03 02 47.2 -0.2
baz=92
P13A Bates Ranch, G 92.22 329 ⇑P P 03 02 46.8 -0.7
baz=92,SNR=6.9
COWI Conover 92.25 349 eP P 03 02 49.8 +2.4
Q11A Duckwater 92.29 328 ⇓P P 03 02 47.2 -0.6
baz=92
T06C Millerton Lake 92.29 324 ⇑P P 03 02 47.3 -0.6
baz=92
R09A Tonopah 92.30 327 ⇓P P 03 02 47.7 -0.1
baz=92
JLU Jordanelle 92.36 332 eP P 03 02 49.7 +1.7
DUG Dugway 92.46 330 eP P 03 02 48.2 -0.4
DUG Dugway 92.46 330 P P 03 02 48.0 -0.5
baz=93,SNR=9.6
Q10A Clear Creek Ra 92.55 327 ⇓P P 03 02 48.8 -0.2
baz=93
P12A McGill 92.56 329 ⇓P P 03 02 49.1 0.0
baz=93
NVAR Mina Array Bea 92.95 326 P P 03 02 50.7 -0.2
NVAR PP PP 03 06 37.4 +3.2
NVAR PKKP PKKPbc 03 20 04.5 +3.7
NVAR Mina Array Bea 92.95 326 P P 03 02 50.7 -0.2
comp=Z,1.4nm,0.8s,mb4.4,baz=138,slow=5.9,SNR=7.4
NVAR PP PP 03 06 37.4 +3.2
comp=Z,1.2nm,0.8s,baz=131,slow=5.3,SNR=5.3
NVAR PKKP PKKPbc 03 20 04.5 +3.7
comp=Z,0.7nm,0.8s,baz=12,slow=0.6,SNR=4.3
N15A Stansbury Isla 92.97 331 ⇓P P 03 02 50.6 -0.3
baz=93
N14A Grayback Hills 93.17 331 ⇓P P 03 02 50.8 -1.0
baz=93
Q08A Gabbs 93.17 326 ⇑P P 03 02 51.7 -0.1
baz=93
BGU Big Grassy Mou 93.18 331 eP P 03 02 51.5 -0.3
O12A Currie 93.20 329 ⇑P P 03 02 51.6 -0.3
baz=93
P10A Eureka 93.27 328 ⇑P P 03 02 50.6 -1.7
baz=93
HWUT Hardware Ranch 93.29 332 eP P 03 02 51.5 -0.8
comp=Z,19nm,0.8s,mb5.6
SPUT South Promonto 93.32 331 eP P 03 02 51.5 -1.0
O11A Cowboy Ranch, 93.42 329 ⇑P P 03 02 52.9 -0.1
baz=94,SNR=8.1
M15A Larsen Ranch, 93.46 331 ⇓P P 03 02 52.8 -0.3
baz=94,SNR=7.8
R06C Coleville 93.49 325 ⇑P P 03 02 53.9 +0.6
baz=94
N13A Wendover, West 93.53 330 ⇓P P 03 02 54.3 +0.8
baz=94

BW06 Boulder Array 93.69 334 eP P 03 02 53.0 -1.2
PDAR Pinedale Array 93.69 334 P P 03 02 52.6 -1.5
comp=Z,4.4nm,0.9s,mb4.9,baz=131,slow=4.1,SNR=18
PDAR LR LR 03 40 08.3
comp=Z,3µm,19.2s,MS5.8,baz=134,slow=32
M14A Sheep Mountain 93.80 331 P P 03 02 54.0 -0.7
baz=94,SNR=19
N12A Clover Valley, 93.83 329 ⇑P P 03 02 54.6 -0.2
baz=94
HVU Hansel Valley 93.85 331 eP P 03 02 55.4 +0.5
R05C Kirkwood Meado 93.89 325 ⇓P P 03 02 54.9 -0.3
baz=94
M13A Montello 93.96 330 ⇓P P 03 02 54.5 -0.9
baz=94,SNR=10
L13A Double Diamond 94.53 331 ⇓P P 03 02 57.8 -0.2
baz=95,SNR=7.7
M11A Holland Ranch, 94.61 329 ⇑P P 03 02 57.9 -0.5
baz=95
REDW Red Top Meadow 94.64 333 eP P 03 02 57.9 -0.6
comp=Z,24nm,1.4s,mb5.4
O07A Toulon 94.67 326 ⇑P P 03 02 59.2 +0.5
baz=95
K14A Jones Ranch, D 94.67 331 ⇑P P 03 02 58.2 -0.4
baz=95,SNR=8.0
LOHW Long Hollow 94.79 333 eP P 03 03 00.4 +1.3
TPAW Teton Pass 94.79 333 eP P 03 02 58.4 -0.8
N08A GE Springer Mi 94.91 327 ⇓P P 03 03 00.2 +0.4
baz=95
MOOW Moose Ponds 94.95 333 eP P 03 03 00.6 +0.7
DCID1 Drake Creek 94.95 333 eP P 03 03 01.3 +1.4
L12A House Creek Ra 94.95 330 ⇓P P 03 02 59.6 -0.3
baz=95
M10A I.L. Ranch, Tu 94.96 329 ⇓P P 03 02 59.8 -0.2
baz=95
K13A Stover Farm, H 95.07 331 ⇓P P 03 03 00.4 -0.1
baz=95
IMW Indian Meadow 95.15 333 eP P 03 03 00.9 +0.1
comp=Z,33nm,1.7s,mb5.5
ORV Oroville 95.20 324 ⇓P P 03 03 01.7 +0.5
baz=95
FLWY Flagg Ranch 95.24 334 eP P 03 03 00.7 -0.5
comp=Z,43nm,1.5s,mb5.7
K12A Draper Farm, C 95.35 330 ⇓P P 03 03 01.3 -0.4
baz=96,SNR=6.0
L10A Juniper Basin 95.42 329 ⇓P P 03 03 01.9 -0.2
baz=96
AGMN Agassiz Refuge 95.47 345 eP P 03 03 02.2 +0.1
N06A Buffalo Meadow 95.54 326 ⇓P P 03 03 03.2 +0.5
baz=96
M08A Happy Creek Ra 95.58 327 ⇑P P 03 03 03.3 +0.5
baz=96
YFT Old Faithful 95.61 334 eP P 03 03 05.8 +2.9
RLMT Red Lodge 95.74 335 eP P 03 03 03.6 +0.1
comp=Z,9.9nm,1.2s,mb5.1
J13A Cove Ranch, Pi 95.77 331 ⇑P P 03 03 03.7 +0.1
baz=96,SNR=7.8
K11A Parker Ranch, 95.86 330 ⇓P P 03 03 03.9 -0.2
baz=96
J12A Stokes Ranch, 95.95 330 P P 03 03 04.0 -0.6
baz=96,SNR=8.0
HLID Hailey 95.99 331 eP P 03 03 06.6 +1.9
HLID Hailey 95.99 331 ⇓P P 03 03 04.6 -0.1
baz=96,SNR=6.5
QLMT Earthquake Lak 96.14 333 eP P 03 03 07.7 +2.4
K10A MacKenzie Ranc 96.17 329 ⇓P P 03 03 05.4 -0.1
baz=96
I13A Wildhorse Cree 96.20 331 ⇓P P 03 03 05.5 -0.1
baz=96,SNR=6.5
L08A Fields 96.21 328 ⇑P P 03 03 05.5 -0.1
baz=96
LAO LASA Array 96.31 338 eP P 03 03 08.9 +2.9
comp=Z,33nm,1.8s,mb5.5
K09A Rome 96.42 328 ⇑P P 03 03 06.1 -0.5
baz=97
L07A Adell 96.44 327 ⇑P P 03 03 07.1 +0.3
baz=97
GCMT Greycliff 96.47 335 eP P 03 03 06.8 0.0
WDC Whiskeytown Da 96.49 324 ⇑P P 03 03 05.8 -1.2
baz=97
WVOR Wild Horse Val 96.53 328 eP P 03 03 06.1 -1.0
comp=Z,5.4nm,0.8s,mb5.0
WVOR Wild Horse Val 96.53 328 eP P 03 03 06.1 -1.0
WVOR pmax pmax
comp=Z,5.0nm,0.8s,mb5.0
MCMT McKenzie Canyo 96.59 333 eP P 03 03 07.0 -0.3
G15A Dillon 96.78 333 ⇑P P 03 03 08.1 -0.1
baz=97
H13A Challis 96.82 332 P P 03 03 08.0 -0.4
baz=97,SNR=8.0
BOZ Bozeman (W) 96.94 334 eP P 03 03 10.1 +1.2
BOZ Bozeman (W) 96.94 334 ⇓P P 03 03 08.5 -0.4
baz=97
K07A Rock Creek Ran 96.98 327 ⇑P P 03 03 08.6 -0.5
baz=97
J09A Fry Pan Ranch, 96.99 329 ⇓P P 03 03 08.6 -0.6
baz=97
STKA Stephens Creek 96.99 209 P P 03 03 09.8 0.0
comp=Z,3.8nm,0.9s,mb4.8,baz=116,slow=3.9,SNR=3.2
STKA LR LR 03 43 24.3
comp=Z,3µm,18.7s,MS5.8,baz=172,slow=33
G14A Jackson 97.16 332 ⇑P P 03 03 10.2 +0.3
baz=97
G13A Cobalt 97.28 332 ⇓P P 03 03 10.8 +0.3
baz=98,SNR=5.9
LRM Limekiln Ridge 97.35 333 eP P 03 03 12.8 +2.0
ULM Lac du Bonnet 97.35 345 P P 03 03 09.1 -1.5
comp=Z,4.4nm,0.9s,mb4.9,baz=206,slow=2.2,SNR=6.4
ULM PP PP 03 07 08.1 -0.1
comp=Z,3.8nm,0.9s,baz=177,slow=5.4,SNR=3.7
DGMT Dagmar 97.44 340 eP P 03 03 11.5 +0.4
H11A Donnelly 97.55 330 ⇓P P 03 03 11.2 -0.5
baz=98
I08A Drewsey 97.77 328 ⇑P P 03 03 13.3 +0.6
baz=98
J06A Christmas Vall 97.80 327 ⇑P P 03 03 13.4 +0.5
baz=98
F13A Darby 97.93 332 ⇑P P 03 03 13.9 +0.5
baz=98
F12A Elk City 98.21 331 ⇑P P 03 03 14.6 0.0
baz=98
E14A Clinton 98.21 333 ⇑P P 03 03 13.8 -0.8
baz=98
G11A Walters Elk Ra 98.24 331 ⇑P P 03 03 14.4 -0.4
baz=98,SNR=5.1
I07A Izee 98.27 328 ⇑P P 03 03 14.9 -0.1
baz=98
H08A Prairie City 98.33 329 ⇓P P 03 03 15.3 +0.1
baz=98
E13A Victor 98.46 332 ⇑P P 03 03 15.5 -0.2
baz=99
D15A Lincoln 98.46 334 ⇓P P 03 03 15.8 0.0
baz=99
CHMT Chamberlain Mo 98.58 333 eP P 03 03 15.5 -0.7
H07A Lands Inn, Kim 98.72 328 ⇓P P 03 03 16.7 -0.3
baz=99
D14A Greenough 98.80 333 ⇑P P 03 03 17.3 0.0
baz=99
G08A Pilot Rock 99.10 329 ⇓P P 03 03 18.3 -0.3
baz=99
MDT Midelt 99.34 52 LR LR 03 48 13.6
comp=Z,5µm,19.9s,MS6.0,baz=248,slow=35
SCHQ Schefferville 99.99 4 LR LR 03 50 50.1
comp=Z,3µm,20.8s,MS5.8,baz=178,slow=37
KIP Kipapa 101.71 289 ⇓eP Pdif 03 03 28.6 -2.3
ASAR Alice Springs 107.09 206 PKiKP PKiKP 03 08 03.8 -0.5
comp=Z,1.1nm,0.9s,baz=176,slow=1.5,SNR=4.4
WRA Warramunga Arr 110.44 207 i PKiKP PKiKP 03 08 08.9 -1.7
WRA pmax pmax
comp=Z,2.0nm,0.9s
WRA Warramunga Arr 110.44 207 PKiKP PKiKP 03 08 08.9 -1.8
comp=Z,2.0nm,0.9s,baz=159,slow=1.5,SNR=6.1
YKA Yellowknife Ar 112.62 340 Pdif Pdif 03 04 17.9 -1.5
YKA PKPdf PKiKP 03 08 11.6 -1.7
YKA PP PP 03 09 00.3 -0.9
YKA Yellowknife Ar 112.62 340 P Pdif 03 04 17.9 -1.5
YKA pmax pmax
comp=Z,1.0nm,0.9s
YKA Yellowknife Ar 112.62 340 Pdif Pdif 03 04 17.9 -1.5
comp=Z,0.7nm,0.9s,baz=142,slow=4.6,SNR=7.0
YKA PKiKP PKiKP 03 08 11.5 -1.7
comp=Z,1.5nm,1.0s,baz=153,slow=1.6,SNR=7.9
YKA PP PP 03 09 00.3 -0.9
comp=Z,2.1nm,1.0s,baz=142,slow=6.7,SNR=5.9
GRA1 Grafenberg Arr 119.47 48 ePKPdf PKPdf 03 08 28.4 +1.6
GRF Grafenberg Arr 119.47 48 ePKPdf PKPdf 03 08 28.4 +1.6
GRF eL 03 57 48.1

comp=Z,4μm,21.8s
GERES GERESS Array B 120.29 50 PKP PKPdf 03 08 26.8 -1.6
comp=Z,3.1nm,0.7s,baz=191,slow=2.2,SNR=16
GERES PKKP PKKPbc 03 19 14.6 +39
comp=Z,0.7nm,0.7s,baz=205,slow=2.8,SNR=4.0
KHC Kasperske Hory 120.39 49 *e*PKP PKPdf 03 08 29.7 +1.1
KHC *e* 03 08 40.0
KHC Kasperske Hory 120.39 49 *e*PKPdf PKPdf 03 08 29.7 +1.1
KHC *ex* x 03 08 40.0
KHC AMS AMS 03 57 30.0
comp=Z,3μm,20.4s,MS5.9
NKC Novy Kostel 120.43 48 *e*PKPdf PKPdf 03 08 29.5 +0.9
NKC AMS AMS 03 57 50.0
comp=Z,5μm,21.7s,MS6.1
CLL Collm 121.34 47 *e*PKPdf PKPdf 03 08 30.0 -0.3
comp=Z,5.0nm,1.0s
CLL *e*SS SS 03 27 12.0 +36
CLL *e*SSS 03 31 36.0
CLL Lm 03 59 00.0
comp=N,1μm,19.4s
CLL Lm 03 59 00.0
comp=E,4μm,20.5s
CLL Lm 03 59 00.0
comp=Z,6μm,20.1s
PRU Pruhonice 121.39 49 *e*PKPdf PKPdf 03 08 30.9 +0.4
PRU AMS AMS 04 04 00.0
comp=Z,3μm,17.7s,MS5.9
TREC Trest 121.51 50 *e*PKPdf PKPdf 03 08 32.0 +1.3
TREC AMS AMS 04 04 50.0
comp=Z,2μm,17.7s,MS5.8
PKSM Moragy 121.53 55⇑ *i*P PKPdf 03 08 32.0 +1.1
BRG Berggiesshubel 121.58 48 *e*P PKPdf 03 08 36.5 +5.7
BRG *e* 03 12 04.6
BRG LR LR
comp=Z,2μm,23.8s,MS5.8
BRG Berggiesshubel 121.58 48 *e*P PKPdf 03 08 36.5 +5.7
comp=Z,16nm,1.7s
BRG *e* 03 12 04.6
comp=Z,23nm,1.7s
BRG
comp=N,3μm,21.4s
BRG
comp=E,2μm,20.3s
BRG
comp=Z,4μm,23.8s
PVCC Panska Ves 121.71 49 *e*PKPdf PKPdf 03 08 31.4 +0.3
PVCC AMS AMS 03 58 50.0
comp=Z,3μm,20.5s,MS6.0
EGAK Eagle 122.00 332 *e*PKPdf PKPdf 03 08 30.4 -0.8
VRAC Vranov 122.12 51 PKIKP PKPdf 03 08 29.3 -2.6
VRAC pmax pmax
comp=Z,1.0nm,0.3s
VRAC Vranov 122.12 51 PKP PKPdf 03 08 29.3 -2.6
comp=Z,1.0nm,0.3s,baz=234,slow=8.7,SNR=2.3
KDAK Kodiak Island 122.16 321 PKhKP 03 08 26.6
comp=Z,2.5nm,0.8s,baz=150,slow=8.1,SNR=3.0
EIL Elat 122.44 79 PKP PKPdf 03 08 29.9 -3.4
comp=Z,2.8nm,0.8s,baz=304,slow=3.6,SNR=2.4
UPC Upice 122.47 49 *e*PKP PKPdf 03 08 35.3 +2.8
UPC Upice 122.47 49 *e*PKPdf PKPdf 03 08 35.3 +2.8
DPC Dobruska-Polom 122.55 49 *e*PKP PKPdf 03 08 33.8 +1.1
DPC *e* 03 08 46.6
DPC LR LR
comp=Z,3μm,21.4s,MS5.9
DPC Dobruska-Polom 122.55 49 *e*PKPdf PKPdf 03 08 33.8 +1.1
DPC *ex* x 03 08 46.6
DPC AMS AMS 03 59 20.0
comp=Z,3μm,21.4s,MS5.9
KOLL Kolacno 122.71 52 *e*PKP PKPdf 03 08 33.9 +0.8
KOLL Kolacno 122.71 52 *e*PKP PKPdf 03 08 33.9 +0.8
SLKM Skilak Lake 122.73 325 *e*PKPdf PKPdf 03 08 31.4 -1.3
MORC Moravsky Berou 122.89 51⇓ *i*P PKPdf 03 08 33.2 -0.2
VYHS Vyhne 122.91 52 *i* PKP PKPdf 03 08 33.9 +0.4
VYHS Vyhne 122.91 52 *i* PKP PKPdf 03 08 33.9 +0.4
BZS Buzias 122.93 56⇑ *i*P PKPdf 03 08 34.8 +1.2
GOLH Golhisar 123.23 69 *i* P PKPdf 03 08 36.9 +2.5
OKC Ostrava-Krasne 123.25 51 *e*PKP PKPdf 03 08 34.9 +0.8
OKC *e* 03 08 46.1
OKC Ostrava-Krasne 123.25 51 *e*PKPdf PKPdf 03 08 34.9 +0.8
OKC *ex* x 03 08 46.1
OKC AMS AMS 04 06 40.0
comp=Z,2μm,19.0s,MS5.8
KECS Kecovo 123.83 53 *e*PKP PKPdf 03 08 36.4 +1.2
KECS Kecovo 123.83 53 *e*PKP PKPdf 03 08 36.4 +1.2
CHGN Chignik 124.00 318 *e*P PKPdf 03 08 36.3 +1.0
GDZ Gediz 124.21 67 *i* P PKPdf 03 08 34.2 -2.1
STHS Stebnicka Huta 124.74 52 *e*PKP PKPdf 03 08 40.0 +3.1
STHS Stebnicka Huta 124.74 52 *e*PKP PKPdf 03 08 40.0 +3.1
TRPA Tarpa 124.81 54⇓ *i*P PKPdf 03 08 37.9 +0.8
KOLS Kolonicke sedl 125.07 53 *e*PKP PKPdf 03 08 42.9 +5.3
KOLS Kolonicke sedl 125.07 53 *e*PKP PKPdf 03 08 42.9 +5.3
ESKT Eskisehir 125.34 67 *i* P PKPdf 03 08 39.7 +1.2
MLR Muntele Rosu 125.43 59 PKP PKPdf 03 08 38.5 +0.1
MLR Muntele Rosu 125.43 59 PKP PKPdf 03 08 38.6 +0.1
comp=Z,4.4nm,0.8s,baz=214,slow=11,SNR=6.9
MLR Muntele Rosu 125.43 59⇑ *i*P PKPdf 03 08 38.5 +0.1
KWP Kalwaria 125.67 53⇓ *i*P PKPdf 03 08 39.8 +1.1
NOA NORSAR Array B 125.75 37 PKIKP PKPdf 03 08 38.5 0.0
NOA pmax pmax
comp=Z,5.0nm,0.8s
NOA NORSAR Array B 125.75 37 PKP PKPdf 03 08 38.5 0.0
comp=Z,4.5nm,0.8s,baz=243,slow=2.2,SNR=11
VRI Vrincioaia 126.10 59⇓ *i*P PKPdf 03 08 39.9 +0.2
HFS Hagfors 126.36 38 PKIKP PKPdf 03 08 37.6 -2.1
HFS pmax pmax
comp=Z,3.0nm,0.7s
HFS Hagfors 126.36 38 PKP PKPdf 03 08 37.6 -2.0
comp=Z,3.1nm,0.7s,baz=150,slow=3.3,SNR=7.5
TTA Tatalina 126.36 326 *e*PKPdf PKPdf 03 08 38.7 -0.9
TIRR Tirgusor 126.40 61⇑ *i*P PKPdf 03 08 41.3 +1.0
DAG Danmarks Havn 126.55 13⇓ *i*PKIKP PKPdf 03 08 40.2 +0.5
DAG pmax pmax
comp=Z,4.0nm,0.9s
DAG Danmarks Havn 126.55 13⇓ *i*P PKPdf 03 08 40.2 +0.5
comp=Z,4.2nm,0.9s
IMA2 Indian Mountai 127.04 330 *e*P PKPdf 03 08 41.9 +1.1
CDAG Cicekdag 127.69 69 *i* P PKPdf 03 08 42.6 -0.3
KIS Kishinev 127.92 58 *e*PKIKP PKPdf 03 08 43.0 -0.1
KIS *e* 03 10 50.0
KIS MLR MLR
comp=Z,2μm,20.0s,MS5.8
KIS MLR MLR
comp=Z,3μm,20.0s
SUW Suwalki 128.04 48 *e*PKP PKPdf 03 08 43.8 +0.7
SUW Suwalki 128.04 48 *e*PKIKP PKPdf 03 08 43.7 +0.6
BALT Daday 128.04 66 *e*P PKPdf 03 08 36.9 -6.6
GZT Gaziantep 128.62 73 *i* P PKPdf 03 08 46.0 +1.2
MALT Malatya 129.70 72⇓ *i*P PKPdf 03 08 48.4 +1.6
AKASG Malin Array Be 129.87 54 PKIKP PKPdf 03 08 44.6 -2.1
AKASG pmax pmax
comp=Z,2.0nm,0.6s
AKASG Malin Array Be 129.87 54 PKP PKPdf 03 08 44.6 -2.1
comp=Z,2.2nm,0.6s,baz=259,slow=2.7,SNR=15
ELZG Elazig 130.17 72 *i* P PKPdf 03 08 46.2 -1.5
MNK Minsk 130.71 49 *e*PKIKP PKPdf 03 08 47.0 -1.2
MNK MLR MLR
comp=Z,12μm,20.0s,MS6.6
MNK MLR MLR
comp=E,8μm,18.0s
BHD Baghdad 131.08 81 *ex* x 03 08 48.0
BHD *ex* x 03 12 11.0
BHD *ex* x 03 12 19.0
ANN Anapa 132.21 64 *i* PKIKP PKPdf 03 08 53.1 +1.8
ANN *e* 03 15 59.6
ANN pmax pmax
comp=Z,52nm,1.5s
FINES FINESS Array B 132.42 40 PKIKP PKPdf 03 08 51.1 -0.1
FINES pmax pmax
comp=Z,4.0nm,0.8s
FINES FINESS Array B 132.42 40 PKP PKPdf 03 08 51.1 -0.1
comp=Z,4.2nm,0.8s,baz=215,slow=1.7,SNR=8.0
KAF Kangasniemi 132.75 39 *e*pkp PKPdf 03 08 51.1 -0.7
TUTA Tutak 133.21 73 *i* P PKPdf 03 08 55.3 +1.9
KIV Kislovodsk 135.22 68 *e*PKPdf PKPdf 03 08 53.2 -3.8
KIV Kislovodsk 135.22 68 *e*PKIKP PKPdf 03 08 53.2 -3.8
OBN Obninsk 135.65 51⇑ *i*PKIKP PKPdf 03 08 56.6 -0.8
OBN *e* 03 09 05.4
OBN *e* 03 11 34.1
OBN *e* 03 16 03.3
OBN *e*SS SS 03 29 31.4 -1.3
OBN pmax pmax
comp=Z,12nm,1.0s
OBN MLR MLR
comp=Z,4μm,18.0s,MS6.2

KAD Karad 140.73 125 *e*P PKPdf 03 09 08.2 +0.2
KAD AMb AMB 03 09 13.3
comp=Z,34nm,1.2s
POO Poona 141.50 123 *ex* PKPdf 03 09 06.0 -3.3
BILL Biiibino 142.54 328 *e*PKPdf PKPdf 03 09 07.0 -2.7
BILL Biiibino 142.54 328⇑ *e*PKIKP PKPdf 03 09 05.9 -3.7
BILL *i* 03 09 12.7
BILL *e* 03 09 18.4
BILL *e* 03 12 14.6
BILL pmax pmax
comp=Z,5.0nm,1.0s
BILL MLR MLR
comp=Z,1μm,17.0s,MS5.7
HYB Hyderabad 143.27 130 *e*P PKPdf 03 09 13.0 +0.5
HYB Hyderabad 143.27 130 *i* PKP PKPdf 03 09 13.0 +0.5
AKL Akola 145.04 125 *e*P PKPbc 03 09 14.1 -0.8
AKL *i* x x 03 17 41.1
VIS Vishakhapatnam 145.97 136 *e*P PKPdf 03 09 16.0 -1.2
VIS AMb AMB 03 09 23.9
comp=Z,117nm,1.0s
SOKR Solikamsk 147.08 46⇑ *i*PKP2 PKPab 03 09 21.3 -0.2
SOKR pmax pmax
comp=Z,190nm,1.4s
AKTK Aktyubinsk 147.15 63 PKPbc PKPbc 03 09 18.9 -1.5
AKTO Aktyubinsk 147.15 63 PKIKP PKPdf 03 09 18.9 +0.8
AKTO pmax pmax
comp=Z,33nm,1.0s
AKTO Aktyubinsk 147.15 63 PKPbc PKPbc 03 09 18.9 -1.5
comp=Z,33nm,1.0s,baz=250,slow=2.8,SNR=39
BHPL Bhopal 147.24 122 *e*P PKPdf 03 09 18.8 -0.3
BHPL AMb AMB 03 09 28.2
comp=Z,117nm,1.6s
AJM Ajmer 147.88 115 *e*P PKPdf 03 09 19.0 -1.2
ARU Arti 148.07 52 *e*PKPbc PKPbc 03 09 21.4 -1.3
ARU Arti 148.07 52 *i* PKIKP PKPdf 03 09 21.4 +1.9
ARU MLR MLR
comp=Z,5μm,21.0s,MS6.3
SVE Sverdlovsk 149.22 51⇑ *i*PKP2 PKPab 03 09 26.6 -3.6
SVE *e* 03 25 45.5
SVE MLR MLR
comp=Z,4μm,21.0s,MS6.2
MA2 Magadan 150.54 315 *e*PKIKP PKPdf 03 09 27.3 +4.0
MA2 *e* 03 33 07.1
MA2 pmax pmax
comp=Z,70nm,0.9s
NDI New Delhi 151.05 115 *e*P PKPdf 03 09 24.0 -1.1
TIXI Tiksi 151.71 346 *e*PKIKP PKPdf 03 09 28.9 +4.1
TIXI pmax pmax
comp=Z,24nm,0.8s
DDI Dehra Dun 152.69 113 *ex* PKPbc 03 09 39.0 +4.4
DDI *ex* x 03 10 20.0
ERM Erimo 153.92 275⇑ *i*PKIKP PKPbc 03 09 38.1 +1.2
KOLN Koldanda 154.29 125 *e*P PKPdf 03 09 29.5 -0.4
comp=Z,69nm,1.1s
BRVK Borovoye 154.93 59 *e*PKPdf PKPdf 03 09 29.2 -0.8
GKN Gorkha 155.06 126 *e*P PKPdf 03 09 31.2 +0.2
comp=Z,56nm,1.1s
MJAR Matsushiro Arr 155.09 260 PKIKP PKPdf 03 09 37.9 +7.1
MJAR pmax pmax
comp=Z,5.0nm,0.9s
MJAR Matsushiro Arr 155.09 260 PKPbc PKPdf 03 09 37.9 +7.1
comp=Z,4.6nm,0.8s,baz=163,slow=2.7,SNR=8.4
MAJO Matsushiro 155.10 260 *e*PKPbc PKPdf 03 09 37.5 +6.7
MAT Matsushiro 155.10 260 PKP PKPdf 03 09 40.2 +9.4
KKN Kakani 155.26 128 *e*P PKPdf 03 09 31.9 +0.6
YSS Yuzh-Sakhalins 155.46 286 *i* PKIKP PKiKP 03 09 43.0 +3.0
YSS *e* 03 09 56.0
YSS *e*SS SS 03 33 10.0 -9.0
JIRN Jiri 155.66 130 *e*P PKPdf 03 09 32.8 +1.0
comp=Z,94nm,1.5s
AML Almayashu 155.69 86 *e*PKPab PKPab 03 09 57.8 0.0
AAK Ala-Archa 156.41 85 *e*PKPdf PKPdf 03 09 31.5 -0.8
KMI Kunming 159.45 168 PKP PKPdf 03 09 38.0 +1.4
KMI APKP 03 09 45.9
KMI PKP2 PKPab 03 10 19.4 +5.0
KMI PP PP 03 13 59.6 +4.7
KMI SS SS 03 34 05.0 +5.4
KMI LR LR
comp=N,1μm,20.2s,MS5.8
KMI LR LR
comp=E,844nm,22.6s,MS5.8
KMI LR LR
comp=Z,2μm,20.2s,MS5.8
KURK Kurchatov 160.24 64 *e*PKPdf PKPdf 03 09 36.8 +0.1
GYA Guiyang 161.09 179 PKP PKPdf 03 09 39.0 +0.6
GYA PKP2 PKPab 03 10 25.6 +4.1
GYA PKS 03 13 11.8
GYA PP PP 03 14 10.0 +6.3
GYA SKS SKSdf 03 16 38.7 -3.9
GYA SKKS SKKSac 03 20 52.4 +0.4
GYA SS SS 03 34 19.8 +3.0
GYA PP PP
comp=Z,240nm,8.9s
GYA LR LR
comp=N,1μm,22.8s
GYA LR LR
comp=E,870nm,23.4s
GYA LR LR
comp=Z,760nm,24.6s
NVS Novosibirsk 162.04 50 *i* PKIKP PKPdf 03 09 37.4 -1.0
NVS pmax pmax
comp=Z,89nm,1.8s
NVS pmax pmax
comp=N,17nm,1.2s
MKAR Makanchi Array 162.68 76 PKP PKPdf 03 09 39.0 -0.3
comp=N,2.4nm,0.8s,baz=186,slow=1.2,SNR=9.0
MKAR PKPab PKPab 03 10 26.2 -1.9
comp=N,18nm,0.9s,baz=291,slow=3.4,SNR=11
KLR Kul'dur 162.94 292 *e*PKIKP PKPdf 03 09 32.4 -7.1
ZAL Zalesovo 163.23 51 PKIKP PKPdf 03 09 37.5 -2.1
ZALV Zalesovo Beam 163.24 51 PKP PKPdf 03 09 37.5 -2.1
comp=N,4.0nm,1.0s,baz=309,slow=3.1,SNR=14
ZALV PKPab PKPab 03 10 31.9 +1.7
comp=N,9.6nm,1.0s,baz=283,slow=3.8,SNR=6.0
NJ2 Nanjing 163.89 218 *e*PKP PKPdf 03 09 39.0 -2.0
NJ2 APKP 03 09 49.8
NJ2 PKS 03 13 10.0
NJ2 PP PP
comp=Z,970nm,6.7s
NJ2 LR LR
comp=N,1μm,27.1s
NJ2 LR LR
comp=E,2μm,29.3s
NJ2 LR LR
comp=Z,6μm,24.3s
WHN Wuhan 164.14 203 *e*PKP PKPdf 03 09 41.0 -0.3
MDJ Mudanjiang 164.15 275 PKP PKPdf 03 09 42.4 +1.6
CD2 Chengdu 165.28 168 *e*PKP PKPdf 03 09 43.5 +1.2
CD2 PKP2 PKPab 03 10 44.3 +4.5
CD2 PP PP 03 14 32.2 +6.3
CD2 SKS SKSdf 03 16 42.3 -3.2
CD2 SKKS SKKSac 03 21 13.6 +0.4
CD2 SS SS 03 35 02.6 +2.3
CD2 PP PP
comp=Z,2μm,8.4s
CD2 LR LR
comp=N,2μm,24.0s
CD2 LR LR
comp=Z,2μm,21.6s
WMQ Urumqi 166.01 90 PKP PKPdf 03 09 43.0 +0.6
WMQ PKP2 PKPab 03 10 45.0 +2.1
WMQ *e*PP PP 03 14 34.0 +3.1
WMQ SKS SKSdf 03 16 42.0 -3.3
WMQ SKKS SKKSac 03 21 20.0 +3.2
WMQ PP PP
comp=Z,141nm,4.8s
WMQ LR LR
comp=N,3μm,18.6s
WMQ LR LR
comp=E,2μm,18.6s
WMQ LR LR
comp=Z,3μm,25.0s
CN2 Changchun 166.89 269 *e*PKP PKPdf 03 09 45.0 +1.9
CN2 PP PP 03 14 40.0 +4.5
CN2 PP PP
comp=Z,200nm,7.0s
CN2 LR LR
comp=N,1μm,21.0s
CN2 LR LR
comp=E,1μm,21.0s
CN2 LR LR
comp=Z,1μm,19.0s
XAN Xi'an 168.58 187 PKP PKPdf 03 09 43.3 -1.3
XAN LR LR
comp=N,759nm,20.0s
XAN LR LR
comp=E,884nm,20.0s
XAN LR LR
comp=Z,2μm,21.1s
LZH Lanzhou 170.35 164 *e*PKP PKPdf 03 09 45.7 +0.1
LZH APKP 03 09 48.2
LZH XPKP 03 09 50.0
LZH PP PP 03 14 56.0 +4.2
LZH SKKS SKKSac 03 21 36.0 -2.1
LZH SS SS 03 35 50.4 -0.9
LZH PP PP
comp=Z,390nm,6.6s
LZH LR LR
comp=E,2μm,21.2s
LZH LR LR
comp=Z,3μm,22.0s
LZH Lanzhou 170.35 164 *e*PKP PKPdf 03 09 45.7 +0.1
LZH pPKP pPKPdf 03 09 48.2 -3.6
LZH sPKP 03 09 50.0
LZH PP PP 03 14 56.0 +4.2
LZH SKKS SKKSac 03 21 36.0 -2.1
LZH SS SS 03 35 50.4 -0.9
LZH LR LR
comp=Z,3μm,22.0s
LZH Lanzhou 170.35 164 *e*PKIKP PKPdf 03 09 45.7 +0.1
LZH 03 09 50.0
LZH 03 14 56.0
LZH SS SS 03 35 50.4 -0.9
LZH MLR MLR
comp=Z,3μm,22.0s
BJI Beijing 171.50 234 PKP PKPdf 03 09 49.4 +3.3
BJI SKS SKSdf 03 16 49.2 +0.9
BJI SS SS 03 36 04.3 +0.3
BJI PP PP
comp=Z,661nm,10.7s
BJI LR LR
comp=N,2μm,21.0s
BJI LR LR
comp=E,2μm,21.0s
BJI LR LR
comp=Z,3μm,19.9s
GTA Gaotai 171.90 135 PKP PKPdf 03 09 46.2 -0.1
GTA PKP2 PKPab 03 11 11.4 +2.5
GTA PKS 03 13 17.7
GTA PP PP 03 15 03.8 +3.7
GTA SKS SKSdf 03 16 44.8 -3.7
GTA SKKS SKKSac 03 21 44.8 -0.8
GTA SS SS 03 36 06.4 -1.1
GTA PP PP
comp=Z,121nm,8.0s
GTA LR LR
comp=N,2μm,22.4s
GTA LR LR
comp=E,1μm,22.1s
GTA LR LR
comp=Z,3μm,21.7s
MOY Mondy 172.50 31 *e*P PKPdf 03 09 44.9 -1.3
MOY pmax pmax
comp=Z,53nm,2.3s
TLY Talaya 173.29 19 *e*P PKPdf 03 09 44.7 -1.8
TLY pmax pmax
comp=Z,22nm,1.4s
HHC Hu-ho-hao-te 174.44 217 *e*PKP PKPdf 03 09 47.1 -0.2
HHC APKP 03 09 57.4
HHC PP PP 03 15 14.9 +2.6
HHC SKS SKSdf 03 16 45.2 -4.0
HHC SKKS SKKSac 03 21 56.4 -1.3
HHC PP PP
comp=Z,399nm,6.1s

IDC 02 02:50:22.4±1.2, 693S×15443E, h0km, mb4.0/5, mb1 4.2/6, mb1mx3.9/15, mbtmp4.1/6, ML4.3/1, Error ellipse: s-maj=34.0km s-min=25.7km az=126.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**19.00**	**144**	P	Pn	02 54 47.7	+1.3
0.8nm,0.3s,baz=47,slow=19,SNR=6.2							
WRA	**Warramunga Arr**	**23.39**	**234**	P	P	02 55 32.3	-0.9
2.0nm,0.6s,baz=64,slow=9.5,SNR=6.8							
FITZ	**Fitzroy Crossi**	**30.16**	**246**	P	P	02 56 34.0	-0.4
1.8nm,0.8s,baz=103,slow=11,SNR=3.4							
SONM	**Songino Array**	**68.97**	**328**	P	P	03 01 28.5	-1.0
1.3nm,1.1s,baz=144,slow=5.7,SNR=4.0							
KDAK	**Kodiak Island**	**77.35**	**26**	P	P	03 02 18.8	0.0
2.2nm,0.4s,baz=180,slow=5.1,SNR=6.8							
MKAR	**Makanchi Array**	**82.98**	**319**	P	P	03 02 53.1	+3.7
1.4nm,0.6s,baz=66,slow=5.2,SNR=4.5							
ZALV	**Zalesovo Beam**	**83.81**	**326**	P	P	03 02 55.4	+1.8
0.7nm,0.5s,baz=112,slow=5.6,SNR=4.0							

IDC 02 02:52:25.6±1.7, 816S×15643E, h0km, mb3.9/3, mb1 4.0/4, mb1mx3.8/14, mbtmp4.0/4, ML3.9/1, Error ellipse: s-maj=36.8km s-min=33.9km az=0.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**3.70**	**110**	Pn	Pn	02 53 22.5	-1.5
9.4nm,0.3s,baz=266,slow=19,SNR=1.8							
WRA	**Warramunga Arr**	**24.38**	**239**	P	P	02 57 44.9	-0.8
2.5nm,0.8s,baz=65,slow=10.0,SNR=6.5							
STKA	**Stephens Creek**	**27.34**	**208**	P	P	02 58 14.0	+1.7
0.6nm,0.5s,baz=57,slow=10.0,SNR=3.2							
SONM	**Songino Array**	**71.08**	**327**	P	P	03 03 45.9	+0.3
0.7nm,0.6s,baz=128,slow=5.2,SNR=3.9							

BJI ***02*** *02:52:56.1, 786S×15660E, h30km, mB5.3, mb4.8, Ms5.2, Msz4.8*
ISCJB ***02*** *02:52:58.9±0.3, 732S±005×15588E±005, h10km, mb4.7/37, Error ellipse: s-maj=7.2km s-min=6.1km az=42.3*
IDC ***02*** *02:52:59.5±0.5, 737S×15578E, h0km, mb4.7/15, mb1 4.8/17, mb1mx4.8/19, mbtmp4.7/17, ML4.4/2, MS4.5/1, Ms1 4.5/1, ms1mx3.4/17, Error ellipse: s-maj=19.3km s-min=14.7km az=98.0*
NEIC ***02*** *02:53:00.8±0.3, 730S×15580E, h10km, mb4.9/19, Error ellipse: s-maj=9.0km s-min=7.0km az=120.0*
MOS ***02*** *02:53:02.7±1.2, 732S×15587E, h33km, mb5.0/9, Error ellipse: s-maj=12.1km s-min=10.3km az=69.7*
ISC 02 02:53:00.6±0.3, 733S±005×15589E±005, h10km, n77, σ1§06/71, mb4.7/37, 1C, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.52**	**118**	*e*Pn	**Pn**	**02 54 11.8**	**+2.7**
HNR	**Honiara**	**4.52**	**118**	Pn	**Pn**	**02 54 10.7**	**+1.5**
38nm,0.3s,baz=268,slow=16,SNR=4.1							
HNR				Sn	**Sb**	**02 55 12.7**	**-2.0**
121nm,0.3s,baz=82,slow=23,SNR=11							
CTA	**Charters Tower**	**15.75**	**215**	*e*P	**Pn**	**02 56 44.4**	**+1.7**
22nm,0.7s							
CTA	**Charters Tower**	**15.75**	**215**	*e*P	**Pn**	**02 56 44.4**	**+1.7**
CTA				pmax	pmax		
comp=Z,22nm,0.7s							
CTA	**Charters Tower**	**15.75**	**215**	Pn	**Pn**	**02 56 45.2**	**+2.5**
comp=Z,1.3nm,0.3s,baz=40,slow=10,SNR=20							
CTAO	**Charters Tower**	**15.75**	**215**	*e*Pn	**Pn**	**02 56 44.3**	**+1.6**
comp=Z,33nm,0.8s							
CTAO	**Charters Tower**	**15.75**	**215**	*e*P	**Pn**	**02 56 44.3**	**+1.6**
CTAO				pmax	pmax		
comp=Z,33nm,0.8s							
DZM	**Mont Dzumac**	**17.84**	**146**	P	**Pn**	**02 57 10.0**	**+0.9**
comp=Z,0.5nm,0.3s,baz=321,slow=11,SNR=4.2							
EIDS	**Eidsvold**	**18.52**	**194**	*e*Pn	**Pn**	**02 57 18.5**	**+1.1**
comp=Z,44nm,1.6s							
KAKA	**Kakadu**	**23.70**	**255**	*e*P	**P**	**02 58 12.6**	**-0.3**
comp=Z,46nm,0.7s,mb5.0							
WB2	**Warramunga Arr**	**24.36**	**237**	*e*P	**P**	**02 58 19.2**	**+0.2**
WRA	**Warramunga Arr**	**24.37**	**237**	P	**P**	**02 58 19.2**	**+0.2**
comp=Z,31nm,1.0s,mb4.7,baz=63,slow=9.1,SNR=27							
WRA				LR	LR	03 07 44.4	
comp=Z,1μm,18.1s,baz=60,slow=36							
ASAR	**Alice Springs**	**26.63**	**230**	P	**P**	**02 58 39.1**	**-0.4**
comp=Z,7.7nm,0.6s,mb4.4,baz=60,slow=9.6,SNR=70							
ASAR				ScP	ScP	03 05 44.4	+0.4
comp=Z,1.3nm,0.7s,baz=50,slow=2.7,SNR=6.1							
STKA	**Stephens Creek**	**27.82**	**207**	*e*P	**P**	**02 58 49.3**	**-0.9**

comp=Z,6.6nm,0.6s,mb4.4
STKA Stephens Creek 27.82 207 P **P 02 58 49.7 -0.5**
comp=Z,8.1nm,0.6s,mb4.5,baz=21,slow=8.0,SNR=14
FITZ Fitzroy Crossi 31.34 247 *eP* **P 02 59 21.0 -0.5**
comp=Z,16nm,0.8s,mb4.9
FITZ Fitzroy Crossi 31.34 247 P **P 02 59 19.9 -1.6**
comp=Z,13nm,1.0s,mb4.7,baz=79,slow=9.5,SNR=6.0
AFI Afiamalu 32.42 104 *eP* **P 02 59 31.1 +0.1**
comp=Z,68nm,1.1s,mb5.4
AFI Afiamalu 32.42 104 *eP* **P 02 59 31.1 +0.1**
AFI pmax pmax
comp=Z,68nm,1.1s,mb5.4
FORT Forrest 34.97 225 *eP* **P 02 59 46.4 -6.7**
comp=Z,28nm,0.8s,mb5.2
FORT Forrest 34.97 225 *eP* **P 02 59 51.8 -1.2**
comp=Z,4.8nm,0.8s,mb4.5
MBWA Marble Bar 37.53 245 *eP* **P 03 00 12.8 -2.4**
comp=Z,3.1nm,0.6s,mb4.2
RPZ Rata Peaks 38.60 162 P **P 03 00 24.3 +0.4**
comp=Z,7.4nm,0.7s,mb4.5,baz=21,slow=10,SNR=4.4
KLBR Kellerberrin 42.96 231 *eP* **P 03 00 59.2 -0.8**
comp=Z,49nm,0.6s,mb5.4
NWAO Narrogin (SRO) 43.94 229 *eP* **P 03 01 07.3 -0.6**
comp=Z,15nm,0.8s,mb4.8
NWAO Narrogin (SRO) 43.94 229 *eP* **P 03 01 07.3 -0.7**
NWAO pmax pmax
comp=Z,15nm,0.8s
NWAO Narrogin (SRO) 43.94 229 P **P 03 01 07.8 -0.2**
comp=Z,14nm,0.7s,mb4.8,baz=72,slow=9.5,SNR=7.7
MUN Mundaring 44.31 231 *eP* **P 03 01 10.8 -0.1**
MJAR Matsushiro Arr 46.69 340 P **P 03 01 29.7 +0.1**
comp=Z,5.2nm,0.8s,mb4.5,baz=160,slow=7.7,SNR=11
MJAR PcP PcP 03 03 03.4 +0.1
comp=Z,2.5nm,0.7s,baz=167,slow=4.4,SNR=4.2
MAJO Matsushiro 46.69 340 *eP* **P 03 01 29.4 -0.2**
comp=Z,11nm,0.8s,mb4.8
MAJO Matsushiro 46.69 340 *eP* **P 03 01 29.4 -0.2**
MAJO pmax pmax
comp=Z,11nm,0.8s,mb4.8
MAT Matsushiro 46.69 340 P **P 03 01 29.7 +0.1**
KSRS Korea Array 51.65 332 P **P 03 02 08.1 +0.5**
comp=Z,5.4nm,0.7s,mb4.6,baz=156,slow=6.6,SNR=7.4
YSS Yuzh-Sakhalins 55.29 349 *eP* **P 03 02 37.0 +2.9**
KLR Kul'dur 60.15 342 *eP* **P 03 03 05.0 -3.3**
XAN Xi'an 60.56 316 P **P 03 03 11.5 0.0**
XAN AMB AMB
comp=Z,4.0nm,0.8s,mb4.6
CHTO Chiang Mai 61.85 296 *eP* **P 03 03 20.8 +0.3**
comp=Z,16nm,1.3s,mb5.0
CHTO Chiang Mai 61.85 296 *eP* **P 03 03 20.8 +0.4**
CHTO pmax pmax
comp=Z,16nm,1.3s,mb5.0
HIA Hailar 64.60 335 *eP* **P 03 03 37.7 -0.4**
comp=Z,4.1nm,0.6s,mb4.6
HIA Hailar 64.60 335 *eP* **P 03 03 37.7 -0.4**
HIA pmax pmax
comp=Z,4.0nm,0.6s
SONM Songino Array 70.10 327 P **P 03 04 14.7 +1.7**
comp=Z,9.6nm,0.8s,mb4.8,baz=135,slow=5.9,SNR=37
SBA Scott Base 70.72 178 *eP* **P 03 04 15.9 -0.4**
comp=Z,5.5nm,1.0s,mb4.4
SBA Scott Base 70.72 178 *eP* **P 03 04 16.0 -0.4**
SBA pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
ZAK Zakamensk 73.25 328⇑ *iP* **P 03 04 32.9 +1.0**
ZAK pmax pmax
comp=Z,5.0nm,1.5s,mb4.2
BOD Bodaibo 73.25 338 *eP* **P 03 04 30.8 -1.0**
BOD pmax pmax
comp=Z,5.0nm,1.6s,mb4.2
MOY Mondy 75.16 328 *eP* **P 03 04 44.5 +1.5**
MOY pmax pmax
comp=Z,31nm,1.7s,mb5.0
BILL Bilibino 75.55 4 *eP* **P 03 04 45.6 +0.7**
comp=Z,11nm,1.0s,mb4.7
BILL Bilibino 75.55 4 *eP* **P 03 04 45.9 +1.0**
BILL pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
JIRN Jiri 75.72 301 *eP* **P 03 04 47.1 +0.3**
comp=Z,20nm,1.0s,mb5.0
KKN Kakani 76.53 301 *eP* **P 03 04 51.0 -0.4**
comp=Z,9.1nm,0.5s,mb5.0
GKN Gorkha 77.13 301 *eP* **P 03 04 55.4 +0.6**
comp=Z,30nm,1.0s,mb5.2
KOLN Koldanda 77.96 300 *eP* **P 03 04 58.9 -0.5**
comp=Z,9.5nm,0.9s,mb4.7
SML Sawmill 81.17 23 *eP* **P 03 05 15.3 -0.9**
IMA2 Indian Mountai 81.83 19 *eP* **P 03 05 19.4 -0.1**
MCK McKinley 82.03 22 *eP* **P 03 05 19.2 -1.4**
comp=Z,13nm,1.1s,mb4.8
MCK McKinley 82.03 22 *eP* **P 03 05 19.2 -1.5**
MCK pmax pmax
comp=Z,13nm,1.1s,mb4.8
QSPA South Pole Qui 82.65 180 P **P 03 05 24.8 +1.0**
comp=Z,9.3nm,1.0s,mb4.8,baz=357,slow=3.0,SNR=9.0
MKAR Makanchi Array 84.24 319 P **P 03 05 32.8 +0.3**
comp=Z,7.9nm,0.7s,mb5.0,baz=84,slow=6.5,SNR=31
ZAA0 Zalesovo Array 84.95 326 *eP* **P 03 05 35.2 -0.7**
ZALV Zalesovo Beam 84.95 326 P **P 03 05 35.4 -0.5**
comp=Z,7.5nm,0.7s,mb4.9,baz=109,slow=5.7,SNR=36
NVS Novosibirsk 86.12 326 *iP* **P 03 05 41.3 -0.4**
NVS pmax pmax
comp=N,6.0nm,1.4s
NVS pmax pmax
comp=Z,22nm,1.4s,mb5.2
NVS pmax pmax
comp=E,19nm,1.6s
NVAR Mina Array Bea 91.23 52 P **P 03 06 09.2 +2.8**
comp=E,0.5nm,0.8s,mb3.9,baz=224,slow=5.0,SNR=3.1
BGU Big Grassy Mou 95.56 50 *eP* **P 03 06 29.5 +3.3**
DUG Dugway 95.66 50 *eP* **P 03 06 24.2 -2.6**
comp=E,7.9nm,1.3s,mb5.0
DUG Dugway 95.66 50 *eP* **P 03 06 24.2 -2.5**
DUG pmax pmax
comp=Z,8.0nm,1.3s,mb5.0
HVU Hansel Valley 95.82 49 P **P 03 06 27.6 +0.2**
comp=Z,25nm,1.7s,mb5.4
HVU Hansel Valley 95.82 49 P **P 03 06 27.6 +0.2**
HVU pmax pmax
comp=Z,25nm,1.7s,mb5.4
YKA Yellowknife Ar 96.21 28 P **P 03 06 28.9 +0.2**
comp=Z,0.7nm,0.7s,mb4.2,baz=266,slow=4.4,SNR=12
REDW Red Top Meadow 97.34 47 *eP* **P 03 06 32.9 -1.4**
PDAR Pinedale Array 98.26 48 P **P 03 06 38.2 -0.2**
comp=Z,1.8nm,1.1s,mb4.5,baz=236,slow=1.6,SNR=3.7
AKASG Malin Array Be 118.33 325 PKP PKPdf 03 11 48.9 +0.6
comp=Z,0.4nm,0.4s,baz=60,slow=2.6,SNR=3.9
NOA NORSAR Array B 120.31 341 PKP PKPdf 03 11 52.3 +0.5
comp=Z,1.0nm,0.8s,baz=25,slow=4.9,SNR=2.6
GERES GERESS Array B 127.80 329 PKP PKPdf 03 12 08.0 +1.5
comp=Z,0.7nm,0.8s,baz=82,slow=1.9,SNR=3.6
LPAZ La Paz 130.52 119 PKP PKPdf 03 12 13.1 +0.4
comp=Z,2.9nm,1.1s,baz=282,slow=9.3,SNR=3.4
SDV Santo Domingo 133.94 85 PKP PKPdf 03 12 19.1 -0.1
comp=Z,4.0nm,0.7s,baz=284,slow=5.4,SNR=5.8
MDT Midelt 148.84 327 PKPbc PKPbc 03 12 50.4 +1.3
comp=Z,3.8nm,0.9s,baz=48,slow=1.0,SNR=6.8
DBIC Dimbokro 160.88 269 PKPab PKPab 03 13 44.0 -0.7
comp=Z,3.4nm,0.7s,baz=154,slow=13,SNR=6.2

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*IDC **02** 02:58:06.2±0.8, 743S×156.19E, h0km, mb4.5/10, mb1 4.5/11, mb1mx4.4/15, mbtmp4.5/11, ML4.0/1, Error ellipse: s-maj=28.9km s-min=19.0km az=110.0*
*NEIC **02** 02:58:07.5±0.5, 738S×156.17E, h10km, mb4.9/1, Error ellipse: s-maj=15.7km s-min=13.8km az=147.0*
*ISCJB **02** 02:58:09.6±0.6, 746S±009×156.18E±009, h33km, mb4.3/13, Error ellipse: s-maj=14.1km s-min=12.4km az=37.6*
*MOS **02** 02:58:09.9±0.7, 741S×156.21E, h33km, mb4.9/5, Error ellipse: s-maj=23.8km s-min=17.8km az=38.6*
ISC 02 02:58:11.4±0.6, 745S±009×156.19E±010, h35km, n31, σ0 94/23, mb4.3/13, 1C-1D, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.21**	**118**	Pn		**Pn**	**02 59 13.2**	**0.0**
	8.8nm,0.3s,baz=293,slow=7.7,SNR=3.5							
KAKA	**Kakadu**	**23.95**	**255**	*eP*		**P**	**03 03 23.0**	**+0.4**
	19nm,0.6s,mb4.7							
WB2	**Warramunga Arr**	**24.54**	**237**	*eP*		**P**	**03 03 28.7**	**+0.7**
WRA	**Warramunga Arr**	**24.55**	**237**	P		**P**	**03 03 28.9**	**+0.8**
	9.3nm,0.9s,mb4.3,baz=62,slow=9.8,SNR=9.9							
ASAR	**Alice Springs**	**26.78**	**230**	P		**P**	**03 03 48.2**	**0.0**
	1.7nm,0.8s,mb3.6,baz=61,slow=9.5,SNR=5.1							
STKA	**Stephens Creek**	**27.85**	**207**	P		**P**	**03 03 57.7**	**-0.1**
STKA	**Stephens Creek**	**27.85**	**207**	P		**P**	**03 03 57.7**	**-0.1**
	1.8nm,0.9s,mb3.7,baz=36,slow=8.7,SNR=2.4							
FITZ	**Fitzroy Crossi**	**31.56**	**247**	*eP*		**P**	**03 04 30.2**	**-0.6**
	8.6nm,0.8s,mb4.6							
FITZ	**Fitzroy Crossi**	**31.56**	**247**	P		**P**	**03 04 30.4**	**-0.5**
	4.7nm,0.8s,mb4.4,baz=115,slow=8.7,SNR=6.3							
MBWA	**Marble Bar**	**37.75**	**245**	P		**P**	**03 05 22.4**	**-1.9**
MJAR	**Matsushiro Arr**	**46.90**	**340**	P		**P**	**03 06 37.5**	**-0.9**
	2.3nm,0.8s,mb4.2,baz=170,slow=7.5,SNR=4.4							
MJAR				PcP		PcP	03 08 11.5	+0.7
	1.2nm,0.6s,baz=153,slow=3.5,SNR=3.5							
KSRS	**Korea Array**	**51.89**	**331**	P		**P**	**03 07 16.9**	**+0.3**
	2.4nm,0.6s,mb4.3,baz=147,slow=7.1,SNR=6.0							
SEY	**Seymchan**	**70.23**	**358**⇑	*iP*		**P**	**03 09 24.4**	**+3.9**
SONM	**Songino Array**	**70.35**	**327**	P		**P**	**03 09 23.1**	**+1.5**
	4.2nm,0.7s,mb4.5,baz=143,slow=6.6,SNR=22							
BOD	**Bodaibo**	**73.47**	**338**	*eP*		**P**	**03 09 37.2**	**-2.9**
BOD				pmax		pmax		
	comp=Z,8.0nm,1.8s,mb4.3							
ZAK	**Zakamensk**	**73.50**	**328**⇓	*iP*		**P**	**03 09 41.1**	**+0.7**
ZAK				pmax		pmax		
	comp=Z,4.0nm,1.4s,mb4.2							
MKAR	**Makanchi Array**	**84.52**	**318**	P		**P**	**03 10 41.7**	**+0.8**
MKAR	**Makanchi Array**	**84.52**	**318**	P		**P**	**03 10 41.7**	**+0.8**
	comp=Z,8.6nm,0.7s,mb5.0,baz=75,slow=5.1,SNR=5.6							
ZALV	**Zalesovo Beam**	**85.21**	**326**	P		**P**	**03 10 43.8**	**-0.3**
	comp=Z,11nm,0.6s,mb5.2,baz=115,slow=6.0,SNR=8.1							
ZAL	**Zalesovo**	**85.22**	**326**	P		**P**	**03 10 43.8**	**-0.4**
YKA	**Yellowknife Ar**	**96.18**	**28**	P		**P**	**03 11 35.5**	**0.0**
YKA	**Yellowknife Ar**	**96.18**	**28**	P		**P**	**03 11 35.5**	**0.0**
	comp=Z,0.5nm,0.7s,mb4.0,baz=263,slow=4.7,SNR=6.8							
MAK	**Makhachkala**	**108.70**	**313**	*eP*		Pdif	03 12 33.5	+1.9
MOS	**Moscow**	**111.98**	**328**	*eP*		Pdif	03 12 47.6	+1.5
AKASG	**Malin Array Be**	**118.59**	**325**	PKP		PKPdf	03 16 55.3	-0.4
	comp=Z,0.4nm,0.5s,baz=51,slow=2.9,SNR=3.6							
GERES	**GERESS Array B**	**128.04**	**329**	PKP		PKPdf	03 17 13.1	-0.7
	comp=Z,0.3nm,0.5s,baz=46,slow=5.8,SNR=4.1							
ESDC	**Sonseca Array**	**143.30**	**334**	PKP		PKPdf	03 17 40.3	-2.1
	comp=Z,1.1nm,0.8s,baz=36,slow=3.0,SNR=4.1							
MDT	**Midelt**	**149.10**	**327**	PKPbc		PKPbc	03 17 57.7	+1.1
	comp=Z,4.7nm,0.9s,baz=102,slow=2.9,SNR=7.4							
TORD	**Torodi Ar. Bea**	**154.28**	**285**	PKP		PKPdf	03 17 59.6	-1.1
	comp=Z,0.6nm,0.9s,baz=110,slow=2.2,SNR=3.1							
TORD				PKPbc		PKPbc	03 18 08.7	-0.3
	comp=Z,1.4nm,0.7s,baz=60,slow=1.1,SNR=5.4							
DBIC	**Dimbokro**	**161.17**	**269**	PKPab		PKPab	03 18 52.8	-0.1
	comp=Z,1.6nm,0.5s,baz=63,slow=6.8,SNR=5.8							

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*IDC **02** 03:00:05.9±1.0, 758S×156.24E, h0km, mb4.4/8, mb1 4.4/9, mb1mx4.3/14, mbtmp4.4/9, ML4.7/1, Error ellipse: s-maj=31.4km s-min=21.6km az=104.0*
*NEIC **02** 03:00:07.5±0.6, 753S×156.24E, h10km, mb4.5/1, Error ellipse: s-maj=15.5km s-min=13.4km az=171.0*
*ISCJB **02** 03:00:09.3±0.7, 76S±01×156.3E±01, h33km, mb4.3/9, Error ellipse: s-maj=16.0km s-min=14.4km az=168.8*
ISC 02 03:00:11.1±0.7, 76S±01×156.3E±01, h35km, n14, σ0 73/15, mb4.3/9, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.07**	**117**	Pn		**Pn**	**03 01 11.4**	**+0.6**
	50nm,0.3s,baz=259,slow=6.1,SNR=3.9							
HNR				Sn		**Sn**	**03 02 07.2**	**+10**
	110nm,0.3s,baz=263,slow=23,SNR=5.5							
KAKA	**Kakadu**	**24.00**	**256**	*eP*		**P**	**03 05 23.7**	**+0.9**
	11nm,0.8s,mb4.3							
WB2	**Warramunga Arr**	**24.54**	**238**	*eP*		**P**	**03 05 27.9**	**+0.2**
WRA	**Warramunga Arr**	**24.55**	**238**	P		**P**	**03 05 27.9**	**+0.1**
	4.0nm,0.6s,mb4.2,baz=62,slow=9.5,SNR=8.2							
WRA				PcP		PcP	03 09 05.7	+0.1
	2.0nm,0.9s,baz=46,slow=1.8,SNR=4.8							
ASAR	**Alice Springs**	**26.76**	**231**	P		**P**	**03 05 48.1**	**+0.4**
	0.8nm,0.7s,mb3.3,baz=52,slow=8.9,SNR=3.5							
STKA	**Stephens Creek**	**27.77**	**208**	P		**P**	**03 05 55.4**	**-1.4**
	2.7nm,0.9s,mb3.9,baz=38,slow=12,SNR=2.7							
KSRS	**Korea Array**	**52.06**	**331**	P		**P**	**03 09 17.4**	**-0.1**
	1.4nm,0.8s,mb4.0,baz=150,slow=7.7,SNR=4.0							
SONM	**Songino Array**	**70.52**	**327**	P		**P**	**03 11 23.7**	**+1.4**
	6.3nm,0.8s,mb4.6,baz=136,slow=6.2,SNR=13							
MKAR	**Makanchi Array**	**84.69**	**318**	P		**P**	**03 12 41.2**	**-0.2**
MKAR	**Makanchi Array**	**84.69**	**318**	P		**P**	**03 12 41.2**	**-0.2**
	13nm,0.7s,mb5.2,baz=64,slow=7.6,SNR=17							
ZAA0	**Zalesovo Array**	**85.38**	**326**	*eP*		**P**	**03 12 43.8**	**-0.9**
ZALV	**Zalesovo Beam**	**85.38**	**326**	P		**P**	**03 12 44.1**	**-0.6**
	8.3nm,0.7s,mb5.0,baz=110,slow=6.1,SNR=9.7							
YKA	**Yellowknife Ar**	**96.26**	**28**	P		**P**	**03 13 35.2**	**-0.3**
YKA	**Yellowknife Ar**	**96.26**	**28**	P		**P**	**03 13 35.2**	**-0.3**
	0.5nm,0.7s,mb4.0,baz=269,slow=4.5,SNR=6.4							

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*NEIC **02** 03:05:31.6, 1585N×9786W, h14km, MD4.1(MEX), After MEX.*
MEX 02 03:05:31.5±0.7, 1586N×9784W, h14km±12km, MD4.2, 1C, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.60**	**332**⇑	*iP*		Pg	03 05 41.2	-2.1
PNIG				*i S*		Sg	03 05 49.9	-1.4
OXX	**Oaxaca**	**1.62**	**41**	*i P*		Pn	03 05 58.1	-1.6
OXX				*i S*		Sn	03 06 15.5	-5.0
OXX	**Oaxaca**	**1.62**	**41**	*i P*		Pn	03 05 57.6	-2.1
OXX				*i S*		Sn	03 06 15.5	-5.0
HUIG	**Huatulco**	**1.67**	**93**	*i P*		Pn	03 05 57.0	-3.4
HUIG				*i S*		Sn	03 06 16.9	-4.7
UTMO	**Huajuapan**	**1.96**	**1**	*eP*		Pn	03 06 01.8	-2.6
UTMO				*i S*		Sn	03 06 24.4	-4.5
ACX	**Acapulco**	**2.23**	**297**	*eP*		Pn	03 06 05.7	-2.5
ACX				*i S*		Sn	03 06 31.6	-4.0
TPIG	**Tehuac#an**	**2.59**	**10**	*eP*		Pn	03 06 14.9	+1.8
TPIG				*i S*		Sn	03 06 44.2	-0.2
CAIG	**El Cayaco**	**2.62**	**297**	*eP*		Pn	03 06 10.9	-2.5
CAIG				*i S*		Sn	03 06 40.7	-4.3
MEIG	**Mezcala**	**2.67**	**321**	*eP*		Pn	03 06 12.0	-2.2
MEIG				*i S*		Sn	03 06 42.5	-3.9
PLIG	**Platanillo**	**2.98**	**328**	*eP*		Pn	03 06 15.7	-2.8
PLIG				*i S*		Sn	03 06 49.8	-4.2
CMIG	**Matias Romero**	**3.09**	**66**	*eP*		Pn	03 06 17.4	-2.5
CMIG				*i S*		Sn	03 06 58.5	+1.8
YAIG	**Yautepec**	**3.21**	**339**	*eP*		Pn	03 06 21.9	+0.3
YAIG				*i S*		Sn	03 06 56.6	-3.2
PPM	**Popocatepetl**	**3.28**	**347**	*eP*		Pn	03 06 17.9	-4.6
PPM				*i S*		Sn	03 07 05.6	+4.1
PPM	**Popocatepetl**	**3.28**	**347**	*eP*		Pn	03 06 22.1	-0.5
PPM				*i S*		Sn	03 07 00.8	-0.6
UNM	**Universidad Na**	**3.68**	**340**	*eP*		Pn	03 06 47.2	+19
UNM				*i S*		Sn	03 07 18.5	+7.2
UNM	**Universidad Na**	**3.68**	**340**	*i S*		Sn	03 07 08.3	-3.1
SZVM	**Salazar**	**3.75**	**337**	*eP*		Pn	03 06 30.5	+1.5
SZVM				*i S*		Sn	03 07 15.4	+2.4
PBVM	**Pinon**	**3.76**	**342**	*eP*		Pn	03 06 26.4	-2.8
PBVM				*i S*		Sn	03 07 09.4	-3.8
PBVM	**Pinon**	**3.76**	**342**	*eP*		Pn	03 06 27.1	-2.0
PBVM				*i S*		Sn	03 07 11.5	-1.7
IIO	**Organos**	**3.81**	**347**	*eP*		Pn	03 06 25.6	-4.2
IIO				*i S*		Sn	03 07 14.8	+0.3
IIO	**Organos**	**3.81**	**347**	*eP*		Pn	03 06 30.8	+1.0
IIO				*i S*		Sn	03 07 14.8	+0.3
PTVM	**Pico Tres Padr**	**3.91**	**342**	*eP*		Pn	03 06 25.1	-6.2
PTVM				*i S*		Sn	03 07 13.2	-3.8
PTVM	**Pico Tres Padr**	**3.91**	**342**	*eP*		Pn	03 06 32.0	+0.8
PTVM				*i S*		Sn	03 07 13.2	-3.8
LVIG	**Laguna Verde**	**4.08**	**19**	*eP*		Pn	03 06 50.0	+16
LVIG				*i S*		Sn	03 07 20.0	-1.1
LVIG	**Laguna Verde**	**4.08**	**19**	*i S*		Sn	03 07 16.2	-4.9
MOIG	**Morelia**	**4.96**	**320**	*i S*		Sn	03 07 35.2	-7.8
MOIG	**Morelia**	**4.96**	**320**	*i S*		Sn	03 07 41.4	-1.6

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*IDC **02** 03:12:55.8±3.4, 711S×155.57E, h0km, mb4.0/7, mb1 4.1/7, mb1mx4.0/13, mbtmp4.0/7, Error ellipse: s-maj=110.6km s-min=22.2km az=103.0*
*NEIC **02** 03:12:56.2±1.2, 710S×155.82E, h10km, mb4.5/3, Error ellipse: s-maj=39.2km s-min=16.0km az=116.0*
*ISCJB **02** 03:12:58.1±1.2, 72S±02×155.8E±02, h33km, mb4.0/9, Error ellipse: s-maj=39.3km s-min=16.2km az=28.6*
ISC 02 03:12:60.0±1.2, 71S±02×158E±03, h35km, n11, σ1 9 03/11, mb4.0/9, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
WB2	**Warramunga Arr**	**24.39**	**236**	*eP*		**P**	**03 18 15.5**	**+0.3**
WRA	**Warramunga Arr**	**24.40**	**236**	P		**P**	**03 18 14.0**	**-1.3**
	3.5nm,0.9s,mb3.8,baz=61,slow=9.1,SNR=8.4							
ASAR	**Alice Springs**	**26.69**	**230**	P		**P**	**03 18 35.6**	**-0.4**
	0.4nm,0.6s,mb3.1,baz=59,slow=9.0,SNR=5.0							
STKA	**Stephens Creek**	**27.96**	**206**	*eP*		**P**	**03 18 48.3**	**+1.0**
	2.0nm,0.9s,mb3.8							
STKA	**Stephens Creek**	**27.96**	**206**	P		**P**	**03 18 47.3**	**0.0**
	2.0nm,0.5s,mb4.0,baz=20,slow=9.9,SNR=9.8							
FITZ	**Fitzroy Crossi**	**31.33**	**247**	*eP*		**P**	**03 19 17.7**	**+0.3**
	5.2nm,0.7s,mb4.5							
MJAR	**Matsushiro Arr**	**46.48**	**340**	P		**P**	**03 21 21.8**	**-1.9**
	0.7nm,0.4s,mb3.9,baz=158,slow=9.7,SNR=4.5							
SONM	**Songino Array**	**69.89**	**327**	P		**P**	**03 24 09.7**	**+2.4**
	0.5nm,0.4s,mb3.8,baz=146,slow=5.7,SNR=7.3							
MKAR	**Makanchi Array**	**84.04**	**319**	P		**P**	**03 25 27.1**	**+0.1**
	1.5nm,0.6s,mb4.3,baz=78,slow=6.3,SNR=13							
ZALV	**Zalesovo Beam**	**84.74**	**326**	P		**P**	**03 25 31.0**	**+0.6**
	0.9nm,0.5s,mb4.2,baz=116,slow=6.8,SNR=4.8							
WVOR	**Wild Horse Val**	**91.49**	**48**	*eP*		**P**	**03 26 02.6**	**-0.4**
	3.6nm,0.6s,mb4.9							

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*IDC **02** 03:15:05.7±1.1, 737S×155.49E, h0km, mb4.3/9, mb1 4.4/10, mb1mx4.3/15, mbtmp4.3/10, ML4.6/1, Error ellipse: s-maj=30.6km s-min=19.5km az=112.0*
*NEIC **02** 03:15:07.8±0.8, 739S×155.35E, h10km, mb4.7/5, Error ellipse: s-maj=17.4km s-min=15.0km az=127.0*
*ISCJB **02** 03:15:12.9±3.1, 75S±01×155.6E±02, h73km±34km, mb4.2/11, Error ellipse: s-maj=29.4km s-min=16.0km az=39.7*
ISC 02 03:15:14.1±2.9, 75S±01×156E±02, h69km±33km, n19, σ0 79/19, mb4.2/11, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.73**	**114**	*ePn*		**Pn**	**03 16 24.4**	**+1.5**
HNR	**Honiara**	**4.73**	**114**	Pn		**Pn**	**03 16 21.8**	**-1.2**
	27nm,0.3s,baz=274,slow=19,SNR=2.6							
CTAO	**Charters Tower**	**15.44**	**215**	*ePn*		**Pn**	**03 18 42.3**	**-5.6**
	55nm,1.4s							
KAKA	**Kakadu**	**23.35**	**255**	*eP*		**P**	**03 20 16.1**	**-0.7**
	18nm,0.8s,mb4.5							
WB2	**Warramunga Arr**	**24.01**	**237**	*eP*		**P**	**03 20 22.7**	**0.0**
WRA	**Warramunga Arr**	**24.02**	**237**	P		**P**	**03 20 23.0**	**+0.2**
	9.9nm,0.9s,mb4.2,baz=62,slow=9.7,SNR=23							
ASAR	**Alice Springs**	**26.28**	**230**	P		**P**	**03 20 43.1**	**-0.2**
	3.1nm,0.9s,mb3.7,baz=63,slow=9.4,SNR=12							
STKA	**Stephens Creek**	**27.53**	**206**	*eP*		**P**	**03 20 55.0**	**+0.5**
	6.6nm,0.9s,mb4.2							
STKA	**Stephens Creek**	**27.53**	**206**	P		**P**	**03 20 54.9**	**+0.4**
	7.4nm,0.8s,mb4.3,baz=18,slow=11,SNR=9.0							
FITZ	**Fitzroy Crossi**	**30.99**	**247**	*eP*		**P**	**03 21 25.2**	**-0.1**
	6.1nm,0.6s,mb4.5							
FITZ	**Fitzroy Crossi**	**30.99**	**247**	P		**P**	**03 21 24.5**	**-0.8**
	3.7nm,0.7s,mb4.2,baz=62,slow=12,SNR=4.3							
TAU	**Tasmania Unive**	**36.01**	**190**	P		**P**	**03 22 08.5**	**-0.1**
	25nm,1.1s,mb5.1							
MJAR	**Matsushiro Arr**	**46.74**	**341**	P		**P**	**03 23 35.5**	**-1.1**
	1.0nm,0.7s,mb3.7,baz=75,slow=1.0,SNR=4.8							
LZH	**Lanzhou**	**65.08**	**315**	*eP*		**P**	**03 25 49.1**	**+1.5**
LZH				pP		pP	03 25 54.6	-11
LZH				sP		sP	03 25 56.5	-17
SONM	**Songino Array**	**70.07**	**327**	P		**P**	**03 26 19.9**	**+1.0**
	2.5nm,0.8s,mb4.1,baz=138,slow=6.7,SNR=14							
MKAR	**Makanchi Array**	**84.17**	**319**	P		**P**	**03 27 38.6**	**+0.7**
	4.2nm,0.7s,mb4.4,baz=77,slow=5.5,SNR=26							
ZALV	**Zalesovo Beam**	**84.92**	**326**	P		**P**	**03 27 40.8**	**-0.7**
	1.4nm,0.5s,mb4.2,baz=121,slow=4.9,SNR=7.4							
YKA	**Yellowknife Ar**	**96.51**	**28**	P		**P**	**03 28 34.9**	**-0.8**
YKA	**Yellowknife Ar**	**96.51**	**28**	P		**P**	**03 28 34.9**	**-0.8**
	0.4nm,0.7s,mb4.0,baz=266,slow=4.6,SNR=7.7							

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*IDC **02** 03:17:58.0±1.8, 727S×155.40E, h0km, mb4.0/7, mb1 4.1/7, mb1mx4.0/14, mbtmp4.0/7, Error ellipse: s-maj=60.0km s-min=23.9km az=115.0*
NEIC 02 03:17:59.6±1.2, 735S×15546E, h10km, mb4.3/1, Error ellipse: s-maj=41.1km s-min=15.9km az=115.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.00**	**236**	P		P	03 23 14.6	-0.1
	3.6nm,0.8s,baz=61,slow=9.5,SNR=4.5							
ASAR	**Alice Springs**	**26.29**	**230**	P		P	03 23 35.6	+0.2
	0.3nm,0.5s,baz=59,slow=9.2,SNR=2.7							
STKA	**Stephens Creek**	**27.61**	**206**	P		P	03 23 48.0	+0.6
	4.7nm,0.7s,baz=21,slow=10,SNR=8.5							
FITZ	**Fitzroy Crossi**	**30.93**	**247**	P		P	03 24 16.3	-0.7
	2.4nm,0.9s,baz=75,slow=14,SNR=3.2							
SONM	**Songino Array**	**69.88**	**327**	P		P	03 29 10.1	-0.6
	1.2nm,0.8s,baz=141,slow=7.3,SNR=4.4							
TLY	**Talaya**	**73.60**	**329**	*eP*		P	03 29 34.5	+1.5
	2

s-maj=127.0km s-min=32.8km az=136.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.81**	**236**	P	P	03 37 34.0	+1.3
	1.0nm,0.7s,baz=61,slow=9.5,SNR=5.4						
ASAR	**Alice Springs**	**26.12**	**229**	P	P	03 37 52.0	-1.7
	0.7nm,0.9s,baz=65,slow=7.6,SNR=4.8						
YKA	**Yellowknife Ar**	**96.52**	**28**	P	P	03 45 49.5	+0.5
	0.2nm,0.6s,baz=269,slow=4.4,SNR=4.2						

IDC 02 03:39:46.0±10.0, 864S×15715E, h0km, mb4.5/5, mb1 4.5/5, mb1mx4.2/13, mbtmp4.5/5, MS4.8/1, Ms1 4.8/1, ms1mx3.7/25, Error ellipse: s-maj=422.2km s-min=105.7km az=91.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FORT	**Forrest**	**34.95**	**227**	*eP*	P	03 46 42.2	+2.3
	16nm,0.6s						
MJAR	**Matsushiro Arr**	**48.34**	**340**	P	P	03 48 28.1	-1.3
	2.4nm,0.8s,baz=162,slow=7.7,SNR=7.1						
MJAR				LR	LR	04 07 33.6	
	comp=Z,979nm,19.2s,baz=125,slow=34						
KSRS	**Korea Array**	**53.39**	**331**	P	P	03 49 07.5	-0.1
	1.8nm,0.7s,baz=152,slow=7.2,SNR=6.1						
SONM	**Songino Array**	**71.87**	**327**	P	P	03 51 12.7	+1.9
	2.0nm,0.4s,baz=139,slow=6.4,SNR=21						
MKAR	**Makanchi Array**	**86.04**	**318**	P	P	03 52 26.8	-1.8
	5.9nm,0.5s,baz=118,slow=7.1,SNR=26						
ZALV	**Zalesovo Beam**	**86.73**	**326**	P	P	03 52 32.6	+0.8
	3.6nm,0.7s,baz=116,slow=5.4,SNR=14						

*IDC **02** 03:41:06.5±1.2, 738S×15674E, h0km, mb4.4/5, mb1 4.4/6, mb1mx4.2/14, mbtmp4.3/6, ML4.4/1, MS4.7/1, Ms1 4.7/1, ms1mx3.6/26, Error ellipse: s-maj=34.0km s-min=26.7km az=101.0*

NEIC 02 03:41:07.9±0.8, 742S×15684E, h10km, mb4.3/1, Error ellipse: s-maj=17.6km s-min=16.7km az=156.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**3.67**	**123**	Pn	Pn	03 42 04.1	-0.6
	31nm,0.3s,baz=255,slow=5.0,SNR=3.9						
CTAO	**Charters Tower**	**16.24**	**218**	*e*Pn	Pn	03 44 57.1	+0.8
	34nm,1.4s						
WRA	**Warramunga Arr**	**25.11**	**238**	P	P	03 46 32.3	-0.8
	4.9nm,0.6s,baz=63,slow=9.3,SNR=4.1						
STKA	**Stephens Creek**	**28.18**	**208**	*e*P	P	03 47 07.2	+6.5
	2.4nm,0.8s						
STKA	**Stephens Creek**	**28.18**	**208**	*e*P	P	03 47 01.1	+0.4
STKA	**Stephens Creek**	**28.18**	**208**	P	P	03 47 01.6	+0.9
	1.3nm,0.8s,baz=37,slow=14,SNR=2.8						
JNU	**Nakatsue**	**47.27**	**330**	LR	LR	04 07 44.5	
	comp=Z,998nm,22.0s,baz=119,slow=34						
SONM	**Songino Array**	**70.69**	**327**	P	P	03 52 23.8	-0.2
	2.6nm,0.7s,baz=144,slow=6.5,SNR=7.5						
MKAR	**Makanchi Array**	**84.94**	**318**	P	P	03 53 42.6	-0.7
	9.9nm,0.7s,baz=86,slow=6.6,SNR=17						
YKA	**Yellowknife Ar**	**95.86**	**28**	P	P	03 54 36.1	+1.7
	0.2nm,0.5s,baz=264,slow=4.7,SNR=4.9						

IDC 02 03:43:37.3±16.0, 738S×15738E, h0km, mb4.3/3, mb1 4.3/3, mb1mx4.0/13, mbtmp4.3/3, Error ellipse: s-maj=756.6km s-min=332.3km az=81.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**70.95**	**326**	P	P	03 54 56.8	+0.2
	1.1nm,0.8s,baz=139,slow=4.6,SNR=4.1						
MKAR	**Makanchi Array**	**85.26**	**318**	P	P	03 56 16.0	0.0
	3.1nm,0.6s,baz=90,slow=7.3,SNR=9.2						
ZALV	**Zalesovo Beam**	**85.83**	**326**	P	P	03 56 18.7	+0.1
	2.3nm,0.7s,baz=94,slow=4.3,SNR=4.9						

*IDC **02** 03:48:01.9±3.8, 2481N×12560E, h0km, mb3.9/7, mb1 4.0/8, mb1mx3.8/21, mbtmp4.0/8, ML3.8/1, Error ellipse: s-maj=88.8km s-min=30.9km az=168.0*
*ISCJB **02** 03:48:11.0±0.6, 25.1N±0.1×12580E±009, h75km±6km, mb3.7/8, Error ellipse: s-maj=27.2km s-min=5.3km az=152.0*
*JMA **02** 03:48:12.0±0.1, 25.16N×12570E, h75km±2km, M3.8*
*NEIC **02** 03:48:13.8±1.6, 2580N×12550E, h35km, mb3.9/1, Error ellipse: s-maj=39.6km s-min=13.4km az=161.0*

ISC 02 03:48:11.9±0.6, 251N±01×12580E±009, h70km±6km, n29, σ0°78/36, mb3.7/8, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOGS	**Gusukube**	**0.46**	**230**	P	Pn	03 48 25.1	+0.7
JOGS				*e*S	Sn	03 48 34.5	+1.0
JMJ	**Miyako jima 2**	**0.52**	**242**	P	Pn	03 48 25.4	+0.5
JMJ				*e*S	Sn	03 48 34.8	+0.4
JTJ	**Tarama**	**1.08**	**248**	P	Pn	03 48 31.6	+0.2
JTJ				*e*S	Sn	03 48 45.8	-0.1
JKE	**Kume jima 2**	**1.54**	**35**	P	Pn	03 48 37.2	-0.2
JIJ	**Ishigaki jima**	**1.66**	**246**	P	Pn	03 48 38.7	-0.2
JIJ				*e*S	Sn	03 48 58.3	-1.1
JKRS	**Kuro-shima**	**1.82**	**244**	P	Pn	03 48 41.3	+0.2
JAGN	**Aguni-jima**	**2.00**	**40**	P	Pn	03 48 43.8	+0.2
IRIF	**Iriomote-Funau**	**2.02**	**249**	P	Pn	03 48 43.2	-0.5
IRIF				*e*S	Sn	03 49 07.9	-0.1
HATJ	**Hateruma jima**	**2.07**	**242**	P	Pn	03 48 44.3	-0.2
YOJ	**Yonaguni jima**	**2.60**	**257**	P	Pn	03 48 51.6	-0.1
YOJ				*e*S	Sn	03 49 20.0	-2.2
JIH	**Iheya**	**2.77**	**44**	P	Pn	03 48 54.2	+0.3
JOW	**Kunigami**	**2.84**	**51**	P	Pn	03 48 55.4	+0.5
JOW	**Kunigami**	**2.84**	**51**	Pn	Pn	03 48 54.5	-0.4
	22nm,0.3s,baz=192,slow=12,SNR=49						
JTK	**Tokunoshima**	**3.92**	**45**	P	Pn	03 49 09.2	-0.4
YHNB	**Yeheng**	**4.04**	**265**	*e*Pn	Pn	03 49 12.6	+1.4
JAM	**Amami Oshima**	**4.77**	**45**	P	Pn	03 49 20.4	-0.8
JMZ	**Minamidaito 2**	**4.96**	**80**	P	Pn	03 49 22.1	-1.7
JMZ				*e*S	Sn	03 50 14.1	-5.8
MAJO	**Matsushiro**	**15.62**	**40**	*e*Pn	Pn	03 51 47.8	0.0
	2.4nm,0.3s						
MAT	**Matsushiro**	**15.62**	**40**	P	Pn	03 51 56.4	+8.6
MJAR	**Matsushiro Arr**	**15.62**	**40**	Pn	Pn	03 51 51.9	+4.1
	1.3nm,0.3s,baz=216,slow=6.4,SNR=11						
ASAJ	**Asahikawa**	**23.43**	**32**	P	P	03 53 15.6	+0.9
	1.9nm,0.4s,mb3.8,baz=151,slow=15,SNR=4.3						
SONM	**Songino Array**	**27.43**	**331**	P	P	03 53 50.4	-0.4
	0.4nm,0.3s,mb3.4,baz=152,slow=9.5,SNR=3.6						
ZALV	**Zalesovo Beam**	**41.89**	**325**	P	P	03 55 54.6	-0.5
	2.5nm,0.4s,mb4.3,baz=113,slow=8.4,SNR=4.1						
FINES	**FINESS Array B**	**72.79**	**330**	P	P	03 59 32.1	-0.4
	0.6nm,0.4s,mb3.8,baz=66,slow=4.8,SNR=5.5						
AKASG	**Malin Array Be**	**74.99**	**319**	P	P	03 59 45.9	+0.4
	0.8nm,0.4s,mb3.8,baz=64,slow=6.4,SNR=3.0						
NB2	**NORSAR Subarra**	**79.38**	**333**	P	P	04 00 10.7	+0.8
	comp=Z,4nm,1.0s,mb4.0,baz=56,slow=5.6						
YKA	**Yellowknife Ar**	**80.50**	**24**	P	P	04 00 15.7	-0.3
YKA	**Yellowknife Ar**	**80.50**	**24**	P	P	04 00 15.7	-0.3
	comp=Z,0.2nm,0.8s,mb3.0,baz=293,slow=5.0,SNR=3.6						
GERES	**GERESS Array B**	**84.79**	**322**	P	P	04 00 40.1	+1.6
	comp=Z,0.7nm,0.7s,mb3.7,baz=64,slow=4.6,SNR=5.2						

*IDC **02** 03:49:54.6±2.2, 706S×15538E, h0km, mb4.0/7, mb1 4.2/7, mb1mx4.0/14, mbtmp4.0/7, MS4.0/1, Ms1 4.0/1, ms1mx3.2/21, Error ellipse: s-maj=75.8km s-min=24.6km az=122.0*

NEIC 02 03:49:56.6±1.1, 700S×15530E, h10km, Error ellipse: s-maj=36.5km s-min=14.1km az=115.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.20**	**118**	LR	LR	03 53 05.3	
	comp=Z,1μm,19.2s,baz=356,slow=37						
WRA	**Warramunga Arr**	**24.07**	**236**	P	P	03 55 12.2	0.0
	5.2nm,0.9s,baz=61,slow=9.7,SNR=9.9						
ASAR	**Alice Springs**	**26.40**	**229**	P	P	03 55 33.7	+0.2
	0.5nm,0.8s,baz=135,slow=36,SNR=2.9						
STKA	**Stephens Creek**	**27.86**	**206**	P	P	03 55 47.0	+0.4
FITZ	**Fitzroy Crossi**	**30.93**	**246**	P	P	03 56 13.4	-0.5
	1.7nm,0.9s,baz=113,slow=9.7,SNR=3.9						
SONM	**Songino Array**	**69.50**	**327**	P	P	04 01 06.4	+1.1
	1.7nm,0.9s,baz=132,slow=5.8,SNR=8.8						
MKAR	**Makanchi Array**	**83.60**	**319**	P	P	04 02 25.4	+0.2
	0.5nm,0.3s,baz=73,slow=4.2,SNR=3.7						
ZALV	**Zalesovo Beam**	**84.35**	**326**	P	P	04 02 28.6	-0.3
	0.4nm,0.6s,baz=108,slow=4.7,SNR=2.8						
YKA	**Yellowknife Ar**	**96.19**	**28**	P	P	04 03 24.2	-0.4
	0.6nm,0.8s,baz=268,slow=4.4,SNR=11						

*IDC **02** 03:53:03.9±1.0, 723S×15607E, h0km, mb4.4/8, mb1 4.4/9, mb1mx4.3/15, mbtmp4.4/9, ML4.4/1, Error ellipse: s-maj=31.0km s-min=21.7km az=116.0*
*NEIC **02** 03:53:05.4±0.5, 720S×15609E, h10km, mb4.5/3, Error ellipse: s-maj=13.4km s-min=11.4km az=147.0*
*ISCJB **02** 03:53:07.4±0.7, 73S±0.1×156.12E±0.10, h33km, mb4.3/10, Error ellipse: s-maj=16.4km s-min=13.8km az=158.9*

ISC 02 03:53:09.3±0.7, 73S±01×1561E±01, h35km, n15, σ0°63/13, mb4.3/10, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.34**	**120**	Pn	Pn	03 54 12.8	0.0
	18nm,0.3s,baz=275,slow=2.1,SNR=2.6						
CTAO	**Charters Tower**	**15.91**	**216**	Pn	Pn	03 56 50.6	-0.1
	29nm,1.3s						
KAKA	**Kakadu**	**23.93**	**255**	*e*P	P	03 58 20.9	+0.6
	62nm,0.6s,mb5.2						
WRA	**Warramunga Arr**	**24.58**	**237**	P	P	03 58 25.4	-0.8
	3.3nm,0.5s,mb4.2,baz=61,slow=9.7,SNR=21						
ASAR	**Alice Springs**	**26.83**	**230**	P	P	03 58 45.6	-0.9
	0.6nm,0.4s,mb3.5,baz=55,slow=9.7,SNR=5.9						
STKA	**Stephens Creek**	**27.96**	**207**	P	P	03 58 57.6	+1.0
	1.4nm,0.5s,mb3.9,baz=72,slow=9.6,SNR=3.3						
FITZ	**Fitoy Crossi**	**31.56**	**247**	P	P	03 59 28.8	+0.1
	3.4nm,0.7s,mb4.3,baz=121,slow=9.8,SNR=7.5						
MBWA	**Marble Bar**	**37.76**	**245**	*e*P	P	04 00 22.5	+0.3
	1.8nm,0.3s,mb4.3						
SONM	**Songino Array**	**70.19**	**327**	P	P	04 04 19.3	+0.8
	1.1nm,0.6s,mb4.0,baz=141,slow=6.5,SNR=10						
MKAR	**Makanchi Array**	**84.37**	**318**	P	P	04 05 38.3	+0.3
	15nm,0.7s,mb5.3,baz=80,slow=6.8,SNR=71						
ZALV	**Zalesovo Beam**	**85.05**	**326**	P	P	04 05 40.1	-1.1
	0.8nm,0.3s,mb4.3,baz=125,slow=5.0,SNR=4.0						
YKA	**Yellowknife Ar**	**96.08**	**28**	P	P	04 06 32.8	-0.1
YKA	**Yellowknife Ar**	**96.08**	**28**	P	P	04 06 32.8	-0.1
	0.2nm,0.5s,mb3.9,baz=264,slow=4.7,SNR=5.4						
GERES	**GERESS Array B**	**127.88**	**329**	PKP	PKPdf	04 12 11.2	-0.2
	0.4nm,0.5s,baz=8.5,slow=2.7,SNR=3.5						
TORD	**Torodi Ar. Bea**	**154.18**	**285**	PKPbc	PKPbc	04 13 05.4	-1.3
	1.4nm,0.7s,baz=71,slow=1.3,SNR=6.3						

MAN 02 03:55:04, 1028N×12503E, h32km, mb3.9, ML2.6, MS2.2, 1D, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSLP	**Maasin**	**0.22**	**229**	*e*P	Pb	03 55 12.7	+2.0
MSLP	**Maasin**	**0.22**	**229**	*e*P	Pb	03 55 12.6	+1.8
SCPH	**Surigao**	**0.67**	**138**	⇓*e*P	Pn	03 55 18.1	+0.8
SCPH				*e*S	Sb	03 55 27.8	+1.4
PLP	**Palo**	**0.88**	**357**	*e*P	Pn	03 55 20.2	+0.1
PLP				*e*S	Sn	03 55 32.5	+0.7

*ISCJB **02** 03:55:14.8±0.5, 3218N±002×11581W±003, h23km±6km, Error ellipse: s-maj=4.1km s-min=3.4km az=34.5*
*ECX **02** 03:55:16.0±0.7, 3220N×11583W, h5km, MD3.4, ML3.5*

ISC 02 03:55:14.8±0.4, 3219N±002×11583W±002, h14km±3km, n40, σ0°72/60, 24C-29D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RDX	**Rancho Dowling**	**0.27**	**201**	⇓*iP*	Pg	03 55 20.8	+0.2
RDX				*e*S	Sg	03 55 24.5	+0.2
RDX				⇑*e*		03 55 27.2	
	comp=E,6μm,0.4s						
RMX	**La Rumorosa**	**0.46**	**334**	⇑*e*P	Pg	03 55 24.0	0.0
RMX				*e*S	Sg	03 55 30.5	+0.2
YUH	**Yuha Desert**	**0.47**	**351**	⇓*iP*	Pg	03 55 23.7	-0.4
SGL	**Mount Signal**	**0.47**	**11**	⇓*iP*	Pg	03 55 24.0	-0.2
CPBX	**Cerro Prieto**	**0.51**	**63**	*e*P	Pg	03 55 25.1	+0.3
CPBX				*e*S	Sg	03 55 32.1	+0.5
DVTC	**Desert V Tower**	**0.52**	**335**	P	Pg	03 55 25.0	-0.2
	baz=0.5,SNR=453						
DVTC				⇓S	Sg	03 55 31.5	-0.6
	baz=0.5						
CBX	**Cerro Bola**	**0.71**	**281**	⇑*iP*	Pg	03 55 28.6	-0.1
CBX				*e*S	Sg	03 55 38.5	+0.3
SWSC	**Sam W. Stewart**	**0.75**	**2**	P	Pg	03 55 29.3	-0.2
	baz=0.8,SNR=283						
SWSC				⇓S	Sg	03 55 39.3	-0.1
	baz=0.8						
ENX	**Ensenada**	**0.77**	**247**	⇑*e*P	Pg	03 55 29.8	+0.1
ENX				*e*S	Sg	03 55 40.0	+0.2
ENX				⇓*e*		03 55 41.0	
	comp=N,3μm,0.3s						
ENX				⇑*e*		03 55 41.8	
	comp=E,2μm,0.4s						
ECNX	**Esteban Cantu**	**0.84**	**231**	⇑*e*P	Pg	03 55 31.2	+0.2
ECNX				⇑*e*P		03 55 29.9	
ECNX				*e*S	Sg	03 55 40.4	-1.6
ECNX				*e*S	Sg	03 55 42.4	+0.4
MONP	**Monument Peak**	**0.86**	**325**	⇑P	Pg	03 55 31.1	-0.4
	baz=0.8,SNR=73						
MONP				⇓S	Sg	03 55 42.2	-0.6
	baz=0.8						
BAR	**Barrett**	**0.86**	**305**	⇓*iP*	Pg	03 55 30.8	-0.8
PBX	**Punta Banda**	**0.88**	**240**	*e*P	Pg	03 55 31.8	0.0
PBX				*e*S	Sg	03 55 43.7	+0.4
PBX				⇓*e*		03 55 44.8	
	comp=E,2μm,0.5s						
109C	**Camp Elliot, M**	**1.28**	**304**	⇑P	Pn	03 55 37.8	-0.6
	baz=1.3,SNR=173						
109C				⇑S	Sb	03 55 54.2	-0.9
	baz=1.3						
BC3	**Big Chuckw Mtn**	**1.50**	**12**	⇓P	Pn	03 55 40.6	-0.8
	baz=1.5						
BC3				⇑S	Sn	03 55 58.3	-2.4
	baz=1.5						
PFO	**Pinyon Flat Ob**	**1.51**	**340**	⇓P	Pn	03 55 40.8	-0.7
	baz=1.5,SNR=118						
PFO				⇑S	Sn	03 55 59.8	-1.3
	baz=1.5						
BELC	**Belle Mtn.**	**1.82**	**356**	⇑P	Pn	03 55 45.2	-0.5
	baz=1.8,SNR=9.2						
BELC				⇓Sb	Sb	03 56 11.3	+0.8
	baz=1.8						
Y12C	**Blythe**	**1.91**	**35**	⇓P	Pn	03 55 46.5	-0.5
	baz=1.9						
Y12C				⇓S	Sn	03 56 11.4	+0.5
	baz=1.9						
IRM	**Iron Mountain**	**2.05**	**16**	⇓P	Pn	03 55 48.7	-0.3
	baz=2.1						
IRM				⇓S	Sn	03 56 13.8	-0.5
	baz=2.1						
BBRC	**Big Bear Sol-O**	**2.26**	**337**	⇑P	Pn	03 55 52.2	+0.3
	baz=2.3,SNR=11						
BBRC				⇓Sb	Sb	03 56 25.0	+1.6
	baz=2.3						
CIS	**Catalina Islan**	**2.48**	**300**	⇓P	Pn	03 55 55.0	+0.1
	baz=2.5,SNR=34						
CIS				⇑S	Sn	03 56 25.2	+0.2
	baz=2.5						
BFSC	**Mount Baldy St**	**2.56**	**324**	⇓Sb	Sb	03 56 31.9	+0.1
	baz=2.5						
FMP	**Fort Macarthur**	**2.56**	**307**	⇑S	Sn	03 56 26.8	-0.2
	baz=2.5						
GMRC	**Granite Mounta**	**2.59**	**3**	⇓P	Pn	03 55 56.6	+0.2
	baz=2.6						
GMRC				⇑Sb	Sb	03 56 35.2	+2.4
	baz=2.6						
Z14A	**Wintersburg**	**2.70**	**63**	⇑P	Pn	03 55 57.4	-0.5
	baz=2.7						
NEE2	**Needles Airpor**	**2.77**	**21**	⇓S	Sn	03 56 30.9	-1.1
	baz=2.8						
X13A	**Yucca**	**2.93**	**34**	⇓P	Pn	03 56 00.9	-0.1
	baz=3.0,SNR=19						
DECC	**Green Verdugo**	**2.94**	**315**	⇓Sb	Sb	03 56 43.9	+1.2
	baz=2.9						
Y14A	**Wickenburg**	**2.95**	**53**	⇑P	Pn	03 56 01.1	-0.2
	baz=3.0						
115A	**Sonoran Desert**	**3.09**	**79**	⇓P	Pn	03 56 03.4	+0.1
	baz=3.1						
EDW2	**Edwards Air Fo**	**3.23**	**327**	⇓Sb	Sb	03 56 53.1	+1.7
	baz=3.2						
W13A	**Hualapai Mount**	**3.33**	**29**	⇓P	Pn	03 56 06.9	+0.4
	baz=3.4,SNR=13						
Y15A	**Casa Rosa Ranc**	**3.43**	**58**	⇓P	Pn	03 56 07.6	-0.3
	baz=3.5						
X15A	**Humboldt**	**3.79**	**52**	⇑P	Pn	03 56 13.4	+0.6
	baz=3.8,SNR=7.1						
W14A	**Seligman**	**3.79**	**36**	⇑P	Pn	03 56 13.8	+0.9
	baz=3.8,SNR=8.8						
Z16A	**Peralta Trail,**	**3.89**	**72**	⇑P	Pn	03 56 13.7	-0.5
	baz=3.9						
Y16A	**Circle Bar Ran**	**4.03**	**64**	⇑P	Pn	03 56 15.8	-0.3
	baz=4.1,SNR=6.3						
V14A	**Boquillas Ranc**	**4.12**	**33**	⇓P	Pn	03 56 18.1	+0.7
	baz=4.1,SNR=6.5						
X16A	**Lo Mia Camp, P**	**4.30**	**58**	⇑P	Pn	03 56 20.6	+0.7
	baz=4.3,SNR=7.6						
U13A	**Pakoon Wash**	**4.49**	**20**	⇓P	Pn	03 56 23.7	+1.1
	baz=4.5						

*NEIC **02** 03:56:07.4±2.4, 732S×15551E, h10km, Error ellipse: s-maj=79.4km s-min=18.8km az=104.0*

IDC 02 03:56:05.5±3.7, 733S×15557E, h0km, mb4.1/6, mb1 4.2/6, mb1mx4.0/13, mbtmp4.1/6, Error ellipse: s-maj=120.1km s-min=25.8km az=105.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.10**	**237**	P	P	04 01 23.2	+0.2
	3.5nm,0.8s,baz=63,slow=9.4,SNR=7.0						
ASAR	**Alice Springs**	**26.38**	**230**	P	P	04 01 43.4	-0.4
	0.7nm,0.5s,baz=57,slow=9.9,SNR=5.5						
STKA	**Stephens Creek**	**27.68**	**206**	P	P	04 01 55.8	+0.5
	1.3nm,0.6s,baz=46,slow=14,SNR=3.1						
SONM	**Songino Array**	**69.92**	**327**	P	P	04 07 19.5	+1.0
	2.7nm,1.0s,baz=137,slow=6.4,SNR=8.1						
MKAR	**Makanchi Array**	**84.03**	**319**	P	P	04 08 38.4	+0.3
	2.6nm,0.8s,baz=90,slow=6.7,SNR=7.8						
ZALV	**Zalesovo Beam**	**84.77**	**326**	P	P	04 08 40.5	-1.1
	1.5nm,0.5s,baz=107,slow=5.9,SNR=7.9						

*ISCJB **02** 03:58:34.8±1.4, 866N±006×12242E±005, h26km±12km, Error ellipse: s-maj=11.0km s-min=7.1km az=32.0*
*MAN **02** 03:58:36, 867N×12248E, h27km, mb4.3, ML3.1, MS3.0*

ISC 02 03:58:35.4±1.5, 865N±006×12246E±005, h23km±13km, n13, σ0°63/18, 2C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCPH	**Dipolog City**	**0.89**	**94**	⇑*e*P	Pb	03 58 51.6	-0.5
DCPH				*i* S	Sb	03 59 03.3	-0.3
SNPH	**Sibulan**	**1.03**	**48**	⇓*iP*	Pn	03 58 54.0	-0.5
SNPH				*i* S	Sb	03 59 08.0	+0.3
PAGZ	**Pagadian**	**1.21**	**131**	*e*P	Pn	03 58 57.4	+0.4
PAGZ				*e*S	Sn	03 59 13.0	+0.3
PAGZ	**Pagadian**	**1.21**	**131**	*e*P	Pn	03 58 57.5	+0.5
PAGZ				*e*S	Sn	03 59 13.0	+0.3
TBP	**Tagbilaran**	**1.73**	**53**	*e*P	Pn	03 59 04.1	0.0
TBP				*e*S	Sn	03 59 24.8	-0.7
GUIM	**Jordan**	**1.97**	**4**	*e*P	Pn	03 59 07.3	0.0
GUIM	**Jordan**	**1.97**	**4**	*e*P	Pn	03 59 07.1	-0.3
CUYO	**Cuyo Island**	**2.60**	**327**	*e*P	Pn	03 59 16.5	+0.3
CUYO	**Cuyo Island**	**2.60**	**327**	*e*P	Pn	03 59 16.5	+0.3
RCP	**Roxas**	**2.90**	**6**	⇑*e*P	Pn	03 59 22.1	+1.8
PPR	**Puerto Princes**	**3.85**	**287**	*i* P	Sn	04 00 17.1	-0.7
BUSP	**Coron**	**4.00**	**326**	*e*P	Pn	03 59 35.1	-0.2
BUSP	**Coron**	**4.00**	**326**	*e*P	Pn	03 59 35.2	-0.2

*IDC **02** 04:00:18.4±2.4, 729S×15585E, h0km, mb4.1/8, mb1 4.2/8, mb1mx4.1/14, mbtmp4.1/8, Error ellipse: s-maj=74.6km s-min=22.6km az=118.0*

NEIC 02 04:00:20.0±1.5, 729S×15583E, h10km, Error ellipse: s-maj=49.4km s-min=15.5km az=120.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.34**	**237**	P	P	04 05 37.6	-0.7
	2.8nm,0.8s,baz=61,slow=9.7,SNR=7.6						
ASAR	**Alice Springs**	**26.61**	**230**	P	P	04 05 58.6	-0.3
	0.2nm,0.6s,baz=57,slow=10,SNR=3.2						
FITZ	**Fitzroy Crossi**	**31.30**	**247**	P	P	04 06 41.7	+1.0
	1.4nm,0.8s,baz=97,slow=8.1,SNR=2.5						
MJAR	**Matsushiro Arr**	**46.63**	**340**	P	P	04 08 47.8	-0.8
	2.8nm,0.7s,baz=167,slow=8.5,SNR=7.3						
SONM	**Songino Array**	**70.03**	**327**	P	P	04 11 32.6	+0.6
	1.4nm,0.4s,baz=146,slow=6.4,SNR=16						
MKAR	**Makanchi Array**	**84.17**	**319**	P	P	04 12 52.4	+0.8
	4.0nm,0.7s,baz=80,slow=6.7,SNR=23						
ZALV	**Zalesovo Beam**	**84.89**	**326**	P	P	04 12 54.8	-0.2
	4.7nm,0.7s,baz=114,slow=5.9,SNR=19						
YKA	**Yellowknife Ar**	**96.20**	**28**	P	P	04 13 48.3	+0.2
	0.1nm,0.3s,baz=269,slow=4.8,SNR=4.9						

*BJI **02** 04:03:17.7, 7.15S×15581E, h20km, mB5.3, mb4.8, Ms5.4, Msz5.1*
*IDC **02** 04:03:17.7±0.5, 724S×15533E, h0km, mb4.5/15, mb1 4.6/16, mb1mx4.6/17, mbtmp4.5/16, ML3.8/1, Error ellipse: s-maj=21.8km s-min=15.3km az=102.0*
*ISCJB **02** 04:03:18.7±0.3, 7.19S±005×15529E±005, h13km, mb4.7/41, MS5.2/4, Error ellipse: s-maj=7.6km s-min=6.6km az=138.3*
*NEIC **02** 04:03:19.4±0.2, 721S×15536E, h10km, mb4.8/15, Error ellipse: s-maj=8.5km s-min=6.1km az=117.0*
*MOS **02** 04:03:22.3±1.4, 708S×15529E, h33km, mb5.1/6, Error ellipse: s-maj=12.7km s-min=9.3km az=87.5*

ISC 02 04:03:20.3±0.3, 724S±005×15537E±007, h14km, h14km±1.0km: pP-P, n92, σ0°98/81, mb4.7/41, MS5.2/4, 7C-2D, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.03**	**116**	Pn	Pn	04 04 40.2	+4.8
	33nm,0.3s,baz=272,slow=5.5,SNR=4.0						
HNR			

KSRS Korea Array 51.33 332 P **P** **04 12 24.2 -0.1**
comp=Z,1.7nm,0.8s,mb4.0,baz=146,slow=9.1,SNR=4.4
NJ2 Nanjing 52.34 320 *e*P **P** **04 12 31.6 -0.4**
NJ2 AMB AMB
comp=Z,20nm,0.8s,mb5.1
YSS Yuzh-Sakhalins 55.10 349⇑ *e*P **P** **04 12 55.2 +3.2**
YSS pmax pmax
comp=Z,12nm,0.9s,mb4.9
PMOR Pomariorio Ree 56.08 103 *e*P **P** **04 13 00.5 +0.9**
comp=Z,50nm,1.1s,mb5.4
GYA Guiyang 57.89 307 P **P** **04 13 13.2 +0.9**
GYA AMB AMB
comp=Z,20nm,1.0s,mb5.1
GYA AMB AMB
comp=Z,260nm,8.6s
GYA LR LR
comp=N,680nm,20.6s,MS4.8
GYA LR LR
comp=E,430nm,21.4s,MS4.8
GYA LR LR
comp=Z,590nm,19.6s,MS4.7
KLR Kul'dur 59.91 342 *e*P **P** **04 13 21.7 -4.1**
XAN Xi'an 60.14 316 P **P** **04 13 27.8 +0.1**
XAN AP pP 04 13 32.2 +0.1
XAN AMB AMB
comp=Z,5.0nm,0.7s,mb4.7
KMI Kunming 60.46 304 P **P** **04 13 31.9 +1.8**
KMI AP pP 04 13 36.2 +1.8
KMI XP sP 04 13 38.4 +2.3
KMI PP PP 04 15 46.1 +2.6
KMI AMB AMB
comp=Z,11nm,0.8s,mb4.9
KMI Kunming 60.46 304 P **P** **04 13 31.9 +1.8**
comp=Z,11nm,0.8s,mb4.9
KMI pP pP 04 13 36.2 +1.8
KMI sP sP 04 13 38.4 +2.3
KMI PP PP 04 15 46.1 +2.6
CHTO Chiang Mai 61.34 296 *e*P **P** **04 13 36.4 +0.3**
comp=Z,5.9nm,0.8s,mb4.8
CHTO Chiang Mai 61.34 296 *e*P **P** **04 13 36.4 +0.2**
CHTO pmax pmax
comp=Z,6.0nm,0.8s,mb4.8
CD2 Chengdu 62.25 310 *e*P **P** **04 13 42.4 +0.3**
CD2 XP sP 04 13 49.5 +1.4
CD2 PP PP 04 16 01.0 +1.7
CD2 AMB AMB
comp=Z,10.0nm,0.6s,mb5.1
CD2 AMB AMB
comp=Z,30nm,5.8s
HHC Hu-ho-hao-te 62.51 324 *e*P **P** **04 13 43.1 -0.5**
HHC AP pP 04 13 47.7 -0.3
HHC XP sP 04 13 50.1 +0.5
HHC PP PP 04 16 01.3 0.0
HHC SCP ScP 04 18 23.3 -1.5
HHC PCS PcS 04 18 25.8 -0.2
HHC AMB AMB
comp=Z,13nm,0.4s,mb5.4
HHC LR LR
comp=N,2μm,21.1s,MS5.3
HHC LR LR
comp=E,1μm,20.1s,MS5.3
HHC LR LR
comp=Z,3μm,20.4s,MS5.5
HIA Hailar 64.30 335⇓ *e*P **P** **04 13 55.5 +0.2**
LZH Lanzhou 64.75 315 *e*P **P** **04 14 03.0 +4.5**
LZH AP pP 04 14 06.0 +3.1
LZH XP sP 04 14 08.0 +3.4
LZH PP PP 04 16 27.0 +5.8
LZH AMB AMB
comp=Z,26nm,1.2s,mb5.1
LZH AMB AMB
comp=Z,102nm,4.5s
LZH LR LR
comp=E,2μm,18.0s
LZH LR LR
comp=Z,2μm,19.2s,MS5.4
MA2 Magadan 66.70 357 P **P** **04 14 11.1 +0.5**
MA2 pmax pmax
comp=Z,10.0nm,1.1s,mb4.8
GTA Gaotai 69.17 317 *e*P **P** **04 14 28.7 +2.1**
GTA AP pP 04 14 32.3 +1.3
GTA XP sP 04 14 33.8 +1.1
GTA PP PP 04 17 05.2 +5.6
GTA AMB AMB
comp=Z,5.0nm,1.6s,mb4.2
GTA AMB AMB
comp=Z,239nm,5.7s
GTA LR LR
comp=N,759nm,19.0s,MS5.2
GTA LR LR
comp=E,943nm,19.0s,MS5.2
GTA LR LR
comp=Z,1μm,19.8s,MS5.1
SONM Songino Array 69.74 327 P **P** **04 14 29.5 -0.4**
comp=Z,4.5nm,0.8s,mb4.4,baz=137,slow=7.1,SNR=24
SEY Seymchan 70.00 359⇑ *e*P **P** **04 14 32.7 +1.5**
SBA Scott Base 70.83 177 *e*P **P** **04 14 36.0 -0.2**
comp=Z,1.2nm,0.7s,mb3.9
SBA Scott Base 70.83 177 *e*P **P** **04 14 36.0 -0.2**
SBA pmax pmax
comp=Z,1.0nm,0.7s,mb3.9
YAK Yakutsk 71.87 348 *i*P **P** **04 14 45.0 +2.4**
ZAK Zakamensk 72.89 328 *e*P **P** **04 14 47.5 -1.5**
ZAK *e* 04 15 12.2
ZAK pmax pmax
comp=Z,2.0nm,1.1s,mb4.0
BOD Bodaibo 72.98 338 *e*P **P** **04 14 48.6 -0.7**
JIRN Jiri 75.23 301 *e*P **P** **04 15 03.9 +0.8**
comp=Z,21nm,0.7s,mb5.2
BILL Bilibino 75.49 4 *e*P **P** **04 15 03.6 -0.1**
comp=Z,16nm,1.0s,mb4.9
BILL Bilibino 75.49 4 *e*P **P** **04 15 03.6 -0.2**
BILL pmax pmax
comp=Z,16nm,1.0s,mb4.9
KKN Kakani 76.04 301 *e*P **P** **04 15 08.6 +0.8**
GKN Gorkha 76.64 301 *e*P **P** **04 15 11.9 +0.7**
comp=Z,62nm,1.0s,mb5.5
KDAK Kodiak Island 77.22 26 P **P** **04 15 14.4 +0.6**
comp=Z,3.7nm,0.9s,mb4.3,baz=139,slow=8.5,SNR=4.0
KOLN Koldanda 77.47 300 *e*P **P** **04 15 16.2 +0.4**
comp=Z,50nm,1.1s,mb5.3
SVW2 Sparrevohn 78.08 22 *e*P **P** **04 15 18.8 +0.2**
TTA Tatalina 79.12 20 *e*P **P** **04 15 24.0 -0.2**
TIXI Tiksi 80.65 352 *e*P **P** **04 15 30.9 -1.4**
comp=Z,4.6nm,0.8s,mb4.5
TIXI Tiksi 80.65 352 *e*P **P** **04 15 32.7 +0.4**
TIXI pmax pmax
comp=Z,8.0nm,1.5s,mb4.4
PMR Palmer 80.86 24 *e*P **P** **04 15 32.5 -1.2**
SML Sawmill 81.30 24 *e*P **P** **04 15 36.0 0.0**
IMA2 Indian Mountai 81.91 19 *e*P **P** **04 15 37.8 -1.3**
MCK McKinley 82.14 22 *e*P **P** **04 15 39.5 -0.9**
comp=Z,16nm,0.8s,mb5.0
MCK McKinley 82.14 22 *e*P **P** **04 15 39.5 -0.9**
MCK pmax pmax
comp=Z,15nm,0.8s,mb5.0
COLA College 83.17 21 *e*P **P** **04 15 43.9 -1.9**
comp=Z,8.1nm,0.7s,mb4.9
COLA College 83.17 21 *c i*P **P** **04 15 44.2 -1.5**
MKAR Makanchi Array 83.83 319 P **P** **04 15 48.9 -0.6**
MKAR Makanchi Array 83.83 319⇑ *e*P **P** **04 15 50.5 +1.0**
MKAR Makanchi Array 83.83 319 P **P** **04 15 48.9 -0.6**
comp=Z,2.1nm,0.7s,mb4.4,baz=79,slow=6.3,SNR=11
MAW Mawson 84.32 203 P **P** **04 15 51.5 -0.1**
comp=Z,11nm,1.0s,mb4.9,baz=98,slow=5.0,SNR=8.1
ZALV Zalesovo Beam 84.59 326 P **P** **04 15 52.0 -1.2**
comp=Z,1.9nm,0.5s,mb4.5,baz=113,slow=6.4,SNR=8.0
ZAL Zalesovo 84.59 326 P **P** **04 15 52.0 -1.2**
EGAK Eagle 85.60 23 *e*P **P** **04 15 58.3 +0.3**
DAWY Dawson 85.97 24 *e*P **P** **04 16 00.5 +0.7**
KURK Kurchatov 87.25 322 *e*P **P** **04 16 06.5 0.0**
comp=Z,9.4nm,1.3s,mb4.9
KURK Kurchatov 87.25 322⇑ *e*P **P** **04 16 05.5 -1.0**
INK Inuvik 89.82 21 *e*P **P** **04 16 17.5 -0.7**
NVAR Mina Array Bea 91.58 52 P **P** **04 16 27.8 +0.6**
NVAR Mina Array Bea 91.58 52 P **P** **04 16 27.8 +0.6**
comp=Z,1.3nm,0.7s,mb4.4,baz=252,slow=3.6,SNR=9.0
SYO Syowa Base 92.22 199⇑ *e*P **P** **04 16 32.0 +2.5**
YKW3 Yellowknife Ar 96.38 28 *e*P **P** **04 16 48.0 -0.5**
YKA Yellowknife Ar 96.38 28 P **P** **04 16 47.4 -1.2**
comp=Z,2.0nm,0.6s,mb4.7,baz=266,slow=4.6,SNR=39
PDAR Pinedale Array 98.59 48 P **P** **04 16 57.6 -1.4**
comp=Z,0.5nm,0.7s,mb4.2,baz=209,slow=1.3,SNR=5.4
ARU Arti 99.75 326 *d i*P Pdif 04 17 02.0 -2.0
ARU 04 21 08.2
ARU S SKSac 04 27 37.0 -5.1
ARU SS SS 04 35 27.3 -1.5
ARU pmax pmax
comp=Z,7.0nm,1.2s,mb5.0
OBN Obninsk 112.15 327 *e*P Pdif 04 17 57.7 -1.4
OBN *e* 04 28 33.4
OBN *e*SS SS 04 38 24.1 +6.5
OBN pmax pmax
comp=Z,3.0nm,0.8s
PLCA Paso Flores 116.31 142 PKP PKPdf 04 22 03.5 -0.4
comp=Z,1.8nm,1.0s,baz=234,slow=1.8,SNR=3.3
AKASG Malin Array Be 117.95 324 PKP PKPdf 04 22 05.6 -1.1
AKASG Malin Array Be 117.95 324 PKP PKPdf 04 22 05.6 -1.1
comp=Z,0.3nm,0.5s,baz=62,slow=2.2,SNR=5.0
NOA NORSAR Array B 120.05 341 PKP PKPdf 04 22 09.5 -0.9
NOA NORSAR Array B 120.05 341 PKP PKPdf 04 22 09.5 -0.9
comp=Z,0.9nm,0.7s,baz=43,slow=1.9,SNR=4.2
CLL Collm 126.20 332 *e*PKPdf PKPdf 04 22 23.0 +0.5
GERES GERESS Array B 127.45 329 PKP PKPdf 04 22 24.5 -0.5
comp=Z,1.3nm,0.7s,baz=48,slow=2.0,SNR=10
ROSC El Rosal 130.54 90 PKP PKPdf 04 22 31.7 -0.2
comp=Z,4.6nm,0.5s,baz=100,slow=23,SNR=5.9
LPAZ La Paz 131.02 119 PKP PKPdf 04 22 33.6 +0.9
comp=Z,4.6nm,0.9s,baz=353,slow=0.7,SNR=12
TORD Torodi Ar. Bea 153.45 285 PKPbc PKPbc 04 23 18.1 -1.4
comp=Z,2.2nm,0.8s,baz=55,slow=3.0,SNR=7.2

ISCJB ***02*** *04:04:43.0±1.4,3833N±004×203E±0.1,h11km±9km, Error ellipse: s-maj=14.3km s-min=6.1km az=159.9*
CSEM ***02*** *04:04:43.9±0.3,3832N×2027E,h5km,ML3.0, Error ellipse: s-maj=5.7km s-min=2.3km az=70.0*
THE ***02*** *04:04:44.5,3835N×2032E,h1km,ML3.0*
ATH ***02*** *04:04:45.0,3836N×2042E,h4km,MD3.5/3*
ISC 02 04:04:43.1±1.5,3831N±005×203E±01,h17km±8km,n10, σ0.40/14,1C-2D,Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.29**	**117**⇑	*i*PG	**Pg**	**04 04 49.8**	**+0.4**
VLS				*e*SG	**Sg**	**04 04 53.3**	**-0.3**
KFL	**Anninata**	**0.46**	**116**	*e*Pg	**Pg**	**04 04 52.5**	**+0.2**
LKD	**Levkas**	**0.50**	**37**	*e*Pg	**Pg**	**04 04 53.0**	**-0.2**
LKD				*e*Sg	**Sg**	**04 04 59.1**	**-0.8**
RLS	**Riolos of Patr**	**0.98**	**105**⇓	*i*PG	**Pg**	**04 05 01.9**	**-0.2**
IGT	**Igoumenitsa**	**1.22**	**3**	*e*Pg	**Pg**	**04 05 06.3**	**-0.4**
IGT				*e*Sg	**Sg**	**04 05 23.4**	**+0.8**
SELA	**Sela**	**1.28**	**91**	*e*Pg	**Pg**	**04 05 08.2**	**+0.4**
SELA				*e*Sg	**Sg**	**04 05 25.1**	**+0.5**
EVR	**Evrytania**	**1.35**	**63**⇓	*i*PB	**Pb**	**04 05 07.9**	**0.0**
AGG	**Agios Georgios**	**1.77**	**66**	*e*Pb	**Pb**	**04 05 14.9**	**-0.1**
PYL	**PYLOS**	**1.84**	**140**	*e*Pb	**Pb**	**04 05 15.9**	**-0.3**
VLX	**Vlachokerasia**	**1.92**	**119**	*e*Pb	**Pb**	**04 05 17.6**	**0.0**

BJI ***02*** *04:07:37.6,880S×15490E,h10km,mB5.3,mb4.8*
IDC ***02*** *04:07:37.4±0.9,874S×15488E,h0km,mb4.4/11, mb1 4.6/12,mb1mx4.6/14,mbtmp4.5/12,ML4.9/1, Error ellipse: s-maj=27.7km s-min=20.3km az=118.0*
NEIC ***02*** *04:07:38.7±0.5,878S×15487E,h10km,mb4.8/5, Error ellipse: s-maj=14.8km s-min=10.1km az=144.0*
ISCJB ***02*** *04:07:40.3±0.5,879S±009×15490E±009,h33km, mb4.5/17, Error ellipse: s-maj=14.7km s-min=11.2km az=43.1*
ISC 02 04:07:42.2±0.6,884S±009×15490E±010,h35km,n22, σ1.04/21,mb4.6/16,D'Entrecasteaux Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.02**	**97**	Pn	**Pn**	**04 08 54.2**	**-0.9**
44nm,0.3s,baz=271,slow=3.9,SNR=2.9							
WB2	**Warramunga Arr**	**22.73**	**239**	*e*P	**P**	**04 12 40.5**	**-0.8**
WRA	**Warramunga Arr**	**22.74**	**239**	P	**P**	**04 12 40.4**	**-1.1**
11nm,0.8s,mb4.3,baz=62,slow=9.6,SNR=5.1							
ASAR	**Alice Springs**	**24.92**	**231**	P	**P**	**04 13 03.4**	**+1.2**
1.7nm,0.8s,mb3.6,baz=58,slow=9.3,SNR=5.4							
STKA	**Stephens Creek**	**26.05**	**206**	*e*P	**P**	**04 13 13.2**	**+0.9**
15nm,1.0s,mb4.5							
STKA	**Stephens Creek**	**26.05**	**206**	P	**P**	**04 13 13.1**	**+0.8**
5.4nm,0.9s,mb4.1,baz=15,slow=12,SNR=5.5							
FITZ	**Fitzroy Crossi**	**29.87**	**249**	*e*P	**P**	**04 13 42.2**	**-4.5**
8.0nm,0.8s,mb4.5							
FITZ	**Fitzroy Crossi**	**29.87**	**249**	P	**P**	**04 13 41.8**	**-4.9**
5.1nm,0.8s,mb4.3,baz=86,slow=13,SNR=3.1							
MBWA	**Marble Bar**	**36.02**	**246**	P	**P**	**04 14 39.3**	**-1.0**
12nm,1.1s,mb4.7							
MJAR	**Matsushiro Arr**	**47.79**	**342**	P	**P**	**04 16 14.4**	**-1.7**
16nm,0.7s,mb5.2,baz=161,slow=7.7,SNR=38							
MAJO	**Matsushiro**	**47.79**	**342**	*e*P	**P**	**04 16 15.8**	**-0.3**
26nm,0.8s,mb5.3							
MAT	**Matsushiro**	**47.79**	**342**	P	**P**	**04 16 15.9**	**-0.3**
KSRS	**Korea Array**	**52.52**	**333**	P	**P**	**04 16 51.3**	**-0.7**
4.0nm,0.8s,mb4.4,baz=152,slow=7.3,SNR=5.1							
MDJ	**Mudanjiang**	**57.91**	**339**	P	**P**	**04 17 30.2**	**-0.6**
MDJ				AMB	AMB		
comp=Z,12nm,2.0s,mb4.6							
CN2	**Changchun**	**58.81**	**335**	*e*P	**P**	**04 17 38.8**	**+1.7**
CN2				*e*XP	sP	04 17 45.6	-6.3
CN2				AMB	AMB		
comp=Z,10.0nm,0.8s,mb4.9							
SONM	**Songino Array**	**70.83**	**328**	P	**P**	**04 18 56.0**	**+0.7**
comp=Z,3.6nm,0.8s,mb4.3,baz=146,slow=6.3,SNR=11							
BILL	**Bilibino**	**77.11**	**4**	*e*P	**P**	**04 19 31.2**	**-0.4**
comp=Z,22nm,1.0s,mb5.0							
MKAR	**Makanchi Array**	**84.72**	**319**	P	**P**	**04 20 14.5**	**+1.8**
comp=Z,3.2nm,0.7s,mb4.6,baz=82,slow=8.7,SNR=8.5							
ZALV	**Zalesovo Beam**	**85.64**	**326**	P	**P**	**04 20 17.9**	**+0.8**
comp=Z,3.7nm,0.7s,mb4.7,baz=104,slow=5.9,SNR=12							
NVAR	**Mina Array Bea**	**92.93**	**52**	P	**P**	**04 20 53.6**	**+1.6**
comp=Z,0.6nm,0.8s,mb4.1,baz=231,slow=4.7,SNR=4.1							
YKA	**Yellowknife Ar**	**98.00**	**28**	P	**P**	**04 21 14.1**	**-0.4**
comp=Z,1.4nm,0.6s,mb4.6,baz=265,slow=4.5,SNR=16							
PDAR	**Pinedale Array**	**100.00**	**48**	P	Pdif	04 21 24.1	+0.4
comp=Z,0.3nm,0.9s,baz=225,slow=1.9,SNR=4.3							

IDC ***02*** *04:09:50.6±3.1,722S×15579E,h0km,mb4.4/7,mb1 4.5/7, mb1mx4.3/14,mbtmp4.4/7,Error ellipse: s-maj=94.0km s-min=24.1km az=107.0*
NEIC ***02*** *04:09:52.4±2.1,722S×15574E,h10km,Error ellipse: s-maj=63.2km s-min=18.3km az=106.0*
ISCJB ***02*** *04:09:54.1±2.5,73S±02×155BE±05,h33km,mb4.3/7, Error ellipse: s-maj=72.0km s-min=21.4km az=17.7*
ISC 02 04:09:56.3±2.5,73S±02×1557E±05,h35km,n7,σ0.70/7, mb4.3/7,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.26**	**237**	P	**P**	**04 15 10.8**	**+0.5**
11nm,0.7s,mb4.4,baz=63,slow=9.7,SNR=10							
ASAR	**Alice Springs**	**26.54**	**230**	P	**P**	**04 15 30.4**	**-0.6**
1.8nm,0.5s,mb3.8,baz=58,slow=10,SNR=5.0							
STKA	**Stephens Creek**	**27.81**	**206**	P	**P**	**04 15 42.6**	**+0.3**
1.9nm,0.5s,mb4.0,baz=53,slow=14,SNR=5.7							
FITZ	**Fitzroy Crossi**	**31.20**	**247**	P	**P**	**04 16 12.4**	**-0.1**
3.9nm,0.7s,mb4.3,baz=104,slow=5.8,SNR=3.5							
SONM	**Songino Array**	**69.94**	**327**	P	**P**	**04 21 05.0**	**+1.1**
1.8nm,0.6s,mb4.2,baz=142,slow=5.7,SNR=8.0							
MKAR	**Makanchi Array**	**84.06**	**319**	P	**P**	**04 22 23.6**	**+0.1**
4.2nm,0.7s,mb4.7,baz=86,slow=7.4,SNR=8.3							
ZALV	**Zalesovo Beam**	**84.79**	**326**	P	**P**	**04 22 25.7**	**-1.2**
3.3nm,0.5s,mb4.8,baz=116,slow=6.2,SNR=12							

ORF ***02*** *04:11:29.8,1443S×15830E,h30km,mb5.9*
CRAAG ***02*** *04:11:38.3,716S×15603E,Mb5.7*
BJI ***02*** *04:11:38.9,693S×15608E,h10km,mB5.6,mb5.2,Ms5.4, Msz5.2*
NEIC ***02*** *04:11:39.2±0.1,717S×15605E,h10km,mb5.6/45, MS5.3/4, Error ellipse: s-maj=4.8km s-min=4.4km az=84.0*
IGIL ***02*** *04:11:40.0,718S×15607E,h10km*
ISCJB ***02*** *04:11:41.9±0.1,724S±003×15601E±002,h35km, mb5.5/106,MS5.2/38, Error ellipse: s-maj=4.1km s-min=3.1km az=4.9*
MOS ***02*** *04:11:42.2±1.5,721S×15609E,h33km,mb5.7/44, MS5.1/12, Error ellipse: s-maj=22.5km s-min=15.0km az=63.8*
IDC ***02*** *04:11:43.4±0.3,722S×15600E,h38km±2km,mb5.1/22, mb1 5.2/24,mb1mx5.2/24,mbtmp5.2/24,ML5.1/2,MS5.0/14, Ms1 5.0/14,ms1mx4.7/22, Error ellipse: s-maj=10.4km s-min=9.0km az=97.0*
ISC 02 04:11:43.8±0.1,722S±003×15605E±002,h37km, h37km±1.6km:pP-P,n670,σ0.84/445,mb5.5/106,MS5.2/38, 143C-86D,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.43**	**120**	*e*Pn	**Pn**	**04 12 49.2**	**+0.6**
HNR	**Honiara**	**4.43**	**120**	Pn	**Pn**	**04 12 49.3**	**+0.8**
172nm,0.3s,baz=246,slow=1.7,SNR=13							
HNR				Sn	**Sn**	**04 13 41.0**	**+2.0**
324nm,0.3s,baz=128,slow=3.0,SNR=4.0							
HNR				LR	LR	04 14 33.1	
comp=Z,38μm,19.6s,baz=346,slow=38							
CTA	**Charters Tower**	**15.93**	**216**⇓	*i*P	**Pn**	**04 15 28.8**	**+3.5**
43nm,0.7s							
CTA				*e*S	**S**	**04 18 39.2**	**+5.2**
CTA	**Charters Tower**	**15.93**	**216**	Pn	**Pn**	**04 15 27.2**	**+1.8**
2.6nm,0.3s,baz=38,slow=13,SNR=20							
CTA				Sn	**Sn**	**04 18 26.6**	**+5.6**
0.2nm,0.3s,baz=266,slow=7.6,SNR=1.5							
CTA				LR	LR	04 19 15.5	
comp=Z,4μm,21.5s,baz=35,slow=28							
CTAO	**Charters Tower**	**15.93**	**216**	*e*P	**Pn**	**04 15 28.6**	**+3.2**
DZM	**Mont Dzumac**	**17.84**	**147**	*e*P	**Pn**	**04 15 49.8**	**+0.5**
DZM	**Mont Dzumac**	**17.84**	**147**	P	**Pn**	**04 15 49.9**	**+0.6**
3.3nm,0.3s,baz=344,slow=11,SNR=32							
DZM				pP	pP	04 15 58.6	-0.6
8.7nm,0.3s,baz=338,slow=15,SNR=18							
EIDS	**Eidsvold**	**18.66**	**194**	*e*P	**Pn**	**04 15 59.8**	**+0.6**
103nm,1.4s							
FUNA	**Funafuti**	**22.96**	**95**	*e*P	**P**	**04 16 43.7**	**-1.5**
328nm,1.1s,mb5.7							
TLE	**Tual**	**23.22**	**273**⇑	*e*P	**P**	**04 16 48.0**	**0.0**
ARMA	**Armidale**	**23.45**	**190**⇑	*i*P	**P**	**04 16 49.8**	**-0.2**
ARMA				*e*S	**S**	**04 21 07.1**	**+6.4**
ARMA				*e*SCP	ScP	04 24 12.0	+1.1
GUMO	**Guam**	**23.47**	**332**	P	**P**	**04 16 50.9**	**+0.5**
GUMO				pmax	pmax		
comp=Z,64nm,0.5s,mb5.3							
GUMO				MLR	MLR		
comp=Z,1μm,18.1s,MS4.4							
GUMO	**Guam**	**23.47**	**332**	P	**P**	**04 16 50.9**	**+0.5**
comp=Z,64nm,0.5s,mb5.3,baz=180,slow=20,SNR=2.7							
GUMO				LR	LR	04 25 51.3	
comp=Z,1μm,18.1s,MS4.4,baz=133,slow=36							
KAKA	**Kakadu**	**23.88**	**255**	*e*P	**P**	**04 16 54.3**	**+0.1**
comp=Z,233nm,0.7s,mb5.7							
KAKA				*e*SCP	ScP	04 24 11.4	-0.9
WB2	**Warramunga Arr**	**24.55**	**237**	*e*P	**P**	**04 17 00.5**	**+0.2**
WB2				*e*		04 17 12.5	
WB2				*e*S	**S**	**04 21 19.4**	**+0.6**
WB2				*e*SCP	ScP	04 24 14.0	-0.1
WB2				*e*		04 24 17.5	
WB2				*e*		04 24 29.7	
WB2				*e*SCS	ScS	04 28 02.2	+0.2
WB2				*e*		04 28 25.2	
WRA	**Warramunga Arr**	**24.56**	**237**	P	**P**	**04 17 00.9**	**+0.5**
WRA				pP		04 17 11.5	
WRA				PcP	PcP	04 20 37.7	-0.3
WRA				ScP	ScP	04 24 14.4	+0.3
WRA				LR	LR	04 26 29.7	
WRA	**Warramunga Arr**	**24.56**	**237**	P	**P**	**04 17 00.9**	**+0.5**
WRA				*PP		04 17 11.5	
WRA						04 20 37.7	
WRA				pmax	pmax		
comp=Z,196nm,0.7s							
WRA				MLR	MLR		
comp=Z,6μm,18.3s							
WRA	**Warramunga Arr**	**24.56**	**237**	P	**P**	**04 17 00.9**	**+0.5**
comp=Z,196nm,0.7s,mb5.7,baz=61,slow=9.3,SNR=82							
WRA				pP		04 17 11.5	
comp=Z,162nm,1.0s,baz=59,slow=9.4,SNR=11							
WRA				PcP	PcP	04 20 37.7	-0.3
comp=Z,12nm,0.7s,baz=46,slow=2.0,SNR=5.5							
WRA				ScP	ScP	04 24 14.4	+0.3
comp=Z,15nm,1.0s,baz=63,slow=3.3,SNR=9.4							
WRA				LR	LR	04 26 29.7	
comp=Z,6μm,18.3s,MS5.1,baz=60,slow=36							
WRA				PKiKP	PKiKP	04 28 18.3	-1.9
comp=Z,4.1nm,0.7s,baz=349,slow=0.8,SNR=22							
ASAR	**Alice Springs**	**26.82**	**230**	P	**P**	**04 17 20.1**	**-0.7**
ASAR				pP	pP	04 17 30.8	-0.5
ASAR				PcP	PcP	04 20 43.0	0.0
ASAR				ScP	ScP	04 24 20.4	-0.1
ASAR	**Alice Springs**	**26.82**	**230**	P	**P**	**04 17 20.1**	**-0.7**
ASAR				*PP	pP	04 17 30.8	-0.4
ASAR						04 20 43.1	
ASAR				pmax	pmax		
comp=Z,16nm,0.6s							
ASAR	**Alice Springs**	**26.82**	**230**	P	**P**	**04 17 20.1**	**-0.7**
comp=Z,16nm,0.6s,mb4.7,baz=63,slow=8.9,SNR=57							
ASAR				pP	pP	04 17 30.8	-0.5
comp=Z,36nm,0.8s,baz=62,slow=8.9,SNR=13							
ASAR				PcP	PcP	04 20 43.0	0.0
comp=Z,12nm,0.6s,baz=63,slow=2.8,SNR=10							
ASAR				ScP	ScP	04 24 20.4	-0.1
comp=Z,6.3nm,0.9s,baz=57,slow=3.1,SNR=6.1							
ASAR				PKiKP	PKiKP	04 28 19.6	-1.9
comp=Z,2.5nm,0.8s,baz=148,slow=1.4,SNR=9.4							
RIV	**Riverview**	**26.86**	**189**⇑	*i*P	**P**	**04 17 21.2**	**+0.2**
STKA	**Stephens Creek**	**27.99**	**207**⇑	*i*P	**P**	**04 17 30.4**	**-0.8**
comp=Z,34nm,0.7s,mb5.1							
STKA				*e*PCP	PcP	04 20 44.6	-1.1
STKA				*e*SCP	ScP	04 24 23.5	-0.4
STKA				*e*SCS	ScS	04 28 12.4	-4.0
STKA	**Stephens Creek**	**27.99**	**207**	P	**P**	**04 17 30.6**	**-0.6**
comp=Z,50nm,0.8s,mb5.2,baz=8.9,slow=8.5,SNR=24							
STKA				PcP	PcP	04 20 45.3	-0.4
comp=Z,30nm,0.8s,baz=30,slow=4.9,SNR=5.0							
STKA				S	**S**	**04 22 09.0**	**-4.0**
comp=Z,2.9nm,0.8s,baz=44,slow=16,SNR=1.4							
STKA				ScP	ScP	04 24 23.7	-0.3
comp=Z,19nm,0.8s,baz=58,slow=4.9,SNR=12							
STKA				PKiKP	PKiKP	04 28 20.3	-1.6
comp=Z,1.9nm,0.6s,baz=349,slow=9.2,SNR=3.7							
STKA				LR	LR	04 28 24.3	
comp=Z,7μm,19.9s,MS5.3,baz=27,slow=36							
CNB	**Canberra Magne**	**28.63**	**191**⇑	*i*P	**P**	**04 17 37.2**	**+0.4**
comp=Z,117nm,0.8s,mb5.7							
TNE	**Ternate**	**29.70**	**284**⇓	*e*P	**P**	**04 17 45.0**	**-1.6**
FITZ	**Fitzroy Crossi**	**31.53**	**247**	*e*P	**P**	**04 18 02.5**	**-0.2**
comp=Z,75nm,0.7s,mb5.6							
FITZ				*e*		04 18 16.9	
FITZ				*e*S	**S**	**04 23 13.3**	**+4.4**
FITZ				*e*SCP	ScP	04 24 35.7	+0.1
FITZ				*e*SCS	ScS	04 28 33.5	-0.2
FITZ	**Fitzroy Crossi**	**31.53**	**247**	P	**P**	**04 18 02.5**	**-0.2**
comp=Z,39nm,0.7s,mb5.3,baz=85,slow=8.7,SNR=54							
FITZ				ScP	ScP	04 24 35.5	-0.2
comp=Z,12nm,0.8s,baz=124,slow=7.7,SNR=3.7							
FITZ				LR	LR	04 30 52.1	
comp=Z,2μm,18.9s,MS4.9,baz=53,slow=36							
ADE	**Adelaide**	**31.89**	**208**⇑	*i*P	**P**	**04 18 05.6**	**-0.1**
BATI	**Kupang**	**32.15**	**262**	P	**P**	**04 18 08.4**	**+0.2**
comp=Z,6.6nm,0.3s,mb4.9,baz=336,slow=7.1,SNR=2.6							
BATI				LR	LR	04 31 43.1	
comp=Z,4μm,19.7s,MS5.0,baz=300,slow=37							
AFI	**Afiamalu**	**32.29**	**105**	*e*P	**P**	**04 18 08.2**	**-1.2**
comp=Z,196nm,1.0s,mb5.9							
AFI	**Afiamalu**	**32.29**	**105**	*e*P	**P**	**04 18 08.2**	**-1.2**
AFI				pmax	pmax		
comp=Z,196nm,1.0s,mb5.9							
BUKP	**Musuan**	**34.35**	**295**	*e*P	**P**	**04 18 28.3**	**+0.9**
FORT	**Forrest**	**35.16**	**225**	*e*P	**P**	**04 18 33.6**	**-0.6**
comp=Z,41nm,0.6s,mb5.5							
FORT				*e*

comp=Z,113nm,1.0s,mb5.5
RCP Roxas 38.03 299 ⇓*e*P **P 04 18 59.8 +0.9**
KHZ Kahutara 38.31 159 P* **P 04 18 59.4 -1.4**
RPZ Rata Peaks 38.66 163 P **P 04 19 03.2 -0.5**
comp=Z,197nm,0.9s,mb5.9,baz=296,slow=1.8,SNR=64
RPZ Rata Peaks 38.66 163 P* **P 04 19 03.0 -0.7**
OTRP Odiongan 39.03 300 *e*P **P 04 19 06.9 -0.4**
CUYO Cuyo Island 39.22 297 *e*P **P 04 19 10.0 +1.1**
ENPP El Nido 40.79 296 *e*P **P 04 19 17.4 -4.4**
SDKM Sandakan 40.83 287 ⇑P **P 04 19 25.2 +3.0**
PPR Puerto Princes 40.83 294 ⇓*e*P **P 04 19 24.0 +1.7**
BALP Baler 41.07 304 *e*P **P 04 19 23.8 -0.4**
LUBP Lubang 41.20 300 *e*P **P 04 19 24.6 -0.7**
BATP Bataraza 41.31 292 *e*P **P 04 19 27.4 +1.1**
KDM Kudat 41.57 289 ⇓P **P 04 19 30.8 +2.5**
KKM Kota Kinabalu 41.88 287 *e*P **P 04 19 31.1 +0.2**
KKM Kota Kinabalu 41.88 287 ⇑P **P 04 19 32.2 +1.3**
BCPH Baguio City Da 42.22 304 ⇓*e*P **P 04 19 34.0 +0.4**
APYP Conner 42.46 306 *e*P **P 04 19 44.2 +8.7**
BOLP Bolinao 42.77 304 *e*P **P 04 19 36.1 -1.9**
KLBR Kellerberrin 43.15 231 ⇑*i*P **P 04 19 40.2 -0.8**
comp=Z,116nm,1.0s,mb5.6
KLBR *e* pP 04 19 51.4 -0.3
KLBR *e*SCP ScP 04 25 18.8 0.0
KLBR *e*S **S 04 26 03.4 -1.7**
BTM Bintulu 44.12 282 ⇑P **P 04 19 50.8 +1.8**
NWAO Narrogin (SRO) 44.13 229 *e*P **P 04 19 48.2 -0.6**
comp=Z,96nm,1.0s,mb5.5
NWAO Narrogin (SRO) 44.13 229 *e*P **P 04 19 48.3 -0.6**
NWAO pmax pmax
comp=Z,96nm,1.0s
NWAO Narrogin (SRO) 44.13 229 P **P 04 19 48.8 -0.1**
comp=Z,34nm,0.8s,mb5.1,baz=51,slow=7.7,SNR=11
NWAO pP pP 04 19 59.6 -0.1
comp=Z,76nm,0.8s,baz=64,slow=6.6,SNR=13
NWAO LR LR 04 38 12.3
comp=Z,4μm,18.4s,MS5.3,baz=233,slow=36
MUN Mundaring 44.50 231 *e*P **P 04 19 51.9 0.0**
MUN *e* pP 04 20 03.0 +0.4
SBUM Sibu 44.78 281 ⇓P **P 04 19 56.4 +2.0**
RAR Rarotonga 44.85 113 P **P 04 19 54.4 -0.4**
RAR pmax pmax
comp=Z,55nm,0.9s
RAR Rarotonga 44.85 113 P **P 04 19 54.4 -0.4**
comp=Z,55nm,0.9s,mb5.4,baz=263,slow=4.7,SNR=5.0
RAR LR LR 04 35 24.2
comp=Z,1μm,21.3s,MS4.7,baz=284,slow=32
KSM Kuching 46.45 279 *e*P **P 04 20 07.3 -0.3**
MJAR Matsushiro Arr 46.64 340 P **P 04 20 08.0 -0.6**
MJAR 04 21 41.5
MJAR 04 21 55.0
MJAR pmax pmax
comp=Z,12nm,0.7s
MJAR Matsushiro Arr 46.64 340 P **P 04 20 08.0 -0.6**
comp=Z,12nm,0.7s,mb5.0,baz=166,slow=8.2,SNR=24
MJAR PcP PcP 04 21 41.5 -0.6
comp=Z,9.6nm,0.7s,baz=162,slow=3.5,SNR=3.9
MJAR pP pP 04 21 55.0 -3.7
comp=Z,14nm,0.8s,baz=162,slow=3.6,SNR=5.4
MAJO Matsushiro 46.64 340 *e*P **P 04 20 08.3 -0.3**
MAT Matsushiro 46.64 340 P **P 04 20 08.0 -0.6**
QZH Quanzhou 48.51 313 ⇓*i*P **P 04 20 23.9 +0.6**
QZH *e*S **S 04 27 25.0 +2.8**
QZH AMB AMB
comp=Z,110nm,0.9s,mb5.9
QZH LR LR
comp=N,8μm,17.0s,MS5.8
QZH LR LR
comp=E,6μm,18.3s,MS5.8
QZH LR LR
comp=Z,3μm,18.3s,MS5.3
KSRS Korea Array 51.63 331 P **P 04 20 47.2 +0.4**
comp=Z,23nm,0.7s,mb5.2,baz=147,slow=7.3,SNR=42
KSRS pP pP 04 20 56.4 -1.4
comp=Z,38nm,0.8s,baz=151,slow=7.7,SNR=12
INCN Inchon 52.28 330 *e*P **P 04 20 52.4 +0.7**
comp=Z,80nm,0.9s,mb5.7
QIZ Qiongzhong 52.48 301 P **P 04 20 53.1 -0.3**
QIZ PP PP 04 22 54.0 +1.3
QIZ S **S 04 28 22.9 +5.2**
QIZ AMB AMB
comp=Z,39nm,1.0s,mb5.3
QIZ LR LR
comp=E,2μm,22.0s
QIZ LR LR
comp=Z,2μm,23.9s,MS5.1
QIZ Qiongzhong 52.48 301 *e*P **P 04 20 54.0 +0.6**
comp=Z,72nm,1.0s,mb5.6
NJ2 Nanjing 52.76 320 *e*P **P 04 20 56.1 +0.8**
NJ2 AP pP 04 21 01.1 -5.2
NJ2 XP sP 04 21 04.3 -6.3
NJ2 PP PP 04 22 57.1 +2.1
NJ2 S **S 04 28 24.0 +2.9**
NJ2 XS sS 04 28 32.0 -7.2
NJ2 AMB AMB
comp=Z,60nm,0.8s,mb5.6
NJ2 AMB AMB
comp=Z,1μm,9.2s
NJ2 LR LR
comp=N,7μm,22.4s,MS5.7
NJ2 LR LR
comp=E,4μm,20.7s,MS5.7
NJ2 LR LR
comp=Z,4μm,22.6s,MS5.4
MYKOM Kota Tinggi 52.85 278 ⇓P **P 04 20 56.0 -0.4**
KGM Kluang 53.41 278 ⇑P **P 04 21 00.9 +0.5**
PPT Papeete 53.93 106 *e*P **P 04 21 04.8 +0.7**
comp=Z,40nm,1.2s,mb5.2
PPT *e*S **S 04 28 35.1 -2.3**
comp=Z,712nm,22.2s
PPT *e*LQ 04 34 27.7
comp=Z,3μm,28.8s
PPT *e*LR LR 04 36 47.9
comp=Z,1μm,22.2s,baz=278
PPT Papeete 53.93 106 P **P 04 21 05.0 +0.9**
comp=Z,16nm,0.4s,mb5.3,baz=315,slow=14,SNR=3.3
PPT LR LR 04 39 12.4
comp=Z,1μm,19.0s,MS5.0,baz=99,slow=31
PAE Paea 53.93 107 *e*P **P 04 21 04.5 +0.3**
comp=Z,153nm,1.3s,mb5.8
PAE Paea 53.93 107 *e*P **P 04 21 04.5 +0.3**
PAE pmax pmax
comp=Z,153nm,1.3s,mb5.8
TVO Taravao 54.25 107 *e*P **P 04 21 07.1 +0.6**
comp=Z,130nm,1.0s,mb5.8
TVO Taravao 54.25 107 *e*P **P 04 21 07.1 +0.6**
TVO pmax pmax
comp=Z,130nm,1.0s,mb5.8
KTGM Kuala Trenggan 54.26 282 ⇑P **P 04 21 07.0 +0.4**
KHU Kahuku 54.39 60 *e*P **P 04 21 08.1 +0.7**
TBI Tubuai 54.62 113 *e*LQ 04 34 45.9
comp=Z,7μm,30.2s
TBI *e*LR LR 04 37 01.4
comp=Z,4μm,31.5s,baz=286
VLA Vladivostok 54.70 338 ⇑*e*P **P 04 21 11.3 +2.0**
VLA Vladivostok 54.70 338 *e*P **P 04 21 06.7 -2.6**
VLA *e* pP 04 21 19.1 -1.2
VLA pmax pmax
comp=Z,62nm,1.2s,mb5.5
WHN Wuhan 54.84 315 P **P 04 21 11.6 +1.1**
YSS Yuzh-Sakhalins 55.22 349 *e*P **P 04 21 13.5 +0.5**
comp=Z,48nm,0.8s,mb5.6
YSS Yuzh-Sakhalins 55.22 349 ⇑*e*P **P 04 21 13.1 +0.2**
YSS *e* pP 04 21 25.0 +1.0
YSS *e* 04 22 16.0
YSS *e*S **S 04 28 52.0 -1.8**
YSS pmax pmax
comp=Z,20nm,0.8s,mb5.2
YSS MLR MLR
comp=E,700nm,19.0s
YSS MLR MLR
comp=Z,1μm,19.0s,MS4.9
FRIM Kepong 55.30 279 ⇓P **P 04 21 14.3 +0.1**
PMOR Pomariorio Ree 55.42 103 *e*P **P 04 21 15.7 +0.7**
comp=Z,368nm,1.1s,mb6.3
VAH Vaihoa 55.68 103 *e*P **P 04 21 17.3 +0.4**
comp=Z,222nm,1.0s,mb6.1
DL2 Dalian 55.91 328 ⇓P **P 04 21 18.8 +0.7**
DL2 XP sP 04 21 32.2 -1.3
DL2 *e*S **S 04 29 07.9 +4.5**
DL2 AMB AMB
comp=Z,30nm,0.8s,mb5.4
DL2 LR LR
comp=N,1μm,17.8s,MS5.1
DL2 LR LR
comp=E,490nm,18.9s,MS5.1
DL2 LR LR
comp=Z,1μm,18.8s,MS5.0
TIA Tai'an 56.58 322 *e*P **P 04 21 22.0 -0.9**
TIA AMB AMB
comp=Z,38nm,1.0s,mb5.4
KULM Kulim 56.66 281 *e*P **P 04 21 22.9 -1.1**
MDJ Mudanjiang 56.84 338 P **P 04 21 25.8 +1.2**
MDJ AP pP 04 21 28.9 -6.8
MDJ XP sP 04 21 30.2 -10
MDJ PCP PcP 04 22 16.6 -3.3
MDJ S **S 04 29 10.8 -4.7**
MDJ SCS ScS 04 31 04.8 -6.2
MDJ SS SS 04 33 01.6 -2.7
MDJ AMB AMB
comp=Z,5.0nm,1.0s,mb4.5
MDJ AMB AMB
comp=Z,1μm,6.0s
MDJ LR LR
comp=N,2μm,28.3s
MDJ LR LR
comp=E,2μm,20.6s
MDJ LR LR
comp=Z,1μm,18.7s
MDJ Mudanjiang 56.84 338 *e*P **P 04 21 24.2 -0.4**
comp=Z,36nm,1.0s,mb5.3
SNG Songkhla 57.11 283 P **P 04 21 34.5 +7.4**
comp=Z,180nm,0.9s,mb6.1
SNY Shenyang 57.14 331 ⇑P **P 04 21 26.5 -0.3**
SNY S **S 04 29 23.8 +4.3**
SNY AMB AMB
comp=Z,12nm,0.8s,mb5.0
SNY LR LR
comp=N,962nm,20.4s,MS5.2
SNY LR LR
comp=E,1μm,18.9s,MS5.2
SNY LR LR
comp=Z,1μm,21.3s,MS5.1
CN2 Changchun 57.85 334 *e*P **P 04 21 32.0 +0.3**
CN2 *e*XP sP 04 21 39.0 -8.1
CN2 *e*S **S 04 29 30.3 +1.6**
CN2 AMB AMB
comp=Z,20nm,1.1s,mb5.1
CN2 AMB AMB
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,1μm,17.0s,MS5.2
CN2 LR LR
comp=E,1μm,17.0s,MS5.2
CN2 LR LR
comp=Z,1μm,19.0s,MS5.0
PSI Prapat 57.87 278 P **P 04 21 31.3 -1.2**
PSI *PP pP 04 21 42.4 -1.2
PSI pmax pmax
comp=Z,5.0nm,0.5s,mb4.8
PSI pmax pmax
comp=N,7.0nm,0.4s
PSI Prapat 57.87 278 P **P 04 21 31.3 -1.2**
comp=N,4.9nm,0.5s,mb4.8,baz=84,slow=4.0,SNR=6.5
PSI pP pP 04 21 42.4 -1.2
comp=N,7.0nm,0.4s,baz=152,slow=2.2,SNR=6.1
GYA Guiyang 58.43 307 ⇑*i*P **P 04 21 38.7 +2.6**
GYA AP pP 04 21 42.9 -4.3
GYA XP sP 04 21 45.2 -6.4
GYA PCP PcP 04 22 28.9 +2.3
GYA PP PP 04 23 50.4 +4.6
GYA SCP ScP 04 26 28.0 +3.7
GYA S **S 04 29 40.6 +3.7**
GYA SCS ScS 04 31 25.6 +2.2
GYA SS SS 04 33 34.2 +4.3
GYA AMB AMB
comp=Z,90nm,1.0s,mb5.8
GYA AMB AMB
comp=Z,13μm,12.8s
GYA LR LR
comp=Z,16μm,19.7s,MS6.2
HABR Khabarovsk 58.45 344 *e*P **P 04 21 35.5 -0.4**
HABR *e* 04 22 25.1
HABR *e* 04 23 43.8
HABR *e*S **S 04 29 37.9 +1.4**
BJT Baijiatuau 59.69 325 *e*P **P 04 21 44.3 -0.3**
comp=Z,30nm,0.7s,mb5.4
BJT Baijiatuau 59.69 325 *e*P **P 04 21 44.3 -0.3**
BJT pmax pmax
comp=Z,31nm,0.7s
BJI Beijing 59.70 325 P **P 04 21 44.4 -0.3**
BJI PP PP 04 23 56.5 -0.4
BJI S **S 04 29 57.9 +5.0**
BJI AMB AMB
comp=Z,28nm,0.8s,mb5.3
BJI Beijing 59.70 325 P **P 04 21 44.4 -0.3**
comp=Z,28nm,0.8s,mb5.3
BJI PP PP 04 23 56.5 -0.4
BJI S **S 04 29 57.9 +5.0**
BJI SS SS 04 33 55.4 +6.0
BJI Beijing 59.70 325 P **P 04 21 44.4 -0.3**
BJI 04 23 56.5
BJI S **S 04 29 57.9 +5.0**
BJI SS SS 04 33 55.4 +6.0
BJI pmax pmax
comp=Z,28nm,0.8s,mb5.3
NST Nakhon Sawan 59.87 293 P **P 04 21 47.1 +0.8**
PET Petropavlovsk 60.05 2 *e*P **P 04 21 45.4 -1.4**
PET *e*S **S 04 29 54.1 -2.9**
PET *e*SS SS 04 33 52.9 -1.6
PET *e*SSS 04 36 24.8
PET pmax pmax
comp=Z,82nm,1.5s,mb5.5
PET smax
comp=E,1μm,16.2s
PET MLR MLR
comp=Z,1μm,19.0s,MS5.1
KLR Kul'dur 60.10 342 *e*P **P 04 21 43.6 -3.6**
XAN Xi'an 60.60 316 P **P 04 21 50.3 -0.7**
XAN AP pP 04 21 57.8 -4.3
XAN AMB AMB
comp=Z,16nm,0.7s,mb5.3
XAN LR LR
comp=N,914nm,20.8s,MS5.2
XAN LR LR
comp=E,1μm,19.8s,MS5.2
XAN LR LR
comp=Z,3μm,20.3s,MS5.3
KMI Kunming 61.01 304 P **P 04 21 54.7 +0.7**
KMI XP sP 04 22 04.4 -5.0
KMI AMB AMB
comp=Z,28nm,1.6s,mb5.1
KMI LR LR
comp=N,1μm,21.8s,MS5.2
KMI LR LR
comp=E,2μm,21.8s,MS5.2
KMI LR LR
comp=Z,2μm,21.8s,MS5.2
KMI Kunming 61.01 304 P **P 04 21 54.7 +0.7**
comp=Z,28nm,1.6s,mb5.1
KMI sP sP 04 22 04.4 -5.0
KMI LR LR
comp=Z,2μm,21.8s,MS5.2
BDT Bhumibol Dam 61.39 294 P **P 04 22 07.5 +11**
CHRT Chiangrai 61.55 297 ⇑P **P 04 21 59.0 +1.3**
comp=Z,579nm,0.7s
CHG Chiang Mai 61.95 296 ⇑P **P 04 22 00.7 +0.3**
comp=Z,122nm,1.3s,mb5.9
CHTO Chiang Mai 61.95 296 *e*P **P 04 22 00.8 +0.4**
CHTO Chiang Mai 61.95 296 P **P 04 22 01.0 +0.7**
SNR=43
CHTO Chiang Mai 61.95 296 P **P 04 22 01.0 +0.7**
SNR=43
CD2 Chengdu 62.76 310 P **P 04 22 06.3 +0.7**
CD2 AMB AMB
comp=Z,50nm,0.5s,mb5.9
CD2 AMB AMB
comp=Z,140nm,8.4s
CD2 LR LR
comp=N,2μm,18.0s,MS5.5
CD2 LR LR
comp=E,2μm,18.0s,MS5.5
CD2 LR LR
comp=Z,2μm,21.6s,MS5.3
HHC Hu-ho-hao-te 62.90 323 *e*P **P 04 22 06.9 +0.6**
HHC AP pP 04 22 11.4 -6.1
HHC XP sP 04 22 14.4 -7.4
HHC PP PP 04 24 27.3 +2.2
HHC SCP ScP 04 26 44.1 +0.3
HHC PCS PcS 04 26 46.7 -0.9
HHC S **S 04 30 40.1 +6.5**
HHC XS sS 04 30 45.1 -7.0
HHC SCS ScS 04 31 56.0 -0.2
HHC SS SS 04 34 42.7 +3.2
HHC AMB AMB
comp=Z,35nm,0.8s,mb5.5
HHC AMB AMB
comp=Z,1μm,17.2s
HHC LR LR
comp=N,2μm,17.4s,MS5.2
HHC LR LR
comp=E,732nm,19.2s,MS5.2
HHC LR LR
comp=Z,2μm,19.6s,MS5.3
TAOE Nuku Hiva Isla 63.13 96 *e*P **P 04 22 08.4 0.0**
comp=Z,652nm,1.0s,mb6.7
BTO Baotou 63.67 322 *e*P **P 04 22 11.6 +0.1**
HIA Hailar 64.57 335 ⇑*i*P **P 04 22 17.6 +0.4**
HIA Hailar 64.57 335 *c i*P **P 04 22 17.5 +0.3**
LZH Lanzhou 65.21 315 ⇑P **P 04 22 22.5 +0.9**
LZH AP pP 04 22 26.0 -6.9
LZH XP sP 04 22 28.0 -9.2
LZH PP PP 04 24 48.9 +3.3
LZH *e*S S 04 31 04.0 +1.5
LZH XS sS 04 31 10.0 -11
LZH SS SS 04 35 17.0 +1.1
LZH AMB AMB
comp=Z,47nm,1.5s,mb5.3
LZH AMB AMB
comp=Z,210nm,4.4s
LZH LR LR
comp=E,915nm,16.5s
LZH LR LR
comp=Z,1μm,20.0s,MS5.2
LZH Lanzhou 65.21 315 ⇑P **P 04 22 22.5 +0.9**
comp=Z,47nm,1.5s,mb5.3
LZH pP pP 04 22 26.0 -6.9
LZH sP sP 04 22 28.0 -9.2
LZH PP PP 04 24 48.9 +3.3
LZH *e*S S 04 31 04.0 +1.5
LZH sS sS 04 31 10.0 -11
LZH SS SS 04 35 17.0 +1.1
LZH LR LR
comp=Z,1μm,20.0s,MS5.2
LZH Lanzhou 65.21 315 ⇑P **P 04 22 22.5 +0.9**
LZH *SP sP 04 22 28.0 -9.2
LZH 04 24 48.9
LZH *e*S S 04 31 04.0 +1.5
LZH SS SS 04 35 17.0 +1.1
LZH pmax pmax
comp=Z,47nm,1.5s,mb5.3
LZH MLR MLR
comp=Z,1μm,20.0s,MS5.2
CASY Casey 66.70 198 *e*P **P 04 22 29.9 -0.8**
comp=Z,76nm,0.8s,mb5.8
MA2 Magadan 66.72 357 *e*P **P 04 22 30.7 0.0**
comp=Z,48nm,1.1s,mb5.4
MA2 Magadan 66.72 357 *e*P **P 04 22 30.1 -0.7**
MA2 *e* pP 04 22 43.6 +1.6
MA2 pmax pmax
comp=Z,40nm,1.4s,mb5.3
RKT Rikitea 67.88 112 *e*LQ 04 40 18.8
comp=Z,2μm,33.0s
RKT *e*LR LR 04 43 10.1
comp=Z,4μm,28.0s
IMP Imphal 68.31 300 *e*P **P 04 22 40.0 -1.6**
CLNS Chul'man 68.76 342 *e*P pP 04 22 55.3 +0.3
CLNS pmax pmax
comp=N,19nm,0.9s
CLNS pmax pmax
comp=Z,29nm,0.9s,mb5.2
CLNS pmax pmax
comp=E,12nm,0.8s
CIT Chita 69.28 333 *e*P **P 04 22 47.6 +0.6**
CIT *e* 04 23 04.3
CIT *e* 04 23 16.7
GTA Gaotai 69.62 317 ⇓P **P 04 22 50.8 +1.3**
GTA AP pP 04 22 54.4 -6.4
GTA XP sP 04 22 56.0 -9.1
GTA PP PP 04 25 28.0 +4.1
GTA S S 04 32 00.4 +5.1
GTA XS sS 04 32 08.3 -5.8
GTA SKS 04 32 47.5
GTA AMB AMB
comp=Z,18nm,1.3s,mb4.8
GTA AMB AMB
comp=Z,231nm,6.1s
GTA LR LR
comp=N,515nm,19.4s,MS5.0
GTA LR LR
comp=E,575nm,19.4s,MS5.0
GTA LR LR
comp=Z,864nm,19.8s,MS5.0
SEY Seymchan 70.01 358 ⇑*e*P **P 04 22 51.5 +0.2**
SONM Songino Array 70.10 327 P **P 04 22 53.1 +1.0**
comp=Z,46nm,0.8s,mb5.5,baz=140,slow=7.0,SNR=114
SONM pP pP 04 23 02.2 -1.3
comp=Z,65nm,0.8s,baz=137,slow=7.0,SNR=24
SONM PKPPKP 04 50 52.7
comp=Z,12nm,1.1s,baz=277,slow=1.2,SNR=33
SHL Shillong 70.32 300 *i* P **P 04 22 54.0 0.0**
comp=Z,19nm,0.8s,mb5.1
SHL *e*x x 04 32 00.5
SBA Scott Base 70.82 178 *e*P **P 04 22 57.2 +1.1**
YAK Yakutsk 72.00 347 *e*P **P 04 23 06.2 +2.7**
YAK Yakutsk 72.00 347 *e*P **P 04 23 04.3 +0.9**
YAK *e**PP pP 04 23 11.3 -3.5
YAK *e* 04 23 21.7
YAK *e*S S 04 32 25.8 +3.7
YAK *e* 04 33 03.4
YAK *e*SSS 04 40 04.1
YAK pmax pmax
comp=Z,79nm,1.3s,mb5.5
YAK pmax pmax
comp=N,24nm,1.6s
YAK pmax pmax
comp=E,9.0nm,1.4s
YAK smax
comp=E,82nm,2.3s
YAK smax
comp=Z,74nm,2.3s
YAK smax
comp=N,257nm,4.9s
YAK MLR MLR
comp=Z,697nm,21.0s,MS4.9
YAK MLR MLR
comp=N,490nm,20.0s,MS4.9
YAK MLR MLR
comp=E,373nm,18.0s,MS4.9
SDPT Sand Point 72.02 24 *e*P **P 04 23 02.0 -1.6**
comp=E,53nm,1.0s,mb5.4
LSA Lhasa 72.27 304 P **P 04 23 06.5 +0.8**
LSA AMB AMB
comp=Z,20nm,0.9s,mb5.0
LSA Lhasa 72.27 304 *e*P **P 04 23 07.1 +1.3**
comp=Z,88nm,1.4s,mb5.5
LSA Lhasa 72.27 304 *e*P **P 04 23 07.1 +1.4**
LSA pmax pmax
comp=Z,88nm,1.4s,mb5.5
MIR Mirnyy 72.87 202 ⇑*i*P **P 04 23 10.0 +1.4**
MIR pmax pmax
comp=Z,400nm,2.0s,mb6.0
BOD Bodaibo 73.22 338 *e*P **P 04 23 10.3 -0.4**
BOD *e* pP 04 23 21.1 -1.0
BOD pmax pmax
comp=Z,8.0nm,0.7s,mb4.8
ZAK Zakamensk 73.24 328 ⇑*e*P **P 04 23 11.5 +0.5**
ZAK *e* pP 04 23 21.4 -1.0
ZAK pmax pmax
comp=Z,18nm,1.1s,mb4.9
CHGN Chignik 73.52 25 *e*P **P 04 23 10.6 -1.9**
TLY Talaya 73.79 329 P **P 04 23 14.1 -0.2**
comp=Z,93nm,1.1s,mb5.6,SNR=8.3
TLY Talaya 73.79 329 ⇑*i*P **P 04 23 14.5 +0.2**
TLY Talaya 73.79 329 *e*P **P 04 23 14.5 +0.2**
TLY pmax pmax
comp=Z,40nm,1.1s,mb5.3
TLY Talaya 73.79 329 P **P 04 23 15.0 +0.8**
SNR=19
TLY Talaya 73.79 329 P **P 04 23 15.0 +0.8**
SNR=19
IRK Irkutsk 73.80 330 *e*P **P 04 23 13.6 -0.7**
IRK *e* pP 04 23 23.5 -2.2
IRK pmax pmax
comp=Z,46nm,0.6s,mb5.6

GAMB Gambell 74.88 14 *e*pP pP 04 23 31.0 -0.7
BOK Bokaro 75.03 297 *e*P **P** **04 23 21.7 -0.4**
BOK AMb AMB 04 23 24.5
comp=Z,74nm,1.2s,mb5.5
MOY Mondy 75.16 328 *e*P **P** **04 23 22.6 +0.4**
MOY pmax pmax
comp=Z,79nm,2.9s,mb5.1
BILL Bilibino 75.43 4⇑ *e*P **P** **04 23 23.3 -0.1**
BILL *e**PP pP 04 23 32.5 -2.3
BILL *e**SP sP 04 23 37.2 -1.9
BILL *e*S S 04 33 05.3 +4.8
BILL pmax pmax
comp=Z,55nm,1.3s,mb5.3
BILL MLR MLR
comp=Z,800nm,18.0s,MS5.1
JIRN Jiri 75.80 301 *e*P **P** **04 23 26.8 +0.4**
comp=Z,119nm,0.7s,mb6.0
VIS Vishakhapatnam 75.93 290 *e*P **P** **04 23 26.6 -0.7**
VIS AMb AMB 04 23 29.3
comp=Z,68nm,1.8s,mb5.3
PALK Pallekele 76.51 279 *e*P **P** **04 23 31.0 +0.2**
comp=Z,56nm,1.1s,mb5.4
PALK Pallekele 76.51 279 P **P** **04 23 31.8 +1.1**
SNR=6.4
PALK Pallekele 76.51 279 P **P** **04 23 31.8 +1.1**
SNR=6.4
KKN Kakani 76.61 301 *e*P **P** **04 23 31.2 +0.2**
comp=Z,154nm,0.8s,mb6.0
KDAK Kodiak Island 76.91 25 *e*P **P** **04 23 31.8 -0.3**
KDAK Kodiak Island 76.91 25 P **P** **04 23 31.4 -0.7**
comp=Z,7.4nm,0.9s,mb4.6,baz=216,slow=6.4,SNR=12
KDAK pP pP 04 23 43.5 0.0
comp=Z,27nm,0.8s,baz=216,slow=1.6,SNR=14
GKN Gorkha 77.22 301 *e*P **P** **04 23 34.3 -0.1**
comp=Z,500nm,1.2s,mb6.3
TNA Tin City 77.27 15 *e*P **P** **04 23 34.2 +0.2**
SVW2 Sparrevohn 77.81 22 *e*P **P** **04 23 37.1 +0.1**
KOLN Koldanda 78.04 300 *e*P **P** **04 23 38.6 -0.5**
comp=Z,177nm,0.8s,mb6.0
TTA Tatalina 78.87 20 *e*P **P** **04 23 42.6 -0.2**
TTA Tatalina 78.87 20 *e*P **P** **04 23 42.6 -0.2**
TTA pP 04 23 52.9 -1.4
SLKM Skilak Lake 79.52 24 *e*P **P** **04 23 45.3 -1.1**
SLKM Skilak Lake 79.52 24 P **P** **04 23 45.7 -0.7**
WMQ Urumqi 79.71 317⇑ *i*P **P** **04 23 48.2 +0.4**
WMQ PCP PcP 04 23 57.5 +2.0
WMQ PP PP 04 26 50.5 +1.2
WMQ *e*S S 04 33 48.0 +0.2
WMQ XS sS 04 33 55.0 -12
WMQ AMB AMB
comp=Z,66nm,1.5s,mb5.3
WMQ AMB AMB
comp=Z,386nm,5.7s
WMQ LR LR
comp=N,990nm,17.8s,MS5.4
WMQ LR LR
comp=E,1μm,17.9s,MS5.4
WMQ LR LR
comp=Z,1μm,25.8s
KOD Kodaikanal 80.14 282 *e*P **P** **04 23 50.6 -0.2**
KOD AMb AMB 04 24 04.9
comp=Z,102nm,1.0s,mb5.7
HYB Hyderabad 80.34 289 *e*P **P** **04 23 50.5 -1.3**
HYB *e* pP 04 24 00.0 -3.3
HYB Hyderabad 80.34 289 *i*P **P** **04 23 50.5 -1.3**
HYB *e* 04 24 07.0
TRD Trivandrum 80.37 280 *e*P **P** **04 23 52.0 -0.1**
TRD AMb AMB 04 23 54.4
comp=Z,38nm,1.8s,mb5.0
PMR Palmer 80.58 23 *e*P **P** **04 23 50.7 -1.4**
comp=Z,19nm,1.2s,mb4.9
PMR Palmer 80.58 23 *e*P **P** **04 23 51.1 -1.0**
PMR 04 24 05.5
PMR pmax pmax
comp=Z,45nm,1.0s,mb5.3
NGP Nagpur 80.59 293 *e*P **P** **04 23 51.8 -1.3**
NGP AMb AMB 04 24 05.5
comp=Z,146nm,1.6s,mb5.7
TIXI Tiksi 80.73 352 *e*P **P** **04 23 51.7 -1.0**
TIXI Tiksi 80.73 352 *e*P **P** **04 23 51.8 -0.9**
TIXI pmax pmax
comp=Z,34nm,1.5s,mb5.1
SML Sawmill 81.01 23 *e*P **P** **04 23 54.3 -0.1**
LGTI Lohaghat 81.31 301 *e*P **P** **04 23 56.5 -0.3**
EYAK Cordova Ski Ar 81.38 25 *e*P **P** **04 23 55.5 -0.9**
comp=Z,6.7nm,1.0s,mb4.5
IMA2 Indian Mountai 81.68 18 *e*P **P** **04 23 56.8 -1.1**
MCK McKinley 81.88 22 *e*P **P** **04 23 57.1 -1.9**
comp=Z,104nm,1.0s,mb5.7
MCK McKinley 81.88 22 *e*P **P** **04 23 57.1 -1.9**
MCK pmax pmax
comp=Z,51nm,1.0s,mb5.4
AKL Akola 82.37 292⇓ *i*P **P** **04 24 01.7 -0.9**
AKL *e*x x 04 24 17.7
comp=Z,247nm,1.4s
AKL *i* x x 04 26 10.4
LATR Latur 82.38 290 *e*x x 04 24 41.3
LATR AMb AMB 04 24 57.3
comp=Z,126nm,1.2s,mb5.7
BHPL Bhopal 82.48 295 *e*P **P** **04 24 02.2 -0.8**
BHPL AMb AMB 04 24 13.3
comp=Z,64nm,0.9s,mb5.6
COLA College 82.91 21⇑ *i*P **P** **04 24 02.5 -1.9**
MNGI Mangalore 83.13 284 *e*P **P** **04 24 04.7 -1.9**
DDI Dehra Dun 83.36 302 *e*P **P** **04 24 05.0 -2.5**
NDI New Delhi 83.73 300 *e*P **P** **04 24 07.5 -1.9**
NDI *e*P 04 24 08.2
NDI AMb AMB 04 24 22.7
comp=Z,215nm,1.5s,mb6.1
MKAR Makanchi Array 84.27 318 P **P** **04 24 11.8 +0.1**
MKAR pP pP 04 24 21.3 -2.0
MKAR S S 04 34 27.8 -6.8
MKAR PKKPbc PKKPbc 04 42 23.7 -2.8
MKAR P'P' 04 50 29.1
MKAR Makanchi Array 84.27 318 P **P** **04 24 11.9 +0.2**
MKAR *PP pP 04 24 21.3 -2.0
MKAR S S 04 34 27.8 -6.8
MKAR pmax pmax
comp=Z,127nm,0.8s
MKAR Makanchi Array 84.27 318 P **P** **04 24 11.8 +0.1**
comp=Z,127nm,0.8s,mb6.1,baz=85,slow=6.6,SNR=266
MKAR pP pP 04 24 21.3 -2.0
comp=Z,196nm,0.8s,baz=87,slow=5.9,SNR=14
MKAR S S 04 34 27.8 -6.8
comp=Z,0.4nm,0.4s,baz=95,slow=6.1,SNR=5.7
MKAR PKKPbc PKKPbc 04 42 23.7 -2.8
comp=Z,0.6nm,0.3s,baz=21,slow=4.0,SNR=4.6
MKAR PKPPKP 04 50 29.1
comp=Z,0.6nm,0.3s,baz=345,slow=4.5,SNR=6.2
KAD Karad 84.43 288 *e*P **P** **04 24 12.2 -0.9**
KAD AMb AMB 04 24 13.8
comp=Z,118nm,0.9s,mb6.0
SDNR Sundarnagar 84.52 303 *e*P **P** **04 24 12.7 -0.6**
MAW Mawson 84.59 203⇑ *i*P **P** **04 24 12.9 -0.1**
comp=Z,63nm,1.1s,mb5.7
MAW Mawson 84.59 203 P **P** **04 24 12.9 -0.1**
MAW *PP pP 04 24 24.1 -0.5
MAW pmax pmax
comp=Z,82nm,1.0s
MAW pmax pmax
comp=N,37nm,0.7s
MAW Mawson 84.59 203 P **P** **04 24 12.9 -0.1**
comp=N,82nm,1.0s,mb5.8,baz=91,slow=6.5,SNR=48
MAW pP pP 04 24 24.1 -0.5
comp=N,37nm,0.7s,baz=89,slow=8.3,SNR=7.5
MAW LR LR 04 56 13.8
comp=N,614nm,20.0s,MS5.0,baz=73,slow=32
POO Poona 84.94 289⇑ *i*P **P** **04 24 14.0 -1.7**
comp=N,90nm,1.0s,mb5.8
ZAA0 Zalesovo Array 84.96 326 *e*P **P** **04 24 13.8 -1.2**
ZALV Zalesovo Beam 84.96 326 P **P** **04 24 13.9 -1.1**
comp=N,63nm,0.7s,mb5.9,baz=111,slow=5.7,SNR=164
ZALV PKKPbc PKKPbc 04 42 21.1 -4.0
comp=N,0.7nm,0.5s,baz=325,slow=2.3,SNR=4.5
ZALV PKPPKP 04 50 21.6
comp=N,0.8nm,0.8s,baz=348,slow=6.7,SNR=3.8
ZALV LR LR 05 02 43.2
comp=N,528nm,20.0s,MS4.9,baz=115,slow=36
ZAL Zalesovo 84.96 326 P **P** **04 24 14.0 -1.1**
EGAK Eagle 85.32 22 *e*P **P** **04 24 16.3 -0.3**
AJM Ajmer 85.56 297 *i*P **P** **04 24 17.0 -1.7**
SKAG Skagway 85.56 28 *e*P **P** **04 24 18.2 +0.3**
DAWY Dawson 85.68 23 *e*P **P** **04 24 19.0 +0.5**
WRAK Wrangell Islan 85.97 32 *e*P **P** **04 24 19.8 -0.2**
comp=N,76nm,1.3s,mb5.8

NVS Novosibirsk 86.12 326 *i*P **P** **04 24 19.6 -1.2**
NVS *e*S S 04 34 40.0 -13
NVS pmax pmax
comp=Z,103nm,1.5s,mb5.8
NVS pmax pmax
comp=N,43nm,1.4s
NVS pmax pmax
comp=E,71nm,1.4s
KSH Kashi 86.96 310 P **P** **04 24 26.8 +1.5**
KSH AP pP 04 24 31.5 -5.4
KSH XP sP 04 24 34.2 -6.9
KSH PP PP 04 27 53.5 +4.7
KSH SKS 04 34 51.4
KSH S S 04 35 04.6 +3.2
KSH XS sS 04 35 12.7 -7.9
KSH LR LR
comp=N,936nm,5.6s
KSH LR LR
comp=E,1μm,6.5s
KSH LR LR
comp=Z,4μm,19.8s,MS5.8
KURK Kurchatov 87.66 322 P **P** **04 24 27.9 -0.5**
comp=Z,229nm,0.6s,mb6.6,SNR=23
KURK Kurchatov 87.66 322⇑ *e*P **P** **04 24 27.2 -1.2**
KURK Kurchatov 87.66 322 P **P** **04 24 27.7 -0.7**
SNR=27
KURK Kurchatov 87.66 322 P **P** **04 24 27.7 -0.7**
SNR=27
DLBC Dease Lake 87.80 30 *e*P **P** **04 24 29.5 +0.7**
O02C Red Bluff 87.90 49 ⇑P **P** **04 24 30.6 +0.8**
baz=88
TKM2 Tokmak 2 87.93 314 *e*P **P** **04 24 29.8 -0.1**
comp=Z,62nm,0.9s,mb5.8
TKM2 Tokmak 2 87.93 314 P **P** **04 24 30.0 +0.1**
TKM2 pmax pmax
comp=Z,62nm,0.9s,mb5.8
TKM2 Tokmak 2 87.93 314 P **P** **04 24 29.4 -0.5**
SNR=16
KZA Kyzart 88.01 313 P **P** **04 24 31.9 +1.6**
SNR=8.5
M02C Callahan 88.09 48 ⇑P **P** **04 24 31.6 +0.9**
baz=88
YBH Yreka Blue Hor 88.26 48 ⇑P **P** **04 24 32.4 +0.9**
baz=88
KBK Karagaybulak 88.35 313 P **P** **04 24 32.4 +0.6**
SNR=13
H03A Soap Creek Ran 88.43 45 ⇑P **P** **04 24 33.1 +0.9**
baz=88
CHMS Chumysh 88.56 313 P **P** **04 24 32.7 -0.2**
SNR=26
UCH Uchtor 88.58 313 *e*P **P** **04 24 33.7 +0.8**
comp=Z,198nm,1.7s,mb6.2
UCH Uchtor 88.58 313 P **P** **04 24 34.0 +1.0**
SNR=17
M03C McCloud 88.61 48 ⇓P **P** **04 24 33.5 +0.4**
baz=89
AAK Ala-Archa 88.67 313 P **P** **04 24 32.7 -0.7**
comp=Z,262nm,0.8s,mb6.6,SNR=18
AAK Ala-Archa 88.67 313⇑ *i*P **P** **04 24 32.4 -1.0**
comp=Z,49nm,1.0s,mb5.8
AAK Ala-Archa 88.67 313⇑ *i*P **P** **04 24 32.4 -1.0**
AAK pmax pmax
comp=Z,49nm,1.0s,mb5.8
AAK Ala-Archa 88.67 313 P **P** **04 24 33.5 +0.1**
SNR=11
USP Ospenovka 88.79 314 P **P** **04 24 33.8 -0.1**
SNR=27
M04C Macdoel 88.91 48 ⇑P **P** **04 24 34.2 -0.3**
baz=89
AML Almayashu 89.16 312 *e*P **P** **04 24 36.3 +0.6**
comp=Z,98nm,1.1s,mb6.0
AML Almayashu 89.16 312 P **P** **04 24 36.5 +0.8**
SNR=21
EKS2 Erkin-Say 89.20 313 *e*P **P** **04 24 35.7 -0.1**
comp=Z,66nm,1.0s,mb5.9
EKS2 Erkin-Say 89.20 313 P **P** **04 24 36.1 +0.3**
SNR=16
P05C Yuba Gap, Truc 89.40 50 ⇓P **P** **04 24 38.0 +1.1**
baz=89
INK Inuvik 89.56 21 *e*P **P** **04 24 36.1 -0.9**
J05A Fort Rock 89.62 46 ⇓P **P** **04 24 38.5 +0.7**
baz=90
BEKR Beckwourth 89.68 50 ⇑P **P** **04 24 38.8 +0.6**
baz=90
L05A Lakeview 89.70 48 ⇓P **P** **04 24 39.4 +1.2**
baz=90
T06C Millerton Lake 89.72 53 ⇑P **P** **04 24 38.5 0.0**
baz=90
K05A Summer Lake 89.77 47 ⇓P **P** **04 24 39.7 +1.2**
baz=90
E05A Randle 89.85 43 ⇑P **P** **04 24 39.1 +0.3**
baz=90
VES Vestal, Richgr 90.04 54 ⇓P **P** **04 24 39.4 -0.5**
baz=90
MOD Modoc 90.06 48 *e*P **P** **04 24 44.0 +4.1**
comp=Z,12nm,0.9s,mb5.2
MOD Modoc 90.06 48 ⇓P **P** **04 24 41.1 +1.2**
baz=90
ARVC Arvin 90.13 55 ⇑P **P** **04 24 41.4 +1.0**
baz=90
O06A Flanigan 90.13 50 ⇑P **P** **04 24 40.4 +0.1**
baz=90
HELL Mitchell Peak 90.21 53 ⇑P **P** **04 24 39.2 -1.5**
baz=90
N06A Buffalo Meadow 90.22 49 ⇑P **P** **04 24 40.8 +0.1**
baz=90
CIS Catalina Islan 90.23 57 ⇓P **P** **04 24 38.2 -2.7**
baz=90
K06A Valley Falls 90.25 47 ⇑P **P** **04 24 42.0 +1.2**
baz=90
E06A Yakima 90.37 43 ⇓P **P** **04 24 41.0 -0.2**
baz=90
F06A Goldendale 90.37 44 ⇓P **P** **04 24 41.0 -0.2**
baz=90
J06A Christmas Vall 90.39 47 ⇑P **P** **04 24 41.6 +0.2**
baz=90
I06A Prineville 90.47 46 ⇑P **P** **04 24 41.5 -0.3**
baz=90
ISA Isabella 90.50 54 ⇑P **P** **04 24 42.6 +0.5**
baz=90
MWC Mount Wilson 90.63 56 *e*P **P** **04 24 43.3 +0.5**
MWC *e*pP pP 04 24 56.0 +1.6
EDW2 Edwards Air Fo 90.78 55 P **P** **04 24 44.4 +0.9**
baz=91,SNR=7.5
L07A Adell 90.79 48 ⇑P **P** **04 24 44.0 +0.6**
baz=91
M07A Soldier Meadow 90.82 49 ⇑P **P** **04 24 43.7 +0.2**
baz=91
O07A Toulon 90.85 50 ⇓P **P** **04 24 44.1 +0.5**
baz=91
N07B Gerlach 90.87 49 ⇑P **P** **04 24 44.3 +0.5**
baz=91
BFSC Mount Baldy St 90.96 56 ⇓P **P** **04 24 44.7 +0.4**
baz=91
K07A Rock Creek Ran 90.96 47 ⇑P **P** **04 24 44.2 +0.2**
baz=91
I07A Izee 90.99 46 ⇑P **P** **04 24 44.3 +0.1**
baz=91
S08C White Mtn Res 91.01 52 ⇑P **P** **04 24 44.5 0.0**
baz=91,SNR=7.3
H07A Lands Inn, Kim 91.03 45 ⇓P **P** **04 24 44.1 -0.3**
baz=91
NVAR Mina Array Bea 91.04 52 P **P** **04 24 45.3 +0.7**
comp=Z,2.4nm,0.8s,mb4.6,baz=245,slow=3.9,SNR=12
NVAR PKPPKP 04 50 17.2
comp=Z,0.2nm,0.6s,baz=69,slow=4.9,SNR=3.5
G07A Ruggs Ranch, H 91.06 45 ⇓P **P** **04 24 44.2 -0.3**
baz=91
LRMC Laurel Mountai 91.11 55 ⇑P **P** **04 24 45.0 0.0**
baz=91
D07A Quincy 91.16 43 ⇓P **P** **04 24 44.9 0.0**
baz=91
A07A Ashnola River, 91.19 41 ⇓P **P** **04 24 44.8 -0.2**
baz=91
109C Camp Elliot, M 91.23 57 ⇓P **P** **04 24 45.0 -0.6**
baz=91
MPMC Manual Prospec 91.35 54 ⇑P **P** **04 24 46.0 -0.1**
baz=91,SNR=5.4
WVOR Wild Horse Val 91.37 48 *e*P **P** **04 24 45.7 -0.3**
comp=Z,18nm,1.3s,mb5.2
WVOR Wild Horse Val 91.37 48 *e*P **P** **04 24 45.7 -0.3**
WVOR pmax pmax
comp=Z,18nm,1.3s,mb5.2
Q08A Gabbs 91.39 51 ⇓P **P** **04 24 45.7 -0.5**
baz=91
M08A Happy Creek Ra 91.42 49 ⇓P **P** **04 24 45.8 -0.4**
baz=91

N08A GE Springer Mi 91.50 49 ⇓P **P** **04 24 47.7 +1.1**
baz=92
K08A Mann Creek Ran 91.52 47 ⇑P **P** **04 24 46.8 +0.1**
baz=92
L08A Fields 91.55 48 ⇑P **P** **04 24 47.2 +0.3**
baz=92
G08A Pilot Rock 91.56 45 ⇑P **P** **04 24 47.0 +0.2**
baz=92
GRAC Grapevine Rang 91.57 53 ⇑P **P** **04 24 47.0 0.0**
baz=92
J08A Circle Bar Ran 91.62 47 ⇑P **P** **04 24 47.7 +0.6**
baz=92
I08A Drewsey 91.63 46 ⇑P **P** **04 24 47.3 +0.2**
baz=92
E08A Dider Farm, El 91.67 44 ⇑P **P** **04 24 46.6 -0.7**
baz=92
B08A Colville Reser 91.77 42 ⇑P **P** **04 24 47.1 -0.6**
baz=92
S09A Goldfield 91.78 52 P **P** **04 24 48.8 +0.8**
baz=92,SNR=7.1
GSC Goldstone 91.80 55 *e*P **P** **04 24 48.4 +0.3**
comp=Z,5.3nm,0.9s,mb4.9
GSC Goldstone 91.80 55 P **P** **04 24 48.8 +0.6**
GSC *e* 04 25 03.9
GSC Goldstone 91.80 55 ⇑P **P** **04 24 48.5 +0.4**
baz=92
MONP Monument Peak 91.80 57 ⇓P **P** **04 24 49.0 +0.8**
baz=92
PFO Pinyon Flat Ob 91.87 57 *e*P **P** **04 24 48.6 +0.1**
comp=Z,15nm,1.5s,mb5.1
PFO Pinyon Flat Ob 91.87 57 P **P** **04 24 49.1 +0.6**
PFO *e* pP 04 25 01.1 +0.9
PFO pmax pmax
comp=Z,13nm,1.1s,mb5.2
PFO Pinyon Flat Ob 91.87 57 ⇓P **P** **04 24 48.6 +0.1**
baz=92
A08A Turner Farm, O 91.90 41 ⇓P **P** **04 24 48.4 +0.1**
baz=92
FURC Furnace Creek, 91.91 54 ⇓P **P** **04 24 48.6 -0.1**
baz=92
R09A Tonopah 91.97 52 P **P** **04 24 48.2 -0.7**
baz=92,SNR=5.3
DVTC Desert V Tower 92.04 58 ⇓P **P** **04 24 48.0 -1.3**
baz=92
K09A Rome 92.07 47 ⇑P **P** **04 24 48.4 -0.8**
baz=92
HEC Hector,Ludlow 92.12 55 ⇓P **P** **04 24 49.8 +0.1**
baz=92
O09A Fish Creek Ran 92.13 50 ⇓P **P** **04 24 49.9 +0.3**
baz=92
J09A Fry Pan Ranch, 92.14 47 ⇑P **P** **04 24 49.2 -0.3**
baz=92,SNR=5.3
SHOC Shoshone 92.30 54 ⇑P **P** **04 24 50.4 -0.1**
baz=92
E09A Wood Farm, Sta 92.30 44 ⇑P **P** **04 24 50.0 -0.3**
baz=92
S10A Tonopah Range, 92.30 52 ⇑P **P** **04 24 50.6 +0.2**
baz=92,SNR=8.0
SWSC Sam W. Stewart 92.33 57 ⇓P **P** **04 24 50.7 +0.1**
baz=92
A09A Danville 92.35 41 ⇓P **P** **04 24 50.2 -0.2**
baz=92
H09A Durkee 92.38 45 ⇓P **P** **04 24 49.9 -0.8**
baz=92
C09A Chrisman Ranch 92.39 42 ⇑P **P** **04 24 50.1 -0.5**
baz=92
SYO Syowa Base 92.45 199⇑ *e*X 04 24 47.2
SYO Syowa Base 92.45 199⇓ *e*PcP PcP 04 24 50.4 -0.8
TPNV Topopah Spring 92.45 53 *e*P **P** **04 24 51.4 +0.3**
comp=Z,20nm,1.0s,mb5.4
TPNV Topopah Spring 92.45 53 *e*P **P** **04 24 51.4 +0.3**
TPNV pmax pmax
comp=Z,20nm,1.0s,mb5.4
TPNV Topopah Spring 92.45 53 ⇓P **P** **04 24 50.6 -0.5**
baz=92
B09A Rice 92.56 42 ⇑P **P** **04 24 50.7 -0.7**
baz=93
Q10A Clear Creek Ra 92.57 51 ⇑P **P** **04 24 52.5 +0.9**
baz=93
R10A Warm Springs 92.58 52 ⇑P **P** **04 24 52.1 +0.4**
baz=93
P10A Eureka 92.62 51 ⇑P **P** **04 24 52.1 +0.2**
baz=93
GMRC Granite Mounta 92.67 55 ⇑P **P** **04 24 53.0 +0.8**
baz=93
O10A Cortez Mining, 92.67 50 ⇓P **P** **04 24 53.0 +1.0**
baz=93
BC3 Big Chuckw Mtn 92.70 57 ⇑P **P** **04 24 52.9 +0.5**
baz=93
K10A MacKenzie Ranc 92.71 47 ⇓P **P** **04 24 52.3 +0.1**
baz=93,SNR=6.6
M10A I.L. Ranch, Tu 92.80 49 ⇓P **P** **04 24 53.6 +1.0**
baz=93
G10A Bishop Farm, J 92.85 45 ⇓P **P** **04 24 53.2 +0.4**
baz=93
L10A Juniper Basin 92.91 48 ⇓P **P** **04 24 53.7 +0.5**
baz=93,SNR=6.8
D10A Wagner Farm, O 92.97 43 ⇑P **P** **04 24 52.5 -0.7**
baz=93
V11A Goodsprings 92.98 54 ⇑P **P** **04 24 54.0 +0.4**
baz=93,SNR=5.1
IRM Iron Mountain 93.01 56 ⇑P **P** **04 24 53.9 +0.1**
baz=93
H10A Noah's Angus R 93.02 46 ⇑P **P** **04 24 52.8 -0.8**
baz=93
R11A Troy Canyon, C 93.14 52 P **P** **04 24 55.0 +0.7**
baz=93,SNR=5.3
Q11A Duckwater 93.15 51 ⇑P **P** **04 24 55.0 +0.7**
baz=93,SNR=11
LDFC Landfair 93.15 55 *e*P **P** **04 24 55.4 +1.0**
BRVK Borovoye 93.18 323 P **P** **04 24 52.0 -2.1**
comp=Z,248nm,0.8s,mb6.7,SNR=9.5
BRVK Borovoye 93.18 323⇑ *e*P **P** **04 24 52.5 -1.6**
BRVK Borovoye 93.18 323 P **P** **04 24 52.9 -1.2**
SNR=23
BRVK Borovoye 93.18 323 P **P** **04 24 52.9 -1.2**
SNR=23
O11A Cowboy Ranch, 93.30 50 ⇓P **P** **04 24 55.2 +0.2**
baz=93
T11A Corn Creek, Al 93.31 53 ⇑P **P** **04 24 54.5 -0.5**
baz=93
K11A Parker Ranch, 93.32 47 ⇓P **P** **04 24 54.6 -0.4**
baz=93,SNR=5.5
M11A Holland Ranch, 93.34 49 ⇑P **P** **04 24 56.1 +1.0**
baz=93
V12A Nelson 93.43 55 ⇓P **P** **04 24 54.9 -0.8**
baz=93
G11A Walters Elk Ra 93.46 45 ⇑P **P** **04 24 55.5 -0.1**
baz=94
MFID Camas Ranch 93.54 47 ⇑P **P** **04 24 56.3 +0.3**
baz=94
H11A Donnelly 93.56 46 ⇑P **P** **04 24 56.2 +0.1**
baz=94
E11A Bogner Ranch, 93.61 44 ⇑P **P** **04 24 55.0 -1.2**
baz=94
S12A Delamar Landin 93.64 53 ⇓P **P** **04 24 55.8 -0.8**
baz=94
B11A Sandpoint 93.74 42 ⇓P **P** **04 24 56.3 -0.5**
baz=94
P12A McGill 93.80 51 ⇑P **P** **04 24 57.2 0.0**
baz=94
A11A Hall Mountain, 93.80 41 ⇓P **P** **04 24 56.4 -0.7**
baz=94
Q12A Willow Creek R 93.81 51 ⇑P **P** **04 24 58.0 +0.7**
baz=94
N12A Clover Valley, 93.84 49 ⇓P **P** **04 24 57.9 +0.5**
baz=94
PDMCI Parker Dam,Lak 93.86 56 ⇑P **P** **04 24 57.7 +0.1**
baz=94
M12A Wells 94.00 49 ⇑P **P** **04 24 58.2 0.0**
baz=94
L12A House Creek Ra 94.00 48 ⇓P **P** **04 24 58.9 +0.7**
baz=94
O12A Currie 94.00 50 ⇓P **P** **04 24 58.9 +0.7**
baz=94
J12A Stokes Ranch, 94.05 47 ⇓P **P** **04 24 58.4 +0.1**
baz=94
K12A Draper Farm, C 94.13 48 ⇑P **P** **04 24 58.6 -0.2**
baz=94
X13A Yucca 94.14 56 ⇓P **P** **04 24 58.6 -0.4**
baz=94
F12A Elk City 94.20 45 ⇓P **P** **04 24 58.2 -0.8**
baz=94
U13A Pakoon Wash 94.22 54 ⇑P **P** **04 24 59.4 +0.1**
baz=94
D12A Red Ives Fores 94.27 43 ⇑P **P** **04 24 59.4 +0.2**
baz=94
T13A Saint George 94.33 53 ⇓P **P** **04 25 00.3 +0.6**

baz=94,SNR=7.6
H12A Diamond D Ranc 94.36 46 ⇊P **P 04 24 59.8 +0.1**
baz=94
S13A Holt Ranch, En 94.42 53 ⇑P **P 04 25 00.3 +0.1**
baz=94
P13A Bates Ranch, G 94.48 51 ⇊P **P 04 25 00.8 +0.4**
baz=94
M13A Montello 94.55 49 ⇑P **P 04 25 01.2 +0.5**
baz=95
O13A Hicks Ranch, I 94.57 50 ⇊P **P 04 25 01.2 +0.4**
baz=95
HLID Hailey 94.58 47 ⇊P **P 04 25 00.1 -0.6**
baz=95
J13A Cove Ranch, Pi 94.74 47 ⇑P **P 04 25 01.8 +0.3**
baz=95
L13A Double Diamond 94.78 48 ⇊P **P 04 25 00.8 -0.9**
baz=95
CCUT Cedar City 94.81 53 *e*P **P 04 25 03.1 +1.1**
W14A Seligman 94.81 55 ⇑P **P 04 25 02.8 +0.7**
baz=95
I13A Wildhorse Cree 94.83 46 ⇊P **P 04 25 02.0 0.0**
baz=95
V14A Boquillas Ranc 94.84 55 ⇊P **P 04 25 02.2 +0.1**
baz=95
U14A Mt Trumbull 94.85 54 ⇑P **P 04 25 02.5 +0.3**
baz=95
F13A Darby 94.85 45 ⇊P **P 04 25 01.6 -0.4**
baz=95
G13A Cobalt 94.86 45 ⇊P **P 04 25 02.1 +0.1**
baz=95
X14A Yava 94.90 56 ⇑P **P 04 25 02.5 0.0**
baz=95
T14A Hurricane 94.98 53 ⇑P **P 04 25 03.6 +0.8**
baz=95
B13A Whitefish 94.99 42 ⇑P **P 04 25 02.5 -0.1**
baz=95
M14A Sheep Mountain 95.18 49 ⇊P **P 04 25 04.2 +0.7**
baz=95
N14A Grayback Hills 95.24 50 ⇑P **P 04 25 04.1 +0.2**
baz=95
K14A Jones Ranch, D 95.39 48 ⇊P **P 04 25 05.0 +0.5**
baz=95
G14A Jackson 95.41 45 ⇑P **P 04 25 04.4 -0.2**
baz=95
DUG Dugway 95.47 50 ⇑P **P 04 25 05.3 +0.4**
baz=96
HVU Hansel Valley 95.63 49 *e*P **P 04 25 03.5 -2.1**
HVU Hansel Valley 95.63 49 *e*P **P 04 25 03.5 -2.1**
HVU *e* 04 25 19.0
MSU Marysvale 95.82 52 *e*P **P 04 25 08.0 +1.4**
M15A Larsen Ranch, 95.85 49 ⇑P **P 04 25 05.4 -1.2**
baz=96
Y16A Circle Bar Ran 96.02 57 ⇑P **P 04 25 06.9 -0.7**
baz=96
YKA Yellowknife Ar 96.05 28 P **P 04 25 06.1 -0.9**
YKA pP pP 04 25 18.1 -0.6
YKA PKKPbc PKKPbc 04 41 52.9 -4.4
YKA P'P' 04 50 07.7
YKA LR LR 05 06 41.2
YKA Yellowknife Ar 96.05 28 P **P 04 25 06.1 -0.9**
YKA *PP pP 04 25 18.1 -0.6
YKA pmax pmax
comp=Z,3.0nm,0.8s
YKA Yellowknife Ar 96.05 28 P **P 04 25 06.1 -0.9**
comp=Z,3.2nm,0.8s,mb4.8,baz=266,slow=4.6,SNR=33
YKA pP pP 04 25 18.1 -0.6
comp=Z,9.1nm,0.8s,baz=267,slow=4.5,SNR=20
YKA PKKPbc PKKPbc 04 41 52.9 -4.4
comp=Z,2.6nm,0.7s,baz=84,slow=2.8,SNR=42
YKA PKPPKP 04 50 07.7
comp=Z,0.4nm,0.9s,baz=102,slow=2.1,SNR=4.0
YKA LR LR 05 06 41.2
comp=Z,506nm,19.8s,MS5.0,baz=245,slow=34
E15A Deer Lodge 96.07 44 ⇑P **P 04 25 06.9 -0.6**
baz=96
EDM Edmonton 96.08 37 *e*P **P 04 25 06.6 -0.8**
EDM Edmonton 96.08 37 *e*P **P 04 25 06.6 -0.8**
EDM *e* pP 04 25 20.2 +1.1
G15A Dillon 96.09 45 ⇑P **P 04 25 06.0 -1.6**
baz=96
X16A Lo Mia Camp, P 96.09 56 ⇊P **P 04 25 07.9 0.0**
baz=96
BOZ Bozeman (W) 96.73 45 ⇑P **P 04 25 10.8 +0.2**
baz=97
PDAR Pinedale Array 98.07 48 P **P 04 25 15.8 -0.8**
PDAR pP pP 04 25 28.6 +0.2
PDAR PKKPbc PKKPbc 04 41 48.6 -2.4
PDAR P'P' 04 50 04.0
PDAR LR LR 05 06 04.7
PDAR Pinedale Array 98.07 48 P **P 04 25 15.8 -0.8**
comp=Z,2.4nm,0.8s,mb4.8,baz=244,slow=2.3,SNR=20
PDAR pP pP 04 25 28.6 +0.2
comp=Z,4.2nm,0.9s,baz=243,slow=2.6,SNR=13
PDAR PKKPbc PKKPbc 04 41 48.6 -2.4
comp=Z,0.6nm,0.5s,baz=103,slow=7.0,SNR=5.8
PDAR PKPPKP 04 50 04.0
comp=Z,0.7nm,1.0s,baz=0.0,slow=4.4,SNR=4.0
PDAR LR LR 05 06 04.7
comp=Z,1μm,19.9s,MS5.3,baz=285,slow=33
EGMT Eagleton 98.12 43 ⇑P **P 04 25 16.7 0.0**
baz=98
ARU Arti 100.12 326 *c i*P Pdif 04 25 23.1 -2.4
ARU *e* 04 29 29.0
ARU *e*PPP 04 31 41.7
ARU *e*S SKSac 04 35 59.2 -2.1
ARU SS SS 04 43 49.9 -2.0
ARU pmax pmax
comp=Z,17nm,1.2s
VNA3 Neumayer Olymp 101.12 185 *e*Pdiff Pdif 04 25 29.2 -0.8
VNA3 *e* 04 25 32.0
VNA3 *e* 04 25 35.6
VNA3 *e* 04 25 39.8
VNA3 *e* 04 25 43.3
VNA3 *e* 04 25 46.3
VNA3 *e* 04 25 50.5
VNA3 *e* 04 25 54.1
VNA3 *e* 04 25 59.2
VNA3 *e* 04 26 01.8
VNA2 Neumayer--Watz 101.23 185 *e*Pdiff Pdif 04 25 29.8 -0.7
VNA2 *e* 04 25 33.0
VNA2 *e* 04 25 36.4
VNA2 *e* 04 25 40.1
VNA2 *e* 04 25 43.4
VNA2 *e* 04 25 46.4
VNA2 *e* 04 25 59.4
VNA2 *e* 04 26 02.0
TXAR Lajitas Array 102.44 62 PKKPbc PKKPbc 04 41 37.6 -0.4
baz=121,slow=4.5
FCC Fort Churchill 106.39 31 *e*PKPdf PKiKP 04 30 04.2 -0.1
ARCES ARCESS Array B 110.11 343 PKPdf PKiKP 04 30 09.0 -2.0
ARCES PKKPbc PKKPbc 04 41 11.2 -4.4
ARCES ARCESS Array B 110.11 343 *i* PKIKP PKiKP 04 30 09.0 -2.0
ARCES 04 41 11.2
ARCES pmax pmax
comp=Z,5.0nm,0.8s
ARCES ARCESS Array B 110.11 343 PKiKP PKiKP 04 30 09.0 -2.0
comp=Z,4.8nm,0.8s,baz=107,slow=1.6,SNR=5.7
ARCES PKKPbc PKKPbc 04 41 11.2 -4.4
comp=Z,5.0nm,0.7s,baz=305,slow=4.3,SNR=9.1
JOF Joensuu 111.70 336 *e*pkp PKiKP 04 30 11.4 -2.8
KIV Kislovodsk 111.75 314 *e*PKIKP PKiKP 04 30 14.0 -0.8
KIV pmax pmax
comp=Z,5.0nm,1.1s
OBN Obninsk 112.51 327 *e*PKIKP PKiKP 04 30 15.5 -0.4
OBN *e* 04 31 03.4
OBN *e*SS SS 04 46 50.5 +10
OBN pmax pmax
comp=Z,12nm,1.9s
OBN MLR MLR
comp=Z,500nm,18.0s,MS5.2
KAF Kangasniemi 114.11 337 *e*pkp PKiKP 04 30 15.8 -3.0
FINES FINESS Array B 114.57 336 PKP PKiKP 04 30 18.0 -1.7
FINES PKKPbc PKKPbc 04 40 57.4 -3.1
FINES FINESS Array B 114.57 336 PKIKP PKiKP 04 30 18.0 -1.7
FINES 04 40 57.4
FINES pmax pmax
comp=Z,4.0nm,0.7s
FINES FINESS Array B 114.57 336 PKP PKiKP 04 30 18.0 -1.7
comp=Z,4.3nm,0.7s,baz=97,slow=4.4,SNR=12
FINES PKKPbc PKKPbc 04 40 57.4 -3.1
comp=Z,3.7nm,0.8s,baz=174,slow=3.5,SNR=9.6
PLCA Paso Flores 115.90 142 PKP PKPdf 04 30 22.1 -0.9
comp=Z,4.1nm,0.7s,baz=228,slow=3.1,SNR=15
PLCA PKKPbc PKKPbc 04 40 52.9 -2.4
comp=Z,3.3nm,0.7s,baz=18,slow=5.2,SNR=11

MALT Malatya 116.04 309 ⇊*i*P PKPdf 04 30 23.2 0.0
AKASG Malin Array Be 118.33 325 PKP PKPdf 04 30 25.6 -1.7
comp=Z,7.6nm,0.5s,baz=48,slow=2.3,SNR=36
AKASG pPKP pPKPdf 04 30 37.9 -1.4
comp=Z,12nm,0.6s,baz=60,slow=2.1,SNR=15
AKASG PKKPbc PKKPbc 04 40 44.3 -2.7
comp=Z,2.2nm,0.6s,baz=261,slow=4.2,SNR=12
KMBO Kilima Mbogo 118.39 265 PKIKP PKPdf 04 30 27.9 -0.6
KMBO 04 30 41.3
KMBO pmax pmax
comp=Z,4.0nm,0.9s
KMBO Kilima Mbogo 118.39 265 PKP PKPdf 04 30 27.9 -0.6
comp=Z,4.3nm,0.9s,baz=55,slow=1.8,SNR=10.0
KMBO pPKP pPKPdf 04 30 41.2 +0.8
comp=Z,6.5nm,0.9s,baz=16,slow=4.9,SNR=9.4
MMAI Mount Meron Ar 119.52 304 PKP PKPdf 04 30 28.9 -1.2
comp=Z,4.3nm,0.6s,baz=64,slow=5.9,SNR=6.9
MMAI pPKP pPKPdf 04 30 42.1 0.0
comp=Z,8.5nm,0.8s,baz=64,slow=1.9,SNR=5.0
ANTO Ankara 119.90 312 ⇊P PKPdf 04 30 30.0 -0.6
ANTO Ankara 119.90 312 ⇊*i*P PKPdf 04 30 30.0 -0.6
SUW Suwalki 119.95 330 *e*PKP PKPdf 04 30 29.6 -0.7
SUW *e* 04 30 43.0
NOA NORSAR Array B 120.26 341 PKP PKPdf 04 30 28.4 -2.3
comp=Z,3.5nm,0.6s,baz=44,slow=1.9,SNR=16
NOA pPKP pPKPdf 04 30 41.1 -1.5
comp=Z,4.1nm,0.7s,baz=44,slow=1.9,SNR=7.3
NOA PKKPbc PKKPbc 04 40 38.0 -2.3
comp=Z,5.4nm,0.8s,baz=43,slow=3.6,SNR=18
EIL Elat 120.50 300 PKP PKPdf 04 30 31.1 -1.0
comp=Z,16nm,0.7s,baz=2.4,slow=5.0,SNR=12
EIL pPKP pPKPdf 04 30 43.3 -0.8
comp=Z,16nm,1.0s,baz=243,slow=1.4,SNR=6.4
CSS Prodhromos 120.78 306 *e*PKPdf PKPdf 04 30 29.9 -2.6
TIRR Tirgusor 121.41 318 ⇊P PKPdf 04 30 32.5 -0.9
TIRR Tirgusor 121.41 318 ⇊*i*P PKPdf 04 30 32.5 -0.9
SCHQ Schefferville 121.50 28 PKKPbc PKKPbc 04 40 33.6 -1.8
comp=Z,4.0nm,0.8s,baz=258,slow=11,SNR=4.2
LVV L'vov 121.69 326 *e*PKIKP PKPdf 04 30 32.8 -0.9
LCO Las Campanas 122.35 131 *e*PKPdf PKPdf 04 30 34.5 -1.2
LCO *e*PKPbc PKPdf 04 30 48.6 +13
KWP Kalwaria 122.53 326 *e*PKP PKPdf 04 30 35.2 -0.2
KWP *e* 04 30 48.4
KWP Kalwaria 122.53 326 *e*PKPdf PKPdf 04 30 35.1 -0.3
KWP *e*PKP PKPdf 04 30 35.2 -0.2
KWP *e* 04 30 48.4
MLR Muntele Rosu 122.58 320 ⇑P PKPdf 04 30 34.7 -0.9
MLR Muntele Rosu 122.58 320 ⇑*i*P PKPdf 04 30 34.7 -0.9
TRQA Tornquist 122.70 145 *e*PKPdf PKPdf 04 30 34.9 -1.3
CFAA Coronel Fontan 122.74 135 PKP PKPdf 04 30 35.0 -1.3
comp=Z,2.5nm,0.7s,baz=241,slow=2.5,SNR=74
CFAA pPKP pPKPdf 04 30 47.6 -0.7
comp=Z,1.6nm,0.7s,baz=213,slow=3.4,SNR=11
CFAA PKKPbc PKKPbc 04 40 28.4 -1.7
comp=Z,0.1nm,0.4s,baz=18,slow=10,SNR=5.3
BSD Bornholm Skovb 123.10 335 *i* PKIKP PKPdf 04 30 35.2 -1.1
BSD *i* 04 30 48.7
BSD pmax pmax
comp=Z,13nm,0.7s
BSD Bornholm Skovb 123.10 335 *i* P PKPdf 04 30 35.2 -1.1
comp=Z,13nm,0.7s
BSD *i* 04 30 48.7
KOLS Kolonicke sedl 123.13 325 *e*PKP PKPdf 04 30 36.5 0.0
GKP Gorka Klasztor 123.25 332 *e*PKP PKPdf 04 30 36.7 0.0
GKP *e* 04 30 49.7
UZH Uzhgorod 123.28 325 *e*PKIKP pPKPdf 04 30 46.0 -2.8
UZH *i* 04 30 51.8
TRPA Tarpa 123.39 324 ⇊*i*P PKPdf 04 30 36.2 -0.9
STHS Stebnicka Huta 123.45 326 *e*PKP PKPdf 04 30 37.2 +0.1
STHS *e* 04 30 50.2
CRVS Cervenica-Dubn 123.61 326 *e*PKP PKPdf 04 30 37.0 -0.5
CRVS *e* 04 30 51.2
LSZ Lusaka 123.72 246 *e*PKPdf PKPdf 04 30 38.5 -0.1
COP Copenhagen 123.73 336 *e*PKIKP pPKPdf 04 30 50.7 +1.2
COP pmax pmax
comp=Z,12nm,0.9s
COP Copenhagen 123.73 336 *i* P pPKPdf 04 30 50.7 +1.2
comp=Z,12nm,0.9s
OJC Ojcow 123.79 328 *e*PKP PKPdf 04 30 37.2 -0.6
ATAH Atahualpa 123.88 103 PKP PKPdf 04 30 39.6 +0.6
comp=Z,17nm,0.8s,baz=167,slow=1.4,SNR=8.2
PVL Pavlikeni 125.95 318 *i* P PKPdf 04 30 37.1 -1.2
NIE Niedzica 123.96 327 *e*PKP PKPdf 04 30 38.5 +0.4
NNA Nana 124.05 110 PKP PKPdf 04 30 38.8 -0.5
comp=Z,18nm,0.9s,baz=272,slow=6.0,SNR=5.1
KECS Kecovo 124.38 326 *e*PKP PKPdf 04 30 36.2 -2.7
GZR Gura Zlata 124.60 321 ⇑P PKPdf 04 30 39.2 -0.3
GZR Gura Zlata 124.60 321 ⇑*i*P PKPdf 04 30 39.2 -0.3
OKC Ostrava-Krasne 124.88 328 *e*PKP PKPdf 04 30 39.9 0.0
OKC *e* 04 30 53.0
OKC Ostrava-Krasne 124.88 328 *e*PKPDF PKPdf 04 30 39.9 0.0
OKC *ex* x 04 30 53.0
OKC AMS AMS 05 27 50.0
PSZ Piszkesteto 125.02 325 ⇑P PKPdf 04 30 39.8 -0.4
PSZ Piszkesteto 125.02 325 ⇑*i*P PKPdf 04 30 39.8 -0.4
PSZ Piszkesteto 125.02 325 ⇊*i*PKP PKPdf 04 30 39.8 -0.4
BZS Buzias 125.20 322 ⇑P PKPdf 04 30 39.8 -0.8
BZS Buzias 125.20 322 ⇑*i*P PKPdf 04 30 39.8 -0.8
KSP Ksiaz 125.22 330 *e*PKP PKPdf 04 30 40.5 0.0
KSP *e*pPKP pPKPdf 04 30 52.7 +0.2
MORC Moravsky Berou 125.23 328 ⇑P PKPdf 04 30 40.3 -0.3
MORC Moravsky Berou 125.23 328 ⇑*i*P PKPdf 04 30 40.3 -0.2
VYHS Vyhne 125.29 326 *i* PKP PKPdf 04 30 40.3 -0.4
VYHS *e* 04 30 52.7
KOLL Kolacno 125.47 327 *e*PKP PKPdf 04 30 41.1 +0.1
KOLL *e* 04 30 53.9
DPC Dobruska-Polom 125.51 329 *e*PKPDF PKPdf 04 30 40.9 -0.2
DPC *ex* x 04 30 54.2
DPC AMS AMS 05 25 50.0
comp=Z,800nm,21.8s,MS5.3
UPC Upice 125.57 330 *e*PKPDF PKPdf 04 30 41.1 -0.1
UPC *ex* x 04 30 53.8
VTS Vitosha 125.62 318 ⇊P PKPdf 04 30 41.3 -0.2
VTS Vitosha 125.62 318 ⇊*i*P PKPdf 04 30 41.3 -0.2
VTS Vitosha 125.62 318 *i* P PKPdf 04 30 40.0 -1.5
MMB Musomiste 125.71 317 *i* P PKPdf 04 30 40.5 -1.2
BUD Budapest 125.75 325 ⇑*e*PKP PKPdf 04 30 40.9 -0.7
BSEG Bad Segeberg 125.84 336 *e*PKPdf PKPdf 04 30 41.1 -0.5
BSEG *e*pPKPdf pPKPdf 04 30 54.7 +1.1
KKB Krupnik 126.03 317 *i* P PKPdf 04 30 40.5 -1.8
MODS Modra-Piesok 126.20 327 *e*PKP PKPdf 04 30 42.4 0.0
MODS *e* 04 30 55.6
PVCC Panska Ves 126.27 330 *e*PKP PKPdf 04 30 42.3 -0.2
PVCC *e* 04 30 55.4
PVCC Panska Ves 126.27 330 *e*PKPDF PKPdf 04 30 42.3 -0.2
PVCC *ex* x 04 30 55.4
PVCC AMS AMS 05 29 10.0
BRG Berggiesshubel 126.35 331 *e*PKPdf PKPdf 04 30 42.1 -0.5
BRG Berggiesshubel 126.35 331 *i* PKP PKPdf 04 30 42.0 -0.6
comp=Z,21nm,0.9s
BRG *i* 04 30 55.3
comp=Z,43nm,1.0s
ZST Bratislava 126.40 327 *e*PKP PKPdf 04 30 42.5 -0.3
ZST *e* 04 30 55.9
CLL Collm 126.51 332 ⇑*i*PKP PKPdf 04 30 42.2 -0.7
CLL *i* 04 30 55.3
CLL LR LR
comp=Z,500nm,23.2s,MS5.1
CLL Collm 126.51 332 ⇑*i*PKIKP PKPdf 04 30 42.2 -0.7
CLL *i* 04 30 55.3
CLL pmax pmax
comp=Z,5.0nm,0.7s
CLL MLR MLR
comp=Z,500nm,23.2s,MS5.1
CLL Collm 126.51 332 *e*PKPdf PKPdf 04 30 42.1 -0.8
CLL *e*pPKPdf pPKPdf 04 30 55.6 +0.7
CLL Collm 126.51 332 ⇑*i*PKPdf PKPdf 04 30 42.2 -0.7
comp=Z,23nm,0.7s
CLL *i* (pPKPdf) 04 30 55.3
comp=Z,30nm,0.8s
TREC Trest 126.59 329 *e*PKPDF PKPdf 04 30 43.1 -0.1
TREC *ex* x 04 30 56.0
TREC AMS AMS 05 30 00.0
comp=Z,700nm,17.0s,MS5.4
FBE Freiberg 126.60 331 *e*PKPdf PKPdf 04 30 42.7 -0.4
VAY Valandovo 126.61 317 *e*PKP PKPdf 04 30 40.4 -3.0
PRU Pruhonice 126.63 330 *e*PKPDF PKPdf 04 30 42.7 -0.5
PRU *ex* x 04 30 56.1
PRU AMS AMS 05 29 00.0
comp=Z,700nm,20.6s,MS5.3
PKSM Moragy 126.67 324 ⇑P PKPdf 04 30 42.4 -1.0
PKSM Moragy 126.67 324 ⇑*i*P PKPdf 04 30 42.4 -1.0
NRDL Niedersach Rie 126.97 335 *e*PKPdf PKPdf 04 30 43.5 -0.3

SOP Sopron 127.00 327 ⇊*e*PKP PKPdf 04 30 43.8 -0.2
CONA Conrad Observa 127.23 327 ⇊*i*PKiKP PKiKP 04 30 44.2 -0.7
comp=Z,14nm,1.1s
CLZ Clausthal 127.33 334 *e*PKPdf PKPdf 04 30 44.3 -0.2
CLZ *ep*PKPdf pPKPdf 04 30 57.5 +1.0
ARE Arequipa 127.41 117 *e*P PKPdf 04 30 45.0 -0.7
WERD Werda 127.41 332 *e*PKPdf PKPdf 04 30 44.1 -0.6
WERD *ep*PKPdf pPKPdf 04 30 57.6 +0.9
GUNZ Gunzen 127.46 331 *e*PKPdf PKPdf 04 30 44.5 -0.3
KRUS Krusevo 127.48 318 *e*PKP PKPdf 04 30 44.3 -0.8
WERN Wernitzgruen 127.49 331 *e*PKPdf PKPdf 04 30 44.5 -0.3
NKC Novy Kostel 127.49 331 *e*PKP PKPdf 04 30 45.0 +0.2
NKC *e* 04 30 57.8
NKC Novy Kostel 127.49 331 *e*PKPDF PKPdf 04 30 45.0 +0.2
NKC *ex* x 04 30 57.8
NKC AMS AMS 05 27 30.0
comp=Z,900nm,29.1s,MS5.3
MOX Moxa 127.60 332 *e*PKP PKPdf 04 30 44.9 -0.1
MOX *e* 04 30 57.5
MOX Moxa 127.60 332 *e*PKPdf PKPdf 04 30 44.4 -0.6
KHC Kasperske Hory 127.67 330 *e*PKPDF PKPdf 04 30 45.0 -0.2
KHC *ex* x 04 30 58.1
KHC AMS AMS 05 27 10.0
comp=Z,600nm,16.2s,MS5.4
GEC2 GERESS Array S 127.79 329 *e*PKPdf PKPdf 04 30 44.9 -0.6
GEC2 *ep*PKPdf pPKPdf 04 30 58.1 +0.7
GERES GERESS Array B 127.79 329 PKIKP PKPdf 04 30 45.2 -0.3
GERES 04 30 57.2
GERES pmax pmax
comp=Z,12nm,0.7s
GERES pmax pmax
comp=N,13nm,0.7s
GERES GERESS Array B 127.79 329 PKP PKPdf 04 30 45.2 -0.3
comp=N,12nm,0.7s,baz=75,slow=1.5,SNR=63
GERES pPKP pPKPdf 04 30 57.2 -0.3
comp=N,13nm,0.7s,baz=48,slow=2.0,SNR=20
MANZ Manzenberg 127.82 331 *e*PKPdf PKPdf 04 30 45.1 -0.4
OHR Ohrid 127.90 318 *e*PKP PKPdf 04 30 44.4 -1.5
ROTZ Rotzenmuhle 127.92 331 *e*PKPdf PKPdf 04 30 45.1 -0.6
WET Wettzell 128.00 330 *e*PKPdf PKPdf 04 30 45.4 -0.5
WET *ep*PKPdf pPKPdf 04 30 58.7 +0.8
IBBN Ibbenburen 128.09 336 *e*PKPdf PKPdf 04 30 45.5 -0.4
UBBA Unterbreizbach 128.22 333 *e*PKPdf PKPdf 04 30 45.7 -0.5
UBBA *ep*PKPdf pPKPdf 04 30 58.8 +0.6
PERS Pernice 128.41 326 *i* PKPdf PKPdf 04 30 46.2 -0.5
PERS *i* 04 30 59.1
GRA1 Grafenberg Arr 128.44 331 *e*PKPdf PKPdf 04 30 46.1 -0.6
GRA1 *ep*PKPdf pPKPdf 04 30 59.4 +0.7
GRF Grafenberg Arr 128.44 331 *e*PKPdf PKPdf 04 30 46.1 -0.6
GRF *ep*PKPdf pPKPdf 04 30 59.4 +0.7
OBKA Obir 128.80 327 ⇑*i*P PKPdf 04 30 47.2 -0.2
comp=N,15nm,1.7s
BOJS Bojanci 129.01 325 *i* PKPdf PKPdf 04 30 48.2 +0.3
BOJS *i* 04 31 00.3
KBA Koelnbreinsper 129.10 328 ⇑*i*P PKPdf 04 30 46.3 -1.8
comp=N,16nm,1.4s
LJU Ljubljana 129.10 326 *i* PKPdf PKPdf 04 30 48.1 +0.1
LJU *i* 04 31 00.1
TNS Taunus Mts 129.34 334 *e*PKPdf PKPdf 04 30 48.0 -0.4
JAVS Javornik 129.45 326 *i* PKPdf PKPdf 04 30 48.4 -0.4
JAVS *e* 04 31 01.2
FUR Furstenfeldbru 129.45 330 *e*PKPdf PKPdf 04 30 48.0 -0.6
FUR *ep*PKPdf pPKPdf 04 31 01.2 +0.6
VOY Vojsko 129.46 326 *e*PKPdf PKPdf 04 30 47.7 -1.0
VOY *e* 04 31 00.8
WATA Walderalm 129.85 329 ⇑*i*P PKPdf 04 30 48.7 -0.8
comp=N,4.3nm,0.7s
ROSC El Rosal 129.86 90 PKP PKPdf 04 30 50.0 -0.4
comp=N,16nm,0.8s,baz=175,slow=1.3,SNR=12
WTTA Wattenberg 129.87 329 ⇑*i*P PKPdf 04 30 48.3 -1.2
comp=N,18nm,1.1s
ABH Alteburg 129.98 334 PKP PKPdf 04 30 50.1 +0.5
STU Stuttgart 130.04 332 *e*PKPdf PKPdf 04 30 49.3 -0.4
BEBN Eben Emael 130.08 336 PKPdf PKPdf 04 30 50.3 +0.6
MOTA Moosalm 130.09 329 ⇑*i*P PKPdf 04 30 48.8 -1.1
comp=N,8.6nm,1.1s
MEM Membach 130.09 335 PKPdf PKPdf 04 30 49.4 -0.4
SQTA Sankt Quirin 130.12 329 ⇑*i*P PKPdf 04 30 49.0 -1.0
comp=N,12nm,0.9s
RUP Ruppelstein 130.33 334 PKP PKPdf 04 30 50.6 +0.3
LPAZ La Paz 130.43 118 PKP PKPdf 04 30 51.8 +0.3
comp=N,20nm,0.9s,baz=260,slow=1.5,SNR=41
LPAZ pPKP pPKPdf 04 31 04.3 +0.9
comp=N,19nm,1.0s,baz=6.1,slow=8.2,SNR=9.1
LPAZ SKPbc SKPbc 04 34 11.7 -0.4
comp=N,5.6nm,0.9s,baz=250,slow=2.1,SNR=6.8
BCLA Clavier 130.53 336 PKPdf PKPdf 04 30 50.9 +0.3
SPAK Spaichingen-Ko 130.70 331 PKP PKPdf 04 30 51.0 0.0
DAVA Damuels 130.74 330 ⇑*i*P PKPdf 04 30 50.6 -0.5
comp=N,20nm,1.2s
WLF Walferdange 130.75 335 *e*PKPdf PKPdf 04 30 50.7 -0.4
WLF *ep*PKPdf pPKPdf 04 31 04.5 +1.4
WLF Walferdange 130.75 335 PKPdf PKPdf 04 30 50.0 -1.1
WLF Walferdange 130.75 335 *e*PKPdf PKPdf 04 30 51.5 +0.4
BFO Black Forest 130.75 332 *e*PKPdf PKPdf 04 30 50.3 -0.8
BFO *ep*PKPdf pPKPdf 04 31 03.8 +0.7
GIVF Givet 130.97 336 *e*PKIKP PKPdf 04 30 51.7 +0.2
comp=N,38nm,0.8s
DOU Dourbes 131.06 336 PKPdf PKPdf 04 30 51.7 +0.1
CDF Champ du Feu 131.18 333 *e*PKIKP PKPdf 04 30 51.6 -0.3
comp=N,23nm,1.0s
FELD Feldberg im Sc 131.23 332 PKP PKPdf 04 30 51.9 -0.1
BAIF Baives 131.25 336 *e*PKIKP PKPdf 04 30 51.5 -0.5
comp=N,21nm,0.8s
ECH Echery 131.38 333 PKP PKPdf 04 30 51.4 -0.9
TSUM Tsumeb 131.38 237 *e*PKPdf PKPdf 04 30 52.9 -0.3
TIP Timpagrande 131.54 317 *e*PKPdf PKPdf 04 30 52.5 -0.4
TIP *e*PKPbc PKPdf 04 31 05.3 +12
MOF Molkenrain 131.66 332 PKP PKPdf 04 30 52.9 +0.1
HINF Hinteralfeld 131.81 332 *e*PKIKP PKPdf 04 30 52.9 -0.2
comp=N,21nm,0.7s
THEF They Montfort 131.90 333 PKP PKPdf 04 30 50.6 -2.7
HAU Haudompre 131.90 333 *e*PKIKP PKPdf 04 30 53.3 0.0
comp=N,28nm,0.6s
AQU L'Aquila 131.95 323 PKIKP PKPdf 04 30 47.3 -6.3
MEZF Maizieres J'vi 132.10 334 *e*PKIKP PKPdf 04 30 54.1 +0.4
comp=N,54nm,0.8s
LOMF Lomont 132.16 332 PKP PKPdf 04 30 53.6 -0.2
CABF La Chapelle 133.05 332 *e*PKIKP PKPdf 04 30 56.2 +0.7
comp=N,34nm,0.7s
LPL La Plagne 133.53 330 *e*PKIKP PKPdf 04 30 56.3 -0.2
comp=N,17nm,0.6s
LPG La Plagne 133.54 330 *e*PKIKP PKPdf 04 30 56.4 -0.1
comp=N,21nm,0.6s
LOR Lormes 133.56 334 *e*PKIKP PKPdf 04 30 56.7 +0.2
comp=N,31nm,1.1s
SDV Santo Domingo 133.77 85 *e*PKPdf PKPdf 04 30 56.6 -1.2
SDV *ep*PKPdf pPKPdf 04 31 11.1 +1.3
SSF Saint Saulge 133.88 334 *e*PKIKP PKPdf 04 30 57.5 +0.4
comp=N,26nm,0.8s
BNI Bardonecchia 133.89 330 *e*PKPdf PKPdf 04 30 56.0 -1.1
BNI *ep*PKPdf pPKPdf 04 31 10.5 +1.4
SMF Signal de Mont 134.05 333 *e*PKIKP PKPdf 04 30 57.5 +0.1
MBDF Montbardon 134.08 330 *e*PKIKP PKPdf 04 30 57.7 +0.2
comp=N,14nm,0.8s
FLN La Foliniere 134.10 338 *e*PKIKP PKPdf 04 30 57.6 +0.2
comp=N,35nm,0.8s
LDF La Druitiere 134.10 338 *e*PKIKP PKPdf 04 30 57.7 +0.3
AVF Avril sur Loir 134.15 334 *e*PKIKP PKPdf 04 30 57.6 0.0
PGF Pioggiola 134.38 326 *e*PKIKP PKPdf 04 30 58.5 +0.4
comp=N,54nm,0.8s
ORIF Oris-en-Rattie 134.38 330 *e*PKIKP PKPdf 04 30 57.5 -0.6
comp=N,15nm,0.6s
GRR Gorron 134.55 338 *e*PKIKP PKPdf 04 30 58.6 +0.3
comp=N,22nm,0.7s
BGF Bois d'Agland 134.55 334 *e*PKIKP PKPdf 04 30 58.9 +0.6
comp=N,23nm,0.8s
FRF La Foret Royal 134.96 328 *e*PKIKP PKPdf 04 30 59.4 +0.2
comp=N,16nm,0.6s
VIVF Saint-Julien-l 135.01 331 *e*PKIKP PKPdf 04 30 59.8 +0.5
comp=N,40nm,1.0s
TCF Toulx Ste Croi 135.04 334 *e*PKIKP PKPdf 04 30 59.9 +0.6
comp=N,38nm,0.9s
SMRF Simiane la Rot 135.21 330 *e*PKIKP PKPdf 04 30 59.5 -0.2
comp=N,32nm,0.8s
MFF Saint Martin d 135.76 336 *e*PKIKP PKPdf 04 31 01.1 +0.5
comp=N,21nm,0.8s
LASF Ste Croix 135.98 331 *e*PKIKP PKPdf 04 31 02.0 +0.9
comp=N,28nm,0.8s
RJF Les Rejaudoux 136.11 334 *e*PKIKP PKPdf 04 31 01.7 +0.4
comp=N,7.8nm,0.7s
CAF Calviac 136.17 333 *e*PKIKP PKPdf 04 31 01.2 -0.2
SIV San Ignacio 136.61 122 PKhKP 04 30 50.3
comp=N,4.8nm,0.8s,baz=251,slow=4.3,SNR=13

SIV PKP PKPdf 04 31 02.0 -1.1
comp=N,15nm,0.9s,baz=254,slow=1.8,SNR=22
SIV SKPbc SKPbc 04 34 32.1 -0.8
comp=N,1.8nm,0.7s,baz=272,slow=4.5,SNR=4.1
MTLF Montolieu 137.32 332 *e*PKIKP PKPdf 04 31 03.9 +0.3
comp=N,9.9nm,0.7s
KEST Kesra 138.36 318 PKP PKPdf 04 31 06.5 +0.7
comp=N,2.7nm,0.8s,baz=298,slow=4.0,SNR=4.2
ETSF Etsaut 138.93 334 *e*PKIKP PKPdf 04 31 08.6 +2.0
comp=N,22nm,0.6s
ETOR Torete 141.26 333 PKP PKPdf 04 31 03.8 -7.1
ECHE Chera 141.73 331 PKP PKPdf 04 31 06.9 -4.9
EMHD Djebel Mahouad 142.10 323 P PKPdf 04 31 04.0 -8.5
PBRG Braganca 142.33 339 *e*PKP PKPdf 04 31 07.8 -5.0
ETOB Tobarra 142.75 330 PKP PKPdf 04 31 16.4 +2.8
MVO Moncorvo 143.00 339 *e*PKP PKPdf 04 31 10.4 -3.5
ESDC Sonseca Array 143.04 334 PKP PKPdf 04 31 10.0 -4.1
ESDC Sonseca Array 143.04 334 PKhKP 04 31 10.4
comp=N,7.4nm,0.8s,baz=25,slow=2.7,SNR=28
ESDC pPKP pPKPdf 04 31 24.0 -2.1
comp=N,9.6nm,0.8s,baz=20,slow=3.1,SNR=11
EVIA Vianos 143.22 331 PKP PKPdf 04 31 11.6 -2.8
EANR 'Ain N'Sour 143.35 325 P PKPdf 04 31 11.0 -3.8
PTO Porto 143.57 340 *e*PKP PKPdf 04 31 12.5 -2.5
ETRT Tiaret 143.63 324 P PKPdf 04 31 13.0 -2.3
PVIS Viseu 143.70 339 *e*PKP PKPdf 04 31 12.8 -2.4
MTE Manteigas 143.85 339 *e*PKP PKPdf 04 31 13.4 -2.1
MTE Manteigas 143.85 339 *e*PKPdf PKPdf 04 31 13.2 -2.3
MTE *e*pPKPdf pPKPdf 04 31 26.6 -0.9
EQES Quesada 144.15 331 PKP PKPdf 04 31 14.0 -2.1
PCBR Castelo Branco 144.32 338 *e*PKP PKPdf 04 31 14.6 -1.7
ENIJ Nijar 144.38 329 PKP PKPdf 04 31 13.8 -2.7
BBGH Gun Hill 144.49 78 *e*PKPdf PKPdf 04 31 17.0 -0.3
EADA Adamuz 144.55 333 PKP PKPdf 04 31 14.8 -2.0
EBER Berja 144.78 330 PKP PKPdf 04 31 15.0 -2.2
ECOG Cogollos-Vega 144.81 331 PKP PKPdf 04 31 14.0 -3.2
ELUQ Luque 144.91 332 PKP PKPdf 04 31 15.6 -1.8
ECAB El Cabril 145.00 334 PKP PKPdf 04 31 15.8 -1.7
EBAD Badajoz 145.08 337 PKP PKPdf 04 31 16.8 -0.9
ERON Agron 145.13 331 PKP PKPdf 04 31 16.2 -1.6
EGUA Guajares 145.16 331 PKP PKPdf 04 31 16.6 -1.3
ELOJ Sierra Loja 145.19 332 PKP PKPdf 04 31 16.2 -1.7
PESTR Estremoz 145.21 337 *e*PKP PKPdf 04 31 17.0 -0.9
ALMR Almeirim 145.32 339 *e*P PKPbc 04 31 17.7 -0.2
PBAR Barrancos 145.59 336 *e*PKP PKPdf 04 31 18.5 -0.1
EALB Alboran 145.60 329 PKP PKPdf 04 31 17.5 -1.1
EVO Evora 145.66 338 ↑*i*PKIKP PKPdf 04 31 18.9 +0.2
comp=N,109nm,0.9s
PMAFR **Mafra 145.75 339** *e*PKP PKPdf 04 31 19.3 +0.5
EMIN Mina Concepcio 145.79 335 PKP PKPdf 04 31 19.0 +0.1
MOE Montemor 145.80 338 *e*PKP PKPdf 04 31 19.6 +0.7
EMIJ Mijas 145.95 332 PKP PKPdf 04 31 17.3 -1.9
PLML Palmela 145.97 339 *e*PKP PKPdf 04 31 18.9 -0.3
PBEJ Beja 146.05 337 *e*PKP PKPdf 04 31 20.1 +0.7
ESPR Espera 146.20 333 PKP PKPdf 04 31 19.8 +0.2
EGRO El Granado 146.32 336 PKP PKPdf 04 31 19.8 0.0
EJIF Jimena Fronter 146.37 333 PKP PKPdf 04 31 19.3 -0.6
PVAQ Vaqueiros 146.53 336 *e*PKP PKPdf 04 31 21.7 +1.5
SFS San Fernando 146.69 333 *e*PKPbc PKPbc 04 31 20.9 -1.2
SFS *e*pPKPdf pPKPdf 04 31 32.7 +0.3
PBDV Barranco-do-Ve 146.75 336 *e*PKP PKPdf 04 31 22.5 +1.9
PTEO Sao Teotonio 146.80 338 *e*PKP PKPdf 04 31 22.3 +1.7
MORF Marmelete 146.98 337 *e*PKP PKPdf 04 31 22.8 +1.9
PFVI Vila Bisbo 147.20 337 *e*PKP PKPdf 04 31 23.5 +2.2
PMAR Madeira 153.80 346 *e*PKP PKPbc 04 31 39.8 +0.2
TORD Torodi Ar. Bea 154.10 285 PKP PKPdf 04 31 30.4 -2.2
comp=N,6.3nm,0.8s,baz=23,slow=1.5,SNR=19
TORD PKPbc PKPbc 04 31 39.6 -1.1
comp=N,25nm,0.8s,baz=60,slow=1.9,SNR=35
TORD PKPab pPKPab 04 31 52.5 -1.9
comp=N,14nm,0.7s,baz=75,slow=2.5,SNR=7.9
TORD pPKPab pPKPab 04 32 05.3 -0.8
comp=N,14nm,0.8s,baz=68,slow=3.3,SNR=3.0
DBIC Dimbokro 161.04 270 PKIKP PKPdf 04 31 39.8 -1.5
DBIC 04 31 53.3
DBIC pmax pmax
comp=Z,22nm,1.0s
DBIC Dimbokro 161.04 270 PKP PKPdf 04 31 39.8 -1.5
comp=Z,22nm,1.0s,baz=174,slow=1.5,SNR=10
DBIC pPKP pPKPdf 04 31 53.3 0.0
comp=Z,31nm,0.9s,baz=193,slow=0.9,SNR=9.8
DBIC PKPab PKPab 04 32 24.1 -0.4
comp=Z,24nm,0.8s,baz=96,slow=4.4,SNR=20
DBIC pPKPab pPKPab 04 32 36.5 +0.3
comp=Z,27nm,0.8s,baz=75,slow=4.7,SNR=4.9
LIC Lamto 161.19 268 ↑*i*PKIKP PKPdf 04 31 40.2 -1.3
comp=Z,102nm,1.1s

IDC 02 04:15:54.4±5.3, 703S×15583E, h0km, mb4.5/3, mb1 4.7/3, mb1mx4.3/13, mbtmp4.5/3, Error ellipse: s-maj=156.4km s-min=42.1km az=113.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.48**	**236**	P	P		04 21 15.6	+0.2
	15nm,0.7s,baz=62,slow=9.3,SNR=5.1							
SONM	**Songino Array**	**69.81**	**327**	P	P		04 27 07.8	+1.1
	1.2nm,0.5s,baz=131,slow=5.8,SNR=4.4							
ZALV	**Zalesovo Beam**	**84.67**	**326**	P	P		04 28 28.9	-1.1
	1.8nm,0.3s,baz=122,slow=5.0,SNR=4.3							

IDC 02 04:31:36.5±5.3, 704S×15555E, h0km, mb3.8/5, mb1 3.9/5, mb1mx3.8/13, mbtmp3.8/5, Error ellipse: s-maj=161.2km s-min=29.4km az=112.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.25**	**236**	P	P		04 36 55.8	+0.4
	1.0nm,0.7s,baz=64,slow=9.8,SNR=4.6							
ASAR	**Alice Springs**	**26.56**	**229**	P	P		04 37 16.7	+0.4
	0.3nm,0.7s,baz=61,slow=7.6,SNR=2.9							
SONM	**Songino Array**	**69.67**	**327**	P	P		04 42 48.7	+0.8
	0.8nm,0.5s,baz=133,slow=6.0,SNR=6.3							
MKAR	**Makanchi Array**	**83.80**	**319**	P	P		04 44 07.5	-0.4
	0.6nm,0.3s,baz=80,slow=7.5,SNR=4.8							
ZALV	**Zalesovo Beam**	**84.53**	**326**	P	P		04 44 10.7	-0.7
	1.0nm,0.6s,baz=113,slow=3.9,SNR=4.1							

*IDC **02** 04:33:21.9±1.8, 752S×15583E, h0km, mb4.3/8, mb1 4.4/8, mb1mx4.2/14, mbtmp4.2/8, Error ellipse: s-maj=58.7km s-min=21.9km az=114.0*
*BJI **02** 04:33:23.8, 750S×15570E, h10km, mB5.2, mb4.6*
*NEIC **02** 04:33:23.9±0.9, 751S×15572E, h10km, mb4.7/2, Error ellipse: s-maj=31.8km s-min=12.8km az=123.0*
*ISCJB **02** 04:33:25.5±1.2, 76S±02×1558E±02, h33km, mb4.2/11, Error ellipse: s-maj=40.0km s-min=15.5km az=32.4*
ISC 02 04:33:27.6±1.2, 76S±02×1557E±03, h35km, n12, σ0$65/12, mb4.2/11, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**23.48**	**255**	*e*P	P		04 38 34.0	-0.6
	29nm,0.9s,mb4.7							
WRA	**Warramunga Arr**	**24.11**	**237**	P	P		04 38 40.1	-0.2
	6.1nm,0.8s,mb4.1,baz=62,slow=9.6,SNR=10							
ASAR	**Alice Springs**	**26.36**	**230**	P	P		04 39 00.9	+0.2
	3.0nm,0.8s,mb3.9,baz=61,slow=9.2,SNR=9.2							
STKA	**Stephens Creek**	**27.56**	**207**	P	P		04 39 11.8	+0.5
	3.6nm,0.7s,mb4.1,baz=27,slow=15,SNR=8.0							
FITZ	**Fitzroy Crossi**	**31.11**	**247**	P	P		04 39 43.0	0.0
	1.6nm,0.6s,mb4.0,baz=56,slow=11,SNR=4.6							
GTA	**Gaotai**	**69.64**	**317**	*e*P	P		04 44 38.0	+4.4
GTA				AP	pP		04 44 41.8	-2.6
GTA				XP	sP		04 44 43.0	-5.5
GTA				AMB	AMB			
	comp=Z,3.0nm,0.7s,mb4.3							
SONM	**Songino Array**	**70.19**	**327**	P	P		04 44 38.0	+1.2
	comp=Z,1.9nm,0.7s,mb4.1,baz=141,slow=6.5,SNR=8.5							
BILL	**Bilibino**	**75.78**	**4**	*e*P	P		04 45 10.1	+0.7
	comp=Z,4.4nm,0.8s,mb4.4							
MKAR	**Makanchi Array**	**84.30**	**319**	P	P		04 45 55.6	-0.3
	comp=Z,1.3nm,0.4s,mb4.4,baz=90,slow=6.1,SNR=7.3							
ZALV	**Zalesovo Beam**	**85.04**	**326**	P	P		04 45 58.9	-0.6
	comp=Z,1.5nm,0.7s,mb4.2,baz=99,slow=3.6,SNR=3.4							
YKA	**Yellowknife Ar**	**96.48**	**28**	P	P		04 46 52.0	-1.0
YKA	**Yellowknife Ar**	**96.48**	**28**	P	P		04 46 52.0	-1.0
	comp=Z,0.3nm,0.6s,mb3.9,baz=272,slow=4.6,SNR=6.1							

*IDC **02** 04:42:00.5±1.0, 788S×15644E, h0km, mb4.4/11, mb1 4.5/11, mb1mx4.4/15, mbtmp4.4/11, Error ellipse: s-maj=36.5km s-min=17.9km az=123.0*
*ISCJB **02** 04:42:01.4±8.5, 79S±02×1565E±01, h15km±57km, mb4.4/15, Error ellipse: s-maj=31.6km s-min=13.3km az=151.3*
*NEIC **02** 04:42:01.9±0.4, 799S×15660E, h10km, mb4.8/4, Error ellipse: s-maj=12.9km s-min=9.6km az=149.0*
ISC 02 04:42:05.0±2.3, 803S±010×15666E±006, h33km±17km, n20, σ0$77/21, mb4.4/15, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**3.54**	**113**	*e*Pn	Pn		04 42 57.3	-0.4
HNR				*e*Sn	Sn		04 43 38.0	-0.4
HNR	**Honiara**	**3.54**	**113**	Pn	Pb		04 43 07.1	+0.2
	69nm,0.3s,baz=251,slow=4.9,SNR=5.9							
HNR				Sn	Sb		04 43 55.6	+6.2
	107nm,0.3s,baz=276,slow=18,SNR=6.0							
CTA	**Charters Tower**	**15.66**	**219**	Pn	Pn		04 45 49.4	+6.1
	0.2nm,0.3s,baz=58,slow=13,SNR=5.4							
KAKA	**Kakadu**	**24.26**	**257**	*e*P	P		04 47 20.2	+0.8
	29nm,1.1s,mb4.6							
WB2	**Warramunga Arr**	**24.63**	**239**	*e*P	P		04 47 22.6	-0.1
WRA	**Warramunga Arr**	**24.64**	**239**	P	P		04 47 22.7	-0.1
	15nm,1.0s,mb4.5,baz=63,slow=9.5,SNR=18							
WRA				PcP	PcP		04 50 58.1	-1.8
	1.8nm,0.8s,baz=67,slow=2.4,SNR=6.5							
ASAR	**Alice Springs**	**26.78**	**232**	P	P		04 47 40.9	-1.2
	1.8nm,0.9s,mb3.6,baz=61,slow=8.2,SNR=9.9							
STKA	**Stephens Creek**	**27.56**	**209**	P	P		04 47 50.0	+1.0
	5.3nm,1.0s,mb4.1,baz=23,slow=12,SNR=6.9							
FITZ	**Fitzroy Crossi**	**31.78**	**249**	P	P		04 48 26.5	-0.1
	2.3nm,0.8s,mb4.0,baz=102,slow=13,SNR=3.5							
KSRS	**Korea Array**	**52.63**	**331**	P	P		04 51 14.4	-1.4
	7.4nm,0.9s,mb4.6,baz=148,slow=7.9,SNR=13							
HIA	**Hailar**	**65.56**	**334**	*e*P	P		04 52 45.5	+0.2
	16nm,1.0s,mb5.0							
SONM	**Songino Array**	**71.10**	**327**	P	P		04 53 19.9	-0.1
	7.3nm,0.8s,mb4.7,baz=143,slow=6.4,SNR=30							
TLY	**Talaya**	**74.79**	**329**	*e*P	P		04 53 42.5	+0.7
	5.1nm,0.9s,mb4.5							
KDAK	**Kodiak Island**	**77.39**	**25**	P	P		04 53 56.8	+0.3
	3.2nm,0.9s,mb4.2,baz=265,slow=10,SNR=3.1							
MCK	**McKinley**	**82.41**	**21**	*e*P	P		04 54 23.6	+0.1
	8.7nm,1.0s,mb4.6							
MKAR	**Makanchi Array**	**85.27**	**318**	P	P		04 54 38.1	-0.4
	3.5nm,0.7s,mb4.6,baz=86,slow=6.4,SNR=20							
ZALV	**Zalesovo Beam**	**85.96**	**326**	P	P		04 54 40.9	-0.8
	0.5nm,0.3s,mb4.2,baz=94,slow=4.1,SNR=5.2							
NVAR	**Mina Array Bea**	**91.07**	**52**	P	P		04 55 09.4	+2.9
	1.6nm,1.0s,mb4.3,baz=232,slow=4.7,SNR=7.2							
YKA	**Yellowknife Ar**	**96.48**	**28**	P	P		04 55 30.8	+0.1
	0.9nm,1.1s,mb4.1,baz=262,slow=4.4,SNR=7.6							
TORD	**Torodi Ar. Bea**	**154.88**	**284**	PKPbc	PKPbc		05 02 04.5	+0.4
	0.5nm,0.6s,baz=70,slow=4.7,SNR=4.9							

*ISCJB **02** 04:46:37.6±0.7, 74S±01×15608E±008, h10km, mb4.1/7, Error ellipse: s-maj=19.3km s-min=8.8km az=24.4*
*IDC **02** 04:46:37.6±1.0, 731S×15606E, h0km, mb4.3/7, mb1 4.3/8, mb1mx4.2/14, mbtmp4.3/8, ML4.1/1, Error ellipse: s-maj=32.5km s-min=23.1km az=104.0*
*NEIC **02** 04:46:39.0±0.7, 732S×15609E, h10km, Error ellipse: s-maj=19.0km s-min=16.9km az=198.0*
ISC 02 04:46:39.0±0.7, 74S±01×15612E±008, h10km, n8, σ0$92/9, mb4.1/7, West Bohemia, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.32**	**119**	Pn	Pn		04 47 45.0	+0.3
	11nm,0.3s,baz=266,slow=7.7,SNR=2.8							
HNR				Sn	Sb		04 48 47.0	-0.3
	32nm,0.3s,baz=105,slow=24,SNR=5.9							
WRA	**Warramunga Arr**	**24.54**	**237**	P	P		04 51 58.0	-1.1
	4.6nm,0.9s,mb4.0,baz=62,slow=9.5,SNR=6.8							
WRA				PcP	PcP		04 55 36.7	-0.7
	0.4nm,0.7s,baz=67,slow=2.7,SNR=4.6							
ASAR	**Alice Springs**	**26.79**	**230**	P	P		04 52 18.6	-0.8
	0.8nm,0.7s,mb3.4,baz=62,slow=8.4,SNR=4.2							
STKA	**Stephens Creek**	**27.91**	**207**	P	P		04 52 31.4	+2.0
	1.3nm,0.7s,mb3.7,baz=11,slow=14,SNR=2.3							
SONM	**Songino Array**	**70.24**	**327**	P	P		04 57 52.8	+0.5
	2.2nm,0.8s,mb4.1,baz=141,slow=7.0,SNR=12							
MKAR	**Makanchi Array**	**84.41**	**318**	P	P		04 59 12.7	+0.9
	7.9nm,0.8s,mb4.9,baz=85,slow=7.4,SNR=39							
ZALV	**Zalesovo Beam**	**85.10**	**326**	P	P		04 59 14.2	-0.9
	4.5nm,0.7s,mb4.7,baz=111,slow=5.0,SNR=17							
YKA	**Yellowknife Ar**	**96.13**	**28**	P	P		05 00 06.4	-0.3
	0.3nm,0.7s,mb3.8,baz=270,slow=4.5,SNR=5.2							

IDC 02 04:51:58.1±4.8, 678S×15525E, h0km, mb3.7/4, mb1 3.8/4, mb1mx3.6/13, mbtmp3.7/4, Error ellipse: s-maj=141.6km s-min=36.9km az=116.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.15**	**235**	P	P		04 57 16.0	0.0
	0.8nm,0.7s,baz=60,slow=9.4,SNR=4.0							
SONM	**Songino Array**	**69.29**	**327**	P	P		05 03 07.4	+0.3
	0.2nm,0.4s,baz=131,slow=5.9,SNR=2.2							
MKAR	**Makanchi Array**	**83.41**	**319**	P	P		05 04 28.4	+1.0
	1.1nm,0.9s,baz=106,slow=4.3,SNR=5.8							
ZALV	**Zalesovo Beam**	**84.14**	**326**	P	P		05 04 30.2	-0.7
	0.7nm,0.5s,baz=114,slow=3.5,SNR=2.9							

*ISCJB **02** 05:00:29.6±0.5, 764S±008×1556E±01, h10km, mb4.5/20, Error ellipse: s-maj=16.3km s-min=9.2km az=24.9*
*IDC **02** 05:00:29.3±1.2, 779S×15570E, h0km, mb4.4/11, mb1 4.5/11, mb1mx4.4/14, mbtmp4.4/11, Error ellipse: s-maj=40.1km s-min=18.0km az=115.0*
*NEIC **02** 05:00:31.3±0.6, 764S×15560E, h10km, mb5.0/4, Error ellipse: s-maj=16.4km s-min=10.5km az=123.0*
*MOS **02** 05:00:32.9±1.0, 764S×15567E, h33km, mb5.2/5, Error ellipse: s-maj=19.9km s-min=14.2km az=78.8*
ISC 02 05:00:35.1±3.8, 77S±01×1556E±01, h37km±37km, n31, σ0$89/31, mb4.5/20, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**15.29**	**215**	Pn	Pn		05 04 09.1	+0.7
	0.1nm,0.3s,baz=347,slow=14,SNR=2.8							
KAKA	**Kakadu**	**23.33**	**256**	*e*P	P		05 05 40.3	-0.1
	9.3nm,0.8s,mb4.3							
KAKA	**Kakadu**	**23.33**	**256**	*e*P	P		05 05 40.0	-0.4
WB2	**Warramunga Arr**	**23.92**	**237**	*e*P	P		05 05 45.9	+0.1
WRA	**Warramunga Arr**	**23.93**	**237**	P	P		05 05 45.8	-0.1
	4.9nm,0.8s,mb4.0,baz=61,slow=9.6,SNR=22							
ASAR	**Alice Springs**	**26.18**	**230**	P	P		05 06 05.2	-1.2
	2.5nm,0.9s,mb3.7,baz=65,slow=9.0,SNR=17							
STKA	**Stephens Creek**	**27.37**	**207**	P	P		05 06 16.9	-0.1
	1.6nm,0.6s,mb3.7,baz=12,slow=14,SNR=3.2							
FITZ	**Fitzroy Crossi**	**30.93**	**248**	P	P		05 06 48.6	-0.2
	1.7nm,0.7s,mb4.0,baz=137,slow=4.8,SNR=7.0							
AFI	**Afiamalu**	**32.61**	**104**	*e*P	P		05 07 02.6	-1.0
	17nm,0.8s,mb5.0							
AFI	**Afiamalu**	**32.61**	**104**	*e*P	P		05 07 02.6	-1.0
AFI				pmax	pmax			
	comp=Z,17nm,0.8s,mb5.0							
TAU	**Tasmania Unive**	**35.83**	**190**	*e*P	P		05 07 33.7	+2.6
	comp=Z,29nm,1.1s,mb5.1							
TAU	**Tasmania Unive**	**35.83**	**190**	*e*P	P		05 07 33.7	+2.6
TAU				pmax	pmax			
	comp=Z,29nm,1.1s,mb5.1							
MBWA	**Marble Bar**	**37.12**	**245**	*e*P	P		05 07 41.3	-1.2
	comp=Z,4.1nm,0.9s,mb4.3							
MJAR	**Matsushiro Arr**	**46.93**	**341**	P	P		05 09 02.2	0.0
	comp=Z,9.1nm,0.7s,mb4.8,baz=163,slow=7.8,SNR=26							
MAJO	**Matsushiro**	**46.93**	**341**	*e*P	P		05 09 01.8	-0.4
	comp=Z,10nm,0.4s,mb5.1							
MAJO	**Matsushiro**	**46.93**	**341**	*e*P	P		05 09 01.8	-0.4
MAJO				pmax	pmax			
	comp=Z,10.0nm,0.4s,mb5.1							
MAT	**Matsushiro**	**46.93**	**341**	P	P		05 09 02.1	-0.1
KSRS	**Korea Array**	**51.83**	**332**	P	P		05 09 40.5	+0.9
	comp=Z,5.4nm,0.9s,mb4.5,baz=144,slow=8.7,SNR=8.8							
YSS	**Yuzh-Sakhalins**	**55.59**	**349**	*e*P	P		05 10 06.1	-0.8
KLR	**Kul'dur**	**60.41**	**342**	*e*P	P		05 10 37.0	-3.7
KLR				pmax	pmax			
	comp=Z,34nm,1.6s,mb5.1							
SONM	**Songino Array**	**70.24**	**327**	P	P		05 11 46.5	+2.1
	comp=Z,2.6nm,0.9s,mb4.2,baz=139,slow=5.2,SNR=8.8							
ZAK	**Zakamensk**	**73.40**	**328**	*e*P	P		05 12 04.0	+0.7
ZAK				pmax	pmax			
	comp=Z,1.0nm,1.0s,mb3.7							
BOD	**Bodaibo**	**73.48**	**338**	*e*P	P		05 12 03.3	-0.3
BOD				pmax	pmax			
	comp=Z,4.0nm,1.0s,mb4.3							
BILL	**Bilibino**	**75.93**	**4**	*e*P	P		05 12 18.0	+0.4
BILL				pmax	pmax			
	comp=Z,17nm,1.0s,mb4.9							
MKAR	**Makanchi Array**	**84.32**	**319**	P	P		05 13 04.2	+0.9
MKAR	**Makanchi Array**	**84.32**	**319**	P	P		05 13 04.2	+0.9
	comp=Z,9.9nm,0.7s,mb5.0,baz=85,slow=6.5,SNR=59							
ZALV	**Zalesovo Beam**	**85.09**	**326**	P	P		05 13 06.6	-0.4
	comp=Z,4.7nm,0.7s,mb4.7,baz=108,slow=5.7,SNR=22							
ZAL	**Zalesovo**	**85.10**	**326**	P	P		05 13 06.6	-0.5
NVAR	**Mina Array Bea**	**91.68**	**52**	P	P		05 13 39.6	+0.7
	comp=Z,0.5nm,0.7s,mb4.0,baz=235,slow=4.4,SNR=3.7							
YKA	**Yellowknife Ar**	**96.67**	**28**	P	P		05 14 00.4	-0.7
YKA	**Yellowknife Ar**	**96.67**	**28**	P	P		05 14 00.4	-0.7
	comp=Z,1.0nm,0.6s,mb4.4,baz=266,slow=4.6,SNR=23							

IDC 02 05:04:14.0±5.5, 742S×15517E, h0km, mb4.0/4, mb1 4.1/4, mb1mx3.8/13, mbtmp4.0/4, Error ellipse: s-maj=162.0km s-min=38.2km az=119.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.72**	**236**	P	P		05 09 27.9	-0.2
	1.6nm,0.8s,baz=64,slow=9.9,SNR=6.3							
SONM	**Songino Array**	**69.79**	**327**	P	P		05 15 24.6	-1.6
	0.8nm,0.6s,baz=120,slow=5.2,SNR=4.1							
MKAR	**Makanchi Array**	**83.84**	**319**	P	P		05 16 47.0	+1.5
	1.7nm,0.5s,baz=88,slow=6.5,SNR=7.7							
ZALV	**Zalesovo Beam**	**84.63**	**326**	P	P		05 16 49.6	+0.3
	0.7nm,0.4s,baz=99,slow=8.9,SNR=3.6							

*NEIC **02** 05:06:56.1±0.9, 450N×12400E, h35km, Error ellipse: s-maj=269.0km s-min=15.6km az=69.0*
IDC 02 05:06:51.5±1.4, 474N×12479E, h0km, mb4.0/4, mb1 4.2/4, mb1mx3.9/16, mbtmp4.0/4, Error ellipse: s-maj=188.5km s-min=23.5km az=71.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**26.26**	**159**	P	P		05 12 27.7	-0.9
	4.4nm,0.5s,baz=337,slow=11,SNR=33							
ASAR	**Alice Springs**	**29.60**	**163**	P	P		05 12 59.1	+0.6
	0.5nm,0.5s,baz=354,slow=7.7,SNR=7.2							
STKA	**Stephens Creek**	**39.78**	**157**	P	P		05 14 26.8	+0.6
	4.0nm,0.7s,baz=350,slow=9.0,SNR=8.2							
SONM	**Songino Array**	**45.75**	**343**	P	P		05 15 14.5	0.0
	0.5nm,0.6s,baz=140,slow=9.4,SNR=3.5							

*IDC **02** 05:09:31.5±2.5, 744S×156.11E, h0km, mb4.2/7, mb1 4.3/7, mb1mx4.1/14, mbtmp4.2/7, Error ellipse: s-maj=81.2km s-min=24.8km az=122.0*
NEIC 02 05:09:33.1±1.6, 745S×15610E, h10km, Error ellipse: s-maj=57.6km s-min=17.7km az=125.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.48**	**237**	P	P		05 14 53.6	+1.0
	2.9nm,0.7s,baz=62,slow=9.8,SNR=12							
ASAR	**Alice Springs**	**26.71**	**230**	P	P		05 15 12.6	-0.2
	0.4nm,0.5s,baz=69,slow=8.6,SNR=4.1							
FITZ	**Fitzroy Crossi**	**31.48**	**247**	P	P		05 15 54.7	-0.6
	1.6nm,0.7s,baz=102,slow=12,SNR=4.7							
SONM	**Songino Array**	**70.31**	**327**	P	P		05 20 47.8	+1.0
	1.9nm,0.5s,baz=145,slow=6.4,SNR=15							
MKAR	**Makanchi Array**	**84.46**	**318**	P	P		05 22 06.3	+0.2
MKAR	**Makanchi Array**	**84.46**	**318**	P	P		05 22 06.3	+0.2
	5.4nm,0.7s,baz=79,slow=6.4,SNR=26							
ZALV	**Zalesovo Beam**	**85.16**	**326**	P	P		05 22 08.6	-0.9
ZALV	**Zalesovo Beam**	**85.16**	**326**	P	P		05 22 08.6	-0.9
	3.8nm,0.4s,baz=116,slow=5.7,SNR=17							
YKA	**Yellowknife Ar**	**96.22**	**28**	P	P		05 23 01.3	+0.1
	0.1nm,0.5s,baz=263,slow=4.9,SNR=4.9							

IDC 02 05:11:33.4±2.4, 750S×15565E, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.8/13, mbtmp4.0/3, Error ellipse: s-maj=76.9km s-min=34.4km az=130.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.08**	**237**	P	P		05 16 50.7	0.0
	2.1nm,0.6s,baz=63,slow=9.3,SNR=7.5							
SONM	**Songino Array**	**70.11**	**327**	P	P		05 22 47.7	+0.1
	2.1nm,0.8s,baz=135,slow=7.2,SNR=12							
YKA	**Yellowknife Ar**	**96.47**	**28**	P	P		05 25 04.7	+0.3
	0.2nm,0.8s,baz=261,slow=5.2,SNR=6.0							

**IDC 02 05:12:54.4±4.3, 725S×15567E, h0km, mb4.3/4, mb1 4.5/4, mb1mx4.0/13, mbtmp4.3/4, Error ellipse: s-maj=127.3km s-min=36.7km az=117.0, Bougainville - Solomon

0.5nm,0.5s,baz=123,slow=5.5,SNR=3.8
MKAR Makanchi Array 84.62 319 P P 05 29 20.6 +0.1
0.6nm,0.2s,baz=86,slow=7.4,SNR=5.1
YKA Yellowknife Ar 96.58 28 P P 05 30 16.5 +0.1
0.3nm,0.6s,baz=268,slow=5.0,SNR=8.5

IDC 02 05:17:57.0±3.5,725S×15536E,h0km,mb3.9/4,mb1 4.0/4, mb1mx3.8/13,mbtmp3.9/4,Error ellipse: s-maj=101.5km s-min=29.9km az=115.0,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**23.21**	**255**	*e*P	P	05 23 09.4	+3.5
	5.3nm,0.6s						
WB2	**Warramunga Arr**	**23.96**	**236**	*e*P	P	05 23 14.2	+0.9
WRA	**Warramunga Arr**	**23.97**	**236**	P	P	05 23 14.4	+1.0
	2.5nm,0.6s,baz=61,slow=9.6,SNR=13						
ASAR	**Alice Springs**	**26.28**	**229**	P	P	05 23 33.5	-0.8
	0.5nm,0.7s,baz=62,slow=9.8,SNR=3.6						
SONM	**Songino Array**	**69.75**	**327**	P	P	05 29 09.6	+0.8
	0.4nm,0.4s,baz=146,slow=7.5,SNR=3.7						
MKAR	**Makanchi Array**	**83.83**	**319**	P	P	05 30 28.1	-0.3
	2.0nm,0.6s,baz=87,slow=6.3,SNR=9.0						

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*CSEM **02** 05:19:08.0,4012N×2867E,h5km,MD2.8,After ISK*
ISK 02 05:19:08.0,4012N×2867E,h5km,MD2.8,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTOK	**Tokmak**	**0.61**	**234**	*i* P	Pg	05 19 18.6	-1.1
BNT	**Bandirma**	**0.62**	**292**	*e*PG	Pg	05 19 20.4	+0.5
BNT				*e*SG	Sg	05 19 29.7	+1.7
IZI	**Iznik**	**0.65**	**70**	PG	Pg	05 19 20.4	-0.1
IZI				SG	Sg	05 19 30.0	+1.1
YLV	**Yalova**	**0.69**	**50**	*e*PG	Pg	05 19 21.9	+0.5
ADVT	**Abdulvahap**	**0.87**	**69**	*e*PG	Pg	05 19 24.9	+0.2
ISK	**Istanbul-Kandi**	**0.99**	**17**	*e*PG	Pg	05 19 28.2	+1.3
GDZ	**Gediz**	**1.21**	**149**	*i* P	Pg	05 19 31.1	0.0
GDZ				*i* S	Sg	05 19 45.9	-0.9
RKY	**Sarkoy-Tekirda**	**1.27**	**297**	*e*PN	Pn	05 19 33.4	+1.0
GULT	**Gulveren**	**1.44**	**77**	*e*PN	Pn	05 19 35.6	+0.8
ALT	**Altintas**	**1.54**	**133**	*e*PN	Pn	05 19 36.9	+0.8
ESKT	**Eskisehir**	**1.78**	**109**	*e*PN	Pn	05 19 40.1	+0.7

IDC 02 05:20:31.9±5.8,579S×15343E,h0km,mb3.7/4,mb1 3.8/4, mb1mx3.6/13,mbtmp3.7/4,Error ellipse: s-maj=183.9km s-min=32.2km az=111.0,New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.29**	**231**	P	P	05 25 42.9	+1.3
	0.3nm,0.5s,baz=53,slow=9.9,SNR=4.4						
ASAR	**Alice Springs**	**25.86**	**225**	P	P	05 26 04.0	-1.5
	0.9nm,0.9s,baz=55,slow=9.6,SNR=5.4						
MKAR	**Makanchi Array**	**81.48**	**319**	P	P	05 32 51.9	+0.7
	0.6nm,0.2s,baz=91,slow=5.8,SNR=4.5						
ZALV	**Zalesovo Beam**	**82.32**	**326**	P	P	05 32 55.2	-0.2
	0.6nm,0.5s,baz=149,slow=6.1,SNR=4.6						

IDC 02 05:22:24.9±3.4,722S×15539E,h0km,mb4.1/5,mb1 4.2/5, mb1mx4.0/13,mbtmp4.1/5,Error ellipse: s-maj=101.5km s-min=27.6km az=115.0,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.01**	**236**	P	P	05 27 42.7	+1.1
	3.5nm,0.7s,baz=63,slow=9.7,SNR=12						
ASAR	**Alice Springs**	**26.32**	**229**	P	P	05 28 02.1	-0.4
	0.6nm,0.5s,baz=57,slow=9.8,SNR=5.1						
SONM	**Songino Array**	**69.73**	**327**	P	P	05 33 37.6	+1.0
	0.8nm,0.4s,baz=143,slow=6.3,SNR=10						
MKAR	**Makanchi Array**	**83.83**	**319**	P	P	05 34 56.3	0.0
	1.4nm,0.6s,baz=94,slow=6.4,SNR=8.2						
ZALV	**Zalesovo Beam**	**84.58**	**326**	P	P	05 34 58.8	-1.2
	1.2nm,0.4s,baz=126,slow=6.7,SNR=5.7						

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*IDC **02** 05:24:20.0±2.4,741S×15592E,h0km,mb4.3/8,mb1 4.4/8, mb1mx4.3/13,mbtmp4.3/8,MS4.0/2,Ms1 4.0/2, ms1mx3.6/20,Error ellipse: s-maj=73.4km s-min=23.5km az=114.0*
*NEIC **02** 05:24:21.2±1.5,749S×15602E,h10km,Error ellipse: s-maj=49.5km s-min=14.6km az=119.0*
*ISCJB **02** 05:24:24.1±1.8,73S±02×1558E±04,h33km,mb4.2/8, Error ellipse: s-maj=56.3km s-min=16.7km az=28.1*
ISC 02 05:24:25.4±1.8,74S±02×1559E±04,h35km,n12,σ0§83/10, mb4.2/8,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.50**	**117**	LR	LR	05 26 21.0	
	comp=Z,244nm,20.5s,baz=4.7,slow=27						
WB2	**Warramunga Arr**	**24.30**	**237**	*e*P	**P**	**05 29 39.6**	**-0.2**
WRA	**Warramunga Arr**	**24.31**	**237**	P	**P**	**05 29 40.1**	**+0.2**
	5.9nm,0.7s,mb4.1,baz=63,slow=9.4,SNR=15						
ASAR	**Alice Springs**	**26.57**	**230**	P	**P**	**05 29 60.0**	**-0.4**
	1.7nm,0.6s,mb3.8,baz=61,slow=9.8,SNR=13						
MJAR	**Matsushiro Arr**	**46.76**	**340**	P	**P**	**05 32 50.9**	**-0.5**
	1.0nm,0.4s,mb4.1,baz=169,slow=7.7,SNR=3.7						
KSRS	**Korea Array**	**51.71**	**332**	P	**P**	**05 33 27.8**	**-1.5**
	2.1nm,0.9s,mb4.1,baz=145,slow=6.5,SNR=3.8						
ASAJ	**Asahikawa**	**52.67**	**348**	LR	LR	05 51 47.5	
	comp=Z,969nm,20.9s,baz=347,slow=31						
SONM	**Songino Array**	**70.16**	**327**	P	**P**	**05 35 36.2**	**+1.8**
	5.0nm,0.7s,mb4.5,baz=144,slow=6.3,SNR=21						
MKAR	**Makanchi Array**	**84.29**	**319**	P	**P**	**05 36 54.6**	**+0.9**
	3.5nm,0.7s,mb4.6,baz=90,slow=6.2,SNR=19						
ZALV	**Zalesovo Beam**	**85.01**	**326**	P	**P**	**05 36 57.1**	**0.0**
	5.5nm,0.8s,mb4.8,baz=104,slow=5.9,SNR=15						
YKA	**Yellowknife Ar**	**96.29**	**28**	P	**P**	**05 37 49.8**	**-0.2**
YKA	**Yellowknife Ar**	**96.29**	**28**	P	**P**	**05 37 49.8**	**-0.2**
	0.1nm,0.6s,mb3.4,baz=265,slow=4.7,SNR=4.3						

IDC 02 05:29:09.9±3.5,713S×15534E,h0km,mb3.8/4,mb1 4.0/4, mb1mx3.8/13,mbtmp3.8/4,Error ellipse: s-maj=100.0km s-min=30.5km az=115.0,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.02**	**236**	P	P	05 34 27.6	+0.9
	2.8nm,0.7s,baz=61,slow=9.8,SNR=14						
ASAR	**Alice Springs**	**26.34**	**229**	P	P	05 34 47.5	-0.3
	0.2nm,0.4s,baz=68,slow=8.7,SNR=4.2						
SONM	**Songino Array**	**69.63**	**327**	P	P	05 40 21.5	+0.4
	0.4nm,0.4s,baz=137,slow=5.0,SNR=4.4						
MKAR	**Makanchi Array**	**83.73**	**319**	P	P	05 41 40.4	-0.4
	0.9nm,0.5s,baz=91,slow=7.2,SNR=6.5						

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*IDC **02** 05:29:40.3±1.0,748S×15605E,h0km,mb4.3/7,mb1 4.5/8, mb1mx4.3/14,mbtmp4.4/8,ML4.7/1,Error ellipse: s-maj=31.7km s-min=24.9km az=138.0*
*NEIC **02** 05:29:41.8±0.6,739S×15604E,h10km,mb4.6/1,Error ellipse: s-maj=18.3km s-min=14.4km az=168.0*
*ISCJB **02** 05:29:43.8±0.6,74S±01×15603E±009,h33km,mb4.2/8, Error ellipse: s-maj=18.1km s-min=13.5km az=1.9*
ISC 02 05:29:45.4±0.7,75S±01×1561E±01,h35km,n12,σ0§91/13, mb4.2/8,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.31**	**117**	Pn	**Pn**	**05 30 49.0**	**+0.5**
	44nm,0.3s,baz=250,slow=4.4,SNR=5.9						
HNR				Sn	**Sn**	**05 31 43.8**	**+6.3**
	95nm,0.3s,baz=270,slow=18,SNR=11						
WB2	**Warramunga Arr**	**24.43**	**237**	*e*P	**P**	**05 35 01.2**	**+0.2**
WRA	**Warramunga Arr**	**24.44**	**237**	P	**P**	**05 35 01.4**	**+0.2**
	7.5nm,0.8s,mb4.2,baz=61,slow=9.3,SNR=16						
ASAR	**Alice Springs**	**26.68**	**230**	P	**P**	**05 35 20.3**	**-1.0**
	1.3nm,0.7s,mb3.6,baz=64,slow=8.8,SNR=8.5						
SONM	**Songino Array**	**70.31**	**327**	P	**P**	**05 40 56.7**	**+1.4**
	3.4nm,0.8s,mb4.3,baz=134,slow=6.8,SNR=15						
MCK	**McKinley**	**82.10**	**22**	*e*P	**P**	**05 42 00.6**	**-1.4**
	5.3nm,1.0s,mb4.4						
MKAR	**Makanchi Array**	**84.46**	**318**	P	**P**	**05 42 15.6**	**+1.0**
	7.8nm,0.7s,mb4.9,baz=85,slow=6.7,SNR=31						

ZALV	**Zalesovo Beam**	**85.16**	**326**	P	**P**	**05 42 17.7**	**-0.3**
ZALV	**Zalesovo Beam**	**85.16**	**326**	P	**P**	**05 42 17.7**	**-0.3**
	3.9nm,0.6s,mb4.7,baz=116,slow=6.4,SNR=8.9						
NVAR	**Mina Array Bea**	**91.18**	**52**	P	**P**	**05 42 47.6**	**+0.5**
	0.4nm,0.7s,mb3.9,baz=289,slow=2.5,SNR=3.8						
ARUT	**Antelope Range**	**94.91**	**53**	*e*P	**P**	**05 43 00.1**	**-4.2**
YKA	**Yellowknife Ar**	**96.25**	**28**	P	**P**	**05 43 08.8**	**-1.1**
	0.3nm,0.7s,mb3.8,baz=263,slow=4.4,SNR=6.2						

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*BJI **02** 05:30:43.8,697S×15598E,h13km,mB5.3,mb5.1,Ms5.4, Msz5.2*
*IDC **02** 05:30:43.6±0.6,723S×15574E,h0km,mb4.9/17, mb1 4.9/18,mb1mx4.8/21,mbtmp4.8/18,ML4.5/1,Error ellipse: s-maj=22.7km s-min=13.4km az=98.0*
*ISCJB **02** 05:30:44.5±0.2,7.16S±004×15570E±004,h14km, mb5.0/62,MS5.2/6,Error ellipse: s-maj=6.3km s-min=5.3km az=154.0*
*NEIC **02** 05:30:45.4±0.2,7.14S×15566E,h10km,mb5.1/28,Error ellipse: s-maj=6.8km s-min=4.8km az=110.0*
*MOS **02** 05:30:48.1±0.8,704S×15564E,h33km,mb5.3/23,Error ellipse: s-maj=12.5km s-min=8.5km az=104.9*
ISC 02 05:30:46.2±0.2,720S±004×15572E±004,h15km, h15km±1.4km:pP-P,n172,σ0§91/134,mb5.0/62,MS5.2/6, 6C-2D,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.74**	**118**	Sn	**Sb**	**05 33 04.0**	**-2.0**
	90nm,0.3s,baz=277,slow=5.0,SNR=4.4						
CTA	**Charters Tower**	**15.76**	**215**	*e*P	**Pn**	**05 34 30.8**	**+3.0**
	30nm,1.1s						
CTA	**Charters Tower**	**15.76**	**215**	*e*P	**Pn**	**05 34 30.8**	**+3.0**
CTA				pmax	pmax		
	comp=Z,30nm,1.1s						
CTA	**Charters Tower**	**15.76**	**215**	Pn	**Pn**	**05 34 29.1**	**+1.2**
	comp=Z,1.2nm,0.3s,baz=39,slow=13,SNR=8.9						
CTAO	**Charters Tower**	**15.76**	**215**	*e*Pn	**Pn**	**05 34 27.0**	**-0.8**
DZM	**Mont Dzumac**	**18.05**	**146**	P	**Pn**	**05 34 58.8**	**+2.1**
	comp=Z,0.8nm,0.3s,baz=347,slow=16,SNR=5.8						
EIDS	**Eidsvold**	**18.61**	**193**	*e*P	**Pn**	**05 35 03.7**	**+0.2**
	comp=Z,20nm,1.2s						
ARMA	**Armidale**	**23.42**	**189**	*e*P	**P**	**05 35 54.9**	**-0.1**
KAKA	**Kakadu**	**23.56**	**255**	*e*P	**P**	**05 35 56.0**	**-0.7**
	comp=Z,43nm,0.6s,mb5.0						
KAKA	**Kakadu**	**23.56**	**255**	*e*P	**P**	**05 35 55.9**	**-0.8**
KAKA				*e*P		05 35 56.0	
WB2	**Warramunga Arr**	**24.29**	**236**	*e*P	**P**	**05 36 03.3**	**+0.1**
WRA	**Warramunga Arr**	**24.30**	**236**	P	**P**	**05 36 03.4**	**0.0**
	comp=Z,14nm,0.5s,mb4.6,baz=61,slow=9.4,SNR=23						
ASAR	**Alice Springs**	**26.58**	**230**	P	**P**	**05 36 23.2**	**-0.8**
	comp=Z,6.1nm,1.0s,mb4.1,baz=60,slow=8.7,SNR=11						
STKA	**Stephens Creek**	**27.87**	**206**	*e*P	**P**	**05 36 35.4**	**-0.1**
	comp=Z,7.7nm,0.5s,mb4.6						
STKA	**Stephens Creek**	**27.87**	**206**	P	**P**	**05 36 33.5**	**-2.0**
	comp=Z,10nm,0.5s,mb4.7,baz=17,slow=8.2,SNR=15						
FITZ	**Fitzroy Crossi**	**31.23**	**247**	⇓*i*P	**P**	**05 37 04.9**	**-0.6**
	comp=Z,27nm,0.6s,mb5.2						
FITZ	**Fitzroy Crossi**	**31.23**	**247**	P	**P**	**05 37 05.0**	**-0.5**
	comp=Z,10nm,0.5s,mb4.9,baz=79,slow=8.5,SNR=29						
AFI	**Afiamalu**	**32.62**	**105**	*e*P	**P**	**05 37 19.1**	**+1.4**
	comp=Z,40nm,1.0s,mb5.3						
AFI	**Afiamalu**	**32.62**	**105**	*e*P	**P**	**05 37 19.2**	**+1.4**
AFI				pmax	pmax		
	comp=Z,40nm,1.0s,mb5.3						
FORT	**Forrest**	**34.94**	**224**	*e*P	**P**	**05 37 36.9**	**-0.9**
	comp=Z,30nm,0.6s,mb5.4						
KAPI	**Kappang**	**35.82**	**271**	P	**P**	**05 37 45.3**	**-0.3**
	comp=Z,221nm,0.6s,SNR=7.8						
MBWA	**Marble Bar**	**37.43**	**244**	*e*P	**P**	**05 37 57.2**	**-2.1**
RPZ	**Rata Peaks**	**38.78**	**162**	P	**P**	**05 38 10.5**	**+0.2**
	comp=Z,11nm,0.8s,mb4.6,baz=197,slow=0.6,SNR=6.1						
KKM	**Kota Kinabalu**	**41.55**	**287**	*e*P	**P**	**05 38 34.0**	**+0.3**
KLBR	**Kellerberrin**	**42.91**	**230**	*e*P	**P**	**05 38 43.8**	**-0.7**
	comp=Z,14nm,0.8s,mb4.7						
JMN	**Monobe**	**45.67**	**334**	P	**P**	**05 39 06.7**	**+0.2**
JRY	**Ryogami san**	**45.80**	**341**	P	**P**	**05 39 07.7**	**+0.2**
KSM	**Kuching**	**46.12**	**279**	*e*P	**P**	**05 39 10.4**	**0.0**
JWT	**Wachi**	**46.39**	**337**	P	**P**	**05 39 11.9**	**-0.3**
MJAR	**Matsushiro Arr**	**46.50**	**340**	P	**P**	**05 39 12.6**	**-0.5**
	comp=Z,9.5nm,0.7s,mb4.9,baz=163,slow=8.2,SNR=28						
MAJO	**Matsushiro**	**46.51**	**340**	*e*P	**P**	**05 39 12.6**	**-0.5**
	comp=Z,19nm,0.6s,mb5.2						
MAJO	**Matsushiro**	**46.51**	**340**	*e*P	**P**	**05 39 12.6**	**-0.5**
MAJO				pmax	pmax		
	comp=Z,19nm,0.6s,mb5.2						
MAT	**Matsushiro**	**46.51**	**340**	P	**P**	**05 39 12.4**	**-0.7**
MAT	**Matsushiro**	**46.51**	**340**	P	**P**	**05 39 12.1**	**-1.0**
JNU	**Nakatsue**	**46.53**	**331**	P	**P**	**05 39 12.9**	**-0.4**
JNU	**Nakatsue**	**46.53**	**331**	P	**P**	**05 39 13.1**	**-0.3**
	comp=Z,12nm,0.9s,mb4.8,baz=94,slow=11,SNR=4.1						
JAD	**Aida**	**46.59**	**335**	P	**P**	**05 39 13.0**	**-0.7**
JSD	**Sado**	**47.85**	**341**	P	**P**	**05 39 23.4**	**-0.2**
QZH	**Quanzhou**	**48.24**	**313**	P	**P**	**05 39 28.0**	**+1.2**
QZH				AMB	AMB		
	comp=Z,110nm,0.8s,mb5.9						
JTM	**Tenmabayashi**	**49.61**	**345**	P	**P**	**05 39 36.2**	**-0.8**
KSRS	**Korea Array**	**51.45**	**332**	P	**P**	**05 39 51.0**	**-0.1**
	comp=Z,8.8nm,0.7s,mb4.8,baz=145,slow=7.2,SNR=18						
JSH	**Shimam**	**51.62**	**345**	P	**P**	**05 39 51.6**	**-0.5**
JMP	**Maruseppu**	**52.17**	**349**	P	**P**	**05 39 56.3**	**0.0**
QIZ	**Qiongzhong**	**52.18**	**301**	P	**P**	**05 39 57.5**	**+0.7**
ASAJ	**Asahikawa**	**52.43**	**348**	P	**P**	**05 39 59.3**	**+1.1**
ASAJ	**Asahikawa**	**52.43**	**348**	P	**P**	**05 39 59.6**	**+1.5**
	comp=Z,21nm,0.7s,mb5.2,baz=203,slow=7.6,SNR=18						
NJ2	**Nanjing**	**52.52**	**320**	*e*P	**P**	**05 40 03.5**	**+4.4**
NJ2				AP	pP	05 40 08.5	+4.7
NJ2				XP	sP	05 40 10.5	+4.9
NJ2				PP	PP	05 42 03.2	+4.9
NJ2				AMB	AMB		
	comp=Z,30nm,1.2s,mb5.1						
NJ2				AMB	AMB		
	comp=Z,210nm,6.0s						
NJ2				LR	LR		
	comp=N,2μm,11.6s,MS5.3						
NJ2				LR	LR		
	comp=E,800nm,14.5s,MS5.3						
NJ2				LR	LR		
	comp=Z,2μm,16.5s,MS5.2						
YSS	**Yuzh-Sakhalins**	**55.13**	**349**	*e*P	**P**	**05 40 18.7**	**+0.8**
	comp=Z,29nm,0.9s,mb5.3						
YSS	**Yuzh-Sakhalins**	**55.13**	**349**	⇑*i*P	**P**	**05 40 18.5**	**+0.6**
YSS				pmax	pmax		
	comp=Z,47nm,1.3s,mb5.4						
PMOR	**Pomariorio Ree**	**55.75**	**103**	*e*P	**P**	**05 40 24.9**	**+1.9**
	comp=Z,101nm,1.2s,mb5.7						
KULM	**Kulim**	**56.33**	**281**	*e*P	**P**	**05 40 26.2**	**-1.0**
PSI	**Prapat**	**57.54**	**278**	P	**P**	**05 40 35.5**	**-0.2**
	comp=Z,1.7nm,0.4s,mb4.5,baz=47,slow=12,SNR=3.8						
CN2	**Changchun**	**57.68**	**334**	*e*P	**P**	**05 40 36.8**	**+0.7**
CN2				*e*XP	sP	05 40 43.7	+1.1
CN2				AMB	AMB		
	comp=Z,20nm,0.8s,mb5.2						
CN2				AMB	AMB		
	comp=Z,200nm,4.0s						
CN2				LR	LR		
	comp=N,2μm,22.0s,MS5.3						
CN2				LR	LR		
	comp=E,2μm,22.0s,MS5.3						
CN2				LR	LR		
	comp=Z,800nm,21.0s,MS4.8						
GYA	**Guiyang**	**58.14**	**307**	⇑*i*P	**P**	**05 40 42.4**	**+2.6**
GYA				AP	pP	05 40 46.8	+2.4
GYA				XP	sP	05 40 49.7	+3.5
GYA				PCP	PcP	05 41 33.7	+2.4
GYA				PP	PP	05 42 53.4	+4.7
GYA				AMB	AMB		
	comp=Z,30nm,1.0s,mb5.3						
GYA				AMB	AMB		
	comp=Z,620nm,8.0s						
GYA				LR	LR		
	comp=N,880nm,20.2s,MS5.0						
GYA				LR	LR		
	comp=E,930nm,21.8s,MS5.0						
GYA				LR	LR		
	comp=Z,790nm,19.9s,MS4.8						
HABR	**Khabarovsk**	**58.34**	**344**	*e*P	**P**	**05 40 40.1**	**-0.5**
HABR				*e*S	**S**	**05 48 41.7**	**-0.9**
HABR				pmax	pmax		
	comp=Z,67nm,1.6s,mb5.4						
KLR	**Kul'dur**	**59.97**	**342**	*e*P	**P**	**05 40 48.0**	**-4.0**
KLR				pmax	pmax		
	comp=Z,36nm,1.4s,mb5.2						
PET	**Petropavlovsk**	**60.04**	**2**	*e*P	**P**	**05 40 53.5**	**+1.2**
PET				pmax	pmax		
	comp=Z,35nm,1.0s,mb5.3						
XAN	**Xi'an**	**60.35**	**316**	P	**P**	**05 40 54.3**	**-0.6**
XAN				AP	pP	05 41 00.0	+0.4
XAN				AMB	AMB		
	comp=Z,9.0nm,0.8s,mb4.8						
XAN				LR	LR		
	comp=N,556nm,14.2s,MS5.0						
XAN				LR	LR		
	comp=E,656nm,15.4s,MS5.0						
XAN				LR	LR		
	comp=Z,727nm,16.5s,MS4.9						
KMI	**Kunming**	**60.72**	**304**	P	**P**	**05 40 58.9**	**+1.3**
KMI				AMB	AMB		
	comp=Z,27nm,0.6s,mb5.5						
CHG	**Chiang Mai**	**61.63**	**296**	SG	**S**	**05 49 24.0**	**-2.1**
CHTO	**Chiang Mai**	**61.63**	**296**	*e*P	**P**	**05 41 04.7**	**+0.8**
CD2	**Chengdu**	**62.49**	**310**	*e*P	**P**	**05 41 10.7**	**+1.3**
CD2				AMB	AMB		
	comp=Z,20nm,0.8s,mb5.3						
CD2				AMB	AMB		
	comp=Z,40nm,5.8s						
HHC	**Hu-ho-hao-te**	**62.68**	**324**	*e*P	**P**	**05 41 12.6**	**+2.1**
HHC				AP	pP	05 41 17.4	+2.2
HHC				XP	sP	05 41 19.8	+2.8
HHC				PP	PP	05 43 30.9	+2.3
HHC				AMB	AMB		
	comp=Z,11nm,0.4s,mb5.3						
HHC				AMB	AMB		
	comp=Z,123nm,3.9s						
HIA	**Hailar**	**64.41**	**335**	*e*P	**P**	**05 41 22.4**	**+0.6**
	comp=Z,12nm,0.8s,mb5.0						
HIA	**Hailar**	**64.41**	**335**	*e*P	**P**	**05 41 22.4**	**+0.7**
HIA				pmax	pmax		
	comp=Z,12nm,0.8s						
LZH	**Lanzhou**	**64.96**	**315**	*e*P	**P**	**05 41 26.4**	**+0.8**
LZH				AP	pP	05 41 29.5	-0.9
LZH				XP	sP	05 41 31.0	-1.1
LZH				PP	PP	05 43 51.4	+2.6
LZH				AMB	AMB		
	comp=Z,26nm,1.2s,mb5.1						
LZH				AMB	AMB		
	comp=Z,120nm,4.8s						
LZH				LR	LR		
	comp=E,1μm,14.4s						
LZH				LR	LR		
	comp=Z,2μm,15.1s,MS5.5						
LZH	**Lanzhou**	**64.96**	**315**	*e*P	**P**	**05 41 26.4**	**+0.8**
LZH				pP	pP	05 41 29.5	-0.9
LZH				sP	sP	05 41 31.0	-1.1
LZH				PP	PP	05 43 51.4	+2.6
LZH				*e*S	**S**	**05 50 06.5**	**-0.6**
LZH				sS	sS	05 50 12.0	-2.9
LZH				SS	SS	05 54 20.0	+0.7
LZH	**Lanzhou**	**64.96**	**315**	*e*P	**P**	**05 41 26.4**	**+0.8**
LZH						05 43 51.4	
LZH				*e*S	**S**	**05 50 06.5**	**-0.6**
LZH				SS	SS	05 54 20.0	+0.7
CASY	**Casey**	**66.62**	**198**	*e*P	**P**	**05 41 40.3**	**+4.4**
	comp=Z,978nm,2.4s						
MA2	**Magadan**	**66.67**	**357**	*e*P	**P**	**05 41 35.2**	**-1.0**
MA2				pmax	pmax		
	comp=Z,17nm,1.3s,mb4.9						
CIT	**Chita**	**69.11**	**334**	*e*P	**P**	**05 41 50.5**	**-1.2**
CIT				*e*		05 42 01.4	
GTA	**Gaotai**	**69.38**	**317**	*e*P	**P**	**05 41 53.8**	**+0.2**
GTA				AP	pP	05 41 57.3	-1.1
GTA				XP	sP	05 41 59.3	-0.8
GTA				PP	PP	05 44 29.5	+2.3
GTA				AMB	AMB		
	comp=Z,7.0nm,1.0s,mb4.5						
GTA				AMB	AMB		
	comp=Z,200nm,5.3s						
GTA				LR	LR		
	comp=N,3μm,18.6s,MS5.6						
GTA				LR	LR		
	comp=E,2μm,22.8s,MS5.6						
GTA				LR	LR		
	comp=Z,4μm,22.1s,MS5.6						
SONM	**Songino Array**	**69.89**	**327**	P	**P**	**05 41 57.4**	**+0.8**
	comp=Z,14nm,0.6s,mb5.1,baz=145,slow=5.7,SNR=58						
SEY	**Seymchan**	**69.97**	**358**	⇑*i*P	**P**	**05 41 56.8**	**0.0**
YAK	**Yakutsk**	**71.91**	**347**	*e*P	**P**	**05 42 09.4**	**+0.9**
YAK				pmax	pmax		
	comp=Z,27nm,1.1s,mb5.1						
YAK				pmax	pmax		
	comp=N,11nm,1.5s						
YAK				pmax	pmax		
	comp=E,3.0nm,1.1s						
LSA	**Lhasa**	**71.98**	**304**	P	**P**	**05 42 11.0**	**+1.3**
LSA				AMB	AMB		
	comp=Z,20nm,0.8s,mb5.1						
LSA	**Lhasa**	**71.98**	**304**	*e*P	**P**	**05 42 11.0**	**+1.3**
	comp=Z,6.9nm,0.6s,mb4.8						
LSA	**Lhasa**	**71.98**	**304**	*e*P	**P**	**05 42 11.0**	**+1.3**
LSA				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.8						
ZAK	**Zakamensk**	**73.04**	**328**	⇓*i*P	**P**	**05 42 15.4**	**-0.2**
ZAK				pmax	pmax		
	comp=Z,6.0nm,1.4s,mb4.3						
BOD	**Bodaibo**	**73.06**	**338**	*e*P	**P**	**05 42 14.0**	**-1.5**
BOD				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.8						
TLY	**Talaya**	**73.60**	**329**	*e*P	**P**	**05 42 18.8**	**-0.1**
	comp=Z,4.5nm,0.9s,mb4.4						
TLY	**Talaya**	**73.60**	**329**	*e*P	**P**	**05 42 19.2**	**+0.4**
TLY				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb4.6						
MOY	**Mondy**	**74.96**	**328**	*e*P	**P**	**05 42 27.7**	**+1.0**
BILL	**Bilibino**	**75.43**	**4**	*e*P	**P**	**05 42 29.5**	**+0.4**
	comp=Z,39nm,1.1s,mb5.2						
BILL	**Bilibino**	**75.43**	**4**	⇑*i*P	**P**	**05 42 29.4**	**+0.3**
BILL				pmax	pmax		
	comp=Z,31

comp=Z,10nm,0.9s,mb5.0,baz=98,slow=6.8,SNR=9.9
ZAA0 Zalesovo Array 84.75 326 *e*P **P 05 43 18.4 -1.3**
ZALV Zalesovo Beam 84.75 326 P **P 05 43 19.7 0.0**
comp=Z,6.6nm,0.5s,mb5.0,baz=115,slow=6.0,SNR=16
ZAL Zalesovo 84.75 326 P **P 05 43 19.7 -0.1**
EGAK Eagle 85.42 23 *e*P **P 05 43 22.8 -0.1**
comp=Z,5.6nm,0.8s,mb4.8
DAWY Dawson 85.79 24 *e*P **P 05 43 25.4 +0.7**
NVS Novosibirsk 85.91 326 *i*P **P 05 43 24.6 -0.9**
NVS pmax pmax
comp=N,25nm,1.8s
NVS pmax pmax
comp=Z,53nm,1.8s,mb5.5
NVS pmax pmax
comp=E,28nm,1.5s
KSH Kashi 86.69 310 *e*P **P 05 43 31.7 +2.0**
KSH *e*AP pP 05 43 35.3 +0.7
KSH *e*XP sP 05 43 38.0 +1.7
KSH AMB AMB
comp=Z,483nm,4.3s
KSH LR LR
comp=N,1μm,5.8s
KSH LR LR
comp=E,1μm,6.6s
KSH LR LR
comp=Z,849nm,6.4s
KURK Kurchatov 87.43 322 *e*P **P 05 43 32.6 -0.5**
comp=Z,33nm,1.6s,mb5.3
KURK Kurchatov 87.43 322*c i*P **P 05 43 32.2 -0.9**
TKM2 Tokmak 2 87.67 314 *e*P **P 05 43 34.3 -0.1**
comp=Z,3.6nm,0.6s,mb4.8
TKM2 Tokmak 2 87.67 314 *e*P **P 05 43 34.3 -0.1**
TKM2 pmax pmax
comp=Z,4.0nm,0.6s,mb4.8
DLBC Dease Lake 87.95 30 *e*P **P 05 43 35.9 +0.5**
UCH Uchtor 88.32 313 *e*P **P 05 43 38.1 +0.6**
comp=Z,27nm,1.7s,mb5.2
AAK Ala-Archa 88.41 313 *e*P **P 05 43 37.3 -0.7**
comp=Z,4.6nm,0.6s,mb4.9
AAK Ala-Archa 88.41 313 *e*P **P 05 43 37.3 -0.6**
AAK pmax pmax
comp=Z,5.0nm,0.6s,mb4.9
AML Almayashu 88.89 313 *e*P **P 05 43 39.9 -0.4**
comp=Z,26nm,1.4s,mb5.4
INK Inuvik 89.66 21 *e*P **P 05 43 43.1 -0.1**
BRVK Borovoye 92.95 323 *e*P **P 05 43 57.6 -1.2**
comp=Z,9.3nm,1.1s,mb5.1
BRVK Borovoye 92.95 323 *e*P **P 05 43 57.6 -1.3**
BRVK pmax pmax
comp=Z,9.0nm,1.1s,mb5.1
YKA Yellowknife Ar 96.18 28 P **P 05 44 13.0 -0.4**
comp=Z,1.3nm,0.6s,mb4.5,baz=266,slow=4.6,SNR=17
ARCES ARCESS Array B 109.98 343 PKiKP PKiKP 05 49 15.6 -1.0
comp=Z,4.5nm,0.9s,baz=7.4,slow=2.8,SNR=9.7
OBN Obninsk 112.30 327 *i* PKIKP PKiKP 05 49 17.0 -4.4
OBN pmax pmax
comp=Z,3.0nm,0.8s
FINES FINESS Array B 114.41 336 PKP PKiKP 05 49 24.9 -0.4
FINES FINESS Array B 114.41 336 PKP PKiKP 05 49 24.9 -0.4
comp=Z,0.8nm,0.7s,baz=80,slow=1.7,SNR=3.8
PLCA Paso Flores 116.13 142 PKP PKPdf 05 49 28.6 -0.7
comp=Z,1.5nm,0.8s,baz=1.6,slow=9.4,SNR=5.0
AKASG Malin Array Be 118.12 325 PKP PKPdf 05 49 32.3 -0.4
comp=Z,0.5nm,0.4s,baz=60,slow=2.1,SNR=8.4
HFS Hagfors 119.95 339 PKP PKPdf 05 49 35.2 -0.8
comp=Z,0.5nm,0.4s,baz=120,slow=5.8,SNR=5.7
NB2 NORSAR Subarra120.12 341 PKPdf PKPdf 05 49 35.3 -1.0
comp=Z,0.9nm,0.5s,baz=40,slow=1.8
NOA NORSAR Array B120.12 341 PKP PKPdf 05 49 35.9 -0.4
comp=Z,1.0nm,0.5s,baz=44,slow=2.1,SNR=6.4
KOLS Kolonicke sed 122.92 325 *e*PKP PKPdf 05 49 42.3 +0.3
STHS Stebnicka Huta 123.24 326 *e*PKP PKPdf 05 49 41.7 -0.9
STHS *e* 05 49 54.4
CRVS Cervenica-Dubn 123.39 326 *e*PKP PKPdf 05 49 42.4 -0.6
MODS Modra-Piesok 126.00 327 *e*PKP PKPdf 05 49 47.2 -0.8
BRG Berggiesshubel 126.17 331 *e*PKIKP PKPdf 05 49 47.9 -0.3
BRG pmax pmax
comp=Z,26nm,1.2s
BRG Berggiesshubel 126.17 331 *e*PDIF PKPdf 05 49 47.9 -0.3
comp=Z,16nm,1.2s
CLL Collm 126.33 332 *e*PKIKP PKPdf 05 49 48.0 -0.5
CLL pmax pmax
comp=Z,23nm,1.2s
CLL Collm 126.33 332 *e*PKPdf PKPdf 05 49 48.0 -0.5
comp=Z,11nm,1.2s
KHC Kasperske Hory 127.47 329 *e*PKPdf PKPdf 05 49 51.0 +0.2
GERES GERESS Array B 127.59 329 PKP PKPdf 05 49 51.7 +0.7
comp=Z,2.7nm,0.9s,baz=108,slow=0.4,SNR=14
LPAZ La Paz 130.73 119 PKP PKPdf 05 49 57.5 -0.4
LPAZ La Paz 130.73 119 PKP PKPdf 05 49 57.5 -0.4
comp=Z,1.2nm,0.5s,baz=299,slow=1.2,SNR=8.3
GUD Guadarrama 142.15 335 PKP PKPdf 05 50 19.4 +1.0
EQES Quesada 143.97 331 PKP PKPdf 05 50 19.8 -1.9
ENIJ Nijar 144.18 329 PKP PKPdf 05 50 20.2 -1.8
EADA Adamuz 144.38 333 PKP PKPdf 05 50 21.2 -1.2
EBER Berja 144.59 330 PKP PKPdf 05 50 22.4 -0.4
ECOG Cogollos-Vega 144.62 331 PKP PKPdf 05 50 20.8 -2.0
ELUQ Luque 144.73 332 PKP PKPdf 05 50 22.4 -0.6
ECAB El Cabril 144.83 334 PKP PKPdf 05 50 22.9 -0.2
EBAD Badajoz 144.93 336 PKP PKPdf 05 50 22.4 -1.0
ERON Agron 144.94 331 PKP PKPdf 05 50 22.0 -1.4
EGUA Guajares 144.97 330 PKP PKPdf 05 50 22.7 -0.8
ELOJ Sierra Loja 145.01 331 PKP PKPdf 05 50 23.8 +0.3
EMIN Mina Concepcio 145.63 335 PKP PKPdf 05 50 25.2 +0.6
EMIJ Mijas 145.77 331 PKP PKPdf 05 50 24.4 -0.4
ESPR Espera 146.02 333 PKP PKPdf 05 50 26.7 +1.5
EGRO El Granado 146.16 336 PKP PKPdf 05 50 26.7 +1.2
MDT Midelt 148.64 327 PKPbc PKPbc 05 50 33.9 +0.5
comp=Z,6.5nm,0.9s,baz=57,slow=2.4,SNR=12
TORD Torodi Ar. Bea 153.77 285 PKPbc PKPbc 05 50 46.5 +0.6
TORD Torodi Ar. Bea 153.77 285 PKPbc PKPbc 05 50 46.5 +0.6
comp=Z,1.0nm,0.4s,baz=93,slow=1.8,SNR=6.4
DBIC Dimbokro 160.71 270 PKPab PKPab 05 51 27.6 -1.2
comp=Z,3.9nm,0.8s,baz=115,slow=8.2,SNR=3.9

IDC ***02*** *05:33:32.8±0.5, 740S×15538E, h0km, mb5.0/18, mb1 5.1/20, mb1mx5.1/21, mbtmp5.0/20, ML3.5/2, MS5.6/18, Ms1 5.6/18, ms1mx5.5/21, Error ellipse: s-maj=19.1km s-min=13.8km az=109.0*

BJI ***02*** *05:33:33.2, 738S×15581E, h27km, mB5.8, mb5.3, Ms5.7, Msz5.5*

ISCJB ***02*** *05:33:33.9±0.2, 735S±003×15542E±003, h15km, mb5.5/97, MS5.6/57, Error ellipse: s-maj=5.0km s-min=4.4km az=155.0*

NEIC ***02*** *05:33:35.1±0.2, 736S×15536E, h10km, mb5.5/42, Error ellipse: s-maj=7.8km s-min=6.4km az=109.0*

GCMT ***02*** *05:33:35.1±0.2, 747S×15548E, h17km, MW5.9/95, Moment Tensor Solution. s43,c58; s95,c179; Duration: 2s3 Moment tensor: Scale 10^18Nm; Mrr-1.06±.05; Mθθ0.88±.03; Mφφ0.17±.03; Mrθ-0.10±.07; Mφθ-0.14±.02; Mφr0.05±.10; Best double couple: M0 0.99300×10^18 NP1:φs280.00000°, δ42.00000°, λ-92.00000°. NP2: φs103.00000°, δ48.00000°, λ-88.00000°. Principal axes: T 0.9190, Plg3.0000°, Azm191.0000°; N 0.1480, Plg1.0000°, Azm281.0000°; P -1.0670, Plg86.0000°, Azm35.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

MOS ***02*** *05:33:37.4±1.6, 724S×15531E, h33km, mb5.7/32, MS5.6/20 Error ellipse: s-maj=9.0km s-min=6.8km az=104.3*

ISC 02 05:33:35.7±0.2, 737S±003×15542E±003, h15km, h15km±1.3km: pP-P, n360, σ1 ϑ21/284, mb5.5/97, MS5.6/57, 26C-19D, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.92**	**115**	Pn	**Pn**	**05 34 55.3**	**+6.1**
	46nm,0.3s,baz=75,slow=4.8,SNR=2.3						
HNR				Lg		05 36 01.8	
	66nm,0.3s,baz=269,slow=2.8,SNR=4.5						
HNR				LR	LR	05 36 34.9	
	comp=Z,87μm,21.2s,baz=343,slow=37						
CTA	**Charters Tower**	**15.46**	**214**	↑*i*P	**Pn**	**05 37 15.0**	**+1.8**
	36nm,1.2s						
CTA				*e*S	**Sn**	**05 40 13.5**	**+9.2**
CTA	**Charters Tower**	**15.46**	**214**	↑*i*P	**Pn**	**05 37 15.0**	**+1.8**
CTA				*e*S	**Sn**	**05 40 13.5**	**+9.2**
CTA				pmax	pmax		
	comp=Z,36nm,1.2s						
CTA	**Charters Tower**	**15.46**	**214**	Pn	**Pn**	**05 37 13.5**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=36,slow=14,SNR=12						
CTAO	**Charters Tower**	**15.46**	**214**	*e*Pn	**Pn**	**05 37 15.1**	**+1.8**
	comp=Z,1μm,2.4s						
CTAO	**Charters Tower**	**15.46**	**214**	*e*P	**Pn**	**05 37 15.1**	**+1.9**
CTAO				pmax	pmax		
	comp=Z,1μm,2.4s						
DZM	**Mont Dzumac**	**18.07**	**145**	P	**Pn**	**05 37 46.1**	**-0.3**
	comp=Z,0.5nm,0.3s,baz=7.0,slow=12,SNR=8.4						
EIDS	**Eidsvold**	**18.37**	**193**	*e*P	**Pn**	**05 37 51.5**	**+1.5**
	comp=Z,90nm,2.5s						
ARMA	**Armidale**	**23.20**	**188**	*e*P	**P**	**05 38 41.8**	**-0.4**
ARMA				*e*S	**S**	**05 43 02.6**	**+9.2**
KAKA	**Kakadu**	**23.24**	**255**	⇓*i*P	**P**	**05 38 41.7**	**-1.0**
	comp=Z,418nm,1.6s,mb5.6						
GUMO	**Guam**	**23.31**	**333**	LR	LR	05 46 57.2	
	comp=Z,8μm,18.8s,MS5.2,baz=144,slow=34						
FUNA	**Funafuti**	**23.57**	**94**	*e*P	**P**	**05 38 45.1**	**-1.0**
	comp=Z,382nm,1.1s,mb5.7						
WB2	**Warramunga Arr**	**23.95**	**236**	*e*P	**P**	**05 38 48.3**	**-1.2**
WB2				*e*S	**S**	**05 43 13.3**	**+7.6**
WRA	**Warramunga Arr**	**23.96**	**236**	↑*e*P	**P**	**05 38 48.4**	**-1.2**
WRA	**Warramunga Arr**	**23.96**	**236**	P	**P**	**05 38 48.4**	**-1.2**
	comp=Z,25nm,0.8s,mb4.7,baz=61,slow=8.4,SNR=30						
WRA				ScP	ScP	05 46 11.3	+1.3
	comp=Z,5.2nm,1.0s,baz=63,slow=2.8,SNR=5.5						
WRA				LR	LR	05 48 05.5	
	comp=Z,30μm,18.2s,MS5.8,baz=60,slow=36						
ASAR	**Alice Springs**	**26.25**	**230**	P	**P**	**05 39 09.5**	**-0.9**
ASAR						05 42 38.9	
ASAR	**Alice Springs**	**26.25**	**230**	P	**P**	**05 39 09.4**	**-1.0**
	comp=Z,8.5nm,0.8s,baz=60,slow=8.4,SNR=9.1						
ASAR				PcP	PcP	05 42 38.9	+1.9
	comp=Z,3.4nm,0.8s,baz=84,slow=2.2,SNR=4.3						
ASAR				ScP	ScP	05 46 18.4	+1.9
	comp=Z,1.6nm,0.7s,baz=59,slow=2.6,SNR=5.6						
RIV	**Riverview**	**26.62**	**188**	*e*P	**P**	**05 39 15.0**	**+1.3**
STKA	**Stephens Creek**	**27.58**	**206**	*e*P	**P**	**05 39 21.6**	**-0.7**
	comp=Z,44nm,1.2s,mb5.0						
STKA				*e*S	**S**	**05 44 02.4**	**-0.9**
STKA	**Stephens Creek**	**27.58**	**206**	P	**P**	**05 39 21.7**	**-0.6**
	comp=Z,69nm,1.1s,mb5.2,baz=23,slow=12,SNR=17						
STKA				ScP	ScP	05 46 23.2	+2.9
	comp=Z,8.2nm,1.0s,baz=30,slow=5.4,SNR=5.8						
STKA				LR	LR	05 50 13.0	
	comp=Z,52μm,18.9s,MS6.1,baz=22,slow=36						
CNB	**Canberra Magne**	**28.36**	**190**	*e*P	**P**	**05 39 29.1**	**-0.2**
	comp=Z,22nm,0.9s,mb4.8						
FITZ	**Fitzroy Crossi**	**30.90**	**247**	*e*P	**P**	**05 39 51.2**	**-0.7**
	comp=Z,48nm,0.7s,mb5.4						
FITZ				*e*S	**S**	**05 44 47.6**	**-8.1**
FITZ	**Fitzroy Crossi**	**30.90**	**247**	P	**P**	**05 39 50.8**	**-1.1**
	comp=Z,30nm,0.7s,mb5.2,baz=97,slow=7.9,SNR=13						
FITZ				LR	LR	05 52 45.6	
	comp=Z,10μm,18.1s,MS5.5,baz=184,slow=37						
BATI	**Kupang**	**31.50**	**263**	P	**P**	**05 39 57.8**	**+0.5**
	comp=Z,44nm,0.9s,mb5.3,baz=90,slow=17,SNR=4.9						
BATI				LR	LR	05 54 27.9	
	comp=Z,8μm,18.3s,MS5.4,baz=106,slow=40						
AFI	**Afiamalu**	**32.86**	**104**	*e*P	**P**	**05 40 08.8**	**-0.5**
DAV	**Davao City (W)**	**33.04**	**295**	↑*e*P	**P**	**05 40 10.0**	**-0.8**
RAO	**Raoul Island**	**33.22**	**134**	LR	LR	05 52 00.1	
	comp=Z,6μm,18.8s,MS5.3,baz=303,slow=33						
FORT	**Forrest**	**34.61**	**224**	*e*P	**P**	**05 40 24.0**	**-0.3**
	comp=Z,21nm,0.6s,mb5.2						
KAPI	**Kappang**	**35.53**	**272**	P	**P**	**05 40 32.0**	**-0.5**
	comp=Z,898nm,1.1s,mb6.6,SNR=19						
TAU	**Tasmania Unive**	**36.11**	**190**	*e*P	**P**	**05 40 39.0**	**+2.0**
	comp=Z,76nm,1.1s,mb5.5						
TAU	**Tasmania Unive**	**36.11**	**190**	*e*P	**P**	**05 40 39.0**	**+2.0**
TAU				pmax	pmax		
	comp=Z,76nm,1.1s,mb5.5						
URZ	**Urewera**	**36.48**	**151**	LR	LR	05 54 34.7	
	comp=Z,11μm,18.3s,MS5.7,baz=232,slow=35						
CBIJ	**Chichi jima**	**36.58**	**340**	LR	LR	05 54 45.0	
	comp=Z,3μm,19.9s,MS5.1,baz=28,slow=35						
MBWA	**Marble Bar**	**37.10**	**245**	*e*P	**P**	**05 40 45.2**	**-0.5**
	comp=Z,140nm,1.7s,mb5.5						
RPZ	**Rata Peaks**	**38.71**	**162**	LR	LR	05 54 56.7	
	comp=Z,28μm,20.6s,MS6.1,baz=316,slow=33						
MYLDM	**Lahad Datu**	**38.89**	**288**	⇓P	**P**	**05 41 03.0**	**+1.9**
TSM	**Tawau**	**39.22**	**286**	⇓P	**P**	**05 41 04.2**	**+0.4**
SDKM	**Sandakan**	**40.27**	**288**	⇑P	**P**	**05 41 14.1**	**+1.6**
PPR	**Puerto Princes**	**40.32**	**294**	*e*P	**P**	**05 41 14.2**	**+1.3**
KDM	**Kudat**	**41.02**	**289**	⇑P	**P**	**05 41 21.4**	**+2.7**
KKM	**Kota Kinabalu**	**41.32**	**288**	*e*P	**P**	**05 41 22.5**	**+1.3**
KKM	**Kota Kinabalu**	**41.32**	**288**	⇓P	**P**	**05 41 21.5**	**+0.3**
KLBR	**Kellerberrin**	**42.57**	**230**	*e*P	**P**	**05 41 29.6**	**-1.6**
	comp=Z,32nm,1.0s,mb5.0						
JHJ	**Hachijo jima 2**	**42.92**	**341**	LR	LR	05 57 57.9	
	comp=Z,5μm,20.5s,MS5.4,baz=155,slow=34						
JOW	**Kunigami**	**42.99**	**323**	LR	LR	05 56 08.9	
	comp=Z,6μm,21.9s,MS5.5,baz=127,slow=32						
BTM	**Bintulu**	**43.53**	**282**	⇓P	**P**	**05 41 41.6**	**+2.4**
NWAO	**Narrogin (SRO)**	**43.57**	**229**	LR	LR	05 59 48.6	
	comp=Z,19μm,18.4s,MS6.0,baz=226,slow=36						
SBUM	**Sibu**	**44.20**	**281**	⇓P	**P**	**05 41 46.0**	**+1.5**
NACB	**Ninganchiao**	**45.52**	**315**	*e*P	**P**	**05 41 55.6**	**+0.7**
JMN	**Monobe**	**45.70**	**335**	*e*S	**P**	**05 41 58.2**	**+2.1**
KSM	**Kuching**	**45.86**	**279**	*e*P	**P**	**05 41 58.2**	**+0.5**
KSM	**Kuching**	**45.86**	**279**	⇓P	**P**	**05 41 58.8**	**+1.0**
YHNB	**Yeheng**	**45.99**	**315**	*e*P	**P**	**05 42 00.3**	**+1.7**
JWT	**Wachi**	**46.44**	**337**	*e*S	**P**	**05 42 03.2**	**+1.3**
JNU	**Nakatsue**	**46.54**	**331**	P	**P**	**05 42 02.1**	**-0.6**
	comp=Z,18nm,0.8s,mb5.1,baz=114,slow=18,SNR=7.4						
JNU	**Nakatsue**	**46.54**	**331**	*e*S	**P**	**05 41 56.2**	**-6.6**
MJAR	**Matsushiro Arr**	**46.57**	**341**	P	**P**	**05 42 02.0**	**-0.9**
MJAR						05 43 36.1	
MJAR	**Matsushiro Arr**	**46.57**	**341**	P	**P**	**05 42 02.0**	**-0.9**
	comp=Z,5.5nm,0.7s,mb4.6,baz=165,slow=7.4,SNR=8.0						
MJAR				PcP	PcP	05 43 36.1	-0.9
	comp=Z,6.4nm,0.8s,baz=168,slow=4.3,SNR=4.2						
MJAR				LR	LR	05 59 27.2	
	comp=Z,6μm,21.9s,MS5.5,baz=175,slow=33						
MAJO	**Matsushiro**	**46.57**	**341**	*e*P	**P**	**05 42 05.4**	**+2.5**
MAT	**Matsushiro**	**46.57**	**341**	P	**P**	**05 42 03.3**	**+0.3**
MAT				S	**S**	**05 48 51.0**	**-0.2**
JAD	**Aida**	**46.62**	**336**	*e*S	**P**	**05 42 04.0**	**+0.6**
QZH	**Quanzhou**	**48.14**	**313**	*i* P	**P**	**05 42 16.0**	**+0.6**
QZH				S	**S**	**05 49 15.9**	**+1.9**
QZH				AMB	AMB		
	comp=Z,360nm,0.9s,mb6.4						
QZH				AMB	AMB		
	comp=Z,2μm,7.0s						
QZH				LR	LR		
	comp=N,4μm,10.3s,MS5.8						
QZH				LR	LR		
	comp=E,3μm,11.2s,MS5.8						
QZH				LR	LR		
	comp=Z,5μm,22.5s						
HKC	**Hong Kong Obse**	**50.02**	**307**	↑*i*P	**P**	**05 42 34.0**	**+4.2**
SSE	**Sheshan**	**50.36**	**321**	P	**P**	**05 42 33.8**	**+1.5**
SSE				AP	pP	05 42 37.0	-0.2
SSE				PP	PP	05 44 29.6	+1.6
SSE				S	**S**	**05 49 45.5**	**+0.5**
SSE				AMB	AMB		
	comp=Z,70nm,0.7s,mb5.8						
SSE				AMB	AMB		
	comp=Z,662nm,8.4s						
SSE				LR	LR		
	comp=N,2μm,16.1s,MS5.4						
SSE				LR	LR		
	comp=E,2μm,16.2s,MS5.4						
SSE				LR	LR		
	comp=Z,4μm,14.6s,MS5.6						
SSE	**Sheshan**	**50.36**	**321**	P	**P**	**05 42 33.8**	**+1.5**
	comp=Z,70nm,0.7s,mb5.8						
SSE				pP	pP	05 42 37.0	-0.2
SSE				PP	PP	05 44 29.6	+1.6
SSE				S	**S**	**05 49 45.5**	**+0.5**
SSE				sS	sS	05 49 51.1	-2.0
SSE				SS	SS	05 53 20.7	+1.6
SSE				LR	LR		
	comp=Z,4μm,14.6s,MS5.6						
GZH	**Guangzhou**	**51.08**	**308**	P	**P**	**05 42 38.7**	**+0.8**
GZH				S	**S**	**05 49 59.8**	**+4.6**
GZH				LR	LR		
	comp=N,2μm,19.4s,MS5.5						
GZH				LR	LR		
	comp=E,5μm,19.3s,MS5.5						
GZH				LR	LR		
	comp=Z,7μm,21.3s,MS5.7						
KSRS	**Korea Array**	**51.47**	**332**	P	**P**	**05 42 41.2**	**+0.8**
	comp=Z,22nm,0.9s,mb5.1,baz=148,slow=8.1,SNR=28						
KSRS				LR	LR	06 01 39.5	
	comp=Z,4μm,21.1s,MS5.5,baz=141,slow=33						
JSH	**Shimam**	**51.71**	**346**	*e*S	**P**	**05 42 41.4**	**-0.8**
QIZ	**Qiongzhong**	**52.02**	**301**	P	**P**	**05 42 45.3**	**+0.4**
QIZ				S	**S**	**05 50 10.1**	**+1.9**
QIZ				AMB	AMB		
	comp=Z,29nm,0.8s,mb5.3						
QIZ				AMB	AMB		
	comp=Z,865nm,7.2s						
QIZ				LR	LR		
	comp=E,3μm,21.1s						
QIZ				LR	LR		
	comp=Z,5μm,32.9s						
QIZ	**Qiongzhong**	**52.02**	**301**	*e*P	**P**	**05 42 45.8**	**+0.9**
	comp=Z,87nm,1.2s,mb5.6						
INCN	**Inchon**	**52.10**	**331**	*e*P	**P**	**05 42 47.4**	**+2.2**
	comp=Z,100nm,1.1s,mb5.7						
MYKOM	**Kota Tinggi**	**52.25**	**278**	⇓P	**P**	**05 42 47.3**	**+0.5**
JMP	**Maruseppu**	**52.29**	**349**	*e*S	**P**	**05 42 46.0**	**-0.5**
NJ2	**Nanjing**	**52.47**	**320**	*e*P	**P**	**05 42 49.8**	**+1.7**
NJ2				AP	pP	05 42 54.4	+1.4
NJ2				XP	sP	05 42 57.1	+2.2
NJ2				PP	PP	05 44 51.4	+4.3
NJ2				S	**S**	**05 50 13.0**	**-1.1**
NJ2				AMB	AMB		
	comp=Z,50nm,0.8s,mb5.5						
NJ2				AMB	AMB		
	comp=Z,1μm,4.6s						
NJ2				LR	LR		
	comp=N,3μm,13.1s,MS5.5						
NJ2				LR	LR		
	comp=E,2μm,13.6s,MS5.5						
NJ2				LR	LR		
	comp=Z,7μm,16.2s,MS5.8						
ASAJ	**Asahikawa**	**52.54**	**348**	*e*S	**P**	**05 42 48.1**	**-0.3**
KGM	**Kluang**	**52.81**	**278**	⇓P	**P**	**05 42 51.7**	**+0.7**
KTGM	**Kuala Trenggan**	**53.67**	**282**	⇑P	**P**	**05 42 58.2**	**+0.8**
PPT	**Papeete**	**54.49**	**106**	*e*P	**P**	**05 43 03.5**	**+0.3**
	comp=Z,32nm,1.2s,mb5.1						
PPT				*e*S	**S**	**05 50 42.1**	**+0.1**
	comp=Z,3μm,27.5s						
PPT				*e*LQ		05 56 31.8	
	comp=Z,3μm,24.5s						
PPT				*e*LR	LR	05 58 52.9	
	comp=Z,3μm,21.5s						
PPT	**Papeete**	**54.49**	**106**	*e*P	**P**	**05 43 03.5**	**+0.3**
	comp=Z,32nm,1.2s,mb5.1						
PPT				*e*S	**S**	**05 50 42.1**	**+0.1**
PPT				*e*LQ		05 56 31.8	
PPT	**Papeete**	**54.49**	**106**	*e*P	**P**	**05 43 03.5**	**+0.3**
PPT				*e*S	**S**	**05 50 42.1**	**+0.1**
PPT				pmax	pmax		
	comp=Z,32nm,1.2s						
PPT	**Papeete**	**54.49**	**106**	LR	LR	06 01 55.3	
	comp=Z,3μm,20.2s,MS5.3,baz=269,slow=31						
PAE	**Paea**	**54.49**	**106**	*e*P	**P**	**05 43 03.6**	**+0.4**
	comp=Z,119nm,1.2s,mb5.7						
PAE	**Paea**	**54.49**	**106**	*e*P	**P**	**05 43 03.6**	**+0.4**
PAE				pmax	pmax		
	comp=Z,119nm,1.2s,mb5.7						
WHN	**Wuhan**	**54.50**	**316**	⇑P	**P**	**05 43 04.0**	**+1.0**
WHN				S	**S**	**05 50 40.0**	**-1.7**
WHN				LR	LR		
	comp=Z,9μm,22.0s,MS5.8						
VLA	**Vladivostok**	**54.61**	**339**	*e*P	**P**	**05 43 02.5**	**-1.1**
VLA	**Vladivostok**	**54.61**	**339**	*e*P	**P**	**05 43 03.9**	**+0.3**
VLA				*e*S	**S**	**05 50 41.0**	**-1.8**
VLA				pmax	pmax		
	comp=Z,62nm,0.9s,mb5.6						
VLA				MLR	MLR		
	comp=Z,2μm,18.0s,MS5.3						
FRIM	**Kepong**	**54.71**	**279**	⇑P	**P**	**05 43 05.0**	**+0.1**
TVO	**Taravao**	**54.81**	**106**	*e*P	**P**	**05 43 05.8**	**+0.3**
	comp=Z,123nm,1.3s,mb5.8						
TVO	**Taravao**	**54.81**	**106**	*e*P	**P**	**05 43 05.8**	**+0.3**
TVO				pmax	pmax		
	comp=Z,123nm,1.3s,mb5.8						
TBI	**Tubuai**	**55.14**	**113**	*e*S	**S**	**05 50 50.0**	**-0.7**
	comp=Z,1μm,31.2s						
TBI				*e*LQ		05 56 51.2	
	comp=Z,13μm,29.2s						
TBI				*e*LR	LR	05 59 10.8	
	comp=Z,9μm,31.5s,baz=286						
YSS	**Yuzh-Sakhalins**	**55.24**	**349**	*e*P	**P**	**05 43 10.3**	**+2.2**
	comp=Z,96nm,0.9s,mb5.8						
YSS	**Yuzh-Sakhalins**	**55.24**	**349**	*e*P	**P**	**05 43 06.2**	**-1.9**
YSS				*e*		05 44 09.0	
YSS				*e*S	**S**	**05 50 43.0**	**-8.1**
YSS				*e*PS		05 50 54.0	
YSS				*e*SS	SS	05 54 24.0	-12
YSS				*e*SSS		05 56 30.0	
YSS				MLR	MLR		
	comp=Z,4μm,17.0s,MS5.6						
YSS				MLR	MLR		
	comp=N,3μm,19.0s						
DL2	**Dalian**	**55.71**	**328**	↑*i*P	**P**	**05 43 12.2**	**+0.6**
DL2				S	**S**	**05 51 00.0**	**+2.4**
DL2				AMB	AMB		
	comp=Z,30nm,0.9s,mb5.3						
DL2				AMB	AMB		
	comp=Z,300nm,8.2s						
DL2				LR	LR		
	comp=N,2μm,25.3s,MS5.1						
DL2				LR	LR		
	comp=E,1μm,25.5s,MS5.1						
DL2				LR	LR		
	comp=Z,3μm,26.8s,MS5.2						
PMOR	**Pomariorio Ree**	**56.00**	**103**	*e*P	**P**	**05 43 14.8**	**+0.7**
	comp=Z,257nm,1.2s,mb6.1						
KULM	**Kulim**	**56.08**	**281**	*e*P	**P**	**05 43 13.9**	**-0.8**
KULM	**Kulim**	**56.08**	**281**	⇓P	**P**	**05 43 14.8**	**0.0**
VAH	**Vaihoa**	**56.26**	**103**	*e*P	**P**	**05 43 16.4**	**+0.4**
	comp=Z,162nm,1.2s,mb5.9						
TIA	**Tai'an**	**56.32**	**323**	*e*P	**P**	**05 43 15.9**	**-0.1**
TIA				S	**S**	**05 51 03.0**	**-2.8**
TIA				LR	LR		
	comp=E,939nm,12.0s						
SNG	**Songkhla**	**56.53**	**284**	P	**P**	**05 43 18.5**	**+0.5**
MDJ	**Mudanjiang**	**56.74**	**338**	P	**P**	**05 43 19.9**	**+1.0**
MDJ				AP	pP	05 43 22.8	-1.0
MDJ				PCP	PcP	05 44 13.6	-1.1
MDJ				S	**S**	**05 51 00.9**	**-10**
MDJ				AMB	AMB		
	comp=Z,24nm,1.4s,mb5.0						
MDJ				AMB	AMB		
	comp=Z,658nm,9.2s						
MDJ				LR	LR		
	comp=N,2μm,24.2s,MS5.3						
MDJ				LR	LR		
	comp=E,1μm,20.6s,MS5.3

GYA				SS	SS	05 55 22.4 +2.3
GYA				AMB	AMB	
	comp=Z,100nm,1.0s,mb5.8					
GYA				LR	LR	
	comp=N,13μm,20.0s,MS6.2					
GYA				LR	LR	
	comp=E,12μm,21.8s,MS6.2					
GYA				LR	LR	
	comp=Z,13μm,19.9s,MS6.1					
HABR	**Khabarovsk**	**58.42**	**344**	*e*P	**P**	**05 43 30.9 +0.3**
HABR				*e*		05 45 36.9
HABR				*e*S	**S**	**05 51 31.8 -1.2**
HABR				pmax	pmax	
	comp=Z,229nm,2.1s,mb5.8					
BJI	**Beijing**	**59.47**	**326**	P	**P**	**05 43 36.4 -1.7**
BJI				S	**S**	**05 51 42.8 -4.1**
BJI				AMB	AMB	
	comp=Z,930nm,9.6s					
BJI				LR	LR	
	comp=N,1μm,23.2s,MS5.4					
BJI				LR	LR	
	comp=E,3μm,23.2s,MS5.4					
BJI	**Beijing**	**59.47**	**326**	P	**P**	**05 43 36.4 -1.7**
	comp=E,14nm,2.6s,mb4.5					
BJI				S	**S**	**05 51 42.8 -4.1**
KLR	**Kul'dur**	**60.05**	**342**	*e*P	**P**	**05 43 37.0 -4.9**
KLR				*e*S	**S**	**05 51 46.5 -7.6**
KLR				pmax	pmax	
	comp=E,120nm,2.2s					
KLR				pmax	pmax	
	comp=Z,230nm,2.2s,mb5.8					
KLR				pmax	pmax	
	comp=Z,1μm,9.0s					
KLR				smax		
	comp=N,2μm,9.0s					
KLR				smax		
	comp=E,1μm,9.0s					
TIY	**Taiyuan**	**60.15**	**321**	*i* P	**P**	**05 43 42.9 +0.1**
TIY				S	**S**	**05 51 54.3 -1.5**
TIY				AMB	AMB	
	comp=Z,689nm,5.6s					
TIY				LR	LR	
	comp=N,3μm,17.0s,MS5.5					
TIY				LR	LR	
	comp=E,2μm,18.6s,MS5.5					
TIY				LR	LR	
	comp=Z,618nm,17.1s,MS4.8					
PET	**Petropavlovsk**	**60.22**	**2**	*e*P	**P**	**05 43 42.6 -0.4**
PET	**Petropavlovsk**	**60.22**	**2**	*e*P	**P**	**05 43 43.9 +0.9**
PET				*e*S	**S**	**05 51 54.4 -1.7**
PET				*e*PS		05 52 08.2
PET				*e*PPS		05 52 15.2
PET				*e*		05 53 28.4
PET				pmax	pmax	
	comp=Z,2μm,6.0s					
PET				pmax	pmax	
	comp=Z,1μm,6.2s					
PET				MLR	MLR	
	comp=Z,5μm,20.0s,MS5.6					
PET				MLR	MLR	
	comp=Z,4μm,15.0s					
XAN	**Xi'an**	**60.27**	**316**	P	**P**	**05 43 42.6 -1.1**
XAN				AP	pP	05 43 48.2 -0.5
XAN				S	**S**	**05 51 55.2 -2.3**
XAN				AMB	AMB	
	comp=Z,11nm,0.8s,mb4.9					
XAN				AMB	AMB	
	comp=Z,704nm,6.2s					
XAN				LR	LR	
	comp=N,2μm,20.2s,MS5.4					
XAN				LR	LR	
	comp=E,2μm,18.7s,MS5.4					
XAN				LR	LR	
	comp=Z,4μm,18.7s,MS5.5					
KMI	**Kunming**	**60.58**	**304**	P	**P**	**05 43 47.2 +1.2**
KMI				PCP	PcP	05 44 32.0 +1.6
KMI				PP	PP	05 46 02.4 +2.7
KMI				S	**S**	**05 52 00.7 -1.0**
KMI				SS	SS	05 55 59.7 -0.7
KMI				AMB	AMB	
	comp=Z,78nm,1.5s,mb5.6					
KMI				AMB	AMB	
	comp=Z,956nm,5.6s					
KMI				LR	LR	
	comp=N,1μm,20.2s,MS5.4					
KMI				LR	LR	
	comp=E,3μm,21.1s,MS5.4					
KMI				LR	LR	
	comp=Z,4μm,22.8s,MS5.5					
KMI	**Kunming**	**60.58**	**304**	P	**P**	**05 43 47.2 +1.2**
	comp=Z,78nm,1.5s,mb5.6					
KMI				pP	pP	05 43 49.9 -1.1
KMI				PcP	PcP	05 44 32.0 +1.6
KMI				PP	PP	05 46 02.4 +2.7
KMI				PPP		05 47 29.1
KMI				S	**S**	**05 52 00.7 -1.0**
KMI				SS	SS	05 55 59.7 -0.7
KMI				SSS		05 58 33.0
KMI				LR	LR	
	comp=Z,4μm,22.8s,MS5.5					
KMI	**Kunming**	**60.58**	**304**	P	**P**	**05 43 47.2 +1.2**
KMI				PPP		05 44 32.0
KMI						05 46 02.4
KMI				PPP		05 47 29.1
KMI				S	**S**	**05 52 00.7 -1.0**
KMI				SS	SS	05 55 59.7 -0.7
KMI				SSS		05 58 33.0
KMI				pmax	pmax	
	comp=Z,78nm,1.5s,mb5.6					
KMI				MLR	MLR	
	comp=Z,4μm,22.8s,MS5.5					
CHRT	**Chiangrai**	**61.06**	**297**	⇑P	**P**	**05 43 50.0 +0.6**
	comp=Z,290nm,1.1s,mb6.3					
CHTO	**Chiang Mai**	**61.45**	**296**	*e*P	**P**	**05 43 52.8 +0.8**
CD2	**Chengdu**	**62.38**	**310**	⇑*i*P	**P**	**05 43 58.8 +0.7**
CD2				AP	pP	05 44 04.4 +1.3
CD2				XP	sP	05 44 07.2 +2.3
CD2				PP	PP	05 46 18.0 +2.5
CD2				PCS	PcS	05 48 39.8 -1.1
CD2				S	**S**	**05 52 23.5 -0.9**
CD2				SCS	ScS	05 53 46.8 -3.3
CD2				SS	SS	05 56 28.9 +0.4
CD2				AMB	AMB	
	comp=Z,50nm,0.7s,mb5.8					
CD2				AMB	AMB	
	comp=Z,2μm,5.6s					
CD2				LR	LR	
	comp=N,3μm,21.6s,MS5.6					
CD2				LR	LR	
	comp=E,3μm,21.6s,MS5.6					
CD2				LR	LR	
	comp=Z,4μm,24.0s,MS5.5					
HHC	**Hu-ho-hao-te**	**62.64**	**324**	*e*P	**P**	**05 43 59.9 +0.3**
HHC				AP	pP	05 44 04.7 +0.1
HHC				PP	PP	05 46 18.3 +0.6
HHC				SCP	ScP	05 48 37.9 -2.3
HHC				PCS	PcS	05 48 40.2 -1.5
HHC				S	**S**	**05 52 26.3 -1.1**
HHC				SCS	ScS	05 53 46.1 -5.6
HHC				SS	SS	05 56 36.9 +4.7
HHC				AMB	AMB	
	comp=Z,23nm,1.1s,mb5.2					
HHC				AMB	AMB	
	comp=Z,860nm,4.6s					
HHC				LR	LR	
	comp=N,2μm,15.2s,MS5.5					
HHC				LR	LR	
	comp=E,2μm,18.6s,MS5.5					
HHC				LR	LR	
	comp=Z,3μm,18.5s,MS5.5					
BTO	**Baotou**	**63.41**	**323**	*e*P	**P**	**05 44 04.9 +0.2**
TAOE	**Nuku Hiva Isla**	**63.73**	**96**	*e*S	**S**	**05 52 43.1 +1.1**
	comp=Z,2μm,27.1s					
TAOE				*e*LQ		06 00 29.1
	comp=Z,4μm,27.8s					
TAOE				*e*LR	LR	06 03 03.6
	comp=Z,6μm,21.7s,baz=271					
HIA	**Hailar**	**64.44**	**335**	*e*P	**P**	**05 44 11.0 -0.3**
LZH	**Lanzhou**	**64.88**	**315**	*e*P	**P**	**05 44 15.3 +0.8**
LZH				PP	PP	05 46 40.2 +2.8
LZH				*e*S	**S**	**05 52 55.2 -0.2**
LZH				SS	SS	05 57 08.3 +1.0
LZH				AMB	AMB	
	comp=Z,139nm,1.5s,mb5.8					
LZH				AMB	AMB	
	comp=Z,610nm,6.4s					
LZH				LR	LR	
	comp=E,3μm,18.4s					
LZH				LR	LR	
	comp=Z,5μm,20.5s,MS5.7					
LZH	**Lanzhou**	**64.88**	**315**	*e*P	**P**	**05 44 15.3 +0.8**
	comp=Z,139nm,1.5s,mb5.8					
LZH				pP	pP	05 44 18.5 -1.0
LZH				sP	sP	05 44 19.5 -1.9
LZH				PP	PP	05 46 40.2 +2.8
LZH				*e*S	**S**	**05 52 55.2 -0.2**
LZH				sS	sS	05 53 00.1 -3.6
LZH				SS	SS	05 57 08.3 +1.0
LZH				LR	LR	
	comp=Z,5μm,20.5s,MS5.7					
LZH	**Lanzhou**	**64.88**	**315**	*e*P	**P**	**05 44 15.3 +0.8**
LZH						05 46 40.2
LZH				*e*S	**S**	**05 52 55.2 -0.2**
LZH				SS	SS	05 57 08.3 +1.0
LZH				pmax	pmax	
	comp=Z,139nm,1.5s,mb5.8					
LZH				MLR	MLR	
	comp=Z,5μm,20.5s,MS5.7					
MA2	**Magadan**	**66.83**	**357**	*e*P	**P**	**05 44 26.0 -0.6**
	comp=Z,61nm,1.2s,mb5.5					
MA2	**Magadan**	**66.83**	**357**	*c i*P	**P**	**05 44 25.7 -0.8**
MA2				*e*		05 44 43.6
MA2				*e*S	S	05 53 13.6 -4.7
MA2				*e*SS	SS	05 57 34.9 -1.9
MA2				pmax	pmax	
	comp=N,40nm,1.0s					
MA2				pmax	pmax	
	comp=Z,70nm,1.0s,mb5.7					
MA2				MLR	MLR	
	comp=Z,5μm,19.0s,MS5.7					
RKT	**Rikitea**	**68.41**	**112**	*e*S	S	05 53 39.1 +0.4
	comp=Z,760nm,25.2s					
RKT				*e*SS	SS	05 58 02.7 +0.2
	comp=Z,977nm,27.2s					
RKT				*e*LQ		06 02 24.3
	comp=Z,3μm,36.0s					
RKT				*e*LR	LR	06 05 20.2
	comp=Z,7μm,26.0s,baz=277					
NRGR	**Nerungri**	**68.61**	**342**	*e*P	**P**	**05 44 39.0 +1.2**
NRGR				S	S	05 53 43.1 +3.4
NRGR				smax		
	comp=N,23nm,0.5s					
CLNS	**Chul'man**	**68.71**	**343**	*e*P	**P**	**05 44 39.1 +0.7**
CLNS				*e**PP	pP	05 44 44.9 +1.4
CLNS				*e*		05 45 04.4
CLNS				*e*S	S	05 53 33.3 -7.6
CLNS				*e*		05 54 32.9
CLNS				pmax	pmax	
	comp=N,33nm,0.9s					
CLNS				pmax	pmax	
	comp=Z,94nm,0.9s,mb5.7					
CLNS				pmax	pmax	
	comp=E,14nm,0.7s					
CLNS				smax		
	comp=N,457nm,11.1s					
CLNS				smax		
	comp=E,479nm,12.3s					
CLNS				smax		
	comp=Z,439nm,12.3s					
CLNS				MLR	MLR	
	comp=N,2μm,18.0s,MS5.4					
CLNS				MLR	MLR	
	comp=Z,2μm,18.0s,MS5.5					
CLNS				MLR	MLR	
	comp=E,770nm,15.0s,MS5.4					
CIT	**Chita**	**69.13**	**334**	*e*P	**P**	**05 44 40.0 -1.2**
CIT				*e*		05 45 09.2
CIT				pmax	pmax	
	comp=Z,144nm,1.9s,mb5.6					
GTA	**Gaotai**	**69.30**	**317**	P	**P**	**05 44 42.0 -0.5**
GTA				PP	PP	05 47 18.0 +2.1
GTA				S	S	05 53 48.0 -0.6
GTA				SS	SS	05 58 17.3 +1.5
GTA				AMB	AMB	
	comp=Z,12nm,1.7s,mb4.5					
GTA				AMB	AMB	
	comp=Z,1μm,5.3s					
GTA				LR	LR	
	comp=N,1μm,18.3s,MS5.4					
GTA				LR	LR	
	comp=E,2μm,19.0s,MS5.4					
GTA				LR	LR	
	comp=Z,3μm,18.2s,MS5.6					
SHL	**Shillong**	**69.85**	**301**	*ex*	x	05 45 45.0
SONM	**Songino Array**	**69.88**	**327**	P	**P**	**05 44 45.5 -0.4**
	comp=Z,41nm,0.8s,mb5.4,baz=131,slow=5.6,SNR=9.6					
SONM				LR	LR	06 13 43.8
	comp=Z,3μm,21.3s,MS5.4,baz=119,slow=34					
SEY	**Seymchan**	**70.14**	**359**	⇑*i*P	**P**	**05 44 46.5 -0.6**
SBA	**Scott Base**	**70.70**	**177**	*e*P	**P**	**05 44 53.3 +2.8**
	comp=Z,406nm,2.8s,mb5.9					
SBA	**Scott Base**	**70.70**	**177**	*e*P	**P**	**05 44 53.3 +2.8**
SBA				pmax	pmax	
	comp=Z,410nm,2.8s,mb5.9					
LSA	**Lhasa**	**71.83**	**304**	P	**P**	**05 45 02.5 +4.3**
LSA				S	S	05 54 16.7 -1.8
LSA				AMB	AMB	
	comp=Z,20nm,0.8s,mb5.1					
LSA				AMB	AMB	
	comp=Z,850nm,8.0s					
LSA				LR	LR	
	comp=N,720nm,22.0s,MS5.3					
LSA				LR	LR	
	comp=E,2μm,22.0s,MS5.3					
LSA				LR	LR	
	comp=Z,3μm,22.0s,MS5.5					
LSA	**Lhasa**	**71.83**	**304**	*e*P	**P**	**05 44 59.6 +1.4**
	comp=Z,62nm,1.0s,mb5.5					
LSA	**Lhasa**	**71.83**	**304**	*e*P	**P**	**05 44 59.6 +1.4**
LSA				pmax	pmax	
	comp=Z,62nm,1.0s,mb5.5					
YAK	**Yakutsk**	**72.01**	**348**	*e*P	**P**	**05 44 58.7 +0.1**
YAK	**Yakutsk**	**72.01**	**348**	*c i*P	**P**	**05 44 59.0 +0.5**
YAK				*e**PP	pP	05 45 06.5 +2.9
YAK				*e*		05 45 16.9
YAK				*e*		05 47 37.6
YAK				*e*PPP		05 49 23.3
YAK				*e*S	S	05 54 17.1 -2.2
YAK				*e*		05 54 58.1
YAK				*e*SS	SS	05 58 55.4 -1.1
YAK				*e*SSS		06 02 09.3
YAK				pmax	pmax	
	comp=E,16nm,1.5s					
YAK				pmax	pmax	
	comp=N,23nm,1.1s					
YAK				pmax	pmax	
	comp=Z,117nm,1.0s,mb5.8					
YAK				smax		
	comp=N,2μm,8.5s					
YAK				smax		
	comp=E,1μm,8.1s					
YAK				MLR	MLR	
	comp=Z,3μm,21.0s,MS5.5					
YAK				MLR	MLR	
	comp=N,2μm,20.0s,MS5.5					
YAK				MLR	MLR	
	comp=E,1μm,23.0s,MS5.5					
ZAK	**Zakamensk**	**73.03**	**328**	*e*P	**P**	**05 45 05.1 +0.2**
ZAK				pmax	pmax	
	comp=Z,20nm,1.0s,mb5.0					
BOD	**Bodaibo**	**73.12**	**338**	*e*P	**P**	**05 45 04.6 -0.6**
BOD				pmax	pmax	
	comp=Z,33nm,1.1s,mb5.2					
TLY	**Talaya**	**73.60**	**329**	*e*P	**P**	**05 45 07.2 -1.0**
TLY	**Talaya**	**73.60**	**329**	*e*P	**P**	**05 45 10.1 +1.9**
TLY				*e*S	S	05 54 36.8 -1.0
TLY				*e*PS		05 55 03.2
TLY				pmax	pmax	
	comp=Z,24nm,1.4s,mb4.9					
TLY				MLR	MLR	
	comp=Z,2μm,18.0s,MS5.5					
IRK	**Irkutsk**	**73.61**	**330**	*e*P	**P**	**05 45 08.2 -0.1**
IRK				pmax	pmax	
	comp=Z,80nm,1.6s,mb5.4					
CHGN	**Chignik**	**73.91**	**25**	*e*P	**P**	**05 45 10.2 +0.3**
BOK	**Bokaro**	**74.54**	**297**	*e*P	**P**	**05 45 14.3 0.0**
BOK				AMb	AMB	05 45 20.6
	comp=Z,119nm,1.3s,mb5.7					
BOK				*e*S	S	05 54 50.7 +1.1
MOY	**Mondy**	**74.95**	**328**	*e*P	**P**	**05 45 16.0 -0.1**
MOY				pmax	pmax	
	comp=Z,113nm,3.7s					
GAMB	**Gambell**	**75.17**	**14**	*e*P	**P**	**05 45 18.4 +1.3**
JIRN	**Jiri**	**75.34**	**301**	*e*P	**P**	**05 45 18.2 -0.7**
	comp=Z,239nm,1.1s,mb6.0					
VIS	**Vishakhapatnam**	**75.40**	**290**	⇓*i*P	**P**	**05 45 18.2 -1.2**
VIS				*ex*	x	05 55 01.7
BILL	**Bilibino**	**75.62**	**4**	⇑*i*P	**P**	**05 45 20.1 +0.5**
BILL	**Bilibino**	**75.62**	**4**	⇑*i*P	**P**	**05 45 20.0 +0.4**
BILL				*e*		05 45 33.4
BILL				pmax	pmax	
	comp=Z,44nm,1.0s,mb5.3					
PALK	**Pallekele**	**75.92**	**279**	*e*P	**P**	**05 45 25.2 +2.7**
	comp=Z,94nm,1.9s,mb5.4					
KKN	**Kakani**	**76.15**	**301**	*e*P	**P**	**05 45 24.3 +0.8**
	comp=Z,102nm,0.8s,mb5.8					
GKN	**Gorkha**	**76.75**	**301**	*e*P	**P**	**05 45 27.1 +0.2**
	comp=Z,405nm,1.1s,mb6.2					
KDAK	**Kodiak Island**	**77.31**	**26**	*e*P	**P**	**05 45 32.3 +2.9**
KDAK	**Kodiak Island**	**77.31**	**26**	P	**P**	**05 45 30.7 +1.3**
	comp=Z,10.0nm,0.9s,mb4.7,baz=199,slow=5.0,SNR=7.2					
BLSP	**Bilaspur**	**77.48**	**295**	⇓*e*P	**P**	**05 45 29.4 -1.7**
BLSP				AMb	AMB	05 45 36.3
	comp=Z,79nm,1.4s,mb5.5					
BLSP				*e*S	S	05 55 21.7 -0.3
TNA	**Tin City**	**77.57**	**15**	*e*P	**P**	**05 45 33.2 +2.5**
KOLN	**Koldanda**	**77.58**	**300**	*e*P	**P**	**05 45 30.4 -1.2**
	comp=Z,204nm,1.1s,mb6.0					
SVW2	**Sparrevohn**	**78.18**	**22**	*e*P	**P**	**05 45 32.9 -1.3**
TTA	**Tatalina**	**79.22**	**20**	*e*P	**P**	**05 45 39.4 -0.4**
TTA	**Tatalina**	**79.22**	**20**	*e*P	**P**	**05 45 39.2 -0.6**
TTA	**Tatalina**	**79.22**	**20**	*e*P	**P**	**05 45 39.4 -0.4**
WMQ	**Urumqi**	**79.39**	**317**	⇑*i*P	**P**	**05 45 41.2 0.0**
WMQ				AP	pP	05 45 46.0 -0.3
WMQ				PCP	PcP	05 45 50.0 +0.7
WMQ				PP	PP	05 48 45.0 +3.5
WMQ				*e*S	S	05 55 41.0 -0.6
WMQ				SKS		05 55 51.0
WMQ				AMB	AMB	
	comp=Z,33nm,1.3s,mb5.1					
WMQ				AMB	AMB	
	comp=Z,912nm,5.1s					
WMQ				LR	LR	
	comp=N,2μm,21.8s,MS5.6					
WMQ				LR	LR	
	comp=E,2μm,24.0s,MS5.6					
WMQ				LR	LR	
	comp=Z,3μm,26.2s,MS5.5					
KOD	**Kodaikanal**	**79.56**	**282**	*e*P	**P**	**05 45 43.5 +0.7**
KOD				AMb	AMB	05 45 49.3
	comp=Z,54nm,2.5s,mb5.0					
TRD	**Trivandrum**	**79.78**	**280**	*e*P	**P**	**05 45 43.5 -0.5**
TRD				AMb	AMB	05 45 49.8
	comp=Z,41nm,1.8s,mb5.1					
HYB	**Hyderabad**	**79.79**	**289**	*e*P	**P**	**05 45 43.5 -0.4**
HYB	**Hyderabad**	**79.79**	**289**	*i* P	**P**	**05 45 44.0 +0.1**
	comp=Z,50nm,1.0s,mb5.4					
HYB				*e*S	S	05 55 46.0 -0.9
SLKM	**Skilak Lake**	**79.91**	**24**	*e*P	**P**	**05 45 42.2 -1.4**
NGP	**Nagpur**	**80.07**	**293**	*e*P	**P**	**05 45 43.3 -2.1**
NGP				AMb	AMB	05 45 49.4
	comp=Z,65nm,1.7s,mb5.3					
TIXI	**Tiksi**	**80.78**	**352**	*e*P	**P**	**05 45 47.2 -1.0**
	comp=Z,70nm,1.4s,mb5.4					
TIXI	**Tiksi**	**80.78**	**352**	*e*P	**P**	**05 45 46.8 -1.3**
TIXI				*e*S	S	05 55 52.9 -2.3
TIXI				*e*		05 56 41.3
TIXI				*e*SS	SS	06 01 04.2 -4.7
TIXI				pmax	pmax	
	comp=Z,69nm,1.6s,mb5.3					
LGTI	**Lohaghat**	**80.85**	**301**	*e*P	**P**	**05 45 48.5 -0.9**
PMR	**Palmer**	**80.96**	**24**	*e*P	**P**	**05 45 47.9 -1.4**
	comp=Z,46nm,1.2s,mb5.3					
PMR				LR	LR	
	comp=Z,4μm,21.0s,MS5.8					
PMR	**Palmer**	**80.96**	**24**	*e*P	**P**	**05 45 47.9 -1.4**
PMR				pmax	pmax	
	comp=Z,46nm,1.2s,mb5.3					
PMR				MLR	MLR	
	comp=Z,4μm,21.0s,MS5.8					
SML	**Sawmill**	**81.40**	**24**	*e*P	**P**	**05 45 50.5 -1.1**
EYAK	**Cordova Ski Ar**	**81.78**	**25**	*e*P	**P**	**05 45 53.2 -0.5**
	comp=Z,17nm,1.2s,mb4.9					
AKL	**Akola**	**81.85**	**292**	⇓*i*P	**P**	**05 45 48.5 -6.4**
AKL				*ex*	x	05 46 03.4
	comp=Z,80nm,1.6s					
AKL				*i* S	S	05 56 05.2 -3.0
BHPL	**Bhopal**	**81.97**	**295**	⇓*i*P	**P**	**05 45 53.5 -2.0**
BHPL				AMb	AMB	05 46 00.2
	comp=Z,67nm,1.1s,mb5.5					
IMA2	**Indian Mountai**	**82.02**	**19**	*e*P	**P**	**05 45 53.2 -1.6**
MCK	**McKinley**	**82.24**	**22**	*e*P	**P**	**05 45 54.2 -1.8**
	comp=Z,62nm,1.0s,mb5.5					
MCK	**McKinley**	**82.24**	**22**	*e*P	**P**	**05 45 54.2 -1.8**
MCK				pmax	pmax	
	comp=Z,31nm,1.0s,mb5.2					
MNGI	**Mangalore**	**82.55**	**284**	*i* P	**P**	**05 45 57.5 -1.2**
MNGI				AMb	AMB	05 46 04.8
	comp=Z,20nm,0.5s,mb5.4					
MNGI				*i* x	x	05 56 20.0
QSPA	**South Pole Qui**	**82.61**	**180**	*e*P	**P**	**05 45 57.6 -0.1**
QSPA	**South Pole Qui**	**82.61**	**180**	P	**P**	**05 45 56.4 -1.4**
	comp=Z,10nm,0.8s,mb4.9,baz=26,slow=1.5,SNR=12					
DDI	**Dehra Dun**	**82.90**	**302**	*ex*	**P**	**05 45 57.0 -3.2**
NDI	**New Delhi**	**83.26**	**300**	*e*P	**P**	**05 46 00.7 -1.4**
NDI				AMb	AMB	05 46 06.8
	comp=Z,162nm,1.6s,mb5.8					
NDI				*e*S	S	05 56 22.5 0.0
COLA	**College**	**83.27**	**21**	*e*P	**P**	**05 45 58.5 -2.9**
	comp=Z,38nm,0.9s,mb5.4					
COLA	**College**	**83.27**	**21**	*e*P	**P**	**05 45 58.5 -2.8**
COLA				pmax	pmax	
	comp=Z,38nm,1.0s,mb5.4					
SMLA	**Simla**	**83.82**	**302**	*e*P	**P**	**05 46 04.9 0.0**
SMLA				AMb	AMB	05 46 10.7
	comp=Z,203nm,1.4s,mb6.0					
KAD	**Karad**	**83.88**	**288**	⇓*i*P	**P**	**05 46 04.6 -0.9**
KAD				AMb	AMB	05 46 10.8
	comp=Z,63nm,1.5s,mb5.5					
KAD				*ex*	x	05 56 29.8
MKAR	**Makanchi Array**	**83.96**	**319**	P	**P**	**05 46 05.0 -0.3**
MKAR	**Makanchi Array**	**83.96**	**319**	⇑*e*P	**P**	**05 46 05.3 0.0**
MKAR	**Makanchi Array**	**83.96**	**319**	P	**P**	**05 46 05.0 -0.3**
	comp=Z,52nm,0.8s,mb5.7,baz=79,slow=6.3,SNR=46					
MAW	**Mawson**	**84.22**	**203**	*e*P	**P**	**05 46 04.9 -1.3**
	comp=Z,20nm,1.0s,mb5.2					
MAW	**Mawson**	**84.22**	**203**	*e*P	**P**	**05 46 04.9 -1.3**
MAW				pmax	pmax	
	comp=Z,20nm,1.0s					
MAW	**Mawson**	**84.22**	**203**	P	**P**	**05 46 05.1 -1.1**
	comp=Z,21nm,0.9s,mb5.3,baz=88,slow=5.0,SNR=11					
POO	**Poona**	**84.39**	**289**	*e*P	**P**	**05 46 07.0 -1.1**
ZAA0	**Zalesovo Array**	**84.72**	**326**	*e*P	**P**	**05 46 07.6 -1.4**
ZALV	**Zalesovo Beam**	**84.72**	**326**	P	**P**	**05 46 07.3 -1.6**
	comp=Z,20nm,0.8s,mb5.3,baz=112,slow=5.4,SNR=30					
ZAL	**Zalesovo**	**84.73**	**326**	P	**P**	**05 46 07.4 -1.6**
AJM	**Ajmer**	**85.07**	**297**	⇓*i*P	**P**	**05 46 09.6 -1.7**
AJM				AMb	AMB	05 46 16.0
	comp=Z,177nm,1.2s,mb6.0					
THN	**Thein Dam**	**85.30**	**303**	*e*P	**P**	**05 46 11.9 -0.5**
EGAK	**Eagle**	**85.70**	**23**	*e*P	**P**	**05 46 13.0 -0.6**
NVS	**Novosibirsk**	**85.89**	**326**	*i* P	**P**	**05 46 13.4 -1.4**
NVS				*e*S	S	05 56 42.8 -4.8
NVS				pmax	pmax	
	comp=N,32nm,1.6s					
NVS				pmax	pmax	
	comp=E,68nm,1.6s					
NVS				pmax	pmax	
	comp=Z,111nm,1.6s,mb5.8					
NVS				smax		
	comp=N,26nm,2.2s					
NVS				smax		
	comp=E,75nm,3.3s					
SKAG	**Skagway**	**85.99**	**29**	*e*P	**P**	**05 46 18.1 +2.9**
DAWY	**Dawson**	**86.07**	**24**	*e*P	**P**	**05 46 17.1 +1.6**
KSH	**Kashi**	**86.58**	**310**	P	**P**	**05 46 20.3 +1.8**
KSH				AP	pP	05 46 24.3 +0.6
KSH				XP	sP	05 46 27.2 +1.6
KSH				PP	PP	05 49 43.8 +3.2
KSH				SKS		05 56 43.3
KSH				S	S	05 56 54.3 -0.6
KSH				SS	SS	06 02 38.5 +2.5
KSH				LR	LR	
	comp=N,2μm,6.3s					

KSH LR LR
comp=E,1μm,5.5s
KSH LR LR
comp=Z,5μm,22.1s,MS5.8
KURK Kurchatov 87.39 322 P **P 05 46 21.5 -0.7**
comp=Z,129nm,1.2s,mb6.0,SNR=8.9
KURK Kurchatov 87.39 322 *eP* **P 05 46 20.9 -1.3**
KURK Kurchatov 87.39 322⇑*P* **P 05 46 21.2 -1.0**
TKM2 Tokmak 2 87.58 314 *eP* **P 05 46 22.7 -0.6**
comp=Z,19nm,0.9s,mb5.3
TKM2 Tokmak 2 87.58 314 *eP* **P 05 46 23.5 +0.2**
TKM2 pmax pmax
comp=Z,19nm,0.9s,mb5.3
TKM2 Tokmak 2 87.58 314 P **P 05 46 23.5 +0.2**
SNR=9.9
CHMS Chumysh 88.20 314 P **P 05 46 26.3 0.0**
SNR=11
UCH Uchtor 88.22 313 *eP* **P 05 46 27.1 +0.7**
comp=Z,24nm,1.0s,mb5.4
UCH Uchtor 88.22 313 P **P 05 46 29.7 +3.3**
SNR=11
DLBC Dease Lake 88.25 30 *eP* **P 05 46 27.6 +1.4**
AAK Ala-Archa 88.31 313 P **P 05 46 25.6 -1.2**
comp=Z,130nm,0.7s,mb6.3,SNR=9.6
AAK Ala-Archa 88.31 313 *eP* **P 05 46 25.6 -1.3**
comp=Z,19nm,0.8s,mb5.4
AAK Ala-Archa 88.31 313 *eP* **P 05 46 25.6 -1.2**
AAK pmax pmax
comp=Z,19nm,0.8s,mb5.4
AAK Ala-Archa 88.31 313 P **P 05 46 29.3 +2.5**
SNR=14
USP Ospenovka 88.44 314 P **P 05 46 27.4 -0.1**
SNR=16
AML Almayashu 88.80 313 *eP* **P 05 46 29.8 +0.7**
comp=Z,26nm,0.9s,mb5.6
AML Almayashu 88.80 313 P **P 05 46 30.0 +0.9**
SNR=12
EKS2 Erkin-Say 88.84 313 *eP* **P 05 46 28.8 -0.5**
comp=Z,16nm,0.9s,mb5.4
EKS2 Erkin-Say 88.84 313 P **P 05 46 29.2 -0.1**
SNR=9.7
BHJ Bhuj 89.01 293⇓*iP* **P 05 46 29.6 -0.9**
BHJ AMb AMB 05 46 37.5
comp=Z,136nm,1.7s,mb6.0
BHJ ⇑*ex* x 05 57 19.5
INK Inuvik 89.92 21 *eP* **P 05 46 32.6 -1.2**
KBL Kabul 91.16 305 *eP* **P 05 46 38.5 -1.9**
comp=Z,23nm,1.0s,mb5.5
MWC Mount Wilson 91.23 56 *eP* **P 05 46 44.1 +3.4**
MTUM Tungsten Hills 91.26 53 *eP* **P 05 46 44.1 +3.3**
NVAR Mina Array Bea 91.62 52 P **P 05 46 43.3 +0.9**
comp=Z,4.5nm,1.1s,mb4.7,baz=242,slow=3.9,SNR=14
WVOR Wild Horse Val 91.93 48 *eP* **P 05 46 42.5 -1.2**
comp=Z,19nm,1.6s,mb5.2
WVOR Wild Horse Val 91.93 48 *eP* **P 05 46 42.5 -1.2**
WVOR pmax pmax
comp=Z,19nm,1.6s,mb5.2
SYO Syowa Base 92.11 199⇑*eP* **P 05 46 43.2 -0.9**
SYO Syowa Base 92.11 199⇑*ePcP* PcP 05 46 45.6 +0.7
SYO Syowa Base 92.11 199⇓*epP* pP 05 46 49.2 -0.1
GSC Goldstone 92.39 55 *eP* **P 05 46 49.1 +3.0**
PFO Pinyon Flat Ob 92.47 57 LR LR 06 24 06.6
comp=Z,4μm,18.5s,MS5.9,baz=266,slow=33
BRVK Borovoye 92.92 323 P **P 05 46 46.8 -1.2**
comp=Z,112nm,0.9s,mb6.3,SNR=6.3
BRVK Borovoye 92.92 323 *eP* **P 05 46 46.6 -1.4**
TPNV Topopah Spring 93.04 53 *eP* **P 05 46 51.0 +2.0**
comp=Z,75nm,2.2s,mb5.7
TPNV Topopah Spring 93.04 53 *eP* **P 05 46 51.0 +2.0**
TPNV pmax pmax
comp=Z,75nm,2.2s,mb5.7
BMO Blue Mountains 93.21 45 *eP* **P 05 46 49.8 +0.2**
ARUT Antelope Range 95.36 53 *eP* **P 05 47 03.7 +4.1**
MSU Marysvale 96.41 52 *eP* **P 05 47 08.1 +3.7**
YKW3 Yellowknife Ar 96.47 28 *eP* **P 05 47 06.1 +2.1**
YKA Yellowknife Ar 96.47 28 P **P 05 47 02.6 -1.4**
YKA PKKPbc PKKPbc 06 03 46.9 -4.5
YKA Yellowknife Ar 96.47 28 P **P 05 47 02.6 -1.4**
comp=Z,2.1nm,0.7s,mb4.7,baz=267,slow=4.5,SNR=13
YKA PKKPbc PKKPbc 06 03 46.8 -4.5
comp=Z,0.4nm,0.6s,baz=85,slow=2.9,SNR=6.6
EDM Edmonton 96.58 37 *eP* **P 05 47 04.7 -0.2**
JLU Jordanelle 97.11 50 *eP* **P 05 47 11.0 +3.4**
PDAR Pinedale Array 98.63 48 P **P 05 47 13.6 -0.7**
comp=Z,1.4nm,0.8s,mb4.5,baz=232,slow=2.2,SNR=10
ARU Arti 99.89 326⇑*iP* Pdif 05 47 19.4 -0.3
ARU Arti 99.89 326*d iP* Pdif 05 47 19.3 -0.4
ARU 05 51 21.9
ARU S SKSac 05 57 57.6 -0.1
ARU SS SS 06 05 37.1 -8.5
ARU pmax pmax
comp=Z,16nm,1.2s,mb5.3
ARU MLR MLR
comp=Z,2μm,19.0s,MS5.6
SMCO Snowmass 100.50 52 *e*Pdif Pdif 05 47 25.8 +3.5
ISCO Idaho Springs 101.55 51 *e*Pdif Pdif 05 47 20.8 -6.3
ARCES ARCESS Array B 110.07 343 PKiKP PKiKP 05 52 05.5 -0.7
comp=Z,4.7nm,0.9s,baz=85,slow=2.1,SNR=6.5
KIV Kislovodsk 111.41 314 *i* PKIKP PKiKP 05 52 05.7 -3.7
KIV *e* 05 52 53.2
KIV *e* 05 58 44.7
KIV *e*PS PS 06 02 13.5 -8.7
KIV pmax pmax
comp=Z,7.0nm,1.1s
KIV MLR MLR
comp=Z,2μm,22.0s,MS5.6
OBN Obninsk 112.29 327 *e*PKIKP PKiKP 05 52 08.0 -2.8
OBN pmax pmax
comp=Z,5.0nm,0.8s
SOC Sochi 113.59 314 *e* PP 05 53 00.8 -4.7
SOC *e*PS PS 06 02 34.1 -8.1
SOC MLR MLR
comp=Z,2μm,21.0s,MS5.8
FINES FINESS Array B 114.45 336 PKP PKiKP 05 52 13.8 -0.9
comp=Z,1.3nm,0.7s,baz=108,slow=4.2,SNR=3.4
ANN Anapa 114.89 316 *e*PKIKP PKiKP 05 52 12.8 -3.3
PLCA Paso Flores 116.17 142 PKP PKPdf 05 52 18.3 -0.4
comp=Z,4.2nm,0.9s,baz=8.7,slow=3.3,SNR=6.7
AKASG Malin Array Be 118.09 324 PKKPbc PKKPbc 06 02 44.0 +1.0
comp=Z,0.2nm,0.3s,baz=246,slow=4.8,SNR=6.3
HFS Hagfors 120.00 339 PKP PKPdf 05 52 23.8 -1.6
comp=Z,1.6nm,0.6s,baz=0.0,slow=0.0,SNR=4.3
NB2 NORSAR Subarra120.19 341 PKPdf PKPdf 05 52 23.7 -2.1
comp=Z,1.4nm,0.7s,baz=42,slow=1.9
NOA NORSAR Array B 120.19 341 PKP PKPdf 05 52 24.3 -1.5
comp=Z,1.7nm,0.8s,baz=45,slow=1.9,SNR=7.0
LCO Las Campanas 122.73 131 *e*PKPdf PKPdf 05 52 31.9 +0.2
KOLS Kolonicke sedl 122.89 325 *e*PKP PKPdf 05 52 32.7 +1.4
CRVS Cervenica-Dubn 123.37 325 *e*PKP PKPdf 05 52 33.9 +1.6
OKC Ostrava-Krasne 124.67 328 *e*PKPdf PKPdf 05 52 39.4 +4.7
OKC AMS AMS 06 51 40.0
comp=Z,2μm,21.1s,MS5.8
DPC Dobruska-Polom 125.32 329 *e*PKPdf PKPdf 05 52 39.9 +4.0
DPC AMS AMS 06 46 30.0
comp=Z,4μm,25.8s,MS6.0
UPC Upice 125.38 329 *e*PKPdf PKPdf 05 52 40.1 +4.0
MODS Modra-Piesok 125.98 327 *e*PKP PKPdf 05 52 39.3 +2.0
MODS Modra-Piesok 125.98 327 *e*PKP PKPdf 05 52 39.2 +1.9
PVCC Panska Ves 126.09 330 *e*PKPdf PKPdf 05 52 39.2 +1.8
PVCC AMS AMS 06 48 30.0
comp=Z,2μm,16.9s,MS5.9
BRG Berggiesshubel 126.17 331 *e*PKP PKPdf 05 52 40.2 +2.6
comp=Z,43nm,1.8s
BRG
comp=N,2μm,26.6s
BRG
comp=E,2μm,24.7s
BRG
comp=Z,3μm,31.2s
CLL Collm 126.34 332 *i* PKP PKPdf 05 52 41.1 +3.2
CLL *e*SS SS 06 12 12.0 +37
CLL LR LR
comp=Z,2μm,22.1s,MS5.8
CLL Collm 126.34 332 *i* PKIKP PKPdf 05 52 41.1 +3.2
CLL pmax pmax
comp=Z,11nm,1.1s
CLL MLR MLR
comp=Z,2μm,22.1s,MS5.8
CLL Collm 126.34 332 *e*PKPdf PKPdf 05 52 38.0 +0.1
comp=Z,15nm,1.1s
CLL *e*SS SS 06 12 12.0 +37
CLL *e*SSS 06 16 30.0
CLL LmH 06 49 00.0
comp=N,2μm,19.5s
CLL LmH 06 49 00.0
comp=E,2μm,20.4s
TREC Trest 126.39 328 AMS AMS 06 51 00.0
comp=Z,3μm,18.8s,MS6.0
PRU Pruhonice 126.44 330 *e*PKPdf PKPdf 05 52 38.1 0.0
PRU AMS AMS 06 48 00.0
comp=Z,2μm,17.7s,MS5.9
NKC Novy Kostel 127.32 331 *e*PKPdf PKPdf 05 52 39.8 0.0
NKC AMS AMS 06 49 40.0
comp=Z,2μm,19.7s,MS5.9
MOX Moxa 127.44 332 *e*PKP PKPdf 05 52 41.6 +1.6
MOX
comp=Z,1μm,21.0s
KHC Kasperske Hory 127.47 329⇑*i*PKIKP PKPdf 05 52 42.4 +2.3
KHC Kasperske Hory 127.47 329 *e*PKPdf PKPdf 05 52 41.4 +1.3
KHC AMS AMS 06 48 40.0
comp=Z,4μm,21.8s,MS6.1
GERES GERESS Array B 127.59 329 PKP PKPdf 05 52 40.4 +0.1
comp=Z,2.6nm,0.8s,baz=48,slow=2.0,SNR=8.9
GRA1 Grafenberg Arr 128.27 331 *e*PKPdf PKPdf 05 52 42.1 +0.5
GRF Grafenberg Arr 128.27 331 *e*PKPdf PKPdf 05 52 42.1 +0.5
ROSC El Rosal 130.49 90 PKP PKPdf 05 52 46.6 -0.3
comp=Z,6.9nm,0.7s,baz=263,slow=4.9,SNR=6.1
GIVF Givet 130.84 335 *e*PKIKP PKPdf 05 52 39.2 -7.3
DAVOX Davos/Dischmat 130.89 329 PKP PKPdf 05 52 47.0 +0.3
comp=Z,3.3nm,0.7s,baz=295,slow=12,SNR=5.3
LPAZ La Paz 130.91 119 PKP PKPdf 05 52 47.8 +0.2
comp=Z,7.6nm,0.9s,baz=95,slow=1.9,SNR=14
CDF Champ du Feu 131.02 332 *e*PKIKP PKPdf 05 52 39.1 -7.8
CABF La Chapelle 132.88 331 *e*PKIKP PKPdf 05 52 44.1 -6.4
comp=Z,33nm,1.0s
LPG La Plagne 133.35 330 *e*PKIKP PKPdf 05 52 44.7 -6.7
comp=Z,34nm,1.2s
LOR Lormes 133.41 333 *e*PKIKP PKPdf 05 52 44.4 -7.0
comp=Z,18nm,1.0s
SSF Saint Saulge 133.73 334 *e*PKIKP PKPdf 05 52 45.5 -6.5
comp=Z,27nm,1.1s
SMF Signal de Mont 133.90 333 *e*PKIKP PKPdf 05 52 45.1 -7.3
AVF Avril sur Loir 134.00 333 *e*PKIKP PKPdf 05 52 45.0 -7.6
comp=Z,7.2nm,0.9s
LDF La Druitiere 134.00 338 *e*PKIKP PKPdf 05 52 45.0 -7.5
SDV Santo Domingo 134.40 85 *e*PKPdf PKPdf 05 52 53.2 -1.1
BGF Bois d'Agland 134.41 334 *e*PKIKP PKPdf 05 52 46.4 -6.9
TCF Toulx Ste Croi 134.89 334 *e*PKIKP PKPdf 05 52 47.4 -6.8
comp=Z,37nm,1.2s
SGMF Saint Gilles 135.18 339 *e*PKIKP PKPdf 05 52 46.8 -7.9
comp=Z,86nm,1.3s
ETOR Torete 141.11 332 PKP PKPdf 05 53 05.7 -0.2
ECAL Calabor 142.11 338 PKP PKPdf 05 53 08.5 +0.9
GUD Guadarrama 142.18 334 PKP PKPdf 05 53 10.4 +2.6
ESDC Sonseca Array 142.89 333 PKP PKPdf 05 53 10.3 +1.2
comp=Z,2.7nm,0.8s,baz=32,slow=2.4,SNR=7.2
MVO Moncorvo 142.90 338 *e*PKP PKPdf 05 53 07.8 -1.2
MVO Moncorvo 142.90 338 *e*LR LR 06 42 30.1
comp=Z,2μm,21.4s
EVIA Vianos 143.04 331 PKP PKPdf 05 53 08.8 -0.6
PVRL Vila Real 143.05 339 *e*PKP PKPdf 05 53 06.8 -2.5
PVIS Viseu 143.61 338 *e*PKP PKPdf 05 53 08.3 -2.0
MTE Manteigas 143.75 338 *e*PKP PKPdf 05 53 10.8 +0.2
MTE Manteigas 143.75 338 *e*LR LR 06 42 35.2
comp=Z,2μm,24.6s
EQES Quesada 143.97 330 PKP PKPdf 05 53 11.4 +0.3
EBAN Banos Encina 144.03 332 PKP PKPdf 05 53 10.2 -0.9
PCBR Castelo Branco 144.22 337 *e*PKP PKPdf 05 53 08.8 -2.6
EADA Adamuz 144.40 332 PKP PKPdf 05 53 10.7 -1.1
EBER Berja 144.59 329 PKP PKPdf 05 53 11.6 -0.5
ECOG Cogollos-Vega 144.63 330 PKP PKPdf 05 53 13.2 +1.0
ELUQ Luque 144.74 331 PKP PKPdf 05 53 13.0 +0.7
ECAB El Cabril 144.85 333 PKP PKPdf 05 53 12.2 -0.3
ERON Agron 144.95 330 PKP PKPdf 05 53 11.4 -1.4
EBAD Badajoz 144.96 336 PKP PKPdf 05 53 12.7 -0.1
EGUA Guajares 144.98 330 PKP PKPdf 05 53 13.2 +0.4
ELOJ Sierra Loja 145.01 331 PKP PKPdf 05 53 13.4 +0.6
PESTR Estremoz 145.10 337 *e*PKP PKPdf 05 53 12.0 -1.0
PESTR Estremoz 145.10 337 *e*LR LR 06 44 42.5
comp=Z,2μm,23.4s
EALB Alboran 145.40 328 PKP PKPdf 05 53 13.4 -0.1
PBAR Barrancos 145.47 335 *e*PKP PKPdf 05 53 13.3 -0.3
PBAR Barrancos 145.47 335 *e*LR LR 06 45 24.3
comp=Z,2μm,21.7s
EVO Evora 145.56 337 *e*PKIKP PKPdf 05 53 11.5 -2.3
comp=Z,364nm,1.5s
EMIN Mina Concepcio 145.66 334 PKP PKPdf 05 53 14.2 +0.2
PMAFR Mafra 145.66 339 *e*PKP PKPdf 05 53 12.4 -1.5
PMAFR Mafra 145.66 339 *e*LR LR 06 43 47.3
comp=Z,2μm,20.0s
EMIJ Mijas 145.78 331 PKP PKPdf 05 53 14.6 +0.3
PBEJ Beja 145.93 336 *e*PKP PKPdf 05 53 14.6 +0.2
ESPR Espera 146.04 333 PKP PKPdf 05 53 15.6 +0.9
EGRO El Granado 146.20 335 PKP PKPdf 05 53 17.4 +2.5
EJIF Jimena Fronter 146.20 332 PKP PKPdf 05 53 17.3 +2.4
PVAQ Vaqueiros 146.41 335 *e*PKP PKPdf 05 53 16.7 +1.5
PVAQ Vaqueiros 146.41 335 *e*LR LR 06 45 09.7
comp=Z,2μm,18.9s
PBDV Barranco-do-Ve 146.63 335 *e*PKP PKPdf 05 53 17.9 +2.3
PBDV Barranco-do-Ve 146.63 335 *e*LR LR 06 45 16.2
comp=Z,2μm,20.7s
PTEO Sao Teotonio 146.69 337 *e*PKP PKPdf 05 53 17.2 +1.5
MORF Marmelete 146.87 336 *e*PKP PKPdf 05 53 17.9 +1.9
MORF Marmelete 146.87 336 *e*LR LR 06 46 03.1
comp=Z,2μm,19.1s
PFVI Vila Bisbo 147.09 336 *e*PKP PKPdf 05 53 19.1 +2.7
PFVI Vila Bisbo 147.09 336 *e*LR LR 06 44 18.4
comp=Z,3μm,22.1s
MDT Midelt 148.62 326 PKPbc PKPbc 05 53 23.4 +0.6
comp=Z,13nm,0.9s,baz=49,slow=3.6,SNR=10
TORD Torodi Ar. Bea 153.53 285 PKPbc PKPbc 05 53 33.8 -0.9
comp=Z,13nm,1.1s,baz=43,slow=6.7,SNR=6.4
DBIC Dimbokro 160.41 269 PKPab PKPab 05 54 16.7 -0.2
comp=Z,16nm,1.1s,baz=44,slow=4.9,SNR=5.4

KRSC 02 05:33:43.1±2.3, 5326N×16752E, h10km±10km, ML3.7, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**3.66**	**293**	*e*P	Pn	05 34 42.5	+2.8
MKZ				*e*S	Sn	05 35 25.7	+2.8
KBTR	**Krutoberegovo**	**4.02**	**319**	P	Pn	05 34 46.3	+1.7
KBTR				S	Sn	05 35 32.5	+0.8
SPN	**Mys Shipunski**	**4.51**	**271**	S	Sn	05 35 45.6	+1.7
TUMR	**Tumrok**	**4.77**	**298**	P	Pn	05 34 57.5	+2.5
NLC	**Nalytchevo**	**4.92**	**272**	S	Sn	05 35 53.2	-0.6
AVH	**Avacha**	**5.27**	**274**	P	Pn	05 35 04.0	+2.2
GNL	**Ganaly**	**5.74**	**278**	P	Pn	05 35 10.3	+2.1

*IDC **02** 05:36:04.8±1.1, 775S×15629E, h0km, mb4.6/6, mb1 4.7/7, mb1mx4.5/14, mbtmp4.6/7, ML5.1/1, Error ellipse: s-maj=35.7km s-min=25.6km az=15.0*
*NEIC **02** 05:36:06.3±0.7, 775S×15630E, h10km, Error ellipse: s-maj=24.6km s-min=15.0km az=201.0*
*ISCJB **02** 05:36:08.5±0.8, 78S±02×1563E±01, h33km, mb4.4/6, Error ellipse: s-maj=27.7km s-min=10.1km az=25.0*
ISC 02 05:36:10.2±0.8, 78S±02×1563E±01, h35km, n7, σ0§86/8, mb4.4/6, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**3.99**	**114**	Pn	**Pn**	**05 37 07.5**	**-1.4**
HNR	129nm,0.3s,baz=260,slow=23,SNR=7.9			Sn	**Sn**	**05 37 55.2**	**+0.8**
	baz=90,slow=20,SNR=3.2						
WRA	**Warramunga Arr**	**24.44**	**238**	P	**P**	**05 41 26.0**	**+0.2**
	31nm,0.7s,mb4.8,baz=63,slow=9.5,SNR=11						
SONM	**Songino Array**	**70.68**	**327**	P	**P**	**05 47 23.4**	**+1.0**
	12nm,0.8s,mb4.9,baz=149,slow=5.6,SNR=8.6						
MKAR	**Makanchi Array**	**84.83**	**318**	P	**P**	**05 48 41.5**	**+0.4**
	3.6nm,0.7s,mb4.6,baz=88,slow=6.2,SNR=4.8						
ZALV	**Zalesovo Beam**	**85.54**	**326**	P	**P**	**05 48 43.2**	**-1.4**
	1.2nm,0.5s,mb4.4,baz=105,slow=5.0,SNR=3.9						
YKA	**Yellowknife Ar**	**96.45**	**28**	P	**P**	**05 49 35.1**	**-0.3**
	0.5nm,0.8s,mb4.0,baz=267,slow=4.3,SNR=3.8						
PDAR	**Pinedale Array**	**98.29**	**48**	P	**P**	**05 49 44.9**	**+0.6**
	0.3nm,0.8s,mb3.9,baz=282,slow=4.4,SNR=2.2						

*ISCJB **02** 05:36:09.2±0.5, 3839N×003×2199E±004, h13km±4km, Error ellipse: s-maj=5.1km s-min=4.5km az=44.9*
*NEIC **02** 05:36:09.8, 3835N×2200E, h21km, MD3.2(ATH), ML2.7(THE), After ATH.*
*ATH **02** 05:36:09.7, 3837N×2199E, h26km±4km, MD3.2/7*
*CSEM **02** 05:36:10.1±0.1, 3840N×2199E, h10km, ML2.7, Error ellipse: s-maj=1.8km s-min=1.4km az=44.0*
*THE **02** 05:36:10.3, 3839N×2199E, h3km, ML2.7*
ISC 02 05:36:10.1±0.4, 3837N±003×2198E±004, h13km±4km, n17, σ1§04/28, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SELA	**Sela**	**0.12**	**216**	*e*Pg	**Pg**	**05 36 12.7**	**-0.6**
SELA				*e*Sg	**Sg**	**05 36 14.8**	**-0.8**
RLS	**Riolos of Patr**	**0.51**	**232**	*e*PN	**Pg**	**05 36 20.8**	**+0.6**
EVR	**Evrytania**	**0.56**	**346**	*e*PN	**Pg**	**05 36 20.7**	**-0.4**
EVR				*e*SN	**Sg**	**05 36 30.0**	**+1.4**
EVR	**Evrytania**	**0.56**	**346**	*e*Pn	**Pg**	**05 36 20.4**	**-0.7**
EVR				*e*Sn	**Sg**	**05 36 30.0**	**+1.4**
AGG	**Agios Georgios**	**0.71**	**23**	*e*Pg	**Pg**	**05 36 22.6**	**-1.2**
AGG				*e*Sg	**Sg**	**05 36 33.4**	**+0.3**
LKR	**Lokris**	**0.85**	**70**	*e*PN	**Pn**	**05 36 26.3**	**-1.5**
LTK	**Loutraki**	**0.85**	**114**	*e*Pg	**Pg**	**05 36 26.2**	**-0.4**
LTK				*e*Sg	**Sg**	**05 36 39.3**	**+1.6**
LTK	**Loutraki**	**0.85**	**114**	*e*Pg	**Pg**	**05 36 26.2**	**-0.4**
LTK				*e*Sg	**Sg**	**05 36 39.3**	**+1.5**
VLX	**Vlachokerasia**	**1.05**	**162**	*e*Pg	**Pg**	**05 36 30.9**	**+0.6**
VLX				*e*Sg	**Sg**	**05 36 45.2**	**+1.2**
LKD	**Levkas**	**1.09**	**288**	*e*Pg	**Pg**	**05 36 30.5**	**-0.7**
LKD				*e*Sg	**Sg**	**05 36 47.7**	**+2.2**
VLS	**Valsamata**	**1.11**	**260**	*e*PN	**Pn**	**05 36 30.6**	**-0.8**
VLS				*e*SN	**Sn**	**05 36 47.9**	**+1.3**
VLS	**Valsamata**	**1.11**	**260**	*e*Pb	**Pb**	**05 36 30.4**	**-0.8**
VLS				*e*Sn	**Sn**	**05 36 47.9**	**+1.3**
ITM	**Ithomi**	**1.19**	**182**	*e*PB	**Pb**	**05 36 31.4**	**-1.2**
THL	**Klokotos Trika**	**1.19**	**1**	*e*PN	**Pn**	**05 36 32.7**	**+0.2**
DID	**Didima**	**1.32**	**131**	*e*Pg	**Pg**	**05 36 34.8**	**-0.6**
DID				*e*Sg	**Sg**	**05 36 53.4**	**+0.8**
PYL	**PYLOS**	**1.48**	**187**	*e*Pg	**Pg**	**05 36 37.2**	**-1.4**
VLI	**Veliai**	**1.82**	**155**	*e*PN	**Pn**	**05 36 42.0**	**+0.9**

*IDC **02** 05:42:00.8±2.7, 795S×15600E, h0km, mb4.0/6, mb1 4.2/6, mb1mx4.0/13, mbtmp4.0/6, Error ellipse: s-maj=82.3km s-min=34.8km az=122.0*
NEIC 02 05:42:02.4±2.1, 791S×15597E, h10km, Error ellipse: s-maj=66.3km s-min=28.2km az=123.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.12**	**238**	P	P	05 47 18.4	-0.2
	3.2nm,0.9s,baz=65,slow=9.0,SNR=4.3						
MJAR	**Matsushiro Arr**	**47.25**	**340**	P	P	05 50 34.9	-0.9
	0.9nm,0.3s,baz=165,slow=7.5,SNR=4.5						
SONM	**Songino Array**	**70.62**	**327**	P	P	05 53 19.6	+1.6
	0.4nm,0.4s,baz=127,slow=4.6,SNR=3.4						
MKAR	**Makanchi Array**	**84.72**	**319**	P	P	05 54 38.0	+1.3
	0.3nm,0.3s,baz=89,slow=6.2,SNR=5.1						
ZALV	**Zalesovo Beam**	**85.47**	**326**	P	P	05 54 39.0	-1.3
ZALV	**Zalesovo Beam**	**85.47**	**326**	P	P	05 54 39.0	-1.3
	0.3nm,0.5s,baz=123,slow=5.5,SNR=3.6						
YKA	**Yellowknife Ar**	**96.69**	**28**	P	P	05 55 32.8	+0.1
YKA	**Yellowknife Ar**	**96.69**	**28**	P	P	05 55 32.8	+0.1
	0.4nm,0.8s,baz=265,slow=4.5,SNR=4.6						

*IDC **02** 05:44:41.1±1.9, 735S×15548E, h0km, mb4.1/8, mb1 4.2/8, mb1mx4.1/14, mbtmp4.1/8, Error ellipse: s-maj=62.1km s-min=23.2km az=115.0*
*NEIC **02** 05:44:42.6±1.1, 735S×15551E, h10km, Error ellipse: s-maj=37.3km s-min=13.9km az=117.0*
*ISCJB **02** 05:44:44.6±1.4, 74S±02×1555E±03, h33km, mb4.0/8, Error ellipse: s-maj=46.3km s-min=17.0km az=28.4*
ISC 02 05:44:46.4±1.4, 74S±02×1555E±03, h35km, n12, σ0§62/12, mb4.0/8, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WB2	**Warramunga Arr**	**23.99**	**237**	*e*P	**P**	**05 49 58.2**	**+0.2**
WRA	**Warramunga Arr**	**24.00**	**237**	P	**P**	**05 49 57.7**	**-0.4**
	3.4nm,1.0s,mb3.8,baz=62,slow=9.7,SNR=5.3						
ASAR	**Alice Springs**	**26.29**	**230**	P	**P**	**05 50 18.2**	**-0.6**
	1.3nm,0.9s,mb3.4,baz=59,slow=8.9,SNR=4.0						
STKA	**Stephens Creek**	**27.60**	**206**	P	**P**	**05 50 31.5**	**+1.0**
STKA	**Stephens Creek**	**27.60**	**206**	P	**P**	**05 50 31.5**	**+1.0**
	3.0nm,0.9s,mb3.9,baz=28,slow=12,SNR=3.3						
FITZ	**Fitzroy Crossi**	**30.95**	**247**	*e*P	**P**	**05 51 00.4**	**0.0**
FITZ	**Fitzroy Crossi**	**30.95**	**247**	P	**P**	**05 50 59.8**	**-0.6**
	1.5nm,0.6s,mb4.0,baz=71,slow=12,SNR=5.2						
SONM	**Songino Array**	**69.92**	**327**	P	**P**	**05 55 54.8**	**+0.8**
	1.8nm,0.7s,mb4.1,baz=149,slow=7.4,SNR=7.8						
MKAR	**Makanchi Array**	**84.01**	**319**	P	**P**	**05 57 13.8**	**+0.5**
	3.4nm,0.7s,mb4.6,baz=84,slow=6.2,SNR=13						
ZALV	**Zalesovo Beam**	**84.77**	**326**	P	**P**	**05 57 16.6**	**-0.4**
	1.4nm,0.6s,mb4.3,baz=117,slow=4.7,SNR=5.4						
YKA	**Yellowknife Ar**	**96.45**	**28**	P	**P**	**05 58 11.0**	**-0.7**
YKA	**Yellowknife Ar**	**96.45**	**28**	P	**P**	**05 58 11.0**	**-0.7**
	0.3nm,0.7s,mb3.8,baz=268,slow=4.5,SNR=4.6						

IDC 02 05:45:20.9±9.0, 1267N×9116E, h0km, mb4.0/3, mb1 4.1/3, mb1mx3.6/19, mbtmp4.0/3, Error ellipse: s-maj=428.2km s-min=29.2km az=63.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZALV	**Zalesovo Beam**	**41.49**	**354**	P	P	05 53 09.5	-0.1
	1.6nm,0.6s,baz=186,slow=8.6,SNR=5.9						
WRA	**Warramunga Arr**	**53.44**	**127**	P	P	05 54 42.5	-0.6
	1.9nm,0.6s,baz=307,slow=8.1,SNR=17						
ASAR	**Alice Springs**	**55.24**	**131**	P	P	05 54 56.9	+0.7
	0.6nm,0.6s,baz=311,slow=7.0,SNR=6.2						

IDC 02 05:49:22.1±5.3, 721S×15510E, h0km, mb3.9/3, mb1 4.0/3, mb1mx3.7/13, mbtmp3.9/3, Error ellipse: s-maj=151.3km s-min=38.2km az=118.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.78**	**236**	P	P	05 54 36.9	+0.2
	1.1nm,0.8s,baz=62,slow=9.9,SNR=4.2						
SONM	**Songino Array**	**69.58**	**327**	P	P	06 00 33.6	+0.7
	1.2nm,0.8s,baz=143,slow=8.3,SNR=5.3						
MKAR	**Makanchi Array**	**83.64**	**319**	P	P	06 01 52.2	-0.4
	1.2nm,0.6s,baz=98,slow=7.0,SNR=8.7						

*IDC **02** 05:50:26.1±1.1, 735S×156.12E, h0km, mb4.4/7, mb1 4.5/8, mb1mx4.3/15, mbtmp4.5/8, ML4.8/1, Error ellipse: s-maj=33.1km s-min=24.1km az=127.0*
*NEIC **02** 05:50:27.7±0.6, 731S×156.13E, h10km, mb4.5/2, Error ellipse: s-maj=18.4km s-min=13.8km az=175.0*
*ISCJB **02** 05:50:30.0±0.7, 73S±01×15606E±008, h33km, mb4.4/8, Error ellipse: s-maj=18.5km s-min=10.7km az=14.7*
ISC 02 05:50:32.2±0.7, 73S±01×15600E±008, h35km, n14, σ1§16/14, mb4.3/8, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.45**	**119**	Pn	**Pn**	**05 51 34.2**	**-3.0**
	54nm,0.3s,baz=267,slow=5.0,SNR=6.9						
HNR				Sn	**Sn**	**05 52 29.0**	**+1.2**
	32nm,0.3s,baz=92,slow=12,SNR=3.3						
KAKA	**Kakadu**	**23.82**	**255**	*e*P	**P**	**05 55 44.3**	**+2.1**
	11nm,0.6s,mb4.5						
WB2	**Warramunga Arr**	**24.48**	**237**	*e*P	**P**	**05 55 47.9**	**-0.3**
WRA	**Warramunga Arr**	**24.49**	**237**	P	**P**	**05 55 48.1**	**-0.1**
	5.5nm,0.6s,mb4.2,baz=61,slow=9.2,SNR=22						
ASAR	**Alice Springs**	**26.75**	**230**	P	**P**	**05 56 08.2**	**-0.6**
	2.1nm,0.7s,mb3.8,baz=61,slow=8.8,SNR=15						
FITZ	**Fitzroy Crossi**	**31.46**	**247**	*e*P	**P**	**05 56 49.9**	**-0.8**
	3.3nm,0.7s,mb4.3		

0.3nm,0.5s,mb4.0,baz=265,slow=4.2,SNR=6.1
TORD Torodi Ar. Bea 154.06 285 PKPbc PKPbc 06 10 27.9 -1.3
0.3nm,0.6s,baz=76,slow=1.7,SNR=5.2

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*BJI **02** 06:06:14.5, 1180N×12570E, h10km, mb4.5*
*NEIC **02** 06:06:15.5±0.5, 1184N×12570E, h10km, mb4.6/7, Error ellipse: s-maj=37.6km s-min=10.2km az=71.0*
NEIC Felt [III PIVS] at Borongan and Can-Avid.
*ISCJB **02** 06:06:19.3±0.8, 1184N±004×12560E±007, h47km±6km, mb4.3/19, Error ellipse: s-maj=12.4km s-min=6.1km az=163.7*
*MAN **02** 06:06:20, 1185N×12544E, h23km, mb4.6, ML3.5, MS3.4*
MAN INTENSITY III - CAN-AVID, EASTERN SAMAR, BORONGAN.
*IDC **02** 06:06:24.1±7.6, 1173N×12549E, h76km±68km, mb3.9/12, mb1 4.0/12, mb1mx3.9/18, mbtmp3.9/12, Error ellipse: s-maj=71.5km s-min=13.8km az=69.0*

ISC 02 06:06:20.4±0.8, 1183N±004×12559E±008, h41km±7km, n46, σ1°10/49, mb4.3/19, 1C-2D, Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BESP	**Borongan**	**0.28**	**214**	*eP*	**Pn**	**06 06 27.6**	**-0.9**
BESP				*eS*	**Sn**	**06 06 33.2**	**-0.9**
PLP	**Palo**	**0.90**	**222**	*eP*	**Pn**	**06 06 34.9**	**-1.6**
PLP				*i S*	**Sn**	**06 06 47.6**	**-0.7**
CNP	**Catarman**	**1.13**	**307**	*eP*	**Pn**	**06 06 38.4**	**-1.4**
CNP				*eS*	**Sn**	**06 06 52.5**	**-1.6**
OCLP	**Ormoc**	**1.24**	**231**	*eP*	**Pn**	**06 06 41.4**	**+0.1**
MSLP	**Maasin**	**1.83**	**203**	*eP*	**Pn**	**06 06 51.2**	**+1.8**
SCPH	**Surigao**	**2.04**	**183↓**	*eP*	**Pn**	**06 06 53.5**	**+1.2**
LLP	**Lapu-Lapu**	**2.19**	**227**	*eP*	**Pn**	**06 06 53.5**	**-0.9**
LLP				*eS*	**Sn**	**06 07 20.7**	**+0.4**
PVCP	**Virac**	**2.25**	**321↑**	*eP*	**Pn**	**06 06 54.7**	**-0.4**
PVCP				*eS*	**Sn**	**06 07 30.9**	**+9.3**
PVCP	**Virac**	**2.25**	**321**	*eP*	**Pn**	**06 06 54.6**	**-0.5**
TBP	**Tagbilaran**	**2.72**	**219**	*eP*	**Pn**	**06 07 02.8**	**+1.1**
RCP	**Roxas**	**2.80**	**265↓**	*eP*	**Pn**	**06 07 03.0**	**+0.2**
GUIM	**Jordan**	**3.18**	**248**	*eP*	**Pn**	**06 07 07.8**	**-0.2**
OTRP	**Odiongan**	**3.53**	**279**	*eP*	**Pn**	**06 07 12.9**	**+0.1**
BUKP	**Musuan**	**3.96**	**188**	*eP*	**Pn**	**06 07 21.3**	**+2.6**
BOAC	**Boac**	**4.00**	**294**	*eP*	**Pn**	**06 07 19.8**	**+0.6**
CUYO	**Cuyo Island**	**4.59**	**258**	*eP*	**Pn**	**06 07 28.5**	**+1.1**
LUBP	**Lubang**	**5.55**	**291**	*eP*	**Pn**	**06 07 42.2**	**+1.6**
APYP	**Conner**	**7.32**	**325**	*eP*	**Pn**	**06 08 07.7**	**+2.8**
KAKA	**Kakadu**	**25.31**	**164**	*eP*	**P**	**06 11 42.3**	**-1.1**
	7.9nm,0.7s,mb4.3						
XAN	**Xi'an**	**26.84**	**328**	P	**P**	**06 11 56.7**	**-0.4**
XAN				AMB	AMB		
	comp=Z,10.0nm,1.1s,mb4.3						
FITZ	**Fitzroy Crossi**	**29.74**	**180**	*eP*	**P**	**06 12 22.2**	**-0.9**
	comp=Z,3.7nm,0.9s,mb4.1						
FITZ	**Fitzroy Crossi**	**29.74**	**180**	P	**P**	**06 12 22.0**	**-1.1**
	comp=Z,2.3nm,0.8s,mb4.0,baz=44,slow=12,SNR=5.5						
WRA	**Warramunga Arr**	**32.73**	**165**	P	**P**	**06 12 47.7**	**-1.7**
	comp=Z,0.5nm,0.6s,mb3.6,baz=344,slow=9.4,SNR=5.2						
ASAR	**Alice Springs**	**36.20**	**167**	P	**P**	**06 13 19.9**	**+0.5**
	comp=Z,1.2nm,0.5s,mb4.1,baz=348,slow=7.5,SNR=19						
ASAR				PcP	PcP	06 15 43.9	-0.5
	comp=Z,0.8nm,0.5s,baz=344,slow=2.7,SNR=7.0						
SONM	**Songino Array**	**39.33**	**340**	P	**P**	**06 13 46.4**	**+0.8**
	comp=Z,0.5nm,0.4s,mb3.6,baz=157,slow=8.9,SNR=2.6						
SONM				PcP	PcP	06 15 53.7	+0.1
	comp=Z,0.6nm,0.6s,baz=132,slow=2.1,SNR=3.7						
FORT	**Forrest**	**42.43**	**177**	*eP*	**P**	**06 14 11.1**	**-0.2**
	comp=Z,14nm,0.6s,mb4.8						
STKA	**Stephens Creek**	**46.08**	**161**	*eP*	**P**	**06 14 41.0**	**+0.5**
	comp=Z,3.0nm,1.2s,mb4.1						
STKA	**Stephens Creek**	**46.08**	**161**	P	**P**	**06 14 40.9**	**+0.4**
	comp=Z,3.7nm,0.7s,mb4.4,baz=340,slow=5.0,SNR=8.5						
MKAR	**Makanchi Array**	**50.39**	**322**	P	**P**	**06 15 14.5**	**+0.9**
MKAR				PcP	PcP	06 16 31.5	-0.2
MKAR	**Makanchi Array**	**50.39**	**322**	P	**P**	**06 15 14.5**	**+0.9**
	comp=Z,6.2nm,0.7s,mb4.7,baz=106,slow=8.9,SNR=37						
MKAR				PcP	PcP	06 16 31.5	-0.2
	comp=Z,0.9nm,0.6s,baz=94,slow=4.0,SNR=4.1						
ZALV	**Zalesovo Beam**	**52.95**	**331**	P	**P**	**06 15 32.4**	**-0.2**
	comp=Z,0.8nm,0.3s,mb4.1,baz=100,slow=8.1,SNR=6.0						
UCH	**Uchtor**	**53.61**	**314**	*eP*	**P**	**06 15 39.0**	**+1.3**
	comp=Z,3.4nm,1.0s,mb4.2						
AML	**Almayashu**	**54.16**	**314**	*eP*	**P**	**06 15 43.4**	**+1.7**
KURK	**Kurchatov**	**54.41**	**325**	*eP*	**P**	**06 15 43.8**	**+0.4**
	comp=Z,19nm,0.8s,mb5.1						
BRVK	**Borovoye**	**60.08**	**325**	*eP*	**P**	**06 16 23.1**	**-0.3**
	comp=Z,11nm,0.8s,mb5.0						
MCK	**McKinley**	**77.48**	**27**	*eP*	**P**	**06 18 12.1**	**+0.7**
JOF	**Joensuu**	**81.51**	**333**	*ep*	**P**	**06 18 31.7**	**-1.7**
	comp=Z,2.1nm,0.5s,mb4.3						
ARCES	**ARCESS Array B**	**82.51**	**340**	P	**P**	**06 18 38.8**	**+0.3**
	comp=Z,7.0nm,0.8s,mb4.7,baz=69,slow=6.6,SNR=11						
KAF	**Kangasniemi**	**83.94**	**332**	*ep*	**P**	**06 18 43.1**	**-2.9**
	baz=73,slow=4.8						
FINES	**FINESS Array B**	**84.21**	**332**	P	**P**	**06 18 47.5**	**0.0**
	comp=Z,2.0nm,0.5s,mb4.5,baz=90,slow=5.9,SNR=13						
AKASG	**Malin Array Be**	**84.94**	**321**	P	**P**	**06 18 50.5**	**-0.9**
AKASG	**Malin Array Be**	**84.94**	**321**	P	**P**	**06 18 50.5**	**-0.9**
	comp=Z,1.8nm,0.5s,mb4.5,baz=65,slow=4.4,SNR=15						
NOA	**NORSAR Array B**	**91.07**	**334**	P	**P**	**06 19 18.9**	**-1.5**
	comp=Z,0.9nm,0.7s,mb4.2,baz=64,slow=4.7,SNR=4.7						
YKA	**Yellowknife Ar**	**92.61**	**24**	P	**P**	**06 19 27.7**	**+0.2**
	comp=Z,0.1nm,0.4s,mb3.6,baz=298,slow=5.4,SNR=4.2						
PLCA	**Paso Flores**	**147.89**	**157**	PKPbc	PKPbc	06 25 58.5	-3.0
PLCA	**Paso Flores**	**147.89**	**157**	PKPbc	PKPbc	06 25 58.5	-3.0
	comp=Z,1.8nm,0.9s,baz=248,slow=1.0,SNR=2.9						

IDC 02 06:07:14.3±3.4, 727S×15542E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.6/13, mbtmp3.6/4, Error ellipse: s-maj=98.9km s-min=28.6km az=114.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WB2	**Warramunga Arr**	**24.00**	**236**	*eP*	P	06 12 31.4	+0.4
WRA	**Warramunga Arr**	**24.01**	**236**	P	P	06 12 31.6	+0.6
	0.8nm,0.4s,baz=62,slow=9.5,SNR=16						
ASAR	**Alice Springs**	**26.31**	**229**	P	P	06 12 51.4	-0.5
	0.4nm,0.4s,baz=59,slow=10,SNR=8.4						
KLBR	**Kellerberrin**	**42.63**	**230**	*eP*	P	06 15 11.6	-1.1
	22nm,1.2s						
SONM	**Songino Array**	**69.79**	**327**	P	P	06 18 26.7	+0.2
	0.3nm,0.4s,baz=126,slow=7.3,SNR=3.5						
MKAR	**Makanchi Array**	**83.88**	**319**	P	P	06 19 46.3	+0.3
	0.3nm,0.2s,baz=79,slow=7.5,SNR=3.1						

IDC 02 06:09:58.0±2.5, 790S×15585E, h0km, mb3.8/6, mb1 4.0/6, mb1mx3.8/13, mbtmp3.7/6, MS3.9/1, Ms1 3.9/1, ms1mx3.3/30, Error ellipse: s-maj=79.9km s-min=26.2km az=118.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.33**	**111**	LR	LR	06 12 31.9	
	comp=Z,1μm,18.7s,baz=357,slow=36						
WRA	**Warramunga Arr**	**24.03**	**238**	P	P	06 15 14.8	-0.2
	2.3nm,0.8s,baz=60,slow=9.3,SNR=8.0						
ASAR	**Alice Springs**	**26.24**	**231**	P	P	06 15 35.4	+0.4
	0.5nm,0.8s,baz=75,slow=8.7,SNR=4.3						
MJAR	**Matsushiro Arr**	**47.20**	**341**	P	P	06 18 32.3	-0.4
	1.1nm,0.5s,baz=160,slow=7.6,SNR=4.4						
SONM	**Songino Array**	**70.55**	**327**	P	P	06 21 15.8	+1.0
	0.2nm,0.4s,baz=127,slow=5.3,SNR=2.5						
MKAR	**Makanchi Array**	**84.64**	**319**	P	P	06 22 32.8	-0.8
	1.0nm,0.7s,baz=92,slow=8.5,SNR=5.7						
YKA	**Yellowknife Ar**	**96.73**	**28**	P	P	06 23 30.1	-0.1
	0.2nm,0.8s,baz=268,slow=4.3,SNR=4.7						

IDC 02 06:10:16.9±1.4, 804S×15594E, h0km, mb4.1/4, mb1 4.2/5, mb1mx3.9/14, mbtmp4.2/5, ML4.2/1, MS4.6/1, Ms1 4.6/1, ms1mx3.6/31, Error ellipse: s-maj=38.4km s-min=33.7km az=1.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.20**	**109**	Pn	Pn	06 11 21.9	-0.2
	12nm,0.3s,baz=299,slow=3.5,SNR=2.9						
HNR				Sn	Sn	06 12 08.1	-3.8
	12nm,0.3s,baz=272,slow=16,SNR=4.5						
WRA	**Warramunga Arr**	**24.03**	**238**	P	P	06 15 33.8	+0.1

2007 APR

	1.3nm,0.7s,baz=62,slow=9.6,SNR=8.3						
URZ	**Urewera**	**35.64**	**151**	LR	LR	06 28 59.2	
	comp=Z,879nm,18.7s,baz=212,slow=32						
SONM	**Songino Array**	**70.72**	**327**	P	P	06 21 35.7	+1.0
	6.3nm,0.7s,baz=142,slow=6.9,SNR=40						
MKAR	**Makanchi Array**	**84.80**	**319**	P	P	06 22 53.4	+0.1
	1.4nm,0.5s,baz=86,slow=7.5,SNR=8.2						
ZALV	**Zalesovo Beam**	**85.57**	**326**	P	P	06 22 55.6	-1.3
	0.5nm,0.5s,baz=101,slow=7.5,SNR=3.6						

IDC 02 06:12:26.3±5.2, 688S×15537E, h0km, mb3.6/3, mb1 3.7/3, mb1mx3.5/13, mbtmp3.6/3, Error ellipse: s-maj=147.7km s-min=38.4km az=115.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.19**	**235**	P	P	06 17 44.8	+0.1
	0.7nm,0.7s,baz=60,slow=9.3,SNR=3.1						
SONM	**Songino Array**	**69.44**	**327**	P	P	06 23 37.2	+0.9
	0.3nm,0.5s,baz=130,slow=4.5,SNR=2.0						
MKAR	**Makanchi Array**	**83.56**	**319**	P	P	06 24 55.7	-0.7
	0.3nm,0.3s,baz=76,slow=6.1,SNR=3.2						

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*IDC **02** 06:15:21.6±1.0, 7.13S×155.19E, h0km, mb3.8/8, mb1 3.9/9, mb1mx3.9/16, mbtmp3.9/9, ML4.4/1, Error ellipse: s-maj=28.4km s-min=22.1km az=145.0*
*NEIC **02** 06:15:23.3±0.7, 7.11S×155.14E, h10km, Error ellipse: s-maj=19.1km s-min=15.1km az=176.0*
*ISCJB **02** 06:15:24.7±7.1, 72S±02×155.16E±008, h31km±51km, mb3.7/8, Error ellipse: s-maj=28.3km s-min=12.8km az=8.9*

ISC 02 06:15:25.9±7.3, 71S±02×15513E±008, h27km±53km, n9, σ0°88/10, mb3.7/8, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.29**	**116**	Pn	**Pn**	**06 16 43.1**	**-0.1**
	12nm,0.3s,baz=291,slow=0.3,SNR=3.8						
HNR				Sn	**Sn**	**06 17 43.7**	**+0.4**
	8.9nm,0.3s,baz=89,slow=18,SNR=2.5						
WRA	**Warramunga Arr**	**23.85**	**236**	P	**P**	**06 20 37.3**	**0.0**
	1.5nm,0.8s,mb3.5,baz=61,slow=9.6,SNR=5.0						
ASAR	**Alice Springs**	**26.19**	**229**	P	**P**	**06 20 58.3**	**-0.2**
	0.2nm,0.4s,mb3.0,baz=62,slow=9.4,SNR=3.4						
FITZ	**Fitzroy Crossi**	**30.73**	**246**	P	**P**	**06 21 38.7**	**-0.3**
	0.8nm,0.6s,mb3.7,baz=81,slow=13,SNR=4.1						
SONM	**Songino Array**	**69.52**	**327**	P	**P**	**06 26 34.0**	**+1.8**
	0.7nm,0.5s,mb3.9,baz=143,slow=6.0,SNR=5.7						
MKAR	**Makanchi Array**	**83.59**	**319**	P	**P**	**06 27 53.0**	**+1.2**
	1.1nm,0.6s,mb4.2,baz=90,slow=6.3,SNR=7.6						
ZALV	**Zalesovo Beam**	**84.36**	**326**	P	**P**	**06 27 55.3**	**-0.3**
	0.5nm,0.4s,mb4.0,baz=96,slow=5.9,SNR=2.9						
INK	**Inuvik**	**89.80**	**21**	P	**P**	**06 28 20.1**	**-1.6**
	1.0nm,1.1s,mb4.1,baz=253,slow=4.4,SNR=3.1						
YKA	**Yellowknife Ar**	**96.39**	**28**	P	**P**	**06 28 51.4**	**-0.8**
	0.2nm,0.8s,mb3.6,baz=263,slow=4.7,SNR=2.7						

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*NEIC **02** 06:17:12.9±0.4, 737S×156.12E, h10km, mb4.8/8, Error ellipse: s-maj=13.1km s-min=9.8km az=127.0*
*MOS **02** 06:17:15.1±1.0, 731S×15605E, h33km, mb4.8/3, Error ellipse: s-maj=18.3km s-min=15.5km az=58.4*
*BJI **02** 06:17:16.9, 740S×156.10E, h10km, mB5.4, mb4.5*
*ISCJB **02** 06:17:19.5±2.4, 76S±01×15621E±009, h79km±24km, mb4.3/23, Error ellipse: s-maj=21.7km s-min=10.6km az=146.2*
*IDC **02** 06:17:21.0±3.5, 763S×156.17E, h79km±35km, mb4.0/14, mb1 4.2/17, mb1mx4.1/19, mbtmp4.1/17, Error ellipse: s-maj=24.1km s-min=15.7km az=142.0*

ISC 02 06:17:21.1±2.2, 76S±01×15622E±009, h81km±23km, n43, σ0°76/43, mb4.3/23, 1D, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.11**	**116**	P	**Pn**	**06 18 21.9**	**+0.4**
	72nm,0.3s,baz=292,slow=1.1,SNR=12						
HNR				S	**Sn**	**06 19 15.4**	**+7.0**
	58nm,0.3s,baz=283,slow=19,SNR=3.0						
CTA	**Charters Tower**	**15.72**	**217**	P	**Pn**	**06 20 58.5**	**+0.6**
	0.2nm,0.3s,baz=59,slow=5.9,SNR=2.6						
DZM	**Mont Dzumac**	**17.43**	**147**	P	**Pn**	**06 21 17.6**	**-1.5**
	0.4nm,0.3s,baz=5.3,slow=14,SNR=4.3						
KAKA	**Kakadu**	**23.94**	**256**	*eP*	**P**	**06 22 28.0**	**0.0**
	30nm,0.6s,mb4.8						
WB2	**Warramunga Arr**	**24.49**	**238↓**	*iP*	**P**	**06 22 32.8**	**-0.1**
WRA	**Warramunga Arr**	**24.50**	**238**	P	**P**	**06 22 32.6**	**-0.4**
	5.5nm,0.6s,mb4.0,baz=60,slow=9.1,SNR=26						
ASAR	**Alice Springs**	**26.70**	**231**	P	**P**	**06 22 52.0**	**-0.9**
	1.5nm,0.7s,mb3.6,baz=62,slow=8.6,SNR=12						
STKA	**Stephens Creek**	**27.73**	**208**	*eP*	**P**	**06 23 03.4**	**+1.4**
	4.7nm,0.8s,mb4.1						
STKA	**Stephens Creek**	**27.73**	**208**	P	**P**	**06 23 03.1**	**+1.1**
	3.1nm,0.9s,mb3.8,baz=8.8,slow=1.6,SNR=3.4						
FITZ	**Fitzroy Crossi**	**31.54**	**248**	*eP*	**P**	**06 23 34.5**	**-1.4**
	8.4nm,0.6s,mb4.7						
FITZ				*eP*		06 23 35.2	
FITZ	**Fitzroy Crossi**	**31.54**	**248**	P	**P**	**06 23 34.7**	**-1.2**
	2.7nm,0.6s,mb4.1,baz=64,slow=6.9,SNR=6.8						
FORT	**Forrest**	**35.00**	**225**	*eP*	**P**	**06 24 06.9**	**+1.0**
	15nm,0.7s,mb4.9						
KLBR	**Kellerberrin**	**43.04**	**231**	*eP*	**P**	**06 25 13.7**	**+0.7**
MJAR	**Matsushiro Arr**	**47.06**	**340**	P	**P**	**06 25 49.2**	**+4.5**
	1.3nm,0.5s,mb4.0,baz=169,slow=8.3,SNR=4.5						
JNU	**Nakatsue**	**47.13**	**331**	P	**P**	**06 25 45.8**	**+0.4**
	8.7nm,1.0s,mb4.4,baz=231,slow=25,SNR=2.6						
KSRS	**Korea Array**	**52.05**	**331**	P	**P**	**06 26 22.4**	**-0.2**
	0.6nm,0.3s,mb4.1,baz=77,slow=34,SNR=4.2						
LZH	**Lanzhou**	**65.60**	**315**	*eP*	**P**	**06 28 04.5**	**+7.8**
LZH				AP	pP	06 28 08.1	-9.5
LZH				XP	sP	06 28 09.6	-17
LZH				AMB	AMB		
	comp=Z,15nm,1.3s,mb4.7						
LZH				AMB	AMB		
	comp=Z,69nm,4.2s						
GTA	**Gaotai**	**70.02**	**317**	*eP*	**P**	**06 28 30.7**	**+6.4**
GTA				AP	pP	06 28 34.3	-11
GTA				XP	sP	06 28 35.8	-19
GTA				AMB	AMB		
	comp=Z,3.0nm,0.9s,mb4.1						
SONM	**Songino Array**	**70.51**	**327**	P	**P**	**06 28 27.7**	**+0.5**
SONM	**Songino Array**	**70.51**	**327**	P	**P**	**06 28 27.7**	**+0.5**
	comp=Z,2.5nm,0.9s,mb4.0,baz=139,slow=4.7,SNR=7.2						
BOD	**Bodaibo**	**73.63**	**338**	*eP*	**P**	**06 28 39.8**	**-5.8**
BOD				*e*		06 28 52.3	
BILL	**Bilibino**	**75.80**	**4**	*eP*	**P**	**06 28 58.0**	**+0.1**
	comp=Z,7.6nm,1.0s,mb4.4						
BILL	**Bilibino**	**75.80**	**4**	*eP*	**P**	**06 28 58.3**	**+0.4**
BILL				pmax	pmax		
	comp=Z,8.0nm,1.2s,mb4.3						
KDAK	**Kodiak Island**	**77.19**	**25**	P	**P**	**06 29 06.8**	**+0.9**
	comp=Z,1.6nm,0.8s,mb3.8,baz=191,slow=9.9,SNR=2.5						
SVW2	**Sparrevohn**	**78.11**	**22**	*eP*	**P**	**06 29 11.6**	**+0.6**
TTA	**Tatalina**	**79.17**	**20**	*eP*	**P**	**06 29 14.7**	**-2.1**
SML	**Sawmill**	**81.30**	**23**	*eP*	**P**	**06 29 28.5**	**+0.2**
EYAK	**Cordova Ski Ar**	**81.66**	**25**	*eP*	**P**	**06 29 30.2**	**0.0**
	comp=Z,14nm,1.6s,mb4.5						
COLA	**College**	**83.21**	**21**	*eP*	**P**	**06 29 37.3**	**-0.9**
	comp=Z,3.5nm,0.9s,mb4.2						
COLA	**College**	**83.21**	**21**	*eP*	**P**	**06 29 37.3**	**-0.9**
COLA				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.1						
MKAR	**Makanchi Array**	**84.67**	**318**	P	**P**	**06 29 46.5**	**+0.5**
	comp=Z,9.7nm,0.8s,mb4.8,baz=86,slow=7.4,SNR=43						
ZAA0	**Zalesovo Array**	**85.37**	**326**	*eP*	**P**	**06 29 49.0**	**-0.4**
ZALV	**Zalesovo Beam**	**85.37**	**326**	P	**P**	**06 29 48.7**	**-0.6**
	comp=Z,5.2nm,0.8s,mb4.5,baz=103,slow=5.4,SNR=18						
ZAL	**Zalesovo**	**85.37**	**326**	P	**P**	**06 29 48.7**	**-0.7**
NVS	**Novosibirsk**	**86.53**	**326**	*i P*	**P**	**06 29 55.3**	**+0.2**
KURK	**Kurchatov**	**88.06**	**322**	*eP*	**P**	**06 30 02.6**	**+0.1**
	comp=Z,6.6nm,1.0s,mb4.6						
KURK	**Kurchatov**	**88.06**	**322**	*eP*	**P**	**06 30 02.6**	**+0.1**
KURK				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.7						
INK	**Inuvik**	**89.86**	**20**	P	**P**	**06 30 09.9**	**-0.6**
	comp=Z,1.1nm,0.9s,mb4.0,baz=252,slow=5.0,SNR=5.9						
NVAR	**Mina Array Bea**	**91.14**	**52**	P	**P**	**06 30 18.1**	**+0.9**
	comp=Z,1.0nm,0.9s,mb4.0,baz=236,slow=4.2,SNR=7.3						
YKA	**Yellowknife Ar**	**96.31**	**28**	P	**P**	**06 30 40.5**	**+0.1**
YKA	**Yellowknife Ar**	**96.31**	**28**	P	**P**	**06 30 40.5**	**+0.1**

	comp=Z,0.9nm,0.7s,mb4.3,baz=267,slow=4.7,SNR=16						
PDAR	**Pinedale Array**	**98.20**	**48**	P	**P**	**06 30 50.2**	**+0.8**
	comp=Z,0.2nm,0.5s,mb3.9,baz=234,slow=4.0,SNR=2.9						
SIV	**San Ignacio**	**136.26**	**123**	PKP	PKPdf	06 36 33.5	-0.8
	comp=Z,1.3nm,0.9s,baz=217,slow=5.1,SNR=5.8						

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*NEIC **02** 06:23:09.5, 1603N×9920W, h12km, MD4.0(MEX), After MEX.*

MEX 02 06:23:09.5±0.4, 1603N×9920W, h12km±22km, MD4.0, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	**Acapulco**	**1.08**	**321**	*eP*	Pb	06 23 26.8	-3.3
ACX				*i S*	Sb	06 23 39.7	-4.4
MEIG	**Mezcala**	**1.93**	**348**	*eP*	Pn	06 23 39.0	-3.2
MEIG				*i S*	Sn	06 24 02.2	-4.1
UTMO	**Huajuapan**	**2.23**	**37**	*i P*	Pn	06 23 43.1	-3.3
UTMO				*i S*	Sn	06 24 10.3	-3.6
PLIG	**Platanillo**	**2.37**	**353**	*eP*	Pn	06 23 45.5	-2.6
PLIG				*i S*	Sn	06 24 12.9	-4.2
TPIG	**Tehuac#an**	**2.96**	**36**	*i P*	Pn	06 23 54.6	-1.7
TPIG				*i S*	Sn	06 24 28.4	-3.3
PPM	**Popocatepetl**	**3.07**	**10**	*i P*	Pn	06 23 55.4	-2.5
PPM				*i S*	Sn	06 24 31.2	-3.3
MZVM		**3.14**	**360**	*eP*	Pn	06 23 55.5	-3.3
MZVM				*i S*	Sn	06 24 32.7	-3.5
IIO	**Organos**	**3.57**	**7**	*i P*	Pn	06 24 02.9	-1.8
IIO				*i S*	Sn	06 24 46.2	-0.6

IDC 02 06:24:20.0±1.8, 778S×15594E, h0km, mb4.1/8, mb1 4.2/8, mb1mx4.1/14, mbtmp4.1/8, Error ellipse: s-maj=60.3km s-min=25.5km az=123.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.16**	**238**	P	P	06 29 37.9	-0.2
	5.1nm,1.1s,baz=65,slow=10,SNR=4.8						
ASAR	**Alice Springs**	**26.38**	**231**	P	P	06 29 58.5	+0.3
	1.4nm,0.9s,baz=61,slow=10,SNR=5.1						
MJAR	**Matsushiro Arr**	**47.13**	**340**	P	P	06 32 53.2	-0.7
	3.4nm,0.7s,baz=164,slow=8.0,SNR=9.8						
MAT	**Matsushiro**	**47.13**	**340**	P	P	06 32 53.7	-0.3
SONM	**Songino Array**	**70.50**	**327**	P	P	06 35 37.9	+1.5
	0.5nm,0.6s,baz=136,slow=6.2,SNR=3.5						
MKAR	**Makanchi Array**	**84.61**	**319**	P	P	06 36 55.4	0.0
	2.1nm,0.7s,baz=88,slow=6.4,SNR=10.0						
ZALV	**Zalesovo Beam**	**85.35**	**326**	P	P	06 36 58.0	-0.9
	0.7nm,0.5s,baz=116,slow=6.6,SNR=3.7						
INK	**Inuvik**	**90.12**	**21**	P	P	06 37 21.5	-0.1
	0.4nm,0.6s,baz=242,slow=6.3,SNR=6.7						
YKA	**Yellowknife Ar**	**96.59**	**28**	P	P	06 37 51.5	+0.1
	0.4nm,0.6s,baz=264,slow=4.5,SNR=9.3						

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*IDC **02** 06:26:03.6±1.8, 759S×156.15E, h0km, mb3.9/7, mb1 4.0/7, mb1mx3.9/14, mbtmp3.9/7, Error ellipse: s-maj=58.5km s-min=23.3km az=116.0*
*NEIC **02** 06:26:07.2±0.8, 753S×15576E, h10km, Error ellipse: s-maj=20.9km s-min=14.7km az=188.0*
*ISCJB **02** 06:26:08.1±0.8, 75S±01×1558E±01, h33km, mb3.7/7, Error ellipse: s-maj=20.9km s-min=16.4km az=173.5*

ISC 02 06:26:10.1±0.8, 75S±01×1558E±01, h35km, n10, σ1°11/11, mb3.7/7, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.50**	**116**	Pn	**Pn**	**06 27 16.3**	**+0.5**
	19nm,0.3s,baz=270,slow=3.8,SNR=2.3						
HNR				Sn	**Sn**	**06 27 58.1**	**-8.8**
	38nm,0.3s,baz=277,slow=3.4,SNR=2.9						
WRA	**Warramunga Arr**	**24.24**	**237**	P	**P**	**06 31 24.7**	**+0.8**
	4.4nm,0.6s,mb4.1,baz=62,slow=9.5,SNR=30						
ASAR	**Alice Springs**	**26.49**	**230**	P	**P**	**06 31 43.1**	**-1.3**
	0.2nm,0.5s,mb2.9,baz=64,slow=8.4,SNR=4.1						
STKA	**Stephens Creek**	**27.66**	**207**	P	**P**	**06 31 55.0**	**+0.2**
STKA	**Stephens Creek**	**27.66**	**207**	P	**P**	**06 31 55.0**	**+0.2**
	0.5nm,0.4s,mb3.5,baz=36,slow=14,SNR=2.1						
FITZ	**Fitzroy Crossi**	**31.23**	**247**	P	**P**	**06 32 26.5**	**-0.2**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**6.11**	**357**	Pn	Pn	06 35 36.0	0.0
	1.1nm,0.3s,baz=159,slow=11,SNR=6.3						
WRA	**Warramunga Arr**	**50.24**	**185**	P	P	06 43 02.3	-0.1
	0.7nm,0.4s,baz=3.9,slow=7.4,SNR=26						
ASAR	**Alice Springs**	**53.97**	**185**	P	P	06 43 30.0	0.0
	0.2nm,0.3s,baz=357,slow=5.0,SNR=7.2						

IDC 02 06:34:44.9±6.0, 739S×15610E, h0km, mb3.7/4, mb1 3.8/4, mb1mx3.6/13, mbtmp3.7/4, MS4.1/1, Ms1 4.1/1, ms1mx3.3/28, Error ellipse: s-maj=181.8km s-min=39.8km az=115.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.51**	**237**	P	P	06 40 06.5	+0.4
	0.4nm,0.6s,baz=63,slow=9.5,SNR=3.5						
RAO	**Raoul Island**	**32.73**	**135**	LR	LR	06 50 24.7	
	comp=Z,310nm,20.1s,baz=22,slow=29						
SONM	**Songino Array**	**70.26**	**327**	P	P	06 46 00.9	+1.0
	0.6nm,0.8s,baz=126,slow=7.3,SNR=3.8						
MKAR	**Makanchi Array**	**84.43**	**318**	P	P	06 47 19.4	+0.1
	1.2nm,0.7s,baz=86,slow=5.9,SNR=7.5						
ZALV	**Zalesovo Beam**	**85.12**	**326**	P	P	06 47 21.9	-0.8
	0.6nm,0.5s,baz=108,slow=4.7,SNR=3.2						

IDC 02 06:39:02.7±2.3, 785S×15600E, h0km, mb4.0/7, mb1 4.1/7, mb1mx4.0/13, mbtmp3.9/7, Error ellipse: s-maj=74.0km s-min=25.9km az=119.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.18**	**238**	P	P	06 44 21.3	+0.3
	4.1nm,0.9s,baz=64,slow=9.4,SNR=11						
ASAR	**Alice Springs**	**26.38**	**231**	P	P	06 44 41.0	0.0
	1.0nm,1.0s,baz=70,slow=8.5,SNR=5.2						
MJAR	**Matsushiro Arr**	**47.21**	**340**	P	P	06 47 37.1	-0.3
	2.0nm,0.6s,baz=162,slow=8.0,SNR=6.6						
SONM	**Songino Array**	**70.59**	**327**	P	P	06 50 20.7	+1.0
	0.4nm,0.6s,baz=119,slow=6.9,SNR=3.6						
MKAR	**Makanchi Array**	**84.70**	**319**	P	P	06 51 38.7	+0.1
	1.5nm,0.7s,baz=85,slow=5.5,SNR=11						
ZALV	**Zalesovo Beam**	**85.44**	**326**	P	P	06 51 41.4	-0.8
	0.9nm,0.7s,baz=117,slow=5.2,SNR=4.3						
YKA	**Yellowknife Ar**	**96.62**	**28**	P	P	06 52 34.4	0.0
	0.4nm,0.6s,baz=265,slow=4.8,SNR=10						

IDC 02 06:40:18.1±6.2, 717S×15546E, h0km, mb3.7/4, mb1 3.8/4, mb1mx3.6/13, mbtmp3.7/4, Error ellipse: s-maj=183.4km s-min=37.9km az=117.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.10**	**236**	P	P	06 45 36.0	+0.4
	0.7nm,0.8s,baz=62,slow=9.8,SNR=3.0						
SONM	**Songino Array**	**69.73**	**327**	P	P	06 51 30.9	+1.0
	0.4nm,0.6s,baz=124,slow=5.3,SNR=2.3						
MKAR	**Makanchi Array**	**83.84**	**319**	P	P	06 52 50.3	+0.7
	0.4nm,0.3s,baz=113,slow=3.3,SNR=2.6						
ZALV	**Zalesovo Beam**	**84.58**	**326**	P	P	06 52 51.7	-1.5
	0.7nm,0.6s,baz=100,slow=6.0,SNR=3.0						

IDC 02 06:40:43.3±3.6, 687S×15529E, h0km, mb4.2/5, mb1 4.2/5, mb1mx4.0/13, mbtmp4.2/5, MS5.2/1, Ms1 5.2/1, ms1mx3.6/26, Error ellipse: s-maj=110.8km s-min=27.8km az=113.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.27**	**119**	LR	LR	06 43 25.2	
	comp=Z,623nm,20.0s,baz=355,slow=31						
WB2	**Warramunga Arr**	**24.12**	**235**	*e*P	P	06 46 02.0	+1.1
WRA	**Warramunga Arr**	**24.13**	**235**	P	P	06 46 02.3	+1.3
	5.1nm,0.8s,baz=61,slow=9.7,SNR=14						
ASAR	**Alice Springs**	**26.47**	**229**	P	P	06 46 21.8	-0.6
	0.3nm,0.5s,baz=63,slow=10,SNR=3.3						
FITZ	**Fitzroy Crossi**	**30.97**	**246**	*e*P	P	06 47 03.1	+0.6
	3.8nm,0.6s						
MJAR	**Matsushiro Arr**	**46.06**	**341**	LR	LR	07 06 41.4	
	comp=Z,2μm,19.9s,baz=45,slow=34						
SONM	**Songino Array**	**69.39**	**327**	P	P	06 51 54.3	+1.3
	1.0nm,0.8s,baz=117,slow=5.5,SNR=3.7						
MKAR	**Makanchi Array**	**83.50**	**319**	P	P	06 53 13.1	0.0
	2.8nm,0.5s,baz=92,slow=8.1,SNR=16						
ZALV	**Zalesovo Beam**	**84.24**	**326**	P	P	06 53 15.6	-1.1
	2.1nm,0.4s,baz=120,slow=5.8,SNR=9.3						

IDC 02 06:40:55.3±3.5, 691S×15519E, h0km, mb4.2/5, mb1 4.3/5, mb1mx4.0/13, mbtmp4.2/5, Error ellipse: s-maj=104.9km s-min=27.6km az=114.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.02**	**235**	P	P	06 46 13.0	+0.9
	3.0nm,0.7s,baz=62,slow=9.4,SNR=12						
ASAR	**Alice Springs**	**26.37**	**229**	P	P	06 46 32.4	-1.1
	0.4nm,0.3s,baz=59,slow=9.7,SNR=7.2						
SONM	**Songino Array**	**69.37**	**327**	P	P	06 52 03.2	-1.7
	2.5nm,0.7s,baz=141,slow=6.9,SNR=5.6						
MKAR	**Makanchi Array**	**83.47**	**319**	P	P	06 53 26.7	+1.8
	3.3nm,0.7s,baz=99,slow=8.9,SNR=11						
ZALV	**Zalesovo Beam**	**84.22**	**326**	P	P	06 53 29.1	+0.5
	1.8nm,0.5s,baz=106,slow=6.2,SNR=5.9						

IDC 02 06:42:24.5±2.4, 762S×15612E, h0km, mb4.2/6, mb1 4.3/6, mb1mx4.1/13, mbtmp4.1/6, Error ellipse: s-maj=80.8km s-min=28.3km az=121.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.40**	**238**	P	P	06 47 45.1	+0.3
	5.4nm,0.8s,baz=62,slow=9.5,SNR=6.9						
ASAR	**Alice Springs**	**26.62**	**231**	P	P	06 48 04.9	0.0
	0.9nm,0.6s,baz=61,slow=9.6,SNR=4.7						
SONM	**Songino Array**	**70.47**	**327**	P	P	06 53 41.5	+0.7
	4.2nm,0.8s,baz=143,slow=6.9,SNR=12						
MKAR	**Makanchi Array**	**84.61**	**318**	P	P	06 55 00.1	+0.1
	1.5nm,0.6s,baz=78,slow=7.5,SNR=5.1						
ZALV	**Zalesovo Beam**	**85.32**	**326**	P	P	06 55 02.5	-0.8
	1.4nm,0.4s,baz=108,slow=6.7,SNR=6.5						
YKA	**Yellowknife Ar**	**96.36**	**28**	P	P	06 55 55.1	+0.1
	0.1nm,0.6s,baz=264,slow=4.6,SNR=3.3						

IDC 02 06:43:41.0±1.8, 759S×15599E, h0km, mb4.1/8, mb1 4.2/8, mb1mx4.1/13, mbtmp4.1/8, Error ellipse: s-maj=61.8km s-min=21.5km az=109.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.31**	**237**	P	P	06 49 00.8	+0.3
	7.4nm,1.0s,baz=61,slow=9.7,SNR=5.9						
ASAR	**Alice Springs**	**26.54**	**230**	P	P	06 49 20.4	-0.4
	2.1nm,0.9s,baz=66,slow=8.6,SNR=6.6						
STKA	**Stephens Creek**	**27.64**	**207**	P	P	06 49 30.6	+0.2
	1.7nm,0.9s,baz=21,slow=14,SNR=2.7						
MJAR	**Matsushiro Arr**	**46.96**	**340**	P	P	06 52 13.1	-0.7
	1.6nm,0.7s,baz=162,slow=8.7,SNR=3.2						
SONM	**Songino Array**	**70.37**	**327**	P	P	06 54 57.7	+1.0
	3.6nm,1.0s,baz=128,slow=5.9,SNR=7.6						
MKAR	**Makanchi Array**	**84.50**	**319**	P	P	06 56 16.4	+0.5
	1.9nm,0.6s,baz=86,slow=6.5,SNR=5.5						
ZALV	**Zalesovo Beam**	**85.22**	**326**	P	P	06 56 18.7	-0.7
	0.6nm,0.3s,baz=124,slow=7.2,SNR=2.7						
YKA	**Yellowknife Ar**	**96.40**	**28**	P	P	06 57 11.6	-0.1
	0.2nm,0.7s,baz=259,slow=4.5,SNR=3.8						

*IDC **02** 06:48:40.0±4.6, 732S×15659E, h0km, mb4.2/5, mb1 4.4/5, mb1mx4.2/14, mbtmp4.2/5, MS4.4/1, Ms1 4.4/1, ms1mx3.3/25, Error ellipse: s-maj=128.8km s-min=28.9km az=113.0*

ISC 02 06:48:45.0±4.2, 74S.04×1567E.07, h35km, n9, σ0°75/8, mb4.1/6, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**24.42**	**256**	*e*P	P	06 54 00.5	0.0
	18nm,0.7s,mb4.6						
WB2	**Warramunga Arr**	**24.97**	**238**	*e*P	P	06 54 06.0	+0.5
WRA	**Warramunga Arr**	**24.98**	**238**	P	P	06 54 06.1	+0.6
	10.0nm,0.9s,mb4.4,baz=63,slow=9.4,SNR=29						
ASAR	**Alice Springs**	**27.18**	**231**	P	P	06 54 25.3	-0.1
	2.4nm,0.8s,mb3.8,baz=64,slow=8.8,SNR=21						
FITZ	**Fitzroy Crossi**	**32.02**	**248**	*e*P	P	06 55 07.3	-1.1
	3.2nm,1.0s,mb4.1						
FITZ	**Fitzroy Crossi**	**32.02**	**248**	P	P	06 55 07.3	-1.1
	1.7nm,0.9s,mb3.9,baz=56,slow=12,SNR=3.1						
CBIJ	**Chichi jima**	**37.03**	**338**	LR	LR	07 10 46.4	
	comp=Z,551nm,18.9s,baz=145,slow=36						
SONM	**Songino Array**	**70.56**	**327**	P	P	06 59 57.5	+1.1
	1.7nm,0.8s,mb4.0,baz=114,slow=5.2,SNR=3.0						
ZALV	**Zalesovo Beam**	**85.42**	**326**	P	P	07 01 17.8	-1.0
	0.6nm,0.4s,mb4.1,baz=108,slow=4.8,SNR=3.7						

*BJI **02** 06:52:00.9, 4433N×14936E, h17km, mB5.1, mb4.8, Ms4.8, Msz4.7*

*IDC **02** 06:52:00.2±0.6, 4422N×14925E, h0km, mb4.4/14, mb1 4.5/17, mb1mx4.4/23, mbtmp4.3/17, ML3.8/3, Error ellipse: s-maj=17.6km s-min=15.1km az=104.0*

*NIED **02** 06:52:00, 4440N×14930E, h32km, Mw4.9 Best double couple: M0=2.44000×10^16 NP1:φs=54.00000°, δ=74.00000°, λ=126.00000°. NP2:φs=164.00000°, δ=39.00000°, λ=26.00000°.*

*SKHL **02** 06:52:01.2±2.2, 4420N×14940E, h51km±3km, mb5.2/6, ms4.9/4, msh5.3/1*

*ISCJB **02** 06:52:01.2±0.9, 4416N±004×14928E±004, h13km±5km, mb4.7/69, MS4.7/12, Error ellipse: s-maj=6.5km s-min=3.3km az=152.1*

*NEIC **02** 06:52:02.5±0.3, 4421N×14925E, h10km, mb4.9/32, MS4.7/1, Error ellipse: s-maj=7.3km s-min=4.7km az=158.0*

*MOS **02** 06:52:03.7±1.3, 4428N×14928E, h29km, mb5.0/36, MS4.3/8, Error ellipse: s-maj=8.4km s-min=5.5km az=108.7*

*JMA **02** 06:52:03.7±0.6, 4436N×14933E, h30km, M5.0*

*SZGRF **02** 06:52:08.3, 4522N×151.19E, h33km, mb4.6, Kuril Islands, Russia*

ISC 02 06:52:03.5±1.0, 4422N±003×14923E±003, h15km±6km, h17km±1.7km: pP-P, n271, σ1°12/291, mb4.7/69, MS4.7/12, 25C-19D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.40**	**317**	⇑*i*PN	Pn	06 52 27.0	-1.5
KUR				*e*S	Sn	06 52 48.0	+1.3
KUR				pmax	pmax		
	comp=N,570nm,0.5s						
KUR				pmax	pmax		
	comp=E,840nm,0.5s						
KUR				pmax	pmax		
	comp=Z,150nm,0.5s						
KUR				smax			
	comp=N,10μm,0.5s						
KUR				smax			
	comp=E,6μm,0.5s						
KUR				smax			
	comp=N,30μm,1.6s						
KUR				smax			
	comp=E,16μm,1.6s						
KUR	**Kuril'sk**	**1.40**	**317**	⇑*i*P	Pn	06 52 27.0	-1.5
KUR				*e*P		06 52 27.0	
KUR				AMB	AMB	06 52 28.7	
	comp=E,570nm,0.5s						
KUR				AMB	AMB	06 52 28.7	
	comp=E,836nm,0.5s						
KUR				AMB	AMB	06 52 28.7	
	comp=E,152nm,0.5s						
KUR				*e*S	Sn	06 52 48.0	+1.3
KUR				A		06 52 52.0	
	comp=E,10μm,0.5s						
KUR				A		06 52 52.0	
	comp=E,6μm,0.5s						
KUR				A		06 52 52.6	
	comp=E,30μm,1.6s						
KUR				A		06 52 52.6	
	comp=E,16μm,1.6s						
YUK	**Yuzh-Kuril'sk**	**2.43**	**267**	⇑*i*PN	Pn	06 52 42.3	-0.4
YUK				*i*S	Sn	06 53 11.5	-0.7
YUK				pmax	pmax		
	comp=Z,850nm,0.4s						
YUK				pmax	pmax		
	comp=Z,4μm,1.0s						
YUK				smax			
	comp=N,5μm,0.7s						
YUK				smax			
	comp=E,6μm,0.7s						
YUK				smax			
	comp=N,13μm,4.0s						
YUK				smax			
	comp=E,10μm,5.0s						
YUK				MLR	MLR		
	comp=E,21μm,12.0s						
YUK				MLR	MLR		
	comp=Z,11μm,12.0s						
YUK				MLR	MLR		
	comp=N,8μm,13.0s						
YUK	**Yuzh-Kuril'sk**	**2.43**	**267**	⇑*i*P	Pn	06 52 42.3	-0.4
YUK				AMB	AMB	06 52 44.7	
	comp=N,8μm,0.4s						
YUK				AMB	AMB	06 52 57.0	
	comp=N,4μm,1.0s						
YUK				*i*S	Sn	06 53 11.5	-0.7
YUK				A		06 53 35.0	
	comp=N,13μm,4.0s						
YUK				A		06 53 35.0	
	comp=N,5μm,0.7s						
YUK				A		06 53 35.0	
	comp=N,6μm,0.7s						
YUK				A		06 53 35.0	
	comp=N,10μm,5.0s						
YUK				AMS	AMS	06 54 21.5	
	comp=N,8μm,13.0s						
YUK				AMS	AMS	06 54 21.5	
	comp=N,21μm,12.0s						
YUK				AMS	AMS	06 54 21.5	
	comp=N,11μm,12.0s						
NEM2	**Nemuro 2**	**2.67**	**252**	P	Pn	06 52 45.1	-0.8
NEM2				*e*S	Sn	06 53 15.3	-2.6
JRA	**Rausu**	**2.98**	**266**	P	Pn	06 52 51.1	+1.0
JNK	**Nakash**	**3.32**	**260**	P	Pn	06 52 55.1	+0.2
JNK				*e*S	Sn	06 53 34.0	-0.1
JAK	**Akkeshi**	**3.52**	**251**	P	Pn	06 52 56.8	-0.7
JAK				*e*S	Sn	06 53 37.2	-1.6
JTKR	**Abashiri--Toko**	**3.84**	**268**	P	Pn	06 53 03.6	+1.6
JAR	**Ashorobuto**	**4.06**	**259**	P	Pn	06 53 05.9	+0.8
JOB	**Onbets**	**4.14**	**253**	P	Pn	06 53 06.5	+0.4
JMP	**Maruseppu**	**4.23**	**269**	P	Pn	06 53 09.2	+1.8
JCH	**Churui**	**4.57**	**251**	P	Pn	06 53 11.9	-0.1
JKK2	**Kamakawa 2**	**4.69**	**268**	P	Pn	06 53 15.8	+2.2
ASAJ	**Asahikawa**	**4.78**	**271**	PN	Pn	06 53 17.4	+2.6
ASAJ				pmax	pmax		
	comp=Z,5.0nm,0.3s						
ASAJ	**Asahikawa**	**4.78**	**271**	Pn	Pn	06 53 17.4	+2.6
	comp=Z,5.3nm,0.3s,baz=103,slow=14,SNR=15						
JFR	**Furan**	**4.93**	**260**	P	Pn	06 53 18.5	+1.5
ERM	**Erimo**	**4.96**	**246**	Pn	Pn	06 53 19.6	+2.2
	comp=Z,1μm,0.6s,SNR=24						
ERM	**Erimo**	**4.96**	**246**	*e*Pn	Pn	06 53 19.2	+1.8
ERM				*e*Sn	Sn	06 54 18.3	+3.7
JEM	**Erimo**	**4.96**	**246**	P	Pn	06 53 18.4	+1.0
JNBK	**Urakawa-nobuka**	**5.12**	**250**	P	Pn	06 53 19.2	-0.3
JBT2	**Biratori 2**	**5.20**	**256**	P	Pn	06 53 20.9	+0.2
YSS	**Yuzh-Sakhalins**	**5.30**	**303**	Pn	Pn	06 53 21.7	-0.4
YSS	**Yuzh-Sakhalins**	**5.30**	**303**	*e*PN	Pn	06 53 23.2	+1.1
YSS				MLR	MLR		
	comp=Z,5μm,17.0s						
YSS				MLR	MLR		
	comp=N,2μm,16.0s						
YSS				MLR	MLR		
	comp=E,5μm,16.0s						
YSS	**Yuzh-Sakhalins**	**5.30**	**303**	*e*P	Pn	06 53 25.0	+2.9
YSS				pP		06 53 38.1	
YSS				sP		06 53 45.2	
YSS				*i*S	Sn	06 54 21.0	-1.9
YSS				A		06 54 24.0	
	comp=E,100nm,0.8s						
YSS				*e*LQ		06 54 50.0	
YSS				*e*LR	LR	06 55 12.0	
YSS				AMS	AMS	06 55 37.0	
	comp=E,2μm,16.0s						
YSS				AMS	AMS	06 55 37.0	
	comp=E,5μm,16.0s						
YSS				AMS	AMS	06 55 37.0	
	comp=E,5μm,17.0s						
JWK2	**Keihoku**	**5.33**	**284**	P	Pn	06 53 26.7	+4.2
JEW	**Eniwo**	**5.82**	**259**	P	Pn	06 53 31.2	+2.0
JNB	**Noboribetsu**	**6.23**	**256**	P	Pn	06 53 35.6	+0.8
JNB				*e*S	Sn	06 54 44.5	-1.1
JSK	**Shakotan**	**6.40**	**265**	P	Pn	06 53 40.0	+2.9
JKB	**Kayabe**	**6.44**	**252**	P	Pn	06 53 37.8	0.0
JKB				*e*S	Sn	06 54 46.8	-4.2
JYM2	**Yakumo 2**	**6.81**	**255**	P	Pn	06 53 43.2	+0.4
JANG	**Nango**	**6.89**	**239**	P	Pn	06 53 41.8	-2.1
JANG				*e*S	Sn	06 54 55.0	-7.1
UGL	**Uglegorsk**	**6.92**	**317**	*e*PN	Pn	06 53 51.5	+7.3
UGL				pmax	pmax		
	comp=Z,70nm,0.7s						
UGL				MLR	MLR		
	comp=N,6μm,16.0s						
UGL				MLR	MLR		
	comp=E,2μm,16.0s						
UGL				MLR	MLR		
	comp=Z,6μm,16.0s						
UGL	**Uglegorsk**	**6.92**	**317**	*e*P	Pn	06 53 51.5	+7.3
UGL				AMB	AMB	06 54 02.5	
	comp=Z,70nm,0.7s						
UGL				*e*L		06 55 56.0	
UGL				AMS	AMS	06 56 46.0	
	comp=Z,6μm,16.0s						
UGL				AMS	AMS	06 56 46.0	
	comp=Z,2μm,16.0s						
UGL				AMS	AMS	06 56 46.0	
	comp=Z,6μm,16.0s						
JTM	**Tenmabayashi**	**6.94**	**243**	P	Pn	06 53 43.5	-1.1
JTM				*e*S	Sn	06 54 57.2	-6.0
JTH	**Tanohata**	**6.95**	**235**	P	Pn	06 53 41.6	-3.2
JTH				*e*S	Sn	06 54 53.1	-10
JSR	**Shiriuchi**	**7.01**	**250**	P	Pn	06 53 45.6	0.0
JSR				*e*S	Sn	06 55 00.2	-4.8
JOSM	**Okushiri--Mats**	**7.45**	**257**	P	Pn	06 53 52.2	+0.7
OFUJ	**Ofunato**	**7.64**	**230**	P	Pn	06 53 51.8	-2.5
OFUJ				*e*S	Sn	06 55 10.9	-10
SKR	**Severo-Kuril's**	**7.97**	**33**	*e*P	Pn	06 53 56.9	-1.7
SKR				AMB	AMB	06 54 06.0	
	comp=Z,80nm,0.5s						
SKR				pP		06 54 09.0	
SKR				AMS	AMS	07 00 24.0	
	comp=Z,5μm,14.0s						
SKR				AMS	AMS	07 00 24.0	
	comp=Z,3μm,14.0s						
SKR				AMS	AMS	07 00 24.0	
	comp=Z,8μm,14.0s						
SKR				AMS	AMS	07 00 24.0	
	comp=Z,6μm,14.0s						
TYV	**Tymovskoe**	**7.99**	**329**	*e*P	Pn	06 54 00.5	+1.5
TYV				AMB	AMB	06 54 15.0	
	comp=Z,31nm,1.0s						
TYV				AMB	AMB	06 54 15.0	
	comp=Z,77nm,1.0s						
TYV				AMB	AMB	06 54 15.0	
	comp=Z,22nm,0.8s						
JRG	**Rokugo**	**8.03**	**236**	P	Pn	06 53 58.8	-0.7
JIO	**Ouri**	**8.27**	**228**	P	Pn	06 54 00.5	-2.3
JIO				*e*S	Sn	06 55 25.6	-10
TEY	**Ternei**	**9.04**	**280**	*e*P	Pn	06 54 14.0	+0.6
JFK	**Kawauchi**	**9.33**	**226**	*e*S	Sn	06 55 50.0	-12
NKL	**Nikolayevsk**	**10.56**	**331**	*e*P	Pn	06 54 33.0	-1.2
NKL				AMB	AMB	06 54 45.5	
	comp=Z,26nm,1.0s						
NKL				AMB	AMB	06 54 45.5	
	comp=Z,50nm,1.0s						
HABR	**Khabarovsk**	**10.68**	**298**	*e*PN	Pn	06 54 32.6	-3.2
HABR				pmax	pmax		
	comp=Z,7.0nm,0.5s						
PET	**Petropavlovsk**	**10.78**	**32**	*e*PN	Pn	06 54 36.3	-0.8
PET				pmax	pmax		
	comp=Z,83nm,1.6s						
PET				MLR	MLR		
	comp=Z,2μm,14.0s						
MJAR	**Matsushiro Arr**	**11.37**	**231**	PN	Pn	06 54 43.6	-1.7
MJAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MJAR	**Matsushiro Arr**	**11.37**	**231**	Pn	Pn	06 54 43.6	-1.8
	comp=Z,0.5nm,0.3s,baz=29,slow=13,SNR=8.0						
MAJO	**Matsushiro**	**11.37**	**231**	*e*Pn	Pn	06 54 55.1	+10
MAT	**Matsushiro**	**11.37**	**231**	P	Pn	06 54 43.8	-1.6
MAT				S	Sn	06 56 55.1	+3.0
VLA	**Vladivostok**	**12.61**	**271**	PN	Pn	06 55 10.0	+7.8
VLA				MLR	MLR		
	comp=Z,2μm,15.2s						
KLR	**Kul'dur**	**12.99**	**299**	*e*PN	Pn	06 55 08.0	+0.7
MDJ	**Mudanjiang**	**14.04**	**278**	P	Pn	06 55 21.4	-0.4
MDJ				AP		06 55 23.2	
MDJ				PCP	PcP	07 00 37.3	-4.3
MDJ				AMB	AMB		
	comp=Z,11nm,1.0s						
MDJ				AMB	AMB		
	comp=Z,337nm,8.4s						
MDJ				LR	LR		
	comp=N,893nm,16.7s						
MDJ				LR	LR		
	comp=E,1μm,17.4s						
MDJ				LR	LR		
	comp=Z,2μm,18.2s						
MDJ	**Mudanjiang**	**14.04**	**278**	*e*Pn	Pn	06 55 21.9	+0.2
	comp=Z,12nm,0.7s						
MA2	**Magadan**	**15.40**	**3**	*e*P	Pn	06 55 39.4	-0.6
MA2				*e*		06 58 37.1	
MA2				pmax	pmax		
	comp=Z,20nm,1.0s						
CN2	**Changchun**	**17.11**	**277**	*e*P	Pn	06 56 02.0	+0.1
CN2				*e*S	Sn	06 59 09.5	-2.2
CN2				AMB	AMB		
	comp=Z,20nm,0.7s						
CN2				LR	LR		
	comp=N,1μm,17.0s						
CN2				LR	LR		
	comp=E,2μm,17.0s						
CN2				LR	LR		
	comp=Z,2μm,18.0s						
ZEA	**Zeya**	**17.22**	**311**	*e*P	Pn	06 56 00.5	-2.8
ZEA				AMB	AMB	06 56 02.4	
	comp=Z,20nm,0.8s						
KSRS	**Korea Array**	**17.46**	**255**	P	Pn	06 56 04.9	-1.5
	comp=Z,0.3nm,0.3s,baz=63,slow=11,SNR=7.9						
JNU	**Nakatsue**	**18.07**	**238**	P	Pn	06 56 12.9	-1.1
	comp=Z,0.2nm,0.3s,baz=340,slow=9.8,SNR=4.4						
SEY	**Seymchan**	**18.83**	**4**	⇑*i*P	Pn	06 56 21.6	-1.4
SNY	**Shenyang**	**18.89**	**272**	⇓*i*P	Pn	06 56 24.1	+0.3
SNY				AMB	AMB		
	comp=Z,29nm,0.8s						
SNY				LR	LR		
	comp=N,890nm,16.5s						
SNY				LR	LR		
	comp=E,980nm,19.2s						
SNY				LR	LR		
	comp=Z,2μm,18.6s						
HIA	**Hailar**	**20.75**	**294**	*e*P	P	06 56 43.4	-0.1
	comp=Z,5.7nm,0.6s						
HIA	**Hailar**	**20.75**	**294**	*e*P	P	06 56 43.4	-0.1
HIA				pmax	pmax		
	comp=Z,6.0nm,0.6s						
YAK	**Yakutsk**	**21.19**	**334**	*e*P	P	06 56 46.7	-1.4
YAK	**Yakutsk**	**21.19**	**334**	*e*P	P	06 56 44.5	-3.6
YAK				*e*PP		06 56 52.5	
YAK				*e*S	S	07 00 38.6	-6.2
YAK				*e*		07 00 48.4	
YAK				*e*SS		07 01 28.1	
YAK				pmax	pmax		
	comp=Z,29nm,1.0s,mb4.6						
YAK				pmax	pmax		
	comp=N,14nm,1.1s						
YAK				pmax	pmax		
	comp=E,13nm,1.1s						
YAK				smax			
	comp=N,87nm,3.1s						
YAK				smax			
	comp=E,152nm,4.3s

comp=E,935nm,16.0s,MS4.4
YAK MLR MLR
comp=Z,1µm,16.0s,MS4.3
YAK MLR MLR
comp=N,1µm,18.0s,MS4.4
DL2 Dalian 21.27 265 ⇑P **P 06 56 49.1 -0.1**
DL2 *e*S **S 07 00 46.3 +1.3**
DL2 AMB AMB
comp=Z,20nm,0.8s,mb4.5
DL2 AMB AMB
comp=Z,230nm,4.6s
DL2 LR LR
comp=N,1µm,18.1s,MS4.4
DL2 LR LR
comp=E,840nm,18.3s,MS4.4
DL2 LR LR
comp=Z,630nm,18.2s,MS4.0
AMKA Amchitka 21.32 60 *e*P **P 06 56 49.8 +0.2**
BJI Beijing 24.77 272 P **P 06 57 24.0 -0.5**
BJI S **S 07 01 47.1 +0.9**
BJI AMB AMB
comp=Z,27nm,1.9s,mb4.5
BJI LR LR
comp=N,822nm,17.7s,MS4.8
BJI LR LR
comp=E,2µm,17.7s,MS4.8
BJI LR LR
comp=Z,2µm,19.3s,MS4.7
BJI Beijing 24.77 272 P **P 06 57 24.0 -0.5**
comp=Z,27nm,1.9s,mb4.5
BJI S **S 07 01 47.1 +0.9**
BJI LR LR
comp=Z,2µm,19.3s,MS4.7
BJT Baijiatuau 24.78 272 *e*P **P 06 57 24.6 0.0**
comp=Z,8.6nm,0.6s,mb4.5
BJT Baijiatuau 24.78 272 *e*P **P 06 57 24.6 0.0**
BJT pmax pmax
comp=Z,9.0nm,0.6s
BILL Bilibino 25.50 15 *e*P **P 06 57 28.8 -2.0**
BILL *e* 06 58 02.6
BILL *e*S **S 07 01 54.9 -2.4**
BILL pmax pmax
comp=Z,2.0nm,0.9s,mb3.6
SSE Sheshan 25.64 249 P **P 06 57 33.3 +0.9**
SSE AMB AMB
comp=Z,20nm,0.8s,mb4.7
SSE AMB AMB
comp=Z,248nm,9.3s
SSE Sheshan 25.64 249 P **P 06 57 33.3 +0.9**
comp=Z,20nm,0.8s,mb4.7
BOD Bodaibo 25.65 315 *e*P **P 06 57 28.5 -3.8**
BOD pmax pmax
comp=Z,8.0nm,0.8s,mb4.3
TIA Tai'an 25.67 263 *e*P **P 06 57 32.8 +0.2**
NJ2 Nanjing 26.65 253 *e*P **P 06 57 40.3 -1.3**
NJ2 AMB AMB
comp=Z,30nm,0.8s,mb4.9
HHC Hu-ho-hao-te 27.80 276 *e*P **P 06 57 52.0 +0.2**
HHC AP pP 06 57 56.6 +0.3
HHC XP sP 06 57 59.6 +1.4
HHC PP 06 58 40.3
HHC S **S 07 02 33.3 -0.8**
HHC SS 07 03 49.9
HHC AMB AMB
comp=Z,25nm,1.3s,mb4.7
HHC AMB AMB
comp=Z,468nm,14.1s
HHC LR LR
comp=N,574nm,12.7s,MS4.7
HHC LR LR
comp=E,1µm,13.2s,MS4.7
HHC LR LR
comp=Z,2µm,16.7s,MS4.7
BTO Baotou 28.98 277 *e*P **P 06 58 06.7 +4.3**
TIXI Tiksi 29.22 347 *e*P **P 06 58 00.5 -3.6**
TIXI pmax pmax
comp=Z,3.0nm,0.8s,mb4.1
ULN Ulaanbaatar 29.24 292 *e*P **P 06 58 04.8 +0.2**
SONM Songino Array 29.68 292 P **P 06 58 08.6 +0.2**
SONM pmax pmax
comp=Z,4.0nm,0.7s
SONM Songino Array 29.68 292 P **P 06 58 08.6 +0.1**
comp=Z,3.6nm,0.7s,mb4.2,baz=79,slow=8.6,SNR=24
TLY Talaya 31.00 300 *e*P **P 06 58 23.1 +3.0**
TLY pmax pmax
comp=Z,3.0nm,1.2s,mb4.0
TLY MLR MLR
comp=Z,2µm,17.0s,MS4.7
ZAK Zakamensk 31.36 298 *e*P **P 06 58 22.8 -0.4**
ZAK pmax pmax
comp=Z,2.0nm,1.2s,mb3.8
XAN Xi'an 32.59 266 P **P 06 58 33.2 -1.1**
XAN AP pP 06 58 39.0 +0.2
XAN AMB AMB
comp=Z,7.0nm,0.8s,mb4.6
LZH Lanzhou 35.26 273 *e*P **P 06 58 58.1 +0.7**
LZH AP pP 06 59 01.5 -0.4
LZH XP sP 06 59 03.3 -0.5
LZH PP PP 07 00 16.7 -0.6
LZH AMB AMB
comp=Z,63nm,1.0s,mb5.5
LZH AMB AMB
comp=Z,201nm,4.5s
LZH LR LR
comp=E,1µm,14.4s
LZH LR LR
comp=Z,1µm,14.9s,MS4.8
LZH Lanzhou 35.26 273 *e*P **P 06 58 58.1 +0.7**
LZH *SP sP 06 59 03.3 -0.5
LZH 07 00 16.7
LZH *e*S **S 07 04 29.0 -1.5**
LZH SS SS 07 06 44.0 -20
LZH pmax pmax
comp=Z,63nm,1.0s,mb5.5
LZH MLR MLR
comp=Z,1µm,14.9s,MS4.8
GTA Gaotai 36.69 280 ⇑P **P 06 59 10.4 +0.7**
GTA AP pP 06 59 14.0 -0.2
GTA XP sP 06 59 15.5 -0.6
GTA PP PP 07 00 36.3 +3.2
GTA PCP PcP 07 01 33.2 +1.1
GTA AMB AMB
comp=Z,11nm,0.9s,mb4.7
GTA AMB AMB
comp=Z,408nm,6.5s
GTA LR LR
comp=N,597nm,16.7s,MS4.7
GTA LR LR
comp=E,740nm,16.7s,MS4.7
GTA LR LR
comp=Z,1µm,16.4s,MS4.8
CD2 Chengdu 37.95 265 P **P 06 59 20.4 0.0**
CD2 AP pP 06 59 27.9 +3.0
CD2 XP sP 06 59 30.8 +4.0
CD2 PP PP 07 00 53.3 +6.3
CD2 PCP PcP 07 01 39.3 +3.2
CD2 AMB AMB
comp=Z,50nm,0.5s,mb5.5
CD2 AMB AMB
comp=Z,100nm,5.8s
CD2 LR LR
comp=N,350nm,16.4s,MS4.4
CD2 LR LR
comp=E,250nm,13.8s,MS4.4
CD2 LR LR
comp=Z,200nm,14.4s,MS4.1
GYA Guiyang 38.49 257 P **P 06 59 27.2 +2.2**
GYA AP pP 06 59 31.2 +1.6
GYA XP sP 06 59 34.8 +3.4
GYA PP PP 07 00 58.9 +5.8
GYA PCP PcP 07 01 41.0 +3.2
GYA S **S 07 05 22.4 +2.4**
GYA SCP ScP 07 05 28.3 +3.2
GYA AMB AMB
comp=Z,20nm,0.8s,mb4.9
GYA AMB AMB
comp=Z,120nm,4.6s
GYA LR LR
comp=N,540nm,17.9s,MS4.5
GYA LR LR
comp=E,480nm,18.2s,MS4.5
GYA LR LR
comp=Z,490nm,18.6s,MS4.3
PMR Palmer 39.31 42 P **P 06 59 31.8 +0.3**
SML Sawmill 39.68 41 *e*P **P 06 59 35.8 +1.3**

COLA College 39.80 36 P **P 06 59 39.2 +3.7**
COLA College 39.80 36 *e*P **P 06 59 35.4 -0.1**
QIZ Qiongzhong 41.33 245 P **P 06 59 50.3 +1.7**
QIZ S **S 07 06 05.4 +2.8**
QIZ LR LR
comp=N,911nm,19.2s,MS4.8
QIZ LR LR
comp=E,1µm,20.4s,MS4.8
QIZ LR LR
comp=Z,1µm,16.4s,MS4.8
ZALV Zalesovo Beam 41.91 307 P **P 06 59 52.7 -0.3**
comp=Z,1.7nm,0.5s,mb4.0,baz=85,slow=7.7,SNR=7.7
ZALV PcP PcP 07 01 47.8 -0.5
comp=Z,4.8nm,0.8s,baz=74,slow=3.5,SNR=8.9
ZAL Zalesovo 41.93 307 P **P 06 59 52.7 -0.5**
ZAL 07 01 47.8
KMI Kunming 42.08 259 P **P 06 59 55.0 +0.2**
KMI AMB AMB
comp=Z,14nm,1.0s,mb4.5
KMI Kunming 42.08 259 P **P 06 59 55.0 +0.2**
comp=Z,14nm,1.0s,mb4.5
WMQ Urumqi 43.31 292 P **P 07 00 05.4 +0.8**
WMQ AP pP 07 00 10.0 +0.8
WMQ PCP PcP 07 01 54.0 +0.8
WMQ *e*S **S 07 06 31.5 +0.1**
WMQ AMB AMB
comp=Z,21nm,0.7s,mb5.0
WMQ AMB AMB
comp=Z,876nm,6.6s
WMQ LR LR
comp=N,2µm,15.4s,MS5.1
WMQ LR LR
comp=E,1µm,14.5s,MS5.1
WMQ LR LR
comp=Z,1µm,18.6s,MS4.8
INK Inuvik 45.23 31 P **P 07 00 18.8 -0.8**
INK *e*P pP 07 00 24.5 +0.3
INK Inuvik 45.23 31 P **P 07 00 18.8 -0.8**
INK pmax pmax
comp=Z,2.0nm,0.5s
INK Inuvik 45.23 31 P **P 07 00 18.8 -0.8**
comp=Z,2.2nm,0.5s,mb4.3,baz=278,slow=4.3,SNR=4.2
MKAR Makanchi Array 45.69 298 P **P 07 00 23.4 -0.1**
MKAR pmax pmax
comp=Z,8.0nm,0.7s
MKAR Makanchi Array 45.69 298 P **P 07 00 23.4 -0.2**
comp=Z,8.3nm,0.7s,mb4.8
KURK Kurchatov 46.51 304 P **P 07 00 28.5 -1.4**
comp=Z,61nm,0.5s,mb5.8,SNR=8.1
KURK Kurchatov 46.51 304 *e*P **P 07 00 28.8 -1.1**
comp=Z,9.1nm,0.5s,mb5.0
KURK Kurchatov 46.51 304 *e*P **P 07 00 28.8 -1.1**
KURK pmax pmax
comp=Z,9.0nm,0.5s,mb5.0
CHKZ Chkalovo 49.98 310 *i*P **P 07 00 55.2 -1.4**
CHKZ pmax pmax
comp=Z,3.0nm,0.6s,mb4.5
BRVK Borovoye 50.41 310 *e*P **P 07 00 59.1 -0.7**
ULHL Ulahol 51.56 295 P **P 07 01 09.5 +0.8**
SNR=6.3
TKM2 Tokmak 2 51.65 296 *e*P **P 07 01 09.9 +0.5**
comp=Z,14nm,0.9s,mb4.9
TKM2 Tokmak 2 51.65 296 *e*P **P 07 01 09.9 +0.5**
TKM2 pmax pmax
comp=Z,15nm,0.9s,mb4.9
TKM2 Tokmak 2 51.65 296 P **P 07 01 10.1 +0.6**
SNR=12
USP Ospenovka 52.20 297 P **P 07 01 13.8 +0.4**
SNR=24
KBK Karagaybulak 52.20 296 P **P 07 01 14.2 +0.7**
SNR=15
KZA Kyzart 52.28 295 P **P 07 01 15.8 +1.7**
SNR=17
JIRN Jiri 52.41 274 *e*P **P 07 01 15.5 +0.3**
comp=Z,16nm,0.5s,mb5.2
AAK Ala-Archa 52.50 296 P **P 07 01 15.0 -0.7**
comp=Z,92nm,0.5s,mb6.0,SNR=10
AAK Ala-Archa 52.50 296 *e*P **P 07 01 15.1 -0.6**
comp=Z,8.0nm,0.6s,mb4.8
AAK Ala-Archa 52.50 296 *e*P **P 07 01 15.1 -0.6**
AAK pmax pmax
comp=Z,8.0nm,0.6s,mb4.8
AAK Ala-Archa 52.50 296 P **P 07 01 16.1 +0.4**
SNR=14
UCH Uchtor 52.69 296 *e*P **P 07 01 19.2 +2.0**
comp=Z,4.4nm,0.8s,mb4.4
EKS2 Erkin-Say 52.95 297 *e*P **P 07 01 19.6 +0.6**
comp=Z,11nm,0.6s,mb5.0
EKS2 Erkin-Say 52.95 297 P **P 07 01 19.8 +0.8**
SNR=16
KKN Kakani 52.98 275 *e*P **P 07 01 19.1 -0.4**
comp=Z,28nm,0.8s,mb5.3
AML Almayashu 53.27 296 *e*P **P 07 01 22.5 +1.1**
comp=Z,8.1nm,0.6s,mb4.8
AML Almayashu 53.27 296 P **P 07 01 22.5 +1.1**
SNR=11
GKN Gorkha 53.32 275 *e*P **P 07 01 21.8 -0.2**
comp=Z,24nm,0.7s,mb5.2
RES Resolute Bay 54.08 17 *e*P **P 07 01 26.8 -0.1**
KOLN Koldanda 54.20 276 *e*P **P 07 01 28.7 +0.3**
comp=Z,48nm,1.2s,mb5.3
HNR Honiara 54.28 167 P **P 07 01 27.5 -1.5**
comp=Z,264nm,0.8s,baz=265,slow=22,SNR=4.0
YKA Yellowknife Ar 54.57 35 P **P 07 01 30.3 -0.3**
comp=Z,1.0nm,0.6s,mb4.0,baz=298,slow=6.8,SNR=7.3
KK31 Karatay Array 54.81 298 *i*P **P 07 01 31.9 -0.8**
KK31 pmax pmax
comp=Z,9.0nm,0.6s,mb5.0
KULM Kulim 57.50 242 *e*P **P 07 01 53.0 +0.8**
APA Apatity 58.56 336⇑*e*P **P 07 01 49.0 -10**
APA pmax pmax
comp=Z,43nm,1.3s,mb5.3
DAG Danmarks Havn 59.04 357 *e*P **P 07 02 02.1 0.0**
DAG Danmarks Havn 59.04 357 *i*P **P 07 02 02.1 0.0**
ARCES ARCESS Array B 59.32 340 P **P 07 02 02.0 -2.2**
ARCES pmax pmax
comp=Z,5.0nm,1.0s
ARCES ARCESS Array B 59.32 340 P **P 07 02 02.0 -2.2**
comp=Z,5.4nm,1.0s,mb4.5,baz=39,slow=6.2,SNR=8.4
KBL Kabul 60.43 291 *e*P **P 07 02 11.7 -0.6**
comp=Z,13nm,0.7s,mb5.1
JOF Joensuu 62.36 333 *e*p **P 07 02 22.4 -2.5**
comp=Z,7.8nm,0.3s,mb5.3
JOF Joensuu 62.36 333 *e*P **P 07 02 22.4 -2.5**
JOF pmax pmax
comp=Z,8.0nm,0.3s,mb5.3
FFC Flin Flon 64.42 38 *e*P **P 07 02 38.4 -0.2**
comp=Z,16nm,1.3s,mb4.9
FFC Flin Flon 64.42 38 *e*P **P 07 02 38.4 -0.3**
FFC pmax pmax
comp=Z,16nm,1.3s,mb4.9
KAF Kangasniemi 64.55 334 *e*p **P 07 02 35.8 -3.6**
comp=Z,7.3nm,0.6s,mb4.9,baz=40,slow=6.1
KAF Kangasniemi 64.55 334 *e*P **P 07 02 35.8 -3.6**
KAF pmax pmax
comp=Z,7.0nm,0.6s,mb4.9
FCC Fort Churchill 64.85 31 *e*P **P 07 02 40.8 -0.7**
LRM Limekiln Ridge 64.91 50 *e*P **P 07 02 42.9 +0.9**
FINES FINESS Array B 65.13 334 P **P 07 02 41.8 -1.4**
FINES pmax pmax
comp=Z,12nm,0.7s
FINES FINESS Array B 65.13 334 P **P 07 02 41.8 -1.4**
comp=Z,12nm,0.7s,mb5.0,baz=46,slow=8.2,SNR=26
WB2 Warramunga Arr 65.29 195 *e*P **P 07 02 44.0 -0.6**
WRA Warramunga Arr 65.29 195 P **P 07 02 43.7 -0.9**
WRA pmax pmax
comp=Z,3.0nm,0.8s
WRA Warramunga Arr 65.29 195 P **P 07 02 43.7 -1.0**
comp=Z,3.1nm,0.8s,mb4.4,baz=16,slow=6.8,SNR=11
BOZ Bozeman (W) 65.47 50 *e*P **P 07 02 46.1 +0.5**
OBN Obninsk 65.81 324⇑*i*P **P 07 02 46.7 -1.0**
OBN pmax pmax
comp=Z,76nm,2.5s,mb5.3
NVAR Mina Array Bea 66.05 59 P **P 07 02 49.6 +0.1**
comp=Z,0.8nm,0.6s,mb3.9,baz=290,slow=7.5,SNR=4.4
MOOW Moose Ponds 67.16 51 *e*P **P 07 02 57.6 +1.1**
comp=Z,6.9nm,1.1s,mb4.6
TPAW Teton Pass 67.20 51 *e*P **P 07 02 58.5 +1.7**
comp=Z,23nm,1.4s,mb5.0
VRSR Storozhevoye 67.33 320 *e*P **P 07 02 57.5 0.0**
VRSR pmax pmax
comp=Z,5.0nm,0.7s,mb4.7
VRSR pmax pmax
comp=N,7.0nm,0.8s
VRSR pmax pmax
comp=E,5.0nm,0.8s

HWUT Hardware Ranch 68.07 53 *e*P **P 07 03 02.9 +0.6**
DUG Dugway 68.25 55 *e*P **P 07 03 04.2 +0.8**
BW06 Boulder Array 68.45 51 *e*P **P 07 03 04.8 +0.2**
PDAR Pinedale Array 68.45 51 P **P 07 03 04.6 -0.1**
comp=E,1.0nm,0.5s,mb4.1,baz=224,slow=0.9,SNR=5.2
ASAR Alice Springs 69.00 195 P **P 07 03 08.2 +0.1**
ASAR Alice Springs 69.00 195 P **P 07 03 08.2 +0.1**
ASAR pmax pmax
comp=Z,1.0nm,0.8s
ASAR Alice Springs 69.00 195 P **P 07 03 08.2 +0.1**
comp=Z,1.3nm,0.8s,mb3.9,baz=6.0,slow=5.6,SNR=7.3
GOF Gofitskoye 69.62 313 *e*P **P 07 03 06.5 -5.4**
NB2 NORSAR Subarra 69.69 340 P **P 07 03 11.3 -0.8**
comp=Z,12nm,0.7s,mb4.9,baz=30,slow=6.2
NOA NORSAR Array B 69.69 340 P **P 07 03 11.0 -1.0**
NOA NORSAR Array B 69.69 340 P **P 07 03 11.0 -1.1**
NOA pmax pmax
comp=Z,14nm,0.5s
NOA NORSAR Array B 69.69 340 P **P 07 03 11.0 -1.0**
comp=Z,14nm,0.5s,mb5.2,baz=30,slow=6.4,SNR=60
KIV Kislovodsk 70.56 313 *e*P **P 07 03 18.3 +0.6**
comp=Z,22nm,1.0s,mb5.0
KIV Kislovodsk 70.56 313 *e*P **P 07 03 18.6 +0.9**
KIV pmax pmax
comp=Z,16nm,0.7s,mb5.1
KIV MLR MLR
comp=Z,918nm,18.0s,MS5.1
KIV Kislovodsk 70.56 313⇓*i*P **P 07 03 18.9 +1.2**
AKASG Malin Array Be 72.08 325 P **P 07 03 25.7 -1.0**
AKASG pmax pmax
comp=Z,4.0nm,0.5s
AKASG Malin Array Be 72.08 325 P **P 07 03 25.7 -1.0**
comp=Z,4.0nm,0.5s,mb4.6,baz=37,slow=5.9,SNR=25
BSD Bornholm Skovb 73.72 335 *i*P **P 07 03 35.6 -0.8**
BSD *i* 07 03 46.4
BSD pmax pmax
comp=Z,18nm,1.1s,mb4.9
BSD Bornholm Skovb 73.72 335 *i*P **P 07 03 35.6 -0.8**
comp=Z,18nm,1.1s,mb4.9
BSD *i* 07 03 46.4
SDCO Great Sand Dun 74.12 53 *e*P **P 07 03 39.4 +0.3**
ECSD EROS,Sioux Fal 74.60 43 *e*P **P 07 03 39.7 -2.0**
comp=Z,12nm,1.3s,mb4.7
ANMO Albuquerque 75.50 55 *e*P **P 07 03 45.7 -1.4**
KWP Kalwaria 75.53 327 *e*P **P 07 03 47.3 +0.3**
KWP Kalwaria 75.53 327 *e*P **P 07 03 47.3 +0.3**
KWP Kalwaria 75.53 327⇓*i*P **P 07 03 47.5 +0.5**
KOLS Kolonicke sedl 76.27 327 *e*P **P 07 03 50.8 -0.4**
STHS Stebnicka Huta 76.27 328 *e*P **P 07 03 51.6 +0.4**
comp=Z,4.5nm,0.7s,mb4.5
STHS *e* 07 04 05.8
STHS Stebnicka Huta 76.27 328 *e*P **P 07 03 51.6 +0.4**
STHS *e* 07 04 05.8
STHS pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
CRVS Cervenica-Dubn 76.61 328 *e*P **P 07 03 52.7 -0.4**
MALT Malatya 76.81 311⇑P **P 07 03 56.0 +1.5**
MALT Malatya 76.81 311⇑*i*P **P 07 03 56.0 +1.5**
TRPA Tarpa 76.81 327⇑*i*P **P 07 03 54.6 +0.3**
VRI Vrincioaia 76.86 323⇑P **P 07 03 56.2 +1.5**
VRI Vrincioaia 76.86 323⇑*i*P **P 07 03 56.2 +1.6**
OKC Ostrava-Krasne 77.07 330 *e*P **P 07 03 57.6 +1.9**
TIRR Tirgusor 77.21 321 ⇓P **P 07 03 56.7 +0.1**
TIRR Tirgusor 77.21 321⇓*i*P **P 07 03 56.7 +0.1**
HARR Harsova 77.25 321⇑P **P 07 03 57.4 +0.6**
HARR Harsova 77.25 321⇑*i*P **P 07 03 57.4 +0.6**
UPC Upice 77.26 332 *e*P **P 07 03 57.5 +0.7**
DPC Dobruska-Polom 77.29 331 *e*P **P 07 03 57.0 +0.1**
DPC *e*PCP PcP 07 04 09.6 +2.1
MORC Moravsky Berou 77.34 330 *e*P **P 07 03 57.5 +0.3**
comp=Z,167nm,2.9s,mb5.5
MORC Moravsky Berou 77.34 330 *e*P **P 07 03 57.6 +0.4**
MORC pmax pmax
comp=Z,167nm,2.9s,mb5.5
MORC Moravsky Berou 77.34 330⇑*i*P **P 07 03 57.4 +0.2**
MLR Muntele Rosu 77.50 323 ⇓P **P 07 03 58.4 +0.2**
MLR Muntele Rosu 77.50 323⇓*i*P **P 07 03 58.4 +0.2**
CLL Collm 77.58 334⇑*i*P **P 07 03 57.7 -0.8**
comp=Z,10.0nm,0.8s,mb4.8
CLL *i* 07 04 10.7
CLL Collm 77.58 334⇑*i*P **P 07 03 57.7 -0.8**
CLL *i* 07 04 10.7
CLL pmax pmax
comp=Z,15nm,0.8s,mb5.0
CLL Collm 77.58 334⇑*i*P **P 07 03 57.7 -0.8**
comp=Z,10.0nm,0.8s,mb4.8
CLL *i* (PcP) PcP 07 04 10.7 +1.9
comp=Z,14nm,0.8s
PVCC Panska Ves 77.73 332 *e*P pP 07 04 06.4 +2.1
PVCC Panska Ves 77.73 332 *e*pP pP 07 04 06.4 +2.1
DRGR 77.82 326 ⇓P **P 07 04 00.7 +0.7**
DRGR 77.82 326⇓*i*P **P 07 04 00.7 +0.7**
VOIR 77.93 323⇓*i*P **P 07 04 01.2 +0.6**
VYHS Vyhne 77.94 329 *e*P **P 07 04 00.6 0.0**
VYHS *e*PCP PcP 07 04 10.6 +0.2
PSZ Piszkesteto 78.01 328 ⇓P **P 07 04 02.6 +1.6**
PSZ Piszkesteto 78.01 328⇓*i*P **P 07 04 02.6 +1.6**
PRU Pruhonice 78.20 332 *e*P **P 07 04 00.7 -1.3**
MODS Modra-Piesok 78.61 330 *e*P **P 07 04 01.3 -3.0**
ANTO Ankara 78.61 315⇑*i*P **P 07 04 05.0 +0.5**
NKC Novy Kostel 78.68 333 *e*P **P 07 04 09.5 +4.8**
NKC *e*x x 07 04 20.3
ZST Bratislava 78.82 330 *e*P **P 07 04 00.0 -5.5**
GZR Gura Zlata 78.92 325 ⇓P **P 07 04 06.1 0.0**
GZR Gura Zlata 78.92 325⇓*i*P **P 07 04 06.1 0.0**
BZS Buzias 79.22 326⇑*i*P **P 07 04 07.7 0.0**
KHC Kasperske Hory 79.26 332 *e*P **P 07 04 07.6 -0.3**
KHC *e*x x 07 04 20.6
GERES GERESS Array B 79.46 332 P **P 07 04 08.7 -0.3**
GERES pmax pmax
comp=Z,2.0nm,0.5s
GERES GERESS Array B 79.46 332 P **P 07 04 08.7 -0.3**
comp=Z,2.3nm,0.5s,mb4.4,baz=34,slow=5.0,SNR=18
CONA Conrad Observa 79.50 330⇑*i*pP pP 07 04 09.6 -4.5
comp=Z,6.5nm,0.7s
GRA1 Grafenberg Arr 79.54 334 *e*P **P 07 04 08.9 -0.5**
comp=Z,5.0nm,0.8s,mb4.5
GRF Grafenberg Arr 79.54 334 *e*P **P 07 04 08.9 -0.5**
GRF pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
GRF Grafenberg Arr 79.54 334 *e*P **P 07 04 08.9 -0.5**
GRF pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
GRF Grafenberg Arr 79.54 334 *e*P **P 07 04 08.9 -0.5**
comp=Z,5.0nm,0.8s,mb4.5
PERS Pernice 80.86 330 *e*P **P 07 04 16.4 -0.2**
VTS Vitosha 81.00 323 ⇓P **P 07 04 18.7 +1.3**
VTS Vitosha 81.00 323⇓*i*P **P 07 04 18.7 +1.3**
KBA Koelnbreinsper 81.11 331⇑*i*P **P 07 04 18.7 +0.8**
comp=Z,16nm,1.1s,mb4.9
KBA Koelnbreinsper 81.11 331⇑*i*pP pP 07 04 18.7 -4.1
comp=Z,16nm,1.1s
KBA Koelnbreinsper 81.11 331⇑*i*P **P 07 04 18.7 +0.8**
KBA pmax pmax
comp=Z,16nm,1.1s,mb4.9
MOTA Moosalm 81.63 333⇓*i*P **P 07 04 20.9 +0.2**
comp=Z,8.8nm,1.0s,mb4.6
MOTA Moosalm 81.63 333⇓*i*pP pP 07 04 20.9 -4.7
comp=Z,8.8nm,1.0s
MOTA Moosalm 81.63 333⇓*i*P **P 07 04 20.9 +0.2**
MOTA pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
BOJS Bojanci 81.78 329 *e*P **P 07 04 21.9 +0.4**
JAVS Javornik 81.88 330 *e*P **P 07 04 20.9 -1.1**
LOR Lormes 83.91 337 *e*P **P 07 04 32.9 +0.4**
SMF Signal de Mont 84.49 337 *e*P **P 07 04 36.0 +0.6**
AVF Avril sur Loir 84.49 337 *e*P **P 07 04 36.0 +0.5**
comp=Z,37nm,1.2s,mb5.1
AVF Avril sur Loir 84.49 337 *e*P **P 07 04 36.0 +0.5**
comp=Z,19nm,1.2s,mb5.1
AVF Avril sur Loir 84.49 337 *e*P **P 07 04 36.0 +0.5**
AVF pmax pmax
comp=Z,19nm,1.2s,mb5.1
LPL La Plagne 84.65 335 *e*P **P 07 04 37.2 +0.9**
comp=Z,12nm,0.8s,mb4.8
LPL La Plagne 84.65 335 *e*P **P 07 04 37.2 +0.9**
comp=Z,5.8nm,0.8s,mb4.8
LPL La Plagne 84.65 335 *e*P **P 07 04 37.2 +0.9**
LPL pmax pmax
comp=Z,6.0nm,0.8s,mb4.8
LPG La Plagne 84.66 335 *e*P **P 07 04 37.6 +1.2**
comp=Z,18nm,0.9s,mb4.9
LPG La Plagne 84.66 335 *e*P **P 07 04 37.6 +1.2**
comp=Z,9.1nm,0.9s,mb4.9

LPG	**La Plagne**	**84.66**	**335**	*e*P	**P**	**07 04 37.6**	**+1.2**
LPG				pmax	pmax		
comp=Z,9.0nm,0.9s,mb4.9							
TCF	**Toulx Ste Croi**	**85.27**	**338**	*e*P	**P**	**07 04 39.0**	**-0.4**
comp=Z,14nm,0.9s,mb4.8							
TCF	**Toulx Ste Croi**	**85.27**	**338**	*e*P	**P**	**07 04 39.0**	**-0.4**
comp=Z,6.9nm,0.9s,mb4.8							
TCF	**Toulx Ste Croi**	**85.27**	**338**	*e*P	**P**	**07 04 39.0**	**-0.4**
TCF				pmax	pmax		
comp=Z,7.0nm,0.9s,mb4.8							
MBDF	**Montbardon**	**85.35**	**334**	*e*P	**P**	**07 04 41.4**	**+1.6**
comp=Z,29nm,1.1s,mb5.0							
MBDF	**Montbardon**	**85.35**	**334**	*e*P	**P**	**07 04 41.4**	**+1.6**
comp=Z,14nm,1.1s,mb5.0							
MBDF	**Montbardon**	**85.35**	**334**	*e*P	**P**	**07 04 41.4**	**+1.6**
MBDF				pmax	pmax		
comp=Z,14nm,1.1s,mb5.0							
ORIF	**Oris-en-Rattie**	**85.45**	**335**	*e*P	**P**	**07 04 41.3**	**+1.0**
comp=Z,18nm,0.9s,mb4.9							
ORIF	**Oris-en-Rattie**	**85.45**	**335**	*e*P	**P**	**07 04 41.3**	**+1.0**
comp=Z,9.3nm,0.9s,mb4.9							
ORIF	**Oris-en-Rattie**	**85.45**	**335**	*e*P	**P**	**07 04 41.3**	**+1.0**
ORIF				pmax	pmax		
comp=Z,9.0nm,0.9s,mb4.9							
TORD	**Torodi Ar. Bea**	**115.71**	**325**	PKP	PKPdf	07 10 45.4	-0.2
comp=Z,0.5nm,0.5s,baz=90,slow=1.4,SNR=2.1							
PLCA	**Paso Flores**	**150.65**	**97**	PKPbc	PKPbc	07 11 52.1	-2.3
comp=Z,1.7nm,0.9s,baz=343,slow=15,SNR=3.6							
VNA2	**Neumayer--Watz**	**150.85**	**196**	*e*PKPdf	PKPdf	07 11 49.9	+1.6
VNA2				*e*		07 11 53.5	
VNA2				*e*		07 11 57.7	
VNA2				*e*		07 12 01.8	
VNA2				*e*		07 12 05.0	
VNA2				*e*		07 12 08.3	
VNA2				*e*		07 12 13.4	
VNA2				*e*		07 12 19.1	
VNA2				*e*		07 12 24.8	
VNA2				*e*		07 12 28.2	
VNA2				*e*		07 12 32.7	
VNA2				*e*		07 12 38.3	
VNA2				*e*		07 12 43.4	
VNA3	**Neumayer Olymp**	**151.00**	**194**	*e*PKPdf	PKPdf	07 11 49.1	+0.6
VNA3				*e*		07 11 52.6	
VNA3				*e*		07 11 58.0	
VNA3				*e*		07 12 01.8	
VNA3				*e*		07 12 06.1	
VNA3				*e*		07 12 09.4	
VNA3				*e*		07 12 14.7	
VNA3				*e*		07 12 19.1	
VNA3				*e*		07 12 24.6	
VNA3				*e*		07 12 28.1	
VNA3				*e*		07 12 32.4	
VNA3				*e*		07 12 38.1	
VNA3				*e*		07 12 43.2	

IDC ***02*** *06:52:41.7±1.2,7.17S×155.83E,h0km,mb4.2/10, mb1 4.3/10,mb1mx4.2/15,mbtmp4.2/10,Error ellipse: s-maj=45.8km s-min=20.2km az=117.0*

ISCJB ***02*** *06:52:42.4±5.5,69S±01×155.45E±007,h4km±34km, mb4.1/11,Error ellipse: s-maj=19.4km s-min=10.9km az=21.6*

NEIC ***02*** *06:52:44.5±0.6,6.97S×155.49E,h10km,mb4.3/3,Error ellipse: s-maj=15.8km s-min=13.0km az=158.0*

ISC 02 06:52:44.0±6.5,69S±01×15542E±007,h4km±40km,n18, σ1°09/17,mb4.1/11,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.13**	**119**	Pn	**Pn**	**06 54 01.7**	**0.0**
14nm,0.3s,baz=220,slow=1.5,SNR=3.7							
HNR				Sn	**Sn**	**06 55 02.6**	**+1.2**
12nm,0.3s,baz=264,slow=16,SNR=2.5							
KAKA	**Kakadu**	**23.35**	**254**	*e*P	**P**	**06 57 54.7**	**+0.9**
4.0nm,0.5s,mb4.1							
WB2	**Warramunga Arr**	**24.19**	**236**	*e*P	**P**	**06 58 02.7**	**+0.9**
WRA	**Warramunga Arr**	**24.20**	**236**	P	**P**	**06 58 02.2**	**+0.3**
0.9nm,0.5s,mb3.5,baz=60,slow=9.4,SNR=6.5							
ASAR	**Alice Springs**	**26.53**	**229**	P	**P**	**06 58 22.5**	**-0.5**
0.3nm,0.4s,mb3.2,baz=60,slow=9.6,SNR=7.5							
STKA	**Stephens Creek**	**27.98**	**206**	*e*P	**P**	**06 58 34.4**	**-1.5**
3.4nm,0.7s,mb4.1							
STKA	**Stephens Creek**	**27.98**	**206**	P	**P**	**06 58 33.9**	**-2.0**
1.6nm,0.6s,mb3.9,baz=38,slow=14,SNR=4.7							
FITZ	**Fitzroy Crossi**	**31.07**	**246**	*e*P	**P**	**06 59 03.9**	**+0.4**
5.3nm,0.6s,mb4.5							
FITZ	**Fitzroy Crossi**	**31.07**	**246**	P	**P**	**06 59 04.1**	**+0.6**
1.7nm,0.5s,mb4.1,baz=86,slow=8.2,SNR=7.6							
SONM	**Songino Array**	**69.50**	**327**	P	**P**	**07 03 55.3**	**+1.6**
1.2nm,0.5s,mb4.1,baz=128,slow=3.2,SNR=8.3							
MKAR	**Makanchi Array**	**83.63**	**319**	P	**P**	**07 05 14.8**	**+1.0**
5.0nm,0.7s,mb4.8							
ZALV	**Zalesovo Beam**	**84.36**	**326**	P	**P**	**07 05 17.6**	**+0.3**
2.3nm,0.5s,mb4.6,baz=107,slow=4.6,SNR=5.7							
MAW	**Mawson**	**84.62**	**203**	P	**P**	**07 05 16.9**	**-1.6**
3.9nm,0.6s,mb4.7,baz=38,slow=9.0,SNR=5.3							
INK	**Inuvik**	**89.50**	**21**	P	**P**	**07 05 40.7**	**-1.4**
INK	**Inuvik**	**89.50**	**21**	P	**P**	**07 05 40.7**	**-1.4**
0.4nm,0.5s,mb4.0,baz=296,slow=0.8,SNR=5.2							
YKA	**Yellowknife Ar**	**96.08**	**28**	P	**P**	**07 06 11.0**	**-1.6**
0.4nm,0.8s,mb3.9,baz=269,slow=4.3,SNR=4.7							
KEST	**Kesra**	**137.72**	**318**	PKP	PKPdf	07 12 09.0	-1.2
2.3nm,1.0s,baz=20,slow=1.5,SNR=4.3							
TORD	**Torodi Ar. Bea**	**153.41**	**286**	PKPbc	PKPbc	07 12 43.1	-1.7
1.0nm,0.8s,baz=49,slow=2.4,SNR=3.9							

BJI ***02*** *06:53:31.2,5220N×17030W,h10km,mB5.2,mb5.0,Ms5.3, Msz4.8*

IDC ***02*** *06:53:32.0±0.6,5237N×17021W,h0km,mb4.5/24, mb1 4.7/24,mb1mx4.6/27,mbtmp4.5/24,Error ellipse: s-maj=19.1km s-min=12.1km az=163.0*

NEIC ***02*** *06:53:33.2±0.2,5221N×17034W,h10km,mb4.7/61, ML4.7(AEIC),Error ellipse: s-maj=7.3km s-min=3.7km az=175.0*

ISCJB ***02*** *06:53:36.9±0.8,5225N±005×17020W±004,h48km±6km, mb4.7/99,Error ellipse: s-maj=7.8km s-min=3.3km az=12.6*

MOS ***02*** *06:53:36.0±0.9,5237N×17022W,h33km,mb4.7/19,Error ellipse: s-maj=12.7km s-min=9.4km az=55.6*

ISC 02 06:53:38.9±0.7,5227N±005×17021W±004,h49km±5km, n409,σ0672/409,mb4.7/99,74C-87D,Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATKA	**Atka Island**	**2.45**	**270**	P	**Pn**	**06 54 15.6**	**-0.7**
UNV	**Unalaska Valle**	**2.74**	**53**	*e*Pn	**Pn**	**06 54 18.4**	**-1.8**
UNV				*e*Sg	**Sn**	**06 54 56.2**	**+4.2**
AKLV	**Akutan Long Va**	**3.18**	**52**	P	**Pn**	**06 54 26.2**	**-0.1**
AKLV				S	**Sn**	**06 55 07.1**	**+4.2**
AKUT	**Akutan**	**3.26**	**53**	P	**Pn**	**06 54 27.3**	**0.0**
ADK	**Adak**	**4.01**	**267**	P	**Pn**	**06 54 38.2**	**+0.6**
FALS	**False Pass**	**4.81**	**55**	*e*Pn	**Pn**	**06 54 51.0**	**+2.4**
FALS				*e*Sn	**Sn**	**06 55 47.8**	**+4.9**
SDPT	**Sand Point**	**6.54**	**58**	P	**Pn**	**06 55 11.8**	**-0.5**
CHGN	**Chignik**	**7.99**	**55**	*e*P	**Pn**	**06 55 32.1**	**-0.1**
KDAK	**Kodiak Island**	**11.51**	**54**	*e*Pn	**Pn**	**06 56 17.6**	**-2.7**
9.2nm,0.6s							
KDAK	**Kodiak Island**	**11.51**	**54**	Pn	**Pn**	**06 56 16.0**	**-4.2**
0.8nm,0.3s,baz=265,slow=7.7,SNR=16							
KDAK				Sn	**Sn**	**06 58 18.3**	**-8.8**
0.4nm,0.3s,baz=96,slow=20,SNR=3.1							
GAMB	**Gambell**	**11.56**	**357**	*e*Pn	**Pn**	**06 56 22.9**	**+2.0**
43nm,1.3s							
SVW2	**Sparrevohn**	**11.92**	**36**	*e*P	**Pn**	**06 56 29.2**	**+3.3**
TTA	**Tatalina**	**13.08**	**30**	*e*P	**Pn**	**06 56 44.4**	**+2.8**
TNA	**Tin City**	**13.38**	**4**	*e*Pn	**Pn**	**06 56 48.5**	**+2.8**
15nm,0.8s							
SLKM	**Skilak Lake**	**13.76**	**45**	*e*Pn	**Pn**	**06 56 50.6**	**-0.2**
SLKM				*e*Sn	**Sn**	**06 59 29.0**	**+7.1**
PMR	**Palmer**	**14.74**	**43**	*e*Pn	**Pn**	**06 57 03.9**	**-0.1**
12nm,1.0s							
PMR	**Palmer**	**14.74**	**43**	*e*P	**Pn**	**06 57 03.9**	**-0.1**
PMR				pmax	pmax		
comp=Z,12nm,1.0s							
SML	**Sawmill**	**15.18**	**43**	*e*Pn	**Pn**	**06 57 09.9**	**+0.2**
EYAK	**Cordova Ski Ar**	**15.79**	**49**	*e*Pn	**Pn**	**06 57 14.6**	**-2.9**
comp=Z,14nm,0.9s							
MCK	**McKinley**	**15.99**	**36**	*e*Pn	**Pn**	**06 57 19.8**	**-0.3**
comp=Z,21nm,0.8s							
MCK	**McKinley**	**15.99**	**36**	*e*P	**Pn**	**06 57 19.8**	**-0.3**
MCK				pmax	pmax		
comp=Z,21nm,0.8s							
IMA2	**Indian Mountai**	**16.13**	**25**	*e*P	**Pn**	**06 57 24.6**	**+2.7**
COLA	**College**	**17.05**	**34**	*e*P	**Pn**	**06 57 31.6**	**-1.8**
comp=Z,16nm,0.8s							
COLA	**College**	**17.05**	**34**	*e*P	**Pn**	**06 57 31.6**	**-1.8**
COLA				pmax	pmax		
comp=Z,16nm,0.8s							
MENT	**Mentasta**	**17.61**	**42**	*e*P	**Pn**	**06 57 40.3**	**0.0**
EGAK	**Eagle**	**19.44**	**39**	*e*P	**Pn**	**06 58 00.2**	**-2.1**
comp=Z,11nm,0.6s							
BILL	**Bilibino**	**19.45**	**333**	*e*P	**Pn**	**06 58 02.0**	**-0.4**
BILL	**Bilibino**	**19.45**	**333**	*e*P	**Pn**	**06 58 02.1**	**-0.3**
DAWY	**Dawson**	**19.84**	**42**	*e*P	**Pn**	**06 58 03.5**	**-3.7**
SKAG	**Skagway**	**20.65**	**56**	*e*P	**P**	**06 58 14.8**	**+0.8**
comp=Z,176nm,0.9s							
SKAG	**Skagway**	**20.65**	**56**	*e*ScP	ScP	07 05 55.3	+1.0
MA2	**Magadan**	**22.77**	**304**	*e*P	**P**	**06 58 36.5**	**-0.1**
comp=Z,30nm,1.0s,mb4.7							
MA2	**Magadan**	**22.77**	**304**	*e*P	**P**	**06 58 36.5**	**0.0**
MA2				pmax	pmax		
comp=Z,30nm,1.0s,mb4.7							
DLBC	**Dease Lake**	**23.38**	**59**	*e*P	**P**	**06 58 44.8**	**+2.0**
DLBC	**Dease Lake**	**23.38**	**59**	P	**P**	**06 58 44.5**	**+1.7**
INK	**Inuvik**	**23.71**	**34**	P	**P**	**06 58 42.6**	**-3.2**
INK				pmax	pmax		
comp=Z,15nm,0.9s							
INK	**Inuvik**	**23.71**	**34**	P	**P**	**06 58 42.6**	**-3.2**
comp=Z,15nm,0.8s,mb4.5,baz=230,slow=11,SNR=54							
B05A	**Bryant**	**30.56**	**78**	⇑P	**P**	**06 59 47.9**	**+0.5**
baz=30							
YKA	**Yellowknife Ar**	**30.69**	**49**	P	**P**	**06 59 48.2**	**-0.2**
YKA				PcP	PcP	07 02 45.7	+0.7
YKA	**Yellowknife Ar**	**30.69**	**49**	P	**P**	**06 59 48.2**	**-0.2**
YKA						07 02 45.7	
YKA				pmax	pmax		
comp=Z,3.0nm,0.8s							
YKA				pmax	pmax		
comp=Z,2.0nm,0.9s							
YKA	**Yellowknife Ar**	**30.69**	**49**	P	**P**	**06 59 48.2**	**-0.2**
comp=Z,2.8nm,0.8s,mb4.1,baz=274,slow=9.0,SNR=37							
YKA				PcP	PcP	07 02 45.7	+0.7
comp=Z,1.5nm,0.9s,baz=288,slow=3.5,SNR=4.1							
B06A	**Marblemount**	**30.82**	**77**	⇓P	**P**	**06 59 49.9**	**+0.2**
baz=30							
E04A	**Onalaska**	**30.95**	**81**	⇓P	**P**	**06 59 51.1**	**+0.4**
baz=31							
C05A	**Tolt Reservoir**	**31.06**	**79**	⇑P	**P**	**06 59 52.4**	**+0.6**
baz=31							
A07A	**Ashnola River,**	**31.25**	**76**	⇓P	**P**	**06 59 53.3**	**-0.2**
baz=31							
B07A	**Winthrop**	**31.66**	**77**	⇓P	**P**	**06 59 57.4**	**+0.3**
baz=31							
G04A	**Mulino**	**31.77**	**84**	⇓P	**P**	**06 59 58.5**	**+0.5**
baz=32							
D06A	**Cle Elum**	**31.80**	**79**	⇓P	**P**	**06 59 58.4**	**+0.1**
baz=32							
A08A	**Turner Farm, O**	**31.95**	**75**	⇓P	**P**	**06 59 59.9**	**+0.3**
baz=32							
E06A	**Yakima**	**32.02**	**80**	⇓P	**P**	**07 00 00.9**	**+0.6**
baz=32							
C07A	**Waterville**	**32.04**	**78**	⇑P	**P**	**07 00 00.6**	**+0.2**
baz=32							
B08A	**Colville Reser**	**32.18**	**76**	⇑P	**P**	**07 00 02.2**	**+0.6**
baz=32							
A09A	**Danville**	**32.35**	**75**	⇓P	**P**	**07 00 03.4**	**+0.3**
baz=32							
J03A	**Ideyld Park**	**32.43**	**87**	⇓P	**P**	**07 00 03.7**	**-0.1**
baz=32							
F06A	**Goldendale**	**32.52**	**81**	⇓P	**P**	**07 00 04.5**	**-0.2**
baz=32							
ERM	**Erimo**	**32.80**	**271**	*e*P	**P**	**07 00 03.2**	**-3.9**
comp=Z,708nm,1.0s							
H05A	**Madras**	**32.82**	**84**	⇓P	**P**	**07 00 08.0**	**+0.7**
baz=32							
YAK	**Yakutsk**	**32.84**	**311**	*e*P	**P**	**07 00 06.6**	**-0.7**
B09A	**Rice**	**32.85**	**76**	⇓P	**P**	**07 00 07.8**	**+0.3**
baz=33							
G06A	**Carlson Farm,**	**32.88**	**82**	⇑P	**P**	**07 00 07.8**	**0.0**
baz=33							
HAWA	**Hanford**	**32.97**	**80**	*e*P	**P**	**07 00 08.7**	**+0.1**
comp=Z,7.4nm,1.0s,mb4.6							
D08A	**Wollman Farm,**	**33.02**	**78**	⇑P	**P**	**07 00 08.4**	**-0.6**
baz=33							
C09A	**Chrisman Ranch**	**33.06**	**77**	⇓P	**P**	**07 00 09.5**	**+0.1**
baz=33							
E08A	**Dider Farm, El**	**33.21**	**79**	⇑P	**P**	**07 00 11.1**	**+0.4**
baz=33							
H06A	**Lindquist Farm**	**33.32**	**83**	⇓P	**P**	**07 00 11.9**	**+0.3**
baz=33							
G07A	**Ruggs Ranch, H**	**33.45**	**82**	⇓P	**P**	**07 00 12.8**	**0.0**
baz=33							
NEW	**Newport**	**33.53**	**75**	P	**P**	**07 00 13.3**	**-0.2**
NEW				pmax	pmax		
comp=Z,6.0nm,0.9s							
NEW	**Newport**	**33.53**	**75**	P	**P**	**07 00 13.2**	**-0.2**
comp=Z,5.8nm,0.9s,mb4.5,baz=314,slow=6.1,SNR=9.9							
EDM	**Edmonton**	**33.66**	**65**	*e*P	**P**	**07 00 14.8**	**+0.4**
A11A	**Hall Mountain,**	**33.67**	**74**	⇓P	**P**	**07 00 15.1**	**+0.5**
baz=33							
F08A	**Pendleton**	**33.73**	**80**	⇑P	**P**	**07 00 15.5**	**+0.4**
baz=33							
E09A	**Wood Farm, Sta**	**33.75**	**79**	⇓P	**P**	**07 00 15.5**	**+0.1**
baz=34							
I06A	**Prineville**	**33.81**	**84**	⇓P	**P**	**07 00 15.9**	**0.0**
baz=34							
H07A	**Lands Inn, Kim**	**33.86**	**83**	⇓P	**P**	**07 00 16.6**	**+0.3**
baz=34							
G08A	**Pilot Rock**	**33.87**	**81**	⇓P	**P**	**07 00 16.7**	**+0.3**
baz=34							
D10A	**Wagner Farm, O**	**34.01**	**77**	⇑P	**P**	**07 00 17.6**	**0.0**
baz=34							
K05A	**Summer Lake**	**34.06**	**86**	⇑P	**P**	**07 00 19.1**	**+1.0**
baz=34							
A12A	**Yaak River Ran**	**34.10**	**73**	⇑P	**P**	**07 00 18.7**	**+0.4**
baz=34							
I07A	**Izee**	**34.17**	**83**	⇓P	**P**	**07 00 19.8**	**+0.8**
baz=34							
J06A	**Christmas Vall**	**34.22**	**85**	⇓P	**P**	**07 00 19.9**	**+0.4**
baz=34							
F09A	**S2 Ranch, Elgi**	**34.29**	**80**	⇓P	**P**	**07 00 20.4**	**+0.4**
baz=34							
E10A	**Myers Farm, Un**	**34.39**	**78**	⇑P	**P**	**07 00 21.0**	**+0.1**
baz=34							
K06A	**Valley Falls**	**34.41**	**86**	⇑P	**P**	**07 00 21.3**	**+0.2**
baz=34							
H08A	**Prairie City**	**34.45**	**82**	⇓P	**P**	**07 00 21.8**	**+0.4**
baz=34							
L05A	**Lakeview**	**34.47**	**87**	⇓P	**P**	**07 00 21.7**	**+0.1**
baz=34							
F10A	**Beach Ranch, E**	**34.57**	**79**	⇑P	**P**	**07 00 22.3**	**-0.1**
baz=34							
G09A	**Cove**	**34.59**	**80**	⇓P	**P**	**07 00 22.6**	**0.0**
baz=34							
J07A	**Hines**	**34.67**	**84**	⇓P	**P**	**07 00 23.6**	**+0.3**
baz=34							
GASB	**Alder Springs**	**34.72**	**92**	⇑P	**P**	**07 00 24.2**	**+0.4**
baz=34							
A13A	**Flathead Natio**	**34.83**	**73**	⇓P	**P**	**07 00 24.7**	**+0.1**
baz=34							
I08A	**Drewsey**	**34.83**	**83**	⇑P	**P**	**07 00 25.0**	**+0.3**
baz=35							
G10A	**Bishop Farm, J**	**34.98**	**80**	⇓P	**P**	**07 00 26.3**	**+0.2**
baz=35							
E11A	**Bogner Ranch,**	**34.99**	**78**	⇑P	**P**	**07 00 25.3**	**-0.8**
baz=35							
B13A	**Whitefish**	**35.06**	**74**	⇑P	**P**	**07 00 26.1**	**-0.5**
baz=35							
WALA	**Waterton Lakes**	**35.07**	**72**	*e*P	**P**	**07 00 27.2**	**+0.5**
comp=Z,7.8nm,1.0s,mb4.6							
K07A	**Rock Creek Ran**	**35.08**	**85**	⇑P	**P**	**07 00 26.4**	**-0.5**
baz=35							
D12A	**Red Ives Fores**	**35.16**	**76**	⇓P	**P**	**07 00 27.0**	**-0.5**
baz=35							
M06C	**Likely Place G**	**35.17**	**88**	⇑P	**P**	**07 00 27.4**	**-0.3**
baz=35							
J08A	**Circle Bar Ran**	**35.19**	**84**	⇓P	**P**	**07 00 27.2**	**-0.6**
baz=35							
F11A	**Grangeville**	**35.26**	**78**	⇑P	**P**	**07 00 27.9**	**-0.5**
baz=35							
C13A	**Hot Springs**	**35.32**	**75**	⇑P	**P**	**07 00 28.6**	**-0.3**
baz=35							
ELFS	**Eagle Lake Fie**	**35.36**	**89**	⇑P	**P**	**07 00 29.0**	**-0.3**
baz=35							
L07A	**Adell**	**35.41**	**86**	⇑P	**P**	**07 00 29.2**	**-0.5**
baz=35							
G11A	**Walters Elk Ra**	**35.44**	**79**	⇑P	**P**	**07 00 29.3**	**-0.7**
baz=35							
K08A	**Mann Creek Ran**	**35.53**	**85**	⇓P	**P**	**07 00 29.0**	**-1.7**
baz=35							
H10A	**Noah's Angus R**	**35.58**	**81**	⇓P	**P**	**07 00 31.5**	**+0.3**
baz=35							
WVOR	**Wild Horse Val**	**35.60**	**85**	*e*P	**P**	**07 00 32.3**	**+1.0**
comp=Z,1.3nm,0.8s,mb3.9							
WVOR	**Wild Horse Val**	**35.60**	**85**	*e*P	**P**	**07 00 32.3**	**+0.9**
WVOR				pmax	pmax		
comp=Z,1.0nm,0.8s,mb3.8							
J09A	**Fry Pan Ranch,**	**35.63**	**83**	⇓P	**P**	**07 00 31.6**	**0.0**
baz=35							
D13A	**Huson**	**35.67**	**76**	⇑P	**P**	**07 00 31.1**	**-0.8**
baz=35							
C14A	**Swan Lake**	**35.77**	**74**	⇑P	**P**	**07 00 31.7**	**-1.0**
baz=36							
N06A	**Buffalo Meadow**	**35.84**	**88**	⇓P	**P**	**07 00 33.6**	**+0.2**
baz=36							
M07A	**Soldier Meadow**	**35.87**	**87**	⇓P	**P**	**07 00 33.1**	**-0.6**
baz=36							
F12A	**Elk City**	**35.87**	**78**	⇓P	**P**	**07 00 33.8**	**+0.2**
baz=36							
L08A	**Fields**	**35.92**	**85**	⇓P	**P**	**07 00 33.6**	**-0.5**
baz=36							
H11A	**Donnelly**	**35.96**	**80**	⇑P	**P**	**07 00 33.8**	**-0.7**
baz=36							
KLR	**Kul'dur**	**36.00**	**289**	*e*P	**P**	**07 00 29.0**	**-5.7**
K09A	**Rome**	**36.01**	**84**	⇓P	**P**	**07 00 34.0**	**-0.9**
baz=36							
E13A	**Victor**	**36.16**	**76**	⇑P	**P**	**07 00 35.7**	**-0.4**
baz=36							
D14A	**Greenough**	**36.25**	**75**	⇑P	**P**	**07 00 36.0**	**-0.8**
baz=36							
M08A	**Happy Creek Ra**	**36.32**	**86**	⇑P	**P**	**07 00 38.0**	**+0.5**
baz=36							
F13A	**Darby**	**36.41**	**77**	⇓P	**P**	**07 00 37.8**	**-0.4**
baz=36							
L09A	**Wilkinson Ranc**	**36.43**	**85**	⇓P	**P**	**07 00 38.6**	**+0.1**
baz=36							
CHMT	**Chamberlain Mo**	**36.48**	**75**	*e*P	**P**	**07 00 38.7**	**-0.1**
K10A	**MacKenzie Ranc**	**36.49**	**83**	⇓P	**P**	**07 00 39.0**	**+0.1**
baz=36							
E14A	**Clinton**	**36.59**	**76**	⇓P	**P**	**07 00 39.8**	**+0.1**
baz=36							
H12A	**Diamond D Ranc**	**36.74**	**80**	⇑P	**P**	**07 00 40.8**	**-0.3**
baz=36							
MFID	**Camas Ranch**	**36.77**	**82**	⇑P	**P**	**07 00 41.4**	**+0.1**
baz=36							
G13A	**Cobalt**	**36.83**	**78**	⇑P	**P**	**07 00 41.6**	**-0.2**
baz=36							
D15A	**Lincoln**	**36.85**	**75**	⇓P	**P**	**07 00 41.9**	**-0.1**
baz=37							
F14A	**Wisdom**	**36.97**	**77**	⇑P	**P**	**07 00 43.1**	**+0.1**
baz=37							
K11A	**Parker Ranch,**	**37.00**	**83**	⇑P	**P**	**07 00 42.9**	**-0.4**
baz=37							
E15A	**Deer Lodge**	**37.09**	**75**	⇑P	**P**	**07 00 43.6**	**-0.4**
baz=37							
H13A	**Challis**	**37.10**	**79**	⇓P	**P**	**07 00 43.9**	**-0.2**
baz=37							
L10A	**Juniper Basin**	**37.13**	**84**	⇑P	**P**	**07 00 44.0**	**-0.4**
baz=37							
G14A	**Jackson**	**37.22**	**78**	⇓P	**P**	**07 00 44.8**	**-0.3**
baz=37							
J12A	**Stokes Ranch,**	**37.30**	**81**	⇑P	**P**	**07 00 46.0**	**+0.1**
baz=37							
R06C	**Coleville**	**37.42**	**91**	⇑P	**P**	**07 00 46.3**	**-0.5**
baz=37							
HRY	**Holter Researc**	**37.43**	**75**	*e*P	**P**	**07 00 47.1**	**+0.3**
I13A	**Wildhorse Cree**	**37.53**	**80**	⇑P	**P**	**07 00 47.5**	**-0.3**
baz=37							
HLID	**Hailey**	**37.55**	**81**	*e*P	**P**	**07 00 48.6**	**+0.7**
comp=Z,8.0nm,1.4s,mb4.3							
HLID	**Hailey**	**37.55**	**81**	⇑P	**P**	**07 00 47.5**	**-0.4**
baz=37							
K12A	**Draper Farm, C**	**37.77**	**82**	⇓P	**P**	**07 00 50.1**	**+0.3**
baz=38							
J13A	**Cove Ranch, Pi**	**37.78**	**81**	⇑P	**P**	**07 00 50.0**	**+0.1**
baz=38							
O09A	**Fish Creek Ran**	**37.80**	**87**	⇓P	**P**	**07 00 50.1**	**0.0**
baz=38							
MCMT	**McKenzie Canyo**	**37.80**	**78**	*e*P	**P**	**07 00 50.5**	**+0.4**
G15A	**Dillon**	**37.84**	**77**	⇓P	**P**	**07 00 50.4**	**0.0**
baz=38							
L12A	**House Creek Ra**	**37.98**	**83**	⇑P	**P**	**07 00 51.6**	**+0.1**
baz=38							
EGMT	**Eagleton**	**37.99**	**72**	*e*P	**P**	**07 00 51.3**	**-0.3**
comp=Z,23nm,0.9s,mb4.9							
EGMT	**Eagleton**	**37.99**	**72**	⇓P	**P**	**07 00 51.2**	**-0.3**
baz=38							
BOZ	**Bozeman (W)**	**38.10**	**76**	*e*P	**P**	**07 00 52.7**	**+0.1**
comp=Z,5.0nm,0.8s,mb4.3							
BOZ	**Bozeman (W)**	**38.10**	**76**	*e*P	**P**	**07 00 52.7**	**+0.2**
BOZ				pmax	pmax		
comp=Z,5.0nm,0.8s,mb4.3							
BOZ	**Bozeman (W)**	**38.10**	**76**	⇓P	**P**	**07 00 52.5**	**-0.1**
baz=38							
Q08A	**Gabbs**	**38.14**	**89**	⇓P	**P**	**07 00 53.7**	**+0.7**
baz=38							
NVAR	**Mina Array Bea**	**38.18**	**90**	P	**P**	**07 00 54.2**	**+0.9**
comp=Z,1.4nm,0.8s,mb3.7,baz=288,slow=11,SNR=9.1							
**K

TPNV	Topopah Spring	40.38	90	eP	P	07 01 12.6	+0.9
TPNV				pmax	pmax		
comp=Z,5.0nm,0.8s,mb4.3							
TPNV	Topopah Spring	40.38	90	⇓P	P	07 01 11.7	+0.1
baz=40							
HWUT	Hardware Ranch	40.39	81	eP	P	07 01 12.4	+0.7
comp=Z,3.1nm,1.0s,mb4.0							
DUG	Dugway	40.47	84	eP	P	07 01 13.1	+0.8
comp=Z,11nm,1.1s,mb4.5							
DUG	Dugway	40.47	84	eP	P	07 01 13.1	+0.7
DUG				pmax	pmax		
comp=Z,11nm,1.1s,mb4.5							
DUG	Dugway	40.47	84	⇓P	P	07 01 12.3	0.0
baz=40							
S12A	Delamar Landin	40.82	88	⇑P	P	07 01 15.7	+0.4
baz=40							
BW06	Boulder Array	40.93	78	eP	P	07 01 16.4	+0.3
comp=Z,8.2nm,0.8s,mb4.4							
PDAR	Pinedale Array	40.93	78	P	P	07 01 16.1	0.0
comp=Z,5.5nm,0.8s,mb4.2,baz=302,slow=3.7,SNR=42							
GSC	Goldstone	41.11	93	⇑P	P	07 01 17.8	+0.1
baz=41							
DAU	Daniels Canyon	41.29	82	eP	P	07 01 20.3	+1.2
BFSC	Mount Baldy St	41.29	95	⇓P	P	07 01 19.2	0.0
baz=41							
FCC	Fort Churchill	41.40	50	eP	P	07 01 19.5	-0.3
comp=Z,36nm,1.0s,mb5.0							
FCC	Fort Churchill	41.40	50	eP	P	07 01 19.5	-0.3
FCC				pmax	pmax		
comp=Z,36nm,1.0s,mb5.0							
S13A	Holt Ranch, En	41.44	88	⇓P	P	07 01 20.7	+0.3
baz=41							
V11A	Goodsprings	41.60	91	⇓P	P	07 01 21.7	0.0
baz=41							
BOD	Bodaibo	41.65	309	eP	P	07 01 20.4	-1.4
BOD				pmax	pmax		
comp=Z,14nm,0.8s,mb4.6							
BBRC	Big Bear Sol-O	41.73	94	⇓P	P	07 01 23.3	+0.5
baz=42							
T13A	Saint George	41.77	88	⇑P	P	07 01 23.3	+0.2
baz=42							
V12A	Nelson	42.03	91	⇓P	P	07 01 25.3	+0.1
baz=42							
U13A	Pakoon Wash	42.12	89	⇓P	P	07 01 26.0	+0.1
baz=42							
GMRC	Granite Mounta	42.16	92	⇑P	P	07 01 26.1	-0.2
baz=42							
T14A	Hurricane	42.25	88	⇓P	P	07 01 27.3	+0.3
baz=42							
BELC	Belle Mtn.	42.47	94	⇓P	P	07 01 28.3	-0.5
baz=42							
SRU	San Rafael	42.53	84	eP	P	07 01 30.8	+1.5
comp=Z,5.1nm,0.8s,mb4.3							
SRU	San Rafael	42.53	84	eP	P	07 01 30.8	+1.6
SRU				pmax	pmax		
comp=Z,5.0nm,0.8s,mb4.3							
CN2	Changchun	42.54	285	eP	P	07 01 27.7	-1.6
CN2				AMB	AMB		
comp=Z,20nm,0.7s,mb5.0							
U14A	Mt Trumbull	42.60	89	⇓P	P	07 01 30.1	+0.2
baz=42							
T15A	Red Dirt Ranch	42.71	87	⇑P	P	07 01 30.7	0.0
baz=42							
HIA	Hailar	42.82	295	eP	P	07 01 30.7	-0.8
comp=Z,15nm,1.0s,mb4.7							
HIA	Hailar	42.82	295	eP	P	07 01 30.7	-0.8
HIA				pmax	pmax		
comp=Z,15nm,1.0s							
IRM	Iron Mountain	42.88	93	⇑P	P	07 01 32.0	-0.2
baz=43							
W13A	Hualapai Mount	43.03	91	⇓P	P	07 01 33.2	-0.2
baz=43							
V14A	Boquillas Ranc	43.16	89	⇑P	P	07 01 34.5	+0.1
baz=43							
SWSC	Sam W. Stewart	43.31	94	⇑P	P	07 01 35.8	+0.2
baz=43							
X13A	Yucca	43.40	91	⇓P	P	07 01 36.0	-0.4
baz=43							
PDMCI	Parker Dam,Lak	43.41	92	⇑P	P	07 01 36.0	-0.4
baz=43							
W14A	Seligman	43.45	90	⇑P	P	07 01 36.5	-0.3
baz=43							
Y12C	Blythe	43.54	93	⇓P	P	07 01 37.4	-0.1
baz=43							
Y13A	Salome	43.93	92	⇓P	P	07 01 40.1	-0.5
baz=44							
W15A	Williams	43.98	89	⇑P	P	07 01 40.3	-0.7
baz=44							
X14A	Yava	44.06	90	⇓P	P	07 01 41.4	-0.3
baz=44							
Y14A	Wickenburg	44.35	91	⇓P	P	07 01 43.7	-0.3
baz=44							
X15A	Humboldt	44.45	90	⇑P	P	07 01 44.1	-0.7
baz=44							
ULM	Lac du Bonnet	44.65	62	P	P	07 01 45.1	-1.0
comp=Z,7.5nm,1.0s,mb4.5,baz=301,slow=8.6,SNR=9.3							
Y15A	Casa Rosa Ranc	44.75	91	⇓P	P	07 01 46.4	-0.8
baz=44							
KSRS	Korea Array	44.90	276	P	P	07 01 49.1	+0.8
comp=Z,6.4nm,0.9s,mb4.5,baz=63,slow=7.8,SNR=9.3							
MVCO	Mesa Verde	44.97	84	⇑P	P	07 01 48.3	-0.5
baz=45							
X16A	Lo Mia Camp, P	44.99	89	⇓P	P	07 01 48.9	-0.2
baz=45							
Y16A	Circle Bar Ran	45.33	90	⇑P	P	07 01 51.3	-0.4
baz=45							
115A	Sonoran Desert	45.66	92	⇑P	P	07 01 54.8	+0.4
baz=45							
Z16A	Peralta Trail,	45.72	90	⇓P	P	07 01 54.8	0.0
baz=46							
AGMN	Agassiz Refuge	45.74	64	eP	P	07 01 53.6	-1.2
comp=Z,18nm,1.3s,mb4.8							
JNU	Nakatsue	45.95	269	P	P	07 01 57.1	+0.5
comp=Z,14nm,1.0s,mb4.9,baz=40,slow=28,SNR=3.6							
116A	Eloy	46.08	92	⇓P	P	07 01 57.6	-0.1
baz=46							
SDCO	Great Sand Dun	46.45	81	eP	P	07 02 01.0	+0.5
comp=Z,4.1nm,1.0s,mb4.3							
217A	Green Valley	47.17	92	⇓P	P	07 02 06.1	-0.1
baz=47							
119A	Ashpeak Ranch,	47.42	89	⇓P	P	07 02 08.0	-0.1
baz=47							
218A	Dragoon	47.50	91	⇓P	P	07 02 09.1	+0.3
baz=47							
ANMO	Albuquerque	47.69	85	eP	P	07 02 11.2	+1.0
comp=Z,3.1nm,1.1s,mb4.2							
ANMO	Albuquerque	47.69	85	eP	P	07 02 11.2	+1.0
ANMO				pmax	pmax		
comp=Z,3.0nm,1.1s							
318A	Bisbee	47.91	91	⇑P	P	07 02 11.6	-0.3
baz=48							
ECSD	EROS,Sioux Fal	47.99	69	eP	P	07 02 10.9	-1.6
comp=Z,6.2nm,1.0s,mb4.6							
Y22C	IRIS PASSCAL I	47.99	86	⇓P	P	07 02 12.4	-0.2
baz=48							
BNM	Barren Site	48.12	86	eP	P	07 02 15.1	+1.5
TLY	Talaya	49.98	306	eP	P	07 02 27.7	+0.2
TLY				pmax	pmax		
comp=Z,13nm,1.0s,mb4.9							
ULN	Ulaanbaatar	50.54	300	eP	P	07 02 31.9	+0.1
comp=Z,2.0nm,0.6s,mb4.2							
ULN	Ulaanbaatar	50.54	300	eP	P	07 02 31.9	+0.1
ULN				pmax	pmax		
comp=Z,2.0nm,0.6s,mb4.2							
SONM	Songino Array	50.90	300	P	P	07 02 34.9	+0.3
SONM						07 03 51.2	
SONM				pmax	pmax		
comp=Z,3.0nm,0.7s							
SONM	Songino Array	50.90	300	P	P	07 02 34.9	+0.3
comp=Z,3.0nm,0.7s,mb4.4,baz=58,slow=6.7,SNR=11							
SONM				PcP	PcP	07 03 51.2	+0.8
comp=Z,4.1nm,0.9s,baz=67,slow=2.7,SNR=9.0							
ZAK	Zakamensk	50.95	305	⇑eP	P	07 02 35.1	+0.2
ZAK				pmax	pmax		
comp=Z,3.0nm,1.2s,mb4.1							
WMOK	Wichita Mounta	52.51	80	eP	P	07 02 46.4	-0.3
comp=Z,6.7nm,1.0s,mb4.5							
WMOK	Wichita Mounta	52.51	80	eP	P	07 02 46.4	-0.3
WMOK				pmax	pmax		
comp=Z,7.0nm,1.0s,mb4.5							
BTO	Baotou	53.52	291	eP	P	07 02 54.6	+0.5
HDIL	Hopedale	54.21	68	eP	P	07 02 57.9	-1.2
comp=Z,14nm,0.8s,mb5.0							
MIAR	Mount Ida	55.77	76	eP	P	07 03 09.7	-0.8
comp=Z,10.0nm,1.1s,mb4.8							
MIAR	Mount Ida	55.77	76	eP	P	07 03 09.7	-0.8
MIAR				pmax	pmax		
comp=Z,10.0nm,1.1s,mb4.8							
SCHQ	Schefferville	55.86	43	P	P	07 03 10.5	-0.3
SCHQ	Schefferville	55.86	43	P	P	07 03 10.5	-0.3
comp=Z,29nm,0.9s,mb5.3,baz=323,slow=7.7,SNR=24							
ZALV	Zalesovo Beam	57.14	317	P	P	07 03 19.5	-0.5
comp=Z,0.9nm,0.6s,mb4.0,baz=26,slow=3.7,SNR=2.3							
ZALV				PcP	PcP	07 04 14.5	+0.4
comp=Z,7.3nm,0.9s,baz=46,slow=4.3,SNR=10.0							
ZAL	Zalesovo	57.16	317	P	P	07 03 19.5	-0.6
ZAL						07 04 14.5	
ARCES	ARCESS Array B	57.96	354	P	P	07 03 24.6	-0.9
ARCES				pmax	pmax		
comp=Z,2.0nm,0.6s							
ARCES	ARCESS Array B	57.96	354	P	P	07 03 24.6	-0.9
comp=Z,1.9nm,0.6s,mb4.3,baz=12,slow=6.2,SNR=4.2							
XAN	Xi'an	58.63	286	P	P	07 03 30.4	-0.3
XAN				AMB	AMB		
comp=Z,12nm,1.3s,mb4.8							
PLAL	Pickwick Lake	58.71	72	eP	P	07 03 29.6	-1.6
comp=Z,9.7nm,0.9s,mb4.8							
MSNY	Massena	58.98	56	eP	P	07 03 32.8	-0.2
GTA	Gaotai	60.06	297	P	P	07 03 40.5	0.0
GTA				AP	pP	07 03 50.7	-3.5
GTA				XP	sP	07 03 54.5	-5.4
GTA				PP	PP	07 05 53.1	+0.2
GTA				AMB	AMB		
comp=Z,10.0nm,1.1s							
GTA				AMB	AMB		
comp=Z,145nm,5.7s							
GTA				LR	LR		
comp=N,1μm,16.4s							
GTA				LR	LR		
comp=E,1μm,16.4s							
GTA				LR	LR		
comp=Z,2μm,16.0s							
LZH	Lanzhou	60.14	291	eP	P	07 03 41.9	+0.8
LZH				AP	pP	07 03 50.5	-4.3
LZH				XP	sP	07 03 55.2	-5.3
LZH				AMB	AMB		
comp=Z,31nm,1.2s,mb5.2							
LZH				AMB	AMB		
comp=Z,120nm,4.5s							
LRAL	Lakeview Retre	60.72	73	eP	P	07 03 43.4	-1.7
comp=Z,6.4nm,1.0s,mb4.7							
KURK	Kurchatov	62.10	318	eP	P	07 03 53.2	-0.8
JSC	Jenkinsville	63.15	68	eP	P	07 04 00.9	-0.5
BRVK	Borovoye	63.49	324	eP	P	07 04 03.1	-0.2
comp=Z,17nm,1.0s,mb5.1							
BRVK	Borovoye	63.49	324	eP	P	07 04 03.1	-0.2
BRVK				pmax	pmax		
comp=Z,17nm,1.0s,mb5.1							
MKAR	Makanchi Array	63.49	313	P	P	07 04 02.6	-0.8
MKAR				pmax	pmax		
comp=Z,2.0nm,0.7s							
MKAR	Makanchi Array	63.49	313	P	P	07 04 02.6	-0.8
comp=Z,2.0nm,0.7s,mb4.3							
CD2	Chengdu	63.91	287	eP	P	07 04 06.8	+0.4
CD2				AMB	AMB		
comp=Z,20nm,1.1s,mb5.1							
JOF	Joensuu	63.91	349	ep	P	07 04 04.2	-1.7
comp=Z,3.8nm,0.5s,mb4.7							
JOF	Joensuu	63.91	349	eP	P	07 04 04.2	-1.7
JOF				pmax	pmax		
comp=Z,4.0nm,0.5s,mb4.7							
KAF	Kangasniemi	65.21	352	ep	P	07 04 12.1	-2.3
comp=Z,4.6nm,0.5s,mb4.8,baz=8.9,slow=5.9							
KAF	Kangasniemi	65.21	352	eP	P	07 04 12.1	-2.3
KAF				pmax	pmax		
comp=Z,5.0nm,0.5s,mb4.8							
FINES	FINESS Array B	65.89	352	P	P	07 04 18.0	-0.8
FINES				pmax	pmax		
comp=Z,2.0nm,0.5s							
FINES	FINESS Array B	65.89	352	P	P	07 04 18.0	-0.8
comp=Z,1.8nm,0.5s,mb4.3,baz=10,slow=8.5,SNR=4.4							
NOA	NORSAR Array B	67.03	359	P	P	07 04 25.8	-0.3
NOA				pmax	pmax		
comp=Z,1.0nm,0.5s							
NOA	NORSAR Array B	67.03	359	P	P	07 04 25.8	-0.3
comp=Z,1.0nm,0.5s,mb4.1,baz=0.4,slow=3.1,SNR=1.9							
TKM2	Tokmak 2	69.49	314	eP	P	07 04 40.8	-0.9
AKTK	Aktyubinsk	69.83	329	P	P	07 04 43.5	-0.3
AKTO	Aktyubinsk	69.83	329	P	P	07 04 43.5	-0.2
AKTO				pmax	pmax		
comp=Z,8.0nm,0.5s,mb4.9							
AKTO	Aktyubinsk	69.83	329	P	P	07 04 43.5	-0.3
comp=Z,7.6nm,0.5s,mb4.9,baz=61,slow=7.9,SNR=15							
AAK	Ala-Archa	70.20	315	eP	P	07 04 45.3	-0.9
EKS2	Erkin-Say	70.49	315	eP	P	07 04 47.3	-0.6
AML	Almayashu	70.96	315	eP	P	07 04 52.1	+1.4
LSA	Lhasa	72.03	295	eP	P	07 04 58.8	+1.4
comp=Z,31nm,1.0s,mb5.2							
LSA	Lhasa	72.03	295	eP	P	07 04 58.8	+1.4
LSA				pmax	pmax		
comp=Z,31nm,1.0s,mb5.2							
CHTO	Chiang Mai	75.86	282	eP	P	07 05 20.1	+0.1
comp=Z,12nm,1.3s,mb4.7							
CHTO	Chiang Mai	75.86	282	eP	P	07 05 20.1	+0.2
CHTO				pmax	pmax		
comp=Z,12nm,1.3s,mb4.7							
AKASG	Malin Array Be	76.09	347	P	P	07 05 19.7	-1.0
AKASG				pmax	pmax		
comp=Z,8.0nm,0.9s							
AKASG	Malin Array Be	76.09	347	P	P	07 05 19.7	-1.0
comp=Z,7.8nm,0.9s,mb4.7,baz=13,slow=5.5,SNR=8.1							
JIRN	Jiri	76.34	297	eP	P	07 05 22.8	+0.3
comp=Z,66nm,1.0s,mb5.5							
KKN	Kakani	76.73	298	eP	P	07 05 24.6	-0.2
comp=Z,14nm,0.7s,mb5.0							
CLL	Collm	76.76	358	*i* P	P	07 05 24.0	-0.5
CLL	Collm	76.76	358	eP	P	07 05 24.0	-0.5
GKN	Gorkha	76.91	299	eP	P	07 05 25.3	-0.5
comp=Z,36nm,0.9s,mb5.3							
BRG	Berggiesshubel	77.17	357	eP	P	07 05 26.5	-0.3
BRG				pmax	pmax		
comp=Z,2.0nm,1.1s,mb4.0							
BRG	Berggiesshubel	77.17	357	ePKP	P	07 05 26.4	-0.4
comp=Z,11nm,1.1s,mb4.7							
KOLN	Koldanda	77.65	299	eP	P	07 05 29.9	0.0
comp=Z,27nm,0.9s,mb5.2							
GIVF	Givet	77.91	3	eP	P	07 05 31.0	0.0
comp=Z,25nm,0.9s,mb4.8							
GIVF	Givet	77.91	3	eP	P	07 05 31.0	0.0
comp=Z,13nm,0.9s,mb4.8							
GIVF	Givet	77.91	3	eP	P	07 05 31.0	0.0
GIVF				pmax	pmax		
comp=Z,13nm,0.9s,mb4.9							
BAIF	Baives	77.93	4	eP	P	07 05 31.4	+0.3
comp=Z,26nm,1.1s,mb4.8							
BAIF	Baives	77.93	4	eP	P	07 05 31.4	+0.3
comp=Z,13nm,1.1s,mb4.8							
BAIF	Baives	77.93	4	eP	P	07 05 31.4	+0.3
BAIF				pmax	pmax		
comp=Z,13nm,1.1s,mb4.8							
STHS	Stebnicka Huta	78.22	352	eP	P	07 05 33.9	+1.2
comp=Z,7.5nm,1.0s,mb4.6							
STHS	Stebnicka Huta	78.22	352	eP	P	07 05 33.9	+1.2
STHS				pmax	pmax		
comp=Z,8.0nm,1.0s,mb4.6							
KOLS	Kolonicke sedl	78.61	352	eP	P	07 05 33.0	-1.9
CRVS	Cervenica-Dubn	78.71	352	eP	P	07 05 36.0	+0.6
GOF	Gofitskoye	78.91	337	eP	P	07 05 30.1	-6.5
GOF				pmax	pmax		
comp=Z,12nm,1.3s,mb4.7							
FLN	La Foliniere	78.96	7	eP	P	07 05 37.3	+0.5
LDF	La Druitiere	79.16	7	eP	P	07 05 37.5	-0.4
GERES	GERESS Array B	79.20	357	P	P	07 05 38.4	+0.3
GERES				pmax	pmax		
comp=Z,3.0nm,0.9s							
GERES	GERESS Array B	79.20	357	P	P	07 05 38.4	+0.2
comp=Z,2.6nm,0.8s,mb4.2,baz=5.7,slow=4.0,SNR=5.3							
KECS	Kecovo	79.21	353	eP	P	07 05 38.3	+0.2
comp=Z,5.1nm,1.0s,mb4.4							
KECS	Kecovo	79.21	353	eP	P	07 05 38.3	+0.2
KECS				pmax	pmax		
comp=Z,5.0nm,1.0s,mb4.4							
KBL	Kabul	79.28	314	eP	P	07 05 38.1	-0.7
comp=Z,6.6nm,0.8s,mb4.6							
SGMF	Saint Gilles	79.30	8	eP	P	07 05 38.4	-0.2
comp=Z,38nm,1.0s,mb5.0							
SGMF	Saint Gilles	79.30	8	eP	P	07 05 38.4	-0.2
comp=Z,19nm,1.0s,mb5.0							
SGMF	Saint Gilles	79.30	8	eP	P	07 05 38.4	-0.2
SGMF				pmax	pmax		
comp=Z,19nm,1.0s,mb5.0							
VYHS	Vyhne	79.31	354	eP	P	07 05 38.9	+0.2
MODS	Modra-Piesok	79.53	355	eP	P	07 05 41.1	+1.2
QUIF	Quistinic	79.58	9	eP	P	07 05 40.1	-0.1
comp=Z,160nm,1.6s,mb5.4							
QUIF	Quistinic	79.58	9	eP	P	07 05 40.1	-0.1
comp=Z,80nm,1.6s,mb5.4							
QUIF	Quistinic	79.58	9	eP	P	07 05 40.1	-0.1
QUIF				pmax	pmax		
comp=Z,80nm,1.6s,mb5.4							
CDF	Champ du Feu	79.67	2	eP	P	07 05 41.0	+0.3
comp=Z,20nm,1.1s,mb4.7							
CDF	Champ du Feu	79.67	2	eP	P	07 05 41.0	+0.3
comp=Z,9.8nm,1.1s,mb4.7							
CDF	Champ du Feu	79.67	2	eP	P	07 05 41.0	+0.3
CDF				pmax	pmax		
comp=Z,10.0nm,1.1s,mb4.7							
ZST	Bratislava	79.71	355	eP	P	07 05 42.0	+1.1
comp=Z,10nm,0.7s,mb4.9							
ZST	Bratislava	79.71	355	eP	P	07 05 42.0	+1.1
ZST				pmax	pmax		
comp=Z,10.0nm,0.7s,mb4.8							
KIV	Kislovodsk	80.03	337	eP	P	07 05 42.2	-0.5
KIV				pmax	pmax		
comp=Z,17nm,1.0s,mb4.9							
LOR	Lormes	80.71	4	eP	P	07 05 46.5	+0.2
comp=Z,12nm,0.8s,mb4.6							
LOR	Lormes	80.71	4	eP	P	07 05 46.5	+0.2
comp=Z,5.8nm,0.8s,mb4.6							
LOR	Lormes	80.71	4	eP	P	07 05 46.5	+0.2
LOR				pmax	pmax		
comp=Z,6.0nm,0.8s,mb4.6							
SSF	Saint Saulge	80.90	4	eP	P	07 05 47.5	+0.2
comp=Z,22nm,1.0s,mb4.8							
SSF	Saint Saulge	80.90	4	eP	P	07 05 47.5	+0.2
comp=Z,11nm,1.0s,mb4.8							
SSF	Saint Saulge	80.90	4	eP	P	07 05 47.5	+0.2
SSF				pmax	pmax		
comp=Z,11nm,1.0s,mb4.7							
SIM	Simferopol'	80.92	343	eP	P	07 05 49.0	+1.6
SIM				pmax	pmax		
comp=Z,23nm,0.7s,mb5.2							
MFF	Saint Martin d	81.14	7	eP	P	07 05 48.8	+0.2
comp=Z,43nm,1.1s,mb5.0							
MFF	Saint Martin d	81.14	7	eP	P	07 05 48.8	+0.2
comp=Z,22nm,1.1s,mb5.0							
MFF	Saint Martin d	81.14	7	eP	P	07 05 48.8	+0.2
MFF				pmax	pmax		
comp=Z,22nm,1.1s,mb5.0							
AVF	Avril sur Loir	81.16	4	eP	P	07 05 48.8	+0.1
comp=Z,18nm,1.0s,mb4.7							
AVF	Avril sur Loir	81.16	4	eP	P	07 05 48.8	+0.1
comp=Z,8.8nm,1.0s,mb4.6							
AVF	Avril sur Loir	81.16	4	eP	P	07 05 48.8	+0.1
AVF				pmax	pmax		
comp=Z,9.0nm,1.0s,mb4.7							
SMF	Signal de Mont	81.33	4	eP	P	07 05 49.7	+0.1
comp=Z,36nm,1.0s,mb5.0							
SMF	Signal de Mont	81.33	4	eP	P	07 05 49.7	+0.1
comp=Z,18nm,1.0s,mb5.0							
SMF	Signal de Mont	81.33	4	eP	P	07 05 49.7	+0.1
SMF				pmax	pmax		
comp=Z,18nm,1.0s,mb5.0							
BGF	Bois d'Agland	81.37	5	eP	P	07 05 50.0	+0.2
comp=Z,47nm,1.3s,mb5.0							
BGF	Bois d'Agland	81.37	5	eP	P	07 05 50.0	+0.2
comp=Z,23nm,1.3s,mb5.0							
BGF	Bois d'Agland	81.37	5	eP	P	07 05 50.0	+0.2
BGF				pmax	pmax		
comp=Z,23nm,1.3s,mb5.0							
CTA	Charters Tower	81.41	221	P	P	07 05 51.4	+1.2
CTA	Charters Tower	81.41	221	P	P	07 05 51.4	+1.2
CTA				pmax	pmax		
comp=Z,5.0nm,0.8s							
CTA	Charters Tower	81.41	221	P	P	07 05 51.4	+1.2
comp=Z,5.2nm,0.8s,mb4.5,baz=38,slow=20,SNR=2.2							
CABF	La Chapelle	81.44	3	eP	P	07 05 51.0	+0.8
comp=Z,16nm,0.8s,mb4.7							
CABF	La Chapelle	81.44	3	eP	P	07 05 51.0	+0.8
comp=Z,7.9nm,0.8s,mb4.7							
CABF	La Chapelle	81.44	3	eP	P	07 05 51.0	+0.8
CABF				pmax	pmax		
comp=Z,8.0nm,0.8s,mb4.7							
TCF	Toulx Ste Croi	81.60	5	eP	P	07 05 51.0	0.0
LPL	La Plagne	82.55	2	eP	P	07 05 58.5	+2.5
LFF	La Frestale	82.85	6	eP	P	07 05 57.9	+0.3
CAF	Calviac	82.95	6	eP	P	07 05 58.7	+0.6
comp=Z,14nm,0.8s,mb4.7							
CAF	Calviac	82.95	6	eP	P	07 05 58.7	+0.6
comp=Z,6.9nm,0.8s,mb4.7							
CAF	Calviac	82.95	6	eP	P	07 05 58.7	+0.6
CAF				pmax	pmax		
comp=Z,7.0nm,0.8s,mb4.7							
ORIF	Oris-en-Rattie	83.13	3	eP	P	07 06 00.1	+1.1
comp=Z,15nm,0.9s,mb4.7							
VIVF	Saint-Julien-l	83.15	4	eP	P	07 05 59.8	+0.7
MBDF	Montbardon	83.34	2	eP	P	07 06 01.7	+1.6
SMRF	Simiane la Rot	84.06	3	eP	P	07 06 05.4	+1.6
comp=Z,81nm,1.3s,mb5.4							
SMRF	Simiane la Rot	84.06	3	eP	P	07 06 05.4	+1.6
comp=Z,81nm,1.3s,mb5.7							
FRF	La Foret Royal	84.51	2	eP	P	07 06 06.8	+0.7
comp=Z,31nm,0.8s,mb5.2							
SJPF	Ste Jean	84.52	8	eP	P	07 06 06.4	+0.3
MTLF	Montolieu	84.54	6	eP	P	07 06 06.9	+0.6
comp=Z,38nm,1.1s,mb5.1							
MTLF	Montolieu	84.54	6	eP	P	07 06 06.9	+0.6
comp=Z,19nm,1.1s,mb5.1							
MTLF	Montolieu	84.54	6	eP	P	07 06 06.9	+0.6
MTLF				pmax	pmax		
comp=Z,19nm,1.1s,mb5.1							
EPF	Esparros	84.72	7	eP	P	07 06 07.2	0.0
comp=Z,17nm,0.9s,mb4.9							
EPF	Esparros	84.72	7	eP	P	07 06 07.2	0.0
comp=Z,8.6nm,0.9s,mb4.9							
EPF	Esparros	84.72	7	eP	P	07 06 07.2	0.0
EPF				pmax	pmax		
comp=Z,9.0nm,0.9s,mb4.9							
LMR	La Mourre	84.73	2	eP	P	07 06 08.1	+0.9
ETSF	Etsaut	84.78	8	eP	P	07 06 07.6	+0.1
comp=Z,37nm,1.2s,mb5.1							
ETSF	Etsaut	84.78	8	eP	P	07 06 07.6	+0.1
comp=Z,18nm,1.2s,mb5.1		

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ	**Hachijo jima 2**	**13.41**	**217**	LR	LR	07 06 15.3	
	comp=Z,622nm,20.3s,baz=288,slow=35						
SONM	**Songino Array**	**29.82**	**292**	P	P	07 04 31.9	+0.1
	0.8nm,0.6s,baz=82,slow=7.9,SNR=2.5						
ZALV	**Zalesovo Beam**	**42.03**	**307**	P	P	07 06 16.0	-0.2
	0.3nm,0.3s,baz=77,slow=7.8,SNR=2.1						
MKAR	**Makanchi Array**	**45.83**	**298**	P	P	07 06 47.1	+0.3
	0.9nm,0.7s,baz=35,slow=15,SNR=3.6						
FINES	**FINESS Array B**	**65.19**	**334**	P	P	07 09 06.0	+0.1
	4.3nm,0.9s,baz=59,slow=7.4,SNR=5.8						
NOA	**NORSAR Array B**	**69.74**	**340**	P	P	07 09 34.8	+0.2
	3.4nm,0.8s,baz=31,slow=6.2,SNR=10						
AKASG	**Malin Array Be**	**72.16**	**325**	P	P	07 09 49.3	-0.2
	0.2nm,0.3s,baz=35,slow=5.6,SNR=4.2						

NIED ***02*** *06:58:00, 44.40N×149.40E, h23km, Mw5.1 Best double couple: M0:4.45000×10^16 NP1:φ0=47.00000°, δ62.00000°, λ103.00000°. NP2:φ0=200.00000°, δ30.00000°, λ66.00000°.*
BGS ***02*** *06:58:44.0±2.0, 43.61N×150.49E, h33km, mb5.2*
JMA ***02*** *06:58:46.4±0.6, 44.37N×149.44E, h30km, M5.3*
ISCJB ***02*** *06:58:48.9±0.2, 44.16N±0.003×149.15E±0.003, h45km, mb5.1/168, MS4.9/17, Error ellipse: s-maj=5.0km s-min=2.2km az=160.8*
MOS ***02*** *06:58:48.0±1.2, 44.41N×149.24E, h35km, mb5.2/82, MS5.0/15, Error ellipse: s-maj=8.2km s-min=7.1km az=111.7*
BJI ***02*** *06:58:48.6, 44.29N×149.08E, h37km, mB5.3, mb5.1, Ms4.9, Msz4.8*
IDC ***02*** *06:58:48.2±4.1, 44.32N×149.17E, h25km±27km, mb4.4/20, mb1 4.6/23, mb1mx4.5/27, mbtmp4.4/23, ML3.9/3, MS4.8/2, Ms1 4.8/2, ms1mx3.8/29, Error ellipse: s-maj=15.5km s-min=12.1km az=140.0*
SKHL ***02*** *06:58:51.5±0.7, 44.60N×149.10E, h79km±27km, mb5.0/8, ms5.1/5*
NEIC ***02*** *06:58:51.5±0.2, 44.31N×149.17E, mb5.1/99, Error ellipse: s-maj=6.0km s-min=3.0km az=170.0*
SZGRF ***02*** *06:58:52.2, 44.62N×149.44E, h46km, mb5.4, Kuril Islands, Russia*

ISC 02 06:58:51.0±0.2, 44.20N±0.003×149.11E±0.003, h47km, h47km±1.0km: pP-P, n578, σ0=99/586, mb5.1/168, MS4.9/17, 47C-13D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.36**	**320**	*i* PN	**Sn**	**06 59 29.0**	**-1.5**
KUR	**Kuril'sk**	**1.36**	**320**	⇑*i*P	**Pn**	**06 59 12.7**	**-0.9**
KUR				AMB	AMB	06 59 21.8	
	380nm,0.5s						
KUR				*e*S	**Sn**	**06 59 29.0**	**-1.5**
KUR				A		06 59 35.0	
	68μm,2.0s						
KUR				A		06 59 35.0	
	48μm,2.0s						
YUK	**Yuzh-Kuril'sk**	**2.35**	**267**	*e*PN	**Pn**	**06 59 26.0**	**-1.1**
YUK				pmax	pmax		
	comp=Z,5μm,1.8s						
YUK				pmax	pmax		
	comp=Z,8μm,0.5s						
YUK				MLR	MLR		
	comp=Z,24μm,19.0s						
YUK				MLR	MLR		
	comp=N,15μm,18.0s						
YUK				MLR	MLR		
	comp=E,24μm,13.0s						
NEM2	**Nemuro 2**	**2.58**	**252**	P	**Pn**	**06 59 29.1**	**-1.2**
NEM2				*e*S	**Sn**	**07 00 00.5**	**+0.1**
JRA	**Rausu**	**2.89**	**266**	P	**Pn**	**06 59 34.8**	**+0.3**
JNK	**Nakash**	**3.24**	**261**	P	**Pn**	**06 59 38.9**	**-0.4**
JAK	**Akkeshi**	**3.43**	**251**	P	**Pn**	**06 59 40.8**	**-1.1**
JTKR	**Abashiri--Toko**	**3.76**	**268**	P	**Pn**	**06 59 47.0**	**+0.6**
JAR	**Ashorobuto**	**3.98**	**259**	P	**Pn**	**06 59 49.5**	**+0.1**
JMP	**Maruseppu**	**4.15**	**269**	P	**Pn**	**06 59 52.7**	**+0.9**
JCH	**Churui**	**4.48**	**251**	P	**Pn**	**06 59 56.4**	**+0.1**
JCH				*e*S	**Sn**	**07 00 46.4**	**-0.7**
JKK2	**Kamakawa 2**	**4.60**	**268**	P	**Pn**	**06 59 59.2**	**+1.2**
ASAJ	**Asahikawa**	**4.69**	**271**	P	**Pn**	**07 00 00.5**	**+1.3**
ASAJ	**Asahikawa**	**4.69**	**271**	Pn	**Pn**	**07 00 01.1**	**+1.9**
	comp=E,5.8nm,0.3s,baz=103,slow=6.9,SNR=14						
ASAJ				LR	LR	07 02 06.7	
	comp=E,12μm,20.2s,baz=305,slow=42						
JFR	**Furan**	**4.84**	**260**	P	**Pn**	**07 00 02.5**	**+1.2**
ERM	**Erimo**	**4.88**	**245**	Pn	**Pn**	**07 00 03.6**	**+1.8**
	comp=E,2μm,0.7s,SNR=8.2						
JEM	**Erimo**	**4.88**	**245**	P	**Pn**	**07 00 02.3**	**+0.5**
JNBK	**Urakawa-nobuka**	**5.03**	**250**	P	**Pn**	**07 00 03.6**	**-0.3**
JBT2	**Biratori 2**	**5.11**	**256**	P	**Pn**	**07 00 05.4**	**+0.4**
YSS	**Yuzh-Sakhalins**	**5.24**	**304**	*e*P	**Pn**	**07 00 08.6**	**+1.8**
YSS	**Yuzh-Sakhalins**	**5.24**	**304**	⇑*i*PN	**Pn**	**07 00 07.2**	**+0.4**
YSS				pmax	pmax		
	comp=Z,30nm,1.0s						
YSS				MLR	MLR		
	comp=Z,9μm,17.0s						
YSS				MLR	MLR		
	comp=N,4μm,16.0s						
YSS				MLR	MLR		
	comp=E,8μm,16.0s						
YSS	**Yuzh-Sakhalins**	**5.24**	**304**	⇑*i*P	**Pn**	**07 00 07.2**	**+0.4**
YSS				AMB	AMB	07 00 08.6	
	comp=E,30nm,1.0s						
YSS				*e*S	**Sn**	**07 01 03.4**	**-2.5**
YSS				A		07 01 13.7	
	comp=E,240nm,0.9s						
YSS				*e*LQ		07 01 22.0	
YSS				*e*LR	LR	07 01 50.0	
YSS				AMS	AMS	07 02 20.0	
	comp=E,9μm,17.0s						
YSS				AMS	AMS	07 02 20.0	
	comp=E,4μm,16.0s						
YSS				AMS	AMS	07 02 20.0	
	comp=E,8μm,16.0s						
JWK2	**Keihoku**	**5.26**	**285**	P	**Pn**	**07 00 10.3**	**+3.3**
JEW	**Eniwo**	**5.74**	**259**	P	**Pn**	**07 00 14.9**	**+1.3**
JNB	**Noboribetsu**	**6.14**	**256**	P	**Pn**	**07 00 19.3**	**+0.2**
JNB				*e*S	**Sn**	**07 01 28.2**	**+0.3**
JKB	**Kayabe**	**6.36**	**251**	P	**Pn**	**07 00 21.5**	**-0.6**
JKB				*e*S	**Sn**	**07 01 30.6**	**-2.7**
JOT	**Ohata**	**6.57**	**247**	P	**Pn**	**07 00 23.8**	**-1.2**
JOT				*e*S	**Sn**	**07 01 35.1**	**-3.4**
JYM2	**Yakumo 2**	**6.72**	**255**	P	**Pn**	**07 00 27.2**	**+0.1**
JSH	**Shimam**	**6.79**	**260**	P	**Pn**	**07 00 28.3**	**+0.4**
JANG	**Nango**	**6.81**	**238**	P	**Pn**	**07 00 25.4**	**-2.9**
JANG				*e*S	**Sn**	**07 01 37.8**	**-6.6**
JTM	**Tenmabayashi**	**6.86**	**243**	P	**Pn**	**07 00 27.4**	**-1.5**
JTM				*e*S	**Sn**	**07 01 38.7**	**-6.9**
JTH	**Tanohata**	**6.87**	**234**	P	**Pn**	**07 00 25.8**	**-3.3**
JTH				*e*S	**Sn**	**07 01 35.9**	**-10**
UGL	**Uglegorsk**	**6.88**	**318**	*e*PN	**Pn**	**07 00 32.0**	**+2.8**
UGL				pmax	pmax		
	comp=Z,160nm,1.0s						
UGL				MLR	MLR		
	comp=N,9μm,17.0s						
UGL				MLR	MLR		
	comp=Z,11μm,17.0s						
UGL				MLR	MLR		
	comp=E,4μm,16.0s						
UGL	**Uglegorsk**	**6.88**	**318**	*e*P	**Pn**	**07 00 32.0**	**+2.8**
UGL				AMB	AMB	07 00 35.0	
	comp=E,160nm,1.0s						
UGL				*e*L		07 02 42.0	
UGL				AMS	AMS	07 03 30.0	
	comp=E,4μm,16.0s						
UGL				AMS	AMS	07 03 30.0	
	comp=E,9μm,17.0s						
UGL				AMS	AMS	07 03 30.0	
	comp=E,11μm,17.0s						
JSR	**Shiriuchi**	**6.92**	**250**	P	**Pn**	**07 00 29.4**	**-0.5**
JSR				*e*S	**Sn**	**07 01 44.4**	**-2.9**
JOSM	**Okushiri--Mats**	**7.36**	**257**	P	**Pn**	**07 00 36.0**	**+0.2**
JOM	**Ohasama**	**7.51**	**234**	P	**Pn**	**07 00 35.6**	**-2.3**
JOM				*e*S	**Sn**	**07 01 54.3**	**-7.3**
OFUJ	**Ofunato**	**7.56**	**230**	P	**Pn**	**07 00 35.5**	**-3.2**
OFUJ				*e*S	**Sn**	**07 01 54.9**	**-8.1**
JRG	**Rokugo**	**7.95**	**236**	P	**Pn**	**07 00 42.4**	**-1.5**
JRG				*e*S	**Sn**	**07 02 07.6**	**-4.8**
TYV	**Tymovskoe**	**7.97**	**329**	*e*P	**Pn**	**07 00 44.2**	**+0.1**
TYV				AMB	AMB	07 00 51.8	
	comp=E,24nm,1.0s						
TYV				AMB	AMB	07 00 51.8	
	comp=E,70nm,1.0s						
TYV				AMB	AMB	07 00 51.8	
	comp=E,172nm,1.0s						
SKR	**Severo-Kuril's**	**8.03**	**34**	*e*P	**Pn**	**07 00 40.0**	**-5.0**
SKR				AMB	AMB	07 00 43.0	
	comp=E,70nm,0.4s						
SKR				AMS	AMS	07 05 16.0	
	comp=E,5μm,14.0s						
SKR				AMS	AMS	07 05 16.0	
	comp=E,10μm,14.0s						
SKR				AMS	AMS	07 05 16.0	
	comp=E,5μm,14.0s						
SKR				AMS	AMS	07 05 16.0	
	comp=E,11μm,14.0s						
SKR				AMS	AMS	07 05 16.0	
	comp=E,9μm,14.0s						
JIO	**Ouri**	**8.19**	**228**	P	**Pn**	**07 00 43.4**	**-3.8**
JIO				*e*S	**Sn**	**07 02 08.7**	**-10**
TEY	**Ternei**	**8.96**	**280**	*e*P	**Pn**	**07 00 57.5**	**-0.3**
JYA	**Atsumi**	**9.01**	**235**	P	**Pn**	**07 00 56.2**	**-2.3**
JYA				*e*S	**Sn**	**07 02 32.1**	**-6.4**
JFK	**Kawauchi**	**9.25**	**225**	*e*S	**Sn**	**07 02 34.7**	**-10**
OKH	**Okha**	**10.20**	**339**	*e*P	**Pn**	**07 01 15.8**	**+1.2**
OKH				AMB	AMB	07 01 16.5	
	comp=E,200nm,1.0s						
OKH				*e*L		07 04 08.0	
OKH				AMS	AMS	07 05 22.2	
	comp=E,7μm,15.0s						
OKH				AMS	AMS	07 05 22.2	
	comp=E,5μm,16.0s						
OKH				AMS	AMS	07 05 22.2	
	comp=E,6μm,20.0s						
NKL	**Nikolayevsk**	**10.54**	**331**	*i* P	**Pn**	**07 01 16.0**	**-3.3**
NKL				AMB	AMB	07 01 21.0	
	comp=E,22nm,1.0s						
NKL				AMB	AMB	07 01 21.0	
	comp=E,60nm,1.0s						
NKL				*e*L		07 04 15.0	
NKL				AMS	AMS	07 05 26.0	
	comp=E,1μm,14.0s						
NKL				AMS	AMS	07 05 26.0	
	comp=E,3μm,18.0s						
NKL				AMS	AMS	07 05 26.0	
	comp=E,4μm,18.0s						
HABR	**Khabarovsk**	**10.62**	**299**	*e*PN	**Pn**	**07 01 21.8**	**+1.4**
HABR				*e*S	**Sn**	**07 03 23.3**	**+5.5**
HABR				pmax	pmax		
	comp=Z,21nm,0.7s						
PET	**Petropavlovsk**	**10.85**	**32**	*e*P	**Pn**	**07 01 19.3**	**-4.2**
MAJO	**Matsushiro**	**11.29**	**231**	*e*P	**Pn**	**07 01 31.1**	**+1.4**
MAT	**Matsushiro**	**11.29**	**231**	P	**Pn**	**07 01 26.8**	**-2.9**
MAT				S	**Sn**	**07 03 40.3**	**+5.9**
MJAR	**Matsushiro Arr**	**11.29**	**231**	Pn	**Pn**	**07 01 27.5**	**-2.2**
MJAR	**Matsushiro Arr**	**11.29**	**231**	PN	**Pn**	**07 01 27.5**	**-2.2**
MJAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MJAR	**Matsushiro Arr**	**11.29**	**231**	Pn	**Pn**	**07 01 27.5**	**-2.2**
	comp=Z,0.9nm,0.3s,baz=29,slow=13,SNR=12						
JOD2	**Odawara 2**	**11.79**	**224**	*e*S	**Sn**	**07 03 38.0**	**-8.6**
VLA	**Vladivostok**	**12.52**	**271**	*e*PN	**Pn**	**07 01 43.9**	**-2.5**
VLA				pmax	pmax		
	comp=Z,54nm,1.3s						
VLA				MLR	MLR		
	comp=Z,5μm,18.9s						
KLR	**Kul'dur**	**12.93**	**299**	*e*PN	**Pn**	**07 01 51.8**	**-0.1**
MDJ	**Mudanjiang**	**13.96**	**279**	P	**Pn**	**07 02 05.4**	**-0.7**
MDJ				AMB	AMB		
	comp=Z,46nm,1.0s						
MDJ				AMB	AMB		
	comp=Z,550nm,10.3s						
MDJ				LR	LR		
	comp=N,2μm,16.8s						
MDJ				LR	LR		
	comp=E,2μm,17.2s						
MDJ				LR	LR		
	comp=Z,3μm,18.6s						
MDJ	**Mudanjiang**	**13.96**	**279**	*e*P	**Pn**	**07 02 05.5**	**-0.6**
	comp=Z,52nm,1.0s						
MA2	**Magadan**	**15.43**	**3**	*e*Pn	**Pn**	**07 02 23.3**	**-2.0**
MA2	**Magadan**	**15.43**	**3**	*e*P	**Pn**	**07 02 21.8**	**-3.5**
MA2				*e*S	S	07 05 08.8	-20
MA2				pmax	pmax		
	comp=Z,20nm,1.0s						
MA2				MLR	MLR		
	comp=Z,2μm,16.4s						
CN2	**Changchun**	**17.02**	**277**	*e*P	**Pn**	**07 02 43.1**	**-2.5**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.8s						
CN2				LR	LR		
	comp=N,2μm,17.0s						
CN2				LR	LR		
	comp=E,3μm,17.0s						
CN2				LR	LR		
	comp=Z,4μm,17.0s						
ZEA	**Zeya**	**17.17**	**311**	*e*P	**Pn**	**07 02 43.5**	**-3.8**
ZEA				AMB	AMB	07 02 45.9	
	comp=Z,35nm,1.0s						
ZEA				AMB	AMB	07 02 45.9	
	comp=Z,24nm,1.0s						
ZEA				AMB	AMB	07 02 45.9	
	comp=Z,41nm,1.0s						
ZEA				AMS	AMS	07 03 28.0	
	comp=Z,2μm,17.0s						
ZEA				AMS	AMS	07 03 28.0	
	comp=Z,900nm,16.0s						
ZEA				AMS	AMS	07 03 28.0	
	comp=Z,2μm,15.0s						
KSRS	**Korea Array**	**17.37**	**254**	P	**Pn**	**07 02 48.8**	**-1.2**
	comp=Z,0.4nm,0.3s,baz=62,slow=11,SNR=11						
JNU	**Nakatsue**	**17.99**	**238**	P	**Pn**	**07 02 57.5**	**0.0**
	comp=Z,0.3nm,0.3s,baz=281,slow=15,SNR=4.5						
JNU				LR	LR	07 11 04.8	
	comp=Z,2μm,18.8s,baz=24,slow=41						
INCN	**Inchon**	**18.26**	**256**	*e*P	**Pn**	**07 03 01.9**	**+1.1**
SNY	**Shenyang**	**18.80**	**272**	⇓P	**Pn**	**07 03 07.5**	**+0.2**
SNY				S	**S**	**07 06 31.6**	**-6.1**
SNY				AMB	AMB		
	comp=Z,63nm,0.9s						
SNY				LR	LR		
	comp=N,2μm,15.3s						
SNY				LR	LR		
	comp=E,2μm,19.5s						
SNY				LR	LR		
	comp=Z,3μm,19.2s						
SEY	**Seymchan**	**18.86**	**5**	*e*P	**Pn**	**07 03 04.4**	**-3.5**
CLNS	**Chul'man**	**19.79**	**318**	*e*P	**Pn**	**07 03 19.5**	**+0.5**
CLNS				pmax	pmax		
	comp=Z,30nm,0.9s						
CLNS				pmax	pmax		
	comp=N,23nm,1.1s						
CLNS				pmax	pmax		
	comp=E,21nm,0.8s						
CLNS				MLR	MLR		
	comp=N,3μm,16.0s						
CLNS				MLR	MLR		
	comp=Z,5μm,16.0s						
CLNS				MLR	MLR		
	comp=E,2μm,15.0s						
HIA	**Hailar**	**20.69**	**295**	*e*P	**P**	**07 03 22.7**	**-4.2**
	comp=E,17nm,0.8s						
HIA	**Hailar**	**20.69**	**295**	*e*P	**P**	**07 03 22.7**	**-4.2**
HIA				pmax	pmax		
	comp=Z,17nm,0.8s						
YAK	**Yakutsk**	**21.18**	**334**	*e*P	**P**	**07 03 29.8**	**-2.3**
YAK	**Yakutsk**	**21.18**	**334**	*e*P	**P**	**07 03 29.3**	**-2.7**
YAK				*e*		07 03 46.1	
YAK				*e*S	**S**	**07 07 20.6**	**-4.0**
YAK				*e*		07 07 38.4	
YAK				*e*SS		07 07 55.8	
YAK				*e*		07 14 51.2	
YAK				pmax	pmax		
	comp=Z,83nm,1.0s,mb5.0						
YAK				pmax	pmax		
	comp=N,32nm,1.2s						
YAK				pmax	pmax		
	comp=E,27nm,1.2s						
YAK				smax			
	comp=N,105nm,2.2s						
YAK				smax			
	comp=E,89nm,2.2s						
YAK				smax			
	comp=Z,79nm,1.8s						
YAK				MLR	MLR		
	comp=E,2μm,18.0s,MS4.6						
YAK				MLR	MLR		
	comp=Z,2μm,18.0s,MS4.6						
YAK				MLR	MLR		
	comp=N,2μm,17.0s,MS4.6						
DL2	**Dalian**	**21.19**	**265**	P	**P**	**07 03 32.4**	**0.0**
DL2				AP		07 03 44.7	
DL2				*e*S	**S**	**07 07 22.9**	**-2.4**
DL2				AMB	AMB		
	comp=Z,40nm,0.8s,mb4.8						
DL2				AMB	AMB		
	comp=Z,200nm,5.6s						
DL2				LR	LR		
	comp=N,930nm,17.7s,MS4.4						
DL2				LR	LR		
	comp=E,1μm,18.4s,MS4.4						
DL2				LR	LR		
	comp=Z,1μm,16.8s,MS4.3						
BJI	**Beijing**	**24.69**	**272**	P	**P**	**07 04 07.8**	**+0.4**
BJI				AMB	AMB		
	comp=Z,49nm,1.2s,mb4.9						
BJI				AMB	AMB		
	comp=Z,578nm,5.2s						
BJI	**Beijing**	**24.69**	**272**	P	**P**	**07 04 07.8**	**+0.4**
	comp=Z,49nm,1.2s,mb4.9						
BJT	**Baijiatuau**	**24.70**	**272**	*e*P	**P**	**07 04 07.8**	**+0.2**
	comp=Z,73nm,1.0s,mb5.2						
BJT	**Baijiatuau**	**24.70**	**272**	*e*P	**P**	**07 04 07.8**	**+0.2**
BJT				pmax	pmax		
	comp=Z,73nm,1.0s						
CIT	**Chita**	**24.80**	**301**	*e*P	**P**	**07 04 06.9**	**-1.4**
BILL	**Bilibino**	**25.55**	**15**	*e*P	**P**	**07 04 11.4**	**-3.5**
	comp=Z,12nm,0.8s,mb4.5						
BILL	**Bilibino**	**25.55**	**15**	⇑*i*P	**P**	**07 04 11.9**	**-3.0**
BILL				*e*		07 04 46.0	
BILL				*e*		07 07 45.4	
BILL				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.2						
TIA	**Tai'an**	**25.58**	**263**	*e*P	**P**	**07 04 16.0**	**+0.4**
TIA				AMB	AMB		
	comp=Z,47nm,0.9s,mb5.0						
BOD	**Bodaibo**	**25.61**	**315**	*e*P	**P**	**07 04 11.9**	**-3.7**
BOD				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.4						
NJ2	**Nanjing**	**26.56**	**253**	*e*P	**P**	**07 04 26.9**	**+2.4**
NJ2				PP		07 05 09.4	
NJ2				S	**S**	**07 08 54.0**	**-1.7**
NJ2				AMB	AMB		
	comp=Z,80nm,1.2s,mb5.1						
NJ2				AMB	AMB		
	comp=Z,1μm,5.2s						
NJ2				LR	LR		
	comp=N,3μm,14.4s,MS4.9						
NJ2				LR	LR		
	comp=E,1μm,15.1s,MS4.9						
NJ2				LR	LR		
	comp=Z,3μm,16.1s,MS4.9						
HHC	**Hu-ho-hao-te**	**27.72**	**276**	*e*P	**P**	**07 04 35.5**	**+0.7**
HHC				AP	pP	07 04 49.8	+2.8
HHC				PP		07 05 25.6	
HHC				S	**S**	**07 09 13.8**	**0.0**
HHC				SS		07 10 32.7	
HHC				PCS	PcS	07 11 33.1	+0.7
HHC				AMB	AMB		
	comp=Z,63nm,1.1s,mb5.2						
HHC				AMB	AMB		
	comp=Z,647nm,12.9s						
HHC				LR	LR		
	comp=N,999nm,13.7s						
HHC				LR	LR		
	comp=E,2μm,19.0s						
HHC				LR	LR		
	comp=Z,2μm,17.9s,MS4.8						
BTO	**Baotou**	**28.90**	**277**	*e*P	**P**	**07 04 45.9**	**+0.6**
ULN	**Ulaanbaatar**	**29.17**	**292**	*e*P	**P**	**07 04 48.0**	**+0.4**
	comp=Z,12nm,0.8s,mb4.7						
ULN	**Ulaanbaatar**	**29.17**	**292**	*e*P	**P**	**07 04 48.0**	**+0.4**
ULN				pmax	pmax		
	comp=Z,12nm,0.8s,mb4.7						
TIXI	**Tiksi**	**29.22**	**347**	⇑*e*P	**P**	**07 04 44.3**	**-3.5**
TIXI				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.4						
SONM	**Songino Array**	**29.61**	**292**	P	**P**	**07 04 52.1**	**+0.6**
SONM				pmax	pmax		
	comp=Z,11nm,0.8s						
SONM	**Songino Array**	**29.61**	**292**	P	**P**	**07 04 52.1**	**+0.6**
	comp=Z,11nm,0.8s,mb4.6,baz=79,slow=8.2,SNR=20						
WHN	**Wuhan**	**30.56**	**255**	*e*P	**P**	**07 05 01.4**	**+1.3**
WHN				LR	LR		
	comp=Z,4μm,17.0s,MS5.2						
TLY	**Talaya**	**30.94**	**300**	*e*P	**P**	**07 05 03.2**	**0.0**
	comp=Z,7.8nm,1.2s,mb4.4						
TLY	**Talaya**	**30.94**	**300**	*e*P	**P**	**07 05 03.0**	**-0.2**
TLY				*e*S	**S**	**07 10 05.2**	**+1.1**
TLY				pmax	pmax		
	comp=Z,11nm,1.4s,mb4.5						
TLY				MLR	MLR		
	comp=Z,3μm,17.0s,MS5.0						
ZAK	**Zakamensk**	**31.29**	**298**	⇓*i*P	**P**	**07 05 06.3**	**0.0**
ZAK				pmax	pmax		
	comp=Z,6.0nm,1.4s,mb4.2						
TNA	**Tin City**	**31.71**	**33**	*e*P	**P**	**07 05 09.2**	**-0.6**
XAN	**Xi'an**	**32.51**	**266**	P	**P**	**07 05 16.9**	**-0.3**
XAN				AP	pP	07 05 26.5	-3.0
XAN				AMB	AMB		
	comp=Z,20nm,1.0s,mb5.0						
XAN				LR	LR		
	comp=N,378nm,19.0s,MS4.6						
XAN				LR	LR		
	comp=E,1μm,17.9s,MS4.6						
XAN				LR	LR		
	comp=Z,1μm,18.1s,MS4.6						
MOY	**Mondy**	**32.59**	**301**	*e*P	**P**	**07 05 17.9**	**+0.2**
LZH	**Lanzhou**	**35.17**	**273**	⇑P	**P**	**07 05 41.6**	**+1.3**
LZH				AP	pP	07 05 55.2	+2.5
LZH				XP	sP	07 06 00.5	+2.2
LZH				PP	PP	07 06 59.5	-1.1
LZH				*e*S	**S**	**07 11 09.0**	**-1.1**
LZH				XS	sS	07 11 31.2	+0.3
LZH				SS	SS	07 13 26.5	-18
LZH				AMB	AMB		
	comp=Z,183nm,1.2s,mb5.9						
LZH				AMB	AMB		
	comp=Z,330nm,4.0s						
LZH				LR	LR		
	comp=E,2μm,14.8s						
LZH				LR	LR		
	comp=Z,3μm,15.1s,MS5.1						
LZH	**Lanzhou**	**35.17**	**273**	⇑P	**P**	**07 05 41.6**	**+1.3**
	comp=Z,183nm,1.2s,mb5.9						
LZH				pP	pP	07 05 55.2	+2.5
LZH				sP	sP	07 06 00.5	+2.2
LZH				PP	PP	07 06 59.5	-1.1
LZH				*e*S	**S**	**07 11 09.0**	**-1.1**
LZH				sS	sS	07 11 31.2	+0.3
LZH				SS	SS	07 13 26.5	-18
LZH				LR	LR		
	comp=Z,3μm,15.1s,MS5.1						
LZH	**Lanzhou**	**35.17**	**273**	⇑P	**P**	**07 05 41.6**	**+1.3**
LZH				*PP	pP	07 05 55.2	+2.5
LZH						07 06 59.5	
LZH				*e*S	**S**	**07 11 09.0**	**-1.1**
LZH				SS	SS	07 13 26.5	-18
LZH				pmax	pmax		
	comp=Z,183nm,1.2s,mb5.9						
LZH				MLR	MLR		
	comp=Z,3μm,15.1s,MS5.1						
TTA	**Tatalina**	**36.19**	**39**	*e*P	**P**	**07 05 48.9**	**+0.2**
SVW2	**Sparrevohn**	**36.28**	**42**	*e*P	**P**	**07 05 54.6**	**+5.1**
GTA	**Gaotai**	**36.62**	**280**	⇑P	**P**	**07 05 53.7**	**+1.1**
GTA				AP	pP	07 06 06.1	+1.0
GTA				XP	sP	07 06 11.7	+1.1
GTA				PP	PP	07 07 18.3	+1.8
GTA				PCP	PcP	07 08 16.8	+2.0
GTA				S	**S**	**07 11 31.3**	**-0.8**
GTA				XS	sS	07 11 51.8	-1.2
GTA				SS	SS	07 13 58.5	-15
GTA				AMB	AMB		
	comp=Z,35nm,1.5s,mb5.0						
GTA				AMB	AMB		
	comp=Z,258nm,6.1s						
GTA				LR	LR		
	comp=N,1μm,16.4s,MS4.9						
GTA				LR	LR		
	comp=E,1μm,16.7s,MS4.9						
GTA				LR	LR		
	comp=Z,2μm,16.7s,MS4.9						
IMA2	**Indian Mountai**	**37.51**	**34**	*e*P	**P**	**07 05 59.5**	**-0.4**

CD2	**Chengdu**	**37.86**	**265**	⇓*i*P	**P**	**07 06 03.7**	**+0.5**
CD2				AP	pP	07 06 17.5	+1.7
CD2				XP	sP	07 06 23.5	+2.2
CD2				PP	PP	07 07 33.8	+3.5
CD2				S	**S**	**07 11 51.1**	**-0.1**
CD2				XS	sS	07 12 13.5	+1.4
CD2				SS	SS	07 14 28.1	-10
CD2				AMB	AMB		
	comp=Z,110nm,1.2s,mb5.5						
CD2				AMB	AMB		
	comp=Z,210nm,10.0s						
CD2				LR	LR		
	comp=N,1µm,16.8s,MS4.8						
CD2				LR	LR		
	comp=E,890nm,18.0s,MS4.8						
CD2				LR	LR		
	comp=Z,1µm,19.2s,MS4.6						
KDAK	**Kodiak Island**	**37.90**	**48**	*e*P	**P**	**07 06 01.1**	**-2.2**
	comp=Z,17nm,0.8s,mb4.8						
KDAK	**Kodiak Island**	**37.90**	**48**	P	**P**	**07 06 01.2**	**-2.0**
	comp=Z,13nm,0.8s,mb4.7,baz=297,slow=3.3,SNR=9.8						
GYA	**Guiyang**	**38.41**	**257**	P	**P**	**07 06 10.2**	**+2.3**
GYA				AP	pP	07 06 24.5	+4.1
GYA				PP	PP	07 07 42.3	+6.0
GYA				PCP	PcP	07 08 23.9	+3.4
GYA				S	**S**	**07 12 01.0**	**+1.5**
GYA				AMB	AMB		
	comp=Z,20nm,0.8s,mb4.9						
GYA				AMB	AMB		
	comp=Z,120nm,4.6s						
GYA				LR	LR		
	comp=N,540nm,17.7s,MS4.6						
GYA				LR	LR		
	comp=E,680nm,18.4s,MS4.6						
GYA				LR	LR		
	comp=Z,590nm,18.8s,MS4.4						
PMR	**Palmer**	**39.38**	**42**	*e*P	**P**	**07 06 13.8**	**-1.8**
PMR				*es*P	sP	07 06 28.7	-5.0
MCK	**McKinley**	**39.41**	**38**	*e*P	**P**	**07 06 14.4**	**-1.4**
	comp=Z,24nm,1.0s,mb4.9						
MCK	**McKinley**	**39.41**	**38**	*e*P	**P**	**07 06 14.4**	**-1.4**
MCK				pmax	pmax		
	comp=Z,24nm,1.0s,mb4.9						
SML	**Sawmill**	**39.75**	**41**	*e*P	**P**	**07 06 17.4**	**-1.3**
COLA	**College**	**39.87**	**36**	*e*P	**P**	**07 06 19.8**	**+0.2**
	comp=Z,32nm,1.0s,mb5.0						
COLA	**College**	**39.87**	**36**	*e*P	**P**	**07 06 19.8**	**+0.1**
COLA				pmax	pmax		
	comp=Z,32nm,1.0s,mb5.0						
ZALV	**Zalesovo Beam**	**41.86**	**307**	P	**P**	**07 06 34.8**	**-1.4**
	comp=Z,2.0nm,0.4s,mb4.1,baz=69,slow=8.5,SNR=5.7						
ZALV				PcP	PcP	07 08 31.1	-0.1
	comp=Z,11nm,0.8s,baz=69,slow=3.5,SNR=13						
ZALV				ScP	ScP	07 12 18.7	+1.3
	comp=Z,1.6nm,0.9s,baz=56,slow=5.6,SNR=3.7						
ZAL	**Zalesovo**	**41.87**	**307**	P	**P**	**07 06 34.8**	**-1.5**
ZAL						07 08 31.1	
KMI	**Kunming**	**42.00**	**259**	P	**P**	**07 06 38.4**	**+0.8**
KMI				AP	pP	07 06 51.6	+1.3
KMI				S	**S**	**07 12 53.5**	**+0.3**
KMI				AMB	AMB		
	comp=Z,39nm,1.2s,mb4.9						
KMI				LR	LR		
	comp=N,724nm,14.5s,MS4.8						
KMI				LR	LR		
	comp=E,776nm,15.8s,MS4.8						
KMI				LR	LR		
	comp=Z,1µm,15.5s,MS4.8						
KMI	**Kunming**	**42.00**	**259**	P	**P**	**07 06 38.4**	**+0.8**
	comp=Z,39nm,1.2s,mb4.9						
KMI				pP	pP	07 06 51.6	+1.3
KMI				S	**S**	**07 12 53.5**	**+0.3**
KMI				LR	LR		
	comp=Z,1µm,15.5s,MS4.8						
NVS	**Novosibirsk**	**42.55**	**309**	*e*P	**P**	**07 06 41.0**	**-0.7**
EGAK	**Eagle**	**42.73**	**36**	*e*P	**P**	**07 06 42.3**	**-0.8**
EGAK				*ep*P	pP	07 06 50.6	-5.2
EGAK				*es*P	sP	07 06 55.5	-5.8
WMQ	**Urumqi**	**43.24**	**292**	⇑*i*P	**P**	**07 06 48.3**	**+0.8**
WMQ				AP	pP	07 07 00.5	+0.3
WMQ				XP	sP	07 07 06.0	+0.3
WMQ				PCP	PcP	07 08 36.5	+0.5
WMQ				*e*S	**S**	**07 13 10.5**	**-0.6**
WMQ				AMB	AMB		
	comp=Z,76nm,1.0s,mb5.4						
WMQ				AMB	AMB		
	comp=Z,613nm,6.8s						
WMQ				LR	LR		
	comp=N,3µm,15.8s,MS5.4						
WMQ				LR	LR		
	comp=E,2µm,15.6s,MS5.4						
WMQ				LR	LR		
	comp=Z,2µm,18.2s,MS5.0						
DAWY	**Dawson**	**43.58**	**37**	*e*P	**P**	**07 06 49.4**	**-0.6**
DAWY				*ep*P	pP	07 07 03.4	+0.7
INK	**Inuvik**	**45.30**	**31**	*e*P	**P**	**07 07 03.6**	**0.0**
INK				*ep*P	pP	07 07 16.9	+0.5
INK	**Inuvik**	**45.30**	**31**	P	**P**	**07 07 03.3**	**-0.3**
	comp=Z,12nm,0.9s,mb4.7,baz=275,slow=8.1,SNR=15						
MKAR	**Makanchi Array**	**45.63**	**298**	P	**P**	**07 07 06.3**	**-0.2**
	comp=Z,20nm,0.8s,mb5.1,baz=54,slow=11,SNR=51						
KURK	**Kurchatov**	**46.45**	**304**	P	**P**	**07 07 13.4**	**+0.5**
	comp=Z,117nm,0.6s,mb6.0,SNR=6.2						
KURK	**Kurchatov**	**46.45**	**304**	*e*P	**P**	**07 07 12.7**	**-0.3**
	comp=Z,12nm,0.7s,mb4.9						
KURK				*ep*P	pP	07 07 26.6	+0.9
KURK	**Kurchatov**	**46.45**	**304**	*e*P	**P**	**07 07 12.7**	**-0.2**
KURK				*e**PP	pP	07 07 26.6	+0.9
KURK				pmax	pmax		
	comp=Z,12nm,0.7s,mb4.9						
LSA	**Lhasa**	**47.59**	**273**	P	**P**	**07 07 24.8**	**+2.7**
LSA				AMB	AMB		
	comp=Z,30nm,1.0s,mb5.3						
LSA	**Lhasa**	**47.59**	**273**	*e*P	**P**	**07 07 23.9**	**+1.8**
	comp=Z,13nm,0.8s,mb5.0						
LSA	**Lhasa**	**47.59**	**273**	*e*P	**P**	**07 07 23.9**	**+1.8**
LSA				pmax	pmax		
	comp=Z,13nm,0.8s,mb5.0						
CHTO	**Chiang Mai**	**48.77**	**255**	*e*P	**P**	**07 07 32.2**	**+0.9**
CHTO				*ep*P	pP	07 07 46.3	+2.1
CHTO	**Chiang Mai**	**48.77**	**255**	P	**P**	**07 07 32.5**	**+1.2**
	SNR=11						
CHTO	**Chiang Mai**	**48.77**	**255**	P	**P**	**07 07 32.5**	**+1.2**
	SNR=11						
DLBC	**Dease Lake**	**49.38**	**43**	*e*P	**P**	**07 07 35.5**	**0.0**
DLBC	**Dease Lake**	**49.38**	**43**	P	**P**	**07 07 35.4**	**-0.1**
	baz=297,slow=9.0						
CHKZ	**Chkalovo**	**49.93**	**310**	*i* P	**P**	**07 07 38.6**	**-1.1**
CHKZ				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.7						
BRVK	**Borovoye**	**50.36**	**310**	P	**P**	**07 07 43.0**	**+0.1**
	comp=Z,79nm,0.9s,mb5.7,SNR=5.3						
BRVK	**Borovoye**	**50.36**	**310**	*e*P	**P**	**07 07 43.0**	**+0.1**
BRVK				*e**PP	pP	07 07 53.2	-2.7
ULHL	**Ulahol**	**51.49**	**295**	P	**P**	**07 07 52.9**	**+1.3**
	SNR=13						
TKM2	**Tokmak 2**	**51.59**	**296**	*e*P	**P**	**07 07 53.5**	**+1.2**
	comp=Z,54nm,1.0s,mb5.4						
TKM2				*ep*P	pP	07 08 06.2	+0.9
TKM2	**Tokmak 2**	**51.59**	**296**	*e*P	**P**	**07 07 53.5**	**+1.1**
TKM2				*e**PP	pP	07 08 06.2	+0.9
TKM2				pmax	pmax		
	comp=Z,54nm,1.0s,mb5.4						
TKM2	**Tokmak 2**	**51.59**	**296**	P	**P**	**07 07 53.0**	**+0.7**
	SNR=34						
CHMS	**Chumysh**	**52.10**	**296**	P	**P**	**07 07 56.7**	**+0.6**
	SNR=7.3						
USP	**Ospenovka**	**52.13**	**297**	P	**P**	**07 07 57.1**	**+0.7**
	SNR=37						
KBK	**Karagaybulak**	**52.13**	**296**	P	**P**	**07 07 57.4**	**+1.0**
	SNR=36						
KZA	**Kyzart**	**52.22**	**295**	P	**P**	**07 07 59.1**	**+2.1**
	SNR=24						
FRU	**Bishkek**	**52.26**	**296**	*e*P	**P**	**07 07 58.0**	**+0.6**
FRU				*e*	pP	07 08 10.0	-0.4
FRU				pmax	pmax		
	comp=Z,100nm,1.6s,mb5.5						
FRU				MLR	MLR		
	comp=Z,1µm,16.0s,MS5.0						
AAK	**Ala-Archa**	**52.44**	**296**	P	**P**	**07 07 58.0**	**-0.7**
	comp=Z,226nm,1.1s,mb6.0,SNR=19						
AAK	**Ala-Archa**	**52.44**	**296**	*e*P	**P**	**07 07 58.5**	**-0.2**
	comp=Z,44nm,1.0s,mb5.3						
AAK	**Ala-Archa**	**52.44**	**296**	*e*P	**P**	**07 07 58.5**	**-0.2**
AAK				pmax	pmax		
	comp=Z,44nm,1.0s,mb5.3						
AAK	**Ala-Archa**	**52.44**	**296**	P	**P**	**07 07 59.5**	**+0.9**
	SNR=24						
UCH	**Uchtor**	**52.62**	**296**	*e*P	**P**	**07 08 01.7**	**+1.6**
	comp=Z,496nm,0.6s						
UCH				*ep*P	pP	07 08 15.4	+2.3
UCH	**Uchtor**	**52.62**	**296**	P	**P**	**07 08 00.3**	**+0.3**
	SNR=9.0						
EKS2	**Erkin-Say**	**52.89**	**297**	*e*P	**P**	**07 08 02.7**	**+0.7**
	comp=Z,52nm,0.9s,mb5.5						
EKS2				*ep*P	pP	07 08 15.4	+0.5
EKS2	**Erkin-Say**	**52.89**	**297**	P	**P**	**07 08 02.8**	**+0.8**
	SNR=26						
AML	**Almayashu**	**53.20**	**296**	*e*P	**P**	**07 08 05.9**	**+1.6**
	comp=Z,39nm,0.9s,mb5.3						
AML				*ep*P	pP	07 08 18.6	+1.3
AML	**Almayashu**	**53.20**	**296**	P	**P**	**07 08 05.9**	**+1.6**
	SNR=19						
RES	**Resolute Bay**	**54.12**	**17**	*e*P	**P**	**07 08 09.5**	**-1.1**
YKW3	**Yellowknife Ar**	**54.60**	**34**	*e*P	**P**	**07 08 13.6**	**-0.6**
YKA	**Yellowknife Ar**	**54.63**	**34**	P	**P**	**07 08 13.3**	**-1.2**
YKA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
YKA	**Yellowknife Ar**	**54.63**	**34**	P	**P**	**07 08 13.3**	**-1.2**
	comp=Z,2.1nm,0.8s,mb4.2,baz=291,slow=6.1,SNR=4.5						
KK31	**Karatay Array**	**54.75**	**298**	*i* P	**P**	**07 08 15.3**	**-0.3**
KK31				pmax	pmax		
	comp=Z,22nm,0.6s,mb5.4						
BOK	**Bokaro**	**54.87**	**270**	*ex*	x	07 09 12.8	
BOK				AMb	AMB	07 09 18.2	
	comp=Z,9.7nm,1.3s,mb4.7						
ARU	**Arti**	**54.98**	**317**	*e*P	**P**	**07 08 15.8**	**-1.3**
ARU	**Arti**	**54.98**	**317**	*d i*P	**P**	**07 08 16.2**	**-0.9**
ARU				*e*		07 10 14.4	
ARU				*e*S	**S**	**07 15 57.9**	**+2.6**
ARU				pmax	pmax		
	comp=Z,23nm,1.2s,mb5.1						
JOSI	**Joshimath**	**55.38**	**281**	*e*P	**P**	**07 08 21.2**	**+0.9**
JOSI				AMb	AMB	07 08 24.0	
	comp=Z,439nm,0.9s,mb6.5						
DDI	**Dehra Dun**	**56.57**	**281**	*e*P	**P**	**07 08 30.0**	**+1.1**
SMLA	**Simla**	**56.73**	**283**	*e*P	**P**	**07 08 30.3**	**+0.3**
SMLA				AMb	AMB	07 08 31.3	
	comp=Z,164nm,1.3s,mb5.9						
DLH	**Dalhousie**	**56.77**	**285**	*e*P	**P**	**07 08 30.0**	**-0.2**
THN	**Thein Dam**	**57.00**	**285**	*e*P	**P**	**07 08 30.5**	**-1.4**
KULM	**Kulim**	**57.41**	**242**	*e*P	**P**	**07 08 36.4**	**+1.4**
KULM				*ep*P	pP	07 08 51.5	+3.4
NLWA	**Neilton Lookou**	**57.64**	**53**	*ep*P	pP	07 08 52.4	+3.1
NDI	**New Delhi**	**58.12**	**280**	*e*P	**P**	**07 08 39.0**	**-0.8**
NDI				*e*P		07 08 39.9	
NDI				AMb	AMB	07 08 40.9	
	comp=Z,64nm,1.2s,mb5.5						
GNW	**Green Mountain**	**58.15**	**53**	*e*P	**P**	**07 08 41.0**	**+1.3**
GNW				*ep*P	pP	07 08 54.7	+1.8
AYAN	**Aya Nagar**	**58.31**	**280**	*e*P	**P**	**07 08 41.2**	**+0.1**
AYAN				AMb	AMB	07 08 42.8	
	comp=Z,32nm,0.9s,mb5.4						
AKTK	**Aktyubinsk**	**58.31**	**311**	P	**P**	**07 08 40.3**	**-0.5**
AKTO	**Aktyubinsk**	**58.31**	**311**	P	**P**	**07 08 40.3**	**-0.5**
AKTO				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.7						
AKTO	**Aktyubinsk**	**58.31**	**311**	P	**P**	**07 08 40.3**	**-0.5**
	comp=Z,6.4nm,0.7s,mb4.8,baz=56,slow=5.9,SNR=16						
AGRA	**Agra**	**58.47**	**279**	*e*P	**P**	**07 08 42.4**	**+0.2**
AGRA				AMb	AMB	07 08 43.0	
	comp=Z,53nm,0.4s,mb6.0						
SONA	**Sohna**	**58.47**	**280**	*e*P	**P**	**07 08 42.8**	**+0.5**
SONA				AMb	AMB	07 08 43.6	
	comp=Z,46nm,1.0s,mb5.5						
BLSP	**Bilaspur**	**58.60**	**271**	*e*P	**P**	**07 08 42.8**	**-0.4**
BLSP				AMb	AMB	07 08 43.8	
	comp=Z,28nm,1.1s,mb5.2						
KUDL	**Kundal**	**58.96**	**280**	*e*P	**P**	**07 08 46.2**	**+0.5**
KUDL				AMb	AMB	07 08 47.6	
	comp=Z,38nm,1.2s,mb5.3						
TMCR	**Tamitsa**	**59.26**	**332**	*e*P	**P**	**07 08 42.7**	**-4.5**
ARCES	**ARCESS Array B**	**59.31**	**340**	P	**P**	**07 08 45.4**	**-2.1**
ARCES				pmax	pmax		
	comp=Z,9.0nm,1.0s						
ARCES	**ARCESS Array B**	**59.31**	**340**	P	**P**	**07 08 45.4**	**-2.1**
	comp=Z,9.1nm,0.9s,mb4.8,baz=44,slow=7.4,SNR=10						
KHET	**Khetri**	**59.48**	**281**	*e*P	**P**	**07 08 49.6**	**+0.3**
KHET				AMb	AMB	07 08 50.4	
	comp=Z,16nm,0.7s,mb5.2						
EDM	**Edmonton**	**60.11**	**43**	*e*P	**P**	**07 08 52.3**	**-0.8**
KBL	**Kabul**	**60.36**	**291**	*e*P	**P**	**07 08 54.6**	**-0.6**
	comp=Z,20nm,0.7s,mb5.3						
HAWA	**Hanford**	**60.68**	**53**	*e*P	**P**	**07 08 57.4**	**+0.2**
	comp=Z,18nm,1.2s,mb5.1						
HAWA				*ep*P	pP	07 09 12.8	+2.3
NEW	**Newport**	**60.97**	**50**	*e*P	**P**	**07 08 56.8**	**-2.3**
	comp=Z,13nm,1.1s,mb5.0						
NEW				*ep*P	pP	07 09 07.8	-4.5
NEW				*es*P	sP	07 09 14.0	-3.6
NEW	**Newport**	**60.97**	**50**	*e*P	**P**	**07 08 56.8**	**-2.3**
NEW				*e**PP	pP	07 09 07.8	-4.5
NEW				*e**SP	sP	07 09 14.0	-3.7
NEW				pmax	pmax		
	comp=Z,13nm,1.1s						
NEW	**Newport**	**60.97**	**50**	P	**P**	**07 08 58.4**	**-0.7**
	comp=Z,0.9nm,0.5s,mb4.1,baz=350,slow=10,SNR=3.2						
AJM	**Ajmer**	**61.27**	**280**	*e*P	**P**	**07 09 02.1**	**+0.7**
AJM				AMb	AMB	07 09 03.2	
	comp=Z,50nm,0.9s,mb5.6						
BHPL	**Bhopal**	**61.29**	**275**	*e*P	**P**	**07 09 01.9**	**+0.3**
BHPL				AMb	AMB	07 09 02.6	
	comp=Z,47nm,1.3s,mb5.5						
YBH	**Yreka Blue Hor**	**61.45**	**58**	*e*P	**P**	**07 09 04.5**	**+2.0**
	comp=Z,15nm,1.3s,mb5.0						
YBH				*ep*P	pP	07 09 18.8	+3.1
YBH	**Yreka Blue Hor**	**61.45**	**58**	*e*P	**P**	**07 09 04.5**	**+2.0**
YBH				*e**PP	pP	07 09 18.8	+3.1
YBH				pmax	pmax		
	comp=Z,15nm,1.3s						
WALA	**Waterton Lakes**	**62.24**	**48**	*e*P	**P**	**07 09 07.2**	**-0.4**
	comp=Z,11nm,1.0s,mb4.9						
JOF	**Joensuu**	**62.34**	**333**	*ep*	**P**	**07 09 05.8**	**-2.3**
	comp=Z,14nm,0.4s,mb5.5						
JOF	**Joensuu**	**62.34**	**333**	*e*P	**P**	**07 09 05.8**	**-2.3**
JOF				pmax	pmax		
	comp=Z,14nm,0.4s,mb5.4						
BSMT	**Bassoo Peak**	**62.48**	**49**	*e*P	**P**	**07 09 10.4**	**+1.2**
BSMT				*ep*P	pP	07 09 24.5	+2.0
MOD	**Modoc**	**62.82**	**57**	*e*P	**P**	**07 09 12.8**	**+1.1**
	comp=Z,24nm,1.3s,mb5.2						
MOD				*es*P	sP	07 09 27.8	-2.5
BMO	**Blue Mountains**	**62.85**	**53**	*e*P	**P**	**07 09 12.8**	**+1.1**
BMO				*ep*P	pP	07 09 25.6	+0.6
AKL	**Akola**	**63.18**	**273**	*e*P	**P**	**07 09 14.2**	**-0.2**
AKL				AMb	AMB	07 09 15.6	
	comp=Z,35nm,1.0s,mb5.4						
WVOR	**Wild Horse Val**	**63.50**	**56**	*e*P	**P**	**07 09 17.8**	**+1.6**
	comp=Z,12nm,1.6s,mb4.7						
WVOR				*ep*P	pP	07 09 26.8	-2.7
WVOR				*es*P	sP	07 09 31.9	-2.9
WVOR	**Wild Horse Val**	**63.50**	**56**	*e*P	**P**	**07 09 17.8**	**+1.6**
WVOR				*e**PP	pP	07 09 26.8	-2.7
WVOR				*e**SP	sP	07 09 31.9	-2.9
WVOR				pmax	pmax		
	comp=Z,12nm,1.6s,mb4.7						
MSO	**Missoula**	**63.55**	**50**	*e*P	**P**	**07 09 16.0**	**-0.5**
	comp=Z,16nm,1.0s,mb5.0						
MSO				*ep*P	pP	07 09 26.8	-2.9
MSO				*es*P	sP	07 09 31.9	-3.1
OHCM	**Honcut**	**63.61**	**60**	*e*P	**P**	**07 09 16.5**	**-0.4**
OHCM				*es*P	sP	07 09 32.1	-3.5
JASL	**Jaisalmer**	**63.63**	**283**	*e*P	**P**	**07 09 18.1**	**+0.8**
CHMT	**Chamberlain Mo**	**63.88**	**49**	*e*P	**P**	**07 09 18.7**	**+0.2**
CHMT				*ep*P	pP	07 09 33.8	+2.0
HYB	**Hyderabad**	**64.20**	**270**	*e*P	**P**	**07 09 21.0**	**-0.1**
HYB	**Hyderabad**	**64.20**	**270**	*i* P	**P**	**07 09 21.0**	**-0.1**
FFC	**Flin Flon**	**64.49**	**37**	P	**P**	**07 09 21.4**	**-1.0**
	comp=Z,75nm,1.1s,mb5.6,SNR=6.8						
FFC	**Flin Flon**	**64.49**	**37**	*e*P	**P**	**07 09 21.8**	**-0.6**
	comp=Z,18nm,0.9s,mb5.1						
FFC				*ep*P	pP	07 09 31.0	-4.7
FFC	**Flin Flon**	**64.49**	**37**	*e*P	**P**	**07 09 21.8**	**-0.6**
FFC				*e**PP	pP	07 09 31.0	-4.7
FFC				pmax	pmax		
	comp=Z,18nm,0.9s,mb5.1						
KAF	**Kangasniemi**	**64.54**	**334**	*ep*	**P**	**07 09 20.6**	**-2.0**
	comp=Z,34nm,0.9s,mb5.4,baz=41,slow=6.2						
KAF	**Kangasniemi**	**64.54**	**334**	*e*P	**P**	**07 09 20.6**	**-2.0**
KAF				pmax	pmax		
	comp=Z,34nm,0.9s,mb5.4						
HRY	**Holter Researc**	**64.77**	**49**	*e*P	**P**	**07 09 25.4**	**+1.0**
HRY				*ep*P	pP	07 09 39.8	+2.1
FCC	**Fort Churchill**	**64.92**	**31**	*e*P	**P**	**07 09 24.1**	**-1.1**
	comp=Z,10nm,0.8s,mb4.9						
FCC	**Fort Churchill**	**64.92**	**31**	*e*P	**P**	**07 09 24.1**	**-1.0**
FCC				pmax	pmax		
	comp=Z,11nm,0.8s,mb4.9						
LRM	**Limekiln Ridge**	**64.99**	**50**	*e*P	**P**	**07 09 26.5**	**+0.7**
EGMT	**Eagleton**	**65.06**	**47**	*e*P	**P**	**07 09 25.7**	**-0.6**
	comp=Z,27nm,1.0s,mb5.2						
EGMT				*es*P	sP	07 09 42.0	-2.9
CMB	**Columbia Colle**	**65.08**	**61**	*e*P	**P**	**07 09 25.9**	**-0.6**
	comp=Z,14nm,1.2s,mb4.9						
CMB				*es*P	sP	07 09 42.9	-2.4
CMB	**Columbia Colle**	**65.08**	**61**	*e*P	**P**	**07 09 26.0**	**-0.6**
CMB				*e**SP	sP	07 09 42.9	-2.4
CMB				pmax	pmax		
	comp=Z,14nm,1.2s,mb4.9						
FINES	**FINESS Array B**	**65.11**	**334**	P	**P**	**07 09 25.7**	**-0.7**
FINES				pmax	pmax		
	comp=Z,26nm,0.8s						
FINES	**FINESS Array B**	**65.11**	**334**	P	**P**	**07 09 25.7**	**-0.6**
	comp=Z,26nm,0.8s,mb5.3,baz=53,slow=7.4,SNR=50						
DLMT	**Dillon**	**65.19**	**50**	*e*P	**P**	**07 09 27.0**	**-0.2**
	comp=Z,12nm,1.0s,mb4.9						
DLMT				*ep*P	pP	07 09 38.4	-2.1
WRA	**Warramunga Arr**	**65.25**	**195**	*i* P	**P**	**07 09 33.0**	**+5.3**
WRA				pmax	pmax		
	comp=Z,3.0nm,0.7s						
WRA	**Warramunga Arr**	**65.25**	**195**	P	**P**	**07 09 28.2**	**+0.6**
	comp=Z,3.7nm,1.0s,mb4.4,baz=15,slow=6.9,SNR=4.0						
HLID	**Hailey**	**65.28**	**53**	*e*P	**P**	**07 09 27.3**	**-0.5**
	comp=Z,8.1nm,1.1s,mb4.7						
BOZ	**Bozeman (W)**	**65.55**	**50**	*e*P	**P**	**07 09 28.7**	**-0.8**
	comp=Z,9.9nm,1.0s,mb4.8						
BOZ	**Bozeman (W)**	**65.55**	**50**	*e*P	**P**	**07 09 28.7**	**-0.7**
BOZ				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.8						
FITZ	**Fitzroy Crossi**	**65.61**	**205**	*e*P	**P**	**07 09 36.2**	**+6.2**
	comp=Z,6.2nm,0.7s,mb4.8						
FITZ	**Fitzroy Crossi**	**65.61**	**205**	P	**P**	**07 09 30.6**	**+0.6**
	comp=Z,2.9nm,1.0s,mb4.3,baz=38,slow=4.4,SNR=2.9						
OBN	**Obninsk**	**65.78**	**324**	*c i*P	**P**	**07 09 30.2**	**-0.6**
OBN				*e*S	S	07 18 14.0	+0.5
OBN				*es*S	SS	07 22 28.7	+1.0
OBN				pmax	pmax		
	comp=Z,90nm,1.2s,mb5.7						
NVAR	**Mina Array Bea**	**66.14**	**59**	P	**P**	**07 09 32.4**	**-1.0**
	comp=Z,1.0nm,0.7s,mb3.9,baz=295,slow=6.7,SNR=5.9						
QLMT	**Earthquake Lak**	**66.17**	**50**	*e*P	**P**	**07 09 32.9**	**-0.5**
QLMT				*ep*P	pP	07 09 44.6	-2.2
GCMT	**Greycliff**	**66.52**	**48**	*e*P	**P**	**07 09 35.8**	**+0.1**
GCMT				*es*P	sP	07 09 52.0	-2.4
YNR	**Norris Junctio**	**66.65**	**50**	*ep*P	pP	07 09 54.0	+4.1
YFT	**Old Faithful**	**66.74**	**50**	*e*P	**P**	**07 09 38.1**	**+1.0**
POO	**Poona**	**66.86**	**274**	*e*P	**P**	**07 09 38.0**	**-0.2**
IMW	**Indian Meadow**	**67.03**	**51**	*e*P	**P**	**07 09 39.1**	**+0.1**
	comp=Z,21nm,1.0s,mb5.1						
IMW				*es*P	sP	07 09 55.5	-2.2
FLWY	**Flagg Ranch**	**67.05**	**50**	*e*P	**P**	**07 09 39.2**	**+0.1**
	comp=Z,24nm,1.3s,mb5.1						
DCID1	**Drake Creek**	**67.09**	**51**	*e*P	**P**	**07 09 39.9**	**+0.5**
DCID1				*ep*P	pP	07 09 51.2	-1.5
DCID1				*es*P	sP	07 09 55.8	-2.2
RLMT	**Red Lodge**	**67.16**	**49**	*e*P	**P**	**07 09 40.3**	**+0.5**
RLMT				*ep*P	pP	07 09 55.2	+2.0
MOOW	**Moose Ponds**	**67.23**	**51**	*e*P	**P**	**07 09 40.6**	**+0.3**
	comp=Z,18nm,1.0s,mb5.0						
MOOW				*es*P	sP	07 09 56.5	-2.5
TPAW	**Teton Pass**	**67.29**	**51**	*e*P	**P**	**07 09 41.1**	**+0.5**
TPAW				*es*P	sP	07 09 57.5	-1.8
VRSR	**Storozhevoye**	**67.30**	**320**	*c i*P	**P**	**07 09 40.2**	**-0.3**
VRSR				pmax	pmax		
	comp=N,10.0nm,0.9s						
VRSR				pmax	pmax		
	comp=E,10.0nm,0.9s						
VRSR				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.8						
HVU	**Hansel Valley**	**67.34**	**53**	*e*P	**P**	**07 09 41.8**	**+0.8**
HVU				*ep*P	pP	07 09 56.9	+2.5
LOHW	**Long Hollow**	**67.40**	**51**	*e*P	**P**	**07 09 41.2**	**-0.1**
	comp=Z,29nm,1.3s,mb5.2						
LOHW				*es*P	sP	07 09 57.3	-2.7
SNOW	**Snow King Moun**	**67.41**	**51**	*e*P	**P**	**07 09 41.6**	**+0.2**
	comp=Z,25nm,1.0s,mb5.2						
SNOW				*ep*P	pP	07 09 52.0	-2.9
SNOW				*es*P	sP	07 09 57.9	-2.2
KAD	**Karad**	**67.42**	**272**	*e*P	**P**	**07 09 42.4**	**+0.7**
KAD				AMb	AMB	07 09 43.1	
	comp=Z,28nm,1.3s,mb5.1						
VORD	**Divnogorie**	**67.42**	**320**	*e*P	**P**	**07 09 41.0**	**-0.3**

MNK pmax pmax
comp=Z,220nm,1.0s,mb6.0
KOD Kodaikanal 69.78 265 *e*P **P 07 09 57.0 +0.4**
KOD AMb AMB 07 09 58.3
comp=Z,17nm,0.8s,mb5.0
MSU Marysvale 69.80 56 *e*P **P 07 09 58.0 +1.7**
LDFC Landfair 70.24 60 *e*P **P 07 10 01.2 +2.1**
LDFC *ep*P pP 07 10 15.3 +2.7
ULM Lac du Bonnet 70.28 38 P **P 07 09 57.2 -1.9**
ULM Lac du Bonnet 70.28 38 P **P 07 09 57.2 -1.9**
comp=Z,2.0nm,0.6s,mb4.2,baz=306,slow=8.3,SNR=3.8
SRU San Rafael 70.38 54 *e*P **P 07 09 59.5 -0.4**
SRU *es*P sP 07 10 15.9 -2.7
KIV Kislovodsk 70.51 313 *e*P **P 07 10 01.8 +1.2**
KIV *ep*P pP 07 10 15.2 +1.1
KIV Kislovodsk 70.51 313 *e*P **P 07 10 01.5 +0.9**
KIV pmax pmax
comp=Z,65nm,1.1s,mb5.5
KIV MLR MLR
comp=Z,2μm,18.0s,MS5.4
KIV Kislovodsk 70.51 313 P **P 07 10 02.5 +1.9**
SNR=11
KIV Kislovodsk 70.51 313 P **P 07 10 02.5 +1.9**
SNR=11
KONO Kongsberg 71.30 340 *e*P **P 07 10 04.9 -0.2**
KONO Kongsberg 71.30 340 ⇑*i*P **P 07 10 04.4 -0.7**
AGMN Agassiz Refuge 71.70 40 *e*P **P 07 10 10.5 +2.7**
SUW Suwalki 71.84 330 *e*P **P 07 10 08.0 -0.5**
SUW Suwalki 71.84 330 *e*P **P 07 10 07.9 -0.6**
AKASG Malin Array Be 72.05 325 P **P 07 10 09.2 -0.6**
AKASG pmax pmax
comp=Z,25nm,0.8s
AKASG Malin Array Be 72.05 325 P **P 07 10 09.2 -0.6**
comp=Z,25nm,0.8s,mb5.2,baz=37,slow=6.1,SNR=80
KIEV Kiev 72.06 325 *e*P **P 07 10 09.4 -0.5**
comp=Z,52nm,1.0s,mb5.4
KIEV Kiev 72.06 325 *e*P **P 07 10 09.4 -0.5**
KIEV pmax pmax
comp=Z,52nm,1.0s,mb5.4
ANN Anapa 72.62 316 *e*P **P 07 10 13.3 0.0**
ANN pmax pmax
comp=Z,36nm,1.1s,mb5.2
ISCO Idaho Springs 72.72 51 *e*P **P 07 10 13.4 -0.6**
comp=Z,14nm,1.0s,mb4.8
ISCO *ep*P pP 07 10 25.1 -2.4
ISCO *es*P sP 07 10 29.9 -3.0
ISCO Idaho Springs 72.72 51 *e*P **P 07 10 13.4 -0.6**
ISCO *e**PP pP 07 10 25.1 -2.4
ISCO *e**SP sP 07 10 29.9 -2.9
ISCO pmax pmax
comp=Z,14nm,1.0s,mb4.8
MVCO Mesa Verde 72.83 55 *e*P **P 07 10 14.5 -0.2**
MVCO *ep*P pP 07 10 25.1 -3.1
MVCO *es*P sP 07 10 30.8 -2.7
BSD Bornholm Skovb 73.71 335 ⇑*i*P **P 07 10 18.9 -0.6**
BSD pmax pmax
comp=Z,50nm,1.0s,mb5.4
BSD Bornholm Skovb 73.71 335 ⇑*i*P **P 07 10 18.9 -0.6**
comp=Z,50nm,1.0s,mb5.4
COP Copenhagen 73.96 336 *i*P **P 07 10 21.7 +0.7**
COP pmax pmax
comp=Z,26nm,0.9s,mb5.2
COP Copenhagen 73.96 336 *i*P **P 07 10 21.7 +0.7**
comp=Z,26nm,0.9s,mb5.2
SIM Simferopol' 74.14 318 *e*P **P 07 10 24.0 +1.8**
SIM pmax pmax
comp=Z,22nm,0.8s,mb5.1
SIM MLR MLR
comp=Z,2μm,17.3s,MS5.4
MUD Monsted U'grnd 74.20 338 *i*P **P 07 10 23.0 +0.6**
MUD pmax pmax
comp=Z,24nm,1.0s,mb5.1
MUD Monsted U'grnd 74.20 338 *i*P **P 07 10 23.0 +0.6**
comp=Z,24nm,1.0s,mb5.1
SDCO Great Sand Dun 74.20 53 *e*P **P 07 10 21.6 -1.2**
comp=Z,5.5nm,1.0s,mb4.4
SDCO *e* pP 07 10 38.5 +2.2
ECSD EROS,Sioux Fal 74.68 43 *e*P **P 07 10 24.2 -1.2**
comp=Z,22nm,1.2s,mb5.0
WBK Wadi Bani Khal 74.70 287 P **P 07 10 27.8 +1.9**
SNR=6.2
WBK Wadi Bani Khal 74.70 287 P **P 07 10 27.8 +1.9**
SNR=6.2
LVV L'vov 74.84 327 *e*P **P 07 10 26.6 +0.4**
KIS Kishinev 75.04 322 *e*P **P 07 10 26.0 -1.4**
KIS LRM 07 46 05.0
comp=Z,2μm,19.0s
HATD Hatta, Dubai 75.16 290 P **P 07 10 28.9 +0.4**
SNR=7.7
HATD Hatta, Dubai 75.16 290 P **P 07 10 28.9 +0.4**
SNR=7.7
HOQ Hoqain 75.19 288 P **P 07 10 29.6 +1.0**
SNR=5.7
HOQ Hoqain 75.19 288 P **P 07 10 29.6 +1.0**
SNR=5.7
ASHO Ashiyiah 75.31 290 P **P 07 10 30.1 +0.7**
SNR=7.2
ASHO Ashiyiah 75.31 290 P **P 07 10 30.1 +0.7**
SNR=7.2
JMDO Jabal Madar 75.45 287 P **P 07 10 31.1 +0.9**
SNR=7.4
JMDO Jabal Madar 75.45 287 P **P 07 10 31.1 +0.9**
SNR=7.4
KWP Kalwaria 75.51 327 *e*P **P 07 10 30.9 +0.9**
LAZ Ladron 75.56 56 *e*P **P 07 10 29.6 -1.0**
ANMO Albuquerque 75.58 55 *e*P **P 07 10 29.9 -0.9**
comp=Z,8.3nm,0.9s,mb4.7
ANMO *es*P sP 07 10 47.0 -2.6
ANMO Albuquerque 75.58 55 ⇑*i*P **P 07 10 29.5 -1.3**
MSL Mosul 75.58 307 *ex* x 07 10 31.0
BSY Bisya 75.82 288 P **P 07 10 33.2 +0.8**
SNR=9.1
BSY Bisya 75.82 288 P **P 07 10 33.2 +0.8**
SNR=9.1
MCD Coleburn Disti 75.99 345 *e*P **P 07 10 31.4 -1.3**
OJC Ojcow 76.13 329 *e*P **P 07 10 33.9 +0.3**
KOLS Kolonicke sedl 76.24 327 *e*P **P 07 10 34.3 +0.1**
KOLS *ep*P pP 07 10 46.7 -1.1
STHS Stebnicka Huta 76.25 328 *e*P **P 07 10 35.2 +0.9**
comp=Z,20nm,1.1s,mb5.0
STHS Stebnicka Huta 76.25 328 *e*P **P 07 10 35.2 +0.9**
STHS pmax pmax
comp=Z,20nm,1.1s,mb5.0
ELZG Elazig 76.32 311 *i*P **P 07 10 36.8 +1.9**
MDO Dochfour 76.33 346 *e*P **P 07 10 34.0 -0.6**
BOYT Boyabat 76.35 315 *i*P **P 07 10 36.1 +1.1**
KAC Achnashellach 76.43 346 *e*P **P 07 10 34.4 -0.8**
UZH Uzhgorod 76.47 327 *e*P **P 07 10 34.6 -1.0**
UZH *e* 07 10 42.4
UZH *i* pP 07 10 47.8 -1.4
CRVS Cervenica-Dubn 76.58 328 *e*P **P 07 10 36.5 +0.3**
NIE Niedzica 76.60 328 *e*P **P 07 10 37.3 +1.0**
KPL Plockton 76.65 346 *e*P **P 07 10 35.6 -0.8**
KPL AMb AMB 07 10 38.2
comp=Z,64nm,1.3s,mb5.4
SCHQ Schefferville 76.72 20 P **P 07 10 36.4 -0.4**
comp=Z,6.6nm,0.9s,mb4.6,baz=350,slow=9.3,SNR=7.0
MALT Malatya 76.76 311 *e*P **P 07 10 37.8 +0.4**
MALT *ep*P pP 07 10 51.6 +0.6
MALT Malatya 76.76 311 P **P 07 10 39.0 +1.6**
MALT Malatya 76.76 311 ⇓*i*P **P 07 10 38.0 +0.6**
TRPA Tarpa 76.78 326 ⇑*i*P **P 07 10 38.0 +0.7**
VRI Vrincioaia 76.83 323 ⇓P **P 07 10 38.5 +0.8**
VRI Vrincioaia 76.83 323 ⇓*i*P **P 07 10 38.5 +0.8**
KSP Ksiaz 76.86 331 *e*P **P 07 10 38.0 +0.3**
KSP Ksiaz 76.86 331 *e*P **P 07 10 36.9 -0.8**
BHD Baghdad 76.93 304 *ex* x 07 10 49.0
CTKT Corum 76.99 315 *i*P **P 07 10 40.0 +1.3**
BALT Daday 77.03 316 *i*P **P 07 10 39.5 +0.7**
OKC Ostrava-Krasne 77.05 330 *e*P **P 07 10 39.2 +0.4**
OKC *ep*P pP 07 10 52.2 -0.2
TIRR Tirgusor 77.18 321 ⇑P **P 07 10 40.0 +0.3**
TIRR Tirgusor 77.18 321 ⇑*i*P **P 07 10 40.0 +0.4**
HARR Harsova 77.22 321 P **P 07 10 40.7 +0.8**
HARR Harsova 77.22 321 ⇓*i*P **P 07 10 40.9 +1.1**
UPC Upice 77.24 331 *e*P **P 07 10 40.3 +0.4**
UPC *ep*P pP 07 10 52.1 -1.4
DPC Dobruska-Polom 77.27 331 *e*P **P 07 10 40.6 +0.6**
DPC *ep*P pP 07 10 53.6 0.0
KECS Kecovo 77.30 328 *e*P **P 07 10 40.2 0.0**
comp=Z,9.4nm,1.2s,mb4.6
KECS *e* pP 07 10 52.6 -1.2
KECS Kecovo 77.30 328 *e*P **P 07 10 40.2 0.0**
KECS *e* pP 07 10 52.6 -1.2
KECS pmax pmax
comp=Z,9.0nm,1.2s,mb4.6
MORC Moravsky Berou 77.32 330 *e*P **P 07 10 40.1 -0.2**
MORC *ep*P pP 07 10 53.9 0.0
MORC Moravsky Berou 77.32 330 ⇓*i*P **P 07 10 41.0 +0.7**
MLR Muntele Rosu 77.47 323 P **P 07 10 42.7 +1.5**
MLR Muntele Rosu 77.47 323 ⇑*i*P **P 07 10 42.3 +1.1**
EAB Aberfoyle 77.51 345 *e*P **P 07 10 39.7 -1.5**
CLL Collm 77.56 334 ⇑*i*P **P 07 10 41.2 -0.4**
comp=Z,23nm,0.9s,mb5.1
CLL *i* pP 07 10 49.5 -5.8
CLL *i* pP 07 10 54.1 -1.1
CLL Collm 77.56 334 ⇑*i*P **P 07 10 41.2 -0.4**
CLL *i* pP 07 10 49.5 -5.8
CLL *i* pP 07 10 54.1 -1.1
CLL pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
CLL Collm 77.56 334 ⇑*i*P **P 07 10 41.2 -0.4**
comp=Z,23nm,0.9s,mb5.1
CLL *i* x x 07 10 49.5
CLL *i* (pP) pP 07 10 54.1 -1.1
BRG Berggiesshubel 77.62 333 *e*P **P 07 10 41.7 -0.3**
comp=Z,5.7nm,1.1s,mb4.4
BRG *e* pP 07 10 54.6 -1.0
BRG LR LR
comp=Z,2μm,27.8s,MS5.2
BRG Berggiesshubel 77.62 333 *e*P **P 07 10 41.7 -0.3**
comp=Z,9.5nm,1.1s,mb4.6
BRG *e* pP 07 10 54.6 -1.0
comp=Z,49nm,1.7s
BRG
comp=N,2μm,26.6s
BRG
comp=E,2μm,26.7s
BRG
comp=Z,3μm,27.8s
PVCC Panska Ves 77.71 332 *e*P **P 07 10 42.7 +0.2**
PVCC *ep*P pP 07 10 54.9 -1.2
ELDT Eldivan 77.78 315 *i*P **P 07 10 43.8 +0.7**
DRGR 77.79 326 ⇑P **P 07 10 42.7 -0.3**
DRGR 77.79 326 ⇑*i*P **P 07 10 42.7 -0.3**
VOIR 77.89 323 P **P 07 10 44.7 +1.1**
VOIR 77.89 323 ⇓*i*P **P 07 10 44.2 +0.6**
VYHS Vyhne 77.91 329 *e*P **P 07 10 43.9 +0.3**
comp=Z,15nm,1.3s,mb4.8
VYHS *e* pP 07 10 55.1 -2.2
VYHS Vyhne 77.91 329 *e*P **P 07 10 43.9 +0.3**
VYHS *e* pP 07 10 55.1 -2.2
VYHS pmax pmax
comp=Z,15nm,1.3s,mb4.8
GZT Gaziantep 77.92 311 *i*P **P 07 10 44.7 +0.8**
PSZ Piszkesteto 77.98 328 P **P 07 10 45.1 +1.0**
PSZ Piszkesteto 77.98 328 ⇑*i*P **P 07 10 44.9 +0.8**
VRAC Vranov 78.05 330 P **P 07 10 45.7 +1.3**
ESK Eskdalemuir 78.11 344 *e*P **P 07 10 43.5 -1.2**
ESK AMb AMB 07 10 52.2
comp=Z,36nm,1.6s,mb5.1
PRU Pruhonice 78.18 332 *e*P **P 07 10 45.5 +0.4**
PRU *ep*P pP 07 10 58.3 -0.5
AMTX Amarillo 78.40 52 *e*P **P 07 10 46.7 +0.1**
comp=Z,15nm,0.8s,mb5.0
AMTX *es*P sP 07 11 02.2 -3.4
TREC Trest 78.45 331 *e*P **P 07 10 46.8 +0.2**
TREC *ep*P pP 07 11 00.1 -0.1
MNTX Cornudas Mount 78.50 57 *e*P **P 07 10 46.2 -1.0**
comp=Z,9.7nm,1.0s,mb4.7
MNTX *es*P sP 07 11 03.1 -3.0
ANTO Ankara 78.57 315 *e*P **P 07 10 48.2 +0.8**
comp=Z,20nm,0.8s,mb5.1
ANTO *e*PcP PcP 07 10 56.0 -0.4
ANTO Ankara 78.57 315 *e*P **P 07 10 48.3 +0.8**
ANTO *e* 07 10 56.0
ANTO pmax pmax
comp=Z,20nm,0.8s,mb5.1
MOX Moxa 78.57 334 *e*P **P 07 10 47.4 +0.1**
comp=Z,35nm,1.5s,mb5.1
MOX *e* pP 07 11 00.2 -0.7
MOX Moxa 78.57 334 *e*P **P 07 10 47.4 +0.1**
MOX *e* pP 07 11 00.2 -0.7
comp=Z,35nm,1.5s
MODS Modra-Piesok 78.59 330 *e*P **P 07 10 48.2 +0.8**
MODS *ep*P pP 07 11 00.9 -0.1
NKC Novy Kostel 78.66 333 *e*P **P 07 10 48.0 +0.2**
NKC *ep*P pP 07 11 00.4 -1.0
CKE Keswick 78.78 344 *e*P **P 07 10 48.0 -0.4**
ZST Bratislava 78.80 330 *e*P **P 07 10 48.6 +0.1**
comp=Z,16nm,1.0s,mb4.9
ZST *e* pP 07 11 01.4 -0.8
ZST Bratislava 78.80 330 *e*P **P 07 10 48.6 +0.1**
ZST *e* pP 07 11 01.4 -0.8
ZST pmax pmax
comp=Z,16nm,1.0s,mb4.9
ZST Bratislava 78.80 330 *e*P **P 07 10 48.6 +0.1**
ZST *ep*P pP 07 11 01.4 -0.8
GZR Gura Zlata 78.89 325 P **P 07 10 49.3 +0.2**
GZR Gura Zlata 78.89 325 ⇓*i*P **P 07 10 48.9 -0.2**
HPK Haverah Park 79.07 343 *e*P **P 07 10 49.0 -0.9**
HPK AMb AMB 07 10 52.1
comp=Z,80nm,1.8s,mb5.3
BZS Buzias 79.19 325 ⇑P **P 07 10 50.8 0.0**
BZS Buzias 79.19 325 ⇑*i*P **P 07 10 50.8 +0.1**
KHC Kasperske Hory 79.24 332 *c i*P **P 07 10 51.2 +0.2**
KHC Kasperske Hory 79.24 332 *e*P **P 07 10 51.3 +0.3**
KHC *ep*P pP 07 11 04.4 -0.2
GEC2 GERESS Array S 79.44 332 *e*P **P 07 10 52.0 -0.1**
GERES GERESS Array B 79.44 332 P **P 07 10 52.2 +0.1**
GERES pmax pmax
comp=Z,6.0nm,0.7s
GERES GERESS Array B 79.44 332 P **P 07 10 52.2 +0.1**
comp=Z,5.7nm,0.7s,mb4.6,baz=35,slow=4.9,SNR=32
CONA Conrad Observa 79.47 330 ⇑*i*P **P 07 10 53.0 +0.8**
comp=Z,18nm,0.9s,mb5.0,SNR=14
LHO Holmfirth 79.50 343 *e*P **P 07 10 51.9 -0.4**
GRA1 Grafenberg Arr 79.53 334 *e*P **P 07 10 52.8 +0.3**
comp=Z,65nm,1.5s,mb5.3
GRA1 *ep*P pP 07 11 06.1 -0.1
GRF Grafenberg Arr 79.53 334 *e*P **P 07 10 52.8 +0.3**
GRF *e**PP pP 07 11 06.1 -0.1
GRF pmax pmax
comp=Z,65nm,1.5s,mb5.3
GRF Grafenberg Arr 79.53 334 *e*P **P 07 10 52.8 +0.3**
GRF *e**PP pP 07 11 06.1 -0.1
GRF pmax pmax
comp=Z,65nm,1.5s,mb5.3
GRF Grafenberg Arr 79.53 334 *e*P **P 07 10 52.8 +0.3**
comp=Z,65nm,1.5s,mb5.3
GRF *ep*P pP 07 11 06.1 -0.1
GRFO Grafenberg 79.53 334 *e*P **P 07 10 53.0 +0.5**
comp=Z,32nm,0.9s,mb5.2
GRFO Grafenberg 79.53 334 *e*P **P 07 10 53.0 +0.5**
GRFO pmax pmax
comp=Z,32nm,0.9s,mb5.2
JMB Yambol 79.56 321 *e*P **P 07 10 53.0 +0.2**
ESKT Eskisehir 79.81 316 *i*P **P 07 10 53.7 -0.5**
PKSM Moragy 79.88 328 ⇓P **P 07 10 53.3 -1.2**
PKSM Moragy 79.88 328 ⇓*i*P **P 07 10 53.3 -1.2**
MOA Molln 80.10 331 ⇑*i*P **P 07 10 55.8 +0.1**
comp=Z,10.0nm,0.8s,mb4.8
WMOK Wichita Mounta 80.14 51 *e*P **P 07 10 55.0 -1.1**
comp=Z,16nm,1.1s,mb4.9
WMOK *ep*P pP 07 11 11.3 +1.5
WMOK *es*P sP 07 11 20.2 +5.2
WMOK Wichita Mounta 80.14 51 *e*P **P 07 10 55.0 -1.1**
WMOK *e**PP pP 07 11 11.3 +1.5
WMOK pmax pmax
comp=Z,16nm,1.1s,mb4.9
ARSA Arzberg 80.17 330 ⇑*i*P **P 07 10 56.1 0.0**
comp=Z,8.8nm,1.1s,mb4.6
MEM Membach 80.27 337 P **P 07 10 57.0 +0.5**
comp=Z,12nm,1.3s,mb4.7
HDIL Hopedale 80.63 41 *e*P **P 07 10 58.0 -0.6**
comp=Z,48nm,1.1s,mb5.3
HDIL *ep*P pP 07 11 07.2 -5.1
BCLA Clavier 80.64 337 P **P 07 10 58.1 -0.4**
comp=Z,10nm,2.1s,mb4.4
PLD Plovdiv 80.70 322 *e*P **P 07 10 59.0 0.0**
PERS Pernice 80.84 330 *i*P **P 07 10 59.6 0.0**
GROS Grobnik 80.85 330 *e*P **P 07 10 59.4 -0.3**
VTS Vitosha 80.97 323 P **P 07 11 01.0 +0.6**
VTS Vitosha 80.97 323 ⇑*i*P **P 07 11 00.6 +0.2**
VTS Vitosha 80.97 323 *e*P **P 07 11 00.0 -0.4**
GIVF Givet 81.06 338 *e*P **P 07 11 01.3 +0.6**
HAE Alders End 81.07 343 *e*P **P 07 10 59.9 -0.9**
KBA Koelnbreinsper 81.09 331 ⇑*i*P **P 07 11 01.6 +0.7**
comp=Z,37nm,0.9s,mb5.3,SNR=19
KBA Koelnbreinsper 81.09 331 ⇑*i*P **P 07 11 01.6 +0.7**
KBA pmax pmax
comp=Z,37nm,0.9s,mb5.3
MCH1 Michaelchurch 81.20 343 *e*P **P 07 11 00.2 -1.3**
MCH1 *e*P 07 11 00.2
MCH1 AMb AMB 07 11 15.4
comp=Z,64nm,1.7s,mb5.3
TXAR Lajitas Array 81.22 58 P **P 07 11 01.6 -0.3**
baz=286,slow=3.3
BAIF Baives 81.26 338 *e*P **P 07 11 01.7 -0.1**
MYKA Terra Mystica 81.37 331 ⇑*i*P **P 07 11 02.2 -0.3**
comp=Z,20nm,1.1s,mb5.0
WATA Walderalm 81.47 332 ⇑*i*P **P 07 11 03.3 +0.3**
comp=Z,21nm,1.0s,mb5.0
WATA Walderalm 81.47 332 ⇑*i*P **P 07 11 03.3 +0.4**
WATA pmax pmax
comp=Z,21nm,1.0s,mb5.0
WTTA Wattenberg 81.51 332 ⇑*i*P **P 07 11 03.6 +0.4**
comp=Z,34nm,0.8s,mb5.3
WTTA Wattenberg 81.51 332 ⇑*i*P **P 07 11 03.6 +0.4**
WTTA pmax pmax
comp=Z,34nm,0.8s,mb5.3
MMB Musomiste 81.55 322 *e*P **P 07 11 03.8 +0.3**
MOTA Moosalm 81.61 333 ⇑*i*P **P 07 11 04.0 +0.3**
comp=Z,33nm,1.0s,mb5.2,SNR=16
MOTA Moosalm 81.61 333 ⇑*i*P **P 07 11 04.0 +0.3**
MOTA pmax pmax
comp=Z,33nm,1.0s,mb5.2
BFO Black Forest 81.63 335 P **P 07 11 04.4 +0.6**
comp=Z,76nm,1.1s,mb5.5,SNR=5.1
BFO Black Forest 81.63 335 *e*P **P 07 11 03.5 -0.3**
comp=Z,16nm,1.0s,mb4.9
BFO Black Forest 81.63 335 *e*P **P 07 11 03.5 -0.3**
BFO pmax pmax
comp=Z,16nm,1.0s,mb4.9
SQTA Sankt Quirin 81.69 332 ⇑*i*P **P 07 11 04.5 +0.3**
comp=Z,19nm,1.0s,mb5.0,SNR=8.3
SQTA Sankt Quirin 81.69 332 ⇑*i*P **P 07 11 04.5 +0.4**
SQTA pmax pmax
comp=Z,19nm,1.0s,mb5.0
BOJS Bojanci 81.75 329 *i*P **P 07 11 03.9 -0.6**
JAVS Javornik 81.85 330 *i*P **P 07 11 03.9 -1.1**
CDF Champ du Feu 81.88 335 *e*P **P 07 11 05.1 0.0**
comp=Z,79nm,1.3s,mb5.2
CDF Champ du Feu 81.88 335 *e*P **P 07 11 05.1 0.0**
comp=Z,39nm,1.3s,mb5.2
CDF Champ du Feu 81.88 335 *e*P **P 07 11 05.1 0.0**
CDF pmax pmax
comp=Z,39nm,1.3s,mb5.2
FETA Feichten 82.02 333 ⇑*i*P **P 07 11 06.0 +0.2**
comp=Z,18nm,0.9s,mb5.0
DAVA Damuels 82.07 333 ⇑*i*P **P 07 11 06.3 +0.2**
comp=Z,19nm,0.9s,mb5.0
PMOR Pomariorio Ree 82.13 120 *e*T 08 42 11.8
comp=Z,18nm,0.3s
SKDS Skadanscina 82.17 330 *e*P **P 07 11 05.5 -1.2**
GOLH Golhisar 82.21 316 *i*P **P 07 11 06.5 -0.6**
SKO Skopje 82.24 323 *e*P **P 07 11 06.5 -0.6**
VAY Valandovo 82.28 322 *e*P **P 07 11 05.6 -1.7**
MEZF Maizieres J'vi 82.44 337 *e*P **P 07 11 08.4 +0.3**
HAU Haudompre 82.52 336 *e*P **P 07 11 08.3 -0.1**
HINF Hinteralfeld 82.54 335 *e*P **P 07 11 08.1 -0.5**
comp=Z,16nm,0.9s,mb4.8
HINF Hinteralfeld 82.54 335 *e*P **P 07 11 08.1 -0.5**
comp=Z,8.1nm,0.9s,mb4.8
HINF Hinteralfeld 82.54 335 *e*P **P 07 11 08.1 -0.5**
HINF pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
TAOE Nuku Hiva Isla 82.63 110 *e*LR LR 07 37 25.8
comp=Z,1μm,26.1s
JCT Junction City 82.69 54 *e*P **P 07 11 08.8 -0.9**
comp=Z,24nm,1.1s,mb5.1
JCT *es*P sP 07 11 25.0 -3.6
JCT Junction City 82.69 54 *e*P **P 07 11 08.8 -0.9**
JCT *e**SP sP 07 11 25.0 -3.7
JCT pmax pmax
comp=Z,24nm,1.1s,mb5.1
KRUS Krusevo 82.81 323 *e*P **P 07 11 09.1 -1.0**
PPT Papeete 83.05 123 *e*LR LR 07 37 38.5
comp=Z,335nm,22.5s
PPT Papeete 83.05 123 *e*T 08 43 20.7
comp=Z,6.6nm,0.3s
BIA Bitola 83.06 323 *e*P **P 07 11 10.1 -1.3**
MIAR Mount Ida 83.12 48 *e*P **P 07 11 11.0 -0.8**
comp=Z,30nm,1.0s,mb5.3
MIAR *es*P sP 07 11 26.9 -3.9
MIAR Mount Ida 83.12 48 *e*P **P 07 11 11.0 -0.8**
MIAR *e**SP sP 07 11 26.9 -3.9
MIAR pmax pmax
comp=Z,30nm,1.0s,mb5.3
BDRM Kayabasi 83.40 317 *i*P **P 07 11 08.8 -4.5**
PARMO Parma 83.45 44 *e*P **P 07 11 12.4 -1.1**
PARMO *es*P sP 07 11 28.7 -3.8
FLN La Foliniere 83.66 340 *e*P **P 07 11 14.3 0.0**
comp=Z,154nm,1.4s,mb5.7
FLN La Foliniere 83.66 340 *e*P **P 07 11 14.3 0.0**
comp=Z,77nm,1.4s,mb5.6
FLN La Foliniere 83.66 340 *e*P **P 07 11 14.3 0.0**
FLN pmax pmax
comp=Z,77nm,1.4s,mb5.6
LDF La Druitiere 83.73 340 *e*P **P 07 11 14.7 0.0**
comp=Z,107nm,1.5s,mb5.5
LDF La Druitiere 83.73 340 *e*P **P 07 11 14.7 0.0**
comp=Z,53nm,1.5s,mb5.5
LDF La Druitiere 83.73 340 *e*P **P 07 11 14.7 0.0**
LDF pmax pmax
comp=Z,53nm,1.5s,mb5.5
CABF La Chapelle 83.85 335 *e*P **P 07 11 15.5 +0.2**
comp=Z,52nm,1.4s,mb5.2
CABF La Chapelle 83.85 335 *e*P **P 07 11 15.5 +0.2**
comp=Z,26nm,1.4s,mb5.2
CABF La Chapelle 83.85 335 *e*P **P 07 11 15.5 +0.2**
CABF pmax pmax
comp=Z,26nm,1.4s,mb5.2
GNAR Gosnell 83.87 44 *e*P **P 07 11 16.4 +0.7**
GNAR *ep*P pP 07 11 31.6 +2.1
LOR Lormes 83.90 337 *e*P **P 07 11 15.5 -0.1**
comp=Z,42nm,1.1s,mb5.2
LOR Lormes 83.90 337 *e*P **P 07 11 15.5 -0.1**
comp=Z,21nm,1.1s,mb5.2
LOR Lormes 83.90 337 *e*P **P 07 11 15.5 -0.1**
LOR pmax pmax
comp=Z,21nm,1.1s,mb5.2
GRR Gorron 84.10 340 *e*P **P 07 11 16.7 +0.1**
comp=Z,138nm,1.2s,mb5.7
GRR Gorron 84.10 340 *e*P **P 07 11 16.7 +0.1**
comp=Z,69nm,1.2s,mb5.7
GRR Gorron 84.10 340 *e*P **P 07 11 16.7 +0.1**
GRR pmax pmax
comp=Z,69nm,1.2s,mb5.7
SSF Saint Saulge 84.19 337 *e*P **P 07 11 17.0 -0.1**
SMF Signal de Mont 84.47 337 *e*P **P 07 11 18.7 +0.2**
comp=Z,50nm,1.0s,mb5.3
SMF Signal de Mont 84.47 337 *e*P **P 07 11 18.7 +0.2**
comp=Z,25nm,1.0s,mb5.3
SMF Signal de Mont 84.47 337 *e*P **P 07 11 18.7 +0.2**
SMF pmax pmax
comp=Z,25nm,1.0s,mb5.3
AVF Avril sur Loir 84.48 337 *e*P **P 07 11 18.7 +0.2**
SGMF Saint Gilles 84.62 341 *e*P **P 07 11 19.6 +0.4**
comp=Z,78nm,1.1s,mb5.4
SGMF Saint Gilles 84.62 341 *e*P **P 07 11 19.6 +0.4**
comp=Z,39nm,1.1s,mb5.5
SGMF Saint Gilles 84.62 341 *e*P **P 07 11 19.6 +0.4**
SGMF pmax pmax
comp=Z,39nm,1.1s,mb5.5
LPL La Plagne 84.64 334 *e*P **P 07 11 20.2 +0.8**
comp=Z,26nm,0.9s,mb5.0
LPL La Plagne 84.64 334 *e*P **P 07 11 20.2 +0.8**
comp=Z,13nm,0.9s,mb5.1
LPL La Plagne 84.64 334 *e*P **P 07 11 20.2 +0.8**
LPL pmax pmax
comp=Z,13nm,0.9s,mb5.1
LPG La Plagne 84.65 334 *e*P **P 07 11 20.4 +1.0**
comp=Z,39nm,0.9s,mb5.2
LPG La Plagne 84.65 334 *e*P **P 07 11 20.4 +1.0**
comp=Z,20nm,0.9s,mb5.2
LPG La Plagne 84.65 334 *e*P **P 07 11 20.4 +1.0**
LPG pmax pmax
comp=Z,19nm,0.9s,mb5.2
NATX Nacogdoches 84.66 50 *e*P **P 07 11 20.1 +0.4**
NATX *ep*P pP 07 11 35.8 +2.3
ROSF Rostrenen 84.71 342 *e*P **P 07 11 19.8 +0.1**
comp=Z,347nm,1.7s,mb5.9

ROSF Rostrenen 84.71 342 *eP* **P 07 11 19.8 +0.1**
comp=Z,174nm,1.7s,mb5.9
ROSF Rostrenen 84.71 342 *eP* **P 07 11 19.8 +0.1**
ROSF pmax pmax
comp=Z,174nm,1.7s,mb5.9
WVT Waverly 84.82 43 *eP* **P 07 11 19.0 -1.5**
comp=Z,12nm,1.0s,mb5.0
WVT *es*P sP 07 11 35.1 -4.4
WVT Waverly 84.82 43 *eP* **P 07 11 19.0 -1.5**
WVT *e**SP sP 07 11 35.1 -4.4
WVT pmax pmax
comp=Z,13nm,1.0s,mb5.0
BGF Bois d'Agland 84.83 337 *eP* **P 07 11 20.8 +0.5**
comp=Z,130nm,1.7s,mb5.5
BGF Bois d'Agland 84.83 337 *eP* **P 07 11 20.8 +0.5**
comp=Z,65nm,1.7s,mb5.5
BGF Bois d'Agland 84.83 337 *eP* **P 07 11 20.8 +0.5**
BGF pmax pmax
comp=Z,65nm,1.7s,mb5.5
TCF Toulx Ste Croi 85.25 338 *eP* **P 07 11 23.0 +0.6**
comp=Z,25nm,0.9s,mb5.0
TCF Toulx Ste Croi 85.25 338 *eP* **P 07 11 23.0 +0.6**
comp=Z,12nm,0.9s,mb5.0
TCF Toulx Ste Croi 85.25 338 *eP* **P 07 11 23.0 +0.6**
TCF pmax pmax
comp=Z,12nm,0.9s,mb5.0
MBDF Montbardon 85.33 334 *eP* **P 07 11 24.0 +1.1**
ORIF Oris-en-Rattie 85.44 335 *eP* **P 07 11 24.2 +0.8**
comp=Z,27nm,0.8s,mb5.1
ORIF Oris-en-Rattie 85.44 335 *eP* **P 07 11 24.2 +0.8**
comp=Z,14nm,0.8s,mb5.1
ORIF Oris-en-Rattie 85.44 335 *eP* **P 07 11 24.2 +0.8**
ORIF pmax pmax
comp=Z,14nm,0.8s,mb5.1
MFF Saint Martin d 85.59 339 *eP* **P 07 11 24.6 +0.5**
comp=Z,95nm,1.2s,mb5.6
MFF Saint Martin d 85.59 339 *eP* **P 07 11 24.6 +0.5**
comp=Z,48nm,1.2s,mb5.6
MFF Saint Martin d 85.59 339 *eP* **P 07 11 24.6 +0.5**
MFF pmax pmax
comp=Z,48nm,1.2s,mb5.6
VIVF Saint-Julien-l 85.86 335 *eP* **P 07 11 26.1 +0.6**
comp=Z,44nm,1.1s,mb5.3
VIVF Saint-Julien-l 85.86 335 *eP* **P 07 11 26.1 +0.6**
comp=Z,22nm,1.1s,mb5.3
VIVF Saint-Julien-l 85.86 335 *eP* **P 07 11 26.1 +0.6**
VIVF pmax pmax
comp=Z,22nm,1.1s,mb5.3
SBF Sospel 85.90 333 *eP* **P 07 11 26.5 +0.8**
comp=Z,73nm,1.0s,mb5.6
SBF Sospel 85.90 333 *eP* **P 07 11 26.5 +0.8**
comp=Z,36nm,1.0s,mb5.6
SBF Sospel 85.90 333 *eP* **P 07 11 26.5 +0.8**
SBF pmax pmax
comp=Z,37nm,1.0s,mb5.6
RJF Les Rejaudoux 86.35 338 *eP* **P 07 11 28.4 +0.5**
comp=Z,72nm,1.4s,mb5.4
RJF Les Rejaudoux 86.35 338 *eP* **P 07 11 28.4 +0.5**
comp=Z,36nm,1.4s,mb5.4
RJF Les Rejaudoux 86.35 338 *eP* **P 07 11 28.4 +0.5**
RJF pmax pmax
comp=Z,36nm,1.4s,mb5.4
SMRF Simiane la Rot 86.38 335 *eP* **P 07 11 28.8 +0.7**
FRF La Foret Royal 86.42 334 *eP* **P 07 11 28.2 -0.1**
SWET Sewanee 86.48 42 *eP* **P 07 11 27.6 -1.1**
SWET *es*P sP 07 11 43.1 -4.7
TZTN Tazewell 86.53 40 *eP* **P 07 11 30.5 +1.5**
TZTN *ep*P pP 07 11 44.1 +1.4
PGF Pioggiola 86.55 332 *eP* **P 07 11 29.9 +1.0**
comp=Z,104nm,1.2s,mb5.6
PGF Pioggiola 86.55 332 *eP* **P 07 11 29.9 +1.0**
comp=Z,52nm,1.2s,mb5.6
PGF Pioggiola 86.55 332 *eP* **P 07 11 29.9 +1.0**
PGF pmax pmax
comp=Z,52nm,1.2s,mb5.6
CAF Calviac 86.55 337 *eP* **P 07 11 29.9 +1.0**
comp=Z,134nm,1.5s,mb5.7
CAF Calviac 86.55 337 *eP* **P 07 11 29.9 +1.0**
comp=Z,67nm,1.5s,mb5.7
CAF Calviac 86.55 337 *eP* **P 07 11 29.9 +1.0**
CAF pmax pmax
comp=Z,67nm,1.5s,mb5.7
LMR La Mourre 86.67 334 *eP* **P 07 11 29.6 +0.1**
comp=Z,73nm,1.1s,mb5.5
LMR La Mourre 86.67 334 *eP* **P 07 11 29.6 +0.1**
comp=Z,37nm,1.1s,mb5.5
LMR La Mourre 86.67 334 *eP* **P 07 11 29.6 +0.1**
LMR pmax pmax
comp=Z,37nm,1.1s,mb5.5
LFF La Frestale 86.90 338 *eP* **P 07 11 31.5 +0.9**
comp=Z,122nm,1.2s,mb5.7
LFF La Frestale 86.90 338 *eP* **P 07 11 31.5 +0.9**
comp=Z,61nm,1.2s,mb5.7
LFF La Frestale 86.90 338 *eP* **P 07 11 31.5 +0.9**
LFF pmax pmax
comp=Z,61nm,1.2s,mb5.7
CPCT Cooper Cave 86.96 41 *eP* **P 07 11 29.7 -1.3**
CPCT *es*P sP 07 11 46.0 -4.2
ELN Prospectdale 87.22 38 *eP* **P 07 11 29.5 -2.8**
TBI Tubuai 87.57 126 *e*LR LR 07 39 35.8
comp=Z,523nm,25.5s
EPF Esparros 88.78 338 *eP* **P 07 11 39.8 +0.2**
SJPF Ste Jean 89.12 339 *eP* **P 07 11 40.2 -1.0**
GOGA Godfrey 89.13 42 *ep*P pP 07 11 56.8 +1.5
TORD Torodi Ar. Bea 115.68 324 PKP PKPdf 07 17 27.6 -0.8
comp=Z,1.3nm,1.1s,baz=40,slow=1.2,SNR=3.4
DBIC Dimbokro 124.18 328 PKIKP PKPdf 07 17 44.3 -0.5
DBIC pmax pmax
comp=Z,9.0nm,1.0s
DBIC Dimbokro 124.18 328 PKP PKPdf 07 17 44.2 -0.6
comp=Z,8.6nm,1.0s,baz=19,slow=2.6,SNR=3.2
MATP Matopo 125.77 276 PKP PKPdf 07 17 47.4 -0.2
comp=Z,1.5nm,0.8s,baz=91,slow=13,SNR=2.5
LPAZ La Paz 138.03 60 PKIKP PKPdf 07 18 10.4 -0.4
LPAZ pmax pmax
comp=Z,1.0nm,1.0s
LPAZ La Paz 138.03 60 PKP PKPdf 07 18 10.3 -0.4
comp=Z,1.1nm,1.0s,baz=30,slow=6.2,SNR=3.0
LCO Las Campanas 145.00 78 *e*PKPbc PKPdf 07 18 22.7 -0.3
CFAA Coronel Fontan 148.23 79 PKPbc PKPbc 07 18 30.7 -0.9
comp=Z,0.3nm,0.6s,baz=281,slow=2.7,SNR=9.3
SNAA Sanae 149.31 197 PKP2 PKPbc 07 18 35.0 +1.8
SNAA pmax pmax
comp=Z,1.0nm,0.8s
SNAA Sanae 149.31 197 PKPbc PKPbc 07 18 35.0 +1.8
comp=Z,0.9nm,0.8s,baz=208,slow=4.2,SNR=3.6
PLCA Paso Flores 150.73 97 PKIKP PKPbc 07 18 36.7 -0.9
PLCA pmax pmax
comp=Z,2.0nm,0.9s
PLCA Paso Flores 150.73 97 PKPbc PKPbc 07 18 36.6 -0.9
comp=Z,2.3nm,0.9s,baz=281,slow=5.7,SNR=4.7
VNA2 Neumayer--Watz 150.81 196 *e*PKPdf PKPdf 07 18 31.6 +0.4
VNA2 *e* 07 18 37.3
VNA2 *e* 07 18 41.0
VNA2 *e* 07 18 44.4
VNA2 *e* 07 18 48.2
VNA2 *e* 07 18 51.6
VNA2 *e* 07 18 57.2
VNA2 *e* 07 19 01.5
VNA2 *e* 07 19 08.7
VNA2 *e* 07 19 12.7
VNA2 *e* 07 19 19.0
VNA2 *e* 07 19 23.0
VNA2 *e* 07 19 27.5
VNA2 *e* 07 19 35.8
VNA2 *e* 07 19 48.4
VNA2 *e* 07 20 01.1
VNA3 Neumayer Olymp 150.96 194 *e*PKPdf PKPdf 07 18 31.6 +0.2
VNA3 *e* 07 18 37.3
VNA3 *e* 07 18 39.8
VNA3 *e* 07 18 44.0
VNA3 *e* 07 18 47.4
VNA3 *e* 07 18 51.0
VNA3 *e* 07 18 56.6
VNA3 *e* 07 19 01.8
VNA3 *e* 07 19 09.5
VNA3 *e* 07 19 13.3
VNA3 *e* 07 19 18.0
VNA3 *e* 07 19 23.6
VNA3 *e* 07 19 27.4
VNA3 *e* 07 19 36.6
VNA3 *e* 07 19 48.2
VNA3 *e* 07 20 00.9

*IDC **02** 07:01:12.3±0.8, 5233N×17024W, h0km, mb4.0/19, mb1 4.2/19, mb1mx4.2/25, mbtmp4.1/19, Error ellipse: s-maj=2.1km s-min=13.4km az=171.0*
*ISCJB **02** 07:01:18.7±0.9, 524N±0.1×17021W±008, h60km±7km, mb4.1/20, Error ellipse: s-maj=21.7km s-min=5.7km az=162.3*
*BJI **02** 07:01:19.6, 5230N×17020W, h56km, mb4.7*
*NEIC **02** 07:01:19.6±1.2, 5230N×17020W, h57km±11km, ML4.0(AEIC), Error ellipse: s-maj=31.7km s-min=7.8km az=163.0*
ISC 02 07:01:19.9±0.9, 523N±01×17020W±008, h58km±7km, n32, σ0°76/35, mb4.1/20, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATKA	**Atka Island**	**2.46**	**269**	P	**Pn**	**07 01 56.3**	**-1.2**
ATKA				S	**Sn**	**07 02 26.5**	**+0.1**
UNV	**Unalaska Valle**	**2.71**	**54**	*e*Pn	**Pn**	**07 02 00.1**	**-0.9**
UNV				*e*Sn	**Sn**	**07 02 36.9**	**+4.4**
AKGG	**Akutan Green G**	**3.16**	**52**	P	**Pn**	**07 02 07.0**	**0.0**
AKUT	**Akutan**	**3.23**	**54**	*e*Pn	**Pn**	**07 02 09.6**	**+1.6**
AKUT				*e*Sn	**Sn**	**07 02 44.7**	**-0.5**
ADK	**Adak**	**4.02**	**266**	P	**Pn**	**07 02 19.2**	**+0.3**
SDPT	**Sand Point**	**6.51**	**58**	*e*Pn	**Pn**	**07 02 53.6**	**+0.6**
30nm,0.7s							
SDPT				*e*Sn	**Sn**	**07 04 05.4**	**-0.3**
KDAK	**Kodiak Island**	**11.48**	**55**	Pn	**Pn**	**07 03 57.7**	**-3.1**
0.4nm,0.3s,baz=250,slow=11,SNR=7.3							
SVW2	**Sparrevohn**	**11.89**	**37**	Pn	**Pn**	**07 04 07.8**	**+1.5**
DLBC	**Dease Lake**	**23.35**	**59**	P	**P**	**07 06 22.1**	**-0.7**
baz=269,slow=9.6							
INK	**Inuvik**	**23.68**	**34**	P	**P**	**07 06 24.7**	**-1.1**
INK	**Inuvik**	**23.68**	**34**	P	**P**	**07 06 24.7**	**-1.1**
3.1nm,0.7s,mb3.9,baz=237,slow=9.2,SNR=9.7							
YKA	**Yellowknife Ar**	**30.66**	**49**	P	**P**	**07 07 28.5**	**0.0**
0.4nm,0.4s,mb3.6,baz=274,slow=8.0,SNR=9.0							
NEW	**Newport**	**33.52**	**75**	P	**P**	**07 07 53.9**	**+0.3**
1.0nm,0.5s,mb4.0,baz=276,slow=7.4,SNR=4.1							
NVAR	**Mina Array Bea**	**38.17**	**90**	P	**P**	**07 08 34.2**	**+0.7**
0.5nm,0.7s,mb3.4,baz=297,slow=6.0,SNR=4.9							
MJAR	**Matsushiro Arr**	**39.18**	**267**	P	**P**	**07 08 41.7**	**-0.3**
1.1nm,0.4s,mb3.9,baz=54,slow=7.1,SNR=4.1							
PDAR	**Pinedale Array**	**40.91**	**79**	P	**P**	**07 08 56.8**	**+0.5**
2.0nm,0.8s,mb3.8,baz=305,slow=3.8,SNR=16							
ULM	**Lac du Bonnet**	**44.63**	**62**	P	**P**	**07 09 26.2**	**0.0**
ULM	**Lac du Bonnet**	**44.63**	**62**	P	**P**	**07 09 26.2**	**0.0**
1.8nm,0.8s,mb4.0,baz=311,slow=9.3,SNR=3.8							
KSRS	**Korea Array**	**44.90**	**276**	P	**P**	**07 09 29.5**	**+0.9**
2.8nm,0.8s,mb4.2,baz=48,slow=9.4,SNR=5.0							
SONM	**Songino Array**	**50.89**	**300**	P	**P**	**07 10 15.5**	**+0.8**
1.0nm,0.5s,mb4.0,baz=56,slow=5.9,SNR=5.9							
SONM				PcP	PcP	07 11 31.6	+1.2
0.7nm,0.7s,baz=77,slow=3.5,SNR=3.8							
ZALV	**Zalesovo Beam**	**57.12**	**317**	P	**P**	**07 11 00.3**	**+0.4**
0.5nm,0.5s,mb3.8,baz=35,slow=5.3,SNR=2.1							
ZALV				PcP	PcP	07 11 55.1	+1.1
2.5nm,0.7s,baz=54,slow=3.5,SNR=4.6							
ARCES	**ARCESS Array B**	**57.92**	**354**	P	**P**	**07 11 05.5**	**+0.1**
5.9nm,0.9s,mb4.6,baz=16,slow=7.5,SNR=4.8							
MKAR	**Makanchi Array**	**63.47**	**313**	P	**P**	**07 11 43.3**	**-0.2**
0.9nm,0.8s,mb4.0,baz=49,slow=6.4,SNR=3.3							
GYA	**Guiyang**	**65.44**	**282**	P	**P**	**07 12 01.2**	**+4.6**
GYA				AMB	AMB		
comp=Z,10.0nm,0.9s,mb4.8							
FINES	**FINESS Array B**	**65.85**	**352**	P	**P**	**07 11 58.6**	**-0.1**
comp=Z,0.7nm,0.5s,mb4.0,baz=21,slow=8.2,SNR=4.0							
NOA	**NORSAR Array B**	**66.99**	**359**	P	**P**	**07 12 06.1**	**+0.2**
comp=Z,0.8nm,0.7s,mb3.9,baz=337,slow=5.4,SNR=2.2							
AKTO	**Aktyubinsk**	**69.81**	**329**	P	**P**	**07 12 24.0**	**+0.3**
comp=Z,3.2nm,0.5s,mb4.5,baz=54,slow=5.5,SNR=10							
AKASG	**Malin Array Be**	**76.06**	**347**	P	**P**	**07 13 00.1**	**-0.6**
comp=Z,1.1nm,0.6s,mb4.0,baz=11,slow=5.4,SNR=3.5							
WRA	**Warramunga Arr**	**86.57**	**231**	P	**P**	**07 13 55.6**	**-1.0**
comp=Z,0.8nm,0.7s,mb4.0,baz=36,slow=4.8,SNR=5.1							
ESDC	**Sonseca Array**	**87.61**	**11**	P	**P**	**07 14 00.9**	**-0.7**
comp=Z,2.1nm,0.8s,mb4.4,baz=352,slow=5.3,SNR=5.0							
ASAR	**Alice Springs**	**89.97**	**229**	P	**P**	**07 14 12.9**	**+0.3**
comp=Z,2.1nm,0.7s,mb4.6,baz=30,slow=4.6,SNR=12							
MATP	**Matopo**	**145.01**	**328**	PKP	PKPdf	07 20 51.0	+0.5
comp=Z,5.7nm,0.8s,baz=12,slow=5.6,SNR=7.8							

*IDC **02** 07:03:13.3±1.1, 763S×15606E, h0km, mb4.3/9, mb1 4.3/10, mb1mx4.2/15, mbtmp4.2/10, ML4.0/1, Error ellipse: s-maj=32.3km s-min=20.1km az=113.0*
*NEIC **02** 07:03:15.0±0.6, 759S×15606E, h10km, mb4.5/1, Error ellipse: s-maj=14.9km s-min=13.6km az=161.0*
*ISCJB **02** 07:03:16.7±0.7, 76S±0.1×15609E±0.10, h33km, mb4.2/10, Error ellipse: s-maj=16.4km s-min=13.9km az=163.3*
ISC 02 07:03:18.5±0.7, 77S±01×1561E±01, h35km, n14, σ0°84/15, mb4.2/10, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.21**	**115**	Pn	**Pn**	**07 04 20.7**	**+0.4**
9.4nm,0.3s,baz=252,slow=9.6,SNR=2.1							
HNR				Sn	**Sn**	**07 05 18.9**	**+11**
12nm,0.3s,baz=77,slow=20,SNR=1.9							
CTA	**Charters Tower**	**15.61**	**217**	Pn	**Pn**	**07 07 02.0**	**+6.0**
0.3nm,0.3s,baz=32,slow=13,SNR=3.8							
KAKA	**Kakadu**	**23.80**	**256**	*e*P	**P**	**07 08 28.1**	**-0.3**
8.1nm,0.6s,mb4.3							
WB2	**Warramunga Arr**	**24.35**	**238**	*e*P	**P**	**07 08 34.4**	**+1.1**
WRA	**Warramunga Arr**	**24.36**	**238**	P	**P**	**07 08 34.5**	**+1.1**
8.7nm,0.8s,mb4.2,baz=62,slow=9.3,SNR=30							
ASAR	**Alice Springs**	**26.57**	**231**	P	**P**	**07 08 54.0**	**+0.5**
1.3nm,0.5s,mb3.7,baz=59,slow=9.6,SNR=18							
STKA	**Stephens Creek**	**27.63**	**207**	P	**P**	**07 09 01.5**	**-1.4**
1.0nm,0.8s,mb3.5,baz=66,slow=10.0,SNR=2.3							
FITZ	**Fitzroy Crossi**	**31.39**	**248**	P	**P**	**07 09 35.1**	**-1.3**
3.5nm,0.7s,mb4.3,baz=54,slow=7.5,SNR=9.5							
MJAR	**Matsushiro Arr**	**47.05**	**340**	P	**P**	**07 11 46.7**	**0.0**
0.8nm,0.3s,mb4.1,baz=165,slow=8.8,SNR=3.9							
SONM	**Songino Array**	**70.46**	**327**	P	**P**	**07 14 30.6**	**+1.2**
2.9nm,0.4s,mb4.5,baz=143,slow=7.0,SNR=25							
MKAR	**Makanchi Array**	**84.60**	**318**	P	**P**	**07 15 48.2**	**-0.2**
3.6nm,0.7s,mb4.6,baz=88,slow=8.5,SNR=16							
ZALV	**Zalesovo Beam**	**85.32**	**326**	P	**P**	**07 15 51.2**	**-0.6**
ZALV	**Zalesovo Beam**	**85.32**	**326**	P	**P**	**07 15 51.2**	**-0.6**
1.9nm,0.4s,mb4.5,baz=117,slow=5.0,SNR=8.9							
YKA	**Yellowknife Ar**	**96.40**	**28**	P	**P**	**07 16 43.0**	**-0.6**
0.2nm,0.7s,mb3.6,baz=268,slow=5.2,SNR=3.8							

*NEIC **02** 07:04:32.2, 1730N×10081W, h27km, MD4.1(MEX), After MEX.*
MEX 02 07:04:32.3±0.9, 1731N×10081W, h24km±23km, MD4.1, 1C, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.58**	**116**	*e*P	Pb	07 04 42.3	-1.5
CAIG				*e*S	Sb	07 04 49.4	-2.3
ZIIG	**Zihuatanejo**	**0.69**	**296**	⇑*i*P	Pb	07 04 43.8	-2.0
ZIIG				*i* S	Sb	07 04 51.6	-3.2
ACX	**Acapulco**	**0.96**	**117**	*e*P	Pb	07 04 47.3	-2.9
ACX				*e*S	Sb	07 04 57.1	-5.5
MEIG	**Mezcala**	**1.29**	**61**	*e*P	Pn	07 04 52.7	-2.2
MEIG				*e*S	Sn	07 05 07.5	-3.9
PLIG	**Platanillo**	**1.65**	**49**	*e*P	Pn	07 04 58.3	-1.4
PLIG				*e*S	Sn	07 05 17.1	-3.1
YAIG	**Yautepec**	**2.27**	**47**	*e*P	Pn	07 05 06.3	-2.0
YAIG				*e*S	Sn	07 05 31.8	-3.7
MOIG	**Morelia**	**2.38**	**351**	*e*P	Pn	07 05 07.6	-2.3
MOIG				*e*S	Sn	07 05 35.7	-2.7
MZVM		**2.40**	**39**	*e*P	Pn	07 05 09.2	-1.0
MZVM				*e*S	Sn	07 05 38.0	-0.7
SZVM	**Salazar**	**2.42**	**34**	*e*P	Pn	07 05 09.2	-1.3
SZVM				*i* S	Sn	07 05 40.2	+0.9
UNM	**Universidad Na**	**2.54**	**37**	*e*P	Pn	07 05 10.8	-1.3
UNM				*e*S	Sn	07 05 46.7	+4.5
MMIG	**Aquila**	**2.60**	**292**	*e*P	Pn	07 05 11.2	-1.7
MMIG				*e*S	Sn	07 05 40.7	-3.1
PBVM	**Pinon**	**2.68**	**37**	*e*P	Pn	07 05 14.0	0.0
PBVM				*e*S	Sn	07 05 43.5	-2.3
PPM	**Popocatepetl**	**2.71**	**50**	*e*P	Pn	07 05 12.6	-1.9
PPM				*e*S	Sn	07 05 50.1	+3.6
PTVM	**Pico Tres Padr**	**2.79**	**35**	*e*P	Pn	07 05 11.4	-4.0
PTVM				*e*S	Sn	07 05 43.3	-5.0
UTMO	**Huajuapan**	**2.92**	**79**	*e*P	Pn	07 05 16.1	-1.1
UTMO				*e*S	Sn	07 05 48.3	-3.2
IIO	**Organos**	**3.01**	**41**	*e*P	Pn	07 05 17.1	-1.5
IIO				*e*S	Sn	07 05 50.5	-3.4
DEIG	**Demacu**	**3.42**	**29**	*e*P	Pn	07 05 20.8	-3.3
DEIG				*e*S	Sn	07 06 00.5	-3.4
TPIG	**Tehuac#an**	**3.46**	**71**	*e*P	Pn	07 05 23.2	-1.6
TPIG				*e*S	Sn	07 06 03.5	-1.6

IDC 02 07:09:19.0±1.5, 762S×15686E, h0km, mb3.6/3, mb1 3.8/4, mb1mx3.6/14, mbtmp3.7/4, ML4.1/1, Error ellipse: s-maj=35.1km s-min=26.9km az=24.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**3.54**	**121**	Pn	Pn	07 10 15.7	+0.4
18nm,0.3s,baz=261,slow=4.9,SNR=3.3							
HNR				Sn	Sn	07 10 57.9	0.0
14nm,0.3s,baz=254,slow=18,SNR=5.3							
WRA	**Warramunga Arr**	**25.03**	**238**	P	P	07 14 45.2	+0.1
0.7nm,0.7s,baz=64,slow=9.6,SNR=5.9							
ASAR	**Alice Springs**	**27.19**	**232**	P	P	07 15 04.3	-0.2
0.8nm,1.0s,baz=62,slow=9.7,SNR=3.1							
SONM	**Songino Array**	**70.87**	**327**	P	P	07 20 38.2	+0.4
0.3nm,0.7s,baz=126,slow=7.3,SNR=2.2							

IDC 02 07:14:26.5±4.1, 726S×15554E, h0km, mb3.8/4, mb1 3.9/4, mb1mx3.7/13, mbtmp3.8/4, Error ellipse: s-maj=120.3km s-min=31.9km az=114.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.12**	**236**	P	P	07 19 44.7	+0.6
2.6nm,0.9s,baz=62,slow=9.5,SNR=6.5							
ASAR	**Alice Springs**	**26.41**	**229**	P	P	07 20 04.6	-0.4
0.8nm,0.8s,baz=60,slow=8.8,SNR=4.3							
SONM	**Songino Array**	**69.85**	**327**	P	P	07 25 39.1	+0.1
0.3nm,0.5s,baz=133,slow=8.1,SNR=4.3							
MKAR	**Makanchi Array**	**83.96**	**319**	P	P	07 26 58.9	+0.3
0.8nm,0.7s,baz=126,slow=6.3,SNR=4.6							

IDC 02 07:14:52.5±1.4, 739S×15607E, h0km, mb4.0/5, mb1 4.1/6, mb1mx3.9/14, mbtmp4.1/6, ML3.9/1, Error ellipse: s-maj=36.8km s-min=31.8km az=102.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.34**	**118**	Pn	Pn	07 15 59.8	0.0
6.8nm,0.3s,baz=317,slow=14,SNR=3.3							
HNR				Sn	Sn	07 16 56.8	+5.8
9.0nm,0.3s,baz=309,slow=18,SNR=2.8							
WRA	**Warramunga Arr**	**24.49**	**237**	P	P	07 20 14.1	+0.5
3.7nm,0.9s,baz=62,slow=9.1,SNR=5.2							
ASAR	**Alice Springs**	**26.73**	**230**	P	P	07 20 33.5	-0.4
0.6nm,0.6s,baz=63,slow=9.6,SNR=2.4							
SONM	**Songino Array**	**70.25**	**327**	P	P	07 26 08.1	+0.6
1.0nm,0.7s,baz=141,slow=6.2,SNR=6.2							
MKAR	**Makanchi Array**	**84.41**	**318**	P	P	07 27 26.8	-0.1
1.9nm,0.7s,baz=96,slow=6.2,SNR=6.8							
ZALV	**Zalesovo Beam**	**85.10**	**326**	P	P	07 27 30.1	-0.1
1.4nm,0.6s,baz=121,slow=5.9,SNR=6.7							

IDC 02 07:16:23.5±3.5, 616S×15075E, h0km, mb3.3/2, mb1 3.7/2, mb1mx3.4/12, mbtmp3.4/2, MS4.2/1, Ms1 4.2/1, ms1mx3.4/21, Error ellipse: s-maj=139.0km s-min=45.5km az=120.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.02**	**228**	P	P	07 21 08.7	-0.3
0.7nm,0.5s,baz=54,slow=11,SNR=44							
ASAR	**Alice Springs**	**23.78**	**221**	P	P	07 21 38.0	-0.1
0.8nm,0.5s,baz=56,slow=8.6,SNR=7.6							
URZ	**Urewera**	**39.91**	**147**	LR	LR	07 36 22.3	
comp=Z,362nm,20.9s,baz=31,slow=30							
TORD	**Torodi Ar. Bea**	**148.74**	**285**	PKPbc	PKPbc	07 36 13.6	-0.3
0.6nm,0.8s,baz=74,slow=1.7,SNR=4.0							

*IDC **02** 07:16:30.4±0.4, 759S×15628E, h0km, mb5.1/22, mb1 5.1/24, mb1mx5.1/25, mbtmp5.0/24, ML4.0/2, MS4.5/3, Ms1 4.5/3, ms1mx3.8/21, Error ellipse: s-maj=17.2km s-min=12.5km az=105.0*
*BJI **02** 07:16:31.3, 723S×15621E, h6km, mB5.5, mb5.3, Ms5.2, Msz4.9*
*ISCJB **02** 07:16:32.0±0.1, 753S±004×15613E±003, h14km, mb5.3/86, MS4.9/12, Error ellipse: s-maj=5.1km s-min=3.6km az=177.3*
*NEIC **02** 07:16:32.3±0.1, 753S×156.19E, h10km, mb5.2/28, Error ellipse: s-maj=5.9km s-min=4.8km az=112.0*
*MOS **02** 07:16:35.2±0.8, 744S×15609E, h33km, mb5.5/25, Error ellipse: s-maj=9.4km s-min=7.0km az=107.5*
ISC 02 07:16:33.6±0.1, 755S±004×15617E±002, h15km, h15km±1.0km: pP-P, n445, σ0°74/353, mb5.3/86, MS4.9/12, 93C-83D, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.17**	**117**	*e*Pn	**Pn**	**07 17 38.7**	**+1.8**
HNR				*e*Sn	**Sn**	**07 18 25.9**	**+0.5**
HNR	**Honiara**	**4.17**	**117**	Pn	**Pn**	**07 17 36.4**	**-0.4**
18nm,0.3s,baz=304,slow=1.6,SNR=3.2							
HNR				Sn	**Sn**	**07 18 32.1**	**+6.6**
83nm,0.3s,baz=280,slow=20,SNR=6.6							
CTA	**Charters Tower**	**15.74**	**217**	⇓*i*P	**Pn**	**07 20 16.4**	**+1.4**
10nm,0.8s							
CTA				*e*		07 20 23.7	
CTA	**Charters Tower**	**15.74**	**217**	⇓*i*P	**Pn**	**07 20 16.4**	**+1.4**
CTA				pmax	pmax		
comp=Z,10.0nm,0.8s							
CTA	**Charters Tower**	**15.74**	**217**	Pn	**Pn**	**07 20 15.8**	**+0.8**
comp=Z,0.4nm,0.3s,baz=49,slow=13,SNR=5.9							
CTA				LR	LR	07 25 15.7	
comp=Z,2μm,21.8s,baz=76,slow=33							
CTAO	**Charters Tower**	**15.74**	**217**	*e*Pn	**Pn**	**07 20 16.5**	**+1.5**
DZM	**Mont Dzumac**	**17.51**	**147**	Pn	**Pn**	**07 20 37.1**	**-0.2**
comp=Z,0.5nm,0.3s,baz=359,slow=13,SNR=11							
EIDS	**Eidsvold**	**18.38**	**195**	*e*P	**Pn**	**07 20 49.2**	**+1.2**
comp=Z,23nm,1.1s							
ARMA	**Armidale**	**23.15**	**190**	⇓*i*P	**P**	**07 21 40.1**	**+0.5**
TLE	**Tual**	**23.36**	**273**	⇓*e*P	**P**	**07 21 43.0**	**+1.0**
KAKA	**Kakadu**	**23.91**	**256**	⇓*i*P	**P**	**07 21 47.2**	**0.0**
comp=Z,94nm,0.8s,mb5.3							
WB2	**Warramunga Arr**	**24.48**	**238**	⇓*i*P	**P**	**07 21 52.4**	**+0.1**
WB2				*es*P	sP	07 21 57.5	-1.2
WB2				*e*PCP	PcP	07 25 30.7	-0.4
WB2				*e*S	**S**	**07 26 17.7**	**+5.4**
WB2				*e*PCS	PcS	07 29 08.6	-2.6
WB2				*e*SCS	ScS	07 33 00.1	+2.7
WRA	**Warramunga Arr**	**24.49**	**238**	⇑*e*P	**P**	**07 21 52.5**	**+0.1**
WRA	**Warramunga Arr**	**24.49**	**238**	P	**P**	**07 21 52.5**	**0.0**
comp=Z,62nm,0.9s,mb5.0,baz=62,slow=9.4,SNR=96							
WRA				PcP	PcP	07 25 30.8	-

comp=Z,12nm,0.9s,baz=121,slow=5.9,SNR=3.9
BATI Kupang 32.22 263 P **P 07 23 03.3 +1.6**
comp=Z,30nm,0.6s,mb5.3,baz=182,slow=1.3,SNR=6.1
FORT Forrest 35.01 225 *e*P **P**
comp=Z,19nm,0.7s,mb5.1
FORT *e* pP 07 23 28.0 -2.3
WSI Waingapu 35.52 264⇑*e*P **P 07 23 31.3 +0.9**
WSI *e*S pP 07 23 36.8 +1.8
MBWA Marble Bar 37.70 245 *e*P **P 07 23 48.0 -0.8**
comp=Z,38nm,1.1s,mb5.0
RPZ Rata Peaks 38.31 163 P **P 07 23 52.8 -0.9**
comp=Z,17nm,0.9s,mb4.8,baz=133,slow=6.9,SNR=7.6
MYLDM Lahad Datu 39.66 287 ⇓P **P 07 24 07.6 +2.2**
TSM Tawau 39.99 286 ⇑P **P 07 24 08.6 +0.5**
SDKM Sandakan 41.03 288 ⇓P **P 07 24 16.2 -0.6**
KDM Kudat 41.78 289 ⇑P **P 07 24 23.2 +0.2**
KKM Kota Kinabalu 42.09 288 *e*P **P 07 24 25.8 +0.4**
KKM Kota Kinabalu 42.09 288 ⇓P **P 07 24 25.8 +0.4**
KLBR Kellerberrin 43.04 231 *e*P **P 07 24 32.0 -1.0**
comp=Z,26nm,0.8s,mb5.0
JOW Kunigami 43.58 323 P **P 07 24 38.1 +0.8**
comp=Z,35nm,1.0s,mb5.0,baz=153,slow=16,SNR=3.1
NWAO Narrogin (SRO) 44.02 230 P **P 07 24 39.9 -0.9**
comp=Z,24nm,1.0s,mb4.9,baz=43,slow=7.6,SNR=3.8
BTM Bintulu 44.30 282 ⇑P **P 07 24 44.9 +1.5**
SBUM Sibu 44.96 281 ⇑P **P 07 24 50.2 +1.5**
NACB Ninganchiao 46.18 314 *e*P **P 07 24 58.8 +0.7**
KSM Kuching 46.62 279 *e*P **P 07 25 01.2 -0.6**
KSM Kuching 46.62 279 ⇑P **P 07 25 01.2 -0.6**
YHNB Yeheng 46.64 314 *e*P **P 07 25 02.9 +1.2**
MJAR Matsushiro Arr 46.99 340 P **P 07 25 03.1 -1.1**
comp=Z,1.7nm,0.3s,mb4.4,baz=168,slow=7.6,SNR=7.6
MJAR PcP PcP 07 26 36.2 -0.3
comp=Z,15nm,0.8s,baz=164,slow=3.7,SNR=9.6
MAJO Matsushiro 46.99 340 *e*P **P 07 25 04.2 -0.1**
comp=Z,23nm,1.0s,mb5.0
MAJO Matsushiro 46.99 340 *e*P **P 07 25 04.2 0.0**
MAJO pmax pmax
comp=Z,23nm,1.0s,mb5.1
MAT Matsushiro 46.99 340 P **P 07 25 03.5 -0.7**
JNU Nakatsue 47.06 331 P **P 07 25 05.0 +0.2**
comp=Z,73nm,0.8s,mb5.7,baz=110,slow=6.3,SNR=31
QZH Quanzhou 48.81 313 P **P 07 25 19.3 +0.7**
QZH AMB AMB
comp=Z,120nm,0.8s,mb6.0
KSRS Korea Array 51.98 331 P **P 07 25 42.5 +0.2**
comp=Z,16nm,0.8s,mb5.0,baz=148,slow=7.4,SNR=21
KSRS PcP PcP 07 26 55.0 +0.3
comp=Z,4.6nm,0.8s,baz=164,slow=3.0,SNR=5.4
INCN Inchon 52.62 330 *e*P **P 07 25 49.1 +2.0**
MYKOM Kota Tinggi 53.01 278 ⇓P **P 07 25 50.5 0.0**
NJ2 Nanjing 53.09 320 *e*P **P 07 25 51.6 +1.0**
NJ2 AP pP 07 25 56.8 +1.4
NJ2 XP sP 07 25 59.3 +2.1
NJ2 PP PP 07 27 52.2 +1.5
NJ2 S **S 07 33 20.0 -0.5**
NJ2 XS sS 07 33 29.0 +0.7
NJ2 AMB AMB
comp=Z,140nm,1.2s,mb5.8
NJ2 AMB AMB
comp=Z,2μm,5.4s
NJ2 LR LR
comp=N,2μm,14.4s,MS5.6
NJ2 LR LR
comp=E,3μm,15.6s,MS5.6
NJ2 LR LR
comp=Z,8μm,16.6s,MS5.8
KGM Kluang 53.58 278 ⇓P **P 07 25 54.9 +0.2**
KTGM Kuala Trenggan 54.44 282 ⇓P **P 07 26 01.2 +0.3**
WHN Wuhan 55.15 315 *e*P **P 07 26 06.0 +0.2**
PMOR Pomariorio Ree 55.23 103 *e*P **P 07 26 06.3 -0.3**
comp=Z,59nm,1.1s,mb5.5
FRIM Kepong 55.47 279 ⇑P **P 07 26 07.6 -0.8**
YSS Yuzh-Sakhalins 55.56 349⇑*e*P **P 07 26 08.8 +0.5**
YSS pmax pmax
comp=Z,22nm,1.6s,mb4.9
DL2 Dalian 56.25 328 P **P 07 26 14.0 +0.5**
DL2 *e*S **S 07 34 03.8 +0.9**
DL2 AMB AMB
comp=Z,30nm,0.9s,mb5.3
DL2 LR LR
comp=N,220nm,15.9s,MS4.4
DL2 LR LR
comp=E,140nm,17.8s,MS4.4
DL2 LR LR
comp=Z,270nm,15.5s,MS4.5
KULM Kulim 56.84 281 *e*P **P 07 26 17.1 -1.2**
MDJ Mudanjiang 57.19 338 P **P 07 26 20.9 +0.9**
MDJ AMB AMB
comp=Z,12nm,1.1s,mb4.8
MDJ AMB AMB
comp=Z,159nm,6.8s
MDJ Mudanjiang 57.19 338 *e*P **P 07 26 18.6 -1.4**
comp=Z,12nm,0.9s,mb4.9
SNY Shenyang 57.48 331 ⇑P **P 07 26 22.4 +0.2**
SNY *e*S **S 07 34 13.7 -5.3**
SNY AMB AMB
comp=Z,20nm,0.8s,mb5.2
SNY LR LR
comp=N,242nm,14.7s,MS4.7
SNY LR LR
comp=E,385nm,15.3s,MS4.7
SNY LR LR
comp=Z,424nm,15.0s,MS4.7
PSI Prapat 58.04 278 P **P 07 26 25.1 -1.5**
comp=Z,1.9nm,0.4s,mb4.5,baz=128,slow=23,SNR=3.7
PSI PcP PcP 07 27 17.6 -1.0
comp=Z,5.3nm,0.6s,baz=88,slow=1.6,SNR=7.7
CN2 Changchun 58.19 334 *e*P **P 07 26 28.0 +0.9**
CN2 *e*XP sP 07 26 35.0 +1.3
CN2 *e*S **S 07 34 27.5 -0.8**
CN2 AMB AMB
comp=Z,30nm,0.8s,mb5.4
CN2 AMB AMB
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,600nm,21.0s,MS4.8
CN2 LR LR
comp=E,400nm,21.0s,MS4.8
GYA Guiyang 58.72 307⇑*i*P **P 07 26 33.8 +2.7**
GYA AP pP 07 26 37.8 +1.9
GYA XP sP 07 26 40.2 +2.5
GYA PCP PcP 07 27 22.8 +1.8
GYA PP PP 07 28 45.4 +4.2
GYA SCP ScP 07 31 22.6 +1.4
GYA S **S 07 34 36.8 +1.0**
GYA SCS ScS 07 36 19.7 -1.3
GYA SS SS 07 38 31.2 +2.0
GYA AMB AMB
comp=Z,60nm,1.0s,mb5.6
GYA AMB AMB
comp=Z,5μm,11.6s
GYA LR LR
comp=N,5μm,21.2s,MS5.8
GYA LR LR
comp=E,5μm,20.0s,MS5.8
GYA LR LR
comp=Z,5μm,22.8s,MS5.5
HABR Khabarovsk 58.80 344 *e*P **P 07 26 31.0 -0.2**
HABR *e*S **S 07 34 38.1 +2.1**
BJT Baijiatuau 60.02 325 *e*P **P 07 26 39.8 -0.1**
comp=Z,26nm,1.0s,mb5.2
BJT Baijiatuau 60.02 325 *e*P **P 07 26 39.8 -0.1**
BJT pmax pmax
comp=Z,26nm,1.0s
BJI Beijing 60.03 325 P **P 07 26 38.9 -1.1**
BJI AMB AMB
comp=Z,23nm,1.3s,mb5.0
BJI Beijing 60.03 325 P **P 07 26 38.9 -1.1**
comp=Z,23nm,1.3s,mb5.0
NST Nakhon Sawan 60.10 293 P **P 07 26 41.1 +0.2**
KLR Kul'dur 60.45 342 *e*P **P 07 26 37.9 -4.7**
XAN Xi'an 60.91 316 P **P 07 26 45.4 -0.7**
XAN AP pP 07 26 50.7 -0.2
XAN S **S 07 34 58.3 -5.5**
XAN AMB AMB
comp=Z,15nm,1.1s,mb5.0
XAN LR LR
comp=N,139nm,15.2s
XAN LR LR
comp=E,175nm,20.5s
XAN LR LR
comp=Z,278nm,20.5s
KMI Kunming 61.29 304 P **P 07 26 49.9 +1.0**
KMI AMB AMB
comp=Z,40nm,0.9s,mb5.5
KMI Kunming 61.29 304 P **P 07 26 49.9 +1.0**
comp=Z,40nm,0.9s,mb5.5
CHG Chiang Mai 62.19 296 ⇓P **P 07 26 55.1 +0.1**
comp=Z,19nm,0.8s,mb5.3
CHTO Chiang Mai 62.19 296 *e*P **P 07 26 55.3 +0.2**
CD2 Chengdu 63.06 310 P **P 07 27 00.7 +0.1**
CD2 AP pP 07 27 05.3 -0.1
CD2 XP sP 07 27 07.8 +0.6
CD2 PP PP 07 29 20.9 +1.4
CD2 S **S 07 35 28.9 -2.2**
CD2 XS sS 07 35 37.0 -2.0
CD2 SS SS 07 39 36.2 -1.0
CD2 AMB AMB
comp=Z,60nm,0.7s,mb5.8
CD2 AMB AMB
comp=Z,120nm,5.8s
CD2 LR LR
comp=N,660nm,17.8s,MS5.0
CD2 LR LR
comp=E,560nm,16.6s,MS5.0
CD2 LR LR
comp=Z,350nm,17.8s,MS4.6
HHC Hu-ho-hao-te 63.23 323 *e*P **P 07 27 02.4 +0.9**
HHC AP pP 07 27 06.9 +0.6
HHC XP sP 07 27 09.3 +1.2
HHC PP PP 07 29 22.4 +1.6
HHC SCP ScP 07 31 36.9 -4.0
HHC PCS PcS 07 31 41.7 -0.6
HHC S **S 07 35 35.9 +3.1**
HHC XS sS 07 35 39.7 -1.0
HHC SCS ScS 07 36 51.1 -3.1
HHC SS SS 07 39 41.9 +2.4
HHC AMB AMB
comp=Z,40nm,1.1s,mb5.5
HHC AMB AMB
comp=Z,348nm,12.9s
HHC LR LR
comp=N,256nm,15.3s
HHC LR LR
comp=E,297nm,9.8s
HHC LR LR
comp=Z,191nm,14.1s,MS4.4
BTO Baotou 64.00 322 *e*P **P 07 27 07.2 +0.5**
HIA Hailar 64.92 335 *e*P **P 07 27 13.0 +0.5**
HIA ⇑*i*P 07 27 13.1
HIA Hailar 64.92 335⇑*i*P **P 07 27 13.0 +0.6**
LZH Lanzhou 65.53 315 *e*P **P 07 27 17.5 +0.8**
LZH AP pP 07 27 20.7 -0.8
LZH XP sP 07 27 22.2 -1.1
LZH *e*S S 07 36 00.0 -1.5
LZH XS sS 07 36 06.0 -3.4
LZH SS SS 07 40 13.0 -2.5
LZH AMB AMB
comp=Z,78nm,1.4s,mb5.5
LZH AMB AMB
comp=Z,195nm,6.1s
LZH LR LR
comp=E,553nm,13.1s
LZH LR LR
comp=Z,852nm,14.3s,MS5.1
LZH Lanzhou 65.53 315 *e*P **P 07 27 17.5 +0.8**
comp=Z,78nm,1.4s,mb5.5
LZH pP pP 07 27 20.7 -0.8
LZH sP sP 07 27 22.2 -1.1
LZH *e*S S 07 36 00.0 -1.5
LZH sS sS 07 36 06.0 -3.4
LZH SS SS 07 40 13.0 -2.5
LZH LR LR
comp=Z,850nm,14.3s,MS5.1
LZH Lanzhou 65.53 315 *e*P **P 07 27 17.5 +0.8**
LZH *e*S S 07 36 00.0 -1.5
LZH SS SS 07 40 13.0 -2.5
LZH pmax pmax
comp=Z,78nm,1.4s,mb5.5
LZH MLR MLR
comp=Z,850nm,14.3s,MS5.1
MA2 Magadan 67.04 357 *e*P **P 07 27 25.6 -0.3**
comp=Z,30nm,0.9s,mb5.3
MA2 Magadan 67.04 357 *e*P **P 07 27 25.6 -0.3**
MA2 *e* 07 27 36.6
MA2 *e*S S 07 36 14.1 -4.9
MA2 pmax pmax
comp=N,20nm,0.9s
MA2 pmax pmax
comp=Z,50nm,0.9s,mb5.5
CLNS Chul'man 69.10 342 *e*P **P 07 27 39.5 +0.6**
CLNS pmax pmax
comp=N,12nm,0.9s
CLNS pmax pmax
comp=Z,38nm,0.9s,mb5.3
CLNS pmax pmax
comp=E,4.0nm,0.7s
CIT Chita 69.62 333 *e*P **P 07 27 42.6 +0.4**
CIT *e* 07 27 54.4
CIT *e* 07 27 58.7
CIT pmax pmax
comp=Z,96nm,1.8s,mb5.4
GTA Gaotai 69.94 317 ⇓P **P 07 27 45.4 +0.9**
GTA AP pP 07 27 48.9 -0.4
GTA XP sP 07 27 50.4 -0.7
GTA PP PP 07 30 23.5 +4.1
GTA S S 07 36 55.9 +1.7
GTA XS sS 07 37 04.3 +2.1
GTA SKS 07 37 42.3
GTA AMB AMB
comp=Z,38nm,1.3s,mb5.2
GTA AMB AMB
comp=Z,569nm,5.7s
GTA LR LR
comp=N,266nm,18.6s,MS4.7
GTA LR LR
comp=E,247nm,18.2s,MS4.7
GTA LR LR
comp=Z,409nm,17.5s,MS4.7
ULN Ulaanbaatar 70.10 327 *e*P **P 07 27 46.1 +0.8**
ULN *i*P 07 27 46.2
SEY Seymchan 70.33 358⇓*i*P **P 07 27 46.1 -0.3**
SONM Songino Array 70.43 327 P **P 07 27 48.2 +0.9**
comp=Z,82nm,0.9s,mb5.7,baz=132,slow=6.1,SNR=300
SONM PcP PcP 07 28 08.7 0.0
comp=Z,18nm,0.9s,baz=134,slow=3.8,SNR=5.2
SBA Scott Base 70.49 178 *e*P **P 07 27 47.8 +0.6**
YAK Yakutsk 72.35 347⇑*e*P **P 07 27 58.8 +0.3**
YAK Yakutsk 72.35 347 *e*P **P 07 27 58.4 -0.1**
YAK pmax pmax
comp=Z,55nm,1.0s,mb5.4
YAK pmax pmax
comp=N,14nm,1.0s
YAK pmax pmax
comp=E,9.0nm,1.3s
LSA Lhasa 72.55 304 *e*P **P 07 28 02.0 +1.5**
comp=E,25nm,0.8s,mb5.2
LSA Lhasa 72.55 304 *e*P **P 07 28 02.0 +1.5**
LSA pmax pmax
comp=Z,25nm,0.8s,mb5.2
BOD Bodaibo 73.56 338⇑*i*P **P 07 28 05.1 -0.7**
BOD pmax pmax
comp=Z,29nm,1.3s,mb5.0
ZAK Zakamensk 73.58 328⇑*e*P **P 07 28 06.1 0.0**
ZAK pmax pmax
comp=Z,49nm,1.1s,mb5.3
CHGN Chignik 73.76 24 *e*P **P 07 28 05.4 -1.7**
TLY Talaya 74.13 329 P **P 07 28 09.2 -0.1**
comp=Z,390nm,0.8s,mb6.4,SNR=23
TLY Talaya 74.13 329 *e*P **P 07 28 09.7 +0.4**
TLY Talaya 74.13 329 *e*P **P 07 28 09.6 +0.3**
TLY pmax pmax
comp=Z,78nm,1.0s,mb5.6
IRK Irkutsk 74.14 330⇓*i*P **P 07 28 09.1 -0.3**
IRK pmax pmax
comp=Z,132nm,0.9s,mb5.9
BOK Bokaro 75.29 297 *e*P **P 07 28 16.5 -0.2**
BOK AMb AMB 07 28 18.7
comp=Z,21nm,0.9s,mb5.1
MOY Mondy 75.49 328 *e*P **P 07 28 17.8 +0.6**
MOY pmax pmax
comp=Z,84nm,1.6s,mb5.4
BILL Bilibino 75.74 4*d i*P **P 07 28 17.8 -0.5**
BILL *e* 07 28 28.7
BILL *e*SS SS 07 42 54.8 +3.5
BILL pmax pmax
comp=Z,64nm,1.2s,mb5.4
JIRN Jiri 76.07 301 *e*P **P 07 28 21.2 +0.1**
comp=Z,37nm,0.9s,mb5.3
PALK Pallekele 76.68 279 P **P 07 28 25.2 +0.4**
comp=Z,200nm,0.9s,mb6.0,SNR=7.4
PALK Pallekele 76.68 279 *e*P **P 07 28 24.9 +0.1**
comp=Z,29nm,0.9s,mb5.2
KKN Kakani 76.88 301 *e*P **P 07 28 25.6 -0.1**
comp=Z,44nm,0.9s,mb5.4
KDAK Kodiak Island 77.16 25 P **P 07 28 26.0 -0.5**
comp=Z,102nm,1.2s,mb5.6,SNR=5.7
KDAK Kodiak Island 77.16 25 *e*P **P 07 28 26.1 -0.5**
KDAK Kodiak Island 77.16 25 P **P 07 28 25.8 -0.7**
comp=Z,17nm,1.0s,mb4.9,baz=244,slow=3.0,SNR=12
GKN Gorkha 77.48 301 *e*P **P 07 28 28.7 -0.3**
comp=Z,54nm,0.8s,mb5.5
TNA Tin City 77.56 14 *e*P **P 07 28 28.1 -0.5**
SVW2 Sparrevohn 78.07 22 *e*P **P 07 28 31.8 +0.2**
BLSP Bilaspur 78.24 294 *e*P **P 07 28 32.9 -0.5**
BLSP AMb AMB 07 28 34.4
comp=Z,48nm,0.9s,mb5.4
KOLN Koldanda 78.31 300 *e*P **P 07 28 33.2 -0.4**
comp=Z,54nm,0.9s,mb5.5
TTA Tatalina 79.13 20 *e*P **P 07 28 37.3 -0.1**
SLKM Skilak Lake 79.77 24 *e*P **P 07 28 40.4 -0.4**
WMQ Urumqi 80.02 317⇑*i*P **P 07 28 42.8 +0.1**
WMQ AMB AMB
comp=Z,58nm,1.4s,mb5.3
WMQ AMB AMB
comp=Z,574nm,6.6s
KOD Kodaikanal 80.32 282 *e*P **P 07 28 44.4 -0.6**
KOD AMb AMB 07 28 47.2
comp=Z,47nm,1.1s,mb5.3
TRD Trivandrum 80.54 280 *e*P **P 07 28 45.5 -0.6**
HYB Hyderabad 80.55 289 *e*P **P 07 28 45.5 -0.6**
HYB Hyderabad 80.55 289 *i*P **P 07 28 46.0 -0.1**
NGP Nagpur 80.83 293 *e*P **P 07 28 46.0 -1.5**
NGP AMb AMB 07 28 46.6
comp=Z,34nm,1.0s,mb5.2
PMR Palmer 80.83 23 *e*P **P 07 28 45.7 -0.9**
comp=Z,31nm,1.2s,mb5.1
PMR Palmer 80.83 23 *e*P **P 07 28 45.7 -0.9**
PMR pmax pmax
comp=Z,31nm,1.2s,mb5.1
TIXI Tiksi 81.07 352 *e*P **P 07 28 46.8 -0.9**
TIXI Tiksi 81.07 352 *e*P **P 07 28 46.5 -1.2**
TIXI pmax pmax
comp=Z,25nm,1.5s,mb4.9
SML Sawmill 81.26 23 *e*P **P 07 28 48.3 -0.6**
EYAK Cordova Ski Ar 81.63 25 *e*P **P 07 28 50.4 -0.5**
comp=Z,13nm,1.2s,mb4.7
IMA2 Indian Mountai 81.95 18 *e*P **P 07 28 50.3 -2.1**
MCK McKinley 82.13 22 *e*P **P 07 28 52.0 -1.4**
comp=Z,55nm,0.9s,mb5.5
MCK McKinley 82.13 22 *e*P **P 07 28 52.0 -1.4**
MCK pmax pmax
comp=Z,55nm,0.9s,mb5.5
QSPA South Pole Qui 82.43 180 *e*P **P 07 28 54.3 -0.5**
comp=Z,22nm,0.9s,mb5.1
QSPA South Pole Qui 82.43 180 P **P 07 28 54.3 -0.6**
comp=Z,12nm,0.8s,mb4.9,baz=358,slow=1.9,SNR=28
BHPL Bhopal 82.72 295 *e*P **P 07 28 56.5 -1.0**
BHPL AMb AMB 07 28 56.9
comp=Z,18nm,1.3s,mb5.0
COLA College 83.17 21⇑*i*P **P 07 28 57.3 -1.5**
MAW Mawson 84.34 203 P **P 07 29 04.5 -0.4**
comp=Z,6.5nm,0.6s,mb4.9,baz=93,slow=9.5,SNR=5.2
SMLA Simla 84.55 302 *e*P **P 07 29 05.4 -1.2**
SMLA AMb AMB 07 29 13.8
comp=Z,37nm,0.8s,mb5.6
MK31 Makanchi Array 84.59 318 *i*P **P 07 29 05.2 -1.3**
MK31 pmax pmax
comp=Z,117nm,0.7s,mb6.1
MKAR Makanchi Array 84.59 318 P **P 07 29 07.0 +0.5**
comp=Z,81nm,0.7s,mb6.0,baz=99,slow=7.3,SNR=315
KAD Karad 84.64 288 *e*P **P 07 29 06.3 -1.1**
KAD AMb AMB 07 29 06.9
comp=Z,56nm,1.1s,mb5.6
ZAA0 Zalesovo Array 85.29 326 *e*P **P 07 29 08.6 -1.2**
ZALV Zalesovo Beam 85.29 326 P **P 07 29 08.7 -1.2**
comp=Z,75nm,0.8s,mb5.9,baz=108,slow=5.4,SNR=199
ZAL Zalesovo 85.30 326 P **P 07 29 08.7 -1.2**
EGAK Eagle 85.58 22 *e*P **P 07 29 11.0 0.0**
SKAG Skagway 85.79 28 *e*P **P 07 29 12.5 +0.3**
comp=Z,70nm,2.3s,mb5.5
AJM Ajmer 85.81 297 *e*P **P 07 29 11.4 -1.7**
DAWY Dawson 85.93 23 *e*P **P 07 29 12.8 0.0**
NVS Novosibirsk 86.46 326 *i*P **P 07 29 14.1 -1.5**
NVS pmax pmax
comp=N,21nm,1.2s
NVS pmax pmax
comp=E,51nm,1.2s
NVS pmax pmax
comp=Z,61nm,1.2s,mb5.7
KSH Kashi 87.26 310 P **P 07 29 21.6 +1.7**
KSH AP pP 07 29 26.4 +1.6
KSH XP sP 07 29 28.7 +2.1
KSH PP PP 07 32 49.1 +5.0
KSH SKS 07 39 46.7
KSH S S 07 40 01.7 +2.1
KSH XS sS 07 40 09.1 +1.3
KSH AMB AMB
comp=Z,1μm,5.5s
KSH LR LR
comp=N,865nm,6.9s
KSH LR LR
comp=E,2μm,5.7s
KSH LR LR
comp=Z,627nm,11.4s,MS5.3
KURK Kurchatov 87.99 322 P **P 07 29 21.8 -1.3**
comp=Z,134nm,0.9s,mb6.2,SNR=17
KURK Kurchatov 87.99 322 *i*P **P 07 29 21.9 -1.2**
KURK Kurchatov 87.99 322*d i*P **P 07 29 21.8 -1.3**
DLBC Dease Lake 88.02 30 *e*P **P 07 29 24.3 +1.2**
O02C Red Bluff 88.02 49 ⇓P **P 07 29 23.7 +0.2**
baz=88
M02C Callahan 88.22 48 ⇑P **P 07 29 24.6 +0.2**
baz=88
TKM2 Tokmak 2 88.24 314 *e*P **P 07 29 24.5 0.0**
comp=Z,12nm,0.7s,mb5.2
TKM2 Tokmak 2 88.24 314 *e*P **P 07 29 24.5 0.0**
TKM2 pmax pmax
comp=Z,12nm,0.7s,mb5.2
TKM2 Tokmak 2 88.24 314 P **P 07 29 24.7 +0.2**
SNR=14
KZA Kyzart 88.32 313 P **P 07 29 26.2 +1.3**
SNR=19
YBH Yreka Blue Hor 88.39 48 ⇑P **P 07 29 25.4 +0.2**
baz=88
KBK Karagaybulak 88.66 313 P **P 07 29 26.7 +0.3**
SNR=8.6
M03C McCloud 88.73 48 ⇓P **P 07 29 26.4 -0.5**
baz=89
U04C Hernandez Rese 88.86 53 ⇑P **P 07 29 27.9 +0.3**
baz=89
ORV Oroville 88.88 50 ⇑P **P 07 29 27.5 -0.1**
baz=89
UCH Uchtor 88.89 313 *e*P **P 07 29 28.5 +0.9**
comp=Z,496nm,0.6s
UCH Uchtor 88.89 313 P **P 07 29 28.2 +0.7**
SNR=13
AAK Ala-Archa 88.98 313 P **P 07 29 27.2 -0.8**
comp=Z,97nm,0.8s,mb6.2,SNR=9.6
AAK Ala-Archa 88.98 313 *e*P **P 07 29 27.0 -1.0**
comp=Z,14nm,0.8s,mb5.3
AAK Ala-Archa 88.98 313 *e*P **P 07 29 27.0 -1.0**
AAK pmax pmax
comp=Z,14nm,0.8s,mb5.3
AAK Ala-Archa 88.98 313 P **P 07 29 28.2 +0.2**
SNR=13
PKD Parkfield 88.98 54 ⇓P **P 07 29 28.1 -0.1**
baz=89
M04C Macdoel 89.04 48 ⇓P **P 07 29 28.2 -0.1**
baz=89
USP Ospenovka 89.10 314 P **P 07 29 28.0 -0.5**
SNR=16
J04A Umpqua Nationa 89.12 46 ⇓P **P 07 29 29.5 +0.8**
baz=89
LAVA Lava Cap Winer 89.31 51 ⇑P **P 07 29 29.8 +0.1**
baz=89
PKM Peak Mountain 89.38 55 ⇓P **P 07 29 30.3 +0.3**
baz=89
O05C Quincy 89.39 50 ⇑P **P 07 29 30.0 0.0**
baz=89
CMB Columbia Colle 89.46 52 ⇑P **P 07 29 30.7 +0.3**
baz=90
AML Almayashu 89.47 312 *e*P **P 07 29 30.6 +0.3**
comp=Z,119nm,0.6s,mb6.4
AML Almayashu 89.47 312 P **P 07 29 30.8 +0.5**

SNR=14
M05C Lookout 89.47 48 ⇓P P 07 29 29.9 -0.5
baz=90
EKS2 Erkin-Say 89.50 313 eP P 07 29 30.6 +0.1
comp=Z,11nm,0.9s,mb5.2
EKS2 Erkin-Say 89.50 313 P P 07 29 30.3 -0.2
SNR=9.4
P05C Yuba Gap, Truc 89.51 50 ⇑P P 07 29 30.6 0.0
baz=90
J05A Fort Rock 89.76 46 ⇓P P 07 29 31.6 -0.1
baz=90
BEKR Beckwourth 89.80 50 ⇓P P 07 29 31.9 0.0
baz=90
T06C Millerton Lake 89.82 53 ⇑P P 07 29 32.1 0.0
baz=90
INK Inuvik 89.82 20 P P 07 29 30.1 -1.3
comp=Z,4.4nm,0.9s,mb4.8,baz=234,slow=6.8,SNR=17
L05A Lakeview 89.83 48 ⇓P P 07 29 31.9 -0.1
baz=90
K05A Summer Lake 89.90 47 ⇑P P 07 29 32.4 0.0
baz=90
M06C Likely Place G 89.94 49 ⇑P P 07 29 32.6 0.0
baz=90
VES Vestal, Richgr 90.13 54 ⇓P P 07 29 32.8 -0.8
baz=90
MOD Modoc 90.19 48 ⇑P P 07 29 33.1 -0.6
baz=90
ARVC Arvin 90.22 55 ⇓P P 07 29 33.6 -0.4
baz=90
A05A Maple Falls 90.25 41 ⇓P P 07 29 33.7 -0.1
baz=90
O06A Flanigan 90.25 50 ⇑P P 07 29 33.9 -0.1
baz=90
R06C Coleville 90.27 51 ⇓P P 07 29 34.0 -0.2
baz=90
CIS Catalina Islan 90.31 56 ⇓P P 07 29 33.6 -0.9
baz=90
HELL Mitchell Peak 90.31 53 P P 07 29 34.1 -0.3
baz=90,SNR=7.1
N06A Buffalo Meadow 90.34 49 ⇓P P 07 29 33.8 -0.6
baz=90
K06A Valley Falls 90.38 47 ⇓P P 07 29 34.4 -0.2
baz=90
J06A Christmas Vall 90.53 47 ⇑P P 07 29 35.0 -0.2
baz=91
ISA Isabella 90.59 54 eP P 07 29 35.6 -0.1
ISA Isabella 90.59 54 ⇓P P 07 29 35.5 -0.3
baz=91
I06A Prineville 90.61 46 ⇑P P 07 29 36.0 +0.4
baz=91
MWC Mount Wilson 90.71 56 eP P 07 29 36.9 +0.6
EDW2 Edwards Air Fo 90.86 55 P P 07 29 37.4 +0.4
baz=91,SNR=9.1
L07A Adell 90.92 48 ⇑P P 07 29 37.1 0.0
baz=91
M07A Soldier Meadow 90.94 49 ⇓P P 07 29 37.1 -0.1
baz=91
N07B Gerlach 91.00 49 ⇓P P 07 29 37.2 -0.3
baz=91
CWC Cottonwood Cre 91.02 54 ⇓P P 07 29 37.6 -0.1
baz=91
BFSC Mount Baldy St 91.04 56 P P 07 29 38.3 +0.4
baz=91,SNR=8.9
K07A Rock Creek Ran 91.09 47 ⇑P P 07 29 38.0 +0.1
baz=91
S08C White Mtn Res 91.11 52 ⇓P P 07 29 38.5 +0.4
baz=91
I07A Izee 91.13 46 ⇑P P 07 29 37.8 -0.2
baz=91
NVAR Mina Array Bea 91.14 52 P P 07 29 38.7 +0.4
NVAR P'P' 07 55 08.5
NVAR Mina Array Bea 91.14 52 P P 07 29 38.7 +0.5
comp=Z,5.9nm,1.0s,mb4.9,baz=237,slow=3.9,SNR=30
NVAR PKPPKP 07 55 08.5
comp=Z,0.8nm,1.1s,baz=88,slow=5.0,SNR=4.1
H07A Lands Inn, Kim 91.17 45 ⇑P P 07 29 37.6 -0.6
baz=91
109C Camp Elliot, M 91.31 57 ⇑P P 07 29 39.6 +0.5
baz=91
B07A Winthrop 91.44 41 ⇑P P 07 29 39.0 -0.4
baz=92
MPMC Manual Prospec 91.44 54 P P 07 29 40.0 +0.3
baz=92,SNR=14
Q08A Gabbs 91.50 51 P P 07 29 40.4 +0.5
baz=92,SNR=8.4
WVOR Wild Horse Val 91.50 48 eP P 07 29 39.5 -0.2
comp=Z,4.7nm,0.9s,mb4.8
WVOR Wild Horse Val 91.50 48 eP P 07 29 39.5 -0.3
WVOR pmax pmax
comp=Z,5.0nm,0.9s,mb4.8
M08A Happy Creek Ra 91.54 49 P P 07 29 40.6 +0.6
baz=92,SNR=6.0
N08A GE Springer Mi 91.62 49 ⇑P P 07 29 40.6 +0.2
baz=92
BAR Barrett 91.64 57 eP P 07 29 41.0 +0.4
BBRC Big Bear Sol-O 91.65 56 ⇑P P 07 29 40.8 +0.2
baz=92
GRAC Grapevine Rang 91.67 53 ⇓P P 07 29 40.6 -0.1
baz=92
L08A Fields 91.68 48 P P 07 29 40.6 0.0
baz=92,SNR=6.4
J08A Circle Bar Ran 91.76 47 ⇓P P 07 29 41.6 +0.6
baz=92
KBL Kabul 91.87 304 eP P 07 29 40.2 -1.5
comp=Z,5.5nm,0.7s,mb5.0
S09A Goldfield 91.89 52 P P 07 29 42.2 +0.6
baz=92,SNR=17
GSC Goldstone 91.89 55 eP P 07 29 42.1 +0.4
GSC Goldstone 91.89 55 P P 07 29 42.2 +0.5
baz=92,SNR=6.2
KK31 Karatay Array 91.94 313 i P P 07 29 40.7 -1.1
KK31 pmax pmax
comp=Z,5.0nm,0.6s,mb5.0
PFO Pinyon Flat Ob 91.94 57 ⇑P P 07 29 42.2 +0.1
baz=92
FURC Furnace Creek, 92.00 54 P P 07 29 42.3 +0.1
baz=92,SNR=18
Q09A Carvers 92.07 51 ⇑P P 07 29 42.7 +0.1
baz=92
R09A Tonopah 92.08 52 P P 07 29 43.0 +0.5
baz=92,SNR=10
L09A Wilkinson Ranc 92.15 48 ⇑P P 07 29 42.8 0.0
baz=92
SYO Syowa Base 92.19 199 ‖eX P 07 29 40.0 -2.4
SYO Syowa Base 92.19 199 ‖epP pP 07 29 45.2 -2.2
P09A Austin 92.20 51 ⇑P P 07 29 43.0 -0.1
baz=92
K09A Rome 92.20 47 ⇑P P 07 29 42.9 -0.1
baz=92
HEC Hector,Ludlow 92.21 55 ⇑P P 07 29 43.3 0.0
baz=92,SNR=9.1
M09A Marrel Ranch, 92.23 49 ⇓P P 07 29 43.7 +0.6
baz=92
O09A Fish Creek Ran 92.25 50 ⇑P P 07 29 43.4 +0.1
baz=92
J09A Fry Pan Ranch, 92.28 47 P P 07 29 44.1 +0.7
baz=92,SNR=5.6
BELC Belle Mtn. 92.37 56 P P 07 29 44.8 +0.7
baz=92,SNR=12
SHOC Shoshone 92.39 54 ⇑P P 07 29 44.3 +0.2
baz=92
SWSC Sam W. Stewart 92.41 57 ⇑P P 07 29 43.9 -0.2
baz=92
S10A Tonopah Range, 92.41 52 P P 07 29 44.8 +0.7
baz=92,SNR=16
U10A Ash Meadows, A 92.42 54 ⇑P P 07 29 44.5 +0.3
baz=92
TPNV Topopah Spring 92.55 53 eP P 07 29 44.8 0.0
TPNV Topopah Spring 92.55 53 P P 07 29 44.9 +0.2
baz=93,SNR=13
Q10A Clear Creek Ra 92.68 51 ⇑P P 07 29 45.4 +0.1
baz=93
R10A Warm Springs 92.68 52 ⇓P P 07 29 46.3 +1.0
baz=93
B09A Rice 92.72 42 ⇓P P 07 29 45.0 -0.3
baz=93
P10A Eureka 92.73 51 ⇓P P 07 29 45.2 -0.3
baz=93
GMRC Granite Mounta 92.75 55 P P 07 29 46.2 +0.4
baz=93,SNR=15
BC3 Big Chucky Mtn 92.78 57 ⇓P P 07 29 46.5 +0.6
baz=93
O10A Cortez Mining, 92.79 50 ⇓P P 07 29 46.1 +0.3
baz=93
K10A MacKenzie Ranc 92.84 47 ⇓P P 07 29 46.0 +0.1
baz=93
M10A I.L. Ranch, Tu 92.92 49 ⇑P P 07 29 46.8 +0.4
baz=93
G10A Bishop Farm, J 92.99 45 ⇑P P 07 29 45.8 -0.8
baz=93
F10A Beach Ranch, E 93.01 44 ⇓P P 07 29 45.7 -1.0
baz=93
S11A Rachel 93.04 53 ⇑P P 07 29 46.8 -0.2
baz=93
L10A Juniper Basin 93.04 48 P P 07 29 46.9 -0.1
baz=93,SNR=7.5
V11A Goodsprings 93.07 54 P P 07 29 47.8 +0.6
baz=93,SNR=8.1
IRM Iron Mountain 93.09 56 P P 07 29 48.2 +0.8
baz=93,SNR=17
D10A Wagner Farm, O 93.12 43 ⇓P P 07 29 46.0 -1.2
baz=93
H10A Noah's Angus R 93.16 46 ⇓P P 07 29 46.3 -1.1
baz=93
LDFC Landfair 93.24 55 eP P 07 29 48.8 +0.8
R11A Troy Canyon, C 93.25 52 P P 07 29 48.4 +0.5
baz=93,SNR=12
Q11A Duckwater 93.26 51 P P 07 29 48.5 +0.5
baz=93,SNR=8.7
T11A Corn Creek, Al 93.41 53 P P 07 29 49.1 +0.4
baz=93,SNR=13
O11A Cowboy Ranch, 93.41 50 P P 07 29 49.4 +0.7
baz=93,SNR=7.0
K11A Parker Ranch, 93.45 47 P P 07 29 48.5 -0.3
baz=94,SNR=6.7
W12A Cal Nev Ari 93.46 55 ⇑P P 07 29 49.1 +0.2
baz=94
M11A Holland Ranch, 93.47 49 ⇑P P 07 29 49.2 +0.3
baz=94
BRVK Borovoye 93.51 323 P P 07 29 47.1 -1.7
comp=Z,105nm,0.9s,mb6.3,SNR=8.1
BRVK Borovoye 93.51 323 eP P 07 29 47.2 -1.6
comp=Z,21nm,1.0s,mb5.5
BRVK Borovoye 93.51 323 eP P 07 29 47.2 -1.6
BRVK pmax pmax
comp=Z,21nm,1.0s,mb5.5
V12A Nelson 93.52 55 ⇓P P 07 29 49.1 -0.2
baz=94
Y12C Blythe 93.56 57 ⇑P P 07 29 50.0 +0.5
baz=94
G11A Walters Elk Ra 93.60 45 ⇑P P 07 29 48.5 -0.9
baz=94
MFID Camas Ranch 93.68 47 ⇓P P 07 29 50.1 +0.3
baz=94
H11A Donnelly 93.70 46 ⇑P P 07 29 49.2 -0.6
baz=94
F11A Grangeville 93.74 44 ⇓P P 07 29 49.4 -0.6
baz=94
U12A Valley of Fire 93.85 54 ⇑P P 07 29 51.2 +0.4
baz=94
P12A McGill 93.91 51 ⇓P P 07 29 51.3 +0.4
baz=94
Q12A Willow Creek R 93.92 51 P P 07 29 51.9 +0.8
baz=94,SNR=5.4
PDMCI Parker Dam,Lak 93.94 56 ⇓P P 07 29 51.5 +0.2
baz=94
N12A Clover Valley, 93.96 49 P P 07 29 51.6 +0.5
baz=94,SNR=6.0
A11A Hall Mountain, 93.97 41 ⇓P P 07 29 50.9 -0.1
baz=94
R12A Pony Springs, 94.01 52 P P 07 29 52.3 +0.9
baz=94,SNR=8.1
M12A Wells 94.12 49 ⇑P P 07 29 52.3 +0.4
baz=94
O12A Currie 94.12 50 P P 07 29 52.5 +0.6
baz=94,SNR=6.8
L12A House Creek Ra 94.12 48 P P 07 29 52.4 +0.5
baz=94,SNR=6.2
J12A Stokes Ranch, 94.19 47 ⇑P P 07 29 52.0 -0.2
baz=94
X13A Yucca 94.23 56 ⇓P P 07 29 52.2 -0.4
baz=94
W13A Hualapai Mount 94.24 55 ⇑P P 07 29 52.8 +0.2
baz=94,SNR=5.9
K12A Draper Farm, C 94.26 48 ⇓P P 07 29 52.3 -0.2
baz=94
U13A Pakoon Wash 94.31 54 P P 07 29 53.7 +0.8
baz=94,SNR=7.7
F12A Elk City 94.35 45 ⇑P P 07 29 52.3 -0.5
baz=94
T13A Saint George 94.42 53 ⇑P P 07 29 53.8 +0.4
baz=94,SNR=15
D12A Red Ives Fores 94.43 43 ⇑P P 07 29 52.5 -0.6
baz=94
S13A Holt Ranch, En 94.52 53 ⇑P P 07 29 53.7 -0.1
baz=94,SNR=5.8
P13A Bates Ranch, G 94.59 51 ⇓P P 07 29 53.9 -0.2
baz=95
M13A Montello 94.67 49 ⇑P P 07 29 53.8 -0.6
baz=95
HLID Hailey 94.72 47 ⇑P P 07 29 54.1 -0.5
baz=95
K13A Stover Farm, H 94.86 48 ⇓P P 07 29 55.2 -0.1
baz=95
W14A Seligman 94.90 55 ⇑P P 07 29 56.0 +0.3
baz=95
V14A Boquillas Ranc 94.92 55 ⇑P P 07 29 56.0 +0.2
baz=95
H13A Challis 94.93 46 ⇓P P 07 29 55.2 -0.3
baz=95
U14A Mt Trumbull 94.94 54 P P 07 29 56.5 +0.7
baz=95,SNR=8.0
I13A Wildhorse Cree 94.97 47 ⇑P P 07 29 55.4 -0.3
baz=95
G13A Cobalt 95.00 45 ⇑P P 07 29 55.3 -0.6
baz=95
T14A Hurricane 95.08 53 P P 07 29 57.3 +0.9
baz=95,SNR=8.2
B13A Whitefish 95.16 42 ⇑P P 07 29 57.0 +0.5
baz=95
M14A Sheep Mountain 95.30 49 ⇓P P 07 29 57.0 -0.3
baz=95
N14A Grayback Hills 95.36 50 ⇑P P 07 29 57.5 0.0
baz=95
Y15A Casa Rosa Ranc 95.39 57 ⇓P P 07 29 58.5 +0.5
baz=95
K14A Jones Ranch, D 95.52 48 ⇑P P 07 29 58.4 +0.1
baz=96
X15A Humboldt 95.52 56 ⇓P P 07 29 59.2 +0.7
baz=96
T15A Red Dirt Ranch 95.64 54 ⇑P P 07 29 59.4 +0.5
baz=96
MSU Marysvale 95.93 52 eP P 07 30 00.6 +0.4
M15A Larsen Ranch, 95.97 49 ⇓P P 07 30 00.2 -0.2
baz=96
Y16A Circle Bar Ran 96.10 57 ⇓P P 07 30 01.6 +0.5
baz=96
X16A Lo Mia Camp, P 96.17 56 ⇓P P 07 30 01.6 +0.2
baz=96
YKA Yellowknife Ar 96.28 28 P P 07 30 00.2 -1.0
YKA PKKPbc PKKPbc 07 46 45.5 -4.4
YKA Yellowknife Ar 96.28 28 P P 07 30 00.2 -1.0
comp=Z,4.2nm,0.8s,mb4.9,baz=267,slow=4.7,SNR=67
YKA PKKPbc PKKPbc 07 46 45.5 -4.4
comp=Z,0.2nm,0.7s,baz=82,slow=2.9,SNR=5.1
217A Green Valley 96.47 59 ⇓P P 07 30 03.0 +0.1
baz=96
318A Bisbee 97.15 59 ⇓P P 07 30 06.0 0.0
baz=97
PDAR Pinedale Array 98.20 48 P P 07 30 08.7 -1.7
comp=Z,1.5nm,0.8s,mb4.6,baz=245,slow=2.7,SNR=14
ARU Arti 100.45 326 P Pdif 07 30 16.2 -4.0
KIV Kislovodsk 112.06 314 ‖ eP KP PKiKP 07 35 07.3 -1.4
KIV Kislovodsk 112.06 314 eP KIKP PKiKP 07 35 07.2 -1.5
KIV pmax pmax
comp=Z,11nm,1.2s
OBN Obninsk 112.84 327 i P KIKP PKiKP 07 35 07.1 -2.7
OBN e 07 35 57.3
OBN i 07 41 55.8
OBN pmax pmax
comp=Z,4μm,0.7s
FINES FINESS Array B 114.92 336 PKP PKiKP 07 35 12.3 -1.3
comp=Z,0.8nm,0.6s,baz=123,slow=5.1,SNR=4.2
MALT Malatya 116.34 309 ⇑P PKPdf 07 35 16.8 -0.3
MALT Malatya 116.34 309 ⇑ i P PKPdf 07 35 16.8 -0.3
KMBO Kilima Mbogo 118.48 265 PKP PKPdf 07 35 21.8 -0.1
comp=Z,0.6nm,0.3s,baz=147,slow=6.9,SNR=3.1
AKASG Malin Array Be 118.67 325 PKP PKPdf 07 35 19.6 -1.5
comp=Z,4.3nm,0.6s,baz=62,slow=2.1,SNR=27
ANTO Ankara 120.21 312 ⇓P PKPdf 07 35 24.3 -0.2
ANTO Ankara 120.21 312 ‖ i P PKPdf 07 35 24.3 -0.2
NB2 NORSAR Subarra 120.60 341 PKPdf PKPdf 07 35 22.7 -1.9
comp=Z,0.4nm,0.8s,baz=39,slow=1.9
NOA NORSAR Array B 120.60 341 PKP PKPdf 07 35 23.1 -1.4
comp=Z,1.5nm,0.8s,baz=44,slow=1.9,SNR=4.8
TIRR Tirgusor 121.73 318 ⇑P PKPdf 07 35 26.5 -0.7
TIRR Tirgusor 121.73 318 ⇑ i P PKPdf 07 35 26.5 -0.8
SCHQ Schefferville 121.73 28 PKP PKPdf 07 35 25.4 -1.6
comp=Z,4.3nm,1.0s,baz=239,slow=8.7,SNR=3.4
HARR Harsova 121.95 319 ⇓P PKPdf 07 35 27.7 0.0
HARR Harsova 121.95 319 ⇓ i P PKPdf 07 35 27.7 0.0
KWP Kalwaria 122.86 326 eP KP PKPdf 07 35 29.2 -0.1
KWP Kalwaria 122.86 326 eP KP PKPdf 07 35 29.2 -0.1
KWP Kalwaria 122.86 326 ⇓ i P PKPdf 07 35 28.9 -0.4
MLR Muntele Rosu 122.90 320 ⇓P PKPdf 07 35 28.6 -0.9
MLR Muntele Rosu 122.90 320 ⇓ i P PKPdf 07 35 28.6 -0.9
KOLS Kolonicke sedl 123.47 325 eP KP PKPdf 07 35 30.3 -0.2
LSZ Lusaka 123.69 246 eP KPdf PKPdf 07 35 31.9 0.0
TRPA Tarpa 123.73 324 ⇓ i P PKPdf 07 35 30.0 -1.0
STHS Stebnicka Huta 123.79 326 eP KP PKPdf 07 35 30.8 -0.3
CRVS Cervenica-Dubn 123.94 326 eP KP PKPdf 07 35 30.4 -1.0
GZR Gura Zlata 124.93 321 ⇓P PKPdf 07 35 32.7 -0.7
GZR Gura Zlata 124.93 321 ⇓ i P PKPdf 07 35 32.7 -0.7
OKC Ostrava-Krasne 125.22 328 eP KPdf PKPdf 07 35 32.7 -1.1
BZS Buzias 125.53 322 ⇑P PKPdf 07 35 33.8 -0.7
BZS Buzias 125.53 322 ⇑ i P PKPdf 07 35 33.8 -0.7
MORC Moravsky Berou 125.57 328 ⇑P PKPdf 07 35 34.4 0.0
MORC Moravsky Berou 125.57 328 ⇑ i P PKPdf 07 35 34.4 -0.1
VYHS Vyhne 125.62 326 eP KP PKPdf 07 35 33.9 -0.7
KOLL Kolacno 125.81 327 eP KP PKPdf 07 35 35.0 0.0
DPC Dobruska-Polom 125.85 329 eP KPdf PKPdf 07 35 35.1 +0.1
VTS Vitosha 125.94 318 ⇑ i P PKPdf 07 35 35.1 -0.3
MODS Modra-Piesok 126.54 327 eP KP PKPdf 07 35 36.7 +0.3
BRG Berggiesshubel 126.69 331 eP KP PKPdf 07 35 35.5 -1.1
BRG Berggiesshubel 126.69 331 eP KIKP PKPdf 07 35 35.5 -1.1
BRG pmax pmax
comp=Z,2.0nm,1.0s
BRG Berggiesshubel 126.69 331 eP PKPdf 07 35 35.5 -1.1
comp=Z,10.0nm,1.0s
CLL Collm 126.85 332 ⇑ i P KIKP PKPdf 07 35 36.4 -0.5
CLL pmax pmax
comp=Z,23nm,0.8s
CLL Collm 126.85 332 ⇑ i P KPdf PKPdf 07 35 36.4 -0.5
comp=Z,12nm,0.8s
TREC Trest 126.93 329 eP KPdf PKPdf 07 35 36.9 -0.2
PRU Pruhonice 126.97 330 eP KPdf PKPdf 07 35 35.3 -1.8
PKSM Moragy 127.00 324 ⇑P PKPdf 07 35 37.0 -0.3
PKSM Moragy 127.00 324 ⇑ i P PKPdf 07 35 37.0 -0.3
NKC Novy Kostel 127.83 331 eP KPdf PKPdf 07 35 38.6 -0.2
KHC Kasperske Hory 128.00 330 eP KPdf PKPdf 07 35 38.4 -0.7
KHC ex x 07 35 53.5
GERES GERESS Array B 128.12 329 PKP PKPdf 07 35 39.1 -0.3
comp=Z,5.1nm,0.8s,baz=70,slow=1.6,SNR=30
GRA1 Grafenberg Arr 128.78 331 eP KPdf PKPdf 07 35 40.2 -0.4
GRF Grafenberg Arr 128.78 331 eP KPdf PKPdf 07 35 40.2 -0.4
ROSC El Rosal 129.74 90 PKP PKPdf 07 35 42.5 -1.0
comp=Z,7.6nm,0.9s,baz=110,slow=11,SNR=4.4
LPAZ La Paz 130.17 119 PKP PKPdf 07 35 44.2 0.0
LPAZ La Paz 130.17 119 PKP PKPdf 07 35 44.2 0.0
comp=Z,7.9nm,1.1s,baz=188,slow=0.3,SNR=14
TSUM Tsumeb 131.30 236 PKP PKPdf 07 35 45.9 -0.4
TSUM eP KPdf PKPdf 07 35 46.6 +0.3
TSUM Tsumeb 131.30 236 PKP PKPdf 07 35 45.9 -0.4
comp=Z,3.0nm,0.8s,baz=117,slow=6.5,SNR=5.6
HAU Haudompre 132.24 333 eP KIKP PKPdf 07 35 46.6 -0.6
comp=Z,4.7nm,0.3s
SDV Santo Domingo 133.68 85 eP KPdf PKPdf 07 35 49.7 -1.2
LPG La Plagne 133.88 330 eP KIKP PKPdf 07 35 49.9 -0.5
comp=Z,11nm,0.7s
SSF Saint Saulge 134.22 334 eP KIKP PKPdf 07 35 50.3 -0.7
comp=Z,16nm,1.0s
KEST Kesra 138.68 318 PKP PKPdf 07 35 58.0 -1.6
comp=Z,2.9nm,0.9s,baz=268,slow=19,SNR=3.3
ETSF Etsaut 139.27 334 eP KIKP PKPdf 07 35 59.6 -0.9
comp=Z,20nm,0.9s
ECHE Chera 142.07 331 P PKPdf 07 36 01.8 -3.8
MVO Moncorvo 143.34 339 eP KP PKPdf 07 36 07.2 -0.6
ESDC Sonseca Array 143.38 334 P PKPdf 07 36 04.7 -3.3
ESDC Sonseca Array 143.38 334 PKP PKPdf 07 36 04.5 -3.4
comp=Z,6.7nm,0.9s,baz=18,slow=3.2,SNR=20
EVIA Vianos 143.56 331 P PKPdf 07 36 06.1 -2.2
PVIS Viseu 144.04 339 eP KP PKPdf 07 36 07.2 -1.9
MTE Manteigas 144.20 339 eP KP PKPdf 07 36 07.6 -1.8
MTE Manteigas 144.20 339 eP KPdf PKPdf 07 36 07.6 -1.8
EQES Quesada 144.49 331 P PKPdf 07 36 08.2 -1.7
EBAN Banos Encina 144.54 332 P PKPdf 07 36 08.7 -1.4
PCBR Castelo Branco 144.66 338 eP KP PKPdf 07 36 08.5 -1.7
ENIJ Nijar 144.72 329 P PKPdf 07 36 08.5 -1.8
EADA Adamuz 144.90 333 P PKPdf 07 36 09.7 -1.0
EBER Berja 145.12 330 P PKPbc 07 36 09.2 -1.3
ECOG Cogollos-Vega 145.15 331 P PKPbc 07 36 09.8 -0.8
ELUQ Luque 145.25 332 P PKPbc 07 36 11.1 +0.2
ECAB El Cabril 145.34 334 P PKPbc 07 36 11.6 +0.4
EBAD Badajoz 145.43 337 P PKPbc 07 36 11.1 -0.4
ERON Agron 145.47 331 P PKPbc 07 36 10.3 -1.4
EGUA Guajares 145.50 331 P PKPdf 07 36 11.3 -0.4
ELOJ Sierra Loja 145.53 332 P PKPdf 07 36 11.3 -0.5
PESTR Estremoz 145.56 337 eP KP PKPdf 07 36 11.2 -0.6
EALB Alboran 145.94 329 P PKPdf 07 36 12.2 -0.3
PBAR Barrancos 145.94 336 eP KP PKPdf 07 36 13.0 +0.6
PMAFR Mafra 146.10 339 eP KP PKPdf 07 36 12.7 0.0
EMIN Mina Concepcio 146.13 335 P PKPdf 07 36 13.8 +1.0
PBEJ Beja 146.39 337 eP KP PKPdf 07 36 14.5 +1.3
ESPR Espera 146.54 333 P PKPdf 07 36 15.2 +1.7
EGRO El Granado 146.67 336 P PKPdf 07 36 15.1 +1.4
EJIF Jimena Fronter 146.71 332 P PKPdf 07 36 15.7 +1.9
PVAQ Vaqueiros 146.87 336 eP KP PKPdf 07 36 16.3 +2.3
PBDV Barranco-do-Ve 147.10 336 eP KP PKPdf 07 36 15.8 +1.4
PTEO Sao Teotonio 147.14 338 eP KP PKPbc 07 36 17.2 +0.6
MORF Marmelete 147.32 337 eP KP PKPbc 07 36 17.4 +0.3
TORD Torodi Ar. Bea 154.30 285 PKP PKPdf 07 36 24.1 -2.1
TORD PKPbc PKPbc 07 36 33.4 -1.0
TORD PKPab PKPab 07 36 47.5 -0.9
TORD Torodi Ar. Bea 154.30 285 PKP PKPdf 07 36 24.1 -2.1
comp=Z,2.9nm,0.9s,baz=41,slow=1.9,SNR=7.9
TORD PKPbc PKPbc 07 36 33.4 -1.0
comp=Z,13nm,0.9s,baz=60,slow=2.1,SNR=29
TORD PKPab PKPab 07 36 47.5 -0.9
comp=Z,4.1nm,0.6s,baz=76,slow=3.8,SNR=12
DBIC Dimbokro 161.16 269 PKP PKPdf 07 36 33.1 -1.6
DBIC PKPab PKPab 07 37 17.5 -0.6
DBIC Dimbokro 161.16 269 PKP PKPdf 07 36 33.1 -1.7
comp=Z,15nm,1.0s,baz=334,slow=6.0,SNR=4.8
DBIC PKPab PKPab 07 37 17.5 -0.6
comp=Z,28nm,0.8s,baz=86,slow=5.3,SNR=19

IDC 02 07:21:00.9±2.6,774S×15589E,h0km,mb4.1/7,mb1 4.2/7, mb1mx4.1/13,mbtmp4.1/7,Error ellipse: s-maj=73.5km s-min=33.6km az=119.0,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	24.14	238	P	P	07 26 18.7	-0.1
	2.5nm,0.8s,baz=61,slow=10,SNR=5.0						
MJAR	Matsushiro Arr	47.07	340	P	P	07 29 33.4	-1.1
	3.7nm,0.8s,baz=167,slow=8.0,SNR=6.7						
KSRS	Korea Array	52.01	332	P	P	07 30 12.2	0.0
	1.8nm,0.7s,baz=150,slow=6.7,SNR=3.9						
SONM	Songino Array	70.44	327	P	P	07 32 18.2	+1.2
	0.6nm,0.7s,baz=124,slow=5.6,SNR=2.4						
MKAR	Makanchi Array	84.55	319	P	P	07 33 36.4	+0.4
	2.5nm,0.8s,baz=103,slow=6.8,SNR=4.9						
ZALV	Zalesovo Beam	85.29	326	P	P	07 33 39.1	-0.5
	1.3nm,0.7s,baz=125,slow=7.2,SNR=3.0						
YKA	Yellowknife Ar	96.58	28	P	P	07 34 32.3	-0.1
	0.5nm,0.8s,baz=272,slow=4.1,SNR=5.0						

IDC 02 07:22:34.1±1.1,745S×15613E,h0km,mb3.9/6,mb1 4.0/7, mb1mx3.9/13,mbtmp3.9/7,ML4.3/1,Error ellipse: s-maj=31.0km s-min=27.9km az=8.0,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	4.26	118	Pn	Pn	07 23 40.8	+0.5
	18nm,0.3s,baz=270,slow=12,SNR=2.5						
HNR				Sn	Sn	07 24 30.7	0.0
	15nm,0.3s,baz=73,slow=19,SNR=4.2						
WRA	Warramunga Arr	24.50	237	P	P	07 27 55.2	0.0
	1.7nm,0.7s,baz=61,slow=9.5,SNR=6.0						
ASAR	Alice Springs	26.73	230	P	P	07 28 15.6	+0.2
	0.7nm,0.8s,baz=65,slow=8.9,SNR=2.4						
STKA	Stephens Creek	27.82	207	P	P	07 28 29.0	+3.9
	1.2nm,0.7s,baz=18,slow=16,SNR=2.6						
SONM	Songino Array	70.33	327	P	P	07 33 49.9	+0.4
	0.8nm,0.8s,baz=122,slow=6.0,SNR=4.4						

MKAR Makanchi Array 84.49 318 P P 07 35 09.5 +0.7
0.7nm,0.5s,baz=99,slow=4.8,SNR=4.9
ZALV Zalesovo Beam 85.19 326 P P 07 35 11.4 -0.8
0.7nm,0.4s,baz=123,slow=5.3,SNR=3.3
YKA Yellowknife Ar 96.22 28 P P 07 36 03.8 0.0
0.1nm,0.5s,baz=264,slow=4.3,SNR=3.6

*IDC **02** 07:35:37.3±1.1, 835S×15691E, h0km, mb3.9/6, mb1 4.0/7, mb1mx3.9/14, mbtmp3.9/7, ML4.0/1, Error ellipse: s-maj=26.8km s-min=26.1km az=4.0*
*NEIC **02** 07:35:39.0±0.6, 836S×15689E, h10km, Error ellipse: s-maj=17.0km s-min=13.6km az=176.0*
*ISCJB **02** 07:35:39.0±7.1, 84S±02×15689E±008, h21km±52km, mb3.8/6, Error ellipse: s-maj=29.7km s-min=13.6km az=4.6*
ISC 02 07:35:39.4±7.2, 84S±02×15691E±008, h13km±45km, n8, σ0°63/9, mb3.8/6, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**3.19**	**110**	Pn		**07 36 29.2**	**-0.1**
	17nm,0.3s,baz=254,slow=2.9,SNR=5.4						
HNR				Sn		**07 37 07.2**	**0.0**
	22nm,0.3s,baz=250,slow=10,SNR=4.0						
WRA	**Warramunga Arr**	**24.69**	**240**	P		**07 41 00.6**	**+0.3**
	1.5nm,0.6s,mb3.7,baz=65,slow=9.5,SNR=6.9						
ASAR	**Alice Springs**	**26.77**	**233**	P		**07 41 18.3**	**-0.9**
	0.4nm,0.6s,mb3.1,baz=67,slow=8.1,SNR=4.3						
STKA	**Stephens Creek**	**27.39**	**209**	P		**07 41 25.4**	**+0.7**
	2.1nm,0.7s,mb3.8,baz=42,slow=14,SNR=8.1						
SONM	**Songino Array**	**71.50**	**327**	P		**07 47 00.9**	**+1.0**
	1.1nm,0.8s,mb3.9,baz=142,slow=7.2,SNR=6.4						
MKAR	**Makanchi Array**	**85.67**	**318**	P		**07 48 17.9**	**-0.1**
MKAR	**Makanchi Array**	**85.67**	**318**	P		**07 48 17.9**	**-0.1**
	0.7nm,0.6s,mb4.1,baz=86,slow=6.8,SNR=5.1						
ZALV	**Zalesovo Beam**	**86.36**	**326**	P		**07 48 20.4**	**-0.9**
	0.4nm,0.4s,mb4.0,baz=116,slow=3.4,SNR=2.4						

*IDC **02** 07:36:56.9±7.2, 3608N×7125E, h48km±54km, mb3.5/7, mb1 3.7/9, mb1mx3.5/23, mbtmp3.6/9, ML3.8/2, Error ellipse: s-maj=66.8km s-min=35.1km az=160.0*
*ISCJB **02** 07:37:01.8±1.3, 3636N±005×71.1E±0.1, h96km±15km, mb3.6/6, Error ellipse: s-maj=19.9km s-min=6.4km az=160.4*
*NNC **02** 07:37:09.8±16.0, 3695N×7085E, h164km±265km, mb3.1, mpv4.1, Error ellipse: s-maj=205.7km s-min=81.5km az=41.0*
ISC 02 07:37:03.6±1.1, 3636N±005×711E±01, h97km±13km, n28, σ0°93/35, mb3.6/6, 5C, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THN	**Thein Dam**	**5.45**	**135**	*e*P		**07 38 23.5**	**+1.1**
THN				*e*S		**07 39 24.0**	**+0.2**
DLH	**Dalhousie**	**5.52**	**132**	*e*P		**07 38 25.0**	**+1.7**
DLH				*e*S		**07 39 24.0**	**-1.5**
AML	**Almayashu**	**6.09**	**18**	P		**07 38 31.1**	**0.0**
	SNR=44						
UCH	**Uchtor**	**6.42**	**23**	P		**07 38 35.8**	**+0.4**
	SNR=27						
KZA	**Kyzart**	**6.54**	**28**	P		**07 38 37.3**	**+0.2**
	SNR=17						
EKS2	**Erkin-Say**	**6.61**	**17**	P		**07 38 38.3**	**+0.2**
	SNR=14						
KK31	**Karatay Array**	**6.75**	**356**	⇑P		**07 38 39.0**	**-0.9**
	6.8nm,0.3s,baz=180,slow=13,SNR=165						
KK31				⇑S		**07 39 49.0**	**-6.2**
	17nm,0.5s,baz=183,slow=22						
AAK	**Ala-Archa**	**6.78**	**22**	P		**07 38 40.6**	**+0.2**
	SNR=42						
KBK	**Karagaybulak**	**6.94**	**24**	P		**07 38 43.4**	**+0.8**
	SNR=8.6						
ULHL	**Ulahol**	**7.08**	**32**	P		**07 38 44.5**	**0.0**
	SNR=8.6						
CHMS	**Chumysh**	**7.19**	**22**	P		**07 38 46.4**	**+0.4**
	SNR=8.4						
USP	**Ospenovka**	**7.37**	**20**	P		**07 38 48.4**	**0.0**
	SNR=14						
TKM2	**Tokmak 2**	**7.40**	**26**	⇑P		**07 38 49.0**	**+0.2**
	7.6nm,0.6s						
TKM2	**Tokmak 2**	**7.40**	**26**	P		**07 38 49.1**	**+0.3**
	SNR=15						
JOSI	**Joshimath**	**9.11**	**127**	*e*S		**07 40 48.1**	**-4.9**
JOSI				*e*S		**07 40 48.6**	**-4.4**
JOSI				AML	AML	07 40 50.4	
	comp=N,79nm,0.1s						
JOSI				AML	AML	07 40 51.0	
	comp=E,44nm,0.4s						
KHET	**Khetri**	**9.16**	**153**	*e*S		**07 40 45.9**	**-8.4**
KHET				AML	AML	07 40 50.5	
	comp=N,24nm,0.3s						
KHET				AML	AML	07 40 50.5	
	comp=E,18nm,0.2s						
KUDL	**Kundal**	**9.37**	**150**	*e*P		**07 39 14.7**	**-0.9**
KUDL				*e*S		**07 40 51.9**	**-7.2**
KUDL				AML	AML	07 40 54.0	
	comp=E,14nm,0.6s						
KUDL				AML	AML	07 40 55.4	
	comp=N,9.8nm,0.6s						
MKAR	**Makanchi Array**	**13.34**	**35**	P		**07 40 06.8**	**-2.1**
	comp=N,0.2nm,0.3s,baz=221,slow=14,SNR=4.2						
AB31	**Akbulak array**	**15.25**	**331**	⇑P		**07 40 30.3**	**-3.2**
	comp=N,0.3nm,0.3s,baz=156,slow=12,SNR=24						
AB31				⇑S		**07 43 09.6**	**-12**
	comp=N,1.2nm,0.4s,baz=152,slow=23,SNR=6.7						
AKTO	**Aktyubinsk**	**16.95**	**330**	P		**07 40 54.5**	**0.0**
	comp=N,0.6nm,0.3s,baz=140,slow=16,SNR=12						
AKTO				S		**07 43 48.1**	**-14**
	comp=N,0.1nm,0.3s,baz=29,slow=19,SNR=3.4						
ZALV	**Zalesovo Beam**	**20.00**	**24**	P		**07 41 26.6**	**-1.6**
	comp=N,2.1nm,0.4s,baz=217,slow=11,SNR=11						
FINES	**FINESS Array B**	**37.66**	**326**	P		**07 44 09.6**	**+0.8**
	comp=N,2.2nm,1.0s,mb4.0,baz=124,slow=7.5,SNR=3.0						
ARCES	**ARCESS Array B**	**41.31**	**338**	P		**07 44 40.0**	**+0.9**
	comp=N,4.0nm,0.9s,mb4.2,baz=96,slow=9.2,SNR=3.3						
NB2	**NORSAR Subarra**	**44.55**	**323**	P		**07 45 05.4**	**+0.1**
	comp=Z,0.9nm,0.6s,mb3.7,baz=97,slow=7.9						
NOA	**NORSAR Array B**	**44.55**	**323**	P		**07 45 05.3**	**-0.1**
	comp=Z,0.8nm,0.8s,mb3.5,baz=104,slow=7.3,SNR=4.3						
TORD	**Torodi Ar. Bea**	**65.82**	**269**	P		**07 47 38.0**	**-0.8**
	comp=Z,0.4nm,0.6s,mb3.5,baz=44,slow=7.0,SNR=3.1						
INK	**Inuvik**	**74.02**	**9**	P		**07 48 29.4**	**+1.2**
	comp=Z,0.5nm,0.9s,mb3.2,baz=13,slow=4.5,SNR=3.3						
YKA	**Yellowknife Ar**	**81.38**	**3**	P		**07 49 09.4**	**+0.3**
	comp=Z,0.3nm,0.8s,mb3.2,baz=350,slow=5.3,SNR=6.4						

IDC 02 07:40:15.9±3.8, 2260S×6866W, h113km±35km, mb3.4/2, mb1 3.4/4, mb1mx3.3/14, mbtmp3.2/4, Error ellipse: s-maj=58.1km s-min=32.5km az=94.0, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**6.30**	**5**	P		07 41 47.0	+0.6
	0.4nm,0.3s,baz=180,slow=8.1,SNR=12						
PLCA	**Paso Flores**	**18.14**	**185**	P		07 44 19.4	+0.1
	0.1nm,0.3s,baz=339,slow=8.6,SNR=3.4						
TORD	**Torodi Ar. Bea**	**77.51**	**70**	P		07 51 59.7	+0.1
	0.6nm,0.4s,baz=247,slow=5.6,SNR=7.2						
TORD				pP	pP	07 52 25.8	-2.5
	1.1nm,0.7s,baz=256,slow=5.5,SNR=4.2						
YKA	**Yellowknife Ar**	**92.30**	**340**	P		07 53 12.7	-0.1
	0.1nm,0.5s,baz=123,slow=4.5,SNR=4.2						

*IDC **02** 07:52:47.9±1.4, 724S×15579E, h0km, mb3.8/5, mb1 3.9/6, mb1mx3.8/14, mbtmp3.9/6, ML4.4/1, MS2.9/1, Ms1 2.9/1, ms1mx2.6/22, Error ellipse: s-maj=35.7km s-min=29.1km az=108.0*
*NEIC **02** 07:52:49.2±0.7, 726S×15586E, h10km, Error ellipse: s-maj=20.7km s-min=14.8km az=206.0*
*ISCJB **02** 07:52:50.9±0.8, 73S±02×1559E±0.1, h33km, mb3.7/5, Error ellipse: s-maj=23.7km s-min=16.9km az=23.2*
ISC 02 07:52:52.1±0.8, 74S±02×1561E±01, h35km, n7, σ0°98/8, mb3.7/5, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**4.34**	**118**	Pn		**07 53 58.7**	**+3.1**
	17nm,0.3s,baz=269,slow=4.7,SNR=3.8						
HNR				Sn		**07 54 44.3**	**-0.7**
	10nm,0.3s,baz=99,slow=20,SNR=3.3						
HNR				LR	LR	07 55 09.0	
	comp=Z,156nm,21.4s,baz=177,slow=30						
WRA	**Warramunga Arr**	**24.48**	**237**	P		**07 58 07.1**	**-1.0**
	0.8nm,0.6s,mb3.3,baz=62,slow=9.6,SNR=6.9						
ASAR	**Alice Springs**	**26.72**	**230**	P		**07 58 29.1**	**+0.8**
	0.3nm,0.8s,mb2.9,baz=57,slow=10,SNR=2.9						
SONM	**Songino Array**	**70.25**	**327**	P		**08 04 01.9**	**+0.3**
	1.2nm,0.9s,mb3.8,baz=140,slow=6.8,SNR=6.6						
MK31	**Makanchi Array**	**84.41**	**318**	*e*P		**08 05 21.3**	**+0.4**
MKAR	**Makanchi Array**	**84.41**	**318**	P		**08 05 21.1**	**+0.2**
	1.0nm,0.5s,mb4.2,baz=110,slow=5.7,SNR=10						
ZALV	**Zalesovo Beam**	**85.11**	**326**	P		**08 05 23.1**	**-1.2**
	1.0nm,0.6s,mb4.1,baz=127,slow=4.3,SNR=4.8						

IDC 02 07:57:33.8±4.7, 2748S×7253E, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.7/17, mbtmp3.8/4, Error ellipse: s-maj=156.7km s-min=36.3km az=46.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**55.01**	**101**	P		08 07 07.5	+0.2
	0.7nm,0.7s,baz=250,slow=6.4,SNR=9.5						
WRA	**Warramunga Arr**	**56.60**	**97**	P		08 07 18.7	-0.2
	1.1nm,1.1s,baz=254,slow=6.6,SNR=6.0						
MKAR	**Makanchi Array**	**74.44**	**7**	P		08 09 14.2	+0.6
	0.3nm,0.8s,baz=185,slow=6.8,SNR=5.4						
SONM	**Songino Array**	**80.91**	**22**	P		08 09 49.5	-0.1
	0.7nm,0.8s,baz=191,slow=3.7,SNR=5.2						
YKA	**Yellowknife Ar**	**144.66**	**6**	PKP	PKPdf	08 17 11.0	-0.8
	0.4nm,0.9s,baz=344,slow=3.9,SNR=5.5						

IDC 02 07:58:50.8±4.2, 700S×15514E, h0km, mb3.6/4, mb1 3.7/4, mb1mx3.6/13, mbtmp3.7/4, Error ellipse: s-maj=120.7km s-min=38.0km az=119.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.93**	**235**	P		08 04 06.9	+0.1
	0.6nm,0.8s,baz=61,slow=9.7,SNR=4.6						
SONM	**Songino Array**	**69.42**	**327**	P		08 10 01.4	+0.7
	0.5nm,1.0s,baz=129,slow=5.7,SNR=3.8						
MKAR	**Makanchi Array**	**83.50**	**319**	P		08 11 21.2	+0.6
	0.3nm,0.4s,baz=105,slow=5.3,SNR=4.1						
ZALV	**Zalesovo Beam**	**84.27**	**326**	P		08 11 23.5	-0.8
	0.5nm,0.3s,baz=123,slow=6.9,SNR=4.4						

IDC 02 07:59:30.5±1.5, 745S×15567E, h0km, mb3.7/4, mb1 3.8/5, mb1mx3.6/14, mbtmp3.8/5, ML4.1/1, Error ellipse: s-maj=38.7km s-min=35.8km az=10.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**4.67**	**115**	Pn	Pn	08 00 41.9	-0.3
	9.0nm,0.3s,baz=79,slow=1.6,SNR=2.8						
HNR				Sn	Sn	08 01 34.7	-2.5
	18nm,0.3s,baz=254,slow=4.9,SNR=6.7						
WRA	**Warramunga Arr**	**24.12**	**237**	P		08 04 48.6	+0.4
	0.8nm,0.7s,baz=62,slow=9.6,SNR=6.8						
SONM	**Songino Array**	**70.08**	**327**	P		08 10 45.5	+1.1
	0.4nm,0.6s,baz=137,slow=6.5,SNR=3.5						
MKAR	**Makanchi Array**	**84.19**	**319**	P		08 12 03.9	+0.2
	0.5nm,0.5s,baz=106,slow=5.7,SNR=4.4						
ZALV	**Zalesovo Beam**	**84.93**	**326**	P		08 12 06.3	-1.1
	0.4nm,0.5s,baz=111,slow=6.8,SNR=3.4						

IDC 02 08:06:08.9±5.5, 715S×15551E, h0km, mb3.6/4, mb1 3.7/4, mb1mx3.5/13, mbtmp3.6/4, Error ellipse: s-maj=160.8km s-min=37.7km az=117.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.15**	**236**	P		08 11 27.2	+0.2
	0.8nm,1.1s,baz=63,slow=9.6,SNR=2.9						
SONM	**Songino Array**	**69.75**	**327**	P		08 17 21.0	+0.2
	0.2nm,0.5s,baz=128,slow=9.3,SNR=2.6						
MKAR	**Makanchi Array**	**83.86**	**319**	P		08 18 41.4	+0.8
	1.6nm,0.7s,baz=91,slow=4.6,SNR=5.1						
ZALV	**Zalesovo Beam**	**84.60**	**326**	P		08 18 43.5	-0.6
	0.7nm,0.5s,baz=126,slow=7.3,SNR=2.9						

IDC 02 08:06:14.8±3.1, 719S×15572E, h0km, mb4.0/7, mb1 4.1/7, mb1mx4.0/14, mbtmp4.0/7, Error ellipse: s-maj=93.8km s-min=24.5km az=107.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.30**	**236**	P		08 11 34.4	+0.2
	2.4nm,0.7s,baz=63,slow=9.6,SNR=9.5						
ASAR	**Alice Springs**	**26.59**	**230**	P		08 11 54.9	0.0
	1.2nm,0.6s,baz=60,slow=9.5,SNR=13						
STKA	**Stephens Creek**	**27.87**	**206**	P		08 12 06.6	+0.2
	0.7nm,0.4s,baz=39,slow=14,SNR=5.5						
FITZ	**Fitzroy Crossi**	**31.24**	**247**	P		08 12 36.3	-0.1
	2.0nm,0.8s,baz=100,slow=22,SNR=4.1						
SONM	**Songino Array**	**69.89**	**327**	P		08 17 28.8	+1.1
	0.8nm,0.9s,baz=157,slow=6.2,SNR=4.3						
MKAR	**Makanchi Array**	**84.03**	**319**	P		08 18 47.4	0.0
	2.6nm,0.7s,baz=102,slow=5.8,SNR=21						
ZALV	**Zalesovo Beam**	**84.75**	**326**	P		08 18 50.0	-0.8
	0.7nm,0.4s,baz=120,slow=3.8,SNR=5.2						

IDC 02 08:08:04.6±5.4, 727S×15570E, h0km, mb4.0/4, mb1 4.1/4, mb1mx3.8/13, mbtmp4.0/4, Error ellipse: s-maj=158.3km s-min=38.1km az=116.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.25**	**237**	P		08 13 23.7	+0.3
	1.5nm,0.9s,baz=62,slow=9.5,SNR=3.7						
SONM	**Songino Array**	**69.94**	**327**	P		08 19 19.0	+1.4
	1.5nm,0.9s,baz=131,slow=5.2,SNR=8.0						
MKAR	**Makanchi Array**	**84.07**	**319**	P		08 20 37.2	-0.1
	1.4nm,0.7s,baz=100,slow=6.7,SNR=8.1						
ZALV	**Zalesovo Beam**	**84.80**	**326**	P		08 20 39.4	-1.3
	1.2nm,0.7s,baz=104,slow=6.3,SNR=5.8						

*SGS **02** 08:10:43.8, 3016N×3635E, h18km*
*GII **02** 08:10:43.6±1.2, 2980N×3627E, h0km, ML2.5/1*
ISC 02 08:10:43.3±1.3, 2985N±004×3638E±007, h0km, n11, σ0°90/16, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HRFI	**Mount Harif**	**1.18**	**279**	Pg	**Pg**	**08 11 05.5**	**-0.5**
HRFI				Sg	**Sg**	**08 11 22.1**	**+0.9**
EIL	**Elat**	**1.25**	**262**	Pg	**Pg**	**08 11 06.5**	**-0.8**
EIL				Sg	**Sg**	**08 11 23.1**	**-0.5**
HQLS		**1.27**	**245**	S	**Sg**	**08 11 24.2**	**+0.1**
HQLS		**1.27**	**245**	P	**Pg**	**08 11 06.8**	**-0.9**
MBH	**Mount Berech**	**1.27**	**268**	Pg	**Pg**	**08 11 06.9**	**-0.8**
MBH				Sg	**Sg**	**08 11 24.8**	**+0.6**
JLOS		**1.35**	**215**	S	**Sg**	**08 11 28.8**	**+2.0**
JLOS		**1.35**	**215**	P	**Pg**	**08 11 09.6**	**+0.3**
KRMI	**Paran Flat**	**1.46**	**281**	Pn	**Pn**	**08 11 09.8**	**-1.1**
KRMI				Sn	**Sn**	**08 11 29.5**	**-1.2**
MZDA	**Masada**	**1.70**	**329**	Pn	**Pn**	**08 11 14.6**	**+0.4**
MZDA				Sn	**Sn**	**08 11 38.2**	**+1.5**
KZIT	**Kziot**	**2.01**	**302**	Sn	**Sn**	**08 11 44.9**	**+0.6**
RSHS		**2.07**	**222**	P	**Pn**	**08 11 19.2**	**-0.2**

IDC 02 08:12:14.9±5.3, 732S×15561E, h0km, mb3.4/3, mb1 3.5/3, mb1mx3.4/13, mbtmp3.4/3, Error ellipse: s-maj=149.5km s-min=38.9km az=117.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.14**	**237**	P		08 17 32.9	+0.1
	0.8nm,1.0s,baz=62,slow=9.4,SNR=4.3						
SONM	**Songino Array**	**69.94**	**327**	P		08 23 28.5	+0.6
	0.2nm,0.7s,baz=126,slow=7.3,SNR=2.5						
MKAR	**Makanchi Array**	**84.05**	**319**	P		08 24 47.0	-0.4
	0.1nm,0.5s,baz=97,slow=6.6,SNR=3.8						

IDC 02 08:17:39.1±4.4, 743S×15596E, h0km, mb3.9/5, mb1 4.0/5, mb1mx3.8/13, mbtmp3.9/5, Error ellipse: s-maj=133.3km s-min=29.3km az=113.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.37**	**237**	P		08 22 59.8	+0.6
	2.7nm,0.9s,baz=63,slow=9.4,SNR=15						
ASAR	**Alice Springs**	**26.61**	**230**	P		08 23 19.2	-0.2
	0.4nm,0.5s,baz=60,slow=9.9,SNR=5.7						
SONM	**Songino Array**	**70.22**	**327**	P		08 28 54.7	+0.8
	0.7nm,0.4s,baz=142,slow=8.4,SNR=7.0						
MKAR	**Makanchi Array**	**84.36**	**319**	P		08 30 12.8	-0.5
	1.0nm,0.7s,baz=100,slow=6.1,SNR=9.6						
ZALV	**Zalesovo Beam**	**85.07**	**326**	P		08 30 16.5	-0.2
	0.8nm,0.5s,baz=110,slow=6.0,SNR=4.3						

IDC 02 08:23:16.4±6.3, 699S×15526E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.5/13, mbtmp3.5/3, Error ellipse: s-maj=180.2km s-min=43.2km az=115.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.04**	**236**	P		08 28 33.2	-0.1
	1.0nm,0.9s,baz=60,slow=9.2,SNR=4.4						
SONM	**Songino Array**	**69.47**	**327**	P		08 34 27.4	+0.8
	0.2nm,0.4s,baz=134,slow=4.2,SNR=3.1						
MKAR	**Makanchi Array**	**83.57**	**319**	P		08 35 46.2	-0.3
	0.4nm,0.8s,baz=101,slow=6.3,SNR=3.6						

IDC 02 08:24:04.5±3.3, 709S×15533E, h0km, mb4.0/6, mb1 4.1/6, mb1mx3.9/14, mbtmp4.0/6, Error ellipse: s-maj=95.9km s-min=26.0km az=116.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.04**	**236**	P		08 29 22.5	+1.1
	3.5nm,0.7s,baz=63,slow=9.8,SNR=14						
ASAR	**Alice Springs**	**26.36**	**229**	P		08 29 41.9	-0.6
	0.6nm,0.7s,baz=56,slow=9.2,SNR=4.9						
FITZ	**Fitzroy Crossi**	**30.92**	**246**	P		08 30 23.8	+0.5
	1.4nm,0.8s,baz=103,slow=8.5,SNR=3.7						
SONM	**Songino Array**	**69.60**	**327**	P		08 35 16.6	+1.2
	1.0nm,0.8s,baz=133,slow=6.0,SNR=6.0						
MKAR	**Makanchi Array**	**83.70**	**319**	P		08 36 35.2	-0.1
	2.1nm,0.7s,baz=104,slow=6.0,SNR=17						
ZALV	**Zalesovo Beam**	**84.45**	**326**	P		08 36 37.5	-1.4
	1.4nm,0.4s,baz=118,slow=5.2,SNR=6.7						

IDC 02 08:31:43.8±1.9, 756S×15571E, h0km, mb3.8/7, mb1 4.0/7, mb1mx3.9/14, mbtmp3.8/7, Error ellipse: s-maj=63.1km s-min=25.0km az=115.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.09**	**237**	P		08 37 01.7	+0.4
	2.2nm,0.9s,baz=61,slow=9.5,SNR=6.8						
ASAR	**Alice Springs**	**26.34**	**230**	P		08 37 23.1	+1.4
	0.5nm,0.8s,baz=61,slow=7.7,SNR=5.3						
STKA	**Stephens Creek**	**27.54**	**207**	P		08 37 31.7	-0.6
	2.2nm,0.6s,baz=28,slow=12,SNR=6.6						
FITZ	**Fitzroy Crossi**	**31.08**	**247**	P		08 38 02.8	-1.2
	1.4nm,0.7s,baz=90,slow=9.1,SNR=3.0						
SONM	**Songino Array**	**70.19**	**327**	P		08 42 58.8	+0.4
	0.5nm,0.4s,baz=146,slow=5.8,SNR=5.8						
MKAR	**Makanchi Array**	**84.29**	**319**	P		08 44 17.3	-0.3
	0.4nm,0.6s,baz=106,slow=5.6,SNR=3.1						
YKA	**Yellowknife Ar**	**96.50**	**28**	P		08 45 15.0	+0.1
	0.2nm,0.6s,baz=268,slow=4.9,SNR=4.0						

*IDC **02** 08:32:08.4±1.2, 742S×15590E, h0km, mb4.1/7, mb1 4.2/8, mb1mx4.0/15, mbtmp4.1/8, ML4.1/1, Error ellipse: s-maj=27.2km s-min=24.6km az=102.0*
*ISCJB **02** 08:32:10.6±7.1, 74S±02×15586E±009, h24km±52km, mb4.0/7, Error ellipse: s-maj=28.5km s-min=13.5km az=10.6*
*NEIC **02** 08:32:10.8±1.1, 753S×15587E, h10km, Error ellipse: s-maj=27.5km s-min=16.2km az=186.0*
ISC 02 08:32:10.2±7.2, 74S±02×15585E±009, h10km±45km, n8, σ0°95/9, mb4.0/7, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**4.52**	**117**	Pn	**Pn**	**08 33 18.8**	**0.0**
	9.1nm,0.3s,baz=241,slow=3.3,SNR=3.8						
HNR				Sn	**Sn**	**08 34 11.8**	**+0.3**
	12nm,0.3s,baz=86,slow=19,SNR=3.5						
WRA	**Warramunga Arr**	**24.30**	**237**	P		**08 37 29.3**	**+1.2**
	4.5nm,0.7s,mb4.0,baz=61,slow=9.2,SNR=15						
ASAR	**Alice Springs**	**26.55**	**230**	P		**08 37 49.2**	**+0.7**
	1.9nm,0.5s,mb3.9,baz=58,slow=9.7,SNR=25						
STKA	**Stephens Creek**	**27.74**	**207**	P		**08 37 57.2**	**-1.9**
	1.4nm,0.6s,mb3.8,baz=25,slow=10,SNR=1.6						
FITZ	**Fitzroy Crossi**	**31.28**	**247**	P		**08 38 30.6**	**-0.1**
	2.1nm,0.5s,mb4.2,baz=85,slow=8.8,SNR=9.0						
SONM	**Songino Array**	**70.14**	**327**	P		**08 43 24.1**	**+1.2**
	0.6nm,0.4s,mb3.8,baz=149,slow=7.2,SNR=5.8						
MKAR	**Makanchi Array**	**84.27**	**319**	P		**08 44 41.7**	**-0.6**
	1.1nm,0.8s,mb4.0,baz=107,slow=5.5,SNR=5.9						
ZALV	**Zalesovo Beam**	**84.99**	**326**	P		**08 44 44.7**	**-1.1**
	0.6nm,0.5s,mb4.0,baz=114,slow=6.5,SNR=2.9						

IDC 02 08:37:03.4±3.1, 718S×15530E, h0km, mb3.9/7, mb1 4.0/7, mb1mx3.8/15, mbtmp3.9/7, Error ellipse: s-maj=94.4km s-min=24.3km az=108.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.96**	**236**	P		08 42 19.1	-0.6
	1.6nm,0.7s,baz=62,slow=9.5,SNR=9.7						
ASAR	**Alice Springs**	**26.28**	**229**	P		08 42 40.8	+0.1
	0.8nm,0.7s,baz=61,slow=9.4,SNR=8.9						
STKA	**Stephens Creek**	**27.70**	**206**	P		08 42 53.8	+0.4
	2.1nm,1.1s,baz=22,slow=14,SNR=3.0						
FITZ	**Fitzroy Crossi**	**30.86**	**247**	P		08 43 21.9	+0.3
	2.4nm,1

VNDA Vanda 69.93 179 LR LR 09 22 56.4
comp=Z,358nm,18.8s,MS4.6,baz=309,slow=32
SONM Songino Array 70.58 327 P **P** **08 56 49.8 +0.6**
2.7nm,0.9s,mb4.2,baz=134,slow=5.7,SNR=17
MKAR Makanchi Array 84.75 318 P **P** **08 58 08.3 0.0**
MKAR Makanchi Array 84.75 318 P **P** **08 58 08.3 0.0**
3.2nm,0.8s,mb4.5,baz=100,slow=6.3,SNR=29
ZALV Zalesovo Beam 85.44 326 P **P** **08 58 10.6 -0.9**
1.9nm,0.7s,mb4.4,baz=117,slow=6.9,SNR=7.6
YKA Yellowknife Ar 96.25 28 P **P** **08 59 01.8 -0.3**
0.2nm,0.6s,mb3.7,baz=262,slow=4.2,SNR=3.5

IDC 02 08:48:50.5±1.2, 771S×15615E, h0km, mb3.9/4, mb1 4.0/5, mb1mx3.7/15, mbtmp4.0/5, ML4.0/1, MS4.0/1, Ms1 4.0/1, ms1mx3.0/21, Error ellipse: s-maj=37.5km s-min=27.2km az=27.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.13**	**115**	Pn	Pn	08 49 55.2	+0.4
	9.6nm,0.3s,baz=254,slow=3.6,SNR=4.8						
HNR				Sn	Sn	08 50 42.6	-1.3
	20nm,0.3s,baz=277,slow=19,SNR=4.2						
WRA	**Warramunga Arr**	**24.38**	**238**	P	P	08 54 10.6	0.0
	1.8nm,0.7s,baz=63,slow=9.3,SNR=12						
URZ	**Urewera**	**35.84**	**151**	LR	LR	09 08 11.2	
	comp=Z,201nm,18.1s,baz=217,slow=32						
SONM	**Songino Array**	**70.55**	**327**	P	P	09 00 07.0	-0.3
	1.3nm,0.7s,baz=132,slow=5.2,SNR=9.4						
MKAR	**Makanchi Array**	**84.69**	**318**	P	P	09 01 25.2	-1.1
	0.3nm,0.6s,baz=116,slow=6.9,SNR=3.6						
ZALV	**Zalesovo Beam**	**85.40**	**326**	P	P	09 01 31.4	+1.7
	0.4nm,0.3s,baz=99,slow=6.4,SNR=3.0						

IDC 02 08:50:01.4±4.1, 832S×15531E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.3/14, mbtmp3.4/3, Error ellipse: s-maj=117.9km s-min=41.2km az=118.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.36**	**238**	P	P	08 55 11.2	-0.6
	0.4nm,0.5s,baz=61,slow=9.3,SNR=3.2						
ASAR	**Alice Springs**	**25.56**	**231**	P	P	08 55 30.9	-1.4
	0.2nm,0.4s,baz=54,slow=10,SNR=4.8						
MKAR	**Makanchi Array**	**84.60**	**319**	P	P	09 02 38.5	+1.7
	0.5nm,0.7s,baz=105,slow=6.1,SNR=4.6						

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*IDC **02** 08:56:21.8±1.0, 743S×15566E, h0km, mb4.1/8, mb1 4.2/9, mb1mx4.0/16, mbtmp4.1/9, ML4.7/1, Error ellipse: s-maj=25.7km s-min=21.0km az=119.0*
*ISCJB **02** 08:56:22.2±0.7, 74S±01×15566E±007, h10km, mb4.0/9, Error ellipse: s-maj=17.4km s-min=8.7km az=14.6*
*NEIC **02** 08:56:23.4±0.6, 742S×15568E, h10km, mb4.3/1, Error ellipse: s-maj=16.2km s-min=12.5km az=169.0*
ISC 02 08:56:27.8±4.3, 74S±02×1556E±01, h39km±46km, n13, σ1º03/14, mb4.0/9, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.72**	**115**	Pn	**Pn**	**08 57 34.5**	**-2.0**
	30nm,0.3s,baz=220,slow=1.8,SNR=6.8						
HNR				Sn	**Sn**	**08 58 31.1**	**+1.1**
	24nm,0.3s,baz=268,slow=18,SNR=6.3						
KAKA	**Kakadu**	**23.41**	**255**	*e*P	**P**	**09 01 34.5**	**+0.8**
	5.7nm,0.6s,mb4.2						
WB2	**Warramunga Arr**	**24.08**	**237**	*e*P	**P**	**09 01 40.7**	**+0.9**
WRA	**Warramunga Arr**	**24.09**	**237**	P	**P**	**09 01 40.9**	**+1.0**
	3.7nm,0.6s,mb4.0,baz=66,slow=10.0,SNR=22						
ASAR	**Alice Springs**	**26.36**	**230**	P	**P**	**09 02 00.6**	**+0.1**
	1.3nm,0.6s,mb3.6,baz=59,slow=9.8,SNR=27						
STKA	**Stephens Creek**	**27.62**	**206**	P	**P**	**09 02 10.1**	**-1.6**
STKA	**Stephens Creek**	**27.62**	**206**	P	**P**	**09 02 10.1**	**-1.6**
	1.1nm,0.9s,mb3.5,baz=28,slow=14,SNR=3.3						
FITZ	**Fitzroy Crossi**	**31.05**	**247**	P	**P**	**09 02 41.3**	**-1.1**
	1.9nm,0.8s,mb4.0,baz=53,slow=15,SNR=3.1						
SONM	**Songino Array**	**70.03**	**327**	P	**P**	**09 07 36.7**	**+1.2**
	1.8nm,0.4s,mb4.4,baz=141,slow=5.9,SNR=27						
MKAR	**Makanchi Array**	**84.14**	**319**	P	**P**	**09 08 54.7**	**-0.2**
MKAR	**Makanchi Array**	**84.14**	**319**	P	**P**	**09 08 54.7**	**-0.2**
	1.7nm,0.7s,mb4.3,baz=100,slow=6.2,SNR=16						
ZALV	**Zalesovo Beam**	**84.88**	**326**	P	**P**	**09 08 57.6**	**-0.8**
	1.3nm,0.4s,mb4.4,baz=102,slow=4.6,SNR=7.4						
YKA	**Yellowknife Ar**	**96.43**	**28**	P	**P**	**09 09 52.2**	**-0.3**
	0.2nm,0.7s,mb3.7,baz=266,slow=4.2,SNR=3.9						

IDC 02 08:57:34.6±2.5, 756S×15556E, h0km, mb3.9/6, mb1 4.1/6, mb1mx3.9/13, mbtmp3.9/6, Error ellipse: s-maj=75.9km s-min=33.8km az=122.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.97**	**237**	P	P	09 02 51.1	+0.1
	1.1nm,0.7s,baz=61,slow=9.2,SNR=2.4						
MJAR	**Matsushiro Arr**	**46.79**	**341**	P	P	09 06 06.5	+0.4
	2.4nm,0.7s,baz=163,slow=8.1,SNR=7.9						
SONM	**Songino Array**	**70.11**	**327**	P	P	09 08 48.1	-0.7
	0.2nm,0.5s,baz=108,slow=9.3,SNR=1.8						
MKAR	**Makanchi Array**	**84.19**	**319**	P	P	09 10 08.7	+0.8
	2.0nm,0.8s,baz=101,slow=6.3,SNR=5.5						
ZALV	**Zalesovo Beam**	**84.95**	**326**	P	P	09 10 11.5	-0.1
	0.6nm,0.4s,baz=100,slow=4.4,SNR=3.0						
YKA	**Yellowknife Ar**	**96.57**	**28**	P	P	09 11 05.9	-0.1
	0.2nm,0.6s,baz=259,slow=4.5,SNR=3.7						

IDC 02 08:58:43.3±3.7, 754S×15543E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.6/13, mbtmp3.6/4, Error ellipse: s-maj=106.4km s-min=29.5km az=114.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.87**	**237**	P	P	09 03 59.8	+1.1
	2.5nm,0.6s,baz=62,slow=9.7,SNR=7.3						
ASAR	**Alice Springs**	**26.14**	**230**	P	P	09 04 18.5	-0.8
	0.3nm,0.7s,baz=56,slow=9.3,SNR=3.1						
SONM	**Songino Array**	**70.03**	**327**	P	P	09 09 57.7	+0.9
	0.5nm,0.7s,baz=134,slow=6.2,SNR=3.1						
MKAR	**Makanchi Array**	**84.10**	**319**	P	P	09 11 15.5	-0.6
	0.3nm,0.6s,baz=104,slow=6.1,SNR=1.8						

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*IDC **02** 09:00:58.2±1.2, 739S×15591E, h0km, mb3.8/5, mb1 3.9/6, mb1mx3.8/14, mbtmp3.9/6, ML4.3/1, Error ellipse: s-maj=31.0km s-min=27.9km az=31.0*
*NEIC **02** 09:00:59.7±0.8, 740S×15591E, h10km, Error ellipse: s-maj=22.1km s-min=15.3km az=200.0*
*ISCJB **02** 09:01:01.4±5.1, 75S±02×1560E±02, h33km±53km, mb3.6/5, Error ellipse: s-maj=39.8km s-min=25.2km az=162.3*
ISC 02 09:01:02.2±7.6, 74S±02×1559E±01, h27km±56km, n7, σ0º81/8, mb3.6/5, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.43**	**117**	Pn	**Pn**	**09 02 07.8**	**0.0**
	16nm,0.3s,baz=90,slow=3.0,SNR=3.4						
HNR				Sn	**Sn**	**09 02 58.6**	**0.0**
	32nm,0.3s,baz=162,slow=3.2,SNR=4.5						
WRA	**Warramunga Arr**	**24.34**	**237**	P	**P**	**09 06 18.5**	**+0.5**
	1.3nm,0.6s,mb3.5,baz=62,slow=9.5,SNR=7.6						
ASAR	**Alice Springs**	**26.59**	**230**	P	**P**	**09 06 37.9**	**-0.5**
ASAR	**Alice Springs**	**26.59**	**230**	P	**P**	**09 06 37.9**	**-0.5**
	0.3nm,0.7s,mb2.9,baz=59,slow=9.1,SNR=3.6						
SONM	**Songino Array**	**70.22**	**327**	P	**P**	**09 12 12.7**	**-0.1**
	0.3nm,0.7s,mb3.4,baz=142,slow=5.1,SNR=3.9						
MKAR	**Makanchi Array**	**84.36**	**319**	P	**P**	**09 13 33.0**	**+1.0**
	1.9nm,0.7s,mb4.4,baz=104,slow=5.9,SNR=15						
ZALV	**Zalesovo Beam**	**85.07**	**326**	P	**P**	**09 13 34.6**	**-0.9**
	0.7nm,0.5s,mb4.0,baz=64,slow=3.4,SNR=4.6						

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*ISCJB **02** 09:04:44.7±0.5, 4543S×006×729W±02, h10km, mb4.5/10, MS4.4/8, Error ellipse: s-maj=18.7km s-min=9.0km az=175.9*
*IDC **02** 09:04:44.3±0.8, 4543S×7277W, h0km, mb4.5/8, mb1 4.5/8, mb1mx4.4/14, mbtmp4.5/8, ML3.1/1, MS4.3/11, Ms1 4.3/11, ms1mx4.1/23, Error ellipse: s-maj=34.4km s-min=14.8km az=88.0*
*GUC **02** 09:04:45.2±0.3, 4546S×7309W, h8km±2km, ML4.8*
*NEIC **02** 09:04:52.3±2.3, 4542S×7272W, h59km±19km, mb4.7/3, Error ellipse: s-maj=26.2km s-min=11.0km az=72.0*
ISC 02 09:04:46.5±0.6, 4543S±007×728W±02, h10km, (h14km±9km:pP-P), n36, σ1º18/26, mb4.5/10, MS4.4/7, Southern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**4.99**	**20**	Pn	**Pn**	**09 06 02.9**	**+1.5**
	2.7nm,0.3s,baz=202,slow=13,SNR=54						
PLCA				Pg	**Pg**	**09 06 16.8**	**-5.2**
	5.1nm,0.3s,baz=208,slow=17,SNR=24						
PLCA				Lg		09 07 22.2	
	23nm,0.3s,baz=291,slow=20,SNR=8.9						
PLCA				LR	LR	09 08 00.1	
	comp=Z,4μm,19.5s,baz=197,slow=39						
USHA	**Ushuaia**	**9.82**	**165**	LR	LR	09 10 56.5	
	comp=Z,2μm,21.3s,baz=120,slow=38						
TRQA	**Tornquist**	**10.96**	**52**	*e*Pn	**Pn**	**09 07 26.5**	**+3.3**
	24nm,1.0s						
CFAA	**Coronel Fontan**	**14.27**	**16**	Pn	**Pn**	**09 08 06.5**	**-2.0**
CFAA				LR	LR	09 14 19.3	
CFAA	**Coronel Fontan**	**14.27**	**16**	Pn	**Pn**	**09 08 06.5**	**-2.0**
	0.1nm,0.3s,baz=200,slow=12,SNR=10						
CFAA				LR	LR	09 14 19.3	
	comp=Z,138nm,19.6s,baz=182,slow=40						
LCO	**Las Campanas**	**16.48**	**7**	*e*P	**Pn**	**09 08 39.9**	**+2.2**
	60nm,1.2s						
PMSA	**Palmer Station**	**19.99**	**169**	LR	LR	09 15 38.9	
	comp=Z,1μm,19.6s,baz=306,slow=33						
ARE	**Arequipa**	**28.91**	**3**	*e*P	**P**	**09 10 45.0**	**-0.5**
LPAZ	**La Paz**	**29.32**	**9**	P	**P**	**09 10 49.4**	**+0.2**
LPAZ				LR	LR	09 24 36.4	
LPAZ	**La Paz**	**29.32**	**9**	P	**P**	**09 10 49.4**	**+0.2**
	7.2nm,0.8s,mb4.5,baz=175,slow=7.9,SNR=23						
LPAZ				LR	LR	09 24 36.4	
	comp=Z,675nm,18.8s,MS4.3,baz=290,slow=41						
ATAH	**Atahualpa**	**38.59**	**351**	P	**P**	**09 12 08.8**	**-0.8**
	17nm,1.0s,mb4.7,baz=86,slow=6.5,SNR=6.8						
VNA3	**Neumayer Olymp**	**39.22**	**153**	*e*	**P**	**09 12 14.2**	**-0.2**
VNA3				*e*	pP	09 12 17.6	+0.1
VNA3				*e*		09 12 22.9	
VNA1	**Neumayer--Stat**	**39.63**	**152**	*e*	**P**	**09 12 20.9**	**+3.2**
VNA1				*e*	pP	09 12 25.0	+4.2
VNA1				*e*		09 12 30.0	
VNA2	**Neumayer--Watz**	**39.93**	**152**	*e*	**P**	**09 12 21.1**	**+0.8**
	baz=281,slow=8.8						
VNA2				*e*	pP	09 12 24.8	+1.4
VNA2				*e*		09 12 30.0	
SNAA	**Sanae**	**41.43**	**153**	*e*	**P**	**09 12 30.8**	**-1.8**
SNAA				*e*	pP	09 12 35.5	-0.2
SNAA				*e*		09 12 39.8	
SNAA	**Sanae**	**41.43**	**153**	P	**P**	**09 12 31.9**	**-0.7**
	3.0nm,1.0s,mb3.9,baz=266,slow=5.7,SNR=7.1						
QSPA	**South Pole Qui**	**44.82**	**180**	P	**P**	**09 13 00.7**	**+0.8**
QSPA				*e*P		09 13 01.1	
QSPA	**South Pole Qui**	**44.82**	**180**	P	**P**	**09 13 00.7**	**+0.8**
	6.0nm,1.0s,mb4.4,baz=136,slow=6.6,SNR=12						
ROSC	**El Rosal**	**50.08**	**358**	P	**P**	**09 13 41.7**	**+0.2**
	7.1nm,0.6s,mb4.8,baz=105,slow=21,SNR=5.1						
RKT	**Rikitea**	**54.53**	**272**	*e*LQ		09 27 44.9	
	398nm,33.2s						
RKT				*e*LR	LR	09 30 04.8	
	193nm,29.2s						
MAW	**Mawson**	**62.44**	**162**	LR	LR	09 40 38.8	
	comp=Z,390nm,19.6s,MS4.6,baz=60,slow=34						
TBI	**Tubuai**	**64.56**	**262**	*e*LR	LR	09 34 49.9	
	266nm,26.2s						
CMIG	**Matias Romero**	**65.37**	**337**	LR	LR	09 36 59.2	
	comp=Z,288nm,18.4s,MS4.5,baz=182,slow=30						
PPT	**Papeete**	**68.46**	**267**	*e*LR	LR	09 36 27.3	
	197nm,29.0s						
RAR	**Rarotonga**	**73.11**	**257**	LR	LR	09 41 29.9	
	comp=Z,230nm,18.4s,MS4.5,baz=285,slow=30						
BOSA	**Boshof**	**75.46**	**116**	P	**P**	**09 16 29.7**	**-1.1**
BOSA				LR	LR	09 46 26.4	
BOSA	**Boshof**	**75.46**	**116**	P	**P**	**09 16 29.7**	**-1.1**
	5.6nm,1.1s,mb4.4,baz=169,slow=5.2,SNR=4.7						
BOSA				LR	LR	09 46 26.4	
	comp=Z,186nm,18.6s,MS4.4,baz=221,slow=33						
JCT	**Junction City**	**79.43**	**337**	*e*P	**P**	**09 16 52.1**	**-0.5**
	20nm,1.4s,mb4.8						
TXAR	**Lajitas Array**	**79.52**	**333**	P	**P**	**09 16 52.6**	**-0.5**
	baz=148,slow=6.9						
BNM	**Barren Site**	**84.92**	**332**	*e*P	**P**	**09 17 22.7**	**+1.4**
ANMO	**Albuquerque**	**85.60**	**333**	*e*P	**P**	**09 17 25.2**	**+0.5**
	8.1nm,1.3s,mb4.8						
TORD	**Torodi Ar. Bea**	**88.72**	**70**	P	**P**	**09 17 39.0**	**-1.2**
	2.5nm,0.7s,mb4.6,baz=231,slow=4.5,SNR=9.2						
TORD				LR	LR	09 52 35.6	
	comp=Z,82nm,18.6s,MS4.2,baz=230,slow=32						
PDAR	**Pinedale Array**	**93.71**	**334**	P	**P**	**09 18 01.9**	**-0.8**
	0.9nm,1.0s,mb4.2,baz=151,slow=3.4,SNR=6.0						
PDAR				LR	LR	09 56 53.2	
	comp=Z,124nm,19.3s,MS4.4,baz=84,slow=33						
WRA	**Warramunga Arr**	**110.40**	**207**	PKiKP	PKiKP	09 23 17.2	-1.9
	0.3nm,1.0s,baz=177,slow=1.5,SNR=4.9						
MKAR	**Makanchi Array**	**162.72**	**77**	PKP	PKPdf	09 24 47.0	-0.9
	0.4nm,0.8s,baz=10,slow=1.6,SNR=3.4						
MKAR				PKPab	PKPab	09 25 36.1	-0.7
	1.0nm,0.8s,baz=262,slow=4.1,SNR=5.8						
SONM	**Songino Array**	**177.54**	**12**	PKPab	PKPab	09 26 42.0	-0.2
	0.8nm,0.8s,baz=315,slow=3.7,SNR=4.7						

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*ISCJB **02** 09:07:00.7±0.5, 694S±009×15506E±006, h10km, mb4.1/13, Error ellipse: s-maj=12.8km s-min=8.6km az=13.2*
*IDC **02** 09:07:00.3±0.7, 706S×15507E, h0km, mb4.1/10, mb1 4.2/11, mb1mx4.2/16, mbtmp4.1/11, ML4.2/1, MS4.0/2, Ms1 4.0/2, ms1mx3.3/19, Error ellipse: s-maj=23.1km s-min=19.4km az=123.0*
*NEIC **02** 09:07:01.8±0.4, 697S×155.12E, h10km, mb4.5/5, Error ellipse: s-maj=14.4km s-min=10.7km az=147.0*
ISC 02 09:07:08.1±3.4, 70S±02×15503E±009, h56km±33km, n23, σ0º94/21, mb4.1/13, 1D, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.43**	**117**	Pn	**Pn**	**09 08 22.7**	**-3.7**
	8.1nm,0.3s,baz=265,slow=2.7,SNR=1.9						
HNR				Sn	**Sn**	**09 09 28.3**	**+0.8**
	19nm,0.3s,baz=286,slow=18,SNR=3.0						
HNR				LR	LR	09 10 21.6	
	comp=Z,2μm,19.5s,baz=349,slow=38						
KAKA	**Kakadu**	**22.96**	**254**	*e*P	**P**	**09 12 08.0**	**0.0**
	4.6nm,0.5s,mb4.2						
WB2	**Warramunga Arr**	**23.83**	**235**	*e*P	**P**	**09 12 17.4**	**+1.2**
WRA	**Warramunga Arr**	**23.84**	**235**	P	**P**	**09 12 15.9**	**-0.3**
	3.1nm,0.5s,mb4.0,baz=59,slow=9.2,SNR=21						
WRA				PcP	PcP	09 15 59.3	+0.8
	0.8nm,0.5s,baz=64,slow=2.8,SNR=7.5						
ASAR	**Alice Springs**	**26.19**	**228**	P	**P**	**09 12 36.1**	**-1.5**
	0.7nm,0.8s,mb3.3,baz=58,slow=9.4,SNR=9.6						
ASAR				PcP	PcP	09 16 04.4	+0.8
	0.4nm,0.5s,baz=66,slow=3.0,SNR=4.6						
STKA	**Stephens Creek**	**27.74**	**205**	*e*P	**P**	**09 12 52.1**	**+0.7**
	2.7nm,0.6s,mb4.0						
STKA	**Stephens Creek**	**27.74**	**205**	P	**P**	**09 12 50.6**	**-0.8**
	2.7nm,0.6s,mb4.0,baz=28,slow=11,SNR=12						
FITZ	**Fitzroy Crossi**	**30.68**	**246**	⇓*i*P	**P**	**09 13 18.9**	**+1.2**
	7.6nm,0.6s,mb4.7						
FITZ	**Fitzroy Crossi**	**30.68**	**246**	P	**P**	**09 13 17.6**	**-0.1**
	4.0nm,0.7s,mb4.4,baz=100,slow=8.8,SNR=15						
FITZ				LR	LR	09 25 41.9	
	comp=Z,174nm,19.7s,baz=343,slow=36						
SONM	**Songino Array**	**69.37**	**327**	P	**P**	**09 18 12.0**	**+2.1**
	2.1nm,0.8s,mb4.1,baz=143,slow=6.2,SNR=14						
IMA2	**Indian Mountai**	**81.80**	**19**	*e*P	**P**	**09 19 21.1**	**+0.4**
MCK	**McKinley**	**82.06**	**22**	*e*P	**P**	**09 19 21.1**	**-0.9**
	9.7nm,1.0s,mb4.7						
QSPA	**South Pole Qui**	**82.97**	**180**	P	**P**	**09 19 26.5**	**-0.1**
	1.1nm,0.7s,mb4.0,baz=344,slow=2.3,SNR=6.8						
COLA	**College**	**83.08**	**21**	*e*P	**P**	**09 19 26.2**	**-1.2**
	3.6nm,0.9s,mb4.4						
MKAR	**Makanchi Array**	**83.44**	**319**	P	**P**	**09 19 29.9**	**+0.3**
	0.7nm,0.5s,mb4.0,baz=106,slow=7.2,SNR=12						
POO	**Poona**	**83.91**	**289**	*ex*	x	09 18 39.0	
ZALV	**Zalesovo Beam**	**84.21**	**326**	P	**P**	**09 19 32.8**	**-0.5**
	1.0nm,0.5s,mb4.2,baz=124,slow=5.9,SNR=3.5						
NVAR	**Mina Array Bea**	**91.70**	**52**	P	**P**	**09 20 10.5**	**+0.8**
NVAR	**Mina Array Bea**	**91.70**	**52**	P	**P**	**09 20 10.5**	**+0.8**
	0.1nm,0.4s,mb3.5,baz=246,slow=5.5,SNR=3.5						
YKA	**Yellowknife Ar**	**96.33**	**28**	P	**P**	**09 20 29.9**	**-0.4**
YKA	**Yellowknife Ar**	**96.33**	**28**	P	**P**	**09 20 29.9**	**-0.4**
	0.5nm,0.6s,mb4.1,baz=265,slow=4.5,SNR=16						
LPAZ	**La Paz**	**131.47**	**119**	PKP	PKPdf	09 26 15.4	+0.2
	0.9nm,0.7s,baz=200,slow=6.1,SNR=4.5						
TORD	**Torodi Ar. Bea**	**153.07**	**285**	PKPbc	PKPbc	09 26 59.7	-0.8
	0.7nm,0.7s,baz=50,slow=2.8,SNR=3.3						

IDC 02 09:09:55.2±1.8, 712S×15534E, h0km, mb3.8/7, mb1 4.0/7, mb1mx3.9/14, mbtmp3.8/7, Error ellipse: s-maj=59.5km s-min=23.8km az=115.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.03**	**236**	P	P	09 15 12.7	+0.7
	2.8nm,1.0s,baz=60,slow=9.4,SNR=6.4						
ASAR	**Alice Springs**	**26.35**	**229**	P	P	09 15 32.5	-0.6
	0.5nm,0.9s,baz=60,slow=8.6,SNR=3.5						
STKA	**Stephens Creek**	**27.77**	**206**	P	P	09 15 46.2	+0.5
	1.3nm,0.9s,baz=32,slow=13,SNR=2.2						
FITZ	**Fitzroy Crossi**	**30.92**	**247**	*e*P	P	09 16 13.3	-0.7
	4.5nm,0.6s						
FITZ	**Fitzroy Crossi**	**30.92**	**247**	P	P	09 16 13.5	-0.4
	2.5nm,0.7s,baz=89,slow=9.3,SNR=6.5						
SONM	**Songino Array**	**69.63**	**327**	P	P	09 21 07.0	+0.7
	1.0nm,0.8s,baz=142,slow=5.7,SNR=5.6						
MKAR	**Makanchi Array**	**83.73**	**319**	P	P	09 22 26.1	0.0
	0.5nm,0.6s,baz=105,slow=8.7,SNR=4.2						
YKA	**Yellowknife Ar**	**96.29**	**28**	P	P	09 23 24.9	-0.4
	0.3nm,0.6s,baz=268,slow=4.5,SNR=6.1						

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*CSEM **02** 09:10:31.9±0.1, 4573N×835E, h10km, ML2.9/25, Error ellipse: s-maj=1.1km s-min=1.0km az=14.0*
*ROM **02** 09:10:31.9±0.1, 4571N×826E, h36km±1km, Md2.7/14, Ml2.5/7, Error ellipse: s-maj=4.4km s-min=1.6km az=130.0*
*ZUR **02** 09:10:33.4, 4578N×830E, h25km±1km, ML2.7/17*
*NEIC **02** 09:10:33.0, 4579N×828E, h10km, ML2.7(ZUR), ML2.4(ROM), After ROM.*
*ISCJB **02** 09:10:33.1±0.4, 4572N±002×826E±002, h28km±4km, Error ellipse: s-maj=3.2km s-min=2.6km az=140.3*
*LDG **02** 09:10:33.1±0.1, 4578N×832E, h10km, Md2.7/2, Ml2.9/25, Error ellipse: s-maj=1.8km s-min=1.4km az=106.0*
*GEN **02** 09:10:33.4, 4581N×824E, h31km, ML2.0*
ISC 02 09:10:33.6±0.3, 4573N±002×827E±002, h27km±3km, n121, σ1º02/232, 15C-4D, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ORX	**Oropa**	**0.23**	**245**	Pn	**Pb**	**09 10 40.0**	**+0.3**
ORX				Sn	**Sb**	**09 10 44.8**	**+0.9**
ORO	**Oropa**	**0.23**	**244**	Pn	**Pb**	**09 10 40.2**	**+0.4**
ORO				Sn	**Sb**	**09 10 45.0**	**+1.1**
	253nm,0.2s						
VAI	**Varese**	**0.37**	**68**	Pn	**Pb**	**09 10 41.7**	**-0.1**
MMK	**Mattmark**	**0.39**	**326**	⇑*i*Pg	**Pb**	**09 10 41.4**	**-0.7**
	4μm,0.2s						
MMK				*i* Sg	**Sb**	**09 10 46.5**	**-1.3**
	4μm,0.2s						
TRAV		**0.43**	**240**	P	**Pb**	**09 10 42.7**	**0.0**
TRAV				S	**Sb**	**09 10 48.8**	**0.0**
MUGIO	**Muggio**	**0.57**	**70**	⇓*i*P	**Pb**	**09 10 44.7**	**-0.4**
	857nm,0.4s						
MUGIO	**Muggio**	**0.57**	**70**	Pn	**Pn**	**09 10 44.8**	**-1.2**
DIX	**Grande Dixence**	**0.70**	**301**	Pn	**Pn**	**09 10 46.7**	**-1.0**
DIX	**Grande Dixence**	**0.70**	**301**	⇓*i*P	**Pb**	**09 10 46.4**	**-0.8**
	2μm,0.2s						
FUSIO	**Fusio**	**0.78**	**20**	⇑*i*P	**Pb**	**09 10 46.7**	**-1.8**
	330nm,0.2s						
LKBD	**Leukerbad**	**0.80**	**326**	⇑*i*P	**Pb**	**09 10 48.3**	**-0.6**
	196nm,0.3s						
LKBD				*i* Sg	**Sb**	**09 10 58.0**	**-1.3**
	196nm,0.3s						
LSD	**Ceresole Reale**	**0.83**	**251**	P	**Pb**	**09 10 49.8**	**+0.4**
MRGE	**Morge**	**0.85**	**273**	Pn	**Pn**	**09 10 49.7**	**-0.1**
MRGE				Sn	**Sn**	**09 11 02.0**	**+0.6**
	77nm,0.3s						
RSP	**Reno Superiore**	**0.92**	**231**	Pn	**Pn**	**09 10 49.1**	**-1.6**
	47nm,0.2s						
SENIN	**Lac Senin/Sane**	**0.93**	**313**	*e*P	**Pn**	**09 10 50.8**	**-0.1**
	451nm,0.5s						
GRYON	**Gryon**	**0.96**	**303**	*e*P	**Pn**	**09 10 51.8**	**+0.4**
	138nm,0.4s						
SALAN	**Lac Salanfe**	**1.00**	**295**	*e*P	**Pn**	**09 10 52.3**	**+0.5**
	76nm,0.4s						
MDI	**Monti di Nese**	**1.01**	**87**	Pn	**Pn**	**09 10 51.3**	**-0.7**
MDI				Sn	**Sn**	**09 11 05.9**	**+0.6**
	115nm,0.4s						
EMV	**Vieux Emosson**	**1.02**	**290**	⇑*i*P	**Pn**	**09 10 52.6**	**+0.5**
	219nm,0.5s						
HASLI	**Hasliberg/Brie**	**1.03**	**355**	⇑*i*P	**Pn**	**09 10 51.9**	**-0.4**
	571nm,0.5s						
WIMIS	**Wimmis**	**1.04**	**335**	*e*P	**Pn**	**09 10 52.6**	**+0.2**
	357nm,0.8s						
TUE	**Stuetta**	**1.05**	**45**	Pn	**Pn**	**09 10 52.0**	**-0.6**
	133nm,0.1s						
**LP

IMI	**Imperia**	**1.84 189**	P		**Pn**	**09 11 03.1**	**-0.3**
ORIF	**Oris-en-Rattie**	**1.87 245**	*e*Pg		**Pn**	**09 11 07.5**	**+3.7**
	SNR=1.0						
ORIF			*e*Sn		**Sn**	**09 11 26.7**	**+0.1**
ORIF			*e*Sg		**Sn**	**09 11 33.8**	**+7.2**
	22nm,0.4s,SNR=1.0						
ORIF	**Oris-en-Rattie**	**1.87 245**	*e*Pg		**Pn**	**09 11 07.5**	**+3.7**
	SNR=1.0						
ORIF			*e*Sn		**Sn**	**09 11 26.7**	**+0.1**
ORIF			*e*Sg		**Sn**	**09 11 33.8**	**+7.2**
	11nm,0.4s,SNR=1.0						
DAVA	**Damuels**	**1.91 35**	⇑*i*Pn		**Pn**	**09 11 04.8**	**+0.3**
DAVA			*i* Sn		**Sn**	**09 11 29.6**	**+2.0**
DAVA	**Damuels**	**1.91 35**	⇑*i*Pn		**Pn**	**09 11 04.8**	**+0.4**
DAVA			⇓*i*Sn		**Sn**	**09 11 29.6**	**+2.0**
NEGI	**Negi**	**1.92 192**	P		**Pn**	**09 11 04.4**	**-0.2**
BACM		**1.93 138**	P		**Pn**	**09 11 05.0**	**+0.3**
BACM			S		**Sn**	**09 11 25.8**	**-2.2**
SBF	**Sospel**	**1.96 198**	*e*Pg		**Pn**	**09 11 11.1**	**+6.1**
SBF			*e*Sn		**Sn**	**09 11 29.8**	**+1.1**
	19nm,0.2s,SNR=1.0						
SBF	**Sospel**	**1.96 198**	*e*Pn		**Pn**	**09 11 05.9**	**+0.9**
SBF			*e*Pg		**Pn**	**09 11 11.1**	**+6.1**
SBF			*e*Sn		**Sn**	**09 11 29.8**	**+1.1**
SBF	**Sospel**	**1.96 198**	*e*Pg		**Pn**	**09 11 11.1**	**+6.1**
SBF			*e*Sn		**Sn**	**09 11 29.8**	**+1.1**
	9.4nm,0.2s,SNR=1.0						
SLE	**Schleitheim**	**2.04 4**	⇑*i*P		**Pn**	**09 11 05.5**	**-0.7**
	254nm,0.4s						
FETA	**Feichten**	**2.14 52**	⇓*i*Pn		**Pn**	**09 11 09.1**	**+1.6**
FETA			⇑*i*Sn		**Sn**	**09 11 36.0**	**+2.9**
HINF	**Hinteralfeld**	**2.31 335**	*e*Pg		**Pn**	**09 11 15.3**	**+5.5**
HINF			*e*Sn		**Sn**	**09 11 35.0**	**-2.3**
HINF			*e*Sg		**Sn**	**09 11 45.3**	**+8.0**
	20nm,0.4s						
HINF	**Hinteralfeld**	**2.31 335**	*e*Pn		**Pn**	**09 11 09.5**	**-0.3**
HINF			*e*Pg		**Pn**	**09 11 15.3**	**+5.5**
HINF			*e*Sn		**Sn**	**09 11 35.0**	**-2.3**
HINF			*e*Sg		**Sn**	**09 11 45.3**	**+8.0**
HINF	**Hinteralfeld**	**2.31 335**	*e*Pg		**Pn**	**09 11 15.3**	**+5.5**
HINF			*e*Sn		**Sn**	**09 11 35.0**	**-2.3**
HINF			*e*Sg		**Sn**	**09 11 45.3**	**+8.0**
	9.8nm,0.4s						
FRF	**La Foret Royal**	**2.46 209**	*e*Pn		**Pn**	**09 11 13.4**	**+1.5**
	SNR=1.0						
FRF			*e*Sn		**Sn**	**09 11 41.1**	**+0.1**
	7.5nm,0.2s,SNR=1.0						
FRF	**La Foret Royal**	**2.46 209**	*e*Pn		**Pn**	**09 11 13.4**	**+1.5**
	SNR=1.0						
FRF			*e*Sn		**Sn**	**09 11 41.1**	**+0.1**
	3.8nm,0.2s,SNR=1.0						
SQTA	**Sankt Quirin**	**2.52 53**	⇑*i*Pn		**Pn**	**09 11 13.9**	**+1.1**
SQTA			⇑*i*Sn		**Sn**	**09 11 46.0**	**+3.5**
SMRF	**Simiane la Rot**	**2.60 229**	*e*P		**Pn**	**09 11 17.2**	**+3.4**
SMRF	**Simiane la Rot**	**2.60 229**	*e*Pg		**Pn**	**09 11 22.2**	**+8.4**
SMRF			*e*Sn		**Sn**	**09 11 44.6**	**+0.1**
	5.0nm,0.3s						
SMRF	**Simiane la Rot**	**2.60 229**	*e*Pn		**Pn**	**09 11 14.1**	**+0.3**
SMRF			*e*P			09 11 17.2	
SMRF			*e*Pg		**Pn**	**09 11 22.2**	**+8.4**
SMRF			*e*Sn		**Sn**	**09 11 44.6**	**+0.1**
SMRF	**Simiane la Rot**	**2.60 229**	*e*P		**Pn**	**09 11 17.2**	**+3.4**
SMRF	**Simiane la Rot**	**2.60 229**	*e*Pg		**Pn**	**09 11 22.2**	**+8.4**
SMRF			*e*Sn		**Sn**	**09 11 44.6**	**+0.1**
	2.5nm,0.3s						
HAU	**Haudompre**	**2.63 331**	*e*Pg		**Pn**	**09 11 21.6**	**+7.3**
	SNR=1.0						
HAU			*e*Sn		**Sn**	**09 11 43.2**	**-2.2**
HAU			*e*Sg		**Sn**	**09 11 55.1**	**+10**
	12nm,0.2s,SNR=1.0						
HAU	**Haudompre**	**2.63 331**	*e*Pn		**Pn**	**09 11 14.1**	**-0.2**
HAU			*e*Pg		**Pn**	**09 11 21.6**	**+7.3**
HAU			*e*Sn		**Sn**	**09 11 43.2**	**-2.2**
HAU			*e*Sg		**Sn**	**09 11 55.1**	**+10**
HAU	**Haudompre**	**2.63 331**	*e*Pg		**Pn**	**09 11 21.6**	**+7.3**
	SNR=1.0						
HAU			*e*Sn		**Sn**	**09 11 43.2**	**-2.2**
HAU			*e*Sg		**Sn**	**09 11 55.1**	**+10**
	5.9nm,0.2s,SNR=1.0						
VIVF	**Saint-Julien-I**	**2.69 252**	*e*Pg		**Pn**	**09 11 23.7**	**+8.7**
VIVF			*e*Sn		**Sn**	**09 11 46.6**	**-0.1**
	3.8nm,0.2s,SNR=1.0						
VIVF	**Saint-Julien-I**	**2.69 252**	*e*Pn		**Pn**	**09 11 16.1**	**+1.1**
VIVF			*e*Pg		**Pn**	**09 11 23.7**	**+8.7**
VIVF			*e*Sn		**Sn**	**09 11 46.6**	**-0.1**
VIVF	**Saint-Julien-I**	**2.69 252**	*e*Pg		**Pn**	**09 11 23.7**	**+8.7**
VIVF			*e*Sn		**Sn**	**09 11 46.6**	**-0.1**
	1.9nm,0.2s,SNR=1.0						
LMR	**La Mourre**	**2.71 208**	*e*P		**Pn**	**09 11 18.6**	**+3.3**
LMR	**La Mourre**	**2.71 208**	*e*Pg		**Pn**	**09 11 24.4**	**+9.1**
LMR			*e*Sn		**Sn**	**09 11 47.4**	**+0.3**
	6.3nm,0.2s,SNR=1.0						
LMR	**La Mourre**	**2.71 208**	*e*Pn		**Pn**	**09 11 15.6**	**+0.3**
LMR			*e*P			09 11 18.6	
LMR			*e*Pg		**Pn**	**09 11 24.4**	**+9.1**
LMR			*e*Sn		**Sn**	**09 11 47.4**	**+0.3**
LMR	**La Mourre**	**2.71 208**	*e*P		**Pn**	**09 11 18.6**	**+3.3**
LMR	**La Mourre**	**2.71 208**	*e*Pg		**Pn**	**09 11 24.4**	**+9.1**
LMR			*e*Sn		**Sn**	**09 11 47.4**	**+0.3**
	3.2nm,0.2s,SNR=1.0						
CDF	**Champ du Feu**	**2.77 346**	*e*Pg		**Pn**	**09 11 24.2**	**+8.0**
CDF			*e*Sn		**Sn**	**09 11 46.5**	**-2.2**
	SNR=1.0						
CDF			*e*Sg		**Sn**	**09 11 59.1**	**+10**
	7.9nm,0.3s,SNR=1.0						
CDF	**Champ du Feu**	**2.77 346**	*e*Pn		**Pn**	**09 11 16.0**	**-0.2**
CDF			*e*Pg		**Pn**	**09 11 24.2**	**+8.0**
CDF			*e*Sn		**Sn**	**09 11 46.5**	**-2.2**
CDF			*e*Sg		**Sn**	**09 11 59.1**	**+10**
CDF	**Champ du Feu**	**2.77 346**	*e*Pg		**Pn**	**09 11 24.2**	**+8.0**
CDF			*e*Sn		**Sn**	**09 11 46.5**	**-2.2**
	SNR=1.0						
CDF			*e*Sg		**Sn**	**09 11 59.1**	**+10**
	4.0nm,0.3s,SNR=1.0						
WTTA	**Wattenberg**	**2.79 55**	⇑*i*Pn		**Pn**	**09 11 17.7**	**+1.3**
SMF	**Signal de Mont**	**3.21 288**	*e*Pg		**Pn**	**09 11 32.7**	**+10**
	SNR=1.0						
SMF			*e*Sn		**Sn**	**09 11 58.6**	**-1.0**
	SNR=1.0						
SMF			*e*Sg		**Sn**	**09 12 13.2**	**+14**
	9.9nm,0.3s,SNR=1.0						
SMF	**Signal de Mont**	**3.21 288**	*e*Pn		**Pn**	**09 11 23.0**	**+0.7**
SMF			*e*Pg		**Pn**	**09 11 32.7**	**+10**
SMF			*e*Sn		**Sn**	**09 11 58.6**	**-1.0**
SMF			*e*Sg		**Sn**	**09 12 13.2**	**+14**
SMF	**Signal de Mont**	**3.21 288**	*e*Pg		**Pn**	**09 11 32.7**	**+10**
	SNR=1.0						
SMF			*e*Sn		**Sn**	**09 11 58.6**	**-1.0**
	SNR=1.0						
SMF			*e*Sg		**Sn**	**09 12 13.2**	**+14**
	4.9nm,0.3s,SNR=1.0						
PGF	**Pioggiola**	**3.22 170**	*e*Pn		**Pn**	**09 11 22.6**	**+0.2**
	SNR=1.0						
PGF			*e*Sn		**Sn**	**09 11 59.1**	**-0.8**
	11nm,0.7s,SNR=1.0						
PGF	**Pioggiola**	**3.22 170**	*e*Pn		**Pn**	**09 11 22.6**	**+0.2**
	SNR=1.0						
PGF			*e*Sn		**Sn**	**09 11 59.1**	**-0.8**
	5.3nm,0.7s,SNR=1.0						
SFTF	**Sexfontaines**	**3.32 319**	*e*Pn		**Pn**	**09 11 23.1**	**-0.7**
	baz=141						
SFTF			*e*Sg		**Sn**	**09 12 16.6**	**+14**
	21nm,0.5s,baz=136						
SFTF	**Sexfontaines**	**3.32 319**	*e*Pn		**Pn**	**09 11 23.1**	**-0.7**
SFTF			*e*Sg		**Sn**	**09 12 16.6**	**+14**
	10nm,0.5s						
LOR	**Lormes**	**3.42 298**	*e*Pn		**Pn**	**09 11 24.6**	**-0.5**
	baz=125						
LOR	**Lormes**	**3.42 298**	*e*P		**Pn**	**09 11 27.9**	**+2.8**
	SNR=1.0						
LOR	**Lormes**	**3.42 298**	*e*Pg		**Pn**	**09 11 36.9**	**+12**
LOR			*e*Sn		**Sn**	**09 12 02.2**	**-2.4**
	SNR=1.0						
LOR			*e*Sg		**Sn**	**09 12 19.0**	**+14**
	12nm,0.4s,baz=130						
LOR	**Lormes**	**3.42 298**	*e*Pn		**Pn**	**09 11 24.6**	**-0.5**
LOR			*e*P			09 11 27.9	
LOR			*e*Pg		**Pn**	**09 11 36.9**	**+12**
LOR			*e*Sn		**Sn**	**09 12 02.2**	**-2.4**
LOR			*e*Sg		**Sn**	**09 12 19.0**	**+14**
LOR	**Lormes**	**3.42 298**	*e*P		**Pn**	**09 11 27.9**	**+2.8**
	SNR=1.0						
LOR	**Lormes**	**3.42 298**	*e*Pg		**Pn**	**09 11 36.9**	**+12**
LOR			*e*Sn		**Sn**	**09 12 02.2**	**-2.4**
	SNR=1.0						
LOR			*e*Sg		**Sn**	**09 12 19.0**	**+14**
	6.2nm,0.4s						
RFYF	**Reffroy**	**3.47 328**	*e*Pn		**Pn**	**09 11 25.5**	**-0.4**
	baz=135						
RFYF			*e*Sg		**Sn**	**09 12 20.9**	**+15**
	12nm,0.2s						
RFYF	**Reffroy**	**3.47 328**	*e*Pn		**Pn**	**09 11 25.5**	**-0.4**
RFYF			*e*Sg		**Sn**	**09 12 20.9**	**+15**
	5.8nm,0.2s						
MEZF	**Maizieres J'vi**	**3.54 323**	*e*Pn		**Pn**	**09 11 26.7**	**-0.1**
	SNR=1.0						
MEZF			*e*Sg		**Sn**	**09 12 24.4**	**+17**
	10nm,0.3s,baz=145,SNR=1.0						
MEZF	**Maizieres J'vi**	**3.54 323**	*e*Pn		**Pn**	**09 11 26.7**	**-0.1**
	SNR=1.0						
MEZF			*e*Sg		**Sn**	**09 12 24.4**	**+17**
	5.2nm,0.3s,SNR=1.0						
LASF	**Ste Croix**	**3.55 244**	*e*Pn		**Pn**	**09 11 27.5**	**+0.6**
	SNR=1.0						
LASF			*e*Sn		**Sn**	**09 12 07.3**	**-0.6**
	3.8nm,0.2s						
LASF	**Ste Croix**	**3.55 244**	*e*Pn		**Pn**	**09 11 27.5**	**+0.6**
	SNR=1.0						
LASF			*e*Sn		**Sn**	**09 12 07.3**	**-0.6**
	1.9nm,0.2s						
SSF	**Saint Saulge**	**3.56 294**	*e*Pg		**Pn**	**09 11 38.9**	**+12**
SSF			*e*Sg		**Sn**	**09 12 23.7**	**+16**
	7.2nm,0.4s,SNR=1.0						
SSF	**Saint Saulge**	**3.56 294**	*e*P		**Pn**	**09 11 30.0**	**+3.0**
SSF			*e*Pg		**Pn**	**09 11 38.9**	**+12**
SSF			*e*Sg		**Sn**	**09 12 23.7**	**+16**
SSF	**Saint Saulge**	**3.56 294**	*e*Pg		**Pn**	**09 11 38.9**	**+12**
SSF			*e*Sg		**Sn**	**09 12 23.7**	**+16**
	3.6nm,0.4s,SNR=1.0						
AVF	**Avril sur Loir**	**3.58 289**	*e*Pn		**Pn**	**09 11 27.8**	**+0.6**
	SNR=1.0						
AVF			*e*Sn		**Sn**	**09 12 06.3**	**-2.3**
AVF			*e*Sg		**Sn**	**09 12 25.2**	**+17**
	4.7nm,0.4s,SNR=1.0						
AVF	**Avril sur Loir**	**3.58 289**	*e*Pn		**Pn**	**09 11 27.8**	**+0.6**
	SNR=1.0						
AVF			*e*Sn		**Sn**	**09 12 06.3**	**-2.3**
AVF			*e*Sg		**Sn**	**09 12 25.2**	**+17**
	2.3nm,0.4s,SNR=1.0						
BGF	**Bois d'Agland**	**3.86 284**	*e*Pg		**Pn**	**09 11 44.5**	**+13**
BGF			*e*Sn		**Sn**	**09 12 14.0**	**-1.7**
	11nm,0.4s,SNR=1.0						
BGF	**Bois d'Agland**	**3.86 284**	*e*Pn		**Pn**	**09 11 32.4**	**+1.2**
BGF			*e*Pg		**Pn**	**09 11 44.5**	**+13**
BGF			*e*Sn		**Sn**	**09 12 14.0**	**-1.7**
BGF	**Bois d'Agland**	**3.86 284**	*e*Pg		**Pn**	**09 11 44.5**	**+13**
BGF			*e*Sn		**Sn**	**09 12 14.0**	**-1.7**
	5.3nm,0.4s,SNR=1.0						
HYF	**Humbligny**	**4.18 294**	*e*Pn		**Pn**	**09 11 34.4**	**-1.2**
TCF	**Toulx Ste Croi**	**4.26 280**	*e*Pg		**Pn**	**09 11 52.4**	**+16**
TCF			*e*Sn		**Sn**	**09 12 24.0**	**-1.5**
	2.6nm,0.3s,SNR=1.0						
TCF	**Toulx Ste Croi**	**4.26 280**	*e*P		**Pn**	**09 11 39.6**	**+2.9**
TCF			*e*Pg		**Pn**	**09 11 52.4**	**+16**
TCF			*e*Sn		**Sn**	**09 12 24.0**	**-1.5**
TCF	**Toulx Ste Croi**	**4.26 280**	*e*Pg		**Pn**	**09 11 52.4**	**+16**
TCF			*e*Sn		**Sn**	**09 12 24.0**	**-1.5**
	1.3nm,0.3s,SNR=1.0						
CAF	**Calviac**	**4.45 262**	*e*Pn		**Pn**	**09 11 39.9**	**+0.6**

IDC 02 09:13:37.7±3.8, 714S×15512E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.4/13, mbtmp3.5/3, Error ellipse: s-maj=112.2km s-min=37.8km az=116.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.84**	**236**	P	P	09 18 54.5	+1.6
	0.5nm,0.4s,baz=61,slow=9.9,SNR=5.7						
ASAR	**Alice Springs**	**26.17**	**229**	P	P	09 19 13.1	-1.0
	0.1nm,0.4s,baz=57,slow=10,SNR=3.2						
MKAR	**Makanchi Array**	**83.59**	**319**	P	P	09 26 07.9	-0.1
	1.2nm,0.8s,baz=104,slow=4.7,SNR=5.9						

IDC 02 09:17:16.1±4.1, 697S×15531E, h0km, mb3.9/5, mb1 4.0/5, mb1mx3.7/14, mbtmp3.9/5, Error ellipse: s-maj=116.9km s-min=31.9km az=119.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.09**	**236**	P	P	09 22 34.1	+0.5
	0.7nm,0.5s,baz=62,slow=9.8,SNR=9.2						
FITZ	**Fitzroy Crossi**	**30.95**	**246**	P	P	09 23 35.4	+0.2
	1.5nm,0.9s,baz=82,slow=7.1,SNR=3.0						
SONM	**Songino Array**	**69.48**	**327**	P	P	09 28 27.0	+0.6
	0.4nm,0.5s,baz=134,slow=4.2,SNR=3.6						
MKAR	**Makanchi Array**	**83.59**	**319**	P	P	09 29 46.6	+0.2
	1.0nm,0.6s,baz=100,slow=6.0,SNR=9.4						
ZALV	**Zalesovo Beam**	**84.33**	**326**	P	P	09 29 48.7	-1.3
	0.9nm,0.4s,baz=137,slow=7.1,SNR=2.2						

*IDC **02** 09:23:57.6±0.8, 730S×15580E, h0km, mb4.3/12, mb1 4.4/13, mb1mx4.3/17, mbtmp4.3/13, ML3.7/1, Error ellipse: s-maj=30.1km s-min=16.6km az=113.0*
*NEIC **02** 09:23:59.1±0.3, 733S×15587E, h10km, mb4.5/7, Error ellipse: s-maj=10.1km s-min=7.4km az=125.0*
*ISCJB **02** 09:24:00.2±5.6, 73S±0.1×15573E±0.10, h24km±41km, mb4.2/17, Error ellipse: s-maj=21.2km s-min=13.2km az=145.7*

ISC 02 09:24:03.7±2.4, 73S±0.1×1558E±0.1, h39km±24km, n36, σ0§74/34, mb4.2/17, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.66**	**117**	*e*Pn	**Pn**	**09 25 07.2**	**-4.3**
HNR				Pn	**Pn**	**09 25 12.0**	**+0.4**
HNR				*e*Sn	**Sn**	**09 26 00.8**	**-3.6**
HNR				Sn	**Sn**	**09 26 12.0**	**+7.6**
HNR	**Honiara**	**4.66**	**117**	Pn	**Pn**	**09 25 12.0**	**+0.4**
	9.7nm,0.3s,baz=255,slow=3.8,SNR=5.8						
HNR				Sn	**Sn**	**09 26 12.0**	**+7.6**
	11nm,0.3s,baz=94,slow=18,SNR=2.3						
CTA	**Charters Tower**	**15.69**	**215**	Pn	**Pn**	**09 27 42.3**	**+0.3**
	0.2nm,0.3s,baz=29,slow=13,SNR=3.6						
KAKA	**Kakadu**	**23.57**	**255**	*e*P	**P**	**09 29 10.0**	**-1.1**
	11nm,0.6s,mb4.5						
WB2	**Warramunga Arr**	**24.25**	**237**	*e*P	**P**	**09 29 18.3**	**+1.0**
WRA	**Warramunga Arr**	**24.26**	**237**	P	**P**	**09 29 16.7**	**-0.7**
	5.0nm,0.7s,mb4.0,baz=60,slow=9.3,SNR=38						
WRA				PcP	PcP	09 32 57.6	+0.6
	1.5nm,0.9s,baz=57,slow=2.7,SNR=5.9						
ASAR	**Alice Springs**	**26.53**	**230**	P	**P**	**09 29 37.1**	**-0.8**
	0.6nm,0.5s,mb3.4,baz=57,slow=9.8,SNR=15						
ASAR				PcP	PcP	09 33 02.6	+0.5
	0.4nm,0.5s,baz=66,slow=2.7,SNR=6.5						
STKA	**Stephens Creek**	**27.78**	**207**	*e*P	**P**	**09 29 49.0**	**0.0**
	3.7nm,0.8s,mb4.1						
STKA				*e*P		09 29 49.4	
STKA	**Stephens Creek**	**27.78**	**207**	P	**P**	**09 29 48.6**	**-0.5**
	4.0nm,0.8s,mb4.1,baz=26,slow=11,SNR=8.8						
FITZ	**Fitzroy Crossi**	**31.22**	**247**	*e*P	**P**	**09 30 19.9**	**+0.2**
	9.0nm,0.9s,mb4.6						
FITZ	**Fitzroy Crossi**	**31.22**	**247**	P	**P**	**09 30 19.5**	**-0.2**
	2.7nm,0.7s,mb4.2,baz=107,slow=8.3,SNR=6.8						
NWAO	**Narrogin (SRO)**	**43.85**	**229**	P	**P**	**09 32 06.7**	**+0.3**
	4.4nm,0.7s,mb4.3,baz=36,slow=8.7,SNR=2.7						
MJAR	**Matsushiro Arr**	**46.62**	**340**	P	**P**	**09 32 27.1**	**-1.1**
	1.5nm,0.6s,mb4.1,baz=162,slow=7.7,SNR=7.0						
MJAR				PcP	PcP	09 34 02.0	+0.3
	2.0nm,0.7s,baz=168,slow=4.0,SNR=6.3						
KSRS	**Korea Array**	**51.57**	**332**	P	**P**	**09 33 05.4**	**-0.6**
	1.2nm,0.7s,mb4.0,baz=152,slow=7.2,SNR=3.5						
HIA	**Hailar**	**64.52**	**335**	*e*P	**P**	**09 34 37.3**	**+0.8**
ULN	**Ulaanbaatar**	**69.67**	**327**	*e*P	**P**	**09 35 10.5**	**+1.2**
	2.1nm,0.8s,mb4.1						
SONM	**Songino Array**	**70.00**	**327**	P	**P**	**09 35 12.0**	**+0.6**
	2.3nm,0.4s,mb4.4,baz=142,slow=6.6,SNR=25						
BILL	**Bilibino**	**75.54**	**4**	*e*P	**P**	**09 35 44.2**	**+0.4**
SVW2	**Sparrevohn**	**78.01**	**22**	*e*P	**P**	**09 35 59.1**	**+1.3**
IMA2	**Indian Mountai**	**81.86**	**19**	*e*P	**P**	**09 36 18.2**	**-0.3**
MCK	**McKinley**	**82.07**	**22**	*e*P	**P**	**09 36 19.2**	**-0.5**
	4.0nm,0.7s,mb4.5						
QSPA	**South Pole Qui**	**82.67**	**180**	*e*P	**P**	**09 36 23.3**	**+0.6**
COLA	**College**	**83.10**	**21**	*e*P	**P**	**09 36 24.1**	**-1.0**
	2.6nm,0.8s,mb4.3						
MKAR	**Makanchi Array**	**84.14**	**319**	P	**P**	**09 36 31.4**	**+0.6**
	5.2nm,0.7s,mb4.8,baz=105,slow=5.6,SNR=50						
ZALV	**Zalesovo Beam**	**84.86**	**326**	P	**P**	**09 36 34.0**	**-0.2**
	3.6nm,0.6s,mb4.7,baz=116,slow=5.6,SNR=14						
TKM2	**Tokmak 2**	**87.77**	**314**	*e*P	**P**	**09 36 49.5**	**+0.6**
AAK	**Ala-Archa**	**88.51**	**313**	*e*P	**P**	**09 36 52.1**	**-0.2**
	1.0nm,0.6s,mb4.3						
YKA	**Yellowknife Ar**	**96.26**	**28**	P	**P**	**09 37 27.4**	**-0.3**
YKA	**Yellowknife Ar**	**96.26**	**28**	P	**P**	**09 37 27.4**	**-0.3**
	0.6nm,0.7s,mb4.2,baz=267,slow=4.5,SNR=18						
PDAR	**Pinedale Array**	**98.35**	**48**	P	**P**	**09 37 36.7**	**-0.9**
	0.5nm,0.9s,mb4.0,baz=270,slow=3.0,SNR=3.7						
PLCA	**Paso Flores**	**116.02**	**142**	PKP	PKPdf	09 42 43.1	+0.2
	0.9nm,0.8s,baz=168,slow=3.3,SNR=3.2						
AKASG	**Malin Array Be**	**118.23**	**325**	PKP	PKPdf	09 42 45.9	-0.9
	0.6nm,0.5s,baz=58,slow=2.1,SNR=4.9						
CFAA	**Coronel Fontan**	**122.89**	**135**	PKP	PKPdf	09 42 55.8	-0.6
	0.1nm,0.4s,baz=231,slow=4.9,SNR=5.3						
GERES	**GERESS Array B**	**127.71**	**329**	PKP	PKPdf	09 43 06.2	+1.2
	0.4nm,0.3s,baz=80,slow=2.3,SNR=5.6						
LPAZ	**La Paz**	**130.65**	**119**	PKP	PKPdf	09 43 12.4	+0.8
	2.1nm,0.9s,baz=6.7,slow=2.3,SNR=5.3						
TORD	**Torodi Ar. Bea**	**153.83**	**285**	PKPbc	PKPbc	09 43 58.8	-1.1
	0.6nm,0.7s,baz=89,slow=2.0,SNR=6.1						

IDC 02 09:28:14.3±3.4, 706S×15526E, h0km, mb3.8/5, mb1 3.9/5, mb1mx3.7/14, mbtmp3.8/5, Error ellipse: s-maj=101.6km s-min=28.4km az=114.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.99**	**236**	P	P	09 33 32.1	+1.3
	2.1nm,0.7s,baz=62,slow=9.8,SNR=6.7						
ASAR	**Alice Springs**	**26.32**	**229**	P	P	09 33 51.6	-0.4
	0.3nm,0.7s,baz=58,slow=9.6,SNR=3.2						
SONM	**Songino Array**	**69.53**	**327**	P	P	09 39 25.8	+1.0
	0.3nm,0.4s,baz=140,slow=6.0,SNR=4.7						
MKAR	**Makanchi Array**	**83.63**	**319**	P	P	09 40 44.8	+0.1
	1.1nm,0.7s,baz=97,slow=7.2,SNR=7.8						
ZALV	**Zalesovo Beam**	**84.38**	**326**	P	P	09 40 46.9	-1.5
	0.6nm,0.3s,baz=116,slow=6.6,SNR=3.5						

IDC 02 09:28:27.4±4.1, 708S×15547E, h0km, mb4.0/5, mb1 4.1/5, mb1mx3.8/14, mbtmp4.0/5, Error ellipse: s-maj=124.1km s-min=28.5km az=113.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.16**	**236**	P	P	09 33 46.5	+1.0
	2.0nm,0.7s,baz=61,slow=9.4,SNR=5.8						
ASAR	**Alice Springs**	**26.48**	**229**	P	P	09 34 05.9	-0.6
	0.1nm,0.3s,baz=54,slow=9.3,SNR=4.2						
SONM	**Songino Array**	**69.66**	**327**	P	P	09 39 40.2	+1.4
	0.7nm,0.4s,baz=145,slow=6.2,SNR=7.1						
MKAR	**Makanchi Array**	**83.78**	**319**	P	P	09 40 58.2	-0.4
	2.1nm,0.7s,baz=100,slow=6.1,SNR=9.8						
ZALV	**Zalesovo Beam**	**84.51**	**326**	P	P	09 41 01.1	-1.1
	1.6nm,0.4s,baz=106,slow=4.8,SNR=4.4						

IGQ 02 09:29:22.3, 103S×7748W, h17km±3km, Mb4.2, Ms4.0, 18D, Error ellipse: s-maj=2.0km s-min=0.7km az=19.4, Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANTI	**Antisana**	**0.89**	**310**	⇓P	Pb	09 29 39.6	+0.3
LAV3	**Lava3-Reventad**	**0.94**	**351**	P	Pb	09 29 40.5	+0.4
TAMB	**Tambo**	**0.95**	**290**	⇓P	Pb	09 29 40.9	+0.6
CONE	**Cono NE Rev Vo**	**0.96**	**350**	P	Pb	09 29 41.2	+0.7
VC1	**Cotopaxi 1**	**1.00**	**292**	⇓P	Pb	09 29 41.8	+0.6
ULBA	**Ulba**	**1.02**	**246**	⇓P	Pb	09 29 41.8	+0.3
RUN5	**Runtun**	**1.02**	**248**	⇓P	Pb	09 29 41.9	+0.4
RETU	**Refugio**	**1.06**	**246**	⇓P	Pb	09 29 42.6	+0.5
RETU	**Refugio**	**1.06**	**246**	⇓S	Sb	09 29 56.3	+0.6
JUIV	**Juive**	**1.06**	**248**	⇓P	Pb	09 29 42.5	+0.2
PATA	**Patacocha**	**1.07**	**244**	⇓P	Pb	09 29

YKA Yellowknife Ar 96.43 28 P P 09 43 57.4 -1.3
0.4nm,0.8s,mb3.9,baz=266,slow=5.1,SNR=3.4

*IDC **02** 09:34:09.4±1.2, 744S×15645E, h0km, mb3.9/5, mb1 4.0/6, mb1mx3.8/15, mbtmp3.9/6, ML4.0/1, Error ellipse: s-maj=29.8km s-min=27.0km az=46.0*
*NEIC **02** 09:34:11.0±0.8, 745S×15647E, h10km, Error ellipse: s-maj=21.2km s-min=15.7km az=196.0*
*ISCJB **02** 09:34:13.0±0.8, 75S±01×15643E±009, h33km, mb3.7/5, Error ellipse: s-maj=22.8km s-min=9.7km az=21.8*
ISC 02 09:34:14.9±0.8, 75S±02×15641E±009, h35km, n7, σ1§07/8, mb3.7/5, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.01**	**120**	Pn	**Pn**	**09 35 12.0**	**-1.9**
	9.2nm,0.3s,baz=263,slow=13,SNR=1.9						
HNR				Sn	**Sn**	**09 36 00.8**	**+1.1**
	37nm,0.3s,baz=81,slow=22,SNR=5.6						
WB2	**Warramunga Arr**	**24.73**	**238**	*e*P	**P**	**09 39 33.4**	**+0.2**
WRA	**Warramunga Arr**	**24.74**	**238**	P	**P**	**09 39 33.3**	**0.0**
	3.3nm,0.6s,mb4.0,baz=64,slow=9.4,SNR=17						
ASAR	**Alice Springs**	**26.95**	**231**	P	**P**	**09 39 53.2**	**-0.1**
	0.3nm,0.8s,mb2.9,baz=62,slow=9.6,SNR=3.5						
SONM	**Songino Array**	**70.48**	**327**	P	**P**	**09 45 27.4**	**+1.5**
	0.5nm,0.5s,mb3.8,baz=136,slow=6.7,SNR=5.6						
MKAR	**Makanchi Array**	**84.68**	**318**	P	**P**	**09 46 45.5**	**+0.4**
	0.9nm,0.8s,mb3.9,baz=97,slow=6.2,SNR=6.0						
ZALV	**Zalesovo Beam**	**85.35**	**326**	P	**P**	**09 46 46.8**	**-1.5**
	0.6nm,0.3s,mb4.2,baz=100,slow=6.0,SNR=2.8						

IDC 02 09:34:37.5±18.0, 845S×15804E, h0km, mb3.9/3, mb1 3.9/3, mb1mx3.6/14, mbtmp3.9/3, Error ellipse: s-maj=834.7km s-min=356.5km az=82.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**72.20**	**326**	P	P	09 46 04.6	+0.3
	0.3nm,0.6s,baz=131,slow=5.9,SNR=2.8						
MKAR	**Makanchi Array**	**86.49**	**318**	P	P	09 47 22.5	+0.1
	1.1nm,0.7s,baz=102,slow=5.8,SNR=8.3						
ZALV	**Zalesovo Beam**	**87.08**	**325**	P	P	09 47 25.0	0.0
	0.8nm,0.5s,baz=117,slow=8.3,SNR=3.7						

*IDC **02** 09:46:21.4±0.8, 776S×15565E, h0km, mb4.2/12, mb1 4.3/14, mb1mx4.2/18, mbtmp4.2/14, ML4.0/1, MS4.0/5, Ms1 4.0/5, ms1mx3.5/31, Error ellipse: s-maj=23.6km s-min=17.1km az=113.0*
*ISCJB **02** 09:46:22.2±4.8, 773S±009×15564E±006, h15km±35km, mb4.4/22, MS4.1/4, Error ellipse: s-maj=14.9km s-min=9.4km az=179.5*
*BJI **02** 09:46:23.0, 770S×15560E, h10km, mB5.1, mb4.9*
*NEIC **02** 09:46:23.1±0.4, 774S×15564E, h10km, mb4.7/6, Error ellipse: s-maj=12.4km s-min=8.5km az=131.0*
*MOS **02** 09:46:24.7±1.0, 776S×15570E, h33km, mb5.1/6, Error ellipse: s-maj=16.5km s-min=13.5km az=87.3*
ISC 02 09:46:25.2±4.9, 775S±009×15562E±006, h24km±36km, n41, σ1§10/39, mb4.4/22, MS4.1/4, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.59**	**112**	P	**Pn**	**09 47 32.4**	**-0.8**
HNR						09 48 26.1	
HNR	**Honiara**	**4.59**	**112**	Pn	**Pn**	**09 47 32.3**	**-0.8**
	6.6nm,0.3s,baz=218,slow=2.1,SNR=2.5						
HNR				Sn	**Sn**	**09 48 26.1**	**+0.4**
	10nm,0.3s,baz=269,slow=17,SNR=3.1						
HNR				LR	LR	09 49 06.3	
	comp=Z,478nm,18.7s,baz=1.4,slow=36						
CTA	**Charters Tower**	**15.26**	**216**	Pn	**Pn**	**09 50 00.5**	**+1.3**
	baz=58,slow=19,SNR=1.8						
KAKA	**Kakadu**	**23.33**	**256**	*e*P	**P**	**09 51 31.8**	**-0.2**
	10nm,0.8s,mb4.3						
GUMO	**Guam**	**23.74**	**333**	LR	LR	09 58 56.4	
	comp=Z,279nm,20.4s,MS3.7,baz=288,slow=32						
WB2	**Warramunga Arr**	**23.91**	**237**	*e*P	**P**	**09 51 35.9**	**-1.5**
WRA	**Warramunga Arr**	**23.92**	**237**	P	**P**	**09 51 37.2**	**-0.3**
	5.3nm,0.9s,mb4.0,baz=61,slow=9.5,SNR=25						
ASAR	**Alice Springs**	**26.15**	**230**	P	**P**	**09 51 57.8**	**0.0**
	1.8nm,0.9s,mb3.6,baz=59,slow=8.8,SNR=8.3						
STKA	**Stephens Creek**	**27.33**	**207**	*e*P	**P**	**09 52 09.1**	**+0.8**
	2.7nm,1.3s,mb3.6						
STKA	**Stephens Creek**	**27.33**	**207**	P	**P**	**09 52 08.4**	**+0.1**
	1.1nm,0.6s,mb3.6,baz=20,slow=14,SNR=6.2						
STKA				LR	LR	10 02 52.2	
	comp=Z,446nm,18.9s,MS4.1,baz=279,slow=36						
FITZ	**Fitzroy Crossi**	**30.93**	**248**	*e*P	**P**	**09 52 40.3**	**-0.2**
	3.3nm,0.5s,mb4.4						
FITZ	**Fitzroy Crossi**	**30.93**	**248**	P	**P**	**09 52 40.1**	**-0.4**
	1.6nm,0.5s,mb4.1,baz=100,slow=8.6,SNR=5.2						
RPZ	**Rata Peaks**	**38.28**	**162**	LR	LR	10 06 58.3	
	comp=Z,273nm,20.6s,MS4.0,baz=336,slow=32						
JHJ	**Hachijo jima 2**	**43.35**	**341**	LR	LR	10 12 10.4	
	comp=Z,527nm,18.5s,MS4.5,baz=330,slow=36						
MJAR	**Matsushiro Arr**	**47.00**	**341**	P	**P**	**09 54 54.3**	**-0.2**
	4.7nm,0.7s,mb4.5,baz=162,slow=7.8,SNR=14						
MAJO	**Matsushiro**	**47.00**	**341**	*e*P	**P**	**09 54 54.8**	**+0.2**
	8.5nm,0.6s,mb4.8						
MAJO	**Matsushiro**	**47.00**	**341**	*e*P	**P**	**09 54 54.8**	**+0.3**
MAJO				pmax	pmax		
	comp=Z,9.0nm,0.6s,mb4.9						
MAT	**Matsushiro**	**47.00**	**341**	P	**P**	**09 54 53.9**	**-0.6**
KSRS	**Korea Array**	**51.90**	**332**	P	**P**	**09 55 31.8**	**-0.2**
	comp=Z,1.9nm,0.8s,mb4.1,baz=154,slow=8.5,SNR=4.0						
ASAJ	**Asahikawa**	**52.95**	**348**	P	**P**	**09 55 39.7**	**+0.1**
	comp=Z,4.5nm,0.8s,mb4.5,baz=217,slow=10						
YSS	**Yuzh-Sakhalins**	**55.65**	**349**	*e*P	**P**	**09 56 01.8**	**+2.6**
MDJ	**Mudanjiang**	**57.17**	**338**	P	**P**	**09 56 12.5**	**+2.4**
MDJ				AMB	AMB		
	comp=Z,11nm,1.3s,mb4.7						
MDJ				AMB	AMB		
	comp=Z,44nm,4.5s						
KLR	**Kul'dur**	**60.47**	**342**	*e*P	**P**	**09 56 29.7**	**-3.2**
KLR				pmax	pmax		
	comp=Z,37nm,1.6s,mb5.2						
LZH	**Lanzhou**	**65.29**	**316**	*e*P	**P**	**09 57 10.9**	**+5.6**
LZH				AP	pP	09 57 16.5	+3.5
LZH				XP	sP	09 57 19.5	+3.6
LZH				AMB	AMB		
	comp=Z,26nm,1.2s,mb5.1						
LZH				AMB	AMB		
	comp=Z,113nm,4.7s						
SONM	**Songino Array**	**70.31**	**327**	P	**P**	**09 57 38.6**	**+2.0**
	comp=Z,0.5nm,0.4s,mb3.8,baz=138,slow=6.5,SNR=10.0						
YAK	**Yakutsk**	**72.42**	**348**	*e*P	**P**	**09 57 47.6**	**-1.6**
YAK				pmax	pmax		
	comp=Z,23nm,1.1s,mb5.0						
YAK				pmax	pmax		
	comp=N,10.0nm,1.5s						
YAK				pmax	pmax		
	comp=E,9.0nm,1.8s						
ZAK	**Zakamensk**	**73.46**	**328**	*e*P	**P**	**09 57 52.1**	**-3.5**
ZAK				pmax	pmax		
	comp=Z,2.0nm,2.0s,mb3.7						
BOD	**Bodaibo**	**73.55**	**338**	*e*P	**P**	**09 57 55.3**	**-0.6**
BILL	**Bilibino**	**75.99**	**4**	*e*P	**P**	**09 58 10.3**	**+0.5**
	comp=Z,26nm,1.3s,mb5.0						
BILL	**Bilibino**	**75.99**	**4**	*e*P	**P**	**09 58 11.5**	**+1.7**
BILL				pmax	pmax		
	comp=Z,15nm,1.1s,mb4.8						
SVW2	**Sparrevohn**	**78.46**	**22**	*e*P	**P**	**09 58 24.6**	**+0.7**
TIXI	**Tiksi**	**81.19**	**352**	*e*P	**P**	**09 58 38.5**	**+0.1**
TIXI				pmax	pmax		
	comp=Z,8.0nm,1.8s,mb4.3						
MCK	**McKinley**	**82.52**	**22**	*e*P	**P**	**09 58 45.5**	**-0.1**
	comp=Z,7.8nm,1.1s,mb4.7						
MCK	**McKinley**	**82.52**	**22**	*e*P	**P**	**09 58 45.5**	**-0.1**
MCK				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb4.7						
COLA	**College**	**83.56**	**21**	*e*P	**P**	**09 58 49.9**	**-1.1**
MKAR	**Makanchi Array**	**84.38**	**319**	P	**P**	**09 58 56.1**	**+0.5**
	comp=Z,3.9nm,0.9s,mb4.5,baz=100,slow=5.9,SNR=25						
ZALV	**Zalesovo Beam**	**85.15**	**326**	P	**P**	**09 58 58.1**	**-1.1**
	comp=Z,1.3nm,0.5s,mb4.3,baz=107,slow=3.6,SNR=6.1						
ZAL	**Zalesovo**	**85.16**	**326**	P	**P**	**09 58 58.1**	**-1.2**
UCH	**Uchtor**	**88.62**	**313**	*e*P	**P**	**09 59 18.5**	**+2.1**
YKA	**Yellowknife Ar**	**96.71**	**28**	P	**P**	**09 59 52.6**	**-0.7**
	comp=Z,0.4nm,0.6s,mb4.0,baz=270,slow=4.6,SNR=10.0						
PDAR	**Pinedale Array**	**98.74**	**48**	P	**P**	**10 00 03.4**	**+0.4**
	comp=Z,0.2nm,0.5s,mb3.9,baz=235,slow=3.2,SNR=3.6						

*IDC **02** 09:49:51.4±1.2, 745S×15571E, h0km, mb4.1/5, mb1 4.2/6, mb1mx4.0/14, mbtmp4.2/6, ML4.6/1, MS3.8/1, Ms1 3.8/1, ms1mx3.0/32, Error ellipse: s-maj=29.4km s-min=27.9km az=20.0*
*NEIC **02** 09:49:53.0±0.8, 743S×15571E, h10km, Error ellipse: s-maj=21.8km s-min=16.1km az=190.0*
*ISCJB **02** 09:49:54.3±7.2, 75S±02×15576E±009, h30km±53km, mb4.0/5, Error ellipse: s-maj=31.1km s-min=13.3km az=10.1*
ISC 02 09:49:54.6±7.2, 75S±02×15572E±009, h19km±45km, n8, σ1§16/8, mb4.0/5, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.62**	**116**	Pn	**Pn**	**09 51 03.4**	**-0.1**
	30nm,0.3s,baz=250,slow=5.6,SNR=7.2						
HNR				Sn	**Sn**	**09 51 56.7**	**+0.1**
	39nm,0.3s,baz=78,slow=19,SNR=3.3						
CTA	**Charters Tower**	**15.56**	**215**	LR	LR	09 58 31.9	
	comp=Z,308nm,19.2s,baz=279,slow=34						
WB2	**Warramunga Arr**	**24.15**	**237**	*e*P	**P**	**09 55 10.1**	**+0.5**
WRA	**Warramunga Arr**	**24.16**	**237**	P	**P**	**09 55 10.5**	**+0.8**
	9.0nm,1.2s,mb4.1,baz=63,slow=10.0,SNR=12						
ASAR	**Alice Springs**	**26.42**	**230**	P	**P**	**09 55 29.1**	**-1.2**
	0.7nm,0.6s,mb3.3,baz=58,slow=8.4,SNR=8.6						
SONM	**Songino Array**	**70.11**	**327**	P	**P**	**10 01 06.4**	**+0.9**
	1.0nm,0.8s,mb3.8,baz=129,slow=6.6,SNR=5.9						
MKAR	**Makanchi Array**	**84.22**	**319**	P	**P**	**10 02 25.2**	**+0.4**
	2.4nm,0.7s,mb4.5,baz=103,slow=5.5,SNR=11						
ZALV	**Zalesovo Beam**	**84.96**	**326**	P	**P**	**10 02 26.8**	**-1.5**
	1.3nm,0.5s,mb4.3,baz=116,slow=6.8,SNR=4.2						

*IDC **02** 09:55:54.8±1.0, 724S×15574E, h0km, mb4.3/8, mb1 4.4/9, mb1mx4.3/15, mbtmp4.4/9, ML4.8/1, Error ellipse: s-maj=26.0km s-min=22.4km az=123.0*
*NEIC **02** 09:55:57.2±0.7, 733S×15578E, h10km, mb4.5/2, Error ellipse: s-maj=17.8km s-min=15.4km az=170.0*
*ISCJB **02** 09:56:00.5±4.2, 73S±02×1558E±01, h54km±43km, mb4.2/9, Error ellipse: s-maj=33.7km s-min=16.9km az=153.5*
ISC 02 09:55:59.7±1.1, 72S±01×15574E±007, h30km±51km, n12, σ0§94/13, mb4.2/9, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.70**	**118**	Pn	**Pn**	**09 57 08.3**	**-0.3**
	40nm,0.3s,baz=222,slow=0.6,SNR=11						
HNR				Sn	**Sn**	**09 58 03.0**	**+0.8**
	34nm,0.3s,baz=88,slow=20,SNR=6.2						
KAKA	**Kakadu**	**23.57**	**255**	*e*P	**P**	**10 01 10.4**	**+2.3**
	7.2nm,0.6s,mb4.3						
WB2	**Warramunga Arr**	**24.29**	**237**	*e*P	**P**	**10 01 14.5**	**-0.1**
WRA	**Warramunga Arr**	**24.30**	**237**	P	**P**	**10 01 14.8**	**+0.1**
	7.1nm,0.7s,mb4.2,baz=64,slow=9.4,SNR=50						
ASAR	**Alice Springs**	**26.57**	**230**	P	**P**	**10 01 34.8**	**-0.6**
	1.3nm,0.6s,mb3.6,baz=66,slow=8.8,SNR=20						
STKA	**Stephens Creek**	**27.84**	**206**	P	**P**	**10 01 45.2**	**-1.4**
	1.3nm,0.7s,mb3.7,baz=1.8,slow=12,SNR=4.0						
FITZ	**Fitzroy Crossi**	**31.24**	**247**	*e*P	**P**	**10 02 17.9**	**+1.0**
	4.7nm,0.6s,mb4.5						
FITZ	**Fitzroy Crossi**	**31.24**	**247**	P	**P**	**10 02 16.4**	**-0.5**
	3.3nm,0.7s,mb4.3,baz=101,slow=9.1,SNR=10.0						
SONM	**Songino Array**	**69.94**	**327**	P	**P**	**10 07 08.8**	**+0.7**
	2.5nm,0.6s,mb4.3,baz=138,slow=7.0,SNR=4.1						
MKAR	**Makanchi Array**	**84.07**	**319**	P	**P**	**10 08 28.2**	**+0.6**
	6.6nm,0.7s,mb4.9,baz=102,slow=5.9,SNR=68						
ZALV	**Zalesovo Beam**	**84.79**	**326**	P	**P**	**10 08 30.0**	**-1.0**
	3.5nm,0.6s,mb4.7,baz=110,slow=5.9,SNR=7.3						
YKA	**Yellowknife Ar**	**96.20**	**28**	P	**P**	**10 09 23.6**	**-1.0**
	0.2nm,0.7s,mb3.6,baz=261,slow=4.6,SNR=4.0						

IDC 02 09:56:52.9±3.5, 702S×15512E, h0km, mb4.3/5, mb1 4.3/5, mb1mx4.1/13, mbtmp4.3/5, MS3.8/1, Ms1 3.8/1, ms1mx2.9/28, Error ellipse: s-maj=103.0km s-min=29.6km az=115.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.90**	**235**	P	P	10 02 09.6	+1.0
	1.7nm,0.5s,baz=61,slow=9.8,SNR=5.7						
ASAR	**Alice Springs**	**26.25**	**229**	P	P	10 02 29.2	-0.7
	1.2nm,1.0s,baz=58,slow=9.7,SNR=3.0						
RPZ	**Rata Peaks**	**39.13**	**162**	LR	LR	10 15 30.9	
	comp=Z,147nm,21.9s,baz=24,slow=29						
SONM	**Songino Array**	**69.42**	**327**	P	P	10 08 04.0	+1.3
	1.8nm,0.7s,baz=135,slow=6.4,SNR=2.3						
MKAR	**Makanchi Array**	**83.50**	**319**	P	P	10 09 22.6	0.0
	2.9nm,0.8s,baz=96,slow=6.2,SNR=3.6						
ZALV	**Zalesovo Beam**	**84.27**	**326**	P	P	10 09 24.9	-1.5
	3.8nm,0.4s,baz=117,slow=6.5,SNR=5.2						

*ISCJB **02** 09:59:27.5±0.5, 780S±008×15637E±006, h10km, mb4.3/13, Error ellipse: s-maj=12.0km s-min=8.3km az=22.0*
*IDC **02** 09:59:27.3±0.8, 785S×15643E, h0km, mb4.4/12, mb1 4.4/13, mb1mx4.4/17, mbtmp4.4/13, ML4.7/1, MS3.9/1, Ms1 3.9/1, ms1mx3.0/25, Error ellipse: s-maj=23.3km s-min=17.8km az=109.0*
*NEIC **02** 09:59:28.7±0.4, 784S×15644E, h10km, mb4.4/2, Error ellipse: s-maj=9.8km s-min=8.6km az=116.0*
ISC 02 09:59:33.9±3.6, 79S±01×1564E±01, h47km±38km, n19, σ0§71/19, mb4.3/13, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**3.87**	**114**	Pn	**Pn**	**10 00 27.5**	**-3.3**
	58nm,0.3s,baz=249,slow=3.9,SNR=6.1						
HNR				Sn	**Sn**	**10 01 15.9**	**+0.8**
	43nm,0.3s,baz=104,slow=18,SNR=4.1						
ARMA	**Armidale**	**22.87**	**191**	*e*P	**P**	**10 04 33.2**	**-0.2**
KAKA	**Kakadu**	**24.02**	**256**	*e*P	**P**	**10 04 45.4**	**+0.7**
	8.8nm,0.6s,mb4.4						
WB2	**Warramunga Arr**	**24.47**	**238**	*e*P	**P**	**10 04 48.6**	**-0.2**
WB2				*e*		10 05 02.6	
WRA	**Warramunga Arr**	**24.48**	**238**	P	**P**	**10 04 48.9**	**0.0**
	13nm,0.7s,mb4.4,baz=64,slow=9.8,SNR=33						
WRA				PcP	PcP	10 08 27.7	+0.9
	1.2nm,0.8s,baz=57,slow=2.1,SNR=5.7						
ASAR	**Alice Springs**	**26.66**	**231**	P	**P**	**10 05 07.8**	**-0.7**
	0.9nm,0.8s,mb3.4,baz=60,slow=11,SNR=6.5						
STKA	**Stephens Creek**	**27.57**	**208**	*e*P	**P**	**10 05 17.2**	**+0.6**
	4.0nm,0.8s,mb4.1						
STKA	**Stephens Creek**	**27.57**	**208**	P	**P**	**10 05 17.1**	**+0.5**
	4.9nm,0.8s,mb4.2,baz=45,slow=11,SNR=10						
FITZ	**Fitzroy Crossi**	**31.57**	**248**	P	**P**	**10 05 52.3**	**-0.1**
	2.0nm,0.8s,mb4.0,baz=80,slow=11,SNR=3.0						
JHJ	**Hachijo jima 2**	**43.71**	**340**	LR	LR	10 24 19.2	
	comp=Z,137nm,18.9s,baz=16,slow=34						
MJAR	**Matsushiro Arr**	**47.35**	**340**	P	**P**	**10 08 02.8**	**-0.5**
	2.2nm,0.7s,mb4.2,baz=166,slow=7.8,SNR=4.2						
JNU	**Nakatsue**	**47.43**	**331**	P	**P**	**10 08 04.2**	**+0.2**
	27nm,1.1s,mb5.1,baz=106,slow=5.2,SNR=6.3						
KSRS	**Korea Array**	**52.34**	**331**	P	**P**	**10 08 41.7**	**+0.5**
	2.1nm,0.5s,mb4.4,baz=144,slow=7.6,SNR=7.5						
SONM	**Songino Array**	**70.80**	**327**	P	**P**	**10 10 46.9**	**+1.4**
	9.4nm,0.7s,mb4.8,baz=142,slow=6.4,SNR=26						
MKAR	**Makanchi Array**	**84.95**	**318**	P	**P**	**10 12 04.6**	**+0.4**
MKAR	**Makanchi Array**	**84.95**	**318**	P	**P**	**10 12 04.6**	**+0.4**
	2.7nm,0.6s,mb4.6,baz=99,slow=7.5,SNR=6.7						
ZALV	**Zalesovo Beam**	**85.66**	**326**	P	**P**	**10 12 06.9**	**-0.6**
	0.4nm,0.3s,mb4.2,baz=104,slow=9.1,SNR=3.2						
INK	**Inuvik**	**90.05**	**20**	P	**P**	**10 12 27.6**	**-0.7**
	0.8nm,0.7s,mb4.2,baz=285,slow=5.2,SNR=2.6						
YKA	**Yellowknife Ar**	**96.47**	**28**	P	**P**	**10 12 57.4**	**-0.5**
	0.4nm,0.6s,mb4.0,baz=267,slow=4.8,SNR=5.2						

*NIED **02** 10:00:00, 443ON×149.40E, h35km, Mw4.9 Best double couple: M0=2.38000×10^16 NP1:φs=55.00000°, δ75.00000°, λ126.00000°. NP2:φs=165.00000°, δ39.00000°, λ25.00000°.*
*IDC **02** 10:00:16.7±0.5, 4427N×149.17E, h0km, mb4.5/19, mb1 4.6/22, mb1mx4.5/25, mbtmp4.5/22, ML3.8/3, MS4.4/8, Ms1 4.4/8, ms1mx3.9/34, Error ellipse: s-maj=16.4km s-min=13.4km az=145.0*
*JMA **02** 10:00:19.3±0.6, 44.35N×149.42E, h30km, M5.2*
*BJI **02** 10:00:20.1, 44.12N×149.10E, h30km, mB4.9, mb5.0, Ms4.5, Msz4.4*
*ISCJB **02** 10:00:21.4±0.2, 4409N±003×149.17E±003, h48km, mb4.9/108, MS4.5/21, Error ellipse: s-maj=5.2km s-min=2.3km az=157.2*
*MOS **02** 10:00:21.3±0.9, 4442N×149.14E, h35km, mb5.2/58, MS4.3/13, Error ellipse: s-maj=7.8km s-min=4.7km az=110.5*
*SZGRF **02** 10:00:22.0, 4426N×149.79E, h47km, mb5.2, Kuril Islands, Russia*
*NEIC **02** 10:00:23.8±0.2, 4423N×149.11E, mb4.9/61, Error ellipse: s-maj=6.9km s-min=3.8km az=165.0*
ISC 02 10:00:23.3±0.2, 4409N±003×14917E±003, h50km, h50km±1.2km: pP-P, n351, σ1§07/374, mb4.9/108, MS4.5/21, 30C-20D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.48**	**321**	||*i*PN	**Pn**	**10 00 43.0**	**-4.5**
KUR				*e*S	**Sn**	**10 01 04.0**	**-1.6**
KUR				pmax	pmax		
	comp=N,8μm,1.6s						
KUR				pmax	pmax		
	comp=E,10μm,1.6s						
KUR				pmax	pmax		
	comp=Z,19μm,1.6s						
KUR				pmax	pmax		
	comp=N,1μm,0.5s						
KUR				pmax	pmax		
	comp=E,990nm,0.5s						
KUR				pmax	pmax		
	comp=Z,4μm,0.5s						
KUR				smax			
	comp=N,65μm,1.0s						
KUR				smax			
	comp=E,34μm,1.0s						
YUK	**Yuzh-Kuril'sk**	**2.39**	**270**	*e*PN	**Pn**	**10 00 58.8**	**-1.1**
YUK				*i* S	**Sn**	**10 01 29.1**	**+1.1**
YUK				pmax	pmax		
	comp=Z,580nm,0.5s						
YUK				pmax	pmax		
	comp=Z,5μm,2.0s						
YUK				smax			
	comp=E,13μm,2.0s						
YUK				smax			
	comp=N,10μm,3.0s						
YUK				smax			
	comp=N,10μm,0.6s						
YUK				smax			
	comp=E,5μm,0.6s						
YUK				MLR	MLR		
	comp=Z,10μm,21.0s						
YUK				MLR	MLR		
	comp=E,10μm,13.0s						
YUK				MLR	MLR		
	comp=N,12μm,19.0s						
NEM2	**Nemuro 2**	**2.59**	**255**	P	**Pn**	**10 01 01.3**	**-1.4**
NEM2				*e*S	**Sn**	**10 01 32.7**	**-0.2**
JRA	**Rausu**	**2.93**	**268**	P	**Pn**	**10 01 07.5**	**+0.2**
JNK	**Nakash**	**3.26**	**263**	P	**Pn**	**10 01 11.5**	**-0.4**
JNK				*e*S	**Sn**	**10 01 50.4**	**+0.9**
JAK	**Akkeshi**	**3.43**	**253**	P	**Pn**	**10 01 13.4**	**-0.9**
JAK				*e*S	**Sn**	**10 01 53.3**	**-0.4**
JTKR	**Abashiri--Toko**	**3.80**	**270**	P	**Pn**	**10 01 19.8**	**+0.5**
JAR	**Ashorobuto**	**4.00**	**260**	P	**Pn**	**10 01 22.2**	**+0.2**
JAR				*e*S	**Sn**	**10 02 07.8**	**+0.2**
JOB	**Onbets**	**4.06**	**255**	P	**Pn**	**10 01 22.7**	**-0.2**
JMP	**Maruseppu**	**4.19**	**271**	P	**Pn**	**10 01 25.5**	**+0.8**
JCH	**Churui**	**4.49**	**253**	P	**Pn**	**10 01 28.4**	**-0.3**
JCH				*e*S	**Sn**	**10 02 19.8**	**+0.2**
JKK2	**Kamakawa 2**	**4.64**	**270**	P	**Pn**	**10 01 31.8**	**+1.0**
ASAJ	**Asahikawa**	**4.74**	**273**	P	**Pn**	**10 01 33.8**	**+1.7**
ASAJ	**Asahikawa**	**4.74**	**273**	PN	**Pn**	**10 01 33.3**	**+1.2**
ASAJ				pmax	pmax		
	comp=Z,4.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,5μm,19.9s						
ASAJ	**Asahikawa**	**4.74**	**273**	Pn	**Pn**	**10 01 33.3**	**+1.2**
	comp=Z,3.6nm,0.3s,baz=103,slow=13,SNR=37						
ASAJ				LR	LR	10 03 39.3	
	comp=Z,5μm,19.9s,baz=180,slow=43						
JSE	**Soyaes**	**4.79**	**283**	P	**Pn**	**10 01 33.6**	**+0.7**
JFR	**Furan**	**4.87**	**261**	P	**Pn**	**10 01 34.7**	**+0.8**
JEM	**Erimo**	**4.87**	**247**	P	**Pn**	**10 01 35.4**	**+1.4**
JEM				*e*S	**Sn**	**10 02 32.8**	**+3.8**
ERM	**Erimo**	**4.87**	**247**	*e*Pn	**Pn**	**10 01 35.3**	**+1.3**
ERM	**Erimo**	**4.87**	**247**	*e*PN	**Pn**	**10 01 35.7**	**+1.7**
JNBK	**Urakawa-nobuka**	**5.03**	**251**	P	**Pn**	**10 01 35.5**	**-0.7**
JNBK				*e*S	**Sn**	**10 02 33.5**	**+0.5**
JAB	**Ashibetsu**	**5.07**	**266**	P	**Pn**	**10 01 38.8**	**+2.2**
JBT2	**Biratori 2**	**5.13**	**258**	P	**Pn**	**10 01 37.2**	**-0.3**
JBT2				*e*S	**Sn**	**10 02 36.7**	**+1.3**
JSS	**Shosan**	**5.27**	**276**	P	**Pn**	**10 01 44.9**	**+5.5**
JWK2	**Keihoku**	**5.33**	**286**	P	**Pn**	**10 01 43.2**	**+2.9**
YSS	**Yuzh-Sakhalins**	**5.34**	**305**	*e*Pn	**Pn**	**10 01 39.9**	**-0.6**
	comp=Z,134nm,0.7s						
YSS	**Yuzh-Sakhalins**	**5.34**	**305**	*e*PN	**Pn**	**10 01 40.0**	**-0.4**
YSS				*e*S	**Sn**	**10 02 39.5**	**-1.1**
YSS				smax			
	comp=N,170nm,0.9s						
YSS				MLR	MLR		
	comp=Z,4μm,17.0s						
YSS				MLR	MLR		
	comp=N,2μm,16.0s						
YSS				MLR	MLR		
	comp=E,4μm,16.0s						
JHR	**Hokuryu**	**5.39**	**269**	P	**Pn**	**10 01 43.1**	**+2.0**
JEW	**Eniwo**	**5.76**	**260**	P	**Pn**	**10 01 47.7**	**+1.6**
JNB	**Noboribetsu**	**6.16**	**258**	P	**Pn**	**10 01 51.8**	**+0.2**
JNB				*e*S	**Sn**	**10 03 01.6**	**+1

comp=Z,20nm,0.6s
MAJO Matsushiro 11.26 232 *e*PN **Pn 10 02 59.4 -2.0**
MAJO pmax pmax
comp=Z,20nm,0.6s
MJAR Matsushiro Arr 11.26 232 Pn **Pn 10 02 59.9 -1.5**
comp=Z,0.3nm,0.3s,baz=30,slow=13,SNR=15
VLA Vladivostok 12.57 272 PN **Pn 10 03 13.0 -6.3**
VLA MLR MLR
comp=Z,2μm,16.0s
KLR Kul'dur 13.02 299 *e*PN **Pn 10 03 25.3 -0.1**
MDJ Mudanjiang 14.03 279 P **Pn 10 03 37.2 -1.9**
MDJ S **Sn 10 06 17.6 +4.5**
MDJ AMB AMB
comp=Z,28nm,0.9s
MDJ AMB AMB
comp=Z,220nm,10.0s
MDJ LR LR
comp=N,845nm,16.6s
MDJ LR LR
comp=E,918nm,18.4s
MDJ LR LR
comp=Z,1μm,17.7s
MDJ Mudanjiang 14.03 279 *e*Pn **Pn 10 03 37.8 -1.4**
comp=Z,43nm,1.0s
MA2 Magadan 15.54 3 *i* P **Pn 10 03 53.9 -5.0**
MA2 pmax pmax
comp=Z,28nm,1.5s
CN2 Changchun 17.08 277 *e*P **Pn 10 04 16.1 -2.3**
CN2 AMB AMB
comp=Z,40nm,1.0s
CN2 AMB AMB
comp=Z,200nm,3.0s
CN2 LR LR
comp=N,900nm,15.0s
CN2 LR LR
comp=E,1μm,15.0s
CN2 LR LR
comp=Z,2μm,17.0s
KSRS Korea Array 17.38 255 P **Pn 10 04 21.4 -0.8**
comp=Z,0.4nm,0.3s,baz=64,slow=11,SNR=11
KSRS LR LR 10 10 56.7
comp=Z,685nm,20.0s,baz=62,slow=37
JNU Nakatsue 17.97 239 P **Pn 10 04 28.1 -1.4**
comp=Z,0.3nm,0.3s,baz=43,slow=9.6,SNR=4.5
SNY Shenyang 18.85 272 ⇓P **Pn 10 04 40.3 +0.3**
SNY AMB AMB
comp=Z,44nm,0.8s
SNY LR LR
comp=N,678nm,15.0s
SNY LR LR
comp=E,857nm,19.8s
SNY LR LR
comp=Z,1μm,18.8s
SEY Seymchan 18.97 5 ⇓*i*P **Pn 10 04 36.3 -5.0**
NRGR Nerungri 19.90 318 *e*P **Pn 10 04 55.3 +2.9**
CLNS Chul'man 19.91 318 *e*P **Pn 10 04 48.1 -4.3**
CLNS pmax pmax
comp=N,12nm,1.1s
CLNS pmax pmax
comp=Z,14nm,1.1s
CLNS pmax pmax
comp=E,7.0nm,0.8s
CLNS MLR MLR
comp=E,2μm,16.0s
CLNS MLR MLR
comp=Z,2μm,16.0s
CLNS MLR MLR
comp=N,1μm,14.0s
HIA Hailar 20.77 295 *e*P **P 10 04 58.2 -1.7**
comp=N,13nm,0.8s
HIA Hailar 20.77 295 *e*P **P 10 04 58.2 -1.7**
HIA pmax pmax
comp=Z,13nm,0.8s
DL2 Dalian 21.22 265 ⇑*i*P **P 10 05 04.4 -0.4**
DL2 PP 10 05 32.3
DL2 S **S 10 09 00.0 +2.2**
DL2 SS 10 09 23.4
DL2 AMB AMB
comp=Z,30nm,1.1s,mb4.5
DL2 AMB AMB
comp=Z,140nm,6.1s
DL2 LR LR
comp=N,260nm,14.8s,MS3.9
DL2 LR LR
comp=E,330nm,18.5s,MS3.9
DL2 LR LR
comp=Z,410nm,15.7s,MS3.9
YAK Yakutsk 21.30 334 *e*P **P 10 05 01.4 -4.0**
YAK *e* 10 05 15.4
YAK *e*S **S 10 08 53.1 -5.8**
YAK *e*SS 10 09 12.9
YAK *e*SSS 10 09 40.4
YAK *e* 10 16 23.9
YAK pmax pmax
comp=Z,44nm,0.9s,mb4.8
YAK pmax pmax
comp=N,22nm,1.4s
YAK pmax pmax
comp=E,15nm,1.1s
YAK smax
comp=N,28nm,1.6s
YAK smax
comp=E,125nm,4.0s
YAK MLR MLR
comp=Z,840nm,19.0s,MS4.2
YAK MLR MLR
comp=N,851nm,17.0s,MS4.3
YAK MLR MLR
comp=E,646nm,15.0s,MS4.3
BJI Beijing 24.73 272 P **P 10 05 40.1 +0.2**
BJI S **S 10 10 04.5 +6.1**
BJI AMB AMB
comp=Z,45nm,1.8s,mb4.7
BJI AMB AMB
comp=Z,387nm,4.2s
BJI LR LR
comp=N,301nm,19.6s,MS4.4
BJI LR LR
comp=E,1μm,18.1s,MS4.4
BJI LR LR
comp=Z,1μm,19.7s,MS4.3
BJT Baijiatuau 24.75 272 *e*P **P 10 05 40.4 +0.4**
comp=Z,50nm,0.9s,mb5.0
BJT Baijiatuau 24.75 272 *e*P **P 10 05 40.4 +0.4**
BJT pmax pmax
comp=Z,50nm,0.9s
SSE Sheshan 25.55 249 P **P 10 05 46.8 -0.6**
SSE AP pP 10 05 55.5 -4.6
SSE XP sP 10 06 00.5 -5.5
SSE S **S 10 10 10.4 -1.1**
SSE XS sS 10 10 26.2 -6.9
SSE AMB AMB
comp=Z,28nm,0.8s,mb4.8
SSE AMB AMB
comp=Z,101nm,4.4s
SSE LR LR
comp=N,498nm,15.7s,MS4.2
SSE LR LR
comp=E,384nm,15.7s,MS4.2
SSE LR LR
comp=Z,466nm,14.7s,MS4.1
TIA Tai'an 25.61 263 *e*P **P 10 05 48.2 +0.3**
TIA AMB AMB
comp=Z,37nm,0.8s,mb5.0
BILL Bilibino 25.64 15 ⇓*e*P **P 10 05 45.3 -2.6**
BILL *e* 10 06 18.1
BILL pmax pmax
comp=Z,4.0nm,1.0s,mb3.9
BOD Bodaibo 25.72 315 *e*P **P 10 05 44.7 -3.9**
HHC Hu-ho-hao-te 27.77 277 *e*P **P 10 06 08.4 +1.1**
HHC AP pP 10 06 12.8 -7.3
HHC PP PP 10 07 01.5 -9.1
HHC S **S 10 10 55.9 +9.5**
HHC XS sS 10 11 02.3 -5.8
HHC SCS ScS 10 16 48.9 -2.2
HHC AMB AMB
comp=Z,50nm,1.1s,mb5.1
HHC AMB AMB
comp=Z,204nm,3.3s
HHC LR LR
comp=N,461nm,14.5s,MS4.5
HHC LR LR
comp=E,767nm,15.3s,MS4.5
HHC LR LR
comp=Z,1μm,17.4s,MS4.5
BTO Baotou 28.96 277 *e*P **P 10 06 23.3 +5.5**

ULN Ulaanbaatar 29.25 292 ⇑*e*P **P 10 06 20.2 -0.1**
TIXI Tiksi 29.34 347 *e*P **P 10 06 16.5 -4.4**
comp=Z,2.6nm,0.6s,mb4.1
TIXI Tiksi 29.34 347 *e*P **P 10 06 16.1 -4.8**
TIXI pmax pmax
comp=Z,4.0nm,0.9s,mb4.2
TIXI MLR MLR
comp=Z,411nm,14.0s,MS4.2
SONM Songino Array 29.69 293 P **P 10 06 24.3 0.0**
SONM pmax pmax
comp=Z,7.0nm,0.7s
SONM MLR MLR
comp=Z,1μm,18.6s
SONM Songino Array 29.69 293 P **P 10 06 24.3 0.0**
comp=Z,6.8nm,0.7s,mb4.5,baz=77,slow=8.3,SNR=38
SONM LR LR 10 19 39.9
comp=Z,1μm,18.6s,MS4.6,baz=89,slow=39
TLY Talaya 31.03 300 *e*P **P 10 06 35.9 -0.2**
TLY *e* 10 07 48.5
TLY pmax pmax
comp=Z,6.0nm,1.2s,mb4.3
TLY MLR MLR
comp=Z,1μm,17.0s,MS4.6
ZAK Zakamensk 31.38 298 *e* **P 10 06 36.9 -2.2**
TNA Tin City 31.78 33 *e*P **P 10 06 43.0 +0.6**
comp=Z,9.1nm,1.0s,mb4.6
LZH Lanzhou 35.22 273 *e*P **P 10 07 14.4 +1.7**
LZH AP pP 10 07 17.9 -7.8
LZH AMB AMB
comp=Z,114nm,1.0s,mb5.8
LZH AMB AMB
comp=Z,245nm,4.0s
LZH LR LR
comp=E,725nm,14.7s
LZH LR LR
comp=Z,1μm,15.5s,MS4.7
TTA Tatalina 36.25 39 *e*P **P 10 07 21.1 -0.1**
SVW2 Sparrevohn 36.33 42 *e*P **P 10 07 22.5 +0.6**
GTA Gaotai 36.68 280 ⇑P **P 10 07 26.4 +1.3**
GTA AP pP 10 07 36.0 -2.2
GTA XP sP 10 07 40.0 -4.0
GTA AMB AMB
comp=Z,21nm,1.3s,mb4.8
IMA2 Indian Mountai 37.58 34 *e*P **P 10 07 30.8 -1.6**
CD2 Chengdu 37.89 265 P **P 10 07 36.5 +1.0**
CD2 AMB AMB
comp=Z,90nm,0.5s,mb5.8
KDAK Kodiak Island 37.94 48 P **P 10 07 34.9 -0.8**
comp=Z,6.2nm,0.7s,mb4.5,baz=319,slow=3.6,SNR=6.1
MCK McKinley 39.47 38 *e*P **P 10 07 48.4 0.0**
comp=Z,11nm,0.9s,mb4.6
MCK McKinley 39.47 38 *e*P **P 10 07 48.4 +0.1**
MCK pmax pmax
comp=Z,11nm,0.9s,mb4.6
SML Sawmill 39.81 41 *e*P **P 10 07 50.9 -0.3**
COLA College 39.94 36 *e*P **P 10 07 51.7 -0.5**
comp=Z,20nm,0.8s,mb4.9
COLA College 39.94 36 ⇑*i*P **P 10 07 51.4 -0.8**
QIZ Qiongzhong 41.23 245 P **P 10 08 03.4 0.0**
QIZ S **S 10 14 16.5 +2.8**
QIZ XS sS 10 14 30.7 -5.2
QIZ AMB AMB
comp=Z,31nm,1.7s,mb4.7
QIZ AMB AMB
comp=Z,292nm,3.2s
QIZ LR LR
comp=E,666nm,19.0s
QIZ LR LR
comp=Z,605nm,19.3s,MS4.5
MENT Mentasta 41.86 39 *e*P **P 10 08 10.1 +2.1**
ZALV Zalesovo Beam 41.96 307 P **P 10 08 07.2 -1.8**
comp=Z,2.0nm,0.5s,mb4.0,baz=76,slow=7.2,SNR=7.3
ZALV PcP PcP 10 10 03.8 +0.3
comp=Z,8.3nm,0.8s,baz=69,slow=3.8,SNR=10
ZALV LR LR 10 26 50.2
comp=Z,413nm,18.5s,MS4.3,baz=72,slow=38
ZAL Zalesovo 41.98 307 P **P 10 08 07.2 -1.9**
ZAL 10 10 03.8
KMI Kunming 42.02 259 P **P 10 08 10.0 +0.2**
KMI AMB AMB
comp=Z,23nm,0.9s,mb4.8
NVS Novosibirsk 42.65 309 *e*P **P 10 08 12.3 -2.3**
EGAK Eagle 42.80 36 *e*P **P 10 08 15.4 -0.2**
comp=Z,24nm,1.2s,mb4.8
DAWY Dawson 43.65 37 *e*P **P 10 08 22.5 0.0**
INK Inuvik 45.37 31 P **P 10 08 35.5 -0.7**
INK Inuvik 45.37 31 P **P 10 08 35.5 -0.7**
INK pmax pmax
comp=Z,5.0nm,0.6s
INK Inuvik 45.37 31 P **P 10 08 35.5 -0.7**
comp=Z,4.8nm,0.6s,mb4.5,baz=272,slow=7.3,SNR=21
MKAR Makanchi Array 45.72 298 P **P 10 08 39.2 -0.1**
MKAR pmax pmax
comp=Z,15nm,0.7s
MKAR MLR MLR
comp=Z,1μm,18.3s
MKAR Makanchi Array 45.72 298 P **P 10 08 39.1 -0.1**
comp=Z,15nm,0.7s,mb5.0,baz=80,slow=8.3,SNR=30
MKAR LR LR 10 29 16.6
comp=Z,1μm,18.3s,MS4.9,baz=62,slow=38
KURK Kurchatov 46.55 304 *e*P **P 10 08 44.0 -1.7**
comp=Z,12nm,0.8s,mb4.9
KURK Kurchatov 46.55 304 *e*P **P 10 08 44.1 -1.6**
KURK pmax pmax
comp=Z,13nm,0.8s,mb4.9
CHTO Chiang Mai 48.78 255 *e*P **P 10 09 04.3 +0.9**
comp=Z,14nm,0.8s,mb5.1
CHTO Chiang Mai 48.78 255 *e*P **P 10 09 04.3 +0.9**
CHTO pmax pmax
comp=Z,14nm,0.8s,mb5.0
BRVK Borovoye 50.46 310 *e*P **P 10 09 15.1 -0.6**
comp=Z,5.2nm,0.6s,mb4.7
BRVK Borovoye 50.46 310 *e*P **P 10 09 15.1 -0.6**
BRVK pmax pmax
comp=Z,5.0nm,0.6s,mb4.7
ULHL Ulahol 51.58 295 P **P 10 09 25.5 +1.3**
SNR=19
TKM2 Tokmak 2 51.68 296 *e*P **P 10 09 26.0 +1.0**
comp=Z,38nm,1.0s,mb5.3
TKM2 Tokmak 2 51.68 296 *e*P **P 10 09 26.0 +1.0**
TKM2 pmax pmax
comp=Z,38nm,1.0s,mb5.3
TKM2 Tokmak 2 51.68 296 P **P 10 09 26.3 +1.3**
SNR=28
USP Ospenovka 52.22 297 P **P 10 09 29.9 +0.9**
SNR=34
KBK Karagaybulak 52.22 296 P **P 10 09 30.2 +1.1**
SNR=14
KZA Kyzart 52.30 295 P **P 10 09 31.8 +2.1**
SNR=43
FRU Bishkek 52.35 296 *e*P **P 10 09 30.0 0.0**
FRU *e* pP 10 09 40.0 -3.6
FRU pmax pmax
comp=Z,60nm,1.8s,mb5.2
JIRN Jiri 52.37 274 *e*P **P 10 09 31.5 +1.1**
comp=Z,34nm,0.6s,mb5.5
AAK Ala-Archa 52.53 296 *e*P **P 10 09 31.1 -0.2**
comp=Z,30nm,1.0s,mb5.2
AAK Ala-Archa 52.53 296 *e*P **P 10 09 31.1 -0.2**
AAK pmax pmax
comp=Z,30nm,1.0s,mb5.2
AAK Ala-Archa 52.53 296 P **P 10 09 32.2 +0.9**
SNR=24
UCH Uchtor 52.71 296 *e*P **P 10 09 33.8 +1.1**
comp=Z,6.2nm,0.7s,mb4.7
UCH Uchtor 52.71 296 P **P 10 09 34.0 +1.3**
SNR=8.6
KKN Kakani 52.95 275 *e*P **P 10 09 35.7 +1.0**
comp=Z,82nm,1.1s,mb5.6
EKS2 Erkin-Say 52.98 297 *e*P **P 10 09 35.3 +0.7**
comp=Z,32nm,0.9s,mb5.2
EKS2 *e*pP pP 10 09 47.8 -0.5
EKS2 Erkin-Say 52.98 297 P **P 10 09 35.6 +0.9**
SNR=27
AML Almayashu 53.29 296 *e*P **P 10 09 38.4 +1.4**
comp=Z,27nm,0.9s,mb5.2
AML Almayashu 53.29 296 P **P 10 09 38.7 +1.7**
SNR=21
GKN Gorkha 53.29 275 *e*P **P 10 09 37.8 +0.7**
comp=Z,86nm,1.0s,mb5.6
KOLN Koldanda 54.17 276 *e*P **P 10 09 44.4 +0.8**
comp=Z,59nm,1.0s,mb5.5
RES Resolute Bay 54.22 17 *e*P **P 10 09 41.8 -1.6**
comp=Z,451nm,0.8s
YKA Yellowknife Ar 54.70 34 *i* P **P 10 09 48.2 +1.3**
YKA pmax pmax
comp=Z,2.0nm,0.6s
YKA Yellowknife Ar 54.70 34 P **P 10 09 46.6 -0.3**
comp=Z,2.3nm,0.6s,mb4.4,baz=299,slow=6.9,SNR=30
ARU Arti 55.09 317 *e*P **P 10 09 48.9 -1.0**
comp=Z,9.7nm,0.6s,mb5.0
ARU Arti 55.09 317 *d i*P **P 10 09 48.5 -1.4**
ARU 10 11 50.5
ARU S **S 10 17 27.3 -1.3**
ARU SS SS 10 21 11.1 -1.2
ARU pmax pmax
comp=Z,17nm,1.2s,mb5.0
LGTI Lohaghat 55.59 279 *e*x **P 10 09 55.5 +1.7**
KULM Kulim 57.40 242 *e*P **P 10 10 07.0 +0.2**
NDI New Delhi 58.19 281 *e*P **P 10 10 12.0 -0.2**
AKTK Aktyubinsk 58.42 311 P **P 10 10 13.3 -0.2**
AKTO Aktyubinsk 58.42 311 P **P 10 10 13.3 -0.2**
AKTO pmax pmax
comp=Z,4.0nm,0.7s,mb4.6
AKTO Aktyubinsk 58.42 311 P **P 10 10 13.3 -0.2**
comp=Z,4.4nm,0.7s,mb4.6,baz=45,slow=7.7,SNR=18
TMCR Tamitsa 59.38 332 *e*P **P 10 10 14.7 -5.3**
ARCES ARCESS Array B 59.44 340 P **P 10 10 19.9 -0.3**
ARCES LR LR 10 38 12.6
ARCES ARCESS Array B 59.44 340 P **P 10 10 19.9 -0.4**
ARCES pmax pmax
comp=Z,5.0nm,0.9s
ARCES MLR MLR
comp=Z,166nm,18.5s
ARCES ARCESS Array B 59.44 340 P **P 10 10 19.9 -0.3**
comp=Z,5.0nm,0.9s,mb4.5,baz=45,slow=10,SNR=4.8
ARCES LR LR 10 38 12.6
comp=Z,166nm,18.5s,MS4.2,baz=227,slow=38
EDM Edmonton 60.16 43 *e*P **P 10 10 24.9 -0.6**
EDM *e*pP pP 10 10 39.2 -0.1
JOF Joensuu 62.46 333 *e*p **P 10 10 39.4 -1.5**
comp=Z,16nm,0.6s,mb5.3
JOF Joensuu 62.46 333 *e*P **P 10 10 39.4 -1.5**
JOF pmax pmax
comp=Z,16nm,0.6s,mb5.3
MSO Missoula 63.59 50 *e*P **P 10 10 48.6 0.0**
comp=Z,11nm,1.2s,mb4.8
MSO *e*pP pP 10 11 03.5 +0.9
HYB Hyderabad 64.24 270 *e*P **P 10 10 54.0 +0.7**
HYB Hyderabad 64.24 270 *i* P **P 10 10 54.0 +0.7**
KAF Kangasniemi 64.66 334 *e*p **P 10 10 52.5 -2.9**
comp=Z,21nm,0.8s,mb5.2,baz=41,slow=6.2
KAF Kangasniemi 64.66 334 *e*P **P 10 10 52.5 -2.9**
KAF pmax pmax
comp=Z,21nm,0.8s,mb5.2
HRY Holter Researc 64.81 49 *e*P **P 10 10 57.7 +1.1**
FCC Fort Churchill 64.99 31 *e*P **P 10 10 56.6 -1.0**
comp=Z,7.8nm,0.7s,mb4.8
FCC *e*pP pP 10 11 10.7 -0.8
FCC Fort Churchill 64.99 31 *e*P **P 10 10 56.6 -1.0**
FCC *e**PP pP 10 11 10.7 -0.9
FCC pmax pmax
comp=Z,8.0nm,0.7s,mb4.9
EGMT Eagleton 65.10 47 *e*P **P 10 10 58.8 +0.3**
comp=Z,16nm,1.0s,mb5.0
EGMT *e*pP pP 10 11 13.0 +0.5
WB2 Warramunga Arr 65.15 195 *e*P **P 10 11 00.7 +1.7**
WRA Warramunga Arr 65.15 195 P **P 10 10 59.8 +0.8**
WRA pmax pmax
comp=Z,2.0nm,0.8s
WRA Warramunga Arr 65.15 195 P **P 10 10 59.8 +0.8**
comp=Z,1.9nm,0.8s,mb4.2,baz=16,slow=6.8,SNR=8.5
FINES FINESS Array B 65.23 334 *i* P **P 10 10 58.2 -0.9**
FINES pmax pmax
comp=Z,16nm,0.7s
FINES FINESS Array B 65.23 334 P **P 10 10 57.7 -1.4**
comp=Z,16nm,0.7s,mb5.2,baz=47,slow=8.4,SNR=43
MCMT McKenzie Canyo 65.42 51 *e*P **P 10 11 02.9 +2.2**
MCMT *e*pP pP 10 11 16.1 +1.5
BOZ Bozeman (W) 65.59 50 *e*P **P 10 11 02.0 +0.3**
comp=Z,6.3nm,0.7s,mb4.8
BOZ Bozeman (W) 65.59 50 *e*P **P 10 11 02.0 +0.3**
BOZ pmax pmax
comp=Z,6.0nm,0.7s,mb4.7
OBN Obninsk 65.90 324 ⇓*i*P **P 10 11 03.1 -0.4**
OBN *e* 10 13 24.5
OBN *e*S S 10 19 44.9 -1.8
OBN pmax pmax
comp=Z,56nm,1.5s,mb5.4
NVAR Mina Array Bea 66.16 59 P **P 10 11 06.0 +0.6**
comp=Z,2.2nm,0.8s,mb4.2,baz=302,slow=5.3,SNR=10
GCMT Greycliff 66.56 48 *e*P **P 10 11 08.7 +0.7**
GCMT *e*pP pP 10 11 23.8 +1.8
POO Poona 66.91 274 *e*x **P 10 11 11.0 +0.5**
LKWY Lake 66.94 50 *e*P **P 10 11 15.2 +4.9**
comp=Z,10.0nm,1.2s,mb4.7
LKWY Lake 66.94 50 *e*P **P 10 11 15.3 +4.9**
LKWY pmax pmax
comp=Z,10.0nm,1.2s,mb4.7
TPAW Teton Pass 67.32 51 *e*P **P 10 11 14.8 +2.0**
comp=Z,27nm,1.1s,mb5.2
VRSR Storozhevoye 67.41 320 *c i*P **P 10 11 12.9 -0.3**
VRSR pmax pmax
comp=N,10.0nm,0.9s
VRSR pmax pmax
comp=E,10.0nm,0.9s
VRSR pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
SNOW Snow King Moun 67.45 51 *e*P **P 10 11 14.8 +1.2**
comp=Z,15nm,1.1s,mb5.0
SNOW *e* pP 10 11 30.4 +2.7
REDW Red Top Meadow 67.46 51 *e*P **P 10 11 14.4 +0.7**
comp=Z,25nm,1.2s,mb5.1
REDW *e*pP pP 10 11 28.7 +0.9
VORD Divnogorie 67.53 320 *e*P **P 10 11 13.5 -0.5**
VORD pmax pmax
comp=Z,50nm,0.9s,mb5.5
VORD pmax pmax
comp=N,30nm,1.0s
VORD pmax pmax
comp=E,30nm,1.0s
TPNV Topopah Spring 68.35 59 *e*P **P 10 11 19.6 +0.2**
comp=E,9.7nm,1.1s,mb4.8
TPNV *e*pP pP 10 11 35.5 +2.1
TPNV Topopah Spring 68.35 59 *e*P **P 10 11 19.6 +0.2**
TPNV *e**PP pP 10 11 35.6 +2.1
TPNV pmax pmax
comp=Z,10.0nm,1.1s,mb4.8
DUG Dugway 68.36 55 *e*P **P 10 11 20.0 +0.6**
comp=Z,10nm,1.1s,mb4.8
DUG *e*pP pP 10 11 34.2 +0.7
DUG Dugway 68.36 55 *e*P **P 10 11 20.0 +0.6**
DUG *e**PP pP 10 11 34.2 +0.7
DUG pmax pmax
comp=Z,10.0nm,1.1s,mb4.8
PDAR Pinedale Array 68.57 51 P **P 10 11 20.6 -0.1**
comp=Z,1.7nm,0.9s,mb4.0,baz=248,slow=1.4,SNR=12
ASAR Alice Springs 68.86 195 P **P 10 11 25.5 +3.0**
comp=Z,0.9nm,0.8s,mb3.8,baz=15,slow=5.6,SNR=8.0
GOF Gofitskoye 69.69 313 *e*P **P 10 11 20.5 -7.0**
GOF pmax pmax
comp=Z,120nm,1.3s,mb5.7
CCUT Cedar City 69.73 57 *e*P **P 10 11 28.1 +0.2**
NB2 NORSAR Subarra 69.81 340 P **P 10 11 26.8 -1.2**
comp=Z,26nm,0.7s,mb5.3,baz=30,slow=6.5
NOA NORSAR Array B 69.81 340 P **P 10 11 27.1 -0.9**
NOA pmax pmax
comp=Z,18nm,0.6s
NOA MLR MLR
comp=Z,134nm,20.4s
NOA NORSAR Array B 69.81 340 P **P 10 11 27.1 -0.9**
comp=Z,18nm,0.6s,mb5.2,baz=31,slow=6.3,SNR=86
NOA LR LR 10 45 48.4
comp=Z,134nm,20.4s,MS4.2,baz=0.0,slow=39
MNK Minsk 69.85 328 *e*P **P 10 11 27.0 -1.3**
ULM Lac du Bonnet 70.34 38 P **P 10 11 30.4 -1.0**
comp=Z,1.3nm,0.5s,mb4.1,baz=338,slow=0.4,SNR=3.4
SRU San Rafael 70.41 54 *e*P **P 10 11 32.2 +0.1**
comp=Z,5.2nm,0.8s,mb4.5
SRU San Rafael 70.41 54 *e*P **P 10 11 32.2 +0.1**
SRU pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
KIV Kislovodsk 70.62 313 ⇑P **P 10 11 34.6 +1.3**
KIV Kislovodsk 70.62 313 *e*P **P 10 11 33.9 +0.6**
KIV pmax pmax
comp=Z,41nm,1.2s,mb5.2
KIV MLR MLR
comp=Z,795nm,19.0s,MS5.0
KIV Kislovodsk 70.62 313 ⇑*i*P **P 10 11 34.6 +1.3**
AKASG Malin Array Be 72.16 325 P **P 10 11 42.1 -0.3**
AKASG pmax pmax

comp=Z,11nm,0.6s
AKASG Malin Array Be 72.16 325 P **P 10 11 42.0 -0.4**
comp=Z,11nm,0.6s,mb4.9,baz=37,slow=6.1,SNR=7.7
AKBB Malin Array Si 72.16 325 *e*P **P 10 11 41.2 -1.3**
KIEV Kiev 72.18 325 *e*P **P 10 11 41.8 -0.7**
comp=Z,30nm,1.0s,mb5.2
KIEV Kiev 72.18 325 *e*P **P 10 11 41.8 -0.7**
KIEV pmax pmax
comp=Z,30nm,1.0s,mb5.2
ANN Anapa 72.73 316 *e*P **P 10 11 40.3 -5.6**
ANN pmax pmax
comp=Z,34nm,0.8s,mb5.3
ISCO Idaho Springs 72.76 51 *e*P **P 10 11 47.4 +1.2**
comp=Z,12nm,1.2s,mb4.7
ISCO *e* pP 10 12 02.7 +2.3
ISCO Idaho Springs 72.76 51 *e*P **P 10 11 47.4 +1.2**
ISCO *e* pP 10 12 02.7 +2.3
ISCO pmax pmax
comp=Z,13nm,1.2s,mb4.7
BSD Bornholm Skovb 73.83 335 *i* P **P 10 11 51.1 -1.1**
BSD pmax pmax
comp=Z,34nm,1.0s,mb5.2
BSD Bornholm Skovb 73.83 335 *i* P **P 10 11 51.1 -1.1**
comp=Z,34nm,1.0s,mb5.2
COP Copenhagen 74.08 336 *e*P **P 10 11 51.2 -2.5**
COP pmax pmax
comp=Z,18nm,0.9s,mb5.0
COP Copenhagen 74.08 336 *i* P **P 10 11 51.2 -2.5**
comp=Z,18nm,0.9s,mb5.0
SDCO Great Sand Dun 74.24 53 *e*P **P 10 11 55.5 +0.6**
comp=Z,4.3nm,1.1s,mb4.3
SDCO *e* pP 10 12 10.7 +1.5
ECSD EROS,Sioux Fal 74.73 43 *e*P **P 10 11 56.8 -0.8**
comp=Z,15nm,1.2s,mb4.8
ECSD *e* pP 10 12 12.2 +0.3
LVV L'vov 74.96 327 *e*P **P 10 11 59.4 +0.5**
KIS Kishinev 75.16 322 *e*P pP 10 12 12.0 -2.3
KWP Kalwaria 75.63 327 *e*P **P 10 12 01.2 -1.5**
comp=Z,56nm,1.1s,mb5.4
KWP Kalwaria 75.63 327 *e*P **P 10 12 01.2 -1.5**
KWP pmax pmax
comp=Z,57nm,1.1s,mb5.4
STKA Stephens Creek 75.91 187 P **P 10 12 05.8 +1.5**
comp=Z,1.0nm,0.6s,mb3.9,baz=319,slow=19,SNR=2.6
OJC Ojcow 76.25 329 *e*P **P 10 12 06.0 -0.3**
KOLS Kolonicke sedl 76.36 327 *e*P **P 10 12 07.0 +0.1**
STHS Stebnicka Huta 76.36 328 *e*P **P 10 12 07.9 +1.0**
comp=Z,11nm,1.0s,mb4.8
STHS *e* 10 12 14.2
STHS Stebnicka Huta 76.36 328 *e*P **P 10 12 07.9 +1.0**
STHS *e* 10 12 14.2
STHS pmax pmax
comp=Z,11nm,1.0s,mb4.7
UZH Uzhgorod 76.59 327 *e*P **P 10 12 07.4 -0.8**
CRVS Cervenica-Dubn 76.70 328 *e*P **P 10 12 08.5 -0.3**
SCHQ Schefferville 76.81 20 P **P 10 12 07.7 -1.6**
SCHQ LR LR 10 48 37.4
SCHQ Schefferville 76.81 20 P **P 10 12 07.7 -1.6**
comp=Z,3.8nm,1.0s,mb4.3,baz=328,slow=9.5,SNR=2.3
SCHQ LR LR 10 48 37.4
comp=Z,287nm,21.0s,MS4.6,baz=325,slow=38
MALT Malatya 76.86 311 ⇑P **P 10 12 11.5 +1.5**
MALT Malatya 76.86 311 ⇑*i*P **P 10 12 11.5 +1.5**
KSP Ksiaz 76.98 332 *e*P **P 10 12 10.9 +0.5**
OKC Ostrava-Krasne 77.17 330 *e*P **P 10 12 12.0 +0.6**
OKC *e*pP pP 10 12 24.6 -1.1
OKC Ostrava-Krasne 77.17 330 *e*P **P 10 12 12.0 +0.6**
OKC *e*pP pP 10 12 24.6 -1.1
OKC AMS AMS 10 49 30.0
comp=Z,1μm,5.4s
TIRR Tirgusor 77.29 321 ⇓P **P 10 12 12.4 +0.2**
TIRR Tirgusor 77.29 321 ⇓*i*P **P 10 12 12.4 +0.2**
HARR Harsova 77.33 321 ⇑*i*P **P 10 12 12.8 +0.4**
UPC Upice 77.36 331 *e*P **P 10 12 13.0 +0.5**
UPC *e*pP pP 10 12 26.1 -0.7
DPC Dobruska-Polom 77.39 331 *e*P **P 10 12 13.1 +0.5**
DPC *e*pP pP 10 12 26.2 -0.7
DPC Dobruska-Polom 77.39 331 *e*P **P 10 12 13.1 +0.5**
DPC *e*pP pP 10 12 26.2 -0.7
DPC AMS AMS 10 51 00.0
comp=Z,600nm,5.7s
KECS Kecovo 77.42 328 *e*P **P 10 12 13.0 +0.2**
comp=Z,4.5nm,0.9s,mb4.4
KECS *e* 10 12 19.6
KECS Kecovo 77.42 328 *e*P **P 10 12 13.0 +0.2**
KECS *e* 10 12 19.6
KECS pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
MORC Moravsky Berou 77.44 330 ⇓P **P 10 12 13.4 +0.5**
MORC Moravsky Berou 77.44 330 ⇓*i*P **P 10 12 13.4 +0.5**
MLR Muntele Rosu 77.58 323 ⇑P **P 10 12 15.0 +1.2**
MLR Muntele Rosu 77.58 323 ⇑*i*P **P 10 12 15.0 +1.2**
CLL Collm 77.68 334 ⇑*i*P **P 10 12 13.8 -0.5**
comp=Z,16nm,0.8s,mb5.0
CLL *i* 10 12 20.7
CLL Collm 77.68 334 ⇑*i*P **P 10 12 13.8 -0.5**
CLL *i* 10 12 20.7
CLL *i* pP 10 12 26.7 -1.8
CLL pmax pmax
comp=Z,12nm,0.8s,mb4.9
CLL Collm 77.68 334 ⇑*i*P **P 10 12 13.8 -0.5**
comp=Z,16nm,0.8s,mb5.0
CLL *i* PcP PcP 10 12 20.7 -3.5
CLL *i* pP pP 10 12 26.7 -1.8
comp=Z,40nm,1.3s
CLL *i* x x 10 12 36.5
CLL LmH 10 44 00.0
comp=N,200nm,20.7s
CLL LmH 10 44 00.0
comp=E,300nm,20.9s
BRG Berggiesshubel 77.75 333 *e*P **P 10 12 14.3 -0.3**
BRG *e* pP 10 12 27.4 -1.5
BRG pmax pmax
comp=Z,3.0nm,1.2s,mb4.1
BRG Berggiesshubel 77.75 333 *e*P **P 10 12 14.3 -0.4**
comp=Z,9.0nm,1.2s,mb4.6
BRG *e* pP 10 12 27.4 -1.6
comp=Z,17nm,1.3s
PVCC Panska Ves 77.83 332 *e*P **P 10 12 15.4 +0.3**
PVCC *e*pP pP 10 12 28.5 -0.9
PVCC Panska Ves 77.83 332 *e*P **P 10 12 15.4 +0.3**
PVCC *e*pP pP 10 12 28.5 -0.9
PVCC AMS AMS 10 49 10.0
comp=Z,700nm,5.1s
VOIR 78.01 323 ⇓P **P 10 12 17.3 +1.0**
VOIR 78.01 323 ⇓*i*P **P 10 12 17.3 +1.1**
VYHS Vyhne 78.03 329 *e*P **P 10 12 16.7 +0.4**
comp=Z,15nm,1.6s,mb4.7
VYHS *e* pP 10 12 29.6 -1.0
VYHS Vyhne 78.03 329 *e*P **P 10 12 16.7 +0.4**
VYHS *e* pP 10 12 29.6 -1.0
VYHS pmax pmax
comp=Z,15nm,1.6s,mb4.7
PSZ Piszkesteto 78.11 328 *e*P **P 10 12 16.6 -0.1**
comp=Z,15nm,1.0s,mb4.9
PSZ Piszkesteto 78.11 328 *e*P **P 10 12 16.6 -0.1**
PSZ pmax pmax
comp=Z,15nm,1.0s,mb4.9
VRAC Vranov 78.17 331 ⇑P **P 10 12 16.7 -0.3**
VRAC Vranov 78.17 331 ⇑*i*P **P 10 12 16.7 -0.3**
PRU Pruhonice 78.30 332 *e*P **P 10 12 18.0 +0.3**
PRU *e*pP pP 10 12 31.3 -0.7
PRU Pruhonice 78.30 332 *e*P **P 10 12 18.0 +0.3**
PRU *e*pP pP 10 12 31.3 -0.7
PRU AMS AMS 10 50 30.0
comp=Z,500nm,6.6s
MNTX Cornudas Mount 78.52 57 *e*P **P 10 12 19.4 +0.1**
comp=Z,7.0nm,1.1s,mb4.5
MNTX *e*pP pP 10 12 33.9 +0.3
TREC Trest 78.57 331 *e*P **P 10 12 19.8 +0.6**
TREC AMS AMS 10 50 10.0
ANTO Ankara 78.68 315 *e*P **P 10 12 19.8 -0.3**
comp=Z,12nm,0.6s,mb5.0
ANTO *e*pP pP 10 12 33.6 -0.7
ANTO Ankara 78.68 315 *e*P **P 10 12 19.8 -0.2**
ANTO *e**PP pP 10 12 33.6 -0.7
ANTO pmax pmax
comp=Z,12nm,0.6s,mb5.0
MOX Moxa 78.69 334 *e*P **P 10 12 21.2 +1.3**
MOX *e* pP 10 12 32.8 -1.4
MODS Modra-Piesok 78.71 330 *e*P **P 10 12 19.3 -0.7**
MODS *e* pP 10 12 32.8 -1.5
MODS Modra-Piesok 78.71 330 *e*P **P 10 12 19.3 -0.7**
MODS *e*pP pP 10 12 32.8 -1.5

NKC Novy Kostel 78.78 333 AMS AMS 10 51 10.0
ZST Bratislava 78.92 330 *e*pP pP 10 12 35.5 0.0
GZR Gura Zlata 79.01 325 ⇑P **P 10 12 21.8 0.0**
GZR Gura Zlata 79.01 325 ⇑*i*P **P 10 12 21.8 +0.1**
BZS Buzias 79.31 326 P **P 10 12 23.7 +0.4**
BZS Buzias 79.31 326 ⇓*i*P **P 10 12 23.7 +0.4**
KHC Kasperske Hory 79.36 332 *e*P **P 10 12 23.9 +0.3**
KHC *e*pP pP 10 12 38.1 +0.2
KHC AMS AMS 10 51 20.0
comp=Z,600nm,17.6s,MS5.0
GERES GERESS Array B 79.56 332 P **P 10 12 24.6 -0.1**
GERES pmax pmax
comp=Z,6.0nm,0.8s
GERES GERESS Array B 79.56 332 P **P 10 12 24.6 -0.1**
comp=Z,5.8nm,0.8s,mb4.6,baz=33,slow=5.2,SNR=26
CONA Conrad Observa 79.59 330 ⇑*i*P **P 10 12 25.7 +0.8**
comp=Z,10nm,0.7s,mb4.9,SNR=10
GRA1 Grafenberg Arr 79.65 334 *e*P **P 10 12 25.0 -0.1**
comp=Z,59nm,1.8s,mb5.2
GRA1 *e*pP pP 10 12 38.6 -0.9
GRF Grafenberg Arr 79.65 334 *e*P **P 10 12 25.0 -0.1**
GRF *e**PP pP 10 12 38.6 -0.9
GRF pmax pmax
comp=Z,59nm,1.8s,mb5.2
GRF Grafenberg Arr 79.65 334 *e*P **P 10 12 25.0 -0.1**
GRF *e**PP pP 10 12 38.6 -0.9
GRF pmax pmax
comp=Z,59nm,1.8s,mb5.2
GRF Grafenberg Arr 79.65 334 *e*P **P 10 12 25.0 -0.1**
comp=Z,59nm,1.8s,mb5.2
GRF *e*pP pP 10 12 38.6 -0.9
PKSM Moragy 80.00 328 ⇑P **P 10 12 26.9 -0.1**
PKSM Moragy 80.00 328 ⇑*i*P **P 10 12 27.0 -0.1**
WMOK Wichita Mounta 80.18 51 *e*P **P 10 12 28.3 0.0**
comp=Z,9.9nm,1.0s,mb4.7
WMOK *e*pP pP 10 12 43.6 +1.0
WMOK Wichita Mounta 80.18 51 *e*P **P 10 12 28.3 0.0**
WMOK *e**PP pP 10 12 43.6 +1.0
WMOK pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
VTS Vitosha 81.08 323 ⇓P **P 10 12 33.8 +0.8**
VTS Vitosha 81.08 323 ⇓*i*P **P 10 12 33.8 +0.8**
KBA Koelnbreinsper 81.21 331 ⇓*i*P **P 10 12 34.4 +0.8**
comp=Z,21nm,1.1s,mb5.0
KBA Koelnbreinsper 81.21 331 ⇓*i*P **P 10 12 34.4 +0.9**
KBA pmax pmax
comp=Z,21nm,1.1s,mb5.0
TXAR Lajitas Array 81.24 58 P **P 10 12 33.8 -0.2**
baz=297,slow=4.1
BAIF Baives 81.39 338 *e*P **P 10 12 33.5 -0.9**
WATA Walderalm 81.59 332 ⇑*i*P **P 10 12 36.0 +0.5**
comp=Z,17nm,1.1s,mb4.9
WATA Walderalm 81.59 332 ⇑*i*P **P 10 12 36.0 +0.5**
WATA pmax pmax
comp=Z,17nm,1.1s,mb4.9
WTTA Wattenberg 81.63 332 ⇑*i*P **P 10 12 36.3 +0.6**
comp=Z,22nm,0.9s,mb5.1
WTTA Wattenberg 81.63 332 ⇑*i*P **P 10 12 36.3 +0.6**
comp=Z,22nm,0.9s,mb5.1
WTTA Wattenberg 81.63 332 ⇑*i*P **P 10 12 36.3 +0.5**
WTTA pmax pmax
comp=Z,22nm,0.9s,mb5.1
RETA Reutte 81.72 333 ⇓*i*P **P 10 12 36.5 +0.3**
comp=Z,13nm,1.1s,mb4.8
MOTA Moosalm 81.74 333 ⇑*i*P **P 10 12 36.6 +0.3**
comp=Z,18nm,1.0s,mb5.0
MOTA Moosalm 81.74 333 ⇑*i*P **P 10 12 36.6 +0.3**
MOTA pmax pmax
comp=Z,18nm,1.0s,mb5.0
SQTA Sankt Quirin 81.81 333 ⇑*i*P **P 10 12 37.1 +0.4**
comp=Z,14nm,1.0s,mb4.8
SQTA Sankt Quirin 81.81 333 ⇑*i*P **P 10 12 37.1 +0.4**
SQTA pmax pmax
comp=Z,14nm,1.0s,mb4.8
CDF Champ du Feu 82.00 335 *e*P **P 10 12 36.9 -0.8**
comp=Z,65nm,1.5s,mb5.0
CDF Champ du Feu 82.00 335 *e*P **P 10 12 36.9 -0.8**
comp=Z,32nm,1.5s,mb5.0
CDF Champ du Feu 82.00 335 *e*P **P 10 12 36.9 -0.8**
CDF pmax pmax
comp=Z,33nm,1.5s,mb5.0
FETA Feichten 82.14 333 ⇓*i*P **P 10 12 39.1 +0.7**
comp=Z,14nm,1.1s,mb4.8
DAVA Damuels 82.19 333 ⇓*i*P **P 10 12 39.3 +0.6**
comp=Z,11nm,0.8s,mb4.9
HAU Haudompre 82.64 336 *e*P **P 10 12 39.2 -1.8**
HAU *e*MLR MLR
comp=Z,214nm,20.8s,MS4.2
HAU Haudompre 82.64 336 *e*P **P 10 12 39.2 -1.8**
HAU MLR MLR
comp=Z,210nm,20.8s,MS4.5
HINF Hinteralfeld 82.66 335 *e*P **P 10 12 39.7 -1.4**
MIAR Mount Ida 83.17 48 *e*P **P 10 12 44.0 0.0**
comp=Z,21nm,1.0s,mb5.1
MIAR *e*pP pP 10 12 59.5 +1.1
MIAR Mount Ida 83.17 48 *e*P **P 10 12 44.0 0.0**
MIAR *e**PP pP 10 12 59.5 +1.1
MIAR pmax pmax
comp=Z,21nm,1.0s,mb5.1
FLN La Foliniere 83.78 340 *e*P **P 10 12 45.9 -1.0**
FLN *e*MLR MLR
comp=Z,258nm,19.8s,MS4.3
FLN La Foliniere 83.78 340 *e*P **P 10 12 45.9 -1.0**
FLN MLR MLR
comp=Z,260nm,19.8s,MS4.6
LDF La Druitiere 83.85 340 *e*P **P 10 12 46.5 -0.8**
LOR Lormes 84.02 337 *e*P **P 10 12 48.1 -0.1**
LOR *e*MLR MLR
comp=Z,195nm,22.0s,MS4.1
LOR Lormes 84.02 337 *e*P **P 10 12 48.1 -0.1**
LOR MLR MLR
comp=Z,200nm,22.0s,MS4.5
GRR Gorron 84.22 340 *e*P **P 10 12 48.3 -0.8**
SSF Saint Saulge 84.31 337 *e*P **P 10 12 49.5 -0.1**
comp=Z,17nm,0.9s,mb4.9
SSF Saint Saulge 84.31 337 *e*P **P 10 12 49.5 -0.1**
comp=Z,8.4nm,0.9s,mb4.9
SSF Saint Saulge 84.31 337 *e*P **P 10 12 49.5 -0.1**
SSF pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
SMF Signal de Mont 84.60 337 *e*P **P 10 12 50.4 -0.7**
comp=Z,42nm,1.0s,mb5.2
SMF Signal de Mont 84.60 337 *e*P **P 10 12 50.4 -0.7**
comp=Z,21nm,1.0s,mb5.2
SMF Signal de Mont 84.60 337 *e*P **P 10 12 50.4 -0.7**
SMF pmax pmax
comp=Z,21nm,1.0s,mb5.2
AVF Avril sur Loir 84.60 337 *e*P **P 10 12 50.5 -0.6**
comp=Z,78nm,1.4s,mb5.3
AVF Avril sur Loir 84.60 337 *e*P **P 10 12 50.5 -0.6**
comp=Z,39nm,1.4s,mb5.3
AVF Avril sur Loir 84.60 337 *e*P **P 10 12 50.5 -0.6**
AVF pmax pmax
comp=Z,39nm,1.4s,mb5.3
LPL La Plagne 84.76 335 *e*P **P 10 12 51.9 0.0**
comp=Z,45nm,1.2s,mb5.2
LPL La Plagne 84.76 335 *e*P **P 10 12 51.9 0.0**
comp=Z,22nm,1.2s,mb5.2
LPL La Plagne 84.76 335 *e*P **P 10 12 51.9 0.0**
LPL pmax pmax
comp=Z,23nm,1.2s,mb5.2
LPG La Plagne 84.77 334 *e*P **P 10 12 52.2 +0.2**
comp=Z,37nm,1.0s,mb5.2
LPG La Plagne 84.77 334 *e*P **P 10 12 52.2 +0.2**
comp=Z,18nm,1.0s,mb5.2
LPG La Plagne 84.77 334 *e*P **P 10 12 52.2 +0.2**
LPG pmax pmax
comp=Z,18nm,1.0s,mb5.2
WVT Waverly 84.88 43 *e*P **P 10 12 52.0 -0.7**
comp=Z,8.0nm,0.9s,mb4.8
WVT *e*pP pP 10 13 06.5 -0.6
WVT Waverly 84.88 43 *e*P **P 10 12 52.0 -0.7**
WVT *e**PP pP 10 13 06.6 -0.6
WVT pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
TCF Toulx Ste Croi 85.38 338 *e*P **P 10 12 54.6 -0.4**
comp=Z,24nm,1.0s,mb5.0
TCF Toulx Ste Croi 85.38 338 *e*P **P 10 12 54.6 -0.4**
comp=Z,12nm,1.0s,mb5.0
TCF Toulx Ste Croi 85.38 338 *e*P **P 10 12 54.6 -0.4**
TCF pmax pmax
comp=Z,12nm,1.0s,mb5.0
MBDF Montbardon 85.45 334 *e*P **P 10 12 54.8 -0.6**
ORIF Oris-en-Rattie 85.56 335 *e*P **P 10 12 55.9 0.0**
comp=Z,20nm,0.8s,mb5.1

ORIF *e*MLR MLR
comp=Z,233nm,19.2s,MS4.3
ORIF Oris-en-Rattie 85.56 335 *e*P **P 10 12 55.9 0.0**
comp=Z,9.8nm,0.8s,mb5.1
ORIF Oris-en-Rattie 85.56 335 *e*P **P 10 12 55.9 0.0**
ORIF pmax pmax
comp=Z,10.0nm,0.8s,mb5.1
VIVF Saint-Julien-l 85.98 336 *e*P **P 10 12 57.9 -0.1**
SBF Sospel 86.02 333 *e*P **P 10 12 58.2 0.0**
comp=Z,62nm,1.0s,mb5.5
SBF Sospel 86.02 333 *e*P **P 10 12 58.2 0.0**
comp=Z,31nm,1.0s,mb5.5
SBF Sospel 86.02 333 *e*P **P 10 12 58.2 0.0**
SBF pmax pmax
comp=Z,31nm,1.0s,mb5.5
CFAA Coronel Fontan 148.21 80 PKPbc PKPbc 10 20 02.8 -0.8
comp=Z,0.3nm,0.7s,baz=264,slow=1.1,SNR=3.7
SNAA Sanae 149.21 197 PKPbc PKPbc 10 20 04.8 -0.1
comp=Z,0.4nm,0.7s,baz=286,slow=7.4,SNR=2.0
PLCA Paso Flores 150.68 97 PKPbc PKPbc 10 20 10.8 +1.5
comp=Z,1.6nm,0.9s,baz=320,slow=2.4,SNR=3.6
VNA2 Neumayer--Watz 150.71 196 *e*PKPdf PKPbc 10 20 09.2 +0.7
VNA2 *e* 10 20 14.2
VNA2 *e* 10 20 20.7
VNA2 *e* 10 20 24.3
VNA2 *e* 10 20 28.6
VNA2 *e* 10 20 31.5
VNA2 *e* 10 20 34.3
VNA2 *e* 10 20 37.3
VNA2 *e* 10 20 39.5
VNA2 *e* 10 20 42.9
VNA2 *e* 10 20 46.9
VNA3 Neumayer Olymp 150.86 194 *e*PKPdf PKPbc 10 20 09.6 +0.7
VNA3 *e* 10 20 14.7
VNA3 *e* 10 20 19.9
VNA3 *e* 10 20 24.4
VNA3 *e* 10 20 29.4
VNA3 *e* 10 20 32.9
VNA3 *e* 10 20 35.1
VNA3 *e* 10 20 37.9
VNA3 *e* 10 20 40.6
VNA3 *e* 10 20 43.1
VNA3 *e* 10 20 46.4
VNA1 Neumayer--Stat 151.10 195 *e*PKPdf PKPbc 10 20 08.4 -1.0
VNA1 *e* 10 20 14.2
VNA1 *e* 10 20 19.7
VNA1 *e* 10 20 24.7
VNA1 *e* 10 20 28.8
VNA1 *e* 10 20 32.3
VNA1 *e* 10 20 35.8
VNA1 *e* 10 20 38.9
VNA1 *e* 10 20 42.5
VNA1 *e* 10 20 45.4

IDC 02 10:02:29.7±7.0, 699S×15497E, h0km, mb4.0/4, mb1 4.1/4, mb1mx3.7/14, mbtmp4.0/4, Error ellipse: s-maj=197.1km s-min=34.4km az=117.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.80**	**235**	P	P	10 07 43.9	-0.5
0.5nm,0.9s,baz=59,slow=9.7,SNR=1.6							
FITZ	**Fitzroy Crossi**	**30.63**	**246**	P	P	10 08 46.4	+0.5
2.3nm,0.8s,baz=110,slow=15,SNR=4.0							
SONM	**Songino Array**	**69.31**	**327**	P	P	10 13 39.9	+1.0
1.6nm,0.5s,baz=138,slow=6.5,SNR=11							
MKAR	**Makanchi Array**	**83.38**	**319**	P	P	10 14 58.0	-0.8
1.8nm,0.6s,baz=98,slow=8.5,SNR=9.9							

CASC 02 10:05:26.7±3.9, 1356N×9126W, h10km±26km, MD3.8, 1C-2D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAT	**Jato**	**0.83**	**334**	⇓*e*P	Pg	10 05 42.6	-0.2
JAT				*e*S	Sg	10 05 54.6	+0.9
FUG	**Fuego 3**	**0.97**	**25**	⇑*e*P	Pg	10 05 45.3	0.0
FUG				*e*S	Sg	10 05 58.0	0.0
PCG	**Pacaya**	**1.04**	**37**	*e*P	Pg	10 05 46.8	0.0
RTR	**El Retiro**	**1.60**	**78**	*e*P	x	10 06 13.3	
RTR				*e*S	x	10 06 33.4	
BOQS	**Boqueron**	**1.93**	**85**	*e*P	x	10 06 17.8	
BOQS				*e*S	x	10 06 44.5	
SNET	**Serv Nac Est T**	**1.98**	**86**	*e*P	x	10 05 59.2	
SNET				*e*S	x	10 06 26.1	
LFRS	**El Faro**	**2.14**	**88**	*e*P	x	10 06 21.3	
LFRS				*e*S	x	10 06 49.7	
LBRS	**Las Brisas**	**2.16**	**85**	⇓*e*P	x	10 06 22.0	
LBRS				*e*S	x	10 06 49.4	
LCBS	**La Ceiba**	**2.22**	**87**	*e*P	x	10 06 22.4	
LCBS				*e*S	x	10 06 53.2	
SNVI	**San Vicente**	**2.35**	**89**	*e*P	x	10 06 24.0	
SNVI				*e*S	x	10 06 55.8	

NIED ***02*** *10:14:00, 4440N×14950E, h23km, Mw4.5 Best double couple: M0=5.62000×10^15 NP1:φ=48.00000°, δ=63.00000°, λ=108.00000°. NP2:φ=192.00000°, δ=32.00000°, λ=59.00000°.*
SKHL ***02*** *10:14:33.0±2.6, 4400N×14940E, h34km±5km, mb5.0/5, ms4.1/3, msh5.7/1*
IDC ***02*** *10:14:33.0±0.7, 4426N×14926E, h0km, mb4.3/16, mb1 4.4/19, mb1mx4.4/24, mbtmp4.3/19, ML3.7/3, MS4.0/1, Ms1 4.0/1, ms1mx3.0/31, Error ellipse: s-maj=19.4km s-min=14.5km az=150.0*
BJI ***02*** *10:14:35.8, 4404N×14918E, h29km, mB5.1, mb4.7, Ms4.2, Msz4.1*
JMA ***02*** *10:14:35.2±0.6, 4436N×14946E, h30km, M4.9*
ISCJB ***02*** *10:14:35.9±0.6, 4404N±004×14933E±005, h33km±5km, mb4.6/64, MS4.2/6, Error ellipse: s-maj=7.5km s-min=5.0km az=142.1*
MOS ***02*** *10:14:36.4±1.0, 4411N×14927E, h35km, mb5.0/24, Error ellipse: s-maj=9.3km s-min=6.0km az=116.3*
SZGRF ***02*** *10:14:37.7, 4395N×14976E, h33km, mb4.5, East of Kuril Islands, Russia*
NEIC ***02*** *10:14:38.4±0.3, 4418N×14925E, h35km, mb4.8/20, Error ellipse: s-maj=8.9km s-min=4.9km az=151.0*

ISC 02 10:14:38.5±0.6, 4411N±004×14927E±005, h38km±4km, h33km±2.8km: pP-P, n209, σ19=01/228, mb4.6/64, MS4.2/6, 18C-12D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.51**	**319**	*e*PN	**Pn**	**10 14 59.9**	**-3.1**
KUR				*e*S	**Sn**	**10 15 22.0**	**+0.6**
KUR				pmax	pmax		
comp=N,380nm,0.5s							
KUR				pmax	pmax		
comp=E,760nm,0.5s							
KUR				pmax	pmax		
comp=Z,1μm,0.5s							
KUR				pmax	pmax		
comp=E,5μm,1.6s							
KUR				pmax	pmax		
comp=Z,5μm,1.6s							
KUR				smax			
comp=N,20μm,1.2s							
KUR				smax			
comp=E,12μm,1.2s							
KUR				smax			
comp=N,5μm,0.5s							
KUR				smax			
comp=E,7μm,0.5s							
KUR	**Kuril'sk**	**1.51**	**319**	*e*P	**Pn**	**10 14 59.9**	**-3.1**
KUR				AMB	AMB	10 15 02.0	
comp=E,380nm,0.5s							
KUR				AMB	AMB	10 15 02.0	
comp=E,760nm,0.5s							
KUR				AMB	AMB	10 15 02.0	
comp=E,1μm,0.5s							
KUR				AMB	AMB	10 15 06.0	
comp=E,5μm,1.6s							
KUR				AMB	AMB	10 15 06.0	
comp=E,5μm,1.6s							
KUR				*e*S	**Sn**	**10 15 22.0**	**+0.6**
KUR				A		10 15 26.0	
comp=E,20μm,1.2s							
KUR				A		10 15 26.0	
comp=E,12μm,1.2s							

KUR A 10 15 26.5
comp=E,5µm,0.5s
KUR A 10 15 26.5
comp=E,7µm,0.5s
YUK Yuzh-Kuril'sk 2.46 270 *e*PN **Pn 10 15 15.2 -0.8**
YUK *i* S **Sn 10 15 44.9 +0.1**
YUK pmax pmax
comp=E,230nm,0.4s
YUK pmax pmax
comp=Z,490nm,0.4s
YUK smax
comp=E,1µm,0.4s
YUK smax
comp=N,4µm,0.5s
YUK smax
comp=N,8µm,1.5s
YUK smax
comp=E,6µm,2.0s
YUK Yuzh-Kuril'sk 2.46 270 *e*P **Pn 10 15 15.2 -0.8**
YUK AMB AMB 10 15 18.0
comp=E,230nm,0.3s
YUK AMB AMB 10 15 18.0
comp=E,490nm,0.3s
YUK *i* S **Sn 10 15 44.9 +0.1**
YUK A 10 15 59.6
comp=E,1µm,0.4s
YUK A 10 15 59.6
comp=E,4µm,0.5s
YUK A 10 16 02.9
comp=E,8µm,1.5s
YUK A 10 16 02.9
comp=E,6µm,2.0s
NEM2 Nemuro 2 2.66 255 P **Pn 10 15 17.7 -1.1**
NEM2 *e*S **Sn 10 15 49.5 -0.3**
JRA Rausu 3.00 268 P **Pn 10 15 23.9 +0.5**
JNK Nakash 3.33 263 P **Pn 10 15 27.9 -0.2**
JAK Akkeshi 3.50 253 P **Pn 10 15 29.5 -0.9**
JAK *e*S **Sn 10 16 09.7 -0.9**
JTKR Abashiri--Toko 3.87 270 P **Pn 10 15 36.2 +0.8**
JAR Ashorobuto 4.07 260 P **Pn 10 15 38.5 +0.3**
JOB Onbets 4.13 255 P **Pn 10 15 39.3 +0.2**
JMP Maruseppu 4.26 271 P **Pn 10 15 41.9 +1.1**
JCH Churui 4.56 253 P **Pn 10 15 45.0 +0.1**
JKK2 Kamakawa 2 4.71 269 P **Pn 10 15 48.4 +1.4**
ASAJ Asahikawa 4.81 272 P **Pn 10 15 50.0 +1.7**
ASAJ Asahikawa 4.81 272 PN **Pn 10 15 50.1 +1.8**
ASAJ pmax pmax
comp=Z,3.0nm,0.3s
ASAJ MLR MLR
comp=Z,2µm,19.4s
ASAJ Asahikawa 4.81 272 Pn **Pn 10 15 50.0 +1.8**
comp=Z,3.4nm,0.3s,baz=102,slow=12,SNR=43
ASAJ LR LR 10 17 56.0
comp=Z,2µm,19.4s,baz=112,slow=42
JSE Soyaes 4.86 282 P **Pn 10 15 50.3 +1.3**
JFR Furan 4.94 261 P **Pn 10 15 51.1 +1.0**
ERM Erimo 4.94 247 *e*Pn **Pn 10 15 51.7 +1.5**
JEM Erimo 4.94 247 P **Pn 10 15 51.2 +1.0**
JNBK Urakawa-nobuka 5.10 251 P **Pn 10 15 52.1 -0.3**
JAB Ashibetsu 5.14 266 P **Pn 10 15 55.1 +2.3**
JBT2 Biratori 2 5.20 258 P **Pn 10 15 53.6 -0.1**
YSS Yuzh-Sakhalins 5.39 304 *e*Pn **Pn 10 15 57.0 +0.7**
comp=Z,55nm,0.5s
YSS Yuzh-Sakhalins 5.39 304 *e*P **Pn 10 15 56.2 -0.1**
YSS *e*pP 10 16 05.2
YSS *e*sP 10 16 11.0
YSS *e*S **Sn 10 16 54.0 -3.1**
YSS *e*LQ 10 17 29.0
YSS *e*LR LR 10 17 55.0
YSS AMS AMS 10 18 10.0
comp=Z,1µm,17.0s
YSS AMS AMS 10 18 10.0
comp=Z,500nm,16.0s
YSS AMS AMS 10 18 10.0
comp=Z,900nm,16.0s
JWK2 Keihoku 5.39 286 P **Pn 10 15 59.7 +3.4**
JHR Hokuryu 5.46 269 P **Pn 10 15 59.8 +2.5**
JEW Eniwo 5.83 260 P **Pn 10 16 04.0 +1.6**
JNB Noboribetsu 6.23 258 P **Pn 10 16 08.1 +0.3**
JNB *e*S **Sn 10 17 16.8 -0.9**
JKB Kayabe 6.43 253 P **Pn 10 16 10.5 -0.2**
JKB *e*S **Sn 10 17 19.8 -3.0**
JYM2 Yakumo 2 6.81 256 P **Pn 10 16 15.9 +0.1**
JANG Nango 6.86 240 P **Pn 10 16 14.5 -2.0**
JANG *e*S **Sn 10 17 26.9 -6.3**
JSH Shimam 6.88 261 P **Pn 10 16 17.9 +1.1**
JTH Tanohata 6.91 235 P **Pn 10 16 14.5 -2.7**
JTH *e*S **Sn 10 17 25.4 -9.1**
JTM Tenmabayashi 6.91 244 P **Pn 10 16 16.9 -0.3**
JTM *e*S **Sn 10 17 30.0 -4.6**
JSR Shiriuchi 7.00 251 P **Pn 10 16 18.5 +0.1**
UGL Uglegorsk 7.03 318 PN **Pn 10 16 21.0 +2.3**
UGL pmax pmax
comp=Z,47nm,0.7s
UGL MLR MLR
comp=N,1µm,17.0s
UGL MLR MLR
comp=Z,2µm,17.0s
UGL MLR MLR
comp=E,1µm,15.0s
UGL Uglegorsk 7.03 318 *e*P **Pn 10 16 21.0 +2.3**
UGL AMB AMB 10 16 32.0
comp=E,47nm,0.7s
UGL *e*L 10 18 30.0
UGL AMS AMS 10 19 27.0
comp=E,1µm,15.0s
UGL AMS AMS 10 19 27.0
comp=E,1µm,17.0s
UGL AMS AMS 10 19 27.0
comp=E,2µm,17.0s
JOSM Okushiri--Mats 7.45 258 P **Pn 10 16 24.3 -0.3**
OFUJ Ofunato 7.59 231 P **Pn 10 16 24.1 -2.4**
OFUJ *e*S **Sn 10 17 43.6 -7.7**
JRG Rokugo 7.99 237 P **Pn 10 16 31.3 -0.7**
JRG *e*S **Sn 10 17 55.8 -5.2**
TYV Tymovskoe 8.11 329 *e*P **Pn 10 16 34.0 +0.5**
TYV AMB AMB 10 16 38.8
comp=E,11nm,0.8s
TYV AMB AMB 10 16 38.8
comp=E,28nm,0.8s
JIO Ouri 8.21 229 P **Pn 10 16 32.3 -2.7**
JIO *e*S **Sn 10 17 58.1 -8.4**
TEY Ternei 9.09 280 *e*P **Pn 10 16 47.0 -0.1**
TEY AMS AMS 10 20 51.0
comp=E,1µm,17.0s
JFK Kawauchi 9.27 226 *e*S **Sn 10 18 22.8 -10**
NKL Nikolayevsk 10.68 331 *e*P **Pn 10 17 05.3 -3.5**
NKL AMB AMB 10 17 14.0
comp=E,25nm,1.0s
NKL *e*L 10 20 14.0
NKL AMS AMS 10 21 14.0
comp=E,400nm,18.0s
NKL AMS AMS 10 21 14.0
comp=E,600nm,18.0s
HABR Khabarovsk 10.76 299 *e*PN **Pn 10 17 06.1 -3.8**
MJAR Matsushiro Arr 11.32 232 Pn **Pn 10 17 16.6 -1.1**
comp=E,0.3nm,0.3s,baz=29,slow=14,SNR=6.9
MAJO Matsushiro 11.32 232 *e*Pn **Pn 10 17 16.5 -1.1**
comp=E,14nm,0.6s
MAJO Matsushiro 11.32 232 *e*PN **Pn 10 17 16.5 -1.1**
MAJO pmax pmax
comp=Z,14nm,0.6s
MAT Matsushiro 11.32 232 P **Pn 10 17 16.5 -1.1**
MAT S **Sn 10 19 24.6 +1.8**
KLR Kul'dur 13.07 299 *e*PN **Pn 10 17 42.9 +1.5**
MDJ Mudanjiang 14.09 279 P **Pn 10 17 54.3 -1.1**
MDJ AMB AMB
comp=Z,18nm,1.0s
MDJ AMB AMB
comp=Z,333nm,14.6s
MDJ Mudanjiang 14.09 279 *e*Pn **Pn 10 17 55.0 -0.4**
comp=Z,19nm,0.8s
CN2 Changchun 17.15 277 *e*P **Pn 10 18 31.7 -3.4**
CN2 AMB AMB
comp=Z,20nm,0.9s
CN2 LR LR
comp=N,300nm,13.0s
CN2 LR LR
comp=E,400nm,13.0s
ZEA Zeya 17.32 312 *e*P **Pn 10 18 34.2 -2.9**
ZEA AMB AMB 10 18 35.6
comp=E,20nm,0.8s
KSRS Korea Array 17.46 255 P **Pn 10 18 39.1 +0.2**
comp=E,0.3nm,0.3s,baz=54,slow=11,SNR=7.0

JNU Nakatsue 18.04 239 P **Pn 10 18 46.8 +0.6**
comp=E,0.2nm,0.3s,baz=43,slow=7.3,SNR=4.3
SNY Shenyang 18.92 272 ⇓P **Pn 10 18 56.6 -0.1**
SNY S **S 10 22 25.1 -3.4**
SNY AMB AMB
comp=Z,31nm,0.8s
SNY LR LR
comp=N,333nm,14.4s
SNY LR LR
comp=E,435nm,15.3s
SNY LR LR
comp=Z,618nm,17.7s
SEY Seymchan 18.95 4 ⇓*i*P **Pn 10 18 53.6 -3.3**
DL2 Dalian 21.29 265 P **P 10 19 21.9 +0.2**
DL2 *e*S **S 10 23 17.6 +1.6**
DL2 AMB AMB
comp=Z,30nm,1.1s,mb4.5
DL2 LR LR
comp=N,210nm,15.2s,MS3.8
DL2 LR LR
comp=E,260nm,16.1s,MS3.8
DL2 LR LR
comp=Z,200nm,14.9s,MS3.6
YAK Yakutsk 21.31 334 *e*P **P 10 19 18.6 -3.1**
comp=Z,50nm,1.0s,mb4.8
YAK Yakutsk 21.31 334 *e*P **P 10 19 18.0 -3.7**
YAK *e*S **S 10 23 09.7 -6.3**
YAK *e*SS 10 23 33.0
YAK pmax pmax
comp=N,15nm,1.1s
YAK pmax pmax
comp=Z,34nm,1.1s,mb4.6
YAK pmax pmax
comp=E,8.0nm,1.1s
YAK MLR MLR
comp=E,169nm,16.0s,MS3.8
YAK MLR MLR
comp=Z,328nm,16.0s,MS3.8
YAK MLR MLR
comp=N,299nm,18.0s,MS3.8
BJI Beijing 24.80 272 P **P 10 19 57.0 +0.2**
BJI AMB AMB
comp=Z,18nm,0.9s,mb4.6
BJI Beijing 24.80 272 P **P 10 19 57.0 +0.2**
comp=Z,18nm,0.9s,mb4.6
BILL Bilibino 25.61 15 *i* P **P 10 20 03.4 -0.4**
BILL *e* pP 10 20 14.2 -0.1
BILL *e*S **S 10 24 26.9 -2.1**
BILL pmax pmax
comp=Z,3.0nm,0.8s,mb3.9
TIA Tai'an 25.68 263 *e*P **P 10 20 05.0 +0.2**
BOD Bodaibo 25.75 315 *e*P **P 10 20 01.1 -4.2**
BOD pmax pmax
comp=Z,5.0nm,0.9s,mb4.0
NJ2 Nanjing 26.64 253 *e*P **P 10 20 14.5 +1.0**
NJ2 AP pP 10 20 23.9 -0.1
NJ2 XP sP 10 20 28.0 -0.6
NJ2 S **S 10 24 45.0 -1.0**
NJ2 XS sS 10 25 01.0 -2.5
NJ2 AMB AMB
comp=Z,20nm,0.9s,mb4.7
NJ2 AMB AMB
comp=Z,1µm,4.2s
NJ2 LR LR
comp=N,2µm,15.2s,MS4.8
NJ2 LR LR
comp=E,750nm,12.4s,MS4.8
NJ2 LR LR
comp=Z,4µm,14.7s,MS5.1
BTO Baotou 29.03 277 *e*P **P 10 20 39.8 +5.0**
ULN Ulaanbaatar 29.31 292 *e*P **P 10 20 37.4 +0.3**
comp=Z,5.4nm,0.7s,mb4.4
ULN Ulaanbaatar 29.31 292 *e*P **P 10 20 37.4 +0.2**
ULN pmax pmax
comp=Z,5.0nm,0.7s,mb4.3
TIXI Tiksi 29.34 347⇑*e*P **P 10 20 33.2 -4.0**
TIXI pmax pmax
comp=Z,2.0nm,0.7s,mb4.0
SONM Songino Array 29.75 293 P **P 10 20 41.2 +0.1**
comp=Z,3.8nm,0.6s,mb4.3,baz=79,slow=8.5,SNR=27
TLY Talaya 31.09 300 *e*P **P 10 20 52.8 0.0**
TLY pmax pmax
comp=Z,2.0nm,0.5s,mb4.2
TLY MLR MLR
comp=Z,421nm,17.0s,MS4.2
ZAK Zakamensk 31.43 298 *e*P **P 10 20 55.2 -0.7**
ZAK pmax pmax
comp=Z,2.0nm,1.1s,mb3.9
XAN Xi'an 32.61 266 P **P 10 21 03.1 -3.3**
XAN AMB AMB
comp=Z,4.0nm,0.9s,mb4.3
SVW2 Sparrevohn 36.27 42 *e*P **P 10 21 38.9 +1.1**
GTA Gaotai 36.74 280 P **P 10 21 43.1 +1.1**
GTA AP pP 10 21 50.5 -2.2
GTA XP sP 10 21 55.1 -2.1
GTA AMB AMB
comp=Z,17nm,0.7s,mb5.0
IMA2 Indian Mountai 37.52 34 *e*P **P 10 21 48.2 -0.1**
KDAK Kodiak Island 37.88 48 P **P 10 21 50.8 -0.6**
comp=Z,4.3nm,0.6s,mb4.3,baz=254,slow=9.7,SNR=4.9
PMR Palmer 39.38 42 P **P 10 22 00.9 -3.1**
comp=Z,9.8nm,1.3s,mb4.4
PMR Palmer 39.38 42 P **P 10 22 00.9 -3.1**
PMR pmax pmax
comp=Z,10.0nm,1.3s,mb4.4
SML Sawmill 39.75 41 *e*P **P 10 22 07.5 +0.5**
COLA College 39.88 36 *e*P **P 10 22 09.9 +1.8**
comp=Z,11nm,0.8s,mb4.6
COLA College 39.88 36 *i* P **P 10 22 07.5 -0.6**
ZALV Zalesovo Beam 42.01 307 P **P 10 22 24.8 -0.9**
ZALV PcP PcP 10 24 19.7 -0.5
ZALV Zalesovo Beam 42.01 307 P **P 10 22 24.8 -0.9**
comp=Z,1.4nm,0.5s,mb3.9,baz=72,slow=9.5,SNR=6.7
ZALV PcP PcP 10 24 19.7 -0.5
comp=Z,3.4nm,0.7s,baz=90,slow=3.4,SNR=10.0
ZAL Zalesovo 42.02 307 P **P 10 22 24.8 -1.1**
ZAL 10 24 19.7
EGAK Eagle 42.74 36 *e*P **P 10 22 31.9 +0.4**
comp=Z,8.7nm,1.0s,mb4.4
WMQ Urumqi 43.39 292 P **P 10 22 37.4 +0.3**
WMQ AP pP 10 22 47.0 -0.9
WMQ XP sP 10 22 51.0 -1.4
WMQ *e*S **S 10 29 02.0 -0.3**
WMQ AMB AMB
comp=Z,27nm,1.0s,mb4.9
WMQ AMB AMB
comp=Z,179nm,5.2s
WMQ LR LR
comp=N,245nm,18.3s,MS4.2
WMQ LR LR
comp=E,131nm,15.6s,MS4.2
WMQ LR LR
comp=Z,255nm,19.2s,MS4.1
DAWY Dawson 43.59 37 *e*P **P 10 22 38.9 +0.4**
INK Inuvik 45.32 31 *e*P **P 10 22 52.1 0.0**
INK Inuvik 45.32 31 P **P 10 22 51.1 -1.1**
INK pmax pmax
comp=Z,3.0nm,0.8s
INK Inuvik 45.32 31 P **P 10 22 51.1 -1.1**
comp=Z,2.5nm,0.8s,mb4.1,baz=284,slow=6.6,SNR=17
MK31 Makanchi Array 45.77 298 *i* P **P 10 22 55.7 -0.4**
MK31 pmax pmax
comp=Z,8.0nm,0.5s,mb4.9
MKAR Makanchi Array 45.77 298 P **P 10 22 55.9 -0.2**
comp=Z,10nm,0.8s,mb4.8,baz=76,slow=8.2,SNR=65
KURK Kurchatov 46.60 304⇑*e*P **P 10 23 01.0 -1.5**
ULHL Ulahol 51.63 295 P **P 10 23 41.8 +0.7**
SNR=10
TKM2 Tokmak 2 51.73 296 *e*P **P 10 23 42.4 +0.5**
comp=Z,21nm,1.0s,mb5.0
TKM2 Tokmak 2 51.73 296 *e*P **P 10 23 42.4 +0.6**
TKM2 pmax pmax
comp=Z,21nm,1.0s,mb5.0
TKM2 Tokmak 2 51.73 296 P **P 10 23 42.8 +1.0**
SNR=10
USP Ospenovka 52.27 297 P **P 10 23 46.5 +0.6**
SNR=13
KBK Karagaybulak 52.28 296 P **P 10 23 47.0 +1.1**
SNR=9.5
KZA Kyzart 52.36 295 P **P 10 23 48.3 +1.8**
SNR=11
JIRN Jiri 52.44 274 *e*P **P 10 23 48.0 +0.7**
comp=Z,40nm,1.0s,mb5.3
AAK Ala-Archa 52.58 296⇑*i*P **P 10 23 47.6 -0.6**
AAK pmax pmax
comp=Z,19nm,1.2s,mb4.9

AAK Ala-Archa 52.58 296 P **P 10 23 49.0 +0.8**
SNR=6.5
KKN Kakani 53.02 275 *e*P **P 10 23 52.1 +0.5**
comp=Z,30nm,0.8s,mb5.3
GKN Gorkha 53.36 275 *e*P **P 10 23 54.8 +0.7**
comp=Z,9.1nm,0.2s,mb5.4
RES Resolute Bay 54.18 17 *e*P **P 10 23 58.3 -1.2**
comp=Z,290nm,0.8s
KOLN Koldanda 54.24 276 *e*P **P 10 24 01.0 +0.5**
comp=Z,39nm,1.0s,mb5.3
YKA Yellowknife Ar 54.65 34 P **P 10 24 02.9 -0.1**
YKA Yellowknife Ar 54.65 34 P **P 10 24 02.9 0.0**
comp=Z,0.9nm,0.7s,mb3.9,baz=298,slow=7.0,SNR=14
ARU Arti 55.13 317 *c i*P **P 10 24 05.3 -1.2**
ARU *e*S **S 10 31 41.6 -4.9**
ARU *e*SS SS 10 35 24.8 -5.3
ARU pmax pmax
comp=Z,14nm,1.3s,mb4.8
AB31 Akbulak array 59.03 309 ⇑P **P 10 24 26.2 -1.1**
comp=Z,6.8nm,0.4s,mb5.0,baz=62,slow=9.7,SNR=67
NDI New Delhi 58.25 281 *e*P **P 10 24 28.0 -1.1**
ARCES ARCESS Array B 59.44 340 P **P 10 24 36.0 -0.8**
comp=Z,4.2nm,0.8s,mb4.5,baz=36,slow=9.0,SNR=5.0
JOF Joensuu 62.48 333 *e*p **P 10 24 55.7 -1.8**
comp=Z,6.9nm,0.4s,mb5.1
HYB Hyderabad 64.31 270 *e*P **P 10 25 10.0 -0.3**
HYB Hyderabad 64.31 270 *i* P **P 10 25 10.0 -0.3**
KAF Kangasniemi 64.67 334 *e*p **P 10 25 10.4 -1.6**
baz=40,slow=6.2
FCC Fort Churchill 64.94 31 *e*P **P 10 25 13.6 -0.2**
comp=Z,2.5nm,0.4s,mb4.6
FCC Fort Churchill 64.94 31 *e*P **P 10 25 13.6 -0.2**
FCC pmax pmax
comp=Z,2.0nm,0.4s,mb4.5
EGMT Eagleton 65.04 47 *e*P **P 10 25 14.6 0.0**
comp=Z,7.5nm,0.3s,mb5.2
WRA Warramunga Arr 65.19 195 P **P 10 25 16.6 +0.9**
comp=Z,2.5nm,0.9s,mb4.2,baz=14,slow=6.8,SNR=4.8
FINES FINESS Array B 65.25 334 P **P 10 25 14.1 -1.6**
comp=Z,8.5nm,0.6s,mb4.9,baz=48,slow=8.5,SNR=24
BOZ Bozeman (W) 65.52 50 *e*P **P 10 25 18.1 +0.3**
comp=Z,2.6nm,0.7s,mb4.4
BOZ Bozeman (W) 65.52 50 *e*P **P 10 25 18.1 +0.4**
BOZ pmax pmax
comp=Z,3.0nm,0.7s,mb4.4
OBN Obninsk 65.93 325⇓*e*P **P 10 25 19.6 -0.6**
OBN *e* 10 27 42.9
OBN pmax pmax
comp=Z,29nm,1.0s,mb5.3
NVAR Mina Array Bea 66.09 59 P **P 10 25 21.9 +0.4**
comp=Z,1.0nm,0.8s,mb3.9,baz=299,slow=5.0,SNR=7.9
POO Poona 66.98 274 *ex* x 10 25 26.0
REDW Red Top Meadow 67.39 51 *e*P **P 10 25 29.8 +0.1**
comp=Z,16nm,1.2s,mb4.9
VRSR Storozhevoye 67.44 320 *e*P **P 10 25 29.4 -0.5**
VRSR pmax pmax
comp=N,8.0nm,0.8s
VRSR pmax pmax
comp=E,7.0nm,0.8s
VRSR pmax pmax
comp=Z,6.0nm,0.8s,mb4.7
VORD Divnogorie 67.56 320 *e*P **P 10 25 30.1 -0.6**
VORD pmax pmax
comp=N,30nm,0.9s
VORD pmax pmax
comp=E,20nm,0.9s
VORD pmax pmax
comp=Z,20nm,0.9s,mb5.2
PDAR Pinedale Array 68.50 51 P **P 10 25 36.5 -0.2**
comp=Z,0.5nm,0.5s,mb3.7,baz=244,slow=2.5,SNR=7.7
ASAR Alice Springs 68.89 195 P **P 10 25 40.4 +1.2**
comp=Z,1.2nm,0.8s,mb3.9,baz=4.8,slow=4.7,SNR=6.1
GOF Gofitskoye 69.73 313 *e*P **P 10 25 37.3 -7.0**
NB2 NORSAR Subarra 69.81 340 P **P 10 25 43.7 -0.8**
comp=Z,31nm,1.1s,mb5.2,baz=30,slow=6.2
NOA NORSAR Array B 69.81 340 P **P 10 25 44.0 -0.5**
comp=Z,12nm,0.6s,mb5.0,baz=31,slow=6.3,SNR=55
ULM Lac du Bonnet 70.28 38 P **P 10 25 46.7 -0.9**
ULM Lac du Bonnet 70.28 38 P **P 10 25 46.7 -0.9**
comp=Z,1.2nm,0.7s,mb3.9,baz=299,slow=7.7,SNR=2.5
KIV Kislovodsk 70.66 313 *e*P **P 10 25 50.5 +0.5**
KIV pmax pmax
comp=Z,16nm,1.0s,mb4.9
KIV MLR MLR
comp=Z,269nm,17.0s,MS4.6
AKASG Malin Array Be 72.19 325 P **P 10 25 58.3 -0.8**
AKASG pmax pmax
comp=Z,4.0nm,0.5s
AKASG Malin Array Be 72.19 325 P **P 10 25 58.3 -0.8**
comp=Z,4.3nm,0.5s,mb4.6,baz=37,slow=6.0,SNR=33
BSD Bornholm Skovb 73.84 335 *i* P **P 10 26 08.2 -0.6**
BSD pmax pmax
comp=Z,14nm,1.0s,mb4.8
BSD Bornholm Skovb 73.84 335 *i* P **P 10 26 08.2 -0.6**
comp=Z,14nm,1.0s,mb4.9
COP Copenhagen 74.10 336 *e*P **P 10 26 10.8 +0.5**
COP pmax pmax
comp=Z,14nm,1.0s,mb4.8
COP Copenhagen 74.10 336 *i* P **P 10 26 10.8 +0.5**
comp=Z,14nm,1.0s,mb4.8
ANMO Albuquerque 75.54 55⇑*e*P **P 10 26 19.3 +0.3**
KOLS Kolonicke sedl 76.38 327 *e*P **P 10 26 23.4 -0.1**
STHS Stebnicka Huta 76.39 328 *e*P **P 10 26 24.7 +1.1**
comp=Z,9.9nm,1.3s,mb4.6
STHS *e* pP 10 26 33.2 -1.9
STHS Stebnicka Huta 76.39 328 *e*P **P 10 26 24.7 +1.1**
STHS *e* pP 10 26 33.2 -1.9
STHS pmax pmax
comp=Z,10.0nm,1.3s,mb4.6
CRVS Cervenica-Dubn 76.72 328 *e*P **P 10 26 25.7 +0.2**
MALT Malatya 76.91 311 ⇓P **P 10 26 28.2 +1.5**
MALT Malatya 76.91 311 ⇓*i*P **P 10 26 28.2 +1.5**
OKC Ostrava-Krasne 77.19 330 *ep*P pP 10 26 40.4 +0.8
TIRR Tirgusor 77.32 321⇑*i*P **P 10 26 29.4 +0.5**
HARR Harsova 77.36 321⇑*i*P **P 10 26 30.3 +1.2**
DPC Dobruska-Polom 77.40 331 *ep*P pP 10 26 41.7 +0.9
KECS Kecovo 77.44 328 *e*P **P 10 26 29.5 0.0**
comp=Z,2.6nm,0.9s,mb4.2
KECS *e* pP 10 26 39.0 -2.0
KECS Kecovo 77.44 328 *e*P **P 10 26 29.5 0.0**
KECS *e* pP 10 26 39.0 -2.0
KECS pmax pmax
comp=Z,3.0nm,0.9s,mb4.2
MORC Moravsky Berou 77.45 330⇑P **P 10 26 29.9 +0.3**
MORC Moravsky Berou 77.45 330⇑*i*P **P 10 26 29.9 +0.3**
MLR Muntele Rosu 77.61 323⇑*i*P **P 10 26 31.8 +1.3**
CLL Collm 77.69 334 *i* PKP **P 10 26 30.3 -0.6**
comp=Z,10.0nm,0.6s,mb4.9
CLL *i* pP 10 26 42.1 -0.3
CLL Collm 77.69 334 *i* P **P 10 26 30.3 -0.6**
CLL *i* pP 10 26 42.1 -0.3
CLL pmax pmax
comp=Z,10.0nm,0.6s,mb4.9
CLL Collm 77.69 334 *i* P **P 10 26 30.3 -0.6**
comp=Z,10.0nm,0.6s,mb4.9
CLL *i* pP pP 10 26 42.1 -0.3
comp=Z,9.0nm,0.6s
CLL *es*P sP 10 26 45.0 -1.8
VOIR 78.04 323 ⇓P **P 10 26 34.1 +1.2**
VOIR 78.04 323 ⇓*i*P **P 10 26 34.1 +1.2**
VYHS Vyhne 78.05 329 *e*P **P 10 26 33.1 +0.2**
PSZ Piszkesteto 78.13 328⇑*i*P **P 10 26 34.5 +1.2**
MODS Modra-Piesok 78.72 330 *e*P **P 10 26 37.0 +0.4**
GZR Gura Zlata 79.03 325 ⇓P **P 10 26 38.2 -0.2**
GZR Gura Zlata 79.03 325 ⇓*i*P **P 10 26 38.2 -0.2**
KHC Kasperske Hory 79.38 332⇑*e*P **P 10 26 40.3 +0.1**
KHC Kasperske Hory 79.38 332 *e*P **P 10 26 40.4 +0.2**
KHC *ep*P pP 10 26 50.5 -1.3
GERES GERESS Array B 79.58 332 P **P 10 26 41.3 0.0**
comp=Z,2.6nm,0.6s,mb4.4,baz=33,slow=5.6,SNR=17
GRF Grafenberg Arr 79.66 334 *e*P **P 10 26 42.1 +0.4**
GRF pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
GRF Grafenberg Arr 79.66 334 *e*P **P 10 26 42.1 +0.4**
comp=Z,6.0nm,0.9s,mb4.5
PKSM Moragy 80.02 328 ⇓*i*P **P 10 26 44.1 +0.4**
VTS Vitosha 81.11 323⇑*i*P **P 10 26 49.3 -0.4**
GIVF Givet 81.19 338 *e*P **P 10 26 50.1 +0.2**
KBA Koelnbreinsper 81.22 331⇑*i*P **P 10 26 50.7 +0.5**
comp=Z,17nm,0.9s,mb4.9
KBA Koelnbreinsper 81.22 331⇑*i*P **P 10 26 50.7 +0.5**
KBA pmax pmax
comp=Z,17nm,0.9s,mb5.0
WTTA Wattenberg 81.65 332⇑*i*P **P 10 26 52.8 +0.4**
comp=Z,12nm,1.0s,mb4.8

MOTA	Moosalm	81.75 333	⫼iP	P	10 26 53.0	0.0
	comp=Z,14nm,1.1s,mb4.8					
MOTA	Moosalm	81.75 333	⫼iP	P	10 26 53.0	0.0
MOTA			pmax	pmax		
	comp=Z,14nm,1.1s,mb4.8					
CDF	Champ du Feu	82.01 336	eP	P	10 26 54.3	0.0
FETA	Feichten	82.16 333	⫼iP	P	10 26 55.3	+0.2
	comp=Z,7.9nm,1.0s,mb4.6					
HAU	Haudompre	82.65 336	eP	P	10 26 57.7	+0.1
LOR	Lormes	84.03 337	eP	P	10 27 05.0	+0.2
SSF	Saint Saulge	84.32 337	eP	P	10 27 06.5	+0.3
	comp=Z,9.9nm,0.8s,mb4.7					
SSF	Saint Saulge	84.32 337	eP	P	10 27 06.5	+0.3
	comp=Z,4.9nm,0.8s,mb4.7					
SSF	Saint Saulge	84.32 337	eP	P	10 27 06.5	+0.3
SSF			pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.7					
SMF	Signal de Mont	84.61 337	eP	P	10 27 07.1	-0.6
	comp=Z,20nm,0.9s,mb5.0					
SMF	Signal de Mont	84.61 337	eP	P	10 27 07.1	-0.6
	comp=Z,10nm,0.9s,mb5.0					
SMF	Signal de Mont	84.61 337	eP	P	10 27 07.1	-0.6
SMF			pmax	pmax		
	comp=Z,10.0nm,0.9s,mb5.0					
AVF	Avril sur Loir	84.61 337	eP	P	10 27 08.1	+0.4
LPL	La Plagne	84.77 335	eP	P	10 27 08.6	0.0
LPG	La Plagne	84.78 335	eP	P	10 27 08.7	+0.1
	comp=Z,18nm,0.9s,mb4.9					
LPG	La Plagne	84.78 335	eP	P	10 27 08.7	+0.1
	comp=Z,9.1nm,0.9s,mb4.9					
LPG	La Plagne	84.78 335	eP	P	10 27 08.7	+0.1
LPG			pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.9					
HKT	Hockley	85.34 52	eP	P	10 27 18.1	+6.4
	comp=Z,8.9nm,0.8s,mb5.0					
TCF	Toulx Ste Croi	85.39 338	eP	P	10 27 12.3	+0.7
ORIF	Oris-en-Rattie	85.57 335	eP	P	10 27 12.4	-0.2
MFF	Saint Martin d	85.72 339	eP	P	10 27 13.0	-0.2
PLCA	Paso Flores	150.61 97	PKPbc	PKPbc	10 34 26.4	+0.6
	comp=Z,1.4nm,0.9s,baz=288,slow=6.4,SNR=2.5					

IDC 02 10:15:16.4±1.5, 791S×15609E, h0km, mb3.9/3, mb1 4.0/4, mb1mx3.7/15, mbtmp4.0/4, ML4.1/1, Error ellipse: s-maj=39.5km s-min=33.9km az=12.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	4.11	112	Pn	Pn	10 16 19.6	-0.9
	11nm,0.3s,baz=276,slow=8.8,SNR=2.9						
WRA	Warramunga Arr	24.23	238	P	P	10 20 36.0	+0.9
	1.7nm,0.7s,baz=64,slow=9.9,SNR=7.7						
SONM	Songino Array	70.68	327	P	P	10 26 34.7	+0.6
	1.3nm,0.7s,baz=139,slow=7.2,SNR=7.6						
MKAR	Makanchi Array	84.80	319	P	P	10 27 52.2	-0.6
	0.5nm,0.6s,baz=94,slow=6.0,SNR=4.9						

IDC 02 10:18:05.0±1.1, 764S×156.17E, h0km, mb4.2/8, mb1 4.2/9, mb1mx4.0/16, mbtmp4.2/9, ML4.3/1, MS3.4/1, Ms1 3.4/1, ms1mx2.8/29, Error ellipse: s-maj=26.8km s-min=21.6km az=99.0

NEIC 02 10:18:06.7±0.5, 768S×156.16E, h10km, mb4.5/3, Error ellipse: s-maj=12.6km s-min=11.5km az=177.0

ISCJB 02 10:18:08.7±0.6, 766S±0.10×156.12E±007, h33km, mb4.2/10, Error ellipse: s-maj=14.9km s-min=8.8km az=20.0

ISC 02 10:18:10.8±0.6, 77S±01×15608E±007, h35km, n15, σ0§78/16, mb4.2/10, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	4.21	115	ePn	Pn	10 19 09.8	-2.7
HNR	Honiara	4.21	115	Pn	Pn	10 19 08.7	-3.9
	19nm,0.3s,baz=271,slow=4.8,SNR=4.6						
HNR				Sn	Sn	10 20 01.1	+0.6
	89nm,0.3s,baz=97,slow=12,SNR=6.9						
HNR				LR	LR	10 20 34.5	
	comp=Z,441nm,18.5s,baz=357,slow=36						
KAKA	Kakadu	23.79	256	eP	P	10 23 21.4	+0.8
	9.3nm,0.6s,mb4.4						
WB2	Warramunga Arr	24.33	238	eP	P	10 23 24.7	-0.8
WRA	Warramunga Arr	24.34	238	P	P	10 23 26.0	+0.4
	4.5nm,0.8s,mb4.0,baz=62,slow=9.2,SNR=16						
ASAR	Alice Springs	26.56	231	P	P	10 23 44.8	-0.9
	0.4nm,0.7s,baz=60,slow=8.0,SNR=2.9						
STKA	Stephens Creek	27.61	207	P	P	10 23 55.6	+0.6
	1.1nm,0.3s,mb3.9,baz=3.4,slow=8.8,SNR=4.6						
FITZ	Fitzroy Crossi	31.38	248	P	P	10 24 28.7	+0.1
	0.6nm,0.5s,mb3.7,baz=54,slow=8.7,SNR=3.7						
KSRS	Korea Array	52.03	332	P	P	10 27 16.3	-0.8
	1.1nm,0.5s,mb4.0,baz=146,slow=7.3,SNR=5.4						
ULN	Ulaanbaatar	70.14	327	eP	P	10 29 20.8	+1.0
	5.2nm,0.9s,mb4.5						
SONM	Songino Array	70.48	327	P	P	10 29 22.6	+0.8
	6.1nm,0.7s,mb4.7,baz=140,slow=6.6,SNR=41						
TLY	Talaya	74.19	329	eP	P	10 29 43.8	0.0
	3.9nm,0.8s,mb4.4						
MKAR	Makanchi Array	84.62	318	P	P	10 30 40.5	-0.3
	4.1nm,0.7s,mb4.7,baz=85,slow=7.4,SNR=24						
ZALV	Zalesovo Beam	85.34	326	P	P	10 30 43.7	-0.5
ZALV	Zalesovo Beam	85.34	326	P	P	10 30 43.7	-0.5
	1.3nm,0.5s,mb4.3,baz=101,slow=4.8,SNR=5.1						

IDC 02 10:23:27.8±1.0, 31.19S×17699W, h0km, mb4.0/6, mb1 4.3/8, mb1mx4.0/17, mbtmp4.1/8, ML4.0/2, Error ellipse: s-maj=26.8km s-min=23.8km az=66.0

NEIC 02 10:23:28.8±0.8, 3122S×17693W, h10km, Error ellipse: s-maj=21.7km s-min=14.7km az=99.0

ISCJB 02 10:23:29.7±1.2, 3159S±007×1769W±02, h33km, mb4.0/6, Error ellipse: s-maj=26.3km s-min=7.4km az=17.8

ISC 02 10:23:31.7±1.2, 3155S±008×1769W±02, h35km, n25, σ1§19/27, mb4.0/6, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	2.47	338	Pn	Pn	10 24 05.0	-4.4
	106nm,0.3s,baz=254,slow=23,SNR=4.7						
RAO				Sn	Sn	10 24 26.8	-12
	237nm,0.3s,baz=143,slow=23,SNR=4.2						
MXZ	Matakaoa Point	7.21	212	PN	Pn	10 25 14.7	+0.1
PUZ	Puketiti	7.65	210	PN	Pn	10 25 21.3	+0.6
PUZ				SN	Sn	10 26 48.1	+2.1
MWZ	Matawai	8.19	213	ePN	Pn	10 25 28.2	+0.2
URZ	Urewera	8.33	215	Pn	Pn	10 25 32.2	+2.2
	0.8nm,0.3s,baz=351,slow=0.7,SNR=9.1						
URZ				Sn	Sn	10 27 05.5	+2.7
	3.0nm,0.3s,baz=286,slow=24,SNR=7.1						
URZ	Urewera	8.33	215	PN	Pn	10 25 29.1	-0.8
URZ				SN	Sn	10 27 02.5	-0.3
BKZ	Black Stump Fm	9.34	214	SN	Sn	10 27 29.1	+1.5
TSZ	Takapari Road	10.30	213	PN	Pn	10 25 56.0	-1.0
BFZ	Birch Farm	10.69	210	PN	Pn	10 26 01.6	-0.5
BFZ				SN	Sn	10 27 59.1	-1.4
MRZ	Mangatainoka R	10.96	212	SN	Sn	10 28 04.4	-2.8
THZ	Tophouse	13.09	216	PN	Pn	10 26 34.0	-1.0
MQZ	McQueen's Vall	14.70	211	SN	Sn	10 29 28.1	-10
RPZ	Rata Peaks	15.45	215	Pn	Pn	10 27 05.4	-1.5
	0.9nm,0.3s,baz=102,slow=17,SNR=4.0						
RPZ				Sn	Sn	10 29 46.3	-11
	0.3nm,0.3s,baz=4.1,slow=11,SNR=2.2						
CTA	Charters Tower	34.97	280	P	P	10 30 21.8	+1.1
CTA	Charters Tower	34.97	280	P	P	10 30 21.8	+1.2
	5.5nm,0.6s,mb4.7,baz=87,slow=10,SNR=5.2						
ASAR	Alice Springs	44.04	268	P	P	10 31 36.0	-0.2
	1.0nm,0.6s,mb3.7,baz=103,slow=7.4,SNR=20						
ASAR				PcP	PcP	10 33 22.4	+1.1
	0.4nm,0.4s,baz=112,slow=3.9,SNR=5.1						
WRA	Warramunga Arr	45.14	273	P	P	10 31 44.7	-0.2
	1.5nm,0.5s,mb4.1,baz=112,slow=7.9,SNR=21						
FITZ	Fitzroy Crossi	53.35	270	P	P	10 32 48.0	+0.2
	1.5nm,0.8s,mb4.0,baz=102,slow=9.3,SNR=3.5						
QSPA	South Pole Qui	58.57	180	P	P	10 33 29.5	+5.3
QSPA	South Pole Qui	58.57	180	P	P	10 33 29.5	+5.3
	1.0nm,0.7s,mb4.0,baz=51,slow=0.6						
NVAR	Mina Array Bea	88.42	42	P	P	10 36 21.0	+1.0
	0.5nm,0.8s,mb3.8,baz=205,slow=7.6,SNR=4.9						
KAF	Kangasniemi	145.96	341	epkp	PKPdf	10 43 04.6	-1.4
FINES	FINESS Array B	146.56	340	PKPbc	PKPbc	10 43 08.2	-0.3
	4.4nm,0.7s,baz=104,slow=3.9,SNR=11						
AKASG	Malin Array Be	152.81	322	PKPbc	PKPbc	10 43 24.7	+0.2
	0.4nm,0.5s,baz=48,slow=3.1,SNR=4.8						
TORD	Torodi Ar. Bea	161.64	175	PKPab	PKPab	10 44 16.7	+2.4
	0.6nm,0.6s,baz=187,slow=4.3,SNR=2.7						

IDC 02 10:25:22.2±5.5, 800S×15739E, h0km, mb3.7/4, mb1 3.8/4, mb1mx3.7/14, mbtmp3.7/4, Error ellipse: s-maj=160.7km s-min=33.2km az=113.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	25.28	240	P	P	10 30 50.7	+0.1
	0.9nm,0.5s,baz=65,slow=9.6,SNR=14						
ASAR	Alice Springs	27.37	233	P	P	10 31 09.2	-0.2
	0.3nm,0.6s,baz=68,slow=9.1,SNR=4.5						
SONM	Songino Array	71.47	326	P	P	10 36 45.2	+0.6
	1.1nm,1.0s,baz=144,slow=10.0,SNR=4.5						
MKAR	Makanchi Array	85.72	318	P	P	10 38 03.1	-0.1
	0.9nm,0.8s,baz=95,slow=6.4,SNR=9.0						

ISCJB 02 10:25:41.4±0.8, 3741N±005×2198E±007, h16km±15km, Error ellipse: s-maj=10.5km s-min=6.8km az=137.2

CSEM 02 10:25:41.3±0.1, 3745N×2197E, h12km, ML2.7, Error ellipse: s-maj=3.3km s-min=2.2km az=114.0

THE 02 10:25:41.3, 3744N×2198E, h4km, ML2.7

ATH 02 10:25:42.0, 37.19N×2194E, h27km, MD3.1/3

ISC 02 10:25:40.8±0.7, 3745N±004×2197E±006, h15km±8km, n8, σ0§60/13, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ITM	Ithomi	0.27	187	ePB	Pg	10 25 46.8	+0.2
ITM				eSB	Sg	10 25 50.2	-0.4
VLX	Vlachokerasia	0.34	103	ePg	Pg	10 25 47.9	+0.1
VLX				eSg	Sg	10 25 51.8	-0.8
PYL	PYLOS	0.58	198	ePg	Pg	10 25 52.2	0.0
PYL				eSg	Sg	10 26 00.6	+0.6
RLS	Riolos of Patr	0.72	327	ePN	Pg	10 26 00.3	+5.3
SELA	Sela	0.83	356	ePg	Pg	10 25 56.9	0.0
DID	Didima	1.01	86	ePg	Pg	10 26 00.3	-0.1
DID				eSg	Sg	10 26 14.9	+1.3
VLI	Veliai	1.07	133	ePN	Pn	10 26 00.1	-1.0
AGG	Agios Georgios	1.60	10	ePg	Pn	10 26 09.0	+0.6
AGG				eSg	Sg	10 26 31.8	-0.5

IDC 02 10:26:23.6±4.7, 748S×15623E, h0km, mb4.2/3, mb1 4.1/4, mb1mx3.8/15, mbtmp4.2/4, ML4.0/1, MS2.9/1, Ms1 2.9/1, ms1mx2.6/31, Error ellipse: s-maj=376.5km s-min=35.0km az=36.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	4.15	118	Pn	Pn	10 27 28.5	+0.2
	9.7nm,0.3s,baz=278,slow=7.1,SNR=4.0						
HNR				LR	LR	10 29 02.8	
	comp=Z,149nm,18.9s,baz=0.7,slow=38						
SONM	Songino Array	70.41	327	P	P	10 37 40.3	+0.7
	1.2nm,0.8s,baz=145,slow=7.2,SNR=7.6						
MKAR	Makanchi Array	84.58	318	P	P	10 38 59.4	+0.5
	1.7nm,0.7s,baz=104,slow=5.7,SNR=16						
ZALV	Zalesovo Beam	85.27	326	P	P	10 39 01.2	-1.0
	0.5nm,0.3s,baz=98,slow=7.4,SNR=3.2						

IDC 02 10:27:50.0±2.4, 758S×156.07E, h0km, mb4.2/8, mb1 4.4/8, mb1mx4.2/13, mbtmp4.2/8, Error ellipse: s-maj=72.9km s-min=24.0km az=115.0

NEIC 02 10:27:51.7±1.4, 755S×156.01E, h10km, mb4.4/1, Error ellipse: s-maj=44.6km s-min=15.3km az=123.0

ISCJB 02 10:27:54.0±1.8, 75S±02×1559E±03, h33km, mb4.1/9, Error ellipse: s-maj=51.3km s-min=17.8km az=31.7

ISC 02 10:27:55.6±1.8, 76S±02×1560E±03, h35km, n10, σ0§59/10, mb4.1/9, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	Kakadu	23.72	256	eP	P	10 33 04.4	-0.3
	5.3nm,0.5s,mb4.2						
WRA	Warramunga Arr	24.32	237	P	P	10 33 10.5	+0.4
	4.8nm,0.7s,mb4.0,baz=64,slow=10,SNR=12						
ASAR	Alice Springs	26.55	230	P	P	10 33 30.1	-0.3
	1.8nm,0.7s,mb3.7,baz=57,slow=10,SNR=13						
MJAR	Matsushiro Arr	46.93	340	P	P	10 36 22.1	-0.8
	2.2nm,0.9s,mb4.1,baz=164,slow=8.7,SNR=4.3						
KSRS	Korea Array	51.89	332	P	P	10 37 00.6	-0.1
	1.0nm,0.8s,mb3.8,baz=138,slow=7.3,SNR=4.2						
SONM	Songino Array	70.33	327	P	P	10 39 07.0	+1.3
	2.6nm,0.8s,mb4.2,baz=135,slow=6.6,SNR=14						
MKAR	Makanchi Array	84.47	319	P	P	10 40 25.3	+0.5
MKAR	Makanchi Array	84.47	319	P	P	10 40 25.3	+0.5
	3.3nm,0.7s,mb4.6,baz=102,slow=6.1,SNR=22						
ZALV	Zalesovo Beam	85.19	326	P	P	10 40 27.7	-0.5
	2.3nm,0.5s,mb4.6,baz=118,slow=6.0,SNR=10.0						
YKA	Yellowknife Ar	96.38	28	P	P	10 41 20.5	-0.1
	0.3nm,0.7s,mb3.8,baz=264,slow=4.7,SNR=5.2						

IDC 02 10:36:18.4±1.1, 778S×156.30E, h0km, mb4.1/5, mb1 4.2/6, mb1mx3.9/14, mbtmp4.1/6, ML4.4/1, Error ellipse: s-maj=27.5km s-min=25.7km az=63.0

NEIC 02 10:36:20.0±0.6, 782S×156.36E, h10km, mb4.5/2, Error ellipse: s-maj=15.2km s-min=12.0km az=6.0

ISCJB 02 10:36:22.0±0.8, 78S±01×15634E±007, h33km, mb4.0/7, Error ellipse: s-maj=19.2km s-min=8.9km az=15.0

ISC 02 10:36:23.9±0.8, 79S±01×15632E±007, h35km, n10, σ0§75/11, mb4.0/7, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	3.92	114	Pn	Pn	10 37 20.0	-1.7
	25nm,0.3s,baz=262,slow=3.8,SNR=9.9						
HNR				Sn	Sn	10 38 07.5	+1.0
	26nm,0.3s,baz=280,slow=21,SNR=4.6						
KAKA	Kakadu	23.98	256	eP	P	10 41 36.0	+0.6
	7.0nm,0.6s,mb4.3						
WB2	Warramunga Arr	24.44	238	eP	P	10 41 39.3	-0.3
WRA	Warramunga Arr	24.45	238	P	P	10 41 39.6	0.0
	5.3nm,0.6s,mb4.1,baz=63,slow=9.5,SNR=42						
WRA				PcP	PcP	10 45 17.7	-0.5
	0.4nm,0.9s,baz=61,slow=2.6,SNR=4.9						
ASAR	Alice Springs	26.63	231	P	P	10 41 58.8	-0.6
	0.5nm,0.8s,mb3.1,baz=57,slow=7.7,SNR=4.5						
STKA	Stephens Creek	27.56	208	P	P	10 42 08.3	+0.6
STKA	Stephens Creek	27.56	208	P	P	10 42 08.3	+0.6
	1.5nm,0.8s,mb3.7,baz=29,slow=14,SNR=3.3						
ULN	Ulaanbaatar	70.42	327	eP	P	10 47 35.1	+0.6
	3.4nm,0.9s,mb4.3						
SONM	Songino Array	70.76	327	P	P	10 47 36.9	+0.3
	3.1nm,0.5s,mb4.5,baz=143,slow=7.0,SNR=30						
MKAR	Makanchi Array	84.91	318	P	P	10 48 54.7	-0.6
	0.8nm,0.4s,mb4.2,baz=99,slow=6.8,SNR=10						

KRSC 02 10:43:28.0±1.3, 5330N×16000E, h57km±36km, ML3.5, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	Mys Shipunski	0.20	176	iP	Pn	10 43 36.9	-0.2
SPN				iS	Sn	10 43 43.3	-0.3
NLC	Nalytchevo	0.41	252	eP	Pn	10 43 38.9	+0.1
NLC				iS	Sn	10 43 46.8	+0.2
AVH	Avacha	0.76	268	iP	Pn	10 43 43.3	+0.5
AVH				iS	Sn	10 43 54.7	+1.1
KII	Karymskiy	0.81	336	eP	Pn	10 43 43.5	+0.1
KII				iS	Sn	10 43 55.0	+0.3
PET	Petropavlovsk	0.86	252	eP	Pn	10 43 43.9	-0.1
PET				iS	Sn	10 43 55.6	-0.2
RUS	Russkaya	1.25	227	eP	Pn	10 43 48.9	-0.3
RUS				iS	Sn	10 44 04.5	-0.6
GNL	Ganaly	1.29	289	iP	Pn	10 43 50.0	+0.3
GNL				iS	Sn	10 44 06.1	+0.1
GRL	Gorelyy	1.39	238	P	Pn	10 43 50.9	-0.1
GRL				iS	Sn	10 44 07.6	-0.7
MKZ	Mys Kozlova	1.62	38	eP	Pn	10 43 53.2	-1.0
MKZ				iS	Sn	10 44 11.5	-2.5
TUMR	Tumrok	1.99	2	eP	Pn	10 44 00.2	+1.0
TUMR				iS	Sn	10 44 23.7	+0.8
KBTR	Krutoberegovo	3.34	28	P	Pn	10 44 19.6	+2.0

IDC 02 10:44:06.8±1.1, 778S×15633E, h0km, mb4.0/6, mb1 4.2/7, mb1mx4.0/15, mbtmp4.1/7, ML4.3/1, Error ellipse: s-maj=32.0km s-min=25.1km az=124.0

NEIC 02 10:44:08.4±0.7, 783S×15633E, h10km, mb4.1/1, Error ellipse: s-maj=17.8km s-min=14.5km az=173.0

ISCJB 02 10:44:10.6±0.7, 78S±01×15625E±007, h33km, mb3.9/7, Error ellipse: s-maj=18.0km s-min=9.4km az=14.4

ISC 02 10:44:12.6±0.7, 78S±01×15623E±008, h35km, n10, σ1§13/11, mb3.9/7, 1C, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	4.01	114	Pn	Pn	10 45 08.6	-2.9
	19nm,0.3s,baz=290,slow=3.6,SNR=4.8						
HNR				Sn	Sn	10 45 58.2	+0.9
	38nm,0.3s,baz=264,slow=22,SNR=4.2						
WB2	Warramunga Arr	24.38	238	⫼iP	P	10 49 26.9	-0.8
WRA	Warramunga Arr	24.39	238	P	P	10 49 27.3	-0.5
	3.6nm,0.6s,mb4.0,baz=63,slow=9.2,SNR=27						
ASAR	Alice Springs	26.57	231	P	P	10 49 47.5	0.0
	0.5nm,0.8s,mb3.1,baz=72,slow=10,SNR=5.1						
STKA	Stephens Creek	27.54	208	P	P	10 49 57.5	+1.3
	2.9nm,0.9s,mb3.9,baz=36,slow=10,SNR=5.1						
ULN	Ulaanbaatar	70.36	327	eP	P	10 55 24.1	+1.3
	0.2nm,0.4s,mb3.9						
SONM	Songino Array	70.70	327	P	P	10 55 26.0	+1.1
	1.9nm,0.7s,mb4.2,baz=136,slow=6.1,SNR=15						
MKAR	Makanchi Array	84.83	318	P	P	10 56 42.9	-0.8
	1.1nm,0.6s,mb4.2,baz=103,slow=5.9,SNR=7.8						
NVAR	Mina Array Bea	91.28	52	P	P	10 57 13.6	-1.2
NVAR	Mina Array Bea	91.28	52	P	P	10 57 13.6	-1.2
	0.2nm,0.4s,mb3.8,baz=242,slow=9.8,SNR=3.8						

IDC 02 10:47:39.1±5.1, 710S×15555E, h0km, mb3.7/5, mb1 3.7/5, mb1mx3.6/14, mbtmp3.7/5, Error ellipse: s-maj=157.1km s-min=29.8km az=113.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	24.21	236	P	P	10 52 58.1	+0.4
	0.4nm,0.5s,baz=62,slow=9.4,SNR=4.8						
ASAR	Alice Springs	26.52	229	P	P	10 53 18.4	-0.2
	0.2nm,0.7s,baz=54,slow=9.4,SNR=2.7						
SONM	Songino Array	69.72	327	P	P	10 58 51.9	+1.1
	0.3nm,0.4s,baz=142,slow=5.1,SNR=3.6						
MKAR	Makanchi Array	83.85	319	P	P	11 00 11.0	+0.3
	1.2nm,0.6s,baz=101,slow=6.3,SNR=9.3						
ZALV	Zalesovo Beam	84.58	326	P	P	11 00 13.0	-1.2
	1.5nm,0.6s,baz=86,slow=6.1,SNR=4.0						

IDC 02 10:49:00.4±1.8, 757S×15657E, h0km, mb4.1/8, mb1 4.2/8, mb1mx4.0/15, mbtmp4.1/8, Error ellipse: s-maj=61.3km s-min=22.5km az=117.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	24.81	238	P	P	10 54 25.1	+0.7
	3.4nm,0.6s,baz=62,slow=9.5,SNR=12						
ASAR	Alice Springs	27.00	231	P	P	10 54 43.5	-0.7
	0.9nm,0.8s,baz=62,slow=8.9,SNR=7.3						
STKA	Stephens Creek	27.93	208	P	P	10 54 51.9	-0.5
	0.7nm,0.5s,baz=352,slow=24,SNR=3.2						
FITZ	Fitzroy Crossi	31.87	248	P	P	10 55 28.5	+0.9
	1.8nm,0.6s,baz=57,slow=12,SNR=3.8						
SONM	Songino Array	70.66	327	P	P	11 00 18.1	+0.2
	2.2nm,1.1s,baz=136,slow=8.2,SNR=8.4						
MKAR	Makanchi Array	84.86	318	P	P	11 01 37.1	0.0
	5.1nm,0.9s,baz=101,slow=6.3,SNR=22						
ZALV	Zalesovo Beam	85.53	326	P	P	11 01 39.6	-0.7
	2.2nm,0.7s,baz=106,slow=7.9,SNR=6.9						
YKA	Yellowknife Ar	96.11	28	P	P	11 02 30.4	+0.7
	0.2nm,0.7s,baz=266,slow=4.4,SNR=3.5						

BJI 02 10:49:13.9, 706S×156.45E, h22km, mB6.1, mb5.5, Ms5.6, Msz5.5

IGIL 02 10:49:15.0, 720S×156.19E, h10km

ISCJB 02 10:49:16.1±0.1, 729S±002×15623E±003, h33km, mb5.7/121, MS5.8/197, Error ellipse: s-maj=4.0km s-min=3.2km az=138.6

MOS 02 10:49:16.4±1.4, 7.17S×15629E, h33km, mb5.9/41, MS5.6/37, Error ellipse: s-maj=9.9km s-min=6.3km az=110.2

CRAAG 02 10:49:16.4, 7.19S×156.12E, Mb5.9

NEIC 02 10:49:17.7±0.1, 723S×15624E, h34km, mb5.8/55, ME5.9, MS5.8/156, MW6.1, Error ellipse: s-maj=4.4km s-min=4.0km az=112.0 Broadband fault plane solution: P waves. NP1:φs140.00000°, δ55.00000°, λ90.00000°. NP2:φs320.00000°, δ35.00000°, λ90.00000°. Principal axes: T Plg80.0000°, Azm50.0000°; N Plg0.0000°, Azm0.0000°; P Plg4.0000°, Azm47.0000°; Moment Tensor Solution. s18 Moment tensor: Scale 10^18 Nm; Mrr1.33; Mθθ-0.69; Mφφ-0.65; Mrθ-0.33; Mφθ0.81; Mφr-0.24; Best double couple: M0 1.50000×10^18 NP1:φs151.00000°, δ46.00000°, λ114.00000°. NP2:φs298.00000°, δ49.00000°, λ67.00000°. Principal axes: T 1.4600, Plg73.0000°, Azm139.0000°; N 0.0200, Plg17.0000°, Azm314.0000°; P -1.4800, Plg1.0000°, Azm44.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.

GCMT 02 10:49:17.7±0.1, 7.42S×15632E, h51km, MW6.0/106, Moment Tensor Solution. s106,c217; s105,c217; Duration: ≥≥4 Moment tensor: Scale 10^18 Nm; Mrr1.13±.01; Mθθ-0.78±.01; Mφφ-0.34±.01; Mrθ-0.38±.01; Mφθ0.61±.01; Mφr0.14±.01; Best double couple: M0 1.24300×10^18 NP1:φs131.00000°, δ36.00000°, λ99.00000°. NP2:φs300.00000°, δ55.00000°, λ84.00000°. Principal axes: T 1.2040, Plg79.0000°, Azm186.0000°; N 0.0820, Plg5.0000°, Azm304.0000°; P -1.2820, Plg9.0000°, Azm34.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.

IDC 02 10:49:20.7±1.7, 729S×15624E, h60km±15km, mb5.0/23, mb1 5.1/25, mb1mx5.1/26, mbtmp5.0/25, MS5.7/11, Ms1 5.7/11, ms1mx5.4/16 Error ellipse: s-maj=11.5km s-min=10.2km az=62.0

ISC 02 10:49:19.6±0.1, 731S±002×15623E±003, h49km, h49km±2.8km: pP-P, n702, σ0§93/396, mb5.7/121, MS5.8/197, 63C-29D, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	4.24

EIDS	**Eidsvold**	**18.62 195**	*e*P	**Pn**	**10 53 34.8**	**+1.0**
	comp=Z,100nnm,0.9s					
FUNA	**Funafuti**	**22.78 95**	*e*P	**P**	**10 54 17.6**	**-0.6**
	comp=Z,388nnm,1.3s,mb5.7					
FUNA			LR	LR		
	comp=Z,21μm,19.0s,MS5.6					
ARMA	**Armidale**	**23.39 190**	⇑*i*P	**P**	**10 54 24.5**	**+0.3**
ARMA			*e*S	**S**	**10 58 30.5**	**-3.0**
TLE	**Tual**	**23.40 273**	⇑*e*P	**P**	**10 54 27.0**	**+2.5**
GUMO	**Guam**	**23.63 331**	*e*P	**P**	**10 54 24.9**	**-1.6**
GUMO			LR	LR		
	comp=Z,9μm,22.0s,MS5.2					
GUMO	**Guam**	**23.63 331**	*e*P	**P**	**10 54 25.6**	**-0.9**
GUMO					10 54 39.4	
KAKA	**Kakadu**	**24.02 255**	⇑*i*P	**P**	**10 54 30.4**	**+0.2**
	comp=Z,1μm,0.6s,mb6.5					
WB2	**Warramunga Arr**	**24.65 237**	*e*P	**P**	**10 54 36.8**	**+1.0**
WB2			*i*S	**S**	**10 58 53.1**	**-1.1**
WRA	**Warramunga Arr**	**24.66 237**	P	**P**	**10 54 37.1**	**+1.2**
WRA			PcP	PcP	10 58 11.0	-1.6
WRA			ScP	ScP	11 01 47.7	+0.2
WRA			LR	LR	11 04 12.2	
WRA	**Warramunga Arr**	**24.66 237**	P	**P**	**10 54 37.1**	**+1.2**
WRA			pmax	pmax	10 58 11.0	
	comp=Z,351nm,1.0s					
WRA			MLR	MLR		
	comp=Z,30μm,18.5s					
WRA	**Warramunga Arr**	**24.66 237**	P	**P**	**10 54 37.1**	**+1.2**
	comp=Z,350nm,0.9s,mb5.9,baz=63,slow=9.4,SNR=226					
WRA			PcP	PcP	10 58 11.0	-1.6
	comp=Z,23nm,0.9s,baz=59,slow=1.8,SNR=5.9					
WRA			ScP	ScP	11 01 47.7	+0.2
	comp=Z,5.4nm,0.8s,baz=63,slow=3.5,SNR=3.5					
WRA			LR	LR	11 04 12.2	
	comp=Z,30μm,18.5s,MS5.8,baz=60,slow=36					
WRA			PKiKP	PKiKP	11 05 52.2	-2.4
	comp=Z,4.4nm,0.6s,baz=314,slow=0.8,SNR=16					
RIV	**Riverview**	**26.80 189**	*e*P	**P**	**10 54 56.4**	**+1.2**
ASAR	**Alice Springs**	**26.90 230**	P	**P**	**10 54 56.1**	**0.0**
ASAR			ScP	ScP	11 01 54.4	+0.5
ASAR	**Alice Springs**	**26.90 230**	P	**P**	**10 54 56.1**	**0.0**
	comp=Z,35nm,0.5s,mb5.1,baz=61,slow=9.4,SNR=206					
ASAR			ScP	ScP	11 01 54.4	+0.5
	comp=Z,5.7nm,0.8s,baz=37,slow=4.8,SNR=3.8					
ASAR			PKiKP	PKiKP	11 05 54.6	-1.1
	comp=Z,2.4nm,0.7s,baz=108,slow=1.8,SNR=7.0					
ASAR			P3KPbc		11 27 47.5	
	comp=Z,1.2nm,1.0s,baz=239,slow=4.3,SNR=5.0					
STKA	**Stephens Creek**	**27.99 207**	⇑*i*P	**P**	**10 55 05.8**	**-0.1**
	comp=Z,60nm,0.9s,mb5.2					
STKA			*e*		10 58 20.3	
STKA			*e*		10 58 33.9	
STKA			*i*S	**S**	**10 59 47.1**	**+0.3**
STKA	**Stephens Creek**	**27.99 207**	P	**P**	**10 55 05.8**	**0.0**
	comp=Z,54nm,0.9s,mb5.2,baz=26,slow=13,SNR=37					
STKA			PcP	PcP	10 58 20.5	+0.4
	comp=Z,50nm,0.7s,baz=54,slow=5.1,SNR=6.9					
STKA			PKiKP	PKiKP	11 05 54.8	-1.5
	comp=Z,4.1nm,0.8s,baz=299,slow=4.3,SNR=4.2					
STKA			LR	LR	11 06 00.8	
	comp=Z,31μm,19.9s,MS5.9,baz=46,slow=36					
STKA			P3KPbc		11 27 44.0	
	comp=Z,3.0nm,0.9s,baz=304,slow=7.3,SNR=3.8					
CNB	**Canberra Magne**	**28.58 192**	⇑*i*P	**P**	**10 55 11.6**	**+0.6**
	comp=Z,134nm,0.9s,mb5.7					
TNE	**Ternate**	**29.89 284**	⇓*e*P	**P**	**10 55 18.5**	**-4.5**
FITZ	**Fitzroy Crossi**	**31.66 247**	⇑*i*P	**P**	**10 55 38.5**	**0.0**
	comp=Z,294nm,0.6s,mb6.3					
FITZ			*i*S	**S**	**11 00 42.6**	**-2.0**
FITZ	**Fitzroy Crossi**	**31.66 247**	P	**P**	**10 55 38.6**	**+0.2**
	comp=Z,70nm,0.6s,mb5.7,baz=79,slow=9.5,SNR=203					
FITZ			LR	LR	11 08 34.2	
	comp=Z,14μm,18.6s,MS5.7,baz=79,slow=36					
AFI	**Afiamalu**	**32.10 104**	*e*P	**P**	**10 55 41.6**	**-0.8**
	comp=Z,197nm,1.0s,mb5.9					
AFI			LR	LR		
	comp=Z,14μm,20.0s,MS5.7					
AFI	**Afiamalu**	**32.10 104**	P	**P**	**10 55 41.7**	**-0.7**
AFI			pmax	pmax		
	comp=Z,200nm,1.0s,mb5.9					
BATI	**Kupang**	**32.31 262**	P	**P**	**10 55 45.3**	**+1.1**
	comp=Z,41nm,0.6s,mb5.4,baz=209,slow=1.3,SNR=9.1					
BATI			LR	LR	11 11 01.3	
	comp=Z,18μm,18.4s,MS5.8,baz=103,slow=40					
RAO	**Raoul Island**	**32.70 135**	PFAKE		10 56 00.0	+13
RAO			LR	LR		
	comp=Z,8μm,20.0s,MS5.4					
MATI	**Mati**	**33.08 295**	*e*P	**P**	**10 55 50.1**	**-0.9**
BIPH	**Bislig**	**33.52 297**	⇑*i*P	**P**	**10 55 53.4**	**-1.4**
DAV	**Davao City (W)**	**33.74 294**	PFAKE		10 56 10.0	+13
DAV			LR	LR		
	comp=Z,4μm,19.0s,MS5.2					
DAV	**Davao City (W)**	**33.74 294**	*e*P	**P**	**10 56 00.0**	**+3.2**
GSPH	**General Santos**	**33.93 292**	⇓*i*P	**P**	**10 55 58.0**	**-0.4**
BUKP	**Musuan**	**34.55 295**	*e*P	**P**	**10 56 04.0**	**+0.3**
FORT	**Forrest**	**35.22 225**	*e*P	**P**	**10 56 09.2**	**-0.1**
	comp=Z,406nm,0.6s,mb6.5					
HIZ	**Hauiti**	**35.33 154**	PcP	PcP	10 58 39.9	+0.1
WSI	**Waingapu**	**35.60 264**	⇓*e*P	**P**	**10 56 13.5**	**+0.6**
MSLP	**Maasin**	**35.72 299**	*e*P	**P**	**10 56 13.8**	**-0.1**
PAGZ	**Pagadian**	**36.05 294**	*e*P	**P**	**10 56 17.9**	**+1.2**
PLP	**Palo**	**36.11 300**	*e*P	**P**	**10 56 16.3**	**-0.9**
URZ	**Urewera**	**36.14 152**	P	**P**	**10 56 16.7**	**-0.4**
	comp=Z,201nm,1.1s,mb5.9,baz=338,slow=3.3,SNR=28					
TAU	**Tasmania Unive**	**36.32 191**	*e*P	**P**	**10 56 19.6**	**+1.0**
TAU			LR	LR		
	comp=Z,9μm,19.0s,MS5.6					
TAU	**Tasmania Unive**	**36.32 191**	*e*P	**P**	**10 56 19.9**	**+1.4**
DCPH	**Dipolog City**	**36.38 295**	*e*P	**P**	**10 56 20.6**	**+1.1**
QRZ	**Quartz Range**	**36.41 159**	PN	**P**	**10 56 19.5**	**+0.2**
PUZ	**Puketiti**	**36.55 150**	PN	**P**	**10 56 19.9**	**-0.7**
BKZ	**Black Stump Fm**	**36.59 153**	PN	**P**	**10 56 20.3**	**-0.6**
BKZ			PcP	PcP	10 58 40.9	-2.5
SNPH	**Sibulan**	**36.80 296**	*e*P	**P**	**10 56 37.0**	**+14**
KNZ	**Kokohu**	**37.01 152**	PN	**P**	**10 56 23.7**	**-0.8**
CNP	**Cataman**	**37.04 302**	*e*P	**P**	**10 56 25.2**	**+0.1**
TSZ	**Takapari Road**	**37.09 155**	PN	**P**	**10 56 24.4**	**-0.8**
THZ	**Tophouse**	**37.37 159**	*e*PN	**P**	**10 56 25.4**	**-2.0**
THZ			PcP	PcP	10 58 35.6	-10
MRZ	**Mangatainoka R**	**37.44 156**	PN	**P**	**10 56 26.9**	**-1.2**
SNZO	**South Karori**	**37.64 157**	*e*P	**P**	**10 56 30.1**	**+0.3**
	comp=Z,409nm,1.7s,mb5.9					
SNZO			LR	LR		
	comp=Z,11μm,20.0s,MS5.7					
BFZ	**Birch Farm**	**37.73 155**	PN	**P**	**10 56 29.3**	**-1.3**
BFZ			PcP	PcP	10 58 46.5	-0.3
MBWA	**Marble Bar**	**37.84 245**	*e*P	**P**	**10 56 31.8**	**0.0**
	comp=Z,576nm,1.6s,mb6.1					
MBWA			LR	LR		
	comp=Z,17μm,19.0s,MS5.9					
MBWA	**Marble Bar**	**37.84 245**	P	**P**	**10 56 32.2**	**+0.3**
	SNR=28					
MBWA	**Marble Bar**	**37.84 245**	P	**P**	**10 56 32.2**	**+0.3**
	SNR=28					
GUIM	**Jordan**	**37.93 298**	*e*P	**P**	**10 56 32.3**	**-0.3**
FOZ	**Fox Glacier**	**37.99 164**	PN	**P**	**10 56 33.5**	**+0.8**
PVCP	**Virac**	**38.02 303**	⇑*e*P	**P**	**10 56 33.2**	**-0.2**
PVCP	**Virac**	**38.02 303**	*e*P	**P**	**10 56 32.7**	**-0.7**
LTZ	**Lake Taylor**	**38.05 161**	PN	**P**	**10 56 32.8**	**-0.5**
KHZ	**Kahutara**	**38.16 159**	PN	**P**	**10 56 32.9**	**-1.4**
RCP	**Roxas**	**38.22 299**	⇑*e*P	**P**	**10 56 35.6**	**+0.5**
JCZ	**Jackson Bay**	**38.23 165**	PN	**P**	**10 56 34.7**	**0.0**
RPZ	**Rata Peaks**	**38.52 163**	P	**P**	**10 56 37.4**	**+0.2**
RPZ			LR	LR	11 10 35.8	
RPZ	**Rata Peaks**	**38.52 163**	P	**P**	**10 56 37.4**	**+0.2**
	comp=Z,252nm,0.8s,mb6.0,baz=294,slow=1.0,SNR=76					
RPZ			LR	LR	11 10 35.8	
	comp=Z,12μm,21.4s,MS5.7,baz=327,slow=33					
RPZ	**Rata Peaks**	**38.52 163**	PN	**P**	**10 56 36.3**	**-0.9**
RPZ			PcP	PcP	10 58 48.3	-1.0
MQZ	**McQueen's Vall**	**39.01 161**	PN	**P**	**10 56 40.2**	**-1.1**
OTRP	**Odiongan**	**39.22 300**	*e*P	**P**	**10 56 43.0**	**-0.4**
CUYO	**Cuyo Island**	**39.42 297**	*e*P	**P**	**10 56 45.8**	**+0.7**
ODZ	**Otahua Downs**	**39.62 164**	PcP	PcP	10 58 53.9	+1.2
TSM	**Tawau**	**39.98 286**	⇓P	**P**	**10 56 49.9**	**+0.1**
POLP	**Polilio Island**	**40.44 303**	*e*P	pP	10 57 09.3	+2.6
BUSP	**Coron**	**40.64 298**	*e*P	**P**	**10 56 54.8**	**-0.5**
TGY	**Tagaytay City**	**40.98 301**	⇓*e*P	**P**	**10 57 00.2**	**+2.2**
SDKM	**Sandakan**	**41.02 287**	⇑P	**P**	**10 56 58.0**	**-0.4**
BALP	**Baler**	**41.26 304**	*e*P	**P**	**10 57 00.1**	**-0.2**
LUBP	**Lubang**	**41.39 300**	*e*P	**P**	**10 57 00.6**	**-0.8**
BATP	**Bataraza**	**41.51 292**	*e*P	**P**	**10 57 02.5**	**+0.1**
CAUP	**Cauayan**	**41.69 306**	*e*P	**P**	**10 57 02.8**	**-1.0**
KDM	**Kudat**	**41.76 289**	⇑P	**P**	**10 57 04.5**	**0.0**
KKM	**Kota Kinabalu**	**42.07 287**	*e*P	**P**	**10 57 07.1**	**+0.1**
KKM	**Kota Kinabalu**	**42.07 287**	⇑P	**P**	**10 57 07.4**	**+0.4**
BCPH	**Baguio City Da**	**42.41 304**	⇑*e*P	**P**	**10 57 09.6**	**-0.1**
APYP	**Conner**	**42.65 306**	*e*P	**P**	**10 57 11.4**	**-0.2**
SCZP	**Santa Cruz**	**42.66 303**	*e*P	**P**	**10 57 10.0**	**-1.7**
BOLP	**Bolinao**	**42.96 303**	*e*P	**P**	**10 57 12.7**	**-1.4**
KLBR	**Kellerberrin**	**43.23 231**	⇑*i*P	**P**	**10 57 15.8**	**-0.4**
	comp=Z,439nm,0.6s,mb6.4					
KLBR			*e*	pP	10 57 31.7	+2.3
NWAO	**Narrogin (SRO)**	**44.21 229**	*e*P	**P**	**10 57 24.3**	**+0.2**
NWAO			LR	LR		
	comp=Z,12μm,20.0s,MS5.8					
NWAO	**Narrogin (SRO)**	**44.21 229**	P	**P**	**10 57 24.6**	**+0.5**
	SNR=13					
NWAO	**Narrogin (SRO)**	**44.21 229**	P	**P**	**10 57 24.6**	**+0.5**
	SNR=13					
NWAO	**Narrogin (SRO)**	**44.21 229**	P	**P**	**10 57 24.2**	**+0.1**
	comp=Z,116nm,0.6s,mb5.8,baz=61,slow=7.2,SNR=104					
NWAO			LR	LR	11 15 44.0	
	comp=Z,16μm,19.6s,MS5.9,baz=72,slow=36					
BTM	**Bintulu**	**44.30 282**	⇓P	**P**	**10 57 26.4**	**+1.3**
MUN	**Mundaring**	**44.59 231**	⇑*i*P	**P**	**10 57 27.3**	**+0.2**
MUN			*e*	pP	10 57 44.0	+3.7
MUN			*i*S	**S**	**11 04 01.2**	**+1.6**
SBUM	**Sibu**	**44.97 281**	⇓P	**P**	**10 57 31.3**	**+0.9**
NACB	**Ninganchiao**	**46.05 314**	*e*P	**P**	**10 57 39.0**	**+0.3**
YHNB	**Yeheng**	**46.52 314**	*e*P	**P**	**10 57 42.5**	**+0.1**
TATO	**Taipei**	**46.63 315**	PFAKE		10 57 50.0	+6.7
TATO			LR	LR		
	comp=Z,9μm,20.0s,MS5.7					
KSM	**Kuching**	**46.64 279**	*e*P	**P**	**10 57 43.3**	**-0.3**
KSM	**Kuching**	**46.64 279**	⇓P	**P**	**10 57 43.7**	**+0.2**
MJAR	**Matsushiro Arr**	**46.78 340**	P	**P**	**10 57 43.9**	**-0.4**
MJAR			pmax	pmax		
	comp=Z,12nm,0.7s					
MJAR	**Matsushiro Arr**	**46.78 340**	P	**P**	**10 57 43.9**	**-0.4**
	comp=Z,12nm,0.7s,mb4.9,baz=166,slow=8.9,SNR=22					
MAJO	**Matsushiro**	**46.78 340**	*e*P	**P**	**10 57 44.3**	**0.0**
	comp=Z,177nm,0.8s,mb6.0					
MAJO			LR	LR		
	comp=Z,3μm,20.0s,MS5.2					
MAT	**Matsushiro**	**46.78 340**	P	**P**	**10 57 43.1**	**-1.2**
MAT			S	**S**	**11 04 23.0**	**-8.0**
JNU	**Nakatsue**	**46.88 331**	P	**P**	**10 57 45.5**	**+0.4**
	comp=Z,30nm,0.6s,mb5.4,baz=79,slow=6.6,SNR=32					
QZH	**Quanzhou**	**48.69 312**	⇑*i*P	**P**	**10 57 59.9**	**+0.6**
QZH			S	**S**	**11 05 01.5**	**+3.0**
QZH			AMB	AMB		
	comp=Z,180nm,1.1s,mb6.0					
QZH			AMB	AMB		
	comp=Z,2μm,7.7s					
QZH			LR	LR		
	comp=N,7μm,21.0s,MS5.8					
QZH			LR	LR		
	comp=E,8μm,21.0s,MS5.8					
QZH			LR	LR		
	comp=Z,5μm,24.4s,MS5.5					
ERM	**Erimo**	**50.52 347**	PFAKE		10 58 20.0	+7.1
ERM			LR	LR		
	comp=Z,6μm,20.0s,MS5.6					
HKC	**Hong Kong Obse**	**50.62 307**	⇑*i*P	**P**	**10 58 14.0**	**0.0**
SSE	**Sheshan**	**50.82 321**	P	**P**	**10 58 14.5**	**-0.9**
SSE			AP	pP	10 58 17.6	-11
SSE			PCP	PcP	10 59 32.0	+0.3
SSE			S	**S**	**11 05 29.2**	**+1.2**
SSE			AMB	AMB		
	comp=Z,50nm,0.8s,mb5.5					
SSE			AMB	AMB		
	comp=Z,921nm,8.1s					
SSE			LR	LR		
	comp=N,2μm,15.8s,MS5.4					
SSE			LR	LR		
	comp=E,3μm,15.8s,MS5.4					
SSE			LR	LR		
	comp=Z,4μm,16.4s,MS5.5					
SSE	**Sheshan**	**50.82 321**	P	**P**	**10 58 14.5**	**-0.9**
	comp=Z,50nm,0.8s,mb5.5					
SSE			pP	pP	10 58 17.6	-11
SSE			PcP	PcP	10 59 32.0	+0.3
SSE			S	**S**	**11 05 29.2**	**+1.2**
SSE			sS	sS	11 05 35.1	-15
SSE			SS	SS	11 09 06.1	+2.7
SSE			LR	LR		
	comp=Z,4μm,16.4s,MS5.5					
GZH	**Guangzhou**	**51.68 307**	P	**P**	**10 58 23.4**	**+1.4**
GZH			S	**S**	**11 05 42.6**	**+2.5**
GZH			LR	LR		
	comp=N,1μm,21.6s,MS5.4					
GZH			LR	LR		
	comp=E,3μm,20.0s,MS5.4					
GZH			LR	LR		
	comp=Z,5μm,25.6s					
KSRS	**Korea Array**	**51.79 331**	P	**P**	**10 58 23.2**	**+0.7**
	comp=Z,13nm,0.7s,mb5.0,baz=145,slow=6.9,SNR=25					
YUK	**Yuzh-Kuril'sk**	**51.96 351**	*e*P	pP	10 58 37.2	+0.1
YUK			*e*		11 00 29.0	
YUK			*e*S	**S**	**11 05 42.7**	**-0.5**
YUK			*e*SS	ScS	11 08 05.7	-3.7
INCN	**Inchon**	**52.44 330**	*e*P	**P**	**10 58 28.2**	**+0.9**
	comp=Z,118nm,0.9s,mb5.8					
INCN			LR	LR		
	comp=Z,3μm,19.0s,MS5.4					
INCN	**Inchon**	**52.44 330**	P	**P**	**10 58 28.7**	**+1.4**
	SNR=6.9					
INCN	**Inchon**	**52.44 330**	P	**P**	**10 58 28.7**	**+1.4**
	SNR=6.9					
ASAJ	**Asahikawa**	**52.65 348**	P	**P**	**10 58 30.2**	**+1.5**
ASAJ			pmax	pmax		
	comp=Z,13nm,0.9s					
ASAJ			MLR	MLR		
	comp=Z,7μm,18.9s					
ASAJ	**Asahikawa**	**52.65 348**	P	**P**	**10 58 30.1**	**+1.4**
	comp=Z,13nm,0.9s,mb4.9,baz=229,slow=8.2,SNR=14					
ASAJ			LR	LR	11 21 02.5	
	comp=Z,7μm,18.9s,MS5.7,baz=180,slow=36					
QIZ	**Qiongzhong**	**52.67 301**	P	**P**	**10 58 30.3**	**+0.9**
QIZ			S	**S**	**11 05 55.7**	**+1.8**
QIZ			AMB	AMB		
	comp=Z,72nm,1.8s,mb5.3					
QIZ			AMB	AMB		
	comp=Z,1μm,6.3s					
QIZ			LR	LR		
	comp=E,3μm,22.9s					
QIZ			LR	LR		
	comp=Z,6μm,27.1s,MS5.5					
QIZ	**Qiongzhong**	**52.67 301**	*e*P	**P**	**10 58 29.5**	**+0.1**
	comp=Z,159nm,0.8s,mb6.0					
QIZ			LR	LR		
	comp=Z,4μm,22.0s,MS5.4					
NJ2	**Nanjing**	**52.94 320**	*e*P	**P**	**10 58 32.0**	**+0.9**
NJ2			AP	pP	10 58 37.6	-7.0
NJ2			XP	sP	10 58 40.8	-9.5
NJ2			PP	PP	11 00 32.0	+0.7
NJ2			S	**S**	**11 05 59.0**	**+1.9**
NJ2			XS	sS	11 06 07.0	-13
NJ2			AMB	AMB		
	comp=Z,20nm,1.2s,mb4.9					
NJ2			AMB	AMB		
	comp=Z,2μm,5.4s					
NJ2			LR	LR		
	comp=N,8μm,21.8s,MS5.8					
NJ2			LR	LR		
	comp=E,6μm,20.8s,MS5.8					
NJ2			LR	LR		
	comp=Z,7μm,24.4s,MS5.6					
MYKOM	**Kota Tinggi**	**53.03 278**	⇑P	**P**	**10 58 31.7**	**-0.5**
KIP	**Kipapa**	**53.20 56**	*e*P	**P**	**10 58 34.2**	**+1.0**
	comp=Z,120nm,1.1s,mb5.7					
KIP			LR	LR		
	comp=Z,9μm,20.0s,MS5.8					
KIP	**Kipapa**	**53.20 56**	*e*P	**P**	**10 58 34.3**	**+1.0**
KIP			*e*PP	pP	10 58 48.4	+1.6
KIP			pmax	pmax		
	comp=Z,320nm,1.3s,mb6.1					
KGM	**Kluang**	**53.60 278**	⇑P	**P**	**10 58 36.7**	**+0.4**
PPT	**Papeete**	**53.73 106**	*e*P	**P**	**10 58 38.1**	**+0.8**
	comp=Z,37nm,1.4s,mb5.1					
PPT			*e*S	**S**	**11 06 03.8**	**-4.6**
	comp=Z,5μm,27.0s					
PPT			*e*LQ		11 11 55.9	
	comp=Z,8μm,27.8s					
PPT			*e*LR	LR	11 14 12.1	
	comp=Z,7μm,22.0s,baz=272					
PPT	**Papeete**	**53.73 106**	*e*P	**P**	**10 58 38.1**	**+0.8**
	comp=Z,37nm,1.4s,mb5.1					
PPT			*e*S	**S**	**11 06 03.8**	**-4.6**
PPT			*e*LQ		11 11 55.9	
PPT	**Papeete**	**53.73 106**	*e*P	**P**	**10 58 38.1**	**+0.8**
PPT			*e*S	**S**	**11 06 03.8**	**-4.6**
PPT			pmax	pmax		
	comp=Z,37nm,1.4s					
PAE	**Paea**	**53.74 106**	*e*P	**P**	**10 58 37.8**	**+0.5**
	comp=Z,36nm,0.9s,mb5.3					
PAE	**Paea**	**53.74 106**	*e*P	**P**	**10 58 37.8**	**+0.5**
PAE			pmax	pmax		
	comp=Z,36nm,0.9s,mb5.3					
TVO	**Taravao**	**54.06 107**	*e*P	**P**	**10 58 40.6**	**+1.0**
	comp=Z,56nm,0.8s,mb5.6					
TVO	**Taravao**	**54.06 107**	*e*P	**P**	**10 58 40.6**	**+1.0**
TVO			pmax	pmax		
	comp=Z,56nm,0.8s,mb5.5					
KHU	**Kahuku**	**54.28 60**	*e*P	**P**	**10 58 41.9**	**+0.8**
KHU	**Kahuku**	**54.28 60**	P	**P**	**10 58 42.9**	**+1.7**
TBI	**Tubuai**	**54.43 113**	*e*S	**S**	**11 06 16.6**	**-1.1**
	comp=Z,3μm,30.5s					
TBI			*e*LQ		11 12 19.7	
	comp=Z,6μm,36.2s					
TBI			*e*LR	LR	11 14 41.0	
	comp=Z,15μm,29.5s,baz=283					
KTGM	**Kuala Trenggan**	**54.45 282**	⇑P	**P**	**10 58 43.0**	**+0.4**
POHA	**Pohakuloa**	**54.56 60**	PFAKE		10 59 00.0	+17
POHA			LR	LR		
	comp=Z,8μm,22.0s,MS5.7					
VLA	**Vladivostok**	**54.85 338**	⇓*e*P	**P**	**10 58 44.9**	**0.0**
VLA	**Vladivostok**	**54.85 338**	*d*/*i*P	**P**	**10 58 44.3**	**-0.6**
VLA			*e*PP	pP	10 58 54.0	-4.4
VLA			pmax	pmax		
	comp=Z,127nm,3.0s					
WHN	**Wuhan**	**55.02 315**	⇑P	**P**	**10 58 46.7**	**+0.3**
WHN			AP	pP	10 58 57.8	-2.1
WHN			S	**S**	**11 06 28.5**	**+3.2**
WHN			LR	LR		
	comp=Z,11μm,21.5s,MS5.9					
PMOR	**Pomariorio Ree**	**55.23 103**	*e*P	**P**	**10 58 49.1**	**+0.9**
	comp=Z,122nm,0.8s,mb6.0					
YSS	**Yuzh-Sakhalins**	**55.34 349**	*e*P	**P**	**10 58 49.2**	**+0.9**
	comp=Z,125nm,0.9s,mb5.9					
YSS			LR	LR		
	comp=Z,4μm,22.0s,MS5.5					
YSS	**Yuzh-Sakhalins**	**55.34 349**	*d*/*e*P	**P**	**10 58 48.2**	**-0.1**
YSS			*e*	pP	10 58 59.9	-2.0
YSS			*i*S	**S**	**11 06 30.0**	**+1.1**
YSS			*e*PS		11 06 48.0	
YSS			*e*SSS		11 12 14.0	
YSS			pmax	pmax		
	comp=N,600nm,8.0s					
YSS			smax			
	comp=N,900nm,12.0s					
YSS			smax			
	comp=E,900nm,12.0s					
YSS			MLR	MLR		
	comp=E,2μm,19.0s,MS5.4					
YSS			MLR	MLR		
	comp=Z,3μm,19.0s,MS5.3					
YSS			MLR	MLR		
	comp=N,2μm,18.0s,MS5.4					
VAH	**Vaihoa**	**55.49 103**	*e*P	**P**	**10 58 50.7**	**+0.6**
	comp=N,75nm,0.8s,mb5.8					
DL2	**Dalian**	**56.08 328**	⇑*i*P	**P**	**10 58 54.0**	**+0.2**
DL2			XP	sP	10 59 08.0	-5.0
DL2			S	**S**	**11 06 39.3**	**+0.2**
DL2			SS	SS	11 10 20.8	-5.4
DL2			AMB	AMB		
	comp=Z,40nm,0.7s,mb5.6					
DL2			AMB	AMB		
	comp=Z,440nm,6.2s					
DL2			LR	LR		
	comp=N,1μm,23.2s,MS5.2					
DL2			LR	LR		
	comp=E,2μm,21.7s,MS5.2					
DL2			LR	LR		
	comp=Z,3μm,23.4s,MS5.3					
KULM	**Kulim**	**56.85 281**	*e*P	**P**	**10 58 58.8**	**-1.0**
KULM	**Kulim**	**56.85 281**	⇓P	**P**	**10 58 58.8**	**-0.9**
MDJ	**Mudanjiang**	**56.99 338**	P	**P**	**10 59 01.3**	**+1.2**
MDJ			AP	pP	10 59 03.9	-10
MDJ			PCP	PcP	10 59 55.2	+0.3
MDJ			PP	PP	11 01 03.9	-3.4
MDJ			SCP	ScP	11 03 53.6	+3.0
MDJ			S	**S**	**11 06 41.8**	**-9.1**
MDJ			SCS	ScS	11 08 43.9	-1.4
MDJ			AMB	AMB		
	comp=Z,71nm,2.1s,mb5.3					
MDJ			LR	LR		
	comp=N,2μm,32.3s,MS5.1					
MDJ			LR	LR		
	comp=E,2μm,30.4s,MS5.1					
MDJ			LR	LR		
	comp=Z,3μm,31.4s,MS5.1					
MDJ	**Mudanjiang**	**56.99 338**	PFAKE		10 59 10.0	+10
MDJ			LR	LR		
	comp=Z,3μm,21.0s,MS5.3					
SNY	**Shenyang**	**57.30 331**	⇑P	**P**	**10 59 01.5**	**-0.9**
SNY			S	**S**	**11 06 54.6**	**-0.5**
SNY			AMB	AMB		
	comp=Z,77nm,2.1s,mb5.4					
SNY			LR	LR		
	comp=N,2μm,25.5s,MS5.2					
SNY			LR	LR		
	comp=E,2μm,24.0s,MS5.2					
SNY			LR	LR		
	comp=Z,3μm,24.6s,MS5.3					
SNG	**Songkhla**	**57.30 283**	P	**P**	**10 59 02.0**	**-1.0**
	comp=Z,340nm,0.9s,mb6.4					
SNG	**Songkhla**	**57.30 283**	P	**P**	**10 59 02.0**	**-1.0**
	comp=Z,340nm,0.9s,mb6.4					
SKR	**Severo-Kuril's**	**57.76 360**	*e*P	pP	10 59 16.5	-2.6
SKR			*e*		11 07 03.0	
SKR			pmax	pmax		
	comp=N,270nm,1.0s					
SKR			pmax	pmax		
	comp=Z,310nm,1.0s,mb6.3					
SKR			MLR	MLR		
	comp=N,6μm,18.0s,MS5.8					
SKR			MLR	MLR		
	comp=E,3μm,18.0s,MS5.8					
SKR			MLR	MLR		
	comp=Z,6μm,18.0s,MS5.7					

comp=Z,19µm,19.8s,MS6.2
BJT Baijiatuau 59.86 325 *e*P **P** **10 59 20.4 +0.1**
comp=Z,525nm,1.8s,mb6.3
BJT LR LR
comp=Z,5µm,21.0s,MS5.6
BJT Baijiatuau 59.86 325 *e*P **P** **10 59 20.4 +0.1**
BJT pmax pmax
comp=Z,525nm,1.8s
BJT MLR MLR
comp=Z,5µm,21.0s
BJI Beijing 59.87 325 P **P** **10 59 19.7 -0.6**
BJI S **S** **11 07 22.8 -5.8**
BJI AMB AMB
comp=Z,48nm,1.9s,mb5.2
BJI AMB AMB
comp=Z,2µm,4.3s
BJI LR LR
comp=N,3µm,19.7s,MS5.5
BJI LR LR
comp=E,3µm,24.1s,MS5.5
BJI LR LR
comp=Z,5µm,28.6s,MS5.5
BJI Beijing 59.87 325 P **P** **10 59 19.7 -0.6**
comp=Z,48nm,1.9s,mb5.2
BJI PP PP 11 01 04.4 -29
BJI S **S** **11 07 22.8 -5.8**
BJI SS SS 11 11 32.6 +6.8
BJI LR LR
comp=Z,5µm,28.6s,MS5.5
NST Nakhon Sawan 60.06 293 ⇓P **P** **10 59 22.1 0.0**
comp=Z,417nm,0.8s,mb6.5
NST Nakhon Sawan 60.06 293 ⇓P **P** **10 59 22.1 0.0**
comp=Z,417nm,0.8s,mb6.5
PET Petropavlovsk 60.13 2 PFAKE 10 59 30.0 +8.1
PET LR LR
comp=Z,8µm,20.0s,MS5.9
PET Petropavlovsk 60.13 2 *e*P **P** **10 59 24.0 +2.1**
PET *i* S **S** **11 07 33.9 +2.4**
PET *e*PS 11 07 52.0
PET *e*SS SS 11 11 28.5 -1.0
PET *e*SSS 11 14 06.9
PET pmax pmax
comp=Z,2µm,12.4s
PET pmax pmax
comp=Z,3µm,5.3s
PET pmax pmax
comp=Z,165nm,1.1s,mb6.0
PET MLR MLR
comp=Z,3µm,20.0s,MS5.4
PET MLR MLR
comp=Z,4µm,21.0s
KLR Kul'dur 60.24 342 *e*P **P** **10 59 17.0 -5.7**
KLR *e*S **S** **11 07 26.0 -7.0**
KLR pmax pmax
comp=Z,85nm,1.8s,mb5.5
KLR pmax pmax
comp=N,700nm,8.0s
KLR pmax pmax
comp=Z,2µm,8.0s
KLR smax
comp=N,2µm,9.5s
KLR smax
comp=E,1µm,9.5s
DRV Dumont d'Urvil 60.31 187 P **P** **10 59 25.0 +2.1**
DRV Dumont d'Urvil 60.31 187 PP PP 11 01 43.0 +6.8
DRV S **S** **11 07 42.0 +8.6**
DRV SS SS 11 11 30.0 -1.5
DRV L 11 14 00.0
DRV R 11 18 00.0
TIY Taiyuan 60.60 321⇑ *i*P **P** **10 59 25.3 -0.1**
TIY PCP PcP 11 00 12.3 +2.9
TIY S **S** **11 07 38.2 +0.1**
TIY AMB AMB
comp=Z,1µm,5.2s
TIY LR LR
comp=N,2µm,18.3s,MS5.4
TIY LR LR
comp=E,2µm,22.2s,MS5.4
TIY LR LR
comp=Z,3µm,21.5s,MS5.4
XAN Xi'an 60.78 316 P **P** **10 59 26.1 -0.6**
XAN AP pP 10 59 34.0 -6.4
XAN S **S** **11 07 34.8 -5.8**
XAN AMB AMB
comp=Z,42nm,1.8s,mb5.3
XAN AMB AMB
comp=Z,953nm,6.8s
XAN LR LR
comp=N,1µm,22.5s,MS5.4
XAN LR LR
comp=E,3µm,22.5s,MS5.4
XAN LR LR
comp=Z,5µm,23.1s,MS5.6
KMI Kunming 61.21 304 P **P** **10 59 30.3 +0.5**
KMI AP pP 10 59 38.6 -4.9
KMI XP sP 10 59 42.1 -7.0
KMI PCP PcP 11 00 13.4 +1.3
KMI PP PP 11 01 44.5 -0.6
KMI PPP 11 03 14.2
KMI S **S** **11 07 44.7 -1.6**
KMI XS sS 11 07 58.3 -11
KMI SS SS 11 11 45.5 -1.8
KMI AMB AMB
comp=Z,111nm,1.6s,mb5.7
KMI AMB AMB
comp=Z,1µm,7.8s
KMI LR LR
comp=N,1µm,21.1s,MS5.4
KMI LR LR
comp=E,3µm,22.8s,MS5.4
KMI LR LR
comp=Z,4µm,24.5s,MS5.5
KMI Kunming 61.21 304 P **P** **10 59 30.3 +0.5**
comp=Z,111nm,1.6s,mb5.7
KMI pP pP 10 59 38.6 -4.9
KMI sP sP 10 59 42.1 -7.0
KMI PcP PcP 11 00 13.4 +1.3
KMI PP PP 11 01 44.5 -0.6
KMI PPP 11 03 14.2
KMI S **S** **11 07 44.7 -1.6**
KMI sS sS 11 07 58.3 -11
KMI PS 11 08 02.5
KMI SS SS 11 11 45.5 -1.8
KMI SSS 11 14 21.8
KMI LR LR
comp=Z,4µm,24.5s,MS5.5
KMI Kunming 61.21 304 P **P** **10 59 30.3 +0.5**
KMI *PP pP 10 59 38.6 -4.9
KMI *SP sP 10 59 42.1 -7.0
KMI 11 00 13.4
KMI 11 01 44.5
KMI PPP 11 03 14.2
KMI S **S** **11 07 44.7 -1.6**
KMI PS 11 08 02.5
KMI SS SS 11 11 45.5 -1.8
KMI SSS 11 14 21.8
KMI pmax pmax
comp=Z,111nm,1.6s,mb5.7
KMI MLR MLR
comp=Z,4µm,24.5s,MS5.5
CHRT Chiangrai 61.75 297 PG **P** **10 59 34.0 +0.5**
CHRT SG pP 10 59 48.5 +1.2
CHRT Chiangrai 61.75 297 PG **P** **10 59 34.0 +0.5**
CHRT SG pP 10 59 48.5 +1.2
CHG Chiang Mai 62.14 296⇑P **P** **10 59 40.9 +4.8**
comp=Z,150nm,1.1s,mb6.0
CHG Chiang Mai 62.14 296⇑P **P** **10 59 40.9 +4.8**
comp=Z,150nm,1.1s,mb6.0
CHTO Chiang Mai 62.14 296 *e*P **P** **10 59 36.6 +0.4**
CHTO LR LR
comp=Z,2µm,21.0s,MS5.1
CHTO Chiang Mai 62.14 296 P **P** **10 59 36.9 +0.8**
SNR=68
CHTO Chiang Mai 62.14 296 P **P** **10 59 36.9 +0.8**
SNR=68
TAOE Nuku Hiva Isla 62.94 96 *e*S **S** **11 08 03.0 -5.6**
comp=Z,8µm,25.9s
TAOE Nuku Hiva Isla 62.94 96 *e*LR LR 11 18 23.4
comp=Z,17µm,22.4s
CD2 Chengdu 62.95 310⇓ *i*P **P** **10 59 39.4 -1.9**
CD2 PP PP 11 01 57.5 -2.9
CD2 PCS PcS 11 04 19.1 -3.6
CD2 S **S** **11 08 06.2 -1.9**
CD2 SCS ScS 11 09 25.9 -4.4
CD2 SS SS 11 12 15.1 +0.7
CD2 AMB AMB
comp=Z,150nm,1.2s,mb6.0
CD2 AMB AMB
comp=Z,2µm,5.6s
CD2 LR LR
comp=N,4µm,25.2s,MS5.7
CD2 LR LR
comp=E,4µm,25.2s,MS5.7
CD2 LR LR
comp=Z,5µm,25.2s,MS5.6
HHC Hu-ho-hao-te 63.07 323 *e*P **P** **10 59 42.6 +0.7**
HHC AP pP 10 59 47.1 -8.6
HHC XP sP 10 59 50.4 -11
HHC PP PP 11 02 03.7 +2.4
HHC SCP ScP 11 04 19.8 +2.1
HHC PCS PcS 11 04 22.2 -0.6
HHC S **S** **11 08 14.2 +5.0**
HHC SCS ScS 11 09 32.2 +1.4
HHC SS SS 11 12 18.1 +2.1
HHC AMB AMB
comp=Z,48nm,0.9s,mb5.6
HHC AMB AMB
comp=Z,2µm,8.6s
HHC LR LR
comp=N,6µm,20.6s,MS5.8
HHC LR LR
comp=E,2µm,22.6s,MS5.8
HHC LR LR
comp=Z,3µm,23.1s,MS5.5
ADK Adak 63.37 18 *e*P **P** **10 59 44.1 +0.5**
comp=Z,124nm,0.8s,mb6.1
ADK LR LR
comp=Z,11µm,21.0s,MS6.0
ADK Adak 63.37 18 *e*P **P** **10 59 44.1 +0.4**
ADK *e*PP pP 10 59 56.8 -0.7
BTO Baotou 63.85 322 P **P** **10 59 43.4 -3.7**
BTO S **S** **11 08 17.9 -1.0**
HIA Hailar 64.73 334 *e*P **P** **10 59 53.3 +0.7**
comp=Z,88nm,0.9s,mb5.8
HIA LR LR
comp=Z,2µm,22.0s,MS5.3
HIA Hailar 64.73 334 *e*P **P** **10 59 53.3 +0.7**
HIA pmax pmax
comp=Z,88nm,0.9s
HIA MLR MLR
comp=Z,2µm,22.0s
LZH Lanzhou 65.40 315⇑P **P** **10 59 58.1 +0.8**
LZH AP pP 11 00 01.3 -10
LZH PP PP 11 02 23.0 +1.2
LZH S S 11 08 40.0 +1.8
LZH SS SS 11 12 55.0 +2.6
LZH AMB AMB
comp=Z,153nm,1.5s,mb5.8
LZH AMB AMB
comp=Z,324nm,5.2s
LZH LR LR
comp=E,3µm,18.9s
LZH LR LR
comp=Z,5µm,20.5s,MS5.7
LZH Lanzhou 65.40 315⇑P **P** **10 59 58.1 +0.8**
comp=Z,153nm,1.5s,mb5.8
LZH pP pP 11 00 01.3 -10
LZH sP sP 11 00 03.0 -14
LZH PP PP 11 02 23.0 +1.2
LZH S S 11 08 40.0 +1.8
LZH sS sS 11 08 45.0 -16
LZH SS SS 11 12 55.0 +2.6
LZH LR LR
comp=Z,5µm,20.5s,MS5.7
LZH Lanzhou 65.40 315⇑P **P** **10 59 58.1 +0.8**
LZH 11 02 23.0
LZH S S 11 08 40.0 +1.8
LZH SS SS 11 12 55.0 +2.6
LZH pmax pmax
comp=Z,153nm,1.5s,mb5.8
LZH MLR MLR
comp=Z,5µm,20.5s,MS5.7
CASY Casey 66.68 198 *e*P **P** **11 00 05.2 +0.2**
comp=Z,55nm,0.8s,mb5.6
CASY LR LR
comp=Z,12µm,20.0s,MS6.1
MA2 Magadan 66.81 357 *e*P **P** **11 00 06.0 +0.2**
comp=Z,208nm,1.0s,mb6.1
MA2 LR LR
comp=Z,3µm,19.0s,MS5.5
MA2 Magadan 66.81 357 *c i*P **P** **11 00 05.1 -0.7**
MA2 *i* pP 11 00 21.0 +1.3
MA2 *e* 11 00 34.4
MA2 *e*S S 11 08 53.2 -1.2
MA2 *e*PS 11 09 17.5
MA2 pmax pmax
comp=Z,70nm,1.4s,mb5.5
MA2 MLR MLR
comp=Z,4µm,19.4s,MS5.7
RKT Rikitea 67.69 112 *e*S S 11 09 06.2 -0.3
comp=Z,2µm,30.0s
RKT *e*SS SS 11 13 32.5 +4.2
comp=Z,1µm,32.2s
RKT *e*LR LR 11 20 48.3
comp=Z,15µm,27.8s,baz=278
IMP Imphal 68.50 300 *e*P **P** **11 00 16.0 -1.2**
UNV Unalaska Valle 68.53 23 *e*P **P** **11 00 17.1 +0.3**
comp=Z,157nm,1.1s,mb5.8
UNV LR LR
comp=Z,17µm,22.0s,MS6.2
NRGR Nerungri 68.80 342 *e*P **P** **11 00 20.2 +1.8**
NRGR S S 11 09 13.4 -4.9
NRGR smax
comp=N,89nm,1.5s
CLNS Chul'man 68.89 342 *e*P **P** **11 00 19.0 0.0**
CLNS *e*PP pP 11 00 24.9 -8.1
CLNS *e* 11 00 41.2
CLNS *e* 11 02 47.6
CLNS *e*S S 11 09 20.1 +0.7
CLNS *e* 11 10 12.3
CLNS pmax pmax
comp=Z,30nm,1.1s,mb5.1
CLNS pmax pmax
comp=N,44nm,1.4s
CLNS pmax pmax
comp=E,15nm,1.0s
CLNS pmax pmax
comp=Z,19nm,1.0s,mb5.0
CLNS pmax pmax
comp=N,19nm,0.9s
CLNS pmax pmax
comp=E,14nm,0.9s
CLNS smax
comp=E,1µm,13.4s
CLNS smax
comp=Z,576nm,13.0s
CLNS smax
comp=N,631nm,10.4s
CLNS MLR MLR
comp=Z,2µm,19.0s,MS5.4
CLNS MLR MLR
comp=N,900nm,16.0s,MS5.2
CLNS MLR MLR
comp=E,500nm,15.0s,MS5.2
CIT Chita 69.43 333 *e*P **P** **11 00 22.2 -0.2**
CIT *e* pP 11 00 37.6 +1.2
GTA Gaotai 69.81 317⇑P **P** **11 00 25.9 +0.9**
GTA AP pP 11 00 29.6 -9.4
GTA PP PP 11 03 03.6 +3.5
GTA S S 11 09 35.3 +4.4
GTA XS sS 11 09 43.3 -11
GTA SKS 11 10 22.0
GTA AMB AMB
comp=Z,110nm,2.1s,mb5.4
GTA AMB AMB
comp=Z,2µm,4.9s
ULN Ulaanbaatar 69.93 327 PFAKE 11 00 40.0 +14
ULN LR LR
comp=Z,975nm,20.0s,MS5.0
SEY Seymchan 70.10 358⇑ *e*P **P** **11 00 25.9 -0.4**
VNDA Vanda 70.24 179 P **P** **11 00 27.4 +0.3**
comp=Z,53nm,0.8s,mb5.5,baz=337,slow=6.8,SNR=184
VNDA LR LR 11 25 51.7
comp=Z,5µm,20.5s,MS5.8,baz=0.4,slow=31
SONM Songino Array 70.26 327 P **P** **11 00 28.3 +0.7**
comp=Z,23nm,0.7s,mb5.2,baz=139,slow=6.9,SNR=75
SONM PKPPKP 11 28 26.7
comp=Z,5.2nm,1.0s,baz=274,slow=3.2,SNR=21
FALS False Pass 70.49 23 *e*P **P** **11 00 28.8 -0.1**
comp=Z,138nm,1.0s,mb5.8
SHL Shillong 70.51 300 *i* P **P** **11 00 30.2 +0.6**
comp=Z,45nm,1.2s,mb5.3
SHL *ex* x 11 09 31.5
SBA Scott Base 70.72 178 *e*P **P** **11 00 31.4 +1.3**
comp=Z,656nm,2.2s,mb6.2
SBA LR LR
comp=Z,5µm,19.0s,MS5.8
SDPT Sand Point 72.02 24 *e*P **P** **11 00 37.7 -0.4**
comp=Z,176nm,1.2s,mb5.9
YAK Yakutsk 72.13 347 *e*P **P** **11 00 38.5 -0.1**
comp=Z,144nm,0.8s,mb6.0
YAK LR LR
comp=Z,2µm,21.0s,MS5.4
YAK Yakutsk 72.13 347 *c i*P **P** **11 00 38.2 -0.4**
YAK *e* pP 11 00 48.5 -4.2
YAK *e* pP 11 00 54.3 +1.6
YAK *i* S S 11 09 58.6 +1.7
YAK *e* 11 10 51.7
YAK *e*SS SS 11 14 38.5 +3.2
YAK pmax pmax
comp=Z,88nm,2.0s,mb5.3
YAK pmax pmax
comp=N,26nm,1.4s
YAK pmax pmax
comp=E,22nm,1.5s
YAK smax
comp=Z,410nm,5.2s
YAK smax
comp=N,2µm,8.3s
YAK smax
comp=E,879nm,7.0s
YAK MLR MLR
comp=Z,2µm,21.0s,MS5.4
YAK MLR MLR
comp=N,1µm,19.0s
PTCN Pitcairn Islan 72.17 114 PFAKE 11 00 50.0 +10
PTCN LR LR
comp=Z,6µm,20.0s,MS5.8
LSA Lhasa 72.46 304 P **P** **11 00 42.2 +0.9**
LSA AMB AMB
comp=Z,120nm,1.0s,mb5.8
LSA AMB AMB
comp=Z,990nm,6.0s
LSA LR LR
comp=N,810nm,29.0s,MS5.3
LSA LR LR
comp=E,2µm,26.0s,MS5.3
LSA LR LR
comp=Z,3µm,26.0s,MS5.5
LSA Lhasa 72.46 304 *e*P **P** **11 00 42.6 +1.3**
comp=Z,171nm,0.8s,mb6.0
LSA LR LR
comp=Z,1µm,22.0s,MS5.1
LSA Lhasa 72.46 304 *e*P **P** **11 00 42.6 +1.3**
LSA pmax pmax
comp=Z,171nm,0.8s,mb6.0
LSA MLR MLR
comp=Z,1µm,22.0s,MS5.1
MIR Mirnyy 72.86 202⇑ *i*P **P** **11 00 46.0 +3.0**
MIR pmax pmax
comp=Z,600nm,2.0s,mb6.2
BOD Bodaibo 73.36 338 *e*P **P** **11 00 45.1 -0.9**
BOD pmax pmax
comp=Z,69nm,2.0s,mb5.2
ZAK Zakamensk 73.41 328⇑ *e*P **P** **11 00 46.8 +0.3**
ZAK *e* pP 11 01 01.2 +0.7
ZAK pmax pmax
comp=Z,37nm,1.7s,mb5.0
CHGN Chignik 73.52 24 *e*P **P** **11 00 45.6 -1.4**
TLY Talaya 73.96 329 *e*P **P** **11 00 50.0 +0.3**
TLY LR LR
comp=Z,1µm,20.0s,MS5.3
TLY Talaya 73.96 329 *c i*P **P** **11 00 49.5 -0.1**
TLY *e* pP 11 01 05.6 +1.9
TLY *e* 11 03 32.4
TLY *e*PPP 11 05 15.3
TLY *e*S S 11 10 15.9 -2.2
TLY *e* 11 10 54.9
TLY pmax pmax
comp=Z,72nm,1.5s,mb5.4
TLY MLR MLR
comp=Z,1µm,19.0s,MS5.2
TLY Talaya 73.96 329 P **P** **11 00 50.3 +0.7**
SNR=24
TLY Talaya 73.96 329 P **P** **11 00 50.3 +0.7**
SNR=24
IRK Irkutsk 73.97 330⇑ *i*P **P** **11 00 49.3 -0.4**
IRK *e* pP 11 01 04.7 +0.9
IRK *e*S S 11 10 17.1 -1.1
IRK pmax pmax
comp=Z,216nm,2.7s,mb5.6
SHBG Sahibganj 74.05 299 *ex* x 11 00 42.0
BOK Bokaro 75.23 297 *e*P **P** **11 00 58.0 +0.4**
BOK AMb AMB 11 01 01.4
comp=Z,258nm,1.2s,mb6.0
MOY Mondy 75.32 328 *e*P **P** **11 00 57.6 0.0**
BILL Bilibino 75.50 4 *c i*P **P** **11 00 57.9 -0.4**
BILL *e* pP 11 01 11.3 -1.1
BILL *e*S S 11 10 40.1 +5.4
BILL *e*SS SS 11 15 34.4 +7.9
BILL pmax pmax
comp=Z,83nm,1.9s,mb5.3
JIRN Jiri 76.00 301 *e*P **P** **11 01 02.6 +0.6**
comp=Z,628nm,1.3s,mb6.4
VIS Vishakhapatnam 76.13 290 *e*P **P** **11 01 02.5 -0.4**
VIS *ex* x 11 01 21.9
comp=Z,353nm,1.9s
VIS AMb AMB 11 01 22.1
comp=Z,326nm,1.1s,mb6.2
VIS *i* x x 11 10 41.4
PALK Pallekele 76.70 279 *e*P **P** **11 01 06.2 0.0**
PALK LR LR
comp=Z,2µm,20.0s,MS5.4
PALK Pallekele 76.70 279 P **P** **11 01 07.1 +0.9**
SNR=19
PALK Pallekele 76.70 279 P **P** **11 01 07.1 +0.9**
SNR=19
KKN Kakani 76.81 301 *e*P **P** **11 01 06.8 +0.2**
KDAK Kodiak Island 76.92 25 *e*P **P** **11 01 06.0 -0.5**
KDAK LR LR
comp=Z,1µm,22.0s,MS5.2
KDAK Kodiak Island 76.92 25 P **P** **11 01 05.4 -1.1**
comp=Z,8.2nm,0.8s,mb4.7,baz=178,slow=2.8,SNR=8.6
TNA Tin City 77.31 14 *e*P **P** **11 01 08.5 0.0**
TNA LR LR
comp=Z,7µm,22.0s,MS5.9
GKN Gorkha 77.41 301 *e*P **P** **11 01 10.0 +0.1**
comp=Z,1µm,1.3s,mb6.7
SVW2 Sparrevohn 77.83 22 *e*P **P** **11 01 10.6 -0.9**
BLSP Bilaspur 78.19 294 *e*P **P** **11 01 13.8 -0.6**
KOLN Koldanda 78.24 300 *e*P **P** **11 01 14.5 0.0**
comp=Z,243nm,0.7s,mb6.2
DANN Dangsing 78.25 301 *e*P **P** **11 01 14.6 0.0**
comp=Z,2.3nm,0.7s
TTA Tatalina 78.89 20 *e*P **P** **11 01 16.8 -0.6**
comp=Z,78nm,1.0s,mb5.6
TTA Tatalina 78.89 20 *e*P **P** **11 01 17.6 +0.3**
SLKM Skilak Lake 79.53 24 *e*P **P** **11 01 19.7 -1.2**
SLKM Skilak Lake 79.53 24 P **P** **11 01 19.8 -1.1**
WMQ Urumqi 79.89 317⇑ *i*P **P** **11 01 23.6 +0.4**
WMQ PCP PcP 11 01 32.5 +1.8
WMQ PP PP 11 04 27.0 +1.6
WMQ S S 11 11 25.8 +2.7
WMQ SCS ScS 11 11 44.0 +0.1
WMQ SS SS 11 16 37.0 +3.4
WMQ AMB AMB
comp=Z,148nm,1.1s,mb5.8
WMQ AMB AMB
comp=Z,1µm,4.4s
WMQ LR LR
comp=N,4µm,23.2s,MS5.8
WMQ LR LR
comp=E,3µm,22.5s,MS5.8
WMQ LR LR
comp=Z,6µm,25.9s,MS5.8
KOD Kodaikanal 80.33 282 *e*P **P** **11 01 27.0 +0.8**
KOD AMb AMB 11 01 30.2
comp=Z,181nm,0.9s,mb6.0
JBP Jabalpur 80.35 295⇑ *i*P **P** **11 01 26.2 0.0**
JBP *ex* x 11 01 45.5
comp=Z,378nm,2.1s
JBP *i* x x 11 11 26.2
HYB Hyderabad 80.53 289 *e*P **P** **11 01 26.5 -0.7**
HYB *e*S S 11 11 28.0 -2.8
HYB Hyderabad 80.53 289 *i* P **P** **11 01 26.5 -0.7**
comp=Z,433nm,1.6s,mb6.1

HYB eS S 11 11 32.0 +1.2
TRD Trivandrum 80.56 280 eP **P 11 01 27.9 +0.4**
TRD AMb AMB 11 01 31.6
comp=Z,187nm,1.8s,mb5.7
PMR Palmer 80.59 23 eP **P 11 01 25.5 -1.1**
comp=Z,24nm,1.2s,mb5.0
PMR LR LR
comp=Z,4µm,22.0s,MS5.7
PMR Palmer 80.59 23 eP **P 11 01 25.9 -0.7**
PMR e pP 11 01 41.1 +0.3
NGP Nagpur 80.78 293⇑ eP **P 11 01 26.6 -1.9**
NGP ex x 11 01 29.0
comp=Z,296nm,1.7s
NGP ex x 11 11 28.2
TIXI Tiksi 80.84 352 eP **P 11 01 27.8 +0.1**
TIXI LR LR
comp=Z,2µm,20.0s,MS5.5
TIXI Tiksi 80.84 352 eP **P 11 01 25.8 -1.9**
TIXI i pP 11 01 42.9 +0.9
TIXI eS S 11 11 30.3 -1.7
TIXI pmax pmax
comp=Z,57nm,1.8s,mb5.2
TIXI MLR MLR
comp=Z,2µm,18.0s,MS5.5
SML Sawmill 81.02 23 eP **P 11 01 28.2 -0.7**
EYAK Cordova Ski Ar 81.39 25 eP **P 11 01 30.4 -0.5**
comp=Z,35nm,1.0s,mb5.2
LGTI Lohaghat 81.50 301 eP **P 11 01 32.0 -0.2**
IMA2 Indian Mountai 81.71 18 eP **P 11 01 32.1 -0.3**
MCK McKinley 81.89 22 eP **P 11 01 32.4 -1.1**
MCK LR LR
comp=Z,4µm,22.0s,MS5.7
AKL Akola 82.57 292⇓ i P **P 11 01 38.7 +0.8**
AKL ex x 11 01 40.0
comp=Z,337nm,1.6s
AKL ⇑ ix x 11 12 09.3
QSPA South Pole Qui 82.67 180 eP **P 11 01 37.7 +0.4**
comp=Z,80nm,0.5s,mb6.0
BHPL Bhopal 82.67 295 eP **P 11 01 37.6 -0.9**
BHPL AMb AMB 11 01 57.7
comp=Z,262nm,0.9s,mb6.3
COLA College 82.93 21 i P **P 11 01 37.0 -1.9**
COLA LR LR
comp=Z,7µm,22.0s,MS6.0
MNGI Mangalore 83.32 284 i P **P 11 01 41.6 -0.3**
MNGI AMb AMB 11 01 44.8
comp=Z,135nm,0.7s,mb6.1
MNGI i S S 11 11 59.1 -0.5
DDI Dehra Dun 83.55 302 eP **P 11 01 42.0 -0.8**
NDI New Delhi 83.93 300 eP **P 11 01 43.0 -1.8**
NDI eP 11 01 43.0
NDI AMb AMB 11 01 45.9
comp=Z,364nm,1.7s,mb6.2
NDI eS S 11 12 01.0 -4.3
MK31 Makanchi Array 84.45 318 i P **P 11 01 46.8 -0.2**
MKAR Makanchi Array 84.45 318 P **P 11 01 47.1 0.0**
comp=Z,102nm,0.6s,mb6.1,baz=101,slow=6.1,SNR=169
MKAR PKKPbc PKKPbc 11 19 58.5 -1.8
comp=Z,1.1nm,0.6s,baz=308,slow=1.9,SNR=6.0
MKAR PKPPKP 11 28 02.8
comp=Z,1.9nm,0.8s,baz=299,slow=1.2,SNR=11
SMLA Simla 84.47 302 eP **P 11 01 46.8 -0.7**
SMLA AMb AMB 11 01 50.2
comp=Z,404nm,2.2s,mb6.2
MAW Mawson 84.58 203 eS S 11 12 07.9 -2.5
MAW Mawson 84.58 203⇑ i P **P 11 01 47.2 -0.1**
comp=Z,67nm,0.8s,mb5.8
MAW eS S 11 12 07.9 -2.5
MAW Mawson 84.58 203⇑ i P **P 11 01 47.2 -0.1**
MAW eS S 11 12 07.9 -2.5
MAW pmax pmax
comp=Z,67nm,0.8s
MAW Mawson 84.58 203 P **P 11 01 47.5 +0.2**
comp=Z,64nm,0.7s,mb5.9,baz=93,slow=7.3,SNR=70
MAW LR LR 11 37 29.7
comp=Z,3µm,18.6s,MS5.7,baz=92,slow=34
SIT Sitka 84.65 31 PFAKE 11 02 00.0 +12
SIT LR LR
comp=Z,6µm,22.0s,MS5.9
SIT Sitka 84.65 31 eP pP 11 02 01.8 -0.3
GOA Goa 84.67 286 eP **P 11 01 48.6 -0.2**
GOA AMb AMB 11 01 52.1
comp=Z,172nm,1.6s,mb5.9
SDNR Sundarnagar 84.71 303 eP **P 11 01 47.5 -1.2**
ZALV Zalesovo Beam 85.12 326 P **P 11 01 49.7 -0.5**
ZALV PKKPbc PKKPbc 11 19 56.6 -2.5
ZALV P'P' 11 28 03.5
ZALV Zalesovo Beam 85.12 326 P **P 11 01 49.7 -0.5**
comp=Z,38nm,0.6s,mb5.7,baz=117,slow=5.7,SNR=74
ZALV PKKPbc PKKPbc 11 19 56.6 -2.5
comp=Z,1.7nm,0.5s,baz=336,slow=1.1,SNR=5.0
ZALV PKPPKP 11 28 03.5
comp=Z,1.1nm,0.3s,baz=325,slow=1.8,SNR=7.1
POO Poona 85.13 289 eP **P 11 01 50.3 -0.8**
POO AMb AMB 11 01 54.2
comp=Z,248nm,1.2s,mb6.2
ZAL Zalesovo 85.13 326 P **P 11 01 49.7 -0.6**
BHK Bhakra 85.16 302 ex x 11 02 03.5
EGAK Eagle 85.33 22 eP **P 11 01 51.2 +0.2**
SKAG Skagway 85.56 28 eP **P 11 01 52.4 +0.1**
comp=Z,207nm,2.4s,mb5.9
DAWY Dawson 85.69 23 eP **P 11 01 53.4 +0.6**
DLH Dalhousie 85.75 303 eP **P 11 01 53.0 -0.9**
AJM Ajmer 85.75 297 i P **P 11 01 52.0 -2.0**
THN Thein Dam 85.94 303 eP **P 11 01 52.8 -2.0**
WRAK Wrangell Islan 85.96 32 PFAKE 11 02 10.0 +16
WRAK LR LR
comp=Z,4µm,22.0s,MS5.8
NVS Novosibirsk 86.29 326⇑ i P **P 11 01 54.8 -1.2**
NVS eS S 11 12 12.0 -16
NVS pmax pmax
comp=Z,1µm,2.3s,mb6.8
NVS pmax pmax
comp=N,128nm,1.7s
NVS pmax pmax
comp=E,397nm,2.0s
KSH Kashi 87.15 310 P **P 11 02 02.0 +1.4**
KSH AP pP 11 02 07.3 -7.7
KSH XP sP 11 02 09.4 -11
KSH PP PP 11 05 28.2 +3.3
KSH SKS 11 12 26.4
KSH S S 11 12 39.7 +3.2
KSH XS sS 11 12 47.5 -13
KSH SS SS 11 18 26.6 +5.4
KSH LR LR
comp=N,1µm,5.1s
KSH LR LR
comp=E,2µm,5.3s
KSH LR LR
comp=Z,5µm,21.9s,MS5.9
BHV Bhavnagar 87.22 292 eP **P 11 01 58.5 -2.8**
MCCM Marconi Confer 87.36 51 PFAKE 11 02 10.0 +8.4
MCCM LR LR
comp=Z,3µm,21.0s,MS5.7
HOPS Hopland 87.38 50 PFAKE 11 02 10.0 +8.3
HOPS LR LR
comp=Z,3µm,20.0s,MS5.7
ULHL Ulahol 87.51 313 P **P 11 02 00.7 -1.6**
SNR=18
DLBC Dease Lake 87.79 30 eP **P 11 02 02.9 -0.3**
KURK Kurchatov 87.84 322 eP **P 11 02 02.4 -1.2**
KURK LR LR
comp=Z,1µm,20.0s,MS5.4
KURK Kurchatov 87.84 322 P **P 11 02 02.9 -0.7**
SNR=45
KURK Kurchatov 87.84 322 P **P 11 02 02.9 -0.7**
SNR=45
WDC Whiskeytown Da 88.09 49 eP **P 11 02 05.7 +0.6**
comp=Z,32nm,1.8s,mb5.2
WDC LR LR
comp=Z,5µm,22.0s,MS5.9
WDC Whiskeytown Da 88.09 49 eP **P 11 02 05.7 +0.6**
WDC pmax pmax
comp=Z,32nm,1.8s,mb5.2
WDC MLR MLR
comp=Z,5µm,22.0s,MS5.9
TKM2 Tokmak 2 88.12 314 eP **P 11 02 05.0 -0.1**
comp=Z,80nm,0.7s,mb6.1
TKM2 LR LR
comp=Z,2µm,22.0s,MS5.5
TKM2 Tokmak 2 88.12 314 P **P 11 02 05.2 +0.1**
TKM2 pmax pmax
comp=Z,80nm,0.7s,mb6.1
TKM2 Tokmak 2 88.12 314 P **P 11 02 05.2 0.0**
SNR=35

YBH Yreka Blue Hor 88.19 48 eP **P 11 02 05.4 -0.1**
comp=Z,62nm,1.9s,mb5.5
YBH LR LR
comp=Z,8µm,20.0s,MS6.1
YBH Yreka Blue Hor 88.19 48 eP **P 11 02 05.4 -0.1**
YBH pmax pmax
comp=Z,62nm,1.9s
YBH MLR MLR
comp=Z,8µm,20.0s
KZA Kyzart 88.20 313 P **P 11 02 06.8 +1.2**
SNR=21
SAO San Andreas Ge 88.22 53 PFAKE 11 02 20.0 +14
SAO LR LR
comp=Z,3µm,20.0s,MS5.7
COR Corvallis 88.34 45 PFAKE 11 02 20.0 +14
COR LR LR
comp=Z,4µm,20.0s,MS5.8
KBK Karagaybulak 88.53 313 P **P 11 02 07.2 +0.1**
SNR=14
NLWA Neilton Lookou 88.54 42 PFAKE 11 02 20.0 +13
NLWA LR LR
comp=Z,5µm,21.0s,MS5.9
OHCM Honcut 88.66 50 eP **P 11 02 08.2 +0.5**
CHMS Chumysh 88.74 313 P **P 11 02 07.8 -0.3**
SNR=20
UCH Uchtor 88.77 313 eP **P 11 02 08.9 +0.7**
comp=Z,9.7nm,0.8s,mb5.2
UCH LR LR
comp=Z,2µm,21.0s,MS5.4
UCH Uchtor 88.77 313 P **P 11 02 09.1 +0.9**
SNR=46
AAK Ala-Archa 88.86 313 c i P **P 11 02 07.1 -1.5**
AAK pmax pmax
comp=Z,33nm,0.9s,mb5.7
AAK Ala-Archa 88.86 313 P **P 11 02 08.0 -0.6**
SNR=19
AAK Ala-Archa 88.86 313 P **P 11 02 08.0 -0.6**
SNR=19
AAK Ala-Archa 88.86 313 P **P 11 02 08.8 +0.1**
SNR=75
USP Ospenovka 88.97 314 P **P 11 02 08.8 -0.3**
SNR=47
PTRM Twissleman Ran 89.01 54 eP **P 11 02 10.0 +0.5**
SNCC San Nicolas Is 89.18 56 PFAKE 11 02 20.0 +10
SNCC LR LR
comp=Z,4µm,20.0s,MS5.9
CMB Columbia Colle 89.27 52 eP **P 11 02 10.9 +0.2**
comp=Z,149nm,2.3s,mb5.9
CMB LR LR
comp=Z,4µm,21.0s,MS5.8
CMB Columbia Colle 89.27 52 P **P 11 02 11.9 +1.2**
CMB pmax pmax
comp=Z,150nm,2.3s,mb5.9
AML Almayashu 89.35 312 eP **P 11 02 11.4 +0.5**
comp=Z,93nm,1.0s,mb6.1
AML LR LR
comp=Z,2µm,22.0s,MS5.6
AML Almayashu 89.35 312 P **P 11 02 11.6 +0.7**
SNR=40
EKS2 Erkin-Say 89.38 313 eP **P 11 02 11.1 0.0**
comp=Z,80nm,1.2s,mb5.9
EKS2 LR LR
comp=Z,2µm,21.0s,MS5.6
EKS2 Erkin-Say 89.38 313 P **P 11 02 11.3 +0.2**
SNR=16
INK Inuvik 89.58 20 eP **P 11 02 11.1 -0.4**
INK Inuvik 89.58 20 P **P 11 02 10.4 -1.1**
comp=Z,9.1nm,1.1s,mb5.0,baz=256,slow=5.2,SNR=14
INK PKKPbc PKKPbc 11 19 44.7 -4.0
comp=Z,6.9nm,0.7s,baz=46,slow=2.4,SNR=20
BHJ Bhuj 89.72 293 eP **P 11 02 13.7 +0.6**
BHJ AMb AMB 11 02 16.1
comp=Z,235nm,1.6s,mb6.3
MOD Modoc 89.99 48 eP **P 11 02 13.3 -0.7**
comp=Z,4.6nm,0.8s,mb4.9
MOD LR LR
comp=Z,8µm,20.0s,MS6.1
ISA Isabella 90.41 54 eP **P 11 02 16.8 +0.8**
comp=Z,30nm,1.8s,mb5.3
ISA LR LR
comp=Z,5µm,22.0s,MS5.9
ISA Isabella 90.41 54 P **P 11 02 17.0 +0.9**
ISA e*PP pP 11 02 28.0 -2.5
MWC Mount Wilson 90.53 56 eP **P 11 02 17.1 +0.4**
MTUM Tungsten Hills 90.59 53 eP **P 11 02 17.8 +0.9**
RPN Rapa Nui 90.63 117 PFAKE 11 02 30.0 +13
RPN LR LR
comp=Z,5µm,21.0s,MS5.9
NVAR Mina Array Bea 90.95 52 P **P 11 02 19.2 +0.6**
NVAR PKKPbc PKKPbc 11 19 44.5 +0.4
NVAR P'P' 11 27 52.8
NVAR Mina Array Bea 90.95 52 P **P 11 02 19.2 +0.6**
comp=Z,1.7nm,0.7s,mb4.5,baz=237,slow=4.2,SNR=12
NVAR PKKPbc PKKPbc 11 19 44.5 +0.4
comp=Z,0.6nm,0.7s,baz=338,slow=1.6,SNR=4.3
NVAR PKPPKP 11 27 52.8
comp=Z,0.8nm,0.8s,baz=86,slow=3.9,SNR=4.5
WVOR Wild Horse Val 91.30 48 eP **P 11 02 19.3 -0.8**
comp=Z,9.3nm,1.0s,mb5.1
WVOR LR LR
comp=Z,6µm,21.0s,MS6.0
WVOR Wild Horse Val 91.30 48 eP **P 11 02 20.8 +0.8**
WVOR e pP 11 02 31.0 -3.5
WVOR pmax pmax
comp=Z,44nm,1.1s,mb5.7
GSC Goldstone 91.70 55 eP **P 11 02 22.6 +0.5**
GSC LR LR
comp=Z,5µm,19.0s,MS6.0
PFO Pinyon Flat Ob 91.77 57 eP **P 11 02 23.2 +0.7**
comp=Z,61nm,2.1s,mb5.6
PFO LR LR
comp=Z,4µm,19.0s,MS5.9
PFO Pinyon Flat Ob 91.77 57 P **P 11 02 23.3 +0.9**
PFO pmax pmax
comp=Z,61nm,2.1s,mb5.6
KK31 Karatay Array 91.82 313 i P **P 11 02 21.3 -1.2**
TPNV Topopah Spring 92.37 53 eP **P 11 02 25.1 0.0**
TPNV LR LR
comp=Z,4µm,19.0s,MS5.9
SYO Syowa Base 92.43 199‖ eP **P 11 02 22.5 -2.3**
SYO Syowa Base 92.43 199‖ i P **P 11 02 23.6 -1.2**
SYO Syowa Base 92.43 199‖ i P pP 11 02 39.6 +0.4
BMO Blue Mountains 92.60 45 PFAKE 11 02 40.0 +14
BMO LR LR
comp=Z,5µm,21.0s,MS5.9
LDFC Landfair 93.06 55 eP **P 11 02 29.4 +1.0**
NEW Newport 93.17 42 eP **P 11 02 27.3 -1.2**
comp=Z,13nm,0.9s,mb5.4
NEW Newport 93.17 42 P **P 11 02 27.8 -0.7**
comp=Z,2.4nm,0.9s,mb4.6,baz=244,slow=4.8,SNR=4.2
BRVK Borovoye 93.35 323 eP **P 11 02 27.8 -1.5**
comp=Z,135nm,1.1s,mb6.3
BRVK LR LR
comp=Z,2µm,22.0s,MS5.5
BRVK Borovoye 93.35 323 eP **P 11 02 27.8 -1.5**
BRVK pmax pmax
comp=Z,135nm,1.1s,mb6.3
BRVK MLR MLR
comp=Z,2µm,22.0s,MS5.5
BRVK Borovoye 93.35 323 P **P 11 02 28.0 -1.2**
SNR=23
BRVK Borovoye 93.35 323 P **P 11 02 28.0 -1.2**
SNR=23
ELK Elko 93.60 50 PFAKE 11 02 40.0 +9.3
ELK LR LR
comp=Z,89nm,22.0s
HLID Hailey 94.51 47 eP **P 11 02 35.2 +0.4**
CCUT Cedar City 94.72 53 eP **P 11 02 34.5 -1.4**
MSO Missoula 95.16 44 PFAKE 11 02 50.0 +12
MSO LR LR
comp=Z,3µm,19.0s,MS5.8
BGU Big Grassy Mou 95.29 50 eP **P 11 02 38.6 +0.1**
DUG Dugway 95.39 50 eP **P 11 02 39.3 +0.3**
comp=Z,12nm,1.4s,mb5.1
DUG Dugway 95.39 50 eP **P 11 02 39.3 +0.4**
DUG e pP 11 02 51.7 -1.7
HVU Hansel Valley 95.55 49 eP **P 11 02 41.0 +1.4**
MSU Marysvale 95.74 52 eP **P 11 02 42.2 +1.7**
MSU Marysvale 95.74 52 eP **P 11 02 42.2 +1.6**
MSU e*PP pP 11 02 52.5 -2.6
MCMT McKenzie Canyo 95.75 46 eP **P 11 02 41.5 +1.0**
SPUT South Promonto 95.76 49 eP **P 11 02 41.8 +1.2**
YKA Yellowknife Ar 96.04 28 P **P 11 02 40.4 -1.0**
YKA 11 06 42.9
YKA Yellowknife Ar 96.04 28 P **P 11 02 40.3 -1.0**
comp=Z,2.7nm,0.6s,mb4.9,baz=265,slow=4.6,SNR=22

YKA PP PP 11 06 42.9 +8.5
comp=Z,1.4nm,0.8s,baz=271,slow=7.5,SNR=5.3
YKA PKKPbc PKKPbc 11 19 28.4 -3.3
comp=Z,5.9nm,0.6s,baz=80,slow=2.8,SNR=8.5
YKA PKPPKP 11 27 46.3
comp=Z,0.6nm,1.0s,baz=48,slow=1.3,SNR=4.3
MPU Maple Canyon 96.28 51 PFAKE 11 02 50.0 +7.0
MPU LR LR
comp=Z,4µm,20.0s,MS5.8
TUC Tucson 96.37 58 PFAKE 11 02 50.0 +6.4
TUC LR LR
comp=Z,5µm,20.0s,MS6.0
HWUT Hardware Ranch 96.44 49 eP **P 11 02 42.6 -1.1**
comp=Z,5.1nm,0.9s,mb5.0
HWUT LR LR
comp=Z,3µm,20.0s,MS5.7
JLU Jordanelle 96.46 50 eP **P 11 02 44.6 +0.8**
BOZ Bozeman (W) 96.67 45 PFAKE 11 03 00.0 +15
BOZ LR LR
comp=Z,4µm,20.0s,MS5.9
AHID Auburn Hatcher 96.87 48 PFAKE 11 03 00.0 +14
AHID LR LR
comp=Z,4µm,20.0s,MS5.9
TPAW Teton Pass 97.02 47 eP **P 11 02 46.3 0.0**
TPAW ePP PP 11 06 41.1 -1.5
YMR Madison River 97.08 46 PFAKE 11 03 00.0 +14
YMR LR LR
comp=Z,7µm,21.0s,MS6.2
LKWY Lake 97.47 46 eP **P 11 02 49.1 +0.8**
LKWY LR LR
comp=Z,6µm,20.0s,MS6.1
BW06 Boulder Array 98.00 48 PFAKE 11 03 00.0 +9.3
BW06 LR LR
comp=Z,4µm,20.0s,MS5.9
PDAR Pinedale Array 98.00 48 P **P 11 02 49.8 -1.0**
comp=Z,1.2nm,0.8s,mb4.5,baz=214,slow=2.0,SNR=11
PDAR PKKPbc PKKPbc 11 19 24.6 -0.9
comp=Z,0.5nm,0.5s,baz=118,slow=7.4,SNR=4.8
PDAR PKPPKP 11 27 40.6
comp=Z,0.4nm,0.7s,baz=100,slow=6.2,SNR=4.0
PDAR LR LR 11 43 18.6
comp=Z,4µm,19.4s,MS5.9,baz=293,slow=33
RLMT Red Lodge 98.30 46 PFAKE 11 03 00.0 +8.0
RLMT LR LR
comp=Z,4µm,21.0s,MS5.9
AB31 Akbulak array 99.59 319⇑ eP Pdif 11 02 55.3 -2.3
SNAA Sanae 99.98 187 eP diff Pdif 11 02 58.9 -0.4
SNAA e 11 03 03.3
SNAA e 11 03 14.5
SNAA e 11 03 18.7
SNAA e 11 03 23.6
SNAA e 11 03 26.5
SNAA e 11 03 34.7
SNAA e 11 03 40.7
SNAA e 11 07 04.5
SNAA e 11 07 27.9
ANMO Albuquerque 100.12 56 PFAKE 11 03 10.0 +10
ANMO LR LR
comp=Z,2µm,20.0s,MS5.7
ARU Arti 100.29 326⇑ eP Pdif 11 02 59.2 -1.5
ARU LR LR
comp=Z,3µm,22.0s,MS5.7
ARU Arti 100.29 326 d i P Pdif 11 02 59.3 -1.4
ARU 11 07 07.2
ARU S SKSac 11 13 35.7 +0.4
ARU SP SP 11 15 59.5 -1.6
ARU PS PS 11 16 07.4 -0.4
ARU SS SS 11 21 29.2 +1.3
ARU pmax pmax
comp=Z,50nm,1.4s
ARU MLR MLR
comp=Z,2µm,20.0s,MS5.7
LAO LASA Array 100.45 44 PFAKE 11 03 10.0 +8.6
LAO LR LR
comp=Z,4µm,21.0s,MS5.9
AKTK Aktyubinsk 100.82 320 P Pdif 11 03 01.5 -1.5
AKTK PKKPbc PKKPbc 11 19 17.5 -0.3
AKTO Aktyubinsk 100.82 320 P Pdif 11 03 01.5 -1.5
comp=Z,3.2nm,0.7s,baz=88,slow=5.3,SNR=14
AKTO PKKPbc PKKPbc 11 19 17.5 -0.3
comp=Z,1.3nm,0.6s,baz=277,slow=1.5,SNR=3.9
ISCO Idaho Springs 100.90 51 PFAKE 11 03 20.0 +17
ISCO LR LR
comp=Z,3µm,20.0s,MS5.8
MNTX Cornudas Mount 100.92 59 PFAKE 11 03 20.0 +17
MNTX LR LR
comp=Z,8µm,20.0s,MS6.2
SDCO Great Sand Dun 100.96 53 PFAKE 11 03 20.0 +16
SDCO LR LR
comp=Z,4µm,21.0s,MS5.9
VNA3 Neumayer Olymp 101.05 185 eP diff Pdif 11 03 05.4 +1.4
VNA3 e 11 03 08.5
VNA3 e 11 03 17.3
VNA3 e 11 03 21.4
VNA3 e 11 03 26.7
VNA3 e 11 03 31.5
VNA3 e 11 03 40.7
VNA3 e 11 03 47.4
VNA3 e 11 07 13.7
VNA3 e 11 07 28.9
VNA3 e 11 07 31.0
VNA3 e 11 07 33.8
VNA3 e 11 07 43.7
VNA3 e 11 07 46.1
VNA3 e 11 07 48.9
VNA3 e 11 07 53.7
VNA2 Neumayer--Watz 101.16 185 eP diff Pdif 11 03 06.3 +1.5
VNA2 e 11 03 09.4
VNA2 e 11 03 18.1
VNA2 e 11 03 22.0
VNA2 e 11 03 27.5
VNA2 e 11 03 33.1
VNA2 e 11 03 42.0
VNA2 e 11 03 47.9
VNA2 e 11 07 14.7
VNA2 e 11 07 29.4
VNA2 e 11 07 31.0
VNA2 e 11 07 34.4
VNA2 e 11 07 44.0
VNA2 e 11 07 46.0
VNA2 e 11 07 49.1
VNA2 e 11 07 54.5
VNA1 Neumayer--Stat 101.50 185 eP diff Pdif 11 03 07.7 +1.6
VNA1 e 11 03 11.7
VNA1 e 11 03 22.9
RSSD Black Hills 102.03 47 PFAKE 11 03 20.0 +12
RSSD LR LR
comp=Z,246nm,21.0s,MS4.7
PMSA Palmer Station 102.13 164 PFAKE 11 03 20.0 +11
PMSA LR LR
comp=Z,4µm,20.0s,MS5.9
LTX Lajitas 102.33 62 PFAKE 11 03 20.0 +10
LTX LR LR
comp=Z,89nm,20.0s
FFC Flin Flon 102.74 36 PFAKE 11 03 20.0 +8.4
FFC LR LR
comp=Z,8µm,20.0s,MS6.3
AMTX Amarillo 104.05 56 PFAKE 11 03 30.0 +13
AMTX LR LR
comp=Z,4µm,22.0s,MS5.9
CBKS Cedar Bluff 105.47 52 PFAKE 11 07 50.0 +12
CBKS LR LR
comp=Z,3µm,20.0s,MS5.8
JCT Junction City 105.69 60 PFAKE 11 07 50.0 +12
JCT LR LR
comp=Z,6µm,19.0s,MS6.2
KBS Kingsbay 106.24 353 PFAKE 11 07 50.0 +12
KBS LR LR
comp=Z,4µm,22.0s,MS5.9
KBS Kingsbay 106.24 353 e SP 11 17 07.2 +4.5
KBS AMS AMS 11 47 56.3
comp=Z,3µm,23.5s,MS5.7
WMOK Wichita Mounta 106.44 56 PFAKE 11 07 50.0 +11
WMOK LR LR
comp=Z,3µm,21.0s,MS5.8
ULM Lac du Bonnet 107.01 40 PP PP 11 07 53.8 -3.6
comp=Z,5.0nm,1.0s,baz=283,slow=4.1,SNR=4.6
ULM PKKPbc PKKPbc 11 18 57.6 -1.6
comp=Z,2.4nm,0.5s,baz=137,slow=4.3,SNR=8.3
KVTX Kingsville 107.40 64 PFAKE 11 07 50.0 +8.5
KVTX LR LR
comp=Z,3µm,22.0s,MS5.8
ECSD EROS,Sioux Fal 107.41 47 PFAKE 11 07 50.0 +9.0
ECSD LR LR

comp=Z,5µm,21.0s,MS6.0
KSU1 Kansas State U 107.89 51 PFAKE 11 07 50.0 +8.0
KSU1 LR LR
comp=Z,3µm,22.0s,MS5.8
LVZ Lovozero 108.28 340 PFAKE 11 07 50.0 +8.1
LVZ LR LR
comp=Z,3µm,21.0s,MS5.8
HKT Hockley 109.14 61 PFAKE 11 08 00.0 +15
HKT LR LR
comp=Z,5µm,20.0s,MS6.1
KEV Kevo 109.68 343 PFAKE 11 08 00.0 +16
KEV LR LR
comp=Z,5µm,21.0s,MS6.1
NATX Nacogdoches 110.05 59 PFAKE 11 08 00.0 +14
NATX LR LR
comp=Z,7µm,20.0s,MS6.2
ARCES ARCESS Array B 110.24 343 *i* PKIKP PKiKP 11 07 45.1 -0.4
ARCES 11 18 45.4
ARCES pmax pmax
comp=Z,4.0nm,0.7s
ARCES ARCESS Array B 110.24 343 PKiKP PKiKP 11 07 45.1 -0.4
comp=Z,4.0nm,0.7s,baz=91,slow=1.1,SNR=10
ARCES PKKPbc PKKPbc 11 18 45.4 -4.2
comp=Z,4.5nm,0.7s,baz=247,slow=1.9,SNR=8.0
MIAR Mount Ida 110.74 56 PFAKE 11 08 00.0 +12
MIAR LR LR
comp=Z,6µm,22.0s,MS6.1
GOF Gofitskoye 111.47 316 *e*PKIKP 11 08 01.7
JOF Joensuu 111.86 336 *e*pkp PKiKP 11 07 46.0 -2.8
KIV Kislovodsk 111.94 314 *e*PKP PKiKP 11 07 50.5 +1.0
KIV LR LR
comp=Z,1µm,21.0s,MS5.5
KIV Kislovodsk 111.94 314 *e*P Pdif 11 03 54.7 +2.2
KIV *e* 11 08 36.1
KIV *e*SS SS 11 24 19.0 +12
KIV pmax pmax
comp=Z,4.0nm,0.6s
KIV MLR MLR
comp=Z,1µm,23.0s,MS5.4
TRO Tromso 111.94 345 AMS AMS 11 56 17.9
comp=Z,2µm,22.7s,MS5.7
JFWS Jewell Farm 112.12 47 PFAKE 11 08 00.0 +10
JFWS LR LR
comp=Z,4µm,22.0s,MS6.0
COWI Conover 112.24 43 PFAKE 11 08 00.0 +10
COWI LR LR
comp=Z,3µm,20.0s,MS5.9
OBN Obninsk 112.67 327 PFAKE 11 08 00.0 +9.5
OBN LR LR
comp=Z,3µm,22.0s,MS5.8
OBN Obninsk 112.67 327 *e*PKIKP PKiKP 11 07 41.8 -8.7
OBN *e* 11 08 39.4
OBN *e* 11 14 28.0
OBN *e*SS SS 11 24 26.7 +11
OBN pmax pmax
comp=Z,8.0nm,1.6s
OBN MLR MLR
comp=Z,2µm,21.0s,MS5.7
MSL Mosul 112.92 306 *ex* x 11 07 47.0
HDIL Hopedale 113.27 49 PFAKE 11 08 00.0 +7.9
HDIL LR LR
comp=Z,3µm,19.0s,MS5.9
KAF Kangasniemi 114.26 337 *e*pkp PKiKP 11 07 49.4 -4.0
EFI East Falkland 114.29 157 PFAKE 11 08 10.0 +16
EFI LR LR
comp=Z,2µm,19.0s,MS5.8
FINES FINESS Array B 114.72 336 PKIKP PKiKP 11 07 52.8 -1.5
FINES pmax pmax
comp=Z,4.0nm,0.8s
FINES FINESS Array B 114.72 336 PKP PKiKP 11 07 52.8 -1.5
comp=Z,4.4nm,0.8s,baz=117,slow=6.6,SNR=7.3
PLAL Pickwick Lake 115.17 55 PFAKE 11 08 10.0 +14
PLAL LR LR
comp=Z,3µm,22.0s,MS5.9
WVT Waverly 115.18 54 PFAKE 11 08 10.0 +14
WVT LR LR
comp=Z,3µm,19.0s,MS6.0
GLMI Grayling 115.64 44 PFAKE 11 08 10.0 +13
GLMI LR LR
comp=Z,3µm,19.0s,MS6.0
PLCA Paso Flores 115.73 142 PKP PKPdf 11 07 56.3 -0.6
PLCA PKKPbc PKKPbc 11 18 29.5 -0.8
PLCA LR LR
comp=Z,1µm,19.0s,MS5.6
PLCA Paso Flores 115.73 142 PKP PKPdf 11 07 56.3 -0.6
comp=Z,8.4nm,0.6s,baz=230,slow=2.1,SNR=45
PLCA PKKPbc PKKPbc 11 18 29.5 -0.8
comp=Z,3.6nm,0.6s,baz=33,slow=5.5,SNR=13
WCI Wyandotte Cave 116.00 51 PFAKE 11 08 10.0 +13
WCI LR LR
comp=Z,4µm,19.0s,MS6.1
MALT Malatya 116.23 309 *e*PKPdf PKPdf 11 07 58.5 +0.6
LRAL Lakeview Retre 116.36 57 PFAKE 11 08 10.0 +12
LRAL LR LR
comp=Z,8µm,20.0s,MS6.3
TEIG Tepich 116.39 71 PFAKE 11 08 10.0 +11
TEIG LR LR
comp=Z,3µm,21.0s,MS6.0
BRAL Brewton 116.59 59 PFAKE 11 08 10.0 +11
BRAL LR LR
comp=Z,3µm,20.0s,MS5.9
AAM Ann Arbor 117.00 46 PFAKE 11 08 10.0 +11
AAM LR LR
comp=Z,4µm,20.0s,MS6.0
TGUH Tegucigalpa,Un 117.39 78 PFAKE 11 08 10.0 +9.3
TGUH LR LR
comp=Z,2µm,21.0s,MS5.7
NSS Namsos 117.53 343 AMS AMS 12 00 23.4
comp=Z,2µm,21.6s,MS5.7
SFJD Kangerlussuaq 117.65 12 PFAKE 11 08 10.0 +10
SFJD LR LR
comp=Z,2µm,20.0s,MS5.8
HOPE Hope Point 117.71 172 PFAKE 11 08 10.0 +10
HOPE LR LR
comp=Z,4.0nm,19.0s
ACSO Alum Creek Sta 118.04 48 *e*PKPdf PKPdf 11 08 00.6 -0.7
TZTN Tazewell 118.49 52 PFAKE 11 08 10.0 +7.7
TZTN LR LR
comp=Z,4µm,21.0s,MS6.1
AKASG Malin Array Be 118.50 325 PKP PKPdf 11 08 00.8 -1.1
AKASG PKKPbc PKKPbc 11 18 18.9 -1.9
AKASG Malin Array Be 118.50 325 PKP PKPdf 11 08 00.8 -1.1
comp=Z,14nm,0.6s,baz=62,slow=2.0,SNR=54
AKASG PKKPbc PKKPbc 11 18 18.9 -1.9
comp=Z,2.3nm,0.6s,baz=258,slow=3.9,SNR=14
KIEV Kiev 118.52 325 *e*PKPdf PKPdf 11 08 01.0 -0.9
KIEV LR LR
comp=Z,2µm,20.0s,MS5.8
KMBO Kilima Mbogo 118.56 265 *e*PKPdf PKPdf 11 08 03.5 +0.3
KMBO LR LR
comp=Z,2µm,21.0s,MS5.7
KMBO Kilima Mbogo 118.56 265 PKP PKPdf 11 08 03.1 0.0
comp=Z,8.7nm,0.7s,baz=52,slow=7.8,SNR=27
GOGA Godfrey 119.21 56 PFAKE 11 08 20.0 +16
GOGA LR LR
comp=Z,5µm,20.0s,MS6.2
ERPA Erie 119.66 45 PFAKE 11 08 20.0 +16
ERPA LR LR
comp=Z,4µm,20.0s,MS6.0
ANTO Ankara 120.09 312 *e*PKPdf PKPdf 11 08 05.4 +0.1
ANTO LR LR
comp=Z,720nm,19.0s,MS5.3
ANTO Ankara 120.09 312 ⇓*i*P PKPdf 11 08 04.5 -0.8
NB2 NORSAR Subarra 120.40 341 PKPdf PKPdf 11 08 05.1 -0.1
comp=Z,2.2nm,0.7s,baz=39,slow=1.9
NB2 NORSAR Subarra 120.40 341 PKPdf PKPdf 11 08 05.1 -0.1
baz=39,slow=1.9
NOA NORSAR Array B 120.40 341 PKIKP PKPdf 11 08 05.4 +0.2
NOA pmax pmax
comp=Z,2.0nm,0.6s
NOA NORSAR Array B 120.40 341 PKP PKPdf 11 08 05.3 +0.1
comp=Z,2.0nm,0.6s,baz=46,slow=2.0,SNR=12
MCWV Mont Chateau 120.51 48 PFAKE 11 08 20.0 +14
MCWV LR LR
comp=Z,6µm,20.0s,MS6.2
BOSA Boshof 120.78 231 PKIKP PKPdf 11 08 07.2 +0.2
BOSA pmax pmax
comp=Z,5.0nm,0.6s
BOSA Boshof 120.78 231 PKP PKPdf 11 08 07.2 +0.2
comp=Z,4.8nm,0.6s,baz=116,slow=2.1,SNR=18
SCHQ Schefferville 121.49 28 PKKPbc PKKPbc 11 18 09.0 -0.8
comp=Z,5.7nm,0.7s,baz=138,slow=5.8,SNR=12
TIRR Tirgusor 121.59 318 ⇓P PKPdf 11 08 08.0 0.0
TIRR Tirgusor 121.59 318 ⇓*i*P PKPdf 11 08 08.0 0.0
SSPA Standing Stone 121.63 46 PFAKE 11 08 20.0 +12
SSPA LR LR
comp=Z,3µm,20.0s,MS6.0
HARR Harsova 121.81 319 P PKPdf 11 08 09.1 +0.6
HARR Harsova 121.81 319 ⇓*i*P PKPdf 11 08 05.8 -2.6
LVV L'vov 121.86 326 *e*PKIKP pPKPdf 11 08 21.9 -1.4
DWPF Disney 121.87 62 PFAKE 11 08 20.0 +11
DWPF LR LR
comp=Z,4µm,19.0s,MS6.0
NHSC New Hope 121.96 55 PFAKE 11 08 20.0 +11
NHSC LR LR
comp=Z,5µm,20.0s,MS6.1
KONO Kongsberg 121.98 341 PFAKE 11 08 20.0 +12
KONO LR LR
comp=Z,2µm,20.0s,MS5.8
KONO Kongsberg 121.98 341 *e*PP PP 11 09 41.8 -0.5
SUR Sutherland 122.04 224 *e*PKPdf PKPdf 11 08 09.1 -0.2
SUR LR LR
comp=Z,8µm,20.0s,MS6.4
LCO Las Campanas 122.17 131 *e*PKPdf PKPdf 11 08 09.2 -0.4
LCO LR LR
comp=Z,1µm,20.0s,MS5.6
BINY Binghamton 122.43 44 PFAKE 11 08 20.0 +10
BINY LR LR
comp=Z,5µm,22.0s,MS6.1
TRQA Tornquist 122.53 145 *e*PKPdf PKPdf 11 08 09.0 -1.1
TRQA LR LR
comp=Z,9µm,20.0s,MS6.4
BORG Borgarnes 122.64 359 PFAKE 11 08 20.0 +11
BORG LR LR
comp=Z,2µm,22.0s,MS5.8
BER Bergen 122.70 343 *e*PP PP 11 09 47.3 +0.2
BER AMS AMS 11 58 09.4
comp=Z,2µm,21.2s,MS5.7
KWP Kalwaria 122.70 326 *e*PKP PKPdf 11 08 09.5 -0.5
KWP Kalwaria 122.70 326 ⇑*i*P PKPdf 11 08 10.0 0.0
MLR Muntele Rosu 122.75 320 P PKPdf 11 08 10.4 +0.2
MLR Muntele Rosu 122.75 320 ⇑*i*P PKPdf 11 08 10.0 -0.2
CBN Corbin 122.79 49 PFAKE 11 08 20.0 +9.5
CBN LR LR
comp=Z,3µm,20.0s,MS5.9
NCB Newcomb 122.92 42 PFAKE 11 08 20.0 +9.4
NCB LR LR
comp=Z,6µm,22.0s,MS6.2
BSD Bornholm Skovb 123.25 335 *i* PKIKP PKPdf 11 08 10.8 -0.1
BSD pmax pmax
comp=Z,10.0nm,0.7s
BSD Bornholm Skovb 123.25 335 *i* P PKPdf 11 08 10.8 -0.1
comp=Z,10nm,0.7s
BSD *i* 11 08 31.2
CNNC Cliffs of the 123.27 52 PFAKE 11 08 20.0 +8.5
CNNC LR LR
comp=Z,4µm,22.0s,MS6.1
KOLS Kolonicke sedl 123.30 325 *e*PKP PKPdf 11 08 12.1 +0.9
KOLS *e* 11 08 19.7
UZH Uzhgorod 123.45 325 *e*PKIKP PKPdf 11 08 09.0 -2.5
STHS Stebnicka Huta 123.62 326 *e*PKP PKPdf 11 08 11.7 -0.1
STHS *e* 11 08 24.3
CRVS Cervenica-Dubn 123.78 326 *e*PKP PKPdf 11 08 12.3 +0.2
LSZ Lusaka 123.84 246 *e*PKPdf PKPdf 11 08 12.9 -0.2
LSZ LR LR
comp=Z,4µm,20.0s,MS6.0
NNA Nana 123.86 110 PFAKE 11 08 20.0 +6.8
NNA LR LR
comp=Z,1µm,22.0s,MS5.6
OJC Ojcow 123.96 328 *e*PKP PKPdf 11 08 13.0 +0.6
PVL Pavlikeni 124.13 318 *e*P PKPdf 11 08 13.5 +0.6
DRGR 124.14 323 P PKPdf 11 08 13.0 +0.2
LBNH Lisbon 124.30 40 PFAKE 11 08 20.0 +6.8
LBNH LR LR
comp=Z,10µm,22.0s,MS6.4
KECS Kecovo 124.55 326 *e*PKP PKPdf 11 08 13.6 0.0
GZR Gura Zlata 124.78 321 P PKPdf 11 08 14.3 +0.1
GZR Gura Zlata 124.78 321 ⇑*i*P PKPdf 11 08 13.6 -0.5
OTAV Otavalo 125.03 95 PFAKE 11 08 30.0 +14
OTAV LR LR
comp=Z,1µm,22.0s,MS5.5
OKC Ostrava-Krasne 125.05 328 *e*PKP PKPdf 11 08 14.9 +0.4
OKC *e* 11 08 29.5
OKC *e*SS SS 11 27 11.7 +16
OKC Ostrava-Krasne 125.05 328 *e*PKPdf PKPdf 11 08 14.9 +0.4
OKC *e*pPKP pPKPdf 11 08 29.5 +0.1
OKC *e*SS SS 11 27 11.7 +16
OKC AMS AMS 12 05 50.0
comp=Z,2µm,17.6s,MS5.8
RZN Rozhen 125.18 317 *e*P PKPdf 11 08 14.3 -0.7
PSZ Piszkesteto 125.19 325 *e*PKPdf PKPdf 11 08 14.5 -0.3
PSZ Piszkesteto 125.19 325 PKIKP PKPdf 11 08 15.0 +0.2
PSZ Piszkesteto 125.19 325 ⇓*e*PKP PKPdf 11 08 14.9 +0.1
HRV Adam Dziewonsk 125.31 42 PFAKE 11 08 30.0 +15
HRV LR LR
comp=Z,5µm,21.0s,MS6.1
KSP Ksiaz 125.39 330 *e*PKP PKPdf 11 08 14.6 -0.5
KSP *e*PP PP 11 10 09.0 +3.4
KSP *e*SP SP 11 19 56.0 -4.6
KSP *e*SS SS 11 26 58.0 -1.8
KSP LR LR
comp=Z,7µm,22.6s,MS6.3
MORC Moravsky Berou 125.40 328 *e*PKPdf PKPdf 11 08 15.2 0.0
MORC Moravsky Berou 125.40 328 PKIKP PKPdf 11 08 15.4 +0.2
VYHS Vyhne 125.45 326 *e*PKP PKPdf 11 08 15.6 +0.3
VYHS *e* 11 08 28.8
VYHS *e*PP PP 11 10 07.4 +1.3
PKME Peaks-Kenny Pk 125.47 38 PFAKE 11 08 30.0 +15
PKME LR LR
comp=Z,12µm,19.0s,MS6.6
WES Weston 125.52 42 PFAKE 11 08 30.0 +14
WES LR LR
comp=Z,4µm,21.0s,MS6.0
RUE Ruedersdorf 125.52 333 *e*PKPdf PKPdf 11 08 15.9 +0.6
KOLL Kolacno 125.64 327 *e*PKP PKPdf 11 08 15.8 +0.1
DPC Dobruska-Polom 125.68 329 *e*PKIKP PKPdf 11 08 16.0 +0.3
DPC *e* 11 08 27.8
DPC MLR MLR
comp=Z,4µm,24.4s,MS6.0
DPC Dobruska-Polom 125.68 329 *e*PKPdf PKPdf 11 08 16.0 +0.3
DPC *e*pPKP pPKPdf 11 08 27.8 -2.8
DPC *e*SS SS 11 27 12.9 +9.4
DPC AMS AMS 12 03 30.0
comp=Z,4µm,24.4s,MS6.0
UPC Upice 125.73 330 *e*PKPdf PKPdf 11 08 15.8 0.0
UPC *ex* x 11 08 30.2
VTS Vitosha 125.80 318 P PKPdf 11 08 16.5 +0.4
VTS Vitosha 125.80 318 ⇑*i*P PKPdf 11 08 15.5 -0.7
VTS Vitosha 125.80 318 *e*P PKPdf 11 08 15.2 -1.0
MMB Musomiste 125.90 317 *e*P PKPdf 11 08 15.6 -0.8
BUD Budapest 125.92 325 ⇓*e*PKP PKPdf 11 08 16.4 +0.2
BSEG Bad Segeberg 125.99 336 *e*PKPdf PKPdf 11 08 17.0 +0.8
BSEG *e*pPKPdf pPKPdf 11 08 30.2 -0.9
KKB Krupnik 126.21 318 *e*P PKPdf 11 08 16.5 -0.5
MODS Modra-Piesok 126.37 327 *e*PKP PKPdf 11 08 17.0 -0.1
MODS *e* 11 08 32.0
MODS *e*PP PP 11 10 13.7 +1.5
PVCC Panska Ves 126.43 331 *e*PKP PKPdf 11 08 17.4 +0.3
PVCC *e* 11 08 31.4
PVCC Panska Ves 126.43 331 *e*PKPdf PKPdf 11 08 17.4 +0.3
PVCC *e*pPKP pPKPdf 11 08 31.4 -0.7
PVCC AMS AMS 12 01 20.0
comp=Z,3µm,22.9s,MS5.9
BRG Berggiesshubel 126.51 331 *i* PKIKP PKPdf 11 08 16.5 -0.8
BRG *i* 11 08 31.1
BRG pmax pmax
comp=Z,10.0nm,1.0s
BRG Berggiesshubel 126.51 331 *e*PKPdf PKPdf 11 08 17.8 +0.5
BRG *e*pPKPdf pPKPdf 11 08 31.3 -0.9
BRG Berggiesshubel 126.51 331 *i* PDIF PKPdf 11 08 16.5 -0.8
comp=Z,20nm,1.0s
BRG *i* 11 08 31.1
comp=Z,20nm,1.0s
ZST Bratislava 126.57 327 *e*PKP PKPdf 11 08 18.5 +1.0
ZST *e* 11 08 42.3
ZST LR LR
comp=Z,2µm,20.6s,MS5.7
ZST Bratislava 126.57 327 *e*PKP PKPdf 11 08 18.5 +1.0
ZST *e* 11 08 42.3
CLL Collm 126.67 332 ⇓*i*PKP PKPdf 11 08 17.9 +0.4
CLL *i* 11 08 31.8
CLL LR LR
comp=Z,2µm,20.5s,MS5.8
CLL Collm 126.67 332 ⇓*i*PKIKP PKPdf 11 08 17.9 +0.4
CLL *i* 11 08 31.8
CLL pmax pmax
comp=Z,10.0nm,0.8s
CLL MLR MLR
comp=Z,2µm,20.5s,MS5.8
CLL Collm 126.67 332 *e*PKPdf PKPdf 11 08 17.9 +0.4
CLL Collm 126.67 332 ⇓*i*PKPdf PKPdf 11 08 17.9 +0.4
comp=Z,17nm,0.8s
CLL *i* sPKPdf 11 08 31.8
comp=Z,19nm,0.8s
CLL *i* x x 11 08 44.6
CLL LmV 11 09 00.0
comp=Z,2µm,20.5s
CLL *e*PP PP 11 10 10.0 -4.0
comp=Z,300nm,21.2s
CLL *ex* x 11 10 33.0
CLL *e*SKSP 11 20 10.0
CLL *e*SPP 11 21 46.0
CLL *e*PPPrev 11 25 18.0
CLL *e*SS SS 11 27 25.0 +9.3
CLL *ex* x 11 31 46.0
TREC Trest 126.76 329 *e*PKPdf PKPdf 11 08 17.6 -0.2
TREC *e*pPKP pPKPdf 11 08 32.0 -0.7
TREC AMS AMS 12 04 10.0
comp=Z,2µm,23.5s,MS5.8
FBE Freiberg 126.76 332 *e*PKPdf PKPdf 11 08 18.5 +0.8
PRU Pruhonice 126.80 330 *e*PKPdf PKPdf 11 08 17.5 -0.3
PRU *e*pPKP pPKPdf 11 08 31.6 -1.2
PRU *e*SS SS 11 27 24.5 +7.1
PRU AMS AMS 12 01 10.0
comp=Z,2µm,24.2s,MS5.8
VAY Valandovo 126.80 317 *e*PKP PKPdf 11 08 14.9 -3.2
PKSM Moragy 126.84 324 P PKPdf 11 08 17.9 -0.1
PKSM Moragy 126.84 324 ⇑*i*P PKPdf 11 08 18.5 +0.5
NRDL Niedersach Rie 127.13 335 *e*PKPdf PKPdf 11 08 19.3 +0.9
SOP Sopron 127.17 327 ⇓*e*PKP PKPdf 11 08 18.6 0.0
ARE Arequipa 127.21 117 *e*P PKPdf 11 08 19.0 -0.6
SKO Skopje 127.25 318 *e*PKP PKPdf 11 08 17.4 -1.6
CONA Conrad Observa 127.40 327 ⇑*i*PKiKP PKiKP 11 08 18.9 -0.7
comp=Z,13nm,0.8s
CLZ Clausthal 127.48 334 *e*PKPdf PKPdf 11 08 20.1 +1.0
CLZ *e*pPKPdf pPKPdf 11 08 33.6 -0.4
WERD Werda 127.57 332 *e*PKPdf PKPdf 11 08 19.9 +0.6
GUNZ Gunzen 127.62 332 *e*PKPdf PKPdf 11 08 20.3 +0.9
WERN Wernitzgruen 127.65 331 *e*PKPdf PKPdf 11 08 20.3 +0.9
NKC Novy Kostel 127.65 331 *e*PKP PKPdf 11 08 20.4 +0.9
NKC *e* 11 08 33.9
NKC Novy Kostel 127.65 331 *e*PKPdf PKPdf 11 08 20.4 +0.9
NKC *e*pPKP pPKPdf 11 08 33.9 -0.5
NKC AMS AMS 12 02 30.0
comp=Z,3µm,21.9s,MS5.9
KRUS Krusevo 127.66 318 *e*PKP PKPdf 11 08 18.1 -1.7
MOX Moxa 127.76 332 *e*PKP PKPdf 11 08 19.8 +0.1
comp=Z,78nm,2.3s
MOX
comp=Z,900nm,21.0s
MOX Moxa 127.76 332 *e*PKPdf PKPdf 11 08 20.2 +0.5
BIA Bitola 127.77 317 *e*PKP PKPdf 11 08 18.4 -1.6
KHC Kasperske Hory 127.83 330 *e*PKPdf PKPdf 11 08 19.8 0.0
KHC *e*pPKP pPKPdf 11 08 34.3 -0.5
KHC *e*SS SS 11 27 33.9 +3.6
KHC AMS AMS 12 05 20.0
comp=Z,2µm,17.5s,MS5.9
GEC2 GERESS Array S 127.95 329 *e*PKPdf PKPdf 11 08 20.6 +0.5
GERES GERESS Array B 127.95 329 PKP PKPdf 11 08 20.4 +0.4
comp=Z,9.3nm,0.7s,baz=75,slow=1.5,SNR=45
GERES PKKP 11 18 31.2
comp=Z,1.3nm,0.6s,baz=186,slow=1.3,SNR=6.2
MANZ Manzenberg 127.98 331 *e*PKPdf PKPdf 11 08 20.9 +0.8
ROTZ Rotzenmuhle 128.08 331 *e*PKPdf PKPdf 11 08 20.8 +0.5
OHR Ohrid 128.08 318 *e*PKP PKPdf 11 08 18.4 -2.2
WET Wettzell 128.17 330 *e*PKPdf PKPdf 11 08 21.2 +0.7
IBBN Ibbenburen 128.24 336 *e*PKPdf PKPdf 11 08 21.3 +0.8
MOA Molln 128.29 328 ⇑*i*P PKPdf 11 08 19.9 -0.9
comp=Z,6.2nm,0.7s
UBBA Unterbreizbach 128.37 333 *e*PKPdf PKPdf 11 08 21.3 +0.5
PERS Pernice 128.58 326 *i* PKPdf PKPdf 11 08 20.2 -1.1
GRA1 Grafenberg Arr 128.60 332 *e*PKPdf PKPdf 11 08 21.9 +0.6
GRA1 LR LR
comp=Z,1µm,21.8s,MS5.6
GRF Grafenberg Arr 128.60 332 *e*PKPdf PKPdf 11 08 21.9 +0.6
GRF *e*L 12 07 44.4
comp=Z,1µm,21.8s
GRFO Grafenberg 128.60 332 PFAKE 11 08 30.0 +8.7
GRFO LR LR
comp=Z,1µm,22.0s,MS5.6
OBKA Obir 128.97 327 ⇑*i*P PKPdf 11 08 21.0 -1.1
comp=Z,11nm,1.5s
BOJS Bojanci 129.19 325 *i* PKPdf PKPdf 11 08 22.1 -0.4
KBA Koelnbreinsper 129.26 328 ⇑*i*P PKPdf 11 08 21.2 -1.4
comp=Z,6.0nm,0.9s
LJU Ljubljana 129.27 326 *e*PKPdf PKPdf 11 08 22.6 -0.1
ESK Eskdalemuir 129.39 345 PFAKE 11 08 30.0 +7.4
ESK LR LR
comp=Z,2µm,22.0s,MS5.8
TNS Taunus Mts 129.49 334 *e*PKPdf PKPdf 11 08 23.8 +0.8
FUR Furstenfeldbru 129.61 330 *e*PKPdf PKPdf 11 08 23.8 +0.5
JAVS Javornik 129.62 326 *i* PKPdf PKPdf 11 08 22.4 -0.9
VOY Vojsko 129.62 326 *e*PKPdf PKPdf 11 08 23.0 -0.3
ROSC El Rosal 129.69 90 PKP PKPdf 11 08 25.1 +0.7
comp=Z,7.7nm,0.4s,baz=99,slow=20,SNR=5.4
SKDS Skadanscina 129.85 326 *e*PKPdf PKPdf 11 08 22.6 -1.2
WTTA Wattenberg 130.03 329 ⇓*i*P PKPdf 11 08 22.6 -1.4
comp=Z,39nm,1.4s
STU Stuttgart 130.19 332 *e*PKPdf PKPdf 11 08 25.0 +0.7
BEBN Eben Emael 130.23 336 PKPdf PKPdf 11 08 25.1 +0.7
LPAZ La Paz 130.23 118 PKP PKPdf 11 08 25.2 -0.1
LPAZ LR LR
comp=Z,899nm,20.0s,MS5.5
LPAZ La Paz 130.23 118 PKP PKPdf 11 08 25.2 -0.1
comp=Z,16nm,0.8s,baz=275,slow=1.1,SNR=38
BCLA Clavier 130.68 336 PKPdf PKPdf 11 08 25.1 -0.1
WLF Walferdange 130.90 335 *e*PKPdf PKPdf 11 08 27.2 +1.5
BFO Black Forest 130.91 332 *e*PKPdf PKPdf 11 08 26.1 +0.4
BFO LR LR
comp=Z,2µm,19.0s,MS5.8
SNF Seneffe 131.01 337 PKPdf PKPdf 11 08 26.1 +0.3
GIVF Givet 131.12 336 *e*PKIKP PKPdf 11 08 22.5 -3.6
DOU Dourbes 131.21 336 PKPdf PKPdf 11 08 26.2 0.0
CDF Champ du Feu 131.34 333 *e*PKIKP PKPdf 11 08 22.5 -4.0
BAIF Baives 131.40 336 *e*PKIKP PKPdf 11 08 23.0 -3.6
comp=Z,30nm,1.1s
TSUM Tsumeb 131.48 236 *e*PKPdf PKPdf 11 08 27.8 +0.1
TSUM LR LR
comp=Z,6µm,22.0s,MS6.3
TIP Timpagrande 131.73 317 *e*PKPdf PKPdf 11 08 27.5 -0.1
HINF Hinteralfeld 131.97 332 *e*PKIKP PKPdf 11 08 23.9 -3.8
HAU Haudompre 132.06 333 *e*PKIKP PKPdf 11 08 24.2 -3.7
comp=Z,44nm,1.1s
HAU *e*MLR MLR
comp=Z,3µm,23.0s,MS5.6
HAU Haudompre 132.06 333 *e*PKIKP PKPdf 11 08 24.2 -3.7
HAU MLR MLR
comp=Z,3µm,23.0s,MS5.9
AQU L'Aquila 132.12 323 *e*PKPdf PKPdf 11 08 28.6 +0.4
MEZF Maizieres J'vi 132.25 334 *e*PKIKP PKPdf 11 08 25.0 -3.3
comp=Z,174nm,1.5s
SDDR Presa de Saban 132.44 71 PFAKE 11 08 40.0 +11
SDDR LR LR
comp=Z,3µm,20.0s,MS5.9
CABF La Chapelle 133.21 332 *e*PKIKP PKPdf 11 08 27.1 -3.0
comp=Z,79nm,1.0s
SDV Santo Domingo 133.60 85 *e*PKPdf PKPdf 11 08 31.8 0.0
SDV LR LR
comp=Z,491nm,20.0s,MS5.2
LPL La Plagne 133.69 330 *e*PKIKP PKPdf 11 08 28.0 -3.1
comp=Z,56nm,1.0s
LPG La Plagne 133.70 330 *e*PKIKP PKPdf 11 08 28.1 -3.0
comp=Z,52nm,0.9s
LOR Lormes 133.72 334 *e*PKIKP PKPdf 11 08 27.6 -3.4
comp=Z,44nm,1.1s
LOR *e*MLR MLR
comp=Z,3µm,23.0s,MS5.7
LOR Lormes 133.72 334 *e*PKIKP PKPdf 11 08 27.6 -3.4
LOR MLR MLR
comp=Z,3µm,23.0s,MS6.0
SSF Saint Saulge 134.03 334 *e*PKIKP PKPdf 11 08 28.5 -3.1
comp=Z,61nm,1.2s
BNI Bardonecchia 134.05 330 *e*PKPdf PKPdf 11 08 31.5 -0.3
SMF Signal de Mont 134.20 334 *e*PKIKP PKPdf 11 08 28.4 -3.6
comp=Z,26nm,0.9s
FLN La Foiniere 134.24 339 *e*PKIKP PKPdf 11 08 28.7 -3.3
FLN *e*MLR MLR
comp=Z,4µm,22.6s,MS5.8
FLN La Foiniere 134.24 339 *e*PKIKP PKPdf 11 08 28.7 -3.3
FLN MLR MLR
comp=Z,4µm,22.6s,MS6.1
AVF Avril sur Loir 134.31 334 *e*PKIKP PKPdf 11 08 28.5 -3.7

comp=Z,32nm,1.3s
SBF Sospel 134.51 328 *e*PKIKP PKPdf 11 08 28.9 -3.7
comp=Z,72nm,1.0s
ORIF Oris-en-Rattie 134.54 330 *e*PKIKP PKPdf 11 08 29.1 -3.6
comp=Z,35nm,0.8s
ORIF *e*MLR MLR
comp=Z,4μm,22.4s,MS5.8
PGF Pioggiola 134.55 326 *e*PKIKP PKPdf 11 08 29.1 -3.7
comp=Z,132nm,1.3s
BBSR BB Station 134.56 51 PFAKE 11 08 40.0 +6.9
BBSR LR LR
comp=Z,3μm,22.0s,MS5.9
GRR Gorron 134.69 339 *e*PKIKP PKPdf 11 08 29.6 -3.2
BGF Bois d'Agland 134.71 334 *e*PKIKP PKPdf 11 08 29.7 -3.2
VIVF Saint-Julien-l 135.17 331 *e*PKIKP PKPdf 11 08 30.6 -3.3
TCF Toulx Ste Croi 135.19 334 *e*PKIKP PKPdf 11 08 30.6 -3.2
comp=Z,69nm,1.1s
LMR La Mourre 135.36 328 *e*PKIKP PKPdf 11 08 30.8 -3.5
comp=Z,69nm,1.0s
SGMF Saint Gilles 135.40 340 *e*PKIKP PKPdf 11 08 30.7 -3.5
KEST Kesra 138.54 318 PKP PKPdf 11 08 41.9 +1.5
comp=Z,5.3nm,0.8s,baz=279,slow=2.0,SNR=7.6
EMOS Mosqueruela 141.05 331 PKP PKPdf 11 08 40.3 -4.5
EPON Pontenova 141.27 341 PKP PKPdf 11 08 41.7 -3.4
ETOR Torete 141.42 333 PKP PKPdf 11 08 41.0 -4.5
ECHE Chera 141.89 331 PKP PKPdf 11 08 44.0 -2.3
EBEN Beniarda 142.21 329 PKP PKPdf 11 08 45.4 -1.5
GUD Guadarrama 142.47 335 PKP PKPdf 11 08 44.5 -2.9
ETOB Tobarra 142.91 331 PKP PKPdf 11 08 47.2 -0.9
MVO Moncorvo 143.14 339 *e*PKP PKPdf 11 08 46.0 -2.5
ESDC Sonseca Array 143.19 334 PKP PKPdf 11 08 45.2 -3.5
ESDC pPKP pPKPdf 11 09 01.1 -2.6
ESDC Sonseca Array 143.19 334 PKhKP 11 08 45.0
comp=Z,6.2nm,0.8s,baz=24,slow=3.2,SNR=16
ESDC PP PP 11 12 04.6 +6.2
comp=Z,2.1nm,0.6s,baz=29,slow=6.9,SNR=4.6
EVIA Vianos 143.38 332 PKP PKPdf 11 08 46.7 -2.3
PAB San Pablo 143.47 334 *e*PKPdf PKPdf 11 08 47.0 -2.1
PAB LR LR
comp=Z,2μm,22.0s,MS5.8
PVIS Viseu 143.84 339 *e*PKP PKPdf 11 08 47.6 -2.2
MTE Manteigas 144.00 339 *e*PKP PKPdf 11 08 47.4 -2.6
MTE Manteigas 144.00 339 *e*PKPdf PKPdf 11 08 49.1 -1.0
EQES Quesada 144.31 331 PKP PKPdf 11 08 48.3 -2.3
BBGH Gun Hill 144.33 78 PFAKE 11 09 00.0 +8.7
BBGH LR LR
comp=Z,3μm,19.0s,MS6.1
EBAN Banos Encina 144.35 332 PKP PKPdf 11 08 49.3 -1.4
PCBR Castelo Branco 144.46 338 *e*PKP PKPdf 11 08 49.1 -1.8
ENIJ Nijar 144.54 330 PKP PKPdf 11 08 49.1 -2.0
EADA Adamuz 144.71 333 PKP PKPdf 11 08 50.7 -0.6
EADA pPKP pPKPdf 11 09 04.2 -2.1
EBER Berja 144.94 330 PKP PKPdf 11 08 50.4 -1.4
ECOG Cogollos-Vega 144.97 331 PKP PKPdf 11 08 50.3 -1.6
ELUQ Luque 145.06 332 PKP PKPdf 11 08 51.3 -0.7
ECAB El Cabril 145.15 334 PKP PKPdf 11 08 51.7 -0.4
EBAD Badajoz 145.23 337 PKP PKPdf 11 08 51.4 -0.8
EBAD pPKP pPKPdf 11 09 06.1 -1.1
ERON Agron 145.29 331 PKP PKPdf 11 08 50.4 -2.0
EGUA Guajares 145.32 331 PKP PKPdf 11 08 51.5 -1.0
ELOJ Sierra Loja 145.35 332 PKP PKPdf 11 08 51.8 -0.7
PESTR Estremoz 145.36 337 *e*PKP PKPdf 11 08 51.6 -0.8
ALMR Almeirim 145.47 339 *e*P PKPdf 11 08 52.4 -0.2
PBAR Barrancos 145.74 336 *e*PKP PKPdf 11 08 52.7 -0.4
EALB Alboran 145.76 329 PKP PKPdf 11 08 52.6 -0.7
EVO Evora 145.81 338⇑ *i*PKIKP PKPdf 11 08 53.3 +0.1
comp=Z,265nm,1.1s
EVO *e*MLR MLR
comp=Z,4μm,23.0s,MS5.8
PMAFR Mafra 145.89 340 *e*PKP PKPdf 11 08 52.9 -0.5
EMIN Mina Concepcio 145.94 335 PKP PKPdf 11 08 54.2 +0.8
LIS Lisbon 146.06 339 *e*P PKPdf 11 08 54.5 +0.9
EMIJ Mijas 146.11 332 PKP PKPdf 11 08 52.6 -1.2
PBEJ Beja 146.20 337 *e*PKP PKPdf 11 08 54.8 +0.9
ESPR Espera 146.35 334 PKP PKPdf 11 08 55.7 +1.5
EGRO El Granado 146.47 336 PKP PKPdf 11 08 55.6 +1.2
EJIF Jimena Fronter 146.52 333 PKP PKPdf 11 08 55.4 +0.9
PVAQ Vaqueiros 146.68 336 *e*PKP PKPdf 11 08 55.5 +0.8
PBDV Barranco-do-Ve 146.90 336 *e*PKP PKPdf 11 08 55.3 +0.2
PTEO Sao Teotonio 146.94 338 *e*PKP PKPdf 11 08 57.0 +1.8
MORF Marmelete 147.13 337 *e*PKP PKPdf 11 08 57.5 +2.0
PFVI Vila Bisbo 147.35 338 *e*PKP PKPdf 11 08 56.6 +0.7
ROSA Rosais 148.47 7 *e*PKP pPKPdf 11 09 14.5 +1.9
CALA Caldeira 148.55 7 *e*PKP pPKPab 11 09 19.3 -0.2
PICO Pico 148.66 7 *e*PKP pPKPdf 11 09 15.4 +2.4
PID Ribeirinha 148.76 7 *e*PKP pPKPab 11 09 19.0 -1.3
TORD Torodi Ar. Bea 154.29 285 PKP PKPdf 11 09 05.7 -1.5
comp=Z,5.5nm,0.6s,baz=28,slow=0.7,SNR=24
TORD PKPbc PKPbc 11 09 15.4 0.0
comp=Z,43nm,0.7s,baz=80,slow=2.3,SNR=46
DBIC Dimbokro 161.22 269 PKP PKPdf 11 09 15.5 -0.3
DBIC PKPab PKPab 11 09 59.9 +0.3
DBIC Dimbokro 161.22 269 PKP PKPdf 11 09 15.5 -0.3
comp=Z,19nm,0.9s,baz=140,slow=1.2,SNR=9.2
DBIC PKPab PKPab 11 09 59.9 +0.4
comp=Z,56nm,0.5s,baz=79,slow=4.3,SNR=43
LIC Lamto 161.36 268⇑ *i*PKIKP PKPdf 11 09 13.1 -2.8
comp=Z,181nm,1.2s
LIC *e*MLR MLR
comp=Z,2μm,19.0s
LIC Lamto 161.36 268⇑ *i*PKPdf PKPdf 11 09 13.1 -2.8
LIC LR LR
comp=Z,1μm,19.0s
ASCN Ascension 162.19 212 PFAKE 11 09 30.0 +13
ASCN LR LR
comp=Z,3μm,21.0s

JMA 02** 10:49:22.7±0.4,**4444N**×**14939E**,**h30**km,**M3.7**,**Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**2.85**	**249**	P	Pn	10 50 05.0	-1.0
NEM2				*e*S	Sn	10 50 36.5	-2.8
JRA	**Rausu**	**3.11**	**262**	P	Pn	10 50 11.2	+1.5
JNK	**Nakash**	**3.48**	**257**	P	Pn	10 50 15.1	+0.4
JAK	**Akkeshi**	**3.70**	**249**	P	Pn	10 50 16.9	-0.8
JAK				*e*S	Sn	10 50 56.7	-3.5
JTKR	**Abashiri--Toko**	**3.97**	**265**	P	Pn	10 50 23.4	+1.9
JAR	**Ashorobuto**	**4.22**	**256**	P	Pn	10 50 25.8	+0.9
JMP	**Maruseppu**	**4.36**	**266**	P	Pn	10 50 29.4	+2.6
JNBK	**Urakawa-nobuka**	**5.30**	**248**	P	Pn	10 50 39.5	-0.2
JNBK				*e*S	Sn	10 51 35.9	-3.8
JNB	**Noboribetsu**	**6.39**	**255**	P	Pn	10 50 55.5	+0.8
JKB	**Kayabe**	**6.62**	**250**	P	Pn	10 50 57.6	-0.3
JKB				*e*S	Sn	10 52 06.7	-5.6
JANG	**Nango**	**7.10**	**238**	*e*S	Sn	10 52 13.7	-10
JTH	**Tanohata**	**7.17**	**234**	*e*S	Sn	10 52 13.8	-12
JIO	**Ouri**	**8.50**	**228**	*e*S	Sn	10 52 45.1	-13

IDC 02 10:53:17.5±1.6,762S×15652E,h0km,mb5.0/7,mb1 5.1/7, mb1mx4.8/15,mbtmp5.0/7,MS5.3/1,Ms1 5.3/1, ms1mx4.1/29,Error ellipse: s-maj=53.2km s-min=31.8km az=123.0,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.74**	**238**	P	P	10 58 40.9	0.0
	10nm,0.7s,baz=59,slow=9.7,SNR=3.8						
WRA				PcP	PcP	11 02 18.4	+0.3
	8.6nm,0.9s,baz=66,slow=2.5,SNR=5.9						
KSRS	**Korea Array**	**52.20**	**331**	P	P	11 02 30.9	+0.7
	4.6nm,0.5s,baz=147,slow=7.7,SNR=9.1						
PSI	**Prapat**	**58.39**	**278**	LR	LR	11 28 03.7	
	comp=Z,3μm,21.7s,baz=132,slow=36						
SONM	**Songino Array**	**70.68**	**327**	P	P	11 04 35.7	+0.6
	16nm,0.8s,baz=146,slow=7.0,SNR=13						
MKAR	**Makanchi Array**	**84.87**	**318**	P	P	11 05 54.2	0.0
	43nm,0.8s,baz=94,slow=7.1,SNR=21						
ZALV	**Zalesovo Beam**	**85.55**	**326**	P	P	11 05 56.2	-1.2
	14nm,0.5s,baz=116,slow=5.4,SNR=13						
INK	**Inuvik**	**89.77**	**20**	P	P	11 06 17.4	-0.1
	3.0nm,0.6s,baz=254,slow=7.9,SNR=9.0						
YKA	**Yellowknife Ar**	**96.18**	**28**	P	P	11 06 47.1	-0.1
	1.9nm,0.8s,baz=266,slow=4.8,SNR=6.6						

IDC 02 10:57:59.1±3.2,600S×15202E,h0km,mb4.2/5,mb1 4.5/5, mb1mx4.1/14,mbtmp4.3/5,Error ellipse: s-maj=98.5km s-min=26.7km az=111.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.08**	**229**	P	P	11 02 57.0	+1.1
	3.6nm,0.6s,baz=54,slow=12,SNR=4.3						
ASAR	**Alice Springs**	**24.75**	**223**	P	P	11 03 22.2	-0.3
	8.1nm,0.8s,baz=56,slow=9.3,SNR=14						
FITZ	**Fitzroy Crossi**	**28.41**	**243**	P	P	11 03 55.8	+0.1
	7.8nm,0.8s,baz=58,slow=11,SNR=8.9						
SONM	**Songino Array**	**66.92**	**328**	P	P	11 08 54.8	+1.5
	0.7nm,0.8s,baz=148,slow=5.0,SNR=3.6						
ZALV	**Zalesovo Beam**	**81.71**	**327**	P	P	11 10 18.7	-0.7
	1.5nm,0.7s,baz=104,slow=4.9,SNR=4.0						
TORD	**Torodi Ar. Bea**	**149.91**	**286**	PKPbc	PKPbc	11 17 50.8	-1.7
	3.4nm,0.7s,baz=64,slow=3.2,SNR=5.7						

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*ISCJB **02** 11:03:10.0±0.8, 18.19N±009×76.56W±004, h28km±9km, Error ellipse: s-maj=14.5km s-min=6.8km az=170.5*
*JSN **02** 11:03:11.5±0.9, 18.15N×76.58W, h16km±4km, MD3.3*
*SSNC **02** 11:03:16.3, 1860N×76.44W, h0km, MD3.1, ML2.6*
ISC 02 11:03:10.4±0.7,1820N±007×**7658W**±005,**h24**km±7km,**n10**, σ0**66**/16,**5C-3D**,**Jamaica region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GWJ	**Greenwich**	**0.19**	**230**⇑	*i*P	**Pb**	**11 03 15.3**	**-0.5**
CMJ	**Castle Mountai**	**0.20**	**107**⇑	*i*P	**Pb**	**11 03 16.6**	**+0.7**
CMJ				*i* S	**Sb**	**11 03 19.8**	**+0.1**
STH	**Stony Hill**	**0.25**	**242**⇑	*i*P	**Pb**	**11 03 16.2**	**-0.4**
STH				*i* S	**Sb**	**11 03 20.2**	**-0.6**
HOJ	**Hope**	**0.25**	**221**⇑	*i*P	**Pb**	**11 03 16.1**	**-0.5**
BNJ	**Bonny Gate**	**0.38**	**289**⇓	*i*P	**Pb**	**11 03 19.2**	**+0.7**
BBJ	**Bamboo Saint A**	**0.68**	**286**⇑	*i*P	**Pb**	**11 03 23.9**	**+0.3**
BBJ				*i* S	**Sb**	**11 03 33.5**	**+0.9**
CVJ	**Coleyville**	**0.91**	**272**⇓	*e*P	**Pb**	**11 03 27.1**	**-0.4**
MCJ	**Malvern**	**1.09**	**256**⇓	*e*P	**Pn**	**11 03 29.9**	**-0.3**
MCJ				*i* S	**Sn**	**11 03 45.1**	**+0.6**
LMGC	**Las Mercedes**	**1.90**	**348**	*e*P	**Pn**	**11 03 42.2**	**+0.8**
	baz=165						
LMGC				*e*S	**Sn**	**11 04 03.0**	**-1.6**
	comp=N,580nm,0.1s						
LMGC				*e*			
	comp=E,214nm,0.1s						
RCC	**Rio Carpintero**	**1.97**	**25**	*e*P	**Pn**	**11 03 42.5**	**+0.1**
	baz=216						
RCC				*e*S	**Sn**	**11 04 01.2**	**-5.2**
	comp=N,15nm,0.2s						
RCC				*e*			
	comp=E,17nm,0.3s						

IDC 02 11:06:07.8±6.6,705S×15651E,h0km,mb4.1/4,mb1 4.2/4, mb1mx3.9/14,mbtmp4.1/4,Error ellipse: s-maj=197.9km s-min=39.1km az=114.0,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**25.04**	**237**	P	P	11 11 33.8	-0.1
	1.1nm,0.7s,baz=62,slow=9.5,SNR=7.9						
SONM	**Songino Array**	**70.20**	**327**	P	P	11 17 23.4	+0.9
	0.8nm,0.6s,baz=137,slow=6.9,SNR=4.5						
MKAR	**Makanchi Array**	**84.44**	**318**	P	P	11 18 42.7	+0.3
	2.5nm,0.7s,baz=100,slow=6.3,SNR=12						
ZALV	**Zalesovo Beam**	**85.06**	**326**	P	P	11 18 44.6	-0.8
	1.6nm,0.4s,baz=121,slow=4.7,SNR=4.9						

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*NEIC **02** 11:07:00.1±5.2, 2965N×142.17E, h13km±32km, mb4.4/3, Error ellipse: s-maj=22.5km s-min=9.2km az=75.0*
*JMA **02** 11:07:00.3±0.2, 2980N×142.37E, h49km, M4.1*
*ISCJB **02** 11:07:01.1±0.5, 2976N±004×142.1E±0.1, h33km, mb4.1/14, Error ellipse: s-maj=16.7km s-min=3.6km az=166.0*
*IDC **02** 11:07:03.5±3.4, 2970N×142.11E, h36km±29km, mb3.8/11, mb1 3.9/14, mb1mx3.9/22, mbtmp3.8/14, ML3.6/3, MS3.8/1, Ms1 3.8/1, ms1mx3.7/29, Error ellipse: s-maj=26.9km s-min=13.1km az=82.0*
ISC 02 11:07:02.9±2.1,2974N±004×**1421E**±01,**h32**km±16km,**n33**, σ0**77**/42,**mb4.1**/14,**Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**2.63**	**179**	P	**Pn**	**11 07 42.5**	**-0.7**
CBIJ				*e*S	**Sn**	**11 08 13.7**	**-0.4**
CBIJ	**Chichi jima**	**2.63**	**179**	Pn	**Pn**	**11 07 43.8**	**+0.6**
	8.3nm,0.3s,baz=280,slow=22,SNR=6.2						
CBIJ				Sn	**Sn**	**11 08 12.8**	**-1.3**
	35nm,0.3s,baz=16,slow=23,SNR=10						
CBIJ				LR	LR	11 08 17.7	
	comp=Z,2μm,18.1s,baz=173,slow=29						
JHJ2	**Mitsune**	**3.90**	**330**	P	**Pn**	**11 08 00.1**	**-0.5**
JHJ	**Hachijo jima 2**	**3.92**	**330**	Pn	**Pn**	**11 08 00.6**	**-0.3**
	4.7nm,0.3s,baz=234,slow=18,SNR=7.3						
JHJ				Sn	**Sn**	**11 08 44.1**	**-1.7**
	13nm,0.3s,baz=254,slow=18,SNR=3.5						
BSO1	**Boso 1**	**5.00**	**349**	P	**Pn**	**11 08 14.1**	**-1.6**
BSO1				*e*S	**Sn**	**11 09 11.5**	**-0.8**
JOD2	**Odawara 2**	**6.08**	**336**	P	**Pn**	**11 08 30.6**	**+0.1**
JOD2				*e*S	**Sn**	**11 09 38.4**	**-0.5**
JIE	**Ise**	**6.53**	**317**	P	**Pn**	**11 08 38.2**	**+1.4**
JRY	**Ryogami san**	**6.82**	**337**	P	**Pn**	**11 08 40.7**	**-0.1**
JRY				S	**Sn**	**11 09 57.2**	**-0.1**
MJAR	**Matsushiro Arr**	**7.54**	**335**	Pn	**Pn**	**11 08 50.9**	**+0.3**
	3.6nm,0.3s,baz=157,slow=11,SNR=51						
MJAR				Sn	**Sn**	**11 10 13.9**	**-1.0**
	0.5nm,0.3s,baz=125,slow=15,SNR=4.3						
MAJO	**Matsushiro**	**7.54**	**335**	*e*Pn	**Pn**	**11 08 51.1**	**+0.5**
	22nm,0.5s						
MAT	**Matsushiro**	**7.54**	**335**	P	**Pn**	**11 08 51.1**	**+0.5**
MAT				S	**Sn**	**11 10 15.5**	**+0.6**
MAT	**Matsushiro**	**7.54**	**335**	P	**Pn**	**11 08 51.0**	**+0.4**
MAT				S	**Sn**	**11 10 15.8**	**+0.9**
KSRS	**Korea Array**	**14.11**	**307**	Pn	**Pn**	**11 10 24.7**	**+4.2**
	0.3nm,0.3s,baz=114,slow=12,SNR=9.7						
ASAJ	**Asahikawa**	**14.35**	**1**	Pn	**Pn**	**11 10 18.6**	**-5.1**
	0.2nm,0.3s,baz=187,slow=8.1,SNR=3.2						
HIA	**Hailar**	**25.88**	**325**	*e*P	**P**	**11 12 32.8**	**+1.1**
	6.9nm,0.6s,mb4.4						
ULN	**Ulaanbaatar**	**32.42**	**314**	*e*P	**P**	**11 13 30.9**	**+1.1**
	4.2nm,1.0s,mb4.2						
SONM	**Songino Array**	**32.82**	**313**	P	**P**	**11 13 33.7**	**+0.4**
	2.0nm,0.8s,mb4.1,baz=110,slow=8.7,SNR=8.8						
MKAR	**Makanchi Array**	**48.79**	**308**	P	**P**	**11 15 45.4**	**+0.6**
	1.3nm,0.6s,mb4.2,baz=88,slow=9.9,SNR=9.1						
WB2	**Warramunga Arr**	**49.96**	**190**	*e*P	**P**	**11 15 52.9**	**-1.0**
WRA	**Warramunga Arr**	**49.96**	**190**	P	**P**	**11 15 53.4**	**-0.5**
	3.6nm,0.6s,mb4.6,baz=8.1,slow=8.0,SNR=53						
ASAR	**Alice Springs**	**53.68**	**189**	P	**P**	**11 16 21.0**	**-0.7**
	0.5nm,0.5s,mb3.8,baz=5.0,slow=5.7,SNR=15						
AML	**Almayashu**	**55.42**	**303**	*e*P	**P**	**11 16 35.3**	**+1.1**
	2.2nm,0.4s,mb4.5						
INK	**Inuvik**	**60.66**	**25**	P	**P**	**11 17 10.8**	**+0.3**
INK	**Inuvik**	**60.66**	**25**	P	**P**	**11 17 10.8**	**+0.3**
	0.8nm,0.5s,mb4.1,baz=324,slow=5.3,SNR=8.5						
STKA	**Stephens Creek**	**61.28**	**181**	P	**P**	**11 17 14.8**	**-0.3**
STKA	**Stephens Creek**	**61.28**	**181**	P	**P**	**11 17 14.8**	**-0.3**
	1.1nm,0.8s,mb4.0,baz=4.1,slow=11,SNR=4.4						
AKTK	**Aktyubinsk**	**64.12**	**315**	P	**P**	**11 17 34.1**	**+0.2**
AKTO	**Aktyubinsk**	**64.12**	**315**	P	**P**	**11 17 34.1**	**+0.2**
	0.9nm,0.5s,mb4.1,baz=78,slow=12,SNR=5.1						
YKA	**Yellowknife Ar**	**69.85**	**29**	P	**P**	**11 18 09.9**	**-0.2**
	0.6nm,0.7s,mb3.6,baz=297,slow=6.0,SNR=4.3						
NVAR	**Mina Array Bea**	**78.93**	**52**	P	**P**	**11 19 04.5**	**+1.1**
	0.6nm,0.7s,mb3.6,baz=299,slow=4.2,SNR=5.9						
AKASG	**Malin Array Be**	**80.47**	**324**	P	**P**	**11 19 11.8**	**+0.3**
	0.7nm,0.3s,mb4.0,baz=49,slow=5.1,SNR=4.3						
NB2	**NORSAR Subarra**	**81.15**	**338**	P	**P**	**11 19 15.1**	**+0.2**
	comp=Z,1.5nm,0.7s,mb4.0,baz=41,slow=5.6						
NOA	**NORSAR Array B**	**81.15**	**338**	P	**P**	**11 19 14.9**	**0.0**
	comp=Z,1.3nm,0.7s,mb4.0,baz=41,slow=5.3,SNR=4.7						

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*JMA **02** 11:11:12.0±0.5, 44.37N×149.39E, h30km, M4.0*
*IDC **02** 11:11:12.2±2.7, 4477N×149.23E, h0km, mb3.9/7, mb1 4.0/8, mb1mx3.8/21, mbtmp3.9/8, ML3.3/1, Error ellipse: s-maj=76.5km s-min=25.7km az=171.0*
*ISCJB **02** 11:11:13.7±1.4, 4389N±008×149.3E±0.1, h56km±12km, mb3.9/8, Error ellipse: s-maj=15.3km s-min=10.5km az=39.3*
*MOS **02** 11:11:14.3±2.6, 44.15N×149.35E, h53km, mb4.1/6, Error ellipse: s-maj=22.1km s-min=14.7km az=41.1*
*NEIC **02** 11:11:15.8±1.1, 4444N×149.21E, h35km, mb3.7/1, Error ellipse: s-maj=27.1km s-min=10.8km az=156.0*
ISC 02 11:11:15.3±1.3,4395N±007×**1493E**±01,**h50**km±12km,**n42**, σ0**88**/44,**mb3.9**/8,**East of Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.62**	**323**	*e*PN	**Pn**	**11 11 36.2**	**-5.2**
KUR				*e*S	**Sn**	**11 12 00.5**	**-0.6**
KUR				pmax	pmax		
	comp=N,110nm,0.5s						
KUR				pmax	pmax		
	comp=E,70nm,0.5s						
KUR				pmax	pmax		
	comp=Z,230nm,0.5s						
KUR				smax			
	comp=N,760nm,0.5s						
KUR				smax			
	comp=E,680nm,0.5s						
NEM2	**Nemuro 2**	**2.61**	**258**	P	**Pn**	**11 11 54.0**	**-1.0**
NEM2				*e*S	**Sn**	**11 12 25.0**	**-0.5**
JRA	**Rausu**	**2.98**	**271**	P	**Pn**	**11 12 00.0**	**0.0**
JNK	**Nakash**	**3.31**	**265**	P	**Pn**	**11 12 04.2**	**-0.2**
JNK				*e*S	**Sn**	**11 12 42.9**	**+0.5**
JAK	**Akkeshi**	**3.45**	**256**	P	**Pn**	**11 12 06.0**	**-0.4**
JAK				*e*S	**Sn**	**11 12 46.1**	**+0.1**
JTKR	**Abashiri--Toko**	**3.86**	**272**	P	**Pn**	**11 12 12.5**	**+0.5**
JAR	**Ashorobuto**	**4.04**	**263**	P	**Pn**	**11 12 14.9**	**+0.5**
JOB	**Onbets**	**4.08**	**257**	P	**Pn**	**11 12 15.2**	**+0.1**
JOB				*e*S	**Sn**	**11 13 01.0**	**-0.6**
JMP	**Maruseppu**	**4.25**	**273**	P	**Pn**	**11 12 18.1**	**+0.7**
JCH	**Churui**	**4.50**	**255**	P	**Pn**	**11 12 21.1**	**+0.2**
JCH				*e*S	**Sn**	**11 13 11.5**	**-0.4**
ASAJ	**Asahikawa**	**4.80**	**274**	PN	**Pn**	**11 12 26.7**	**+1.7**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ	**Asahikawa**	**4.80**	**274**	Pn	**Pn**	**11 12 26.6**	**+1.7**
	comp=Z,1.2nm,0.3s,baz=64,slow=13,SNR=10						
ERM	**Erimo**	**4.87**	**249**	*e*Pn	**Pn**	**11 12 28.5**	**+2.6**
JNBK	**Urakawa-nobuka**	**5.04**	**253**	P	**Pn**	**11 12 28.6**	**+0.3**
YSS	**Yuzh-Sakhalins**	**5.47**	**306**	*e*PN	**Pn**	**11 12 41.0**	**+6.9**
JNB	**Noboribetsu**	**6.18**	**259**	P	**Pn**	**11 12 44.4**	**+0.5**
JKB	**Kayabe**	**6.38**	**254**	P	**Pn**	**11 12 46.8**	**+0.2**
JKB				*e*S	Sx	11 13 55.8	
JANG	**Nango**	**6.77**	**241**	P	**Pn**	**11 12 50.6**	**-1.3**
JANG				*e*S	Sx	11 14 02.8	
JTH	**Tanohata**	**6.81**	**236**	*e*S	Sx	11 14 02.6	
JTM	**Tenmabayashi**	**6.84**	**245**	*e*S	Sx	11 14 05.6	
JOSM	**Okushiri--Mats**	**7.41**	**259**	P	**Pn**	**11 13 01.0**	**+0.3**
OFUJ	**Ofunato**	**7.49**	**232**	*e*S	Sx	11 14 19.8	
JRG	**Rokugo**	**7.89**	**238**	*e*S	Sx	11 14 31.8	
JIO	**Ouri**	**8.10**	**230**	P	**Pn**	**11 13 08.4**	**-1.8**
JIO				*e*S	Sx	11 14 33.4	
MDJ	**Mudanjiang**	**14.10**	**280**	*e*Pn	**Pn**	**11 14 32.0**	**-0.1**
ULN	**Ulaanbaatar**	**29.36**	**293**	*e*P	**P**	**11 17 13.5**	**+0.3**
	comp=Z,0.9nm,0.5s,mb3.8						
ULN	**Ulaanbaatar**	**29.36**	**293**	*e*P	**P**	**11 17 13.5**	**+0.3**
ULN				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb3.8						
SONM	**Songino Array**	**29.80**	**293**	P	**P**	**11 17 16.6**	**-0.5**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.6s						
SONM	**Songino Array**	**29.80**	**293**	P	**P**	**11 17 16.6**	**-0.5**
	comp=Z,0.6nm,0.6s,mb3.5,baz=60,slow=8.1,SNR=3.5						
INK	**Inuvik**	**45.46**	**31**	P	**P**	**11 19 26.7**	**-2.1**
INK				pmax	pmax		
	comp=Z,1.0nm,0.5s						
INK	**Inuvik**	**45.46**	**31**	P	**P**	**11 19 26.7**	**-2.1**
	comp=Z,0.6nm,0.5s,mb3.7,baz=321,slow=4.3,SNR=3.0						
MKAR	**Makanchi Array**	**45.84**	**298**	P	**P**	**11 19 32.8**	**+0.8**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
MKAR	**Makanchi Array**	**45.84**	**298**	P	**P**	**11 19 32.8**	**+0.7**
	comp=Z,1.1nm,0.6s,mb4.0,baz=80,slow=8.1,SNR=4.9						
FINES	**FINESS Array B**	**65.38**	**334**	P	**P**	**11 21 51.0**	**-0.9**
FINES				pmax	pmax		
	comp=Z,3.0nm,0.8s						
FINES	**FINESS Array B**	**65.38**	**334**	P	**P**	**11 21 51.0**	**-0.9**
	comp=Z,2.8nm,0.8s,mb4.3,baz=25,slow=6.3,SNR=4.8						
NB2	**NORSAR Subarra**	**69.96**	**340**	P	**P**	**11 22 20.5**	**-0.3**
	comp=Z,1.1nm,0.5s,mb4.0,baz=29,slow=6.2						
NOA	**NORSAR Array B**	**69.96**	**340**	P	**P**	**11 22 20.8**	**0.0**
NOA				pmax	pmax		
	comp=Z,2.0nm,0.4s						
NOA	**NORSAR Array B**	**69.96**	**340**	P	**P**	**11 22 20.8**	**0.0**
	comp=Z,2.1nm,0.4s,mb4.4,baz=31,slow=6.3,SNR=5.7						
AKASG	**Malin Array Be**	**72.31**	**325**	P	**P**	**11 22 34.9**	**-0.3**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.5s						
AKASG	**Malin Array Be**	**72.31**	**325**	P	**P**	**11 22 34.9**	**-0.3**
	comp=Z,0.6nm,0.5s,mb3.8,baz=36,slow=5.9,SNR=4.1						
GERES	**GERESS Array B**	**79.71**	**332**	P	**P**	**11 23 17.9**	**+0.5**
	comp=Z,0.4nm,0.4s,mb3.7,baz=36,slow=7.2,SNR=2.9						
TXAR	**Lajitas Array**	**81.27**	**58**	P	**P**	**11 23 28.0**	**+2.0**
	baz=294,slow=4.7						

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*IDC **02** 11:24:01.9±1.2, 704S×154.48E, h0km, mb3.8/6, mb1 4.0/7, mb1mx3.9/14, mbtmp3.9/7, ML4.6/1, Error ellipse: s-maj=33.6km s-min=23.9km az=116.0*
*ISCJB **02** 11:24:08.8±4.7, 72S±02×154.6E±0.1, h70km±48km, mb3.5/6, Error ellipse: s-maj=37.1km s-min=18.9km az=150.1*
ISC 02 11:24:09.7±4.3,72S±02×**1546E**±02,**h62**km±46km,**n8**, σ

6.7nm,0.4s,mb4.4
WB2 Warramunga Arr 24.43 236 *e*P **P 11 37 08.0 -0.1**
WRA Warramunga Arr 24.44 236 P **P 11 37 08.0 -0.2**
2.5nm,0.5s,mb3.9,baz=60,slow=9.3,SNR=36
ASAR Alice Springs 26.73 229 P **P 11 37 29.7 +0.7**
0.3nm,0.5s,mb3.1,baz=62,slow=9.2,SNR=7.2
STKA Stephens Creek 28.03 206 P **P 11 37 39.8 -0.7**
0.9nm,0.5s,mb3.6,baz=33,slow=14,SNR=5.0
FITZ Fitzroy Crossi 31.36 247 *e*P **P 11 38 09.3 -0.9**
5.2nm,0.8s,mb4.4
FITZ Fitzroy Crossi 31.36 247 P **P 11 38 09.8 -0.3**
1.2nm,0.5s,mb4.0,baz=67,slow=13,SNR=8.1
MJAR Matsushiro Arr 46.39 340 P **P 11 40 14.8 -1.0**
1.3nm,0.7s,mb4.0,baz=166,slow=9.0,SNR=5.4
KSRS Korea Array 51.35 332 P **P 11 40 53.9 0.0**
1.8nm,0.7s,mb4.1,baz=153,slow=8.4,SNR=4.1
ULN Ulaanbaatar 69.47 327 *e*P **P 11 42 58.4 +0.7**
2.6nm,0.7s,mb4.3
SONM Songino Array 69.81 327 P **P 11 43 01.5 +1.8**
2.8nm,0.4s,mb4.5,baz=143,slow=6.8,SNR=26
MKAR Makanchi Array 83.96 319 P **P 11 44 20.2 +0.7**
6.9nm,0.6s,mb5.0,baz=98,slow=6.1,SNR=53
ZALV Zalesovo Beam 84.66 326 P **P 11 44 22.4 -0.5**
4.7nm,0.5s,mb4.9,baz=123,slow=5.4,SNR=12
YKA Yellowknife Ar 96.01 28 P **P 11 45 14.9 -1.4**
0.1nm,0.6s,mb3.4,baz=263,slow=4.3,SNR=4.6
TORD Torodi Ar. Bea 153.80 285 PKPbc PKPbc 11 51 47.6 -2.0
1.1nm,0.6s,baz=46,slow=2.7,SNR=6.3

*IDC **02** 11:34:43.6±1.8, 771S×15570E, h0km, mb4.2/8, mb1 4.3/8, mb1mx4.2/14, mbtmp4.2/8, Error ellipse: s-maj=61.5km s-min=22.2km az=111.0*
*NEIC **02** 11:34:44.2±1.0, 776S×15591E, h10km, mb4.7/1, Error ellipse: s-maj=34.9km s-min=15.6km az=113.0*
*ISCJB **02** 11:34:46.4±1.0, 77S±0.1×1558E±0.2, h33km, mb4.2/10, Error ellipse: s-maj=34.2km s-min=15.0km az=21.7*
ISC 02 11:34:48.1±1.0, 78S±0.1×1559E±0.2, h35km, n13, σ0§93/13, mb4.2/10, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.11 238**		P	**P**	**11 40 00.0**	**-0.7**
4.2nm,1.0s,mb3.8,baz=64,slow=9.8,SNR=6.6							
ASAR	**Alice Springs**	**26.33 231**		P	**P**	**11 40 19.7**	**-1.2**
1.5nm,1.0s,mb3.5,baz=64,slow=9.3,SNR=4.7							
STKA	**Stephens Creek**	**27.43 207**		P	**P**	**11 40 32.2**	**+1.6**
2.7nm,0.9s,mb3.8,baz=26,slow=13,SNR=3.5							
MJAR	**Matsushiro Arr**	**47.08 341**		P	**P**	**11 43 16.3**	**-0.2**
4.8nm,0.7s,mb4.5,baz=163,slow=8.1,SNR=18							
MAJO	**Matsushiro**	**47.08 341**		*e*P	**P**	**11 43 16.3**	**-0.2**
3.3nm,0.5s,mb4.5							
MAT	**Matsushiro**	**47.08 341**		P	**P**	**11 43 16.2**	**-0.3**
SONM	**Songino Array**	**70.44 327**		P	**P**	**11 46 00.3**	**+1.5**
0.6nm,0.7s,mb3.6,baz=125,slow=4.1,SNR=3.6							
MKAR	**Makanchi Array**	**84.54 319**		P	**P**	**11 47 18.4**	**+0.8**
4.8nm,0.8s,mb4.7,baz=101,slow=6.3,SNR=18							
ZALV	**Zalesovo Beam**	**85.29 326**		P	**P**	**11 47 20.8**	**-0.4**
ZALV	**Zalesovo Beam**	**85.29 326**		P	**P**	**11 47 20.8**	**-0.4**
2.2nm,0.7s,mb4.4,baz=95,slow=4.8,SNR=5.9							
YKA	**Yellowknife Ar**	**96.61 28**		P	**P**	**11 48 14.7**	**+0.6**
YKA	**Yellowknife Ar**	**96.61 28**		P	**P**	**11 48 14.7**	**+0.6**
0.6nm,0.7s,mb4.1,baz=269,slow=4.5,SNR=11							
AHID	**Auburn Hatcher**	**97.44 48**		*e*P	**P**	**11 48 17.0**	**-1.4**
4.5nm,0.3s,mb5.4							

*IDC **02** 11:39:17.6±0.9, 717S×15498E, h0km, mb4.3/8, mb1 4.5/9, mb1mx4.3/15, mbtmp4.3/9, ML4.0/1, MS3.7/1, Ms1 3.7/1, ms1mx3.1/24, Error ellipse: s-maj=31.4km s-min=20.2km az=131.0*
*NEIC **02** 11:39:19.1±0.7, 715S×15489E, h10km, mb4.4/3, Error ellipse: s-maj=19.1km s-min=13.2km az=160.0*
*ISCJB **02** 11:39:20.8±0.6, 72S±0.1×15496E±009, h33km, mb4.2/9, Error ellipse: s-maj=17.6km s-min=12.0km az=152.7*
ISC 02 11:39:22.8±0.6, 72S±01×15493E±010, h35km, n16, σ0§84/16, mb4.2/9, 1C, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.43 114**		Pn	**Pn**	**11 40 41.4**	**+0.2**
5.1nm,0.3s,baz=268,slow=15,SNR=2.1							
HNR				Sn	**Sn**	**11 41 50.6**	**+8.0**
baz=267,slow=17,SNR=2.0							
HNR				LR	LR	11 42 26.1	
comp=Z,789nm,21.4s,baz=352,slow=35							
KAKA	**Kakadu**	**22.81 254**		*e*P	**P**	**11 44 20.6**	**-2.2**
9.4nm,0.8s,mb4.3							
WB2	**Warramunga Arr**	**23.64 236**		*e*P	**P**	**11 44 31.4**	**+0.3**
WRA	**Warramunga Arr**	**23.65 236**		P	**P**	**11 44 32.1**	**+1.0**
13nm,0.8s,mb4.4,baz=62,slow=9.6,SNR=26							
ASAR	**Alice Springs**	**25.99 229**		P	**P**	**11 44 52.5**	**+0.1**
4.8nm,0.8s,mb4.1,baz=60,slow=8.7,SNR=27							
STKA	**Stephens Creek**	**27.52 205**		*e*P	**P**	**11 45 05.1**	**-1.0**
5.1nm,0.9s,mb4.2							
STKA	**Stephens Creek**	**27.52 205**		P	**P**	**11 45 05.7**	**-0.4**
6.3nm,0.9s,mb4.2,baz=21,slow=10,SNR=8.7							
FITZ	**Fitzroy Crossi**	**30.51 246**		⇑*i*P	**P**	**11 45 33.6**	**+0.7**
8.6nm,0.6s,mb4.8							
FITZ	**Fitzroy Crossi**	**30.51 246**		P	**P**	**11 45 33.7**	**+0.7**
6.7nm,0.8s,mb4.5,baz=108,slow=9.5,SNR=13							
SONM	**Songino Array**	**69.48 327**		P	**P**	**11 50 28.6**	**+1.0**
1.1nm,0.7s,mb3.9,baz=137,slow=6.9,SNR=6.4							
SVW2	**Sparrevohn**	**78.22 22**		*e*P	**P**	**11 51 18.2**	**-0.3**
SLKM	**Skilak Lake**	**79.96 24**		*e*P	**P**	**11 51 27.2**	**-0.8**
MKAR	**Makanchi Array**	**83.53 319**		P	**P**	**11 51 47.5**	**+0.4**
1.4nm,0.7s,mb4.2,baz=79,slow=6.4,SNR=6.1							
NVAR	**Mina Array Bea**	**91.90 52**		P	**P**	**11 52 28.4**	**+0.6**
0.5nm,0.7s,mb4.0,baz=239,slow=4.1,SNR=5.3							
YKA	**Yellowknife Ar**	**96.55 28**		P	**P**	**11 52 47.7**	**-0.8**
1.0nm,0.7s,mb4.3,baz=265,slow=4.6,SNR=22							
TORD	**Torodi Ar. Bea**	**153.02 285**		PKPbc	PKPbc	11 59 17.4	-0.2
1.4nm,1.0s,baz=57,slow=2.7,SNR=4.4							

IDC 02 11:45:04.3±4.6, 726S×15574E, h0km, mb3.9/4, mb1 3.9/4, mb1mx3.6/13, mbtmp3.9/4, Error ellipse: s-maj=136.5km s-min=38.2km az=116.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.29 237**		P	P	11 50 23.9	+0.4
0.6nm,0.8s,baz=62,slow=9.5,SNR=5.0							
SONM	**Songino Array**	**69.95 327**		P	P	11 56 18.6	+1.2
0.7nm,0.6s,baz=130,slow=6.4,SNR=4.4							
MKAR	**Makanchi Array**	**84.09 319**		P	P	11 57 37.2	+0.1
1.5nm,0.7s,baz=101,slow=6.3,SNR=12							
ZALV	**Zalesovo Beam**	**84.81 326**		P	P	11 57 39.6	-1.0
1.0nm,0.5s,baz=116,slow=6.6,SNR=2.9							

IDC 02 11:51:23.8±5.3, 756S×15527E, h0km, mb3.7/5, mb1 3.9/5, mb1mx3.8/13, mbtmp3.7/5, Error ellipse: s-maj=152.5km s-min=27.6km az=112.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.72 237**		P	P	11 56 38.5	+0.6
1.5nm,0.9s,baz=60,slow=9.3,SNR=7.9							
ASAR	**Alice Springs**	**26.00 230**		P	P	11 56 57.5	-1.1
0.3nm,0.7s,baz=61,slow=9.4,SNR=4.2							
MJAR	**Matsushiro Arr**	**46.70 341**		P	P	11 59 53.9	-0.6
2.0nm,0.8s,baz=157,slow=6.8,SNR=5.8							
SONM	**Songino Array**	**69.96 327**		P	P	12 02 38.6	+1.7
0.4nm,0.4s,baz=122,slow=5.2,SNR=4.1							
MKAR	**Makanchi Array**	**84.01 319**		P	P	12 03 55.5	-0.6
1.0nm,0.8s,baz=100,slow=6.8,SNR=6.5							

*IDC **02** 11:54:48.7±1.2, 777S×15625E, h0km, mb3.9/5, mb1 4.0/6, mb1mx3.8/14, mbtmp3.9/6, ML4.0/1, Error ellipse: s-maj=27.5km s-min=26.0km az=79.0*
*NEIC **02** 11:54:49.7±0.7, 770S×15630E, h10km, mb4.1/1, Error ellipse: s-maj=14.2km s-min=13.7km az=83.0*
*ISCJB **02** 11:54:51.7±0.8, 77S±0.1×15623E±007, h33km, mb3.9/4, Error ellipse: s-maj=16.2km s-min=9.5km az=18.9*
ISC 02 11:54:53.7±0.8, 77S±01×15620E±008, h35km, n8, σ1§11/9, mb3.9/4, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.08 115**		Pn	**Pn**	**11 55 51.0**	**-2.6**
10nm,0.3s,baz=255,slow=4.2,SNR=4.6							
HNR				Sn	**Sn**	**11 56 41.1**	**+1.0**
28nm,0.3s,baz=255,slow=12,SNR=8.3							
CTAO	**Charters Tower**	**15.63 217**		*e*Pn	**Pn**	**11 58 31.2**	**-0.1**
15nm,1.3s							
GUMO	**Guam**	**23.97 332**		*e*P	**P**	**12 00 03.6**	**-1.4**
38nm,0.4s							
WRA	**Warramunga Arr**	**24.42 238**		P	**P**	**12 00 09.6**	**+0.4**
2.9nm,0.6s,mb3.9,baz=63,slow=9.4,SNR=30							
ASAR	**Alice Springs**	**26.62 231**		P	**P**	**12 00 29.6**	**+0.5**
0.3nm,0.9s,baz=60,slow=9.7,SNR=3.2							
STKA	**Stephens Creek**	**27.62 208**		P	**P**	**12 00 37.2**	**-0.8**
1.7nm,0.8s,mb3.7,baz=17,slow=14,SNR=3.0							
SONM	**Songino Array**	**70.58 327**		P	**P**	**12 06 06.7**	**+1.4**
1.5nm,0.5s,mb4.2,baz=141,slow=6.7,SNR=20							
MKAR	**Makanchi Array**	**84.73 318**		P	**P**	**12 07 24.9**	**+0.7**
0.3nm,0.3s,mb3.9,baz=98,slow=7.2,SNR=3.7							

IDC 02 11:56:31.4±2.8, 790S×15591E, h0km, mb3.8/5, mb1 3.9/5, mb1mx3.7/13, mbtmp3.7/5, MS3.3/1, Ms1 3.3/1, ms1mx3.2/25, Error ellipse: s-maj=81.7km s-min=35.9km az=124.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.27 111**		LR	LR	11 58 49.9	
comp=Z,352nm,20.6s,baz=353,slow=32							
WRA	**Warramunga Arr**	**24.08 238**		P	P	12 01 48.4	-0.4
0.5nm,0.6s,baz=63,slow=9.2,SNR=4.6							
MJAR	**Matsushiro Arr**	**47.23 341**		P	P	12 05 05.0	-1.2
1.4nm,0.7s,baz=164,slow=8.8,SNR=5.0							
SONM	**Songino Array**	**70.58 327**		P	P	12 07 50.2	+1.7
0.3nm,0.6s,baz=120,slow=8.5,SNR=2.8							
MKAR	**Makanchi Array**	**84.68 319**		P	P	12 09 07.2	0.0
0.9nm,0.7s,baz=96,slow=6.1,SNR=6.1							
YKA	**Yellowknife Ar**	**96.71 28**		P	P	12 10 03.3	-0.2
0.2nm,0.5s,baz=274,slow=4.5,SNR=3.3							

IDC 02 11:58:28.2±4.8, 706S×15530E, h0km, mb3.6/4, mb1 3.7/4, mb1mx3.6/13, mbtmp3.6/4, Error ellipse: s-maj=142.9km s-min=29.8km az=113.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.03 236**		P	P	12 03 45.7	+0.7
0.3nm,0.5s,baz=61,slow=9.7,SNR=3.9							
ASAR	**Alice Springs**	**26.36 229**		*e*P	P	12 04 05.9	-0.3
0.6nm,0.9s,baz=66,slow=9.2,SNR=3.0							
SONM	**Songino Array**	**69.55 327**		P	P	12 09 39.2	+0.4
0.5nm,0.7s,baz=130,slow=6.3,SNR=4.8							
MKAR	**Makanchi Array**	**83.65 319**		P	P	12 10 58.6	-0.1
1.4nm,0.7s,baz=104,slow=5.8,SNR=9.8							

*BJI **02** 12:02:20.7, 840S×15795E, h13km, mB6.4, mb5.7, Ms6.1, Msz5.8*
*IDC **02** 12:02:20.7±0.4, 866S×15747E, h0km, mb5.4/19, mb1 5.5/20, mb1mx5.5/20, mbtmp5.4/20, ML4.3/1, MS5.9/17, Ms1 5.9/17, ms1mx5.8/21, Error ellipse: s-maj=13.6km s-min=11.8km az=89.0*
*ISCJB **02** 12:02:21.9±0.1, 872S±002×15756E±002, h14km, mb5.9/130, MS6.0/206, Error ellipse: s-maj=3.5km s-min=2.6km az=6.5*
*CRAAG **02** 12:02:21.4, 854S×15750E, Mb6.1*
*IGIL **02** 12:02:23.0, 854S×15755E, h10km*
*NEIC **02** 12:02:23.3±0.1, 871S×15762E, h14km, mb6.0/71, ME6.1, MS6.1/163, MW6.2, Error ellipse: s-maj=3.6km s-min=3.4km az=118.0, Moment Tensor Solution. s32 Moment tensor: Scale 1018Nm; Mrr1.74; Mθθ-1.50; Mφφ-0.24; Mrθ-0.31; Mθφ0.97; Mφr-1.20; Best double couple: M0=2.20000×1018 NP1:φs=273.00000°, δ=47.00000°, λ=49.00000°. NP2:φs=145.00000°, δ=57.00000°, λ=125.00000°. Principal axes: T 2.4400, Plg=60.0000°, Azm=112.0000°; N -0.3800, Plg=29.0000°, Azm=304.0000°; P -2.0600, Plg=5.0000°, Azm=211.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from MT mechanism.*
NEIC Felt at Honiara.
*GCMT **02** 12:02:23.3±0.1, 891S×15770E, h12km, MW6.2/106, Moment Tensor Solution. s102, c220; s106, c220; Duration: 3s1 Moment tensor: Scale 1018Nm; Mrr=1.63±.02; Mθθ=0.22±.02; Mφφ=-1.41±.02; Mrθ=0.47±.04; Mθφ=1.38±.01; Mφr=-1.63±.04; Best double couple: M0=2.62600×1018 NP1:φs=307.00000°, δ=28.00000°, λ=59.00000°. NP2:φs=161.00000°, δ=66.00000°, λ=105.00000°. Principal axes: T 2.3460, Plg=65.0000°, Azm=98.0000°; N 0.5570, Plg=14.0000°, Azm=335.0000°; P -2.9060, Plg=20.0000°, Azm=240.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
*MOS **02** 12:02:26.9±1.0, 816S×15765E, h33km, mb6.1/37, MS5.9/40 Error ellipse: s-maj=9.6km s-min=6.6km az=106.6*
ISC 02 12:02:23.1±0.9, 869S±003×15759E±002, h11km±5km, h15km±1.9km: pP-P, n1058, σ0§73/764, mb5.9/129, MS6.0/206, 301C-322D, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.44 108**		Pn	**Pn**	**12 02 59.4**	**-3.4**
1μm,0.3s,baz=255,slow=3.7,SNR=105							
HNR				Sn	**Sn**	**12 03 34.9**	**+2.3**
5μm,0.3s,baz=253,slow=17,SNR=6.5							
CTA	**Charters Tower**	**15.77 223**		⇓*i*P	**Pn**	**12 06 03.8**	**-1.4**
536nm,1.5s							
CTA				*e*S	**Sn**	**12 09 02.6**	**+2.6**
CTA	**Charters Tower**	**15.77 223**		Pn	**Pn**	**12 06 00.3**	**-4.9**
0.1nm,0.3s,baz=63,slow=17,SNR=3.2							
CTAO	**Charters Tower**	**15.77 223**		*e*Pn	**Pn**	**12 06 06.5**	**+1.3**
2μm,1.6s							
CTAO	**Charters Tower**	**15.77 223**		*e*P	**Pn**	**12 06 06.5**	**+1.3**
CTAO				pmax	pmax		
comp=Z,2μm,1.6s							
DZM	**Mont Dzumac**	**15.79 148**		*e*P	**Pn**	**12 06 05.1**	**-0.4**
DZM	**Mont Dzumac**	**15.79 148**		Pn	**Pn**	**12 06 05.1**	**-0.4**
comp=Z,1.3nm,0.3s,baz=2.0,slow=14,SNR=30							
DZM				Sn	**Sn**	**12 09 05.4**	**+4.8**
comp=Z,0.2nm,0.3s,baz=255,slow=20,SNR=2.2							
EIDS	**Eidsvold**	**17.70 200**		*e*Pn	**Pn**	**12 06 28.7**	**-1.0**
comp=Z,405nm,1.3s							
FUNA	**Funafuti**	**21.36 91**		*e*P	**P**	**12 07 10.0**	**-0.7**
comp=Z,2μm,1.8s,mb6.2							
FUNA				LR	LR		
comp=Z,15μm,20.0s,MS5.4							
ARMA	**Armidale**	**22.32 194**		⇓*i*P	**P**	**12 07 20.5**	**-0.3**
ARMA				*i*S	**S**	**12 11 30.4**	**+4.1**
TLE	**Tual**	**24.84 275**		⇑*e*P	**P**	**12 07 48.0**	**+2.2**
KAKA	**Kakadu**	**25.03 259**		⇑*i*P	**P**	**12 07 47.3**	**-0.1**
comp=Z,389nm,0.9s,mb5.9							
WB2	**Warramunga Arr**	**25.11 241**		⇓*i*P	**P**	**12 07 48.2**	**+0.1**
WB2				*i*S	**S**	**12 12 11.1**	**-1.6**
WRA	**Warramunga Arr**	**25.11 241**		P	**P**	**12 07 46.1**	**-2.1**
comp=Z,154nm,0.8s,mb5.6,baz=66,slow=9.2,SNR=227							
WRA				PcP	PcP	12 11 22.4	-0.1
comp=Z,14nm,0.8s,baz=65,slow=2.1,SNR=5.1							
WRA				S	**S**	**12 12 12.0**	**-0.9**
comp=Z,6.2nm,1.2s,baz=69,slow=16,SNR=3.0							
GUMO	**Guam**	**25.49 330**		*e*P	**P**	**12 07 50.6**	**-0.9**
GUMO				LR	LR		
comp=Z,17μm,20.0s,MS5.6							
GUMO	**Guam**	**25.49 330**		P	**P**	**12 07 50.7**	**-0.8**
comp=Z,621nm,1.2s,mb6.0,baz=174,slow=5.2,SNR=6.9							
GUMO				LR	LR	12 15 30.7	
comp=Z,18μm,21.8s,MS5.5,baz=344,slow=31							
RIV	**Riverview**	**25.71 192**		*e*P	**P**	**12 07 52.4**	**-1.0**
ASAR	**Alice Springs**	**27.12 234**		P	**P**	**12 08 05.3**	**-1.0**
ASAR				*e*		12 40 44.5	
ASAR	**Alice Springs**	**27.12 234**		P	**P**	**12 08 05.3**	**-1.0**
comp=Z,34nm,0.8s,mb4.9,baz=64,slow=8.8,SNR=204							
ASAR				P3KPbc		12 40 44.5	
comp=Z,0.8nm,0.8s,baz=238,slow=4.2,SNR=5.5							
STKA	**Stephens Creek**	**27.44 211**		⇓*i*P	**P**	**12 08 08.5**	**-0.6**
comp=Z,117nm,0.8s,mb5.5							
STKA				*i*S	**S**	**12 12 48.3**	**-1.2**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**27.44 211**		P	**P**	**12 08 08.5**	**-0.6**
comp=Z,107nm,0.7s,mb5.5,baz=28,slow=12,SNR=73							
STKA				LR	LR	12 18 24.7	
comp=Z,57μm,18.6s,MS6.2,baz=28,slow=35							
CNB	**Canberra Magne**	**27.55 195**		*e*P	**P**	**12 08 09.9**	**0.0**
comp=Z,308nm,1.2s,mb5.8							
AFI	**Afiamalu**	**30.46 103**		*e*P	**P**	**12 08 35.5**	**-0.7**
comp=Z,223nm,1.3s,mb5.7							
AFI				LR	LR		
comp=Z,16μm,20.0s,MS5.7							
AFI	**Afiamalu**	**30.46 103**		*e*P	**P**	**12 08 35.5**	**-0.6**
AFI				pmax	pmax		
comp=Z,223nm,1.3s,mb5.7							
AFI				MLR	MLR		
comp=Z,16μm,20.0s,MS5.7							
RAO	**Raoul Island**	**30.77 135**		P	**P**	**12 08 37.9**	**-0.7**
comp=Z,579nm,0.9s,mb6.4,baz=37,slow=20,SNR=6.2							
RAO				LR	LR	12 18 17.1	
comp=Z,15μm,20.7s,MS5.6,baz=302,slow=31							
TNE	**Ternate**	**31.55 286**		⇓*e*P	**P**	**12 08 45.5**	**-0.3**
FITZ	**Fitzroy Crossi**	**32.41 250**		*e*P	**P**	**12 08 52.3**	**-1.0**
comp=Z,74nm,0.6s,mb5.7							
FITZ				*e*S	**S**	**12 13 59.6**	**-8.2**
HIZ	**Hauiti**	**33.51 155**		*e*P	**P**	**12 09 03.1**	**+0.5**
HIZ	**Hauiti**	**33.51 155**		*e*PN	**P**	**12 09 03.1**	**+0.5**
HIZ				PcP	PcP	12 11 46.1	+2.7
URZ	**Urewera**	**34.29 152**		P	**P**	**12 09 09.5**	**+0.1**
comp=Z,85nm,1.1s,mb5.6,baz=34,slow=4.7,SNR=8.9							
URZ	**Urewera**	**34.29 152**		*e*PN	**P**	**12 09 08.7**	**-0.7**
PKVZ	**Pokaka**	**34.37 155**		*e*PN	**P**	**12 09 10.2**	**+0.2**
MTVZ	**Mangateitei**	**34.50 155**		PN	**P**	**12 09 11.5**	**+0.3**
PUZ	**Puketiti**	**34.69 151**		*e*P	**P**	**12 09 11.8**	**-1.0**
PUZ	**Puketiti**	**34.69 151**		PN	**P**	**12 09 11.8**	**-1.0**
KNZ	**Kokohu**	**35.17 152**		*e*P	**P**	**12 09 15.3**	**-1.7**
KNZ	**Kokohu**	**35.17 152**		PN	**P**	**12 09 15.3**	**-1.6**
FORT	**Forrest**	**35.23 227**		*e*P	**P**	**12 09 16.6**	**-1.1**
comp=Z,166nm,0.8s,mb6.0							
FORT				*e*S	**S**	**12 14 43.7**	**-7.5**
TAU	**Tasmania Unive**	**35.25 193**		*e*P	**P**	**12 09 19.6**	**+2.0**
TAU				LR	LR		
comp=Z,16μm,19.0s,MS5.8							
TSZ	**Takapari Road**	**35.27 155**		*e*P	**P**	**12 09 16.6**	**-1.3**
TSZ	**Takapari Road**	**35.27 155**		PN	**P**	**12 09 16.6**	**-1.3**
DAV	**Davao City (W)**	**35.55 295**		PFAKE		12 09 30.0	+9.5
DAV				LR	LR		
comp=Z,12μm,19.0s,MS5.7							
DAV	**Davao City (W)**	**35.55 295**		⇑*e*P	**P**	**12 09 20.0**	**-0.5**
THZ	**Tophouse**	**35.61 160**		*e*P	**P**	**12 09 19.4**	**-1.3**
THZ	**Tophouse**	**35.61 160**		PN	**P**	**12 09 19.2**	**-1.5**
MRZ	**Mangatainoka R**	**35.63 156**		*e*P	**P**	**12 09 19.4**	**-1.5**
MRZ	**Mangatainoka R**	**35.63 156**		PN	**P**	**12 09 18.8**	**-2.1**
SNZO	**South Karori**	**35.85 158**		*e*P	**P**	**12 09 23.5**	**+0.8**
comp=Z,622nm,2.0s,mb6.2							
SNZO				LR	LR		
comp=Z,25μm,22.0s,MS5.9							
BFZ	**Birch Farm**	**35.91 156**		*e*P	**P**	**12 09 22.1**	**-1.3**
BFZ	**Birch Farm**	**35.91 156**		PN	**P**	**12 09 21.8**	**-1.6**
WVZ	**Waitaha Valley**	**36.13 164**		*e*PN	**P**	**12 09 24.6**	**-0.6**
FOZ	**Fox Glacier**	**36.31 165**		*e*P	**P**	**12 09 26.9**	**+0.2**
FOZ	**Fox Glacier**	**36.31 165**		*e*PN	**P**	**12 09 26.9**	**+0.2**
BUKP	**Musuan**	**36.36 296**		*e*P	**P**	**12 09 27.5**	**0.0**
KHZ	**Kahutara**	**36.41 160**		*e*P	**P**	**12 09 25.5**	**-2.0**
KHZ	**Kahutara**	**36.41 160**		PN	**P**	**12 09 25.5**	**-2.0**
RPZ	**Rata Peaks**	**36.81 164**		P	**P**	**12 09 30.7**	**-0.3**
RPZ	**Rata Peaks**	**36.81 164**		P	**P**	**12 09 31.0**	**0.0**
comp=Z,68nm,0.8s,mb5.5,baz=14,slow=3.8,SNR=21							
RPZ	**Rata Peaks**	**36.81 164**		PN	**P**	**12 09 30.7**	**-0.3**
WSI	**Waingapu**	**36.82 265**		⇑*e*P	**P**	**12 09 33.0**	**+1.5**
MSLP	**Maasin**	**37.57 299**		*e*P	**P**	**12 09 36.7**	**-1.1**
MLZ	**Mavora Lakes**	**37.65 168**		*e*P	**P**	**12 09 37.5**	**-0.5**
MLZ	**Mavora Lakes**	**37.65 168**		PN	**P**	**12 09 37.5**	**-0.5**
MBWA	**Marble Bar**	**38.52 247**		*e*P	**P**	**12 09 46.1**	**+0.4**
comp=Z,514nm,1.6s,mb6.0							
MBWA				LR	LR		
comp=Z,26μm,22.0s,MS6.0							
MBWA	**Marble Bar**	**38.52 247**		P	**P**	**12 09 45.6**	**-0.1**
SNR=36							
PVCP	**Virac**	**39.90 303**		⇑*e*P	**P**	**12 09 57.9**	**+0.5**
PVCP	**Virac**	**39.90 303**		*e*P	**P**	**12 09 57.6**	**+0.2**
OTRP	**Odiongan**	**41.08 300**		*e*P	**P**	**12 10 06.3**	**-0.8**
CUYO	**Cuyo Island**	**41.25 297**		*e*P	**P**	**12 10 09.5**	**+1.0**
TSM	**Tawau**	**41.65 286**		⇓*e*P	**P**	**12 10 12.9**	**+1.0**
BUSP	**Coron**	**42.48 298**		*e*P	**P**	**12 10 18.7**	**+0.1**
SDKM	**Sandakan**	**42.72 288**		⇑P	**P**	**12 10 21.0**	**+0.4**
PPR	**Puerto Princes**	**42.82 295**		*e*P	**P**	**12 10 22.6**	**+1.2**
TGY	**Tagaytay City**	**42.85 302**		⇑*e*P	**P**	**12 10 22.6**	**+1.1**
RAR	**Rarotonga**	**42.89 112**		P	**P**	**12 10 23.2**	**+1.3**
RAR				LR	LR		
comp=Z,1.0nm,22.0s							
RAR	**Rarotonga**	**42.89 112**		P	**P**	**12 10 23.2**	**+1.3**
comp=Z,35nm,0.8s,mb5.2,baz=286,slow=5.4,SNR=4.9							
BALP	**Baler**	**43.15 304**		*e*P	**P**	**12 10 21.9**	**-2.1**
LUBP	**Lubang**	**43.25 301**		*e*P	**P**	**12 10 24.4**	**-0.4**
BATP	**Bataraza**	**43.28 293**		*e*P	**P**	**12 10 25.3**	**+0.2**
KLBR	**Kellerberrin**	**43.44 233**		*e*P	**P**	**12 10 25.4**	**-0.8**
comp=Z,324nm,1.4s,mb5.9							
**

PAE			pmax	pmax		
	comp=Z,162nm,1.3s,mb5.8					
ERM	**Erimo**	**52.17 346**	PFAKE		12 11 50.0	+16
ERM			LR	LR		
	comp=Z,18μm,20.0s,MS6.1					
TVO	**Taravao**	**52.38 106**	*e*P	**P**	**12 11 35.8**	**+0.1**
	comp=Z,221nm,1.1s,mb6.0					
TVO	**Taravao**	**52.38 106**	*e*P	**P**	**12 11 35.8**	**+0.1**
TVO			pmax	pmax		
	comp=Z,221nm,1.1s,mb6.0					
HKC	**Hong Kong Obse**	**52.53 307**	⇑*i*P	**P**	**12 11 37.0**	**+0.3**
HKC			S	**S**	**12 19 04.0**	**+0.4**
TBI	**Tubuai**	**52.65 113**	*e*PP	PP	12 13 34.0	-2.9
	comp=Z,1μm,25.8s					
TBI			*e*S	**S**	**12 19 05.1**	**-0.2**
	comp=Z,6μm,28.5s					
TBI			*e*LQ		12 24 40.6	
	comp=Z,84μm,31.0s					
TBI			*e*LR	LR	12 26 50.9	
	comp=Z,14μm,36.8s					
TBI	**Tubuai**	**52.65 113**	*e*P	**P**	**12 11 37.6**	**0.0**
	comp=Z,727nm,1.2s,mb6.5					
TBI			*e*PP	PP	12 13 34.0	-2.9
TBI			*e*S	**S**	**12 19 05.1**	**-0.2**
TBI			*e*LQ		12 24 40.6	
SSE	**Sheshan**	**52.74 320**	P	**P**	**12 11 38.1**	**0.0**
SSE			XP	sP	12 11 42.4	-0.8
SSE			PP	PP	12 13 34.7	-2.9
SSE			S	**S**	**12 19 04.8**	**-1.4**
SSE			SCS	ScS	12 21 28.2	0.0
SSE			SS	SS	12 22 44.1	-1.1
SSE			AMB	AMB		
	comp=Z,109nm,0.9s,mb5.8					
SSE			AMB	AMB		
	comp=Z,3μm,7.0s					
SSE			LR	LR		
	comp=N,4μm,16.6s,MS5.6					
SSE			LR	LR		
	comp=E,3μm,16.6s,MS5.6					
SSE			LR	LR		
	comp=Z,5μm,14.7s,MS5.7					
SSE	**Sheshan**	**52.74 320**	P	**P**	**12 11 38.1**	**0.0**
	comp=Z,109nm,0.9s,mb5.8					
SSE			sP	sP	12 11 42.4	-0.8
SSE			PP	PP	12 13 34.7	-2.9
SSE			S	**S**	**12 19 04.8**	**-1.4**
SSE			sS	sS	12 19 09.9	-2.3
SSE			ScS	ScS	12 21 28.2	0.0
SSE			SS	SS	12 22 44.1	-1.1
SSE			LR	LR		
	comp=Z,5μm,14.7s,MS5.7					
KIP	**Kipapa**	**52.86 55**	PFAKE		12 11 50.0	+11
KIP			LR	LR		
	comp=Z,16μm,20.0s,MS6.1					
GZH	**Guangzhou**	**53.59 307**	P	**P**	**12 11 44.7**	**+0.2**
GZH			S	**S**	**12 19 23.2**	**+5.2**
GZH			LR	LR		
	comp=N,3μm,20.7s,MS5.7					
GZH			LR	LR		
	comp=E,6μm,18.8s,MS5.7					
GZH			LR	LR		
	comp=Z,11μm,19.7s,MS5.9					
PMOR	**Pomariorio Ree**	**53.61 102**	*e*P	**P**	**12 11 44.9**	**+0.1**
	comp=Z,414nm,1.3s,mb6.2					
KSRS	**Korea Array**	**53.65 331**	P	**P**	**12 11 44.1**	**-0.6**
	comp=Z,74nm,1.2s,mb5.5,baz=152,slow=8.2,SNR=48					
KSRS			LR	LR	12 31 11.3	
	comp=Z,9μm,20.2s,MS5.8,baz=329,slow=32					
KHU	**Kahuku**	**53.82 59**	*e*P	**P**	**12 11 46.0**	**-0.3**
VAH	**Vaihoa**	**53.87 102**	*e*P	**P**	**12 11 46.4**	**-0.3**
	comp=Z,254nm,1.4s,mb6.0					
POHA	**Pohakuloa**	**54.12 58**	*e*P	**P**	**12 11 50.8**	**+2.3**
	comp=Z,112nm,0.9s,mb5.8					
POHA			LR	LR		
	comp=Z,22μm,22.0s,MS6.2					
INCN	**Inchon**	**54.31 330**	*e*P	**P**	**12 11 48.9**	**-0.6**
INCN			LR	LR		
	comp=Z,8μm,19.0s,MS5.8					
INCN	**Inchon**	**54.31 330**	P	**P**	**12 11 51.0**	**+1.5**
	SNR=7.6					
QIZ	**Qiongzhong**	**54.53 301**	P	**P**	**12 11 50.9**	**-0.6**
QIZ			S	**S**	**12 19 31.8**	**+0.9**
QIZ			SCS	ScS	12 21 41.2	-0.1
QIZ			SS	SS	12 23 14.5	+0.7
QIZ			AMB	AMB		
	comp=Z,123nm,1.6s,mb5.7					
QIZ			AMB	AMB		
	comp=Z,4μm,8.0s					
QIZ			LR	LR		
	comp=N,5μm,16.3s					
QIZ			LR	LR		
	comp=Z,7μm,22.9s					
QIZ	**Qiongzhong**	**54.53 301**	*e*P	**P**	**12 11 51.7**	**+0.2**
	comp=Z,382nm,1.6s,mb6.2					
QIZ			LR	LR		
	comp=Z,8μm,21.0s,MS5.7					
MYKOM	**Kota Tinggi**	**54.57 278**	⇓P	**P**	**12 11 51.7**	**-0.2**
NJ2	**Nanjing**	**54.86 319**	*e*P	**P**	**12 11 54.3**	**+0.7**
NJ2			AP	pP	12 11 59.2	+1.9
NJ2			XP	sP	12 12 01.5	+2.8
NJ2			PP	PP	12 13 58.3	+1.6
NJ2			S	**S**	**12 19 33.0**	**-1.9**
NJ2			XS	sS	12 19 41.0	0.0
NJ2			AMB	AMB		
	comp=Z,150nm,0.9s,mb6.0					
NJ2			AMB	AMB		
	comp=Z,8μm,6.0s					
NJ2			LR	LR		
	comp=N,6μm,14.1s					
NJ2			LR	LR		
	comp=E,9μm,19.2s					
NJ2			LR	LR		
	comp=Z,12μm,19.2s					
KGM	**Kluang**	**55.13 279**	⇓P	**P**	**12 11 56.8**	**+0.8**
KTGM	**Kuala Trenggan**	**56.05 282**	⇑P	**P**	**12 12 03.5**	**+0.9**
VLA	**Vladivostok**	**56.63 338**	*i* P	**P**	**12 12 05.5**	**-0.6**
VLA	**Vladivostok**	**56.63 338**	*d i* P	**P**	**12 12 05.3**	**-0.8**
VLA			*e*S	**S**	**12 19 58.3**	**+0.2**
VLA			pmax	pmax		
	comp=Z,239μm,1.7s					
WHN	**Wuhan**	**56.95 315**	P	**P**	**12 12 09.5**	**+0.9**
WHN			S	**S**	**12 20 08.6**	**+5.8**
WHN			AMB	AMB		
	comp=Z,6μm,3.6s					
WHN			LR	LR		
	comp=Z,10μm,14.7s,MS6.0					
YSS	**Yuzh-Sakhalins**	**56.95 348**	*e*P	**P**	**12 12 07.3**	**-1.0**
YSS			LR	LR		
	comp=Z,9μm,20.0s,MS5.9					
YSS	**Yuzh-Sakhalins**	**56.95 348**	*oe*P	**P**	**12 12 08.0**	**-0.3**
YSS			*e*		12 13 01.6	
YSS			*e*PPP		12 15 40.0	
YSS			*i* S	**S**	**12 20 06.0**	**+3.8**
YSS			pmax	pmax		
	comp=Z,50nm,0.9s,mb5.5					
YSS			pmax	pmax		
	comp=N,2μm,9.0s					
YSS			pmax	pmax		
	comp=Z,3μm,9.0s					
YSS			MLR	MLR		
	comp=N,10μm,19.0s					
YSS			MLR	MLR		
	comp=Z,9μm,19.0s,MS5.9					
DL2	**Dalian**	**57.97 327**	⇑*i*P	**P**	**12 12 14.2**	**-1.4**
DL2			PCP	PcP	12 13 08.7	+1.0
DL2			S	**S**	**12 20 15.7**	**-0.2**
DL2			AMB	AMB		
	comp=Z,50nm,0.9s,mb5.5					
DL2			AMB	AMB		
	comp=Z,2μm,7.2s					
DL2			LR	LR		
	comp=N,3μm,14.9s,MS5.7					
DL2			LR	LR		
	comp=E,2μm,12.3s,MS5.7					
DL2			LR	LR		
	comp=Z,3μm,16.0s,MS5.6					
KULM	**Kulim**	**58.45 282**	*e*P	**P**	**12 12 18.3**	**-1.2**
KULM	**Kulim**	**58.45 282**	⇑P	**P**	**12 12 18.8**	**-0.7**
TIA	**Tai'an**	**58.67 322**	*e*P	**P**	**12 12 20.3**	**-0.3**
TIA			S	**S**	**12 20 26.0**	**+0.8**
TIA			AMB	AMB		
	comp=Z,2μm,6.0s					
TIA			LR	LR		
	comp=N,2μm,16.0s,MS5.5					
TIA			LR	LR		
	comp=E,1μm,16.0s,MS5.5					
MDJ	**Mudanjiang**	**58.78 337**	P	**P**	**12 12 21.6**	**+0.4**
MDJ			AP	pP	12 12 24.7	-0.2
MDJ			XP	sP	12 12 26.0	-0.3
MDJ			PCP	PcP	12 13 09.5	-1.3
MDJ			PP	PP	12 14 29.9	-1.5
MDJ			SCP	ScP	12 17 08.8	-2.6
MDJ			S	**S**	**12 20 22.7**	**-3.6**
MDJ			SCS	ScS	12 22 03.8	-7.3
MDJ			AMB	AMB		
	comp=Z,77nm,1.3s,mb5.6					
MDJ			AMB	AMB		
	comp=Z,3μm,9.0s					
MDJ			LR	LR		
	comp=N,4μm,14.5s					
MDJ			LR	LR		
	comp=E,4μm,22.9s					
MDJ			LR	LR		
	comp=Z,6μm,24.1s					
MDJ	**Mudanjiang**	**58.78 337**	*e*P	**P**	**12 12 21.2**	**0.0**
	comp=Z,93nm,1.0s,mb5.8					
MDJ			LR	LR		
	comp=Z,7μm,21.0s,MS5.8					
DRV	**Dumont d'Urvil**	**59.12 188**	P	**P**	**12 12 33.0**	**+10**
DRV			S	**S**	**12 20 39.0**	**+8.8**
DRV			SS	SS	12 24 16.0	-8.3
DRV			L		12 27 00.0	
DRV			R		12 30 00.0	
SKR	**Severo-Kuril's**	**59.14 359**	*e*P	**P**	**12 12 18.0**	**-5.6**
SKR			*e*		12 14 28.0	
SKR			*e*S	**S**	**12 20 36.0**	**+5.3**
SKR			pmax	pmax		
	comp=N,3μm,10.0s					
SKR			pmax	pmax		
	comp=E,3μm,10.0s					
SKR			pmax	pmax		
	comp=Z,5μm,10.0s					
SKR			MLR	MLR		
	comp=N,8μm,18.0s,MS6.0					
SKR			MLR	MLR		
	comp=E,6μm,18.0s,MS6.0					
SKR			MLR	MLR		
	comp=Z,9μm,18.0s,MS5.9					
SNY	**Shenyang**	**59.16 331**	⇑P	**P**	**12 12 22.1**	**-1.8**
SNY			S	**S**	**12 20 29.8**	**-1.4**
SNY			AMB	AMB		
	comp=Z,4μm,9.0s					
SNY			LR	LR		
	comp=N,5μm,15.0s					
SNY			LR	LR		
	comp=E,3μm,20.7s					
SNY			LR	LR		
	comp=Z,7μm,20.6s					
CN2	**Changchun**	**59.83 334**	*e*P	**P**	**12 12 29.0**	**+0.5**
CN2			*e*XP	sP	12 12 36.0	+2.4
CN2			*e*S	**S**	**12 20 39.4**	**-0.5**
CN2			AMB	AMB		
	comp=Z,70nm,1.3s,mb5.5					
CN2			LR	LR		
	comp=N,6μm,19.0s,MS5.9					
CN2			LR	LR		
	comp=E,5μm,19.0s,MS5.9					
CN2			LR	LR		
	comp=Z,8μm,21.0s,MS5.8					
ENH	**Enshi**	**60.28 312**	PFAKE		12 12 40.0	+8.2
ENH			LR	LR		
	comp=Z,12nm,20.0s					
HABR	**Khabarovsk**	**60.29 343**	⇑*i*P	**P**	**12 12 30.5**	**-1.1**
HABR			*e*S	**S**	**12 20 45.1**	**-0.5**
HABR			pmax	pmax		
	comp=Z,225nm,1.9s,mb5.9					
GYA	**Guiyang**	**60.52 307**	⇑*i*P	**P**	**12 12 35.2**	**+1.6**
GYA			AP	pP	12 12 39.8	+2.5
GYA			XP	sP	12 12 42.4	+3.7
GYA			PCP	PcP	12 13 20.2	+2.0
GYA			PP	PP	12 14 51.0	+3.8
GYA			SCP	ScP	12 17 19.0	-0.7
GYA			S	**S**	**12 20 49.4**	**0.0**
GYA			SCS	ScS	12 22 22.8	-2.0
GYA			SS	SS	12 24 48.9	+1.0
GYA			AMB	AMB		
	comp=Z,140nm,1.0s,mb6.0					
GYA			AMB	AMB		
	comp=Z,23μm,12.0s					
GYA			LR	LR		
	comp=N,25μm,20.4s,MS6.5					
GYA			LR	LR		
	comp=E,23μm,21.0s,MS6.5					
GYA			LR	LR		
	comp=Z,27μm,19.6s,MS6.4					
NNT	**Nongplab**	**61.25 289**	P	**P**	**12 12 40.0**	**+1.2**
NNT	**Nongplab**	**61.25 289**	P	**P**	**12 12 40.0**	**+1.2**
TAOE	**Nuku Hiva Isla**	**61.46 95**	*e*P	**P**	**12 12 39.5**	**-0.8**
	comp=Z,1μm,1.5s,mb6.9					
TAOE			*e*S	**S**	**12 20 59.8**	**-2.1**
	comp=Z,13μm,26.8s					
TAOE			*e*LQ		12 28 22.5	
	comp=Z,26μm,23.2s					
TAOE			*e*LR	LR	12 30 54.1	
	comp=Z,59μm,26.2s,baz=269					
TAOE	**Nuku Hiva Isla**	**61.46 95**	*e*P	**P**	**12 12 39.5**	**-0.8**
	comp=Z,1μm,1.5s,mb6.9					
TAOE			*e*S	**S**	**12 20 59.8**	**-2.1**
TAOE			*e*LQ		12 28 22.5	
PET	**Petropavlovsk**	**61.48 1**	*e*P	**P**	**12 12 40.0**	**+0.5**
PET			LR	LR		
	comp=Z,14μm,19.0s,MS6.2					
PET	**Petropavlovsk**	**61.48 1**	*e*P	**P**	**12 12 39.2**	**-0.3**
PET			*e*S	**S**	**12 20 56.1**	**-4.5**
PET			*e*PS		12 21 22.1	
PET			*e*SS	SS	12 24 51.6	-10
PET			pmax	pmax		
	comp=Z,197nm,1.3s,mb6.1					
PET			smax			
	comp=N,3μm,10.7s					
PET			smax			
	comp=N,4μm,9.5s					
PET			smax			
	comp=E,7μm,18.3s					
PET			smax			
	comp=E,6μm,16.4s					
PET			MLR	MLR		
	comp=Z,7μm,16.0s,MS5.9					
PET			MLR	MLR		
	comp=Z,6μm,15.0s					
BJT	**Baijiatuau**	**61.76 325**	*e*P	**P**	**12 12 41.8**	**+0.1**
	comp=Z,386nm,1.8s,mb6.2					
BJT			LR	LR		
	comp=Z,12μm,19.0s,MS6.1					
BJT	**Baijiatuau**	**61.76 325**	*e*P	**P**	**12 12 41.8**	**+0.1**
BJT			pmax	pmax		
	comp=Z,386nm,1.8s					
BJT			MLR	MLR		
	comp=Z,12μm,19.0s					
BJI	**Beijing**	**61.77 325**	P	**P**	**12 12 41.9**	**+0.1**
BJI			PP	PP	12 14 57.0	-1.0
BJI			S	**S**	**12 21 04.3**	**-0.6**
BJI			AMB	AMB		
	comp=Z,5μm,8.9s					
BJI			LR	LR		
	comp=N,2μm,20.3s,MS5.9					
BJI			LR	LR		
	comp=E,8μm,20.3s,MS5.9					
BJI			LR	LR		
	comp=Z,9μm,18.4s,MS6.0					
BJI	**Beijing**	**61.77 325**	P	**P**	**12 12 41.9**	**+0.1**
	comp=Z,51nm,2.6s,mb5.2					
BJI			PP	PP	12 14 57.0	-1.0
BJI			S	**S**	**12 21 04.3**	**-0.6**
BJI			SS	SS	12 25 07.6	+0.6
BJI			LR	LR		
	comp=Z,9μm,18.4s,MS6.0					
BJI	**Beijing**	**61.77 325**	P	**P**	**12 12 41.9**	**+0.1**
BJI					12 14 57.0	
BJI			S	**S**	**12 21 04.3**	**-0.6**
BJI			SS	SS	12 25 07.6	+0.6
BJI			pmax	pmax		
	comp=Z,51nm,2.6s,mb5.2					
BJI			MLR	MLR		
	comp=Z,9μm,18.4s,MS6.0					
NST	**Nakhon Sawan**	**61.84 293**	P	**P**	**12 12 42.0**	**-0.7**
	comp=Z,154nm,0.9s,mb6.1					
NST	**Nakhon Sawan**	**61.84 293**	P	**P**	**12 12 42.0**	**-0.7**
	comp=Z,154nm,0.9s,mb6.1					
KLR	**Kul'dur**	**61.97 341**	*de*P	**P**	**12 12 38.0**	**-4.9**
KLR			*e*S	**S**	**12 21 10.5**	**+3.5**
KLR			pmax	pmax		
	comp=E,120nm,2.2s					
KLR			pmax	pmax		
	comp=Z,280nm,2.2s,mb6.0					
TIY	**Taiyuan**	**62.52 321**	⇑*i*P	**P**	**12 12 46.0**	**-0.9**
TIY			S	**S**	**12 21 09.6**	**-4.8**
TIY			LR	LR		
	comp=N,5μm,15.1s,MS5.9					
TIY			LR	LR		
	comp=E,5μm,17.4s,MS5.9					
TIY			LR	LR		
	comp=Z,4μm,18.7s,MS5.7					
XAN	**Xi'an**	**62.71 315**	P	**P**	**12 12 47.3**	**-0.9**
XAN			AP	pP	12 12 53.7	+1.8
XAN			S	**S**	**12 21 16.7**	**-0.2**
XAN			AMB	AMB		
	comp=Z,57nm,2.3s,mb5.3					
XAN			AMB	AMB		
	comp=Z,3μm,8.2s					
XAN			LR	LR		
	comp=N,2μm,21.9s,MS5.6					
XAN			LR	LR		
	comp=E,4μm,20.1s,MS5.6					
XAN			LR	LR		
	comp=Z,5μm,22.8s,MS5.7					
KMI	**Kunming**	**63.09 304**	P	**P**	**12 12 53.0**	**+2.0**
KMI			AP	pP	12 12 56.4	+1.7
KMI			PCP	PcP	12 13 28.2	-0.5
KMI			PP	PP	12 15 15.2	+5.3
KMI			S	**S**	**12 21 26.3**	**+4.2**
KMI			SKS		12 22 42.9	
KMI			AMB	AMB		
	comp=Z,227nm,1.5s,mb6.1					
KMI			AMB	AMB		
	comp=Z,5μm,9.1s					
KMI			LR	LR		
	comp=N,2μm,17.5s,MS5.7					
KMI			LR	LR		
	comp=E,4μm,20.5s,MS5.7					
KMI			LR	LR		
	comp=Z,6μm,23.5s,MS5.7					
KMI	**Kunming**	**63.09 304**	P	**P**	**12 12 53.0**	**+2.0**
	comp=Z,227nm,1.5s,mb6.1					
KMI			pP	pP	12 12 56.4	+1.7
KMI			PcP	PcP	12 13 28.2	-0.5
KMI			PP	PP	12 15 15.2	+5.3
KMI			S	**S**	**12 21 26.3**	**+4.2**
KMI			PS		12 21 47.4	
KMI			SKS		12 22 42.9	
KMI			SS	SS	12 25 35.0	+6.8
KMI			SSS		12 28 23.4	
KMI			LR	LR		
	comp=Z,6μm,23.5s,MS5.7					
KMI	**Kunming**	**63.09 304**	P	**P**	**12 12 53.0**	**+2.0**
KMI					12 13 28.2	
KMI					12 15 15.2	
KMI			S	**S**	**12 21 26.3**	**+4.2**
KMI			PS		12 21 47.4	
KMI					12 22 42.9	
KMI			pmax	pmax		
	comp=Z,227nm,1.5s,mb6.1					
KMI			MLR	MLR		
	comp=Z,6μm,23.5s,MS5.7					
BDT	**Bhumibol Dam**	**63.38 294**	P	**P**	**12 12 54.5**	**+1.5**
	comp=Z,24nm,1.0s,mb5.3					
BDT	**Bhumibol Dam**	**63.38 294**	P	**P**	**12 12 54.5**	**+1.5**
	comp=Z,24nm,1.0s,mb5.3					
CHRT	**Chiangrai**	**63.58 297**	⇑P	**P**	**12 12 55.0**	**+0.7**
	comp=Z,1μm,0.8s,mb7.0					
CHRT	**Chiangrai**	**63.58 297**	⇑P	**P**	**12 12 55.0**	**+0.7**
	comp=Z,1μm,0.8s,mb7.0					
CHG	**Chiang Mai**	**63.95 296**	⇑P	**P**	**12 12 57.4**	**+0.6**
	comp=Z,15nm,1.1s,mb4.9					
CHG	**Chiang Mai**	**63.95 296**	⇑P	**P**	**12 12 57.4**	**+0.6**
	comp=Z,15nm,1.1s,mb4.9					
CHTO	**Chiang Mai**	**63.95 296**	*e*P	**P**	**12 12 57.1**	**+0.3**
	comp=Z,151nm,1.0s,mb6.0					
CHTO			LR	LR		
	comp=Z,4μm,19.0s,MS5.6					
CHTO	**Chiang Mai**	**63.95 296**	P	**P**	**12 12 57.5**	**+0.7**
	SNR=95					
CHTO	**Chiang Mai**	**63.95 296**	P	**P**	**12 12 57.5**	**+0.7**
	SNR=95					
ADK	**Adak**	**64.26 17**	*e*P	**P**	**12 12 57.3**	**-0.8**
ADK			LR	LR		
	comp=Z,10μm,22.0s,MS6.0					
CD2	**Chengdu**	**64.87 310**	P	**P**	**12 13 02.6**	**+0.1**
CD2			AP	pP	12 13 06.9	+0.6
CD2			XP	sP	12 13 09.8	+2.2
CD2			PP	PP	12 15 27.6	+2.2
CD2			PCS		12 17 38.1	
CD2			S	**S**	**12 21 42.5**	**-1.4**
CD2			XS	sS	12 21 50.3	+0.3
CD2			SCS	ScS	12 22 53.0	-4.6
CD2			SS	SS	12 25 56.0	+0.2
CD2			AMB	AMB		
	comp=Z,40nm,0.5s,mb5.7					
CD2			AMB	AMB		
	comp=Z,7μm,5.8s					
CD2			LR	LR		
	comp=N,4μm,17.8s,MS5.9					
CD2			LR	LR		
	comp=E,5μm,18.0s,MS5.9					
CD2			LR	LR		
	comp=Z,6μm,16.8s,MS5.8					
HHC	**Hu-ho-hao-te**	**64.98 323**	⇑*i*P	**P**	**12 13 03.7**	**+0.6**
HHC			AP	pP	12 13 08.5	+1.7
HHC			XP	sP	12 13 10.8	+2.6
HHC			PP	PP	12 15 29.7	+3.5
HHC			SCP		12 17 37.3	
HHC			PCS		12 17 39.1	
HHC			S	**S**	**12 21 48.3**	**+3.4**
HHC			XS	sS	12 21 51.9	+0.8
HHC			AMB	AMB		
	comp=Z,69nm,1.1s,mb5.6					
HHC			AMB	AMB		
	comp=Z,4μm,8.3s					
HHC			LR	LR		
	comp=N,5μm,15.1s,MS5.9					
HHC			LR	LR		
	comp=E,4μm,16.3s,MS5.9					
HHC			LR	LR		
	comp=Z,5μm,17.6s,MS5.8					
BTO	**Baotou**	**65.76 322**	*e*P	**P**	**12 13 08.7**	**+0.6**
CASY	**Casey**	**65.81 199**	PFAKE		12 13 20.0	+12
CASY			LR	LR		
	comp=Z,26μm,21.0s,MS6.4					
RKT	**Rikitea**	**65.93 111**	*e*PP	PP	12 15 28.2	-6.6
	comp=Z,951nm,27.5s					
RKT			*e*S	S	12 21 55.7	-1.5
	comp=Z,6μm,31.5s					
RKT			*e*SS	SS	12 26 14.1	+1.7
	comp=Z,5μm,26.8s					
RKT			*e*LQ		12 30 15.9	
	comp=Z,19μm,30.0s					
RKT			*e*LR	LR	12 33 04.6	
	comp=Z,15μm,30.0s,baz=277					
RKT	**Rikitea**	**65.93 111**	*e*P	**P**	**12 13 08.8**	**-0.8**
	comp=Z,629nm,1.6s,mb6.4					
RKT			*e*PP	PP	12 15 28.2	-6.6
RKT			*e*S	S	12 21 55.7	-1.5
RKT			*e*SS	SS	12 26 14.1	+1.7
RKT			*e*LQ		12 30 15.9	
RKT	**Rikitea**	**65.93 111**	*e*P	**P**	**12 13 08.8**	**-0.8**
RKT			*e*S	S	12 21 55.7	-1.5
RKT			*e*SS	SS	12 26 14.1	+1.7
RKT			pmax	pmax		
	comp=Z,629nm,1.6s,mb6.4					
HIA	**Hailar**	**66.55 334**	*e*P	**P**	**12 13 12.8**	**-0.2**
	comp=Z,49nm,0.8s,mb5.6					
HIA			LR	LR		
	comp=Z,6μm,19.0s,MS5.8					
HIA	**Hailar**	**66.55 334**	*e*P	**P**	**12 13 12.8**	**-0.2**
HIA			pmax	pmax		
	comp=Z,49nm,0.8s					
HIA			MLR	MLR		
	comp=Z,6μm,19.0s					
LZH	**Lanzhou**	**67.33 315**	⇑P	**P**	**12 13 19.0**	**+0.8**
LZH			AP	pP	12 13 22.1	+0.1
LZH			XP	sP	12 13 24.0	+0.7
LZH			PP	PP	12 15 49.0	+2.2
LZH			S	S	12 22 12.0	-1.6
LZH			AMB	AMB		
	comp=Z,411nm,1.5s,mb6.2					

LZH AMB AMB
comp=Z,2µm,6.8s
LZH LR LR
comp=N,4µm,13.8s
LZH LR LR
comp=Z,4µm,14.0s,MS5.8
LZH Lanzhou 67.33 315 ⇑P **P 12 13 19.0 +0.8**
comp=Z,411nm,1.5s,mb6.2
LZH pP pP 12 13 22.1 +0.1
LZH sP sP 12 13 24.0 +0.7
LZH PP PP 12 15 49.0 +2.2
LZH S S 12 22 12.0 -1.6
LZH sS sS 12 22 18.0 -1.8
LZH SS SS 12 26 34.1 +0.3
LZH LR LR
comp=Z,4µm,14.0s,MS5.8
LZH Lanzhou 67.33 315 ⇑P **P 12 13 19.0 +0.8**
LZH *SP sP 12 13 24.0 +0.7
LZH 12 15 49.0
LZH S S 12 22 12.0 -1.6
LZH SS SS 12 26 34.1 +0.3
LZH pmax pmax
comp=Z,411nm,1.5s,mb6.2
LZH MLR MLR
comp=Z,4µm,14.0s,MS5.8
MA2 Magadan 68.26 356 *e*P **P 12 13 22.8 -0.9**
MA2 LR LR
comp=Z,8µm,19.0s,MS6.0
MA2 Magadan 68.26 356*c i*P **P 12 13 22.5 -1.1**
MA2 *e* 12 13 48.0
MA2 *e* 12 15 48.6
MA2 *e*PPP 12 17 28.9
MA2 *e*S S 12 22 17.2 -6.7
MA2 *e* 12 23 18.2
MA2 *e*SSS 12 29 45.1
MA2 pmax pmax
comp=Z,200nm,1.4s,mb6.0
MA2 MLR MLR
comp=Z,8µm,18.1s,MS6.0
VNDA Vanda 68.84 179 P **P 12 13 26.3 -0.7**
baz=333,slow=7.6
VNDA LR LR 12 40 12.8
comp=Z,14µm,18.2s,MS6.2,baz=0.6,slow=33
UNV Unalaska Valle 69.30 22 *e*P **P 12 13 29.3 -0.8**
UNV LR LR
comp=Z,20µm,20.0s,MS6.4
SBA Scott Base 69.30 178 *e*P **P 12 13 31.2 +1.3**
comp=Z,144nm,1.4s,mb5.7
SBA LR LR
comp=Z,8µm,20.0s,MS6.0
AKUT Akutan 69.79 22 *e*P **P 12 13 32.5 -0.7**
IMP Imphal 70.36 300 *e*P **P 12 13 37.0 -0.4**
PTCN Pitcairn Islan 70.39 113 PFAKE 12 13 50.0 +12
PTCN LR LR
comp=Z,6µm,21.0s,MS5.8
NRGR Nerungri 70.53 341 *e*P **P 12 13 39.0 +1.3**
NRGR S S 12 22 37.0 -14
NRGR smax
comp=N,36nm,0.6s
CLNS Chul'man 70.62 342 *e*P **P 12 13 38.8 +0.6**
CLNS *e* 12 13 59.8
CLNS *e*PPP 12 17 50.8
CLNS *e*S S 12 22 50.3 -1.5
CLNS *e* 12 23 31.8
CLNS pmax pmax
comp=N,48nm,0.9s
CLNS pmax pmax
comp=Z,105nm,0.9s,mb5.8
CLNS pmax pmax
comp=E,18nm,0.8s
CLNS smax
comp=E,4µm,10.7s
CLNS smax
comp=Z,2µm,11.0s
CLNS smax
comp=N,499nm,10.7s
CLNS MLR MLR
comp=N,3µm,14.0s,MS5.8
CLNS MLR MLR
comp=Z,3µm,14.0s,MS5.7
CLNS MLR MLR
comp=E,2µm,12.0s,MS5.8
FALS False Pass 71.23 23 *e*P **P 12 13 40.8 -1.2**
CIT Chita 71.27 333 *e*P **P 12 13 42.6 +0.3**
CIT *e* 12 13 59.2
CIT pmax pmax
comp=Z,327nm,2.8s,mb5.8
SEY Seymchan 71.53 357⇑*e*P **P 12 13 43.5 -0.1**
MIR Mirnyy 72.09 202⇑*i*P **P 12 13 52.0 +4.9**
MIR *i* S S 12 23 10.0 +1.2
MIR pmax pmax
comp=Z,200nm,2.5s,mb5.6
SONM Songino Array 72.15 327 P **P 12 13 47.8 +0.1**
comp=Z,25nm,0.8s,mb5.2,baz=136,slow=4.1,SNR=114
SONM PKP2ab 12 41 28.5
comp=Z,0.5nm,0.9s,baz=132,slow=4.2,SNR=3.6
SONM LR LR 12 43 16.5
comp=Z,7µm,21.3s,MS5.9,baz=129,slow=34
SHL Shillong 72.37 300 *i* P **P 12 13 50.1 +0.6**
SHL AMb AMB 12 13 56.1
comp=Z,993nm,1.6s,mb6.5
SHL *e*S S 12 23 15.5 +2.2
SDPT Sand Point 72.73 24 *e*P **P 12 13 49.4 -1.6**
comp=Z,532nm,1.8s,mb6.2
SDPT LR LR
comp=Z,7µm,18.0s,MS6.0
YAK Yakutsk 73.77 347 *e*P **P 12 13 56.2 -0.8**
comp=Z,150nm,1.0s,mb5.9
YAK LR LR
comp=Z,5µm,20.0s,MS5.8
YAK Yakutsk 73.77 347*c i*P **P 12 13 56.0 -1.0**
YAK *e**PP pP 12 14 05.0 +4.2
YAK *e* 12 14 11.3
YAK *e*PPP 12 18 20.9
YAK *e*S S 12 23 28.5 +0.7
YAK pmax pmax
comp=Z,100nm,0.8s,mb5.8
YAK pmax pmax
comp=N,39nm,1.5s
YAK pmax pmax
comp=E,20nm,1.5s
YAK smax
comp=Z,628nm,6.2s
YAK MLR MLR
comp=Z,3µm,18.0s,MS5.7
YAK MLR MLR
comp=N,3µm,23.0s
YAK MLR MLR
comp=E,2µm,17.0s
CHGN Chignik 74.23 24 *e*P **P 12 13 57.6 -2.2**
LSA Lhasa 74.35 304 *e*P **P 12 14 02.9 +1.8**
comp=E,140nm,1.1s,mb5.8
LSA LR LR
comp=Z,3µm,20.0s,MS5.5
LSA Lhasa 74.35 304 *e*P **P 12 14 02.9 +1.8**
LSA pmax pmax
comp=Z,141nm,1.1s,mb5.8
LSA MLR MLR
comp=Z,3µm,20.0s,MS5.5
BOD Bodaibo 75.14 338⇓*i*P **P 12 14 03.7 -1.4**
BOD pmax pmax
comp=Z,62nm,1.5s,mb5.3
ZAK Zakamensk 75.29 327⇑*e*P **P 12 14 05.9 -0.2**
ZAK pmax pmax
comp=Z,38nm,1.4s,mb5.1
TLY Talaya 75.83 329 *e*P **P 12 14 09.7 +0.6**
TLY LR LR
comp=Z,5µm,19.0s,MS5.8
TLY Talaya 75.83 329*c i*P **P 12 14 08.5 -0.7**
TLY *e* 12 16 56.4
TLY *e*S S 12 23 51.1 -0.1
TLY pmax pmax
comp=Z,81nm,1.9s,mb5.3
TLY Talaya 75.83 329 P **P 12 14 09.2 0.0**
SNR=26
TLY Talaya 75.83 329 P **P 12 14 09.2 0.0**
SNR=26
IRK Irkutsk 75.83 329⇑*i*P **P 12 14 08.2 -1.0**
IRK *e* 12 14 24.9
IRK pmax pmax
comp=Z,156nm,4.9s
GAMB Gambell 75.93 14 *e*P **P 12 14 08.8 -0.7**
BILL Bilibino 76.79 3⇑*i*P **P 12 14 13.6 -0.7**
BILL LR LR
comp=Z,5µm,20.0s,MS5.8
BILL Bilibino 76.79 3*c i*P **P 12 14 13.5 -0.8**
BILL *e**PP pP 12 14 22.3 +4.2
BILL *e* 12 17 02.2
BILL *e*S S 12 23 58.5 -2.6
BILL pmax pmax
comp=Z,101nm,0.8s,mb5.8
BOK Bokaro 77.06 297 *e*P **P 12 14 17.4 +0.7**
BOK AMb AMB 12 14 27.4
comp=Z,190nm,1.6s,mb5.8
MOY Mondy 77.20 328 *e*P **P 12 14 17.7 +0.8**
MOY pmax pmax
comp=Z,267nm,3.6s
KDAK Kodiak Island 77.59 25 *e*P **P 12 14 18.1 -0.8**
KDAK LR LR
comp=Z,2µm,19.0s,MS5.5
KDAK Kodiak Island 77.59 25 P **P 12 14 18.0 -0.9**
comp=Z,80nm,0.8s,mb5.7,baz=225,slow=3.8,SNR=82
JIRN Jiri 77.86 301 *e*P **P 12 14 21.8 +0.6**
comp=Z,434nm,1.4s,mb6.2
VIS Vishakhapatnam 77.87 290 *e*P **P 12 14 22.1 +0.8**
VIS AMb AMB 12 14 31.4
comp=Z,175nm,1.8s,mb5.7
PALK Pallekele 78.25 279 *e*P **P 12 14 22.4 -1.2**
comp=Z,277nm,1.2s,mb6.1
PALK LR LR
comp=Z,4µm,20.0s,MS5.7
PALK Pallekele 78.25 279 P **P 12 14 24.9 +1.3**
SNR=56
PALK Pallekele 78.25 279 P **P 12 14 24.9 +1.3**
SNR=56
TNA Tin City 78.32 14 *e*P **P 12 14 22.4 -0.4**
comp=Z,130nm,1.0s,mb5.8
TNA LR LR
comp=Z,5µm,19.0s,MS5.9
SVW2 Sparrevohn 78.61 21 *e*P **P 12 14 23.6 -1.0**
KKN Kakani 78.67 301 *e*P **P 12 14 26.0 +0.4**
comp=Z,855nm,1.8s,mb6.4
GKN Gorkha 79.27 301 *e*P **P 12 14 28.5 -0.5**
comp=Z,349nm,1.0s,mb6.3
TTA Tatalina 79.72 20 *e*P **P 12 14 30.2 -0.4**
MDRS Chennai 79.79 285 *ex* x 12 14 25.0
BLSP Bilaspur 79.99 294 *e*P **P 12 14 33.5 +0.5**
BLSP AMb AMB 12 14 41.3
comp=Z,224nm,1.3s,mb5.9
KOLN Koldanda 80.10 300 *e*P **P 12 14 32.9 -0.5**
comp=Z,338nm,1.0s,mb6.2
SLKM Skilak Lake 80.24 23 *e*P **P 12 14 32.2 -1.2**
QSPA South Pole Qui 81.29 180 *e*P **P 12 14 40.2 +1.3**
PMR Palmer 81.32 23 *e*P **P 12 14 38.0 -1.2**
comp=Z,712nm,1.9s,mb6.3
PMR LR LR
comp=Z,6µm,22.0s,MS5.9
PMR Palmer 81.32 23 *e*P **P 12 14 38.0 -1.2**
PMR pmax pmax
comp=Z,712nm,1.9s,mb6.3
PMR MLR MLR
comp=Z,6µm,22.0s,MS5.9
SML Sawmill 81.76 23 *e*P **P 12 14 40.9 -0.6**
WMQ Urumqi 81.82 317⇑*i*P **P 12 14 41.8 -0.4**
WMQ AP pP 12 14 46.5 +0.4
WMQ PP PP 12 17 50.0 +0.4
WMQ S S 12 24 55.0 -0.5
WMQ XS sS 12 25 02.0 +0.2
WMQ AMB AMB
comp=Z,98nm,1.6s,mb5.5
WMQ AMB AMB
comp=Z,3µm,6.0s
WMQ LR LR
comp=N,5µm,20.2s,MS6.1
WMQ LR LR
comp=E,6µm,20.2s,MS6.1
WMQ LR LR
comp=Z,5µm,20.6s,MS5.9
KOD Kodaikanal 81.93 282 *e*P **P 12 14 45.1 +1.6**
KOD AMb AMB 12 14 53.6
comp=Z,286nm,1.3s,mb6.0
EYAK Cordova Ski Ar 82.07 25 *e*P **P 12 14 42.3 -0.9**
comp=Z,164nm,1.3s,mb5.8
TRD Trivandrum 82.12 280 *e*P **P 12 14 45.3 +0.8**
TRD AMb AMB 12 14 55.3
comp=Z,276nm,1.2s,mb6.0
JBP Jabalpur 82.16 295⇑*e*P **P 12 14 44.4 -0.1**
JBP *ex* x 12 14 53.9
comp=Z,196nm,2.4s
JBP *i* S S 12 25 00.7 +0.9
HYB Hyderabad 82.25 289 *e*P **P 12 14 44.5 -0.6**
HYB *e*S S 12 25 00.0 -1.0
HYB Hyderabad 82.25 289 *i* P **P 12 14 46.0 +0.9**
comp=Z,200nm,1.2s,mb5.9
HYB *e*S S 12 25 00.0 -1.0
TIXI Tiksi 82.40 351 *e*P **P 12 14 44.1 -0.6**
comp=Z,253nm,1.7s,mb5.9
TIXI LR LR
comp=Z,8µm,21.0s,MS6.1
TIXI Tiksi 82.40 351*c i*P **P 12 14 42.9 -1.8**
TIXI *e*S S 12 24 58.4 -2.1
TIXI pmax pmax
comp=Z,169nm,1.8s,mb5.7
TIXI pmax pmax
comp=N,66nm,1.8s
TIXI pmax pmax
comp=E,78nm,1.9s
TIXI smax
comp=N,2µm,11.5s
TIXI smax
comp=E,5µm,11.5s
TIXI MLR MLR
comp=Z,5µm,17.0s,MS5.9
TIXI MLR MLR
comp=N,3µm,18.0s,MS5.8
TIXI MLR MLR
comp=E,3µm,18.0s,MS5.8
NGP Nagpur 82.56 293 *e*P **P 12 14 44.0 -2.7**
NGP *ex* x 12 14 52.7
comp=Z,249nm,1.8s
NGP *i* S S 12 25 03.1 -1.0
IMA2 Indian Mountai 82.59 18 *e*P **P 12 14 45.0 -0.8**
MCK McKinley 82.68 21 *e*P **P 12 14 45.8 -0.6**
MCK LR LR
comp=Z,4µm,19.0s,MS5.8
LGTI Lohaghat 83.37 301 *e*P **P 12 14 50.7 0.0**
COLA College 83.74 20⇑*i*P **P 12 14 50.6 -1.2**
COLA LR LR
comp=Z,9µm,19.0s,MS6.2
MAW Mawson 83.83 203 *i* S S 12 25 17.7 +2.4
MAW Mawson 83.83 203 *e*P **P 12 14 51.4 -0.9**
comp=Z,57nm,0.9s,mb5.7
MAW *i* S S 12 25 17.7 +2.4
MAW Mawson 83.83 203 *e*P **P 12 14 51.4 -0.9**
MAW *i* S S 12 25 17.7 +2.4
MAW pmax pmax
comp=Z,57nm,0.9s
MAW Mawson 83.83 203 P **P 12 14 51.7 -0.6**
comp=Z,34nm,0.7s,mb5.6,baz=84,slow=6.6,SNR=20
MAW LR LR 12 50 23.3
comp=Z,5µm,18.2s,MS5.9,baz=88,slow=34
MENT Mentasta 84.17 23 *e*P **P 12 14 53.4 -0.6**
LATR Latur 84.31 290 *ex* **P 12 14 51.0 -4.7**
LATR AMb AMB 12 14 59.0
comp=Z,237nm,1.7s,mb6.1
AKL Akola 84.33 292⇓*i*P **P 12 14 56.3 +0.5**
AKL *ex* x 12 15 03.2
comp=Z,293nm,1.7s
AKL *i* x x 12 25 19.8
BHPL Bhopal 84.47 294 *e*P **P 12 14 56.6 +0.1**
BHPL AMb AMB 12 15 06.1
comp=Z,148nm,1.0s,mb6.1
MNGI Mangalore 84.96 284 *i* P **P 12 14 58.7 -0.4**
MNGI AMb AMB 12 15 09.3
comp=Z,201nm,1.6s,mb6.0
MNGI *i* x x 12 25 30.3
SIT Sitka 85.15 30 *e*P **P 12 15 01.8 +2.7**
comp=Z,402nm,2.1s,mb6.2
SIT LR LR
comp=Z,12µm,20.0s,MS6.3
SIT Sitka 85.15 30 *e*P **P 12 14 59.3 +0.2**
SIT pmax pmax
comp=Z,190nm,1.3s,mb6.1
CRAG Craig 85.66 32 *e*P **P 12 15 01.4 -0.3**
NDI New Delhi 85.78 300 *e*P **P 12 15 01.5 -1.4**
NDI *e*P 12 15 01.7
NDI AMb AMB 12 15 10.1
comp=Z,161nm,1.9s,mb5.9
NDI *e*S S 12 25 26.5 -10
EGAK Eagle 86.09 22 *e*P **P 12 15 03.2 -0.4**
SKAG Skagway 86.13 28 *e*P **P 12 15 03.6 -0.3**
comp=Z,830nm,2.1s,mb6.6
SKAG LR LR
comp=Z,12µm,19.0s,MS6.3
KAD Karad 86.33 288 *e*P **P 12 15 05.3 -0.6**
KAD AMb AMB 12 15 13.5
comp=Z,175nm,1.1s,mb6.2
SMLA Simla 86.34 302 *e*P **P 12 15 04.9 -0.7**
SMLA AMb AMB 12 15 13.6
comp=Z,196nm,1.6s,mb6.1
GOA Goa 86.35 286 *e*P **P 12 15 06.3 +0.3**
GOA AMb AMB 12 15 14.7
comp=Z,148nm,1.8s,mb5.9
MK31 Makanchi Array 86.37 318 *i* P **P 12 15 04.8 -0.6**
MK31 Makanchi Array 86.37 318 *i* P **P 12 15 04.7 -0.7**
MK31 pmax pmax
comp=Z,215nm,1.5s,mb6.2
MKAR Makanchi Array 86.37 318 *i* P **P 12 15 04.9 -0.5**
MKAR pmax pmax
comp=Z,17nm,0.7s
MKAR Makanchi Array 86.37 318 P **P 12 15 04.2 -1.2**
comp=Z,17nm,0.7s,mb5.4,baz=101,slow=5.9,SNR=74
MKAR PKPPKP 12 41 12.6
comp=Z,0.3nm,0.3s,baz=342,slow=0.4,SNR=3.5
WRAK Wrangell Islan 86.42 32 *e*P **P 12 15 05.3 0.0**
comp=Z,304nm,1.8s,mb6.2
WRAK LR LR
comp=Z,11µm,20.0s,MS6.2
DAWY Dawson 86.42 23 *e*P **P 12 15 05.2 -0.1**
POO Poona 86.86 289 *e*P **P 12 15 08.7 +0.3**
POO AMb AMB 12 15 17.3
comp=Z,106nm,1.3s,mb5.9
JCC Jacoby Creek 86.94 48⇑P **P 12 15 08.9 +0.6**
baz=87
JCC ⇑SKSac SKSac 12 25 42.2 +6.7
baz=87
FARB Farallon Islan 86.98 51⇓P **P 12 15 08.6 0.0**
baz=87
FARB ⇓SKSac SKSac 12 25 41.8 +5.9
baz=87
KCPM Cahto Peak 87.00 49 *e*P **P 12 15 09.6 +0.9**
ZALV Zalesovo Beam 87.02 326 P **P 12 15 05.9 -2.5**
comp=Z,3.1nm,0.5s,mb4.8,baz=111,slow=6.5,SNR=8.2
ZALV LR LR 12 52 28.2
comp=Z,2µm,21.4s,MS5.6,baz=351,slow=35
ZAL Zalesovo 87.03 326 P **P 12 15 05.9 -2.5**
KIPM Iron Peak 87.10 49 *e*P **P 12 15 09.4 +0.3**
K01A Sixes 87.11 46⇓P **P 12 15 09.0 -0.1**
baz=87
K01A ⇓SKSac SKSac 12 25 44.3 +7.8
baz=87
M01C Crescent City 87.12 47⇓P **P 12 15 09.7 +0.5**
baz=87
M01C ⇓SKSac SKSac 12 25 45.9 +9.3
baz=87
P01C Double 8 Ranch 87.13 50⇑P **P 12 15 09.6 +0.3**
baz=87
P01C ⇑SKSac SKSac 12 25 46.0 +9.2
baz=87
MCCM Marconi Confer 87.17 51 PFAKE 12 15 20.0 +10
MCCM LR LR
comp=Z,5µm,19.0s,MS5.9
MCCM Marconi Confer 87.17 51⇑P **P 12 15 09.2 -0.4**
baz=87
MCCM ⇓SKSac SKSac 12 25 43.4 +6.3
baz=87
KHMM Horse Mountain 87.17 48 *e*P **P 12 15 09.4 -0.1**
KRMB Red Mountain 87.20 47 *e*P **P 12 15 09.7 +0.1**
HOPS Hopland 87.22 50 *e*P **P 12 15 09.6 -0.2**
comp=Z,147nm,1.3s,mb6.0
HOPS LR LR
comp=Z,7µm,19.0s,MS6.1
HOPS Hopland 87.22 50⇓P **P 12 15 09.6 -0.1**
baz=87
HOPS ⇓SKSac SKSac 12 25 44.8 +7.5
baz=87
NSHM Saint Helena R 87.47 51 *e*P **P 12 15 10.6 -0.3**
N02C Big Bar 87.47 48⇓P **P 12 15 11.0 0.0**
baz=88,SNR=12
N02C ⇓SKSac SKSac 12 25 48.1 +9.3
baz=88
BNLO Ben Lomond (Sa 87.49 52⇓P **P 12 15 11.1 0.0**
baz=88
BNLO ⇑SKSac SKSac 12 25 46.7 +7.6
baz=88
JRSC Jasper Ridge 87.50 52⇑P **P 12 15 10.7 -0.4**
baz=88
JRSC ⇑SKSac SKSac 12 25 45.5 +6.4
baz=88
CVS Carmenet Viney 87.54 51⇓P **P 12 15 10.8 -0.5**
baz=88
CVS ⇑SKSac SKSac 12 25 46.3 +7.0
baz=88
AJM Ajmer 87.58 297 *i* P **P 12 15 11.0 -0.8**
GASB Alder Springs 87.64 49⇑P **P 12 15 12.0 +0.3**
baz=88,SNR=14
GASB ⇓SKSac SKSac 12 25 49.9 +10
baz=88
MNRC McLaughlin Nat 87.67 50⇓P **P 12 15 12.2 +0.2**
baz=88
MNRC ⇑SKSac SKSac 12 25 49.4 +9.3
baz=88
O02C Red Bluff 87.71 49⇓P **P 12 15 12.6 +0.5**
baz=88,SNR=29
O02C ⇑SKSac SKSac 12 25 49.6 +9.3
baz=88
K02A Glendale 87.80 46⇓P **P 12 15 12.6 +0.2**
baz=88
K02A ⇑SKSac SKSac 12 25 50.0 +9.3
baz=88
HAST Hastings Reser 87.82 53⇓P **P 12 15 12.7 +0.1**
baz=88
HAST ⇓SKSac SKSac 12 25 48.3 +7.2
baz=88
THN Thein Dam 87.82 303 *e*P **P 12 15 11.7 -1.1**
I02A Mapleton 87.86 45⇓P **P 12 15 12.8 +0.1**
baz=88
I02A ⇑SKSac SKSac 12 25 49.4 +8.4
baz=88
J02A Umpqua 87.89 46⇑P **P 12 15 12.5 -0.3**
baz=88
J02A ⇓SKSac SKSac 12 25 49.4 +8.3
baz=88
H02A Toledo 87.91 44⇓P **P 12 15 13.3 +0.4**
baz=88
BDM Black Diamond 87.91 51⇓P **P 12 15 13.2 +0.1**
baz=88
BDM ⇓SKSac SKSac 12 25 50.8 +9.2
baz=88
WENL Wente Brothers 87.92 52⇓P **P 12 15 13.4 +0.2**
baz=88
WENL ⇓SKSac SKSac 12 25 49.9 +8.2
baz=88
M02C Callahan 87.94 48⇓P **P 12 15 13.3 +0.2**
baz=88,SNR=16
M02C ⇑SKSac SKSac 12 25 47.0 +5.4
baz=88
Q03C Winters 87.94 51⇑P **P 12 15 13.6 +0.4**
baz=88
Q03C ⇓SKSac SKSac 12 25 51.3 +10
baz=88
SAO San Andreas Ge 87.98 53 *e*P **P 12 15 13.0 -0.5**
comp=Z,86nm,1.2s,mb5.9
SAO LR LR
comp=Z,13µm,19.0s,MS6.3
SAO San Andreas Ge 87.98 53 *e*P **P 12 15 13.0 -0.4**
SAO pmax pmax
comp=Z,86nm,1.2s,mb5.9
SAO MLR MLR
comp=Z,13µm,19.0s,MS6.3
WDC Whiskeytown Da 87.98 49 *e*P **P 12 15 13.2 -0.1**
comp=Z,156nm,1.7s,mb6.0
WDC LR LR
comp=Z,6µm,19.0s,MS6.0
WDC Whiskeytown Da 87.98 49 *e*P **P 12 15 13.2 -0.2**
WDC pmax pmax
comp=Z,156nm,1.7s,mb6.0
WDC MLR MLR
comp=Z,6µm,19.0s,MS6.0
WDC Whiskeytown Da 87.98 49⇓P **P 12 15 13.6 +0.3**
baz=88,SNR=22
WDC ⇓SKSac SKSac 12 25 47.8 +5.9
baz=88
V03C Hunter Liggett 87.99 53⇑P **P 12 15 14.3 +0.8**
baz=88
V03C ⇓SKSac SKSac 12 25 49.1 +6.9
baz=88

YBH	**Yreka Blue Hor**	**88.12**	**47**	*e*P	**P**	**12 15 13.8**	**-0.2**
YBH				LR	LR		
comp=Z,7μm,19.0s,MS6.1							
YBH	**Yreka Blue Hor**	**88.12**	**47**	⇑P	**P**	**12 15 14.4**	**+0.4**
YBH	baz=88,SNR=14			⇓SKSac	SKSac	12 25 49.7	+7.0
PACP	**Pacheco Peak**	**88.16**	**52**	⇓P	**P**	**12 15 14.5**	**+0.2**
PACP	baz=88,SNR=14			⇓SKSac	SKSac	12 25 48.7	+5.5
NVS	**Novosibirsk**	**88.18**	**326**	⇑*i*P	**P**	**12 15 11.5**	**-2.5**
NVS				*e*S	S	12 25 36.2	-22
NVS				pmax	pmax		
comp=Z,368nm,3.3s							
NVS				pmax	pmax		
comp=N,75nm,2.7s							
NVS				pmax	pmax		
comp=E,118nm,2.6s							
S04C	**Ingram Canyon,**	**88.23**	**52**	⇑P	**P**	**12 15 14.8**	**+0.2**
S04C	baz=88,SNR=14			⇑SKSac	SKSac	12 25 51.4	+7.9
O03C	**Acorn Hollow,**	**88.23**	**49**	⇑P	**P**	**12 15 14.9**	**+0.4**
O03C	baz=88			⇓SKSac	SKSac	12 25 52.0	+8.6
I03A	**Eugene**	**88.24**	**45**	⇓P	**P**	**12 15 14.3**	**-0.2**
I03A	baz=88			⇓SKSac	SKSac	12 25 50.2	+6.9
DLBC	**Dease Lake**	**88.30**	**30**	*e*P	**P**	**12 15 14.4**	**0.0**
J03A	**Ideyld Park**	**88.32**	**46**	⇓P	**P**	**12 15 15.2**	**+0.3**
J03A	baz=88			⇑SKSac	SKSac	12 25 50.6	+6.8
C03A	**Quillayute Air**	**88.35**	**41**	⇓P	**P**	**12 15 15.1**	**+0.2**
COR	**Corvallis**	**88.37**	**45**	PFAKE		12 15 30.0	+15
COR				LR	LR		
comp=Z,11μm,20.0s,MS6.3							
H03A	**Soap Creek Ran**	**88.40**	**44**	⇓P	**P**	**12 15 15.4**	**+0.2**
H03A	baz=88			⇓SKSac	SKSac	12 25 51.6	+7.4
U04C	**Hernandez Rese**	**88.42**	**53**	⇓P	**P**	**12 15 16.1**	**+0.5**
U04C	baz=88,SNR=17			⇑SKSac	SKSac	12 25 51.7	+7.0
M03C	**McCloud**	**88.45**	**48**	⇓P	**P**	**12 15 15.7**	**+0.1**
M03C	baz=88,SNR=12			⇑SKSac	SKSac	12 25 52.4	+7.8
Q04C	**Lincoln**	**88.48**	**51**	⇓P	**P**	**12 15 15.5**	**-0.3**
Q04C	baz=88			⇑SKSac	SKSac	12 25 50.8	+5.8
OHCM	**Honcut**	**88.50**	**50**	*e*P	**P**	**12 15 15.6**	**-0.2**
F03A	**Seaside**	**88.51**	**43**	⇓P	**P**	**12 15 15.6**	**-0.1**
F03A	baz=88			⇑SKSac	SKSac	12 25 52.1	+7.3
PKD	**Parkfield**	**88.52**	**53**	⇑P	**P**	**12 15 16.2**	**+0.2**
PKD	baz=88,SNR=18			⇑SKSac	SKSac	12 25 51.6	+6.2
ORV	**Oroville**	**88.53**	**50**	⇑P	**P**	**12 15 15.9**	**-0.1**
ORV	baz=88,SNR=24			⇑SKSac	SKSac	12 25 51.0	+5.8
G03A	**Yamhill**	**88.56**	**44**	⇑P	**P**	**12 15 15.1**	**-0.9**
G03A	baz=89			⇓SKSac	SKSac	12 25 52.9	+7.8
T05C	**Eagle Field, D**	**88.61**	**53**	⇑P	**P**	**12 15 16.6**	**+0.2**
T05C	baz=89			⇓SKSac	SKSac	12 25 53.2	+7.4
E03A	**Lebam**	**88.66**	**43**	⇓P	**P**	**12 15 16.4**	**0.0**
E03A	baz=89,SNR=12			⇑SKSac	SKSac	12 25 52.2	+6.5
D03A	**Wishkah Elem.**	**88.66**	**42**	⇑P	**P**	**12 15 16.3**	**-0.1**
D03A	baz=89			⇓SKSac	SKSac	12 25 54.6	+8.9
NLWA	**Neilton Lookou**	**88.66**	**42**	*e*P	**P**	**12 15 16.0**	**-0.4**
NLWA				LR	LR		
comp=Z,12μm,20.0s,MS6.3							
NLWA	**Neilton Lookou**	**88.66**	**42**	⇑P	**P**	**12 15 15.9**	**-0.5**
NLWA	baz=89			⇑SKSac	SKSac	12 25 52.8	+7.1
R04C	**Big Horse Ranc**	**88.69**	**51**	⇑P	**P**	**12 15 16.5**	**-0.3**
R04C	baz=89			⇓SKSac	SKSac	12 25 51.8	+5.5
PTRM	**Twissleman Ran**	**88.73**	**54**	*e*P	**P**	**12 15 17.2**	**+0.2**
M04C	**Macdoel**	**88.77**	**48**	⇑P	**P**	**12 15 17.0**	**-0.1**
M04C	baz=89,SNR=8.7			⇓SKSac	SKSac	12 25 52.7	+6.2
RPN	**Rapa Nui**	**88.81**	**117**	PFAKE		12 15 30.0	+12
RPN				LR	LR		
comp=Z,5μm,20.0s,MS5.9							
I04A	**Tendick Farm,**	**88.81**	**46**	⇓P	**P**	**12 15 17.0**	**-0.2**
I04A	baz=89,SNR=10			⇑SKSac	SKSac	12 25 52.9	+6.2
SNCC	**San Nicolas Is**	**88.81**	**56**	*e*P	**P**	**12 15 17.4**	**-0.1**
SNCC				LR	LR		
comp=Z,16μm,22.0s,MS6.4							
SNCC	**San Nicolas Is**	**88.81**	**56**	⇓P	**P**	**12 15 17.7**	**+0.2**
SNCC	baz=89			⇓SKSac	SKSac	12 25 55.4	+8.2
SMMC	**Simmler**	**88.83**	**54**	⇑P	**P**	**12 15 17.8**	**+0.3**
SMMC	baz=89,SNR=13			⇑SKSac	SKSac	12 25 54.9	+7.6
HATC	**Hat Creek Radi**	**88.84**	**49**	⇓P	**P**	**12 15 17.1**	**-0.2**
HATC	baz=89,SNR=8.4			⇑SKSac	SKSac	12 25 54.2	+7.2
BSC	**Santa Cruz Isl**	**88.87**	**56**	⇑P	**P**	**12 15 17.7**	**0.0**
BSC	baz=89			⇑SKSac	SKSac	12 25 54.4	+6.9
SBC	**Santa Barbara**	**88.89**	**55**	⇓P	**P**	**12 15 18.0**	**+0.3**
SBC	baz=89			⇓SKSac	SKSac	12 25 53.9	+6.3
PKM	**Peak Mountain**	**88.89**	**55**	⇓P	**P**	**12 15 18.4**	**+0.6**
PKM	baz=89,SNR=21			⇑SKSac	SKSac	12 25 58.2	+11
J04A	**Umpqua Nationa**	**88.90**	**46**	⇑P	**P**	**12 15 17.5**	**-0.1**
J04A	baz=89,SNR=16			⇓SKSac	SKSac	12 25 55.7	+8.5
U05C	**Westside ANR,**	**88.94**	**53**	⇓P	**P**	**12 15 18.6**	**+0.7**
LAVA	baz=89,SNR=6.7 **Lava Cap Winer**	**88.94**	**51**	⇓P	**P**	**12 15 18.0**	**+0.1**
LAVA	baz=89,SNR=18			⇑SKSac	SKSac	12 25 54.2	+6.4
S05C	**Merced**	**88.97**	**52**	⇓P	**P**	**12 15 17.7**	**-0.4**
S05C	baz=89,SNR=21			⇑SKSac	SKSac	12 25 54.9	+6.9
S05C	baz=89			⇑SKSac	SKSac	12 25 55.5	+7.5
O04C	**Chester**	**89.01**	**49**	⇑P	**P**	**12 15 18.3**	**+0.1**
O04C	baz=89,SNR=24			⇑SKSac	SKSac	12 25 55.7	+7.6
V05C	**Boulder Hill,**	**89.02**	**54**	⇑P	**P**	**12 15 19.1**	**+0.8**
K04A	**Chilquin**	**89.03**	**47**	⇓P	**P**	**12 15 18.3**	**0.0**
K04A	baz=89			⇑SKSac	SKSac	12 25 55.7	+7.7
O05C	**Quincy**	**89.06**	**49**	⇑P	**P**	**12 15 18.2**	**-0.3**
O05C	baz=89			⇓SKSac	SKSac	12 25 55.3	+6.9
B04A	**Port Angeles**	**89.07**	**41**	⇓P	**P**	**12 15 18.2**	**-0.1**
KSH	**Kashi**	**89.07**	**310**	P	**P**	**12 15 20.7**	**+2.2**
KSH				AP	pP	12 15 23.6	+1.3
KSH				XP	sP	12 15 26.1	+2.4
KSH				PP	PP	12 18 51.1	+2.5
KSH				SKS		12 25 46.2	
KSH				S	S	12 26 04.0	-3.2
KSH				XS	sS	12 26 12.7	-0.9
KSH				SS	SS	12 32 00.6	-0.2
KSH				AMB	AMB		
comp=Z,214nm,1.0s,mb6.4							
KSH				LR	LR		
comp=N,8μm,13.4s,MS6.5							
KSH				LR	LR		
comp=E,10μm,15.7s,MS6.5							
KSH				LR	LR		
comp=Z,8μm,20.2s,MS6.2							
CMB	**Columbia Colle**	**89.07**	**51**	*e*P	**P**	**12 15 18.7**	**+0.2**
CMB	comp=Z,158nm,1.8s,mb6.0			LR	LR		
comp=Z,5μm,19.0s,MS5.9							
CMB	**Columbia Colle**	**89.07**	**51**	*e*P	**P**	**12 15 18.7**	**+0.1**
CMB	comp=Z,158nm,1.8s,mb6.0			pmax	pmax		
CMB				MLR	MLR		
comp=Z,5μm,19.0s,MS5.9							
CMB	**Columbia Colle**	**89.07**	**51**	⇓P	**P**	**12 15 18.5**	**-0.1**
CMB	baz=89,SNR=23			⇑SKSac	SKSac	12 25 54.1	+5.6
G04A	**Mulino**	**89.08**	**44**	⇓P	**P**	**12 15 18.3**	**-0.2**
G04A	baz=89			⇑SKSac	SKSac	12 25 55.0	+6.7
AAA	**Alma-Ata**	**89.15**	**314**	*i* P	**P**	**12 15 14.9**	**-3.9**
AAA				*i* S	S	12 25 54.0	-14
AAA				pmax	SKSac		
comp=Z,4μm,8.0s							
AAA				smax			
comp=E,9μm,14.0s							
P05C	**Yuba Gap, Truc**	**89.16**	**50**	⇑P	**P**	**12 15 19.0**	**+0.1**
P05C	baz=89,SNR=28			⇓SKSac	SKSac	12 25 54.7	+5.7
H04A	**Detroit Lake**	**89.17**	**45**	⇓P	**P**	**12 15 18.3**	**-0.5**
H04A	baz=89			⇓SKSac	SKSac	12 25 53.4	+4.7
M05C	**Lookout**	**89.19**	**48**	⇑P	**P**	**12 15 19.3**	**+0.3**
M05C	baz=89,SNR=16			⇓SKSac	SKSac	12 25 54.2	+5.1
E04A	**Onalaska**	**89.24**	**43**	⇑P	**P**	**12 15 19.5**	**+0.4**
PGC	**Sidney**	**89.24**	**41**	*e*P	**P**	**12 15 19.1**	**0.0**
F04A	**Amboy**	**89.29**	**43**	⇓P	**P**	**12 15 18.9**	**-0.5**
F04A	baz=89			⇓SKSac	SKSac	12 25 54.0	+4.6
D04A	**Dobbs Creek Ra**	**89.30**	**42**	⇑P	**P**	**12 15 19.5**	**+0.1**
C04A	**Brinnon**	**89.33**	**42**	⇑P	**P**	**12 15 18.9**	**-0.6**
ELFS	**Eagle Lake Fie**	**89.34**	**49**	⇓P	**P**	**12 15 20.0**	**+0.2**
ELFS	baz=89			⇑SKSac	SKSac	12 25 54.3	+4.3
BLG	**Laguna Peak**	**89.35**	**56**	⇓P	**P**	**12 15 20.1**	**+0.1**
BLG	baz=89			⇑SKSac	SKSac	12 25 55.0	+4.6
GNW	**Green Mountain**	**89.39**	**42**	*e*P	**P**	**12 15 19.8**	**-0.1**
T06C	**Millerton Lake**	**89.39**	**53**	⇑P	**P**	**12 15 19.9**	**-0.2**
T06C	baz=89,SNR=44			⇑SKSac	SKSac	12 25 54.5	+4.1
ULHL	**Ulahol**	**89.44**	**313**	P	**P**	**12 15 20.4**	**+0.2**
R05C	**Kirkwood Meado**	**89.44**	**51**	⇓P	**P**	**12 15 20.9**	**+0.6**
R05C	baz=90,SNR=17			⇑SKSac	SKSac	12 25 56.1	+5.4
BEKR	**Beckwourth**	**89.46**	**50**	⇓P	**P**	**12 15 20.2**	**-0.1**
BEKR	baz=90,SNR=7.2			⇓SKSac	SKSac	12 25 57.4	+6.7
J05A	**Fort Rock**	**89.53**	**46**	P	**P**	**12 15 21.2**	**+0.7**
J05A	baz=90,SNR=31			⇓SKSac	SKSac	12 25 57.7	+6.8
L05A	**Lakeview**	**89.56**	**47**	⇑P	**P**	**12 15 20.9**	**+0.1**
L05A	baz=90,SNR=11			⇓SKSac	SKSac	12 25 59.2	+8.0
SCI	**San Clemente I**	**89.57**	**57**	⇓P	**P**	**12 15 21.2**	**+0.2**
SCI	baz=90			⇑SKSac	SKSac	12 25 58.0	+6.3
RCTC	**Rector, Farmer**	**89.63**	**53**	⇓P	**P**	**12 15 20.9**	**-0.4**
M06C	**Likely Place G**	**89.64**	**48**	⇑P	**P**	**12 15 21.3**	**+0.1**
M06C	baz=90,SNR=23			⇓SKSac	SKSac	12 25 58.3	+6.5
K05A	**Summer Lake**	**89.66**	**47**	⇑P	**P**	**12 15 21.7**	**+0.5**
K05A	baz=90,SNR=16			⇑SKSac	SKSac	12 25 57.0	+5.3
VES	**Vestal, Richgr**	**89.67**	**54**	⇓P	**P**	**12 15 20.9**	**-0.5**
VES	baz=90,SNR=26			⇑SKSac	SKSac	12 25 58.4	+6.3
I05A	**Bend**	**89.69**	**45**	⇓P	**P**	**12 15 21.5**	**+0.2**
I05A	baz=90			⇓SKSac	SKSac	12 25 58.5	+6.6
OSI	**Osito Adit**	**89.72**	**55**	⇓P	**P**	**12 15 22.2**	**+0.5**
OSI	baz=90			⇑SKSac	SKSac	12 25 58.0	+5.5
ARVC	**Arvin**	**89.73**	**55**	⇓P	**P**	**12 15 22.0**	**+0.2**
ARVC	baz=90,SNR=26			⇓SKSac	SKSac	12 26 00.0	+7.5
A04A	**Legoe Bay, Lum**	**89.74**	**41**	⇓P	**P**	**12 15 21.7**	**+0.3**
KURK	**Kurchatov**	**89.75**	**321**	*e*P	**P**	**12 15 20.7**	**-0.8**
KURK				LR	LR		
comp=Z,4μm,22.0s,MS5.8							
KURK	**Kurchatov**	**89.75**	**321**	⇑*e*P	**P**	**12 15 20.4**	**-1.0**
KURK	**Kurchatov**	**89.75**	**321**	P	**P**	**12 15 20.4**	**-1.0**
KURK	**Kurchatov**	**89.75**	**321**	P	**P**	**12 15 20.4**	**-1.0**
KCC	**Kaiser Creek**	**89.76**	**52**	⇑P	**P**	**12 15 22.0**	**+0.2**
KCC	baz=90,SNR=33			⇓SKSac	SKSac	12 25 59.5	+6.9
CIS	**Catalina Islan**	**89.77**	**56**	⇓P	**P**	**12 15 21.4**	**-0.6**
CIS	baz=90,SNR=15			⇑SKSac	SKSac	12 26 00.8	+8.0
P06A	**Stead Airport,**	**89.77**	**50**	⇑P	**P**	**12 15 22.3**	**+0.5**
P06A	baz=90,SNR=8.1			⇑SKSac	SKSac	12 25 59.5	+7.0
WCN	**Washoe City**	**89.81**	**50**	⇑P	**P**	**12 15 22.3**	**+0.3**
WCN	baz=90,SNR=17			⇓SKSac	SKSac	12 26 01.0	+8.2
H05A	**Madras**	**89.83**	**45**	⇓P	**P**	**12 15 21.5**	**-0.4**
H05A	baz=90			⇓SKSac	SKSac	12 25 59.1	+6.5
D05A	**Enumclaw**	**89.86**	**42**	⇑P	**P**	**12 15 22.2**	**+0.1**
D05A	baz=90,SNR=8.2			⇓SKSac	SKSac	12 25 59.3	+6.5
HELL	**Mitchell Peak**	**89.87**	**53**	⇓P	**P**	**12 15 22.0**	**-0.3**
HELL	baz=90,SNR=74			⇑SKSac	SKSac	12 25 57.4	+4.1
E05A	**Randle**	**89.87**	**43**	⇓P	**P**	**12 15 21.2**	**-0.9**
E05A	baz=90,SNR=14			⇑SKSac	SKSac	12 25 58.7	+5.8
LON	**Longmire**	**89.88**	**43**	*e*P	**P**	**12 15 22.1**	**-0.1**
R06C	**Coleville**	**89.89**	**51**	⇑P	**P**	**12 15 22.7**	**+0.3**
R06C	baz=90,SNR=23			⇓SKSac	SKSac	12 25 59.4	+6.1
FMP	**Fort Macarthur**	**89.91**	**56**	⇓P	**P**	**12 15 22.4**	**-0.2**
FMP	baz=90			⇓SKSac	SKSac	12 26 00.9	+7.2
MOD	**Modoc**	**89.92**	**48**	*e*P	**P**	**12 15 22.5**	**0.0**
MOD	comp=Z,206nm,1.9s,mb6.1			LR	LR		
comp=Z,6μm,19.0s,MS6.0							
MOD	**Modoc**	**89.92**	**48**	⇑P	**P**	**12 15 22.3**	**-0.1**
O06A	**Flanigan**	**89.92**	**49**	⇓P	**P**	**12 15 22.6**	**+0.1**
O06A	baz=90,SNR=36			⇓SKSac	SKSac	12 25 59.6	+6.2
F05A	**White Salmon**	**89.93**	**44**	⇓P	**P**	**12 15 22.6**	**+0.2**
F05A	baz=90			⇑SKSac	SKSac	12 26 00.2	+7.0
DECC	**Green Verdugo**	**89.98**	**55**	⇑P	**P**	**12 15 22.9**	**0.0**
DECC	baz=90			⇓SKSac	SKSac	12 25 59.9	+5.8
FMW	**Mount Fremont**	**90.02**	**43**	P	**P**	**12 15 22.3**	**-0.5**
N06A	**Buffalo Meadow**	**90.03**	**49**	⇓P	**P**	**12 15 23.1**	**+0.1**
N06A	baz=90,SNR=45			⇑SKSac	SKSac	12 26 00.7	+6.7
B05A	**Bryant**	**90.03**	**41**	⇑P	**P**	**12 15 22.2**	**-0.6**
B05A	baz=90,SNR=5.5			⇓SKSac	SKSac	12 25 58.7	+5.1
TKM2	**Tokmak 2**	**90.04**	**313**	*e*P	**P**	**12 15 22.7**	**-0.3**
TKM2	comp=Z,25nm,1.1s,mb5.5			LR	LR		
comp=Z,3μm,19.0s,MS5.8							
TKM2	**Tokmak 2**	**90.04**	**313**	*e*P	**P**	**12 15 22.7**	**-0.3**
TKM2				pmax	pmax		
TKM2	comp=Z,25nm,1.1s,mb5.5			MLR	MLR		
comp=Z,3μm,19.0s,MS5.8							
TKM2	**Tokmak 2**	**90.04**	**313**	P	**P**	**12 15 22.6**	**-0.4**
R07C	**Lee Vining**	**90.12**	**52**	⇓P	**P**	**12 15 24.0**	**+0.5**
R07C	baz=90			⇓SKSac	SKSac	12 26 02.4	+7.8
ISA	**Isabella**	**90.12**	**54**	*e*P	**P**	**12 15 23.7**	**+0.2**
ISA				LR	LR		
comp=Z,13μm,22.0s,MS6.3							
ISA	**Isabella**	**90.12**	**54**	⇑P	**P**	**12 15 23.5**	**0.0**
ISA	baz=90,SNR=28			⇑SKSac	SKSac	12 25 59.9	+5.1
KZA	**Kyzart**	**90.12**	**312**	P	**P**	**12 15 24.0**	**+0.6**
K06A	**Valley Falls**	**90.13**	**47**	⇑P	**P**	**12 15 23.7**	**+0.3**
K06A	baz=90,SNR=18			⇑SKSac	SKSac	12 25 59.3	+4.7
C05A	**Tolt Reservoir**	**90.17**	**42**	⇑P	**P**	**12 15 23.5**	**0.0**
C05A	baz=90			⇓SKSac	SKSac	12 25 57.5	+2.9
MLAC	**Mammoth Lakes**	**90.19**	**52**	⇓P	**P**	**12 15 24.1**	**+0.3**
MLAC	baz=90			⇑SKSac	SKSac	12 26 01.5	+6.4
MWC	**Mount Wilson**	**90.19**	**56**	*e*P	**P**	**12 15 24.2**	**+0.3**
A05A	**Maple Falls**	**90.20**	**40**	⇑SKSac	SKSac	12 26 00.8	+6.2
J06A	**Christmas Vall**	**90.30**	**46**	P	**P**	**12 15 24.5**	**+0.3**
J06A	baz=90,SNR=26			⇓SKSac	SKSac	12 26 00.0	+4.5
MTUM	**Tungsten Hills**	**90.36**	**52**	*e*P	**P**	**12 15 24.4**	**-0.2**
G06A	**Carlson Farm,**	**90.36**	**44**	⇓P	**P**	**12 15 24.2**	**-0.2**
G06A	baz=90			⇓SKSac	SKSac	12 26 00.3	+4.6
EDW2	**Edwards Air Fo**	**90.37**	**55**	⇓P	**P**	**12 15 24.9**	**+0.2**
EDW2	baz=90,SNR=46			⇓SKSac	SKSac	12 26 01.7	+5.4
F06A	**Goldendale**	**90.37**	**44**	P	**P**	**12 15 24.6**	**+0.2**
F06A	baz=90,SNR=14			⇑SKSac	SKSac	12 25 59.7	+3.9
I06A	**Prineville**	**90.39**	**46**	P	**P**	**12 15 25.0**	**+0.4**
I06A	baz=90,SNR=28			⇓SKSac	SKSac	12 25 59.8	+3.8
E06A	**Yakima**	**90.40**	**43**	P	**P**	**12 15 24.6**	**+0.1**
E06A	baz=90,SNR=22			⇑SKSac	SKSac	12 26 01.1	+5.2
INK	**Inuvik**	**90.40**	**20**	*e*P	**P**	**12 15 24.2**	**+0.1**
INK	**Inuvik**	**90.40**	**20**	PKKP	PKKPbc	12 32 48.0	-7.5
INK	comp=Z,1.3nm,0.9s,baz=45,slow=3.3,SNR=2.7			LR	LR	12 55 39.5	
comp=Z,10μm,19.0s,MS6.2,baz=228,slow=35							
Q07A	**Schurz**	**90.46**	**51**	⇑P	**P**	**12 15 25.6**	**+0.6**
Q07A	baz=90			⇑SKSac	SKSac	12 26 02.1	+5.5
H06A	**Lindquist Farm**	**90.47**	**45**	P	**P**	**12 15 24.9**	**0.0**
H06A	baz=90,SNR=20			⇑SKSac	SKSac	12 26 00.8	+4.4
B06A	**Marblemount**	**90.48**	**41**	⇓P	**P**	**12 15 24.0**	**-0.9**
B06A	baz=90			⇑SKSac	SKSac	12 26 01.5	+5.2
P07A	**Fallon**	**90.51**	**50**	⇑P	**P**	**12 15 25.8**	**+0.6**
P07A	baz=90			⇓SKSac	SKSac	12 26 01.7	+4.8
BFSC	**Mount Baldy St**	**90.52**	**56**	⇑P	**P**	**12 15 25.3**	**-0.2**
BFSC	baz=90,SNR=35			⇓SKSac	SKSac	12 26 03.1	+5.9
TIN	**Tinemaha**	**90.57**	**53**	⇓P	**P**	**12 15 25.7**	**+0.1**
TIN	baz=91,SNR=16			⇓SKSac	SKSac	12 26 01.9	+4.6
CWC	**Cottonwood Cre**	**90.57**	**53**	⇑P	**P**	**12 15 25.9**	**+0.3**
CWC	baz=91,SNR=42			⇓SKSac	SKSac	12 26 03.9	+6.5
A06A	**Chilliwack**	**90.61**	**40**	⇓P	**P**	**12 15 24.5**	**-1.0**
A06A	baz=91			⇑SKSac	SKSac	12 26 00.8	+3.8
D06A	**Cle Elum**	**90.62**	**42**	⇑P	**P**	**12 15 24.9**	**-0.6**
D06A	baz=91,SNR=13			⇓SKSac	SKSac	12 26 02.8	+5.6
O07A	**Toulon**	**90.64**	**50**	⇓P	**P**	**12 15 25.9**	**+0.1**
O07A	baz=91,SNR=47			⇓SKSac	SKSac	12 26 03.5	+6.0
L07A	**Adell**	**90.64**	**48**	⇓P	**P**	**12 15 26.2**	**+0.4**
L07A	baz=91,SNR=36			⇓SKSac	SKSac	12 26 04.2	+6.7
CHMS	**Chumysh**	**90.67**	**313**	P	**P**	**12 15 25.7**	**-0.2**
N07B	**Gerlach**	**90.68**	**49**	⇑P	**P**	**12 15 26.0**	**0.0**
N07B	baz=91,SNR=27			⇓SKSac	SKSac	12 26 02.4	+4.7
S08C	**White Mtn Res**	**90.69**	**52**	⇑P	**P**	**12 15 26.8**	**+0.6**
S08C	baz=91,SNR=49			⇓SKSac	SKSac	12 26 04.5	+6.5
UCH	**Uchtor**	**90.69**	**312**	*e*P	**P**	**12 15 26.6**	**+0.5**
UCH	comp=Z,131nm,1.7s,mb6.0			LR	LR		
comp=Z,3μm,20.0s,MS5.7							
UCH	**Uchtor**	**90.69**	**312**	P	**P**	**12 15 26.5**	**+0.4**
LRMC	**Laurel Mountai**	**90.72**	**54**	⇑P	**P**	**12 15 26.6**	**+0.3**
LRMC	baz=91			⇓SKSac	SKSac	12 26 05.9	+7.7
FRU	**Bishkek**	**90.73**	**313**	*e*P	**P**	**12 15 25.0**	**-1.2**

FRU pmax pmax
comp=Z,240nm,2.6s,mb6.1
FRU MLR MLR
comp=Z,4µm,18.0s,MS5.8
C06A Tall Timber Ra 90.74 42 ⇓P P 12 15 25.0 -1.1
baz=91
C06A ⇓SKSac SKSac 12 26 02.1 +4.2
baz=91
109C Camp Elliot, M 90.75 57 ⇓P P 12 15 26.6 +0.1
baz=91
109C ⇓SKSac SKSac 12 26 04.1 +5.6
baz=91
EBG Ellensburg 90.75 43 P P 12 15 26.1 -0.1
NVAR Mina Array Bea 90.75 51 P P 12 15 26.7 +0.2
NVAR P'P'
NVAR Mina Array Bea 90.75 51 P P 12 15 26.7 +0.2
comp=Z,20nm,0.8s,mb5.5,baz=248,slow=9.9,SNR=143
NVAR PKPPKP 12 41 02.6
comp=Z,0.3nm,0.7s,baz=69,slow=1.3,SNR=3.4
AAK Ala-Archa 90.78 313 *eP* **P 12 15 24.8 -1.7**
AAK LR LR
comp=Z,3µm,19.0s,MS5.8
AAK Ala-Archa 90.78 313 P P 12 15 25.3 -1.1
SNR=14
AAK Ala-Archa 90.78 313 P P 12 15 25.3 -1.1
SNR=14
AAK Ala-Archa 90.78 313 P P 12 15 26.7 +0.3
SNR=11
TBM Table Mountain 90.78 42 P P 12 15 25.8 -0.6
MURC Murrieta 90.79 56 ⇑P P 12 15 26.7 0.0
baz=91,SNR=8.8
MURC ⇓SKSac SKSac 12 26 05.0 +6.2
baz=91
K07A Rock Creek Ran 90.84 47 ⇑P P 12 15 27.0 +0.2
baz=91,SNR=26
K07A ⇑SKSac SKSac 12 26 03.8 +5.2
baz=91
R08A Mina 90.89 51 ⇓P P 12 15 27.0 -0.1
baz=91,SNR=31
R08A ⇓SKSac SKSac 12 26 06.7 +7.6
baz=91
USP Ospenovka 90.90 314 P P 12 15 26.9 -0.1
SNR=12
I07A Izee 90.92 46 P P 12 15 27.4 +0.4
baz=91,SNR=36
I07A ⇑SKSac SKSac 12 26 03.5 +4.5
baz=91
J07A Hines 90.92 46 ⇓P P 12 15 27.1 0.0
baz=91,SNR=32
J07A ⇓SKSac SKSac 12 26 05.5 +6.4
baz=91
MPMC Manual Prospec 90.97 54 P P 12 15 27.9 +0.4
baz=91,SNR=64
MPMC ⇓SKSac SKSac 12 26 05.8 +6.1
baz=91
F07A Phinny Hill Vi 90.98 44 ⇓P P 12 15 27.1 -0.2
baz=91
F07A ⇑SKSac SKSac 12 26 05.8 +6.5
baz=91
G07A Ruggs Ranch, H 91.03 44 P P 12 15 27.1 -0.5
baz=91,SNR=30
G07A ⇓SKSac SKSac 12 26 06.0 +6.4
baz=91
ETW Entiat 91.05 42 P P 12 15 27.1 -0.4
BAR Barrett 91.07 57 *eP* **P 12 15 28.0 0.0**
Q08A Gabbs 91.12 51 ⇓P P 12 15 28.3 +0.2
baz=91,SNR=59
Q08A ⇑SKSac SKSac 12 26 07.1 +6.7
baz=91
BBRC Big Bear Sol-O 91.13 56 ⇓P P 12 15 28.6 +0.3
baz=91
BBRC ⇓SKSac SKSac 12 26 06.5 +5.8
baz=91
P08A Dixie Valley 91.15 50 ⇓P P 12 15 28.6 +0.3
baz=91
P08A ⇓SKSac SKSac 12 26 07.2 +6.7
baz=91
RRX Edison Barstow 91.17 55 ⇓P P 12 15 28.5 +0.1
baz=91
RRX ⇑SKSac SKSac 12 26 08.0 +7.1
baz=91
O08A Rochester Mine 91.20 50 ⇑P P 12 15 29.2 +0.7
baz=91
O08A ⇓SKSac SKSac 12 26 08.8 +8.0
baz=91
D07A Quincy 91.21 43 P P 12 15 28.2 -0.1
baz=91,SNR=17
D07A ⇓SKSac SKSac 12 26 08.1 +7.6
baz=91
GRAC Grapevine Rang 91.23 53 ⇓P P 12 15 28.9 +0.3
baz=91,SNR=16
GRAC ⇓SKSac SKSac 12 26 06.3 +5.2
baz=91
WVOR Wild Horse Val 91.23 47 *eP* **P 12 15 28.5 -0.1**
comp=Z,125nm,1.4s,mb6.0
WVOR LR LR
comp=Z,7µm,19.0s,MS6.1
WVOR Wild Horse Val 91.23 47 *eP* **P 12 15 28.5 -0.1**
WVOR pmax pmax
comp=Z,125nm,1.4s,mb6.0
WVOR MLR MLR
comp=Z,7µm,19.0s,MS6.1
MDW Midway 91.23 43 P P 12 15 28.4 -0.1
M08A Happy Creek Ra 91.24 48 ⇑P P 12 15 29.1 +0.5
baz=91,SNR=37
M08A ⇓SKSac SKSac 12 26 04.4 +3.4
baz=91
C07A Waterville 91.25 42 P P 12 15 27.8 -0.7
baz=91,SNR=12
C07A ⇑SKSac SKSac 12 26 05.0 +4.3
baz=91
AML Almayashu 91.27 312 *eP* **P 12 15 29.5 +0.7**
comp=Z,49nm,1.1s,mb5.8
AML LR LR
comp=Z,3µm,20.0s,MS5.8
AML Almayashu 91.27 312 P P 12 15 29.7 +1.0
SNR=23
N08A GE Springer Mi 91.31 49 ⇑P P 12 15 29.3 +0.3
baz=91,SNR=42
N08A ⇓SKSac SKSac 12 26 06.6 +5.3
baz=91
A07A Ashnola River, 91.31 41 P P 12 15 28.0 -0.7
baz=91,SNR=19
A07A ⇑SKSac SKSac 12 26 06.0 +5.0
baz=91
EKS2 Erkin-Say 91.31 313 *eP* **P 12 15 29.0 +0.1**
comp=Z,47nm,1.6s,mb5.6
EKS2 LR LR
comp=Z,3µm,21.0s,MS5.7
EKS2 Erkin-Say 91.31 313 P P 12 15 29.2 +0.3
SNR=8.4
MONP Monument Peak 91.31 57 ⇓P P 12 15 29.6 +0.4
baz=91
MONP ⇑SKSac SKSac 12 26 08.0 +6.2
baz=91
HAWA Hanford 91.35 43 *eP* **P 12 15 28.9 -0.1**
B07A Winthrop 91.36 41 ⇑P P 12 15 29.1 +0.1
baz=91,SNR=22
B07A ⇑SKSac SKSac 12 26 04.3 +2.9
baz=91
GSC Goldstone 91.40 55 *eP* **P 12 15 29.5 0.0**
GSC LR LR
comp=Z,6µm,19.0s,MS6.0
GSC Goldstone 91.40 55 ⇑P P 12 15 29.7 +0.2
baz=91,SNR=19
GSC ⇓SKSac SKSac 12 26 08.4 +6.2
baz=91
K08A Mann Creek Ran 91.40 47 ⇓P P 12 15 28.7 -0.6
baz=91,SNR=16
K08A ⇓SKSac SKSac 12 26 07.7 +5.9
baz=91
L08A Fields 91.40 48 ⇑P P 12 15 29.1 -0.3
baz=91,SNR=31
L08A ⇑SKSac SKSac 12 26 07.1 +5.2
baz=91
PFO Pinyon Flat Ob 91.40 56 *eP* **P 12 15 29.5 -0.1**
comp=Z,136nm,1.7s,mb6.0
PFO LR LR
comp=Z,18µm,22.0s,MS6.5
PFO Pinyon Flat Ob 91.40 56 LR LR 12 47 46.6
comp=Z,17µm,21.4s,MS6.5,baz=298,slow=30
PFO Pinyon Flat Ob 91.40 56 ⇓P P 12 15 29.5 -0.1
baz=91,SNR=7.7
PFO ⇑SKSac SKSac 12 26 09.1 +6.8
baz=91
H2OWA Water 91.42 43 P P 12 15 29.3 0.0
S09A Goldfield 91.47 52 P P 12 15 30.0 +0.2
baz=92,SNR=139
S09A ⇑SKSac SKSac 12 26 08.7 +6.3
baz=92
BHJ Bhuj 91.50 293 *ex* x 12 15 35.7
BHJ AMb AMB 12 15 40.4
comp=Z,105nm,0.8s,mb6.2
J08A Circle Bar Ran 91.52 47 P P 12 15 29.7 -0.2
baz=92,SNR=36
J08A ⇑SKSac SKSac 12 26 07.6 +5.1
baz=92
G08A Pilot Rock 91.53 45 ⇓P P 12 15 29.5 -0.3
baz=92,SNR=29
G08A ⇑SKSac SKSac 12 26 08.3 +5.9
baz=92
DVTC Desert V Tower 91.54 57 ⇓P P 12 15 30.6 +0.4
baz=92
FURC Furnace Creek, 91.55 54 ⇓P P 12 15 30.1 0.0
baz=92,SNR=92
FURC ⇓SKSac SKSac 12 26 09.7 +6.8
baz=92
I08A Drewsey 91.55 46 ⇓P P 12 15 29.6 -0.4
baz=92,SNR=24
I08A ⇑SKSac SKSac 12 26 07.8 +5.1
baz=92
SYO Syowa Base 91.56 199 ⇓*eP* **P 12 15 26.6 -3.0**
H08A Prairie City 91.59 45 P P 12 15 30.1 -0.1
baz=92,SNR=21
H08A ⇑SKSac SKSac 12 26 09.2 +6.4
baz=92
R09A Tonopah 91.68 52 P P 12 15 30.9 +0.2
baz=92,SNR=84
R09A ⇓SKSac SKSac 12 26 09.7 +6.1
baz=92
E08A Dider Farm, El 91.69 43 P P 12 15 30.6 +0.1
baz=92,SNR=13
E08A ⇓SKSac SKSac 12 26 07.7 +4.4
baz=92
WRD Warden 91.69 43 P P 12 15 30.4 -0.2
Q09A Carvers 91.69 51 ⇑P P 12 15 30.8 0.0
baz=92,SNR=27
Q09A ⇑SKSac SKSac 12 26 10.4 +6.7
baz=92
HEC Hector,Ludlow 91.70 55 ⇓P P 12 15 31.1 +0.2
baz=92,SNR=10.0
HEC ⇓SKSac SKSac 12 26 10.4 +6.5
baz=92
F08A Pendleton 91.75 44 ⇑P P 12 15 30.5 -0.3
baz=92
F08A ⇓SKSac SKSac 12 26 08.7 +5.0
baz=92
N09A Rock Creek Ran 91.77 49 ⇓P P 12 15 30.8 -0.3
baz=92,SNR=12
N09A ⇑SKSac SKSac 12 26 11.4 +7.4
baz=92
BELC Belle Mtn. 91.84 56 ⇑P P 12 15 31.6 +0.1
baz=92,SNR=56
BELC ⇑SKSac SKSac 12 26 11.1 +6.4
baz=92
SWSC Sam W. Stewart 91.84 57 ⇑P P 12 15 32.1 +0.5
baz=92,SNR=7.9
SWSC ⇑SKSac SKSac 12 26 11.8 +7.0
baz=92
P09A Austin 91.84 50 ⇑P P 12 15 31.6 +0.2
baz=92,SNR=19
P09A ⇓SKSac SKSac 12 26 09.8 +5.3
baz=92
B08A Colville Reser 91.86 41 P P 12 15 30.6 -0.7
baz=92,SNR=19
B08A ⇑SKSac SKSac 12 26 08.5 +4.3
baz=92
L09A Wilkinson Ranc 91.87 48 ⇓P P 12 15 31.6 +0.1
baz=92,SNR=26
L09A ⇓SKSac SKSac 12 26 10.5 +6.0
baz=92
D08A Wollman Farm, 91.89 43 ⇓P P 12 15 30.9 -0.6
baz=92,SNR=18
D08A ⇑SKSac SKSac 12 26 09.3 +4.9
baz=92
O09A Fish Creek Ran 91.91 50 ⇓P P 12 15 31.7 -0.1
baz=92,SNR=48
O09A ⇓SKSac SKSac 12 26 12.0 +7.2
baz=92
SHOC Shoshone 91.92 54 ⇓P P 12 15 31.9 0.0
baz=92
SHOC ⇓SKSac SKSac 12 26 10.2 +5.1
baz=92
M09A Marrel Ranch, 91.93 49 ⇓P P 12 15 32.0 +0.2
baz=92,SNR=37
M09A ⇓SKSac SKSac 12 26 10.8 +5.9
baz=92
C08A Higginbotham F 91.94 42 ⇓P P 12 15 30.9 -0.8
baz=92
C08A ⇑SKSac SKSac 12 26 10.2 +5.5
baz=92
K09A Rome 91.94 47 ⇑P P 12 15 31.7 -0.2
baz=92,SNR=35
K09A ⇓SKSac SKSac 12 26 10.2 +5.3
baz=92
S10A Tonopah Range, 91.99 52 ⇑P P 12 15 32.4 +0.3
baz=92,SNR=45
S10A ⇑SKSac SKSac 12 26 12.4 +7.0
baz=92
A08A Turner Farm, O 92.01 41 ⇑P P 12 15 31.4 -0.5
baz=92,SNR=8.7
A08A ⇑SKSac SKSac 12 26 09.2 +4.2
baz=92
J09A Fry Pan Ranch, 92.03 47 ⇑P P 12 15 31.9 -0.4
baz=92,SNR=41
J09A ⇓SKSac SKSac 12 26 11.9 +6.5
baz=92
OD2 Odessa Site #2 92.09 43 P P 12 15 31.8 -0.5
TPNV Topopah Spring 92.11 53 *eP* **P 12 15 33.0 +0.2**
comp=Z,96nm,1.0s,mb6.1
TPNV LR LR
comp=Z,11µm,21.0s,MS6.3
TPNV Topopah Spring 92.11 53 P P 12 15 33.1 +0.3
baz=92,SNR=78
TPNV ⇑SKSac SKSac 12 26 13.0 +6.9
baz=92
TUQ Turquoise Mtn. 92.13 55 ⇑P P 12 15 33.1 +0.2
baz=92
TUQ ⇑SKSac SKSac 12 26 14.4 +8.1
baz=92
I09A Lost Marbles R 92.15 46 ⇑P P 12 15 32.3 -0.5
baz=92,SNR=22
I09A ⇓SKSac SKSac 12 26 11.8 +5.8
baz=92
BC3 Big Chuckw Mtn 92.24 56 ⇑P P 12 15 34.1 +0.7
baz=92,SNR=26
BC3 ⇑SKSac SKSac 12 26 14.2 +7.3
baz=92
GMRC Granite Mounta 92.24 55 ⇑P P 12 15 33.7 +0.3
baz=92,SNR=62
GMRC ⇑SKSac SKSac 12 26 14.2 +7.3
baz=92
R10A Warm Springs 92.28 52 ⇑P P 12 15 33.8 +0.3
baz=92,SNR=32
R10A ⇑SKSac SKSac 12 26 13.7 +6.7
baz=92
Q10A Clear Creek Ra 92.29 51 ⇓P P 12 15 33.4 -0.1
baz=92,SNR=40
Q10A ⇑SKSac SKSac 12 26 15.1 +8.1
baz=92
D09A Jones Farm, Ri 92.30 43 P P 12 15 33.3 -0.1
baz=92,SNR=13
D09A ⇓SKSac SKSac 12 26 10.5 +3.8
baz=92
E09A Wood Farm, Sta 92.31 43 ⇑P P 12 15 32.5 -1.0
baz=92,SNR=17
E09A ⇓SKSac SKSac 12 26 11.2 +4.5
baz=92
H09A Durkee 92.32 45 ⇑P P 12 15 32.9 -0.6
baz=92,SNR=15
H09A ⇓SKSac SKSac 12 26 12.0 +5.0
baz=92
F09A S2 Ranch, Elgi 92.33 44 ⇓P P 12 15 33.1 -0.5
baz=92
F09A ⇓SKSac SKSac 12 26 11.3 +4.4
baz=92
P10A Eureka 92.37 50 ⇓P P 12 15 34.0 +0.1
baz=92,SNR=18
P10A ⇑SKSac SKSac 12 26 14.1 +6.7
baz=92
O10A Cortez Mining, 92.45 50 ⇑P P 12 15 34.3 0.0
baz=92,SNR=16
O10A ⇓SKSac SKSac 12 26 14.5 +6.7
baz=92
C09A Chrisman Ranch 92.45 42 ⇑P P 12 15 32.9 -1.2
baz=92
C09A ⇓SKSac SKSac 12 26 12.5 +5.0
baz=92
A09A Danville 92.46 41 ⇑P P 12 15 32.8 -1.3
baz=92
A09A ⇓SKSac SKSac 12 26 13.2 +5.7
baz=92
N10A Dunphy 92.51 49 ⇓P P 12 15 34.9 +0.4
baz=92,SNR=7.0
N10A ⇓SKSac SKSac 12 26 14.1 +6.0
baz=92
IRM Iron Mountain 92.56 56 ⇓P P 12 15 35.3 +0.4
baz=93,SNR=51
IRM ⇑SKSac SKSac 12 26 15.7 +7.0
baz=93
K10A MacKenzie Ranc 92.58 47 ⇓P P 12 15 35.0 +0.2
baz=93,SNR=48
K10A ⇓SKSac SKSac 12 26 14.4 +6.0
baz=93
V11A Goodsprings 92.59 54 ⇓P P 12 15 35.4 +0.4
baz=93,SNR=42
V11A ⇓SKSac SKSac 12 26 16.5 +7.6
baz=93
BMO Blue Mountains 92.61 45 *eP* **P 12 15 34.8 0.0**
BMO LR LR
comp=Z,9µm,20.0s,MS6.2
S11A Rachel 92.61 52 ⇑P P 12 15 35.3 +0.2
baz=93,SNR=16
S11A ⇑SKSac SKSac 12 26 15.9 +7.0
baz=93
M10A I.L. Ranch, Tu 92.62 49 ⇓P P 12 15 35.5 +0.6
baz=93,SNR=22
M10A ⇑SKSac SKSac 12 26 14.0 +5.2
baz=93
B09A Rice 92.64 42 P P 12 15 34.5 -0.5
baz=93,SNR=18
U11A Corn Creek 92.72 54 ⇓P P 12 15 36.3 +0.7
baz=93
U11A ⇓SKSac SKSac 12 26 18.3 +8.8
baz=93
LDFC Landfair 92.73 55 *eP* **P 12 15 35.6 -0.1**
L10A Juniper Basin 92.76 48 ⇑P P 12 15 35.4 -0.2
baz=93,SNR=54
L10A ⇓SKSac SKSac 12 26 15.3 +5.8
baz=93
J10A Berg Farm, Mel 92.76 47 ⇓P P 12 15 35.0 -0.5
baz=93,SNR=21
J10A ⇓SKSac SKSac 12 26 15.9 +6.5
baz=93
G10A Bishop Farm, J 92.81 45 ⇓P P 12 15 35.2 -0.6
baz=93,SNR=53
G10A ⇑SKSac SKSac 12 26 14.8 +5.2
baz=93
I10A Payette 92.84 46 ⇑P P 12 15 35.3 -0.6
baz=93
I10A ⇓SKSac SKSac 12 26 15.6 +5.8
baz=93
R11A Troy Canyon, C 92.85 52 ⇑P P 12 15 36.4 +0.2
baz=93,SNR=81
R11A ⇓SKSac SKSac 12 26 15.7 +5.5
baz=93
Q11A Duckwater 92.87 51 ⇓P P 12 15 36.2 0.0
baz=93,SNR=86
Q11A ⇑SKSac SKSac 12 26 15.8 +5.5
baz=93
H10A Noah's Angus R 92.96 46 ⇓P P 12 15 35.8 -0.6
baz=93,SNR=39
W12A Cal Nev Ari 92.96 55 ⇓P P 12 15 36.9 +0.2
baz=93,SNR=9.9
W12A ⇓SKSac SKSac 12 26 18.2 +7.3
baz=93
T11A Corn Creek, Al 92.97 53 ⇑P P 12 15 36.3 -0.4
baz=93,SNR=74
T11A ⇑SKSac SKSac 12 26 17.6 +6.7
baz=93
D10A Wagner Farm, O 92.99 43 ⇓P P 12 15 35.2 -1.3
baz=93,SNR=24
D10A ⇑SKSac SKSac 12 26 17.0 +6.4
baz=93
E10A Myers Farm, Un 93.01 44 ⇑P P 12 15 36.1 -0.6
baz=93
E10A ⇑SKSac SKSac 12 26 16.4 +5.7
baz=93
Y12C Blythe 93.02 56 ⇓P P 12 15 37.4 +0.4
baz=93
Y12C ⇓SKSac SKSac 12 26 18.4 +7.1
baz=93
V12A Nelson 93.04 54 ⇓P P 12 15 37.4 +0.3
baz=93,SNR=22
V12A ⇑SKSac SKSac 12 26 17.2 +5.9
baz=93
O11A Cowboy Ranch, 93.06 50 ⇑P P 12 15 37.5 +0.4
baz=93,SNR=40
O11A ⇓SKSac SKSac 12 26 17.3 +6.1
baz=93
NEE2 Needles Airpor 93.09 55 ⇓P P 12 15 37.9 +0.5
baz=93
NEE2 ⇑SKSac SKSac 12 26 16.8 +5.2
baz=93
C10A Spilker Farm, 93.10 42 ⇓P P 12 15 36.0 -1.1
baz=93
C10A ⇑SKSac SKSac 12 26 14.2 +3.1
baz=93
N11A Elko Archery C 93.11 49 ⇓P P 12 15 37.7 +0.4
baz=93
N11A ⇑SKSac SKSac 12 26 15.6 +4.1
baz=93
A10A Northport 93.12 41 ⇓P P 12 15 36.4 -0.7
baz=93
A10A ⇓SKSac SKSac 12 26 15.6 +4.4
baz=93
M11A Holland Ranch, 93.16 49 ⇓P P 12 15 38.1 +0.7
baz=93,SNR=34
M11A ⇓SKSac SKSac 12 26 17.1 +5.4
baz=93
K11A Parker Ranch, 93.19 47 ⇓P P 12 15 37.9 +0.3
baz=93,SNR=69
K11A ⇑SKSac SKSac 12 26 18.5 +6.7
baz=93
B10A Chitwood Farm, 93.23 42 ⇑P P 12 15 39.0 +1.4
baz=93
NEW Newport 93.29 42 *eP* **P 12 15 38.1 +0.1**
NEW Newport 93.29 42 LR LR 12 50 56.8
comp=Z,11µm,19.8s,MS6.3,baz=290,slow=31
T12A Moapa 93.29 54 ⇑P P 12 15 38.4 +0.2
baz=93,SNR=6.9
T12A ⇓SKSac SKSac 12 26 17.7 +5.1
baz=93
S12A Delamar Landin 93.31 53 ⇑P P 12 15 39.0 +0.7
baz=93,SNR=48
S12A ⇑SKSac SKSac 12 26 18.5 +5.7
baz=93
U12A Valley of Fire 93.39 54 ⇑P P 12 15 38.7 +0.1
baz=93,SNR=11
U12A ⇓SKSac SKSac 12 26 20.1 +6.9
baz=93
PDMCI Parker Dam,Lak 93.41 56 ⇑P P 12 15 39.1 +0.3
baz=93,SNR=12
PDMCI ⇑SKSac SKSac 12 26 19.6 +6.1
baz=93
G11A Walters Elk Ra 93.42 45 ⇓P P 12 15 37.6 -1.0
baz=93,SNR=23
MFID Camas Ranch 93.43 47 ⇑P P 12 15 38.6 -0.1
baz=93,SNR=24
MFID ⇑SKSac SKSac 12 26 17.7 +4.5
baz=93
ELK Elko 93.47 49 PFAKE 12 15 50.0 +11
ELK LR LR
comp=Z,90nm,19.0s
H11A Donnelly 93.49 45 P P 12 15 38.9 -0.1
baz=94,SNR=32
H11A ⇓SKSac SKSac 12 26 18.6 +5.2
baz=94
Q12A Willow Creek R 93.53 51 ⇓P P 12 15 39.4 +0.1
baz=94,SNR=48
Q12A ⇑SKSac SKSac 12 26 18.2 +4.3
baz=94
P12A McGill 93.54 51 ⇓P P 12 15 40.0 +0.7
baz=94,SNR=36
P12A ⇑SKSac SKSac 12 26 20.8 +6.9
baz=94
F11A Grangeville 93.57 44 ⇑P P 12 15 39.9 +0.6
baz=94
Y13A Salome 93.60 57 ⇓P P 12 15 40.1 +0.4
baz=94,SNR=14
Y13A ⇓SKSac SKSac 12 26 19.8 +5.3
baz=94
R12A Pony Springs, 93.61 52 ⇑P P 12 15 40.1 +0.5
baz=94,SNR=86

R12A ⇑SKSac SKSac 12 26 21.1 +6.8
baz=94
E11A Bogner Ranch, 93.61 44 P **P 12 15 38.6 -0.8**
baz=94,SNR=17
N12A Clover Valley, 93.64 49 ⇓P **P 12 15 40.1 +0.4**
baz=94,SNR=33
N12A ⇑SKSac SKSac 12 26 18.0 +3.6
baz=94
X13A Yucca 93.70 56 ⇓P **P 12 15 40.4 +0.3**
baz=94
X13A ⇓SKSac SKSac 12 26 24.2 +9.1
baz=94
W13A Hualapai Mount 93.73 55 P **P 12 15 41.0 +0.7**
baz=94,SNR=21
W13A ⇑SKSac SKSac 12 26 21.7 +6.5
baz=94
KK31 Karatay Array 93.75 313 *i* P **P 12 15 38.9 -1.3**
O12A Currie 93.77 50 ⇑P **P 12 15 40.6 +0.2**
baz=94,SNR=58
O12A ⇓SKSac SKSac 12 26 20.6 +5.4
baz=94
M12A Wells 93.81 49 ⇑P **P 12 15 40.9 +0.4**
baz=94,SNR=20
M12A ⇓SKSac SKSac 12 26 20.7 +5.4
baz=94
B11A Sandpoint 93.81 42 ⇑P **P 12 15 39.6 -0.7**
baz=94
L12A House Creek Ra 93.84 48 ⇑P **P 12 15 41.1 +0.5**
baz=94,SNR=62
L12A ⇓SKSac SKSac 12 26 21.5 +6.1
baz=94
U13A Pakoon Wash 93.84 54 ⇑P **P 12 15 41.4 +0.7**
baz=94,SNR=28
U13A ⇓SKSac SKSac 12 26 22.9 +7.1
baz=94
A11A Hall Mountain, 93.90 41 P **P 12 15 40.9 +0.2**
baz=94,SNR=18
J12A Stokes Ranch, 93.93 47 ⇓P **P 12 15 40.9 -0.1**
baz=94,SNR=58
J12A ⇓SKSac SKSac 12 26 22.6 +6.7
baz=94
T13A Saint George 93.97 53 ⇑P **P 12 15 41.9 +0.5**
baz=94,SNR=33
T13A ⇓SKSac SKSac 12 26 23.5 +7.0
baz=94
K12A Draper Farm, C 93.99 48 ⇓P **P 12 15 41.3 0.0**
baz=94,SNR=51
K12A ⇑SKSac SKSac 12 26 22.8 +6.6
baz=94
S13A Holt Ranch, En 94.09 53 ⇑P **P 12 15 42.3 +0.4**
baz=94,SNR=33
S13A ⇓SKSac SKSac 12 26 24.6 +7.6
baz=94
F12A Elk City 94.18 45 ⇑P **P 12 15 42.1 +0.1**
baz=94,SNR=14
F12A ⇓SKSac SKSac 12 26 21.1 +4.0
baz=94
P13A Bates Ranch, G 94.22 51 ⇑P **P 12 15 42.6 +0.2**
baz=94,SNR=52
P13A ⇑SKSac SKSac 12 26 22.0 +4.3
baz=94
N13A Wendover, West 94.26 49 ⇑P **P 12 15 42.9 +0.4**
baz=94
N13A ⇓SKSac SKSac 12 26 22.8 +5.0
baz=94
Z14A Wintersburg 94.27 57 ⇑P **P 12 15 43.1 +0.4**
baz=94
Z14A ⇓SKSac SKSac 12 26 22.9 +4.7
baz=94
H12A Diamond D Ranc 94.29 46 P **P 12 15 42.6 0.0**
baz=94,SNR=18
H12A ⇑SKSac SKSac 12 26 22.9 +5.1
baz=94
D12A Red Ives Fores 94.29 43 ⇓P **P 12 15 42.0 -0.5**
baz=94
D12A ⇓SKSac SKSac 12 26 20.9 +3.3
baz=94
Y14A Wickenburg 94.29 56 ⇑P **P 12 15 43.1 +0.2**
baz=94
Y14A ⇓SKSac SKSac 12 26 23.6 +5.4
baz=94
B12A Libby 94.33 42 ⇓P **P 12 15 42.8 +0.1**
baz=94
B12A ⇑SKSac SKSac 12 26 20.5 +2.6
baz=94
O13A Hicks Ranch, I 94.33 50 ⇑P **P 12 15 43.5 +0.6**
baz=94,SNR=23
O13A ⇓SKSac SKSac 12 26 23.8 +5.6
baz=94
A12A Yaak River Ran 94.36 41 ⇑P **P 12 15 42.8 0.0**
baz=94
A12A ⇑SKSac SKSac 12 26 23.8 +5.9
baz=94
M13A Montello 94.36 49 ⇑P **P 12 15 43.3 +0.2**
baz=94,SNR=40
M13A ⇑SKSac SKSac 12 26 23.2 +4.9
baz=94
W14A Seligman 94.39 55 ⇓P **P 12 15 44.1 +0.8**
baz=94,SNR=11
W14A ⇓SKSac SKSac 12 26 25.4 +6.6
baz=94
V14A Boquillas Ranc 94.43 55 ⇓P **P 12 15 44.4 +0.9**
baz=94,SNR=14
V14A ⇓SKSac SKSac 12 26 25.6 +6.6
baz=94
ARUT Antelope Range 94.44 53 *e*P **P 12 15 40.8 -2.7**
X14A Yava 94.46 56 ⇑P **P 12 15 44.1 +0.5**
baz=94
X14A ⇓SKSac SKSac 12 26 25.7 +6.5
baz=94
HLID Hailey 94.47 47 *e*P **P 12 15 43.3 -0.2**
comp=Z,56nm,1.2s,mb5.9
HLID Hailey 94.47 47 ⇓P **P 12 15 43.7 +0.3**
baz=94,SNR=62
U14A Mt Trumbull 94.47 54 ⇓P **P 12 15 44.1 +0.4**
baz=94,SNR=21
U14A ⇓SKSac SKSac 12 26 25.7 +6.6
baz=94
CCUT Cedar City 94.47 53 *e*P **P 12 15 44.1 +0.5**
K13A Stover Farm, H 94.59 48 ⇓P **P 12 15 44.0 0.0**
baz=95,SNR=9.3
K13A ⇓SKSac SKSac 12 26 23.6 +4.1
baz=95
L13A Double Diamond 94.62 48 ⇑P **P 12 15 44.7 +0.5**
baz=95,SNR=19
L13A ⇓SKSac SKSac 12 26 26.4 +6.7
baz=95
J13A Cove Ranch, Pi 94.62 47 P **P 12 15 45.0 +0.8**
baz=95,SNR=33
T14A Hurricane 94.63 53 P **P 12 15 45.1 +0.7**
baz=95,SNR=27
T14A ⇑SKSac SKSac 12 26 27.8 +7.8
baz=95
S14A Cedar City 94.66 53 ⇑P **P 12 15 45.0 +0.5**
baz=95,SNR=9.1
S14A ⇑SKSac SKSac 12 26 27.2 +7.1
baz=95
H13A Challis 94.72 46 P **P 12 15 45.0 +0.5**
baz=95,SNR=30
H13A ⇑SKSac SKSac 12 26 23.5 +3.5
baz=95
I13A Wildhorse Cree 94.73 46 ⇓P **P 12 15 45.0 +0.4**
baz=95,SNR=34
115A Sonoran Desert 94.78 58 ⇓P **P 12 15 45.9 +0.7**
baz=95
115A ⇑SKSac SKSac 12 26 29.1 +8.1
baz=95
G13A Cobalt 94.80 45 ⇑P **P 12 15 44.2 -0.7**
baz=95,SNR=20
G13A ⇓SKSac SKSac 12 26 23.9 +3.4
baz=95
R14A James Farms, M 94.84 52 ⇑P **P 12 15 45.8 +0.5**
baz=95,SNR=11
R14A ⇑SKSac SKSac 12 26 28.0 +7.0
baz=95
Y15A Casa Rosa Ranc 94.85 57 ⇓P **P 12 15 46.7 +1.2**
baz=95
C13A Hot Springs 94.90 43 ⇑P **P 12 15 44.3 -1.0**
baz=95
D13A Huson 94.90 43 ⇓P **P 12 15 46.6 +1.2**
baz=95
M14A Sheep Mountain 94.99 49 ⇑P **P 12 15 46.0 +0.1**
baz=95,SNR=46
M14A ⇑SKSac SKSac 12 26 24.1 +2.5
baz=95
X15A Humboldt 94.99 56 ⇓P **P 12 15 47.3 +1.2**
baz=95
X15A ⇑SKSac SKSac 12 26 28.8 +6.7
baz=95
E13A Victor 95.00 44 ⇓P **P 12 15 46.5 +0.7**
baz=95
E13A ⇓SKSac SKSac 12 26 26.8 +5.3
baz=95
N14A Grayback Hills 95.03 50 P **P 12 15 47.0 +0.9**
baz=95,SNR=38
W15A Williams 95.06 55 ⇑P **P 12 15 47.5 +1.1**
baz=95
W15A ⇓SKSac SKSac 12 26 27.1 +4.8
baz=95
B13A Whitefish 95.06 42 P **P 12 15 45.5 -0.5**
baz=95,SNR=8.9
CHKZ Chkalovo 95.14 323 *i* P **P 12 15 42.5 -3.8**
CHKZ pmax pmax
comp=Z,32nm,1.6s,mb5.5
BGU Big Grassy Mou 95.15 50 *e*P **P 12 15 47.1 +0.5**
T15A Red Dirt Ranch 95.18 53 ⇓P **P 12 15 47.8 +0.9**
baz=95,SNR=11
T15A ⇑SKSac SKSac 12 26 29.6 +6.7
baz=95
116A Eloy 95.20 58 ⇓SKSac SKSac 12 26 27.8 +4.6
baz=95
MSO Missoula 95.22 44 *e*P **P 12 15 47.0 +0.2**
MSO LR LR
comp=Z,5μm,20.0s,MS6.0
DUG Dugway 95.23 50 *e*P **P 12 15 47.1 +0.1**
DUG Dugway 95.23 50 P **P 12 15 47.6 +0.6**
baz=95,SNR=16
DUG ⇓SKSac SKSac 12 26 26.6 +3.5
baz=95
K14A Jones Ranch, D 95.24 48 P **P 12 15 48.1 +1.1**
baz=95,SNR=23
BRVK Borovoye 95.26 323 *e*P **P 12 15 45.4 -1.5**
BRVK LR LR
comp=Z,5μm,21.0s,MS5.9
BRVK Borovoye 95.26 323 P **P 12 15 45.9 -0.9**
SNR=11
BRVK Borovoye 95.26 323 P **P 12 15 45.9 -0.9**
SNR=11
216A Three Points, 95.34 59 ⇓P **P 12 15 48.4 +0.7**
baz=95
216A ⇑SKSac SKSac 12 26 28.4 +4.4
baz=95
G14A Jackson 95.36 45 ⇓P **P 12 15 47.0 -0.5**
baz=95
LPIG La Paz 95.40 67 LR LR 12 51 30.2
comp=Z,5μm,18.9s,MS6.0,baz=257,slow=31
HVU Hansel Valley 95.45 49 *e*P **P 12 15 48.1 +0.2**
E14A Clinton 95.48 44 ⇑P **P 12 15 47.2 -0.8**
baz=96
E14A ⇓SKSac SKSac 12 26 28.9 +4.9
baz=96
F14A Wisdom 95.49 45 ⇑P **P 12 15 49.1 +1.0**
baz=96
WALA Waterton Lakes 95.51 41 *e*P **P 12 15 48.1 +0.1**
comp=Z,127nm,2.0s,mb6.0
MSU Marysvale 95.52 52 *e*P **P 12 15 48.5 +0.1**
Z16A Peralta Trail, 95.53 57 ⇑P **P 12 15 48.5 -0.1**
baz=96
Z16A ⇓SKSac SKSac 12 26 31.2 +6.3
baz=96
N15A Stansbury Isla 95.53 50 ⇑P **P 12 15 49.0 +0.6**
baz=96
N15A ⇑SKSac SKSac 12 26 29.9 +5.3
baz=96
Y16A Circle Bar Ran 95.55 57 ⇓P **P 12 15 48.9 +0.3**
baz=96
Y16A ⇓SKSac SKSac 12 26 31.3 +6.3
baz=96
D14A Greenough 95.55 43 ⇑P **P 12 15 47.2 -1.1**
baz=96
SPUT South Promonto 95.64 49 *e*P **P 12 15 49.0 +0.1**
X16A Lo Mia Camp, P 95.64 56 ⇑P **P 12 15 49.9 +0.8**
baz=96
X16A ⇓SKSac SKSac 12 26 29.7 +4.3
baz=96
M15A Larsen Ranch, 95.65 49 ⇓P **P 12 15 48.8 -0.2**
baz=96,SNR=24
M15A ⇓SKSac SKSac 12 26 30.4 +5.2
baz=96
CHMT Chamberlain Mo 95.70 44 *e*P **P 12 15 49.3 +0.3**
MCMT McKenzie Canyo 95.74 46 P **P 12 15 49.6 +0.3**
NLU North Lily Min 95.77 51 *e*P **P 12 15 49.9 +0.4**
NOQ North Oquirrh 95.81 50 *e*P **P 12 15 49.9 +0.2**
217A Green Valley 95.86 59 ⇓P **P 12 15 50.7 +0.6**
baz=96
217A ⇓SKSac SKSac 12 26 32.7 +6.0
baz=96
T16A Glen Canyon Da 95.88 54 ⇓P **P 12 15 50.4 +0.4**
baz=96
T16A ⇓SKSac SKSac 12 26 31.5 +4.8
baz=96
TUC Tucson 95.95 58 *e*P **P 12 15 51.1 +0.6**
TUC LR LR
comp=Z,10μm,21.0s,MS6.2
DLMT Dillon 95.98 45 *e*P **P 12 15 50.5 +0.2**
comp=Z,64nm,1.5s,mb5.8
G15A Dillon 96.03 45 ⇓P **P 12 15 51.1 +0.5**
baz=96
E15A Deer Lodge 96.06 44 P **P 12 15 50.1 -0.6**
baz=96,SNR=15
E15A ⇓SKSac SKSac 12 26 30.9 +3.8
baz=96
CTU Camp Tracy 96.09 50 *e*P **P 12 15 51.2 +0.2**
F15A Butte 96.10 45 ⇑P **P 12 15 51.0 +0.1**
baz=96,SNR=8.2
F15A ⇑SKSac SKSac 12 26 31.1 +3.7
baz=96
MPU Maple Canyon 96.11 51 *e*P **P 12 15 51.2 +0.1**
MPU LR LR
comp=Z,6μm,21.0s,MS6.0
LRM Limekiln Ridge 96.13 45 *e*P **P 12 15 51.2 +0.2**
D15A Lincoln 96.21 43 ⇓P **P 12 15 52.6 +1.3**
baz=96
D15A ⇑SKSac SKSac 12 26 30.9 +3.0
baz=96
JLU Jordanelle 96.31 50 *e*P **P 12 15 52.9 +0.9**
EDM Edmonton 96.33 37 *e*P **P 12 15 51.8 +0.1**
HWUT Hardware Ranch 96.33 49 *e*P **P 12 15 52.3 +0.3**
HWUT LR LR
comp=Z,6μm,19.0s,MS6.1
DAU Daniels Canyon 96.44 50 *e*P **P 12 15 52.6 +0.1**
318A Bisbee 96.52 59 P **P 12 15 53.8 +0.7**
baz=96,SNR=6.8
318A ⇑SKSac SKSac 12 26 37.6 +7.4
baz=96
218A Dragoon 96.53 59 ⇓P **P 12 15 54.0 +0.9**
baz=96
218A ⇑SKSac SKSac 12 26 34.4 +4.2
baz=96
YKA Yellowknife Ar 96.63 28 P **P 12 15 51.2 -1.7**
YKA PP PP 12 19 38.8 -8.5
YKA PKKP PKKPbc 12 32 35.2 -3.7
YKA Yellowknife Ar 96.63 28 P **P 12 15 51.2 -1.6**
comp=Z,12nm,0.8s,mb5.3,baz=265,slow=4.5,SNR=92
YKA PP PP 12 19 38.8 -8.5
comp=Z,1.3nm,0.8s,baz=266,slow=7.4,SNR=3.4
YKA PKKP PKKPbc 12 32 35.2 -3.7
comp=Z,0.7nm,0.7s,baz=84,slow=2.3,SNR=5.1
YKW3 Yellowknife Ar 96.63 28 *e*P **P 12 15 53.0 +0.1**
HRY Holter Researc 96.65 44 *e*P **P 12 15 53.3 0.0**
BOZ Bozeman (W) 96.69 45 *e*P **P 12 15 53.6 +0.1**
BOZ LR LR
comp=Z,6μm,22.0s,MS6.0
BOZ Bozeman (W) 96.69 45 P **P 12 15 53.7 +0.1**
baz=97,SNR=29
BOZ ⇓SKSac SKSac 12 26 33.7 +3.3
baz=97
QLMT Earthquake Lak 96.75 46 *e*P **P 12 15 54.0 +0.1**
AHID Auburn Hatcher 96.79 48 PFAKE 12 16 10.0 +16
AHID LR LR
comp=Z,5μm,21.0s,MS6.0
DCID1 Drake Creek 96.81 47 *e*P **P 12 15 54.1 0.0**
SRU San Rafael 96.87 52 *e*P **P 12 15 54.5 -0.1**
TPAW Teton Pass 96.97 47 *e*P **P 12 15 55.0 +0.2**
comp=Z,51nm,1.4s,mb5.8
IMW Indian Meadow 97.01 47 *e*P **P 12 15 55.1 0.0**
REDW Red Top Meadow 97.03 47 *e*P **P 12 15 55.6 +0.5**
comp=Z,60nm,1.4s,mb5.8
YMR Madison River 97.06 46 *e*P **P 12 15 56.4 +1.1**
comp=Z,40nm,1.2s,mb5.7
YMR LR LR
comp=Z,12μm,21.0s,MS6.4
SNOW Snow King Moun 97.10 47 *e*P **P 12 15 55.6 +0.1**
comp=Z,76nm,1.6s,mb5.9
319A Douglas 97.12 59 ⇑P **P 12 15 56.5 +0.7**
baz=97
319A ⇑SKSac SKSac 12 26 36.4 +3.1
baz=97
YFT Old Faithful 97.14 46 *e*P **P 12 15 55.8 +0.2**
MOOW Moose Ponds 97.14 47 *e*P **P 12 15 56.0 +0.4**
comp=Z,80nm,1.9s,mb5.8
FLWY Flagg Ranch 97.20 47 *e*P **P 12 15 56.1 +0.2**
comp=Z,44nm,1.4s,mb5.7
LOHW Long Hollow 97.23 47 *e*P **P 12 15 56.4 +0.4**
119A Ashpeak Ranch, 97.24 58 ⇑P **P 12 15 56.7 +0.3**
baz=97
119A ⇓SKSac SKSac 12 26 36.9 +3.1
baz=97
YNR Norris Junctio 97.27 46 *e*P **P 12 15 59.0 +2.8**
LKWY Lake 97.46 46 *e*P **P 12 15 57.2 +0.1**
LKWY LR LR
comp=Z,10μm,20.0s,MS6.3
BW06 Boulder Array 97.92 48 *e*P **P 12 15 59.2 0.0**
BW06 LR LR
comp=Z,6μm,21.0s,MS6.0
PDAR Pinedale Array 97.92 48 P **P 12 15 58.0 -1.2**
comp=Z,8.2nm,0.8s,mb5.3,baz=237,slow=2.4,SNR=47
PDAR LR LR 12 52 53.9
comp=Z,5μm,21.5s,MS6.0,baz=283,slow=31
GCMT Greycliff 98.07 45 *e*P **P 12 16 00.0 +0.3**
EGMT Eagleton 98.16 43 *e*P **P 12 15 59.6 -0.5**
comp=Z,203nm,2.8s,mb6.2
EGMT Eagleton 98.16 43 ⇓P **P 12 15 59.3 -0.8**
baz=98
MVCO Mesa Verde 98.29 54 *e*P **P 12 16 09.8 +8.8**
MVCO Mesa Verde 98.29 54 ⇓P **P 12 16 01.2 +0.2**
baz=98
MVCO ⇑SKSac SKSac 12 26 42.9 +3.8
baz=98
RLMT Red Lodge 98.30 46 *e*P **P 12 16 01.5 +0.7**
RLMT LR LR
comp=Z,6μm,20.0s,MS6.1
SNAA Sanae 98.76 186 *e*Pdiff **P 12 16 03.6 +1.2**
SNAA *e* pP 12 16 06.4 +0.1
SNAA *e* 12 16 09.1
SNAA *e* 12 16 12.7
SNAA *e* 12 16 16.7
SNAA *e* 12 16 22.6
SNAA *e* 12 16 28.7
SNAA *e* 12 16 33.5
SNAA *e* 12 16 44.4
SNAA *e* 12 16 55.2
SNAA *e* 12 17 06.1
SNAA *e* 12 20 05.3
SNAA *e* 12 20 18.4
SNAA *e* 12 20 25.6
SNAA *e* 12 20 38.8
BNM Barren Site 99.58 57 *e*P **P 12 16 06.5 -0.3**
SMCO Snowmass 99.63 52 *e*Pdif Pdif 12 16 06.4 -0.1
comp=Z,91nm,2.3s
ANMO Albuquerque 99.78 56 *e*Pdif Pdif 12 16 07.1 -0.1
ANMO LR LR
comp=Z,11μm,21.0s,MS6.3
ANMO Albuquerque 99.78 56 LR LR 12 52 31.1
comp=Z,11μm,21.9s,MS6.3,baz=319,slow=30
VNA3 Neumayer Olymp 99.78 184 *e*Pdiff Pdif 12 16 07.9 +0.6
VNA3 *e* 12 16 10.4
VNA3 *e* 12 16 12.8
VNA3 *e* 12 16 16.7
VNA3 *e* 12 16 21.4
VNA3 *e* 12 16 26.6
VNA3 *e* 12 16 30.8
VNA3 *e* 12 16 40.6
VNA3 *e* 12 16 51.8
VNA3 *e* 12 17 08.1
VNA3 *e* 12 20 12.0
VNA3 *e* 12 20 35.8
VNA3 *e* 12 20 40.4
VNA3 *e* 12 20 44.0
VNA3 *e* 12 20 55.2
VNA2 Neumayer--Watz 99.91 185 *e*Pdiff Pdif 12 16 08.9 +1.1
VNA2 *e* 12 16 11.4
VNA2 *e* 12 16 13.7
VNA2 *e* 12 16 18.0
VNA2 *e* 12 16 22.5
VNA2 *e* 12 16 28.0
VNA2 *e* 12 16 32.6
VNA2 *e* 12 16 40.9
VNA2 *e* 12 16 52.8
VNA2 *e* 12 17 09.9
VNA2 *e* 12 20 13.7
VNA2 *e* 12 20 36.9
VNA2 *e* 12 20 41.2
VNA2 *e* 12 20 45.4
VNA2 *e* 12 20 57.0
VNA1 Neumayer--Stat 100.25 185 *e*Pdiff Pdif 12 16 15.2 +5.9
VNA1 *e* 12 16 18.2
VNA1 *e* 12 16 22.0
VNA1 *e* 12 16 26.5
VNA1 *e* 12 16 33.0
VNA1 *e* 12 16 37.7
VNA1 *e* 12 16 47.4
VNA1 *e* 12 16 59.4
VNA1 *e* 12 17 15.7
VNA1 *e* 12 20 15.1
VNA1 *e* 12 20 35.9
VNA1 *e* 12 20 41.1
VNA1 *e* 12 20 46.7
VNA1 *e* 12 20 59.1
PMSA Palmer Station 100.43 163 PFAKE 12 16 20.0 +10
PMSA LR LR
comp=Z,5μm,22.0s,MS6.0
MNTX Cornudas Mount 100.46 59 *e*Pdif Pdif 12 16 10.9 +0.6
MNTX LR LR
comp=Z,10μm,20.0s,MS6.3
LAO LASA Array 100.50 44 *e*Pdif Pdif 12 16 10.3 -0.2
LAO LR LR
comp=Z,11μm,20.0s,MS6.3
SDCO Great Sand Dun 100.71 53 *e*Pdif Pdif 12 16 11.3 0.0
SDCO LR LR
comp=Z,6μm,20.0s,MS6.1
ISCO Idaho Springs 100.71 51 *e*Pdif Pdif 12 16 11.1 -0.3
ISCO LR LR
comp=Z,9μm,19.0s,MS6.3
LTX Lajitas 101.79 62 PFAKE 12 16 30.0 +14
LTX LR LR
comp=Z,44nm,20.0s
DGMT Dagmar 101.89 42 *e*Pdif Pdif 12 16 16.5 -0.2
RSSD Black Hills 102.00 47 PFAKE 12 16 30.0 +13
RSSD LR LR
comp=Z,277nm,19.0s,MS4.8
ARU Arti 102.18 326 PFAKE 12 16 30.0 +12
ARU LR LR
comp=Z,5μm,21.0s,MS6.0
ARU Arti 102.18 326 *d* iP Pdif 12 16 19.1 +1.2
ARU *e* 12 20 33.0
ARU *e*S SKSac 12 26 56.1 -1.2
ARU *e*SP SP 12 29 34.3 +0.7
ARU *e*SS SS 12 35 09.8 +3.8
ARU pmax pmax
comp=Z,23nm,2.5s
RES Resolute Bay 102.93 15 *e*Pdif Pdif 12 16 20.7 -0.6
FFC Flin Flon 103.07 36 *e*Pdif Pdif 12 16 21.4 -0.5
FFC LR LR
comp=Z,8μm,19.0s,MS6.2
AMTX Amarillo 103.70 56 PFAKE 12 16 40.0 +15
AMTX LR LR
comp=Z,11μm,21.0s,MS6.4
JCT Junction City 105.19 61 *e*Pdif Pdif 12 16 35.9 +4.5
JCT LR LR
comp=Z,11μm,20.0s,MS6.4
CBKS Cedar Bluff 105.26 52 PFAKE 12 21 00.0 +14
CBKS LR LR
comp=Z,5μm,19.0s,MS6.1
WMOK Wichita Mounta 106.08 56 PFAKE 12 21 00.0 +12
WMOK LR LR
comp=Z,10μm,21.0s,MS6.4
OPO Ambohidratompo106.23 248 PKKPbc PKKPbc 12 32 09.4 -0.2
comp=Z,1.9nm,0.7s,baz=171,slow=2.9,SNR=4.1
KVTX Kingsville 106.80 64 PFAKE 12 21 00.0 +11
KVTX LR LR
comp=Z,4μm,19.0s,MS6.0
FCC Fort Churchill 106.86 31 *e*Pdif Pdif 12 16 41.4 +2.6
FCC *e*PKiKP PKiKP 12 20 48.3 -0.2
ULM Lac du Bonnet 107.20 40 Pdiff Pdif 12 16 41.0 +0.8
comp=Z,4.7nm,1.1s,baz=276,slow=7.3,SNR=4.3
ECSD EROS,Sioux Fal 107.37 47 *e*Pdif Pdif 12 16 41.9 +0.9
ECSD LR LR

comp=Z,6μm,20.0s,MS6.1
KSU1 Kansas State U 107.68 52 PFAKE 12 21 00.0 +9.3
KSU1 LR LR
comp=Z,7μm,19.0s,MS6.3
KBS Kingsbay 107.77 353 PFAKE 12 21 00.0 +10
KBS LR LR
comp=Z,4μm,20.0s,MS6.0
KBS Kingsbay 107.77 353 *e*PP PP 12 21 08.0 -2.5
KBS *i* 12 30 33.5
KBS *e*SS SS 12 36 22.4 +1.3
KBS AMS AMS 13 02 29.3
comp=Z,2μm,19.5s,MS5.7
HKT Hockley 108.62 61 PFAKE 12 21 00.0 +7.3
HKT LR LR
comp=Z,5μm,19.0s,MS6.1
NATX Nacogdoches 109.59 59 PFAKE 12 21 10.0 +16
NATX LR LR
comp=Z,10μm,20.0s,MS6.4
LVZ Lovozero 110.03 340 PFAKE 12 21 10.0 +16
LVZ LR LR
comp=Z,4μm,21.0s,MS6.0
MAK Makhachkala 110.56 313 P Pdif 12 16 56.2 +1.0
MAK *i* 12 21 29.5
MAK *e* 12 27 36.5
MAK *e* 12 28 02.7
MAK *i* PS PS 12 31 01.0 -1.4
MAK pmax pmax
comp=Z,32nm,0.4s
MAK MLR MLR
comp=Z,4μm,19.0s,MS6.0
KEV Kevo 111.39 344 PFAKE 12 21 10.0 +13
KEV LR LR
comp=Z,6μm,19.0s,MS6.2
DAG Danmarks Havn 111.92 359 *i* P PP 12 21 50.0 +9.5
DAG
comp=Z,6μm,21.0s
JFWS Jewell Farm 112.08 47 PFAKE 12 21 10.0 +11
JFWS LR LR
comp=Z,7μm,19.0s,MS6.3
COWI Conover 112.31 44 PFAKE 12 21 10.0 +11
COWI LR LR
comp=Z,7μm,19.0s,MS6.2
EFI East Falkland 112.50 157 PFAKE 12 21 10.0 +11
EFI LR LR
comp=Z,4μm,20.0s,MS6.0
HDIL Hopedale 113.14 50 PFAKE 12 21 10.0 +9.1
HDIL LR LR
comp=Z,8μm,22.0s,MS6.3
TRO Tromso 113.61 345 *e*PP PP 12 21 52.1 -0.6
TRO *e*SS SS 12 37 39.3 -0.2
TRO AMS AMS 13 12 24.1
comp=Z,3μm,19.2s,MS6.0
PLCA Paso Flores 113.81 142 PKPdf PKiKP 12 21 02.9 +0.6
PLCA PKKPbc PKKPbc 12 31 45.3 -0.4
PLCA LR LR
comp=Z,2μm,19.0s,MS5.8
PLCA Paso Flores 113.81 142 PKiKP PKiKP 12 21 02.9 +0.6
comp=Z,1.4nm,0.7s,baz=261,slow=1.0,SNR=2.6
PLCA PKKPbc PKKPbc 12 31 45.3 -0.4
comp=Z,1.9nm,0.9s,baz=44,slow=5.2,SNR=3.0
KIV Kislovodsk 113.86 314 PFAKE 12 21 10.0 +7.8
KIV LR LR
comp=Z,5μm,19.0s,MS6.1
KIV Kislovodsk 113.86 314 *i* PKIKP PKiKP 12 20 58.2 -4.0
KIV *e* 12 21 52.2
KIV *e*PPP 12 24 16.2
KIV *e* 12 27 39.8
KIV *e*PS PS 12 31 29.0 -3.8
KIV pmax pmax
comp=Z,7.0nm,0.8s
KIV MLR MLR
comp=Z,4μm,18.0s,MS6.1
BHD Baghdad 114.11 302 *e*x x 12 21 01.5
BHD *i* x x 12 21 56.0
BHD *e*x x 12 27 15.0
BHD *e*x x 12 31 40.0
OBN Obninsk 114.56 327 PFAKE 12 21 10.0 +6.8
OBN LR LR
comp=Z,5μm,21.0s,MS6.1
OBN Obninsk 114.56 327 *e*PKIKP PKiKP 12 20 59.9 -3.3
OBN *e* 12 21 58.3
OBN *e* 12 27 45.5
OBN pmax pmax
comp=Z,3.0nm,0.7s
MSL Mosul 114.82 306 *e*x x 12 21 09.5
MSL *e*x x 12 22 03.5
MSL *e*x x 12 27 55.5
MSL *e*x x 12 29 07.0
MSL *e*x x 12 31 40.0
PLAL Pickwick Lake 114.85 56 PFAKE 12 21 20.0 +16
PLAL LR LR
comp=Z,11μm,22.0s,MS6.4
WVT Waverly 114.90 54 PFAKE 12 21 20.0 +16
WVT LR LR
comp=Z,6μm,21.0s,MS6.2
TEIG Tepich 115.54 72 PFAKE 12 21 20.0 +14
TEIG LR LR
comp=Z,5μm,22.0s,MS6.1
GLMI Grayling 115.69 44 PFAKE 12 21 20.0 +14
GLMI LR LR
comp=Z,7μm,20.0s,MS6.3
WCI Wyandotte Cave 115.80 52 PFAKE 12 21 20.0 +14
WCI LR LR
comp=Z,6μm,20.0s,MS6.2
LRAL Lakeview Retre 115.97 58 PFAKE 12 21 20.0 +13
LRAL LR LR
comp=Z,7μm,19.0s,MS6.3
SOC Sochi 116.05 314 *i* PKIKP PKPdf 12 21 04.5 -1.9
SOC *e* 12 22 08.7
SOC *e*PPP 12 24 38.8
SOC *e*PS PS 12 31 50.8 -1.9
SOC *e*SS SS 12 38 09.4 -3.8
SOC *e*SSS 12 42 27.3
SOC MLR MLR
comp=Z,4μm,21.0s,MS6.0
BRAL Brewton 116.13 60 PFAKE 12 21 20.0 +13
BRAL LR LR
comp=Z,8μm,21.0s,MS6.3
TGUH Tegucigalpa,Un 116.34 79 PFAKE 12 21 20.0 +12
TGUH LR LR
comp=Z,4μm,21.0s,MS6.0
FINES FINESS Array B 116.52 336 PKP PKPdf 12 21 06.4 -0.4
comp=Z,3.0nm,0.8s,baz=26,slow=4.9,SNR=5.9
AAM Ann Arbor 116.97 47 PFAKE 12 21 20.0 +12
AAM LR LR
comp=Z,6μm,19.0s,MS6.2
ANN Anapa 117.33 316 *i* PKIKP PKPdf 12 21 04.5 -4.3
ANN *e* 12 22 16.4
ANN *e* 12 27 51.3
ANN pmax pmax
comp=Z,57nm,1.6s
TZTN Tazewell 118.25 53 PFAKE 12 21 20.0 +9.1
TZTN LR LR
comp=Z,8μm,19.0s,MS6.3
SFJD Kangerlussuaq 118.72 12 PFAKE 12 21 20.0 +9.2
SFJD LR LR
comp=Z,5μm,21.0s,MS6.1
GOGA Godfrey 118.85 57 PFAKE 12 21 20.0 +7.9
GOGA LR LR
comp=Z,10μm,21.0s,MS6.4
NSS Namsos 119.22 344 AMS AMS 13 10 11.4
comp=Z,3μm,25.0s,MS5.9
ERPA Erie 119.65 46 PFAKE 12 21 20.0 +6.6
ERPA LR LR
comp=Z,6μm,19.0s,MS6.2
KMBO Kilima Mbogo 119.76 264 PKP PKPdf 12 21 15.4 +1.0
KMBO LR LR
comp=Z,4μm,20.0s,MS6.1
KMBO Kilima Mbogo 119.76 264 PKP PKPdf 12 21 15.4 +1.0
comp=Z,5.4nm,0.9s,baz=33,slow=3.7,SNR=12
LCO Las Campanas 120.25 131 PFAKE 12 21 30.0 +15
LCO LR LR
comp=Z,3μm,22.0s,MS5.9
AKASG Malin Array Be 120.41 325 PKP PKPdf 12 21 13.1 -1.5
AKASG Malin Array Be 120.41 325 PKP PKPdf 12 21 13.1 -1.5
comp=Z,2.2nm,0.6s,baz=60,slow=2.1,SNR=13
MCWV Mont Chateau 120.41 49 PFAKE 12 21 30.0 +15
MCWV LR LR
comp=Z,9μm,19.0s,MS6.4
KIEV Kiev 120.42 325 PFAKE 12 21 30.0 +15
KIEV LR LR
comp=Z,3μm,20.0s,MS6.0
TRQA Tornquist 120.63 144 PFAKE 12 21 30.0 +15
TRQA LR LR
comp=Z,4μm,19.0s,MS6.1
BOSA Boshof 120.92 229 PKP PKPdf 12 21 16.0 -0.3
comp=Z,6.1nm,0.8s,baz=180,slow=3.7,SNR=9.3
BOSA PKKPbc PKKPbc 12 31 18.9 -1.3
comp=Z,2.6nm,0.8s,baz=306,slow=5.3,SNR=4.2
DWPF Disney 121.32 62 PFAKE 12 21 30.0 +13
DWPF LR LR
comp=Z,4μm,20.0s,MS6.1
SSPA Standing Stone 121.59 47 PFAKE 12 21 30.0 +13
SSPA LR LR
comp=Z,8μm,19.0s,MS6.4
NHSC New Hope 121.61 56 PFAKE 12 21 30.0 +13
NHSC LR LR
comp=Z,8μm,20.0s,MS6.4
SUR Sutherland 121.98 223 PFAKE 12 21 30.0 +12
SUR LR LR
comp=Z,7μm,20.0s,MS6.3
SUR Sutherland 121.98 223 PKKPbc PKKPbc 12 31 13.9 -2.3
comp=Z,10nm,1.0s,baz=216,slow=4.4,SNR=3.4
MOL Molde 121.99 344 *e*PP PP 12 22 51.2 +0.4
MOL AMS AMS 13 17 18.3
comp=Z,3μm,20.3s,MS6.0
ANTO Ankara 122.01 312 PFAKE 12 21 30.0 +12
ANTO LR LR
comp=Z,3μm,20.0s,MS5.9
SCHQ Schefferville 122.07 29 PKP PKPdf 12 21 14.9 -2.7
comp=Z,4.8nm,0.9s,baz=312,slow=4.1,SNR=3.8
NNA Nana 122.12 110 PFAKE 12 21 30.0 +11
NNA LR LR
comp=Z,2μm,19.0s,MS5.8
NB2 NORSAR Subarra122.13 341 PKPdf PKPdf 12 21 15.9 -1.7
comp=Z,4.3nm,1.0s,baz=39,slow=1.9
NB2 NORSAR Subarra122.13 341 PKPdf PKPdf 12 21 15.9 -1.7
baz=39,slow=1.9
NOA NORSAR Array B122.13 341 PKP PKPdf 12 21 15.4 -2.1
comp=Z,3.6nm,0.8s,baz=45,slow=1.9,SNR=11
NOA PP PP 12 22 52.9 +1.0
comp=Z,3.5nm,1.0s,baz=44,slow=7.0,SNR=3.3
MATP Matopo 122.18 239 PKP PKPdf 12 21 17.7 -1.2
baz=124,slow=3.6
MATP PKKPbc PKKPbc 12 31 14.9 -0.2
comp=Z,5.0nm,0.8s,baz=307,slow=2.8,SNR=14
KIS Kishinev 122.23 321 *e*PKP PKPdf 12 21 25.0 +6.8
BINY Binghamton 122.46 45 PFAKE 12 21 30.0 +11
BINY LR LR
comp=Z,8μm,19.0s,MS6.4
LBTB Lobatse 122.48 233 *e*PKPdf PKPdf 12 21 18.5 -0.9
LBTB LR LR
comp=Z,1μm,19.0s,MS5.5
LBTB Lobatse 122.48 233 PKKPbc PKKPbc 12 31 15.6 +1.5
comp=Z,3.0nm,0.8s,baz=302,slow=9.1,SNR=3.6
CBN Corbin 122.66 50 PFAKE 12 21 30.0 +11
CBN LR LR
comp=Z,9μm,22.0s,MS6.4
CNNC Cliffs of the 123.01 54 PFAKE 12 21 30.0 +10
CNNC LR LR
comp=Z,12μm,21.0s,MS6.5
NCB Newcomb 123.04 43 PFAKE 12 21 30.0 +10
NCB LR LR
comp=Z,8μm,22.0s,MS6.3
BCIP Isla Barro Col 123.32 85 PFAKE 12 21 30.0 +8.8
BCIP LR LR
comp=Z,6μm,20.0s,MS6.2
OTAV Otavalo 123.56 95 *e*PKPdf PKPdf 12 21 22.4 +0.6
OTAV LR LR
comp=Z,3μm,20.0s,MS5.9
KONO Kongsberg 123.72 341 PFAKE 12 21 30.0 +9.4
KONO LR LR
comp=Z,7μm,22.0s,MS6.3
KONO Kongsberg 123.72 341 *e*PP PP 12 23 00.0 -2.6
KONO AMS AMS 13 14 21.8
comp=Z,5μm,22.2s,MS6.1
LVV L'vov 123.76 326 *e*PKIKP PKPdf 12 21 14.8 -6.2
BORG Borgarnes 124.03 359 PFAKE 12 21 30.0 +8.9
BORG LR LR
comp=Z,4μm,19.0s,MS6.1
BER Bergen 124.40 344 *e*PP PP 12 23 06.7 -0.5
BER *e*SS SS 12 39 59.5 +0.8
BER AMS AMS 13 10 36.7
comp=Z,2μm,23.9s,MS5.7
LBNH Lisbon 124.45 42 PFAKE 12 21 30.0 +7.5
LBNH LR LR
comp=Z,9μm,22.0s,MS6.4
LSZ Lusaka 124.50 245 PKP PKPdf 12 21 23.5 +0.1
LSZ LR LR
comp=Z,4μm,20.0s,MS6.0
LSZ Lusaka 124.50 245 PKP PKPdf 12 21 23.5 +0.1
comp=Z,5.5nm,0.6s,baz=68,slow=3.9,SNR=4.4
MLR Muntele Rosu 124.67 320 PKP PKPdf 12 21 22.4 -0.5
comp=Z,8.9nm,1.1s,baz=43,slow=0.5,SNR=3.6
MLR PKKPbc 12 31 07.7
comp=Z,2.9nm,0.6s,baz=170,slow=5.7,SNR=5.4
QUA2 Belchertown 124.95 44 *e*PKPdf PKPdf 12 21 22.6 -0.9
KOLS Kolonicke sedl 125.20 325 *e*PKP PKPdf 12 21 24.5 +0.7
UZH Uzhgorod 125.35 325 *e*PKIKP PKPdf 12 21 26.0 +1.9
HRV Adam Dziewonsk125.40 43 PFAKE 12 21 40.0 +16
HRV LR LR
comp=Z,5μm,20.0s,MS6.2
STHS Stebnicka Huta 125.51 326 *e*PKP PKPdf 12 21 26.5 +2.1
WES Weston 125.61 43 PFAKE 12 21 40.0 +15
WES LR LR
comp=Z,5μm,20.0s,MS6.2
CRVS Cervenica-Dubn 125.67 326 *e*PKP PKPdf 12 21 25.3 +0.6
PKME Peaks-Kenny Pk 125.70 39 PFAKE 12 21 40.0 +15
PKME LR LR
comp=Z,10μm,20.0s,MS6.5
OJC Ojcow 125.84 328 *e*PKP PKPdf 12 21 27.7 +2.7
NIE Niedzica 126.02 327 *e*PKP PKPdf 12 21 29.4 +4.0
PVL Pavlikeni 126.05 318 *e*P PKPdf 12 21 26.3 +0.7
KECS Kecovo 126.44 326 *e*PKP PKPdf 12 21 30.5 +4.3
KECS *e*PP PP 12 23 22.8 +1.5
OKC Ostrava-Krasne 126.93 328 *e*PKP PKPdf 12 21 30.7 +3.6
OKC *e*SS SS 12 40 48.3 +17
OKC Ostrava-Krasne 126.93 328 *e*PKPdf PKPdf 12 21 30.7 +3.6
OKC *e*SS SS 12 40 48.3 +17
OKC AMS AMS 13 18 10.0
comp=Z,4μm,20.2s,MS6.1
PSZ Piszkesteto 127.08 325 *e*PKPdf PKPdf 12 21 28.3 +0.8
PSZ Piszkesteto 127.08 325⇑ *e*pPKP pPKPdf 12 21 31.1 -0.3
KSP Ksiaz 127.25 330 *e*PKP PKPdf 12 21 27.7 0.0
KSP *e*PP PP 12 23 24.0 -2.5
KSP *e*SP SP 12 33 26.5 -2.9
KSP *e*SS SS 12 40 33.0 -2.1
KSP LR LR
comp=Z,11μm,21.5s,MS6.5
KSP Ksiaz 127.25 330 *e*PKIKP PKPdf 12 21 27.7 0.0
KSP *e* 12 23 24.0
KSP *e*SP SP 12 33 26.5 -2.9
KSP *e*SS SS 12 40 33.0 -2.1
MORC Moravsky Berou 127.28 328 *e*PKPdf PKPdf 12 21 27.2 -0.6
VYHS Vyhne 127.35 327 *e*PKP PKPdf 12 21 27.4 -0.5
VYHS *e*PP PP 12 23 27.6 +0.3
DPC Dobruska-Polom 127.55 330 *e*PKPdf PKPdf 12 21 29.3 +1.0
DPC *e*SS SS 12 40 40.7 +1.9
DPC AMS AMS 13 16 50.0
comp=Z,5μm,22.7s,MS6.1
UPC Upice 127.60 330 *e*PKPdf PKPdf 12 21 30.2 +1.8
VTS Vitosha 127.73 318 *e*P PKPdf 12 21 29.4 +0.5
BSEG Bad Segeberg 127.80 336 *e*PKPdf PKPdf 12 21 27.7 -0.9
BUD Budapest 127.81 325⇑ *e*pPKP pPKPdf 12 21 32.6 -0.2
MMB Musomiste 127.82 317 *e*P PKPdf 12 21 28.4 -0.7
VRAC Vranov 128.05 328 PKP PKPdf 12 21 31.2 +1.9
comp=Z,2.9nm,0.4s,baz=101,slow=3.6,SNR=6.3
KKB Krupnik 128.13 317 *e*P PKPdf 12 21 29.2 -0.5
MODS Modra-Piesok 128.26 327 *e*PKP PKPdf 12 21 30.7 +1.0
MODS *e*PP PP 12 23 32.5 -0.8
PVCC Panska Ves 128.29 331 *e*PKPdf PKPdf 12 21 33.5 +3.8
PVCC *e*SS SS 12 40 50.9 +2.8
PVCC AMS AMS 13 21 40.0
comp=Z,7μm,20.8s,MS6.3
ROSC El Rosal 128.33 91 PKP PKPdf 12 21 30.2 -0.7
comp=Z,15nm,0.6s,baz=90,slow=20,SNR=6.1
BRG Berggiesshubel 128.37 331 *e*PKPdf PKPdf 12 21 28.8 -1.0
LPAZ La Paz 128.39 119 PKP PKPdf 12 21 31.1 +0.3
comp=Z,16nm,1.1s,baz=4.6,slow=2.9,SNR=19
ZST Bratislava 128.46 327 *e*PKP PKPdf 12 21 30.7 +0.6
ZST *e*PP PP 12 23 38.3 +3.7
ZST LR LR
comp=Z,3μm,20.3s,MS6.0
ZST Bratislava 128.46 327 *e*PKP PKPdf 12 21 30.7 +0.6
ZST *e*PP PP 12 23 38.3 +3.7
CLL Collm 128.51 332 *i* PKP PKPdf 12 21 29.8 -0.3
CLL *i* 12 21 39.3
CLL *i* 12 22 13.0
CLL LR LR
comp=Z,4μm,21.3s,MS6.0
CLL Collm 128.51 332 *i* PKIKP PKPdf 12 21 29.8 -0.3
CLL *i* 12 21 39.3
CLL pmax pmax
comp=Z,17nm,2.1s
CLL MLR MLR
comp=Z,4μm,21.3s,MS6.0
CLL Collm 128.51 332 *e*PKPdf PKPdf 12 21 28.8 -1.3
CLL Collm 128.51 332 *i* PKPdf PKPdf 12 21 29.8 -0.3
comp=Z,74nm,2.1s
CLL *i* x x 12 21 39.3
CLL *i* x x 12 22 13.0
CLL *i* x x 12 22 36.0
CLL *i* PP PP 12 23 35.1 +0.4
comp=Z,248nm,3.2s
CLL *e*SPP 12 35 15.0
CLL *e*SS SS 12 40 36.0 -15
CLL *e*SSS 12 45 36.0
CLL Lm 13 21 00.0
comp=N,3μm,20.9s
CLL Lm 13 21 00.0
comp=E,2μm,21.0s
CLL Lm 13 21 00.0
comp=Z,4μm,21.3s
FBE Freiberg 128.61 332 *e*PKPdf PKPdf 12 21 29.4 -0.9
TREC Trest 128.63 329 *e*PKPdf PKPdf 12 21 33.0 +2.6
TREC *e*SS SS 12 41 10.3 +18
TREC AMS AMS 13 18 40.0
comp=Z,7μm,24.0s,MS6.2
PRU Pruhonice 128.66 330 *e*PKPdf PKPdf 12 21 31.5 +1.1
PRU *e*SS SS 12 41 02.5 +10
PRU AMS AMS 13 21 40.0
comp=Z,6μm,21.1s,MS6.2
VAY Valandovo 128.72 317 *e*PKP PKPdf 12 21 28.6 -2.1
SOP Sopron 129.06 327 *e*PKP PKPdf 12 21 32.4 +1.2
SKO Skopje 129.18 318 *e*PKP PKPdf 12 21 29.9 -1.8
CONA Conrad Observa 129.28 327⇓ *i*PKiKP PKiKP 12 21 31.6 -0.8
comp=Z,29nm,1.9s
CLZ Clausthal 129.31 334 *e*PKPdf PKPdf 12 21 30.9 -0.7
WERD Werda 129.42 332 *e*PKPdf PKPdf 12 21 30.8 -1.0
GUNZ Gunzen 129.47 332 *e*PKPdf PKPdf 12 21 31.1 -0.8
WERN Wernitzgruen 129.50 332 *e*PKPdf PKPdf 12 21 31.2 -0.8
NKC Novy Kostel 129.50 332 *e*PKP PKPdf 12 21 34.9 +2.9
NKC *e*SS SS 12 41 04.3 +1.4
NKC Novy Kostel 129.50 332 *e*PKPdf PKPdf 12 21 34.9 +2.9
NKC *e*SS SS 12 41 04.3 +1.4
NKC AMS AMS 13 18 50.0
comp=Z,3μm,17.4s,MS6.1
KRUS Krusevo 129.59 318 *e*PKP PKPdf 12 21 30.6 -1.9
MOX Moxa 129.60 332 *e*PKP PKPdf 12 21 33.3 +1.1
comp=Z,58nm,2.0s
MOX
comp=Z,2μm,21.0s
MOX Moxa 129.60 332 *e*PKPdf PKPdf 12 21 31.2 -1.0
KHC Kasperske Hory 129.69 330 *e*PKPdf PKPdf 12 21 32.3 -0.1
KHC *e*SS SS 12 41 15.3 +10
KHC AMS AMS 13 16 30.0
comp=Z,5μm,21.9s,MS6.2
BIA Bitola 129.70 317 *e*PKP PKPdf 12 21 30.9 -1.8
GEC2 GERESS Array S 129.82 330 *e*PKPdf PKPdf 12 21 31.6 -1.0
GERES GERESS Array B 129.82 330 PKP PKPdf 12 21 31.5 -1.1
comp=Z,1.5nm,0.6s,baz=336,slow=1.2,SNR=7.5
MANZ Manzenberg 129.83 332 *e*PKPdf PKPdf 12 21 31.7 -0.9
ROTZ Rotzenmuhle 129.94 331 *e*PKPdf PKPdf 12 21 31.9 -0.9
OHR Ohrid 130.01 318 *e*PKP PKPdf 12 21 31.2 -2.1
WET Wettzell 130.03 330 *e*PKPdf PKPdf 12 21 32.2 -0.8
IBBN Ibbenburen 130.04 336 *e*PKPdf PKPdf 12 21 32.1 -0.9
UBBA Unterbreizbach 130.21 334 *e*PKPdf PKPdf 12 21 32.3 -1.0
GRA1 Grafenberg Arr 130.45 332 *e*PKPdf PKPdf 12 21 32.8 -1.0
GRA1 *e*SS SS 12 41 15.0 +0.4
GRA1 *e*SSS 12 46 06.6
GRA1 LR LR
comp=Z,4μm,21.2s,MS6.0
GRF Grafenberg Arr 130.45 332 *e*PKIKP PKPdf 12 21 32.8 -1.0
GRF *e*SS SS 12 41 15.0 +0.4
GRF *e*SSS 12 46 06.6
GRF Grafenberg Arr 130.45 332 *e*PKPdf PKPdf 12 21 32.8 -1.0
GRF *e*SS SS 12 41 15.0 +0.4
GRF *e*SSS 12 46 06.6
GRF *e*L 13 22 29.4
comp=Z,4μm,21.2s
GRFO Grafenberg 130.45 332 PFAKE 12 21 50.0 +16
GRFO LR LR
comp=Z,3μm,20.0s,MS6.0
WTSB Winterswijk 130.68 337 *e*PKP PKPdf 12 21 33.0 -1.2
comp=Z,59nm,3.1s
EKA Eskdalemuir Ar 131.04 346 PKP PKPdf 12 21 34.6 -0.1
comp=Z,3.3nm,1.0s,baz=315,slow=1.9,SNR=6.5
ESK Eskdalemuir 131.06 346 PFAKE 12 21 50.0 +15
ESK LR LR
comp=Z,2μm,20.0s,MS5.8
STON Ston 131.12 321 P PKPdf 12 21 33.2 -2.1
TNS Taunus Mts 131.32 334 *e*PKPdf PKPdf 12 21 34.7 -0.7
FUR Furstenfeldbru 131.48 330 *e*PKPdf PKPdf 12 21 34.8 -1.0
SDDR Presa de Saban 131.59 72 PFAKE 12 21 50.0 +13
SDDR LR LR
comp=Z,4μm,19.0s,MS6.2
TSUM Tsumeb 131.82 235 PKP PKPdf 12 21 38.6 +1.2
TSUM SKP 12 25 08.9
TSUM LR LR
comp=Z,6μm,20.0s,MS6.3
TSUM Tsumeb 131.82 235 PKP PKPdf 12 21 38.6 +1.2
comp=Z,6.6nm,0.7s,baz=85,slow=1.6,SNR=7.7
TSUM SKP 12 25 08.9
comp=Z,16nm,1.3s,baz=109,slow=4.7,SNR=8.0
WTTA Wattenberg 131.91 329⇓ *i*P PKPdf 12 21 36.4 -0.2
comp=Z,65nm,2.1s
HGN Heimansgroeve 131.96 336 *e*PKP PKPdf 12 21 33.9 -2.7
comp=Z,30nm,2.8s
ABH Alteburg 131.96 334 PKP PKPdf 12 21 40.0 +3.3
STU Stuttgart 132.04 332 *e*PKPdf PKPdf 12 21 35.8 -1.1
RUP Ruppelstein 132.31 334 PKP PKPdf 12 21 38.0 +0.7
SDV Santo Domingo 132.37 86 *e*PKPdf PKPdf 12 21 36.1 -2.4
SDV LR LR
comp=Z,1μm,20.0s,MS5.6
LANF Langenberg 132.52 333 PKP PKPdf 12 21 39.3 +1.6
WLF Walferdange 132.72 335 *e*PKPdf PKPdf 12 21 37.9 -0.2
BFO Black Forest 132.76 332 *e*PKPdf PKPdf 12 21 36.9 -1.3
BFO LR LR
comp=Z,3μm,20.0s,MS6.0
DAVA Damuels 132.76 330⇓ *i*P PKPdf 12 21 40.8 +2.5
comp=Z,26nm,1.8s
DAVA Damuels 132.76 330⇓ *i*pPKPdf pPKPdf 12 21 40.8 -1.4
comp=Z,26nm,1.8s
GIVF Givet 132.92 336 *e*PKIKP PKPdf 12 21 39.3 +0.8
DAVOX Davos/Dischmat 133.12 330 PKP PKPdf 12 21 39.4 +0.4
comp=Z,8.4nm,0.8s,baz=4.3,slow=2.5,SNR=6.7
CDF Champ du Feu 133.18 333 *e*PKIKP PKPdf 12 21 39.7 +0.7
BAIF Baives 133.20 337 *e*PKIKP PKPdf 12 21 39.6 +0.6
FELD Feldberg im Sc 133.24 332 PKP PKPdf 12 21 39.7 +0.6
ECH Echery 133.38 333 PKP PKPdf 12 21 40.4 +1.0
MOF Molkenrain 133.66 333 PKP PKPdf 12 21 41.5 +1.6
HINF Hinteralfeld 133.81 333 *e*PKIKP PKPdf 12 21 40.3 +0.1
THEF They Montfort 133.88 334 PKP PKPdf 12 21 41.7 +1.4
HAU Haudompre 133.89 333 *e*PKIKP PKPdf 12 21 41.0 +0.6
HAU *e*MLR MLR
comp=Z,4μm,22.5s,MS5.8
HAU Haudompre 133.89 333 *e*PKIKP PKPdf 12 21 41.0 +0.6
HAU MLR MLR
comp=Z,4μm,22.5s,MS6.1
LOMF Lomont 134.17 332 PKP PKPdf 12 21 42.5 +1.6
BBSR BB Station 134.34 53 PFAKE 12 21 50.0 +8.3
BBSR LR LR
comp=Z,5μm,22.0s,MS6.2
CABF La Chapelle 135.06 332 *e*PKIKP PKPdf 12 21 43.0 +0.4
comp=Z,106nm,1.4s
LOR Lormes 135.54 335 *e*PKIKP PKPdf 12 21 43.9 +0.4
comp=Z,36nm,1.2s
LOR *e*MLR MLR
comp=Z,3μm,22.0s,MS5.6
LOR Lormes 135.54 335 *e*PKIKP PKPdf 12 21 43.9 +0.4
LOR MLR MLR
comp=Z,3μm,22.0s,MS5.9
LPL La Plagne 135.56 331 *e*PKIKP PKPdf 12 21 44.6 +1.0
LPG La Plagne 135.56 331 *e*PKIKP PKPdf 12 21 44.3 +0.7
SSF Saint Saulge 135.85 335 *e*PKIKP PKPdf 12 21 44.5 +0.4
BNI Bardonecchia 135.92 330 *e*PKPdf PKPdf 12 21 42.5 -1.8
FLN La Foliniere 136.01 339 *e*PKIKP PKPdf 12 21 44.9 +0.6
FLN *e*MLR MLR
comp=Z,4μm,20.8s,MS5.9
FLN La Foliniere 136.01 339 *e*PKIKP PKPdf 12 21 44.9 +0.6
FLN MLR MLR
comp=Z,4μm,20.8s,MS6.2

LDF	**La Druitiere**	**136.03 339**	*e*PKIKP	PKPdf	12 21 44.9	+0.6
SMF	**Signal de Mont**	**136.03 334**	*e*PKIKP	PKPdf	12 21 45.1	+0.7
MBDF	**Montbardon**	**136.11 330**	*e*PKIKP	PKPdf	12 21 45.4	+0.8
AVF	**Avril sur Loir**	**136.13 334**	*e*PKIKP	PKPdf	12 21 44.5	-0.1
SBF	**Sospel**	**136.38 329**	*e*PKIKP	PKPdf	12 21 45.2	0.0
GRR	**Gorron**	**136.46 339**	*e*PKIKP	PKPdf	12 21 45.7	+0.6
BGF	**Bois d'Agland**	**136.53 335**	*e*PKIKP	PKPdf	12 21 45.7	+0.4
	comp=Z,9.6nm,0.5s					
PLDF	**La Plantade**	**136.65 334**	PKP	PKPdf	12 21 49.7	+4.1
CPD	**Cerro la Pandu**	**136.76 73**	*e*PKPdf	PKPdf	12 21 46.4	-0.1
TCF	**Toulx Ste Croi**	**137.01 335**	*e*PKIKP	PKPdf	12 21 46.8	+0.6
	comp=Z,46nm,1.2s					
VIVF	**Saint-Julien-l**	**137.03 332**	*e*PKIKP	PKPdf	12 21 46.8	+0.5
	comp=Z,86nm,1.5s					
PYM	**Petit Puy Mans**	**137.09 334**	PKP	PKPdf	12 21 49.7	+3.3
ROSF	**Rostrenen**	**137.31 341**	*e*PKIKP	PKPdf	12 21 47.3	+0.6
	comp=Z,116nm,1.4s					
MFF	**Saint Martin d**	**137.70 337**	*e*PKIKP	PKPdf	12 21 47.9	+0.4
LASF	**Ste Croix**	**138.00 332**	*e*PKIKP	PKPdf	12 21 48.3	+0.2
	comp=Z,75nm,1.3s					
MTLF	**Montolieu**	**139.32 332**	*e*PKIKP	PKPdf	12 21 51.0	+0.4
	comp=Z,91nm,1.4s					
EPF	**Esparros**	**140.41 334**	*e*PKIKP	PKPdf	12 21 52.9	+0.3
KEST	**Kesra**	**140.47 318**	PKP	PKPdf	12 21 53.5	+0.6
	comp=Z,2.7nm,1.0s,baz=153,slow=4.5,SNR=3.2					
ETSF	**Etsaut**	**140.91 334**	*e*PKIKP	PKPdf	12 21 53.8	+0.3
	comp=Z,41nm,1.1s					
SJPF	**Ste Jean**	**141.02 335**	*e*PKIKP	PKPdf	12 21 54.0	+0.3
	comp=Z,24nm,1.0s					
MSKU	**Masuku**	**142.66 256**	PFAKE		12 22 10.0	+13
MSKU			LR	LR		
	comp=Z,5.0nm,20.0s					
EPON	**Pontenova**	**143.01 341**	PKP	PKPdf	12 21 57.5	+0.3
ETOR	**Torete**	**143.25 334**	PKP	PKPdf	12 21 55.0	-2.7
BBGH	**Gun Hill**	**143.28 80**	PFAKE		12 22 10.0	+12
BBGH			LR	LR		
	comp=Z,5μm,19.0s,MS6.3					
ATAF	**Djebel Tarf**	**143.62 322**	P	PKPdf	12 21 59.2	+0.7
ABA	**Alger-Bouzarea**	**143.72 324**	P	PKPdf	12 22 01.2	+2.5
AKET	**Djebel Ketaf**	**143.74 323**	P	PKPdf	12 21 58.4	-0.3
ECHE	**Chera**	**143.75 331**	PKP	PKPdf	12 21 59.4	+0.8
EMAZ	**Mazaricos**	**143.90 343**	PKP	PKPdf	12 22 02.5	+3.7
ADJB	**Djebel Djouab**	**143.93 323**	P	PKPdf	12 21 56.9	-2.2
EBEN	**Beniarda**	**144.08 330**	PKP	PKPdf	12 21 58.9	-0.3
ECAL	**Calabor**	**144.11 340**	PKP	PKPdf	12 22 00.1	+0.9
EMHD	**Djebel Mahouad**	**144.19 324**	P	PKPdf	12 21 59.3	-0.2
PBRG	**Braganca**	**144.24 340**	*e*PKP	PKPdf	12 21 57.5	-1.9
GUD	**Guadarrama**	**144.28 336**	PKP	PKPdf	12 21 58.7	-0.8
ELOB	**Lobios**	**144.61 341**	PKP	PKPdf	12 22 04.3	+4.2
PCAB	**Cabril**	**144.75 341**	*e*PKP	PKPdf	12 21 59.6	-0.7
ETOB	**Tobarra**	**144.77 331**	PKP	PKPdf	12 22 00.6	+0.1
MVO	**Moncorvo**	**144.90 340**	*e*PKP	PKPdf	12 21 58.8	-1.8
MVO	**Moncorvo**	**144.90 340**	*e*LR	LR	13 12 45.2	
	comp=Z,3μm,19.7s					
EBNR	**Beni Rached**	**144.94 325**	P	PKPdf	12 22 04.0	+3.2
ESDC	**Sonseca Array**	**145.02 335**	PKP	PKPdf	12 21 60.0	-0.9
ESDC	**Sonseca Array**	**145.02 335**	PKP	PKPdf	12 21 58.8	-2.0
	comp=Z,18nm,0.9s,baz=22,slow=3.1,SNR=42					
ESLA	**Sonseca Array**	**145.02 335**	PFAKE		12 22 10.0	+10
ESLA			LR	LR		
	comp=Z,11μm,20.0s,MS6.6					
PVRL	**Vila Real**	**145.04 341**	*e*PKP	PKPdf	12 21 59.3	-1.5
ECHA	**Ech Chlef**	**145.13 325**	P	PKPbc	12 22 04.3	+3.7
EVIA	**Vianos**	**145.22 332**	PKP	PKPdf	12 22 02.3	+1.0
EMUR	**La Murta**	**145.25 330**	PKP	PKPdf	12 22 00.5	-0.8
PAB	**San Pablo**	**145.29 335**	*e*PKPdf	PKPbc	12 22 00.8	-0.5
PAB			LR	LR		
	comp=Z,4μm,20.0s,MS6.2					
CART	**Cartagena**	**145.33 329**	*e*PKPdf	PKPdf	12 22 01.3	-0.1
EANR	**'Ain N'Sour**	**145.43 325**	P	PKPbc	12 22 05.4	+3.8
PVIS	**Viseu**	**145.60 340**	*e*PKP	PKPdf	12 22 02.0	+0.2
ETRT	**Tiaret**	**145.71 324**	P	PKPdf	12 22 05.6	+3.4
MTE	**Manteigas**	**145.76 340**	*e*PKP	PKPdf	12 22 01.7	-0.4
MTE	**Manteigas**	**145.76 340**	*e*SS	SS	12 44 07.3	-8.0
MTE	**Manteigas**	**145.76 340**	*e*LR	LR	13 13 17.1	
	comp=Z,4μm,19.6s					
MTE	**Manteigas**	**145.76 340**	*e*PKPdf	PKPdf	12 22 03.0	+0.9
EBAN	**Banos Encina**	**146.19 333**	PKP	PKPdf	12 22 04.8	+1.9
PCBR	**Castelo Branco**	**146.24 339**	*e*PKP	PKPdf	12 22 04.2	+1.3
ENIJ	**Nijar**	**146.41 330**	PKP	PKPdf	12 22 04.6	+1.3
EADA	**Adamuz**	**146.54 334**	PKP	PKPbc	12 22 05.9	+1.0
EBER	**Berja**	**146.80 331**	PKP	PKPbc	12 22 07.2	+1.5
ECOG	**Cogollos-Vega**	**146.82 332**	PKP	PKPdf	12 22 05.7	+1.7
ELUQ	**Luque**	**146.91 333**	PKP	PKPbc	12 22 08.2	+2.2
ECAB	**El Cabril**	**146.97 335**	PKP	PKPbc	12 22 07.0	+0.8
EBAD	**Badajoz**	**147.02 338**	PKP	PKPbc	12 22 06.5	+0.2
ERON	**Agron**	**147.14 332**	PKP	PKPdf	12 22 05.5	+1.0
PESTR	**Estremoz**	**147.14 338**	*e*PKP	PKPdf	12 22 06.0	+1.5
PESTR	**Estremoz**	**147.14 338**	*e*LQ		13 04 07.2	
PESTR			*e*LR	LR	13 13 17.1	
	comp=Z,3μm,18.9s					
EGUA	**Guajares**	**147.18 331**	PKP	PKPbc	12 22 06.6	-0.2
ELOJ	**Sierra Loja**	**147.19 332**	PKP	PKPbc	12 22 06.7	-0.2
PBAR	**Barrancos**	**147.54 337**	*e*PKP	PKPbc	12 22 07.2	-0.5
PBAR	**Barrancos**	**147.54 337**	*e*LQ		13 04 09.0	
PBAR	**Barrancos**	**147.54 337**	*e*LR	LR	13 14 32.4	
	comp=Z,5μm,19.5s					
EVO	**Evora**	**147.59 339**	*e*PKIKP	PKPdf	12 22 06.7	+1.5
	comp=Z,256nm,1.8s					
EVO			*e*MLR	MLR		
	comp=Z,6μm,21.8s,MS6.1					
EALB	**Alboran**	**147.63 330**	PKP	PKPbc	12 22 07.7	-0.3
PMAFR	**Mafra**	**147.65 341**	*e*PKP	PKPdf	12 22 07.2	+1.9
PMAFR	**Mafra**	**147.65 341**	*e*LQ		13 04 09.3	
PMAFR			*e*LR	LR	13 12 27.3	
	comp=Z,3μm,17.3s					
EMIN	**Mina Concepcio**	**147.75 336**	PKP	PKPdf	12 22 07.4	+1.8
LIS	**Lisbon**	**147.82 340**	*e*P	PKPdf	12 22 05.1	-0.5
EMIJ	**Mijas**	**147.96 333**	PKP	PKPdf	12 22 06.0	+0.1
PBEJ	**Beja**	**147.98 338**	*e*PKP	PKPdf	12 22 07.9	+2.0
ESPR	**Espera**	**148.18 334**	PKP	PKPbc	12 22 10.0	+0.5
EGRO	**El Granado**	**148.27 337**	PKP	PKPdf	12 22 07.8	+1.4
PVAQ	**Vaqueiros**	**148.47 337**	*e*PKP	PKPbc	12 22 09.2	-1.1
PVAQ	**Vaqueiros**	**148.47 337**	*e*LR	LR	13 14 51.6	
	comp=Z,4μm,18.9s					
PBDV	**Barranco-do-Ve**	**148.70 337**	*e*PKP	PKPdf	12 22 06.5	-0.6
PBDV	**Barranco-do-Ve**	**148.70 337**	*e*LQ		13 06 50.8	
PBDV			*e*LR	LR	13 15 41.4	
	comp=Z,4μm,19.9s					
PTEO	**Sao Teotonio**	**148.72 339**	*e*PKP	PKPdf	12 22 07.1	0.0
MORF	**Marmelete**	**148.91 338**	*e*PKP	PKPdf	12 22 09.4	+2.0
MORF	**Marmelete**	**148.91 338**	*e*LR	LR	13 15 14.3	
	comp=Z,3μm,18.0s					
PFVI	**Vila Bisbo**	**149.13 339**	*e*PKP	PKPdf	12 22 07.5	-0.3
PFVI	**Vila Bisbo**	**149.13 339**	*e*LQ		13 03 47.1	
PFVI	**Vila Bisbo**	**149.13 339**	*e*LR	LR	13 15 59.3	
	comp=Z,3μm,21.4s					
TOA0	**Torodi Ar. Sit**	**155.93 283**	*e*PKPdf	PKPdf	12 22 17.4	-1.0
TORD	**Torodi Ar. Bea**	**155.93 283**	PKP	PKPdf	12 22 17.7	-0.7
	comp=Z,4.0nm,0.9s,baz=53,slow=0.3,SNR=10					
TORD			PP	PP	12 26 21.5	-1.3
	comp=Z,3.1nm,0.9s,baz=46,slow=6.2,SNR=4.4					
ASCN	**Ascension**	**161.64 206**	PFAKE		12 22 40.0	+15
ASCN			LR	LR		
	comp=Z,4μm,20.0s					
DBIC	**Dimbokro**	**162.49 265**	PKP	PKPdf	12 22 25.1	-1.1
	comp=Z,11nm,1.1s,baz=350,slow=6.1,SNR=3.2					
DBIC			PKPab	PKPab	12 23 12.9	-1.1
	comp=Z,8.5nm,0.7s,baz=58,slow=6.0,SNR=4.9					
DBIC			PP	PP	12 27 01.6	+3.0
	comp=Z,19nm,1.3s,baz=55,slow=7.0,SNR=4.6					
LIC	**Lamto**	**162.59 263**	*e*PKP2	PKPab	12 23 10.7	-3.8
	comp=Z,215nm,1.4s					
LIC			*e*MLR	MLR		
	comp=Z,8μm,21.8s					
BBTS	**Babate**	**171.74 316**	PKP	PKPdf	12 22 32.4	-0.5
	comp=Z,33nm,0.8s,baz=46,slow=0.8,SNR=5.2					

MOS ***02*** *12:09:00.0±0.7, 55.07N×162.40E, h16km, mb4.3/1, Error ellipse: s-maj=28.1km s-min=12.8km az=76.4*

KRSC 02 12:09:01.9±0.4, 55.12N×162.16E, h19km±18km, ML4.1, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**0.62**	**204**	*i* P	Pb	12 09 14.1	+0.1
MKZ				*i* S	Sb	12 09 22.7	+0.4
KBTR	**Krutoberegovo**	**1.15**	**19**	*i* P	Pn	12 09 21.6	-1.4
KBTR				*i* S	Sb	12 09 35.8	-1.9
TUMR	**Tumrok**	**1.17**	**279**	*e*P	Pn	12 09 24.5	+1.4
TUMR				*i* S	Sb	12 09 41.4	+3.3
ZLN	**Zelenaya**	**1.18**	**320**	*e*P	Pn	12 09 24.5	+1.1
ZLN				*i* S	Sb	12 09 41.5	+2.9
BZMR	**Bezymyannaya**	**1.25**	**311**	*e*P	Pn	12 09 25.0	+0.7
BZMR				*e*S	Sb	12 09 42.0	+1.4
KMNR	**Kamenistaya**	**1.27**	**301**	*e*P	Pn	12 09 25.8	+1.3
KMNR				*i* S	Sn	12 09 43.0	+2.0
KPT	**Kopyto**	**1.39**	**308**	P	Pn	12 09 27.2	+1.0
KPT				*i* S	Sn	12 09 45.5	+1.5
KRSR	**Krestovskiy**	**1.42**	**321**	*e*P	Pn	12 09 27.4	+0.7
KRSR				*e*S	Sn	12 09 45.6	+0.8
KLY	**Klyuchi**	**1.47**	**325**	*e*P	Pn	12 09 26.6	-0.7
KLY				*i* S	Sn	12 09 44.9	-1.1
BDR	**Baidarnaya**	**1.55**	**340**	*i* P	Pn	12 09 29.3	+0.9
BDR				*i* S	Sn	12 09 49.3	+1.4
KOZR	**Kozyr**	**1.60**	**307**	PN	Pn	12 09 30.6	+1.5
KOZR				S	Sn	12 09 50.9	+1.8
KOZ	**Kozyrevsk**	**1.60**	**307**	*e*P	Pn	12 09 30.6	+1.5
KOZ				*i* S	Sn	12 09 50.9	+1.6
SRKR	**Sorokina**	**1.64**	**340**	*e*P	Pn	12 09 30.3	+0.7
SRKR				*i* S	Sn	12 09 51.1	+1.0
SRDR	**Sredinnyy**	**1.83**	**312**	*e*P	Pn	12 09 33.5	+1.2
SRDR				*e*S	Sn	12 09 56.9	+2.0
KII	**Karymskiy**	**1.92**	**237**	P	Pn	12 09 34.7	+1.3
KII				*i* S	Sn	12 09 58.4	+1.4
NLC	**Nalytchevo**	**2.56**	**221**	*e*P	Pn	12 09 42.6	+0.3
NLC				*i* S	Sn	12 10 12.8	-0.1
AVH	**Avacha**	**2.74**	**229**	*e*P	Pn	12 09 46.7	+2.0
AVH				*i* S	Sn	12 10 19.0	+1.7
GNL	**Ganaly**	**2.85**	**242**	*e*P	Pn	12 09 48.6	+2.3
GNL				*i* S	Sn	12 10 22.2	+2.2
PET	**Petropavlovsk**	**2.95**	**226**	*e*PN	Pn	12 09 49.1	+1.5
PET				*e*S	Sn	12 10 24.6	+2.2
PET				pmax	pmax		
	comp=Z,66nm,0.8s						
PET				smax			
	comp=E,314nm,0.4s						
PET	**Petropavlovsk**	**2.95**	**226**	*e*P	Pn	12 09 49.0	+1.4
PET				*i* S	Sn	12 10 23.6	+1.2
RUS	**Russkaya**	**3.45**	**220**	*e*P	Pn	12 09 54.6	0.0
RUS				*i* S	Sn	12 10 34.4	-0.5
GRL	**Gorelyy**	**3.53**	**225**	P	Pn	12 09 57.9	+2.2
GRL				*i* S	Sn	12 10 39.0	+2.1

NIED ***02*** *12:19:00, 44.40N×149.60E, h23km, Mw5.2 Best double couple: M0=7.88000×10^16 NP1:φ=23.00000°, δ=54.00000°, λ=81.00000°. NP2:φ=218.00000°, δ=37.00000°, λ=102.00000°.*

JMA ***02*** *12:19:16.2±0.6, 44.38N×149.60E, h30km, M5.5*

SKHL ***02*** *12:19:17.1±1.9, 44.30N×149.40E, h49km±8km, mb5.2/6, mbv6.0/1, ms5.3/2, msh6.4/1*

IDC ***02*** *12:19:18.1±2.8, 44.29N×149.22E, h17km±16km, mb4.6/27, mb1 4.7/30, mb1mx4.7/33, mbtmp4.6/30, ML3.7/3, MS5.5/3, Ms1 5.5/3, ms1mx4.5/35, Error ellipse: s-maj=15.0km s-min=12.5km az=133.0*

BJI ***02*** *12:19:19.7, 44.33N×149.14E, h38km, mB5.7, mb5.1, Ms5.3, Msz5.1*

MOS ***02*** *12:19:19.5±1.5, 44.15N×149.16E, h43km, mb5.4/74, MS5.0/11, Error ellipse: s-maj=17.2km s-min=5.2km az=107.9*

ISCJB ***02*** *12:19:19.9±0.1, 44.10N±0.03×149.23E±0.02, h46km, mb5.1/151, MS5.2/12, Error ellipse: s-maj=4.4km s-min=1.8km az=164.4*

SZGRF ***02*** *12:19:21.8, 44.42N×149.82E, h50km, mb5.4, MS5.7, Kuril Islands, Russia*

NEIC ***02*** *12:19:22.3±0.2, 44.20N×149.17E, mb5.3/77, Error ellipse: s-maj=6.6km s-min=3.6km az=163.0*

ISC 02 12:19:22.1±0.1, 44.12N±0.03×149.21E±0.02, h48km, h48km±.7km: pP-P, n657, σ0.9s/87/674, mb5.1/151, MS5.2/12, 109C-113D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.47**	**320**	*e*P	**Pn**	**12 19 41.8**	**-4.3**
KUR				⇓*i*P		12 19 41.8	
KUR				*e*S	**Sn**	**12 20 00.5**	**-3.6**
KUR				A		12 20 04.0	
	52μm,1.8s						
KUR				A		12 20 04.0	
	60μm,1.8s						
YUK	**Yuzh-Kuril'sk**	**2.41**	**269**	*e*PN	**Pn**	**12 19 57.4**	**-1.6**
YUK				*e*		12 20 23.5	
YUK				pmax	pmax		
	comp=Z,880nm,0.4s						
YUK				pmax	pmax		
	comp=E,5μm,1.5s						
YUK				pmax	pmax		
	comp=Z,6μm,1.5s						
YUK				smax			
	comp=E,19μm,0.9s						
YUK				smax			
	comp=N,11μm,0.6s						
YUK				smax			
	comp=N,58μm,2.0s						
YUK				smax			
	comp=E,25μm,2.0s						
YUK				MLR	MLR		
	comp=Z,39μm,16.0s						
YUK				MLR	MLR		
	comp=N,32μm,13.0s						
YUK				MLR	MLR		
	comp=E,46μm,13.0s						
YUK	**Yuzh-Kuril'sk**	**2.41**	**269**	*e*P	**Pn**	**12 19 57.4**	**-1.6**
YUK				AMB	AMB	12 20 01.4	
	comp=E,880nm,0.4s						
YUK				AMB	AMB	12 20 04.0	
	comp=E,5μm,1.5s						
YUK				AMB	AMB	12 20 04.0	
	comp=E,6μm,1.5s						
YUK				*i* S	**Sn**	**12 20 33.4**	**+6.1**
YUK				A		12 20 48.8	
	comp=E,11μm,0.6s						
YUK				A		12 20 48.8	
	comp=E,19μm,0.9s						
YUK				A		12 20 49.2	
	comp=E,58μm,2.0s						
YUK				A		12 20 49.2	
	comp=E,25μm,2.0s						
YUK				AMS	AMS	12 21 36.0	
	comp=E,39μm,16.0s						
YUK				AMS	AMS	12 21 36.0	
	comp=E,32μm,13.0s						
YUK				AMS	AMS	12 21 36.0	
	comp=E,46μm,13.0s						
NEM2	**Nemuro 2**	**2.62**	**254**	⇑P	**Pn**	**12 20 00.2**	**-1.7**
NEM2				*e*S	**Sn**	**12 20 33.1**	**+0.6**
JRA	**Rausu**	**2.95**	**268**	P	**Pn**	**12 20 06.1**	**-0.3**
JNK	**Nakash**	**3.29**	**262**	P	**Pn**	**12 20 10.3**	**-0.8**
JAK	**Akkeshi**	**3.47**	**253**	P	**Pn**	**12 20 12.0**	**-1.5**
JAK				*e*S	**Sn**	**12 20 53.5**	**+0.3**
JTKR	**Abashiri--Toko**	**3.82**	**270**	P	**Pn**	**12 20 18.6**	**+0.2**
JAR	**Ashorobuto**	**4.03**	**260**	⇑P	**Pn**	**12 20 21.0**	**-0.2**
JOB	**Onbets**	**4.09**	**255**	P	**Pn**	**12 20 21.6**	**-0.5**
JOB				*e*S	**Sn**	**12 21 09.5**	**+0.8**
JMP	**Maruseppu**	**4.22**	**270**	P	**Pn**	**12 20 24.2**	**+0.4**
JCH	**Churui**	**4.52**	**253**	P	**Pn**	**12 20 27.2**	**-0.7**
JCH				*e*S	**Sn**	**12 21 19.2**	**0.0**
JKK2	**Kamakawa 2**	**4.67**	**269**	P	**Pn**	**12 20 30.8**	**+0.9**
ASAJ	**Asahikawa**	**4.76**	**272**	PN	**Pn**	**12 20 32.4**	**+1.2**
ASAJ				pmax	pmax		
	comp=Z,11nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,20μm,20.0s						
ASAJ	**Asahikawa**	**4.76**	**272**	Pn	**Pn**	**12 20 32.4**	**+1.1**
	comp=Z,11nm,0.3s,baz=89,slow=14,SNR=38						
ASAJ				LR	LR	12 22 38.9	
	comp=Z,20μm,20.0s,baz=100,slow=42						
JSE	**Soyaes**	**4.81**	**282**	P	**Pn**	**12 20 32.4**	**+0.5**
JFR	**Furan**	**4.89**	**261**	P	**Pn**	**12 20 33.6**	**+0.5**
ERM	**Erimo**	**4.91**	**247**	*e*Pn	**Pn**	**12 20 32.8**	**-0.4**
ERM	**Erimo**	**4.91**	**247**	*e*PN	**Pn**	**12 20 33.7**	**+0.5**
JEM	**Erimo**	**4.91**	**247**	P	**Pn**	**12 20 33.8**	**+0.6**
JNBK	**Urakawa-nobuka**	**5.07**	**251**	P	**Pn**	**12 20 34.6**	**-0.8**
JAB	**Ashibetsu**	**5.09**	**265**	P	**Pn**	**12 20 37.4**	**+1.6**
JBT2	**Biratori 2**	**5.16**	**257**	P	**Pn**	**12 20 36.0**	**-0.7**
JSS	**Shosan**	**5.29**	**276**	P	**Pn**	**12 20 41.1**	**+2.6**
JWK2	**Keihoku**	**5.34**	**285**	P	**Pn**	**12 20 42.0**	**+2.8**
YSS	**Yuzh-Sakhalins**	**5.34**	**304**	*e*Pn	**Pn**	**12 20 39.0**	**-0.2**
YSS	**Yuzh-Sakhalins**	**5.34**	**304**	⇑*e*PN	**Pn**	**12 20 38.4**	**-0.8**
YSS				*i* S	**Sn**	**12 21 37.9**	**-1.5**
YSS				pmax	pmax		
	comp=Z,40nm,1.1s						
YSS				smax			
	comp=N,190nm,1.0s						
YSS				smax			
	comp=E,270nm,1.1s						
YSS				MLR	MLR		
	comp=N,6μm,17.0s						
YSS				MLR	MLR		
	comp=E,16μm,17.0s						
YSS				MLR	MLR		
	comp=Z,18μm,17.0s						
YSS	**Yuzh-Sakhalins**	**5.34**	**304**	⇑*e*P	**Pn**	**12 20 38.4**	**-0.8**
YSS				AMB	AMB	12 20 39.5	
	comp=Z,40nm,1.1s						
YSS				pP		12 20 51.1	
YSS				*i* S	**Sn**	**12 21 37.9**	**-1.5**
YSS				A		12 21 39.3	
	comp=Z,270nm,1.1s						
YSS				A		12 21 39.3	
	comp=Z,190nm,1.0s						
YSS				*e*LQ		12 22 04.0	
YSS				*e*LR	LR	12 22 23.0	
YSS				AMS	AMS	12 22 52.0	
	comp=Z,18μm,17.0s						
YSS				AMS	AMS	12 22 52.0	
	comp=Z,6μm,17.0s						
YSS				AMS	AMS	12 22 52.0	
	comp=Z,16μm,17.0s						
JHR	**Hokuryu**	**5.42**	**269**	P	**Pn**	**12 20 41.9**	**+1.7**
JEW	**Eniwo**	**5.79**	**260**	P	**Pn**	**12 20 46.3**	**+1.0**
JNB	**Noboribetsu**	**6.19**	**257**	P	**Pn**	**12 20 50.7**	**-0.1**
JKB	**Kayabe**	**6.40**	**252**	P	**Pn**	**12 20 53.0**	**-0.7**
JKB				*e*S	**Sn**	**12 22 01.8**	**-3.5**
JYM2	**Yakumo 2**	**6.77**	**256**	P	**Pn**	**12 20 58.3**	**-0.5**
JANG	**Nango**	**6.83**	**239**	P	**Pn**	**12 20 57.1**	**-2.5**
JANG				*e*S	**Sn**	**12 22 09.5**	**-6.4**
JSH	**Shimam**	**6.84**	**261**	P	**Pn**	**12 21 00.5**	**+0.8**
JTM	**Tenmabayashi**	**6.88**	**244**	P	**Pn**	**12 20 58.9**	**-1.4**
JTM				*e*S	**Sn**	**12 22 12.4**	**-4.8**
JTH	**Tanohata**	**6.88**	**235**	P	**Pn**	**12 20 57.0**	**-3.3**
JTH				*e*S	**Sn**	**12 22 09.1**	**-8.1**
JSR	**Shiriuchi**	**6.96**	**251**	P	**Pn**	**12 21 00.9**	**-0.5**
UGL	**Uglegorsk**	**6.98**	**318**	*e*PN	**Pn**	**12 21 03.0**	**+1.3**
UGL				pmax	pmax		
	comp=Z,120nm,1.0s						
UGL				MLR	MLR		
	comp=N,18μm,17.0s						
UGL				MLR	MLR		
	comp=Z,16μm,17.0s						
UGL				MLR	MLR		
	comp=E,8μm,15.0s						
UGL	**Uglegorsk**	**6.98**	**318**	*e*P	**Pn**	**12 21 03.0**	**+1.3**
UGL				AMB	AMB	12 21 07.0	
	comp=E,120nm,1.0s						
UGL				sP		12 21 24.2	
UGL				*e*L		12 23 14.0	
UGL				AMS	AMS	12 24 00.0	
	comp=E,18μm,17.0s						
UGL				AMS	AMS	12 24 00.0	
	comp=E,16μm,17.0s						
UGL				AMS	AMS	12 24 00.0	
	comp=E,8μm,15.0s						
JOSM	**Okushiri--Mats**	**7.41**	**257**	P	**Pn**	**12 21 07.1**	**-0.4**
OFUJ	**Ofunato**	**7.57**	**231**	P	**Pn**	**12 21 06.9**	**-2.8**
OFUJ				*e*S	**Sn**	**12 22 26.6**	**-7.5**
JRG	**Rokugo**	**7.96**	**237**	P	**Pn**	**12 21 13.8**	**-1.3**
JRG				*e*S	**Sn**	**12 22 39.6**	**-4.1**
SKR	**Severo-Kuril's**	**8.06**	**33**	*e*P	**Pn**	**12 21 11.1**	**-5.3**
SKR				AMB	AMB	12 21 17.0	
	comp=E,250nm,1.0s						
SKR				AMB	AMB	12 21 17.0	
	comp=E,220nm,1.0s						
SKR				AMB	AMB	12 21 17.0	
	comp=E,400nm,1.0s						
SKR				*e*S	**Sn**	**12 22 38.0**	**-8.1**
SKR				A		12 22 48.5	
	comp=E,200nm,0.9s						
SKR				A		12 22 48.5	
	comp=E,160nm,0.9s						
SKR				A		12 22 48.5	
	comp=E,110nm,0.7s						
TYV	**Tymovskoe**	**8.07**	**329**	*e*P	**Pn**	**12 21 16.2**	**-0.3**
TYV				AMB	AMB	12 21 22.2	
	comp=E,28nm,0.8s						
TYV				AMB	AMB	12 21 22.2	
	comp=E,55nm,0.8s						
TYV				AMB	AMB	12 21 22.2	
	comp=E,60nm,0.8s						
JIO	**Ouri**	**8.19**	**229**	P	**Pn**	**12 21 14.5**	**-3.7**
JIO				*e*S	**Sn**	**12 22 40.9**	**-8.4**
TEY	**Ternei**	**9.05**	**280**	*e*P	**Pn**	**12 21 30.0**	**+0.1**
TEY				AMS	AMS	12 25 33.0	
	comp=E,8μm,15.0s						
TEY				AMS	AMS	12 25 33.0	
	comp=E,13μm,15.0s						
TEY				AMS	AMS	12 25 33.0	
	comp=E,6μm,14.0s						
JFK	**Kawauchi**	**9.24**	**226**	P	**Pn**	**12 21 29.4**	**-3.3**
JFK				*e*S	**Sn**	**12 23 04.4**	**-11**
OKH	**Okha**	**10.30**	**339**	*e*P	**Pn**	**12 21 45.1**	**-1.9**
OKH				AMB	AMB	12 21 46.0	
	comp=E,3μm,8.0s						
OKH				*e*S	**Sn**	**12 23 41.8**	**+0.9**
NKL	**Nikolayevsk**	**10.64**	**331**	*e*P	**Pn**	**12 21 47.2**	**-4.5**

comp=Z,6µm,17.0s
ZEA Zeya 17.28 312 *e*P **Pn 12 23 15.0 -4.6**
ZEA AMB AMB 12 23 19.3
comp=Z,44nm,0.9s
ZEA AMB AMB 12 23 19.3
comp=Z,47nm,1.0s
ZEA AMB AMB 12 23 19.3
comp=Z,52nm,1.0s
KSRS Korea Array 17.42 255 P **Pn 12 23 20.1 -1.4**
comp=Z,0.2nm,0.3s,baz=60,slow=12,SNR=5.5
CBIJ Chichi jima 17.91 201 S Sx 12 26 30.3
comp=Z,4.4nm,0.3s,baz=270,slow=20,SNR=4.1
JNU Nakatsue 18.01 239 P **Pn 12 23 28.3 -0.5**
comp=Z,0.2nm,0.3s,baz=359,slow=13,SNR=2.1
INCN Inchon 18.30 257 *e*Pn **Pn 12 23 32.3 -0.1**
SEY Seymchan 18.94 4⇑*e*P **Pn 12 23 35.3 -4.5**
CLNS Chul'man 19.90 318 *e*P **Pn 12 23 47.2 -4.0**
CLNS *e*S **S 12 27 22.1 -8.3**
CLNS pmax pmax
comp=Z,28nm,1.1s
CLNS pmax pmax
comp=N,21nm,1.2s
CLNS pmax pmax
comp=E,14nm,1.0s
CLNS smax
comp=N,12nm,1.0s
CLNS smax
comp=E,14nm,1.0s
CLNS smax
comp=Z,7.0nm,1.0s
CLNS MLR MLR
comp=N,4µm,15.0s
CLNS MLR MLR
comp=Z,9µm,15.0s
CLNS MLR MLR
comp=E,2µm,14.0s
HIA Hailar 20.78 295 *e*P **P 12 23 57.7 -1.2**
comp=E,24nm,0.9s
HIA Hailar 20.78 295 *e*P **P 12 23 57.7 -1.2**
HIA pmax pmax
comp=Z,24nm,0.9s
DL2 Dalian 21.25 265 P **P 12 24 04.0 0.0**
DL2 AMB AMB
comp=Z,50nm,1.3s,mb4.7
DL2 LR LR
comp=N,3µm,21.5s,MS4.7
DL2 LR LR
comp=E,2µm,23.6s,MS4.7
DL2 LR LR
comp=Z,5µm,20.4s,MS4.9
YAK Yakutsk 21.28 334 *e*P **P 12 24 01.2 -2.9**
comp=Z,298nm,1.3s,mb5.5
YAK Yakutsk 21.28 334 *e*P **P 12 24 00.6 -3.5**
YAK *e*S **S 12 27 51.8 -5.8**
YAK *e*SS 12 28 11.2
YAK *e*SSS 12 28 38.2
YAK *e* 12 35 24.0
YAK pmax pmax
comp=Z,83nm,0.9s,mb5.1
YAK pmax pmax
comp=N,33nm,1.0s
YAK pmax pmax
comp=E,27nm,1.0s
YAK smax
comp=N,586nm,5.9s
YAK smax
comp=E,291nm,4.3s
YAK MLR MLR
comp=N,3µm,20.0s,MS4.9
YAK MLR MLR
comp=Z,4µm,20.0s,MS4.8
YAK MLR MLR
comp=E,3µm,16.0s,MS4.9
BJI Beijing 24.76 272 P **P 12 24 39.1 +0.1**
BJI AMB AMB
comp=Z,54nm,1.4s,mb4.9
BJT Baijiatuau 24.77 272 *e*P **P 12 24 39.4 +0.2**
comp=Z,84nm,1.1s,mb5.2
BJT Baijiatuau 24.77 272 *e*P **P 12 24 39.4 +0.2**
BJT pmax pmax
comp=Z,84nm,1.1s
CIT Chita 24.90 301 *e*P **P 12 24 37.9 -2.3**
BILL Bilibino 25.61 15⇓*e*P **P 12 24 41.7 -4.8**
BILL *e* pP 12 24 51.5 -7.3
BILL pmax pmax
comp=Z,12nm,1.1s,mb4.3
TIA Tai'an 25.64 263 *e*P **P 12 24 47.6 +0.5**
TIA AMB AMB
comp=Z,67nm,1.0s,mb5.1
BOD Bodaibo 25.71 315 *e*P **P 12 24 40.3 -7.2**
BOD pmax pmax
comp=Z,14nm,1.0s,mb4.5
HHC Hu-ho-hao-te 27.79 276⇑*i*P **P 12 25 07.4 +1.0**
HHC AP pP 12 25 19.0 +0.2
HHC XP sP 12 25 25.2 +0.7
HHC PP PP 12 25 56.7 -13
HHC S **S 12 29 48.0 +2.1**
HHC XS sS 12 30 05.4 -1.4
HHC SS 12 31 04.8
HHC SCP ScP 12 31 59.2 +0.9
HHC PCS PcS 12 32 04.6 +1.0
HHC AMB AMB
comp=Z,76nm,1.4s,mb5.1
HHC AMB AMB
comp=Z,1µm,9.9s
HHC LR LR
comp=N,3µm,15.6s,MS5.2
HHC LR LR
comp=E,4µm,16.1s,MS5.2
HHC LR LR
comp=Z,5µm,17.8s,MS5.1
BTO Baotou 28.98 277 *e*P **P 12 25 18.0 +1.0**
TIXI Tiksi 29.32 347 *e*P **P 12 25 17.0 -2.7**
comp=Z,67nm,2.1s,mb5.0
TIXI Tiksi 29.32 347⇑*e*P **P 12 25 15.0 -4.6**
TIXI pmax pmax
comp=Z,9.0nm,0.9s,mb4.5
SONM Songino Array 29.70 292 P **P 12 25 23.3 0.0**
SONM 12 32 06.6
SONM pmax pmax
comp=Z,6.0nm,0.8s
SONM Songino Array 29.70 292 P **P 12 25 23.3 0.0**
comp=Z,6.3nm,0.8s,mb4.4,baz=79,slow=7.9,SNR=24
SONM ScP ScP 12 32 06.6 +2.4
comp=Z,1.2nm,0.9s,baz=105,slow=2.2,SNR=4.0
TLY Talaya 31.04 300 *e*P **P 12 25 34.9 -0.2**
TLY Talaya 31.04 300 *e*P **P 12 25 34.4 -0.7**
TLY pmax pmax
comp=Z,17nm,1.4s,mb4.7
ZAK Zakamensk 31.39 298 *e*P **P 12 25 37.2 -0.9**
ZAK *e* 12 28 30.2
ZAK pmax pmax
comp=Z,6.0nm,1.2s,mb4.3
TNA Tin City 31.74 33 *e*P **P 12 25 41.0 -0.1**
comp=Z,29nm,1.2s,mb5.0
TNA *e*pP pP 12 25 53.0 -0.4
XAN Xi'an 32.57 266 P **P 12 25 48.7 0.0**
XAN AP pP 12 25 56.8 -4.4
XAN AMB AMB
comp=Z,9.0nm,0.8s,mb4.8
MOY Mondy 32.68 301 *e*P **P 12 25 49.9 +0.4**
LZH Lanzhou 35.24 273⇑P **P 12 26 12.9 +1.0**
LZH AP pP 12 26 25.7 +1.3
LZH XP sP 12 26 30.5 +0.4
LZH PP PP 12 27 32.5 +0.1
LZH *e*S **S 12 31 41.5 -0.6**
LZH XS sS 12 32 03.0 -0.2
LZH SS SS 12 33 58.0 -18
LZH AMB AMB
comp=Z,189nm,1.3s,mb5.9
LZH AMB AMB
comp=Z,689nm,5.0s
LZH LR LR
comp=N,4µm,13.8s
LZH LR LR
comp=Z,4µm,14.0s,MS5.3
LZH Lanzhou 35.24 273⇑P **P 12 26 12.9 +1.0**
LZH *PP pP 12 26 25.7 +1.3
LZH *SP sP 12 26 30.5 +0.4
LZH 12 27 32.5
LZH *e*S **S 12 31 41.5 -0.6**
LZH *SS sS 12 32 03.0 -0.2
LZH SS SS 12 33 58.0 -18
TTA Tatalina 36.20 39 *e*P **P 12 26 19.6 -0.2**
SVW2 Sparrevohn 36.29 42 *e*P **P 12 26 20.2 -0.3**

IMA2 Indian Mountai 37.54 34 *e*P **P 12 26 30.0 -1.1**
IMA2 *e*pP pP 12 26 43.3 -0.4
KDAK Kodiak Island 37.90 48 *e*P **P 12 26 33.0 -1.3**
KDAK Kodiak Island 37.90 48 P **P 12 26 32.5 -1.8**
comp=Z,7.9nm,0.7s,mb4.6,baz=274,slow=3.4,SNR=12
CD2 Chengdu 37.92 265 *e*P **P 12 26 35.0 +0.3**
CD2 AP pP 12 26 47.2 -0.2
CD2 XP sP 12 26 52.5 -0.5
CD2 PP PP 12 28 05.8 +3.9
CD2 S **S 12 32 24.5 +1.5**
CD2 SS SS 12 35 03.1 -7.0
CD2 AMB AMB
comp=Z,80nm,0.9s,mb5.5
CD2 AMB AMB
comp=Z,340nm,6.0s
CD2 LR LR
comp=E,2µm,12.0s
CD2 LR LR
comp=Z,2µm,9.5s
GYA Guiyang 38.45 257 P **P 12 26 40.2 +0.9**
GYA AP pP 12 26 53.4 +1.5
GYA XP sP 12 26 58.6 +1.1
GYA PP PP 12 28 12.7 +4.9
GYA PCP PcP 12 28 53.7 +2.1
GYA S **S 12 32 32.0 +0.8**
GYA SCP ScP 12 32 36.8 +1.3
GYA PCS PcS 12 32 42.0 +1.0
GYA XS sS 12 32 54.6 +2.2
GYA SS SS 12 35 13.2 -8.5
GYA SCS ScS 12 36 45.4 -0.4
GYA AMB AMB
comp=Z,10.0nm,0.9s,mb4.5
GYA AMB AMB
comp=Z,90nm,4.6s
GYA LR LR
comp=N,380nm,17.9s,MS4.4
GYA LR LR
comp=E,420nm,18.4s,MS4.4
GYA LR LR
comp=Z,390nm,18.0s,MS4.3
PMR Palmer 39.40 42 *e*P **P 12 26 46.3 -0.4**
comp=Z,21nm,1.1s,mb4.8
PMR *e*pP pP 12 26 59.0 -0.4
PMR Palmer 39.40 42 *e*P **P 12 26 46.3 -0.4**
PMR *e**PP pP 12 26 59.0 -0.4
PMR pmax pmax
comp=Z,21nm,1.1s,mb4.8
MCK McKinley 39.43 38 *e*P **P 12 26 46.7 -0.2**
comp=Z,8.0nm,0.8s,mb4.5
MCK *e*pP pP 12 26 58.7 -0.9
MCK McKinley 39.43 38 *e*P **P 12 26 46.7 -0.2**
MCK *e**PP pP 12 26 58.7 -0.9
MCK pmax pmax
comp=Z,8.0nm,0.8s,mb4.5
SML Sawmill 39.76 41 *e*P **P 12 26 49.5 -0.3**
COLA College 39.89 36 *e*P **P 12 26 51.0 +0.1**
comp=Z,41nm,1.1s,mb5.1
COLA College 39.89 36 *e*P **P 12 26 51.0 +0.2**
COLA pmax pmax
comp=Z,41nm,1.1s,mb5.1
EYAK Cordova Ski Ar 41.12 43 *e*P **P 12 27 02.1 +1.1**
comp=Z,30nm,1.3s,mb4.8
ZALV Zalesovo Beam 41.96 307 P **P 12 27 05.5 -2.5**
ZALV PcP PcP 12 29 01.9 -0.5
ZALV ScP ScP 12 32 51.0 +2.2
ZALV Zalesovo Beam 41.96 307 P **P 12 27 05.5 -2.5**
comp=Z,1.7nm,0.4s,mb4.0,baz=72,slow=9.5,SNR=6.8
ZALV PcP PcP 12 29 01.9 -0.5
comp=Z,9.1nm,0.8s,baz=64,slow=3.4,SNR=10
ZALV ScP ScP 12 32 51.0 +2.2
comp=Z,0.5nm,0.3s,baz=42,slow=4.6,SNR=4.2
ZAL Zalesovo 41.98 307 P **P 12 27 05.5 -2.6**
ZAL 12 29 01.9
KMI Kunming 42.05 259 P **P 12 27 09.7 +0.7**
KMI AP pP 12 27 23.2 +1.4
KMI AMB AMB
comp=Z,36nm,1.1s,mb4.9
NVS Novosibirsk 42.65 309 *e*P **P 12 27 11.9 -1.6**
NVS *e* 12 28 57.9
EGAK Eagle 42.76 36 *e*P **P 12 27 13.8 -0.5**
EGAK *e*pP pP 12 27 27.3 +0.2
WMQ Urumqi 43.34 292 P **P 12 27 20.0 +0.7**
WMQ AP pP 12 27 32.0 -0.1
WMQ PP PP 12 29 03.0 +2.6
WMQ S **S 12 33 44.0 +0.6**
WMQ XS sS 12 34 05.0 +0.1
WMQ AMB AMB
comp=Z,90nm,1.2s,mb5.4
WMQ AMB AMB
comp=Z,1µm,7.6s
WMQ LR LR
comp=N,2µm,18.7s,MS5.3
WMQ LR LR
comp=E,3µm,20.8s,MS5.3
WMQ LR LR
comp=Z,2µm,22.4s,MS5.0
DAWY Dawson 43.61 37 *e*P **P 12 27 20.9 -0.3**
INK Inuvik 45.33 31 *e*P **P 12 27 34.6 -0.2**
comp=Z,382nm,0.8s,mb6.3
INK *e*pP pP 12 27 47.8 0.0
INK Inuvik 45.33 31 P **P 12 27 33.1 -1.8**
comp=Z,16nm,1.0s,mb4.8,baz=283,slow=7.0,SNR=29
MK31 Makanchi Array 45.73 298 *e*P **P 12 27 38.2 -0.1**
MKAR Makanchi Array 45.73 298⇓*e*P **P 12 27 38.0 -0.3**
MKAR Makanchi Array 45.73 298 P **P 12 27 38.1 -0.1**
comp=Z,28nm,0.9s,mb5.2,baz=72,slow=7.9,SNR=65
MKAR ScP ScP 12 33 07.5 +3.3
comp=Z,1.1nm,0.7s,baz=77,slow=2.6,SNR=4.2
KURK Kurchatov 46.55 304 *e*P **P 12 27 43.1 -1.6**
comp=Z,7.5nm,0.4s,mb5.0
KURK Kurchatov 46.55 304⇓*e*P **P 12 27 43.8 -0.9**
KURK Kurchatov 46.55 304 P **P 12 27 44.8 +0.1**
SNR=5.3
KURK Kurchatov 46.55 304 P **P 12 27 44.8 +0.1**
SNR=5.3
LSA Lhasa 47.66 273 *e*P **P 12 27 54.7 +1.1**
CHTO Chiang Mai 48.82 255 *e*P **P 12 28 03.3 +0.7**
comp=Z,46nm,1.3s,mb5.3
CHTO *e*pP pP 12 28 16.6 +1.0
CHTO Chiang Mai 48.82 255 *e*P **P 12 28 03.3 +0.7**
CHTO *e**PP pP 12 28 16.6 +1.0
CHTO pmax pmax
comp=Z,46nm,1.3s,mb5.3
CHTO Chiang Mai 48.82 255 P **P 12 28 04.6 +2.0**
SNR=8.9
CHTO Chiang Mai 48.82 255 P **P 12 28 04.6 +2.0**
SNR=8.9
DLBC Dease Lake 49.40 43 *e*P **P 12 28 06.3 -0.2**
BRVK Borovoye 50.46 310 *e*P **P 12 28 14.3 -0.4**
comp=Z,8.7nm,0.8s,mb4.8
BRVK Borovoye 50.46 310 *e*P **P 12 28 14.3 -0.4**
BRVK pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
ULHL Ulahol 51.59 295 P **P 12 28 24.2 +0.9**
SNR=24
TKM2 Tokmak 2 51.68 296 *e*P **P 12 28 24.6 +0.6**
comp=Z,90nm,1.1s,mb5.6
TKM2 *e*pP pP 12 28 37.8 +0.7
TKM2 Tokmak 2 51.68 296 *e*P **P 12 28 24.6 +0.6**
TKM2 *e**PP pP 12 28 37.8 +0.7
TKM2 pmax pmax
comp=Z,90nm,1.1s,mb5.6
TKM2 Tokmak 2 51.68 296 P **P 12 28 25.0 +0.9**
SNR=54
CHMS Chumysh 52.19 297 P **P 12 28 28.2 +0.3**
SNR=12
USP Ospenovka 52.23 297 P **P 12 28 28.5 +0.5**
SNR=67
KBK Karagaybulak 52.23 296 P **P 12 28 29.0 +0.9**
SNR=35
KZA Kyzart 52.31 295 P **P 12 28 30.6 +1.9**
SNR=48
FRU Bishkek 52.36 296 *e*P **P 12 28 29.0 -0.1**
FRU *e* pP 12 28 41.0 -1.2
FRU pmax pmax
comp=Z,100nm,1.4s,mb5.5
JIRN Jiri 52.40 274 *e*P **P 12 28 30.3 +0.8**
comp=Z,157nm,1.2s,mb5.8
AAK Ala-Archa 52.53 296 *e*P **P 12 28 29.6 -0.8**
AAK Ala-Archa 52.53 296 P **P 12 28 30.2 -0.1**
SNR=9.7
AAK Ala-Archa 52.53 296 P **P 12 28 30.2 -0.1**
SNR=9.7
AAK Ala-Archa 52.53 296 P **P 12 28 30.7 +0.3**
SNR=36

UCH Uchtor 52.72 296 *e*P **P 12 28 32.3 +0.5**
comp=Z,13nm,0.9s,mb4.9
UCH Uchtor 52.72 296 P **P 12 28 31.7 0.0**
SNR=12
KKN Kakani 52.97 275 *e*P **P 12 28 34.4 +0.6**
comp=Z,121nm,1.2s,mb5.7
EKS2 Erkin-Say 52.98 297 *e*P **P 12 28 34.1 +0.4**
comp=Z,54nm,0.9s,mb5.5
EKS2 Erkin-Say 52.98 297 P **P 12 28 34.4 +0.7**
SNR=43
AML Almayashu 53.30 296 *e*P **P 12 28 37.2 +1.2**
comp=Z,47nm,1.0s,mb5.4
AML Almayashu 53.30 296 P **P 12 28 37.3 +1.3**
SNR=38
GKN Gorkha 53.31 275 *e*P **P 12 28 36.6 +0.3**
comp=Z,252nm,1.3s,mb6.0
SVE Sverdlovsk 53.89 317 *e*P **P 12 28 39.4 -0.7**
SVE *e* 12 29 45.6
SVE *e*PPP 12 31 48.4
SVE pmax pmax
comp=Z,24nm,1.0s,mb5.1
SVE MLR MLR
comp=Z,5µm,19.0s,MS5.6
RES Resolute Bay 54.18 17 *e*P **P 12 28 41.8 -0.2**
HNR Honiara 54.18 167 LR LR 12 49 29.4
comp=Z,4µm,18.2s,MS5.5,baz=74,slow=33
KOLN Koldanda 54.19 276 *e*P **P 12 28 43.5 +0.8**
comp=Z,121nm,1.2s,mb5.7
YKW3 Yellowknife Ar 54.62 34 *e*P **P 12 28 45.2 -0.1**
YKA Yellowknife Ar 54.66 34 P **P 12 28 44.7 -0.9**
YKA Yellowknife Ar 54.66 34 P **P 12 28 44.7 -0.9**
YKA pmax pmax
comp=Z,2.0nm,0.7s
YKA Yellowknife Ar 54.66 34 P **P 12 28 44.7 -0.9**
comp=Z,1.9nm,0.7s,mb4.2,baz=297,slow=6.8,SNR=28
ARU Arti 55.09 317 *e*P **P 12 28 48.4 -0.3**
comp=Z,2.8nm,1.1s,mb4.2
ARU Arti 55.09 317 *d i*P **P 12 28 47.8 -1.0**
ARU *e* 12 29 45.9
ARU *e* 12 30 47.2
ARU *e*PPP 12 32 04.2
ARU *e*S **S 12 36 29.0 +1.4**
ARU *e*SS SS 12 40 12.6 +1.3
ARU pmax pmax
comp=Z,33nm,1.2s,mb5.2
LGTI Lohaghat 55.61 279 *e*P **P 12 28 54.0 +1.1**
SMLA Simla 56.82 283 *e*P **P 12 29 01.8 +0.2**
SMLA AMb AMB 12 29 04.3
comp=Z,137nm,0.8s,mb6.0
KULM Kulim 57.44 242 *e*P **P 12 29 07.9 +1.8**
NDI New Delhi 58.20 281 *e*P **P 12 29 11.0 -0.3**
NDI *e*P 12 29 11.4
NDI AMb AMB 12 29 13.9
comp=Z,79nm,1.0s,mb5.7
E03A Lebam 58.26 54⇑P **P 12 29 11.5 0.0**
baz=58
BLSP Bilaspur 58.67 271 *e*P **P 12 29 14.2 -0.5**
BLSP AMb AMB 12 29 16.7
comp=Z,28nm,1.1s,mb5.2
A07A Ashnola River, 58.73 50⇓P **P 12 29 14.8 +0.1**
baz=58
DAG Danmarks Havn 59.14 357 *e*P **P 12 29 16.3 -0.8**
DAG pmax pmax
comp=Z,2.0nm,0.6s,mb4.3
DAG Danmarks Havn 59.14 357 *i* P **P 12 29 16.3 -0.8**
comp=Z,2.0nm,0.6s,mb4.3
TMCR Tamitsa 59.36 332 *e*P **P 12 29 10.8 -8.0**
ARCES ARCESS Array B 59.41 340 P **P 12 29 17.8 -1.3**
ARCES pmax pmax
comp=Z,6.0nm,0.9s
ARCES ARCESS Array B 59.41 340 P **P 12 29 17.8 -1.3**
comp=Z,6.2nm,0.9s,mb4.6,baz=36,slow=6.7,SNR=7.0
C07A Waterville 59.65 52⇑P **P 12 29 21.5 +0.4**
baz=59
B08A Colville Reser 59.69 51⇓P **P 12 29 21.7 +0.4**
baz=59
E06A Yakima 59.76 53⇓P **P 12 29 22.4 +0.5**
baz=59
A09A Danville 59.76 50⇑P **P 12 29 22.4 +0.6**
baz=59
H04A Detroit Lake 60.09 55⇑P **P 12 29 25.2 +1.1**
baz=60,SNR=6.6
EDM Edmonton 60.12 43 *e*P **P 12 29 23.5 -0.6**
C09A Chrisman Ranch 60.59 51⇑P **P 12 29 27.5 0.0**
baz=60
VIS Vishakhapatnam 60.63 267 *e*P **P 12 29 29.5 +1.3**
VIS AMb AMB 12 29 42.6
comp=Z,28nm,1.2s,mb5.3
D08A Wollman Farm, 60.65 52⇓P **P 12 29 27.5 -0.4**
baz=60
G06A Carlson Farm, 60.69 54⇓P **P 12 29 27.4 -0.8**
baz=60
G07A Ruggs Ranch, H 61.23 54⇓P **P 12 29 31.2 -0.7**
baz=61
BHPL Bhopal 61.36 275 *e*P **P 12 29 33.1 0.0**
BHPL AMb AMB 12 29 35.5
comp=Z,61nm,1.0s,mb5.7
YBH Yreka Blue Hor 61.44 58⇓P **P 12 29 32.9 -0.5**
baz=61
J05A Fort Rock 61.44 56⇓P **P 12 29 32.8 -0.5**
baz=61
NGP Nagpur 61.51 273 *e*P **P 12 29 34.5 +0.4**
NGP AMb AMB 12 29 34.5
comp=Z,53nm,1.5s,mb5.5
I06A Prineville 61.67 55⇑P **P 12 29 34.1 -0.8**
baz=61
M04C Macdoel 61.94 58⇑P **P 12 29 36.6 -0.1**
baz=62
K05A Summer Lake 61.97 57⇑P **P 12 29 37.0 +0.1**
baz=62
I07A Izee 62.01 55⇑P **P 12 29 36.5 -0.7**
baz=62
M03C McCloud 62.06 59⇓P **P 12 29 37.6 0.0**
baz=62
J06A Christmas Vall 62.11 56⇓P **P 12 29 37.1 -0.8**
baz=62
WDC Whiskeytown Da 62.21 59⇓P **P 12 29 38.6 0.0**
baz=62
F10A Beach Ranch, E 62.23 52⇑P **P 12 29 37.9 -0.7**
baz=62
H08A Prairie City 62.25 54⇓P **P 12 29 39.2 +0.4**
baz=62
O02C Red Bluff 62.29 60⇑P **P 12 29 38.9 -0.2**
baz=62
K06A Valley Falls 62.31 56⇓P **P 12 29 39.3 +0.1**
baz=62
B13A Whitefish 62.35 48⇓P **P 12 29 39.1 -0.3**
baz=62
P01C Double 8 Ranch 62.36 61⇑P **P 12 29 39.8 +0.3**
baz=62
L05A Lakeview 62.40 57⇑P **P 12 29 39.8 0.0**
baz=62
JOF Joensuu 62.45 333 *e*p **P 12 29 37.8 -2.0**
comp=Z,13nm,0.4s,mb5.4
JOF Joensuu 62.45 333 *e*P **P 12 29 37.8 -2.0**
JOF pmax pmax
comp=Z,13nm,0.4s,mb5.4
J07A Hines 62.54 55⇓P **P 12 29 40.9 +0.2**
baz=62
E11A Bogner Ranch, 62.58 51⇓P **P 12 29 40.2 -0.7**
baz=62
M05C Lookout 62.61 58⇑P **P 12 29 40.7 -0.5**
baz=62
D12A Red Ives Fores 62.64 50⇓P **P 12 29 40.6 -0.7**
baz=62
I08A Drewsey 62.66 54⇓P **P 12 29 41.0 -0.6**
baz=62
G10A Bishop Farm, J 62.69 52⇑P **P 12 29 41.3 -0.3**
baz=62
C13A Hot Springs 62.70 49⇑P **P 12 29 41.3 -0.4**
baz=62
HOPS Hopland 62.80 61⇓P **P 12 29 43.0 +0.4**
baz=62
F11A Grangeville 62.88 51⇓P **P 12 29 43.1 +0.1**
baz=62
K07A Rock Creek Ran 62.98 56⇑P **P 12 29 43.2 -0.4**
baz=63
J08A Circle Bar Ran 63.04 55⇓P **P 12 29 43.3 -0.8**
baz=63
C14A Swan Lake 63.09 49⇑P **P 12 29 43.7 -0.6**
baz=63
G11A Walters Elk Ra 63.11 52⇑P **P 12 29 43.9 -0.6**
baz=63
D13A Huson 63.11 50⇓P **P 12 29 43.5 -1.0**
baz=63
M06C Likely Place G 63.11 58⇓P **P 12 29 44.4 -0.1**
baz=63

AKL **Akola** 63.26 273 *eP* P 12 29 46.1 +0.3
MNRC **McLaughlin Nat** 63.27 61 ⇑P P 12 29 45.5 -0.1
baz=63
H10A **Noah's Angus R** 63.32 53 ⇑P P 12 29 45.0 -0.8
baz=63
L07A **Adell** 63.32 56 ⇑P P 12 29 45.0 -0.9
baz=63
K08A **Mann Creek Ran** 63.40 55 ⇓P P 12 29 45.8 -0.7
baz=63
ORV **Oroville** 63.45 60 ⇑P P 12 29 46.0 -0.8
baz=63
F12A **Elk City** 63.47 51 ⇑P P 12 29 45.9 -1.0
baz=63
J09A **Fry Pan Ranch,** 63.47 55 ⇓P P 12 29 46.0 -0.9
baz=63
MSO **Missoula** 63.55 50 *eP* P 12 29 47.9 +0.5
comp=Z,30nm,1.3s,mb5.2
D14A **Greenough** 63.64 49 ⇑P P 12 29 46.9 -1.0
baz=63
E13A **Victor** 63.65 50 ⇓P P 12 29 46.4 -1.6
baz=63
H11A **Donnelly** 63.67 52 ⇑P P 12 29 48.1 -0.1
baz=63
N06A **Buffalo Meadow** 63.77 58 ⇓P P 12 29 48.9 0.0
baz=64
M07A **Soldier Meadow** 63.79 57 ⇑P P 12 29 48.8 -0.3
baz=64
L08A **Fields** 63.81 56 ⇓P P 12 29 49.9 +0.7
baz=64
K09A **Rome** 63.87 55 ⇓P P 12 29 49.8 +0.2
baz=64
CHMT **Chamberlain Mo** 63.88 49 *eP* P 12 29 49.6 +0.1
F13A **Darby** 63.96 51 ⇑P P 12 29 50.1 0.0
baz=64
BEKR **Beckwourth** 63.98 59 ⇓P P 12 29 50.7 +0.4
baz=64
E14A **Clinton** 64.05 50 ⇓P P 12 29 50.0 -0.6
baz=64
O06A **Flanigan** 64.12 58 ⇓P P 12 29 51.3 0.0
baz=64
D15A **Lincoln** 64.20 49 ⇑P P 12 29 51.6 0.0
baz=64
M08A **Happy Creek Ra** 64.23 57 ⇓P P 12 29 51.8 -0.1
baz=64
L09A **Wilkinson Ranc** 64.32 56 ⇑P P 12 29 52.6 +0.1
baz=64
K10A **MacKenzie Ranc** 64.33 55 ⇓P P 12 29 52.8 +0.2
baz=64
P06A **Stead Airport,** 64.37 59 ⇑P P 12 29 53.2 +0.3
baz=64
LAVA **Lava Cap Winer** 64.41 60 ⇓P P 12 29 52.9 -0.2
baz=64
H12A **Diamond D Ranc** 64.42 52 ⇑P P 12 29 52.0 -1.1
baz=64
G13A **Cobalt** 64.44 51 ⇑P P 12 29 52.7 -0.6
baz=64
FFC **Flin Flon** 64.51 37 *eP* P 12 29 53.1 -0.4
comp=Z,19nm,0.8s,mb5.2
FFC **Flin Flon** 64.51 37 *eP* P 12 29 53.1 -0.4
FFC pmax pmax
comp=Z,19nm,0.8s,mb5.2
E15A **Deer Lodge** 64.51 49 ⇓P P 12 29 52.8 -0.9
baz=64
KAF **Kangasniemi** 64.64 334 *ep* P 12 29 51.9 -2.3
comp=Z,34nm,1.0s,mb5.3,baz=40,slow=6.3
KAF **Kangasniemi** 64.64 334 *eP* P 12 29 51.9 -2.3
KAF pmax pmax
comp=Z,34nm,1.0s,mb5.3
WCN **Washoe City** 64.69 59 ⇑P P 12 29 54.7 -0.2
baz=64
O07A **Toulon** 64.71 58 ⇑P P 12 29 54.8 -0.2
baz=64
H13A **Challis** 64.75 52 ⇑P P 12 29 55.1 -0.2
baz=64
HRY **Holter Researc** 64.77 49 *eP* P 12 29 55.7 +0.3
N08A **GE Springer Mi** 64.78 57 ⇓P P 12 29 55.6 0.0
baz=64
R05C **Kirkwood Meado** 64.85 60 ⇑P P 12 29 55.8 -0.2
baz=65
FCC **Fort Churchill** 64.95 31 *eP* P 12 29 54.9 -1.4
comp=Z,13nm,0.8s,mb5.0
FCC **Fort Churchill** 64.95 31 *eP* P 12 29 54.9 -1.4
FCC pmax pmax
comp=Z,13nm,0.8s,mb5.0
L10A **Juniper Basin** 64.99 55 ⇓P P 12 29 56.7 -0.2
baz=65
LATR **Latur** 65.05 272 *ex* x 12 29 52.7
CMB **Columbia Colle** 65.06 61 *eP* P 12 29 58.5 +1.1
comp=Z,2.7nm,0.8s,mb4.3
CMB *ep*P pP 12 30 12.1 +1.2
CMB **Columbia Colle** 65.06 61 *eP* P 12 29 58.5 +1.1
CMB *e**PP pP 12 30 12.1 +1.2
CMB pmax pmax
comp=Z,3.0nm,0.8s,mb4.4
CMB **Columbia Colle** 65.06 61 ⇓P P 12 29 57.1 -0.3
baz=65
EGMT **Eagleton** 65.06 47 ⇑P P 12 29 56.8 -0.4
baz=65
N09A **Rock Creek Ran** 65.11 57 ⇑P P 12 29 57.5 -0.1
baz=65
WRA **Warramunga Arr** 65.19 195 P P 12 29 58.6 +0.4
WRA pmax pmax
comp=Z,5.0nm,0.9s
WRA **Warramunga Arr** 65.19 195 P P 12 29 58.6 +0.4
comp=Z,5.4nm,0.9s,mb4.6,baz=15,slow=6.7,SNR=11
FINES **FINESS Array B** 65.21 334 P P 12 29 56.7 -1.3
FINES **FINESS Array B** 65.21 334⇑*eP* P 12 29 56.9 -1.1
FINES **FINESS Array B** 65.21 334 P P 12 29 56.7 -1.2
comp=Z,24nm,0.8s,mb5.3,baz=46,slow=6.6,SNR=41
I13A **Wildhorse Cree** 65.23 52 ⇓P P 12 29 58.4 0.0
baz=65
HLID **Hailey** 65.28 53 *eP* P 12 29 59.6 +0.9
comp=Z,166nm,0.4s,mb6.4
HLID **Hailey** 65.28 53 ⇑P P 12 29 58.3 -0.4
baz=65
R06C **Coleville** 65.35 60 ⇑P P 12 29 59.4 +0.2
baz=65
G15A **Dillon** 65.37 50 ⇓P P 12 29 59.2 -0.1
baz=65
MCMT **McKenzie Canyo** 65.38 51 *eP* P 12 29 59.1 -0.2
J13A **Cove Ranch, Pi** 65.52 53 ⇑P P 12 30 00.2 -0.1
baz=65
BOZ **Bozeman (W)** 65.55 50 *eP* P 12 30 00.2 -0.2
comp=Z,11nm,0.8s,mb5.0
BOZ **Bozeman (W)** 65.55 50 *eP* P 12 30 00.2 -0.2
BOZ pmax pmax
comp=Z,11nm,0.8s,mb4.9
BOZ **Bozeman (W)** 65.55 50 ⇑P P 12 30 00.3 -0.1
baz=65
T05C **Eagle Field, D** 65.57 62 ⇑P P 12 30 00.6 -0.2
baz=65
O09A **Fish Creek Ran** 65.73 57 ⇑P P 12 30 01.9 +0.2
baz=65
M11A **Holland Ranch,** 65.79 55 ⇓P P 12 30 02.6 +0.6
baz=66
L12A **House Creek Ra** 65.80 54 ⇓P P 12 30 02.1 0.0
baz=66
U04C **Hernandez Rese** 65.83 62 ⇓P P 12 30 02.4 0.0
baz=66
OBN **Obninsk** 65.89 324 *eP* P 12 30 01.3 -1.1
OBN *e* pP 12 30 15.0 -0.9
OBN *e* 12 30 30.3
OBN pmax pmax
comp=Z,94nm,1.1s,mb5.7
Q08A **Gabbs** 66.08 59 ⇑P P 12 30 04.4 +0.4
baz=66
NVAR **Mina Array Bea** 66.12 59 P P 12 30 04.7 +0.5
comp=Z,2.4nm,0.7s,mb4.4,baz=281,slow=8.5,SNR=20
P09A **Austin** 66.14 58 ⇓P P 12 30 04.7 +0.4
baz=66
QLMT **Earthquake Lak** 66.17 50 *eP* P 12 30 05.0 +0.6
PKD **Parkfield** 66.24 62 ⇓P P 12 30 05.5 +0.5
baz=66
M12A **Wells** 66.31 55 ⇓P P 12 30 06.1 +0.7
baz=66
VRHR **Novokhopersk** 66.34 319 *eP* P 12 30 05.8 +0.4
VRHR pmax pmax
comp=Z,40nm,0.8s,mb5.5
VRHR pmax pmax
comp=N,10.0nm,0.5s
VRHR pmax pmax
comp=E,6.0nm,0.3s
L13A **Double Diamond** 66.46 54 ⇓P P 12 30 06.4 +0.1
baz=66
P10A **Eureka** 66.51 57 ⇓P P 12 30 06.6 -0.1
baz=66
GCMT **Greycliff** 66.52 48 *eP* P 12 30 07.3 +0.7

Q09A **Carvers** 66.56 58 ⇓P P 12 30 07.0 0.0
baz=66
N12A **Clover Valley,** 66.59 55 ⇑P P 12 30 07.4 +0.2
baz=66
K14A **Jones Ranch, D** 66.62 53 ⇑P P 12 30 07.8 +0.4
baz=66
O11A **Cowboy Ranch,** 66.67 56 ⇑P P 12 30 07.7 0.0
baz=66
HELL **Mitchell Peak** 66.75 61 ⇓P P 12 30 08.4 +0.1
baz=66
S08C **White Mtn Res** 66.78 60 ⇓P P 12 30 07.9 -0.6
baz=66
POO **Poona** 66.93 274 *eP* P 12 30 10.8 +1.2
POO AMb AMB 12 30 12.1
comp=Z,35nm,1.1s,mb5.3
R09A **Tonopah** 66.99 59 ⇓P P 12 30 10.5 +0.7
baz=67,SNR=12
IMW **Indian Meadow** 67.03 51 *eP* P 12 30 10.3 +0.4
comp=Z,33nm,1.2s,mb5.2
Q10A **Clear Creek Ra** 67.04 58 ⇓P P 12 30 10.4 +0.3
baz=67
DCID1 **Drake Creek** 67.09 51 *eP* P 12 30 09.9 -0.4
DCID1 *e* pP 12 30 22.6 -1.2
O12A **Currie** 67.13 56 ⇓P P 12 30 10.8 +0.1
baz=67
M14A **Sheep Mountain** 67.18 54 ⇓P P 12 30 10.9 0.0
baz=67
S09A **Goldfield** 67.22 59 ⇓P P 12 30 11.2 -0.1
baz=67
VES **Vestal, Richgr** 67.24 62 ⇑P P 12 30 11.2 -0.2
baz=67
PKM **Peak Mountain** 67.35 63 ⇓P P 12 30 12.3 +0.2
baz=67
VRSR **Storozhevoye** 67.40 320 *eP* P 12 30 11.8 -0.4
VRSR pmax pmax
comp=Z,10.0nm,1.0s,mb4.8
VRSR pmax pmax
comp=N,10.0nm,1.5s
VRSR pmax pmax
comp=E,10.0nm,1.2s
SNOW **Snow King Moun** 67.41 51 *eP* P 12 30 13.5 +1.1
comp=E,33nm,1.1s,mb5.3
R10A **Warm Springs** 67.44 58 ⇑P P 12 30 12.6 0.0
baz=67
Q11A **Duckwater** 67.48 57 ⇑P P 12 30 12.8 -0.1
baz=67
KAD **Karad** 67.49 273 *eP* P 12 30 13.2 +0.1
KAD AMb AMB 12 30 15.5
comp=Z,37nm,1.3s,mb5.2
S10A **Tonopah Range,** 67.49 59 ⇓P P 12 30 12.8 -0.1
baz=67
VORD **Divnogorie** 67.52 320 *eP* P 12 30 12.4 -0.5
VORD pmax pmax
comp=Z,70nm,0.9s,mb5.7
VORD pmax pmax
comp=N,40nm,1.0s
VORD pmax pmax
comp=E,30nm,1.2s
DGMT **Dagmar** 67.61 44 *eP* P 12 30 13.3 -0.2
comp=E,36nm,1.1s,mb5.3
M15A **Larsen Ranch,** 67.72 53 ⇓P P 12 30 13.8 -0.5
baz=67
R11A **Troy Canyon, C** 67.83 58 ⇑P P 12 30 15.9 +0.8
baz=68,SNR=7.9
N15A **Stansbury Isla** 68.05 54 ⇓P P 12 30 16.5 +0.1
baz=68
P13A **Bates Ranch, G** 68.08 56 ⇓P P 12 30 16.8 +0.1
baz=68
MPMC **Manual Prospec** 68.10 61 ⇑P P 12 30 17.2 +0.4
baz=68
HWUT **Hardware Ranch** 68.14 53 *eP* P 12 30 17.0 0.0
comp=E,24nm,1.4s,mb5.0
S11A **Rachel** 68.18 58 ⇓P P 12 30 17.5 +0.2
baz=68
FURC **Furnace Creek,** 68.24 60 ⇑P P 12 30 17.8 +0.1
baz=68
TPNV **Topopah Spring** 68.31 59 *eP* P 12 30 18.8 +0.6
comp=E,16nm,0.9s,mb5.0
TPNV **Topopah Spring** 68.31 59 *eP* P 12 30 18.8 +0.7
TPNV pmax pmax
comp=Z,16nm,0.9s,mb5.0
TPNV **Topopah Spring** 68.31 59 ⇓P P 12 30 18.7 +0.6
baz=68,SNR=8.1
DUG **Dugway** 68.32 55 ⇑P P 12 30 18.9 +0.7
baz=68
R12A **Pony Springs,** 68.44 57 ⇑P P 12 30 19.2 +0.3
baz=68
PDAR **Pinedale Array** 68.53 51 P P 12 30 18.9 -0.4
comp=Z,1.6nm,0.6s,mb4.2,baz=261,slow=2.7,SNR=13
EDW2 **Edwards Air Fo** 68.53 62 ⇓P P 12 30 19.8 +0.2
baz=68
U10A **Ash Meadows, A** 68.60 60 ⇑P P 12 30 20.3 +0.3
baz=68
S12A **Delamar Landin** 68.75 58 ⇓P P 12 30 21.4 +0.5
baz=68
T11A **Corn Creek, Al** 68.76 58 P P 12 30 21.3 +0.4
baz=68,SNR=8.3
ASAR **Alice Springs** 68.90 195 P P 12 30 23.7 +2.0
comp=Z,1.3nm,0.7s,mb4.0,baz=18,slow=5.5,SNR=11
ASAR PKPPKP 12 58 35.9
comp=Z,1.5nm,1.0s,baz=177,slow=3.0,SNR=4.8
S13A **Holt Ranch, En** 69.37 57 ⇓P P 12 30 25.1 +0.4
baz=69
ARUT **Antelope Range** 69.50 57 *eP* P 12 30 26.1 +0.6
BBRC **Big Bear Sol-O** 69.60 62 ⇓P P 12 30 26.0 -0.2
baz=69
HEC **Hector,Ludlow** 69.61 61 ⇓P P 12 30 26.2 0.0
baz=69
S14A **Cedar City** 69.68 57 ⇑P P 12 30 27.0 +0.4
baz=69
GOF **Gofitskoye** 69.68 313 ⇓*iP* P 12 30 27.4 +0.9
GOF pmax pmax
comp=Z,180nm,1.3s,mb5.8
U12A **Valley of Fire** 69.70 59 ⇑P P 12 30 26.6 -0.2
baz=69
T13A **Saint George** 69.71 58 ⇑P P 12 30 26.7 -0.1
baz=69
MSU **Marysvale** 69.78 56 *eP* P 12 30 28.2 +0.9
NB2 **NORSAR Subarra** 69.78 340 P P 12 30 26.1 -0.7
comp=Z,69nm,1.0s,mb5.5,baz=29,slow=6.5
NOA **NORSAR Array B** 69.78 340 P P 12 30 25.2 -1.6
NOA pmax pmax
comp=Z,42nm,0.8s
NOA **NORSAR Array B** 69.78 340 P P 12 30 25.1 -1.7
comp=Z,42nm,0.8s,mb5.4,baz=31,slow=6.2,SNR=62
MNK **Minsk** 69.83 328 *eP* P 12 30 26.0 -1.2
KOD **Kodaikanal** 69.85 265 *ex* x 12 30 38.3
HFS **Hagfors** 69.91 338 P P 12 30 25.8 -1.8
HFS pmax pmax
comp=Z,18nm,0.4s
HFS **Hagfors** 69.91 338 P P 12 30 25.8 -1.9
comp=Z,18nm,0.4s,mb5.3,baz=46,slow=6.4,SNR=77
V12A **Nelson** 69.96 59 ⇑P P 12 30 28.7 +0.3
baz=70
U13A **Pakon Wash** 70.06 58 P P 12 30 29.5 +0.5
baz=70,SNR=13
GMRC **Granite Mounta** 70.07 61 ⇓P P 12 30 29.3 +0.2
baz=70
T14A **Hurricane** 70.18 57 ⇑P P 12 30 30.2 +0.5
baz=70
ULM **Lac du Bonnet** 70.30 38 P P 12 30 28.9 -1.3
comp=Z,2.3nm,0.7s,mb4.2,baz=248,slow=6.4,SNR=3.9
PFO **Pinyon Flat Ob** 70.32 62 ⇑P P 12 30 31.3 +0.7
baz=70
U14A **Mt Trumbull** 70.54 58 ⇑P P 12 30 32.3 +0.4
baz=70
KIV **Kislovodsk** 70.61 313 *eP* P 12 30 33.2 +1.0
KIV pmax pmax
comp=Z,69nm,1.2s,mb5.5
KIV **Kislovodsk** 70.61 313⇑*iP* P 12 30 33.8 +1.6
T15A **Red Dirt Ranch** 70.64 57 ⇑P P 12 30 32.9 +0.4
baz=70
IRM **Iron Mountain** 70.79 61 ⇓P P 12 30 33.2 -0.2
baz=70
BC3 **Big Chuckw Mtn** 70.93 61 ⇑P P 12 30 34.4 +0.1
baz=71
W13A **Hualapai Mount** 70.97 59 ⇓P P 12 30 34.7 +0.2
baz=71
V14A **Boquillas Ranc** 71.10 59 ⇓P P 12 30 36.0 +0.7
baz=71,SNR=8.8
T16A **Glen Canyon Da** 71.19 57 ⇑P P 12 30 36.4 +0.5
baz=71
BORG **Borgarnes** 71.22 356 P P 12 30 34.5 -1.0
comp=Z,24nm,0.8s,mb5.2,baz=63,slow=3.5,SNR=5.8
PDMCI **Parker Dam,Lak** 71.33 60 ⇑P P 12 30 36.3 -0.4
baz=71
X13A **Yucca** 71.33 60 ⇓P P 12 30 36.5 -0.3
baz=71

W14A **Seligman** 71.39 59 ⇑P P 12 30 37.3 +0.2
baz=71,SNR=10.0
AGMN **Agassiz Refuge** 71.72 40 *eP* P 12 30 38.7 -0.1
comp=Z,21nm,0.1s,mb6.0
W15A **Williams** 71.92 58 ⇓P P 12 30 40.6 +0.3
baz=72
SUW **Suwalki** 71.94 330 *eP* P 12 30 39.6 -0.4
SUW *e* pP 12 30 52.2 -1.5
X14A **Yava** 72.00 59 ⇓P P 12 30 41.1 +0.4
baz=72
AKASG **Malin Array Be** 72.15 325 P P 12 30 40.6 -0.8
AKASG pmax pmax
comp=Z,43nm,1.0s
AKASG **Malin Array Be** 72.15 325 P P 12 30 40.6 -0.8
comp=Z,43nm,1.0s,mb5.3,baz=37,slow=6.1,SNR=74
KIEV **Kiev** 72.16 325 *eP* P 12 30 40.5 -0.9
comp=Z,67nm,1.1s,mb5.5
KIEV **Kiev** 72.16 325 *eP* P 12 30 40.6 -0.8
KIEV pmax pmax
comp=Z,67nm,1.1s,mb5.5
Y14A **Wickenburg** 72.28 60 ⇓P P 12 30 42.4 0.0
baz=72
X15A **Humboldt** 72.39 59 ⇑P P 12 30 43.6 +0.5
baz=72,SNR=10
Y15A **Casa Rosa Ranc** 72.69 59 ⇑P P 12 30 45.2 +0.4
baz=72,SNR=6.3
ISCO **Idaho Springs** 72.72 51 *eP* P 12 30 45.9 +0.9
comp=Z,20nm,1.2s,mb4.9
ISCO **Idaho Springs** 72.72 51 *eP* P 12 30 45.9 +0.9
ISCO pmax pmax
comp=Z,20nm,1.2s,mb4.9
MVCO **Mesa Verde** 72.82 55 *eP* P 12 30 46.3 +0.7
comp=Z,14nm,1.0s,mb4.8
MVCO **Mesa Verde** 72.82 55 ⇓P P 12 30 45.5 -0.1
baz=72
X16A **Lo Mia Camp, P** 72.93 59 P P 12 30 47.4 +1.1
baz=73,SNR=9.9
Y16A **Circle Bar Ran** 73.26 59 ⇑P P 12 30 48.5 +0.2
baz=73,SNR=6.4
115A **Sonoran Desert** 73.58 60 ⇑P P 12 30 50.3 +0.1
baz=73
BSD **Bornholm Skovb** 73.81 335 ⇓*iP* P 12 30 50.5 -0.6
BSD *i* S S 12 40 20.7 +2.2
BSD pmax pmax
comp=Z,73nm,1.1s,mb5.5
BSD **Bornholm Skovb** 73.81 335 ⇓*iP* P 12 30 50.5 -0.6
comp=Z,73nm,1.1s,mb5.5
BSD *i* S S 12 40 20.7 +2.2
COP **Copenhagen** 74.06 336 *i* P P 12 30 53.3 +0.7
COP *i* pP 12 31 06.6 +0.3
COP pmax pmax
comp=Z,36nm,1.0s,mb5.3
COP **Copenhagen** 74.06 336 *i* P P 12 30 53.3 +0.7
comp=Z,36nm,1.0s,mb5.3
COP *i* pP 12 31 06.6 +0.3
COP *i* S PP 12 33 15.3 -22
SIM **Simferopol'** 74.24 318 *eP* P 12 30 55.0 +1.2
SIM pmax pmax
comp=Z,28nm,1.2s,mb5.1
SIM MLR MLR
comp=Z,2μm,18.1s,MS5.5
MUD **Monsted U'grnd** 74.30 338 *eP* P 12 30 52.4 -1.5
MUD pmax pmax
comp=Z,30nm,1.1s,mb5.1
MUD **Monsted U'grnd** 74.30 338 *i* P P 12 30 52.4 -1.5
comp=Z,30nm,1.1s,mb5.1
216A **Three Points,** 74.54 60 ⇓P P 12 30 55.3 -0.5
baz=74
GKP **Gorka Klasztor** 74.61 332 *eP* P 12 30 56.6 +0.9
LVV **L'vov** 74.94 327 *eP* P 12 30 58.2 +0.4
217A **Green Valley** 75.09 60 ⇓P P 12 30 59.0 0.0
baz=75
KIS **Kishinev** 75.14 322 *eP* P 12 30 56.0 -3.0
KIS LRM 13 06 30.0
comp=Z,4μm,19.0s
HATD **Hatta, Dubai** 75.25 290 P P 12 31 00.7 +0.7
SNR=7.2
HATD **Hatta, Dubai** 75.25 290 P P 12 31 00.7 +0.7
SNR=7.2
119A **Ashpeak Ranch,** 75.36 59 ⇓P P 12 31 00.2 -0.2
baz=75
218A **Dragoon** 75.44 60 ⇓P P 12 31 00.7 -0.2
baz=75
JMDO **Jabal Madar** 75.54 287 P P 12 31 02.6 +0.9
SNR=7.5
JMDO **Jabal Madar** 75.54 287 P P 12 31 02.6 +0.9
SNR=7.5
LAZ **Ladron** 75.55 56 *eP* P 12 31 02.2 +0.7
KWP **Kalwaria** 75.61 327 *eP* P 12 31 00.7 -1.0
KWP *e* pP 12 31 14.8 -0.5
318A **Bisbee** 75.83 60 ⇓P P 12 31 03.0 -0.2
baz=76
BSY **Bisya** 75.91 288 P P 12 31 04.8 +1.0
SNR=6.9
BSY **Bisya** 75.91 288 P P 12 31 04.8 +1.0
SNR=6.9
STKA **Stephens Creek** 75.95 187 P P 12 31 05.0 +1.5
comp=Z,1.8nm,0.8s,mb4.0,baz=349,slow=16,SNR=2.5
BNM **Barren Site** 76.03 56 *eP* P 12 31 06.3 +2.1
OJC **Ojcow** 76.23 329 *eP* P 12 31 05.2 0.0
KOLS **Kolonicke sedl** 76.34 327 *eP* P 12 31 05.4 -0.4
STHS **Stebnicka Huta** 76.35 328 *eP* P 12 31 06.2 +0.4
comp=Z,24nm,1.1s,mb5.0
STHS **Stebnicka Huta** 76.35 328 *eP* P 12 31 06.2 +0.4
STHS pmax pmax
comp=Z,24nm,1.1s,mb5.0
UZH **Uzhgorod** 76.58 327 ⇓*iP* P 12 31 00.0 -7.1
UZH *i* 12 31 18.8
CRVS **Cervenica-Dubn** 76.68 328 *eP* P 12 31 06.9 -0.8
SCHQ **Schefferville** 76.77 20 P P 12 31 06.1 -1.9
SCHQ LR LR 13 10 57.6
SCHQ **Schefferville** 76.77 20 P P 12 31 06.1 -2.0
comp=Z,4.9nm,0.9s,mb4.5,baz=349,slow=7.1,SNR=4.0
SCHQ LR LR 13 10 57.6
comp=Z,7μm,19.7s,MS6.0,baz=320,slow=40
MALT **Malatya** 76.86 311 ⇑P P 12 31 11.6 +2.7
MALT **Malatya** 76.86 311⇑*iP* P 12 31 11.6 +2.7
VRI **Vrincioaia** 76.94 323 ⇑P P 12 31 10.5 +1.3
VRI **Vrincioaia** 76.94 323⇑*iP* P 12 31 10.5 +1.3
KSP **Ksiaz** 76.96 332 *eP* P 12 31 10.1 +0.8
KSP *e* pP 12 31 22.2 -0.9
KSP **Ksiaz** 76.96 332 *eP* P 12 31 09.6 +0.3
KSP *e**PP pP 12 31 21.6 -1.4
OKC **Ostrava-Krasne** 77.15 330 *eP* P 12 31 11.0 +0.7
OKC *e*PCP PcP 12 31 19.4 -1.6
OKC *ep*P pP 12 31 23.5 -0.6
TIRR **Tirgusor** 77.28 321 ⇓P P 12 31 12.9 +1.7
TIRR **Tirgusor** 77.28 321 ⇓*iP* P 12 31 12.9 +1.7
HARR **Harsova** 77.32 321 ⇑P P 12 31 11.4 0.0
HARR **Harsova** 77.32 321⇑*iP* P 12 31 11.4 0.0
UPC **Upice** 77.34 332 *eP* P 12 31 11.9 +0.5
UPC *e*PCP PcP 12 31 19.7 -2.1
UPC *ep*P pP 12 31 25.0 -0.2
DPC **Dobruska-Polom** 77.37 331 *eP* P 12 31 11.8 +0.3
DPC *e*PCP PcP 12 31 20.6 -1.3
DPC *ep*P pP 12 31 25.0 -0.3
KECS **Kecovo** 77.40 328 *eP* P 12 31 11.8 +0.1
comp=Z,8.2nm,1.1s,mb4.6
KECS *e* pP 12 31 24.5 -1.0
KECS **Kecovo** 77.40 328 *eP* P 12 31 11.8 +0.1
KECS *e* pP 12 31 24.5 -1.0
KECS pmax pmax
comp=Z,8.0nm,1.1s,mb4.6
MORC **Moravsky Berou** 77.42 330 ⇓P P 12 31 12.7 +0.8
MORC **Moravsky Berou** 77.42 330⇓*iP* P 12 31 12.7 +0.9
MLR **Muntele Rosu** 77.57 323 P P 12 31 14.0 +1.3
comp=Z,5.2nm,0.4s,mb4.8,baz=324,slow=5.5,SNR=7.7
MLR **Muntele Rosu** 77.57 323 ⇓*iP* P 12 31 08.0 -4.8
CLL **Collm** 77.66 334⇑*iP* P 12 31 12.5 -0.6
comp=Z,47nm,1.2s,mb5.3
CLL *i* 12 31 20.8
CLL *i* pP 12 31 25.6 -1.3
CLL **Collm** 77.66 334⇑*iP* P 12 31 12.5 -0.6
CLL *i* 12 31 20.8
CLL *i* pP 12 31 25.6 -1.3
CLL pmax pmax
comp=Z,74nm,1.2s,mb5.5
CLL **Collm** 77.66 334⇑*iP* P 12 31 12.5 -0.6
comp=Z,47nm,1.2s,mb5.3
CLL *i* PcP PcP 12 31 20.8 -2.4
CLL *i* pP pP 12 31 25.6 -1.3
comp=Z,56nm,1.1s
BRG **Berggiesshubel** 77.73 333 *eP* P 12 31 12.7 -0.8
BRG *e* pP 12 31 26.1 -1.2
BRG MLR MLR

comp=N,22μm,22.0s
BRG MLR MLR
comp=E,3μm,16.1s
BRG MLR MLR
comp=Z,819nm,18.0s,MS5.1
BRG Berggiesshubel 77.73 333 *e*P **P 12 31 12.7 -0.9**
comp=Z,19nm,1.3s,mb4.9
BRG *e* pP 12 31 26.1 -1.3
comp=Z,37nm,1.4s
BRG PP PP 12 33 43.0 -26
BRG S S 12 40 49.0 -13
BRG
comp=N,4μm,22.0s
BRG
comp=E,1μm,16.1s
BRG
comp=Z,6μm,18.0s
PVCC Panska Ves 77.81 332 *e*P **P 12 31 14.2 +0.2**
PVCC *e*PCP PcP 12 31 23.5 -0.3
PVCC *e*pP pP 12 31 27.3 -0.5
DRGR 77.89 326 ⇓P **P 12 31 15.0 +0.4**
DRGR 77.89 326 ⇓*i*P **P 12 31 15.0 +0.5**
VOIR 78.00 323 ⇓P **P 12 31 17.3 +2.2**
VOIR 78.00 323 ⇓*i*P **P 12 31 17.3 +2.1**
VYHS Vyhne 78.01 329 *e*P **P 12 31 15.3 +0.1**
comp=Z,21nm,1.2s,mb5.0
VYHS *e* pP 12 31 28.2 -0.8
VYHS Vyhne 78.01 329 *e*P **P 12 31 15.3 +0.1**
VYHS *e* pP 12 31 28.2 -0.8
VYHS pmax pmax
comp=Z,21nm,1.2s,mb4.9
PSZ Piszkesteto 78.09 328 ⇑P **P 12 31 16.1 +0.5**
PSZ Piszkesteto 78.09 328 ⇑*i*P **P 12 31 16.1 +0.5**
PSZ Piszkesteto 78.09 328 ⇑*e*P **P 12 31 16.1 +0.5**
VRAC Vranov 78.15 331 ⇓P **P 12 31 16.8 +0.8**
VRAC Vranov 78.15 331 P **P 12 31 16.5 +0.5**
comp=Z,8.6nm,0.7s,mb4.8,baz=47,slow=4.9,SNR=11
VRAC Vranov 78.15 331 ⇓*i*P **P 12 31 16.8 +0.9**
EKA Eskdalemuir Ar 78.19 344 P **P 12 31 15.2 -0.8**
EKA pmax pmax
comp=Z,5.0nm,0.7s
EKA Eskdalemuir Ar 78.19 344 P **P 12 31 15.2 -0.8**
comp=Z,4.8nm,0.7s,mb4.5,baz=19,slow=4.6,SNR=12
ESK Eskdalemuir 78.21 344 *e*P **P 12 31 15.6 -0.6**
comp=Z,79nm,1.6s,mb5.4
ESK Eskdalemuir 78.21 344 *e*P **P 12 31 15.6 -0.5**
ESK pmax pmax
comp=Z,79nm,1.6s,mb5.4
PRU Pruhonice 78.28 332 *e*P **P 12 31 16.9 +0.3**
PRU *e*PCP PcP 12 31 25.0 -0.9
PRU *e*pP pP 12 31 30.0 -0.4
TREC Trest 78.55 331 *e*P **P 12 31 18.3 +0.2**
TREC *e*PCP PcP 12 31 26.4 -0.7
TREC *e*pP pP 12 31 31.9 0.0
MOX Moxa 78.67 334 *e*P **P 12 31 19.1 +0.3**
comp=Z,57nm,1.5s,mb5.3
ANTO Ankara 78.68 315 ⇓P **P 12 31 21.2 +2.2**
ANTO Ankara 78.68 315 ⇓*i*P **P 12 31 21.2 +2.2**
MODS Modra-Piesok 78.69 330 *e*P **P 12 31 19.1 +0.2**
MODS *e*pP pP 12 31 32.5 -0.2
NKC Novy Kostel 78.77 333 *e*P **P 12 31 19.8 +0.5**
NKC *e*PCP PcP 12 31 26.9 -1.1
NKC *e*pP pP 12 31 32.0 -1.1
BUD Budapest 78.78 328 ⇓*e*P **P 12 31 24.0 +4.6**
ZST Bratislava 78.90 330 *e*P **P 12 31 22.4 +2.3**
comp=Z,20nm,1.0s,mb5.0
ZST *e* pP 12 31 34.2 +0.3
ZST Bratislava 78.90 330 *e*P **P 12 31 22.4 +2.3**
ZST *e* pP 12 31 34.2 +0.3
ZST pmax pmax
comp=Z,21nm,1.0s,mb5.0
WTSB Winterswijk 78.93 337 *e*P **P 12 31 23.4 +3.2**
comp=Z,28nm,0.9s,mb5.2
GZR Gura Zlata 79.00 325 ⇑P **P 12 31 20.9 +0.2**
GZR Gura Zlata 79.00 325 ⇑*i*P **P 12 31 20.9 +0.3**
BZS Buzias 79.29 326 ⇓P **P 12 31 22.4 +0.2**
BZS Buzias 79.29 326 ⇓*i*P **P 12 31 22.5 +0.2**
SZH Strazhica 79.33 322 *e*P **P 12 31 23.4 +0.9**
KHC Kasperske Hory 79.34 332 *e*P **P 12 31 22.5 0.0**
KHC *e*PCP PcP 12 31 30.9 +0.4
KHC *e*pP pP 12 31 35.8 -0.5
SOP Sopron 79.53 330 ⇓*e*P **P 12 31 24.8 +1.3**
GERES GERESS Array B 79.55 332 P **P 12 31 23.1 -0.5**
GERES pmax pmax
comp=Z,5.0nm,0.7s
GERES GERESS Array B 79.55 332 P **P 12 31 23.1 -0.5**
comp=Z,4.7nm,0.7s,mb4.5,baz=35,slow=4.9,SNR=22
CONA Conrad Observa 79.58 330 *i*P **P 12 31 24.4 +0.7**
comp=Z,40nm,1.4s,mb5.2,SNR=8.0
GRA1 Grafenberg Arr 79.63 334 *e*P **P 12 31 24.0 0.0**
comp=Z,70nm,1.3s,mb5.4
GRA1 *e*pP pP 12 31 38.3 +0.5
GRA1 *e*S S 12 41 17.0 -5.2
GRA1 *e*SS SS 12 46 17.3 -12
GRA1 LR LR
comp=Z,3μm,20.9s,MS5.7
GRF Grafenberg Arr 79.63 334 *e*P **P 12 31 24.0 0.0**
GRF *e**PP pP 12 31 38.3 +0.5
GRF *e*S S 12 41 17.0 -5.2
GRF pmax pmax
comp=Z,70nm,1.3s,mb5.4
GRF Grafenberg Arr 79.63 334 *e*P **P 12 31 24.0 0.0**
GRF *e**PP pP 12 31 38.3 +0.5
GRF *e*S S 12 41 17.0 -5.2
GRF pmax pmax
comp=Z,70nm,1.3s,mb5.4
GRF MLR MLR
comp=Z,3μm,20.9s,MS5.7
GRF Grafenberg Arr 79.63 334 *e*P **P 12 31 24.0 0.0**
comp=Z,70nm,1.3s,mb5.4
GRF *e*pP pP 12 31 38.3 +0.5
comp=Z,70nm,1.3s
GRF *e*S S 12 41 17.0 -5.2
GRF *e*SS SS 12 46 17.3 -12
GRF *e*L 13 22 50.4
comp=Z,3μm,20.9s
GRFO Grafenberg 79.63 334 *e*P **P 12 31 24.9 +0.9**
comp=Z,46nm,1.0s,mb5.4
GRFO Grafenberg 79.63 334 *e*P **P 12 31 24.9 +0.9**
GRFO pmax pmax
comp=Z,46nm,1.0s,mb5.4
PKSM Moragy 79.98 328 ⇓P **P 12 31 25.8 -0.2**
PKSM Moragy 79.98 328 ⇓*i*P **P 12 31 25.8 -0.2**
HGN Heimansgroeve 80.25 337 *e*P **P 12 31 27.1 -0.2**
comp=Z,26nm,1.4s,mb5.0
BEBN Eben Emael 80.30 337 P **P 12 31 27.5 0.0**
comp=Z,12nm,1.3s,mb4.7
MEM Membach 80.37 337 P **P 12 31 27.4 -0.6**
comp=Z,23nm,1.5s,mb4.9
DIM Dimitrovgrad 80.47 321 *e*P **P 12 31 30.0 +1.3**
ABH Alteburg 80.58 336 *e*P **P 12 31 30.7 +1.5**
RUP Ruppelstein 80.89 336 *e*P **P 12 31 30.2 -0.6**
PERS Pernice 80.94 330 *i*P **P 12 31 32.0 +0.9**
VTS Vitosha 81.07 323 ⇓P **P 12 31 33.3 +1.4**
VTS Vitosha 81.07 323 ⇓*i*P **P 12 31 33.3 +1.4**
VTS Vitosha 81.07 323 *e*P **P 12 31 33.6 +1.7**
GIVF Givet 81.16 338 *e*P **P 12 31 31.7 -0.5**
comp=Z,74nm,1.3s,mb5.2
GIVF Givet 81.16 338 *e*P **P 12 31 31.7 -0.5**
comp=Z,37nm,1.3s,mb5.2
GIVF Givet 81.16 338 *e*P **P 12 31 31.7 -0.5**
GIVF pmax pmax
comp=Z,37nm,1.3s,mb5.2
KBA Koelnbreinsper 81.19 331 ⇑P **P 12 31 32.8 +0.4**
comp=Z,62nm,1.0s,mb5.5,SNR=20
KBA Koelnbreinsper 81.19 331 ⇑*i*P **P 12 31 32.8 +0.4**
KBA pmax pmax
comp=Z,62nm,1.0s,mb5.5
BAIF Baives 81.36 338 *e*P **P 12 31 32.9 -0.4**
comp=Z,69nm,1.3s,mb5.1
BAIF Baives 81.36 338 *e*P **P 12 31 32.9 -0.4**
comp=Z,35nm,1.3s,mb5.1
BAIF Baives 81.36 338 *e*P **P 12 31 32.9 -0.4**
BAIF pmax pmax
comp=Z,35nm,1.3s,mb5.1
WTTA Wattenberg 81.61 332 ⇑*i*P **P 12 31 36.0 +1.3**
comp=Z,59nm,1.2s,mb5.4
WTTA Wattenberg 81.61 332 ⇑*i*P **P 12 31 36.0 +1.3**
WTTA pmax pmax
comp=Z,59nm,1.2s,mb5.4
MMB Musomiste 81.65 322 *e*P **P 12 31 35.3 +0.3**
RETA Reutte 81.70 333 ⇑*i*P **P 12 31 36.1 +1.0**
comp=Z,35nm,1.3s,mb5.1
MOTA Moosalm 81.72 333 ⇑*i*P **P 12 31 35.5 +0.2**
comp=Z,43nm,1.1s,mb5.3,SNR=11
MOTA Moosalm 81.72 333 ⇑*i*P **P 12 31 35.5 +0.3**
MOTA pmax pmax
comp=Z,43nm,1.1s,mb5.3
BFO Black Forest 81.73 335 *e*P **P 12 31 35.0 -0.2**
comp=Z,35nm,1.3s,mb5.1
BFO Black Forest 81.73 335 *e*P **P 12 31 35.0 -0.3**
BFO pmax pmax
comp=Z,35nm,1.3s,mb5.1
SQTA Sankt Quirin 81.79 333 *i*P **P 12 31 36.9 +1.3**
comp=Z,32nm,1.1s,mb5.2,SNR=7.1
SQTA Sankt Quirin 81.79 333 *i*PcP PcP 12 31 36.9 -4.4
comp=Z,32nm,1.1s,SNR=7.1
SQTA Sankt Quirin 81.79 333 *i*P **P 12 31 36.9 +1.3**
SQTA pmax pmax
comp=Z,32nm,1.1s,mb5.2
SPAK Spaichingen-Ko 81.79 334 *e*P **P 12 31 36.7 +1.1**
BOJS Bojanci 81.86 329 *e*P **P 12 31 36.4 +0.4**
BOJS *i* 12 31 43.2
JAVS Javornik 81.95 330 *e*P **P 12 31 36.4 -0.1**
CDF Champ du Feu 81.98 335 *e*P **P 12 31 36.3 -0.3**
comp=Z,86nm,1.3s,mb5.2
CDF Champ du Feu 81.98 335 *e*P **P 12 31 36.3 -0.3**
comp=Z,43nm,1.3s,mb5.2
CDF Champ du Feu 81.98 335 *e*P **P 12 31 36.3 -0.3**
CDF pmax pmax
comp=Z,43nm,1.3s,mb5.2
FETA Feichten 82.12 333 ⇓*i*P **P 12 31 36.4 -1.0**
comp=Z,27nm,1.1s,mb5.1,SNR=10
DAVA Damuels 82.17 333 ⇑*i*P **P 12 31 38.5 +0.9**
comp=Z,41nm,1.4s,mb5.2
DAVA Damuels 82.17 333 ⇑*i*P **P 12 31 38.5 +0.9**
comp=Z,41nm,1.4s,mb5.2
ECH Echery 82.19 335 *e*P **P 12 31 37.4 -0.3**
ASF Jabal al Asfar 82.20 308 P **P 12 31 38.9 +0.9**
ASF pmax pmax
comp=Z,3.0nm,0.6s
ASF Jabal al Asfar 82.20 308 P **P 12 31 38.9 +0.8**
comp=Z,3.1nm,0.6s,mb4.4,baz=45,slow=1.4,SNR=3.8
FELD Feldberg im Sc 82.24 335 *e*P **P 12 31 37.4 -0.5**
STIP Stip 82.25 323 *e*P **P 12 31 35.1 -3.0**
SKDS Skadanscina 82.27 330 *i*P **P 12 31 38.5 +0.4**
SKO Skopje 82.34 324 *e*P **P 12 31 36.0 -2.6**
VAY Valandovo 82.38 322 *e*P **P 12 31 36.3 -2.5**
MMAI Mount Meron Ar 82.42 309 P **P 12 31 40.3 +1.1**
comp=Z,20nm,1.0s,mb5.0,baz=62,slow=8.9,SNR=7.7
MEZF Maizieres J'vi 82.54 337 *e*P **P 12 31 39.7 +0.2**
DAVOX Davos/Dischmat 82.61 333 P **P 12 31 41.0 +1.1**
comp=Z,12nm,1.0s,mb4.9,baz=241,slow=6.8,SNR=7.2
HAU Haudompre 82.62 336 *e*P **P 12 31 39.6 -0.3**
HINF Hinteralfeld 82.64 335 *e*P **P 12 31 39.4 -0.6**
comp=Z,31nm,1.1s,mb5.0
HINF Hinteralfeld 82.64 335 *e*P **P 12 31 39.4 -0.6**
comp=Z,15nm,1.1s,mb4.9
HINF Hinteralfeld 82.64 335 *e*P **P 12 31 39.4 -0.6**
HINF pmax pmax
comp=Z,15nm,1.1s,mb4.9
JCT Junction City 82.68 54 *e*P **P 12 31 40.8 +0.2**
comp=Z,13nm,1.1s,mb4.9
JCT Junction City 82.68 54 *e*P **P 12 31 40.8 +0.2**
JCT pmax pmax
comp=Z,13nm,1.1s,mb4.9
KRUS Krusevo 82.92 323 *e*P **P 12 31 39.1 -2.5**
LOMF Lomont 83.06 335 *e*P **P 12 31 40.4 -1.8**
MIAR Mount Ida 83.13 48 *e*P **P 12 31 43.0 +0.2**
comp=Z,39nm,1.1s,mb5.3
MIAR *e*pP pP 12 31 57.2 +0.5
MIAR Mount Ida 83.13 48 *e*P **P 12 31 43.1 +0.3**
MIAR *e**PP pP 12 31 57.3 +0.6
MIAR pmax pmax
comp=Z,39nm,1.1s,mb5.3
BIA Bitola 83.17 323 *e*P **P 12 31 40.1 -2.8**
OHR Ohrid 83.32 323 *e*P **P 12 31 41.1 -2.6**
PARMO Parma 83.46 44 *e*P **P 12 31 45.0 +0.5**
PARMO *e*pP pP 12 31 59.1 +0.7
FLN La Foliniere 83.76 340 *e*P **P 12 31 45.4 -0.4**
comp=Z,101nm,1.1s,mb5.5
FLN La Foliniere 83.76 340 *e*P **P 12 31 45.4 -0.4**
comp=Z,51nm,1.1s,mb5.6
FLN La Foliniere 83.76 340 *e*P **P 12 31 45.4 -0.4**
FLN pmax pmax
comp=Z,51nm,1.1s,mb5.6
LDF La Druitiere 83.83 340 *e*P **P 12 31 45.8 -0.3**
comp=Z,113nm,1.4s,mb5.5
LDF La Druitiere 83.83 340 *e*P **P 12 31 45.8 -0.3**
comp=Z,56nm,1.4s,mb5.5
LDF La Druitiere 83.83 340 *e*P **P 12 31 45.8 -0.3**
LDF pmax pmax
comp=Z,56nm,1.4s,mb5.5
CABF La Chapelle 83.95 335 *e*P **P 12 31 46.8 0.0**
LOR Lormes 84.00 337 *e*P **P 12 31 46.8 -0.3**
comp=Z,55nm,1.2s,mb5.3
LOR Lormes 84.00 337 *e*P **P 12 31 46.8 -0.3**
comp=Z,27nm,1.2s,mb5.3
LOR Lormes 84.00 337 *e*P **P 12 31 46.8 -0.3**
LOR pmax pmax
comp=Z,27nm,1.2s,mb5.2
GRR Gorron 84.20 340 *e*P **P 12 31 48.0 0.0**
comp=Z,166nm,1.2s,mb5.7
GRR Gorron 84.20 340 *e*P **P 12 31 48.0 0.0**
comp=Z,83nm,1.2s,mb5.7
GRR Gorron 84.20 340 *e*P **P 12 31 48.0 0.0**
GRR pmax pmax
comp=Z,83nm,1.2s,mb5.7
SSF Saint Saulge 84.29 337 *e*P **P 12 31 48.1 -0.4**
comp=Z,30nm,1.1s,mb5.0
SSF Saint Saulge 84.29 337 *e*P **P 12 31 48.1 -0.4**
comp=Z,15nm,1.1s,mb5.0
SSF Saint Saulge 84.29 337 *e*P **P 12 31 48.1 -0.4**
SSF pmax pmax
comp=Z,15nm,1.1s,mb5.0
SMF Signal de Mont 84.57 337 *e*P **P 12 31 50.0 0.0**
comp=Z,106nm,1.2s,mb5.5
SMF Signal de Mont 84.57 337 *e*P **P 12 31 50.0 0.0**
comp=Z,53nm,1.2s,mb5.5
SMF Signal de Mont 84.57 337 *e*P **P 12 31 50.0 0.0**
SMF pmax pmax
comp=Z,53nm,1.2s,mb5.5
AVF Avril sur Loir 84.58 337 *e*P **P 12 31 49.0 -1.0**
comp=Z,92nm,1.4s,mb5.4
AVF Avril sur Loir 84.58 337 *e*P **P 12 31 49.0 -1.0**
comp=Z,46nm,1.4s,mb5.4
AVF Avril sur Loir 84.58 337 *e*P **P 12 31 49.0 -1.0**
AVF pmax pmax
comp=Z,46nm,1.4s,mb5.4
SGMF Saint Gilles 84.72 341 *e*P **P 12 31 50.8 +0.1**
comp=Z,214nm,1.4s,mb5.8
SGMF Saint Gilles 84.72 341 *e*P **P 12 31 50.8 +0.1**
comp=Z,107nm,1.4s,mb5.8
SGMF Saint Gilles 84.72 341 *e*P **P 12 31 50.8 +0.1**
SGMF pmax pmax
comp=Z,107nm,1.4s,mb5.8
LPL La Plagne 84.74 335 *e*P **P 12 31 51.4 +0.6**
comp=Z,36nm,0.9s,mb5.2
LPL La Plagne 84.74 335 *e*P **P 12 31 51.4 +0.6**
comp=Z,18nm,0.9s,mb5.2
LPL La Plagne 84.74 335 *e*P **P 12 31 51.4 +0.6**
LPL pmax pmax
comp=Z,18nm,0.9s,mb5.2
LPG La Plagne 84.75 335 *e*P **P 12 31 51.6 +0.7**
comp=Z,101nm,1.2s,mb5.5
LPG La Plagne 84.75 335 *e*P **P 12 31 51.6 +0.7**
comp=Z,51nm,1.2s,mb5.5
LPG La Plagne 84.75 335 *e*P **P 12 31 51.6 +0.7**
LPG pmax pmax
comp=Z,51nm,1.2s,mb5.5
ROSF Rostrenen 84.81 342 *e*P **P 12 31 51.4 +0.3**
comp=Z,172nm,1.4s,mb5.7
ROSF Rostrenen 84.81 342 *e*P **P 12 31 51.4 +0.3**
comp=Z,86nm,1.4s,mb5.7
ROSF Rostrenen 84.81 342 *e*P **P 12 31 51.4 +0.3**
ROSF pmax pmax
comp=Z,86nm,1.4s,mb5.7
BGF Bois d'Agland 84.93 337 *e*P **P 12 31 51.9 +0.1**
BNI Bardonecchia 85.17 334 *e*P **P 12 31 52.7 -0.3**
comp=Z,21nm,0.9s,mb5.3
BNI *e*pP pP 12 32 07.8 +0.8
BNI Bardonecchia 85.17 334 *e*P **P 12 31 52.7 -0.3**
BNI *e**PP pP 12 32 07.8 +0.8
BNI pmax pmax
comp=Z,21nm,0.9s,mb5.3
QUIF Quistinic 85.18 342 *e*P **P 12 31 53.2 +0.2**
PLDF La Plantade 85.25 337 *e*P **P 12 31 53.2 -0.2**
AGO Saint Agoulin 85.32 337 *e*P **P 12 31 54.2 +0.5**
TCF Toulx Ste Croi 85.36 338 *e*P **P 12 31 54.2 +0.3**
comp=Z,138nm,1.8s,mb5.5
TCF Toulx Ste Croi 85.36 338 *e*P **P 12 31 54.2 +0.3**
comp=Z,69nm,1.8s,mb5.5
TCF Toulx Ste Croi 85.36 338 *e*P **P 12 31 54.2 +0.3**
TCF pmax pmax
comp=Z,69nm,1.8s,mb5.5
MBDF Montbardon 85.44 334 *e*P **P 12 31 55.0 +0.7**
comp=Z,15nm,0.6s,mb5.0
MBDF Montbardon 85.44 334 *e*P **P 12 31 55.0 +0.7**
comp=Z,7.6nm,0.6s,mb5.0
MBDF Montbardon 85.44 334 *e*P **P 12 31 55.0 +0.7**
MBDF pmax pmax
comp=Z,8.0nm,0.6s,mb5.0
ORIF Oris-en-Rattie 85.54 335 *e*P **P 12 31 55.4 +0.6**
comp=Z,59nm,1.1s,mb5.4
ORIF Oris-en-Rattie 85.54 335 *e*P **P 12 31 55.4 +0.6**
comp=Z,29nm,1.1s,mb5.4
ORIF Oris-en-Rattie 85.54 335 *e*P **P 12 31 55.4 +0.6**
ORIF pmax pmax
comp=Z,29nm,1.1s,mb5.4
PYM Petit Puy Mans 85.63 337 *e*P **P 12 31 55.8 +0.5**
MFF Saint Martin d 85.69 339 *e*P **P 12 31 55.9 +0.4**
comp=Z,83nm,1.2s,mb5.5
MFF Saint Martin d 85.69 339 *e*P **P 12 31 55.9 +0.4**
comp=Z,42nm,1.2s,mb5.5
MFF Saint Martin d 85.69 339 *e*P **P 12 31 55.9 +0.4**
MFF pmax pmax
comp=Z,41nm,1.2s,mb5.5
VIVF Saint-Julien-l 85.96 336 *e*P **P 12 31 57.4 +0.5**
comp=Z,43nm,1.1s,mb5.3
VIVF Saint-Julien-l 85.96 336 *e*P **P 12 31 57.4 +0.5**
comp=Z,22nm,1.1s,mb5.3
VIVF Saint-Julien-l 85.96 336 *e*P **P 12 31 57.4 +0.5**
VIVF pmax pmax
comp=Z,21nm,1.1s,mb5.3
SBF Sospel 86.00 333 *e*P **P 12 31 57.7 +0.6**
comp=Z,137nm,1.2s,mb5.8
SBF Sospel 86.00 333 *e*P **P 12 31 57.7 +0.6**
comp=Z,69nm,1.2s,mb5.8
SBF Sospel 86.00 333 *e*P **P 12 31 57.7 +0.6**
SBF pmax pmax
comp=Z,69nm,1.2s,mb5.8
LBL Lubilhac 86.03 337 *e*P **P 12 31 54.8 -2.5**
IDI Anoyia 86.17 317 P **P 12 31 58.3 +0.2**
comp=Z,6.2nm,0.6s,mb5.0,baz=20,slow=12,SNR=3.8
RJF Les Rejaudoux 86.45 338 *e*P **P 12 31 59.8 +0.5**
comp=Z,124nm,1.4s,mb5.6
RJF Les Rejaudoux 86.45 338 *e*P **P 12 31 59.8 +0.5**
comp=Z,62nm,1.4s,mb5.6
RJF Les Rejaudoux 86.45 338 *e*P **P 12 31 59.8 +0.5**
RJF pmax pmax
comp=Z,62nm,1.4s,mb5.7
SMRF Simiane la Rot 86.48 335 *e*P **P 12 32 00.1 +0.6**
comp=Z,212nm,1.9s,mb5.8
SMRF Simiane la Rot 86.48 335 *e*P **P 12 32 00.1 +0.6**
comp=Z,212nm,1.9s,mb6.0
SWET Sewanee 86.49 42 *e*P **P 12 31 59.5 -0.2**
SWET *e*pP pP 12 32 13.9 +0.2
FRF La Foret Royal 86.52 334 *e*P **P 12 31 59.3 -0.4**
CAF Calviac 86.65 337 *e*P **P 12 32 01.3 +1.0**
comp=Z,118nm,1.3s,mb5.7
CAF Calviac 86.65 337 *e*P **P 12 32 01.3 +1.0**
comp=Z,59nm,1.3s,mb5.7
CAF Calviac 86.65 337 *e*P **P 12 32 01.3 +1.0**
CAF pmax pmax
comp=Z,59nm,1.3s,mb5.7
PGF Pioggiola 86.65 332 *e*P **P 12 32 01.1 +0.7**
LMR La Mourre 86.77 334 *e*P **P 12 32 00.8 -0.1**
comp=Z,94nm,1.1s,mb5.6
LMR La Mourre 86.77 334 *e*P **P 12 32 00.8 -0.1**
comp=Z,47nm,1.1s,mb5.6
LMR La Mourre 86.77 334 *e*P **P 12 32 00.8 -0.1**
LMR pmax pmax
comp=Z,47nm,1.1s,mb5.6
LASF Ste Croix 86.91 336 *e*P **P 12 32 02.3 +0.7**
LFF La Frestale 87.00 338 *e*P **P 12 32 02.9 +0.9**
comp=Z,169nm,1.4s,mb5.8
LFF La Frestale 87.00 338 *e*P **P 12 32 02.9 +0.9**
comp=Z,84nm,1.4s,mb5.8
LFF La Frestale 87.00 338 *e*P **P 12 32 02.9 +0.9**
LFF pmax pmax
comp=Z,84nm,1.4s,mb5.8
SJPF Ste Jean 89.22 339 *e*P **P 12 32 11.9 -0.7**
VNDA Vanda 121.62 177 PKP PKPdf 12 38 10.1 +1.2
VNDA Vanda 121.62 177 PKP PKPdf 12 38 10.1 +1.2
baz=322,slow=4.4
LCO Las Campanas 144.95 78 *e*PKPdf PKPdf 12 38 54.2 +0.4
SNAA Sanae 149.25 197 *e*PKPdf PKPab 12 39 09.3 +0.6
SNAA *e* 12 39 13.9
SNAA *e* 12 39 23.1
SNAA *e* 12 39 31.0
SNAA *e* 12 39 37.2
SNAA *e* 12 39 41.6
SNAA *e* 12 39 49.5
SNAA *e* 12 40 03.5
SNAA Sanae 149.25 197 PKP2 PKPbc 12 39 02.4 -1.6
SNAA pmax pmax
comp=Z,1.0nm,0.8s
SNAA Sanae 149.25 197 PKPbc PKPbc 12 39 02.4 -1.6
comp=Z,0.6nm,0.8s,baz=166,slow=8.3,SNR=3.7
PLCA Paso Flores 150.66 97 PKIKP PKPbc 12 39 09.7 +1.4
PLCA pmax pmax
comp=Z,4.0nm,0.8s
PLCA Paso Flores 150.66 97 PKPbc PKPbc 12 39 09.7 +1.4
comp=Z,3.5nm,0.8s,baz=323,slow=2.3,SNR=6.7
VNA2 Neumayer--Watz 150.75 195 *e*PKPdf PKPdf 12 39 02.3 +0.3
VNA2 *e* 12 39 07.6
VNA2 *e* 12 39 09.1
VNA2 *e* 12 39 15.9
VNA2 *e* 12 39 22.1
VNA2 *e* 12 39 28.3
VNA2 *e* 12 39 33.1
VNA2 *e* 12 39 36.9
VNA2 *e* 12 39 46.2
VNA2 *e* 12 39 51.4
VNA2 *e* 12 40 04.0
VNA2 *e* 12 40 17.0
VNA3 Neumayer Olymp 150.90 194 *e*PKPdf PKPdf 12 39 02.4 +0.2
VNA3 *e* 12 39 09.0
VNA3 *e* 12 39 15.9
VNA3 *e* 12 39 20.9
VNA3 *e* 12 39 28.4
VNA3 *e* 12 39 34.6
VNA3 *e* 12 39 37.6
VNA3 *e* 12 39 46.4
VNA3 *e* 12 39 51.5
VNA3 *e* 12 40 05.3
VNA3 *e* 12 40 17.4
VNA1 Neumayer--Stat 151.14 195 *e*PKPdf PKPdf 12 39 02.4 -0.2
VNA1 *e* 12 39 09.5
VNA1 *e* 12 39 16.7
VNA1 *e* 12 39 24.6
VNA1 *e* 12 39 26.8
VNA1 *e* 12 39 33.8
VNA1 *e* 12 39 37.6
VNA1 *e* 12 39 45.1
VNA1 *e* 12 39 49.9
VNA1 *e* 12 40 04.2
VNA1 *e* 12 40 17.0

IDC 02 12:31:06.7±1.2, 868S×15784E, h0km, mb3.8/6, mb1 3.9/7, mb1mx3.8/15, mbtmp3.8/7, ML3.8/1, MS4.2/1, Ms1 4.2/1, ms1mx3.5/25, Error ellipse: s-maj=34.1km s-min=26.0km az=152.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.22**	**110**	Pn	Pn	12 31 42.9	-1.8
	28nm,0.3s,baz=274,slow=19,SNR=2.1						
HNR				LR	LR	12 32 14.7	
	comp=Z,6μm,20.2s,baz=348,slow=31						
HNR				Sn	Sn	12 32 23.4	+11
	215nm,0.3s,baz=274,slow=22,SNR=6.7						
WRA	**Warramunga Arr**	**25.33**	**241**	P	P	12 36 33.9	-1.6
	2.4nm,0.9s,baz=68,slow=9.5,SNR=7.2						
ASAR	**Alice Springs**	**27.32**	**234**	P	P	12 36 54.9	+1.5
	0.7nm,1.0s,baz=72,slow=8.9,SNR=3.1						
STKA	**Stephens Creek**	**27.58**	**211**	P	P	12 36 56.6	+1.0
	1.4nm,0.7s,baz=47,slow=13,SNR=3.1						
SONM	**Songino Array**	**72.28**	**326**	P	P	12 42 33.9	0.0
	1.0nm,1.0s,baz=122,slow=5.2,SNR=2.2						
MKAR	**Makanchi Array**	**86.52**	**318**	P	P	12 43 51.1	-0.5
	0.2nm,0.3s,baz=104,slow=6.1,SNR=3.2						

NVAR Mina Array Bea 90.56 51 P P 12 44 12.9 +1.9
0.9nm,1.1s,baz=236,slow=7.5,SNR=3.1

IDC 02 12:34:08.4±6.7,720S×15547E,h0km,mb3.6/3,mb1 3.7/3, mb1mx3.5/14,mbtmp3.6/3,Error ellipse: s-maj=191.6km s-min=40.1km az=116.0,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.09**	**236**	P	P	12 39 26.0	+0.2
	0.6nm,0.9s,baz=62,slow=9.5,SNR=2.6						
SONM	**Songino Array**	**69.76**	**327**	P	P	12 45 20.9	+0.5
	0.6nm,0.7s,baz=138,slow=6.1,SNR=4.9						
MKAR	**Makanchi Array**	**83.87**	**319**	P	P	12 46 39.8	-0.2
	0.5nm,0.6s,baz=108,slow=5.3,SNR=4.7						

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*BJI **02** 12:35:24.3,839S×15799E,h11km,mB5.9,mb5.4,Ms5.6, Msz5.3*
*IDC **02** 12:35:24.2±0.4,875S×15766E,h0km,mb5.1/20, mb1 5.1/23,mb1mx5.1/25,mbtmp5.0/23,ML4.5/3,MS5.1/6, Ms1 5.1/6,ms1mx4.6/22,Error ellipse: s-maj=15.5km s-min=12.5km az=91.0*
*GCMT **02** 12:35:26.3±0.2,876S×15759E,h22km,MW5.6/68, Moment Tensor Solution. s27,c31; s68,c111; Duration: 1s5 Moment tensor: Scale 10^{17}Nm; M_{rr}2.83±.17; $M_{\theta\theta}$-0.54±.09; $M_{\phi\phi}$-2.29±.10; $M_{r\theta}$-0.17±.17; $M_{\theta\phi}$0.73±.05; $M_{\phi r}$-0.97±.13; Best double couple: M_o2.86100×10^{17} NP1:ϕ_s332.00000°,δ37.00000°,λ77.00000°. NP2: ϕ_s169.00000°,δ54.00000°,λ100.00000°. Principal axes: T 3.0340, Plg78.0000°, Azm114.0000°; N -0.3460, Plg8.0000°, Azm343.0000°; P -2.6880, Plg9.0000°, Azm252.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*ISCJB **02** 12:35:26.0±0.1,872S±004×15751E±003,h17km, mb5.4/93,MS5.5/149 Error ellipse: s-maj=5.3km s-min=3.5km az=173.0*
*NEIC **02** 12:35:26.3±0.1,875S×15764E,mb5.5/42,MS5.6/137, Error ellipse: s-maj=4.8km s-min=3.7km az=131.0*
NEIC Felt [II] at Honiara.
*MOS **02** 12:35:28.3±1.2,867S×15750E,h33km,mb5.7/24, MS5.3/10,Error ellipse: s-maj=10.2km s-min=7.5km az=77.4*
ISC 02 12:35:27.7±0.1,873S±004×15757E±003,h18km, h18km±1.6km:pP-P,n607,σ0°75/459,mb5.4/93,MS5.5/149, 77C-66D,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**2.45**	**107**	Pn	**Pn**	**12 36 03.3**	**-3.5**
	74nm,0.3s,baz=114,slow=8.5,SNR=5.4						
HNR				Sn	**Sn**	**12 36 36.5**	**+0.1**
	1μm,0.3s,baz=282,slow=3.6,SNR=7.4						
CTA	**Charters Tower**	**15.72**	**223**	*e*P	**Pn**	**12 39 06.9**	**-1.4**
	66nm,0.8s						
CTA				*e*S	**Sn**	**12 41 53.8**	**-8.4**
CTA	**Charters Tower**	**15.72**	**223**	*e*P	**Pn**	**12 39 06.9**	**-1.4**
CTA				*e*S	**Sn**	**12 41 53.8**	**-8.4**
CTA				pmax	pmax		
	comp=Z,66nm,0.8s						
CTA	**Charters Tower**	**15.72**	**223**	Pn	**Pn**	**12 39 07.5**	**-0.8**
	comp=Z,6.0nm,0.3s,baz=50,slow=13,SNR=20						
CTA				LR	LR	12 44 21.1	
	comp=Z,6μm,20.1s,baz=41,slow=34						
CTAO	**Charters Tower**	**15.72**	**223**	*e*Pn	**Pn**	**12 39 08.6**	**+0.2**
DZM	**Mont Dzumac**	**15.78**	**148**	Pn	**Pn**	**12 39 08.7**	**-0.4**
	comp=Z,0.2nm,0.3s,baz=310,slow=19,SNR=3.5						
EIDS	**Eidsvold**	**17.66**	**200**	*e*Pn	**Pn**	**12 39 30.3**	**-2.6**
	comp=Z,86nm,1.1s						
ARMA	**Armidale**	**22.28**	**194**	*e*P	**P**	**12 40 24.5**	**+0.5**
KAKA	**Kakadu**	**25.00**	**259**	⇓*i*P	**P**	**12 40 50.9**	**+0.2**
	comp=Z,56nm,0.7s,mb5.2						
KAKA				*e*PCP	PcP	12 44 25.9	+0.1
WB2	**Warramunga Arr**	**25.06**	**241**	⇓*i*P	**P**	**12 40 51.2**	**-0.1**
WB2				*e*PCP	PcP	12 44 26.0	+0.1
WB2				*e*PCS	PcS	12 48 05.9	-0.5
WRA	**Warramunga Arr**	**25.07**	**241**	P	**P**	**12 40 51.4**	**0.0**
WRA						12 44 26.5	
WRA	**Warramunga Arr**	**25.07**	**241**	P	**P**	**12 40 51.4**	**0.0**
	comp=Z,63nm,0.9s,mb5.2,baz=67,slow=9.9,SNR=86						
WRA				PcP	PcP	12 44 26.5	+0.6
	comp=Z,9.0nm,0.8s,baz=70,slow=2.0,SNR=8.7						
WRA				LR	LR	12 50 11.1	
	comp=Z,5μm,19.6s,MS5.0,baz=145,slow=35						
RIV	**Riverview**	**25.67**	**192**	*e*P	**P**	**12 40 58.5**	**+1.9**
ASAR	**Alice Springs**	**27.08**	**234**	P	**P**	**12 41 08.3**	**-1.2**
	comp=Z,10nm,0.8s,mb4.4,baz=64,slow=9.1,SNR=61						
ASAR				PcP	PcP	12 44 30.4	0.0
	comp=Z,4.9nm,0.9s,baz=52,slow=4.3,SNR=5.2						
STKA	**Stephens Creek**	**27.40**	**211**	*e*P	**P**	**12 41 12.1**	**-0.1**
	comp=Z,50nm,0.8s,mb5.1						
STKA				*e*PCP	PcP	12 44 27.5	-3.6
STKA	**Stephens Creek**	**27.40**	**211**	P	**P**	**12 41 12.3**	**0.0**
	comp=Z,54nm,0.7s,mb5.2,baz=24,slow=10,SNR=19						
STKA				PcP	PcP	12 44 28.5	-2.6
	comp=Z,9.8nm,0.9s,baz=72,slow=6.4,SNR=3.3						
STKA				LR	LR	12 50 14.7	
	comp=Z,165nm,21.9s,baz=29,slow=32						
CNB	**Canberra Magne**	**27.50**	**195**	⇓*i*P	**P**	**12 41 16.1**	**+2.9**
	comp=Z,47nm,1.0s,mb5.1						
AFI	**Afiamalu**	**30.48**	**103**	PFAKE		12 41 50.0	+10
AFI				LR	LR		
	comp=Z,5μm,20.0s,MS5.2						
RAO	**Raoul Island**	**30.76**	**135**	PFAKE		12 41 50.0	+7.8
RAO				LR	LR		
	comp=Z,3μm,20.0s,MS5.0						
FITZ	**Fitzroy Crossi**	**32.37**	**250**	⇑*i*P	**P**	**12 41 56.2**	**-0.3**
	comp=Z,25nm,0.9s,mb5.0						
BATI	**Kupang**	**33.46**	**265**	LR	LR	12 54 35.1	
	comp=Z,4μm,18.7s,MS5.2,baz=303,slow=34						
URZ	**Urewera**	**34.27**	**152**	P	**P**	**12 42 11.6**	**-1.2**
	comp=Z,14nm,1.0s,mb4.8,baz=321,slow=7.3,SNR=4.0						
FORT	**Forrest**	**35.19**	**227**	*e*P	**P**	**12 42 20.5**	**-0.4**
	comp=Z,61nm,0.8s,mb5.6						
DAV	**Davao City (W)**	**35.54**	**295**	PFAKE		12 42 40.0	+16
DAV				LR	LR		
	comp=Z,2μm,20.0s,MS5.0						
SNZO	**South Karori**	**35.82**	**158**	PFAKE		12 42 40.0	+14
SNZO				LR	LR		
	comp=Z,4μm,20.0s,MS5.2						
RPZ	**Rata Peaks**	**36.79**	**164**	P	**P**	**12 42 32.6**	**-1.7**
	comp=Z,11nm,0.8s,mb4.7,baz=103,slow=1.8,SNR=5.0						
KAPI	**Kappang**	**37.71**	**273**	P	**P**	**12 42 42.4**	**-0.2**
	comp=Z,543nm,1.1s,mb6.2,SNR=8.5						
MBWA	**Marble Bar**	**38.48**	**247**	*e*P	**P**	**12 42 50.2**	**+1.2**
	comp=Z,158nm,1.8s,mb5.4						
MBWA				LR	LR		
	comp=Z,4μm,19.0s,MS5.2						
TSM	**Tawau**	**41.64**	**287**	⇑P	**P**	**12 43 15.8**	**+0.4**
SDKM	**Sandakan**	**42.71**	**288**	⇑P	**P**	**12 43 22.7**	**-1.4**
RAR	**Rarotonga**	**42.90**	**112**	PFAKE		12 43 40.0	+14
RAR				LR	LR		
	comp=Z,2.0nm,20.0s						
KLBR	**Kellerberrin**	**43.39**	**233**	*e*P	**P**	**12 43 28.8**	**-0.6**
	comp=Z,19nm,0.8s,mb4.9						
KKM	**Kota Kinabalu**	**43.76**	**288**	*e*P	**P**	**12 43 32.9**	**+0.3**
KKM	**Kota Kinabalu**	**43.76**	**288**	⇓P	**P**	**12 43 33.5**	**+1.0**
NWAO	**Narrogin (SRO)**	**44.33**	**231**	LR	LR	13 02 17.8	
	comp=Z,2μm,18.1s,MS5.1,baz=72,slow=36						
MUN	**Mundaring**	**44.76**	**233**	*e*P	**P**	**12 43 44.9**	**+4.5**
JOW	**Kunigami**	**45.35**	**322**	P	**P**	**12 43 45.0**	**0.0**
	comp=Z,92nm,1.0s,mb5.6,baz=148,slow=7.3,SNR=4.9						
BTM	**Bintulu**	**45.90**	**283**	⇑P	**P**	**12 43 51.8**	**+2.1**
SBUM	**Sibu**	**46.55**	**282**	⇓P	**P**	**12 43 56.8**	**+2.0**
KSM	**Kuching**	**48.17**	**280**	*e*P	**P**	**12 44 07.8**	**+0.4**
KSM	**Kuching**	**48.17**	**280**	⇑P	**P**	**12 44 08.5**	**+1.0**
YHNB	**Yeheng**	**48.45**	**314**	*e*P	**P**	**12 44 09.4**	**0.0**
TATO	**Taipei**	**48.56**	**315**	PFAKE		12 44 20.0	+10
TATO				LR	LR		
	comp=Z,2μm,21.0s,MS5.1						
MJAR	**Matsushiro Arr**	**48.57**	**339**	P	**P**	**12 44 08.7**	**-1.3**
	comp=Z,11nm,0.8s,mb5.0,baz=166,slow=8.6,SNR=26						
MJAR				LR	LR	13 01 26.9	
	comp=Z,1μm,18.5s,MS5.0,baz=90,slow=32						
MAJO	**Matsushiro**	**48.57**	**339**	*e*P	**P**	**12 44 12.0**	**+2.0**
MAJO				LR	LR		
	comp=Z,1μm,19.0s,MS5.0						
MAT	**Matsushiro**	**48.57**	**339**	P	**P**	**12 44 08.7**	**-1.3**
PPT	**Papeete**	**52.08**	**105**	*e*LQ		12 57 23.0	
	comp=Z,2μm,24.5s						
PPT				*e*LR	LR	12 59 37.7	
	comp=Z,3μm,27.0s						
PPT	**Papeete**	**52.08**	**105**	LR	LR	13 00 30.8	
	comp=Z,1μm,21.8s,MS5.0,baz=278,slow=29						
ERM	**Erimo**	**52.20**	**346**	PFAKE		12 44 50.0	+13
ERM				LR	LR		
	comp=Z,3μm,19.0s,MS5.3						
TVO	**Taravao**	**52.40**	**106**	*e*P	**P**	**12 44 40.0**	**+0.6**
	comp=Z,60nm,0.9s,mb5.5						
TVO	**Taravao**	**52.40**	**106**	*e*P	**P**	**12 44 40.0**	**+0.6**
TVO				pmax	pmax		
	comp=Z,60nm,0.9s,mb5.5						
TBI	**Tubuai**	**52.66**	**113**	*e*LQ		12 57 38.2	
	comp=Z,4μm,31.8s						
TBI				*e*LR	LR	12 59 56.9	
	comp=Z,2μm,30.5s						
PMOR	**Pomariorio Ree**	**53.63**	**102**	*e*P	**P**	**12 44 48.4**	**-0.1**
	comp=Z,76nm,1.1s,mb5.5						
KSRS	**Korea Array**	**53.67**	**331**	P	**P**	**12 44 48.6**	**+0.3**
	comp=Z,20nm,1.0s,mb5.0,baz=152,slow=7.8,SNR=27						
POHA	**Pohakuloa**	**54.16**	**58**	PFAKE		12 45 00.0	+7.7
POHA				LR	LR		
	comp=Z,2μm,20.0s,MS5.1						
ASAJ	**Asahikawa**	**54.32**	**347**	P	**P**	**12 44 53.1**	**+0.2**
	comp=Z,4.9nm,0.7s,mb4.5,baz=233,slow=12,SNR=7.4						
INCN	**Inchon**	**54.32**	**330**	*e*P	**P**	**12 44 53.8**	**+0.6**
	comp=Z,76nm,0.9s,mb5.6						
INCN				LR	LR		
	comp=Z,1μm,20.0s,MS5.0						
QIZ	**Qiongzhong**	**54.53**	**301**	P	**P**	**12 44 55.6**	**+0.6**
QIZ	**Qiongzhong**	**54.53**	**301**	PFAKE		12 45 10.0	+15
QIZ				LR	LR		
	comp=Z,878nm,19.0s,MS4.8						
MYKOM	**Kota Tinggi**	**54.54**	**278**	⇓P	**P**	**12 44 55.9**	**+0.7**
NJ2	**Nanjing**	**54.87**	**320**	*e*P	**P**	**12 44 57.9**	**+0.7**
NJ2				AP	pP	12 45 02.6	-0.4
NJ2				XP	sP	12 45 05.1	-0.2
NJ2				PP	PP	12 47 02.6	+2.2
NJ2				AMB	AMB		
	comp=Z,70nm,0.7s,mb5.8						
NJ2				AMB	AMB		
	comp=Z,2μm,4.5s						
NJ2				LR	LR		
	comp=N,15μm,21.1s,MS6.2						
NJ2				LR	LR		
	comp=E,12μm,18.4s,MS6.2						
NJ2				LR	LR		
	comp=Z,11μm,19.4s,MS6.0						
KGM	**Kluang**	**55.11**	**279**	⇓P	**P**	**12 45 00.1**	**+0.7**
KTGM	**Kuala Trenggan**	**56.04**	**282**	⇓P	**P**	**12 45 06.3**	**+0.3**
VLA	**Vladivostok**	**56.65**	**338**	*e*P	**P**	**12 45 08.0**	**-1.8**
VLA				*e*	pP	12 45 13.4	-2.2
VLA				*e*		12 45 26.9	
VLA				pmax	pmax		
	comp=Z,68nm,1.9s,mb5.3						
WHN	**Wuhan**	**56.95**	**315**	*e*P	**P**	**12 45 13.0**	**+0.8**
WHN				AP	pP	12 45 19.0	+1.0
YSS	**Yuzh-Sakhalins**	**56.98**	**348**	*e*P	**P**	**12 45 11.8**	**-0.3**
YSS				LR	LR		
	comp=Z,1μm,19.0s,MS5.1						
YSS	**Yuzh-Sakhalins**	**56.98**	**348**	*e*P	**P**	**12 45 11.2**	**-0.9**
YSS				*e*	pP	12 45 17.0	-0.9
YSS				MLR	MLR		
	comp=N,2μm,17.0s						
YSS				MLR	MLR		
	comp=Z,2μm,17.0s,MS5.2						
DL2	**Dalian**	**57.98**	**327**	P	**P**	**12 45 20.6**	**+1.3**
DL2				AMB	AMB		
	comp=Z,20nm,1.0s,mb5.1						
KULM	**Kulim**	**58.43**	**282**	*e*P	**P**	**12 45 22.3**	**-0.6**
KULM	**Kulim**	**58.43**	**282**	⇑P	**P**	**12 45 23.3**	**+0.3**
MDJ	**Mudanjiang**	**58.80**	**337**	P	**P**	**12 45 25.0**	**+0.1**
MDJ				AMB	AMB		
	comp=Z,43nm,1.2s,mb5.3						
MDJ				AMB	AMB		
	comp=Z,2μm,14.6s						
MDJ	**Mudanjiang**	**58.80**	**337**	*e*P	**P**	**12 45 24.8**	**-0.1**
	comp=Z,39nm,1.0s,mb5.4						
MDJ				LR	LR		
	comp=Z,1μm,19.0s,MS5.1						
CN2	**Changchun**	**59.85**	**334**	*e*P	**P**	**12 45 32.0**	**-0.2**
CN2				*e*XP	sP	12 45 39.0	-1.2
CN2				AMB	AMB		
	comp=Z,40nm,1.3s,mb5.3						
CN2				AMB	AMB		
	comp=Z,200nm,3.0s						
ENH	**Enshi**	**60.28**	**312**	PFAKE		12 45 50.0	+15
ENH				LR	LR		
	comp=Z,7.0nm,19.0s						
GYA	**Guiyang**	**60.52**	**307**	⇑*i*P	**P**	**12 45 40.8**	**+3.7**
GYA				AP	pP	12 45 44.9	+1.9
GYA				XP	sP	12 45 47.6	+2.4
GYA				PCP	PcP	12 46 24.0	+2.3
GYA				PP	PP	12 47 56.2	+5.4
GYA				SCP	ScP	12 50 23.7	+1.4
GYA				S	**S**	**12 53 55.4**	**+3.1**
GYA				SCS	ScS	12 55 27.0	-0.6
GYA				SS	SS	12 57 55.2	+4.4
GYA				AMB	AMB		
	comp=Z,100nm,1.0s,mb5.9						
GYA				AMB	AMB		
	comp=Z,16μm,11.9s						
GYA				LR	LR		
	comp=N,15μm,20.6s,MS6.2						
GYA				LR	LR		
	comp=E,11μm,21.0s,MS6.2						
GYA				LR	LR		
	comp=Z,14μm,22.2s,MS6.1						
BJT	**Baijiatuau**	**61.77**	**325**	PFAKE		12 46 00.0	+15
BJT				LR	LR		
	comp=Z,2μm,19.0s,MS5.2						
BJI	**Beijing**	**61.79**	**325**	P	**P**	**12 45 45.2**	**-0.2**
BJI				AMB	AMB		
	comp=Z,17nm,1.3s,mb5.0						
BJI	**Beijing**	**61.79**	**325**	P	**P**	**12 45 45.2**	**-0.2**
	comp=Z,17nm,1.3s,mb5.0						
NST	**Nakhon Sawan**	**61.83**	**293**	⇓P	**P**	**12 45 47.5**	**+1.3**
	comp=Z,67nm,0.9s,mb5.8						
NST	**Nakhon Sawan**	**61.83**	**293**	⇓P	**P**	**12 45 47.5**	**+1.3**
	comp=Z,67nm,0.9s,mb5.8						
KLR	**Kul'dur**	**62.00**	**341**	*e*P	**P**	**12 45 42.0**	**-4.6**
KLR				pmax	pmax		
	comp=E,28nm,1.4s						
KLR				pmax	pmax		
	comp=Z,57nm,1.4s,mb5.5						
XAN	**Xi'an**	**62.72**	**315**	P	**P**	**12 45 51.3**	**-0.5**
XAN				AP	pP	12 45 57.9	+0.2
XAN				S	**S**	**12 54 11.5**	**-8.3**
XAN				AMB	AMB		
	comp=Z,37nm,1.5s,mb5.3						
XAN				LR	LR		
	comp=N,860nm,20.1s,MS5.1						
XAN				LR	LR		
	comp=E,774nm,16.8s,MS5.1						
XAN				LR	LR		
	comp=Z,2μm,16.8s,MS5.3						
KMI	**Kunming**	**63.09**	**304**	P	**P**	**12 45 56.3**	**+1.8**
KMI				AP	pP	12 46 00.4	+0.1
KMI				AMB	AMB		
	comp=Z,92nm,1.3s,mb5.8						
KMI	**Kunming**	**63.09**	**304**	P	**P**	**12 45 56.3**	**+1.8**
	comp=Z,92nm,1.3s,mb5.8						
KMI				pP	pP	12 46 00.4	+0.1
CHRT	**Chiangrai**	**63.57**	**297**	⇑P	**P**	**12 45 59.0**	**+1.3**
	comp=Z,316nm,0.7s,mb6.5						
CHRT	**Chiangrai**	**63.57**	**297**	⇑P	**P**	**12 45 59.0**	**+1.3**
	comp=Z,316nm,0.7s,mb6.5						
CHTO	**Chiang Mai**	**63.94**	**296**	*e*P	**P**	**12 46 01.0**	**+0.8**
CHTO				LR	LR		
	comp=Z,2μm,19.0s,MS5.2						
ADK	**Adak**	**64.31**	**17**	*e*P	**P**	**12 46 01.3**	**-0.6**
ADK				LR	LR		
	comp=Z,3μm,19.0s,MS5.5						
CD2	**Chengdu**	**64.87**	**310**	⇑*i*P	**P**	**12 46 06.8**	**+0.7**
CD2				AP	pP	12 46 11.3	-0.7
CD2				XP	sP	12 46 13.8	-0.4
CD2				PP	PP	12 48 31.6	+2.6
CD2				PCS		12 50 42.1	
CD2				S	**S**	**12 54 46.6**	**-0.2**
CD2				XS	sS	12 54 54.3	-2.2
CD2				SCS	ScS	12 55 57.2	-3.2
CD2				SS	SS	12 59 00.3	+1.6
CD2				AMB	AMB		
	comp=Z,210nm,0.7s,mb6.3						
CD2				LR	LR		
	comp=N,1μm,15.6s,MS5.5						
CD2				LR	LR		
	comp=E,2μm,15.5s,MS5.5						
CD2				LR	LR		
	comp=Z,2μm,15.6s,MS5.3						
HHC	**Hu-ho-hao-te**	**65.00**	**323**	*e*P	**P**	**12 46 07.4**	**+0.7**
HHC				AP	pP	12 46 11.7	-0.9
HHC				XP	sP	12 46 14.6	-0.1
HHC				PP	PP	12 48 32.5	+2.6
HHC				SCP		12 50 40.4	
HHC				PCS		12 50 44.9	
HHC				S	**S**	**12 54 49.5**	**+1.6**
HHC				XS	sS	12 54 55.5	-2.1
HHC				SCS	ScS	12 55 58.7	-2.2
HHC				SS	SS	12 59 04.5	+4.2
HHC				AMB	AMB		
	comp=Z,18nm,0.5s,mb5.4						
HHC				LR	LR		
	comp=N,1μm,16.3s,MS5.3						
HHC				LR	LR		
	comp=E,687nm,15.3s,MS5.3						
HHC				LR	LR		
	comp=Z,1μm,14.7s,MS5.3						
CASY	**Casey**	**65.76**	**199**	PFAKE		12 46 20.0	+8.8
CASY				LR	LR		
	comp=Z,2μm,19.0s,MS5.4						
RKT	**Rikitea**	**65.94**	**111**	*e*LQ		13 03 03.1	
	comp=Z,1μm,29.5s						
RKT				*e*LR	LR	13 05 45.3	
	comp=Z,2μm,28.2s						
HIA	**Hailar**	**66.57**	**334**	PFAKE		12 46 30.0	+13
HIA				LR	LR		
	comp=Z,2μm,19.0s,MS5.3						
LZH	**Lanzhou**	**67.33**	**315**	⇑P	**P**	**12 46 23.1**	**+1.3**
LZH				AP	pP	12 46 26.7	-1.0
LZH				XP	sP	12 46 29.0	-0.9
LZH				PP	PP	12 48 54.0	+3.6
LZH				S	S	12 55 18.0	+1.5
LZH				XS	sS	12 55 24.4	-1.9
LZH				SS	SS	12 59 39.5	+2.7
LZH				AMB	AMB		
	comp=Z,139nm,1.5s,mb5.8						
LZH				AMB	AMB		
	comp=Z,369nm,4.7s						
LZH				LR	LR		
	comp=N,971nm,15.1s						
LZH				LR	LR		
	comp=Z,1μm,15.5s,MS5.2						
LZH	**Lanzhou**	**67.33**	**315**	⇑P	**P**	**12 46 23.1**	**+1.3**
	comp=Z,139nm,1.5s,mb5.8						
LZH				pP	pP	12 46 26.7	-1.0
LZH				sP	sP	12 46 29.0	-0.9
LZH				PP	PP	12 48 54.0	+3.6
LZH				S	S	12 55 18.0	+1.5
LZH				sS	sS	12 55 24.4	-1.9
LZH				SS	SS	12 59 39.5	+2.7
LZH				LR	LR		
	comp=Z,1μm,15.5s,MS5.2						
LZH	**Lanzhou**	**67.33**	**315**	⇑P	**P**	**12 46 23.1**	**+1.3**
LZH				*SP	sP	12 46 29.0	-0.9
LZH						12 48 54.0	
LZH				S	S	12 55 18.0	+1.5
LZH				SS	SS	12 59 39.5	+2.7
LZH				pmax	pmax		
	comp=Z,139nm,1.5s,mb5.8						
LZH				MLR	MLR		
	comp=Z,1μm,15.5s,MS5.2						
MA2	**Magadan**	**68.30**	**356**	PFAKE		12 46 40.0	+13
MA2				LR	LR		
	comp=Z,915nm,19.0s,MS5.0						
MA2	**Magadan**	**68.30**	**356**	*e*P	**P**	**12 46 26.7**	**-0.6**
MA2				pmax	pmax		
	comp=Z,70nm,1.4s,mb5.5						
VNDA	**Vanda**	**68.80**	**179**	P	**P**	**12 46 29.7**	**-0.6**
	comp=Z,3.1nm,0.8s,mb4.3,baz=338,slow=6.2,SNR=14						
SBA	**Scott Base**	**69.26**	**178**	*e*P	**P**	**12 46 32.1**	**-1.1**
SBA				LR	LR		
	comp=Z,1μm,21.0s,MS5.0						
UNV	**Unalaska Valle**	**69.34**	**22**	*e*P	**P**	**12 46 33.5**	**-0.4**
UNV				LR	LR		
	comp=Z,4μm,19.0s,MS5.7						
AKUT	**Akutan**	**69.83**	**22**	*e*P	**P**	**12 46 35.8**	**-1.2**
CLNS	**Chul'man**	**70.65**	**342**	*e*P	**P**	**12 46 37.4**	**-4.5**
CLNS				*e**PP	pP	12 46 46.3	-1.6
CLNS				*e*S	S	12 55 46.2	-8.7
CLNS				pmax	pmax		
	comp=E,9.0nm,1.0s						
CLNS				pmax	pmax		
	comp=Z,48nm,1.0s,mb5.4						
CLNS				pmax	pmax		
	comp=N,17nm,0.9s						
CLNS				smax			
	comp=N,914nm,12.5s						
CLNS				smax			
	comp=Z,1μm,13.6s						
CLNS				smax			
	comp=E,904nm,14.5s						
FALS	**False Pass**	**71.27**	**23**	*e*P	**P**	**12 46 44.3**	**-1.4**
CIT	**Chita**	**71.29**	**333**	*e*P	**P**	**12 46 46.2**	**+0.3**
CIT				*e*		12 47 05.2	
CIT				pmax	pmax		
	comp=Z,76nm,2.1s,mb5.3						
SEY	**Seymchan**	**71.56**	**358**	⇑*e*P	**P**	**12 46 46.1**	**-1.2**
SONM	**Songino Array**	**72.17**	**327**	P	**P**	**12 46 51.4**	**0.0**
	comp=Z,12nm,0.9s,mb4.8,baz=137,slow=5.9,SNR=64						
SHL	**Shillong**	**72.36**	**300**	*i*P	**P**	**12 46 54.0**	**+1.0**
SHL				AMb	AMB	12 47 14.7	
	comp=Z,401nm,1.0s,mb6.3						
SHL				*e*S	S	12 56 19.0	+3.0
SDPT	**Sand Point**	**72.78**	**24**	*e*P	**P**	**12 46 54.0**	**-0.7**
YAK	**Yakutsk**	**73.80**	**347**	*e*P	**P**	**12 47 00.4**	**-0.3**
	comp=E,61nm,0.8s,mb5.6						
YAK				LR	LR		
	comp=Z,1μm,22.0s,MS5.1						
YAK	**Yakutsk**	**73.80**	**347**	*c i*P	**P**	**12 47 00.1**	**-0.6**
YAK				*e**PP	pP	12 47 10.5	+3.9
YAK				*e*		12 47 15.5	
YAK				*e*S	S	12 56 25.5	-5.4
YAK				*e*		12 57 09.5	
YAK				pmax	pmax		
	comp=Z,60nm,1.0s,mb5.5						
YAK				pmax	pmax		
	comp=N,23nm,1.3s						
YAK				pmax	pmax		
	comp=E,11nm,1.4s						
YAK				smax			
	comp=N,420nm,5.9s						
YAK				smax			
	comp=E,432nm,10.2s						
YAK				MLR	MLR		
	comp=Z,961nm,16.0s,MS5.2						
CHGN	**Chignik**	**74.27**	**24**	*e*P	**P**	**12 47 00.6**	**-3.0**
LSA	**Lhasa**	**74.35**	**304**	*e*P	**P**	**12 47 05.8**	**+1.2**
	comp=Z,21nm,0.9s,mb5.1						
LSA				LR	LR		
	comp=Z,1μm,19.0s,MS5.3						
LSA	**Lhasa**	**74.35**	**304**	*e*P	**P**	**12 47 05.9**	**+1.3**
LSA				pmax	pmax		
	comp=Z,21nm,0.9s,mb5.1						
LSA				MLR	MLR		
	comp=Z,1μm,19.0s,MS5.3						
BOD

BILL pmax pmax
comp=Z,73nm,1.0s,mb5.6
BOK Bokaro 77.05 297 *eP* **P 12 47 19.6 -0.6**
BOK AMb AMB 12 47 29.4
comp=Z,45nm,1.4s,mb5.2
MOY Mondy 77.22 328 *eP* **P 12 47 20.5 0.0**
MOY pmax pmax
comp=Z,65nm,3.1s
KDAK Kodiak Island 77.64 25 P **P 12 47 22.0 -0.7**
comp=Z,276nm,1.0s,mb6.1,SNR=12
KDAK Kodiak Island 77.64 25 *eP* **P 12 47 21.7 -1.0**
KDAK LR LR
comp=Z,440nm,20.0s,MS4.8
KDAK Kodiak Island 77.64 25 P **P 12 47 21.9 -0.8**
comp=Z,31nm,0.8s,mb5.3,baz=230,slow=3.6,SNR=35
JIRN Jiri 77.85 301 *eP* **P 12 47 25.2 +0.6**
comp=Z,260nm,1.8s,mb5.8
VIS Vishakhapatnam 77.86 290 *eP* **P 12 47 24.1 -0.7**
VIS AMb AMB 12 47 33.7
comp=Z,37nm,1.1s,mb5.2
PALK Pallekele 78.23 279 P **P 12 47 28.4 +1.4**
comp=Z,338nm,1.0s,mb6.2,SNR=9.5
PALK Pallekele 78.23 279 *eP* **P 12 47 26.5 -0.5**
comp=Z,56nm,1.0s,mb5.5
PALK LR LR
comp=Z,1µm,19.0s,MS5.2
TNA Tin City 78.36 14 *eP* **P 12 47 26.2 -0.4**
comp=Z,61nm,1.0s,mb5.5
TNA LR LR
comp=Z,933nm,19.0s,MS5.1
SVW2 Sparrevohn 78.66 21 *eP* **P 12 47 27.8 -0.5**
KKN Kakani 78.66 301 *eP* **P 12 47 29.3 +0.2**
comp=Z,72nm,1.1s,mb5.5
GKN Gorkha 79.27 301 *eP* **P 12 47 32.2 -0.2**
comp=Z,243nm,1.4s,mb5.9
TTA Tatalina 79.77 20 *eP* **P 12 47 34.1 -0.2**
BLSP Bilaspur 79.97 294 *eP* **P 12 47 35.4 -1.0**
BLSP AMb AMB 12 47 44.9
comp=Z,61nm,1.3s,mb5.4
KOLN Koldanda 80.09 300 *eP* **P 12 47 36.7 -0.2**
comp=Z,68nm,0.9s,mb5.6
SLKM Skilak Lake 80.29 23 *eP* **P 12 47 36.2 -1.0**
SLKM *e*PcP PcP 12 47 42.5 -1.9
QSPA South Pole Qui 81.26 180 *eP* **P 12 47 43.2 +1.1**
PMR Palmer 81.37 23 *eP* **P 12 47 41.5 -1.5**
comp=Z,112nm,1.0s,mb5.8
PMR Palmer 81.37 23 *eP* **P 12 47 41.5 -1.5**
PMR pmax pmax
comp=Z,112nm,1.0s,mb5.8
SML Sawmill 81.80 23 *eP* **P 12 47 44.8 -0.5**
WMQ Urumqi 81.82 317⇑ /P **P 12 47 46.0 +0.2**
WMQ AMB AMB
comp=Z,45nm,1.2s,mb5.3
WMQ LR LR
comp=Z,1µm,18.7s,MS5.2
KOD Kodaikanal 81.91 282 *eP* **P 12 47 48.3 +1.4**
KOD AMb AMB 12 47 49.4
comp=Z,59nm,0.8s,mb5.6
EYAK Cordova Ski Ar 82.11 25 *eP* **P 12 47 46.1 -0.8**
comp=Z,39nm,1.3s,mb5.2
HYB Hyderabad 82.24 289 *eP* **P 12 47 48.5 0.0**
TIXI Tiksi 82.44 351 *eP* **P 12 47 48.4 0.0**
comp=Z,61nm,1.5s,mb5.3
TIXI LR LR
comp=Z,1µm,19.0s,MS5.3
TIXI Tiksi 82.44 351⇑ *eP* **P 12 47 47.1 -1.3**
TIXI pmax pmax
comp=Z,51nm,1.6s,mb5.2
IMA2 Indian Mountai 82.63 18 *eP* **P 12 47 48.7 -0.8**
MCK McKinley 82.73 21 *eP* **P 12 47 49.8 -0.3**
comp=Z,1.4nm,0.6s
MCK LR LR
comp=Z,692nm,21.0s,MS5.0
LGTI Lohaghat 83.37 301 *eP* **P 12 47 54.5 +0.3**
MAW Mawson 83.78 203 *eP* **P 12 47 55.2 -0.4**
comp=Z,22nm,0.9s,mb5.3
MAW Mawson 83.78 203 *eP* **P 12 47 55.2 -0.4**
MAW pmax pmax
comp=Z,22nm,0.9s
MAW Mawson 83.78 203 P **P 12 47 55.5 0.0**
comp=Z,26nm,0.8s,mb5.4,baz=86,slow=5.8,SNR=17
COLA College 83.79 20 *eP* **P 12 47 54.1 -1.4**
comp=Z,127nm,0.9s,mb6.0
COLA *e*PcP PcP 12 47 59.2 -0.4
COLA LR LR
comp=Z,777nm,20.0s,MS5.1
COLA College 83.79 20 *eP* **P 12 47 54.1 -1.4**
COLA *e* pP 12 47 59.2 -2.3
COLA pmax pmax
comp=Z,127nm,0.9s,mb6.0
COLA MLR MLR
comp=Z,777nm,20.0s,MS5.1
MENT Mentasta 84.22 23 *eP* **P 12 47 57.5 -0.2**
AKL Akola 84.32 292 *eP* **P 12 47 58.5 -0.7**
AKL AMb AMB 12 48 06.8
comp=Z,79nm,2.9s,mb5.3
BHPL Bhopal 84.46 294 *eP* **P 12 47 58.6 -1.3**
BHPL AMb AMB 12 48 01.3
comp=Z,34nm,1.1s,mb5.4
SIT Sitka 85.19 30 PFAKE 12 48 10.0 +7.2
SIT LR LR
comp=Z,3µm,19.0s,MS5.7
NDI New Delhi 85.78 300 *eP* **P 12 48 04.5 -1.9**
NDI *eP* 12 48 04.9
NDI AMb AMB 12 48 07.8
comp=Z,48nm,1.7s,mb5.5
EGAK Eagle 86.14 22 *eP* **P 12 48 07.1 -0.2**
SKAG Skagway 86.17 28 *eP* **P 12 48 07.9 +0.3**
comp=Z,218nm,2.0s,mb6.0
KAD Karad 86.31 288 *eP* **P 12 48 08.0 -1.3**
KAD *eP* 12 48 08.1
KAD AMb AMB 12 48 17.9
comp=Z,48nm,1.3s,mb5.6
SMLA Simla 86.34 302 *eP* **P 12 48 08.2 -0.9**
SMLA AMb AMB 12 48 11.2
comp=Z,51nm,1.3s,mb5.6
MKAR Makanchi Array 86.38 318 P **P 12 48 08.2 -0.7**
MKAR P'P' 13 14 12.3
MKAR Makanchi Array 86.38 318 P **P 12 48 08.2 -0.7**
comp=Z,4.9nm,0.6s,mb4.9,baz=98,slow=6.1,SNR=45
MKAR PKPPKP 13 14 12.3
comp=Z,0.1nm,0.3s,baz=240,slow=2.8,SNR=3.7
WRAK Wrangell Islan 86.46 32 PFAKE 12 48 20.0 +11
WRAK LR LR
comp=Z,2µm,19.0s,MS5.6
DAWY Dawson 86.47 23 *eP* **P 12 48 08.8 -0.2**
POO Poona 86.84 289 *ex* x 12 48 05.0
POO *eP* 12 48 11.1
POO AMb AMB 12 48 14.2
comp=Z,38nm,1.7s,mb5.3
ZAA0 Zalesovo Array 87.04 326 *eP* **P 12 48 10.2 -1.8**
P01C Double 8 Ranch 87.18 50 ⇑P **P 12 48 12.9 -0.1**
baz=87
MCCM Marconi Confer 87.22 51 PFAKE 12 48 20.0 +6.8
MCCM LR LR
comp=Z,978nm,20.0s,MS5.2
KHMM Horse Mountain 87.22 48 *eP* **P 12 48 12.5 -0.7**
HOPS Hopland 87.27 50 PFAKE 12 48 20.0 +6.5
HOPS LR LR
comp=Z,2µm,19.0s,MS5.5
N02C Big Bar 87.52 48 ⇑P **P 12 48 14.6 0.0**
baz=88
BNLO Ben Lomond (Sa 87.54 52 ⇑P **P 12 48 14.4 -0.4**
baz=88
JRSC Jasper Ridge 87.55 52 ⇑P **P 12 48 14.3 -0.5**
baz=88
AJM Ajmer 87.58 297 *i* P **P 12 48 14.0 -1.2**
CVS Carmenet Viney 87.58 51 ⇑P **P 12 48 14.2 -0.8**
baz=88
GASB Alder Springs 87.69 49 ⇑P **P 12 48 14.6 -0.9**
baz=88
MNRC McLaughlin Nat 87.72 50 ⇑P **P 12 48 15.8 +0.2**
baz=88
O02C Red Bluff 87.75 49 ⇓P **P 12 48 15.9 +0.1**
baz=88,SNR=6.3
K02A Glendale 87.85 46 ⇓P **P 12 48 16.1 0.0**
baz=88
HAST Hastings Reser 87.86 53 ⇑P **P 12 48 15.8 -0.5**
baz=88
M02C Callahan 87.98 48 ⇓P **P 12 48 17.0 +0.1**
baz=88
Q03C Winters 87.99 51 ⇑P **P 12 48 16.5 -0.5**
baz=88
SAO San Andreas Ge 88.02 53 *eP* **P 12 48 17.3 +0.2**
comp=Z,14nm,0.9s,mb5.2
SAO LR LR
comp=Z,1µm,19.0s,MS5.4
SAO San Andreas Ge 88.02 53 *eP* **P 12 48 17.3 +0.2**
SAO pmax pmax
comp=Z,14nm,0.9s,mb5.2
SAO MLR MLR
comp=Z,1µm,19.0s,MS5.4
WDC Whiskeytown Da 88.03 49 PFAKE 12 48 30.0 +13
WDC LR LR
comp=Z,1µm,19.0s,MS5.4
WDC Whiskeytown Da 88.03 49 P **P 12 48 17.1 0.0**
baz=88,SNR=8.0
V03C Hunter Liggett 88.03 53 ⇓P **P 12 48 17.0 -0.2**
baz=88
YBH Yreka Blue Hor 88.17 47 *eP* **P 12 48 18.4 +0.7**
comp=Z,28nm,1.5s,mb5.3
YBH LR LR
comp=Z,2µm,19.0s,MS5.4
YBH Yreka Blue Hor 88.17 47 P **P 12 48 18.5 +0.8**
baz=88,SNR=8.0
PACP Pacheco Peak 88.20 52 ⇑P **P 12 48 18.2 +0.2**
baz=88,SNR=6.4
S04C Ingram Canyon, 88.27 52 ⇑P **P 12 48 18.3 0.0**
baz=88
I03A Eugene 88.28 45 ⇓P **P 12 48 17.4 -0.7**
baz=88
DLBC Dease Lake 88.34 30 *eP* **P 12 48 17.8 -0.3**
J03A Ideyld Park 88.36 46 ⇓P **P 12 48 18.3 -0.3**
baz=88
COR Corvallis 88.41 45 PFAKE 12 48 30.0 +11
COR LR LR
comp=Z,2µm,19.0s,MS5.6
H03A Soap Creek Ran 88.44 45 ⇓P **P 12 48 19.1 +0.1**
baz=88
U04C Hernandez Rese 88.46 53 ⇓P **P 12 48 19.7 +0.4**
baz=88,SNR=7.7
M03C McCloud 88.49 48 P **P 12 48 20.0 +0.7**
baz=88,SNR=9.0
OHCM Honcut 88.55 50 *eP* **P 12 48 18.9 -0.7**
PKD Parkfield 88.57 53 P **P 12 48 20.8 +1.0**
baz=89,SNR=7.2
ORV Oroville 88.58 50 P **P 12 48 20.1 +0.4**
baz=89,SNR=5.3
T05C Eagle Field, D 88.66 53 ⇓P **P 12 48 20.5 +0.3**
baz=89
E03A Lebam 88.71 43 ⇑P **P 12 48 20.0 -0.2**
baz=89
NLWA Neilton Lookou 88.71 42 PFAKE 12 48 30.0 +10
NLWA LR LR
comp=Z,2µm,20.0s,MS5.6
R04C Big Horse Ranc 88.73 51 ⇑P **P 12 48 20.1 -0.4**
baz=89
PTRM Twissleman Ran 88.77 54 *eP* **P 12 48 20.1 -0.6**
M04C Macdoel 88.81 48 P **P 12 48 21.4 +0.7**
baz=89,SNR=5.8
I04A Tendick Farm, 88.85 46 ⇓P **P 12 48 20.5 -0.4**
baz=89
SNCC San Nicolas Is 88.86 56 PFAKE 12 48 30.0 +8.8
SNCC LR LR
comp=Z,2µm,19.0s,MS5.5
HATC Hat Creek Radi 88.88 49 ⇓P **P 12 48 21.7 +0.6**
baz=89
BSC Santa Cruz Isl 88.91 56 ⇓P **P 12 48 21.4 0.0**
baz=89
SBC Santa Barbara 88.93 55 ⇑P **P 12 48 22.0 +0.5**
baz=89
PKM Peak Mountain 88.94 55 ⇑P **P 12 48 22.0 +0.5**
baz=89,SNR=5.6
J04A Umpqua Nationa 88.94 46 P **P 12 48 21.5 +0.2**
baz=89,SNR=11
U05C Westside ANR, 88.98 53 ⇓P **P 12 48 21.7 0.0**
baz=89
LAVA Lava Cap Winer 88.99 51 ⇓P **P 12 48 21.2 -0.5**
baz=89
S05C Merced 89.02 52 P **P 12 48 22.3 +0.5**
baz=89,SNR=10
O04C Chester 89.05 49 P **P 12 48 22.8 +0.8**
baz=89,SNR=14
V05C Boulder Hill, 89.06 54 ⇑P **P 12 48 22.3 +0.3**
baz=89
O05C Quincy 89.11 49 ⇑P **P 12 48 22.1 -0.1**
baz=89
CMB Columbia Colle 89.11 51 PFAKE 12 48 30.0 +7.7
CMB LR LR
comp=Z,1µm,20.0s,MS5.3
CMB Columbia Colle 89.11 51 ⇓P **P 12 48 22.2 0.0**
baz=89
G04A Mulino 89.13 44 ⇓P **P 12 48 22.0 -0.1**
baz=89
P05C Yuba Gap, Truc 89.20 50 P **P 12 48 23.2 +0.6**
baz=89,SNR=7.8
H04A Detroit Lake 89.21 45 ⇑P **P 12 48 21.9 -0.6**
baz=89
M05C Lookout 89.23 48 P **P 12 48 23.4 +0.7**
baz=89,SNR=6.4
C04A Brinnon 89.38 42 ⇑P **P 12 48 22.4 -0.9**
baz=89
BLG Laguna Peak 89.40 56 ⇓P **P 12 48 23.1 -0.6**
baz=89
T06C Millerton Lake 89.44 53 P **P 12 48 23.9 +0.1**
baz=90,SNR=13
R05C Kirkwood Meado 89.49 51 P **P 12 48 24.4 +0.4**
baz=90,SNR=6.1
BEKR Beckwourth 89.51 50 P **P 12 48 24.8 +0.7**
baz=90,SNR=15
J05A Fort Rock 89.57 46 P **P 12 48 24.5 +0.2**
baz=90,SNR=20
L05A Lakeview 89.60 47 ⇓P **P 12 48 24.6 +0.1**
baz=90
M06C Likely Place G 89.69 48 ⇓P **P 12 48 24.9 0.0**
baz=90,SNR=6.0
K05A Summer Lake 89.70 47 ⇓P **P 12 48 24.8 -0.1**
baz=90,SNR=10
VES Vestal, Richgr 89.71 54 P **P 12 48 24.8 -0.3**
baz=90,SNR=8.2
I05A Bend 89.74 45 ⇑P **P 12 48 25.0 0.0**
baz=90
KURK Kurchatov 89.76 321 *eP* **P 12 48 24.0 -1.0**
comp=Z,44nm,1.9s,mb5.5
KURK LR LR
comp=Z,2µm,19.0s,MS5.6
KURK Kurchatov 89.76 321⇑ *eP* **P 12 48 22.3 -2.7**
ARVC Arvin 89.78 55 ⇓P **P 12 48 25.5 +0.1**
baz=90,SNR=5.0
A04A Legoe Bay, Lum 89.78 41 ⇓P **P 12 48 25.9 +0.8**
baz=90
KCC Kaiser Creek 89.80 52 P **P 12 48 26.2 +0.7**
baz=90,SNR=13
CIS Catalina Islan 89.81 56 ⇑P **P 12 48 25.7 +0.1**
baz=90
P06A Stead Airport, 89.82 50 ⇓P **P 12 48 26.4 +0.9**
baz=90
WCN Washoe City 89.85 50 P **P 12 48 26.4 +0.7**
baz=90,SNR=8.2
D05A Enumclaw 89.91 42 ⇑P **P 12 48 25.7 0.0**
baz=90
HELL Mitchell Peak 89.92 53 P **P 12 48 26.0 0.0**
baz=90,SNR=22
E05A Randle 89.92 43 ⇓P **P 12 48 24.9 -0.9**
baz=90
R06C Coleville 89.93 51 P **P 12 48 27.2 +1.1**
baz=90,SNR=12
MOD Modoc 89.96 48 *eP* **P 12 48 25.8 -0.4**
MOD LR LR
comp=Z,2µm,19.0s,MS5.5
MOD Modoc 89.96 48 P **P 12 48 26.8 +0.7**
baz=90,SNR=5.7
O06A Flanigan 89.97 49 P **P 12 48 27.0 +0.8**
baz=90,SNR=13
F05A White Salmon 89.98 44 ⇑P **P 12 48 25.8 -0.3**
baz=90
TKM2 Tokmak 2 90.05 313 PFAKE 12 48 40.0 +13
TKM2 LR LR
comp=Z,1µm,20.0s,MS5.4
N06A Buffalo Meadow 90.08 49 P **P 12 48 27.0 +0.3**
baz=90,SNR=22
B05A Bryant 90.08 41 ⇑P **P 12 48 25.8 -0.8**
baz=90
ISA Isabella 90.16 54 *eP* **P 12 48 26.6 -0.6**
ISA LR LR
comp=Z,2µm,19.0s,MS5.5
ISA Isabella 90.16 54 P **P 12 48 27.2 0.0**
baz=90,SNR=12
K06A Valley Falls 90.18 47 P **P 12 48 27.4 +0.3**
baz=90,SNR=8.2
C05A Tolt Reservoir 90.22 42 ⇓P **P 12 48 26.0 -1.2**
baz=90
MWC Mount Wilson 90.24 56 *eP* **P 12 48 27.2 -0.4**
A05A Maple Falls 90.25 40 ⇑P **P 12 48 26.4 -0.9**
baz=90
J06A Christmas Vall 90.34 46 P **P 12 48 27.6 -0.3**
baz=90,SNR=21
MTUM Tungsten Hills 90.40 52 *eP* **P 12 48 27.8 -0.5**
EDW2 Edwards Air Fo 90.41 55 ⇓P **P 12 48 28.3 -0.1**
baz=90,SNR=19
F06A Goldendale 90.42 44 ⇑P **P 12 48 27.5 -0.6**
baz=90
I06A Prineville 90.44 46 P **P 12 48 28.4 +0.1**
baz=90,SNR=24
E06A Yakima 90.44 43 P **P 12 48 27.6 -0.6**
baz=90,SNR=7.7
INK Inuvik 90.44 20 *eP* **P 12 48 27.7 -0.1**
INK Inuvik 90.44 20 P **P 12 48 26.9 -0.9**
comp=Z,13nm,1.1s,mb5.2,baz=239,slow=4.3,SNR=26
Q07A Schurz 90.50 51 ⇑P **P 12 48 29.1 +0.4**
baz=90,SNR=8.2
H06A Lindquist Farm 90.51 45 P **P 12 48 28.6 0.0**
baz=91,SNR=8.1
BFSC Mount Baldy St 90.57 56 P **P 12 48 29.2 +0.1**
baz=91,SNR=13
TIN Tinemaha 90.61 53 P **P 12 48 30.5 +1.2**
baz=91,SNR=12
CWC Cottonwood Cre 90.62 53 P **P 12 48 30.0 +0.6**
baz=91,SNR=8.5
D06A Cle Elum 90.67 42 ⇑P **P 12 48 29.0 -0.3**
baz=91
O07A Toulon 90.68 50 P **P 12 48 30.4 +0.9**
baz=91,SNR=14
L07A Adell 90.69 48 P **P 12 48 30.2 +0.7**
baz=91,SNR=15
M07A Soldier Meadow 90.69 48 ⇓P **P 12 48 30.4 +0.8**
baz=91
UCH Uchtor 90.69 312 *eP* **P 12 48 30.2 +0.7**
comp=Z,12nm,1.1s,mb5.1
UCH LR LR
comp=Z,2µm,19.0s,MS5.5
N07B Gerlach 90.72 49 ⇑P **P 12 48 30.5 +0.8**
baz=91
S08C White Mtn Res 90.73 52 P **P 12 48 30.9 +1.0**
baz=91,SNR=12
LRMC Laurel Mountai 90.76 54 ⇓P **P 12 48 30.3 +0.3**
baz=91
AAK Ala-Archa 90.79 313 *eP* **P 12 48 28.6 -1.3**
AAK LR LR
comp=Z,2µm,19.0s,MS5.5
109C Camp Elliot, M 90.79 57 ⇑P **P 12 48 30.2 0.0**
baz=91
NVAR Mina Array Bea 90.80 51 P **P 12 48 30.1 0.0**
comp=Z,20nm,0.8s,mb5.5,baz=235,slow=4.7,SNR=127
NVAR PKPPKP 13 14 05.0
comp=Z,0.4nm,0.5s,baz=118,slow=4.0,SNR=4.1
MURC Murrieta 90.83 56 ⇑P **P 12 48 30.3 -0.1**
baz=91
K07A Rock Creek Ran 90.88 47 P **P 12 48 30.7 +0.3**
baz=91,SNR=20
I07A Izee 90.97 46 P **P 12 48 30.8 0.0**
baz=91,SNR=22
J07A Hines 90.97 46 P **P 12 48 31.0 +0.2**
baz=91,SNR=16
MPMC Manual Prospec 91.02 54 P **P 12 48 31.5 +0.3**
baz=91,SNR=20
H07A Lands Inn, Kim 91.02 45 ⇓P **P 12 48 30.7 -0.3**
baz=91
F07A Phinny Hill Vi 91.03 44 ⇓P **P 12 48 30.6 -0.4**
baz=91
G07A Ruggs Ranch, H 91.08 44 P **P 12 48 30.7 -0.6**
baz=91,SNR=8.6
BAR Barrett 91.11 57 *eP* **P 12 48 31.1 -0.6**
Q08A Gabbs 91.16 51 P **P 12 48 32.2 +0.4**
baz=91,SNR=29
BBRC Big Bear Sol-O 91.17 56 ⇓P **P 12 48 31.9 -0.1**
baz=91
D07A Quincy 91.25 43 P **P 12 48 31.3 -0.7**
baz=91,SNR=11
AML Almayashu 91.28 312 *eP* **P 12 48 32.7 +0.4**
comp=Z,12nm,1.0s,mb5.2
AML LR LR
comp=Z,1µm,20.0s,MS5.4
GRAC Grapevine Rang 91.28 53 P **P 12 48 32.9 +0.5**
baz=91,SNR=7.0
WVOR Wild Horse Val 91.28 47 *eP* **P 12 48 32.4 +0.1**
comp=Z,22nm,0.9s,mb5.5
WVOR LR LR
comp=Z,2µm,19.0s,MS5.5
WVOR Wild Horse Val 91.28 47 *eP* **P 12 48 32.4 +0.2**
WVOR pmax pmax
comp=Z,22nm,0.9s,mb5.5
WVOR MLR MLR
comp=Z,2µm,19.0s,MS5.5
M08A Happy Creek Ra 91.29 48 P **P 12 48 33.5 +1.2**
baz=91,SNR=15
C07A Waterville 91.29 42 P **P 12 48 31.2 -0.9**
baz=91,SNR=5.6
EKS2 Erkin-Say 91.31 313 PFAKE 12 48 40.0 +7.6
EKS2 LR LR
comp=Z,2µm,19.0s,MS5.5
N08A GE Springer Mi 91.35 49 P **P 12 48 33.6 +1.0**
baz=91,SNR=18
A07A Ashnola River, 91.35 41 ⇑P **P 12 48 31.7 -0.8**
baz=91
MONP Monument Peak 91.36 57 ⇓P **P 12 48 31.0 -1.9**
baz=91
HAWA Hanford 91.39 43 *eP* **P 12 48 32.1 -0.6**
B07A Winthrop 91.41 41 P **P 12 48 32.1 -0.6**
baz=92,SNR=6.1
GSC Goldstone 91.44 55 *eP* **P 12 48 32.5 -0.7**
GSC LR LR
comp=Z,1µm,20.0s,MS5.4
GSC Goldstone 91.44 55 P **P 12 48 33.4 +0.2**
baz=92,SNR=8.6
K08A Mann Creek Ran 91.44 47 P **P 12 48 33.2 +0.2**
baz=92,SNR=7.0
PFO Pinyon Flat Ob 91.45 56 *eP* **P 12 48 32.5 -0.7**
PFO pmax pmax
comp=Z,18nm,1.2s,mb5.3
PFO Pinyon Flat Ob 91.45 56 P **P 12 48 33.1 -0.2**
comp=Z,6.4nm,0.9s,mb4.9,baz=294,slow=4.9,SNR=8.6
L08A Fields 91.45 48 P **P 12 48 33.5 +0.5**
baz=92,SNR=22
S09A Goldfield 91.51 52 P **P 12 48 33.9 +0.4**
baz=92,SNR=50
SYO Syowa Base 91.51 199⇑ *eP* **P 12 48 30.6 -2.3**
SYO Syowa Base 91.51 199⇑ *ep*P pP 12 48 34.9 -4.0
J08A Circle Bar Ran 91.56 47 P **P 12 48 33.6 0.0**
baz=92,SNR=22
G08A Pilot Rock 91.58 45 P **P 12 48 33.5 0.0**
baz=92,SNR=9.7
FURC Furnace Creek, 91.59 54 P **P 12 48 34.3 +0.4**
baz=92,SNR=26
I08A Drewsey 91.60 46 P **P 12 48 33.5 -0.2**
baz=92,SNR=10
H08A Prairie City 91.64 45 P **P 12 48 33.7 -0.2**
baz=92,SNR=7.2
R09A Tonopah 91.72 52 P **P 12 48 34.8 +0.4**
baz=92,SNR=38
E08A Dider Farm, El 91.73 43 P **P 12 48 34.1 -0.1**
baz=92,SNR=6.1
Q09A Carvers 91.73 51 P **P 12 48 35.6 +1.2**
baz=92,SNR=6.7
HEC Hector,Ludlow 91.75 55 ⇓P **P 12 48 34.6 0.0**
baz=92
F08A Pendleton 91.80 44 ⇑P **P 12 48 34.2 -0.4**
baz=92
N09A Rock Creek Ran 91.82 49 P **P 12 48 35.9 +1.1**
baz=92,SNR=5.7
SWSC Sam W. Stewart 91.88 57 ⇓P **P 12 48 35.3 0.0**
baz=92
BELC Belle Mtn. 91.89 56 P **P 12 48 35.6 +0.4**
baz=92,SNR=16
P09A Austin 91.89 50 ⇑P **P 12 48 35.2 +0.1**
baz=92
B08A Colville Reser 91.90 41 P **P 12 48 33.9 -1.1**
baz=92,SNR=7.8
L09A Wilkinson Ranc 91.91 48 P **P 12 48 35.9 +0.7**
baz=92,SNR=15
D08A Wollman Farm, 91.93 43 P **P 12 48 34.8 -0.3**
baz=92,SNR=5.7
O09A Fish Creek Ran 91.95 50 P **P 12 48 36.0 +0.5**
baz=92,SNR=17
SHOC Shoshone 91.96 54 ⇓P **P 12 48 36.0 +0.5**
baz=92
M09A Marrel Ranch, 91.97 49 P **P 12 48 36.8 +1.3**
baz=92,SNR=7.8
C08A Higginbotham F 91.98 42 ⇑P **P 12 48 34.7 -0.7**
baz=92
K09A Rome 91.99 47 P **P 12 48 35.5 -0.1**
baz=92,SNR=22

U10A Ash Meadows, A 92.00 54 ⇓P P 12 48 36.4 +0.6
baz=92
S10A Tonopah Range, 92.04 52 P P 12 48 36.4 +0.5
baz=92,SNR=40
A08A Turner Farm, O 92.05 41 P P 12 48 35.1 -0.6
baz=92,SNR=6.3
J09A Fry Pan Ranch, 92.08 47 ⇑P P 12 48 36.4 +0.5
baz=92,SNR=35
TPNV Topopah Spring 92.15 53 eP P 12 48 36.0 -0.5
comp=Z,31nm,0.9s,mb5.6
TPNV LR LR
comp=Z,1µm,19.0s,MS5.4
TPNV Topopah Spring 92.15 53 ⇑P P 12 48 36.8 +0.4
baz=92
TUQ Turquoise Mtn. 92.17 55 P P 12 48 37.3 +0.8
baz=92,SNR=8.3
I09A Lost Marbles R 92.20 46 ⇑P P 12 48 36.5 0.0
baz=92
BC3 Big Chuckw Mtn 92.28 56 P P 12 48 37.6 +0.5
baz=92,SNR=11
GMRC Granite Mounta 92.28 55 P P 12 48 37.4 +0.3
baz=92,SNR=16
R10A Warm Springs 92.33 52 P P 12 48 37.9 +0.7
baz=92,SNR=15
Q10A Clear Creek Ra 92.34 51 P P 12 48 37.9 +0.7
baz=92,SNR=20
D09A Jones Farm, Ri 92.34 43 P P 12 48 36.5 -0.6
baz=92,SNR=6.3
E09A Wood Farm, Sta 92.36 43 P P 12 48 36.9 -0.3
baz=92,SNR=6.2
H09A Durkee 92.37 45 ⇑P P 12 48 37.0 -0.2
baz=92
F09A S2 Ranch, Elgi 92.38 44 ⇓P P 12 48 36.6 -0.7
baz=92
P10A Eureka 92.41 50 P P 12 48 38.6 +1.0
baz=92,SNR=9.0
O10A Cortez Mining, 92.50 50 P P 12 48 39.1 +1.2
baz=92,SNR=6.0
C09A Chrisman Ranch 92.50 42 ⇓P P 12 48 36.5 -1.2
baz=92
A09A Danville 92.50 41 ⇑P P 12 48 37.2 -0.6
baz=93
N10A Dunphy 92.56 49 ⇓P P 12 48 38.8 +0.6
baz=93
IRM Iron Mountain 92.61 56 P P 12 48 39.6 +1.0
baz=93,SNR=18
K10A MacKenzie Ranc 92.62 47 P P 12 48 38.5 +0.1
baz=93,SNR=28
V11A Goodsprings 92.63 54 P P 12 48 39.5 +0.9
baz=93,SNR=7.9
BMO Blue Mountains 92.65 45 eP P 12 48 38.0 -0.6
comp=Z,54nm,1.7s,mb5.7
BMO LR LR
comp=Z,2µm,19.0s,MS5.6
S11A Rachel 92.66 52 P P 12 48 39.2 +0.4
baz=93,SNR=10
M10A I.L. Ranch, Tu 92.66 49 P P 12 48 39.8 +1.1
baz=93,SNR=10
B09A Rice 92.69 42 P P 12 48 38.0 -0.6
baz=93,SNR=6.7
U11A Corn Creek 92.76 54 ⇑P P 12 48 39.6 +0.3
baz=93
LDFC Landfair 92.78 55 eP P 12 48 38.7 -0.7
L10A Juniper Basin 92.80 48 P P 12 48 39.6 +0.3
baz=93,SNR=39
J10A Berg Farm, Mel 92.80 47 P P 12 48 39.7 +0.4
baz=93,SNR=9.3
G10A Bishop Farm, J 92.86 45 P P 12 48 39.3 -0.2
baz=93,SNR=12
R11A Troy Canyon, C 92.89 52 P P 12 48 40.1 +0.3
baz=93,SNR=35
F10A Beach Ranch, E 92.89 44 ⇓P P 12 48 39.2 -0.4
baz=93
Q11A Duckwater 92.91 51 P P 12 48 40.6 +0.7
baz=93,SNR=59
H10A Noah's Angus R 93.00 46 P P 12 48 39.4 -0.7
baz=93,SNR=19
T11A Corn Creek, Al 93.01 53 P P 12 48 41.0 +0.6
baz=93,SNR=23
D10A Wagner Farm, O 93.04 43 P P 12 48 39.7 -0.6
baz=93,SNR=5.9
E10A Myers Farm, Un 93.06 44 ⇓P P 12 48 40.1 -0.3
baz=93
V12A Nelson 93.08 55 P P 12 48 41.0 +0.3
baz=93,SNR=7.0
O11A Cowboy Ranch, 93.11 50 P P 12 48 41.5 +0.8
baz=93,SNR=31
M11A Holland Ranch, 93.20 49 P P 12 48 42.2 +1.0
baz=93,SNR=17
K11A Parker Ranch, 93.23 47 P P 12 48 41.5 +0.2
baz=93,SNR=29
T12A Moapa 93.34 54 ⇓P P 12 48 42.2 +0.3
baz=93
NEW Newport 93.34 42 P P 12 48 40.9 -0.7
NEW Newport 93.34 42 P P 12 48 40.9 -0.7
comp=Z,5.5nm,0.8s,mb5.0,baz=261,slow=5.4,SNR=5.6
S12A Delamar Landin 93.36 53 P P 12 48 43.0 +1.0
baz=93,SNR=22
U12A Valley of Fire 93.43 54 P P 12 48 43.5 +1.1
baz=93,SNR=5.0
PDMCI Parker Dam,Lak 93.45 56 ⇓P P 12 48 43.1 +0.6
baz=94
G11A Walters Elk Ra 93.47 45 P P 12 48 41.5 -0.8
baz=94,SNR=8.3
MFID Camas Ranch 93.48 47 P P 12 48 42.4 0.0
baz=94,SNR=11
ELK Elko 93.51 49 PFAKE 12 48 50.0 +7.4
ELK LR LR
comp=Z,66nm,19.0s
H11A Donnelly 93.54 45 P P 12 48 42.0 -0.6
baz=94,SNR=11
Q12A Willow Creek R 93.58 51 P P 12 48 43.8 +0.8
baz=94,SNR=30
P12A McGill 93.58 51 P P 12 48 43.9 +1.0
baz=94,SNR=16
F11A Grangeville 93.62 44 ⇓P P 12 48 41.6 -1.3
baz=94
Y13A Salome 93.64 57 ⇑P P 12 48 44.6 +1.2
baz=94
R12A Pony Springs, 93.65 52 P P 12 48 43.9 +0.6
baz=94,SNR=30
E11A Bogner Ranch, 93.65 44 P P 12 48 42.1 -1.0
baz=94,SNR=6.2
N12A Clover Valley, 93.68 49 P P 12 48 44.1 +0.7
baz=94,SNR=13
X13A Yucca 93.75 56 ⇑P P 12 48 44.0 +0.1
baz=94
W13A Hualapai Mount 93.77 55 P P 12 48 45.0 +1.0
baz=94,SNR=7.6
O12A Currie 93.82 50 P P 12 48 44.5 +0.4
baz=94,SNR=31
M12A Wells 93.85 49 P P 12 48 44.9 +0.7
baz=94,SNR=9.2
L12A House Creek Ra 93.88 48 P P 12 48 45.2 +0.9
baz=94,SNR=12
U13A Pakoon Wash 93.89 54 P P 12 48 45.5 +1.0
baz=94,SNR=11
A11A Hall Mountain, 93.94 41 P P 12 48 44.5 +0.1
baz=94,SNR=7.8
J12A Stokes Ranch, 93.98 47 P P 12 48 45.0 +0.3
baz=94,SNR=38
T13A Saint George 94.02 53 P P 12 48 46.3 +1.3
baz=94,SNR=9.9
K12A Draper Farm, C 94.03 48 P P 12 48 45.8 +0.8
baz=94,SNR=21
S13A Holt Ranch, En 94.13 53 P P 12 48 46.8 +1.2
baz=94,SNR=15
F12A Elk City 94.22 45 ⇓P P 12 48 45.0 -0.7
baz=94
P13A Bates Ranch, G 94.26 51 P P 12 48 46.8 +0.6
baz=94,SNR=24
N13A Wendover, West 94.31 49 P P 12 48 47.0 +0.7
baz=94,SNR=6.2
H12A Diamond D Ranc 94.33 46 ⇓P P 12 48 45.4 -0.9
baz=94
D12A Red Ives Fores 94.34 43 P P 12 48 45.7 -0.6
baz=94,SNR=10
O13A Hicks Ranch, I 94.38 50 P P 12 48 47.9 +1.3
baz=94,SNR=12
M13A Montello 94.40 49 P P 12 48 47.2 +0.5
baz=94,SNR=18
W14A Seligman 94.44 55 ⇓P P 12 48 47.5 +0.5
baz=94
V14A Boquillas Ranc 94.48 55 ⇑P P 12 48 47.9 +0.7
baz=94
ARUT Antelope Range 94.49 53 eP P 12 48 47.7 +0.5
HLID Hailey 94.52 47 eP P 12 48 46.6 -0.6
comp=Z,20nm,1.2s,mb5.4

HLID Hailey 94.52 47 P P 12 48 47.9 +0.8
baz=94,SNR=9.0
U14A Mt Trumbull 94.52 54 P P 12 48 48.5 +1.2
baz=94,SNR=6.8
CCUT Cedar City 94.52 53 eP P 12 48 48.0 +0.7
K13A Stover Farm, H 94.64 48 P P 12 48 48.7 +1.0
baz=95,SNR=6.7
L13A Double Diamond 94.66 48 P P 12 48 48.5 +0.6
baz=95,SNR=8.0
J13A Cove Ranch, Pi 94.67 47 P P 12 48 48.6 +0.7
baz=95,SNR=9.9
T14A Hurricane 94.68 53 ⇓P P 12 48 48.2 +0.2
baz=95
S14A Cedar City 94.70 53 ⇑P P 12 48 48.3 +0.2
baz=95
H13A Challis 94.76 46 P P 12 48 47.9 -0.4
baz=95,SNR=13
I13A Wildhorse Cree 94.78 46 P P 12 48 48.5 +0.2
baz=95,SNR=19
G13A Cobalt 94.84 45 P P 12 48 48.4 -0.3
baz=95,SNR=7.8
F13A Darby 94.87 45 ⇓P P 12 48 47.7 -1.0
baz=95
R14A James Farms, M 94.88 52 ⇓P P 12 48 50.0 +1.1
baz=95
Y15A Casa Rosa Ranc 94.89 57 ⇑P P 12 48 50.2 +1.0
baz=95
M14A Sheep Mountain 95.03 49 P P 12 48 49.9 +0.3
baz=95,SNR=22
N14A Grayback Hills 95.07 50 P P 12 48 50.1 +0.3
baz=95,SNR=15
B13A Whitefish 95.11 42 ⇓P P 12 48 49.3 -0.4
baz=95
MSO Missoula 95.27 44 PFAKE 12 49 00.0 +9.5
MSO LR LR
comp=Z,1µm,19.0s,MS5.4
BRVK Borovoye 95.27 323 eP P 12 48 49.0 -1.4
BRVK LR LR
comp=Z,2µm,19.0s,MS5.5
DUG Dugway 95.28 50 eP P 12 48 50.2 -0.5
comp=Z,77nm,2.7s,mb5.7
DUG Dugway 95.28 50 eP P 12 48 50.2 -0.5
DUG pmax pmax
comp=Z,77nm,2.7s,mb5.7
DUG Dugway 95.28 50 ⇑P P 12 48 50.2 -0.5
baz=95
K14A Jones Ranch, D 95.29 48 P P 12 48 51.3 +0.6
baz=95,SNR=9.1
G14A Jackson 95.41 45 ⇑P P 12 48 50.6 -0.6
baz=95
HVU Hansel Valley 95.49 49 eP P 12 48 51.2 -0.5
WALA Waterton Lakes 95.56 41 eP P 12 48 51.4 -0.4
comp=Z,55nm,2.2s,mb5.6
MSU Marysvale 95.57 52 eP P 12 48 51.4 -0.7
N15A Stansbury Isla 95.58 50 ⇑P P 12 48 52.1 0.0
baz=96
Y16A Circle Bar Ran 95.59 57 ⇑P P 12 48 52.2 -0.1
baz=96
SPUT South Promonto 95.68 49 eP P 12 48 52.0 -0.5
M15A Larsen Ranch, 95.70 49 P P 12 48 52.6 0.0
baz=96,SNR=12
MCMT McKenzie Canyo 95.79 46 eP P 12 48 52.5 -0.4
217A Green Valley 95.90 59 ⇑P P 12 48 53.3 -0.4
baz=96
TUC Tucson 95.99 58 PFAKE 12 49 00.0 +5.8
TUC LR LR
comp=Z,2µm,20.0s,MS5.6
G15A Dillon 96.08 45 P P 12 48 54.2 -0.1
baz=96,SNR=6.3
E15A Deer Lodge 96.11 44 P P 12 48 53.8 -0.6
baz=96,SNR=7.7
F15A Butte 96.15 45 ⇑P P 12 48 53.5 -1.1
baz=96
MPU Maple Canyon 96.15 51 PFAKE 12 49 10.0 +15
MPU LR LR
comp=Z,3µm,20.0s,MS5.8
LRM Limekiln Ridge 96.18 45 eP P 12 48 54.2 -0.5
D15A Lincoln 96.26 43 ⇓P P 12 48 55.0 0.0
baz=96
JLU Jordanelle 96.36 50 eP P 12 48 56.4 +0.7
EDM Edmonton 96.37 37 eP P 12 48 54.4 -1.0
HWUT Hardware Ranch 96.37 49 PFAKE 12 49 10.0 +14
HWUT LR LR
comp=Z,2µm,20.0s,MS5.5
318A Bisbee 96.56 59 ⇑P P 12 48 56.6 -0.2
baz=97
218A Dragoon 96.57 59 ⇓P P 12 48 56.3 -0.6
baz=97
YKA Yellowknife Ar 96.67 28 P P 12 48 55.2 -1.3
YKA PKKP PKKPbc 13 05 38.4 -4.0
YKA Yellowknife Ar 96.67 28 P P 12 48 55.2 -1.3
comp=Z,3.4nm,0.7s,mb4.9,baz=264,slow=4.7,SNR=50
YKA PKKP PKKPbc 13 05 38.3 -4.0
comp=Z,0.4nm,0.7s,baz=88,slow=3.1,SNR=6.7
YKW3 Yellowknife Ar 96.67 28 eP P 12 48 56.3 -0.2
BOZ Bozeman (W) 96.73 45 eP P 12 48 57.0 -0.2
BOZ LR LR
comp=Z,2µm,19.0s,MS5.6
BOZ Bozeman (W) 96.73 45 ⇓P P 12 48 57.0 -0.2
baz=97
AHID Auburn Hatcher 96.83 48 PFAKE 12 49 10.0 +12
AHID LR LR
comp=Z,1µm,19.0s,MS5.4
SRU San Rafael 96.91 52 eP P 12 48 57.7 -0.6
REDW Red Top Meadow 97.07 47 eP P 12 48 58.4 -0.4
comp=Z,25nm,1.7s,mb5.4
YMR Madison River 97.11 46 PFAKE 12 49 10.0 +11
YMR LR LR
comp=Z,3µm,21.0s,MS5.8
MOOW Moose Ponds 97.18 47 eP P 12 48 58.8 -0.5
comp=Z,50nm,2.3s,mb5.5
119A Ashpeak Ranch, 97.28 58 ⇑P P 12 49 00.3 +0.3
baz=97
LKWY Lake 97.50 46 PFAKE 12 49 10.0 +9.3
LKWY LR LR
comp=Z,3µm,19.0s,MS5.7
BW06 Boulder Array 97.96 48 eP P 12 49 02.4 -0.5
comp=Z,7.9nm,0.9s,mb5.2
BW06 LR LR
comp=Z,2µm,19.0s,MS5.6
PDAR Pinedale Array 97.96 48 P P 12 49 02.0 -0.9
comp=Z,6.2nm,0.9s,mb5.1,baz=240,slow=2.7,SNR=45
PDAR PKPPKP 13 13 51.4
comp=Z,0.1nm,0.4s,baz=113,slow=2.1,SNR=2.6
GCMT Greycliff 98.11 45 eP P 12 49 03.2 -0.3
EGMT Eagleton 98.21 43 eP P 12 49 03.5 -0.4
EGMT Eagleton 98.21 43 ⇓P P 12 49 03.0 -0.9
baz=98
MVCO Mesa Verde 98.34 54 ⇓P P 12 49 04.3 -0.4
baz=98
RLMT Red Lodge 98.35 46 PFAKE 12 49 10.0 +5.5
RLMT LR LR
comp=Z,3µm,19.0s,MS5.8
ANMO Albuquerque 99.82 56 PFAKE 12 49 20.0 +9.1
ANMO LR LR
comp=Z,2µm,19.0s,MS5.7
MNTX Cornudas Mount 100.50 59 PFAKE 12 49 30.0 +16
MNTX LR LR
comp=Z,2µm,20.0s,MS5.6
LAO LASA Array 100.55 44 ePdif Pdif 12 49 13.7 -0.4
LAO LR LR
comp=Z,2µm,19.0s,MS5.6
SDCO Great Sand Dun 100.75 53 PFAKE 12 49 30.0 +15
SDCO LR LR
comp=Z,2µm,19.0s,MS5.5
ISCO Idaho Springs 100.75 51 PFAKE 12 49 30.0 +15
ISCO LR LR
comp=Z,2µm,19.0s,MS5.6
TXAR Lajitas Array 101.83 62 PKKPbc PKKPbc 13 05 26.0 -0.5
comp=Z,0.9nm,0.7s,baz=118,slow=5.2,SNR=6.9
RSSD Black Hills 102.04 47 PFAKE 12 49 30.0 +9.2
RSSD LR LR
comp=Z,683nm,19.0s,MS5.2
ARU Arti 102.20 326 PFAKE 12 49 30.0 +8.5
ARU LR LR
comp=Z,1µm,19.0s,MS5.5
RES Resolute Bay 102.97 15 ePdif Pdif 12 49 24.4 -0.5
FFC Flin Flon 103.11 36 PFAKE 12 49 40.0 +14
FFC LR LR
comp=Z,2µm,20.0s,MS5.6
AMTX Amarillo 103.74 56 PFAKE 12 49 40.0 +12
AMTX LR LR
comp=Z,2µm,20.0s,MS5.7
JCT Junction City 105.23 61 PFAKE 12 54 00.0 +10
JCT LR LR
comp=Z,2µm,20.0s,MS5.6

CBKS Cedar Bluff 105.30 52 PFAKE 12 54 00.0 +10
CBKS LR LR
comp=Z,2µm,19.0s,MS5.7
WMOK Wichita Mounta 106.12 56 PFAKE 12 54 00.0 +8.6
WMOK LR LR
comp=Z,2µm,19.0s,MS5.6
KVTX Kingsville 106.84 64 PFAKE 12 54 00.0 +7.1
KVTX LR LR
comp=Z,2µm,20.0s,MS5.6
ECSD EROS,Sioux Fal 107.41 47 PFAKE 12 54 00.0 +6.5
ECSD LR LR
comp=Z,2µm,19.0s,MS5.7
KSU1 Kansas State U 107.73 52 PFAKE 12 54 10.0 +16
KSU1 LR LR
comp=Z,2µm,19.0s,MS5.7
KBS Kingsbay 107.80 353 PFAKE 12 54 00.0 +6.7
KBS LR LR
comp=Z,2µm,21.0s,MS5.6
HKT Hockley 108.67 61 PFAKE 12 54 10.0 +14
HKT LR LR
comp=Z,2µm,19.0s,MS5.7
NATX Nacogdoches 109.64 59 PFAKE 12 54 10.0 +12
NATX LR LR
comp=Z,3µm,19.0s,MS5.9
LVZ Lovozero 110.05 340 PFAKE 12 54 10.0 +12
LVZ LR LR
comp=Z,1µm,19.0s,MS5.5
JFWS Jewell Farm 112.12 47 PFAKE 12 54 10.0 +7.7
JFWS LR LR
comp=Z,2µm,20.0s,MS5.7
COWI Conover 112.36 44 PFAKE 12 54 10.0 +7.3
COWI LR LR
comp=Z,2µm,20.0s,MS5.6
EFI East Falkland 112.48 157 PFAKE 12 54 10.0 +7.2
EFI LR LR
comp=Z,2µm,20.0s,MS5.6
HDIL Hopedale 113.18 50 PFAKE 12 54 20.0 +16
HDIL LR LR
comp=Z,2µm,20.0s,MS5.6
KIV Kislovodsk 113.87 314 PFAKE 12 54 20.0 +14
KIV LR LR
comp=Z,1µm,19.0s,MS5.6
OBN Obninsk 114.58 327 PFAKE 12 54 20.0 +13
OBN LR LR
comp=Z,1µm,19.0s,MS5.5
PLAL Pickwick Lake 114.89 56 PFAKE 12 54 20.0 +12
PLAL LR LR
comp=Z,2µm,19.0s,MS5.8
WVT Waverly 114.94 54 PFAKE 12 54 20.0 +12
WVT LR LR
comp=Z,3µm,19.0s,MS5.8
TEIG Tepich 115.58 72 PFAKE 12 54 20.0 +10
TEIG LR LR
comp=Z,2µm,19.0s,MS5.7
GLMI Grayling 115.74 44 PFAKE 12 54 20.0 +11
GLMI LR LR
comp=Z,2µm,19.0s,MS5.7
WCI Wyandotte Cave 115.84 52 PFAKE 12 54 20.0 +10
WCI LR LR
comp=Z,2µm,19.0s,MS5.7
LRAL Lakeview Retre 116.01 58 PFAKE 12 54 20.0 +10
LRAL LR LR
comp=Z,3µm,22.0s,MS5.9
BRAL Brewton 116.17 60 PFAKE 12 54 20.0 +10
BRAL LR LR
comp=Z,3µm,19.0s,MS6.0
TGUH Tegucigalpa,Un 116.38 79 PFAKE 12 54 20.0 +8.7
TGUH LR LR
comp=Z,1µm,19.0s,MS5.5
AAM Ann Arbor 117.01 47 PFAKE 12 54 20.0 +8.2
AAM LR LR
comp=Z,2µm,21.0s,MS5.6
TZTN Tazewell 118.29 53 PFAKE 12 54 30.0 +16
TZTN LR LR
comp=Z,2µm,19.0s,MS5.8
SFJD Kangerlussuaq 118.76 12 PFAKE 12 54 30.0 +16
SFJD LR LR
comp=Z,2µm,19.0s,MS5.7
GOGA Godfrey 118.89 57 PFAKE 12 54 30.0 +14
GOGA LR LR
comp=Z,3µm,20.0s,MS5.9
ERPA Erie 119.69 46 PFAKE 12 54 30.0 +13
ERPA LR LR
comp=Z,3µm,19.0s,MS5.9
KMBO Kilima Mbogo 119.73 264 PKP PKPdf 12 54 18.6 +0.7
KMBO LR LR
comp=Z,2µm,20.0s,MS5.7
KMBO Kilima Mbogo 119.73 264 PKP PKPdf 12 54 18.6 +0.7
comp=Z,13nm,0.2s,baz=83,slow=6.6,SNR=5.4
LCO Las Campanas 120.24 131 PFAKE 12 54 30.0 +12
LCO LR LR
comp=Z,2µm,19.0s,MS5.8
AKASG Malin Array Be 120.42 325 PKP PKPdf 12 54 17.2 -0.9
AKASG Malin Array Be 120.42 325 PKP PKPdf 12 54 17.2 -0.9
comp=Z,2.3nm,0.6s,baz=60,slow=2.0,SNR=11
KIEV Kiev 120.43 325 PFAKE 12 54 30.0 +12
KIEV LR LR
comp=Z,2µm,20.0s,MS5.8
MCWV Mont Chateau 120.46 49 PFAKE 12 54 30.0 +12
MCWV LR LR
comp=Z,3µm,19.0s,MS5.9
TRQA Tornquist 120.61 144 PFAKE 12 54 30.0 +11
TRQA LR LR
comp=Z,1µm,19.0s,MS5.6
BOSA Boshof 120.88 229 PKP PKPdf 12 54 18.8 -0.8
comp=Z,2.4nm,0.5s,baz=146,slow=2.8,SNR=11
DWPF Disney 121.36 62 PFAKE 12 54 30.0 +9.4
DWPF LR LR
comp=Z,2µm,22.0s,MS5.8
SSPA Standing Stone 121.63 47 PFAKE 12 54 30.0 +9.3
SSPA LR LR
comp=Z,2µm,21.0s,MS5.8
NHSC New Hope 121.66 56 PFAKE 12 54 30.0 +9.0
NHSC LR LR
comp=Z,2µm,20.0s,MS5.7
SUR Sutherland 121.93 223 PFAKE 12 54 30.0 +8.4
SUR LR LR
comp=Z,2µm,20.0s,MS5.7
ANTO Ankara 122.02 312 PFAKE 12 54 30.0 +8.5
ANTO LR LR
comp=Z,1µm,20.0s,MS5.5
NNA Nana 122.13 110 PFAKE 12 54 30.0 +7.6
NNA LR LR
comp=Z,1µm,20.0s,MS5.6
NOA NORSAR Array B 122.16 341 PKP PKPdf 12 54 20.6 -0.4
comp=Z,3.6nm,0.9s,baz=34,slow=1.9,SNR=5.5
KIS Kishinev 122.24 321 ePKP PKPdf 12 54 21.0 -0.7
BINY Binghamton 122.50 45 PFAKE 12 54 30.0 +7.7
BINY LR LR
comp=Z,4µm,22.0s,MS6.0
CBN Corbin 122.70 50 PFAKE 12 54 30.0 +7.2
CBN LR LR
comp=Z,3µm,20.0s,MS5.9
CNNC Cliffs of the 123.06 54 PFAKE 12 54 30.0 +6.4
CNNC LR LR
comp=Z,3µm,19.0s,MS5.9
NCB Newcomb 123.08 43 PFAKE 12 54 30.0 +6.6
NCB LR LR
comp=Z,3µm,19.0s,MS6.0
OTAV Otavalo 123.59 96 PFAKE 12 54 40.0 +15
OTAV LR LR
comp=Z,1µm,22.0s,MS5.6
KONO Kongsberg 123.74 341 PFAKE 12 54 40.0 +16
KONO LR LR
comp=Z,3µm,19.0s,MS5.9
BORG Borgarnes 124.07 359 PFAKE 12 54 40.0 +15
BORG LR LR
comp=Z,2µm,19.0s,MS5.8
LSZ Lusaka 124.46 245 PFAKE 12 54 40.0 +13
LSZ LR LR
comp=Z,4µm,21.0s,MS6.0
LBNH Lisbon 124.50 42 PFAKE 12 54 40.0 +14
LBNH LR LR
comp=Z,3µm,19.0s,MS6.0
MLR Muntele Rosu 124.68 320 PKP PKPdf 12 54 28.4 +2.0
comp=Z,1.5nm,0.4s,baz=186,slow=8.1,SNR=3.1
KOLS Kolonicke sedl 125.22 325 ePKP PKPdf 12 54 26.3 -1.0
HRV Adam Dziewonsk 125.44 43 PFAKE 12 54 40.0 +12
HRV LR LR
comp=Z,3µm,21.0s,MS5.9
STHS Stebnicka Huta 125.53 326 ePKP PKPdf 12 54 28.3 +0.4
WES Weston 125.65 43 PFAKE 12 54 40.0 +12
WES LR LR
comp=Z,2µm,20.0s,MS5.9
PKME Peaks-Kenny Pk 125.74 39 PFAKE 12 54 40.0 +12

PKME LR LR
comp=Z,5μm,20.0s,MS6.2
VYHS Vyhne 127.36 326 *e*PKP PKPdf 12 54 31.2 -0.2
MODS Modra-Piesok 128.28 327 *e*PKP PKPdf 12 54 34.0 +0.8
PVCC Panska Ves 128.31 331 *e*PKPdf PKPdf 12 54 34.1 +0.9
ROSC El Rosal 128.36 91 PKP PKPdf 12 54 33.6 -0.8
comp=Z,5.3nm,0.5s,baz=86,slow=19,SNR=4.7
LPAZ La Paz 128.40 119 PKP PKPdf 12 54 34.2 -0.1
LPAZ LR LR
comp=Z,1μm,19.0s,MS5.6
LPAZ La Paz 128.40 119 PKP PKPdf 12 54 34.2 -0.1
comp=Z,1.8nm,0.7s,baz=308,slow=4.0,SNR=9.0
CLL Collm 128.53 332 *e*PKP PKPdf 12 54 33.0 -0.6
CLL *i* 12 54 38.8
CLL Collm 128.53 332 *e*PKPdf PKPdf 12 54 33.0 -0.6
comp=Z,4.0nm,0.8s
CLL *i* sPKPdf 12 54 38.8
CLL LmV 13 58 00.0
comp=Z,2μm,18.8s
PRU Pruhonice 128.68 330 *e*PKPdf PKPdf 12 54 33.4 -0.5
KHC Kasperske Hory 129.71 330 ⅊/PKIKP PKPdf 12 54 36.5 +0.6
KHC Kasperske Hory 129.71 330 *e*PKPdf PKPdf 12 54 34.5 -1.4
KHC *e*pPKP pPKPdf 12 54 42.1 0.0
GERES GERESS Array B 129.84 330 PKP PKPdf 12 54 36.0 -0.2
comp=Z,1.2nm,0.6s,baz=59,slow=0.8,SNR=9.5
GRFO Grafenberg 130.47 332 PFAKE 12 54 50.0 +13
GRFO LR LR
comp=Z,1μm,21.0s,MS5.7
ESK Eskdalemuir 131.09 346 PFAKE 12 54 50.0 +12
ESK LR LR
comp=Z,2μm,19.0s,MS5.8
SDDR Presa de Saban 131.63 72 PFAKE 12 54 50.0 +10
SDDR LR LR
comp=Z,2μm,20.0s,MS5.8
TSUM Tsumeb 131.77 235 PFAKE 12 54 50.0 +9.3
TSUM LR LR
comp=Z,2μm,21.0s,MS5.9
SDV Santo Domingo 132.40 86 PKP PKPdf 12 54 40.5 -1.5
SDV LR LR
comp=Z,984nm,20.0s,MS5.5
SDV Santo Domingo 132.40 86 PKP PKPdf 12 54 40.5 -1.5
comp=Z,9.8nm,0.8s,baz=252,slow=3.3,SNR=14
BFO Black Forest 132.78 332 PFAKE 12 54 50.0 +8.3
BFO LR LR
comp=Z,2μm,22.0s,MS5.8
BBSR BB Station 134.38 53 PFAKE 12 55 00.0 +15
BBSR LR LR
comp=Z,2μm,20.0s,MS5.8
SJG San Juan 136.56 73 PFAKE 12 55 00.0 +10
SJG LR LR
comp=Z,3μm,20.0s,MS6.0
MSKU Masuku 142.62 256 PFAKE 12 55 10.0 +9.1
MSKU LR LR
comp=Z,4.0nm,21.0s
BBGH Gun Hill 143.31 80 PFAKE 12 55 10.0 +8.0
BBGH LR LR
comp=Z,4μm,19.0s,MS6.2
GUD Guadarrama 144.30 336 P PKPdf 12 54 59.8 -3.3
ETOB Tobarra 144.79 331 P PKPdf 12 55 01.9 -2.1
ESDC Sonseca Array 145.04 335 PKPbc PKPbc 12 55 03.1 -0.6
comp=Z,8.2nm,0.9s,baz=24,slow=3.7,SNR=20
EVIA Vianos 145.24 332 P PKPbc 12 55 02.6 -1.8
PAB San Pablo 145.31 335 PFAKE 12 55 20.0 +15
PAB LR LR
comp=Z,2μm,20.0s,MS5.8
EQES Quesada 146.18 332 P PKPdf 12 55 05.9 -0.5
EBAN Banos Encina 146.21 333 P PKPdf 12 55 06.9 +0.5
EADA Adamuz 146.56 334 P PKPdf 12 55 07.3 +0.3
EBER Berja 146.82 331 P PKPdf 12 55 07.4 -0.1
ECOG Cogollos-Vega 146.84 332 P PKPdf 12 55 08.3 +0.8
EBAD Badajoz 147.05 338 P PKPdf 12 55 07.5 -0.3
ERON Agron 147.16 332 P PKPdf 12 55 08.5 +0.5
ELOJ Sierra Loja 147.21 332 P PKPbc 12 55 10.6 +0.3
EMIN Mina Concepcio 147.77 336 P PKPdf 12 55 10.9 +1.9
EGRO El Granado 148.29 337 P PKPbc 12 55 13.4 +0.1
TORD Torodi Ar. Bea 155.91 283 PKP PKPdf 12 55 20.6 -1.3
comp=Z,2.3nm,0.9s,baz=25,slow=1.7,SNR=8.3
TORD PKPbc PKPdf 12 55 30.4 +8.5
comp=Z,5.7nm,0.9s,baz=65,slow=2.1,SNR=13
ASCN Ascension 161.59 206 PFAKE 12 55 40.0 +11
ASCN LR LR
comp=Z,2μm,20.0s
DBIC Dimbokro 162.46 265 PKPab PKPab 12 56 17.7 +0.4
comp=Z,18nm,1.1s,baz=80,slow=8.6,SNR=5.8

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*ISK **02** 12:38:55.5, 3642N×2873E, h23km, MD3.4, ML3.5*
*ATH **02** 12:38:55.7, 3660N×2861E, h10km±3km, MD3.6/7*
*NEIC **02** 12:38:55.9, 3660N×2855E, h4km, mb4.0/1, MD3.6(ATH), ML4.1(THE), After ATH.*
*ISCJB **02** 12:38:56.3±0.6, 3651N±003×2875E±003, h13km±5km, Error ellipse: s-maj=5.5km s-min=3.7km az=164.7*
*CSEM **02** 12:38:57.3±0.1, 3654N×2884E, h25km, MD3.4, Error ellipse: s-maj=2.2km s-min=1.3km az=169.0*
*THE **02** 12:38:58.6, 3653N×2865E, h3km, ML4.1*
*DDA **02** 12:39:01.2, 3684N×2867E, h11km, Md3.5*

ISC 02 12:38:57.0±0.6, 3649N±003×**2875E**±003, **h13**km±4km, **n40,** σ**1§06/55, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FETY	**Fethiye**	**0.31**	**61**	PG	**Pg**	**12 39 03.8**	**+0.6**
FETY				SG	**Sg**	**12 39 09.9**	**+2.5**
ARG	**Arkhangelos**	**0.57**	**242**	*e*PB	**Pb**	**12 39 06.8**	**-2.0**
KSL	**Kastellorizon**	**0.75**	**116**	*e*Pg	**Pg**	**12 39 12.5**	**+1.0**
KSL				*e*Sg	**Sg**	**12 39 27.5**	**+6.1**
KSL	**Kastellorizon**	**0.75**	**116**	*e*PG	**Pg**	**12 39 12.5**	**+1.0**
KSL				*e*SB	**Sb**	**12 39 25.5**	**+3.5**
ELL	**Elmali**	**0.97**	**74**	PG	**Pg**	**12 39 14.7**	**-0.9**
DAT	**Datca**	**0.97**	**285**	PG	**Pg**	**12 39 14.2**	**-1.6**
DAT				SG	**Sg**	**12 39 28.5**	**0.0**
GOLH	**Golhisar**	**0.99**	**41**	*i* P	**Pb**	**12 39 16.3**	**+0.3**
GOLH				*i* S	**Sb**	**12 39 32.2**	**+3.2**
BDRM	**Kayabasi**	**1.20**	**299**	*i* P	**Pn**	**12 39 19.1**	**-0.3**
BDRM				*i* S	**Sb**	**12 39 35.9**	**+1.0**
DENT	**Denizli**	**1.28**	**10**	PN	**Pn**	**12 39 19.5**	**-1.1**
BODT	**Bodrum**	**1.29**	**297**	PN	**Pn**	**12 39 18.7**	**-2.0**
ANTB	**Antalya**	**1.58**	**74**	*e*PN	**Pn**	**12 39 23.4**	**-1.3**
KARP	**Karpathos**	**1.59**	**234**	*e*Pb	**Pb**	**12 39 25.0**	**-1.2**
KARP				*e*Sb	**Sb**	**12 39 45.4**	**-0.9**
BCK	**Bucak**	**1.76**	**56**	*e*PN	**Pn**	**12 39 26.3**	**-0.9**
KHL	**Karahalli**	**1.93**	**18**	*e*PN	**Pn**	**12 39 28.7**	**-0.8**
ISP	**Isparta**	**1.95**	**46**	*e*Pn	**Pn**	**12 39 31.9**	**+2.2**
ISP				*e*Sn	**Sn**	**12 39 58.2**	**+4.1**
ISP	**Isparta**	**1.95**	**46**	*e*Pn	**Pn**	**12 39 29.6**	**-0.1**
ISP				*e*Sn	**Sn**	**12 39 58.2**	**+4.1**
SMG	**Samos**	**1.96**	**309**	*e*PN	**Pn**	**12 39 28.9**	**-0.9**
KULA	**Kula-Manisa**	**2.03**	**358**	*e*PN	**Pn**	**12 39 29.8**	**-1.0**
KDAG	**Bornova**	**2.25**	**329**	*i* P	**Pn**	**12 39 34.4**	**+0.5**
KDAG				*i* S	**Sn**	**12 40 00.9**	**-0.6**
ZKR	**Zakros**	**2.47**	**237**	*e*Pn	**Pn**	**12 39 38.4**	**+1.5**
ZKR				*e*Sn	**Sn**	**12 40 08.9**	**+1.9**
AKS	**Akhisar**	**2.50**	**343**	*e*PN	**Pn**	**12 39 36.5**	**-0.8**
APE	**Apeiranthos**	**2.65**	**284**	*e*Pn	**Pn**	**12 39 39.8**	**+0.4**
APE				*e*Sn	**Sn**	**12 40 12.6**	**+1.2**
APE	**Apeiranthos**	**2.65**	**284**	*e*PN	**Pn**	**12 39 39.9**	**+0.5**
GDZ	**Gediz**	**2.66**	**12**	*i* P	**Pn**	**12 39 39.1**	**-0.4**
GDZ				*i* S	**Sn**	**12 40 19.4**	**+7.8**
ALT	**Altintas**	**2.78**	**22**	*e*PN	**Pn**	**12 39 40.7**	**-0.5**
NPS	**Neapolis**	**2.83**	**245**	*e*PN	**Pn**	**12 39 42.3**	**+0.5**
NPS				*e*SN	**Sn**	**12 40 16.0**	**+0.3**
CHOS	**Chios island**	**2.87**	**312**	*e*Pn	**Pn**	**12 39 42.9**	**+0.6**
CHOS				*e*Sn	**Sn**	**12 40 17.6**	**+1.0**
KONT	**Konya--Tatoy**	**3.23**	**62**	*e*PN	**Pn**	**12 39 46.6**	**-0.7**
KIZT	**Kizilcal**	**3.44**	**45**	*e*PN	**Pn**	**12 39 50.0**	**-0.3**
LEF	**Lefka**	**3.63**	**111**	*e*PN	**Pn**	**12 39 51.2**	**-1.6**
KCT	**Karacabey**	**3.79**	**355**	*e*PN	**Pn**	**12 39 54.9**	**-0.1**
IZI	**Iznik**	**3.89**	**8**	*e*PN	**Pn**	**12 39 56.7**	**+0.4**
IKL	**Isikli**	**3.99**	**92**	*e*PN	**Pn**	**12 39 57.8**	**0.0**
CSS	**Prodhromos**	**4.02**	**111**	*e*PN	**Pn**	**12 39 58.2**	**0.0**
KARN	**Karanos**	**4.07**	**256**	*e*Pn	**Pn**	**12 39 59.7**	**+0.9**
GADA	**Gvkgeada**	**4.33**	**330**	*e*PN	**Pn**	**12 40 02.4**	**0.0**
LOS	**Limnos**	**4.50**	**321**	*e*Pn	**Pn**	**12 40 05.8**	**+1.1**
VLI	**Veliai**	**4.68**	**275**	*e*PN	**Pn**	**12 40 08.0**	**+0.7**
VLI	**Veliai**	**4.68**	**275**	*e*Pn	**Pn**	**12 40 09.0**	**+1.7**
KARA	**Karaisali**	**5.11**	**79**	*e*PN	**Pn**	**12 40 13.6**	**+0.4**

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*IDC **02** 12:40:24.5±1.6, 854S×15774E, h0km, mb4.1/4, mb1 4.4/5, mb1mx4.0/15, mbtmp4.2/5, ML4.2/1, Error ellipse: s-maj=44.7km s-min=21.7km az=170.0*

*NEIC **02** 12:40:25.7±0.8, 851S×15777E, h10km, mb4.3/1, Error ellipse: s-maj=22.5km s-min=13.3km az=164.0*
*ISCJB **02** 12:40:27.6±1.0, 85S±02×15766E±008, h33km, mb4.0/5, Error ellipse: s-maj=23.8km s-min=10.7km az=7.3*

ISC 02 12:40:29.5±1.0, 85S±02×**15768E**±008, **h35**km, **n6,** σ**1§00/7, mb4.0/5, Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.43**	**113**	Pn	**Pn**	**12 41 04.2**	**-2.5**
HNR				Sn	**Sn**	**12 41 36.2**	**+1.0**
WRA	**Warramunga Arr**	**25.30**	**241**	P	**P**	**12 45 53.0**	**+0.1**
ASAR	**Alice Springs**	**27.32**	**234**	P	**P**	**12 46 11.9**	**+0.7**
STKA	**Stephens Creek**	**27.68**	**211**	P	**P**	**12 46 13.8**	**-0.5**
MCK	**McKinley**	**82.45**	**21**	*e*P	**P**	**12 52 47.5**	**-0.4**
NVAR	**Mina Array Bea**	**90.55**	**51**	P	**P**	**12 53 29.1**	**+0.8**

comp=Z,1.2nm,0.9s,baz=246,slow=6.8,SNR=5.8
comp=Z,1.1nm,0.8s,mb4.0
comp=Z,1.1nm,0.8s,mb4.2,baz=246,slow=6.8,SNR=5.8

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*ATH **02** 12:44:10.0, 3614N×2858E, h80km±2km*
*DDA **02** 12:44:11.4, 3634N×2876E, h12km±52km, Md3.1*
*ISCJB **02** 12:44:13.0±1.5, 3655N±007×2869E±005, h10km±15km, Error ellipse: s-maj=12.5km s-min=6.2km az=21.8*
*CSEM **02** 12:44:12.3±0.2, 3658N×2870E, h8km, MD3.1, Error ellipse: s-maj=4.2km s-min=3.4km az=36.0*

ISC 02 12:44:14.0±0.8, 3646N±006×**2869E**±005, **h30**km±13km, **n7,** σ**1§00/13, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARG	**Arkhangelos**	**0.52**	**242**	*e*P	**Pb**	**12 44 23.5**	**-1.3**
ARG				*e*S	**Sb**	**12 44 33.0**	**+0.9**
KSL	**Kastellorizon**	**0.78**	**113**	*e*P	**Pb**	**12 44 27.5**	**-1.6**
KSL				*e*S	**Sb**	**12 44 40.5**	**+1.1**
GOLH	**Golhisar**	**1.04**	**42**	*i* P	**Pn**	**12 44 30.9**	**-1.7**
GOLH				*i* S	**Sb**	**12 44 47.0**	**+0.2**
BDRM	**Kayabasi**	**1.17**	**301**	*i* P	**Pn**	**12 44 34.5**	**+0.1**
BDRM				*i* S	**Sb**	**12 44 50.1**	**-0.4**
SMG	**Samos**	**1.94**	**311**	*e*P	**Pn**	**12 44 44.5**	**-0.4**
MANT	**Manisa**	**2.03**	**357**	*i* P	**Pn**	**12 44 48.3**	**+2.1**
MANT				*i* S	**Sn**	**12 45 10.8**	**+0.3**
KDAG	**Bornova**	**2.25**	**330**	*i* P	**Pn**	**12 44 49.0**	**-0.1**
KDAG				*i* S	**Sn**	**12 45 15.8**	**-0.1**

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*ISCJB **02** 12:44:58.0±4.9, 868S±007×15770E±006, h8km±30km, mb4.6/24, Error ellipse: s-maj=11.8km s-min=9.5km az=13.8*
*IDC **02** 12:44:58.1±0.6, 872S×15774E, h0km, mb4.4/14, mb1 4.6/16, mb1mx4.5/18, mbtmp4.4/16, ML4.4/2, MS4.8/2, Ms1 4.8/2, ms1mx4.0/22, Error ellipse: s-maj=19.1km s-min=15.5km az=122.0*
*NEIC **02** 12:44:59.8±0.3, 869S×15774E, h10km, mb5.0/11, Error ellipse: s-maj=10.8km s-min=6.3km az=132.0*
*MOS **02** 12:45:01.5±1.0, 868S×15770E, h33km, mb5.4/5, Error ellipse: s-maj=16.1km s-min=12.7km az=58.2*

ISC 02 12:44:59.0±5.7, 868S±007×**15774E**±006, **h4**km±35km, **n55,** σ**0§86/50, mb4.6/24, Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.30**	**109**	*e*Pn	**Pn**	**12 45 36.9**	**-0.8**
HNR	**Honiara**	**2.30**	**109**	Pn	**Pn**	**12 45 36.3**	**-1.3**
HNR				Sn	**Sn**	**12 46 05.9**	**-0.5**
CTA	**Charters Tower**	**15.87**	**223**	*e*P	**Pn**	**12 48 45.4**	**+2.0**
CTA	**Charters Tower**	**15.87**	**223**	*e*P	**Pn**	**12 48 45.4**	**+2.0**
CTA				pmax	pmax	12 53 27.5	
CTA	**Charters Tower**	**15.87**	**223**	Pn	**Pn**	**12 48 44.9**	**+1.6**
CTA				LR	LR	12 53 27.5	
ARMA	**Armidale**	**22.37**	**194**	*e*P	**P**	**12 49 59.0**	**+0.9**
KAKA	**Kakadu**	**25.18**	**259**	*e*P	**P**	**12 50 24.9**	**-0.8**
WB2	**Warramunga Arr**	**25.24**	**241**	*e*P	**P**	**12 50 25.2**	**-1.0**
WB2				*e*		12 52 40.6	
WRA	**Warramunga Arr**	**25.25**	**241**	P	**P**	**12 50 25.1**	**-1.3**
ASAR	**Alice Springs**	**27.25**	**234**	P	**P**	**12 50 42.9**	**-1.5**
STKA	**Stephens Creek**	**27.53**	**211**	*e*P	**P**	**12 50 47.4**	**+0.6**
STKA	**Stephens Creek**	**27.53**	**211**	P	**P**	**12 50 47.3**	**+0.5**
FITZ	**Fitzroy Crossi**	**32.55**	**250**	*e*P	**P**	**12 51 32.8**	**+1.3**
MJAR	**Matsshiro Arr**	**48.59**	**339**	P	**P**	**12 53 42.7**	**-0.9**
PPT	**Papeete**	**51.92**	**105**	LR	LR	13 12 39.3	
KSRS	**Korea Array**	**53.71**	**331**	P	**P**	**12 54 22.6**	**+0.4**
KLR	**Kul'dur**	**62.01**	**341**	*e*P	**P**	**12 55 14.0**	**-6.2**
CHTO	**Chiang Mai**	**64.08**	**296**	*e*P	**P**	**12 55 41.0**	**+6.4**
VNDA	**Vanda**	**68.84**	**179**	P	**P**	**12 56 04.4**	**+0.3**
SONM	**Songino Array**	**72.23**	**326**	P	**P**	**12 56 26.0**	**+0.8**
CHGN	**Chignik**	**74.16**	**24**	*e*P	**P**	**12 56 37.0**	**+0.5**
BOD	**Bodaibo**	**75.19**	**337**	*e*P	**P**	**12 56 41.1**	**-1.3**
ZAK	**Zakamensk**	**75.36**	**327**	*e*P	**P**	**12 56 43.1**	**-0.4**
KDAK	**Kodiak Island**	**77.52**	**25**	P	**P**	**12 56 56.2**	**+0.6**
TNA	**Tin City**	**78.27**	**14**	*e*P	**P**	**12 56 59.9**	**+0.3**
PALK	**Pallekele**	**78.40**	**279**	*e*P	**P**	**12 57 07.3**	**+5.8**
SVW2	**Sparrevohn**	**78.55**	**21**	*e*P	**P**	**12 57 01.1**	**-0.2**
TTA	**Tatalina**	**79.66**	**20**	*e*P	**P**	**12 57 07.6**	**+0.3**
SLKM	**Skilak Lake**	**80.18**	**23**	*e*P	**P**	**12 57 09.9**	**-0.2**
PMR	**Palmer**	**81.26**	**23**	*e*P	**P**	**12 57 15.4**	**-0.5**
PMR	**Palmer**	**81.26**	**23**	*e*P	**P**	**12 57 15.4**	**-0.5**
PMR				pmax	pmax		
SML	**Sawmill**	**81.69**	**23**	*e*P	**P**	**12 57 18.7**	**+0.5**
TIXI	**Tiksi**	**82.42**	**351**	*e*P	**P**	**12 57 20.9**	**-1.0**
TIXI				pmax	pmax		
IMA2	**Indian Mountai**	**82.53**	**18**	*e*P	**P**	**12 57 23.1**	**+0.5**
MCK	**McKinley**	**82.62**	**21**	*e*P	**P**	**12 57 23.4**	**+0.3**
MCK	**McKinley**	**82.62**	**21**	*e*P	**P**	**12 57 23.4**	**+0.3**
MCK				pmax	pmax		
COLA	**College**	**83.68**	**20**	*e*P	**P**	**12 57 27.9**	**-0.6**
COLA	**College**	**83.68**	**20**	*e*P	**P**	**12 57 27.9**	**-0.6**
COLA				pmax	pmax		
MAW	**Mawson**	**83.89**	**203**	P	**P**	**12 57 29.1**	**-0.6**
EGAK	**Eagle**	**86.03**	**22**	*e*P	**P**	**12 57 41.2**	**+0.9**
SKAG	**Skagway**	**86.05**	**28**	*e*P	**P**	**12 57 41.4**	**+0.8**
MKAR	**Makanchi Array**	**86.47**	**318**	P	**P**	**12 57 42.8**	**-0.1**
MTUM	**Tungsten Hills**	**90.23**	**52**	*e*P	**P**	**12 58 01.1**	**0.0**
INK	**Inuvik**	**90.34**	**20**	P	**P**	**12 58 00.7**	**-0.2**
NVAR	**Mina Array Bea**	**90.63**	**51**	P	**P**	**12 58 04.5**	**+1.5**
TPNV	**Topopah Spring**	**91.98**	**53**	*e*P	**P**	**12 58 10.4**	**+1.2**
TPNV	**Topopah Spring**	**91.98**	**53**	*e*P	**P**	**12 58 10.4**	**+1.2**
TPNV				pmax	pmax		
HLID	**Hailey**	**94.36**	**47**	*e*P	**P**	**12 58 21.2**	**+1.2**
YKA	**Yellowknife Ar**	**96.55**	**28**	P	**P**	**12 58 28.4**	**-1.2**
PDAR	**Pinedale Array**	**97.80**	**48**	P	**P**	**12 58 34.7**	**-1.0**

comp=Z,4.5nm,0.9s,mb4.8,baz=244,slow=3.8,SNR=17
comp=Z,7.1nm,1.0s,mb5.0
comp=Z,7.0nm,1.0s,mb5.0
comp=Z,30nm,2.6s,mb5.3
comp=Z,0.8nm,0.7s,mb4.2,baz=264,slow=4.6,SNR=10
comp=Z,1.1nm,0.9s,mb4.4,baz=194,slow=6.4,SNR=4.5

PARMO	**Parma**	**113.17**	**54**	*e*PKP	PKiKP	13 03 37.9	-0.2
LPAZ	**La Paz**	**128.26**	**119**	PKP	PKPdf	13 04 08.2	+0.5
SDV	**Santo Domingo**	**132.22**	**86**	PKP	PKPdf	13 04 14.6	-0.7

comp=Z,1.0nm,0.7s,baz=261,slow=4.2,SNR=4.7
baz=309,slow=6.5,SNR=1.2

ESDC	**Sonseca Array**	**145.07**	**335**	PKPbc	PKPbc	13 04 37.3	-0.1

comp=Z,0.3nm,0.3s,baz=356,slow=4.8,SNR=4.4

TORD	**Torodi Ar. Bea**	**156.07**	**283**	PKPbc	PKPdf	13 05 04.5	+8.8

comp=Z,1.2nm,0.9s,baz=106,slow=1.8,SNR=3.8

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*IDC **02** 12:47:14.1±1.1, 830S×15725E, h0km, mb4.2/6, mb1 4.5/6, mb1mx4.1/14, mbtmp4.2/6, Error ellipse: s-maj=105.0km s-min=23.4km az=137.0*
*ISCJB **02** 12:47:17.7±0.9, 85S±04×1573E±04, h33km, mb4.0/6, Error ellipse: s-maj=77.2km s-min=18.1km az=136.4*

ISC 02 12:47:19.5±0.9, 83S±04×**1572E**±04, **h35**km, **n8,** σ**0§80/8, mb4.0/6, Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**15.78**	**221**	Pn	**Pn**	**12 51 03.9**	**+4.6**
WRA	**Warramunga Arr**	**24.97**	**240**	P	**P**	**12 52 41.0**	**+1.0**
ASAR	**Alice Springs**	**27.04**	**233**	P	**P**	**12 52 57.7**	**-1.0**
STKA	**Stephens Creek**	**27.57**	**210**	P	**P**	**12 53 03.4**	**0.0**
STKA	**Stephens Creek**	**27.57**	**210**	*e*	**P**	**12 53 03.2**	**-0.1**
NVAR	**Mina Array Bea**	**90.82**	**51**	P	**P**	**13 00 20.6**	**+1.1**
YKA	**Yellowknife Ar**	**96.48**	**28**	P	**P**	**13 00 44.5**	**-0.5**
PDAR	**Pinedale Array**	**97.95**	**48**	P	**P**	**13 00 51.5**	**-0.6**

comp=Z,1.1nm,0.7s,baz=208,slow=4.5,SNR=5.6
comp=Z,1.2nm,0.9s,baz=263,slow=4.5,SNR=3.7
comp=Z,0.3nm,0.7s,mb3.9,baz=216,slow=4.5,SNR=2.6

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*IDC **02** 12:49:51.6±0.8, 864S×15764E, h0km, mb4.2/9, mb1 4.4/10, mb1mx4.2/16, mbtmp4.2/10, ML5.0/1, Error ellipse: s-maj=31.0km s-min=19.3km az=139.0*
*NEIC **02** 12:49:53.1±0.5, 861S×15765E, h10km, mb4.3/1, Error ellipse: s-maj=16.0km s-min=10.7km az=148.0*
*ISCJB **02** 12:49:55.0±0.5, 87S±01×15765E±010, h33km, mb4.0/9, Error ellipse: s-maj=18.6km s-min=12.2km az=150.3*

ISC 02 12:49:57.1±0.6, 86S±01×**15755E**±010, **h35**km, **n16,** σ**1§04/17, mb4.0/9, Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.50**	**109**	Pn	**Pn**	**12 50 32.3**	**-3.1**
HNR				Sn	**Sn**	**12 51 07.9**	**+3.2**
WB2	**Warramunga Arr**	**25.12**	**241**	*e*P	**P**	**12 55 18.7**	**-0.2**
WRA	**Warramunga Arr**	**25.13**	**241**	P	**P**	**12 55 19.1**	**+0.1**
WRA				PcP	PcP	12 58 52.2	-0.6
ASAR	**Alice Springs**	**27.14**	**234**	P	**P**	**12 55 36.1**	**-1.1**
ASAR				PcP	PcP	12 58 57.5	+0.1
STKA	**Stephens Creek**	**27.50**	**210**	*e*P	**P**	**12 55 42.0**	**+1.7**
STKA	**Stephens Creek**	**27.50**	**210**	P	**P**	**12 55 40.6**	**+0.2**
SONM	**Songino Array**	**72.06**	**327**	P	**P**	**13 01 19.1**	**+1.5**
KDAK	**Kodiak Island**	**77.52**	**25**	P	**P**	**13 01 48.2**	**-0.8**
KDAK	**Kodiak Island**	**77.52**	**25**	P	**P**	**13 01 48.2**	**-0.8**
IMA2	**Indian Mountai**	**82.51**	**18**	*e*P	**P**	**13 02 15.7**	**-0.1**
MCK	**McKinley**	**82.61**	**21**	*e*P	**P**	**13 02 16.1**	**-0.2**
COLA	**College**	**83.67**	**20**	*e*P	**P**	**13 02 21.4**	**-0.4**
MKAR	**Makanchi Array**	**86.28**	**318**	P	**P**	**13 02 35.6**	**+0.3**
NVAR	**Mina Array Bea**	**90.73**	**51**	P	**P**	**13 02 58.0**	**+1.4**
YKA	**Yellowknife Ar**	**96.56**	**28**	P	**P**	**13 03 22.7**	**-0.1**
PDAR	**Pinedale Array**	**97.89**	**48**	P	**P**	**13 03 28.5**	**-0.8**

comp=Z,1.7nm,1.0s,mb4.3,baz=244,slow=4.3,SNR=8.6
comp=Z,0.4nm,0.7s,mb3.9,baz=260,slow=4.4,SNR=5.5
comp=Z,0.2nm,0.6s,mb3.8,baz=233,slow=4.2,SNR=3.1

IDC 02 12:56:56.1±1.8, 891S×15756E, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.7/13, mbtmp3.7/4, Error ellipse: s-maj=103.2km s-min=32.8km az=141.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.42**	**102**	Sn	Sn	12 58 09.4	+2.2

28nm,0.3s,baz=264,slow=9.2,SNR=2.4

WRA	**Warramunga Arr**	**24.98**	**241**	P	P	13 02 21.9	+0.2

1.0nm,0.7s,baz=68,slow=9.5,SNR=5.3

ASAR	**Alice Springs**	**26.96**	**234**	P	P	13 02 39.6	0.0

0.3nm,0.9s,baz=66,slow=9.2,SNR=2.8

STKA	**Stephens Creek**	**27.24**	**211**	P	P	13 02 41.9	-0.1

0.9nm,0.6s,baz=55,slow=13,SNR=1.9

NVAR	**Mina Array Bea**	**90.92**	**51**	P	P	13 10 02.5	+0.3

0.5nm,0.7s,baz=242,slow=6.7,SNR=4.3

IDC 02 13:06:46.8±5.6, 885S×15610E, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.6/13, mbtmp3.8/3, Error ellipse: s-maj=94.0km s-min=72.4km az=10.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.75**	**240**	P	P	13 12 01.2	+0.1

1.9nm,0.7s,baz=67,slow=9.8,SNR=8.0

ASAR	**Alice Springs**	**25.84**	**233**	P	P	13 12 19.8	-0.4

0.5nm,1.0s,baz=61,slow=9.9,SNR=3.2

STKA	**Stephens Creek**	**26.58**	**208**	P	P	13 12 27.1	+0.3

2.7nm,0.6s,baz=39,slow=11,SNR=8.8

IDC 02 13:15:23.1±1.8, 713S×15503E, h0km, mb3.7/5, mb1 3.9/5, mb1mx3.7/14, mbtmp3.7/5, Error ellipse: s-maj=67.9km s-min=28.0km az=122.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.77**	**236**	P	P	13 20 37.6	0.0

1.9nm,0.9s,baz=62,slow=9.5,SNR=6.1

ASAR	**Alice Springs**	**26.11**	**229**	P	P	13 20 57.6	-1.2

0.5nm,0.7s,baz=56,slow=8.6,SNR=6.4

STKA	**Stephens Creek**	**27.62**	**205**	P	P	13 21 13.4	+1.0

2.0nm,0.9s,baz=38,slow=12,SNR=3.2

MKAR	**Makanchi Array**	**83.53**	**319**	P	P	13 27 53.4	+0.4

0.3nm,0.8s,baz=91,slow=6.1,SNR=3.5

YKA	**Yellowknife Ar**	**96.44**	**28**	P	P	13 28 53.9	0.0

0.1nm,0.5s,baz=259,slow=4.6,SNR=5.2

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*IDC **02** 13:16:40.3±0.8, 847S×15682E, h0km, mb4.2/9, mb1 4.3/10, mb1mx4.2/15, mbtmp4.2/10, ML4.6/1, Error ellipse: s-maj=23.2km s-min=20.3km az=88.0*
*NEIC **02** 13:16:42.1±0.8, 842S×15682E, h10km, mb3.9/1, Error ellipse: s-maj=23.1km s-min=15.8km az=168.0*
*ISCJB **02** 13:16:44.0±0.6, 85S±01×15677E±006, h33km, mb4.0/9, Error ellipse: s-maj=15.2km s-min=8.9km az=10.6*

ISC 02 13:16:46.0±0.6, 85S

0.3nm,0.9s,baz=44,slow=1.8,SNR=4.5
STKA Stephens Creek 27.23 209 eP P 13 22 29.4 +2.6
4.1nm,1.7s,mb3.7
STKA Stephens Creek 27.23 209 P P 13 22 27.6 +0.8
2.2nm,0.7s,mb3.8,baz=26,slow=12,SNR=5.7
KSRS Korea Array 53.06 331 P P 13 26 01.3 +1.5
2.5nm,1.0s,mb4.1,baz=168,slow=8.1,SNR=4.6
VNDA Vanda 69.08 179 P P 13 27 48.0 +0.1
1.5nm,0.9s,mb3.9,baz=332,slow=6.7,SNR=7.8
SONM Songino Array 71.52 327 P P 13 28 03.6 +0.4
2.0nm,1.1s,mb4.0,baz=143,slow=6.1,SNR=7.7
SVW2 Sparrevohn 78.70 21 eP P 13 28 44.5 +0.1
MKAR Makanchi Array 85.67 318 P P 13 29 21.0 -0.2
2.3nm,0.9s,mb4.4,baz=95,slow=6.5,SNR=10.0
ZALV Zalesovo Beam 86.38 326 P P 13 29 24.7 +0.3
0.5nm,0.3s,mb4.2,baz=84,slow=4.5,SNR=3.0
YKA Yellowknife Ar 96.81 28 P P 13 30 10.9 -2.0
0.2nm,0.3s,mb4.0,baz=267,slow=4.6,SNR=5.2

*IDC **02** 13:21:11.8±1.0, 839S×15752E, h0km, mb3.8/6, mb1 4.1/7, mb1mx3.9/15, mbtmp3.9/7, ML4.6/1, Error ellipse: s-maj=27.0km s-min=21.8km az=169.0*
*NEIC **02** 13:21:13.2±0.5, 851S×15754E, h10km, mb4.0/1, Error ellipse: s-maj=15.0km s-min=10.7km az=157.0*
*ISCJB **02** 13:21:15.2±0.6, 85S±01×15748E±007, h33km, mb3.9/7, Error ellipse: s-maj=16.7km s-min=9.2km az=9.2*

ISC 02 13:21:17.2±0.6, 85S±01×15749E±007, h35km, n11, σ0§90/12, mb3.9/7, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.60**	**111**	Pn	**Pn**	**13 21 54.1**	**-2.7**
	126nm,0.3s,baz=263,slow=3.9,SNR=11						
HNR				Sn	**Sn**	**13 22 27.7**	**+0.6**
	495nm,0.3s,baz=86,slow=21,SNR=22						
WB2	**Warramunga Arr**	**25.11**	**241**	eP	**P**	**13 26 38.8**	**-0.1**
WRA	**Warramunga Arr**	**25.12**	**241**	P	**P**	**13 26 39.0**	**0.0**
	2.1nm,0.6s,mb3.9,baz=67,slow=9.2,SNR=22						
ASAR	**Alice Springs**	**27.16**	**233**	P	**P**	**13 26 57.0**	**-0.3**
	1.7nm,1.1s,mb3.5,baz=64,slow=10.0,SNR=6.8						
STKA	**Stephens Creek**	**27.57**	**210**	eP	**P**	**13 27 00.9**	**0.0**
	1.8nm,0.6s,mb3.9						
STKA	**Stephens Creek**	**27.57**	**210**	P	**P**	**13 27 03.0**	**+2.1**
	1.9nm,0.6s,mb3.9,baz=38,slow=14,SNR=7.3						
SONM	**Songino Array**	**71.93**	**327**	P	**P**	**13 32 36.7**	**-0.2**
	0.5nm,0.9s,mb3.4,baz=148,slow=4.6,SNR=4.3						
SVW2	**Sparrevohn**	**78.47**	**21**	eP	**P**	**13 33 14.8**	**+0.6**
MCK	**McKinley**	**82.53**	**21**	eP	**P**	**13 33 35.5**	**-0.4**
	10nm,0.8s,mb4.9						
MCK				ePcP	PcP	13 33 41.1	+0.1
MKAR	**Makanchi Array**	**86.16**	**318**	P	**P**	**13 33 54.2**	**-0.5**
	0.3nm,0.8s,mb3.6,baz=99,slow=4.5,SNR=3.6						
NVAR	**Mina Array Bea**	**90.71**	**51**	P	**P**	**13 34 17.7**	**+1.1**
	1.1nm,0.9s,mb4.2,baz=246,slow=7.3,SNR=8.0						

IDC 02 13:24:58.2±1.6, 813S×15701E, h0km, mb3.8/6, mb1 4.0/6, mb1mx3.8/14, mbtmp3.8/6, Error ellipse: s-maj=57.1km s-min=25.2km az=118.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.89**	**239**	P	P	13 30 22.2	-0.7
	2.0nm,0.7s,baz=66,slow=9.2,SNR=12						
ASAR	**Alice Springs**	**26.99**	**232**	P	P	13 30 42.1	+0.2
	0.3nm,0.7s,baz=60,slow=9.8,SNR=3.2						
STKA	**Stephens Creek**	**27.64**	**209**	P	P	13 30 48.4	+0.7
	1.3nm,0.7s,baz=38,slow=13,SNR=3.1						
MJAR	**Matsushiro Arr**	**47.82**	**340**	P	P	13 33 37.3	-0.3
	1.1nm,0.8s,baz=168,slow=9.2,SNR=4.3						
MKAR	**Makanchi Array**	**85.57**	**318**	P	P	13 37 39.3	+0.8
	0.4nm,0.6s,baz=102,slow=5.9,SNR=4.5						
NVAR	**Mina Array Bea**	**90.86**	**51**	P	P	13 38 03.8	-0.2
	0.6nm,0.8s,baz=247,slow=4.4,SNR=3.6						

*IDC **02** 13:30:11.6±1.7, 836S×15735E, h0km, mb3.8/4, mb1 4.0/5, mb1mx3.7/15, mbtmp3.9/5, ML4.7/1, Error ellipse: s-maj=47.2km s-min=27.5km az=160.0*
*ISCJB **02** 13:30:17.2±4.6, 86S±03×1575E±02, h53km±45km, mb3.5/4, Error ellipse: s-maj=52.1km s-min=23.2km az=159.0*

ISC 02 13:30:17.8±5.0, 86S±03×1575E±02, h45km±50km, n6, σ0§85/7, mb3.6/4, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.58**	**110**	Pn	**Pn**	**13 30 57.4**	**+0.4**
	111nm,0.3s,baz=268,slow=11,SNR=5.0						
HNR				Sn	**Sn**	**13 31 26.9**	**-0.3**
	108nm,0.3s,baz=280,slow=21,SNR=6.4						
WRA	**Warramunga Arr**	**25.10**	**241**	P	**P**	**13 35 37.3**	**-1.2**
	1.4nm,0.6s,mb3.7,baz=67,slow=9.5,SNR=8.2						
ASAR	**Alice Springs**	**27.12**	**234**	P	**P**	**13 35 57.5**	**+0.6**
	0.5nm,0.9s,mb3.0,baz=56,slow=8.4,SNR=3.7						
STKA	**Stephens Creek**	**27.52**	**210**	eP	**P**	**13 36 00.5**	**+0.3**
	2.2nm,0.8s,mb3.8						
STKA	**Stephens Creek**	**27.52**	**210**	P	**P**	**13 36 00.7**	**+0.5**
	2.7nm,0.8s,mb3.9,baz=33,slow=14,SNR=5.3						
YKA	**Yellowknife Ar**	**96.55**	**28**	P	**P**	**13 43 42.4**	**+0.1**
	0.1nm,0.3s,mb3.7,baz=248,slow=3.7,SNR=3.7						

*IDC **02** 13:31:30.9±0.7, 853S×15749E, h0km, mb4.2/10, mb1 4.3/11, mb1mx4.2/17, mbtmp4.2/11, ML4.8/1, Error ellipse: s-maj=23.1km s-min=18.4km az=136.0*
*NEIC **02** 13:31:32.6±0.4, 849S×15750E, h10km, mb4.6/6, Error ellipse: s-maj=14.3km s-min=9.3km az=139.0*
*BJI **02** 13:31:32.6, 850S×15750E, h10km, mB5.1, mb4.7*
*MOS **02** 13:31:34.4±1.2, 851S×15750E, h33km, mb5.2/3, Error ellipse: s-maj=20.2km s-min=16.5km az=147.1*
*ISCJB **02** 13:31:37.3±2.3, 86S±01×15751E±009, h61km±23km, mb4.2/15, Error ellipse: s-maj=25.0km s-min=10.3km az=153.3*

ISC 02 13:31:38.6±2.2, 86S±01×15753E±009, h58km±23km, n25, σ0§82/26, mb4.2/15, 1C, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.52**	**109**	Pn	**Pn**	**13 32 15.7**	**-1.5**
	202nm,0.3s,baz=260,slow=7.0,SNR=5.1						
HNR				Sn	**Sn**	**13 32 47.6**	**+0.9**
	343nm,0.3s,baz=279,slow=24,SNR=9.2						
CTA	**Charters Tower**	**15.78**	**223**	Pn	**Pn**	**13 35 18.6**	**+1.4**
	baz=60,slow=14,SNR=3.6						
KAKA	**Kakadu**	**24.98**	**258**	eP	**P**	**13 36 56.4**	**-0.7**
	8.0nm,0.8s,mb4.3						
KAKA	**Kakadu**	**24.98**	**258**	eP	**P**	**13 36 56.5**	**-0.6**
	18nm,0.8s,mb4.7						
WB2	**Warramunga Arr**	**25.09**	**241**	⇑iP	**P**	**13 36 57.5**	**-0.5**
WRA	**Warramunga Arr**	**25.09**	**241**	P	**P**	**13 36 57.7**	**-0.3**
	8.4nm,0.7s,mb4.4,baz=66,slow=9.3,SNR=28						
ASAR	**Alice Springs**	**27.11**	**234**	P	**P**	**13 37 15.1**	**-1.2**
	1.5nm,0.8s,mb3.6,baz=63,slow=8.8,SNR=11						
STKA	**Stephens Creek**	**27.47**	**210**	eP	**P**	**13 37 19.6**	**+0.2**
	5.0nm,0.8s,mb4.1						
STKA	**Stephens Creek**	**27.47**	**210**	P	**P**	**13 37 20.6**	**+1.2**
	5.3nm,0.7s,mb4.2,baz=26,slow=10,SNR=9.9						
FITZ	**Fitzroy Crossi**	**32.38**	**250**	eP	**P**	**13 38 02.8**	**-0.2**
	2.9nm,0.8s,mb4.2						
LZH	**Lanzhou**	**67.23**	**315**	eP	**P**	**13 42 28.6**	**+1.5**
LZH				AP	pP	13 42 34.5	-8.4
LZH				XP	sP	13 42 37.6	-12
LZH				AMB	AMB		
	comp=Z,24nm,1.0s,mb5.2						
LZH				AMB	AMB		
	comp=Z,116nm,5.0s						
LZH	**Lanzhou**	**67.23**	**315**	eP	**P**	**13 42 28.6**	**+1.5**
	comp=Z,24nm,1.0s,mb5.2						
LZH				pP	pP	13 42 34.5	-8.4
LZH				sP	sP	13 42 37.6	-12
VNDA	**Vanda**	**68.91**	**179**	P	**P**	**13 42 37.0**	**0.0**
	comp=Z,0.6nm,0.7s,mb3.6,baz=342,slow=6.8,SNR=2.8						
SONM	**Songino Array**	**72.06**	**327**	P	**P**	**13 42 57.8**	**+1.3**
	comp=Z,1.3nm,0.9s,mb3.9,baz=142,slow=5.6,SNR=6.6						
BILL	**Bilibino**	**76.72**	**3**	eP	**P**	**13 43 23.3**	**+0.1**
	comp=Z,4.2nm,1.0s,mb4.3						
BILL	**Bilibino**	**76.72**	**3**	eP	**P**	**13 43 23.3**	**+0.1**
BILL				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.3						
KDAK	**Kodiak Island**	**77.55**	**25**	P	**P**	**13 43 28.1**	**0.0**
	comp=Z,2.7nm,0.8s,mb4.2,baz=296,slow=7.7,SNR=4.2						
SVW2	**Sparrevohn**	**78.57**	**21**	eP	**P**	**13 43 34.1**	**+0.4**
IMA2	**Indian Mountai**	**82.54**	**18**	eP	**P**	**13 43 55.1**	**+0.3**
COLA	**College**	**83.70**	**21**	eP	**P**	**13 43 59.4**	**-1.4**
	comp=Z,11nm,0.8s,mb5.0						
COLA	**College**	**83.70**	**21**	eP	**P**	**13 43 59.4**	**-1.4**
COLA				pmax	pmax		
	comp=Z,11nm,0.8s,mb5.0						
MKAR	**Makanchi Array**	**86.28**	**318**	P	**P**	**13 44 13.8**	**-0.3**
	comp=Z,0.6nm,0.6s,mb4.0,baz=94,slow=6.2,SNR=6.4						
INK	**Inuvik**	**90.36**	**20**	P	**P**	**13 44 32.6**	**-0.4**
	comp=Z,0.7nm,0.9s,mb4.0,baz=220,slow=16,SNR=3.0						
NVAR	**Mina Array Bea**	**90.76**	**51**	P	**P**	**13 44 36.0**	**+0.3**
	comp=Z,1.1nm,1.0s,mb4.2,baz=245,slow=4.0,SNR=5.4						
YKA	**Yellowknife Ar**	**96.59**	**28**	P	**P**	**13 45 01.3**	**-0.5**
	comp=Z,0.4nm,0.7s,mb3.9,baz=266,slow=4.5,SNR=7.0						

CASC 02 13:31:39.6±1.9, 761N×8284W, h32km±7km, MD4.1, 1C, South of Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TBS2		**1.19**	**9**	eP	Pn	13 32 01.1	+1.1
CTCR	**Cotoan**	**1.28**	**3**	eS	Sn	13 32 18.4	+1.1
BAR1		**1.69**	**344**	eP	Pn	13 32 06.3	-0.6
BAR1				eS	Sn	13 32 27.6	+0.3
CNI	**Changuinola**	**1.82**	**10⇑**	eP	Pn	13 32 09.7	+1.0
URSC	**Urasca**	**2.40**	**337**	eP	Pn	13 32 17.2	+0.6
URSC				eS	Sn	13 32 47.1	+2.2
LCR2	**La Lucha 2**	**2.41**	**331**	eP	Pn	13 32 17.2	+0.4
LCR2				eS	Sn	13 32 47.3	+2.0
AZU	**Azuero**	**2.54**	**86**	eP	Pn	13 32 20.1	+1.5
AZU				eS	Sn	13 32 47.7	-0.9
LAJ	**Bijagual**	**2.57**	**330**	eP	Pn	13 32 19.9	+0.9
PRS1	**Puriscal**	**2.77**	**328**	eP	Pn	13 32 21.1	-0.6
PRS1				eS	Sn	13 32 53.8	-0.3
CGA2	**Cerro Gallo 2**	**2.88**	**326**	eP	Pn	13 32 22.9	-0.4
CGA2				eS	Sn	13 32 57.7	+0.9
JCR	**Jicaral**	**3.16**	**315**	eP	Pn	13 32 27.6	+0.4
JCR				eS	Sn	13 33 04.4	+0.6

*BJI **02** 13:32:36.8, 836S×15646E, h33km, mB5.5, mb4.8*
*IDC **02** 13:32:39.6±1.3, 784S×15579E, h0km, mb4.5/12, mb1 4.5/12, mb1mx4.4/16, mbtmp4.4/12, Error ellipse: s-maj=43.8km s-min=17.9km az=114.0*
*NEIC **02** 13:32:41.3±0.7, 771S×15578E, h10km, mb4.9/4, Error ellipse: s-maj=25.4km s-min=9.1km az=117.0*
*MOS **02** 13:32:43.8±0.9, 766S×15565E, h33km, mb5.1/5, Error ellipse: s-maj=20.9km s-min=13.2km az=79.0*
*ISCJB **02** 13:32:44.3±3.3, 78S±01×15570E±009, h42km±33km, mb4.5/20, Error ellipse: s-maj=20.8km s-min=11.7km az=152.6*

ISC 02 13:32:47.7±2.8, 78S±01×15573E±009, h60km±30km, n35, σ0§72/33, mb4.5/20, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.47**	**111**	Sn	**Sn**	**13 34 43.7**	**-0.1**
	133nm,0.3s,baz=89,slow=21,SNR=4.2						
CTA	**Charters Tower**	**15.27**	**216**	Pn	**Pn**	**13 36 20.3**	**+0.6**
	0.4nm,0.3s,baz=353,slow=11,SNR=2.1						
WRA	**Warramunga Arr**	**23.97**	**238**	P	**P**	**13 37 56.4**	**-0.4**
	4.2nm,0.7s,mb4.0,baz=60,slow=9.5,SNR=11						
ASAR	**Alice Springs**	**26.20**	**231**	P	**P**	**13 38 16.1**	**-0.8**
	2.2nm,0.9s,mb3.7,baz=60,slow=8.9,SNR=5.5						
STKA	**Stephens Creek**	**27.32**	**207**	P	**P**	**13 38 27.9**	**+0.9**
	4.3nm,0.8s,mb4.0,baz=19,slow=12,SNR=4.1						
FITZ	**Fitzroy Crossi**	**31.00**	**248**	P	**P**	**13 38 58.9**	**-0.9**
	2.0nm,0.6s,mb4.1,baz=110,slow=11,SNR=7.7						
MJAR	**Matsushiro Arr**	**47.08**	**341**	P	**P**	**13 41 12.9**	**-0.7**
	8.6nm,0.7s,mb4.8,baz=164,slow=8.2,SNR=23						
MAJO	**Matsushiro**	**47.09**	**341**	eP	**P**	**13 41 13.1**	**-0.5**
	5.5nm,0.6s,mb4.7						
MAJO	**Matsushiro**	**47.09**	**341**	eP	**P**	**13 41 13.1**	**-0.5**
MAJO				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.6						
MAT	**Matsushiro**	**47.09**	**341**	P	**P**	**13 41 13.0**	**-0.6**
KSRS	**Korea Array**	**51.99**	**332**	P	**P**	**13 41 51.5**	**+0.5**
	comp=Z,4.3nm,0.8s,mb4.5,baz=148,slow=7.7,SNR=9.8						
ASAJ	**Asahikawa**	**53.03**	**348**	P	**P**	**13 42 00.1**	**+1.5**
	comp=Z,8.9nm,0.8s,mb4.7,baz=226,slow=14,SNR=11						
CN2	**Changchun**	**58.23**	**335**	eP	**P**	**13 42 35.5**	**-0.4**
CN2				AMB	AMB		
	comp=Z,10.0nm,1.1s,mb4.8						
KLR	**Kul'dur**	**60.56**	**342**	eP	**P**	**13 42 46.7**	**-5.1**
SONM	**Songino Array**	**70.41**	**327**	P	**P**	**13 43 56.6**	**+1.2**
	comp=Z,2.4nm,0.8s,mb4.2,baz=131,slow=5.5,SNR=8.4						
YAK	**Yakutsk**	**72.50**	**347**	eP	**P**	**13 44 08.0**	**+0.3**
	comp=Z,7.9nm,0.5s,mb4.9						
YAK	**Yakutsk**	**72.50**	**347**	eP	**P**	**13 44 07.3**	**-0.4**
YAK				pmax	pmax		
	comp=Z,38nm,1.2s,mb5.2						
YAK				pmax	pmax		
	comp=N,11nm,1.5s						
YAK				pmax	pmax		
	comp=E,7.0nm,1.4s						
ZAK	**Zakamensk**	**73.56**	**328**	eP	**P**	**13 44 13.1**	**-1.2**
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.5s,mb3.8						
BOD	**Bodaibo**	**73.64**	**338**	eP	**P**	**13 44 14.4**	**-0.1**
BILL	**Bilibino**	**76.04**	**4**	eP	**P**	**13 44 29.4**	**+1.2**
BILL				pmax	pmax		
	comp=Z,15nm,0.9s,mb4.9						
TIXI	**Tiksi**	**81.26**	**352**	eP	**P**	**13 44 57.2**	**+0.4**
TIXI				pmax	pmax		
	comp=Z,4.0nm,1.2s,mb4.2						
MCK	**McKinley**	**82.54**	**22**	eP	**P**	**13 45 03.1**	**-0.5**
	comp=Z,14nm,0.8s,mb5.0						
MCK	**McKinley**	**82.54**	**22**	eP	**P**	**13 45 03.2**	**-0.5**
MCK				pmax	pmax		
	comp=Z,14nm,0.8s,mb5.0						
COLA	**College**	**83.58**	**21**	eP	**P**	**13 45 08.4**	**-0.6**
	comp=Z,1.5nm,0.6s,mb4.3						
COLA	**College**	**83.58**	**21**	eP	**P**	**13 45 08.4**	**-0.6**
COLA				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb4.1						
MK31	**Makanchi Array**	**84.49**	**319**	eP	**P**	**13 45 15.0**	**+0.9**
MKAR	**Makanchi Array**	**84.49**	**319**	P	**P**	**13 45 15.1**	**+1.0**
	comp=Z,10.0nm,0.7s,mb5.0,baz=103,slow=5.9,SNR=42						
ZAA0	**Zalesovo Array**	**85.26**	**326**	eP	**P**	**13 45 17.6**	**-0.1**
ZALV	**Zalesovo Beam**	**85.26**	**326**	P	**P**	**13 45 17.6**	**-0.2**
	comp=Z,5.0nm,0.7s,mb4.8,baz=107,slow=5.4,SNR=18						
ZAL	**Zalesovo**	**85.27**	**326**	P	**P**	**13 45 17.6**	**-0.2**
INK	**Inuvik**	**90.22**	**21**	P	**P**	**13 45 40.6**	**-0.7**
	comp=Z,2.0nm,0.9s,mb4.5,baz=188,slow=3.9,SNR=4.9						
YKA	**Yellowknife Ar**	**96.72**	**28**	P	**P**	**13 46 11.4**	**+0.2**
YKA	**Yellowknife Ar**	**96.72**	**28**	P	**P**	**13 46 11.4**	**+0.2**
	comp=Z,0.8nm,0.7s,mb4.3,baz=269,slow=4.5,SNR=10						
GERES	**GERESS Array B**	**128.12**	**329**	PKP	PKPdf	13 51 48.6	+1.4
	comp=Z,0.2nm,0.3s,baz=318,slow=1.8,SNR=4.9						
TORD	**Torodi Ar. Bea**	**153.93**	**284**	PKPbc	PKPbc	13 52 41.5	0.0
	comp=Z,0.7nm,0.8s,baz=356,slow=0.1,SNR=3.2						

*ISCJB **02** 13:35:30.7±0.4, 858S±007×15758E±005, h10km, mb4.2/17, Error ellipse: s-maj=10.4km s-min=7.7km az=177.9*
*IDC **02** 13:35:30.4±0.6, 860S×15764E, h0km, mb4.3/16, mb1 4.5/18, mb1mx4.5/19, mbtmp4.3/18, ML4.2/2, Error ellipse: s-maj=19.0km s-min=15.1km az=125.0*
*NEIC **02** 13:35:32.0±0.3, 860S×15765E, h10km, mb4.5/2, Error ellipse: s-maj=11.2km s-min=7.1km az=138.0*

ISC 02 13:35:36.7±2.3, 86S±01×15758E±007, h41km±23km, n31, σ0§66/32, mb4.2/17, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.48**	**109**	Pn	**Pn**	**13 36 10.6**	**-3.9**
	120nm,0.3s,baz=251,slow=1.0,SNR=5.4						
HNR				Sn	**Sn**	**13 36 43.5**	**-0.1**
	483nm,0.3s,baz=88,slow=22,SNR=10						
CTA	**Charters Tower**	**15.81**	**223**	Pn	**Pn**	**13 39 17.4**	**+0.9**
CTA	**Charters Tower**	**15.81**	**223**	Pn	**Pn**	**13 39 17.4**	**+1.0**
	0.4nm,0.3s,baz=52,slow=12,SNR=3.7						
KAKA	**Kakadu**	**25.03**	**258**	eP	**P**	**13 40 57.8**	**+0.6**
	12nm,0.8s,mb4.5						
WB2	**Warramunga Arr**	**25.13**	**241**	eP	**P**	**13 40 57.0**	**-1.0**
WRA	**Warramunga Arr**	**25.14**	**241**	P	**P**	**13 40 57.4**	**-0.7**
	10nm,0.7s,mb4.5,baz=66,slow=9.3,SNR=20						
WRA				PcP	PcP	13 44 31.6	-0.1
	1.6nm,0.9s,baz=67,slow=2.5,SNR=7.7						
ASAR	**Alice Springs**	**27.15**	**234**	P	**P**	**13 41 15.6**	**-0.7**
	2.7nm,0.9s,mb3.8,baz=64,slow=9.1,SNR=9.6						
STKA	**Stephens Creek**	**27.50**	**210**	eP	**P**	**13 41 20.5**	**+1.2**
	6.3nm,0.8s,mb4.3						
STKA	**Stephens Creek**	**27.50**	**210**	P	**P**	**13 41 20.2**	**+0.9**
	7.3nm,0.7s,mb4.4,baz=21,slow=10,SNR=10						
FITZ	**Fitzroy Crossi**	**32.42**	**250**	P	**P**	**13 42 02.4**	**-0.7**
	0.9nm,0.7s,mb3.7,baz=74,slow=15,SNR=3.3						
MJAR	**Matsushiro Arr**	**48.47**	**339**	P	**P**	**13 44 14.6**	**-0.6**
	1.2nm,0.7s,mb4.0,baz=156,slow=9.2,SNR=3.9						
KSRS	**Korea Array**	**53.58**	**331**	P	**P**	**13 44 54.1**	**+0.5**
	3.5nm,1.0s,mb4.2,baz=157,slow=7.1,SNR=6.1						
VNDA	**Vanda**	**68.91**	**179**	P	**P**	**13 46 37.0**	**+0.2**
	0.7nm,0.6s,mb3.7,baz=354,slow=5.8,SNR=4.8						
SONM	**Songino Array**	**72.08**	**327**	P	**P**	**13 46 57.9**	**+1.3**
	1.5nm,0.8s,mb4.0,baz=130,slow=5.7,SNR=7.1						
KDAK	**Kodiak Island**	**77.53**	**25**	P	**P**	**13 47 27.4**	**-0.5**
	6.9nm,0.8s,mb4.6,baz=205,slow=4.6,SNR=6.6						
SVW2	**Sparrevohn**	**78.55**	**21**	eP	**P**	**13 47 33.5**	**0.0**
TTA	**Tatalina**	**79.66**	**20**	eP	**P**	**13 47 40.1**	**+0.6**
IMA2	**Indian Mountai**	**82.52**	**18**	eP	**P**	**13 47 55.2**	**+0.5**
IMA2				ePcP	PcP	13 47 58.6	-1.0
MAW	**Mawson**	**83.89**	**203**	P	**P**	**13 48 01.7**	**-0.1**
	5.0nm,0.8s,mb4.7,baz=108,slow=11,SNR=3.8						
MKAR	**Makanchi Array**	**86.31**	**318**	P	**P**	**13 48 14.1**	**-0.2**
	0.8nm,0.6s,mb4.1,baz=98,slow=6.4,SNR=6.0						
DAWY	**Dawson**	**86.36**	**23**	eP	**P**	**13 48 14.4**	**+0.3**
ZALV	**Zalesovo Beam**	**86.95**	**326**	P	**P**	**13 48 16.5**	**-0.7**
ZALV	**Zalesovo Beam**	**86.95**	**326**	P	**P**	**13 48 16.5**	**-0.7**
	0.4nm,0.3s,mb4.1,baz=90,slow=2.9,SNR=2.4						
MTUM	**Tungsten Hills**	**90.32**	**52**	eP	**P**	**13 48 33.9**	**+0.3**
INK	**Inuvik**	**90.33**	**20**	P	**P**	**13 48 32.2**	**-0.8**
INK	**Inuvik**	**90.33**	**20**	P	**P**	**13 48 32.2**	**-0.8**
	2.2nm,1.0s,mb4.5,baz=216,slow=6.6,SNR=6.0						
NVAR	**Mina Array Bea**	**90.72**	**51**	P	**P**	**13 48 35.9**	**+0.5**
NVAR	**Mina Array Bea**	**90.72**	**51**	P	**P**	**13 48 35.9**	**+0.5**
	4.0nm,0.9s,mb4.7,baz=235,slow=4.7,SNR=22						
YKA	**Yellowknife Ar**	**96.57**	**28**	P	**P**	**13 49 01.1**	**-0.6**
YKA	**Yellowknife Ar**	**96.57**	**28**	P	**P**	**13 49 01.1**	**-0.6**
	0.7nm,0.8s,mb4.1,baz=263,slow=4.4,SNR=9.7						
PDAR	**Pinedale Array**	**97.88**	**48**	P	**P**	**13 49 08.2**	**0.0**
	1.2nm,1.0s,mb4.4,baz=225,slow=3.4,SNR=8.1						

*NEIC **02** 13:42:26.7±1.6, 730S×15644E, h10km, mb4.5/3, Error ellipse: s-maj=49.4km s-min=18.0km az=114.0*
*IDC **02** 13:42:26.9±1.6, 710S×15611E, h0km, mb4.1/7, mb1 4.2/7, mb1mx4.0/14, mbtmp4.1/7, Error ellipse: s-maj=56.1km s-min=22.7km az=110.0*

ISC 02 13:42:30.3±2.1, 73S±02×1565E±04, h35km, n16, σ0§79/13, mb4.0/8, 1D, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**24.26**	**255**	eP	**P**	**13 47 43.4**	**-0.9**
	8.0nm,0.6s,mb4.3						
WB2	**Warramunga Arr**	**24.87**	**237**	eP	**P**	**13 47 50.8**	**+1.0**
WRA	**Warramunga Arr**	**24.88**	**237**	P	**P**	**13 47 49.9**	**+0.1**
	1.5nm,0.5s,mb3.8,baz=61,slow=9.8,SNR=14						
WRA				PcP	PcP	13 51 27.9	+2.5
	0.6nm,0.6s,baz=61,slow=2.6,SNR=4.6						
ASAR	**Alice Springs**	**27.10**	**231**	P	**P**	**13 48 10.9**	**+0.9**
	0.4nm,0.6s,mb3.1,baz=61,slow=9.6,SNR=10						
ASAR				PcP	PcP	13 51 33.1	+2.6
	0.4nm,0.4s,baz=66,slow=2.6,SNR=5.8						
STKA	**Stephens Creek**	**28.14**	**208**	eP	**P**	**13 48 16.9**	**-2.2**
	2.6nm,0.7s,mb4.0						
STKA	**Stephens Creek**	**28.14**	**208**	P	**P**	**13 48 19.4**	**+0.3**
	2.7nm,0.8s,mb4.0,baz=29,slow=13,SNR=5.2						
FITZ	**Fitzroy Crossi**	**31.88**	**247**	⇓iP	**P**	**13 48 51.8**	**-0.7**
	7.7nm,0.6s,mb4.7						
FITZ	**Fitzroy Crossi**	**31.88**	**247**	P	**P**	**13 48 52.1**	**-0.4**
	3.5nm,0.6s,mb4.4,baz=78,slow=8.1,SNR=24						
SONM	**Songino Array**	**70.36**	**327**	P	**P**	**13 53 41.1**	**+0.6**
	3.4nm,1.0s,mb4.2,baz=141,slow=6.1,SNR=12						
MK31	**Makanchi Array**	**84.57**	**318**	eP	**P**	**13 54 59.5**	**-0.4**
MKAR	**Makanchi Array**	**84.57**	**318**	P	**P**	**13 55 00.5**	**+0.6**
MKAR	**Makanchi Array**	**84.57**	**318**	P	**P**	**13 55 00.5**	**+0.6**
	0.6nm,0.4s,mb4.1,baz=93,slow=8.5,SNR=11						
ZALV	**Zalesovo Beam**	**85.22**	**326**	P	**P**	**13 55 02.5**	**-0.6**
	1.3nm,0.4s,mb4.4,baz=109,slow=5.7,SNR=6.3						
GERES	**GERESS Array B**	**128.03**	**330**	PKP	PKPdf	14 01 35.0	+2.4
	0.2nm,0.2s,baz=48,slow=2.9,SNR=5.2						
TORD	**Torodi Ar. Bea**	**154.50**	**285**	PKPbc	PKPbc	14 02 29.0	+0.7
	0.4nm,0.4s,baz=34,slow=1.9,SNR=6.5						
TORD				PKPab	PKPab	14 02 42.6	-0.2
	0.3nm,0.4s,baz=80,slow=4.3,SNR=4.8						
DBIC	**Dimbokro**	**161.45**	**269**	PKPab	PKPab

*NEIC **02** 13:49:55.1±3.6,785S×156.48E,h19km±22km,mb5.4/42, Error ellipse: s-maj=7.5km s-min=6.3km az=151.0*
*GCMT **02** 13:49:55.1±0.2,802S×156.58E,h20km±1km,MW5.6/91, Moment Tensor Solution. s55,c74; s91,c175; Duration: 1§5 Moment tensor: Scale 10^{17}Nm; M_{rr}1.14±.10; $M_{\theta\theta}$-0.15±.06; $M_{\phi\phi}$-0.99±.07; $M_{r\theta}$-0.02±.14; $M_{\theta\phi}$2.76±.06; M_{rf}1.14±.17; Best double couple: $M_0$3.07300×10^{17} NP1:ϕ_s96.00000°,δ62.00000°,λ13.00000°. NP2: ϕ_s360.00000°,δ78.00000°,λ151.00000°. Principal axes: T 2.6140, Plg28.0000°, Azm315.0000°; N 0.9130, Plg59.0000°, Azm160.0000°; P -3.5320, Plg11.0000°, Azm51.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*MOS **02** 13:49:56.1±1.3,780S×156.42E,h33km,mb5.6/30, MS5.1/8 Error ellipse: s-maj=9.0km s-min=6.9km az=93.3*
ISC 02 13:49:54.5±1.8,787S±003×15650E±003,h13km±11km, h16km±1.2km:pP-P,n447,σ1§03/395,mb5.3/82,MS5.2/27, 91C-76D,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**3.74**	**115**	*e*Pn	**Pn**	**13 50 52.0**	**+0.1**
HNR				*e*Sn	**Sn**	**13 51 35.3**	**-0.5**
HNR	**Honiara**	**3.74**	**115**	Pn	**Pn**	**13 50 53.6**	**+1.7**
	1μm,0.3s,baz=254,slow=7.5,SNR=39						
HNR				Sn	**Sn**	**13 51 36.7**	**+0.9**
	851nm,0.3s,baz=261,slow=23,SNR=5.3						
HNR				LR	LR	13 52 15.8	
	comp=Z,70μm,18.4s,baz=2.4,slow=38						
CTA	**Charters Tower**	**15.68**	**218**	*e*P	**Pn**	**13 53 36.6**	**+1.3**
	71nm,1.0s						
CTA				*i* S	**Sn**	**13 56 48.3**	**+19**
CTA	**Charters Tower**	**15.68**	**218**	*e*P	**Pn**	**13 53 36.6**	**+1.3**
CTA				pmax	pmax		
	comp=Z,71nm,1.0s						
CTA	**Charters Tower**	**15.68**	**218**	Pn	**Pn**	**13 53 35.2**	**-0.1**
	comp=Z,1.0nm,0.3s,baz=45,slow=15,SNR=8.8						
CTAO	**Charters Tower**	**15.68**	**218**	*e*P	**Pn**	**13 53 34.6**	**-0.7**
	comp=Z,48nm,0.9s						
CTAO	**Charters Tower**	**15.68**	**218**	*e*P	**Pn**	**13 53 34.6**	**-0.7**
CTAO				pmax	pmax		
	comp=Z,48nm,0.9s						
DZM	**Mont Dzumac**	**17.06**	**147**	Pn	**Pn**	**13 53 51.6**	**-1.2**
	comp=Z,1.0nm,0.3s,baz=351,slow=12,SNR=16						
EIDS	**Eidsvold**	**18.15**	**196**	*e*Pn	**Pn**	**13 54 07.8**	**+1.5**
	comp=Z,56nm,1.1s						
FUNA	**Funafuti**	**22.47**	**93**	*e*P	**P**	**13 54 54.0**	**+0.3**
	comp=Z,152nm,1.0s,mb5.4						
ARMA	**Armidale**	**22.89**	**191**	*e*P	**P**	**13 54 57.0**	**-0.9**
KAKA	**Kakadu**	**24.15**	**257**	⇑*i*P	**P**	**13 55 09.9**	**-0.7**
	comp=Z,346nm,0.9s,mb5.8						
GUMO	**Guam**	**24.25**	**331**	P	**P**	**13 55 11.8**	**+0.5**
	comp=Z,144nm,0.7s,mb5.5,baz=202,slow=10,SNR=5.6						
GUMO				LR	LR	14 03 16.6	
	comp=Z,3μm,20.2s,MS4.8,baz=147,slow=33						
WB2	**Warramunga Arr**	**24.58**	**239**	*e*P	**P**	**13 55 13.6**	**-0.8**
WB2				*i* S	**S**	**13 59 41.1**	**+5.8**
WRA	**Warramunga Arr**	**24.59**	**239**	P	**P**	**13 55 12.8**	**-1.7**
	comp=Z,76nm,0.7s,mb5.3,baz=63,slow=8.9,SNR=78						
RIV	**Riverview**	**26.30**	**190**	*e*P	**P**	**13 55 30.8**	**+1.0**
ASAR	**Alice Springs**	**26.76**	**232**	P	**P**	**13 55 32.4**	**-1.8**
	comp=Z,11nm,0.8s,mb4.4,baz=63,slow=8.9,SNR=33						
STKA	**Stephens Creek**	**27.62**	**208**	*e*P	**P**	**13 55 40.7**	**-1.1**
	comp=Z,70nm,0.8s,mb5.3						
STKA				*e*S	**S**	**14 00 18.3**	**-5.0**
STKA	**Stephens Creek**	**27.62**	**208**	P	**P**	**13 55 41.4**	**-0.4**
	comp=Z,81nm,0.8s,mb5.4,baz=20,slow=11,SNR=19						
CNB	**Canberra Magne**	**28.09**	**192**	*e*P	**P**	**13 55 46.8**	**+0.9**
	comp=Z,56nm,1.0s,mb5.2						
FITZ	**Fitzroy Crossi**	**31.70**	**248**	⇑*i*P	**P**	**13 56 16.6**	**-1.5**
	comp=Z,45nm,1.0s,mb5.3						
FITZ				*i* S	**S**	**14 01 35.4**	**+7.8**
FITZ	**Fitzroy Crossi**	**31.70**	**248**	P	**P**	**13 56 16.6**	**-1.5**
	comp=Z,9.0nm,0.6s,mb4.8,baz=92,slow=7.0,SNR=20						
RAO	**Raoul Island**	**32.11**	**135**	LR	LR	14 07 02.0	
	comp=Z,2μm,19.0s,MS4.8,baz=133,slow=32						
BATI	**Kupang**	**32.51**	**263**	P	**P**	**13 56 24.0**	**-1.3**
	comp=Z,58nm,0.9s,mb5.5,baz=276,slow=18,SNR=8.2						
FORT	**Forrest**	**35.01**	**226**	*e*P	**P**	**13 56 44.8**	**-2.1**
	comp=Z,57nm,0.7s,mb5.6						
URZ	**Urewera**	**35.52**	**152**	P	**P**	**13 56 51.5**	**+0.3**
	comp=Z,13nm,0.7s,mb5.0,baz=222,slow=0.5,SNR=11						
TAU	**Tasmania Unive**	**35.82**	**192**	*e*P	**P**	**13 56 54.5**	**+0.9**
MSLP	**Maasin**	**36.23**	**299**	*e*P	**P**	**13 56 57.2**	**-0.3**
CBIJ	**Chichi jima**	**37.43**	**339**	P	**P**	**13 57 05.9**	**-1.6**
	comp=Z,60nm,0.8s,mb5.5,baz=123,slow=17,SNR=3.7						
CNP	**Catarman**	**37.57**	**302**	*e*P	**P**	**13 57 07.7**	**-1.2**
MBWA	**Marble Bar**	**37.86**	**246**	*e*P	**P**	**13 57 12.8**	**+1.4**
	comp=Z,64nm,1.1s,mb5.3						
RPZ	**Rata Peaks**	**37.91**	**163**	P	**P**	**13 57 11.3**	**0.0**
	comp=Z,23nm,0.8s,mb5.0,baz=326,slow=2.0,SNR=8.2						
RPZ	**Rata Peaks**	**37.91**	**163**	PN	**P**	**13 57 10.6**	**-0.8**
GUIM	**Jordan**	**38.44**	**298**	*e*P	**P**	**13 57 16.2**	**-0.1**
PVCP	**Virac**	**38.56**	**303**	*e*P	**P**	**13 57 16.8**	**-0.4**
MLZ	**Mavora Lakes**	**38.68**	**167**	PN	**P**	**13 57 16.0**	**-1.9**
OTRP	**Odiongan**	**39.74**	**300**	*e*P	**P**	**13 57 26.8**	**-0.4**
CUYO	**Cuyo Island**	**39.91**	**297**	*e*P	**P**	**13 57 28.7**	**+0.1**
TSM	**Tawau**	**40.39**	**286**	⇑P	**P**	**13 57 33.2**	**+0.6**
SDKM	**Sandakan**	**41.45**	**288**	⇓P	**P**	**13 57 40.8**	**-0.6**
ENPP	**El Nido**	**41.48**	**297**	*e*P	**P**	**13 57 43.7**	**+2.1**
PPR	**Puerto Princes**	**41.51**	**294**	*e*P	**P**	**13 57 42.4**	**+0.6**
BALP	**Baler**	**41.80**	**304**	*e*P	**P**	**13 57 43.0**	**-1.2**
LUBP	**Lubang**	**41.91**	**301**	*e*P	**P**	**13 57 44.8**	**-0.3**
BATP	**Bataraza**	**41.97**	**292**	*e*P	**P**	**13 57 45.4**	**-0.2**
KDM	**Kudat**	**42.20**	**289**	⇑P	**P**	**13 57 48.5**	**+1.0**
CAUP	**Cauayan**	**42.24**	**306**	*e*P	**P**	**13 57 49.0**	**+1.2**
KKM	**Kota Kinabalu**	**42.50**	**288**	*e*P	**P**	**13 57 49.6**	**-0.4**
KKM	**Kota Kinabalu**	**42.50**	**288**	⇓P	**P**	**13 57 50.8**	**+0.9**
BCPH	**Baguio City Da**	**42.95**	**304**	⇑*e*P	**P**	**13 57 54.4**	**+0.9**
KLBR	**Kellerberrin**	**43.09**	**231**	*e*P	**P**	**13 57 52.6**	**-1.9**
	comp=Z,31nm,0.6s,mb5.2						
SCZP	**Santa Cruz**	**43.19**	**303**	*e*P	**P**	**13 57 54.6**	**-0.9**
APYP	**Conner**	**43.20**	**307**	*e*P	**P**	**13 57 55.9**	**+0.4**
BOLP	**Bolinao**	**43.50**	**304**	*e*P	**P**	**13 57 53.7**	**-4.2**
NWAO	**Narrogin (SRO)**	**44.05**	**230**	*e*P	**P**	**13 58 03.5**	**+1.2**
	comp=Z,199nm,1.8s,mb5.5						
NWAO	**Narrogin (SRO)**	**44.05**	**230**	*e*P	**P**	**13 58 03.5**	**+1.2**
NWAO				pmax	pmax		
	comp=Z,199nm,1.8s						
NWAO	**Narrogin (SRO)**	**44.05**	**230**	P	**P**	**13 58 01.8**	**-0.5**
	comp=Z,26nm,0.6s,mb5.1,baz=55,slow=8.0,SNR=21						
RAR	**Rarotonga**	**44.19**	**112**	LR	LR	14 13 05.3	
	comp=Z,2μm,20.7s,MS5.1,baz=282,slow=32						
MUN	**Mundaring**	**44.45**	**232**	*e*P	**P**	**13 58 06.4**	**+1.0**
BTM	**Bintulu**	**44.69**	**283**	⇑P	**P**	**13 58 10.2**	**+2.6**
SBUM	**Sibu**	**45.35**	**281**	⇑P	**P**	**13 58 14.9**	**+2.1**
NACB	**Ninganchiao**	**46.64**	**314**	*e*P	**P**	**13 58 25.4**	**+2.6**
KSM	**Kuching**	**46.99**	**279**	*e*P	**P**	**13 58 25.9**	**0.0**
KSM	**Kuching**	**46.99**	**279**	⇑P	**P**	**13 58 26.1**	**+0.2**
YHNB	**Yeheng**	**47.10**	**314**	*e*P	**P**	**13 58 29.3**	**+2.8**
MJAR	**Matsushiro Arr**	**47.40**	**340**	P	**P**	**13 58 26.8**	**-1.8**
	comp=Z,14nm,0.8s,mb4.9,baz=168,slow=8.0,SNR=20						
MJAR				LR	LR	14 16 30.3	
	comp=Z,2μm,18.6s,MS5.2,baz=190,slow=34						
MAJO	**Matsushiro**	**47.40**	**340**	*e*P	**P**	**13 58 27.5**	**-1.1**
	comp=Z,30nm,0.8s,mb5.3						
MAJO	**Matsushiro**	**47.40**	**340**	*e*P	**P**	**13 58 27.5**	**-1.1**
MAJO				pmax	pmax		
	comp=Z,30nm,0.8s,mb5.3						
MAT	**Matsushiro**	**47.40**	**340**	P	**P**	**13 58 27.3**	**-1.3**
MAT				S	**S**	**14 05 25.0**	**+2.5**
QZH	**Quanzhou**	**49.27**	**313**	*e*P	**P**	**13 58 41.3**	**-1.9**
SSE	**Sheshan**	**51.43**	**321**	P	**P**	**13 58 59.9**	**+0.4**
SSE				XP	sP	13 59 04.8	-0.4
SSE				PCP	PcP	14 00 15.4	+1.5
SSE				S	**S**	**14 06 18.6**	**-0.5**
SSE				SS	SS	14 09 53.6	-1.7
SSE				AMB	AMB		
	comp=Z,47nm,1.1s,mb5.3						
SSE				AMB	AMB		
	comp=Z,244nm,4.2s						
SSE				LR	LR		
	comp=N,629nm,19.0s,MS4.8						
SSE				LR	LR		
	comp=E,693nm,19.0s,MS4.8						
SSE				LR	LR		
	comp=Z,1μm,17.1s,MS5.0						
SSE	**Sheshan**	**51.43**	**321**	P	**P**	**13 58 59.9**	**+0.4**
	comp=Z,47nm,1.1s,mb5.3						
SSE				sP	sP	13 59 04.8	-0.4
SSE				PcP	PcP	14 00 15.4	+1.5
SSE				S	**S**	**14 06 18.6**	**-0.5**
SSE				sS	sS	14 06 23.5	-2.4
SSE				SS	SS	14 09 53.6	-1.7
SSE				LR	LR		
	comp=Z,1μm,17.1s,MS5.0						
KSRS	**Korea Array**	**52.42**	**331**	P	**P**	**13 59 05.8**	**-0.9**
	comp=Z,31nm,0.8s,mb5.3,baz=148,slow=7.5,SNR=38						
KSRS				LR	LR	14 20 06.9	
	comp=Z,1μm,18.5s,MS5.0,baz=132,slow=35						
INCN	**Inchon**	**53.06**	**330**	*e*P	**P**	**13 59 13.8**	**+2.3**
	comp=Z,115nm,0.9s,mb5.8						
QIZ	**Qiongzhong**	**53.19**	**301**	⇑P	**P**	**13 59 13.7**	**+0.9**
QIZ				AMB	AMB		
	comp=Z,695nm,10.2s						
QIZ				LR	LR		
	comp=N,1μm,20.8s,MS5.1						
QIZ				LR	LR		
	comp=E,2μm,23.6s,MS5.1						
QIZ				LR	LR		
	comp=Z,3μm,25.3s,MS5.3						
PPT	**Papeete**	**53.32**	**106**	*e*S	**S**	**14 06 43.6**	**-1.9**
	comp=Z,1μm,25.0s						
PPT				*e*LQ		14 12 30.4	
	comp=Z,5μm,27.0s						
PPT				*e*LR	LR	14 14 40.4	
	comp=Z,3μm,24.0s,baz=288						
MYKOM	**Kota Tinggi**	**53.38**	**278**	⇑P	**P**	**13 59 15.1**	**+0.8**
NJ2	**Nanjing**	**53.54**	**320**	*e*P	**P**	**13 59 15.7**	**+0.5**
NJ2				AP	pP	13 59 20.1	+0.8
NJ2				XP	sP	13 59 21.7	+0.8
NJ2				PP	PP	14 01 18.0	+2.0
NJ2				AMB	AMB		
	comp=Z,210nm,1.3s,mb5.9						
NJ2				AMB	AMB		
	comp=Z,1μm,4.6s						
NJ2				LR	LR		
	comp=N,16μm,17.1s,MS6.2						
NJ2				LR	LR		
	comp=E,9μm,17.7s,MS6.2						
NJ2				LR	LR		
	comp=Z,12μm,14.2s,MS6.1						
KGM	**Kluang**	**53.95**	**278**	⇑P	**P**	**13 59 20.0**	**+1.5**
TBI	**Tubuai**	**53.96**	**113**	*e*S	**S**	**14 06 53.2**	**-0.9**
	comp=Z,1μm,26.5s						
TBI				*e*LQ		14 12 40.5	
	comp=Z,9μm,33.5s						
TBI				*e*LR	LR	14 14 58.3	
	comp=Z,6μm,29.8s						
KHU	**Kahuku**	**54.33**	**60**	*e*P	**P**	**13 59 20.9**	**-0.1**
KTGM	**Kuala Trenggan**	**54.83**	**282**	⇓P	**P**	**13 59 25.9**	**+1.0**
PMOR	**Pomariorio Ree**	**54.84**	**103**	*e*P	**P**	**13 59 21.9**	**-3.0**
	comp=Z,41nm,0.9s						
VLA	**Vladivostok**	**55.47**	**338**	*d i*P	**P**	**13 59 28.5**	**-0.4**
VLA				pmax	pmax		
	comp=E,61nm,1.5s,mb5.4						
WHN	**Wuhan**	**55.61**	**315**	⇑P	**P**	**13 59 33.7**	**+3.5**
YSS	**Yuzh-Sakhalins**	**55.94**	**349**	*e*P	**P**	**13 59 32.0**	**-0.2**
	comp=Z,60nm,1.1s,mb5.5						
YSS	**Yuzh-Sakhalins**	**55.94**	**349**	*c i*P	**P**	**13 59 32.1**	**-0.1**
YSS				pmax	pmax		
	comp=Z,27nm,1.1s,mb5.2						
DL2	**Dalian**	**56.70**	**328**	P	**P**	**13 59 37.5**	**-0.3**
DL2				AMB	AMB		
	comp=Z,50nm,0.8s,mb5.6						
DL2				AMB	AMB		
	comp=Z,380nm,7.1s						
DL2				LR	LR		
	comp=N,480nm,15.7s,MS4.9						
DL2				LR	LR		
	comp=E,560nm,14.4s,MS4.9						
DL2				LR	LR		
	comp=Z,820nm,19.5s						
KULM	**Kulim**	**57.23**	**281**	*e*P	**P**	**13 59 40.0**	**-2.1**
KULM	**Kulim**	**57.23**	**281**	⇑P	**P**	**13 59 42.3**	**+0.2**
TIA	**Tai'an**	**57.37**	**322**	*e*P	**P**	**13 59 41.8**	**-0.8**
MDJ	**Mudanjiang**	**57.61**	**337**	P	**P**	**13 59 44.2**	**0.0**
MDJ				AP	pP	13 59 47.3	-1.0
MDJ				PCP	PcP	14 00 34.8	-2.5
MDJ				PP	PP	14 01 54.1	+2.0
MDJ				AMB	AMB		
	comp=Z,17nm,1.2s,mb5.0						
MDJ				AMB	AMB		
	comp=Z,623nm,10.8s						
MDJ				LR	LR		
	comp=N,2μm,19.3s,MS5.2						
MDJ				LR	LR		
	comp=E,818nm,20.9s,MS5.2						
MDJ				LR	LR		
	comp=Z,2μm,22.4s,MS5.1						
MDJ	**Mudanjiang**	**57.61**	**337**	*e*P	**P**	**13 59 44.3**	**+0.2**
	comp=Z,31nm,1.1s,mb5.2						
CN2	**Changchun**	**58.62**	**334**	*e*P	**P**	**13 59 51.1**	**-0.2**
CN2				*e*XP	sP	13 59 58.1	+1.1
CN2				AMB	AMB		
	comp=Z,30nm,1.7s,mb5.0						
CN2				AMB	AMB		
	comp=Z,200nm,3.0s						
CN2				LR	LR		
	comp=N,1μm,15.0s,MS5.2						
CN2				LR	LR		
	comp=E,700nm,15.0s,MS5.2						
CN2				LR	LR		
	comp=Z,1μm,15.0s,MS5.2						
GYA	**Guiyang**	**59.17**	**307**	⇑*i*P	**P**	**13 59 58.2**	**+2.8**
GYA				AP	pP	14 00 02.4	+2.8
GYA				XP	sP	14 00 05.8	+4.6
GYA				PCP	PcP	14 00 45.8	+1.9
GYA				PP	PP	14 02 10.7	+4.3
GYA				AMB	AMB		
	comp=Z,90nm,1.0s,mb5.8						
GYA				LR	LR		
	comp=N,12μm,20.6s,MS6.1						
GYA				LR	LR		
	comp=E,11μm,21.4s,MS6.1						
GYA				LR	LR		
	comp=Z,10μm,22.6s,MS5,9						
NNT	**Nongplab**	**59.96**	**289**	P	**P**	**14 00 02.0**	**+0.9**
BJT	**Baijiatuau**	**60.48**	**325**	*e*P	**P**	**14 00 04.5**	**+0.4**
	comp=Z,97nm,1.4s,mb5.6						
BJT	**Baijiatuau**	**60.48**	**325**	*e*P	**P**	**14 00 04.5**	**+0.4**
BJT				pmax	pmax		
	comp=Z,97nm,1.4s						
BJI	**Beijing**	**60.49**	**325**	P	**P**	**14 00 03.1**	**-1.1**
BJI				PP	PP	14 02 19.2	+1.4
BJI				AMB	AMB		
	comp=Z,48nm,2.2s,mb5.1						
BJI				AMB	AMB		
	comp=Z,629nm,3.7s						
BJI				LR	LR		
	comp=N,2μm,16.5s,MS5.4						
BJI				LR	LR		
	comp=E,875nm,18.8s,MS5.4						
BJI				LR	LR		
	comp=Z,2μm,18.8s,MS5.2						
BJI	**Beijing**	**60.49**	**325**	P	**P**	**14 00 03.1**	**-1.1**
	comp=Z,48nm,2.2s,mb5.1						
BJI				PP	PP	14 02 19.2	+1.4
BJI				S	**S**	**14 08 21.5**	**+2.0**
BJI				SS	SS	14 11 53.5	-24
BJI				LR	LR		
	comp=Z,2μm,18.8s,MS5.2						
NST	**Nakhon Sawan**	**60.53**	**293**	P	**P**	**14 00 04.0**	**-0.9**
KLR	**Kul'dur**	**60.86**	**342**	*e*P	**P**	**14 00 02.2**	**-4.3**
KLR				pmax	pmax		
	comp=Z,74nm,1.6s,mb5.6						
XAN	**Xi'an**	**61.37**	**316**	P	**P**	**14 00 10.1**	**-0.3**
XAN				AP	pP	14 00 15.3	+0.7
XAN				AMB	AMB		
	comp=Z,6.0nm,1.0s,mb4.7						
XAN				LR	LR		
	comp=N,693nm,20.5s,MS4.9						
XAN				LR	LR		
	comp=E,546nm,25.0s,MS4.9						
XAN				LR	LR		
	comp=Z,2μm,20.0s,MS5.2						
KMI	**Kunming**	**61.74**	**304**	P	**P**	**14 00 15.2**	**+2.1**
KMI				PCP	PcP	14 00 52.3	-2.0
KMI				AMB	AMB		
	comp=Z,35nm,0.8s,mb5.5						
KMI				AMB	AMB		
	comp=Z,590nm,9.0s						
KMI				LR	LR		
	comp=N,1μm,18.4s,MS5.2						
KMI				LR	LR		
	comp=E,1μm,19.5s,MS5.2						
KMI				LR	LR		
	comp=Z,2μm,18.4s,MS5.3						
KMI	**Kunming**	**61.74**	**304**	P	**P**	**14 00 15.2**	**+2.1**
	comp=Z,35nm,0.8s,mb5.5						
KMI				PcP	PcP	14 00 52.3	-2.0
KMI				S	**S**	**14 08 33.1**	**-2.9**
KMI				PS		14 08 49.3	
KMI				SS	SS	14 12 34.0	-4.1
KMI				SSS		14 15 10.6	
KMI				LR	LR		
	comp=Z,2μm,18.4s,MS5.3						
KMI	**Kunming**	**61.74**	**304**	P	**P**	**14 00 15.2**	**+2.1**
KMI						14 00 52.3	
KMI				S	**S**	**14 08 33.1**	**-2.9**
KMI				PS		14 08 49.3	
KMI				SS	SS	14 12 34.0	-4.1
KMI				SSS		14 15 10.6	
KMI				pmax	pmax		
	comp=Z,35nm,0.8s,mb5.5						
KMI				MLR	MLR		
	comp=Z,2μm,18.4s,MS5.3						
CHRT	**Chiangrai**	**62.25**	**297**	⇑P	**P**	**14 00 17.0**	**+0.5**
	comp=Z,158nm,0.8s,mb6.2						
TAOE	**Nuku Hiva Isla**	**62.61**	**96**	*e*LR	LR	14 19 00.7	
	comp=Z,7μm,25.0s						
CHG	**Chiang Mai**	**62.63**	**296**	⇑P	**P**	**14 00 18.7**	**-0.4**
	comp=Z,22nm,1.1s,mb5.2						
CHTO	**Chiang Mai**	**62.63**	**296**	*e*P	**P**	**14 00 18.8**	**-0.3**
CD2	**Chengdu**	**63.52**	**310**	P	**P**	**14 00 25.8**	**+1.0**
CD2				AP	pP	14 00 30.6	+1.6
CD2				XP	sP	14 00 33.2	+2.6
CD2				PP	PP	14 02 47.4	+2.7
CD2				AMB	AMB		
	comp=Z,50nm,0.6s,mb5.7						
CD2				AMB	AMB		
	comp=Z,250nm,5.2s						
CD2				LR	LR		
	comp=N,2μm,22.6s,MS5.4						
CD2				LR	LR		
	comp=E,2μm,20.2s,MS5.4						
CD2				LR	LR		
	comp=Z,2μm,24.0s,MS5.2						
HHC	**Hu-ho-hao-te**	**63.69**	**323**	*e*P	**P**	**14 00 26.5**	**+0.8**
HHC				AP	pP	14 00 31.4	+1.5
HHC				XP	sP	14 00 33.9	+2.4
HHC				PP	PP	14 02 51.3	+5.3
HHC				AMB	AMB		
	comp=Z,46nm,1.3s,mb5.3						
HHC				AMB	AMB		
	comp=Z,311nm,9.8s						
HHC				LR	LR		
	comp=N,679nm,15.9s,MS5.0						
HHC				LR	LR		
	comp=E,691nm,19.0s,MS5.0						
HHC				LR	LR		
	comp=Z,1μm,18.6s,MS5.0						
ADK	**Adak**	**63.82**	**18**	*e*P	**P**	**14 00 30.6**	**+4.3**
BTO	**Baotou**	**64.46**	**322**	*e*P	**P**	**14 00 31.3**	**+0.5**
HIA	**Hailar**	**65.35**	**334**	*e*P	**P**	**14 00 36.4**	**0.0**
	comp=Z,81nm,1.0s,mb5.7						
HIA	**Hailar**	**65.35**	**334**	*e*P	**P**	**14 00 36.4**	**0.0**
HIA				pmax	pmax		
	comp=Z,81nm,1.0s						
LZH	**Lanzhou**	**65.99**	**315**	*e*P	**P**	**14 00 41.5**	**+0.7**
LZH				AP	pP	14 00 45.0	0.0
LZH				XP	sP	14 00 47.4	+0.8
LZH				PP	PP	14 03 09.5	+3.2
LZH				AMB	AMB		
	comp=Z,94nm,1.5s,mb5.6						
LZH				AMB	AMB		
	comp=Z,380nm,4.5s						
LZH				LR	LR		
	comp=E,985nm,15.2s						
LZH				LR	LR		
	comp=Z,1μm,16.2s,MS5.2						
LZH	**Lanzhou**	**65.99**	**315**	*e*P	**P**	**14 00 41.5**	**+0.7**
	comp=Z,94nm,1.5s,mb5.6						
LZH				pP	pP	14 00 45.0	0.0
LZH				sP	sP	14 00 47.4	+0.8
LZH				PP	PP	14 03 09.5	+3.2
LZH				*e*S	S	14 09 30.0	+1.6
LZH				sS	sS	14 09 35.0	-0.4
LZH				SS	SS	14 13 44.0	0.0
LZH				LR	LR		
	comp=Z,1μm,16.2s,MS5.2						
LZH	**Lanzhou**	**65.99**	**315**	*e*P	**P**	**14 00 41.5**	**+0.7**
LZH				*SP	sP	14 00 47.4	+0.8
LZH						14 03 09.5	
LZH				*e*S	S	14 09 30.0	+1.6
LZH				SS	SS	14 13 44.0	0.0
LZH				pmax	pmax		
	comp=Z,94nm,1.5s,mb5.6						
LZH				MLR	MLR		
	comp=Z,1μm,16.2s,MS5.2						
RKT	**Rikitea**	**67.23**	**112**	*e*S	S	14 09 43.0	-1.0
	comp=Z,533nm,29.5s						
RKT				*e*LQ		14 18 10.4	
	comp=Z,2μm,38.5s						
RKT				*e*LR	LR	14 21 13.2	
	comp=Z,3μm,23.5s,baz=280						
MA2	**Magadan**	**67.39**	**357**	P	**P**	**14 00 46.8**	**-2.4**
MA2				pmax	pmax		
	comp=Z,20nm,1.0s,mb5.1						
CLNS	**Chul'man**	**69.51**	**342**	*e*P	**P**	**14 01 05.6**	**+3.0**
CLNS				*e*PP	pP	14 01 12.6	+5.8
CLNS				*e*		14 01 29.7	
CLNS				*e*		14 03 32.7	
CLNS				*e*PPP		14 05 12.3	
CLNS				*e*S	S	14 10 06.7	-3.1
CLNS				*e*		14 10 42.6	
CLNS				pmax	pmax		
	comp=Z,71nm,0.9s,mb5.6						
CLNS				pmax	pmax		
	comp=N,39nm,1.0s						
CLNS				pmax	pmax		
	comp=E,14nm,0.8s						
CLNS				pmax	pmax		
	comp=N,10.0nm,0.9s						
CLNS				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.8						
CLNS				pmax	pmax		
	comp=E,5.0nm,0.7s						
CLNS				smax			
	comp=E,789nm,14.2s						
CLNS				smax			
	comp=Z,308nm,12.8s						
CLNS				smax			
	comp=N,204nm,13.1s						
CLNS				MLR	MLR		
	comp=N,500nm,15.0s,MS5.1						
CLNS				MLR	MLR		
	comp=E,700nm,15.0s,MS5.1						
CLNS				MLR	MLR		
	comp=Z,700nm,15.0s,MS5.0						
VNDA	**Vanda**	**69.67**	**179**	P	**P**	**14 01 03.9**	**+0.6**
VNDA	**Vanda**	**69.67**	**179**	P	**

comp=E,213nm,2.0s
YAK smax
comp=Z,114nm,3.8s
YAK smax
comp=N,146nm,3.4s
YAK MLR MLR
comp=Z,1µm,17.0s,MS5.2
YAK MLR MLR
comp=N,776nm,20.0s,MS5.0
YAK MLR MLR
comp=E,381nm,19.0s,MS5.0
LSA Lhasa 73.00 304 *e*P **P 14 01 24.8 +0.5**
comp=E,22nm,0.9s,mb5.1
LSA Lhasa 73.00 304 *e*P **P 14 01 24.8 +0.5**
LSA pmax pmax
comp=Z,22nm,0.9s,mb5.1
CHGN Chignik 73.92 24 *e*P **P 14 01 27.1 -2.0**
BOD Bodaibo 73.98 338 *e*P **P 14 01 28.2 -1.2**
BOD pmax pmax
comp=Z,25nm,1.3s,mb5.0
ZAK Zakamensk 74.03 328⇑*e*P **P 14 01 29.7 -0.2**
ZAK pmax pmax
comp=Z,24nm,1.6s,mb4.9
TLY Talaya 74.58 329 P **P 14 01 33.9 +0.8**
comp=Z,196nm,0.9s,mb6.0,SNR=8.6
TLY Talaya 74.58 329 *e*P **P 14 01 33.4 +0.3**
TLY Talaya 74.58 329 *e*P **P 14 01 32.9 -0.2**
TLY *e* 14 01 50.5
TLY *e*S S 14 11 07.4 -0.8
TLY *e* 14 11 42.1
TLY pmax pmax
comp=Z,73nm,2.1s,mb5.2
TLY MLR MLR
comp=Z,912nm,18.0s,MS5.1
IRK Irkutsk 74.59 330⇑*i*P **P 14 01 32.3 -0.8**
IRK pmax pmax
comp=Z,95nm,2.2s,mb5.3
GAMB Gambell 75.39 14 *e*P **P 14 01 39.6 +2.1**
MOY Mondy 75.94 328 *e*P **P 14 01 41.2 +0.3**
MOY pmax pmax
comp=Z,106nm,2.2s,mb5.4
BILL Bilibino 76.05 4⇑*i*P **P 14 01 40.5 -0.7**
BILL pmax pmax
comp=Z,42nm,1.4s,mb5.2
JIRN Jiri 76.52 301 *e*P **P 14 01 45.2 +0.5**
comp=Z,163nm,1.5s,mb5.7
PALK Pallekele 77.06 279 P **P 14 01 48.6 +0.5**
comp=Z,161nm,1.6s,mb5.7,SNR=6.6
PALK Pallekele 77.06 279 *e*P **P 14 01 49.1 +1.0**
comp=Z,64nm,1.4s,mb5.4
KDAK Kodiak Island 77.31 25 *e*P **P 14 01 47.0 -1.5**
KDAK Kodiak Island 77.31 25 P **P 14 01 47.4 -1.1**
comp=Z,13nm,0.8s,mb4.9,baz=210,slow=5.6,SNR=11
KKN Kakani 77.33 301 *e*P **P 14 01 49.3 0.0**
comp=Z,50nm,0.8s,mb5.5
TNA Tin City 77.79 14 *e*P **P 14 01 50.4 -0.7**
GKN Gorkha 77.93 301 *e*P **P 14 01 52.5 -0.2**
comp=Z,84nm,0.9s,mb5.7
SVW2 Sparrevohn 78.25 22 *e*P **P 14 01 53.5 -0.2**
KOLN Koldanda 78.76 300 *e*P **P 14 01 57.1 -0.1**
comp=Z,113nm,1.1s,mb5.7
TTA Tatalina 79.32 20 *e*P **P 14 01 59.0 -0.5**
SLKM Skilak Lake 79.93 24 *e*P **P 14 02 01.9 -1.0**
SLKM *e*PcP PcP 14 02 11.0 +0.6
WMQ Urumqi 80.48 317 P **P 14 02 07.2 +0.9**
WMQ AP pP 14 02 12.0 +1.4
WMQ AMB AMB
comp=Z,27nm,1.0s,mb5.1
WMQ AMB AMB
comp=Z,643nm,3.8s
WMQ LR LR
comp=N,914nm,17.8s,MS5.3
WMQ LR LR
comp=E,877nm,17.3s,MS5.3
WMQ LR LR
comp=Z,1µm,22.0s,MS5.2
HYB Hyderabad 80.97 289 *e*P **P 14 02 08.0 -1.4**
HYB Hyderabad 80.97 289 *i* P **P 14 02 10.0 +0.6**
PMR Palmer 81.00 23 *e*P **P 14 02 07.2 -1.4**
comp=Z,16nm,1.4s,mb4.7
PMR Palmer 81.00 23 *e*P **P 14 02 07.2 -1.4**
PMR pmax pmax
comp=Z,16nm,1.4s,mb4.8
SML Sawmill 81.43 23 *e*P **P 14 02 09.7 -1.2**
TIXI Tiksi 81.44 351 *e*P **P 14 02 10.1 -0.7**
EYAK Cordova Ski Ar 81.78 25 *e*P **P 14 02 11.3 -1.5**
comp=Z,18nm,0.9s,mb5.0
IMA2 Indian Mountai 82.15 18 *e*P **P 14 02 15.3 +0.7**
MCK McKinley 82.31 21 *e*P **P 14 02 13.9 -1.6**
comp=Z,77nm,0.9s,mb5.6
MCK McKinley 82.31 21 *e*P **P 14 02 13.9 -1.6**
MCK pmax pmax
comp=Z,77nm,0.9s,mb5.6
COLA College 83.36 21 *e*P **P 14 02 19.0 -2.0**
comp=Z,33nm,0.9s,mb5.4
COLA College 83.36 21 *e*P **P 14 02 19.0 -1.9**
COLA pmax pmax
comp=Z,33nm,0.9s,mb5.4
MENT Mentasta 83.85 23 *e*P **P 14 02 23.7 +0.2**
MAW Mawson 84.17 203 *e*P **P 14 02 25.9 +0.8**
comp=Z,15nm,0.6s,mb5.3
MAW Mawson 84.17 203 *e*P **P 14 02 25.9 +0.8**
MAW pmax pmax
comp=Z,15nm,0.6s
MAW Mawson 84.17 203 P **P 14 02 24.8 -0.3**
comp=Z,18nm,0.7s,mb5.3,baz=87,slow=7.1,SNR=23
MKAR Makanchi Array 85.05 318 P **P 14 02 28.8 -1.1**
MKAR LR LR 14 41 16.9
MKAR Makanchi Array 85.05 318 P **P 14 02 28.8 -1.1**
comp=Z,16nm,0.7s,mb5.2,baz=105,slow=5.1,SNR=41
MKAR LR LR 14 41 16.9
comp=Z,947nm,18.1s,MS5.2,baz=89,slow=36
ZALV Zalesovo Beam 85.74 326 P **P 14 02 31.4 -1.8**
ZALV Zalesovo Beam 85.74 326 P **P 14 02 31.4 -1.8**
comp=Z,9.3nm,0.6s,mb5.2,baz=101,slow=5.0,SNR=23
EGAK Eagle 85.75 22 *e*P **P 14 02 32.5 -0.5**
ZAL Zalesovo 85.75 326 P **P 14 02 31.4 -1.9**
SKAG Skagway 85.92 28 *e*P **P 14 02 34.8 +0.8**
comp=Z,50nm,1.5s,mb5.5
DAWY Dawson 86.10 23 *e*P **P 14 02 36.6 +1.9**
NVS Novosibirsk 86.91 326 *e*P **P 14 02 37.5 -1.4**
NVS *e*S S 14 13 00.1 -17
NVS pmax pmax
comp=Z,69nm,2.4s,mb5.5
HOPS Hopland 87.53 50 ⇓P **P 14 02 43.4 +1.1**
baz=88
KSH Kashi 87.72 310 *e*P **P 14 02 43.8 +0.6**
KSH AP pP 14 02 48.6 +1.0
KSH XP sP 14 02 51.1 +2.0
KSH AMB AMB
comp=Z,65nm,0.4s,mb6.2
KSH AMB AMB
comp=Z,1µm,4.8s
KSH LR LR
comp=N,1µm,6.3s
KSH LR LR
comp=E,1µm,6.1s
KSH LR LR
comp=Z,2µm,17.8s,MS5.6
N02C Big Bar 87.74 48 ⇑P **P 14 02 46.4 +3.1**
baz=88
JRSC Jasper Ridge 87.84 52 ⇓P **P 14 02 43.4 -0.5**
baz=88
GASB Alder Springs 87.93 50 ⇑P **P 14 02 43.4 -0.9**
baz=88
MNRC McLaughlin Nat 87.98 50 ⇑P **P 14 02 43.0 -1.5**
baz=88
O02C Red Bluff 87.99 49 ⇑P **P 14 02 44.3 -0.2**
baz=88
K02A Glendale 88.02 47 ⇑P **P 14 02 45.2 +0.5**
baz=88
J02A Umpqua 88.09 46 ⇓P **P 14 02 44.2 -0.7**
baz=88
DLBC Dease Lake 88.14 30 *e*P **P 14 02 48.0 +3.2**
HAST Hastings Reser 88.19 53 ⇓P **P 14 02 45.3 -0.3**
baz=88
M02C Callahan 88.19 48 ⇑P **P 14 02 45.3 -0.2**
baz=88
WDC Whiskeytown Da 88.25 49 ⇓P **P 14 02 44.9 -0.8**
baz=88
YBH Yreka Blue Hor 88.37 48 *e*P **P 14 02 46.5 +0.2**
YBH Yreka Blue Hor 88.37 48 ⇓P **P 14 02 46.5 +0.2**
baz=88
KURK Kurchatov 88.44 322 *e*P **P 14 02 44.9 -1.6**
comp=Z,49nm,1.8s,mb5.4
KURK Kurchatov 88.44 322 *e*P **P 14 02 44.9 -1.5**
KURK pmax pmax
comp=Z,49nm,1.8s,mb5.4
F03A Seaside 88.66 43 ⇓P **P 14 02 49.5 +1.9**
baz=89
TKM2 Tokmak 2 88.70 313 *e*P **P 14 02 47.4 -0.4**
comp=Z,4.4nm,0.8s,mb4.8
TKM2 Tokmak 2 88.70 313 *e*P **P 14 02 47.4 -0.4**
TKM2 pmax pmax
comp=Z,4.0nm,0.8s,mb4.8
NLWA Neilton Lookou 88.78 42 ⇑P **P 14 02 48.2 +0.1**
baz=89
D03A Wishkah Elem. 88.78 42 ⇓P **P 14 02 48.5 +0.4**
baz=89
U04C Hernandez Rese 88.79 53 ⇓P **P 14 02 48.7 +0.3**
baz=89
OHCM Honcut 88.81 50 *e*P **P 14 02 52.9 +4.5**
ORV Oroville 88.83 50 ⇓P **P 14 02 49.0 +0.4**
baz=89
PKD Parkfield 88.91 54 ⇓P **P 14 02 48.0 -1.0**
baz=89
I04A Tendick Farm, 89.01 46 ⇑P **P 14 02 50.4 +1.2**
baz=89
M04C Macdoel 89.02 48 ⇑P **P 14 02 46.6 -2.8**
baz=89
J04A Umpqua Nationa 89.11 46 ⇓P **P 14 02 50.9 +1.2**
baz=89
PTRM Twissleman Ran 89.12 54 *e*P **P 14 02 50.3 +0.3**
PKM Peak Mountain 89.30 55 ⇓P **P 14 02 51.8 +1.0**
baz=89
H04A Detroit Lake 89.35 45 ⇓P **P 14 02 52.0 +1.2**
baz=89
FRU Bishkek 89.39 313 *e*P **P 14 02 52.0 +0.9**
FRU pmax pmax
comp=Z,40nm,2.0s,mb5.4
CMB Columbia Colle 89.41 52 *e*P **P 14 02 50.8 -0.5**
comp=Z,5.4nm,1.0s,mb4.8
CMB Columbia Colle 89.41 52 *e*P **P 14 02 50.8 -0.5**
CMB pmax pmax
comp=Z,5.0nm,1.0s,mb4.8
AAK Ala-Archa 89.44 313 P **P 14 02 50.4 -0.9**
comp=Z,35nm,0.7s,mb5.8,SNR=6.2
AAK Ala-Archa 89.44 313 *e*P **P 14 02 50.2 -1.1**
AAK Ala-Archa 89.44 313⇓*e*P **P 14 02 50.0 -1.3**
AAK pmax pmax
comp=Z,17nm,2.1s,mb5.0
P05C Yuba Gap, Truc 89.47 50 ⇓P **P 14 02 52.6 +1.1**
baz=90
J05A Fort Rock 89.74 46 ⇑P **P 14 02 53.2 +0.5**
baz=90
T06C Millerton Lake 89.76 53 ⇓P **P 14 02 53.3 +0.3**
baz=90
BEKR Beckwourth 89.76 50 ⇓P **P 14 02 52.6 -0.2**
baz=90
R05C Kirkwood Meado 89.77 51 ⇓P **P 14 02 53.3 +0.4**
baz=90
L05A Lakeview 89.80 48 ⇓P **P 14 02 52.2 -0.8**
baz=90
K05A Summer Lake 89.89 47 P **P 14 02 54.2 +0.8**
baz=90,SNR=11
M06C Likely Place G 89.91 49 ⇑P **P 14 02 54.6 +1.1**
baz=90
AML Almayashu 89.93 312 *e*P **P 14 02 53.8 +0.2**
comp=Z,7.8nm,0.7s,mb5.2
EKS2 Erkin-Say 89.96 313 *e*P **P 14 02 53.5 -0.3**
comp=Z,4.8nm,0.8s,mb4.9
D05A Enumclaw 89.98 42 ⇑P **P 14 02 53.7 0.0**
baz=90
INK Inuvik 90.01 20 *e*P **P 14 02 55.3 +1.9**
B05A Bryant 90.13 41 ⇓P **P 14 02 53.1 -1.3**
baz=90
ARVC Arvin 90.14 55 ⇑P **P 14 02 53.1 -1.7**
baz=90
MOD Modoc 90.17 48 *e*P **P 14 02 54.7 0.0**
MOD Modoc 90.17 48 ⇑P **P 14 02 53.9 -0.8**
baz=90
CIS Catalina Islan 90.21 56 ⇓P **P 14 02 54.7 -0.5**
baz=90
R06C Coleville 90.22 51 ⇓P **P 14 02 56.1 +1.0**
baz=90
HELL Mitchell Peak 90.24 53 ⇓P **P 14 02 54.9 -0.3**
baz=90
N06A Buffalo Meadow 90.31 49 P **P 14 02 55.5 +0.1**
baz=90,SNR=7.9
K06A Valley Falls 90.36 47 ⇓P **P 14 02 56.8 +1.1**
baz=90
ISA Isabella 90.52 54 *e*P **P 14 02 56.7 +0.2**
ISA Isabella 90.52 54 ⇓P **P 14 02 57.4 +0.9**
baz=90
J06A Christmas Vall 90.52 47 ⇑P **P 14 02 56.8 +0.5**
baz=90
E06A Yakima 90.54 43 ⇑P **P 14 02 57.6 +1.2**
baz=91
MLAC Mammoth Lakes 90.55 52 ⇓P **P 14 02 57.6 +1.0**
baz=91
I06A Prineville 90.60 46 ⇑P **P 14 02 55.9 -0.8**
baz=91
MWC Mount Wilson 90.62 56 *e*P **P 14 02 57.6 +0.5**
H06A Lindquist Farm 90.65 45 ⇓P **P 14 02 57.4 +0.5**
baz=91
MTUM Tungsten Hills 90.72 53 *e*P **P 14 02 58.7 +1.3**
EDW2 Edwards Air Fo 90.78 55 P **P 14 02 58.3 +0.6**
baz=91,SNR=12
L07A Adell 90.89 48 P **P 14 02 58.2 +0.1**
baz=91,SNR=15
M07A Soldier Meadow 90.91 48 ⇓P **P 14 02 57.3 -0.9**
baz=91
CWC Cottonwood Cre 90.95 54 ⇑P **P 14 02 57.5 -1.0**
baz=91
BFSC Mount Baldy St 90.95 56 ⇓P **P 14 02 57.5 -1.1**
baz=91
N07B Gerlach 90.96 49 ⇑P **P 14 02 56.9 -1.5**
baz=91
S08C White Mtn Res 91.05 52 ⇑P **P 14 02 57.9 -1.0**
baz=91
K07A Rock Creek Ran 91.07 47 P **P 14 02 59.0 +0.1**
baz=91,SNR=9.5
NVAR Mina Array Bea 91.09 52 P **P 14 02 58.4 -0.7**
NVAR Mina Array Bea 91.09 52 P **P 14 02 58.4 -0.7**
comp=Z,7.8nm,1.1s,mb5.0,baz=239,slow=3.6,SNR=27
LRMC Laurel Mountai 91.12 55 ⇓P **P 14 02 58.3 -1.0**
baz=91
I07A Izee 91.12 46 ⇑P **P 14 03 00.3 +1.2**
baz=91
J07A Hines 91.14 47 ⇓P **P 14 02 57.8 -1.5**
baz=91
G07A Ruggs Ranch, H 91.21 45 ⇓P **P 14 02 59.4 -0.1**
baz=91
A07A Ashnola River, 91.39 41 ⇓P **P 14 02 59.6 -0.7**
baz=91
Q08A Gabbs 91.44 51 ⇓P **P 14 03 01.1 +0.3**
baz=92
B07A Winthrop 91.46 41 ⇑P **P 14 03 00.5 0.0**
baz=92
WVOR Wild Horse Val 91.48 48 *e*P **P 14 03 00.7 -0.1**
comp=Z,22nm,1.1s,mb5.4
WVOR Wild Horse Val 91.48 48 *e*P **P 14 03 00.7 -0.1**
WVOR pmax pmax
comp=Z,22nm,1.1s,mb5.4
M08A Happy Creek Ra 91.51 49 P **P 14 03 01.5 +0.5**
baz=92,SNR=12
BAR Barrett 91.54 57 *e*P **P 14 03 01.7 +0.4**
N08A GE Springer Mi 91.59 49 P **P 14 03 01.8 +0.4**
baz=92,SNR=12
L08A Fields 91.65 48 P **P 14 03 01.7 +0.1**
baz=92,SNR=9.0
G08A Pilot Rock 91.71 45 ⇑P **P 14 03 01.7 -0.1**
baz=92
J08A Circle Bar Ran 91.74 47 ⇓P **P 14 03 01.8 -0.2**
baz=92
MONP Monument Peak 91.78 57 ⇓P **P 14 03 00.6 -1.8**
baz=92
H08A Prairie City 91.79 45 ⇑P **P 14 03 02.0 -0.2**
baz=92
GSC Goldstone 91.81 55 *e*P **P 14 03 02.8 +0.3**
GSC Goldstone 91.81 55 ⇓P **P 14 03 02.1 -0.4**
baz=92
S09A Goldfield 91.82 52 P **P 14 03 02.7 +0.2**
baz=92,SNR=18
PFO Pinyon Flat Ob 91.85 56 *e*P **P 14 03 05.3 +2.5**
comp=Z,31nm,1.4s,mb5.4
PFO Pinyon Flat Ob 91.85 56 *e*P **P 14 03 05.3 +2.5**
PFO pmax pmax
comp=Z,31nm,1.4s,mb5.5
FURC Furnace Creek, 91.93 54 ⇑P **P 14 03 03.3 +0.3**
baz=92
SYO Syowa Base 91.98 199⇑*e*P **P 14 03 01.7 -1.0**
SYO Syowa Base 91.98 199⇓*e*PcP PcP 14 03 03.6 +0.1
R09A Tonopah 92.02 52 P **P 14 03 03.7 +0.3**
baz=92,SNR=13
Q09A Carvers 92.02 51 ⇑P **P 14 03 03.7 +0.3**
baz=92
N09A Rock Creek Ran 92.06 49 ⇑P **P 14 03 03.9 +0.4**
baz=92
L09A Wilkinson Ranc 92.12 48 ⇓P **P 14 03 04.2 +0.4**
baz=92
HEC Hector,Ludlow 92.12 55 ⇓P **P 14 03 04.2 +0.2**
baz=92
K09A Rome 92.18 47 ⇓P **P 14 03 03.2 -0.9**
baz=92
M09A Marrel Ranch, 92.20 49 ⇑P **P 14 03 03.9 -0.3**
baz=92
O09A Fish Creek Ran 92.21 50 ⇓P **P 14 03 04.6 +0.4**
baz=92
J09A Fry Pan Ranch, 92.26 47 ⇑P **P 14 03 04.2 -0.2**
baz=92
BELC Belle Mtn. 92.28 56 P **P 14 03 05.4 +0.7**
baz=92,SNR=12
S10A Tonopah Range, 92.35 52 P **P 14 03 05.1 +0.2**
baz=92,SNR=22
U10A Ash Meadows, A 92.35 54 ⇑P **P 14 03 05.9 +0.9**
baz=92
D09A Jones Farm, Ri 92.44 43 ⇑P **P 14 03 03.7 -1.4**
baz=92
E09A Wood Farm, Sta 92.46 44 ⇓P **P 14 03 05.1 -0.1**
baz=92
TPNV Topopah Spring 92.48 53 *e*P **P 14 03 05.6 0.0**
comp=Z,22nm,1.0s,mb5.5
TPNV Topopah Spring 92.48 53 *e*P **P 14 03 05.6 0.0**
TPNV pmax pmax
comp=Z,22nm,1.0s,mb5.4
TPNV Topopah Spring 92.48 53 ⇑P **P 14 03 05.2 -0.4**
baz=92
A09A Danville 92.55 41 ⇓P **P 14 03 05.5 -0.1**
baz=93
Q10A Clear Creek Ra 92.62 51 P **P 14 03 06.3 +0.1**
baz=93,SNR=6.5
R10A Warm Springs 92.62 52 ⇑P **P 14 03 04.6 -1.7**
baz=93
GMRC Granite Mounta 92.66 55 P **P 14 03 07.0 +0.5**
baz=93,SNR=18
P10A Eureka 92.68 51 ⇑P **P 14 03 07.4 +1.0**
baz=93
BC3 Big Chuckw Mtn 92.69 57 P **P 14 03 07.4 +0.7**
baz=93,SNR=10
O10A Cortez Mining, 92.75 50 ⇓P **P 14 03 07.7 +1.0**
baz=93
B09A Rice 92.75 42 ⇓P **P 14 03 05.8 -0.7**
baz=93
BMO Blue Mountains 92.80 45 *e*P **P 14 03 07.3 +0.5**
K10A MacKenzie Ranc 92.82 47 ⇑P **P 14 03 06.8 -0.2**
baz=93
M10A I.L. Ranch, Tu 92.89 49 ⇓P **P 14 03 05.8 -1.6**
baz=93
S11A Rachel 92.97 53 ⇑P **P 14 03 08.8 +0.9**
baz=93
G10A Bishop Farm, J 92.99 45 ⇓P **P 14 03 06.9 -0.8**
baz=93
IRM Iron Mountain 93.00 56 P **P 14 03 08.7 +0.6**
baz=93,SNR=21
F10A Beach Ranch, E 93.01 44 ⇑P **P 14 03 07.0 -0.8**
baz=93
L10A Juniper Basin 93.01 48 P **P 14 03 08.1 +0.1**
baz=93,SNR=16
D10A Wagner Farm, O 93.13 43 ⇑P **P 14 03 08.2 -0.1**
baz=93
H10A Noah's Angus R 93.16 46 ⇑P **P 14 03 09.0 +0.5**
baz=93
R11A Troy Canyon, C 93.19 52 P **P 14 03 09.2 +0.4**
baz=93,SNR=16
Q11A Duckwater 93.20 51 P **P 14 03 09.1 +0.2**
baz=93,SNR=16
T11A Corn Creek, Al 93.34 53 ⇑P **P 14 03 10.4 +0.9**
baz=93
O11A Cowboy Ranch, 93.37 50 P **P 14 03 09.9 +0.3**
baz=93,SNR=14
K11A Parker Ranch, 93.43 47 ⇓P **P 14 03 08.9 -0.9**
baz=93
M11A Holland Ranch, 93.43 49 ⇓P **P 14 03 10.2 +0.4**
baz=93
V12A Nelson 93.44 55 ⇑P **P 14 03 09.6 -0.4**
baz=93
Y12C Blythe 93.47 57 ⇑P **P 14 03 11.7 +1.5**
baz=94
G11A Walters Elk Ra 93.60 45 ⇑P **P 14 03 10.4 -0.2**
baz=94
MFID Camas Ranch 93.66 47 ⇑P **P 14 03 10.6 -0.3**
baz=94
F11A Grangeville 93.74 44 ⇓P **P 14 03 09.0 -2.1**
baz=94
U12A Valley of Fire 93.78 54 ⇓P **P 14 03 12.5 +0.9**
baz=94
PDMCI Parker Dam,Lak 93.85 56 ⇑P **P 14 03 12.1 +0.2**
baz=94
P12A McGill 93.86 51 P **P 14 03 12.5 +0.6**
baz=94,SNR=9.1
Q12A Willow Creek R 93.86 51 ⇓P **P 14 03 11.5 -0.4**
baz=94
N12A Clover Valley, 93.92 49 ⇑P **P 14 03 12.5 +0.3**
baz=94
R12A Pony Springs, 93.95 52 ⇓P **P 14 03 13.2 +0.9**
baz=94
BRVK Borovoye 93.96 323 *e*P **P 14 03 09.9 -2.1**
A11A Hall Mountain, 94.00 41 ⇑P **P 14 03 12.8 +0.5**
baz=94
O12A Currie 94.08 50 P **P 14 03 13.3 +0.4**
baz=94,SNR=13
M12A Wells 94.08 49 ⇑P **P 14 03 13.2 +0.3**
baz=94
L12A House Creek Ra 94.10 48 ⇑P **P 14 03 13.3 +0.3**
baz=94
X13A Yucca 94.14 56 ⇓P **P 14 03 13.4 +0.2**
baz=94
W13A Hualapai Mount 94.15 55 ⇑P **P 14 03 14.8 +1.5**
baz=94
J12A Stokes Ranch, 94.17 47 ⇑P **P 14 03 12.9 -0.3**
baz=94
U13A Pakoon Wash 94.24 54 ⇑P **P 14 03 14.5 +0.8**
baz=94
K12A Draper Farm, C 94.24 48 ⇑P **P 14 03 14.6 +1.0**
baz=94
F12A Elk City 94.35 45 ⇓P **P 14 03 14.4 +0.4**
baz=94
T13A Saint George 94.35 53 ⇑P **P 14 03 13.8 -0.4**
baz=94
D12A Red Ives Fores 94.44 43 ⇓P **P 14 03 14.8 +0.5**
baz=94
S13A Holt Ranch, En 94.45 53 ⇓P **P 14 03 13.6 -1.1**
baz=94
P13A Bates Ranch, G 94.54 51 ⇓P **P 14 03 13.3 -1.7**
baz=94
N13A Wendover, West 94.55 50 ⇓P **P 14 03 14.0 -1.0**
baz=95
M13A Montello 94.64 49 ⇓P **P 14 03 15.7 +0.3**
baz=95
O13A Hicks Ranch, I 94.64 50 ⇓P **P 14 03 14.4 -1.0**
baz=95
HLID Hailey 94.70 47 *e*P **P 14 03 15.4 -0.2**
comp=Z,41nm,2.3s,mb5.5
HLID Hailey 94.70 47 ⇑P **P 14 03 16.0 +0.4**
baz=95
ARUT Antelope Range 94.81 53 *e*P **P 14 03 17.1 +0.9**
W14A Seligman 94.82 55 ⇑P **P 14 03 15.9 -0.5**
baz=95
V14A Boquillas Ranc 94.84 55 ⇓P **P 14 03 18.6 +2.1**
baz=95
J13A Cove Ranch, Pi 94.85 47 ⇓P **P 14 03 15.4 -1.0**
baz=95
U14A Mt Trumbull 94.87 54 ⇑P **P 14 03 16.8 +0.2**
baz=95
X14A Yava 94.89 56 ⇓P **P 14 03 14.3 -2.5**
baz=95
H13A Challis 94.92 46 ⇑P **P 14 03 16.4 -0.3**
baz=95
I13A Wildhorse Cree 94.95 46 ⇓P **P 14 03 17.1 +0.4**
baz=95
G13A Cobalt 94.99 45 ⇓P **P 14 03 18.0 +1.0**
baz=95
F13A Darby 95.00 45 ⇑P **P 14 03 16.7 -0.2**
baz=95
T14A Hurricane 95.01 53 ⇓P **P 14 03 18.1 +0.8**
baz=95
B13A Whitefish 95.18 42 ⇑P **P 14 03 16.9 -0.8**
baz=95
M14A Sheep Mountain 95.27 49 ⇑P **P 14 03 18.6 +0.3**
baz=95

Y15A	**Casa Rosa Ranc**	**95.30**	**57**	⇑P	**P**	**14 03 20.7**	**+2.1**
	baz=95						
N14A	**Grayback Hills**	**95.32**	**50**	⇑P	**P**	**14 03 20.1**	**+1.6**
	baz=95						
X15A	**Humboldt**	**95.43**	**56**	⇑P	**P**	**14 03 20.0**	**+0.8**
	baz=95						
K14A	**Jones Ranch, D**	**95.50**	**48**	⇓P	**P**	**14 03 20.3**	**+1.0**
	baz=96						
T15A	**Red Dirt Ranch**	**95.57**	**54**	⇓P	**P**	**14 03 19.9**	**+0.2**
	baz=96						
HVU	**Hansel Valley**	**95.72**	**49**	*e*P	**P**	**14 03 21.8**	**+1.5**
MSU	**Marysvale**	**95.87**	**52**	*e*P	**P**	**14 03 25.9**	**+4.7**
M15A	**Larsen Ranch,**	**95.93**	**49**	⇑P	**P**	**14 03 21.6**	**+0.3**
	baz=96						
G15A	**Dillon**	**96.23**	**45**	⇑P	**P**	**14 03 22.9**	**+0.3**
	baz=96						
217A	**Green Valley**	**96.36**	**59**	⇑P	**P**	**14 03 25.5**	**+2.0**
	baz=96						
D15A	**Lincoln**	**96.36**	**43**	⇓P	**P**	**14 03 26.8**	**+3.6**
	baz=96						
YKA	**Yellowknife Ar**	**96.41**	**28**	P	**P**	**14 03 21.9**	**-1.1**
	comp=Z,4.1nm,0.8s,mb4.9,baz=264,slow=4.5,SNR=40						
YKA				PKKPbc	PKKPbc	14 20 08.6	-2.1
	comp=Z,0.9nm,0.9s,baz=80,slow=3.3,SNR=6.5						
YKW3	**Yellowknife Ar**	**96.41**	**28**	*e*P	**P**	**14 03 22.0**	**-0.9**
318A	**Bisbee**	**97.03**	**59**	⇑P	**P**	**14 03 31.1**	**+4.5**
	baz=97						
319A	**Douglas**	**97.63**	**59**	⇑P	**P**	**14 03 31.8**	**+2.5**
	baz=98						
BW06	**Boulder Array**	**98.17**	**48**	*e*P	**P**	**14 03 30.5**	**-0.9**
PDAR	**Pinedale Array**	**98.17**	**48**	P	**P**	**14 03 29.9**	**-1.5**
	comp=Z,1.5nm,0.9s,mb4.5,baz=229,slow=1.9,SNR=11						
VNA3	**Neumayer Olymp**	**100.51**	**185**	*e*Pdiff	Pdif	14 03 41.3	-0.3
VNA3				*e*		14 03 45.9	
VNA3				*e*		14 03 49.0	
VNA3				*e*		14 03 51.4	
VNA3				*e*		14 03 59.2	
VNA3				*e*		14 04 04.5	
VNA3				*e*		14 04 13.5	
VNA3				*e*		14 04 17.3	
VNA2	**Neumayer--Watz**	**100.63**	**185**	*e*Pdiff	Pdif	14 03 45.6	+3.5
VNA2				*e*		14 03 49.0	
VNA2				*e*		14 03 51.6	
VNA2				*e*		14 03 58.7	
VNA2				*e*		14 04 03.9	
VNA2				*e*		14 04 13.0	
VNA2				*e*		14 04 16.7	
KIV	**Kislovodsk**	**112.52**	**314**	*i* PKIKP	PKiKP	14 08 33.8	+3.1
KIV				*e*		14 09 15.1	
KIV				*e*SS	SS	14 24 59.8	+2.1
KIV				pmax	pmax		
	comp=Z,6.0nm,0.9s						
KIV				MLR	MLR		
	comp=Z,650nm,24.0s,MS5.1						
FINES	**FINESS Array B**	**115.34**	**336**	PKP	PKPdf	14 08 34.1	-1.5
	comp=Z,3.0nm,1.0s,baz=190,slow=33,SNR=3.3						
AKASG	**Malin Array Be**	**119.12**	**325**	PKP	PKPdf	14 08 41.3	-1.9
	comp=Z,1.7nm,0.6s,baz=56,slow=2.1,SNR=8.1						
AKASG				PP	PP	14 10 03.4	+0.4
	comp=Z,1.9nm,0.8s,baz=54,slow=6.2,SNR=6.4						
BOSA	**Boshof**	**120.63**	**230**	PKP	PKPdf	14 08 46.7	-0.1
BOSA	**Boshof**	**120.63**	**230**	PKP	PKPdf	14 08 46.7	-0.1
	comp=Z,2.4nm,0.7s,baz=58,slow=5.9,SNR=7.0						
NB2	**NORSAR Subarra**	**121.01**	**341**	PKPdf	PKPdf	14 08 45.6	-0.9
	comp=Z,1.2nm,0.7s,baz=39,slow=1.9						
NOA	**NORSAR Array B**	**121.01**	**341**	PKP	PKPdf	14 08 45.3	-1.2
	comp=Z,1.1nm,0.7s,baz=47,slow=2.0,SNR=4.0						
KOLS	**Kolonicke sedl**	**123.92**	**325**	*e*PKP	PKPdf	14 08 51.6	-0.9
STHS	**Stebnicka Huta**	**124.24**	**326**	*e*PKP	PKPdf	14 08 54.6	+1.5
CRVS	**Cervenica-Dubn**	**124.39**	**326**	*e*PKP	PKPdf	14 08 56.1	+2.7
KECS	**Kecovo**	**125.16**	**326**	*e*PKP	PKPdf	14 08 56.2	+1.3
KECS	**Kecovo**	**125.16**	**326**	*e*PKP	PKPdf	14 08 56.2	+1.3
OKC	**Ostrava-Krasne**	**125.67**	**328**	*e*PKP	PKPdf	14 08 58.6	+2.8
OKC	**Ostrava-Krasne**	**125.67**	**328**	*e*PKPdf	PKPdf	14 08 58.6	+2.8
VYHS	**Vyhne**	**126.07**	**326**	*e*PKP	PKPdf	14 09 02.8	+6.2
VYHS				*e*PP	PP	14 10 44.6	-5.3
DPC	**Dobruska-Polom**	**126.30**	**329**	*e*PKP	PKPdf	14 08 59.4	+2.4
DPC	**Dobruska-Polom**	**126.30**	**329**	*e*PKPdf	PKPdf	14 08 59.4	+2.4
MODS	**Modra-Piesok**	**126.99**	**327**	*e*PKP	PKPdf	14 09 00.8	+2.4
PVCC	**Panska Ves**	**127.06**	**330**	*e*PKIKP	PKPdf	14 09 03.9	+5.5
PVCC	**Panska Ves**	**127.06**	**330**	*e*pPKP	pPKPdf	14 09 03.9	+1.0
BRG	**Berggiesshubel**	**127.13**	**331**	*e*Pdif	PKPdf	14 08 57.5	-1.1
BRG				*e*		14 10 57.9	
BRG	**Berggiesshubel**	**127.13**	**331**	*e*PDIF	PKPdf	14 08 57.5	-1.1
	comp=Z,22nm,1.6s						
BRG				*e*		14 10 57.9	
	comp=Z,46nm,2.1s						
CLL	**Collm**	**127.29**	**332**	*i* PKP	PKPdf	14 08 58.0	-0.9
CLL				*i*		14 09 03.2	
CLL				LR	LR		
	comp=Z,1μm,21.0s,MS5.5						
CLL	**Collm**	**127.29**	**332**	*i* PKPdf	PKPdf	14 08 58.0	-0.9
CLL				*i* pPKPdf	pPKPdf	14 09 03.2	-0.1
CLL				*i* x	x	14 09 13.2	
CLL				LmV		15 11 00.0	
	comp=Z,1μm,21.0s						
PRU	**Pruhonice**	**127.42**	**330**	*e*PKP	PKPdf	14 09 04.6	+5.5
PRU	**Pruhonice**	**127.42**	**330**	*e*PKPdf	PKPdf	14 09 04.6	+5.5
NKC	**Novy Kostel**	**128.27**	**331**	*e*PKP	PKPdf	14 09 00.6	-0.2
NKC	**Novy Kostel**	**128.27**	**331**	*e*PKPdf	PKPdf	14 09 00.6	-0.2
KHC	**Kasperske Hory**	**128.45**	**330**	*e*PKPdf	PKPdf	14 09 00.9	-0.2
KHC				*e*pPKP	pPKPdf	14 09 10.5	+4.9
GERES	**GERESS Array B**	**128.57**	**329**	PKP	PKPdf	14 09 00.1	-1.3
	comp=Z,2.5nm,0.8s,baz=31,slow=0.8,SNR=9.5						
GRA1	**Grafenberg Arr**	**129.22**	**331**	*e*PKPdf	PKPdf	14 09 03.6	+1.0
GRF	**Grafenberg Arr**	**129.22**	**331**	*e*PKPdf	PKPdf	14 09 03.6	+1.0
ROSC	**El Rosal**	**129.41**	**90**	PKP	PKPdf	14 09 04.2	+0.2
	comp=Z,10.0nm,0.5s,baz=95,slow=19,SNR=3.5						
LPAZ	**La Paz**	**129.72**	**119**	PKP	PKPdf	14 09 04.2	-0.3
LPAZ	**La Paz**	**129.72**	**119**	PKP	PKPdf	14 09 04.2	-0.3
	comp=Z,1.1nm,0.7s,baz=237,slow=2.6,SNR=4.0						
SDV	**Santo Domingo**	**133.38**	**85**	PKP	PKPdf	14 09 10.6	-0.9
	comp=Z,8.4nm,0.7s,baz=206,slow=3.6,SNR=10						
CABF	**La Chapelle**	**133.83**	**332**	*e*PKP1	PKPdf	14 09 09.1	-2.3
	comp=Z,20nm,0.9s						
LPG	**La Plagne**	**134.32**	**330**	*e*PKP1	PKPdf	14 09 11.2	-1.2
LOR	**Lormes**	**134.34**	**334**	*e*PKP1	PKPdf	14 09 10.8	-1.5
	comp=Z,5.5nm,0.6s						
ESDC	**Sonseca Array**	**143.82**	**334**	PKP	PKPdf	14 09 27.2	-2.6
	comp=Z,0.3nm,0.3s,baz=20,slow=2.9,SNR=5.2						
EQES	**Quesada**	**144.93**	**331**	PKP	PKPdf	14 09 29.3	-2.6
EBAN	**Banos Encina**	**144.98**	**332**	PKP	PKPdf	14 09 30.4	-1.6
EADA	**Adamuz**	**145.33**	**333**	PKP	PKPdf	14 09 30.8	-1.8
EBER	**Berja**	**145.56**	**330**	PKP	PKPdf	14 09 31.4	-1.5
ECOG	**Cogollos-Vega**	**145.59**	**331**	PKP	PKPdf	14 09 33.4	+0.4
ELUQ	**Luque**	**145.69**	**332**	PKP	PKPdf	14 09 34.4	+1.2
ECAB	**El Cabril**	**145.78**	**334**	PKP	PKPdf	14 09 32.8	-0.5
EBAD	**Badajoz**	**145.85**	**337**	PKP	PKPdf	14 09 31.5	-1.9
ERON	**Agron**	**145.91**	**331**	PKP	PKPdf	14 09 33.5	0.0
ELOJ	**Sierra Loja**	**145.97**	**332**	PKP	PKPdf	14 09 34.9	+1.2
EALB	**Alboran**	**146.38**	**329**	PKP	PKPdf	14 09 32.5	-1.9
EMIN	**Mina Concepcio**	**146.57**	**335**	PKP	PKPbc	14 09 37.8	+1.7
EMIJ	**Mijas**	**146.73**	**332**	PKP	PKPbc	14 09 39.1	+2.4
ESPR	**Espera**	**146.97**	**334**	PKP	PKPdf	14 09 37.1	+1.7
EGRO	**El Granado**	**147.09**	**336**	PKP	PKPdf	14 09 37.6	+2.1
TORD	**Torodi Ar. Bea**	**154.69**	**284**	PKP	PKPdf	14 09 47.6	-0.3
	comp=Z,2.0nm,0.6s,baz=2.3,slow=1.2,SNR=10.0						
TORD				PKPab	PKPab	14 10 10.4	-0.8
	comp=Z,6.9nm,1.0s,baz=71,slow=1.9,SNR=4.6						
DBIC	**Dimbokro**	**161.47**	**268**	PKPab	PKPab	14 10 41.5	+0.8
	comp=Z,22nm,0.9s,baz=258,slow=0.3,SNR=9.7						

IDC ***02*** *13:53:05.8±0.5, 848S×15757E, h0km, mb5.1/19, mb1 5.2/22, mb1mx5.2/23, mbtmp5.1/22, ML4.2/2, MS5.4/9, Ms1 5.4/9, ms1mx4.9/29, Error ellipse: s-maj=14.9km s-min=13.7km az=101.0*

ISCJB ***02*** *13:53:06.6±0.1, 853S±004×15748E±002, h11km, mb5.4/89, MS5.3/23, Error ellipse: s-maj=5.1km s-min=3.2km az=178.9*

GCMT ***02*** *13:53:07.5±0.2, 888S×15766E, h15km, MW5.6/92, Moment Tensor Solution. s70,c91; s92,c162; Duration: 1*^{26} *Moment tensor: Scale 10*^{17}*Nm; Mrr3.09±.11; Mθθ-1.86±.07; Mφφ-1.22±.08; Mrθ1.09±.16; Mφθ1.41±.05; Mφr-0.33±.16; Best double couple: M=3.24300×10*^{17} *NP1:*ϕ_s*=315.00000°,*δ*36.00000°,*λ*101.00000°. NP2:* ϕ_s*=121.00000°,*δ*55.00000°,*λ*82.00000°. Principal axes: T 3.3200, Plg78.0000°, Azm2.0000°; N -0.1430, Plg7.0000°, Azm126.0000°; P -3.1660, Plg10.0000°, Azm217.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***02*** *13:53:07.5±0.1, 855S×15753E, mb5.6/34, MS5.2/2 Error ellipse: s-maj=5.1km s-min=4.2km az=130.0*

MOS ***02*** *13:53:09.3±1.0, 854S×15747E, h33km, mb5.7/24, MS5.1/4, Error ellipse: s-maj=9.1km s-min=7.9km az=90.9*

BJI ***02*** *13:53:10.0, 797S×15748E, h12km, mB6.0, mb5.3, Ms5.4, Msz5.2*

ISC 02 13:53:06.8±1.4, 853S±004×15754E±002, h3km±8km, h15km±1.4km:pP-P, n523, σ0=67/478, mb5.4/89, MS5.3/23, 122C-124D, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.54**	**111**		Pn	**Pn**	**13 53 49.6**	**+0.6**
	1μm,0.3s,baz=277,slow=3.9,SNR=8.1							
HNR					Sn	**Sn**	**13 54 22.0**	**+1.5**
	3μm,0.3s,baz=256,slow=23,SNR=8.2							
CTA	**Charters Tower**	**15.85**	**222**	*e*P		**Pn**	**13 56 54.6**	**+3.6**
	73nm,1.6s							
CTA	**Charters Tower**	**15.85**	**222**	*e*P		**Pn**	**13 56 54.6**	**+3.6**
CTA				pmax		pmax		
	comp=Z,73nm,1.6s							
CTA	**Charters Tower**	**15.85**	**222**	Pn		**Pn**	**13 56 53.2**	**+2.2**
	comp=Z,1.3nm,0.3s,baz=41,slow=12,SNR=6.1							
CTA				LR		LR	14 01 36.1	
	comp=Z,13μm,21.3s,baz=31,slow=32							
CTAO	**Charters Tower**	**15.85**	**222**	*e*Pn		**Pn**	**13 56 50.5**	**-0.6**
DZM	**Mont Dzumac**	**15.96**	**149**	Pn		**Pn**	**13 56 54.5**	**+2.0**
	comp=Z,0.4nm,0.3s,baz=9.1,slow=14,SNR=3.6							
EIDS	**Eidsvold**	**17.84**	**199**	*e*P		**Pn**	**13 57 15.1**	**-1.1**
ARMA	**Armidale**	**22.47**	**193**	⇓*i*P		**P**	**13 58 07.8**	**+0.6**
KAKA	**Kakadu**	**25.01**	**258**	*e*P		**P**	**13 58 31.9**	**-0.3**
	comp=Z,157nm,1.1s,mb5.5							
WB2	**Warramunga Arr**	**25.14**	**241**	*e*P		**P**	**13 58 32.6**	**-0.7**
WRA	**Warramunga Arr**	**25.15**	**241**	P		**P**	**13 58 32.9**	**-0.5**
WRA							14 02 07.5	
WRA	**Warramunga Arr**	**25.15**	**241**	P		**P**	**13 58 32.9**	**-0.6**
	comp=Z,62nm,0.8s,mb5.2,baz=66,slow=9.4,SNR=12							
WRA				PcP		PcP	14 02 07.5	-0.3
	comp=Z,6.2nm,0.7s,baz=67,slow=2.7,SNR=6.7							
WRA				LR		LR	14 07 40.2	
	comp=Z,11μm,19.9s,MS5.4,baz=55,slow=35							
GUMO	**Guam**	**25.32**	**330**	P		**P**	**13 58 34.3**	**-0.6**
	comp=Z,204nm,0.9s,mb5.7,baz=195,slow=21,SNR=4.4							
ASAR	**Alice Springs**	**27.18**	**234**	P		**P**	**13 58 50.6**	**-1.1**
	comp=Z,35nm,1.1s,mb4.8,baz=65,slow=9.2,SNR=7.0							
ASAR				PcP		PcP	14 02 11.7	-0.7
	comp=Z,4.4nm,0.9s,baz=60,slow=2.3,SNR=4.6							
STKA	**Stephens Creek**	**27.56**	**210**	*e*P		**P**	**13 58 56.0**	**+0.9**
	comp=Z,46nm,0.8s,mb5.2							
STKA	**Stephens Creek**	**27.56**	**210**	P		**P**	**13 58 56.0**	**+1.0**
	comp=Z,19nm,0.6s,mb4.9,baz=31,slow=14,SNR=6.6							
STKA				LR		LR	14 08 02.3	
	comp=Z,7μm,20.5s,MS5.2,baz=36,slow=32							
CNB	**Canberra Magne**	**27.69**	**194**	*e*P		**P**	**13 58 55.3**	**-0.9**
	comp=Z,87nm,1.0s,mb5.3							
FITZ	**Fitzroy Crossi**	**32.42**	**250**	*e*P		**P**	**13 59 39.2**	**+0.9**
	comp=Z,63nm,1.4s,mb5.2							
FITZ	**Fitzroy Crossi**	**32.42**	**250**	P		**P**	**13 59 39.9**	**+1.6**
	comp=Z,26nm,1.1s,mb5.0,baz=97,slow=7.5,SNR=8.2							
FITZ				LR		LR	14 11 33.7	
	comp=Z,5μm,21.1s,MS5.2,baz=268,slow=34							
BATI	**Kupang**	**33.46**	**264**	P		**P**	**13 59 48.6**	**+1.2**
	comp=Z,81nm,1.0s,mb5.6,baz=111,slow=6.5,SNR=4.9							
URZ	**Urewera**	**34.46**	**152**	P		**P**	**13 59 56.5**	**+0.6**
	comp=Z,10nm,0.7s,mb4.9,baz=302,slow=5.1,SNR=4.0							
FORT	**Forrest**	**35.31**	**227**	*e*P		**P**	**14 00 02.0**	**-1.3**
	comp=Z,9.0nm,0.9s,mb4.7							
RPZ	**Rata Peaks**	**36.99**	**164**	P		**P**	**14 00 17.5**	**0.0**
	comp=Z,12nm,0.8s,mb4.8,baz=37,slow=8.6,SNR=3.6							
MBWA	**Marble Bar**	**38.53**	**247**	*e*P		**P**	**14 00 30.1**	**-0.8**
	comp=Z,140nm,1.3s,mb5.5							
OTRP	**Odiongan**	**40.95**	**300**	*e*P		**P**	**14 00 51.5**	**+0.4**
CUYO	**Cuyo Island**	**41.12**	**297**	*e*P		**P**	**14 00 53.0**	**+0.5**
TSM	**Tawau**	**41.55**	**286**	⇓P		**P**	**14 00 57.8**	**+1.7**
SDKM	**Sandakan**	**42.62**	**288**	⇑P		**P**	**14 01 06.9**	**+2.1**
ENPP	**El Nido**	**42.68**	**297**	*e*P		**P**	**14 01 06.5**	**+1.2**
BALP	**Baler**	**43.01**	**304**	*e*P		**P**	**14 01 09.0**	**+1.1**
BATP	**Bataraza**	**43.16**	**293**	*e*P		**P**	**14 01 10.0**	**+0.8**
KLBR	**Kellerberrin**	**43.50**	**232**	*e*P		**P**	**14 01 10.4**	**-1.3**
	comp=Z,67nm,1.1s,mb5.3							
KKM	**Kota Kinabalu**	**43.67**	**288**	*e*P		**P**	**14 01 13.6**	**+0.3**
KKM	**Kota Kinabalu**	**43.67**	**288**	⇓P		**P**	**14 01 14.3**	**+1.0**
BCPH	**Baguio City Da**	**44.16**	**304**	⇑*e*P		**P**	**14 01 17.6**	**+0.4**
NWAO	**Narrogin (SRO)**	**44.43**	**231**	*e*P		**P**	**14 01 18.6**	**-0.6**
NWAO				*e*			14 01 25.0	
NWAO				pmax		pmax		
	comp=Z,190nm,1.9s							
NWAO	**Narrogin (SRO)**	**44.43**	**231**	P		**P**	**14 01 17.8**	**-1.4**
	comp=Z,19nm,0.9s,mb4.8,baz=78,slow=10,SNR=4.8							
NWAO				LR		LR	14 19 33.4	
	comp=Z,7μm,18.0s,MS5.6,baz=73,slow=36							
MUN	**Mundaring**	**44.86**	**233**	*e*P		**P**	**14 01 20.4**	**-2.2**
MUN				*e*S		**S**	**14 08 02.2**	**+1.1**
BTM	**Bintulu**	**45.83**	**283**	⇓P		**P**	**14 01 32.4**	**+1.8**
SBUM	**Sibu**	**46.48**	**282**	⇓P		**P**	**14 01 38.1**	**+2.4**
NACB	**Ninganchiao**	**47.83**	**314**	*e*P		**P**	**14 01 46.1**	**+0.1**
KSM	**Kuching**	**48.11**	**280**	*e*P		**P**	**14 01 48.3**	**-0.1**
KSM	**Kuching**	**48.11**	**280**	⇓P		**P**	**14 01 49.2**	**+0.7**
YHNB	**Yeheng**	**48.29**	**314**	*e*P		**P**	**14 01 50.4**	**+0.9**
MJAR	**Matsushiro Arr**	**48.37**	**339**	P		**P**	**14 01 49.0**	**-0.9**
	comp=Z,9.5nm,0.8s,mb4.9,baz=163,slow=8.3,SNR=11							
MAJO	**Matsushiro**	**48.37**	**339**	*e*P		**P**	**14 01 49.3**	**-0.7**
	comp=Z,168nm,2.2s,mb5.7							
MAJO	**Matsushiro**	**48.37**	**339**	*e*P		**P**	**14 01 49.3**	**-0.7**
MAJO				pmax		pmax		
	comp=Z,168nm,2.2s,mb5.7							
MAT	**Matsushiro**	**48.37**	**339**	P		**P**	**14 01 49.1**	**-0.9**
MAT				S		**S**	**14 08 49.0**	**-2.1**
QZH	**Quanzhou**	**50.46**	**312**	P		**P**	**14 02 06.8**	**+0.6**
PAE	**Paea**	**52.16**	**106**	*e*P		**P**	**14 02 17.5**	**-1.6**
	comp=Z,71nm,1.2s,mb5.5							
PAE	**Paea**	**52.16**	**106**	*e*P		**P**	**14 02 17.5**	**-1.6**
PAE				pmax		pmax		
	comp=Z,71nm,1.2s,mb5.5							
KSRS	**Korea Array**	**53.48**	**331**	P		**P**	**14 02 29.0**	**+0.5**
	comp=Z,30nm,1.1s,mb5.1,baz=150,slow=7.8,SNR=15							
PMOR	**Pomariorio Ree**	**53.70**	**102**	*e*P		**P**	**14 02 29.5**	**-1.0**
	comp=Z,113nm,1.3s,mb5.6							
KHU	**Kahuku**	**53.78**	**59**	*e*P		**P**	**14 02 31.0**	**0.0**
VAH	**Vaihoa**	**53.96**	**103**	*e*P		**P**	**14 02 31.1**	**-1.3**
	comp=Z,88nm,1.1s,mb5.6							
INCN	**Inchon**	**54.13**	**330**	*e*P		**P**	**14 02 33.8**	**+0.5**
	comp=Z,100nm,0.9s,mb5.8							
QIZ	**Qiongzhong**	**54.40**	**301**	P		**P**	**14 02 35.7**	**+0.1**
QIZ				S		**S**	**14 10 16.4**	**+1.3**
QIZ				AMB		AMB		
	comp=Z,34nm,1.9s,mb5.0							
QIZ				AMB		AMB		
	comp=Z,525nm,3.8s							
MYKOM	**Kota Tinggi**	**54.49**	**278**	⇓P		**P**	**14 02 36.1**	**-0.3**
NJ2	**Nanjing**	**54.70**	**319**	*e*P		**P**	**14 02 34.4**	**-3.1**
NJ2				AP		pP	14 02 40.1	+1.6
NJ2				PP		PP	14 04 38.8	-1.4
NJ2				S		**S**	**14 10 12.0**	**-6.7**
NJ2				XS		sS	14 10 21.0	+0.8
NJ2				AMB		AMB		
	comp=Z,40nm,0.9s,mb5.5							
NJ2				AMB		AMB		
	comp=Z,1μm,5.2s							
NJ2				LR		LR		
	comp=N,2μm,17.1s,MS5.4							
NJ2				LR		LR		
	comp=E,2μm,15.6s,MS5.4							
KGM	**Kluang**	**55.05**	**278**	⇓P		**P**	**14 02 40.7**	**+0.3**
KTGM	**Kuala Trenggan**	**55.97**	**282**	⇓P		**P**	**14 02 47.1**	**+0.1**
VLA	**Vladivostok**	**56.46**	**338**	*e*P		**P**	**14 02 49.4**	**-0.5**
VLA	**Vladivostok**	**56.46**	**338**	*e*P		**P**	**14 02 48.7**	**-1.2**
VLA				*e*S		**S**	**14 10 45.3**	**+3.6**
VLA				pmax		pmax		
	comp=Z,71nm,1.8s,mb5.4							
YSS	**Yuzh-Sakhalins**	**56.78**	**348**	*e*P		**P**	**14 02 52.0**	**-0.1**
YSS	**Yuzh-Sakhalins**	**56.78**	**348**	*e*P		**P**	**14 02 52.0**	**-0.1**
YSS				*e*			14 03 07.2	
WHN	**Wuhan**	**56.79**	**315**	⇓P		**P**	**14 02 53.5**	**+0.9**
WHN				AP		pP	14 03 05.6	+12
DL2	**Dalian**	**57.80**	**327**	P		**P**	**14 02 59.6**	**+0.1**
DL2				S		**S**	**14 11 03.5**	**+3.9**
DL2				AMB		AMB		
	comp=Z,30nm,0.9s,mb5.3							
DL2				AMB		AMB		
	comp=Z,330nm,5.2s							
DL2				LR		LR		
	comp=N,570nm,14.8s,MS5.0							
DL2				LR		LR		
	comp=E,480nm,12.8s,MS5.0							
DL2				LR		LR		
	comp=Z,720nm,17.2s,MS4.8							
KULM	**Kulim**	**58.36**	**282**	*e*P		**P**	**14 03 03.0**	**-0.9**
KULM	**Kulim**	**58.36**	**282**	⇓P		**P**	**14 03 04.1**	**+0.1**
TIA	**Tai'an**	**58.51**	**322**	*e*P		**P**	**14 03 04.1**	**-0.4**
MDJ	**Mudanjiang**	**58.60**	**337**	P		**P**	**14 03 05.5**	**+0.5**
MDJ				AP		pP	14 03 08.7	+2.7
MDJ				XP		sP	14 03 10.1	+3.7
MDJ				PCP		PcP	14 03 54.7	-0.5
MDJ				PP		PP	14 05 13.7	-1.1
MDJ				SCP		ScP	14 07 52.7	-4.1
MDJ				S		**S**	**14 11 12.8**	**+2.9**
MDJ				AMB		AMB		
	comp=Z,38nm,1.2s,mb5.3							
MDJ				AMB		AMB		
	comp=Z,448nm,5.8s							
MDJ				LR		LR		
	comp=N,964nm,19.6s,MS5.1							
MDJ				LR		LR		
	comp=E,990nm,19.6s,MS5.1							
MDJ				LR		LR		
	comp=Z,2μm,21.7s,MS5.1							
MDJ	**Mudanjiang**	**58.60**	**337**	*e*P		**P**	**14 03 05.3**	**+0.3**
	comp=Z,147nm,1.6s,mb5.8							
SNG	**Songkhla**	**58.84**	**284**	P		**P**	**14 03 07.0**	**-0.3**
DRV				SS		SS	14 15 11.0	-1.6
DRV	**Dumont d'Urvil**	**59.28**	**188**	S		**S**	**14 11 38.0**	**+20**
CN2	**Changchun**	**59.66**	**334**	*e*P		**P**	**14 03 12.4**	**+0.1**
CN2				*e*XP		sP	14 03 19.4	+5.7
CN2				*e*S		**S**	**14 11 22.8**	**-0.8**
CN2				AMB		AMB		
	comp=Z,50nm,1.2s,mb5.4							
CN2				AMB		AMB		
	comp=Z,200nm,6.0s							
CN2				LR		LR		
	comp=N,1μm,17.0s,MS5.2							
CN2				LR		LR		
	comp=E,700nm,17.0s,MS5.2							
CN2				LR		LR		
	comp=Z,1μm,16.0s,MS5.2							
GYA	**Guiyang**	**60.38**	**307**	⇑*i*P		**P**	**14 03 19.8**	**+2.1**
GYA				AP		pP	14 03 23.8	+5.2
GYA				XP		sP	14 03 26.7	+7.7
GYA				PCP		PcP	14 04 04.6	+1.9
GYA				PP		PP	14 05 36.0	+5.1
GYA				SCP		ScP	14 08 04.5	-0.6
GYA				S		**S**	**14 11 35.8**	**+2.3**
GYA				SCS		ScS	14 13 07.9	-1.9
GYA				AMB		AMB		
	comp=Z,110nm,1.0s,mb5.8							
GYA				AMB		AMB		
	comp=Z,17μm,11.2s							
GYA				LR		LR		
	comp=N,15μm,20.0s,MS6.3							
GYA				LR		LR		
	comp=E,16μm,21.3s,MS6.3							
GYA				LR		LR		
	comp=Z,18μm,22.1s,MS6.2							
BJI	**Beijing**	**61.60**	**325**	P		**P**	**14 03 25.5**	**-0.2**
BJI				PP		PP	14 05 43.1	+1.6
BJI				S		**S**	**14 11 47.1**	**-1.6**
BJI				AMB		AMB		
	comp=Z,19nm,1.4s,mb5.0							
BJI				AMB		AMB		
	comp=Z,1μm,4.5s							
BJI				LR		LR		
	comp=N,744nm,14.5s,MS5.2							
BJI				LR		LR		
	comp=E,883nm,16.0s,MS5.2							
BJI				LR		LR		
	comp=Z,1μm,

comp=Z,1µm,19.2s,MS5.0
LZH Lanzhou 67.17 315 *e*P **P 14 04 04.0 +1.7**
LZH AP pP 14 04 07.3 +4.0
LZH XP sP 14 04 08.8 +5.2
LZH PP PP 14 06 34.5 +4.1
LZH *e*S S 14 12 59.5 +1.8
LZH XS sS 14 13 05.0 +5.7
LZH AMB AMB
comp=Z,80nm,1.2s,mb5.6
LZH AMB AMB
comp=Z,350nm,5.0s
LZH LR LR
comp=N,1µm,16.9s
LZH LR LR
comp=Z,2µm,18.0s,MS5.3
LZH Lanzhou 67.17 315 *e*P **P 14 04 04.0 +1.7**
comp=Z,80nm,1.2s,mb5.6
LZH pP pP 14 04 07.3 +4.0
LZH sP sP 14 04 08.8 +5.2
LZH PP PP 14 06 34.5 +4.1
LZH *e*S S 14 12 59.5 +1.8
LZH sS sS 14 13 05.0 +5.7
LZH SS SS 14 17 19.1 +1.9
LZH LR LR
comp=Z,2µm,18.0s,MS5.3
LZH Lanzhou 67.17 315 *e*P **P 14 04 04.0 +1.7**
LZH 14 06 34.5
LZH *e*S S 14 12 59.5 +1.8
LZH SS SS 14 17 19.1 +1.9
LZH pmax pmax
comp=Z,80nm,1.2s,mb5.6
LZH MLR MLR
comp=Z,2µm,18.0s,MS5.3
MA2 Magadan 68.09 356 *e*P **P 14 04 06.5 -1.1**
MA2 *e* 14 04 23.6
MA2 *e* 14 17 20.9
MA2 pmax pmax
comp=Z,40nm,1.3s,mb5.3
VNDA Vanda 69.00 179 LR LR 14 31 40.9
comp=Z,2µm,18.2s,MS5.4,baz=357,slow=34
UNV Unalaska Valle 69.16 22 *e*P **P 14 04 14.0 -0.4**
IMP Imphal 70.23 300 *e*P **P 14 04 22.0 +0.4**
CLNS Chul'man 70.45 342 *e*P **P 14 04 22.2 0.0**
CLNS pmax pmax
comp=Z,50nm,1.0s,mb5.4
CLNS pmax pmax
comp=N,22nm,1.1s
CLNS pmax pmax
comp=E,6.0nm,0.9s
FALS False Pass 71.10 23 *e*P **P 14 04 25.6 -0.6**
CIT Chita 71.10 333 *e*P **P 14 04 25.9 -0.4**
CIT *e* 14 04 51.7
SEY Seymchan 71.36 358⇑ *e*P **P 14 04 26.6 -1.1**
GTA Gaotai 71.58 316 *e*P **P 14 04 30.5 +1.0**
GTA AP pP 14 04 34.1 +3.6
GTA XP sP 14 04 35.5 +4.6
SONM Songino Array 71.99 327 P **P 14 04 32.9 +1.1**
comp=E,14nm,0.9s,mb4.9,baz=134,slow=5.8,SNR=7.9
SHL Shillong 72.24 300 *i* P **P 14 04 33.5 -0.3**
comp=Z,16nm,1.0s,mb4.9
SHL AMb AMB 14 04 41.6
comp=Z,481nm,1.0s,mb6.4
SHL *e*x x 14 14 04.5
SDPT Sand Point 72.60 24 *e*P **P 14 04 34.3 -1.0**
YAK Yakutsk 73.60 347 *e*P **P 14 04 41.0 0.0**
comp=Z,74nm,1.0s,mb5.6
YAK Yakutsk 73.60 347 *c i*P **P 14 04 40.9 -0.1**
YAK *e**PP pP 14 04 51.0 +9.0
YAK *e* 14 04 55.1
YAK *e*S S 14 14 11.0 -0.8
YAK *e* 14 14 49.7
YAK pmax pmax
comp=Z,54nm,0.8s,mb5.5
YAK pmax pmax
comp=N,16nm,1.1s
YAK pmax pmax
comp=E,13nm,1.4s
YAK smax
comp=E,759nm,9.5s
YAK smax
comp=Z,216nm,6.3s
YAK smax
comp=N,365nm,8.6s
CHGN Chignik 74.10 24 *e*P **P 14 04 42.5 -1.6**
LSA Lhasa 74.21 304 P **P 14 04 46.8 +1.4**
LSA XP sP 14 04 57.1 +10
LSA AMB AMB
comp=Z,40nm,1.0s,mb5.3
LSA AMB AMB
comp=Z,470nm,6.0s
LSA LR LR
comp=N,460nm,19.0s,MS5.2
LSA LR LR
comp=E,1µm,21.0s,MS5.2
LSA LR LR
comp=Z,2µm,23.0s,MS5.3
LSA Lhasa 74.21 304 *e*P **P 14 04 46.5 +1.1**
BOD Bodaibo 74.97 338 *e*P **P 14 04 48.3 -0.8**
BOD pmax pmax
comp=Z,26nm,1.2s,mb5.0
ZAK Zakamensk 75.12 327⇑ *e*P **P 14 04 50.5 +0.3**
ZAK pmax pmax
comp=Z,14nm,1.2s,mb4.8
TLY Talaya 75.66 329 *e*P **P 14 04 54.0 +0.7**
TLY Talaya 75.66 329 *e*P **P 14 04 52.8 -0.5**
TLY pmax pmax
comp=Z,20nm,1.2s,mb4.9
IRK Irkutsk 75.67 329 *e*P **P 14 04 52.8 -0.5**
IRK pmax pmax
comp=Z,82nm,4.2s
GAMB Gambell 75.78 14 *e*P **P 14 04 54.0 +0.3**
BILL Bilibino 76.63 3⇑ *i*P **P 14 04 58.2 -0.2**
BILL Bilibino 76.63 3⇑ *i*P **P 14 04 58.1 -0.3**
BILL *e* 14 05 11.5
BILL *e*S S 14 14 44.1 -1.2
BILL pmax pmax
comp=Z,88nm,1.7s,mb5.4
BOK Bokaro 76.93 297 *e*P **P 14 05 00.2 -0.9**
BOK AMb AMB 14 05 14.1
comp=Z,76nm,1.2s,mb5.5
KDAK Kodiak Island 77.46 25 P **P 14 05 02.6 -0.7**
comp=Z,318nm,0.9s,mb6.2,SNR=11
KDAK Kodiak Island 77.46 25 *e*P **P 14 05 02.9 -0.4**
KDAK Kodiak Island 77.46 25 P **P 14 05 02.9 -0.4**
comp=Z,45nm,0.8s,mb5.4,baz=232,slow=3.0,SNR=24
JIRN Jiri 77.73 301 *e*P **P 14 05 05.7 +0.2**
comp=Z,174nm,1.3s,mb5.8
VIS Vishakhapatnam 77.76 290 *e*P **P 14 05 06.2 +0.3**
VIS AMb AMB 14 05 18.4
comp=Z,44nm,1.5s,mb5.2
TNA Tin City 78.17 14 *e*P **P 14 05 07.0 -0.1**
PALK Pallekele 78.17 279 P **P 14 05 09.9 +1.6**
comp=Z,264nm,1.0s,mb6.1,SNR=9.6
PALK Pallekele 78.17 279 *e*P **P 14 05 08.9 +0.6**
comp=Z,43nm,1.0s,mb5.3
SVW2 Sparrevohn 78.48 21 *e*P **P 14 05 09.4 +0.5**
KKN Kakani 78.54 301 *e*P **P 14 05 10.1 +0.1**
comp=Z,82nm,1.0s,mb5.6
GKN Gorkha 79.14 301 *e*P **P 14 05 13.0 -0.3**
comp=Z,223nm,1.3s,mb5.9
TTA Tatalina 79.58 20 *e*P **P 14 05 15.1 +0.2**
BLSP Bilaspur 79.87 294 *e*P **P 14 05 17.3 -0.1**
BLSP AMb AMB 14 05 29.6
comp=Z,77nm,1.7s,mb5.4
KOLN Koldanda 79.97 300 *e*P **P 14 05 17.4 -0.4**
comp=Z,90nm,0.9s,mb5.7
PMR Palmer 81.19 23 *e*P **P 14 05 23.4 -0.3**
comp=Z,94nm,1.0s,mb5.7
PMR Palmer 81.19 23 *e*P **P 14 05 23.4 -0.2**
PMR pmax pmax
comp=Z,94nm,1.0s,mb5.7
SML Sawmill 81.63 23 *e*P **P 14 05 25.9 0.0**
WMQ Urumqi 81.66 317 P **P 14 05 26.8 +0.3**
WMQ AP pP 14 05 31.5 +4.0
WMQ *e*S S 14 15 38.0 -1.9
WMQ XS sS 14 15 46.5 +5.0
WMQ AMB AMB
comp=Z,31nm,1.3s,mb5.1
WMQ AMB AMB
comp=Z,928nm,5.7s
WMQ LR LR
comp=N,1µm,24.6s
WMQ LR LR
comp=E,1µm,19.4s
WMQ LR LR

comp=Z,1µm,23.8s,MS5.2
KOD Kodaikanal 81.84 282 *e*P **P 14 05 27.9 -0.2**
KOD AMb AMB 14 05 39.3
comp=Z,77nm,2.9s,mb5.1
EYAK Cordova Ski Ar 81.94 25 *e*P **P 14 05 27.0 -0.5**
comp=Z,150nm,1.7s,mb5.7
TRD Trivandrum 82.04 280 *e*P **P 14 05 28.1 -1.1**
TRD AMb AMB 14 05 40.8
comp=Z,75nm,1.0s,mb5.6
HYB Hyderabad 82.15 289 *e*P **P 14 05 29.5 -0.1**
HYB Hyderabad 82.15 289 *i* P **P 14 05 29.5 -0.1**
TIXI Tiksi 82.23 351 *e*P **P 14 05 28.6 -0.3**
comp=Z,92nm,1.7s,mb5.4
TIXI Tiksi 82.23 351⇓ *e*P **P 14 05 28.2 -0.7**
TIXI pmax pmax
comp=Z,57nm,1.6s,mb5.2
IMA2 Indian Mountai 82.45 18 *e*P **P 14 05 30.0 -0.1**
NGP Nagpur 82.45 293 *e*P **P 14 05 29.1 -2.0**
NGP AMb AMB 14 05 41.5
comp=Z,76nm,2.4s,mb5.2
MCK McKinley 82.55 21 *e*P **P 14 05 29.9 -0.9**
LGTI Lohaghat 83.24 301 *e*P **P 14 05 35.0 -0.1**
COLA College 83.61 21⇑ *i*P **P 14 05 34.1 -2.1**
COLA College 83.61 21⇑ *i*P **P 14 05 34.0 -2.2**
MAW Mawson 83.96 203⇑ *i*P **P 14 05 36.8 -1.3**
comp=Z,28nm,1.1s,mb5.3
MAW Mawson 83.96 203⇑ *i*P **P 14 05 36.8 -1.3**
MAW pmax pmax
comp=Z,28nm,1.1s
MAW Mawson 83.96 203 P **P 14 05 37.4 -0.7**
comp=Z,31nm,1.0s,mb5.4,baz=70,slow=7.3,SNR=10
LATR Latur 84.20 290 *ex* **P 14 05 34.0 -6.2**
LATR AMb AMB 14 05 46.7
comp=Z,62nm,1.3s,mb5.6
AKL Akola 84.22 292 *e*P **P 14 05 39.7 -0.6**
AKL AMb AMB 14 05 41.0
comp=Z,60nm,1.2s,mb5.6
MNGI Mangalore 84.86 284 *i* P **P 14 05 44.2 +0.5**
MNGI AMb AMB 14 05 46.1
comp=Z,45nm,0.9s,mb5.6
MNGI *i* x x 14 16 18.8
SIT Sitka 85.03 30 *e*P **P 14 05 43.7 +0.1**
comp=Z,51nm,1.1s,mb5.6
SIT Sitka 85.03 30 *e*P **P 14 05 43.7 +0.1**
SIT pmax pmax
comp=Z,51nm,1.1s,mb5.6
NDI New Delhi 85.65 300 *e*P **P 14 05 46.3 -1.1**
NDI AMb AMB 14 05 58.2
comp=Z,74nm,2.0s,mb5.6
EGAK Eagle 85.96 22 *e*P **P 14 05 48.2 +0.2**
SKAG Skagway 86.01 28 *e*P **P 14 05 48.6 +0.3**
SMLA Simla 86.21 302 *e*P **P 14 05 49.3 -0.8**
SMLA AMb AMB 14 06 00.9
comp=Z,75nm,0.7s,mb6.1
MKAR Makanchi Array 86.21 318 P **P 14 05 48.5 -1.3**
comp=Z,9.6nm,0.7s,mb5.2,baz=106,slow=4.7,SNR=10
KAD Karad 86.23 288 *e*P **P 14 05 49.2 -1.2**
KAD AMb AMB 14 05 52.4
comp=Z,41nm,1.0s,mb5.6
DAWY Dawson 86.29 23 *e*P **P 14 05 50.0 +0.4**
WRAK Wrangell Islan 86.30 32 *e*P **P 14 05 50.7 +0.8**
comp=Z,12nm,0.8s,mb5.2
POO Poona 86.75 289 *e*P **P 14 05 52.8 -0.2**
POO AMb AMB 14 06 04.5
comp=Z,38nm,1.6s,mb5.4
ZALV Zalesovo Beam 86.85 326 P **P 14 05 50.5 -2.1**
comp=Z,2.1nm,0.4s,mb4.7,baz=128,slow=5.7,SNR=3.6
ZAL Zalesovo 86.86 326 P **P 14 05 50.6 -2.1**
JCC Jacoby Creek 86.87 48 ⇑P **P 14 05 53.1 +0.1**
baz=87
K01A Sixes 87.04 46 ⇑P **P 14 05 54.4 +0.5**
baz=87
M01C Crescent City 87.05 47 ⇓P **P 14 05 54.0 +0.1**
baz=87
P01C Double 8 Ranch 87.06 50 ⇓P **P 14 05 54.1 0.0**
baz=87
MCCM Marconi Confer 87.11 51 ⇓P **P 14 05 53.6 -0.7**
baz=87
BBB Bella Bella 87.24 36 LR LR 14 37 09.4
comp=Z,2µm,20.6s,MS5.6,baz=339,slow=30
N02C Big Bar 87.40 48 ⇑P **P 14 05 56.1 +0.4**
baz=88
BNLO Ben Lomond (Sa 87.43 52 ⇓P **P 14 05 55.6 -0.3**
baz=88
GASB Alder Springs 87.58 49 ⇑P **P 14 05 57.0 +0.5**
baz=88,SNR=6.2
MNRC McLaughlin Nat 87.61 50 ⇑P **P 14 05 57.4 +0.7**
baz=88
O02C Red Bluff 87.64 49 ⇑P **P 14 05 57.1 +0.2**
baz=88
THN Thein Dam 87.69 303 *e*P **P 14 05 56.1 -1.1**
K02A Glendale 87.73 46 ⇓P **P 14 05 57.5 +0.4**
baz=88
HAST Hastings Reser 87.76 53 ⇓P **P 14 05 57.4 -0.1**
baz=88
I02A Mapleton 87.78 45 ⇓P **P 14 05 57.9 +0.5**
baz=88
J02A Umpqua 87.81 46 ⇓P **P 14 05 57.8 +0.3**
baz=88
H02A Toledo 87.83 44 ⇑P **P 14 05 57.8 +0.2**
baz=88
WENL Wente Brothers 87.86 52 ⇓P **P 14 05 58.3 +0.4**
baz=88
M02C Callahan 87.87 48 ⇓P **P 14 05 58.3 +0.4**
baz=88
Q03C Winters 87.88 51 ⇑P **P 14 05 58.3 +0.3**
baz=88
WDC Whiskeytown Da 87.91 49 *e*P **P 14 05 58.5 +0.4**
comp=Z,46nm,2.0s,mb5.4
WDC Whiskeytown Da 87.91 49 *e*P **P 14 05 58.5 +0.4**
WDC pmax pmax
comp=Z,46nm,2.0s,mb5.4
WDC Whiskeytown Da 87.91 49 P **P 14 05 58.8 +0.7**
baz=88,SNR=5.2
V03C Hunter Liggett 87.93 53 ⇓P **P 14 05 58.7 +0.4**
baz=88
YBH Yreka Blue Hor 88.05 47 *e*P **P 14 05 58.8 +0.1**
YBH Yreka Blue Hor 88.05 47 ⇑P **P 14 05 59.3 +0.5**
baz=88
PACP Pacheco Peak 88.10 52 ⇓P **P 14 05 59.3 +0.2**
baz=88
O03C Acorn Hollow, 88.17 49 ⇑P **P 14 05 59.0 -0.3**
baz=88
S04C Ingram Canyon, 88.17 52 ⇑P **P 14 05 59.9 +0.5**
baz=88
DLBC Dease Lake 88.18 30 *e*P **P 14 05 59.2 +0.3**
J03A Ideyld Park 88.24 46 ⇑P **P 14 06 00.1 +0.5**
baz=88
C03A Quillayute Air 88.26 41 ⇑P **P 14 06 00.0 +0.4**
baz=88
H03A Soap Creek Ran 88.32 45 ⇓P **P 14 06 00.2 +0.3**
baz=88
U04C Hernandez Rese 88.36 53 ⇑P **P 14 06 00.5 +0.2**
baz=88
M03C McCloud 88.38 48 ⇑P **P 14 06 00.4 +0.1**
baz=88
Q04C Lincoln 88.41 51 ⇓P **P 14 06 00.8 +0.3**
baz=88
OHCM Honcut 88.44 50 *e*P **P 14 06 00.5 -0.2**
PKD Parkfield 88.47 53 ⇓P **P 14 06 00.9 0.0**
baz=89
ORV Oroville 88.47 50 P **P 14 06 01.1 +0.3**
baz=89,SNR=6.9
E03A Lebam 88.58 43 ⇓P **P 14 06 01.1 0.0**
baz=89
NLWA Neilton Lookou 88.58 42 ⇑P **P 14 06 01.5 +0.4**
baz=89
R04C Big Horse Ranc 88.63 51 ⇑P **P 14 06 01.6 0.0**
baz=89
PTRM Twissleman Ran 88.67 54 *e*P **P 14 06 02.2 +0.4**
M04C Macdoel 88.70 48 ⇓P **P 14 06 02.3 +0.5**
baz=89
I04A Tendick Farm, 88.73 46 ⇓P **P 14 06 02.0 +0.1**
baz=89
HATC Hat Creek Radi 88.77 49 ⇓P **P 14 06 02.4 +0.2**
baz=89
SNCC San Nicolas Is 88.77 56 ⇓P **P 14 06 02.2 -0.1**
baz=89
SMMC Simmler 88.78 54 ⇑P **P 14 06 02.1 -0.3**
baz=89
BSC Santa Cruz Isl 88.82 56 ⇑P **P 14 06 02.5 -0.1**
baz=89
J04A Umpqua Nationa 88.82 46 P **P 14 06 02.9 +0.6**
baz=89,SNR=5.6
SBC Santa Barbara 88.84 55 ⇓P **P 14 06 02.2 -0.4**
baz=89
PKM Peak Mountain 88.84 55 ⇓P **P 14 06 02.5 -0.2**
baz=89
U05C Westside ANR, 88.88 53 ⇑P **P 14 06 03.4 +0.6**
baz=89
LAVA Lava Cap Winer 88.88 51 ⇓P **P 14 06 02.5 -0.2**
baz=89
S05C Merced 88.92 52 ⇑P **P 14 06 02.5 -0.4**
baz=89
KSH Kashi 88.92 310 P **P 14 06 04.1 +1.2**
KSH AP pP 14 06 08.8 +4.9
KSH XP sP 14 06 10.9 +6.6
KSH PP PP 14 09 36.5 +4.1
KSH SKS 14 16 31.0
KSH S S 14 16 50.2 -1.6
KSH XS sS 14 16 58.3 +4.8
KSH AMB AMB
comp=Z,209nm,1.3s,mb6.3
KSH AMB AMB
comp=Z,3µm,4.7s
KSH LR LR
comp=N,795nm,5.2s
KSH LR LR
comp=E,1µm,5.4s
O04C Chester 88.94 49 ⇓P **P 14 06 03.4 +0.4**
baz=89
O05C Quincy 88.99 49 ⇓P **P 14 06 03.4 +0.2**
baz=89
G04A Mulino 89.00 44 ⇑P **P 14 06 04.1 +0.9**
baz=89
CMB Columbia Colle 89.01 51 P **P 14 06 03.3 -0.1**
baz=89,SNR=5.6
P05C Yuba Gap, Truc 89.09 50 ⇓P **P 14 06 03.8 0.0**
baz=89,SNR=7.7
M05C Lookout 89.11 48 ⇑P **P 14 06 04.0 +0.2**
baz=89
F04A Amboy 89.20 43 ⇑P **P 14 06 04.0 -0.1**
baz=89
C04A Brinnon 89.24 42 ⇓P **P 14 06 04.9 +0.6**
baz=89
ELFS Eagle Lake Fie 89.27 49 ⇑P **P 14 06 05.1 +0.6**
baz=89
BLG Laguna Peak 89.31 56 ⇑P **P 14 06 04.7 -0.1**
baz=89
T06C Millerton Lake 89.33 53 P **P 14 06 04.9 0.0**
baz=90,SNR=7.7
R05C Kirkwood Meado 89.38 51 ⇓P **P 14 06 05.3 +0.2**
baz=90
BEKR Beckwourth 89.40 50 ⇓P **P 14 06 05.1 -0.1**
baz=90,SNR=7.9
J05A Fort Rock 89.45 46 P **P 14 06 05.7 +0.4**
baz=90,SNR=9.6
L05A Lakeview 89.49 47 ⇑P **P 14 06 05.6 +0.1**
baz=90
M06C Likely Place G 89.58 48 ⇓P **P 14 06 05.9 0.0**
baz=90
K05A Summer Lake 89.58 47 ⇓P **P 14 06 06.1 +0.2**
baz=90
KURK Kurchatov 89.59 321 *e*P **P 14 06 03.6 -2.2**
VES Vestal, Richgr 89.61 54 ⇓P **P 14 06 06.1 -0.2**
baz=90
I05A Bend 89.62 45 ⇑P **P 14 06 06.7 +0.6**
baz=90
OSI Osito Adit 89.67 55 ⇓P **P 14 06 06.9 +0.3**
baz=90
ARVC Arvin 89.68 55 ⇓P **P 14 06 06.7 +0.1**
baz=90
KCC Kaiser Creek 89.70 52 ⇓P **P 14 06 06.4 -0.2**
baz=90,SNR=8.2
P06A Stead Airport, 89.71 50 ⇑P **P 14 06 06.9 +0.3**
baz=90
CIS Catalina Islan 89.72 56 ⇓P **P 14 06 06.4 -0.4**
baz=90
WCN Washoe City 89.74 50 ⇑P **P 14 06 07.1 +0.4**
baz=90
H05A Madras 89.75 45 ⇓P **P 14 06 06.7 0.0**
baz=90
E05A Randle 89.79 43 ⇑P **P 14 06 07.0 +0.2**
baz=90
HELL Mitchell Peak 89.81 53 P **P 14 06 07.2 0.0**
baz=90,SNR=18
R06C Coleville 89.83 51 ⇑P **P 14 06 07.6 +0.5**
baz=90,SNR=7.1
MOD Modoc 89.84 48 ⇓P **P 14 06 06.7 -0.5**
baz=90
F05A White Salmon 89.85 44 ⇓P **P 14 06 07.7 +0.5**
baz=90
O06A Flanigan 89.85 49 ⇑P **P 14 06 07.3 0.0**
baz=90,SNR=8.7
B05A Bryant 89.94 41 ⇓P **P 14 06 07.5 0.0**
baz=90
N06A Buffalo Meadow 89.96 49 ⇓P **P 14 06 08.0 +0.2**
baz=90,SNR=9.4
R07C Lee Vining 90.06 52 ⇑P **P 14 06 08.1 -0.2**
baz=90
K06A Valley Falls 90.06 47 P **P 14 06 08.2 +0.1**
baz=90,SNR=5.0
ISA Isabella 90.06 54 *e*P **P 14 06 08.2 -0.2**
ISA Isabella 90.06 54 P **P 14 06 08.5 +0.2**
baz=90,SNR=8.9
C05A Tolt Reservoir 90.08 42 ⇓P **P 14 06 08.2 0.0**
baz=90
MWC Mount Wilson 90.15 56 *e*P **P 14 06 09.1 +0.3**
J06A Christmas Vall 90.22 46 P **P 14 06 09.1 +0.1**
baz=90,SNR=11
INK Inuvik 90.26 20 *e*P **P 14 06 08.0 -0.5**
G06A Carlson Farm, 90.28 44 ⇑P **P 14 06 09.1 0.0**
baz=90
F06A Goldendale 90.29 44 ⇓P **P 14 06 08.6 -0.6**
baz=90
MTUM Tungsten Hills 90.30 52 *e*P **P 14 06 09.6 +0.2**
E06A Yakima 90.31 43 ⇓P **P 14 06 09.2 -0.1**
baz=90
EDW2 Edwards Air Fo 90.32 55 ⇑P **P 14 06 09.7 +0.1**
baz=90,SNR=9.4
I06A Prineville 90.32 46 P **P 14 06 09.8 +0.5**
baz=90,SNR=9.0
H06A Lindquist Farm 90.39 45 ⇑P **P 14 06 09.3 -0.4**
baz=90
P07A Fallon 90.45 50 ⇓P **P 14 06 10.5 +0.5**
baz=91
BFSC Mount Baldy St 90.47 56 ⇓P **P 14 06 10.2 -0.1**
baz=91,SNR=6.8
TIN Tinemaha 90.51 53 ⇓P **P 14 06 10.4 0.0**
baz=91,SNR=6.5
CWC Cottonwood Cre 90.52 53 P **P 14 06 10.7 +0.3**
baz=91,SNR=14
D06A Cle Elum 90.54 42 ⇑P **P 14 06 10.6 +0.3**
baz=91
L07A Adell 90.57 48 P **P 14 06 11.3 +0.7**
baz=91,SNR=9.2
M07A Soldier Meadow 90.58 48 ⇓P **P 14 06 11.1 +0.4**
baz=91
N07B Gerlach 90.61 49 ⇓P **P 14 06 11.0 +0.2**
baz=91,SNR=8.8
AAK Ala-Archa 90.63 313 P **P 14 06 10.4 -0.4**
comp=E,57nm,0.9s,mb5.9,SNR=5.7
AAK Ala-Archa 90.63 313 *e*P **P 14 06 09.9 -0.9**
comp=E,7.7nm,0.8s,mb5.1
AAK Ala-Archa 90.63 313⇓ *e*P **P 14 06 09.0 -1.8**
AAK pmax pmax
comp=Z,8.0nm,0.9s,mb5.0
S08C White Mtn Res 90.63 52 P **P 14 06 11.8 +0.8**
baz=91,SNR=11
LRMC Laurel Mountai 90.66 54 P **P 14 06 11.7 +0.6**
baz=91,SNR=5.9
NVAR Mina Array Bea 90.69 51 P **P 14 06 10.9 -0.4**
comp=Z,14nm,0.9s,mb5.3,baz=233,slow=4.7,SNR=28
109C Camp Elliot, M 90.70 57 ⇓P **P 14 06 11.6 +0.2**
baz=91
K07A Rock Creek Ran 90.77 47 P **P 14 06 11.7 +0.3**
baz=91,SNR=9.4
R08A Mina 90.83 51 ⇓P **P 14 06 12.2 +0.3**
baz=91
I07A Izee 90.84 46 P **P 14 06 11.9 +0.1**
baz=91,SNR=10
J07A Hines 90.85 46 P **P 14 06 12.4 +0.6**
baz=91,SNR=7.5
F07A Phinny Hill Vi 90.90 44 ⇑P **P 14 06 11.8 -0.2**
baz=91
H07A Lands Inn, Kim 90.90 45 ⇓P **P 14 06 11.7 -0.3**
baz=91
MPMC Manual Prospec 90.92 54 ⇑P **P 14 06 12.7 +0.3**
baz=91
G07A Ruggs Ranch, H 90.95 44 ⇓P **P 14 06 12.3 0.0**
baz=91
BAR Barrett 91.03 57 *e*P **P 14 06 13.2 +0.3**
Q08A Gabbs 91.06 51 ⇑P **P 14 06 13.1 +0.2**
baz=91
P08A Dixie Valley 91.09 50 ⇓P **P 14 06 13.4 +0.4**

baz=91
D07A **Quincy** 91.12 43 ⇑P P 14 06 12.8 -0.2
baz=91
EKS2 **Erkin-Say** 91.16 313 eP P 14 06 12.4 -0.9
comp=Z,4.9nm,0.9s,mb4.8
C07A **Waterville** 91.16 42 ⇓P P 14 06 12.9 -0.3
baz=91
WVOR **Wild Horse Val** 91.16 47 eP P 14 06 12.7 -0.6
comp=Z,20nm,1.0s,mb5.4
WVOR **Wild Horse Val** 91.16 47 eP P 14 06 12.7 -0.6
WVOR pmax pmax
comp=Z,20nm,1.0s,mb5.4
M08A **Happy Creek Ra** 91.17 48 ⇓P P 14 06 13.7 +0.3
baz=91,SNR=6.9
GRAC **Grapevine Rang** 91.18 53 ⇓P P 14 06 13.4 -0.1
baz=91
A07A **Ashnola River,** 91.22 41 ⇓P P 14 06 12.7 -0.7
baz=91
N08A **GE Springer Mi** 91.24 49 P P 14 06 14.3 +0.6
baz=91,SNR=11
HAWA **Hanford** 91.26 43 eP P 14 06 13.1 -0.6
MONP **Monument Peak** 91.27 57 ⇑P P 14 06 13.8 -0.2
baz=91
B07A **Winthrop** 91.27 41 ⇑P P 14 06 13.2 -0.5
baz=91
L08A **Fields** 91.33 48 ⇓P P 14 06 14.4 +0.3
baz=92,SNR=11
GSC **Goldstone** 91.34 55 eP P 14 06 14.3 0.0
GSC **Goldstone** 91.34 55 P P 14 06 14.5 +0.2
baz=92,SNR=5.1
PFO **Pinyon Flat Ob** 91.36 56 eP P 14 06 14.3 -0.1
comp=Z,27nm,1.6s,mb5.3
PFO **Pinyon Flat Ob** 91.36 56 eP P 14 06 14.3 -0.1
PFO pmax pmax
comp=Z,27nm,1.6s,mb5.3
PFO **Pinyon Flat Ob** 91.36 56 LR LR 14 37 33.6
comp=Z,4μm,21.9s,MS5.8,baz=299,slow=29
PFO **Pinyon Flat Ob** 91.36 56 ⇑P P 14 06 14.2 -0.2
baz=92
BHJ **Bhuj** 91.39 293 eP P 14 06 14.1 -0.7
BHJ AMb AMB 14 06 17.1
comp=Z,48nm,1.3s,mb5.7
S09A **Goldfield** 91.41 52 P P 14 06 15.0 +0.4
baz=92,SNR=13
J08A **Circle Bar Ran** 91.44 47 ⇑P P 14 06 14.6 0.0
baz=92,SNR=6.6
G08A **Pilot Rock** 91.45 45 ⇑P P 14 06 14.9 +0.3
baz=92,SNR=8.9
I08A **Drewsey** 91.47 46 ⇓P P 14 06 14.5 -0.2
baz=92
FURC **Furnace Creek,** 91.49 54 ⇑P P 14 06 14.9 -0.1
baz=92,SNR=11
H08A **Prairie City** 91.51 45 ⇑P P 14 06 14.7 -0.2
baz=92
E08A **Dider Farm, El** 91.60 43 ⇑P P 14 06 15.4 +0.1
baz=92
R09A **Tonopah** 91.62 52 ⇑P P 14 06 15.3 -0.2
baz=92
Q09A **Carvers** 91.63 51 ⇑P P 14 06 15.9 +0.3
baz=92
HEC **Hector,Ludlow** 91.65 55 ⇑P P 14 06 15.3 -0.5
baz=92,SNR=8.2
F08A **Pendleton** 91.67 44 ⇓P P 14 06 15.7 +0.1
baz=92
SYO **Syowa Base** 91.70 199⇑eP P 14 06 12.0 -3.3
N09A **Rock Creek Ran** 91.71 49 ⇓P P 14 06 16.5 +0.6
baz=92
B08A **Colville Reser** 91.77 41 ⇓P P 14 06 15.7 -0.3
baz=92,SNR=5.1
P09A **Austin** 91.78 50 ⇑P P 14 06 16.5 +0.2
baz=92
BELC **Belle Mtn.** 91.79 56 ⇓P P 14 06 16.4 0.0
baz=92,SNR=9.9
SWSC **Sam W. Stewart** 91.80 57 ⇓P P 14 06 16.4 -0.1
baz=92
L09A **Wilkinson Ranc** 91.80 48 ⇓P P 14 06 16.2 -0.1
baz=92,SNR=5.3
D08A **Wollman Farm,** 91.80 43 ⇓P P 14 06 16.6 +0.4
baz=92
O09A **Fish Creek Ran** 91.84 50 ⇑P P 14 06 16.5 0.0
baz=92,SNR=7.0
M09A **Marrel Ranch,** 91.86 49 ⇑P P 14 06 17.1 +0.5
baz=92
K09A **Rome** 91.87 47 P P 14 06 16.6 0.0
baz=92,SNR=9.3
U10A **Ash Meadows, A** 91.91 54 ⇑P P 14 06 17.5 +0.6
baz=92
A08A **Turner Farm, O** 91.92 41 ⇑P P 14 06 17.0 +0.4
baz=92
S10A **Tonopah Range,** 91.94 52 ⇑P P 14 06 17.4 +0.4
baz=92,SNR=27
J09A **Fry Pan Ranch,** 91.96 47 P P 14 06 17.5 +0.5
baz=92,SNR=10
TPNV **Topopah Spring** 92.05 53 eP P 14 06 17.3 -0.3
comp=Z,35nm,1.1s,mb5.6
TPNV **Topopah Spring** 92.05 53 eP P 14 06 17.3 -0.3
TPNV pmax pmax
comp=Z,35nm,1.1s,mb5.6
TPNV **Topopah Spring** 92.05 53 ⇓P P 14 06 18.2 +0.6
baz=92
I09A **Lost Marbles R** 92.08 46 ⇑P P 14 06 17.4 -0.1
baz=92
TUQ **Turquoise Mtn.** 92.08 55 ⇓P P 14 06 17.6 -0.1
baz=92
BC3 **Big Chuckw Mtn** 92.19 56 ⇓P P 14 06 18.1 -0.2
baz=92,SNR=5.8
GMRC **Granite Mounta** 92.19 55 P P 14 06 18.6 +0.3
baz=92,SNR=9.6
D09A **Jones Farm, Ri** 92.21 43 ⇓P P 14 06 17.7 -0.4
baz=92
R10A **Warm Springs** 92.22 52 P P 14 06 19.1 +0.7
baz=92,SNR=10
E09A **Wood Farm, Sta** 92.23 43 ⇑P P 14 06 17.5 -0.6
baz=92
Q10A **Clear Creek Ra** 92.23 51 ⇓P P 14 06 18.5 +0.2
baz=92,SNR=18
H09A **Durkee** 92.25 45 ⇓P P 14 06 18.1 -0.2
baz=92
F09A **S2 Ranch, Elgi** 92.25 44 ⇑P P 14 06 17.9 -0.4
baz=92
G09A **Cove** 92.27 45 ⇑P P 14 06 18.1 -0.3
baz=92
P10A **Eureka** 92.31 50 ⇓P P 14 06 18.5 -0.2
baz=92
C09A **Chrisman Ranch** 92.36 42 ⇓P P 14 06 18.9 +0.2
baz=92
A09A **Danville** 92.37 41 ⇑P P 14 06 17.8 -0.9
baz=92
O10A **Cortez Mining,** 92.38 50 ⇓P P 14 06 19.4 +0.3
baz=92,SNR=5.8
K10A **MacKenzie Ranc** 92.50 47 ⇓P P 14 06 19.3 -0.2
baz=93
IRM **Iron Mountain** 92.51 56 ⇑P P 14 06 19.6 -0.2
baz=93,SNR=12
BMO **Blue Mountains** 92.53 45 eP P 14 06 19.1 -0.5
comp=Z,75nm,2.1s,mb5.8
BMO **Blue Mountains** 92.53 45 eP P 14 06 19.1 -0.5
BMO pmax pmax
comp=Z,75nm,2.1s,mb5.8
V11A **Goodsprings** 92.54 54 ⇑P P 14 06 19.9 0.0
baz=93
M10A **I.L. Ranch, Tu** 92.55 49 ⇓P P 14 06 20.3 +0.5
baz=93,SNR=6.6
B09A **Rice** 92.55 42 ⇑P P 14 06 19.7 +0.1
baz=93
S11A **Rachel** 92.56 52 ⇑P P 14 06 20.0 +0.1
baz=93
U11A **Corn Creek** 92.66 54 ⇓P P 14 06 20.4 0.0
baz=93
J10A **Berg Farm, Mel** 92.68 47 ⇑P P 14 06 19.8 -0.5
baz=93
L10A **Juniper Basin** 92.69 48 P P 14 06 20.8 +0.4
baz=93,SNR=18
G10A **Bishop Farm, J** 92.73 45 ⇓P P 14 06 20.2 -0.3
baz=93,SNR=10.0
I10A **Payette** 92.76 46 ⇑P P 14 06 20.3 -0.4
baz=93
F10A **Beach Ranch, E** 92.77 44 ⇑P P 14 06 20.5 -0.2
baz=93
R11A **Troy Canyon, C** 92.79 52 ⇓P P 14 06 20.7 -0.3
baz=93,SNR=17
Q11A **Duckwater** 92.81 51 ⇓P P 14 06 20.9 -0.1
baz=93,SNR=29
H10A **Noah's Angus R** 92.88 46 ⇓P P 14 06 21.1 -0.1
baz=93,SNR=9.9
D10A **Wagner Farm, O** 92.91 43 ⇑P P 14 06 19.9 -1.4
baz=93
T11A **Corn Creek, Al** 92.91 53 ⇓P P 14 06 21.5 -0.1
baz=93
E10A **Myers Farm, Un** 92.93 44 ⇑P P 14 06 21.4 0.0
baz=93
V12A **Nelson** 92.98 54 ⇓P P 14 06 21.5 -0.4
baz=93
O11A **Cowboy Ranch,** 93.00 50 ⇓P P 14 06 21.9 +0.1
baz=93,SNR=13
M11A **Holland Ranch,** 93.09 49 ⇑P P 14 06 22.9 +0.6
baz=93,SNR=8.0
K11A **Parker Ranch,** 93.11 47 ⇑P P 14 06 22.4 0.0
baz=93,SNR=9.4
S12A **Delamar Landin** 93.26 53 ⇑P P 14 06 23.7 +0.6
baz=93,SNR=7.6
U12A **Valley of Fire** 93.34 54 ⇓P P 14 06 24.0 +0.5
baz=93
G11A **Walters Elk Ra** 93.34 45 ⇓P P 14 06 23.1 -0.2
baz=94
MFID **Camas Ranch** 93.36 47 ⇑P P 14 06 23.1 -0.3
baz=94,SNR=5.6
PDMCI **Parker Dam,Lak** 93.36 56 ⇓P P 14 06 24.7 +1.0
baz=94
H11A **Donnelly** 93.42 45 ⇓P P 14 06 23.7 0.0
baz=94,SNR=6.3
Q12A **Willow Creek R** 93.47 51 P P 14 06 24.9 +0.8
baz=94,SNR=11
P12A **McGill** 93.47 51 ⇓P P 14 06 24.3 +0.3
baz=94,SNR=16
F11A **Grangeville** 93.49 44 ⇑P P 14 06 23.7 -0.3
baz=94
E11A **Bogner Ranch,** 93.52 44 ⇑P P 14 06 24.1 -0.1
baz=94
R12A **Pony Springs,** 93.55 52 P P 14 06 25.0 +0.6
baz=94,SNR=17
Y13A **Salome** 93.55 57 ⇑P P 14 06 24.5 -0.1
baz=94
N12A **Clover Valley,** 93.57 49 ⇓P P 14 06 24.9 +0.4
baz=94
X13A **Yucca** 93.66 56 ⇓P P 14 06 24.8 -0.2
baz=94
W13A **Hualapai Mount** 93.68 55 ⇑P P 14 06 24.8 -0.3
baz=94
O12A **Currie** 93.71 50 ⇓P P 14 06 25.6 +0.4
baz=94,SNR=14
B11A **Sandpoint** 93.73 42 ⇑P P 14 06 25.0 0.0
baz=94
M12A **Wells** 93.74 49 ⇓P P 14 06 25.5 +0.2
baz=94,SNR=5.6
L12A **House Creek Ra** 93.77 48 ⇑P P 14 06 25.7 +0.4
baz=94,SNR=11
U13A **Pakoon Wash** 93.79 54 ⇑P P 14 06 25.9 +0.2
baz=94,SNR=5.6
A11A **Hall Mountain,** 93.81 41 ⇓P P 14 06 25.8 +0.4
baz=94,SNR=5.4
J12A **Stokes Ranch,** 93.86 47 ⇓P P 14 06 26.1 +0.3
baz=94,SNR=15
K12A **Draper Farm, C** 93.92 48 ⇑P P 14 06 25.9 -0.1
baz=94,SNR=11
T13A **Saint George** 93.92 53 ⇑P P 14 06 26.7 +0.5
baz=94
S13A **Holt Ranch, En** 94.03 53 ⇑P P 14 06 27.1 +0.4
baz=94,SNR=9.1
F12A **Elk City** 94.10 45 ⇑P P 14 06 26.0 -0.8
baz=94
P13A **Bates Ranch, G** 94.16 51 P P 14 06 27.8 +0.6
baz=94,SNR=8.8
N13A **Wendover, West** 94.20 49 ⇓P P 14 06 27.4 0.0
baz=94
D12A **Red Ives Fores** 94.21 43 ⇑P P 14 06 27.4 +0.2
baz=94
H12A **Diamond D Ranc** 94.21 46 ⇓P P 14 06 27.1 -0.3
baz=94
O13A **Hicks Ranch, I** 94.27 50 ⇑P P 14 06 28.5 +0.8
baz=94,SNR=8.2
M13A **Montello** 94.29 49 P P 14 06 28.1 +0.4
baz=94,SNR=9.5
W14A **Seligman** 94.34 55 ⇓P P 14 06 27.3 -0.9
baz=94
V14A **Boquillas Ranc** 94.38 55 ⇓P P 14 06 28.4 +0.1
baz=94
ARUT **Antelope Range** 94.39 53 eP P 14 06 28.2 -0.1
HLID **Hailey** 94.40 47 P P 14 06 28.6 +0.3
baz=94,SNR=11
X14A **Yava** 94.41 56 ⇓P P 14 06 28.8 +0.3
baz=94
U14A **Mt Trumbull** 94.42 54 ⇑P P 14 06 28.9 +0.3
baz=94
K13A **Stover Farm, H** 94.52 48 ⇑P P 14 06 29.0 +0.2
baz=95
J13A **Cove Ranch, Pi** 94.55 47 ⇑P P 14 06 28.9 0.0
baz=95,SNR=6.5
H13A **Challis** 94.64 46 ⇓P P 14 06 29.0 -0.3
baz=95,SNR=7.8
I13A **Wildhorse Cree** 94.66 46 ⇑P P 14 06 29.3 -0.1
baz=95,SNR=9.7
G13A **Cobalt** 94.72 45 ⇓P P 14 06 29.4 -0.3
baz=95
F13A **Darby** 94.74 45 ⇓P P 14 06 28.7 -1.0
baz=95
M14A **Sheep Mountain** 94.92 49 ⇓P P 14 06 30.5 -0.2
baz=95,SNR=6.1
N14A **Grayback Hills** 94.96 50 ⇑P P 14 06 30.5 -0.4
baz=95
B13A **Whitefish** 94.97 42 ⇑P P 14 06 30.2 -0.5
baz=95
BRVK **Borovoye** 95.10 323⇑eP P 14 06 28.5 -2.7
T15A **Red Dirt Ranch** 95.13 53 ⇑P P 14 06 31.1 -0.7
baz=95
DUG **Dugway** 95.17 50 ⇑P P 14 06 31.4 -0.4
baz=95
K14A **Jones Ranch, D** 95.17 48 ⇑P P 14 06 31.9 +0.1
baz=95,SNR=6.5
G14A **Jackson** 95.28 45 ⇑P P 14 06 31.6 -0.7
baz=95
216A **Three Points,** 95.30 59 ⇓P P 14 06 32.2 -0.5
baz=95
HVU **Hansel Valley** 95.38 49 eP P 14 06 32.8 0.0
WALA **Waterton Lakes** 95.42 41 eP P 14 06 32.8 0.0
comp=Z,96nm,2.7s,mb5.8
MSU **Marysvale** 95.46 52 eP P 14 06 32.6 -0.7
N15A **Stansbury Isla** 95.47 50 ⇓P P 14 06 33.2 0.0
baz=96
M15A **Larsen Ranch,** 95.59 49 ⇑P P 14 06 33.4 -0.4
baz=96
217A **Green Valley** 95.82 59 ⇓P P 14 06 34.9 -0.2
baz=96
G15A **Dillon** 95.96 45 ⇑P P 14 06 34.6 -0.7
baz=96
E15A **Deer Lodge** 95.98 44 ⇓P P 14 06 34.5 -0.9
baz=96
F15A **Butte** 96.02 45 ⇑P P 14 06 35.2 -0.5
baz=96
EDM **Edmonton** 96.23 37 eP P 14 06 35.8 -0.6
JLU **Jordanelle** 96.25 50 eP P 14 06 38.0 +1.3
318A **Bisbee** 96.48 59 ⇑P P 14 06 37.7 -0.3
baz=97
218A **Dragoon** 96.49 59 ⇑P P 14 06 37.5 -0.6
baz=97
YKA **Yellowknife Ar** 96.50 28 P P 14 06 36.4 -1.0
comp=Z,4.5nm,0.8s,mb5.0,baz=267,slow=4.6,SNR=13
YKA PKKP PKKPbc 14 23 20.1 -4.2
comp=Z,0.5nm,0.7s,baz=77,slow=3.1,SNR=5.2
YKW3 **Yellowknife Ar** 96.51 28 eP P 14 06 37.1 -0.3
BOZ **Bozeman (W)** 96.61 45 eP P 14 06 37.5 -0.8
comp=Z,42nm,2.4s,mb5.4
BOZ **Bozeman (W)** 96.61 45 eP P 14 06 37.5 -0.8
BOZ pmax pmax
comp=Z,42nm,2.4s,mb5.4
BOZ **Bozeman (W)** 96.61 45 ⇓P P 14 06 37.8 -0.5
baz=97
MOOW **Moose Ponds** 97.06 47 eP P 14 06 40.0 -0.4
comp=Z,60nm,2.5s,mb5.6
119A **Ashpeak Ranch,** 97.20 58 ⇑P P 14 06 41.2 -0.1
baz=97
PDAR **Pinedale Array** 97.85 48 P P 14 06 43.5 -0.5
comp=Z,3.5nm,0.9s,mb4.9,baz=241,slow=2.9,SNR=12
PDAR LR LR 14 42 32.6
comp=Z,1μm,21.4s,MS5.5,baz=328,slow=30
LAO **LASA Array** 100.42 44 ePdif Pdif 14 06 55.1 -0.1
RES **Resolute Bay** 102.79 15 ePdif Pdif 14 07 04.6 -1.1
APA **Apatity** 110.43 340⇑ePKIKP PKiKP 14 11 46.0 +5.9
APA pmax pmax
comp=Z,26nm,1.3s
BHD **Baghdad** 113.97 303 ex x 14 12 39.0
OBN **Obninsk** 114.39 327 ePKIKP PKiKP 14 11 44.1 -3.9
OBN e 14 12 42.5
OBN pmax pmax
comp=Z,3.0nm,0.7s
MSL **Mosul** 114.68 306 ex x 14 12 47.5
BOSA **Boshof** 120.99 229 PKP PKPdf 14 11 59.3 -2.2
comp=Z,2.5nm,0.7s,baz=154,slow=9.7,SNR=4.1
NB2 **NORSAR Subarra** 121.96 341 PKPdf PKPdf 14 12 00.5 -1.9
comp=Z,5.6nm,1.2s,baz=39,slow=1.9
NOA **NORSAR Array B** 121.96 341 PKP PKPdf 14 12 00.2 -2.2
comp=Z,0.9nm,0.7s,baz=42,slow=1.9,SNR=3.2
KOLS **Kolonicke sedl** 125.03 325 ePKP PKPdf 14 12 04.4 -4.2
UZH **Uzhgorod** 125.18 325 ePKIKP PKPdf 14 12 08.0 -0.9
STHS **Stebnicka Huta** 125.34 326 ePKP PKPdf 14 12 04.7 -4.5
CRVS **Cervenica-Dubn** 125.50 326 ePKP PKPdf 14 12 06.4 -3.1
MORC **Moravsky Berou** 127.11 328 eP Pdif 14 08 55.9 +2.0
VYHS **Vyhne** 127.18 327 ePKP PKPdf 14 12 12.7 0.0
DPC **Dobruska-Polom** 127.38 330 epPKP pPKPdf 14 12 18.4 +4.3
UPC **Upice** 127.43 330 ePKIKP pPKPdf 14 12 18.8 +4.6
UPC **Upice** 127.43 330 epPKP pPKPdf 14 12 18.8 +4.6
MODS **Modra-Piesok** 128.09 327 ePKP PKPdf 14 12 13.9 -0.6
PVCC **Panska Ves** 128.12 331 ePKPdf PKPdf 14 12 13.2 -1.3
BRG **Berggiesshubel** 128.19 331 ePKP PKPdf 14 12 14.8 +0.2
BRG e 14 14 18.6
BRG LR LR
comp=Z,1μm,24.5s,MS5.4
BRG **Berggiesshubel** 128.19 331 ePKP PKPdf 14 12 14.8 +0.2
comp=Z,10nm,1.2s
BRG e 14 14 18.6
comp=Z,4.3nm,1.1s
BRG e 14 19 34.1
comp=Z,3.2nm,0.8s
BRG
comp=N,1μm,17.2s
BRG
comp=E,822nm,18.1s
BRG
comp=Z,2μm,24.5s
CLL **Collm** 128.34 332 ePKPdf PKPdf 14 12 14.0 -0.9
ROSC **El Rosal** 128.39 91 PKP PKPdf 14 12 15.7 -0.4
comp=Z,12nm,0.6s,baz=278,slow=22,SNR=4.4
LPAZ **La Paz** 128.52 119 PKP PKPdf 14 12 15.6 -0.6
comp=Z,5.0nm,1.0s,baz=338,slow=1.6,SNR=7.6
KHC **Kasperske Hory** 129.52 330 ePKPdf PKPdf 14 12 17.2 0.0
GERES **GERESS Array B** 129.65 330 PKP PKPdf 14 12 17.0 -0.4
comp=Z,0.5nm,0.5s,baz=277,slow=35,SNR=3.6
GRA1 **Grafenberg Arr** 130.28 332 ePKPdf PKPdf 14 12 17.8 -0.8
GRF **Grafenberg Arr** 130.28 332 ePKPdf PKPdf 14 12 17.8 -0.8
TSUM **Tsumeb** 131.87 235 eP Pdif 14 09 10.2 -4.8
SDV **Santo Domingo** 132.41 86 ePKPdf PKPdf 14 12 22.0 -1.7
SDV **Santo Domingo** 132.41 86 PKP PKPdf 14 12 21.5 -2.2
comp=Z,17nm,0.9s,baz=342,slow=0.7,SNR=9.8
SIV **San Ignacio** 134.67 122 PKP PKPdf 14 12 26.9 -0.9
comp=Z,3.5nm,1.0s,baz=234,slow=4.3,SNR=7.6
CPD **Cerro la Pandu** 136.76 73 ePKPdf PKPdf 14 12 29.6 -2.2
MVO **Moncorvo** 144.73 340 ePKP PKPdf 14 12 43.7 -1.7
MVO **Moncorvo** 144.73 340 A 15 18 21.7
comp=Z,676nm,22.1s
ESDC **Sonseca Array** 144.84 335 PKP PKPdf 14 12 44.4 -1.3
comp=Z,8.1nm,0.9s,baz=33,slow=3.0,SNR=14
PVRL **Vila Real** 144.86 341 ePKP PKPdf 14 12 44.1 -1.6
PAB **San Pablo** 145.11 335 ePKPbc PKPbc 14 12 45.1 -0.4
PVIS **Viseu** 145.42 340 ePKP PKPdf 14 12 46.0 -0.6
MTE **Manteigas** 145.59 340 ePKP PKPdf 14 12 46.5 -0.4
MTE **Manteigas** 145.59 340 A 15 20 18.8
comp=Z,718nm,17.7s
MTE **Manteigas** 145.59 340 ePKPdf PKPdf 14 12 46.9 0.0
PCBR **Castelo Branco** 146.06 339 ePKP PKPdf 14 12 47.9 +0.1
PESTR **Estremoz** 146.97 338 ePKP PKPdf 14 12 50.4 +1.1
PESTR **Estremoz** 146.97 338 A 15 20 36.9
comp=Z,661nm,18.4s
PBAR **Barrancos** 147.37 337 ePKP PKPdf 14 12 50.4 +0.4
PBAR **Barrancos** 147.37 337 A 15 19 02.7
comp=Z,822nm,21.3s
EVO **Evora** 147.41 339 ePKP PKPdf 14 12 51.8 +1.7
PMAFR **Mafra** 147.47 341 A 15 21 12.5
comp=Z,568nm,18.7s
PBEJ **Beja** 147.81 338 ePKP PKPdf 14 12 49.6 -1.2
PVAQ **Vaqueiros** 148.30 337 ePKP PKPdf 14 12 54.1 +2.5
PVAQ **Vaqueiros** 148.30 337 A 15 20 59.7
comp=Z,711nm,20.2s
PBDV **Barranco-do-Ve** 148.52 337 ePKP PKPdf 14 12 54.0 +2.0
PBDV **Barranco-do-Ve** 148.52 337 A 15 19 59.4
comp=Z,905nm,20.1s
PTEO **Sao Teotonio** 148.55 339 ePKP PKPbc 14 12 57.6 +2.0
MORF **Marmelete** 148.73 338 ePKP PKPdf 14 12 54.3 +2.0
MORF **Marmelete** 148.73 338 A 15 26 04.8
comp=Z,772nm,18.1s
TORD **Torodi Ar. Bea** 155.84 283 PKP PKPdf 14 13 01.6 -1.8
comp=Z,4.0nm,1.2s,baz=223,slow=0.9,SNR=4.2
TORD PKPab PKPab 14 13 29.4 -0.8
comp=Z,2.4nm,0.7s,baz=85,slow=3.6,SNR=4.9
DBIC **Dimbokro** 162.45 265 PKPab PKPab 14 13 58.3 -0.6
comp=Z,11nm,1.0s,baz=165,slow=6.5,SNR=4.0

IDC 02 13:58:58.6±5.1, 888S×15642E, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.8/14, mbtmp4.0/3, Error ellipse: s-maj=93.0km s-min=71.8km az=172.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	24.01	240	P	P	14 04 14.3	-1.0
	3.1nm,0.6s,baz=67,slow=9.5,SNR=4.7						
ASAR	**Alice Springs**	26.08	233	P	P	14 04 34.9	+0.8
	1.2nm,0.8s,baz=63,slow=9.6,SNR=2.5						
STKA	**Stephens Creek**	26.70	209	P	P	14 04 39.8	+0.1
	3.1nm,0.7s,baz=18,slow=14,SNR=3.0						

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*ISCJB **02** 14:00:10.5±1.8, 2170S±008×1769W±02, h243km±19km, mb4.4/14, Error ellipse: s-maj=32.0km s-min=10.0km az=165.7*
*NEIC **02** 14:00:17.5±5.0, 2181S×17709W, h286km±44km, mb4.4/7, Error ellipse: s-maj=31.1km s-min=17.4km az=49.0*
*IDC **02** 14:00:25.1±8.6, 2177S×17740W, h348km±78km, mb4.0/10, mb1 4.1/11, mb1mx3.8/19, mbtmp4.0/11, Error ellipse: s-maj=42.2km s-min=22.6km az=63.0*
ISC 02 14:00:15.6±1.5, 2193S±007×1770W±02, h267km±14km, n53, σ1§14/53, mb4.3/14, 2C, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	15.35	266	P	Pn	14 03 40.7	+1.4
	1.2nm,0.3s,baz=90,slow=16,SNR=10						
PUZ	**Puketiti**	16.59	193	SN	S	14 06 40.2	-11
URZ	**Urewera**	17.04	196	P	P	14 03 56.8	+0.2
	3.4nm,0.3s,baz=350,slow=7.1,SNR=26						
URZ				S	S	14 06 56.1	-4.1
	3.1nm,0.3s,baz=357,slow=20,SNR=10						
URZ	**Urewera**	17.04	196	PN	Pn	14 03 54.8	-4.1
WPHZ	**Waipukurau**	18.91	196	SN	S	14 07 36.9	-0.2
TSZ	**Takapari Road**	19.03	197	PN	P	14 04 16.9	-1.2
BFZ	**Birch Farm**	19.54	195	PN	P	14 04 23.3	-0.1
BFZ				SN	S	14 07 47.3	-2.0
MRZ	**Mangatainoka R**	19.70	197	PN	P	14 04 22.1	-3.0
MRZ				SN	S	14 07 46.2	-6.1
CAW	**Cannon Point**	20.25	198	PN	P	14 04 32.3	+1.3
SNZO	**South Karori**	20.54	198	eP	P	14 04 35.2	+1.1
SNZO				eS	S	14 08 09.3	+2.0
SNZO	**South Karori**	20.54	198	PN	P	14 04 34.7	+0.7
TCW	**Tory Channel**	20.58	199	PN	P	14 04 35.2	+0.8
TCW				SN	S	14 08 09.1	+1.1
QRZ	**Quartz Range**	20.81	203	PN	P	14 04 36.3	-0.5
NNZ	**Nelson**	20.87	201	PN	P	14 04 35.0	-2.4
NNZ				SN	S	14 08 13.6	+0.9
TUWZ	**Tuamarina**	20.88	199	PN	P	14 04 36.6	-1.0
TUWZ				SN	S	14 08 12.1	-0.7
THZ	**Tophouse**	21.52	201	PN	P	14 04 43.9	+0.4
DSZ	**Denniston Nort**	21.88	203	PN	P	14 04 48.3	+1.4
KHZ	**Kahutara**	21.91	199	PN	P	14 04 47.9	+0.8
KHZ				SN	S	14 08 38.4	+9.0
LTZ	**Lake Taylor**	22.64	201	PN	P	14 04 54.1	+0.3
MQZ	**McQueen's Vall**	23.35	199	SN	S	14 09 11.2	+19
WVZ	**Waitaha Valley**	23.43	203	PN	P	14 05 00.7	-0.3
RPZ	**Rata Peaks**	23.87	202	P	P	14 05 08.0	+3.0
	10nm,0.4s,mb4.5,baz=24,slow=5.9,SNR=12						
FOZ	**Fox Glacier**	24.24	204	PN	P	14 05 07.3	-1.0
JCZ	**Jackson Bay**	25.02	205	PN	P	14 05 15.6	+0.2
ARMA	**Armidale**	29.31	247	eP	P	14 05 55.4	+1.7
CNB	**Canberra Magne**	32.22	238	eP	P	14 06 20.2	+1.1
	11nm,0.8s,mb4.5						
CTA	**Charters Tower**	34.29	266	eP	P	14 06 37.4	+0.3
	4.8nm,0.4s,mb4.4						
CTA	**Charters Tower**	34.29	266	P	P	14 06 37.9	+0.8
	8.8nm,0.6s,mb4.4,baz=111,slow=9.0,SNR=7.9						
CTAO	**Charters Tower**	34.29	266	eP	P	14 06 37.3	+0.2

8.1nm,0.6s,mb4.4
STKA Stephens Creek 38.02 246 *e*P **P 14 07 08.6 +0.1**
4.5nm,0.4s,mb4.2
STKA Stephens Creek 38.02 246 P **P 14 07 08.7 +0.3**
6.9nm,0.5s,mb4.3,baz=90,slow=9.7,SNR=23
ASAR Alice Springs 45.10 258 P **P 14 08 05.5 -0.4**
18nm,0.7s,mb4.4,baz=100,slow=7.8,SNR=86
WB2 Warramunga Arr 45.32 263 *e*P **P 14 08 06.4 -1.1**
WRA Warramunga Arr 45.33 263 P **P 14 08 06.6 -1.0**
3.9nm,0.4s,mb4.0,baz=93,slow=8.1,SNR=159
KAKA Kakadu 48.94 272 *e*P **P 14 08 34.5 -0.9**
7.1nm,0.3s,mb4.5
FORT Forrest 49.59 248 *e*P **P 14 08 39.2 -0.9**
39nm,0.6s,mb4.9
FITZ Fitzroy Crossi 53.76 263 *e*P **P 14 09 10.5 -0.5**
12nm,1.2s,mb4.1
FITZ Fitzroy Crossi 53.76 263 *e*P **P 14 09 10.6 -0.5**
FITZ Fitzroy Crossi 53.76 263 P **P 14 09 10.6 -0.4**
3.2nm,0.5s,mb3.9,baz=103,slow=7.6,SNR=16
SBA Scott Base 56.51 184 *e*P **P 14 09 34.5 +4.9**
2.8nm,0.8s,mb3.7
BATI Kupang 57.88 272 P **P 14 09 40.4 +0.2**
14nm,0.6s,mb4.5,baz=137,slow=9.2,SNR=4.7
NWAO Narrogin (SRO) 58.56 244 P **P 14 09 44.2 -0.5**
NWAO Narrogin (SRO) 58.56 244 P **P 14 09 44.2 -0.5**
4.1nm,0.3s,mb4.3,baz=128,slow=7.2,SNR=13
MJAR Matsushiro Arr 71.90 323 P **P 14 11 08.6 -1.2**
1.1nm,0.5s,mb3.7,baz=44,slow=3.1,SNR=5.2
MAW Mawson 80.53 200 P **P 14 12 00.2 +2.4**
2.6nm,0.5s,mb4.2,baz=127,slow=7.8,SNR=6.9
ARCES ARCESS Array B 130.49 350 PKP PKPdf 14 18 53.9 +0.3
0.8nm,0.4s,baz=45,slow=1.4,SNR=10
FINES FINESS Array B 137.40 344 PKP PKPdf 14 19 07.1 +0.3
2.5nm,0.9s,baz=46,slow=4.0,SNR=3.8
AKASG Malin Array Be 144.71 331 PKP PKPdf 14 19 18.2 -2.0
AKASG Malin Array Be 144.71 331 PKP PKPdf 14 19 18.2 -2.0
3.4nm,0.5s,baz=43,slow=4.0,SNR=15
CLL Collm 149.66 348⇑*i*P PKPbc 14 19 33.4 +0.1
CLL Collm 149.66 348⇑*i*PKPbc PKPbc 14 19 33.4 +0.1
comp=Z,7.0nm,0.8s
KHC Kasperske Hory 151.58 345 *e*PKPbc PKPbc 14 19 38.0 +0.1
GERES GERESS Array B 151.82 345 PKPbc PKPbc 14 19 38.5 0.0
comp=Z,0.9nm,0.6s,baz=354,slow=1.3,SNR=6.8

*ISCJB **02** 14:03:20.8±0.9, 3843N±004×3936E±004, h2km±7km, Error ellipse: s-maj=7.5km s-min=5.6km az=177.5*
*CSEM **02** 14:03:20.6±0.2, 3843N×3931E, h5km, MD3.1, Error ellipse: s-maj=4.8km s-min=4.0km az=171.0*
*ISK **02** 14:03:20.6, 3844N×3930E, h5km, MD2.8*
*DDA **02** 14:03:22.4, 3837N×3928E, h2km±2km, Md3.1*
ISC 02 14:03:21.5±0.9, 3844N±005×3935E±005, h8km±7km, n10, σ0§94/17, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ELZG	**Elazig**	**0.29**	**281**	*i* P	**Pg**	**14 03 27.3**	**0.0**
ELZG				*i* S	**Sg**	**14 03 32.3**	**+1.1**
MALT	**Malatya**	**0.74**	**260**	*e*PG	**Pg**	**14 03 34.1**	**-1.6**
MALT				*e*SG	**Sg**	**14 03 44.6**	**-0.7**
DIY	**Diyarbakir**	**0.88**	**128**	*i* PG	**Pg**	**14 03 38.4**	**+0.1**
URFA	**Urfa**	**1.08**	**203**	*e*PG	**Pg**	**14 03 41.9**	**-0.4**
URFA				*e*SG	**Sg**	**14 03 57.4**	**+1.0**
ATAB	**Bozova**	**1.28**	**221**	*i* P	**Pn**	**14 03 44.3**	**-1.4**
ATAB				*i* S	**Sg**	**14 04 03.1**	**+0.4**
EZC	**Erzincan**	**1.35**	**15**	*e*PN	**Pn**	**14 03 46.8**	**+0.2**
BNGL	**BINGOL**	**1.50**	**70**	*i* P	**Pn**	**14 03 50.7**	**+2.1**
BNGL				*i* S	**Sn**	**14 04 13.2**	**+4.9**
MARD	**Mardin**	**1.59**	**135**	*i* P	**Pn**	**14 03 50.1**	**+0.2**
MARD				*i* S	**Sn**	**14 04 10.5**	**-0.2**
BTMT	**Batman**	**1.70**	**98**	*e*PN	**Pn**	**14 03 49.9**	**-1.5**
GZT	**Gaziantep**	**1.78**	**233**	*i* P	**Pn**	**14 03 52.4**	**-0.1**
GZT				*i* S	**Sn**	**14 04 16.2**	**+0.8**

IDC 02 14:05:53.4±5.6, 793S×15669E, h0km, mb3.9/6, mb1 4.0/6, mb1mx3.8/15, mbtmp3.9/6, Error ellipse: s-maj=165.4km s-min=27.5km az=116.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.72**	**239**	P	P	14 11 15.4	-1.2
0.9nm,0.8s,baz=64,slow=9.4,SNR=3.3							
ASAR	**Alice Springs**	**26.87**	**232**	P	P	14 11 36.4	+0.3
0.5nm,0.8s,baz=62,slow=8.7,SNR=2.9							
FITZ	**Fitzroy Crossi**	**31.85**	**248**	P	P	14 12 21.5	+1.1
1.4nm,0.8s,baz=76,slow=12,SNR=2.9							
SONM	**Songino Array**	**71.03**	**327**	P	P	14 17 13.3	+0.2
0.9nm,0.4s,baz=134,slow=6.2,SNR=8.9							
MKAR	**Makanchi Array**	**85.22**	**318**	P	P	14 18 32.1	+0.2
1.7nm,0.7s,baz=104,slow=5.4,SNR=14							
ZALV	**Zalesovo Beam**	**85.89**	**326**	P	P	14 18 35.1	0.0
1.0nm,0.5s,baz=110,slow=7.8,SNR=4.4							

IDC 02 14:10:20.1±3.7, 847S×15696E, h0km, mb3.9/4, mb1 4.0/4, mb1mx3.8/14, mbtmp3.9/4, Error ellipse: s-maj=101.3km s-min=37.4km az=104.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.68**	**240**	P	P	14 15 44.4	+1.5
4.2nm,0.9s,baz=66,slow=9.5,SNR=11							
ASAR	**Alice Springs**	**26.75**	**233**	P	P	14 16 00.6	-1.1
0.6nm,0.9s,baz=64,slow=9.5,SNR=4.9							
STKA	**Stephens Creek**	**27.33**	**209**	P	P	14 16 06.6	-0.2
2.5nm,0.7s,baz=12,slow=15,SNR=4.6							
MKAR	**Makanchi Array**	**85.79**	**318**	P	P	14 23 01.4	-0.1
0.3nm,0.7s,baz=116,slow=4.6,SNR=3.1							

*IDC **02** 14:13:26.3±1.0, 5242N×17037W, h0km, mb3.9/11, mb1 4.0/11, mb1mx3.9/23, mbtmp3.9/11, Error ellipse: s-maj=30.2km s-min=17.9km az=176.0*
*ISCJB **02** 14:13:32.6±1.2, 526N±02×1703W±01, h55km±10km, mb3.9/11, Error ellipse: s-maj=27.4km s-min=8.9km az=161.2*
*NEIC **02** 14:13:33.9±0.8, 5250N×17031W, h55km±6km, mb4.2/2, ML4.0(AEIC), Error ellipse: s-maj=16.7km s-min=6.4km az=163.0*
ISC 02 14:13:33.9±1.2, 526N±02×1703W±01, h51km±10km, n26, σ0§94/27, mb3.9/11, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UNV	**Unalaska Valle**	**2.63**	**59**	P	**Pn**	**14 14 13.7**	**-0.2**
UNV				S	**Sn**	**14 14 43.2**	**-1.4**
AKGG	**Akutan Green G**	**3.07**	**56**	P	**Pn**	**14 14 19.9**	**+0.1**
AKUT	**Akutan**	**3.15**	**58**	P	**Pn**	**14 14 21.8**	**+0.8**
ADK	**Adak**	**3.98**	**263**	*e*P	**Pn**	**14 14 32.5**	**+0.2**
ADK				S	**Sn**	**14 15 24.4**	**+6.8**
SDPT	**Sand Point**	**6.45**	**60**	*e*P	**Pn**	**14 15 06.8**	**+0.7**
26nm,0.5s							
SDPT				*e*S	**Sn**	**14 16 20.1**	**+1.9**
KDAK	**Kodiak Island**	**11.40**	**56**	Pn	**Pn**	**14 16 11.1**	**-2.7**
0.4nm,0.3s,baz=301,slow=14,SNR=7.3							
SVW2	**Sparrevohn**	**11.74**	**37**	*e*P	**Pn**	**14 16 22.7**	**+4.2**
SLKM	**Skilak Lake**	**13.61**	**46**	*e*P	**Pn**	**14 16 43.7**	**-0.2**
EGAK	**Eagle**	**19.26**	**39**	*e*P	**Pn**	**14 17 53.8**	**-1.5**
2.9nm,0.6s							
SKAG	**Skagway**	**20.55**	**57**	*e*P	**P**	**14 18 08.9**	**+1.0**
42nm,0.9s							
DLBC	**Dease Lake**	**23.29**	**59**	P	**P**	**14 18 37.1**	**+0.2**
baz=266,slow=8.4							
INK	**Inuvik**	**23.52**	**34**	*e*P	**P**	**14 18 39.1**	**+0.2**
59nm,0.5s,mb5.3							
INK	**Inuvik**	**23.52**	**34**	P	**P**	**14 18 38.2**	**-0.7**
2.6nm,0.5s,mb3.9,baz=254,slow=7.5,SNR=23							
INK				PcP	PcP	14 22 22.3	-0.4
1.4nm,0.9s,baz=113,slow=3.7,SNR=3.7							
YKA	**Yellowknife Ar**	**30.56**	**49**	P	**P**	**14 19 41.5**	**-0.7**
YKA				PcP	PcP	14 22 39.1	-0.4
YKA	**Yellowknife Ar**	**30.56**	**49**	P	**P**	**14 19 41.5**	**-0.7**
0.5nm,0.4s,mb3.7,baz=272,slow=8.1,SNR=11							
YKA				PcP	PcP	14 22 39.1	-0.4
0.3nm,0.6s,baz=291,slow=2.4,SNR=4.4							
NVAR	**Mina Array Bea**	**38.24**	**90**	P	**P**	**14 20 49.6**	**+0.8**
0.1nm,0.3s,mb3.0,baz=302,slow=5.2,SNR=2.4							
PDAR	**Pinedale Array**	**40.93**	**79**	P	**P**	**14 21 10.6**	**-0.5**
0.6nm,0.5s,mb3.5,baz=295,slow=3.8,SNR=6.9							
SONM	**Songino Array**	**50.72**	**300**	P	**P**	**14 22 28.8**	**+0.7**
0.6nm,0.6s,mb3.7,baz=56,slow=5.7,SNR=4.6							
SONM				PcP	PcP	14 23 44.5	-0.1
0.3nm,0.5s,baz=88,slow=2.5,SNR=4.2							
SCHQ	**Schefferville**	**55.70**	**43**	P	**P**	**14 23 04.5**	**-0.1**
3.3nm,0.8s,mb4.4,baz=308,slow=11,SNR=4.0							
ZALV	**Zalesovo Beam**	**56.91**	**317**	PcP	PcP	14 24 07.7	-0.4
0.7nm,0.4s,baz=45,slow=2.7,SNR=3.7							
MKAR	**Makanchi Array**	**63.27**	**313**	P	**P**	**14 23 56.3**	**-0.5**
0.3nm,0.4s,mb3.6,baz=33,slow=3.9,SNR=3.9							
FINES	**FINESS Array B**	**65.61**	**351**	P	**P**	**14 24 11.6**	**-0.3**
1.1nm,0.6s,mb4.0,baz=29,slow=4.4,SNR=4.1							
NOA	**NORSAR Array B**	**66.76**	**359**	P	**P**	**14 24 20.0**	**+0.7**
0.6nm,0.7s,mb3.7,baz=0.4,slow=6.4,SNR=2.5							
AKTO	**Aktyubinsk**	**69.57**	**329**	P	**P**	**14 24 38.1**	**+1.0**
2.3nm,0.5s,mb4.3,baz=57,slow=9.5,SNR=9.5							
ASAR	**Alice Springs**	**90.07**	**229**	P	**P**	**14 26 26.8**	**-1.2**
1.2nm,0.8s,mb4.3,baz=27,slow=4.7,SNR=13							
MATP	**Matopo**	**144.78**	**328**	PKP	PKPdf	14 33 04.0	-0.9
2.4nm,0.9s,baz=27,slow=11,SNR=5.3							

IDC 02 14:17:33.9±1.5, 850S×15767E, h0km, mb3.6/3, mb1 3.8/4, mb1mx3.6/15, mbtmp3.7/4, ML3.5/1, MS3.5/1, Ms1 3.5/1, ms1mx3.0/30, Error ellipse: s-maj=36.5km s-min=29.5km az=180.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.44**	**113**	Pn	Pn	14 18 14.8	-0.2
12nm,0.3s,baz=275,slow=12,SNR=3.5							
HNR				Sn	Sn	14 18 50.0	+4.5
48nm,0.3s,baz=92,slow=18,SNR=4.0							
HNR				LR	LR	14 18 50.6	
comp=Z,929nm,19.2s,baz=350,slow=31							
WRA	**Warramunga Arr**	**25.27**	**241**	P	P	14 23 02.4	+0.3
2.2nm,0.6s,baz=67,slow=9.4,SNR=18							
ASAR	**Alice Springs**	**27.30**	**234**	P	P	14 23 20.0	-0.4
0.7nm,0.9s,baz=55,slow=8.8,SNR=4.8							
SONM	**Songino Array**	**72.03**	**326**	P	P	14 29 00.1	+0.4
0.1nm,0.4s,baz=116,slow=3.4,SNR=2.5							

*SKO **02** 14:20:37.7, 3822N×1972E, h81km*
*CSEM **02** 14:20:43.6±0.2, 3840N×2038E, h0km±1km, MD3.5, Error ellipse: s-maj=3.6km s-min=1.7km az=81.0*
*ISCJB **02** 14:20:43.9±0.7, 3842N±003×2043E±005, h13km, Error ellipse: s-maj=6.5km s-min=3.2km az=156.3*
*ATH **02** 14:20:43.5, 3837N×2042E, h15km±3km, MD3.5/7*
*NEIC **02** 14:20:43.6, 3840N×2047E, h13km, MD3.5(ATH), ML3.5(THE), After ATH.*
*THE **02** 14:20:44.2, 3841N×2044E, h3km, ML3.5*
ISC 02 14:20:43.8±0.8, 3839N±003×2043E±006, h3km±5km, n22, σ0§96/32, 1C, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.25**	**149**⇑	*i*PB	**Pg**	**14 20 48.9**	**+0.3**
VLS				*e*SB	**Sg**	**14 20 53.2**	**+1.4**
LKD	**Levkas**	**0.36**	**29**	*e*Pg	**Pg**	**14 20 50.3**	**-0.5**
LKD				*e*Sg	**Sg**	**14 20 55.6**	**+0.1**
KFL	**Anninata**	**0.40**	**135**	*e*Pg	**Pg**	**14 20 51.4**	**0.0**
RLS	**Riolos of Patr**	**0.88**	**112**	*e*PN	**Pg**	**14 21 00.2**	**-0.5**
IGT	**Igoumenitsa**	**1.14**	**356**	*e*Pg	**Pg**	**14 21 04.9**	**-0.8**
IGT				*e*Sg	**Sg**	**14 21 21.7**	**+1.2**
SELA	**Sela**	**1.16**	**95**	*e*Pg	**Pg**	**14 21 04.5**	**-1.5**
SELA				*e*Sg	**Sg**	**14 21 22.5**	**+1.5**
EVR	**Evrytania**	**1.20**	**64**	*e*PB	**Pb**	**14 21 05.7**	**-1.5**
JAN	**Janina**	**1.31**	**14**	*e*PN	**Pn**	**14 21 09.5**	**+0.6**
JAN	**Janina**	**1.31**	**14**	*e*Pb	**Pn**	**14 21 06.5**	**-2.4**
KEK	**Kerkira**	**1.41**	**340**	*e*PN	**Pn**	**14 21 10.2**	**-0.1**
KEK				*e*SN	**Sg**	**14 21 30.0**	**+0.9**
MEV	**Metsovon**	**1.53**	**24**	*e*Pg	**Pg**	**14 21 12.5**	**-0.5**
AGG	**Agios Georgios**	**1.62**	**66**	*e*Pg	**Pn**	**14 21 13.1**	**0.0**
AGG				*e*Sg	**Sg**	**14 21 36.0**	**+0.2**
ITM	**Ithomi**	**1.69**	**135**	*e*PN	**Pn**	**14 21 14.5**	**+0.3**
THL	**Klokotos Trika**	**1.70**	**46**	*e*PN	**Pn**	**14 21 15.3**	**+1.0**
PYL	**PYLOS**	**1.82**	**145**	*e*Pb	**Pb**	**14 21 16.2**	**-1.5**
PYL				*e*Sb	**Sb**	**14 21 41.6**	**+0.8**
VLX	**Vlachokerasia**	**1.85**	**123**	*e*Pb	**Pb**	**14 21 16.8**	**-1.4**
VLX				*e*Sb	**Sb**	**14 21 41.0**	**-0.8**
LTK	**Loutraki**	**2.03**	**100**	*e*Pn	**Pn**	**14 21 19.7**	**+0.8**
LTK				*e*Sn	**Sb**	**14 21 46.2**	**-0.8**
DID	**Didima**	**2.39**	**111**	*e*Pn	**Pn**	**14 21 24.4**	**+0.7**
DID				*e*Sn	**Sn**	**14 21 55.0**	**+1.5**
BIA	**Bitola**	**2.71**	**14**	*e*Pn	**Pn**	**14 21 22.6**	**-5.7**
OHR	**Ohrid**	**2.73**	**6**	*e*Pn	**Pn**	**14 21 21.9**	**-6.6**
KRUS	**Krusevo**	**3.04**	**12**	*e*Pn	**Pn**	**14 21 26.2**	**-6.5**
VAY	**Valandovo**	**3.36**	**29**	*e*Pn	**Pn**	**14 21 32.1**	**-5.0**

*BJI **02** 14:20:47.3, 858S×158.14E, h22km, mB5.4, mb5.0, Ms5.1, Msz5.0*
*IDC **02** 14:20:47.1±0.6, 863S×15770E, h0km, mb4.6/15, mb1 4.7/17, mb1mx4.7/18, mbtmp4.6/17, ML4.6/2, Error ellipse: s-maj=21.2km s-min=15.5km az=120.0*
*ISCJB **02** 14:20:48.2±0.3, 859S±005×15762E±006, h14km, mb4.8/43, MS4.8/4, Error ellipse: s-maj=8.5km s-min=7.3km az=33.0*
*NEIC **02** 14:20:49.0±5.3, 858S×15768E, h10km±33km, mb5.0/18, Error ellipse: s-maj=12.3km s-min=7.8km az=159.0*
*MOS **02** 14:20:51.2±0.8, 850S×15759E, h33km, mb5.4/7, Error ellipse: s-maj=17.7km s-min=13.5km az=76.9*
ISC 02 14:20:49.7±0.3, 864S±005×15773E±004, h15km, h15km±1.5km: pP-P, n81, σ1§03/83, mb4.8/43, MS4.9/4, 2C-1D, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.33**	**110**	*e*Pn	**Pn**	**14 21 26.4**	**-1.2**
HNR				*e*Sg	**Sg**	**14 22 03.8**	**-0.9**
HNR	**Honiara**	**2.33**	**110**	Pn	**Pn**	**14 21 26.1**	**-1.5**
113nm,0.3s,baz=264,slow=4.0,SNR=13							
HNR				Sn	**Sn**	**14 22 01.9**	**+5.9**
671nm,0.3s,baz=276,slow=22,SNR=17							
DZM	**Mont Dzumac**	**15.77**	**149**	Pn	**Pn**	**14 24 33.9**	**+2.5**
0.2nm,0.3s,baz=342,slow=12,SNR=3.7							
CTA	**Charters Tower**	**15.89**	**223**	*e*P	**Pn**	**14 24 34.6**	**+1.6**
10nm,0.6s							
CTA	**Charters Tower**	**15.89**	**223**	*e*P	**Pn**	**14 24 34.6**	**+1.6**
CTA				pmax	pmax		
comp=Z,10.0nm,0.6s							
CTA	**Charters Tower**	**15.89**	**223**	Pn	**Pn**	**14 24 33.6**	**+0.6**
comp=Z,2.1nm,0.3s,baz=48,slow=13,SNR=17							
CTAO	**Charters Tower**	**15.89**	**223**	*e*Pn	**Pn**	**14 24 33.0**	**0.0**
comp=Z,25nm,0.8s							
CTAO	**Charters Tower**	**15.89**	**223**	*e*P	**Pn**	**14 24 33.0**	**0.0**
CTAO				pmax	pmax		
comp=Z,25nm,0.8s							
ARMA	**Armidale**	**22.40**	**194**	*e*P	**P**	**14 25 47.9**	**+0.1**
KAKA	**Kakadu**	**25.17**	**259**	*e*P	**P**	**14 26 14.1**	**-0.7**
comp=Z,13nm,0.7s,mb4.6							
WB2	**Warramunga Arr**	**25.24**	**241**	*e*P	**P**	**14 26 14.0**	**-1.4**
WRA	**Warramunga Arr**	**25.25**	**241**	P	**P**	**14 26 14.7**	**-0.8**
comp=Z,22nm,1.0s,mb4.7,baz=68,slow=9.5,SNR=55							
WRA				PcP	PcP	14 29 48.6	-0.3
comp=Z,2.4nm,0.8s,baz=70,slow=2.4,SNR=8.8							
ASAR	**Alice Springs**	**27.26**	**234**	P	**P**	**14 26 32.2**	**-1.4**
ASAR				PcP	PcP	14 29 52.5	-1.0
ASAR	**Alice Springs**	**27.26**	**234**	P	**P**	**14 26 32.2**	**-1.4**
ASAR						14 29 52.5	
ASAR	**Alice Springs**	**27.26**	**234**	P	**P**	**14 26 32.2**	**-1.4**
comp=Z,5.0nm,0.9s,mb4.0,baz=63,slow=8.9,SNR=18							
ASAR				PcP	PcP	14 29 52.5	-1.0
comp=Z,1.6nm,0.8s,baz=45,slow=2.7,SNR=6.1							
STKA	**Stephens Creek**	**27.55**	**211**	*e*P	**P**	**14 26 37.2**	**+1.0**
comp=Z,13nm,0.7s,mb4.7							
STKA	**Stephens Creek**	**27.55**	**211**	P	**P**	**14 26 36.8**	**+0.6**
comp=Z,15nm,0.7s,mb4.7,baz=30,slow=12,SNR=34							
STKA				PcP	PcP	14 29 52.5	-1.6
comp=Z,1.8nm,0.8s,baz=322,slow=5.7,SNR=3.3							
FITZ	**Fitzroy Crossi**	**32.55**	**250**	*e*P	**P**	**14 27 21.2**	**+0.6**
comp=Z,4.7nm,0.6s,mb4.6							
FITZ	**Fitzroy Crossi**	**32.55**	**250**	P	**P**	**14 27 21.0**	**+0.4**
comp=Z,2.4nm,0.6s,mb4.3,baz=60,slow=8.4,SNR=9.3							
FORT	**Forrest**	**35.37**	**227**	*e*P	**P**	**14 27 47.9**	**+3.0**
comp=Z,17nm,0.8s,mb5.0							
MBWA	**Marble Bar**	**38.66**	**247**	*e*P	**P**	**14 28 11.6**	**-1.4**
comp=Z,2.5nm,0.4s,mb4.3							
KSM	**Kuching**	**48.31**	**280**	*e*P	**P**	**14 29 30.2**	**-0.8**
MJAR	**Matsushiro Arr**	**48.54**	**339**	P	**P**	**14 29 30.6**	**-1.8**
comp=Z,2.8nm,0.8s,mb4.3,baz=170,slow=9.2,SNR=6.4							
JNU	**Nakatsue**	**48.76**	**330**	P	**P**	**14 29 33.9**	**-0.3**
comp=Z,26nm,0.9s,mb5.3,baz=38,slow=6.6,SNR=6.9							
KSRS	**Korea Array**	**53.67**	**331**	P	**P**	**14 30 11.1**	**+0.2**
comp=Z,4.4nm,0.8s,mb4.5,baz=150,slow=7.1,SNR=9.9							
NJ2	**Nanjing**	**54.91**	**319**	*e*P	**P**	**14 30 21.1**	**+1.0**
NJ2				AMB	AMB		
comp=Z,30nm,0.6s,mb5.5							
KULM	**Kulim**	**58.57**	**282**	*e*P	**P**	**14 30 44.8**	**-1.6**
MDJ	**Mudanjiang**	**58.78**	**337**	P	**P**	**14 30 47.8**	**+0.5**
MDJ				AMB	AMB		
comp=Z,14nm,1.2s,mb4.9							
MDJ				AMB	AMB		
comp=Z,348nm,16.8s							
MDJ	**Mudanjiang**	**58.78**	**337**	*e*P	**P**	**14 30 47.2**	**-0.1**
comp=Z,7.5nm,0.9s,mb4.7							
CN2	**Changchun**	**59.84**	**333**	*e*P	**P**	**14 30 54.0**	**-0.7**
CN2				*e*XP	sP	14 31 01.0	-0.3
CN2				AMB	AMB		
comp=Z,10.0nm,1.0s,mb4.8							
CN2				AMB	AMB		
comp=Z,200nm,4.0s							
GYA	**Guiyang**	**60.60**	**307**⇑	*i*P	**P**	**14 31 02.0**	**+1.8**
GYA				AP	pP	14 31 06.4	+1.4
GYA				XP	sP	14 31 09.2	+2.4
GYA				PCP	PcP	14 31 46.8	+2.2
GYA				PP	PP	14 33 18.0	+4.0
GYA				SCP	ScP	14 35 46.5	+0.9
GYA				S	**S**	**14 39 17.7**	**+1.6**
GYA				SCS	ScS	14 40 50.2	-0.9
GYA				SS	SS	14 43 17.6	+2.7
GYA				AMB	AMB		
comp=Z,60nm,1.0s,mb5.7							
GYA				AMB	AMB		
comp=Z,860nm,11.8s							
GYA				LR	LR		
comp=N,660nm,20.8s,MS4.9							
GYA				LR	LR		
comp=E,540nm,21.6s,MS4.9							
GYA				LR	LR		
comp=Z,410nm,22.4s,MS4.5							
XAN	**Xi'an**	**62.77**	**315**	P	**P**	**14 31 14.2**	**-0.5**
XAN				AP	pP	14 31 20.0	+0.5
XAN				AMB	AMB		
comp=Z,5.0nm,1.2s,mb4.5							
KMI	**Kunming**	**63.17**	**304**	P	**P**	**14 31 18.9**	**+1.3**
KMI				AP	pP	14 31 22.7	+0.3
KMI				AMB	AMB		
comp=Z,20nm,0.9s,mb5.2							
KMI	**Kunming**	**63.17**	**304**	P	**P**	**14 31 18.9**	**+1.3**
comp=Z,20nm,0.9s,mb5.2							
KMI				pP	pP	14 31 22.7	+0.3
CHTO	**Chiang Mai**	**64.05**	**296**	*e*P	**P**	**14 31 23.3**	**-0.1**
comp=Z,17nm,1.2s,mb5.0							
CHTO	**Chiang Mai**	**64.05**	**296**	*e*P	**P**	**14 31 23.3**	**-0.2**
CHTO				pmax	pmax		
comp=Z,17nm,1.2s,mb5.0							
CD2	**Chengdu**	**64.94**	**310**⇓	*i*P	**P**	**14 31 29.8**	**+0.7**
CD2				AP	pP	14 31 34.4	+0.5
CD2				XP	sP	14 31 36.8	+1.1
CD2				PP	PP	14 33 52.3	+0.2
CD2				PCS		14 36 07.4	
CD2				S	**S**	**14 40 04.0**	**-6.5**
CD2				SCS	ScS	14 41 19.3	-4.5
CD2				AMB	AMB		
comp=Z,60nm,0.7s,mb5.7							
CD2				AMB	AMB		
comp=Z,120nm,5.8s							
CD2				LR	LR		
comp=N,450nm,15.5s,MS4.9							
CD2				LR	LR		
comp=E,556nm,17.8s,MS4.9							
CD2				LR	LR		
comp=Z,420nm,16.8s,MS4.7							
HHC	**Hu-ho-hao-te**	**65.02**	**323**	*e*P	**P**	**14 31 31.7**	**+2.3**
HHC				AP	pP	14 31 36.3	+2.1
HHC				XP	sP	14 31 38.9	+2.9
HHC				PP	PP	14 33 56.6	+3.9
HHC				SCP		14 36 05.4	
HHC				PCS		14 36 07.5	
HHC				S	S	14 40 16.9	+5.8
HHC				XS	sS	14 40 20.4	+1.3
HHC				SCS	ScS	14 41 23.4	-0.6
HHC				SS	SS	14 44 26.4	+2.9
HHC				AMB	AMB		
comp=Z,19nm,0.3s,mb5.6							
HHC				AMB	AMB		
comp=Z,704nm,14.5s							
HHC				LR	LR		
comp=N,534nm,13.3s,MS4.9							
HHC				LR	LR		
comp=E,309nm,15.9s,MS4.9							
HHC				LR	LR		
comp=Z,439nm,15.2s,MS4.8							
LZH	**Lanzhou**	**67.38**	**315**	*e*P	**P**	**14 31 46.0**	**+1.3**
LZH				AP	pP	14 31 49.1	-0.4
LZH				PP	PP	14 34 16.5	+3.1
LZH				*e*S	S	14 40 40.5	+0.5
LZH				SS	SS	14 45 01.0	+0.6
LZH				AMB	AMB		
comp=Z,52nm,1.2s,mb5.4							
LZH				AMB	AMB		
comp=Z,220nm,4.5s							
LZH				LR	LR		
comp=E,556nm,15.5s							
LZH				LR	LR		
comp=Z,859nm,16.4s,MS5.0							
LZH	**Lanzhou**	**67.38**	**315**	*e*P	**P**	**14 31 46.0**	**+1.3**
comp=Z,52nm,1.2s,mb5.4							
LZH				pP	pP	14 31 49.1	-0.4
LZH				sP	sP	14 31 50.8	-0.5
LZH				PP	PP	14 34 16.5	+3.1
LZH				*e*S	S	14 40 40.5	+0.5
LZH				sS	sS	14 40 46.5	-1.5
LZH				SS	SS	14 45 01.0	+0.6
LZH	**Lanzhou**	**67.38**	**315**

COLA pmax pmax
comp=Z,37nm,0.8s,mb5.6
MAW Mawson 83.93 203 P **P 14 33 19.0 +0.2**
comp=Z,3.2nm,0.8s,mb4.5,baz=90,slow=2.6,SNR=6.2
EGAK Eagle 86.00 22 *eP* **P 14 33 30.1 +0.9**
comp=Z,31nm,1.3s,mb5.4
DAWY Dawson 86.32 23 *eP* **P 14 33 32.0 +1.2**
MKAR Makanchi Array 86.42 318 P **P 14 33 30.9 -0.8**
MKAR Makanchi Array 86.42 318 P **P 14 33 30.9 -0.8**
comp=Z,2.0nm,0.6s,mb4.5,baz=101,slow=5.8,SNR=17
ZALV Zalesovo Beam 87.05 326 P **P 14 33 33.6 -1.0**
comp=Z,0.5nm,0.4s,mb4.1,baz=110,slow=6.3,SNR=2.0
ZAL Zalesovo 87.06 326 P **P 14 33 33.6 -1.1**
INK Inuvik 90.31 20 P **P 14 33 49.6 -0.1**
comp=Z,4.7nm,1.1s,mb4.7,baz=240,slow=6.2,SNR=8.1
NVAR Mina Array Bea 90.62 51 P **P 14 33 53.4 +1.5**
comp=Z,5.1nm,0.9s,mb4.8,baz=236,slow=4.7,SNR=27
WVOR Wild Horse Val 91.10 47 P **P 14 33 54.6 +0.6**
comp=Z,6.0nm,1.1s,mb4.8
WVOR Wild Horse Val 91.10 47 P **P 14 33 54.6 +0.6**
WVOR pmax pmax
comp=Z,6.0nm,1.1s,mb4.8
YKA Yellowknife Ar 96.52 28 P **P 14 34 18.2 -0.2**
YKA Yellowknife Ar 96.52 28 P **P 14 34 18.2 -0.2**
comp=Z,1.3nm,0.7s,mb4.5,baz=264,slow=4.7,SNR=18
PDAR Pinedale Array 97.79 48 P **P 14 34 24.8 +0.1**
comp=Z,1.2nm,0.9s,mb4.4,baz=239,slow=3.0,SNR=8.9
ESDC Sonseca Array 145.03 335 PKPbc PKPbc 14 40 26.4 +0.1
comp=Z,0.5nm,0.4s,baz=20,slow=4.1,SNR=6.0
TORD Torodi Ar. Bea 156.05 283 PKP PKPdf 14 40 42.6 -2.0
comp=Z,0.7nm,0.8s,baz=45,slow=6.5,SNR=3.5

IDC 02 14:21:51.1±10.0, 985S×15906E, h0km, mb4.3/4, mb1 4.4/4, mb1mx4.1/13, mbtmp4.3/4, Error ellipse: s-maj=486.1km s-min=112.1km az=87.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MJAR	**Matsushiro Arr**	**50.14**	**338**	P	P	14 30 48.1	-0.2
	4.9nm,0.7s,baz=164,slow=7.7,SNR=9.6						
KSRS	**Korea Array**	**55.37**	**330**	P	P	14 31 26.9	-0.1
	1.9nm,0.7s,baz=139,slow=6.6,SNR=4.3						
MKAR	**Makanchi Array**	**88.20**	**318**	P	P	14 34 44.4	+0.3
	1.1nm,0.6s,baz=99,slow=6.3,SNR=4.9						
ZALV	**Zalesovo Beam**	**88.79**	**325**	P	P	14 34 46.5	-0.2
	0.5nm,0.3s,baz=111,slow=7.9,SNR=2.5						

IDC 02 14:28:42.2±5.3, 478S×15809E, h0km, mb3.8/4, mb1 3.9/4, mb1mx3.7/13, mbtmp3.8/4, Error ellipse: s-maj=168.9km s-min=33.0km az=111.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**27.60**	**235**	P	P	14 34 32.0	+0.5
	1.0nm,0.7s,baz=61,slow=9.6,SNR=7.2						
ASAR	**Alice Springs**	**29.93**	**229**	P	P	14 34 52.0	-0.3
	0.4nm,0.8s,baz=59,slow=10,SNR=3.8						
MKAR	**Makanchi Array**	**83.81**	**318**	P	P	14 41 13.6	0.0
	1.1nm,0.7s,baz=98,slow=5.8,SNR=7.5						
ZALV	**Zalesovo Beam**	**84.10**	**325**	P	P	14 41 15.1	+0.1
	0.5nm,0.3s,baz=106,slow=4.7,SNR=2.7						

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*IDC **02** 14:31:01.1±16.0, 1951S×17732W, h489km±175km, mb3.5/5, mb1 3.6/6, mb1mx3.3/16, mbtmp3.5/6, Error ellipse: s-maj=107.2km s-min=28.7km az=33.0*
NEIC 02 14:30:52.8±1.4, 1909S×17720W, h400km, mb4.0/2, Error ellipse: s-maj=33.1km s-min=23.6km az=47.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**19.73**	**193**	P	P	14 34 53.7	-1.0
	1.8nm,0.3s,baz=291,slow=1.8,SNR=13						
CTA	**Charters Tower**	**34.40**	**262**	*eP*	P	14 37 06.2	+1.6
	3.3nm,0.3s						
CTA	**Charters Tower**	**34.40**	**262**	P	P	14 37 05.8	+1.3
	4.9nm,0.3s,baz=85,slow=10,SNR=9.4						
STKA	**Stephens Creek**	**39.09**	**243**	P	P	14 37 43.5	+0.1
	1.1nm,0.6s,baz=69,slow=14,SNR=3.7						
WB2	**Warramunga Arr**	**45.55**	**261**	*eP*	P	14 38 34.6	-0.3
WRA	**Warramunga Arr**	**45.56**	**260**	P	P	14 38 34.7	-0.3
	2.2nm,0.3s,baz=98,slow=7.5,SNR=151						
ASAR	**Alice Springs**	**45.59**	**255**	P	P	14 38 35.0	-0.2
	2.7nm,0.6s,baz=84,slow=8.5,SNR=88						
FITZ	**Fitzroy Crossi**	**53.98**	**261**	*eP*	P	14 39 37.1	-0.5
	2.8nm,0.4s						
FITZ	**Fitzroy Crossi**	**53.98**	**261**	P	P	14 39 37.3	-0.3
	1.6nm,0.4s,baz=125,slow=4.8,SNR=12						
SBA	**Scott Base**	**59.32**	**184**	*eP*	P	14 40 15.0	+1.2
GERES	**GERESS Array B**	**149.04**	**346**	PKPbc	PKPbc	14 49 54.2	-0.1
	0.3nm,0.5s,baz=72,slow=3.2,SNR=4.4						

IDC 02 14:34:00.4±3.7, 722S×15536E, h0km, mb4.0/4, mb1 4.1/4, mb1mx3.8/13, mbtmp4.0/4, Error ellipse: s-maj=113.5km s-min=32.4km az=117.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.98**	**236**	P	P	14 39 17.7	+0.8
	1.8nm,0.5s,baz=60,slow=9.3,SNR=13						
ASAR	**Alice Springs**	**26.29**	**229**	P	P	14 39 36.5	-1.4
	0.6nm,0.7s,baz=63,slow=8.3,SNR=4.3						
MKAR	**Makanchi Array**	**83.81**	**319**	P	P	14 46 31.1	-0.6
	1.7nm,0.7s,baz=116,slow=5.5,SNR=6.6						
ZALV	**Zalesovo Beam**	**84.57**	**326**	P	P	14 46 37.0	+1.5
	0.7nm,0.5s,baz=103,slow=4.7,SNR=3.6						

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*IDC **02** 14:34:30.6±1.4, 777S×15589E, h0km, mb4.4/12, mb1 4.4/13, mb1mx4.4/17, mbtmp4.4/13, ML4.0/1, MS4.3/4, Ms1 4.3/4, ms1mx3.8/31, Error ellipse: s-maj=46.7km s-min=16.9km az=109.0*
*ISCJB **02** 14:34:31.9±0.5, 759S±007×15560E±009, h10km, mb4.3/14, MS4.2/3, Error ellipse: s-maj=12.5km s-min=10.0km az=19.5*
*NEIC **02** 14:34:36.0±0.6, 745S×155.11E, h10km, mb4.6/6, Error ellipse: s-maj=14.8km s-min=10.2km az=109.0*
ISC 02 14:34:33.3±0.5, 765S±007×15567E±009, h10km, n28, σ0°82/24, mb4.3/14, MS4.2/3, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**4.59**	**113**	*eP*	**Pb**	**14 35 54.6**	**+0.7**
HNR	**Honiara**	**4.59**	**113**	LR	LR	14 37 14.1	
	comp=Z,3μm,18.7s,baz=344,slow=38						
CTA	**Charters Tower**	**15.37**	**215**	*eP*	**Pn**	**14 38 11.5**	**+1.1**
	14nm,0.9s						
CTA	**Charters Tower**	**15.37**	**215**	Pn	**Pn**	**14 38 10.4**	**0.0**
	0.4nm,0.3s,baz=5.1,slow=5.8,SNR=4.1						
CTAO	**Charters Tower**	**15.37**	**215**	*eP*	**Pn**	**14 38 11.3**	**+0.9**
	99nm,1.9s						
WB2	**Warramunga Arr**	**24.01**	**237**	*eP*	**P**	**14 39 48.0**	**-0.4**
WRA	**Warramunga Arr**	**24.02**	**237**	P	**P**	**14 39 47.8**	**-0.7**
	15nm,1.1s,mb4.3,baz=64,slow=10.0,SNR=20						
WRA				PcP	PcP	14 43 30.0	-0.5
	0.9nm,0.9s,baz=60,slow=1.9,SNR=3.7						
ASAR	**Alice Springs**	**26.26**	**230**	P	**P**	**14 40 08.7**	**-0.2**
	2.6nm,1.0s,mb3.7,baz=61,slow=8.4,SNR=9.3						
STKA	**Stephens Creek**	**27.45**	**207**	*eP*	**P**	**14 40 20.1**	**+0.6**
	3.9nm,0.7s,mb4.0						
STKA	**Stephens Creek**	**27.45**	**207**	P	**P**	**14 40 18.6**	**-0.9**
	2.3nm,0.6s,mb3.9,baz=354,slow=12,SNR=5.3						
FITZ	**Fitzroy Crossi**	**31.02**	**247**	*eP*	**P**	**14 40 51.5**	**+0.1**
	4.3nm,0.6s,mb4.5						
FITZ	**Fitzroy Crossi**	**31.02**	**247**	P	**P**	**14 40 51.3**	**-0.1**
	2.3nm,0.5s,mb4.3,baz=78,slow=8.4,SNR=11						
RAO	**Raoul Island**	**32.85**	**134**	LR	LR	14 50 50.6	
	comp=Z,310nm,19.0s,MS4.0,baz=176,slow=30						
CBIJ	**Chichi jima**	**36.92**	**340**	LR	LR	14 53 00.3	
	comp=Z,402nm,20.9s,MS4.2,baz=124,slow=30						
JNU	**Nakatsue**	**46.90**	**331**	P	**P**	**14 43 04.3**	**+0.4**
	11nm,1.0s,mb4.8,baz=22,slow=8.8,SNR=4.6						
MJAR	**Matsushiro Arr**	**46.91**	**341**	P	**P**	**14 43 03.8**	**-0.2**
	3.8nm,0.7s,mb4.4,baz=117,slow=0.9,SNR=11						
MAJO	**Matsushiro**	**46.91**	**341**	*eP*	**P**	**14 43 04.2**	**+0.2**
MAT	**Matsushiro**	**46.91**	**341**	P	**P**	**14 43 04.3**	**+0.3**
KSRS	**Korea Array**	**51.82**	**332**	P	**P**	**14 43 41.5**	**-0.1**
	3.9nm,0.9s,mb4.3,baz=157,slow=8.2,SNR=6.1						
KSRS				LR	LR	15 04 20.2	
	comp=Z,419nm,18.4s,MS4.5,baz=64,slow=34						
ASAJ	**Asahikawa**	**52.86**	**348**	P	**P**	**14 43 50.1**	**+1.0**
	4.1nm,0.9s,mb4.4,baz=234,slow=12,SNR=6.7						
SONM	**Songino Array**	**70.24**	**327**	P	**P**	**14 45 47.9**	**+1.3**
	2.6nm,0.8s,mb4.2,baz=145,slow=6.2,SNR=12						
BILL	**Bilibino**	**75.88**	**4**	*eP*	**P**	**14 46 19.4**	**-0.1**
	9.9nm,1.1s,mb4.7						
MCK	**McKinley**	**82.41**	**22**	*eP*	**P**	**14 46 53.7**	**-1.6**
	5.1nm,0.9s,mb4.5						
MKAR	**Makanchi Array**	**84.33**	**319**	P	**P**	**14 47 06.4**	**+0.8**
	2.6nm,0.7s,mb4.5,baz=98,slow=6.2,SNR=11						
ZALV	**Zalesovo Beam**	**85.09**	**326**	P	**P**	**14 47 09.1**	**-0.2**
	1.0nm,0.5s,mb4.2,baz=119,slow=4.1,SNR=5.6						
YKA	**Yellowknife Ar**	**96.59**	**28**	P	**P**	**14 48 00.9**	**-2.2**
YKA	**Yellowknife Ar**	**96.59**	**28**	P	**P**	**14 48 00.9**	**-2.2**
	0.4nm,0.6s,mb4.0,baz=267,slow=4.6,SNR=9.1						
TORD	**Torodi Ar. Bea**	**153.84**	**284**	PKPbc	PKPbc	14 54 33.7	-0.2
	0.8nm,1.1s,baz=62,slow=2.4,SNR=2.3						

KRSC 02 14:35:13.3±1.1, 5132N×15936E, h10km±10km, ML3.6, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RUS	**Russkaya**	**1.23**	**335**	*eP*	Pn	14 35 36.8	+0.3
RUS				*i* S	Sb	14 35 54.0	+1.4
GRL	**Gorelyy**	**1.47**	**328**	P	Pn	14 35 41.3	+1.5
PET	**Petropavlovsk**	**1.76**	**346**	P	Pn	14 35 44.4	+0.6
PET				*i* S	Sn	14 36 07.0	+0.7
SPN	**Mys Shipunski**	**1.83**	**13**	P	Pn	14 35 45.7	+1.0
SPN				*i* S	Sn	14 36 09.2	+1.3
MIPR	**Malaya Ipel'ka**	**1.88**	**302**	P	Pn	14 35 46.6	+1.2
AVH	**Avacha**	**1.98**	**349**	*eP*	Pn	14 35 48.2	+1.3
AVH				*e*S	Sn	14 36 13.6	+1.8
ALID	**Alaid**	**2.44**	**261**	P	Pn	14 35 53.1	-0.1
GNL	**Ganaly**	**2.53**	**341**	*eP*	Pn	14 35 56.2	+1.8
GNL				*e*S	Sn	14 36 27.9	+2.6
KBTR	**Krutoberegovo**	**5.31**	**21**	P	Pn	14 36 34.1	+1.6

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*NEIC **02** 14:38:30.2±0.6, 761S×15631E, h10km, mb4.7/4, Error ellipse: s-maj=18.8km s-min=15.8km az=157.0*
*IDC **02** 14:38:30.8±1.6, 731S×15585E, h0km, mb4.3/10, mb1 4.4/10, mb1mx4.2/16, mbtmp4.3/10, Error ellipse: s-maj=53.3km s-min=20.5km az=118.0*
*ISCJB **02** 14:38:32.2±0.8, 76S±01×1562E±01, h33km, mb4.3/13, Error ellipse: s-maj=23.7km s-min=13.5km az=35.2*
ISC 02 14:38:33.5±0.6, 76S±01×1564E±01, h35km, n23, σ1°26/20, mb4.3/13, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**3.97**	**117**	*e*Pn	**Pn**	**14 39 30.1**	**-1.8**
KAKA	**Kakadu**	**24.07**	**256**	*eP*	**P**	**14 43 41.1**	**-4.7**
	8.2nm,0.6s,mb4.3						
KAKA	**Kakadu**	**24.07**	**256**	*eP*	**P**	**14 43 41.2**	**-4.6**
	91nm,0.6s,mb5.4						
WB2	**Warramunga Arr**	**24.58**	**238**	*eP*	**P**	**14 43 51.4**	**+0.9**
WRA	**Warramunga Arr**	**24.59**	**238**	P	**P**	**14 43 50.6**	**0.0**
	7.8nm,1.0s,mb4.2,baz=62,slow=9.5,SNR=13						
ASAR	**Alice Springs**	**26.79**	**231**	P	**P**	**14 44 11.7**	**+1.3**
	2.5nm,1.1s,mb3.6,baz=49,slow=8.4,SNR=6.6						
FITZ	**Fitzroy Crossi**	**31.65**	**248**	*eP*	**P**	**14 44 53.0**	**-0.7**
	10.0nm,0.8s,mb4.7						
FITZ	**Fitzroy Crossi**	**31.65**	**248**	P	**P**	**14 44 52.8**	**-0.9**
	6.0nm,0.8s,mb4.5,baz=88,slow=6.6,SNR=11						
MJAR	**Matsushiro Arr**	**47.14**	**340**	P	**P**	**14 47 01.3**	**-1.1**
	0.9nm,0.5s,mb3.9,baz=149,slow=5.8,SNR=4.2						
KSRS	**Korea Array**	**52.15**	**331**	P	**P**	**14 47 38.8**	**-1.8**
	2.1nm,0.9s,mb4.1,baz=156,slow=9.0,SNR=4.2						
ASAJ	**Asahikawa**	**53.00**	**348**	P	**P**	**14 47 47.4**	**+0.6**
	5.0nm,0.7s,mb4.6,baz=200,slow=20,SNR=8.7						
KULM	**Kulim**	**57.05**	**281**	*eP*	**P**	**14 48 14.0**	**-2.6**
SONM	**Songino Array**	**70.61**	**327**	P	**P**	**14 49 44.5**	**-0.8**
	3.2nm,0.8s,mb4.3,baz=136,slow=6.2,SNR=7.5						
BILL	**Bilibino**	**75.83**	**4**	*eP*	**P**	**14 50 17.0**	**+1.4**
	8.9nm,1.2s,mb4.6						
HYB	**Hyderabad**	**80.76**	**289**	*i* P	**P**	**14 50 45.0**	**+1.0**
MCK	**McKinley**	**82.15**	**22**	*eP*	**P**	**14 50 52.4**	**+2.0**
	5.9nm,1.0s,mb4.5						
MKAR	**Makanchi Array**	**84.78**	**318**	P	**P**	**14 51 04.2**	**0.0**
	4.6nm,0.7s,mb4.7,baz=102,slow=5.4,SNR=26						
ZAA0	**Zalesovo Array**	**85.47**	**326**	*eP*	**P**	**14 51 07.6**	**0.0**
ZALV	**Zalesovo Beam**	**85.47**	**326**	P	**P**	**14 51 06.6**	**-0.9**
	3.1nm,0.6s,mb4.6,baz=104,slow=6.0,SNR=12						
YKA	**Yellowknife Ar**	**96.27**	**28**	P	**P**	**14 51 59.8**	**+1.8**
	0.2nm,0.4s,mb3.9,baz=262,slow=4.5,SNR=5.0						
FINES	**FINESS Array B**	**115.08**	**336**	PKP	PKiKP	14 57 12.5	+1.8
	1.5nm,0.8s,baz=316,slow=5.3,SNR=3.9						
GERES	**GERESS Array B**	**128.30**	**329**	PKP	PKPdf	14 57 38.4	+2.0
	0.2nm,0.3s,baz=0.0,slow=0.0,SNR=5.2						
TORD	**Torodi Ar. Bea**	**154.50**	**284**	PKPbc	PKPbc	14 58 34.3	+2.8
	0.3nm,0.3s,baz=93,slow=2.7,SNR=5.9						
TORD				PKPab	PKPab	14 58 45.1	-0.9
	0.7nm,0.5s,baz=114,slow=1.9,SNR=3.8						

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*IDC **02** 14:41:07.1±1.8, 772S×15572E, h0km, mb4.2/11, mb1 4.3/11, mb1mx4.2/15, mbtmp4.2/11, Error ellipse: s-maj=55.2km s-min=18.4km az=110.0*
*NEIC **02** 14:41:08.5±1.1, 767S×15570E, h10km, mb4.7/1, Error ellipse: s-maj=38.4km s-min=13.3km az=114.0*
*ISCJB **02** 14:41:10.5±1.3, 77S±01×1556E±03, h33km, mb4.1/12, Error ellipse: s-maj=40.2km s-min=13.5km az=22.8*
ISC 02 14:41:12.3±1.3, 77S±01×1557E±03, h35km, n14, σ0°89/14, mb4.1/12, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.99**	**237**	P	**P**	**14 46 23.5**	**-0.3**
	5.4nm,0.8s,mb4.0,baz=64,slow=9.7,SNR=8.2						
ASAR	**Alice Springs**	**26.23**	**230**	P	**P**	**14 46 43.9**	**-0.3**
	1.2nm,0.8s,mb3.5,baz=58,slow=8.0,SNR=4.3						
STKA	**Stephens Creek**	**27.39**	**207**	P	**P**	**14 46 55.4**	**+0.8**
	2.9nm,1.0s,mb3.8,baz=34,slow=12,SNR=2.9						
FITZ	**Fitzroy Crossi**	**31.00**	**248**	P	**P**	**14 47 25.9**	**-0.8**
	2.1nm,0.7s,mb4.1,baz=108,slow=10,SNR=4.9						
MJAR	**Matsushiro Arr**	**46.97**	**341**	P	**P**	**14 49 38.7**	**-1.2**
	4.5nm,0.7s,mb4.5,baz=163,slow=7.8,SNR=11						
MAJO	**Matsushiro**	**46.97**	**341**	*eP*	**P**	**14 49 38.9**	**-1.0**
KSRS	**Korea Array**	**51.88**	**332**	P	**P**	**14 50 17.7**	**+0.3**
	1.9nm,0.8s,mb4.1,baz=162,slow=8.2,SNR=4.1						
ASAJ	**Asahikawa**	**52.92**	**348**	P	**P**	**14 50 25.9**	**+0.9**
	2.4nm,0.7s,mb4.3,baz=221,slow=15,SNR=4.1						
SONM	**Songino Array**	**70.29**	**327**	P	**P**	**14 52 24.4**	**+2.2**
	1.9nm,0.6s,mb4.2,baz=145,slow=7.1,SNR=10						
BILL	**Bilibino**	**75.94**	**4**	*eP*	**P**	**14 52 55.0**	**-0.1**
	7.0nm,1.1s,mb4.5						
MKAR	**Makanchi Array**	**84.38**	**319**	P	**P**	**14 53 41.6**	**+0.5**
	2.1nm,0.7s,mb4.4,baz=99,slow=6.3,SNR=7.8						
ZALV	**Zalesovo Beam**	**85.14**	**326**	P	**P**	**14 53 45.2**	**+0.5**
	0.9nm,0.4s,mb4.2,baz=87,slow=4.5,SNR=4.8						
YKA	**Yellowknife Ar**	**96.64**	**28**	P	**P**	**14 54 37.5**	**-1.0**
YKA	**Yellowknife Ar**	**96.64**	**28**	P	**P**	**14 54 37.5**	**-1.0**
	0.3nm,0.5s,mb3.9,baz=266,slow=4.8,SNR=5.6						

IDC 02 14:43:29.9±8.1, 766S×15821E, h0km, mb4.2/3, mb1 4.3/4, mb1mx3.9/14, mbtmp4.2/4, ML4.6/1, Error ellipse: s-maj=155.8km s-min=34.0km az=18.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**2.46**	**136**	Pn	Pn	14 44 11.2	-0.1
	134nm,0.3s,baz=268,slow=23,SNR=5.6						
HNR				Sn	Sn	14 44 51.3	+9.2
	316nm,0.3s,baz=269,slow=20,SNR=7.7						
WRA	**Warramunga Arr**	**26.15**	**240**	P	P	14 49 06.3	+0.2
	4.0nm,0.6s,baz=66,slow=9.3,SNR=8.8						
ASAR	**Alice Springs**	**28.22**	**233**	P	P	14 49 24.4	-0.3
	0.8nm,0.9s,baz=66,slow=8.7,SNR=3.4						
STKA	**Stephens Creek**	**28.64**	**211**	P	P	14 49 28.6	+0.4
	3.3nm,0.7s,baz=30,slow=12,SNR=7.1						

IDC 02 14:45:21.2±3.9, 703S×15549E, h0km, mb3.9/5, mb1 4.0/5, mb1mx3.8/13, mbtmp3.9/5, Error ellipse: s-maj=116.5km s-min=28.6km az=113.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.20**	**236**	P	P	14 50 39.4	-0.2
	1.1nm,0.6s,baz=61,slow=9.4,SNR=5.1						
ASAR	**Alice Springs**	**26.52**	**229**	P	P	14 51 01.1	+0.5
	0.5nm,0.7s,baz=57,slow=10,SNR=3.2						
SONM	**Songino Array**	**69.64**	**327**	P	P	14 56 33.8	+1.5
	0.5nm,0.8s,baz=113,slow=3.7,SNR=3.5						
MKAR	**Makanchi Array**	**83.76**	**319**	P	P	14 57 52.3	0.0
	2.8nm,0.7s,baz=101,slow=5.9,SNR=16						
ZALV	**Zalesovo Beam**	**84.49**	**326**	P	P	14 57 54.4	-1.4
	1.1nm,0.5s,baz=117,slow=8.5,SNR=6.4						

IDC 02 14:48:53.5±2.7, 743S×15553E, h0km, mb3.6/6, mb1 3.7/6, mb1mx3.6/14, mbtmp3.6/6, Error ellipse: s-maj=75.7km s-min=25.2km az=107.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.02**	**237**	P	P	14 54 10.3	0.0
	0.6nm,0.7s,baz=62,slow=9.8,SNR=4.6						
ASAR	**Alice Springs**	**26.29**	**230**	P	P	14 54 30.4	-0.5
	0.2nm,0.9s,baz=58,slow=9.9,SNR=2.9						
STKA	**Stephens Creek**	**27.58**	**206**	P	P	14 54 42.0	-0.4
	1.1nm,0.7s,baz=59,slow=12,SNR=2.1						
FITZ	**Fitzroy Crossi**	**30.97**	**247**	P	P	14 55 14.2	+1.4
	0.8nm,0.8s,baz=80,slow=17,SNR=2.3						
SONM	**Songino Array**	**69.98**	**327**	P	P	15 00 06.8	0.0
	1.0nm,0.7s,baz=140,slow=6.7,SNR=9.0						
MKAR	**Makanchi Array**	**84.08**	**319**	P	P	15 01 26.4	+0.2
	0.3nm,0.5s,baz=106,slow=6.3,SNR=2.8						

IDC 02 14:52:39.7±3.5, 696S×15497E, h0km, mb3.8/5, mb1 3.9/5, mb1mx3.7/13, mbtmp3.8/5, Error ellipse: s-maj=105.2km s-min=28.1km az=114.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.82**	**235**	P	P	14 57 55.8	+1.1
	1.0nm,0.7s,baz=61,slow=9.7,SNR=6.6						
ASAR	**Alice Springs**	**26.18**	**228**	P	P	14 58 15.2	-0.9
	0.3nm,0.5s,baz=56,slow=9.9,SNR=5.5						
SONM	**Songino Array**	**69.29**	**327**	P	P	15 03 50.4	+1.6
	0.4nm,0.5s,baz=127,slow=9.3,SNR=3.6						
MKAR	**Makanchi Array**	**83.36**	**319**	P	P	15 05 08.9	+0.1
	1.7nm,0.6s,baz=102,slow=6.2,SNR=24						
ZALV	**Zalesovo Beam**	**84.14**	**326**	P	P	15 05 10.7	-1.9
	0.6nm,0.3s,baz=97,slow=7.6,SNR=4.6						

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*IDC **02** 14:56:05.7±1.4, 694S×15486E, h0km, mb4.0/8, mb1 4.2/8, mb1mx4.0/16, mbtmp4.0/8, MS3.5/1, Ms1 3.5/1, ms1mx3.0/29, Error ellipse: s-maj=52.9km s-min=21.0km az=121.0*
*NEIC **02** 14:56:07.4±0.8, 693S×15485E, h10km, mb4.6/2, Error ellipse: s-maj=38.4km s-min=12.2km az=125.0*
*ISCJB **02** 14:56:09.5±0.9, 70S±02×1549E±02, h33km, mb4.0/10, Error ellipse: s-maj=41.3km s-min=12.9km az=35.9*
ISC 02 14:56:11.2±0.9, 70S±02×1549E±02, h35km, n16, σ0°77/14, mb4.0/10, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**5.57**	**116**	LR	LR	14 59 00.8	
	comp=Z,465nm,21.4s,baz=349,slow=31						
WB2	**Warramunga Arr**	**23.70**	**235**	*eP*	**P**	**15 01 20.2**	**0.0**
WRA	**Warramunga Arr**	**23.71**	**235**	P	**P**	**15 01 19.5**	**-0.7**
	4.0nm,0.9s,mb3.8,baz=61,slow=9.6,SNR=10						
ASAR	**Alice Springs**	**26.08**	**228**	P	**P**	**15 01 40.7**	**-1.0**
	1.1nm,0.8s,mb3.5,baz=59,slow=9.1,SNR=8.5						
STKA	**Stephens Creek**	**27.68**	**205**	*eP*	**P**	**15 01 58.1**	**+2.1**
STKA	**Stephens Creek**	**27.68**	**205**	P	**P**	**15 01 57.4**	**+1.4**
	4.8nm,1.0s,mb4.1,baz=0.5,slow=11,SNR=6.4						
FITZ	**Fitzroy Crossi**	**30.54**	**246**	P	**P**	**15 02 21.6**	**0.0**
	0.8nm,0.6s,mb3.8,baz=112,slow=14,SNR=5.0						
SONM	**Songino Array**	**69.28**	**327**	P	**P**	**15 07 15.5**	**+0.8**
	0.8nm,0.8s,mb3.7,baz=138,slow=7.4,SNR=4.6						
BILL	**Bilibino**	**75.30**	**4**	*eP*	**P**	**15 07 50.6**	**+0.3**
	4.1nm,1.1s,mb4.3						
IMA2	**Indian Mountai**	**81.84**	**19**	*eP*	**P**	**15 08 27.0**	**+0.6**
MCK	**McKinley**	**82.11**	**22**	*eP*	**P**	**15 08 26.8**	**-1.0**
	8.9nm,0.8s,mb4.8						
MKAR	**Makanchi Array**	**83.33**	**319**	P	**P**	**15 08 35.1**	**+0.5**
	0.2nm,0.3s,mb3.6,baz=96,slow=6.2,SNR=4.8						
INK	**Inuvik**	**89.77**	**21**	P	**P**	**15 09 05.2**	**-0.4**
INK	**Inuvik**	**89.77**	**21**	P	**P**	**15 09 05.2**	**-0.4**
	1.0nm,0.5s,mb4.4,baz=242,slow=3.4,SNR=6.8						
YKA	**Yellowknife Ar**	**96.40**	**28**	P	**P**

STKA Stephens Creek 27.75 206 P **P 15 07 26.4 +1.3**
1.1nm,0.9s,mb3.4
STKA Stephens Creek 27.75 206 P **P 15 07 25.1 0.0**
1.9nm,0.7s,mb3.7,baz=6.8,slow=12,SNR=4.2
FITZ Fitzroy Crossi 31.00 247 *eP* **P 15 07 54.5 +0.3**
7.5nm,0.9s,mb4.4
FITZ Fitzroy Crossi 31.00 247 P **P 15 07 54.0 -0.2**
4.6nm,0.9s,mb4.2,baz=93,slow=6.9,SNR=8.9
KLBR Kellerberrin 42.71 230 *eP* **P 15 09 32.6 -0.8**
15nm,1.0s,mb4.7
MJAR Matsushiro Arr 46.44 341 P **P 15 10 01.6 -1.3**
1.6nm,0.8s,mb3.8,baz=160,slow=7.1,SNR=5.8
ASAJ Asahikawa 52.40 348 P **P 15 10 48.6 +0.5**
3.6nm,0.9s,mb4.4,baz=222,slow=8.9,SNR=6.6
SONM Songino Array 69.77 327 P **P 15 12 46.3 +0.5**
3.9nm,0.9s,mb4.2,baz=136,slow=6.0,SNR=19
SBA Scott Base 70.85 177 *eP* **P 15 12 52.7 +0.7**
ZAK Zakamensk 72.93 328 *eP* **P 15 13 05.3 +0.5**
JIRN Jiri 75.30 301 *eP* **P 15 13 20.8 +1.7**
17nm,0.7s,mb4.9
BILL Bilibino 75.46 4 *eP* **P 15 13 17.7 -1.5**
26nm,1.9s,mb4.6
BILL Bilibino 75.46 4 *eP* **P 15 13 17.7 -1.4**
BILL pmax pmax
comp=Z,26nm,1.9s,mb4.6
KKN Kakani 76.11 301 *eP* **P 15 13 24.5 +0.7**
comp=Z,8.9nm,0.6s,mb4.6
GKN Gorkha 76.72 301 *eP* **P 15 13 27.1 -0.1**
comp=Z,16nm,0.8s,mb4.8
KOLN Koldanda 77.54 300 *eP* **P 15 13 32.1 +0.3**
comp=Z,6.5nm,0.6s,mb4.6
MKAR Makanchi Array 83.88 319 P **P 15 14 06.0 +0.7**
comp=Z,6.8nm,0.7s,mb4.6,baz=105,slow=5.7,SNR=66
MAW Mawson 84.38 203 P **P 15 14 06.8 -0.7**
comp=Z,4.2nm,1.0s,mb4.2,baz=56,slow=7.7,SNR=3.9
ZALV Zalesovo Beam 84.62 326 P **P 15 14 08.3 -0.5**
ZALV Zalesovo Beam 84.62 326 P **P 15 14 08.3 -0.5**
comp=Z,5.0nm,1.0s,mb4.4,baz=104,slow=6.3,SNR=12
ZAL Zalesovo 84.63 326 P **P 15 14 08.3 -0.6**
GERES GERESS Array B 127.48 329 PKP PKPdf 15 20 39.3 -0.9
comp=Z,0.3nm,0.4s,baz=88,slow=4.1,SNR=4.3

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*IDC **02** 15:02:43.4±1.1,7.14S×15578E,h0km,mb4.4/9, mb1 4.5/10,mb1mx4.4/15,mbtmp4.4/10,ML4.7/1,Error ellipse: s-maj=32.1km s-min=19.9km az=101.0*
*NEIC **02** 15:02:44.8±0.5,7.18S×15574E,h10km,mb4.4/3,Error ellipse: s-maj=11.6km s-min=11.2km az=162.0*
*ISCJB **02** 15:02:46.3±0.7,72S±01×1558E±0.1,h33km,mb4.4/11, Error ellipse: s-maj=15.8km s-min=14.6km az=1.2*
ISC 02 15:02:48.2±0.7,72S±01×1558E±01,h35km,n19,σ0§79/18, mb4.4/11,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.64**	**119**	*e*Pn	**Pn**	**15 03 56.2**	**+0.3**
HNR	**Honiara**	**4.64**	**119**	Pn	**Pn**	**15 03 54.9**	**-1.0**
34nm,0.3s,baz=95,slow=20,SNR=6.1							
KAKA	**Kakadu**	**23.66**	**255**	*e*P	**P**	**15 07 56.1**	**-0.7**
8.3nm,0.6s,mb4.3							
KAKA	**Kakadu**	**23.66**	**255**	*e*P	**P**	**15 07 56.4**	**-0.4**
92nm,0.6s,mb5.4							
WB2	**Warramunga Arr**	**24.36**	**237**	*e*P	**P**	**15 08 03.3**	**+0.1**
WRA	**Warramunga Arr**	**24.38**	**237**	P	**P**	**15 08 03.9**	**+0.6**
6.2nm,0.9s,mb4.0,baz=61,slow=9.9,SNR=8.0							
ASAR	**Alice Springs**	**26.65**	**230**	P	**P**	**15 08 23.6**	**-0.4**
2.3nm,0.9s,mb3.7,baz=64,slow=9.3,SNR=7.7							
STKA	**Stephens Creek**	**27.90**	**207**	*e*P	**P**	**15 08 34.4**	**-0.6**
1.7nm,0.7s,mb3.8							
STKA	**Stephens Creek**	**27.90**	**207**	P	**P**	**15 08 36.8**	**+1.8**
1.7nm,0.7s,mb3.8,baz=28,slow=14,SNR=3.6							
FITZ	**Fitzroy Crossi**	**31.32**	**247**	*e*P	**P**	**15 09 05.2**	**-0.3**
8.7nm,0.9s,mb4.6							
FITZ	**Fitzroy Crossi**	**31.32**	**247**	*e*P	**P**	**15 09 05.0**	**-0.5**
FITZ	**Fitzroy Crossi**	**31.32**	**247**	P	**P**	**15 09 04.9**	**-0.6**
4.9nm,0.8s,mb4.4,baz=78,slow=7.1,SNR=7.3							
KLBR	**Kellerberrin**	**42.98**	**231**	*e*P	**P**	**15 10 43.5**	**-0.7**
14nm,0.8s,mb4.7							
MJAR	**Matsushiro Arr**	**46.55**	**340**	P	**P**	**15 11 11.1**	**-1.4**
1.7nm,0.7s,mb4.1,baz=162,slow=8.2,SNR=21							
SONM	**Songino Array**	**69.96**	**327**	P	**P**	**15 13 57.0**	**+1.0**
4.2nm,0.9s,mb4.4,baz=133,slow=5.6,SNR=11							
MKAR	**Makanchi Array**	**84.10**	**319**	P	**P**	**15 15 16.6**	**+1.0**
8.7nm,0.8s,mb5.0,baz=103,slow=5.8,SNR=21							
MAW	**Mawson**	**84.52**	**203**	P	**P**	**15 15 17.9**	**+0.6**
4.2nm,0.8s,mb4.6,baz=167,slow=2.2,SNR=4.6							
ZALV	**Zalesovo Beam**	**84.81**	**326**	P	**P**	**15 15 18.9**	**0.0**
3.4nm,0.8s,mb4.6,baz=106,slow=5.3,SNR=11							
GERES	**GERESS Array B**	**127.65**	**329**	PKP	PKPdf	15 21 51.0	+1.1
0.9nm,0.7s,baz=288,slow=1.3,SNR=5.0							

IDC 02 15:08:12.9±4.6,757S×15624E,h0km,mb3.8/5,mb1 3.9/5, mb1mx3.7/13,mbtmp3.8/5,MS3.1/1,Ms1 3.1/1, ms1mx2.7/29,Error ellipse: s-maj=138.5km s-min=30.7km az=112.0,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.10**	**117**	LR	LR	15 10 30.5	
comp=Z,209nm,18.5s,baz=357,slow=34							
WRA	**Warramunga Arr**	**24.53**	**238**	P	P	15 13 35.0	+0.6
1.8nm,0.6s,baz=65,slow=9.5,SNR=12							
ASAR	**Alice Springs**	**26.74**	**231**	P	P	15 13 54.5	0.0
0.3nm,0.7s,baz=58,slow=9.8,SNR=4.9							
SONM	**Songino Array**	**70.49**	**327**	P	P	15 19 30.3	+0.9
0.6nm,0.5s,baz=121,slow=5.7,SNR=5.4							
MKAR	**Makanchi Array**	**84.66**	**318**	P	P	15 20 47.8	-0.8
0.4nm,0.4s,baz=100,slow=7.0,SNR=4.9							
ZALV	**Zalesovo Beam**	**85.35**	**326**	P	P	15 20 51.7	-0.2
0.8nm,0.5s,baz=93,slow=6.4,SNR=3.8							

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*ISCJB **02** 15:12:59.8±1.2,3597N±005×2700E±005,h8km±9km, Error ellipse: s-maj=8.3km s-min=6.1km az=143.5*
*NEIC **02** 15:13:00.4,3605N×2694E,h23km,MD3.5(ATH),After ATH.*
*ATH **02** 15:13:00.5,3604N×2695E,h24km±2km,MD3.5/10*
*CSEM **02** 15:13:01.5±0.1,3605N×2696E,h15km,MD3.5,Error ellipse: s-maj=2.7km s-min=1.8km az=135.0*
*ISK **02** 15:13:01.2,3609N×2691E,h10km,MD3.3,ML3.1*
ISC 02 15:13:01.3±0.7,3604N±004×2695E±006,h10km±7km,n17, σ1§02/21,1C,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.52**	**160**	⇑*i*PN	**Pg**	**15 13 11.8**	**+0.3**
KARP				*e*SN	**Sg**	**15 13 18.7**	**+0.3**
NISR	**Nisiros**	**0.59**	**15**	*e*PN	**Pg**	**15 13 12.5**	**-0.2**
DAT	**Datca**	**0.85**	**36**	*e*PG	**Pg**	**15 13 18.0**	**+0.2**
DAT				*e*SG	**Sg**	**15 13 29.6**	**+0.7**
ARG	**Arkhangelos**	**0.97**	**79**	*e*PN	**Pn**	**15 13 18.9**	**-2.0**
BODT	**Bodrum**	**1.06**	**16**	*e*PG	**Pg**	**15 13 21.1**	**-0.6**
NPS	**Neapolis**	**1.33**	**235**	*e*PN	**Pn**	**15 13 25.5**	**-0.4**
NPS				*e*SN	**Sn**	**15 13 42.9**	**-0.8**
MLSB	**Milas**	**1.42**	**28**	*e*PN	**Pn**	**15 13 27.3**	**+0.2**
MLSB				*e*SN	**Sn**	**15 13 46.5**	**+0.7**
APE	**Apeiranthos**	**1.53**	**312**	*e*PN	**Pn**	**15 13 28.5**	**-0.1**
SMG	**Samos**	**1.67**	**357**	*e*PB	**Pb**	**15 13 29.4**	**-2.6**
SMG	**Samos**	**1.67**	**357**	*e*Pb	**Pb**	**15 13 29.3**	**-2.7**
FETY	**Fethiye**	**1.82**	**70**	*e*PN	**Pn**	**15 13 33.4**	**+0.7**
IDI	**Anoyia**	**1.83**	**246**	P	**Pn**	**15 13 33.4**	**+0.6**
KSL	**Kastellorizon**	**2.14**	**86**	*e*PB	**Pb**	**15 13 37.5**	**-2.6**
VAM	**Vamos**	**2.32**	**255**	*e*PN	**Pn**	**15 13 39.6**	**+0.1**
ELL	**Elmali**	**2.49**	**73**	*e*PN	**Pn**	**15 13 43.5**	**+1.7**
KYTH	**Kithira**	**3.17**	**275**	*e*PN	**Pn**	**15 13 51.5**	**+0.3**
VLI	**Veliai**	**3.30**	**283**	*e*PN	**Pn**	**15 13 54.3**	**+1.3**

IDC 02 15:14:44.0±4.0,755S×15516E,h0km,mb3.8/4,mb1 4.0/4, mb1mx3.6/13,mbtmp3.9/4,Error ellipse: s-maj=114.6km s-min=35.0km az=118.0,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.64**	**236**	P	P	15 19 56.0	-1.2
0.7nm,0.7s,baz=61,slow=9.5,SNR=5.4							
MJAR	**Matsushiro Arr**	**46.66**	**341**	P	P	15 23 13.6	-0.7
0.9nm,0.7s,baz=165,slow=10,SNR=4.2							
MKAR	**Makanchi Array**	**83.93**	**319**	P	P	15 27 16.3	+0.4
1.4nm,0.7s,baz=99,slow=7.7,SNR=6.8							
ZALV	**Zalesovo Beam**	**84.73**	**326**	P	P	15 27 20.5	+0.7
0.5nm,0.3s,baz=131,slow=6.5,SNR=3.1							

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*ISCJB **02** 15:16:32.9±1.0,189N±007×12462E±010,h246km±10km, mb4.3/14,Error ellipse: s-maj=17.5km s-min=9.0km az=151.9*
*IDC **02** 15:16:33.4±2.2,185N×12445E,h232km±20km,mb3.9/9, mb1 4.0/11,mb1mx3.7/20,mbtmp3.9/11,Error ellipse: s-maj=45.4km s-min=9.8km az=70.0*
*NEIC **02** 15:16:35.5±1.5,184N×12450E,h253km±15km,mb4.5/7, Error ellipse: s-maj=17.1km s-min=5.4km az=63.0*
ISC 02 15:16:33.8±1.0,190N±007×12461E±010,h237km±10km, n27,σ0§60/27,mb4.3/14,3C-1D,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNE	**Ternate**	**2.97**	**112**	⇓*e*P	**Pn**	**15 17 24.5**	**-0.7**
KKM	**Kota Kinabalu**	**9.33**	**296**	*e*P	**Pn**	**15 18 44.6**	**+0.5**
BATI	**Kupang**	**12.06**	**184**	P	**Pn**	**15 19 19.3**	**+0.7**
17nm,0.3s,baz=24,slow=2.9,SNR=27							
KSM	**Kuching**	**14.30**	**269**	*e*P	**Pn**	**15 19 46.4**	**+0.2**
KAKA	**Kakadu**	**16.46**	**152**	*e*P	**P**	**15 20 11.5**	**+0.9**
19nm,0.6s							
FITZ	**Fitzroy Crossi**	**19.90**	**177**	⇑*i*P	**P**	**15 20 46.3**	**-1.4**
4.7nm,0.3s							
FITZ	**Fitzroy Crossi**	**19.90**	**177**	P	**P**	**15 20 46.0**	**-1.7**
1.0nm,0.3s,baz=23,slow=11,SNR=19							
MBWA	**Marble Bar**	**23.41**	**192**	*e*P	**P**	**15 21 20.9**	**-0.8**
WRA	**Warramunga Arr**	**23.71**	**157**	P	**P**	**15 21 24.8**	**+0.2**
28nm,0.3s,mb5.3,baz=336,slow=10,SNR=439							
WRA				ScP	ScP	15 28 17.4	-0.2
0.3nm,0.4s,baz=338,slow=2.6,SNR=4.8							
WB2	**Warramunga Arr**	**23.71**	**157**	⇑*i*P	**P**	**15 21 24.8**	**+0.2**
ASAR	**Alice Springs**	**26.97**	**161**	P	**P**	**15 21 54.3**	**+0.5**
2.9nm,0.3s,mb4.4,baz=342,slow=7.5,SNR=167							
ASAR				PcP	PcP	15 25 09.3	+0.1
0.6nm,0.6s,baz=356,slow=2.3,SNR=4.4							
ASAR				ScP	ScP	15 28 27.2	+0.4
0.3nm,0.5s,baz=342,slow=3.0,SNR=6.4							
FORT	**Forrest**	**32.66**	**174**	*e*P	**P**	**15 22 44.0**	**+0.2**
14nm,0.5s,mb4.7							
KLBR	**Kellerberrin**	**33.94**	**191**	*e*P	**P**	**15 22 54.2**	**-0.6**
8.2nm,0.5s,mb4.5							
NWAO	**Narrogin (SRO)**	**35.33**	**191**	P	**P**	**15 23 06.5**	**-0.2**
8.8nm,0.7s,mb4.4,baz=6.3,slow=9.2,SNR=7.8							
STKA	**Stephens Creek**	**37.26**	**156**	⇑*i*P	**P**	**15 23 24.1**	**+1.1**
4.2nm,0.8s,mb4.0							
STKA	**Stephens Creek**	**37.26**	**156**	P	**P**	**15 23 23.4**	**+0.4**
3.0nm,0.3s,mb4.2,baz=327,slow=8.8,SNR=28							
HYB	**Hyderabad**	**47.78**	**292**	*e*P	**P**	**15 24 48.0**	**+0.2**
HYB	**Hyderabad**	**47.78**	**292**	*i*P	**P**	**15 24 48.0**	**+0.2**
SONM	**Songino Array**	**48.40**	**344**	P	**P**	**15 24 52.1**	**+0.2**
1.0nm,0.6s,mb3.4,baz=161,slow=7.9,SNR=12							
MKAR	**Makanchi Array**	**57.88**	**327**	P	**P**	**15 26 01.2**	**+0.2**
2.5nm,0.4s,mb4.2,baz=126,slow=8.0,SNR=32							
MKAR				PcP	PcP	15 26 50.6	0.0
0.5nm,0.4s,baz=145,slow=4.2,SNR=3.2							
ZALV	**Zalesovo Beam**	**61.28**	**334**	P	**P**	**15 26 23.7**	**-0.3**
1.0nm,0.3s,mb3.9,baz=139,slow=6.7,SNR=5.5							
KURK	**Kurchatov**	**62.17**	**329**	*e*P	**P**	**15 26 29.7**	**-0.3**
4.7nm,0.6s,mb4.3							
TIXI	**Tiksi**	**69.70**	**1**	*e*P	**P**	**15 27 18.3**	**+0.8**
2.5nm,0.3s,mb4.3							
AKTK	**Aktyubinsk**	**73.79**	**322**	P	**P**	**15 27 41.7**	**-0.5**
AKTO	**Aktyubinsk**	**73.79**	**322**	P	**P**	**15 27 41.7**	**-0.5**
1.3nm,0.3s,mb4.1,baz=111,slow=4.9,SNR=6.1							
ARCES	**ARCESS Array B**	**91.42**	**340**	P	**P**	**15 29 11.8**	**-0.8**
7.8nm,1.1s,mb4.5,baz=79,slow=5.4,SNR=7.6							
FINES	**FINESS Array B**	**92.43**	**332**	P	**P**	**15 29 17.8**	**+0.4**
2.6nm,1.0s,mb4.1,baz=5.7,slow=7.7,SNR=6.0							

IDC 02 15:20:36.5±5.2,638S×15615E,h0km,mb4.0/5,mb1 4.1/5, mb1mx3.8/14,mbtmp4.0/5,Error ellipse: s-maj=160.3km s-min=29.2km az=110.0,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**25.10**	**235**	P	P	15 26 02.3	-0.8
1.2nm,0.6s,baz=62,slow=9.2,SNR=3.9							
ASAR	**Alice Springs**	**27.43**	**229**	P	P	15 26 25.2	+1.0
0.4nm,0.3s,baz=58,slow=9.4,SNR=7.6							
SONM	**Songino Array**	**69.45**	**327**	P	P	15 31 48.3	+1.7
0.5nm,0.6s,baz=143,slow=6.1,SNR=4.8							
MKAR	**Makanchi Array**	**83.71**	**318**	P	P	15 33 07.3	0.0
2.7nm,0.7s,baz=99,slow=5.9,SNR=24							
ZALV	**Zalesovo Beam**	**84.32**	**326**	P	P	15 33 08.8	-1.4
1.0nm,0.4s,baz=110,slow=5.8,SNR=6.3							

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*IDC **02** 15:27:07.5±1.1,735S×15622E,h0km,mb4.5/10, mb1 4.5/10,mb1mx4.4/15,mbtmp4.4/10,MS3.6/4, Ms1 3.6/4,ms1mx3.3/28,Error ellipse: s-maj=37.7km s-min=18.3km az=109.0*
*NEIC **02** 15:27:08.9±0.6,734S×15620E,h10km,mb4.8/3,Error ellipse: s-maj=21.3km s-min=10.4km az=120.0*
*ISCJB **02** 15:27:10.5±1.3,74S±01×1563E±02,h33km,mb4.4/12, MS3.7/2,Error ellipse: s-maj=36.4km s-min=12.5km az=24.1*
ISC 02 15:27:12.5±1.3,74S±01×1563E±02,h35km,n23,σ0§72/18, mb4.4/12,MS3.7/2,2D,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.18**	**119**	LR	LR	15 29 23.2	
comp=Z,102nm,18.8s,baz=355,slow=32							
CTA	**Charters Tower**	**15.90**	**217**	Pn	**Pn**	**15 30 57.9**	**+4.2**
CTA				LR	LR	15 35 38.6	
CTA	**Charters Tower**	**15.90**	**217**	Pn	**Pn**	**15 30 57.9**	**+4.2**
0.3nm,0.3s,baz=13,slow=11,SNR=5.5							
CTA				LR	LR	15 35 38.6	
comp=Z,383nm,20.6s,baz=111,slow=32							
GUMO	**Guam**	**23.72**	**332**	LR	LR	15 40 31.2	
comp=Z,127nm,18.1s,MS3.4,baz=19,slow=34							
KAKA	**Kakadu**	**24.02**	**255**	*e*P	**P**	**15 32 23.9**	**-0.5**
7.1nm,0.4s,mb4.5							
WB2	**Warramunga Arr**	**24.61**	**237**	⇓*i*P	**P**	**15 32 29.8**	**0.0**
WRA	**Warramunga Arr**	**24.62**	**237**	P	**P**	**15 32 30.1**	**+0.3**
10nm,0.7s,mb4.5,baz=64,slow=9.7,SNR=39							
ASAR	**Alice Springs**	**26.85**	**231**	P	**P**	**15 32 49.6**	**-0.4**
1.2nm,0.6s,mb3.6,baz=63,slow=8.8,SNR=21							
ASAR				ScP	ScP	15 39 52.6	+2.7
0.6nm,0.8s,baz=42,slow=3.0,SNR=4.5							
STKA	**Stephens Creek**	**27.92**	**207**	P	**P**	**15 33 00.4**	**+0.9**
3.5nm,0.8s,mb4.0,baz=30,slow=16,SNR=6.9							
FITZ	**Fitzroy Crossi**	**31.64**	**247**	⇓*i*P	**P**	**15 33 31.8**	**-0.8**
8.6nm,0.6s,mb4.8							
FITZ	**Fitzroy Crossi**	**31.64**	**247**	P	**P**	**15 33 32.3**	**-0.3**
3.0nm,0.6s,mb4.3,baz=104,slow=9.4,SNR=19							
BATI	**Kupang**	**32.31**	**263**	LR	LR	15 47 40.6	
comp=Z,282nm,19.7s,MS4.0,baz=292,slow=38							
KLBR	**Kellerberrin**	**43.18**	**231**	*e*P	**P**	**15 35 09.9**	**-0.3**
31nm,1.3s,mb4.9							
KLBR				*e*	pP	15 35 18.3	-2.2
MJAR	**Matsushiro Arr**	**46.88**	**340**	P	**P**	**15 35 38.5**	**-0.9**
MJAR	**Matsushiro Arr**	**46.88**	**340**	P	**P**	**15 35 38.5**	**-0.9**
2.0nm,0.7s,mb4.2,baz=166,slow=7.7,SNR=7.2							
MAT	**Matsushiro**	**46.88**	**340**	P	**P**	**15 35 40.9**	**+1.5**
KSRS	**Korea Array**	**51.88**	**331**	P	**P**	**15 36 17.6**	**0.0**
4.5nm,0.8s,mb4.5,baz=144,slow=7.5,SNR=13							
SONM	**Songino Array**	**70.35**	**327**	P	**P**	**15 38 23.4**	**+0.7**
12nm,0.9s,mb4.8,baz=141,slow=6.2,SNR=41							
MKAR	**Makanchi Array**	**84.53**	**318**	P	**P**	**15 39 42.7**	**+0.7**
7.5nm,0.7s,mb5.0,baz=99,slow=6.1,SNR=31							
ZALV	**Zalesovo Beam**	**85.21**	**326**	P	**P**	**15 39 44.8**	**-0.5**
5.2nm,0.5s,mb4.9,baz=116,slow=5.7,SNR=23							
YKA	**Yellowknife Ar**	**96.12**	**28**	P	**P**	**15 40 35.4**	**-0.9**
0.2nm,0.5s,mb3.8,baz=267,slow=4.7,SNR=6.2							
BDFB	**Brasilia**	**146.81**	**134**	PKPbc	PKPbc	15 46 52.7	+0.7
3.8nm,0.8s,baz=182,slow=3.9,SNR=5.6							
MDT	**Midelt**	**149.10**	**327**	PKPbc	PKPbc	15 46 58.8	+1.1
3.7nm,0.9s,baz=348,slow=4.7,SNR=3.9							

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*IDC **02** 15:35:05.7±1.4,871S×15679E,h0km,mb4.3/6,mb1 4.3/6, mb1mx4.2/11,mbtmp4.3/6,Error ellipse: s-maj=46.9km s-min=20.5km az=92.0*
*NEIC **02** 15:35:08.5±0.9,879S×15663E,h10km,mb4.5/1,Error ellipse: s-maj=34.3km s-min=17.1km az=107.0*
*ISCJB **02** 15:35:10.4±1.0,88S±01×1566E±02,h33km,mb4.1/8, Error ellipse: s-maj=35.5km s-min=17.2km az=17.2*
ISC 02 15:35:12.3±1.0,88S±01×1566E±02,h35km,n13,σ1§07/13, mb4.1/8,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.20**	**240**	P	**P**	**15 40 25.2**	**-0.5**
0.9nm,0.6s,mb3.4,baz=67,slow=9.4,SNR=11							
ASAR	**Alice Springs**	**26.26**	**233**	P	**P**	**15 40 45.8**	**+1.3**
0.2nm,0.8s,baz=52,slow=48,SNR=3.1							
STKA	**Stephens Creek**	**26.88**	**209**	P	**P**	**15 40 49.8**	**-0.2**
1.0nm,0.7s,mb3.5,baz=26,slow=14,SNR=3.7							
KSRS	**Korea Array**	**53.22**	**332**	P	**P**	**15 44 25.4**	**-1.9**
1.1nm,0.4s,mb4.2,baz=149,slow=7.9,SNR=5.7							
VNDA	**Vanda**	**68.79**	**179**	P	**P**	**15 46 11.3**	**-1.1**
VNDA	**Vanda**	**68.79**	**179**	P	**P**	**15 46 11.3**	**-1.1**
40nm,0.6s,baz=17,slow=7.4,SNR=66							
SBA	**Scott Base**	**69.27**	**178**	*e*P	**P**	**15 46 22.5**	**+7.1**
1.8nm,0.6s,mb4.2							
SONM	**Songino Array**	**71.65**	**327**	P	**P**	**15 46 29.9**	**-0.5**
4.1nm,0.8s,mb4.4,baz=135,slow=6.5,SNR=29							
MK31	**Makanchi Array**	**85.75**	**318**	*e*P	**P**	**15 47 49.2**	**+1.3**
MKAR	**Makanchi Array**	**85.75**	**318**	P	**P**	**15 47 49.0**	**+1.1**
5.6nm,0.7s,mb4.9,baz=99,slow=6.3,SNR=66							
ZALV	**Zalesovo Beam**	**86.50**	**326**	P	**P**	**15 47 50.6**	**-0.8**
2.8nm,0.4s,mb4.8,baz=115,slow=5.6,SNR=13							
YKA	**Yellowknife Ar**	**97.16**	**28**	P	**P**	**15 48 41.9**	**+1.1**
YKA	**Yellowknife Ar**	**97.16**	**28**	P	**P**	**15 48 41.9**	**+1.1**
0.1nm,0.5s,mb3.5,baz=270,slow=4.6,SNR=4.4							

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*IDC **02** 15:37:10.9±1.9,733S×15582E,h0km,mb4.1/10, mb1 4.2/10,mb1mx4.1/15,mbtmp4.1/10,MS4.4/2, Ms1 4.4/2,ms1mx3.3/31,Error ellipse: s-maj=58.3km s-min=19.9km az=109.0*
*NEIC **02** 15:37:12.6±1.1,728S×15576E,h10km,Error ellipse: s-maj=35.9km s-min=12.9km az=112.0*
*ISCJB **02** 15:37:14.6±1.4,73S±01×1557E±03,h33km,mb4.0/10, MS4.5/2,Error ellipse: s-maj=43.1km s-min=15.3km az=21.7*
ISC 02 15:37:16.4±1.4,73S±01×1558E±03,h35km,n12,σ0§74/11, mb4.0/10,MS4.5/2,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.27**	**237**	P	**P**	**15 42 30.0**	**-0.4**
4.0nm,1.0s,mb3.8,baz=62,slow=9.4,SNR=6.9							
ASAR	**Alice Springs**	**26.53**	**230**	P	**P**	**15 42 50.8**	**-0.2**
1.0nm,0.8s,mb3.4,baz=62,slow=9.4,SNR=5.3							
STKA	**Stephens Creek**	**27.76**	**207**	P	**P**	**15 43 02.4**	**+0.5**
2.0nm,0.6s,mb3.9,baz=27,slow=12,SNR=5.1							
FITZ	**Fitzroy Crossi**	**31.23**	**247**	P	**P**	**15 43 32.6**	**-0.2**
2.9nm,1.0s,mb4.1,baz=113,slow=14,SNR=4.1							
JHJ	**Hachijo jima 2**	**43.02**	**340**	LR	LR	15 59 18.5	
comp=Z,832nm,20.8s,MS4.6,baz=29,slow=31							
MJAR	**Matsushiro Arr**	**46.66**	**340**	P	**P**	**15 45 40.1**	**-1.5**
1.4nm,0.7s,mb4.0,baz=158,slow=9.1,SNR=4.6							
KSRS	**Korea Array**	**51.61**	**332**	P	**P**	**15 46 20.4**	**+1.0**
1.2nm,0.8s,mb3.9,baz=153,slow=8.1,SNR=3.2							
SONM	**Songino Array**	**70.05**	**327**	P	**P**	**15 48 25.7**	**+1.0**
1.6nm,0.6s,mb4.1,baz=147,slow=6.4,SNR=11							
MK31	**Makanchi Array**	**84.18**	**319**	*e*P	**P**	**15 49 44.9**	**+0.8**
MKAR	**Makanchi Array**	**84.18**	**319**	P	**P**	**15 49 44.1**	**+0.1**
3.3nm,0.7s,mb4.6,baz=105,slow=5.5,SNR=19							
MKAR				LR	LR	16 28 36.6	
comp=Z,116nm,18.1s,MS4.3,baz=338,slow=37							
ZALV	**Zalesovo Beam**	**84.90**	**326**	P	**P**	**15 49 46.8**	**-0.8**
1.9nm,0.6s,mb4.4,baz=98,slow=4.4,SNR=9.5							
YKA	**Yellowknife Ar**	**96.28**	**28**	P	**P**	**15 50 40.6**	**-0.3**
0.2nm,0.6s,mb3.8,baz=264,slow=4.6,SNR=4.6							

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*ISCJB **02** 15:37:20.9±0.6,4066N±004×3677E±004,h5km,Error ellipse: s-maj=5.6km s-min=4.5km az=4.8*
*CSEM **02** 15:37:20.2±0.1,4061N×3684E,h5km,MD3.2,Error ellipse: s-maj=3.2km s-min=1.9km az=159.0*
*ISK **02** 15:37:20.4,4064N×3679E,h5km,MD3.2*
*DDA **02** 15:37:22.5,4065N×3683E,h12km±1km,Md3.2*
ISC 02 15:37:20.9±0.7,4064N±004×3678E±004,h2km±7km,n13, σ0§83/19,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOKT	**Tokat**	**0.36**	**210**	*i*PG	**Pg**	**15 37 28.0**	**+0.1**
TOKT				*i*SG	**Sg**	**15 37 33.7**	**+1.1**
KVT	**Kavak**	**0.71**	**309**	PG	**Pg**	**15 37 34.6**	**0.0**
KVT				SG	**Sg**	**15 37 44.2**	**+0.4**
GRSN	**GIRESUNGRSN**	**1.17**	**75**	*i*P	**Pg**	**15 37 42.3**	**-0.9**

ASAR Alice Springs 26.20 231 P **P 15 45 37.0 -1.0**
comp=Z,3.0nm,0.8s,mb3.9,baz=74,slow=9.6,SNR=4.3
STKA Stephens Creek 27.29 207 *e*P **P 15 45 51.0 +3.3**
comp=Z,4.6nm,0.9s,mb4.0
STKA Stephens Creek 27.29 207 *e*P **P 15 45 51.0 +3.3**
STKA LR LR 15 56 29.9
STKA Stephens Creek 27.29 207 P **P 15 45 47.1 -0.6**
comp=Z,3.7nm,0.6s,mb4.1,baz=44,slow=16,SNR=8.5
STKA LR LR 15 56 29.9
comp=Z,1μm,18.5s,MS4.5,baz=25,slow=36
FITZ Fitzroy Crossi 31.03 248 *e*P **P 15 46 20.7 -0.4**
comp=Z,9.7nm,0.6s,mb4.8
FITZ Fitzroy Crossi 31.03 248 P **P 15 46 20.0 -1.1**
comp=Z,4.9nm,0.6s,mb4.5,baz=90,slow=8.8,SNR=27
FITZ LR LR 15 58 08.9
comp=Z,135nm,22.0s,MS3.6,baz=259,slow=35
BATI Kupang 31.79 263 LR LR 16 00 36.1
comp=Z,383nm,18.4s,MS4.1,baz=296,slow=39
URZ Urewera 35.87 151 LR LR 16 00 01.8
comp=Z,396nm,20.1s,MS4.2,baz=224,slow=34
RPZ Rata Peaks 38.12 162 LR LR 16 00 48.5
comp=Z,781nm,20.5s,MS4.5,baz=341,slow=33
KLBR Kellerberrin 42.53 231 *e*P **P 15 47 58.0 -0.7**
comp=Z,9.8nm,0.6s,mb4.7
NWAO Narrogin (SRO) 43.51 230 P **P 15 48 05.5 -1.1**
comp=Z,6.6nm,0.8s,mb4.4,baz=56,slow=8.7,SNR=5.5
NWAO LR LR 16 06 11.8
comp=Z,429nm,18.5s,MS4.4,baz=232,slow=36
MUN Mundaring 43.89 231 *e*P **P 15 48 10.1 +0.4**
KSM Kuching 46.29 280 *e*P **P 15 48 28.9 -0.1**
MJAR Matsushiro Arr 47.16 341 P **P 15 48 34.5 -1.0**
MJAR LR LR 16 05 51.0
MJAR Matsushiro Arr 47.16 341 P **P 15 48 34.5 -1.0**
comp=Z,7.9nm,0.5s,mb4.9,baz=165,slow=7.8,SNR=31
MJAR LR LR 16 05 51.1
comp=Z,287nm,21.3s,MS4.2,baz=45,slow=33
MAJO Matsushiro 47.16 341 *e*P **P 15 48 34.4 -1.1**
comp=Z,22nm,0.6s,mb5.3
MAJO Matsushiro 47.16 341 *e*P **P 15 48 34.4 -1.0**
MAJO pmax pmax
comp=Z,22nm,0.6s,mb5.3
MAT Matsushiro 47.16 341 P **P 15 48 34.5 -0.9**
KSRS Korea Array 52.07 332 P **P 15 49 12.7 -0.2**
comp=Z,4.5nm,0.6s,mb4.6,baz=146,slow=7.0,SNR=23
KSRS LR LR 16 08 35.2
comp=Z,172nm,18.6s,MS4.1,baz=319,slow=33
NJ2 Nanjing 53.08 320 *e*P **P 15 49 20.6 +0.2**
NJ2 AMB AMB
comp=Z,20nm,0.6s,mb5.2
PPT Papeete 54.01 106 LR LR 16 06 17.0
comp=Z,150nm,19.7s,MS4.1,baz=27,slow=29
VLA Vladivostok 55.21 339 *e*P **P 15 49 33.2 -2.5**
VLA S **S 15 57 28.0 +11**
VLA pmax pmax
comp=Z,96nm,1.8s,mb5.5
YSS Yuzh-Sakhalins 55.80 349 *e*P **P 15 49 40.4 +0.5**
comp=Z,38nm,1.3s,mb5.3
YSS Yuzh-Sakhalins 55.80 349 *e*P **P 15 49 40.6 +0.7**
MDJ Mudanjiang 57.34 338 P **P 15 49 50.9 0.0**
MDJ AMB AMB
comp=Z,14nm,1.7s,mb4.7
MDJ AMB AMB
comp=Z,118nm,4.4s
MDJ Mudanjiang 57.34 338 *e*P **P 15 49 51.0 +0.2**
comp=Z,33nm,1.4s,mb5.2
CN2 Changchun 58.31 335 *e*P **P 15 49 58.0 +0.3**
CN2 *e*XP sP 15 50 05.0 -8.3
CN2 AMB AMB
comp=Z,10.0nm,1.2s,mb4.7
CN2 AMB AMB
comp=Z,200nm,4.0s
GYA Guiyang 58.60 307⇑ *i*P **P 15 50 02.8 +2.7**
GYA AP pP 15 50 06.9 -4.4
GYA XP sP 15 50 09.4 -6.3
GYA PCP PcP 15 50 52.9 +2.8
GYA PP PP 15 52 12.6 +2.4
GYA SCP ScP 15 54 51.9 +4.1
GYA S **S 15 58 02.2 +0.3**
GYA SCS ScS 15 59 48.3 +0.9
GYA SS SS 16 01 55.4 0.0
GYA AMB AMB
comp=Z,40nm,1.0s,mb5.4
GYA AMB AMB
comp=Z,660nm,11.4s
GYA LR LR
comp=N,460nm,20.4s,MS4.7
GYA LR LR
comp=E,440nm,21.0s,MS4.7
GYA LR LR
comp=Z,510nm,22.9s,MS4.6
BJI Beijing 60.08 326 P **P 15 50 09.5 -0.6**
BJI AMB AMB
comp=Z,5.0nm,0.5s,mb4.8
BJI Beijing 60.08 326 P **P 15 50 09.5 -0.6**
comp=Z,5.0nm,0.5s,mb4.8
KLR Kul'dur 60.63 342 *e*P **P 15 50 09.8 -3.8**
KLR pmax pmax
comp=Z,78nm,1.8s,mb5.5
XAN Xi'an 60.87 316 P **P 15 50 12.4 -3.2**
XAN AMB AMB
comp=Z,5.0nm,2.0s,mb4.3
KMI Kunming 61.15 304 P **P 15 50 19.4 +1.7**
KMI AMB AMB
comp=Z,13nm,1.8s,mb4.8
KMI Kunming 61.15 304 P **P 15 50 19.4 +1.7**
comp=Z,13nm,1.8s,mb4.8
CHTO Chiang Mai 61.98 296 *e*P **P 15 50 24.2 +0.8**
comp=Z,36nm,1.7s,mb5.2
CHTO Chiang Mai 61.98 296 *e*P **P 15 50 24.2 +0.8**
CHTO pmax pmax
comp=Z,36nm,1.7s,mb5.2
CD2 Chengdu 62.97 310 *e*P **P 15 50 30.4 +0.6**
CD2 AP pP 15 50 35.0 -6.1
CD2 XP sP 15 50 38.6 -6.9
CD2 PP PP 15 52 49.9 +1.2
CD2 PCS PcS 15 55 11.0 -0.1
CD2 S **S 15 58 56.2 -1.4**
CD2 XS sS 15 59 04.0 -12
CD2 SCS ScS 16 00 18.5 -1.4
CD2 SS SS 16 03 02.4 -1.4
CD2 AMB AMB
comp=Z,20nm,1.8s,mb5.0
CD2 AMB AMB
comp=Z,40nm,5.2s
CD2 LR LR
comp=N,350nm,11.9s
CD2 LR LR
comp=Z,200nm,11.8s,MS4.5
HHC Hu-ho-hao-te 63.26 324 *e*P **P 15 50 32.1 +0.6**
HHC AP pP 15 50 36.1 -6.7
HHC XP sP 15 50 39.1 -8.0
HHC PP PP 15 52 50.6 -0.4
HHC SCP ScP 15 55 10.0 +1.9
HHC PCS PcS 15 55 14.0 +2.0
HHC S **S 15 59 02.2 +1.4**
HHC XS sS 15 59 08.0 -11
HHC SCS ScS 16 00 19.7 -2.0
HHC AMB AMB
comp=Z,18nm,0.4s,mb5.5
HHC AMB AMB
comp=Z,233nm,8.3s
HHC LR LR
comp=N,181nm,11.0s
HHC LR LR
comp=E,189nm,5.1s
HHC LR LR
comp=Z,160nm,12.6s,MS4.4
HIA Hailar 65.04 335 P **P 15 50 41.8 -1.2**
comp=Z,16nm,1.3s,mb4.9
HIA Hailar 65.04 335 P **P 15 50 41.8 -1.2**
HIA pmax pmax
comp=Z,16nm,1.3s
LZH Lanzhou 65.48 315 *e*P **P 15 50 48.0 +1.9**
LZH AP pP 15 50 51.6 -5.9
LZH XP sP 15 50 53.6 -8.3
LZH *e*S S 15 59 28.5 0.0
LZH XS sS 15 59 35.0 -12
LZH SS SS 16 03 43.0 +0.2
LZH AMB AMB
comp=Z,31nm,1.5s,mb5.1
LZH AMB AMB
comp=Z,752nm,16.0s,MS5.0
LZH Lanzhou 65.48 315 *e*P **P 15 50 48.0 +1.9**
comp=Z,31nm,1.5s,mb5.1
LZH pP pP 15 50 51.6 -5.9
LZH sP sP 15 50 53.6 -8.3
LZH *e*S S 15 59 28.5 0.0
LZH sS sS 15 59 35.0 -12
LZH SS SS 16 03 43.0 +0.2
LZH LR LR
comp=Z,750nm,16.0s,MS5.0
LZH Lanzhou 65.48 315 *e*P **P 15 50 48.0 +1.9**
LZH *SP sP 15 50 53.6 -8.3
LZH *e*S S 15 59 28.5 0.0
LZH SS SS 16 03 43.0 +0.2
LZH pmax pmax
comp=Z,31nm,1.5s,mb5.1
LZH MLR MLR
comp=Z,750nm,16.0s,MS5.0
CLNS Chul'man 69.29 342 *e*P **P 15 51 10.4 +0.6**
CLNS pmax pmax
comp=Z,22nm,0.8s,mb5.1
CLNS pmax pmax
comp=N,18nm,1.2s
CLNS pmax pmax
comp=E,8.0nm,0.9s
CIT Chita 69.73 334 *e*P **P 15 51 13.6 +1.0**
GTA Gaotai 69.91 317 *e*P **P 15 51 17.1 +3.1**
GTA AP pP 15 51 20.6 -4.8
GTA XP sP 15 51 22.1 -7.7
SHL Shillong 70.41 301 *e*P **P 15 51 18.0 +0.6**
SONM Songino Array 70.49 327 P **P 15 51 17.9 +0.6**
comp=E,2.5nm,0.8s,mb4.2,baz=146,slow=7.2,SNR=18
LSA Lhasa 72.41 304 P **P 15 51 31.4 +2.1**
LSA AMB AMB
comp=Z,20nm,1.0s,mb5.0
LSA Lhasa 72.41 304 *e*P **P 15 51 31.1 +1.8**
comp=Z,7.3nm,0.6s,mb4.8
LSA Lhasa 72.41 304 *e*P **P 15 51 31.1 +1.8**
LSA pmax pmax
comp=Z,7.0nm,0.6s,mb4.8
YAK Yakutsk 72.57 347 *e*P **P 15 51 29.1 -0.5**
comp=Z,32nm,0.9s,mb5.2
YAK Yakutsk 72.57 347 *d i*P **P 15 51 30.0 +0.4**
YAK *e*PP pP 15 51 37.3 -3.8
YAK *e* pP 15 51 43.8 +2.7
YAK *e*S S 16 00 56.8 +5.5
YAK *e* 16 01 39.7
YAK pmax pmax
comp=E,9.0nm,1.5s
YAK pmax pmax
comp=N,16nm,1.9s
YAK pmax pmax
comp=Z,21nm,0.8s,mb5.1
YAK MLR MLR
comp=Z,112nm,21.0s,MS4.1
YAK MLR MLR
comp=E,85nm,20.0s
ZAK Zakamensk 73.64 328 *e*P **P 15 51 36.1 -0.1**
MOY Mondy 75.56 328 *e*P **P 15 51 49.2 +1.9**
JIRN Jiri 75.90 301 *e*P **P 15 51 50.4 +0.6**
comp=E,38nm,1.1s,mb5.2
KKN Kakani 76.71 301 *e*P **P 15 51 54.6 +0.2**
comp=E,14nm,0.6s,mb5.0
GKN Gorkha 77.31 301 *e*P **P 15 51 57.0 -0.8**
comp=E,67nm,1.3s,mb5.4
KOLN Koldanda 78.14 300 *e*P **P 15 52 01.8 -0.5**
comp=E,29nm,0.9s,mb5.2
WMQ Urumqi 79.99 317 *e*P **P 15 52 12.5 +0.4**
WMQ AMB AMB
comp=Z,6.0nm,0.7s,mb4.6
KOD Kodaikanal 80.01 282 *e*P **P 15 52 13.5 +0.7**
KOD AMb AMB 15 52 16.5
comp=Z,18nm,1.3s,mb4.8
SLKM Skilak Lake 80.22 24 *e*P **P 15 52 13.6 +0.6**
NGP Nagpur 80.59 293 *e*P **P 15 52 14.6 -1.2**
NGP AMb AMB 15 52 14.7
comp=Z,9.0nm,0.4s,mb5.0
TIXI Tiksi 81.33 352 *e*P **P 15 52 18.4 -0.3**
comp=Z,27nm,1.7s,mb4.9
TIXI Tiksi 81.33 352 *e*P **P 15 52 18.6 -0.1**
TIXI pmax pmax
comp=Z,15nm,1.9s,mb4.6
IMA2 Indian Mountai 82.38 19 *e*P **P 15 52 24.6 +0.3**
BHPL Bhopal 82.50 295 *e*P **P 15 52 25.1 -0.9**
BHPL AMb AMB 15 52 28.7
comp=Z,15nm,2.1s,mb4.5
MCK McKinley 82.58 22 *e*P **P 15 52 25.0 -0.4**
comp=Z,10nm,0.8s,mb4.9
MCK McKinley 82.58 22 *e*P **P 15 52 25.0 -0.4**
MCK pmax pmax
comp=Z,10.0nm,0.8s,mb4.9
COLA College 83.61 21 P **P 15 52 30.3 -0.4**
KAD Karad 84.37 288 *e*P **P 15 52 35.7 0.0**
KAD AMb AMB 15 52 36.4
comp=Z,20nm,0.8s,mb5.3
SMLA Simla 84.39 302 *e*P **P 15 52 35.0 -0.5**
SMLA AMb AMB 15 52 39.4
comp=Z,37nm,1.9s,mb5.2
MKAR Makanchi Array 84.57 319 P **P 15 52 36.6 +0.6**
comp=Z,11nm,0.7s,mb5.1,baz=102,slow=6.1,SNR=83
POO Poona 84.89 289 *e*P **P 15 52 37.2 -1.1**
POO AMb AMB 15 52 40.1
comp=Z,21nm,1.2s,mb5.1
ZAA0 Zalesovo Array 85.34 326 *e*P **P 15 52 38.1 -1.6**
ZALV Zalesovo Beam 85.34 326 P **P 15 52 38.3 -1.4**
comp=Z,6.3nm,0.6s,mb4.9,baz=111,slow=5.9,SNR=28
ZAL Zalesovo 85.34 326 P **P 15 52 38.3 -1.4**
NVS Novosibirsk 86.51 326 *e*P **P 15 52 44.8 -0.7**
KURK Kurchatov 88.00 322 *e*P **P 15 52 52.3 -0.4**
comp=Z,7.4nm,1.3s,mb4.8
KURK Kurchatov 88.00 322 *e*P **P 15 52 52.3 -0.5**
KURK pmax pmax
comp=Z,7.0nm,1.3s,mb4.7
AML Almayashu 89.40 313 *e*P **P 15 53 01.6 +2.1**
comp=Z,6.0nm,0.9s,mb4.9
SYO Syowa Base 91.75 199⇑ *e*pP pP 15 53 17.2 -4.6
NEW Newport 93.88 42 LR LR 16 26 35.0
comp=Z,366nm,19.9s,MS4.8,baz=62,slow=30
YKA Yellowknife Ar 96.74 28 P **P 15 53 33.1 +0.2**
comp=Z,1.2nm,0.8s,mb4.4,baz=267,slow=4.6,SNR=15
NOA NORSAR Array B 120.78 341 PKP PKPdf 15 58 54.5 +0.1
NOA NORSAR Array B 120.78 341 PKP PKPdf 15 58 54.5 +0.1
comp=Z,0.7nm,0.7s,baz=169,slow=2.0,SNR=3.5
CLL Collm 126.95 332 *e*PKPdf PKPdf 15 59 08.0 +1.5
GERES GERESS Array B 128.20 329 PKP PKPdf 15 59 09.2 +0.2
comp=Z,0.5nm,0.5s,baz=126,slow=1.8,SNR=4.9
BDFB Brasilia 146.81 135 PKPbc PKPbc 15 59 45.3 -0.5
comp=Z,5.3nm,0.9s,baz=125,slow=2.3,SNR=7.8
TORD Torodi Ar. Bea 154.00 284 PKPbc PKPbc 16 00 02.6 -0.7
comp=Z,1.2nm,0.8s,baz=119,slow=1.8,SNR=7.1

*IDC **02** 15:44:26.5±2.4, 732S×15573E, h0km, mb4.0/7, mb1 4.1/7, mb1mx4.0/14, mbtmp4.0/7, Error ellipse: s-maj=78.1km s-min=25.2km az=123.0*
*NEIC **02** 15:44:28.0±1.3, 732S×15575E, h10km, Error ellipse: s-maj=43.0km s-min=13.7km az=126.0*
*ISCJB **02** 15:44:29.9±1.9, 74S±03×1558E±03, h33km, mb3.8/7, Error ellipse: s-maj=59.5km s-min=18.5km az=37.2*
ISC 02 15:44:31.7±1.9, 74S±03×1558E±03, h35km, n10, σ0°39/10, mb3.8/7, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	Kakadu	23.55	255	*e*P	P	15 49 39.6	+0.2
WRA	Warramunga Arr	24.23	237	P	P	15 49 45.9	+0.4
	1.1nm,0.7s,mb3.4,baz=60,slow=9.3,SNR=6.4						
ASAR	Alice Springs	26.50	230	P	P	15 50 05.8	-0.3
	0.4nm,0.5s,mb3.2,baz=58,slow=9.7,SNR=4.6						
FITZ	Fitzroy Crossi	31.20	247	P	P	15 50 47.6	-0.3
	2.3nm,0.8s,mb4.0,baz=75,slow=10.0,SNR=4.3						
SONM	Songino Array	70.06	327	P	P	15 55 40.6	+0.5
	0.6nm,0.4s,mb3.9,baz=150,slow=6.5,SNR=8.6						
MK31	Makanchi Array	84.18	319	*e*P	P	15 56 59.3	-0.2
MKAR	Makanchi Array	84.18	319	P	P	15 56 59.7	+0.2
MKAR	Makanchi Array	84.18	319	P	P	15 56 59.7	+0.2
	2.0nm,0.7s,mb4.3,baz=105,slow=5.6,SNR=12						
ZALV	Zalesovo Beam	84.91	326	P	P	15 57 02.1	-0.8
	1.5nm,0.6s,mb4.3,baz=106,slow=5.3,SNR=6.2						
YKA	Yellowknife Ar	96.32	28	P	P	15 57 56.6	+0.2
	0.1nm,0.4s,mb3.6,baz=288,slow=7.8,SNR=4.0						

IDC 02 15:50:11.9±5.8, 748S×15525E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.6/13, mbtmp3.6/3, Error ellipse: s-maj=154.1km s-min=33.8km az=116.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	23.76	236	P	P	15 55 25.9	-0.4
	0.8nm,0.9s,baz=60,slow=9.5,SNR=3.9						
MJAR	Matsushiro Arr	46.62	341	P	P	15 58 41.8	-0.2
	0.5nm,0.3s,baz=117,slow=9.7,SNR=3.9						
SONM	Songino Array	69.88	327	P	P	16 01 25.1	+0.5
	0.6nm,0.8s,baz=121,slow=5.6,SNR=4.4						

IDC 02 15:51:31.1±1.8, 680S×15523E, h0km, mb3.9/6, mb1 4.0/6, mb1mx3.9/13, mbtmp3.9/6, MS3.0/2, Ms1 3.0/2, ms1mx2.8/30, Error ellipse: s-maj=65.0km s-min=24.5km az=112.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	5.36	120	LR	LR	15 54 49.5	
	comp=Z,376nm,20.4s,baz=193,slow=37						
GUMO	Guam	22.72	333	LR	LR	16 04 01.9	
	comp=Z,15nm,20.9s,baz=81,slow=33						
WRA	Warramunga Arr	24.11	235	P	P	15 56 47.1	-1.7
	2.6nm,0.9s,baz=62,slow=10.0,SNR=6.3						
ASAR	Alice Springs	26.47	228	P	P	15 57 10.9	+0.8
	0.4nm,0.8s,baz=54,slow=10,SNR=3.1						
STKA	Stephens Creek	28.01	205	P	P	15 57 24.6	+0.7
	2.4nm,0.9s,baz=31,slow=13,SNR=4.0						
SONM	Songino Array	69.30	327	P	P	16 02 40.6	+0.4
	1.6nm,0.9s,baz=129,slow=6.5,SNR=5.2						
MKAR	Makanchi Array	83.41	319	P	P	16 04 01.0	+0.6
	1.7nm,0.8s,baz=106,slow=5.1,SNR=2.9						
YKA	Yellowknife Ar	96.06	28	P	P	16 04 59.4	-0.8
	0.1nm,0.5s,baz=259,slow=4.1,SNR=2.9						

IDC 02 15:54:28.8±4.1, 686S×15506E, h0km, mb3.8/6, mb1 3.8/6, mb1mx3.7/14, mbtmp3.8/6, Error ellipse: s-maj=119.7km s-min=26.1km az=115.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	23.94	235	P	P	15 59 44.9	0.0
	1.6nm,0.9s,baz=63,slow=9.9,SNR=3.6						
ASAR	Alice Springs	26.30	228	P	P	16 00 06.8	+0.5
	0.1nm,0.3s,baz=58,slow=9.1,SNR=3.1						
FITZ	Fitzroy Crossi	30.76	246	P	P	16 00 46.2	0.0
	0.9nm,0.7s,baz=99,slow=13,SNR=4.2						
SONM	Songino Array	69.26	327	P	P	16 05 38.5	+0.8
	0.9nm,0.8s,baz=133,slow=5.0,SNR=3.9						
MKAR	Makanchi Array	83.34	319	P	P	16 06 57.8	0.0
	0.9nm,0.6s,baz=104,slow=5.4,SNR=6.4						
ZALV	Zalesovo Beam	84.10	326	P	P	16 07 00.4	-1.1
	1.0nm,0.6s,baz=112,slow=4.2,SNR=4.1						

JMA 02 15:56:18.7±0.1, 3798N×14477E, h55km, M3.6, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	Ofunato	2.67	295	P	Pn	15 57 00.6	+1.4
JIO	Ouri	2.74	281	P	Pn	15 57 01.5	+1.4
JIO				S	Sn	15 57 32.9	+0.9
MIYJ	Miyakonagasawa	2.80	306	P	Pn	15 57 02.0	+1.0
MIYJ				*e*S	Sn	15 57 34.5	+0.9
JMK	Ichinoseki	2.95	290	*e*S	Sn	15 57 39.0	+1.8
JOT	Ohata	4.45	321	*e*S	Sn	15 58 13.6	-0.4
JCH	Churui	4.75	347	P	Pn	15 57 27.8	+0.1
JCH				*e*S	Sn	15 58 19.6	-1.9
JRY	Ryogami san	5.09	249	P	Pn	15 57 33.5	+1.1
JRY				*e*S	Sn	15 58 28.9	-0.9
JOD2	Odawara 2	5.31	241	*e*S	Sn	15 58 33.6	-1.7
NEM2	Nemuro 2	5.43	8	P	Pn	15 57 34.2	-2.8
NEM2				*e*S	Sn	15 58 32.6	-5.5
JTKR	Abashiri--Toko	6.02	354	P	Pn	15 57 44.7	-0.4
JTKR				*e*S	Sn	15 58 49.3	-3.3
JHR	Hokuryu	6.20	339	*e*S	Sn	15 58 57.7	+0.6

*ISCJB **02** 15:58:14.9±1.1, 5047N±007×908E±01.1, h10km, Error ellipse: s-maj=10.4km s-min=9.1km az=149.9*
*MOS **02** 15:58:19.9±2.4, 5071N×9078E, h12km, mb4.1/1, Error ellipse: s-maj=24.7km s-min=17.2km az=73.0*
ISC 02 15:58:13.6±1.0, 5044N±008×906E±01, h10km, n8, σ1°32/10, 2C-2D, Tuva-Buryatia-Mongolia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKAR	Aktash	1.90	268	*e*PN	Pn	15 58 44.6	-1.5
CERR	Cheremushki	2.47	12	*e*PN	Pn	15 58 53.3	-0.6
CERR				*e*	Sn	15 59 24.4	+0.3
KRAR	Krasnoyarsk	5.75	13	*i* PN	Pn	15 59 43.3	+4.4
NVS	Novosibirsk	6.28	317	*e*PN	Pb	16 00 02.0	-0.9
NVS				*e*	Sb	16 01 22.7	+4.7
MK31	Makanchi Array	6.60	240	Pn	Pn	15 59 48.1	-2.5
	1.0nm,0.5s,baz=46,slow=16,SNR=12						
MK31				⇑Pg	Pb	16 00 10.3	+1.9
	3.6nm,0.6s,baz=47,slow=15						
MK31				⇓Lg		16 01 39.1	
	11nm,0.6s,baz=52,slow=28,SNR=3.6						
KURK	Kurchatov	7.63	277	⇑Lg		16 01 59.1	
	16nm,0.8s						
KURK	Kurchatov	7.63	277	⇓*e*P	Pn	16 00 12.5	+7.8
ZAK	Zakamensk	8.11	86	*e*P	Pb	16 00 34.5	+0.4
ZAK				pmax	pmax		
	comp=Z,2.0nm,0.6s						

*IDC **02** 15:58:59.4±1.2, 856S×15753E, h0km, mb3.8/5, mb1 4.1/6, mb1mx3.8/14, mbtmp3.9/6, Error ellipse: s-maj=33.3km s-min=21.9km az=171.0*
*NEIC **02** 15:59:00.7±0.9, 862S×15763E, h10km, Error ellipse: s-maj=26.8km s-min=15.3km az=172.0*
*ISCJB **02** 15:59:03.1±1.0, 87S±02×15750E±007, h33km, mb3.7/5, Error ellipse: s-maj=26.0km s-min=10.0km az=5.6*
ISC 02 15:59:04.8±1.0, 86S±02×15752E±008, h35km, n7, σ0°92/9, mb3.7/5, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	2.53	109	Pn	Pn	15 59 40.3	-3.2
HNR				Sn	Sn	16 00 13.7	+0.6
HNR	Honiara	2.53	109	Pn	Pn	15 59 42.5	-1.0
	baz=180,slow=0.0						
HNR				Sn	Sn	16 00 13.7	+0.6
WRA	Warramunga Arr	25.10	241	P	P	16 04 25.1	-1.4
	2.8nm,0.6s,mb4.0,baz=67,slow=9.5,SNR=19						
ASAR	Alice Springs	27.12	234	P	P	16 04 45.5	+0.7
	0.7nm,0.8s,mb3.3,baz=74,slow=9.2,SNR=4.1						
STKA	Stephens Creek	27.49	210	P	P	16 04 48.5	+0.6
	1.2nm,0.6s,mb3.6,baz=44,slow=15,SNR=4.9						
MKAR	Makanchi Array	86.26	318	P	P	16 11 43.6	+0.7
	0.1nm,0.2s,mb3.6,baz=92,slow=6.5,SNR=2.8						
NVAR	Mina Array Bea	90.75	51	P	P	16 12 04.3	-0.2
	0.7nm,0.7s,mb4.1,baz=236,slow=4.7,SNR=5.0						

*ISCJB **02** 16:07:36.4±0.6, 772S±008×1560E±01.1, h10km, mb4.4/18, Error ellipse: s-maj=20.1km s-min=9.1km az=21.1*
*IDC **02** 16:07:36.7±0.9, 782S×15594E, h0km, mb4.4/11, mb1 4.5/12, mb1mx4.4/17, mbtmp4.4/12, ML3.0/1, MS4.3/1, Ms1 4.3/1, ms1mx3.2/14, Error ellipse: s-maj=30.4km s-min=17.0km az=103.0*
*NEIC **02** 16:07:38.0±0.5, 773S×15595E, h10km, mb4.7/6, Error ellipse: s-maj=16.1km s-min=8.2km az=114.0*
*MOS **02** 16:07:42.3±1.6, 739S×15549E, h33km, mb4.8/5, Error ellipse: s-maj=14.8km s-min=12.4km az=77.6*
ISC 02 16:07:39.8±9.0, 776S±010×1560E±02, h22km±63km, n40, σ0°81/36, mb4.4/18, 1C-1D, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	Charters Tower	15.45	217	*e*P	Pn	16 11 22.7	+6.3
	8.5nm,0.9s						
CTA	Charters Tower	15.45	217	Pn	Pn	16 11 16.8	+0.4
	0.0nm,0.3s,baz=42,slow=13,SNR=2.7						

CTAO	**Charters Tower**	**15.45 217**	P	**Pn**	**16 11 18.2**	**+1.8**
ARMA	**Armidale**	**22.91 190**	*e*P	**P**	**16 12 41.7**	**-0.4**
KAKA	**Kakadu**	**23.66 256**	*e*P	**P**	**16 12 49.7**	**-0.3**
	11nm,0.8s,mb4.3					
KAKA	**Kakadu**	**23.66 256**	*e*P	**P**	**16 12 49.2**	**-0.8**
WB2	**Warramunga Arr**	**24.19 238**⇑	*i*P	**P**	**16 12 55.0**	**+0.2**
WRA	**Warramunga Arr**	**24.20 238**	P	**P**	**16 12 54.7**	**-0.2**
	23nm,1.1s,mb4.5,baz=64,slow=9.2,SNR=47					
ASAR	**Alice Springs**	**26.41 231**	P	**P**	**16 13 14.2**	**-0.8**
	2.9nm,0.8s,mb3.9,baz=60,slow=8.7,SNR=24					
STKA	**Stephens Creek**	**27.48 207**	*e*P	**P**	**16 13 26.1**	**+1.6**
	3.4nm,1.0s,mb3.8					
STKA	**Stephens Creek**	**27.48 207**	P	**P**	**16 13 24.5**	**0.0**
	3.7nm,0.8s,mb3.9,baz=35,slow=13,SNR=7.2					
FITZ	**Fitzroy Crossi**	**31.24 248**	*e*P	**P**	**16 13 57.8**	**-0.2**
	6.7nm,0.9s,mb4.5					
FITZ	**Fitzroy Crossi**	**31.24 248**	P	**P**	**16 13 57.8**	**-0.2**
	3.4nm,0.8s,mb4.2,baz=88,slow=9.2,SNR=7.9					
MBWA	**Marble Bar**	**37.42 245**	*e*P	**P**	**16 14 50.9**	**-0.7**
RPZ	**Rata Peaks**	**38.18 162**	LR	LR	16 28 11.8	
	comp=Z,425nm,19.5s,baz=333,slow=32					
MJAR	**Matsushiro Arr**	**47.11 340**	P	**P**	**16 16 10.3**	**+0.1**
	3.5nm,0.8s,mb4.3,baz=162,slow=7.9,SNR=11					
MAJO	**Matsushiro**	**47.11 340**	*e*P	**P**	**16 16 09.6**	**-0.6**
	7.4nm,0.8s,mb4.7					
MAJO	**Matsushiro**	**47.11 340**	*e*P	**P**	**16 16 09.6**	**-0.6**
MAJO			pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.6					
MAT	**Matsushiro**	**47.11 340**	P	**P**	**16 16 10.0**	**-0.2**
KSRS	**Korea Array**	**52.06 332**	P	**P**	**16 16 49.1**	**+1.2**
	comp=Z,5.2nm,1.0s,mb4.4,baz=150,slow=7.6,SNR=7.5					
KLR	**Kul'dur**	**60.58 342**	*e*P	**P**	**16 17 46.2**	**-2.3**
KLR			*e*		16 18 35.9	
CHTO	**Chiang Mai**	**62.10 296**	*e*P	**P**	**16 18 00.3**	**+0.9**
	comp=Z,7.3nm,1.5s,mb4.6					
CHTO	**Chiang Mai**	**62.10 296**	*e*P	**P**	**16 18 00.3**	**+0.9**
CHTO			pmax	pmax		
	comp=Z,7.0nm,1.5s,mb4.6					
SONM	**Songino Array**	**70.49 327**	P	**P**	**16 18 54.7**	**+2.0**
	comp=Z,1.5nm,0.4s,mb4.2,baz=138,slow=6.4,SNR=19					
ZAK	**Zakamensk**	**73.64 328**⇓	*e*P	**P**	**16 19 12.0**	**+0.5**
ZAK			pmax	pmax		
	comp=Z,3.0nm,1.7s,mb4.0					
BOD	**Bodaibo**	**73.67 338**	*e*P	**P**	**16 19 11.2**	**-0.3**
BOD			pmax	pmax		
	comp=Z,7.0nm,1.6s,mb4.3					
BILL	**Bilibino**	**75.97 4**	*e*P	**P**	**16 19 24.9**	**+0.3**
	comp=Z,20nm,1.3s,mb4.9					
BILL	**Bilibino**	**75.97 4**	*e*P	**P**	**16 19 24.9**	**+0.4**
BILL			pmax	pmax		
	comp=Z,20nm,1.3s,mb4.9					
QSPA	**South Pole Qui**	**82.22 180**	P	**P**	**16 19 59.0**	**+0.2**
	comp=Z,6.0nm,0.8s,mb4.6,baz=3.6,slow=2.0,SNR=26					
MCK	**McKinley**	**82.40 22**	*e*P	**P**	**16 19 59.0**	**-0.9**
	comp=Z,11nm,1.5s,mb4.5					
MCK	**McKinley**	**82.40 22**	*e*P	**P**	**16 19 59.0**	**-0.8**
MCK			pmax	pmax		
	comp=Z,11nm,1.5s,mb4.6					
MKAR	**Makanchi Array**	**84.61 319**	P	**P**	**16 20 12.2**	**+0.6**
	comp=Z,3.5nm,1.0s,mb4.5,baz=106,slow=5.8,SNR=18					
ZALV	**Zalesovo Beam**	**85.34 326**	P	**P**	**16 20 14.5**	**-0.6**
	comp=Z,1.6nm,0.6s,mb4.3,baz=97,slow=5.9,SNR=7.0					
ZAL	**Zalesovo**	**85.35 326**	P	**P**	**16 20 14.5**	**-0.6**
DAWY	**Dawson**	**86.21 23**	P	**P**	**16 20 19.4**	**+0.3**
NVS	**Novosibirsk**	**86.51 326**	*e*P	**P**	**16 20 28.2**	**+7.4**
YKA	**Yellowknife Ar**	**96.56 28**	P	**P**	**16 21 07.7**	**+0.2**
	comp=Z,0.9nm,0.7s,mb4.3,baz=267,slow=4.5,SNR=17					
GERES	**GERESS Array B**	**128.20 329**	PKP	PKPdf	16 26 45.7	+1.2
	comp=Z,0.5nm,0.6s,baz=278,slow=0.9,SNR=5.3					
BDFB	**Brasilia**	**146.76 134**	PKPbc	PKPbc	16 27 21.7	+0.7
	comp=Z,6.9nm,0.8s,baz=172,slow=3.8,SNR=12					
TORD	**Torodi Ar. Bea**	**154.15 284**	PKPab	PKPab	16 27 53.1	+0.4
	comp=Z,1.3nm,0.8s,baz=86,slow=3.0,SNR=6.3					

NEIC ***02*** *16:08:19.3, 3144S×7162W, h18km, ML2.9(GUC), After GUC.*

GUC 02 16:08:19.3±0.6, 3144S×7162W, h18km±3km, MD3.6, ML2.9, 8C-5D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHNG	**Los Chungos**	**0.46**	**167**⇓	*i*P	Pg	16 08 11.2	-17
CHNG				*i* S	Sg	16 08 18.2	-17
CHNG				AML	AML	16 08 18.3	
	comp=N,1μm,0.3s						
CMCH	**Combarbala**	**0.59**	**64**⇑	*i*P	Pg	16 08 30.6	-0.5
CMCH				*i* S	Sg	16 08 39.1	+0.1
CMCH	**Combarbala**	**0.59**	**64**⇑	*i*P	Pg	16 08 30.6	-0.5
CMCH				*i* S	Sg	16 08 39.1	+0.1
CMCH				AML	AML	16 08 43.9	
	comp=E,1μm,0.5s						
OVCH	**Ovalle**	**0.90**	**24**	AML	AML	16 08 50.2	
	comp=N,484nm,0.3s						
PTCH	**Petorca**	**1.01**	**145**⇑	*i*P	Pb	16 08 37.0	-1.2
PTCH				*i* S	Sb	16 08 50.5	-0.8
PTCH	**Petorca**	**1.01**	**145**⇑	*i*P	Pb	16 08 37.0	-1.2
PTCH				*i* S	Sb	16 08 50.5	-0.8
PTCH				AML	AML	16 08 52.1	
	comp=N,199nm,0.2s						
PACH	**Papudo**	**1.11**	**172**⇑	*i*P	Pn	16 08 38.5	-1.4
PACH				*i* S	Sb	16 08 53.4	-0.6
TLL	**Tololo Astrono**	**1.45**	**29**⇓	*i*P	Pn	16 08 44.9	+0.3
TLL				*i* S	Sn	16 09 04.0	+0.9
TLL	**Tololo Astrono**	**1.45**	**29**⇓	*i*P	Pn	16 08 44.9	+0.3
TLL				*i* S	Sn	16 09 04.0	+0.9
TLL				AML	AML	16 09 07.5	
	comp=N,231nm,0.3s						
JACH	**Jahuel**	**1.52**	**145**⇓	*i*P	Pn	16 08 45.5	0.0
JACH				*i* S	Sn	16 09 05.4	+0.6
ROCH	**El Roble**	**1.61**	**162**	*e*P	Pn	16 08 46.9	0.0
ROCH				*i* S	Sn	16 09 08.4	+1.1
PEL	**Peldehue**	**1.88**	**155**⇓	*i*P	Pn	16 08 51.1	+0.6
PEL				*i* S	Sn	16 09 15.4	+1.7
PEL				AML	AML	16 09 17.4	
	comp=E,684nm,0.3s						
CLCH	**Cerro Calan**	**2.16**	**155**	*e*P	Pn	16 08 55.7	+1.3
CLCH				*i* S	Sn	16 09 23.3	+2.7
CLCH				AML	AML	16 09 29.4	
	comp=E,169nm,0.3s						
FCH	**Farellones**	**2.19**	**150**⇑	*i*P	Pn	16 08 56.3	+1.5
FCH				*i* S	Sn	16 09 25.2	+3.6
FCH				AML	AML	16 09 26.4	
	comp=E,122nm,0.2s						
TACH	**Talagante**	**2.28**	**166**	*e*P	Pn	16 08 57.2	+1.1
TACH				*i* S	Sn	16 09 25.9	+2.1
PCH	**Pirque**	**2.37**	**157**	*i* S	Sn	16 09 28.5	+2.6
CHCH	**Chadas Angostu**	**2.62**	**162**	*e*P	Pn	16 09 02.2	+1.5
CHCH				*i* S	Sn	16 09 34.2	+2.2
LMEL	**Las Melosas**	**2.68**	**154**⇑	*i*P	Pn	16 09 03.4	+1.8
LMEL				*i* S	Sn	16 09 35.9	+2.2
LMEL	**Las Melosas**	**2.68**	**154**⇑	*i*P	Pn	16 09 03.4	+1.8
LMEL				*i* S	Sn	16 09 35.9	+2.2
LMEL				AML	AML	16 09 42.1	
	comp=N,172nm,0.1s						

BJI ***02*** *16:08:18.2, 850S×158.12E, h17km, mb4.9, mB5.3, Ms5.2, Msz4.8*

IDC ***02*** *16:08:18.7±0.6, 866S×15770E, h0km, mb4.5/15, mb1 4.7/17, mb1mx4.6/19, mbtmp4.5/17, ML4.4/2, MS4.3/3, Ms1 4.3/3, ms1mx3.6/15, Error ellipse: s-maj=20.6km s-min=15.4km az=115.0*

ISCJB ***02*** *16:08:19.5±0.3, 863S±006×15764E±007, h14km, mb4.9/40, MS4.6/8, Error ellipse: s-maj=10.0km s-min=7.8km az=36.3*

NEIC ***02*** *16:08:20.8±5.4, 864S×15776E, h12km±33km, mb5.0/13, MS4.9/1, Error ellipse: s-maj=12.4km s-min=8.6km az=154.0*

MOS ***02*** *16:08:22.0±1.0, 851S×15778E, h33km, mb5.4/8, Error ellipse: s-maj=20.9km s-min=17.3km az=71.9*

ISC 02 16:08:21.2±0.3, 867S±006×15770E±006, h14km, h14km±1.7km: pP-P, n85, σ1°08/82, mb4.9/40, MS4.6/8, 1C-1D, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.34**	**109**	*e*Pn	**Pn**	**16 08 56.4**	**-2.9**
HNR				*e*S	**Sn**	**16 09 35.2**	**+7.4**
HNR	**Honiara**	**2.34**	**109**	Pn	**Pn**	**16 08 57.4**	**-1.9**
	218nm,0.3s,baz=238,slow=5.3,SNR=29						
HNR				Sn	**Sn**	**16 09 34.1**	**+6.2**
	1μm,0.3s,baz=90,slow=23,SNR=13						

CTA	**Charters Tower**	**15.86 223**	*e*P	**Pn**	**16 12 05.9**	**+1.8**
	14nm,1.0s					
CTA	**Charters Tower**	**15.86 223**	*e*P	**Pn**	**16 12 05.9**	**+1.8**
CTA			pmax	pmax		
	comp=Z,14nm,1.0s					
CTA	**Charters Tower**	**15.86 223**	Pn	**Pn**	**16 12 04.9**	**+0.8**
	comp=Z,0.5nm,0.3s,baz=83,slow=7.8,SNR=5.7					
CTAO	**Charters Tower**	**15.86 223**	*e*P	**Pn**	**16 12 07.2**	**+3.1**
	comp=Z,48nm,1.3s					
CTAO	**Charters Tower**	**15.86 223**	*e*P	**Pn**	**16 12 07.3**	**+3.2**
CTAO			pmax	pmax		
	comp=Z,48nm,1.3s					
ARMA	**Armidale**	**22.38 194**	*e*P	**P**	**16 13 20.1**	**+1.1**
KAKA	**Kakadu**	**25.14 259**	*e*P	**P**	**16 13 46.0**	**-0.1**
	comp=Z,21nm,0.9s,mb4.7					
WB2	**Warramunga Arr**	**25.21 241**	*e*P	**P**	**16 13 45.9**	**-0.8**
WRA	**Warramunga Arr**	**25.22 241**	P	**P**	**16 13 45.9**	**-0.9**
WRA					16 17 20.1	
WRA	**Warramunga Arr**	**25.22 241**	P	**P**	**16 13 45.9**	**-0.9**
	comp=Z,14nm,0.6s,mb4.7,baz=67,slow=9.4,SNR=16					
WRA			PcP	PcP	16 17 20.1	-0.3
	comp=Z,1.7nm,0.9s,baz=68,slow=2.2,SNR=4.3					
WRA			LR	LR	16 23 03.1	
	comp=Z,1μm,20.0s,MS4.4,baz=60,slow=35					
ASAR	**Alice Springs**	**27.23 234**	P	**P**	**16 14 04.2**	**-0.7**
	comp=Z,5.8nm,1.1s,mb4.0,baz=60,slow=9.1,SNR=4.3					
STKA	**Stephens Creek**	**27.52 211**	*e*P	**P**	**16 14 09.1**	**+1.7**
	comp=Z,13nm,0.8s,mb4.6					
STKA	**Stephens Creek**	**27.52 211**	P	**P**	**16 14 08.6**	**+1.1**
	comp=Z,13nm,0.7s,mb4.7,baz=32,slow=11,SNR=11					
FITZ	**Fitzroy Crossi**	**32.52 250**	*e*P	**P**	**16 14 56.0**	**+4.1**
	comp=Z,6.1nm,0.9s,mb4.5					
FITZ	**Fitzroy Crossi**	**32.52 250**	P	**P**	**16 14 51.3**	**-0.6**
	comp=Z,3.5nm,1.1s,mb4.2,baz=91,slow=14,SNR=3.5					
BATI	**Kupang**	**33.60 265**	LR	LR	16 29 56.2	
	comp=Z,828nm,18.9s,MS4.5,baz=272,slow=39					
KSM	**Kuching**	**48.30 280**	*e*P	**P**	**16 17 01.5**	**-1.0**
MJAR	**Matsushiro Arr**	**48.55 339**	P	**P**	**16 17 02.4**	**-1.6**
MJAR	**Matsushiro Arr**	**48.55 339**	P	**P**	**16 17 02.4**	**-1.6**
	comp=Z,1.6nm,0.7s,mb4.2,baz=174,slow=9.4,SNR=3.4					
PPT	**Papeete**	**51.96 105**	*e*LQ		16 30 28.7	
	comp=Z,342nm,25.8s					
PPT			*e*LR	LR	16 32 40.9	
	comp=Z,468nm,29.2s					
TBI	**Tubuai**	**52.56 113**	*e*LQ		16 30 46.0	
	comp=Z,708nm,28.2s					
KSRS	**Korea Array**	**53.68 331**	P	**P**	**16 17 42.3**	**-0.2**
	comp=Z,9.5nm,1.1s,mb4.6,baz=155,slow=8.5,SNR=8.3					
NJ2	**Nanjing**	**54.91 319**	*e*P	**P**	**16 17 52.6**	**+1.0**
NJ2			AMB	AMB		
	comp=Z,20nm,0.6s,mb5.3					
YSS	**Yuzh-Sakhalins**	**56.95 348**	P	**P**	**16 18 04.2**	**-1.7**
KULM	**Kulim**	**58.55 282**	*e*P	**P**	**16 18 16.5**	**-1.4**
MDJ	**Mudanjiang**	**58.80 337**	P	**P**	**16 18 19.3**	**+0.4**
MDJ			AP	pP	16 18 22.5	-1.1
MDJ			XP	sP	16 18 23.8	-1.5
MDJ			PCP	PcP	16 19 08.5	0.0
MDJ			PP	PP	16 20 31.6	+2.4
MDJ			SCP	ScP	16 23 07.5	-1.3
MDJ			S	**S**	**16 26 25.5**	**+1.7**
MDJ			SS	SS	16 30 12.8	-4.7
MDJ			AMB	AMB		
	comp=Z,12nm,1.5s,mb4.7					
MDJ			AMB	AMB		
	comp=Z,238nm,6.8s					
CN2	**Changchun**	**59.85 333**	*e*P	**P**	**16 18 26.0**	**-0.3**
CN2			*e*XP	sP	16 18 33.0	+0.3
CN2			AMB	AMB		
	comp=Z,20nm,1.3s,mb5.0					
CN2			AMB	AMB		
	comp=Z,200nm,4.0s					
GYA	**Guiyang**	**60.59 307**⇑	*i*P	**P**	**16 18 33.9**	**+2.2**
GYA			AP	pP	16 18 37.9	+1.5
GYA			XP	sP	16 18 40.8	+2.7
GYA			PCP	PcP	16 19 18.0	+1.9
GYA			PP	PP	16 20 50.4	+4.9
GYA			SCP	ScP	16 23 17.9	+0.7
GYA			S	**S**	**16 26 49.2**	**+1.5**
GYA			SCS	ScS	16 28 21.4	-1.2
GYA			SS	SS	16 30 49.6	+3.2
GYA			AMB	AMB		
	comp=Z,60nm,1.0s,mb5.7					
GYA			AMB	AMB		
	comp=Z,960nm,11.4s					
GYA			LR	LR		
	comp=N,860nm,20.8s,MS5.0					
GYA			LR	LR		
	comp=E,940nm,21.6s,MS5.0					
GYA			LR	LR		
	comp=Z,710nm,22.4s,MS4.8					
TAOE	**Nuku Hiva Isla**	**61.36 95**	*e*LR	LR	16 37 03.1	
	comp=Z,589nm,27.2s					
BJI	**Beijing**	**61.81 325**	P	**P**	**16 18 40.7**	**+1.0**
BJI			AMB	AMB		
	comp=Z,4.0nm,0.8s,mb4.6					
BJI	**Beijing**	**61.81 325**	P	**P**	**16 18 40.7**	**+1.0**
	comp=Z,4.0nm,0.8s,mb4.6					
XAN	**Xi'an**	**62.77 315**	P	**P**	**16 18 43.0**	**-3.2**
XAN			AP	pP	16 18 51.0	+0.1
XAN			AMB	AMB		
	comp=Z,7.0nm,1.6s,mb4.5					
KMI	**Kunming**	**63.17 304**	P	**P**	**16 18 50.2**	**+1.1**
KMI			AP	pP	16 18 53.8	+0.1
KMI			AMB	AMB		
	comp=Z,24nm,1.5s,mb5.1					
KMI	**Kunming**	**63.17 304**	P	**P**	**16 18 50.2**	**+1.1**
	comp=Z,24nm,1.5s,mb5.1					
KMI			pP	pP	16 18 53.8	+0.1
CHTO	**Chiang Mai**	**64.04 296**	*e*P	**P**	**16 18 54.9**	**0.0**
	comp=Z,82nm,2.0s,mb5.4					
CHTO	**Chiang Mai**	**64.04 296**	*e*P	**P**	**16 18 54.9**	**0.0**
CHTO			pmax	pmax		
	comp=Z,82nm,2.0s,mb5.4					
CD2	**Chengdu**	**64.93 310**	*e*P	**P**	**16 19 00.8**	**+0.2**
CD2			AP	pP	16 19 05.6	+0.3
CD2			XP	sP	16 19 07.9	+0.9
CD2			PP	PP	16 21 25.8	+2.2
CD2			PCS		16 23 36.3	
CD2			S	**S**	**16 27 40.7**	**-1.3**
CD2			SCS	ScS	16 28 51.4	-4.0
CD2			SS	SS	16 31 54.5	+0.4
CD2			AMB	AMB		
	comp=Z,30nm,0.9s,mb5.3					
CD2			AMB	AMB		
	comp=Z,50nm,5.8s					
CD2			LR	LR		
	comp=N,330nm,10.7s,MS5.2					
CD2			LR	LR		
	comp=E,710nm,10.2s,MS5.2					
CD2			LR	LR		
	comp=Z,330nm,10.7s,MS4.8					
HHC	**Hu-ho-hao-te**	**65.03 323**	*e*P	**P**	**16 19 03.2**	**+2.2**
HHC			AP	pP	16 19 07.6	+2.0
HHC			XP	sP	16 19 10.8	+3.4
HHC			PP	PP	16 21 29.0	+4.8
HHC			SCP		16 23 37.4	
HHC			PCS		16 23 38.7	
HHC			S	S	16 27 45.2	+2.4
HHC			XS	sS	16 27 53.1	+2.6
HHC			SCS	ScS	16 28 53.8	-1.9
HHC			AMB	AMB		
	comp=Z,14nm,0.3s,mb5.5					
HHC			LR	LR		
	comp=N,152nm,6.5s					
HHC			LR	LR		
	comp=E,172nm,6.0s					
HHC			LR	LR		
	comp=Z,126nm,11.6s,MS4.3					
LZH	**Lanzhou**	**67.38 315**	*e*P	**P**	**16 19 17.1**	**+0.9**
LZH			AP	pP	16 19 20.5	-0.4
LZH			XP	sP	16 19 22.0	-0.6
LZH			PP	PP	16 21 47.6	+2.6
LZH			*e*S	S	16 28 11.0	-0.6
LZH			SS	SS	16 32 33.0	+1.0
LZH			AMB	AMB		
	comp=Z,56nm,1.5s,mb5.4					
LZH			AMB	AMB		
	comp=Z,161nm,4.0s					
LZH			LR	LR		
	comp=E,456nm,14.8s					
LZH			LR	LR		
	comp=Z,775nm,15.9s,MS5.0					
LZH	**Lanzhou**	**67.38 315**	*e*P	**P**	**16 19 17.1**	**+0.9**
	comp=Z,56nm,1.5s,mb5.4					
LZH			pP	pP	16 19 20.5	-0.4
LZH			sP	sP	16 19 22.0	-0.6
LZH			PP	PP	16 21 47.6	+2.6
LZH			*e*S	S	16 28 11.0	-0.6
LZH			sS	sS	16 28 17.0	-2.4
LZH			SS	SS	16 32 33.0	+1.0
LZH			LR	LR		
	comp=Z,780nm,15.9s,MS5.0					
LZH	**Lanzhou**	**67.38 315**	*e*P	**P**	**16 19 17.1**	**+0.9**
LZH					16 21 47.6	
LZH			*e*S	S	16 28 11.0	-0.6
LZH			SS	SS	16 32 33.0	+1.0
LZH			pmax	pmax		
	comp=Z,56nm,1.5s,mb5.4					
LZH			MLR	MLR		
	comp=Z,780nm,15.9s,MS5.0					
VNDA	**Vanda**	**68.86 179**	P	**P**	**16 19 24.6**	**-0.3**
	comp=Z,1.5nm,0.9s,mb3.9,baz=18,slow=2.9,SNR=5.9					
GTA	**Gaotai**	**71.79 316**	*e*P	**P**	**16 19 44.0**	**+0.7**
GTA			AP	pP	16 19 47.6	-0.5
GTA			XP	sP	16 19 49.1	-0.7
SONM	**Songino Array**	**72.19 326**	P	**P**	**16 19 46.3**	**+0.8**
	comp=Z,3.7nm,0.9s,mb4.3,baz=131,slow=4.8,SNR=6.5					
YAK	**Yakutsk**	**73.77 347**	*e*P	**P**	**16 19 54.4**	**-0.2**
YAK			*e*		16 20 10.5	
YAK			pmax	pmax		
	comp=Z,12nm,1.2s,mb4.7					
YAK			pmax	pmax		
	comp=E,5.0nm,1.5s					
YAK			pmax	pmax		
	comp=N,5.0nm,1.5s					
YAK			pmax	pmax		
	comp=Z,13nm,0.8s,mb4.9					
YAK			pmax	pmax		
	comp=N,4.0nm,1.3s					
LSA	**Lhasa**	**74.42 304**	P	**P**	**16 20 00.1**	**+0.9**
LSA			AMB	AMB		
	comp=Z,20nm,0.9s,mb5.0					
LSA	**Lhasa**	**74.42 304**	*e*P	**P**	**16 20 00.0**	**+0.8**
	comp=Z,21nm,1.3s,mb4.9					
LSA	**Lhasa**	**74.42 304**	*e*P	**P**	**16 20 00.0**	**+0.8**
LSA			pmax	pmax		
	comp=Z,21nm,1.3s,mb4.9					
KDAK	**Kodiak Island**	**77.52 25**	P	**P**	**16 20 16.3**	**+0.1**
	comp=Z,5.5nm,0.8s,mb4.5,baz=248,slow=5.2,SNR=6.9					
JIRN	**Jiri**	**77.94 301**	*e*P	**P**	**16 20 18.1**	**-1.1**
	comp=Z,41nm,1.4s,mb5.2					
TNA	**Tin City**	**78.26 14**	*e*P	**P**	**16 20 20.1**	**0.0**
	comp=Z,14nm,1.1s,mb4.8					
SVW2	**Sparrevohn**	**78.55 21**	*e*P	**P**	**16 20 22.7**	**+0.9**
KKN	**Kakani**	**78.75 301**	*e*P	**P**	**16 20 22.0**	**-1.7**
	comp=Z,29nm,1.3s,mb5.0					
GKN	**Gorkha**	**79.35 301**	*e*P	**P**	**16 20 25.2**	**-1.8**
	comp=Z,79nm,1.4s,mb5.4					
TTA	**Tatalina**	**79.66 20**	*e*P	**P**	**16 20 28.3**	**+0.4**
KOLN	**Koldanda**	**80.18 300**	*e*P	**P**	**16 20 28.8**	**-2.7**
	comp=Z,19nm,1.0s,mb5.0					
SLKM	**Skilak Lake**	**80.18 23**	*e*P	**P**	**16 20 30.3**	**-0.4**
PMR	**Palmer**	**81.26 23**	*e*P	**P**	**16 20 36.1**	**-0.4**
	comp=Z,73nm,1.6s,mb5.4					
PMR	**Palmer**	**81.26 23**	*e*P	**P**	**16 20 36.1**	**-0.4**
PMR			pmax	pmax		
	comp=Z,73nm,1.6s,mb5.4					
QSPA	**South Pole Qui**	**81.32 180**	P	**P**	**16 20 36.7**	**0.0**
	comp=Z,1.4nm,0.7s,mb4.0,baz=359,slow=4.0,SNR=3.2					
SML	**Sawmill**	**81.69 23**	*e*P	**P**	**16 20 38.2**	**-0.6**
WMQ	**Urumqi**	**81.87 317**	P	**P**	**16 20 40.5**	**+0.4**
WMQ			AMB	AMB		
	comp=Z,151nm,5.4s					
TIXI	**Tiksi**	**82.39 351**	*e*P	**P**	**16 20 41.4**	**-0.9**
	comp=Z,33nm,1.7s,mb5.0					
TIXI	**Tiksi**	**82.39 351**	*e*P	**P**	**16 20 40.7**	**-1.6**
TIXI			pmax	pmax		
	comp=Z,21nm,1.8s,mb4.8					
IMA2	**Indian Mountai**	**82.53 18**	*e*P	**P**	**16 20 43.6**	**+0.5**
MCK	**McKinley**	**82.62 21**	*e*P	**P**	**16 20 42.9**	**-0.7**
	comp=Z,92nm,1.2s,mb5.7					
MCK	**McKinley**	**82.62 21**	*e*P	**P**	**16 20 42.9**	**-0.7**
MCK			pmax	pmax		
	comp=Z,92nm,1.2s,mb5.7					
COLA	**College**	**83.68 20**	*e*P	**P**	**16 20 48.0**	**-1.0**
	comp=Z,42nm,1.3s,mb5.4					
COLA	**College**	**83.68 20**	*e*P	**P**	**16 20 48.0**	**-1.1**
COLA			pmax	pmax		
	comp=Z,42nm,1.3s,mb5.4					
MAW	**Mawson**	**83.90 203**	P	**P**	**16 20 50.3**	**+0.1**
	comp=Z,4.3nm,0.8s,mb4.6,baz=82,slow=8.2,SNR=4.9					
EGAK	**Eagle**	**86.03 22**	*e*P	**P**	**16 21 01.2**	**+0.3**
	comp=Z,44nm,1.5s,mb5.5					
SKAG	**Skagway**	**86.05 28**	*e*P	**P**	**16 21 02.9**	**+1.8**
	comp=Z,73nm,1.9s,mb5.6					
SKAG			LR	LR		
	comp=Z,500nm,21.0s,MS4.9					
DAWY	**Dawson**	**86.35 23**	*e*P	**P**	**16 21 03.4**	**+0.9**
MKAR	**Makanchi Array**	**86.42 318**	P	**P**	**16 21 03.1**	**-0.1**
	comp=Z,1.5nm,0.7s,mb4.3,baz=100,slow=5.9,SNR=3.4					
ZALV	**Zalesovo Beam**	**87.06 326**	LR	LR	16 58 36.9	
	comp=Z,54nm,19.3s,MS4.0,baz=100,slow=35					
MTUM	**Tungsten Hills**	**90.25 52**	*e*P	**P**	**16 21 23.1**	**+1.4**
NVAR	**Mina Array Bea**	**90.65 51**	P	**P**	**16 21 24.8**	**+1.2**
	comp=Z,5.0nm,1.1s,mb4.8,baz=231,slow=4.4,SNR=19					
SYO	**Syowa Base**	**91.62 199**⇓	*es*P	sP	16 21 32.8	-1.2
YKA	**Yellowknife Ar**	**96.55 28**	P	**P**	**16 21 49.5**	**-0.6**
YKA	**Yellowknife Ar**	**96.55 28**	P	**P**	**16 21 49.5**	**-0.6**
	comp=Z,1.3nm,0.9s,mb4.3,baz=262,slow=4.6,SNR=8.9					
PDAR	**Pinedale Array**	**97.82 48**	P	**P**	**16 21 56.2**	**-0.1**
	comp=Z,1.4nm,1.1s,mb4.4,baz=282,slow=1.4,SNR=5.1					
BDFB	**Brasilia**	**144.90 133**	PKP	PKPdf	16 27 57.8	-1.1
	comp=Z,8.3nm,0.9s,baz=144,slow=2.4,SNR=7.6					
ESDC	**Sonseca Array**	**145.04 335**	PKPbc	PKPbc	16 27 57.2	-0.6
	comp=Z,0.4nm,0.4s,baz=13,slow=3.6,SNR=4.8					

NEIC ***02*** *16:13:17.1±3.3, 765S×15882E, h10km, mb4.3/2, Error

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**25.06**	**240**	P	P	16 25 29.9	+0.8
	1.6nm,0.6s,baz=66,slow=9.3,SNR=10						
ASAR	**Alice Springs**	**27.11**	**233**	P	P	16 25 47.0	-0.7
	0.4nm,0.7s,baz=63,slow=8.7,SNR=4.1						
STKA	**Stephens Creek**	**27.57**	**210**	P	P	16 25 51.7	0.0
	1.9nm,0.8s,baz=47,slow=16,SNR=3.8						
MKAR	**Makanchi Array**	**86.02**	**318**	P	P	16 32 45.5	+0.2
	0.7nm,0.6s,baz=94,slow=6.2,SNR=4.2						

*IDC **02** 16:26:46.8±0.9, 765S×15586E, h0km, mb4.1/10, mb1 4.2/11, mb1mx4.1/16, mbtmp4.1/11, ML4.9/1, Error ellipse: s-maj=27.4km s-min=19.0km az=104.0*
*NEIC **02** 16:26:48.4±0.5, 761S×15589E, h10km, mb4.5/3, Error ellipse: s-maj=11.6km s-min=11.0km az=127.0*
*ISCJB **02** 16:26:50.0±0.6, 764S±010×15596E±009, h33km, mb4.0/12, Error ellipse: s-maj=14.0km s-min=13.3km az=158.3*

ISC 02 16:26:52.0±0.6, 764S±010×15593E±010, h35km, n21, σ0§89/21, mb4.0/12, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.36**	**114**	Pn	Pn	16 27 55.0	-0.7
	60nm,0.3s,baz=263,slow=6.1,SNR=5.0						
KAKA	**Kakadu**	**23.65**	**256**	*e*P	P	16 32 01.2	+0.7
	9.5nm,0.6s,mb4.4						
WB2	**Warramunga Arr**	**24.22**	**237**	*e*P	P	16 32 05.5	-0.1
WRA	**Warramunga Arr**	**24.23**	**237**	P	P	16 32 06.1	+0.3
	7.6nm,1.0s,mb4.1,baz=62,slow=9.9,SNR=17						
ASAR	**Alice Springs**	**26.46**	**231**	P	P	16 32 25.1	-0.8
	1.5nm,0.8s,mb3.5,baz=62,slow=9.2,SNR=12						
STKA	**Stephens Creek**	**27.56**	**207**	*e*P	P	16 32 39.6	+3.8
	1.3nm,0.6s,mb3.7						
STKA	**Stephens Creek**	**27.56**	**207**	P	P	16 32 35.1	-0.7
	1.5nm,0.6s,mb3.8,baz=25,slow=17,SNR=2.4						
FITZ	**Fitzroy Crossi**	**31.25**	**248**	*e*P	P	16 33 08.1	-0.6
	3.6nm,1.0s,mb4.2						
FITZ	**Fitzroy Crossi**	**31.25**	**248**	*e*P	P	16 33 08.2	-0.5
	11nm,1.0s,mb4.7						
FITZ	**Fitzroy Crossi**	**31.25**	**248**	P	P	16 33 08.3	-0.4
	1.2nm,0.7s,mb3.9,baz=97,slow=11,SNR=3.7						
MJAR	**Matsushiro Arr**	**46.99**	**340**	P	P	16 35 18.5	-1.3
	1.6nm,0.7s,mb4.1,baz=154,slow=7.6,SNR=4.7						
VNDA	**Vanda**	**69.92**	**179**	P	P	16 37 58.8	-0.3
	0.7nm,0.8s,mb3.6,baz=323,slow=8.0,SNR=4.5						
SONM	**Songino Array**	**70.38**	**327**	P	P	16 38 03.4	+1.1
	2.1nm,0.9s,mb4.0,baz=146,slow=5.8,SNR=11						
SBA	**Scott Base**	**70.41**	**178**	*e*P	P	16 38 03.5	+1.4
BILL	**Bilibino**	**75.85**	**4**	*e*P	P	16 38 33.9	-0.4
	3.5nm,1.0s,mb4.2						
MK31	**Makanchi Array**	**84.50**	**319**	*e*P	P	16 39 21.4	+0.1
MKAR	**Makanchi Array**	**84.50**	**319**	P	P	16 39 21.2	-0.1
	2.1nm,0.6s,mb4.4,baz=106,slow=6.0,SNR=18						
ZALV	**Zalesovo Beam**	**85.23**	**326**	P	P	16 39 23.9	-0.9
ZALV	**Zalesovo Beam**	**85.23**	**326**	P	P	16 39 23.9	-0.9
	1.3nm,0.7s,mb4.2,baz=90,slow=5.8,SNR=3.5						
YKA	**Yellowknife Ar**	**96.47**	**28**	P	P	16 40 19.4	+2.0
YKA	**Yellowknife Ar**	**96.47**	**28**	P	P	16 40 19.4	+2.0
	0.3nm,0.5s,mb3.9,baz=266,slow=4.8,SNR=3.1						

IDC 02 16:37:09.4±2.5, 737S×15618E, h0km, mb4.0/5, mb1 4.1/5, mb1mx3.8/13, mbtmp3.9/5, MS3.7/1, Ms1 3.7/1, ms1mx2.8/27, Error ellipse: s-maj=79.2km s-min=36.1km az=124.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.58**	**237**	P	P	16 42 31.1	-0.2
	1.3nm,0.6s,baz=61,slow=9.4,SNR=9.7						
RAO	**Raoul Island**	**32.69**	**135**	LR	LR	16 53 54.7	
	comp=Z,119nm,18.5s,baz=214,slow=31						
SONM	**Songino Array**	**70.29**	**327**	P	P	16 48 26.2	+1.6
	0.6nm,0.8s,baz=146,slow=3.9,SNR=4.5						
MKAR	**Makanchi Array**	**84.46**	**318**	P	P	16 49 44.5	+0.5
	1.6nm,0.6s,baz=104,slow=6.1,SNR=18						
ZALV	**Zalesovo Beam**	**85.15**	**326**	P	P	16 49 46.7	-0.7
	1.2nm,0.6s,baz=90,slow=5.9,SNR=5.2						
YKA	**Yellowknife Ar**	**96.12**	**28**	P	P	16 50 37.3	-1.5
	0.1nm,0.3s,baz=269,slow=4.8,SNR=4.0						

*BJI **02** 16:40:00.2, 738S×156.14E, h10km, mB5.1, mb5.0, Ms4.9, Msz4.6*
*IDC **02** 16:40:00.2±0.6, 747S×156.12E, h0km, mb4.8/12, mb1 4.8/15, mb1mx4.8/17, mbtmp4.8/15, ML4.0/3, MS4.2/8, Ms1 4.2/8, ms1mx3.8/23, Error ellipse: s-maj=19.2km s-min=15.0km az=82.0*
*NEIC **02** 16:40:01.7±0.3, 742S×15608E, h10km, mb4.9/15, Error ellipse: s-maj=8.9km s-min=7.4km az=96.0*
*MOS **02** 16:40:04.0±0.9, 737S×15606E, h33km, mb5.0/11, Error ellipse: s-maj=14.4km s-min=10.5km az=113.4*
*ISCJB **02** 16:40:05.0±1.8, 749S±006×156.14E±006, h46km±17km, mb4.8/41, MS4.1/7, Error ellipse: s-maj=10.8km s-min=9.2km az=154.7*

ISC 02 16:40:07.3±1.5, 751S±006×15615E±006, h53km±16km, n96, σ0§86/85, mb4.8/41, MS4.1/7, 3C-4D, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.22**	**117**	*e*Pn	Pn	16 41 09.8	+0.7
HNR	**Honiara**	**4.22**	**117**	Pn	Pn	16 41 08.3	-0.8
	27nm,0.3s,baz=266,slow=5.2,SNR=3.4						
HNR				Sn	**Sn**	16 41 57.6	+0.5
	121nm,0.3s,baz=90,slow=20,SNR=3.0						
HNR				LR	LR	16 42 39.6	
	comp=Z,3μm,19.1s,baz=350,slow=37						
CTA	**Charters Tower**	**15.76**	**216**	*e*P	Pn	16 43 45.3	-0.6
	14nm,1.0s						
CTA	**Charters Tower**	**15.76**	**216**	*e*P	Pn	16 43 45.3	-0.6
CTA				pmax	pmax		
	comp=Z,15nm,1.0s						
CTA	**Charters Tower**	**15.76**	**216**	Pn	Pn	16 43 45.1	-0.8
	comp=Z,0.1nm,0.3s,baz=38,slow=12,SNR=3.4						
CTAO	**Charters Tower**	**15.76**	**216**	P	Pn	16 43 41.7	-4.2
DZM	**Mont Dzumac**	**17.55**	**147**	P	Pn	16 44 08.3	0.0
	comp=Z,0.8nm,0.3s,baz=357,slow=15,SNR=5.8						
ARMA	**Armidale**	**23.18**	**190**	*e*P	P	16 45 09.3	-0.3
TLE	**Tual**	**23.33**	**273⇓**	*e*P	P	16 45 13.0	+1.8
GUMO	**Guam**	**23.77**	**332**	LR	LR	16 53 35.5	
	comp=Z,229nm,18.5s,MS3.7,baz=144,slow=34						
KAKA	**Kakadu**	**23.89**	**256**	*e*P	P	16 45 17.0	+0.6
	comp=Z,31nm,0.6s,mb4.9						
WB2	**Warramunga Arr**	**24.47**	**237**	*e*P	P	16 45 21.9	+0.3
WRA	**Warramunga Arr**	**24.48**	**237**	P	P	16 45 21.9	+0.2
	comp=Z,15nm,0.8s,mb4.5,baz=61,slow=9.7,SNR=30						
WRA				ScP	ScP	16 52 38.8	+4.9
	comp=Z,0.8nm,0.8s,baz=64,slow=3.2,SNR=7.4						
ASAR	**Alice Springs**	**26.71**	**231**	P	P	16 45 41.2	-0.6
	comp=Z,3.5nm,0.7s,mb4.0,baz=64,slow=8.7,SNR=38						
ASAR				ScP	ScP	16 52 44.6	+4.4
	comp=Z,0.6nm,0.7s,baz=60,slow=1.5,SNR=4.6						
STKA	**Stephens Creek**	**27.78**	**207**	*e*P	P	16 45 51.3	0.0
	comp=Z,4.3nm,0.6s,mb4.3						
STKA	**Stephens Creek**	**27.78**	**207**	P	P	16 45 51.2	-0.1
	comp=Z,3.5nm,0.7s,mb4.1,baz=12,slow=9.8,SNR=3.0						
STKA				ScP	ScP	16 52 48.5	+5.2
	comp=Z,1.7nm,0.8s,baz=304,slow=3.6,SNR=4.3						
STKA				LR	LR	16 57 06.2	
	comp=Z,478nm,18.5s,MS4.1,baz=25,slow=37						
FITZ	**Fitzroy Crossi**	**31.50**	**248**	*e*P	P	16 46 24.4	-0.1
	comp=Z,13nm,0.7s,mb4.9						
FITZ	**Fitzroy Crossi**	**31.50**	**248**	P	P	16 46 24.4	-0.1
	comp=Z,3.8nm,0.7s,mb4.3,baz=83,slow=9.0,SNR=14						
FORT	**Forrest**	**35.02**	**225**	*e*P	P	16 46 54.5	-0.5
	comp=Z,23nm,0.6s,mb5.3						
FORT				*e*	pP	16 47 08.9	+0.3
MSLP	**Maasin**	**35.75**	**299**	*e*P	P	16 47 01.4	0.0
URZ	**Urewera**	**36.01**	**151**	LR	LR	16 59 10.2	
	comp=Z,274nm,19.8s,MS4.0,baz=223,slow=32						
OCLP	**Ormoc**	**36.40**	**300**	*e*P	P	16 47 03.5	-3.5
CNP	**Catarman**	**37.08**	**302**	*e*P	P	16 47 12.0	-0.8
MBWA	**Marble Bar**	**37.68**	**245**	*e*P	P	16 47 17.3	-0.6
	comp=Z,5.2nm,0.6s,mb4.4						
PVCP	**Virac**	**38.06**	**303**	*e*P	P	16 47 19.7	-1.4
RPZ	**Rata Peaks**	**38.36**	**163**	P	P	16 47 23.0	-0.1
	comp=Z,28nm,0.9s,mb5.0,baz=76,slow=3.3,SNR=14						

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
OTRP	**Odiongan**	**39.25**	**300**	*e*P	P	16 47 31.0	0.0
CUYO	**Cuyo Island**	**39.43**	**297**	*e*P	P	16 47 33.5	+0.9
POLP	**Polillo Island**	**40.48**	**303**	*e*P	P	16 47 41.4	+0.1
BALP	**Baler**	**41.30**	**304**	*e*P	P	16 47 47.8	-0.2
LUBP	**Lubang**	**41.42**	**301**	*e*P	P	16 47 48.3	-0.7
BATP	**Bataraza**	**41.50**	**292**	*e*P	P	16 47 50.5	+0.7
KKM	**Kota Kinabalu**	**42.05**	**288**	*e*P	P	16 47 54.4	+0.2
APYP	**Conner**	**42.70**	**307**	*e*P	P	16 47 60.0	+0.6
KLBR	**Kellerberrin**	**43.04**	**231**	*e*P	P	16 48 01.4	-0.6
	comp=Z,19nm,0.9s,mb4.8						
NWAO	**Narrogin (SRO)**	**44.02**	**229**	LR	LR	17 06 21.4	
	comp=Z,193nm,21.3s,MS4.0,baz=318,slow=36						
RAR	**Rarotonga**	**44.66**	**113**	LR	LR	17 01 38.3	
	comp=Z,1μm,20.2s,MS4.9,baz=68,slow=29						
KSM	**Kuching**	**46.59**	**279**	*e*P	P	16 48 30.4	-0.2
MJAR	**Matsushiro Arr**	**46.94**	**340**	P	P	16 48 31.6	-1.3
	comp=Z,5.7nm,0.9s,mb4.5,baz=171,slow=8.0,SNR=12						
MAT	**Matsushiro**	**46.94**	**340**	P	P	16 48 32.8	-0.1
KSRS	**Korea Array**	**51.93**	**331**	P	P	16 49 11.3	+0.4
	comp=Z,8.1nm,0.6s,mb4.8,baz=146,slow=7.1,SNR=36						
KSRS				LR	LR	17 10 10.5	
	comp=Z,77nm,18.0s,MS3.8,baz=250,slow=35						
NJ2	**Nanjing**	**53.04**	**320**	*e*P	P	16 49 20.8	+1.6
NJ2				AMB	AMB		
	comp=Z,20nm,0.6s,mb5.2						
PPT	**Papeete**	**53.76**	**106**	*e*LQ		17 03 11.3	
	comp=Z,317nm,24.5s						
PPT				*e*LR	LR	17 04 53.4	
	comp=Z,111nm,24.0s						
TBI	**Tubuai**	**54.43**	**113**	*e*LR	LR	17 05 23.8	
	comp=Z,207nm,29.8s						
YSS	**Yuzh-Sakhalins**	**55.52**	**349⇑**	*e*P	P	16 49 37.9	+1.0
YSS				pmax	pmax		
	comp=Z,28nm,2.7s,mb4.8						
KULM	**Kulim**	**56.81**	**281**	*e*P	P	16 49 45.8	-1.1
KLR	**Kul'dur**	**60.40**	**342**	*e*P	P	16 50 07.8	-3.3
CD2	**Chengdu**	**63.02**	**310**	*e*P	P	16 50 30.8	+1.7
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb5.0						
CD2				AMB	AMB		
	comp=Z,30nm,5.8s						
SEY	**Seymchan**	**70.30**	**358⇓**	*e*P	P	16 51 14.3	-0.5
SONM	**Songino Array**	**70.39**	**327**	P	P	16 51 16.9	+1.2
	comp=Z,15nm,0.8s,mb5.0,baz=137,slow=6.7,SNR=113						
YAK	**Yakutsk**	**72.30**	**347⇑**	*i*P	P	16 51 27.1	+0.1
YAK				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.6						
LSA	**Lhasa**	**72.50**	**304**	P	P	16 51 30.8	+1.9
LSA				AMB	AMB		
	comp=Z,20nm,1.0s,mb5.0						
LSA	**Lhasa**	**72.50**	**304**	*e*P	P	16 51 30.0	+1.1
	comp=Z,8.6nm,0.8s,mb4.7						
LSA	**Lhasa**	**72.50**	**304**	*e*P	P	16 51 30.0	+1.1
LSA				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.8						
BOD	**Bodaibo**	**73.51**	**338**	*e*P	P	16 51 33.6	-0.6
BOD				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.5						
ZAK	**Zakamensk**	**73.53**	**328**	*e*P	P	16 51 34.8	+0.3
ZAK				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.5						
TLY	**Talaya**	**74.09**	**329**	*e*P	P	16 51 38.0	+0.3
TLY				*e*	pP	16 51 54.4	+1.7
TLY				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.6						
IRK	**Irkutsk**	**74.10**	**330**	*e*P	P	16 51 37.4	-0.4
IRK				pmax	pmax		
	comp=Z,16nm,1.0s,mb4.9						
MOY	**Mondy**	**75.45**	**328**	*e*P	P	16 51 46.6	+1.0
BILL	**Bilibino**	**75.71**	**4⇓**	*i*P	P	16 51 46.5	-0.2
BILL				pmax	pmax		
	comp=Z,11nm,1.4s,mb4.6						
JIRN	**Jiri**	**76.03**	**301**	*e*P	P	16 51 49.8	+0.4
	comp=Z,10nm,0.5s,mb5.0						
KKN	**Kakani**	**76.84**	**301**	*e*P	P	16 51 54.4	+0.4
	comp=Z,13nm,0.7s,mb4.9						
GKN	**Gorkha**	**77.44**	**301**	*e*P	P	16 51 57.1	-0.3
	comp=Z,10nm,0.5s,mb5.0						
KOLN	**Koldanda**	**78.27**	**300**	*e*P	P	16 52 01.8	-0.2
	comp=Z,10nm,0.6s,mb5.0						
WMQ	**Urumqi**	**79.98**	**317**	*e*P	P	16 52 11.8	+0.8
WMQ				AMB	AMB		
	comp=Z,11nm,0.7s,mb4.9						
TIXI	**Tiksi**	**81.03**	**352**	*e*P	P	16 52 15.1	-0.9
	comp=Z,369nm,0.6s,mb6.5						
TIXI	**Tiksi**	**81.03**	**352⇑**	*e*P	P	16 52 14.6	-1.4
TIXI				pmax	pmax		
	comp=Z,9.0nm,2.7s,mb4.2						
MCK	**McKinley**	**82.11**	**22**	*e*P	P	16 52 19.7	-2.2
	comp=Z,9.1nm,0.9s,mb4.7						
MCK	**McKinley**	**82.11**	**22**	*e*P	P	16 52 19.7	-2.2
MCK				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.7						
MAW	**Mawson**	**84.36**	**203**	P	P	16 52 34.6	+1.1
MAW				LR	LR	17 28 07.5	
MAW	**Mawson**	**84.36**	**203**	P	P	16 52 34.6	+1.1
	comp=Z,2.9nm,0.5s,mb4.7,baz=97,slow=7.4,SNR=7.0						
MAW				LR	LR	17 28 07.5	
	comp=Z,212nm,18.8s,MS4.5,baz=238,slow=34						
MK31	**Makanchi Array**	**84.54**	**318**	*e*P	P	16 52 35.2	+0.4
MKAR	**Makanchi Array**	**84.54**	**318**	P	P	16 52 35.4	+0.6
	comp=Z,41nm,0.7s,mb5.7,baz=101,slow=6.0,SNR=326						
ZAA0	**Zalesovo Array**	**85.24**	**326**	*e*P	P	16 52 37.4	-0.7
ZALV	**Zalesovo Beam**	**85.24**	**326**	P	P	16 52 37.6	-0.5
	comp=Z,27nm,0.5s,mb5.6,baz=114,slow=5.7,SNR=107						
ZAL	**Zalesovo**	**85.25**	**326**	P	P	16 52 37.6	-0.6
NVS	**Novosibirsk**	**86.41**	**326**	*e*P	P	16 52 41.9	-2.0
NVS				*e*S	S	17 03 04.4	-11
NVS				pmax	pmax		
	comp=N,5.0nm,1.1s						
NVS				pmax	pmax		
	comp=Z,11nm,1.1s,mb5.0						
NVS				pmax	pmax		
	comp=E,10.0nm,1.3s						
KURK	**Kurchatov**	**87.94**	**322**	*e*P	P	16 52 50.7	-0.7
	comp=E,4.2nm,0.6s,mb4.8						
KURK	**Kurchatov**	**87.94**	**322⇓**	*i*P	P	16 52 50.4	-1.0
TKM2	**Tokmak 2**	**88.19**	**314**	*e*P	P	16 52 53.5	+0.6
	comp=E,6.7nm,0.8s,mb4.9						
TKM2				*e*		16 53 00.7	
TKM2	**Tokmak 2**	**88.19**	**314**	*e*P	P	16 52 53.5	+0.7
TKM2				*e*		16 53 00.7	
TKM2				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.9						
UCH	**Uchtor**	**88.84**	**313**	*e*P	P	16 52 56.7	+0.8
	comp=Z,5.6nm,1.0s,mb4.8						
AAK	**Ala-Archa**	**88.93**	**313**	*e*P	P	16 52 55.6	-0.7
	comp=Z,5.0nm,0.8s,mb4.9						
AAK	**Ala-Archa**	**88.93**	**313**	*e*P	P	16 52 55.6	-0.7
AAK				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.9						
AML	**Almayashu**	**89.42**	**312**	*e*P	P	16 52 59.5	+0.9
	comp=Z,6.5nm,0.8s,mb5.0						
NVAR	**Mina Array Bea**	**91.14**	**52**	P	P	16 53 08.5	+1.8
NVAR	**Mina Array Bea**	**91.14**	**52**	P	P	16 53 08.5	+1.8
	comp=Z,0.4nm,0.7s,mb3.9,baz=263,slow=3.6,SNR=3.0						
BRVK	**Borovoye**	**93.46**	**323**	*e*P	P	16 53 16.3	-0.8
	comp=Z,7.6nm,1.0s,mb5.1						
BRVK	**Borovoye**	**93.46**	**323**	*e*P	P	16 53 16.3	-0.8
BRVK				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb5.1						
YKA	**Yellowknife Ar**	**96.26**	**28**	P	P	16 53 29.5	-0.1
	comp=Z,0.4nm,0.5s,mb4.1,baz=268,slow=4.6,SNR=9.7						
OBN	**Obninsk**	**112.80**	**327**	*e*PKIKP	PKiKP	16 58 31.4	-6.7
OBN				*e*		17 05 16.9	
OBN				pmax	pmax		
	comp=Z,3.0nm,0.8s						
AKASG	**Malin Array Be**	**118.62**	**325**	PKP	PKPdf	16 58 50.4	+1.0
	comp=Z,0.2nm,0.2s,baz=50,slow=2.2,SNR=4.3						
GERES	**GERESS Array B**	**128.08**	**329**	PKP	PKPdf	16 59 07.7	+0.1
	comp=Z,0.5nm,0.7s,baz=48,slow=2.0,SNR=4.5						
ESDC	**Sonseca Array**	**143.34**	**334**	PKP	PKPdf	16 59 34.6	-1.6
	comp=Z,0.2nm,0.3s,baz=10,slow=5.7,SNR=4.6						
BDFB	**Brasilia**	**146.81**	**134**	PKPbc	PKPbc	16 59 43.7	-0.9
	comp=Z,2.9nm,0.7s,baz=276,slow=6.0,SNR=4.3						
BDFB				PKKP		17 08 45.1	
	comp=Z,3.1nm,0.8s,baz=149,slow=1.9,SNR=4.5						
TORD	**Torodi Ar. Bea**	**154.26**	**285**	PKPbc	PKPbc	17 00 02.7	+0.1
	comp=Z,0.8nm,0.7s,baz=64,slow=1.5,SNR=3.7						

JMA 02 16:42:54.3±0.1, 3727N×14194E, h48km±4km, M3.7, 5C-4D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.85**	**277**	⇓P	Pn	16 43 10.2	+0.2
JFK				S	Sn	16 43 21.2	-0.3
ONAJ	**Iwakimizuishiy**	**0.93**	**260**	⇓P	Pn	16 43 11.1	+0.1
ONAJ				S	Sn	16 43 23.0	-0.2
JMM	**Marumori**	**1.09**	**303**	⇑P	Pn	16 43 13.6	+0.5
JMM				*e*S	Sn	16 43 27.1	0.0
JIO	**Ouri**	**1.27**	**339**	⇑P	Pn	16 43 15.9	+0.3
JIO				*e*S	Sn	16 43 31.5	-0.1
JHO	**Hitachi**	**1.28**	**239**	⇓P	Pn	16 43 15.7	-0.1
JHO				*e*S	Sn	16 43 31.6	-0.2
JFT	**Otama**	**1.30**	**281**	⇓P	Pn	16 43 17.2	+1.2
JFT				S	Sn	16 43 33.3	+1.0
JOU	**Okura**	**1.49**	**318**	⇑P	Pn	16 43 19.4	+0.8
JOU				*e*S	Sn	16 43 38.9	+2.0
JYS	**Shiratake**	**1.76**	**303**	P	Pn	16 43 23.9	+1.6
JYS				*e*S	Sn	16 43 45.3	+1.7
JMK	**Ichinoseki**	**1.77**	**342**	⇑P	Pn	16 43 23.3	+0.8
JFY	**Yanaizu**	**1.79**	**275**	P	Pn	16 43 23.8	+1.1
JFY				S	Sn	16 43 45.8	+1.6
JYK	**Kaneyama**	**2.06**	**323**	⇑P	Pn	16 43 27.6	+1.1
MAT	**Matsushiro**	**3.08**	**257**	P	Pn	16 43 42.5	+2.1
MAT				S	Sn	16 44 19.5	+3.6

MAN 02 16:43:03, 1127N×12601E, h106km, mb3.9, ML2.7, MS2.3, 1C, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
PLP	**Palo**	**1.02**	**264**	*e*P	Pn	16 43 24.9	+0.8
PLP				*i* S	Sn	16 43 41.1	+1.1
OCLP	**Ormoc**	**1.39**	**261**	*e*P	Pn	16 43 32.4	+4.1
SCPH	**Surigao**	**1.57**	**199⇑**	*e*P	Pn	16 43 31.0	+0.6
MSLP	**Maasin**	**1.60**	**225**	*e*P	Pn	16 43 33.3	+2.5
CNP	**Catarman**	**1.80**	**313**	*e*P	Pn	16 43 37.1	+3.7
PVCP	**Virac**	**2.94**	**322**	*e*P	Pn	16 43 49.2	+1.2

IDC 02 16:43:48.1±2.2, 680S×15496E, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.8/13, mbtmp3.8/4, Error ellipse: s-maj=76.7km s-min=35.5km az=124.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.90**	**235**	P	P	16 49 03.9	+0.2
	1.7nm,0.6s,baz=58,slow=9.4,SNR=5.2						
SONM	**Songino Array**	**69.16**	**327**	P	P	16 54 57.0	+0.7
	0.5nm,0.8s,baz=124,slow=4.5,SNR=3.7						
MKAR	**Makanchi Array**	**83.24**	**319**	P	P	16 56 16.6	+0.1
	0.3nm,0.5s,baz=114,slow=3.6,SNR=2.6						
YKA	**Yellowknife Ar**	**96.18**	**28**	P	P	16 57 18.0	+0.2
	0.5nm,0.7s,baz=268,slow=4.6,SNR=3.6						
TORD	**Torodi Ar. Bea**	**152.94**	**286**	PKPbc	PKPbc	17 03 47.5	-0.9
	0.8nm,0.8s,baz=90,slow=2.0,SNR=5.6						

*ISCJB **02** 16:46:02.2±0.3, 4320N±001×158W±002, h14km±2km, Error ellipse: s-maj=2.7km s-min=1.9km az=43.5*
*NEIC **02** 16:46:04.6, 4305N×153W, h5km, ML3.5(LDG), ML3.4(STR), MN3.1(MDD), After STR.*
NEIC Felt [II] at Zubiri, Spain.
*STR **02** 16:46:04.6±0.7, 4305N×153W, h5km, Ml3.5, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
*LDG **02** 16:46:05.5±0.1, 4312N×153W, h3km, Md3.4/2, Ml3.5/28, Error ellipse: s-maj=1.5km s-min=1.1km az=124.0*
*MDD **02** 16:46:05.2±0.1, 4309N×155W, h6km±1km, mbLg3.0/27, Error ellipse: s-maj=1.5km s-min=0.8km az=104.0, PRXIMO I LANTZ*
MDD EMS: II ZUBIRI.
*INMG **02** 16:46:06.3±1.7, 4307N×160W, h6km±4km, ML2.8, Error ellipse: s-maj=4.0km s-min=2.9km az=41.0*

ISC 02 16:46:03.7±0.2, 4316N±001×156W±002, h12km±1km, n157, σ1§23/325, 5C-2D, Pyrenees

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
ELIZ	**Elizondo**	**0.02**	**73**	⇑Pg	**Sg**	**16 46 07.0**	**-0.3**
	311nm,0.2s,SNR=18						
IUSE	**Utxeti**	**0.21**	**178**	⇓Pg	**Pg**	**16 46 07.7**	**-0.5**
	2μm,0.2s,SNR=18						
IUSE				Lg		16 46 09.9	
	3μm,0.1s,SNR=5.0						
OSSF	**Osses**	**0.24**	**65**	Pg	**Pg**	**16 46 10.3**	**+1.6**
OSSF	**Osses**	**0.24**	**65**	Pg	**Pg**	**16 46 10.3**	**+1.6**
OSSF				Lg		16 46 14.2	
SJPF	**Ste Jean**	**0.25**	**100**	*e*Pg	**Pg**	**16 46 09.9**	**+1.1**
	SNR=1.0						
SJPF				*e*Sg	**Sg**	**16 46 13.4**	**+1.1**
	5μm,0.2s						
SJPF	**Ste Jean**	**0.25**	**100**	Pg	**Pg**	**16 46 09.9**	**+1.1**
SJPF				Lg	

EPF				Lg		16 46 50.2
	0.2nm,0.3s					
RESF	**Ens**	**1.43**	**103**	Pg	**Pg**	**16 46 31.4 +0.2**
RESF				Sg	**Sg**	**16 46 50.7 +0.9**
RESF	**Ens**	**1.43**	**103**	Pg	**Pg**	**16 46 30.9 -0.3**
RESF				Lg		16 46 50.7
ESAC	**San Caprasio**	**1.65**	**150**	⇑Pg	**Pg**	**16 46 34.8 -0.4**
	54nm,0.2s,SNR=18					
ESAC				Lg		16 46 55.3
	731nm,0.3s,SNR=14					
MELF	**Melles**	**1.72**	**99**	Pg	**Pg**	**16 46 36.3 -0.4**
MELF				Lg		16 46 58.6
MLS	**Moulis**	**1.95**	**95**	Pg	**Pg**	**16 46 41.3 +0.2**
MLS	**Moulis**	**1.95**	**95**	Pg	**Pg**	**16 46 41.2 +0.1**
MLS				Lg		16 47 06.0
SALF	**Salau**	**2.05**	**100**	Pg	**Pg**	**16 46 42.5 -0.6**
SALF				Sg	**Sg**	**16 47 09.7 0.0**
SALF	**Salau**	**2.05**	**100**	Pg	**Pg**	**16 46 42.2 -0.9**
SALF				Lg		16 47 05.2
ETOR	**Torete**	**2.37**	**189**	Pn	**Pn**	**16 46 43.4 +1.1**
	18nm,0.3s,SNR=25					
ETOR				Pg	**Pg**	**16 46 47.9 -1.1**
	80nm,0.3s,SNR=7.9					
ETOR				Sn	**Sn**	**16 47 10.9 -0.3**
	184nm,0.4s,SNR=7.9					
ETOR				Lg		16 47 18.8
	198nm,0.5s,SNR=7.6					
PAND	**Andorre**	**2.37**	**104**	Pg	**Pg**	**16 46 48.8 -0.3**
PAND				Lg		16 47 19.0
LFF	**La Frestale**	**2.43**	**42**	*e*Pg	**Pg**	**16 46 51.4 +1.1**
LFF				*e*Sn	**Sn**	**16 47 14.0 +1.2**
	SNR=1.0					
LFF				*e*Sg	**Sg**	**16 47 23.0 +1.2**
	72nm,0.3s,SNR=1.0					
LFF	**La Frestale**	**2.43**	**42**	*e*Pn	**Pn**	**16 46 45.0 +1.8**
LFF				*e*Pg	**Pg**	**16 46 51.4 +1.1**
LFF				*e*Sn	**Sn**	**16 47 14.0 +1.2**
LFF				*e*Sg	**Sg**	**16 47 23.0 +1.2**
LFF	**La Frestale**	**2.43**	**42**	Pn	**Pn**	**16 46 45.0 +1.8**
LFF				Pg	**Pg**	**16 46 51.4 +1.1**
LFF				Sn	**Sn**	**16 47 14.0 +1.2**
LFF				Lg		16 47 23.0
	0.0nm,0.3s					
EMIR	**Miracle**	**2.59**	**118**	Pn	**Pn**	**16 46 48.4 +2.9**
	27nm,0.6s,SNR=17					
EMIR				Pg	**Pg**	**16 46 53.4 0.0**
	SNR=7.9					
EMIR				Lg		16 47 25.6
	50nm,0.2s,SNR=5.6					
ERTA	**Horta de San J**	**2.61**	**147**	Pn	**Pn**	**16 46 46.3 +0.6**
ERTA				Pg	**Pg**	**16 46 53.7 0.0**
ERTA				Lg		16 47 27.2
ERTA	**Horta de San J**	**2.61**	**147**	Pn	**Pn**	**16 46 46.3 +0.6**
	1.4nm,0.1s,SNR=17					
ERTA				Pg	**Pg**	**16 46 53.4 -0.3**
	9.8nm,0.2s,SNR=7.9					
ERTA				Lg		16 47 27.2
	46nm,0.2s,SNR=5.0					
EPOB	**Poblet**	**2.66**	**132**	Pn	**Pn**	**16 46 47.2 +0.8**
	0.8nm,0.1s,SNR=11					
EPOB				Pg	**Pg**	**16 46 53.1 -1.5**
	7.3nm,0.2s,SNR=18					
EPOB				Sn	**Sn**	**16 47 18.6 +0.2**
	8.6nm,0.2s,SNR=7.9					
EPOB				Lg		16 47 27.0
	37nm,0.2s,SNR=5.0					
EARI	**Arriondas**	**2.67**	**274**	Pn	**Pn**	**16 46 48.8 +2.3**
EARI				Sn	**Sn**	**16 47 21.4 +2.6**
EARI				Lg		16 47 30.5
EARI	**Arriondas**	**2.67**	**274**	Pn	**Pn**	**16 46 48.8 +2.3**
	0.8nm,0.1s,SNR=11					
EARI				Sn	**Sn**	**16 47 20.7 +1.9**
	7.2nm,0.2s,SNR=5.0					
EARI				Lg		16 47 30.5
	8.5nm,0.3s,SNR=4.0					
VALF	**Valcebollere**	**2.74**	**105**	Pg	**Pg**	**16 46 52.9 -3.2**
VALF	**Valcebollere**	**2.74**	**105**	Pg	**Pg**	**16 46 51.5 -4.7**
VALF				Lg		16 47 28.3
MTLF	**Montolieu**	**2.76**	**85**	*e*P	**Pn**	**16 46 51.7 +4.0**
MTLF	**Montolieu**	**2.76**	**85**	*e*Pg	**Pg**	**16 46 56.7 +0.1**
MTLF				*e*Sn	**Sn**	**16 47 21.4 +0.4**
	SNR=1.0					
MTLF				*e*Sg	**Sg**	**16 47 32.7 +0.3**
	52nm,0.4s					
MTLF	**Montolieu**	**2.76**	**85**	*e*Pn	**Pn**	**16 46 48.4 +0.7**
MTLF				*e*P		16 46 51.7
MTLF				*e*Pg	**Pg**	**16 46 56.7 +0.1**
MTLF				*e*Sn	**Sn**	**16 47 21.4 +0.4**
MTLF				*e*Sg	**Sg**	**16 47 32.7 +0.3**
MTLF	**Montolieu**	**2.76**	**85**	Pn	**Pn**	**16 46 48.4 +0.7**
MTLF				Pg	**Pg**	**16 46 56.7 +0.1**
MTLF				Sn	**Sn**	**16 47 21.4 +0.4**
MTLF				Lg		16 47 32.7
	26nm,0.4s					
EMOS	**Mosqueruela**	**2.91**	**163**	Pn	**Pn**	**16 46 51.6 +1.9**
EMOS				Pg	**Pg**	**16 46 59.0 -0.4**
EMOS				Sn	**Sn**	**16 47 26.3 +1.7**
EMOS				Lg		16 47 37.8
EMOS	**Mosqueruela**	**2.91**	**163**	Pn	**Pn**	**16 46 51.5 +1.7**
	0.3nm,0.1s,SNR=12					
EMOS				Pg	**Pg**	**16 46 58.6 -0.8**
	4.0nm,0.2s,SNR=15					
EMOS				Sn	**Sn**	**16 47 24.2 -0.4**
	12nm,0.3s,SNR=7.9					
EMOS				Lg		16 47 36.3
	46nm,0.4s,SNR=12					
RJF	**Les Rejaudoux**	**3.08**	**45**	*e*Pn	**Pn**	**16 46 52.8 +0.7**
	SNR=1.0					
RJF				*e*Sn	**Sn**	**16 47 29.4 +0.6**
	SNR=1.0					
RJF				*e*Sg	**Sg**	**16 47 42.5 -0.1**
	34nm,0.2s,SNR=1.0					
RJF	**Les Rejaudoux**	**3.08**	**45**	Pn	**Pn**	**16 46 52.8 +0.7**
RJF				Sn	**Sn**	**16 47 29.4 +0.6**
RJF				Lg		16 47 42.5
	17nm,0.2s					
CAF	**Calviac**	**3.15**	**55**	*e*Pg	**Pg**	**16 47 04.5 +0.4**
CAF				*e*Sn	**Sn**	**16 47 31.0 +0.4**
CAF				*e*Sg	**Sg**	**16 47 44.5 -0.4**
	39nm,0.3s,SNR=1.0					
CAF	**Calviac**	**3.15**	**55**	*e*Pn	**Pn**	**16 46 54.3 +1.2**
CAF				*e*Pg	**Pg**	**16 47 04.5 +0.4**
CAF				*e*Sn	**Sn**	**16 47 31.0 +0.4**
CAF				*e*Sg	**Sg**	**16 47 44.5 -0.4**
CAF	**Calviac**	**3.15**	**55**	Pn	**Pn**	**16 46 54.3 +1.2**
CAF				Pg	**Pg**	**16 47 04.5 +0.4**
CAF				Sn	**Sn**	**16 47 31.0 +0.4**
CAF				Lg		16 47 44.5
	20nm,0.3s					
GUD	**Guadarrama**	**3.17**	**219**	Pn	**Pn**	**16 46 54.3 +0.9**
GUD				Pg	**Pg**	**16 47 04.0 -0.5**
GUD				Sn	**Sn**	**16 47 30.4 -0.7**
GUD				Lg		16 47 41.9
GUD	**Guadarrama**	**3.17**	**219**	Pn	**Pn**	**16 46 54.3 +0.9**
	1.1nm,0.2s,SNR=10					
GUD				Pg	**Pg**	**16 47 02.1 -2.4**
	4.5nm,0.2s,SNR=8.5					
GUD				Sn	**Sn**	**16 47 30.5 -0.7**
	6.9nm,0.2s,SNR=4.0					
GUD				Lg		16 47 41.9
	20nm,0.3s,SNR=9.4					
EJON	**La Jonquera**	**3.35**	**101**	Pn	**Pn**	**16 46 58.4 +2.7**
EJON				Pg	**Pg**	**16 47 06.9 -0.9**
EJON				Lg		16 47 50.1
EJON	**La Jonquera**	**3.35**	**101**	Pn	**Pn**	**16 46 57.8 +2.1**
	SNR=7.9					
EJON				Pg	**Pg**	**16 47 06.9 -0.9**
	12nm,0.3s,SNR=13					
EJON				Sn	**Sn**	**16 47 34.2 -1.1**
	SNR=7.9					
EJON				Lg		16 47 50.1
	30nm,0.3s,SNR=5.0					
MFF	**Saint Martin d**	**3.59**	**16**	*e*Pg	**Pg**	**16 47 12.0 -0.4**
	SNR=1.0					
MFF				*e*Sn	**Sn**	**16 47 41.4 +0.1**
	SNR=1.0					
MFF				*e*Sg	**Sg**	**16 47 58.6 -0.2**
	32nm,0.4s,SNR=1.0					
MFF	**Saint Martin d**	**3.59**	**16**	*e*Pn	**Pn**	**16 47 00.2 +1.1**
MFF				*e*Pg	**Pg**	**16 47 12.0 -0.4**
MFF				*e*Sn	**Sn**	**16 47 41.4 +0.1**
MFF				*e*Sg	**Sg**	**16 47 58.6 -0.2**
MFF	**Saint Martin d**	**3.59**	**16**	Pn	**Pn**	**16 47 00.2 +1.1**
MFF				Pg	**Pg**	**16 47 12.0 -0.4**
MFF				Sn	**Sn**	**16 47 41.4 +0.1**
MFF				Lg		16 47 58.6
	16nm,0.4s					
ECHE	**Chera**	**3.59**	**173**	Pn	**Pn**	**16 47 01.2 +2.1**
	0.4nm,0.2s,SNR=12					
ECHE				Pg	**Pg**	**16 47 10.5 -2.0**
	3.8nm,0.3s,SNR=7.9					
ECHE				Lg		16 47 58.2
	8.6nm,0.4s,SNR=5.0					
ESDC	**Sonseca Array**	**3.92**	**208**	Pn	**Pn**	**16 47 03.9 +0.2**
	2.9nm,0.1s,baz=33,slow=13,SNR=7.2					
ESDC				Pg	**Pg**	**16 47 17.0 -1.8**
	2.9nm,0.2s,baz=29,slow=18,SNR=4.7					
ESDC				Sn	**Sn**	**16 47 47.4 -2.2**
	1.1nm,0.3s,baz=35,slow=24,SNR=9.1					
ESDC				Lg		16 48 04.9
	14nm,0.3s,baz=24,slow=28,SNR=9.4					
LBL	**Lubilhac**	**4.03**	**57**	Pn	**Pn**	**16 47 06.6 +1.5**
LASF	**Ste Croix**	**4.04**	**75**	*e*P	**Pn**	**16 47 09.9 +4.7**
LASF				*e*Sn	**Sn**	**16 47 51.9 -0.5**
	SNR=1.0					
LASF				*e*Sg	**Sg**	**16 48 11.2 -2.1**
	27nm,0.4s,SNR=1.0					
LASF	**Ste Croix**	**4.04**	**75**	*e*Pn	**Pn**	**16 47 06.0 +0.8**
LASF				*e*P		16 47 09.9
LASF				*e*Sn	**Sn**	**16 47 51.9 -0.5**
LASF				*e*Sg	**Sg**	**16 48 11.2 -2.1**
LASF	**Ste Croix**	**4.04**	**75**	Pn	**Pn**	**16 47 06.0 +0.8**
LASF				Sn	**Sn**	**16 47 51.9 -0.5**
LASF				Lg		16 48 11.2
	13nm,0.4s					
PBRG	**Braganca**	**4.07**	**252**	*e*Pn	**Pn**	**16 47 06.7 +1.0**
PBRG				*e*Sn	**Sn**	**16 47 53.0 -0.1**
PBRG				A		16 48 17.3
	12nm,0.5s					
PBRG	**Braganca**	**4.07**	**252**	Pn	**Pn**	**16 47 06.7 +1.0**
PBRG				Sn	**Sn**	**16 47 53.0 -0.1**
	6.2nm,0.5s					
EPON	**Pontenova**	**4.09**	**274**	Pn	**Pn**	**16 47 08.4 +2.4**
EPON				Sn	**Sn**	**16 47 54.8 +1.1**
EPON	**Pontenova**	**4.09**	**274**	Pn	**Pn**	**16 47 08.4 +2.4**
	2.9nm,0.2s,SNR=4.9					
EPON				Sn	**Sn**	**16 47 52.9 -0.8**
	4.5nm,0.2s,SNR=7.9					
TCF	**Toulx Ste Croi**	**4.12**	**39**	*e*Pn	**Pn**	**16 47 07.4 +1.0**
	SNR=1.0					
TCF				*e*Sn	**Sn**	**16 47 53.5 -1.0**
	SNR=1.0					
TCF				*e*Sg	**Sg**	**16 48 15.1 -0.9**
	23nm,0.4s					
TCF	**Toulx Ste Croi**	**4.12**	**39**	Pn	**Pn**	**16 47 07.4 +1.0**
TCF				Sn	**Sn**	**16 47 53.5 -1.0**
TCF				Lg		16 48 15.1
	12nm,0.4s					
PYM	**Petit Puy Mans**	**4.17**	**50**	Pn	**Pn**	**16 47 07.1 0.0**
AGO	**Saint Agoulin**	**4.42**	**48**	Pn	**Pn**	**16 47 12.2 +1.6**
ETOB	**Tobarra**	**4.51**	**180**	Pn	**Pn**	**16 47 13.7 +2.0**
ETOB				Pg	**Pg**	**16 47 26.9 -3.1**
ETOB				Sn	**Sn**	**16 48 04.7 +0.7**
ETOB				Lg		16 48 28.6
ETOB	**Tobarra**	**4.51**	**180**	Pn	**Pn**	**16 47 12.0 +0.3**
	0.7nm,0.2s,SNR=7.9					
ETOB				Pg	**Pg**	**16 47 26.9 -3.2**
	1.3nm,0.2s,SNR=4.0					
ETOB				Sn	**Sn**	**16 48 00.7 -3.3**
	3.5nm,0.3s,SNR=4.0					
ETOB				Lg		16 48 28.6
	11nm,0.5s,SNR=4.0					
MVO	**Moncorvo**	**4.53**	**246**	*e*Pn	**Pn**	**16 47 12.8 +0.8**
MVO				*e*Sn	**Sn**	**16 48 04.2 -0.4**
MVO				*e*Sg	**Sg**	**16 48 26.2 -2.9**
MVO				A		16 48 27.1
	20nm,0.4s					
MVO	**Moncorvo**	**4.53**	**246**	Pn	**Pn**	**16 47 12.8 +0.8**
MVO				Sn	**Sn**	**16 48 04.2 -0.4**
MVO				Lg		16 48 26.2
	10.0nm,0.4s					
EBEN	**Beniarda**	**4.56**	**167**	Pn	**Pn**	**16 47 15.4 +2.9**
EBEN				Sn	**Sn**	**16 48 05.7 +0.3**
EBEN				Lg		16 48 28.0
EBEN	**Beniarda**	**4.56**	**167**	Pn	**Pn**	**16 47 13.3 +0.9**
	0.8nm,0.2s,SNR=7.9					
EBEN				Sn	**Sn**	**16 48 02.4 -3.0**
	5.1nm,0.4s,SNR=7.9					
EBEN				Lg		16 48 28.0
	8.0nm,0.4s,SNR=4.0					
EVIA	**Vianos**	**4.57**	**189**	Pn	**Pn**	**16 47 12.7 +0.1**
EVIA				Pg	**Pg**	**16 47 30.2 -1.0**
EVIA				Sn	**Sn**	**16 48 05.9 +0.3**
EVIA				Lg		16 48 29.4
EVIA	**Vianos**	**4.57**	**189**	Pn	**Pn**	**16 47 12.7 +0.1**
	0.5nm,0.1s,SNR=7.9					
EVIA				Pg	**Pg**	**16 47 30.2 -1.0**
	2.9nm,0.3s,SNR=7.1					
EVIA				Sn	**Sn**	**16 48 02.9 -2.7**
	1.3nm,0.1s,SNR=7.9					
EVIA				Lg		16 48 29.4
	20nm,0.6s,SNR=4.0					
BGF	**Bois d'Agland**	**4.62**	**41**	*e*Pn	**Pn**	**16 47 13.3 0.0**
	SNR=1.0					
BGF				*e*Sn	**Sn**	**16 48 04.2 -2.6**
	SNR=1.0					
BGF				*e*Sg	**Sg**	**16 48 30.7 -1.3**
	70nm,0.4s,SNR=1.0					
BGF	**Bois d'Agland**	**4.62**	**41**	Pn	**Pn**	**16 47 13.3 0.0**
BGF				Sn	**Sn**	**16 48 04.2 -2.6**
BGF				Lg		16 48 30.7
	35nm,0.4s					
PLDF	**La Plantade**	**4.65**	**51**	Pn	**Pn**	**16 47 13.1 -0.5**
EIBI	**Ibiza**	**4.67**	**151**	Sn	**Sn**	**16 48 05.8 -2.3**
	3.2nm,0.2s,SNR=4.0					
ETOS	**Mallorca**	**4.72**	**134**	Pn	**Pn**	**16 47 14.7 +0.1**
ETOS				Sn	**Sn**	**16 48 06.9 -2.3**
VIVF	**Saint-Julien-l**	**4.80**	**67**	*e*P	**Pn**	**16 47 19.7 +3.9**
VIVF				*e*Sn	**Sn**	**16 48 10.0 -1.3**
	14nm,0.3s,SNR=1.0					
VIVF				*e*Sg	**Sg**	**16 48 37.0 -0.8**
VIVF	**Saint-Julien-l**	**4.80**	**67**	*e*Pn	**Pn**	**16 47 16.3 +0.5**
VIVF				*e*P		16 47 19.7
VIVF				*e*Sn	**Sn**	**16 48 10.0 -1.3**
VIVF				*e*Sg	**Sg**	**16 48 37.0 -0.8**
VIVF	**Saint-Julien-l**	**4.80**	**67**	Pn	**Pn**	**16 47 16.3 +0.5**
VIVF				Sn	**Sn**	**16 48 10.0 -1.3**
	6.8nm,0.3s					
VIVF				Lg		16 48 37.0
QUIF	**Quistinic**	**4.89**	**347**	*e*Pn	**Pn**	**16 47 18.4 +1.4**
	SNR=1.0					
QUIF				*e*Sn	**Sn**	**16 48 10.6 -2.9**
	22nm,0.4s,SNR=1.0					
QUIF	**Quistinic**	**4.89**	**347**	Pn	**Pn**	**16 47 18.4 +1.4**
QUIF				Sn	**Sn**	**16 48 10.6 -2.9**
	11nm,0.4s					
ELOB	**Lobios**	**4.98**	**257**	Pn	**Pn**	**16 47 18.6 +0.4**
ELOB				Sn	**Sn**	**16 48 15.9 +0.3**
ELOB				Lg		16 48 44.6
ELOB	**Lobios**	**4.98**	**257**	Pn	**Pn**	**16 47 18.6 +0.4**
	0.5nm,0.1s,SNR=5.0					
ELOB				Sn	**Sn**	**16 48 14.0 -1.6**
	4.9nm,0.4s,SNR=7.9					
ELOB				Lg		16 48 44.6
	6.8nm,0.3s,SNR=5.0					
AVF	**Avril sur Loir**	**5.03**	**42**	*e*Pn	**Pn**	**16 47 19.0 +0.1**
	SNR=1.0					
AVF				*e*Sn	**Sn**	**16 48 16.1 -0.8**
	SNR=1.0					
AVF				*e*Sg	**Sg**	**16 48 42.7 -2.4**
	14nm,0.4s,SNR=1.0					
AVF	**Avril sur Loir**	**5.03**	**42**	Pn	**Pn**	**16 47 19.0 +0.1**
AVF				Sn	**Sn**	**16 48 16.1 -0.8**
AVF				Lg		16 48 42.7
	0.0nm,0.4s					
HYF	**Humbligny**	**5.07**	**34**	*e*Pn	**Pn**	**16 47 20.2 +0.8**
HYF				*e*Sn	**Sn**	**16 48 16.8 -1.0**
HYF				*e*Sg	**Sg**	**16 48 44.9 -1.4**
SGMF	**Saint Gilles**	**5.14**	**353**	*e*Pg	**Pg**	**16 47 41.7 -0.5**
SGMF				*e*Sn	**Sn**	**16 48 16.0 -3.7**
	SNR=1.0					
SGMF				*e*Sg	**Sg**	**16 48 48.5 -0.3**
	24nm,0.6s					
SGMF	**Saint Gilles**	**5.14**	**353**	*e*Pn	**Pn**	**16 47 21.7 +1.2**
SGMF				*e*Pg	**Pg**	**16 47 41.7 -0.5**
SGMF				*e*Sn	**Sn**	**16 48 16.0 -3.7**
SGMF				*e*Sg	**Sg**	**16 48 48.5 -0.3**
SGMF	**Saint Gilles**	**5.14**	**353**	Pn	**Pn**	**16 47 21.7 +1.2**
SGMF				Pg	**Pg**	**16 47 41.7 -0.5**
SGMF				Sn	**Sn**	**16 48 16.0 -3.7**
SGMF				Lg		16 48 48.5
	12nm,0.6s					
SMF	**Signal de Mont**	**5.18**	**46**	*e*Pn	**Pn**	**16 47 22.0 +1.0**
	SNR=1.0					
SMF				*e*Sn	**Sn**	**16 48 19.5 -1.1**
SMF				*e*Sg	**Sg**	**16 48 49.3 -0.7**
	14nm,0.4s					
SMF	**Signal de Mont**	**5.18**	**46**	Pn	**Pn**	**16 47 22.0 +1.0**
SMF				Sn	**Sn**	**16 48 19.5 -1.1**
SMF				Lg		16 48 49.3
	7.0nm,0.4s					
SMRF	**Simiane la Rot**	**5.25**	**79**	*e*P	**Pn**	**16 47 26.2 +4.3**
SMRF				*e*Sn	**Sn**	**16 48 20.1 -2.1**
	7.9nm,0.4s					
SMRF	**Simiane la Rot**	**5.25**	**79**	*e*Pn	**Pn**	**16 47 22.8 +0.9**
SMRF				*e*P		16 47 26.2
SMRF				*e*Sn	**Sn**	**16 48 20.1 -2.1**
SMRF	**Simiane la Rot**	**5.25**	**79**	Pn	**Pn**	**16 47 22.8 +0.9**
SMRF				Sn	**Sn**	**16 48 20.1 -2.1**
	7.9nm,0.4s					
GRR	**Gorron**	**5.25**	**5**	*e*Pn	**Pn**	**16 47 23.1 +1.1**
GRR				*e*Pg	**Pg**	**16 47 43.5 -0.8**
GRR				*e*Sn	**Sn**	**16 48 20.6 -1.8**
GRR	**Gorron**	**5.25**	**5**	Pn	**Pn**	**16 47 23.1 +1.1**
GRR				Pg	**Pg**	**16 47 43.5 -0.8**
GRR				Sn	**Sn**	**16 48 20.6 -1.8**
	4.6nm,0.3s					
MTE	**Manteigas**	**5.26**	**240**	*e*Pn	**Pn**	**16 47 22.9 +0.9**
MTE				*e*Sg	**Sg**	**16 48 48.6 -3.8**
EBAN	**Banos Encina**	**5.27**	**200**	Pn	**Pn**	**16 47 23.0 +0.8**
	2.5nm,0.2s,SNR=4.0					
EBAN				Lg		16 48 51.2
	13nm,0.4s,SNR=5.7					
SSF	**Saint Saulge**	**5.30**	**41**	*e*Pg	**Pg**	**16 47 43.4 -1.7**
SSF				*e*Sn	**Sn**	**16 48 20.1 -3.4**
	SNR=1.0					
SSF				*e*Sg	**Sg**	**16 48 53.4 -0.3**
	16nm,0.5s					
SSF	**Saint Saulge**	**5.30**	**41**	*e*Pn	**Pn**	**16 47 22.9 +0.3**
SSF				*e*Pg	**Pg**	**16 47 43.4 -1.7**
SSF				*e*Sn	**Sn**	**16 48 20.1 -3.4**
SSF				*e*Sg	**Sg**	**16 48 53.4 -0.3**
SSF	**Saint Saulge**	**5.30**	**41**	Pn	**Pn**	**16 47 22.9 +0.3**
SSF				Pg	**Pg**	**16 47 43.4 -1.7**
SSF				Sn	**Sn**	**16 48 20.1 -3.4**
SSF				Lg		16 48 53.4
	8.1nm,0.5s					
ROSF	**Rostrenen**	**5.32**	**348**	*e*Pn	**Pn**	**16 47 23.9 +1.1**
	SNR=1.0					
ROSF				*e*Sn	**Sn**	**16 48 21.4 -2.5**
	7.0nm,0.2s,SNR=1.0					
ROSF	**Rostrenen**	**5.32**	**348**	Pn	**Pn**	**16 47 23.9 +1.1**
ROSF				Sn	**Sn**	**16 48 21.4 -2.5**
	0.0nm,0.2s					
EMAZ	**Mazaricos**	**5.44**	**270**	Pn	**Pn**	**16 47 25.9 +1.4**
	0.8nm,0.1s,SNR=7.9					
EMAZ				Sn	**Sn**	**16 48 25.2 -1.9**
	6.1nm,0.2s,SNR=4.0					
EQES	**Quesada**	**5.47**	**193**	Pn	**Pn**	**16 47 25.5 +0.5**
EQES				Pg	**Pg**	**16 47 46.8 -1.7**
EQES				Sn	**Sn**	**16 48 25.9 -1.9**
EQES				Lg		16 48 54.5
EQES	**Quesada**	**5.47**	**193**	Pn	**Pn**	**16 47 25.5 +0.5**
	0.7nm,0.2s,SNR=7.9					
EQES				Pg	**Pg**	**16 47 45.8 -2.7**
	2.5nm,0.3s,SNR=7.9					
EQES				Sn	**Sn**	**16 48 25.9 -1.9**
	1.2nm,0.2s,SNR=4.0					
EQES				Lg		16 48 54.5
	4.1nm,0.4s,SNR=7.9					
EADA	**Adamuz**	**5.49**	**206**	Pn	**Pn**	**16 47 26.1 +0.9**
	0.8nm,0.1s,SNR=7.9					
EADA				Pg	**Pg**	**16 47 46.9 -1.9**
	0.7nm,0.2s,SNR=7.9					
EADA				Sn	**Sn**	**16 48 24.6 -3.6**
	1.7nm,0.2s,SNR=7.9					
EADA				Lg		16 48 55.7
	5.2nm,0.3s,SNR=7.9					
LDF	**La Druitiere**	**5.53**	**10**	*e*Pn	**Pn**	**16 47 26.5 +0.8**
LDF				*e*Sn	**Sn**	**16 48 25.7 -3.4**
	SNR=1.0					
LDF				*e*Sg	**Sg**	**16 49 00.9 -0.1**
	16nm,0.4s					
LOR	**Lormes**	**5.61**	**41**	*e*Pn	**Pn**	**16 47 29.3 +2.4**
	baz=219					
LOR	**Lormes**	**5.61**	**41**	*e*Pg	**Pg**	**16 47 49.6 -1.5**
	baz=214					
LOR				*e*Sn	**Sn**	**16 48 30.0 -1.3**
LOR				*e*Sg	**Sg**	**16 49 03.1 -0.7**
	12nm,0.4s,baz=212					
LOR	**Lormes**	**5.61**	**41**	*e*Pn	**Pn**	**16 47 29.3 +2.4**
LOR				*e*Pg	**Pg**	**16 47 49.6 -1.5**
LOR				*e*Sn	**Sn**	**16 48 30.0 -1.3**
LOR				*e*Sg	**Sg**	**16 49 03.1 -0.7**
LOR	**Lormes**	**5.61**	**41**	Pn	**Pn**	**16 47 29.3 +2.4**
LOR				Pg	**Pg**	**16 47 49.6 -1.5**
LOR				Sn	**Sn**	**16 48 30.0 -1.3**
LOR				Lg		16 49 03.1
	5.9nm,0.4s					
ORIF	**Oris-en-Rattie**	**5.64**	**69**	*e*P	**Pn**	**16 47 32.1 +4.8**
ORIF				*e*Sn	**Sn**	**16 48 30.5 -1.5**
	3.8nm,0.3s					
ORIF	**Oris-en-Rattie**	**5.64**	**69**	*e*Pn	**Pn**	**16 47 28.9 +1.6**
ORIF				*e*P		16 47 32.1
ORIF				*e*Sn	**Sn**	**16 48 30.5 -1.5**
ORIF	**Oris-en-Rattie**	**5.64**	**69**	Pn	**Pn**	**16 47 28.9 +1.6**
ORIF				Sn	**Sn**	**16 48 30.5 -1.5**
	1.9nm,0.3s					
FLN	**La Foliniere**	**5.66**	**7**	*e*Pn	**Pn**	**16 47 29.2 +1.7**
	baz=195,SNR=1.0					
FLN				*e*Sn	**Sn**	**16 48 28.1 -4.2**
	SNR=1.0					
FLN				*e*Sg	**Sg**	**16 49 04.3 -0.8**
	11nm,0.5s					
FLN	**La Foliniere**	**5.66**	**7**	Pn	**Pn**	**16 47 29.2 +1.7**
FLN				Sn	**Sn**	**16 48 28.1 -4.2**
FLN				Lg		16 49 04.3
	5.4nm,0.5s					
ECAB	**El Cabril**	**5.87**	**211**	Pn	**Pn**	**16 47 30.7 +0.3**
	SNR=7.9					
ECAB				Sn	**Sn**	**16 48 32.5 -5.0**
	SNR=7.9					
ECAB				Lg		16 49 06.9
	3.9nm,0.3s,SNR=7.9					
LMR	**La Mourre**	**5.89**	**86**	*e*Sn	**Sn**	**16 48 35.7 -2.5**
	1.9nm,0.2s					
LMR	**La Mourre**	**5.89**	**86**	Sn	**Sn**	**16 48 35.7 -2.5**

EMIN Sn **Sn** **16 48 51.4 -5.4**
SNR=7.9
EMIN Lg 16 49 31.9
1.6nm,0.3s,SNR=7.9
EGRO El Granado 7.21 221 Pn **Pn** **16 47 48.5 -0.4**
0.4nm,0.1s,SNR=4.0
EGRO Lg 16 49 53.1
6.4nm,0.5s,SNR=4.0
HAU Haudompre 7.36 46 *e*Sg **Sg** **16 49 54.9 -5.0**
7.9nm,0.4s,SNR=1.0
HAU Haudompre 7.36 46 Lg 16 49 54.9
4.0nm,0.4s
PGF Pioggiola 7.78 91 *e*Pn **Pn** **16 47 57.3 +0.6**
PGF *e*Sn **Sn** **16 49 21.3 -3.3**
9.7nm,0.5s
PGF Pioggiola 7.78 91 Pn **Pn** **16 47 57.3 +0.6**
PGF Sn **Sn** **16 49 21.3 -3.3**
4.8nm,0.5s

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*ISCJB **02** 16:47:23.5±0.7, 74S±01×1563E±0.1, h10km, mb4.3/7, Error ellipse: s-maj=22.0km s-min=15.4km az=22.5*
*IDC **02** 16:47:23.4±1.3, 747S×15628E, h0km, mb4.3/6, mb1 4.4/7, mb1mx4.1/14, mbtmp4.4/7, ML4.6/1, Error ellipse: s-maj=36.5km s-min=32.5km az=44.0*
*NEIC **02** 16:47:24.9±0.6, 744S×15624E, h10km, mb4.7/1, Error ellipse: s-maj=18.9km s-min=12.6km az=200.0*
ISC 02 16:47:28.7±4.9, 76S±03×1563E±02, h39km±58km, n11, σ0§55/11, mb4.3/7, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.06**	**118**	*e*Pn	**Pn**	**16 48 28.6**	**+0.2**
HNR	**Honiara**	**4.06**	**118**	Pn	**Pn**	**16 48 28.0**	**-0.4**
41nm,0.3s,baz=96,slow=24,SNR=5.7							
KAKA	**Kakadu**	**24.04**	**256**	*e*P	**P**	**16 52 40.1**	**-0.3**
13nm,0.6s,mb4.5							
WRA	**Warramunga Arr**	**24.60**	**238**	P	**P**	**16 52 45.8**	**+0.4**
1.2nm,0.6s,mb3.6,baz=62,slow=9.5,SNR=6.5							
KSRS	**Korea Array**	**52.03**	**331**	P	**P**	**16 56 34.7**	**+0.2**
1.1nm,0.6s,mb4.0,baz=140,slow=7.3,SNR=5.9							
SONM	**Songino Array**	**70.50**	**327**	P	**P**	**16 58 40.1**	**+0.8**
2.4nm,0.7s,mb4.2,baz=137,slow=6.6,SNR=18							
MK31	**Makanchi Array**	**84.67**	**318**	*e*P	**P**	**16 59 58.5**	**0.0**
MKAR	**Makanchi Array**	**84.67**	**318**	P	**P**	**16 59 58.9**	**+0.4**
9.6nm,0.7s,mb5.0,baz=103,slow=6.0,SNR=77							
ZAA0	**Zalesovo Array**	**85.36**	**326**	*e*P	**P**	**17 00 00.7**	**-1.1**
ZALV	**Zalesovo Beam**	**85.36**	**326**	P	**P**	**17 00 01.1**	**-0.7**
6.9nm,0.5s,mb5.0,baz=115,slow=5.8,SNR=28							
YKA	**Yellowknife Ar**	**96.21**	**28**	P	**P**	**17 00 52.8**	**+0.4**
0.1nm,0.3s,mb3.7,baz=266,slow=3.9,SNR=3.7							

GUC 02 16:50:50.0±0.8, 3300S×7216W, h12km±18km, MD3.5, ML2.2, 4D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PACH	**Papudo**	**0.77**	**53**	*e*P	Pg	16 51 04.1	-0.7
LNV	**Longovilo**	**1.14**	**147**	*i* P	Pb	16 51 10.6	-1.1
LNV				*i* S	Sb	16 51 25.5	-1.0
TACH	**Talagante**	**1.22**	**123**	⇓*i*P	Pn	16 51 11.3	-1.4
TACH				*i* S	Sb	16 51 27.1	-1.5
PEL	**Peldehue**	**1.25**	**97**	⇓*i*P	Pn	16 51 12.1	-1.1
PEL				*i* S	Sb	16 51 29.1	-0.4
PEL				AML	AML	16 51 34.4	
comp=N,83nm,0.3s							
PEL				AML	AML	16 51 35.7	
comp=E,129nm,0.4s							
JACH	**Jahuel**	**1.36**	**77**	⇓*i*P	Pn	16 51 13.2	-1.5
JACH				*i* S	Sn	16 51 30.9	-1.8
PCH	**Pirque**	**1.52**	**115**	*e*P	Pn	16 51 16.4	-0.4
FCH	**Farellones**	**1.60**	**102**	⇓*i*P	Pn	16 51 17.9	-0.2
FCH				*i* S	Sn	16 51 40.2	+1.5
FCH				AML	AML	16 51 43.7	
comp=N,43nm,0.2s							
FCH				AML	AML	16 51 43.7	
comp=E,39nm,0.2s							
CACH	**El Canelo**	**1.72**	**131**	*i* S	Sn	16 51 43.1	+1.6
LMEL	**Las Melosas**	**1.84**	**118**	*e*P	Pn	16 51 21.5	+0.1
LMEL				*i* S	Sn	16 51 45.6	+1.0
LMEL				AML	AML	16 51 49.8	
comp=E,38nm,0.6s							
LMEL				AML	AML	16 51 51.6	
comp=N,58nm,0.2s							

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*IDC **02** 16:56:45.6±2.3, 796S×15588E, h0km, mb3.7/7, mb1 3.9/7, mb1mx3.8/13, mbtmp3.7/7, MS2.7/1, Ms1 2.7/1, ms1mx2.7/20, Error ellipse: s-maj=74.4km s-min=25.4km az=119.0*
*NEIC **02** 16:56:47.3±1.5, 794S×15586E, h10km, mb4.3/1, Error ellipse: s-maj=52.2km s-min=17.2km az=121.0*
*ISCJB **02** 16:56:49.6±1.8, 79S±02×1558E±04, h33km, mb3.7/8, Error ellipse: s-maj=60.0km s-min=19.3km az=31.9*
ISC 02 16:56:51.1±1.8, 80S±02×1558E±04, h35km, n9, σ0§79/8, mb3.7/8, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.32**	**110**	LR	LR	16 58 57.1	
comp=Z,97nm,19.2s,baz=0.1,slow=31							
WRA	**Warramunga Arr**	**23.98**	**238**	P	**P**	**17 02 02.8**	**+0.2**
0.7nm,0.5s,mb3.4,baz=61,slow=9.5,SNR=16							
ASAR	**Alice Springs**	**26.18**	**231**	P	**P**	**17 02 22.2**	**-0.3**
0.4nm,0.7s,mb3.0,baz=58,slow=9.6,SNR=5.2							
MJAR	**Matsushiro Arr**	**47.26**	**341**	P	**P**	**17 05 20.1**	**-0.9**
1.0nm,0.5s,mb4.0,baz=170,slow=7.3,SNR=4.4							
SONM	**Songino Array**	**70.59**	**327**	P	**P**	**17 08 04.5**	**+1.7**
0.3nm,0.7s,mb3.4,baz=134,slow=4.2,SNR=2.8							
BILL	**Bilibino**	**76.17**	**4**	*e*P	**P**	**17 08 35.2**	**0.0**
2.1nm,0.8s,mb4.1							
MKAR	**Makanchi Array**	**84.67**	**319**	P	**P**	**17 09 21.6**	**+0.3**
1.1nm,0.7s,mb4.1,baz=105,slow=5.9,SNR=13							
ZALV	**Zalesovo Beam**	**85.44**	**326**	P	**P**	**17 09 23.9**	**-1.1**
0.5nm,0.4s,mb4.0,baz=98,slow=4.4,SNR=2.8							
YKA	**Yellowknife Ar**	**96.80**	**28**	P	**P**	**17 10 18.1**	**+0.2**
0.2nm,0.8s,mb3.6,baz=281,slow=4.4,SNR=3.4							

IDC 02 17:03:13.3±1.9, 732S×15582E, h0km, mb3.3/3, mb1 3.5/4, mb1mx3.4/15, mbtmp3.5/4, ML3.8/1, Error ellipse: s-maj=44.5km s-min=34.8km az=176.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.59**	**118**	Pn	Pn	17 04 23.5	-0.6
4.9nm,0.3s,baz=270,slow=18,SNR=1.7							
WRA	**Warramunga Arr**	**24.32**	**237**	P	P	17 08 31.9	-0.9
0.5nm,0.9s,baz=59,slow=9.7,SNR=3.2							
ASAR	**Alice Springs**	**26.59**	**230**	P	P	17 08 54.5	+1.1
0.3nm,0.8s,baz=60,slow=9.7,SNR=3.5							
MKAR	**Makanchi Array**	**84.19**	**319**	P	P	17 15 46.9	+0.2
0.2nm,0.3s,baz=104,slow=5.1,SNR=4.8							

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*IDC **02** 17:05:18.9±1.9, 772S×15573E, h0km, mb4.0/9, mb1 4.1/9, mb1mx4.0/15, mbtmp4.0/9, MS4.0/1, Ms1 4.0/1, ms1mx3.1/21, Error ellipse: s-maj=62.2km s-min=21.1km az=109.0*
*NEIC **02** 17:05:20.6±1.0, 763S×15563E, h10km, mb4.6/1, Error ellipse: s-maj=40.1km s-min=13.5km az=114.0*
*ISCJB **02** 17:05:22.5±1.3, 77S±01×1556E±03, h33km, mb4.0/10, Error ellipse: s-maj=43.5km s-min=14.5km az=22.0*
ISC 02 17:05:24.4±1.3, 77S±01×1557E±03, h35km, n13, σ0§66/12, mb4.0/10, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.98**	**237**	P	**P**	**17 10 34.9**	**-0.9**
2.3nm,1.0s,mb3.6,baz=65,slow=9.6,SNR=5.7							
ASAR	**Alice Springs**	**26.21**	**230**	P	**P**	**17 10 56.5**	**+0.3**
0.7nm,1.0s,mb3.1,baz=58,slow=10,SNR=4.1							
STKA	**Stephens Creek**	**27.39**	**207**	P	**P**	**17 11 07.2**	**+0.5**
1.2nm,0.8s,mb3.5,baz=24,slow=15,SNR=3.0							
URZ	**Urewera**	**36.07**	**151**	LR	LR	17 25 07.4	
comp=Z,220nm,19.0s,baz=204,slow=33							
MJAR	**Matsushiro Arr**	**46.96**	**341**	P	**P**	**17 13 51.3**	**-0.6**
3.1nm,0.6s,mb4.4,baz=162,slow=8.0,SNR=11							
MAT	**Matsushiro**	**46.96**	**341**	P	**P**	**17 13 51.5**	**-0.5**
KSRS	**Korea Array**	**51.87**	**332**	P	**P**	**17 14 30.1**	**+0.7**
1.0nm,0.7s,mb3.9,baz=147,slow=7.4,SNR=3.6							
ASAJ	**Asahikawa**	**52.91**	**348**	P	**P**	**17 14 38.1**	**+1.1**
3.4nm,0.8s,mb4.3,baz=223,slow=7.1,SNR=5.3							
BILL	**Bilibino**	**75.93**	**4**	*e*P	**P**	**17 17 07.3**	**+0.2**
6.7nm,1.1s,mb4.5							
MKAR	**Makanchi Array**	**84.37**	**319**	P	**P**	**17 17 53.6**	**+0.5**
1.9nm,0.7s,mb4.3,baz=108,slow=5.9,SNR=8.6							
ZALV	**Zalesovo Beam**	**85.13**	**326**	P	**P**	**17 17 56.1**	**-0.7**
1.0nm,0.6s,mb4.1,baz=110,slow=8.3,SNR=3.7							
YKA	**Yellowknife Ar**	**96.65**	**28**	P	**P**	**17 18 49.9**	**-0.7**
YKA	**Yellowknife Ar**	**96.65**	**28**	P	**P**	**17 18 49.9**	**-0.7**
0.4nm,0.6s,mb4.0,baz=267,slow=4.3,SNR=6.5							

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*NEIC **02** 17:10:53.2±1.2, 5664N×11898E, h10km, mb4.0/1, Error ellipse: s-maj=23.8km s-min=15.6km az=89.0*
*MOS **02** 17:10:54.6±1.9, 5655N×11791E, h14km, mb4.7/1, Error ellipse: s-maj=13.0km s-min=8.5km az=59.1*
*BYKL **02** 17:10:55.0±0.2, 5658N×11797E, h11km±3km*
*IDC **02** 17:10:55.6±7.6, 5641N×11805E, h0km, mb4.0/1, mb1 3.8/3, mb1mx3.3/22, mbtmp3.7/3, ML3.1/1, Error ellipse: s-maj=133.6km s-min=34.1km az=115.0*
ISC 02 17:10:55.0±0.3, 5653N±003×11786E±003, h10km, n62, σ1§75/119, mb3.6/2, 7C-11D, East of Lake Baykal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRS	**Chara**	**0.43**	**31**	*e*PG	**Pg**	**17 11 01.9**	**-1.6**
CRS				*e*		17 11 06.9	
CRS				pmax	pmax		
comp=Z,4μm,0.4s							
CRS				smax			
comp=N,13μm,0.4s							
CRS	**Chara**	**0.43**	**31**	⇓*i*Pg	**Pg**	**17 11 01.9**	**-1.6**
comp=N,2μm,0.5s							
CRS				⇓*i*Pg	**Pg**	**17 11 01.9**	**-1.6**
comp=N,1μm,0.5s							
CRS				⇓*i*Pg	**Pg**	**17 11 01.9**	**-1.6**
comp=N,3μm,0.5s							
CRS				Pmax		17 11 02.3	
comp=N,4μm,0.8s							
CRS				*i* Sg	**Sg**	**17 11 07.0**	**-2.3**
CRS				Smax		17 11 07.6	
comp=N,16μm,1.2s							
NLYR	**Nelyaty**	**1.20**	**269**	*e*PG	**Pg**	**17 11 17.0**	**-0.9**
NLYR				*e*S	**Sb**	**17 11 33.1**	**-0.1**
NLYR	**Nelyaty**	**1.20**	**269**	⇓*i*Pg	**Pg**	**17 11 17.0**	**-0.9**
NLYR				*e*		17 11 19.3	
NLYR				max		17 11 20.0	
comp=N,952nm,0.5s							
NLYR				*e*Sg	**Sg**	**17 11 33.4**	**0.0**
NLYR				*e*		17 11 37.4	
NLYR				max		17 11 40.6	
comp=N,8μm,1.1s							
KHNR	**Khani**	**1.23**	**71**	*e*Pg	**Pg**	**17 11 16.6**	**-2.0**
KHNR				*e*Sg	**Sg**	**17 11 32.1**	**-2.5**
TUP	**Tupik**	**2.42**	**150**	*e*PN	**Pn**	**17 11 38.7**	**+4.1**
TUP				*e*S	**Sn**	**17 12 05.7**	**+1.5**
TUP				*e*		17 12 11.1	
TUP				pmax	pmax		
comp=Z,715nm,0.4s							
TUP				smax			
comp=E,813nm,0.8s							
TUP	**Tupik**	**2.42**	**150**	*e*Pn	**Pn**	**17 11 35.6**	**+1.0**
TUP				⇓*i*Pg	**Pg**	**17 11 38.5**	**-2.9**
comp=E,248nm,0.8s							
TUP				⇑*i*Pg	**Pg**	**17 11 38.5**	**-2.9**
comp=E,102nm,0.8s							
TUP				⇑*i*Pg	**Pg**	**17 11 38.5**	**-2.9**
comp=E,350nm,0.8s							
TUP				Pmax		17 11 40.6	
comp=E,921nm,1.5s							
TUP				*e*Sg	**Sg**	**17 12 11.2**	**-1.6**
TUP				Smax		17 12 13.6	
comp=E,746nm,0.5s							
SVKR	**Severomuysk**	**2.43**	**262**	*e*PN	**Pn**	**17 11 36.3**	**+1.6**
SVKR				*e*		17 11 39.4	
SVKR				*e*		17 12 11.3	
SVKR				pmax	pmax		
comp=Z,961nm,1.1s							
SVKR				smax			
comp=N,4μm,0.8s							
SVKR	**Severomuysk**	**2.43**	**262**	*e*Pn	**Pn**	**17 11 36.3**	**+1.6**
SVKR				*e*Pg	**Pg**	**17 11 39.7**	**-1.8**
SVKR				Pmax		17 11 40.8	
comp=N,821nm,0.4s							
SVKR				*e*Sn	**Sn**	**17 12 06.9**	**+2.5**
SVKR				*i* Sg	**Sg**	**17 12 12.5**	**-0.5**
SVKR				Smax		17 12 16.2	
comp=N,4μm,0.7s							
BOD	**Bodaibo**	**2.46**	**303**	*e*PN	**Pn**	**17 11 35.2**	**0.0**
BOD				*e*		17 11 38.9	
BOD				*e*		17 12 11.2	
BOD				pmax	pmax		
comp=Z,544nm,0.4s							
BOD				smax			
comp=N,5μm,0.7s							
BOD	**Bodaibo**	**2.46**	**303**	*e*Pn	**Pn**	**17 11 36.0**	**+0.8**
BOD				⇑*i*Pg	**Pg**	**17 11 39.1**	**-3.1**
comp=N,211nm,0.5s							
BOD				⇓*i*Pg	**Pg**	**17 11 39.1**	**-3.1**
comp=N,472nm,0.5s							
BOD				⇑*i*Pg	**Pg**	**17 11 39.1**	**-3.1**
comp=N,447nm,0.5s							
BOD				Pmax		17 11 39.6	
comp=N,533nm,0.4s							
BOD				*e*Sn	**Sn**	**17 12 05.9**	**+0.6**
BOD				*i* Sg	**Sg**	**17 12 11.6**	**-2.5**
BOD				Smax		17 12 12.1	
comp=N,5μm,0.8s							
UKT	**Uakit**	**2.59**	**248**	*e*PN	**Pn**	**17 11 38.0**	**+1.1**
UKT				*e*		17 11 42.0	
UKT				*e*S	**Sn**	**17 12 10.4**	**+1.9**
UKT				*e*		17 12 17.1	
UKT				pmax	pmax		
comp=Z,248nm,0.4s							
UKT				smax			
comp=N,651nm,0.7s							
UKT	**Uakit**	**2.59**	**248**	*e*Pn	**Pn**	**17 11 38.7**	**+1.8**
UKT				⇓*i*Pg	**Pg**	**17 11 42.3**	**-2.4**
UKT				Pmax		17 11 42.9	
comp=N,299nm,0.9s							
UKT				*e*Sg	**Sg**	**17 12 17.5**	**-0.8**
UKT				Smax		17 12 20.3	
comp=N,643nm,0.5s							
YOA	**Uoyan**	**3.44**	**266**	⇓*i*PN	**Pg**	**17 11 57.4**	**-3.4**
YOA				*e*		17 12 44.2	
YOA				pmax	pmax		
comp=Z,287nm,0.3s							
YOA				smax			
comp=E,4μm,0.7s							
YOA	**Uoyan**	**3.44**	**266**	*e*Pn	**Pn**	**17 11 50.4**	**+1.9**
YOA				*e*Pg	**Pg**	**17 11 57.4**	**-3.4**
YOA				Pmax		17 12 10.4	
comp=E,595nm,1.3s							
YOA				*e*		17 12 33.7	
YOA				*e*Sg	**Sg**	**17 12 44.1**	**-1.2**
YOA				Smax		17 12 47.7	
comp=E,4μm,1.0s							
KMO	**Kumora**	**3.77**	**263**	*e*PN	**Pn**	**17 11 52.2**	**-0.9**
KMO				*e*S	**Sn**	**17 12 37.7**	**+0.2**
KMO				*e*S	**Sg**	**17 12 52.0**	**-4.1**
KMO				smax			
comp=N,2μm,1.1s							
KMO	**Kumora**	**3.77**	**263**	*e*Pn	**Pn**	**17 11 55.0**	**+1.9**
KMO				*e*Pg	**Pg**	**17 12 03.0**	**-4.2**
KMO				Pmax		17 12 08.6	
comp=N,151nm,0.6s							
KMO				*e*Sg	**Sg**	**17 12 53.1**	**-3.0**
KMO				Smax		17 13 02.2	
comp=N,2μm,1.1s							
NRGR	**Nerungri**	**3.80**	**85**	*e*PN	**Pn**	**17 11 54.8**	**+1.3**
NRGR				S	**Sn**	**17 12 38.1**	**0.0**
NRGR				smax			
comp=N,427nm,0.8s							
CLNS	**Chul'man**	**3.89**	**83**	*e*PN	**Pn**	**17 11 55.4**	**+0.6**
CLNS				*e*		17 12 03.3	
CLNS				*e*S	**Sn**	**17 12 43.3**	**+2.8**
CLNS				*e*		17 12 53.8	
CLNS				pmax	pmax		
comp=E,10.0nm,0.3s							
CLNS				pmax	pmax		
comp=Z,17nm,0.3s							
CLNS				pmax	pmax		
comp=N,3.0nm,0.2s							
CLNS				smax			
comp=E,104nm,0.3s							
CLNS				smax			
comp=N,107nm,0.4s							
CLNS				smax			
comp=Z,119nm,0.4s							
CLNS				MLR	MLR		
comp=Z,200nm,12.0s							
CLNS	**Chul'man**	**3.89**	**83**	*e*Pg	**Pb**	**17 12 02.2**	**-1.4**
CLNS				*e*Sg	**Sb**	**17 12 52.7**	**+2.0**
IENR	**Iengra**	**3.91**	**91**	*e*Pn	**Pn**	**17 11 56.1**	**+1.1**
IENR				*e*Pg	**Pg**	**17 12 04.1**	**-5.7**
IENR				*e*Sn	**Sn**	**17 12 39.3**	**-1.5**
IENR				*e*Sg	**Sg**	**17 12 53.8**	**-6.5**
YLYR	**Ulyunkhan**	**4.13**	**249**	*e*PN	**Pn**	**17 12 00.2**	**+2.1**
YLYR				*e*		17 12 09.6	
YLYR				*e*S	**Sn**	**17 12 46.6**	**+0.2**
YLYR	**Ulyunkhan**	**4.13**	**249**	⇑*i*Pn	**Pn**	**17 12 00.1**	**+2.0**
comp=Z,17nm,0.6s							
YLYR				⇑*i*Pn	**Pn**	**17 12 00.1**	**+2.0**
comp=Z,30nm,0.6s							
YLYR				⇓*i*Pn	**Pn**	**17 12 00.1**	**+2.0**
comp=Z,41nm,0.6s							
YLYR				*e*Pg	**Pg**	**17 12 10.8**	**-3.3**
YLYR				Pmax		17 12 12.9	
comp=Z,48nm,0.6s							
YLYR				*e*Sg	**Sg**	**17 13 05.8**	**-1.8**
YLYR				Smax		17 13 12.5	
comp=Z,488nm,1.2s							
NIZ	**Nizh Angarsk**	**4.71**	**264**	*e*PN	**Pn**	**17 12 08.5**	**+2.5**
NIZ				*e*		17 12 21.7	
NIZ				*e*		17 13 22.7	
NIZ				pmax	pmax		
comp=Z,109nm,1.8s							
NIZ				smax			
comp=N,444nm,1.3s							
NIZ	**Nizh Angarsk**	**4.71**	**264**	*e*Pn	**Pn**	**17 12 08.0**	**+2.0**
NIZ				*e*Pg	**Pg**	**17 12 20.2**	**-5.0**
NIZ				Pmax		17 12 24.1	
comp=N,107nm,1.5s							
NIZ				*e*Sn	**Sn**	**17 13 03.1**	**+2.4**
NIZ				*e*Sg	**Sg**	**17 13 22.4**	**-3.7**
NIZ				Smax		17 13 29.9	
comp=N,440nm,1.3s							
CIT	**Chita**	**5.17**	**211**	*e*PN	**Pb**	**17 12 29.2**	**+3.7**
CIT				*e*		17 13 37.8	
CIT				pmax	pmax		
comp=Z,45nm,1.5s							
CIT				smax			
comp=N,689nm,1.4s							
CIT	**Chita**	**5.17**	**211**	*e*Pn	**Pn**	**17 12 13.4**	**+1.0**
CIT				*e*Pg	**Pb**	**17 12 28.8**	**+3.3**
CIT				Pmax		17 12 36.2	
comp=N,42nm,0.9s							
CIT				*e*Sn	**Sn**	**17 13 12.7**	**+0.7**
CIT				*e*Sg	**Sg**	**17 13 37.7**	**-3.2**
CIT				Smax		17 13 50.3	
comp=N,680nm,0.7s							
SYVR	**Suvo**	**5.35**	**241**	*e*PN	**Pn**	**17 12 16.7**	**+1.9**
SYVR				*e*		17 12 32.4	
SYVR				*e*		17 13 43.1	
SYVR				pmax	pmax		
comp=Z,55nm,0.8s							
SYVR				smax			
comp=E,232nm,0.6s							
SYVR	**Suvo**	**5.35**	**241**	⇓*i*Pn	**Pn**	**17 12 16.6**	**+1.8**
SYVR				*e*Pg	**Pg**	**17 12 32.6**	**-4.8**
SYVR				Pmax		17 12 34.5	
comp=E,102nm,1.3s							
SYVR				*e*Sg	**Sg**	**17 13 43.6**	**-3.1**
SYVR				Smax		17 13 50.8	
comp=E,283nm,0.7s							
MXMB	**Maximikha**	**6.19**	**242**	*e*Pn	**Pn**	**17 12 28.0**	**+1.7**
MXMB				*e*Pg	**Pg**	**17 12 47.6**	**-5.9**
MXMB				Pmax		17 12 55.7	
comp=E,42nm,1.1s							
MXMB				*e*Sg	**Sg**	**17 14 10.3**	**-3.3**
MXMB				Smax		17 14 25.6	
comp=E,649nm,1.0s							
OGRR	**Ongureny**	**6.56**	**248**	*e*PG	**Pg**	**17 12 54.4**	**-6.2**
OGRR				*e*		17 14 21.0	
OGRR				pmax	pmax		
comp=Z,24nm,0.9s							
OGRR				smax			
comp=N,147nm,1.4s							
OGRR	**Ongureny**	**6.56**	**248**	⇑*i*Pn	**Pn**	**17 12 32.9**	**+1.5**
OGRR				*e*Pg	**Pg**	**17 12 53.0**	**-7.6**
OGRR				Pmax		17 12 56.6	
comp=N,23nm,0.7s							
OGRR				*e*Sg	**Sg**	**17 14 18.5**	**-7.0**
OGRR				Smax		17 14 34.3	
comp=N,137nm,1.6s							
TRTB	**Turuntaevo**	**7.36**	**238**	*e*Pn	**Pn**	**17 12 43.8**	**+1.4**
TRTB				*e*Pg	**Pg**	**17 13 08.2**	**-7.6**
TRTB				Pmax		17 13 18.8	
comp=N,23nm,0.7s							
TRTB				*e*Sg	**Sg**	**17 14 47.1**	**-3.9**
TRTB				Smax		17 14 52.8	
comp=N,238nm,1.2s							
HIA	**Hailar**	**7.36**	**170**	*e*Pn	**Pn**	**17 12 41.3**	**-1.2**
comp=N,16nm,0.6s							
HIA				*e*Pg	**Pg**	**17 13 06.9**	**-9.0**
HIA				*e*Sn	**Sn**	**17 14 03.3**	**-2.7**
HIA				*e*Sg	**Sg**	**17 14 45.0**	**-6.1**
HIA	**Hailar**	**7.36**	**170**	*e*PN	**Pn**	**17 12 41.3**	**-1.1**
HIA				*e*		17 13 06.9	
HIA				*e*		17 14 03.3	
HIA				*e*		17 14 45.0	
HIA				pmax	pmax		
comp=Z,16nm,0.6s							
ZRHB	**Zarechye**	**7.39**	**242**	*e*Pn	**Pn**	**17 12 44.2**	**+1.4**
ZRHB				*e*Pg	**Pg**	**17 13 10.6**	**-5.8**
ZRHB				Pmax		17 13 15.4	
comp=Z,72nm,0.8s							
ZRHB				*e*Sg	**Sg**	**17 14 47.6**	**-4.3**
ZRHB				Smax		17 15 07.6	
comp=Z,469nm,1.2s							
UUDB	**Ulan-Yde**	**7.58**	**236**	*e*Sg	Sx	17 14 50.9	
UUDB				Smax		17 15 13.5	
comp=Z,289nm,1.0s							
KPC	**Khapcheranga**	**7.59**	**208**	*e*PN	**Pn**	**17 12 45.9**	**+0.4**
KPC				*e*		17 13 15.2	
KPC				*e*S	**Sn**	**17 14 09.0**	**-2.5**
KPC				*e*		17 14 53.4	
KPC				pmax	pmax		
comp=Z,7.0nm,0.5s							
KPC				smax			
comp=E,294nm,1.7s							
KPC	**Khapcheranga**	**7.59**	**208**	*e*Pn	**Pn**	**17 12 46.0**	**+0.5**
KPC				*e*Pg	**Pg**	**17 13 12.6**	**-7.6**
KPC				Pmax		17 13 21.6	
comp=E,7.0nm,0.7s							
KPC				*e*Sn	**Sn**	**17 14 11.9**	**+0.4**
KPC				*e*Sg	**Sg**	**17 14 52.2**	**-6.1**
KPC				Smax		17 15 00.5	
comp=E,269nm,1.5s							
TRG	**Tyrgan**	**7.67**	**245**	*e*PG	Px	17 13 12.9	
TRG				*e*		17 14 54.4	
TRG				pmax	pmax		
comp=Z,5.0nm,0.5s							
TRG				smax			
comp=N,51nm,0.9s							
TRG	**Tyrgan**	**7.67**	**245**	*e*Pn	**Pn**	**17 12 47.9**	**+1.3**
TRG				max		17 13 27.6	
comp=N,7.0nm,1.1s							
TRG				*e*Sg	**Sg**	**17 14 54.3**	**-6.6**
TRG				Smax		17 15 15.7	
comp=N,56nm,1.3s							
KAB	**Kabansk**	**7.94**	**240**	*e*PG	Px	17 13 19.8	
KAB	**Kabansk**	**7.94**	**240**	*e*Sg	Sx	17 15 02.8	
KAB				Smax		17 15 31.6	
comp=N,1μm,1.4s							
YAK	**Yakutsk**	**8.18**	**43**	*e*PN	**Pn**	**17 12 52.8**	**-0.8**
YAK				*e*		17 14 21.8	
YAK				*e*		17 15 01.6	
YAK

comp=E,78nm,1.3s
TLY Talaya 9.65 246 *i* P **Pn 17 13 15.5 +1.7**
TLY Talaya 9.65 246 *e*Sg Sx 17 15 56.5
TLY Smax 17 16 11.1
comp=E,46nm,1.0s
ARS Arshan 10.14 249 *e*Sg Sx 17 16 09.9
ARS Smax 17 16 39.1
comp=E,199nm,1.0s
ZAK Zakamensk 10.64 241 *e*P **Pn 17 13 29.7 +2.4**
ZAK *e* 17 15 26.9
ZAK pmax pmax
comp=Z,5.0nm,1.3s
ZAK Zakamensk 10.64 241 *e*Sg Sx 17 16 25.1
ZAK Smax 17 16 47.7
comp=Z,98nm,1.8s
KLR Kul'dur 11.12 125 *e*P **Pn 17 13 45.8 +12**
KLR *e* 17 15 38.5
SONM Songino Array 11.18 224 Pn **Pn 17 13 37.7 +3.0**
comp=Z,0.1nm,0.3s,baz=25,slow=15,SNR=7.4
SONM Lg 17 16 46.9
comp=Z,1.7nm,0.3s,baz=29,slow=25,SNR=7.9
ORL Orlik 11.21 257 *e*Pn **Pn 17 13 36.9 +1.8**
ORL *e* 17 16 09.8
ORL *e*Sg Sn 17 16 45.1 +65
ORL Smax 17 16 52.3
comp=Z,115nm,1.4s
TIXI Tiksi 15.87 13 *e*Pn **Pn 17 14 32.4 -5.7**
comp=Z,5.1nm,0.6s
TIXI *e*Sn **Sn 17 17 20.0 -14**
TIXI Tiksi 15.87 13 *e*P **Pn 17 14 33.4 -4.7**
TIXI pmax pmax
comp=Z,4.0nm,0.6s
ZAA0 Zalesovo Array 18.91 276 *e*P **Pn 17 15 19.6 +3.5**
ZALV Zalesovo Beam 18.91 276 P **Pn 17 15 19.9 +3.8**
comp=Z,0.3nm,0.3s,baz=69,slow=9.7,SNR=9.8
ZAL Zalesovo 18.93 276 P **Pn 17 15 19.9 +3.6**
BILL Bilibino 24.54 43↓↓*e*P **P 17 16 16.6 +2.3**
BILL pmax pmax
comp=Z,1.0nm,1.0s,mb3.3
FINES FINESS Array B 43.80 316 P **P 17 19 03.2 +2.9**
FINES FINESS Array B 43.80 316 P **P 17 19 03.2 +2.9**
FINES pmax pmax
comp=Z,3.0nm,1.0s
FINES FINESS Array B 43.80 316 P **P 17 19 03.2 +2.9**
comp=Z,2.7nm,1.0s,mb3.9,baz=69,slow=9.1,SNR=5.8

MAN 02 17:14:31, 1664N×12228E, h23km, mb3.9, ML2.7, MS2.3, 1C-1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALP	**Palanan**	**0.45**	**18**	*e*P	Pb	17 14 42.2	+2.0
BALP	**Baler**	**1.12**	**217**	*e*P	Pn	17 14 50.5	-0.8
CVP	**Callao Caves**	**1.15**	**338**	*e*P	Pn	17 14 51.5	-0.2
CVP				*e*S	Sb	17 15 06.1	-0.6
PCPH	**Palayan**	**1.56**	**227**↓↓	*e*P	Pn	17 14 57.9	+0.5
PCPH				*i* S	Sn	17 15 18.1	+1.2
APYP	**Conner**	**1.57**	**321**	*e*P	Pn	17 14 57.6	+0.1
APYP				*e*S	Sn	17 15 18.6	+1.4
BCPH	**Baguio City Da**	**1.65**	**261**↑↑	*i*P	Pn	17 14 59.6	+1.0
BCPH				*i* S	Sn	17 15 20.3	+1.2
ABRA	**Dolores**	**1.81**	**304**	*e*P	Pn	17 15 01.1	+0.3
POLP	**Polillo Island**	**1.92**	**190**	*e*P	Pn	17 15 03.7	+1.3
BOLP	**Bolinao**	**2.29**	**264**	*e*P	Pn	17 15 09.9	+2.6
PVCP	**Virac**	**3.52**	**149**	*e*P	Pn	17 15 26.2	+1.9

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*NEIC **02** 17:14:48.6±1.3, 8.17S×158.01E, h10km, mb4.6/1, Error ellipse: s-maj=45.8km s-min=22.8km az=109.0*
*IDC **02** 17:14:48.0±1.7, 8.23S×157.85E, h0km, mb3.8/6, mb1 3.9/6, mb1mx3.8/14, mbtmp3.8/6, Error ellipse: s-maj=55.0km s-min=28.1km az=96.0*
*ISCJB **02** 17:14:51.7±1.5, 8.3S±02×1578E±03, h33km, mb3.8/7, Error ellipse: s-maj=45.7km s-min=24.7km az=13.7*
ISC 02 17:14:53.5±1.5, 8.3S±02×1578E±03, h35km, n8, σ0°53/8, mb3.8/7, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**25.53**	**240**	P	**P**	**17 20 18.6**	**-0.5**
0.3nm,0.5s,mb3.1,baz=61,slow=9.1,SNR=4.8							
ASAR	**Alice Springs**	**27.57**	**233**	P	**P**	**17 20 37.6**	**+0.2**
0.2nm,0.5s,mb3.0,baz=59,slow=9.9,SNR=4.7							
VNDA	**Vanda**	**69.27**	**179**	P	**P**	**17 25 56.7**	**+0.1**
VNDA	**Vanda**	**69.27**	**179**	P	**P**	**17 25 56.7**	**+0.1**
1.0nm,0.8s,mb3.8,baz=340,slow=2.7,SNR=4.6							
SONM	**Songino Array**	**71.92**	**326**	P	**P**	**17 26 13.2**	**+0.1**
0.7nm,0.6s,mb3.8,baz=146,slow=6.1,SNR=9.9							
BILL	**Bilibino**	**76.34**	**3**	*e*P	**P**	**17 26 34.7**	**-3.8**
1.9nm,0.3s,mb4.5							
MKAR	**Makanchi Array**	**86.20**	**318**	P	**P**	**17 27 31.7**	**+0.4**
1.7nm,0.7s,mb4.4,baz=102,slow=5.6,SNR=18							
ZALV	**Zalesovo Beam**	**86.79**	**326**	P	**P**	**17 27 34.1**	**+0.1**
0.7nm,0.4s,mb4.2,baz=108,slow=4.8,SNR=3.7							

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*ISCJB **02** 17:19:10.5±1.3, 3833N±004×2052E±008, h12km±11km, Error ellipse: s-maj=10.6km s-min=5.8km az=160.9*
*THE **02** 17:19:10.4, 3830N×2049E, h3km, ML2.6*
*ATH **02** 17:19:10.2, 3809N×2037E, h5km*
*CSEM **02** 17:19:11.2±0.3, 3828N×2048E, h10km, ML2.6, Error ellipse: s-maj=6.1km s-min=2.9km az=69.0*
ISC 02 17:19:10.3±1.5, 3829N±005×2048E±009, h16km±10km, n9, σ1°06/15, 1C, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.15**	**142**↑↑	*i*PG	**Pg**	**17 19 14.1**	**-0.2**
VLS				*e*SG	**Sg**	**17 19 17.6**	**+0.6**
KFL	**Anninata**	**0.31**	**127**	*e*Pg	**Pg**	**17 19 16.9**	**+0.1**
LKD	**Levkas**	**0.43**	**18**	*e*Pg	**Pg**	**17 19 17.7**	**-1.4**
LKD				*e*Sg	**Sg**	**17 19 25.2**	**+0.1**
RLS	**Riolos of Patr**	**0.81**	**106**	*e*PB	**Pb**	**17 19 26.9**	**+0.8**
SELA	**Sela**	**1.11**	**90**	*e*Pg	**Pg**	**17 19 30.4**	**-1.5**
SELA				*e*Sg	**Sg**	**17 19 47.5**	**+1.1**
EVR	**Evrytania**	**1.22**	**59**	*e*PB	**Pb**	**17 19 37.0**	**+4.1**
IGT	**Igoumenitsa**	**1.24**	**355**	*e*Pg	**Pg**	**17 19 34.5**	**+0.2**
IGT				*e*Sg	**Sg**	**17 19 51.8**	**+1.3**
IGT	**Igoumenitsa**	**1.24**	**355**	*e*Pg	**Pg**	**17 19 34.5**	**+0.2**
IGT				*e*Sg	**Sg**	**17 19 51.8**	**+1.3**
AGG	**Agios Georgios**	**1.62**	**63**	*e*Pg	**Pg**	**17 19 38.9**	**-2.7**
AGG				*e*Sg	**Sg**	**17 20 02.9**	**+0.2**

IDC 02 17:20:04.6±2.4, 918S×15775E, h0km, mb3.5/3, mb1 3.7/4, mb1mx3.5/14, mbtmp3.6/4, ML3.5/1, Error ellipse: s-maj=59.3km s-min=21.8km az=171.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.18**	**97**	Pn	Pn	17 20 41.9	-0.2
13nm,0.3s,baz=273,slow=6.8,SNR=7.1							
HNR				Sn	Sn	17 21 11.1	+1.3
102nm,0.3s,baz=271,slow=23,SNR=5.8							
WRA	**Warramunga Arr**	**25.02**	**242**	P	P	17 25 30.1	-0.4
0.4nm,0.6s,baz=66,slow=9.5,SNR=4.3							
ASAR	**Alice Springs**	**26.97**	**235**	P	P	17 25 49.1	+1.0
0.3nm,0.8s,baz=66,slow=9.5,SNR=3.1							
STKA	**Stephens Creek**	**27.11**	**211**	P	P	17 25 48.9	-0.4
1.5nm,0.7s,baz=65,slow=14,SNR=2.3							

IDC 02 17:22:05.8±2.3, 329N×12439E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.3/16, mbtmp3.4/3, Error ellipse: s-maj=302.6km s-min=24.7km az=64.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**25.07**	**157**	P	P	17 27 32.4	+0.3
0.4nm,0.5s,baz=336,slow=9.7,SNR=7.6							
ASAR	**Alice Springs**	**28.35**	**161**	P	P	17 28 01.4	-0.2
0.2nm,0.5s,baz=339,slow=7.9,SNR=4.0							
MKAR	**Makanchi Array**	**56.61**	**327**	P	P	17 31 50.5	0.0
0.4nm,0.3s,baz=122,slow=8.1,SNR=10							

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*ISCJB **02** 17:22:23.6±0.4, 3184S±003×6932W±005, h125km±5km, mb4.0/3, Error ellipse: s-maj=7.5km s-min=4.6km az=6.8*
*GUC **02** 17:22:24.1±0.7, 3186S×6960W, h147km±8km, MD3.5, ML3.8*
*NEIC **02** 17:22:24.5±0.3, 3188S×6934W, h121km±5km, MD3.5(GUC), Error ellipse: s-maj=8.7km s-min=5.4km az=95.0*
*IDC **02** 17:22:24.0±1.8, 3199S×6926W, h114km±10km, mb3.8/3, mb1 3.6/6, mb1mx3.5/16, mbtmp3.5/6, Error ellipse: s-maj=40.0km s-min=22.9km az=115.0*
ISC 02 17:22:24.5±0.4, 3183S±003×6932W±005, h120km±5km, n43, σ0°94/62, mb4.0/3, 7C-11D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**0.95**	**76**	P	**Pn**	**17 22 46.0**	**0.0**
12nm,0.3s,baz=256,slow=8.6,SNR=802							
CFAA				S	**Sn**	**17 23 01.3**	**-1.0**
8.4nm,0.3s,baz=234,slow=20,SNR=7.8							
JACH	**Jahuel**	**1.37**	**232**↑↑	*i*P	**Pn**	**17 22 50.8**	**+0.4**
JACH				*i* S	**Sn**	**17 23 11.4**	**+1.2**
CMCH	**Combarbala**	**1.58**	**294**↓↓	*i*P	**Pn**	**17 22 52.7**	**-0.2**
CMCH				*i* S	**Sn**	**17 23 14.6**	**+0.2**
CMCH	**Combarbala**	**1.58**	**294**↓↓	*i*P	**Pn**	**17 22 52.7**	**-0.2**
CMCH				*i* S	**Sn**	**17 23 14.6**	**+0.2**
CMCH				AML	AML	17 23 15.5	
comp=N,4μm,0.6s							
FCH	**Farellones**	**1.70**	**209**↓↓	*i*P	**Pn**	**17 22 55.4**	**+1.1**
FCH				*i* S	**Sn**	**17 23 19.0**	**+2.0**
FCH				AML	AML	17 23 19.9	
comp=E,844nm,0.4s							
PEL	**Peldehue**	**1.74**	**221**↓↓	*i*P	**Pn**	**17 22 54.7**	**-0.1**
PEL				*i* S	**Sn**	**17 23 17.6**	**-0.3**
PEL				AML	AML	17 23 20.3	
comp=E,2μm,0.7s							
ROCH	**El Roble**	**1.83**	**231**↑↑	*i*P	**Pn**	**17 22 55.7**	**-0.1**
ROCH				*i* S	**Sn**	**17 23 19.0**	**-0.7**
CHNG	**Los Chungos**	**1.85**	**268**	*e*P	**Pn**	**17 22 38.0**	**-18**
CHNG				*i* S	**Sn**	**17 23 01.0**	**-19**
CHNG				AML	AML	17 23 09.5	
comp=E,616nm,0.7s							
CLCH	**Cerro Calan**	**1.87**	**213**	*i* P	**Pn**	**17 22 57.4**	**+1.1**
CLCH				*i* S	**Sn**	**17 23 21.8**	**+1.2**
CLCH	**Cerro Calan**	**1.87**	**213**↑↑	*i*P	**Pn**	**17 22 56.8**	**+0.5**
CLCH				*i* P		17 22 57.4	
CLCH				*i* S	**Sn**	**17 23 20.9**	**+0.3**
CLCH				*i* S	**Sn**	**17 23 21.8**	**+1.2**
CLCH				AML	AML	17 23 22.6	
comp=N,2μm,0.6s							
CLCH				AML	AML	17 23 23.2	
comp=N,2μm,0.6s							
PACH	**Papudo**	**1.93**	**248**↓↓	*i*P	**Pn**	**17 22 56.0**	**-1.0**
PACH				*i* S	**Sn**	**17 23 20.2**	**-1.7**
STL	**Santa Lucia**	**1.95**	**215**	*i* S	**Sn**	**17 23 22.4**	**0.0**
STL				AML	AML	17 23 24.8	
comp=N,182nm,0.4s							
OVCH	**Ovalle**	**2.02**	**307**	*e*P	**Pn**	**17 22 57.9**	**-0.4**
OVCH				*i* S	**Sn**	**17 23 23.7**	**-0.3**
OVCH	**Ovalle**	**2.02**	**307**	*e*P	**Pn**	**17 22 57.9**	**-0.4**
OVCH				*i* S	**Sn**	**17 23 23.7**	**-0.3**
OVCH				AML	AML	17 23 25.6	
comp=N,561nm,0.6s							
ANTU	**Antumapu**	**2.06**	**212**	*e*P	**Pn**	**17 22 58.8**	**+0.2**
ANTU				*i* S	**Sn**	**17 23 25.4**	**+0.6**
ANTU	**Antumapu**	**2.06**	**212**	*e*P	**Pn**	**17 22 58.8**	**+0.2**
ANTU				*i* S	**Sn**	**17 23 25.4**	**+0.6**
ANTU				AML	AML	17 23 26.6	
comp=N,1μm,0.4s							
RCDM	**Rinconada Maip**	**2.07**	**217**↓↓	*i*P	**Pn**	**17 22 58.8**	**-0.1**
RCDM				*i* S	**Sn**	**17 23 25.1**	**0.0**
RCDM	**Rinconada Maip**	**2.07**	**217**↓↓	*i*P	**Pn**	**17 22 58.8**	**-0.1**
RCDM				*i* S	**Sn**	**17 23 25.1**	**0.0**
RCDM				AML	AML	17 23 26.0	
comp=E,2μm,0.2s							
TLL	**Tololo Astrono**	**2.09**	**322**↑↑	*i*P	**Pn**	**17 22 59.6**	**+0.5**
TLL				*i* S	**Sn**	**17 23 26.5**	**+0.9**
TLL	**Tololo Astrono**	**2.09**	**322**↑↑	*i*P	**Pn**	**17 22 59.6**	**+0.5**
TLL				*i* S	**Sn**	**17 23 26.5**	**+0.9**
TLL				AML	AML	17 23 33.8	
comp=E,221nm,0.4s							
LMEL	**Las Melosas**	**2.14**	**200**↓↓	*i*P	**Pn**	**17 23 00.4**	**+0.7**
LMEL				AML	AML	17 23 33.7	
comp=N,451nm,0.3s							
TACH	**Talagante**	**2.27**	**216**↑↑	*i*P	**Pn**	**17 23 00.9**	**-0.4**
TACH				*i* S	**Sn**	**17 23 29.1**	**-0.5**
CHCH	**Chadas Angostu**	**2.38**	**208**↓↓	*i*P	**Pn**	**17 23 02.6**	**-0.1**
CHCH				*i* S	**Sn**	**17 23 31.9**	**-0.1**
LCCH	**Las Cruces**	**2.51**	**229**	*e*P	**Pn**	**17 23 03.5**	**-0.9**
CACH	**El Canelo**	**2.52**	**205**↓↓	*i*P	**Pn**	**17 23 05.1**	**+0.6**
CACH				*i* S	**Sn**	**17 23 36.3**	**+1.0**
CICH	**Cipreses**	**2.65**	**200**	*i* P	**Pn**	**17 23 07.2**	**+1.0**
CICH				*i* S	**Sn**	**17 23 39.8**	**+1.5**
LNV	**Longovilo**	**2.75**	**219**↓↓	*i*P	**Pn**	**17 23 05.7**	**-1.9**
LNV				*i* S	**Sn**	**17 23 38.1**	**-2.6**
LCO	**Las Campanas**	**3.05**	**337**	*e*Pn	**Pn**	**17 23 11.3**	**-0.3**
LCO				*e*Sn	**Sn**	**17 23 39.6**	**-8.2**
SFDO	**San Fernando**	**3.12**	**207**↑↑	*i*P	**Pn**	**17 23 11.3**	**-1.0**
TRQA	**Tornquist**	**8.65**	**138**	*e*Pn	**Pn**	**17 24 25.5**	**-1.2**
PLCA	**Paso Flores**	**8.94**	**186**	P	**Pn**	**17 24 28.4**	**-2.2**
comp=N,0.1nm,0.3s,baz=319,slow=11,SNR=3.1							
LPAZ	**La Paz**	**15.51**	**4**	P	**Pn**	**17 25 59.7**	**+2.9**
comp=N,0.2nm,0.3s,baz=198,slow=1.7,SNR=7.7							
SIV	**San Ignacio**	**17.47**	**27**	P	**Pn**	**17 26 20.8**	**0.0**
comp=N,0.5nm,0.3s,baz=183,slow=9.2,SNR=11							
DBIC	**Dimbokro**	**72.31**	**70**	P	**P**	**17 33 37.6**	**+0.2**
comp=N,3.6nm,0.8s,mb4.2,baz=250,slow=9.6,SNR=3.3							
BOSA	**Boshof**	**79.03**	**117**	P	**P**	**17 34 15.9**	**+0.3**
comp=N,2.1nm,0.9s,mb3.9,baz=219,slow=6.5,SNR=3.0							
TORD	**Torodi Ar. Bea**	**81.31**	**69**	P	**P**	**17 34 28.1**	**+0.2**
comp=N,1.0nm,0.7s,mb3.8,baz=277,slow=6.7,SNR=7.9							
ASAR	**Alice Springs**	**120.51**	**205**	PKP	PKPdf	17 41 01.4	-1.1
comp=N,0.1nm,0.4s,baz=132,slow=1.6,SNR=6.3							
WRA	**Warramunga Arr**	**123.75**	**207**	PKP	PKPdf	17 41 08.2	-0.6
comp=N,1.4nm,0.7s,baz=67,slow=9.3,SNR=22							
ZALV	**Zalesovo Beam**	**151.18**	**32**	PKPbc	PKPbc	17 42 03.5	+0.3
ZALV	**Zalesovo Beam**	**151.18**	**32**	PKPbc	PKPbc	17 42 03.5	+0.4
comp=N,1.8nm,0.5s,baz=302,slow=4.0,SNR=8.3							
MKAR	**Makanchi Array**	**153.62**	**47**	PKPab	PKPab	17 42 22.2	+0.2
MKAR	**Makanchi Array**	**153.62**	**47**	PKPab	PKPab	17 42 22.2	+0.3
comp=N,0.2nm,0.3s,baz=317,slow=3.8,SNR=3.8							
SONM	**Songino Array**	**163.69**	**10**	PKPab	PKPab	17 43 06.3	+0.9
comp=N,0.4nm,0.7s,baz=350,slow=1.8,SNR=4.1							

IDC 02 17:23:55.6±4.7, 748S×15588E, h0km, mb3.6/4, mb1 3.7/4, mb1mx3.6/13, mbtmp3.6/4, MS2.8/1, Ms1 2.8/1, ms1mx2.5/16, Error ellipse: s-maj=136.9km s-min=30.5km az=112.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.47**	**116**	LR	LR	17 26 43.2	
comp=Z,95nm,18.7s,baz=354,slow=38							
WRA	**Warramunga Arr**	**24.28**	**237**	P	P	17 29 15.5	+0.8
0.7nm,0.6s,baz=63,slow=9.2,SNR=7.2							
ASAR	**Alice Springs**	**26.52**	**230**	P	P	17 29 34.5	-0.6
0.2nm,0.6s,baz=57,slow=10.0,SNR=6.7							
SONM	**Songino Array**	**70.21**	**327**	P	P	17 35 10.7	+0.4
0.7nm,0.7s,baz=136,slow=6.8,SNR=11							
MKAR	**Makanchi Array**	**84.34**	**319**	P	P	17 36 29.6	0.0
0.8nm,0.7s,baz=102,slow=6.0,SNR=7.6							

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*NEIC **02** 17:24:37.9, 3790S×17675E, h2km, ML3.8(WEL), After WEL.*
NEIC Felt in the Bay of Plenty area.
WEL 02 17:24:38.1±0.1, 3790S×17675E, h5km±1km, ML3.6/15, Error ellipse: s-maj=0.6km s-min=0.6km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARZ	**Manawahe**	**0.10**	**212**	P	Pg	17 24 40.7	+0.3
MARZ				S	Sg	17 24 42.9	+1.0
MARZ	**Manawahe**	**0.10**	**212**	PG	Pg	17 24 40.7	+0.4
MARZ				SG	Sg	17 24 42.9	+1.0
OPRZ	**Ohinepanea**	**0.16**	**289**	PG	Pg	17 24 41.7	+0.4
OPRZ				SG	Sg	17 24 44.4	+1.0
EDRZ	**Edgecumbe**	**0.21**	**182**	P	Pg	17 24 42.6	+0.3
EDRZ				S	Sg	17 24 46.2	+1.1
EDRZ	**Edgecumbe**	**0.21**	**182**	PG	Pg	17 24 42.6	+0.3
EDRZ				SG	Sg	17 24 46.2	+1.1
LIRZ	**Lichensteins R**	**0.30**	**249**	P	Pg	17 24 44.6	+0.6
LIRZ	**Lichensteins R**	**0.30**	**249**	PG	Pg	17 24 44.6	+0.6
MKRZ	**Makatiti**	**0.33**	**222**	P	Pg	17 24 45.3	+0.8
MKRZ	**Makatiti**	**0.33**	**222**	PG	Pg	17 24 45.3	+0.8
TAZ	**Tarawera**	**0.38**	**209**	P	Pg	17 24 46.4	+0.8
TAZ	**Tarawera**	**0.38**	**209**	PG	Pg	17 24 46.4	+0.8
KARZ	**Kaharoa**	**0.41**	**252**	P	Pg	17 24 46.6	+0.5
KARZ	**Kaharoa**	**0.41**	**252**	PG	Pg	17 24 46.6	+0.5
TGRZ	**Tauranga**	**0.42**	**293**	P	Pg	17 24 46.7	+0.5
TGRZ	**Tauranga**	**0.42**	**293**	PG	Pg	17 24 46.7	+0.5
URZ	**Urewera**	**0.46**	**142**	P	Pg	17 24 47.1	0.0
URZ	**Urewera**	**0.46**	**142**	PG	Pg	17 24 47.1	+0.1
WIZ	**White Island**	**0.51**	**44**	P	Pg	17 24 48.6	+0.7
WIZ	**White Island**	**0.51**	**44**	PG	Pg	17 24 48.6	+0.7
UTU	**Utuhina**	**0.52**	**237**	P	Pg	17 24 48.7	+0.6
UTU	**Utuhina**	**0.52**	**237**	PG	Pg	17 24 48.7	+0.6
HRRZ	**Handcock Road**	**0.61**	**216**	P*	Pb	17 24 50.3	-1.0
PATZ	**Paeroa**	**0.62**	**218**	P	Pg	17 24 50.7	+0.7
PATZ	**Paeroa**	**0.62**	**218**	P*	Pb	17 24 50.7	-0.7
MYRZ	**Mayor Island**	**0.73**	**327**	P*	Pb	17 24 52.6	-0.7
MWZ	**Matawai**	**0.76**	**126**	P	Pg	17 24 52.6	-0.1
MWZ	**Matawai**	**0.76**	**126**	P*	Pb	17 24 52.6	-1.2
TOZ	**Tahuroa Road**	**1.00**	**279**	P	Pg	17 24 55.8	-1.5
PUZ	**Puketiti**	**1.21**	**99**	P	Pg	17 25 00.8	-0.5
PUZ	**Puketiti**	**1.21**	**99**	P*	Pb	17 25 00.8	-0.6
MXZ	**Matakaoa Point**	**1.28**	**75**	P	Pn	17 25 02.4	-0.2
MXZ	**Matakaoa Point**	**1.28**	**75**	P*	Pb	17 25 02.4	-0.3
BKZ	**Black Stump Fm**	**1.28**	**189**	P	Pn	17 25 00.4	-2.3
BKZ	**Black Stump Fm**	**1.28**	**189**	P*	Pb	17 25 00.4	-2.3
KNZ	**Kokohu**	**1.34**	**147**	*e*P	Pn	17 25 03.0	-0.4
KNZ	**Kokohu**	**1.34**	**147**	PN	Pn	17 25 03.0	-0.4
KUZ	**Kuaotunu**	**1.41**	**324**	*e*P	Pn	17 25 03.4	-1.0
KUZ	**Kuaotunu**	**1.41**	**324**	PN	Pn	17 25 03.4	-1.0
OTVZ	**Oturere**	**1.52**	**213**	P*	Pb	17 25 05.3	-1.5
HIZ	**Hauiti**	**1.61**	**247**	*e*P	Pn	17 25 05.2	-2.0
HIZ	**Hauiti**	**1.61**	**247**	PN	Pn	17 25 05.2	-1.9
FWVZ	**Far West T-bar**	**1.65**	**214**	*e*P	Pn	17 25 07.8	+0.1
FWVZ	**Far West T-bar**	**1.65**	**214**	P*	Pb	17 25 07.8	-1.2
WNVZ	**Wahianoa**	**1.69**	**212**	P	Pn	17 25 08.4	+0.2
TSZ	**Takapari Road**	**2.24**	**196**	P	Pn	17 25 15.4	-0.5
TSZ	**Takapari Road**	**2.24**	**196**	PN	Pn	17 25 15.4	-0.4
WAZ	**Wanganui**	**2.31**	**216**	*e*P	Pn	17 25 19.1	+2.3
WCZ	**Waipu Caves**	**2.74**	**315**	*e*P	Pn	17 25 20.7	-2.0
MRZ	**Mangatainoka R**	**2.91**	**198**	*e*P	Pn	17 25 23.4	-1.6
MRZ	**Mangatainoka R**	**2.91**	**198**	PN	Pn	17 25 23.4	-1.6

IDC 02 17:36:57.6±2.8, 934S×15688E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.6/14, mbtmp3.7/4, Error ellipse: s-maj=74.1km s-min=36.7km az=113.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.18**	**242**	P	P	17 42 14.9	-1.0
1.6nm,1.1s,baz=71,slow=9.6,SNR=5.1							
ASAR	**Alice Springs**	**26.17**	**234**	P	P	17 42 33.9	0.0
0.8nm,0.7s,baz=61,slow=10,SNR=13							
STKA	**Stephens Creek**	**26.53**	**210**	P	P	17 42 38.6	+1.5
0.5nm,0.3s,baz=50,slow=15,SNR=3.9							
MKAR	**Makanchi Array**	**86.38**	**318**	P	P	17 49 41.8	-0.1
0.4nm,0.6s,baz=98,slow=5.7,SNR=5.3							

IDC 02 17:46:45.8±1.3, 831S×15700E, h0km, mb3.8/5, mb1 3.8/6, mb1mx3.7/14, mbtmp3.8/6, ML3.4/1, Error ellipse: s-maj=34.8km s-min=31.1km az=138.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**3.12**	**111**	Pn	Pn	17 47 36.0	-0.3
4.1nm,0.3s,baz=281,slow=23,SNR=4.4							
WRA	**Warramunga Arr**	**24.79**	**240**	P	P	17 52 09.8	+0.2
0.5nm,0.5s,baz=62,slow=9.6,SNR=4.7							
ASAR	**Alice Springs**	**26.88**	**233**	P	P	17 52 28.3	-0.2
0.2nm,0.5s,baz=60,slow=8.7,SNR=4.9							
SONM	**Songino Array**	**71.51**	**327**	P	P	17 58 08.9	+0.5
0.5nm,0.8s,baz=140,slow=7.5,SNR=4.0							
MKAR	**Makanchi Array**	**85.69**	**318**	P	P	17 59 27.2	+0.6
1.9nm,0.7s,baz=104,slow=5.9,SNR=20							
ZALV	**Zalesovo Beam**	**86.37**	**326**	P	P	17 59 29.2	-0.6
0.9nm,0.4s,baz=104,slow=6.3,SNR=6.0							

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*NEIC **02** 17:59:13.5±0.7, 769S×15677E, h10km, Error ellipse: s-maj=20.8km s-min=14.1km az=202.0*
*ISCJB **02** 17:59:14.2±0.9, 77S±02×1568E±01, h25km, mb3.9/5, Error ellipse: s-maj=25.0km s-min=16.9km az=20.6*
*IDC **02** 17:59:23.4±1.1, 7.11S×15521E, h24km±5km, mb3.8/5, mb1 3.9/6, mb1mx3.7/15, mbtmp3.9/6, ML4.3/1, Error ellipse: s-maj=27.4km s-min=22.5km az=104.0*
ISC 02 17:59:16.0±0.9, 77S±02×1568E±01, h27km, h27km±.4km:pP-P, n6, σ0°53/6, mb3.9/5, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**3.54**	**119**	*e*Pn	**Pn**	**18 00 09.2**	**0.0**
WRA	**Warramunga Arr**	**24.92**	**239**	P	**P**	**18 04 37.1**	**0.0**
2.4nm,0.8s,mb3.8,baz=62,slow=9.9,SNR=19							
ASAR	**Alice Springs**	**27.07**	**232**	P	**P**	**18 04 56.6**	**0.0**
0.4nm,0.7s,mb3.1,baz=55,slow=9.8,SNR=6.0							
ASAR				pP	pP	18 05 04.2	-0.2
0.5nm,0.9s,baz=58,slow=9.5,SNR=3.1							
SONM	**Songino Array**	**70.93**	**327**	P	**P**	**18 10 31.4**	**+0.5**
1.0nm,0.7s,mb3.8,baz=137,slow=6.9,SN

ISC 02 18:16:16.8±0.6, 89S±01×15755E±007, h35km, n17, σ1§18/18, mb4.1/11, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.43**	**103**	*e*Pn	**Pn**	**18 16 48.5**	**-5.6**
HNR				Sn	**Sn**	**18 17 22.9**	**+0.3**
HNR	**Honiara**	**2.43**	**103**	Pn	**Pn**	**18 16 48.8**	**-5.2**
40nm,0.3s,baz=74,slow=4.8,SNR=12							
HNR				Sn	**Sn**	**18 17 22.8**	**+0.3**
102nm,0.3s,baz=281,slow=18,SNR=6.8							
WRA	**Warramunga Arr**	**24.99**	**241**	P	**P**	**18 21 38.2**	**+0.7**
5.4nm,0.7s,mb4.2,baz=66,slow=9.3,SNR=44							
ASAR	**Alice Springs**	**26.98**	**234**	P	**P**	**18 21 53.6**	**-1.8**
1.4nm,0.8s,mb3.5,baz=64,slow=9.0,SNR=15							
STKA	**Stephens Creek**	**27.26**	**211**	P	**P**	**18 21 59.1**	**+1.2**
3.2nm,0.7s,mb4.0,baz=33,slow=12,SNR=9.1							
FITZ	**Fitzroy Crossi**	**32.31**	**250**	*e*P	**P**	**18 22 42.6**	**-0.2**
FITZ	**Fitzroy Crossi**	**32.31**	**250**	P	**P**	**18 22 42.8**	**0.0**
2.2nm,0.7s,mb4.1,baz=121,slow=9.6,SNR=8.1							
VNDA	**Vanda**	**68.65**	**179**	LR	LR	18 54 10.1	
comp=Z,279nm,19.0s,baz=360,slow=33							
SONM	**Songino Array**	**72.29**	**327**	P	**P**	**18 27 39.5**	**+0.8**
0.8nm,0.8s,mb3.7,baz=143,slow=5.8,SNR=6.3							
BILL	**Bilibino**	**76.98**	**3**	*e*P	**P**	**18 28 07.6**	**+2.1**
5.5nm,1.0s,mb4.4							
SVW2	**Sparrevohn**	**78.80**	**21**	*e*P	**P**	**18 28 17.5**	**+1.8**
MCK	**McKinley**	**82.87**	**21**	*e*P	**P**	**18 28 36.1**	**-1.3**
14nm,1.0s,mb4.9							
MKAR	**Makanchi Array**	**86.49**	**318**	P	**P**	**18 28 55.9**	**-0.2**
0.6nm,0.6s,mb4.0,baz=83,slow=4.4,SNR=7.1							
NVAR	**Mina Array Bea**	**90.90**	**51**	P	**P**	**18 29 16.8**	**-0.4**
0.8nm,0.8s,mb4.1,baz=243,slow=3.8,SNR=4.7							
YKA	**Yellowknife Ar**	**96.81**	**28**	P	**P**	**18 29 42.4**	**-1.3**
YKA	**Yellowknife Ar**	**96.81**	**28**	P	**P**	**18 29 42.4**	**-1.3**
0.1nm,0.3s,mb3.8,baz=269,slow=4.2,SNR=4.5							
PDAR	**Pinedale Array**	**98.07**	**48**	P	**P**	**18 29 48.5**	**-1.4**
0.4nm,0.8s,mb4.0,baz=273,slow=5.3,SNR=3.7							

ISCJB ***02*** *18:17:43.7±0.2, 778S±004×15646E±003, h16km, mb5.0/73, MS4.5/19, Error ellipse: s-maj=5.7km s-min=3.9km az=5.5*
NEIC ***02*** *18:17:43.7±0.2, 781S×15656E, h10km, mb5.0/34, Error ellipse: s-maj=7.3km s-min=5.4km az=117.0*
GCMT ***02*** *18:17:43.7±0.3, 807S×15666E, h18km±1km, MW5.1/65, Moment Tensor Solution. s31,c47; s65,c106; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-3.25±.25; $M_{\theta\theta}$2.56±.17; $M_{\phi\phi}$0.68±.18; $M_{r\theta}$-3.73±.48; $M_{\theta\phi}$3.36±.13; $M_{\phi r}$0.19±.42; Best double couple: $M_0$5.81800×10^{16} NP1:ϕ_s202.00000°, δ37.00000°, λ-143.00000°. NP2: ϕ_s81.00000°, δ69.00000°, λ-59.00000°. Principal axes: T 6.0610, Plg18.0000°, Azm149.0000°; N -0.4930, Plg29.0000°, Azm249.0000°; P -5.5750, Plg55.0000°, Azm30.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
BJI ***02*** *18:17:44.8, 735S×15647E, h11km, mB5.3, mb5.1, Ms5.0, Msz4.6*
MOS ***02*** *18:17:46.2±1.0, 773S×15648E, h33km, mb5.4/27, Error ellipse: s-maj=11.2km s-min=7.9km az=108.7*
IDC ***02*** *18:17:49.4±2.4, 787S×15657E, h52km±22km, mb4.6/18, mb1 4.7/20, mb1mx4.7/21, mbtmp4.6/20, ML3.5/1, MS4.3/9, Ms1 4.3/9, ms1mx4.1/16, Error ellipse: s-maj=13.9km s-min=12.9km az=155.0*

ISC 02 18:17:45.3±0.2, 780S±004×15650E±003, h17km, h17km±1.3km; pP-P, n334, σ0§73/306, mb5.0/73, MS4.5/19, 60C-61D, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**3.77**	**116**	*e*Pn	**Pn**	**18 18 43.5**	**+0.7**
HNR				*e*Sn	**Sn**	**18 19 27.1**	**+0.1**
HNR				LR	LR	18 20 11.3	
HNR	**Honiara**	**3.77**	**116**	*e*P	**Pn**	**18 18 43.5**	**+0.7**
HNR				*e*		18 19 27.1	
HNR	**Honiara**	**3.77**	**116**	P	**Pn**	**18 18 43.1**	**+0.3**
435nm,0.3s,baz=276,slow=3.7,SNR=8.3							
HNR				S	**Sn**	**18 19 26.7**	**-0.2**
589nm,0.3s,baz=83,slow=15,SNR=9.6							
HNR				LR	LR	18 20 11.3	
comp=Z,7μm,19.1s,baz=158,slow=38							
CTA	**Charters Tower**	**15.74**	**218**	*e*P	**Pn**	**18 21 32.1**	**+5.6**
32nm,0.9s							
CTA	**Charters Tower**	**15.74**	**218**	*e*P	**Pn**	**18 21 32.1**	**+5.6**
CTA				LR	LR	18 27 01.6	
CTA	**Charters Tower**	**15.74**	**218**	P	**Pn**	**18 21 27.2**	**+0.7**
0.1nm,0.3s,baz=39,slow=15,SNR=2.1							
CTA				LR	LR	18 27 01.6	
comp=Z,2μm,18.7s,baz=42,slow=35							
CTAO	**Charters Tower**	**15.74**	**218**	P	**Pn**	**18 21 27.5**	**+1.0**
67nm,1.0s							
CTAO	**Charters Tower**	**15.74**	**218**	P	**Pn**	**18 21 27.5**	**+1.0**
CTAO				pmax	pmax		
comp=Z,67nm,1.0s							
EIDS	**Eidsvold**	**18.22**	**196**	P	**Pn**	**18 21 57.8**	**+0.1**
comp=Z,27nm,1.4s							
ARMA	**Armidale**	**22.96**	**191**	‖*i*P	**P**	**18 22 47.1**	**-2.0**
TLE	**Tual**	**23.70**	**274**	‖*e*P	**P**	**18 23 01.0**	**+4.3**
KAKA	**Kakadu**	**24.17**	**256**	*e*P	**P**	**18 23 01.2**	**+0.2**
comp=Z,65nm,0.7s,mb5.2							
WB2	**Warramunga Arr**	**24.62**	**238**	*e*P	**P**	**18 23 04.9**	**-0.2**
WRA	**Warramunga Arr**	**24.63**	**238**	P	**P**	**18 23 05.0**	**-0.2**
WRA						18 26 42.2	
WRA	**Warramunga Arr**	**24.63**	**238**	P	**P**	**18 23 05.0**	**-0.2**
comp=Z,109nm,1.1s,mb5.3,baz=63,slow=8.9,SNR=24							
WRA				PcP	PcP	18 26 42.2	-0.7
comp=Z,3.8nm,0.8s,baz=55,slow=2.4,SNR=4.6							
WRA				LR	LR	18 32 29.3	
comp=Z,882nm,18.7s,MS4.3,baz=55,slow=36							
ASAR	**Alice Springs**	**26.80**	**231**	P	**P**	**18 23 24.3**	**-0.6**
comp=Z,6.2nm,1.0s,mb4.1,baz=59,slow=9.1,SNR=6.4							
STKA	**Stephens Creek**	**27.69**	**208**	‖*i*P	**P**	**18 23 33.2**	**+0.5**
comp=Z,12nm,0.9s,mb4.5							
STKA				*e*pP	pP	18 23 39.2	+1.4
STKA				*e*		18 27 36.5	
STKA	**Stephens Creek**	**27.69**	**208**	P	**P**	**18 23 33.3**	**+0.6**
comp=Z,15nm,0.9s,mb4.6,baz=28,slow=12,SNR=17							
STKA				LR	LR	18 34 03.6	
comp=Z,1μm,19.4s,MS4.4,baz=208,slow=35							
CNB	**Canberra Magne**	**28.16**	**192**	*e*P	**P**	**18 23 34.4**	**-2.5**
comp=Z,73nm,1.4s,mb5.1							
FITZ	**Fitzroy Crossi**	**31.72**	**248**	*e*P	**P**	**18 24 08.8**	**+0.2**
comp=Z,16nm,0.6s,mb5.0							
FITZ	**Fitzroy Crossi**	**31.72**	**248**	P	**P**	**18 24 08.8**	**+0.2**
comp=Z,13nm,1.1s,mb4.7,baz=80,slow=10,SNR=11							
RAO	**Raoul Island**	**32.16**	**135**	LR	LR	18 35 03.0	
comp=Z,150nm,20.0s,MS3.7,baz=14,slow=32							
BATI	**Kupang**	**32.51**	**263**	P	**P**	**18 24 19.6**	**+3.9**
comp=Z,24nm,0.8s,mb5.2,baz=141,slow=6.5,SNR=3.3							
FORT	**Forrest**	**35.06**	**226**	*e*P	**P**	**18 24 40.7**	**+3.0**
comp=Z,23nm,0.8s,mb5.2							
URZ	**Urewera**	**35.59**	**152**	P	**P**	**18 24 45.9**	**+3.9**
comp=Z,11nm,1.0s,mb4.8,baz=324,slow=8.7,SNR=3.2							
URZ				LR	LR	18 37 30.0	
comp=Z,840nm,18.5s,MS4.5,baz=27,slow=33							
MBWA	**Marble Bar**	**37.89**	**245**	*e*P	**P**	**18 25 02.3**	**+0.4**
comp=Z,7.3nm,0.6s,mb4.6							
RPZ	**Rata Peaks**	**37.98**	**163**	P	**P**	**18 25 02.9**	**+0.6**
RPZ	**Rata Peaks**	**37.98**	**163**	P	**P**	**18 25 02.9**	**+0.6**
comp=Z,14nm,1.0s,mb4.6,baz=358,slow=5.2,SNR=4.0							
PVCP	**Virac**	**38.51**	**303**	*e*P	**P**	**18 25 07.6**	**+0.4**
OTRP	**Odiongan**	**39.70**	**300**	*e*P	**P**	**18 25 18.9**	**+1.8**
CUYO	**Cuyo Island**	**39.88**	**297**	*e*P	**P**	**18 25 19.4**	**+0.8**
ENPP	**El Nido**	**41.44**	**297**	*e*P	**P**	**18 25 32.5**	**+0.9**
BALP	**Baler**	**41.76**	**304**	*e*P	**P**	**18 25 34.3**	**+0.2**
BATP	**Bataraza**	**41.94**	**292**	*e*P	**P**	**18 25 36.3**	**+0.6**
CAUP	**Cauayan**	**42.19**	**306**	*e*P	**P**	**18 25 35.7**	**-1.9**
KKM	**Kota Kinabalu**	**42.47**	**288**	*e*P	**P**	**18 25 40.2**	**+0.2**
KLBR	**Kellerberrin**	**43.13**	**231**	*e*P	**P**	**18 25 44.2**	**-1.0**
comp=Z,30nm,1.3s,mb4.9							
APYP	**Conner**	**43.16**	**307**	*e*P	**P**	**18 25 50.7**	**+5.2**
JOW	**Kunigami**	**43.98**	**323**	P	**P**	**18 25 53.7**	**+1.7**
comp=Z,59nm,0.8s,mb5.4,baz=160,slow=5.2,SNR=5.4							
RAR	**Rarotonga**	**44.22**	**112**	LR	LR	18 41 04.5	
comp=Z,206nm,19.2s,MS4.1,baz=105,slow=32							
MUN	**Mundaring**	**44.49**	**232**	*e*P	**P**	**18 25 57.6**	**+1.5**
KSM	**Kuching**	**46.98**	**279**	*e*P	**P**	**18 26 16.1**	**0.0**
MJAR	**Matsushiro Arr**	**47.33**	**340**	P	**P**	**18 26 17.6**	**-0.8**
comp=Z,4.9nm,0.7s,mb4.5,baz=161,slow=7.9,SNR=13							
MAJO	**Matsushiro**	**47.33**	**340**	*e*P	**P**	**18 26 18.2**	**-0.2**
comp=Z,8.6nm,0.6s,mb4.9							
MAJO	**Matsushiro**	**47.33**	**340**	*e*P	**P**	**18 26 18.2**	**-0.1**
MAJO				pmax	pmax		
comp=Z,9.0nm,0.6s,mb4.9							
MAT	**Matsushiro**	**47.33**	**340**	P	**P**	**18 26 17.8**	**-0.5**
MAT				S	**S**	**18 33 19.0**	**+7.6**
SSE	**Sheshan**	**51.37**	**321**	P	**P**	**18 26 50.3**	**+1.0**
SSE				XP	sP	18 26 54.6	-2.0
SSE				PP	PP	18 28 47.4	+0.8
SSE				S	**S**	**18 34 08.4**	**+0.2**
SSE				XS	sS	18 34 13.1	-3.8
SSE				AMB	AMB		
comp=Z,27nm,0.9s,mb5.2							
SSE				AMB	AMB		
comp=Z,115nm,4.7s							
SSE				LR	LR		
comp=N,111nm,18.7s,MS4.0							
SSE				LR	LR		
comp=E,91nm,18.8s,MS4.0							
SSE				LR	LR		
comp=Z,166nm,15.8s,MS4.2							
SSE	**Sheshan**	**51.37**	**321**	P	**P**	**18 26 50.3**	**+1.0**
comp=Z,27nm,0.9s,mb5.2							
SSE				sP	sP	18 26 54.6	-2.0
SSE				PP	PP	18 28 47.4	+0.8
SSE				S	**S**	**18 34 08.4**	**+0.2**
SSE				sS	sS	18 34 13.1	-3.8
SSE				SS	SS	18 37 44.9	+0.5
SSE				LR	LR		
comp=Z,170nm,15.8s,MS4.2							
KSRS	**Korea Array**	**52.35**	**331**	P	**P**	**18 26 57.5**	**+0.9**
comp=Z,8.1nm,0.9s,mb4.6,baz=148,slow=8.3,SNR=13							
QIZ	**Qiongzhong**	**53.15**	**301**	P	**P**	**18 27 01.8**	**-1.0**
QIZ				S	**S**	**18 34 29.2**	**-3.9**
QIZ				LR	LR		
comp=E,214nm,30.4s							
QIZ				LR	LR		
comp=Z,331nm,30.1s,MS4.2							
PPT	**Papeete**	**53.34**	**106**	*e*S	**S**	**18 34 34.8**	**-1.0**
comp=Z,346nm,29.0s							
PPT				*e*LQ		18 40 07.1	
comp=Z,823nm,26.0s							
PPT				*e*LR	LR	18 42 22.0	
comp=Z,341nm,26.0s							
PPT	**Papeete**	**53.34**	**106**	LR	LR	18 44 41.0	
comp=Z,240nm,21.1s,MS4.2,baz=266,slow=30							
NJ2	**Nanjing**	**53.48**	**320**	*e*P	**P**	**18 27 04.1**	**-0.9**
NJ2				AP	pP	18 27 09.3	-1.0
NJ2				XP	sP	18 27 11.2	-1.1
NJ2				PP	PP	18 29 05.1	-0.7
NJ2				AMB	AMB		
comp=Z,30nm,0.8s,mb5.3							
NJ2				AMB	AMB		
comp=Z,206nm,4.8s							
NJ2				LR	LR		
comp=N,1μm,16.1s,MS5.4							
NJ2				LR	LR		
comp=E,2μm,15.2s,MS5.4							
NJ2				LR	LR		
comp=Z,1μm,15.8s,MS5.0							
TBI	**Tubuai**	**53.99**	**113**	*e*S	**S**	**18 34 42.9**	**-1.6**
comp=Z,196nm,30.8s							
TBI				*e*LQ		18 40 27.1	
comp=Z,1μm,31.5s							
TBI				*e*LR	LR	18 42 37.4	
comp=Z,566nm,33.0s							
VLA	**Vladivostok**	**55.40**	**338**	*e*P	**P**	**18 27 18.3**	**-0.4**
VLA				pmax	pmax		
comp=Z,37nm,1.8s,mb5.1							
VLA	**Vladivostok**	**55.40**	**338**	‖*e*P	**P**	**18 27 19.8**	**+1.1**
VLA				pmax	pmax		
comp=Z,21nm,1.0s,mb5.1							
YSS	**Yuzh-Sakhalins**	**55.86**	**349**	*e*P	**P**	**18 27 22.3**	**+0.4**
comp=Z,36nm,0.9s,mb5.4							
YSS	**Yuzh-Sakhalins**	**55.86**	**349**	*e*P	**P**	**18 27 21.7**	**-0.3**
YSS				*e*		18 27 29.4	
YSS				pmax	pmax		
comp=Z,60nm,1.1s,mb5.5							
YSS				MLR	MLR		
comp=Z,400nm,18.0s,MS4.5							
DL2	**Dalian**	**56.63**	**328**	P	**P**	**18 27 28.3**	**+0.6**
DL2				AMB	AMB		
comp=Z,20nm,0.8s,mb5.2							
KULM	**Kulim**	**57.21**	**281**	*e*P	**P**	**18 27 30.6**	**-1.6**
MDJ	**Mudanjiang**	**57.54**	**337**	P	**P**	**18 27 33.9**	**0.0**
MDJ				AP	pP	18 27 37.1	-2.2
MDJ				XP	sP	18 27 38.3	-3.0
MDJ				PP	PP	18 29 38.9	-2.9
MDJ				SCP	ScP	18 32 24.7	-2.0
MDJ				S	**S**	**18 35 31.1**	**+0.1**
MDJ				SCS	ScS	18 37 22.3	-0.5
MDJ				AMB	AMB		
comp=Z,13nm,1.1s,mb4.9							
MDJ				AMB	AMB		
comp=Z,122nm,5.3s							
MDJ				LR	LR		
comp=N,115nm,32.5s							
MDJ				LR	LR		
comp=E,99nm,26.4s							
MDJ				LR	LR		
comp=Z,169nm,34.6s,MS3.9							
CN2	**Changchun**	**58.55**	**334**	*e*P	**P**	**18 27 42.0**	**+0.9**
CN2				*e*XP	sP	18 27 49.0	+0.6
CN2				AMB	AMB		
comp=Z,10.0nm,1.2s,mb4.7							
CN2				AMB	AMB		
comp=Z,200nm,4.0s							
GYA	**Guiyang**	**59.12**	**307**	⇑*i*P	**P**	**18 27 46.2**	**+0.8**
GYA				AP	pP	18 27 50.8	+0.1
GYA				XP	sP	18 27 53.6	+0.9
GYA				PCP	PcP	18 28 35.2	+1.2
GYA				PP	PP	18 29 59.4	+3.1
GYA				SCP	ScP	18 32 34.6	+0.4
GYA				S	**S**	**18 35 52.2**	**-0.1**
GYA				SCS	ScS	18 37 33.0	-2.3
GYA				SS	SS	18 39 47.5	+0.6
GYA				AMB	AMB		
comp=Z,60nm,1.0s,mb5.6							
GYA				AMB	AMB		
comp=Z,560nm,11.0s							
GYA				LR	LR		
comp=N,660nm,21.8s,MS4.8							
GYA				LR	LR		
comp=E,540nm,20.6s,MS4.8							
GYA				LR	LR		
comp=Z,410nm,19.4s,MS4.6							
HABR	**Khabarovsk**	**59.13**	**344**	‖*i*P	**P**	**18 27 45.1**	**+0.1**
HABR				*e*S	**S**	**18 35 55.7**	**+4.2**
HABR				pmax	pmax		
comp=Z,85nm,1.8s,mb5.5							
BJI	**Beijing**	**60.42**	**325**	P	**P**	**18 27 54.2**	**+0.1**
BJI				PP	PP	18 30 06.7	-0.8
BJI				S	**S**	**18 36 14.5**	**+5.9**
BJI				AMB	AMB		
comp=Z,18nm,1.4s,mb4.9							
BJI				AMB	AMB		
comp=Z,331nm,5.6s							
BJI				LR	LR		
comp=N,245nm,16.7s,MS4.5							
BJI				LR	LR		
comp=E,199nm,15.9s,MS4.5							
BJI				LR	LR		
comp=Z,310nm,29.0s							
BJI	**Beijing**	**60.42**	**325**	P	**P**	**18 27 54.2**	**+0.1**
comp=Z,18nm,1.4s,mb4.9							
BJI				PP	PP	18 30 06.7	-0.8
BJI				S	**S**	**18 36 14.5**	**+5.9**
BJI				SS	SS	18 40 08.6	+1.8
BJI				LR	LR		
comp=Z,310nm,29.0s,MS4.3							
NST	**Nakhon Sawan**	**60.50**	**293**	P	**P**	**18 27 55.5**	**+0.5**
KLR	**Kul'dur**	**60.78**	**342**	*e*P	**P**	**18 27 51.7**	**-4.6**
KLR				pmax	pmax		
comp=E,28nm,1.6s							
KLR				pmax	pmax		
comp=Z,45nm,1.6s,mb5.3							
KLR				MLR	MLR		
comp=Z,1μm,13.0s,MS5.2							
XAN	**Xi'an**	**61.32**	**316**	P	**P**	**18 28 00.0**	**-0.3**
XAN				AP	pP	18 28 05.4	-0.2
XAN				AMB	AMB		
comp=Z,7.0nm,0.9s,mb4.8							
KMI	**Kunming**	**61.70**	**304**	P	**P**	**18 28 03.9**	**+0.8**
KMI				AMB	AMB		
comp=Z,15nm,0.9s,mb5.1							
KMI	**Kunming**	**61.70**	**304**	P	**P**	**18 28 03.9**	**+0.8**
comp=Z,15nm,0.9s,mb5.1							
CHTO	**Chiang Mai**	**62.59**	**296**	*e*P	**P**	**18 28 08.9**	**-0.2**
comp=Z,36nm,1.4s,mb5.3							
CHTO	**Chiang Mai**	**62.59**	**296**	*e*P	**P**	**18 28 08.9**	**-0.2**
CHTO				pmax	pmax		
comp=Z,37nm,1.4s,mb5.3							
TAOE	**Nuku Hiva Isla**	**62.62**	**96**	*e*LR	LR	18 46 47.4	
comp=Z,386nm,22.7s							
CD2	**Chengdu**	**63.47**	**310**	*e*P	**P**	**18 28 15.0**	**+0.2**
CD2				AP	pP	18 28 19.6	-0.5
CD2				XP	sP	18 28 22.1	0.0
CD2				PCS	PcS	18 32 53.8	-1.4
CD2				S	**S**	**18 36 45.6**	**-1.8**
CD2				XS	sS	18 36 53.6	-2.7
CD2				SCS	ScS	18 38 03.9	-3.8
CD2				SS	SS	18 40 54.1	-0.8
CD2				AMB	AMB		
comp=Z,20nm,0.7s,mb5.4							
CD2				AMB	AMB		
comp=Z,30nm,5.4s							
CD2				LR	LR		
comp=N,500nm,15.6s,MS5.0							
CD2				LR	LR		
comp=E,610nm,15.6s,MS5.0							
CD2				LR	LR		
comp=Z,300nm,21.6s							
HHC	**Hu-ho-hao-te**	**63.62**	**323**	*e*P	**P**	**18 28 16.4**	**+0.8**
HHC				AP	pP	18 28 20.6	-0.3
HHC				XP	sP	18 28 24.1	+1.2
HHC				PP	PP	18 30 37.9	+2.2
HHC				SCP		18 32 51.4	
HHC				PCS		18 32 55.4	
HHC				S	**S**	**18 36 48.2**	**-0.8**
HHC				XS	sS	18 36 56.3	-1.5
HHC				SCS	ScS	18 38 05.6	-2.9
HHC				AMB	AMB		
comp=Z,31nm,1.4s,mb5.2							
HHC				AMB	AMB		
comp=Z,158nm,4.5s							
HHC				LR	LR		
comp=N,262nm,12.5s							
HHC				LR	LR		
comp=E,152nm,4.5s							
HHC				LR	LR		
comp=Z,214nm,13.7s,MS4.5							
LZH	**Lanzhou**	**65.93**	**315**	*e*P	**P**	**18 28 31.9**	**+1.2**
LZH				AP	pP	18 28 35.2	-0.9
LZH				XP	sP	18 28 37.0	-1.1
LZH				PP	PP	18 30 59.5	+3.4
LZH				*e*S	S	18 37 17.0	-0.6
LZH				XS	sS	18 37 23.0	-3.5
LZH				SS	SS	18 41 33.0	-0.1
LZH				AMB	AMB		
comp=Z,39nm,1.2s,mb5.3							
LZH				AMB	AMB		
comp=Z,180nm,4.0s							
LZH				LR	LR		
comp=E,523nm,15.0s							
LZH				LR	LR		
comp=Z,890nm,16.1s,MS5.1							
LZH	**Lanzhou**	**65.93**	**315**	*e*P	**P**	**18 28 31.9**	**+1.2**
comp=Z,39nm,1.2s,mb5.3							
LZH				pP	pP	18 28 35.2	-0.9
LZH				sP	sP	18 28 37.0	-1.1
LZH				PP	PP	18 30 59.5	+3.4
LZH				*e*S	S	18 37 17.0	-0.6
LZH				sS	sS	18 37 23.0	-3.5
LZH				SS	SS	18 41 33.0	-0.1
LZH				LR	LR		
comp=Z,890nm,16.1s,MS5.1							
LZH	**Lanzhou**	**65.93**	**315**	*e*P	**P**	**18 28 31.9**	**+1.2**
LZH				*SP	sP	18 28 37.0	-1.1
LZH						18 30 59.5	
LZH				*e*S	S	18 37 17.0	-0.6
LZH				SS	SS	18 41 33.0	-0.1
LZH				pmax	pmax		
comp=Z,39nm,1.2s,mb5.3							
LZH				MLR	MLR		
comp=Z,890nm,16.1s,MS5.1							
RKT	**Rikitea**	**67.26**	**112**	*e*LR	LR	18 48 59.4	
comp=Z,331nm,34.2s							
CLNS	**Chul'man**	**69.44**	**342**	*e*P	**P**	**18 28 50.7**	**-1.7**
CLNS				pmax	pmax		
comp=N,23nm,0.9s							
CLNS				pmax	pmax		
comp=Z,46nm,0.9s,mb5.4							
CLNS				pmax	pmax		
comp=E,9.0nm,0.8s							
VNDA	**Vanda**	**69.75**	**179**	P	**P**	**18 28 52.9**	**-1.2**
comp=E,3.2nm,1.0s,mb4.2,baz=339,slow=5.6,SNR=10							
CIT	**Chita**	**69.99**	**333**	*e*P	**P**	**18 28 57.1**	**+1.2**
CIT				*e*		18 29 08.0	
CIT				pmax	pmax		
comp=Z,72nm,1.8s,mb5.3							
GTA	**Gaotai**	**70.34**	**317**	*e*P	**P**	**18 28 59.7**	**+1.3**
GTA				AP	pP	18 29 03.2	-0.6
GTA				XP	sP	18 29 04.7	-1.1
SEY	**Seymchan**	**70.59**	**358**	⇑*e*P	**P**	**18 28 59.0**	**-0.4**
SONM	**Songino Array**	**70.82**	**327**	P	**P**	**18 29 02.3**	**+1.3**
comp=Z,38nm,0.8s,mb5.4,baz=138,slow=6.7,SNR=139							
SONM				PKPPKP		18 57 07.6	
comp=Z,0.3nm,0.4s,baz=329,slow=2.5,SNR=3.7							
YAK	**Yakutsk**	**72.66**	**347**	*e*P	**P**	**18 29 11.8**	**-0.1**
comp=Z,76nm,0.8s,mb5.7							
YAK	**Yakutsk**	**72.66**	**347**	*d*iP	**P**	**18 29 12.0**	**+0.2**
YAK				*e**PP	pP	18 29 19.2	+1.9
YAK				*e*		18 29 25.2	
YAK				*e*S	S	18 38 36.3	+0.2
YAK				*e*		18 39 18.9	
YAK				*e*SS	SS	18 43 17.6	+1.8
YAK				pmax	pmax		
comp=Z,74nm,1.0s,mb5.6							
YAK				pmax	pmax		
comp=N,16nm,1.2s							
YAK				pmax	pmax		
comp=E,8.0nm,0.9s							
YAK				smax			
comp=E,85nm,2.7s							
YAK				smax			
comp=Z,89nm,5.1s							
YAK				smax			
comp=N,79nm,3.4s							
YAK				MLR	MLR		
comp=N,96nm,16.0s							
LSA	**Lhasa**	**72.96**	**304**	P	**P**	**18 29 15.0**	**+0.7**
LSA				AMB	AMB		
comp=Z,10.0nm,0.8s,mb4.8							
BOD	**Bodaibo**	**73.91**	**338**	*e*P	**P**	**18 29 18.8**	**-0.5**
BOD				pmax	pmax		
comp=Z,17nm,1.0s,mb4.9							
ZAK	**Zakamensk**	**73.96**	**328**	⇑*e*P	**P**	**18 29 20.1**	**+0.3**
ZAK				pmax	pmax		
comp=Z,17nm,0.9s,mb5.0							
TLY	**Talaya**	**74.51**	**329**	P	**P**	**18 29 24.2**	**+1.2**
comp=Z,136nm,0.8s,mb5.9,SNR=6.0							
TLY	**Talaya**	**74.51**	**329**	*e*P	**P**	**18 29 23.5**	**+0.5**
comp=Z,22nm,0.9s,mb5.1							
**

comp=Z,61nm,1.1s,mb5.4
SVW2 Sparrevohn 78.18 22 eP P 18 29 44.0 +0.4
KOLN Koldanda 78.72 300 eP P 18 29 46.6 -0.7
comp=Z,66nm,1.2s,mb5.4
TTA Tatalina 79.25 20 eP P 18 29 49.3 -0.1
comp=Z,17nm,1.1s,mb4.9
TTA Tatalina 79.25 20 eP P 18 29 49.3 -0.1
TTA pmax pmax
comp=Z,17nm,1.1s,mb4.9
SLKM Skilak Lake 79.86 24 eP P 18 29 52.2 -0.6
WMQ Urumqi 80.43 317 P P 18 29 56.6 +0.3
WMQ AP pP 18 30 01.5 -0.2
WMQ eS S 18 40 01.0 -0.9
WMQ SS SS 18 45 17.0 +2.9
WMQ AMB AMB
comp=Z,16nm,1.1s,mb4.9
WMQ AMB AMB
comp=Z,231nm,6.6s
WMQ LR LR
comp=N,284nm,25.4s,MS4.7
WMQ LR LR
comp=E,292nm,24.6s,MS4.7
WMQ LR LR
comp=Z,369nm,27.4s,MS4.6
HYB Hyderabad 80.94 289 eP P 18 29 59.0 -0.6
HYB Hyderabad 80.94 289 i P P 18 30 00.0 +0.4
TIXI Tiksi 81.36 351⇑ eP P 18 29 59.9 -0.7
TIXI pmax pmax
comp=Z,15nm,1.7s,mb4.7
SML Sawmill 81.36 23 eP P 18 30 00.3 -0.5
IMA2 Indian Mountai 82.08 18 eP P 18 30 03.8 -0.7
MCK McKinley 82.25 21 eP P 18 30 04.0 -1.5
comp=Z,45nm,1.0s,mb5.3
MCK McKinley 82.25 21 eP P 18 30 04.0 -1.4
MCK pmax pmax
comp=Z,45nm,1.0s,mb5.3
COLA College 83.29 21 eP P 18 30 09.2 -1.6
comp=Z,13nm,0.8s,mb5.0
COLA College 83.29 21⇑ i P P 18 30 08.8 -2.0
MAW Mawson 84.23 203 eP P 18 30 18.9 +3.1
comp=Z,9.1nm,1.1s,mb4.8
MAW Mawson 84.23 203 P P 18 30 14.0 -1.8
comp=Z,3.8nm,0.9s,mb4.5,baz=103,slow=5.5,SNR=2.3
MKAR Makanchi Array 84.99 318 P P 18 30 19.8 -0.1
comp=Z,9.4nm,0.7s,mb5.0,baz=102,slow=6.0,SNR=55
ZAA0 Zalesovo Array 85.68 326 eP P 18 30 21.8 -1.4
ZALV Zalesovo Beam 85.68 326 P P 18 30 22.1 -1.0
comp=Z,4.8nm,0.9s,mb4.7,baz=101,slow=6.2,SNR=16
EGAK Eagle 85.68 22 eP P 18 30 22.5 -0.4
comp=Z,7.5nm,0.8s,mb5.0
ZAL Zalesovo 85.69 326 P P 18 30 22.2 -1.0
DAWY Dawson 86.03 23 P P 18 30 24.5 -0.2
NVS Novosibirsk 86.84 326 eP P 18 30 27.1 -1.8
GASB Alder Springs 87.89 50 ⇓P P 18 30 34.4 +0.1
baz=88
O02C Red Bluff 87.94 49 ⇓P P 18 30 34.4 -0.2
baz=88
J02A Umpqua 88.04 46 ⇑P P 18 30 34.8 -0.1
baz=88
HAST Hastings Reser 88.14 53 ⇑P P 18 30 36.0 +0.4
baz=88
M02C Callahan 88.14 48 ⇓P P 18 30 36.2 +0.7
baz=88
WDC Whiskeytown Da 88.21 49 ⇓P P 18 30 35.8 0.0
baz=88
YBH Yreka Blue Hor 88.32 48 eP P 18 30 36.1 -0.2
comp=Z,3.6nm,0.8s,mb4.7
YBH Yreka Blue Hor 88.32 48 eP P 18 30 36.2 -0.1
YBH pmax pmax
comp=Z,4.0nm,0.8s
YBH Yreka Blue Hor 88.32 48 ⇓P P 18 30 36.4 +0.1
baz=88
KURK Kurchatov 88.38 322 eP P 18 30 35.2 -1.2
comp=Z,4.4nm,0.8s,mb4.7
KURK Kurchatov 88.38 322⇑ eP P 18 30 34.4 -2.0
PACP Pacheco Peak 88.47 53 ⇑P P 18 30 37.3 +0.1
baz=88
TKM2 Tokmak 2 88.65 313 eP P 18 30 37.7 -0.1
comp=Z,9.9nm,1.2s,mb5.0
TKM2 Tokmak 2 88.65 313 eP P 18 30 37.7 -0.1
TKM2 pmax pmax
comp=Z,10.0nm,1.2s,mb5.0
U04C Hernandez Rese 88.75 53 ⇑P P 18 30 38.7 +0.2
baz=89
ORV Oroville 88.79 50 ⇑P P 18 30 38.1 -0.4
baz=89
PKD Parkfield 88.86 54 ⇑P P 18 30 38.9 -0.1
baz=89
M04C Macdoel 88.97 48 ⇑P P 18 30 39.3 0.0
baz=89
J04A Umpqua Nationa 89.06 46 ⇓P P 18 30 39.9 +0.1
baz=89
B04A Port Angeles 89.11 41 ⇓P P 18 30 38.5 -1.4
baz=89
LAVA Lava Cap Winer 89.22 51 ⇑P P 18 30 40.4 -0.2
baz=89
PKM Peak Mountain 89.26 55 ⇓P P 18 30 41.3 +0.3
baz=89
CMB Columbia Colle 89.36 52 ⇓P P 18 30 41.3 0.0
baz=89
AAK Ala-Archa 89.39 313 eP P 18 30 40.1 -1.2
comp=Z,3.6nm,0.8s,mb4.8
AAK Ala-Archa 89.39 313⇑ i P P 18 30 39.9 -1.4
AAK pmax pmax
comp=Z,5.0nm,1.6s,mb4.6
C04A Brinnon 89.39 42 ⇑P P 18 30 41.3 +0.1
baz=89
P05C Yuba Gap, Truc 89.42 50 ⇓P P 18 30 42.0 +0.4
baz=90
ELFS Eagle Lake Fie 89.57 49 ⇑P P 18 30 42.2 -0.1
baz=90
J05A Fort Rock 89.69 46 P P 18 30 43.1 +0.4
baz=90,SNR=9.7
BEKR Beckwourth 89.71 50 ⇑P P 18 30 42.7 -0.2
baz=90
T06C Millerton Lake 89.71 53 ⇑P P 18 30 43.0 0.0
baz=90
R05C Kirkwood Meado 89.72 51 ⇑P P 18 30 43.4 +0.4
baz=90
L05A Lakeview 89.75 48 ⇑P P 18 30 43.1 +0.1
baz=90
K05A Summer Lake 89.84 47 P P 18 30 44.0 +0.5
baz=90,SNR=8.0
AML Almayashu 89.87 312 eP P 18 30 43.1 -0.5
comp=Z,5.2nm,0.8s,mb4.9
INK Inuvik 89.94 20 P P 18 30 42.3 -1.0
comp=Z,1.7nm,0.4s,mb4.8,baz=283,slow=2.2,SNR=4.3
E05A Randle 89.96 43 ⇑P P 18 30 44.3 +0.4
baz=90
VES Vestal, Richgr 90.02 54 ⇓P P 18 30 44.2 -0.2
baz=90
KCC Kaiser Creek 90.07 52 ⇑P P 18 30 44.6 0.0
baz=90
ARVC Arvin 90.10 55 ⇓P P 18 30 45.0 +0.2
baz=90
MOD Modoc 90.12 48 P P 18 30 45.0 +0.3
baz=90,SNR=6.5
O06A Flanigan 90.17 50 ⇓P P 18 30 45.2 +0.2
baz=90
CIS Catalina Islan 90.17 56 ⇑P P 18 30 44.2 -1.0
baz=90
R06C Coleville 90.17 51 ⇓P P 18 30 44.5 -0.6
baz=90
HELL Mitchell Peak 90.20 53 ⇓P P 18 30 45.1 -0.2
baz=90
C05A Tolt Reservoir 90.23 42 ⇓P P 18 30 45.3 +0.2
baz=90
N06A Buffalo Meadow 90.26 49 P P 18 30 46.0 +0.5
baz=90,SNR=5.8
K06A Valley Falls 90.31 47 P P 18 30 46.0 +0.3
baz=90,SNR=9.5
R07C Lee Vining 90.41 52 ⇑P P 18 30 46.5 +0.2
baz=90
J06A Christmas Vall 90.47 47 P P 18 30 46.1 -0.2
baz=90,SNR=9.4
ISA Isabella 90.47 54 ⇓P P 18 30 46.1 -0.4
baz=90
F06A Goldendale 90.48 44 ⇑P P 18 30 45.6 -0.7
baz=90
G06A Carlson Farm, 90.48 45 ⇓P P 18 30 45.6 -0.8
baz=90
E06A Yakima 90.49 43 ⇓P P 18 30 46.0 -0.4
baz=90
I06A Prineville 90.55 46 ⇑P P 18 30 46.6 -0.2
baz=91
MTUM Tungsten Hills 90.67 53 eP P 18 30 48.0 +0.6
EDW2 Edwards Air Fo 90.74 55 P P 18 30 48.3 +0.5
baz=91,SNR=11
L07A Adell 90.84 48 P P 18 30 48.6 +0.4
baz=91,SNR=12
M07A Soldier Meadow 90.86 48 P P 18 30 48.6 +0.4
baz=91,SNR=10
CWC Cottonwood Cre 90.91 54 ⇑P P 18 30 48.9 +0.3
baz=91
BFSC Mount Baldy St 90.91 56 P P 18 30 48.7 0.0
baz=91,SNR=8.1
N07B Gerlach 90.91 49 P P 18 30 49.2 +0.7
baz=91,SNR=9.2
S08C White Mtn Res 91.00 52 P P 18 30 49.6 +0.6
baz=91,SNR=5.5
K07A Rock Creek Ran 91.03 47 P P 18 30 49.3 +0.3
baz=91,SNR=10
NVAR Mina Array Bea 91.05 52 P P 18 30 49.9 +0.7
comp=Z,7.0nm,1.0s,mb5.0,baz=236,slow=3.7,SNR=28
I07A Izee 91.07 46 ⇓P P 18 30 49.1 0.0
baz=91
LRMC Laurel Mountai 91.08 55 P P 18 30 50.0 +0.6
baz=91,SNR=11
H07A Lands Inn, Kim 91.12 45 ⇑P P 18 30 48.9 -0.4
baz=91
G07A Ruggs Ranch, H 91.16 45 ⇓P P 18 30 49.1 -0.4
baz=91
D07A Quincy 91.28 43 ⇓P P 18 30 49.4 -0.6
baz=91
MPMC Manual Prospec 91.32 54 ⇓P P 18 30 50.8 +0.3
baz=91,SNR=8.4
A07A Ashnola River, 91.34 41 ⇑P P 18 30 49.4 -0.8
baz=91
Q08A Gabbs 91.40 51 ⇑P P 18 30 50.7 -0.1
baz=92
B07A Winthrop 91.41 41 ⇓P P 18 30 50.2 -0.3
baz=92
M08A Happy Creek Ra 91.46 49 P P 18 30 51.9 +0.8
baz=92,SNR=8.9
N08A GE Springer Mi 91.54 49 P P 18 30 51.7 +0.3
baz=92,SNR=7.8
GRAC Grapevine Rang 91.56 53 ⇓P P 18 30 51.3 -0.3
baz=92
K08A Mann Creek Ran 91.58 47 ⇑P P 18 30 51.5 -0.1
baz=92
L08A Fields 91.60 48 P P 18 30 51.9 +0.2
baz=92,SNR=15
G08A Pilot Rock 91.66 45 ⇓P P 18 30 51.4 -0.4
baz=92
J08A Circle Bar Ran 91.69 47 P P 18 30 51.8 -0.3
baz=92,SNR=6.8
MONP Monument Peak 91.74 57 ⇓P P 18 30 52.6 +0.1
baz=92
GSC Goldstone 91.76 55 eP P 18 30 51.4 -1.2
comp=Z,7.4nm,1.0s,mb5.0
GSC Goldstone 91.76 55 eP P 18 30 51.4 -1.2
GSC pmax pmax
comp=Z,7.0nm,1.0s,mb5.0
GSC Goldstone 91.76 55 P P 18 30 53.1 +0.6
baz=92,SNR=5.1
S09A Goldfield 91.78 52 P P 18 30 53.3 +0.7
baz=92,SNR=5.7
PFO Pinyon Flat Ob 91.81 56 ⇓P P 18 30 52.5 -0.4
baz=92
FURC Furnace Creek, 91.89 54 P P 18 30 53.4 +0.3
baz=92,SNR=6.5
B08A Colville Reser 91.91 42 ⇓P P 18 30 52.5 -0.4
baz=92
R09A Tonopah 91.97 52 P P 18 30 54.1 +0.6
baz=92,SNR=13
Q09A Carvers 91.97 51 ⇑P P 18 30 53.9 +0.5
baz=92
N09A Rock Creek Ran 92.01 49 ⇓P P 18 30 53.8 +0.2
baz=92
L09A Wilnson Ranc 92.08 48 P P 18 30 54.1 +0.3
baz=92,SNR=8.8
HEC Hector,Ludlow 92.08 55 ⇑P P 18 30 53.9 -0.1
baz=92,SNR=6.8
K09A Rome 92.13 47 P P 18 30 54.2 +0.1
baz=92,SNR=8.8
M09A Marrel Ranch, 92.15 49 ⇑P P 18 30 54.8 +0.6
baz=92
O09A Fish Creek Ran 92.16 50 ⇓P P 18 30 54.5 +0.2
baz=92
J09A Fry Pan Ranch, 92.21 47 ⇑P P 18 30 54.7 +0.3
baz=92
BELC Belle Mtn. 92.24 56 P P 18 30 55.2 +0.4
baz=92,SNR=11
SWSC Sam W. Stewart 92.27 57 ⇑P P 18 30 55.1 +0.1
baz=92
S10A Tonopah Range, 92.30 52 P P 18 30 55.4 +0.4
baz=92,SNR=19
U10A Ash Meadows, A 92.30 54 P P 18 30 56.0 +1.0
baz=92,SNR=5.5
E09A Wood Farm, Sta 92.41 44 ⇓P P 18 30 55.1 -0.2
baz=92
TPNV Topopah Spring 92.44 53 eP P 18 30 56.1 +0.4
comp=Z,21nm,1.1s,mb5.4
TPNV Topopah Spring 92.44 53 eP P 18 30 56.1 +0.4
TPNV pmax pmax
comp=Z,21nm,1.1s,mb5.4
TPNV Topopah Spring 92.44 53 ⇓P P 18 30 55.6 -0.1
baz=92
G09A Cove 92.48 45 ⇓P P 18 30 54.7 -0.9
baz=92
TUQ Turquoise Mtn. 92.50 55 ⇑P P 18 30 56.5 +0.5
baz=92
Q10A Clear Creek Ra 92.58 51 ⇑P P 18 30 56.2 -0.1
baz=93,SNR=9.2
R10A Warm Springs 92.58 52 ⇓P P 18 30 56.8 +0.6
baz=93
GMRC Granite Mounta 92.62 55 ⇑P P 18 30 57.1 +0.5
baz=93,SNR=11
P10A Eureka 92.64 51 ⇑P P 18 30 56.8 +0.3
baz=93
BC3 Big Chuckw Mtn 92.65 57 P P 18 30 57.7 +1.0
baz=93,SNR=5.7
O10A Cortez Mining, 92.70 50 ⇑P P 18 30 57.9 +1.1
baz=93
K10A MacKenzie Ranc 92.77 47 ⇓P P 18 30 57.0 0.0
baz=93
M10A I.L. Ranch, Tu 92.84 49 P P 18 30 58.2 +0.8
baz=93,SNR=6.0
G10A Bishop Farm, J 92.94 45 ⇑P P 18 30 57.3 -0.4
baz=93
V11A Goodsprings 92.95 54 ⇓P P 18 30 58.0 0.0
baz=93
F10A Beach Ranch, E 92.96 44 ⇓P P 18 30 57.2 -0.7
baz=93
IRM Iron Mountain 92.96 56 P P 18 30 59.0 +0.9
baz=93,SNR=11
L10A Juniper Basin 92.97 48 P P 18 30 58.1 +0.1
baz=93,SNR=15
D10A Wagner Farm, O 93.08 43 ⇓P P 18 30 57.4 -0.9
baz=93
H10A Noah's Angus R 93.11 46 ⇓P P 18 30 57.8 -0.7
baz=93
R11A Troy Canyon, C 93.15 52 P P 18 30 59.5 +0.6
baz=93,SNR=11
Q11A Duckwater 93.16 51 P P 18 30 59.8 +0.9
baz=93,SNR=12
T11A Corn Creek, Al 93.29 53 P P 18 31 00.4 +0.8
baz=93,SNR=7.2
O11A Cowboy Ranch, 93.32 50 P P 18 31 00.5 +0.9
baz=93,SNR=7.8
K11A Parker Ranch, 93.38 47 ⇑P P 18 30 59.6 -0.3
baz=93
M11A Holland Ranch, 93.39 49 P P 18 31 01.0 +1.1
baz=93,SNR=10
G11A Walters Elk Ra 93.55 45 ⇑P P 18 30 59.7 -0.8
baz=94
MFID Camas Ranch 93.61 47 ⇓P P 18 31 00.8 -0.1
baz=94
S12A Delamar Landin 93.63 53 ⇓P P 18 31 01.4 +0.3
baz=94,SNR=5.8
E11A Bogner Ranch, 93.71 44 ⇑P P 18 31 00.5 -0.8
baz=94
U12A Valley of Fire 93.74 54 ⇓P P 18 31 02.2 +0.5
baz=94
PDMCI Parker Dam,Lak 93.81 56 ⇑P P 18 31 02.7 +0.7
baz=94
P12A McGill 93.81 51 P P 18 31 02.9 +0.9
baz=94,SNR=5.5
Q12A Willow Creek R 93.82 51 P P 18 31 02.9 +0.9
baz=94,SNR=7.1
N12A Clover Valley, 93.88 49 P P 18 31 03.0 +0.8
baz=94,SNR=5.5
BRVK Borovoye 93.90 323 eP P 18 31 00.3 -1.7
comp=Z,10.0nm,1.1s,mb5.2
BRVK Borovoye 93.90 323 eP P 18 31 00.3 -1.7
BRVK pmax pmax
comp=Z,10.0nm,1.1s,mb5.2
R12A Pony Springs, 93.91 52 P P 18 31 03.4 +0.9
baz=94,SNR=8.5
A11A Hall Mountain, 93.94 41 ⇑P P 18 31 02.7 +0.4
baz=94
O12A Currie 94.03 50 P P 18 31 03.5 +0.6
baz=94,SNR=8.3
M12A Wells 94.04 49 ⇑P P 18 31 03.1 +0.2
baz=94
L12A House Creek Ra 94.05 48 ⇑P P 18 31 03.5 +0.6
baz=94
W13A Hualapai Mount 94.11 55 ⇓P P 18 31 03.4 0.0
baz=94
J12A Stokes Ranch, 94.12 47 ⇓P P 18 31 02.6 -0.6
baz=94
K12A Draper Farm, C 94.19 48 ⇓P P 18 31 03.8 +0.2
baz=94
U13A Pakoon Wash 94.19 54 ⇑P P 18 31 03.9 +0.1
baz=94
F12A Elk City 94.30 45 ⇓P P 18 31 03.3 -0.7
baz=94
T13A Saint George 94.31 53 ⇓P P 18 31 04.9 +0.6
baz=94
D12A Red Ives Fores 94.38 43 ⇓P P 18 31 03.6 -0.7
baz=94
S13A Holt Ranch, En 94.41 53 P P 18 31 05.8 +1.1
baz=94,SNR=5.2
H12A Diamond D Ranc 94.44 46 ⇓P P 18 31 04.4 -0.3
baz=94
P13A Bates Ranch, G 94.50 51 ⇓P P 18 31 05.3 +0.3
baz=94
HLID Hailey 94.65 47 ⇑P P 18 31 05.4 -0.3
baz=95
U14A Mt Trumbull 94.82 54 ⇑P P 18 31 07.2 +0.6
baz=95,SNR=7.5
X14A Yava 94.85 56 ⇓P P 18 31 06.8 -0.1
baz=95
H13A Challis 94.87 46 ⇑P P 18 31 06.1 -0.5
baz=95
I13A Wildhorse Cree 94.90 46 ⇑P P 18 31 06.2 -0.7
baz=95
G13A Cobalt 94.94 45 ⇑P P 18 31 06.6 -0.4
baz=95
F13A Darby 94.95 45 ⇑P P 18 31 06.6 -0.4
baz=95
T14A Hurricane 94.97 53 ⇓P P 18 31 07.4 +0.1
baz=95
B13A Whitefish 95.12 42 ⇑P P 18 31 07.2 -0.5
baz=95
M14A Sheep Mountain 95.22 49 ⇑P P 18 31 08.4 0.0
baz=95
G15A Dillon 96.18 45 ⇓P P 18 31 11.4 -1.2
baz=96
YKA Yellowknife Ar 96.34 28 P P 18 31 12.4 -0.6
comp=Z,7.3nm,0.9s,mb5.1,baz=264,slow=4.6,SNR=50
YKA PKKPbc PKKPbc 18 48 01.5 +0.4
comp=Z,0.1nm,0.5s,baz=89,slow=2.3,SNR=4.8
YKA LR LR 19 15 27.9
comp=Z,144nm,19.1s,MS4.5,baz=345,slow=36
BOZ Bozeman (W) 96.82 45 ⇓P P 18 31 14.2 -1.4
baz=97
PDAR Pinedale Array 98.12 48 P P 18 31 20.7 -0.8
comp=Z,2.7nm,0.8s,mb4.8,baz=243,slow=2.6,SNR=20
OBN Obninsk 113.23 327 eP KIKP PKiKP 18 36 16.8 -5.2
OBN e 18 43 01.2
OBN pmax pmax
comp=Z,5.0nm,1.4s
TKL Tuckaleechee C 118.58 54 PKP PKPdf 18 36 31.3 -1.6
TKL Tuckaleechee C 118.58 54 PKP PKPdf 18 36 31.3 -1.6
comp=Z,4.1nm,0.8s,baz=243,slow=2.3,SNR=3.9
AKASG Malin Array Be 119.06 325 PKP PKPdf 18 36 31.8 -1.6
AKASG Malin Array Be 119.06 325 PKP PKPdf 18 36 31.8 -1.6
comp=Z,1.2nm,0.7s,baz=60,slow=2.2,SNR=9.0
KOLS Kolonicke sedl 123.86 325 ePKP PKPdf 18 36 42.2 -0.4
STHS Stebnicka Huta 124.17 326 ePKP PKPdf 18 36 41.4 -1.8
CRVS Cervenica-Dubn 124.33 326 ePKP PKPdf 18 36 42.5 -1.0
OKC Ostrava-Krasne 125.60 328 ePKPdf PKPdf 18 36 46.7 +0.8
VYHS Vyhne 126.01 326 ePKP PKPdf 18 36 45.4 -1.3
DPC Dobruska-Polom 126.23 329 ePKPdf PKPdf 18 36 47.0 -0.1
MODS Modra-Piesok 126.92 327 ePKP PKPdf 18 36 46.8 -1.7
BRG Berggiesshubel 127.07 331 ePKIKP PKPdf 18 36 48.5 -0.2
BRG pmax pmax
comp=Z,4.0nm,1.6s
BRG Berggiesshubel 127.07 331 ePKP PKPdf 18 36 48.5 -0.2
comp=Z,19nm,1.6s
CLL Collm 127.22 332 i P PKPdf 18 36 45.5 -3.5
CLL i 18 36 48.5
CLL e 18 37 32.0
CLL Collm 127.22 332 i PKPdf PKPdf 18 36 48.5 -0.5
comp=Z,8.0nm,1.2s
NKC Novy Kostel 128.21 331 ePKPdf PKPdf 18 36 51.4 +0.5
KHC Kasperske Hory 128.38 330 ePKPdf PKPdf 18 36 50.9 -0.4
GERES GERESS Array B 128.50 329 PKP PKPdf 18 36 51.2 -0.3
comp=Z,1.8nm,0.9s,baz=70,slow=1.6,SNR=12
GRA1 Grafenberg Arr 129.16 332 ePKPdf PKPdf 18 36 52.3 -0.4
GRF Grafenberg Arr 129.16 332 ePKPdf PKPdf 18 36 52.3 -0.4
LPAZ La Paz 129.76 119 PKP PKPdf 18 36 55.1 +0.3
comp=Z,2.9nm,1.0s,baz=345,slow=2.3,SNR=6.7
ESDC Sonseca Array 143.75 334 PKP PKPdf 18 37 19.1 -1.0
comp=Z,0.3nm,0.4s,baz=48,slow=1.5,SNR=2.8
ESDC PP PP 18 40 36.3 +4.5
comp=Z,0.9nm,0.7s,baz=22,slow=7.0,SNR=4.2
EQES Quesada 144.87 331 PKP PKPdf 18 37 21.0 -1.0
EBAN Banos Encina 144.91 332 PKP PKPdf 18 37 20.7 -1.3
EADA Adamuz 145.26 333 PKP PKPdf 18 37 21.7 -1.0
EBER Berja 145.49 330 PKP PKPbc 18 37 28.6 +5.4
ELUQ Luque 145.62 332 PKP PKPdf 18 37 23.7 +0.4
ECAB El Cabril 145.71 334 PKP PKPdf 18 37 24.6 +1.2
EBAD Badajoz 145.78 337 PKP PKPbc 18 37 31.0 +7.0
ELOJ Sierra Loja 145.90 332 PKP PKPbc 18 37 28.8 +4.4
BDFB Brasilia 146.35 134 PKPbc PKPbc 18 37 24.2 -2.2
comp=Z,5.8nm,0.8s,baz=199,slow=2.3,SNR=10
EMIN Mina Concepcio 146.50 335 PKP PKPdf 18 37 25.9 +1.1
ESPR Espera 146.91 334 PKP PKPdf 18 37 26.4 +0.9
TORD Torodi Ar. Bea 154.67 284 PKP PKPdf 18 37 36.5 -1.6
comp=Z,0.2nm,0.3s,baz=294,slow=1.9,SNR=19
TORD PKPbc PKPbc 18 37 45.2 -1.4
comp=Z,3.3nm,0.9s,baz=38,slow=1.8,SNR=11
TORD PKPab PKPab 18 37 59.9 -1.5
comp=Z,2.2nm,0.8s,baz=100,slow=3.0,SNR=5.5
DBIC Dimbokro 161.47 268 PKPab PKPab 18 38 30.3 -0.6
comp=Z,9.7nm,0.8s,baz=71,slow=2.5,SNR=5.6

NEIC ***02*** *18:21:44.3±1.0, 753S×1554.4E, h10km, mb4.1/1, Error ellipse: s-maj=38.8km s-min=21.9km az=114.0*
IDC ***02*** *18:21:44.3±1.8, 725S×155.11E, h0km, mb4.1/6, mb1 4.3/6, mb1mx4.1/13, mbtmp4.1/6, Error ellipse: s-maj=66.0km s-min=25.0km az=112.0*
ISCJB ***02*** *18:21:49.2±1.0, 73S±02×1549E±03, h33km, mb3.9/8, Error ellipse: s-maj=41.7km s-min=18.1km az=32.5*
ISC 02 18:21:51.1±1.0, 72S±02×1549E±03, h35km, n10, σ0.9/64/9, mb3.9/8, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	23.57	236	P	P	18 26 58.4	-0.3
	7.6nm,0.9s,mb4.2,baz=64,slow=8.9,SNR=6.8						
ASAR	Alice Springs	25.91	229	P	P	18 27 20.1	+0.1
	2.8nm,0.8s,mb3.9,baz=67,slow=8.9,SNR=4.9						
STKA	Stephens Creek	27.46	205	P	P	18 27 34.0	+0.1
	8.5nm,1.0s,mb4.2,baz=13,slow=11,SNR=4.2						
SONM	Songino Array	69.46	327	P	P	18 32 56.1	+0.4
	0.7nm,0.8s,mb3.6,baz=137,slow=4.9,SNR=3.3						
SBA	Scott Base	70.86	177	eP	P	18 32 58.3	-5.6
	0.5nm,0.3s,mb3.9						
MKAR	Makanchi Array	83.49	319	P	P	18 34 15.4	+0.1
	0.5nm,0.8s,mb3.6,baz=112,slow=6.3,SNR=4.3						
NVAR	Mina Array Bea	91.98	52	P	P	18 34 57.3	+0.9
	0.3nm,0.6s,mb3.8,baz=254,slow=5.3,SNR=2.2						
YKA	Yellowknife Ar	96.61	28	P	P	18 35 15.7	-1.4
YKA	Yellowknife Ar	96.61	28	P	P	18 35 15.7	-1.4
	0.9nm,1.0s,mb4.2,baz=268,slow=4.7,SNR=3.8						
TORD	Torodi Ar. Bea	152.95	285	PKPbc	PKPbc	18 41 43.2	-2.5
	1.1nm,0.7s,baz=44,slow=3.5,SNR=5.2						

MAN 02 18:26:07, 1351N×12066E, h50km, mb4.4, ML3.2, MS3.0, 1C-1D, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	Lubang	0.46	299	eP	Pn	18 26 15.4	-2.4
TGY	Tagaytay City	0.64	25⇑	eP	Pn	18 26 22.9	+2.8
TGY				i S	Sn	18 26 32.9	+3.5

BUSP	**Coron**	**1.57 197**	*e*P	Pn	18 26 34.3	+1.9
BUSP			*e*S	Sn	18 26 55.8	+4.2
POLP	**Polilio Island**	**1.73 46**	*e*P	Pn	18 26 36.1	+1.4
OTRP	**Odiongan**	**1.75 131**	*e*P	Pn	18 26 37.0	+2.0
OTRP			*e*S	Sn	18 26 58.2	+2.0
PCPH	**Palayan**	**2.08 12**	⇓*e*P	Pn	18 26 41.1	+1.6
PCPH			*i* S	Sn	18 27 05.8	+1.6
BALP	**Baler**	**2.39 22**	*e*P	Pn	18 26 47.2	+3.6
ENPP	**El Nido**	**2.59 208**	*e*P	Pn	18 26 48.3	+1.8
CUYO	**Cuyo Island**	**2.67 172**	*e*P	Pn	18 26 49.1	+1.5
PVCP	**Virac**	**3.40 88**	*e*P	Pn	18 26 59.6	+2.1
GUIM	**Jordan**	**3.43 146**	*e*P	Pn	18 27 00.7	+2.6

*NEIC **02** 18:29:02.2±0.8, 725S×15672E, h10km, Error ellipse: s-maj=21.9km s-min=15.7km az=198.0*
*ISCJB **02** 18:29:04.1±1.0, 74S±02×1567E±01, h33km, mb3.8/6, Error ellipse: s-maj=25.1km s-min=16.2km az=14.0*
*IDC **02** 18:29:07.0±4.0, 669S×15549E, h0km, mb3.9/6, mb1 4.1/6, mb1mx3.9/15, mbtmp3.9/6, Error ellipse: s-maj=118.2km s-min=26.0km az=113.0*
ISC 02 18:29:05.8±0.9, 73S±02×1568E±01, h35km, n8, σ0§91/8, mb3.8/6, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**3.79**	**124**	*e*Pn	**Pn**	**18 30 01.6**	**-0.1**
KAKA	**Kakadu**	**24.53**	**255**	*e*P	**P**	**18 34 22.2**	**-0.1**
WRA	**Warramunga Arr**	**25.09**	**238**	P	**P**	**18 34 27.8**	**+0.5**
	3.0nm,0.7s,mb4.0,baz=62,slow=9.2,SNR=12						
ASAR	**Alice Springs**	**27.29**	**231**	P	**P**	**18 34 47.4**	**+0.2**
	0.7nm,0.5s,mb3.5,baz=57,slow=10.0,SNR=11						
FITZ	**Fitzroy Crossi**	**32.13**	**248**	P	**P**	**18 35 29.4**	**-0.8**
	1.2nm,0.7s,mb3.9,baz=79,slow=10,SNR=3.8						
SONM	**Songino Array**	**70.56**	**327**	P	**P**	**18 40 15.3**	**-1.9**
	0.5nm,0.8s,mb3.5,baz=126,slow=5.8,SNR=4.9						
MKAR	**Makanchi Array**	**84.81**	**318**	P	**P**	**18 41 38.0**	**+1.4**
	1.7nm,0.7s,mb4.3,baz=101,slow=6.0,SNR=15						
ZALV	**Zalesovo Beam**	**85.43**	**326**	P	**P**	**18 41 40.3**	**+0.7**
	0.5nm,0.4s,mb4.0,baz=111,slow=3.2,SNR=3.0						

IDC 02 18:29:19.3±4.3, 737S×15571E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.5/14, mbtmp3.5/3, Error ellipse: s-maj=125.9km s-min=41.8km az=116.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.19**	**237**	P	P	18 34 37.9	+0.2
	0.7nm,0.5s,baz=62,slow=8.9,SNR=5.7						
ASAR	**Alice Springs**	**26.46**	**230**	P	P	18 34 57.4	-0.8
	0.3nm,0.6s,baz=59,slow=8.9,SNR=4.2						
MKAR	**Makanchi Array**	**84.15**	**319**	P	P	18 41 53.2	+0.8
	0.5nm,0.6s,baz=95,slow=6.1,SNR=4.3						

IDC 02 18:32:50.6±1.5, 764S×15525E, h0km, mb3.6/4, mb1 3.8/5, mb1mx3.6/15, mbtmp3.7/5, ML3.9/1, Error ellipse: s-maj=35.2km s-min=28.5km az=124.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.98**	**111**	Pn	Pn	18 34 06.5	-0.1
	4.9nm,0.3s,baz=305,slow=10,SNR=2.0						
HNR				Sn	Sn	18 34 59.8	-5.1
	11nm,0.3s,baz=270,slow=23,SNR=2.8						
WRA	**Warramunga Arr**	**23.66**	**237**	P	P	18 38 04.6	+0.5
	1.0nm,0.6s,baz=60,slow=9.5,SNR=11						
ASAR	**Alice Springs**	**25.94**	**230**	P	P	18 38 24.0	-0.8
	0.4nm,0.8s,baz=64,slow=8.8,SNR=3.6						
MJAR	**Matsushiro Arr**	**46.77**	**341**	P	P	18 41 21.7	-0.1
	0.7nm,0.5s,baz=171,slow=7.1,SNR=4.2						
MKAR	**Makanchi Array**	**84.05**	**319**	P	P	18 45 23.4	+0.3
	0.7nm,0.7s,baz=110,slow=5.0,SNR=8.9						

*ISCJB **02** 18:35:26.6±0.5, 3841N±003×2183E±004, h13km±5km, Error ellipse: s-maj=5.2km s-min=4.3km az=173.9*
*CSEM **02** 18:35:27.3±0.1, 3841N×2182E, h15km, ML2.6, Error ellipse: s-maj=2.8km s-min=2.3km az=131.0*
*THE **02** 18:35:27.7, 3843N×2183E, h6km, ML2.6*
*NEIC **02** 18:35:27.0, 3844N×2172E, h27km, MD3.1(ATH), After ATH.*
*ATH **02** 18:35:27.0, 3845N×2172E, h28km±1km, MD3.2/4*
ISC 02 18:35:27.1±0.5, 3842N±003×2181E±004, h17km±5km, n13, σ0§85/22, 1D, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SELA	**Sela**	**0.15**	**155**	*e*Pg	**Pg**	**18 35 30.9**	**-0.2**
SELA				*e*Sg	**Sg**	**18 35 33.9**	**0.0**
RLS	**Riolos of Patr**	**0.45**	**217**	*e*PB	**Pb**	**18 35 36.2**	**-0.3**
RLS				*e*SB	**Sb**	**18 35 43.6**	**+0.7**
EVR	**Evrytania**	**0.50**	**360**	⇓*i*PB	**Pb**	**18 35 36.8**	**-0.7**
EVR				*e*SB	**Sb**	**18 35 44.6**	**+0.1**
AGG	**Agios Georgios**	**0.73**	**34**	*e*Pg	**Pg**	**18 35 41.0**	**-0.4**
AGG				*e*Sg	**Sg**	**18 35 51.2**	**+0.2**
KFL	**Anninata**	**0.86**	**250**	*e*Pg	**Pg**	**18 35 43.9**	**+0.1**
LKD	**Levkas**	**0.96**	**288**	*e*Pg	**Pg**	**18 35 45.1**	**-0.5**
LKD				*e*Sg	**Sg**	**18 36 00.6**	**+2.4**
VLS	**Valsamata**	**0.99**	**257**	*e*PN	**Pn**	**18 35 45.3**	**-0.9**
LTK	**Loutraki**	**0.99**	**113**	*e*Pg	**Pg**	**18 35 46.1**	**-0.1**
LTK				*e*Sg	**Sg**	**18 36 00.8**	**+1.5**
VLX	**Vlachokerasia**	**1.14**	**157**	*e*Pg	**Pg**	**18 35 48.1**	**-0.9**
VLX				*e*Sg	**Sg**	**18 36 05.2**	**+1.4**
THL	**Klokotos Trika**	**1.16**	**8**	*e*PN	**Pn**	**18 35 48.7**	**+0.2**
ITM	**Ithomi**	**1.24**	**176**	*e*PN	**Pn**	**18 35 50.8**	**+1.2**
DID	**Didima**	**1.45**	**128**	*e*Pg	**Pg**	**18 35 54.1**	**-0.8**
DID				*e*Sg	**Sg**	**18 36 13.7**	**0.0**
PYL	**PYLOS**	**1.52**	**182**	*e*Pg	**Pg**	**18 35 55.0**	**-1.3**
PYL				*e*Sg	**Sg**	**18 36 15.3**	**-0.7**

IDC 02 18:36:06.8±3.3, 961S×15700E, h0km, mb3.6/4, mb1 3.7/4, mb1mx3.6/14, mbtmp3.6/4, Error ellipse: s-maj=93.1km s-min=30.9km az=120.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.16**	**242**	P	P	18 41 24.2	-0.7
	1.6nm,1.1s,baz=68,slow=9.8,SNR=5.3						
ASAR	**Alice Springs**	**26.11**	**235**	P	P	18 41 43.5	+1.0
	0.8nm,0.7s,baz=72,slow=9.3,SNR=9.7						
SONM	**Songino Array**	**72.59**	**327**	P	P	18 47 36.4	+0.4
	0.4nm,0.9s,baz=121,slow=5.4,SNR=3.1						
MKAR	**Makanchi Array**	**86.66**	**318**	P	P	18 48 52.0	-0.4
	0.3nm,0.6s,baz=98,slow=5.8,SNR=5.1						

IDC 02 18:45:31.9±5.5, 743S×15628E, h0km, mb3.6/4, mb1 3.7/4, mb1mx3.5/14, mbtmp3.6/4, Error ellipse: s-maj=169.9km s-min=35.6km az=113.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.64**	**237**	P	P	18 50 55.2	+0.8
	1.0nm,0.8s,baz=64,slow=9.2,SNR=9.6						
ASAR	**Alice Springs**	**26.86**	**231**	P	P	18 51 13.8	-0.7
	0.2nm,0.7s,baz=57,slow=9.5,SNR=5.0						
MKAR	**Makanchi Array**	**84.57**	**318**	P	P	18 58 08.4	+1.2
	0.6nm,0.6s,baz=100,slow=6.1,SNR=5.3						
ZALV	**Zalesovo Beam**	**85.25**	**326**	P	P	18 58 09.2	-1.3
	0.3nm,0.3s,baz=108,slow=4.7,SNR=3.7						

IDC 02 18:51:07.8±3.6, 735S×15534E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.5/14, mbtmp3.5/3, Error ellipse: s-maj=105.2km s-min=36.2km az=117.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.91**	**236**	P	P	18 56 25.0	+1.4
	1.5nm,0.7s,baz=62,slow=9.7,SNR=13						
ASAR	**Alice Springs**	**26.20**	**229**	P	P	18 56 43.1	-1.3
	0.2nm,0.8s,baz=57,slow=10,SNR=2.8						
MKAR	**Makanchi Array**	**83.90**	**319**	P	P	19 03 39.8	+0.2
	0.2nm,0.5s,baz=116,slow=6.7,SNR=3.9						

*MOS **02** 18:53:44.3±0.7, 5659N×11790E, h12km, mb4.4/1, Error ellipse: s-maj=18.6km s-min=13.1km az=51.9*
BYKL 02 18:53:45.0±0.2, 5659N×11793E, h11km±4km, 4C-5D, East of Lake Baykal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRS	**Chara**	**0.36**	**31**	*e*PG	Pg	18 53 51.6	-0.6
CRS				*e*		18 53 56.8	
CRS				pmax	pmax		
	comp=Z,856nm,0.4s						
CRS				smax			
	comp=E,4μm,0.4s						
CRS	**Chara**	**0.36**	**31**	⇓*i*Pg	Pg	18 53 51.6	-0.6
	comp=E,457nm,0.6s						
CRS				⇓*i*Pg	Pg	18 53 51.6	-0.6
	comp=E,261nm,0.6s						
CRS				⇓*i*Pg	Pg	18 53 51.6	-0.6
	comp=E,718nm,0.6s						
CRS				*i* Sg	Sg	18 53 56.7	-0.4
CRS				Pmax			
	comp=E,882nm,0.8s						
CRS				Smax			
	comp=E,4μm,0.3s						
KHNR	**Khani**	**1.18**	**73**	*e*Pg	Pg	18 54 06.4	-1.2
KHNR				*i* Sg	Sg	18 54 21.8	-1.1
NLYR	**Nelyaty**	**1.24**	**266**	*e*PG	Pg	18 54 06.7	-2.0
NLYR				*e*S	Sb	18 54 22.5	-1.8
NLYR	**Nelyaty**	**1.24**	**266**	⇓*i*Pg	Pg	18 54 06.7	-2.0
NLYR				*e*Pb	Pb	18 54 08.9	+0.6
NLYR				*i* Sg	Sg	18 54 22.7	-2.1
NLYR				*e*		18 54 27.2	
TUP	**Tupik**	**2.46**	**151**	*e*PN	Pn	18 54 25.3	+0.4
TUP				*e*		18 54 28.5	
TUP				*e*S	Sn	18 54 55.4	+0.5
TUP				*e*		18 55 00.7	
TUP				pmax	pmax		
	comp=Z,178nm,0.5s						
TUP				smax			
	comp=E,173nm,0.9s						
TUP	**Tupik**	**2.46**	**151**	*e*Pn	Pn	18 54 25.0	+0.1
TUP				⇑*i*Pg	Pg	18 54 28.2	-3.8
TUP				*e*Sn	Sn	18 54 57.0	+2.1
TUP				*e*Sg	Sg	18 55 00.8	-3.0
TUP				Pmax			
	comp=E,291nm,1.5s						
TUP				Smax			
	comp=E,215nm,1.0s						
BOD	**Bodaibo**	**2.47**	**302**	*e*PN	Pn	18 54 25.3	+0.2
BOD				*e*		18 54 28.4	
BOD				*e*S	Sn	18 54 55.7	+0.6
BOD				*e*		18 55 00.9	
BOD				pmax	pmax		
	comp=Z,132nm,0.6s						
BOD				smax			
	comp=N,2μm,0.7s						
BOD	**Bodaibo**	**2.47**	**302**	*e*Pn	Pn	18 54 25.9	+0.8
BOD				⇑*i*Pg	Pg	18 54 28.8	-3.4
	comp=N,48nm,0.6s						
BOD				⇓*i*Pg	Pg	18 54 28.8	-3.4
	comp=N,115nm,0.6s						
BOD				⇑*i*Pg	Pg	18 54 28.8	-3.4
	comp=N,104nm,0.6s						
BOD				*e*Sn	Sn	18 54 55.7	+0.6
BOD				*e*Sg	Sg	18 55 01.1	-3.0
BOD				Pmax			
	comp=N,127nm,0.9s						
BOD				Smax			
	comp=N,2μm,0.8s						
SVKR	**Severomuysk**	**2.48**	**261**	*e*PN	Pn	18 54 25.9	+0.7
SVKR				*e*		18 54 28.8	
SVKR				*e*		18 55 00.7	
SVKR				pmax	pmax		
	comp=Z,249nm,1.4s						
SVKR				smax			
	comp=N,1μm,0.8s						
SVKR	**Severomuysk**	**2.48**	**261**	*e*Pn	Pn	18 54 25.7	+0.5
SVKR				*e*Pg	Pg	18 54 29.2	-3.3
SVKR				*e*Sn	Sn	18 54 56.6	+1.2
SVKR				*e*Sg	Sg	18 55 01.5	-3.0
SVKR				Pmax			
	comp=N,183nm,0.5s						
SVKR				Smax			
	comp=N,1μm,0.7s						
UKT	**Uakit**	**2.66**	**247**	*e*PN	Pn	18 54 28.4	+0.8
UKT				*e*		18 54 31.4	
UKT				*e*S	Sn	18 54 59.6	-0.2
UKT				*e*		18 55 06.4	
UKT				pmax	pmax		
	comp=Z,76nm,0.6s						
UKT				smax			
	comp=N,180nm,0.8s						
UKT	**Uakit**	**2.66**	**247**	*e*Pn	Pn	18 54 28.4	+0.8
UKT				*e*Pg	Pg	18 54 32.0	-3.8
UKT				*e*Sn	Sn	18 55 01.0	+1.2
UKT				*e*Sg	Sg	18 55 07.4	-2.8
UKT				Pmax			
	comp=N,111nm,1.5s						
UKT				Smax			
	comp=N,159nm,0.6s						
YOA	**Uoyan**	**3.48**	**265**	*e*Sg	Sg	18 55 32.4	-4.3
YOA				Smax			
	comp=N,965nm,0.8s						
NRGR	**Nerungri**	**3.75**	**86**	*e*PN	Pn	18 54 44.0	+1.3
NRGR				S	Sn	18 55 28.0	+1.1
NRGR				smax			
	comp=E,96nm,0.6s						
KMO	**Kumora**	**3.82**	**262**	*e*Pn	Pn	18 54 44.7	+1.0
KMO				*e*Pg	Pg	18 54 52.3	-5.8
KMO				*e*Sg	Sg	18 55 42.5	-5.1
KMO				Pmax			
	comp=E,57nm,1.1s						
KMO				Smax			
	comp=E,442nm,1.0s						
CLNS	**Chul'man**	**3.85**	**83**	*e*PN	Pn	18 54 52.9	+8.9
CLNS				*e*		18 55 41.6	
CLNS				pmax	pmax		
	comp=N,5.0nm,0.3s						
CLNS				pmax	pmax		
	comp=Z,10.0nm,0.3s						
CLNS				pmax	pmax		
	comp=E,16nm,0.4s						
CLNS				smax			
	comp=N,276nm,0.8s						
CLNS				smax			
	comp=Z,87nm,0.5s						
CLNS				smax			
	comp=E,290nm,0.7s						
CLNS	**Chul'man**	**3.85**	**83**	*e*Pn	Pn	18 54 46.6	+2.6
CLNS				*e*Pg	Pg	18 54 55.0	-3.6
CLNS				*e*Sg	Sg	18 55 45.5	-2.9
IENR	**Iengra**	**3.87**	**92**	*e*Pg	Pg	18 54 54.2	-4.9
IENR				*e*Sn	Sn	18 55 30.1	+0.4
IENR				*e*Sg	Sg	18 55 42.9	-6.2
YLYR	**Ulyunkhan**	**4.19**	**249**	*e*PN	Pn	18 54 49.9	+1.1
YLYR				*e*		18 55 00.6	
YLYR				*e*		18 55 55.6	
YLYR				pmax	pmax		
	comp=Z,11nm,0.3s						
YLYR				smax			
	comp=N,145nm,1.2s						
YLYR	**Ulyunkhan**	**4.19**	**249**	*e*Pn	Pn	18 54 49.2	+0.4
YLYR				*e*Pg	Pg	18 54 59.3	-6.0
YLYR				*e*Sg	Sg	18 55 54.2	-5.3
YLYR				Pmax			
	comp=N,15nm,0.5s						
YLYR				Smax			
	comp=N,139nm,1.0s						
NIZ	**Nizh Angarsk**	**4.76**	**264**	*e*PN	Pn	18 54 58.7	+2.2
NIZ				*e*		18 55 11.8	
NIZ				*e*		18 56 12.6	
NIZ				pmax	pmax		
	comp=Z,35nm,1.0s						
NIZ				smax			
	comp=N,129nm,0.9s						
NIZ	**Nizh Angarsk**	**4.76**	**264**	*e*Pg	Pg	18 55 10.7	-5.3
NIZ				*e*Sg	Sg	18 56 12.1	-5.5
NIZ				Pmax			
	comp=N,34nm,1.3s						
NIZ				Smax			
	comp=N,127nm,0.8s						
CIT	**Chita**	**5.25**	**211**	*e*PN	Pn	18 55 19.2	+16
CIT				*e*		18 56 27.3	
CIT				pmax	pmax		
	comp=Z,19nm,0.9s						
CIT				smax			
	comp=N,198nm,1.8s						
CIT	**Chita**	**5.25**	**211**	*e*Pn	Pn	18 55 02.1	-1.1
CIT				*e*Pg	Pg	18 55 18.5	-6.9
CIT				*e*Sn	Sn	18 56 02.9	-0.7
CIT				*e*Sg	Sg	18 56 27.1	-6.2
CIT				Pmax			
	comp=N,10.0nm,0.9s						
CIT				Smax			
	comp=N,194nm,1.9s						
SYVR	**Suvo**	**5.42**	**240**	*e*PN	Pn	18 55 06.4	+0.8
SYVR				*e*		18 55 22.4	
SYVR				*e*		18 56 33.0	
SYVR				pmax	pmax		
	comp=Z,17nm,0.8s						
SYVR				smax			
	comp=E,76nm,0.7s						
SYVR	**Suvo**	**5.42**	**240**	*e*Pn	Pn	18 55 06.1	+0.5
SYVR				*e*Pg	Pg	18 55 22.2	-6.4
SYVR				*e*Sn	Sn	18 56 07.6	-0.2
SYVR				*e*Sg	Sg	18 56 33.0	-5.7
SYVR				Pmax			
	comp=E,28nm,1.0s						
SYVR				Smax			
	comp=E,96nm,1.0s						
MXMB	**Maximikha**	**6.26**	**242**	⇑*i*Pn	Pn	18 55 17.9	+0.8
MXMB				*e*Pg	Pg	18 55 37.3	-7.4
MXMB				*e*Sg	Sg	18 57 00.5	-5.1
MXMB				Pmax			
	comp=E,16nm,1.3s						
MXMB				Smax			
	comp=E,183nm,0.8s						
OGRR	**Ongureny**	**6.62**	**248**	*e*Pn	Pn	18 55 23.0	+0.9
OGRR				*e*Pg	Pg	18 55 44.8	-6.9
OGRR				*e*Sg	Sg	18 57 11.7	-5.7
OGRR				Pmax			
	comp=E,10.0nm,1.0s						
OGRR				Smax			
	comp=E,33nm,1.1s						
HIA	**Hailar**	**7.42**	**171**	*e*Sg	Sg	18 57 36.0	-6.8
TRTB	**Turuntaevo**	**7.43**	**238**	*e*Pg	Pg	18 55 59.1	-8.0
TRTB				*e*Sg	Sg	18 57 35.8	-7.3
TRTB				Pmax			
	comp=E,2.0nm,0.8s						
TRTB				Smax			
	comp=E,78nm,1.4s						
ZRHB	**Zarechye**	**7.45**	**242**	*e*Pg	Pg	18 55 58.9	-8.7
ZRHB				*e*Sg	Sg	18 57 37.8	-6.2
ZRHB				Pmax			
	comp=E,29nm,0.8s						
ZRHB				Smax			
	comp=E,173nm,1.3s						
UUDB	**Ulan-Yde**	**7.65**	**236**	*e*Sg	Sn	18 57 42.3	+39
UUDB				Smax			
	comp=E,87nm,1.6s						
KPC	**Khapcheranga**	**7.66**	**208**	*e*Pn	Pn	18 55 37.2	+0.8
KPC				*e*Pg	Pn	18 56 02.9	+27
KPC				*e*Sn	Sn	18 57 02.8	-0.3
KPC				*e*Sg	Sn	18 57 42.4	+39
KPC				Pmax			
	comp=E,7.0nm,1.5s						
KPC				Smax			
	comp=E,85nm,1.5s						
TRG	**Tyrgan**	**7.73**	**245**	*e*Sg	Sn	18 57 44.5	+40
TRG				Smax			
	comp=E,19nm,1.1s						
KAB	**Kabansk**	**8.01**	**240**	*e*Sg	Sn	18 57 52.0	+40
KAB				Smax			
	comp=E,257nm,0.8s						
ZAK	**Zakamensk**	**10.70**	**241**	*e*Sg	Sn	18 59 14.7	+57
ZAK				Smax			
	comp=E,32nm,1.8s						
ORL	**Orlik**	**11.27**	**257**	*e*Sg	Sn	18 59 34.6	+63
ORL				Smax			
	comp=E,43nm,2.1s						

IDC 02 18:57:28.3±1.3, 767S×15634E, h0km, mb3.8/3, mb1 3.9/4, mb1mx3.6/15, mbtmp3.9/4, ML3.9/1, Error ellipse: s-maj=39.1km s-min=27.2km az=29.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**3.98**	**116**	Pn	Pn	18 58 30.2	-0.3
	7.5nm,0.3s,baz=253,slow=5.3,SNR=1.6						
HNR				Sn	Sn	18 59 18.5	+0.5
	16nm,0.3s,baz=87,slow=18,SNR=2.6						
WRA	**Warramunga Arr**	**24.56**	**238**	P	P	19 02 50.2	+0.2
	1.3nm,0.8s,baz=63,slow=9.5,SNR=11						
SONM	**Songino Array**	**70.62**	**327**	P	P	19 08 46.1	+0.6
	1.6nm,0.7s,baz=141,slow=7.0,SNR=15						
MKAR	**Makanchi Array**	**84.79**	**318**	P	P	19 10 04.2	-0.4
	0.3nm,0.6s,baz=98,slow=5.8,SNR=5.3						

IDC 02 18:58:04.8±4.9, 752S×15590E, h0km, mb3.9/4, mb1 4.0/4, mb1mx3.7/14, mbtmp3.9/4, Error ellipse: s-maj=144.8km s-min=30.5km az=112.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.28**	**237**	P	P	19 03 24.7	+0.7
	2.4nm,0.8s,baz=63,slow=9.2,SNR=7.0						
ASAR	**Alice Springs**	**26.52**	**230**	P	P	19 03 43.8	-0.5
	0.5nm,0.8s,baz=56,slow=10,SNR=3.7						
SONM	**Songino Array**	**70.26**	**327**	P	P	19 09 20.4	+0.5
	1.8nm,0.8s,baz=136,slow=6.5,SNR=12						
MKAR	**Makanchi Array**	**84.39**	**319**	P	P	19 10 38.9	-0.2
	1.0nm,0.8s,baz=106,slow=5.7,SNR=5.8						

*IDC **02** 19:00:05.6±1.0, 761S×15589E, h0km, mb4.3/11, mb1 4.4/12, mb1mx4.3/16, mbtmp4.2/12, ML3.5/1, Error ellipse: s-maj=34.8km s-min=17.9km az=113.0*
*ISCJB **02** 19:00:08.9±0.5, 759S±008×15586E±006, h33km, mb4.2/13, Error ellipse: s-maj=11.2km s-min=9.1km az=8.5*
*NEIC **02** 19:00:08.1±0.6, 737S×15556E, h10km, mb4.6/2, Error ellipse: s-maj=16.5km s-min=12.7km az=134.0*
ISC 02 19:00:10.8±0.5, 759S±008×15584E±008, h35km, n25, σ0§67/23, mb4.2/13, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.45**	**115**	*e*Pn	**Pn**	**19 01 23.3**	**+7.5**
HNR				*e*S	**Sn**	**19 02 06.8**	**+0.4**
HNR	**Honiara**	**4.45**	**115**	Pn	**Pn**	**19 01 23.5**	**+7.7**
	34nm,0.3s,baz=89,slow=16,SNR=5.1						
HNR				Sn	**Sn**	**19 02 02.1**	**-4.4**
	90nm,0.3s,baz=265,slow=15,SNR=9.4						
CTA	**Charters Tower**	**15.52**	**216**	Pn	**Pn**	**19 03 47.0**	**-0.1**
	0.1nm,0.3s,baz=34,slow=12,SNR=2.9						
KAKA	**Kakadu**	**23.59**	**256**	*e*P	**P**	**19 05 18.6**	**-0.1**
	12nm,0.8s,mb4.4						
KAKA	**Kakadu**	**23.59**	**256**	*e*P	**P**	**19 05 18.2**	**-0.5**
WB2	**Warramunga Arr**	**24.18**	**237**	*e*P	**P**	**19 05 24.5**	**+0.4**
WRA	**Warramunga Arr**	**24.19**	**237**	P	**P**	**19 05 24.6**	**+0.4**
	11nm,0.9s,mb4.3,baz=61,slow=9.6,SNR=27						
ASAR	**Alice Springs**	**26.43**	**230**	P	**P**	**19 05 44.2**	**-0.3**
	3.0nm,0.9s,mb3.8,baz=66,slow=8.8,SNR=17						
STKA	**Stephens Creek**	**27.57**	**207**	P	**P**	**19 05 54.3**	**-0.3**
	2.3nm,0.7s,mb3.9,baz=21,slow=14,SNR=5.3						
FITZ	**Fitzroy Crossi**	**31.20**	**247**	*e*P	**P**	**19 06 26.7**	**-0.3**
	5.8nm,0.7s,mb4.5						
FITZ	**Fitzroy Crossi**	**31.20**	**247**	P	**P**	**19 06 26.5**	**-0.5**
	1.4nm,0.9s,mb3.8,baz=56,slow=15,SNR=4.3						
MJAR	**Matsushiro Arr**	**46.91**	**340**	P	**P**	**19 08 36.7**	**-1.3**
	2.1nm,0.7s,mb4.2,baz=167,slow=7.6,SNR=5.9						
KSRS	**Korea Array**	**51.85**	**332**	P	**P**	**19 09 16.4**	**+0.8**
	4.3nm,0.8s,mb4.4,baz=151,slow=8.4,SNR=7.3						
SONM	**Songino Array**	**70.29**	**327**	P	**P**	**19 11 22.1**	**+1.5**
	6.8nm,1.0s,mb4.5,baz=143,slow=5.9,SNR=15						
BILL	**Bilibino**	**75.81**	**4**	*e*P	**P**	**19 11 51.9**	**-0.9**
	2.3nm,0.4s,mb4.5						
MKAR	**Makanchi Array**	**84.40**	**319**	P	**P**	**19 12 40.4**	**+0.7**
	2.8nm,0.7s,mb4.5,baz=104,slow=7.1,SNR=33						
ZAA0	**Zalesovo Array**	**85.14**	**326**

YKA	Yellowknife Ar	96.46	28	P	P	19 13 35.5	-0.6
	0.3nm,0.7s,mb3.9,baz=263,slow=4.4,SNR=5.2						
PDAR	Pinedale Array	98.47	48	P	P	19 13 46.1	+0.4
	0.3nm,0.6s,mb4.0,baz=251,slow=4.7,SNR=2.5						
AKASG	Malin Array Be	118.51	324	PKP	PKPdf	19 18 55.3	+0.4
	0.2nm,0.3s,baz=82,slow=1.0,SNR=2.6						
BDFB	Brasilia	146.97	134	PKPbc	PKPbc	19 19 50.8	+0.1
	1.4nm,0.6s,baz=269,slow=27,SNR=3.3						
TORD	Torodi Ar. Bea	153.99	284	PKPbc	PKPbc	19 20 08.9	+1.1
TORD				PKPab	PKPab	19 20 21.4	+0.3
TORD	Torodi Ar. Bea	153.99	284	PKPbc	PKPbc	19 20 08.9	+1.2
	0.5nm,0.7s,baz=46,slow=4.2,SNR=5.3						
TORD				PKPab	PKPab	19 20 21.4	+0.3
	1.2nm,1.1s,baz=93,slow=2.9,SNR=3.8						

*IDC **02** 19:00:47.9±1.1, 870S×15755E, h0km, mb4.4/5, mb1 4.6/5, mb1mx4.2/14, mbtmp4.3/5, MS3.6/4, Ms1 3.6/4, ms1mx3.3/26, Error ellipse: s-maj=93.0km s-min=25.3km az=136.0*
*NEIC **02** 19:00:49.3±0.7, 898S×15786E, h10km, mb4.9/3, Error ellipse: s-maj=37.4km s-min=17.5km az=129.0*
*ISCJB **02** 19:00:51.5±0.8, 90S±02×1577E±02, h33km, mb4.4/8, MS3.6/2, Error ellipse: s-maj=40.7km s-min=17.0km az=40.1*

ISC 02 19:00:53.4±0.8, 90S±02×1578E±02, h35km, n14, σ1§10/10, mb4.4/8, MS3.6/2, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	Honiara	2.17	102	LR	LR	19 02 19.4	
	comp=Z,825nm,21.1s,baz=350,slow=37						
CTA	Charters Tower	15.70	224	LR	LR	19 09 47.5	
	comp=Z,205nm,19.0s,baz=39,slow=34						
WRA	Warramunga Arr	25.16	242	P	P	19 06 14.8	-0.7
	4.5nm,0.6s,mb4.2,baz=67,slow=9.5,SNR=9.8						
WRA				LR	LR	19 15 19.3	
	comp=Z,144nm,21.8s,MS3.5,baz=40,slow=35						
STKA	Stephens Creek	27.30	211	eP	P	19 06 35.1	+0.3
STKA	Stephens Creek	27.30	211	P	P	19 06 35.0	+0.3
	5.0nm,0.8s,mb4.1,baz=41,slow=12,SNR=5.0						
NWAO	Narrogin (SRO)	44.35	231	LR	LR	19 27 31.6	
	comp=Z,119nm,18.4s,MS3.8,baz=55,slow=36						
LZH	Lanzhou	67.67	315	eP	P	19 11 48.5	+1.4
	25nm,1.0s,mb5.2						
LZH				pP	pP	19 11 52.0	-5.9
LZH				sP	sP	19 11 53.6	-8.4
BILL	Bilibino	77.06	3	eP	P	19 12 42.2	-0.3
TTA	Tatalina	79.92	20	eP	P	19 12 58.6	+0.2
	7.8nm,1.0s,mb4.6						
MCK	McKinley	82.88	21	eP	P	19 13 13.0	-1.0
	7.4nm,0.8s,mb4.8						
MCK				e		19 13 17.2	
NVAR	Mina Array Bea	90.78	51	P	P	19 13 55.0	+1.9
	1.4nm,0.7s,mb4.4,baz=239,slow=4.1,SNR=11						
YKA	Yellowknife Ar	96.78	28	P	P	19 14 18.0	-2.1
	0.3nm,0.7s,mb3.8,baz=258,slow=4.7,SNR=3.2						
PDAR	Pinedale Array	97.96	48	P	P	19 14 26.1	+0.2
	0.6nm,0.8s,mb4.2,baz=242,slow=3.2,SNR=3.7						
BDFB	Brasilia	144.62	134	PKP	PKPdf	19 20 26.8	-0.6
	6.5nm,0.8s,baz=225,slow=1.4,SNR=9.6						

*CSEM **02** 19:02:13.8, 3551N×2590E, h5km, MD3.1/4, After ATH*
*NEIC **02** 19:02:13.8, 3551N×2590E, h5km, MD3.1(ATH), After ATH.*

ATH 02 19:02:13.1, 3533N×2583E, h41km±5km, MD3.1/4, Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NPS	Neapolis	0.19	249	eP	Pn	19 02 21.0	+0.6
NPS				eS	Sn	19 02 25.3	-0.2
LAST	Lasithi	0.33	240	eP	Pn	19 02 21.1	-0.7
ZKR	Zakros	0.38	124	eP	Pn	19 02 30.1	+7.7
SIVA	Sivas	0.89	250	eP	Pn	19 02 28.8	-0.4
KARP	Karpathos	1.11	78	eP	Pn	19 02 33.5	+1.4
VAM	Vamos	1.33	274	eP	Pn	19 02 36.8	+1.6
VLI	Veliai	2.72	301	eP	Pn	19 02 56.3	+2.0
VLI	Veliai	2.72	301	ePn	Pn	19 03 01.0	+6.7

IDC 02 19:03:18.1±3.6, 718S×15546E, h0km, mb3.9/5, mb1 4.0/5, mb1mx3.8/14, mbtmp3.9/5, Error ellipse: s-maj=107.2km s-min=27.8km az=114.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	24.09	236	P	P	19 08 36.2	+0.7
	2.3nm,0.6s,baz=61,slow=9.4,SNR=9.0						
ASAR	Alice Springs	26.39	229	P	P	19 08 55.8	-0.6
	0.5nm,0.7s,baz=57,slow=10,SNR=2.6						
SONM	Songino Array	69.74	327	P	P	19 14 30.6	+0.6
	0.9nm,1.0s,baz=134,slow=6.2,SNR=3.2						
MKAR	Makanchi Array	83.85	319	P	P	19 15 50.4	+0.7
	1.8nm,0.7s,baz=98,slow=6.1,SNR=9.1						
ZALV	Zalesovo Beam	84.59	326	P	P	19 15 52.1	-1.1
	1.0nm,0.5s,baz=104,slow=5.5,SNR=5.9						

*IDC **02** 19:05:03.7±1.1, 753S×15623E, h0km, mb4.3/8, mb1 4.4/9, mb1mx4.2/15, mbtmp4.3/9, ML5.2/1, Error ellipse: s-maj=32.0km s-min=24.1km az=110.0*
*ISCJB **02** 19:05:04.2±0.5, 743S±010×15625E±007, h10km, mb4.2/10, Error ellipse: s-maj=15.0km s-min=7.7km az=25.2*
*NEIC **02** 19:05:05.2±0.5, 752S×15632E, h10km, Error ellipse: s-maj=13.0km s-min=11.1km az=167.0*

ISC 02 19:05:05.6±0.5, 748S±010×15627E±007, h10km, n20, σ0§68/20, mb4.2/10, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	Honiara	4.13	118	ePn	Pn	19 06 07.7	-1.1
HNR				eSn	Sb	19 07 08.7	+0.4
HNR	Honiara	4.13	118	Pn	Pn	19 06 08.8	+0.1
	145nm,0.3s,baz=17,slow=3.7,SNR=7.5						
HNR				Sn	Sb	19 07 08.7	+0.4
	45nm,0.3s,baz=273,slow=17,SNR=4.6						
KAKA	Kakadu	24.02	256	eP	P	19 10 21.6	+0.7
	11nm,0.6s,mb4.5						
KAKA	Kakadu	24.02	256	eP	P	19 10 21.6	+0.6
WB2	Warramunga Arr	24.59	238	eP	P	19 10 26.6	+0.5
WRA	Warramunga Arr	24.61	238	P	P	19 10 26.7	+0.5
	2.4nm,0.5s,mb4.0,baz=61,slow=9.8,SNR=15						
ASAR	Alice Springs	26.82	231	P	P	19 10 45.4	-1.0
	1.3nm,0.8s,mb3.5,baz=57,slow=8.3,SNR=6.9						
FITZ	Fitzroy Crossi	31.63	248	eP	P	19 11 28.4	-0.7
	3.8nm,0.6s,mb4.4						
FITZ	Fitzroy Crossi	31.63	248	P	P	19 11 24.6	-4.5
	1.5nm,0.8s,mb3.9,baz=347,slow=23,SNR=2.4						
MJAR	Matsushiro Arr	46.95	340	P	P	19 13 37.2	+0.5
	1.3nm,0.6s,mb4.0,baz=169,slow=8.1,SNR=4.7						
KSRS	Korea Array	51.95	331	P	P	19 14 14.8	-0.1
	1.6nm,0.8s,mb4.0,baz=141,slow=7.7,SNR=4.2						
SONM	Songino Array	70.42	327	P	P	19 16 21.0	+1.0
	1.6nm,0.4s,mb4.3,baz=134,slow=5.9,SNR=22						
MKAR	Makanchi Array	84.60	318	P	P	19 17 39.8	+0.5
	13nm,0.7s,mb5.2,baz=98,slow=7.5,SNR=66						
ZAA0	Zalesovo Array	85.28	326	eP	P	19 17 41.4	-1.2
ZALV	Zalesovo Beam	85.28	326	P	P	19 17 41.7	-0.8
ZALV	Zalesovo Beam	85.28	326	P	P	19 17 41.7	-0.8
	4.7nm,0.7s,mb4.8,baz=114,slow=5.6,SNR=22						
YKA	Yellowknife Ar	96.17	28	P	P	19 18 33.4	-0.1
YKA	Yellowknife Ar	96.17	28	P	P	19 18 33.4	-0.1
	0.2nm,0.5s,mb3.8,baz=266,slow=5.1,SNR=4.0						
TORD	Torodi Ar. Bea	154.37	285	PKPbc	PKPbc	19 25 06.9	-0.5
	0.6nm,0.8s,baz=107,slow=2.9,SNR=4.4						
TORD				PKPab	PKPab	19 25 19.0	-2.4
	0.6nm,0.7s,baz=61,slow=2.8,SNR=4.8						
DBIC	Dimbokro	161.25	269	PKPab	PKPab	19 25 49.2	-2.1
	12nm,1.2s,baz=90,slow=7.1,SNR=3.5						

IDC 02 19:05:22.3±2.1, 684S×15513E, h0km, mb4.3/3, mb1 4.5/3, mb1mx4.0/14, mbtmp4.2/3, Error ellipse: s-maj=130.6km s-min=31.8km az=135.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	24.02	235	P	P	19 10 39.3	+0.2
	3.9nm,0.5s,baz=60,slow=9.1,SNR=16						
ASAR	Alice Springs	26.38	228	P	P	19 10 59.9	-0.6
	2.1nm,0.3s,baz=58,slow=9.4,SNR=28						
YKA	Yellowknife Ar	96.13	28	P	P	19 18 52.3	+0.6
	0.3nm,0.6s,baz=262,slow=4.6,SNR=4.3						

*CSEM **02** 19:13:19.5, 3495N×2566E, h16km, MD3.5/8, After ATH*
*NEIC **02** 19:13:19.5, 3495N×2566E, h16km, MD3.5(ATH), After ATH.*

ATH 02 19:13:19.5, 3495N×2566E, h16km±2km, MD3.5/8, Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LAST	Lasithi	0.26	325	P	Pg	19 13 25.9	+0.7
NPS	Neapolis	0.31	353	eP	Pg	19 13 26.0	-0.1
IDI	Anoyia	0.72	298	P	Pg	19 13 35.7	+2.2
VAM	Vamos	1.28	291	ePN	Pn	19 13 43.5	+0.8
VAM				eSN	Sn	19 14 02.0	+2.5
GVD	Gavdhos	1.30	266	ePN	Pn	19 13 44.0	+1.1
KARP	Karpathos	1.37	64	ePN	Pn	19 13 45.0	+1.1
APE	Apeiranthos	2.12	357	ePB	Pb	19 13 56.0	-1.5
ARG	Arkhangelos	2.37	57	ePN	Pn	19 14 01.0	+3.2
KYTH	Kithira	2.52	303	ePB	Pb	19 14 02.5	-1.8
VLI	Veliai	2.83	309	ePN	Pn	19 14 06.5	+2.5

*IDC **02** 19:16:20.8±1.1, 754S×15605E, h0km, mb4.1/8, mb1 4.1/9, mb1mx4.0/16, mbtmp4.1/9, ML4.1/1, MS3.0/1, Ms1 3.0/1, ms1mx2.5/28, Error ellipse: s-maj=31.4km s-min=21.8km az=119.0*
*NEIC **02** 19:16:22.3±0.5, 750S×156.14E, h10km, mb4.2/1, Error ellipse: s-maj=12.9km s-min=10.8km az=167.0*
*ISCJB **02** 19:16:26.0±3.8, 77S±02×1563E±01, h54km±39km, mb4.0/9, Error ellipse: s-maj=32.2km s-min=15.8km az=153.6*

ISC 02 19:16:26.5±3.8, 76S±02×1562E±01, h44km±41km, n15, σ0§68/17, mb4.0/9, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	Honiara	4.09	116	ePn	Pn	19 17 26.8	+0.3
HNR				Sn	Sn	19 18 12.9	-0.3
HNR				LR	LR	19 18 29.2	
HNR	Honiara	4.09	116	Pn	Pn	19 17 26.8	+0.2
	10nm,0.3s,baz=260,slow=7.5,SNR=3.7						
HNR				Sn	Sn	19 18 12.9	-0.3
	53nm,0.3s,baz=268,slow=23,SNR=8.2						
HNR				LR	LR	19 18 29.2	
	comp=Z,195nm,20.7s,baz=181,slow=30						
KAKA	Kakadu	23.96	256	eP	P	19 21 37.1	+0.1
	29nm,1.4s,mb4.5						
KAKA	Kakadu	23.96	256	eP	P	19 21 36.9	-0.1
WB2	Warramunga Arr	24.49	238	eP	P	19 21 42.6	+0.8
WRA	Warramunga Arr	24.50	238	P	P	19 21 42.3	+0.4
	1.7nm,0.5s,mb3.8,baz=62,slow=9.8,SNR=34						
ASAR	Alice Springs	26.71	231	P	P	19 22 01.6	-0.3
	0.4nm,0.5s,mb3.2,baz=56,slow=10.0,SNR=11						
STKA	Stephens Creek	27.73	208	P	P	19 22 10.9	0.0
	1.5nm,0.8s,mb3.7,baz=76,slow=12,SNR=2.9						
FITZ	Fitzroy Crossi	31.55	248	eP	P	19 22 44.7	-0.2
	2.9nm,0.9s,mb4.1						
FITZ	Fitzroy Crossi	31.55	248	P	P	19 22 41.9	-3.0
	1.6nm,0.8s,mb3.9,baz=20,slow=12,SNR=4.3						
SONM	Songino Array	70.52	327	P	P	19 27 37.1	+0.4
	1.5nm,0.8s,mb4.0,baz=136,slow=7.3,SNR=13						
MKAR	Makanchi Array	84.68	318	P	P	19 28 56.0	+0.3
	4.5nm,0.7s,mb4.7,baz=101,slow=5.9,SNR=43						
ZAA0	Zalesovo Array	85.38	326	eP	P	19 28 58.1	-1.0
ZAA0				e		19 29 03.1	
ZALV	Zalesovo Beam	85.38	326	P	P	19 28 58.2	-0.9
	2.8nm,0.5s,mb4.6,baz=114,slow=5.7,SNR=16						
YKA	Yellowknife Ar	96.31	28	P	P	19 29 51.2	+1.0
	0.1nm,0.4s,mb3.6,baz=262,slow=4.3,SNR=3.2						

*IDC **02** 19:17:48.4±3.1, 717S×15557E, h0km, mb3.9/7, mb1 4.0/7, mb1mx3.9/15, mbtmp3.9/7, Error ellipse: s-maj=94.2km s-min=24.4km az=108.0*

NEIC 02 19:17:49.7±2.4, 718S×15566E, h10km, Error ellipse: s-maj=72.1km s-min=20.9km az=106.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	24.26	236	P	P	19 23 08.0	+0.8
	2.4nm,0.5s,baz=61,slow=9.5,SNR=13						
ASAR	Alice Springs	26.55	229	P	P	19 23 26.1	-1.8
	0.6nm,0.7s,baz=56,slow=8.4,SNR=3.1						
STKA	Stephens Creek	27.85	206	P	P	19 23 40.3	+0.8
	2.2nm,1.0s,baz=42,slow=16,SNR=3.9						
FITZ	Fitzroy Crossi	31.18	247	eP	P	19 24 09.8	+0.5
FITZ	Fitzroy Crossi	31.18	247	P	P	19 24 08.8	-0.5
	1.2nm,0.5s,baz=96,slow=14,SNR=5.9						
SONM	Songino Array	69.85	327	P	P	19 29 01.8	+1.2
	0.4nm,0.6s,baz=141,slow=5.3,SNR=6.9						
MKAR	Makanchi Array	83.98	319	P	P	19 30 20.1	-0.1
	1.0nm,0.6s,baz=100,slow=5.9,SNR=5.3						
ZALV	Zalesovo Beam	84.70	326	P	P	19 30 22.9	-0.8
	0.7nm,0.4s,baz=120,slow=6.2,SNR=4.0						

IDC 02 19:24:16.3±18.0, 041S×12746E, h300km±168km, mb3.0/3, mb1 3.1/4, mb1mx2.8/16, mbtmp2.9/4, Error ellipse: s-maj=132.1km s-min=101.4km az=4.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	Fitzroy Crossi	17.67	186	eP	P	19 28 03.0	+0.5
	2.5nm,0.6s						
FITZ	Fitzroy Crossi	17.67	186	P	P	19 28 03.0	+0.4
	0.3nm,0.3s,baz=5.9,slow=11,SNR=7.7						
WRA	Warramunga Arr	20.55	161	P	P	19 28 32.7	-0.4
	1.1nm,0.4s,baz=338,slow=11,SNR=13						
ASAR	Alice Springs	23.95	165	P	P	19 29 04.9	+0.8
	0.3nm,0.4s,baz=333,slow=7.4,SNR=10						
STKA	Stephens Creek	34.03	158	P	P	19 30 31.7	-1.1
	1.5nm,0.7s,baz=326,slow=7.0,SNR=3.5						

*ISCJB **02** 19:34:54.8±4.7, 59N±02×127.1E±04, h132km±40km, mb3.6/10, Error ellipse: s-maj=75.9km s-min=12.4km az=158.2*
*NEIC **02** 19:35:03.3±0.7, 579N×12709E, h200km, mb4.0/2, Error ellipse: s-maj=69.4km s-min=9.7km az=72.0*
*IDC **02** 19:35:05.3±12.0, 574N×12700E, h220km±130km, mb3.2/8, mb1 3.3/9, mb1mx3.2/19, mbtmp3.2/9, Error ellipse: s-maj=85.3km s-min=17.7km az=65.0*

ISC 02 19:34:55.7±4.1, 59N±02×1271E±04, h122km±35km, n15, σ0§84/14, mb3.7/10, 1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GSPH	General Santos	2.12	275	‖eP	Pn	19 35 30.9	0.0
GSPH				eS	Sn	19 35 57.3	-0.4
BATI	Kupang	16.35	192	P	Pn	19 38 39.8	+1.6
	1.9nm,0.3s,baz=261,slow=13,SNR=4.9						
FITZ	Fitzroy Crossi	23.88	183	P	P	19 39 57.7	-0.4
	0.9nm,0.6s,mb3.3,baz=15,slow=12,SNR=5.0						
WRA	Warramunga Arr	26.64	165	P	P	19 40 24.2	+1.1
	0.5nm,0.7s,mb3.1,baz=339,slow=10,SNR=11						
ASAR	Alice Springs	30.12	167	P	P	19 40 52.8	-1.1
	0.2nm,0.4s,mb3.1,baz=347,slow=7.9,SNR=3.4						
STKA	Stephens Creek	40.03	161	P	P	19 42 17.5	-1.2
STKA	Stephens Creek	40.03	161	P	P	19 42 17.5	-1.2
	0.6nm,0.4s,mb3.8,baz=343,slow=14,SNR=2.9						
SONM	Songino Array	45.38	340	P	P	19 43 02.9	+1.1
	0.6nm,0.8s,mb3.4,baz=156,slow=7.7,SNR=4.1						
MKAR	Makanchi Array	56.00	324	P	P	19 44 22.1	+0.5
	0.5nm,0.4s,mb3.9,baz=117,slow=7.6,SNR=11						
ZALV	Zalesovo Beam	58.84	332	P	P	19 44 40.7	-0.6
	0.3nm,0.4s,mb3.7,baz=120,slow=2.0,SNR=3.0						
KURK	Kurchatov	60.13	327	eP	P	19 44 50.4	+0.3
	2.0nm,0.6s,mb4.3						
BRVK	Borovoye	65.79	326	eP	P	19 45 27.5	-0.1
	2.3nm,0.6s,mb4.2						
ARCES	ARCESS Array B	88.55	340	P	P	19 47 33.5	-0.7
	2.9nm,0.9s,mb4.3,baz=82,slow=6.7,SNR=3.3						
VIB	Van Inlet	91.50	36	T		21 30 11.2	
	SNR=60						
DIB	Dawson Inlet,	91.55	36	T		21 30 09.5	
	SNR=218						

*IDC **02** 19:36:16.6±1.1, 741S×156.11E, h0km, mb4.0/6, mb1 4.2/7, mb1mx4.0/15, mbtmp4.1/7, ML5.1/1, Error ellipse: s-maj=32.9km s-min=24.1km az=73.0*
*NEIC **02** 19:36:17.9±0.8, 742S×156.15E, h10km, Error ellipse: s-maj=22.2km s-min=15.7km az=208.0*
*ISCJB **02** 19:36:19.7±0.8, 75S±02×1562E±01, h33km, mb3.9/6, Error ellipse: s-maj=23.7km s-min=16.5km az=24.8*

ISC 02 19:36:21.6±0.8, 75S±02×1562E±01, h35km, n8, σ0§89/10, mb3.9/6, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	Honiara	4.20	118	ePn	Pn	19 37 22.8	-0.5
HNR				eSn	Sn	19 37 54.8	-16
HNR	Honiara	4.20	118	Pn	Pn	19 37 23.0	-0.2
	100nm,0.3s,baz=244,slow=3.4,SNR=12						
HNR				Sn	Sn	19 37 58.6	-12
	214nm,0.3s,baz=266,slow=19,SNR=6.5						
WRA	Warramunga Arr	24.54	237	P	P	19 41 38.5	+0.3
	2.3nm,0.6s,mb3.9,baz=64,slow=9.5,SNR=14						
ASAR	Alice Springs	26.77	231	P	P	19 41 57.3	-1.0
	0.5nm,0.9s,mb3.1,baz=61,slow=9.6,SNR=4.1						
VNDA	Vanda	70.09	179	P	P	19 47 30.9	+1.2
	0.7nm,0.3s,mb4.1,baz=40,slow=8.4,SNR=16						
SONM	Songino Array	70.37	327	P	P	19 47 32.9	+1.1
	1.2nm,0.7s,mb3.9,baz=141,slow=6.5,SNR=13						
MKAR	Makanchi Array	84.53	318	P	P	19 48 51.3	+0.2
	2.1nm,0.7s,mb4.4,baz=98,slow=6.1,SNR=9.9						
ZALV	Zalesovo Beam	85.23	326	P	P	19 48 53.0	-1.4
	0.8nm,0.7s,mb3.9,baz=94,slow=4.8,SNR=3.9						

IDC 02 19:36:48.9±7.0, 874S×15662E, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.8/14, mbtmp4.0/3, MS3.9/2, Ms1 3.9/2, ms1mx3.4/24, Error ellipse: s-maj=114.0km s-min=81.2km az=34.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	Honiara	3.36	102	LR	LR	19 38 51.2	
	comp=Z,408nm,18.8s,baz=180,slow=36						
WRA	Warramunga Arr	24.25	240	P	P	19 42 07.9	+0.1
	4.4nm,0.8s,baz=67,slow=9.2,SNR=11						
ASAR	Alice Springs	26.32	233	P	P	19 42 26.1	-0.5
	0.9nm,0.9s,baz=67,slow=9.1,SNR=6.3						
STKA	Stephens Creek	26.92	209	P	P	19 42 32.5	+0.6
	3.2nm,0.7s,baz=17,slow=9.0,SNR=6.9						
JNU	Nakatsue	48.31	331	LR	LR	20 03 41.6	
	comp=Z,674nm,21.2s,baz=190,slow=33						

IDC 02 19:40:10.2±7.9, 800S×15586E, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.6/14, mbtmp3.8/3, MS4.4/1, Ms1 4.4/1, ms1mx3.5/21, Error ellipse: s-maj=134.2km s-min=95.4km az=16.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	23.98	238	P	P	19 45 27.1	+0.4
	1.1nm,0.9s,baz=65,slow=9.5,SNR=4.5						
ASAR	Alice Springs	26.18	231	P	P	19 45 46.2	-0.4
	1.4nm,0.8s,baz=61,slow=9.6,SNR=12						
STKA	Stephens Creek	27.22	207	P	P	19 45 56.2	+0.3
	2.1nm,0.9s,baz=45,slow=14,SNR=2.9						
CBIJ	Chichi jima	37.32	340	LR	LR	20 02 01.4	
	comp=Z,468nm,18.9s,baz=313,slow=35						

*BJI **02** 19:42:52.3, 1.18N×12601E, h58km, mB5.4, mb5.6, Ms4.8, Msz4.6*
*MOS **02** 19:42:52.6±1.0, 151N×12572E, h33km, mb5.9/65, MS4.5/17, Error ellipse: s-maj=8.8km s-min=4.4km az=115.8*
*ISCJB **02** 19:42:53.7±0.1, 139N±002×12578E±003, h48km, mb5.9/161, MS4.6/44, Error ellipse: s-maj=4.2km s-min=2.6km az=159.2*
*GCMT **02** 19:42:56.2±0.1, 166N×12597E, h71km, MW5.5/91, Moment Tensor Solution. s91,c158; s87,c165; Duration: 1§4 Moment tensor: Scale 10^{17}Nm; M_{rr}2.01±.03; $M_{\theta\theta}$-1.05±.03; $M_{\phi\phi}$-0.95±.03; $M_{r\theta}$-0.37±.02; $M_{\theta\phi}$1.10±.03; $M_{\phi r}$0.52±.03; Best double couple: $M_0$2.15400×10^{17} NP1:ϕ_s130.00000°, δ37.00000°, λ85.00000°. NP2:ϕ_s317.00000°, δ54.00000°, λ94.00000°. Principal axes: T 2.1100, Plg81.0000°, Azm246.0000°; N 0.0910, Plg3.0000°, Azm135.0000°; P -2.1970, Plg8.0000°, Azm44.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **02** 19:42:56.2±0.1, 141N×12576E, mb5.8/84 Error ellipse: s-maj=5.0km s-min=3.1km az=64.0*
NEIC Felt [III] at Manado, Indonesia.
*IDC **02** 19:42:57.1±1.6, 137N×12580E, h61km±13km, mb5.5/32, mb1 5.5/33, mb1mx5.5/34, mbtmp5.5/33, MS4.5/15, Ms1 4.5/15, ms1mx4.4/27, Error ellipse: s-maj=13.2km s-min=6.7km az=72.0*

ISC 02 19:42:55.5±0.1, 135N±002×12577E±003, h50km, h50km±2.3km: pP-P, n738, σ1§09/568, mb5.9/158, MS4.6/44, 79C-46D, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNE	Ternate	1.69	109	‖eP	Pn	19 43 22.0	-0.6
GSPH	General Santos	4.78	350	‖eP	Pn	19 44 08.1	+3.2
AAI	Ambon	5.56	154	P	Pn	19 44 17.9	+2.2
	2μm,0.9s						
MATI	Mati	5.58	5	eP	Pn	19 44 17.2	+1.2
DAV	Davao City (W)	5.69	358	eP	Pn	19 44 19.2	+1.8
	3μm,0.8s						
DAV	Davao City (W)	5.69	358	P	Pn	19 44 21.5	+4.1
	SNR=58						
DAV	Davao City (W)	5.69	358	‖eP	Pn	19 44 20.0	+2.6
DMPH	Davao City--Mi	5.70	357	‖iP	Pn	19 44 21.9	+4.3
CTBH	Cotabato--PC H	6.03	345	⇑iP	Pn	19 44 26.9	+4.8
CTBH				i S	Sn	19 45 33.7	+3.9
PCI	Palu	6.34	249	P	Pn	19 44 33.4	+6.9
	3μm,1.1s						
BUKP	Musuan	6.52	354	eP	Pn	19 44 29.6	+0.7
PAGZ	Pagadian	6.88	340	eP	Pn	19 44 37.9	+4.1
CGP	Cagayan de Oro	7.14	351	‖eP	Pn	19 44 41.9	+4.6
DCPH	Dipolog City	7.58	342	⇑eP	Pn	19 44 48.5	+5.2
SCPH	Surigao	8.38	358	‖eP	Pn	19 44 58.6	+4.2
SCPH	Surigao	8.38	358	‖eP	Sn

BALP Baler 14.88 344 *e*P Pn **19 46 26.8 +3.9**
JAY Jayapura 15.42 104 P Pn **19 46 31.5 +1.6**
373nm,1.1s
SCZP Santa Cruz 15.46 338 *e*P Pn **19 46 33.6 +3.3**
KAKA Kakadu 15.46 155⇑*i*P Pn **19 46 28.9 -1.5**
515nm,0.6s
KAKA *e*S S **19 49 22.2 -12**
KSM Kuching 15.46 271 *e*P Pn **19 46 35.2 +4.8**
KSM *e*PcP PcP 19 51 32.9 +1.2
KSM Kuching 15.46 271⇑P Pn **19 46 37.0 +6.6**
BCPH Baguio City Da 15.79 341⇓*e*P Pn **19 46 39.0 +4.4**
CAUP Cauayan 15.97 346 *e*P Pn **19 46 38.5 +1.5**
BOLP Bolinao 16.01 339 *e*P Pn **19 46 38.4 +0.9**
KRKI Karangkates 16.30 234 P Pn **19 46 47.6 +6.5**
1μm,1.3s
ABRA Dolores 16.94 343 *e*P Pn **19 46 49.7 +0.5**
APYP Conner 17.00 345 *e*P Pn **19 46 50.6 +0.7**
MMPI Merauke 17.53 124 P Pn **19 46 58.5 +2.0**
2μm,0.7s
BJII Banjamegara 18.20 241 P Pn **19 47 07.4 +2.7**
814nm,1.6s
FITZ Fitzroy Crossi 19.33 180⇑*i*P Pn **19 47 17.8 -0.4**
544nm,1.3s
FITZ *e*S S **19 50 48.8 -4.2**
FITZ Fitzroy Crossi 19.33 180 P Pn **19 47 17.9 -0.3**
8.2nm,0.3s,baz=17,slow=10.0,SNR=315
FITZ S S **19 50 52.3 -0.7**
baz=178,slow=17,SNR=3.9
SBJI Serang 20.97 249 P P **19 47 38.6 +4.0**
243nm,1.2s
KLI Kotabumi 21.79 253 P P **19 47 47.6 +4.1**
256nm,0.7s,mb5.8
MYKOM Kota Tinggi 21.92 271⇑P P **19 47 49.1 +4.3**
KGM Kluang 22.45 272⇑P P **19 47 53.6 +3.1**
GUMO Guam 22.47 56 *e*P P **19 47 49.5 -1.2**
415nm,0.8s,mb5.9
GUMO Guam 22.47 56 *e*P P **19 47 49.6 -1.1**
GUMO pmax pmax
comp=Z,410nm,0.9s,mb5.9
GUMO Guam 22.47 56 P P **19 47 49.7 -1.0**
comp=Z,436nm,0.7s,mb6.0,baz=190,slow=11,SNR=10
GUMO LR LR 19 55 14.4
comp=Z,1μm,20.7s,MS4.3,baz=52,slow=33
WRA Warramunga Arr 22.77 159 P P **19 47 54.2 +0.4**
WRA PcP PcP 19 51 44.9 +0.5
WRA S S **19 51 57.7 -1.7**
WRA Warramunga Arr 22.77 159 P P **19 47 54.2 +0.4**
WRA 19 51 44.9
WRA S S **19 51 57.7 -1.7**
WRA pmax pmax
comp=Z,477nm,0.5s
WRA smax
comp=N,112nm,1.1s
WRA Warramunga Arr 22.77 159 P P **19 47 54.2 +0.4**
comp=N,477nm,0.5s,mb6.2,baz=338,slow=10,SNR=1298
WRA PcP PcP 19 51 44.9 +0.5
comp=N,22nm,0.7s,baz=328,slow=2.2,SNR=5.1
WRA S S **19 51 57.7 -1.7**
comp=N,112nm,1.1s,baz=338,slow=18,SNR=7.0
WRA PKiKP PKiKP 19 59 28.7 -0.8
comp=N,1.9nm,0.8s,baz=314,slow=1.3,SNR=4.6
WB2 Warramunga Arr 22.77 159⇑*i*P P **19 47 53.1 -0.7**
WB2 *e*S S **19 51 53.4 -6.1**
KTGM Kuala Trenggan 22.94 280⇑P P **19 47 59.1 +3.4**
NACB Ninganchiao 23.05 350 *e*P P **19 47 53.0 -3.7**
MBWA Marble Bar 23.14 194⇑*i*P P **19 47 58.2 +0.6**
comp=N,229nm,0.7s,mb5.7
MBWA Marble Bar 23.14 194 P P **19 47 58.8 +1.2**
SNR=29
XMIS Christmas Isla 23.21 239 *e*P P **19 47 59.0 +0.4**
QIZ Qiongzhong 23.50 319 P P **19 48 01.7 +0.5**
QIZ S S **19 52 15.5 +4.1**
QIZ XS sS 19 52 34.1 +1.4
QIZ AMB AMB
comp=Z,86nm,1.0s,mb5.1
QIZ AMB AMB
comp=Z,842nm,3.9s
QIZ LR LR
comp=N,2μm,21.4s,MS4.6
QIZ LR LR
comp=E,2μm,19.9s,MS4.6
QIZ LR LR
comp=Z,2μm,30.4s
QIZ Qiongzhong 23.50 319 *e*P P **19 48 02.4 +1.3**
comp=Z,51nm,0.6s,mb5.1
YHNB Yeheng 23.57 350 *e*P P **19 47 59.6 -2.1**
QZH Quanzhou 24.46 344 P P **19 48 08.6 -1.2**
QZH S S **19 52 16.4 -10**
QZH AMB AMB
comp=Z,660nm,1.6s,mb5.8
QZH LR LR
comp=Z,4μm,30.4s,MS4.7
KULM Kulim 25.38 279 *e*P P **19 48 19.5 +1.2**
KULM Kulim 25.38 279⇑P P **19 48 20.8 +2.4**
PPI Padang Panjang 25.44 266 P P **19 48 19.4 +0.5**
comp=Z,173nm,1.5s,mb5.4
JOW Kunigami 25.45 5 P P **19 48 19.1 +0.2**
comp=Z,241nm,0.8s,mb5.8,baz=208,slow=8.5,SNR=15
ASAR Alice Springs 26.09 163 P P **19 48 25.1 +0.4**
ASAR 19 51 52.1
ASAR S S **19 52 52.5 -0.2**
ASAR pmax pmax
comp=Z,281nm,0.9s
ASAR smax
comp=N,22nm,0.8s
ASAR Alice Springs 26.09 163 P P **19 48 25.1 +0.4**
comp=N,281nm,0.9s,mb5.8,baz=343,slow=6.9,SNR=1202
ASAR PcP PcP 19 51 52.1 +0.6
comp=N,54nm,0.5s,baz=348,slow=2.3,SNR=17
ASAR S S **19 52 52.5 -0.3**
comp=N,22nm,0.8s,baz=351,slow=21,SNR=5.8
ASAR PKiKP PKiKP 19 59 30.4 -0.8
comp=N,1.9nm,0.9s,baz=359,slow=1.5,SNR=4.9
PSI Prapat 26.87 274 P P **19 48 32.9 +1.0**
PSI 19 51 54.4
PSI pmax pmax
comp=Z,220nm,1.0s,mb5.6
PSI Prapat 26.87 274 P P **19 48 32.9 +1.0**
comp=Z,220nm,1.0s,mb5.7,baz=94,slow=6.2,SNR=136
PSI PcP PcP 19 51 54.4 +0.8
comp=Z,11nm,0.7s,baz=141,slow=2.8,SNR=13
NNT Nongplab 28.11 295 P P **19 48 44.3 +1.3**
NST Nakhon Sawan 29.01 301 P P **19 48 52.5 +1.5**
CTA Charters Tower 29.28 138 *e*P P **19 48 53.5 +0.2**
comp=Z,38nm,0.8s,mb5.2
CTA *e* 19 48 59.3
CTA *e*PCP PcP 19 52 00.5 +1.2
CTA Charters Tower 29.28 138 *e*P P **19 48 53.5 +0.2**
CTA *e* 19 48 59.3
CTA *e* 19 52 00.5
CTA pmax pmax
comp=Z,38nm,0.8s
CTA Charters Tower 29.28 138 P P **19 48 53.2 0.0**
comp=Z,52nm,0.9s,mb5.3,baz=320,slow=10,SNR=17
CTA PcP PcP 19 52 00.8 +1.5
comp=Z,26nm,0.7s,baz=243,slow=2.6,SNR=3.5
CTAO Charters Tower 29.28 138 *e*P P **19 48 53.4 +0.1**
comp=Z,102nm,1.0s,mb5.5
CTAO Charters Tower 29.28 138 *e*P P **19 48 53.4 +0.1**
CTAO pmax pmax
comp=Z,100nm,1.0s,mb5.5
SSE Sheshan 29.90 352 P P **19 49 00.8 +2.2**
SSE XP sP 19 49 20.0 +2.6
SSE S S **19 53 54.0 +1.4**
SSE XS sS 19 54 16.4 +2.2
SSE AMB AMB
comp=Z,54nm,0.9s,mb5.3
SSE AMB AMB
comp=Z,150nm,4.4s
SSE LR LR
comp=N,307nm,19.6s,MS4.4
SSE LR LR
comp=E,809nm,19.6s,MS4.4
SSE LR LR
comp=Z,982nm,16.4s,MS4.5
SSE Sheshan 29.90 352 P P **19 49 00.8 +2.2**
comp=Z,54nm,0.9s,mb5.3
SSE sP sP 19 49 20.0 +2.6
SSE PP PP 19 50 09.5 +2.6
SSE S S **19 53 54.0 +1.4**
SSE sS sS 19 54 16.4 +2.2
SSE LR LR
comp=Z,980nm,16.4s,MS4.5
CBIJ Chichi jima 30.06 30 P P **19 48 59.5 -0.6**
comp=Z,196nm,0.8s,mb5.9,baz=83,slow=5.7,SNR=7.8

BSI Banda Aceh 30.69 278 P P **19 49 04.6 -1.3**
comp=Z,147nm,1.3s,mb5.7
BDT Bhumibol Dam 30.70 303 P P **19 49 08.0 +2.1**
WHN Wuhan 30.99 341⇑P P **19 49 09.9 +1.6**
GYA Guiyang 31.00 325⇓*i*P P **19 49 11.0 +2.6**
GYA AP pP 19 49 25.8 +4.6
GYA XP sP 19 49 30.8 +3.7
GYA PP PP 19 50 15.6 -3.5
GYA PCP PcP 19 52 06.2 +2.5
GYA S S **19 54 12.0 +2.1**
GYA XS sS 19 54 35.4 +3.9
GYA SCP ScP 19 55 43.2 +0.6
GYA PCS PcS 19 55 49.0 +1.1
GYA SS SS 19 56 01.2 -23
GYA SCS ScS 19 59 39.4 -0.3
GYA AMB AMB
comp=Z,180nm,0.9s,mb5.9
GYA AMB AMB
comp=Z,2μm,5.2s
GYA LR LR
comp=Z,9μm,17.3s,MS5.5
NJ2 Nanjing 31.23 349 *e*P P **19 49 10.5 +0.2**
NJ2 AP pP 19 49 24.9 +1.7
NJ2 XP sP 19 49 31.5 +2.4
NJ2 PP PP 19 50 16.6 -5.0
NJ2 S S **19 54 11.0 -2.3**
NJ2 XS sS 19 54 38.0 +3.0
NJ2 AMB AMB
comp=Z,80nm,0.9s,mb5.5
NJ2 AMB AMB
comp=Z,2μm,6.2s
NJ2 LR LR
comp=N,2μm,11.4s,MS5.0
NJ2 LR LR
comp=E,640nm,10.0s,MS5.0
NJ2 LR LR
comp=Z,620nm,12.1s,MS4.5
CHRT Chiangrai 31.38 308⇓P P **19 49 13.0 +1.1**
comp=Z,276nm,0.8s,mb6.1
CHG Chiang Mai 31.51 305⇑P P **19 49 13.9 +0.9**
comp=Z,63nm,0.8s,mb5.5
CHTO Chiang Mai 31.51 305 *e*P P **19 49 13.6 +0.6**
comp=Z,90nm,1.2s,mb5.5
CHTO Chiang Mai 31.51 305 *e*P P **19 49 13.6 +0.6**
CHTO pmax pmax
comp=Z,90nm,1.2s,mb5.5
CHTO Chiang Mai 31.51 305 P P **19 49 14.4 +1.4**
SNR=21
CHTO Chiang Mai 31.51 305 P P **19 49 14.4 +1.4**
SNR=21
JNU Nakatsue 31.97 8 P P **19 49 16.9 0.0**
comp=Z,43nm,0.9s,mb5.3,baz=168,slow=4.7,SNR=13
FORT Forrest 32.02 176⇑*i*P P **19 49 18.1 +0.7**
comp=Z,799nm,0.6s,mb6.7
FORT *e*PCP PcP 19 52 07.0 +0.7
FORT *e*S S **19 54 23.0 -2.8**
KMI Kunming 32.45 319 P P **19 49 23.2 +2.0**
KMI AP pP 19 49 36.6 +2.5
KMI XP sP 19 49 42.4 +2.5
KMI PP PP 19 50 31.2 -4.0
KMI S S **19 54 30.8 -1.8**
KMI XS sS 19 54 54.3 0.0
KMI PCS PcS 19 55 54.9 +2.1
KMI AMB AMB
comp=Z,52nm,1.3s,mb5.2
KMI LR LR
comp=N,913nm,14.0s,MS4.7
KMI LR LR
comp=E,844nm,18.7s,MS4.7
KMI LR LR
comp=Z,1μm,23.1s,MS4.5
KMI Kunming 32.45 319 P P **19 49 23.2 +2.0**
comp=Z,52nm,1.3s,mb5.2
KMI pP pP 19 49 36.6 +2.5
KMI sP sP 19 49 42.4 +2.5
KMI PP PP 19 50 31.2 -4.0
KMI PPP 19 50 46.7
KMI PcP PcP 19 52 11.3 +3.7
KMI S S **19 54 30.8 -1.8**
KMI sS sS 19 54 54.3 0.0
KMI PcS PcS 19 55 54.9 +2.1
KMI SS SS 19 56 26.9 -27
KMI SSS 19 56 49.9
KMI LR LR
comp=Z,1μm,23.1s,MS4.5
KMI Kunming 32.45 319 P P **19 49 23.2 +2.0**
KMI *PP pP 19 49 36.6 +2.5
KMI 19 50 31.2
KMI PPP 19 50 46.7
KMI 19 52 11.3
KMI S S **19 54 30.8 -1.8**
KMI SS SS 19 56 26.9 -27
KMI SSS 19 56 49.9
KMI pmax pmax
comp=Z,52nm,1.3s,mb5.2
KMI MLR MLR
comp=Z,1μm,23.1s,MS4.5
KLBR Kellerberrin 33.63 192⇑*i*P P **19 49 32.9 +1.5**
comp=Z,401nm,0.9s,mb6.3
KLBR *e*PCP PcP 19 52 11.6 +0.8
KLBR *e*S S **19 54 49.6 -1.2**
MUN Mundaring 34.36 194⇑*i*P P **19 49 39.3 +1.6**
MUN *e*PCP PcP 19 52 13.7 +0.8
NWAO Narrogin (SRO) 35.03 193 *e*P P **19 49 45.3 +1.8**
comp=Z,343nm,1.1s,mb6.2
NWAO Narrogin (SRO) 35.03 193 *e*P P **19 49 45.3 +1.8**
NWAO pmax pmax
comp=Z,340nm,1.1s
NWAO Narrogin (SRO) 35.03 193 P P **19 49 45.9 +2.3**
SNR=14
NWAO Narrogin (SRO) 35.03 193 P P **19 49 45.9 +2.3**
SNR=14
HNR Honiara 35.68 108 LR LR 20 04 14.4
comp=Z,762nm,20.6s,MS4.5,baz=357,slow=36
KSRS Korea Array 35.98 3 P P **19 49 52.4 +0.8**
comp=Z,37nm,0.7s,mb5.4,baz=181,slow=9.6,SNR=53
KSRS PcP PcP 19 52 18.6 +1.1
comp=Z,33nm,0.7s,baz=186,slow=2.5,SNR=30
KSRS ScP ScP 19 55 57.6 -2.2
comp=Z,7.9nm,1.0s,baz=179,slow=3.6,SNR=6.2
CD2 Chengdu 36.04 327⇓*i*P P **19 49 52.6 +0.4**
CD2 AP pP 19 50 05.6 +0.4
CD2 XP sP 19 50 10.4 -0.7
CD2 PP PP 19 51 16.2 +1.2
CD2 PCP PcP 19 52 17.6 -0.2
CD2 S S **19 55 24.0 -3.9**
CD2 SS SS 19 57 54.4 -12
CD2 SCS ScS 20 00 03.5 -2.4
CD2 AMB AMB
comp=Z,350nm,9.6s
CD2 LR LR
comp=N,1μm,16.8s,MS4.9
CD2 LR LR
comp=E,1μm,19.2s,MS4.9
CD2 LR LR
comp=Z,930nm,21.6s,MS4.5
EIDS Eidsvold 36.13 139 *e*P P **19 49 52.1 -1.0**
comp=Z,82nm,1.0s,mb5.6
XAN Xi'an 36.14 336 P P **19 49 52.3 -0.7**
XAN AP pP 19 50 11.6 +5.6
XAN PP PP 19 51 17.9 +1.9
XAN S S **19 55 21.8 -7.5**
XAN SS SS 19 57 58.0 -11
XAN AMB AMB
comp=Z,169nm,0.9s,mb6.0
XAN LR LR
comp=N,402nm,19.4s,MS4.5
XAN LR LR
comp=E,719nm,22.9s,MS4.5
XAN LR LR
comp=Z,1μm,23.7s,MS4.6
STKA Stephens Creek 36.29 157⇑*i*P P **19 49 54.6 +0.3**
comp=Z,404nm,0.8s,mb6.4
STKA *e*S S **19 55 27.6 -4.1**
STKA Stephens Creek 36.29 157 P P **19 49 54.9 +0.5**
comp=Z,433nm,0.8s,mb6.5,baz=329,slow=8.5,SNR=569
STKA PcP PcP 19 52 18.8 +0.2
comp=Z,24nm,0.5s,baz=351,slow=19,SNR=3.5
STKA LR LR 20 04 55.1
comp=Z,625nm,21.3s,MS4.4,baz=232,slow=36
MJAR Matsushiro Arr 36.86 17 P P **19 49 58.2 -0.9**
comp=Z,84nm,0.9s,mb5.6,baz=191,slow=9.1,SNR=141
MJAR PcP PcP 19 52 21.2 +1.0
comp=Z,19nm,0.9s,baz=186,slow=2.2,SNR=7.5
MJAR ScP ScP 19 55 59.8 -3.3
comp=Z,16nm,1.2s,baz=201,slow=3.1,SNR=8.4
MAJO Matsushiro 36.86 17 *e*P P **19 49 57.9 -1.3**
comp=Z,118nm,0.9s,mb5.7
MAJO *e*PcP PcP 19 52 20.9 +0.8
MAJO Matsushiro 36.86 17 P P **19 49 58.0 -1.1**
MAJO pmax pmax
comp=Z,120nm,0.9s,mb5.7
MAT Matsushiro 36.86 17 P P **19 49 57.8 -1.3**
MAT S S **19 55 33.7 -6.6**
DL2 Dalian 37.57 355⇑P P **19 50 04.8 -0.3**
DL2 PCP PcP 19 52 23.1 +0.9
DL2 S S **19 55 52.6 +1.7**
DL2 SS SS 19 58 24.4 -13
DL2 AMB AMB
comp=Z,90nm,0.7s,mb5.6
DL2 AMB AMB
comp=Z,180nm,4.1s
DL2 LR LR
comp=N,250nm,16.0s,MS4.2
DL2 LR LR
comp=E,170nm,12.6s,MS4.2
DL2 LR LR
comp=Z,430nm,14.5s,MS4.4
IMP Imphal 38.58 310 *e*P P **19 50 14.0 +0.2**
BJT Baijiatuau 39.47 348 *e*P P **19 50 20.1 -0.9**
comp=Z,88nm,0.9s,mb5.5
BJT Baijiatuau 39.47 348 *e*P P **19 50 20.1 -0.9**
BJT pmax pmax
comp=Z,89nm,0.9s
BJI Beijing 39.49 348 P P **19 50 20.3 -0.9**
BJI AP pP 19 50 36.5 +2.2
BJI XP sP 19 50 42.1 +2.0
BJI PP PP 19 51 55.6 +3.0
BJI PCP PcP 19 52 28.9 +0.7
BJI SCP ScP 19 56 10.3 -2.7
BJI S S **19 56 15.6 -4.3**
BJI XS sS 19 56 47.8 +5.9
BJI SS SS 19 59 12.8 -3.2
BJI AMB AMB
comp=Z,78nm,1.2s,mb5.3
BJI LR LR
comp=N,587nm,21.7s,MS4.5
BJI LR LR
comp=E,298nm,18.4s,MS4.5
BJI LR LR
comp=Z,769nm,26.7s
BJI Beijing 39.49 348 P P **19 50 20.3 -0.9**
comp=Z,78nm,1.2s,mb5.3
BJI pP pP 19 50 36.5 +2.2
BJI sP sP 19 50 42.1 +2.0
BJI PP PP 19 51 55.6 +3.0
BJI PcP PcP 19 52 28.9 +0.7
BJI ScP ScP 19 56 10.3 -2.7
BJI S S **19 56 15.6 -4.3**
BJI sS sS 19 56 47.8 +5.9
BJI SS SS 19 59 12.8 -3.2
BJI ScS ScS 20 00 25.8 +0.7
BJI LR LR
comp=Z,770nm,26.7s,MS4.4
BJI Beijing 39.49 348 P P **19 50 20.3 -0.9**
BJI *PP pP 19 50 36.5 +2.2
BJI 19 51 55.6
BJI 19 52 28.9
BJI S S **19 56 15.6 -4.3**
BJI SS SS 19 59 12.8 -3.2
BJI 20 00 25.8
BJI pmax pmax
comp=Z,78nm,1.2s,mb5.3
ARMA Armidale 40.06 144 *e*P P **19 50 26.8 +0.7**
ARMA *e*S S **19 56 26.7 -2.1**
LZH Lanzhou 40.10 332⇑P P **19 50 27.2 +0.9**
LZH AP pP 19 50 40.0 +0.5
LZH XP sP 19 50 45.0 -0.3
LZH PP PP 19 52 04.0 +4.7
LZH PCP PcP 19 52 31.5 +1.2
LZH SCP ScP 19 56 14.2 -1.3
LZH PCS PcS 19 56 20.4 -0.2
LZH S S **19 56 27.0 -2.2**
LZH SS SS 19 59 24.0 -4.3
LZH AMB AMB
comp=Z,150nm,1.0s,mb5.7
LZH LR LR
comp=E,975nm,16.0s
LZH LR LR
comp=Z,1μm,16.9s,MS4.8
LZH Lanzhou 40.10 332⇑P P **19 50 27.2 +0.9**
comp=Z,150nm,1.0s,mb5.7
LZH pP pP 19 50 40.0 +0.5
LZH sP sP 19 50 45.0 -0.3
LZH PP PP 19 52 04.0 +4.7
LZH PcP PcP 19 52 31.5 +1.2
LZH ScP ScP 19 56 14.2 -1.3
LZH PcS PcS 19 56 20.4 -0.2
LZH S S **19 56 27.0 -2.2**
LZH sS sS 19 56 47.0 -4.3
LZH SS SS 19 59 24.0 -4.3
LZH LR LR
comp=Z,1μm,16.9s,MS4.8
LZH Lanzhou 40.10 332⇑P P **19 50 27.2 +0.9**
LZH *PP pP 19 50 40.0 +0.5
LZH 19 52 04.0
LZH 19 52 31.5
LZH S S **19 56 27.0 -2.2**
LZH *SS sS 19 56 47.0 -4.3
LZH SS SS 19 59 24.0 -4.3
LZH pmax pmax
comp=Z,150nm,1.0s,mb5.7
LZH MLR MLR
comp=Z,1μm,16.9s,MS4.8
SNY Shenyang 40.34 357⇑P P **19 50 28.5 +0.3**
SNY S S **19 56 27.4 -5.2**
SNY AMB AMB
comp=Z,324nm,0.8s,mb6.1
SNY LR LR
comp=N,554nm,25.8s,MS4.4
SNY LR LR
comp=E,341nm,21.3s,MS4.4
SNY LR LR
comp=Z,667nm,24.0s,MS4.4
SHL Shillong 40.57 309 *e*P P **19 50 27.5 -2.9**
SHL AMb AMB 19 50 28.8
comp=Z,551nm,0.7s,mb6.3
SHL *ex* x 19 55 47.0
HHC Hu-ho-hao-te 41.37 344 *e*P P **19 50 37.0 +0.3**
HHC AP pP 19 50 49.2 -0.7
HHC XP sP 19 50 53.7 -2.0
HHC PP PP 19 52 15.1 +2.0
HHC SCP ScP 19 56 17.6 -2.8
HHC PCS PcS 19 56 24.6 -0.8
HHC S S **19 56 47.2 -0.7**
HHC XS sS 19 57 08.7 -1.4
HHC SS SS 19 59 49.1 -4.4
HHC SCS ScS 20 00 34.2 -2.1
HHC AMB AMB
comp=Z,34nm,0.8s,mb5.0
HHC AMB AMB
comp=Z,154nm,2.8s,mb5.1
HHC LR LR
comp=N,509nm,15.7s,MS4.7
HHC LR LR
comp=E,477nm,11.4s,MS4.7
HHC LR LR
comp=Z,998nm,36.3s
BTO Baotou 41.60 342 *e*P P **19 50 37.1 -1.5**
VLA Vladivostok 41.95 7 *i*P P **19 50 41.2 -0.2**
VLA Vladivostok 41.95 7 *d i*P P **19 50 41.3 -0.1**
VLA *e**PP pP 19 50 51.3 -3.3
VLA *e**SP sP 19 50 54.8 -5.6
VLA *e* 19 52 32.5
VLA *e*S S **19 56 53.3 -3.1**
VLA *e**SS sS 19 57 11.5 -7.1
VLA pmax pmax
comp=Z,175nm,1.7s,mb5.4
CN2 Changchun 42.27 360 *e*P P **19 50 42.0 -2.0**
CN2 *e*AP pP 19 50 57.4 +0.2
CN2 *e*XP sP 19 51 04.6 +1.6
CN2 *e*S S **19 56 58.8 -2.3**
CN2 SS SS 20 00 03.3 -7.8
CN2 AMB AMB
comp=Z,50nm,0.7s,mb5.2
CN2 AMB AMB
comp=Z,200nm,3.0s
CN2 LR LR

comp=N,500nm,14.0s,MS4.7
CN2 LR LR
comp=E,400nm,14.0s,MS4.7
CN2 LR LR
comp=Z,500nm,16.0s,MS4.5
RIV Riverview 42.37 148 *e*P **P 19 50 46.5 +1.5**
CNB Canberra Magne 42.63 151⇑*i*P **P 19 50 48.2 +1.1**
comp=Z,137nm,0.9s,mb5.7
MDJ Mudanjiang 43.22 4 P **P 19 50 52.3 +0.6**
MDJ AP pP 19 51 05.6 +0.7
MDJ XP sP 19 51 12.1 +1.4
MDJ PP PP 19 52 34.4 +1.5
MDJ PCP PcP 19 52 41.0 +0.7
MDJ SCP ScP 19 56 26.7 -1.0
MDJ PCS PcS 19 56 33.0 +0.3
MDJ S **S 19 57 09.7 -5.3**
MDJ AMB AMB
comp=Z,80nm,0.8s,mb5.5
MDJ AMB AMB
comp=Z,169nm,4.1s
MDJ LR LR
comp=N,325nm,30.0s,MS4.2
MDJ LR LR
comp=E,336nm,26.7s,MS4.2
MDJ LR LR
comp=Z,460nm,34.5s
MDJ Mudanjiang 43.22 4 *e*P **P 19 50 51.9 +0.3**
comp=Z,75nm,0.8s,mb5.5
LSA Lhasa 43.34 314 P **P 19 50 55.0 +2.1**
LSA S **S 19 57 11.0 -6.3**
LSA AMB AMB
comp=Z,70nm,1.0s,mb5.3
LSA AMB AMB
comp=Z,90nm,5.0s
LSA LR LR
comp=N,170nm,19.0s,MS4.3
LSA LR LR
comp=E,270nm,17.0s,MS4.3
LSA LR LR
comp=Z,330nm,17.0s,MS4.3
LSA Lhasa 43.34 314 *e*P **P 19 50 54.3 +1.4**
comp=Z,63nm,0.6s,mb5.5
LSA Lhasa 43.34 314 *e*P **P 19 50 54.3 +1.4**
LSA pmax pmax
comp=Z,63nm,0.6s,mb5.5
ERM Erimo 43.40 19 *i*P **P 19 50 53.8 +0.6**
BOK Bokaro 44.60 303 *e*P **P 19 51 03.6 +0.5**
BOK AMb AMB 19 51 06.1
comp=Z,77nm,1.3s,mb5.4
GTA Gaotai 44.67 331 *e*P **P 19 51 03.2 -0.2**
GTA AP pP 19 51 16.0 -0.8
GTA XP sP 19 51 21.0 -1.5
VIS Vishakhapatnam 44.74 294 *e*P **P 19 51 03.9 -0.4**
VIS AMb AMB 19 51 07.6
comp=Z,121nm,1.7s,mb5.5
ASAJ Asahikawa 45.13 17 P **P 19 51 07.7 +0.6**
comp=Z,149nm,0.8s,mb5.8,baz=229,slow=11,SNR=148
ASAJ LR LR 20 08 24.4
comp=Z,373nm,20.8s,MS4.3,baz=86,slow=34
PALK Pallekele 45.30 279 P **P 19 51 09.0 +0.1**
comp=Z,288nm,0.8s,mb6.2,SNR=8.0
PALK Pallekele 45.30 279 *e*P **P 19 51 08.6 -0.3**
comp=Z,40nm,0.8s,mb5.3
PALK *e*PcP PcP 19 52 49.3 +1.2
PALK Pallekele 45.30 279 P **P 19 51 11.2 +2.4**
SNR=9.2
DZM Mont Dzumac 46.01 123 P **P 19 51 14.6 +0.3**
comp=Z,74nm,0.9s,mb5.6,baz=318,slow=7.6,SNR=18
DZM PcP PcP 19 52 51.8 +1.4
comp=Z,30nm,1.0s,baz=265,slow=2.8,SNR=3.1
JIRN Jiri 46.03 308 *e*P **P 19 51 14.9 +0.5**
comp=Z,312nm,0.9s,mb6.2
KKN Kakani 46.81 308 *e*P **P 19 51 20.7 +0.2**
comp=Z,248nm,0.9s,mb6.1
BLSP Bilaspur 47.19 299 *e*P **P 19 51 24.1 +0.5**
BLSP AMb AMB 19 51 26.1
comp=Z,144nm,1.1s,mb5.8
GKN Gorkha 47.41 308 *e*P **P 19 51 25.2 0.0**
comp=Z,316nm,0.9s,mb6.2
HABR Khabarovsk 47.62 8 *i*P **P 19 51 27.0 +0.5**
HABR *e* 19 53 17.6
HABR *e*S **S 19 58 16.8 -1.6**
HABR pmax pmax
comp=Z,228nm,1.5s,mb6.0
YSS Yuzh-Sakhalins 47.77 16 *e*P **P 19 51 27.7 0.0**
comp=Z,160nm,1.1s,mb6.0
YSS Yuzh-Sakhalins 47.77 16⇑*i*P **P 19 51 27.6 -0.1**
YSS *e*S **S 19 58 15.0 -5.7**
YSS *e*SS SS 20 01 16.0 -34
YSS pmax pmax
comp=Z,130nm,1.0s,mb5.9
YSS MLR MLR
comp=Z,300nm,18.0s,MS4.3
KLR Kul'dur 47.97 5 *e*P **P 19 51 24.8 -4.4**
KLR *e* 19 52 53.2
KLR pmax pmax
comp=Z,150nm,1.8s,mb5.7
HIA Hailar 48.01 355 *e*P **P 19 51 29.8 +0.3**
comp=Z,235nm,1.0s,mb6.2
HIA *e*PcP PcP 19 52 57.5 +0.6
HIA Hailar 48.01 355 *e*P **P 19 51 29.8 +0.3**
HIA *e* 19 52 57.5
HIA pmax pmax
comp=Z,235nm,1.0s
KOLN Koldanda 48.13 307 *e*P **P 19 51 31.3 +0.5**
comp=Z,674nm,0.7s,mb6.8
TAU Tasmania Unive 48.14 159 P **P 19 51 31.0 +0.4**
comp=Z,777nm,0.9s,mb6.7,SNR=5.7
TAU Tasmania Unive 48.14 159 *e*P **P 19 51 31.7 +1.1**
comp=Z,138nm,1.0s,mb5.9
TAU Tasmania Unive 48.14 159 *e*P **P 19 51 31.7 +1.1**
TAU pmax pmax
comp=Z,138nm,1.0s,mb5.9
KOD Kodaikanal 48.80 282 *e*P **P 19 51 36.7 +0.5**
KOD AMb AMB 19 51 38.4
comp=Z,216nm,0.7s,mb6.3
HYB Hyderabad 49.06 292 *e*P **P 19 51 37.0 -1.1**
HYB Hyderabad 49.06 292⇑*i*P **P 19 51 37.0 -1.1**
comp=Z,346nm,0.8s,mb6.4
HYB *e*S **S 19 58 39.5 -0.3**
SONM Songino Array 49.25 343 P **P 19 51 38.9 -0.2**
SONM PcP PcP 19 53 02.2 +0.8
SONM Songino Array 49.25 343 P **P 19 51 38.9 -0.2**
SONM 19 53 02.2
SONM pmax pmax
comp=Z,33nm,0.9s
SONM pmax pmax
comp=Z,23nm,0.7s
SONM Songino Array 49.25 343 P **P 19 51 38.9 -0.2**
comp=Z,33nm,0.9s,mb5.4,baz=154,slow=7.3,SNR=205
SONM PcP PcP 19 53 02.2 +0.8
comp=Z,23nm,0.7s,baz=154,slow=3.9,SNR=8.5
SONM PKiKP PKiKP 19 59 49.2 -0.1
comp=Z,1.0nm,0.8s,baz=155,slow=4.7,SNR=3.9
SONM LR LR 20 16 03.9
comp=Z,559nm,20.1s,MS4.5,baz=150,slow=40
SONM PKPPKP 20 22 26.3
comp=Z,1.3nm,1.0s,baz=37,slow=0.7,SNR=5.2
LATR Latur 51.14 293 *e*x **P 19 51 48.9 -5.0**
LATR AMb AMB 19 51 51.4
comp=Z,384nm,0.8s,mb6.4
AKL Akola 51.30 296⇓*i*P **P 19 51 55.1 +0.1**
AKL *e*x x 19 51 58.6
comp=Z,284nm,1.7s
AKL *i*x x 19 59 05.4
LGTI Lohaghat 51.51 307 *e*P **P 19 51 56.0 -0.5**
CIT Chita 51.52 350 *e*P **P 19 51 57.2 +1.1**
CIT *e* pP 19 52 09.8 +0.1
CIT *e* 19 53 08.3
CIT pmax pmax
comp=Z,348nm,1.6s,mb6.0
BHPL Bhopal 51.66 299 *e*P **P 19 51 57.5 -0.2**
BHPL AMb AMB 19 51 59.8
comp=Z,162nm,1.1s,mb5.8
MNGI Mangalore 51.74 285 *i*P **P 19 51 58.1 -0.3**
MNGI AMb AMB 19 51 59.9
comp=Z,186nm,0.8s,mb6.1
ZAK Zakamensk 52.46 342 *e*P **P 19 52 02.0 -1.1**
ZAK *e* 19 53 13.5
ZAK pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
KAD Karad 53.11 291 *e*P **P 19 52 07.3 -1.2**
KAD AMb AMB 19 52 09.9
comp=Z,149nm,1.1s,mb5.8
TLY Talaya 53.49 343 P **P 19 52 11.6 +0.9**
comp=Z,365nm,0.7s,mb6.4,SNR=9.9
TLY Talaya 53.49 343 *e*P **P 19 52 11.0 +0.3**
TLY *e*PcP PcP 19 53 17.3 +0.2
TLY Talaya 53.49 343 *e*P **P 19 52 11.1 +0.4**
TLY *e* 19 54 08.6
TLY *e*S **S 19 59 37.1 -2.7**
TLY pmax pmax
comp=Z,38nm,0.7s,mb5.4
TLY MLR MLR
comp=Z,596nm,28.0s,MS4.5
TLY Talaya 53.49 343 P **P 19 52 11.5 +0.8**
SNR=13
TLY Talaya 53.49 343 P **P 19 52 11.5 +0.8**
SNR=13
DDI Dehra Dun 53.60 307 *e*P **P 19 52 11.0 -1.0**
NDI New Delhi 53.66 305 *e*P **P 19 52 11.3 -1.1**
NDI AMb AMB 19 52 12.8
comp=Z,172nm,0.9s,mb6.0
POO Poona 53.67 292 *e*P **P 19 52 11.6 -1.1**
POO AMb AMB 19 52 14.1
comp=Z,151nm,0.9s,mb5.9
IRK Irkutsk 53.81 344 *e*P **P 19 52 12.6 -0.5**
IRK *e* pP 19 52 23.9 -2.8
IRK pmax pmax
comp=Z,67nm,1.4s,mb5.4
WMQ Urumqi 54.14 327 P **P 19 52 15.7 +0.1**
WMQ AP pP 19 52 28.0 -1.3
WMQ XP sP 19 52 33.5 -1.5
WMQ PCP PcP 19 53 20.0 +0.2
WMQ *e*S **S 19 59 46.0 -2.9**
WMQ AMB AMB
comp=Z,131nm,0.8s,mb5.9
WMQ AMB AMB
comp=Z,223nm,3.7s
WMQ LR LR
comp=N,2μm,27.8s,MS5.2
WMQ LR LR
comp=E,1μm,23.2s,MS5.2
WMQ LR LR
comp=Z,2μm,23.2s,MS5.0
FUNA Funafuti 54.14 101 *e*P **P 19 52 15.7 -0.5**
comp=Z,276nm,1.2s,mb6.1
MOY Mondy 54.29 341 *e*P **P 19 52 17.2 +0.6**
MOY pmax pmax
comp=Z,64nm,2.1s,mb5.2
SMLA Simla 54.62 308 *e*P **P 19 52 20.0 +0.6**
SMLA AMb AMB 19 52 22.6
comp=Z,713nm,1.1s,mb6.6
SDNR Sundarnagar 54.92 308 *e*P **P 19 52 22.5 +1.0**
AJM Ajmer 55.06 302 *e*P **P 19 52 21.0 -1.6**
NRGR Nerungri 55.14 359 *i*P **P 19 52 23.7 +1.1**
NRGR S **S 20 00 01.2 -0.7**
NRGR smax
comp=N,46nm,0.8s
CLNS Chul'man 55.32 359 *e*P **P 19 52 23.7 -0.2**
CLNS pmax pmax
comp=Z,83nm,0.9s,mb5.8
CLNS pmax pmax
comp=N,41nm,0.8s
CLNS pmax pmax
comp=E,24nm,0.7s
BHK Bhakra 55.33 308 *e*P **P 19 52 24.8 +0.3**
DLH Dalhousie 56.12 309 *e*P **P 19 52 29.0 -1.1**
THN Thein Dam 56.27 309 *e*P **P 19 52 30.0 -1.2**
THN *e*x x 20 00 13.8
BOD Bodaibo 57.07 353⇓*i*P **P 19 52 36.6 +0.2**
BOD pmax pmax
comp=Z,20nm,1.0s,mb5.1
PET Petropavlovsk 58.28 23 *e*P **P 19 52 52.7 +7.8**
PET *e*S **S 20 00 49.3 +5.9**
PET *e*SS SS 20 04 41.6 +5.6
PET smax
comp=N,300nm,18.0s
PET MLR MLR
comp=Z,200nm,20.0s,MS4.2
BHJ Bhuj 58.55 296 *e*x x 19 52 37.4
BHJ AMb AMB 19 52 49.6
comp=Z,110nm,1.3s,mb5.7
MKAR Makanchi Array 58.97 327 P **P 19 52 49.6 -0.3**
MKAR PcP PcP 19 53 38.8 +0.2
MKAR LR LR 20 19 15.8
MKAR P'P' 20 22 10.3
MKAR ⇑*e* 20 22 34.8
MKAR Makanchi Array 58.97 327 P **P 19 52 49.7 -0.2**
MKAR 19 53 38.8
MKAR pmax pmax
comp=Z,51nm,0.7s
MKAR MLR MLR
comp=Z,775nm,19.8s
MKAR Makanchi Array 58.97 327 P **P 19 52 49.6 -0.3**
comp=Z,51nm,0.7s,mb5.7,baz=119,slow=8.0,SNR=201
MKAR PcP PcP 19 53 38.8 +0.2
comp=Z,26nm,0.6s,baz=111,slow=5.3,SNR=6.4
MKAR LR LR 20 19 15.8
comp=Z,775nm,19.8s,MS4.8,baz=117,slow=37
MKAR PKPPKP 20 22 10.3
comp=Z,3.3nm,1.0s,baz=289,slow=3.7,SNR=8.7
MKAR PKP2bc 20 22 34.8
comp=Z,5.6nm,0.9s,baz=336,slow=2.7,SNR=8.9
KSH Kashi 59.07 316 *e*P **P 19 52 52.5 +1.8**
KSH AP pP 19 53 04.8 +0.3
KSH XP sP 19 53 10.0 -0.2
KSH PP PP 19 55 04.3 +2.6
KSH SCP ScP 19 57 36.7 +0.8
KSH PCS PcS 19 57 41.4 +0.4
KSH S **S 20 00 52.6 -1.6**
KSH SCS ScS 20 02 33.6 -3.1
KSH SS SS 20 04 47.5 -1.5
KSH AMB AMB
comp=Z,314nm,0.8s,mb6.4
KSH AMB AMB
comp=Z,816nm,3.0s
KSH LR LR
comp=Z,1μm,5.6s
JCZ Jackson Bay 59.28 145 *e*P **P 19 52 52.7 +0.6**
JCZ Jackson Bay 59.28 145 PN **P 19 52 52.7 +0.6**
ULHL Ulahol 60.17 319 P **P 19 52 58.6 +0.4**
SNR=59
LBZ Lake Benmore 60.28 145 *e*P **P 19 52 59.1 +0.1**
LBZ Lake Benmore 60.28 145 PN **P 19 52 59.0 0.0**
RPZ Rata Peaks 60.40 144 *e*P **P 19 52 59.8 0.0**
RPZ Rata Peaks 60.40 144 P **P 19 52 59.9 +0.1**
comp=Z,62nm,0.6s,mb5.8,baz=278,slow=1.8,SNR=25
RPZ LR LR 20 18 38.9
comp=Z,364nm,21.6s,MS4.5,baz=334,slow=36
RPZ Rata Peaks 60.40 144 PN **P 19 52 59.8 0.0**
THZ Tophouse 60.44 141 *e*P **P 19 52 59.9 -0.2**
THZ Tophouse 60.44 141 *e*PN **P 19 52 59.9 -0.2**
YAK Yakutsk 60.60 2 *e*P **P 19 53 00.5 -0.3**
comp=Z,239nm,0.7s,mb6.4
YAK Yakutsk 60.60 2 *c i*P **P 19 53 02.3 +1.5**
YAK *e**PP pP 19 53 11.4 -3.2
YAK *e* 19 53 45.0
YAK *e* 19 55 19.3
YAK *i*S **S 20 01 08.9 -4.2**
YAK *e* 20 02 42.4
YAK pmax pmax
comp=E,12nm,0.7s
YAK pmax pmax
comp=Z,176nm,0.7s,mb6.3
YAK pmax pmax
comp=N,75nm,1.2s
YAK pmax pmax
comp=E,30nm,1.6s
YAK pmax pmax
comp=Z,55nm,1.6s,mb5.4
YAK pmax pmax
comp=N,39nm,1.8s
YAK smax
comp=N,474nm,3.5s
YAK smax
comp=Z,268nm,3.9s
YAK smax
comp=E,584nm,4.3s
YAK MLR MLR
comp=Z,264nm,20.0s,MS4.4
YAK MLR MLR
comp=N,288nm,22.0s
YAK MLR MLR
comp=E,306nm,28.0s
KZA Kyzart 60.74 319 P **P 19 53 03.3 +1.1**
SNR=84
TKM2 Tokmak 2 60.91 320 *e*P **P 19 53 03.3 +0.1**
comp=E,76nm,0.8s,mb5.9
TKM2 Tokmak 2 60.91 320 P **P 19 53 03.5 +0.2**
TKM2 pmax pmax
comp=Z,76nm,0.8s,mb5.9
TKM2 Tokmak 2 60.91 320 P **P 19 53 03.6 +0.3**
SNR=88
KBK Karagaybulak 61.20 319 P **P 19 53 05.8 +0.5**
SNR=60
MA2 Magadan 61.23 14 *e*P **P 19 53 05.8 +0.7**
comp=Z,234nm,0.8s,mb6.4
MA2 Magadan 61.23 14 *c i*P **P 19 53 06.1 +1.0**
MA2 *e*S **S 20 01 18.0 -3.2**
MA2 *e*PS 20 01 42.1
MA2 *e* 20 02 52.0
MA2 *e*SS SS 20 05 16.0 -6.1
MA2 pmax pmax
comp=N,200nm,0.8s
MA2 pmax pmax
comp=Z,400nm,0.8s,mb6.6
MA2 MLR MLR
comp=Z,300nm,24.1s,MS4.4
UCH Uchtor 61.29 319 *e*P **P 19 53 06.6 +0.7**
comp=Z,124nm,0.8s,mb6.1
UCH Uchtor 61.29 319 P **P 19 53 06.9 +1.0**
SNR=166
SNZO South Karori 61.36 140 *e*P **P 19 53 04.6 -1.7**
comp=Z,203nm,1.0s,mb6.2
AAK Ala-Archa 61.49 319 P **P 19 53 06.2 -1.0**
comp=Z,278nm,0.9s,mb6.4,SNR=58
AAK Ala-Archa 61.49 319 *e*P **P 19 53 06.2 -1.0**
comp=Z,38nm,0.8s,mb5.6
AAK Ala-Archa 61.49 319 *c i*P **P 19 53 06.6 -0.6**
AAK pmax pmax
comp=Z,51nm,1.0s,mb5.6
AAK Ala-Archa 61.49 319 P **P 19 53 07.0 -0.2**
SNR=21
AAK Ala-Archa 61.49 319 P **P 19 53 07.0 -0.2**
SNR=21
AAK Ala-Archa 61.49 319 P **P 19 53 07.7 +0.5**
SNR=60
BKZ Black Stump Fm 61.49 137 *e*P **P 19 53 06.6 -0.7**
BKZ Black Stump Fm 61.49 137 *e*PN **P 19 53 06.6 -0.7**
CHMS Chumysh 61.49 320 P **P 19 53 07.3 +0.1**
SNR=16
URZ Urewera 61.50 136 P **P 19 53 06.1 -1.2**
URZ Urewera 61.50 136 P **P 19 53 06.3 -1.1**
comp=Z,66nm,0.8s,mb5.8,baz=352,slow=2.1,SNR=20
URZ Urewera 61.50 136 PN **P 19 53 06.1 -1.3**
FRU Bishkek 61.50 319 *e*P **P 19 53 07.0 -0.3**
FRU *e* pP 19 53 22.0 +0.8
USP Ospenovka 61.78 320 P **P 19 53 08.9 -0.2**
SNR=169
AML Almayashu 61.79 318 *e*P **P 19 53 09.6 +0.3**
comp=Z,174nm,0.8s,mb6.2
AML Almayashu 61.79 318 P **P 19 53 10.0 +0.8**
SNR=178
EKS2 Erkin-Say 61.97 319 *e*P **P 19 53 10.7 +0.2**
comp=Z,91nm,0.8s,mb6.0
EKS2 Erkin-Say 61.97 319 P **P 19 53 10.9 +0.4**
SNR=148
MCQ Macquarie Isla 62.03 159 *e*P **P 19 53 12.4 +1.8**
KBL Kabul 62.23 309 *e*P **P 19 53 11.6 -0.8**
comp=Z,111nm,1.0s,mb5.9
ZAA0 Zalesovo Array 62.28 334 *e*P **P 19 53 10.8 -1.5**
ZALV Zalesovo Beam 62.28 334 P **P 19 53 11.0 -1.2**
ZALV P'P' 20 22 15.2
ZALV LR LR 20 22 18.5
ZALV ⇑*e* 20 22 24.2
ZALV Zalesovo Beam 62.28 334 P **P 19 53 11.0 -1.2**
comp=Z,35nm,0.8s,mb5.6,baz=117,slow=6.5,SNR=160
ZALV PKPPKP 20 22 15.2
comp=Z,1.8nm,0.9s,baz=343,slow=4.6,SNR=5.1
ZALV LR LR 20 22 18.5
comp=Z,248nm,21.6s,MS4.3,baz=311,slow=38
ZALV PKP2bc 20 22 24.2
comp=Z,4.4nm,0.8s,baz=313,slow=3.7,SNR=7.4
ZAL Zalesovo 62.28 334 P **P 19 53 11.0 -1.3**
KURK Kurchatov 63.24 329 P **P 19 53 18.3 -0.4**
comp=Z,1μm,0.8s,mb7.1
KURK Kurchatov 63.24 329 *e*P **P 19 53 17.2 -1.5**
comp=Z,166nm,0.8s,mb6.2
KURK Kurchatov 63.24 329⇑*i*P **P 19 53 18.1 -0.6**
KURK Kurchatov 63.24 329 P **P 19 53 18.1 -0.7**
SNR=81
NVS Novosibirsk 63.56 334⇑*e*P **P 19 53 19.5 -1.3**
NVS *e* 20 03 00.8
NVS pmax pmax
comp=N,40nm,0.8s
NVS pmax pmax
comp=Z,70nm,0.8s,mb5.7
NVS pmax pmax
comp=E,34nm,0.7s
SEY Seymchan 64.55 13 *c i*P **P 19 53 28.4 +1.3**
CASY Casey 68.36 187⇑*i*P **P 19 53 52.8 +1.4**
BRVK Borovoye 68.87 328 P **P 19 53 54.8 0.0**
comp=E,410nm,1.0s,mb6.3,SNR=55
BRVK Borovoye 68.87 328⇑*i*P **P 19 53 54.4 -0.4**
BRVK Borovoye 68.87 328 P **P 19 53 54.7 -0.1**
SNR=31
BRVK Borovoye 68.87 328 P **P 19 53 54.7 -0.1**
SNR=31
JMDO Jabal Madar 68.87 293 P **P 19 53 55.0 -0.5**
SNR=8.9
JMDO Jabal Madar 68.87 293 P **P 19 53 55.0 -0.5**
SNR=8.9
ADK Adak 69.46 34 *e*P **P 19 53 57.9 -0.6**
comp=E,41nm,0.8s,mb5.4
ADK Adak 69.46 34 *e*P **P 19 53 57.9 -0.6**
ADK pmax pmax
comp=Z,41nm,0.8s,mb5.4
TIXI Tiksi 70.22 1 *e*P **P 19 54 01.5 -1.3**
comp=Z,207nm,1.1s,mb6.0
TIXI Tiksi 70.22 1 *c i*P **P 19 54 01.7 -1.1**
TIXI *e*S S 20 03 03.3 -7.2
TIXI pmax pmax
comp=Z,161nm,1.1s,mb5.9
TIXI pmax pmax
comp=N,51nm,1.4s
TIXI pmax pmax
comp=E,28nm,1.2s
TIXI pmax pmax
comp=Z,62nm,5.1s
TIXI smax
comp=N,331nm,10.1s
TIXI smax
comp=E,127nm,6.9s
MIR Mirnyy 71.64 193⇑*i*P **P 19 54 15.0 +3.5**
MIR *i* pP 19 54 25.0 -0.6
MIR *i* pP 19 54 32.0 +6.4
MIR pmax pmax
comp=Z,800nm,1.0s,mb6.6
ABKT Ailbek 71.64 310 P **P 19 54 12.8 +0.6**
comp=Z,372nm,0.8s,mb6.4,SNR=25
RBK Rabkut 72.02 288 P **P 19 54 14.2 -0.6**
SNR=6.1
RBK Rabkut 72.02 288 P **P 19 54 14.2 -0.6**
SNR=6.1
BILL Bilibino 72.08 15 *e*P **P 19 54 13.7 -0.4**
comp=Z,50nm,1.1s,mb5.4
BILL Bilibino 72.08 15 *c i*P **P 19 54 13.8 -0.4**
BILL *e* 19 54 33.3
BILL *e*S S 20 03 33.2 +1.1
BILL *e*SS SS 20 08 11.2 +1.1
BILL pmax pmax
comp=Z,73nm,1.7s,mb5.3
WHFO Wadi Hawf 72.47 288 P **P 19 54 16.4 -1.0**
SNR=18
ABTO Aybut 72.88 288 P **P 19 54 19.0 -0.9**
SNR=6.6
ABTO Aybut 72.88 288 P **P 19 54 19.0 -0.9**
SNR=6.6
AKTK Aktyubinsk 74.93 322 P **P 19 54 30.9 -0.3**
AKTO Aktyubinsk 74.93 322 P **P 19 54 31.0 -0.2**
AKTO pmax pmax
comp=Z,62nm,0.7s,mb5.7
AKTO Aktyubinsk 74.93 322 P **P 19 54 30.9 -0.3**
comp=Z,62nm,0.7s,mb5.6,baz=105,slow=7.0,SNR=131
SVE Sverdlovsk 75.48 329 *e*P **P 19 54 34.0 -0.3**
SVE pmax pmax
comp=Z,269nm,1.0s,mb6.1
RAR Rarotonga 76.02 112 LR LR 20 22 29.7
comp=Z,528nm,21.8s,MS4.8,baz=48,slow=31
ARU Arti 76.43 328 P **P 19 54 39.0 -0.7**
comp=Z,1μm,0.8s,mb6.9,SNR=42
ARU Arti 76.43 328 *e*P **P 19 54 38.4 -1.3**
comp=Z,155nm,0.8s,mb6.0
ARU Arti 76.43 328 *d i*P **P 19 54 38.6 -1.1**
ARU *e* pP 19 54 50.1 -3.9
ARU *e* 19 57 27.2

ARU *e*PPP 19 59 13.2
ARU *e*S S 20 04 19.0 -2.3
ARU *e*SSS 20 12 40.0
ARU pmax pmax
comp=Z,361nm,1.7s,mb6.0
MUKL Al Mukalla 76.82 284 *e*P **P** **19 54 41.2 -1.5**
GAMB Gambell 76.95 24 *e*P **P** **19 54 41.7 -0.7**
comp=Z,123nm,1.3s,mb5.7
SOKR Solikamsk 78.31 331⇑ *i*P **P** **19 54 49.7 -0.4**
SOKR pmax pmax
comp=Z,210nm,0.9s,mb6.1
QRN Al-Qurain 78.70 299 *e*P **P** **19 54 51.7 -1.3**
QRN AMb AMB 19 54 54.4
comp=Z,340nm,0.9s,mb6.2
KHU Kahuku 78.80 71 *e*P **P** **19 54 54.6 +0.9**
POHA Pohakuloa 78.91 70 *e*P **P** **19 54 54.5 +0.2**
comp=Z,398nm,1.1s,mb6.3
KBD Kabd 78.93 299 *e*P **P** **19 54 53.5 -0.8**
KBD AMb AMB 19 54 56.8
comp=Z,676nm,0.9s,mb6.6
RDF Al-Radifah 79.04 299 *e*P **P** **19 54 54.0 -0.9**
RDF AMb AMB 19 54 57.4
comp=Z,326nm,1.1s,mb6.2
TNA Tin City 79.14 23 *e*P **P** **19 54 54.8 +0.3**
comp=Z,43nm,1.2s,mb5.3
MIB Mutribah 79.29 300 *e*P **P** **19 54 55.4 -0.8**
MIB AMb AMB 19 54 58.6
comp=Z,302nm,0.8s,mb6.3
NAY Al-Naaiem 79.33 299 *e*P **P** **19 54 55.6 -0.8**
NAY AMb AMB 19 54 58.9
comp=Z,164nm,1.0s,mb5.9
RST Umm Al-Ruwaisa 79.56 300 *e*P **P** **19 54 56.3 -1.4**
RST AMb AMB 19 54 59.8
comp=Z,409nm,0.8s,mb6.4
SDPT Sand Point 79.69 34 *e*P **P** **19 54 57.6 -0.2**
comp=Z,309nm,0.7s,mb6.3
CHGN Chignik 81.03 33 *e*P **P** **19 55 04.7 -0.2**
VNDA Vanda 81.20 173 P **P** **19 55 06.2 +0.7**
comp=Z,52nm,0.8s,mb5.5,baz=317,slow=6.2,SNR=211
VNDA PKKPbc PKKPbc 20 13 42.4 -2.4
comp=Z,3.3nm,0.9s,baz=265,slow=2.4,SNR=11
MAW Mawson 81.20 200⇑ *i*P **P** **19 55 07.3 +1.6**
comp=Z,118nm,1.1s,mb5.7
MAW Mawson 81.20 200⇑ *i*P **P** **19 55 07.3 +1.6**
MAW pmax pmax
comp=Z,118nm,1.1s
MAW Mawson 81.20 200 P **P** **19 55 07.4 +1.8**
comp=Z,154nm,1.0s,mb5.9,baz=66,slow=6.0,SNR=104
MAW PKPPKP 20 21 41.7
comp=Z,2.6nm,0.4s,baz=18,slow=3.1,SNR=11
MAW LR LR 20 29 47.0
comp=Z,340nm,18.9s,MS4.7,baz=53,slow=35
TRBA At Turbah 81.57 283 *e*P **P** **19 55 08.0 -0.7**
DGRG David-gareji 81.91 312 P **P** **19 55 11.4 +1.5**
SBA Scott Base 82.13 172 *e*P **P** **19 55 11.7 +1.3**
comp=Z,100nm,1.3s,mb5.6
SBA Scott Base 82.13 172 *e*P **P** **19 55 11.7 +1.3**
SBA pmax pmax
comp=Z,100nm,1.2s,mb5.6
MTA Mtatsminda 82.36 312 P **P** **19 55 12.6 +0.2**
TBLG Delisi 82.41 312 P **P** **19 55 13.1 +0.5**
HKR Hakkari 82.86 308 P **P** **19 55 14.2 -0.8**
HAKT HAKKARI 82.88 308 *i*P **P** **19 55 14.4 -0.7**
CUKT Cukurca 82.94 307 P **P** **19 55 15.9 +0.5**
DYDN Diyadin 83.03 310 *i*P **P** **19 55 17.6 +1.7**
TVAN Van 83.18 308 *i*P **P** **19 55 16.9 +0.2**
VANB Van 83.20 309 *e*P **P** **19 55 15.0 -1.8**
DIGO Kars 83.33 310 *i*P **P** **19 55 18.4 +1.1**
SVW2 Sparrevohn 83.33 29 *e*P **P** **19 55 17.6 +0.7**
ONI Oni 83.43 313 P **P** **19 55 18.9 +1.0**
TTA Tatalina 83.44 27 *e*P **P** **19 55 18.5 +1.1**
AGRB Hanur-Agry 83.57 310 *e*P **P** **19 55 20.2 +1.6**
TUTA Tutak 83.70 309 *i*P **P** **19 55 20.5 +1.2**
SIRT Sirnak 83.89 307 *e*P **P** **19 55 11.7 -8.6**
KIV Kislovodsk 84.08 314 P **P** **19 55 21.1 0.0**
comp=Z,378nm,0.9s,mb6.5,SNR=19
KIV Kislovodsk 84.08 314 *e*P **P** **19 55 21.1 -0.1**
comp=Z,54nm,0.8s,mb5.7
KIV Kislovodsk 84.08 314 *e*P **P** **19 55 21.5 +0.4**
KIV *e*S S 20 05 37.7 -4.4
KIV pmax pmax
comp=Z,55nm,0.9s,mb5.7
KIV pmax pmax
comp=Z,48nm,4.6s
KIV Kislovodsk 84.08 314 P **P** **19 55 21.9 +0.7**
SNR=14
KDAK Kodiak Island 84.40 32 P **P** **19 55 23.0 +0.6**
comp=Z,565nm,0.9s,mb6.7,SNR=15
KDAK Kodiak Island 84.40 32 *e*P **P** **19 55 22.6 +0.2**
comp=Z,139nm,1.2s,mb6.0
ARTV Artvin 84.47 311 *i*P **P** **19 55 24.0 +0.8**
ERZM Erzurum 84.84 310 *i*P **P** **19 55 26.8 +1.7**
EZM Erzurum 84.84 310 P **P** **19 55 26.3 +1.2**
IMA2 Indian Mountai 84.93 24 *e*P **P** **19 55 25.7 +0.8**
VRHR Novokhopersk 85.27 321 *e*P **P** **19 55 26.7 -0.3**
VRHR pmax pmax
comp=E,120nm,0.7s
VRHR pmax pmax
comp=Z,730nm,0.7s,mb6.9
VRHR pmax pmax
comp=N,60nm,0.6s
PPT Papeete 85.31 108 *e*P **P** **19 55 29.5 +1.7**
comp=N,62nm,1.3s,mb5.6
PPT Papeete 85.31 108 *e*LR LR 20 22 26.9
comp=N,890nm,28.5s
PPT Papeete 85.31 108 *e*P **P** **19 55 29.5 +1.7**
PPT pmax pmax
comp=Z,62nm,1.3s
PPT Papeete 85.31 108 LR LR 20 30 42.3
comp=Z,267nm,18.4s,MS4.7,baz=116,slow=34
PAE Paea 85.31 108 *e*P **P** **19 55 29.1 +1.3**
comp=Z,93nm,1.2s,mb5.8
PAE Paea 85.31 108 *e*P **P** **19 55 29.1 +1.3**
PAE pmax pmax
comp=Z,93nm,1.2s,mb5.8
TVO Taravao 85.62 108 *e*P **P** **19 55 31.0 +1.6**
comp=Z,168nm,1.2s,mb6.2
TVO Taravao 85.62 108 *e*P **P** **19 55 31.0 +1.6**
TVO pmax pmax
comp=Z,169nm,1.2s,mb6.2
TBI Tubuai 85.72 113 *e*P **P** **19 55 31.3 +1.5**
comp=Z,585nm,1.2s,mb6.7
TBI Tubuai 85.72 113 *e*LR LR 20 22 31.6
comp=Z,912nm,37.2s
SLKM Skilak Lake 85.87 30 P **P** **19 55 28.3 -1.5**
SLKM Skilak Lake 85.87 30 P **P** **19 55 28.4 -1.3**
DESE Dese 85.95 281 *e*P **P** **19 55 34.5 +3.4**
EZC Erzincan 86.03 310 P **P** **19 55 34.4 +3.4**
MACK Trabzon 86.10 311 *i*P **P** **19 55 31.8 +0.4**
SOC Sochi 86.21 313 *i*P **P** **19 55 31.6 -0.2**
SOC Sochi 86.21 313 *c*P **P** **19 55 31.4 -0.4**
SOC *e*PP pP 19 55 41.2 -5.1
SOC *e*SP sP 19 55 44.5 -7.3
SOC *e*PPP 20 00 48.6
SOC *e*S S 20 05 53.8 -9.4
SOC *e*SS SS 20 11 40.4 -2.5
SOC pmax pmax
comp=Z,150nm,0.7s,mb6.3
SOC MLR MLR
comp=Z,319nm,20.0s,MS4.7
GUMT Gumushane 86.30 310 P **P** **19 55 33.3 +1.0**
PMR Palmer 86.48 29 *e*P **P** **19 55 32.3 -0.4**
comp=Z,28nm,1.0s,mb5.5
PMR Palmer 86.48 29 *e*P **P** **19 55 32.3 -0.4**
PMR pmax pmax
comp=Z,28nm,1.0s,mb5.5
VORD Divnogorie 86.73 321 *e*P **P** **19 55 33.6 -0.6**
VORD pmax pmax
comp=Z,420nm,0.8s,mb6.7
VORD pmax pmax
comp=N,40nm,0.6s
VORD pmax pmax
comp=E,410nm,1.0s
URFA Urfa 86.76 307 *e*P **P** **19 55 35.9 +1.2**
PMOR Pomariorio Ree 86.81 105 *e*P **P** **19 55 36.8 +1.5**
comp=E,169nm,1.2s,mb6.2
VRSR Storozhevoye 86.81 321 *e*P **P** **19 55 33.9 -0.6**
VRSR *e*S S 20 05 58.9 -10
VRSR pmax pmax
comp=Z,70nm,0.9s,mb5.9
VRSR pmax pmax
comp=N,8.0nm,0.8s
VRSR pmax pmax
comp=E,50nm,0.7s
VRSR smax
comp=N,5.0nm,1.0s
VRSR smax
comp=E,3.0nm,0.9s
VRSR smax
comp=Z,1.0nm,0.9s
VOR Voronezh 86.82 322 *e*P **P** **19 55 33.0 -1.6**
VOR pmax pmax
comp=Z,1μm,1.2s,mb6.9
SML Sawmill 86.87 28 *e*P **P** **19 55 33.7 -0.9**
SML Sawmill 86.87 28 P **P** **19 55 34.7 +0.1**
ESPY Espiye-Giresun 86.89 311 *e*P **P** **19 55 35.2 0.0**
VAH Vaihoa 87.07 105 *e*P **P** **19 55 37.9 +1.3**
comp=Z,154nm,1.1s,mb6.1
MALT Malatya 87.08 308 *e*P **P** **19 55 37.6 +1.4**
MALT Malatya 87.08 308 *e*P **P** **19 55 36.5 +0.4**
comp=Z,131nm,1.0s,mb6.1
MALT Malatya 87.08 308⇑ *i*P **P** **19 55 37.2 +1.0**
MYA Malataya 87.08 308 P **P** **19 55 34.9 -1.4**
ATAB Bozova 87.18 307 *i*P **P** **19 55 37.8 +1.1**
GRSN GIRESUNGRSN 87.23 311 *i*P **P** **19 55 36.2 -0.7**
COLA College 87.24 25 *i*P **P** **19 55 31.7 -4.7**
GZT Gaziantep 87.76 307 *i*P **P** **19 55 40.5 +1.0**
TMCR Tamitsa 87.80 334⇑ *i*P **P** **19 55 38.0 -1.1**
TMCR *e*SP sP 19 55 51.9 -7.2
TMCR *e*S S 20 06 10.2 -7.5
TMCR pmax pmax
comp=Z,121nm,1.2s,mb6.0
MOS Moscow 87.84 326 *e*P **P** **19 55 38.2 -1.2**
MOS *e* pP 19 55 53.2 -0.8
MOS *e* 20 06 00.4
MOS *e*S S 20 06 12.3 -6.1
MOS pmax pmax
comp=Z,265nm,0.9s,mb6.5
ANN Anapa 87.88 315 *e*P **P** **19 55 38.4 -1.4**
ANN *e*S S 20 06 01.4 -18
ANN pmax pmax
comp=Z,237nm,0.7s,mb6.5
ANN MLR MLR
comp=Z,297nm,20.0s,MS4.7
KMRS Kahramanmaras 88.29 307 *e*P **P** **19 55 42.7 +0.8**
ASF Jabal al Asfar 88.33 302 P **P** **19 55 43.8 +1.5**
ASF pmax pmax
comp=Z,177nm,1.0s
ASF Jabal al Asfar 88.33 302 P **P** **19 55 43.8 +1.5**
comp=Z,177nm,1.0s,mb6.3,baz=339,slow=6.0,SNR=17
OBN Obninsk 88.44 325 P **P** **19 55 42.3 0.0**
comp=Z,1μm,0.7s,mb7.3,SNR=16
OBN Obninsk 88.44 325 *e*P **P** **19 55 41.5 -0.8**
comp=Z,185nm,0.8s,mb6.4
OBN Obninsk 88.44 325 *c i*P **P** **19 55 41.6 -0.7**
OBN *e* 19 59 10.6
OBN *e*S S 20 06 06.4 -18
OBN *e*SS SS 20 12 15.6 +0.7
OBN pmax pmax
comp=Z,248nm,1.1s,mb6.3
KMBO Kilima Mbogo 88.55 269 *e*P **P** **19 55 45.5 +1.8**
comp=Z,470nm,1.7s,mb6.5
KMBO Kilima Mbogo 88.55 269 P **P** **19 55 45.8 +2.1**
KMBO pmax pmax
comp=Z,52nm,0.9s
KMBO MLR MLR
comp=Z,351nm,20.4s
KMBO Kilima Mbogo 88.55 269 P **P** **19 55 46.1 +2.4**
SNR=69
KMBO Kilima Mbogo 88.55 269 P **P** **19 55 45.8 +2.1**
comp=Z,52nm,0.9s,mb5.9,baz=63,slow=6.0,SNR=106
KMBO LR LR 20 32 15.8
comp=Z,351nm,20.4s,MS4.8,baz=288,slow=33
FKH Fakeheh 88.73 304 *e*P **P** **19 55 45.3 +1.2**
ANDN Andirin 88.73 307 *i*P **P** **19 55 44.4 +0.3**
KVT Kavak 88.91 311 *e*P **P** **19 55 45.8 +0.9**
HTY Hatay 88.92 306 *e*P **P** **19 55 46.4 +1.5**
MENT Mentasta 89.04 27 *e*P **P** **19 55 44.9 0.0**
BNN Bunyan 89.10 309 *e*P **P** **19 55 46.4 +0.6**
KOZT Kozan 89.14 307 *e*P **P** **19 55 48.1 +2.0**
RCY Rachaya 89.22 303 *e*P **P** **19 55 47.3 +0.8**
BHL Bhannes 89.35 304 *e*P **P** **19 55 47.1 +0.1**
MMAI Mount Meron Ar 89.58 303 P **P** **19 55 49.3 +1.2**
comp=Z,100nm,0.8s,mb6.2,baz=83,slow=7.1,SNR=82
APA Apatity 89.67 337⇑ *i*P **P** **19 55 46.7 -1.1**
APA *i* pP 19 56 04.0 +1.7
APA pmax pmax
comp=Z,36nm,1.1s,mb5.6
BOYT Boyabat 89.77 311 *i*P **P** **19 55 49.2 +0.3**
BYBT Boyabat 89.87 311 *e*P **P** **19 55 49.9 +0.6**
SYO Syowa Base 89.88 201⇓ *i*P **P** **19 55 48.6 -0.1**
SYO Syowa Base 89.88 201⇓ *i*PcP PcP 19 55 49.4 -0.6
CTKT Corum 89.88 310 *i*P **P** **19 55 49.5 +0.1**
AVNT Avonos 89.88 309 *i*P **P** **19 55 49.0 -0.4**
CORM Corum 90.01 310 *e*P **P** **19 55 50.7 +0.7**
EIL Elat 90.05 300 P **P** **19 55 51.1 +0.6**
comp=Z,50nm,0.7s,mb5.9,baz=63,slow=1.2,SNR=50
EGAK Eagle 90.10 25 *e*P **P** **19 55 49.0 -0.8**
comp=Z,12nm,0.9s,mb5.2
CDAG Cicekdag 90.23 309 *i*P **P** **19 55 50.2 -0.8**
SIM Simferopol' 90.23 315 *c i*P **P** **19 55 50.0 -0.9**
SIM *e*S S 20 06 42.0 +0.8
SIM pmax pmax
comp=Z,102nm,0.7s,mb6.3
SIM MLR MLR
comp=Z,270nm,22.4s,MS4.6
JOF Joensuu 90.85 333 *e*p **P** **19 55 50.5 -2.9**
comp=Z,42nm,0.9s,mb5.8
JOF Joensuu 90.85 333 *e*P **P** **19 55 50.5 -2.9**
JOF pmax pmax
comp=Z,42nm,0.9s,mb5.8
BALT Daday 90.90 311 *i*P **P** **19 55 54.5 +0.3**
ELDT Eldivan 90.92 310 *i*P **P** **19 55 53.5 -0.7**
DAWY Dawson 90.92 26 *e*P **P** **19 55 53.7 0.0**
CSS Prodhromos 91.24 305 P **P** **19 55 56.0 +0.2**
comp=Z,1.4nm,1.0s
CSS Prodhromos 91.24 305 *e*P **P** **19 55 55.9 +0.1**
MAMC Mammari 91.32 305 ⇓P **P** **19 55 56.2 0.0**
ANTO Ankara 91.43 310 *e*P **P** **19 55 55.6 -1.0**
comp=Z,53nm,1.3s,mb5.7
ANTO Ankara 91.43 310 P **P** **19 55 56.7 +0.1**
ANTO pmax pmax
comp=Z,53nm,1.2s,mb5.8
ANTO Ankara 91.43 310 P **P** **19 55 56.5 -0.2**
SNR=7.5
ANTO Ankara 91.43 310 P **P** **19 55 56.5 -0.2**
SNR=7.5
ANTO Ankara 91.43 310⇑ *i*P **P** **19 55 56.3 -0.3**
ERMK Ermenek 91.50 307 *i*P **P** **19 55 56.9 -0.1**
SZAC Souni-Zanaja 91.61 305 P **P** **19 55 57.5 -0.1**
ALFC Alevga 91.83 305 P **P** **19 55 58.2 -0.4**
comp=Z,2.3nm,0.8s,mb4.5
KDHN Kadinhani 92.03 308 *i*P **P** **19 55 58.5 -1.0**
PPCY Paphos 92.05 305 P **P** **19 55 58.9 -0.7**
AKMC Akamas 92.06 305 P **P** **19 55 58.9 -0.7**
ARCES ARCESS Array B 92.33 340 P **P** **19 55 59.2 -0.9**
ARCES ARCESS Array B 92.33 340 P **P** **19 55 59.2 -0.9**
comp=Z,36nm,0.8s,mb5.7,baz=79,slow=6.5,SNR=34
ARCES PKiKP PKiKP 20 00 49.7 +0.5
comp=Z,5.2nm,0.9s,baz=270,slow=0.4,SNR=6.2
ARCES PKKPbc PKKPbc 20 13 14.5 -2.9
comp=Z,2.5nm,0.6s,baz=269,slow=2.8,SNR=15
ARCES LR LR 20 38 09.4
comp=Z,299nm,19.8s,MS4.7,baz=80,slow=36
INK Inuvik 92.71 21 *e*P **P** **19 56 01.1 -0.8**
comp=Z,3μm,1.3s
HENT Hendek 92.82 311 *i*P **P** **19 56 02.7 -0.3**
ESKT Eskisehir 92.95 309 *i*P **P** **19 56 03.0 -0.7**
AKASG Malin Array Be 93.12 321 P **P** **19 56 02.9 -1.2**
AKASG Malin Array Be 93.12 321 P **P** **19 56 02.9 -1.2**
comp=Z,13nm,0.7s,mb5.5,baz=76,slow=3.9,SNR=107
AKASG PKiKP PKiKP 20 00 51.0 0.0
comp=Z,1.0nm,0.5s,baz=72,slow=2.0,SNR=4.6
AKASG PKKPbc PKKPbc 20 13 11.8 -3.0
comp=Z,0.4nm,0.3s,baz=266,slow=3.5,SNR=9.2
AKASG LR LR 20 41 23.3
comp=Z,222nm,21.1s,MS4.6,baz=75,slow=38
KIEV Kiev 93.13 321 *e*P **P** **19 56 02.6 -1.6**
comp=Z,45nm,1.1s,mb5.8
KIEV Kiev 93.13 321 *e*P **P** **19 56 02.6 -1.6**
KIEV pmax pmax
comp=Z,45nm,1.1s,mb5.8
KAF Kangasniemi 93.25 332 *e*p **P** **19 56 02.1 -2.4**
comp=Z,11nm,0.8s,mb5.3,baz=78,slow=4.2
KAF Kangasniemi 93.25 332 *e*P **P** **19 56 02.1 -2.4**
KAF pmax pmax
comp=Z,11nm,0.8s,mb5.3
FINES FINESS Array B 93.46 332 P **P** **19 56 04.3 -1.2**
FINES FINESS Array B 93.46 332 P **P** **19 56 04.3 -1.2**
comp=Z,17nm,0.7s,mb5.6,baz=94,slow=7.6,SNR=18
FINES PKiKP PKiKP 20 00 51.3 0.0
comp=Z,2.0nm,0.6s,baz=70,slow=2.2,SNR=5.3
MNK Minsk 93.53 325 *e*P **P** **19 56 05.0 -0.9**
MNK pmax pmax
comp=Z,280nm,1.0s,mb6.7
SIT Sitka 93.72 33 *e*P **P** **19 56 06.6 -0.2**
comp=Z,56nm,1.3s,mb5.8
SIT Sitka 93.72 33 *e*P **P** **19 56 06.6 -0.2**
SIT pmax pmax
comp=Z,56nm,1.3s,mb5.8
KIS Kishinev 93.77 317 *e*P **P** **19 56 05.0 -2.3**
GDZ Gediz 94.05 309 *i*P **P** **19 56 07.5 -1.2**
GOLH Golhisar 94.14 307 *i*P **P** **19 56 07.8 -1.3**
TAOE Nuku Hiva Isla 94.24 99 *e*LR LR 20 26 46.3
comp=Z,962nm,24.5s
TIRR Tirgusor 94.32 315 P **P** **19 56 09.6 -0.3**
TIRR Tirgusor 94.32 315⇑ *i*P **P** **19 56 09.3 -0.5**
TIRR Tirgusor 94.32 315⇓ *i*P PKKPbc 20 13 10.6 -0.8
PSN Preselentsi 94.57 314 *i*P **P** **19 56 10.5 -0.5**
IAS Iasi 94.60 317 P **P** **19 56 11.0 0.0**
HARR Harsova 94.64 315 P **P** **19 56 11.3 0.0**
HARR Harsova 94.64 315⇓ *i*P **P** **19 56 11.1 -0.2**
VRI Vrincioaia 95.34 316 P **P** **19 56 14.6 +0.1**
VRI Vrincioaia 95.34 316⇑ *i*P **P** **19 56 14.7 +0.2**
VRI Vrincioaia 95.34 316⇓ *i*P PKKPbc 20 13 08.5 -0.2
PLOR Plostina 95.39 316⇓ *i*P **P** **19 56 14.9 +0.2**
WRAK Wrangell Islan 95.45 33 *e*P **P** **19 56 14.7 0.0**
comp=Z,53nm,1.3s,mb5.8
SART Tekirdag 95.64 311 *i*P **P** **19 56 14.7 -1.3**
KDAG Bornova 95.84 309 *i*P **P** **19 56 16.2 -0.7**
JMB Yambol 95.88 313 *e*P **P** **19 56 16.2 -0.8**
JMB Yambol 95.88 313 *i*P **P** **19 56 16.8 -0.2**
MLR Muntele Rosu 95.93 316 P **P** **19 56 17.3 +0.1**
MLR Muntele Rosu 95.93 316 P **P** **19 56 17.0 -0.2**
comp=Z,37nm,0.9s,mb5.8,baz=38,slow=2.3,SNR=91
MLR PKKPbc PKKPbc 20 13 05.5 -1.6
comp=Z,2.5nm,0.8s,baz=32,slow=1.7,SNR=8.2
MLR Muntele Rosu 95.93 316⇓ *i*P **P** **19 56 17.3 +0.1**
MLR Muntele Rosu 95.93 316⇓ *i*P PKKPbc 20 13 06.2 -0.9
BUC1 Bucharest 96.03 315 P **P** **19 56 18.2 +0.6**
ALE Alert 96.13 1 P **P** **19 56 16.2 -1.2**
comp=Z,67nm,1.0s,mb6.0,SNR=6.3
SZH Strazhica 96.25 314 *i*P **P** **19 56 18.4 -0.3**
SUW Suwalki 96.30 325 *e*P **P** **19 56 17.9 -0.7**
ALN Alexandroupoli 96.47 311 *e*P **P** **19 56 18.6 -1.2**
LVV L'vov 96.54 320 *e*P **P** **19 56 18.4 -1.4**
ZIMR 96.60 314 P **P** **19 56 20.4 +0.1**
BOZC Bozcaada 96.60 310 *i*P **P** **19 56 19.0 -1.4**
PVL Pavlikeni 96.69 314 *i*P **P** **19 56 20.8 +0.1**
PLD Plovdiv 97.31 313 *e*P **P** **19 56 22.7 -0.8**
KWP Kalwaria 97.42 320 *e*P **P** **19 56 24.3 +0.5**
PGB Panagyurishte 97.63 313 *i*P **P** **19 56 24.5 -0.5**
LSZ Lusaka 97.67 255 *e*P **P** **19 56 25.8 +0.2**
comp=Z,28nm,0.9s,mb5.8
LSZ Lusaka 97.67 255 *e*P **P** **19 56 25.8 +0.1**
LSZ *e* 20 00 21.9
LSZ pmax pmax
comp=Z,28nm,0.9s,mb5.8
LSZ Lusaka 97.67 255 P **P** **19 56 26.5 +0.9**
SNR=8.9
TRPA Tarpa 97.81 319⇓ *i*P **P** **19 56 25.6 0.0**
TRPA Tarpa 97.81 319⇓ *i*P PKKPbc 20 13 01.5 -0.6
KOLS Kolonicke sedl 97.83 320 *e*P **P** **19 56 25.7 0.0**
UZH Uzhgorod 97.88 319⇑ *i*P **P** **19 56 25.0 -0.9**
UZH *i* pP 19 56 39.0 -1.5
DRGR 97.94 317 P **P** **19 56 26.3 0.0**
DRGR 97.94 317⇑ *i*P **P** **19 56 26.2 -0.1**
DRGR 97.94 317⇑ *i*P PKKPbc 20 13 01.4 -0.3
IDI Anoyia 98.10 306 P **P** **19 56 25.6 -1.7**
comp=Z,19nm,0.8s,mb5.7,baz=54,slow=8.6,SNR=6.6
IDI PKiKP PKiKP 20 01 01.1 +0.9
comp=Z,6.1nm,0.5s,baz=161,slow=8.4,SNR=5.8
IDI PKKPbc PKKPbc 20 12 59.7 -1.1
comp=Z,9.3nm,0.8s,baz=149,slow=2.0,SNR=3.1
MMB Musomiste 98.11 312 *i*P **P** **19 56 25.8 -1.3**
GZR Gura Zlata 98.15 316 P **P** **19 56 27.3 +0.1**
GZR Gura Zlata 98.15 316⇑ *i*P **P** **19 56 27.0 -0.2**
GZR Gura Zlata 98.15 316⇑ *i*P PKKPbc 20 13 01.1 +0.1
VTS Vitosha 98.33 313 *e*P **P** **19 56 27.3 -0.7**
VTS Vitosha 98.33 313⇑ *i*P **P** **19 56 27.9 -0.2**
VTS Vitosha 98.33 313 *i*P **P** **19 56 27.6 -0.5**
CRVS Cervenica-Dubn 98.36 320 *e*P **P** **19 56 28.3 +0.2**
CRVS Cervenica-Dubn 98.36 320 PDIF **P** **19 56 28.3 +0.2**
STHS Stebnicka Huta 98.40 320 *e*P **P** **19 56 27.6 -0.6**
comp=Z,17nm,1.1s,mb5.5
STHS Stebnicka Huta 98.40 320 *e*P **P** **19 56 27.6 -0.6**
STHS pmax pmax
comp=Z,17nm,1.1s,mb5.5
STHS Stebnicka Huta 98.40 320 PDIF **P** **19 56 27.6 -0.6**
PAIG Paliouri 98.40 311 *e*P **P** **19 56 26.9 -1.5**
PLG Polygyros 98.51 311 *e*P **P** **19 56 27.7 -1.3**
KKB Krupnik 98.54 313 *i*P **P** **19 56 27.8 -1.2**
HORT Hortiatis 98.73 311 *e*P **P** **19 56 28.4 -1.5**
KNT Kendrikon 98.79 312 *e*P **P** **19 56 28.7 -1.5**
BZS Buzias 98.91 316 ⇓P **P** **19 56 30.2 -0.4**
BZS Buzias 98.91 316⇓ *i*P **P** **19 56 30.2 -0.4**
BZS Buzias 98.91 316⇓ *i*P PKKPbc 20 12 58.5 -0.4
NIE Niedzica 98.99 320 *e*P **P** **19 56 31.7 +0.8**
VAY Valandovo 99.01 312 *e*P **P** **19 56 29.4 -1.8**
VAY Valandovo 99.01 312⇓ *i*Pdi **P** **19 56 28.8 -2.4**
RKT Rikitea 99.04 113 *e*LR LR 20 28 40.1
comp=Z,857nm,37.0s
KECS Kecovo 99.08 319 *i*P **P** **19 56 31.0 -0.3**
comp=Z,22nm,1.1s,mb5.6
KECS *e* pP 19 56 44.6 -1.3
KECS Kecovo 99.08 319 *i*P **P** **19 56 31.0 -0.3**
KECS *e* pP 19 56 44.6 -1.3
KECS pmax pmax
comp=Z,22nm,1.1s,mb5.6
KECS Kecovo 99.08 319 PDIF **P** **19 56 31.0 -0.3**
KECS pPDIF pP 19 56 44.6 -1.3
DID Didima 99.11 308 *e*P **P** **19 56 29.3 -2.4**
OJC Ojcow 99.14 321 *e*P **P** **19 56 31.2 -0.3**
LIT Litokhoron 99.27 311 *e*P **P** **19 56 30.6 -1.8**
AGG Agios Georgios 99.58 310 *e*P Pdif 19 56 31.4 -1.9
PSZ Piszkesteto 99.59 319 *e*P Pdif 19 56 32.3 -1.1
comp=Z,46nm,1.4s
PSZ Piszkesteto 99.59 319⇓ *i*P Pdif 19 56 34.1 +0.7
PSZ Piszkesteto 99.59 319⇓ *e*PP Pdif 19 56 34.0 +0.6
HFS Hagfors 99.66 332 P Pdif 19 56 31.8 -1.9
comp=Z,5.6nm,0.7s,baz=116,slow=3.4,SNR=12
HFS PKKPbc PKKPbc 20 12 54.9 -2.5
comp=Z,2.5nm,0.7s,baz=219,slow=3.8,SNR=6.5
VLX Vlachokerasia 99.81 308 *e*P Pdif 19 56 33.5 -0.8
BOSA Boshof 99.88 241 P Pdif 19 56 35.8 +1.1
comp=Z,6.3nm,0.9s,baz=85,slow=3.9,SNR=6.2
BOSA PKiKP PKiKP 20 01 04.4 +0.8
comp=Z,2.9nm,0.8s,baz=136,slow=3.4,SNR=6.3
BOSA PKKPbc PKKPbc 20 12 55.4 -0.3
comp=Z,4.7nm,1.3s,baz=159,slow=21,SNR=3.6
BOSA LR LR 20 36 47.6
comp=Z,301nm,18.9s,MS4.8,baz=108,slow=32
KRUS Krusevo 99.98 312⇓ *i*Pdi Pdif 19 56 34.2 -0.9
SELA Sela 100.04 309 *e*P Pdif 19 56 34.9 -0.5
VYHS Vyhne 100.15 320 *e*P Pdif 19 56 35.6 -0.3
comp=Z,14nm,1.4s
VYHS *e* 19 56 48.7
VYHS *e*PP PP 20 00 45.3 +3.4
VYHS Vyhne 100.15 320 *e*P Pdif 19 56 35.6 -0.3
VYHS *e* 19 56 48.7
VYHS *e* 20 00 45.3
VYHS pmax pmax
comp=Z,14nm,1.4s
VYHS Vyhne 100.15 320 PDIF Pdif 19 56 35.6 -0.3
VYHS pPDIF 19 56 48.7
VYHS *e*PP PP 20 00 45.3 +3.4
OKC Ostrava-Krasne 100.26 321 *i*P Pdif 19 56 37.1 +0.7
OKC Ostrava-Krasne 100.26 321 *e*PDIF Pdif 19 56 37.1 +0.7
BUD Budapest 100.26 319⇓ *e*PP Pdif 19 56 37.1 +0.7
RES Resolute Bay 100.31 10 *e*Pdif Pdif 19 56 36.0 -0.6
comp=Z,932nm,0.8s
RES Resolute Bay 100.31 10 P Pdif 19 56 36.3 -0.3
RES pmax pmax
comp=Z,930nm,0.8s
DIVS Divibare 100.35 315 *e*P Pdif 19 56 37.0 +0.3
OHR Ohrid 100.36 312⇓ *i*Pdi Pdif 19 56 34.2 -2.6
PYL PYLOS 100.39 308 *e*P Pdif 19 56 35.6 -1.3
KOLL Kolacno 100.41 320 *e*P Pdif 19 56 37.6 +0.6
KOLL Kolacno 100.41 320 PDIF Pdif 19 56 37.6 +0.6
NOA NORSAR Array B 100.47 333 P Pdif 19 56 35.5 -1.8
comp=Z,6.5nm,0.7s,baz=69,slow=4.6,SNR=17
NOA PKiKP PKiKP 20 01 03.9 +0.3
comp=Z,2.4nm,0.9s,baz=258,slow=3.3,SNR=3.5

NOA PKKPbc PKKPbc 20 12 53.3 -1.7
comp=Z,4.1nm,0.9s,baz=69,slow=3.2,SNR=8.7
MORC Moravsky Berou 100.66 321 *e*Pdif Pdif 19 56 37.8 -0.3
comp=Z,7.6nm,0.8s
MORC Moravsky Berou 100.66 321 ⇓*i*P Pdif 19 56 39.2 +1.1
MORC Moravsky Berou 100.66 321 ⇓*i*P PKKPbc 20 12 53.8 -0.3
PKSM Moragy 100.81 317 ⇑*i*P Pdif 19 56 38.8 0.0
PKSM Moragy 100.81 317 ⇓*i*P PKKPbc 20 12 53.2 -0.3
LKD Levkas 100.92 310 *e*P Pdif 19 56 38.7 -0.6
IGT Igoumenitsa 101.01 311 *e*P Pdif 19 56 38.6 -1.1
KSP Ksiaz 101.14 322 *e*Pdif Pdif 19 56 39.9 -0.4
MODS Modra-Piesok 101.19 320 *e*P Pdif 19 56 41.1 +0.6
MODS Modra-Piesok 101.19 320 PDIF Pdif 19 56 41.1 +0.6
DPC Dobruska-Polom 101.26 322 *e*PDIF Pdif 19 56 41.4 +0.6
DPC AMS AMS 20 43 10.0
ZST Bratislava 101.34 320 *e*P Pdif 19 56 41.6 +0.4
comp=Z,5.8nm,0.9s
ZST LR LR
comp=Z,100nm,19.1s,MS4.3
ZST Bratislava 101.34 320 PDIF Pdif 19 56 41.6 +0.4
VRAC Vranov 101.38 321 ⇑P Pdif 19 56 42.0 +0.6
VRAC Vranov 101.38 321 P Pdif 19 56 40.7 -0.7
comp=Z,10nm,1.0s,baz=76,slow=3.0,SNR=8.4
VRAC Vranov 101.38 321 ⇑*i*P Pdif 19 56 42.0 +0.7
UPC Upice 101.41 322 *e*PDIF Pdif 19 56 42.0 +0.5
YKA Yellowknife Ar 102.05 24 *i*P Pdif 19 56 44.4 +0.1
YKA pmax pmax
comp=Z,3.0nm,0.9s
YKA Yellowknife Ar 102.05 24 P Pdif 19 56 44.4 +0.1
comp=Z,2.9nm,0.9s,baz=298,slow=4.8,SNR=40
YKA PKiKP PKiKP 20 01 06.3 -0.1
comp=Z,3.5nm,0.9s,baz=304,slow=1.6,SNR=13
YKA PKKPbc PKKPbc 20 12 47.7 -2.8
comp=Z,5.2nm,0.8s,baz=110,slow=2.3,SNR=26
YKA PKPPKP 20 21 04.3
comp=Z,0.8nm,1.0s,baz=123,slow=2.1,SNR=7.2
TREC Trest 102.08 321 *e*PDIF Pdif 19 56 44.9 +0.5
TREC AMS AMS 20 43 50.0
CONA Conrad Observa 102.22 320 ⇑*i*Pdiff Pdif 19 56 45.2 +0.1
comp=Z,13nm,1.6s
CONA ⇑*i*pPdiff 19 56 58.3
PVCC Panska Ves 102.28 322 *e*PDIF Pdif 19 56 46.2 +0.8
PVCC AMS AMS 20 45 20.0
PRU Pruhonice 102.46 322 *e*PDIF Pdif 19 56 46.7 +0.5
PRU AMS AMS 20 45 20.0
comp=Z,500nm,18.4s,MS5.1
BRG Berggiesshubel 102.56 323 *e*PKP Pdif 19 56 46.6 0.0
comp=Z,15nm,1.0s
BRG *e* 19 56 57.0
comp=Z,9.0nm,1.0s
ARSA Arzberg 102.62 319 ⇑*i*P Pdif 19 56 46.8 -0.1
comp=Z,16nm,1.7s
SNAA Sanae 102.69 195 *e*Pdiff Pdif 19 56 47.8 +0.6
SNAA *e* 19 56 49.4
SNAA *e* 19 56 54.4
SNAA *e* 19 56 56.5
SNAA *e* 19 57 04.2
SNAA *e* 19 57 07.6
SNAA *e* 20 01 01.4
SNAA *e* 20 01 07.1
SNAA *e* 20 01 10.6
SNAA *e* 20 01 14.2
SNAA *e* 20 01 22.5
SNAA *e* 20 01 27.8
SNAA *e* 20 01 36.6
SNAA *e* 20 01 45.7
SNAA *e* 20 12 45.5
SNAA *e* 20 12 48.9
SNAA *e* 20 12 52.9
SNAA *e* 20 12 56.0
SNAA *e* 20 13 00.1
SNAA *e* 20 13 06.8
SNAA Sanae 102.69 195 PKKPbc PKKPbc 20 12 46.0 -2.9
comp=Z,3.3nm,1.0s,baz=328,slow=3.1,SNR=7.4
CLL Collm 102.98 324 *e*P Pdif 19 56 47.0 -1.5
comp=Z,5.0nm,1.0s
CLL *i* 19 56 52.2
CLL *e*SKS 20 07 16.0
CLL LR LR
comp=Z,300nm,22.2s,MS4.8
CLL Collm 102.98 324 *e*P Pdif 19 56 47.0 -1.5
CLL pmax pmax
comp=Z,4.0nm,1.0s
CLL MLR MLR
comp=Z,300nm,22.2s,MS4.8
CLL Collm 102.98 324 *e*Pdif Pdif 19 56 47.0 -1.5
comp=Z,5.0nm,1.0s
CLL *i* x x 19 56 52.2
CLL *e*sPdif 19 57 09.0
CLL *e*x x 20 00 20.0
CLL *e*SKSac SKSac 20 07 16.0 -8.3
CLL *e*x x 20 09 10.0
CLL *e*SP SP 20 10 00.0 -5.6
CLL *e*SS SS 20 15 48.0 +7.1
CLL *e*x x 20 24 06.0
MOA Molln 103.27 320 ⇑*i*P Pdif 19 56 49.9 +0.1
comp=Z,18nm,1.1s
KHC Kasperske Hory 103.32 321 *e*PDIF Pdif 19 56 50.3 +0.3
KHC *e*x x 19 59 55.0
KHC AMS AMS 20 44 20.0
comp=Z,400nm,32.2s,MS4.7
GEC2 GERESS Array S 103.33 321 *e*Pdif Pdif 19 56 49.9 -0.1
GEC2 GERESS Array S 103.33 321 P Pdif 19 56 50.6 +0.6
GERES GERESS Array B 103.33 321 Pdiff Pdif 19 56 50.5 +0.5
comp=Z,5.6nm,1.0s,baz=72,slow=4.3,SNR=28
GERES PKiKP PKiKP 20 01 08.8 -0.4
comp=Z,1.1nm,0.6s,baz=96,slow=2.7,SNR=6.0
GERES PKKPbc PKKPbc 20 12 44.9 -1.4
comp=Z,1.5nm,0.9s,baz=198,slow=3.8,SNR=6.3
OBKA Obir 103.47 319 ⇑*i*P Pdif 19 56 50.7 0.0
comp=Z,11nm,1.1s
OBKA Obir 103.47 319 ⇑*i*P Pdif 19 56 50.6 0.0
comp=Z,11nm,1.1s
NKC Novy Kostel 103.67 323 *e*PDIF Pdif 19 56 51.5 0.0
NKC AMS AMS 20 45 20.0
TIP Timpagrande 103.79 311 *e*Pdif Pdif 19 56 52.4 +0.3
comp=Z,8.6nm,0.8s
MOX Moxa 104.03 323 *e*PDIFF Pdif 19 56 53.7 +0.6
VNA2 Neumayer--Watz 104.30 194 *e*Pdiff Pdif 19 56 55.7 +1.4
VNA2 *e* 19 56 57.0
VNA2 *e* 19 56 59.9
VNA2 *e* 19 57 05.3
VNA2 *e* 19 57 09.1
VNA2 *e* 19 57 15.4
VNA2 *e* 20 01 12.1
VNA2 *e* 20 01 16.6
VNA2 *e* 20 01 21.6
VNA2 *e* 20 01 26.8
VNA2 *e* 20 01 30.1
VNA2 *e* 20 01 33.5
VNA2 *e* 20 01 39.5
VNA2 *e* 20 01 48.8
VNA2 *e* 20 12 41.4
VNA2 *e* 20 12 44.2
VNA2 *e* 20 12 49.8
VNA2 *e* 20 12 55.3
VNA2 *e* 20 13 00.4
VNA2 *e* 20 13 07.4
VNA2 *e* 20 13 12.8
VNA2 *e* 20 13 18.2
GRA1 Grafenberg Arr 104.59 322 *e*Pdif Pdif 19 56 56.1 +0.5
GRA1 *e*PKKPab PKKPab 20 13 00.7 +0.5
GRF Grafenberg Arr 104.59 322 *e*Pdiff Pdif 19 56 56.1 +0.5
GRF *e*PKKPab PKKPab 20 13 00.7 +0.5
VNA3 Neumayer Olymp 104.63 194 *e*Pdiff Pdif 19 56 56.7 +0.9
VNA3 *e* 19 56 59.2
VNA3 *e* 19 57 02.0
VNA3 *e* 19 57 06.6
VNA3 *e* 19 57 09.5
VNA3 *e* 19 57 17.3
VNA3 *e* 20 01 12.2
VNA3 *e* 20 01 16.6
VNA3 *e* 20 01 21.3
VNA3 *e* 20 01 27.0
VNA3 *e* 20 01 31.5
VNA3 *e* 20 01 34.2
VNA3 *e* 20 01 39.8
VNA3 *e* 20 01 49.0
VNA3 *e* 20 12 39.5
VNA3 *e* 20 12 42.6
VNA3 *e* 20 12 49.2
VNA3 *e* 20 12 54.0
VNA3 *e* 20 12 58.8
VNA3 *e* 20 13 05.7
VNA3 *e* 20 13 10.6
VNA3 *e* 20 13 16.4
ABTA Abfaltersbach 104.74 319 ⇑*i*Pdiff Pdif 19 56 55.3 -1.0
comp=Z,10nm,1.2s
ABTA ⇑*i*PKiKP PKiKP 20 01 11.8 0.0
comp=Z,7.4nm,0.9s
WTTA Wattenberg 105.14 320 ⇑*i*P Pdif 19 56 58.0 -0.1
comp=Z,19nm,1.2s
WTTA ⇓*i* 20 01 13.1
comp=Z,17nm,1.0s
DAVA Damuels 106.26 320 ⇑*i* PKiKP 20 01 15.1 +0.5
comp=Z,11nm,0.9s
DAVOX Davos/Dischmat 106.44 320 Pdiff Pdif 19 57 04.2 +0.4
comp=Z,3.3nm,0.6s,baz=88,slow=4.6,SNR=6.6
EDM Edmonton 106.85 33 *e*PKiKP PKiKP 20 01 15.7 +0.2
CDF Champ du Feu 107.48 322 *e*P Pdif 19 57 08.1 -0.4
comp=Z,27nm,1.4s
CDF Champ du Feu 107.48 322 *e*P Pdif 19 57 08.1 -0.4
comp=Z,13nm,1.4s
CDF Champ du Feu 107.48 322 *e*P Pdif 19 57 08.1 -0.4
CDF pmax pmax
comp=Z,13nm,1.4s
HINF Hinteralfeld 107.97 322 *e*P Pdif 19 57 10.1 -0.6
HAU Haudompre 108.21 322 *e*P Pdif 19 57 11.1 -0.6
BAIF Baives 108.63 325 *e*P Pdif 19 57 13.8 +0.2
comp=Z,29nm,1.3s
BAIF Baives 108.63 325 *e*P Pdif 19 57 13.8 +0.2
comp=Z,14nm,1.3s
BAIF Baives 108.63 325 *e*P Pdif 19 57 13.8 +0.2
BAIF pmax pmax
comp=Z,14nm,1.3s
CABF La Chapelle 108.93 321 *e*P Pdif 19 57 14.9 0.0
comp=Z,79nm,1.8s
CABF La Chapelle 108.93 321 *e*P Pdif 19 57 14.9 0.0
comp=Z,40nm,1.8s
CABF La Chapelle 108.93 321 *e*P Pdif 19 57 14.9 0.0
CABF pmax pmax
comp=Z,40nm,1.8s
LPG La Plagne 108.93 319 *e*P Pdif 19 57 15.4 +0.5
comp=Z,17nm,1.1s
LPG La Plagne 108.93 319 *e*P Pdif 19 57 15.4 +0.5
comp=Z,8.6nm,1.1s
LPG La Plagne 108.93 319 *e*P Pdif 19 57 15.4 +0.5
LPG pmax pmax
comp=Z,9.0nm,1.1s
LPL La Plagne 108.94 319 *e*P Pdif 19 57 15.1 +0.1
comp=Z,21nm,1.2s
LPL La Plagne 108.94 319 *e*P Pdif 19 57 15.1 +0.1
comp=Z,11nm,1.2s
LPL La Plagne 108.94 319 *e*P Pdif 19 57 15.1 +0.1
LPL pmax pmax
comp=Z,11nm,1.2s
NVAR Mina Array Bea 109.20 48 Pdif Pdif 19 57 18.2 +2.1
NVAR PKPdf PKiKP 20 01 19.9 -0.5
NVAR PKKPbc PKKPbc 20 12 28.2 +0.3
NVAR PKKPab PKKPab 20 12 40.8 +1.1
NVAR Mina Array Bea 109.20 48 Pdiff Pdif 19 57 18.2 +2.1
comp=Z,3.4nm,0.7s,baz=258,slow=3.6,SNR=5.3
NVAR PKiKP PKiKP 20 01 19.9 -0.4
comp=Z,1.3nm,0.7s,baz=256,slow=0.9,SNR=6.3
NVAR PKKPbc PKKPbc 20 12 28.2 +0.3
comp=Z,1.0nm,0.7s,baz=130,slow=5.0,SNR=5.6
NVAR PKKPab PKKPab 20 12 40.8 +1.1
comp=Z,4.0nm,0.8s,baz=121,slow=6.1,SNR=15
CHMT Chamberlain Mo 109.61 39 *e*PKiKP PKiKP 20 01 21.3 +0.4
EKA Eskdalemuir Ar 109.86 332 PKiKP PKiKP 20 01 20.1 -1.0
comp=Z,1.2nm,0.6s,baz=0.9,slow=2.3,SNR=6.9
EKA PKKPbc PKKPbc 20 12 24.9 -1.4
comp=Z,3.8nm,0.8s,baz=255,slow=2.5,SNR=9.0
EKA PKKPab PKKPab 20 12 36.8 +0.1
comp=Z,2.8nm,1.0s,baz=234,slow=5.1,SNR=4.8
SMF Signal de Mont 110.32 321 *e*P Pdif 19 57 22.7 +1.6
GCMT Greycliff 112.34 39 *e*PKiKP PKiKP 20 01 26.9 +0.8
DUG Dugway 112.59 45 *e*PKiKP PKiKP 20 01 27.8 +1.0
DUG Dugway 112.59 45 PKIKP PKiKP 20 01 28.7 +1.9
MSU Marysvale 113.68 47 *e*PKiKP PKiKP 20 01 30.4 +1.5
MSU Marysvale 113.68 47 PKIKP PKiKP 20 01 31.3 +2.4
PDAR Pinedale Array 113.76 41 PKiKP PKiKP 20 01 29.4 +0.4
comp=Z,2.6nm,1.0s,baz=241,slow=1.5,SNR=10
PDAR PKKPbc PKKPbc 20 12 11.1 -1.9
comp=Z,4.0nm,0.8s,baz=124,slow=4.3,SNR=18
PDAR PKKPab PKKPab 20 12 19.6 +0.2
comp=Z,10.0nm,0.8s,baz=124,slow=6.2,SNR=29
EPOB Poblet 114.39 317 PKP PKiKP 20 01 30.3 +0.1
EMOS Mosqueruela 115.88 317 PKP PKPdf 20 01 35.0 +1.9
ECRI Cripan 116.20 320 PKP PKPdf 20 01 34.8 +1.2
ELAN Lanestosa 116.48 321 PKP PKPdf 20 01 35.1 +1.0
ECHE Chera 116.57 316 PKP PKPdf 20 01 35.3 +0.9
ETOR Torete 116.75 318 PKP PKPdf 20 01 36.0 +1.2
ETOB Tobarra 117.39 315 PKP PKPdf 20 01 37.2 +1.2
ULM Lac du Bonnet 117.49 29 PKP PKPdf 20 01 35.4 -0.4
ULM PKKPbc PKKPbc 20 11 58.9 -1.4
ULM Lac du Bonnet 117.49 29 PKP PKPdf 20 01 35.4 -0.4
comp=Z,16nm,0.8s,baz=305,slow=3.2,SNR=24
ULM PKKPbc PKKPbc 20 11 58.9 -1.4
comp=Z,8.5nm,0.9s,baz=127,slow=2.7,SNR=8.3
EARI Arriondas 117.56 322 PKP PKPdf 20 01 36.7 +0.5
EVIA Vianos 118.06 316 PKP PKPdf 20 01 38.5 +1.1
GUD Guadarrama 118.23 319 PKP PKPdf 20 01 39.0 +1.4
ESDC Sonseca Array 118.58 317 PKP PKPdf 20 01 39.0 +0.7
ESDC Sonseca Array 118.58 317 PKP PKPdf 20 01 38.9 +0.7
comp=Z,0.8nm,0.5s,baz=34,slow=1.8,SNR=11
ESDC PKKPbc PKKPbc 20 11 54.8 -1.3
comp=Z,2.4nm,1.0s,baz=241,slow=3.5,SNR=5.9
ENIJ Nijar 118.60 314 PKP PKPdf 20 01 38.9 +0.5
EPON Pontenova 118.74 322 PKP PKPdf 20 01 38.9 +0.4
EQES Quesada 118.84 315 PKP PKPdf 20 01 38.8 0.0
LAZ Ladron 119.03 49 *e*PKPdf PKPdf 20 01 40.3 +1.0
EBER Berja 119.12 314 PKP PKPdf 20 01 40.2 +0.8
EBAN Banos Encina 119.17 316 PKP PKPdf 20 01 40.2 +0.7
ECAL Calabor 119.23 321 PKP PKPdf 20 01 39.9 +0.4
LENM Lemitar 119.26 49 *e*PKPdf PKPdf 20 01 41.2 +1.4
ECOG Cogollos-Vega 119.43 315 PKP PKPdf 20 01 39.7 -0.3
LPM Los Pinos Moun 119.45 49 *e*PKPdf PKPdf 20 01 41.1 +0.9
BNM Barren Site 119.53 49 *e*PKPdf PKPdf 20 01 41.2 +1.0
EGUA Guajares 119.63 314 PKP PKPdf 20 01 40.2 -0.2
ERON Agron 119.72 315 PKP PKPdf 20 01 39.8 -0.8
EADA Adamuz 119.72 316 PKP PKPdf 20 01 40.9 +0.4
ELUQ Luque 119.79 315 PKP PKPdf 20 01 41.7 +1.0
MVO Moncorvo 119.83 320 *e*PKPdf PKPdf 20 01 41.7 +1.0
ELOJ Sierra Loja 119.91 315 PKP PKPdf 20 01 40.9 -0.1
ELOB Lobios 120.10 321 PKP PKPdf 20 01 42.3 +1.1
PCAB Cabril 120.17 321 *e*PKPdf PKPdf 20 01 42.2 +0.9
PVRL Vila Real 120.21 321 *e*PKPdf PKPdf 20 01 42.2 +0.8
ECAB El Cabril 120.35 317 PKP PKPdf 20 01 42.7 +1.0
MTE Manteigas 120.57 320 *e*PKPdf PKPdf 20 01 43.0 +0.9
EMIJ Mijas 120.62 315 PKP PKPdf 20 01 42.1 -0.2
PVIS Viseu 120.63 320 *e*PKPdf PKPdf 20 01 42.8 +0.6
PCBR Castelo Branco 120.83 319 *e*PKPdf PKPdf 20 01 43.4 +0.8
EBAD Badajoz 121.09 318 PKP PKPdf 20 01 43.5 +0.4
ESPR Espera 121.24 315 PKP PKPdf 20 01 44.5 +1.0
ECSD EROS,Sioux Fal 121.28 35 *e*PKPdf PKPdf 20 01 42.8 -0.6
EMIN Mina Concepcio 121.36 317 PKP PKPdf 20 01 44.9 +1.2
PBAR Barrancos 121.40 317 *e*PKPdf PKPdf 20 01 44.6 +0.8
PESTR Estremoz 121.41 318 *e*PKPdf PKPdf 20 01 44.3 +0.5
EVO Evora 121.87 318 ⇑*i*PKIKP PKPdf 20 01 45.5 +0.8
comp=Z,44nm,0.9s
EVO Evora 121.87 318 *e*PKPdf PKPdf 20 01 45.0 +0.3
EGRO El Granado 122.03 317 PKP PKPdf 20 01 46.3 +1.3
PBEJ Beja 122.04 318 *e*PKPdf PKPdf 20 01 46.2 +1.2
MDT Midelt 122.20 311 PKKPab PKKPab 20 11 43.0 +0.5
comp=Z,1.2nm,0.6s,baz=240,slow=3.6,SNR=4.6
PVAQ Vaqueiros 122.26 317 *e*PKPdf PKPdf 20 01 46.4 +1.0
PBDV Barranco-do-Ve 122.49 317 *e*PKPdf PKPdf 20 01 47.2 +1.3
TORD Torodi Ar. Bea 122.71 286 PKP PKPdf 20 01 46.9 0.0
comp=Z,35nm,0.7s,baz=60,slow=1.7,SNR=162
TORD PP PP 20 03 28.9 +4.0
comp=Z,6.5nm,1.0s,baz=68,slow=5.9,SNR=4.0
TORD PKKPab PKKPab 20 11 40.6 +0.1
comp=Z,12nm,0.7s,baz=281,slow=3.8,SNR=44
PTEO Sao Teotonio 122.87 318 *e*PKPdf PKPdf 20 01 47.8 +1.2
MORF Marmelete 122.94 317 *e*PKPdf PKPdf 20 01 47.8 +1.0
SCHQ Schefferville 123.05 9 PKP PKPdf 20 01 46.6 +0.2
comp=Z,39nm,0.7s,baz=351,slow=2.1,SNR=66
SCHQ PKKPab PKKPab 20 11 37.9 -0.7
comp=Z,8.6nm,0.9s,baz=178,slow=2.9,SNR=11
PFVI Vila Bisbo 123.16 317 *e*PKPdf PKPdf 20 01 48.0 +0.8
COWI Conover 123.62 29 *e*PKPdf PKPdf 20 01 47.0 -0.8
KSU1 Kansas State U 124.05 39 *e*PKPdf PKPdf 20 01 49.0 +0.2
JFWS Jewell Farm 125.32 32 *e*PKPdf PKPdf 20 01 50.2 -0.9
JFWS Jewell Farm 125.32 32 PKIKP PKPdf 20 01 50.7 -0.4
JCT Junction City 126.32 50 *e*PKPdf PKPdf 20 01 53.6 +0.1
HDIL Hopedale 127.47 33 *e*PKPdf PKPdf 20 01 55.1 -0.2
MIAR Mount Ida 128.68 42 *e*PKPdf PKPdf 20 01 57.8 -0.1
MIAR Mount Ida 128.68 42 PKIKP PKPdf 20 01 58.4 +0.6
DBIC Dimbokro 130.08 280 PKP PKPdf 20 01 54.0 -7.1
DBIC PKP PKPdf 20 02 02.2 +1.1
DBIC SKPbc 20 05 17.6
DBIC Dimbokro 130.08 280 PKIKP PKPdf 20 02 02.2 +1.2
DBIC pmax pmax
comp=Z,22nm,0.6s
DBIC Dimbokro 130.08 280 PKhKP 20 01 54.0
comp=Z,3.7nm,0.7s,baz=110,slow=15,SNR=4.9
DBIC PKP PKPdf 20 02 02.2 +1.1
comp=Z,22nm,0.6s,baz=79,slow=2.1,SNR=36
DBIC SKPbc 20 05 17.6
comp=Z,13nm,0.7s,baz=106,slow=4.1,SNR=7.0
GNAR Gosnell 130.11 38 PKPdf PKPdf 20 02 01.1 +0.7
BINY Binghamton 132.40 22 *e*PKPdf PKPdf 20 02 04.7 +0.1
SSPA Standing Stone 132.98 25 *e*PKPdf PKPdf 20 02 05.8 0.0
CPCT Cooper Cave 133.73 35 *e*PKPdf PKPdf 20 02 07.2 -0.2
MVL Millersville 134.14 24 *e*PKPdf PKPdf 20 02 07.8 -0.1
ELN Prospectdale 134.42 30 *e*PKPdf PKPdf 20 02 08.1 -0.5
BLA Blacksburg 134.60 30 *e*PKPdf PKPdf 20 02 08.0 -0.9
JSC Jenkinsville 136.41 33 PKPdf PKPdf 20 02 13.1 +0.7
JSC Jenkinsville 136.41 33 PKIKP PKPdf 20 02 14.5 +2.1
COW Cow Castle Cre 137.39 33 *e*PKPdf PKPdf 20 02 15.3 +1.1
PLCA Paso Flores 138.10 161 PKP PKPdf 20 02 05.4 -10
PLCA PKP PKPdf 20 02 17.0 +1.7
PLCA Paso Flores 138.10 161 PKIKP PKPdf 20 02 17.0 +1.7
PLCA pmax pmax
comp=Z,22nm,0.9s
PLCA Paso Flores 138.10 161 PKhKP 20 02 05.4
comp=Z,6.4nm,0.7s,baz=199,slow=4.6,SNR=16
PLCA PKP PKPdf 20 02 17.0 +1.7
comp=Z,22nm,0.9s,baz=235,slow=1.8,SNR=7.1
TRQA Tornquist 142.78 170 *e*PKPpre 20 02 20.2
CLCH Cerro Calan 144.64 156⇑ *e*P PKPdf 20 02 26.9 -0.3
FCH Farellones 144.80 156⇑ *e*P PKPdf 20 02 27.0 -0.6
BBSR BB Station 145.03 16 *e*PKP PKPdf 20 02 26.8 -1.2
MGV Manicaragua 145.72 46 *e*P PKPdf 20 02 29.5 +0.1
CFAA Coronel Fontan 147.12 158 PKPbc PKPbc 20 02 32.3 -1.4
comp=Z,18nm,0.6s,baz=220,slow=3.0,SNR=197
TLL Tololo Astrono 147.30 153⇑ *e*P PKPdf 20 02 32.9 +1.1
LCO Las Campanas 148.32 152 *e*PKPdf PKPdf 20 02 34.7 +1.1
LCO *e*PKPbc PKPbc 20 02 38.0 +1.0
CVJ Coleyville 149.93 49 ⇓*i*P PKPbc 20 02 41.5 +0.2
STH Stony Hill 150.56 48 ⇓*i*P PKPbc 20 02 43.2 +0.4
HOJ Hope 150.65 48 ⇓*i*P PKPbc 20 02 43.2 +0.1
BCIP Isla Barro Col 152.43 67 *e*PKPbc PKPbc 20 02 46.9 -0.4
NNA Nana 155.21 116 *e*PKPdf PKPdf 20 02 44.4 +0.1
NNA *e*PKPbc PKPdf 20 02 52.3 +8.0
NNA Nana 155.21 116 PKP PKPdf 20 02 45.2 +0.9
comp=Z,33nm,1.1s,baz=280,slow=3.6,SNR=5.5
NNA PKPab PKPab 20 03 10.4 +1.1
comp=Z,38nm,0.9s,baz=246,slow=6.5,SNR=6.8
ATAH Atahualpa 155.26 104 PKP PKPdf 20 02 46.7 +2.3
comp=Z,13nm,0.9s,baz=26,slow=5.3,SNR=12
ATAH PKPab PKPab 20 03 12.3 +2.6
comp=Z,105nm,0.9s,baz=246,slow=1.6,SNR=19
OTAV Otavalo 155.73 86 *e*PKPdf PKPdf 20 02 46.0 +0.9
OTAV *e*PKPab PKPab 20 03 13.1 +1.4
ROSC El Rosal 158.99 73 PKP PKPdf 20 02 50.3 +1.1
comp=Z,26nm,0.8s,baz=214,slow=6.5,SNR=12
ROSC PKPab PKPab 20 03 28.2 +2.5
comp=Z,51nm,0.9s,baz=127,slow=3.9,SNR=11
LPAZ La Paz 159.80 138 PKP PKPdf 20 02 52.0 +2.0
comp=Z,18nm,1.0s,baz=341,slow=0.9,SNR=53
LPAZ PKPab PKPab 20 03 31.4 +2.5
comp=Z,19nm,0.9s,baz=151,slow=1.2,SNR=8.1
SDV Santo Domingo 160.75 58 *e*PKPdf PKPdf 20 02 51.0 -0.2
SDV Santo Domingo 160.75 58 PKP PKPdf 20 02 51.2 +0.1
comp=Z,34nm,0.8s,baz=355,slow=1.1,SNR=41
SDV PKPab PKPab 20 03 33.7 +0.4
comp=Z,12nm,0.8s,baz=301,slow=3.6,SNR=4.1
SIV San Ignacio 163.96 155 PKP PKPdf 20 02 55.1 +0.9
comp=Z,17nm,1.0s,baz=212,slow=1.3,SNR=49
SIV PKPab PKPab 20 03 48.0 +1.0
comp=Z,22nm,1.0s,baz=230,slow=3.8,SNR=13
BDFB Brasilia 164.53 203 PKP PKPdf 20 02 55.8 +1.0
comp=Z,19nm,1.0s,baz=106,slow=0.5,SNR=25
BDFB PKPab PKPab 20 03 51.0 +1.5
comp=Z,24nm,0.9s,baz=221,slow=4.0,SNR=12

MOS ***02*** *19:45:54.6±0.6, 5559N×16343E, h88km, mb4.3/1, Error ellipse: s-maj=38.2km s-min=23.9km az=71.9*

KRSC 02 19:45:59.5±0.4, 5555N×16264E, h52km±52km, ML4.2, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**0.67**	**9**	*i* P		Pn	19 46 12.7	-0.2
KBTR				*e*S		Sn	19 46 23.4	+0.8
MKZ	**Mys Kozlova**	**1.12**	**208**	P		Pn	19 46 19.9	+1.0
MKZ				S		Sn	19 46 35.3	+2.0
ZLN	**Zelenaya**	**1.14**	**295**	P		Pn	19 46 20.5	+1.4
ZLN				S		Sn	19 46 35.9	+2.3
KRSR	**Krestovskiy**	**1.35**	**301**	*e*P		Pn	19 46 23.1	+1.2
KRSR				*e*S		Sn	19 46 39.5	+0.9
KLY	**Klyuchi**	**1.35**	**305**	*e*P		Pn	19 46 21.9	-0.1
KLY				*e*S		Sn	19 46 38.0	-0.9
KMNR	**Kamenistaya**	**1.38**	**280**	*i* P		Pn	19 46 24.3	+2.0
KMNR				*e*S		Sn	19 46 42.6	+3.2
SRKR	**Sorokina**	**1.38**	**324**	*e*P		Pn	19 46 24.2	+1.9
SRKR				*e*S		Sn	19 46 42.2	+2.7
KPT	**Kopyto**	**1.43**	**288**	*i* P		Pn	19 46 25.5	+2.5
KPT				*e*S		Sn	19 46 44.3	+3.7
TUMR	**Tumrok**	**1.45**	**260**	*e*P		Pn	19 46 25.0	+1.8
TUMR				*e*S		Sn	19 46 43.9	+2.8
KOZR	**Kozyr**	**1.63**	**290**	PN		Pn	19 46 28.6	+2.8
KOZR				S		Sn	19 46 49.6	+4.0
KOZ	**Kozyrevsk**	**1.64**	**289**	*e*P		Pn	19 46 28.6	+2.7
KOZ				*e*S		Sn	19 46 49.6	+3.7
SRDR	**Sredinnyy**	**1.82**	**296**	*i* P		Pn	19 46 31.0	+2.7
SRDR				*e*S		Sn	19 46 54.0	+3.9
SPN	**Mys Shipunski**	**2.90**	**213**	P		Pn	19 46 43.5	+0.5
SPN				*e*S		Sn	19 47 16.7	+0.1
AVH	**Avacha**	**3.23**	**226**	P		Pn	19 46 49.9	+2.3
AVH				*e*S		Sn	19 47 27.6	+2.8
GNL	**Ganaly**	**3.30**	**238**	*e*P		Pn	19 46 51.3	+2.7
GNL				S		Sn	19 47 30.3	+3.7
PET	**Petropavlovsk**	**3.44**	**224**	S		Sn	19 47 33.2	+3.1
RUS	**Russkaya**	**3.96**	**220**	P		Pn	19 46 59.3	+1.7
RUS				S		Sn	19 47 43.9	+1.2

IDC 02 19:56:00.2±7.9, 786S×15829E, h0km, mb3.9/3, mb1 4.0/4, mb1mx3.6/15, mbtmp3.9/4, ML3.4/1, Error ellipse: s-maj=156.5km s-min=32.3km az=16.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.26**	**134**	Pn		Pn	19 56 38.6	-0.3
	10.0nm,0.3s,baz=262,slow=7.1,SNR=2.5							
HNR				Sn		Sn	19 57 15.8	+8.3
	50nm,0.3s,baz=96,slow=24,SNR=6.3							
WRA	**Warramunga Arr**	**26.12**	**240**	P		P	20 01 35.0	-1.2
	1.7nm,0.6s,baz=68,slow=9.5,SNR=10							
ASAR	**Alice Springs**	**28.17**	**233**	P		P	20 01 55.3	+0.8
	0.6nm,0.8s,baz=69,slow=11,SNR=3.5							
STKA	**Stephens Creek**	**28.51**	**211**	P		P	20 01 58.4	+0.9
	2.0nm,0.7s,baz=42,slow=14,SNR=4.1							

CSEM ***02*** *19:56:13.3±0.1, 3626N×4097E, h2km, MD4.0, Error ellipse: s-maj=4.3km s-min=1.5km az=168.0*

ISK ***02*** *19:56:13.1, 36.12N×4096E, h7km, MD4.0*

ISCJB ***02*** *19:56:14.9±0.8, 3633N±005×4103E±004, h10km, Error ellipse: s-maj=8.4km s-min=4.0km az=153.9*

NSSC ***02*** *19:56:14.1, 36.35N×4104E, h6km±2km*

ISC 02 19:56:16.1±0.7, 3637N±005×4101E±004, h10km, n26, σ1§21/36, 8D, Iraq

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SFNV	**Sufian**	**0.73**	**274**	⇑P		**Pg**	**19 56 28.4**	**-1.7**
SFNV				⇑S		**Sg**	**19 56 40.4**	**+0.7**
SFNV	**Sufian**	**0.73**	**274**	⇑*i*P		**Pg**	**19 56 28.4**	**-1.8**
SFNV				⇑*i*S		**Sg**	**19 56 40.4**	**+0.7**
KBSD	**Kabsdagh**	**0.73**	**329**	⇑P		**Pg**	**19 56 28.9**	**-1.4**
KBSD				⇑S		**Sg**	**19 56 40.1**	**+0.2**
KBSD	**Kabsdagh**	**0.73**	**329**	⇑*i*P		**Pg**	**19 56 28.9**	**-1.4**
KBSD				⇑*i*S		**Sg**	**19 56 40.1**	**+0.2**

DRBT	**Darb Altahta**	**1.08 297**	⇓P		Px	19 56 49.5	
DRBT			⇑S		Sx	19 57 16.3	
DRBT	**Darb Altahta**	**1.08 297**	⇓*i*P		Px	19 56 49.5	
DRBT			⇑*i*S		Sx	19 57 16.3	
BSHR	**Al Beshri**	**1.19 234**	⇑P		**Pb**	**19 56 42.0**	**+3.2**
BSHR			⇓S		Sx	19 57 04.2	
BSHR	**Al Beshri**	**1.19 234**	⇑*i*P		**Pb**	**19 56 42.0**	**+3.2**
BSHR			⇓*i*S		Sx	19 57 04.2	
SIRT	**Sirnak**	**1.61 45**	PN		**Pg**	**19 56 45.3**	**-1.7**
SIRT			SN		**Sg**	**19 57 09.0**	**+1.2**
DIY	**Diyarbakir**	**1.65 338**	PN		**Pn**	**19 56 45.7**	**+0.6**
MSL	**Mosul**	**1.68 92**	*ex*		x	19 56 47.5	
MSL			*i x*		x	19 57 12.5	
MSL			*i x*		x	19 57 15.0	
BTMT	**Batman**	**1.86 12**	PN		**Pg**	**19 56 48.6**	**-3.2**
BTMT			SN		**Sg**	**19 57 14.5**	**-1.4**
URFA	**Urfa**	**2.05 302**	PN		**Pn**	**19 56 50.7**	**0.0**
URFA			SN		**Sn**	**19 57 17.7**	**+1.3**
JHLN	**Al Jahlan**	**2.20 252**	⇓P		**Pn**	**19 56 51.6**	**-1.1**
JHLN			⇑S		**Sn**	**19 57 20.2**	**+0.3**
JHLN	**Al Jahlan**	**2.20 252**	⇓*i*P		**Pn**	**19 56 51.6**	**-1.1**
JHLN			⇑*i*S		**Sn**	**19 57 20.2**	**+0.3**
CUKT	**Cukurca**	**2.26 66**	*e*PN		**Pn**	**19 56 54.6**	**+1.1**
SLMH	**Al Salmeh**	**2.50 267**	⇑P		**Pn**	**19 56 55.0**	**-1.8**
SLMH			⇓S		**Sn**	**19 57 27.8**	**+0.6**
SLMH	**Al Salmeh**	**2.50 267**	⇑*i*P		**Pn**	**19 56 55.0**	**-1.8**
SLMH			⇓*i*S		**Sn**	**19 57 27.8**	**+0.5**
HKR	**Hakkari**	**2.50 60**	*e*PN		**Pn**	**19 56 57.5**	**+0.7**
BINT	**Bingol**	**2.53 351**	*e*PN		**Pn**	**19 56 59.5**	**+2.2**
MALT	**Malatya**	**2.83 314**	*e*PN		**Pn**	**19 57 02.6**	**+1.3**
MYA	**Malataya**	**2.84 314**	*e*PN		**Pn**	**19 57 02.0**	**+0.5**
KMRS	**Kahramanmaras**	**3.48 290**	*e*PN		**Pn**	**19 57 10.5**	**+0.2**
BTCH	**Batrach**	**3.70 266**	⇑P		**Pn**	**19 57 12.2**	**-1.0**
BTCH			⇑S		**Sn**	**19 57 57.3**	**+0.4**
BTCH	**Batrach**	**3.70 266**	⇑*i*P		**Pn**	**19 57 12.2**	**-1.1**
BTCH			⇑*i*S		**Sn**	**19 57 57.3**	**+0.4**
HTY	**Hatay**	**3.95 268**	*e*PN		**Pn**	**19 57 15.5**	**-1.2**

IDC 02 20:04:14.2±1.1, 808S×15658E, h0km, mb4.0/5, mb1 4.2/6, mb1mx3.9/15, mbtmp4.1/6, ML4.6/1, Error ellipse: s-maj=35.9km s-min=25.6km az=15.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**3.59**	**112**	Pn	Pn	20 05 11.5	+0.4
	49nm,0.3s,baz=232,slow=1.3,SNR=8.5						
HNR				Sn	Sn	20 05 56.3	+2.1
	137nm,0.3s,baz=104,slow=19,SNR=8.4						
WRA	**Warramunga Arr**	**24.56**	**239**	P	P	20 09 35.5	-0.4
	3.9nm,0.6s,baz=64,slow=9.3,SNR=17						
SONM	**Songino Array**	**71.09**	**327**	P	P	20 15 33.7	-0.5
	0.7nm,0.6s,baz=141,slow=6.3,SNR=4.6						
MKAR	**Makanchi Array**	**85.25**	**318**	P	P	20 16 53.9	+1.1
	1.0nm,0.8s,baz=101,slow=4.9,SNR=2.7						
ZALV	**Zalesovo Beam**	**85.95**	**326**	P	P	20 16 57.6	+1.5
	0.7nm,0.6s,baz=123,slow=5.3,SNR=2.8						
YKA	**Yellowknife Ar**	**96.55**	**28**	P	P	20 17 43.6	-1.9
	0.1nm,0.3s,baz=268,slow=4.6,SNR=3.0						

NIED ***02*** *20:05:00, 2380N×12250E, h11km, Mw4.4 Best double couple: M0=4.46000×10^15 NP1:φ=66.00000°, δ=75.00000°, λ=68.00000°. NP2:φ=304.00000°, δ=26.0000°, λ=145.00000°.*
BJI ***02*** *20:05:44.9, 2337N×12287E, h20km, mB4.5, mb4.2, ML4.2*
IDC ***02*** *20:05:47.7±0.7, 2391N×12247E, h0km, mb4.2/11, mb1 4.3/12, mb1mx4.2/20, mbtmp4.2/12, ML3.9/1, MS4.4/2, Ms1 4.4/2, ms1mx3.4/35, Error ellipse: s-maj=35.3km s-min=15.5km az=65.0*
ISCJB ***02*** *20:05:48.5±0.5, 2372N×006×12244E±003, h10km, mb4.2/19, MS4.4/2, Error ellipse: s-maj=8.4km s-min=4.2km az=170.9*
NEIC ***02*** *20:05:49.7±0.7, 2388N×12254E, h10km, mb4.4/9, Error ellipse: s-maj=17.3km s-min=10.3km az=36.0*
JMA ***02*** *20:05:51.7±0.3, 2383N×12252E, h17km, M4.4*
ISC 02 20:05:51.0±1.8, 2383N±008×12248E±004, h16km±10km, n47, σ1°02/47, mB4.2/19, MS4.4/2, 1C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.79**	**37**	P	**Pg**	**20 06 06.4**	**-0.1**
YOJ				S	**Sg**	**20 06 16.5**	**-0.5**
NACB	**Ninganchiao**	**0.88**	**293**	*e*P	**Pb**	**20 06 07.4**	**-0.5**
HATJ	**Hateruma jima**	**1.23**	**79**	P	**Pn**	**20 06 13.2**	**-0.4**
HATJ				*e*S	**Sb**	**20 06 29.5**	**-0.1**
IRIF	**Iriomote-Funau**	**1.25**	**66**	P	**Pn**	**20 06 14.0**	**+0.2**
IRIF				*e*S	**Sb**	**20 06 30.6**	**+0.6**
YHNB	**Yeheng**	**1.31**	**310**	*e*P	**Pn**	**20 06 14.8**	**+0.1**
JKRS	**Kuro-shima**	**1.46**	**73**	P	**Pn**	**20 06 16.9**	**+0.3**
TATO	**Taipei**	**1.46**	**322**	*e*P	**Pn**	**20 06 17.3**	**+0.6**
JIJ	**Ishigaki jima**	**1.61**	**70**	P	**Pn**	**20 06 19.1**	**+0.3**
JTJ	**Tarama**	**2.18**	**68**	P	**Pn**	**20 06 27.9**	**+1.3**
QZH	**Quanzhou**	**3.71**	**288**	⇑*i*P	**Pn**	**20 06 47.7**	**0.0**
QZH				Smax			
	comp=N,500nm,1.2s						
QZH				Smax			
	comp=E,250nm,0.9s						
JOW	**Kunigami**	**6.04**	**59**	Pn	**Pn**	**20 07 19.1**	**-0.6**
	comp=E,7.2nm,0.3s,baz=286,slow=29,SNR=6.0						
KSRS	**Korea Array**	**14.36**	**18**	Pn	**Pn**	**20 09 14.5**	**+0.9**
	comp=E,0.1nm,0.3s,baz=199,slow=12,SNR=4.7						
XAN	**Xi'an**	**15.62**	**314**	P	**Pn**	**20 09 36.2**	**+5.8**
XAN				AP	pP	20 09 41.3	+2.2
XAN				AMB	AMB		
	comp=Z,10.0nm,1.3s						
LZH	**Lanzhou**	**20.21**	**311**	*e*P	**P**	**20 10 31.0**	**+5.9**
LZH				AP		20 10 34.5	
LZH				XP	sP	20 10 36.0	+4.2
LZH				AMB	AMB		
	comp=Z,25nm,1.0s						
LZH				AMB	AMB		
	comp=Z,120nm,4.6s						
LZH	**Lanzhou**	**20.21**	**311**	*e*P	**P**	**20 10 31.0**	**+5.9**
	comp=Z,25nm,1.0s						
LZH				pP		20 10 34.5	
LZH				sP	sP	20 10 36.0	+4.2
SONM	**Songino Array**	**27.16**	**336**	P	**P**	**20 11 33.1**	**-0.4**
	comp=Z,5.6nm,0.9s,mb4.1,baz=153,slow=10,SNR=25						
LSA	**Lhasa**	**28.52**	**289**	*e*P	**P**	**20 11 46.0**	**+0.1**
	comp=Z,2.6nm,0.7s,mb4.1						
MK31	**Makanchi Array**	**39.42**	**316**	*e*P	**P**	**20 13 19.2**	**-0.9**
MKAR	**Makanchi Array**	**39.42**	**316**	P	**P**	**20 13 20.2**	**+0.1**
	comp=Z,8.3nm,0.9s,mb4.5,baz=108,slow=9.9,SNR=40						
ZAA0	**Zalesovo Array**	**41.19**	**327**	*e*P	**P**	**20 13 31.3**	**-3.3**
ZALV	**Zalesovo Beam**	**41.19**	**327**	P	**P**	**20 13 31.5**	**-3.1**
	comp=Z,4.9nm,0.8s,mb4.2,baz=111,slow=8.1,SNR=19						
ULHL	**Ulahol**	**42.32**	**307**	P	**P**	**20 13 45.5**	**+1.4**
	SNR=11						
TKM2	**Tokmak 2**	**42.92**	**308**	*e*P	**P**	**20 13 50.1**	**+1.2**
	comp=Z,12nm,0.8s,mb4.7						
TKM2	**Tokmak 2**	**42.92**	**308**	P	**P**	**20 13 50.4**	**+1.5**
	SNR=16						
KURK	**Kurchatov**	**43.12**	**320**	*e*P	**P**	**20 13 48.7**	**-1.8**
	comp=Z,7.1nm,1.3s,mb4.2						
KBK	**Karagaybulak**	**43.34**	**308**	P	**P**	**20 13 53.8**	**+1.4**
	SNR=11						
UCH	**Uchtor**	**43.58**	**307**	*e*P	**P**	**20 13 56.4**	**+2.0**
	comp=Z,12nm,1.0s,mb4.6						
UCH	**Uchtor**	**43.58**	**307**	P	**P**	**20 13 56.5**	**+2.2**
	SNR=16						
AAK	**Ala-Archa**	**43.66**	**307**	*e*P	**P**	**20 13 55.1**	**+0.1**
	comp=Z,3.4nm,0.8s,mb4.1						
AAK	**Ala-Archa**	**43.66**	**307**	P	**P**	**20 13 56.3**	**+1.3**
	SNR=5.2						
AML	**Almayashu**	**44.17**	**307**	*e*P	**P**	**20 14 00.7**	**+1.7**
	comp=Z,10nm,1.0s,mb4.5						
AML	**Almayashu**	**44.17**	**307**	P	**P**	**20 14 01.1**	**+2.0**
	SNR=9.6						
EKS2	**Erkin-Say**	**44.19**	**307**	*e*P	**P**	**20 14 00.1**	**+0.9**
	comp=Z,4.0nm,0.8s,mb4.2						
EKS2	**Erkin-Say**	**44.19**	**307**	P	**P**	**20 14 00.2**	**+1.0**
	SNR=7.3						
WRA	**Warramunga Arr**	**45.02**	**164**	P	**P**	**20 14 05.1**	**-0.8**
	comp=Z,2.0nm,0.8s,mb4.0,baz=344,slow=7.9,SNR=7.1						
ASAR	**Alice Springs**	**48.50**	**166**	P	**P**	**20 14 33.2**	**+0.1**
	comp=Z,2.0nm,0.9s,mb4.1,baz=353,slow=6.5,SNR=12						
BRVK	**Borovoye**	**48.77**	**321**	*e*P	**P**	**20 14 34.0**	**-1.0**
	comp=Z,1.6nm,0.7s,mb4.2						
CTA	**Charters Tower**	**49.42**	**150**	LR	LR	20 36 29.1	
	comp=Z,136nm,18.6s,MS4.0,baz=234,slow=37						
STKA	**Stephens Creek**	**58.33**	**161**	P	**P**	**20 15 45.6**	**+0.4**
	comp=Z,1.9nm,0.7s,mb4.2,baz=342,slow=7.0,SNR=7.2						
FINES	**FINESS Array B**	**72.35**	**330**	P	**P**	**20 17 14.9**	**-0.9**
	comp=Z,1.1nm,0.7s,mb3.9,baz=76,slow=7.8,SNR=5.4						
AKASG	**Malin Array Be**	**73.92**	**319**	P	**P**	**20 17 23.5**	**-1.8**
	comp=Z,0.7nm,0.5s,mb3.8,baz=60,slow=6.4,SNR=4.6						
NB2	**NORSAR Subarra**	**79.09**	**332**	P	**P**	**20 17 53.1**	**-1.3**
	comp=Z,0.4nm,0.5s,mb3.6,baz=56,slow=5.6						
NOA	**NORSAR Array B**	**79.09**	**332**	P	**P**	**20 17 53.2**	**-1.2**
	comp=Z,1.2nm,0.7s,mb3.9,baz=53,slow=5.9,SNR=2.6						
YKA	**Yellowknife Ar**	**82.83**	**23**	P	**P**	**20 18 13.0**	**-1.3**
	comp=Z,2.0nm,0.8s,mb4.2,baz=313,slow=4.9,SNR=28						
GERES	**GERESS Array B**	**83.87**	**321**	P	**P**	**20 18 19.5**	**-0.4**
	comp=Z,1.1nm,0.7s,mb4.1,baz=54,slow=6.8,SNR=10.0						
RAR	**Rarotonga**	**87.89**	**114**	LR	LR	20 49 53.1	
	comp=Z,508nm,21.9s,MS4.9,baz=53,slow=30						
SDV	**Santo Domingo**	**145.05**	**23**	PKP	PKPdf	20 25 27.3	-1.2
	comp=Z,4.7nm,0.8s,baz=66,slow=3.4,SNR=5.9						

IDC 02 20:08:13.9±4.1, 770S×15630E, h0km, mb4.0/6, mb1 4.1/6, mb1mx3.9/15, mbtmp4.0/6, Error ellipse: s-maj=119.4km s-min=26.4km az=115.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.51**	**238**	P	P	20 13 36.0	+0.8
	4.0nm,0.6s,baz=64,slow=9.7,SNR=23						
ASAR	**Alice Springs**	**26.71**	**231**	P	P	20 13 55.1	0.0
	0.6nm,0.6s,baz=63,slow=9.2,SNR=12						
FITZ	**Fitzroy Crossi**	**31.57**	**248**	P	P	20 14 38.3	-0.2
	0.9nm,0.6s,baz=31,slow=18,SNR=3.7						
SONM	**Songino Array**	**70.63**	**327**	P	P	20 19 32.1	+0.9
	0.7nm,0.5s,baz=142,slow=6.0,SNR=11						
MKAR	**Makanchi Array**	**84.79**	**318**	P	P	20 20 50.2	0.0
	0.5nm,0.4s,baz=92,slow=6.2,SNR=6.0						
ZALV	**Zalesovo Beam**	**85.49**	**326**	P	P	20 20 52.4	-1.2
	1.2nm,0.8s,baz=104,slow=6.3,SNR=5.4						

ISCJB ***02*** *20:11:55.9±0.6, 75S±0.1×15629E±008, h10km, mb4.0/9, Error ellipse: s-maj=18.6km s-min=8.0km az=28.9*
IDC ***02*** *20:11:55.8±1.3, 758S×15632E, h0km, mb4.1/8, mb1 4.2/9, mb1mx4.0/16, mbtmp4.1/9, ML4.3/1, MS3.9/1, Ms1 3.9/1, ms1mx3.0/25, Error ellipse: s-maj=33.8km s-min=22.3km az=110.0*
NEIC ***02*** *20:11:56.9±0.6, 757S×15637E, h10km, mb4.3/1, Error ellipse: s-maj=18.1km s-min=15.1km az=202.0*
ISC 02 20:11:57.3±0.6, 76S±01×15631E±008, h10km, n14, σ0°93/13, mb4.0/9, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.05**	**118**	Pn	**Pn**	**20 12 58.4**	**-1.0**
	19nm,0.3s,baz=270,slow=20,SNR=3.7						
HNR				Sn	**Sb**	**20 13 58.3**	**+0.5**
	11nm,0.3s,baz=270,slow=20,SNR=1.6						
WRA	**Warramunga Arr**	**24.60**	**238**	P	**P**	**20 17 18.8**	**+0.9**
	2.4nm,0.4s,mb4.1,baz=64,slow=9.4,SNR=23						
ASAR	**Alice Springs**	**26.81**	**231**	P	**P**	**20 17 38.4**	**+0.5**
	0.6nm,0.5s,mb3.4,baz=62,slow=9.3,SNR=11						
FITZ	**Fitzroy Crossi**	**31.64**	**248**	P	**P**	**20 18 18.9**	**-2.0**
	1.7nm,0.9s,mb3.9,baz=81,slow=13,SNR=3.2						
CBIJ	**Chichi jima**	**37.07**	**339**	LR	LR	20 30 58.5	
	comp=Z,162nm,20.3s,baz=114,slow=31						
MJAR	**Matsushiro Arr**	**47.04**	**340**	P	**P**	**20 20 27.9**	**-1.2**
	2.7nm,0.9s,mb4.2,baz=138,slow=9.7,SNR=5.5						
KSRS	**Korea Array**	**52.05**	**331**	P	**P**	**20 21 07.8**	**+0.4**
	0.6nm,0.5s,mb3.8,baz=171,slow=5.1,SNR=3.2						
SONM	**Songino Array**	**70.52**	**327**	P	**P**	**20 23 13.4**	**+1.1**
	0.6nm,0.5s,mb3.8,baz=142,slow=5.4,SNR=7.9						
MK31	**Makanchi Array**	**84.69**	**318**	*e*P	**P**	**20 24 32.1**	**+0.6**
MKAR	**Makanchi Array**	**84.69**	**318**	P	**P**	**20 24 32.4**	**+0.9**
MKAR	**Makanchi Array**	**84.69**	**318**	P	**P**	**20 24 32.4**	**+0.9**
	3.3nm,0.7s,mb4.6,baz=100,slow=5.7,SNR=17						
ZALV	**Zalesovo Beam**	**85.38**	**326**	P	**P**	**20 24 34.5**	**-0.3**
	1.9nm,0.5s,mb4.5,baz=117,slow=6.0,SNR=7.4						
KURK	**Kurchatov**	**88.08**	**322**	*e*P	**P**	**20 24 47.5**	**-0.6**
	1.0nm,0.6s,mb4.2						
TZTN	**Tazewell**	**118.58**	**52**	*e*P	PKPdf	20 30 44.5	-1.4

MEX 02 20:13:56.6±1.3, 1647N×9922W, h16km±17km, MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	**Acapulco**	**0.78**	**301**	*e*P	Pb	20 14 09.5	-2.2
ACX				*i* S	Sg	20 14 17.1	-4.9
PNIG	**Pinotepa**	**1.05**	**94**	*i* P	Pb	20 14 13.1	-3.4
PNIG				*i* S	Sb	20 14 25.1	-5.0
MEIG	**Mezcala**	**1.50**	**345**	*e*P	Pn	20 14 19.5	-3.4
MEIG				*e*S	Sn	20 14 37.6	-4.4
UTMO	**Huajuapan**	**1.92**	**45**	*e*P	Pn	20 14 25.0	-3.6
UTMO				*e*S	Sn	20 14 48.3	-4.1
CMIG	**Matias Romero**	**4.20**	**81**	*e*P	Pn	20 15 01.6	+1.6
CMIG				*e*S	Sn	20 15 49.8	+0.9

IDC ***02*** *20:15:10.2±0.6, 765S×15553E, h0km, mb4.3/14, mb1 4.4/15, mb1mx4.4/17, mbtmp4.3/15, ML4.3/1, MS3.8/6, Ms1 3.8/6, ms1mx3.5/21, Error ellipse: s-maj=19.8km s-min=15.9km az=101.0*
NEIC ***02*** *20:15:11.8±0.3, 755S×15554E, h10km, mb4.8/11, Error ellipse: s-maj=8.7km s-min=6.5km az=129.0*
MOS ***02*** *20:15:13.7±0.8, 755S×15555E, h33km, mb5.0/5, Error ellipse: s-maj=14.4km s-min=11.5km az=103.8*
ISCJB ***02*** *20:15:15.2±2.5, 760S±009×15550E±007, h46km±25km, mb4.4/24, MS3.8/4, Error ellipse: s-maj=16.8km s-min=9.9km az=151.4*
ISC 02 20:15:18.2±2.2, 765S±009×15551E±008, h59km±22km, n55, σ0°70/49, mb4.4/24, MS3.8/4, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.73**	**112**	*e*P	**Pn**	**20 16 25.3**	**-1.7**
HNR	**Honiara**	**4.73**	**112**	Pn	**Pn**	**20 16 22.7**	**-4.3**
	13nm,0.3s,baz=237,slow=3.2,SNR=2.5						
HNR				Sn	**Sn**	**20 17 21.9**	**+1.2**
	7.8nm,0.3s,baz=270,slow=20,SNR=2.8						
HNR				LR	LR	20 18 02.9	
	comp=Z,1μm,20.3s,baz=0.4,slow=37						
CTA	**Charters Tower**	**15.28**	**215**	Pn	**Pn**	**20 18 50.4**	**0.0**
	0.2nm,0.3s,baz=108,slow=20,SNR=1.8						
CTA				LR	LR	20 23 14.7	
	comp=Z,283nm,21.0s,baz=206,slow=32						
CTAO	**Charters Tower**	**15.28**	**215**	*e*P	**Pn**	**20 18 55.5**	**+5.2**
KAKA	**Kakadu**	**23.25**	**256**	*e*P	**P**	**20 20 21.2**	**+0.4**
	19nm,1.0s,mb4.5						
WB2	**Warramunga Arr**	**23.87**	**237**	*e*P	**P**	**20 20 26.6**	**+0.2**
WRA	**Warramunga Arr**	**23.88**	**237**	P	**P**	**20 20 26.7**	**+0.2**
	7.2nm,0.8s,mb4.2,baz=63,slow=9.4,SNR=18						
WRA				PcP	PcP	20 24 09.0	+0.8
	0.9nm,0.9s,baz=66,slow=2.6,SNR=5.1						
ASAR	**Alice Springs**	**26.13**	**230**	P	**P**	**20 20 46.2**	**-0.7**
	2.9nm,0.8s,mb3.9,baz=59,slow=9.0,SNR=21						
ASAR				PcP	PcP	20 24 14.2	+1.1
	0.3nm,0.5s,baz=65,slow=2.4,SNR=4.7						
STKA	**Stephens Creek**	**27.37**	**206**	*e*P	**P**	**20 20 57.6**	**-0.4**
	4.2nm,1.0s,mb3.9						
STKA	**Stephens Creek**	**27.37**	**206**	P	**P**	**20 20 57.0**	**-1.0**
	4.0nm,0.8s,mb4.0,baz=22,slow=9.9,SNR=6.3						
STKA				PcP	PcP	20 24 16.6	+0.7
	3.5nm,1.2s,baz=312,slow=1.1,SNR=2.9						
STKA				LR	LR	20 31 43.6	
	comp=Z,172nm,19.6s,MS3.6,baz=24,slow=36						
FITZ	**Fitzroy Crossi**	**30.87**	**247**	*e*P	**P**	**20 21 29.5**	**+0.3**
	6.2nm,0.9s,mb4.4						
FITZ	**Fitzroy Crossi**	**30.87**	**247**	P	**P**	**20 21 28.7**	**-0.5**
	1.3nm,0.5s,mb4.0,baz=63,slow=7.9,SNR=10						
FITZ				LR	LR	20 33 49.7	
	comp=Z,156nm,19.4s,MS3.7,baz=146,slow=36						
BATI	**Kupang**	**31.55**	**263**	LR	LR	20 34 44.4	
	comp=Z,306nm,18.6s,MS4.0,baz=305,slow=37						
FORT	**Forrest**	**34.47**	**225**	*e*P	**P**	**20 22 00.4**	**-0.2**
	9.5nm,0.7s,mb4.8						
URZ	**Urewera**	**36.19**	**151**	LR	LR	20 33 41.5	
	comp=Z,159nm,20.0s,MS3.8,baz=32,slow=31						
MJAR	**Matsushiro Arr**	**46.86**	**341**	P	**P**	**20 23 41.4**	**-1.1**
	1.4nm,0.6s,mb4.1,baz=162,slow=8.2,SNR=5.5						
KSRS	**Korea Array**	**51.75**	**332**	P	**P**	**20 24 19.6**	**-0.2**
	0.8nm,0.4s,mb4.0,baz=153,slow=7.3,SNR=3.2						
ASAJ	**Asahikawa**	**52.83**	**348**	P	**P**	**20 24 28.5**	**+0.8**
	6.9nm,0.7s,mb4.7,baz=224,slow=11,SNR=12						
YSS	**Yuzh-Sakhalins**	**55.53**	**349**	*e*P	**P**	**20 24 47.0**	**-0.3**
BJT	**Baijiatuau**	**59.73**	**326**	*e*P	**P**	**20 25 16.7**	**-0.2**
KLR	**Kul'dur**	**60.34**	**342**	*e*P	**P**	**20 25 16.7**	**-4.2**
VNDA	**Vanda**	**69.92**	**179**	P	**P**	**20 26 22.2**	**-0.4**
	1.9nm,1.1s,mb4.0,baz=1.5,slow=5.5,SNR=5.1						
SONM	**Songino Array**	**70.16**	**327**	P	**P**	**20 26 25.1**	**+0.6**
	1.1nm,0.6s,mb4.0,baz=145,slow=5.5,SNR=12						
LSA	**Lhasa**	**72.06**	**304**	*e*P	**P**	**20 26 37.8**	**+1.4**
YAK	**Yakutsk**	**72.30**	**348**	*e*P	**P**	**20 26 37.3**	**+0.2**
YAK				pmax	pmax		
	comp=Z,15nm,0.9s,mb4.9						
YAK				pmax	pmax		
	comp=N,7.0nm,1.9s						
YAK				pmax	pmax		
	comp=E,5.0nm,1.7s						
ZAK	**Zakamensk**	**73.31**	**328**	*e*P	**P**	**20 26 44.5**	**+1.1**
BOD	**Bodaibo**	**73.41**	**338**	*e*P	**P**	**20 26 42.4**	**-1.4**
JIRN	**Jiri**	**75.56**	**301**	*e*P	**P**	**20 26 57.4**	**+0.5**
	comp=E,26nm,1.4s,mb5.0						
BILL	**Bilibino**	**75.89**	**4**	*e*P	**P**	**20 26 58.3**	**+0.4**
	comp=E,20nm,1.1s,mb5.0						
BILL	**Bilibino**	**75.89**	**4**	*e*P	**P**	**20 26 58.3**	**+0.3**
BILL				pmax	pmax		
	comp=Z,20nm,1.1s,mb5.0						
KKN	**Kakani**	**76.37**	**301**	*e*P	**P**	**20 27 01.7**	**+0.2**
	comp=Z,7.9nm,0.9s,mb4.7						
KKN	**Kakani**	**76.37**	**301**	*e*P	**P**	**20 27 01.7**	**+0.2**
KKN				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.7						
GKN	**Gorkha**	**76.97**	**301**	*e*P	**P**	**20 27 05.5**	**+0.5**
	comp=Z,26nm,1.3s,mb5.0						
KOLN	**Koldanda**	**77.79**	**300**	*e*P	**P**	**20 27 09.9**	**+0.3**
	comp=Z,9.3nm,0.9s,mb4.7						
SVW2	**Sparrevohn**	**78.41**	**22**	*e*P	**P**	**20 27 12.5**	**+0.3**
TIXI	**Tiksi**	**81.07**	**352**	*e*P	**P**	**20 27 26.2**	**-0.2**
	comp=Z,1.4nm,0.6s,mb4.1						
TIXI	**Tiksi**	**81.07**	**352**	*e*P	**P**	**20 27 26.0**	**-0.4**
TIXI				pmax	pmax		
	comp=Z,9.0nm,2.2s,mb4.3						
IMA2	**Indian Mountai**	**82.25**	**19**	*e*P	**P**	**20 27 32.6**	**-0.2**
MCK	**McKinley**	**82.47**	**22**	*e*P	**P**	**20 27 33.0**	**-0.9**
	comp=Z,9.4nm,0.9s,mb4.7						
MCK	**McKinley**	**82.47**	**22**	*e*P	**P**	**20 27 33.0**	**-0.9**
MCK				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.7						
COLA	**College**	**83.50**	**21**	*e*P	**P**	**20 27 38.0**	**-1.2**
MK31	**Makanchi Array**	**84.23**	**319**	*e*P	**P**	**20 27 44.2**	**+0.8**
MKAR	**Makanchi Array**	**84.23**	**319**	P	**P**	**20 27 44.1**	**+0.7**
	comp=Z,4.2nm,0.8s,mb4.7,baz=105,slow=5.6,SNR=32						
ZALV	**Zalesovo Beam**	**85.00**	**326**	P	**P**	**20 27 46.8**	**-0.4**
	comp=Z,3.0nm,0.5s,mb4.7,baz=117,slow=5.4,SNR=17						
ZAL	**Zalesovo**	**85.01**	**326**	P	**P**	**20 27 46.8**	**-0.3**
KURK	**Kurchatov**	**87.66**	**322**	*e*P	**P**	**20 27 59.8**	**-0.4**
INK	**Inuvik**	**90.15**	**21**	*e*P	**P**	**20 28 10.7**	**-0.9**
	comp=Z,131nm,1.0s						
NVAR	**Mina Array Bea**	**91.72**	**52**	P	**P**	**20 28 20.6**	**+1.1**
	comp=Z,0.5nm,0.6s,mb4.0,baz=128,slow=3.9,SNR=4.2						
YKA	**Yellowknife Ar**	**96.67**	**28**	P	**P**	**20 28 41.6**	**-0.1**
	comp=Z,1.1nm,0.6s,mb4.5,baz=265,slow=4.5,SNR=27						
PDAR	**Pinedale Array**	**98.76**	**48**	P	**P**	**20 28 51.7**	**+0.2**
	comp=Z,0.6nm,0.8s,mb4.2,baz=250,slow=4.3,SNR=3.8						
GERES	**GERESS Array B**	**127.87**	**329**	PKP	PKPdf	20 34 17.5	+0.2
	comp=Z,0.6nm,0.7s,baz=93,slow=2.7,SNR=5.7						
SDV	**Santo Domingo**	**134.34**	**85**	*e*PKPdf	PKPdf	20 34 29.8	-0.8
SDV	**Santo Domingo**	**134.34**	**85**	PKP	PKPdf	20 34 30.0	-0.6
	comp=Z,4.8nm,0.8s,baz=272,slow=4.7,SNR=3.8						
BDFB	**Brasilia**	**147.16**	**135**	PKPbc	PKPbc	20 34 55.7	0.0
	comp=Z,7.6nm,0.8s,baz=249,slow=5.4,SNR=14						

48nm,0.3s,baz=90,slow=23,SNR=33
ELOV Elorza 3.48 87 *e*P **Pn 20 28 24.0 +0.5**
VIRV Villa del Rosa 3.67 9⇑*i*P **Pn 20 28 25.0 -1.0**
VIRV *e*S **Sn 20 29 06.6 -3.3**
QARV Quebrada Arrib 4.12 36⇑*i*P **Pn 20 28 32.5 +0.8**
SANV Sanarito 4.30 52⇓*e*P **Pn 20 28 34.4 +0.3**
CURV Curarigua 4.33 43⇑*i*P **Pn 20 28 34.7 +0.2**
CURV *e*S **Sn 20 29 23.1 -2.2**
DABV Dabajuro 4.66 30 *e*P **Pn 20 28 39.0 +0.3**
TEPV Terepaima 4.86 50 *e*P **Pn 20 28 41.9 +0.6**
SIQV Siquisique 4.90 40 *e*P **Pn 20 28 41.7 -0.2**
BAUV El Baul 5.32 67⇑*e*P **Pn 20 28 46.5 -0.8**
TURV Turiamo 6.21 55 *e*P **Pn 20 28 59.5 +0.4**
CAOV Caicara del Or 6.63 86 *e*P **Pn 20 29 03.8 -0.8**
TEIG Tepich 19.91 313 *e*P **P 20 31 48.6 +0.3**
8.4nm,0.6s
LPAZ La Paz 23.49 168 P **P 20 32 24.2 0.0**
LPAZ La Paz 23.49 168 P **P 20 32 24.2 0.0**
0.7nm,0.5s,mb3.4,baz=329,slow=4.8,SNR=5.2
ULM Lac du Bonnet 47.30 340 P **P 20 35 45.8 -0.1**
1.9nm,0.4s,mb4.1,baz=151,slow=7.9,SNR=9.5
SCHQ Schefferville 48.09 5 P **P 20 35 50.8 -1.0**
2.2nm,0.7s,mb3.9,baz=246,slow=7.4,SNR=5.3
PDAR Pinedale Array 48.13 324 P **P 20 35 53.1 +0.8**
0.4nm,0.5s,mb3.3,baz=136,slow=9.4,SNR=4.5
NVAR Mina Array Bea 51.55 315 P **P 20 36 18.2 -0.1**
0.4nm,0.5s,mb3.3,baz=105,slow=7.2,SNR=3.7
YKA Yellowknife Ar 63.27 340 P **P 20 37 40.3 +0.4**
YKA Yellowknife Ar 63.27 340 P **P 20 37 40.3 +0.4**
1.7nm,0.6s,mb4.1,baz=132,slow=6.7,SNR=45
TORD Torodi Ar. Bea 73.60 78 P **P 20 38 44.2 -0.7**
0.1nm,0.3s,mb3.0,baz=284,slow=7.4,SNR=4.1
MKAR Makanchi Array 122.24 20 PKP PKPdf 20 46 04.7 +0.2
0.2nm,0.3s,baz=327,slow=2.6,SNR=2.3
STKA Stephens Creek 139.28 228 PKP PKPdf 20 46 37.6 +0.6
2.1nm,0.7s,baz=32,slow=9.7,SNR=6.3
ASAR Alice Springs 149.24 234 PKPbc PKPbc 20 46 58.2 -0.8
0.7nm,0.6s,baz=116,slow=3.6,SNR=6.1
WRA Warramunga Arr 150.47 241 PKPbc PKPbc 20 47 01.5 -0.6
0.6nm,0.4s,baz=108,slow=2.7,SNR=7.9

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*ISCJB **02** 20:28:30.5±0.4,5149N±002×695E±003,h0km,Error ellipse: s-maj=3.1km s-min=2.8km az=8.3*
*BUG **02** 20:28:31.8,5153N×683E,h1km,ML2.2*
*CSEM **02** 20:28:32.9±0.1,5161N×687E,h1km,ML3.1/14,Error ellipse: s-maj=2.4km s-min=1.1km az=103.0*
*NEIC **02** 20:28:32.0±0.6,5159N×685E,h10km,ML3.1(LDG), ML2.4(SZGRF),Error ellipse: s-maj=8.0km s-min=6.6km az=146.0*
*BGR **02** 20:28:32.7±0.4,5154N×697E,h1km,ML2.3/3,Error ellipse: s-maj=5.6km s-min=4.4km az=125.0*
*LDG **02** 20:28:32.9±0.2,5161N×688E,h1km,Md3.5/1,Ml3.1/15, Error ellipse: s-maj=3.0km s-min=2.0km az=46.0, Suspected Mining induced.*
*BNS **02** 20:28:34.4±0.5,5153N×681E,h1km,ML2.4*
ISC 02 20:28:31.7±0.4,5157N±002×685E±003,h0km,n71, σ1§27/125,Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BZER	**Hlnxe**	**0.06**	**12**	Pg	**Pg**	**20 28 33.4**	**+0.6**
BZER				Sg	**Sg**	**20 28 34.8**	**+1.3**
WTSB	**Winterswijk**	**0.40**	**355**	*e*Pg	**Pg**	**20 28 40.6**	**+1.2**
	SNR=11						
WTSB	**Winterswijk**	**0.40**	**355**	*e*Pg	**Pg**	**20 28 40.6**	**+1.2**
	85nm,0.4s						
BNS	**Bensberg**	**0.64**	**161**	*e*Pg	**Pg**	**20 28 45.9**	**+2.0**
BNS				*e*Sg	**Sg**	**20 28 54.7**	**+2.6**
	95nm,0.4s						
HOBG	**Hohbusch**	**0.66**	**152**	*e*Pg	**Pg**	**20 28 45.8**	**+1.5**
HOBG				*e*Sg	**Sg**	**20 28 55.2**	**+2.5**
	138nm,0.6s						
IBBN	**Ibbenburen**	**0.93**	**37**	*e*Pg	**Pg**	**20 28 50.0**	**+0.5**
	SNR=5.7						
STB	**Steinbach**	**0.97**	**180**	*e*Pg	**Pg**	**20 28 52.1**	**+1.8**
STB				*e*Sg	**Sg**	**20 29 05.1**	**+2.2**
	99nm,0.4s						
KLL	**Kalltalsperre**	**0.98**	**200**	*e*Pg	**Pg**	**20 28 52.2**	**+1.8**
KLL				*e*Sg	**Sg**	**20 29 05.7**	**+2.5**
	177nm,0.3s						
DREG	**Dreilaegerbach**	**0.98**	**204**	*e*Pg	**Pg**	**20 28 52.0**	**+1.5**
DREG				*e*Sg	**Sg**	**20 29 05.4**	**+2.1**
	214nm,0.2s						
HGN	**Heimansgroeve**	**0.99**	**216**	*e*Pg	**Pg**	**20 28 52.2**	**+1.6**
	SNR=22						
HGN				*e*Sg	**Sg**	**20 29 05.6**	**+2.1**
	SNR=17						
HGN	**Heimansgroeve**	**0.99**	**216**	*e*Pg	**Pg**	**20 28 52.2**	**+1.6**
	19nm,0.2s						
HGN				*e*Sg	**Sg**	**20 29 05.6**	**+2.2**
BEBN	**Eben Emael**	**1.07**	**224**	P	**Pg**	**20 28 53.5**	**+1.3**
MEM	**Membach**	**1.10**	**209**	P	**Pg**	**20 28 53.9**	**+1.2**
HILG	**Hillesheim**	**1.28**	**185**	*e*Pg	**Pg**	**20 28 57.5**	**+1.3**
HILG				*e*Sg	**Sg**	**20 29 14.8**	**+2.0**
	135nm,0.4s						
BGG	**Burgeitz**	**1.40**	**167**	*e*Pg	**Pg**	**20 28 58.8**	**+0.3**
BGG				*e*Sg	**Sg**	**20 29 17.1**	**+0.6**
	58nm,0.2s						
BCLA	**Clavier**	**1.51**	**221**	P	**Pn**	**20 28 59.9**	**0.0**
TNS	**Taunus Mts**	**1.68**	**142**	*e*Pg	**Pg**	**20 29 03.0**	**-1.0**
	SNR=8.5						
TNS				*e*Sg	**Sg**	**20 29 24.1**	**-1.6**
	SNR=4.4						
SNF	**Seneffe**	**1.94**	**238**	P	**Pn**	**20 29 05.9**	**+0.1**
SNF	**Seneffe**	**1.94**	**238**	P	**Pn**	**20 29 05.8**	**0.0**
GIVF	**Givet**	**1.95**	**222**	*e*Pn	**Pn**	**20 29 06.0**	**0.0**
	SNR=1.0						
GIVF				*e*Sn	**Sn**	**20 29 30.3**	**-0.8**
	62nm,0.3s,SNR=1.0						
GIVF	**Givet**	**1.95**	**222**	*e*Pn	**Pn**	**20 29 06.0**	**0.0**
	SNR=1.0						
GIVF				*e*Sn	**Sn**	**20 29 30.3**	**-0.8**
	31nm,0.3s,SNR=1.0						
WLF	**Walferdange**	**1.96**	**193**	*e*Pg	**Pg**	**20 29 09.6**	**+0.5**
	SNR=4.2						
WLF				*e*Sg	**Sg**	**20 29 33.6**	**-0.8**
	SNR=4.3						
WLF	**Walferdange**	**1.96**	**193**	*e*P	**Pn**	**20 29 06.4**	**+0.3**
WLF	**Walferdange**	**1.96**	**193**	P	**Pn**	**20 29 09.6**	**+3.5**
WLF	**Walferdange**	**1.96**	**193**	*e*P	**Pn**	**20 29 06.4**	**+0.3**
DOU	**Dourbes**	**2.05**	**225**	P	**Pn**	**20 29 07.8**	**+0.5**
DOU	**Dourbes**	**2.05**	**225**	P	**Pn**	**20 29 07.8**	**+0.4**
BAIF	**Baives**	**2.25**	**229**	*e*Pn	**Pn**	**20 29 10.7**	**+0.5**
	SNR=1.0						
BAIF				*e*Sn	**Sn**	**20 29 37.9**	**-0.8**
	16nm,0.3s,SNR=1.0						
BAIF	**Baives**	**2.25**	**229**	*e*Pn	**Pn**	**20 29 10.7**	**+0.5**
	SNR=1.0						
BAIF				*e*Sn	**Sn**	**20 29 37.9**	**-0.8**
	8.1nm,0.3s,SNR=1.0						
RFYF	**Reffroy**	**3.07**	**197**	*e*Pg	**Pg**	**20 29 30.7**	**+0.2**
RFYF				*e*Sg	**Sg**	**20 30 10.9**	**+0.6**
	16nm,0.3s						
RFYF	**Reffroy**	**3.07**	**197**	*e*Pg	**Pg**	**20 29 30.7**	**+0.2**
RFYF				*e*Sg	**Sg**	**20 30 10.9**	**+0.6**
	8.1nm,0.3s						
MOX	**Moxa**	**3.14**	**105**	*e*Sg	**Sg**	**20 30 10.4**	**-2.1**
	SNR=4.1						
MOX	**Moxa**	**3.14**	**105**	*e*SG	**Sg**	**20 30 12.2**	**-0.4**
CDF	**Champ du Feu**	**3.17**	**175**	*e*Pn	**Pn**	**20 29 22.8**	**0.0**
	SNR=1.0						
CDF				*e*Sn	**Sn**	**20 29 58.8**	**-2.4**
	SNR=1.0						
CDF				*e*Sg	**Sg**	**20 30 13.0**	**-0.5**
	6.6nm,0.3s,SNR=1.0						
CDF	**Champ du Feu**	**3.17**	**175**	*e*Pn	**Pn**	**20 29 22.8**	**0.0**
	SNR=1.0						
CDF				*e*Sn	**Sn**	**20 29 58.8**	**-2.4**
	SNR=1.0						
CDF				*e*Sg	**Sg**	**20 30 13.0**	**-0.5**
	3.3nm,0.3s,SNR=1.0						
MEZF	**Maizieres J'vi**	**3.28**	**201**	*e*Pn	**Pn**	**20 29 23.7**	**-0.6**
	baz=24						
MEZF				*e*Sg	**Sg**	**20 30 17.6**	**+0.6**
	9.5nm,0.3s,SNR=1.0						
MEZF	**Maizieres J'vi**	**3.28**	**201**	*e*Pn	**Pn**	**20 29 23.7**	**-0.6**
MEZF				*e*Sg	**Sg**	**20 30 17.6**	**+0.6**
	4.8nm,0.3s,SNR=1.0						
GRF	**Grafenberg Arr**	**3.36**	**122**	*e*Sg	**Sg**	**20 30 19.3**	**-0.2**
	SNR=2.3						
BFO	**Black Forest**	**3.38**	**163**	*e*Sn	**Sn**	**20 30 03.8**	**-2.6**
	SNR=2.6						
BFO				*e*Sg	**Sg**	**20 30 19.3**	**-0.8**
	SNR=1.8						
SFTF	**Sexfontaines**	**3.56**	**200**	*e*Pg	**Pg**	**20 29 39.4**	**-0.5**
SFTF				*e*Sg	**Sg**	**20 30 26.3**	**+0.2**
	7.7nm,0.2s						
SFTF	**Sexfontaines**	**3.56**	**200**	*e*Pn	**Pn**	**20 29 27.8**	**-0.4**
SFTF				*e*Pg	**Pg**	**20 29 39.4**	**-0.5**
SFTF				*e*Sg	**Sg**	**20 30 26.3**	**+0.2**
SFTF	**Sexfontaines**	**3.56**	**200**	*e*Pg	**Pg**	**20 29 39.4**	**-0.5**
SFTF				*e*Sg	**Sg**	**20 30 26.3**	**+0.2**
	3.8nm,0.2s						
HAU	**Haudompre**	**3.58**	**185**	*e*Pg	**Pg**	**20 29 40.1**	**-0.1**
HAU				*e*Sg	**Sg**	**20 30 26.3**	**-0.3**
	6.7nm,0.3s						
HAU	**Haudompre**	**3.58**	**185**	*e*Pn	**Pn**	**20 29 28.3**	**-0.1**
HAU				*e*Pg	**Pg**	**20 29 40.1**	**-0.1**
HAU				*e*Sg	**Sg**	**20 30 26.3**	**-0.3**
HAU	**Haudompre**	**3.58**	**185**	*e*Pg	**Pg**	**20 29 40.1**	**-0.1**
HAU				*e*Sg	**Sg**	**20 30 26.3**	**-0.3**
	3.3nm,0.3s						
WERD	**Werda**	**3.62**	**106**	*e*Sn	**Sn**	**20 30 10.6**	**-1.8**
	SNR=2.4						
GUNZ	**Gunzen**	**3.67**	**107**	*e*Sg	**Sg**	**20 30 26.6**	**-2.9**
	SNR=2.4						
HINF	**Hinteralfeld**	**3.75**	**180**	*e*Sn	**Sn**	**20 30 13.1**	**-2.5**
	SNR=1.0						
HINF				*e*Sg	**Sg**	**20 30 32.1**	**-0.1**
	4.4nm,0.4s,SNR=1.0						
HINF	**Hinteralfeld**	**3.75**	**180**	*e*Sn	**Sn**	**20 30 13.1**	**-2.5**
	SNR=1.0						
HINF				*e*Sg	**Sg**	**20 30 32.1**	**-0.1**
	2.2nm,0.4s,SNR=1.0						
CLL	**Collm**	**3.86**	**91**	*e*Sg	**Sg**	**20 30 36.0**	**+0.4**
BRG	**Berggiesshubel**	**4.51**	**96**	SG	**Sg**	**20 31 06.9**	**+10**
	3.0nm,0.2s						
LOR	**Lormes**	**4.72**	**206**	*e*Pn	**Pn**	**20 29 44.4**	**+0.3**
	baz=31,SNR=1.0						
LOR				*e*Sn	**Sn**	**20 30 37.2**	**-2.3**
	SNR=1.0						
LOR				*e*Sg	**Sg**	**20 31 01.2**	**-2.2**
	5.3nm,0.3s,SNR=1.0						
LOR	**Lormes**	**4.72**	**206**	*e*Pn	**Pn**	**20 29 44.4**	**+0.3**
	SNR=1.0						
LOR				*e*Sn	**Sn**	**20 30 37.2**	**-2.3**
	SNR=1.0						
LOR				*e*Sg	**Sg**	**20 31 01.2**	**-2.2**
	2.7nm,0.3s,SNR=1.0						
CABF	**La Chapelle**	**4.99**	**186**	*e*Pn	**Pn**	**20 29 47.4**	**-0.3**
SSF	**Saint Saulge**	**5.01**	**207**	*e*Pg	**Pg**	**20 30 07.5**	**-0.2**
	SNR=1.0						
SSF				*e*Sn	**Sn**	**20 30 42.7**	**-3.9**
	SNR=1.0						
SSF				*e*Sg	**Sg**	**20 31 11.7**	**-0.9**
	4.6nm,0.3s						
SSF	**Saint Saulge**	**5.01**	**207**	*e*Pn	**Pn**	**20 29 47.4**	**-0.7**
SSF				*e*Pg	**Pg**	**20 30 07.5**	**-0.2**
SSF				*e*Sn	**Sn**	**20 30 42.7**	**-3.9**
SSF				*e*Sg	**Sg**	**20 31 11.7**	**-0.9**
SSF	**Saint Saulge**	**5.01**	**207**	*e*Pg	**Pg**	**20 30 07.5**	**-0.2**
	SNR=1.0						
SSF				*e*Sn	**Sn**	**20 30 42.7**	**-3.9**
	SNR=1.0						
SSF				*e*Sg	**Sg**	**20 31 11.7**	**-0.9**
	2.3nm,0.3s						
AVF	**Avril sur Loir**	**5.30**	**207**	*e*Pn	**Pn**	**20 29 51.4**	**-0.6**
	SNR=1.0						
SMF	**Signal de Mont**	**5.31**	**203**	*e*Pn	**Pn**	**20 29 51.9**	**-0.2**
	SNR=1.0						
LDF	**La Druitiere**	**5.38**	**239**	*e*Pn	**Pn**	**20 29 52.7**	**-0.5**
LDF				*e*Sn	**Sn**	**20 30 51.7**	**-4.1**
	6.8nm,0.6s,SNR=1.0						
LDF	**La Druitiere**	**5.38**	**239**	*e*Pn	**Pn**	**20 29 52.7**	**-0.5**
LDF				*e*Sn	**Sn**	**20 30 51.7**	**-4.1**
	3.4nm,0.6s,SNR=1.0						
FLN	**La Foliniere**	**5.48**	**242**	*e*Pn	**Pn**	**20 29 54.2**	**-0.3**
	baz=63,SNR=1.0						
FLN				*e*Sn	**Sn**	**20 30 54.6**	**-3.7**
	3.1nm,0.2s						
FLN	**La Foliniere**	**5.48**	**242**	*e*Pn	**Pn**	**20 29 54.2**	**-0.3**
	SNR=1.0						
FLN				*e*Sn	**Sn**	**20 30 54.6**	**-3.7**
	1.5nm,0.2s						
BGF	**Bois d'Agland**	**5.66**	**209**	*e*Pn	**Pn**	**20 29 57.0**	**0.0**
	SNR=1.0						
BGF				*e*Sg	**Sg**	**20 31 31.3**	**-2.1**
	11nm,0.5s,SNR=1.0						
BGF	**Bois d'Agland**	**5.66**	**209**	*e*Pn	**Pn**	**20 29 57.0**	**0.0**
	SNR=1.0						
BGF				*e*Sg	**Sg**	**20 31 31.3**	**-2.1**
	5.5nm,0.5s,SNR=1.0						
GRR	**Gorron**	**5.90**	**240**	*e*Pn	**Pn**	**20 29 58.0**	**-2.3**
	SNR=1.0						
GRR				*e*Sn	**Sn**	**20 31 03.8**	**-4.8**
	6.0nm,0.2s,SNR=1.0						
GRR	**Gorron**	**5.90**	**240**	*e*Pn	**Pn**	**20 29 58.0**	**-2.3**
	SNR=1.0						
GRR				*e*Sn	**Sn**	**20 31 03.8**	**-4.8**
	3.0nm,0.2s,SNR=1.0						
TCF	**Toulx Ste Croi**	**6.10**	**212**	*e*Pn	**Pn**	**20 30 02.3**	**-0.7**
MFF	**Saint Martin d**	**6.76**	**225**	*e*Pn	**Pn**	**20 30 11.5**	**-0.6**
SGMF	**Saint Gilles**	**6.92**	**245**	*e*Pn	**Pn**	**20 30 12.9**	**-1.4**
QUIF	**Quistinic**	**7.45**	**245**	*e*Pn	**Pn**	**20 30 19.4**	**-2.1**

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*IDC **02** 20:30:16.0±1.7,781S×15580E,h0km,mb3.8/9,mb1 3.9/9, mb1mx3.9/15,mbtmp3.8/9,MS2.9/1,Ms1 2.9/1, ms1mx2.6/25,Error ellipse: s-maj=56.0km s-min=21.3km az=112.0*
*NEIC **02** 20:30:17.4±1.3,781S×15581E,h10km,Error ellipse: s-maj=42.4km s-min=15.4km az=114.0*
*ISCJB **02** 20:30:19.5±1.4,78S±02×1558E±03,h33km,mb3.6/9, Error ellipse: s-maj=45.0km s-min=16.4km az=24.3*
ISC 02 20:30:21.3±1.4,78S±02×1558E±03,h35km,n11,σ0§88/10, mb3.6/9,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.42**	**112**	LR	LR	20 32 53.9	
	comp=Z,130nm,20.3s,baz=181,slow=36						
WRA	**Warramunga Arr**	**24.01**	**238**	P	**P**	**20 35 33.1**	**+0.1**
	2.7nm,0.9s,mb3.7,baz=65,slow=9.4,SNR=11						
WRA				PcP	PcP	20 39 14.7	+0.1
	1.2nm,1.0s,baz=68,slow=1.9,SNR=5.4						
ASAR	**Alice Springs**	**26.23**	**231**	P	**P**	**20 35 52.0**	**-1.1**
	0.6nm,0.8s,mb3.2,baz=63,slow=8.7,SNR=5.1						
STKA	**Stephens Creek**	**27.34**	**207**	P	**P**	**20 36 04.0**	**+1.0**
	1.2nm,0.7s,mb3.5,baz=34,slow=15,SNR=2.6						
FITZ	**Fitzroy Crossi**	**31.05**	**248**	P	**P**	**20 36 36.1**	**-0.1**
	0.9nm,0.6s,mb3.8,baz=86,slow=13,SNR=4.4						
MJAR	**Matsushiro Arr**	**47.11**	**341**	P	**P**	**20 38 49.7**	**-0.3**
	1.2nm,0.7s,mb3.9,baz=163,slow=9.5,SNR=4.6						
SONM	**Songino Array**	**70.45**	**327**	P	**P**	**20 41 34.0**	**+2.0**
	0.3nm,0.6s,mb3.4,baz=142,slow=5.1,SNR=4.2						
MKAR	**Makanchi Array**	**84.54**	**319**	P	**P**	**20 42 50.9**	**+0.1**
MKAR	**Makanchi Array**	**84.54**	**319**	P	**P**	**20 42 50.9**	**+0.1**
	0.5nm,0.6s,mb3.8,baz=106,slow=6.1,SNR=6.9						
ZALV	**Zalesovo Beam**	**85.30**	**326**	P	**P**	**20 42 53.5**	**-0.9**
	0.2nm,0.3s,mb3.7,baz=123,slow=5.3,SNR=2.5						
YKA	**Yellowknife Ar**	**96.70**	**28**	P	**P**	**20 43 47.2**	**-0.5**
	0.1nm,0.3s,mb3.7,baz=271,slow=5.2,SNR=3.4						

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*IDC **02** 20:40:47.6±1.8,1.17N×12622E,h0km,mb3.7/4,mb1 3.9/4, mb1mx3.6/15,mbtmp3.8/4,MS3.6/1,Ms1 3.6/1, ms1mx2.8/28,Error ellipse: s-maj=168.8km s-min=23.7km az=65.0*
*ISCJB **02** 20:40:50.3±1.3,12N±02×1263E±0.1,h33km,mb3.8/4, Error ellipse: s-maj=28.1km s-min=13.0km az=21.1*
ISC 02 20:40:52.5±1.3,12N±02×1264E±01,h35km,n6,σ1§04/6, mb3.8/4,1D,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNE	**Ternate**	**1.09**	**113**	⇓*e*P	**Pn**	**20 41 10.0**	**-1.3**
TNE				*e*S	**Sn**	**20 41 26.0**	**+0.8**
WRA	**Warramunga Arr**	**22.43**	**160**	P	**P**	**20 45 47.9**	**-0.4**
	1.3nm,0.3s,mb3.8,baz=338,slow=10,SNR=57						
ASAR	**Alice Springs**	**25.79**	**164**	P	**P**	**20 46 21.1**	**+0.8**
	0.9nm,0.4s,mb3.7,baz=345,slow=12,SNR=18						
STKA	**Stephens Creek**	**35.94**	**158**	P	**P**	**20 47 49.5**	**-0.2**
	0.9nm,0.7s,mb3.8,baz=346,slow=8.3,SNR=4.1						
MJAR	**Matsushiro Arr**	**36.83**	**16**	LR	LR	21 00 35.7	
	comp=Z,96nm,21.2s,baz=235,slow=32						
MKAR	**Makanchi Array**	**59.42**	**326**	P	**P**	**20 50 51.9**	**+0.3**
	0.3nm,0.4s,mb3.7,baz=123,slow=7.3,SNR=6.4						

IDC 02 20:42:23.0±1.4,132N×12563E,h0km,mb3.8/4,mb1 3.9/5, mb1mx3.6/17,mbtmp3.7/5,ML3.1/1,Error ellipse: s-maj=105.4km s-min=22.2km az=67.0,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**19.30**	**180**	P	Pn	20 46 48.6	-2.0
	0.0nm,0.3s,baz=22,slow=13,SNR=2.2						
WRA	**Warramunga Arr**	**22.79**	**158**	P	P	20 47 27.6	+0.3
	1.9nm,0.4s,baz=338,slow=11,SNR=19						
ASAR	**Alice Springs**	**26.11**	**163**	P	P	20 47 59.2	+0.5
	0.8nm,0.5s,baz=336,slow=8.2,SNR=7.0						
ASAR				PcP	PcP	20 51 25.4	-1.2
	0.3nm,0.5s,baz=338,slow=2.0,SNR=4.6						
STKA	**Stephens Creek**	**36.32**	**157**	P	P	20 49 28.9	+0.3
	1.5nm,0.5s,baz=335,slow=9.4,SNR=6.6						
MKAR	**Makanchi Array**	**58.92**	**327**	P	P	20 52 24.3	+0.3
	0.1nm,0.3s,baz=126,slow=8.5,SNR=3.2						

ISC 02 20:51:11.6±2.1,78S±01×1284E±01,h136km±25km,n5, σ1§91/8,mb3.7/1,2C,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TLE	**Tual**	**4.87**	**64**⇑*e*P		**Pn**	**20 52 22.0**	**-1.1**
KAKA	**Kakadu**	**6.29**	**141**⇑*i*P		**Pn**	**20 52 44.1**	**+2.0**
	71nm,0.1s						
KAKA				*e*S	**Sn**	**20 53 52.8**	**0.0**
FITZ	**Fitzroy Crossi**	**10.54**	**194**	*e*P	**Pn**	**20 53 40.8**	**+1.8**
	5.5nm,0.3s						
FITZ				*e*S	**Sn**	**20 55 33.2**	**-2.2**
WB2	**Warramunga Arr**	**13.36**	**155**	*e*P	**Pn**	**20 54 15.6**	**-0.3**
WB2				*e*S	**Sn**	**20 56 39.4**	**-4.2**
STKA	**Stephens Creek**	**26.91**	**154**	*e*P	**P**	**20 56 39.8**	**-0.2**
	1.3nm,0.6s,mb3.7						

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*ISCJB **02** 20:52:19.1±1.8,357N±0.1×721E±02,h33km,Error ellipse: s-maj=27.5km s-min=8.0km az=145.4*
*NNC **02** 20:52:45.5±10.0,3790N×7223E,h0km,mb3.8,mpv3.5, Error ellipse: s-maj=107.9km s-min=73.6km az=35.0*
ISC 02 20:52:20.5±1.9,356N±01×720E±02,h35km,n11,σ0§76/12, 3C-1D,Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRNI	**Srinagar**	**2.76**	**121**	*e*P	**Pn**	**20 53 04.0**	**+1.7**
SRNI				*e*S	**Sn**	**20 53 33.0**	**-1.4**
AML	**Almayashu**	**6.70**	**11**	P	**Pn**	**20 53 56.4**	**0.0**
	SNR=56						
UCH	**Uchtor**	**6.95**	**16**	P	**Pn**	**20 53 59.8**	**+0.1**
	SNR=9.6						
KZA	**Kyzart**	**6.99**	**20**	P	**Pn**	**20 54 00.5**	**+0.2**
	SNR=12						
EKS2	**Erkin-Say**	**7.23**	**11**	P	**Pn**	**20 54 04.0**	**+0.3**
	SNR=10						
AAK	**Ala-Archa**	**7.33**	**15**	P	**Pn**	**20 54 05.2**	**+0.2**
	SNR=7.5						
ULHL	**Ulahol**	**7.46**	**25**	P	**Pn**	**20 54 07.3**	**+0.6**
	SNR=12						
KK31	**Karatay Array**	**7.62**	**352**	P	**Pn**	**20 54 08.4**	**-0.6**
	4.4nm,0.5s,baz=162,slow=12,SNR=77						
KK31				⇑S	Sn	20 55 10.4	-24
	11nm,0.4s,baz=163,slow=22						
TKM2	**Tokmak 2**	**7.87**	**20**	⇑P	**Pn**	**20 54 11.7**	**-0.6**
	2.7nm,0.8s						
AB31	**Akbulak array**	**16.30**	**331**	⇑P	**Pn**	**20 56 06.0**	**-0.5**
	1.0nm,0.4s,baz=130,slow=12,SNR=31						
BVA0	**Borovoye Array**	**17.50**	**357**	⇓P	**Pn**	**20 56 15.7**	**-5.9**
	0.5nm,1.1s,baz=160,slow=8.5,SNR=4.9						

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*NIED **02** 20:58:00,3570N×14080E,h56km,Mw4.2 Best double couple: M0 2.03000×10^15 NP1:φs159.00000°,δ55.00000°, λ-59.00000°. NP2:φs293.00000°,δ46.00000°, λ-126.00000°.*
*IDC **02** 20:58:08.0±0.8,3551N×14096E,h0km,mb3.6/9, mb1 3.9/11,mb1mx3.8/21,mbtmp3.7/11,MS2.8/2, Ms1 2.8/2,ms1mx2.5/37,Error ellipse: s-maj=21.6km s-min=17.1km az=74.0*
*NEIC **02** 20:58:09.2±0.6,3552N×14089E,h10km,mb4.1/4,Error ellipse: s-maj=17.7km s-min=12.2km az=46.0*
NEIC Recorded [2 JMA] in Chiba Prefecture.
*ISCJB **02** 20:58:13.7±0.5,3562N±004×14078E±007,h60km±3km, mb3.7/14,Error ellipse: s-maj=9.0km s-min=6.3km az=171.6*
*JMA **02** 20:58:14.3±0.1,3570N×14071E,h53km±1km,M4.0*
JMA Felt II J1.
ISC 02 20:58:14.7±0.5,3562N±004×14078E±006,h51km±4km, n32,σ1§00/38,mb3.7/14,1C-3D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.10**	**40**	⇓P	**Pn**	**20 58 22.5**	**-0.1**
CHOJ				S	**Sn**	**20 58 29.2**	**+0.9**
JCN	**Nagara**	**0.51**	**247**	⇑P	**Pn**	**20 58 26.5**	**+0.4**
JCN				*e*S	**Sn**	**20 58 35.8**	**+1.5**
BSO4	**Boso 4**	**0.73**	**210**	P	**Pn**	**20 58 29.6**	**+0.8**
JYT	**Yasato**	**0.77**	**322**	⇓P	**Pn**	**20 58 27.9**	**-1.4**
JYT				*e*S	**Sn**	**20 58 37.9**	**-2.1**
BSO3	**Boso 3**	**0.85**	**195**	P	**Pn**	**20 58 31.0**	**+0.6**
BSO1	**Boso 1**	**0.98**	**170**	P	**Pn**	**20 58 32.7**	**+0.5**
JHO	**Hitachi**	**1.00**	**350**	⇓P	**Pn**	**20 58 31.6**	**-0.8**
JAG	**Ashikaga**	**1.34**	**307**	P	**Pn**	**20 58 35.9**	**-1.1**
JIM2	**Oshima 3**	**1.43**	**231**	P	**Pn**	**20 58 37.3**	**-0.9**

s-min=20.2km az=48.0
*NEIC **02** 21:01:29.1±0.5, 168N×9769E, h30km, mb4.2/2, Error ellipse: s-maj=11.9km s-min=9.4km az=218.0*
*ISCJB **02** 21:01:31.4±6.2, 18N±03×979E±04, h62km±47km, mb4.1/10, Error ellipse: s-maj=81.3km s-min=18.6km az=145.8*

ISC 02 21:01:30.5±7.7, 17N±03×978E±05, h39km±60km, n14, σ0°23/14, mb4.1/10, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**1.57**	**47**	Pn	**Pn**	**21 01 55.8**	**-0.1**
	31nm,0.3s,baz=250,slow=7.3,SNR=66						
KULM	**Kulim**	**4.56**	**39**	*eP*	**Pn**	**21 02 37.0**	**+0.1**
WRA	**Warramunga Arr**	**41.84**	**123**	P	**P**	**21 09 17.0**	**+0.1**
	0.6nm,0.3s,mb3.7,baz=321,slow=11,SNR=8.4						
ASAR	**Alice Springs**	**43.27**	**128**	P	**P**	**21 09 28.5**	**0.0**
	0.2nm,0.5s,mb3.1,baz=301,slow=8.0,SNR=4.3						
SONM	**Songino Array**	**46.53**	**8**	P	**P**	**21 09 53.9**	**-0.2**
	0.9nm,0.5s,mb3.9,baz=190,slow=9.3,SNR=12						
MK31	**Makanchi Array**	**46.87**	**345**	*eP*	**P**	**21 09 57.0**	**+0.2**
MKAR	**Makanchi Array**	**46.87**	**345**	P	**P**	**21 09 57.2**	**+0.5**
	3.7nm,0.6s,mb4.5,baz=157,slow=8.9,SNR=31						
KURK	**Kurchatov**	**51.43**	**345**	*eP*	**P**	**21 10 31.9**	**+0.3**
	2.6nm,0.8s,mb4.2						
ZAA0	**Zalesovo Array**	**53.13**	**350**	*eP*	**P**	**21 10 43.9**	**-0.3**
ZALV	**Zalesovo Beam**	**53.13**	**350**	P	**P**	**21 10 44.0**	**-0.1**
	4.3nm,0.4s,mb4.8,baz=170,slow=7.0,SNR=33						
BRVK	**Borovoye**	**56.01**	**340**	*eP*	**P**	**21 11 04.8**	**-0.2**
	1.6nm,0.7s,mb4.2						
AKASG	**Malin Array Be**	**75.19**	**322**	P	**P**	**21 13 08.6**	**-0.4**
	1.4nm,0.8s,mb3.9,baz=87,slow=6.5,SNR=4.2						
FINES	**FINESS Array B**	**79.80**	**332**	P	**P**	**21 13 34.6**	**+0.1**
	0.6nm,0.4s,mb3.9,baz=96,slow=5.9,SNR=11						
ARCES	**ARCESS Array B**	**82.23**	**340**	P	**P**	**21 13 47.3**	**0.0**
	4.7nm,1.0s,mb4.4,baz=101,slow=6.3,SNR=5.7						

IDC 02 21:05:30.0±1.4, 857S×15745E, h0km, mb3.8/3, mb1 4.0/4, mb1mx3.7/15, mbtmp3.8/4, ML4.3/1, Error ellipse: s-maj=45.9km s-min=25.0km az=7.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.61**	**109**	Pn	Pn	21 06 13.7	+0.3
	54nm,0.3s,baz=266,slow=7.0,SNR=8.3						
HNR				Sn	Sn	21 06 46.0	+0.2
	75nm,0.3s,baz=87,slow=23,SNR=13						
WRA	**Warramunga Arr**	**25.05**	**241**	P	P	21 10 56.2	0.0
	2.4nm,0.9s,baz=67,slow=9.5,SNR=5.1						
MKAR	**Makanchi Array**	**86.19**	**318**	P	P	21 18 13.1	-0.1
	0.3nm,0.6s,baz=106,slow=5.5,SNR=3.6						
YKA	**Yellowknife Ar**	**96.58**	**28**	P	P	21 19 01.6	+0.2
	0.3nm,0.8s,baz=265,slow=5.5,SNR=3.5						

*IDC **02** 21:09:27.0±22.0, 184S×17661W, h337km±150km, mb3.7/7, mb1 3.8/8, mb1mx3.5/19, mbtmp3.7/8, Error ellipse: s-maj=209.0km s-min=30.9km az=50.0*
*NEIC **02** 21:09:35.1±4.7, 187S×17705W, h400km, mb3.9/6, Error ellipse: s-maj=95.4km s-min=27.4km az=51.0*

ISC 02 21:09:34.5±2.2, 187S±03×1770W±02, h400km, n17, σ1°08/17, mb4.0/8, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**15.91**	**255**	P	**P**	**21 12 55.2**	**-1.5**
	0.5nm,0.3s,baz=101,slow=19,SNR=3.7						
URZ	**Urewera**	**20.17**	**194**	P	**P**	**21 13 39.3**	**-1.0**
	12nm,1.0s,baz=32,slow=4.6,SNR=4.2						
RPZ	**Rata Peaks**	**26.91**	**199**	P	**P**	**21 14 42.6**	**+1.7**
	4.8nm,0.8s,mb4.0,baz=67,slow=14,SNR=2.8						
CTA	**Charters Tower**	**34.67**	**262**	*eP*	**P**	**21 15 50.4**	**+1.9**
	5.8nm,0.4s,mb4.3						
CTA	**Charters Tower**	**34.67**	**262**	P	**P**	**21 15 50.5**	**+2.0**
	8.5nm,0.5s,mb4.4,baz=95,slow=9.4,SNR=14						
CTAO	**Charters Tower**	**34.67**	**262**	*eP*	**P**	**21 15 49.5**	**+0.9**
	10nm,0.7s,mb4.3						
STKA	**Stephens Creek**	**39.46**	**242**	*eP*	**P**	**21 16 28.6**	**+0.4**
	1.9nm,0.6s,mb3.6						
STKA	**Stephens Creek**	**39.46**	**242**	P	**P**	**21 16 29.1**	**+0.9**
	1.4nm,0.3s,mb3.8,baz=74,slow=10.0,SNR=9.6						
WB2	**Warramunga Arr**	**45.83**	**260**	*eP*	**P**	**21 17 19.5**	**+0.7**
WRA	**Warramunga Arr**	**45.84**	**260**	P	**P**	**21 17 19.2**	**+0.3**
	3.0nm,0.3s,mb4.1,baz=97,slow=7.6,SNR=82						
ASAR	**Alice Springs**	**45.90**	**255**	P	**P**	**21 17 19.8**	**+0.5**
	4.4nm,0.5s,mb4.1,baz=87,slow=7.8,SNR=52						
FITZ	**Fitzroy Crossi**	**54.25**	**261**	*eP*	**P**	**21 18 21.4**	**+0.2**
	1.5nm,0.6s,mb3.4						
FITZ	**Fitzroy Crossi**	**54.25**	**261**	P	**P**	**21 18 21.6**	**+0.4**
	0.4nm,0.3s,mb3.1,baz=148,slow=9.5,SNR=6.3						
MBWA	**Marble Bar**	**59.21**	**256**	*eP*	**P**	**21 18 53.6**	**-2.1**
	1.8nm,0.6s,mb3.6						
KLBR	**Kellerberrin**	**59.71**	**244**	*eP*	**P**	**21 18 57.8**	**-1.1**
	58nm,1.8s,mb4.7						
VNA3	**Neumayer Olymp**	**89.88**	**176**	*e*	**P**	**21 21 48.6**	**-0.1**
VNA3				*e*		21 21 50.2	
VNA3				*e*		21 21 55.0	
VNA2	**Neumayer--Watz**	**90.33**	**177**	*e*	**P**	**21 21 50.7**	**-0.1**
	baz=204,slow=2.7						
VNA2				*e*		21 21 52.1	
VNA2				*e*		21 21 57.7	

IDC 02 21:09:44.0±4.0, 483S×15350E, h0km, mb3.4/2, mb1 3.6/2, mb1mx3.3/14, mbtmp3.4/2, Error ellipse: s-maj=142.0km s-min=45.0km az=114.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.95**	**230**	P	P	21 15 00.4	+0.3
	0.5nm,0.8s,baz=53,slow=9.9,SNR=4.5						
MKAR	**Makanchi Array**	**80.81**	**319**	P	P	21 22 00.0	+0.4
	0.1nm,0.3s,baz=98,slow=7.3,SNR=2.0						
TORD	**Torodi Ar. Bea**	**150.98**	**288**	PKPbc	PKPbc	21 29 39.0	-0.8
	1.1nm,1.2s,baz=97,slow=2.6,SNR=5.9						

*IDC **02** 21:16:03.7±1.2, 747S×15621E, h0km, mb4.1/6, mb1 4.1/7, mb1mx4.0/15, mbtmp4.1/7, ML4.2/1, Error ellipse: s-maj=35.2km s-min=27.8km az=124.0*
*NEIC **02** 21:16:05.4±0.6, 747S×156.19E, h10km, Error ellipse: s-maj=18.9km s-min=14.4km az=200.0*
*ISCJB **02** 21:16:07.2±0.8, 76S±02×1562E±0.1, h33km, mb3.9/6, Error ellipse: s-maj=22.2km s-min=16.7km az=17.1*

ISC 02 21:16:09.0±0.8, 75S±02×1562E±01, h35km, n8, σ0°62/9, mb3.9/6, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.12**	**117**	Pn	**Pn**	**21 17 09.8**	**+0.3**
	14nm,0.3s,baz=266,slow=14,SNR=2.2						
HNR				Sn	**Sn**	**21 18 05.1**	**+8.5**
	16nm,0.3s,baz=272,slow=18,SNR=3.1						
WRA	**Warramunga Arr**	**24.55**	**238**	P	**P**	**21 21 25.8**	**+0.2**
	2.2nm,0.6s,mb3.8,baz=62,slow=9.9,SNR=11						
ASAR	**Alice Springs**	**26.76**	**231**	P	**P**	**21 21 45.1**	**-0.5**
	0.5nm,0.7s,mb3.2,baz=65,slow=8.6,SNR=5.4						
SONM	**Songino Array**	**70.46**	**327**	P	**P**	**21 27 20.7**	**+0.9**
	0.8nm,0.8s,mb3.7,baz=141,slow=7.0,SNR=7.2						
MK31	**Makanchi Array**	**84.62**	**318**	*eP*	**P**	**21 28 39.2**	**+0.3**
MKAR	**Makanchi Array**	**84.62**	**318**	P	**P**	**21 28 39.4**	**+0.5**
	5.1nm,0.7s,mb4.8,baz=101,slow=6.0,SNR=49						
ZALV	**Zalesovo Beam**	**85.32**	**326**	P	**P**	**21 28 41.4**	**-0.8**
	2.5nm,0.7s,mb4.5,baz=106,slow=5.7,SNR=13						
YKA	**Yellowknife Ar**	**96.24**	**28**	P	**P**	**21 29 32.3**	**-0.9**
	0.1nm,0.6s,mb3.4,baz=266,slow=4.8,SNR=4.5						

IDC 02 21:19:26.1±1.2, 894S×15754E, h0km, mb3.8/4, mb1 3.9/5, mb1mx3.7/15, mbtmp3.8/5, ML4.2/1, Error ellipse: s-maj=32.9km s-min=23.9km az=4.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.42**	**102**	Pn	Pn	21 20 06.4	-0.6
	49nm,0.3s,baz=207,slow=1.3,SNR=5.8						
HNR				Sn	Sn	21 20 37.4	0.0
	135nm,0.3s,baz=273,slow=11,SNR=13						
WRA	**Warramunga Arr**	**24.95**	**241**	P	P	21 24 49.9	-1.5
	1.2nm,0.6s,baz=67,slow=9.4,SNR=11						
STKA	**Stephens Creek**	**27.21**	**211**	P	P	21 25 13.1	+1.4
	1.1nm,0.6s,baz=37,slow=14,SNR=3.1						
SONM	**Songino Array**	**72.33**	**327**	P	P	21 30 53.4	-0.3
	0.4nm,0.7s,baz=131,slow=4.4,SNR=4.9						
MKAR	**Makanchi Array**	**86.52**	**318**	P	P	21 32 12.6	+1.6
	0.6nm,0.6s,baz=97,slow=5.7,SNR=6.4						

IDC 02 21:23:15.6±3.5, 973S×15506E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.6/13, mbtmp3.7/4, Error ellipse: s-maj=93.1km s-min=34.0km az=105.0, D'Entrecasteaux Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.43**	**241**	P	P	21 28 16.6	+0.4
	1.5nm,1.1s,baz=63,slow=9.8,SNR=3.7						
ASAR	**Alice Springs**	**24.50**	**233**	P	P	21 28 36.6	-0.1
	1.7nm,0.9s,baz=63,slow=9.4,SNR=11						
STKA	**Stephens Creek**	**25.33**	**208**	P	P	21 28 43.6	-0.5
	4.3nm,1.1s,baz=49,slow=11,SNR=4.0						
SONM	**Songino Array**	**71.66**	**328**	P	P	21 34 39.7	+0.7
	0.5nm,0.8s,baz=148,slow=4.8,SNR=4.0						

IDC 02 21:27:30.6±1.1, 751S×15603E, h0km, mb4.2/5, mb1 4.3/6, mb1mx4.0/15, mbtmp4.2/6, ML4.4/1, Error ellipse: s-maj=28.1km s-min=27.1km az=74.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.32**	**117**	Pn	Pn	21 28 36.9	-0.6
	20nm,0.3s,baz=111,slow=7.4,SNR=4.9						
HNR				Sn	Sn	21 29 29.2	+0.5
	8.3nm,0.3s,baz=275,slow=11,SNR=5.1						
WRA	**Warramunga Arr**	**24.39**	**237**	P	P	21 32 51.2	+0.4
	4.2nm,0.8s,baz=59,slow=9.1,SNR=30						
ASAR	**Alice Springs**	**26.62**	**230**	P	P	21 33 10.7	-0.3
	1.2nm,0.7s,baz=59,slow=9.7,SNR=17						
SONM	**Songino Array**	**70.33**	**327**	P	P	21 38 47.0	+1.0
	1.6nm,0.5s,baz=145,slow=5.6,SNR=25						
MKAR	**Makanchi Array**	**84.47**	**318**	P	P	21 40 05.4	+0.1
	1.9nm,0.7s,baz=103,slow=6.2,SNR=17						
ZALV	**Zalesovo Beam**	**85.18**	**326**	P	P	21 40 08.2	-0.6
	1.4nm,0.7s,baz=104,slow=6.3,SNR=8.6						

IDC 02 21:33:39.0±2.5, 776S×15605E, h0km, mb3.8/4, mb1 3.9/4, mb1mx3.7/14, mbtmp3.7/4, MS3.6/1, Ms1 3.5/1, ms1mx2.6/26, Error ellipse: s-maj=78.4km s-min=36.9km az=129.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.27**	**238**	P	P	21 38 58.0	-0.1
	2.3nm,1.1s,baz=61,slow=9.6,SNR=5.7						
STKA	**Stephens Creek**	**27.51**	**207**	LR	LR	21 50 45.2	
	comp=Z,111nm,19.3s,baz=348,slow=37						
SONM	**Songino Array**	**70.54**	**327**	P	P	21 44 57.7	+2.0
	0.2nm,0.2s,baz=108,slow=4.7,SNR=7.0						
MKAR	**Makanchi Array**	**84.67**	**319**	P	P	21 46 13.8	-0.8
	0.1nm,0.3s,baz=118,slow=5.1,SNR=4.3						
YKA	**Yellowknife Ar**	**96.52**	**28**	P	P	21 47 08.5	-1.7
	0.2nm,0.6s,baz=266,slow=4.6,SNR=4.7						

IDC 02 21:41:56.4±1.4, 720S×15543E, h0km, mb3.7/4, mb1 3.9/5, mb1mx3.7/15, mbtmp3.8/5, ML4.1/1, MS3.4/2, Ms1 3.4/2, ms1mx2.9/24, Error ellipse: s-maj=34.8km s-min=29.0km az=118.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.99**	**117**	Pn	Pn	21 43 12.2	-0.5
	7.0nm,0.3s,baz=266,slow=18,SNR=4.1						
HNR				LR	LR	21 45 06.4	
	comp=Z,166nm,18.5s,baz=177,slow=38						
WRA	**Warramunga Arr**	**24.06**	**236**	P	P	21 47 14.1	+0.6
	1.0nm,0.7s,baz=62,slow=9.8,SNR=16						
ASAR	**Alice Springs**	**26.36**	**229**	P	P	21 47 34.5	+0.1
	0.3nm,0.4s,baz=58,slow=10,SNR=5.3						
RAO	**Raoul Island**	**33.34**	**134**	LR	LR	22 00 26.5	
	comp=Z,138nm,19.3s,baz=76,slow=33						
SONM	**Songino Array**	**69.73**	**327**	P	P	21 53 08.7	+0.6
	0.3nm,0.4s,baz=145,slow=6.0,SNR=9.2						
MKAR	**Makanchi Array**	**83.84**	**319**	P	P	21 54 27.4	-0.5
	1.1nm,0.7s,baz=101,slow=5.9,SNR=10.0						

*IDC **02** 21:48:15.0±0.9, 862S×15699E, h0km, mb4.1/7, mb1 4.3/9, mb1mx4.1/16, mbtmp4.1/9, ML4.0/2, MS3.6/1, Ms1 3.6/1, ms1mx2.9/21, Error ellipse: s-maj=23.5km s-min=21.2km az=179.0*
*NEIC **02** 21:48:16.4±0.6, 851S×15702E, h10km, mb4.4/2, Error ellipse: s-maj=15.1km s-min=12.7km az=189.0*
*ISCJB **02** 21:48:19.0±3.2, 86S±01×1570E±01, h37km±31km, mb4.0/8, Error ellipse: s-maj=26.0km s-min=15.8km az=150.4*

ISC 02 21:48:20.4±3.2, 86S±02×1570E±01, h36km±33km, n16, σ1°02/15, mb4.0/8, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**3.08**	**106**	*eP*	**Pn**	**21 49 05.6**	**-1.0**
HNR	**Honiara**	**3.08**	**106**	Pn	**Pn**	**21 49 04.8**	**-1.8**
	76nm,0.3s,baz=264,slow=5.9,SNR=14						
HNR				Sn	**Sn**	**21 49 43.9**	**+1.7**
	58nm,0.3s,baz=78,slow=22,SNR=5.7						
CTA	**Charters Tower**	**15.43**	**221**	LR	LR	21 56 37.8	
	comp=Z,254nm,20.9s,baz=232,slow=33						
DZM	**Mont Dzumac**	**16.23**	**147**	Pn	**Pn**	**21 52 04.8**	**-1.0**
	0.1nm,0.3s,baz=209,slow=22,SNR=3.3						
WB2	**Warramunga Arr**	**24.61**	**240**	*eP*	**P**	**21 53 38.1**	**+0.5**
WRA	**Warramunga Arr**	**24.62**	**240**	P	**P**	**21 53 38.0**	**+0.3**
	9.2nm,0.7s,mb4.4,baz=65,slow=9.3,SNR=63						
ASAR	**Alice Springs**	**26.68**	**233**	P	**P**	**21 53 56.0**	**-0.3**
	2.3nm,0.9s,mb3.7,baz=64,slow=9.2,SNR=15						
STKA	**Stephens Creek**	**27.23**	**210**	*eP*	**P**	**21 54 03.0**	**+1.8**
	3.0nm,0.7s,mb3.9						
STKA	**Stephens Creek**	**27.23**	**210**	P	**P**	**21 54 00.9**	**-0.3**
	2.2nm,0.6s,mb3.8,baz=28,slow=11,SNR=6.5						
VNDA	**Vanda**	**68.97**	**179**	P	**P**	**21 59 21.1**	**-0.5**
	1.8nm,1.1s,mb3.9,baz=324,slow=6.7,SNR=5.6						
SONM	**Songino Array**	**71.71**	**327**	P	**P**	**21 59 39.6**	**+0.8**
	0.9nm,1.0s,mb3.7,baz=147,slow=5.7,SNR=6.3						
MCK	**McKinley**	**82.80**	**21**	*eP*	**P**	**22 00 38.8**	**-1.8**
	4.9nm,0.9s,mb4.5						
MKAR	**Makanchi Array**	**85.86**	**318**	P	**P**	**22 00 57.3**	**+0.8**
	1.0nm,0.7s,mb4.1,baz=98,slow=6.5,SNR=7.3						
YKA	**Yellowknife Ar**	**96.82**	**28**	P	**P**	**22 01 47.3**	**0.0**
YKA	**Yellowknife Ar**	**96.82**	**28**	P	**P**	**22 01 47.3**	**0.0**
	0.3nm,0.7s,mb3.8,baz=264,slow=4.9,SNR=7.0						
BDFB	**Brasilia**	**145.50**	**134**	PKPbc	PKPbc	22 07 54.4	-1.5
	3.4nm,0.8s,baz=204,slow=4.8,SNR=8.1						

*IDC **02** 21:49:27.3±1.0, 695S×15525E, h0km, mb4.2/8, mb1 4.3/9, mb1mx4.1/16, mbtmp4.2/9, MS3.8/1, Ms1 3.7/1, ms1mx3.0/19, Error ellipse: s-maj=38.0km s-min=20.8km az=117.0*
*NEIC **02** 21:49:28.9±0.6, 701S×15528E, h10km, mb4.3/3, Error ellipse: s-maj=22.3km s-min=11.7km az=124.0*
*ISCJB **02** 21:49:30.6±1.2, 70S±01×1552E±02, h33km, mb4.3/13, Error ellipse: s-maj=35.2km s-min=13.7km az=22.5*

ISC 02 21:49:32.6±1.2, 70S±01×1552E±02, h35km, n21, σ0°81/18, mb4.3/13, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**15.64**	**213**	Pn	**Pn**	**21 53 08.1**	**-2.4**
	baz=288,slow=16,SNR=2.0						
KAKA	**Kakadu**	**23.12**	**254**	*eP*	**P**	**21 54 36.3**	**+0.4**
	5.7nm,0.6s,mb4.2						
WB2	**Warramunga Arr**	**23.98**	**235**	*eP*	**P**	**21 54 44.4**	**+0.4**
WRA	**Warramunga Arr**	**23.99**	**236**	P	**P**	**21 54 44.8**	**+0.7**
	6.8nm,0.8s,mb4.1,baz=59,slow=9.4,SNR=10						
WRA				PcP	PcP	21 58 26.4	+0.5
	0.3nm,0.6s,baz=68,slow=2.8,SNR=3.7						
ASAR	**Alice Springs**	**26.33**	**229**	P	**P**	**21 55 05.0**	**-0.4**
	1.0nm,0.5s,mb3.6,baz=61,slow=8.9,SNR=8.6						
STKA	**Stephens Creek**	**27.82**	**205**	*eP*	**P**	**21 55 20.1**	**+1.4**
	4.0nm,0.9s,mb4.0						
STKA	**Stephens Creek**	**27.82**	**205**	P	**P**	**21 55 19.6**	**+0.9**
	4.3nm,0.8s,mb4.1,baz=22,slow=14,SNR=5.5						
STKA				LR	LR	22 06 28.0	
	comp=Z,166nm,19.2s,baz=28,slow=37						
FITZ	**Fitzroy Crossi**	**30.84**	**246**	*eP*	**P**	**21 55 45.9**	**+0.2**
	5.0nm,0.6s,mb4.5						
FITZ	**Fitzroy Crossi**	**30.84**	**246**	P	**P**	**21 55 46.4**	**+0.7**
	2.5nm,0.6s,mb4.2,baz=92,slow=6.3,SNR=9.6						
SONM	**Songino Array**	**69.45**	**327**	P	**P**	**22 00 38.3**	**+1.0**
	2.0nm,0.7s,mb4.2,baz=140,slow=5.2,SNR=12						
JIRN	**Jiri**	**74.96**	**301**	*eP*	**P**	**22 01 10.2**	**-0.5**
	9.8nm,0.7s,mb4.8						
KKN	**Kakani**	**75.77**	**301**	*eP*	**P**	**22 01 15.0**	**-0.3**
	15nm,0.8s,mb5.0						
GKN	**Gorkha**	**76.38**	**301**	*eP*	**P**	**22 01 19.2**	**+0.4**
	16nm,0.8s,mb5.0						
KOLN	**Koldanda**	**77.20**	**300**	*eP*	**P**	**22 01 22.7**	**-0.7**
	10nm,0.8s,mb4.8						
MKAR	**Makanchi Array**	**83.54**	**319**	P	**P**	**22 01 56.5**	**-0.6**
	0.9nm,0.6s,mb4.1,baz=98,slow=6.0,SNR=5.4						
ZALV	**Zalesovo Beam**	**84.30**	**326**	P	**P**	**22 02 00.0**	**-0.7**
	0.6nm,0.5s,mb4.0,baz=98,slow=5.3,SNR=3.7						
YKA	**Yellowknife Ar**	**96.24**	**28**	P	**P**	**22 02 57.2**	**+0.3**
YKA	**Yellowknife Ar**	**96.24**	**28**	P	**P**	**22 02 57.2**	**+0.3**
	0.4nm,0.7s,mb4.0,baz=264,slow=4.8,SNR=5.8						
GERES	**GERESS Array B**	**127.16**	**329**	PKP	PKPdf	22 08 33.8	+0.5
	0.2nm,0.5s,baz=105,slow=6.2,SNR=2.3						
LPAZ	**La Paz**	**131.28**	**119**	PKP	PKPdf	22 08 42.7	+0.6
	0.5nm,0.6s,baz=205,slow=5.3,SNR=3.6						
BDFB	**Brasilia**	**147.83**	**134**	PKPbc	PKPbc	22 09 14.7	-0.3
	1.2nm,0.5s,baz=345,slow=7.6,SNR=3.9						

*IDC **02** 21:51:04.2±1.8, 028N×1661W, h0km, mb3.9/5, mb1 4.1/6, mb1mx3.8/22, mbtmp4.0/6, ML4.1/1, MS3.4/5, Ms1 3.4/5, ms1mx3.1/36, Error ellipse: s-maj=50.5km s-min=37.5km az=153.0*

NEIC 02 21:51:05.3±1.1, 019N×1655W, h10km, Error ellipse: s-maj=33.1km s-min=17.9km az=162.0, North of Ascension Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DBIC	**Dimbokro**	**13.32**	**61**	*ePn*	Pn	21 54 14.7	+0.1
DBIC				Sn	Sn	21 56 37.7	-5.4
DBIC				LR	LR	21 58 41.6	
DBIC	**Dimbokro**	**13.32**	**61**	Pn	Pn	21 54 15.0	+0.3
	0.9nm,0.3s,baz=221,slow=13,SNR=15						
DBIC				Sn	Sn	21 56 37.7	-5.4
	1.0nm,0.3s,baz=144,slow=16,SNR=4.8						
DBIC				LR	LR	21 58 41.6	
	comp=Z,93nm,19.9s,baz=199,slow=34						
BBTS	**Babate**	**14.38**	**0**	LR	LR	21 59 18.4	
	comp=Z,159nm,18.3s,baz=192,slow=35						
TORD	**Torodi Ar. Bea**	**22.20**	**54**	P	P	21 56 02.2	+0.2
TORD				LR	LR	22 04 01.0	
TORD	**Torodi Ar. Bea**	**22.20**	**54**	P	P	21 56 02.2	+0.2
	6.2nm,0.8s,baz=245,slow=7.7,SNR=26						
TORD				LR	LR	22 04 01.0	
	comp=Z,98nm,18.3s,baz=210,slow=35						
ESDC	**Sonseca Array**	**40.95**	**15**	LR	LR	22 17 56.4	
	comp=Z,43nm,18.5s,baz=240,slow=39						
GERES	**GERESS Array B**	**55.03**	**24**	P	P	22 00 37.6	+0.6
	0.6nm,0.6s,baz=224,slow=7.5,SNR=7.9						
GERES				PP	PP	22 02 38.3	-2.0
	0.7nm,0.9s,baz=231,slow=8.4,SNR=4.3						
MLR	**Muntele Rosu**	**58.60**	**34**	LR	LR	22 26 42.0	
	comp=Z,75nm,18.6s,baz=151,slow=36						
AKASG	**Malin Array Be**	**63.51**	**31**	P	P	22 01 35.2	-0.5
AKASG	**Malin Array Be**	**63.51**	**31**	P	P	22 01 35.2	-0.5
	0.2nm,0.3s,baz=236,slow=6.1,SNR=5.4						
FINES	**FINESS Array B**	**69.12**	**20**	P	P	22 02 11.8	+0.3
	1.5nm,0.6s,baz=209,slow=3.5,SNR=11						
ULM	**Lac du Bonnet**	**83.03**	**321**	P	P	22 03 30.9	-0.1
	1.1nm,0.6s,baz=117,slow=6.5,SNR=4.1						
ASAR	**Alice Springs**	**143.03**	**131**	PKhKP		22 10 36.0	
	0.5nm,0.5s,baz=214,slow=2.8,SNR=5.7						
WRA	**Warramunga Arr**	**145.39**	**126**	PKPbc	PKPbc	22 10 44.6	+0.1
	1.4nm,0.8s,baz=242,slow=2.3,SNR=12						

IDC 02 21:53:33.7±2.6, 698S×15528E, h0km, mb3.8/6, mb1 3.9/6, mb1mx3.7/15, mbtmp3.7/6, Error ellipse: s-maj=82.7km s-min=29.9km az=127.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.06**	**236**	P	P	21 58 50.9	0.0
	0.6nm,0.6s,baz=58,slow=9.3,SNR=4.6						
FITZ	**Fitzroy Crossi**	**30.92**	**246**	P	P	21 59 52.3	-0.2
	1.3nm,0.7s,baz=88,slow=9.0,SNR=5.8						
SONM	**Songino Array**	**69.47**	**327**	P	P	22 04 45.2	+1.3
	0.4nm,0.5s,baz=138,slow=7.0,SNR=5.4						
MKAR	**Makanchi Array**	**83.58**	**319**	P	P	22 06 03.6	-0.3
	0.1nm,0.2s,baz=89,slow=5.2,SNR=2.6						
ZALV	**Zalesovo Beam**	**84.32**	**326**	P	P	22 06 07.4	0.0
	0.4nm,0.4s,baz=114,slow=6.5,SNR=2.9						
YKA	**Yellowknife Ar**	**96.19**	**28**	P	P	22 07 02.6	-0.7
	0.2nm,0.7s,baz=265,slow=4.4,SNR=3.7						

**IDC 02 21:58:58.2±4.3, 701S×15529E, h0km, mb3.5/3, mb1 3.6/3, mb1mx3.4/14, mbtmp3.5/3, Error ellipse: s-maj=119.3km s-min=38.6km az=

WRA Warramunga Arr 24.57 239 P **P 22 06 06.4 -0.7**
4.7nm,0.7s,mb4.1,baz=64,slow=9.4,SNR=18
STKA Stephens Creek 27.60 208 *e*P **P 22 06 35.6 +1.3**
2.7nm,0.7s,mb4.0
STKA Stephens Creek 27.60 208 P **P 22 06 35.2 +0.9**
3.6nm,0.8s,mb4.0,baz=42,slow=13,SNR=7.3
SONM Songino Array 70.89 327 P **P 22 12 04.6 +0.9**
1.5nm,0.7s,mb4.0,baz=142,slow=6.4,SNR=11
MKAR Makanchi Array 85.06 318 P **P 22 13 22.1 -0.2**
0.2nm,0.3s,mb3.7,baz=89,slow=6.8,SNR=3.2

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*IDC **02** 22:07:00.1±0.9,695S×155.16E,h0km,mb4.2/8,mb1 4.3/9, mb1mx4.1/16,mbtmp4.2/9,ML4.3/1,Error ellipse: s-maj=27.9km s-min=21.2km az=118.0*
*ISCJB **02** 22:07:03.1±0.4,704S±007×15523E±006,h33km, mb4.3/15,Error ellipse: s-maj=10.6km s-min=8.4km az=24.3*
*NEIC **02** 22:07:05.7±1.6,700S×155.17E,h40km±15km,mb4.5/9, Error ellipse: s-maj=13.7km s-min=7.9km az=144.0*
ISC 02 22:07:05.2±0.4,**702**S±007×**15521**E±006,**h35**km,**n29,** σ0**77/27,mb4.3**/15,**1C,Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.26**	**117**	Pn	**Pn**	**22 08 22.9**	**+1.4**
HNR				*e*Sn	**Sn**	**22 09 20.0**	**-0.9**
HNR	**Honiara**	**5.26**	**117**	Pn	**Pn**	**22 08 22.8**	**+1.4**
	9.7nm,0.3s,baz=262,slow=2.2,SNR=2.0						
CTAO	**Charters Tower**	**15.63**	**213**	*e*Pn	**Pn**	**22 10 42.6**	**-0.3**
	12nm,0.9s						
WRA	**Warramunga Arr**	**23.98**	**236**	P	**P**	**22 12 17.1**	**+0.4**
	8.7nm,0.9s,mb4.2,baz=62,slow=9.1,SNR=26						
ASAR	**Alice Springs**	**26.32**	**229**	P	**P**	**22 12 37.0**	**-0.9**
	10nm,1.3s,mb4.2,baz=63,slow=8.7,SNR=9.5						
STKA	**Stephens Creek**	**27.81**	**205**	P	**P**	**22 12 51.9**	**+0.7**
	4.7nm,0.9s,mb4.1,baz=24,slow=13,SNR=5.8						
FITZ	**Fitzroy Crossi**	**30.84**	**246**	*e*P	**P**	**22 13 18.2**	**-0.1**
	64nm,0.7s,mb5.6						
FITZ	**Fitzroy Crossi**	**30.84**	**246**	P	**P**	**22 13 18.4**	**+0.2**
	3.2nm,0.8s,mb4.2,baz=74,slow=3.5,SNR=7.6						
MAJO	**Matsushiro**	**46.17**	**341**	*e*P	**P**	**22 15 26.1**	**-0.5**
BJT	**Baijiatuau**	**59.05**	**326**	P	**P**	**22 17 01.6**	**-0.2**
CHG	**Chiang Mai**	**61.10**	**296**	⇑P	**P**	**22 17 15.1**	**-1.2**
	16nm,0.7s,mb5.3						
CHTO	**Chiang Mai**	**61.10**	**296**	*e*P	**P**	**22 17 14.7**	**-1.6**
	9.9nm,0.7s,mb5.0						
SONM	**Songino Array**	**69.47**	**327**	P	**P**	**22 18 11.2**	**+1.2**
	2.9nm,1.0s,mb4.2,baz=139,slow=5.9,SNR=14						
LSA	**Lhasa**	**71.46**	**304**	*e*P	**P**	**22 18 23.9**	**+1.4**
	4.6nm,1.1s,mb4.3						
GAMB	**Gambell**	**74.88**	**15**	*e*P	**P**	**22 18 42.3**	**+0.3**
PALK	**Pallekele**	**75.66**	**279**	P	**P**	**22 18 47.4**	**-0.1**
PMR	**Palmer**	**80.72**	**24**	*e*P	**P**	**22 19 14.4**	**-0.1**
	6.1nm,0.4s,mb4.9						
IMA2	**Indian Mountai**	**81.75**	**19**	*e*P	**P**	**22 19 20.5**	**+0.6**
MCK	**McKinley**	**82.00**	**22**	*e*P	**P**	**22 19 20.7**	**-0.5**
	7.6nm,0.9s,mb4.6						
COLA	**College**	**83.02**	**21**	P	**P**	**22 19 25.3**	**-1.3**
	2.6nm,0.6s,mb4.4						
MKAR	**Makanchi Array**	**83.56**	**319**	P	**P**	**22 19 30.2**	**+0.5**
	0.9nm,0.8s,mb3.9,baz=107,slow=7.5,SNR=5.4						
ZALV	**Zalesovo Beam**	**84.32**	**326**	P	**P**	**22 19 32.6**	**-0.9**
	0.5nm,0.5s,mb4.0,baz=117,slow=5.1,SNR=3.0						
KURK	**Kurchatov**	**86.98**	**322**	*e*P	**P**	**22 19 46.5**	**-0.2**
	1.2nm,0.8s,mb4.2						
AAK	**Ala-Archa**	**87.92**	**313**	*e*P	**P**	**22 19 51.7**	**+0.2**
	0.4nm,0.4s,mb4.0						
YKA	**Yellowknife Ar**	**96.25**	**28**	P	**P**	**22 20 29.3**	**-0.3**
	0.6nm,0.8s,mb4.1,baz=265,slow=4.4,SNR=10						
GCMT	**Greycliff**	**98.55**	**45**	P	**P**	**22 20 41.2**	**+0.9**
KMBO	**Kilima Mbogo**	**117.58**	**265**	*e*PKPdf	PKPdf	22 25 49.2	+0.7
BDFB	**Brasilia**	**147.81**	**134**	PKPbc	PKPbc	22 26 47.3	-0.1
	3.8nm,0.8s,baz=179,slow=5.3,SNR=8.0						
TORD	**Torodi Ar. Bea**	**153.24**	**285**	PKPbc	PKPbc	22 27 00.1	-0.4
	0.9nm,1.0s,baz=72,slow=2.4,SNR=4.8						

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*ISCJB **02** 22:10:06.5±1.7,774S±006×15570E±005,h1km±10km, mb5.1/44,MS4.2/15,Error ellipse: s-maj=10.4km s-min=7.8km az=39.2*
*IDC **02** 22:10:07.9±0.6,778S×15563E,h0km,mb4.6/10, mb1 4.7/12,mb1mx4.6/16,mbtmp4.6/12,ML3.7/2,MS4.2/11, Ms1 4.2/11,ms1mx4.0/23,Error ellipse: s-maj=27.7km s-min=17.8km az=87.0*
*NEIC **02** 22:10:09.5±0.2,776S×15570E,h10km,mb5.0/23,Error ellipse: s-maj=8.1km s-min=5.6km az=98.0*
*BJI **02** 22:10:09.6,734S×15573E,h11km,mB5.3,mb5.1,Ms4.9, Msz4.6*
*GCMT **02** 22:10:09.5±0.3,807S×15578E,h12km,MW5.0/68, Moment Tensor Solution. s27,c38; s68,c104; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-3.02±.13; $M_{\theta\theta}$3.58±.10; $M_{\phi\phi}$-0.55±.14; $M_{r\theta}$-1.18±.34; $M_{\theta\phi}$-1.27±.10; $M_{\phi r}$-2.52±.49; Best double couple: M_0=4.45000×10^{16} NP1:φs314.00000°,δ50.00000°,λ-43.00000°. NP2: φs75.00000°,δ58.00000°,λ-131.00000°. Principal axes: T 3.9760, Plg5.0000°, Azm193.0000°; N 0.9510, Plg34.0000°, Azm100.0000°; P -4.9240, Plg56.0000°, Azm290.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*MOS **02** 22:10:12.7±1.1,763S×15545E,h33km,mb5.2/15 Error ellipse: s-maj=12.0km s-min=8.0km az=105.2*
ISC 02 22:10:10.5±2.0,**777**S±006×**15569**E±005,**h15**km±12km, **h14**km±1.0km:**pP-P,n133,**σ0**81**/103,**mb5.0**/44,**MS4.2**/15, **8C-1D,Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.53**	**112**	*e*Pn	**Pn**	**22 11 25.3**	**+6.7**
HNR				*e*Sn	**Sn**	**22 12 11.7**	**+0.7**
HNR	**Honiara**	**4.53**	**112**	LR	LR	22 13 00.3	
	comp=Z,2μm,21.2s,baz=344,slow=38						
CTA	**Charters Tower**	**15.28**	**216**	*e*P	**Pn**	**22 13 51.6**	**+5.8**
	17nm,0.7s						
CTA	**Charters Tower**	**15.28**	**216**	Pn	**Pn**	**22 13 46.4**	**+0.6**
	0.3nm,0.3s,baz=36,slow=12,SNR=4.4						
CTA				LR	LR	22 18 58.4	
	comp=Z,1μm,19.4s,baz=39,slow=35						
CTAO	**Charters Tower**	**15.28**	**216**	*e*Pn	**Pn**	**22 13 46.5**	**+0.7**
	19nm,0.7s						
CTAO	**Charters Tower**	**15.28**	**216**	*e*P	**Pn**	**22 13 46.5**	**+0.7**
CTAO				pmax	pmax		
	comp=Z,19nm,0.7s						
DZM	**Mont Dzumac**	**17.60**	**145**	P	**Pn**	**22 14 14.9**	**-0.4**
	comp=Z,0.2nm,0.3s,baz=351,slow=11,SNR=4.5						
ARMA	**Armidale**	**22.85**	**189**	*e*P	**P**	**22 15 14.0**	**+0.7**
	comp=Z,1.3nm,1.4s						
GUMO	**Guam**	**23.78**	**333**	LR	LR	22 23 04.3	
	comp=Z,462nm,20.3s,MS3.9,baz=144,slow=33						
WRA	**Warramunga Arr**	**23.96**	**237**	P	**P**	**22 15 23.8**	**-0.7**
	comp=Z,4.6nm,0.4s,mb4.2,baz=64,slow=10.0,SNR=15						
WRA				LR	LR	22 24 17.7	
	comp=Z,598nm,18.7s,MS4.1,baz=65,slow=36						
STKA	**Stephens Creek**	**27.34**	**207**	P	**P**	**22 15 53.3**	**-1.8**
	comp=Z,4.7nm,0.8s,mb4.0,baz=3.8,slow=12,SNR=7.4						
STKA				LR	LR	22 26 45.3	
	comp=Z,1μm,18.1s,MS4.5,baz=30,slow=36						
FITZ	**Fitzroy Crossi**	**30.98**	**248**	LR	LR	22 28 42.0	
	comp=Z,172nm,20.2s,MS3.7,baz=257,slow=36						
TAU	**Tasmania Unive**	**35.77**	**191**	P	**P**	**22 17 09.2**	**+0.3**
CBIJ	**Chichi jima**	**37.05**	**340**	LR	LR	22 29 44.5	
	comp=Z,181nm,19.7s,MS3.9,baz=112,slow=32						
KKM	**Kota Kinabalu**	**41.69**	**288**	*e*P	**P**	**22 17 59.0**	**-0.1**
NWAO	**Narrogin (SRO)**	**43.51**	**229**	LR	LR	22 36 17.4	
	comp=Z,470nm,18.4s,MS4.4,baz=63,slow=36						
NACB	**Ninganchiao**	**45.98**	**315**	*e*P	**P**	**22 18 32.6**	**-0.8**
KSM	**Kuching**	**46.18**	**280**	*e*P	**P**	**22 18 35.4**	**+0.2**
YHNB	**Yeheng**	**46.45**	**315**	*e*P	**P**	**22 18 36.9**	**-0.2**
MJAR	**Matsushiro Arr**	**47.03**	**341**	P	**P**	**22 18 40.4**	**-1.0**
	comp=Z,16nm,0.7s,mb5.0,baz=163,slow=8.0,SNR=49						
MJAR				LR	LR	22 35 57.6	
	comp=Z,187nm,20.8s,MS4.0,baz=175,slow=33						
MAJO	**Matsushiro**	**47.03**	**341**	*e*P	**P**	**22 18 40.8**	**-0.6**
	comp=Z,29nm,0.6s,mb5.4						
MAJO	**Matsushiro**	**47.03**	**341**	*e*P	**P**	**22 18 40.8**	**-0.6**
MAJO				pmax	pmax		
	comp=Z,29nm,0.6s,mb5.4						
MAT	**Matsushiro**	**47.03**	**341**	P	**P**	**22 18 41.1**	**-0.3**
KSRS	**Korea Array**	**51.94**	**332**	P	**P**	**22 19 18.6**	**-0.3**
	comp=Z,8.0nm,0.9s,mb4.7,baz=146,slow=8.0,SNR=15						
KSRS				LR	LR	22 38 31.1	
	comp=Z,162nm,20.3s,MS4.0,baz=141,slow=33						
NJ2	**Nanjing**	**52.94**	**320**	*e*P	**P**	**22 19 27.1**	**+0.7**
NJ2				AMB	AMB		
	comp=Z,30nm,0.7s,mb5.3						
PPT	**Papeete**	**54.12**	**106**	LR	LR	22 35 56.2	
	comp=Z,231nm,21.8s,MS4.2,baz=224,slow=29						
VLA	**Vladivostok**	**55.08**	**339**	*de*P	**P**	**22 19 42.6**	**+0.8**
VLA				pmax	pmax		
	comp=Z,123nm,1.4s,mb5.7						
YSS	**Yuzh-Sakhalins**	**55.68**	**349**	*e*P	**P**	**22 19 46.4**	**+0.3**
	comp=Z,41nm,1.4s,mb5.3						
YSS	**Yuzh-Sakhalins**	**55.68**	**349**	⇑*e*P	**P**	**22 19 47.0**	**+0.9**
YSS				pmax	pmax		
	comp=Z,37nm,1.5s,mb5.2						
KULM	**Kulim**	**56.41**	**282**	*e*P	**P**	**22 19 50.9**	**-1.1**
KULM				*e*		22 20 03.1	
MDJ	**Mudanjiang**	**57.21**	**338**	P	**P**	**22 19 58.0**	**+1.0**
MDJ				AP	pP	22 20 01.4	-0.4
MDJ				XP	sP	22 20 02.8	-0.9
MDJ				PCP	PcP	22 20 51.5	+0.1
MDJ				PP	PP	22 22 07.1	+2.8
MDJ				SCP	ScP	22 24 51.5	+0.6
MDJ				PCS	PcS	22 24 53.4	+1.2
MDJ				S	**S**	**22 27 51.1**	**-1.1**
MDJ				SS	SS	22 31 42.1	+0.4
MDJ				AMB	AMB		
	comp=Z,24nm,1.4s,mb5.0						
MDJ				AMB	AMB		
	comp=Z,139nm,5.9s						
MDJ				LR	LR		
	comp=N,35nm,18.9s,MS3.9						
MDJ				LR	LR		
	comp=E,84nm,22.7s,MS3.9						
MDJ				LR	LR		
	comp=Z,110nm,27.8s						
MDJ	**Mudanjiang**	**57.21**	**338**	*e*P	**P**	**22 19 57.3**	**+0.2**
	comp=Z,79nm,1.6s,mb5.5						
CN2	**Changchun**	**58.18**	**335**	*e*P	**P**	**22 20 04.0**	**+0.1**
CN2				*e*XP	sP	22 20 11.0	+0.5
CN2				AMB	AMB		
	comp=Z,20nm,1.2s,mb5.0						
CN2				AMB	AMB		
	comp=Z,200nm,4.0s						
GYA	**Guiyang**	**58.46**	**307**	⇑*i*P	**P**	**22 20 08.7**	**+2.5**
GYA				AP	pP	22 20 12.8	+1.8
GYA				XP	sP	22 20 15.6	+2.7
GYA				PCP	PcP	22 20 59.2	+2.4
GYA				PP	PP	22 22 20.3	+4.5
GYA				SCP	ScP	22 24 58.4	+1.5
GYA				S	**S**	**22 28 10.8**	**+1.5**
GYA				SCS	ScS	22 29 55.0	-1.0
GYA				SS	SS	22 32 04.9	+2.8
GYA				AMB	AMB		
	comp=Z,60nm,1.0s,mb5.6						
GYA				AMB	AMB		
	comp=Z,660nm,11.9s						
GYA				LR	LR		
	comp=N,760nm,21.6s,MS4.9						
GYA				LR	LR		
	comp=E,640nm,20.9s,MS4.9						
GYA				LR	LR		
	comp=Z,510nm,22.2s,MS4.6						
HABR	**Khabarovsk**	**58.87**	**344**	*e*P	**P**	**22 20 08.4**	**-0.2**
HABR				*e*S	**S**	**22 28 13.7**	**-0.1**
NST	**Nakhon Sawan**	**59.74**	**293**	P	**P**	**22 20 16.2**	**+0.9**
BJI	**Beijing**	**59.94**	**326**	P	**P**	**22 20 16.6**	**+0.4**
BJI				AMB	AMB		
	comp=Z,6.0nm,1.1s,mb4.5						
BJI				LR	LR		
	comp=Z,227nm,34.4s,MS4.1						
BJI	**Beijing**	**59.94**	**326**	P	**P**	**22 20 16.6**	**+0.4**
	comp=Z,6.0nm,1.1s,mb4.5						
BJI				LR	LR		
	comp=Z,230nm,34.4s,MS4.1						
KLR	**Kul'dur**	**60.51**	**342**	*e*P	**P**	**22 20 16.0**	**-3.8**
KMI	**Kunming**	**61.02**	**304**	P	**P**	**22 20 25.1**	**+1.3**
KMI				AMB	AMB		
	comp=Z,18nm,1.9s,mb4.9						
KMI	**Kunming**	**61.02**	**304**	P	**P**	**22 20 25.1**	**+1.3**
	comp=Z,18nm,1.9s,mb4.9						
CHTO	**Chiang Mai**	**61.85**	**296**	*e*P	**P**	**22 20 30.0**	**+0.4**
	comp=Z,32nm,1.5s,mb5.2						
CHTO	**Chiang Mai**	**61.85**	**296**	*e*P	**P**	**22 20 30.0**	**+0.4**
CHTO				pmax	pmax		
	comp=Z,32nm,1.5s,mb5.2						
CD2	**Chengdu**	**62.83**	**310**	⇑*i*P	**P**	**22 20 36.7**	**+0.7**
CD2				AP	pP	22 20 41.3	+0.5
CD2				XP	sP	22 20 43.9	+1.3
CD2				PP	PP	22 22 56.8	+2.4
CD2				S	**S**	**22 29 04.7**	**-0.4**
CD2				XS	sS	22 29 12.7	-0.4
CD2				SS	SS	22 33 12.4	+1.9
CD2				AMB	AMB		
	comp=Z,30nm,1.3s,mb5.3						
CD2				AMB	AMB		
	comp=Z,60nm,8.4s						
CD2				LR	LR		
	comp=N,490nm,12.0s						
CD2				LR	LR		
	comp=Z,260nm,12.0s,MS4.6						
HHC	**Hu-ho-hao-te**	**63.12**	**324**	*e*P	**P**	**22 20 38.3**	**+0.7**
HHC				AP	pP	22 20 42.9	+0.4
HHC				XP	sP	22 20 45.6	+1.3
HHC				PP	PP	22 22 59.1	+2.4
HHC				SCP	ScP	22 25 15.8	-1.4
HHC				PCS	PcS	22 25 17.2	-1.4
HHC				S	**S**	**22 29 08.5**	**+0.2**
HHC				XS	sS	22 29 16.0	-0.3
HHC				AMB	AMB		
	comp=Z,17nm,0.4s,mb5.5						
HHC				AMB	AMB		
	comp=Z,254nm,7.2s						
HHC				LR	LR		
	comp=Z,180nm,9.2s						
HIA	**Hailar**	**64.91**	**335**	*e*P	**P**	**22 20 49.4**	**+0.1**
	comp=Z,9.0nm,0.8s,mb4.8						
HIA	**Hailar**	**64.91**	**335**	*e*P	**P**	**22 20 49.4**	**+0.2**
HIA				pmax	pmax		
	comp=Z,9.0nm,0.8s						
LZH	**Lanzhou**	**65.34**	**316**	*e*P	**P**	**22 20 53.6**	**+1.2**
LZH				AP	pP	22 20 56.8	-0.4
LZH				XP	sP	22 20 59.4	+0.4
LZH				PP	PP	22 23 19.6	+3.2
LZH				*e*S	S	22 29 37.0	+1.0
LZH				XS	sS	22 29 42.0	-2.0
LZH				SS	SS	22 33 47.5	-2.0
LZH				AMB	AMB		
	comp=Z,42nm,1.5s,mb5.2						
LZH				AMB	AMB		
	comp=Z,180nm,4.4s						
LZH				LR	LR		
	comp=E,458nm,15.2s						
LZH				LR	LR		
	comp=Z,852nm,16.3s,MS5.0						
LZH	**Lanzhou**	**65.34**	**316**	*e*P	**P**	**22 20 53.6**	**+1.2**
	comp=Z,42nm,1.5s,mb5.2						
LZH				pP	pP	22 20 56.8	-0.4
LZH				sP	sP	22 20 59.4	+0.4
LZH				PP	PP	22 23 19.6	+3.2
LZH				*e*S	S	22 29 37.0	+1.0
LZH				sS	sS	22 29 42.0	-2.0
LZH				SS	SS	22 33 47.5	-2.0
LZH				LR	LR		
	comp=Z,850nm,16.3s,MS5.0						
LZH	**Lanzhou**	**65.34**	**316**	*e*P	**P**	**22 20 53.6**	**+1.2**
LZH				*SP	sP	22 20 59.4	+0.4
LZH						22 23 19.6	
LZH				*e*S	S	22 29 37.0	+1.0
LZH				SS	SS	22 33 47.5	-2.0
LZH				pmax	pmax		
	comp=Z,42nm,1.5s,mb5.2						
LZH				MLR	MLR		
	comp=Z,850nm,16.3s,MS5.0						
MA2	**Magadan**	**67.24**	**357**	*e*P	**P**	**22 21 03.8**	**-0.2**
	comp=Z,12nm,0.6s,mb5.1						
CLNS	**Chul'man**	**69.17**	**342**	*e*P	**P**	**22 21 15.5**	**-0.6**
CLNS				pmax	pmax		
	comp=Z,33nm,0.9s,mb5.3						
CLNS				pmax	pmax		
	comp=N,19nm,0.8s						
CLNS				pmax	pmax		
	comp=E,12nm,0.8s						
VNDA	**Vanda**	**69.80**	**179**	P	**P**	**22 21 19.5**	**-0.3**
	comp=E,1.1nm,1.0s,baz=311,slow=5.7,SNR=3.5						
SONM	**Songino Array**	**70.35**	**327**	P	**P**	**22 21 23.2**	**-0.5**
	comp=E,3.5nm,0.6s,mb4.4,baz=128,slow=6.3,SNR=6.6						
SEY	**Seymchan**	**70.54**	**358**	⇑*e*P	**P**	**22 21 24.9**	**+0.4**
LSA	**Lhasa**	**72.27**	**304**	*e*P	**P**	**22 21 36.8**	**+1.1**
	comp=E,20nm,1.4s,mb4.8						
LSA	**Lhasa**	**72.27**	**304**	*e*P	**P**	**22 21 36.8**	**+1.1**
LSA				pmax	pmax		
	comp=Z,20nm,1.4s,mb4.8						
YAK	**Yakutsk**	**72.45**	**347**	*e*P	**P**	**22 21 37.0**	**+1.0**
	comp=Z,121nm,1.2s,mb5.7						
YAK	**Yakutsk**	**72.45**	**347**	*e*P	**P**	**22 21 36.5**	**+0.5**
YAK				pmax	pmax		
	comp=E,14nm,1.2s						
YAK				pmax	pmax		
	comp=Z,89nm,1.2s,mb5.6						
YAK				pmax	pmax		
	comp=N,38nm,1.6s						
ZAK	**Zakamensk**	**73.51**	**328**	*e*P	**P**	**22 21 43.2**	**+0.7**
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.5s,mb4.0						
TLY	**Talaya**	**74.07**	**329**	*e*P	**P**	**22 21 46.4**	**+0.6**
	comp=Z,8.0nm,1.1s,mb4.6						
TLY	**Talaya**	**74.07**	**329**	*e*P	**P**	**22 21 46.4**	**+0.6**
TLY				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb4.6						
JIRN	**Jiri**	**75.77**	**301**	*e*P	**P**	**22 21 56.7**	**+0.5**
	comp=Z,83nm,1.6s,mb5.4						
BILL	**Bilibino**	**76.00**	**4**	*e*P	**P**	**22 21 56.5**	**-0.1**
	comp=Z,56nm,1.0s,mb5.5						
BILL	**Bilibino**	**76.00**	**4**	⇑*i*P	**P**	**22 21 56.6**	**0.0**
BILL				*e*		22 24 48.5	
BILL				*e*S	S	22 31 40.4	+1.5
BILL				*e*SS	SS	22 36 37.2	+5.2
BILL				pmax	pmax		
	comp=Z,80nm,1.4s,mb5.5						
PALK	**Pallekele**	**76.24**	**279**	*e*P	**P**	**22 21 59.4**	**+0.2**
PALK				*e*PcP	PcP	22 22 11.6	+0.5
KKN	**Kakani**	**76.58**	**301**	*e*P	**P**	**22 22 01.0**	**+0.2**
	comp=Z,79nm,1.5s,mb5.4						
GKN	**Gorkha**	**77.18**	**301**	*e*P	**P**	**22 22 03.9**	**-0.3**
	comp=Z,132nm,1.4s,mb5.7						
TNA	**Tin City**	**77.89**	**15**	*e*P	**P**	**22 22 07.1**	**-0.2**
KOLN	**Koldanda**	**78.00**	**300**	*e*P	**P**	**22 22 08.6**	**-0.2**
	comp=Z,99nm,1.5s,mb5.5						
SVW2	**Sparrevohn**	**78.45**	**22**	*e*P	**P**	**22 22 10.5**	**-0.1**
TTA	**Tatalina**	**79.50**	**20**	*e*P	**P**	**22 22 16.6**	**+0.3**
WMQ	**Urumqi**	**79.85**	**317**	P	**P**	**22 22 18.9**	**+0.3**
WMQ				AP	pP	22 22 23.5	-0.1
WMQ				*e*S	S	22 32 21.0	-0.5
WMQ				AMB	AMB		
	comp=Z,11nm,1.4s,mb4.6						
WMQ				AMB	AMB		
	comp=Z,228nm,4.4s						
WMQ				LR	LR		
	comp=N,370nm,26.6s,MS4.7						
WMQ				LR	LR		
	comp=E,220nm,23.2s,MS4.7						
WMQ				LR	LR		
	comp=Z,260nm,22.0s,MS4.5						
TIXI	**Tiksi**	**81.21**	**352**	*e*P	**P**	**22 22 25.1**	**-0.2**
	comp=Z,39nm,1.8s,mb5.0						
TIXI	**Tiksi**	**81.21**	**352**	*e*P	**P**	**22 22 22.9**	**-2.4**
TIXI				pmax	pmax		
	comp=Z,18nm,1.5s,mb4.8						
SML	**Sawmill**	**81.66**	**23**	*e*P	**P**	**22 22 27.8**	**0.0**
MCK	**McKinley**	**82.52**	**22**	*e*P	**P**	**22 22 31.4**	**-0.9**
	comp=Z,20nm,1.0s,mb5.1						
MCK	**McKinley**	**82.52**	**22**	*e*P	**P**	**22 22 31.4**	**-0.9**
MCK				pmax	pmax		
	comp=Z,20nm,1.0s,mb5.1						
COLA	**College**	**83.55**	**21**	*e*P	**P**	**22 22 36.3**	**-1.3**
	comp=Z,3.0nm,0.8s,mb4.5						
COLA	**College**	**83.55**	**21**	*e*P	**P**	**22 22 36.3**	**-1.3**
COLA				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.5						
MK31	**Makanchi Array**	**84.43**	**319**	*e*P	**P**	**22 22 42.4**	**-0.2**
MKAR	**Makanchi Array**	**84.43**	**319**	⇑*e*P	**P**	**22 22 43.0**	**+0.5**
MKAR	**Makanchi Array**	**84.43**	**319**	P	**P**	**22 22 43.0**	**+0.5**
	comp=Z,16nm,0.8s,mb5.2,baz=101,slow=6.3,SNR=32						
ZAA0	**Zalesovo Array**	**85.20**	**326**	*e*P	**P**	**22 22 45.4**	**-0.8**
ZALV	**Zalesovo Beam**	**85.20**	**326**	P	**P**	**22 22 45.5**	**-0.8**
ZALV	**Zalesovo Beam**	**85.20**	**326**	P	**P**	**22 22 45.5**	**-0.8**
	comp=Z,7.8nm,0.8s,mb4.9,baz=107,slow=5.2,SNR=12						
ZAL	**Zalesovo**	**85.21**	**326**	P	**P**	**22 22 45.5**	**-0.8**
EGAK	**Eagle**	**85.96**	**23**	*e*P	**P**	**22 22 50.2**	**+0.4**
DAWY	**Dawson**	**86.33**	**24**	*e*P	**P**	**22 22 53.0**	**+1.4**
NVS	**Novosibirsk**	**86.37**	**326**	*e*P	**P**	**22 22 49.7**	**-2.3**
KURK	**Kurchatov**	**87.86**	**322**	*e*P	**P**	**22 22 58.6**	**-0.8**
	comp=Z,4.8nm,1.1s,mb4.6						
KURK	**Kurchatov**	**87.86**	**322**	*e*P	**P**	**22 22 58.6**	**-0.7**
KURK				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.7						
DLBC	**Dease Lake**	**88.46**	**30**	*e*P	**P**	**22 23 03.2**	**+1.2**
UCH	**Uchtor**	**88.68**	**313**	P	**P**	**22 22 59.2**	**-4.2**
	comp=Z,22nm,1.4s,mb5.3						
AAK	**Ala-Archa**	**88.78**	**313**	*e*P	**P**	**22 23 02.1**	**-1.8**
	comp=Z,2.4nm,0.6s,mb4.7						
AAK	**Ala-Archa**	**88.78**	**313**	*e*P	**P**	**22 23 02.1**	**-1.8**
AAK				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.6						
AML	**Almayashu**	**89.26**	**313**	*e*P	**P**	**22 23 06.6**	**+0.4**
	comp=Z,6.2nm,0.6s,mb5.1						
EKS2	**Erkin-Say**	**89.30**	**313**	*e*P	**P**	**22 23 06.5**	**+0.1**
	comp=Z,2.5nm,0.6s,mb4.7						
INK	**Inuvik**	**90.20**	**21**	*e*P	**P**	**22 23 09.7**	**-0.3**
NVAR	**Mina Array Bea**	**91.66**	**52**	P	**P**	**22 23 17.6**	**+0.2**
	comp=Z,0.6nm,0.8s,mb4.0,baz=243,slow=4.1,SNR=3.9						
SYO	**Syowa Base**	**91.82**	**199**	⇑*e*X		22 23 14.0	
BRVK	**Borovoye**	**93.39**	**323**	*e*P	**P**	**22 23 23.7**	**-1.4**
	comp=Z,4.0nm,1.0s,mb4.8						
BRVK	**Borovoye**	**93.39**	**323**	*e*P	**P**

mb4.7/41, Error ellipse: s-maj=9.4km s-min=4.9km az=137.9
*BJI **02** 22:10:47.6, 8.10S×120.10E, h206km, mB4.9, mb4.6*
*IDC **02** 22:10:48.9±0.7, 8.09S×120.22E, h197km±6km, mb4.4/12, mb1 4.4/15, mb1mx4.3/20, mbtmp4.3/15, Error ellipse: s-maj=16.5km s-min=6.3km az=54.0*
*NEIC **02** 22:10:49.7±1.0, 8.08S×120.13E, h206km±9km, mb4.7/21, Error ellipse: s-maj=9.7km s-min=5.3km az=67.0*
ISC 02 22:10:48.1±0.5, 811S±004×12017E±005, h192km±5km, h198km±3.6km; pP-P, n137, σ1§15/129, mb4.6/41, 6C-5D, Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSI	**Waingapu**	**1.55**	**175**	P	**Pn**	**22 11 19.1**	**-2.5**
	33μm,0.6s						
WSI	**Waingapu**	**1.55**	**175**	⇑eP	**Pn**	**22 11 21.0**	**-0.6**
WSI				eS	**Sn**	**22 11 44.0**	**-3.7**
BATI	**Kupang**	**4.03**	**121**	P	**Pn**	**22 11 52.4**	**+2.3**
	38nm,0.3s,baz=296,slow=2.8,SNR=39						
BATI				S	**Sn**	**22 12 38.1**	**-0.4**
	118nm,0.3s,baz=140,slow=22,SNR=7.3						
KMMI	**Kalianget**	**6.24**	**279**	P	**Pn**	**22 12 17.8**	**-0.6**
	70nm,1.1s						
FITZ	**Fitzroy Crossi**	**11.27**	**152**	P	**Pn**	**22 13 24.0**	**+0.1**
	64nm,0.7s						
FITZ				S	**Sn**	**22 15 24.9**	**-4.5**
FITZ	**Fitzroy Crossi**	**11.27**	**152**	P	**Pn**	**22 13 24.0**	**+0.1**
	1.8nm,0.3s,baz=346,slow=9.6,SNR=88						
FITZ				S	**Sn**	**22 15 24.9**	**-4.5**
	4.6nm,0.3s,baz=184,slow=23,SNR=9.4						
FITZ	**Fitzroy Crossi**	**11.27**	**152**	eS	**Sn**	**22 15 23.8**	**-5.6**
TLE	**Tual**	**12.72**	**80**	P	**Pn**	**22 13 49.6**	**+7.2**
	2μm,1.1s						
KAKA	**Kakadu**	**12.91**	**112**	eP	**Pn**	**22 13 45.9**	**+1.1**
	26nm,0.5s						
KAKA				eS	**Sn**	**22 16 02.0**	**-6.6**
MBWA	**Marble Bar**	**12.98**	**182**	ePn	**Pn**	**22 13 44.4**	**-1.2**
	37nm,0.7s						
MBWA				eSn	**Sn**	**22 16 00.5**	**-10**
SBUM	**Sibu**	**13.15**	**323**	⇓P	**Pn**	**22 13 53.4**	**+5.6**
BTM	**Bintulu**	**13.27**	**328**	⇓P	**Pn**	**22 13 56.3**	**+6.9**
KSM	**Kuching**	**13.69**	**314**	ePn	**Pn**	**22 13 55.7**	**+1.2**
KSM	**Kuching**	**13.69**	**314**	⇑P	**Pn**	**22 13 59.3**	**+4.7**
SDKM	**Sandakan**	**13.98**	**348**	⇓P	**Pn**	**22 14 02.8**	**+4.6**
KKM	**Kota Kinabalu**	**14.60**	**344**	ePn	**Pn**	**22 14 08.7**	**+2.8**
KKM	**Kota Kinabalu**	**14.60**	**344**	⇓P	**Pn**	**22 14 10.0**	**+4.1**
KDM	**Kudat**	**15.29**	**347**	⇓P	**Pn**	**22 14 18.1**	**+3.8**
WRA	**Warramunga Arr**	**18.07**	**132**	P	**P**	**22 14 47.2**	**+1.8**
WRA				S	**S**	**22 18 01.1**	**-1.5**
WRA	**Warramunga Arr**	**18.07**	**132**	P	**P**	**22 14 47.2**	**+1.9**
	6.6nm,0.3s,baz=315,slow=10,SNR=164						
WRA				S	**S**	**22 18 01.1**	**-1.5**
	1.2nm,0.3s,baz=299,slow=25,SNR=9.1						
WRA				ScP	ScP	22 22 27.4	-0.7
	0.3nm,0.3s,baz=319,slow=2.0,SNR=8.2						
WB2	**Warramunga Arr**	**18.08**	**132**	eP	**P**	**22 14 47.3**	**+1.8**
WB2				eS	**S**	**22 18 00.1**	**-2.7**
MYKOM	**Kota Tinggi**	**19.01**	**300**	⇑P	**P**	**22 14 56.7**	**+1.1**
KGM	**Kluang**	**19.58**	**300**	⇑P	**P**	**22 15 03.5**	**+1.7**
ASAR	**Alice Springs**	**20.31**	**141**	P	**P**	**22 15 11.3**	**+1.8**
ASAR				S	**S**	**22 18 44.3**	**-2.3**
ASAR	**Alice Springs**	**20.31**	**141**	P	**P**	**22 15 11.3**	**+1.8**
	26nm,0.6s,baz=320,slow=11,SNR=197						
ASAR				S	**S**	**22 18 44.3**	**-2.3**
	15nm,0.9s,baz=323,slow=22,SNR=17						
ASAR				ScP	ScP	22 22 32.4	-0.8
	6.8nm,0.6s,baz=319,slow=2.2,SNR=16						
KTGM	**Kuala Trenggan**	**21.61**	**308**	⇑P	**P**	**22 15 24.9**	**+1.6**
KLBR	**Kellerberrin**	**23.47**	**185**	eP	**P**	**22 15 40.9**	**+0.5**
	38nm,0.5s,mb5.2						
KLBR				eS	S	22 20 02.7	+23
KULM	**Kulim**	**23.58**	**304**	eP	**P**	**22 15 41.1**	**-0.6**
KULM				ePcP	PcP	22 19 22.0	+0.6
KULM	**Kulim**	**23.58**	**304**	⇑P	**P**	**22 15 41.5**	**-0.2**
FORT	**Forrest**	**23.73**	**163**	eP	**P**	**22 15 44.4**	**+1.6**
	106nm,0.8s,mb5.5						
PSI	**Prapat**	**23.80**	**296**	P	**P**	**22 15 43.4**	**-0.3**
	9.6nm,0.5s,mb4.7,baz=131,slow=9.6,SNR=13						
MUN	**Mundaring**	**24.03**	**188**	eP	**P**	**22 15 46.1**	**+0.6**
MUN				eS	S	22 20 18.8	+30
NWAO	**Narrogin (SRO)**	**24.84**	**186**	eP	**P**	**22 15 53.8**	**+0.9**
	26nm,0.6s,mb5.0						
NWAO	**Narrogin (SRO)**	**24.84**	**186**	eP	**P**	**22 15 53.8**	**+0.9**
NWAO				pmax	pmax		
	comp=Z,26nm,0.6s						
NWAO	**Narrogin (SRO)**	**24.84**	**186**	P	**P**	**22 15 53.6**	**+0.7**
	comp=Z,40nm,0.7s,mb5.1,baz=6.6,slow=8.9,SNR=21						
QIZ	**Qiongzhong**	**28.82**	**339**	eP	**P**	**22 16 31.4**	**+2.8**
	comp=Z,19nm,1.0s,mb4.7						
STKA	**Stephens Creek**	**30.93**	**143**	eP	**P**	**22 16 49.0**	**+2.0**
	comp=Z,35nm,0.4s,mb5.3						
STKA	**Stephens Creek**	**30.93**	**143**	P	**P**	**22 16 49.0**	**+2.0**
	comp=Z,46nm,0.5s,mb4.4,baz=315,slow=8.8,SNR=78						
STKA				ScP	ScP	22 23 02.9	-0.6
	comp=Z,6.2nm,0.7s,baz=326,slow=3.2,SNR=11						
NACB	**Ninganchiao**	**32.12**	**2**	P	**P**	**22 16 56.4**	**-1.0**
YHNB	**Yeheng**	**32.60**	**2**	P	**P**	**22 17 01.6**	**-0.1**
GUMO	**Guam**	**32.65**	**49**	P	**P**	**22 17 00.9**	**-1.3**
XAN	**Xi'an**	**43.25**	**346**	P	**P**	**22 18 30.6**	**0.0**
XAN				AMB	AMB		
	comp=Z,9.0nm,1.0s,mb4.2						
INCN	**Inchon**	**45.76**	**7**	P	**P**	**22 18 50.8**	**+0.5**
KSRS	**Korea Array**	**45.90**	**9**	P	**P**	**22 18 51.5**	**+0.1**
	comp=Z,0.8nm,0.4s,mb4.4,baz=200,slow=7.8,SNR=2.7						
KSRS				PcP	PcP	22 20 25.9	+0.7
	comp=Z,0.8nm,0.5s,baz=180,slow=2.6,SNR=4.1						
LSA	**Lhasa**	**46.82**	**325**	eP	**P**	**22 19 00.1**	**+1.3**
LSA	**Lhasa**	**46.82**	**325**	eP	**P**	**22 19 00.4**	**+1.6**
	comp=Z,61nm,0.8s,mb5.0						
LSA	**Lhasa**	**46.82**	**325**	eP	**P**	**22 19 00.4**	**+1.6**
LSA				pmax	pmax		
	comp=Z,61nm,0.8s,mb5.0						
MAJO	**Matsushiro**	**47.54**	**20**	eP	**P**	**22 19 03.4**	**-0.9**
BJT	**Baijiatuan**	**48.03**	**356**	P	**P**	**22 19 07.8**	**-0.1**
JIRN	**Jiri**	**48.43**	**318**	eP	**P**	**22 19 11.5**	**+0.3**
	comp=Z,80nm,0.6s,mb5.2						
JIRN	**Jiri**	**48.43**	**318**	eP	**P**	**22 19 11.5**	**+0.3**
	comp=Z,80nm,0.6s,mb5.2						
KKN	**Kakani**	**49.11**	**318**	eP	**P**	**22 19 16.1**	**-0.3**
	comp=Z,42nm,0.9s,mb4.8						
KKN	**Kakani**	**49.11**	**318**	eP	**P**	**22 19 16.1**	**-0.3**
	comp=Z,42nm,0.9s,mb4.8						
GKN	**Gorkha**	**49.68**	**318**	eP	**P**	**22 19 20.1**	**-0.6**
	comp=Z,40nm,0.4s,mb5.1						
GKN	**Gorkha**	**49.68**	**318**	eP	**P**	**22 19 20.1**	**-0.6**
	comp=Z,40nm,0.4s,mb5.1						
KOLN	**Koldanda**	**50.23**	**317**	eP	**P**	**22 19 24.2**	**-0.7**
	comp=Z,49nm,0.8s,mb4.9						
KOLN	**Koldanda**	**50.23**	**317**	eP	**P**	**22 19 24.3**	**-0.6**
	comp=Z,49nm,0.8s,mb4.9						
KOLN	**Koldanda**	**50.23**	**317**	eP	**P**	**22 19 24.3**	**-0.6**
MDJ	**Mudanjiang**	**53.17**	**8**	eP	**P**	**22 19 46.5**	**+0.3**
	comp=Z,3.5nm,0.5s,mb4.0						
RPZ	**Rata Peaks**	**56.67**	**138**	P	**P**	**22 20 13.5**	**+2.0**
	comp=Z,14nm,0.8s,mb4.6,baz=328,slow=1.6,SNR=6.6						
SONM	**Songino Array**	**57.02**	**349**	P	**P**	**22 20 14.6**	**+0.9**
	comp=Z,3.6nm,0.5s,mb4.3,baz=166,slow=8.3,SNR=46						
SONM				pP	pP	22 20 58.8	+1.3
	comp=Z,3.2nm,1.1s,baz=170,slow=7.1,SNR=1.8						
HIA	**Hailar**	**57.13**	**360**	eP	**P**	**22 20 13.2**	**-1.3**
	comp=Z,2.2nm,0.3s,mb4.3						
HIA	**Hailar**	**57.13**	**360**	eP	**P**	**22 20 13.2**	**-1.3**
HIA				pmax	pmax		
	comp=Z,2.0nm,0.3s						
YSS	**Yuzh-Sakhalins**	**58.39**	**18**	P	**P**	**22 20 23.7**	**+0.3**
WMQ	**Urumqi**	**59.47**	**333**	P	**P**	**22 20 31.0**	**+0.2**
WMQ				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.5						
WMQ				AMB	AMB		
	comp=Z,94nm,5.6s						
ZAK	**Zakamensk**	**60.07**	**348**	eP	**P**	**22 20 35.1**	**+0.3**
ZAK				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb3.8						
TLY	**Talaya**	**61.23**	**348**	eP	**P**	**22 20 43.1**	**+0.5**
TLY	**Talaya**	**61.23**	**348**	eP	**P**	**22 20 43.7**	**+1.1**
TLY				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.3						
MOY	**Mondy**	**61.78**	**347**	eP	**P**	**22 20 48.0**	**+1.7**
MK31	**Makanchi Array**	**64.20**	**332**	eP	**P**	**22 21 02.4**	**+0.1**
MKAR	**Makanchi Array**	**64.20**	**332**	P	**P**	**22 21 02.5**	**+0.1**
MKAR	**Makanchi Array**	**64.20**	**332**	P	**P**	**22 21 02.5**	**+0.1**
	comp=Z,21nm,0.7s,mb4.9,baz=152,slow=7.3,SNR=117						
KZA	**Kyzart**	**64.63**	**324**	P	**P**	**22 21 05.8**	**+0.6**
	SNR=11						
TKM2	**Tokmak 2**	**64.97**	**325**	eP	**P**	**22 21 07.1**	**-0.3**
	comp=Z,4.7nm,0.6s,mb4.3						
TKM2	**Tokmak 2**	**64.97**	**325**	eP	**P**	**22 21 07.1**	**-0.3**
TKM2				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.3						
TKM2	**Tokmak 2**	**64.97**	**325**	P	**P**	**22 21 07.3**	**-0.1**
	SNR=7.0						
UCH	**Uchtor**	**65.15**	**324**	eP	**P**	**22 21 08.8**	**+0.2**
UCH	**Uchtor**	**65.15**	**324**	P	**P**	**22 21 08.8**	**+0.3**
	SNR=7.7						
KBK	**Karagaybulak**	**65.17**	**325**	P	**P**	**22 21 08.7**	**0.0**
	SNR=8.5						
AAK	**Ala-Archa**	**65.42**	**325**	eP	**P**	**22 21 08.6**	**-1.6**
	comp=Z,7.2nm,0.6s,mb4.5						
AAK	**Ala-Archa**	**65.42**	**325**	eP	**P**	**22 21 08.6**	**-1.7**
AAK				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.5						
AAK	**Ala-Archa**	**65.42**	**325**	P	**P**	**22 21 10.4**	**+0.2**
	SNR=8.3						
AML	**Almayashu**	**65.57**	**324**	eP	**P**	**22 21 11.4**	**+0.1**
	comp=Z,16nm,0.7s,mb4.8						
AML	**Almayashu**	**65.57**	**324**	P	**P**	**22 21 11.6**	**+0.3**
	SNR=20						
USP	**Ospenovka**	**65.81**	**325**	P	**P**	**22 21 12.2**	**-0.6**
	SNR=8.1						
EKS2	**Erkin-Say**	**65.85**	**324**	eP	**P**	**22 21 13.0**	**-0.1**
	comp=Z,5.7nm,0.7s,mb4.3						
EKS2	**Erkin-Say**	**65.85**	**324**	P	**P**	**22 21 13.2**	**+0.1**
	SNR=9.8						
BOD	**Bodaibo**	**65.89**	**356**	eP	**P**	**22 21 12.5**	**-0.5**
BOD				e		22 21 42.3	
BOD				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.0						
ZAL	**Zalesovo**	**68.63**	**338**	P	**P**	**22 21 29.5**	**-0.8**
ZAL				*PP	pP	22 22 17.2	+1.7
ZAA0	**Zalesovo Array**	**68.63**	**338**	eP	**P**	**22 21 29.6**	**-0.7**
ZALV	**Zalesovo Beam**	**68.63**	**338**	P	**P**	**22 21 29.5**	**-0.8**
	comp=Z,19nm,0.5s,mb5.0,baz=140,slow=5.2,SNR=107						
ZALV				pP	pP	22 22 17.2	+1.6
	comp=Z,1.5nm,0.6s,baz=126,slow=7.3,SNR=1.3						
KURK	**Kurchatov**	**68.72**	**333**	eP	**P**	**22 21 30.6**	**-0.3**
	comp=Z,18nm,0.9s,mb4.7						
KURK	**Kurchatov**	**68.72**	**333**	eP	**P**	**22 21 30.6**	**-0.3**
KURK				pmax	pmax		
	comp=Z,18nm,0.9s,mb4.7						
NVS	**Novosibirsk**	**69.91**	**338**	eP	**P**	**22 21 35.6**	**-2.5**
MA2	**Magadan**	**71.75**	**16**	eP	**P**	**22 21 49.0**	**-0.1**
	comp=Z,17nm,0.9s,mb4.7						
MA2	**Magadan**	**71.75**	**16**	eP	**P**	**22 21 49.0**	**-0.1**
MA2				pmax	pmax		
	comp=Z,17nm,0.9s,mb4.7						
VNDA	**Vanda**	**72.68**	**171**	P	**P**	**22 21 55.9**	**+1.4**
	comp=Z,1.4nm,0.5s,mb3.9,baz=346,slow=6.0,SNR=11						
VNDA				pP	pP	22 22 40.5	+0.3
	comp=Z,1.7nm,0.8s,baz=338,slow=5.2,SNR=2.3						
SBA	**Scott Base**	**73.67**	**171**	P	**P**	**22 22 03.4**	**+3.1**
BRVK	**Borovoye**	**74.14**	**331**	eP	**P**	**22 22 02.2**	**-1.0**
	comp=Z,10nm,1.2s,mb4.3						
BRVK	**Borovoye**	**74.14**	**331**	eP	**P**	**22 22 02.2**	**-1.1**
BRVK				pmax	pmax		
	comp=Z,10.0nm,1.2s,mb4.3						
RDF	**Al-Radifah**	**78.94**	**302**	eP	**P**	**22 22 28.7**	**-2.0**
RDF				AMb	AMB	22 22 30.2	
	comp=Z,58nm,0.8s,mb5.2						
AKTK	**Aktyubinsk**	**79.16**	**325**	P	**P**	**22 22 30.8**	**-0.7**
AKTO	**Aktyubinsk**	**79.16**	**325**	P	**P**	**22 22 30.8**	**-0.7**
	comp=Z,4.8nm,0.5s,mb4.4,baz=99,slow=7.5,SNR=24						
NAY	**Al-Naaiem**	**79.28**	**302**	eP	**P**	**22 22 30.3**	**-2.4**
NAY				AMb	AMB	22 22 34.8	
	comp=Z,26nm,1.6s,mb4.6						
MIB	**Mutribah**	**79.35**	**302**	eP	**P**	**22 22 30.1**	**-2.9**
MIB				AMb	AMB	22 22 32.6	
	comp=Z,48nm,1.1s,mb5.0						
RST	**Umm Al-Ruwaisa**	**79.56**	**302**	eP	**P**	**22 22 31.2**	**-2.9**
RST				AMb	AMB	22 22 33.2	
	comp=Z,40nm,0.6s,mb5.3						
BILL	**Bilibino**	**82.62**	**16**	P	**P**	**22 22 49.2**	**-0.3**
BILL	**Bilibino**	**82.62**	**16**	P	**P**	**22 22 49.2**	**-0.2**
KMBO	**Kilima Mbogo**	**82.83**	**270**	P	**P**	**22 22 52.1**	**+0.4**
	comp=Z,1.2nm,0.5s,mb3.9,baz=229,slow=24,SNR=6.2						
KIV	**Kislovodsk**	**86.67**	**315**	eP	**P**	**22 23 09.4**	**-0.8**
	comp=Z,1.8nm,0.5s,mb4.1						
KIV	**Kislovodsk**	**86.67**	**315**	eP	**P**	**22 23 09.4**	**-0.8**
MALT	**Malatya**	**88.55**	**309**	eP	**P**	**22 23 18.8**	**-0.5**
	comp=Z,1.2nm,0.6s,mb3.9						
MALT	**Malatya**	**88.55**	**309**	eP	**P**	**22 23 18.8**	**-0.5**
MALT				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.8						
LSZ	**Lusaka**	**89.79**	**255**	eP	**P**	**22 23 26.1**	**+0.5**
	comp=Z,3.5nm,0.4s,mb4.5						
LSZ	**Lusaka**	**89.79**	**255**	eP	**P**	**22 23 26.1**	**+0.5**
LSZ				pmax	pmax		
	comp=Z,4.0nm,0.4s,mb4.6						
BOSA	**Boshof**	**90.44**	**241**	P	**P**	**22 23 28.9**	**+0.5**
	comp=Z,2.9nm,0.5s,mb4.3,baz=98,slow=5.2,SNR=18						
OBN	**Obninsk**	**92.94**	**325**	P	**P**	**22 23 39.1**	**-0.1**
PMR	**Palmer**	**97.41**	**29**	P	**P**	**22 23 59.7**	**+0.3**
FINES	**FINESS Array B**	**99.02**	**331**	PKiKP	PKiKP	22 28 35.9	-0.3
	comp=Z,0.7nm,0.7s,baz=102,slow=4.8,SNR=5.2						
PSZ	**Piszkesteto**	**102.85**	**317**	ePdif	Pdif	22 24 23.0	-1.0
GERES	**GERESS Array B**	**106.89**	**319**	PKiKP	PKiKP	22 28 50.7	-0.2
	comp=Z,0.2nm,0.3s,baz=96,slow=1.0,SNR=4.1						
RES	**Resolute Bay**	**110.52**	**9**	ePKiKP	PKiKP	22 28 56.9	-0.1
YKA	**Yellowknife Ar**	**112.91**	**24**	PKiKP	PKiKP	22 29 01.3	-0.5
	comp=Z,2.0nm,0.5s,baz=303,slow=1.9,SNR=38						
EKA	**Eskdalemuir Ar**	**115.20**	**328**	PKP	PKPdf	22 29 06.4	0.0
	comp=Z,0.6nm,0.6s,baz=27,slow=17,SNR=4.0						
TORD	**Torodi Ar. Bea**	**119.44**	**280**	PKP	PKPdf	22 29 15.1	-0.7
	comp=Z,2.6nm,0.6s,baz=49,slow=1.9,SNR=34						
NVAR	**Mina Array Bea**	**119.56**	**50**	PKP	PKPdf	22 29 16.6	+1.2
	comp=Z,0.3nm,0.3s,baz=331,slow=1.5,SNR=3.9						
ESDC	**Sonseca Array**	**121.19**	**312**	PKP	PKPdf	22 29 18.3	-0.2
	comp=Z,0.8nm,0.5s,baz=29,slow=2.7,SNR=6.5						
FCC	**Fort Churchill**	**123.10**	**20**	ePKPdf	PKPdf	22 29 20.8	-0.8
PDAR	**Pinedale Array**	**124.48**	**43**	PKP	PKPdf	22 29 24.9	+0.2
	comp=Z,0.3nm,0.4s,baz=90,slow=3.3,SNR=4.3						
DBIC	**Dimbokro**	**125.49**	**272**	PKP	PKPdf	22 29 26.5	-1.0
	comp=Z,3.6nm,0.5s,baz=9.3,slow=6.4,SNR=7.6						
ULM	**Lac du Bonnet**	**128.42**	**29**	PKP	PKPdf	22 29 31.4	-0.6
	comp=Z,2.0nm,0.6s,baz=8.0,slow=2.1,SNR=7.8						
PLCA	**Paso Flores**	**130.41**	**169**	SKPbc	SKPbc	22 32 42.1	+0.5
	comp=Z,2.6nm,0.8s,baz=243,slow=6.8,SNR=5.4						
SCHQ	**Schefferville**	**133.07**	**6**	PKP	PKPdf	22 29 40.2	-0.5
SCHQ	**Schefferville**	**133.07**	**6**	PKP	PKPdf	22 29 40.2	-0.5
	comp=Z,3.7nm,0.8s,baz=212,slow=1.6,SNR=6.8						
LTX	**Lajitas**	**133.78**	**57**	PKPdf	PKPdf	22 29 42.5	-0.3
MIAR	**Mount Ida**	**139.35**	**45**	PKPdf	PKPdf	22 29 50.4	-2.5
LPAZ	**La Paz**	**154.41**	**161**	PKP	PKPdf	22 30 20.5	+2.2
	comp=Z,1.0nm,0.9s,baz=109,slow=5.1,SNR=4.3						
LPAZ				PKPbc	PKPbc	22 30 29.4	+2.7
	comp=Z,0.8nm,0.5s,baz=235,slow=8.3,SNR=4.0						
LPAZ				PKPab	PKPab	22 30 42.3	+0.8
	comp=Z,2.0nm,0.7s,baz=172,slow=3.4,SNR=5.4						

*ISCJB **02** 22:12:04.6±0.7, 3827N±003×2031E±005, h14km, Error ellipse: s-maj=6.8km s-min=2.9km az=148.8*
*NEIC **02** 22:12:04.9, 3830N×2033E, h14km, MD3.6(ATH), ML3.5(THE), After ATH.*
*ATH **02** 22:12:04.9, 3830N×2033E, h14km±1km, MD3.5/5*
*CSEM **02** 22:12:05.6±0.2, 3835N×2036E, h2km, MD3.6, Error ellipse: s-maj=3.8km s-min=1.4km az=66.0*
*THE **02** 22:12:06.7, 3837N×2048E, h3km, ML3.5*
ISC 02 22:12:04.9±0.8, 3831N±003×2034E±005, h4km±5km, n34, σ0§99/52, 6C, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.23**	**124**	⇑iPG	**Pg**	**22 12 10.4**	**+1.0**
VLS				eSG	**Sg**	**22 12 14.1**	**+1.6**
KFL	**Anninata**	**0.40**	**119**	ePg	**Pg**	**22 12 13.1**	**+0.5**
LKD	**Levkas**	**0.47**	**31**	ePg	**Pg**	**22 12 13.3**	**-0.6**
LKD				eSg	**Sg**	**22 12 19.4**	**-0.6**
RLS	**Riolos of Patr**	**0.92**	**105**	ePG	**Pg**	**22 12 22.3**	**-0.2**
RLS				eSB	**Sb**	**22 12 35.6**	**-0.3**
SELA	**Sela**	**1.22**	**91**	ePg	**Pn**	**22 12 26.8**	**-1.9**
SELA				eSg	**Sg**	**22 12 43.8**	**-0.2**
IGT	**Igoumenitsa**	**1.22**	**360**	ePg	**Pn**	**22 12 27.2**	**-1.6**
IGT				eSg	**Sg**	**22 12 45.8**	**+1.6**
EVR	**Evrytania**	**1.30**	**62**	⇑iPN	**Pn**	**22 12 28.2**	**-1.6**
EVR				eSB	**Sb**	**22 12 47.7**	**+0.8**
EVR	**Evrytania**	**1.30**	**62**	⇑iPn	**Pn**	**22 12 28.2**	**-1.6**
EVR				eSb	**Sb**	**22 12 48.0**	**+1.1**
JAN	**Janina**	**1.41**	**16**	⇑iPB	**Pb**	**22 12 31.8**	**+0.1**
JAN				eSB	**Sb**	**22 12 51.1**	**+1.2**
JAN	**Janina**	**1.41**	**16**	⇑iPb	**Pb**	**22 12 32.3**	**+0.6**
JAN				eSb	**Sb**	**22 12 51.1**	**+1.2**
KEK	**Kerkira**	**1.47**	**343**	⇑iPB	**Pb**	**22 12 32.4**	**-0.3**
KEK				eSB	**Sb**	**22 12 52.4**	**+0.7**
SRN	**Sarande**	**1.59**	**350**	iPn	**Pn**	**22 12 34.1**	**+0.2**
SRN				iSn	**Sg**	**22 12 59.3**	**+3.2**
MEV	**Metsovon**	**1.63**	**25**	ePg	**Pg**	**22 12 35.6**	**-0.5**
ITM	**Ithomi**	**1.69**	**131**	ePG	**Pg**	**22 12 37.0**	**-0.2**
AGG	**Agios Georgios**	**1.71**	**65**	ePg	**Pn**	**22 12 35.4**	**0.0**
AGG				eSg	**Sn**	**22 12 57.2**	**-0.6**
PYL	**PYLOS**	**1.79**	**141**	ePb	**Pb**	**22 12 37.5**	**-0.8**
PYL				eSb	**Sg**	**22 13 02.6**	**+0.1**
THL	**Klokotos Trika**	**1.81**	**46**	ePG	**Pg**	**22 12 38.4**	**-1.2**
THL				eSN	**Sg**	**22 13 01.8**	**-1.3**
VLX	**Vlachokerasia**	**1.86**	**119**	ePb	**Pb**	**22 12 39.0**	**-0.5**
VLX				eSb	**Sb**	**22 13 03.7**	**+0.6**
LTK	**Loutraki**	**2.09**	**97**	ePn	**Pn**	**22 12 41.6**	**+1.0**
LKR	**Lokris**	**2.11**	**80**	ePN	**Pn**	**22 12 42.6**	**+1.6**
DID	**Didima**	**2.42**	**108**	ePn	**Pn**	**22 12 46.7**	**+1.4**
LIT	**Litokhoron**	**2.45**	**42**	ePn	**Pn**	**22 12 46.3**	**+0.7**
NEO	**Neokhori**	**2.46**	**65**	ePB	**Pb**	**22 12 46.7**	**-3.0**
FNA	**Florina**	**2.60**	**18**	ePn	**Pn**	**22 12 47.7**	**+0.1**
VLI	**Veliai**	**2.60**	**127**	ePg	**Pg**	**22 12 54.0**	**-0.8**
GRG	**Griva**	**3.09**	**30**	ePn	**Pn**	**22 12 54.9**	**+0.5**
KRUS	**Krusevo**	**3.14**	**13**	ePn	**Pn**	**22 12 55.0**	**-0.1**
KRUS	**Krusevo**	**3.14**	**13**	ePn	**Pn**	**22 12 54.9**	**-0.2**
PLG	**Polygyros**	**3.17**	**48**	ePN	**Pn**	**22 12 55.5**	**0.0**
SOH	**Sokhos**	**3.42**	**42**	ePn	**Pn**	**22 13 00.3**	**+1.3**
STON	**Ston**	**4.98**	**337**	ePn	**Pn**	**22 13 19.5**	**-1.0**
STON				Sn	**Sn**	**22 14 13.6**	**-4.9**
STON	**Ston**	**4.98**	**337**	ePn	**Pn**	**22 13 19.4**	**-1.0**
STON				Sn	**Sn**	**22 14 13.5**	**-5.0**
NVLJ	**Novalja**	**7.48**	**328**	ePn	**Pn**	**22 13 54.2**	**-0.5**
NVLJ				Sn	**Sn**	**22 15 15.7**	**-4.2**
NVLJ	**Novalja**	**7.48**	**328**	ePn	**Pn**	**22 13 54.1**	**-0.6**

*CSEM **02** 22:26:05.6±0.1, 3926N×3350E, h2km, MD3.5, Error ellipse: s-maj=2.0km s-min=1.8km az=130.0*
*DDA **02** 22:26:05.9, 3920N×3353E, h7km±5km, Md3.3*
*ISCJB **02** 22:26:07.0±0.4, 3925N±003×3350E±003, h10km, Error ellipse: s-maj=4.1km s-min=3.4km az=1.5*
*ISK **02** 22:26:06.7, 3927N×3350E, h8km, MD3.5*
ISC 02 22:26:07.1±0.4, 3922N±003×3351E±003, h10km, n24, σ0§91/34, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAMT	**Kaman**	**0.22**	**48**	iPG	**Pg**	**22 26 11.2**	**-0.4**
CDAG	**Cicekdag**	**0.78**	**59**	iP	**Pg**	**22 26 20.7**	**-1.5**
CDAG				iS	**Sg**	**22 26 31.1**	**-1.3**
ANTO	**Ankara**	**0.85**	**320**	PG	**Pg**	**22 26 22.3**	**-1.2**
ANTO				SG	**Sg**	**22 26 34.6**	**0.0**
LOD	**Lodumlu**	**0.88**	**319**	PG	**Pg**	**22 26 23.6**	**-0.5**
LOD				SG	**Sg**	**22 26 35.5**	**0.0**
AVNT	**Avonos**	**1.14**	**112

18nm,1.9s
CTA e 22 44 50.5
CTA Charters Tower 15.23 216 *eP* **Pn 22 44 46.0 +1.1**
CTA pmax pmax
comp=Z,18nm,1.9s
CTA Charters Tower 15.23 216 Pn **Pn 22 44 44.8 -0.1**
comp=Z,0.2nm,0.3s,baz=45,slow=11,SNR=3.6
CTAO Charters Tower 15.23 216 Pn **Pn 22 44 42.7 -2.2**
EIDS Eidsvold 18.01 193 P **Pn 22 45 20.6 +0.8**
comp=Z,13nm,1.4s
WB2 Warramunga Arr 23.91 237 *eP* **P 22 46 21.6 -0.9**
WB2 e 22 46 25.0
WRA Warramunga Arr 23.91 237 P **P 22 46 22.4 -0.1**
comp=Z,18nm,0.9s,mb4.5,baz=64,slow=9.7,SNR=37
WRA PcP PcP 22 50 05.3 +0.9
comp=Z,5.0nm,1.1s,baz=61,slow=2.0,SNR=6.7
ASAR Alice Springs 26.15 230 P **P 22 46 41.6 -1.2**
comp=Z,6.1nm,0.9s,mb4.1,baz=61,slow=8.5,SNR=30
STKA Stephens Creek 27.30 207 *eP* **P 22 46 54.4 +1.3**
comp=Z,8.3nm,0.9s,mb4.3
STKA Stephens Creek 27.30 207 P **P 22 46 53.3 +0.2**
comp=Z,9.7nm,0.9s,mb4.3,baz=18,slow=12,SNR=14
FITZ Fitzroy Crossi 30.94 248 *eP* **P 22 47 25.3 -0.3**
comp=Z,5.9nm,0.7s,mb4.5
FITZ Fitzroy Crossi 30.94 248 P **P 22 47 24.4 -1.2**
comp=Z,3.1nm,0.6s,mb4.3,baz=97,slow=8.3,SNR=8.4
FORT Forrest 34.47 225 *eP* **P 22 47 58.7 +2.4**
comp=Z,15nm,0.9s,mb4.9
MBWA Marble Bar 37.12 245 P **P 22 48 17.0 -2.1**
KLBR Kellerberrin 42.48 231 *eP* **P 22 49 02.5 -1.1**
comp=Z,22nm,1.1s,mb4.7
NACB Ninganchiao 45.98 315 *eP* **P 22 49 31.2 -0.5**
KSM Kuching 46.15 280 *eP* **P 22 49 34.2 +1.0**
YHNB Yeheng 46.45 315 P **P 22 49 39.9 +4.6**
MJAR Matsushiro Arr 47.05 341 P **P 22 49 39.4 -0.4**
comp=Z,13nm,0.9s,mb4.9,baz=164,slow=7.8,SNR=29
MAJO Matsushiro 47.05 341 *eP* **P 22 49 39.4 -0.4**
comp=Z,24nm,0.8s,mb5.2
MAJO Matsushiro 47.05 341 *eP* **P 22 49 39.4 -0.4**
MAJO pmax pmax
comp=Z,24nm,0.8s,mb5.2
MAT Matsushiro 47.05 341 P **P 22 49 39.5 -0.3**
KSRS Korea Array 51.95 332 P **P 22 50 17.1 0.0**
comp=Z,4.2nm,0.9s,mb4.4,baz=150,slow=7.8,SNR=8.2
YSS Yuzh-Sakhalins 55.70 349 *eP* **P 22 50 44.0 -0.4**
YSS pmax pmax
comp=Z,25nm,1.5s,mb5.0
KULM Kulim 56.38 282 *eP* **P 22 50 49.7 -0.2**
MDJ Mudanjiang 57.22 338 *eP* **P 22 50 55.5 +0.3**
comp=Z,32nm,1.4s,mb5.2
CN2 Changchun 58.19 335 *eP* **P 22 51 01.7 -0.4**
CN2 AMB AMB
comp=Z,20nm,1.1s,mb5.1
HABR Khabarovsk 58.89 344 *eP* **P 22 51 07.0 +0.1**
HABR *eS* **S 22 59 10.7 +1.4**
KLR Kul'dur 60.52 342 *eP* **P 22 51 15.0 -3.1**
HIA Hailar 64.92 335 ⇑ *iP* **P 22 51 48.4 +1.0**
NRGR Nerungri 69.08 342 *eP* **P 22 52 15.5 +1.9**
NRGR S S 23 01 11.7 -3.6
NRGR smax
comp=N,11nm,0.5s
VNDA Vanda 69.77 179 P **P 22 52 18.0 +0.3**
comp=N,1.5nm,1.1s,mb3.9,baz=332,slow=2.4,SNR=5.1
SONM Songino Array 70.36 327 P **P 22 52 22.3 +0.6**
comp=N,1.6nm,0.7s,mb4.0,baz=142,slow=5.8,SNR=15
SEY Seymchan 70.57 358 ⇑ *iP* **P 22 52 22.5 -0.1**
LSA Lhasa 72.26 304 P **P 22 52 35.7 +2.1**
LSA AMB AMB
comp=Z,20nm,0.9s,mb5.0
LSA Lhasa 72.26 304 *eP* **P 22 52 35.6 +2.0**
comp=Z,111nm,2.3s,mb5.4
LSA Lhasa 72.26 304 *eP* **P 22 52 35.6 +2.0**
LSA pmax pmax
comp=Z,111nm,2.3s,mb5.4
YAK Yakutsk 72.47 347 P **P 22 52 34.9 +0.7**
YAK Yakutsk 72.47 347 *iP* **P 22 52 34.7 +0.5**
YAK e 22 52 57.4
YAK pmax pmax
comp=Z,31nm,1.2s,mb5.1
YAK pmax pmax
comp=N,17nm,1.5s
YAK pmax pmax
comp=E,12nm,1.8s
ZAK Zakamensk 73.51 328 ⇓ *eP* **P 22 52 41.2 +0.6**
ZAK pmax pmax
comp=Z,4.0nm,1.4s,mb4.2
BOD Bodaibo 73.59 338 *eP* **P 22 52 41.0 +0.1**
BOD pmax pmax
comp=Z,7.0nm,1.6s,mb4.3
TLY Talaya 74.08 329 P **P 22 52 44.0 +0.1**
TLY Talaya 74.08 329 *eP* **P 22 52 45.1 +1.3**
TLY pmax pmax
comp=Z,12nm,2.2s,mb4.4
IRK Irkutsk 74.10 330 *eP* **P 22 52 49.1 +5.2**
IRK pmax pmax
comp=Z,66nm,0.7s,mb5.7
MOY Mondy 75.43 328 *eP* **P 22 52 53.0 +1.3**
JIRN Jiri 75.75 301 *eP* **P 22 52 55.1 +1.1**
BILL Bilibino 76.03 4 *eP* **P 22 52 54.7 -0.1**
comp=Z,63nm,1.1s,mb5.5
BILL Bilibino 76.03 4 ⇑ *iP* **P 22 52 55.3 +0.6**
BILL *e* 22 55 45.0
BILL pmax pmax
comp=Z,26nm,1.3s,mb5.0
KKN Kakani 76.56 301 *eP* **P 22 52 59.3 +0.6**
GKN Gorkha 77.17 301 *eP* **P 22 53 02.6 +0.5**
comp=Z,33nm,1.2s,mb5.1
KOLN Koldanda 77.99 300 *eP* **P 22 53 06.8 +0.2**
comp=Z,54nm,1.5s,mb5.2
TIXI Tiksi 81.24 352 *eP* **P 22 53 23.2 -0.1**
TIXI pmax pmax
comp=Z,9.0nm,1.5s,mb4.5
MCK McKinley 82.56 22 *eP* **P 22 53 28.8 -1.6**
comp=Z,17nm,1.0s,mb5.0
MCK McKinley 82.56 22 *eP* **P 22 53 28.8 -1.6**
MCK pmax pmax
comp=Z,17nm,1.0s,mb5.0
COLA College 83.59 21 *eP* **P 22 53 33.8 -1.9**
MKAR Makanchi Array 84.43 319 *iP* **P 22 53 41.4 +1.0**
MKAR pmax pmax
comp=Z,5.0nm,0.8s
MKAR Makanchi Array 84.43 319 P **P 22 53 40.5 0.0**
comp=Z,5.4nm,0.8s,mb4.8,baz=103,slow=6.0,SNR=44
ZAA0 Zalesovo Array 85.20 326 *eP* **P 22 53 43.0 -1.2**
ZALV Zalesovo Beam 85.20 326 P **P 22 53 43.4 -0.7**
ZALV Zalesovo Beam 85.20 326 P **P 22 53 43.4 -0.7**
comp=Z,2.0nm,0.5s,mb4.5,baz=105,slow=5.1,SNR=15
ZAL Zalesovo 85.21 326 P **P 22 53 43.4 -0.8**
NVS Novosibirsk 86.37 326 *eP* **P 22 53 49.7 -0.2**
KURK Kurchatov 87.86 322 *iP* **P 22 53 56.1 -1.1**
UCH Uchtor 88.67 313 P **P 22 54 00.1 -1.2**
AAK Ala-Archa 88.77 313 *eP* **P 22 54 01.5 -0.2**
AAK Ala-Archa 88.77 313 *iP* **P 22 54 01.1 -0.6**
AAK pmax pmax
comp=Z,6.0nm,2.5s,mb4.5
AML Almayashu 89.25 313 *eP* **P 22 54 06.4 +2.4**
comp=Z,8.2nm,1.4s,mb4.9
EKS2 Erkin-Say 89.29 313 *eP* **P 22 54 03.1 -1.1**
NVAR Mina Array Bea 91.71 52 P **P 22 54 16.1 +0.6**
comp=Z,0.6nm,0.7s,mb4.0,baz=238,slow=3.9,SNR=3.9
YKA Yellowknife Ar 96.74 28 P **P 22 54 37.5 -0.5**
YKA Yellowknife Ar 96.74 28 P **P 22 54 37.5 -0.5**
comp=Z,2.5nm,0.8s,mb4.7,baz=266,slow=4.6,SNR=24
AKASG Malin Array Be 118.56 324 PKP PKPdf 22 59 54.4 -1.1
comp=Z,1.0nm,0.6s,baz=62,slow=1.9,SNR=5.7
BOSA Boshof 120.02 231 *e*PKPdf PKPdf 22 59 59.0 -0.1
LBTB Lobatse 121.45 235 *e*PKPdf PKPdf 23 00 02.2 +0.3
BRG Berggiesshubel 126.66 331 *e*PKP PKPdf 23 00 10.8 -0.2
BRG Berggiesshubel 126.66 331 *e*PKP PKPdf 23 00 10.8 -0.2
comp=Z,11nm,1.6s
CLL Collm 126.82 332 *i* P PKPdf 23 00 11.8 +0.4
CLL Collm 126.82 332 *i* PKPdf PKPdf 23 00 11.8 +0.4
KHC Kasperske Hory 127.95 329 *e*P PKPdf 23 00 09.5 -4.1
KHC Kasperske Hory 127.95 329 *e*PKP PKPdf 23 00 09.5 -4.1
GERES GERESS Array B 128.07 329 PKP PKPdf 23 00 14.2 +0.4
GERES GERESS Array B 128.07 329 PKP PKPdf 23 00 14.2 +0.4
comp=Z,1.5nm,0.8s,baz=82,slow=2.8,SNR=11
LPAZ La Paz 130.50 119 *e*PKPdf PKPdf 23 00 20.8 +1.4
LPAZ PKP PKPdf 23 00 21.1 +1.7
LPAZ La Paz 130.50 119 PKP PKPdf 23 00 21.1 +1.7
comp=Z,2.5nm,1.1s,baz=308,slow=1.3,SNR=4.9
GUD Guadarrama 142.66 334 PKP PKPdf 23 00 43.8 +2.6
ESDC Sonseca Array 143.37 333 PKP PKPdf 23 00 39.9 -2.6
EQES Quesada 144.45 330 PKP PKPdf 23 00 45.0 +0.6
EBAN Banos Encina 144.51 332 PKP PKPdf 23 00 43.5 -1.0
ENIJ Nijar 144.66 329 PKP PKPdf 23 00 44.5 -0.3
EBER Berja 145.07 329 PKP PKPbc 23 00 48.8 +3.8
ELUQ Luque 145.22 331 PKP PKPdf 23 00 44.8 -1.0
ECAB El Cabril 145.33 333 PKP PKPdf 23 00 42.5 -3.5
ERON Agron 145.43 330 PKP PKPdf 23 00 44.5 -1.7
EBAD Badajoz 145.44 336 PKP PKPdf 23 00 46.0 -0.1
EGUA Guajares 145.46 330 PKP PKPdf 23 00 45.5 -0.7
ELOJ Sierra Loja 145.50 331 PKP PKPdf 23 00 45.0 -1.3
EMIN Mina Concepcio 146.14 334 PKP PKPdf 23 00 48.5 +1.1
EMIJ Mijas 146.26 331 PKP PKPdf 23 00 48.1 +0.5
ESPR Espera 146.52 333 PKP PKPdf 23 00 48.4 +0.4
BDFB Brasilia 146.96 135 PKPbc PKPbc 23 00 50.7 -0.5
BDFB Brasilia 146.96 135 PKPbc PKPbc 23 00 50.7 -0.5
comp=Z,20nm,1.0s,baz=262,slow=1.6,SNR=26
TORD Torodi Ar. Bea 153.85 284 PKP PKPdf 23 01 00.4 +0.3
TORD PKPbc PKPbc 23 01 07.6 -0.4
TORD Torodi Ar. Bea 153.85 284 PKP PKPdf 23 01 00.4 +0.3
comp=Z,1.2nm,1.1s,baz=184,slow=8.6,SNR=3.7
TORD PKPbc PKPbc 23 01 07.6 -0.4
comp=Z,2.1nm,1.0s,baz=89,slow=1.6,SNR=6.0

ISCJB ***02*** *22:41:27.5±0.3, 782S±005×15590E±005, h10km, mb4.8/31, MS4.8/5, Error ellipse: s-maj=7.6km s-min=7.0km az=146.8*
BJI ***02*** *22:41:28.9, 771S×15572E, h11km, mB5.1, mb5.0, Ms5.1, Msz4.9*
IDC ***02*** *22:41:28.2±0.6, 782S×15582E, h0km, mb4.7/13, mb1 4.8/14, mb1mx4.7/18, mbtmp4.7/14, ML4.5/1, Error ellipse: s-maj=23.3km s-min=16.4km az=120.0*
NEIC ***02*** *22:41:29.6±0.3, 780S×15584E, h10km, mb4.8/16, Error ellipse: s-maj=10.2km s-min=7.1km az=110.0*
MOS ***02*** *22:41:30.8±1.1, 788S×15586E, h33km, mb5.1/6, Error ellipse: s-maj=13.7km s-min=9.5km az=107.2*
ISC 02 22:41:31.1±4.6, 785S±007×15590E±005, h21km±34km, h14km±.9km: pP-P, n90, σ0:99/74, mb4.8/31, MS4.8/5, 1C, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.30**	**112**	Pn	**Pn**	**22 42 34.9**	**-0.4**
	24nm,0.3s,baz=265,slow=10,SNR=4.1						
HNR				Sn	**Sn**	**22 43 24.0**	**-0.8**
	53nm,0.3s,baz=84,slow=21,SNR=4.2						
CTA	**Charters Tower**	**15.34**	**217**	*eP*	**Pn**	**22 45 14.3**	**+7.9**
	12nm,0.8s						
CTA	**Charters Tower**	**15.34**	**217**	*eP*	**Pn**	**22 45 14.3**	**+7.9**
CTA				pmax	pmax		
	comp=Z,12nm,0.8s						
CTAO	**Charters Tower**	**15.34**	**217**	Pn	**Pn**	**22 45 05.5**	**-0.9**
EIDS	**Eidsvold**	**18.02**	**194**	*eP*	**Pn**	**22 45 40.7**	**+0.4**
	comp=Z,77nm,1.8s						
WB2	**Warramunga Arr**	**24.09**	**238**	*eP*	**P**	**22 46 47.4**	**+2.1**
WRA	**Warramunga Arr**	**24.10**	**238**	P	**P**	**22 46 44.7**	**-0.8**
	comp=Z,19nm,0.8s,mb4.5,baz=60,slow=9.7,SNR=13						
WRA				PcP	PcP	22 50 26.2	-0.5
	comp=Z,2.3nm,0.9s,baz=59,slow=3.1,SNR=4.2						
ASAR	**Alice Springs**	**26.31**	**231**	P	**P**	**22 47 06.0**	**+0.6**
	comp=Z,6.8nm,1.0s,mb4.2,baz=65,slow=9.5,SNR=11						
STKA	**Stephens Creek**	**27.37**	**207**	*eP*	**P**	**22 47 18.0**	**+3.1**
	comp=Z,6.2nm,0.6s,mb4.3						
STKA	**Stephens Creek**	**27.37**	**207**	P	**P**	**22 47 15.8**	**+0.8**
	comp=Z,13nm,0.9s,mb4.4,baz=28,slow=10,SNR=7.8						
FITZ	**Fitzroy Crossi**	**31.15**	**248**	*eP*	**P**	**22 47 49.7**	**+1.0**
	comp=Z,7.2nm,0.6s,mb4.7						
FITZ	**Fitzroy Crossi**	**31.15**	**248**	P	**P**	**22 47 47.5**	**-1.2**
	comp=Z,4.6nm,0.6s,mb4.5,baz=80,slow=8.9,SNR=9.0						
FORT	**Forrest**	**34.60**	**225**	*eP*	**P**	**22 48 19.2**	**+0.4**
	comp=Z,22nm,0.7s,mb5.2						
TAU	**Tasmania Unive**	**35.73**	**191**	*eP*	**P**	**22 48 28.4**	**+0.1**
MBWA	**Marble Bar**	**37.32**	**245**	*eP*	**P**	**22 48 41.1**	**-1.1**
	comp=Z,17nm,0.9s,mb4.9						
KKM	**Kota Kinabalu**	**41.92**	**288**	P	**P**	**22 49 20.0**	**-0.7**
KLBR	**Kellerberrin**	**42.64**	**231**	*eP*	**P**	**22 49 26.3**	**+0.1**
	comp=Z,12nm,0.7s,mb4.7						
NWAO	**Narrogin (SRO)**	**43.61**	**230**	P	**P**	**22 49 26.7**	**-7.5**
NWAO	**Narrogin (SRO)**	**43.61**	**230**	P	**P**	**22 49 34.5**	**+0.4**
	comp=Z,6.8nm,0.7s,mb4.5,baz=30,slow=5.6,SNR=6.1						
NACB	**Ninganchiao**	**46.20**	**314**	P	**P**	**22 49 53.1**	**-1.6**
KSM	**Kuching**	**46.40**	**280**	*eP*	**P**	**22 49 55.9**	**-0.7**
MJAR	**Matsushiro Arr**	**47.18**	**341**	P	**P**	**22 50 01.8**	**-0.4**
	comp=Z,15nm,0.7s,mb5.0,baz=164,slow=8.0,SNR=12						
MAJO	**Matsushiro**	**47.18**	**341**	P	**P**	**22 50 02.1**	**-0.2**
	comp=Z,21nm,0.8s,mb5.1						
MAJO	**Matsushiro**	**47.18**	**341**	P	**P**	**22 50 02.1**	**-0.1**
MAJO				pmax	pmax		
	comp=Z,21nm,0.8s,mb5.1						
MAT	**Matsushiro**	**47.18**	**341**	P	**P**	**22 50 02.0**	**-0.2**
KSRS	**Korea Array**	**52.11**	**332**	P	**P**	**22 50 40.1**	**+0.3**
	comp=Z,8.6nm,0.9s,mb4.7,baz=148,slow=7.6,SNR=7.1						
NJ2	**Nanjing**	**53.14**	**320**	*eP*	**P**	**22 50 48.6**	**+1.0**
NJ2				AMB	AMB		
	comp=Z,20nm,0.8s,mb5.1						
VLA	**Vladivostok**	**55.23**	**339**	*eP*	**P**	**22 51 02.2**	**-0.4**
VLA				pmax	pmax		
	comp=Z,75nm,1.3s,mb5.6						
YSS	**Yuzh-Sakhalins**	**55.80**	**349**	P	**P**	**22 51 07.5**	**+0.9**
MDJ	**Mudanjiang**	**57.36**	**338**	P	**P**	**22 51 18.6**	**+0.8**
MDJ				AP	pP	22 51 21.8	-2.6
MDJ				XP	sP	22 51 23.3	-3.7
MDJ				PCP	PcP	22 52 09.7	-1.9
MDJ				SCP	ScP	22 56 09.5	-1.0
MDJ				PCS	PcS	22 56 11.6	-0.9
MDJ				AMB	AMB		
	comp=Z,17nm,1.4s,mb4.9						
MDJ				AMB	AMB		
	comp=Z,109nm,5.9s						
MDJ				LR	LR		
	comp=N,707nm,26.6s,MS4.8						
MDJ				LR	LR		
	comp=E,458nm,23.4s,MS4.8						
MDJ				LR	LR		
	comp=Z,1μm,28.1s,MS4.8						
MDJ	**Mudanjiang**	**57.36**	**338**	*eP*	**P**	**22 51 17.5**	**-0.3**
	comp=Z,18nm,1.3s,mb4.9						
ENH	**Enshi**	**58.48**	**313**	P	**P**	**22 51 24.4**	**-1.5**
GYA	**Guiyang**	**58.68**	**307**	⇑ *iP*	**P**	**22 51 27.2**	**-0.2**
GYA				AP	pP	22 51 31.8	-2.3
GYA				XP	sP	22 51 34.9	-1.7
GYA				PCP	PcP	22 52 15.0	-2.3
GYA				PP	PP	22 53 40.6	+3.2
GYA				SCP	ScP	22 56 14.2	-2.6
GYA				AMB	AMB		
	comp=Z,40nm,1.0s,mb5.4						
GYA				AMB	AMB		
	comp=Z,460nm,11.3s						
GYA				LR	LR		
	comp=N,560nm,20.6s,MS4.8						
GYA				LR	LR		
	comp=E,640nm,21.9s,MS4.8						
GYA				LR	LR		
	comp=Z,510nm,20.2s,MS4.6						
BJT	**Baijiatuau**	**60.12**	**326**	*eP*	**P**	**22 51 36.4**	**-0.7**
BJI	**Beijing**	**60.13**	**326**	P	**P**	**22 51 37.7**	**+0.6**
KMI	**Kunming**	**61.24**	**304**	P	**P**	**22 51 45.4**	**+0.4**
KMI				AMB	AMB		
	comp=Z,15nm,1.5s,mb4.9						
KMI	**Kunming**	**61.24**	**304**	P	**P**	**22 51 45.4**	**+0.4**
	comp=Z,15nm,1.5s,mb4.9						
CD2	**Chengdu**	**63.05**	**310**	*eP*	**P**	**22 51 56.8**	**-0.2**
CD2				AP	pP	22 52 01.5	-2.3
CD2				XP	sP	22 52 04.2	-2.1
CD2				PP	PP	22 54 19.3	+3.3
CD2				AMB	AMB		
	comp=Z,20nm,1.2s,mb5.1						
CD2				AMB	AMB		
	comp=Z,30nm,5.2s						
CD2				LR	LR		
	comp=E,350nm,13.8s						
CD2				LR	LR		
	comp=Z,310nm,12.8s,MS4.7						
HHC	**Hu-ho-hao-te**	**63.31**	**324**	*eP*	**P**	**22 51 59.5**	**+0.9**
HHC				AP	pP	22 52 04.2	-1.1
HHC				XP	sP	22 52 07.0	-0.8
HHC				PP	PP	22 54 24.2	+6.1
HHC				AMB	AMB		
	comp=Z,8.0nm,0.4s,mb5.2						
HHC				AMB	AMB		
	comp=Z,147nm,7.1s						
HHC				LR	LR		
	comp=N,585nm,22.9s,MS4.9						
HHC				LR	LR		
	comp=E,651nm,21.6s,MS4.9						
HHC				LR	LR		
	comp=Z,1μm,25.5s,MS5.0						
HIA Hailar 65.07 335 *eP* **P 22 52 10.2 +0.2**							
LZH Lanzhou 65.55 315 *eP* **P 22 52 13.6 +0.3**							
LZH				AP	pP	22 52 17.5	-2.6
LZH				XP	sP	22 52 21.1	-1.5
LZH				PP	PP	22 54 41.5	+3.6
LZH				AMB	AMB		
	comp=Z,28nm,1.5s,mb5.1						
LZH				AMB	AMB		
	comp=Z,110nm,4.5s						
LZH				LR	LR		
	comp=N,546nm,14.4s						
LZH				LR	LR		
	comp=Z,775nm,15.4s,MS5.0						
LZH Lanzhou 65.55 315 *eP* **P 22 52 13.6 +0.3**							
	comp=Z,28nm,1.5s,mb5.1						
LZH				pP	pP	22 52 17.5	-2.6
LZH				sP	sP	22 52 21.1	-1.5
LZH				PP	PP	22 54 41.5	+3.6
LZH				*e*S	S	23 01 01.5	+3.9
LZH				sS	sS	23 01 07.5	-1.2
LZH				SS	SS	23 05 20.0	+8.1
LZH				LR	LR		
	comp=Z,780nm,15.4s,MS5.0						
LZH Lanzhou 65.55 315 *eP* **P 22 52 13.6 +0.3**							
LZH				*SP	sP	22 52 21.1	-1.5
LZH						22 54 41.5	
LZH				*e*S	S	23 01 01.5	+3.9
LZH				pmax	pmax		
	comp=Z,28nm,1.5s,mb5.1						
LZH				MLR	MLR		
	comp=Z,780nm,15.4s,MS5.0						
MA2 Magadan 67.33 357 *eP* **P 22 52 24.8 +0.6**							
GTA Gaotai 69.97 317 *eP* **P 22 52 42.4 +1.2**							
GTA				AP	pP	22 52 46.0	-2.0
GTA				XP	sP	22 52 47.4	-3.1
SONM Songino Array 70.54 327 P **P 22 52 45.8 +1.4**							
	comp=Z,7.8nm,1.0s,mb4.6,baz=134,slow=6.2,SNR=5.2						
YAK Yakutsk 72.58 347 *eP* **P 22 52 57.6 +1.2**							
BOD Bodaibo 73.74 338 *eP* **P 22 53 02.3 -1.0**							
TLY Talaya 74.25 329 P **P 22 53 07.7 +1.2**							
IRK Irkutsk 74.27 330 *eP* **P 22 53 06.9 +0.3**							
BILL Bilibino 76.06 4 *eP* **P 22 53 17.9 +1.3**							
TNA Tin City 77.92 15 *eP* **P 22 53 28.5 +1.4**							
SVW2 Sparrevohn 78.45 22 *eP* **P 22 53 29.0 -1.1**							
WMQ Urumqi 80.06 317 *eP* **P 22 53 39.1 -0.2**							
WMQ				AMB	AMB		
	comp=Z,15nm,1.4s,mb4.7						
WMQ				AMB	AMB		
	comp=Z,231nm,3.8s						
TIXI Tiksi 81.33 352 *eP* **P 22 53 45.5 0.0**							
	comp=Z,52nm,2.1s,mb5.1						
TIXI Tiksi 81.33 352 *eP* **P 22 53 45.5 0.0**							
TIXI				pmax	pmax		
	comp=Z,52nm,2.1s,mb5.1						
SML Sawmill 81.65 23 *eP* **P 22 53 48.3 +0.9**							
COLA College 83.55 21 *eP* **P 22 53 56.5 -0.8**							
	comp=Z,6.2nm,0.8s,mb4.8						
COLA College 83.55 21 *eP* **P 22 53 56.5 -0.7**							
COLA				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.8						
MKAR Makanchi Array 84.64 319 P **P 22 54 03.8 +0.6**							
	comp=Z,16nm,0.8s,mb5.2,baz=91,slow=6.1,SNR=16						
ZAA0 Zalesovo Array 85.39 326 *eP* **P 22 54 03.6 -3.2**							
ZALV Zalesovo Beam 85.39 326 P **P 22 54 05.9 -0.9**							
	comp=Z,6.3nm,0.8s,mb4.8,baz=114,slow=5.9,SNR=12						
ZAL Zalesovo 85.39 326 P **P 22 54 05.9 -0.9**							
KURK Kurchatov 88.06 322 *eP* **P 22 54 16.6 -3.3**							
	comp=Z,5.0nm,1.1s,mb4.7						
KURK Kurchatov 88.06 322 *eP* **P 22 54 16.6 -3.3**							
KURK				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.7						
UCH Uchtor 88.89 313 *eP* **P 22 54 23.2 -0.9**							
AAK Ala-Archa 88.99 313 P **P 22 54 21.6 -2.8**							
AML Almayashu 89.47 313 P **P 22 54 26.4 -0.4**							
	comp=Z,12nm,1.3s,mb5.1						
EKS2 Erkin-Say 89.51 313 *eP* **P 22 54 24.5 -2.4**							
	comp=Z,2.7nm,0.9s,mb4.6						
INK Inuvik 90.20 21 P **P 22 54 29.8 +0.2**							
	comp=Z,2.8nm,0.7s,mb4.7,baz=236,slow=3.6						
NVAR Mina Array Bea 91.54 52 P **P 22 54 38.3 +1.8**							
	comp=Z,1.0nm,0.9s,mb4.2,baz=243,slow=6.0,SNR=3.5						
YKA Yellowknife Ar 96.67 28 P **P 22 54 59.5 +0.1**							
YKA Yellowknife Ar 96.67 28 P **P 22 54 59.5 +0.1**							
	comp=Z,2.4nm,0.7s,mb4.7,baz=267,slow=4.5,SNR=8.0						
ARU Arti 100.55 326 Pdif Pdif 22 55 13.9 -3.2							
ARU Arti 100.55 326 P Pdif 22 55 13.9 -3.2							
LTX Lajitas 102.87 62 *e*Pdif Pdif 22 55 23.4 -4.0							
WMOK Wichita Mounta 107.01 56 PKiKP PKiKP 22 59 50.0 -6.0							
MALT Malatya 116.32 309 *e*PKPdf PKPdf 23 00 09.3 -4.2							
AKASG Malin Array Be 118.75 324 PKP PKPdf 23 00 17.1 -0.7							
	comp=Z,0.9nm,0.7s,baz=69,slow=2.1,SNR=5.0						
NOA NORSAR Array B 120.80 341 PKP PKPdf 23 00 21.6 +0.2							
	comp=Z,1.1nm,0.8s,baz=43,slow=1.6,SNR=3.4						
BRG Berggiesshubel 126.82 331 *e* PKPdf 23 00 34.2 +1.0							
BRG Berggiesshubel 126.82 331 *e* PKPdf 23 00 34.2 +1.0							
	comp=Z,5.2nm,0.9s						
CLL Collm 126.99 332 *i* PKPdf PKPdf 23 00 34.5 +0.9							
CLL Collm 126.99 332 *i* PKPdf 23 00 34.5 +0.9							
KHC Kasperske Hory 128.13 329 *e* PKPdf 23 00 37.0 +1.2							
KHC Kasperske Hory 128.13 329 *ex* PKPdf 23 00 37.0 +1.2							
GERES GERESS Array B 128.25 329 PKP PKPdf 23 00 37.4 +1.4							
	comp=Z,1.6nm,0.8s,baz=96,slow=1.3,SNR=8.9						
LPAZ La Paz 130.26 119 PKP PKPdf 23 00 44.0 +3.2							
	comp=Z,1.2nm,0.9s,baz=35,slow=7.0,SNR=3.5						
BDFB Brasilia 146.74 135 PKPbc PKPbc 23 01 12.9 +0.4							
	comp=Z,11nm,0.8s,baz=123,slow=3.5,SNR=6.7						
TORD Torodi Ar. Bea 154.11 284 PKP PKPdf 23 01 21.3 -1.0							
	comp=Z,1.4nm,0.9s,baz=78,slow=3.4,SNR=5.6						
TORD				PKPbc	PKPbc	23 01 30.2	-0.2
	comp=Z,2.7nm,0.9s,baz=61,slow=2.5,SNR=5.6						

IDC ***02*** *22:43:13.1±1.2, 693S×15605E, h0km, mb4.3/7, mb1 4.4/7, mb1mx4.2/15, mbtmp4.2/7, Error ellipse: s-maj=52.6km s-min=23.5km az=127.0*
ISCJB ***02*** *22:43:15.5±8.8, 685S±01×1557E±02, h15km±63km, mb4.4/15, Error ellipse: s-maj=30.0km s-min=21.1km az=36.5*
MOS ***02*** *22:43:18.1±1.0, 677S×15567E, h33km, mb4.7/2, Error ellipse: s-maj=18.5km s-min=14.2km az=85.1*
NEIC ***02*** *22:43:20.2±3.0, 686S×15580E, h42km±26km, mb4.5/6, Error ellipse: s-maj=16.6km s-min=11.7km az=111.0*
ISC 02 22:43:19.6±8.7, 685S±01×1558E±02, h34km±62km, n42, σ0:80/35, mb4.4/15, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTAO	**Charters Tower**	**16.10**	**214**	Pn	**Pn**	**22 47 03.3**	**-0.2**
KAKA	**Kakadu**	**23.71**	**254**	*eP*	**P**	**22 48 29.6**	**+0.8**
	18nm,0.7s,mb4.6						
WRA	**Warramunga Arr**	**24.54**	**236**	P	**P**	**22 48 37.2**	**+0.8**
	2.0nm,0.3s,mb4.1,baz=61,slow=9.4,SNR=14						
WR

7.2nm,0.6s,mb4.8
PALK Pallekele 76.16 279 *e*P **P 22 55 05.5 +0.5**
2.4nm,0.6s,mb4.3
GKN Gorkha 76.76 301 *e*P **P 22 55 08.3 +0.2**
9.1nm,0.7s,mb4.8
KOLN Koldanda 77.59 300 *e*P **P 22 55 12.3 -0.5**
5.2nm,0.5s,mb4.7
MCK McKinley 81.61 22 *e*P **P 22 55 33.6 -0.2**
COLA College 82.64 21 *e*P **P 22 55 40.7 +1.5**
MKAR Makanchi Array 83.77 319 P **P 22 55 45.8 +0.3**
0.8nm,0.4s,mb4.2,baz=96,slow=7.9,SNR=6.5
ZALV Zalesovo Beam 84.46 326 P **P 22 55 47.8 -1.0**
1.6nm,0.5s,mb4.4,baz=110,slow=5.7,SNR=3.7
ZAL Zalesovo 84.47 326 P **P 22 55 47.8 -1.0**
KURK Kurchatov 87.16 322 *e*P **P 22 56 01.7 -0.5**
0.9nm,0.3s,mb4.5
KURK Kurchatov 87.16 322 *e*P **P 22 56 01.7 -0.6**
KURK pmax pmax
comp=Z,1.0nm,0.3s,mb4.5
UCH Uchtor 88.09 313 P **P 22 56 08.2 +1.3**
AAK Ala-Archa 88.18 313 *e*P **P 22 56 07.0 -0.4**
comp=Z,0.7nm,0.6s,mb4.1
AAK Ala-Archa 88.18 313 *e*P **P 22 56 07.0 -0.3**
AAK pmax pmax
comp=Z,1.0nm,0.6s,mb4.2
YKA Yellowknife Ar 95.83 28 P **P 22 56 41.5 -0.7**
comp=Z,0.2nm,0.6s,mb3.7,baz=275,slow=4.7,SNR=3.0
FINES FINESS Array B 114.08 336 PKP PKiKP 23 01 53.8 -1.2
comp=Z,0.7nm,0.5s,baz=100,slow=4.2,SNR=8.7
AKASG Malin Array Be 117.84 325 PKP PKPdf 23 02 01.2 -1.3
comp=Z,0.7nm,0.4s,baz=48,slow=2.1,SNR=7.6
NB2 NORSAR Subarra119.78 341 PKP PKPdf 23 02 04.5 -1.5
comp=Z,0.5nm,0.5s,baz=6.3,slow=4.3
NOA NORSAR Array B119.78 341 PKP PKPdf 23 02 04.6 -1.4
comp=Z,0.9nm,0.8s,baz=76,slow=1.8,SNR=3.4
GERES GERESS Array B 127.29 329 PKP PKPdf 23 02 20.7 -0.1
comp=Z,0.8nm,0.5s,baz=55,slow=1.6,SNR=7.5
TORD Torodi Ar. Bea 153.71 286 PKP PKPdf 23 03 09.3 +1.0
TORD PKPbc PKPbc 23 03 14.4 -1.7
TORD Torodi Ar. Bea 153.71 286 PKP PKPdf 23 03 09.3 +1.0
comp=Z,0.6nm,0.9s,baz=86,slow=3.7,SNR=2.2
TORD PKPbc PKPbc 23 03 14.4 -1.7
comp=Z,0.7nm,0.5s,baz=81,slow=1.9,SNR=9.9

IDC 02 22:49:09.2±3.1, 980S×15514E, h0km, mb3.7/6, mb1 3.8/6, mb1mx3.7/13, mbtmp3.7/6, Error ellipse: s-maj=98.4km s-min=26.5km az=108.0, D'Entrecasteaux Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.46**	**241**	P	P	22 54 10.7	+0.6
	1.1nm,0.8s,baz=65,slow=9.5,SNR=4.6						
ASAR	**Alice Springs**	**24.52**	**233**	P	P	22 54 29.9	-0.6
	1.4nm,0.7s,baz=61,slow=8.8,SNR=9.9						
STKA	**Stephens Creek**	**25.30**	**208**	P	P	22 54 37.9	+0.4
	1.3nm,0.5s,baz=25,slow=16,SNR=4.7						
SONM	**Songino Array**	**71.76**	**328**	P	P	23 00 34.4	+1.1
	0.6nm,0.7s,baz=130,slow=7.1,SNR=3.9						
MKAR	**Makanchi Array**	**85.59**	**319**	P	P	23 01 49.6	+0.1
	0.1nm,0.3s,baz=91,slow=7.3,SNR=2.4						
ZALV	**Zalesovo Beam**	**86.57**	**326**	P	P	23 01 53.4	-0.7
	0.5nm,0.7s,baz=116,slow=6.6,SNR=2.3						

*IDC **02** 22:49:20.2±0.8, 970S×15486E, h0km, mb4.3/11, mb1 4.4/12, mb1mx4.4/14, mbtmp4.3/12, MS5.5/1, Ms1 5.5/1, ms1mx3.9/17, Error ellipse: s-maj=27.4km s-min=18.7km az=115.0*
*NEIC **02** 22:49:22.0±0.4, 968S×15476E, h10km, mb4.7/20, Error ellipse: s-maj=11.1km s-min=8.4km az=122.0*
*BJI **02** 22:49:22.8, 940S×15470E, h9km, mB5.1, mb4.8, Ms5.2, Msz4.8*
*MOS **02** 22:49:23.9±1.1, 968S×15487E, h33km, mb4.7/12, Error ellipse: s-maj=13.9km s-min=10.9km az=114.6*
*ISCJB **02** 22:49:24.4±0.4, 969S±006×15468E±009, h33km, mb4.5/36, Error ellipse: s-maj=12.5km s-min=7.8km az=16.7*

ISC 02 22:49:26.4±0.4, 969S±006×15468E±008, h35km, n76, σ1§19/74, mb4.5/36, 1D, D'Entrecasteaux Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.20**	**88**	Pn	**Pn**	**22 50 37.2**	**-4.5**
	baz=90,slow=20,SNR=1.8						
ARMA	**Armidale**	**20.82**	**187**	*e*Pn	**P**	**22 54 05.3**	**+0.4**
	0.4nm,1.0s						
KAKA	**Kakadu**	**22.02**	**260**	*e*P	**P**	**22 54 16.0**	**-2.0**
	12nm,0.5s,mb4.6						
WB2	**Warramunga Arr**	**22.11**	**240**	*e*P	**P**	**22 54 20.2**	**+1.3**
WRA	**Warramunga Arr**	**22.12**	**240**	P	**P**	**22 54 19.3**	**+0.2**
	13nm,1.1s,mb4.3,baz=67,slow=10,SNR=13						
ASAR	**Alice Springs**	**24.23**	**232**	P	**P**	**22 54 39.8**	**-0.3**
	8.9nm,0.9s,mb4.2,baz=63,slow=9.2,SNR=22						
STKA	**Stephens Creek**	**25.19**	**207**	*e*P	**P**	**22 54 49.0**	**+0.3**
	9.5nm,1.0s,mb4.3						
STKA	**Stephens Creek**	**25.19**	**207**	P	**P**	**22 54 48.9**	**+0.1**
	10nm,0.8s,mb4.4,baz=22,slow=13,SNR=11						
FITZ	**Fitzroy Crossi**	**29.37**	**250**	P	**P**	**22 55 24.1**	**-2.4**
TAU	**Tasmania Unive**	**33.71**	**190**	P	**P**	**22 56 06.0**	**+1.7**
	60nm,1.5s,mb5.3						
TAU	**Tasmania Unive**	**33.71**	**190**	P	**P**	**22 56 06.0**	**+1.7**
TAU				pmax	pmax		
	comp=Z,60nm,1.5s,mb5.3						
MBWA	**Marble Bar**	**35.48**	**247**	P	**P**	**22 56 20.1**	**+0.2**
	comp=Z,12nm,1.2s,mb4.7						
KLBR	**Kellerberrin**	**40.56**	**232**	*e*P	**P**	**22 57 01.8**	**-0.8**
	comp=Z,26nm,1.4s,mb4.7						
KLBR				*e*		22 57 32.4	
KKM	**Kota Kinabalu**	**41.39**	**291**	*e*P	**P**	**22 57 08.8**	**-0.9**
MUN	**Mundaring**	**41.92**	**232**	*e*P	**P**	**22 57 10.3**	**-3.5**
KSM	**Kuching**	**45.56**	**282**	P	**P**	**22 57 44.2**	**+0.8**
NACB	**Ninganchiao**	**46.66**	**317**	*e*P	**P**	**22 57 51.5**	**-0.3**
MJAR	**Matsushiro Arr**	**48.53**	**342**	P	**P**	**22 58 06.0**	**0.0**
	comp=Z,2.0nm,0.9s,mb4.1,baz=179,slow=8.8,SNR=4.4						
NJ2	**Nanjing**	**53.81**	**322**	*e*P	**P**	**22 58 47.3**	**+1.5**
NJ2				AMB	AMB		
	comp=Z,20nm,0.6s,mb5.2						
KULM	**Kulim**	**55.85**	**283**	*e*P	**P**	**22 58 59.9**	**-1.1**
YSS	**Yuzh-Sakhalins**	**57.39**	**350**	P	**P**	**22 59 11.7**	**+0.5**
MDJ	**Mudanjiang**	**58.63**	**339**	P	**P**	**22 59 21.1**	**+1.2**
MDJ				AMB	AMB		
	comp=Z,6.0nm,1.4s,mb4.4						
MDJ				AMB	AMB		
	comp=Z,104nm,4.0s						
MDJ	**Mudanjiang**	**58.63**	**339**	P	**P**	**22 59 19.9**	**-0.1**
GYA	**Guiyang**	**58.87**	**309**	P	**P**	**22 59 23.9**	**+1.9**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.9						
KMI	**Kunming**	**61.30**	**306**	P	**P**	**22 59 41.8**	**+3.1**
KMI				AP	pP	22 59 48.2	-1.2
KMI				AMB	AMB		
	comp=Z,3.0nm,1.2s,mb4.3						
KMI	**Kunming**	**61.30**	**306**	P	**P**	**22 59 41.8**	**+3.1**
	comp=Z,3.0nm,1.2s,mb4.3						
KMI				pP	pP	22 59 48.2	-1.2
CHTO	**Chiang Mai**	**61.83**	**297**	*e*P	**P**	**22 59 41.9**	**-0.5**
	comp=Z,8.3nm,1.4s,mb4.7						
CHTO	**Chiang Mai**	**61.83**	**297**	*e*P	**P**	**22 59 41.9**	**-0.5**
CHTO				pmax	pmax		
	comp=Z,8.0nm,1.4s,mb4.7						
KLR	**Kul'dur**	**62.03**	**343**	*e*P	**P**	**22 59 37.8**	**-5.4**
CD2	**Chengdu**	**63.34**	**312**	*e*P	**P**	**22 59 53.6**	**+1.3**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb5.0						
CD2				AMB	AMB		
	comp=Z,30nm,8.4s						
LZH	**Lanzhou**	**66.03**	**317**	*e*P	**P**	**23 00 12.0**	**+2.3**
LZH				AP	pP	23 00 15.2	-5.3
LZH				XP	sP	23 00 17.2	-7.4
LZH				AMB	AMB		
	comp=Z,31nm,1.5s,mb5.1						
LZH				AMB	AMB		
	comp=Z,120nm,4.8s						
LZH	**Lanzhou**	**66.03**	**317**	*e*P	**P**	**23 00 12.0**	**+2.3**
	comp=Z,31nm,1.5s,mb5.1						
LZH				pP	pP	23 00 15.2	-5.3
LZH				sP	sP	23 00 17.2	-7.4
HIA	**Hailar**	**66.23**	**336**	P	**P**	**23 00 09.6**	**-1.1**
	comp=Z,6.9nm,1.1s,mb4.6						
HIA	**Hailar**	**66.23**	**336**	P	**P**	**23 00 09.6**	**-1.1**
HIA				pmax	pmax		
	comp=Z,7.0nm,1.1s						
VNDA	**Vanda**	**67.91**	**178**	*e*P	**P**	**23 00 20.4**	**-0.7**
	comp=Z,4.6nm,1.2s,mb4.4						
VNDA	**Vanda**	**67.91**	**178**	*e*P	**P**	**23 00 20.4**	**-0.6**
VNDA				pmax	pmax		
	comp=Z,5.0nm,1.2s						
VNDA	**Vanda**	**67.91**	**178**	P	**P**	**23 00 20.3**	**-0.7**
	comp=Z,1.5nm,1.0s,mb4.0,baz=338,slow=6.5,SNR=4.4						
SBA	**Scott Base**	**68.43**	**177**	*e*P	**P**	**23 00 24.5**	**+0.2**
	comp=Z,13nm,1.5s,mb4.7						
SBA	**Scott Base**	**68.43**	**177**	*e*P	**P**	**23 00 24.5**	**+0.2**
SBA				pmax	pmax		
	comp=Z,13nm,1.5s,mb4.7						
SONM	**Songino Array**	**71.43**	**328**	P	**P**	**23 00 43.7**	**+0.6**
	comp=Z,4.6nm,1.0s,mb4.3,baz=139,slow=5.5,SNR=3.9						
LSA	**Lhasa**	**72.55**	**305**	P	**P**	**23 00 49.5**	**-0.7**
	comp=Z,5.5nm,1.3s,mb4.3						
LSA	**Lhasa**	**72.55**	**305**	P	**P**	**23 00 49.5**	**-0.7**
LSA				pmax	pmax		
	comp=Z,6.0nm,1.3s,mb4.4						
YAK	**Yakutsk**	**74.11**	**348**	P	**P**	**23 00 56.6**	**-2.1**
ZAK	**Zakamensk**	**74.62**	**329**	*e*P	**P**	**23 01 03.1**	**+1.2**
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.4s,mb4.2						
BOD	**Bodaibo**	**75.00**	**339**	*e*P	**P**	**23 01 04.1**	**+0.2**
BOD				pmax	pmax		
	comp=Z,4.0nm,1.5s,mb4.1						
TLY	**Talaya**	**75.22**	**330**	*e*P	**P**	**23 01 04.3**	**-1.0**
	comp=Z,3.4nm,0.7s,mb4.4						
TLY	**Talaya**	**75.22**	**330**	*e*P	**P**	**23 01 04.3**	**-1.1**
TLY				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.3						
MOY	**Mondy**	**76.54**	**329**	*e*P	**P**	**23 01 14.7**	**+1.8**
BILL	**Bilibino**	**77.98**	**4**	*e*P	**P**	**23 01 22.0**	**+1.4**
	comp=Z,9.4nm,1.1s,mb4.6						
BILL	**Bilibino**	**77.98**	**4**	*e*P	**P**	**23 01 22.0**	**+1.4**
BILL				pmax	pmax		
	comp=Z,9.0nm,1.1s,mb4.6						
WMQ	**Urumqi**	**80.59**	**318**	*e*P	**P**	**23 01 36.5**	**+1.1**
WMQ				AMB	AMB		
	comp=Z,6.0nm,1.3s,mb4.4						
SVW2	**Sparrevohn**	**80.60**	**22**	P	**P**	**23 01 32.0**	**-3.0**
MAW	**Mawson**	**81.81**	**203**	P	**P**	**23 01 40.8**	**-0.7**
	comp=Z,6.2nm,0.9s,mb4.5,baz=98,slow=8.8,SNR=3.7						
PMR	**Palmer**	**83.37**	**24**	P	**P**	**23 01 49.0**	**-0.6**
IMA2	**Indian Mountai**	**84.44**	**19**	*e*P	**P**	**23 01 55.3**	**+0.3**
MCK	**McKinley**	**84.66**	**22**	*e*P	**P**	**23 01 55.6**	**-0.5**
MKAR	**Makanchi Array**	**85.22**	**319**	P	**P**	**23 01 59.1**	**-0.2**
	comp=Z,2.4nm,1.0s,mb4.3,baz=101,slow=6.3,SNR=9.2						
ZAA0	**Zalesovo Array**	**86.23**	**326**	*e*P	**P**	**23 02 01.8**	**-2.4**
ZALV	**Zalesovo Beam**	**86.23**	**326**	P	**P**	**23 02 03.2**	**-0.9**
	comp=Z,1.4nm,0.8s,mb4.2,baz=117,slow=5.2,SNR=7.9						
ZAL	**Zalesovo**	**86.24**	**326**	P	**P**	**23 02 03.3**	**-0.9**
NVS	**Novosibirsk**	**87.42**	**327**	*e*P	**P**	**23 02 09.1**	**-0.9**
EGAK	**Eagle**	**88.11**	**23**	*e*P	**P**	**23 02 13.8**	**+0.7**
	comp=Z,9.5nm,1.3s,mb4.9						
DAWY	**Dawson**	**88.47**	**24**	*e*P	**P**	**23 02 16.2**	**+1.4**
TKM2	**Tokmak 2**	**88.65**	**314**	*e*P	**P**	**23 02 16.3**	**+0.2**
	comp=Z,8.9nm,1.5s,mb4.9						
TKM2	**Tokmak 2**	**88.65**	**314**	*e*P	**P**	**23 02 16.3**	**+0.2**
TKM2				pmax	pmax		
	comp=Z,9.0nm,1.5s,mb4.9						
KURK	**Kurchatov**	**88.75**	**322**	P	**P**	**23 02 15.7**	**-0.7**
UCH	**Uchtor**	**89.25**	**313**	*e*P	**P**	**23 02 20.5**	**+1.5**
	comp=Z,8.2nm,1.5s,mb4.8						
AAK	**Ala-Archa**	**89.36**	**313**	*e*P	**P**	**23 02 17.8**	**-1.7**
	comp=Z,2.6nm,1.0s,mb4.5						
AAK	**Ala-Archa**	**89.36**	**313**	*e*P	**P**	**23 02 17.8**	**-1.7**
AAK				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.6						
SYO	**Syowa Base**	**89.69**	**199**	‖*e*P	**P**	**23 02 22.8**	**+2.3**
AML	**Almayashu**	**89.82**	**313**	*e*P	**P**	**23 02 21.8**	**+0.2**
	comp=Z,6.7nm,1.2s,mb4.8						
BBB	**Bella Bella**	**89.85**	**37**	LR	LR	23 33 44.9	
	comp=Z,2μm,22.0s,baz=186,slow=30						
EKS2	**Erkin-Say**	**89.89**	**313**	*e*P	**P**	**23 02 22.1**	**+0.1**
	comp=Z,2.3nm,1.1s,mb4.4						
NVAR	**Mina Array Bea**	**93.62**	**52**	P	**P**	**23 02 37.3**	**-2.0**
	comp=Z,0.4nm,0.4s,mb4.2,baz=263,slow=4.5,SNR=2.9						
YKA	**Yellowknife Ar**	**98.85**	**28**	P	**P**	**23 03 02.3**	**-0.2**
	comp=Z,0.3nm,1.0s,mb3.8,baz=270,slow=5.6,SNR=3.3						
GERES	**GERESS Array B**	**129.17**	**328**	PKP	PKPdf	23 08 31.0	+0.1
	comp=Z,0.8nm,0.7s,baz=59,slow=0.8,SNR=7.2						

*BJI **02** 22:49:51.5, 960S×15495E, h12km, mB5.6, mb5.1, Ms5.3, Msz5.1*
*ISCJB **02** 22:49:51.9±0.2, 972S±003×15463E±004, h10km, mb5.3/80, MS5.6/159, Error ellipse: s-maj=5.8km s-min=4.8km az=2.5*
*IDC **02** 22:49:51.3±0.5, 963S×15466E, h0km, mb4.8/17, mb1 4.9/20, mb1mx4.9/21, mbtmp4.8/20, ML4.0/3, MS5.2/4, Ms1 5.2/4, ms1mx4.5/19, Error ellipse: s-maj=15.2km s-min=12.0km az=127.0*
*NEIC **02** 22:49:53.2±0.2, 971S×15466E, h10km, mb5.5/45, MS5.7/142, MW5.6, Error ellipse: s-maj=7.0km s-min=5.7km az=109.0, Moment Tensor Solution. s7 Moment tensor: Scale 1017Nm; Mrr-2.68; Mθθ3.09; Mφφ-0.40; Mrθ0.22; Mθφ0.04; Mφr0.49; Best double couple: M0=2.90000×1017 NP1:φs101.00000°, δ44.00000°, λ-73.00000°. NP2:φs258.00000°, δ48.00000°, λ-106.00000°. Principal axes: T 3.1000, Plg2.0000°, Azm359.0000°; N -0.3100, Plg12.0000°, Azm269.0000°; P -2.7900, Plg78.0000°, Azm100.0000°;*
*GCMT **02** 22:49:53.2±0.1, 982S×15480E, h12km, MW5.6/96, Moment Tensor Solution. s88,c162; s96,c210; Duration: 1s5 Moment tensor: Scale 1017Nm; Mrr-3.22±.04; Mθθ3.01±.04; Mφφ0.21±.04; Mrθ0.38±.11; Mθφ0.04±.04; Mφr-0.62±.13; Best double couple: M0=3.19100×1017 NP1:φs80.00000°, δ42.00000°, λ-105.00000°. NP2:φs279.00000°, δ49.00000°, λ-77.00000°. Principal axes: T 3.0320, Plg3.0000°, Azm0.0000°; N 0.3240, Plg10.0000°, Azm91.0000°; P -3.3500, Plg80.0000°, Azm251.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
*MOS **02** 22:49:55.6±0.9, 972S×15461E, h33km, mb5.7/32, MS5.0/10 Error ellipse: s-maj=9.7km s-min=7.1km az=97.0*

ISC 02 22:49:52.0±1.2, 970S±004×15465E±004, h0km±7km, n428, σ1§12/202, mb5.3/80, MS5.6/159, 22C-12D, D'Entrecasteaux Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.24**	**88**	*e*Pn	**Pn**	**22 51 11.9**	**+0.4**
HNR	**Honiara**	**5.24**	**88**	Pn	**Pn**	**22 51 11.8**	**+0.3**
	9.9nm,0.3s,baz=137,slow=1.9,SNR=5.5						
CTA	**Charters Tower**	**13.13**	**217**	*e*P	**Pn**	**22 52 59.5**	**-0.3**
	24nm,1.0s						
CTA				*e*S	**Sn**	**22 55 38.7**	**+12**
CTA	**Charters Tower**	**13.13**	**217**	*e*P	**Pn**	**22 52 59.5**	**-0.3**
CTA				pmax	pmax		
	comp=Z,24nm,1.0s						
CTA	**Charters Tower**	**13.13**	**217**	Pn	**Pn**	**22 52 58.8**	**-1.0**
	comp=Z,0.3nm,0.3s,baz=38,slow=17,SNR=3.5						
CTAO	**Charters Tower**	**13.13**	**217**	*e*Pn	**Pn**	**22 53 10.7**	**+11**
EIDS	**Eidsvold**	**15.95**	**192**	*e*Pn	**Pn**	**22 53 40.2**	**+2.4**
	comp=Z,81nm,1.3s						
DZM	**Mont Dzumac**	**16.72**	**139**	Pn	**Pn**	**22 53 49.7**	**+1.9**
	comp=Z,1.0nm,0.3s,baz=355,slow=13,SNR=7.6						
ARMA	**Armidale**	**20.81**	**187**	*e*P	**P**	**22 54 35.2**	**+0.2**
ARMA				*e*S	**S**	**22 58 32.0**	**+3.9**
KAKA	**Kakadu**	**21.98**	**260**	*e*P	**P**	**22 54 49.2**	**+1.4**
	comp=Z,326nm,1.5s,mb5.5						
WB2	**Warramunga Arr**	**22.08**	**240**	*e*P	**P**	**22 54 50.1**	**+1.3**
WB2				*e*S	**S**	**22 58 45.7**	**-7.6**
WRA	**Warramunga Arr**	**22.09**	**240**	P	**P**	**22 54 49.1**	**+0.2**
	comp=Z,16nm,0.9s,mb4.5,baz=66,slow=10,SNR=19						
WRA				S	**S**	**22 58 55.9**	**+2.4**
	comp=Z,5.1nm,1.3s,baz=70,slow=18,SNR=5.2						
WRA				LR	LR	23 02 56.6	
	comp=Z,6μm,22.0s,MS4.9,baz=60,slow=36						
ASAR	**Alice Springs**	**24.19**	**232**	P	**P**	**22 55 10.2**	**0.0**
	comp=Z,30nm,0.8s,mb4.8,baz=59,slow=7.5,SNR=26						
RIV	**Riverview**	**24.23**	**187**	*e*P	**P**	**22 55 09.1**	**-1.4**
GUMO	**Guam**	**25.09**	**337**	PFAKE		22 55 30.0	+12
GUMO				LR	LR		
	comp=Z,4μm,22.0s,MS4.9						
STKA	**Stephens Creek**	**25.17**	**207**	*e*P	**P**	**22 55 19.4**	**+0.3**
	comp=Z,36nm,0.9s,mb5.1						
STKA				*e*S	**S**	**22 59 44.8**	**-0.4**
STKA	**Stephens Creek**	**25.17**	**207**	P	**P**	**22 55 19.3**	**+0.2**
	comp=Z,43nm,0.8s,mb5.2,baz=2.5,slow=8.3,SNR=22						
CNB	**Canberra Magne**	**25.95**	**190**	*e*P	**P**	**22 55 26.7**	**+0.6**
	comp=Z,168nm,1.4s,mb5.5						
FITZ	**Fitzroy Crossi**	**29.34**	**250**	*e*P	**P**	**22 55 57.3**	**+0.6**
	comp=Z,23nm,0.7s,mb5.1						
FITZ				*e*S	**S**	**23 00 50.8**	**-0.5**
FITZ	**Fitzroy Crossi**	**29.34**	**250**	P	**P**	**22 55 55.9**	**-0.8**
	comp=Z,11nm,0.8s,mb4.7,baz=98,slow=10,SNR=13						
BATI	**Kupang**	**30.51**	**266**	P	**P**	**22 56 07.7**	**+0.5**
	comp=Z,39nm,0.8s,mb5.4,baz=78,slow=2.5,SNR=7.3						
RAO	**Raoul Island**	**32.22**	**131**	PFAKE		22 56 30.0	+7.9
RAO				LR	LR		
	comp=Z,5μm,20.0s,MS5.2						
RAO	**Raoul Island**	**32.22**	**131**	LR	LR	23 07 13.2	
	comp=Z,5μm,20.5s,MS5.2,baz=111,slow=32						
FORT	**Forrest**	**32.43**	**226**	*e*P	**P**	**22 56 23.6**	**-0.3**
	comp=Z,34nm,0.8s,mb5.3						
FORT				*e*		22 56 51.5	
AFI	**Afiamalu**	**33.12**	**101**	PFAKE		22 56 40.0	+10
AFI				LR	LR		
	comp=Z,3μm,22.0s,MS4.9						
DAV	**Davao City (W)**	**33.40**	**299**	PFAKE		22 56 40.0	+7.4
DAV				LR	LR		
	comp=Z,1μm,19.0s,MS4.7						
TAU	**Tasmania Unive**	**33.70**	**190**	P	**P**	**22 56 35.9**	**+1.1**
	comp=Z,200nm,1.7s,mb5.8						
TAU				LR	LR		
	comp=Z,5μm,19.0s,MS5.3						
URZ	**Urewera**	**34.87**	**148**	P	**P**	**22 56 45.8**	**+0.7**
	comp=Z,7.9nm,0.7s,mb4.7,baz=348,slow=9.1,SNR=4.5						
MBWA	**Marble Bar**	**35.45**	**247**	*e*P	**P**	**22 56 49.2**	**-1.1**
	comp=Z,158nm,1.8s,mb5.6						
MBWA				LR	LR		
	comp=Z,3μm,20.0s,MS5.0						
SNZO	**South Karori**	**36.13**	**154**	PFAKE		22 57 10.0	+14
SNZO				LR	LR		
	comp=Z,7μm,22.0s,MS5.4						
RPZ	**Rata Peaks**	**36.77**	**160**	P	**P**	**22 56 59.7**	**-1.6**
	comp=Z,12nm,1.0s,mb4.6,baz=61,slow=19,SNR=3.5						
CBIJ	**Chichi jima**	**38.52**	**342**	LR	LR	23 11 12.0	
	comp=Z,2μm,22.0s,MS5.0,baz=122,slow=33						
KKM	**Kota Kinabalu**	**41.36**	**291**	*e*P	**P**	**22 57 41.3**	**+1.2**
NWAO	**Narrogin (SRO)**	**41.48**	**230**	*e*P	**P**	**22 57 39.7**	**-1.2**
	comp=Z,70nm,1.8s,mb5.1						
NWAO				LR	LR		
	comp=Z,3μm,21.0s,MS5.1						
NWAO	**Narrogin (SRO)**	**41.48**	**230**	*e*P	**P**	**22 57 39.7**	**-1.2**
NWAO				pmax	pmax		
	comp=Z,70nm,1.8s						
NWAO				MLR	MLR		
	comp=Z,3μm,21.0s						
RAR	**Rarotonga**	**45.25**	**110**	PFAKE		22 58 20.0	+8.5
RAR				LR	LR		
	comp=Z,1.0nm,21.0s						
KSM	**Kuching**	**45.52**	**282**	*e*P	**P**	**22 58 14.5**	**+0.8**
NACB	**Ninganchiao**	**46.64**	**317**	*e*P	**P**	**22 58 20.8**	**-1.6**
YHNB	**Yeheng**	**47.12**	**317**	P	**P**	**22 58 25.3**	**-0.8**
TATO	**Taipei**	**47.25**	**317**	PFAKE		22 58 40.0	+13
TATO				LR	LR		
	comp=Z,5μm,20.0s,MS5.5						
MJAR	**Matsushiro Arr**	**48.52**	**342**	P	**P**	**22 58 34.2**	**-2.6**
	comp=Z,10nm,0.9s,mb4.9,baz=169,slow=8.6,SNR=17						
MAJO	**Matsushiro**	**48.52**	**342**	*e*P	**P**	**22 58 36.5**	**-0.4**
	comp=Z,71nm,1.5s,mb5.5						
MAJO				LR	LR		
	comp=Z,2μm,22.0s,MS5.0						
MAT	**Matsushiro**	**48.52**	**342**	P	**P**	**22 58 37.4**	**+0.6**
MAT				S	**S**	**23 05 31.0**	**-8.2**
SSE	**Sheshan**	**51.71**	**323**	P	**P**	**22 59 02.7**	**+1.6**
SSE				AP		22 59 05.8	
SSE				PP	PP	23 00 59.0	+0.1
SSE				S	**S**	**23 06 23.9**	**-0.1**
SSE				XS	sS	23 06 29.5	+5.5
SSE				AMB	AMB		
	comp=Z,27nm,0.9s,mb5.2						
SSE				AMB	AMB		
	comp=Z,196nm,5.4s						
SSE				LR	LR		
	comp=N,979nm,20.4s,MS5.0						
SSE				LR	LR		
	comp=E,1μm,20.5s,MS5.0						
SSE				LR	LR		
	comp=Z,2μm,21.1s,MS5.0						
SSE	**Sheshan**	**51.71**	**323**	P	**P**	**22 59 02.7**	**+1.6**
	comp=Z,27nm,0.9s,mb5.2						
SSE				pP		22 59 05.8	
SSE				PP	PP	23 00 59.0	+0.1
SSE				S	**S**	**23 06 23.9**	**-0.1**
SSE				sS	sS	23 06 29.5	+5.5
SSE				SS	SS	23 10 01.8	+1.2
SSE				LR	LR		
	comp=Z,2μm,21.1s,MS5.0						
ERM	**Erimo**	**52.53**	**349**	PFAKE		22 59 20.0	+13
ERM				LR	LR		
	comp=Z,2μm,20.0s,MS5.2						
QIZ	**Qiongzhong**	**52.59**	**303**	P	**P**	**22 59 06.2**	**-1.7**
QIZ				S	**S**	**23 06 35.8**	**-0.5**
QIZ				LR	LR		
	comp=E,1μm,19.7s						
QIZ				LR	LR		
	comp=Z,2μm,20.3s,MS5.1						
QIZ	**Qiongzhong**	**52.59**	**303**	PFAKE		22 59 20.0	+12
QIZ				LR	LR		
	comp=Z,3μm,20.0s,MS5.4						
KSRS	**Korea Array**	**53.17**	**333**	P	**P**	**22 59 10.9**	**-0.9**
	comp=Z,6.0nm,0.9s,mb4.5,baz=152,slow=8.0,SNR=9.2						
INCN	**Inchon**	**53.77**	**332**	PFAKE		22 59 30.0	+14
INCN				LR	LR		
	comp=Z,5μm,19.0s,MS5.6						
NJ2	**Nanjing**	**53.79**

YSS	**Yuzh-Sakhalins**	**57.39 350**	*e*P	**P**	**22 59 42.0**	**-0.1**
YSS			*e*		22 59 47.2	
YSS			*e*S	**S**	**23 07 29.0**	**-11**
YSS			*e*PS		23 07 41.0	
YSS			pmax	pmax		
	comp=Z,80nm,1.2s,mb5.6					
YSS			MLR	MLR		
	comp=N,800nm,19.0s,MS4.9					
YSS			MLR	MLR		
	comp=E,500nm,19.0s,MS4.9					
YSS			MLR	MLR		
	comp=Z,1μm,19.0s,MS4.9					
DRV	**Dumont d'Urvil**	**57.76 187**	P	**P**	**22 59 47.0**	**+2.5**
DRV			S	**S**	**23 07 51.0**	**+6.7**
DRV			L		23 14 00.0	
DRV			R		23 17 00.0	
MDJ	**Mudanjiang**	**58.62 339**	P	**P**	**22 59 51.6**	**+0.8**
MDJ			AP		22 59 54.6	
MDJ			XP	sP	22 59 56.0	+5.2
MDJ			PCP	PcP	23 00 40.7	-0.2
MDJ			PCS	PcS	23 04 42.5	+0.1
MDJ			S	**S**	**23 07 57.6**	**+1.6**
MDJ			SCS	ScS	23 09 41.7	-0.2
MDJ			AMB	AMB		
	comp=Z,19nm,1.9s,mb4.8					
MDJ			AMB	AMB		
	comp=Z,262nm,6.0s					
MDJ			LR	LR		
	comp=N,707nm,28.6s,MS4.7					
MDJ			LR	LR		
	comp=E,458nm,25.5s,MS4.7					
MDJ			LR	LR		
	comp=Z,1μm,27.4s,MS4.8					
MDJ	**Mudanjiang**	**58.62 339**	*e*P	**P**	**22 59 52.4**	**+1.7**
	comp=Z,37nm,1.4s,mb5.2					
MDJ			LR	LR		
	comp=Z,3μm,22.0s,MS5.3					
GYA	**Guiyang**	**58.84 309**⇑	*i*P	**P**	**22 59 54.8**	**+2.1**
GYA			AP		22 59 58.6	
GYA			XP	sP	23 00 01.4	+8.7
GYA			PCP	PcP	23 00 43.8	+1.5
GYA			PP	PP	23 02 07.0	+4.1
GYA			SCP	ScP	23 04 43.2	-1.1
GYA			S	**S**	**23 07 59.5**	**-0.1**
GYA			SCS	ScS	23 09 41.6	-2.8
GYA			SS	SS	23 11 54.6	+1.4
GYA			AMB	AMB		
	comp=Z,90nm,1.0s,mb5.8					
GYA			AMB	AMB		
	comp=Z,13μm,12.3s					
GYA			LR	LR		
	comp=N,12μm,20.0s,MS6.1					
GYA			LR	LR		
	comp=E,11μm,21.9s,MS6.1					
GYA			LR	LR		
	comp=Z,12μm,22.0s,MS6.0					
CN2	**Changchun**	**59.49 336**	*e*P	**P**	**22 59 52.8**	**-4.0**
CN2			AMB	AMB		
	comp=Z,10.0nm,1.8s,mb4.5					
HABR	**Khabarovsk**	**60.45 345**	*e*P	**P**	**23 00 04.2**	**+0.9**
HABR			*e*S	**S**	**23 08 21.1**	**+1.6**
HABR			pmax	pmax		
	comp=Z,120nm,1.8s,mb5.6					
BJT	**Baijiatuau**	**60.95 327**	PFAKE		23 00 20.0	+13
BJT			LR	LR		
	comp=Z,2μm,21.0s,MS5.2					
BJI	**Beijing**	**60.96 327**	P	**P**	**23 00 07.4**	**+0.4**
BJI			S	**S**	**23 08 25.1**	**-1.4**
BJI			SS	SS	23 12 30.0	+3.9
BJI			AMB	AMB		
	comp=Z,20nm,1.6s,mb5.0					
BJI			LR	LR		
	comp=N,985nm,22.3s,MS5.0					
BJI			LR	LR		
	comp=E,750nm,20.6s,MS5.0					
BJI			LR	LR		
	comp=Z,2μm,27.2s					
BJI	**Beijing**	**60.96 327**	P	**P**	**23 00 07.4**	**+0.4**
	comp=Z,20nm,1.6s,mb5.0					
BJI			PP	PP	23 02 33.9	+12
BJI			S	**S**	**23 08 25.1**	**-1.4**
BJI			SS	SS	23 12 30.0	+3.9
BJI			LR	LR		
	comp=Z,2μm,27.2s,MS5.2					
KMI	**Kunming**	**61.27 306**	P	**P**	**23 00 10.6**	**+1.2**
KMI			PP	PP	23 02 27.4	+3.0
KMI			S	**S**	**23 08 31.1**	**+0.2**
KMI			XS	sS	23 08 36.6	+5.7
KMI			SS	SS	23 12 33.6	+2.2
KMI			AMB	AMB		
	comp=Z,18nm,2.0s,mb4.8					
KMI			LR	LR		
	comp=N,572nm,24.4s,MS4.9					
KMI			LR	LR		
	comp=E,790nm,23.3s,MS4.9					
KMI			LR	LR		
	comp=Z,1μm,25.6s,MS4.9					
KMI	**Kunming**	**61.27 306**	P	**P**	**23 00 10.6**	**+1.2**
	comp=Z,18nm,2.0s,mb4.8					
KMI			sP	sP	23 00 14.9	+5.5
KMI			PP	PP	23 02 27.4	+3.0
KMI			S	**S**	**23 08 31.1**	**+0.2**
KMI			sS	sS	23 08 36.6	+5.7
KMI			SS	SS	23 12 33.6	+2.2
KMI			SSS		23 15 12.3	
KMI			LR	LR		
	comp=Z,1μm,25.6s,MS4.9					
KMI	**Kunming**	**61.27 306**	P	**P**	**23 00 10.6**	**+1.2**
KMI					23 02 27.4	
KMI			S	**S**	**23 08 31.1**	**+0.2**
KMI			*SS	sS	23 08 36.6	+5.7
KMI			SS	SS	23 12 33.6	+2.2
KMI			pmax	pmax		
	comp=Z,18nm,2.0s,mb4.8					
XAN	**Xi'an**	**61.43 317**	P	**P**	**23 00 10.7**	**+0.4**
XAN			AP		23 00 20.8	
XAN			S	**S**	**23 08 27.9**	**-4.7**
XAN			AMB	AMB		
	comp=Z,19nm,1.7s,mb5.0					
XAN			AMB	AMB		
	comp=Z,199nm,5.6s					
XAN			LR	LR		
	comp=N,785nm,18.7s,MS5.1					
XAN			LR	LR		
	comp=E,897nm,19.7s,MS5.1					
XAN			LR	LR		
	comp=Z,2μm,20.5s,MS5.3					
TIY	**Taiyuan**	**61.50 323**⇑	*e*P	**P**	**23 00 10.9**	**+0.2**
TIY			XP	sP	23 00 25.1	+14
TIY			PP	PP	23 02 29.8	+3.6
TIY			S	**S**	**23 08 33.3**	**-0.1**
TIY			SS	SS	23 12 36.8	+2.2
TIY			LR	LR		
	comp=N,1μm,17.9s,MS5.2					
TIY			LR	LR		
	comp=E,428nm,14.1s,MS5.2					
TIY			LR	LR		
	comp=Z,1μm,19.6s					
CHTO	**Chiang Mai**	**61.80 297**	*e*P	**P**	**23 00 12.3**	**-0.8**
	comp=Z,48nm,1.4s,mb5.5					
CHTO			LR	LR		
	comp=Z,469nm,19.0s,MS4.7					
CHTO	**Chiang Mai**	**61.80 297**	*e*P	**P**	**23 00 12.3**	**-0.8**
CHTO			pmax	pmax		
	comp=Z,48nm,1.3s,mb5.6					
CHTO			MLR	MLR		
	comp=Z,470nm,18.0s,MS4.7					
KLR	**Kul'dur**	**62.03 343**	*e*P	**P**	**23 00 11.2**	**-2.8**
KLR			*e*S	**S**	**23 08 35.0**	**-4.6**
KLR			pmax	pmax		
	comp=E,42nm,1.8s					
KLR			pmax	pmax		
	comp=Z,100nm,1.8s,mb5.7					
KLR			pmax	pmax		
	comp=Z,1μm,5.0s					
KLR			smax			
	comp=E,700nm,10.0s					
KLR			smax			
	comp=Z,1μm,10.0s					
PET	**Petropavlovsk**	**62.57 3**	PFAKE		23 00 30.0	+12
PET			LR	LR		
	comp=Z,3μm,19.0s,MS5.5					
PET	**Petropavlovsk**	**62.57 3**	*e*P	**P**	**23 00 20.8**	**+3.3**
PET			*e*S	**S**	**23 08 48.5**	**+2.3**
PET			pmax	pmax		
	comp=Z,300nm,14.2s					
CD2	**Chengdu**	**63.32 312**⇓	*i*P	**P**	**23 00 24.6**	**+1.6**
CD2			AP		23 00 29.2	
CD2			XP	sP	23 00 31.8	+8.7
CD2			PP	PP	23 02 45.7	+3.3
CD2			PCS	PcS	23 05 03.4	-0.5
CD2			S	**S**	**23 08 55.2**	**-1.4**
CD2			XS	sS	23 09 03.0	+6.4
CD2			SCS	ScS	23 10 13.5	-4.3
CD2			SS	SS	23 13 03.7	+0.4
CD2			AMB	AMB		
	comp=Z,30nm,1.0s,mb5.4					
CD2			AMB	AMB		
	comp=Z,530nm,8.4s					
CD2			LR	LR		
	comp=N,1μm,22.8s,MS5.4					
CD2			LR	LR		
	comp=E,3μm,22.8s,MS5.4					
CD2			LR	LR		
	comp=Z,3μm,22.8s,MS5.4					
CASY	**Casey**	**63.93 198**	P	**P**	**23 00 26.4**	**-0.1**
CASY			LR	LR		
	comp=Z,3μm,19.0s,MS5.5					
HHC	**Hu-ho-hao-te**	**64.07 325**	*e*P	**P**	**23 00 29.0**	**+1.2**
HHC			AP		23 00 33.7	
HHC			XP	sP	23 00 36.5	+8.7
HHC			PP	PP	23 02 52.2	+3.4
HHC			SCP		23 05 03.0	
HHC			PCS		23 05 08.3	
HHC			S	**S**	**23 09 07.4**	**+1.8**
HHC			SCS	ScS	23 10 19.3	-3.8
HHC			AMB	AMB		
	comp=Z,16nm,0.4s,mb5.6					
HHC			AMB	AMB		
	comp=Z,421nm,8.0s					
HHC			LR	LR		
	comp=N,834nm,20.0s,MS5.0					
HHC			LR	LR		
	comp=E,582nm,19.4s,MS5.0					
HHC			LR	LR		
	comp=Z,1μm,25.3s					
TAOE	**Nuku Hiva Isla**	**64.27 95**	*e*LR	LR	23 19 29.2	
	comp=Z,3μm,30.6s					
SMY	**Shemya**	**64.37 13**	PFAKE		23 00 40.0	+10
SMY			LR	LR		
	comp=Z,5μm,20.0s,MS5.7					
BTO	**Baotou**	**64.80 324**	*e*P	**P**	**23 00 33.6**	**+1.0**
LZH	**Lanzhou**	**66.01 317**	*e*P	**P**	**23 00 42.5**	**+2.0**
LZH			AP		23 00 45.7	
LZH			XP	sP	23 00 47.9	+7.4
LZH			PP	PP	23 03 10.5	+4.6
LZH			*e*S	S	23 09 29.5	-0.1
LZH			SS	SS	23 13 46.5	+1.4
LZH			AMB	AMB		
	comp=Z,114nm,1.6s,mb5.8					
LZH			AMB	AMB		
	comp=Z,560nm,4.9s					
LZH			LR	LR		
	comp=N,1μm,16.9s					
LZH			LR	LR		
	comp=Z,1μm,17.5s,MS5.2					
LZH	**Lanzhou**	**66.01 317**	*e*P	**P**	**23 00 42.5**	**+2.0**
	comp=Z,114nm,1.6s,mb5.8					
LZH			pP		23 00 45.7	
LZH			sP	sP	23 00 47.9	+7.4
LZH			PP	PP	23 03 10.5	+4.6
LZH			*e*S	S	23 09 29.5	-0.1
LZH			sS	sS	23 09 33.5	+3.9
LZH			SS	SS	23 13 46.5	+1.4
LZH			LR	LR		
	comp=Z,1μm,17.5s,MS5.2					
LZH	**Lanzhou**	**66.01 317**	*e*P	**P**	**23 00 42.5**	**+2.0**
LZH			*SP	sP	23 00 47.9	+7.4
LZH					23 03 10.5	
LZH			*e*S	S	23 09 29.5	-0.1
LZH			SS	SS	23 13 46.5	+1.4
LZH			pmax	pmax		
	comp=Z,114nm,1.6s,mb5.8					
LZH			MLR	MLR		
	comp=Z,1μm,17.5s,MS5.2					
ADK	**Adak**	**66.12 19**	PFAKE		23 00 50.0	+9.1
ADK			LR	LR		
	comp=Z,5μm,21.0s,MS5.7					
HIA	**Hailar**	**66.22 336**	*e*P	**P**	**23 00 42.5**	**+0.9**
	comp=Z,73nm,1.6s,mb5.7					
HIA			LR	LR		
	comp=Z,4μm,21.0s,MS5.6					
VNDA	**Vanda**	**67.91 178**	*e*P	**P**	**23 00 51.1**	**-0.8**
	comp=Z,60nm,1.7s,mb5.5					
VNDA	**Vanda**	**67.91 178**	*e*P	**P**	**23 00 51.1**	**-0.9**
VNDA			pmax	pmax		
	comp=Z,60nm,1.7s					
VNDA	**Vanda**	**67.91 178**	P	**P**	**23 00 51.4**	**-0.5**
	comp=Z,4.1nm,0.9s,mb4.7,baz=343,slow=6.8,SNR=12					
RKT	**Rikitea**	**68.28 111**	*e*SS	SS	23 14 21.7	+1.1
	comp=Z,411nm,29.8s					
RKT			*e*LR	LR	23 21 27.2	
	comp=Z,2μm,30.2s					
SBA	**Scott Base**	**68.42 177**	*e*P	**P**	**23 00 55.5**	**+0.2**
	comp=Z,72nm,1.7s,mb5.6					
SBA			LR	LR		
	comp=Z,5μm,19.0s,MS5.8					
MA2	**Magadan**	**69.11 358**	*e*P	**P**	**23 01 00.5**	**+0.9**
	comp=Z,30nm,1.2s,mb5.4					
MA2			LR	LR		
	comp=Z,1μm,20.0s,MS5.2					
SHL	**Shillong**	**70.38 302**	*e*P	**P**	**23 01 09.5**	**+1.3**
GTA	**Gaotai**	**70.48 318**	*e*P	**P**	**23 01 09.3**	**+0.8**
GTA			AP		23 01 13.3	
GTA			XP	sP	23 01 15.5	+7.0
CIT	**Chita**	**70.88 335**	*e*P	**P**	**23 01 12.6**	**+2.0**
CIT			*e*		23 01 23.1	
CIT			*e*		23 01 29.2	
CIT			pmax	pmax		
	comp=Z,134nm,2.3s,mb5.7					
SONM	**Songino Array**	**71.42 328**	P	**P**	**23 01 14.8**	**+0.7**
	comp=Z,18nm,0.9s,mb5.2,baz=138,slow=4.7,SNR=31					
SEY	**Seymchan**	**72.43 359**⇑	*e*P	**P**	**23 01 19.2**	**-0.6**
LSA	**Lhasa**	**72.52 305**	P	**P**	**23 01 22.0**	**+0.9**
LSA			AMB	AMB		
	comp=Z,20nm,1.1s,mb5.2					
LSA	**Lhasa**	**72.52 305**	*e*P	**P**	**23 01 22.2**	**+1.1**
	comp=Z,56nm,1.4s,mb5.5					
LSA			LR	LR		
	comp=Z,2μm,21.0s,MS5.3					
YAK	**Yakutsk**	**74.11 348**	*e*P	**P**	**23 01 30.5**	**+0.8**
	comp=Z,67nm,0.9s,mb5.7					
YAK			LR	LR		
	comp=Z,2μm,21.0s,MS5.5					
YAK	**Yakutsk**	**74.11 348**	*e*P	**P**	**23 01 30.3**	**+0.6**
YAK			*e*PP		23 01 35.9	
YAK			*e*		23 01 39.9	
YAK			*e*S	S	23 11 05.9	+2.4
YAK			*e*		23 11 28.7	
YAK			pmax	pmax		
	comp=N,16nm,1.6s					
YAK			pmax	pmax		
	comp=Z,58nm,1.6s,mb5.4					
ZAK	**Zakamensk**	**74.60 329**	*e*P	**P**	**23 01 34.0**	**+1.2**
ZAK			pmax	pmax		
	comp=Z,26nm,1.4s,mb5.1					
BOD	**Bodaibo**	**74.99 339**	*e*P	**P**	**23 01 34.4**	**-0.5**
TLY	**Talaya**	**75.21 330**	*e*P	**P**	**23 01 37.4**	**+1.1**
	comp=Z,50nm,1.4s,mb5.3					
TLY			LR	LR		
	comp=Z,2μm,19.0s,MS5.4					
TLY	**Talaya**	**75.21 330**	*e*P	**P**	**23 01 37.3**	**+1.0**
TLY			*e*S	S	23 11 14.4	-1.8
TLY			*e*SS	SS	23 16 00.7	-5.2
TLY			pmax	pmax		
	comp=Z,43nm,1.5s,mb5.3					
IRK	**Irkutsk**	**75.25 331**	*e*P	**P**	**23 01 36.6**	**+0.1**
IRK			pmax	pmax		
	comp=Z,85nm,2.2s,mb5.4					
PALK	**Pallekele**	**75.55 280**	*e*P	**P**	**23 01 39.3**	**+0.2**
	comp=Z,15nm,1.1s,mb5.0					
PALK			LR	LR		
	comp=Z,2μm,19.0s,MS5.5					
JIRN	**Jiri**	**75.89 302**	*e*P	**P**	**23 01 40.5**	**-0.3**
	comp=Z,153nm,1.8s,mb5.8					
MOY	**Mondy**	**76.53 329**	*e*P	**P**	**23 01 44.3**	**+0.5**
KKN	**Kakani**	**76.69 302**	*e*P	**P**	**23 01 44.6**	**-0.7**
	comp=Z,67nm,1.2s,mb5.7					
MDRS	**Chennai**	**77.25 286**	*ex*	**P**	**23 01 47.5**	**-1.2**
MDRS			*ex*	x	23 02 10.7	
MDRS			*ex*	x	23 02 55.5	
GKN	**Gorkha**	**77.30 302**	*e*P	**P**	**23 01 47.8**	**-1.0**
	comp=Z,250nm,1.5s,mb6.1					
GAMB	**Gambell**	**77.60 15**	*e*P	**P**	**23 01 50.4**	**+0.7**
	comp=Z,29nm,1.1s,mb5.3					
BILL	**Bilibino**	**77.98 4**	*e*P	**P**	**23 01 51.5**	**-0.2**
	comp=Z,46nm,1.1s,mb5.5					
BILL			LR	LR		
	comp=Z,2μm,19.0s,MS5.3					
BILL	**Bilibino**	**77.98 4**⇑	*e*P	**P**	**23 01 51.9**	**+0.2**
BILL			pmax	pmax		
	comp=Z,98nm,2.6s,mb5.5					
KOLN	**Koldanda**	**78.10 301**	*e*P	**P**	**23 01 51.9**	**-1.3**
	comp=Z,177nm,1.4s,mb6.0					
KDAK	**Kodiak Island**	**79.73 26**	PFAKE		23 02 10.0	+8.5
KDAK			LR	LR		
	comp=Z,952nm,20.0s,MS5.1					
HYB	**Hyderabad**	**79.84 290**	*e*P	**P**	**23 02 02.5**	**-0.5**
HYB	**Hyderabad**	**79.84 290**	*i* P	**P**	**23 02 03.5**	**+0.5**
TNA	**Tin City**	**80.01 15**	*e*P	**P**	**23 02 02.1**	**-0.7**
	comp=Z,33nm,1.6s,mb5.0					
TNA			LR	LR		
	comp=Z,2μm,20.0s,MS5.5					
NGP	**Nagpur**	**80.28 293**	*e*P	**P**	**23 02 03.2**	**-2.1**
NGP			*ex*	x	23 02 07.4	
	comp=Z,85nm,2.0s					
NGP			*e*S	S	23 12 08.3	-4.0
QSPA	**South Pole Qui**	**80.29 180**	PFAKE		23 02 20.0	+16
QSPA			LR	LR		
	comp=Z,2.0nm,21.0s					
WMQ	**Urumqi**	**80.56 318**⇑	*i*P	**P**	**23 02 06.9**	**+0.6**
WMQ			XP	sP	23 02 14.0	+7.7
WMQ			PP	PP	23 05 12.0	+2.1
WMQ			S	S	23 12 12.5	-1.9
WMQ			XS	sS	23 12 22.0	+7.5
WMQ			SS	SS	23 17 31.0	+4.0
WMQ			AMB	AMB		
	comp=Z,64nm,1.5s,mb5.4					
WMQ			AMB	AMB		
	comp=Z,392nm,3.7s					
WMQ			LR	LR		
	comp=N,575nm,21.5s,MS5.1					
WMQ			LR	LR		
	comp=E,877nm,22.8s,MS5.1					
WMQ			LR	LR		
	comp=Z,1μm,25.4s,MS5.1					
SVW2	**Sparrevohn**	**80.62 22**	*e*P	**P**	**23 02 05.3**	**-0.9**
TTA	**Tatalina**	**81.66 21**	*e*P	**P**	**23 02 10.6**	**-1.1**
MAW	**Mawson**	**81.78 203**	P	**P**	**23 02 11.8**	**-0.7**
	comp=Z,14nm,0.9s,mb5.1,baz=78,slow=8.1,SNR=12					
SLKM	**Skilak Lake**	**82.33 24**	*e*P	**P**	**23 02 14.6**	**-0.7**
TIXI	**Tiksi**	**82.97 352**⇑	*i*P	**P**	**23 02 17.6**	**-0.8**
TIXI			LR	LR		
	comp=Z,3μm,19.0s,MS5.7					
TIXI	**Tiksi**	**82.97 352**	*c i*P	**P**	**23 02 17.9**	**-0.5**
TIXI			*e*S	S	23 12 35.1	-3.1
TIXI			*e*SS	SS	23 17 55.5	-6.1
TIXI			pmax	pmax		
	comp=Z,47nm,2.0s,mb5.4					
PMR	**Palmer**	**83.39 24**	*e*P	**P**	**23 02 19.9**	**-0.9**
	comp=Z,4.6nm,0.3s,mb5.2					
PMR			LR	LR		
	comp=Z,3μm,19.0s,MS5.7					
PMR	**Palmer**	**83.39 24**	*e*P	**P**	**23 02 20.3**	**-0.5**
PMR			pmax	pmax		
	comp=Z,60nm,1.4s,mb5.6					
DDI	**Dehra Dun**	**83.47 302**	*e*P	**P**	**23 02 20.0**	**-2.0**
NDI	**New Delhi**	**83.76 300**	*e*P	**P**	**23 02 21.5**	**-2.0**
SML	**Sawmill**	**83.83 24**	*e*P	**P**	**23 02 22.8**	**-0.2**
KAD	**Karad**	**83.88 289**	*e*P	**P**	**23 02 24.0**	**-0.3**
POO	**Poona**	**84.45 290**	*ex*	**P**	**23 02 25.0**	**-2.2**
MCK	**McKinley**	**84.68 22**	*e*P	**P**	**23 02 25.9**	**-1.4**
	comp=Z,85nm,1.4s,mb5.8					
MCK			LR	LR		
	comp=Z,1μm,21.0s,MS5.3					
MKAR	**Makanchi Array**	**85.20 319**	P	**P**	**23 02 30.1**	**-0.2**
	comp=Z,8.3nm,0.8s,mb5.0,baz=105,slow=6.0,SNR=20					
AJM	**Ajmer**	**85.46 298**	*i* P	**P**	**23 02 31.0**	**-1.1**
COLA	**College**	**85.71 21**	*e*P	**P**	**23 02 31.6**	**-0.9**
	comp=Z,19nm,0.9s,mb5.2					
COLA	**College**	**85.71 21**	*i* P	**P**	**23 02 31.8**	**-0.7**
THN	**Thein Dam**	**85.94 304**	*e*P	**P**	**23 02 32.5**	**-1.9**
ZAA0	**Zalesovo Array**	**86.22 326**	*e*P	**P**	**23 02 33.8**	**-1.4**
ZALV	**Zalesovo Beam**	**86.22 326**	P	**P**	**23 02 33.7**	**-1.5**
ZALV	**Zalesovo Beam**	**86.22 326**	P	**P**	**23 02 33.7**	**-1.5**
	comp=Z,7.4nm,0.7s,mb4.9,baz=113,slow=5.3,SNR=24					
ZAL	**Zalesovo**	**86.22 326**	P	**P**	**23 02 33.7**	**-1.5**
NVS	**Novosibirsk**	**87.40 327**⇑	*i*P	**P**	**23 02 39.8**	**-1.2**
NVS			*e*S	S	23 13 18.4	-4.3
NVS			pmax	pmax		
	comp=Z,212nm,2.3s,mb6.0					
NVS			pmax	pmax		
	comp=N,59nm,2.1s					
NVS			pmax	pmax		
	comp=E,93nm,2.2s					
NVS			smax			
	comp=E,150nm,3.5s					
SIT	**Sitka**	**87.49 31**	*e*P	**P**	**23 02 42.2**	**+0.8**
	comp=E,60nm,1.6s,mb5.6					
SIT			LR	LR		
	comp=Z,4μm,21.0s,MS5.8					
SIT	**Sitka**	**87.49 31**	*e*P	**P**	**23 02 42.2**	**+0.8**
SIT			pmax	pmax		
	comp=Z,60nm,1.6s,mb5.6					
SIT			MLR	MLR		
	comp=Z,4μm,21.0s,MS5.8					
KSH	**Kashi**	**87.49 311**	*e*P	**P**	**23 02 43.2**	**+1.4**
KSH			AP		23 02 48.3	
KSH			XP	sP	23 02 50.9	+9.1
KSH			PP	PP	23 06 12.6	+5.9
KSH			SKS		23 13 09.3	
KSH			S	S	23 13 24.9	+0.6
KSH			XS	sS	23 13 32.8	+8.5
KSH			SS	SS	23 19 16.2	+6.5
KSH			AMB	AMB		
	comp=Z,105nm,1.1s,mb6.0					
KSH			AMB	AMB		
	comp=Z,1μm,3.4s					
KSH			LR	LR		
	comp=N,768nm,4.9s					
KSH			LR	LR		
	comp=E,1μm,5.3s					
KSH			LR	LR		
	comp=Z,678nm,5.3s					
ULHL	**Ulahol**	**87.99 313**	P	**P**	**23 02 44.6**	**+0.5**
	SNR=8.2					
EGAK	**Eagle**	**88.13 23**	*e*P	**P**	**23 02 44.4**	**+0.1**
	comp=Z,64nm,1.3s,mb5.8					
SKAG	**Skagway**	**88.39 29**	*e*P	**P**	**23 02 45.5**	**-0.1**
	comp=Z,35nm,1.1s,mb5.6					
DAWY	**Dawson**	**88.49 24**	*e*P	**P**	**23 02 47.6**	**+1.6**
TKM2	**Tokmak 2**	**88.62 314**	*e*P	**P**	**23 02 46.9**	**-0.2**
	comp=Z,51nm,1.4s,mb5.6					
TKM2			LR	LR		
	comp=Z,2μm,20.0s,MS5.5					
TKM2	**Tokmak 2**	**88.62 314**	*e*P	**P**	**23 02 47.1**	**0.0**
TKM2			pmax	pmax		
	comp=Z,51nm,1.4s,mb5.6					
TKM2	**Tokmak 2**	**88.62 314**	P	**P**	**23 02 47.1**	**0.0**
	SNR=8.1					
KURK	**Kurchatov**	**88.73 322**	*e*P	**P**	**23 02 46.3**	**-1.1**
	comp=Z,97nm,2.1s,mb5.7					
KURK	**Kurchatov**	**88.73 322**	*e*P	**P**	**23 02 46.3**	**-1.1**
KURK			pmax	pmax		
	comp=Z,97nm,2.1s,mb5.7					
WRAK	**Wrangell Islan**	**88.80 32**	PFAKE		23 03 00.0	+12
WRAK			LR	LR		
	comp=Z,2μm,20.0s,MS5.6					
KBK	**Karagaybulak**	**89.02 313**	P	**P**	**23 02 48.0**	**-1.0**
	SNR=24					
UCH	**Uchtor**	**89.23 313**	*e*P	**P**	**23 02 50.5**	**+0.5**
	comp=Z,61nm,1.6s,mb5.6					
UCH			LR	LR		
	comp=Z,2μm,19.0s,MS5.7					
UCH	**Uchtor**	**89.23 313**	P	**P**	**23 02 47.7**	**-2.3**
	SNR=9.6					
CHMS	**Chumysh**	**89.24 314**	P	**P**	**23 02 52.0**	**+2.0**
	SNR=8.0					
FRU	**Bishkek**	**89.30 314**	*i* P	**P**	**23 02 49.0**	**-1.3**
FRU			*e*		23 02 58.0	
FRU			pmax	pmax		
	comp=Z,160nm,2.0s,mb5.9					
AAK	**Ala-Archa**	**89.34 313**	*e*P	**P**	**23 02 48.9**	**-1.6**
	comp=Z,66nm,1.7s,mb5.6					
AAK	**Ala-Archa**	**89.34 313**	*e*P	**P**	**23 02 48.9**	**-1.6**

AAK pmax pmax
comp=Z,67nm,1.7s,mb5.6
AAK Ala-Archa 89.34 313 P **P 23 02 50.7 +0.2**
SNR=7.5
USP Ospenovka 89.49 314 P **P 23 02 51.0 -0.2**
SNR=7.1
SYO Syowa Base 89.67 199⇓*iP* **P 23 02 49.4 -2.2**
SYO Syowa Base 89.67 199⇑*iP* **P 23 02 55.6 +4.0**
AML Almayashu 89.80 313 *eP* **P 23 02 52.6 0.0**
comp=Z,44nm,1.3s,mb5.5
AML LR LR
comp=Z,3μm,19.0s,MS5.7
AML Almayashu 89.80 313 P **P 23 02 52.6 0.0**
SNR=8.4
EKS2 Erkin-Say 89.86 313 *eP* **P 23 02 52.8 -0.1**
comp=Z,33nm,1.3s,mb5.4
EKS2 LR LR
comp=Z,4μm,19.0s,MS5.8
EKS2 Erkin-Say 89.86 313 P **P 23 02 53.1 +0.2**
SNR=12
BBB Bella Bella 89.88 37 LR LR 23 44 20.5
comp=Z,2μm,18.3s,MS5.6,baz=186,slow=36
MCCM Marconi Confer 90.06 51 PFAKE 23 03 00.0 +6.0
MCCM LR LR
comp=Z,2μm,21.0s,MS5.5
HOPS Hopland 90.10 51 PFAKE 23 03 00.0 +5.9
HOPS LR LR
comp=Z,3μm,21.0s,MS5.6
WDC Whiskeytown Da 90.83 49 *eP* **P 23 02 57.1 -0.4**
comp=Z,104nm,2.3s,mb5.8
WDC LR LR
comp=Z,2μm,19.0s,MS5.6
SAO San Andreas Ge 90.90 53 PFAKE 23 03 10.0 +12
SAO LR LR
comp=Z,2μm,22.0s,MS5.5
RPN Rapa Nui 90.93 118 PFAKE 23 03 10.0 +12
RPN LR LR
comp=Z,5μm,20.0s,MS5.9
YBH Yreka Blue Hor 90.95 48 PFAKE 23 03 10.0 +12
YBH LR LR
comp=Z,2μm,20.0s,MS5.5
COR Corvallis 91.13 45 PFAKE 23 03 10.0 +11
COR LR LR
comp=Z,2μm,20.0s,MS5.5
NLWA Neilton Lookou 91.35 42 PFAKE 23 03 10.0 +10
NLWA LR LR
comp=Z,3μm,21.0s,MS5.7
OHCM Honcut 91.38 50 *eP* **P 23 02 59.3 -0.7**
SNCC San Nicolas Is 91.79 57 PFAKE 23 03 10.0 +7.9
SNCC LR LR
comp=Z,2μm,22.0s,MS5.5
KBL Kabul 91.84 305 *eP* **P 23 03 00.6 -1.7**
comp=Z,33nm,1.7s,mb5.4
CMB Columbia Colle 91.97 52 *eP* **P 23 03 02.6 -0.2**
comp=Z,48nm,1.9s,mb5.5
CMB LR LR
comp=Z,1μm,21.0s,MS5.4
INK Inuvik 92.36 21 P **P 23 03 03.4 -0.5**
comp=Z,2.5nm,1.0s,mb4.5,baz=229,slow=8.6,SNR=8.6
MOD Modoc 92.74 48 PFAKE 23 03 20.0 +14
MOD LR LR
comp=Z,2μm,19.0s,MS5.5
ISA Isabella 93.06 55 PFAKE 23 03 20.0 +12
ISA LR LR
comp=Z,2μm,22.0s,MS5.6
MTUM Tungsten Hills 93.28 53 *eP* **P 23 03 08.8 -0.1**
NVAR Mina Array Bea 93.66 52 P **P 23 03 10.6 -0.1**
comp=Z,4.2nm,0.9s,mb4.8,baz=234,slow=4.8,SNR=11
WVOR Wild Horse Val 94.06 48 *eP* **P 23 03 12.3 0.0**
comp=Z,81nm,2.1s,mb5.7
WVOR LR LR
comp=Z,2μm,20.0s,MS5.6
BRVK Borovoye 94.30 323 *eP* **P 23 03 13.2 0.0**
comp=Z,4.2nm,0.8s,mb4.8
BRVK LR LR
comp=Z,4μm,20.0s,MS5.8
BRVK Borovoye 94.30 323 *eP* **P 23 03 13.2 0.0**
BRVK pmax pmax
comp=Z,4.0nm,0.8s,mb4.8
BRVK MLR MLR
comp=Z,4μm,20.0s,MS5.8
GSC Goldstone 94.35 55 PFAKE 23 03 20.0 +6.1
GSC LR LR
comp=Z,1μm,21.0s,MS5.4
TPNV Topopah Spring 95.04 54 PFAKE 23 03 30.0 +13
TPNV LR LR
comp=Z,2μm,22.0s,MS5.5
BMO Blue Mountains 95.38 46 PFAKE 23 03 30.0 +12
BMO LR LR
comp=Z,2μm,20.0s,MS5.7
ELK Elko 96.33 50 P **P 23 03 23.3 +0.5**
ELK LR LR
comp=Z,44nm,22.0s
MSO Missoula 97.95 44 PFAKE 23 03 40.0 +10
MSO LR LR
comp=Z,1μm,21.0s,MS5.4
MCMT McKenzie Canyo 98.53 46 P **P 23 03 32.6 0.0**
NOQ North Oquirrh 98.68 50 P **P 23 03 34.9 +1.4**
YKA Yellowknife Ar 98.87 28 P **P 23 03 33.8 +0.1**
comp=Z,1.0nm,0.9s,mb4.6,baz=264,slow=4.6,SNR=13
TUC Tucson 98.95 59 PFAKE 23 03 50.0 +15
TUC LR LR
comp=Z,1μm,20.0s,MS5.4
MPU Maple Canyon 98.99 51 PFAKE 23 03 50.0 +15
MPU LR LR
comp=Z,2μm,19.0s,MS5.6
HWUT Hardware Ranch 99.18 49 PFAKE 23 03 50.0 +14
HWUT LR LR
comp=Z,2μm,19.0s,MS5.5
BOZ Bozeman (W) 99.45 45 PFAKE 23 03 50.0 +13
BOZ LR LR
comp=Z,1μm,19.0s,MS5.5
AHID Auburn Hatcher 99.62 48 PFAKE 23 03 50.0 +12
AHID LR LR
comp=Z,2μm,21.0s,MS5.6
YMR Madison River 99.85 46 PFAKE 23 03 50.0 +12
YMR LR LR
comp=Z,2μm,19.0s,MS5.7
LKWY Lake 100.25 46 PFAKE 23 03 50.0 +10
LKWY LR LR
comp=Z,5μm,21.0s,MS6.0
BW06 Boulder Array 100.75 48 PFAKE 23 03 50.0 +7.7
BW06 LR LR
comp=Z,2μm,20.0s,MS5.6
PDAR Pinedale Array 100.75 48 P Pdif 23 03 41.8 -0.5
comp=Z,0.6nm,0.7s,baz=316,slow=4.1,SNR=4.7
EGMT Eagleton 100.87 43 PFAKE 23 03 50.0 +7.1
EGMT LR LR
comp=Z,3μm,21.0s,MS5.8
RLMT Red Lodge 101.08 46 PFAKE 23 03 50.0 +6.2
RLMT LR LR
comp=Z,3μm,22.0s,MS5.8
ARU Arti 101.37 326 PFAKE 23 04 00.0 +15
ARU LR LR
comp=Z,4μm,19.0s,MS6.0
ANMO Albuquerque 102.75 56 PFAKE 23 04 00.0 +8.8
ANMO LR LR
comp=Z,2μm,22.0s,MS5.6
LAO LASA Array 103.24 44 PFAKE 23 04 00.0 +6.6
LAO LR LR
comp=Z,2μm,22.0s,MS5.6
MNTX Cornudas Mount 103.48 60 PFAKE 23 04 10.0 +16
MNTX LR LR
comp=Z,2μm,19.0s,MS5.7
ISCO Idaho Springs 103.61 51 PFAKE 23 04 10.0 +15
ISCO LR LR
comp=Z,2μm,21.0s,MS5.6
SDCO Great Sand Dun 103.64 53 PFAKE 23 04 10.0 +15
SDCO LR LR
comp=Z,1μm,20.0s,MS5.5
RSSD Black Hills 104.80 47 PFAKE 23 04 10.0 +10
RSSD LR LR
comp=Z,5μm,21.0s,MS6.0
LTX Lajitas 104.83 62 Pdif Pdif 23 03 59.7 -0.8
LTX LR LR
comp=Z,83nm,19.0s,MS4.3
FFC Flin Flon 105.58 36 PFAKE 23 08 30.0 +13
FFC LR LR
comp=Z,3μm,20.0s,MS5.8
CBKS Cedar Bluff 108.17 52 PFAKE 23 08 30.0 +7.6
CBKS LR LR
comp=Z,3μm,22.0s,MS5.8
JCT Junction City 108.22 61 PFAKE 23 08 30.0 +7.3
JCT LR LR
comp=Z,3μm,22.0s,MS5.7
KBS Kingsbay 108.41 353 PFAKE 23 08 30.0 +8.2
KBS LR LR
comp=Z,3μm,19.0s,MS5.9
WMOK Wichita Mounta 109.06 57 PFAKE 23 08 40.0 +16
WMOK LR LR
comp=Z,2μm,21.0s,MS5.5
KVTX Kingsville 109.86 64 PFAKE 23 08 40.0 +14
KVTX LR LR
comp=Z,4μm,19.0s,MS6.0
LVZ Lovozero 109.96 340 PFAKE 23 08 40.0 +15
LVZ LR LR
comp=Z,3μm,19.0s,MS6.0
ECSD EROS,Sioux Fal 110.18 47 PFAKE 23 08 40.0 +14
ECSD LR LR
comp=Z,1μm,19.0s,MS5.5
KSU1 Kansas State U 110.59 52 PFAKE 23 08 40.0 +13
KSU1 LR LR
comp=Z,3μm,22.0s,MS5.9
KEV Kevo 111.50 343 PFAKE 23 08 40.0 +12
KEV LR LR
comp=Z,2μm,19.0s,MS5.8
HKT Hockley 111.66 62 PFAKE 23 08 40.0 +11
HKT LR LR
comp=Z,3μm,20.0s,MS5.8
KIV Kislovodsk 112.46 314 PFAKE 23 08 40.0 +10
KIV LR LR
comp=Z,3μm,21.0s,MS5.9
NATX Nacogdoches 112.61 60 PFAKE 23 08 40.0 +9.0
NATX LR LR
comp=Z,4μm,21.0s,MS6.0
EFI East Falkland 112.68 159 PFAKE 23 08 40.0 +9.4
EFI LR LR
comp=Z,3μm,21.0s,MS5.8
OBN Obninsk 113.80 326 PKiKP PKiKP 23 08 32.2 -0.3
OBN LR LR
comp=Z,3μm,21.0s,MS5.9
JFWS Jewell Farm 114.89 47 PFAKE 23 08 50.0 +15
JFWS LR LR
comp=Z,4μm,22.0s,MS6.0
COWI Conover 115.04 44 PFAKE 23 08 50.0 +15
COWI LR LR
comp=Z,4μm,22.0s,MS6.0
HOPE Hope Point 115.57 173 PFAKE 23 08 50.0 +14
HOPE LR LR
comp=Z,4.0nm,19.0s
HDIL Hopedale 116.00 50 PFAKE 23 08 50.0 +13
HDIL LR LR
comp=Z,5μm,22.0s,MS6.1
FINES FINESS Array B 116.24 335 PKP PKPdf 23 08 36.0 -1.0
comp=Z,2.4nm,0.9s,baz=127,slow=12,SNR=4.8
MALT Malatya 116.48 308 *e*PKPdf PKPdf 23 08 37.7 -0.5
KMBO Kilima Mbogo 116.76 264 PKPdf PKPdf 23 08 40.0 +0.6
KMBO LR LR
comp=Z,1μm,22.0s,MS5.4
PLAL Pickwick Lake 117.81 56 PFAKE 23 08 50.0 +9.1
PLAL LR LR
comp=Z,4μm,22.0s,MS6.0
WVT Waverly 117.85 54 PFAKE 23 08 50.0 +9.1
WVT LR LR
comp=Z,3μm,20.0s,MS5.9
GLMI Grayling 118.44 44 PFAKE 23 08 50.0 +8.2
GLMI LR LR
comp=Z,3μm,20.0s,MS5.9
TEIG Tepich 118.62 72 PFAKE 23 08 50.0 +7.2
TEIG LR LR
comp=Z,2μm,22.0s,MS5.8
WCI Wyandotte Cave 118.70 52 PFAKE 23 08 50.0 +7.5
WCI LR LR
comp=Z,3μm,21.0s,MS5.9
LRAL Lakeview Retre 118.96 58 PFAKE 23 08 50.0 +6.9
LRAL LR LR
comp=Z,3μm,20.0s,MS5.9
BRAL Brewton 119.15 60 PFAKE 23 08 50.0 +6.4
BRAL LR LR
comp=Z,3μm,22.0s,MS5.9
SUR Sutherland 119.25 224 PFAKE 23 09 00.0 +16
SUR LR LR
comp=Z,5μm,20.0s,MS6.1
TGUH Tegucigalpa,Un 119.39 79 PFAKE 23 09 00.0 +16
TGUH LR LR
comp=Z,3μm,20.0s,MS5.8
AKASG Malin Array Be 119.51 323 PKP PKPdf 23 08 42.0 -1.6
comp=Z,2.5nm,0.7s,baz=63,slow=2.0,SNR=14
KIEV Kiev 119.52 323 *e*PKPdf PKPdf 23 08 41.6 -2.0
KIEV LR LR
comp=Z,3μm,19.0s,MS6.0
KIEV Kiev 119.52 323 *e*PKIKP PKPdf 23 08 39.9 -3.8
LBTB Lobatse 119.55 234 PFAKE 23 09 00.0 +15
LBTB LR LR
comp=Z,2μm,20.0s,MS5.7
AAM Ann Arbor 119.77 47 PFAKE 23 09 00.0 +16
AAM LR LR
comp=Z,6μm,20.0s,MS6.2
SFJD Kangerlussuaq 120.28 11 PFAKE 23 09 00.0 +15
SFJD LR LR
comp=Z,2μm,21.0s,MS5.8
ANTO Ankara 120.48 311 PFAKE 23 09 00.0 +14
ANTO LR LR
comp=Z,3μm,22.0s,MS5.9
TZTN Tazewell 121.18 53 PFAKE 23 09 00.0 +13
TZTN LR LR
comp=Z,3μm,19.0s,MS6.0
LSZ Lusaka 121.44 245 PFAKE 23 09 00.0 +12
LSZ LR LR
comp=Z,2μm,21.0s,MS5.7
TRQA Tornquist 121.46 146 PFAKE 23 09 00.0 +12
TRQA LR LR
comp=Z,1μm,19.0s,MS5.6
LCO Las Campanas 121.75 133 PFAKE 23 09 00.0 +11
LCO LR LR
comp=Z,2μm,21.0s,MS5.8
GOGA Godfrey 121.83 57 PFAKE 23 09 00.0 +11
GOGA LR LR
comp=Z,5μm,22.0s,MS6.1
NB2 NORSAR Subarra122.11 340 PKPdf PKPdf 23 08 46.3 -2.0
comp=Z,3.5nm,1.0s,baz=39,slow=1.9
NOA NORSAR Array B122.11 340 PKP PKPdf 23 08 46.5 -1.8
comp=Z,1.7nm,0.7s,baz=46,slow=1.9,SNR=6.4
TIRR Tirgusor 122.28 317⇓*iP* PKPdf 23 08 50.5 +1.3
TIRR Tirgusor 122.28 317⇓*iP* PKPdf 23 08 50.5 +1.3
ERPA Erie 122.44 46 PFAKE 23 09 00.0 +10
ERPA LR LR
comp=Z,5μm,21.0s,MS6.1
MCWV Mont Chateau 123.26 49 PFAKE 23 09 00.0 +8.8
MCWV LR LR
comp=Z,1μm,19.0s,MS5.7
MLR Muntele Rosu 123.54 319⇓*iP* PKPdf 23 08 50.4 -1.2
MLR Muntele Rosu 123.54 319⇓*iP* PKPdf 23 08 50.3 -1.3
KONO Kongsberg 123.68 340 PFAKE 23 09 00.0 +8.6
KONO LR LR
comp=Z,2μm,20.0s,MS5.7
KWP Kalwaria 123.75 324 *e*PKPdf PKPdf 23 08 50.9 -0.9
KWP Kalwaria 123.75 324⇓*iP* PKPdf 23 08 50.6 -1.2
SCHQ Schefferville 124.32 28 PKP PKPdf 23 08 50.9 -1.8
SCHQ Schefferville 124.32 28 PKP PKPdf 23 08 50.9 -1.8
comp=Z,3.6nm,1.0s,baz=314,slow=3.7,SNR=4.3
KOLS Kolonicke sedl 124.33 324 *e*PKP PKPdf 23 08 52.4 -0.6
DWPF Disney 124.36 63 PFAKE 23 09 00.0 +6.3
DWPF LR LR
comp=Z,1μm,20.0s,MS5.6
SSPA Standing Stone 124.40 47 PFAKE 23 09 00.0 +6.6
SSPA LR LR
comp=Z,4μm,20.0s,MS6.0
NNA Nana 124.48 112 PFAKE 23 09 10.0 +16
NNA LR LR
comp=Z,2μm,21.0s,MS5.7
NHSC New Hope 124.59 56 PFAKE 23 09 00.0 +6.0
NHSC LR LR
comp=Z,3μm,21.0s,MS6.0
STHS Stebnicka Huta 124.69 325 *e*PKP PKPdf 23 08 55.7 +2.1
CRVS Cervenica-Dubn 124.82 324 *e*PKP PKPdf 23 08 54.7 +0.8
BORG Borgarnes 124.96 358 PFAKE 23 09 00.0 +6.3
BORG LR LR
comp=Z,3μm,22.0s,MS5.9
NIE Niedzica 125.22 325 *e*PKP PKPdf 23 08 54.7 +0.1
BINY Binghamton 125.22 45 PFAKE 23 09 10.0 +15
BINY LR LR
comp=Z,4μm,22.0s,MS6.0
CBN Corbin 125.53 50 PFAKE 23 09 10.0 +14
CBN LR LR
comp=Z,6μm,22.0s,MS6.2
KECS Kecovo 125.58 324 *e*PKP PKPdf 23 08 55.6 +0.2
NCB Newcomb 125.73 42 PFAKE 23 09 10.0 +14
NCB LR LR
comp=Z,3μm,21.0s,MS5.9
CNNC Cliffs of the 125.95 53 PFAKE 23 09 10.0 +14
CNNC LR LR
comp=Z,3μm,21.0s,MS6.0
OKC Ostrava-Krasne 126.20 326 *e*PKPdf PKPdf 23 08 57.5 +1.0
OKC *ex* x 23 09 03.4
PSZ Piszkesteto 126.21 324⇑P PKPdf 23 08 58.5 +1.9
PSZ Piszkesteto 126.21 324 PKIKP PKPdf 23 08 58.6 +2.0
PSZ Piszkesteto 126.21 324⇑*iP* PKPdf 23 08 58.5 +1.9
PSZ Piszkesteto 126.21 324⇑*e*PKP PKPdf 23 08 58.1 +1.5
BZS Buzias 126.25 320⇑P PKPdf 23 08 56.2 -0.5
BZS Buzias 126.25 320⇑*iP* PKPdf 23 08 56.2 -0.6
OTAV Otavalo 126.35 97 PFAKE 23 09 10.0 +12
OTAV LR LR
comp=Z,2μm,20.0s,MS5.7
VYHS Vyhne 126.53 325 *e*PKP PKPdf 23 08 56.1 -1.1
VYHS *e*PP PP 23 10 48.6 -4.0
MORC Moravsky Berou 126.56 327⇑P PKPdf 23 08 56.4 -0.9
MORC Moravsky Berou 126.56 327⇑*iP* PKPdf 23 08 56.3 -0.9
KOLL Kolacno 126.73 325 *e*PKP PKPdf 23 08 56.6 -1.0
DPC Dobruska-Polom 126.89 328 *e*PKPdf PKPdf 23 08 56.9 -0.9
DPC *ex* x 23 09 05.0
BUD Budapest 126.94 324⇓*e*pPKP pPKPdf 23 09 00.4 +2.4
UPC Upice 126.96 328 *e*PKPdf PKPdf 23 08 59.7 +1.8
UPC *ex* x 23 09 05.1
LBNH Lisbon 127.12 41 PFAKE 23 09 10.0 +12
LBNH LR LR
comp=Z,4μm,20.0s,MS6.1
VRAC Vranov 127.33 327⇓P PKPdf 23 09 00.9 +2.2
VRAC Vranov 127.33 327⇓*iP* PKPdf 23 09 00.9 +2.2
MODS Modra-Piesok 127.47 325 *e*PKP PKPdf 23 09 00.4 +1.4
BSEG Bad Segeberg 127.48 334 *e*PKPdf PKPdf 23 08 58.6 -0.2
ZST Bratislava 127.67 325 *e*PKP PKPdf 23 09 00.9 +1.5
ZST Bratislava 127.67 325 *e*PKP PKPdf 23 09 00.8 +1.4
PVCC Panska Ves 127.69 329 *e*PKPdf PKPdf 23 09 01.0 +1.7
PVCC *ex* x 23 09 06.5
BRG Berggiesshubel 127.80 329 *e*PKIKP PKPdf 23 08 59.0 -0.5
BRG pmax pmax
comp=Z,3.0nm,1.6s
BRG Berggiesshubel 127.80 329 *e*PKPdf PKPdf 23 08 58.8 -0.7
BRG Berggiesshubel 127.80 329 *e*PKP PKPdf 23 08 59.0 -0.5
comp=Z,40nm,1.6s
PKSM Moragy 127.80 322⇓*iP* PKPdf 23 08 58.8 -0.9
CLL Collm 127.99 330⇑*iP*KP PKPdf 23 09 01.5 +1.6
CLL *i* 23 09 06.3
CLL *i* 23 09 11.7
CLL *e*PP PP 23 11 11.0 +8.9
CLL Collm 127.99 330 *e*PKPdf PKPdf 23 08 59.2 -0.7
CLL Collm 127.99 330⇑*iP*KPdf PKPdf 23 09 01.5 +1.6
CLL *i* x x 23 09 06.3
comp=Z,13nm,1.1s
CLL *i* x x 23 09 11.7
CLL *e*PP PP 23 11 11.0 +8.9
CLL *e*PS PS 23 21 06.0 -3.1
CLL *e*PPS 23 22 48.0
CLL *e*SS SS 23 28 18.0 +1.7
CLL *e*(PSS) 23 29 06.0
CLL *e*SSS 23 33 18.0
PRU Pruhonice 128.03 328 *e*PKPdf PKPdf 23 09 01.4 +1.4
PRU *ex* x 23 09 06.8
FBE Freiberg 128.06 330 *e*PKPdf PKPdf 23 08 59.5 -0.5
HRV Adam Dziewonsk 128.11 43 PFAKE 23 09 10.0 +10
HRV LR LR
comp=Z,3μm,22.0s,MS6.0
SOP Sopron 128.25 325⇑*e*PKP PKPdf 23 09 01.9 +1.4
WES Weston 128.32 43 PFAKE 23 09 10.0 +9.2
WES LR LR
comp=Z,3μm,22.0s,MS6.0
TSUM Tsumeb 128.86 236 PFAKE 23 09 10.0 +7.5
TSUM LR LR
comp=Z,2μm,19.0s,MS5.8
WERD Werda 128.88 330 *e*PKPdf PKPdf 23 09 01.0 -0.6
CLZ Clausthal 128.89 332 *e*PKPdf PKPdf 23 09 01.1 -0.5
GUNZ Gunzen 128.92 330 *e*PKPdf PKPdf 23 09 01.3 -0.4
NKC Novy Kostel 128.94 330 *e*PKPdf PKPdf 23 09 03.2 +1.5
NKC *ex* x 23 09 08.1
WERN Wernitzgruen 128.94 330 *e*PKPdf PKPdf 23 09 01.3 -0.4
KHC Kasperske Hory 129.04 328 *e*PKPdf PKPdf 23 09 02.0 0.0
KHC *ex* x 23 09 09.1
KHC *ex* x 23 11 20.0
MOX Moxa 129.09 330 *e*PKP PKPdf 23 09 03.6 +1.6
comp=Z,46nm,2.2s
MOX Moxa 129.09 330 *e*PKIKP PKPdf 23 09 03.6 +1.6
MOX pmax pmax
comp=Z,57nm,2.2s
MOX Moxa 129.09 330 *e*PKPdf PKPdf 23 09 01.2 -0.8
GERES GERESS Array B 129.15 328 PKP PKPdf 23 09 01.6 -0.6
comp=Z,2.6nm,0.7s,baz=79,slow=1.6,SNR=21
MANZ Manzenberg 129.27 330 *e*PKPdf PKPdf 23 09 01.9 -0.5
ROTZ Rotzenmuhle 129.36 329 *e*PKPdf PKPdf 23 09 02.0 -0.5
WET Wettzell 129.40 328 *e*PKPdf PKPdf 23 09 02.0 -0.6
GRA1 Grafenberg Arr 129.90 330 *e*PKPdf PKPdf 23 09 03.0 -0.6
GRF Grafenberg Arr 129.90 330 *e*PKPdf PKPdf 23 09 03.0 -0.6
GRFO Grafenberg 129.90 330 PFAKE 23 09 10.0 +6.4
GRFO LR LR
comp=Z,2μm,21.0s,MS5.8
BOJS Bojanci 130.19 323 *i* PKPdf PKPdf 23 09 03.4 -0.8
LPAZ La Paz 130.42 121 PKP PKPdf 23 09 06.3 +0.7
LPAZ LR LR
comp=Z,2μm,20.0s,MS5.8
LPAZ La Paz 130.42 121 PKP PKPdf 23 09 06.3 +0.7
comp=Z,0.8nm,0.6s,baz=47,slow=4.3,SNR=5.1
JAVS Javornik 130.67 324 *i* PKPdf PKPdf 23 09 03.3 -1.8
SKDS Skadanscina 130.89 324 *i* PKPdf PKPdf 23 09 04.9 -0.7
ABTA Abfaltersbach 131.05 326⇑*i*PKPdf PKPdf 23 09 04.9 -1.0
comp=Z,7.4nm,1.2s
ESK Eskdalemuir 131.25 343 PFAKE 23 09 20.0 +14
ESK LR LR
comp=Z,1μm,21.0s,MS5.6
MEM Membach 131.71 334 PKPdf PKPdf 23 09 08.1 +1.1
FETA Feichten 131.85 327⇑*i*PKiKP PKiKP 23 09 07.3 -1.1
comp=Z,10nm,1.4s
DAVA Damuels 132.13 328⇑*iP* PKPdf 23 09 07.6 -0.3
comp=Z,9.2nm,1.0s
BCLA Clavier 132.16 334 PKPdf PKPdf 23 09 09.0 +1.2
BFO Black Forest 132.23 330 PFAKE 23 09 20.0 +12
BFO LR LR
comp=Z,2μm,20.0s,MS5.7
CDF Champ du Feu 132.69 331 *e*PKIKP PKPdf 23 09 07.5 -1.4
DOU Dourbes 132.70 334 PKPdf PKPdf 23 09 09.6 +0.7
BAIF Baives 132.90 334 *e*PKIKP PKPdf 23 09 08.1 -1.1
comp=Z,23nm,1.1s
HINF Hinteralfeld 133.30 330 *e*PKIKP PKPdf 23 09 08.7 -1.4
comp=Z,13nm,0.8s
HAU Haudompre 133.42 331 *e*PKIKP PKPdf 23 09 08.9 -1.4
comp=Z,23nm,1.1s
MEZF Maizieres J'vi 133.67 332 *e*PKIKP PKPdf 23 09 09.4 -1.3
CABF La Chapelle 134.51 330 *e*PKIKP PKPdf 23 09 11.0 -1.4
comp=Z,80nm,1.5s
SDDR Presa de Saban 134.67 73 PFAKE 23 09 20.0 +6.5
SDDR LR LR
comp=Z,2μm,20.0s,MS5.9
LPL La Plagne 134.94 328 *e*PKIKP PKPdf 23 09 11.9 -1.3
comp=Z,27nm,1.2s
LPG La Plagne 134.94 328 *e*PKIKP PKPdf 23 09 11.9 -1.3
LOR Lormes 135.12 332 *e*PKIKP PKPdf 23 09 12.2 -1.3
comp=Z,34nm,1.3s
BNI Bardonecchia 135.27 328 *e*PKPdf PKPdf 23 09 11.9 -2.0
BNI *e* 23 09 20.7
SDV Santo Domingo 135.33 87 *e*PKPdf PKPdf 23 09 13.9 -1.0
SDV LR LR
comp=Z,617nm,21.0s,MS5.3
SSF Saint Saulge 135.43 332 *e*PKIKP PKPdf 23 09 12.6 -1.5
comp=Z,14nm,0.9s
MBDF Montbardon 135.44 327 *e*PKIKP PKPdf 23 09 12.7 -1.5
comp=Z,15nm,1.1s
SMF Signal de Mont 135.58 331 *e*PKIKP PKPdf 23 09 12.9 -1.5
comp=Z,38nm,1.3s
AVF Avril sur Loir 135.71 332 *e*PKIKP PKPdf 23 09 13.2 -1.4
ORIF Oris-en-Rattie 135.78 328 *e*PKIKP PKPdf 23 09 13.4 -1.4
comp=Z,76nm,1.7s
LDF La Drutiere 135.83 336 *e*PKIKP PKPdf 23 09 13.1 -1.7
comp=Z,53nm,1.3s
FLN La Foliniere 135.83 336 *e*PKIKP PKPdf 23 09 13.5 -1.3
comp=Z,15nm,0.7s
GRR Gorron 136.28 336 *e*PKIKP PKPdf 23 09 14.3 -1.3
VIVF Saint-Julien-l 136.45 329 *e*PKIKP PKPdf 23 09 14.5 -1.6
LMR La Mourre 136.50 326 *e*PKIKP PKPdf 23 09 14.4 -1.8
comp=Z,84nm,1.4s
SMRF Simiane la Rot 136.58 327 *e*PKIKP PKPdf 23 09 14.7 -1.6
comp=Z,173nm,1.7s
TCF Toulx Ste Croi 136.61 332 *e*PKIKP PKPdf 23 09 14.8 -1.5
BBSR BB Station 137.26 52 PFAKE 23 09 30.0 +12
BBSR LR LR
comp=Z,2μm,21.0s,MS5.9

LASF	Ste Croix	137.41	329	*e*PKIKP	PKPdf	23 09 16.1	-1.8
	comp=Z,38nm,1.3s						
RJF	Les Rejaudoux	137.66	332	*e*PKIKP	PKPdf	23 09 16.9	-1.4
	comp=Z,33nm,1.3s						
CAF	Calviac	137.69	331	*e*PKIKP	PKPdf	23 09 16.8	-1.5
	comp=Z,56nm,1.5s						
LFF	La Frestale	138.30	332	*e*PKIKP	PKPdf	23 09 17.6	-1.9
MSKU	Masuku	139.59	256	PFAKE		23 09 30.0	+7.2
MSKU				LR	LR		
	comp=Z,3.0nm,22.0s						
SJG	San Juan	139.60	73	PFAKE		23 09 30.0	+7.4
SJG				LR	LR		
	comp=Z,2μm,22.0s,MS5.8						
EPF	Esparros	139.93	330	*e*PKIKP	PKPdf	23 09 20.4	-2.1
ETSF	Etsaut	140.46	331	*e*PKIKP	PKPdf	23 09 21.7	-1.8
PBRG	Braganca	144.06	336	*e*PKP	PKPdf	23 09 28.3	-1.6
ESDC	Sonseca Array	144.58	331	PKP	PKPdf	23 09 29.1	-1.8
	comp=Z,8.3nm,1.0s,baz=33,slow=3.5,SNR=14						
PCAB	Cabril	144.65	337	*e*PKP	PKPdf	23 09 30.3	-0.7
MVO	Moncorvo	144.72	336	*e*PKP	PKPdf	23 09 29.9	-1.2
PAB	San Pablo	144.86	331	*e*PKPdf	PKPdf	23 09 30.6	-0.8
PAB				LR	LR		
	comp=Z,1μm,20.0s,MS5.7						
PVRL	Vila Real	144.90	337	*e*PKP	PKPdf	23 09 30.2	-1.2
PVIS	Viseu	145.45	336	*e*PKP	PKPdf	23 09 32.3	-0.1
MTE	Manteigas	145.58	336	*e*PKP	PKPdf	23 09 32.1	-0.5
MTE	Manteigas	145.58	336	*e*SS	SS	23 32 33.7	+48
MTE	Manteigas	145.58	336	*e*PKPdf	PKPdf	23 09 32.5	-0.1
PCBR	Castelo Branco	146.02	335	*e*PKP	PKPdf	23 09 34.0	+0.6
BDFB	Brasilia	146.27	138	PKPbc	PKPbc	23 09 34.4	-1.2
	comp=Z,7.0nm,0.8s,baz=207,slow=6.6,SNR=9.8						
BBGH	Gun Hill	146.32	81	PFAKE		23 09 50.0	+15
BBGH				LR	LR		
	comp=Z,4μm,22.0s,MS6.2						
PESTR	Estremoz	146.88	334	*e*PKP	PKPdf	23 09 35.5	+0.6
PESTR	Estremoz	146.88	334	*e*SS	SS	23 32 50.7	+50
PBAR	Barrancos	147.21	333	*e*PKP	PKPdf	23 09 35.5	+0.1
PBAR	Barrancos	147.21	333	*e*SS	SS	23 32 49.9	+46
EVO	Evora	147.34	334	*e*PKIKP	PKPdf	23 09 32.9	-2.7
	comp=Z,258nm,1.8s						
EVO	Evora	147.34	334	*e*PKP	PKPdf	23 09 36.0	+0.4
PMAFR	Mafra	147.51	336	*e*PKP	PKPdf	23 09 38.8	+2.9
PMAFR	Mafra	147.51	336	*e*SS	SS	23 32 50.7	+43
PBEJ	Beja	147.70	334	*e*PKP	PKPdf	23 09 37.5	+1.2
PVAQ	Vaqueiros	148.15	333	*e*PKP	PKPdf	23 09 36.7	-0.3
PVAQ	Vaqueiros	148.15	333	*e*SS	SS	23 33 00.1	+45
PBDV	Barranco-do-Ve	148.38	333	*e*PKP	PKPdf	23 09 40.0	+2.6
PBDV	Barranco-do-Ve	148.38	333	*e*SS	SS	23 33 05.5	+48
PTEO	Sao Teotonio	148.47	334	*e*PKP	PKPdf	23 09 41.2	+3.7
MORF	Marmelete	148.64	334	*e*PKP	PKPdf	23 09 42.3	+4.5
PFVI	Vila Bisbo	148.87	334	*e*PKP	PKPdf	23 09 39.9	+1.7
TORD	Torodi Ar. Bea	153.27	280	PKPbc	PKPbc	23 09 51.0	-2.0
	comp=Z,4.3nm,0.8s,baz=58,slow=2.3,SNR=11						
ASCN	Ascension	159.34	212	PFAKE		23 10 00.0	+6.4
ASCN				LR	LR		
	comp=Z,3μm,21.0s,MS6.2						
RCBR	Riachuelo	161.34	145	PFAKE		23 10 10.0	+14
RCBR				LR	LR		
	comp=Z,3μm,22.0s						

ISCJB ***02*** *22:50:12.8±0.6, 441N±006×1258E±0.1, h163km±7km, mb4.2/10, Error ellipse: s-maj=17.6km s-min=8.9km az=165.8*
MAN ***02*** *22:50:13, 440N×12599E, h158km, mb4.8, ML3.7, MS3.7*
NEIC ***02*** *22:50:19.3±2.4, 425N×12535E, h214km±24km, mb4.2/5, Error ellipse: s-maj=25.4km s-min=8.7km az=73.0*
IDC ***02*** *22:50:20.6±7.1, 428N×12548E, h228km±69km, mb3.9/6, mb1 4.1/7, mb1mx3.5/20, mbtmp4.0/7, Error ellipse: s-maj=56.0km s-min=18.8km az=66.0*

ISC 02 22:50:13.8±0.6, 439N±006×1258E±01, h155km±7km, n23, σ1°23/23, mb4.2/10, 2C-1D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSPH	General Santos	1.88	334	*e*P	Pn	22 50 47.9	-0.1
GSPH				*e*S	Sn	22 51 13.8	-0.4
MATI	Mati	2.58	10	*e*P	Pn	22 50 55.6	-0.6
BUKP	Musuan	3.54	348	*e*P	Pn	22 51 07.5	-0.8
TNE	Ternate	3.91	156	*e*P	Pn	22 51 12.5	-0.6
SCPH	Surigao	5.37	357	*e*P	Pn	22 51 34.6	+2.4
KKM	Kota Kinabalu	9.68	280	*e*Pn	Pn	22 52 29.2	-0.3
BATI	Kupang	14.65	188	P	Pn	22 53 36.2	+2.4
	13nm,0.3s,baz=333,slow=8.3,SNR=19						
KSM	Kuching	15.73	260	Pn	Pn	22 53 49.4	+2.2
NACB	Ninganchiao	20.08	349	P	P	22 54 36.7	+1.4
FITZ	Fitzroy Crossi	22.35	180	*e*P	P	22 54 58.7	-0.6
	5.1nm,0.3s,mb4.4						
FITZ	Fitzroy Crossi	22.35	180	P	P	22 54 58.4	-0.8
	3.3nm,0.3s,mb4.2,baz=9.2,slow=14,SNR=23						
WRA	Warramunga Arr	25.60	161	P	P	22 55 29.5	+0.7
	3.0nm,0.3s,mb4.4,baz=330,slow=11,SNR=21						
MBWA	Marble Bar	26.07	193	*e*P	P	22 55 32.3	-0.8
	9.1nm,1.0s,mb4.4						
ASAR	Alice Springs	28.98	165	P	P	22 55 58.7	-0.3
	5.4nm,0.7s,mb4.4,baz=340,slow=7.0,SNR=12						
BJT	Baijiatuau	36.52	348	*e*P	P	22 57 05.2	+0.9
	3.5nm,0.4s,mb4.3						
NWAO	Narrogin (SRO)	37.99	192	P	P	22 57 16.4	-0.4
	4.9nm,0.5s,mb4.4,baz=18,slow=8.3,SNR=8.8						
STKA	Stephens Creek	39.08	158	P	P	22 57 25.2	-0.6
	16nm,1.2s,mb4.5,baz=346,slow=9.3,SNR=5.0						
LSA	Lhasa	41.30	311	*e*P	P	22 57 43.1	-1.2
	1.4nm,0.5s,mb3.9						
MKAR	Makanchi Array	56.48	325	P	P	22 59 38.3	-1.3
	0.7nm,0.6s,mb3.7,baz=119,slow=8.2,SNR=11						
KURK	Kurchatov	60.69	328	*e*P	P	23 00 06.2	-2.4
	1.0nm,0.5s,mb3.9						
TTA	Tatalina	80.74	27	*e*P	P	23 02 11.7	+2.1
PMR	Palmer	83.82	29	P	P	23 02 20.9	-4.7
TORD	Torodi Ar. Bea	121.82	288	PKP	PKPdf	23 08 48.0	-2.6
	0.2nm,0.4s,baz=78,slow=1.6,SNR=7.1						

IDC 02 22:54:02.5±2.7, 707S×15524E, h0km, mb3.9/4, mb1 4.0/4, mb1mx3.7/14, mbtmp3.8/4, Error ellipse: s-maj=88.1km s-min=36.3km az=127.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	23.97	236	P	P	22 59 18.9	+0.1
	1.1nm,0.7s,baz=60,slow=9.8,SNR=3.9						
SONM	Songino Array	69.53	327	P	P	23 05 14.0	+1.0
	1.4nm,0.9s,baz=128,slow=6.5,SNR=3.5						
MKAR	Makanchi Array	83.62	319	P	P	23 06 32.6	-0.3
	1.6nm,0.7s,baz=100,slow=6.5,SNR=7.6						
YKA	Yellowknife Ar	96.29	28	P	P	23 07 32.1	-0.5
	0.1nm,0.5s,baz=264,slow=6.0,SNR=3.8						

NEIC ***02*** *22:57:22.4, 384 1N×2014E, h21km, MD3.5(ATH), After ATH.*
ATH ***02*** *22:57:23.6, 3839N×2011E, h35km±7km, MD3.5/6*
ISCJB ***02*** *22:57:24.5±0.9, 3848N±004×2055E±007, h10km, Error ellipse: s-maj=9.0km s-min=4.4km az=156.4*
CSEM ***02*** *22:57:24.2±0.2, 3847N×2047E, h5km, ML3.0, Error ellipse: s-maj=7.6km s-min=2.8km az=77.0*
THE ***02*** *22:57:24.3, 3848N×2055E, h3km, ML3.0*

ISC 02 22:57:25.2±0.9, 3849N±004×2052E±007, h10km, n18, σ1°25/25, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKD	Levkas	0.24	25	*e*Pg	Pg	22 57 28.1	-2.1
LKD				*e*Sg	Sg	22 57 33.0	-0.5
LKD	Levkas	0.24	25	*e*Pg	Pg	22 57 28.0	-2.1
LKD				*e*Sg	Sg	22 57 33.0	-0.5
IGT	Igoumenitsa	1.05	352	*e*Pg	Pg	22 57 43.7	-1.7
IGT				*e*Sg	Sg	22 57 59.7	+0.5
EVR	Evrytania	1.09	67	*e*PN	Pn	22 57 49.0	+2.4
JAN	Janina	1.20	12	*e*PB	Pb	22 57 48.0	+0.1
JAN				*e*SN	Sn	22 58 06.1	+1.9
KEK	Kerkira	1.35	336	*e*PN	Pn	22 57 47.8	-2.2
MEV	Metsovon	1.41	23	*e*Pg	Pg	22 57 51.4	-0.8
SRN	Sarande	1.45	344	*i* Sn	Sn	22 58 11.9	+1.4
AGG	Agios Georgios	1.51	69	*e*Pg	Pn	22 57 51.7	-0.6
AGG				*e*Sg	Sg	22 58 12.2	-1.6
THL	Klokotos Trika	1.58	47	*e*PN	Pn	22 57 55.0	+1.7
ITM	Ithomi	1.71	139	*e*Pn	Pn	22 57 55.2	+0.1
ITM				*e*Sn	Sg	22 58 20.5	+0.2
LIT	Litokhoron	2.22	43	*e*Pn	Pn	22 58 01.4	-0.6
LIT				*e*Sn	Sn	22 58 30.6	+1.1
NEO	Neokhori	2.26	68	*e*PN	Pn	22 58 05.5	+2.9
FNA	Florina	2.39	16	*e*Pn	Pn	22 58 04.3	0.0
FNA	Florina	2.39	16	*e*Pn	Pn	22 58 04.3	0.0
VLI	Veliai	2.61	132	*e*Pn	Pn	22 58 07.2	-0.2
PAIG	Paliouri	2.84	59	*e*Pn	Pn	22 58 10.6	0.0
PLG	Polygyros	2.94	49	*e*Pn	Pn	22 58 11.7	-0.3

ISCJB ***02*** *22:59:49.1±8.7, 972S±009×15467E±0.10, h5km±55km, mb4.5/22, Error ellipse: s-maj=16.4km s-min=14.8km az=15.2*
IDC ***02*** *22:59:49.5±0.8, 973S×15472E, h0km, mb4.3/10, mb1 4.5/11, mb1mx4.4/14, mbtmp4.4/11, ML3.7/1, Error ellipse: s-maj=30.8km s-min=18.6km az=98.0*
NEIC ***02*** *22:59:51.3±0.3, 972S×15467E, h10km, mb4.5/12, Error ellipse: s-maj=10.2km s-min=7.2km az=97.0*

ISC 02 22:59:52.9±8.5, 974S±009×15466E±010, h18km±53km, n37, σ0°72/33, mb4.5/22, D'Entrecasteaux Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	16.68	139	Pn	Pn	23 03 45.3	-0.5
	0.3nm,0.3s,baz=284,slow=19,SNR=4.1						
WB2	Warramunga Arr	22.07	240	*e*P	P	23 04 48.3	+1.2
WRA	Warramunga Arr	22.08	240	P	P	23 04 47.7	+0.5
	14nm,1.1s,mb4.3,baz=64,slow=10,SNR=14						
ASAR	Alice Springs	24.18	233	P	P	23 05 08.8	+0.4
	7.6nm,1.0s,mb4.1,baz=62,slow=9.4,SNR=26						
STKA	Stephens Creek	25.14	207	*e*P	P	23 05 17.0	0.0
	8.7nm,1.0s,mb4.2						
STKA	Stephens Creek	25.14	207	P	P	23 05 16.8	-0.2
	9.6nm,0.9s,mb4.3,baz=11,slow=9.2,SNR=8.6						
FITZ	Fitzroy Crossi	29.34	250	*e*P	P	23 05 52.2	-2.7
	5.9nm,1.4s,mb4.1						
TAU	Tasmania Unive	33.66	190	*e*P	P	23 06 34.0	+1.4
MBWA	Marble Bar	35.45	247	*e*P	P	23 06 48.0	-0.4
	8.7nm,1.0s,mb4.6						
NWAO	Narrogin (SRO)	41.47	231	*e*P	P	23 07 38.8	-0.1
MJAR	Matsushiro Arr	48.57	342	P	P	23 08 34.8	-0.5
	0.6nm,0.4s,mb3.9,baz=166,slow=7.8,SNR=4.8						
MAJO	Matsushiro	48.57	342	P	P	23 08 34.6	-0.6
QIZ	Qiongzhong	52.63	303	*e*P	P	23 09 05.1	-1.1
	360nm,1.9s,mb6.0						
KULM	Kulim	55.85	283	*e*P	P	23 09 29.9	0.0
HIA	Hailar	66.27	336	*e*P	P	23 10 40.0	+0.1
	1.8nm,0.4s,mb4.5						
VNDA	Vanda	67.86	178	P	P	23 10 49.0	-0.7
	3.4nm,1.2s,mb4.2,baz=343,slow=7.9,SNR=5.0						
SBA	Scott Base	68.38	177	P	P	23 10 52.5	-0.4
MA2	Magadan	69.15	358	*e*P	P	23 10 58.1	+0.2
SONM	Songino Array	71.46	328	P	P	23 11 13.0	+0.7
	3.5nm,0.9s,mb4.3,baz=133,slow=4.8,SNR=20						
LSA	Lhasa	72.56	305	*e*P	P	23 11 19.7	+0.4
	1.6nm,0.6s,mb4.1						
YAK	Yakutsk	74.15	348	P	P	23 11 27.6	-0.3
TLY	Talaya	75.25	330	*e*P	P	23 11 35.3	+0.8
	2.2nm,0.9s,mb4.1						
PALK	Pallekele	75.58	280	*e*P	P	23 11 37.6	+0.4
	7.7nm,1.1s,mb4.5						
BILL	Bilibino	78.03	4	*e*P	P	23 11 50.7	+0.8
	4.8nm,1.1s,mb4.3						
MAW	Mawson	81.75	203	P	P	23 12 09.6	-0.6
	6.4nm,1.1s,mb4.5,baz=87,slow=12,SNR=4.2						
MKAR	Makanchi Array	85.24	319	P	P	23 12 28.3	-0.1
	1.4nm,0.8s,mb4.2,baz=98,slow=6.2,SNR=10						
ZALV	Zalesovo Beam	86.26	326	P	P	23 12 32.0	-1.4
	1.4nm,0.7s,mb4.3,baz=128,slow=5.9,SNR=8.8						
DAWY	Dawson	88.53	24	*e*P	P	23 12 44.2	+0.2
TKM2	Tokmak 2	88.67	314	*e*P	P	23 12 45.1	-0.1
	2.4nm,0.9s,mb4.5						
UCH	Uchtor	89.27	313	*e*P	P	23 12 48.9	+0.8
	12nm,1.6s,mb5.0						
AAK	Ala-Archa	89.38	313	*e*P	P	23 12 48.5	-0.1
	7.2nm,1.5s,mb4.8						
EKS2	Erkin-Say	89.90	313	*e*P	P	23 12 50.9	-0.1
	15nm,1.8s,mb5.0						
NVAR	Mina Array Bea	93.67	52	P	P	23 13 09.3	+0.7
	1.5nm,0.9s,mb4.4,baz=239,slow=4.4,SNR=8.7						
AKASG	Malin Array Be	119.55	323	PKP	PKPdf	23 18 40.6	-0.9
	0.2nm,0.4s,baz=77,slow=2.2,SNR=4.8						
GERES	GERESS Array B	129.20	328	PKP	PKPdf	23 18 59.8	-0.3
	0.7nm,0.7s,baz=0.0,slow=0.1,SNR=7.1						
ESDC	Sonseca Array	144.62	331	PKP	PKPdf	23 19 27.1	-1.7
	1.2nm,0.7s,baz=18,slow=5.3,SNR=6.2						
TORD	Torodi Ar. Bea	153.30	280	PKPbc	PKPbc	23 19 49.8	-1.2
	1.0nm,1.0s,baz=111,slow=1.2,SNR=3.5						

NEIC ***02*** *23:01:11.2±0.5, 974S×15536E, h10km, mb4.4/7, Error ellipse: s-maj=13.7km s-min=10.8km az=139.0*
IDC ***02*** *23:01:11.2±1.5, 968S×15496E, h0km, mb4.1/9, mb1 4.2/9, mb1mx4.1/14, mbtmp4.1/9, Error ellipse: s-maj=51.1km s-min=20.8km az=116.0*
ISCJB ***02*** *23:01:12.6±0.6, 980S±010×15538E±0.10, h33km, mb4.2/14, Error ellipse: s-maj=14.9km s-min=12.1km az=136.9*

ISC 02 23:01:14.6±0.6, 982S±010×15539E±009, h35km, n28, σ1°07/25, mb4.2/14, D'Entrecasteaux Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	4.51	85	Pn	Pn	23 02 19.9	-0.7
WB2	Warramunga Arr	22.66	241	*e*P	P	23 06 12.9	0.0
WRA	Warramunga Arr	22.67	241	P	P	23 06 12.3	-0.8
	3.3nm,0.8s,mb3.8,baz=64,slow=9.7,SNR=4.1						
KAKA	Kakadu	22.68	261	*e*P	P	23 06 16.0	+2.7
	8.4nm,0.6s,mb4.3						
ASAR	Alice Springs	24.70	233	P	P	23 06 31.7	-0.9
	3.6nm,0.8s,mb3.9,baz=63,slow=9.4,SNR=8.4						
STKA	Stephens Creek	25.40	208	*e*P	P	23 06 41.4	+2.5
	5.6nm,0.7s,mb4.2						
STKA	Stephens Creek	25.40	208	P	P	23 06 40.0	+1.1
	7.2nm,0.7s,mb4.3,baz=28,slow=9.4,SNR=8.3						
FITZ	Fitzroy Crossi	29.98	251	*e*P	P	23 07 18.6	-1.5
	5.4nm,0.6s,mb4.5						
FITZ	Fitzroy Crossi	29.98	251	P	P	23 07 18.2	-1.9
	1.2nm,0.6s,mb3.8,baz=90,slow=8.9,SNR=4.1						
TAU	Tasmania Unive	33.71	191	P	P	23 07 52.2	-0.2
NACB	Ninganchiao	47.23	316	*e*P	P	23 09 43.2	-1.2
MJAR	Matsushiro Arr	48.86	342	P	P	23 09 55.7	-1.2
MJAR	Matsushiro Arr	48.86	342	P	P	23 09 55.7	-1.2
	1.9nm,0.9s,mb4.1,baz=169,slow=8.4,SNR=4.0						
QIZ	Qiongzhong	53.27	303	P	P	23 10 29.6	-0.7
KULM	Kulim	56.56	283	*e*P	P	23 10 53.5	-0.8
BJT	Baijiatuau	61.45	326	*e*P	P	23 11 27.2	-0.4
	3.3nm,0.3s,mb4.9						
SONM	Songino Array	71.91	328	P	P	23 12 35.0	+0.8
	2.0nm,0.9s,mb4.1,baz=138,slow=5.4,SNR=7.1						
MKAR	Makanchi Array	85.77	319	P	P	23 13 50.9	+0.6
MKAR	Makanchi Array	85.77	319	P	P	23 13 50.9	+0.6
	1.9nm,0.9s,mb4.3,baz=104,slow=5.1,SNR=7.8						
ZALV	Zalesovo Beam	86.72	326	P	P	23 13 55.2	+0.4
	1.1nm,0.7s,mb4.2,baz=93,slow=7.4,SNR=4.3						
TKM2	Tokmak 2	89.23	314	*e*P	P	23 14 08.5	+1.4
	1.4nm,0.6s,mb4.5						
UCH	Uchtor	89.85	313	P	P	23 14 11.3	+1.4
AAK	Ala-Archa	89.95	313	*e*P	P	23 14 10.9	+0.5
	1.3nm,0.7s,mb4.4						
EKS2	Erkin-Say	90.47	313	*e*P	P	23 14 13.0	+0.1
	1.6nm,0.8s,mb4.4						
YKA	Yellowknife Ar	98.64	28	P	P	23 14 53.5	+3.8
	0.2nm,0.8s,mb3.7,baz=262,slow=4.8,SNR=3.8						
GERES	GERESS Array B	129.64	328	PKP	PKPdf	23 20 21.0	+0.9
	0.4nm,0.7s,baz=111,slow=3.0,SNR=4.6						
ESDC	Sonseca Array	145.03	332	PKP	PKPdf	23 20 49.8	+1.2
	1.4nm,0.8s,baz=29,slow=4.0,SNR=4.1						
TORD	Torodi Ar. Bea	154.01	280	PKPbc	PKPbc	23 21 11.4	-0.2
	0.9nm,0.9s,baz=50,slow=2.1,SNR=2.6						

IDC 02 23:07:17.0±1.1, 881S×15778E, h0km, mb3.8/6, mb1 4.0/7, mb1mx3.9/15, mbtmp3.8/7, ML3.8/1, Error ellipse: s-maj=32.5km s-min=23.8km az=151.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	2.23	106	Pn	Pn	23 07 53.1	-2.1
	29nm,0.3s,baz=83,slow=16,SNR=3.2						
HNR				Lg		23 08 34.4	
	122nm,0.3s,baz=273,slow=23,SNR=9.4						
WRA	Warramunga Arr	25.22	241	P	P	23 12 43.9	-0.9
	2.6nm,0.6s,baz=66,slow=9.5,SNR=8.4						
ASAR	Alice Springs	27.20	234	P	P	23 13 02.1	-0.5
	0.6nm,0.8s,baz=67,slow=9.5,SNR=3.3						
STKA	Stephens Creek	27.44	211	P	P	23 13 06.5	+1.8
	1.3nm,0.5s,baz=41,slow=13,SNR=6.2						
SONM	Songino Array	72.35	326	P	P	23 18 44.8	+0.1
	0.4nm,0.9s,baz=141,slow=5.0,SNR=3.5						
MKAR	Makanchi Array	86.58	318	P	P	23 20 01.7	-0.5
	0.4nm,0.6s,baz=109,slow=5.7,SNR=4.1						
NVAR	Mina Array Bea	90.68	51	P	P	23 20 24.0	+2.1
	0.7nm,0.7s,baz=224,slow=4.8,SNR=3.9						

IDC ***02*** *23:11:40.2±0.9, 671S×15486E, h0km, mb4.1/10, mb1 4.3/11, mb1mx4.2/16, mbtmp4.1/11, ML4.0/1, Error ellipse: s-maj=34.7km s-min=18.9km az=116.0*
NEIC ***02*** *23:11:41.4±0.3, 672S×15492E, h10km, mb4.3/8, Error ellipse: s-maj=9.1km s-min=7.0km az=115.0*
ISCJB ***02*** *23:11:43.1±0.5, 675S±008×15498E±009, h33km, mb4.1/15, Error ellipse: s-maj=13.0km s-min=10.8km az=29.8*

ISC 02 23:11:45.1±0.5, 676S±008×15495E±009, h35km, n33, σ0°77/31, mb4.1/15, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	5.62	119	*e*Pn	Pn	23 13 05.4	-0.7
CTA	Charters Tower	15.71	212	*e*P	Pn	23 15 29.1	+5.3
	6.5nm,0.7s						
CTA	Charters Tower	15.71	212	Pn	Pn	23 15 22.4	-1.5
	0.4nm,0.3s,baz=40,slow=7.9,SNR=4.2						
CTAO	Charters Tower	15.71	212	*e*Pn	Pn	23 15 29.1	+5.3
	6.6nm,0.6s						
KAKA	Kakadu	22.95	253	*e*P	P	23 16 46.7	+0.2
	13nm,0.7s,mb4.5						
WB2	Warramunga Arr	23.91	235	*e*P	P	23 16 56.0	+0.2
WRA	Warramunga Arr	23.91	235	P	P	23 16 55.9	0.0
	11nm,0.7s,mb4.4,baz=59,slow=9.6,SNR=29						
ASAR	Alice Springs	26.30	228	P	P	23 17 17.4	-0.1
	5.9nm,0.7s,mb4.2,baz=61,slow=8.7,SNR=52						
STKA	Stephens Creek	27.93	205	*e*P	P	23 17 28.4	-3.7
	3.1nm,0.8s,mb4.0						
STKA	Stephens Creek	27.93	205	P	P	23 17 32.2	+0.1
	3.1nm,0.8s,mb4.0						
STKA	Stephens Creek	27.93	205	P	P	23 17 32.2	+0.1
	4.0nm,0.7s,mb4.2,baz=36,slow=11,SNR=6.5						
FITZ	Fitzroy Crossi	30.71	246	*e*P	P	23 17 56.7	-0.3
	4.0nm,0.6s,mb4.4						
FITZ	Fitzroy Crossi	30.71	246	P	P	23 17 56.9	-0.1
	3.0nm,0.8s,mb4.2,baz=91,slow=9.5,SNR=6.6						
MBWA	Marble Bar	36.94	244	*e*P	P	23 18 50.8	-0.3
	2.5nm,0.6s,mb4.2						
MAJO	Matsushiro	45.84	341	P	P	23 20 03.6	-0.2
MDJ	Mudanjiang	56.00	338	*e*P	P	23 21 20.4	+0.3
	2.7nm,0.4s,mb4.6						
HIA	Hailar	63.69	335	P	P	23 22 11.4	-1.4
SONM	Songino Array	69.11	327	P	P	23 22 47.6	0.0
	0.4nm,0.5s,mb3.6,baz=137,slow=4.2,SNR=4.3						
VNDA	Vanda	70.82	178	P	P	23 22 58.6	+1.0
	1.1nm,0.9s,mb3.8,baz=350,slow=6.1,SNR=5.6						
LSA	Lhasa	71.10	304	*e*P	P	23 23 01.6	+1.4
	1.1nm,0.4s,mb4.1						
YAK	Yakutsk	71.32	348	*e*P	P	23 22 59.3	-1.5
PALK	Pallekele	75.36	279	P	P	23 23 25.6	-0.1
MCK	McKinley	81.85	22	*e*P	P	23 23 59.9	-0.5
MKAR	Makanchi Array	83.20	319	P	P	23 24 09.2	+1.4
	0.6nm,0.7s,mb3.7,baz=94,slow=5.3,SNR=5.4						
ZALV	Zalesovo Beam	83.96	326	P	P	23 24 11.0	-0.5
ZALV	Zalesovo Beam	83.96	326	P	P	23 24 11.0	-0.5
	0.3nm,0.4s,mb3.8,baz=101,slow=4.6,SNR=2.7						
KURK	Kurchatov	86.62	322	*e*P	P	23 24 25.0	+0.1
	0.4nm,0.4s,mb4.0						
AAK	Ala-Archa	87.56	313	*e*P	P	23 24 29.2	-0.4
EKS2	Erkin-Say	88.08	313	*e*P	P	23 24 31.7	-0.4
NVAR	Mina Array Bea	91.61	52	P	P	23 24 50.2	+1.4
	0.3nm,0.5s,mb3.9,baz=270,slow=0.9,SNR=3.0						
YKA	Yellowknife Ar	96.15	28	P	P	23 25 09.8	+0.8
	0.9nm,0.8s,mb4.2,baz=270,slow=4.5,SNR=12						
LAO	LASA Array	100.94	44	*e*Pdif	Pdif	23 25 31.8	+1.1
	18nm,1.1s						
TORD	Torodi Ar. Bea	152.92	286	PKPbc	PKPbc	23 31 39.6	-0.1
	0.7nm,0.7s,baz=71,slow=1.8,SNR=13						

**IDC 02 23:14:40.9±1.0, 731S×15593E, h0km, mb4.3/

s-min=8.4km az=135.0

ISCJB ***02*** *23:20:21.7±0.1, 863S×003×15736E±002, h15km, mb5.8/132, MS6.0/219, Error ellipse: s-maj=3.9km s-min=2.7km az=179.7*

CRAAG ***02*** *23:20:21.4, 851S×15729E, Mb5.4*

NEIC ***02*** *23:20:23.3±0.1, 862S×15739E, h18km, mb5.9/66, ME6.0, MS6.0/159, MW6.2, Error ellipse: s-maj=5.6km s-min=4.8km az=144.0 Broadband fault plane solution: P waves. NP1:φs100.00000°, δ65.00000°, λ60.00000°. NP2:φs334.00000°, δ38.00000°, λ137.00000°. Principal axes: T Plg59.0000°, Azm327.0000°; N Plg0.0000°, Azm0.0000°; P Plg2.0000°, Azm233.0000°; Moment Tensor Solution. s38 Moment tensor: Scale 10^18 Nm; Mrr2.14; Mθθ-0.42; Mφφ-1.72; Mrθ0.79; Mθφ0.98; Mφr-0.58; Best double couple: M0 2.40000×10^18 NP1:φs342.00000°, δ35.00000°, λ107.00000°. NP2:φs142.00000°, δ57.00000°, λ78.00000°. Principal axes: T 2.3900, Plg75.0000°, Azm18.0000°; N 0.0300, Plg10.0000°, Azm148.0000°; P -2.4200, Plg11.0000°, Azm240.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*

NEIC Felt at Honiara.

IGIL ***02*** *23:20:23.0, 849S×15735E, h10km*

GCMT ***02*** *23:20:23.3±0.1, 888S×15755E, h12km, MW6.2/109, Moment Tensor Solution. s104,c241; s109,c335; Duration: 3*2 Moment tensor: Scale 10^18 Nm; Mrr1.86±.01; Mθθ-1.47±.01; Mφφ-0.39±.02; Mrθ2.02±.04; Mθφ0.95±.01; Mφr0.57±.04; Best double couple: M0 2.83400×10^18 NP1:φs321.00000°, δ30.00000°, λ136.00000°. NP2:φs91.00000°, δ69.00000°, λ68.00000°. Principal axes: T 3.0630, Plg59.0000°, Azm329.0000°; N -0.4660, Plg21.0000°, Azm99.0000°; P -2.6050, Plg21.0000°, Azm198.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

MOS ***02*** *23:20:24.6±1.5, 854S×157.41E, h33km, mb6.0/41, MS5.9/42 Error ellipse: s-maj=7.3km s-min=5.8km az=92.4*

ISC 02 23:20:23.0±0.9, 862S±003×15740E±002, h13km±5km, h15km±1.0km: pP-P, n1083, σ0*89/724, mb5.8/131, MS6.0/219, 160C-119D, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.64**	**108**	*e*Pn	**Pn**	**23 21 00.2**	**-5.1**
HNR				Sn	**Sn**	**23 21 33.7**	**-3.6**
HNR	**Honiara**	**2.64**	**108**	Pn	**Pn**	**23 20 59.8**	**-5.6**
	324nm,0.3s,baz=258,slow=5.5,SNR=39						
HNR				Sn	**Sn**	**23 21 39.0**	**+1.7**
	7μm,0.3s,baz=90,slow=20,SNR=7.5						
HNR				LR	LR	23 22 04.5	
	comp=Z,161μm,18.1s,baz=216,slow=39						
CTA	**Charters Tower**	**15.69**	**222**	*e*P	**Pn**	**23 24 03.1**	**-0.8**
	270nm,1.0s						
CTA	**Charters Tower**	**15.69**	**222**	*e*P	**Pn**	**23 24 03.1**	**-0.8**
CTA				pmax	pmax		
	comp=Z,270nm,1.0s						
CTA	**Charters Tower**	**15.69**	**222**	Pn	**Pn**	**23 24 03.1**	**-0.8**
	comp=Z,2.3nm,0.3s,baz=52,slow=14,SNR=22						
CTAO	**Charters Tower**	**15.69**	**222**	*e*Pn	**Pn**	**23 24 04.2**	**+0.3**
	comp=Z,725nm,1.2s						
CTAO	**Charters Tower**	**15.69**	**222**	*e*P	**Pn**	**23 24 04.2**	**+0.3**
CTAO				pmax	pmax		
	comp=Z,730nm,1.2s						
DZM	**Mont Dzumac**	**15.96**	**148**	*e*P	**Pn**	**23 24 06.1**	**-1.2**
DZM	**Mont Dzumac**	**15.96**	**148**	Pn	**Pn**	**23 24 06.6**	**-0.8**
	comp=Z,0.5nm,0.3s,baz=13,slow=13,SNR=13						
EIDS	**Eidsvold**	**17.71**	**199**	*e*Pn	**Pn**	**23 24 29.9**	**+0.5**
	comp=Z,294nm,1.1s						
FUNA	**Funafuti**	**21.55**	**91**	*e*P	**P**	**23 25 13.1**	**+0.7**
	comp=Z,772nm,1.2s,mb6.0						
FUNA				LR	LR		
	comp=Z,25μm,19.0s,MS5.6						
ARMA	**Armidale**	**22.35**	**193**	*e*P	**P**	**23 25 21.2**	**+0.5**
ARMA				*e*S	**S**	**23 29 30.3**	**+3.9**
ARMA	**Armidale**	**22.35**	**193**	⇓*e*P	**P**	**23 25 19.9**	**-0.9**
	comp=Z,7.8nm,0.9s						
ARMA				S	**S**	**23 29 25.8**	**-0.5**
TLE	**Tual**	**24.65**	**275**	⇑*e*P	**P**	**23 25 44.0**	**+0.4**
KAKA	**Kakadu**	**24.86**	**258**	*e*P	**P**	**23 25 45.7**	**+0.2**
	comp=Z,328nm,0.9s,mb5.9						
KAKA	**Kakadu**	**24.86**	**258**	*e*P	**P**	**23 25 45.0**	**-0.6**
KAKA				*e*PcP	PcP	23 29 21.7	+0.1
WB2	**Warramunga Arr**	**24.98**	**241**	*e*P	**P**	**23 25 45.9**	**-0.6**
WB2				*e*S	**S**	**23 30 08.5**	**-1.6**
WRA	**Warramunga Arr**	**24.98**	**241**	P	**P**	**23 25 46.2**	**-0.4**
WRA						23 29 20.9	
WRA				S	**S**	**23 30 13.1**	**+2.8**
WRA	**Warramunga Arr**	**24.98**	**241**	P	**P**	**23 25 46.2**	**-0.4**
	comp=Z,264nm,0.8s,mb5.8,baz=66,slow=9.5,SNR=96						
WRA				PcP	PcP	23 29 20.9	-0.9
	comp=Z,35nm,1.0s,baz=71,slow=2.0,SNR=8.1						
WRA				S	**S**	**23 30 13.1**	**+2.8**
	comp=Z,2.4nm,0.7s,baz=70,slow=14,SNR=2.1						
WRA				LR	LR	23 34 56.1	
	comp=Z,47μm,20.1s,MS6.0,baz=55,slow=35						
GUMO	**Guam**	**25.33**	**330**	*e*P	**P**	**23 25 51.5**	**+1.7**
GUMO				LR	LR		
	comp=Z,17μm,19.0s,MS5.6						
GUMO	**Guam**	**25.33**	**330**	P	**P**	**23 25 47.9**	**-1.9**
	comp=Z,395nm,1.1s,mb5.8,baz=257,slow=14,SNR=2.5						
RIV	**Riverview**	**25.74**	**192**	*e*P	**P**	**23 25 53.6**	**+0.3**
ASAR	**Alice Springs**	**27.01**	**234**	P	**P**	**23 26 04.7**	**-0.2**
ASAR				PcP	PcP	23 29 26.1	-0.3
ASAR				ScP	ScP	23 33 09.7	+3.1
ASAR				*e*		23 58 40.1	
ASAR	**Alice Springs**	**27.01**	**234**	P	**P**	**23 26 04.7**	**-0.2**
ASAR						23 29 26.2	
ASAR	**Alice Springs**	**27.01**	**234**	P	**P**	**23 26 04.7**	**-0.2**
	comp=Z,44nm,0.9s,mb5.0,baz=64,slow=9.1,SNR=57						
ASAR				PcP	PcP	23 29 26.1	-0.3
	comp=Z,20nm,0.8s,baz=82,slow=2.8,SNR=5.7						
ASAR				ScP	ScP	23 33 09.7	+3.1
	comp=Z,5.3nm,0.9s,baz=46,slow=2.2,SNR=4.0						
ASAR				P3KPbc		23 58 40.1	
	comp=Z,1.2nm,1.1s,baz=234,slow=2.7,SNR=5.0						
STKA	**Stephens Creek**	**27.41**	**210**	*e*P	**P**	**23 26 07.9**	**-0.5**
	comp=Z,237nm,0.9s,mb5.7						
STKA				*e*S	**S**	**23 30 44.7**	**-3.7**
STKA	**Stephens Creek**	**27.41**	**210**	⇓*i*P	**P**	**23 26 08.6**	**+0.2**
STKA				*e*PcP	PcP	23 29 26.6	-0.6
STKA				*e*S	**S**	**23 30 57.0**	**+8.6**
STKA	**Stephens Creek**	**27.41**	**210**	P	**P**	**23 26 08.6**	**+0.2**
	comp=Z,54nm,0.5s,mb5.3,baz=18,slow=8.0,SNR=28						
STKA				PcP	PcP	23 29 27.8	+0.5
	comp=Z,44nm,1.0s,baz=65,slow=5.0,SNR=3.7						
STKA				S	**S**	**23 30 52.8**	**+4.3**
	comp=Z,6.8nm,0.9s,baz=44,slow=17,SNR=1.8						
STKA				LR	LR	23 36 10.1	
	comp=Z,29μm,19.2s,MS5.9,baz=23,slow=34						
CNB	**Canberra Magne**	**27.57**	**194**	*e*P	**P**	**23 26 10.9**	**+1.1**
	comp=Z,194nm,1.0s,mb5.7						
AFI	**Afiamalu**	**30.66**	**103**	*e*P	**P**	**23 26 37.2**	**-0.3**
	comp=Z,98nm,0.9s,mb5.6						
AFI				LR	LR		
	comp=Z,25μm,19.0s,MS5.9						
AFI	**Afiamalu**	**30.66**	**103**	*e*P	**P**	**23 26 37.2**	**-0.4**
AFI				pmax	pmax		
	comp=Z,98nm,0.9s,mb5.6						
AFI				MLR	MLR		
	comp=Z,25μm,19.0s,MS5.9						
RAO	**Raoul Island**	**30.95**	**135**	PFAKE		23 26 50.0	+10
RAO				LR	LR		
	comp=Z,10μm,21.0s,MS5.5						
RAO	**Raoul Island**	**30.95**	**135**	LR	LR	23 36 29.0	
	comp=Z,9μm,18.6s,MS5.5,baz=137,slow=31						
FITZ	**Fitzroy Crossi**	**32.26**	**250**	*e*P	**P**	**23 26 50.4**	**-1.2**
	comp=Z,185nm,2.0s,mb5.6						
FITZ				*e*S	**S**	**23 32 05.2**	**+0.3**
FITZ	**Fitzroy Crossi**	**32.26**	**250**	⇑*e*P	**P**	**23 26 50.5**	**-1.0**
	comp=Z,116nm,1.0s,mb5.7						
FITZ				*e*PP	PP	23 27 56.8	-7.7
FITZ				*e*PcP	PcP	23 29 39.0	-1.0
FITZ				*e*S	**S**	**23 32 05.4**	**+0.6**
FITZ				*e*ScP	ScP	23 33 35.1	+12
FITZ	**Fitzroy Crossi**	**32.26**	**250**	P	**P**	**23 26 51.7**	**+0.1**
	comp=Z,49nm,1.1s,mb5.2,baz=73,slow=11,SNR=49						
FITZ				S	**S**	**23 32 04.8**	**0.0**
	comp=Z,2.6nm,0.4s,baz=15,slow=19,SNR=2.9						
FITZ				LR	LR	23 39 00.3	
	comp=Z,28μm,19.3s,MS6.0,baz=256,slow=35						
BATI	**Kupang**	**33.31**	**265**	P	**P**	**23 27 01.1**	**+0.2**
	comp=Z,160nm,0.9s,mb6.0,baz=163,slow=3.0,SNR=24						
URZ	**Urewera**	**34.45**	**152**	P	**P**	**23 27 09.3**	**-1.1**
	comp=Z,22nm,0.7s,mb5.2,baz=358,slow=3.2,SNR=11						
URZ				LR	LR	23 39 44.6	
	comp=Z,11μm,19.4s,MS5.6,baz=151,slow=34						
PUZ	**Puketiti**	**34.84**	**151**	PN	**P**	**23 27 11.7**	**-2.2**
BIPH	**Bislig**	**35.15**	**298**	⇓*e*P	**P**	**23 27 21.4**	**+4.6**
FORT	**Forrest**	**35.15**	**227**	*e*P	**P**	**23 27 15.3**	**-1.3**
	comp=Z,179nm,0.8s,mb6.0						
FORT				*e*PCP	PcP	23 29 49.4	+1.5
FORT				*e*S	**S**	**23 32 49.8**	**+0.5**
TAU	**Tasmania Unive**	**35.28**	**193**	*e*P	**P**	**23 27 18.2**	**+0.7**
TAU				LR	LR		
	comp=Z,9μm,20.0s,MS5.5						
KNZ	**Kokohu**	**35.32**	**152**	PN	**P**	**23 27 14.8**	**-3.1**
DAV	**Davao City (W)**	**35.34**	**295**	P	**P**	**23 27 17.3**	**-1.1**
DAV				LR	LR		
	comp=Z,18μm,19.0s,MS5.8						
SNZO	**South Karori**	**35.99**	**158**	*e*P	**P**	**23 27 21.6**	**-2.0**
	comp=Z,176nm,1.3s,mb5.8						
SNZO				*e*PP	PP	23 28 47.4	+1.9
SNZO				*e*PcP	PcP	23 29 42.3	-7.9
SNZO				LR	LR		
	comp=Z,7μm,20.0s,MS5.5						
BUKP	**Musuan**	**36.15**	**296**	*e*P	**P**	**23 27 26.9**	**+1.5**
FOZ	**Fox Glacier**	**36.43**	**165**	PN	**P**	**23 27 29.7**	**+2.3**
LTZ	**Lake Taylor**	**36.45**	**161**	PN	**P**	**23 27 26.3**	**-1.2**
KHZ	**Kahutara**	**36.54**	**160**	PN	**P**	**23 27 26.6**	**-1.7**
RPZ	**Rata Peaks**	**36.94**	**163**	P	**P**	**23 27 31.3**	**-0.4**
	comp=Z,35nm,0.7s,mb5.3,baz=158,slow=2.4,SNR=14						
RPZ				LR	LR	23 41 01.2	
	comp=Z,15μm,20.2s,MS5.8,baz=325,slow=34						
RPZ	**Rata Peaks**	**36.94**	**163**	PN	**P**	**23 27 29.8**	**-2.0**
MSLP	**Maasin**	**37.37**	**299**	*e*P	**P**	**23 27 36.2**	**+0.4**
MLZ	**Mavora Lakes**	**37.76**	**168**	*e*PN	**P**	**23 27 41.5**	**+2.8**
MBWA	**Marble Bar**	**38.37**	**247**	*e*P	**P**	**23 27 44.3**	**+0.1**
MBWA				LR	LR		
	comp=Z,35μm,19.0s,MS6.2						
CBIJ	**Chichi jima**	**38.45**	**338**	LR	LR	23 43 00.8	
	comp=Z,11μm,18.9s,MS5.7,baz=300,slow=36						
GUIM	**Jordan**	**39.57**	**298**	*e*P	**P**	**23 27 52.6**	**-1.7**
RCP	**Roxas**	**39.87**	**300**	⇑*e*P	**P**	**23 27 58.6**	**+1.9**
OTRP	**Odiongan**	**40.88**	**300**	*e*P	**P**	**23 28 05.3**	**+0.2**
CUYO	**Cuyo Island**	**41.04**	**297**	*e*P	**P**	**23 28 07.8**	**+1.4**
MYLDM	**Lahad Datu**	**41.14**	**288**	⇑P	**P**	**23 28 08.3**	**+1.0**
TSM	**Tawau**	**41.45**	**287**	⇓P	**P**	**23 28 11.4**	**+1.5**
POLP	**Polilio Island**	**42.12**	**303**	*e*P	**P**	**23 28 19.7**	**+4.3**
SDKM	**Sandakan**	**42.52**	**288**	⇓P	**P**	**23 28 20.9**	**+2.3**
ENPP	**El Nido**	**42.60**	**297**	*e*P	**P**	**23 28 19.7**	**+0.4**
BALP	**Baler**	**42.95**	**304**	*e*P	**P**	**23 28 21.4**	**-0.6**
LUBP	**Lubang**	**43.05**	**301**	*e*P	**P**	**23 28 24.4**	**+1.5**
BATP	**Bataraza**	**43.07**	**293**	*e*P	**P**	**23 28 23.6**	**+0.4**
RAR	**Rarotonga**	**43.09**	**112**	P	**P**	**23 28 23.6**	**+0.5**
	comp=Z,82nm,1.1s,mb5.4,baz=252,slow=9.2,SNR=5.0						
RAR				LR	LR	23 43 15.4	
	comp=Z,7μm,18.2s,MS5.6,baz=279,slow=32						
KDM	**Kudat**	**43.28**	**290**	⇑P	**P**	**23 28 26.2**	**+1.4**
KLBR	**Kellerberrin**	**43.33**	**233**	*e*P	**P**	**23 28 24.5**	**-0.5**
	comp=Z,142nm,0.9s,mb5.7						
CAUP	**Cauayan**	**43.39**	**306**	*e*P	**P**	**23 28 25.2**	**-0.4**
KKM	**Kota Kinabalu**	**43.57**	**288**	⇑*i*P	**P**	**23 28 26.7**	**-0.4**
KKM				*e*PP	PP	23 30 07.3	-1.3
KKM				*e*ScP	ScP	23 34 02.4	-3.9
KKM				*e*S	**S**	**23 35 04.2**	**+7.9**
KKM	**Kota Kinabalu**	**43.57**	**288**	⇓P	**P**	**23 28 28.2**	**+1.1**
NWAO	**Narrogin (SRO)**	**44.27**	**231**	*e*P	**P**	**23 28 32.8**	**+0.2**
	comp=Z,243nm,1.3s,mb5.8						
NWAO				LR	LR		
	comp=Z,26μm,20.0s,MS6.2						
NWAO	**Narrogin (SRO)**	**44.27**	**231**	P	**P**	**23 28 33.1**	**+0.6**
	SNR=10						
NWAO	**Narrogin (SRO)**	**44.27**	**231**	P	**P**	**23 28 32.7**	**+0.2**
	comp=Z,88nm,1.0s,mb5.5,baz=67,slow=8.1,SNR=21						
NWAO				S	**S**	**23 35 09.0**	**+2.9**
	comp=Z,8.3nm,1.0s,baz=240,slow=20,SNR=1.2						
NWAO				LR	LR	23 46 30.4	
	comp=Z,31μm,19.0s,MS6.2,baz=68,slow=35						
MUN	**Mundaring**	**44.70**	**233**	*e*P	**P**	**23 28 36.3**	**+0.4**
MUN				*e*S	**S**	**23 35 13.0**	**+0.6**
MUN				*e*SS	SS	23 38 37.2	+4.4
MUN	**Mundaring**	**44.70**	**233**	*e*P	**P**	**23 28 36.3**	**+0.4**
MUN				*e*S	**S**	**23 35 13.0**	**+0.6**
JOW	**Kunigami**	**45.17**	**322**	P	**P**	**23 28 39.6**	**-0.1**
	comp=Z,278nm,1.1s,mb6.0,baz=155,slow=7.3,SNR=7.7						
JOW				S	**S**	**23 35 25.4**	**+6.2**
	comp=Z,14nm,0.3s,baz=155,slow=19,SNR=2.2						
BTM	**Bintulu**	**45.72**	**283**	⇓P	**P**	**23 28 46.8**	**+2.4**
SBUM	**Sibu**	**46.36**	**282**	⇓P	**P**	**23 28 51.4**	**+2.0**
NACB	**Ninganchiao**	**47.79**	**314**	⇑*i*P	**P**	**23 29 00.2**	**-0.1**
NACB				PcP	PcP	23 30 28.6	-0.8
NACB				*e*PP	PP	23 30 53.9	+1.6
NACB				*e*ScP	ScP	23 34 24.1	+0.6
KSM	**Kuching**	**47.99**	**280**	⇑*i*P	**P**	**23 29 01.8**	**-0.4**
KSM				*e*PP	PP	23 30 59.7	+5.4
KSM				*e*ScP	ScP	23 34 27.9	+3.2
KSM				*e*S	**S**	**23 35 56.4**	**-3.8**
KSM	**Kuching**	**47.99**	**280**	⇑P	**P**	**23 29 02.9**	**+0.8**
YHNB	**Yeheng**	**48.26**	**314**	⇓*e*P	**P**	**23 29 04.7**	**+0.8**
YHNB				*e*PcP	PcP	23 30 32.4	+1.4
YHNB				*e*PP	PP	23 31 00.1	+3.6
TATO	**Taipei**	**48.37**	**315**	PFAKE		23 29 20.0	+15
TATO				LR	LR		
	comp=Z,8μm,20.0s,MS5.7						
MJAR	**Matsushiro Arr**	**48.41**	**339**	P	**P**	**23 29 03.4**	**-1.5**
	comp=Z,34nm,0.8s,mb5.4,baz=166,slow=8.7,SNR=32						
MJAR				LR	LR	23 46 18.0	
	comp=Z,7μm,20.0s,MS5.6,baz=130,slow=32						
MAJO	**Matsushiro**	**48.41**	**339**	*e*P	**P**	**23 29 03.4**	**-1.5**
	comp=Z,67nm,0.8s,mb5.7						
MAJO				LR	LR		
	comp=Z,6μm,19.0s,MS5.6						
MAT	**Matsushiro**	**48.41**	**339**	P	**P**	**23 29 03.1**	**-1.8**
MAT				S	**S**	**23 36 04.0**	**-1.2**
QZH	**Quanzhou**	**50.42**	**312**	P	**P**	**23 29 20.7**	**+0.2**
QZH				S	**S**	**23 36 32.3**	**-1.6**
QZH				AMB	AMB		
	comp=Z,270nm,1.1s,mb6.2						
QZH				AMB	AMB		
	comp=Z,12μm,7.7s						
QZH				LR	LR		
	comp=N,13μm,16.4s						
QZH				LR	LR		
	comp=E,8μm,11.0s						
QZH				LR	LR		
	comp=Z,13μm,18.2s,MS6.0						
XMIS	**Christmas Isla**	**51.02**	**263**	*e*P	**P**	**23 29 21.2**	**-4.1**
XMIS				*e*PcP	PcP	23 30 41.2	-0.1
XMIS				*e*PP	PP	23 31 24.2	+2.3
ERM	**Erimo**	**52.05**	**347**	PFAKE		23 29 40.0	+7.6
ERM				LR	LR		
	comp=Z,20μm,20.0s,MS6.2						
PPT	**Papeete**	**52.26**	**105**	*e*P	**P**	**23 29 33.4**	**-1.1**
	comp=Z,58nm,1.2s,mb5.4						
PPT				*e*S	**S**	**23 36 59.6**	**0.0**
	comp=Z,8μm,28.2s						
PPT				*e*LQ		23 42 27.5	
	comp=Z,19μm,26.5s						
PPT				*e*LR	LR	23 44 42.0	
	comp=Z,10μm,21.2s,baz=271						
PPT	**Papeete**	**52.26**	**105**	P	**P**	**23 29 33.9**	**-0.6**
	comp=Z,35nm,0.6s,mb5.5,baz=217,slow=10,SNR=3.4						
PPT				LR	LR	23 47 32.9	
	comp=Z,8μm,19.1s,MS5.8,baz=276,slow=31						
PAE	**Paea**	**52.26**	**106**	*e*P	**P**	**23 29 33.1**	**-1.4**
	comp=Z,142nm,1.2s,mb5.8						
PAE	**Paea**	**52.26**	**106**	*e*P	**P**	**23 29 33.1**	**-1.4**
PAE				pmax	pmax		
	comp=Z,142nm,1.2s,mb5.8						
HKC	**Hong Kong Obse**	**52.33**	**307**	⇓*i*P	**P**	**23 29 38.0**	**+3.1**
HKC				*i* S	**S**	**23 37 09.0**	**+8.7**
SSE	**Sheshan**	**52.56**	**320**	P	**P**	**23 29 36.6**	**+0.2**
SSE				S	**S**	**23 37 02.1**	**-1.1**
SSE				AMB	AMB		
	comp=Z,136nm,0.8s,mb5.9						
SSE				AMB	AMB		
	comp=Z,4μm,11.0s						
SSE				LR	LR		
	comp=N,8μm,12.1s,MS6.0						
SSE				LR	LR		
	comp=E,4μm,12.1s,MS6.0						
SSE				LR	LR		
	comp=Z,10μm,13.6s,MS6.0						
SSE	**Sheshan**	**52.56**	**320**	P	**P**	**23 29 36.6**	**+0.2**
	comp=Z,136nm,0.8s,mb5.9						
SSE				pP	pP	23 29 39.7	-1.0
SSE				sP	sP	23 29 41.3	-1.0
SSE				S	**S**	**23 37 02.1**	**-1.1**
SSE				sS	sS	23 37 07.1	-3.1
SSE				ScS	ScS	23 39 26.8	+0.4
SSE				LR	LR		
	comp=Z,10μm,13.6s,MS6.0						
TVO	**Taravao**	**52.58**	**106**	*e*P	**P**	**23 29 35.8**	**-1.0**
	comp=Z,158nm,0.9s,mb5.9						
TVO	**Taravao**	**52.58**	**106**	*e*P	**P**	**23 29 35.8**	**-1.0**
TVO				pmax	pmax		
	comp=Z,158nm,0.9s,mb5.9						
TBI	**Tubuai**	**52.85**	**113**	*e*P	**P**	**23 29 37.6**	**-1.2**
	comp=Z,373nm,1.2s,mb6.2						
TBI				*e*S	**S**	**23 37 05.7**	**-1.9**
	comp=Z,6μm,28.2s						
TBI				*e*LQ		23 42 39.6	
	comp=Z,43μm,29.8s						
TBI				*e*LR	LR	23 44 58.3	
	comp=Z,8μm,22.5s,baz=289						
TBI	**Tubuai**	**52.85**	**113**	*e*P	**P**	**23 29 37.6**	**-1.2**
	comp=Z,373nm,1.2s,mb6.2						
TBI				*e*S	**S**	**23 37 05.7**	**-1.9**
TBI				*e*LQ		23 42 39.6	
KIP	**Kipapa**	**52.98**	**55**	PFAKE		23 29 50.0	+10
KIP				LR	LR		
	comp=Z,9μm,19.0s,MS5.8						
GZH	**Guangzhou**	**53.39**	**307**	P	**P**	**23 29 44.2**	**+1.5**
GZH				S	**S**	**23 37 19.1**	**+4.3**
GZH				LR	LR		
	comp=N,6μm,16.7s,MS5.9						
GZH				LR	LR		
	comp=E,6μm,16.0s,MS5.9						
GZH				LR	LR		
	comp=Z,8μm,16.6s,MS5.8						
YUK	**Yuzh-Kuril'sk**	**53.44**	**350**	P	**P**	**23 29 42.5**	**-0.1**
YUK				*e*		23 31 40.0	
YUK				pmax	pmax		
	comp=Z,6μm,13.0s						
YUK				pmax	pmax		
	comp=N,5μm,12.0s						
KSRS	**Korea Array**	**53.49**	**331**	P	**P**	**23 29 41.8**	**-1.4**
	comp=N,72nm,1.1s,mb5.5,baz=150,slow=8.0,SNR=41						
KSRS				LR	LR	23 51 14.0	
	comp=N,9μm,18.1s,MS5.8,baz=133,slow=35						
MEH	**Mehetia**	**53.71**	**106**	*e*P	**P**	**23 29 43.9**	**-1.3**
	comp=N,157nm,1.3s,mb5.8						
PMOR	**Pomariorio Ree**	**53.81**	**102**	*e*P	**P**	**23 29 44.9**	**-1.1**
	comp=N,432nm,1.2s,mb6.3						
KHU	**Kahuku**	**53.94**	**59**	*e*P	**P**	**23 29 46.9**	**+0.1**
KHU				PcP	PcP	23 30 50.6	-1.5
KHU	**Kahuku**	**53.94**	**59**	P	**P**	**23 29 47.9**	**+1.1**
VAH	**Vaihoa**	**54.07**	**103**	*e*P	**P**	**23 29 46.5**	**-1.4**
	comp=N,227nm,1.2s,mb6.0						
INCN	**Inchon**	**54.15**	**330**	*e*P	**P**	**23 29 48.1**	**+0.1**
INCN				LR	LR		
	comp=Z,8μm,19.0s,MS5.8						
INCN	**Inchon**	**54.15**	**330**	P	**P**	**23 29 50.1**	**+2.2**
	SNR=18						
POHA	**Pohakuloa**	**54.24**	**58**	*e*P	**P**	**23 29 49.1**	**+0.1**
	comp=Z,252nm,1.0s,mb6.1						
POHA				*e*PcP	PcP	23 30 51.1	-2.2
POHA				*e*PP	PP	23 31 50.7	-0.3
POHA				ScP	ScP	23 34 51.5	+0.1
POHA				LR	LR		
	comp=Z,10μm,20.0s,MS5.9						
QIZ	**Qiongzhong**	**54.33**	**301**	⇑P	**P**	**23 29 50.3**	**+0.6**
QIZ				PP	PP	23 31 51.7	-0.1
QIZ				S	**S**	**23 37 26.9**	**-0.8**
QIZ				SCS	ScS	23 39 38.8	-0.5
QIZ				AMB	AMB		
	comp=Z,6μm,12.5s						
QIZ				LR	LR		
	comp=E,8μm,18.3s						
QIZ				LR	LR		
	comp=Z,10μm,18.8s,MS5.9						
QIZ	**Qiongzhong**	**54.33**	**301**	*e*P	**P**	**23 29 51.1**	**+1.4**
	comp=Z,115nm,1.1s,mb5.7						
QIZ				*e*PcP	PcP	23 30 55.2	+1.5
QIZ				LR	LR		
	comp=Z,10μm,20.0s,MS5.9						
MYKOM	**Kota Tinggi**	**54.37**	**278**	⇑P	**P**	**23 29 50.7**	**+0.7**
NJ2	**Nanjing**	**54.68**	**320**	*e*P	**P**	**23 29 52.2**	**+0.2**
NJ2				AP	pP	23 29 57.6	+1.4
NJ2				XP	sP	23 30 00.3	+2.5
NJ2				PP	PP	23 31 56.2	+1.5
NJ2				S	**S**	**23 37 32.0**	**0.0**
NJ2				XS	sS	23 37 45.0	+6.1
NJ2				AMB	AMB		
	comp=Z,200nm,0.9s,mb6.2						
NJ2				AMB	AMB		
	comp=Z,8μm,10.0s						
NJ2				LR	LR		
	comp=N,12μm,21.1s,MS6.1						
NJ2				LR	LR		
	comp=E,12μm,19.0s,MS6.1						
NJ2				LR	LR		
	comp=Z,12μm,18.6s,MS6.0						
KGM	**Kluang**	**54.93**	**279**	⇓P	**P**	**23 29 54.9**	**+0.8**
KTGM	**Kuala Trenggan**	**55.85**	**282**	⇑P	**P**	**23 30 01.3**	**+0.6**
VLA	**Vladivostok**	**56.49**	**338**	⇓*i*P	**P**	**23 30 05.4**	**+0.7**
VLA	**Vladivostok**	**56.49**	**338**	*e*P	**P**	**23 30 03.0**	**-1.7**
VLA				*e*S	**S**	**23 38 02.2**	**+6.5**
VLA				pmax	pmax		
	comp=Z,254nm,1.6s,mb6.0						
VLA				MLR	MLR		
	comp=Z,7μm,17.4s

MDJ			AMB	AMB	
	comp=Z,5μm,9.9s				
MDJ			LR	LR	
	comp=N,6μm,15.6s,MS6.0				
MDJ			LR	LR	
	comp=E,6μm,15.6s,MS6.0				
MDJ			LR	LR	
	comp=Z,6μm,14.2s,MS5.9				
MDJ	**Mudanjiang**	**58.64 337**	⇑*e*P	**P**	**23 30 19.4 -0.5**
	comp=Z,139nm,1.1s,mb5.9				
MDJ			*e*PcP	PcP	23 31 04.5 -5.3
MDJ			*e*ScP	ScP	23 35 18.5 +8.3
MDJ			LR	LR	
	comp=Z,6μm,21.0s,MS5.7				
SNY	**Shenyang**	**59.00 331**	⇓P	**P**	**23 30 22.9 +0.5**
SNY			S	**S**	**23 38 32.7 +4.1**
SNY			SS	SS	23 42 23.4 +0.5
SNY			AMB	AMB	
	comp=Z,27nm,1.6s,mb5.0				
SNY			LR	LR	
	comp=N,10μm,14.1s,MS6.1				
SNY			LR	LR	
	comp=E,5μm,16.5s,MS6.1				
SNY			LR	LR	
	comp=Z,6μm,20.1s,MS5.7				
SKR	**Severo-Kuril's**	**59.06 359**	*e*P	**P**	**23 30 14.0 -8.7**
SKR			*e*		23 32 41.0
SKR			*e*PPP		23 33 58.0
SKR			*e*S	**S**	**23 38 37.0 +7.8**
SKR			pmax	pmax	
	comp=Z,400nm,1.2s,mb6.3				
SKR			MLR	MLR	
	comp=N,16μm,18.0s,MS6.2				
SKR			MLR	MLR	
	comp=E,4μm,18.0s,MS6.2				
SKR			MLR	MLR	
	comp=Z,21μm,18.0s,MS6.3				
DRV	**Dumont d'Urvil**	**59.17 188**	P	**P**	**23 30 33.0 +10**
DRV			S	**S**	**23 38 40.0 +10**
DRV			SS	SS	23 42 29.0 +4.5
DRV			L		23 45 00.0
DRV			R		23 48 00.0
PSI	**Prapat**	**59.39 278**	S	**S**	**23 38 38.2 +3.4**
	comp=Z,2.6nm,0.3s,baz=233,slow=5.1,SNR=2.8				
PSI			LR	LR	23 55 52.4
	comp=Z,9μm,20.9s,MS5.9,baz=279,slow=36				
CN2	**Changchun**	**59.68 334**	*e*P	**P**	**23 30 27.0 -0.1**
CN2			*e*S	**S**	**23 38 36.2 -1.2**
CN2			LR	LR	
	comp=N,4μm,20.0s,MS5.8				
CN2			LR	LR	
	comp=E,5μm,20.0s,MS5.8				
CN2			LR	LR	
	comp=Z,7μm,22.0s,MS5.7				
HABR	**Khabarovsk**	**60.16 343**	⇓*e*P	**P**	**23 30 30.9 +0.6**
HABR			*e*		23 32 42.5
HABR			*e*S	**S**	**23 38 47.4 +3.9**
HABR			pmax	pmax	
	comp=Z,215nm,1.5s,mb6.0				
GYA	**Guiyang**	**60.33 307**	⇑*i*P	**P**	**23 30 34.2 +2.3**
GYA			AP	pP	23 30 38.6 +2.4
GYA			XP	sP	23 30 41.9 +4.1
GYA			PCP	PcP	23 31 19.4 +2.4
GYA			PP	PP	23 32 49.6 +4.5
GYA			SCP	ScP	23 35 18.6 +0.4
GYA			SCS	ScS	23 40 21.0 -1.8
GYA			AMB	AMB	
	comp=Z,160nm,1.0s,mb6.0				
GYA			AMB	AMB	
	comp=Z,23μm,12.9s				
GYA			LR	LR	
	comp=N,24μm,20.8s,MS6.5				
GYA			LR	LR	
	comp=E,25μm,21.4s,MS6.5				
GYA			LR	LR	
	comp=Z,26μm,19.9s,MS6.4				
NNT	**Nongplab**	**61.05 289**	P	**P**	**23 30 37.0 0.0**
PET	**Petropavlovsk**	**61.41 1**	⇑*e*P	**P**	**23 30 36.9 -1.8**
PET	**Petropavlovsk**	**61.41 1**	*e*P	**P**	**23 30 37.5 -1.2**
PET			*e*S	**S**	**23 38 56.1 -3.1**
PET			pmax	pmax	
	comp=Z,5μm,12.3s				
PET			pmax	pmax	
	comp=Z,4μm,15.2s				
PET			pmax	pmax	
	comp=Z,134nm,1.1s,mb6.0				
PET			smax		
	comp=E,5μm,11.9s				
PET			MLR	MLR	
	comp=Z,7μm,20.0s,MS5.8				
BJT	**Baijiatuau**	**61.59 325**	⇑*i*P	**P**	**23 30 39.2 -1.0**
	comp=Z,278nm,1.6s,mb6.1				
BJT			*e*PcP	PcP	23 31 20.1 -1.7
BJT			*e*PP	PP	23 32 53.9 -2.1
BJT			*e*ScP	ScP	23 35 15.8 -7.7
BJT			*e*S	**S**	**23 39 02.1 0.0**
BJT			LR	LR	
	comp=Z,7μm,20.0s,MS5.8				
BJT	**Baijiatuau**	**61.59 325**	⇑*i*P	**P**	**23 30 39.2 -1.0**
BJT			*e*		23 31 20.1
BJT			*e*		23 32 53.9
BJT			*e*S	**S**	**23 39 02.1 +0.1**
BJT			pmax	pmax	
	comp=Z,278nm,1.6s				
BJT			MLR	MLR	
	comp=Z,7μm,20.0s				
BJI	**Beijing**	**61.60 325**	P	**P**	**23 30 40.3 0.0**
BJI			PP	PP	23 32 53.3 -2.8
BJI			S	**S**	**23 38 57.1 -5.0**
BJI			AMB	AMB	
	comp=Z,30nm,1.4s,mb5.2				
BJI			AMB	AMB	
	comp=Z,6μm,14.0s				
BJI			LR	LR	
	comp=N,9μm,16.4s,MS6.0				
BJI			LR	LR	
	comp=E,2μm,16.4s,MS6.0				
BJI			LR	LR	
	comp=Z,8μm,28.6s				
BJI	**Beijing**	**61.60 325**	P	**P**	**23 30 40.3 0.0**
	comp=Z,30nm,1.4s,mb5.2				
BJI			PP	PP	23 32 53.3 -2.8
BJI			S	**S**	**23 38 57.1 -5.0**
BJI			SS	SS	23 43 09.8 +6.0
BJI			LR	LR	
	comp=Z,8μm,28.6s,MS5.7				
NST	**Nakhon Sawan**	**61.63 293**	P	**P**	**23 30 41.0 0.0**
TAOE	**Nuku Hiva Isla**	**61.66 95**	*e*P	**P**	**23 30 39.5 -1.7**
	comp=Z,906nm,1.1s,mb6.8				
TAOE			*e*S	**S**	**23 39 04.1 +0.3**
TAOE			*e*LQ		23 46 24.9
	comp=Z,19μm,27.8s				
TAOE			*e*LQ		23 46 24.9
	comp=Z,19μm,23.0s				
TAOE			*e*LR	LR	23 48 42.4
	comp=Z,7μm,20.6s				
TAOE	**Nuku Hiva Isla**	**61.66 95**	*e*P	**P**	**23 30 39.5 -1.7**
	comp=Z,906nm,1.1s,mb6.8				
TAOE			*e*S	**S**	**23 39 04.1 +0.3**
TAOE			*e*LQ		23 46 24.9
KLR	**Kul'dur**	**61.84 341**	*e*P	**P**	**23 30 36.0 -5.7**
KLR			pmax	pmax	
	comp=E,160nm,2.2s				
KLR			pmax	pmax	
	comp=Z,340nm,2.2s,mb6.1				
TIY	**Taiyuan**	**62.34 321**	⇑*e*P	**P**	**23 30 44.5 -0.8**
TIY			S	**S**	**23 39 11.3 -0.3**
TIY			LR	LR	
	comp=N,8μm,15.7s,MS6.1				
TIY			LR	LR	
	comp=E,6μm,15.5s,MS6.1				
TIY			LR	LR	
	comp=Z,7μm,15.8s,MS5.9				
XAN	**Xi'an**	**62.52 316**	P	**P**	**23 30 46.4 -0.2**
XAN			AP	pP	23 30 51.8 +0.9
XAN			S	**S**	**23 39 13.0 -1.0**
XAN			AMB	AMB	
	comp=Z,25nm,1.2s,mb5.2				
XAN			AMB	AMB	
	comp=Z,4μm,11.5s				
XAN			LR	LR	
	comp=N,3μm,16.5s,MS5.7				
XAN			LR	LR	
	comp=E,4μm,19.6s,MS5.7				
XAN			LR	LR	
	comp=Z,6μm,21.0s,MS5.7				
SMY	**Shemya**	**62.75 11**	PFAKE		23 31 00.0 +12
SMY			LR	LR	
	comp=Z,8μm,19.0s,MS5.9				
KMI	**Kunming**	**62.89 304**	P	**P**	**23 30 50.7 +1.4**
KMI			S	**S**	**23 39 19.4 +0.4**
KMI			SKS		23 40 39.4
KMI			AMB	AMB	
	comp=Z,157nm,1.6s,mb5.9				
KMI			AMB	AMB	
	comp=Z,5μm,9.7s				
KMI			LR	LR	
	comp=N,3μm,16.5s,MS5.9				
KMI			LR	LR	
	comp=E,6μm,18.3s,MS5.9				
KMI			LR	LR	
	comp=Z,6μm,18.9s,MS5.8				
KMI	**Kunming**	**62.89 304**	P	**P**	**23 30 50.7 +1.4**
	comp=Z,157nm,1.6s,mb5.9				
KMI			sP	sP	23 30 55.0 -0.2
KMI			S	**S**	**23 39 19.4 +0.4**
KMI			sS	sS	23 39 24.5 -1.6
KMI			SKS		23 40 39.4
KMI			SS	SS	23 43 28.6 +4.0
KMI			SSS		23 46 10.5
KMI			LR	LR	
	comp=Z,6μm,18.9s,MS5.8				
KMI	**Kunming**	**62.89 304**	P	**P**	**23 30 50.7 +1.4**
KMI			S	**S**	**23 39 19.4 +0.4**
KMI			SS	SS	23 43 28.6 +4.0
KMI			SSS		23 46 10.5
KMI			pmax	pmax	
	comp=Z,157nm,1.6s,mb5.9				
KMI			MLR	MLR	
	comp=Z,6μm,18.9s,MS5.8				
BDT	**Bhumibol Dam**	**63.17 294**	P	**P**	**23 30 52.0 +0.8**
CHRT	**Chiangrai**	**63.38 297**	⇑P	**P**	**23 30 53.0 +0.4**
	comp=Z,2μm,0.8s				
CHTO	**Chiang Mai**	**63.75 296**	*e*P	**P**	**23 30 54.7 -0.4**
CHTO			LR	LR	
	comp=Z,6μm,19.0s,MS5.8				
CHTO	**Chiang Mai**	**63.75 296**	P	**P**	**23 30 56.1 +1.1**
	SNR=63				
ADK	**Adak**	**64.25 18**	*e*P	**P**	**23 30 56.1 -1.5**
ADK			LR	LR	
	comp=Z,12μm,22.0s,MS6.0				
CD2	**Chengdu**	**64.67 310**	*e*P	**P**	**23 31 01.2 +0.3**
CD2			PP	PP	23 33 25.7 +2.3
CD2			PCS		23 35 37.1
CD2			S	**S**	**23 39 40.0 -1.0**
CD2			SCS	ScS	23 40 51.4 -4.1
CD2			AMB	AMB	
	comp=Z,370nm,1.1s,mb6.3				
CD2			AMB	AMB	
	comp=Z,3μm,4.2s				
CD2			LR	LR	
	comp=N,7μm,13.8s,MS6.1				
CD2			LR	LR	
	comp=E,5μm,15.6s,MS6.1				
CD2			LR	LR	
	comp=Z,7μm,19.2s,MS5.9				
HHC	**Hu-ho-hao-te**	**64.81 323**	*e*P	**P**	**23 31 01.7 +0.1**
HHC			AP	pP	23 31 06.5 +0.6
HHC			PP	PP	23 33 26.4 +2.1
HHC			SCP		23 35 36.3
HHC			PCS		23 35 40.4
HHC			S	**S**	**23 39 42.5 +0.3**
HHC			SCS	ScS	23 40 51.0 -5.1
HHC			AMB	AMB	
	comp=Z,38nm,1.2s,mb5.3				
HHC			AMB	AMB	
	comp=Z,5μm,8.2s				
HHC			LR	LR	
	comp=N,5μm,15.3s,MS6.0				
HHC			LR	LR	
	comp=E,5μm,16.9s,MS6.0				
HHC			LR	LR	
	comp=Z,5μm,19.2s,MS5.7				
BTO	**Baotou**	**65.59 322**	*e*P	**P**	**23 31 08.1 +1.5**
CASY	**Casey**	**65.82 199**	*e*P	**P**	**23 31 07.7 0.0**
CASY	**Casey**	**65.82 199**	*e*P	**P**	**23 31 07.6 -0.1**
	comp=Z,103nm,0.9s,mb5.9				
CASY			*e*PcP	PcP	23 31 39.1 +0.5
CASY			LR	LR	
	comp=Z,17μm,21.0s,MS6.2				
RKT	**Rikitea**	**66.13 111**	*e*P	**P**	**23 31 08.7 -1.8**
	comp=Z,252nm,1.2s,mb6.1				
RKT			*e*S	S	23 39 56.2 -3.0
	comp=Z,5μm,27.2s				
RKT			*e*SS	SS	23 44 12.1 -2.9
	comp=Z,3μm,29.8s				
RKT			*e*LQ		23 47 52.3
	comp=Z,9μm,31.2s				
RKT			*e*LR	LR	23 51 09.9
	comp=Z,4μm,27.2s,baz=285				
RKT	**Rikitea**	**66.13 111**	*e*P	**P**	**23 31 08.7 -1.8**
	comp=Z,252nm,1.2s,mb6.1				
RKT			*e*S	S	23 39 56.2 -3.0
RKT			*e*SS	SS	23 44 12.1 -2.9
RKT			*e*LQ		23 47 52.3
RKT	**Rikitea**	**66.13 111**	*e*P	**P**	**23 31 08.7 -1.8**
RKT			*e*S	S	23 39 56.2 -3.0
RKT			*e*SS	SS	23 44 12.1 -2.9
RKT			pmax	pmax	
	comp=Z,252nm,1.2s,mb6.1				
HIA	**Hailar**	**66.40 334**	⇑*i*P	**P**	**23 31 12.6 +0.9**
HIA			LR	LR	
	comp=Z,8μm,19.0s,MS5.9				
HIA	**Hailar**	**66.40 334**	*c i*P	**P**	**23 31 12.5 +0.8**
LZH	**Lanzhou**	**67.14 315**	*e*P	**P**	**23 31 18.2 +1.5**
LZH			AP	pP	23 31 21.7 +0.7
LZH			PP	PP	23 33 47.7 +2.9
LZH			*e*S	S	23 40 10.0 -0.8
LZH			AMB	AMB	
	comp=Z,597nm,1.5s,mb6.4				
LZH			AMB	AMB	
	comp=Z,3μm,8.8s				
LZH			LR	LR	
	comp=N,6μm,14.7s				
LZH			LR	LR	
	comp=Z,6μm,15.7s,MS5.9				
LZH	**Lanzhou**	**67.14 315**	*e*P	**P**	**23 31 18.2 +1.5**
LZH			pP	pP	23 31 21.7 +0.7
LZH			sP	sP	23 31 23.1 +0.5
LZH			PP	PP	23 33 47.7 +2.9
LZH			*e*S	S	23 40 10.0 -0.8
LZH			sS	sS	23 40 16.0 -2.0
LZH			SS	SS	23 44 27.5 -2.9
LZH			LR	LR	
	comp=Z,6μm,15.7s,MS5.9				
LZH	**Lanzhou**	**67.14 315**	*e*P	**P**	**23 31 18.2 +1.5**
LZH					23 33 47.7
LZH			*e*S	S	23 40 10.0 -0.8
LZH			SS	SS	23 44 27.5 -2.9
LZH			MLR	MLR	
	comp=Z,6μm,15.7s,MS5.9				
MA2	**Magadan**	**68.18 356**	*e*P	**P**	**23 31 23.2 +0.5**
	comp=Z,100nm,1.0s,mb5.8				
MA2			LR	LR	
	comp=Z,8μm,20.0s,MS5.9				
MA2	**Magadan**	**68.18 356**	*c i*P	**P**	**23 31 22.6 -0.1**
MA2			*e*S	S	23 40 22.6 +0.3
MA2			*e*PS		23 40 48.3
MA2			*e*		23 41 22.3
MA2			*e*SSS		23 47 43.1
MA2			pmax	pmax	
	comp=Z,100nm,0.9s,mb5.8				
MA2			MLR	MLR	
	comp=Z,1μm,17.0s,MS5.1				
VNDA	**Vanda**	**68.91 179**	P	**P**	**23 31 26.6 -0.5**
	comp=Z,21nm,0.8s,mb5.1,baz=342,slow=7.4,SNR=42				
VNDA			LR	LR	23 57 06.1
	comp=Z,6μm,19.5s,MS5.9,baz=1.2,slow=32				
VNDA			PKPPKP		23 59 37.3
	comp=Z,1.8nm,1.1s,baz=79,slow=5.2,SNR=3.5				
SBA	**Scott Base**	**69.38 178**	*e*P	**P**	**23 31 31.5 +1.5**
SBA			LR	LR	
	comp=Z,7μm,22.0s,MS5.9				
AKUT	**Akutan**	**69.79 22**	*e*P	**P**	**23 31 32.6 -0.2**
	comp=Z,481nm,1.1s,mb6.3				
AKUT			*e*PcP	PcP	23 31 55.2 -0.2
AKUT			*e*PP	PP	23 34 06.7 -0.8
IMP	**Imphal**	**70.16 300**	*e*P	**P**	**23 31 35.0 -0.8**
NRGR	**Nerungri**	**70.39 342**	*e*P	**P**	**23 31 37.3 +0.8**
CLNS	**Chul'man**	**70.49 342**	*e*P	**P**	**23 31 39.0 +1.9**
CLNS			*e*		23 31 59.9
CLNS			*e*PPP		23 35 53.2
CLNS			*e*S	S	23 40 53.2 +3.4
CLNS			pmax	pmax	
	comp=N,121nm,1.1s				
CLNS			pmax	pmax	
	comp=Z,163nm,1.1s,mb5.9				
CLNS			pmax	pmax	
	comp=E,92nm,1.0s				
CLNS			smax		
	comp=N,3μm,12.3s				
CLNS			smax		
	comp=Z,2μm,14.9s				
CLNS			smax		
	comp=E,2μm,12.6s				
CLNS			MLR	MLR	
	comp=Z,4μm,14.0s,MS5.9				
CLNS			MLR	MLR	
	comp=N,3μm,15.0s,MS5.8				
CLNS			MLR	MLR	
	comp=E,2μm,13.0s,MS5.8				
PTCN	**Pitcairn Islan**	**70.59 114**	PFAKE		23 31 50.0 +12
PTCN			LR	LR	
	comp=Z,6μm,20.0s,MS5.8				
CIT	**Chita**	**71.12 333**	*e*P	**P**	**23 31 41.6 +0.6**
CIT			*e*		23 31 57.9
CIT			*e*		23 32 03.4
CIT			pmax	pmax	
	comp=Z,217nm,2.0s,mb5.7				
SEY	**Seymchan**	**71.44 358**	⇑*e*P	**P**	**23 31 42.8 +0.1**
GTA	**Gaotai**	**71.55 316**	*e*P	**P**	**23 31 44.0 +0.1**
SONM	**Songino Array**	**71.99 327**	P	**P**	**23 31 44.8 -1.5**
	comp=Z,48nm,1.1s,mb5.3,baz=131,slow=5.9,SNR=71				
SONM			PKPPKP		23 59 33.1
	comp=Z,1.0nm,1.0s,baz=337,slow=1.9,SNR=3.8				
SONM			LR	LR	00 00 39.6
	comp=Z,8μm,21.8s,MS5.9,baz=127,slow=34				
MIR	**Mirnyy**	**72.09 202**	⇑*i*P	**P**	**23 31 47.0 +0.3**
MIR			*i*		23 32 04.0
MIR			*i*		23 41 50.0
MIR			*i* SS	SS	23 45 50.0 +4.9
MIR			pmax	pmax	
	comp=Z,500nm,2.0s,mb6.1				
SHL	**Shillong**	**72.17 300**	*e*P	**P**	**23 31 46.1 -1.9**
SHL			AMb	AMB	23 31 48.6
	comp=Z,5μm,1.4s				
SHL			*e*x	x	23 41 14.0
	comp=E,55nm,1.0s				
SDPT	**Sand Point**	**72.74 24**	*e*P	**P**	**23 31 50.2 -0.5**
	comp=E,276nm,1.4s,mb6.0				
SDPT			LR	LR	
	comp=Z,6μm,19.0s,MS5.9				
YAK	**Yakutsk**	**73.66 347**	*e*P	**P**	**23 31 56.4 +0.4**
YAK			LR	LR	
	comp=Z,5μm,19.0s,MS5.9				
YAK	**Yakutsk**	**73.66 347**	*e*P	**P**	**23 31 55.0 -0.9**
YAK			*e*PP	pP	23 32 00.0 -0.3
YAK			*e*		23 32 09.7
YAK			*e*S	S	23 41 21.5 -4.4
YAK			*e*		23 42 00.6
YAK			pmax	pmax	
	comp=Z,155nm,1.1s,mb5.8				
YAK			pmax	pmax	
	comp=N,53nm,1.3s				
YAK			pmax	pmax	
	comp=E,31nm,1.5s				
YAK			smax		
	comp=N,8μm,13.0s				
YAK			smax		
	comp=E,4μm,13.2s				
LSA	**Lhasa**	**74.15 304**	P	**P**	**23 32 00.1 +0.5**
LSA			S	S	23 41 35.8 +3.0
LSA			AMB	AMB	
	comp=Z,140nm,1.0s,mb5.8				
LSA			AMB	AMB	
	comp=Z,530nm,10.0s				
LSA			LR	LR	
	comp=N,2μm,19.0s,MS5.5				
LSA			LR	LR	
	comp=E,1μm,16.0s,MS5.5				
LSA			LR	LR	
	comp=Z,2μm,16.0s,MS5.5				
LSA	**Lhasa**	**74.15 304**	*e*P	**P**	**23 31 60.0 +0.4**
	comp=Z,198nm,1.1s,mb6.0				
LSA			*e*PcP	PcP	23 32 15.7 +1.1
LSA			*e*PP	PP	23 34 46.0 +0.7
LSA			LR	LR	
	comp=Z,4μm,20.0s,MS5.7				
LSA	**Lhasa**	**74.15 304**	*e*P	**P**	**23 32 00.0 +0.4**
LSA			*e*		23 32 15.7
LSA			*e*		23 34 46.0
LSA			pmax	pmax	
	comp=Z,199nm,1.1s,mb6.0				
LSA			MLR	MLR	
	comp=Z,4μm,20.0s,MS5.7				
CHGN	**Chignik**	**74.24 24**	*e*P	**P**	**23 31 57.3 -2.2**
CAL	**Calcutta**	**74.34 296**	*e*P	**P**	**23 32 02.4 +1.5**
CAL			*e*x	x	23 41 46.0
BOD	**Bodaibo**	**75.00 338**	*e*P	**P**	**23 32 01.9 -2.0**
BOD			pmax	pmax	
	comp=Z,74nm,1.1s,mb5.5				
ZAK	**Zakamensk**	**75.13 328**	*e*P	**P**	**23 32 04.1 -0.7**
ZAK			pmax	pmax	
	comp=Z,59nm,1.1s,mb5.4				
TLY	**Talaya**	**75.67 329**	*e*P	**P**	**23 32 07.7 -0.2**
TLY			LR	LR	
	comp=Z,5μm,19.0s,MS5.8				
TLY	**Talaya**	**75.67 329**	*e*P	**P**	**23 32 06.8 -1.1**
TLY			*e*PPP		23 36 42.2
TLY			*e*S	S	23 41 54.2 +5.3
TLY			pmax	pmax	
	comp=Z,76nm,1.1s,mb5.5				
TLY			MLR	MLR	
	comp=Z,4μm,16.0s,MS5.8				
TLY	**Talaya**	**75.67 329**	P	**P**	**23 32 08.4 +0.5**
	SNR=33				
TLY	**Talaya**	**75.67 329**	P	**P**	**23 32 08.4 +0.5**
	SNR=33				
IRK	**Irkutsk**	**75.67 329**	*e*P	**P**	**23 32 08.4 +0.5**
IRK			pmax	pmax	
	comp=Z,194nm,2.1s,mb5.7				
GAMB	**Gambell**	**75.90 14**	*e*P	**P**	**23 32 08.8 -0.2**
BILL	**Biiibino**	**76.73 3**	⇓*i*P	**P**	**23 32 12.2 -1.3**
BILL	**Biiibino**	**76.73 3**	⇓*i*P	**P**	**23 32 12.1 -1.4**
BILL			*e*		23 35 07.5
BILL			*e*S	S	23 41 59.5 -0.4
BILL			pmax	pmax	
	comp=E,85nm,1.0s,mb5.6				
BOK	**Bokaro**	**76.85 297**	⇑*i*P	**P**	**23 32 14.4 -0.8**
BOK			AMb	AMB	23 32 22.0
	comp=Z,144nm,2.0s,mb5.5				
MOY	**Mondy**	**77.04 328**	*e*P	**P**	**23 32 16.0 +0.4**
MOY			pmax	pmax	
	comp=Z,208nm,1.7s,mb5.8				
KDAK	**Kodiak Island**	**77.60 25**	*e*P	**P**	**23 32 16.8 -1.8**
KDAK			LR	LR	
	comp=Z,2μm,19.0s,MS5.3				
JIRN	**Jiri**	**77.66 301**	*e*P	**P**	**23 32 18.9 -0.8**
	comp=Z,487nm,1.3s,mb6.3				
VIS	**Vishakhapatnam**	**77.67 290**	⇑*i*P	**P**	**23 32 19.8 -0.1**
VIS			AMb	AMB	23 32 24.1
	comp=Z,126nm,1.3s,mb5.7				
VIS			*i* x	x	23 42 16.7
PALK	**Pallekele**	**78.05 279**	*e*P	**P**	**23 32 22.7 +0.5**
	comp=Z,188nm,1.1s,mb5.9				
PALK			LR	LR	
	comp=Z,5μm,22.0s,MS5.8				
PALK	**Pallekele**	**78.05 279**	P	**P**	**23 32 23.6 +1.4**
	SNR=26				
TNA	**Tin City**	**78.29 14**	*e*P	**P**	**23 32 21.1 -1.2**
TNA			LR	LR	
	comp=Z,7μm,22.0s,MS5.9				
KKN	**Kakani**	**78.47 301**	*e*P	**P**	**23 32 23.7 -0.5**
	comp=Z,185nm,0.8s,mb6.0				
SVW2	**Sparrevohn**	**78.61 21**	*e*P	**P**	**23 32 22.6 -1.6**
GKN	**Gorkha**	**79.07 301**	*e*P	**P**	**23 32 26.5 -1.0**
	comp=Z,758nm,1.2s,mb6.5				
MDRS	**Chennai**	**79.58 285**	*e*P	**P**	**23 32 30.4 -0.2**
MDRS			AMb	AMB	23 32 34.0
	comp=Z,139nm,1.2s,mb5.8				
TTA	**Tatalina**	**79.72 20**	*e*P	**P**	**23 32 28.6 -1.6**
TTA			*e*PP	PP	23 35 30.9 -0.5
BLSP	**Bilaspur**	**79.78 294**	⇑*i*P	**P**	**23 32 30.9 -0.6**
BLSP			AMb	AMB	23 32 35.1
	comp=Z,193nm,1.7s,mb5.8				

KOLN Koldanda 79.89 300 *e*P **P 23 32 30.9 -1.1**
comp=Z,1µm,1.6s,mb6.5
SLKM Skilak Lake 80.25 23 *e*P **P 23 32 31.2 -1.9**
SLKM Skilak Lake 80.25 23 P **P 23 32 31.3 -1.8**
PMR Palmer 81.33 23⇑*e*P **P 23 32 36.4 -2.5**
PMR PcP PcP 23 32 44.5 -0.4
PMR *e*PP PP 23 35 41.0 -3.9
PMR LR LR
comp=Z,6µm,20.0s,MS6.0
QSPA South Pole Qui 81.37 180 PFAKE 23 32 50.0 +11
QSPA LR LR
comp=Z,1.0nm,21.0s
QSPA South Pole Qui 81.37 180 LR LR 00 02 16.5
comp=Z,5µm,21.1s,MS5.9,baz=23,slow=31
WMQ Urumqi 81.63 317⇑*i*P **P 23 32 40.5 -0.4**
WMQ AP pP 23 32 45.0 -0.3
WMQ PP PP 23 35 49.0 +1.3
WMQ S S 23 42 50.5 -2.5
WMQ AMB AMB
comp=Z,140nm,1.2s,mb5.8
WMQ AMB AMB
comp=Z,3µm,8.4s
WMQ LR LR
comp=N,6µm,14.8s,MS6.2
WMQ LR LR
comp=E,5µm,16.2s,MS6.2
WMQ LR LR
comp=Z,6µm,19.5s,MS6.0
KOD Kodaikanal 81.73 282 *ex* **P 23 32 45.0 +3.0**
KOD AMb AMB 23 32 46.1
comp=Z,173nm,1.1s,mb5.9
SML Sawmill 81.76 23 *e*P **P 23 32 39.7 -1.5**
TRD Trivandrum 81.92 280⇑*i*P **P 23 32 42.3 -0.8**
TRD AMb AMB 23 32 47.6
comp=Z,195nm,0.8s,mb6.1
JBP Jabalpur 81.95 295⇑*e*P **P 23 32 42.6 -0.4**
JBP *ex* x 23 32 59.1
comp=Z,156nm,1.3s
JBP *ex* x 23 42 59.7
HYB Hyderabad 82.05 289 *e*P **P 23 32 43.0 -0.7**
HYB *e*S S 23 43 00.0 +1.7
HYB Hyderabad 82.05 289 *i* P **P 23 32 43.5 -0.2**
comp=Z,129nm,1.2s,mb5.7
HYB *e*S S 23 42 56.0 -2.3
EYAK Cordova Ski Ar 82.08 25 *e*P **P 23 32 43.1 +0.2**
comp=Z,107nm,1.2s,mb5.7
EYAK *e*PcP PcP 23 32 48.0 -0.3
EYAK *e*PP PP 23 35 51.5 +0.5
TIXI Tiksi 82.30 351 *e*P **P 23 32 42.4 -1.5**
comp=Z,303nm,1.9s,mb5.9
TIXI LR LR
comp=Z,7µm,19.0s,MS6.0
TIXI Tiksi 82.30 351 *e*P **P 23 32 41.6 -2.2**
TIXI *e*S S 23 42 57.1 -1.7
TIXI *i* 23 44 14.0
TIXI *e*SS SS 23 48 17.8 -1.6
TIXI pmax pmax
comp=Z,119nm,1.9s,mb5.5
NGP Nagpur 82.36 293 *e*P **P 23 32 43.6 -1.6**
NGP *ex* x 23 32 46.5
comp=Z,227nm,1.7s
NGP *i* S S 23 42 59.5 -1.9
MCK McKinley 82.68 21 *e*P **P 23 32 43.3 -2.6**
MCK LR LR
comp=Z,5µm,20.0s,MS5.9
LGTI Lohaghat 83.17 301 *e*P **P 23 32 48.5 -0.8**
COLA College 83.74 21⇑*i*P **P 23 32 49.3 -2.1**
MAW Mawson 83.82 203 *e*P **P 23 32 51.7 -0.2**
comp=Z,89nm,0.9s,mb5.9
MAW Mawson 83.82 203 *e*P **P 23 32 51.7 -0.2**
MAW pmax pmax
comp=Z,89nm,0.9s
MAW Mawson 83.82 203 P **P 23 32 51.9 0.0**
comp=Z,103nm,1.0s,mb5.9,baz=90,slow=6.8,SNR=65
MAW S S 23 43 20.2 +5.6
comp=Z,0.7nm,0.4s,baz=310,slow=18,SNR=1.8
MAW LR LR 00 10 25.8
comp=Z,3µm,18.0s,MS5.7,baz=95,slow=36
LATR Latur 84.11 290 *ex* **P 23 32 47.7 -6.6**
LATR AMb AMB 23 32 52.7
comp=Z,165nm,0.0s
AKL Akola 84.13 292⇑*i*P **P 23 32 53.3 -1.0**
AKL *ex* x 23 32 56.4
comp=Z,197nm,1.3s
AKL *i* x x 23 43 20.1
MENT Mentasta 84.18 23 *e*P **P 23 32 52.5 -1.2**
BHPL Bhopal 84.27 294⇑*i*P **P 23 32 54.2 -0.8**
BHPL AMb AMB 23 32 58.0
comp=Z,112nm,1.2s,mb5.9
MNGI Mangalore 84.75 284 *i* P **P 23 32 56.5 -1.1**
MNGI AMb AMB 23 33 02.3
comp=Z,152nm,2.5s,mb5.7
MNGI *i* x x 23 43 26.8
SIT Sitka 85.18 30 *e*P **P 23 32 58.4 -0.4**
comp=Z,192nm,2.0s,mb5.9
SIT LR LR
comp=Z,12µm,21.0s,MS6.2
SIT Sitka 85.18 30 *e*P **P 23 32 58.4 -0.4**
SIT pmax pmax
comp=Z,193nm,2.0s,mb5.9
SIT MLR MLR
comp=Z,12µm,21.0s,MS6.2
DDI Dehra Dun 85.22 301 *e*P **P 23 32 57.7 -2.0**
NDI New Delhi 85.58 300 *e*P **P 23 33 01.5 0.0**
NDI *e*P 23 33 01.8
NDI AMb AMB 23 33 03.0
comp=Z,191nm,1.6s,mb6.1
CRAG Craig 85.70 32 *e*P **P 23 33 02.3 +0.8**
comp=Z,480nm,2.7s,mb6.2
CRAG LR LR
comp=Z,10µm,22.0s,MS6.1
EGAK Eagle 86.10 22 *e*P **P 23 33 02.2 -1.0**
KAD Karad 86.13 288 *e*P **P 23 33 04.3 -0.1**
KAD AMb AMB 23 33 07.5
comp=Z,160nm,1.4s,mb6.0
SMLA Simla 86.14 302 *e*P **P 23 33 04.1 -0.1**
SMLA AMb AMB 23 33 06.5
comp=Z,193nm,1.3s,mb6.2
SKAG Skagway 86.15 28 *e*P **P 23 33 03.4 -0.2**
comp=Z,278nm,1.2s,mb6.4
SKAG LR LR
comp=Z,8µm,22.0s,MS6.0
MKAR Makanchi Array 86.19 318⇑*e*P **P 23 33 02.9 -1.2**
MKAR Makanchi Array 86.19 318 P **P 23 33 02.4 -1.8**
comp=Z,11nm,0.6s,mb5.3,baz=98,slow=5.9,SNR=61
MKAR LR LR 00 08 00.5
comp=Z,3µm,19.5s,MS5.7,baz=103,slow=33
DAWY Dawson 86.43 23 *e*P **P 23 33 04.9 0.0**
WRAK Wrangell Islan 86.45 32 *e*P **P 23 33 05.6 +0.4**
comp=Z,82nm,1.1s,mb5.9
WRAK LR LR
comp=Z,11µm,22.0s,MS6.2
POO Poona 86.66 289 *e*P **P 23 33 06.7 -0.3**
POO AMb AMB 23 33 19.2
comp=Z,94nm,0.9s,mb6.0
ZALV Zalesovo Beam 86.85 326 P **P 23 33 05.3 -1.9**
comp=Z,4.3nm,0.5s,mb5.0,baz=114,slow=4.7,SNR=25
ZALV PKPPKP 23 59 02.1
comp=Z,0.5nm,0.7s,baz=298,slow=3.1,SNR=2.9
ZALV LR LR 00 13 41.6
comp=Z,3µm,18.7s,MS5.8,baz=108,slow=37
ZAL Zalesovo 86.86 326 P **P 23 33 05.3 -1.9**
FARB Farallon Islan 87.08 51⇓P **P 23 33 09.6 +0.8**
baz=87
KCPM Cahto Peak 87.09 49 *e*P **P 23 33 08.8 +0.1**
K01A Sixes 87.20 46⇑P **P 23 33 09.4 +0.2**
baz=87
KIPM Iron Peak 87.20 49 *e*P **P 23 33 09.5 +0.2**
P01C Double 8 Ranch 87.23 50 P **P 23 33 10.4 +1.1**
baz=87,SNR=8.7
KHMM Horse Mountain 87.26 48 *e*P **P 23 33 11.8 +2.3**
MCCM Marconi Confer 87.27 51 PFAKE 23 33 20.0 +10
MCCM LR LR
comp=Z,5µm,21.0s,MS5.9
MCCM Marconi Confer 87.27 51⇑P **P 23 33 10.1 +0.5**
baz=87
KRMB Red Mountain 87.29 47 *e*P **P 23 33 09.4 -0.2**
HOPS Hopland 87.32 50 *e*P **P 23 33 11.4 +1.6**
comp=Z,121nm,1.2s,mb6.0
HOPS LR LR
comp=Z,5µm,21.0s,MS5.9
HOPS Hopland 87.32 50 P **P 23 33 11.1 +1.2**
baz=87,SNR=10.0
AJM Ajmer 87.38 297 *i* P **P 23 33 09.0 -1.4**
BBB Bella Bella 87.39 36 P **P 23 33 08.8 -1.1**
comp=Z,18nm,1.1s,mb5.2,baz=328,slow=5.3,SNR=2.9
DLH Dalhousie 87.44 303 *e*P **P 23 33 11.0 +0.4**
N02C Big Bar 87.57 48 P **P 23 33 11.8 +0.8**
baz=88,SNR=9.7
NSHM Saint Helena R 87.57 51 *e*P **P 23 33 11.1 0.0**
BNLO Ben Lomond (Sa 87.59 52 P **P 23 33 11.8 +0.6**
baz=88,SNR=8.7
JRSC Jasper Ridge 87.60 52⇑P **P 23 33 11.5 +0.2**
baz=88
THN Thein Dam 87.62 303 *e*P **P 23 33 09.7 -1.8**
CVS Carmenet Viney 87.64 51⇑P **P 23 33 11.6 +0.2**
baz=88
GASB Alder Springs 87.74 50 P **P 23 33 13.3 +1.5**
baz=88,SNR=24
MNRC McLaughlin Nat 87.77 50 P **P 23 33 13.4 +1.4**
baz=88,SNR=13
O02C Red Bluff 87.80 49 P **P 23 33 13.5 +1.4**
baz=88,SNR=16
K02A Glendale 87.89 46⇑P **P 23 33 13.0 +0.6**
baz=88
HAST Hastings Reser 87.92 53 P **P 23 33 13.7 +0.9**
baz=88,SNR=6.5
I02A Mapleton 87.94 45⇓P **P 23 33 13.0 +0.3**
baz=88
J02A Umpqua 87.97 46⇑P **P 23 33 13.4 +0.6**
baz=88
H02A Toledo 87.99 44⇓P **P 23 33 13.9 +1.0**
baz=88
BDM Black Diamond 88.01 51⇑P **P 23 33 13.3 +0.1**
baz=88
NVS Novosibirsk 88.02 326 *e*P **P 23 33 10.7 -2.1**
NVS *e*S S 23 43 37.7 -18
NVS pmax pmax
comp=E,101nm,1.9s
NVS pmax pmax
comp=Z,138nm,1.9s,mb5.9
NVS pmax pmax
comp=N,35nm,1.8s
WENL Wente Brothers 88.03 52 P **P 23 33 14.7 +1.5**
baz=88,SNR=5.8
M02C Callahan 88.03 48 P **P 23 33 14.8 +1.6**
baz=88,SNR=15
Q03C Winters 88.04 51⇓P **P 23 33 14.3 +1.0**
baz=88
WDC Whiskeytown Da 88.08 49 *e*P **P 23 33 13.1 -0.3**
comp=N,83nm,1.4s,mb5.8
WDC LR LR
comp=Z,4µm,19.0s,MS5.9
WDC Whiskeytown Da 88.08 49 *e*P **P 23 33 13.1 -0.3**
WDC pmax pmax
comp=Z,83nm,1.4s,mb5.8
WDC MLR MLR
comp=Z,4µm,19.0s,MS5.9
WDC Whiskeytown Da 88.08 49 P **P 23 33 14.5 +1.1**
baz=88,SNR=26
SAO San Andreas Ge 88.08 53 *e*P **P 23 33 14.0 +0.5**
comp=Z,74nm,1.1s,mb5.8
SAO LR LR
comp=Z,6µm,19.0s,MS6.0
SAO San Andreas Ge 88.08 53 *e*P **P 23 33 14.0 +0.4**
SAO pmax pmax
comp=Z,74nm,1.1s,mb5.8
SAO MLR MLR
comp=Z,6µm,19.0s,MS6.0
V03C Hunter Liggett 88.10 53⇑P **P 23 33 14.7 +1.0**
baz=88,SNR=11
YBH Yreka Blue Hor 88.21 47 *e*P **P 23 33 14.8 +0.8**
comp=Z,41nm,1.2s,mb5.5
YBH LR LR
comp=Z,6µm,22.0s,MS6.0
YBH Yreka Blue Hor 88.21 47⇑P **P 23 33 14.7 +0.6**
baz=88,SNR=32
PACP Pacheco Peak 88.26 52⇓P **P 23 33 14.3 -0.1**
baz=88,SNR=24
I03A Eugene 88.32 45⇑P **P 23 33 14.5 -0.1**
baz=88
O03C Acorn Hollow, 88.33 49⇓P **P 23 33 15.0 +0.4**
baz=88
DLBC Dease Lake 88.33 30 *e*P **P 23 33 14.2 0.0**
DLBC Dease Lake 88.33 30 P **P 23 33 13.1 -1.1**
baz=262,slow=7.1
S04C Ingram Canyon, 88.33 52⇑P **P 23 33 14.9 +0.2**
baz=88,SNR=13
J03A Ideyld Park 88.40 46⇑P **P 23 33 15.3 +0.4**
baz=88
C03A Quillayute Air 88.42 41⇑P **P 23 33 15.6 +0.8**
baz=88
COR Corvallis 88.45 45 P **P 23 33 14.5 -0.6**
comp=Z,54nm,1.1s,mb5.7
COR LR LR
comp=Z,6µm,21.0s,MS6.0
COR Corvallis 88.45 45 P **P 23 33 14.5 -0.6**
COR pmax pmax
comp=Z,54nm,1.1s,mb5.7
COR MLR MLR
comp=Z,6µm,21.0s,MS6.0
H03A Soap Creek Ran 88.48 45 P **P 23 33 16.0 +0.8**
baz=88,SNR=8.8
U04C Hernandez Rese 88.53 53⇑P **P 23 33 16.3 +0.6**
baz=89,SNR=20
M03C McCloud 88.54 48⇑P **P 23 33 16.1 +0.5**
baz=89,SNR=15
Q04C Lincoln 88.58 51⇑P **P 23 33 16.0 +0.2**
baz=89
F03A Seaside 88.59 43⇓P **P 23 33 16.0 +0.2**
baz=89
OHCM Honcut 88.60 50 *e*P **P 23 33 16.1 +0.2**
ORV Oroville 88.63 50⇓P **P 23 33 16.6 +0.5**
baz=89,SNR=30
PKD Parkfield 88.63 54⇓P **P 23 33 16.3 +0.1**
baz=89,SNR=26
G03A Yamhill 88.63 44⇑P **P 23 33 16.0 +0.1**
baz=89
T05C Eagle Field, D 88.72 53⇓P **P 23 33 16.7 +0.2**
baz=89
D03A Wishkah Elem. 88.73 42⇓P **P 23 33 16.6 +0.3**
baz=89
E03A Lebam 88.73 43⇑P **P 23 33 16.4 0.0**
baz=89,SNR=7.5
NLWA Neilton Lookou 88.73 42 *e*P **P 23 33 16.3 0.0**
NLWA LR LR
comp=Z,6µm,20.0s,MS6.0
NLWA Neilton Lookou 88.73 42⇓P **P 23 33 16.9 +0.5**
baz=89
R04C Big Horse Ranc 88.79 51⇑P **P 23 33 17.2 +0.3**
baz=89
M04C Macdoel 88.86 48 P **P 23 33 17.9 +0.8**
baz=89,SNR=14
KSH Kashi 88.87 310 *e*P **P 23 33 18.7 +1.5**
KSH AP pP 23 33 23.2 +1.5
KSH XP sP 23 33 25.6 +2.3
KSH PP PP 23 36 50.9 +4.2
KSH SKS 23 43 45.5
KSH S S 23 44 04.6 -0.2
KSH SS SS 23 50 00.8 +3.3
KSH AMB AMB
comp=Z,458nm,1.2s,mb6.7
KSH AMB AMB
comp=Z,8µm,6.9s
KSH LR LR
comp=N,6µm,13.6s,MS6.3
KSH LR LR
comp=E,8µm,16.0s,MS6.3
KSH LR LR
comp=Z,6µm,13.3s,MS6.2
I04A Tendick Farm, 88.89 46⇑P **P 23 33 17.7 +0.6**
baz=89
HATC Hat Creek Radi 88.93 49⇓P **P 23 33 17.7 +0.2**
baz=89,SNR=7.7
SNCC San Nicolas Is 88.93 56 *e*P **P 23 33 19.6 +2.0**
SNCC LR LR
comp=Z,7µm,19.0s,MS6.1
SNCC San Nicolas Is 88.93 56⇑P **P 23 33 18.2 +0.6**
baz=89
SMMC Simmler 88.94 54⇓P **P 23 33 18.3 +0.6**
baz=89
OSD Olympics--Snow 88.95 41 P **P 23 33 17.8 +0.4**
AAA Alma-Ata 88.96 314 *i* P **P 23 33 17.1 -0.5**
AAA *i* S S 23 43 53.2 -12
AAA pmax pmax
comp=Z,4µm,11.0s
AAA smax
comp=E,10µm,13.7s
AAA MLR MLR
comp=Z,4µm,18.7s,MS5.9
HBO Huckleberry Mo 88.97 46 P **P 23 33 18.1 +0.5**
J04A Umpqua Nationa 88.98 46 P **P 23 33 18.2 +0.6**
baz=89,SNR=12
BSC Santa Cruz Isl 88.98 56⇑P **P 23 33 17.6 -0.3**
baz=89,SNR=6.5
SBC Santa Barbara 89.00 55⇑P **P 23 33 18.0 +0.1**
baz=89
PKM Peak Mountain 89.00 55⇑P **P 23 33 18.3 +0.4**
baz=89,SNR=26
RPN Rapa Nui 89.01 117 *e*P **P 23 33 19.7 +1.5**
RPN LR LR
comp=Z,3µm,20.0s,MS5.7
U05C Westside ANR, 89.04 53⇑P **P 23 33 18.4 +0.3**
baz=89
LAVA Lava Cap Winer 89.05 51 P **P 23 33 18.6 +0.5**
baz=89,SNR=10
S05C Merced 89.08 52 P **P 23 33 18.4 +0.1**
baz=89,SNR=14
O04C Chester 89.10 49⇓P **P 23 33 18.4 +0.1**
baz=89,SNR=7.3
K04A Chilquin 89.12 47⇓P **P 23 33 18.4 +0.1**
baz=89
V05C Boulder Hill, 89.12 54⇑P **P 23 33 19.5 +1.0**
baz=89
B04A Port Angeles 89.14 41⇑P **P 23 33 18.8 +0.5**
baz=89
O05C Quincy 89.16 50⇑P **P 23 33 18.9 +0.3**
baz=89,SNR=8.8
G04A Mulino 89.16 44⇓P **P 23 33 18.8 +0.3**
baz=89
CMB Columbia Colle 89.17 51 *e*P **P 23 33 18.0 -0.7**
comp=Z,85nm,1.6s,mb5.8
CMB *e*PP PP 23 36 48.5 -0.6
CMB LR LR
comp=Z,5µm,21.0s,MS5.9
CMB Columbia Colle 89.17 51 *e*P **P 23 33 18.0 -0.7**
CMB *e* 23 36 48.5
CMB pmax pmax
comp=Z,85nm,1.6s,mb5.8
CMB MLR MLR
comp=Z,5µm,21.0s,MS5.9
CMB Columbia Colle 89.17 51 P **P 23 33 19.5 +0.8**
baz=89,SNR=22
H04A Detroit Lake 89.25 45⇑P **P 23 33 19.0 +0.2**
baz=89
ULHL Ulahol 89.25 313 P **P 23 33 19.8 +0.9**
SNR=9.3
ULHL Ulahol 89.25 313 P S 23 44 17.7 +10
SNR=6.6
P05C Yuba Gap, Truc 89.26 50⇑P **P 23 33 19.6 +0.6**
baz=89,SNR=18
M05C Lookout 89.28 48⇑P **P 23 33 19.3 +0.2**
baz=89,SNR=9.2
E04A Onalaska 89.31 43⇓P **P 23 33 19.3 +0.2**
baz=89
F04A Amboy 89.36 43⇑P **P 23 33 19.5 +0.1**
baz=89
C04A Brinnon 89.40 42⇓P **P 23 33 19.5 0.0**
baz=89
ELFS Eagle Lake Fie 89.43 49⇓P **P 23 33 20.0 +0.2**
baz=90,SNR=12
GNW Green Mountain 89.46 42 *e*P **P 23 33 19.6 -0.2**
BLG Laguna Peak 89.47 56⇓P **P 23 33 20.7 +0.6**
baz=90
T06C Millerton Lake 89.50 53⇓P **P 23 33 20.0 -0.2**
baz=90,SNR=28
R05C Kirkwood Meado 89.54 51⇑P **P 23 33 20.9 +0.6**
baz=90,SNR=18
BEKR Beckwourth 89.56 50⇓P **P 23 33 21.1 +0.7**
baz=90,SNR=31
KURK Kurchatov 89.58 321 *e*P **P 23 33 19.9 -0.3**
comp=Z,76nm,1.4s,mb5.8
KURK LR LR
comp=Z,4µm,20.0s,MS5.8
KURK Kurchatov 89.58 321⇑*e*P **P 23 33 18.7 -1.5**
KURK Kurchatov 89.58 321 P **P 23 33 19.3 -0.9**
SNR=21
KURK Kurchatov 89.58 321 P **P 23 33 19.3 -0.9**
SNR=21
J05A Fort Rock 89.61 46 P **P 23 33 20.9 +0.3**
baz=90,SNR=34
L05A Lakeview 89.65 47 P **P 23 33 20.8 0.0**
baz=90,SNR=8.6
SCI San Clemente I 89.69 57⇓P **P 23 33 21.0 -0.2**
baz=90
RCTC Rector, Farmer 89.74 53⇑P **P 23 33 21.7 +0.4**
baz=90
M06C Likely Place G 89.74 48⇑P **P 23 33 21.6 +0.4**
baz=90
K05A Summer Lake 89.74 47 P **P 23 33 21.7 +0.4**
baz=90,SNR=17
I05A Bend 89.78 45⇑P **P 23 33 21.3 -0.1**
baz=90
VES Vestal, Richgr 89.78 54 P **P 23 33 21.7 +0.1**
baz=90,SNR=19
A04A Legoe Bay, Lum 89.81 41 P **P 23 33 21.7 +0.3**
baz=90,SNR=7.1
OSI Osito Adit 89.84 55⇓P **P 23 33 22.0 +0.1**
baz=90
ARVC Arvin 89.85 55⇓P **P 23 33 22.1 +0.2**
baz=90,SNR=11
TKM2 Tokmak 2 89.85 313 *e*P **P 23 33 20.5 -1.2**
comp=Z,24nm,0.7s,mb5.6
TKM2 PP PP 23 36 51.4 -3.1
TKM2 LR LR
comp=Z,3µm,19.0s,MS5.8
TKM2 Tokmak 2 89.85 313 *e*P **P 23 33 20.5 -1.2**
TKM2 23 36 51.4
TKM2 pmax pmax
comp=Z,24nm,0.7s,mb5.6
TKM2 MLR MLR
comp=Z,3µm,19.0s,MS5.8
TKM2 Tokmak 2 89.85 313 P **P 23 33 19.6 -2.1**
SNR=16
KCC Kaiser Creek 89.86 52 P **P 23 33 21.6 -0.3**
baz=90,SNR=27
P06A Stead Airport, 89.87 50⇑P **P 23 33 23.2 +1.3**
baz=90,SNR=10
CIS Catalina Islan 89.88 56 P **P 23 33 22.6 +0.5**
baz=90,SNR=13
WCN Washoe City 89.90 50⇑P **P 23 33 22.9 +0.8**
baz=90,SNR=14
H05A Madras 89.91 45⇑P **P 23 33 22.2 +0.3**
baz=90
D05A Enumclaw 89.93 42⇑P **P 23 33 22.0 0.0**
baz=90,SNR=6.6
KZA Kyzart 89.94 312 P **P 23 33 21.0 -1.1**
SNR=30
E05A Randle 89.95 43 P **P 23 33 21.9 -0.2**
baz=90,SNR=9.9
G05A Wamic 89.97 44⇓P **P 23 33 21.7 -0.6**
baz=90
HELL Mitchell Peak 89.98 53 P **P 23 33 21.4 -1.1**
baz=90,SNR=60
R06C Coleville 89.99 51⇓P **P 23 33 23.5 +1.0**
baz=90,SNR=18
MOD Modoc 90.01 48 *e*P **P 23 33 22.1 -0.4**
comp=Z,88nm,1.4s,mb5.9
MOD LR LR
comp=Z,5µm,19.0s,MS6.0
MOD Modoc 90.01 48⇓P **P 23 33 22.7 +0.2**
baz=90,SNR=21
F05A White Salmon 90.01 44⇑P **P 23 33 22.6 +0.2**
baz=90
O06A Flanigan 90.02 49⇑P **P 23 33 23.3 +0.7**
baz=90,SNR=33
DECC Green Verdugo 90.09 56⇑P **P 23 33 23.5 +0.4**
baz=90
B05A Bryant 90.10 41 P **P 23 33 23.4 +0.7**
baz=90,SNR=12
N06A Buffalo Meadow 90.12 49 P **P 23 33 22.9 -0.1**
baz=90,SNR=30
R07C Lee Vining 90.22 52⇓P **P 23 33 24.1 +0.5**
baz=90,SNR=12
K06A Valley Falls 90.22 47 P **P 23 33 24.0 +0.6**
baz=90,SNR=21
ISA Isabella 90.23 54 *e*P **P 23 33 23.2 -0.4**
ISA LR LR
comp=Z,8µm,21.0s,MS6.2
ISA Isabella 90.23 54 P **P 23 33 24.3 +0.6**
baz=90,SNR=26
C05A Tolt Reservoir 90.24 42 P **P 23 33 23.3 -0.1**
baz=90,SNR=7.7
A05A Maple Falls 90.27 41⇓P **P 23 33 23.2 -0.4**
baz=90
KBK Karagaybulak 90.27 313 P **P 23 33 22.7 -1.0**
SNR=14
MLAC Mammoth Lakes 90.30 52⇓P **P 23 33 24.2 +0.3**
baz=90

MWC **Mount Wilson** 90.31 56 eP P 23 33 23.7 -0.3
J06A **Christmas Vall** 90.38 46 P P 23 33 23.0 -1.2
baz=90,SNR=37
INK **Inuvik** 90.40 20 eP P 23 33 21.8 -1.8
INK **Inuvik** 90.40 20 P P 23 33 22.6 -1.1
comp=Z,23nm,1.1s,mb5.4,baz=215,slow=6.2,SNR=38
INK PKKPbc PKKPbc 23 50 52.0 -3.1
comp=Z,5.8nm,0.9s,baz=100,slow=3.1,SNR=9.7
INK PKPPKP 23 58 59.9
comp=Z,2.0nm,1.0s,baz=72,slow=9.3,SNR=2.4
G06A **Carlson Farm,** 90.44 44 ⇓P P 23 33 24.1 -0.3
baz=90
MTUM **Tungsten Hills** 90.46 52 eP P 23 33 24.1 -0.6
E06A **Yakima** 90.47 43 P P 23 33 24.4 -0.2
baz=90,SNR=11
CHMS **Chumysh** 90.48 313 P P 23 33 23.8 -0.8
SNR=11
I06A **Prineville** 90.48 46 ⇓P P 23 33 24.8 +0.1
baz=90,SNR=24
EDW2 **Edwards Air Fo** 90.48 55 P P 23 33 24.9 0.0
baz=90,SNR=75
UCH **Uchtor** 90.50 313 eP P 23 33 24.8 0.0
comp=Z,23nm,0.9s,mb5.5
UCH LR LR
comp=Z,4µm,22.0s,MS5.8
UCH **Uchtor** 90.50 313 P P 23 33 26.7 +1.9
SNR=27
FRU **Bishkek** 90.54 313 eP P 23 33 25.0 0.0
FRU pmax pmax
comp=Z,80nm,2.0s,mb5.7
H06A **Lindquist Farm** 90.55 45 P P 23 33 24.9 0.0
baz=91,SNR=11
B06A **Marblemount** 90.55 41 ⇑P P 23 33 24.6 -0.3
baz=91
Q07A **Schurz** 90.56 51 ⇑P P 23 33 25.7 +0.5
baz=91
AAK **Ala-Archa** 90.59 313⇑eP P 23 33 23.2 -2.0
AAK **Ala-Archa** 90.59 313 P P 23 33 23.8 -1.4
SNR=13
P07A **Fallon** 90.61 50 ⇓P P 23 33 25.6 +0.3
baz=91
BFSC **Mount Baldy St** 90.64 56 P P 23 33 25.3 -0.3
baz=91,SNR=37
TIN **Tinemaha** 90.67 53 P P 23 33 25.7 0.0
baz=91,SNR=19
A06A **Chilliwack** 90.68 40 ⇓P P 23 33 25.2 -0.2
baz=91
CWC **Cottonwood Cre** 90.68 53 ⇑P P 23 33 25.9 +0.1
baz=91,SNR=11
D06A **Cle Elum** 90.70 42 ⇑P P 23 33 25.4 -0.2
baz=91
USP **Ospenovka** 90.71 314 P P 23 33 24.6 -1.1
SNR=26
L07A **Adell** 90.73 48 P P 23 33 25.4 -0.4
baz=91,SNR=34
M07A **Soldier Meadow** 90.74 48 P P 23 33 26.0 +0.1
baz=91,SNR=23
N07B **Gerlach** 90.78 49 ⇑P P 23 33 26.3 +0.2
baz=91,SNR=35
S08C **White Mtn Res** 90.80 52 P P 23 33 26.1 -0.2
baz=91,SNR=40
C06A **Tall Timber Ra** 90.81 42 ⇑P P 23 33 26.1 0.0
baz=91
LRMC **Laurel Mountai** 90.83 54 P P 23 33 26.4 -0.1
baz=91,SNR=11
NVAR **Mina Array Bea** 90.86 51 P P 23 33 26.5 0.0
NVAR P'P' 23 58 59.9
NVAR **Mina Array Bea** 90.86 51 P P 23 33 26.5 0.0
comp=Z,52nm,1.0s,mb5.8,baz=234,slow=4.2,SNR=84
NVAR PKPPKP 23 58 59.9
comp=Z,2.1nm,1.0s,baz=74,slow=3,8,SNR=6.4
109C **Camp Elliot, M** 90.86 57 ⇑P P 23 33 26.7 0.0
baz=91
K07A **Rock Creek Ran** 90.93 47 ⇓P P 23 33 26.5 -0.3
baz=91,SNR=35
R08A **Mina** 91.00 52 ⇓P P 23 33 27.2 0.0
baz=91,SNR=12
I07A **Izee** 91.00 46 P P 23 33 27.1 0.0
baz=91,SNR=31
J07A **Hines** 91.01 46 ⇑P P 23 33 27.4 +0.2
baz=91,SNR=11
F07A **Phinny Hill Vi** 91.06 44 ⇓P P 23 33 27.4 +0.2
baz=91
AML **Almayashu** 91.08 312⇑eP P 23 33 27.4 -0.1
comp=Z,39nm,0.9s,mb5.7
AML ePP PP 23 36 50.5 -14
AML LR LR
comp=Z,4µm,20.0s,MS5.8
AML **Almayashu** 91.08 312 P P 23 33 29.2 +1.8
SNR=22
MPMC **Manual Prospec** 91.08 54 P P 23 33 28.2 +0.6
baz=91,SNR=27
G07A **Ruggs Ranch, H** 91.11 45 ⇓P P 23 33 27.6 0.0
baz=91,SNR=10.0
EKS2 **Erkin-Say** 91.12 313 eP P 23 33 27.0 -0.6
comp=Z,27nm,0.9s,mb5.6
EKS2 ePP PP 23 37 05.9 +1.4
EKS2 LR LR
comp=Z,4µm,19.0s,MS5.8
EKS2 **Erkin-Say** 91.12 313 P P 23 33 28.9 +1.2
SNR=18
BAR **Barrett** 91.19 57 eP P 23 33 28.4 +0.2
Q08A **Gabbs** 91.22 51 P P 23 33 27.9 -0.3
baz=91,SNR=29
BBRC **Big Bear Sol-O** 91.24 56 ⇓P P 23 33 28.6 +0.2
baz=91
P08A **Dixie Valley** 91.25 50 ⇓P P 23 33 27.7 -0.6
baz=91
RRX **Edison Barstow** 91.28 55 ⇓P P 23 33 28.3 -0.3
baz=91
BHJ **Bhuj** 91.30 293 eP P 23 33 27.8 -1.1
BHJ AMb AMB 23 33 32.4
comp=Z,145nm,1.6s,mb6.0
C07A **Waterville** 91.32 42 P P 23 33 28.6 +0.2
baz=91,SNR=7.5
WVOR **Wild Horse Val** 91.32 47 eP P 23 33 28.3 -0.3
comp=Z,95nm,1.2s,mb6.0
WVOR LR LR
comp=Z,5µm,22.0s,MS5.9
M08A **Happy Creek Ra** 91.34 48 P P 23 33 28.9 +0.2
baz=91,SNR=36
GRAC **Grapevine Rang** 91.34 53 P P 23 33 27.9 -0.9
baz=91,SNR=11
A07A **Ashnola River,** 91.38 41 ⇑P P 23 33 28.5 -0.1
baz=91,SNR=9.9
N08A **GE Springer Mi** 91.40 49 P P 23 33 29.1 +0.1
baz=91,SNR=48
HAWA **Hanford** 91.42 43 eP P 23 33 28.2 -0.7
B07A **Winthrop** 91.43 41 ⇓P P 23 33 27.9 -1.0
baz=91,SNR=15
MONP **Monument Peak** 91.43 57 ⇑P P 23 33 28.5 -0.9
baz=92,SNR=16
K08A **Mann Creek Ran** 91.48 47 ⇓P P 23 33 28.8 -0.5
baz=92,SNR=11
L08A **Fields** 91.49 48 P P 23 33 28.2 -1.2
baz=92,SNR=44
GSC **Goldstone** 91.51 55 eP P 23 33 29.0 -0.7
GSC LR LR
comp=Z,7µm,21.0s,MS6.1
GSC **Goldstone** 91.51 55 P P 23 33 28.9 -0.7
baz=92,SNR=23
PFO **Pinyon Flat Ob** 91.52 56 P P 23 33 29.8 0.0
PFO LR LR 00 05 52.4
PFO **Pinyon Flat Ob** 91.52 56 P P 23 33 29.8 +0.1
comp=Z,29nm,1.1s,mb5.5,baz=271,slow=2.6,SNR=18
PFO LR LR 00 05 52.4
comp=Z,5µm,21.6s,MS5.9,baz=264,slow=30
PFO **Pinyon Flat Ob** 91.52 56 ⇓P P 23 33 29.0 -0.7
baz=92,SNR=15
EPH **Ephrata** 91.56 42 P P 23 33 30.0 +0.4
SYO **Syowa Base** 91.57 199⇑eP P 23 33 26.8 -2.4
SYO **Syowa Base** 91.57 199⇑eP P 23 33 30.2 +1.0
S09A **Goldfield** 91.57 52 P P 23 33 28.4 -1.5
baz=92,SNR=36
J08A **Circle Bar Ran** 91.61 47 P P 23 33 28.6 -1.3
baz=92,SNR=36
I08A **Drewsey** 91.64 46 ⇓P P 23 33 29.9 -0.1
baz=92,SNR=9.4
FURC **Furnace Creek,** 91.66 54 P P 23 33 29.7 -0.6
baz=92,SNR=33
H08A **Prairie City** 91.67 45 P P 23 33 30.6 +0.5
baz=92,SNR=14
R09A **Tonopah** 91.78 52 ⇓P P 23 33 30.6 -0.3
baz=92,SNR=29
Q09A **Carvers** 91.79 51 ⇑P P 23 33 30.5 -0.4
baz=92,SNR=19
HEC **Hector,Ludlow** 91.82 55 ⇓P P 23 33 30.9 -0.2
baz=92,SNR=7.0
N09A **Rock Creek Ran** 91.87 49 ⇑P P 23 33 31.5 +0.3
baz=92,SNR=12
B08A **Colville Reser** 91.92 42 P P 23 33 30.4 -0.9
baz=92,SNR=10
P09A **Austin** 91.94 50 ⇓P P 23 33 31.4 -0.1
baz=92,SNR=12
D08A **Wollman Farm,** 91.96 43 P P 23 33 31.1 -0.4
baz=92,SNR=6.4
L09A **Wilkinson Ranc** 91.96 48 ⇓P P 23 33 32.0 +0.4
baz=92,SNR=31
SWSC **Sam W. Stewart** 91.96 57 ⇑P P 23 33 31.9 +0.1
baz=92,SNR=5.7
O09A **Fish Creek Ran** 92.01 50 ⇑P P 23 33 32.0 +0.1
baz=92,SNR=8.7
C08A **Higginbotham F** 92.01 42 P P 23 33 30.9 -0.7
baz=92,SNR=12
M09A **Marrel Ranch,** 92.02 49 ⇑P P 23 33 32.1 +0.3
baz=92,SNR=18
SHOC **Shoshone** 92.03 54 ⇓P P 23 33 31.7 -0.3
baz=92
K09A **Rome** 92.03 47 P P 23 33 31.9 +0.1
baz=92,SNR=38
U10A **Ash Meadows, A** 92.07 54 ⇓P P 23 33 32.4 +0.2
baz=92,SNR=20
A08A **Turner Farm, O** 92.08 41 P P 23 33 31.9 -0.1
baz=92,SNR=12
S10A **Tonopah Range,** 92.10 52 ⇑P P 23 33 32.2 -0.1
baz=92,SNR=129
J09A **Fry Pan Ranch,** 92.12 47 P P 23 33 31.8 -0.4
baz=92,SNR=55
TPNV **Topopah Spring** 92.22 53 eP P 23 33 32.1 -0.8
TPNV LR LR
comp=Z,4µm,21.0s,MS5.9
TPNV **Topopah Spring** 92.22 53 P P 23 33 32.2 -0.6
baz=92,SNR=110
I09A **Lost Marbles R** 92.24 46 ⇓P P 23 33 32.6 -0.2
baz=92,SNR=14
TUQ **Turquoise Mtn.** 92.24 55 P P 23 33 32.9 -0.1
baz=92,SNR=40
GMRC **Granite Mounta** 92.35 55 ⇑P P 23 33 33.1 -0.5
baz=92,SNR=60
D09A **Jones Farm, Ri** 92.37 43 ⇑P P 23 33 33.1 -0.2
baz=92
R10A **Warm Springs** 92.39 52 P P 23 33 34.0 +0.4
baz=92,SNR=39
E09A **Wood Farm, Sta** 92.39 43 P P 23 33 33.6 +0.2
baz=92,SNR=13
Q10A **Clear Creek Ra** 92.39 51 P P 23 33 32.7 -0.9
baz=92,SNR=77
H09A **Durkee** 92.41 45 ⇑P P 23 33 33.2 -0.4
baz=92
F09A **S2 Ranch, Elgi** 92.41 44 ⇓P P 23 33 33.4 -0.1
baz=92
P10A **Eureka** 92.47 50 ⇓P P 23 33 33.5 -0.5
baz=92,SNR=12
C09A **Chrisman Ranch** 92.52 42 ⇑P P 23 33 33.8 -0.2
baz=92
A09A **Danville** 92.52 41 P P 23 33 34.5 +0.5
baz=92,SNR=7.9
O10A **Cortez Mining,** 92.55 50 ⇓P P 23 33 34.2 -0.1
baz=93,SNR=10
N10A **Dunphy** 92.61 49 ⇓P P 23 33 34.7 +0.1
baz=93
K10A **MacKenzie Ranc** 92.67 47 P P 23 33 34.5 -0.3
baz=93,SNR=34
IRM **Iron Mountain** 92.68 56 ⇑P P 23 33 34.2 -0.8
baz=93,SNR=25
BMO **Blue Mountains** 92.69 45 eP P 23 33 33.0 -1.8
comp=Z,36nm,1.2s,mb5.7
BMO LR LR
comp=Z,6µm,21.0s,MS6.0
M10A **I.L. Ranch, Tu** 92.71 49 ⇑P P 23 33 34.6 -0.5
baz=93,SNR=19
B09A **Rice** 92.71 42 P P 23 33 34.2 -0.6
baz=93,SNR=10
S11A **Rachel** 92.72 53 P P 23 33 35.1 -0.1
baz=93,SNR=12
J10A **Berg Farm, Mel** 92.84 47 ⇓P P 23 33 35.2 -0.4
baz=93
LDFC **Landfair** 92.85 55 eP P 23 33 36.3 +0.5
L10A **Juniper Basin** 92.85 48 P P 23 33 35.6 -0.1
baz=93,SNR=76
G10A **Bishop Farm, J** 92.89 45 ⇓P P 23 33 35.0 -0.8
baz=93,SNR=22
I10A **Payette** 92.92 46 ⇑P P 23 33 35.8 -0.2
baz=93
F10A **Beach Ranch, E** 92.93 44 ⇓P P 23 33 35.2 -0.8
baz=93,SNR=5.6
R11A **Troy Canyon, C** 92.95 52 P P 23 33 36.2 -0.1
baz=93,SNR=103
Q11A **Duckwater** 92.97 51 P P 23 33 36.6 +0.3
baz=93,SNR=31
H10A **Noah's Angus R** 93.04 46 ⇑P P 23 33 35.7 -0.8
baz=93,SNR=23
W12A **Cal Nev Ari** 93.07 55 ⇑P P 23 33 36.5 -0.4
baz=93
T11A **Corn Creek, Al** 93.07 53 P P 23 33 35.9 -0.9
baz=93,SNR=60
V12A **Nelson** 93.15 55 ⇑P P 23 33 37.2 0.0
baz=93,SNR=17
O11A **Cowboy Ranch,** 93.16 50 P P 23 33 37.1 0.0
baz=93,SNR=38
C10A **Spilker Farm,** 93.17 42 ⇓P P 23 33 37.1 +0.1
baz=93
NEE2 **Needles Airpor** 93.20 55 ⇓P P 23 33 37.0 -0.5
baz=93
N11A **Elko Archery C** 93.20 49 ⇓P P 23 33 37.1 -0.2
baz=93
M11A **Holland Ranch,** 93.25 49 ⇓P P 23 33 37.6 0.0
baz=93,SNR=27
K11A **Parker Ranch,** 93.28 47 P P 23 33 37.4 -0.2
baz=93,SNR=41
B10A **Chitwood Farm,** 93.30 42 ⇓P P 23 33 37.0 -0.6
baz=93
NEW **Newport** 93.36 42 eP P 23 33 35.7 -2.2
comp=Z,32nm,1.3s,mb5.6
NEW **Newport** 93.36 42 eP P 23 33 35.7 -2.2
NEW pmax pmax
comp=Z,32nm,1.2s
NEW **Newport** 93.36 42 P P 23 33 36.2 -1.7
comp=Z,17nm,1.1s,mb5.4,baz=326,slow=1.5,SNR=14
S12A **Delamar Landin** 93.42 53 ⇓P P 23 33 38.3 -0.1
baz=93,SNR=22
U12A **Valley of Fire** 93.50 54 ⇓P P 23 33 39.0 +0.2
baz=94,SNR=12
G11A **Walters Elk Ra** 93.50 45 P P 23 33 37.4 -1.2
baz=94,SNR=11
MFID **Camas Ranch** 93.52 47 P P 23 33 38.9 +0.2
baz=94,SNR=15
ELK **Elko** 93.56 50 P P 23 33 38.6 -0.4
ELK LR LR
comp=Z,82nm,22.0s
H11A **Donnelly** 93.58 46 ⇓P P 23 33 38.5 -0.4
baz=94,SNR=16
Q12A **Willow Creek R** 93.64 51 P P 23 33 39.0 -0.3
baz=94,SNR=46
P12A **McGill** 93.64 51 P P 23 33 38.6 -0.7
baz=94,SNR=59
F11A **Grangeville** 93.65 44 P P 23 33 38.1 -1.1
baz=94,SNR=6.1
E11A **Bogner Ranch,** 93.68 44 P P 23 33 38.8 -0.6
baz=94,SNR=12
R12A **Pony Springs,** 93.71 52 P P 23 33 40.0 +0.3
baz=94,SNR=66
Y13A **Salome** 93.72 57 ⇑P P 23 33 39.3 -0.5
baz=94
N12A **Clover Valley,** 93.73 49 ⇓P P 23 33 40.1 +0.4
baz=94,SNR=7.9
X13A **Yucca** 93.82 56 ⇑P P 23 33 40.9 +0.6
baz=94,SNR=11
W13A **Hualapai Mount** 93.84 55 P P 23 33 41.3 +0.9
baz=94,SNR=17
O12A **Currie** 93.87 50 P P 23 33 40.5 +0.1
baz=94,SNR=43
B11A **Sandpoint** 93.89 42 ⇓P P 23 33 40.3 0.0
baz=94
M12A **Wells** 93.90 49 ⇓P P 23 33 40.3 -0.3
baz=94,SNR=24
L12A **House Creek Ra** 93.93 48 P P 23 33 40.9 +0.2
baz=94,SNR=35
U13A **Pakoon Wash** 93.95 54 ⇓P P 23 33 41.5 +0.6
baz=94,SNR=27
A11A **Hall Mountain,** 93.97 41 ⇓P P 23 33 40.7 0.0
baz=94,SNR=16
J12A **Stokes Ranch,** 94.02 47 P P 23 33 40.7 -0.3
baz=94,SNR=47
K12A **Draper Farm, C** 94.08 48 ⇓P P 23 33 41.6 +0.3
baz=94,SNR=26
S13A **Holt Ranch, En** 94.19 53 ⇑P P 23 33 42.5 +0.5
baz=94,SNR=24
F12A **Elk City** 94.26 45 P P 23 33 41.8 -0.2
baz=94,SNR=10
P13A **Bates Ranch, G** 94.32 51 P P 23 33 42.0 -0.5
baz=94,SNR=42
N13A **Wendover, West** 94.36 50 ⇓P P 23 33 42.9 +0.2
baz=94,SNR=9.2
H12A **Diamond D Ranc** 94.37 46 P P 23 33 43.0 +0.4
baz=94,SNR=6.4
O13A **Hicks Ranch, I** 94.43 50 P P 23 33 44.2 +1.2
baz=94,SNR=20
M13A **Montello** 94.45 49 ⇓P P 23 33 43.9 +0.8
baz=94
W14A **Seligman** 94.51 55 ⇑P P 23 33 44.4 +1.0
baz=94,SNR=10
V14A **Boquillas Ranc** 94.55 55 ⇓P P 23 33 44.9 +1.2
baz=95,SNR=9.3
ARUT **Antelope Range** 94.55 53 eP P 23 33 44.1 +0.5
HLID **Hailey** 94.56 47 eP P 23 33 43.2 -0.3
comp=Z,48nm,1.3s,mb5.8
HLID LR LR
comp=Z,5µm,20.0s,MS5.9
HLID **Hailey** 94.56 47 P P 23 33 44.7 +1.2
baz=95,SNR=32
X14A **Yava** 94.57 56 ⇑P P 23 33 45.1 +1.3
baz=95,SNR=8.1
CCUT **Cedar City** 94.58 53 eP P 23 33 44.6 +0.8
CCUT ePP PP 23 37 33.6 +1.8
U14A **Mt Trumbull** 94.58 54 ⇑P P 23 33 45.0 +1.2
baz=95,SNR=17
K13A **Stover Farm, H** 94.68 48 ⇑P P 23 33 45.1 +1.0
baz=95,SNR=14
J13A **Cove Ranch, Pi** 94.71 47 P P 23 33 45.5 +1.3
baz=95,SNR=11
L13A **Double Diamond** 94.71 48 ⇓P P 23 33 45.5 +1.2
baz=95,SNR=6.7
T14A **Hurricane** 94.74 53 ⇓P P 23 33 45.6 +1.1
baz=95,SNR=7.2
S14A **Cedar City** 94.76 53 ⇓P P 23 33 45.5 +0.9
baz=95
H13A **Challis** 94.80 46 P P 23 33 44.4 -0.2
baz=95,SNR=16
I13A **Wildhorse Cree** 94.82 46 P P 23 33 45.4 +0.8
baz=95,SNR=34
BSMT **Bassoo Peak** 94.85 42 eP P 23 33 45.0 +0.3
G13A **Cobalt** 94.88 45 P P 23 33 44.7 -0.3
baz=95,SNR=14
F13A **Darby** 94.90 45 P P 23 33 44.7 -0.3
baz=95,SNR=10
115A **Sonoran Desert** 94.90 58 ⇓P P 23 33 45.4 0.0
baz=95
R14A **James Farms, M** 94.94 52 ⇑P P 23 33 46.3 +0.9
baz=95
Y15A **Casa Rosa Ranc** 94.97 57 ⇑P P 23 33 45.2 -0.4
baz=95
C13A **Hot Springs** 94.97 43 ⇓P P 23 33 45.5 +0.2
baz=95
D13A **Huson** 94.98 43 ⇓P P 23 33 45.1 -0.2
baz=95
E13A **Victor** 95.08 44 ⇑P P 23 33 45.6 -0.2
baz=95
M14A **Sheep Mountain** 95.08 49 P P 23 33 45.7 -0.2
baz=95,SNR=26
BRVK **Borovoye** 95.09 323 eP P 23 33 44.7 -1.0
BRVK LR LR
comp=Z,5µm,21.0s,MS6.0
BRVK **Borovoye** 95.09 323 P P 23 33 45.4 -0.3
SNR=10
BRVK **Borovoye** 95.09 323 P P 23 33 45.4 -0.3
SNR=10
X15A **Humboldt** 95.11 56 ⇓P P 23 33 46.2 -0.1
baz=95
N14A **Grayback Hills** 95.12 50 P P 23 33 46.5 +0.3
baz=95,SNR=13
B13A **Whitefish** 95.13 42 P P 23 33 46.1 +0.1
baz=95,SNR=7.9
BGU **Big Grassy Mou** 95.25 50 eP P 23 33 46.7 0.0
BGU ePP PP 23 37 26.7 -10
T15A **Red Dirt Ranch** 95.29 53 ⇑P P 23 33 47.6 +0.6
baz=95,SNR=9.8
MSO **Missoula** 95.30 44 eP P 23 33 49.1 +2.3
MSO LR LR
comp=Z,3µm,19.0s,MS5.8
DUG **Dugway** 95.33 50 eP P 23 33 47.8 +0.7
comp=Z,43nm,1.3s,mb5.7
DUG **Dugway** 95.33 50 eP P 23 33 47.8 +0.7
DUG pmax pmax
comp=Z,43nm,1.2s,mb5.8
DUG **Dugway** 95.33 50 P P 23 33 47.8 +0.7
baz=95,SNR=9.9
K14A **Jones Ranch, D** 95.33 48 ⇑P P 23 33 47.5 +0.5
baz=95,SNR=6.1
G14A **Jackson** 95.44 45 ⇓P P 23 33 47.8 +0.3
baz=96
216A **Three Points,** 95.47 59 ⇑P P 23 33 48.4 +0.5
baz=96
HVU **Hansel Valley** 95.54 49 eP P 23 33 47.8 -0.2
LPIG **La Paz** 95.54 67 LR LR 00 07 07.8
comp=Z,3µm,20.8s,MS5.8,baz=258,slow=29
E14A **Clinton** 95.56 44 ⇓P P 23 33 48.5 +0.5
baz=96
WALA **Waterton Lakes** 95.58 41 eP P 23 33 47.8 -0.3
comp=Z,32nm,1.1s,mb5.7
MSU **Marysvale** 95.63 52 eP P 23 33 50.5 +2.0
Z16A **Peralta Trail,** 95.64 57 P P 23 33 48.8 +0.1
baz=96,SNR=6.0
Y16A **Circle Bar Ran** 95.66 57 ⇑P P 23 33 49.7 +0.9
baz=96,SNR=15
SPUT **South Promonto** 95.73 49 eP P 23 33 49.5 +0.6
M15A **Larsen Ranch,** 95.75 49 ⇑P P 23 33 49.8 +0.8
baz=96,SNR=7.2
CHMT **Chamberlain Mo** 95.78 44 eP P 23 33 47.8 -1.2
MCMT **McKenzie Canyo** 95.83 46 eP P 23 33 48.5 -0.7
NLU **North Lily Min** 95.86 51 eP P 23 33 49.3 -0.3
NOQ **North Oquirrh** 95.91 50 eP P 23 33 51.3 +1.6
WUAZ **Wupatki** 95.93 55 PFAKE 23 34 00.0 +10
WUAZ LR LR
comp=Z,4µm,20.0s,MS5.9
217A **Green Valley** 95.98 59 P P 23 33 51.7 +1.4
baz=96,SNR=14
DLMT **Dillon** 96.06 45 eP P 23 33 50.5 +0.2
comp=Z,38nm,1.2s,mb5.7
TUC **Tucson** 96.07 58 eP P 23 33 51.4 +0.8
TUC LR LR
comp=Z,5µm,22.0s,MS6.0
G15A **Dillon** 96.12 45 P P 23 33 51.0 +0.4
baz=96,SNR=13
E15A **Deer Lodge** 96.14 44 ⇓P P 23 33 49.9 -0.8
baz=96,SNR=8.5
F15A **Butte** 96.19 45 ⇑P P 23 33 50.0 -0.9
baz=96
CTU **Camp Tracy** 96.19 50 eP P 23 33 51.5 +0.4
MPU **Maple Canyon** 96.21 51 eP P 23 33 52.4 +1.3
MPU LR LR
comp=Z,7µm,19.0s,MS6.2
LRM **Limekiln Ridge** 96.21 45 eP P 23 33 50.7 -0.3
D15A **Lincoln** 96.29 43 ⇑P P 23 33 51.1 -0.3
baz=96
EDM **Edmonton** 96.38 37 eP P 23 33 50.1 -1.5
JLU **Jordanelle** 96.41 50 eP P 23 33 52.8 +0.7
HWUT **Hardware Ranch** 96.42 49 eP P 23 33 52.5 +0.5
comp=Z,34nm,1.4s,mb5.6
HWUT LR LR
comp=Z,3µm,19.0s,MS5.8
TMUT **Trail Mountain** 96.46 51 eP P 23 33 54.5 +2.3
DAU **Daniels Canyon** 96.54 50 eP P 23 33 59.6 +7.0
318A **Bisbee** 96.65 59 ⇓P P 23 33 53.1 -0.2
baz=97,SNR=8.2
YKA **Yellowknife Ar** 96.65 28 P P 23 33 50.7 -1.9
YKA PP PP 23 37 46.2 -1.0
YKA PKKPbc PKKPbc 23 50 35.6 -2.9
YKA P'P' 23 58 48.0
YKA LR LR 00 10 48.8
YKA **Yellowknife Ar** 96.65 28 P P 23 33 50.7 -1.9
YKA 23 37 46.2
YKA **Yellowknife Ar** 96.65 28 P P 23 33 50.7 -1.9
comp=Z,38nm,1.1s,mb5.7,baz=265,slow=4.6,SNR=86
YKA PP PP 23 37 46.2 -1.0
comp=Z,9.6nm,1.1s,baz=262,slow=7.7,SNR=5.6
YKA PKKPbc PKKPbc 23 50 35.6 -2.9
comp=Z,3.4nm,0.9s,baz=85,slow=2.9,SNR=19
YKA PKPPKP 23 58 48.0
comp=Z,0.1nm,0.3s,baz=70,slow=2.7,SNR=3.7
YKA LR LR 00 10 48.8
comp=Z,4µm,20.4s,MS5.9,baz=230,slow=31

YKW3 Yellowknife Ar 96.65 28 *e*P **P 23 33 51.0 -1.6**
218A Dragoon 96.66 59 ⇓P **P 23 33 53.5 +0.2**
baz=97
BOZ Bozeman (W) 96.77 45 *e*P **P 23 33 52.4 -1.1**
BOZ LR LR
comp=Z,4μm,20.0s,MS5.9
BOZ Bozeman (W) 96.77 45 P **P 23 33 52.6 -0.9**
baz=97,SNR=13
QLMT Earthquake Lak 96.83 46 *e*P **P 23 33 54.9 +1.1**
AHID Auburn Hatcher 96.88 48 *e*P **P 23 33 55.4 +1.3**
AHID LR LR
comp=Z,3μm,20.0s,MS5.8
DCID1 Drake Creek 96.89 47 *e*P **P 23 33 55.2 +1.0**
TPAW Teton Pass 97.05 47 *e*P **P 23 33 55.8 +1.0**
IMW Indian Meadow 97.10 47 *e*P **P 23 33 56.1 +1.0**
YMR Madison River 97.15 46 P **P 23 33 56.1 +0.8**
comp=Z,59nm,1.2s,mb5.9
YMR LR LR
comp=Z,6μm,20.0s,MS6.1
SNOW Snow King Moun 97.19 47 *e*P **P 23 33 57.0 +1.5**
YFT Old Faithful 97.22 46 *e*P **P 23 33 57.8 +2.2**
MOOW Moose Ponds 97.22 47 *e*P **P 23 33 55.9 +0.3**
comp=Z,28nm,1.4s,mb5.5
319A Douglas 97.24 59 ⇑P **P 23 33 56.1 0.0**
baz=97
FLWY Flagg Ranch 97.29 47 *e*P **P 23 33 56.8 +0.9**
comp=Z,50nm,1.5s,mb5.7
LOHW Long Hollow 97.32 47 *e*P **P 23 33 57.2 +1.1**
YNR Norris Junctio 97.36 46 *e*P **P 23 33 58.7 +2.5**
119A Ashpeak Ranch, 97.36 58 ⇓P **P 23 33 57.2 +0.7**
baz=97
LKWY Lake 97.54 46 PFAKE 23 34 10.0 +13
LKWY LR LR
comp=Z,7μm,19.0s,MS6.2
BW06 Boulder Array 98.01 48 *e*P **P 23 33 59.0 -0.2**
comp=Z,23nm,1.1s,mb5.6
BW06 LR LR
comp=Z,4μm,20.0s,MS5.9
PDAR Pinedale Array 98.01 48 P **P 23 33 57.5 -1.7**
comp=Z,13nm,1.1s,mb5.4,baz=242,slow=3.2,SNR=29
PDAR PKKPbc PKKPbc 23 50 33.3 -0.7
comp=Z,1.2nm,0.9s,baz=97,slow=4.1,SNR=4.7
PDAR LR LR 00 11 39.9
comp=Z,3μm,21.6s,MS5.8,baz=270,slow=31
GCMT Greycliff 98.15 45 *e*P **P 23 33 59.7 -0.1**
GCMT *e*PP PP 23 38 02.8 +3.6
EGMT Eagleton 98.24 43 *e*P **P 23 33 59.3 -0.8**
EGMT LR LR
comp=Z,5μm,19.0s,MS6.0
EGMT Eagleton 98.24 43 ⇓P **P 23 33 59.4 -0.7**
baz=98
RLMT Red Lodge 98.39 46 PFAKE 23 34 10.0 +9.2
RLMT LR LR
comp=Z,4μm,20.0s,MS5.9
BNM Barren Site 99.70 57 *e*Pdif Pdif 23 34 07.0 +0.5
ANMO Albuquerque 99.89 56 P Pdif 23 34 08.0 +0.7
ANMO LR LR
comp=Z,4μm,22.0s,MS5.9
ANMO Albuquerque 99.89 56 P Pdif 23 34 08.0 +0.7
comp=Z,3.2nm,1.0s,baz=253,slow=6.9,SNR=4.4
LAO LASA Array 100.58 44 *e*Pdif Pdif 23 34 11.1 +0.7
LAO LR LR
comp=Z,5μm,20.0s,MS6.0
MNTX Cornudas Mount 100.59 59 PFAKE 23 34 20.0 +10
MNTX LR LR
comp=Z,6μm,22.0s,MS6.1
ISCO Idaho Springs 100.81 51 *e*Pdif Pdif 23 34 13.5 +2.0
comp=Z,9.4nm,1.3s
ISCO LR LR
comp=Z,5μm,20.0s,MS6.0
ISCO Idaho Springs 100.81 51 *e*P Pdif 23 34 13.5 +2.0
ISCO pmax pmax
comp=Z,9.0nm,1.3s
ISCO MLR MLR
comp=Z,5μm,20.0s,MS6.0
SDCO Great Sand Dun 100.81 53 PFAKE 23 34 20.0 +8.5
SDCO LR LR
comp=Z,5μm,21.0s,MS6.0
GDL2 Guadalupe Moun 101.48 59 *e*Pdif Pdif 23 34 21.1 +6.7
LTX Lajitas 101.92 62 PFAKE 23 34 30.0 +14
LTX LR LR
comp=Z,83nm,19.0s
DGMT Dagmar 101.96 42 *e*Pdif Pdif 23 34 16.4 -0.1
ARU Arti 102.02 326 *e*Pdif Pdif 23 34 14.2 -2.6
ARU LR LR
comp=Z,4μm,20.0s,MS5.9
ARU Arti 102.02 326 *e*P Pdif 23 34 17.7 +0.9
ARU *e* 23 38 31.5
ARU *e*PPP 23 40 38.7
ARU *e*S SKSac 23 44 54.7 -1.2
ARU *e*SP SP 23 47 34.0 +2.7
ARU *e*SS SS 23 53 11.1 +8.0
ARU *e*SSS 23 57 00.4
RSSD Black Hills 102.08 47 PFAKE 23 34 30.0 +13
RSSD LR LR
comp=Z,10μm,21.0s,MS6.3
RES Resolute Bay 102.91 15 *e*Pdif Pdif 23 34 20.7 -0.1
FFC Flin Flon 103.12 36 *e*Pdif Pdif 23 34 21.1 -0.6
FFC LR LR
comp=Z,5μm,22.0s,MS6.0
AMTX Amarillo 103.81 56 *e*Pdif Pdif 23 34 21.4 -3.4
JCT Junction City 105.32 61 PFAKE 23 39 00.0 +14
JCT LR LR
comp=Z,6μm,20.0s,MS6.1
CBKS Cedar Bluff 105.36 52 PFAKE 23 39 00.0 +14
CBKS LR LR
comp=Z,4μm,20.0s,MS6.0
WMOK Wichita Mounta 106.20 56 PFAKE 23 39 00.0 +12
WMOK LR LR
comp=Z,4μm,19.0s,MS6.0
KVTX Kingsville 106.94 64 PFAKE 23 39 00.0 +11
KVTX LR LR
comp=Z,4μm,19.0s,MS6.0
ULM Lac du Bonnet 107.27 40 Pdif Pdif 23 34 39.0 -1.2
ULM Lac du Bonnet 107.27 40 Pdiff Pdif 23 34 39.0 -1.2
comp=Z,1.5nm,0.5s,baz=285,slow=5.1,SNR=4.2
ECSD EROS,Sioux Fal 107.45 47 *e*Pdif Pdif 23 34 41.3 +0.3
ECSD LR LR
comp=Z,3μm,20.0s,MS5.9
KBS Kingsbay 107.67 353 *e*P PP 23 39 06.1 -3.4
KBS *e* 23 48 30.1
KBS LR LR
comp=Z,4μm,22.0s,MS6.0
KBS Kingsbay 107.67 353 *e*PP PP 23 39 05.9 -3.6
KBS *e*SKS SKSac 23 45 21.8 +1.0
KBS *e* 23 48 30.1
KSU1 Kansas State U 107.79 52 PFAKE 23 39 00.0 +10
KSU1 LR LR
comp=Z,4μm,20.0s,MS6.0
HKT Hockley 108.75 61 PFAKE 23 39 00.0 +7.4
HKT LR LR
comp=Z,7μm,19.0s,MS6.2
NATX Nacogdoches 109.72 59 PFAKE 23 39 10.0 +16
NATX LR LR
comp=Z,5μm,19.0s,MS6.1
LVZ Lovozero 109.89 340 PFAKE 23 39 00.0 +6.5
LVZ LR LR
comp=Z,4μm,21.0s,MS6.0
BJO Bjornoya 109.97 349 *e*PP PP 23 39 33.3 +7.0
BJO *e*SKS SKSac 23 45 29.4 -1.2
BJO AMS AMS 00 26 45.9
comp=Z,4μm,18.7s,MS6.0
MAK Makhachkala 110.37 313 *e*P Pdif 23 34 57.1 +3.1
MAK *e* 23 39 36.2
MAK *e*PS PS 23 48 56.9 -3.4
MAK *e*SS SS 23 55 01.3 +3.6
MAK *e*SSS 23 59 04.0
MAK pmax pmax
comp=Z,365nm,14.9s
EYMN Ely 110.46 42 PFAKE 23 39 10.0 +15
EYMN LR LR
comp=Z,3μm,19.0s,MS5.8
APA Apatity 110.47 340 ⇑*i*PKIKP PKiKP 23 38 55.0 +0.4
APA *i* PS PKKPbc 23 49 56.0 -1.2
APA *e*PPS 23 50 07.0
APA *e*SS SS 23 55 06.0 +8.7
APA pmax pmax
comp=Z,38nm,1.4s
APA MLR MLR
comp=Z,6μm,18.0s,MS6.2
MIAR Mount Ida 110.50 56 PFAKE 23 39 10.0 +14
MIAR LR LR
comp=Z,7μm,19.0s,MS6.2
KEV Kevo 111.26 343 PFAKE 23 39 10.0 +14
KEV LR LR
comp=Z,6μm,21.0s,MS6.2
ARCES ARCESS Array B 111.81 344 PKiKP PKiKP 23 38 58.2 +1.1
comp=Z,4.0nm,0.9s,baz=45,slow=0.7,SNR=5.0
ARCES PKKPbc PKKPbc 23 49 46.6 -6.2
comp=Z,5.5nm,0.8s,baz=16,slow=2.8,SNR=8.7
JFWS Jewell Farm 112.16 47 PFAKE 23 39 10.0 +11
JFWS LR LR
comp=Z,4μm,20.0s,MS6.0
COWI Conover 112.39 44 PFAKE 23 39 10.0 +11
COWI LR LR
comp=Z,5μm,21.0s,MS6.1
EFI East Falkland 112.65 157 PFAKE 23 39 10.0 +11
EFI LR LR
comp=Z,2μm,20.0s,MS5.8
HDIL Hopedale 113.23 50 PFAKE 23 39 10.0 +9.3
HDIL LR LR
comp=Z,6μm,21.0s,MS6.2
TRO Tromso 113.49 345 *e*PP PP 23 39 54.8 +3.3
TRO *e*SS SS 23 55 40.7 +3.4
TRO AMS AMS 00 28 29.3
comp=Z,3μm,20.4s,MS5.9
JOF Joensuu 113.51 336 *e*pkp PKiKP 23 39 03.6 +3.1
KIV Kislovodsk 113.68 314 *e*PKiKP PKiKP 23 39 01.2 -0.2
KIV *e*PP PP 23 39 53.8 0.0
KIV LR LR
comp=Z,3μm,19.0s,MS5.9
KIV Kislovodsk 113.68 314 *i* PKIKP PKiKP 23 38 59.5 -1.9
KIV *e* 23 39 50.5
KIV *e* 23 45 44.2
KIV *e*PS PS 23 49 24.4 -6.3
KIV *e*SS SS 23 55 45.7 +4.2
KIV *e*SSS 23 59 50.6
KIV pmax pmax
comp=Z,4.0nm,1.0s
KIV Kislovodsk 113.68 314 ⇓*i*P PP 23 39 54.1 +0.3
PLCA Paso Flores 113.99 142 PKP PKiKP 23 39 01.4 -0.8
comp=Z,2.6nm,1.1s,baz=225,slow=5.7,SNR=2.4
PLCA PKKPbc PKKPbc 23 49 40.8 -4.0
comp=Z,5.7nm,1.2s,baz=344,slow=1.6,SNR=3.7
OBN Obninsk 114.39 327 PFAKE 23 39 10.0 +7.5
OBN LR LR
comp=Z,5μm,19.0s,MS6.1
MSL Mosul 114.62 306 *ex* x 23 39 04.5
MSL *ex* x 23 40 04.5
MSL *ex* x 23 45 51.5
MSL *ex* x 23 47 07.0
MSL *ex* x 23 49 43.5
PLAL Pickwick Lake 114.96 55 PFAKE 23 39 20.0 +16
PLAL LR LR
comp=Z,4μm,20.0s,MS6.0
WVT Waverly 115.01 54 PFAKE 23 39 20.0 +16
WVT LR LR
comp=Z,3μm,20.0s,MS6.0
TEIG Tepich 115.70 72 PFAKE 23 39 20.0 +14
TEIG LR LR
comp=Z,2μm,22.0s,MS5.8
GLMI Grayling 115.77 44 PFAKE 23 39 20.0 +15
GLMI LR LR
comp=Z,4μm,21.0s,MS6.0
SOC Sochi 115.86 314 *de*P Pdif 23 35 12.1 -6.2
SOC *i* 23 40 07.3
SOC *e*PPP 23 42 31.4
SOC *e* 23 45 50.3
SOC *e*PS PS 23 49 49.4 -1.2
SOC *e*SS SS 23 56 10.9 +0.7
SOC *e*SSS 00 00 28.4
WCI Wyandotte Cave 115.90 52 PFAKE 23 39 20.0 +14
WCI LR LR
comp=Z,6μm,20.0s,MS6.2
KAF Kangasniemi 115.91 337 *e*pkp PKPdf 23 38 59.0 -6.2
KAF Kangasniemi 115.91 337 *e*pkp PKKPbc 23 49 33.2 -5.5
LRAL Lakeview Retre 116.08 58 PFAKE 23 39 20.0 +14
LRAL LR LR
comp=Z,6μm,20.0s,MS6.2
HOPE Hope Point 116.25 171 PFAKE 23 39 20.0 +14
HOPE LR LR
comp=Z,3.0nm,19.0s
BRAL Brewton 116.26 60 PFAKE 23 39 20.0 +13
BRAL LR LR
comp=Z,3μm,22.0s,MS5.9
FINES FINESS Array B 116.38 336 PKP PKPdf 23 39 04.5 -1.6
FINES PP PP 23 40 11.3 -0.8
FINES PKKPbc PKKPbc 23 49 34.1 -2.9
FINES FINESS Array B 116.38 336 PKIKP PKPdf 23 39 04.5 -1.6
FINES 23 40 11.3
FINES FINESS Array B 116.38 336 PKP PKPdf 23 39 04.5 -1.6
comp=Z,1.9nm,0.8s,baz=5.7,slow=3.8,SNR=8.3
FINES PP PP 23 40 11.3 -0.8
comp=Z,5.2nm,1.0s,baz=103,slow=6.0,SNR=3.6
FINES PKKPbc PKKPbc 23 49 34.1 -2.9
comp=Z,1.2nm,0.7s,baz=211,slow=2.2,SNR=4.2
TGUH Tegucigalpa,Un 116.52 79 PFAKE 23 39 20.0 +12
TGUH LR LR
comp=Z,3μm,20.0s,MS5.8
AAM Ann Arbor 117.06 47 PFAKE 23 39 20.0 +12
AAM LR LR
comp=Z,6μm,19.0s,MS6.2
JMIC Jan Mayen 117.06 355 *e* PP 23 40 28.1 +12
JMIC *e* 23 56 36.0
ANN Anapa 117.14 316 *i* PKIKP PKPdf 23 39 01.2 -6.9
ANN *e* 23 40 15.9
ANN *e* 23 45 54.9
ANN *e*PS PS 23 50 03.9 +1.6
ANN pmax pmax
comp=Z,28nm,1.1s
ANN MLR MLR
comp=E,2μm,23.0s
ANN MLR MLR
comp=Z,2μm,23.0s,MS5.7
MALT Malatya 117.95 309 ⇑P PKPdf 23 39 10.6 +0.7
MALT Malatya 117.95 309 ⇑*i*P PKPdf 23 39 10.6 +0.8
ACSO Alum Creek Sta 118.03 49 PFAKE 23 39 20.0 +10
ACSO LR LR
comp=Z,2μm,19.0s,MS5.8
TKL Tuckaleechee C 118.34 54 PKP PKPdf 23 39 10.7 0.0
comp=Z,4.3nm,0.9s,baz=153,slow=5.5,SNR=4.2
TZTN Tazewell 118.36 53 PFAKE 23 39 20.0 +9.3
TZTN LR LR
comp=Z,7μm,20.0s,MS6.3
SFJD Kangerlussuaq 118.68 12 PFAKE 23 39 20.0 +10
SFJD LR LR
comp=Z,5μm,21.0s,MS6.2
GOGA Godfrey 118.96 57 PFAKE 23 39 20.0 +8.1
GOGA LR LR
comp=Z,5μm,22.0s,MS6.1
NSS Namsos 119.10 344 *e*PP PP 23 40 32.0 +1.2
NSS *e*SKS SKSdf 23 46 04.0 -19
NSS AMS AMS 00 28 22.7
comp=Z,3μm,21.9s,MS5.9
SIM Simferopol' 119.35 317 *e* PP 23 40 37.0 +3.6
SIM *e* 23 46 17.0
SIM *e*PS PS 23 50 20.0 -2.2
SIM *e*SS SS 23 57 04.0 +8.6
SIM pmax pmax
comp=Z,1μm,15.1s
KMBO Kilima Mbogo 119.58 264 PKP PKPdf 23 39 12.8 -0.9
KMBO PKKPab PKKPab 23 49 26.1 -0.5
KMBO Kilima Mbogo 119.58 264 PKPdf PKPdf 23 39 15.4 +1.7
SNR=8.4
KMBO Kilima Mbogo 119.58 264 PKP PKPdf 23 39 12.8 -0.9
comp=Z,11nm,1.1s,baz=18,slow=3.9,SNR=19
KMBO PKKPab PKKPab 23 49 26.1 -0.5
comp=Z,5.2nm,1.1s,baz=288,slow=3.2,SNR=7.9
ERPA Erie 119.73 46 PFAKE 23 39 20.0 +6.8
ERPA LR LR
comp=Z,6μm,19.0s,MS6.2
AKASG Malin Array Be 120.24 325 PKIKP PKPdf 23 39 12.1 -1.7
AKASG 23 40 35.4
AKASG Malin Array Be 120.24 325 PKP PKPdf 23 39 12.1 -1.8
comp=Z,5.3nm,0.8s,baz=63,slow=2.2,SNR=17
AKASG PP PP 23 40 35.4 -3.8
comp=Z,2.9nm,0.9s,baz=50,slow=3.8,SNR=4.4
AKASG PKKPbc PKKPbc 23 49 19.7 -3.1
comp=Z,1.3nm,0.7s,baz=252,slow=4.6,SNR=7.2
KIEV Kiev 120.25 325 *e*PKPdf PKPdf 23 39 13.0 -0.8
KIEV LR LR
comp=Z,5μm,19.0s,MS6.2
LCO Las Campanas 120.44 131 *e*PKPdf PKPdf 23 39 15.7 +0.7
LCO LR LR
comp=Z,3μm,21.0s,MS5.8
MCWV Mont Chateau 120.51 49 PFAKE 23 39 30.0 +15
MCWV LR LR
comp=Z,6μm,22.0s,MS6.2
BLA Blacksburg 120.67 52 PFAKE 23 39 30.0 +15
BLA LR LR
comp=Z,2μm,20.0s,MS5.8
TRQA Tornquist 120.80 144 PFAKE 23 39 30.0 +15
TRQA LR LR
comp=Z,4μm,22.0s,MS6.0
CFAA Coronel Fontan 120.82 135 PKP PKPdf 23 39 14.8 -0.8
CFAA Coronel Fontan 120.82 135 PKP PKPdf 23 39 14.8 -0.8
comp=Z,1.1nm,1.1s,baz=231,slow=3.4,SNR=6.5
BOSA Boshof 120.83 229 PKP PKPdf 23 39 14.9 -0.8
comp=Z,11nm,0.7s,baz=134,slow=4.3,SNR=19
BOSA PKKPbc PKKPbc 23 49 19.0 -1.1
comp=Z,8.5nm,1.2s,baz=262,slow=5.6,SNR=3.6
BHL Bhannes 121.02 304 *e*P PP 23 40 50.0 +4.7
DWPF Disney 121.46 62 PFAKE 23 39 30.0 +13
DWPF LR LR
comp=Z,2μm,20.0s,MS5.8
SSPA Standing Stone 121.68 47 PFAKE 23 39 30.0 +13
SSPA LR LR
comp=Z,5μm,19.0s,MS6.1
NHSC New Hope 121.73 56 PFAKE 23 39 30.0 +13
NHSC LR LR
comp=Z,5μm,19.0s,MS6.1
ANTO Ankara 121.82 312 ⇑P PKPdf 23 39 18.4 +1.2
ANTO Ankara 121.82 312 PKPdf PKPdf 23 39 18.5 +1.3
SNR=6.0
ANTO Ankara 121.82 312 ⇑*i*P PKPdf 23 39 18.4 +1.2
MOL Molde 121.87 344 *e*PP PP 23 40 49.4 -0.2
MOL *e*SKS SKSdf 23 46 15.2 -13
MOL AMS AMS 00 36 26.3
comp=Z,3μm,19.3s,MS5.9
SUR Sutherland 121.90 223 PFAKE 23 39 30.0 +12
SUR LR LR
comp=Z,5μm,21.0s,MS6.2
NB2 NORSAR Subarra 122.00 341 PKPdf PKPdf 23 39 14.6 -2.3
comp=Z,30nm,1.7s,baz=40,slow=1.8
NB2 NORSAR Subarra 122.00 341 PKPdf PKPdf 23 39 14.6 -2.3
baz=40,slow=1.8
NOA NORSAR Array B 122.00 341 PKIKP PKPdf 23 39 16.4 -0.5
NOA 23 40 51.6
NOA NORSAR Array B 122.00 341 PKP PKPdf 23 39 16.4 -0.5
comp=Z,1.0nm,0.6s,baz=355,slow=1.7,SNR=3.7
NOA PP PP 23 40 51.6 +0.9
comp=Z,12nm,1.1s,baz=43,slow=6.7,SNR=5.9
NOA PKKPbc PKKPbc 23 49 14.3 -2.1
comp=Z,2.2nm,0.8s,baz=218,slow=4.4,SNR=3.4
KIS Kishinev 122.05 321 *e*PKIKP PKPdf 23 39 18.0 +0.6
KIS *e* 23 40 52.0
KIS *e* 23 46 20.0
KIS MLR MLR
comp=N,2μm,17.0s
KIS MLR MLR
comp=Z,3μm,17.0s,MS6.0
KIS Kishinev 122.05 321 *e*PP PP 23 40 52.0 +0.3
KIS *e*SKS SKSdf 23 46 20.0 -9.2
SCHQ Schefferville 122.10 28 PKP PKPdf 23 39 17.9 +0.6
SCHQ Schefferville 122.10 28 PKP PKPdf 23 39 17.9 +0.6
comp=Z,2.3nm,0.9s,baz=140,slow=13,SNR=4.1
NAO01 NORSAR Array S 122.25 341 PFAKE 23 39 30.0 +13
NAO01 LR LR
comp=Z,6μm,20.0s,MS6.2
ATAH Atahualpa 122.26 104 PKP PKPdf 23 39 20.1 +1.2
comp=Z,8.6nm,0.9s,baz=315,slow=5.8,SNR=6.1
NNA Nana 122.32 110 PFAKE 23 39 30.0 +11
NNA LR LR
comp=Z,2μm,19.0s,MS5.8
NNA Nana 122.32 110 PKP PKPdf 23 39 19.3 +0.4
comp=Z,5.9nm,0.6s,baz=284,slow=5.5,SNR=3.8
LBTB Lobatse 122.37 233 PFAKE 23 39 30.0 +11
LBTB LR LR
comp=Z,884nm,19.0s,MS5.4
BINY Binghamton 122.54 45 PFAKE 23 39 30.0 +11
BINY LR LR
comp=Z,5μm,19.0s,MS6.2
LONY Lake Ozonia 122.62 42 PFAKE 23 39 30.0 +11
LONY LR LR
comp=Z,3μm,19.0s,MS5.9
CSS Prodhromos 122.68 306 *e*PKPdf PKPdf 23 39 19.9 +0.8
CBN Corbin 122.75 50 PFAKE 23 39 30.0 +11
CBN LR LR
comp=Z,6μm,22.0s,MS6.2
NCB Newcomb 123.11 43 PFAKE 23 39 30.0 +10
NCB LR LR
comp=Z,5μm,20.0s,MS6.2
CNNC Cliffs of the 123.12 53 PFAKE 23 39 30.0 +10
CNNC LR LR
comp=Z,5μm,20.0s,MS6.2
TIRR Tirgusor 123.33 318 ⇑P PKPdf 23 39 21.0 +1.0
TIRR Tirgusor 123.33 318 ⇑*i*P PKPdf 23 39 21.0 +1.0
HARR Harsova 123.55 319 PKIKP PKPdf 23 39 21.6 +1.2
KONO Kongsberg 123.59 341 PFAKE 23 39 30.0 +10
KONO LR LR
comp=Z,7μm,22.0s,MS6.2
KONO Kongsberg 123.59 341 *e*PP PP 23 40 57.1 -4.3
KONO *e*SKS SKSdf 23 46 19.0 -13
KONO AMS AMS 00 31 59.4
comp=Z,5μm,21.7s,MS6.1
LVV L'vov 123.59 326 *e*PKIKP PKPdf 23 39 20.6 +0.3
LVV *e* 23 41 01.6
LVV *e* 23 51 00.2
LVV *e* 23 58 04.2
OTAV Otavalo 123.76 95 *e*PKPdf PKPdf 23 39 22.5 +0.8
OTAV LR LR
comp=Z,2μm,20.0s,MS5.7
PSN Preselentsi 123.78 317 *e*P PKPdf 23 39 19.4 -1.5
VRI Vrincioaia 123.84 320 ⇑*i*P PKPdf 23 39 25.5 +4.6
BORG Borgarnes 123.96 359 PFAKE 23 39 30.0 +9.4
BORG LR LR
comp=Z,3μm,22.0s,MS5.9
BER Bergen 124.27 344 *e*PP PP 23 41 08.2 +2.3
BER AMS AMS 00 34 27.5
comp=Z,3μm,20.2s,MS5.9
LSZ Lusaka 124.36 245 *e*PKPdf PKPdf 23 39 22.3 -0.5
LSZ PP PP 23 41 09.5 +1.4
LSZ LR LR
comp=Z,3μm,19.0s,MS6.0
LSZ Lusaka 124.36 245 PKPdf PKPdf 23 39 23.3 +0.5
SNR=16
KWP Kalwaria 124.42 326 ⇑P PKPdf 23 39 22.2 +0.3
KWP Kalwaria 124.42 326 ⇑*i*P PKPdf 23 39 22.2 +0.3
MLR Muntele Rosu 124.49 320 ⇓P PKPdf 23 39 22.4 +0.2
MLR Muntele Rosu 124.49 320 ⇓*i*P PKPdf 23 39 22.4 +0.2
LBNH Lisbon 124.52 41 PFAKE 23 39 30.0 +7.7
LBNH LR LR
comp=Z,6μm,19.0s,MS6.3
BSD Bornholm Skovb 124.92 335 *i* P PP 23 41 14.8 +4.3
BSD *i* S SKSdf 23 46 41.2 +6.9
BSD *i* 23 51 22.4
BSD
comp=Z,5μm,18.0s
KOLS Kolonicke sedl 125.03 325 *e*PKP PKPdf 23 39 24.0 +0.9
KOLS *e*SP SP 23 51 08.7 -1.0
VOIR 125.08 321 ⇑P PKPdf 23 39 31.4 +8.0
VOIR 125.08 321 ⇑*i*P PKPdf 23 39 31.4 +8.1
UZH Uzhgorod 125.18 325 *i* PKIKP PKPdf 23 39 24.0 +0.6
UZH *i* 23 39 31.0
UZH *i* 23 41 15.0
UZH *i* 23 46 34.0
UZH *i* 23 51 03.0
UZH *i* SS SS 23 58 10.0 +1.0
UZH MLR MLR
comp=Z,3μm,16.5s,MS6.0
JMB Yambol 125.34 317 *e*P PKPdf 23 39 24.4 +0.5
STHS Stebnicka Huta 125.35 326 *e*PKP PKPdf 23 39 24.5 +0.8
HRV Adam Dziewonsk 125.47 43 PFAKE 23 39 40.0 +16
HRV LR LR
comp=Z,5μm,19.0s,MS6.2
CRVS Cervenica-Dubn 125.50 326 *e*PKP PKPdf 23 39 24.5 +0.5
COP Copenhagen 125.54 336 *i* P PP 23 41 03.5 -11
COP *i* 23 46 43.6
COP *i* 23 48 19.3
COP *i* 23 51 20.7
COP
comp=Z,2μm,20.0s
OJC Ojcow 125.68 328 *e*PKP PKPdf 23 39 24.7 +0.4
OJC *e*PP PP 23 41 23.5 +7.7
WES Weston 125.68 43 PFAKE 23 39 40.0 +15
WES LR LR
comp=Z,4μm,20.0s,MS6.1
PKME Peaks-Kenny Pk 125.76 39 PFAKE 23 39 40.0 +15
PKME LR LR
comp=Z,3μm,19.0s,MS6.0
NIE Niedzica 125.85 327 *e*PKP PKPdf 23 39 25.7 +1.0
MUD Monsted U'grnd 126.20 339 ⇑*i*P PP 23 41 24.8 +5.9
MUD *i* 23 46 46.8

MUD				*i*		23 58 45.4	
MUD							
	comp=Z,3µm,19.0s						
KECS	**Kecovo**	**126.27 326**	*e*PKP	PKPdf	23 39 24.3	-1.2	
GZR	**Gura Zlata**	**126.52 321**	⇑P	PKPdf	23 39 26.7	+0.6	
GZR	**Gura Zlata**	**126.52 321**	⇑*i*P	PKPdf	23 39 26.7	+0.6	
OKC	**Ostrava-Krasne**	**126.77 328**	*e*PKP	PKPdf	23 39 26.9	+0.5	
OKC			*e*PP	PP	23 41 27.4	+4.4	
OKC			*e*SKP		23 42 52.5		
OKC	**Ostrava-Krasne**	**126.77 328**	*e*PKIKP	PKPdf	23 39 26.9	+0.5	
OKC			*e*		23 41 27.4		
OKC			MLR	MLR			
	comp=Z,3µm,21.1s,MS6.0						
OKC	**Ostrava-Krasne**	**126.77 328**	*e*PKPdf	PKPdf	23 39 26.9	+0.5	
OKC			*e*PP	PP	23 41 27.4	+4.4	
OKC			*e*SKP		23 42 52.5		
OKC			*e*SS	SKKSac	23 48 42.9	+22	
OKC			AMS	AMS	00 35 50.0		
	comp=Z,3µm,21.1s,MS6.0						
PSZ	**Piszkesteto**	**126.92 325**	⇓P	PKPdf	23 39 27.8	+1.0	
PSZ	**Piszkesteto**	**126.92 325**	PKIKP	PKPdf	23 39 27.6	+0.9	
PSZ	**Piszkesteto**	**126.92 325**	⇓*i*P	PKPdf	23 39 27.8	+1.1	
PSZ	**Piszkesteto**	**126.92 325**	⇓*e*PKP	PKPdf	23 39 27.8	+1.1	
KSP	**Ksiaz**	**127.09 330**	*e*PKP	PKPdf	23 39 25.7	-1.3	
KSP			*e*PP	PP	23 41 26.0	+0.9	
KSP			*e*PKS		23 42 48.0		
KSP			*e*SP	SP	23 51 28.5	+1.0	
KSP			*e*PPS		23 53 03.0		
KSP			*e*SS	SS	23 58 36.0	+3.4	
KSP			LR	LR			
	comp=Z,12µm,22.5s,MS6.5						
KSP	**Ksiaz**	**127.09 330**	*e*PKIKP	PKPdf	23 39 25.7	-1.3	
KSP			*e*		23 41 26.0		
KSP			*e*SP	SP	23 51 28.5	+1.0	
KSP			*e*PPS		23 53 03.0		
KSP			*e*SS	SS	23 58 36.0	+3.4	
KSP			MLR	MLR			
	comp=Z,12µm,22.5s,MS6.5						
MORC	**Moravsky Berou**	**127.11 328**	⇑*i*P	PKPdf	23 39 27.8	+0.7	
BZS	**Buzias**	**127.12 322**	⇓P	PKPdf	23 39 26.2	-1.0	
BZS	**Buzias**	**127.12 322**	⇓*i*P	PKPdf	23 39 26.2	-1.0	
VYHS	**Vyhne**	**127.18 326**	*e*PKP	PKPdf	23 39 26.3	-0.9	
VYHS			*e*PP	PP	23 41 27.8	+2.0	
VYHS			*e*SP	SP	23 51 29.5	+1.0	
RUE	**Ruedersdorf**	**127.21 333**	*e*PKPdf	PKPdf	23 39 27.3	+0.1	
KOLL	**Kolacno**	**127.37 327**	*e*PKP	PKPdf	23 39 27.9	+0.3	
KOLL			*e*PP	PP	23 41 28.8	+1.8	
DPC	**Dobruska-Polom**	**127.39 330**	*e*PKIKP	PKPdf	23 39 28.5	+0.9	
DPC			*e*		23 41 28.4		
DPC			MLR	MLR			
	comp=Z,6µm,21.8s,MS6.2						
DPC	**Dobruska-Polom**	**127.39 330**	*e*PKPdf	PKPdf	23 39 28.5	+0.9	
DPC			*e*PP	PP	23 41 28.4	+1.4	
DPC			*e*x	x	23 42 50.4		
DPC			*e*x	x	23 48 34.3		
DPC			*e*x	x	00 01 33.6		
DPC			AMS	AMS	00 35 40.0		
	comp=Z,6µm,21.8s,MS6.2						
UPC	**Upice**	**127.44 330**	*e*PKPdf	PKPdf	23 39 28.3	+0.6	
UPC			*e*PP	PP	23 41 34.7	+7.3	
VTS	**Vitosha**	**127.55 318**	PKIKP	PKPdf	23 39 27.7	-0.4	
VTS	**Vitosha**	**127.55 318**	*e*P	PKPdf	23 39 28.1	0.0	
MMB	**Musomiste**	**127.64 317**	*e*P	PKPdf	23 39 28.4	+0.1	
BUD	**Budapest**	**127.64 325**	⇓*e*PKP	PKPdf	23 39 29.2	+1.0	
BSEG	**Bad Segeberg**	**127.65 336**	*e*PKPdf	PKPdf	23 39 28.2	+0.2	
VRAC	**Vranov**	**127.89 328**	⇑P	PKPdf	23 39 28.9	+0.3	
VRAC	**Vranov**	**127.89 328**	PKP	PKPdf	23 39 27.8	-0.8	
	baz=260,slow=16						
VRAC	**Vranov**	**127.89 328**	⇑*i*P	PKPdf	23 39 28.9	+0.3	
KKB	**Krupnik**	**127.95 317**	*e*P	PKPdf	23 39 27.7	-1.2	
MODS	**Modra-Piesok**	**128.09 327**	*e*PKP	PKPdf	23 39 28.8	-0.2	
MODS			*e*PP	PP	23 41 34.2	+2.4	
MODS			*e*SP	SP	23 51 38.7	+2.3	
MODS			*e*SP		00 01 32.4		
MODS	**Modra-Piesok**	**128.09 327**	*e*PKP	PKPdf	23 39 28.8	-0.2	
MODS			*e*PP	PP	23 41 34.2	+2.4	
MODS			*e*SP	SP	23 51 38.7	+2.3	
PVCC	**Panska Ves**	**128.14 331**	*e*PKIKP	PKPdf	23 39 30.3	+1.3	
PVCC			*e*		23 41 34.3		
PVCC			MLR	MLR			
	comp=Z,6µm,17.8s,MS6.3						
PVCC	**Panska Ves**	**128.14 331**	*e*PKPdf	PKPdf	23 39 30.3	+1.3	
PVCC			*e*PP	PP	23 41 34.3	+2.3	
PVCC			*e*SKP		23 42 55.6		
PVCC			*e*x	x	23 48 45.8		
PVCC			*e*x	x	00 01 33.6		
PVCC			AMS	AMS	00 39 20.0		
	comp=Z,6µm,17.8s,MS6.3						
BRG	**Berggiesshubel**	**128.21 331**	*e*PKP	PKPdf	23 39 29.7	+0.6	
BRG			*e*		23 41 31.7		
BRG			PP	PP	23 41 35.0	+2.6	
BRG			*e*		23 42 51.0		
BRG			*e*		23 50 17.6		
BRG			*i*		23 51 28.0		
BRG			SS	SS	23 58 59.0	+13	
BRG			LR	LR			
	comp=Z,4µm,22.7s,MS6.0						
BRG	**Berggiesshubel**	**128.21 331**	*e*PKIKP	PKPdf	23 39 29.7	+0.6	
BRG					23 41 35.0		
BRG			*i*		23 51 28.0		
BRG			pmax	pmax			
	comp=Z,24nm,1.4s						
BRG			MLR	MLR			
	comp=N,2µm,21.5s,MS6.0						
BRG			MLR	MLR			
	comp=E,3µm,18.6s,MS6.0						
BRG			MLR	MLR			
	comp=Z,1µm,22.7s,MS5.5						
BRG	**Berggiesshubel**	**128.21 331**	*e*PKPdf	PKPdf	23 39 29.3	+0.2	
BRG	**Berggiesshubel**	**128.21 331**	*e*PKP	PKPdf	23 39 29.7	+0.6	
	comp=Z,34nm,1.4s						
BRG			*e*		23 41 31.7		
	comp=Z,42nm,2.0s						
BRG			PP	PP	23 41 35.0	+2.6	
BRG			*e*		23 42 51.0		
BRG			*e*		23 50 17.6		
	comp=Z,13nm,1.3s						
BRG			*i*		23 51 28.0		
BRG			*e*RP'P'		23 57 44.0		
	comp=Z,2.8nm,1.2s						
BRG			SS	SS	23 58 59.0	+13	
BRG							
	comp=N,5µm,21.5s						
BRG							
	comp=E,2µm,18.6s						
BRG							
	comp=Z,7µm,22.7s						
ZST	**Bratislava**	**128.29 327**	*e*PKP	PKPdf	23 39 30.2	+0.8	
ZST			*e*SP	SP	23 51 40.2	+2.1	
ZST			*e*SP		00 01 32.4		
ZST			LR	LR			
	comp=Z,5µm,18.7s,MS6.2						
ZST	**Bratislava**	**128.29 327**	*e*PKP	PKPdf	23 39 30.2	+0.8	
ZST			*e*SP	SP	23 51 40.2	+2.1	
CLL	**Collm**	**128.36 332**	⇑*i*PKP	PKPdf	23 39 29.6	+0.2	
CLL			*i*		23 39 34.1		
CLL			*i*		23 39 36.5		
CLL			*e*SKP		23 42 57.0		
CLL			*e*SKS	SKSdf	23 46 36.0	-4.8	
CLL			LR	LR			
	comp=Z,5µm,20.6s,MS6.2						
CLL	**Collm**	**128.36 332**	⇑*i*PKIKP	PKPdf	23 39 29.6	+0.2	
CLL			*i*		23 39 36.5		
CLL			*e*		23 46 36.0		
CLL			pmax	pmax			
	comp=Z,7.0nm,1.4s						
CLL			MLR	MLR			
	comp=Z,5µm,20.6s,MS6.2						
CLL	**Collm**	**128.36 332**	⇑*i*PKPdf	PKPdf	23 39 29.6	+0.2	
	comp=Z,22nm,1.4s						
CLL			*e*SSS		00 03 37.0		
CLL			*e*pPKPdf	pPKPdf	23 39 34.6	+0.6	
CLL			*e*PP	PP	23 41 34.8	+1.4	
CLL			*e*SKPdf	SKPdf	23 42 56.2	-8.4	
CLL			*e*PPP		23 44 24.0		
CLL			*e*SKSdf	SKSdf	23 46 34.4	-6.4	
CLL			*e*SKKSac	SKKSac	23 48 35.2	+4.2	
CLL			*e*SKSP		23 51 33.4		
CLL			*e*PS	PS	23 51 44.0	+2.7	
CLL			*e*PPS		23 53 20.4		
CLL			*e*SKKSdf	SKKSdf	23 56 52.6	0.0	
CLL			*e*SS	SS	23 58 47.7	-0.5	
CLL	**Collm**	**128.36 332**	⇑*i*PKPdf	PKPdf	23 39 29.6	+0.2	
	comp=Z,22nm,1.4s						
CLL			*i* pPKPdf	pPKPdf	23 39 34.1	+0.1	
CLL			*i* sPKPdf		23 39 36.5		
CLL			*i* x	x	23 39 47.0		
CLL			*e*PP	PP	23 41 39.0	+5.6	
	comp=Z,2µm,19.8s						
CLL			*e*SKPdf	SKPdf	23 42 57.0	-7.6	
CLL			*e*PPP		23 44 30.0		
CLL			*e*SKSac	SKSac	23 46 36.0	-0.7	
CLL			*e*SKKSac	SKKSac	23 48 35.0	+4.0	
CLL			*e*SKSP		23 51 32.0		
CLL			*e*PPS		23 53 18.0		
CLL			*e*x	x	23 54 16.0		
CLL			*e*SS	SS	23 59 04.0	+16	
CLL			*e*SSS		00 03 29.0		
CLL			*e*x	x	00 06 41.0		
CLL			*e*SSSS		00 07 48.0		
CLL			Lm		00 37 00.0		
	comp=N,4µm,20.4s						
CLL			Lm		00 37 00.0		
	comp=E,3µm,19.8s						
CLL			Lm		00 37 00.0		
	comp=Z,5µm,20.3s						
FBE	**Freiberg**	**128.46 332**	*e*PKPdf	PKPdf	23 39 29.9	+0.3	
TREC	**Trest**	**128.47 329**	*e*PKIKP	PKPdf	23 39 30.4	+0.7	
TREC			*e*		23 41 39.4		
TREC			MLR	MLR			
	comp=Z,6µm,21.0s,MS6.3						
TREC	**Trest**	**128.47 329**	*e*PKPdf	PKPdf	23 39 30.4	+0.7	
TREC			*e*PP	PP	23 41 39.4	+5.2	
TREC			*e*SKP		23 42 59.2		
TREC			*e*x	x	23 48 40.2		
TREC			*e*x	x	00 01 32.2		
TREC			AMS	AMS	00 36 30.0		
	comp=Z,6µm,21.0s,MS6.3						
PRU	**Pruhonice**	**128.50 330**	*e*PKP	PKPdf	23 39 30.0	+0.3	
PRU			*e*PP	PP	23 41 36.0	+1.6	
PRU			*e*SKP		23 42 59.0		
PRU			*e*SS	SKKSac	23 48 39.1	+7.2	
PRU	**Pruhonice**	**128.50 330**	*e*PKIKP	PKPdf	23 39 30.0	+0.3	
PRU			*e*		23 41 36.0		
PRU			MLR	MLR			
	comp=Z,5µm,20.4s,MS6.2						
PRU	**Pruhonice**	**128.50 330**	*e*PKPdf	PKPdf	23 39 30.0	+0.3	
PRU			*e*PP	PP	23 41 36.0	+1.6	
PRU			*e*SKP		23 42 59.0		
PRU			*e*x	x	23 48 39.1		
PRU			*e*x	x	00 01 31.5		
PRU			AMS	AMS	00 34 30.0		
	comp=Z,5µm,20.4s,MS6.2						
ROSC	**El Rosal**	**128.52 91**	PKP	PKPdf	23 39 29.7	-1.1	
	comp=Z,19nm,0.8s,baz=105,slow=19,SNR=9.8						
VAY	**Valandovo**	**128.54 317**	*e*PKP	PKPdf	23 39 28.4	-1.6	
PKSM	**Moragy**	**128.57 324**	⇑P	PKPdf	23 39 31.1	+1.1	
PKSM	**Moragy**	**128.57 324**	PKIKP	PKPdf	23 39 30.1	+0.1	
PKSM	**Moragy**	**128.57 324**	⇑*i*P	PKPdf	23 39 31.1	+1.1	
LPAZ	**La Paz**	**128.59 119**	PKP	PKPdf	23 39 30.9	0.0	
LPAZ			LR	LR			
	comp=Z,2µm,20.0s,MS5.7						
LPAZ	**La Paz**	**128.59 119**	PKP	PKPdf	23 39 30.9	0.0	
	comp=Z,18nm,1.1s,baz=360,slow=2.4,SNR=39						
STIP	**Stip**	**128.63 318**	*e*PKP	PKPdf	23 39 28.6	-1.6	
NRDL	**Niedersach Rie**	**128.80 335**	*e*PKPdf	PKPdf	23 39 30.6	+0.4	
SOP	**Sopron**	**128.89 327**	⇑*e*PKP	PKPdf	23 39 31.1	+0.6	
SKO	**Skopje**	**129.00 318**	*e*PKP	PKPdf	23 39 29.3	-1.6	
CONA	**Conrad Observa**	**129.12 327**	⇑*i*PKiKP	PKiKP	23 39 31.3	-0.3	
	comp=Z,24nm,1.6s,SNR=8.4						
CLZ	**Clausthal**	**129.16 334**	*e*PKPdf	PKPdf	23 39 31.4	+0.5	
WERD	**Werda**	**129.27 332**	*e*PKPdf	PKPdf	23 39 31.4	+0.2	
GUNZ	**Gunzen**	**129.31 332**	*e*PKPdf	PKPdf	23 39 31.7	+0.5	
WERN	**Wernitzgruen**	**129.34 332**	*e*PKPdf	PKPdf	23 39 31.7	+0.4	
NKC	**Novy Kostel**	**129.35 332**	*e*PKP	PKPdf	23 39 32.1	+0.8	
NKC			*e*PP	PP	23 41 40.9	+1.0	
NKC			*e*SKP		23 43 00.7		
NKC			*e*SS	SKKSac	23 48 44.7	+7.5	
NKC			*e*		00 01 41.9		
NKC	**Novy Kostel**	**129.35 332**	*e*PKIKP	PKPdf	23 39 32.1	+0.8	
NKC			*e*		23 41 40.9		
NKC			MLR	MLR			
	comp=Z,4µm,20.6s,MS6.1						
NKC	**Novy Kostel**	**129.35 332**	*e*PKPdf	PKPdf	23 39 32.1	+0.8	
NKC			*e*PP	PP	23 41 40.9	+1.0	
NKC			*e*SKP		23 43 00.7		
NKC			*e*x	x	23 48 44.7		
NKC			*e*x	x	00 01 41.9		
NKC			AMS	AMS	00 37 00.0		
	comp=Z,4µm,20.6s,MS6.1						
KRUS	**Krusevo**	**129.40 318**	*e*PKP	PKPdf	23 39 30.1	-1.6	
MOX	**Moxa**	**129.45 332**	*e*PKP	PKPdf	23 39 32.1	+0.6	
	comp=Z,28nm,1.6s						
MOX			*e*		23 43 03.0		
MOX	**Moxa**	**129.45 332**	*e*PKIKP	PKPdf	23 39 32.1	+0.6	
MOX			pmax	pmax			
	comp=Z,46nm,1.6s						
MOX	**Moxa**	**129.45 332**	*e*PKPdf	PKPdf	23 39 31.6	+0.1	
BIA	**Bitola**	**129.51 317**	*e*PKP	PKPdf	23 39 30.3	-1.7	
KHC	**Kasperske Hory**	**129.53 330**	*e*PKP	PKPdf	23 39 32.6	+0.9	
KHC			*e*PP	PP	23 41 37.2	-3.9	
KHC			*e*SKP		23 43 00.1		
KHC			*e*SS	SKKSac	23 48 43.7	+5.3	
KHC			*e*		00 01 42.6		
KHC			LR	LR			
	comp=Z,5µm,18.5s,MS6.2						
KHC	**Kasperske Hory**	**129.53 330**	*e*PKIKP	PKPdf	23 39 32.6	+0.9	
KHC			*e*		23 41 37.2		
KHC			MLR	MLR			
	comp=Z,5µm,18.5s,MS6.2						
KHC	**Kasperske Hory**	**129.53 330**	*e*PKPdf	PKPdf	23 39 32.6	+0.9	
KHC			*e*PP	PP	23 41 37.2	-3.9	
KHC			*e*SKP		23 43 00.1		
KHC			*e*x	x	23 48 43.7		
KHC			*e*x	x	00 01 42.6		
KHC			AMS	AMS	00 43 00.0		
	comp=Z,5µm,18.5s,MS6.2						
GERES	**GERESS Array B**	**129.66 329**	PKP	PKPdf	23 39 30.7	-1.2	
	comp=Z,2.7nm,0.9s,baz=48,slow=2.0,SNR=21						
MANZ	**Manzenberg**	**129.68 331**	*e*PKPdf	PKPdf	23 39 32.2	+0.3	
ROTZ	**Rotzenmuhle**	**129.78 331**	*e*PKPdf	PKPdf	23 39 32.4	+0.3	
OHR	**Ohrid**	**129.82 317**	*e*PKP	PKPdf	23 39 30.8	-1.8	
WET	**Wettzell**	**129.87 330**	*e*PKPdf	PKPdf	23 39 32.6	+0.3	
IBBN	**Ibbenburen**	**129.90 336**	*e*PKPdf	PKPdf	23 39 32.6	+0.3	
MOA	**Molln**	**130.01 328**	⇑*i*P	PKPdf	23 39 32.2	-0.5	
	comp=Z,11nm,1.6s						
MOA	**Molln**	**130.01 328**	⇑*i*P	PKPdf	23 39 32.2	-0.5	
GRA1	**Grafenberg Arr**	**130.29 332**	*e*PKPdf	PKPdf	23 39 33.3	+0.2	
GRA1			*e*PP	PP	23 41 47.1	+1.1	
GRA1			*e*SKPdf	SKPdf	23 43 03.8	-4.5	
GRA1			*e*SKKSac	SKKSac	23 48 47.0	+3.9	
GRF	**Grafenberg Arr**	**130.29 332**	*e*PKP	PKPdf	23 39 33.3	+0.2	
GRF			*e*PP	PP	23 41 47.1	+1.1	
GRF			SKPdf	SKPdf	23 43 03.8	-4.5	
GRF			*e*SKKS	SKKSac	23 48 47.0	+3.9	
GRF			LR	LR			
	comp=Z,4µm,21.8s,MS6.1						
GRF	**Grafenberg Arr**	**130.29 332**	*e*PKIKP	PKPdf	23 39 33.3	+0.2	
GRF			*e*		23 41 47.1		
GRF	**Grafenberg Arr**	**130.29 332**	*e*PKIKP	PKPdf	23 39 33.3	+0.2	
GRF			*e*		23 41 47.1		
GRF			MLR	MLR			
	comp=Z,4µm,21.8s,MS6.1						
GRF	**Grafenberg Arr**	**130.29 332**	*e*PKPdf	PKPdf	23 39 33.3	+0.2	
GRF			*e*PP	PP	23 41 47.1	+1.1	
GRF			*e*SKPdf	SKPdf	23 43 03.8	-4.5	
GRF			*e*SKKSac	SKKSac	23 48 47.0	+3.9	
GRF	**Grafenberg Arr**	**130.29 332**	*e*L		00 39 45.6		
	comp=Z,4µm,21.8s						
GRFO	**Grafenberg**	**130.30 332**	PFAKE		23 39 40.0	+6.9	
GRFO			LR	LR			
	comp=Z,3µm,20.0s,MS6.0						
BOJS	**Bojanci**	**130.92 325**	*i* PKPdf	PKPdf	23 39 36.3	+1.8	
BOJS			*i*		23 39 42.7		
ESK	**Eskdalemuir**	**130.94 345**	PFAKE		23 39 50.0	+16	
ESK			LR	LR			
	comp=Z,3µm,20.0s,MS6.0						
KBA	**Koelnbreinsper**	**130.98 328**	⇑*i*P	PKPdf	23 39 35.5	+1.0	
	comp=Z,15nm,1.2s						
TNS	**Taunus Mts**	**131.17 334**	*e*PKPdf	PKPdf	23 39 35.3	+0.5	
FUR	**Furstenfeldbru**	**131.32 330**	*e*PKPdf	PKPdf	23 39 35.1	0.0	
JAVS	**Javornik**	**131.34 326**	*e*PKPdf	PKPdf	23 39 36.5	+1.2	
JAVS			*i*		23 39 43.0		
VOY	**Vojsko**	**131.35 327**	*e*PKPdf	PKPdf	23 39 39.9	+4.7	
VOY			*e*		23 40 12.2		
VOY			*e*		23 40 35.0		
TSUM	**Tsumeb**	**131.70 235**	*e*PKPdf	PKPdf	23 39 37.5	+0.7	
TSUM			*e*PP	PP	23 41 55.9	-0.3	
TSUM			*e*SKPbc	SKPbc	23 43 02.1	-0.2	
TSUM			LR	LR			
	comp=Z,6µm,20.0s,MS6.3						
WTTA	**Wattenberg**	**131.74 329**	⇑*i*P	PKPdf	23 39 35.9	-0.1	
	comp=Z,30nm,1.6s,SNR=9.8						
SDDR	**Presa de Saban**	**131.75 72**	PFAKE		23 39 50.0	+13	
SDDR			LR	LR			
	comp=Z,2µm,20.0s,MS5.9						
ABH	**Alteburg**	**131.81 334**	PKP	PKPdf	23 39 36.3	+0.3	
STU	**Stuttgart**	**131.89 332**	*e*PKPdf	PKPdf	23 39 36.4	+0.2	
MEM	**Membach**	**131.90 336**	PKPdf	PKPdf	23 39 37.9	+1.7	
RUP	**Ruppelstein**	**132.16 334**	PKP	PKPdf	23 39 37.1	+0.4	
BCLA	**Clavier**	**132.34 336**	PKPdf	PKPdf	23 39 38.1	+1.1	
LANF	**Langenberg**	**132.37 333**	PKP	PKPdf	23 39 37.4	+0.3	
SDV	**Santo Domingo**	**132.55 86**	*e*PKPdf	PKPdf	23 39 36.8	-1.7	
SDV			LR	LR			
	comp=Z,617nm,21.0s,MS5.3						
SPAK	**Spaichingen-Ko**	**132.56 332**	PKP	PKPdf	23 39 37.8	+0.3	
WLF	**Walferdange**	**132.57 335**	*e*PKPdf	PKPdf	23 39 38.5	+1.1	
BFO	**Black Forest**	**132.60 332**	*e*PKPdf	PKPdf	23 39 37.4	-0.1	
BFO			LR	LR			
	comp=Z,4µm,19.0s,MS6.1						
DOU	**Dourbes**	**132.87 336**	PKPdf	PKPdf	23 39 40.0	+2.0	
DAVOX	**Davos/Dischmat**	**132.96 330**	PKP	PKPdf	23 39 37.9	-0.4	
	comp=Z,2.5nm,0.6s,baz=96,slow=2.2,SNR=6.4						
CDF	**Champ du Feu**	**133.02 333**	*e*PKIKP	PKPdf	23 39 35.9	-2.4	
BAIF	**Baives**	**133.05 337**	*e*PKIKP	PKPdf	23 39 35.8	-2.5	
FELD	**Feldberg im Sc**	**133.08 332**	PKP	PKPdf	23 39 38.4	-0.1	
TIP	**Timpagrande**	**133.47 317**	*e*PKPdf	PKPdf	23 39 40.8	+1.3	
TIP			*e*PP	PP	23 42 04.6	-2.4	
MOF	**Molkenrain**	**133.50 333**	PKP	PKPdf	23 39 39.7	+0.4	
HINF	**Hinteralfeld**	**133.66 333**	*e*PKIKP	PKPdf	23 39 37.1	-2.4	
	comp=Z,28nm,1.0s						
HAU	**Haudompre**	**133.74 333**	*e*PKIKP	PKPdf	23 39 37.2	-2.5	
	comp=Z,22nm,0.9s						
AQU	**L'Aquila**	**133.86 323**	⇑P	pPKPdf	23 39 51.4	+6.8	
AQU	**L'Aquila**	**133.86 323**	⇑*i*P	pPKPdf	23 39 51.4	+6.7	
MEZF	**Maizieres J'vi**	**133.93 335**	*e*PKIKP	PKPdf	23 39 37.3	-2.7	
	comp=Z,116nm,1.5s						
BBSR	**BB Station**	**134.45 53**	PFAKE		23 39 50.0	+8.5	
BBSR			LR	LR			
	comp=Z,3µm,19.0s,MS6.0						
SIV	**San Ignacio**	**134.74 123**	PKP	PKPdf	23 39 41.8	-0.7	
	comp=Z,8.8nm,1.0s,baz=204,slow=3.3,SNR=8.0						
CABF	**La Chapelle**	**134.90 332**	*e*PKIKP	PKPdf	23 39 39.5	-2.4	
	comp=Z,55nm,1.0s						
LOR	**Lormes**	**135.39 334**	*e*PKIKP	PKPdf	23 39 40.3	-2.5	
	comp=Z,31nm,1.2s						
LPL	**La Plagne**	**135.40 331**	*e*PKIKP	PKPdf	23 39 40.0	-2.9	
	comp=Z,37nm,1.1s						
LPG	**La Plagne**	**135.40 331**	*e*PKIKP	PKPdf	23 39 40.0	-2.9	
	comp=Z,47nm,1.2s						
SSF	**Saint Saulge**	**135.70 334**	*e*PKIKP	PKPdf	23 39 40.8	-2.6	
	comp=Z,48nm,1.3s						
BNI	**Bardonecchia**	**135.76 330**	*e*PKPdf	PKPdf	23 39 43.1	-0.5	
BNI			*e*PP	PP	23 42 23.0	+2.0	
SMF	**Signal de Mont**	**135.88 334**	*e*PKIKP	PKPdf	23 39 41.0	-2.7	
LDF	**La Druitiere**	**135.89 339**	*e*PKIKP	PKPdf	23 39 40.9	-2.8	
	comp=Z,24nm,1.0s						
MBDF	**Montbardon**	**135.95 330**	*e*PKIKP	PKPdf	23 39 41.3	-2.6	
	comp=Z,33nm,1.2s						
AVF	**Avril sur Loir**	**135.98 334**	*e*PKIKP	PKPdf	23 39 41.3	-2.6	
SURF	**Saint Ours**	**136.10 330**	PKP	PKPdf	23 39 47.4	+3.2	
SBF	**Sospel**	**136.22 328**	*e*PKIKP	PKPdf	23 39 41.8	-2.7	
ORIF	**Oris-en-Rattie**	**136.25 331**	*e*PKIKP	PKPdf	23 39 41.5	-3.0	
	comp=Z,24nm,0.9s						
PGF	**Pioggiola**	**136.28 326**	*e*PKIKP	PKPdf	23 39 41.7	-2.9	
	comp=Z,126nm,1.3s						
BGF	**Bois d'Agland**	**136.38 335**	*e*PKIKP	PKPdf	23 39 41.8	-2.9	
	comp=Z,80nm,1.4s						
PLDF	**La Plantade**	**136.50 333**	PKP	PKPdf	23 39 40.4	-4.5	
SJG	**San Juan**	**136.69 73**	PKP	PKPdf	23 39 45.2	-0.8	
SJG			PKPdf	PKPdf	23 39 45.4	-0.6	
SJG			LR	LR			
	comp=Z,2µm,19.0s,MS5.8						
SJG	**San Juan**	**136.69 73**	PKP	PKPdf	23 39 45.2	-0.8	
	comp=Z,18nm,0.9s,baz=357,slow=8.2,SNR=3.1						
FRF	**La Foret Royal**	**136.84 329**	*e*PKIKP	PKPdf	23 39 42.7	-2.9	
TCF	**Toulx Ste Croi**	**136.86 335**	*e*PKIKP	PKPdf	23 39 43.0	-2.6	
	comp=Z,33nm,1.1s						
VIVF	**Saint-Julien-l**	**136.87 332**	*e*PKIKP	PKPdf	23 39 42.7	-2.9	
	comp=Z,31nm,1.1s						
PYM	**Petit Puy Mans**	**136.94 334**	PKP	PKPdf	23 39 40.5	-5.2	
SGMF	**Saint Gilles**	**137.02 340**	*e*PKIKP	PKPdf	23 39 42.9	-2.9	
	comp=Z,97nm,1.5s						
LMR	**La Mourre**	**137.07 329**	*e*PKIKP	PKPdf	23 39 43.1	-3.0	
SMRF	**Simiane la Rot**	**137.08 330**	*e*PKIKP	PKPdf	23 39 43.2	-2.9

comp=Z,4μm,20.9s
EGUA Guajares 147.02 331 PKP PKPdf 23 40 04.0 0.0
ELOJ Sierra Loja 147.04 332 PKP PKPdf 23 40 04.2 +0.2
ALMR Almeirim 147.09 340 *eP* PKPdf 23 40 04.9 +0.9
PBAR Barrancos 147.40 337 *e*PKP PKPdf 23 40 06.3 +1.7
PBAR Barrancos 147.40 337 *e*SS SS 00 03 27.2 +54
PBAR Barrancos 147.40 337 *e*LR LR 00 35 23.2
comp=Z,3μm,19.0s
EVO Evora 147.45 338 *e*PKIKP PKPdf 23 40 06.8 +2.2
comp=Z,129nm,1.2s
EVO Evora 147.45 338 *e*PKP PKPdf 23 40 06.0 +1.4
EALB Alboran 147.47 330 PKP PKPdf 23 40 05.2 +0.4
PMAFR Mafra 147.51 340 *e*PKP PKPdf 23 40 06.5 +1.8
PMAFR Mafra 147.51 340 *e*LR LR 00 31 29.5
comp=Z,3μm,21.2s
EMIN Mina Concepcio 147.60 336 PKP PKPdf 23 40 06.8 +1.9
LIS Lisbon 147.68 340 *eP* PKPdf 23 40 06.9 +1.9
EMIJ Mijas 147.80 332 PKP PKPdf 23 40 07.4 +2.2
PBEJ Beja 147.84 338 *e*PKP PKPdf 23 40 07.3 +2.0
ESPR Espera 148.03 334 PKP PKPdf 23 40 05.9 +0.2
EGRO El Granado 148.13 337 PKP PKPdf 23 40 07.1 +1.3
EJIF Jimena Fronter 148.21 333 PKP PKPdf 23 40 07.4 +1.4
PVAQ Vaqueiros 148.33 337 *e*PKP PKPdf 23 40 08.7 +2.6
PVAQ Vaqueiros 148.33 337 *e*SS SS 00 03 31.6 +48
PVAQ Vaqueiros 148.33 337 *e*LR LR 00 35 08.0
comp=Z,3μm,19.3s
PBDV Barranco-do-Ve 148.55 337 *e*PKP PKPdf 23 40 08.5 +2.0
PBDV Barranco-do-Ve 148.55 337 *e*SS SS 00 02 49.3 +2.8
PBDV Barranco-do-Ve 148.55 337 *e*LR LR 00 35 32.2
comp=Z,4μm,19.5s
PTEO Sao Teotonio 148.58 339 *e*PKP PKPdf 23 40 08.5 +2.0
MORF Marmelete 148.77 338 *e*PKP PKPdf 23 40 07.9 +1.1
MORF Marmelete 148.77 338 *e*SS SS 00 03 37.1 +48
MORF Marmelete 148.77 338 *e*LR LR 00 34 16.1
comp=Z,3μm,20.1s
PFVI Vila Bisbo 148.99 338 *e*PKP PKPdf 23 40 08.8 +1.6
PFVI Vila Bisbo 148.99 338 *e*SS SS 00 03 02.4 +11
PFVI Vila Bisbo 148.99 338 *e*LR LR 00 31 10.9
comp=Z,3μm,20.2s
MDT Midelt 150.73 328 PKP PKPdf 23 40 09.1 -1.0
comp=Z,8.8nm,1.2s,baz=213,slow=0.9,SNR=11
MDT PKPbc PKPbc 23 40 15.5 -0.1
comp=Z,29nm,1.0s,baz=36,slow=2.9,SNR=33
PDA Ponta Delgada 150.87 5 *e*LR LR 00 32 14.0
PMAR Madeira 155.44 348 *e*PKPab PKPab 23 40 43.6 +1.4
TORD Torodi Ar. Bea 155.73 283 PKP PKPdf 23 40 16.7 -1.1
TORD PKPab PKPab 23 40 44.9 +0.7
TORD PP PP 23 44 16.2 -5.1
TORD Torodi Ar. Bea 155.73 283 PKP PKPdf 23 40 16.7 -1.1
comp=Z,8.4nm,0.8s,baz=42,slow=1.1,SNR=27
TORD PKPab PKPab 23 40 44.9 +0.7
comp=Z,12nm,0.8s,baz=88,slow=3.6,SNR=5.9
TORD PP PP 23 44 16.2 -5.1
comp=Z,2.4nm,1.0s,baz=68,slow=8.4,SNR=3.1
RCBR Riachuelo 160.46 137 PFAKE 23 40 30.0 +6.4
RCBR LR LR
comp=Z,3μm,20.0s
ASCN Ascension 161.62 207 PFAKE 23 40 30.0 +5.1
ASCN LR LR
comp=Z,3μm,21.0s
DBIC Dimbokro 162.31 265 PKP PKPdf 23 40 25.4 -0.2
DBIC PKPab PKPab 23 41 14.1 +1.2
DBIC PP PP 23 44 54.3 -3.0
DBIC Dimbokro 162.31 265 PKP PKPdf 23 40 25.4 -0.2
comp=Z,17nm,1.0s,baz=302,slow=0.9,SNR=6.1
DBIC PKPab PKPab 23 41 14.1 +1.2
comp=Z,25nm,0.8s,baz=110,slow=6.0,SNR=5.2
DBIC PP PP 23 44 54.3 -3.0
comp=Z,12nm,0.9s,baz=83,slow=9.6,SNR=4.1
LIC Lamto 162.41 263 *e*PKIKP PKPdf 23 40 21.1 -4.6
comp=Z,78nm,1.2s
BBTS Babate 171.55 316 PKP PKPdf 23 40 32.5 +0.1
comp=Z,68nm,1.0s,baz=355,slow=2.3,SNR=9.0

*IDC **02** 23:25:23.2±0.8, 708S×15532E, h0km, mb4.6/8, mb1 4.7/8, mb1mx4.5/15, mbtmp4.5/8, Error ellipse: s-maj=36.4km s-min=21.4km az=114.0*
*ISCJB **02** 23:25:26.9±1.1, 72S±02×153E±03, h33km, mb4.4/8, Error ellipse: s-maj=45.5km s-min=17.0km az=27.7*
ISC 02 23:25:28.7±1.1, 71S±02×153E±03, h35km, n16, σ0.53/8, mb4.4/8, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.00 236**		P	**P**	**23 30 40.5**	**+0.1**
	15nm,0.8s,mb4.4,baz=58,slow=9.1,SNR=5.2						
ASAR	**Alice Springs**	**26.33 229**		P	**P**	**23 31 01.1**	**-0.4**
	4.8nm,1.0s,mb4.0,baz=58,slow=9.4,SNR=5.1						
STKA	**Stephens Creek**	**27.76 206**		P	**P**	**23 31 14.5**	**+0.3**
	5.0nm,0.5s,mb4.4,baz=43,slow=16,SNR=3.1						
SONM	**Songino Array**	**69.61 327**		P	**P**	**23 36 35.0**	**+0.6**
	2.6nm,0.4s,mb4.5,baz=146,slow=5.4,SNR=19						
MKAR	**Makanchi Array**	**83.71 319**		P	**P**	**23 37 54.6**	**+0.5**
	2.9nm,0.8s,mb4.5,baz=110,slow=7.4,SNR=4.6						
ZALV	**Zalesovo Beam**	**84.46 326**		P	**P**	**23 37 56.5**	**-1.2**
	1.7nm,0.5s,mb4.5,baz=119,slow=5.5,SNR=5.0						
INK	**Inuvik**	**89.73 21**		P	**P**	**23 38 23.0**	**+0.1**
	3.1nm,0.5s,mb4.9,baz=227,slow=8.9,SNR=12						
YKA	**Yellowknife Ar**	**96.30 28**		P	**P**	**23 38 53.2**	**-0.1**
	0.7nm,0.5s,mb4.4,baz=265,slow=4.5,SNR=9.1						
PLCA	**Paso Flores**	**116.43 142**		PKP	PKPdf	23 44 08.0	-1.1
	1.1nm,0.6s,baz=264,slow=4.9,SNR=3.2						
HFS	**Hagfors**	**119.73 339**		PKP	PKPdf	23 44 14.2	-0.7
	0.7nm,0.5s,baz=68,slow=8.0,SNR=4.1						
NOA	**NORSAR Array B**	**119.92 341**		PKP	PKPdf	23 44 14.3	-0.9
	0.5nm,0.6s,baz=359,slow=1.7,SNR=2.2						
EKA	**Eskdalemuir Ar**	**128.94 344**		PKP	PKPdf	23 44 33.0	+0.3
	0.7nm,0.7s,baz=22,slow=2.3,SNR=2.7						
LPAZ	**La Paz**	**131.12 119**		PKP	PKPdf	23 44 39.7	+1.8
	1.1nm,0.6s,baz=353,slow=5.3,SNR=4.7						
BDFB	**Brasilia**	**147.67 134**		PKPbc	PKPbc	23 45 10.9	+0.3
	2.8nm,0.5s,baz=211,slow=6.6,SNR=5.4						
MDT	**Midelt**	**148.35 327**		PKPbc	PKPbc	23 45 11.8	-0.2
	4.1nm,1.1s,baz=250,slow=4.7,SNR=4.1						
TORD	**Torodi Ar. Bea**	**153.36 285**		PKPbc	PKPbc	23 45 23.9	-0.5
	5.7nm,1.1s,baz=69,slow=1.9,SNR=5.3						

IDC 02 23:25:32.2±1.6, 691S×15532E, h0km, mb4.4/4, mb1 4.6/4, mb1mx4.2/14, mbtmp4.5/4, Error ellipse: s-maj=83.4km s-min=26.2km az=116.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.13 235**		P	P	23 30 50.3	+0.2
	10.0nm,0.8s,baz=59,slow=9.3,SNR=4.9						
ASAR	**Alice Springs**	**26.47 229**		P	P	23 31 11.4	+0.1
	1.8nm,0.4s,baz=61,slow=9.2,SNR=4.3						
STKA	**Stephens Creek**	**27.95 206**		P	P	23 31 24.6	0.0
	10nm,0.8s,baz=19,slow=12,SNR=3.2						
ZALV	**Zalesovo Beam**	**84.28 326**		P	P	23 38 05.6	-0.3
	1.0nm,0.4s,baz=125,slow=6.1,SNR=4.8						
HFS	**Hagfors**	**119.53 339**		PKP	PKPdf	23 44 22.8	-1.0
	1.6nm,0.6s,baz=57,slow=8.8,SNR=4.9						
NOA	**NORSAR Array B**	**119.72 341**		PKP	PKPdf	23 44 23.7	-0.3
	0.7nm,0.6s,baz=75,slow=1.8,SNR=3.0						
EKA	**Eskdalemuir Ar**	**128.74 344**		PKP	PKPdf	23 44 41.8	+0.3
	0.8nm,0.5s,baz=16,slow=2.1,SNR=5.7						
MDT	**Midelt**	**148.18 327**		PKPbc	PKPbc	23 45 21.7	+0.9
	2.1nm,0.6s,baz=11,slow=3.0,SNR=7.8						
TORD	**Torodi Ar. Bea**	**153.31 286**		PKPbc	PKPbc	23 45 32.5	-0.9
	5.2nm,1.1s,baz=103,slow=1.7,SNR=5.4						

*IDC **02** 23:30:04.7±0.9, 848S×15737E, h0km, mb4.4/7, mb1 4.6/9, mb1mx4.4/16, mbtmp4.4/9, ML4.4/2, Error ellipse: s-maj=30.4km s-min=19.5km az=154.0*
*NEIC **02** 23:30:06.3±0.3, 848S×15736E, h10km, mb4.6/6, Error ellipse: s-maj=9.9km s-min=5.9km az=135.0*
*ISCJB **02** 23:30:07.5±5.2, 86S±0.1×15734E±006, h29km±37km, mb4.4/12, Error ellipse: s-maj=19.2km s-min=9.7km az=175.1*
ISC 02 23:30:08.3±5.4, 85S±01×15737E±006, h23km±39km, n25, σ0.55/26, mb4.4/12, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.70 110**		Pn	**Pn**	**23 30 50.0**	**-0.5**
	180nm,0.3s,baz=248,slow=5.4,SNR=5.6						
HNR				Sn	**Sn**	**23 31 22.4**	**-0.1**
	527nm,0.3s,baz=84,slow=22,SNR=10						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**15.74 222**		Pn	**Pn**	**23 33 50.0**	**+1.3**
CTA	**Charters Tower**	**15.74 222**		Pn	**Pn**	**23 33 50.0**	**+1.3**
	0.6nm,0.3s,baz=61,slow=14,SNR=4.7						
CTAO	**Charters Tower**	**15.74 222**		*e*Pn	**Pn**	**23 33 49.1**	**+0.4**
	36nm,1.4s						
WRA	**Warramunga Arr**	**25.00 241**		P	**P**	**23 35 30.9**	**+0.2**
	5.5nm,0.6s,mb4.3,baz=67,slow=9.4,SNR=9.0						
ASAR	**Alice Springs**	**27.04 233**		P	**P**	**23 35 48.1**	**-1.0**
	1.6nm,0.8s,mb3.6,baz=65,slow=9.3,SNR=3.6						
STKA	**Stephens Creek**	**27.47 210**		P	**P**	**23 35 53.6**	**+0.7**
	4.1nm,0.7s,mb4.1,baz=32,slow=9.0,SNR=4.5						
MBWA	**Marble Bar**	**38.37 247**		*eP*	**P**	**23 37 27.9**	**-0.3**
	17nm,1.3s,mb4.6						
YHNB	**Yeheng**	**48.17 314**		*eP*	**P**	**23 38 46.2**	**-0.9**
KULM	**Kulim**	**58.19 282**		P	**P**	**23 40 01.1**	**-0.1**
SBA	**Scott Base**	**69.47 178**		*eP*	**P**	**23 41 13.6**	**-0.9**
	4.7nm,1.1s,mb4.3						
TNA	**Tin City**	**78.21 14**		*eP*	**P**	**23 42 05.7**	**0.0**
	6.8nm,1.2s,mb4.5						
SVW2	**Sparrevohn**	**78.54 21**		*eP*	**P**	**23 42 08.1**	**+0.5**
TTA	**Tatalina**	**79.64 20**		*eP*	**P**	**23 42 13.6**	**0.0**
	25nm,1.3s,mb5.0						
TTA				*e*PcP	PcP	23 42 21.4	0.0
SML	**Sawmill**	**81.69 23**		*eP*	**P**	**23 42 24.3**	**-0.3**
SML				*e*PcP	PcP	23 42 29.9	-0.5
IMA2	**Indian Mountai**	**82.50 18**		*eP*	**P**	**23 42 29.1**	**+0.3**
IMA2				*e*PcP	PcP	23 42 34.2	+0.4
MCK	**McKinley**	**82.61 21**		*eP*	**P**	**23 42 29.1**	**-0.2**
	10μm,0.6s						
COLA	**College**	**83.67 21**		*eP*	**P**	**23 42 34.5**	**-0.3**
	6.1nm,1.1s,mb4.6						
EGAK	**Eagle**	**86.03 22**		*eP*	**P**	**23 42 47.0**	**+0.4**
MKAR	**Makanchi Array**	**86.10 318**		P	**P**	**23 42 47.4**	**-0.1**
	1.6nm,0.6s,mb4.4,baz=101,slow=4.3,SNR=7.6						
DAWY	**Dawson**	**86.36 23**		*eP*	**P**	**23 42 48.6**	**+0.3**
MTUM	**Tungsten Hills**	**90.43 52**		*eP*	**P**	**23 43 09.5**	**+1.2**
NVAR	**Mina Array Bea**	**90.83 51**		P	**P**	**23 43 10.7**	**+0.6**
	1.7nm,0.8s,mb4.4,baz=242,slow=4.2,SNR=8.1						
YKA	**Yellowknife Ar**	**96.58 28**		P	**P**	**23 43 35.9**	**-0.2**
	0.9nm,0.7s,mb4.3,baz=266,slow=4.8,SNR=9.6						
PDAR	**Pinedale Array**	**97.97 48**		P	**P**	**23 43 42.5**	**-0.3**
	0.5nm,0.6s,mb4.2,baz=255,slow=1.4,SNR=3.7						

*IDC **02** 23:31:11.0±0.5, 727S×15569E, h0km, mb5.0/15, mb1 5.0/17, mb1mx5.0/19, mbtmp5.0/17, MS5.4/8, Ms1 5.4/8, ms1mx5.0/29, Error ellipse: s-maj=18.9km s-min=12.4km az=128.0*
*BJI **02** 23:31:12.7, 682S×15571E, h11km, mB6.0, mb5.4, Ms5.9, Msz5.7*
*ISCJB **02** 23:31:13.3±0.2, 702S±004×15536E±004, h10km, mb5.2/68, MS5.5/11, Error ellipse: s-maj=6.2km s-min=5.4km az=38.2*
*NEIC **02** 23:31:14.0±0.2, 709S×15549E, h10km, mb5.3/36, Error ellipse: s-maj=9.3km s-min=7.3km az=115.0*
*GCMT **02** 23:31:14.0±0.4, 721S×15527E, h21km±2km, MW5.5/78, Moment Tensor Solution. s3,c3; s78,c116; Duration: 1s4 Moment tensor: Scale 10^{17}Nm; M_{rr}1.16±.18; $M_{\theta\theta}$-1.39±.11; $M_{\phi\phi}$0.23±.09; $M_{r\theta}$1.82±.28; $M_{\theta\phi}$0.76±.05; $M_{\phi r}$0.25±.17; Best double couple: $M_0$2.36600×10^{17} NP1:ϕ_s320.00000°, δ27.00000°, λ140.00000°. NP2: ϕ_s87.00000°, δ73.00000°, λ69.00000°. Principal axes: T 2.2760, Plg57.0000°, Azm329.0000°; N 0.1820, Plg20.0000°, Azm93.0000°; P -2.4570, Plg25.0000°, Azm193.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*MOS **02** 23:31:17.4±1.4, 685S×15537E, h33km, mb5.5/34 Error ellipse: s-maj=15.0km s-min=9.7km az=122.0*
ISC 02 23:31:13.8±1.9, 701S±004×15535E±004, h2km±11km, n260, σ1.19/168, mb5.2/68, MS5.5/11, 4C-4D, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.15 118**		*e*Pn	**Pn**	**23 32 28.7**	**-3.3**
HNR				LR	LR	23 33 23.5	
HNR				*e*Sn	**Sn**	**23 33 33.1**	**+1.1**
HNR	**Honiara**	**5.15 118**		Pn	**Pn**	**23 32 22.4**	**-10**
	baz=270,slow=20,SNR=1.3						
HNR				LR	LR	23 33 23.5	
	comp=Z,29μm,19.9s,baz=358,slow=28						
CTA	**Charters Tower**	**15.71 213**		*eP*	**Pn**	**23 34 59.1**	**+2.7**
	52nm,1.5s						
CTA	**Charters Tower**	**15.71 213**		P	**Pn**	**23 34 53.2**	**-3.2**
CTA				pmax	pmax		
	comp=Z,1.0nm,0.3s						
CTA	**Charters Tower**	**15.71 213**		Pn	**Pn**	**23 34 53.2**	**-3.2**
	comp=Z,0.5nm,0.3s,baz=61,slow=10,SNR=2.6						
CTAO	**Charters Tower**	**15.71 213**		*e*Pn	**Pn**	**23 34 56.8**	**+0.4**
EIDS	**Eidsvold**	**18.71 192**		*eP*	**Pn**	**23 35 33.3**	**-0.7**
	comp=Z,93nm,1.6s						
GUMO	**Guam**	**22.96 333**		LR	LR	23 44 32.9	
	comp=Z,3μm,19.1s,MS4.8,baz=162,slow=34						
KAKA	**Kakadu**	**23.26 254**		*eP*	**P**	**23 36 23.1**	**+0.1**
	comp=Z,63nm,0.7s,mb5.2						
KAKA	**Kakadu**	**23.26 254**		*eP*	**P**	**23 36 23.2**	**+0.2**
ARMA	**Armidale**	**23.55 186**		*eP*	**P**	**23 36 26.8**	**+1.0**
WB2	**Warramunga Arr**	**24.09 236**		*eP*	**P**	**23 36 30.5**	**-0.5**
WRA	**Warramunga Arr**	**24.10 236**		P	**P**	**23 36 30.2**	**-0.9**
WRA						23 40 10.6	
WRA				pmax	pmax		
	comp=Z,60nm,0.9s						
WRA	**Warramunga Arr**	**24.10 236**		P	**P**	**23 36 30.2**	**-0.8**
	comp=Z,60nm,0.9s,mb5.0,baz=58,slow=9.2,SNR=37						
WRA				PcP	PcP	23 40 10.6	-2.1
	comp=Z,1.4nm,0.5s,baz=68,slow=2.9,SNR=4.8						
WRA				S	**S**	**23 40 51.4**	**+1.7**
	comp=Z,4.5nm,1.2s,baz=57,slow=13,SNR=5.3						
WRA				ScP	ScP	23 43 50.5	-2.0
	comp=Z,4.3nm,0.7s,baz=61,slow=2.7,SNR=5.4						
ASAR	**Alice Springs**	**26.43 229**		P	**P**	**23 36 50.1**	**-2.1**
	comp=Z,8.2nm,0.6s,mb4.4,baz=59,slow=9.3,SNR=24						
ASAR				PcP	PcP	23 40 15.1	-2.8
	comp=Z,4.2nm,0.9s,baz=66,slow=3.0,SNR=3.3						
ASAR				ScP	ScP	23 43 56.1	-2.9
	comp=Z,8.5nm,1.0s,baz=62,slow=2.7,SNR=12						
STKA	**Stephens Creek**	**27.87 206**		*eP*	**P**	**23 36 59.5**	**-5.6**
	comp=Z,19nm,0.8s,mb4.8						
STKA	**Stephens Creek**	**27.87 206**		P	**P**	**23 36 59.9**	**-5.2**
	comp=Z,16nm,0.7s,mb4.7,baz=25,slow=11,SNR=9.5						
STKA				LR	LR	23 48 04.6	
	comp=Z,9μm,21.7s,MS5.3,baz=353,slow=36						
CNB	**Canberra Magne**	**28.70 190**		*eP*	**P**	**23 37 03.4**	**-9.0**
	comp=Z,65nm,1.4s,mb5.2						
FITZ	**Fitzroy Crossi**	**30.97 246**		*eP*	**P**	**23 37 31.9**	**-0.9**
	comp=Z,42nm,0.6s,mb5.4						
FITZ	**Fitzroy Crossi**	**30.97 246**		P	**P**	**23 37 32.0**	**-0.7**
	comp=Z,24nm,0.6s,mb5.2,baz=75,slow=9.3,SNR=36						
BATI	**Kupang**	**31.48 262**		P	**P**	**23 37 38.9**	**+1.5**
	comp=Z,15nm,0.5s,mb5.1,baz=90,slow=4.0,SNR=4.8						
RAO	**Raoul Island**	**33.52 135**		LR	LR	23 48 47.7	
	comp=Z,4μm,19.2s,MS5.2,baz=103,slow=32						
FORT	**Forrest**	**34.82 224**		*eP*	**P**	**23 38 05.4**	**-0.9**
	comp=Z,24nm,0.6s,mb5.3						
KAPI	**Kappang**	**35.45 271**		P	**P**	**23 38 12.2**	**+0.2**
	comp=Z,566nm,1.0s,SNR=6.5						
TAU	**Tasmania Unive**	**36.45 190**		*eP*	**P**	**23 38 21.0**	**+0.9**
	comp=Z,137nm,1.6s,mb5.6						
TAU	**Tasmania Unive**	**36.45 190**		*eP*	**P**	**23 38 21.0**	**+0.9**
TAU				pmax	pmax		
	comp=Z,137nm,1.6s,mb5.6						
URZ	**Urewera**	**36.82 151**		P	**P**	**23 38 23.0**	**-0.4**
	comp=Z,8.7nm,1.0s,mb4.5,baz=15,slow=4.8,SNR=5.3						
URZ				LR	LR	23 51 25.0	
	comp=Z,4μm,18.8s,MS5.2,baz=21,slow=33						
MBWA	**Marble Bar**	**37.19 244**		*eP*	**P**	**23 38 26.9**	**+0.2**
RPZ	**Rata Peaks**	**39.07 162**		P	**P**	**23 38 40.6**	**-1.7**
	comp=Z,20nm,0.7s,mb5.0,baz=41,slow=3.0,SNR=8.6						
RPZ				LR	LR	23 50 51.8	
	comp=Z,8μm,18.4s,MS5.6,baz=229,slow=30						
KKM	**Kota Kinabalu**	**41.15 287**		*eP*	**P**	**23 39 00.1**	**+0.1**
KLBR	**Kellerberrin**	**42.74 230**		*eP*	**P**	**23 39 06.7**	**-6.1**
	comp=Z,81nm,1.8s,mb5.2						
NWAO	**Narrogin (SRO)**	**43.75 229**		*eP*	**P**	**23 39 20.8**	**-0.1**
	comp=Z,6.3nm,0.6s,mb4.5						
NWAO	**Narrogin (SRO)**	**43.75 229**		P	**P**	**23 39 18.3**	**-2.6**
NWAO				pmax	pmax		
	comp=Z,8.0nm,0.8s						
NWAO	**Narrogin (SRO)**	**43.75 229**		P	**P**	**23 39 18.2**	**-2.7**
	comp=Z,7.6nm,0.8s,mb4.5,baz=77,slow=7.9,SNR=4.3						
NACB	**Ninganchiao**	**45.22 314**		*eP*	**P**	**23 39 33.5**	**+0.7**
RAR	**Rarotonga**	**45.58 113**		LR	LR	23 54 35.4	
	comp=Z,4μm,18.9s,MS5.3,baz=274,slow=31						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YHNB	**Yeheng**	**45.69 315**		*eP*	**P**	**23 39 38.8**	**+2.3**
KSM	**Kuching**	**45.73 279**		*eP*	**P**	**23 39 37.1**	**+0.1**
MJAR	**Matsushiro Arr**	**46.21 341**		P	**P**	**23 39 39.5**	**-0.9**
MJAR						23 41 16.0	
MJAR				pmax	pmax		
	comp=Z,5.0nm,0.9s						
MJAR	**Matsushiro Arr**	**46.21 341**		P	**P**	**23 39 39.5**	**-0.9**
	comp=Z,5.2nm,0.8s,mb4.5,baz=164,slow=7.7,SNR=7.9						
MJAR				PcP	PcP	23 41 16.0	-0.2
	comp=Z,13nm,0.9s,baz=152,slow=3.9,SNR=8.5						
KSRS	**Korea Array**	**51.12 332**		P	**P**	**23 40 17.9**	**-0.3**
	comp=Z,9.2nm,0.8s,mb4.8,baz=152,slow=8.4,SNR=18						
QIZ	**Qiongzhong**	**51.77 301**		P	**P**	**23 40 24.2**	**+0.8**
WHN	**Wuhan**	**54.20 316**		*eP*	**P**	**23 40 42.5**	**+1.4**
WHN				AP		23 40 51.5	
PPT	**Papeete**	**54.66 106**		*eP*	**P**	**23 40 46.3**	**+1.6**
	comp=Z,22nm,0.9s,mb5.2						
PPT	**Papeete**	**54.66 106**		*eP*	**P**	**23 40 46.3**	**+1.6**
PPT				pmax	pmax		
	comp=Z,22nm,0.9s						
PAE	**Paea**	**54.66 107**		*eP*	**P**	**23 40 46.1**	**+1.4**
	comp=Z,95nm,1.4s,mb5.6						
PAE	**Paea**	**54.66 107**		*eP*	**P**	**23 40 46.1**	**+1.4**
PAE				pmax	pmax		
	comp=Z,95nm,1.4s,mb5.6						
YSS	**Yuzh-Sakhalins**	**54.88 349**		*eP*	**P**	**23 40 49.0**	**+3.2**
	comp=Z,50nm,1.2s,mb5.4						
YSS	**Yuzh-Sakhalins**	**54.88 349**		*eP*	**P**	**23 40 46.3**	**+0.6**
TVO	**Taravao**	**54.98 107**		*eP*	**P**	**23 40 48.8**	**+1.8**
	comp=Z,90nm,1.1s,mb5.7						
TVO	**Taravao**	**54.98 107**		*eP*	**P**	**23 40 48.8**	**+1.8**
TVO				pmax	pmax		
	comp=Z,91nm,1.1s,mb5.7						
DL2	**Dalian**	**55.37 328**		P	**P**	**23 40 49.4**	**0.0**
DL2				AMB	AMB		
	comp=Z,20nm,0.8s,mb5.2						
KULM	**Kulim**	**55.94 281**		*eP*	**P**	**23 40 53.1**	**-1.0**
PMOR	**Pomariorio Ree**	**56.15 103**		*eP*	**P**	**23 40 57.2**	**+1.7**
	comp=Z,40nm,0.8s,mb5.5						
MDJ	**Mudanjiang**	**56.38 338**		P	**P**	**23 40 57.3**	**+0.7**
MDJ				AMB	AMB		
	comp=Z,16nm,1.3s,mb4.9						
MDJ				AMB	AMB		
	comp=Z,2μm,12.4s						
VAH	**Vaihoa**	**56.41 104**		*eP*	**P**	**23 40 58.8**	**+1.4**
	comp=Z,38nm,0.9s,mb5.4						
PSI	**Prapat**	**57.15 278**		P	**P**	**23 41 01.9**	**-0.8**
PSI	**Prapat**	**57.15 278**		P	**P**	**23 41 01.9**	**-0.8**
PSI				pmax	pmax		
	comp=Z,2.0nm,0.3s,mb4.6						
PSI	**Prapat**	**57.15 278**		P	**P**	**23 41 01.9**	**-0.8**
	comp=Z,2.1nm,0.3s,mb4.6,baz=208,slow=23,SNR=5.0						
CN2	**Changchun**	**57.36 335**		*eP*	**P**	**23 41 03.0**	**-0.5**
CN2				AMB	AMB		
	comp=Z,20nm,1.2s,mb5.0						
GYA	**Guiyang**	**57.74 307**	⇑	*iP*	**P**	**23 41 08.2**	**+1.6**
GYA				AP		23 41 12.4	
GYA				XP	sP	23 41 15.8	+8.4
GYA				PCP	PcP	23 42 01.3	+1.8
GYA				PP	PP	23 43 19.2	+4.5
GYA				SCP	ScP	23 46 01.0	+0.1
GYA				S	**S**	**23 49 06.5**	**-0.2**
GYA				SCS	ScS	23 50 54.8	-3.0
GYA				SS	SS	23 52 58.3	+0.9
GYA				AMB	AMB		
	comp=Z,90nm,1.0s,mb5.8						
GYA				AMB	AMB		
	comp=Z,12μm,12.8s						
GYA				LR	LR		
	comp=N,12μm,20.2s,MS6.1						
GYA				LR	LR		
	comp=E,11μm,21.3s,MS6.1						
GYA				LR	LR		
	comp=Z,13μm,22.6s,MS6.0						
BJI	**Beijing**	**59.13 326**		P	**P**	**23 41 16.2**	**+0.2**
BJI				AMB	AMB		
	comp=Z,15nm,0.8s,mb5.1						
BJI	**Beijing**	**59.13 326**		P	**P**	**23 41 16.2**	**+0.2**
	comp=Z,15nm,0.8s,mb5.1						
NST	**Nakhon Sawan**	**59.14 293**		P	**P**	**23 41 18.0**	**+1.4**
KLR	**Kul'dur**	**59.69 342**		*eP*	**P**	**23 41 16.0**	**-3.7**
KLR				pmax	pmax		
	comp=Z,90nm,1.6s,mb5.5						
XAN	**Xi'an**	**59.96 316**		P	**P**	**23 41 21.5**	**-0.4**
XAN				AP		23 41 26.5	
XAN				S	**S**	**23 49 37.0**	**+1.7**
XAN				AMB	AMB		
	comp=Z,11nm,0.7s,mb5.0						
XAN				LR	LR		
	comp=N,1μm,13.4s,MS5.6						
XAN				LR	LR		
	comp=E,3μm,15.0s,MS5.6						
XAN				LR	LR		
	comp=Z,4μm,16.6s,MS5.7						
KMI	**Kunming**	**60.32 304**		P	**P**	**23 41 25.4**	**+0.9**
KMI				AP		23 41 30.3	
KMI				AMB	AMB		
	comp=Z,86nm,1.4s,mb5.6						
KMI	**Kunming**	**60.32 304**

comp=Z,42nm,0.7s,mb5.6
MA2 Magadan 66.47 357 *e*P **P 23 42 06.4 +1.8**
MA2 pmax pmax
comp=Z,80nm,0.9s,mb5.8
SONM Songino Array 69.54 327 P **P 23 42 24.1 0.0**
SONM pmax pmax
comp=Z,16nm,0.5s
SONM Songino Array 69.54 327 P **P 23 42 24.1 0.0**
comp=Z,16nm,0.5s,mb5.2,baz=144,slow=4.9,SNR=47
SBA Scott Base 71.06 177 *e*P **P 23 42 34.1 +1.1**
comp=Z,27nm,1.5s,mb5.0
SBA Scott Base 71.06 177 *e*P **P 23 42 34.1 +1.1**
SBA pmax pmax
comp=Z,27nm,1.5s,mb5.0
LSA Lhasa 71.57 304 P **P 23 42 37.7 +0.7**
LSA AMB AMB
comp=Z,40nm,1.0s,mb5.3
LSA Lhasa 71.57 304 *e*P **P 23 42 37.8 +0.8**
comp=Z,57nm,1.0s,mb5.5
LSA Lhasa 71.57 304 *e*P **P 23 42 37.8 +0.8**
LSA pmax pmax
comp=Z,57nm,1.0s,mb5.5
YAK Yakutsk 71.65 348 *e*P **P 23 42 38.2 +1.5**
YAK Yakutsk 71.65 348 *e*P **P 23 42 37.4 +0.7**
YAK *i* *PP 23 42 48.4
YAK *i* 23 42 55.1
YAK *e*S S 23 51 56.5 -0.4
YAK *i* 23 52 31.8
YAK pmax pmax
comp=Z,84nm,1.4s,mb5.5
YAK pmax pmax
comp=N,41nm,1.4s
YAK pmax pmax
comp=E,27nm,1.7s
ZAK Zakamensk 72.69 328 *e*P **P 23 42 43.2 0.0**
ZAK pmax pmax
comp=Z,16nm,1.0s,mb4.9
BOD Bodaibo 72.76 338 *e*P **P 23 42 42.4 -1.0**
BOD pmax pmax
comp=Z,14nm,1.2s,mb4.8
TLY Talaya 73.26 329 *e*P **P 23 42 47.0 +0.5**
CHGN Chignik 73.62 25 P **P 23 42 39.7 -8.8**
MOY Mondy 74.61 328 *e*P **P 23 42 55.2 +0.7**
GAMB Gambell 74.84 14 *e*P **P 23 42 56.0 +0.4**
JIRN Jiri 75.09 301 *e*P **P 23 42 57.7 -0.1**
comp=Z,106nm,0.8s,mb5.8
BILL Bilibino 75.27 4 *e*P **P 23 42 58.1 +0.1**
comp=Z,67nm,1.2s,mb5.5
BILL Bilibino 75.27 4 *e*P **P 23 42 58.1 +0.2**
BILL pmax pmax
comp=Z,67nm,1.2s,mb5.5
PALK Pallekele 75.79 279 *e*P **P 23 43 02.2 +0.1**
comp=Z,8.6nm,0.7s,mb4.8
KKN Kakani 75.91 301 *e*P **P 23 43 02.4 -0.1**
comp=Z,129nm,0.9s,mb5.9
GKN Gorkha 76.51 301 *e*P **P 23 43 05.1 -0.8**
comp=Z,422nm,1.2s,mb6.2
KDAK Kodiak Island 77.03 26 *e*P **P 23 43 06.3 -1.8**
TNA Tin City 77.25 15 *e*P **P 23 43 10.0 +0.8**
comp=Z,25nm,1.0s,mb5.1
KOLN Koldanda 77.33 300 *e*P **P 23 43 09.6 -1.0**
comp=Z,189nm,1.0s,mb6.0
SVW2 Sparrevohn 77.88 22 *e*P **P 23 43 12.5 -0.4**
TTA Tatalina 78.91 20 *e*P **P 23 43 18.1 -0.4**
WMQ Urumqi 79.08 317 P **P 23 43 20.5 +0.6**
WMQ AMB AMB
comp=Z,27nm,1.6s,mb4.9
HYB Hyderabad 79.61 289 *e*P **P 23 43 23.5 +0.2**
HYB Hyderabad 79.61 289 *i* P **P 23 43 23.5 +0.2**
SLKM Skilak Lake 79.61 24 *e*P **P 23 43 21.0 -1.4**
TIXI Tiksi 80.42 352 *e*P **P 23 43 26.8 +0.2**
comp=Z,77nm,1.7s,mb5.4
TIXI Tiksi 80.42 352 *e*P **P 23 43 26.3 -0.3**
TIXI pmax pmax
comp=Z,45nm,1.6s,mb5.2
PMR Palmer 80.66 24 *e*P **P 23 43 28.1 0.0**
comp=Z,30nm,1.0s,mb5.2
PMR Palmer 80.66 24 *e*P **P 23 43 28.1 +0.1**
PMR pmax pmax
comp=Z,29nm,1.0s,mb5.2
SML Sawmill 81.10 24 *e*P **P 23 43 29.3 -1.0**
IMA2 Indian Mountai 81.70 19 *e*P **P 23 43 33.6 +0.1**
MCK McKinley 81.94 22 *e*P **P 23 43 33.2 -1.6**
comp=Z,65nm,0.9s,mb5.6
MCK McKinley 81.94 22 *e*P **P 23 43 33.2 -1.6**
MCK pmax pmax
comp=Z,65nm,0.9s,mb5.6
COLA College 82.97 21 *e*P **P 23 43 38.1 -2.0**
comp=Z,35nm,0.8s,mb5.4
COLA College 82.97 21 *e*P **P 23 43 38.2 -1.9**
COLA pmax pmax
comp=Z,35nm,0.8s,mb5.4
MKAR Makanchi Array 83.65 319 P **P 23 43 42.9 -1.1**
MKAR Makanchi Array 83.65 319 P **P 23 43 42.9 -1.2**
MKAR pmax pmax
comp=Z,9.0nm,0.6s
MKAR Makanchi Array 83.65 319 P **P 23 43 42.9 -1.1**
comp=Z,8.8nm,0.6s,mb5.0,baz=101,slow=5.7,SNR=23
ZAA0 Zalesovo Array 84.39 326 *e*P **P 23 43 45.8 -1.9**
ZALV Zalesovo Beam 84.39 326 P **P 23 43 45.9 -1.8**
comp=Z,5.9nm,0.5s,mb5.0,baz=116,slow=5.4,SNR=25
ZAL Zalesovo 84.40 326 P **P 23 43 45.9 -1.8**
MAW Mawson 84.52 203 *e*P **P 23 43 40.5 -7.6**
comp=Z,12nm,0.8s,mb5.1
MAW Mawson 84.52 203 P **P 23 43 44.5 -3.6**
MAW pmax pmax
comp=Z,9.0nm,1.1s
MAW Mawson 84.52 203 P **P 23 43 44.5 -3.7**
comp=Z,9.0nm,1.1s,mb4.8,baz=74,slow=5.1,SNR=6.1
EGAK Eagle 85.39 23 *e*P **P 23 43 51.8 -0.7**
DAWY Dawson 85.77 24 *e*P **P 23 43 52.1 -2.3**
WRAK Wrangell Islan 86.17 32 *e*P **P 23 43 54.6 -1.9**
comp=Z,48nm,1.4s,mb5.5
KURK Kurchatov 87.06 322 *e*P **P 23 43 59.5 -1.5**
comp=Z,4.8nm,0.8s,mb4.8
KURK Kurchatov 87.06 322 *e*P **P 23 43 59.6 -1.4**
KURK pmax pmax
comp=Z,5.0nm,0.8s,mb4.8
TKM2 Tokmak 2 87.28 314 *e*P **P 23 44 00.9 -1.4**
comp=Z,3.8nm,0.5s,mb4.9
TKM2 Tokmak 2 87.28 314 *e*P **P 23 44 00.9 -1.4**
TKM2 pmax pmax
comp=Z,4.0nm,0.5s,mb4.9
TKM2 Tokmak 2 87.28 314 P **P 23 44 03.2 +0.9**
SNR=6.5
KZA Kyzart 87.36 313 P **P 23 44 06.7 +4.0**
SNR=5.9
UCH Uchtor 87.92 313 *e*P **P 23 44 04.5 -0.9**
comp=Z,11nm,1.1s,mb5.0
DLBC Dease Lake 87.97 30 *e*P **P 23 44 06.4 +1.2**
DLBC Dease Lake 87.97 30 P **P 23 44 01.9 -3.4**
baz=275,slow=4.7
USP Ospenovka 88.14 314 P **P 23 44 07.0 +0.6**
SNR=5.1
AML Almayashu 88.50 313 *e*P **P 23 44 09.3 +1.1**
comp=Z,17nm,0.9s,mb5.4
AML Almayashu 88.50 313 P **P 23 44 11.2 +3.0**
SNR=12
EKS2 Erkin-Say 88.54 313 *e*P **P 23 44 08.5 +0.2**
comp=Z,8.2nm,0.9s,mb5.1
EKS2 Erkin-Say 88.54 313 P **P 23 44 08.7 +0.4**
SNR=5.7
INK Inuvik 89.61 21 *e*P **P 23 44 12.4 -0.4**
INK Inuvik 89.61 21 P **P 23 44 09.7 -3.1**
INK pmax pmax
comp=Z,21nm,0.9s
INK Inuvik 89.61 21 P **P 23 44 09.7 -3.0**
comp=Z,21nm,0.9s,mb5.5,baz=253,slow=4.5,SNR=33
MWC Mount Wilson 91.09 56 *e*P **P 23 44 22.3 +1.9**
MTUM Tungsten Hills 91.10 53 *e*P **P 23 44 13.5 -6.9**
NVAR Mina Array Bea 91.45 52 P **P 23 44 15.3 -6.7**
comp=Z,3.3nm,0.7s,mb4.8,baz=248,slow=9.9,SNR=12
SYO Syowa Base 92.43 199‖ *e*P **P 23 44 25.2 -0.7**
SYO Syowa Base 92.43 199‖ *e*pP pP 23 44 30.2 +3.7
BRVK Borovoye 92.59 323 *e*P **P 23 44 25.4 -1.5**
comp=Z,9.2nm,1.1s,mb5.1
BRVK Borovoye 92.59 323 *e*P **P 23 44 25.5 -1.4**
BRVK pmax pmax
comp=Z,9.0nm,1.1s,mb5.1
TPNV Topopah Spring 92.89 53 *e*P **P 23 44 21.9 -6.8**
NEW Newport 93.53 42 LR LR 00 22 55.1
comp=Z,5μm,18.0s,MS6.0,baz=320,slow=33
YKW3 Yellowknife Ar 96.18 28 *e*P **P 23 44 43.8 +0.6**
YKA Yellowknife Ar 96.19 28 P **P 23 44 39.5 -3.7**
YKA Yellowknife Ar 96.19 28 P **P 23 44 39.5 -3.7**
YKA pmax pmax
comp=Z,6.0nm,0.7s
YKA Yellowknife Ar 96.19 28 P **P 23 44 39.5 -3.7**
comp=Z,5.6nm,0.7s,mb5.1,baz=265,slow=4.6,SNR=32
DAU Daniels Canyon 97.08 50 *e*P **P 23 44 44.2 -3.5**
PDAR Pinedale Array 98.45 48 P **P 23 44 47.0 -6.9**
comp=Z,1.3nm,0.8s,mb4.5,baz=239,slow=2.6,SNR=6.8
RWWY Rawlins 100.17 49 *e*Pdif Pdif 23 44 55.3 -6.0
JOF Joensuu 111.23 336 *e*pkp PKiKP 23 49 41.6 -7.4
FINES FINESS Array B 114.10 336 PKIKP PKiKP 23 49 52.8 -1.7
FINES pmax pmax
comp=Z,2.0nm,0.7s
FINES FINESS Array B 114.10 336 PKP PKiKP 23 49 52.8 -1.7
comp=Z,1.6nm,0.7s,baz=66,slow=2.3,SNR=4.8
MALT Malatya 115.37 309 *e*PKPdf PKPdf 23 49 57.4 -0.2
PLCA Paso Flores 116.50 142 PKP PKPdf 23 49 54.2 -5.6
PLCA Paso Flores 116.50 142 PKIKP PKPdf 23 49 54.2 -5.6
PLCA pmax pmax
comp=Z,3.0nm,0.8s
PLCA Paso Flores 116.50 142 PKP PKPdf 23 49 54.2 -5.6
comp=Z,3.0nm,0.8s,baz=60,slow=4.6,SNR=3.9
AKASG Malin Array Be 117.76 325 PKIKP PKPdf 23 50 00.6 -1.3
AKASG pmax pmax
comp=Z,1.0nm,0.5s
AKASG Malin Array Be 117.76 325 PKP PKPdf 23 50 00.6 -1.2
comp=Z,1.3nm,0.5s,baz=56,slow=1.9,SNR=6.0
HFS Hagfors 119.64 339 PKIKP PKPdf 23 50 02.9 -2.3
HFS pmax pmax
comp=Z,2.0nm,0.7s
HFS Hagfors 119.64 339 PKP PKPdf 23 50 02.9 -2.4
comp=Z,2.3nm,0.7s,baz=148,slow=1.4,SNR=8.7
NB2 NORSAR Subarra119.83 341 PKPdf PKPdf 23 50 04.8 -0.7
comp=Z,5.7nm,1.2s,baz=39,slow=1.9
NOA NORSAR Array B 119.83 341 PKP PKPdf 23 50 04.2 -1.3
NOA NORSAR Array B 119.83 341 PKIKP PKPdf 23 50 04.2 -1.3
NOA pmax pmax
comp=Z,1.0nm,0.4s
NOA NORSAR Array B 119.83 341 PKP PKPdf 23 50 04.2 -1.3
comp=Z,0.5nm,0.4s,baz=74,slow=1.8,SNR=4.0
BOSA Boshof 120.29 231 PKIKP PKPdf 23 50 03.8 -3.7
BOSA pmax pmax
comp=Z,2.0nm,0.6s
BOSA Boshof 120.29 231 PKP PKPdf 23 50 03.8 -3.7
comp=Z,2.1nm,0.6s,baz=198,slow=3.2,SNR=2.5
SCHQ Schefferville 121.63 27 PKP PKPdf 23 50 07.0 -2.2
comp=Z,2.1nm,0.5s,baz=187,slow=6.0,SNR=7.7
MLR Muntele Rosu 121.97 320 PKIKP PKPdf 23 50 09.6 -0.5
MLR pmax pmax
comp=Z,1.0nm,0.6s
MLR Muntele Rosu 121.97 320 PKP PKPdf 23 50 09.6 -0.6
comp=Z,0.9nm,0.6s,baz=34,slow=11,SNR=3.4
KOLS Kolnicke sedl 122.56 325 *e*PKP PKPdf 23 50 11.4 +0.2
STHS Stebnicka Huta 122.89 326 *e*PKP PKPdf 23 50 09.4 -2.4
STHS *e*PP PP 23 51 44.5 -5.3
CFAA Coronel Fontan 123.38 135 PKP PKPdf 23 50 09.7 -3.7
comp=Z,0.7nm,0.4s,baz=220,slow=3.0,SNR=17
OKC Ostrava-Krasne 124.33 328 *e*PKPdf PKPdf 23 50 24.0 +9.5
VYHS Vyhne 124.72 326 *e*PKIKP PKPdf 23 50 11.3 -4.0
VYHS *e* 23 51 59.5
VYHS Vyhne 124.72 326 *e*PKP PKPdf 23 50 11.3 -4.0
VYHS *e*PP PP 23 51 59.5 -2.6
VYHS *e* 00 01 24.9
DPC Dobruska-Polom 124.98 329 *e*PKPdf PKPdf 23 50 17.0 +1.3
UPC Upice 125.04 329 *e*PKPdf PKPdf 23 50 17.0 +1.1
CLL Collm 125.99 332‖ *i*P PKPdf 23 50 17.7 0.0
CLL *e* 23 50 26.0
CLL Collm 125.99 332‖ *e*PKIKP PKPdf 23 50 17.7 0.0
CLL *e* 23 50 26.0
CLL pmax pmax
comp=Z,22nm,1.1s
CLL Collm 125.99 332‖ *i*PKPdf PKPdf 23 50 17.7 0.0
comp=Z,9.0nm,1.1s
CLL *e*(pPKPdf) 23 50 26.0
CLL *i* x x 23 50 30.7
CLL *e*x x 23 52 36.0
NKC Novy Kostel 126.97 331 *e*PKP PKPdf 23 50 28.2 +8.6
KHC Kasperske Hory 127.13 329 *e*PKP PKPdf 23 50 20.7 +0.8
KHC *e*x x 23 50 28.0
GERES GERESS Array B 127.25 329 PKIKP PKPdf 23 50 20.4 +0.3
GERES pmax pmax
comp=Z,2.0nm,0.7s
GERES GERESS Array B 127.25 329 PKP PKPdf 23 50 20.4 +0.2
comp=Z,1.7nm,0.7s,baz=70,slow=1.6,SNR=13
GRA1 Grafenberg Arr 127.92 331 *e*PKPdf PKPdf 23 50 21.5 +0.1
GRA1 *e*pPKPdf pPKPdf 23 50 30.6 +8.6
GRF Grafenberg Arr 127.92 331 *e*PKPdf PKPdf 23 50 21.5 +0.1
GRF *e*pPKPdf pPKPdf 23 50 30.6 +8.6
EKA Eskdalemuir Ar 128.85 344 PKIKP PKPdf 23 50 22.9 -0.1
EKA pmax pmax
comp=Z,1.0nm,0.5s
EKA Eskdalemuir Ar 128.85 344 PKP PKPdf 23 50 22.9 -0.1
comp=Z,0.8nm,0.5s,baz=14,slow=2.6,SNR=6.9
DAVOX Davos/Dischmat 130.55 329 PKP PKPdf 23 50 26.8 +0.3
comp=Z,3.6nm,0.8s,baz=180,slow=6.1
LPAZ La Paz 131.14 119 PKIKP PKPdf 23 50 27.5 -1.0
LPAZ pmax pmax
comp=Z,4.0nm,0.5s
LPAZ La Paz 131.14 119 PKP PKPdf 23 50 27.5 -1.0
comp=Z,3.7nm,0.5s,baz=307,slow=1.2,SNR=11
HAU Haudompre 131.39 333 *e*PKIKP PKPdf 23 50 22.0 -6.1
comp=Z,12nm,0.9s
LPG La Plagne 133.01 330 *e*PKIKP PKPdf 23 50 24.5 -6.7
comp=Z,8.2nm,0.9s
SSF Saint Saulge 133.38 334 *e*PKIKP PKPdf 23 50 25.4 -6.4
comp=Z,9.9nm,0.9s
SDV Santo Domingo 134.44 84 *e*PKPdf PKPdf 23 50 34.0 -0.8
KEST Kesra 137.74 317 PKP PKPdf 23 50 38.2 -2.1
comp=Z,2.9nm,1.1s,baz=350,slow=18,SNR=3.8
ETSF Etsaut 138.43 333 *e*PKIKP PKPdf 23 50 34.6 -6.8
comp=Z,18nm,1.0s
ELAN Lanestosa 139.38 336 PKP PKPdf 23 50 41.8 -1.3
EARI Arriondas 140.02 338 PKP PKPdf 23 50 42.4 -1.9
EMOS Mosqueruela 140.37 331 PKP PKPdf 23 50 37.8 -7.2
EPON Pontenova 140.69 340 PKP PKPdf 23 50 41.0 -4.5
ETOR Torete 140.76 333 PKP PKPdf 23 50 41.9 -3.8
ECHE Chera 141.21 330 PKP PKPdf 23 50 42.0 -4.5
ECAL Calabor 141.76 338 PKP PKPdf 23 50 45.2 -2.3
GUD Guadarrama 141.83 334 PKP PKPdf 23 50 42.8 -4.9
MVO Moncorvo 142.54 338 *e*PKP PKPdf 23 50 46.4 -2.5
ESDC Sonseca Array 142.54 333 PKP PKPdf 23 50 45.2 -3.8
comp=Z,3.1nm,0.8s,baz=16,slow=3.6,SNR=11
PVRL Vila Real 142.70 339 *e*PKP PKPdf 23 50 46.3 -2.8
PVIS Viseu 143.25 339 *e*PKP PKPdf 23 50 47.8 -2.3
MTE Manteigas 143.40 338 *e*PKP PKPdf 23 50 49.1 -1.3
MTE Manteigas 143.40 338 *e*PKPdf PKPdf 23 50 48.8 -1.6
EQES Quesada 143.63 331 PKP PKPdf 23 50 48.4 -2.5
EBAN Banos Encina 143.68 332 PKP PKPdf 23 50 49.6 -1.4
PCBR Castelo Branco 143.86 337 *e*PKP PKPdf 23 50 49.2 -2.0
EADA Adamuz 144.05 333 PKP PKPdf 23 50 50.5 -1.1
EBER Berja 144.24 329 PKP PKPdf 23 50 50.0 -2.0
ECOG Cogollos-Vega 144.28 331 PKP PKPdf 23 50 50.4 -1.6
ELUQ Luque 144.39 332 PKP PKPdf 23 50 50.5 -1.7
ECAB El Cabril 144.50 333 PKP PKPdf 23 50 50.9 -1.6
ERON Agron 144.60 331 PKP PKPdf 23 50 50.5 -2.1
EBAD Badajoz 144.61 336 PKP PKPdf 23 50 50.9 -1.7
EGUA Guajares 144.63 330 PKP PKPdf 23 50 51.8 -0.9
ELOJ Sierra Loja 144.67 331 PKP PKPdf 23 50 51.6 -1.1
PESTR Estremoz 144.74 337 *e*PKP PKPdf 23 50 51.4 -1.4
EALB Alboran 145.06 329 PKP PKPdf 23 50 52.0 -1.4
PBAR Barrancos 145.11 335 *e*PKP PKPdf 23 50 53.0 -0.5
EVO Evora 145.20 337 *e*PKP PKPdf 23 50 53.2 -0.4
EMIN Mina Concepcio 145.31 335 PKP PKPdf 23 50 53.2 -0.6
PMAFR Mafra 145.31 339 *e*PKP PKPdf 23 50 52.8 -1.0
EMIJ Mijas 145.43 331 PKP PKPdf 23 50 53.7 -0.4
PBEJ Beja 145.58 336 *e*PKP PKPdf 23 50 54.6 +0.3
ESPR Espera 145.69 333 PKP PKPdf 23 50 54.9 +0.4
EGRO El Granado 145.84 335 PKP PKPdf 23 50 55.8 +1.1
PVAQ Vaqueiros 146.05 335 *e*PKP PKPdf 23 50 56.7 +1.6
PBDV Barranco-do-Ve 146.28 336 *e*PKP PKPdf 23 50 56.4 +0.9
PTEO Sao Teotonio 146.33 337 *e*PKP PKPdf 23 50 54.2 -1.4
MORF Marmelete 146.51 337 *e*PKP PKPdf 23 50 57.7 +1.8
PFVI Vila Bisbo 146.73 337 *e*PKP PKPdf 23 50 58.1 +1.8
BDFB Brasilia 147.72 134 PKIKP PKPdf 23 50 58.5 0.0
BDFB pmax pmax
comp=Z,25nm,0.7s
BDFB Brasilia 147.72 134 PKPbc PKPbc 23 50 58.5 -2.7
comp=Z,25nm,0.7s,baz=351,slow=1.0,SNR=14
MDT Midelt 148.28 327 PKPbc PKPbc 23 51 01.8 -0.5
comp=Z,6.6nm,0.7s,baz=54,slow=3.1,SNR=15
TORD Torodi Ar. Bea 153.37 285 PKPbc PKPbc 23 51 13.7 -1.2
comp=Z,6.2nm,0.9s,baz=83,slow=2.2,SNR=64
DBIC Dimbokro 160.34 270 PKPab PKPab 23 51 56.4 -0.6
comp=Z,4.9nm,0.6s,baz=350,slow=9.0,SNR=7.5

BJI ***02*** *23:37:33.0, 837S×15778E, h9km, mB5.2, mb5.1*
IDC ***02*** *23:37:33.8±0.6, 855S×15736E, h0km, mb4.5/12, mb1 4.6/13, mb1mx4.6/16, mbtmp4.5/13, ML4.6/1, Error ellipse: s-maj=20.3km s-min=17.3km az=87.0*
ISCJB ***02*** *23:37:34.3±4.9, 848S±007×15731E±005, h11km±30km, mb4.6/28, Error ellipse: s-maj=11.4km s-min=8.5km az=19.4*
NEIC ***02*** *23:37:35.1±0.3, 855S×15739E, h10km, mb4.8/13, Error ellipse: s-maj=9.5km s-min=8.2km az=140.0*
MOS ***02*** *23:37:36.6±1.0, 860S×15747E, h33km, mb5.1/8, Error ellipse: s-maj=16.9km s-min=12.8km az=82.0*
ISC 02 23:37:40.3±1.7, 856S±008×15736E±007, h46km±17km, n63, σ0°90/61, mb4.6/28, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.70**	**109**	*e*Pn	**Pn**	**23 38 20.6**	**-0.6**
HNR				Sn	**Sn**	**23 38 53.7**	**+1.1**
HNR	**Honiara**	**2.70**	**109**	Pn	**Pn**	**23 38 19.9**	**-1.4**
	101nm,0.3s,baz=266,slow=13,SNR=3.3						
HNR				Sn	**Sn**	**23 38 54.4**	**+1.7**
	471nm,0.3s,baz=99,slow=22,SNR=5.3						
WB2	**Warramunga Arr**	**24.97**	**241**	*e*P	**P**	**23 42 59.9**	**+0.1**
WRA	**Warramunga Arr**	**24.98**	**241**	P	**P**	**23 43 00.1**	**+0.2**
	27nm,1.0s,mb4.7,baz=66,slow=9.3,SNR=15						
ASAR	**Alice Springs**	**27.02**	**233**	P	**P**	**23 43 17.4**	**-0.9**
	5.4nm,1.0s,mb4.0,baz=64,slow=9.6,SNR=7.7						
STKA	**Stephens Creek**	**27.44**	**210**	*e*P	**P**	**23 43 24.9**	**+2.9**
	14nm,1.6s,mb4.2						
STKA	**Stephens Creek**	**27.44**	**210**	P	**P**	**23 43 22.9**	**+0.9**
	2.3nm,0.4s,mb4.0,baz=43,slow=15,SNR=9.7						
FITZ	**Fitzroy Crossi**	**32.24**	**250**	*e*P	**P**	**23 44 04.4**	**-0.3**
TAU	**Tasmania Unive**	**35.33**	**193**	P	**P**	**23 44 29.4**	**-1.8**
MBWA	**Marble Bar**	**38.36**	**247**	*e*P	**P**	**23 44 56.8**	**-0.4**
	25nm,1.1s,mb4.8						
KKM	**Kota Kinabalu**	**43.52**	**288**	P	**P**	**23 45 37.9**	**-2.0**
NWAO	**Narrogin (SRO)**	**44.28**	**231**	*e*P	**P**	**23 45 45.9**	**+0.2**
	17nm,1.1s,mb4.7						
NWAO	**Narrogin (SRO)**	**44.28**	**231**	*e*P	**P**	**23 45 45.9**	**+0.2**
NWAO				pmax	pmax		
	comp=Z,17nm,1.1s						
NACB	**Ninganchiao**	**47.72**	**314**	*e*P	**P**	**23 46 12.9**	**0.0**
KSM	**Kuching**	**47.95**	**280**	*e*P	**P**	**23 46 15.4**	**+0.6**
YHNB	**Yeheng**	**48.19**	**314**	*e*P	**P**	**23 46 17.1**	**+0.6**
MJAR	**Matsushiro Arr**	**48.34**	**339**	P	**P**	**23 46 15.8**	**-1.7**
MJAR	**Matsushiro Arr**	**48.34**	**339**	P	**P**	**23 46 15.8**	**-1.7**
	comp=Z,1.3nm,0.6s,mb4.2,baz=162,slow=8.0,SNR=4.5						
KSRS	**Korea Array**	**53.42**	**331**	P	**P**	**23 46 56.2**	**+0.5**
	comp=Z,5.1nm,0.9s,mb4.5,baz=145,slow=7.4,SNR=9.2						
KULM	**Kulim**	**58.20**	**282**	*e*P	**P**	**23 47 30.0**	**-0.3**
MDJ	**Mudanjiang**	**58.57**	**337**	P	**P**	**23 47 32.3**	**0.0**
CHTO	**Chiang Mai**	**63.69**	**296**	*e*P	**P**	**23 48 08.5**	**+1.0**
	comp=Z,21nm,1.2s,mb5.0						
CHTO				*e*PcP	PcP	23 48 44.4	+0.9
CHTO	**Chiang Mai**	**63.69**	**296**	*e*P	**P**	**23 48 08.5**	**+0.9**
CHTO				*e*		23 48 44.4	
CHTO				pmax	pmax		
	comp=Z,21nm,1.2s,mb5.0						
LZH	**Lanzhou**	**67.07**	**315**	*e*P	**P**	**23 48 31.6**	**+2.5**
LZH				AP	pP	23 48 37.5	-4.8
LZH				XP	sP	23 48 41.2	-6.3
LZH				AMB	AMB		
	comp=Z,34nm,1.2s,mb5.2						
LZH				AMB	AMB		
	comp=Z,159nm,5.0s						
LZH	**Lanzhou**	**67.07**	**315**	*e*P	**P**	**23 48 31.6**	**+2.5**
	comp=Z,34nm,1.2s,mb5.2						
LZH				pP	pP	23 48 37.5	-4.8
LZH				sP	sP	23 48 41.2	-6.3
MA2	**Magadan**	**68.11**	**356**	*e*P	**P**	**23 48 34.1**	**-1.1**
VNDA	**Vanda**	**68.97**	**179**	P	**P**	**23 48 39.5**	**-0.8**
	comp=Z,1.7nm,1.0s,mb3.9,baz=332,slow=4.5,SNR=4.8						
SONM	**Songino Array**	**71.92**	**327**	P	**P**	**23 48 59.6**	**+0.8**
	comp=Z,3.2nm,0.9s,mb4.3,baz=137,slow=4.7,SNR=12						
LSA	**Lhasa**	**74.09**	**304**	*e*P	**P**	**23 49 13.2**	**+1.2**
BOD	**Bodaibo**	**74.93**	**338**	*e*P	**P**	**23 49 14.7**	**-1.6**
ZAK	**Zakamensk**	**75.06**	**328**	*e*P	**P**	**23 49 17.3**	**+0.1**
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.2s,mb4.1						
BILL	**Bilibino**	**76.67**	**3**	*e*P	**P**	**23 49 25.7**	**-0.3**
	comp=Z,12nm,1.1s,mb4.7						
BILL	**Bilibino**	**76.67**	**3**	*e*P	**P**	**23 49 25.7**	**-0.3**
BILL				pmax	pmax		
	comp=Z,12nm,1.1s,mb4.7						
JIRN	**Jiri**	**77.59**	**301**	*e*P	**P**	**23 49 33.3**	**+1.2**
	comp=Z,29nm,1.2s,mb5.1						
PALK	**Pallekele**	**78.01**	**279**	*e*P	**P**	**23 49 36.0**	**+1.3**
	comp=Z,8.7nm,1.1s,mb4.6						
PALK				*e*PcP	PcP	23 49 44.3	0.0
KKN	**Kakani**	**78.41**	**301**	*e*P	**P**	**23 49 37.4**	**+0.8**
SVW2	**Sparrevohn**	**78.57**	**21**	*e*P	**P**	**23 49 37.2**	**+0.4**
SVW2				*e*PcP	PcP	23 49 45.4	-0.2
GKN	**Gorkha**	**79.01**	**301**	*e*P	**P**	**23 49 40.4**	**+0.5**
	comp=Z,18nm,0.8s,mb5.1						
TTA	**Tatalina**	**79.67**	**20**	*e*P	**P**	**23 49 42.7**	**0.0**
	comp=Z,21nm,1.5s,mb4.8						
TTA	**Tatalina**	**79.67**	**20**	*e*P	**P**	**23 49 42.7**	**0.0**
TTA				pmax	pmax		
	comp=Z,21nm,1.5s,mb4.8						
KOLN	**Koldanda**	**79.83**	**300**	*e*P	**P**	**23 49 44.7**	**+0.3**
	comp=Z,23nm,1.0s,mb5.1						
QSPA	**South Pole Qui**	**81.43**	**180**	P	**P**	**23 49 52.4**	**+0.4**
	comp=Z,7.3nm,1.0s,mb4.6,baz=351,slow=1.9,SNR=6.8						
SML	**Sawmill**	**81.72**	**23**	*e*P	**P**	**23 49 53.7**	**0.0**
SML				*e*PcP	PcP	23 50 00.1	+0.7
IMA2	**Indian Mountai**	**82.53**	**18**	*e*P	**P**	**23 49 58.0**	**+0.1**
IMA2				*e*PcP	PcP	23 50 04.2	+1.4
MCK	**McKinley**	**82.64**	**21**	*e*P	**P**	**23 49 57.7**	**-0.8**
	comp=Z,18μm,1.2s						
MCK				*e*PP	PP	23 53 08.8	+0.1
COLA	**College**	**83.70**	**21**	*e*P	**P**	**23 50 02.9**	**-1.0**
	comp=Z,8.9nm,0.9s,mb4.9						
COLA	**College**	**83.70**	**21**	*e*P	**P**	**23 50 02.9**	**-1.0**
COLA				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.9						
MAW	**Mawson**	**83.86**	**203**	P	**P**	**23 50 04.9**	**0.0**
	comp=Z,3.0nm,0.7s,mb4.5,baz=90,slow=15,SNR=4.2						
MKAR	**Makanchi Array**	**86.12**	**318**	P	**P**	**23 50 16.2**	**-0.3**
	comp=Z,1.8nm,0.6s,mb4.5,baz=98,slow=5.9,SNR=9.8						
DAWY	**Dawson**	**86.39**	**23**	*e*P	**P**	**23 50 17.4**	**0.0**
TKM2	**Tokmak 2**	**89.79**	**313**	*e*P	**P**	**23 50 33.1**	**-1.0**
	comp=Z,1.2nm,0.5s,mb4.4						
TKM2	**Tokmak 2**	**89.79**	**313**	*e*P	**P**	**23 50 33.1**	**-1.0**
TKM2				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.4						
UCH	**Uchtor**	**90.43**	**313**	*e*P	**P**	**23 50 37.6**	**+0.5**
	comp=Z,1.8nm,0.9s,mb4.4						
NVAR	**Mina Array Bea**	**90.85**	**51**	P	**P**	**23 50 40.4**	**+1.2**
	comp=Z,3.1nm,1.0s,mb4.6,baz=232,slow=4.7,SNR=9.4						
EKS2	**Erkin-Say**	**91.05**	**313**	*e*P	**P**	**23 50 39.6**	**-0.4**
	comp=Z,1.7nm,0.8s,mb4.4						
TPNV	**Topopah Spring**	**92.21**	**53**	*e*P	**P**	**23 50 44.6**	**-1.0**
	comp=Z,4.2nm,1.0s,mb4.7						
TPNV	**Topopah Spring**	**92.21**	**53**	*e*P	**P**	**23 50 44.6**	**-0.9**
TPNV				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.7						
YKA	**Yellowknife Ar**	**96.61**	**28**	P	**P**	**23 51 05.4**	**+0.3**
YKA	**Yellowknife Ar**	**96.61**	**28**	P	**P**	**23 51 05.4**	**+0.3**
	comp=Z,0.9nm,0.9s,mb4.2,baz=267,slow=4.3,SNR=4.5						
TIP	**Timpagrande**	**133.40**	**317**	*e*Pdif	Pdif	23 53 49.1	+0.1
ESDC	**Sonseca Array**	**144.80**	**335**	PKP	PKPd

FITZ S S 23 44 08.5 +1.5
0.4nm,0.3s,baz=300,slow=20,SNR=3.0
WRA Warramunga Arr 13.75 158 P Pn 23 42 29.7 +0.1
0.4nm,0.3s,baz=340,slow=11,SNR=11
WRA S S 23 45 04.3 +1.9
0.4nm,0.3s,baz=330,slow=22,SNR=4.1
ASAR Alice Springs 17.10 164 P P 23 43 08.1 0.0
1.0nm,0.3s,baz=345,slow=12,SNR=21
MKAR Makanchi Array 67.79 327 P P 23 49 57.7 +0.5
0.6nm,0.6s,baz=118,slow=8.4,SNR=4.3

IDC 02 23:41:13.2±2.7,764S×15600E,h0km,mb4.1/6,mb1 4.3/6, mb1mx4.0/14,mbtmp4.1/6,Error ellipse: s-maj=82.3km s-min=36.1km az=122.0,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.29**	**238**	P	P	23 46 33.0	+0.4
	3.5nm,0.9s,baz=65,slow=8.8,SNR=5.7						
MJAR	**Matsushiro Arr**	**47.01**	**340**	P	P	23 49 46.7	+0.3
	1.5nm,0.5s,baz=163,slow=8.0,SNR=4.1						
SONM	**Songino Array**	**70.41**	**327**	P	P	23 52 29.6	+0.4
	1.0nm,0.7s,baz=132,slow=7.8,SNR=6.8						
MKAR	**Makanchi Array**	**84.54**	**319**	P	P	23 53 47.1	-1.2
	1.9nm,0.7s,baz=105,slow=5.9,SNR=5.8						
ZALV	**Zalesovo Beam**	**85.26**	**326**	P	P	23 53 52.2	+0.4
	1.0nm,0.7s,baz=106,slow=6.5,SNR=3.7						
YKA	**Yellowknife Ar**	**96.43**	**28**	P	P	23 54 44.0	0.0
	0.2nm,0.6s,baz=264,slow=4.5,SNR=4.6						

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*BJI **02** 23:41:43.8,670S×15633E,h11km,mB5.1,mb4.8*
*IDC **02** 23:41:43.2±0.5,733S×15574E,h0km,mb4.7/14, mb1 4.8/16,mb1mx4.7/20,mbtmp4.7/16,ML4.2/2,Error ellipse: s-maj=21.9km s-min=14.8km az=90.0*
*NEIC **02** 23:41:44.7±0.3,725S×15577E,h10km,mb4.9/9,Error ellipse: s-maj=9.8km s-min=7.1km az=100.0*
*MOS **02** 23:41:47.8±1.0,727S×15567E,h33km,mb5.2/3,Error ellipse: s-maj=18.1km s-min=12.0km az=65.3*
*ISCJB **02** 23:41:48.6±3.4,735S±008×15573E±009,h49km±30km, mb4.7/21,Error ellipse: s-maj=15.2km s-min=13.3km az=148.4*

ISC 02 23:41:50.7±2.9,737S±008×15573E±009,h54km±27km, n65,σ0§85/47,mb4.7/21,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**15.63**	**215**	*e*P	**Pn**	**23 45 28.8**	**+1.2**
	18nm,0.8s						
CTA	**Charters Tower**	**15.63**	**215**	*e*P	**Pn**	**23 45 28.8**	**+1.2**
CTA				pmax	pmax		
	comp=Z,18nm,0.8s						
CTA	**Charters Tower**	**15.63**	**215**	Pn	**Pn**	**23 45 27.1**	**-0.5**
	comp=Z,0.7nm,0.3s,baz=45,slow=13,SNR=7.6						
CTAO	**Charters Tower**	**15.63**	**215**	*e*P	**Pn**	**23 45 28.2**	**+0.6**
	comp=Z,25nm,0.8s						
CTAO	**Charters Tower**	**15.63**	**215**	*e*P	**Pn**	**23 45 28.2**	**+0.6**
CTAO				pmax	pmax		
	comp=Z,25nm,0.8s						
DZM	**Mont Dzumac**	**17.90**	**146**	P	**Pn**	**23 45 55.7**	**-0.3**
	comp=Z,0.6nm,0.3s,baz=354,slow=9.7,SNR=7.6						
EIDS	**Eidsvold**	**18.44**	**193**	*e*P	**Pn**	**23 46 03.0**	**+0.4**
	comp=Z,12nm,0.9s						
ARMA	**Armidale**	**23.25**	**189**	*e*P	**P**	**23 46 54.1**	**+0.5**
KAKA	**Kakadu**	**23.53**	**255**	*e*P	**P**	**23 46 55.3**	**-1.1**
	comp=Z,24nm,0.7s,mb4.7						
WB2	**Warramunga Arr**	**24.21**	**237**	*e*P	**P**	**23 47 02.6**	**+0.2**
WRA	**Warramunga Arr**	**24.22**	**237**	P	**P**	**23 47 02.4**	**-0.2**
	comp=Z,25nm,0.9s,mb4.6,baz=63,slow=9.5,SNR=17						
WRA				PcP	PcP	23 50 42.8	+0.7
	comp=Z,1.6nm,0.8s,baz=58,slow=2.9,SNR=4.6						
ASAR	**Alice Springs**	**26.48**	**230**	P	**P**	**23 47 22.4**	**-0.7**
	comp=Z,3.4nm,0.7s,mb4.0,baz=59,slow=9.1,SNR=11						
STKA	**Stephens Creek**	**27.72**	**207**	*e*P	**P**	**23 47 33.2**	**-0.9**
	comp=Z,16nm,0.7s,mb4.8						
STKA	**Stephens Creek**	**27.72**	**207**	P	**P**	**23 47 33.7**	**-0.4**
	comp=Z,22nm,0.8s,mb4.8,baz=19,slow=7.1,SNR=14						
FITZ	**Fitzroy Crossi**	**31.18**	**247**	*e*P	**P**	**23 48 03.2**	**-1.7**
	comp=Z,15nm,0.9s,mb4.8						
FITZ				*e*PcP	PcP	23 50 59.7	+0.7
FITZ	**Fitzroy Crossi**	**31.18**	**247**	P	**P**	**23 48 04.1**	**-0.8**
	comp=Z,9.6nm,0.8s,mb4.7,baz=93,slow=9.3,SNR=9.1						
RPZ	**Rata Peaks**	**38.62**	**162**	P	**P**	**23 49 09.0**	**+0.4**
	comp=Z,17nm,0.6s,mb4.9,baz=312,slow=4.5,SNR=6.7						
KKM	**Kota Kinabalu**	**41.62**	**288**	*e*P	**P**	**23 49 33.4**	**-0.6**
KSM	**Kuching**	**46.16**	**279**	P	**P**	**23 50 09.7**	**-0.8**
KSRS	**Korea Array**	**51.61**	**332**	P	**P**	**23 50 51.8**	**0.0**
	comp=Z,1.2nm,0.4s,mb4.2,baz=149,slow=7.3,SNR=4.6						
YSS	**Yuzh-Sakhalins**	**55.30**	**349**	P	**P**	**23 51 19.8**	**+1.2**
KULM	**Kulim**	**56.38**	**281**	*e*P	**P**	**23 51 26.8**	**-0.3**
KLR	**Kul'dur**	**60.14**	**342**	*e*P	**P**	**23 51 50.0**	**-2.6**
CHTO	**Chiang Mai**	**61.72**	**296**	*e*P	**P**	**23 52 04.5**	**+0.6**
	comp=Z,19nm,1.4s,mb5.0						
CHTO	**Chiang Mai**	**61.72**	**296**	*e*P	**P**	**23 52 04.6**	**+0.7**
CHTO				pmax	pmax		
	comp=Z,19nm,1.4s,mb5.0						
LZH	**Lanzhou**	**65.09**	**315**	*e*P	**P**	**23 52 28.0**	**+2.1**
LZH				AP	pP	23 52 31.4	-9.4
LZH				XP	sP	23 52 33.2	-14
LZH				AMB	AMB		
	comp=Z,18nm,1.0s,mb5.1						
LZH				AMB	AMB		
	comp=Z,90nm,4.2s						
LZH	**Lanzhou**	**65.09**	**315**	*e*P	**P**	**23 52 28.0**	**+2.1**
	comp=Z,18nm,1.0s,mb5.1						
LZH				pP	pP	23 52 31.4	-9.4
LZH				sP	sP	23 52 33.2	-14
CASY	**Casey**	**66.47**	**198**	*e*P	**P**	**23 52 33.6**	**-0.6**
	comp=Z,23nm,1.0s,mb5.2						
SONM	**Songino Array**	**70.04**	**327**	P	**P**	**23 52 58.0**	**+1.1**
	comp=Z,2.8nm,0.4s,mb4.5,baz=144,slow=5.9,SNR=34						
VNDA	**Vanda**	**70.19**	**179**	P	**P**	**23 52 57.7**	**+0.3**
VNDA	**Vanda**	**70.19**	**179**	P	**P**	**23 52 57.7**	**+0.3**
	comp=Z,5.3nm,1.1s,mb4.4,baz=345,slow=6.8,SNR=12						
BOD	**Bodaibo**	**73.23**	**338**	*e*P	**P**	**23 53 16.8**	**+1.0**
JIRN	**Jiri**	**75.60**	**301**	*e*P	**P**	**23 53 31.4**	**+1.1**
KKN	**Kakani**	**76.41**	**301**	*e*P	**P**	**23 53 36.1**	**+1.2**
	comp=Z,14nm,0.6s,mb5.1						
GKN	**Gorkha**	**77.02**	**301**	*e*P	**P**	**23 53 38.9**	**+0.6**
	comp=Z,64nm,1.2s,mb5.4						
KOLN	**Koldanda**	**77.84**	**300**	*e*P	**P**	**23 53 43.4**	**+0.5**
	comp=Z,33nm,1.0s,mb5.2						
SVW2	**Sparrevohn**	**78.07**	**22**	*e*P	**P**	**23 53 42.6**	**-0.8**
MCK	**McKinley**	**82.13**	**22**	P	**P**	**23 54 04.2**	**-1.1**
QSPA	**South Pole Qui**	**82.61**	**180**	P	**P**	**23 54 08.6**	**+1.0**
	comp=Z,14nm,1.0s,mb4.9,baz=42,slow=0.8,SNR=13						
MKAR	**Makanchi Array**	**84.17**	**319**	P	**P**	**23 54 16.5**	**+0.3**
	comp=Z,5.3nm,0.7s,mb4.8,baz=102,slow=5.2,SNR=15						
MAW	**Mawson**	**84.34**	**203**	P	**P**	**23 54 16.8**	**+0.1**
	comp=Z,6.7nm,0.9s,mb4.8,baz=79,slow=5.1,SNR=10.0						
ZAA0	**Zalesovo Array**	**84.90**	**326**	*e*P	**P**	**23 54 18.8**	**-0.8**
ZALV	**Zalesovo Beam**	**84.90**	**326**	P	**P**	**23 54 19.0**	**-0.7**
ZALV	**Zalesovo Beam**	**84.90**	**326**	P	**P**	**23 54 19.0**	**-0.6**
	comp=Z,2.1nm,0.5s,mb4.5,baz=119,slow=5.5,SNR=10						
ZAL	**Zalesovo**	**84.90**	**326**	P	**P**	**23 54 19.0**	**-0.7**
INK	**Inuvik**	**89.81**	**21**	P	**P**	**23 54 42.7**	**-0.4**
	comp=Z,2.0nm,0.8s,mb4.5,baz=272,slow=9.7,SNR=5.9						
YKA	**Yellowknife Ar**	**96.32**	**28**	P	**P**	**23 55 12.8**	**-0.4**
	comp=Z,0.6nm,0.6s,mb4.2,baz=266,slow=4.7,SNR=8.9						
FINES	**FINESS Array B**	**114.57**	**336**	PKP	PKiKP	00 00 24.8	+0.2
	comp=Z,0.6nm,0.6s,baz=106,slow=2.5,SNR=8.2						
PLCA	**Paso Flores**	**115.98**	**142**	PKP	PKPdf	00 00 28.2	+0.3
	comp=Z,1.6nm,0.5s,baz=9.9,slow=6.2,SNR=4.8						
NOA	**NORSAR Array B**	**120.29**	**341**	PKP	PKPdf	00 00 35.4	-0.1
	comp=Z,0.9nm,0.7s,baz=48,slow=2.1,SNR=2.7						
BOSA	**Boshof**	**120.36**	**231**	PKP	PKPdf	00 00 36.4	-0.3
	comp=Z,1.5nm,0.7s,baz=138,slow=13,SNR=4.8						
CFAA	**Coronel Fontan**	**122.86**	**135**	PKP	PKPdf	00 00 41.0	-0.5
	comp=Z,0.2nm,0.3s,baz=310,slow=9.1,SNR=3.6						
DPC	**Dobruska-Polom**	**125.47**	**329**	*e*PKP	PKPdf	00 00 46.1	+0.3
DPC				*ex*	x	00 00 55.9	
UPC	**Upice**	**125.53**	**330**	*e*PKP	PKPdf	00 00 47.1	+1.2
UPC				*ex*	x	00 01 00.2	
BRG	**Berggiesshubel**	**126.32**	**331**	*e*PKIKP	pPKPdf	00 00 56.0	-7.5
BRG				pmax	pmax		
	comp=Z,9.0nm,0.9s						
CLL	**Collm**	**126.48**	**332**	*e*P	pPKPdf	00 00 56.0	-7.8
CLL	**Collm**	**126.48**	**332**	*e*PKPdf	PKPdf	00 00 49.0	+1.3
CLL				*e*(pPKPdf)		00 00 56.0	
	comp=Z,4.0nm,0.9s						
KHC	**Kasperske Hory**	**127.63**	**329**	*e*PKP	PKPdf	00 00 51.2	+1.2
KHC				*ex*	x	00 00 57.3	
GERES	**GERESS Array B**	**127.75**	**329**	PKP	PKPdf	00 00 50.5	+0.3
	comp=Z,1.0nm,0.8s,baz=94,slow=1.9,SNR=7.3						
EKA	**Eskdalemuir Ar**	**129.29**	**345**	PKP	PKPdf	00 00 53.3	+0.3
	comp=Z,1.1nm,0.8s,baz=6.5,slow=2.8,SNR=4.4						
LPAZ	**La Paz**	**130.64**	**119**	PKP	PKPdf	00 00 58.3	+1.7
	comp=Z,3.5nm,1.0s,baz=128,slow=0.5,SNR=10						
BDFB	**Brasilia**	**147.20**	**134**	PKPbc	PKPbc	00 01 29.1	+0.1
	comp=Z,8.8nm,0.7s,baz=211,slow=3.8,SNR=17						
MDT	**Midelt**	**148.79**	**327**	PKPbc	PKPbc	00 01 34.6	+1.8
	comp=Z,4.9nm,1.1s,baz=56,slow=3.6,SNR=7.7						
TORD	**Torodi Ar. Bea**	**153.83**	**285**	PKPbc	PKPbc	00 01 44.3	-0.7
	comp=Z,2.2nm,1.1s,baz=80,slow=2.0,SNR=21						
DBIC	**Dimbokro**	**160.72**	**269**	PKPab	PKPab	00 02 28.2	+0.3
	comp=Z,2.6nm,0.7s,baz=110,slow=21,SNR=5.4						

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*IDC **02** 23:46:05.6±0.8,862S×157.44E,h0km,mb4.2/8,mb1 4.4/9, mb1mx4.2/15,mbtmp4.2/9,ML4.9/1,Error ellipse: s-maj=23.3km s-min=20.4km az=163.0*
*ISCJB **02** 23:46:07.6±6.4,86S±01×15733E±007,h23km±47km, mb4.0/8,Error ellipse: s-maj=25.0km s-min=11.7km az=179.0*

ISC 02 23:46:07.2±6.9,86S±01×15736E±007,h9km±43km,n12, σ0§86/12,mb4.0/8,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.68**	**108**	Pn	**Pn**	**23 46 50.4**	**-0.1**
	212nm,0.3s,baz=244,slow=1.0,SNR=8.3						
HNR				Sn	**Sn**	**23 47 23.5**	**+0.4**
	409nm,0.3s,baz=258,slow=22,SNR=7.9						
WB2	**Warramunga Arr**	**24.93**	**241**	*e*P	**P**	**23 51 30.1**	**-0.8**
WRA	**Warramunga Arr**	**24.94**	**241**	P	**P**	**23 51 31.7**	**+0.7**
	9.0nm,0.9s,mb4.3,baz=66,slow=9.4,SNR=6.9						
ASAR	**Alice Springs**	**26.97**	**234**	P	**P**	**23 51 49.3**	**-0.1**
	1.5nm,0.9s,mb3.5,baz=72,slow=8.9,SNR=4.1						
STKA	**Stephens Creek**	**27.38**	**210**	*e*P	**P**	**23 51 52.4**	**-0.6**
	5.2nm,0.9s,mb4.1						
STKA	**Stephens Creek**	**27.38**	**210**	P	**P**	**23 51 53.8**	**+0.8**
	4.3nm,0.7s,mb4.1,baz=38,slow=12,SNR=6.2						
KSRS	**Korea Array**	**53.48**	**331**	P	**P**	**23 55 28.8**	**+0.9**
	1.3nm,0.5s,mb4.2,baz=155,slow=8.4,SNR=3.7						
SONM	**Songino Array**	**71.97**	**327**	P	**P**	**23 57 32.4**	**+1.3**
	1.4nm,0.9s,mb3.9,baz=135,slow=6.0,SNR=5.7						
MKAR	**Makanchi Array**	**86.17**	**318**	P	**P**	**23 58 48.3**	**-0.5**
	0.7nm,0.7s,mb4.0,baz=113,slow=5.3,SNR=4.3						
NVAR	**Mina Array Bea**	**90.90**	**51**	P	**P**	**23 59 11.4**	**-0.2**
	1.1nm,0.7s,mb4.3,baz=230,slow=4.7,SNR=6.2						
YKA	**Yellowknife Ar**	**96.68**	**28**	P	**P**	**23 59 35.6**	**-2.0**
	0.7nm,0.7s,mb4.2,baz=264,slow=5.0,SNR=9.4						
BDFB	**Brasilia**	**145.17**	**134**	PKPbc	PKPbc	00 05 44.1	-1.7
	2.8nm,1.0s,baz=225,slow=13,SNR=3.2						

IDC 02 23:47:55.6±3.4,3615S×9751W,h0km,mb3.9/5, mb1 4.3/5,mb1mx4.1/16,mbtmp4.0/5,Error ellipse: s-maj=102.7km s-min=28.7km az=30.0,West Chile Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**21.57**	**110**	P	P	23 52 47.6	+0.8
	4.8nm,1.0s,baz=300,slow=11,SNR=4.3						
CFAA	**Coronel Fontan**	**24.68**	**88**	P	P	23 53 17.4	-0.9
	0.7nm,0.9s,baz=256,slow=9.2,SNR=5.7						
LPAZ	**La Paz**	**32.75**	**61**	P	P	23 54 31.7	+1.3
	7.2nm,1.0s,baz=202,slow=7.2,SNR=4.1						
NVAR	**Mina Array Bea**	**76.65**	**343**	P	P	23 59 48.8	+0.8
	0.7nm,0.7s,baz=178,slow=8.1,SNR=3.6						
PDAR	**Pinedale Array**	**79.30**	**351**	P	P	00 00 02.8	+0.1
	1.7nm,0.8s,baz=165,slow=7.0,SNR=8.3						

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*ISCJB **02** 23:50:38.9±0.3,4281N±002×1318E±003,h15km±3km, Error ellipse: s-maj=3.6km s-min=2.3km az=155.8*
*CSEM **02** 23:50:38.8±0.1,4283N×1321E,h15km,ML3.8/2,Error ellipse: s-maj=1.2km s-min=0.8km az=68.0*
*ROM **02** 23:50:39.0±0.1,4283N×1322E,h6km±1km,Md2.8/6, Ml2.7/34,Error ellipse: s-maj=1.7km s-min=1.4km az=113.0*

ISC 02 23:50:39.7±0.2,4281N±002×1318E±003,h11km±4km,n51, σ1§04/73,4C-7D,Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRCA	**Norcia**	**0.05**	**300**	⇑*i*Pg	**Pg**	**23 50 41.6**	**-0.3**
LNSS	**Leonessa**	**0.23**	**207**	Pg	**Pg**	**23 50 45.4**	**+0.9**
LNSS				Sg	**Sg**	**23 50 50.2**	**+2.6**
	10μm,0.3s						
CESI	**CESI - Serrava**	**0.28**	**315**	Pg	**Pg**	**23 50 45.3**	**-0.1**
CESI				Sg	**Sg**	**23 50 50.3**	**+1.0**
	3μm,0.2s						
CAMP	**Campotosto**	**0.32**	**148**	⇓*i*Pg	**Pg**	**23 50 46.1**	**0.0**
CAMP				Sg	**Sg**	**23 50 51.7**	**+1.3**
	237nm,0.2s						
TERO	**Teramo**	**0.36**	**120**	⇓*i*Pg	**Pg**	**23 50 46.4**	**-0.5**
TERO				Sg	**Sg**	**23 50 52.3**	**+0.5**
	3μm,0.3s						
OFFI	**Offida**	**0.39**	**71**	Pg	**Pg**	**23 50 47.4**	**-0.1**
OFFI				Sg	**Sg**	**23 50 54.8**	**+2.0**
	2μm,0.5s						
ASS	**Assisi**	**0.46**	**304**	Pg	**Pg**	**23 50 48.6**	**-0.2**
ASS				Sg	**Sg**	**23 50 56.1**	**+1.1**
	72nm,0.4s						
SNTG	**Esanatoglia**	**0.48**	**339**	⇓Pg	**Pg**	**23 50 48.3**	**-0.8**
SNTG				Sg	**Sg**	**23 50 55.8**	**+0.3**
AQU	**L'Aquila**	**0.48**	**160**	⇓*i*Pg	**Pg**	**23 50 49.1**	**0.0**
AQU				Sg	**Sg**	**23 50 57.1**	**+1.6**
	473nm,0.5s						
FIAM	**Fiamignano**	**0.54**	**185**	Pg	**Pg**	**23 50 50.4**	**+0.2**
FIAM				Sg	**Sg**	**23 50 59.5**	**+2.2**
	528nm,0.5s						
TRTR	**Tortoreto Alta**	**0.54**	**90**	Pg	**Pg**	**23 50 50.8**	**+0.5**
MNS	**Montasola**	**0.56**	**221**	Pg	**Pg**	**23 50 50.8**	**+0.2**
MNS				Sg	**Sg**	**23 51 00.4**	**+2.5**
	377nm,0.3s						
CING	**Cingoli**	**0.57**	**1**	Pg	**Pg**	**23 50 49.6**	**-1.2**
CING				Sg	**Sg**	**23 50 58.9**	**+0.6**
	421nm,0.2s						
FAGN	**Fagnano**	**0.62**	**151**	Pg	**Pg**	**23 50 51.1**	**-0.6**
	857nm,0.6s						
VCEL	**Villa Celiera**	**0.64**	**130**	⇓*i*Pg	**Pg**	**23 50 51.8**	**-0.3**
VCEL				Sg	**Sg**	**23 51 02.4**	**+1.9**
	615nm,0.6s						
MURB	**Monte Urbino**	**0.66**	**314**	Pg	**Pg**	**23 50 52.1**	**-0.4**
	2μm,0.3s						
AOI	**Ancona**	**0.81**	**22**	Pg	**Pg**	**23 50 54.2**	**-1.1**
AOI				Sg	**Sg**	**23 51 06.8**	**+1.0**
	184nm,0.3s						
MTCE	**Montecelio**	**0.85**	**203**	Pg	**Pg**	**23 50 56.2**	**+0.1**
	156nm,0.5s						
PIEI	**Pieia**	**0.87**	**327**	Pg	**Pg**	**23 50 55.2**	**-1.3**
PIEI				Sg	**Sg**	**23 51 08.7**	**+0.9**
	278nm,0.3s						
CERT	**Cerreto**	**0.87**	**190**	Pg	**Pg**	**23 50 56.0**	**-0.5**
	274nm,0.4s						
SENI	**Senigallia**	**0.90**	**3**	Pg	**Pg**	**23 50 56.6**	**-0.5**
	131nm,0.4s						
FSSB	**Fossombrone**	**0.93**	**342**	Pg	**Pg**	**23 50 56.6**	**-1.1**
	617nm,0.3s						
SACS	**San Casciano d**	**0.93**	**273**	Pg	**Pg**	**23 50 57.6**	**-0.1**
	121nm,0.4s						
INTR	**Introdacqua**	**0.96**	**146**	Pg	**Pg**	**23 50 55.7**	**-2.5**
	334nm,0.8s						
BADI	**Badiali**	**0.98**	**316**	Pg	**Pg**	**23 50 57.8**	**-0.8**
	152nm,0.5s						
VVLD	**Villa Vallelon**	**0.99**	**160**	Pg	**Pg**	**23 50 57.7**	**-1.1**
	203nm,0.5s						
GUAR	**Guarcino**	**1.02**	**174**	Pg	**Pg**	**23 50 59.6**	**+0.3**
	197nm,0.6s						
LATE	**Laterza**	**1.03**	**260**	Pg	**Pg**	**23 50 59.8**	**+0.2**
	15nm,0.4s						
TOLF	**Tolfa**	**1.15**	**230**	Pg	**Pg**	**23 51 01.4**	**-0.3**
	77nm,0.6s						
POFI	**Posta Fibreno**	**1.16**	**160**	Pg	**Pg**	**23 51 00.6**	**-1.4**
	70nm,0.5s						
PESA	**Pesaro**	**1.16**	**348**	Pg	**Pg**	**23 51 01.2**	**-0.8**
	226nm,0.5s						
SDI	**San Donato**	**1.19**	**157**	Pg	**Pg**	**23 51 00.9**	**-1.7**
	55nm,0.4s						
CRE	**Caprese Michel**	**1.21**	**313**	Pg	**Pg**	**23 51 02.2**	**-0.8**
	26nm,0.3s						
RSM	**Repubblica di**	**1.24**	**335**	Pg	**Pg**	**23 51 02.9**	**-0.7**
	155nm,2.1s						
GIUL	**Giuliano Di Ro**	**1.25**	**177**	Pg	**Pg**	**23 51 02.8**	**-0.9**
	69nm,0.5s						
ARCI	**Arcidosso**	**1.25**	**273**	Pg	**Pg**	**23 51 03.8**	**0.0**
	246nm,2.8s						
CERA	**Filignano**	**1.36**	**152**	Pg	**Pg**	**23 51 04.0**	**-1.8**
	110nm,0.6s						
FRES	**Fresagrandinar**	**1.38**	**127**	Pg	**Pg**	**23 51 06.4**	**+0.1**
	154nm,0.7s						
MIDA	**Miranda**	**1.41**	**145**	Pg	**Pg**	**23 51 04.4**	**-2.4**
	70nm,0.7s						
SFI	**Santa Sofia**	**1.47**	**319**	Pg	**Pg**	**23 51 07.3**	**-0.6**
	53nm,0.6s						
PTRJ	**Pietraroja**	**1.76**	**145**	Pg	**Pg**	**23 51 12.9**	**-0.5**
FG2	**Serracapriola**	**1.78**	**124**	Pg	**Pg**	**23 51 12.2**	**-1.6**
	55nm,0.2s						
NVLJ	**Novalja**	**2.14**	**34**	*e*Pn	**Pn**	**23 51 15.1**	**-0.3**
NVLJ				Sn	**Sn**	**23 51 42.2**	**+0.1**
NVLJ	**Novalja**	**2.14**	**34**	*e*Pn	**Pn**	**23 51 15.1**	**-0.3**
NVLJ				Sn	**Sn**	**23 51 42.1**	**+0.1**
STON	**Ston**	**3.33**	**87**	*e*Pn	**Pn**	**23 51 32.3**	**+0.6**
STON				Sn	**Sn**	**23 52 12.1**	**+0.8**
STON	**Ston**	**3.33**	**87**	*e*Pn	**Pn**	**23 51 32.2**	**+0.5**
STON				Sn	**Sn**	**23 52 12.0**	**+0.8**
OBKA	**Obir**	**3.83**	**14**	⇑*i*Pn	**Pn**	**23 51 38.7**	**+0.1**
OBKA				⇓*i*Sg	**Sg**	**23 52 44.4**	**+1.8**
	12nm,0.6s						
OBKA	**Obir**	**3.83**	**14**	Pn	**Pn**	**23 51 38.7**	**+0.1**
OBKA				Sg	**Sg**	**23 52 44.4**	**+1.8**
	12nm,0.6s						
ABTA	**Abfaltersbach**	**3.97**	**353**	⇑*i*Pn	**Pn**	**23 51 41.6**	**+1.0**
KBA	**Koelnbreinsper**	**4.27**	**2**	⇑*i*Pn	**Pn**	**23 51 45.3**	**+0.6**
KBA				⇓*i*Sn	**Sn**	**23 52 35.7**	**+1.1**
KBA	**Koelnbreinsper**	**4.27**	**2**	Pn	**Pn**	**23 51 45.3**	**+0.6**
KBA				Sn	**Sn**	**23 52 35.7**	**+1.2**

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*IDC **02** 23:55:35.1±1.0,710S×15547E,h0km,mb4.1/10, mb1 4.2/10,mb1mx4.1/16,mbtmp4.1/10,Error ellipse: s-maj=36.6km s-min=19.7km az=117.0*
*ISCJB **02** 23:55:39.3±1.1,70S±01×1552E±02,h33km,mb4.2/14, Error ellipse: s-maj=34.4km s-min=15.2km az=24.7*

ISC 02 23:55:41.1±1.1,70S±01×1553E±02,h35km,n16,σ0§68/14, mb4.2/14,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.03**	**236**	P	**P**	**00 00 53.4**	**+0.4**
	1.5nm,0.5s,mb3.6,baz=58,slow=9.2,SNR=10						
ASAR	**Alice Springs**	**26.36**	**229**	P	**P**	**00 01 13.8**	**-0.4**
	0.3nm,0.4s,mb3.2,baz=57,slow=9.4,SNR=4.7						
STKA	**Stephens Creek**	**27.83**	**206**	P	**P**	**00 01 27.8**	**+0.5**
	1.5nm,0.6s,mb3.8,baz=58,slow=9.6,SNR=2.9						
FITZ	**Fitzroy Crossi**	**30.90**	**246**	P	**P**	**00 01 54.9**	**+0.3**
	1.2nm,0.5s,mb4.0,baz=100,slow=8.4,SNR=12						
KSRS	**Korea Array**	**51.08**	**332**	P	**P**	**00 04 41.7**	**+1.4**
	0.8nm,0.3s,mb4.1,baz=142,slow=6.2,SNR=3.0						
SONM	**Songino Array**	**69.50**	**327**	P	**P**	**00 06 47.2**	**+1.2**
	1.5nm,0.5s,mb4.2,baz=144,slow=5.8,SNR=20						
JIRN	**Jiri**	**75.03**	**301**	*e*P	**P**	**00 07 19.4**	**-0.1**
	9.5nm,0.6s,mb4.9						
KKN	**Kakani**	**75.84**	**301**	*e*P	**P**	**00 07 23.7**	**-0.5**
	14nm,0.7s,mb5.0						
GKN	**Gorkha**	**76.44**	**301**	*e*P	**P**	**00 07 27.0**	**-0.6**
	19nm,0.9s,mb5.0						
KOLN	**Koldanda**	**77.27**	**300**	*e*P	**P**	**00 07 31.3**	**-1.0**
	14nm,1.0s,mb4.9						
MKAR	**Makanchi Array**	**83.60**	**319**	P	**P**	**00 08 05.8**	**0.0**
	1.0nm,0.6s,mb4.1,baz=103,slow=5.6,SNR=11						
ZALV	**Zalesovo Beam**	**84.35**	**326**	P	**P**	**00 08 08.7**	**-0.8**
	0.5nm,0.4s,mb4.0,baz=130,slow=5.9,SNR=5.3						
INK	**Inuvik**	**89.64**	**21**	P	**P**	**00 08 35.0**	**0.0**
	1.4nm,0.5s,mb4.5,baz=275,slow=5.5,SNR=12						
YKA	**Yellowknife Ar**	**96.23**	**28**	P	**P**	**00 09 05.2**	**-0.2**
	0.3nm,0.5s,mb4.0,baz=267,slow=4.5,SNR=12						
BDFB	**Brasilia**	**147.77**	**134**	PKPbc	PKPbc	00 15 21.2	-2.1
	3.0nm,0.6s,baz=222,slow=3.8,SNR=5.

JEM	Erimo	4.93 246	P		Pn	00 07 37.9	+2.3
JNBK	Urakawa-nobuka	5.08 250	P		Pn	00 07 37.6	-0.1
JNBK			eS		Sn	00 08 33.4	-1.7
JBT2	Biratori 2	5.17 256	P		Pn	00 07 39.4	+0.6
YSS	Yuzh-Sakhalins	5.28 303	ePN		Pn	00 07 39.3	-1.1
JNB	Noboribetsu	6.19 256	P		Pn	00 07 53.2	+0.3
JNB			eS		Sn	00 09 02.7	+0.3
JKB	Kayabe	6.41 252	P		Pn	00 07 55.5	-0.4
JKB			eS		Sn	00 09 05.1	-2.7
JANG	Nango	6.86 239	eS		Sn	00 09 12.1	-6.7
JTM	Tenmabayashi	6.91 243	P		Pn	00 08 02.0	-0.7
JTM			eS		Sn	00 09 15.4	-4.6
JTH	Tanohata	6.92 234	eS		Sn	00 09 12.5	-7.9
JOSM	Okushiri--Mats	7.42 257	P		Pn	00 08 10.1	+0.4
OFUJ	Ofunato	7.62 230	eS		Sn	00 09 29.6	-7.8
JRG	Rokugo	8.00 236	eS		Sn	00 09 40.8	-6.0
JIO	Ouri	8.24 228	eS		Sn	00 09 43.5	-9.2
KSRS	Korea Array	17.43 255	P		Pn	00 10 26.0	+2.1
	baz=248,slow=34,SNR=3.7						
YAK	Yakutsk	21.19 334	eP		P	00 11 12.3	+6.8
YAK			pmax	pmax			
	comp=Z,16nm,0.9s,mb4.3						
YAK			pmax	pmax			
	comp=N,14nm,1.3s						
YAK			pmax	pmax			
	comp=E,11nm,1.3s						
BILL	Bilibino	25.52 15⇑	eP		P	00 11 45.6	-2.6
BILL			eS		S	00 16 10.8	-1.5
BILL			pmax	pmax			
	comp=Z,6.0nm,1.9s,mb3.8						
BILL			MLR	MLR			
	comp=Z,3μm,18.0s,MS4.8						
SONM	Songino Array	29.65 292	P		P	00 12 26.0	+0.6
SONM			pmax	pmax			
	comp=Z,1.0nm,0.7s						
SONM	Songino Array	29.65 292	P		P	00 12 26.0	+0.7
	comp=Z,1.3nm,0.7s,mb3.8,baz=81,slow=8.3,SNR=11						
COLA	College	39.83 36	eP		P	00 13 53.1	+0.3
ZALV	Zalesovo Beam	41.89 307	P		P	00 14 10.2	+0.3
	comp=Z,0.4nm,0.4s,mb3.4,baz=79,slow=7.5,SNR=3.4						
ZALV			PcP	PcP		00 16 05.0	+0.2
	comp=Z,1.0nm,0.7s,baz=76,slow=2.3,SNR=5.5						
INK	Inuvik	45.26 31	P		P	00 14 36.5	-0.3
INK			pmax	pmax			
	comp=Z,2.0nm,0.9s						
INK	Inuvik	45.26 31	P		P	00 14 36.5	-0.3
	comp=Z,1.9nm,0.9s,mb3.9,baz=266,slow=5.0,SNR=4.6						
MKAR	Makanchi Array	45.67 298	P		P	00 14 40.9	+0.6
MKAR						00 16 18.4	
MKAR			pmax	pmax			
	comp=Z,3.0nm,0.7s						
MKAR	Makanchi Array	45.67 298	P		P	00 14 40.9	+0.5
	comp=Z,3.2nm,0.7s,mb4.3,baz=74,slow=8.1,SNR=27						
MKAR			PcP	PcP		00 16 18.4	+0.6
	comp=Z,0.2nm,0.4s,baz=88,slow=3.5,SNR=1.9						
KURK	Kurchatov	46.49 304	eP		P	00 14 46.9	+0.2
YKA	Yellowknife Ar	54.59 34	P		P	00 15 47.4	-0.3
	comp=Z,0.4nm,0.7s,mb3.6,baz=298,slow=6.8,SNR=7.3						
AKTO	Aktyubinsk	58.34 311	P		P	00 16 14.5	0.0
AKTO			pmax	pmax			
	comp=Z,1.0nm,0.7s,mb4.0						
AKTO	Aktyubinsk	58.34 311	P		P	00 16 14.5	0.0
	comp=Z,0.8nm,0.7s,mb3.9,baz=40,slow=9.9,SNR=4.6						
JOF	Joensuu	62.36 333	epkp		P	00 16 38.6	-3.1
KAF	Kangasniemi	64.55 334	epkp		P	00 16 54.5	-1.7
FINES	FINESS Array B	65.12 334	P		P	00 16 59.4	-0.6
FINES			pmax	pmax			
	comp=Z,4.0nm,0.7s						
FINES	FINESS Array B	65.12 334	P		P	00 16 59.0	-0.9
	comp=Z,4.2nm,0.7s,mb4.6,baz=57,slow=7.7,SNR=16						
WRA	Warramunga Arr	65.27 195	P		P	00 17 00.9	-0.4
WRA			pmax	pmax			
	comp=Z,2.0nm,0.8s						
WRA	Warramunga Arr	65.27 195	P		P	00 17 00.9	-0.5
	comp=Z,1.6nm,0.8s,mb4.1,baz=20,slow=7.4,SNR=4.1						
OBN	Obninsk	65.80 324⇓	eP		P	00 17 04.5	0.0
OBN			pmax	pmax			
	comp=Z,23nm,1.9s,mb4.9						
NVAR	Mina Array Bea	66.08 59	P		P	00 17 06.2	-0.3
	comp=Z,0.4nm,0.5s,mb3.7,baz=283,slow=8.1,SNR=2.5						
PDAR	Pinedale Array	68.48 51	P		P	00 17 20.9	-0.7
	comp=Z,0.3nm,0.6s,mb3.5,baz=251,slow=2.8,SNR=3.1						
ASAR	Alice Springs	68.98 195	P		P	00 17 24.1	-0.7
ASAR			pmax	pmax			
	comp=Z,1.0nm,0.7s						
ASAR	Alice Springs	68.98 195	P		P	00 17 24.1	-0.7
	comp=Z,0.6nm,0.7s,mb3.6,baz=19,slow=5.8,SNR=4.2						
GOF	Gofitskoye	69.61 313	eP		P	00 17 18.9	-10
NB2	NORSAR Subarra	69.69 340	P		P	00 17 28.3	-0.5
	comp=Z,5.6nm,0.7s,mb4.6,baz=32,slow=6.5						
NOA	NORSAR Array B	69.69 340	P		P	00 17 28.5	-0.3
NOA			pmax	pmax			
	comp=Z,5.0nm,0.7s						
NOA	NORSAR Array B	69.69 340	P		P	00 17 28.5	-0.3
	comp=Z,5.4nm,0.7s,mb4.6,baz=31,slow=6.2,SNR=20						
KIV	Kislovodsk	70.54 313	eP		P	00 17 35.7	+1.4
KIV			pmax	pmax			
	comp=Z,5.0nm,0.8s,mb4.5						
KIV			MLR	MLR			
	comp=Z,2μm,19.0s,MS5.3						
AKASG	Malin Array Be	72.07 325	P		P	00 17 42.8	-0.6
AKASG			pmax	pmax			
	comp=Z,2.0nm,0.7s						
AKASG	Malin Array Be	72.07 325	P		P	00 17 42.8	-0.7
	comp=Z,2.4nm,0.7s,mb4.2,baz=36,slow=6.0,SNR=15						
KWP	Kalwaria	75.53 327	⇓P		P	00 18 04.7	+1.0
UPC	Upice	77.25 331	eP		P	00 18 15.2	+1.7
DPC	Dobruska-Polom	77.28 331	eP		P	00 18 17.8	+4.2
CLL	Collm	77.57 334	i P		P	00 18 14.8	-0.4
CLL			pmax	pmax			
	comp=Z,4.0nm,0.7s,mb4.5						
CLL	Collm	77.57 334	i (PKP)			00 18 14.8	
	comp=Z,5.0nm,0.7s						
BRG	Berggiesshubel	77.64 333	i P		P	00 18 14.8	-0.8
BRG			pmax	pmax			
	comp=Z,4.0nm,0.7s,mb4.5						
PSZ	Piszkesteto	78.00 328	⇑P		P	00 18 19.2	+1.5
VRAC	Vranov	78.06 330	⇓P		P	00 18 19.1	+1.1
PRU	Pruhonice	78.19 332	eP		P	00 18 18.7	0.0
BZS	Buzias	79.21 326	⇓P		P	00 18 25.1	+0.7
KHC	Kasperske Hory	79.25 332	eP		P	00 18 24.7	+0.1
KHC			ex		x	00 18 37.5	
GERES	GERESS Array B	79.46 332	P		P	00 18 26.2	+0.5
	comp=Z,0.2nm,0.4s,mb3.4,baz=19,slow=6.2,SNR=11						

*IDC **03** 00:07:02.8±0.7, 7.05S×154.90E, h0km, mb4.3/12, mb1 4.5/13, mb1mx4.4/17, mbtmp4.3/13, ML3.6/1, Error ellipse: s-maj=28.8km s-min=16.1km az=120.0*
*NEIC **03** 00:07:03.8±0.4, 7.17S×155.03E, h10km, mb4.8/9, Error ellipse: s-maj=13.4km s-min=7.9km az=123.0*
*MOS **03** 00:07:06.0±0.9, 7.15S×154.99E, h33km, mb5.3/5, Error ellipse: s-maj=19.7km s-min=13.0km az=72.9*
*ISCJB **03** 00:07:08.1±5.4, 72S±01×155.0E±0.1, h51km±48km, mb4.5/21, Error ellipse: s-maj=19.5km s-min=18.7km az=27.9*
*BJI **03** 00:07:10.7, 6.24S×154.19E, h10km, mb5.1, mb5.1*
ISC 03 00:07:10.2±4.4, 72S±01×1550E±0.1, h56km±40km, n48, σ0§86/43, mb4.5/21, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	Charters Tower	15.33 213		Pn	Pn	00 10 43.0	-0.1
	0.2nm,0.3s,baz=135,slow=22,SNR=1.8						
KAKA	Kakadu	22.83 254		eP	P	00 12 09.6	+1.0
	20nm,1.2s,mb4.4						
WB2	Warramunga Arr	23.65 236		eP	P	00 12 15.9	-0.7
WRA	Warramunga Arr	23.66 236		P	P	00 12 16.3	-0.4
	12nm,0.9s,mb4.3,baz=62,slow=9.5,SNR=26						
ASAR	Alice Springs	26.00 229		P	P	00 12 37.5	-0.4
	3.8nm,0.9s,mb3.9,baz=62,slow=8.8,SNR=22						
ASAR				ScP	ScP	00 19 47.5	+7.2
	0.4nm,0.5s,baz=60,slow=3.0,SNR=4.2						
STKA	Stephens Creek	27.52 205		eP	P	00 12 51.4	-0.1
	7.8nm,0.9s,mb4.3						
STKA	Stephens Creek	27.52 205		P	P	00 12 53.1	+1.6
	10.0nm,0.9s,mb4.5,baz=15,slow=12,SNR=15						
FITZ	Fitzroy Crossi	30.53 246		eP	P	00 13 17.6	-0.8
	5.6nm,0.8s,mb4.5						
FITZ	Fitzroy Crossi	30.53 246		P	P	00 13 17.9	-0.5
	3.8nm,0.9s,mb4.2,baz=145,slow=11,SNR=6.8						
TAU	Tasmania Unive	36.18 190		eP	P	00 14 06.8	-0.5
	49nm,1.2s,mb5.3						
TAU	Tasmania Unive	36.18 190		eP	P	00 14 06.8	-0.5
TAU				pmax	pmax		
	comp=Z,49nm,1.2s,mb5.3						
MBWA	Marble Bar	36.74 244		eP	P	00 14 11.8	-0.5
	comp=Z,7.1nm,0.8s,mb4.5						
NACB	Ninganchiao	45.08 315		P	P	00 15 22.1	+1.1
KULM	Kulim	55.59 281		eP	P	00 16 39.5	-1.2
CD2	Chengdu	61.92 311		eP	P	00 17 25.0	+0.7
CD2				AMB	AMB		
	comp=Z,20nm,0.7s,mb5.4						
LZH	Lanzhou	64.44 316		eP	P	00 17 43.4	+2.5
LZH				AP	pP	00 17 46.5	-10
LZH				XP	sP	00 17 49.0	-14
LZH				AMB	AMB		
	comp=Z,26nm,1.1s,mb5.2						
LZH				AMB	AMB		
	comp=Z,102nm,4.5s						
LZH	Lanzhou	64.44 316		eP	P	00 17 43.4	+2.5
	comp=Z,26nm,1.1s,mb5.2						
LZH				pP	pP	00 17 46.5	-10
LZH				sP	sP	00 17 49.0	-14
SONM	Songino Array	69.50 327		P	P	00 18 13.4	+0.7
	comp=Z,1.9nm,0.9s,mb4.0,baz=133,slow=6.3,SNR=12						
VNDA	Vanda	70.36 178		P	P	00 18 19.5	+1.9
VNDA	Vanda	70.36 178		P	P	00 18 19.5	+1.9
	comp=Z,0.9nm,0.9s,mb3.7,baz=358,slow=6.5,SNR=3.2						
LSA	Lhasa	71.36 305		P	P	00 18 23.4	-1.1
ZAK	Zakamensk	72.66 328		eP	P	00 18 31.4	-0.4
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.0s,mb4.0						
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.1s,mb4.0						
TTA	Tatalina	79.24 21		eP	P	00 19 09.1	+0.1
	comp=Z,13nm,1.1s,mb4.8						
TTA	Tatalina	79.24 21		eP	P	00 19 09.1	+0.1
TTA				pmax	pmax		
	comp=Z,13nm,1.1s,mb4.8						
SLKM	Skilak Lake	79.96 24		eP	P	00 19 11.9	-1.0
IMA2	Indian Mountai	82.02 19		eP	P	00 19 23.9	+0.1
MCK	McKinley	82.28 22		eP	P	00 19 24.5	-0.7
	comp=Z,23nm,0.9s,mb5.1						
MCK	McKinley	82.28 22		eP	P	00 19 24.5	-0.7
MCK				pmax	pmax		
	comp=Z,23nm,0.9s,mb5.1						
COLA	College	83.30 21		eP	P	00 19 29.3	-1.2
	comp=Z,7.4nm,0.8s,mb4.8						
COLA	College	83.30 21		eP	P	00 19 29.3	-1.2
COLA				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.7						
MKAR	Makanchi Array	83.54 319		P	P	00 19 32.8	+0.6
	comp=Z,1.9nm,0.9s,mb4.2,baz=106,slow=5.4,SNR=9.7						
ZALV	Zalesovo Beam	84.34 326		P	P	00 19 35.2	-0.8
	comp=Z,0.6nm,0.5s,mb4.0,baz=106,slow=4.7,SNR=3.2						
ZAL	Zalesovo	84.34 326		P	P	00 19 35.2	-0.9
KURK	Kurchatov	86.98 322		P	P	00 19 49.2	0.0
TKM2	Tokmak 2	87.14 314		P	P	00 19 49.9	-0.3
UCH	Uchtor	87.77 313		P	P	00 19 54.5	+1.3
DLBC	Dease Lake	88.35 31		P	P	00 19 55.8	+0.2
EKS2	Erkin-Say	88.39 313		eP	P	00 19 57.0	+0.9
INK	Inuvik	89.94 21		P	P	00 20 02.6	-0.2
	comp=Z,3.0nm,0.8s,mb4.7,baz=258,slow=6.4,SNR=13						
NVAR	Mina Array Bea	91.89 52		P	P	00 20 13.9	+1.3
	comp=Z,0.7nm,0.7s,mb4.1,baz=247,slow=6.3,SNR=5.3						
BRVK	Borovoye	92.51 323		P	P	00 20 14.6	-0.5
YKA	Yellowknife Ar	96.55 28		P	P	00 20 33.3	-0.1
	comp=Z,0.8nm,0.6s,mb4.3,baz=266,slow=4.7,SNR=18						
PDAR	Pinedale Array	98.88 48		P	P	00 20 44.1	-0.3
	comp=Z,0.2nm,0.4s,mb4.0,baz=225,slow=0.6,SNR=2.7						
LBTB	Lobatse	121.22 235		ePKPdf	PKPdf	00 25 56.7	-0.9
CFAA	Coronel Fontan	123.52 136		PKPbc	PKPdf	00 26 00.8	-1.0
	comp=Z,0.2nm,0.9s,baz=306,slow=4.3,SNR=2.8						
GERES	GERESS Array B	127.22 329		PKP	PKPdf	00 26 09.6	+1.3
	comp=Z,0.3nm,0.7s,baz=146,slow=2.6,SNR=4.3						
BDFB	Brasilia	147.86 135		PKPbc	PKPbc	00 26 50.4	+0.4
	comp=Z,1.6nm,0.5s,baz=259,slow=5.2,SNR=4.8						
TORD	Torodi Ar. Bea	153.04 285		PKPbc	PKPbc	00 27 01.7	-0.7
	comp=Z,1.6nm,0.8s,baz=82,slow=2.2,SNR=14						

*IDC **03** 00:09:19.6±1.8, 7.79S×156.11E, h0km, mb4.1/7, mb1 4.2/7, mb1mx4.1/14, mbtmp4.0/7, Error ellipse: s-maj=64.0km s-min=23.4km az=112.0*
*ISCJB **03** 00:09:23.0±1.5, 7.9S±02×156.1E±03, h33km, mb3.8/7, Error ellipse: s-maj=53.2km s-min=19.5km az=25.3*
ISC 03 00:09:24.9±1.5, 78S±02×1561E±04, h35km, n8, σ0§60/8, mb3.8/7, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	24.29 238		P	P	00 14 39.6	+0.4
	6.2nm,0.9s,mb4.1,baz=64,slow=9.4,SNR=6.8						
ASAR	Alice Springs	26.48 231		P	P	00 14 58.4	-0.6
	0.8nm,0.9s,mb3.3,baz=64,slow=8.4,SNR=4.1						
STKA	Stephens Creek	27.48 208		eP	P	00 15 08.3	+0.3
	4.7nm,0.8s,mb4.1						
STKA	Stephens Creek	27.48 208		P	P	00 15 08.1	+0.2
	5.4nm,0.8s,mb4.2,baz=27,slow=12,SNR=6.6						
SONM	Songino Array	70.63 327		P	P	00 20 37.5	+0.6
	1.6nm,0.8s,mb4.0,baz=139,slow=6.5,SNR=8.6						
MKAR	Makanchi Array	84.76 318		P	P	00 21 56.0	+0.4
	0.8nm,0.8s,mb3.9,baz=100,slow=4.0,SNR=4.0						
ZALV	Zalesovo Beam	85.49 326		P	P	00 21 57.9	-1.1
	0.3nm,0.4s,mb3.7,baz=127,slow=3.8,SNR=2.3						
YKA	Yellowknife Ar	96.55 28		P	P	00 22 50.8	+0.1
	0.2nm,0.6s,mb3.7,baz=268,slow=4.3,SNR=3.2						

IDC 03 00:16:55.0±6.4, 901S×15301E, h0km, mb3.5/4, mb1 3.6/4, mb1mx3.5/13, mbtmp3.5/4, Error ellipse: s-maj=185.5km s-min=30.9km az=114.0, D'Entrecasteaux Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	21.07 237		P	P	00 21 40.8	-0.2
	0.7nm,0.8s,baz=63,slow=9.2,SNR=4.5						
ASAR	Alice Springs	23.38 229		P	P	00 22 05.5	-0.2
	1.2nm,0.8s,baz=55,slow=9.6,SNR=11						
SONM	Songino Array	69.99 329		P	P	00 28 09.1	+0.7
	0.7nm,0.8s,baz=146,slow=5.7,SNR=6.4						
MKAR	Makanchi Array	83.62 319		P	P	00 29 25.2	-0.2
	0.4nm,0.9s,baz=96,slow=7.2,SNR=3.8						

*CSEM **03** 00:17:21.0±0.3, 37.81N×2007E, h15km, ML3.0, Error ellipse: s-maj=7.4km s-min=3.4km az=56.0*
*ATH **03** 00:17:22.2, 37.82N×2019E, h34km±6km, MD3.5/6*
*THE **03** 00:17:27.5, 38.38N×2036E, h3km, ML3.0*
ISC 03 00:17:25.4±1.6, 3822N±005×2034E±008, h5km±8km, n15, σ1§17/21, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKD	Levkas	0.55	27	ePg	Pg	00 17 34.0	-1.9
LKD				eSg	Sg	00 17 40.7	-2.3
RLS	Riolos of Patr	0.90	100	ePN	Pg	00 17 42.5	-0.2
RLS				SN	Sg	00 17 55.7	+1.2
IGT	Igoumenitsa	1.31	360	ePg	Pn	00 17 49.0	-1.4
IGT				eSg	Sn	00 18 06.3	-1.8
EVR	Evrytania	1.35	58	ePN	Pn	00 17 50.3	-0.5
JAN	Janina	1.49	15	ePN	Pn	00 17 53.8	+1.0
KEK	Kerkira	1.55	344	ePN	Pn	00 17 54.3	+0.7
ITM	Ithomi	1.63	129	ePB	Pn	00 17 48.7	-6.0
SRN	Sarande	1.68	351	i Pn	Pn	00 17 56.9	+1.5
SRN				i Sn	Sg	00 18 21.1	+1.7
MEV	Metsovon	1.71	24	ePg	Pn	00 17 55.9	+0.1
AGG	Agios Georgios	1.75	62	ePb	Pb	00 17 57.1	-0.9
AGG				eSb	Sb	00 18 21.1	+0.8
THL	Klokotos Trika	1.88	44	ePN	Pn	00 17 59.4	+1.3
THL				eSN	Sg	00 18 26.5	+0.9
LKR	Lokris	2.13	78	ePN	Pn	00 18 01.4	-0.2
LIT	Litokhoron	2.52	41	ePn	Pn	00 18 06.9	0.0
VLI	Veliai	2.55	125	ePg	Pn	00 18 06.0	-1.4
FNA	Florina	2.68	17	ePn	Pn	00 18 09.9	+0.7

*ISCJB **03** 00:22:08.2±0.3, 982S±004×1546.3E±006, h10km, mb4.9/61, MS5.0/8, Error ellipse: s-maj=8.1km s-min=5.9km az=10.7*
*GCMT **03** 00:22:09.5±0.2, 979S×1546.7E, h13km, MW5.5/86, Moment Tensor Solution. s45, c65; s86, c168; Duration: 1§4 Moment tensor: Scale 10^17^Nm; Mrr-2.40±.10; Mθθ2.10±.07; Mφφ0.29±.06; Mrθ0.50±.15; Mrφ-0.09±.05; Mθφ0.66±.21; Best double couple: M0 2.38100×10^17^ NP1:φ0§105.00000°, δ40.00000°, λ-70.00000°. NP2: φ0§259.00000°, δ52.00000°, λ-106.00000°. Principal axes: T 2.1550, Plg6.0000°, Azm1.0000°; N 0.4480, Plg13.0000°, Azm269.0000°; P -2.6070, Plg76.0000°, Azm116.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*BJI **03** 00:22:09.1, 968S×1548.2E, h14km, mB5.5, mb4.8, Ms5.4, Msz5.1*
*NEIC **03** 00:22:09.5±0.2, 974S×1546.3E, h10km, mb5.0/29, Error ellipse: s-maj=8.2km s-min=6.2km az=106.0*
*IDC **03** 00:22:13.0±5.1, 983S×1545.7E, h33km±38km, mb4.4/16, mb1 4.5/18, mb1mx4.5/19, mbtmp4.4/18, ML4.3/2, MS5.0/4, Ms1 5.0/4, ms1mx4.5/25, Error ellipse: s-maj=17.9km s-min=14.4km az=104.0*
*MOS **03** 00:22:12.1±0.9, 973S×1547.1E, h33km, mb5.2/25, Error ellipse: s-maj=12.5km s-min=8.7km az=110.5*
ISC 03 00:22:08.6±2.6, 980S±005×15466E±006, h1km±16km, n196, σ1§14/114, mb5.0/61, MS5.0/8, 13C-4D, D'Entrecasteaux Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	5.22	86	Pn	Pn	00 23 27.2	-0.6
HNR	Honiara	5.22	86	Pn	Pn	00 23 28.8	+1.0
	17nm,0.3s,baz=204,slow=1.3,SNR=5.1						
CTAO	Charters Tower	13.05	217	ePn	Pn	00 25 14.6	-0.7
EIDS	Eidsvold	15.85	192	P	Pn	00 25 52.7	-0.3
	37nm,1.1s						
EIDS				e		00 25 59.3	
DZM	Mont Dzumac	16.64	139	Pn	Pn	00 26 06.2	+3.1
	0.6nm,0.3s,baz=346,slow=14,SNR=5.3						
ARMA	Armidale	20.71	187	eP	P	00 26 51.0	+0.7
KAKA	Kakadu	21.98	260	eP	P	00 27 03.4	-0.8
	84nm,1.4s,mb5.0						
WB2	Warramunga Arr	22.04	240⇑	iP	P	00 27 06.3	+1.5
WRA	Warramunga Arr	22.05	240	P	P	00 27 05.3	+0.3
	8.2nm,0.7s,mb4.3,baz=65,slow=10.0,SNR=20						
ASAR	Alice Springs	24.14	233	P	P	00 27 25.4	-0.9
	24nm,0.8s,mb4.8,baz=63,slow=9.0,SNR=113						
STKA	Stephens Creek	25.09	207	eP	P	00 27 35.1	+0.3
	25nm,1.8s,mb4.7						
STKA	Stephens Creek	25.09	207	P	P	00 27 34.0	-0.7
	19nm,0.8s,mb4.9,baz=2.9,slow=8.8,SNR=37						
CNB	Canberra Magne	25.85	190	eP	P	00 27 44.5	+2.8
	36nm,1.0s,mb5.0						
FITZ	Fitzroy Crossi	29.32	250	eP	P	00 28 12.0	-1.0
	12nm,0.7s,mb4.8						
FITZ				ePP	PP	00 29 17.1	-2.0
FITZ	Fitzroy Crossi	29.32	250	P	P	00 28 11.4	-1.5
	5.3nm,0.7s,mb4.5,baz=100,slow=9.5,SNR=21						
RAO	Raoul Island	32.14	131	LR	LR	00 38 56.6	
	comp=Z,3μm,19.7s,MS5.0,baz=213,slow=31						
FORT	Forrest	32.37	226	eP	P	00 28 38.8	-1.0
	16nm,0.6s,mb5.1						
TAU	Tasmania Unive	33.60	190	P	P	00 28 51.4	+1.0
URZ	Urewera	34.78	148	P	P	00 28 59.5	-1.2
	7.7nm,1.0s,mb4.6,baz=111,slow=5.5,SNR=3.2						
MBWA	Marble Bar	35.42	247	eP	P	00 29 05.8	-0.7
MBWA				ePP	PP	00 30 30.1	+3.3
CBIJ	Chichi jima	38.62	342	LR	LR	00 43 50.1	
	comp=Z,1μm,18.3s,MS4.8,baz=130,slow=34						
JOW	Kunigami	44.52	326	LR	LR	00 44 41.7	
	comp=Z,2μm,21.9s,MS5.0,baz=27,slow=30						
NACB	Ninganchiao	46.72	317	eP	P	00 30 37.9	-1.5
YHNB	Yeheng	47.20	317	eP	P	00 30 41.8	-1.4
MJAR	Matsushiro Arr	48.62	342	P	P	00 30 53.8	-0.2
	6.2nm,1.2s,mb4.5,baz=174,slow=8.7,SNR=4.7						
MAJO	Matsushiro	48.63	342	eP	P	00 30 52.4	-1.6
	8.1nm,0.6s,mb4.9						
MAJO	Matsushiro	48.63	342	eP	P	00 30 52.4	-1.6
MAJO				pmax	pmax		
	comp=Z,8.0nm,0.6s,mb4.9						
KSRS	Korea Array	53.27	333	P	P	00 31 29.9	+1.0
	comp=Z,4.6nm,1.1s,mb4.3,baz=138,slow=7.6,SNR=5.6						
NJ2	Nanjing	53.88	322	eP	P	00 31 35.5	+1.9
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb5.0						
ASAJ	Asahikawa	54.77	349	P	P	00 31 39.8	0.0
	comp=Z,8.1nm,0.7s,mb4.8,baz=219,slow=12,SNR=9.5						
WHN	Wuhan	55.74	318	P	P	00 31 49.2	+2.1
KULM	Kulim	55.86	283	eP	P	00 31 48.1	-0.2
YSS	Yuzh-Sakhalins	57.49	350	P	P	00 31 58.8	-0.5
YSS	Yuzh-Sakhalins	57.49	350⇑	eP	P	00 32 01.0	+1.8
YSS				pmax	pmax		
	comp=Z,34nm,1.3s,mb5.2						
MDJ	Mudanjiang	58.72	339	P	P	00 32 10.0	+2.1
MDJ				AMB	AMB		
	comp=Z,12nm,1.7s,mb4.7						
MDJ				AMB	AMB		
	comp=Z,1μm,18.2s						
MDJ	Mudanjiang	58.72	339	eP	P	00 32 07.0	-0.9
GYA	Guiyang	58.92	309⇑	iP	P	00 32 12.8	+3.2
GYA				AP		00 32 16.7	
GYA				XP	sP	00 32 20.0	+10
GYA				PCP	PcP	00 33 01.2	+2.2
GYA				PP	PP	00 34 25.6	+5.6
GYA				AMB	AMB		
	comp=Z,60nm,1.0s,mb5.6						
GYA				AMB	AMB		
	comp=Z,760nm,12.9s						
GYA				LR	LR		
	comp=N,760nm,21.2s,MS4.9						
GYA				LR	LR		
	comp=E,640nm,20.6s,MS4.9						
GYA				LR	LR		
	comp=Z,510nm,22.0s,MS4.6						
CN2	Changchun	59.59	336	eP	P	00 32 19.2	+5.3
CN2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.8						
BJI	Beijing

KMI 00 34 47.0
KMI S **S** **00 40 49.5 +1.4**
KMI SS SS 00 44 52.0 +3.2
KMI SSS 00 47 32.0
KMI pmax pmax
comp=Z,13nm,1.1s,mb5.0
KMI MLR MLR
comp=Z,1μm,23.0s,MS5.1
XAN Xi'an 61.51 317 P **P** **00 32 26.0 -1.3**
XAN AP 00 32 32.9
XAN AMB AMB
comp=Z,5.0nm,1.1s,mb4.7
CHTO Chiang Mai 61.86 297 *e*P **P** **00 32 30.8 +0.9**
comp=Z,36nm,1.6s,mb5.3
CHTO Chiang Mai 61.86 297 *e*P **P** **00 32 30.8 +0.9**
CHTO pmax pmax
comp=Z,36nm,1.6s,mb5.3
KLR Kul'dur 62.13 343 *e*P **P** **00 32 27.2 -3.9**
KLR pmax pmax
comp=Z,63nm,2.0s,mb5.5
CD2 Chengdu 63.40 312 ⇓*i*P **P** **00 32 41.6 +1.6**
CD2 AP 00 32 46.2
CD2 XP sP 00 32 49.2 +8.7
CD2 PP PP 00 35 03.2 +3.7
CD2 AMB AMB
comp=Z,20nm,1.1s,mb5.2
CD2 AMB AMB
comp=Z,30nm,5.2s
HHC Hu-ho-hao-te 64.17 325 *e*P **P** **00 32 45.9 +1.1**
HHC AP 00 32 50.1
HHC XP sP 00 32 53.0 +7.7
HHC PP PP 00 35 09.6 +3.5
HHC AMB AMB
comp=Z,12nm,0.4s,mb5.5
HHC AMB AMB
comp=Z,1μm,13.7s
HHC LR LR
comp=N,1μm,18.1s,MS5.2
HHC LR LR
comp=E,751nm,16.7s,MS5.2
HHC LR LR
comp=Z,1μm,18.6s,MS5.2
VNDA Vanda 67.80 178 P **P** **00 33 07.7 0.0**
comp=Z,4.0nm,0.9s,mb4.6,baz=325,slow=7.7,SNR=13
SBA Scott Base 68.32 177 *e*P **P** **00 33 12.1 +1.2**
comp=Z,44nm,1.7s,mb5.4
SBA Scott Base 68.32 177 *e*P **P** **00 33 12.1 +1.1**
SBA pmax pmax
comp=Z,44nm,1.7s,mb5.4
MA2 Magadan 69.21 358 *e*P **P** **00 33 15.9 -0.7**
comp=Z,5.7nm,0.4s,mb5.2
MA2 Magadan 69.21 358 *e*P **P** **00 33 15.9 -0.8**
MA2 pmax pmax
comp=Z,6.0nm,0.4s,mb5.2
CIT Chita 70.98 335 *e*P **P** **00 33 29.1 +1.4**
CIT *e* 00 33 38.8
SONM Songino Array 71.51 328 P **P** **00 33 31.1 +0.1**
comp=Z,12nm,1.1s,mb4.9,baz=138,slow=5.5,SNR=42
SEY Seymchan 72.53 359⇑*e*P **P** **00 33 36.6 -0.2**
LSA Lhasa 72.59 305 P **P** **00 33 40.4 +2.5**
LSA Lhasa 72.59 305 *e*P **P** **00 33 37.0 -0.9**
comp=Z,22nm,1.7s,mb5.0
LSA Lhasa 72.59 305 *e*P **P** **00 33 37.0 -0.9**
LSA pmax pmax
comp=Z,22nm,1.7s,mb5.0
YAK Yakutsk 74.21 348 *e*P **P** **00 33 47.6 +0.9**
comp=Z,29nm,0.8s,mb5.3
YAK Yakutsk 74.21 348 *e*P **P** **00 33 45.7 -1.0**
YAK *e* 00 36 27.8
YAK pmax pmax
comp=Z,20nm,0.8s,mb5.2
YAK pmax pmax
comp=N,9.0nm,1.1s
YAK pmax pmax
comp=E,3.0nm,1.0s
YAK pmax pmax
comp=Z,17nm,0.9s,mb5.1
ZAK Zakamensk 74.70 329 *e*P **P** **00 33 50.2 +0.4**
ZAK pmax pmax
comp=Z,10.0nm,1.4s,mb4.7
BOD Bodaibo 75.09 339 *e*P **P** **00 33 50.7 -1.2**
BOD pmax pmax
comp=Z,11nm,1.8s,mb4.6
TLY Talaya 75.30 330 *e*P **P** **00 33 54.0 +0.8**
comp=Z,5.3nm,1.1s,mb4.5
TLY *e* 00 33 59.5
TLY Talaya 75.30 330 *e*P **P** **00 33 55.0 +1.7**
TLY pmax pmax
comp=Z,17nm,1.4s,mb4.9
PALK Pallekele 75.59 280 P **P** **00 33 55.9 +0.1**
JIRN Jiri 75.95 302 *e*P **P** **00 33 59.1 +1.6**
comp=Z,86nm,1.7s,mb5.6
MOY Mondy 76.62 329 *e*P **P** **00 34 01.7 +0.9**
MOY pmax pmax
comp=Z,64nm,2.5s,mb5.3
KKN Kakani 76.76 302 *e*P **P** **00 34 03.4 +1.3**
comp=Z,38nm,1.3s,mb5.4
GKN Gorkha 77.36 302 *e*P **P** **00 34 06.2 +0.7**
comp=Z,97nm,1.4s,mb5.7
BILL Bilibino 78.08 4 *e*P **P** **00 34 08.6 -0.1**
comp=Z,23nm,1.1s,mb5.2
BILL Bilibino 78.08 4⇑*e*P **P** **00 34 08.7 0.0**
BILL *e*S S 00 43 57.8 -5.6
BILL pmax pmax
comp=Z,25nm,1.2s,mb5.2
KOLN Koldanda 78.17 301 *e*P **P** **00 34 08.8 -1.2**
comp=Z,36nm,0.9s,mb5.5
TNA Tin City 80.10 15 *e*P **P** **00 34 19.2 -0.5**
comp=Z,4.5nm,0.8s,mb4.5
QSPA South Pole Qui 80.19 180 LR LR 01 07 52.7
comp=Z,784nm,18.3s,MS5.1,baz=358,slow=34
WMQ Urumqi 80.65 318⇑*i*P **P** **00 34 24.0 +0.8**
WMQ AMB AMB
comp=Z,18nm,1.6s,mb4.8
SVW2 Sparrevohn 80.70 22 *e*P **P** **00 34 23.7 +0.6**
MAW Mawson 81.70 203 *e*P **P** **00 34 28.1 -0.3**
comp=Z,6.1nm,0.7s,mb4.8
MAW Mawson 81.70 203 *e*P **P** **00 34 28.1 -0.3**
MAW pmax pmax
comp=Z,6.0nm,0.7s
MAW Mawson 81.70 203 P **P** **00 34 26.9 -1.5**
comp=Z,8.2nm,0.8s,mb4.9,baz=77,slow=5.5,SNR=11
TTA Tatalina 81.75 21 P **P** **00 34 28.9 +0.3**
comp=Z,18nm,1.6s,mb5.0
TTA Tatalina 81.75 21 P **P** **00 34 28.9 +0.3**
TTA pmax pmax
comp=Z,18nm,1.6s,mb5.0
TIXI Tiksi 83.07 352 *e*P **P** **00 34 34.6 -0.7**
TIXI pmax pmax
comp=Z,21nm,1.9s,mb5.0
IMA2 Indian Mountai 84.55 19 *e*P **P** **00 34 42.6 -0.4**
MCK McKinley 84.77 22 *e*P **P** **00 34 43.2 -0.9**
comp=Z,21nm,0.8s,mb5.4
MCK McKinley 84.77 22 *e*P **P** **00 34 43.3 -0.9**
MCK pmax pmax
comp=Z,21nm,0.8s,mb5.4
MK31 Makanchi Array 85.28 319 *e*P **P** **00 34 47.1 -0.1**
MKAR Makanchi Array 85.28 319⇑*e*P **P** **00 34 47.4 +0.2**
MKAR Makanchi Array 85.28 319 P **P** **00 34 45.3 -1.8**
comp=Z,5.0nm,0.9s,mb4.8,baz=107,slow=5.6,SNR=35
COLA College 85.80 21 *e*P **P** **00 34 47.9 -1.4**
comp=Z,13nm,0.8s,mb5.1
COLA *e* 00 34 53.9
COLA College 85.80 21 *e*P **P** **00 34 47.9 -1.4**
COLA *e* 00 34 53.9
COLA pmax pmax
comp=Z,13nm,0.8s,mb5.1
ZALV Zalesovo Beam 86.31 326 P **P** **00 34 49.5 -2.5**
comp=Z,4.2nm,0.8s,mb4.6,baz=105,slow=5.3,SNR=19
ZAL Zalesovo 86.32 326 P **P** **00 34 49.5 -2.6**
NVS Novosibirsk 87.50 327⇑*i*P **P** **00 34 56.9 -1.0**
NVS pmax pmax
comp=E,34nm,2.0s
NVS pmax pmax
comp=Z,67nm,2.0s,mb5.5
NVS pmax pmax
comp=N,24nm,1.9s
EGAK Eagle 88.22 23 *e*P **P** **00 35 00.9 -0.1**
comp=N,14nm,1.1s,mb5.2
DAWY Dawson 88.58 24 *e*P **P** **00 35 03.7 +0.9**
TKM2 Tokmak 2 88.70 314 *e*P **P** **00 35 04.4 +0.5**
comp=N,17nm,1.4s,mb5.1
TKM2 Tokmak 2 88.70 314 *e*P **P** **00 35 04.4 +0.5**
TKM2 pmax pmax
comp=Z,17nm,1.4s,mb5.1
KURK Kurchatov 88.82 322 *e*P **P** **00 35 04.1 -0.2**
comp=Z,9.7nm,1.5s,mb4.8
KURK Kurchatov 88.82 322⇑*e*P **P** **00 35 04.6 +0.4**
UCH Uchtor 89.31 313 *e*P **P** **00 35 07.9 +1.1**
comp=Z,33nm,1.7s,mb5.3
AAK Ala-Archa 89.42 313 P **P** **00 35 06.5 -0.8**
comp=Z,38nm,0.8s,mb5.7,SNR=5.3
SYO Syowa Base 89.58 199⇓*e*P **P** **00 35 05.6 -2.0**
AML Almayashu 89.88 313 *e*P **P** **00 35 09.7 +0.3**
comp=Z,22nm,1.4s,mb5.2
EKS2 Erkin-Say 89.94 313 *e*P **P** **00 35 07.8 -1.9**
comp=Z,6.2nm,0.9s,mb4.8
DLBC Dease Lake 90.71 31 P **P** **00 35 14.2 +1.3**
baz=236,slow=8.8
CMB Columbia Colle 92.02 52 *e*P **P** **00 35 19.8 +0.3**
comp=Z,12nm,1.6s,mb5.0
CMB Columbia Colle 92.02 52 *e*P **P** **00 35 19.8 +0.3**
CMB pmax pmax
comp=Z,12nm,1.6s,mb5.0
INK Inuvik 92.44 21 *e*P **P** **00 35 20.3 -0.4**
INK Inuvik 92.44 21 P **P** **00 35 18.9 -1.8**
comp=Z,2.8nm,1.1s,mb4.5,baz=240,slow=9.4,SNR=5.0
NVAR Mina Array Bea 93.71 52 P **P** **00 35 27.4 +0.1**
comp=Z,5.3nm,1.0s,mb4.8,baz=228,slow=4.1,SNR=17
BRVK Borovoye 94.39 323 *e*P **P** **00 35 28.6 -1.4**
comp=Z,1.0nm,0.5s,mb4.4
BRVK Borovoye 94.39 323 *e*P **P** **00 35 28.6 -1.4**
BRVK pmax pmax
comp=Z,1.0nm,0.5s,mb4.4
YKA Yellowknife Ar 98.95 28 P **P** **00 35 50.0 -0.5**
comp=Z,0.7nm,0.8s,mb4.4,baz=263,slow=4.6,SNR=11
PDAR Pinedale Array 100.81 48 P Pdif 00 35 58.5 -0.4
comp=Z,0.4nm,0.7s,baz=250,slow=3.0,SNR=4.1
MALT Malatya 116.56 308 *e*PKPdf PKPdf 00 40 54.0 -0.8
KMBO Kilima Mbogo 116.76 264 *e*PKPdf PKPdf 00 40 56.3 +0.4
AKASG Malin Array Be 119.60 323 PKP PKPdf 00 40 58.4 -1.8
comp=Z,2.8nm,0.9s,baz=64,slow=1.8,SNR=9.4
TKL Tuckaleechee C 121.22 54 PKP PKPdf 00 41 02.7 -1.1
comp=Z,2.5nm,0.7s,baz=150,slow=5.5,SNR=3.9
NB2 NORSAR Subarra122.21 340 PKPdf PKPdf 00 41 02.5 -2.4
comp=Z,1.5nm,0.6s,baz=39,slow=1.9
NOA NORSAR Array B 122.21 340 PKP PKPdf 00 41 02.7 -2.2
NOA NORSAR Array B 122.21 340 PKP PKPdf 00 41 02.7 -2.2
comp=Z,1.1nm,0.7s,baz=46,slow=1.8,SNR=3.7
TIRR Tirgusor 122.37 317⇓P PKPdf 00 41 05.0 -0.7
MLR Muntele Rosu 123.63 319⇑P PKPdf 00 41 06.5 -1.7
KOLS Kolonicke sedl 124.42 324 *e*PKP PKPdf 00 41 09.9 +0.4
CRVS Cervenica-Dubn 124.91 324 *e*PKP PKPdf 00 41 09.9 -0.6
BZS Buzias 126.34 320⇓P PKPdf 00 41 12.7 -0.7
VYHS Vyhne 126.62 325 *e*PKP PKPdf 00 41 13.6 -0.2
DPC Dobruska-Polom 126.98 328 *e*PKP PKPdf 00 41 15.7 +1.3
DPC Dobruska-Polom 126.98 328 *e*PKPdf PKPdf 00 41 15.7 +1.3
UPC Upice 127.05 328 *e*PKPdf PKPdf 00 41 15.9 +1.4
PKSM Moragy 127.89 322⇑P PKPdf 00 41 15.6 -0.7
BRG Berggiesshubel 127.89 329 *e*PKIKP PKPdf 00 41 17.0 +0.9
BRG *i* 00 41 22.7
BRG pmax pmax
comp=Z,5.0nm,1.1s
BRG Berggiesshubel 127.89 329 *e*PKP PKPdf 00 41 16.0 -0.1
comp=Z,3.0nm,1.0s
CLL Collm 128.09 330 *e*PKIKP PKPdf 00 41 17.0 +0.5
CLL *i* 00 41 22.7
CLL pmax pmax
comp=Z,5.0nm,1.1s
CLL Collm 128.09 330 *e*PKPdf PKPdf 00 41 17.0 +0.5
comp=Z,8.0nm,1.1s
CLL *i* (pPKPdf) 00 41 22.7
PRU Pruhonice 128.12 328 *e*PKPdf PKPdf 00 41 17.8 +1.2
KHC Kasperske Hory 129.14 328⇑*i*PKIKP PKPdf 00 41 20.8 +2.3
KHC Kasperske Hory 129.14 328 *e*PKPdf PKPdf 00 41 20.0 +1.5
GERES GERESS Array B 129.25 328 PKP PKPdf 00 41 18.4 -0.4
comp=Z,1.8nm,0.8s,baz=60,slow=1.8,SNR=13
GCIS Gornji Cirnik 129.87 323 *e*PKPdf PKPdf 00 41 19.8 -0.2
BOJS Bojanci 130.28 323 *e*PKPdf PKPdf 00 41 21.2 +0.3
LJU Ljubljana 130.41 324 *e*PKPdf PKPdf 00 41 21.1 +0.1
CDF Champ du Feu 132.78 331 *e*PKIKP PKPdf 00 41 24.3 -1.2
HINF Hinteralfeld 133.40 330 *e*PKIKP PKPdf 00 41 24.7 -2.0
HAU Haudompre 133.51 331 *e*PKIKP PKPdf 00 41 25.2 -1.7
MEZF Maizieres J'vi 133.77 332 *e*PKIKP PKPdf 00 41 25.6 -1.7
CABF La Chapelle 134.61 330 *e*PKIKP PKPdf 00 41 27.5 -1.5
comp=Z,38nm,1.3s
LPL La Plagne 135.03 328 *e*PKIKP PKPdf 00 41 28.5 -1.3
comp=Z,6.2nm,0.9s
LPL La Plagne 135.03 328 *e*PKPdf PKPdf 00 41 28.5 -1.3
LPG La Plagne 135.03 328 *e*PKIKP PKPdf 00 41 28.6 -1.2
comp=Z,10.0nm,1.0s
LPG La Plagne 135.03 328 *e*PKPdf PKPdf 00 41 28.6 -1.2
LOR Lormes 135.22 332 *e*PKIKP PKPdf 00 41 28.6 -1.5
LOR Lormes 135.22 332 *e*PKPdf PKPdf 00 41 28.6 -1.5
SSF Saint Saulge 135.53 332 *e*PKIKP PKPdf 00 41 28.9 -1.8
SSF Saint Saulge 135.53 332 *e*PKPdf PKPdf 00 41 28.9 -1.8
MBDF Montbardon 135.54 327 *e*PKIKP PKPdf 00 41 29.3 -1.5
MBDF Montbardon 135.54 327 *e*PKPdf PKPdf 00 41 29.3 -1.5
SMF Signal de Mont 135.68 331 *e*PKIKP PKPdf 00 41 29.2 -1.8
SMF Signal de Mont 135.68 331 *e*PKPdf PKPdf 00 41 29.2 -1.8
ORIF Oris-en-Rattie 135.88 328 *e*PKIKP PKPdf 00 41 29.7 -1.7
comp=Z,16nm,1.2s
ORIF Oris-en-Rattie 135.88 328 *e*PKPdf PKPdf 00 41 29.7 -1.7
LDF La Druitiere 135.93 336 *e*PKIKP PKPdf 00 41 29.8 -1.6
comp=Z,65nm,1.5s
LDF La Druitiere 135.93 336 *e*PKPdf PKPdf 00 41 29.8 -1.6
FRF La Foret Royal 136.37 326 *e*PKIKP PKPdf 00 41 30.2 -2.2
comp=Z,71nm,1.4s
FRF La Foret Royal 136.37 326 *e*PKPdf PKPdf 00 41 30.2 -2.2
GRR Gorron 136.38 336 *e*PKIKP PKPdf 00 41 30.5 -1.7
comp=Z,174nm,1.7s
GRR Gorron 136.38 336 *e*PKPdf PKPdf 00 41 30.5 -1.7
VIVF Saint-Julien-l 136.54 329 *e*PKIKP PKPdf 00 41 31.1 -1.5
comp=Z,10nm,1.0s
VIVF Saint-Julien-l 136.54 329 *e*PKPdf PKPdf 00 41 31.1 -1.5
SMRF Simiane la Rot 136.68 327 *e*PKIKP PKPdf 00 41 30.8 -2.1
comp=Z,28nm,1.2s
TCF Toulx Ste Croi 136.70 332 *e*PKIKP PKPdf 00 41 31.7 -1.2
comp=Z,14nm,1.0s
TCF Toulx Ste Croi 136.70 332 *e*PKPdf PKPdf 00 41 31.7 -1.2
LASF Ste Croix 137.51 329 *e*PKIKP PKPdf 00 41 32.6 -1.8
comp=Z,25nm,1.2s
MFF Saint Martin d 137.51 334 *e*PKIKP PKPdf 00 41 32.7 -1.7
MFF Saint Martin d 137.51 334 *e*PKPdf PKPdf 00 41 32.7 -1.7
RJF Les Rejaudoux 137.76 332 *e*PKIKP PKPdf 00 41 32.9 -2.0
RJF Les Rejaudoux 137.76 332 *e*PKPdf PKPdf 00 41 32.9 -2.0
CAF Calviac 137.78 331 *e*PKIKP PKPdf 00 41 33.1 -1.8
CAF Calviac 137.78 331 *e*PKPdf PKPdf 00 41 33.1 -1.8
LFF La Frestale 138.40 332 *e*PKIKP PKPdf 00 41 34.3 -1.8
LFF La Frestale 138.40 332 *e*PKPdf PKPdf 00 41 34.3 -1.8
MTLF Montolieu 138.86 329 *e*PKIKP PKPdf 00 41 35.0 -2.0
MTLF Montolieu 138.86 329 *e*PKPdf PKPdf 00 41 35.0 -2.0
ETSF Etsaut 140.56 331 *e*PKIKP PKPdf 00 41 38.3 -1.8
ETSF Etsaut 140.56 331 *e*PKPdf PKPdf 00 41 38.3 -1.8
SJPF Ste Jean 140.71 332 *e*PKIKP PKPdf 00 41 38.0 -2.3
SJPF Ste Jean 140.71 332 *e*PKPdf PKPdf 00 41 38.0 -2.3
ESDC Sonseca Array 144.68 331 PKP PKPdf 00 41 45.7 -1.8
comp=Z,5.9nm,1.1s,baz=37,slow=3.4,SNR=13
MTE Manteigas 145.68 336 *e*PKPdf PKPdf 00 41 49.5 +0.3
BDFB Brasilia 146.19 138 PKPbc PKPbc 00 41 51.4 -0.3
comp=Z,3.9nm,0.8s,baz=190,slow=11,SNR=8.6
EVO Evora 147.44 334 *e*PKIKP PKPdf 00 41 51.9 -0.3
comp=Z,17nm,1.1s
TORD Torodi Ar. Bea 153.31 280 PKP PKPdf 00 41 59.2 -2.8
comp=Z,0.7nm,1.0s,baz=220,slow=4.0,SNR=3.3
TORD PKPbc PKPbc 00 42 08.9 -0.6
comp=Z,1.6nm,0.7s,baz=47,slow=2.2,SNR=9.2
DBIC Dimbokro 159.49 263 PKPab PKPab 00 42 47.0 -1.1
comp=Z,2.7nm,0.6s,baz=93,slow=3.1,SNR=7.6
LIC Lamto 159.58 262⇑*i*PKP2 PKPab 00 42 46.8 -1.6
comp=Z,78nm,1.5s

IDC 03 00:24:19.3±8.6, 744S×15598E, h0km, mb4.0/4, mb1 4.1/4, mb1mx3.9/14, mbtmp4.0/4, Error ellipse: s-maj=259.8km s-min=39.3km az=115.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.38**	**237**	P	P	00 29 39.5	+0.1
	2.0nm,0.7s,baz=60,slow=9.2,SNR=2.6						
SONM	**Songino Array**	**70.24**	**327**	P	P	00 35 35.4	+1.3
	1.0nm,0.5s,baz=141,slow=5.9,SNR=10						
MKAR	**Makanchi Array**	**84.38**	**319**	P	P	00 36 53.6	0.0
	0.8nm,0.7s,baz=95,slow=6.2,SNR=4.1						
ZALV	**Zalesovo Beam**	**85.09**	**326**	P	P	00 36 55.7	-1.2
	0.8nm,0.7s,baz=123,slow=5.3,SNR=3.3						

NEIC ***03*** *00:24:41.6±0.5, 838S×157.43E, h10km, mb4.8/3, Error ellipse: s-maj=15.1km s-min=11.3km az=150.0*
IDC ***03*** *00:24:47.3±3.3, 862S×15757E, h61km±31km, mb3.9/11, mb1 4.1/12, mb1mx4.1/16, mbtmp3.9/12, ML4.7/1, Error ellipse: s-maj=24.3km s-min=18.1km az=128.0*
ISCJB ***03*** *00:24:48.7±2.5, 86S±0.1×157.4E±0.1, h84km±25km, mb4.1/13, Error ellipse: s-maj=27.6km s-min=14.7km az=140.0*

ISC 03 00:24:50.2±2.4, 86S±01×1575E±01, h84km±24km, n24, σ0974/23, mb4.1/13, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.58**	**109**	P	**Pn**	**00 25 25.3**	**-4.6**
	168nm,0.3s,baz=262,slow=6.0,SNR=8.0						
HNR	**Honiara**	**2.58**	**109**	*e*Pn	**Pn**	**00 25 29.9**	**0.0**
HNR	**Honiara**	**2.58**	**109**	*e*P	**Pn**	**00 25 29.9**	**0.0**
WB2	**Warramunga Arr**	**25.04**	**241**	*e*P	**P**	**00 30 06.1**	**-0.7**
WRA	**Warramunga Arr**	**25.05**	**241**	P	**P**	**00 30 06.1**	**-0.8**
	8.6nm,0.8s,mb4.2,baz=66,slow=9.5,SNR=7.6						
ASAR	**Alice Springs**	**27.07**	**234**	P	**P**	**00 30 25.6**	**+0.6**
	2.5nm,0.9s,mb3.8,baz=69,slow=8.0,SNR=5.1						
STKA	**Stephens Creek**	**27.45**	**210**	*e*P	**P**	**00 30 30.9**	**+2.5**
	7.7nm,0.9s,mb4.2						
STKA	**Stephens Creek**	**27.45**	**210**	P	**P**	**00 30 28.8**	**+0.4**
	3.6nm,0.7s,mb4.0,baz=30,slow=13,SNR=5.0						
KSRS	**Korea Array**	**53.52**	**331**	P	**P**	**00 34 02.0**	**-0.3**
	1.6nm,0.8s,mb4.1,baz=142,slow=5.6,SNR=4.1						
CHRT	**Chiangrai**	**63.44**	**297**	P	**P**	**00 35 07.0**	**-4.6**
	147nm,0.8s						
VNDA	**Vanda**	**68.92**	**179**	P	**P**	**00 35 45.1**	**-0.6**
	0.9nm,0.8s,mb3.7,baz=332,slow=7.4,SNR=3.6						
SONM	**Songino Array**	**72.02**	**327**	P	**P**	**00 36 05.8**	**+0.8**
	1.3nm,0.9s,mb3.8,baz=134,slow=4.2,SNR=3.6						
TLY	**Talaya**	**75.70**	**329**	*e*P	**P**	**00 36 27.0**	**+0.6**
TTA	**Tatalina**	**79.69**	**20**	*e*P	**P**	**00 36 48.2**	**-0.1**
	18nm,1.4s,mb4.7						
PMR	**Palmer**	**81.30**	**23**	*e*P	**P**	**00 36 58.1**	**+1.2**
	7.3nm,0.6s,mb4.7						
IMA2	**Indian Mountai**	**82.55**	**18**	*e*P	**P**	**00 37 02.7**	**-0.8**
MKAR	**Makanchi Array**	**86.23**	**318**	P	**P**	**00 37 22.4**	**-0.1**
MKAR	**Makanchi Array**	**86.23**	**318**	P	**P**	**00 37 22.4**	**-0.1**
	1.0nm,0.6s,mb3.9,baz=108,slow=4.6,SNR=5.9						
INK	**Inuvik**	**90.37**	**20**	P	**P**	**00 37 40.9**	**-0.8**
	1.4nm,1.0s,mb4.0,baz=229,slow=11,SNR=2.9						
UCH	**Uchtor**	**90.55**	**313**	P	**P**	**00 37 43.3**	**+0.2**
NVAR	**Mina Array Bea**	**90.80**	**51**	P	**P**	**00 37 45.2**	**+0.9**
	1.8nm,0.9s,mb4.2,baz=244,slow=4.3,SNR=5.3						
YKA	**Yellowknife Ar**	**96.61**	**28**	P	**P**	**00 38 09.5**	**-0.9**
	0.4nm,0.7s,mb4.0,baz=264,slow=4.7,SNR=5.2						
PDAR	**Pinedale Array**	**97.95**	**48**	P	**P**	**00 38 17.0**	**0.0**
	0.3nm,0.6s,mb4.0,baz=254,slow=2.6,SNR=3.3						
BDFB	**Brasilia**	**145.10**	**134**	PKPbc	PKPbc	00 44 15.2	-3.3
	3.7nm,0.8s,baz=261,slow=4.3,SNR=4.6						

BJI ***03*** *00:24:55.4, 809S×15787E, h11km, mB5.3, mb4.9, Ms5.3, Msz5.1*
NEIC ***03*** *00:24:56.3±0.2, 856S×15751E, h10km, mb5.0/25, Error ellipse: s-maj=7.9km s-min=5.7km az=114.0*
ISCJB ***03*** *00:24:58.9±1.4, 859S±006×15743E±004, h36km±13km, mb4.8/50, MS5.0/4, Error ellipse: s-maj=9.6km s-min=6.8km az=160.4*
MOS ***03*** *00:24:58.5±1.1, 848S×15745E, h33km, mb5.2/14, Error ellipse: s-maj=12.0km s-min=8.7km az=80.0*
IDC ***03*** *00:25:01.4±2.6, 861S×15746E, h46km±25km, mb4.5/18, mb1 4.7/21, mb1mx4.7/23, mbtmp4.6/21, ML4.6/3, MS4.0/1, Ms1 4.0/1, ms1mx3.5/28, Error ellipse: s-maj=15.6km s-min=14.4km az=144.0*

ISC 03 00:25:01.4±1.3, 863S±006×15747E±004, h45km±12km, h15km±6.7km: pP-P, n123, σ0998/115, mb4.8/50, MS5.0/4, 1C-2D, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.57**	**108**	*e*Sn	**Sn**	**00 26 12.1**	**+1.4**
HNR				LR	LR	00 26 18.1	
HNR	**Honiara**	**2.57**	**108**	*e*	**Sn**	**00 26 12.1**	**+1.5**
HNR	**Honiara**	**2.57**	**108**	P	**Pn**	**00 25 39.9**	**-0.7**
	1μm,0.3s,baz=256,slow=5.2,SNR=23						
HNR				LR	LR	00 26 18.1	
	comp=Z,3μm,20.2s,baz=347,slow=30						
CTA	**Charters Tower**	**15.73**	**222**	*e*P	**Pn**	**00 28 40.7**	**+0.7**
	25nm,0.7s						
CTA	**Charters Tower**	**15.73**	**222**	*e*P	**Pn**	**00 28 40.7**	**+0.7**
CTA				pmax	pmax		
	comp=Z,25nm,0.7s						
CTA	**Charters Tower**	**15.73**	**222**	P	**Pn**	**00 28 41.0**	**+0.9**
	comp=Z,1.6nm,0.3s,baz=48,slow=12,SNR=9.5						
CTAO	**Charters Tower**	**15.73**	**222**	*e*Pn	**Pn**	**00 28 41.3**	**+1.3**
DZM	**Mont Dzumac**	**15.91**	**148**	P	**Pn**	**00 28 41.2**	**-1.0**
	comp=Z,0.3nm,0.3s,baz=348,slow=16,SNR=4.2						
EIDS	**Eidsvold**	**17.72**	**199**	*e*P	**Pn**	**00 29 05.5**	**+0.6**
	comp=Z,42nm,1.3s						
ARMA	**Armidale**	**22.35**	**193**	*e*P	**P**	**00 29 55.3**	**-0.3**
KAKA	**Kakadu**	**24.93**	**258**	*e*P	**P**	**00 30 20.2**	**-0.4**
	comp=Z,32nm,0.8s,mb4.9						
WB2	**Warramunga Arr**	**25.03**	**241**	*i*	**P**	**00 30 20.8**	**-0.7**
WRA	**Warramunga Arr**	**25.04**	**241**	P	**P**	**00 30 21.0**	**-0.6**
	comp=Z,30nm,0.7s,mb4.9,baz=67,slow=9.0,SNR=20						
ASAR	**Alice Springs**	**27.06**	**234**	P	**P**	**00 30 38.5**	**-1.4**
	comp=Z,9.1nm,0.9s,mb4.3,baz=65,slow=9.3,SNR=9.6						
STKA	**Stephens Creek**	**27.44**	**210**	P	**P**	**00 30 44.3**	**+1.2**
	comp=Z,31nm,0.7s,mb5.0,baz=30,slow=13,SNR=22						
STKA	**Stephens Creek**	**27.44**	**210**	*e*	**P**	**00 30 44.0**	**+0.9**
CNB	**Canberra Magne**	**27.58**	**194**	*e*P	**P**	**00 30 41.8**	**-2.5**
	comp=Z,62nm,1.2s,mb5.1						
RAO	**Raoul Island**	**30.89**	**135**	P	**P**	**00 31 14.3**	**+0.5**
	comp=Z,384nm,0.4s,baz=39,slow=22,SNR=4.0						
FITZ	**Fitzroy Crossi**	**32.32**	**250**	P	**P**	**00 31 26.3**	**-0.3**
	comp=Z,5.6nm,1.0s,mb4.3,baz=74,slow=11,SNR=3.1						
BATI	**Kupang**	**33.38**	**265**	P	**P**	**00 31 37.5**	**+1.6**
	comp=Z,10.0nm,0.4s,mb5.1,baz=190,slow=8.1,SNR=3.8						
URZ	**Urewera**	**34.40**	**152**	P	**P**	**00 31 46.0**	**+1.6**
	comp=Z,7.9nm,0.7s,mb4.7,baz=49,slow=12,SNR=5.4						
FORT	**Forrest**	**35.19**	**227**	*e*P	**P**	**00 31 50.0**	**-1.3**
	comp=Z,25nm,0.8s,mb5.2						
MBWA	**Marble Bar**	**38.43**	**247**	*e*P	**P**	**00 32 18.1**	**-0.9**
	comp=Z,16nm,0.9s,mb4.8						
KLBR	**Kellerberrin**	**43.38**	**233**	*e*P	**P**	**00 32 58.5**	**-1.2**
	comp=Z,59nm,1.5s,mb5.1						
KKM	**Kota Kinabalu**	**43.64**	**288**	P	**P**	**00 33 02.5**	**+0.5**
NWAO	**Narrogin (SRO)**	**44.32**	**231**	*e*P	**P**	**00 33 06.3**	**-0.8**
NWAO	**Narrogin (SRO)**	**44.32**	**231**	P	**P**	**00 33 06.0**	**-1.2**
	comp=Z,21nm,1.0s,mb4.8,baz=55,slow=5.8,SNR=4.5						
NACB	**Wingpanchiao**	**47.85**	**314**	P	**P**	**00 33 34.8**	**-0.2**
KSM	**Kuching**	**48.07**	**280**	*e*P	**P**	**00 33 37.5**	**+0.5**
YHNB	**Yeheng**	**48.32**	**314**	P	**P**	**00 33 38.4**	**-0.3**
MAJO	**Matsushiro**	**48.45**	**339**	P	**P**	**00 33 38.4**	**-1.0**
JNU	**Nakatsue**	**48.63**	**330**	P	**P**	**00 33 41.4**	**+0.5**
	comp=Z,9.7nm,0.7s,mb4.9,baz=197,slow=15,SNR=4.5						
ERM	**Erimo**	**52.08**	**346**	*e*P	**P**	**00 34 04.1**	**-2.7**
	comp=Z,22nm,0.6s,mb5.3						
ERM	**Erimo**	**52.08**	**346**	*e*P	**P**	**00 34 04.1**	**-2.7**
ERM				pmax	pmax		
	comp=Z,22nm,0.6s,mb5.3						
KSRS	**Korea Array**	**53.54**	**331**	P	**P**	**00 34 17.6**	**-0.1**
	comp=Z,3.8nm,0.6s,mb4.5,baz=150,slow=8.3,SNR=9.2						
NJ2	**Nanjing**	**54.74**	**320**	*e*P	**P**	**00 34 27.1**	**+0.6**
NJ2				AMB	AMB		
	comp=Z,30nm,0.5s,mb5.6						
WHN	**Wuhan**	**56.82**	**315**	*e*P	**P**	**00 34 42.6**	**+1.1**
YSS	**Yuzh-Sakhalins**	**56.

GYA LR LR
comp=N,460nm,20.2s,MS4.7
GYA LR LR
comp=E,440nm,21.9s,MS4.7
GYA LR LR
comp=Z,410nm,22.8s,MS4.5
BJI Beijing 61.65 325 P **P** **00 35 15.2 +0.5**
BJI AMB AMB
comp=Z,7.0nm,0.7s,mb4.9
BJI Beijing 61.65 325 P **P** **00 35 15.2 +0.5**
comp=Z,7.0nm,0.7s,mb4.9
NST Nakhon Sawan 61.71 293 P **P** **00 35 15.0 -0.5**
XAN Xi'an 62.58 315 P **P** **00 35 23.7 +2.6**
XAN AP pP 00 35 30.5 -3.6
XAN AMB AMB
comp=Z,7.0nm,1.2s,mb4.7
KMI Kunming 62.96 304 P **P** **00 35 25.3 +1.5**
KMI AP pP 00 35 33.6 -3.2
KMI XP sP 00 35 37.7 -4.3
KMI PP PP 00 37 48.2 +5.4
KMI AMB AMB
comp=Z,21nm,1.3s,mb5.1
KMI AMB AMB
comp=Z,874nm,8.4s
KMI LR LR
comp=N,628nm,18.4s,MS5.0
KMI LR LR
comp=E,730nm,17.5s,MS5.0
KMI LR LR
comp=Z,1μm,22.7s
KMI Kunming 62.96 304 P **P** **00 35 25.3 +1.5**
comp=Z,21nm,1.3s,mb5.1
KMI pP pP 00 35 33.6 -3.2
KMI sP sP 00 35 37.7 -4.3
KMI PP PP 00 37 48.2 +5.4
KMI PPP 00 39 16.8
KMI S **S** **00 43 52.2 +1.2**
KMI sS sS 00 44 06.7 -6.0
KMI SS SS 00 47 59.2 +1.9
KMI SSS 00 50 43.6
KMI LR LR
comp=Z,1μm,22.7s,MS5.1
KMI Kunming 62.96 304 P **P** **00 35 25.3 +1.5**
KMI *PP pP 00 35 33.6 -3.2
KMI *SP sP 00 35 37.7 -4.3
KMI 00 37 48.2
KMI PPP 00 39 16.8
KMI S **S** **00 43 52.2 +1.2**
KMI *SS sS 00 44 06.7 -6.0
KMI SS SS 00 47 59.2 +1.9
KMI SSS 00 50 43.6
KMI pmax pmax
comp=Z,21nm,1.3s,mb5.1
KMI MLR MLR
comp=Z,1μm,22.7s,MS5.1
CHTO Chiang Mai 63.82 296 *eP* **P** **00 35 30.7 +1.2**
ADK Adak 64.24 17 P **P** **00 35 31.7 0.0**
CD2 Chengdu 64.74 310⇓ *iP* **P** **00 35 36.1 +0.7**
CD2 AMB AMB
comp=Z,50nm,0.8s,mb5.6
CD2 AMB AMB
comp=Z,120nm,6.8s
HHC Hu-ho-hao-te 64.86 323 *eP* **P** **00 35 37.1 +1.1**
HHC AP pP 00 35 41.6 -7.4
HHC XP sP 00 35 44.1 -10
HHC AMB AMB
comp=Z,7.0nm,0.5s,mb5.0
HHC AMB AMB
comp=Z,716nm,15.3s
HHC LR LR
comp=N,739nm,15.9s,MS5.1
HHC LR LR
comp=E,778nm,19.2s,MS5.1
HHC LR LR
comp=Z,1μm,19.6s,MS5.2
LZH Lanzhou 67.20 315 *eP* **P** **00 35 52.5 +1.4**
LZH AP pP 00 35 56.9 -7.3
LZH XP sP 00 35 58.6 -11
LZH PP PP 00 38 22.5 +2.8
LZH AMB AMB
comp=Z,42nm,1.5s,mb5.2
LZH AMB AMB
comp=Z,140nm,4.5s
LZH LR LR
comp=E,1μm,14.6s
LZH LR LR
comp=Z,1μm,15.5s,MS5.3
LZH Lanzhou 67.20 315 *eP* **P** **00 35 52.5 +1.4**
comp=Z,42nm,1.5s,mb5.2
LZH pP pP 00 35 56.9 -7.3
LZH sP sP 00 35 58.6 -11
LZH PP PP 00 38 22.5 +2.8
LZH *eS* S 00 44 45.0 +2.4
LZH sS sS 00 44 51.0 -13
LZH SS SS 00 49 06.0 +3.1
LZH LR LR
comp=Z,1μm,15.5s,MS5.3
LZH Lanzhou 67.20 315 *eP* **P** **00 35 52.5 +1.4**
LZH *SP sP 00 35 58.6 -11
LZH 00 38 22.5
LZH *eS* S 00 44 45.0 +2.4
LZH SS SS 00 49 06.0 +3.1
LZH pmax pmax
comp=Z,42nm,1.5s,mb5.2
LZH MLR MLR
comp=Z,1μm,15.5s,MS5.3
MA2 Magadan 68.19 356 P **P** **00 35 55.6 -1.2**
VNDA Vanda 68.90 179 P **P** **00 36 01.4 +0.3**
comp=Z,6.2nm,1.1s,mb4.5,baz=345,slow=5.9,SNR=6.6
SBA Scott Base 69.36 178 *eP* **P** **00 36 07.8 +3.8**
SONM Songino Array 72.04 327 P **P** **00 36 21.2 +0.6**
comp=Z,3.8nm,0.9s,mb4.3,baz=139,slow=6.2,SNR=7.1
YAK Yakutsk 73.69 347 *eP* **P** **00 36 29.7 -0.4**
comp=Z,24nm,0.7s,mb5.2
YAK Yakutsk 73.69 347 *eP* **P** **00 36 29.7 -0.4**
YAK pmax pmax
comp=Z,24nm,0.7s,mb5.2
LSA Lhasa 74.22 304 *eP* **P** **00 36 35.5 +1.5**
BOD Bodaibo 75.04 338 *eP* **P** **00 36 35.4 -2.7**
BOD pmax pmax
comp=Z,8.0nm,1.4s,mb4.5
ZAK Zakamensk 75.18 328 *eP* **P** **00 36 38.8 -0.2**
ZAK pmax pmax
comp=Z,5.0nm,1.2s,mb4.3
BILL Bilibino 76.74 3 *eP* **P** **00 36 47.2 -0.3**
comp=Z,15nm,0.9s,mb4.9
BILL Bilibino 76.74 3⇓ *eP* **P** **00 36 46.9 -0.6**
BILL *eSS* SS 00 51 24.7 -3.0
BILL pmax pmax
comp=Z,14nm,1.1s,mb4.8
KDAK Kodiak Island 77.58 25 *eP* **P** **00 36 52.2 -0.3**
PALK Pallekele 78.13 279 *eP* **P** **00 36 57.5 +1.0**
comp=Z,17nm,1.1s,mb4.9
TNA Tin City 78.28 14 *eP* **P** **00 36 56.1 -0.1**
comp=Z,8.2nm,1.1s,mb4.6
SVW2 Sparrevohn 78.60 21 *eP* **P** **00 36 58.0 -0.1**
TTA Tatalina 79.70 20 *eP* **P** **00 37 04.2 +0.2**
SLKM Skilak Lake 80.23 23 *eP* **P** **00 37 06.1 -0.9**
PMR Palmer 81.31 23 *eP* **P** **00 37 12.0 -0.7**
comp=Z,27nm,0.8s,mb5.2
PMR Palmer 81.31 23 *eP* **P** **00 37 12.0 -0.7**
PMR pmax pmax
comp=Z,27nm,0.8s,mb5.2
WMQ Urumqi 81.69 317 *eP* **P** **00 37 15.8 +0.7**
WMQ AMB AMB
comp=Z,8.0nm,1.1s,mb4.6
SML Sawmill 81.75 23 *eP* **P** **00 37 14.7 -0.3**
TIXI Tiksi 82.33 351 *eP* **P** **00 37 17.9 +0.1**
TIXI pmax pmax
comp=Z,15nm,1.9s,mb4.6
MCK McKinley 82.67 21 *eP* **P** **00 37 18.4 -1.4**
COLA College 83.73 21 *eP* **P** **00 37 23.6 -1.6**
comp=Z,34nm,0.8s,mb5.5
COLA College 83.73 21 *eP* **P** **00 37 23.6 -1.6**
COLA pmax pmax
comp=Z,34nm,0.8s,mb5.5
MAW Mawson 83.84 203 *eP* **P** **00 37 25.4 -0.5**
comp=Z,17nm,1.0s,mb5.1
MAW Mawson 83.84 203 *eP* **P** **00 37 25.4 -0.5**
MAW pmax pmax
comp=Z,17nm,1.0s
MAW Mawson 83.84 203 P **P** **00 37 26.1 +0.2**
comp=Z,21nm,1.1s,mb5.2,baz=76,slow=5.1,SNR=4.3
MENT Mentasta 84.17 23 *eP* **P** **00 37 27.5 0.0**
EGAK Eagle 86.08 22 *eP* **P** **00 37 37.6 +0.5**
comp=Z,112nm,1.4s,mb5.6
TAU LR LR
comp=Z,3μm,19.0s,MS5.1
URZ Urewera 36.78 151 P **P** **00 35 52.9 +5.1**
comp=Z,5.4nm,0.7s,mb4.5,baz=14,slow=4.4,SNR=4.9
MBWA Marble Bar 37.08 244 *eP* **P** **00 35 50.7 +0.1**
comp=Z,51nm,1.1s,mb5.3
MBWA LR LR
comp=Z,4μm,20.0s,MS5.2
SNZO South Karori 38.21 156 PFAKE 00 36 10.0 +10
SNZO LR LR
comp=Z,4μm,19.0s,MS5.2
RPZ Rata Peaks 39.01 162 P **P** **00 36 06.7 +0.1**
comp=Z,8.7nm,0.7s,mb4.6,baz=292,slow=5.5,SNR=3.3
KKM Kota Kinabalu 41.10 288 *eP* **P** **00 36 23.3 -1.1**
KLBR Kellerberrin 42.63 230 *eP* **P** **00 36 36.1 -0.6**
comp=Z,130nm,1.5s,mb5.4
JOW Kunigami 42.69 323 LR LR 00 53 28.8
comp=Z,800nm,18.8s,MS4.6,baz=119,slow=35
NWAO Narrogin (SRO) 43.63 229 *eP* **P** **00 36 44.5 -0.2**
comp=Z,27nm,1.1s,mb4.9
NWAO LR LR
comp=Z,4μm,19.0s,MS5.4
NWAO Narrogin (SRO) 43.63 229 *eP* **P** **00 36 44.6 -0.2**
NWAO pmax pmax
comp=Z,27nm,1.1s
NWAO MLR MLR
comp=Z,4μm,19.0s
NWAO Narrogin (SRO) 43.63 229 P **P** **00 36 43.8 -1.0**
comp=Z,4.6nm,0.6s,mb4.4,baz=75,slow=9.5,SNR=3.3
MUN Mundaring 43.98 230 *eP* **P** **00 36 47.4 -0.2**
RAR Rarotonga 45.62 113 PFAKE 00 37 10.0 +9.2
RAR LR LR
comp=Z,2.0nm,19.0s
KSM Kuching 45.67 279 P **P** **00 37 00.7 -0.6**
YHNB Yeheng 45.69 315 *eP* **P** **00 37 01.1 -0.2**
TATO Taipei 45.81 315 PFAKE 00 37 10.0 +7.8
TATO LR LR
comp=Z,4μm,22.0s,MS5.3
MJAR Matsushiro Arr 46.27 341 P **P** **00 37 04.8 -0.8**
comp=Z,1.0nm,0.5s,baz=165,slow=10,SNR=3.5
MJAR PcP PcP 00 38 42.0 +1.0
comp=Z,5.0nm,0.9s,baz=142,slow=4.5,SNR=3.2
MAJO Matsushiro 46.27 341 *eP* **P** **00 37 03.9 -1.7**
comp=Z,88nm,2.3s,mb5.3
MAJO LR LR
comp=Z,1μm,20.0s,MS4.9
MAJO Matsushiro 46.27 341 *eP* **P** **00 37 03.9 -1.7**
MAJO pmax pmax
comp=Z,89nm,2.3s,mb5.3
MAJO MLR MLR
comp=Z,1μm,20.0s,MS4.9
MAT Matsushiro 46.27 341 P **P** **00 37 04.9 -0.7**
ERM Erimo 50.11 348 PFAKE 00 37 50.0 +15
ERM LR LR
comp=Z,3μm,21.0s,MS5.3
KSRS Korea Array 51.16 332 P **P** **00 37 43.6 +0.4**
comp=Z,3.8nm,0.8s,mb4.4,baz=151,slow=7.8,SNR=7.2
QIZ Qiongzhong 51.75 301 P **P** **00 37 47.7 -0.3**
QIZ S **S** **00 45 12.0 +2.4**
QIZ AMB AMB
comp=Z,99nm,2.5s,mb5.3
QIZ AMB AMB
comp=Z,2μm,3.1s
QIZ LR LR
comp=E,1μm,16.6s
QIZ LR LR
comp=Z,2μm,31.6s
QIZ Qiongzhong 51.75 301 PFAKE 00 38 00.0 +12
QIZ LR LR
comp=Z,2μm,20.0s,MS5.1
INCN Inchon 51.79 331 PFAKE 00 38 00.0 +12
INCN LR LR
comp=Z,2μm,22.0s,MS5.0
NJ2 Nanjing 52.17 320 *eP* **P** **00 37 53.0 +2.1**
NJ2 AP pP 00 37 57.8 +2.0
NJ2 XP sP 00 38 01.1 +3.3
NJ2 PP PP 00 39 52.4 +3.0
NJ2 S **S** **00 45 17.0 +2.0**
NJ2 XS sS 00 45 25.0 +1.9
NJ2 AMB AMB
comp=Z,30nm,0.6s,mb5.4
NJ2 AMB AMB
comp=Z,1μm,4.6s
ASAJ Asahikawa 52.25 348 P **P** **00 37 52.0 +0.7**
comp=Z,5.2nm,0.5s,mb4.7,baz=246,slow=20,SNR=5.0
VLA Vladivostok 54.31 339 *i P* **P** **00 38 08.2 +1.8**
PPT Papeete 54.70 106 *e*LQ 00 52 02.8
comp=Z,5μm,28.8s
PPT *e*LR LR 00 54 25.1
comp=Z,3μm,29.0s,baz=276
PAE Paea 54.71 107 *eP* **P** **00 38 18.6 +8.8**
comp=Z,77nm,1.1s,mb5.7
PAE Paea 54.71 107 *eP* **P** **00 38 18.6 +8.8**
PAE pmax pmax
comp=Z,77nm,1.1s,mb5.7
YSS Yuzh-Sakhalins 54.95 350 PFAKE 00 38 20.0 +9.0
YSS LR LR
comp=Z,2μm,21.0s,MS5.2
YSS Yuzh-Sakhalins 54.95 350⇑ *eP* **P** **00 38 11.6 +0.6**
YSS pmax pmax
comp=Z,13nm,0.9s,mb5.0
TVO Taravao 55.03 107 *eP* **P** **00 38 21.2 +9.1**
comp=Z,102nm,1.1s,mb5.8
TVO Taravao 55.03 107 *eP* **P** **00 38 21.2 +9.1**
TVO pmax pmax
comp=Z,102nm,1.1s,mb5.8
POHA Pohakuloa 55.28 60 PFAKE 00 38 30.0 +16
POHA LR LR
comp=Z,4μm,19.0s,MS5.5
TBI Tubuai 55.38 113 *e*LQ 00 52 19.5
comp=Z,6μm,34.8s
TBI *e*LR LR 00 54 41.2
comp=Z,4μm,32.0s,baz=277
TIA Tai'an 56.01 323 *eP* **P** **00 38 18.3 -0.6**
PMOR Pomariorio Ree 56.20 103 *eP* **P** **00 38 21.6 +1.0**
comp=Z,90nm,0.9s,mb5.8
PMOR Pomariorio Ree 56.20 103 *eP* **P** **00 38 29.7 +9.1**
comp=Z,114nm,1.0s,mb5.9
MDJ Mudanjiang 56.44 338 P **P** **00 38 21.6 -0.1**
MDJ AP pP 00 38 24.8 -1.9
MDJ PCP PcP 00 39 17.9 -0.7
MDJ SCP ScP 00 43 17.7 +0.1
MDJ PCS PcS 00 43 19.2 +0.2
MDJ S **S** **00 46 12.3 +0.2**
MDJ SCS ScS 00 48 10.6 +0.1
MDJ AMB AMB
comp=Z,8.0nm,1.3s,mb4.6
MDJ AMB AMB
comp=Z,542nm,13.6s
MDJ LR LR
comp=N,461nm,19.6s,MS4.8
MDJ LR LR
comp=E,637nm,16.0s,MS4.8
MDJ LR LR
comp=Z,958nm,18.7s,MS4.9
MDJ Mudanjiang 56.44 338 PFAKE 00 38 30.0 +8.3
MDJ LR LR
comp=Z,1μm,20.0s,MS4.9
VAH Vaihoa 56.47 104 *eP* **P** **00 38 23.1 +0.6**
comp=Z,60nm,0.9s,mb5.6
VAH Vaihoa 56.47 104 *eP* **P** **00 38 31.3 +8.8**
comp=Z,94nm,1.0s,mb5.8
CN2 Changchun 57.40 335 *eP* **P** **00 38 28.4 -0.2**
CN2 AMB AMB
comp=Z,10.0nm,0.9s,mb4.8
ENH Enshi 57.51 313 PFAKE 00 38 40.0 +10
ENH LR LR
comp=Z,3.0nm,21.0s
GYA Guiyang 57.73 307⇑ *iP* **P** **00 38 34.9 +3.6**
GYA AP pP 00 38 39.0 +2.7
GYA XP sP 00 38 41.8 +3.6
GYA PCP PcP 00 39 27.2 +3.1
GYA PP PP 00 40 45.7 +6.2
GYA SCP ScP 00 43 25.6 +1.8
GYA S **S** **00 46 34.0 +4.1**
GYA SCS ScS 00 48 21.8 +1.1
GYA SS SS 00 50 26.0 +5.3
GYA AMB AMB
comp=Z,90nm,1.0s,mb5.8
GYA LR LR
comp=N,12μm,20.1s,MS6.1
GYA LR LR
comp=E,12μm,21.7s,MS6.1
GYA LR LR
comp=Z,10μm,22.3s,MS5.9

MK31 Makanchi Array 86.25 318 *eP* **P** **00 37 38.0 -0.3**
MKAR Makanchi Array 86.25 318 P **P** **00 37 38.3 0.0**
comp=Z,4.0nm,0.8s,mb4.7,baz=98,slow=5.3,SNR=15
ZALV Zalesovo Beam 86.91 326 P **P** **00 37 40.5 -0.9**
ZALV Zalesovo Beam 86.91 326 P **P** **00 37 40.5 -0.8**
comp=Z,0.7nm,0.4s,mb4.2,baz=121,slow=7.8,SNR=3.8
ZAL Zalesovo 86.91 326 P **P** **00 37 40.5 -0.9**
DLBC Dease Lake 88.30 30 P **P** **00 37 48.3 +0.4**
KURK Kurchatov 89.63 321 *eP* **P** **00 37 55.8 +1.5**
comp=Z,5.9nm,1.2s,mb4.8
KURK Kurchatov 89.63 321 *eP* **P** **00 37 55.8 +1.5**
KURK pmax pmax
comp=Z,6.0nm,1.2s,mb4.8
TKM2 Tokmak 2 89.92 313 *eP* **P** **00 37 55.8 -0.1**
comp=Z,1.8nm,0.6s,mb4.6
TKM2 Tokmak 2 89.92 313 *eP* **P** **00 37 55.8 -0.1**
TKM2 pmax pmax
comp=Z,2.0nm,0.6s,mb4.6
MWC Mount Wilson 90.26 56 *eP* **P** **00 37 58.5 +0.8**
INK Inuvik 90.38 20 P **P** **00 37 56.5 -0.9**
comp=Z,2.1nm,0.8s,mb4.5,baz=234,slow=9.9,SNR=7.0
MTUM Tungsten Hills 90.41 52 *eP* **P** **00 37 59.3 +1.0**
NVAR Mina Array Bea 90.81 51 P **P** **00 38 01.0 +0.9**
comp=Z,8.5nm,0.9s,mb5.1,baz=238,slow=4.1,SNR=16
EKS2 Erkin-Say 91.18 313 *eP* **P** **00 38 01.7 -0.1**
comp=Z,2.0nm,0.8s,mb4.5
GSC Goldstone 91.46 55 *eP* **P** **00 38 03.9 +0.7**
BMO Blue Mountains 92.65 45 *eP* **P** **00 38 08.2 -0.3**
comp=Z,4.7nm,1.0s,mb4.9
BMO Blue Mountains 92.65 45 *eP* **P** **00 38 08.3 -0.2**
BMO pmax pmax
comp=Z,5.0nm,1.0s,mb4.9
HLID Hailey 94.52 47 *eP* **P** **00 38 17.8 +0.7**
comp=Z,7.6nm,1.2s,mb5.0
BRVK Borovoye 95.14 323 *eP* **P** **00 38 17.9 -1.8**
comp=Z,1.7nm,0.8s,mb4.5
BRVK Borovoye 95.14 323 *eP* **P** **00 38 17.9 -1.9**
BRVK pmax pmax
comp=Z,2.0nm,0.8s,mb4.6
JLU Jordanelle 96.36 50 *eP* **P** **00 38 26.2 +0.6**
DAU Daniels Canyon 96.49 50 P **P** **00 38 26.6 +0.4**
YKA Yellowknife Ar 96.63 28 P **P** **00 38 25.3 -1.0**
YKA Yellowknife Ar 96.63 28 P **P** **00 38 25.3 -1.0**
comp=Z,1.8nm,0.6s,mb4.7,baz=264,slow=4.8,SNR=19
BW06 Boulder Array 97.97 48 P **P** **00 38 32.8 -0.1**
PDAR Pinedale Array 97.97 48 P **P** **00 38 32.6 -0.2**
comp=Z,1.4nm,0.7s,mb4.6,baz=238,slow=2.3,SNR=9.2
MALT Malatya 118.02 309 PKPdf PKPdf 00 43 41.5 -2.2
AKASG Malin Array Be 120.29 325 PKP PKPdf 00 43 46.7 -0.9
comp=Z,0.4nm,0.5s,baz=55,slow=3.3,SNR=4.7
BOSA Boshof 120.87 229 PKP PKPdf 00 43 49.6 +0.1
BOSA Boshof 120.87 229 PKP PKPdf 00 43 49.6 +0.1
comp=Z,2.6nm,1.0s,baz=117,slow=2.3,SNR=2.8
NNA Nana 122.25 110 PKPdf PKPdf 00 43 54.5 +2.0
LPAZ La Paz 128.52 119 PKP PKPdf 00 44 05.3 +0.9
LPAZ *e*PKPdf PKPdf 00 44 05.6 +1.2
LPAZ La Paz 128.52 119 PKP PKPdf 00 44 05.3 +0.9
comp=Z,3.7nm,1.0s,baz=18,slow=7.5,SNR=6.8
SIV San Ignacio 134.67 123 PKP PKPdf 00 44 13.5 -2.5
comp=Z,1.0nm,0.8s,baz=345,slow=1.6,SNR=3.8
ESDC Sonseca Array 144.91 335 PKP PKPdf 00 44 32.4 -1.5
comp=Z,3.1nm,0.9s,baz=29,slow=2.7,SNR=6.6
BDFB Brasilia 145.09 134 PKP PKPdf 00 44 33.1 -1.8
comp=Z,14nm,0.8s,baz=203,slow=5.2,SNR=9.6

IDC ***03*** *00:28:38.0±0.5, 7.13S×155.29E, h0km, mb4.7/20, mb1 4.8/20, mb1mx4.8/21, mbtmp4.7/20, MS4.7/1, Ms1 4.7/1, ms1mx3.9/16, Error ellipse: s-maj=18.3km s-min=13.2km az=109.0*

BJI ***03*** *00:28:38.4, 692S×155.57E, h16km, mB5.6, mb5.0, Ms5.4, Msz5.0*

GCMT ***03*** *00:28:39.8±0.4, 7.35S×155.12E, h33km±1km, MW5.6/65, Moment Tensor Solution. s24,c28; s65,c79; Duration: 1:6 Moment tensor: Scale 10^17^Nm; Mrr=-3.23±.23; Mθθ=2.64±.14; Mφφ=0.58±.13; Mrθ=-1.45±.20; Mrφ=-1.07±.07; Mθφ=0.83±.18; Best double couple: M0=3.57800×10^17^ NP1:φs=290.00000°, δ31.00000°, λ-95.00000°. NP2: φs=116.00000°, δ59.00000°, λ-87.00000°. Principal axes: T 3.5060, Plg14.0000°, Azm204.0000°; N 0.1370, Plg3.0000°, Azm295.0000°; P -3.6490, Plg76.0000°, Azm35.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISCJB ***03*** *00:28:39.0±0.2, 707S±004×15524E±005, h15km, mb5.2/79, MS5.5/162 Error ellipse: s-maj=6.8km s-min=5.5km az=16.1*

NEIC ***03*** *00:28:39.8±0.2, 703S×15524E, h10km, mb5.4/35, MS5.6/154, Error ellipse: s-maj=6.1km s-min=4.6km az=118.0*

MOS ***03*** *00:28:42.3±0.8, 698S×155.12E, h33km, mb5.4/15, MS5.1/11, Error ellipse: s-maj=10.3km s-min=7.5km az=91.8*

ISC 03 00:28:40.8±0.2, 710S±004×15527E±004, h16km, h16km±.8km: pP-P, n361, σ0=89/176, mb5.2/79, MS5.5/162, 15C-3D, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**5.17**	**117**	*e*Pn	**Pn**	**00 30 03.7**	**+6.1**
	2μm,0.9s						
HNR				Sn	**Sn**	**00 30 52.2**	**-4.9**
HNR	**Honiara**	**5.17**	**117**	Pn	**Pn**	**00 30 03.5**	**+5.9**
	38nm,0.3s,baz=82,slow=2.5,SNR=2.3						
HNR				Sn	**Sn**	**00 30 54.5**	**-2.6**
	96nm,0.3s,baz=259,slow=3.5,SNR=3.7						
CTA	**Charters Tower**	**15.60**	**213**	*e*P	**Pn**	**00 32 21.5**	**+1.4**
	44nm,1.2s						
CTA	**Charters Tower**	**15.60**	**213**	*e*P	**Pn**	**00 32 21.5**	**+1.4**
CTA				pmax	pmax		
	comp=Z,44nm,1.2s						
CTA	**Charters Tower**	**15.60**	**213**	Pn	**Pn**	**00 32 22.2**	**+2.1**
	comp=Z,0.4nm,0.3s,baz=35,slow=15,SNR=3.2						
CTAO	**Charters Tower**	**15.60**	**213**	*e*Pn	**Pn**	**00 32 22.6**	**+2.5**
	comp=Z,58nm,0.9s						
DZM	**Mont Dzumac**	**18.38**	**145**	*e*P	**Pn**	**00 32 54.3**	**-0.9**
DZM	**Mont Dzumac**	**18.38**	**145**	P	**Pn**	**00 32 57.8**	**+2.6**
	comp=Z,0.4nm,0.3s,baz=350,slow=12,SNR=5.2						
GUMO	**Guam**	**23.00**	**333**	PFAKE		00 34 00.0	+15
GUMO				LR	LR		
	comp=Z,4μm,20.0s,MS4.8						
KAKA	**Kakadu**	**23.17**	**254**	*e*P	**P**	**00 33 46.9**	**-0.1**
	comp=Z,254nm,1.4s,mb5.5						
ARMA	**Armidale**	**23.45**	**188**	*e*P	**P**	**00 33 49.5**	**-0.3**
WB2	**Warramunga Arr**	**23.98**	**236**	*e*P	**P**	**00 33 54.3**	**-0.5**
WRA	**Warramunga Arr**	**23.99**	**236**	P	**P**	**00 33 54.9**	**0.0**
	comp=Z,67nm,1.1s,mb5.0,baz=61,slow=9.2,SNR=29						
WRA				ScP	ScP	00 41 16.1	+1.0
	comp=Z,1.7nm,0.7s,baz=66,slow=9.4,SNR=3.7						
ASAR	**Alice Springs**	**26.31**	**229**	P	**P**	**00 34 15.6**	**-0.5**
	comp=Z,26nm,1.0s,mb4.7,baz=61,slow=8.8,SNR=15						
STKA	**Stephens Creek**	**27.76**	**206⇑**	*i P*	**P**	**00 34 31.1**	**+2.2**
	comp=Z,41nm,0.8s,mb5.1						
STKA	**Stephens Creek**	**27.76**	**206**	P	**P**	**00 34 28.9**	**-0.1**
	comp=Z,19nm,0.8s,mb4.8,baz=21,slow=9.2,SNR=12						
STKA				ScP	ScP	00 41 26.9	+1.1
	comp=Z,7.5nm,1.0s,baz=6.8,slow=3.8,SNR=4.7						
FITZ	**Fitzroy Crossi**	**30.87**	**246**	*e*P	**P**	**00 34 56.8**	**+0.1**
	comp=Z,40nm,1.0s,mb5.2						
FITZ	**Fitzroy Crossi**	**30.87**	**246**	P	**P**	**00 34 56.8**	**+0.1**
	comp=Z,20nm,1.0s,mb4.9,baz=81,slow=10.0,SNR=11						
BATI	**Kupang**	**31.39**	**262**	P	**P**	**00 35 00.7**	**-0.8**
	comp=Z,7.6nm,0.4s,mb4.9,baz=82,slow=5.1,SNR=2.5						
DAV	**Davao City (W)**	**32.79**	**295**	PFAKE		00 35 30.0	+16
DAV				LR	LR		
	comp=Z,2μm,20.0s,MS4.8						
AFI	**Afiamalu**	**33.07**	**105**	*e*P	**P**	**00 35 16.3**	**+0.2**
	comp=Z,114nm,0.9s,mb5.8						
AFI				LR	LR		
	comp=Z,6μm,19.0s,MS5.3						
AFI	**Afiamalu**	**33.07**	**105**	*e*P	**P**	**00 35 16.3**	**+0.2**
AFI				pmax	pmax		
	comp=Z,114nm,0.9s,mb5.8						
AFI				MLR	MLR		
	comp=Z,6μm,19.0s,MS5.3						
RAO	**Raoul Island**	**33.52**	**134**	PFAKE		00 35 30.0	+10
RAO				LR	LR		
	comp=Z,4μm,20.0s,MS5.1						
FORT	**Forrest**	**34.70**	**224**	*e*P	**P**	**00 35 29.7**	**-0.4**
	comp=Z,16nm,0.5s,mb5.2						
KAPI	**Kappang**	**35.38**	**271**	P	**P**	**00 35 36.9**	**+0.7**
	comp=Z,44nm,1.2s,mb6.3,SNR=5.3						
TAU	**Tasmania Unive**	**36.35**	**190**	*e*P	**P**	**00 35 43.8**	**-0.2**

BJT Baijiatuau 59.15 326 *e*P **P** **00 38 40.6 -0.2**
BJT LR LR
comp=Z,2μm,20.0s,MS5.2
BJI Beijing 59.16 326 P **P** **00 38 42.1 +1.1**
BJI AP pP 00 38 46.1 +0.1
BJI XP sP 00 38 47.4 -0.5
BJI PCP PcP 00 39 30.3 +0.9
BJI PP PP 00 40 54.7 +2.8
BJI SCP ScP 00 43 31.2 +1.4
BJI S **S** **00 46 52.5 +4.5**
BJI AMB AMB
comp=Z,8.0nm,0.7s,mb4.9
BJI LR LR
comp=N,1μm,21.1s,MS5.1
BJI LR LR
comp=E,1μm,19.8s,MS5.1
BJI LR LR
comp=Z,2μm,25.1s
BJI Beijing 59.16 326 P **P** **00 38 42.1 +1.1**
comp=Z,8.0nm,0.7s,mb4.9
BJI pP pP 00 38 46.1 +0.1
BJI sP sP 00 38 47.4 -0.5
BJI PcP PcP 00 39 30.3 +0.9
BJI PP PP 00 40 54.7 +2.8
BJI ScP ScP 00 43 31.2 +1.4
BJI S **S** **00 46 52.5 +4.5**
BJI LR LR
comp=Z,2μm,25.1s,MS5.0
BJI Beijing 59.16 326 P **P** **00 38 42.1 +1.1**
BJI *SP sP 00 38 47.4 -0.5
BJI 00 39 30.3
BJI 00 40 54.7
BJI S **S** **00 46 52.5 +4.5**
BJI pmax pmax
comp=Z,8.0nm,0.7s,mb4.9
KLR Kul'dur 59.75 342 *e*P **P** **00 38 39.2 -5.6**
PET Petropavlovsk 59.96 2 PFAKE 00 39 00.0 +14
PET LR LR
comp=Z,2μm,20.0s,MS5.2
XAN Xi'an 59.97 316 P **P** **00 38 45.7 -1.0**
XAN AP pP 00 38 51.0 -0.7
XAN AMB AMB
comp=Z,6.0nm,1.5s,mb4.4
KMI Kunming 60.30 304 P **P** **00 38 50.4 +1.3**
KMI AP pP 00 38 55.7 +1.5
KMI XP sP 00 38 58.7 +2.6
KMI PP PP 00 41 07.6 +5.3
KMI S **S** **00 47 08.6 +5.3**
KMI XS sS 00 47 18.0 +6.5
KMI AMB AMB
comp=Z,37nm,1.4s,mb5.2
KMI AMB AMB
comp=Z,458nm,6.7s
KMI LR LR
comp=N,956nm,16.6s,MS5.1
KMI LR LR
comp=E,839nm,16.6s,MS5.1
KMI LR LR
comp=Z,1μm,22.8s
KMI Kunming 60.30 304 P **P** **00 38 50.4 +1.3**
comp=Z,37nm,1.4s,mb5.2
KMI pP pP 00 38 55.7 +1.5
KMI sP sP 00 38 58.7 +2.6
KMI PP PP 00 41 07.6 +5.3
KMI S **S** **00 47 08.6 +5.3**
KMI sS sS 00 47 18.0 +6.5
KMI SS SS 00 51 10.5 +9.4
KMI SSS 00 53 48.4
KMI LR LR
comp=Z,1μm,22.8s,MS5.0
KMI Kunming 60.30 304 P **P** **00 38 50.4 +1.3**
KMI *SP sP 00 38 58.7 +2.6
KMI 00 41 07.6
KMI S **S** **00 47 08.6 +5.3**
KMI *SS sS 00 47 18.0 +6.5
KMI pmax pmax
comp=Z,37nm,1.4s,mb5.2
KMI MLR MLR
comp=Z,1μm,22.8s,MS5.0
DRV Dumont d'Urvil 60.40 187 P **P** **00 38 55.0 +5.9**
DRV Dumont d'Urvil 60.40 187 PP PP 00 40 27.0 -35
DRV S **S** **00 47 15.0 +12**
DRV SS SS 00 51 22.0 +21
DRV L 00 54 00.0
CHTO Chiang Mai 61.19 296 *e*P **P** **00 38 56.5 +1.2**
CHTO LR LR
comp=Z,622nm,20.0s,MS4.8
SMY Shemya 61.72 13 PFAKE 00 39 10.0 +12
SMY LR LR
comp=Z,3μm,20.0s,MS5.4
CD2 Chengdu 62.09 310 P **P** **00 39 02.2 +1.0**
CD2 AP pP 00 39 07.0 +0.8
CD2 XP sP 00 39 09.8 +1.7
CD2 PP PP 00 41 21.5 +3.5
CD2 PCS PcS 00 43 43.2 -1.5
CD2 S **S** **00 47 26.9 +1.1**
CD2 SS SS 00 51 32.3 +3.3
CD2 AMB AMB
comp=Z,40nm,0.6s,mb5.7
CD2 AMB AMB
comp=Z,80nm,5.8s
CD2 LR LR
comp=N,230nm,16.4s
CD2 LR LR
comp=Z,340nm,18.4s,MS4.5
HHC Hu-ho-hao-te 62.34 324 *e*P **P** **00 39 06.3 +3.7**
HHC AP pP 00 39 10.7 +3.0
HHC XP sP 00 39 14.2 +4.6
HHC PP PP 00 41 24.6 +4.6
HHC SCP ScP 00 43 42.9 -1.0
HHC PCS PcS 00 43 47.8 +2.5
HHC S **S** **00 47 33.2 +4.6**
HHC XS sS 00 47 40.5 +3.6
HHC SCS ScS 00 48 49.7 -4.7
HHC AMB AMB
comp=Z,8.0nm,0.5s,mb5.1
HHC AMB AMB
comp=Z,590nm,12.0s
HHC LR LR
comp=N,863nm,14.1s,MS5.2
HHC LR LR
comp=E,752nm,15.9s,MS5.2
HHC LR LR
comp=Z,892nm,17.1s,MS5.0
ADK Adak 63.47 19 PFAKE 00 39 20.0 +10
ADK LR LR
comp=Z,3μm,22.0s,MS5.5
TAOE Nuku Hiva Isla 63.91 96 *e*LR LR 00 58 29.4
comp=Z,3μm,20.8s
HIA Hailar 64.13 335 *e*P **P** **00 39 13.6 -0.7**
comp=Z,16nm,1.0s,mb5.0
HIA LR LR
comp=Z,1μm,20.0s,MS5.0
LZH Lanzhou 64.58 315 ⇑P **P** **00 39 18.7 +1.1**
LZH AP pP 00 39 24.0 +1.4
LZH XP sP 00 39 25.8 +1.3
LZH PP PP 00 41 43.2 +3.4
LZH *e*S **S** **00 47 58.0 +1.2**
LZH XS sS 00 48 04.0 -1.1
LZH SS SS 00 52 11.0 +3.3
LZH AMB AMB
comp=Z,45nm,1.3s,mb5.3
LZH AMB AMB
comp=Z,159nm,5.0s
LZH LR LR
comp=E,1μm,14.6s
LZH LR LR
comp=Z,1μm,15.5s,MS5.3
LZH Lanzhou 64.58 315 ⇑P **P** **00 39 18.7 +1.1**
comp=Z,45nm,1.3s,mb5.3
LZH pP pP 00 39 24.0 +1.4
LZH sP sP 00 39 25.8 +1.3
LZH PP PP 00 41 43.2 +3.4
LZH *e*S **S** **00 47 58.0 +1.2**
LZH sS sS 00 48 04.0 -1.1
LZH SS SS 00 52 11.0 +3.3
LZH LR LR
comp=Z,1μm,15.5s,MS5.3
LZH Lanzhou 64.58 315 ⇑P **P** **00 39 18.7 +1.1**
LZH *SP sP 00 39 25.8 +1.3
LZH 00 41 43.2
LZH *e*S **S** **00 47 58.0 +1.2**
LZH *SS sS 00 48 04.0 -1.1
LZH SS SS 00 52 11.0 +3.3
LZH pmax pmax
comp=Z,45nm,1.3s,mb5.3
LZH MLR MLR
comp=Z,1μm,15.5s,MS5.3
MA2 Magadan 66.55 358 *e*P **P** **00 39 29.6 -0.2**
comp=Z,48nm,1.1s,mb5.4
MA2 LR LR
comp=Z,1μm,19.0s,MS5.2
MA2 Magadan 66.55 358 *e*P **P** **00 39 29.1 -0.7**
MA2 pmax pmax
comp=Z,100nm,1.1s,mb5.8
CASY Casey 66.58 198 P **P** **00 39 33.5 +3.6**
CASY LR LR
comp=Z,3μm,19.0s,MS5.5
RKT Rikitea 68.65 112 *e*P **P** **00 39 42.8 -1.1**
comp=Z,98nm,1.1s,mb5.7
RKT Rikitea 68.65 112 *e*LR LR 01 00 49.3
comp=Z,2μm,30.2s
RKT Rikitea 68.65 112 *e*P **P** **00 39 42.8 -1.1**
RKT pmax pmax
comp=Z,98nm,1.1s,mb5.7
SONM Songino Array 69.57 327 P **P** **00 39 49.6 +0.6**
comp=Z,13nm,0.9s,mb4.8,baz=133,slow=6.7,SNR=24
SONM PKPPKP 01 07 57.2
comp=Z,1.1nm,0.9s,baz=303,slow=2.6,SNR=7.2
SHL Shillong 69.58 300 *e*P **P** **00 39 50.0 +0.4**
SHL AMb AMB 00 40 07.8
comp=Z,439nm,0.8s
SEY Seymchan 69.86 359⇑*e*P **P** **00 39 50.3 -0.2**
VNDA Vanda 70.47 178 P **P** **00 39 54.3 +0.1**
comp=Z,1.2nm,0.3s,mb4.3,baz=340,slow=7.4,SNR=5.1
SBA Scott Base 70.98 177 P **P** **00 39 58.3 +1.1**
comp=Z,78nm,2.4s,mb5.2
SBA *e*PcP PcP 00 40 15.9 -1.6
SBA LR LR
comp=Z,1μm,19.0s,MS5.2
SBA Scott Base 70.98 177 P **P** **00 39 58.3 +1.1**
SBA *e* 00 40 16.0
SBA pmax pmax
comp=Z,78nm,2.4s,mb5.2
SBA MLR MLR
comp=Z,1μm,19.0s,MS5.2
LSA Lhasa 71.56 304 PFAKE 00 40 10.0 +8.4
LSA LR LR
comp=Z,971nm,20.0s,MS5.1
YAK Yakutsk 71.71 348 *e*P **P** **00 40 00.2 -1.6**
comp=Z,17nm,0.5s,mb5.2
YAK LR LR
comp=Z,2μm,21.0s,MS5.3
YAK Yakutsk 71.71 348 *e*P **P** **00 40 00.6 -1.2**
YAK *e* 00 50 05.5
YAK pmax pmax
comp=E,6.0nm,1.1s
YAK pmax pmax
comp=Z,27nm,1.1s,mb5.1
YAK pmax pmax
comp=N,13nm,1.2s
ZAK Zakamensk 72.72 328⇑*i*P **P** **00 40 08.0 -0.1**
ZAK pmax pmax
comp=Z,9.0nm,1.1s,mb4.6
BOD Bodaibo 72.81 338 *e*P **P** **00 40 07.0 -1.4**
BOD pmax pmax
comp=Z,6.0nm,1.2s,mb4.4
TLY Talaya 73.29 329 *e*P **P** **00 40 11.5 +0.1**
comp=Z,5.5nm,0.9s,mb4.5
TLY LR LR
comp=Z,973nm,20.0s,MS5.1
TLY Talaya 73.29 329 *e*P **P** **00 40 11.8 +0.4**
TLY pmax pmax
comp=Z,21nm,1.4s,mb4.9
CHGN Chignik 73.73 25 *e*P **P** **00 40 15.0 +1.1**
BOK Bokaro 74.29 297⇑*i*P **P** **00 40 17.5 -0.4**
BOK AMb AMB 00 40 26.3
comp=Z,41nm,1.6s,mb5.1
MOY Mondy 74.64 328 *e*P **P** **00 40 19.7 +0.4**
GAMB Gambell 74.95 15 *e*P **P** **00 40 21.3 +0.5**
comp=Z,16nm,1.2s,mb4.8
JIRN Jiri 75.07 301 *e*P **P** **00 40 22.6 +0.2**
comp=Z,106nm,1.3s,mb5.6
VIS Vishakhapatnam 75.17 290 *e*P **P** **00 40 22.4 -0.7**
VIS AMb AMB 00 40 31.8
comp=Z,27nm,1.2s,mb5.0
BILL Bilibino 75.36 4 *e*P **P** **00 40 23.6 +0.5**
comp=Z,44nm,1.0s,mb5.3
BILL LR LR
comp=Z,943nm,20.0s,MS5.1
BILL Bilibino 75.36 4⇓*e*P **P** **00 40 24.0 +0.9**
BILL *e* 00 43 13.7
BILL *e*S S 00 49 56.0 -6.0
BILL pmax pmax
comp=Z,52nm,1.3s,mb5.3
BILL MLR MLR
comp=Z,900nm,19.0s,MS5.1
PALK Pallekele 75.73 279 P **P** **00 40 27.0 +0.6**
PALK LR LR
comp=Z,738nm,20.0s,MS5.0
KKN Kakani 75.88 301 *e*P **P** **00 40 27.4 +0.4**
comp=Z,62nm,0.9s,mb5.5
KKN Kakani 75.88 301 *e*P **P** **00 40 27.4 +0.4**
GKN Gorkha 76.49 301 *e*P **P** **00 40 30.6 +0.1**
comp=Z,146nm,1.0s,mb5.9
KDAK Kodiak Island 77.14 26 PFAKE 00 40 40.0 +6.6
KDAK LR LR
comp=Z,463nm,20.0s,MS4.8
MDRS Chennai 77.16 285 *e*x x 00 40 48.4
MDRS AMb AMB 00 40 51.7
comp=Z,48nm,0.1s,mb6.2
BLSP Bilaspur 77.24 295⇑*i*P **P** **00 40 33.8 -1.0**
BLSP AMb AMB 00 40 41.3
comp=Z,32nm,1.6s,mb5.0
KOLN Koldanda 77.31 300 *e*P **P** **00 40 35.1 0.0**
comp=Z,80nm,1.0s,mb5.6
TNA Tin City 77.35 15 *e*P **P** **00 40 35.0 +0.5**
comp=Z,27nm,1.1s,mb5.1
TNA LR LR
comp=Z,2μm,21.0s,MS5.3
SVW2 Sparrevohn 77.99 22 *e*P **P** **00 40 38.9 +0.8**
TTA Tatalina 79.02 20 *e*P **P** **00 40 44.4 +0.6**
WMQ Urumqi 79.09 317 *e*P **P** **00 40 45.0 +0.4**
WMQ AMB AMB
comp=Z,32nm,1.6s,mb5.0
KOD Kodaikanal 79.36 282 *e*P **P** **00 40 46.9 +0.2**
KOD AMb AMB 00 40 54.2
comp=Z,23nm,0.7s,mb5.2
HYB Hyderabad 79.56 289 *e*P **P** **00 40 48.0 +0.3**
HYB Hyderabad 79.56 289 *i*P **P** **00 40 48.0 +0.3**
SLKM Skilak Lake 79.72 24 *e*P **P** **00 40 47.3 -0.3**
TIXI Tiksi 80.49 352 *e*P **P** **00 40 52.6 +0.9**
TIXI LR LR
comp=Z,879nm,19.0s,MS5.1
TIXI Tiksi 80.49 352 *e*P **P** **00 40 51.3 -0.3**
TIXI pmax pmax
comp=Z,15nm,1.5s,mb4.7
LGTI Lohaghat 80.58 301 *e*P **P** **00 40 53.0 0.0**
PMR Palmer 80.77 24 *e*P **P** **00 40 53.5 +0.2**
comp=Z,6.6nm,0.6s,mb4.7
PMR LR LR
comp=Z,1μm,20.0s,MS5.2
PMR Palmer 80.77 24 *e*P **P** **00 40 52.8 -0.5**
PMR 00 41 03.4
PMR pmax pmax
comp=Z,300nm,2.0s,mb5.9
SML Sawmill 81.21 24 *e*P **P** **00 40 55.8 +0.2**
AKL Akola 81.61 292 *e*P **P** **00 40 57.6 -1.0**
AKL AMb AMB 00 41 04.9
comp=Z,55nm,1.1s,mb5.4
BHPL Bhopal 81.72 295 *e*P **P** **00 40 58.9 -0.3**
BHPL AMb AMB 00 41 07.1
comp=Z,29nm,1.6s,mb5.0
IMA2 Indian Mountai 81.81 19 *e*P **P** **00 40 58.8 +0.1**
MCK McKinley 82.05 22 *e*P **P** **00 40 59.4 -0.6**
MCK LR LR
comp=Z,1μm,22.0s,MS5.2
DDI Dehra Dun 82.63 302 *e*P **P** **00 41 04.0 +0.1**
QSPA South Pole Qui 82.88 180 PFAKE 00 41 20.0 +16
QSPA LR LR
comp=Z,1.0nm,19.0s
NDI New Delhi 83.00 300 *e*P **P** **00 41 04.9 -0.9**
NDI AMb AMB 00 41 05.7
comp=Z,47nm,1.6s,mb5.3
COLA College 83.08 21 *e*P **P** **00 41 03.9 -1.4**
COLA LR LR
comp=Z,2μm,20.0s,MS5.4
COLA College 83.08 21 *i*P **P** **00 41 03.9 -1.4**
SMLA Simla 83.56 302 *e*P **P** **00 41 07.9 -0.7**
SMLA AMb AMB 00 41 14.8
comp=Z,70nm,1.4s,mb5.6
MENT Mentasta 83.63 24 *e*P **P** **00 41 09.1 +0.8**
KAD Karad 83.65 288 *e*P **P** **00 41 08.5 -0.9**
KAD AMb AMB 00 41 20.5
comp=Z,36nm,1.1s,mb5.4
MK31 Makanchi Array 83.66 319 *e*P **P** **00 41 08.4 -0.4**
MKAR Makanchi Array 83.66 319 P **P** **00 41 08.5 -0.3**
comp=Z,4.8nm,0.8s,mb4.7,baz=100,slow=5.2,SNR=13
MAW Mawson 84.41 203 *e*P **P** **00 41 11.7 -0.5**
comp=Z,17nm,1.1s,mb5.1
MAW Mawson 84.41 203 *e*P **P** **00 41 11.7 -0.5**
MAW pmax pmax
comp=Z,17nm,1.1s
MAW Mawson 84.41 203 P **P** **00 41 11.8 -0.4**
comp=Z,6.7nm,0.8s,mb4.8,baz=149,slow=7.2,SNR=4.4
ZAA0 Zalesovo Array 84.42 326 *e*P **P** **00 41 11.1 -1.4**
ZALV Zalesovo Beam 84.42 326 P **P** **00 41 11.3 -1.1**
comp=Z,2.2nm,0.6s,mb4.5,baz=116,slow=5.4,SNR=7.2
ZAL Zalesovo 84.43 326 P **P** **00 41 11.3 -1.2**
SIT Sitka 84.95 31 PFAKE 00 41 30.0 +15
SIT LR LR
comp=Z,3μm,19.0s,MS5.6
THN Thein Dam 85.03 303 *e*P **P** **00 41 15.1 -1.0**
EGAK Eagle 85.50 23 *e*P **P** **00 41 18.1 +0.4**
comp=Z,105nm,1.4s,mb5.9
EGAK LR LR
comp=Z,1μm,21.0s,MS5.3
NVS Novosibirsk 85.59 327 *e*P **P** **00 41 14.9 -3.4**
NVS pmax pmax
comp=N,35nm,1.8s
NVS pmax pmax
comp=E,46nm,1.8s
NVS pmax pmax
comp=Z,75nm,1.8s,mb5.6
DAWY Dawson 85.88 24 *e*P **P** **00 41 20.5 +0.9**
WRAK Wrangell Islan 86.28 32 PFAKE 00 41 30.0 +8.3
WRAK LR LR
comp=Z,2μm,21.0s,MS5.5
KSH Kashi 86.29 310 P **P** **00 41 23.7 +1.5**
KSH AP pP 00 41 28.3 +0.9
KSH *e*XP sP 00 41 30.5 +1.3
KSH PP PP 00 44 48.5 +5.2
KSH SKS 00 51 47.0
KSH S S 00 52 00.6 +3.4
KSH XS sS 00 52 06.3 +0.5
KSH SS SS 00 57 42.5 +5.7
KSH AMB AMB
comp=Z,1μm,4.0s
KSH LR LR
comp=Z,1μm,13.3s,MS5.6
KURK Kurchatov 87.08 322 PFAKE 00 41 40.0 +14
KURK LR LR
comp=Z,789nm,21.0s,MS5.1
KURK Kurchatov 87.08 322⇑*e*P **P** **00 41 23.9 -1.9**
TKM2 Tokmak 2 87.29 314 PFAKE 00 41 40.0 +13
TKM2 LR LR
comp=Z,981nm,19.0s,MS5.2
UCH Uchtor 87.93 313 *e*P **P** **00 41 30.2 +0.1**
comp=Z,28nm,1.8s,mb5.2
UCH LR LR
comp=Z,960nm,20.0s,MS5.2
MCCM Marconi Confer 87.97 51 PFAKE 00 41 40.0 +10
MCCM LR LR
comp=Z,2μm,20.0s,MS5.4
HOPS Hopland 87.97 50 PFAKE 00 41 40.0 +10
HOPS LR LR
comp=Z,2μm,19.0s,MS5.5
DLBC Dease Lake 88.09 31 P **P** **00 41 30.9 +0.5**
baz=241,slow=7.7
AML Almayashu 88.51 313 PFAKE 00 41 40.0 +7.2
AML LR LR
comp=Z,812nm,19.0s,MS5.2
EKS2 Erkin-Say 88.55 313 *e*P **P** **00 41 32.8 -0.2**
comp=Z,53nm,1.6s,mb5.6
EKS2 LR LR
comp=Z,835nm,19.0s,MS5.2
WDC Whiskeytown Da 88.67 49 PFAKE 00 41 40.0 +6.4
WDC LR LR
comp=Z,2μm,22.0s,MS5.4
YBH Yreka Blue Hor 88.75 48 PFAKE 00 41 50.0 +16
YBH LR LR
comp=Z,2μm,19.0s,MS5.6
BHJ Bhuj 88.77 293 *e*P **P** **00 41 34.0 -0.5**
BHJ AMb AMB 00 41 39.3
comp=Z,53nm,1.3s,mb5.7
SAO San Andreas Ge 88.85 53 PFAKE 00 41 50.0 +15
SAO LR LR
comp=Z,2μm,20.0s,MS5.5
COR Corvallis 88.86 45 PFAKE 00 41 50.0 +16
COR LR LR
comp=Z,2μm,20.0s,MS5.6
NLWA Neilton Lookou 89.02 42 PFAKE 00 41 50.0 +15
NLWA LR LR
comp=Z,3μm,22.0s,MS5.7
INK Inuvik 89.72 21 *e*P **P** **00 41 37.6 -0.3**
comp=Z,672nm,0.9s
INK Inuvik 89.72 21 P **P** **00 41 37.6 -0.3**
comp=Z,20nm,1.0s,mb5.4,baz=238,slow=5.8,SNR=31
SNCC San Nicolas Is 89.85 57 PFAKE 00 41 50.0 +11
SNCC LR LR
comp=Z,3μm,19.0s,MS5.8
CMB Columbia Colle 89.89 52 PFAKE 00 41 50.0 +11
CMB LR LR
comp=Z,1μm,19.0s,MS5.4
MOD Modoc 90.55 48 PFAKE 00 41 50.0 +7.6
MOD LR LR
comp=Z,3μm,19.0s,MS5.7
ISA Isabella 91.06 54 PFAKE 00 42 00.0 +15
ISA LR LR
comp=Z,1μm,19.0s,MS5.4
NVAR Mina Array Bea 91.57 52 P **P** **00 41 48.0 +0.8**
comp=Z,1.7nm,0.8s,mb4.4,baz=244,slow=3.8,SNR=8.2
HAWA Hanford 91.78 44 PFAKE 00 42 00.0 +12
HAWA LR LR
comp=Z,2μm,19.0s,MS5.6
WVOR Wild Horse Val 91.86 48 PFAKE 00 42 00.0 +12
WVOR LR LR
comp=Z,2μm,19.0s,MS5.6
SYO Syowa Base 92.32 199⇑*e*P **P** **00 41 53.0 +2.9**
GSC Goldstone 92.36 55 PFAKE 00 42 00.0 +9.1
GSC LR LR
comp=Z,2μm,20.0s,MS5.5
PFO Pinyon Flat Ob 92.44 57 P **P** **00 41 52.0 +0.7**
comp=Z,3.8nm,1.0s,mb4.7,baz=276,slow=7.6,SNR=3.8
BRVK Borovoye 92.61 323 *e*P **P** **00 41 50.1 -1.5**
comp=Z,5.3nm,1.1s,mb4.9
BRVK LR LR
comp=Z,991nm,19.0s,MS5.3
BRVK Borovoye 92.61 323 *e*P **P** **00 41 50.1 -1.6**
BRVK pmax pmax
comp=Z,5.0nm,1.1s,mb4.9
BRVK MLR MLR
comp=Z,991nm,19.0s,MS5.3
TPNV Topopah Spring 93.00 53 PFAKE 00 42 10.0 +16
TPNV LR LR
comp=Z,2μm,20.0s,MS5.6
BMO Blue Mountains 93.12 45 PFAKE 00 42 10.0 +16
BMO LR LR
comp=Z,2μm,20.0s,MS5.6
NEW Newport 93.65 42 PFAKE 00 42 10.0 +13
NEW LR LR
comp=Z,3μm,19.0s,MS5.7
ELK Elko 94.19 50 PFAKE 00 42 10.0 +11
ELK LR LR
comp=Z,51nm,21.0s
ELK Elko 94.19 50 P **P** **00 41 59.5 +0.3**
HLID Hailey 95.06 47 PFAKE 00 42 10.0 +6.8
HLID LR LR
comp=Z,2μm,20.0s,MS5.6
MSO Missoula 95.66 44 PFAKE 00 42 20.0 +14
MSO LR LR
comp=Z,2μm,21.0s,MS5.5
DUG Dugway 95.99 50 PFAKE 00 42 20.0 +13
DUG LR LR
comp=Z,1μm,20.0s,MS5.5
YKA Yellowknife Ar 96.30 28 P **P** **00 42 08.0 -0.3**
comp=Z,5.5nm,0.9s,mb5.0,baz=265,slow=4.6,SNR=33
EDM Edmonton 96.45 37 *e*P **P** **00 42 08.6 -0.7**
WUAZ Wupatki 96.80 55 PFAKE 00 42 20.0 +8.7
WUAZ LR LR
comp=Z,2μm,19.0s,MS5.7
MPU Maple Canyon 96.88 51 PFAKE 00 42 20.0 +8.5
MPU LR LR
comp=Z,3μm,19.0s,MS5.8

HWUT Hardware Ranch 97.02 49 PFAKE 00 42 20.0 +7.9
HWUT LR LR
comp=Z,2μm,19.0s,MS5.7
TUC Tucson 97.07 58 PFAKE 00 42 20.0 +7.4
TUC LR LR
comp=Z,2μm,21.0s,MS5.6
BOZ Bozeman (W) 97.19 45 PFAKE 00 42 20.0 +7.2
BOZ LR LR
comp=Z,2μm,19.0s,MS5.6
AHID Auburn Hatcher 97.43 48 PFAKE 00 42 30.0 +16
AHID LR LR
comp=Z,2μm,19.0s,MS5.6
YMR Madison River 97.61 46 PFAKE 00 42 30.0 +15
YMR LR LR
comp=Z,3μm,19.0s,MS5.8
EGMT Eagleton 98.55 43 PFAKE 00 42 30.0 +11
EGMT LR LR
comp=Z,2μm,20.0s,MS5.5
BW06 Boulder Array 98.56 48 PFAKE 00 42 30.0 +11
BW06 LR LR
comp=Z,2μm,20.0s,MS5.6
PDAR Pinedale Array 98.56 48 P **P** **00 42 18.4 -0.6**
comp=Z,1.4nm,0.9s,mb4.5,baz=268,slow=3.3,SNR=8.0
RLMT Red Lodge 98.83 45 PFAKE 00 42 30.0 +10
RLMT LR LR
comp=Z,3μm,19.0s,MS5.8
MVCO Mesa Verde 99.20 54 PFAKE 00 42 30.0 +8.0
MVCO LR LR
comp=Z,2μm,19.0s,MS5.6
ARU Arti 99.58 326 PFAKE 00 42 30.0 +6.7
ARU LR LR
comp=Z,1μm,21.0s,MS5.4
ANMO Albuquerque 100.79 56 PFAKE 00 42 40.0 +11
ANMO LR LR
comp=Z,2μm,21.0s,MS5.6
LAO LASA Array 100.95 44 PFAKE 00 42 40.0 +11
LAO LR LR
comp=Z,3μm,19.0s,MS5.8
ISCO Idaho Springs 101.50 51 PFAKE 00 42 40.0 +8.1
ISCO LR LR
comp=Z,3μm,20.0s,MS5.8
ISCO Idaho Springs 101.50 51 P Pdif 00 42 32.5 +0.6
SDCO Great Sand Dun 101.59 53 PFAKE 00 42 40.0 +7.7
SDCO LR LR
comp=Z,2μm,19.0s,MS5.7
MNTX Cornudas Mount 101.63 59 PFAKE 00 42 40.0 +7.6
MNTX LR LR
comp=Z,3μm,20.0s,MS5.8
DGMT Dagmar 102.26 42 PFAKE 00 42 50.0 +15
DGMT LR LR
comp=Z,2μm,19.0s,MS5.7
RSSD Black Hills 102.58 46 PFAKE 00 42 50.0 +13
RSSD LR LR
comp=Z,2μm,20.0s,MS5.7
LTX Lajitas 103.06 62 P Pdif 00 42 39.3 +0.5
FFC Flin Flon 103.12 36 PFAKE 00 42 50.0 +11
FFC LR LR
comp=Z,3μm,20.0s,MS5.8
AMTX Amarillo 104.72 56 PFAKE 00 43 00.0 +14
AMTX LR LR
comp=Z,687nm,19.0s,MS5.2
KBS Kingsbay 105.92 353 PFAKE 00 47 10.0 +6.7
KBS LR LR
comp=Z,1μm,20.0s,MS5.4
CBKS Cedar Bluff 106.09 52 PFAKE 00 47 20.0 +15
CBKS LR LR
comp=Z,2μm,20.0s,MS5.7
JCT Junction City 106.42 60 PFAKE 00 47 20.0 +14
JCT LR LR
comp=Z,2μm,20.0s,MS5.7
WMOK Wichita Mounta 107.11 56 PFAKE 00 47 20.0 +13
WMOK LR LR
comp=Z,2μm,20.0s,MS5.8
LVZ Lovozero 107.75 340 PFAKE 00 47 20.0 +13
LVZ LR LR
comp=Z,901nm,20.0s,MS5.3
AGMN Agassiz Refuge 107.80 42 PFAKE 00 47 20.0 +12
AGMN LR LR
comp=Z,4μm,19.0s,MS6.0
ECSD EROS,Sioux Fal 107.95 46 PFAKE 00 47 20.0 +12
ECSD LR LR
comp=Z,2μm,21.0s,MS5.7
KVTX Kingsville 108.16 63 PFAKE 00 47 20.0 +11
KVTX LR LR
comp=Z,3μm,19.0s,MS5.8
KSU1 Kansas State U 108.50 51 PFAKE 00 47 20.0 +11
KSU1 LR LR
comp=Z,3μm,20.0s,MS5.8
KEV Kevo 109.21 343 PFAKE 00 47 20.0 +10
KEV LR LR
comp=Z,1μm,19.0s,MS5.5
HKT Hockley 109.87 61 PFAKE 00 47 20.0 +8.0
HKT LR LR
comp=Z,2μm,19.0s,MS5.8
EYMN Ely 110.73 41 PFAKE 00 47 20.0 +6.9
EYMN LR LR
comp=Z,3μm,19.0s,MS5.9
NATX Nacogdoches 110.75 59 PFAKE 00 47 30.0 +16
NATX LR LR
comp=Z,3μm,20.0s,MS5.9
KIV Kislovodsk 111.11 314 PFAKE 00 47 30.0 +16
KIV LR LR
comp=Z,829nm,21.0s,MS5.3
KIV Kislovodsk 111.11 314 *e*PKIKP PKiKP 00 47 06.1 -7.8
KIV pmax pmax
comp=Z,3.0nm,1.2s
MIAR Mount Ida 111.40 56 PFAKE 00 47 30.0 +15
MIAR LR LR
comp=Z,2μm,20.0s,MS5.8
OBN Obninsk 111.98 327 PFAKE 00 47 30.0 +15
OBN LR LR
comp=Z,1μm,20.0s,MS5.5
JFWS Jewell Farm 112.67 46 PFAKE 00 47 30.0 +13
JFWS LR LR
comp=Z,2μm,20.0s,MS5.8
COWI Conover 112.73 43 PFAKE 00 47 30.0 +13
COWI LR LR
comp=Z,3μm,22.0s,MS5.8
HDIL Hopedale 113.84 49 PFAKE 00 47 30.0 +11
HDIL LR LR
comp=Z,2μm,19.0s,MS5.8
EFI East Falkland 114.85 158 PFAKE 00 47 30.0 +9.1
EFI LR LR
comp=Z,2μm,20.0s,MS5.8
MALT Malatya 115.36 309 PKIKP PKPdf 00 47 23.5 +1.3
WVT Waverly 115.82 53 PFAKE 00 47 30.0 +6.8
WVT LR LR
comp=Z,2μm,20.0s,MS5.8
PLAL Pickwick Lake 115.82 55 PFAKE 00 47 30.0 +6.8
PLAL LR LR
comp=Z,2μm,19.0s,MS5.8
GLMI Grayling 116.14 43 PFAKE 00 47 40.0 +16
GLMI LR LR
comp=Z,2μm,19.0s,MS5.8
WCI Wyandotte Cave 116.60 51 PFAKE 00 47 40.0 +15
WCI LR LR
comp=Z,2μm,19.0s,MS5.8
LRAL Lakeview Retre 117.03 57 PFAKE 00 47 40.0 +14
LRAL LR LR
comp=Z,2μm,19.0s,MS5.8
TEIG Tepich 117.21 71 PFAKE 00 47 40.0 +14
TEIG LR LR
comp=Z,1μm,20.0s,MS5.5
BRAL Brewton 117.30 59 PFAKE 00 47 40.0 +14
BRAL LR LR
comp=Z,2μm,19.0s,MS5.8
AAM Ann Arbor 117.53 46 PFAKE 00 47 40.0 +14
AAM LR LR
comp=Z,2μm,19.0s,MS5.8
KMBO Kilima Mbogo 117.63 265 PFAKE 00 47 40.0 +13
KMBO LR LR
comp=Z,859nm,19.0s,MS5.4
KMBO Kilima Mbogo 117.63 265 PKIKP PKPdf 00 47 28.8 +1.5
SFJD Kangerlussuaq 117.63 11 PFAKE 00 47 40.0 +14
SFJD LR LR
comp=Z,2μm,19.0s,MS5.7
AKASG Malin Array Be 117.78 324 PKP PKPdf 00 47 25.1 -1.4
comp=Z,0.1nm,0.2s,baz=62,slow=2.5,SNR=4.4
KIEV Kiev 117.80 324 PFAKE 00 47 40.0 +13
KIEV LR LR
comp=Z,972nm,21.0s,MS5.4
HOPE Hope Point 118.05 172 PFAKE 00 47 40.0 +13
HOPE LR LR
comp=Z,3.0nm,19.0s
TGUH Tegucigalpa,Un 118.27 78 PFAKE 00 47 40.0 +12
TGUH LR LR
comp=Z,1μm,20.0s,MS5.5
ACSO Alum Creek Sta 118.60 48 PFAKE 00 47 40.0 +12
ACSO LR LR
comp=Z,2μm,19.0s,MS5.8
TZTN Tazewell 119.11 52 PFAKE 00 47 40.0 +11
TZTN LR LR
comp=Z,3μm,21.0s,MS6.0
ANTO Ankara 119.25 312 PFAKE 00 47 40.0 +10
ANTO LR LR
comp=Z,753nm,20.0s,MS5.3
GOGA Godfrey 119.87 56 PFAKE 00 47 40.0 +9.0
GOGA LR LR
comp=Z,3μm,19.0s,MS5.9
ERPA Erie 120.18 45 PFAKE 00 47 40.0 +8.6
ERPA LR LR
comp=Z,3μm,19.0s,MS5.9
MCWV Mont Chateau 121.07 48 PFAKE 00 47 40.0 +6.8
MCWV LR LR
comp=Z,3μm,19.0s,MS5.9
BLA Blacksburg 121.36 51 PFAKE 00 47 50.0 +16
BLA LR LR
comp=Z,2μm,19.0s,MS5.8
KONO Kongsberg 121.46 340 PFAKE 00 47 40.0 +6.7
KONO LR LR
comp=Z,1μm,20.0s,MS5.5
SUR Sutherland 121.52 225 PFAKE 00 47 50.0 +16
SUR LR LR
comp=Z,2μm,19.0s,MS5.8
LBTB Lobatse 121.55 235 PFAKE 00 47 50.0 +15
LBTB LR LR
comp=Z,1μm,19.0s,MS5.5
SSPA Standing Stone 122.17 46 PFAKE 00 47 50.0 +15
SSPA LR LR
comp=Z,2μm,19.0s,MS5.7
BORG Borgarnes 122.40 358 PFAKE 00 47 50.0 +15
BORG LR LR
comp=Z,1μm,20.0s,MS5.6
DWPF Disney 122.60 61 PFAKE 00 47 50.0 +14
DWPF LR LR
comp=Z,1μm,20.0s,MS5.6
NHSC New Hope 122.62 55 PFAKE 00 47 50.0 +14
NHSC LR LR
comp=Z,2μm,21.0s,MS5.8
LONY Lake Ozonia 122.88 41 PFAKE 00 47 50.0 +14
LONY LR LR
comp=Z,3μm,21.0s,MS6.0
BINY Binghamton 122.93 44 PFAKE 00 47 50.0 +13
BINY LR LR
comp=Z,2μm,19.0s,MS5.7
LCO Las Campanas 123.02 131 *e*PKPdf PKPdf 00 47 37.5 +0.3
LCO LR LR
comp=Z,1μm,19.0s,MS5.6
LSZ Lusaka 123.05 247 PFAKE 00 47 50.0 +12
LSZ LR LR
comp=Z,2μm,22.0s,MS5.6
TRQA Tornquist 123.25 145 PFAKE 00 47 50.0 +13
TRQA LR LR
comp=Z,9μm,19.0s,MS6.4
CBN Corbin 123.36 49 PFAKE 00 47 50.0 +12
CBN LR LR
comp=Z,2μm,19.0s,MS5.8
CFAA Coronel Fontan 123.38 135 PKP PKPdf 00 47 36.9 -1.0
CFAA Coronel Fontan 123.38 135 PKP PKPdf 00 47 36.9 -1.0
comp=Z,0.8nm,0.8s,baz=262,slow=2.6,SNR=17
NCB Newcomb 123.39 41 PFAKE 00 47 50.0 +13
NCB LR LR
comp=Z,3μm,22.0s,MS5.9
CNNC Cliffs of the 123.89 52 PFAKE 00 47 50.0 +11
CNNC LR LR
comp=Z,2μm,20.0s,MS5.8
LBNH Lisbon 124.75 40 PFAKE 00 47 50.0 +10
LBNH LR LR
comp=Z,4μm,19.0s,MS6.1
NNA Nana 124.82 110 PFAKE 00 47 50.0 +8.9
NNA LR LR
comp=Z,1μm,20.0s,MS5.5
HRV Adam Dziewonsk 125.78 42 PFAKE 00 47 50.0 +7.9
HRV LR LR
comp=Z,3μm,19.0s,MS6.0
BRG Berggiesshubel 125.87 331 *e*PKP PKPdf 00 47 51.3 +9.3
BRG *i* 00 48 20.2
comp=Z,20nm,1.8s
comp=Z,57nm,1.9s
WES Weston 125.99 42 PFAKE 00 47 50.0 +7.5
WES LR LR
comp=Z,3μm,19.0s,MS5.9
OTAV Otavalo 125.99 95 PFAKE 00 48 00.0 +17
OTAV LR LR
comp=Z,1μm,19.0s,MS5.6
CLL Collm 126.03 332 PKP pPKPdf 00 47 51.1 +3.4
CLL Collm 126.03 332 *e*PKPdf PKPdf 00 47 42.0 -0.3
CLL *i* (pPKPdf) 00 47 51.1
comp=Z,5.0nm,0.9s
CLL *e*(sPKPdf) 00 47 59.0
CONA Conrad Observa 126.71 327 ⇑*i*PKPdf PKPdf 00 47 42.8 -0.9
comp=Z,14nm,1.8s
GERES GERESS Array B 127.28 329 PKP PKPdf 00 47 45.1 +0.3
comp=Z,0.8nm,0.8s,baz=52,slow=2.2,SNR=7.2
ARSA Arzberg 127.29 326 ⇑*i*P PKPdf 00 47 42.9 -1.9
comp=Z,6.1nm,1.6s
GRA1 Grafenberg Arr 127.96 331 *e*PKPdf PKPdf 00 47 54.7 +8.7
GRA1 *e* 00 48 17.7
GRF Grafenberg Arr 127.96 331 *e*PKP PKPdf 00 47 54.7 +8.7
GRF *e* 00 48 17.7
GRF Grafenberg Arr 127.96 331 *e*PKPdf PKPdf 00 47 54.7 +8.7
GRF *e* 00 48 17.7
GRFO Grafenberg 127.96 331 PFAKE 00 48 00.0 +14
GRFO LR LR
comp=Z,928nm,19.0s,MS5.5
ESK Eskdalemuir 128.94 344 PFAKE 00 48 00.0 +12
ESK LR LR
comp=Z,838nm,19.0s,MS5.5
BFO Black Forest 130.28 332 PFAKE 00 48 00.0 +9.5
BFO LR LR
comp=Z,618nm,19.0s,MS5.3
CDF Champ du Feu 130.71 332 *e*PKIKP PKPdf 00 47 50.9 -0.4
comp=Z,13nm,1.1s
TSUM Tsumeb 130.80 237 PFAKE 00 48 00.0 +7.6
TSUM LR LR
comp=Z,1μm,20.0s,MS5.6
BAIF Baives 130.82 336 *e*PKIKP PKPdf 00 47 50.8 -0.7
LPAZ La Paz 131.17 119 PKP PKPdf 00 47 54.1 +1.0
LPAZ SKPbc SKPbc 00 51 18.1 +0.7
LPAZ La Paz 131.17 119 PKP PKPdf 00 47 54.1 +1.0
comp=Z,7.3nm,1.0s,baz=6.2,slow=2.3,SNR=16
LPAZ SKPbc SKPbc 00 51 18.1 +0.7
comp=Z,3.7nm,0.9s,baz=92,slow=1.0,SNR=6.1
CABF La Chapelle 132.57 331 *e*PKIKP PKPdf 00 47 54.3 -0.6
LPL La Plagne 133.04 330 *e*PKIKP PKPdf 00 47 55.6 -0.2
comp=Z,8.8nm,0.9s
LPG La Plagne 133.04 330 *e*PKIKP PKPdf 00 47 55.6 -0.2
comp=Z,3.9nm,0.6s
LOR Lormes 133.11 333 *e*PKIKP PKPdf 00 47 55.4 -0.5
SDDR Presa de Saban 133.27 71 PFAKE 00 48 10.0 +13
SDDR LR LR
comp=Z,1μm,20.0s,MS5.5
SSF Saint Saulge 133.42 334 *e*PKIKP PKPdf 00 47 56.1 -0.4
comp=Z,21nm,1.2s
MBDF Montbardon 133.57 329 *e*PKIKP PKPdf 00 47 56.0 -0.9
SMF Signal de Mont 133.59 333 *e*PKIKP PKPdf 00 47 56.5 -0.3
FLN La Foliniere 133.69 338 *e*PKIKP PKPdf 00 47 56.6 -0.3
comp=Z,79nm,1.4s
AVF Avril sur Loir 133.70 333 *e*PKIKP PKPdf 00 47 56.1 -0.9
ORIF Oris-en-Rattie 133.89 330 *e*PKIKP PKPdf 00 47 57.2 -0.2
comp=Z,24nm,1.2s
SDV Santo Domingo 134.53 85 PFAKE 00 48 10.0 +10
SDV LR LR
comp=Z,527nm,19.0s,MS5.3
VIVF Saint-Julien-l 134.53 331 *e*PKIKP PKPdf 00 47 58.0 -0.6
comp=Z,6.9nm,0.8s
TCF Toulx Ste Croi 134.59 334 *e*PKIKP PKPdf 00 47 58.0 -0.7
comp=Z,12nm,0.9s
LMR La Mourre 134.68 328 *e*PKIKP PKPdf 00 47 58.4 -0.6
comp=Z,114nm,1.6s
SMRF Simiane la Rot 134.71 329 *e*PKIKP PKPdf 00 47 58.5 -0.5
comp=Z,76nm,1.4s
BBSR BB Station 135.16 50 PFAKE 00 48 10.0 +10
BBSR LR LR
comp=Z,1μm,19.0s,MS5.6
LASF Ste Croix 135.50 331 *e*PKIKP PKPdf 00 47 59.8 -0.7
CAF Calviac 135.70 333 *e*PKIKP PKPdf 00 48 00.4 -0.4
MTLF Montolieu 136.84 331 *e*PKIKP PKPdf 00 48 01.9 -1.1
SIV San Ignacio 137.33 123 PKP PKPdf 00 48 04.5 -0.2
comp=Z,5.9nm,0.9s,baz=211,slow=1.6,SNR=15
EPF Esparros 137.96 332 *e*PKIKP PKPdf 00 48 04.3 -0.8
SJG San Juan 138.22 71 PFAKE 00 48 20.0 +14
SJG LR LR
comp=Z,865nm,20.0s,MS5.5
MSKU Masuku 140.77 259 PFAKE 00 48 20.0 +8.9
MSKU LR LR
comp=Z,3.0nm,22.0s
MVO Moncorvo 142.59 338 *e*PKP PKPdf 00 48 13.4 -0.1
PAB San Pablo 142.86 334 PFAKE 00 48 30.0 +16
PAB LR LR
comp=Z,700nm,19.0s,MS5.4
PVIS Viseu 143.30 338 *e*PKP PKPdf 00 48 12.9 -1.9
MTE Manteigas 143.45 338 *e*PKP PKPdf 00 48 13.6 -1.5
PCBR Castelo Branco 143.91 337 *e*PKP PKPdf 00 48 13.9 -2.0
PESTR Estremoz 144.79 336 *e*PKP PKPdf 00 48 16.4 -1.1
PBAR Barrancos 145.16 335 *e*PKP PKPdf 00 48 17.9 -0.2
EVO Evora 145.25 337 ⇑*i*PKIKP PKPdf 00 48 17.6 -0.7
comp=Z,108nm,1.4s
EVO Evora 145.25 337 *e*PKP PKPdf 00 48 17.9 -0.4
PBEJ Beja 145.63 336 *e*PKP PKPdf 00 48 19.8 +0.9
CAM4 Nova Friburgo 145.91 150 ⇓*i*P PKPdf 00 48 18.7 -1.1
CAM4 *i* 00 48 27.0
CAM4 *i* 00 48 30.0
CAM4 *i* 00 48 36.6
CAM4 *i* 00 48 52.4
CAM4 *i* 00 49 04.2
CAM4 *i* 00 49 19.3
PVAQ Vaqueiros 146.10 335 *e*PKP PKPdf 00 48 20.1 +0.4
PBDV Barranco-do-Ve 146.32 335 *e*PKP PKPbc 00 48 22.1 +0.8
PTEO Sao Teotonio 146.38 337 *e*PKP PKPdf 00 48 21.8 +1.6
BDFB Brasilia 147.71 135 PKPbc PKPdf 00 48 23.2 +0.2
comp=Z,24nm,0.9s,baz=263,slow=1.2,SNR=21
CAM3 Guarapari 148.29 151 ⇓*i*P PKPbc 00 48 27.3 0.0
CAM3 *i* 00 48 36.0
CAM3 *i* 00 48 39.3
CAM3 *i* 00 48 47.1
CAM3 *i* 00 48 56.4
CAM3 *i* 00 49 00.5
CAM3 *i* 00 49 04.0
CAM3 *i* 00 49 09.1
MDT Midelt 148.31 327 PKPbc PKPbc 00 48 27.3 +0.4
TORD Torodi Ar. Bea 153.32 285 PKPbc PKPbc 00 48 38.4 -0.9
comp=Z,3.4nm,0.9s,baz=61,slow=1.6,SNR=13
DBIC Dimbokro 160.27 270 PKPab PKPab 00 49 21.1 -0.1
comp=Z,11nm,1.2s,baz=293,slow=8.0,SNR=3.4
LIC Lamto 160.41 269 *e*PKIKP PKPdf 00 48 42.5 +1.6
comp=Z,48nm,1.4s
RCBR Riachuelo 163.00 139 PFAKE 00 48 50.0 +6.4
RCBR LR LR
comp=Z,1μm,20.0s

ISCJB ***03*** *00:29:11.0±0.5, 7.1S±0.1×15522E±007, h10km, mb5.2/41, Error ellipse: s-maj=15.1km s-min=9.7km az=20.3*
IDC ***03*** *00:29:10.3±0.6, 727S×15523E, h0km, mb4.9/15, mb1 5.0/15, mb1mx5.0/17, mbtmp4.9/15, Error ellipse: s-maj=28.3km s-min=21.0km az=63.0*
NEIC ***03*** *00:29:12.7±0.3, 708S×15525E, h10km, mb5.4/25, Error ellipse: s-maj=11.5km s-min=8.0km az=202.0*
MOS ***03*** *00:29:14.7±1.0, 705S×15523E, h33km, mb5.6/18, Error ellipse: s-maj=16.5km s-min=10.7km az=116.8*
ISC 03 00:29:12.6±0.5, 71S±01×15524E±007, h10km, n126, σ0s89/79, mb5.2/41, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.95**	**236**	ScP	ScP	00 41 49.3	+0.8
	3.4nm,1.0s,baz=58,slow=2.4,SNR=4.4						
ASAR	**Alice Springs**	**26.28**	**229**	ScP	ScP	00 41 55.9	+0.9
	8.8nm,1.2s,baz=68,slow=3.2,SNR=6.5						
STKA	**Stephens Creek**	**27.74**	**206**	ScP	ScP	00 41 59.3	+0.1
	9.5nm,1.0s,baz=20,slow=5.7,SNR=5.4						
AFI	**Afiamalu**	**33.10**	**105**	*e*P	**P**	**00 35 49.1**	**0.0**
	81nm,0.7s,mb5.8						
AFI	**Afiamalu**	**33.10**	**105**	*e*P	**P**	**00 35 49.1**	**0.0**
AFI				pmax	pmax		
	comp=Z,81nm,0.7s,mb5.8						
MBWA	**Marble Bar**	**37.04**	**244**	*e*P	**P**	**00 36 24.1**	**+1.1**
	comp=Z,27nm,0.7s,mb5.2						
JNU	**Nakatsue**	**46.22**	**331**	P	**P**	**00 37 38.2**	**+0.3**
	comp=Z,16nm,0.9s,mb4.9,baz=48,slow=2.7,SNR=3.0						
MJAR	**Matsushiro Arr**	**46.26**	**341**	P	**P**	**00 37 38.8**	**+0.6**
	comp=Z,1.8nm,0.5s,mb4.2,baz=165,slow=10,SNR=3.1						
MJAR				PcP	PcP	00 39 14.2	+0.5
	comp=Z,3.5nm,0.6s,baz=158,slow=5.3,SNR=2.8						
MAJO	**Matsushiro**	**46.26**	**341**	P	**P**	**00 37 39.4**	**+1.2**
	comp=Z,9.4nm,0.7s,mb4.8						
MAJO	**Matsushiro**	**46.26**	**341**	P	**P**	**00 37 39.4**	**+1.1**
MAJO				pmax	pmax		
	comp=Z,9.0nm,0.7s,mb4.8						
KSRS	**Korea Array**	**51.14**	**332**	P	**P**	**00 38 16.2**	**+0.4**
	comp=Z,2.8nm,0.7s,mb4.3,baz=158,slow=9.0,SNR=3.2						
ASAJ	**Asahikawa**	**52.24**	**349**	P	**P**	**00 38 24.2**	**+0.3**
	comp=Z,18nm,0.7s,mb5.1,baz=225,slow=13,SNR=4.3						
PAE	**Paea**	**54.74**	**107**	*e*P	**P**	**00 38 43.6**	**+0.8**
	comp=Z,80nm,1.2s,mb5.6						
PAE	**Paea**	**54.74**	**107**	*e*P	**P**	**00 38 43.6**	**+0.8**
PAE				pmax	pmax		
	comp=Z,80nm,1.2s,mb5.6						
TVO	**Taravao**	**55.06**	**107**	*e*P	**P**	**00 38 46.4**	**+1.3**
	comp=Z,84nm,0.9s,mb5.8						
TVO	**Taravao**	**55.06**	**107**	*e*P	**P**	**00 38 46.4**	**+1.3**
TVO				pmax	pmax		
	comp=Z,84nm,0.9s,mb5.8						
PMOR	**Pomariorio Ree**	**56.24**	**103**	*e*P	**P**	**00 38 54.7**	**+1.1**
	comp=Z,127nm,1.0s,mb5.9						
PMOR	**Pomariorio Ree**	**56.24**	**103**	*e*P	**P**	**00 39 02.6**	**+9.0**
	comp=Z,125nm,1.1s,mb5.9						
VAH	**Vaihoa**	**56.50**	**104**	*e*P	**P**	**00 38 56.3**	**+0.8**
	comp=Z,90nm,1.0s,mb5.7						
VAH	**Vaihoa**	**56.50**	**104**	*e*P	**P**	**00 39 04.3**	**+8.8**
	comp=Z,110nm,0.9s,mb5.9						
BJT	**Baijiatuau**	**59.13**	**326**	*e*P	**P**	**00 39 13.5**	**0.0**
	comp=Z,28nm,1.4s,mb5.1						
BJT				PcP	PcP	00 40 02.6	+0.5
BJT	**Baijiatuau**	**59.13**	**326**	*e*P	**P**	**00 39 13.5**	**0.0**
BJT						00 40 02.6	
BJT				pmax	pmax		
	comp=Z,28nm,1.4s						
KMI	**Kunming**	**60.27**	**304**	P	**P**	**00 39 23.4**	**+1.7**
	comp=Z,54nm,1.4s,mb5.4						
KMI				pP	pP	00 39 32.1	+7.2
KMI	**Kunming**	**60.27**	**304**	P	**P**	**00 39 23.4**	**+1.7**
KMI				*PP	pP	00 39 32.1	+7.2
KMI				pmax	pmax		
	comp=Z,54nm,1.4s,mb5.4						
DRV	**Dumont d'Urvil**	**60.39**	**187**	P	**P**	**00 39 18.0**	**-3.7**
DRV				S	**S**	**00 47 56.0**	**+20**
DRV				SS	SS	00 51 32.0	-2.1
DRV				R		00 58 00.0	
DRV	**Dumont d'Urvil**	**60.39**	**187**	R		00 58 00.0	
CHTO	**Chiang Mai**	**61.16**	**296**	*e*P	**P**	**00 39 28.4**	**+0.5**
	comp=Z,83nm,1.7s,mb5.6						
MA2	**Magadan**	**66.56**	**358**	*e*P	**P**	**00 40 02.4**	**-0.2**
	comp=Z,37nm,0.8s,mb5.5						
MA2	**Magadan**	**66.56**	**358**	*e*P	**P**	**00 40 02.4**	**-0.2**
MA2				pmax	pmax		
	comp=Z,37nm,0.8s,mb5.5						
SONM	**Songino Array**	**69.55**	**327**	P	**P**	**00 40 22.7**	**+1.1**
	comp=Z,7.2nm,0.7s,mb4.7,baz=132,slow=5.3,SNR=6.1						
SONM				PKPPKP		01 08 30.0	
	comp=Z,1.4nm,0.9s,baz=316,slow=4.0,SNR=7.4						
YAK	**Yakutsk**	**71.71**	**348**	*e*P	**P**	**00 40 34.5**	**0.0**
	comp=Z,44nm,0.7s,mb5.5						
YAK	**Yakutsk**	**71.71**	**348**	*e*P	**P**	**00 40 34.5**	**0.0**
YAK				pmax	pmax		
	comp=Z,43nm,0.7s,mb5.5						
ZAK	**Zakamensk**	**72.71**	**328**	*i* P	**P**	**00 40 34.9**	**-5.8**
TLY	**Talaya**	**73.28**	**329**	P	**P**	**00 40 44.5**	**+0.4**
	comp=Z,14nm,1.1s,mb4.8						
TLY	**Talaya**	**73.28**	**329**	P	**P**	**00 40 44.5**	**+0.4**
TLY				pmax	pmax		
	comp=Z,14nm,1.1s,mb4.8						
GAMB	**Gambell**	**74.96**	**15**	*e*P	**P**	**00 40 54.4**	**+0.7**
	comp=Z,22nm,0.8s,mb5.1						
BILL	**Bilibino**	**75.37**	**4**	*e*P	**P**	**00 40 55.3**	**-0.7**
BILL	**Bilibino**	**75.37**	**4**	*e*P	**P**	**00 40 55.3**	**-0.6**
PALK	**Pallekele**	**75.69**	**279**	*e*P	**P**	**00 40 58.2**	**-0.8**
TNA	**Tin City**	**77.36**	**15**	*e*P	**P**	**00 41 07.4**	**+0.1**
	comp=Z,17nm,0.8s,mb5.0						
SLKM	**Skilak Lake**	**79.74**	**24**	*e*P	**P**	**00 41 20.5**	**0.0**
SLKM				*e*PcP	PcP	00 41 28.1	-0.1
TIXI	**Tiksi**	**80.49**	**352**	*e*P	**P**	**00 41 23.0**	**-1.4**

comp=Z,40nm,1.5s,mb5.1
TIXI Tiksi 80.49 352 *e*P **P 00 41 23.0 -1.4**
TIXI pmax pmax
comp=Z,40nm,1.5s,mb5.1
PMR Palmer 80.79 24 *e*P **P 00 41 27.5 +1.3**
comp=Z,29nm,0.9s,mb5.2
PMR Palmer 80.79 24 *e*P **P 00 41 27.5 +1.3**
PMR pmax pmax
comp=Z,29nm,0.9s,mb5.2
SML Sawmill 81.23 24 *e*P **P 00 41 28.8 +0.3**
MCK McKinley 82.06 22 *e*P **P 00 41 31.8 -1.0**
comp=Z,58nm,0.7s,mb5.6
MCK McKinley 82.06 22 *e*P **P 00 41 31.8 -1.1**
MCK pmax pmax
comp=Z,57nm,0.7s,mb5.6
COLA College 83.09 21 *e*P **P 00 41 37.2 -1.0**
comp=Z,46nm,0.9s,mb5.5
COLA College 83.09 21 *e*P **P 00 41 37.2 -1.0**
COLA pmax pmax
comp=Z,46nm,0.9s,mb5.5
MK31 Makanchi Array 83.64 319 *e*P **P 00 41 41.5 0.0**
MK31 PcP PcP 00 41 46.8 +1.2
MKAR Makanchi Array 83.64 319 P **P 00 41 41.7 +0.2**
MKAR Makanchi Array 83.64 319 P **P 00 41 41.7 +0.2**
comp=Z,8.8nm,0.7s,mb5.0,baz=101,slow=5.3,SNR=8.9
MAW Mawson 84.39 203 P **P 00 41 43.2 -1.7**
comp=Z,21nm,1.0s,mb5.2,baz=93,slow=7.1,SNR=4.1
ZAA0 Zalesovo Array 84.40 326 *e*P **P 00 41 44.1 -1.0**
ZAA0 *e*PcP PcP 00 41 49.6 +0.8
ZALV Zalesovo Beam 84.40 326 P **P 00 41 44.1 -1.1**
comp=Z,3.4nm,0.6s,mb4.7,baz=110,slow=5.4,SNR=5.5
ZAL Zalesovo 84.41 326 P **P 00 41 44.1 -1.1**
EGAK Eagle 85.52 23 *e*P **P 00 41 50.8 +0.2**
comp=Z,23nm,0.7s,mb5.5
DAWY Dawson 85.90 24 *e*P **P 00 41 52.5 +0.1**
KURK Kurchatov 87.06 322 *e*P **P 00 41 57.2 -1.3**
comp=Z,9.8nm,1.2s,mb4.9
KURK Kurchatov 87.06 322 *e*P **P 00 41 57.2 -1.3**
KURK pmax pmax
comp=Z,10.0nm,1.2s,mb4.9
TKM2 Tokmak 2 87.26 314 *e*P **P 00 41 59.8 +0.1**
comp=Z,55nm,1.8s,mb5.5
TKM2 Tokmak 2 87.26 314 *e*P **P 00 41 59.8 +0.2**
TKM2 pmax pmax
comp=Z,55nm,1.8s,mb5.5
BBB Bella Bella 87.46 37 P **P 00 41 59.5 -0.8**
comp=Z,9.2nm,1.0s,mb5.0,baz=102,slow=7.4,SNR=3.2
UCH Uchtor 87.90 313 *e*P **P 00 42 04.0 +1.3**
comp=Z,53nm,1.7s,mb5.5
FRU Bishkek 87.95 313 *e*P **P 00 42 00.0 -2.9**
FRU pmax pmax
comp=Z,60nm,2.0s,mb5.5
DLBC Dease Lake 88.11 31 P **P 00 42 03.8 +0.5**
baz=261,slow=5.9
EKS2 Erkin-Say 88.52 313 *e*P **P 00 42 07.4 +1.8**
comp=Z,10nm,0.8s,mb5.2
OHCM Honcut 89.28 50 P **P 00 42 05.3 -4.0**
PTRM Twissleman Ran 89.69 54 P **P 00 42 11.3 0.0**
INK Inuvik 89.73 21 *e*P **P 00 42 10.6 -0.2**
comp=Z,1μm,1.0s,mb7.2
INK Inuvik 89.73 21 P **P 00 42 10.5 -0.3**
comp=Z,21nm,0.8s,mb5.5,baz=243,slow=3.5,SNR=14
NVAR Mina Array Bea 91.60 52 P **P 00 42 20.9 +0.8**
comp=Z,12nm,1.1s,mb5.1,baz=245,slow=3.9,SNR=12
PFO Pinyon Flat Ob 92.48 57 P **P 00 42 24.3 0.0**
comp=Z,2.7nm,0.7s,mb4.7,baz=259,slow=6.3,SNR=4.0
BRVK Borovoye 92.59 323 *e*P **P 00 42 23.0 -1.4**
comp=Z,3.8nm,0.7s,mb4.9
BRVK Borovoye 92.59 323 *e*P **P 00 42 23.0 -1.3**
BRVK pmax pmax
comp=Z,4.0nm,0.7s,mb5.0
NEW Newport 93.67 42 P **P 00 42 29.0 -0.5**
comp=Z,4.7nm,1.0s,mb4.9,baz=264,slow=5.2,SNR=4.1
YKA Yellowknife Ar 96.32 28 P **P 00 42 41.0 -0.2**
YKA Yellowknife Ar 96.32 28 P **P 00 42 41.0 -0.2**
comp=Z,7.9nm,0.8s,mb5.2,baz=264,slow=4.5,SNR=12
EDM Edmonton 96.48 37 *e*P **P 00 42 41.4 -0.8**
BW06 Boulder Array 98.59 48 P **P 00 42 51.7 -0.3**
PDAR Pinedale Array 98.59 48 P **P 00 42 51.2 -0.8**
comp=Z,2.0nm,0.8s,mb4.7,baz=252,slow=2.2,SNR=8.9
WMOK Wichita Mounta 107.14 56 Pdif Pdif 00 43 31.8 +2.0
ARCES ARCESS Array B 109.76 343 PKiKP PKiKP 00 47 44.5 +1.1
comp=Z,5.4nm,1.0s,baz=74,slow=1.3,SNR=4.2
FINES FINESS Array B 114.13 336 PKP PKiKP 00 47 50.8 -1.1
comp=Z,1.3nm,0.7s,baz=164,slow=1.4,SNR=3.8
PLCA Paso Flores 116.49 143 PKP PKPdf 00 47 56.8 -0.4
comp=Z,1.7nm,0.7s,baz=250,slow=5.1,SNR=3.2
AKASG Malin Array Be 117.76 324 PKP PKPdf 00 47 58.1 -1.1
comp=Z,1.2nm,0.7s,baz=72,slow=1.6,SNR=3.6
NB2 NORSAR Subarra119.88 341 PKPdf PKPdf 00 48 08.6 +5.6
comp=Z,1.1nm,0.7s,baz=39,slow=1.9
SCHQ Schefferville 121.76 27 PKP PKPdf 00 48 05.4 -1.4
comp=Z,2.3nm,0.7s,baz=335,slow=5.3,SNR=3.7
KOLS Kolonicke sedl 122.57 325 *e*PKP PKPdf 00 48 11.9 +3.3
STHS Stebnicka Huta 122.90 326 *e*PKP PKPdf 00 48 09.8 +0.6
CRVS Cervenica-Dubn 123.05 325 *e*PKP PKPdf 00 48 14.1 +4.6
CFAA Coronel Fontan 123.40 135 PKP PKPdf 00 48 09.8 -0.9
comp=Z,0.5nm,0.5s,baz=236,slow=2.1,SNR=7.3
OKC Ostrava-Krasne 124.35 328 *e*PKPdf PKPdf 00 48 14.5 +2.6
VYHS Vyhne 124.73 326 *e*PKP PKPdf 00 48 16.9 +4.2
DPC Dobruska-Polom 125.00 329 *e*PKP PKPdf 00 48 13.5 +0.3
DPC Dobruska-Polom 125.00 329 *e*PKPdf PKPdf 00 48 13.5 +0.3
DPC Dobruska-Polom 125.00 329 *e*SKS PKPdf 00 48 13.2 0.0
DPC Dobruska-Polom 125.00 329 *e*SKS PKPdf 00 48 13.2 0.0
UPC Upice 125.06 329 *e*PKPdf PKPdf 00 48 12.8 -0.5
UPC Upice 125.06 329 *e*SKS PKPdf 00 48 13.1 -0.2
MODS Modra-Piesok 125.66 327 *e*PKP PKPdf 00 48 16.5 +2.0
PVCC Panska Ves 125.77 330 *e*SKS PKPdf 00 48 15.0 +0.4
PVCC Panska Ves 125.77 330 *e*PKPdf PKPdf 00 48 14.9 +0.3
BRG Berggiesshubel 125.85 331 *i* PKIKP PKPdf 00 48 18.7 +3.9
BRG pmax pmax
comp=Z,8.0nm,1.0s
ZST Bratislava 125.86 327 *e*PKP PKPdf 00 48 18.1 +3.2
CLL Collm 126.02 332 *i* PKP PKPdf 00 48 18.7 +3.6
CLL Collm 126.02 332 *i* (PKPdf) PKPdf 00 48 18.7 +3.6
comp=Z,10.0nm,1.0s
TREC Trest 126.07 328 *e*PKPdf PKPdf 00 48 12.5 -2.7
PRU Pruhonice 126.12 330 *e*PKPdf PKPdf 00 48 12.7 -2.6
PRU Pruhonice 126.12 330 *e*SKS PKPdf 00 48 14.9 -0.4
NKC Novy Kostel 126.99 331 *e*SKS PKPdf 00 48 20.3 +3.3
NKC Novy Kostel 126.99 331 *e*PKPdf PKPdf 00 48 18.0 +1.0
MOX Moxa 127.11 332 *e*PKP PKPdf 00 48 21.7 +4.5
comp=Z,27nm,1.9s
MOX Moxa 127.11 332 *e*PKIKP PKPdf 00 48 21.7 +4.5
MOX pmax pmax
comp=Z,28nm,1.9s
KHC Kasperske Hory 127.15 329 *e*PKPdf PKPdf 00 48 12.9 -4.4
KHC Kasperske Hory 127.15 329 *ex* PKPdf 00 48 15.1 -2.2
GERES GERESS Array B 127.27 329 PKP PKPdf 00 48 16.2 -1.3
comp=Z,1.2nm,0.6s,baz=105,slow=1.5,SNR=5.2
LPAZ La Paz 131.20 119 PKP PKPdf 00 48 25.7 -0.2
comp=Z,7.5nm,0.9s,baz=287,slow=1.8,SNR=11
LPAZ SKPbc SKPbc 00 51 51.6 +0.6
comp=Z,2.7nm,0.9s,baz=226,slow=4.0,SNR=4.0
SIV San Ignacio 137.36 123 PKP PKPdf 00 48 37.4 -0.1
comp=Z,6.5nm,1.0s,baz=128,slow=1.9,SNR=6.0
ESDC Sonseca Array 142.57 333 PKP PKPdf 00 48 43.7 -2.6
comp=Z,1.5nm,0.8s,baz=7.2,slow=2.4,SNR=3.3
MTE Manteigas 143.44 338 *e*PKPdf PKPdf 00 48 47.0 -0.8
BDFB Brasilia 147.74 135 PKPbc PKPbc 00 48 57.7 -1.0
comp=Z,50nm,1.0s,baz=287,slow=1.3,SNR=10.0
MDT Midelt 148.30 326 PKPbc PKPbc 00 49 00.4 +0.6
comp=Z,14nm,0.8s,baz=49,slow=3.4,SNR=2.7
TORD Torodi Ar. Bea 153.28 285 PKPbc PKPbc 00 49 12.8 +0.8
comp=Z,7.7nm,0.8s,baz=88,slow=1.6,SNR=7.4
DBIC Dimbokro 160.23 270 PKPab PKPab 00 49 51.5 -2.4
comp=Z,5.7nm,0.8s,baz=103,slow=5.1,SNR=4.9

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*ISCJB **03** 00:31:57.5±0.6, 3702N±005×14070E±006, h99km±3km, mb4.2/6, Error ellipse: s-maj=9.7km s-min=5.8km az=139.4*
*JMA **03** 00:31:58.1±0.1, 3704N×14071E, h97km±1km, M3.9 Broadband fault plane solution: P waves. NP1: φs=355.00000°, δ31.00000°, λ-95.00000°. NP2: φs=180.00000°, δ59.00000°, λ-87.00000°. Principal axes: T Plg14.0000°, Azm268.0000°; N Plg2.0000°, Azm359.0000°; P Plg76.0000°, Azm98.0000°; JMA Felt II J1.*
*NEIC **03** 00:32:02.8±2.2, 3679N×14024E, h126km±12km, mb4.6/1 Error ellipse: s-maj=34.7km s-min=13.2km az=62.0*
NEIC Recorded [2 JMA] in Fukushima and [1 JMA] in Ibaraki and Tochigi Prefectures.

*IDC **03** 00:32:03.6±5.0, 3673N×140.17E, h130km±34km, mb3.6/4, mb1 3.7/5, mb1mx3.4/20, mbtmp3.6/5, Error ellipse: s-maj=69.8km s-min=17.9km az=60.0*
*MOS **03** 00:32:08.4±2.7, 3630N×13908E, h144km, mb4.6/3, Error ellipse: s-maj=21.3km s-min=14.7km az=87.0*
ISC 03 00:31:58.3±0.6, 3701N±005×14070E±006, h94km±4km, n28, σ1§00/41, mb4.2/6, 1C-8D, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.12**	**40**	⇓P	**Pn**	**00 32 11.9**	**+0.4**
ONAJ				S	**Sn**	**00 32 21.9**	**+0.5**
JFK	**Kawauchi**	**0.38**	**21**	⇓P	**Pn**	**00 32 12.7**	**+0.1**
JFK				S	**Sn**	**00 32 23.3**	**0.0**
JFT	**Otama**	**0.58**	**330**	⇓P	**Pn**	**00 32 14.3**	**+0.2**
JFT				S	**Sn**	**00 32 26.3**	**+0.4**
JMM	**Marumori**	**0.86**	**5**	⇓P	**Pn**	**00 32 16.3**	**-0.4**
JMM				S	**Sn**	**00 32 29.7**	**-0.8**
JFY	**Yanaizu**	**0.89**	**297**	P	**Pn**	**00 32 17.3**	**+0.3**
JAG	**Ashikaga**	**1.16**	**240**	⇓P	**Pn**	**00 32 20.9**	**+0.8**
JYS	**Shiratake**	**1.31**	**337**	⇓P	**Pn**	**00 32 22.0**	**+0.2**
JYS				S	**Sn**	**00 32 40.1**	**+0.4**
JOU	**Okura**	**1.35**	**359**	⇓P	**Pn**	**00 32 22.3**	**-0.1**
JOU				S	**Sn**	**00 32 40.7**	**+0.1**
JNS	**Sasagawa**	**1.37**	**307**	⇓P	**Pn**	**00 32 22.5**	**0.0**
JNS				S	**Sn**	**00 32 40.4**	**-0.5**
JHK	**Hiroka**	**1.37**	**280**	⇑P	**Pn**	**00 32 23.5**	**+1.0**
JHK				S	**Sn**	**00 32 41.9**	**+1.0**
JIO	**Ouri**	**1.53**	**19**	P	**Pn**	**00 32 23.6**	**-1.0**
JIO				S	**Sn**	**00 32 42.2**	**-2.3**
MJAR	**Matsushiro Arr**	**2.06**	**258**	P	**Pn**	**00 32 32.1**	**+0.8**
MJAR				S	**Sn**	**00 32 54.4**	**-2.1**
MJAR				pmax	pmax		
comp=Z,26nm,0.3s							
MJAR				smax			
comp=N,26nm,0.3s							
MJAR	**Matsushiro Arr**	**2.06**	**258**	P	**Pn**	**00 32 32.1**	**+0.8**
comp=N,26nm,0.3s,baz=76,slow=12,SNR=110							
MJAR				S	**Sn**	**00 32 54.4**	**-2.1**
comp=N,26nm,0.3s,baz=75,slow=16,SNR=22							
MAJO	**Matsushiro**	**2.06**	**258**	*e*Pn	**Pn**	**00 32 32.5**	**+1.1**
MAJO				*e*Sn	**Sn**	**00 32 55.0**	**-1.6**
MAT	**Matsushiro**	**2.06**	**258**	P	**Pn**	**00 32 32.4**	**+1.1**
MAT				S	**Sn**	**00 32 54.7**	**-1.9**
KSRS	**Korea Array**	**10.20**	**276**	P	**Pn**	**00 34 23.2**	**+1.6**
comp=N,0.7nm,0.3s,baz=90,slow=14,SNR=12							
KLR	**Kul'dur**	**13.84**	**335**	*e*P	**Pn**	**00 35 11.6**	**+1.5**
NACB	**Ninganchiao**	**20.79**	**237**	P	**P**	**00 36 29.9**	**-1.9**
GUMO	**Guam**	**23.62**	**170**	P	**P**	**00 37 01.5**	**+0.8**
GUMO				pmax	pmax		
comp=Z,245nm,1.2s,mb5.4							
GUMO	**Guam**	**23.62**	**170**	P	**P**	**00 37 01.5**	**+0.7**
comp=Z,245nm,1.2s,mb5.4,baz=221,slow=22,SNR=2.5							
SONM	**Songino Array**	**27.33**	**304**	P	**P**	**00 37 34.6**	**+0.6**
comp=Z,2.6nm,0.7s,mb3.9,baz=108,slow=9.3,SNR=8.0							
ZALV	**Zalesovo Beam**	**41.51**	**312**	P	**P**	**00 39 36.6**	**+0.7**
comp=Z,0.5nm,0.3s,mb3.7,baz=95,slow=7.2,SNR=2.5							
ZAL	**Zalesovo**	**41.52**	**312**	P	**P**	**00 39 36.6**	**+0.7**
LSA	**Lhasa**	**41.64**	**275**	*e*P	**P**	**00 39 35.8**	**-1.5**
comp=Z,5.6nm,0.4s,mb4.7							
LSA	**Lhasa**	**41.64**	**275**	*e*P	**P**	**00 39 35.8**	**-1.5**
LSA				pmax	pmax		
comp=Z,6.0nm,0.4s,mb4.7							
MKAR	**Makanchi Array**	**43.65**	**302**	P	**P**	**00 39 53.0**	**-0.3**
comp=Z,0.7nm,0.5s,mb3.6,baz=85,slow=10,SNR=6.5							
WRA	**Warramunga Arr**	**56.96**	**187**	P	**P**	**00 41 32.7**	**-1.1**
WRA				pmax	pmax		
comp=Z,1.0nm,0.3s							
WRA	**Warramunga Arr**	**56.96**	**187**	P	**P**	**00 41 32.7**	**-1.1**
comp=Z,0.7nm,0.3s,mb4.1,baz=4.6,slow=6.9,SNR=6.1							

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*ISCJB **03** 00:49:16.5±0.6, 3831N±002×2024E±003, h7km±4km, mb3.8/7, Error ellipse: s-maj=4.3km s-min=3.4km az=32.9*
*ATH **03** 00:49:17.7, 3831N×2041E, h6km±1km, MD4.0/14, ML4.1*
*NEIC **03** 00:49:19.0, 3835N×2042E, h0km, ML4.1(ATH), ML4.1(THE), ML3.8(PDG), After THE.*
*THE **03** 00:49:19.0, 3835N×2042E, h3km, ML4.1*
*IDC **03** 00:49:18.3±1.0, 3859N×2031E, h0km, mb3.7/7, mb1 3.7/13, mb1mx3.6/27, mbtmp3.6/13, ML3.3/6, MS4.4/2, Ms1 4.4/2, ms1mx3.6/41, Error ellipse: s-maj=19.6km s-min=15.9km az=137.0*
*CSEM **03** 00:49:19.9±0.2, 3818N×2039E, h20km, ML4.1, Error ellipse: s-maj=5.6km s-min=3.4km az=34.0*
*PDG **03** 00:49:19.2±0.8, 3841N×2050E, h15km±3km, ML3.8/10, Error ellipse: s-maj=2.3km s-min=2.9km az=0.0*
*SKO **03** 00:49:27.3, 3897N×2046E, h1km*
ISC 03 00:49:17.5±0.6, 3832N±002×2031E±003, h2km±4km, n141, σ1§05/196, mb3.7/7, 19C-2D, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.26**	**123**	⇑*i*PG	**Pg**	**00 49 22.4**	**-0.1**
VLS				*e*SG	**Sg**	**00 49 25.7**	**-0.1**
VLS	**Valsamata**	**0.26**	**123**	*e*Pg	**Pg**	**00 49 22.4**	**-0.1**
VLS				*e*Sg	**Sg**	**00 49 26.2**	**+0.4**
LKD	**Levkas**	**0.47**	**34**	P	**Pg**	**00 49 25.8**	**-0.7**
LKD				S	**Sg**	**00 49 31.8**	**-0.8**
LKD	**Levkas**	**0.47**	**34**	*e*Pg	**Pg**	**00 49 25.8**	**-0.7**
LKD				*e*Sg	**Sg**	**00 49 31.8**	**-0.8**
LKD	**Levkas**	**0.47**	**34**	P	**Pg**	**00 49 25.8**	**-0.7**
LKD				S	**Sg**	**00 49 31.8**	**-0.8**
RLS	**Riolos of Patr**	**0.95**	**106**	*e*PG	**Pg**	**00 49 34.0**	**-1.6**
RLS				*e*SB	**Sb**	**00 49 45.9**	**-3.7**
RLS	**Riolos of Patr**	**0.95**	**106**	*e*Pb	**Pb**	**00 49 34.8**	**-1.8**
RLS				*e*Sb	**Sb**	**00 49 48.7**	**-0.9**
IGT	**Igoumenitsa**	**1.21**	**1**	P	**Pg**	**00 49 39.9**	**-0.9**
IGT	**Igoumenitsa**	**1.21**	**1**	*e*Pg	**Pg**	**00 49 39.9**	**-0.9**
IGT	**Igoumenitsa**	**1.21**	**1**	P	**Pg**	**00 49 39.9**	**-0.8**
EVR	**Evrytania**	**1.32**	**63**	*e*PN	**Pn**	**00 49 40.8**	**-2.1**
EVR	**Evrytania**	**1.32**	**63**	*e*Pn	**Pn**	**00 49 40.7**	**-2.2**
EVR				*e*Sb	**Sb**	**00 50 00.5**	**+0.3**
JAN	**Janina**	**1.40**	**17**	*e*PB	**Pb**	**00 49 44.0**	**-0.4**
JAN				*e*SB	**Sb**	**00 50 02.4**	**-0.3**
JAN	**Janina**	**1.40**	**17**	*e*Pb	**Pb**	**00 49 44.5**	**+0.1**
JAN				*e*Sb	**Sb**	**00 50 02.8**	**+0.1**
KEK	**Kerkira**	**1.45**	**344**	*e*PG	**Pn**	**00 49 45.0**	**+0.3**
KEK				*e*SB	**Sb**	**00 50 05.4**	**+1.3**
KEK	**Kerkira**	**1.45**	**344**	*e*Pb	**Pb**	**00 49 45.3**	**+0.1**
KEK				*e*Sb	**Sb**	**00 50 05.1**	**+1.0**
MEV	**Metsovon**	**1.63**	**26**	P	**Pn**	**00 49 48.1**	**+0.9**
MEV	**Metsovon**	**1.63**	**26**	*e*Pg	**Pn**	**00 49 48.1**	**+0.9**
MEV	**Metsovon**	**1.63**	**26**	P	**Pn**	**00 49 48.1**	**+0.9**
ITM	**Ithomi**	**1.71**	**131**	*e*PB	**Pb**	**00 49 48.8**	**-0.8**
ITM	**Ithomi**	**1.71**	**131**	*e*Pg	**Pg**	**00 49 49.8**	**-0.5**
AGG	**Agios Georgios**	**1.73**	**65**	P	**Pn**	**00 49 48.0**	**-0.6**
AGG				S	**Sn**	**00 50 11.3**	**+0.1**
AGG	**Agios Georgios**	**1.73**	**65**	*e*Pb	**Pn**	**00 49 48.0**	**-0.6**
AGG				*e*Sb	**Sn**	**00 50 11.3**	**+0.1**
AGG	**Agios Georgios**	**1.73**	**65**	P	**Pn**	**00 49 48.0**	**-0.6**
AGG				S	**Sn**	**00 50 11.3**	**+0.1**
THL	**Klokotos Trika**	**1.82**	**46**	*e*PN	**Pn**	**00 49 51.0**	**+1.2**
THL	**Klokotos Trika**	**1.82**	**46**	*e*Pn	**Pn**	**00 49 49.9**	**+0.1**
LKR	**Lokris**	**2.13**	**80**	*e*PN	**Pn**	**00 49 54.6**	**+0.5**
LKR	**Lokris**	**2.13**	**80**	*e*Pn	**Pn**	**00 49 55.3**	**+1.2**
KZN	**Kozani**	**2.29**	**29**	*e*PG	**Pb**	**00 49 58.8**	**-0.6**
KZN				*e*SN	**Sb**	**00 50 27.6**	**-0.5**
KZN	**Kozani**	**2.29**	**29**	*e*Pn	**Pn**	**00 49 58.0**	**+1.8**
NEO	**Neokhori**	**2.48**	**66**	*e*PB	**Pn**	**00 49 59.0**	**+0.1**
NEO	**Neokhori**	**2.48**	**66**	*e*Pn	**Pn**	**00 49 59.4**	**+0.5**
NAIG	**Nisos Aigina**	**2.57**	**102**	*e*PN	**Pn**	**00 50 00.5**	**+0.4**
FNA	**Florina**	**2.60**	**18**	P	**Pn**	**00 50 01.0**	**+0.5**
FNA				S	**Sn**	**00 50 34.2**	**+1.6**
FNA	**Florina**	**2.60**	**18**	*e*Pn	**Pn**	**00 50 01.0**	**+0.5**
FNA				*e*Sn	**Sn**	**00 50 34.2**	**+1.6**
FNA	**Florina**	**2.60**	**18**	P	**Pn**	**00 50 01.0**	**+0.5**
FNA				S	**Sn**	**00 50 34.2**	**+1.6**
VLI	**Veliai**	**2.63**	**127**	*e*Pb	**Pn**	**00 50 01.3**	**+0.4**
VLI	**Veliai**	**2.63**	**127**	*e*PN	**Pn**	**00 50 03.1**	**+2.2**
ATH	**Athens Observa**	**2.71**	**96**	*e*PN	**Pn**	**00 50 02.8**	**+0.8**
ATH	**Athens Observa**	**2.71**	**96**	*e*Pn	**Pn**	**00 50 02.5**	**+0.5**
KVR	**Kavouri**	**2.77**	**99**	*e*PB	**Pn**	**00 50 03.0**	**+0.1**
BIA	**Bitola**	**2.81**	**16**	*e*Pn	**Pn**	**00 50 04.7**	**+1.3**
BIA	**Bitola**	**2.81**	**16**	*e*Pn	**Pn**	**00 50 04.5**	**+1.2**
BIA	**Bitola**	**2.81**	**16**	P	**Pn**	**00 50 04.7**	**+1.3**
PTL	**Penteli**	**2.81**	**94**	*e*PB	**Pn**	**00 50 03.5**	**+0.1**
PTL	**Penteli**	**2.81**	**94**	*e*Pn	**Pn**	**00 50 02.0**	**-1.4**
OHR	**Ohrid**	**2.81**	**8**	P	**Pn**	**00 50 05.1**	**+1.6**
OHR	**Ohrid**	**2.81**	**8**	*e*Pn	**Pn**	**00 50 04.1**	**+0.6**
OHR				*e*Sn	**Sn**	**00 50 31.6**	**-6.3**
OHR	**Ohrid**	**2.81**	**8**	*e*Pn	**Pn**	**00 50 05.1**	**+1.6**
OHR	**Ohrid**	**2.81**	**8**	P	**Pn**	**00 50 05.1**	**+1.6**
TIP	**Timpagrande**	**2.91**	**288**	P	**Pn**	**00 50 07.7**	**+2.9**
AOS	**Alonnisos**	**2.92**	**72**	P	**Pn**	**00 50 05.1**	**+0.2**
AOS	**Alonnisos**	**2.92**	**72**	*e*Pn	**Pn**	**00 50 05.1**	**+0.2**
AOS	**Alonnisos**	**2.92**	**72**	P	**Pn**	**00 50 05.1**	**+0.2**
KYTH	**Kithira**	**2.98**	**132**	*e*PB	**Pn**	**00 50 05.5**	**-0.2**
KYTH	**Kithira**	**2.98**	**132**	*e*Pn	**Pn**	**00 50 05.0**	**-0.7**
TIR	**Tirane**	**3.05**	**354**	P	**Pn**	**00 50 07.4**	**+0.7**
TIR				S	**Sn**	**00 50 46.8**	**+3.1**
TIR	**Tirane**	**3.05**	**354**	P	**Pn**	**00 50 07.3**	**+0.7**
TIR				S	**Sn**	**00 50 46.8**	**+3.1**
TIR	**Tirane**	**3.05**	**354**	*e*Pn	**Pn**	**00 50 07.3**	**+0.7**
TIR				*e*Sn	**Sn**	**00 50 46.8**	**+3.1**
TIR	**Tirane**	**3.05**	**354**	*e*Pn	**Pn**	**00 50 07.3**	**+0.6**
TIR				*e*Sn	**Sn**	**00 50 46.8**	**+3.1**
TIR	**Tirane**	**3.05**	**354**	P	**Pn**	**00 50 07.3**	**+0.6**
TIR				S	**Sn**	**00 50 46.8**	**+3.1**
PAIG	**Paliouri**	**3.07**	**57**	P	**Pn**	**00 50 06.6**	**-0.4**
PAIG				S	**Sn**	**00 50 45.8**	**+1.4**
PAIG	**Paliouri**	**3.07**	**57**	*e*Pn	**Pn**	**00 50 06.6**	**-0.4**
PAIG				*e*Sn	**Sn**	**00 50 45.8**	**+1.4**
PAIG	**Paliouri**	**3.07**	**57**	P	**Pn**	**00 50 06.6**	**-0.4**
PAIG				S	**Sn**	**00 50 45.8**	**+1.4**
GRG	**Griva**	**3.09**	**31**	P	**Pn**	**00 50 07.9**	**+0.6**
GRG				S	**Sn**	**00 50 46.4**	**+1.6**
GRG	**Griva**	**3.09**	**31**	*e*Pn	**Pn**	**00 50 07.9**	**+0.6**
GRG				*e*Sn	**Sn**	**00 50 46.4**	**+1.6**
GRG	**Griva**	**3.09**	**31**	*e*Pn	**Pn**	**00 50 07.9**	**+0.6**
GRG				*e*Sn	**Sn**	**00 50 46.3**	**+1.5**
GRG	**Griva**	**3.09**	**31**	P	**Pn**	**00 50 07.9**	**+0.6**
GRG				S	**Sn**	**00 50 46.3**	**+1.5**
KRUS	**Krusevo**	**3.13**	**13**	*e*Pn	**Pn**	**00 50 08.7**	**+0.8**
KRUS				*e*Sg	**Sn**	**00 50 46.0**	**+0.2**
KRUS	**Krusevo**	**3.13**	**13**	*e*Pn	**Pn**	**00 50 08.6**	**+0.8**
HORT	**Hortiatis**	**3.14**	**43**	P	**Pn**	**00 50 07.2**	**-0.7**
HORT	**Hortiatis**	**3.14**	**43**	*e*Pn	**Pn**	**00 50 07.2**	**-0.7**
HORT	**Hortiatis**	**3.14**	**43**	*e*Pn	**Pn**	**00 50 07.2**	**-0.7**
HORT	**Hortiatis**	**3.14**	**43**	P	**Pn**	**00 50 07.2**	**-0.7**
TA1	**Taranto**	**3.14**	**313**	*e*Pn	**Pn**	**00 50 10.2**	**+2.2**
PLG	**Polygyros**	**3.18**	**49**	*e*Pn	**Pn**	**00 50 09.0**	**+0.5**
PLG	**Polygyros**	**3.18**	**49**	P	**Pn**	**00 50 08.9**	**+0.4**
PLG	**Polygyros**	**3.18**	**49**	*e*Pn	**Pn**	**00 50 08.9**	**+0.4**
PLG	**Polygyros**	**3.18**	**49**	*e*PN	**Pn**	**00 50 09.9**	**+1.4**
PLG	**Polygyros**	**3.18**	**49**	P	**Pn**	**00 50 08.9**	**+0.4**
PE1	**Pezze di Greco**	**3.34**	**319**	*e*Pn	**Pn**	**00 50 11.9**	**+1.2**
SOH	**Sokhos**	**3.43**	**42**	P	**Pn**	**00 50 12.7**	**+0.7**
SOH	**Sokhos**	**3.43**	**42**	*e*Pn	**Pn**	**00 50 12.7**	**+0.7**
SOH	**Sokhos**	**3.43**	**42**	*e*Pn	**Pn**	**00 50 12.6**	**+0.6**
SOH	**Sokhos**	**3.43**	**42**	P	**Pn**	**00 50 12.6**	**+0.6**
KNT	**Kendrikon**	**3.47**	**34**	P	**Pn**	**00 50 12.8**	**+0.3**
KNT	**Kendrikon**	**3.47**	**34**	*e*Pn	**Pn**	**00 50 12.8**	**+0.3**
KNT	**Kendrikon**	**3.47**	**34**	P	**Pn**	**00 50 12.8**	**+0.3**
OUR	**Ouranopolis**	**3.49**	**54**	P	**Pn**	**00 50 12.7**	**0.0**
OUR	**Ouranopolis**	**3.49**	**54**	*e*Pn	**Pn**	**00 50 12.7**	**0.0**
OUR	**Ouranopolis**	**3.49**	**54**	P	**Pn**	**00 50 12.7**	**0.0**
STIP	**Stip**	**3.67**	**23**	*e*Pn	**Pn**	**00 50 16.6**	**+1.4**
STIP	**Stip**	**3.67**	**23**	*e*Pn	**Pn**	**00 50 16.7**	**+1.5**
ULC	**Ulcinj**	**3.73**	**348**	⇑*i*Pn	**Pn**	**00 50 16.3**	**+0.2**
ULC				*e*Sn	**Sn**	**00 51 00.4**	**-0.2**
SG1	**Sgolgore (BA)**	**3.77**	**313**	*e*Pn	**Pn**	**00 50 17.7**	**+1.1**
BUM	**Brajici-Budva**	**4.12**	**345**	⇑*i*Pn	**Pn**	**00 50 22.1**	**+0.7**
BUM				*e*Sn	**Sn**	**00 51 09.8**	**-0.4**
KKB	**Krupnik**	**4.13**	**30**	*i* P	**Pn**	**00 50 21.5**	**-0.1**
PDG	**Podgorica**	**4.18**	**349**	⇑*i*Pn	**Pn**	**00 50 22.2**	**-0.1**
PDG				*e*Sn	**Sn**	**00 51 11.0**	**-0.8**
TTG	**Podgorica**	**4.18**	**349**	⇑*i*Pn	**Pn**	**00 50 22.2**	**-0.1**
TTG				*e*Sn	**Sn**	**00 51 11.0**	**-0.8**
MMB	**Musomiste**	**4.19**	**38**	*i* P	**Pn**	**00 50 23.8**	**+1.4**
PVY	**Plav**	**4.28**	**357**	⇑*i*Pn	**Pn**	**00 50 24.4**	**+0.8**
PVY				*e*Sn	**Sn**	**00 51 13.1**	**-1.0**
HCY	**Herceg Novi**

MKAR Makanchi Array 84.17 318 P P 01 06 25.6 0.0
1.3nm,0.7s,baz=108,slow=5.2,SNR=12
ZALV Zalesovo Beam 84.87 326 P P 01 06 27.7 -1.3
0.8nm,0.4s,baz=106,slow=4.8,SNR=4.1

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*IDC **03** 00:54:01.0±0.7, 860S×15761E, h0km, mb4.2/10, mb1 4.4/12, mb1mx4.3/17, mbtmp4.2/12, ML4.4/2, MS3.6/1, Ms1 3.6/1, ms1mx3.1/28, Error ellipse: s-maj=21.2km s-min=18.7km az=134.0*
*NEIC **03** 00:54:02.3±0.4, 863S×15767E, h10km, mb5.1/3, Error ellipse: s-maj=13.9km s-min=11.4km az=138.0*
*ISCJB **03** 00:54:04.7±0.5, 854S±008×15748E±007, h33km, mb4.3/13, Error ellipse: s-maj=12.0km s-min=9.5km az=178.5*
ISC 03 00:54:06.6±0.5, 854S±008×15750E±007, h35km, n19, σ0°72/20, mb4.3/13, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.58 110**		Pn	**Pn**	**00 54 40.6**	**-5.2**
	325nm,0.3s,baz=274,slow=5.1,SNR=27						
HNR				Sn	**Sn**	**00 55 15.9**	**0.0**
	282nm,0.3s,baz=268,slow=23,SNR=14						
HNR				LR	LR	00 55 33.2	
	comp=Z,1μm,20.6s,baz=351,slow=38						
CTA	**Charters Tower**	**15.82 222**		Pn	**Pn**	**00 57 47.2**	**+0.5**
	0.4nm,0.3s,baz=50,slow=13,SNR=6.4						
WRA	**Warramunga Arr**	**25.11 241**		P	**P**	**00 59 27.7**	**-0.7**
	4.0nm,0.6s,mb4.1,baz=66,slow=9.1,SNR=4.6						
WRA				PcP	PcP	01 03 02.6	+0.3
	0.8nm,0.4s,baz=69,slow=2.7,SNR=5.6						
ASAR	**Alice Springs**	**27.14 234**		P	**P**	**00 59 45.5**	**-1.1**
	1.2nm,0.8s,mb3.5,baz=62,slow=9.3,SNR=10.0						
ASAR				PcP	PcP	01 03 07.0	+0.1
	0.7nm,0.6s,baz=76,slow=2.5,SNR=5.9						
STKA	**Stephens Creek**	**27.53 210**		P	**P**	**00 59 51.2**	**+1.1**
STKA	**Stephens Creek**	**27.53 210**		P	**P**	**00 59 51.2**	**+1.1**
	4.3nm,0.8s,mb4.2,baz=34,slow=12,SNR=9.1						
MJAR	**Matsushiro Arr**	**48.36 339**		P	**P**	**01 02 45.2**	**+0.2**
	2.1nm,0.8s,mb4.2,baz=161,slow=7.2,SNR=3.0						
SONM	**Songino Array**	**71.97 327**		P	**P**	**01 05 27.8**	**+1.2**
	1.2nm,0.8s,mb3.9,baz=139,slow=6.2,SNR=6.5						
TTA	**Tatalina**	**79.60 20**		eP	**P**	**01 06 09.4**	**-0.4**
	12nm,1.0s,mb4.8						
QSPA	**South Pole Qui**	**81.45 180**		P	**P**	**01 06 19.1**	**-0.4**
	3.5nm,1.0s,mb4.2,baz=208,slow=7.8,SNR=8.0						
SML	**Sawmill**	**81.65 23**		eP	**P**	**01 06 21.1**	**+0.3**
SML				ePP	PP	01 09 25.4	-2.6
MCK	**McKinley**	**82.57 21**		eP	**P**	**01 06 24.9**	**-0.6**
	23nm,0.9s,mb5.2						
COLA	**College**	**83.63 21**		eP	**P**	**01 06 29.8**	**-1.3**
	8.3nm,0.7s,mb5.0						
COLA				PcP	PcP	01 06 34.9	-0.3
MKAR	**Makanchi Array**	**86.20 318**		P	**P**	**01 06 44.5**	**+0.1**
	1.2nm,0.6s,mb4.3,baz=100,slow=5.9,SNR=10.0						
DAWY	**Dawson**	**86.31 23**		eP	**P**	**01 06 45.2**	**+0.7**
NVAR	**Mina Array Bea**	**90.73 51**		P	**P**	**01 07 07.2**	**+1.1**
	1.1nm,0.8s,mb4.3,baz=236,slow=4.7,SNR=6.7						
YKA	**Yellowknife Ar**	**96.53 28**		P	**P**	**01 07 31.8**	**-0.4**
YKA	**Yellowknife Ar**	**96.53 28**		P	**P**	**01 07 31.8**	**-0.4**
	0.8nm,0.7s,mb4.3,baz=264,slow=4.7,SNR=16						
PDAR	**Pinedale Array**	**97.88 48**		P	**P**	**01 07 38.5**	**-0.3**
	0.4nm,0.7s,mb4.1,baz=149,slow=3.5,SNR=3.5						

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*ISCJB **03** 00:54:44.4±0.6, 3567N±004×14074E±007, h55km±5km, mb3.8/10, Error ellipse: s-maj=10.2km s-min=6.0km az=154.6*
*IDC **03** 00:54:45.4±2.4, 3564N×14066E, h45km±22km, mb3.5/9, mb1 3.7/12, mb1mx3.6/23, mbtmp3.6/12, ML3.8/2, MS3.7/2, Ms1 3.7/2, ms1mx3.3/26, Error ellipse: s-maj=31.6km s-min=12.4km az=77.0*
*JMA **03** 00:54:45.3±0.1, 3574N×14066E, h46km±1km, M3.4 Broadband fault plane solution: P waves. NP1: φs=210.00000°, δ9.00000°, λ118.00000°. NP2:φs=1.00000°, δ82.00000°, λ86.00000°. Principal axes: T Plg53.0000°, Azm266.0000°; N Plg4.0000°, Azm2.0000°; P Plg37.0000°, Azm95.0000°;*
JMA Felt II J1.
*NEIC **03** 00:54:46.5±1.5, 3563N×14062E, h58km±12km, mb4.4/1 Error ellipse: s-maj=15.5km s-min=12.3km az=81.0*
ISC 03 00:54:45.1±0.6, 3568N±004×14076E±007, h44km±6km, n28, σ0°88/34, mb3.8/10, 1C-5D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.08 73**		⇑P	**Pn**	**00 54 52.9**	**+0.9**
JCN	**Nagara**	**0.52 241**		⇓P	**Pn**	**00 54 57.0**	**+0.8**
JYT	**Yasato**	**0.71 320**		⇓P	**Pn**	**00 54 57.8**	**-1.0**
JYT				eS	**Sn**	**00 55 06.8**	**-1.9**
BSO4	**Boso 4**	**0.77 207**		⇓P	**Pn**	**00 55 00.2**	**+0.7**
BSO3	**Boso 3**	**0.90 193**		P	**Pn**	**00 55 01.7**	**+0.5**
JHO	**Hitachi**	**0.94 351**		⇓P	**Pn**	**00 55 01.5**	**-0.4**
BSO1	**Boso 1**	**1.04 170**		P	**Pn**	**00 55 04.1**	**+1.0**
JAG	**Ashikaga**	**1.29 306**		P	**Pn**	**00 55 05.6**	**-1.1**
JOD2	**Odawara 2**	**1.43 254**		⇓P	**Pn**	**00 55 08.1**	**-0.4**
MJAR	**Matsushiro Arr**	**2.24 293**		P	**Pn**	**00 55 20.0**	**+0.4**
MJAR				S	**Sn**	**00 55 49.0**	**+3.0**
MJAR				LR	LR	00 56 22.7	
MJAR	**Matsushiro Arr**	**2.24 293**		P	**Pn**	**00 55 20.0**	**+0.4**
	21nm,0.3s,baz=94,slow=14,SNR=72						
MJAR				S	**Sn**	**00 55 49.0**	**+3.0**
	11nm,0.3s,baz=60,slow=7.5,SNR=8.6						
MJAR				LR	LR	00 56 22.7	
	comp=Z,1μm,19.9s,baz=175,slow=46						
MAJO	**Matsushiro**	**2.24 293**		ePn	**Pn**	**00 55 20.0**	**+0.4**
MAJO				Sn	**Sn**	**00 55 46.4**	**+0.4**
MAT	**Matsushiro**	**2.24 293**		P	**Pn**	**00 55 20.0**	**+0.4**
MAT				S	**Sn**	**00 55 46.7**	**+0.7**
JHJ	**Hachijo jima 2**	**2.68 198**		P	**Pn**	**00 55 25.0**	**-0.6**
	23nm,0.3s,baz=89,slow=22,SNR=2.7						
JHJ				S	**Sn**	**00 55 55.9**	**-1.0**
	89nm,0.3s,baz=48,slow=19,SNR=5.0						
JHJ				LR	LR	00 56 28.8	
	comp=Z,2μm,18.2s,baz=204,slow=40						
CBIJ	**Chichi jima**	**8.64 172**		P	**Pn**	**00 56 45.7**	**-1.8**
	5.7nm,0.3s,baz=104,slow=23,SNR=2.9						
SONM	**Songino Array**	**28.13 306**		P	**P**	**01 00 32.0**	**-0.8**
	0.3nm,0.4s,mb3.3,baz=112,slow=8.7,SNR=3.8						
ZALV	**Zalesovo Beam**	**42.45 313**		P	**P**	**01 02 35.0**	**-0.4**
	0.5nm,0.3s,mb3.6,baz=93,slow=7.6,SNR=5.2						
MKAR	**Makanchi Array**	**44.41 303**		P	**P**	**01 02 50.9**	**-0.4**
	1.0nm,0.6s,mb3.7,baz=83,slow=9.8,SNR=12						
AML	**Almayashu**	**51.39 299**		eP	**P**	**01 03 45.8**	**+0.4**
	2.5nm,0.6s,mb4.3						
FITZ	**Fitzroy Crossi**	**55.37 198**		P	**P**	**01 04 14.3**	**-0.4**
	1.3nm,0.6s,mb4.1,baz=18,slow=11,SNR=4.7						
WRA	**Warramunga Arr**	**55.65 187**		P	**P**	**01 04 15.9**	**-0.8**
	0.8nm,0.5s,mb4.0,baz=0.9,slow=7.4,SNR=4.3						
ASAR	**Alice Springs**	**59.38 187**		P	**P**	**01 04 44.0**	**+1.1**
	0.5nm,0.5s,mb3.8,baz=18,slow=11,SNR=9.2						
YKA	**Yellowknife Ar**	**65.25 30**		P	**P**	**01 05 22.6**	**+0.9**
	0.1nm,0.4s,mb3.2,baz=313,slow=7.6,SNR=2.3						
FINES	**FINESS Array B**	**69.77 332**		P	**P**	**01 05 49.9**	**-0.4**
	1.2nm,0.9s,mb3.8,baz=60,slow=3.4,SNR=4.3						
NB2	**NORSAR Subarra**	**75.23 337**		P	**P**	**01 06 22.1**	**-0.7**
	comp=Z,0.8nm,0.6s,mb3.8,baz=41,slow=5.9						
NOA	**NORSAR Array B**	**75.23 337**		P	**P**	**01 06 22.6**	**-0.1**
	comp=Z,0.8nm,0.8s,mb3.7,baz=43,slow=5.4,SNR=4.1						
MCMT	**McKenzie Canyo**	**75.85 45**		P	**P**	**01 06 27.0**	**+0.4**
SNOW	**Snow King Moun**	**77.88 45**		P	**P**	**01 06 39.2**	**+1.1**

IDC 03 00:56:35.3±1.4, 2140N×14311E, h0km, mb3.5/5, mb1 3.7/5, mb1mx3.5/19, mbtmp3.5/5, Error ellipse: s-maj=50.6km s-min=27.3km az=80.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**39.53 321**		P	P	01 04 07.8	0.0
	0.6nm,0.6s,baz=131,slow=7.8,SNR=6.6						
WRA	**Warramunga Arr**	**41.97 192**		P	P	01 04 27.9	-0.2
	1.0nm,0.6s,baz=1.5,slow=7.3,SNR=3.9						
ZALV	**Zalesovo Beam**	**54.40 322**		P	P	01 06 03.5	-0.4
	0.6nm,0.7s,baz=90,slow=5.8,SNR=2.8						
MKAR	**Makanchi Array**	**54.85 313**		P	P	01 06 08.0	+0.7
	0.2nm,0.6s,baz=101,slow=7.5,SNR=3.7						
YKA	**Yellowknife Ar**	**76.75 28**		P	P	01 08 28.2	-0.1
	0.2nm,0.5s,baz=293,slow=6.0,SNR=4.4						

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*IDC **03** 01:00:20.2±1.1, 851S×15734E, h0km, mb3.7/6, mb1 3.9/7, mb1mx3.8/15, mbtmp3.7/7, ML4.5/1, MS4.1/1, Ms1 4.1/1, ms1mx3.3/28, Error ellipse: s-maj=28.4km s-min=22.9km az=166.0*
*ISCJB **03** 01:00:21.2±5.6, 85S±0.1×15733E±007, h15km±35km, mb3.5/6, Error ellipse: s-maj=23.6km s-min=11.7km az=11.6*
*NEIC **03** 01:00:21.8±0.7, 847S×15737E, h10km, mb4.2/1, Error ellipse: s-maj=18.5km s-min=13.7km az=157.0*
ISC 03 01:00:21.7±6.7, 85S±01×15737E±008, h9km±42km, n9, σ0°79/10, mb3.5/6, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.72 111**		Pn	**Pn**	**01 01 05.2**	**-0.4**
	74nm,0.3s,baz=261,slow=5.9,SNR=10						
HNR				Sn	**Sn**	**01 01 38.8**	**+0.1**
	57nm,0.3s,baz=264,slow=13,SNR=3.8						
CTAO	**Charters Tower**	**15.78 222**		ePn	**Pn**	**01 04 05.2**	**+0.9**
	10nm,0.6s						
WRA	**Warramunga Arr**	**25.03 240**		P	**P**	**01 05 45.7**	**-0.7**
	1.0nm,0.5s,mb3.6,baz=66,slow=9.4,SNR=4.1						
WRA				LR	LR	01 14 31.5	
	comp=Z,465nm,20.4s,baz=290,slow=34						
ASAR	**Alice Springs**	**27.07 233**		P	**P**	**01 06 03.6**	**-1.3**
	0.3nm,0.8s,mb2.9,baz=57,slow=10,SNR=3.0						
STKA	**Stephens Creek**	**27.52 210**		P	**P**	**01 06 09.6**	**+0.8**
STKA	**Stephens Creek**	**27.52 210**		P	**P**	**01 06 09.6**	**+0.8**
	0.7nm,0.4s,mb3.7,baz=78,slow=10.0,SNR=3.1						
SONM	**Songino Array**	**71.85 327**		P	**P**	**01 11 45.8**	**+0.9**
	0.8nm,1.0s,mb3.6,baz=130,slow=4.6,SNR=3.6						
MKAR	**Makanchi Array**	**86.06 318**		P	**P**	**01 13 02.1**	**-0.9**
	0.3nm,0.7s,mb3.7,baz=93,slow=4.9,SNR=2.8						
YKA	**Yellowknife Ar**	**96.53 28**		P	**P**	**01 13 52.1**	**+0.6**
	0.2nm,0.9s,mb3.6,baz=267,slow=4.3,SNR=2.7						

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*IDC **03** 01:03:39.7±4.0, 3174N×13930E, h0km, mb3.9/3, mb1 3.9/4, mb1mx3.5/19, mbtmp3.8/4, ML3.4/1, Error ellipse: s-maj=93.4km s-min=19.1km az=121.0*
*JMA **03** 01:03:44.5±0.5, 3218N×13880E, h19km, M3.8*
ISC 03 01:03:44.5±2.0, 3217N±008×13861E±006, h11km±18km, n21, σ1°11/33, mb3.8/3, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ	**Hachijo jima 2**	**1.37 46**		Pn	**Pn**	**01 04 07.5**	**-2.0**
	77nm,0.3s,baz=224,slow=15,SNR=15						
JHJ				Lg		01 04 25.5	
	196nm,0.3s,baz=100,slow=20,SNR=18						
JHJ2	**Mitsune**	**1.38 47**		P	**Pn**	**01 04 07.4**	**-2.3**
JHJ2				S	**Sn**	**01 04 24.0**	**-3.9**
TK01	**Tokai 1**	**1.81 332**		S	**Sn**	**01 04 37.1**	**-1.4**
TK02	**Tokai 2**	**1.91 338**		P	**Pn**	**01 04 16.5**	**-0.5**
TK02				eS	**Sn**	**01 04 40.8**	**-0.2**
JKO	**Kozu shima**	**2.06 12**		P	**Pn**	**01 04 19.5**	**+0.5**
TK03	**Tokai 3**	**2.06 345**		eS	**Sn**	**01 04 42.5**	**-2.2**
TK04	**Tokai 4**	**2.29 345**		P	**Pn**	**01 04 22.1**	**-0.1**
TK04				eS	**Sn**	**01 04 50.8**	**+0.4**
JIZS	**Izushimoda**	**2.55 5**		P	**Pn**	**01 04 26.1**	**+0.3**
JIZS				S	**Sn**	**01 04 56.8**	**0.0**
JIE	**Ise**	**2.73 325**		P	**Pn**	**01 04 28.1**	**-0.1**
JIE				S	**Sn**	**01 05 01.3**	**+0.1**
JWZ	**Kozaga**	**2.79 300**		P	**Pn**	**01 04 29.1**	**0.0**
JWZ				eS	**Sn**	**01 05 02.3**	**-0.4**
JWY	**Kouya**	**3.25 310**		P	**Pn**	**01 04 36.3**	**+0.9**
JWY				eS	**Sn**	**01 05 13.8**	**-0.3**
JYN	**Shimob**	**3.32 359**		P	**Pn**	**01 04 36.8**	**+0.5**
JYN				eS	**Sn**	**01 05 15.9**	**+0.2**
JRY	**Ryogami san**	**3.84 3**		eS	**Sn**	**01 05 30.1**	**+1.4**
JAI	**Aioi**	**3.85 296**		P	**Pn**	**01 04 41.4**	**-2.3**
JAI				eS	**Sn**	**01 05 28.8**	**-0.1**
JGM	**Miyama**	**3.86 336**		eS	**Sn**	**01 05 27.7**	**-1.3**
JWT	**Wachi**	**4.10 320**		P	**Pn**	**01 04 48.0**	**+1.0**
JWT				S	**Sn**	**01 05 35.0**	**0.0**
MJAR	**Matsushiro Arr**	**4.37 356**		Pn	**Pn**	**01 04 54.5**	**+3.7**
	1.5nm,0.3s,baz=184,slow=15,SNR=5.9						
MJAR				Sn	**Sn**	**01 05 42.9**	**+1.2**
	2.3nm,0.3s,baz=168,slow=22,SNR=6.6						
MAT	**Matsushiro**	**4.37 356**		P	**Pn**	**01 04 52.4**	**+1.6**
MAT				S	**Sn**	**01 05 42.8**	**+1.1**
MKAR	**Makanchi Array**	**44.92 306**		P	**P**	**01 12 01.8**	**+2.6**
	0.4nm,0.7s,mb3.3,baz=95,slow=8.8,SNR=3.7						
FINES	**FINESS Array B**	**72.03 332**		P	**P**	**01 15 09.5**	**+1.4**
	1.8nm,1.0s,mb4.0,baz=73,slow=6.4,SNR=4.4						
NOA	**NORSAR Array B**	**77.75 337**		P	**P**	**01 15 41.1**	**0.0**
	1.5nm,0.9s,mb3.9,baz=42,slow=5.8,SNR=3.4						

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*ISCJB **03** 01:05:52.0±5.5, 85S±0.1×15740E±007, h11km±34km, mb4.2/10, Error ellipse: s-maj=17.5km s-min=10.8km az=16.6*
*IDC **03** 01:05:52.2±0.8, 850S×15736E, h0km, mb4.1/8, mb1 4.3/9, mb1mx4.2/15, mbtmp4.1/9, ML4.6/1, MS3.9/2, Ms1 3.9/2, ms1mx3.4/28, Error ellipse: s-maj=25.9km s-min=20.8km az=127.0*
*NEIC **03** 01:05:53.5±0.4, 850S×15742E, h10km, mb4.7/3, Error ellipse: s-maj=13.6km s-min=10.6km az=145.0*
ISC 03 01:05:52.3±6.7, 85S±01×15744E±007, h3km±41km, n18, σ0°68/17, mb4.2/10, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.64 110**		Pn	**Pn**	**01 06 35.9**	**0.0**
	102nm,0.3s,baz=257,slow=5.2,SNR=6.9						
HNR				Sn	**Sn**	**01 07 08.5**	**0.0**
	60nm,0.3s,baz=93,slow=23,SNR=4.1						
HNR				LR	LR	01 07 27.4	
	comp=Z,916nm,20.1s,baz=157,slow=35						
CTA	**Charters Tower**	**15.79 222**		LR	LR	01 13 39.6	
	comp=Z,813nm,18.1s,baz=128,slow=30						
WB2	**Warramunga Arr**	**25.06 241**		eP	**P**	**01 11 18.9**	**+0.8**
WRA	**Warramunga Arr**	**25.07 241**		P	**P**	**01 11 17.5**	**-0.8**
	4.2nm,0.6s,mb4.2,baz=66,slow=9.5,SNR=11						
ASAR	**Alice Springs**	**27.10 233**		P	**P**	**01 11 36.0**	**-0.7**
	0.8nm,0.8s,mb3.3,baz=69,slow=8.6,SNR=6.4						
STKA	**Stephens Creek**	**27.52 210**		eP	**P**	**01 11 40.6**	**+0.3**
	3.7nm,0.8s,mb4.1						
STKA	**Stephens Creek**	**27.52 210**		P	**P**	**01 11 40.8**	**+0.5**
	4.4nm,0.7s,mb4.2,baz=32,slow=14,SNR=8.6						
MJAR	**Matsushiro Arr**	**48.32 339**		P	**P**	**01 14 34.7**	**-0.4**
	1.1nm,0.4s,mb4.2,baz=162,slow=10.0,SNR=3.4						
SONM	**Songino Array**	**71.92 327**		P	**P**	**01 17 18.3**	**+1.4**
	1.0nm,0.9s,mb3.8,baz=165,slow=6.2,SNR=6.2						
SVW2	**Sparrevohn**	**78.50 21**		eP	**P**	**01 17 55.0**	**+0.4**
TTA	**Tatalina**	**79.60 20**		eP	**P**	**01 18 00.6**	**0.0**
	12nm,1.3s,mb4.7						
IMA2	**Indian Mountai**	**82.47 18**		eP	**P**	**01 18 16.1**	**+0.3**
MCK	**McKinley**	**82.57 21**		eP	**P**	**01 18 15.1**	**-1.3**
	16nm,0.9s,mb5.0						
MKAR	**Makanchi Array**	**86.14 318**		P	**P**	**01 18 34.7**	**-0.1**
MKAR	**Makanchi Array**	**86.14 318**		P	**P**	**01 18 34.7**	**-0.1**
	0.8nm,0.6s,mb4.1,baz=104,slow=6.0,SNR=9.4						
NVAR	**Mina Array Bea**	**90.76 51**		P	**P**	**01 18 57.8**	**+0.7**
	1.8nm,0.9s,mb4.4,baz=242,slow=4.0,SNR=6.4						
YKA	**Yellowknife Ar**	**96.54 28**		P	**P**	**01 19 22.3**	**-0.8**
	0.4nm,0.7s,mb4.0,baz=265,slow=4.7,SNR=8.4						
BDFB	**Brasilia**	**145.19 134**		PKPbc	PKPbc	01 25 33.8	+1.8
	3.4nm,0.7s,baz=134,slow=22,SNR=6.1						

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*IDC **03** 01:09:41.3±1.0, 731S×15609E, h0km, mb4.5/8, mb1 4.5/8, mb1mx4.3/15, mbtmp4.4/8, Error ellipse: s-maj=37.7km s-min=22.9km az=118.0*
*NEIC **03** 01:09:43.4±0.6, 723S×15596E, h10km, mb4.6/2, Error ellipse: s-maj=23.7km s-min=11.7km az=128.0*
*ISCJB **03** 01:09:45.3±1.2, 73S±02×1560E±02, h33km, mb4.3/9, Error ellipse: s-maj=40.3km s-min=16.3km az=34.5*
ISC 03 01:09:46.9±1.2, 73S±02×1560E±02, h35km, n18, σ0°55/14, mb4.3/9, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**23.82 255**		eP	**P**	**01 14 56.5**	**-0.5**
	8.5nm,0.6s,mb4.3						
WB2	**Warramunga Arr**	**24.48 237**		eP	**P**	**01 15 03.0**	**+0.1**
WRA	**Warramunga Arr**	**24.49 237**		P	**P**	**01 15 03.5**	**+0.5**
	3.7nm,0.5s,mb4.1,baz=61,slow=9.7,SNR=11						
ASAR	**Alice Springs**	**26.74 230**		P	**P**	**01 15 23.1**	**-0.2**
	0.6nm,0.5s,mb3.4,baz=58,slow=9.7,SNR=6.4						
FITZ	**Fitzroy Crossi**	**31.46 247**		eP	**P**	**01 16 05.1**	**-0.4**
	6.1nm,0.6s,mb4.6						
FITZ	**Fitzroy Crossi**	**31.46 247**		P	**P**	**01 16 05.3**	**-0.2**
	3.1nm,0.6s,mb4.3,baz=89,slow=8.0,SNR=18						
SONM	**Songino Array**	**70.14 327**		P	**P**	**01 20 57.0**	**+1.2**
	2.5nm,0.4s,mb4.5,baz=146,slow=6.4,SNR=37						
MKAR	**Makanchi Array**	**84.30 318**		P	**P**	**01 22 15.8**	**+0.5**
MKAR	**Makanchi Array**	**84.30 318**		P	**P**	**01 22 15.8**	**+0.5**
	8.1nm,0.6s,mb5.0,baz=102,slow=6.0,SNR=62						
MAW	**Mawson**	**84.50 203**		P	**P**	**01 22 16.3**	**+0.3**
	1.7nm,0.8s,mb4.2,baz=63,slow=2.3,SNR=6.9						
ZAA0	**Zalesovo Array**	**85.00 326**		eP	**P**	**01 22 17.8**	**-0.8**
ZALV	**Zalesovo Beam**	**85.00 326**		P	**P**	**01 22 18.1**	**-0.5**
	4.4nm,0.5s,mb4.9,baz=114,slow=5.5,SNR=24						
YKA	**Yellowknife Ar**	**96.14 28**		P	**P**	**01 23 10.4**	**-0.4**
YKA	**Yellowknife Ar**	**96.14 28**		P	**P**	**01 23 10.4**	**-0.4**
	0.3nm,0.8s,mb3.8,baz=264,slow=4.6,SNR=5.4						
CLL	**Collm**	**126.56 332**		*i* PKPdf	PKPdf	01 28 46.7	+0.3
CLL				*e*(pPKPdf)		01 28 56.0	
GERES	**GERESS Array B**	**127.84 329**		PKP	PKPdf	01 28 49.4	+0.5
	0.6nm,0.6s,baz=90,slow=1.3,SNR=7.8						
BDFB	**Brasilia**	**144.07 134**		PKPbc	PKPbc	01 29 26.9	-0.2
	4.0nm,0.8s,baz=183,slow=5.8,SNR=9.3						
TORD	**Torodi Ar. Bea**	**154.08 285**		PKPbc	PKPbc	01 29 42.4	-1.7
	0.6nm,0.6s,baz=55,slow=1.8,SNR=10						

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*BJI **03** 01:15:54.0, 892S×15792E, h21km, mB5.3, mb5.0, Ms5.0, Msz4.7*
*ISCJB **03** 01:15:55.7±0.3, 877S±006×15752E±006, h10km, mb4.7/30, MS4.6/7, Error ellipse: s-maj=9.6km s-min=7.9km az=36.2*
*IDC **03** 01:15:55.1±0.6, 883S×15760E, h0km, mb4.4/11, mb1 4.6/13, mb1mx4.5/18, mbtmp4.4/13, ML4.2/2, MS3.6/1, Ms1 3.6/1, ms1mx3.1/17, Error ellipse: s-maj=23.6km s-min=16.8km az=131.0*
*NEIC **03** 01:15:56.7±0.3, 885S×15763E, h10km, mb4.7/14, MS4.6/1, Error ellipse: s-maj=9.4km s-min=6.7km az=140.0*
ISC 03 01:15:57.5±2.6, 878S±007×15755E±007, h11km±16km, h14km±.7km:pP-P, n69, σ0°94/70, mb4.7/30, MS4.6/7, 2C-1D, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.45 106**		ePn	**Pn**	**01 16 34.0**	**-3.5**
HNR				eSn	**Sn**	**01 17 14.0**	**+6.5**
HNR	**Honiara**	**2.45 106**		Pn	**Pn**	**01 16 34.0**	**-3.5**
	65nm,0.3s,baz=239,slow=2.6,SNR=8.8						
HNR				LR	LR	01 16 58.9	
	comp=Z,1μm,19.2s,baz=4.7,slow=27						
HNR				Sn	**Sn**	**01 17 13.5**	**+5.9**
	203nm,0.3s,baz=97,slow=21,SNR=7.2						
CTA	**Charters Tower**	**15.68 223**		Pn	**Pn**	**01 19 38.6**	**0.0**
	0.5nm,0.3s,baz=41,slow=15,SNR=3.0						
CTAO	**Charters Tower**	**15.68 223**		ePn	**Pn**	**01 19 42.0**	**+3.5**
	12nm,0.7s						
EIDS	**Eidsvold**	**17.62 200**		eP	**Pn**	**01 20 05.8**	**+2.7**
	16nm,0.9s						
ARMA	**Armidale**	**22.23 194**		eP	**P**	**01 20 55.3**	**+1.0**
WB2	**Warramunga Arr**	**25.03 241**		eP	**P**	**01 21 20.6**	**-1.3**
WRA	**Warramunga Arr**	**25.04 241**		P	**P**	**01 21 21.0**	**-1.0**
	17nm,0.9s,mb4.5,baz=67,slow=9.5,SNR=11						
ASAR	**Alice Springs**	**27.04 234**		P	**P**	**01 21 38.3**	**-1.8**
	2.9nm,0.8s,mb3.8,baz=63,slow=9.0,SNR=21						
STKA	**Stephens Creek**	**27.35 211**		eP	**P**	**01 21 42.5**	**-0.3**
	12nm,0.8s,mb4.5						
STKA	**Stephens Creek**	**27.35 211**		P	**P**	**01 21 42.9**	**+0.1**
	8.3nm,0.8s,mb4.3,baz=42,slow=13,SNR=14						
FITZ	**Fitzroy Crossi**	**32.35 250**		P	**P**	**01 22 26.5**	**-0.7**
	2.2nm,0.7s,mb4.1,baz=45,slow=3.4,SNR=3.1						
MBWA	**Marble Bar**	**38.45 247**		eP	**P**	**01 23 20.4**	**+0.8**
	9.8nm,0.9s,mb4.5						
KKM	**Kota Kinabalu**	**43.76 288**		eP	**P**	**01 24 03.4**	**-0.2**
NACB	**Ninganchiao**	**48.01 314**		eP	**P**	**01 24 37.7**	**+0.8**
MAJO	**Matsushiro**	**48.61 339**		P	**P**	**01 24 40.5**	**-0.8**
KSRS	**Korea Array**	**53.70 331**		P	**P**	**01 25 19.0**	**-0.6**
	1.6nm,0.5s,mb4.2,baz=150,slow=8.0,SNR=5.5						
NJ2	**Nanjing**	**54.90 320**		eP	**P**	**01 25 28.0**	**-0.4**
NJ2				AMB	AMB		
	comp=Z,20nm,0.9s,mb5.2						
WHN	**Wuhan**	**56.98 315**		⇑P	**P**	**01 25 44.4**	**+1.1**
MDJ	**Mudanjiang**	**58.84 337**		P	**P**	**01 25 56.0**	**-0.1**
MDJ				AMB	AMB		
	comp=Z,7.0nm,1.2s,mb4.6						
MDJ			

CD2				LR	LR		
	comp=Z,120nm,14.4s,MS4.2						
HHC	**Hu-ho-hao-te**	**65.02**	**323**	*e*P	**P**	**01 26 38.1**	**+0.3**
HHC				AP	pP	01 26 42.2	+0.9
HHC				XP	sP	01 26 45.0	+2.4
HHC				PP	PP	01 29 00.9	-0.2
HHC				SCP		01 31 08.4	
HHC				PCS		01 31 10.7	
HHC				S	S	01 35 20.9	+0.9
HHC				SCS	ScS	01 36 31.4	-1.6
HHC				SS	SS	01 39 29.7	-2.7
HHC				AMB	AMB		
	comp=Z,17nm,0.4s,mb5.4						
HHC				AMB	AMB		
	comp=Z,402nm,11.2s						
HHC				LR	LR		
	comp=N,190nm,11.3s,MS4.8						
HHC				LR	LR		
	comp=E,392nm,15.7s,MS4.8						
HHC				LR	LR		
	comp=Z,239nm,15.7s,MS4.5						
LZH	**Lanzhou**	**67.35**	**315**	*e*P	**P**	**01 26 54.0**	**+1.1**
LZH				AP	pP	01 26 58.5	+2.1
LZH				XP	sP	01 27 01.5	+3.8
LZH				PP	PP	01 29 24.0	+2.4
LZH				*e*S	S	01 35 46.5	-2.1
LZH				AMB	AMB		
	comp=Z,47nm,1.5s,mb5.3						
LZH				AMB	AMB		
	comp=Z,230nm,6.1s						
LZH				LR	LR		
	comp=E,410nm,13.5s						
LZH				LR	LR		
	comp=Z,636nm,14.3s,MS5.0						
LZH	**Lanzhou**	**67.35**	**315**	*e*P	**P**	**01 26 54.0**	**+1.1**
	comp=Z,47nm,1.5s,mb5.3						
LZH				pP	pP	01 26 58.5	+2.1
LZH				sP	sP	01 27 01.5	+3.8
LZH				PP	PP	01 29 24.0	+2.4
LZH				*e*S	S	01 35 46.5	-2.1
LZH				sS	sS	01 35 52.9	-1.5
LZH				SS	SS	01 40 07.5	-1.3
LZH				LR	LR		
	comp=Z,640nm,14.3s,MS5.0						
VNDA	**Vanda**	**68.76**	**179**	P	**P**	**01 27 00.4**	**-0.6**
	comp=Z,2.1nm,0.8s,mb4.1,baz=337,slow=6.8,SNR=11						
GTA	**Gaotai**	**71.76**	**316**	⇓P	**P**	**01 27 21.1**	**+1.0**
GTA				AP	pP	01 27 24.6	+1.0
GTA				XP	sP	01 27 26.1	+1.2
GTA				PP	PP	01 30 03.5	+3.9
GTA				S	S	01 36 41.5	+1.1
GTA				AMB	AMB		
	comp=Z,9.0nm,1.7s,mb4.4						
GTA				AMB	AMB		
	comp=Z,384nm,7.3s						
GTA				LR	LR		
	comp=N,218nm,18.1s,MS4.6						
GTA				LR	LR		
	comp=E,222nm,18.1s,MS4.6						
GTA				LR	LR		
	comp=Z,389nm,18.1s,MS4.7						
SONM	**Songino Array**	**72.20**	**327**	P	**P**	**01 27 22.9**	**+0.4**
	comp=Z,2.0nm,0.9s,mb4.0,baz=137,slow=4.7,SNR=7.1						
SHL	**Shillong**	**72.38**	**300**	*e*P	**P**	**01 27 25.0**	**+0.9**
PALK	**Pallekele**	**78.23**	**279**	*e*P	**P**	**01 27 56.6**	**-1.4**
	comp=Z,13nm,1.0s,mb4.8						
TNA	**Tin City**	**78.40**	**14**	*e*P	**P**	**01 27 57.4**	**-0.4**
SVW2	**Sparrevohn**	**78.70**	**21**	*e*P	**P**	**01 27 59.9**	**+0.3**
TTA	**Tatalina**	**79.81**	**20**	*e*P	**P**	**01 28 05.5**	**-0.1**
WMQ	**Urumqi**	**81.85**	**317**	*e*P	**P**	**01 28 14.8**	**-2.1**
WMQ				AMB	AMB		
	comp=Z,9.0nm,0.7s,mb4.8						
SML	**Sawmill**	**81.85**	**23**	*e*P	**P**	**01 28 16.1**	**-0.4**
IMA2	**Indian Mountai**	**82.68**	**18**	*e*P	**P**	**01 28 20.6**	**-0.2**
COLA	**College**	**83.83**	**20**	*e*P	**P**	**01 28 25.4**	**-1.4**
	comp=Z,14nm,0.9s,mb5.1						
MENT	**Mentasta**	**84.27**	**23**	*e*P	**P**	**01 28 28.3**	**-0.7**
DAWY	**Dawson**	**86.51**	**23**	*e*P	**P**	**01 28 40.6**	**+0.4**
KURK	**Kurchatov**	**89.79**	**321**	*e*P	**P**	**01 28 47.8**	**-8.3**
TKM2	**Tokmak 2**	**90.07**	**313**	P	**P**	**01 28 57.2**	**-0.5**
	comp=Z,3.0nm,0.8s,mb4.7						
MWC	**Mount Wilson**	**90.27**	**56**	*e*P	**P**	**01 28 59.5**	**+0.7**
MTUM	**Tungsten Hills**	**90.44**	**52**	*e*P	**P**	**01 29 00.4**	**+0.9**
INK	**Inuvik**	**90.49**	**20**	P	**P**	**01 28 58.4**	**-0.6**
INK	**Inuvik**	**90.49**	**20**	P	**P**	**01 28 58.4**	**-0.6**
	comp=Z,1.9nm,1.0s,mb4.4,baz=210,slow=4.8,SNR=4.6						
UCH	**Uchtor**	**90.72**	**312**	*e*P	**P**	**01 29 00.8**	**+0.1**
	comp=Z,2.8nm,1.1s,mb4.5						
NVAR	**Mina Array Bea**	**90.84**	**51**	P	**P**	**01 29 02.1**	**+0.8**
	comp=Z,4.8nm,0.8s,mb4.9,baz=234,slow=5.0,SNR=18						
AML	**Almayashu**	**91.30**	**312**	*e*P	**P**	**01 29 03.6**	**+0.2**
	comp=Z,2.0nm,0.6s,mb4.6						
EKS2	**Erkin-Say**	**91.33**	**313**	P	**P**	**01 29 03.3**	**-0.2**
TPNV	**Topopah Spring**	**92.19**	**53**	*e*P	**P**	**01 29 08.2**	**+0.5**
HLID	**Hailey**	**94.56**	**47**	*e*P	**P**	**01 29 19.3**	**+0.9**
	comp=Z,3.5nm,1.1s,mb4.7						
BRVK	**Borovoye**	**95.30**	**323**	*e*P	**P**	**01 29 23.4**	**+1.8**
	comp=Z,11nm,1.0s,mb5.2						
YKA	**Yellowknife Ar**	**96.72**	**28**	P	**P**	**01 29 27.0**	**-0.8**
	comp=Z,0.6nm,0.7s,mb4.2,baz=264,slow=4.7,SNR=14						
BW06	**Boulder Array**	**98.00**	**48**	P	**P**	**01 29 33.5**	**-0.5**
PDAR	**Pinedale Array**	**98.00**	**48**	P	**P**	**01 29 33.5**	**-0.6**
	comp=Z,0.9nm,0.7s,mb4.4,baz=278,slow=2.2,SNR=5.7						
WMOK	**Wichita Mounta**	**106.16**	**56**	PKiKP	PKiKP	01 34 20.7	-1.7
AKASG	**Malin Array Be**	**120.45**	**325**	PKP	PKPdf	01 34 46.8	-2.4
	comp=Z,0.6nm,0.4s,baz=61,slow=2.3,SNR=4.8						
BOSA	**Boshof**	**120.84**	**229**	PKP	PKPdf	01 34 50.3	-0.4
	comp=Z,1.2nm,0.6s,baz=72,slow=6.4,SNR=5.3						
GERES	**GERESS Array B**	**129.87**	**329**	PKP	PKPdf	01 35 06.9	-0.3
	comp=Z,0.4nm,0.6s,baz=247,slow=1.0,SNR=5.8						
BDFB	**Brasilia**	**144.93**	**134**	PKP	PKPdf	01 35 34.1	-1.8
	comp=Z,8.7nm,0.7s,baz=222,slow=2.4,SNR=27						
ESDC	**Sonseca Array**	**145.07**	**335**	PKPbc	PKPbc	01 35 34.4	-0.5
	comp=Z,0.7nm,0.7s,baz=36,slow=6.7,SNR=4.4						
TORD	**Torodi Ar. Bea**	**155.91**	**283**	PKP	PKPdf	01 35 51.5	-1.5
	comp=Z,0.9nm,0.9s,baz=270,slow=0.7,SNR=4.8						

*ISCJB **03** 01:19:37.0±1.5, 2888N±003×1425E±0.1, h17km±11km, mb4.5/24, Error ellipse: s-maj=15.8km s-min=4.8km az=170.8*

*MOS **03** 01:19:39.0±1.0, 2872N×14251E, h33km, mb4.5/15, Error ellipse: s-maj=23.9km s-min=9.5km az=113.1*

*IDC **03** 01:19:40.8±5.2, 2870N×14249E, h32km±39km, mb4.0/10, mb1 4.2/12, mb1mx4.0/20, mbtmp4.0/12, ML4.1/2, MS3.8/1, Ms1 3.8/1, ms1mx3.1/29, Error ellipse: s-maj=28.3km s-min=15.5km az=80.0*

*NEIC **03** 01:19:41.2±0.4, 2873N×14259E, h35km, mb4.6/9, Error ellipse: s-maj=13.2km s-min=7.1km az=77.0*

ISC 03 01:19:39.6±1.6, 2882N±003×1426E±01, h23km±12km, n77, σ1°22/87, mb4.5/24, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**1.75**	**191**	P	**Pn**	**01 20 06.8**	**-1.7**
CBIJ				*e*S	**Sn**	**01 20 26.6**	**-3.4**
CBIJ	**Chichi jima**	**1.75**	**191**	Pn	**Pn**	**01 20 07.0**	**-1.5**
	22nm,0.3s,baz=288,slow=17,SNR=13						
JHHJ	**Haha-jima-NKT**	**2.21**	**189**	P	**Pn**	**01 20 13.4**	**-1.4**
BSO1	**Boso 1**	**5.97**	**347**	P	**Pn**	**01 21 06.1**	**-0.4**
BSO1				*e*S	**Sn**	**01 22 11.5**	**-2.7**
BSO2	**Boso 2**	**6.11**	**346**	*e*S	**Sn**	**01 22 16.9**	**-0.7**
BSO3	**Boso 3**	**6.22**	**344**	P	**Pn**	**01 21 10.0**	**+0.1**
BSO3				*e*S	**Sn**	**01 22 19.8**	**-0.4**
BSO4	**Boso 4**	**6.44**	**343**	*e*S	**Sn**	**01 22 25.2**	**-0.4**
JOD2	**Odawara 2**	**7.07**	**336**	P	**Pn**	**01 21 23.0**	**+1.4**
JOD2				*e*S	**Sn**	**01 22 41.5**	**+0.3**
JHU	**Hanno**	**7.54**	**339**	P	**Pn**	**01 21 28.7**	**+0.6**
JHU				*e*S	**Sn**	**01 22 49.6**	**-3.2**
JNY	**Yasuok**	**7.64**	**330**	P	**Pn**	**01 21 31.4**	**+2.0**
JYT	**Yasato**	**7.65**	**345**	P	**Pn**	**01 21 29.8**	**+0.2**
JRY	**Ryogami san**	**7.82**	**338**	P	**Pn**	**01 21 32.1**	**+0.3**
JRY				S	**Sn**	**01 22 56.9**	**-2.6**
JHO	**Hitachi**	**7.95**	**348**	P	**Pn**	**01 21 32.2**	**-1.4**
JHO				*e*S	**Sn**	**01 22 56.2**	**-6.6**
JAG	**Ashikaga**	**8.03**	**342**	P	**Pn**	**01 21 33.7**	**-1.0**
JAG				*e*S	**Sn**	**01 23 00.2**	**-4.5**
MJAR	**Matsushiro Arr**	**8.53**	**336**	P	**Pn**	**01 21 42.4**	**+0.8**
MJAR						01 23 15.5	
MJAR				pmax	pmax		
	comp=Z,5.0nm,0.3s						
MJAR				smax			
	comp=N,1.0nm,0.3s						
MJAR	**Matsushiro Arr**	**8.53**	**336**	Pn	**Pn**	**01 21 42.4**	**+0.8**
	comp=N,4.9nm,0.3s,baz=149,slow=11,SNR=22						
MJAR				Sn	**Sn**	**01 23 15.5**	**-1.6**
	comp=N,1.2nm,0.3s,baz=164,slow=17,SNR=5.1						
MAJO	**Matsushiro**	**8.53**	**336**	*e*Pn	**Pn**	**01 21 42.5**	**+0.8**
	comp=N,19nm,0.4s						
MAJO				*e*Sn	**Sn**	**01 23 18.5**	**+1.4**
MAJO	**Matsushiro**	**8.53**	**336**	*e*P	**Pn**	**01 21 42.5**	**+0.9**
MAJO				*e*		01 23 18.5	
MAJO				pmax	pmax		
	comp=Z,19nm,0.4s						
MAT	**Matsushiro**	**8.53**	**336**	P	**Pn**	**01 21 42.3**	**+0.7**
MAT				S	**Sn**	**01 23 15.1**	**-2.0**
MAT	**Matsushiro**	**8.53**	**336**	P	**Pn**	**01 21 42.7**	**+1.1**
MAT				*e*S	**Sn**	**01 23 15.4**	**-1.7**
JFK	**Kawauchi**	**8.64**	**351**	P	**Pn**	**01 21 41.3**	**-1.8**
JFK				*e*S	**Sn**	**01 23 11.7**	**-8.1**
JMK	**Ichinoseki**	**10.17**	**354**	P	**Pn**	**01 22 03.6**	**-0.5**
JMK				*e*S	**Sn**	**01 23 48.7**	**-8.6**
JNU	**Nakatsue**	**10.91**	**296**	LR	LR	01 25 29.6	
	comp=Z,455nm,19.5s,baz=343,slow=32						
KSRS	**Korea Array**	**14.97**	**309**	Pn	**Pn**	**01 23 11.4**	**+1.7**
	comp=Z,0.3nm,0.3s,baz=116,slow=10,SNR=5.6						
MDJ	**Mudanjiang**	**18.85**	**330**	*e*P	**Pn**	**01 23 59.1**	**+0.7**
	comp=Z,25nm,1.1s						
KLR	**Kul'dur**	**22.00**	**341**	*e*P	**P**	**01 24 29.3**	**-2.7**
HIA	**Hailar**	**26.85**	**326**	*e*P	**P**	**01 25 20.1**	**+1.9**
	comp=Z,28nm,1.2s,mb4.7						
HIA	**Hailar**	**26.85**	**326**	*e*P	**P**	**01 25 20.1**	**+1.9**
HIA				pmax	pmax		
	comp=Z,28nm,1.2s						
SONM	**Songino Array**	**33.73**	**314**	P	**P**	**01 26 19.8**	**+0.7**
SONM				pmax	pmax		
	comp=Z,4.0nm,0.8s						
SONM	**Songino Array**	**33.73**	**314**	P	**P**	**01 26 19.8**	**+0.7**
	comp=Z,3.5nm,0.8s,mb4.3,baz=122,slow=7.9,SNR=21						
BOD	**Bodaibo**	**35.16**	**334**	*e*P	**P**	**01 26 31.4**	**+0.1**
BOD				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.2						
ZAK	**Zakamensk**	**36.56**	**317**	*e*P	**P**	**01 26 44.3**	**+0.9**
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.4s,mb3.9						
TLY	**Talaya**	**36.84**	**319**	*e*P	**P**	**01 26 47.3**	**+1.5**
	comp=Z,12nm,1.0s,mb4.7						
TLY	**Talaya**	**36.84**	**319**	*e*P	**P**	**01 26 47.8**	**+2.1**
TLY				pmax	pmax		
	comp=Z,13nm,1.0s,mb4.7						
MOY	**Mondy**	**38.37**	**318**	*e*P	**P**	**01 27 00.4**	**+1.7**
BILL	**Bilibino**	**41.71**	**13**	*e*P	**P**	**01 27 27.2**	**+1.0**
	comp=Z,1.4nm,0.5s,mb3.9						
BILL	**Bilibino**	**41.71**	**13**	*e*P	**P**	**01 27 27.2**	**+1.0**
BILL				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb3.7						
ZALV	**Zalesovo Beam**	**48.42**	**318**	P	**P**	**01 28 21.1**	**+1.3**
	comp=Z,2.2nm,0.4s,mb4.5,baz=94,slow=8.5,SNR=12						
ZALV				PcP	PcP	01 29 45.6	-0.2
	comp=Z,1.0nm,0.5s,baz=168,slow=1.3,SNR=3.6						
ZAL	**Zalesovo**	**48.43**	**318**	P	**P**	**01 28 21.1**	**+1.3**
ZAL						01 29 45.7	
WB2	**Warramunga Arr**	**49.12**	**190**	*e*P	**P**	**01 28 24.2**	**-1.2**
WRA	**Warramunga Arr**	**49.12**	**190**	P	**P**	**01 28 24.5**	**-0.9**
WRA				pmax	pmax		
	comp=Z,7.0nm,0.7s						
WRA	**Warramunga Arr**	**49.12**	**190**	P	**P**	**01 28 24.5**	**-0.9**
	comp=Z,7.1nm,0.7s,mb4.8,baz=12,slow=8.2,SNR=14						
JIRN	**Jiri**	**49.27**	**283**	*e*P	**P**	**01 28 26.1**	**-0.6**
	comp=Z,4.3nm,0.7s,mb5.6						
FITZ	**Fitzroy Crossi**	**49.43**	**201**	*e*P	**P**	**01 28 28.1**	**+0.3**
	comp=Z,5.1nm,0.8s,mb4.6						
NVS	**Novosibirsk**	**49.45**	**319**	*e*P	**P**	**01 28 24.1**	**-3.5**
MKAR	**Makanchi Array**	**49.66**	**308**	P	**P**	**01 28 29.4**	**+0.1**
MKAR				pmax	pmax		
	comp=Z,4.0nm,0.8s						
MKAR	**Makanchi Array**	**49.66**	**308**	P	**P**	**01 28 29.4**	**+0.1**
	comp=Z,3.5nm,0.8s,mb4.5,baz=90,slow=9.9,SNR=23						
KKN	**Kakani**	**50.02**	**283**	*e*P	**P**	**01 28 31.5**	**-0.8**
	comp=Z,42nm,0.9s,mb5.5						
GKN	**Gorkha**	**50.51**	**284**	*e*P	**P**	**01 28 35.5**	**-0.6**
	comp=Z,30nm,0.9s,mb5.2						
KOLN	**Koldanda**	**51.45**	**284**	*e*P	**P**	**01 28 42.5**	**-0.7**
	comp=Z,42nm,0.8s,mb5.4						
ASAR	**Alice Springs**	**52.84**	**190**	P	**P**	**01 28 52.1**	**-1.2**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ASAR	**Alice Springs**	**52.84**	**190**	P	**P**	**01 28 52.1**	**-1.2**
	comp=Z,0.6nm,0.6s,mb3.7,baz=8.4,slow=7.4,SNR=5.8						
UCH	**Uchtor**	**55.62**	**303**	*e*P	**P**	**01 29 15.2**	**+1.7**
	comp=Z,2.3nm,0.8s,mb4.3						
AML	**Almayashu**	**56.23**	**303**	*e*P	**P**	**01 29 19.1**	**+1.2**
	comp=Z,9.2nm,0.8s,mb4.9						
NDI	**New Delhi**	**56.59**	**287**	*ex*	**P**	**01 29 19.0**	**-1.7**
INK	**Inuvik**	**61.33**	**25**	*e*P	**P**	**01 29 53.5**	**+0.6**
	comp=Z,60nm,0.5s						
INK	**Inuvik**	**61.33**	**25**	P	**P**	**01 29 53.8**	**+0.9**
INK				pmax	pmax		
	comp=Z,2.0nm,0.4s						
INK	**Inuvik**	**61.33**	**25**	P	**P**	**01 29 53.8**	**+0.9**
	comp=Z,2.0nm,0.4s,mb4.6,baz=274,slow=5.1,SNR=21						
YKA	**Yellowknife Ar**	**70.47**	**29**	P	**P**	**01 30 52.5**	**+0.7**
YKA	**Yellowknife Ar**	**70.47**	**29**	P	**P**	**01 30 52.5**	**+0.7**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
YKA	**Yellowknife Ar**	**70.47**	**29**	P	**P**	**01 30 52.5**	**+0.7**
	comp=Z,0.7nm,0.6s,mb3.8,baz=295,slow=6.4,SNR=13						
FINES	**FINESS Array B**	**76.56**	**334**	P	**P**	**01 31 27.6**	**0.0**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
FINES	**FINESS Array B**	**76.56**	**334**	P	**P**	**01 31 27.6**	**0.0**
	comp=Z,0.7nm,0.4s,mb3.9,baz=88,slow=4.5,SNR=6.7						
KIV	**Kislovodsk**	**77.12**	**313**	*e*P	**P**	**01 31 32.7**	**+1.6**
	comp=Z,5.7nm,0.8s,mb4.5						
KIV	**Kislovodsk**	**77.12**	**313**	*e*P	**P**	**01 31 33.9**	**+2.8**
KIV				pmax	pmax		
	comp=Z,9.0nm,1.1s,mb4.6						
AKASG	**Malin Array Be**	**81.43**	**324**	P	**P**	**01 31 54.4**	**-0.2**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
AKASG	**Malin Array Be**	**81.43**	**324**	P	**P**	**01 31 54.4**	**-0.2**
	comp=Z,0.6nm,0.4s,mb3.9,baz=50,slow=5.1,SNR=5.0						
NB2	**NORSAR Subarra**	**82.14**	**338**	P	**P**	**01 31 57.9**	**-0.2**
	comp=Z,1.1nm,0.6s,mb4.0,baz=41,slow=5.1						
NOA	**NORSAR Array B**	**82.14**	**338**	P	**P**	**01 31 58.2**	**+0.1**
NOA	**NORSAR Array B**	**82.14**	**338**	P	**P**	**01 31 58.2**	**+0.1**
NOA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
NOA	**NORSAR Array B**	**82.14**	**338**	P	**P**	**01 31 58.2**	**+0.1**
	comp=Z,2.1nm,0.7s,mb4.2,baz=41,slow=5.2,SNR=5.5						
MALT	**Malatya**	**82.68**	**310**	*e*P	**P**	**01 32 02.1**	**+0.7**
	comp=Z,5.5nm,1.0s,mb4.5						
MALT	**Malatya**	**82.68**	**310**	*e*P	**P**	**01 32 02.1**	**+0.7**
MALT				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.6						
DAU	**Daniels Canyon**	**82.94**	**48**	*e*P	**P**	**01 32 02.7**	**+0.1**
TORD	**Torodi Ar. Bea**	**123.69**	**312**	PKP	PKPdf	01 38 35.5	-0.6
	comp=Z,0.3nm,0.5s,baz=32,slow=0.4,SNR=7.0						
LPAZ	**La Paz**	**149.13**	**73**	PKP2	PKPbc	01 39 28.5	+1.9
LPAZ				pmax	pmax		
	comp=Z,2.0nm,0.7s						
LPAZ	**La Paz**	**149.13**	**73**	PKPbc	PKPbc	01 39 28.5	+1.9
	comp=Z,2.1nm,0.7s,baz=237,slow=0.9,SNR=7.6						

IDC 03 01:22:12.6±3.4, 702S×15502E, h0km, mb4.0/6, mb1 4.1/6, mb1mx3.9/14, mbtmp4.0/6, MS3.9/2, Ms1 3.8/2, ms1mx3.5/18, Error ellipse: s-maj=112.0km s-min=25.0km az=104.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.44**	**116**	LR	LR	01 25 35.4	
	comp=Z,767nm,19.8s,baz=358,slow=37						
WRA	**Warramunga Arr**	**23.82**	**235**	P	P	01 27 28.1	+0.5
	4.0nm,0.9s,baz=62,slow=9.5,SNR=7.4						
ASAR	**Alice Springs**	**26.17**	**228**	P	P	01 27 48.0	-0.9
	0.5nm,0.7s,baz=51,slow=12,SNR=4.2						
STKA	**Stephens Creek**	**27.72**	**205**	P	P	01 28 03.4	+0.6
	2.4nm,0.8s,baz=28,slow=11,SNR=4.7						
STKA				LR	LR	01 37 20.9	
	comp=Z,290nm,18.4s,baz=328,slow=33						
SONM	**Songino Array**	**69.37**	**327**	P	P	01 33 23.3	+1.2
	0.8nm,0.6s,baz=138,slow=6.7,SNR=8.1						
MKAR	**Makanchi Array**	**83.44**	**319**	P	P	01 34 42.0	-0.1
	2.1nm,0.7s,baz=103,slow=5.8,SNR=15						
ZALV	**Zalesovo Beam**	**84.21**	**326**	P	P	01 34 45.0	-0.9
	1.1nm,0.5s,baz=112,slow=5.2,SNR=6.3						

*IDC **03** 01:42:04.7±0.6, 8.73S×15739E, h0km, mb4.6/14, mb1 4.8/17, mb1mx4.8/18, mbtmp4.6/17, ML4.2/2, MS4.6/4, Ms1 4.6/4, ms1mx3.9/26, Error ellipse: s-maj=20.1km s-min=15.7km az=101.0*

*ISCJB **03** 01:42:05.4±0.2, 880S±005×15736E±005, h14km, mb4.9/53, MS4.6/13, Error ellipse: s-maj=7.3km s-min=6.5km az=12.8*

*BJI **03** 01:42:06.9, 8.14S×15745E, h8km, mB5.2, mb5.0, Ms5.0, Msz4.7*

*NEIC **03** 01:42:06.3±0.3, 878S×15735E, h10km, mb5.0/28, MS4.5/1, Error ellipse: s-maj=9.1km s-min=6.9km az=116.0*

*MOS **03** 01:42:08.3±1.2, 874S×15733E, h33km, mb5.2/13, Error ellipse: s-maj=10.3km s-min=9.0km az=96.5*

ISC 03 01:42:07.2±0.3, 882S±004×15739E±005, h15km, h15km±1.8km: pP-P, n128, σ1°09/122, mb4.9/53, MS4.6/13, 11C-1D, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.60**	**104**	Pn	**Pn**	**01 42 49.0**	**+0.3**
HNR				Sn	**Sn**	**01 43 24.8**	**+4.8**
HNR	**Honiara**	**2.60**	**104**	Pn	**Pn**	**01 42 47.2**	**-1.5**
	167nm,0.3s,baz=268,slow=2.1,SNR=39						
HNR				Sn	**Sn**	**01 43 24.8**	**+4.8**
	309nm,0.3s,baz=274,slow=23,SNR=14						
CTA	**Charters Tower**	**15.54**	**223**	⇑*i*P	**Pn**	**01 45 52.9**	**+7.0**
	25nm,1.1s						
CTA	**Charters Tower**	**15.54**	**223**	Pn	**Pn**	**01 45 46.2**	**+0.4**
	baz=45,slow=11,SNR=3.6						
CTAO	**Charters Tower**	**15.54**	**223**	*e*Pn	**Pn**	**01 45 45.2**	**-0.7**
	88nm,1.4s						
CTAO	**Charters Tower**	**15.54**	**223**	*e*P	**Pn**	**01 45 45.2**	**-0.7**
CTAO				pmax	pmax		
	comp=Z,88nm,1.4s						
DZM	**Mont Dzumac**	**15.80**	**148**	Pn	**Pn**	**01 45 49.4**	**+0.2**
	comp=Z,0.3nm,0.3s,baz=13,slow=15,SNR=5.8						
EIDS	**Eidsvold**	**17.52**	**199**	*e*Pn	**Pn**	**01 46 11.0**	**-0.1**
	comp=Z,37nm,1.0s						
ARMA	**Armidale**	**22.16**	**193**	*e*P	**P**	**01 47 03.6**	**+1.0**
KAKA	**Kakadu**	**24.81**	**259**	*e*P	**P**	**01 47 27.5**	**-1.5**
	comp=Z,14nm,0.8s,mb4.5						
WB2	**Warramunga Arr**	**24.87**	**241**	*e*P	**P**	**01 47 28.4**	**-1.1**
WB2	**Warramunga Arr**	**24.87**	**241**	*e*P	**P**	**01 47 29.0**	**-0.5**
WRA	**Warramunga Arr**	**24.88**	**241**	P	**P**	**01 47 29.6**	**0.0**
	comp=Z,32nm,1.0s,mb4.8,baz=66,slow=9.6,SNR=53						
WRA				LR	LR	01 56 52.2	
	comp=Z,1μm,19.3s,MS4.5,baz=60,slow=36						
ASAR	**Alice Springs**	**26.89**	**234**	P	**P**	**01 47 47.1**	**-0.6**
	comp=Z,6.1nm,1.0s,mb4.1,baz=63,slow=9.4,SNR=27						
STKA	**Stephens Creek**	**27.24**	**210**	⇑*i*P	**P**	**01 47 51.9**	**+1.1**
	comp=Z,16nm,0.7s,mb4.7						
STKA	**Stephens Creek**	**27.24**	**210**	P	**P**	**01 47 51.9**	**+1.1**
	comp=Z,18nm,0.7s,mb4.7,baz=15,slow=9.1,SNR=37						
STKA				LR	LR	01 59 02.4	
	comp=Z,519nm,18.5s,MS4.1,baz=93,slow=37						
FITZ	**Fitzroy Crossi**	**32.18**	**250**	*e*P	**P**	**01 48 33.7**	**-1.1**
	comp=Z,8.6nm,1.5s,mb4.4						
MBWA	**Marble Bar**	**38.28**	**247**	*e*P	**P**	**01 49 26.8**	**-0.6**
	comp=Z,8.6nm,0.9s,mb4.5						
RAR	**Rarotonga**	**43.03**	**112**	LR	LR	02 04 09.8	
	comp=Z,1μm,21.9s,MS4.8,baz=99,slow=31						
NWAO	**Narrogin (SRO)**	**44.14**	**231**	P	**P**	**01 50 15.2**	**-0.2**
NWAO	**Narrogin (SRO)**	**44.14**	**231**	LR	LR	02 08 15.9	
	comp=Z,874nm,20.5s,MS4.7,baz=54,slow=36						
KSM	**Kuching**	**48.02**	**280**	*e*P	**P**	**01 50 46.3**	**+0.1**
MJAR	**Matsushiro Arr**	**48.59**	**339**	P	**P**	**01 50 48.0**	**-2.1**
	comp=Z,2.1nm,0.6s,mb4.4,baz=167,slow=9.5,SNR=5.4						
PPT	**Papeete**	**52.22**	**105**	*e*LR	LR	02 06 39.1	
	comp=Z,433nm,26.0s						
PAE	**Paea**	**52.22**	**105**	*e*P	**P**	**01 51 19.2**	**+1.1**
	comp=Z,32nm,1.0s,mb5.2						
PAE	**Paea**	**52.22**	**105**	*e*P	**P**	**01 51 19.2**	**+1.1**
PAE				pmax	pmax		
	comp=Z,32nm,1.0s,mb5.2						
ERM	**Erimo**	**52.24**	**347**	P	**P**	**01 51 23.2**	**+5.5**
TBI	**Tubuai**	**52.79**	**113**	*e*LQ		02 04 42.6	
	comp=Z,783nm,32.2s						
TBI				*e*LR	LR	02 07 02.3	
	comp=Z,404nm,26.8s						
**KS

KMI AMB AMB
comp=Z,133nm,4.5s
KMI LR LR
comp=N,240nm,15.0s,MS4.8
KMI LR LR
comp=E,356nm,12.8s,MS4.8
KMI LR LR
comp=Z,262nm,17.4s,MS4.5
KMI Kunming 62.99 304 P **P** **01 52 35.0 +1.2**
comp=Z,20nm,1.0s,mb5.2
KMI pP pP 01 52 38.3 -0.3
KMI sP sP 01 52 40.2 -0.2
KMI PcP PcP 01 53 13.6 +1.8
KMI PP PP 01 54 50.5 -2.1
KMI PPP 01 56 27.3
KMI S **S** **02 01 04.8 +0.8**
KMI sS sS 02 01 16.1 +4.2
KMI SS SS 02 05 09.4 -0.5
KMI SSS 02 07 56.6
KMI LR LR
comp=Z,260nm,17.4s,MS4.5
KMI Kunming 62.99 304 P **P** **01 52 35.0 +1.2**
KMI *SP sP 01 52 40.2 -0.2
KMI 01 53 13.6
KMI 01 54 50.5
KMI PPP 01 56 27.3
KMI S **S** **02 01 04.8 +0.8**
KMI *SS sS 02 01 16.1 +4.2
KMI SS SS 02 05 09.4 -0.5
KMI SSS 02 07 56.6
KMI pmax pmax
comp=Z,20nm,1.0s,mb5.2
KMI MLR MLR
comp=Z,260nm,17.4s,MS4.5
CHTO Chiang Mai 63.83 296 *e*P **P** **01 52 40.4 +1.0**
CD2 Chengdu 64.79 310 *e*P **P** **01 52 46.6 +1.0**
CD2 AP pP 01 52 52.2 +1.8
CD2 XP sP 01 52 55.8 +3.6
CD2 PP PP 01 55 12.6 +4.3
CD2 PCS 01 57 21.4
CD2 S **S** **02 01 27.6 +1.4**
CD2 XS sS 02 01 34.5 +0.5
CD2 SCS ScS 02 02 37.2 -3.0
CD2 AMB AMB
comp=Z,30nm,0.7s,mb5.4
CD2 AMB AMB
comp=Z,80nm,8.4s
CD2 LR LR
comp=N,330nm,15.6s
CD2 LR LR
comp=Z,480nm,15.8s,MS4.8
HHC Hu-ho-hao-te 64.96 323 *e*P **P** **01 52 48.3 +1.9**
HHC AP pP 01 52 53.0 +1.8
HHC XP sP 01 52 55.7 +2.7
HHC PP PP 01 55 13.4 +3.8
HHC SCP 01 57 19.7
HHC PCS 01 57 26.2
HHC S **S** **02 01 29.3 +1.5**
HHC XS sS 02 01 34.0 -1.7
HHC AMB AMB
comp=Z,23nm,0.4s,mb5.6
HHC AMB AMB
comp=Z,197nm,7.0s
HHC LR LR
comp=N,253nm,9.6s
HHC LR LR
comp=E,330nm,11.2s
HHC LR LR
comp=Z,367nm,17.3s
HIA Hailar 66.57 334 *e*P **P** **01 52 55.0 -1.6**
comp=Z,15nm,1.1s,mb4.9
HIA Hailar 66.57 334 *e*P **P** **01 52 55.1 -1.6**
HIA pmax pmax
comp=Z,15nm,1.1s
LZH Lanzhou 67.27 315 ⇑P **P** **01 53 02.8 +1.4**
LZH AP pP 01 53 06.0 -0.2
LZH XP sP 01 53 07.5 -0.5
LZH AMB AMB
comp=Z,106nm,1.5s,mb5.7
LZH AMB AMB
comp=Z,330nm,4.5s
LZH LR LR
comp=E,523nm,14.5s
LZH LR LR
comp=Z,852nm,15.2s,MS5.1
LZH Lanzhou 67.27 315 ⇑P **P** **01 53 02.8 +1.4**
comp=Z,106nm,1.5s,mb5.7
LZH pP pP 01 53 06.0 -0.2
LZH sP sP 01 53 07.5 -0.5
LZH PP PP 01 55 33.2 +3.3
LZH *e*S S 02 01 57.2 +1.1
LZH sS sS 02 02 03.1 -1.0
LZH SS SS 02 06 19.4 +3.2
LZH LR LR
comp=Z,850nm,15.2s,MS5.1
LZH Lanzhou 67.27 315 ⇑P **P** **01 53 02.8 +1.4**
LZH 01 55 33.2
LZH *e*S S 02 01 57.2 +1.1
LZH SS SS 02 06 19.4 +3.2
LZH pmax pmax
comp=Z,106nm,1.5s,mb5.7
LZH MLR MLR
comp=Z,850nm,15.2s,MS5.1
MA2 Magadan 68.37 356 *e*P **P** **01 53 06.5 -1.3**
VNDA Vanda 68.72 179 P **P** **01 53 10.3 +0.4**
VNDA Vanda 68.72 179 P **P** **01 53 10.3 +0.4**
comp=Z,4.3nm,0.9s,mb4.4,baz=342,slow=6.8,SNR=20
SBA Scott Base 69.19 178 *e*P **P** **01 53 14.3 +1.6**
comp=Z,6.6nm,0.9s,mb4.6
SBA Scott Base 69.19 178 *e*P **P** **01 53 14.3 +1.6**
SBA pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
SEY Seymchan 71.64 358⇑*e*P **P** **01 53 29.5 +1.7**
GTA Gaotai 71.68 316 ⇑P **P** **01 53 29.5 +0.9**
GTA AP pP 01 53 33.0 -0.5
GTA XP sP 01 53 34.5 -0.7
GTA AMB AMB
comp=Z,14nm,1.5s,mb4.7
GTA AMB AMB
comp=Z,406nm,7.3s
GTA LR LR
comp=N,281nm,15.2s,MS4.9
GTA LR LR
comp=E,393nm,15.6s,MS4.9
GTA LR LR
comp=Z,230nm,16.3s,MS4.5
SONM Songino Array 72.14 327 P **P** **01 53 31.8 +0.6**
comp=Z,6.1nm,1.0s,mb4.5,baz=132,slow=5.7,SNR=26
YAK Yakutsk 73.84 347 *e*P **P** **01 53 40.5 -0.4**
comp=Z,27nm,0.4s,mb5.5
YAK Yakutsk 73.84 347 *e*P **P** **01 53 38.3 -2.6**
YAK pmax pmax
comp=N,7.0nm,1.4s
YAK pmax pmax
comp=Z,22nm,0.8s,mb5.1
YAK pmax pmax
comp=E,4.0nm,1.0s
LSA Lhasa 74.25 304 P **P** **01 53 45.3 +1.2**
LSA AMB AMB
comp=Z,30nm,1.0s,mb5.2
LSA Lhasa 74.25 304 *e*P **P** **01 53 45.9 +1.8**
comp=Z,39nm,1.6s,mb5.1
LSA Lhasa 74.25 304 *e*P **P** **01 53 45.9 +1.8**
LSA pmax pmax
comp=Z,39nm,1.6s,mb5.1
BOD Bodaibo 75.18 338 *e*P **P** **01 53 47.3 -1.5**
BOD pmax pmax
comp=Z,6.0nm,1.9s,mb4.2
ZAK Zakamensk 75.29 328 *e*P **P** **01 53 49.5 -0.1**
ZAK pmax pmax
comp=Z,5.0nm,1.6s,mb4.2
TLY Talaya 75.83 329 *e*P **P** **01 53 51.6 -1.1**
comp=Z,3.9nm,0.7s,mb4.5
TLY Talaya 75.83 329 *e*P **P** **01 53 52.0 -0.7**
TLY pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
BILL Biiibino 76.92 3 *e*P **P** **01 53 59.9 +1.3**
comp=Z,14nm,0.9s,mb4.9
BILL Biiibino 76.92 3⇑*e*P **P** **01 53 59.7 +1.2**
BILL *e*PP pP 01 54 15.8 +12
BILL *e*S S 02 03 48.7 +3.0
BILL pmax pmax
comp=Z,17nm,1.5s,mb4.8
MOY Mondy 77.20 328 *e*P **P** **01 54 00.7 +0.3**
JIRN Jiri 77.75 301 *e*P **P** **01 54 04.5 +0.4**
comp=Z,173nm,1.9s,mb5.7
PALK Pallekele 78.08 279 *e*P **P** **01 54 06.7 +0.5**
TNA Tin City 78.48 14 *e*P **P** **01 54 06.7 -0.6**
KKN Kakani 78.56 301 *e*P **P** **01 54 08.8 +0.2**
comp=Z,81nm,1.5s,mb5.5
SVW2 Sparrevohn 78.80 21 *e*P **P** **01 54 09.2 +0.1**
GKN Gorkha 79.16 301 *e*P **P** **01 54 11.8 -0.1**
comp=Z,88nm,1.4s,mb5.5
TTA Tatalina 79.90 20 *e*P **P** **01 54 15.2 +0.1**
KOLN Koldanda 79.98 300 *e*P **P** **01 54 15.4 -1.0**
comp=Z,94nm,1.4s,mb5.5
PMR Palmer 81.51 23 *e*P **P** **01 54 25.1 +1.3**
comp=Z,34nm,1.7s,mb5.0
PMR Palmer 81.51 23 *e*P **P** **01 54 25.1 +1.3**
PMR pmax pmax
comp=Z,35nm,1.7s,mb5.0
WMQ Urumqi 81.77 317 P **P** **01 54 25.1 -0.4**
WMQ AMB AMB
comp=Z,12nm,1.0s,mb4.8
WMQ LR LR
comp=Z,254nm,19.6s,MS4.6
SML Sawmill 81.95 23 *e*P **P** **01 54 25.6 -0.4**
TIXI Tiksi 82.49 351 *e*P **P** **01 54 28.2 -0.5**
comp=Z,20nm,1.5s,mb4.8
TIXI Tiksi 82.49 351 *e*P **P** **01 54 26.9 -1.8**
TIXI pmax pmax
comp=Z,20nm,1.8s,mb4.8
IMA2 Indian Mountai 82.77 18 *e*P **P** **01 54 31.6 +1.3**
MCK McKinley 82.87 21 *e*P **P** **01 54 29.2 -1.6**
comp=Z,43nm,1.0s,mb5.4
MCK McKinley 82.87 21 *e*P **P** **01 54 29.2 -1.6**
MCK pmax pmax
comp=Z,43nm,1.0s,mb5.4
MAW Mawson 83.64 203 P **P** **01 54 35.9 +1.0**
comp=Z,14nm,1.2s,mb5.0,baz=176,slow=4.2,SNR=4.3
COLA College 83.92 21 *e*P **P** **01 54 34.8 -1.5**
comp=Z,17nm,0.9s,mb5.2
COLA College 83.92 21 *e*P **P** **01 54 34.8 -1.4**
COLA pmax pmax
comp=Z,17nm,0.9s,mb5.2
NDI New Delhi 85.67 300 *ex* x 01 54 43.0
EGAK Eagle 86.28 22 *e*P **P** **01 54 47.8 -0.3**
SKAG Skagway 86.33 28 *e*P **P** **01 54 48.7 +0.3**
comp=Z,44nm,1.6s,mb5.4
MK31 Makanchi Array 86.33 318 *e*P **P** **01 54 48.0 -0.7**
MKAR Makanchi Array 86.33 318⇑*e*P **P** **01 54 48.5 -0.2**
MKAR Makanchi Array 86.33 318 P **P** **01 54 48.5 -0.2**
comp=Z,4.7nm,0.7s,mb4.8,baz=99,slow=5.8,SNR=31
DAWY Dawson 86.61 23 *e*P **P** **01 54 49.9 +0.2**
ZALV Zalesovo Beam 87.01 326 P **P** **01 54 50.2 -1.6**
ZALV Zalesovo Beam 87.01 326 P **P** **01 54 50.2 -1.6**
comp=Z,1.3nm,0.7s,mb4.3,baz=103,slow=4.4,SNR=7.2
ZAL Zalesovo 87.02 326 P **P** **01 54 50.2 -1.7**
NVS Novosibirsk 88.17 326 *e*P **P** **01 54 55.6 -1.8**
KURK Kurchatov 89.72 321 *e*P **P** **01 55 02.4 -2.4**
comp=Z,12nm,1.6s,mb5.0
KURK Kurchatov 89.72 321 *e*P **P** **01 55 02.4 -2.4**
KURK pmax pmax
comp=Z,12nm,1.6s,mb5.0
TKM2 Tokmak 2 89.98 313 *e*P **P** **01 55 06.4 +0.2**
comp=Z,1.7nm,0.6s,mb4.5
TKM2 Tokmak 2 89.98 313 *e*P **P** **01 55 06.4 +0.2**
TKM2 pmax pmax
comp=Z,2.0nm,0.6s,mb4.6
INK Inuvik 90.58 20 P **P** **01 55 07.5 -1.0**
INK Inuvik 90.58 20 P **P** **01 55 07.5 -1.0**
comp=Z,2.3nm,1.2s,mb4.4,baz=254,slow=6.2,SNR=3.9
MTUM Tungsten Hills 90.59 52 *e*P **P** **01 55 10.1 +0.8**
UCH Uchtor 90.62 313 *e*P **P** **01 55 09.9 +0.6**
comp=Z,21nm,1.8s,mb5.2
NVAR Mina Array Bea 90.99 51 P **P** **01 55 11.8 +0.7**
NVAR Mina Array Bea 90.99 51 P **P** **01 55 11.8 +0.8**
comp=Z,4.6nm,1.0s,mb4.8,baz=238,slow=4.4,SNR=18
AML Almayashu 91.20 312 *e*P **P** **01 55 08.5 -3.5**
comp=Z,11nm,1.4s,mb5.0
EKS2 Erkin-Say 91.24 313 *e*P **P** **01 55 12.3 +0.2**
comp=Z,7.2nm,1.4s,mb4.8
SYO Syowa Base 91.38 199‖*e*P **P** **01 55 10.0 -2.3**
BRVK Borovoye 95.24 323 P **P** **01 55 28.8 -1.5**
YKA Yellowknife Ar 96.83 28 P **P** **01 55 37.4 +0.2**
YKA Yellowknife Ar 96.83 28 P **P** **01 55 37.4 +0.2**
comp=Z,1.8nm,1.0s,mb4.5,baz=263,slow=4.7,SNR=17
PDAR Pinedale Array 98.15 48 P **P** **01 55 43.5 -0.3**
comp=Z,0.9nm,1.0s,mb4.2,baz=106,slow=3.2,SNR=3.7
WMOK Wichita Mounta 106.31 56 PKiKP PKiKP 02 00 30.8 -0.9
MALT Malatya 118.07 309 *e*PKPdf PKPdf 02 00 53.6 -0.4
KMBO Kilima Mbogo 119.55 264 PKPdf PKPdf 02 00 57.9 +0.4
BRG Berggiesshubel 128.38 331 *e*PKIKP PKPdf 02 01 14.0 +0.7
BRG Berggiesshubel 128.38 331 *e*P PKPdf 02 01 13.8 +0.4
comp=Z,4.8nm,1.1s
CLL Collm 128.53 332 *e*PKPdf PKPdf 02 01 14.0 +0.4
KHC Kasperske Hory 129.70 330⇑*e*PKIKP PKPdf 02 01 18.7 +2.8
GERES GERESS Array B 129.82 329 PKP PKPdf 02 01 15.9 -0.2
comp=Z,0.5nm,0.7s,baz=46,slow=3.9,SNR=5.8
BDFB Brasilia 145.02 134 PKPbc PKPbc 02 01 43.8 -0.5
comp=Z,6.6nm,0.8s,baz=203,slow=6.8,SNR=12
ESDC Sonseca Array 145.04 334 PKP PKPdf 02 01 42.9 -1.5
comp=Z,2.6nm,0.9s,baz=27,slow=3.2,SNR=9.0
TORD Torodi Ar. Bea 155.76 282 PKP PKPdf 02 02 01.1 -0.6
comp=Z,0.7nm,0.8s,baz=53,slow=2.2,SNR=3.7

*IDC **03** 01:44:07.9±0.8, 851S×157.44E, h0km, mb4.5/10, mb1 4.7/11, mb1mx4.5/16, mbtmp4.5/11, ML4.6/1, Error ellipse: s-maj=25.7km s-min=20.2km az=136.0*
*NEIC **03** 01:44:09.3±0.3, 847S×157.45E, h10km, mb4.8/16, Error ellipse: s-maj=8.9km s-min=6.7km az=145.0*
*ISCJB **03** 01:44:11.1±4.8, 851S±007×157.45E±006, h15km±30km, mb4.6/26, Error ellipse: s-maj=12.7km s-min=8.7km az=18.8*
*BJI **03** 01:44:11.7, 794S×157.50E, h13km, mB5.3, mb4.8*
ISC 03 01:44:11.5±4.6, 853S±009×157.49E±005, h24km±33km, h17km±7.7km:pP-P, n52, σ0=91/51, mb4.6/26, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.59**	**111**		Pn		**Pn**	**01 44 52.5**	**+0.6**
	107nm,0.3s,baz=261,slow=5.4,SNR=5.6								
HNR					Sn		**Sn**	**01 45 21.8**	**-0.9**
	524nm,0.3s,baz=281,slow=7.6,SNR=4.1								
CTAO	**Charters Tower**	**15.82**	**222**	*e*Pn			**Pn**	**01 47 53.3**	**+0.4**
	22nm,1.0s								
KAKA	**Kakadu**	**24.96**	**258**	*e*P			**P**	**01 49 32.8**	**-0.7**
	9.3nm,0.7s,mb4.4								
WB2	**Warramunga Arr**	**25.10**	**241**	*e*P			**P**	**01 49 33.1**	**-1.5**
WRA	**Warramunga Arr**	**25.11**	**241**	P			**P**	**01 49 34.2**	**-0.5**
	7.9nm,0.6s,mb4.4,baz=66,slow=9.4,SNR=13								
ASAR	**Alice Springs**	**27.14**	**234**	P			**P**	**01 49 51.1**	**-2.0**
	3.9nm,0.9s,mb3.9,baz=65,slow=8.9,SNR=4.1								
STKA	**Stephens Creek**	**27.54**	**210**	*e*P			**P**	**01 49 57.4**	**+0.9**
	6.8nm,0.6s,mb4.5								
STKA	**Stephens Creek**	**27.54**	**210**	P			**P**	**01 49 57.5**	**+1.0**
	8.2nm,0.7s,mb4.5,baz=30,slow=13,SNR=7.3								
KKM	**Kota Kinabalu**	**43.63**	**288**	*e*P			**P**	**01 52 15.0**	**+0.5**
NACB	**Ninganchiao**	**47.79**	**314**	P			**P**	**01 52 46.1**	**-1.1**
KSM	**Kuching**	**48.07**	**280**	P			**P**	**01 52 50.1**	**+0.4**
MAJO	**Matsushiro**	**48.35**	**339**	P			**P**	**01 52 50.7**	**-0.7**
KSRS	**Korea Array**	**53.45**	**331**	P			**P**	**01 53 30.2**	**+0.4**
	3.3nm,0.6s,mb4.4,baz=148,slow=6.8,SNR=9.1								
YSS	**Yuzh-Sakhalins**	**56.77**	**348**	*e*P			**P**	**01 53 52.3**	**-1.3**
	14nm,1.0s,mb5.0								
MDJ	**Mudanjiang**	**58.59**	**337**	*e*P			**P**	**01 54 06.8**	**+0.4**
	8.7nm,0.8s,mb4.8								
CN2	**Changchun**	**59.64**	**334**	*e*P			**P**	**01 54 13.3**	**-0.4**
CN2					AMB		AMB		
	comp=Z,10.0nm,0.8s,mb4.9								
KMI	**Kunming**	**62.92**	**304**	P			**P**	**01 54 37.7**	**+1.4**
KMI					AP		pP	01 54 48.5	+4.7
KMI					AMB		AMB		
	comp=Z,13nm,1.3s,mb4.9								
KMI	**Kunming**	**62.92**	**304**	P			**P**	**01 54 37.7**	**+1.4**
	comp=Z,13nm,1.3s,mb4.9								
KMI					pP		pP	01 54 48.5	+4.7
LZH	**Lanzhou**	**67.14**	**315**	*e*P			**P**	**01 55 05.0**	**+1.5**
LZH					AP		pP	01 55 09.5	-1.6
LZH					XP		sP	01 55 12.0	-1.9
LZH					AMB		AMB		
	comp=Z,36nm,1.5s,mb5.2								
LZH					AMB		AMB		
	comp=Z,120nm,4.7s								
LZH	**Lanzhou**	**67.14**	**315**	*e*P			**P**	**01 55 05.0**	**+1.5**
	comp=Z,36nm,1.5s,mb5.2								
LZH					pP		pP	01 55 09.5	-1.6
LZH					sP		sP	01 55 12.0	-1.9
SBA	**Scott Base**	**69.47**	**178**	*e*P			**P**	**01 55 19.1**	**+1.6**
	comp=Z,18nm,1.5s,mb4.8								
GTA	**Gaotai**	**71.54**	**316**	*e*P			**P**	**01 55 32.4**	**+1.7**
GTA					AP		pP	01 55 35.9	-2.4
GTA					XP		sP	01 55 37.4	-3.7
GTA					AMB		AMB		
	comp=Z,7.0nm,0.8s,mb4.6								
SONM	**Songino Array**	**71.96**	**327**	P			**P**	**01 55 33.9**	**+0.9**
	comp=Z,2.9nm,0.9s,mb4.2,baz=139,slow=5.5,SNR=3.8								
SHL	**Shillong**	**72.20**	**300**	*e*P			**P**	**01 55 37.0**	**+2.0**
LSA	**Lhasa**	**74.17**	**304**	*e*P			**P**	**01 55 47.1**	**+0.6**
	comp=Z,11nm,1.0s,mb4.7								
TLY	**Talaya**	**75.64**	**329**	*e*P			**P**	**01 55 54.7**	**+0.2**
	comp=Z,2.3nm,0.7s,mb4.2								
BILL	**Biiibino**	**76.63**	**3**	*e*P			**P**	**01 55 58.0**	**-1.9**
PALK	**Pallekele**	**78.13**	**279**	*e*P			**P**	**01 56 08.8**	**-0.6**
	comp=Z,6.7nm,0.8s,mb4.6								
TNA	**Tin City**	**78.18**	**14**	*e*P			**P**	**01 56 09.1**	**+0.5**
SVW2	**Sparrevohn**	**78.50**	**21**	*e*P			**P**	**01 56 10.8**	**+0.4**
TTA	**Tatalina**	**79.60**	**20**	*e*P			**P**	**01 56 16.1**	**-0.3**
PMR	**Palmer**	**81.21**	**23**	*e*P			**P**	**01 56 24.9**	**-0.2**
	comp=Z,17nm,0.9s,mb5.0								
SML	**Sawmill**	**81.64**	**23**	*e*P			**P**	**01 56 27.1**	**-0.3**
IMA2	**Indian Mountai**	**82.46**	**18**	*e*P			**P**	**01 56 31.8**	**+0.2**
MCK	**McKinley**	**82.56**	**21**	*e*P			**P**	**01 56 31.3**	**-0.9**
COLA	**College**	**83.62**	**21**	*e*P			**P**	**01 56 36.5**	**-1.2**
	comp=Z,28nm,1.1s,mb5.3								
EGAK	**Eagle**	**85.98**	**22**	*e*P			**P**	**01 56 49.8**	**+0.3**
MKAR	**Makanchi Array**	**86.18**	**318**	P			**P**	**01 56 50.8**	**-0.1**
	comp=Z,2.3nm,0.6s,mb4.6,baz=101,slow=5.2,SNR=8.0								
DAWY	**Dawson**	**86.31**	**23**	*e*P			**P**	**01 56 52.0**	**+0.8**
KURK	**Kurchatov**	**89.56**	**321**	P			**P**	**01 57 06.1**	**-0.8**
MWC	**Mount Wilson**	**90.18**	**56**	*e*P			**P**	**01 57 11.0**	**+0.7**
INK	**Inuvik**	**90.28**	**20**	P			**P**	**01 57 09.9**	**0.0**
	comp=Z,1.2nm,0.6s,mb4.4,baz=264,slow=5.1,SNR=4.8								
MTUM	**Tungsten Hills**	**90.33**	**52**	*e*P			**P**	**01 57 11.2**	**+0.3**
NVAR	**Mina Array Bea**	**90.73**	**51**	P			**P**	**01 57 13.4**	**+0.7**
	comp=Z,3.7nm,1.0s,mb4.7,baz=231,slow=4.6,SNR=7.4								
EKS2	**Erkin-Say**	**91.12**	**313**	*e*P			**P**	**01 57 13.5**	**-1.0**
	comp=Z,1.7nm,0.8s,mb4.4								
TPNV	**Topopah Spring**	**92.09**	**53**	*e*P			**P**	**01 57 19.8**	**+0.6**
	comp=Z,4.7nm,0.9s,mb4.8								
BRVK	**Borovoye**	**95.07**	**323**	P			**P**	**01 57 30.8**	**-1.6**
YKA	**Yellowknife Ar**	**96.52**	**28**	P			**P**	**01 57 38.7**	**-0.1**
	comp=Z,1.1nm,0.6s,mb4.5,baz=265,slow=4.8,SNR=17								
BW06	**Boulder Array**	**97.88**	**48**	*e*P			**P**	**01 57 45.8**	**+0.3**
	comp=Z,1.4nm,0.8s,mb4.5								
PDAR	**Pinedale Array**	**97.88**	**48**	P			**P**	**01 57 45.0**	**-0.5**
	comp=Z,0.6nm,0.6s,mb4.3,baz=254,slow=2.3,SNR=4.9								
CLL	**Collm**	**128.32**	**332**	*e*PKPdf			PKPdf	02 03 13.0	-3.1
CLL				*e*(pPKPdf)				02 03 22.0	
BDFB	**Brasilia**	**145.15**	**133**	PKPbc			PKPbc	02 03 47.3	-0.3
	comp=Z,3.7nm,1.0s,baz=196,slow=4.6,SNR=3.6								

*IDC **03** 01:48:28.4±0.8, 4589N×15370E, h0km, mb3.9/8, mb1 4.2/8, mb1mx3.9/21, mbtmp3.9/8, Error ellipse: s-maj=32.5km s-min=21.4km az=114.0*
*ISCJB **03** 01:48:29.4±5.3, 459N±0.1×1536E±0.1, h17km±37km, mb3.9/9, Error ellipse: s-maj=22.6km s-min=12.8km az=154.8*
*MOS **03** 01:48:32.8±1.2, 4595N×15343E, h38km, mb4.2/6, Error ellipse: s-maj=23.1km s-min=17.1km az=94.7*
ISC 03 01:48:31.3±5.5, 459N±01×1535E±01, h16km±33km, n22, σ0=68/22, mb3.9/9, 1C, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**4.04**	**262**	*e*PN			**Pn**	**01 49 33.0**	**+0.6**
KUR				*e*S			**Sn**	**01 50 19.0**	**-0.3**
KUR				pmax			pmax		
	comp=Z,110nm,0.7s								
KUR				smax					
	comp=N,280nm,0.9s								
KUR				smax					
	comp=E,140nm,0.9s								
KLR	**Kul'dur**	**15.07**	**291**	*e*P			**Pn**	**01 52 02.0**	**-1.3**
TIXI	**Tiksi**	**28.36**	**344**⇑	*e*P			**P**	**01 54 25.8**	**+1.8**
TIXI				pmax			pmax		
	comp=Z,16nm,2.6s,mb4.2								
INK	**Inuvik**	**42.21**	**32**	P			**P**	**01 56 22.7**	**-0.1**
INK				pmax			pmax		
	comp=Z,2.0nm,0.9s								
INK	**Inuvik**	**42.21**	**32**	P			**P**	**01 56 22.6**	**-0.2**
	comp=Z,1.5nm,0.9s,mb3.6,baz=265,slow=10,SNR=3.9								
YKA	**Yellowknife Ar**	**51.42**	**36**	P			**P**	**01 57 34.3**	**-0.6**
YKA				pmax			pmax		
	comp=Z,2.0nm,1.0s								
YKA	**Yellowknife Ar**	**51.42**	**36**	P			**P**	**01 57 34.3**	**-0.6**
	comp=Z,2.2nm,1.0s,mb4.0,baz=298,slow=7.4,SNR=10								
ARCES	**ARCESS Array B**	**58.74**	**341**	P			**P**	**01 58 27.8**	**+0.1**
ARCES				pmax			pmax		
	comp=Z,5.0nm,0.8s								
ARCES	**ARCESS Array B**	**58.74**	**341**	P			**P**	**01 58 27.8**	**+0.1**
	comp=Z,5.2nm,0.8s,mb4.6,baz=18,slow=6.7,SNR=5.8								
PDAR	**Pinedale Array**	**65.00**	**54**	P			**P**	**01 59 10.1**	**-0.2**
	comp=Z,1.3nm,1.0s,mb3.9,baz=259,slow=3.0,SNR=7.3								
WRA	**Warramunga Arr**	**67.81**	**200**	P			**P**	**01 59 28.8**	**+0.5**
WRA				pmax			pmax		
	comp=Z,1.0nm,0.8s								
WRA	**Warramunga Arr**	**67.81**	**200**	P			**P**	**01 59 28.8**	**+0.5**
	comp=Z,1.0nm,0.8s,mb3.9,baz=17,slow=7.1,SNR=4.5								
ASAR	**Alice Springs**	**71.50**	**199**	P			**P**	**01 59 51.0**	**0.0**
ASAR				pmax			pmax		
	comp=Z,1.0nm,0.9s								
ASAR	**Alice Springs**	**71.50**	**199**	P			**P**	**01 59 51.0**	**0.0**
	comp=Z,1.0nm,0.9s,mb3.7,baz=15,slow=3.4,SNR=6.7								
AKASG	**Malin Array Be**	**72.41**	**327**	P			**P**	**01 59 56.3**	**0.0**
AKASG				pmax			pmax		
	comp=Z,1.0nm,0.4s								
AKASG	**Malin Array Be**	**72.41**	**327**	P			**P**	**01 59 56.2**	**0.0**
	comp=Z,0.5nm,0.3s,mb3.9,baz=32,slow=6.0,SNR=5.1								
CLL	**Collm**	**77.35**	**336**	*e*P			**P**	**02 00 25.0**	**+0.2**
CLL	**Collm**	**77.35**	**336**	*e*(PKP)			**P**	**02 00 25.0**	**+0.2**
BRG	**Berggiesshubel**	**77.47**	**335**	*e*P			**P**	**02 00 25.0**	**-0.5**
TXAR	**Lajitas Array**	**77.65**	**61**	P			**P**	**02 00 26.1**	**-0.7**
	baz=296,slow=4.1								
GERES	**GERESS Array B**	**79.34**	**334**	P			**P**	**02 00 36.6**	**+0.7**
	comp=Z,0.3nm,0.4s,mb3.5,baz=32,slow=7.8,SNR=4.4								
PLCA	**Paso Flores**	**147.82**	**97**	PKPbc			PKPbc	02 08 13.2	-1.6
	comp=Z,1.9nm,0.7s,baz=255,slow=5.1,SNR=5.0								

IDC 03 01:52:37.5±14.0, 1811S×6803W, h221km±63km, mb3.1/2, mb1 3.3/3, mb1mx3.0/17, mbtmp3.1/3, Error ellipse: s-maj=307.6km s-min=30.1km az=18.0, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**1.81**	**357**	P			Pn	01 53 16.7	+0.8
	1.1nm,0.3s,baz=198,slow=8.9,SNR=39								
SIV	**San Ignacio**	**6.98**	**73**	P			Pn	01 54 17.2	-0.4
	1.1nm,0.3s,baz=259,slow=11,SNR=40								
TORD	**Torodi Ar. Bea**	**75.45**	**71**	P			P	02 03 57.9	+0.2
	0.4nm,0.7s,baz=253,slow=4.8,SNR=12								
YKA	**Yellowknife Ar**	**88.28**	**340**	P			P	02 05 03.2	-0.2
	0.4nm,0.7s,baz=132,slow=4.6,SNR=11								

*BJI **03** 02:02:55.8, 756S×155.44E, h14km, mB5.5, mb5.0*
*NEIC **03** 02:02:57.5±0.5, 737S×155.11E, h10km, mb4.7/12, Error ellipse: s-maj=14.4km s-min=10.9km az=119.0*
*ISCJB **03** 02:03:02.8±2.3, 755S±008×155.18E±009, h69km±23km, mb4.4/20, Error ellipse: s-maj=17.5km s-min=11.4km az=38.8*
*IDC **03** 02:03:05.1±3.4, 765S×155.18E, h75km±32km, mb4.0/11, mb1 4.2/13, mb1mx4.1/17, mbtmp4.1/13, MS4.5/1, Ms1 4.5/1, ms1mx3.4/24, Error ellipse: s-maj=23.8km s-min=16.9km az=125.0*
ISC 03 02:03:04.9±2.0, 758S±008×15518E±009, h74km±21km, n33, σ0=91/30, mb4.4/20, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.06**	**112**	P			**Pn**	**02 04 17.7**	**-0.6**
	17nm,0.3s,baz=264,slow=7.1,SNR=6.5								
CTA	**Charters Tower**	**15.14**	**214**	*e*P			**Pn**	**02 06 40.8**	**+6.1**
	21nm,0.8s								
CTA	**Charters Tower**	**15.14**	**214**	P			**Pn**	**02 06 35.7**	**+1.0**
	0.1nm,0.3s,baz=27,slow=18,SNR=2.6								

CTAO	**Charters Tower**	**15.14**	**214**	*e*Pn	**Pn**	**02 06 35.8**	**+1.0**
	38nm,0.9s						
KAKA	**Kakadu**	**22.95**	**255**	*e*P	**P**	**02 08 04.3**	**+1.0**
	16nm,0.7s,mb4.5						
ARMA	**Armidale**	**22.96**	**188**	*e*P	**P**	**02 08 04.6**	**+1.4**
WRA	**Warramunga Arr**	**23.64**	**237**	P	**P**	**02 08 10.0**	**+0.4**
	5.5nm,0.5s,mb4.1,baz=61,slow=9.4,SNR=13						
ASAR	**Alice Springs**	**25.93**	**230**	P	**P**	**02 08 29.9**	**-0.5**
	4.6nm,0.9s,mb3.9,baz=62,slow=8.7,SNR=23						
STKA	**Stephens Creek**	**27.29**	**206**	*e*P	**P**	**02 08 41.9**	**-0.6**
	3.5nm,0.6s,mb4.1						
STKA	**Stephens Creek**	**27.29**	**206**	P	**P**	**02 08 42.0**	**-0.5**
	5.1nm,0.8s,mb4.1,baz=30,slow=17,SNR=9.6						
FITZ	**Fitzroy Crossi**	**30.59**	**247**	*e*P	**P**	**02 09 12.1**	**+0.1**
	5.8nm,0.6s,mb4.5						
FITZ	**Fitzroy Crossi**	**30.59**	**247**	P	**P**	**02 09 11.9**	**-0.1**
	2.8nm,0.6s,mb4.2,baz=99,slow=6.4,SNR=7.3						
AFI	**Afiamalu**	**33.04**	**104**	P	**P**	**02 09 34.0**	**+0.4**
	2.9nm,0.4s,mb4.5						
TAU	**Tasmania Unive**	**35.86**	**190**	*e*P	**P**	**02 09 57.2**	**-0.4**
	43nm,1.2s,mb5.3						
MBWA	**Marble Bar**	**36.79**	**245**	*e*P	**P**	**02 10 05.2**	**-0.6**
	7.9nm,1.0s,mb4.6						
RPZ	**Rata Peaks**	**38.58**	**161**	LR	LR	02 22 52.5	
	comp=Z,678nm,20.1s,baz=240,slow=31						
KLBR	**Kellerberrin**	**42.25**	**230**	*e*P	**P**	**02 10 49.6**	**-1.5**
	9.6nm,0.6s,mb4.7						
NWAO	**Narrogin (SRO)**	**43.25**	**229**	*e*P	**P**	**02 10 58.5**	**-0.6**
	3.2nm,0.6s,mb4.2						
MJAR	**Matsushiro Arr**	**46.69**	**341**	P	**P**	**02 11 25.9**	**-0.4**
	8.4nm,0.8s,mb4.5,baz=161,slow=7.1,SNR=15						
MAJO	**Matsushiro**	**46.69**	**341**	*e*P	**P**	**02 11 25.5**	**-0.9**
	13nm,0.8s,mb4.7						
MAT	**Matsushiro**	**46.69**	**341**	P	**P**	**02 11 25.9**	**-0.5**
KSRS	**Korea Array**	**51.54**	**332**	P	**P**	**02 12 04.0**	**+0.7**
	3.8nm,0.9s,mb4.4,baz=149,slow=7.6,SNR=7.0						
CN2	**Changchun**	**57.80**	**335**	*e*P	**P**	**02 12 49.9**	**+1.4**
HIA	**Hailar**	**64.53**	**335**	*e*P	**P**	**02 13 33.5**	**-0.4**
	7.3nm,0.8s,mb4.6						
SONM	**Songino Array**	**69.93**	**327**	P	**P**	**02 14 09.7**	**+1.6**
	1.8nm,0.8s,mb3.9,baz=137,slow=4.8,SNR=8.0						
MCK	**McKinley**	**82.53**	**22**	*e*P	**P**	**02 15 17.5**	**-1.7**
	4.4nm,0.8s,mb4.3						
MKAR	**Makanchi Array**	**83.96**	**319**	P	**P**	**02 15 27.6**	**+0.5**
	5.7nm,0.7s,mb4.5,baz=104,slow=5.9,SNR=56						
ZAA0	**Zalesovo Array**	**84.77**	**326**	*e*P	**P**	**02 15 30.1**	**-0.8**
ZALV	**Zalesovo Beam**	**84.77**	**326**	P	**P**	**02 15 30.4**	**-0.5**
	2.1nm,0.6s,mb4.2,baz=106,slow=5.3,SNR=12						
NVAR	**Mina Array Bea**	**91.94**	**52**	P	**P**	**02 16 07.3**	**+1.8**
	0.2nm,0.5s,mb3.6,baz=238,slow=8.2,SNR=2.7						
YKA	**Yellowknife Ar**	**96.77**	**28**	P	**P**	**02 16 27.5**	**+0.4**
	0.5nm,0.6s,mb4.1,baz=267,slow=4.5,SNR=12						
GERES	**GERESS Array B**	**127.65**	**329**	PKP	PKPdf	02 22 01.6	-0.2
	0.6nm,0.8s,baz=202,slow=2.5,SNR=5.3						
BDFB	**Brasilia**	**147.44**	**135**	PKPbc	PKPbc	02 22 40.0	-1.4
	4.8nm,0.8s,baz=207,slow=3.7,SNR=11						

ISCJB ***03*** *02:04:11.2±0.6, 684N±006×7301W±007, h169km±6km, mb3.7/4, Error ellipse: s-maj=12.6km s-min=6.8km az=36.2*
FUNV ***03*** *02:04:11.0, 667N×73.19W, h157km, MW3.4*
IDC ***03*** *02:04:11.9±0.7, 676N×7298W, h160km±9km, mb3.5/4, mb1 3.6/6, mb1mx3.3/20, mbtmp3.6/6, Error ellipse: s-maj=24.0km s-min=7.7km az=131.0*
NEIC ***03*** *02:04:12.6±0.9, 676N×7296W, h168km±11km, Error ellipse: s-maj=23.2km s-min=15.0km az=118.0*
ISC 03 02:04:12.3±0.6, 683N±006×7300W±007, h163km±6km, n22, σ0s68/30, mb3.7/4, 2C-6D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**1.23**	**33**	⇓*i*P	**Pn**	**02 04 41.0**	**+0.8**
CAPV				*e*S	**Sn**	**02 05 01.5**	**-0.2**
ROSC	**El Rosal**	**2.37**	**214**	P	**Pn**	**02 04 53.2**	**+0.7**
	63nm,0.3s,baz=298,slow=2.5,SNR=632						
ROSC				S	**Sn**	**02 05 22.8**	**-0.7**
	57nm,0.3s,baz=92,slow=18,SNR=14						
SOCV	**Socops**	**2.57**	**56**	⇓*e*P	**Pn**	**02 04 55.8**	**+1.0**
SOCV				*e*S	**Sn**	**02 05 27.7**	**0.0**
VIGV	**El Vigia**	**2.57**	**39**	⇓*i*P	**Pn**	**02 04 55.4**	**+0.6**
VIGV				*e*S	**Sn**	**02 05 27.6**	**-0.2**
SDV	**Santo Domingo**	**3.11**	**49**	P	**Pn**	**02 05 02.5**	**+1.0**
SDV				S	**Sn**	**02 05 40.3**	**+0.6**
SDV	**Santo Domingo**	**3.11**	**49**	P	**Pn**	**02 05 02.5**	**+1.0**
	37nm,0.3s,baz=226,slow=3.0,SNR=164						
SDV				S	**Sn**	**02 05 40.3**	**+0.6**
	28nm,0.3s,baz=72,slow=20,SNR=22						
ELOV	**Elorza**	**3.50**	**87**	⇓*i*P	**Pn**	**02 05 07.1**	**+0.7**
VIRV	**Villa del Rosa**	**3.69**	**9**	⇑*i*P	**Pn**	**02 05 07.8**	**-1.2**
VIRV				*e*S	**Sn**	**02 05 51.8**	**-1.3**
QARV	**Quebrada Arrib**	**4.15**	**36**	⇓*i*P	**Pn**	**02 05 15.3**	**+0.5**
SANV	**Sanarito**	**4.33**	**52**	*e*P	**Pn**	**02 05 17.4**	**+0.2**
CURV	**Curarigua**	**4.36**	**43**	*e*P	**Pn**	**02 05 17.7**	**+0.2**
CURV				*e*S	**Sn**	**02 06 08.2**	**-0.3**
DABV	**Dabajuro**	**4.69**	**30**	*e*P	**Pn**	**02 05 22.0**	**+0.2**
TEPV	**Terepaima**	**4.89**	**50**	⇑*i*P	**Pn**	**02 05 24.9**	**+0.4**
SIQV	**Siquisique**	**4.93**	**40**	*e*P	**Pn**	**02 05 24.8**	**-0.2**
BAUV	**El Baul**	**5.34**	**67**	⇓*e*P	**Pn**	**02 05 29.2**	**-1.1**
TURV	**Turiamo**	**6.24**	**54**	*e*P	**Pn**	**02 05 42.0**	**-0.3**
CAOV	**Caicara del Or**	**6.64**	**85**	*e*P	**Pn**	**02 05 46.5**	**-1.2**
MERV	**Las Mercedes**	**7.06**	**70**	*e*P	**Pn**	**02 05 52.5**	**-0.7**
BDFB	**Brasilia**	**33.33**	**132**	P	**P**	**02 10 34.2**	**-0.8**
	1.1nm,0.5s,mb3.8,baz=287,slow=9.9,SNR=4.8						
ULM	**Lac du Bonnet**	**47.32**	**340**	P	**P**	**02 12 29.5**	**+0.1**
	0.8nm,0.4s,mb3.7,baz=145,slow=11,SNR=4.0						
SCHQ	**Schefferville**	**48.12**	**5**	P	**P**	**02 12 36.3**	**+0.8**
	2.0nm,0.9s,mb3.8,baz=201,slow=12,SNR=4.5						
YKA	**Yellowknife Ar**	**63.30**	**340**	P	**P**	**02 14 23.6**	**+0.2**
	0.5nm,0.5s,mb3.6,baz=131,slow=6.6,SNR=16						

NEIC ***03*** *02:09:36.2, 3822N×2025E, h14km, MD3.6(ATH), After ATH.*
ATH ***03*** *02:09:36.2, 3822N×2025E, h14km, MD3.6/9*
ISCJB ***03*** *02:09:37.8±0.7, 3833N±003×2038E±005, h3km, Error ellipse: s-maj=6.1km s-min=2.9km az=149.1*
THE ***03*** *02:09:39.3, 3838N×2047E, h3km, ML3.6*
CSEM ***03*** *02:09:39.0±0.1, 3835N×2043E, h2km, MD3.6, Error ellipse: s-maj=3.5km s-min=1.7km az=61.0*
SKO ***03*** *02:09:43.8, 3879N×2048E, h0km*
ISC 03 02:09:37.3±0.9, 3829N±003×2030E±005, h4km±4km, n42, σ1s12/65, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.25**	**116**	*e*PG	**Pg**	**02 09 42.7**	**+0.6**
VLS				*e*SG	**Sg**	**02 09 46.5**	**+1.1**
KFL	**Anninata**	**0.42**	**115**	*e*Pg	**Pg**	**02 09 45.3**	**-0.1**
LKD	**Levkas**	**0.50**	**33**	P	**Pg**	**02 09 45.9**	**-1.0**
LKD				S	**Sg**	**02 09 51.9**	**-1.5**
LKD	**Levkas**	**0.50**	**33**	*e*Pg	**Pg**	**02 09 45.9**	**-1.0**
LKD				*e*Sg	**Sg**	**02 09 51.9**	**-1.5**
LKD	**Levkas**	**0.50**	**33**	*e*Pg	**Pg**	**02 09 45.9**	**-0.9**
LKD				*e*Sg	**Sg**	**02 09 51.8**	**-1.5**
LKD	**Levkas**	**0.50**	**33**	P	**Pg**	**02 09 45.9**	**-0.9**
LKD				S	**Sg**	**02 09 51.8**	**-1.5**
RLS	**Riolos of Patr**	**0.95**	**104**	*e*PG	**Pg**	**02 09 54.4**	**-1.0**
RLS				*e*SB	**Sb**	**02 10 08.2**	**-0.9**
IGT	**Igoumenitsa**	**1.24**	**1**	P	**Pg**	**02 10 00.7**	**-0.4**
IGT				S	**Sg**	**02 10 17.8**	**+0.6**
IGT	**Igoumenitsa**	**1.24**	**1**	*e*Pg	**Pg**	**02 10 00.7**	**-0.4**
IGT				*e*Sg	**Sg**	**02 10 17.8**	**+0.6**
IGT	**Igoumenitsa**	**1.24**	**1**	P	**Pg**	**02 10 00.7**	**-0.4**
IGT				S	**Sg**	**02 10 17.8**	**+0.6**
SELA	**Sela**	**1.25**	**90**	*e*Pg	**Pg**	**02 09 59.1**	**-2.1**
SELA				*e*Sg	**Sg**	**02 10 16.1**	**-1.4**
EVR	**Evrytania**	**1.33**	**62**	*e*Pb	**Pb**	**02 10 00.8**	**-2.1**
EVR				*e*Sb	**Sg**	**02 10 22.1**	**+1.9**
EVR	**Evrytania**	**1.33**	**62**	*e*PG	**Pg**	**02 10 02.3**	**-0.6**
EVR				*e*SB	**Sg**	**02 10 22.1**	**+1.9**
JAN	**Janina**	**1.43**	**17**	*e*PG	**Pg**	**02 10 04.2**	**-0.5**
JAN				*e*SB	**Sg**	**02 10 25.1**	**+1.9**
KEK	**Kerkira**	**1.48**	**345**	*e*PB	**Pb**	**02 10 05.1**	**-0.2**
KEK				*e*SB	**Sb**	**02 10 25.8**	**+1.4**
SRN	**Sarande**	**1.60**	**352**	*i*Pg	**Pg**	**02 10 09.6**	**+1.5**
SRN				*i*Sg	**Sg**	**02 10 30.1**	**+1.2**
MEV	**Metsovon**	**1.66**	**25**	P	**Pn**	**02 10 07.5**	**+0.3**
MEV	**Metsovon**	**1.66**	**25**	*e*Pg	**Pn**	**02 10 07.5**	**+0.3**
MEV	**Metsovon**	**1.66**	**25**	P	**Pn**	**02 10 07.5**	**+0.3**
ITM	**Ithomi**	**1.70**	**130**	*e*PB	**Pn**	**02 10 07.5**	**-0.2**
AGG	**Agios Georgios**	**1.75**	**65**	P	**Pn**	**02 10 08.0**	**-0.4**
AGG				S	**Sn**	**02 10 30.5**	**-0.7**
AGG	**Agios Georgios**	**1.75**	**65**	*e*Pg	**Pn**	**02 10 08.0**	**-0.4**
AGG				*e*Sg	**Sn**	**02 10 30.5**	**-0.7**
AGG	**Agios Georgios**	**1.75**	**65**	P	**Pn**	**02 10 08.0**	**-0.4**
AGG				S	**Sn**	**02 10 30.5**	**-0.6**
THL	**Klokotos Trika**	**1.84**	**46**	*e*PN	**Pn**	**02 10 10.4**	**+0.7**
THL				*e*SN	**Sg**	**02 10 35.7**	**-0.8**
LTK	**Loutraki**	**2.12**	**96**	*e*Pn	**Pn**	**02 10 14.2**	**+0.8**
LTK	**Loutraki**	**2.12**	**96**	*e*Pn	**Pn**	**02 10 14.2**	**+0.7**
LKR	**Lokris**	**2.15**	**80**	*e*PN	**Pn**	**02 10 14.9**	**+1.0**
DID	**Didima**	**2.45**	**108**	*e*Pn	**Pn**	**02 10 19.3**	**+1.2**
DID				*e*Sn	**Sn**	**02 10 50.3**	**+1.8**
LIT	**Litokhoron**	**2.48**	**43**	P	**Pn**	**02 10 18.3**	**-0.2**
LIT	**Litokhoron**	**2.48**	**43**	*e*Pn	**Pn**	**02 10 18.3**	**-0.2**
LIT	**Litokhoron**	**2.48**	**43**	P	**Pn**	**02 10 18.3**	**-0.2**
NEO	**Neokhori**	**2.50**	**65**	*e*PN	**Pn**	**02 10 20.1**	**+1.4**
FNA	**Florina**	**2.62**	**18**	P	**Pn**	**02 10 21.0**	**+0.5**
FNA	**Florina**	**2.62**	**18**	*e*Pn	**Pn**	**02 10 21.0**	**+0.5**
FNA	**Florina**	**2.62**	**18**	P	**Pn**	**02 10 21.0**	**+0.5**
BIA	**Bitola**	**2.84**	**16**	*e*Pn	**Pn**	**02 10 23.1**	**-0.3**
BIA				*e*Sg	**Sn**	**02 10 57.2**	**-0.8**
AOS	**Alonnisos**	**2.93**	**71**	*e*Pn	**Pn**	**02 10 25.5**	**+0.8**
AOS	**Alonnisos**	**2.93**	**71**	P	**Pn**	**02 10 25.5**	**+0.8**
KRUS	**Krusevo**	**3.16**	**13**	*e*Pn	**Pn**	**02 10 28.4**	**+0.6**
KRUS	**Krusevo**	**3.16**	**13**	*e*Pn	**Pn**	**02 10 28.4**	**+0.6**
STON	**Ston**	**4.99**	**337**	*e*Pn	**Pn**	**02 10 51.5**	**-1.4**
STON				Sn	**Sn**	**02 11 47.1**	**-3.9**
NVLJ	**Novalja**	**7.48**	**329**	*e*Pn	**Pn**	**02 11 26.0**	**-1.1**
NVLJ				Sn	**Sn**	**02 12 49.3**	**-3.1**

IDC ***03*** *02:12:54.8±2.7, 8.14S×157.46E, h0km, mb4.5/3, mb1 4.6/5, mb1mx4.2/16, mbtmp4.5/5, ML4.4/2, MS3.4/3, Ms1 3.4/3, ms1mx3.2/27, Error ellipse: s-maj=70.2km s-min=26.7km az=175.0*
NEIC ***03*** *02:12:55.2±1.8, 806S×157.55E, h10km, mb4.4/2, Error ellipse: s-maj=41.0km s-min=14.3km az=175.0*
ISC 03 02:12:58.8±3.7, 79S±05×1574E±01, h35km, n10, σ0s59/9, mb4.2/3, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.97**	**121**	P	**Pn**	**02 13 38.4**	**-5.0**
	76nm,0.3s,baz=255,slow=4.4,SNR=7.9						
HNR				Sn	**Sn**	**02 14 17.9**	**0.0**
	120nm,0.3s,baz=100,slow=23,SNR=4.4						
HNR				LR	LR	02 14 39.9	
	comp=Z,736nm,21.2s,baz=0.7,slow=38						
CTA	**Charters Tower**	**16.19**	**220**	Pn	**Pn**	**02 16 44.0**	**+0.2**
	0.8nm,0.3s,baz=53,slow=13,SNR=4.3						
CTA				LR	LR	02 21 25.0	
	comp=Z,469nm,19.4s,baz=336,slow=32						
CTAO	**Charters Tower**	**16.19**	**220**	*e*Pn	**Pn**	**02 16 43.6**	**-0.2**
	81nm,1.7s						
WB2	**Warramunga Arr**	**25.29**	**239**	*e*P	**P**	**02 18 22.4**	**+0.2**
WRA	**Warramunga Arr**	**25.30**	**239**	P	**P**	**02 18 22.9**	**+0.6**
	17nm,1.1s,mb4.5,baz=66,slow=9.4,SNR=23						
ASAR	**Alice Springs**	**27.40**	**232**	P	**P**	**02 18 40.1**	**-1.1**
	3.1nm,1.0s,mb3.8,baz=64,slow=9.7,SNR=13						
STKA	**Stephens Creek**	**28.00**	**209**	*e*P	**P**	**02 18 46.3**	**-0.2**
	5.5nm,1.2s,mb4.1						
STKA	**Stephens Creek**	**28.00**	**209**	P	**P**	**02 18 47.3**	**+0.9**
	4.2nm,0.6s,mb4.2,baz=14,slow=10.0,SNR=12						
RPN	**Rapa Nui**	**89.36**	**117**	LR	LR	02 59 44.1	
	comp=Z,6.9nm,19.8s,baz=318,slow=32						
BDFB	**Brasilia**	**145.66**	**133**	PKPbc	PKPbc	02 32 36.2	+1.3
	7.7nm,0.7s,baz=238,slow=1.8,SNR=14						

NIED ***03*** *02:15:00, 4660N×153.10E, h38km, Mw4.7 Best double couple: M0:1.18000×10^16 NP1:φs129.00000°, δ80.00000°, λ-31.00000°. NP2:φs225.00000°, δ60.00000°, λ-169.00000°.*
BJI ***03*** *02:15:14.1, 4679N×153.05E, h26km, mB4.9, mb4.8, Ms4.6, Msz4.3*
NEIC ***03*** *02:15:15.6±0.2, 4662N×15255E, h10km, mb5.0/82, Error ellipse: s-maj=5.3km s-min=2.9km az=169.0*
JMA ***03*** *02:15:17.4±0.8, 4656N×153.05E, h30km, M5.2*
MOS ***03*** *02:15:18.2±0.9, 4664N×152.63E, h38km, mb5.2/55, Error ellipse: s-maj=7.5km s-min=4.5km az=95.9*
SKHL ***03*** *02:15:18.6±1.1, 4650N×152.80E, h46km±30km, mb5.2/7, mbv5.4/1, ms3.9/2*
ISCJB ***03*** *02:15:18.8±0.5, 4657N±003×152.63E±003, h45km±4km, mb4.9/146, MS4.2/16, Error ellipse: s-maj=5.7km s-min=2.7km az=166.9*
SZGRF ***03*** *02:15:22.3, 4690N×152.47E, h33km, mb5.2, Kuril Islands, Russia*
IDC ***03*** *02:15:25.3±3.2, 4669N×152.48E, h89km±28km, mb4.2/20, mb1 4.4/21, mb1mx4.4/23, mbtmp4.3/21, MS4.2/9, Ms1 4.2/9, ms1mx3.8/44, Error ellipse: s-maj=15.2km s-min=11.7km az=127.0*
ISC 03 02:15:21.7±0.4, 4665N±004×15254E±003, h52km±4km, h25km±5.8km; pP-P, n651, σ0s82/664, mb4.9/146, MS4.2/16, 118C-89D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.56**	**248**	⇓*i*PN	**Pn**	**02 16 14.0**	**-0.3**
KUR	**Kuril'sk**	**3.56**	**248**	⇓*i*P	**Pn**	**02 16 13.5**	**-0.8**
KUR				AMB	AMB	02 16 14.0	
	114nm,0.5s						
KUR				AMB	AMB	02 16 14.0	
	532nm,0.5s						
KUR				*e*S	**Sn**	**02 17 00.5**	**+5.4**
KUR				A		02 17 13.5	
	2μm,0.7s						
KUR				A		02 17 13.5	
	3μm,0.7s						
SKR	**Severo-Kuril's**	**4.68**	**29**	*e*P	**Pn**	**02 16 29.0**	**-0.7**
SKR				AMB	AMB	02 16 32.5	
	80nm,0.5s						
SKR				AMB	AMB	02 16 32.5	
	90nm,0.5s						
SKR				AMB	AMB	02 16 32.5	
	170nm,0.5s						
SKR				A		02 17 27.0	
	250nm,0.5s						
SKR				A		02 17 27.0	
	770nm,0.5s						
SKR				A		02 17 27.0	
	230nm,0.5s						
YUK	**Yuzh-Kuril'sk**	**5.39**	**243**	*e*PN	**Pn**	**02 16 41.0**	**+1.6**
YUK				*i*S	**Sn**	**02 17 42.0**	**+1.9**
YUK				pmax	pmax		
	comp=Z,300nm,0.4s						
YUK				pmax	pmax		
	comp=E,2μm,1.0s						
YUK				pmax	pmax		
	comp=Z,2μm,1.0s						
YUK				smax			
	comp=N,2μm,0.5s						
YUK				smax			
	comp=E,770nm,0.5s						
YUK				smax			
	comp=N,10μm,1.0s						
YUK				smax			
	comp=E,2μm,1.0s						
YUK	**Yuzh-Kuril'sk**	**5.39**	**243**	*e*P	**Pn**	**02 16 41.0**	**+1.6**
YUK				AMB	AMB	02 16 41.5	
	comp=E,300nm,0.4s						
YUK				AMB	AMB	02 16 48.0	
	comp=E,2μm,1.0s						
YUK				AMB	AMB	02 16 48.0	
	comp=E,2μm,1.0s						
YUK				*i*S	**Sn**	**02 17 42.0**	**+1.9**
YUK				A		02 18 13.0	
	comp=E,10μm,1.0s						
YUK				A		02 18 13.0	
	comp=E,2μm,1.0s						
NEM2	**Nemuro 2**	**5.83**	**238**	P	**Pn**	**02 16 44.6**	**-0.9**
NEM2				*e*S	**Sn**	**02 17 49.2**	**-1.8**
JRA	**Rausu**	**5.89**	**245**	P	**Pn**	**02 16 48.6**	**+2.2**
JNK	**Nakash**	**6.33**	**244**	P	**Pn**	**02 16 53.8**	**+1.5**
JNK				*e*S	**Sn**	**02 18 03.1**	**0.0**
JTKR	**Abashiri--Toko**	**6.65**	**249**	P	**Pn**	**02 16 59.0**	**+2.3**
JAK	**Akkeshi**	**6.67**	**240**	P	**Pn**	**02 16 56.4**	**-0.6**
JAK				*e*S	**Sn**	**02 18 08.6**	**-2.9**
YSS	**Yuzh-Sakhalins**	**6.73**	**276**	*e*Pn	**Pn**	**02 17 01.2**	**+3.5**
YSS	**Yuzh-Sakhalins**	**6.73**	**276**	⇑*e*PN	**Pn**	**02 17 01.2**	**+3.5**
YSS				*e*S	**Sn**	**02 18 19.0**	**+6.1**
YSS				pmax	pmax		
	comp=Z,90nm,1.0s						
YSS				MLR	MLR		
	comp=Z,1μm,17.0s						
YSS				MLR	MLR		
	comp=N,600nm,16.0s						
YSS				MLR	MLR		
	comp=E,700nm,16.0s						
YSS	**Yuzh-Sakhalins**	**6.73**	**276**	⇑*e*P	**Pn**	**02 17 01.2**	**+3.5**
YSS				AMB	AMB	02 17 02.4	
	comp=E,90nm,1.0s						
YSS				*e*S	**Sn**	**02 18 19.0**	**+6.1**
YSS				*e*LR	LR	02 19 06.0	
YSS				AMS	AMS	02 19 31.0	
	comp=E,1μm,17.0s						
YSS				AMS	AMS	02 19 31.0	
	comp=E,600nm,16.0s						
YSS				AMS	AMS	02 19 31.0	
	comp=E,700nm,16.0s						
YSS				*e*rx	rx	02 22 02.5	
JMP	**Maruseppu**	**6.99**	**251**	P	**Pn**	**02 17 04.1**	**+2.7**
JAR	**Ashorobuto**	**7.07**	**245**	P	**Pn**	**02 17 04.0**	**+1.6**
JAR				*e*S	**Sn**	**02 18 22.4**	**+1.1**
JOB	**Onbets**	**7.24**	**242**	P	**Pn**	**02 17 05.2**	**+0.4**
JOB				*e*S	**Sn**	**02 18 24.0**	**-1.6**
ASAJ	**Asahikawa**	**7.45**	**254**	P	**Pn**	**02 17 11.3**	**+3.7**
ASAJ	**Asahikawa**	**7.45**	**254**	PN	**Pn**	**02 17 11.4**	**+3.8**
ASAJ				pmax	pmax		
	comp=Z,6.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,813nm,19.3s						
ASAJ	**Asahikawa**	**7.45**	**254**	P	**Pn**	**02 17 11.4**	**+3.8**
	comp=Z,6.0nm,0.3s,baz=83,slow=13,SNR=86						
ASAJ				LR	LR	02 19 54.4	
	comp=Z,813nm,19.2s,baz=22,slow=36						
JKK2	**Kamakawa 2**	**7.45**	**252**	P	**Pn**	**02 17 10.7**	**+3.1**
UGL	**Uglegorsk**	**7.45**	**293**	*e*PN	**Pn**	**02 17 12.0**	**+4.3**
UGL				*e*		02 18 41.8	
UGL				pmax	pmax		
	comp=Z,100nm,0.8s						
UGL				pmax	pmax		
	comp=Z,500nm,1.4s						
UGL				MLR	MLR		
	comp=Z,1μm,16.0s						
UGL				MLR	MLR		
	comp=N,700nm,17.0s						
UGL				MLR	MLR		
	comp=E,1μm,17.0s						
PET	**Petropavlovsk**	**7.50**	**30**	*e*PN	**Pn**	**02 17 05.9**	**-2.4**
PET				MLR	MLR		
	comp=Z,400nm,16.0s						
JWK2	**Keihoku**	**7.54**	**264**	P	**Pn**	**02 17 14.2**	**+5.4**
JCH	**Churui**	**7.69**	**242**	P	**Pn**	**02 17 10.8**	**-0.2**
JCH				*e*S	**Sn**	**02 18 33.9**	**-2.7**
JSS	**Shosan**	**7.84**	**257**	P	**Pn**	**02 17 17.3**	**+4.3**
JFR	**Furan**	**7.88**	**247**	P	**Pn**	**02 17 15.4**	**+1.9**
JAB	**Ashibetsu**	**7.95**	**250**	P	**Pn**	**02 17 17.8**	**+3.3**
JEM	**Erimo**	**8.17**	**239**	P	**Pn**	**02 17 17.9**	**+0.4**
JEM				*e*S	**Sn**	**02 18 46.7**	**-1.6**
ERM	**Erimo**	**8.17**	**239**	Pn	**Pn**	**02 17 18.8**	**+1.3**
	comp=Z,845nm,0.6s,SNR=33						
ERM	**Erimo**	**8.17**	**239**	*e*PN	**Pn**	**02 17 18.3**	**+0.8**
JHR	**Hokuryu**	**8.17**	**253**	P	**Pn**	**02 17 20.7**	**+3.1**
JBT2	**Biratori 2**	**8.22**	**246**	P	**Pn**	**02 17 18.6**	**+0.4**
JBT2				*e*S	**Sn**	**02 18 49.5**	**0.0**
JNBK	**Urakawa-nobuka**	**8.25**	**242**	*e*S	**Sn**	**02 18 48.4**	**-2.0**
JEW	**Eniwo**	**8.76**	**248**	P	**Pn**	**02 17 27.6**	**+1.9**
JSK	**Shakotan**	**9.16**	**253**	P	**Pn**	**02 17 33.3**	**+2.2**
JNB	**Noboribetsu**	**9.21**	**247**	P	**Pn**	**02 17 33.5**	**+1.7**
JKB	**Kayabe**	**9.53**	**244**	P	**Pn**	**02 17 35.4**	**-0.7**
JKB				*e*S	**Sn**	**02 19 16.7**	**-5.0**
JSH	**Shimam**	**9.77**	**250**	P	**Pn**	**02 17 40.7**	**+1.3**
JYM2	**Yakumo 2**	**9.82**	**247**	P	**Pn**	**02 17 39.7**	**-0.4**
NKL	**Nikolayevsk**	**10.04**	**315**	*i*P	**Pn**	**02 17 42.4**	**-0.6**
NKL				AMB	AMB	02 17 45.0	
	comp=Z,200nm,2.0s						
NKL				AMB	AMB	02 17 45.0	
	comp=Z,100nm,1.3s						
NKL				AMB	AMB	02 17 45.0	
	comp=Z,70nm,1.1s						
NKL				AMB	AMB	02 17 45.0	
	comp=Z,130nm,1.1s						
NKL				*e*L		02 20 38.0	
NKL				AMS	AMS	02 22 44.0	
	comp=Z,350nm,15.0s						
NKL				AMS	AMS	02 22 44.0	
	comp=Z,500nm,15.0s						
JSR	**Shiriuchi**	**10.11**	**244**	P	**Pn**	**02 17 42.5**	**-1.6**
JTM	**Tenmabayashi**	**10.16**	**239**	P	**Pn**	**02 17 43.0**	**-1.8**
JTM				*e*S	**Sn**	**02 19 29.9**	**-7.3**
JANG	**Nango**	**10.17**	**236**	P	**Pn**	**02 17 41.5**	**-3.4**
JANG				*e*S	**Sn**	**02 19 28.0**	**-9.4**
JTH	**Tanohata**	**10.27**	**233**	*e*S	**Sn**	**02 19 30.6**

YAK pmax pmax
comp=E,11nm,1.3s
YAK pmax pmax
comp=N,9.0nm,1.2s
KSRS Korea Array 20.39 252 P **P** **02 19 56.2 +2.2**
comp=N,14nm,0.7s,baz=56,slow=11,SNR=24
INCN Inchon 21.23 254 *e*P **P** **02 19 59.9 -3.1**
comp=N,71nm,0.9s,mb5.0
JNU Nakatsue 21.33 238 P **P** **02 20 05.3 +1.1**
comp=N,21nm,0.9s,mb4.5,baz=53,slow=10,SNR=5.9
JNU LR LR 02 28 08.8
comp=N,408nm,20.1s,MS3.8,baz=33,slow=36
HIA Hailar 22.03 289 *e*P **P** **02 20 09.9 -1.6**
comp=N,5.1nm,0.4s,mb4.3
HIA Hailar 22.03 289 *e*P **P** **02 20 09.9 -1.6**
HIA pmax pmax
comp=Z,5.0nm,0.4s
BILL Bilibino 22.58 13 *e*P **P** **02 20 17.0 -0.2**
comp=Z,81nm,1.8s,mb4.8
BILL Bilibino 22.58 13⇑ *e*P **P** **02 20 17.1 -0.1**
BILL *e**PP 02 20 23.5
BILL *e*S **S** **02 24 10.9 -10**
BILL pmax pmax
comp=Z,6.0nm,0.8s,mb4.1
BOD Bodaibo 25.75 310 *e*P **P** **02 20 44.0 -3.0**
BOD pmax pmax
comp=Z,6.0nm,0.9s,mb4.1
GAMB Gambell 26.13 36 *e*P **P** **02 20 50.1 -0.4**
comp=Z,17nm,1.1s,mb4.5
BJI Beijing 27.08 269 P **P** **02 20 58.3 -0.9**
BJI S **S** **02 25 35.5 +2.0**
BJI AMB AMB
comp=Z,4.0nm,0.4s,mb4.3
BJI AMB AMB
comp=Z,99nm,3.7s
BJI LR LR
comp=N,263nm,16.1s,MS4.0
BJI LR LR
comp=E,303nm,20.4s,MS4.0
BJI LR LR
comp=Z,358nm,21.5s,MS3.9
TIXI Tiksi 27.45 344⇑ *e*P **P** **02 21 00.5 -1.7**
TIXI pmax pmax
comp=Z,6.0nm,2.0s,mb3.8
TNA Tin City 28.33 34 *e*P **P** **02 21 09.9 -0.3**
NJ2 Nanjing 29.59 253 *e*P **P** **02 21 23.1 +1.5**
NJ2 AMB AMB
comp=Z,10.0nm,1.0s,mb4.5
HHC Hu-ho-hao-te 29.91 274 *e*P **P** **02 21 24.7 +0.3**
HHC AP pP 02 21 29.1 -8.6
HHC PP PP 02 22 23.1 -9.3
HHC S **S** **02 26 22.4 +4.5**
HHC SS SS 02 27 59.3 -27
HHC SCP ScP 02 28 07.4 +3.9
HHC PCS PcS 02 28 10.5 +1.3
HHC SCS ScS 02 31 57.1 -1.6
HHC AMB AMB
comp=Z,13nm,0.4s,mb5.0
HHC AMB AMB
comp=Z,229nm,12.0s
HHC LR LR
comp=N,358nm,16.9s,MS4.2
HHC LR LR
comp=E,226nm,15.3s,MS4.2
HHC LR LR
comp=Z,299nm,17.3s,MS4.0
SONM Songino Array 31.00 289 P **P** **02 21 33.2 -0.7**
SONM 02 24 24.9
SONM pmax pmax
comp=Z,2.0nm,0.8s
SONM MLR MLR
comp=Z,447nm,18.3s
SONM Songino Array 31.00 289 P **P** **02 21 33.2 -0.7**
comp=Z,1.9nm,0.8s,mb4.0,baz=71,slow=6.8,SNR=9.9
SONM PcP PcP 02 24 24.9 -3.8
comp=Z,2.1nm,0.8s,baz=130,slow=6.7,SNR=3.9
SONM LR LR 02 35 25.8
comp=Z,447nm,18.2s,MS4.2,baz=294,slow=39
TLY Talaya 31.88 297 *e*P **P** **02 21 41.3 -0.3**
TLY *e*SS SS 02 28 47.3 -19
TLY pmax pmax
comp=Z,4.0nm,0.8s,mb4.3
TLY MLR MLR
comp=Z,307nm,17.0s,MS4.0
ZAK Zakamensk 32.36 295 *e*P **P** **02 21 44.8 -1.1**
ZAK pmax pmax
comp=Z,3.0nm,0.9s,mb4.1
TTA Tatalina 32.76 41 *e*P **P** **02 21 48.9 -0.2**
TTA Tatalina 32.76 41 *e*P **P** **02 21 48.9 -0.2**
TTA pP 02 22 02.0 -0.5
SVW2 Sparrevohn 32.84 45 *e*P **P** **02 21 48.8 -1.1**
TATO Taipei 32.86 240 P **P** **02 21 48.1 -2.3**
comp=Z,491nm,1.8s,mb6.1
WHN Wuhan 33.52 255 P **P** **02 21 56.9 +0.7**
IMA2 Indian Mountai 34.12 36 *e*P **P** **02 22 00.6 -0.4**
KDAK Kodiak Island 34.47 51 P **P** **02 22 02.0 -2.1**
comp=Z,153nm,0.8s,mb6.0,SNR=5.8
XAN Xi'an 35.12 265 P **P** **02 22 10.6 +0.7**
XAN AMB AMB
comp=Z,19nm,1.2s,mb4.9
PMR Palmer 35.94 44 *e*P **P** **02 22 15.5 -1.2**
MCK McKinley 35.98 40 *e*P **P** **02 22 16.6 -0.4**
SML Sawmill 36.31 43 *e*P **P** **02 22 19.6 -0.3**
COLA College 36.46 38 *e*P **P** **02 22 20.8 -0.3**
comp=Z,11nm,0.6s,mb5.0
COLA College 36.46 38 *i*P **P** **02 22 18.9 -2.2**
LZH Lanzhou 37.50 272 ⇓P **P** **02 22 32.0 +1.8**
LZH AP pP 02 22 39.0 -4.8
LZH SP sP 02 22 41.5 -8.4
LZH PP PP 02 23 59.8 +3.4
LZH S **S** **02 28 19.3 +4.0**
LZH SS SS 02 30 51.1 -10
LZH AMB AMB
comp=Z,40nm,1.3s,mb5.1
LZH AMB AMB
comp=Z,129nm,4.2s
LZH LR LR
comp=E,456nm,14.5s
LZH LR LR
comp=Z,775nm,15.3s,MS4.6
LZH Lanzhou 37.50 272 ⇓P **P** **02 22 32.0 +1.8**
LZH pP pP 02 22 39.0 -4.8
LZH sP sP 02 22 41.5 -8.4
LZH PP PP 02 23 59.8 +3.4
LZH S **S** **02 28 19.3 +4.0**
LZH sS sS 02 28 25.0 -13
LZH SS SS 02 30 51.1 -10
GTA Gaotai 38.60 279 *e*P **P** **02 22 41.7 +2.2**
GTA AP pP 02 22 45.3 -7.7
GTA PP PP 02 24 15.1 +6.7
GTA PCP PcP 02 24 52.6 +1.7
GTA S **S** **02 28 40.1 +8.3**
GTA XS sS 02 28 47.4 -7.3
GTA SS SS 02 31 23.3 +0.2
GTA AMB AMB
comp=Z,9.0nm,1.2s,mb4.4
GTA AMB AMB
comp=Z,176nm,6.1s
GTA LR LR
comp=N,204nm,16.4s,MS4.1
GTA LR LR
comp=E,143nm,16.7s,MS4.1
GTA LR LR
comp=Z,236nm,16.0s,MS4.1
EGAK Eagle 39.32 38 *e*P **P** **02 22 44.4 -0.8**
DAWY Dawson 40.17 39 *e*P **P** **02 22 52.3 +0.1**
CD2 Chengdu 40.48 265 P **P** **02 22 55.3 +0.1**
CD2 AP pP 02 22 59.8 -9.0
CD2 XP sP 02 23 02.8 -12
CD2 PP PP 02 24 32.3 +3.2
CD2 S **S** **02 29 02.9 +2.7**
CD2 AMB AMB
comp=Z,60nm,0.8s,mb5.4
CD2 AMB AMB
comp=Z,110nm,5.2s
CD2 LR LR
comp=N,450nm,13.2s
CD2 LR LR
comp=Z,310nm,13.2s,MS4.3
GYA Guiyang 41.31 257 P **P** **02 23 02.4 +0.3**
GYA AP pP 02 23 06.8 -9.0
GYA PP PP 02 24 41.8 +3.7
GYA PCP PcP 02 25 02.4 +2.6
GYA SCP ScP 02 28 51.2 +6.1
GYA S **S** **02 29 16.8 +4.2**
GYA SS SS 02 32 13.8 -3.8
GYA SCS ScS 02 33 05.8 +4.5
GYA AMB AMB
comp=Z,20nm,0.8s,mb4.8
GYA AMB AMB
comp=Z,130nm,4.9s
GYA LR LR
comp=Z,480nm,18.0s,MS4.4
INK Inuvik 41.95 32 *e*P **P** **02 23 06.9 +0.1**
INK Inuvik 41.95 32 P **P** **02 23 06.9 +0.1**
comp=Z,9.3nm,0.8s,mb4.5,baz=291,slow=7.3,SNR=51
ZAA0 Zalesovo Array 42.35 306 *e*P **P** **02 23 08.8 -1.4**
ZALV Zalesovo Beam 42.35 306 P **P** **02 23 09.1 -1.2**
comp=Z,4.0nm,0.5s,mb4.3,baz=64,slow=6.9,SNR=22
ZALV PcP PcP 02 25 03.0 +0.3
comp=Z,8.3nm,0.8s,baz=68,slow=3.2,SNR=21
ZALV LR LR 02 41 59.1
comp=Z,362nm,19.6s,MS4.3,baz=72,slow=38
ZAL Zalesovo 42.37 306 P **P** **02 23 09.1 -1.3**
ZAL 02 25 03.0
WMQ Urumqi 44.59 291 *e*P **P** **02 23 28.3 -0.2**
WMQ AMB AMB
comp=Z,8.0nm,0.7s,mb4.7
WMQ LR LR
comp=Z,325nm,18.7s,MS4.3
KMI Kunming 44.84 259 P **P** **02 23 30.7 +0.1**
KMI AP pP 02 23 34.7 -10
KMI PP PP 02 25 19.8 +3.8
KMI S **S** **02 30 06.2 +1.9**
KMI AMB AMB
comp=Z,14nm,0.6s,mb5.0
KMI AMB AMB
comp=Z,46nm,3.7s
KMI LR LR
comp=N,289nm,11.6s
KMI LR LR
comp=E,295nm,18.3s
KMI LR LR
comp=Z,196nm,21.2s
KMI Kunming 44.84 259 P **P** **02 23 30.7 +0.1**
KMI pP pP 02 23 34.7 -10
KMI sP sP 02 23 36.5 -14
KMI PP PP 02 25 19.8 +3.8
KMI PPP 02 25 55.7
KMI S **S** **02 30 06.2 +1.9**
KMI sS sS 02 30 14.5 -13
KMI SS SS 02 33 16.0 -11
KMI SSS 02 34 17.4
DLBC Dease Lake 45.95 46 *e*P **P** **02 23 40.3 +1.4**
MKAR Makanchi Array 46.64 297 P **P** **02 23 43.9 -0.7**
MKAR PcP PcP 02 25 17.5 -0.1
MKAR LR LR 02 44 31.6
MKAR Makanchi Array 46.64 297⇑ *e*P **P** **02 23 43.9 -0.6**
MKAR Makanchi Array 46.64 297 P **P** **02 23 43.9 -0.7**
comp=Z,5.0nm,0.6s,mb4.6,baz=69,slow=7.2,SNR=30
MKAR PcP PcP 02 25 17.5 -0.1
comp=Z,5.8nm,0.8s,baz=62,slow=4.0,SNR=11
MKAR LR LR 02 44 31.6
comp=Z,432nm,19.0s,MS4.4,baz=4.9,slow=38
KURK Kurchatov 47.09 303 P **P** **02 23 47.5 -0.5**
comp=Z,77nm,1.0s,mb5.6,SNR=9.1
KURK Kurchatov 47.09 303 *e*P **P** **02 23 46.8 -1.2**
comp=Z,9.5nm,0.8s,mb4.8
KURK Kurchatov 47.09 303 *e*P **P** **02 23 46.8 -1.2**
KURK pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
ALE Alert 49.88 6 P **P** **02 24 08.9 -0.2**
comp=Z,71nm,0.6s,mb5.9,SNR=6.5
LSA Lhasa 49.89 273 *e*P **P** **02 24 11.9 +2.1**
comp=Z,27nm,0.6s,mb5.5
LSA Lhasa 49.89 273 *e*P **P** **02 24 11.9 +2.1**
LSA pmax pmax
comp=Z,27nm,0.6s,mb5.5
BRVK Borovoye 50.66 309 P **P** **02 24 15.5 +0.2**
comp=Z,79nm,0.6s,mb5.8,SNR=6.5
BRVK Borovoye 50.66 309 *e*P **P** **02 24 15.2 -0.1**
RES Resolute Bay 51.05 18 *e*P **P** **02 24 17.7 -0.3**
YKW3 Yellowknife Ar 51.20 36 *e*P **P** **02 24 19.0 -0.3**
YKA Yellowknife Ar 51.24 36 P **P** **02 24 19.1 -0.4**
YKA PcP PcP 02 25 33.8 -0.2
YKA Yellowknife Ar 51.24 36 P **P** **02 24 19.1 -0.4**
comp=Z,2.2nm,0.5s,mb4.3,baz=297,slow=7.0,SNR=45
YKA PcP PcP 02 25 33.8 -0.2
comp=Z,1.4nm,0.6s,baz=304,slow=3.7,SNR=8.2
CHTO Chiang Mai 51.71 256 *e*P **P** **02 24 25.1 +1.5**
SHL Shillong 51.98 268 *e*P **P** **02 24 26.0 +0.5**
TKM2 Tokmak 2 52.69 296 *e*P **P** **02 24 30.2 -0.4**
comp=Z,3.5nm,0.8s,mb4.3
TKM2 Tokmak 2 52.69 296 P **P** **02 24 30.9 +0.3**
TKM2 pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
USP Ospenovka 53.18 297 P **P** **02 24 34.5 +0.2**
SNR=14
KZA Kyzart 53.36 295 P **P** **02 24 36.8 +1.2**
SNR=8.2
AAK Ala-Archa 53.53 296 P **P** **02 24 36.5 -0.3**
comp=Z,51nm,0.7s,mb5.6,SNR=6.3
AAK Ala-Archa 53.53 296 P **P** **02 24 37.0 +0.2**
SNR=9.5
EKS2 Erkin-Say 53.95 297 *e*P **P** **02 24 39.5 -0.4**
comp=Z,7.1nm,0.8s,mb4.7
EKS2 *e*PcP PcP 02 25 44.6 0.0
EKS2 Erkin-Say 53.95 297 P **P** **02 24 40.3 +0.4**
SNR=7.4
AML Almayashu 54.30 296 *e*P **P** **02 24 42.3 -0.1**
comp=Z,4.7nm,0.9s,mb4.4
AML Almayashu 54.30 296 P **P** **02 24 44.5 +2.1**
SNR=5.0
JIRN Jiri 54.56 274 *e*P **P** **02 24 46.1 +1.6**
comp=Z,127nm,0.7s,mb6.0
B05A Bryant 54.79 55 ⇑P **P** **02 24 45.6 -0.3**
baz=55
KKN Kakani 55.10 275 *e*P **P** **02 24 49.7 +1.3**
comp=Z,98nm,0.7s,mb6.0
A07A Ashnola River, 55.32 53 ⇑P **P** **02 24 49.3 -0.4**
baz=55
GKN Gorkha 55.41 276 *e*P **P** **02 24 51.7 +1.1**
comp=Z,180nm,0.9s,mb6.1
F04A Amboy 55.90 57 ⇑P **P** **02 24 53.8 -0.1**
baz=56
A08A Turner Farm, O 55.98 53 ⇓P **P** **02 24 54.1 -0.3**
baz=56
D06A Cle Elum 56.09 55 ⇑P **P** **02 24 55.2 -0.1**
baz=56
KOLN Koldanda 56.27 276 *e*P **P** **02 24 56.5 -0.3**
comp=Z,36nm,0.3s,mb6.0
B08A Colville Reser 56.28 53 ⇑P **P** **02 24 56.2 -0.4**
baz=56
A09A Danville 56.34 52 ⇑P **P** **02 24 57.1 +0.1**
baz=56
I03A Eugene 56.50 59 ⇑P **P** **02 24 58.7 +0.5**
baz=56
EDM Edmonton 56.67 46 *e*P **P** **02 24 59.0 -0.2**
J02A Umpqua 56.67 60 ⇑P **P** **02 25 00.0 +0.6**
baz=56
H04A Detroit Lake 56.74 58 ⇑P **P** **02 24 59.9 0.0**
baz=57
G05A Wamic 56.92 57 ⇓P **P** **02 25 01.5 +0.3**
baz=57
J03A Ideyld Park 57.03 60 ⇑P **P** **02 25 02.5 +0.5**
baz=57
I04A Tendick Farm, 57.11 59 ⇑P **P** **02 25 02.8 +0.3**
baz=57
E08A Dider Farm, El 57.50 55 ⇑P **P** **02 25 05.4 +0.2**
baz=57
A11A Hall Mountain, 57.56 51 ⇑P **P** **02 25 05.8 +0.2**
baz=57
D09A Jones Farm, Ri 57.59 54 ⇑P **P** **02 25 05.8 0.0**
baz=57
J04A Umpqua Nationa 57.61 60 ⇑P **P** **02 25 06.5 +0.4**
baz=57
H06A Lindquist Farm 57.79 57 ⇑P **P** **02 25 07.6 +0.3**
baz=58
ARCES ARCESS Array B 57.82 341 P **P** **02 25 06.6 -0.5**
ARCES ARCESS Array B 57.82 341 P **P** **02 25 06.6 -0.5**
ARCES pmax pmax
comp=Z,5.0nm,0.9s
ARCES ARCESS Array B 57.82 341 P **P** **02 25 06.6 -0.5**
comp=Z,4.8nm,0.9s,mb4.5,baz=34,slow=7.3,SNR=8.7
B11A Sandpoint 57.86 52 ⇑P **P** **02 25 07.9 +0.2**
baz=58
G07A Ruggs Ranch, H 57.86 56 ⇓P **P** **02 25 08.0 +0.2**
baz=58
E09A Wood Farm, Sta 58.00 55 ⇑P **P** **02 25 09.2 +0.5**
baz=58
J05A Fort Rock 58.11 59 ⇓P **P** **02 25 10.0 +0.4**
baz=58
D10A Wagner Farm, O 58.17 54 ⇑P **P** **02 25 09.6 -0.3**
baz=58
G08A Pilot Rock 58.25 56 ⇓P **P** **02 25 10.5 0.0**
baz=58
H07A Lands Inn, Kim 58.32 57 ⇑P **P** **02 25 11.0 +0.1**
baz=58
I06A Prineville 58.32 58 ⇑P **P** **02 25 11.6 +0.6**
baz=58
O01C Eel River Cons 58.40 63 ⇓P **P** **02 25 12.0 +0.4**
baz=58
SMLA Simla 58.53 283 *e*P **P** **02 25 13.1 +0.5**
E10A Myers Farm, Un 58.59 54 ⇑P **P** **02 25 13.0 +0.1**
baz=58
A13A Flathead Natio 58.62 50 ⇑P **P** **02 25 13.0 0.0**
baz=58
M04C Macdoel 58.63 61 ⇓P **P** **02 25 13.3 0.0**
baz=58
K05A Summer Lake 58.64 59 ⇓P **P** **02 25 13.5 +0.3**
baz=58
I07A Izee 58.65 57 ⇑P **P** **02 25 13.5 +0.2**
baz=58
J06A Christmas Vall 58.76 59 P **P** **02 25 14.6 +0.5**
baz=59,SNR=5.6
WALA Waterton Lakes 58.81 50 *e*P **P** **02 25 14.6 +0.3**
comp=Z,7.6nm,0.9s,mb4.7
H08A Prairie City 58.87 57 ⇑P **P** **02 25 14.9 +0.1**
baz=59
B13A Whitefish 58.92 51 P **P** **02 25 15.3 +0.3**
baz=59,SNR=8.4
WDC Whiskeytown Da 58.92 62 ⇓P **P** **02 25 15.3 0.0**
baz=59
K06A Valley Falls 58.98 59 P **P** **02 25 16.4 +0.8**
baz=59,SNR=7.5
O02C Red Bluff 59.01 63 ⇑P **P** **02 25 15.9 0.0**
baz=59
L05A Lakeview 59.08 60 ⇑P **P** **02 25 17.0 +0.7**
baz=59
E11A Bogner Ranch, 59.17 54 ⇑P **P** **02 25 16.6 -0.3**
baz=59
C13A Hot Springs 59.28 52 ⇑P **P** **02 25 17.7 +0.1**
baz=59
I08A Drewsey 59.30 57 ⇓P **P** **02 25 17.9 +0.1**
baz=59
G10A Bishop Farm, J 59.30 55 P **P** **02 25 18.2 +0.5**
baz=59,SNR=6.4
HATC Hat Creek Radi 59.44 62 ⇓P **P** **02 25 19.2 +0.4**
baz=59
BMO Blue Mountains 59.46 56 *e*P **P** **02 25 19.4 +0.5**
comp=Z,7.4nm,1.1s,mb4.6
MOD Modoc 59.48 60 *e*P **P** **02 25 19.6 +0.5**
MOD Modoc 59.48 60 ⇓P **P** **02 25 19.3 +0.2**
baz=59
K07A Rock Creek Ran 59.63 59 ⇑P **P** **02 25 20.4 +0.3**
baz=59
C14A Swan Lake 59.67 51 ⇓P **P** **02 25 20.5 +0.3**
baz=60
G11A Walters Elk Ra 59.71 55 ⇑P **P** **02 25 21.1 +0.5**
baz=60
I09A Lost Marbles R 59.74 57 ⇓P **P** **02 25 21.3 +0.5**
baz=60
H10A Noah's Angus R 59.93 56 ⇓P **P** **02 25 22.5 +0.4**
baz=60
O04C Chester 59.97 62 ⇓P **P** **02 25 22.5 +0.1**
baz=60
L07A Adell 59.98 59 ⇑P **P** **02 25 22.9 +0.3**
baz=60
NDI New Delhi 60.04 281 *e*P **P** **02 25 22.0 -1.1**
NDI *e*P 02 25 23.3
NDI AMb AMB 02 25 23.9
comp=Z,35nm,0.2s,mb6.1
K08A Mann Creek Ran 60.05 58 ⇓P **P** **02 25 23.3 +0.3**
baz=60
F12A Elk City 60.06 54 ⇑P **P** **02 25 23.3 +0.2**
baz=60
J09A Fry Pan Ranch, 60.11 57 ⇓P **P** **02 25 23.7 +0.3**
baz=60
MSO Missoula 60.13 52 *e*P **P** **02 25 23.8 +0.3**
comp=Z,9.1nm,1.0s,mb4.8
WVOR Wild Horse Val 60.15 59 *e*P **P** **02 25 23.1 -0.6**
comp=Z,2.8nm,0.8s,mb4.3
WVOR Wild Horse Val 60.15 59 *e*P **P** **02 25 23.1 -0.5**
WVOR pmax pmax
comp=Z,3.0nm,0.8s,mb4.4
ORV Oroville 60.18 63 ⇓P **P** **02 25 23.4 -0.6**
baz=60
I10A Payette 60.21 56 ⇑P **P** **02 25 24.3 +0.2**
baz=60
D14A Greenough 60.22 52 P **P** **02 25 23.9 -0.1**
baz=60,SNR=9.3
E13A Victor 60.23 53 ⇑P **P** **02 25 24.3 +0.1**
baz=60
H11A Donnelly 60.28 55 ⇓P **P** **02 25 24.1 -0.4**
baz=60
OHCM Honcut 60.32 63 *e*P **P** **02 25 24.8 -0.2**
CHMT Chamberlain Mo 60.46 52 *e*P **P** **02 25 25.1 -0.6**
N06A Buffalo Meadow 60.46 61 ⇓P **P** **02 25 26.0 +0.2**
baz=60
L08A Fields 60.47 59 ⇓P **P** **02 25 25.9 +0.1**
baz=60
M07A Soldier Meadow 60.47 60 ⇑P **P** **02 25 26.2 +0.3**
baz=60,SNR=6.3
K09A Rome 60.52 58 ⇓P **P** **02 25 26.2 0.0**
baz=60
F13A Darby 60.56 53 ⇑P **P** **02 25 26.1 -0.2**
baz=60
E14A Clinton 60.63 52 ⇑P **P** **02 25 26.8 -0.1**
baz=60
BEKR Beckwourth 60.68 62 ⇑P **P** **02 25 27.2 -0.2**
baz=60
D15A Lincoln 60.77 51 ⇑P **P** **02 25 27.7 -0.1**
baz=61
O06A Flanigan 60.82 61 ⇑P **P** **02 25 28.4 +0.1**
baz=61
M08A Happy Creek Ra 60.90 59 ⇑P **P** **02 25 28.6 -0.2**
baz=61
BLSP Bilaspur 60.95 272 *e*P **P** **02 25 29.4 0.0**
BLSP AMb AMB 02 25 30.0
comp=Z,14nm,0.5s,mb5.3
L09A Wilkinson Ranc 60.97 58 ⇓P **P** **02 25 29.2 0.0**
baz=61
H12A Diamond D Ranc 61.03 55 ⇑P **P** **02 25 29.6 0.0**
baz=61
G13A Cobalt 61.04 54 P **P** **02 25 29.5 -0.2**
baz=61,SNR=6.4
FFC Flin Flon 61.07 40 P **P** **02 25 29.3 -0.4**
comp=Z,108nm,0.9s,mb6.0,SNR=9.1
FFC Flin Flon 61.07 40 *e*P **P** **02 25 29.6 -0.1**
E15A Deer Lodge 61.09 52 ⇑P **P** **02 25 29.7 -0.3**
baz=61
LAVA Lava Cap Winer 61.14 63 ⇑P **P** **02 25 30.1 -0.3**
baz=61
MFID Camas Ranch 61.17 56 ⇓P **P** **02 25 30.3 -0.4**
baz=61
JOF Joensuu 61.25 333 *e*p **P** **02 25 28.5 -2.3**
comp=Z,8.0nm,0.7s,mb5.0
JOF Joensuu 61.25 333 *e*P **P** **02 25 28.5 -2.3**
JOF pmax pmax
comp=Z,8.0nm,0.7s,mb5.0
H13A Challis 61.35 54 ⇑P **P** **02 25 31.7 -0.1**
baz=61
K11A Parker Ranch, 61.46 57 ⇑P **P** **02 25 32.4 -0.1**
baz=61
N08A GE Springer Mi 61.46 60 ⇓P **P** **02 25 32.3 -0.3**
baz=61
F15A Butte 61.53 52 ⇓P **P** **02 25 33.0 0.0**
baz=61
FCC Fort Churchill 61.56 33 *e*P **P** **02 25 32.1 -0.9**
LRM Limekiln Ridge 61.57 52 *e*P **P** **02 25 33.7 +0.5**
EGMT Eagleton 61.62 49 *e*P **P** **02 25 33.8 +0.2**
EGMT Eagleton 61.62 49 P **P** **02 25 33.9 +0.3**
baz=61,SNR=6.1
L10A Juniper Basin 61.63 58 ⇓P **P** **02 25 34.1 +0.4**
baz=61
J12A Stokes Ranch, 61.70 56 ⇓P **P** **02 25 34.3 +0.1**
baz=62
CMB Columbia Colle 61.80 63 ⇑P **P** **02 25 35.4 +0.5**
baz=62
I13A Wildhorse Cree 61.84 55 ⇑P **P** **02 25 35.3 +0.3**
baz=62
PACP Pacheco Peak 61.88 65 ⇓P **P** **02 25 35.7 +0.2**
baz=62
HLID Hailey 61.89 55 *e*P **P** **02 25 36.0 +0.5**
comp=Z,9.6nm,1.4s,mb4.7
HLID Hailey 61.89 55 ⇓P **P** **02 25 35.7 +0.3**
baz=62
M10A I.L. Ranch, Tu 61.94 58 ⇑P **P** **02 25 36.2 +0.4**
baz=62

G15A **Dillon** 61.96 53 ⇑P P 02 25 36.4 +0.5
baz=62
MCMT **McKenzie Canyo** 61.97 53 eP P 02 25 36.2 +0.3
R06C **Coleville** 62.07 63 ⇑P P 02 25 36.7 0.0
baz=62
BOZ **Bozeman (W)** 62.13 52 eP P 02 25 37.4 +0.4
comp=Z,19nm,1.4s,mb5.0
BOZ **Bozeman (W)** 62.13 52 eP P 02 25 37.4 +0.4
BOZ pmax pmax
comp=Z,19nm,1.3s,mb5.1
BOZ **Bozeman (W)** 62.13 52 P P 02 25 37.5 +0.6
baz=62,SNR=6.6
K12A **Draper Farm, C** 62.19 56 ⇓P P 02 25 37.6 +0.1
baz=62
S05C **Merced** 62.27 64 ⇓P P 02 25 37.9 -0.1
baz=62
L12A **House Creek Ra** 62.43 57 ⇑P P 02 25 39.5 +0.4
baz=62
O10A **Cortez Mining,** 62.73 59 ⇑P P 02 25 41.3 +0.1
baz=62
QLMT **Earthquake Lak** 62.75 53 eP P 02 25 41.8 +0.6
Q08A **Gabbs** 62.78 61 ⇓P P 02 25 41.5 0.0
baz=63
NVAR **Mina Array Bea** 62.83 62 P P 02 25 42.1 +0.3
comp=Z,2.1nm,0.8s,mb4.3,baz=303,slow=5.5,SNR=14
T06C **Millerton Lake** 62.87 64 ⇓P P 02 25 41.4 -0.6
baz=63
KCC **Kaiser Creek** 62.91 64 ⇑P P 02 25 42.1 -0.3
baz=63
M12A **Wells** 62.95 58 ⇓P P 02 25 43.0 +0.4
baz=63
L13A **Double Diamond** 63.09 56 ⇓P P 02 25 44.0 +0.5
baz=63
GCMT **Greycliff** 63.09 51 eP P 02 25 44.0 +0.6
VIS **Vishakhapatnam** 63.11 268 eP P 02 25 45.3 +1.4
P10A **Eureka** 63.18 60 ⇑P P 02 25 44.5 +0.4
baz=63
K14A **Jones Ranch, D** 63.23 56 ⇓P P 02 25 44.8 +0.4
baz=63
O11A **Cowboy Ranch,** 63.34 59 ⇑P P 02 25 45.5 +0.4
baz=63
KAF **Kangasniemi** 63.37 335 ep P 02 25 43.1 -1.9
comp=Z,12nm,0.7s,mb5.1,baz=37,slow=6.2
KAF **Kangasniemi** 63.37 335 eP P 02 25 43.1 -1.9
KAF pmax pmax
comp=Z,12nm,0.7s,mb5.1
BHPL **Bhopal** 63.44 276 eP P 02 25 46.9 +0.9
BHPL AMb AMB 02 25 48.0
comp=Z,41nm,1.0s,mb5.5
HELL **Mitchell Peak** 63.50 64 ⇑P P 02 25 45.9 -0.4
baz=63
IMW **Indian Meadow** 63.62 53 eP P 02 25 47.7 +0.8
comp=Z,13nm,1.3s,mb4.8
R09A **Tonopah** 63.70 61 ⇑P P 02 25 47.6 0.0
baz=64
NGP **Nagpur** 63.72 274 eP P 02 25 46.9 -1.0
NGP AMb AMB 02 25 47.2
comp=Z,28nm,0.7s,mb5.4
Q10A **Clear Creek Ra** 63.73 61 ⇑P P 02 25 47.8 0.0
baz=64
RLMT **Red Lodge** 63.74 51 eP P 02 25 48.6 +0.8
RLMT epP pP 02 25 57.9 -4.2
O12A **Currie** 63.78 58 ⇑P P 02 25 48.6 +0.5
baz=64
M14A **Sheep Mountain** 63.80 57 ⇓P P 02 25 48.9 +0.7
baz=64
MOOW **Moose Ponds** 63.83 53 eP P 02 25 49.4 +1.1
TPAW **Teton Pass** 63.88 54 eP P 02 25 50.1 +1.4
comp=Z,17nm,1.0s,mb5.0
FINES **FINESS Array B** 63.96 335 P P 02 25 48.1 -0.8
FINES pmax pmax
comp=Z,15nm,0.6s
FINES **FINESS Array B** 63.96 335 P P 02 25 48.1 -0.8
comp=Z,15nm,0.6s,mb5.2,baz=35,slow=8.5,SNR=81
LOHW **Long Hollow** 63.99 53 eP P 02 25 50.5 +1.1
comp=Z,21nm,1.5s,mb4.9
SNOW **Snow King Moun** 64.00 54 eP P 02 25 49.5 0.0
comp=Z,11nm,0.9s,mb4.9
REDW **Red Top Meadow** 64.02 54 eP P 02 25 50.7 +1.2
comp=Z,15nm,1.1s,mb4.9
R10A **Warm Springs** 64.13 61 ⇑P P 02 25 50.5 +0.1
baz=64
DGMT **Dagmar** 64.16 46 eP P 02 25 50.2 -0.2
Q11A **Duckwater** 64.16 60 ⇑P P 02 25 50.4 -0.2
baz=64
S10A **Tonopah Range,** 64.19 61 ⇑P P 02 25 50.9 +0.1
baz=64
GRAC **Grapevine Rang** 64.31 63 ⇑P P 02 25 51.6 +0.1
baz=64
N14A **Grayback Hills** 64.32 57 ⇑P P 02 25 51.6 0.0
baz=64
M15A **Larsen Ranch,** 64.35 56 ⇓P P 02 25 52.1 +0.3
baz=64
R11A **Troy Canyon, C** 64.52 61 P P 02 25 53.1 +0.2
baz=64,SNR=5.4
Q12A **Willow Creek R** 64.53 60 ⇓P P 02 25 53.1 +0.2
baz=64
HWUT **Hardware Ranch** 64.76 56 eP P 02 25 55.0 +0.6
comp=Z,12nm,1.3s,mb4.8
MPMC **Manual Prospec** 64.84 64 ⇑P P 02 25 54.5 -0.6
baz=65
S11A **Rachel** 64.88 61 ⇓P P 02 25 55.2 -0.1
baz=65
DUG **Dugway** 64.96 57 eP P 02 25 56.2 +0.4
comp=Z,18nm,1.1s,mb5.0
DUG **Dugway** 64.96 57 eP P 02 25 56.2 +0.4
DUG pP 02 26 06.3 -4.0
DUG pmax pmax
comp=Z,18nm,1.1s,mb5.0
DUG **Dugway** 64.96 57 ⇓P P 02 25 55.8 0.0
baz=65
FURC **Furnace Creek,** 64.96 63 ⇑P P 02 25 55.9 0.0
baz=65
TPNV **Topopah Spring** 65.03 62 eP P 02 25 56.4 +0.1
comp=Z,13nm,1.0s,mb4.9
TPNV **Topopah Spring** 65.03 62 eP P 02 25 56.4 +0.1
TPNV pmax pmax
comp=Z,13nm,1.0s,mb4.9
TPNV **Topopah Spring** 65.03 62 ⇓P P 02 25 56.2 -0.1
baz=65
LRMC **Laurel Mountai** 65.10 64 ⇓P P 02 25 56.7 -0.1
baz=65
R12A **Pony Springs,** 65.12 60 ⇑P P 02 25 56.9 0.0
baz=65
BW06 **Boulder Array** 65.12 54 eP P 02 25 57.0 +0.2
comp=Z,7.8nm,1.0s,mb4.7
PDAR **Pinedale Array** 65.12 54 P P 02 25 56.9 +0.1
comp=Z,3.1nm,0.9s,mb4.3,baz=293,slow=2.2,SNR=18
OBN **Obninsk** 65.17 325⇑eP P 02 25 55.5 -1.4
OBN eS S 02 34 29.6 -6.0
OBN pmax pmax
comp=Z,11nm,0.8s,mb4.9
EDW2 **Edwards Air Fo** 65.30 65 ⇑P P 02 25 58.2 +0.1
baz=65
U10A **Ash Meadows, A** 65.32 63 ⇑P P 02 25 58.3 +0.2
baz=65
AKL **Akola** 65.42 275 eP P 02 25 59.5 +0.5
AKL AMb AMB 02 26 01.0
comp=Z,26nm,1.6s,mb5.0
T11A **Corn Creek, Al** 65.46 61 ⇓P P 02 25 59.4 +0.3
baz=65
MWC **Mount Wilson** 65.68 65 eP P 02 26 00.2 -0.4
GSC **Goldstone** 65.76 64 eP P 02 26 00.8 -0.3
comp=Z,7.4nm,0.9s,mb4.7
GSC **Goldstone** 65.76 64 eP P 02 26 00.8 -0.2
GSC pmax pmax
comp=Z,7.0nm,0.9s,mb4.7
GSC **Goldstone** 65.76 64 ⇑P P 02 26 01.1 0.0
baz=66
MPU **Maple Canyon** 65.76 57 eP P 02 26 00.8 -0.1
BFSC **Mount Baldy St** 65.92 65 ⇓P P 02 26 02.0 -0.1
baz=66
S13A **Holt Ranch, En** 66.06 60 ⇓P P 02 26 03.1 +0.2
baz=66
TUQ **Turquoise Mtn.** 66.21 63 ⇓P P 02 26 04.1 +0.2
baz=66
V11A **Goodsprings** 66.25 63 ⇓P P 02 26 04.5 +0.3
baz=66
HEC **Hector,Ludlow** 66.36 64 ⇑P P 02 26 04.8 -0.1
baz=66
MSU **Marysvale** 66.44 58 P P 02 26 05.1 -0.2
U13A **Pakoon Wash** 66.76 61 ⇓P P 02 26 08.0 +0.6
baz=67
GMRC **Granite Mounta** 66.81 64 ⇓P P 02 26 07.7 -0.1
baz=67
ULM **Lac du Bonnet** 66.85 40 P P 02 26 06.7 -1.1
ULM **Lac du Bonnet** 66.85 40 P P 02 26 06.7 -1.0
comp=Z,7.0nm,0.7s,mb4.8,baz=306,slow=6.7,SNR=19
T14A **Hurricane** 66.86 60 ⇑P P 02 26 07.9 -0.2
baz=67
LDFC **Landfair** 66.95 63 eP P 02 26 08.5 -0.1
SRU **San Rafael** 67.00 57 eP P 02 26 08.6 -0.3
109C **Camp Elliot, M** 67.16 66 ⇓P P 02 26 09.7 -0.3
baz=67
RSSD **Black Hills** 67.19 49 eP P 02 26 09.4 -0.6
U14A **Mt Trumbull** 67.23 61 ⇑P P 02 26 11.0 +0.6
baz=67
T15A **Red Dirt Ranch** 67.31 60 ⇑P P 02 26 11.1 +0.2
baz=67
IRM **Iron Mountain** 67.53 64 ⇓P P 02 26 12.6 +0.2
baz=67
V14A **Boquillas Ranc** 67.80 61 ⇓P P 02 26 14.3 +0.3
baz=68
X13A **Yucca** 68.06 63 ⇑P P 02 26 15.6 0.0
baz=68
PDMCI **Parker Dam,Lak** 68.06 63 ⇑P P 02 26 15.5 -0.2
baz=68
W14A **Seligman** 68.10 62 ⇑P P 02 26 16.1 +0.2
baz=68,SNR=6.3
Y12C **Blythe** 68.19 64 ⇓P P 02 26 16.2 -0.3
baz=68
NB2 **NORSAR Subarra** 68.19 341 P P 02 26 15.5 -0.5
comp=Z,20nm,0.7s,mb5.3,baz=28,slow=6.5
NOA **NORSAR Array B** 68.19 341 P P 02 26 15.5 -0.5
NOA pmax pmax
comp=Z,18nm,0.8s
NOA **NORSAR Array B** 68.19 341 P P 02 26 15.4 -0.6
comp=Z,18nm,0.8s,mb5.2,baz=27,slow=6.3,SNR=50
AGMN **Agassiz Refuge** 68.27 42 eP P 02 26 16.0 -0.7
AGMN epP pP 02 26 30.3 -1.0
WRA **Warramunga Arr** 68.29 198 P P 02 26 15.3 -1.8
WRA pmax pmax
comp=Z,3.0nm,0.8s
WRA **Warramunga Arr** 68.29 198 P P 02 26 15.3 -1.8
comp=Z,2.8nm,0.8s,mb4.3,baz=21,slow=6.9,SNR=13
HFS **Hagfors** 68.41 339 LR LR 02 58 55.6
comp=Z,169nm,18.8s,MS4.3,baz=273,slow=38
Y13A **Salome** 68.58 63 ⇓P P 02 26 18.8 -0.1
baz=68
X14A **Yava** 68.71 62 ⇓P P 02 26 19.7 0.0
baz=68,SNR=5.1
Y14A **Wickenburg** 69.00 63 ⇓P P 02 26 21.4 -0.1
baz=69,SNR=5.1
X15A **Humboldt** 69.10 62 ⇓P P 02 26 22.2 +0.1
baz=69,SNR=5.6
ISCO **Idaho Springs** 69.32 54 eP P 02 26 24.0 +0.6
Y15A **Casa Rosa Ranc** 69.40 62 ⇑P P 02 26 24.3 +0.2
baz=69,SNR=5.5
MVCO **Mesa Verde** 69.46 57 epP pP 02 26 38.6 -0.3
X16A **Lo Mia Camp, P** 69.63 61 ⇑P P 02 26 25.8 +0.4
baz=69
KAD **Karad** 69.69 274 eP P 02 26 26.6 +0.7
Y16A **Circle Bar Ran** 69.97 62 ⇑P P 02 26 27.7 +0.1
baz=70
115A **Sonoran Desert** 70.32 63 ⇑P P 02 26 29.4 -0.2
baz=70
KIV **Kislovodsk** 70.59 314 eP P 02 26 31.8 +0.7
comp=Z,12nm,0.7s,mb5.0
KIV **Kislovodsk** 70.59 314 eP P 02 26 31.6 +0.5
KIV pmax pmax
comp=Z,11nm,0.7s,mb4.9
KIV MLR MLR
comp=Z,192nm,18.0s,MS4.4
SDCO **Great Sand Dun** 70.81 55 eP P 02 26 32.4 -0.1
comp=Z,33nm,2.3s,mb4.9
TBLG **Delisi** 71.15 311 P P 02 26 35.3 +0.7
ONI **Oni** 71.20 312 P P 02 26 36.4 +1.5
ECSD **EROS,Sioux Fal** 71.24 46 eP P 02 26 34.3 -0.7
216A **Three Points,** 71.27 63 ⇑P P 02 26 35.9 +0.4
baz=71,SNR=5.5
AKASG **Malin Array Be** 71.41 326 P P 02 26 35.2 -0.8
AKASG **Malin Array Be** 71.41 326 P P 02 26 35.2 -0.8
AKASG pmax pmax
comp=Z,18nm,0.5s
AKASG **Malin Array Be** 71.41 326 P P 02 26 35.2 -0.8
comp=Z,18nm,0.5s,mb5.2,baz=33,slow=6.2,SNR=83
AKBB **Malin Array Si** 71.41 326 eP P 02 26 34.7 -1.2
KIEV **Kiev** 71.42 326 eP P 02 26 34.9 -1.1
comp=Z,21nm,0.7s,mb5.2
KIEV **Kiev** 71.42 326 P P 02 26 35.3 -0.7
KIEV pmax pmax
comp=Z,21nm,0.7s,mb5.2
217A **Green Valley** 71.82 63 ⇓P P 02 26 39.4 +0.7
baz=72
ASAR **Alice Springs** 71.99 198 P P 02 26 40.1 +0.5
ASAR pmax pmax
comp=Z,4.0nm,0.6s
ASAR **Alice Springs** 71.99 198 P P 02 26 40.1 +0.5
comp=Z,4.0nm,0.6s,mb4.5,baz=10,slow=5.5,SNR=68
119A **Ashpeak Ranch,** 72.06 61 ⇓P P 02 26 40.5 +0.3
baz=72
218A **Dragoon** 72.15 62 ⇑P P 02 26 41.1 +0.3
baz=72,SNR=6.0
ANMO **Albuquerque** 72.22 58 eP P 02 26 41.2 +0.1
ANN **Anapa** 72.49 317 eP P 02 26 46.1 +3.6
ANN e*PP pP 02 26 56.3 -0.9
ANN e 02 29 29.7
ANN pmax pmax
comp=Z,42nm,1.5s,mb5.2
318A **Bisbee** 72.56 63 ⇓P P 02 26 43.1 -0.1
baz=72,SNR=6.5
319A **Douglas** 73.04 62 ⇑P P 02 26 46.2 +0.2
baz=73,SNR=7.8
GKP **Gorka Klasztor** 73.42 334 eP P 02 26 47.8 -0.1
SCHQ **Schefferville** 73.55 23 P P 02 26 47.7 -0.9
comp=Z,3.7nm,0.8s,mb4.4,baz=312,slow=2.8,SNR=6.3
KIS **Kishinev** 74.53 324 eP P 02 26 53.0 -1.5
KWP **Kalwaria** 74.71 329 eP P 02 26 55.9 +0.4
KWP **Kalwaria** 74.71 329⇑P P 02 26 55.8 +0.3
BSEG **Bad Segeberg** 74.78 338 eP P 02 26 55.7 -0.1
comp=Z,12nm,1.0s,mb4.8
AMTX **Amarillo** 75.01 55 eP P 02 26 57.4 0.0
AMTX epP pP 02 27 11.6 -0.6
MNTX **Cornudas Mount** 75.16 60 eP P 02 26 57.4 -1.0
comp=Z,30nm,2.5s,mb4.8
OJC **Ojcow** 75.22 331 eP P 02 26 58.5 +0.1
GDL2 **Guadalupe Moun** 75.40 59 eP P 02 26 59.9 +0.1
STHS **Stebnicka Huta** 75.40 330 i P P 02 27 00.6 +1.1
comp=Z,13nm,0.8s,mb4.9
STHS **Stebnicka Huta** 75.40 330 i P P 02 27 00.6 +1.1
STHS pmax pmax
comp=Z,13nm,0.8s,mb4.9
KOLS **Kolonicke sedl** 75.45 329 i P P 02 26 59.7 0.0
UZH **Uzhgorod** 75.69 328 eP P 02 26 59.4 -1.8
NIE **Niedzica** 75.72 330 i P P 02 27 02.0 +0.7
CRVS **Cervenica-Dubn** 75.76 329 i P P 02 27 01.6 +0.1
KSP **Ksiaz** 75.81 333 eP P 02 27 01.8 0.0
GLMI **Grayling** 75.91 38 eP P 02 27 02.4 -0.1
TRPA **Tarpa** 76.03 328⇑P P 02 27 03.5 +0.4
OKC **Ostrava-Krasne** 76.09 332 eP P 02 27 03.3 -0.1
NRDL **Niedersach Rie** 76.13 337 eP P 02 27 03.2 -0.4
comp=Z,17nm,1.0s,mb4.9
UPC **Upice** 76.19 333 eP P 02 27 03.9 -0.1
DPC **Dobruska-Polom** 76.23 333 eP P 02 27 04.4 +0.2
VRI **Vrincioaia** 76.30 324 ⇓P P 02 27 04.9 +0.3
VRI **Vrincioaia** 76.30 324⇓iP P 02 27 04.9 +0.3
PLOR **Plostina** 76.34 324⇑iP P 02 27 05.6 +0.7
MORC **Moravsky Berou** 76.34 332 eP P 02 27 04.6 -0.2
comp=Z,16nm,0.8s,mb5.0
MORC **Moravsky Berou** 76.34 332⇓iP P 02 27 05.1 +0.3
CLL **Collm** 76.39 335⇑iP P 02 27 04.2 -0.9
CLL pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
CLL **Collm** 76.39 335 eP P 02 27 04.3 -0.8
comp=Z,31nm,0.8s,mb5.3
CLL **Collm** 76.39 335⇑iP P 02 27 04.2 -0.9
comp=Z,31nm,0.8s,mb5.3
KECS **Kecovo** 76.46 329 i P P 02 27 05.5 0.0
comp=Z,5.9nm,0.9s,mb4.5
KECS **Kecovo** 76.46 329 i P P 02 27 05.5 0.0
KECS pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
BRG **Berggiesshubel** 76.50 334 eP P 02 27 05.1 -0.6
BRG pmax pmax
comp=Z,3.0nm,0.9s,mb4.2
BRG **Berggiesshubel** 76.50 334 eP P 02 27 05.0 -0.7
comp=Z,9.0nm,0.9s,mb4.7
BRG **Berggiesshubel** 76.50 334 eP P 02 27 05.1 -0.6
comp=Z,8.9nm,0.9s,mb4.7
CLZ **Clausthal** 76.65 337 eP P 02 27 06.5 0.0
CLZ pmax pmax
comp=Z,30nm,1.0s,mb5.2
CLZ **Clausthal** 76.65 337 eP P 02 27 06.5 0.0
comp=Z,30nm,1.0s,mb5.2
WMOK **Wichita Mounta** 76.73 53 eP P 02 27 06.8 -0.5
TIRR **Tirgusor** 76.75 322 P P 02 27 07.6 +0.4
TIRR **Tirgusor** 76.75 322⇓iP P 02 27 07.4 +0.2
HARR **Harsova** 76.77 323 P P 02 27 07.9 +0.6
HARR **Harsova** 76.77 323⇑iP P 02 27 07.9 +0.6
MLR **Muntele Rosu** 76.92 325 P P 02 27 08.8 +0.6
MLR **Muntele Rosu** 76.92 325⇑iP P 02 27 08.9 +0.7
MALT **Malatya** 76.93 313 eP P 02 27 09.9 +1.5
comp=Z,13nm,0.8s,mb4.9
MALT **Malatya** 76.93 313 eP P 02 27 09.9 +1.5
MALT pmax pmax
comp=Z,13nm,0.8s,mb4.9
MALT **Malatya** 76.93 313⇑iP P 02 27 09.9 +1.5
VYHS **Vyhne** 77.02 330 i P P 02 27 08.9 +0.2
comp=Z,9.1nm,1.0s,mb4.7
VYHS **Vyhne** 77.02 330 i P P 02 27 08.9 +0.2
VYHS pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
VRAC **Vranov** 77.06 332 P P 02 27 09.3 +0.5
VRAC **Vranov** 77.06 332⇓iP P 02 27 09.4 +0.5
DRGR 77.09 327 ⇓P P 02 27 09.4 +0.3
DRGR 77.09 327⇓iP P 02 27 09.4 +0.3
PRU **Pruhonice** 77.10 334 eP P 02 27 08.9 -0.2
PSZ **Piszkesteto** 77.15 330 eP P 02 27 10.1 +0.7
comp=Z,15nm,1.0s,mb4.9
PSZ **Piszkesteto** 77.15 330⇑iP P 02 27 10.3 +0.9
HDIL **Hopedale** 77.19 44 eP P 02 27 08.4 -1.4
VOIR 77.32 325 P P 02 27 11.1 +0.6
VOIR 77.32 325⇓iP P 02 27 11.1 +0.7
MOX **Moxa** 77.38 336 eP P 02 27 10.4 -0.3
comp=Z,17nm,1.1s,mb4.9
MOX **Moxa** 77.38 336 eP P 02 27 10.4 -0.3
MOX pmax pmax
comp=Z,27nm,1.1s,mb5.1
MOX **Moxa** 77.38 336 eP P 02 27 10.2 -0.5
comp=Z,18nm,1.0s,mb5.0
TREC **Trest** 77.42 333 eP P 02 27 11.2 +0.3
WTSB **Winterswijk** 77.45 339 eP P 02 27 10.8 -0.2
comp=Z,32nm,0.8s,mb5.3
SMOL **Smolenice** 77.47 331 i P P 02 27 12.1 +0.9
NKC **Novy Kostel** 77.51 335 eP P 02 27 11.3 -0.1
MODS **Modra-Piesok** 77.65 331 i P P 02 27 13.1 +0.9
comp=Z,9.0nm,0.9s,mb4.7
MODS **Modra-Piesok** 77.65 331 i P P 02 27 13.1 +0.9
MODS pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
UBBA **Unterbreizbach** 77.67 337 eP P 02 27 12.0 -0.3
comp=Z,28nm,1.8s,mb4.9
MANZ **Manzenberg** 77.83 335 eP P 02 27 12.9 -0.3
comp=Z,12nm,0.9s,mb4.8
ZST **Bratislava** 77.86 331 i P P 02 27 14.7 +1.3
comp=Z,15nm,0.8s,mb5.0
ZST **Bratislava** 77.86 331 i P P 02 27 14.7 +1.3
ZST pmax pmax
comp=Z,15nm,0.8s,mb5.0
ROTZ **Rotzenmuhle** 78.00 335 eP P 02 27 14.0 -0.1
comp=Z,16nm,1.0s,mb4.9
KHC **Kasperske Hory** 78.16 334 eP P 02 27 15.2 +0.2
KHC epP pP 02 27 19.3 -11
GZR **Gura Zlata** 78.24 326 P P 02 27 15.5 0.0
GZR **Gura Zlata** 78.24 326⇑iP P 02 27 15.7 +0.2
GRA1 **Grafenberg Arr** 78.35 336 eP P 02 27 16.4 +0.4
comp=Z,40nm,0.8s,mb5.4
GRF **Grafenberg Arr** 78.35 336 eP P 02 27 16.4 +0.4
GRF pmax pmax
comp=Z,40nm,0.8s,mb5.4
GRF **Grafenberg Arr** 78.35 336 eP P 02 27 16.4 +0.4
GRF pmax pmax
comp=Z,40nm,0.8s,mb5.4
GRF **Grafenberg Arr** 78.35 336 eP P 02 27 16.4 +0.4
comp=Z,40nm,0.8s,mb5.4
GRFO **Grafenberg** 78.35 336 eP P 02 27 16.1 0.0
comp=Z,34nm,0.8s,mb5.3
GRFO **Grafenberg** 78.35 336 P P 02 27 16.4 +0.3
GRFO pmax pmax
comp=Z,33nm,0.9s,mb5.3
WET **Wettzell** 78.36 334 eP P 02 27 16.4 +0.3
WET pmax pmax
comp=Z,23nm,1.0s,mb5.1
WET **Wettzell** 78.36 334 eP P 02 27 16.4 +0.3
comp=Z,23nm,1.0s,mb5.1
GEC2 **GERESS Array S** 78.37 334 eP P 02 27 16.0 -0.2
GEC2 pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
GEC2 **GERESS Array S** 78.37 334 eP P 02 27 16.0 -0.2
comp=Z,10.0nm,0.8s,mb4.8
GERES **GERESS Array B** 78.37 334 P P 02 27 16.3 +0.1
GERES pmax pmax
comp=Z,7.0nm,0.6s
GERES **GERESS Array B** 78.37 334 P P 02 27 16.3 +0.1
comp=Z,6.5nm,0.6s,mb4.7,baz=32,slow=5.3,SNR=70
MIB **Mutribah** 78.38 301 eP P 02 27 16.5 0.0
MIB AMb AMB 02 27 18.4
comp=Z,107nm,0.7s,mb5.9
ANTO **Ankara** 78.48 317 ⇓P P 02 27 18.2 +1.3
ANTO **Ankara** 78.48 317⇓iP P 02 27 18.2 +1.2
BZS **Buzias** 78.49 327 P P 02 27 16.5 -0.4
BZS **Buzias** 78.49 327⇓iP P 02 27 16.5 -0.4
CONA **Conrad Observa** 78.50 332⇑ipP P 02 27 17.3 +0.4
comp=Z,20nm,0.8s,mb5.1,SNR=12
TNS **Taunus Mts** 78.63 337 eP P 02 27 17.7 +0.1
TNS pmax pmax
comp=Z,20nm,0.8s,mb5.1
TNS **Taunus Mts** 78.63 337 eP P 02 27 17.7 +0.1
comp=Z,20nm,0.8s,mb5.1
ZIMR 78.67 324 P P 02 27 17.8 -0.1
SZH **Strazhica** 78.76 323 eP P 02 27 18.1 -0.3
HGN **Heimansgroeve** 78.78 339 eP P 02 27 18.5 +0.1
comp=Z,26nm,0.8s,mb5.2
STKA **Stephens Creek** 78.79 189 P P 02 27 17.8 -0.7
comp=Z,2.1nm,0.8s,mb4.1,baz=4.8,slow=12,SNR=3.5
QRN **Al-Qurain** 78.81 300 eP P 02 27 19.4 +0.5
QRN AMb AMB 02 27 23.0
comp=Z,178nm,1.3s,mb5.8
NAY **Al-Naaiem** 78.84 301 eP P 02 27 19.5 +0.4
NAY AMb AMB 02 27 21.0
comp=Z,63nm,1.0s,mb5.5
RDF **Al-Radifah** 78.90 300 eP P 02 27 19.7 +0.2
RDF AMb AMB 02 27 21.6
comp=Z,116nm,1.1s,mb5.7
PKSM **Moragy** 79.05 329 ⇓P P 02 27 19.4 -0.6
PKSM **Moragy** 79.05 329⇓iP P 02 27 19.4 -0.6
MOA **Molln** 79.08 333⇑iP P 02 27 20.2 +0.1
comp=Z,15nm,0.8s,mb5.0,SNR=19
MOA **Molln** 79.08 333⇑ipP P 02 27 20.2 +0.1
comp=Z,15nm,0.8s,mb5.0,SNR=19
ARSA **Arzberg** 79.20 332⇑iP P 02 27 20.8 0.0
comp=Z,14nm,1.2s,mb4.8,SNR=7.2
ARSA **Arzberg** 79.20 332⇑ipP P 02 27 20.8 0.0
comp=Z,14nm,1.2s,mb4.8,SNR=7.2
JCT **Junction City** 79.31 57 eP P 02 27 21.0 -0.7
comp=Z,16nm,1.1s,mb4.9
JCT **Junction City** 79.31 57 eP P 02 27 21.0 -0.7
JCT pmax pmax
comp=Z,16nm,1.1s,mb4.9
GIVF **Givet** 79.66 340 eP P 02 27 22.8 -0.4
KOGS **Kog** 79.67 331 eP P 02 27 22.7 -0.6
FUR **Furstenfeldbru** 79.71 335 eP P 02 27 23.9 +0.4
FUR pmax pmax
comp=Z,22nm,0.6s,mb5.3
FUR **Furstenfeldbru** 79.71 335 eP P 02 27 23.9 +0.4
comp=Z,22nm,0.6s,mb5.3
STU **Stuttgart** 79.75 336 eP P 02 27 23.7 0.0
comp=Z,23nm,0.9s,mb5.1
BAIF **Baives** 79.84 340 eP P 02 27 23.8 -0.4
GROS **Grobnik** 79.91 331 i P P 02 27 24.8 +0.1
DIM **Dimitrovgrad** 79.93 323 eP P 02 27 25.0 +0.2
KBA **Koelnbreinsper** 80.05 333⇓iP P 02 27 25.9 +0.5
comp=Z,34nm,0.7s,mb5.4,SNR=27
KBA **Koelnbreinsper** 80.05 333⇓ipP P 02 27 25.9 +0.5
comp=Z,34nm,0.7s,mb5.4,SNR=27
KBA **Koelnbreinsper** 80.05 333⇓iP P 02 27 25.9 +0.5
KBA pmax pmax
comp=Z,34nm,0.6s,mb5.5
PGB **Panagyurishte** 80.08 324 eP P 02 27 25.6 0.0
OBKA **Obir** 80.17 332⇓iP P 02 27 26.0 -0.1
comp=Z,7.5nm,0.6s,mb4.8
ACSO **Alum Creek Sta** 80.34 40 eP P 02 27 26.5 -0.6
WATA **Walderalm** 80.36 334⇓iP P 02 27 27.6 +0.5
comp=Z,15nm,0.9s,mb4.9,SNR=17
WATA **Walderalm** 80.36 334⇓ipP P 02 27 27.6 +0.5
comp=Z,15nm,0.9s,mb4.9,SNR=17
WATA **Walderalm** 80.36 334⇓iP P 02 27 27.6 +0.5
WATA pmax pmax

comp=Z,15nm,0.9s,mb4.9
DIVS Divibare 80.39 327 eP P 02 27 27.0 -0.2
ALLY Alegheny Colle 80.39 37 eP P 02 27 26.9 -0.4
BFO Black Forest 80.39 337 P P 02 27 27.9 +0.7
comp=Z,112nm,0.9s,mb5.8,SNR=7.4
BFO Black Forest 80.39 337 eP P 02 27 27.1 -0.1
BFO pmax pmax
comp=Z,22nm,1.0s,mb5.0
BFO Black Forest 80.39 337 eP P 02 27 27.1 -0.1
comp=Z,22nm,1.0s,mb5.0
WTTA Wattenberg 80.41 334⇑iP P 02 27 27.8 +0.5
comp=Z,27nm,0.9s,mb5.2,SNR=25
WTTA Wattenberg 80.41 334⇑ipP P 02 27 27.8 +0.5
comp=Z,27nm,0.9s,mb5.2,SNR=25
WTTA Wattenberg 80.41 334⇑iP P 02 27 27.8 +0.5
WTTA pmax pmax
comp=Z,27nm,0.9s,mb5.2
LEGS Legarje 80.42 331 eP P 02 27 26.8 -0.6
VTS Vitosha 80.43 325 ||P P 02 27 27.9 +0.4
VTS Vitosha 80.43 325 ||iP P 02 27 27.9 +0.4
VTS Vitosha 80.43 325 eP P 02 27 27.2 -0.3
WCI Wyandotte Cave 80.45 43 eP P 02 27 26.8 -0.9
RETA Reutte 80.47 335⇑ipP P 02 27 27.8 +0.1
comp=Z,12nm,0.8s,mb4.9,SNR=14
MOTA Moosalm 80.50 335⇑iP P 02 27 28.0 +0.2
comp=Z,19nm,0.9s,mb5.0,SNR=19
MOTA Moosalm 80.50 335⇑ipP P 02 27 28.0 +0.2
comp=Z,19nm,0.9s,mb5.0,SNR=19
MOTA Moosalm 80.50 335⇑iP P 02 27 28.0 +0.2
MOTA pmax pmax
comp=Z,19nm,0.9s,mb5.0
SQTA Sankt Quirin 80.58 334⇑iP P 02 27 28.4 +0.2
comp=Z,14nm,1.0s,mb4.9,SNR=15
SQTA Sankt Quirin 80.58 334⇑ipP P 02 27 28.4 +0.2
comp=Z,14nm,1.0s,mb4.9,SNR=15
SQTA Sankt Quirin 80.58 334⇑iP P 02 27 28.4 +0.2
SQTA pmax pmax
comp=Z,14nm,1.0s,mb4.8
LJU Ljubljana 80.59 332 eP P 02 27 27.5 -0.8
CDF Champ du Feu 80.60 337 eP P 02 27 28.1 -0.2
comp=Z,37nm,0.9s,mb5.0
CDF Champ du Feu 80.60 337 eP P 02 27 28.1 -0.2
comp=Z,19nm,0.9s,mb5.0
CDF Champ du Feu 80.60 337 eP P 02 27 28.1 -0.2
CDF pmax pmax
comp=Z,19nm,0.9s,mb5.0
ALN Alexandroupoli 80.67 322 eP P 02 27 28.3 -0.5
CADS Cadrg 80.68 332 iP P 02 27 27.9 -0.9
BOJS Bojanci 80.83 331 iP P 02 27 29.4 -0.2
FETA Feichten 80.90 335⇑ipP P 02 27 30.2 +0.2
comp=Z,14nm,1.0s,mb4.8,SNR=11
MMB Musomiste 81.06 324 eP P 02 27 31.4 +0.5
MEZF Maizieres J'vi 81.09 339 eP P 02 27 30.9 0.0
comp=Z,51nm,0.9s,mb5.2
MEZF Maizieres J'vi 81.09 339 eP P 02 27 30.9 0.0
comp=Z,51nm,0.9s,mb5.5
HAU Haudompre 81.22 338 eP P 02 27 31.1 -0.5
comp=Z,27nm,1.0s,mb4.8
HAU Haudompre 81.22 338 eP P 02 27 31.1 -0.5
comp=Z,13nm,1.0s,mb4.8
HAU Haudompre 81.22 338 eP P 02 27 31.1 -0.5
HAU pmax pmax
comp=Z,13nm,1.0s,mb4.8
HINF Hinteralfeld 81.26 337 eP P 02 27 31.2 -0.6
comp=Z,15nm,0.9s,mb4.6
HINF Hinteralfeld 81.26 337 eP P 02 27 31.2 -0.6
comp=Z,7.4nm,0.9s,mb4.6
HINF Hinteralfeld 81.26 337 eP P 02 27 31.2 -0.6
HINF pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
WVT Waverly 81.38 45 eP P 02 27 31.9 -0.8
WVT epP pP 02 27 46.3 -1.3
SRS Serrai 81.51 324 eP P 02 27 33.2 -0.1
STIP Stip 81.59 325 eP P 02 27 32.5 -1.2
VAY Valandovo 81.75 324 eP P 02 27 34.0 -0.6
KNT Kendrikon 81.75 324 eP P 02 27 34.7 +0.1
CSS Prodhromos 82.11 314 eP P 02 27 35.6 -0.9
comp=Z,16nm,0.7s,mb5.0
FLN La Foliniere 82.11 342 eP P 02 27 35.7 -0.6
GRG Griva 82.13 324 eP P 02 27 36.6 +0.1
SSPA Standing Stone 82.17 36 eP P 02 27 35.9 -0.9
PLAL Pickwick Lake 82.17 46 eP P 02 27 35.1 -1.7
PLG Polygyros 82.19 323 eP P 02 27 36.5 -0.4
LDF La Druitiere 82.20 342 eP P 02 27 36.0 -0.8
comp=Z,52nm,1.2s,mb5.0
LDF La Druitiere 82.20 342 eP P 02 27 36.0 -0.8
comp=Z,26nm,1.2s,mb5.0
LDF La Druitiere 82.20 342 eP P 02 27 36.0 -0.8
LDF pmax pmax
comp=Z,26nm,1.2s,mb5.0
KRUS Krusevo 82.24 325 eP P 02 27 37.4 +0.3
PAIG Paliouri 82.47 323 eP P 02 27 38.0 -0.4
LOR Lormes 82.53 339 eP P 02 27 38.2 -0.3
comp=Z,26nm,0.9s,mb5.0
LOR Lormes 82.53 339 eP P 02 27 38.2 -0.3
comp=Z,13nm,0.9s,mb5.0
LOR Lormes 82.53 339 eP P 02 27 38.2 -0.3
LOR pmax pmax
comp=Z,13nm,0.9s,mb5.0
GRR Gorron 82.55 342 eP P 02 27 38.3 -0.3
comp=Z,42nm,1.0s,mb5.1
GRR Gorron 82.55 342 eP P 02 27 38.3 -0.3
comp=Z,21nm,1.0s,mb5.1
GRR Gorron 82.55 342 eP P 02 27 38.3 -0.3
GRR pmax pmax
comp=Z,21nm,1.0s,mb5.1
MMAI Mount Meron Ar 82.58 311 LR LR 03 11 46.2
comp=Z,130nm,18.0s,MS4.3,baz=30,slow=41
OHR Ohrid 82.63 325 eP P 02 27 37.9 -1.3
FNA Florina 82.69 325 eP P 02 27 39.0 -0.5
SSF Saint Saulge 82.81 339 eP P 02 27 39.7 -0.3
comp=Z,11nm,0.9s,mb4.6
SSF Saint Saulge 82.81 339 eP P 02 27 39.7 -0.3
comp=Z,5.6nm,0.9s,mb4.6
SSF Saint Saulge 82.81 339 eP P 02 27 39.7 -0.3
SSF pmax pmax
comp=Z,6.0nm,0.9s,mb4.6
SGMF Saint Gilles 83.02 344 eP P 02 27 40.7 -0.3
comp=Z,31nm,0.9s,mb5.0
SGMF Saint Gilles 83.02 344 eP P 02 27 40.7 -0.3
comp=Z,16nm,0.9s,mb5.0
SGMF Saint Gilles 83.02 344 eP P 02 27 40.7 -0.3
SGMF pmax pmax
comp=Z,16nm,0.9s,mb5.0
SWET Sewanee 83.04 45 eP P 02 27 40.5 -0.9
ROSF Rostrenen 83.07 344 eP P 02 27 41.7 +0.4
comp=Z,32nm,0.9s,mb5.0
ROSF Rostrenen 83.07 344 eP P 02 27 41.7 +0.4
comp=Z,16nm,0.9s,mb5.0
ROSF Rostrenen 83.07 344 eP P 02 27 41.7 +0.4
ROSF pmax pmax
comp=Z,16nm,0.9s,mb5.0
AVF Avril sur Loir 83.10 339 eP P 02 27 41.4 -0.1
comp=Z,30nm,0.9s,mb5.0
AVF Avril sur Loir 83.10 339 eP P 02 27 41.4 -0.1
comp=Z,15nm,0.9s,mb5.0
AVF Avril sur Loir 83.10 339 eP P 02 27 41.4 -0.1
AVF pmax pmax
comp=Z,15nm,0.9s,mb5.0
SMF Signal de Mont 83.12 339 eP P 02 27 41.5 -0.1
comp=Z,68nm,1.1s,mb5.3
SMF Signal de Mont 83.12 339 eP P 02 27 41.5 -0.1
comp=Z,34nm,1.1s,mb5.3
SMF Signal de Mont 83.12 339 eP P 02 27 41.5 -0.1
SMF pmax pmax
comp=Z,34nm,1.1s,mb5.3
LPL La Plagne 83.41 337 eP P 02 27 43.7 +0.6
comp=Z,8.5nm,0.6s,mb4.7
LPL La Plagne 83.41 337 eP P 02 27 43.7 +0.6
comp=Z,4.3nm,0.6s,mb4.7
LPL La Plagne 83.41 337 eP P 02 27 43.7 +0.6
LPL pmax pmax
comp=Z,4.0nm,0.6s,mb4.6
LPG La Plagne 83.42 337 eP P 02 27 43.9 +0.7
comp=Z,16nm,0.8s,mb4.8
LPG La Plagne 83.42 337 eP P 02 27 43.9 +0.7
comp=Z,8.1nm,0.8s,mb4.8
LPG La Plagne 83.42 337 eP P 02 27 43.9 +0.7
LPG pmax pmax
comp=Z,8.0nm,0.8s,mb4.8
BGF Bois d'Agland 83.44 339 eP P 02 27 42.9 -0.4
CPCT Cooper Cave 83.53 44 eP P 02 27 43.3 -0.6
ELN Prospectdale 83.80 40 eP P 02 27 42.9 -2.4
TCF Toulx Ste Croi 83.85 340 eP P 02 27 45.1 -0.2
comp=Z,13nm,0.9s,mb4.7
TCF Toulx Ste Croi 83.85 340 eP P 02 27 45.1 -0.2
comp=Z,6.4nm,0.9s,mb4.8
TCF Toulx Ste Croi 83.85 340 eP P 02 27 45.1 -0.2
TCF pmax pmax
comp=Z,6.0nm,0.9s,mb4.7
MFF Saint Martin d 84.09 341 eP P 02 27 46.1 -0.5
MBDF Montbardon 84.12 336 eP P 02 27 47.2 +0.4
comp=Z,7.1nm,0.6s,mb4.7
MBDF Montbardon 84.12 336 eP P 02 27 47.2 +0.4
comp=Z,3.5nm,0.6s,mb4.7
MBDF Montbardon 84.12 336 eP P 02 27 47.2 +0.4
MBDF pmax pmax
comp=Z,4.0nm,0.6s,mb4.7
IGT Igoumenitsa 84.17 325 eP P 02 27 46.4 -0.7
ORIF Oris-en-Rattie 84.19 337 eP P 02 27 47.7 +0.6
comp=Z,27nm,1.0s,mb5.0
ORIF Oris-en-Rattie 84.19 337 eP P 02 27 47.7 +0.6
comp=Z,13nm,1.0s,mb5.0
ORIF Oris-en-Rattie 84.19 337 eP P 02 27 47.7 +0.6
ORIF pmax pmax
comp=Z,13nm,1.0s,mb5.0
AQU L'Aquila 84.24 331 eP P 02 27 48.0 +0.6
VIVF Saint-Julien-l 84.57 338 eP P 02 27 49.3 +0.3
comp=Z,35nm,1.2s,mb5.1
VIVF Saint-Julien-l 84.57 338 eP P 02 27 49.3 +0.3
comp=Z,18nm,1.2s,mb5.1
VIVF Saint-Julien-l 84.57 338 eP P 02 27 49.3 +0.3
VIVF pmax pmax
comp=Z,17nm,1.2s,mb5.0
SBF Sospel 84.73 335 eP P 02 27 52.9 +3.0
comp=Z,22nm,0.7s,mb5.1
SBF Sospel 84.73 335 eP P 02 27 52.9 +3.0
comp=Z,11nm,0.7s,mb5.1
SBF Sospel 84.73 335 eP P 02 27 52.9 +3.0
SBF pmax pmax
comp=Z,11nm,0.7s,mb5.1
RJF Les Rejaudoux 84.94 340 eP P 02 27 50.2 -0.7
CAF Calviac 85.16 339 eP P 02 27 51.7 -0.3
comp=Z,4.7nm,0.6s,mb4.5
CAF Calviac 85.16 339 eP P 02 27 51.7 -0.3
comp=Z,2.3nm,0.6s,mb4.5
CAF Calviac 85.16 339 eP P 02 27 51.7 -0.3
CAF pmax pmax
comp=Z,2.0nm,0.6s,mb4.4
EIL Elat 85.45 309 LR LR 03 08 11.6
comp=Z,128nm,18.9s,MS4.3,baz=208,slow=37
LFF La Frestale 85.46 340 eP P 02 27 52.8 -0.7
comp=Z,17nm,0.7s,mb5.0
LFF La Frestale 85.46 340 eP P 02 27 52.8 -0.7
comp=Z,8.4nm,0.7s,mb5.0
LFF La Frestale 85.46 340 eP P 02 27 52.8 -0.7
LFF pmax pmax
comp=Z,8.0nm,0.7s,mb5.0
TIP Timpagrande 85.85 327 eP P 02 27 55.6 +0.1
MTLF Montolieu 86.61 339 eP P 02 27 58.7 -0.5
ESDC Sonseca Array 91.53 342 P P 02 28 20.9 -1.5
comp=Z,0.3nm,0.3s,mb4.2,baz=12,slow=5.0,SNR=9.3
TORD Torodi Ar. Bea 114.97 328 PKP PKiKP 02 33 55.8 -1.2
comp=Z,0.5nm,0.5s,baz=17,slow=1.1,SNR=15
DBIC Dimbokro 123.24 333 PKIKP PKPdf 02 34 12.2 -0.7
DBIC pmax pmax
comp=Z,3.0nm,0.7s
DBIC Dimbokro 123.24 333 PKP PKPdf 02 34 12.2 -0.7
comp=Z,2.7nm,0.7s,baz=142,slow=21,SNR=7.5
VNDA Vanda 124.03 178 PKP PKPdf 02 34 11.8 -0.7
VNDA Vanda 124.03 178 PKIKP PKPdf 02 34 11.8 -0.7
VNDA pmax pmax
comp=Z,1.0nm,0.7s
VNDA Vanda 124.03 178 PKP PKPdf 02 34 11.8 -0.7
comp=Z,1.2nm,0.7s,baz=307,slow=4.1,SNR=5.8
BDFB Brasilia 144.65 36 PKIKP PKPdf 02 34 51.1 -1.5
BDFB pmax pmax
comp=Z,5.0nm,0.8s
BDFB Brasilia 144.65 36 PKP PKPdf 02 34 51.0 -1.5
comp=Z,5.3nm,0.8s,baz=296,slow=4.8,SNR=8.1
PLCA Paso Flores 148.59 95 PKP2 PKPbc 02 35 02.2 0.0
PLCA pmax pmax
comp=Z,6.0nm,0.9s
PLCA Paso Flores 148.59 95 PKPbc PKPbc 02 35 02.2 0.0
comp=Z,6.0nm,0.9s,baz=275,slow=3.1,SNR=12
SNAA Sanae 152.35 196 PKIKP PKPbc 02 35 09.6 -0.6
SNAA pmax pmax
comp=Z,2.0nm,0.7s
SNAA Sanae 152.35 196 PKPbc PKPbc 02 35 09.6 -0.6
comp=Z,1.9nm,0.7s,baz=123,slow=3.8,SNR=14
VNA2 Neumayer--Watz 153.81 195 ePKPdf PKPdf 02 35 04.8 -0.7
VNA2 e 02 35 13.3
VNA2 e 02 35 16.1
VNA2 e 02 35 24.0
VNA2 e 02 35 27.3
VNA2 e 02 35 34.4
VNA2 e 02 35 38.5
VNA2 e 02 35 41.7
VNA2 e 02 35 45.5
VNA2 e 02 35 50.2
VNA2 e 02 35 55.2
VNA3 Neumayer Olymp 153.91 193 ePKPdf PKPdf 02 35 04.9 -0.8
VNA3 e 02 35 13.1
VNA3 e 02 35 15.3
VNA3 e 02 35 22.9
VNA3 e 02 35 27.0
VNA3 e 02 35 33.3
VNA3 e 02 35 38.7
VNA3 e 02 35 41.8
VNA3 e 02 35 46.2
VNA3 e 02 35 50.3
VNA3 e 02 35 55.1

*ISCJB **03** 02:21:37.4±0.4, 847S±008×15734E±006, h10km, mb4.4/19, Error ellipse: s-maj=11.5km s-min=8.6km az=5.5*
*IDC **03** 02:21:37.3±0.7, 855S×15734E, h0km, mb4.3/12, mb1 4.5/13, mb1mx4.5/16, mbtmp4.3/13, ML4.7/1, Error ellipse: s-maj=20.2km s-min=17.8km az=134.0*
*NEIC **03** 02:21:38.5±0.4, 846S×15743E, h10km, mb4.8/8, Error ellipse: s-maj=14.1km s-min=10.1km az=140.0*
*BJI **03** 02:21:40.5, 798S×15713E, h11km, mB5.2, mb4.8*
ISC 03 02:21:38.4±7.1, 85S±01×15740E±007, h7km±44km, n36, σ1°08/39, mb4.4/19, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	2.68	111	ePn	Pn	02 22 22.2	+0.1
HNR				eSn	Sn	02 22 57.0	+2.1
HNR				Sn	Sn	02 22 58.8	+4.0
HNR	Honiara	2.68	111	Pn	Pn	02 22 23.3	+1.2
	141nm,0.3s,baz=263,slow=6.0,SNR=11						
HNR				Sn	Sn	02 22 58.8	+4.0
	290nm,0.3s,baz=85,slow=20,SNR=9.2						
WB2	Warramunga Arr	25.04	240	eP	P	02 27 03.0	-0.5
WRA	Warramunga Arr	25.05	240	P	P	02 27 03.3	-0.3
	16nm,0.9s,mb4.5,baz=66,slow=8.9,SNR=22						
ASAR	Alice Springs	27.09	233	P	P	02 27 20.9	-1.1
	4.7nm,1.0s,mb4.0,baz=62,slow=8.9,SNR=14						
STKA	Stephens Creek	27.53	210	eP	P	02 27 27.6	+1.8
	5.0nm,0.6s,mb4.3						
STKA	Stephens Creek	27.53	210	P	P	02 27 25.6	-0.3
	4.3nm,0.8s,mb4.2,baz=40,slow=12,SNR=12						
FITZ	Fitzroy Crossi	32.31	250	eP	P	02 28 07.5	-0.9
	6.1nm,0.8s,mb4.5						
FITZ	Fitzroy Crossi	32.31	250	P	P	02 28 07.4	-1.0
	3.2nm,1.0s,mb4.1,baz=74,slow=14,SNR=3.2						
KSRS	Korea Array	53.38	331	P	P	02 30 59.5	+0.8
	1.3nm,0.5s,mb4.2,baz=148,slow=7.6,SNR=6.4						
LZH	Lanzhou	67.05	315	eP	P	02 32 34.5	+2.0
LZH				AP	pP	02 32 41.5	+6.7
LZH				XP	sP	02 32 43.6	+7.9
LZH				AMB	AMB		
	comp=Z,32nm,1.3s,mb5.2						
LZH				AMB	AMB		
	comp=Z,110nm,4.0s						
LZH	Lanzhou	67.05	315	eP	P	02 32 34.5	+2.0
	comp=Z,32nm,1.3s,mb5.2						
LZH				pP	pP	02 32 41.5	+6.7
LZH				sP	sP	02 32 43.6	+7.9
VNDA	Vanda	69.05	179	P	P	02 32 43.5	-0.9
VNDA	Vanda	69.05	179	P	P	02 32 43.5	-0.9
	comp=Z,1.3nm,0.8s,mb3.9,baz=331,slow=6.2,SNR=7.4						
GTA	Gaotai	71.45	316	eP	P	02 33 01.4	+1.6
GTA				AP	pP	02 33 05.4	+3.3
GTA				XP	sP	02 33 08.2	+5.3
GTA				AMB	AMB		
	comp=Z,5.0nm,1.4s,mb4.2						
SONM	Songino Array	71.88	327	P	P	02 33 02.8	+0.7
	comp=Z,2.8nm,1.0s,mb4.2,baz=115,slow=4.9,SNR=11						
SHL	Shillong	72.10	300	eP	P	02 33 05.0	+1.0
BILL	Bilibino	76.59	3	eP	P	02 33 28.9	-0.4
	comp=Z,8.2nm,1.0s,mb4.6						
JIRN	Jiri	77.59	301	eP	P	02 33 37.4	+1.7
GUN	Gumba	77.93	301	eP	P	02 33 39.0	+1.4
SVW2	Sparrevohn	78.49	21	eP	P	02 33 39.1	-0.8
GKN	Gorkha	79.01	301	eP	P	02 33 43.5	-0.1
TTA	Tatalina	79.59	20	eP	P	02 33 44.2	-1.7
	comp=Z,15nm,1.2s,mb4.8						
KOLN	Koldanda	79.83	300	eP	P	02 33 47.9	-0.2
PMR	Palmer	81.20	23	eP	P	02 33 53.5	-1.2
	comp=Z,6.5nm,1.0s,mb4.5						
IMA2	Indian Mountai	82.45	18	eP	P	02 34 00.9	-0.2
MCK	McKinley	82.56	21	eP	P	02 33 59.8	-1.9
	comp=Z,26nm,1.1s,mb5.2						
COLA	College	83.61	21	eP	P	02 34 05.6	-1.6
	comp=Z,11nm,0.9s,mb5.0						
MKAR	Makanchi Array	86.09	318	P	P	02 34 19.5	-0.6
MKAR	Makanchi Array	86.09	318	P	P	02 34 19.5	-0.6
	comp=Z,1.5nm,0.7s,mb4.3,baz=102,slow=5.4,SNR=11						
DAWY	Dawson	86.30	23	eP	P	02 34 20.9	+0.1
ZALV	Zalesovo Beam	86.75	326	P	P	02 34 23.8	+0.7
	comp=Z,0.6nm,0.4s,mb4.1,baz=134,slow=6.2,SNR=3.2						
NVAR	Mina Array Bea	90.77	51	P	P	02 34 43.9	+1.3
	comp=Z,2.1nm,0.9s,mb4.5,baz=240,slow=4.4,SNR=14						
YKA	Yellowknife Ar	96.53	28	P	P	02 35 07.8	-0.6
YKA	Yellowknife Ar	96.53	28	P	P	02 35 07.8	-0.6
	comp=Z,0.9nm,0.9s,mb4.2,baz=266,slow=5.0,SNR=12						
PDAR	Pinedale Array	97.92	48	P	P	02 35 14.8	-0.5
	comp=Z,0.4nm,0.7s,mb4.0,baz=203,slow=2.3,SNR=3.7						

*ISCJB **03** 02:24:59.9±0.4, 741S±006×15579E±005, h10km, mb4.5/20, MS4.0/2, Error ellipse: s-maj=9.7km s-min=6.6km az=28.2*
*IDC **03** 02:24:59.4±0.8, 744S×15584E, h0km, mb4.4/12, mb1 4.5/12, mb1mx4.4/15, mbtmp4.4/12, MS3.9/3, Ms1 3.9/3, ms1mx3.4/23, Error ellipse: s-maj=31.5km s-min=17.4km az=100.0*
*NEIC **03** 02:25:01.3±0.4, 739S×15577E, h10km, mb4.8/10, Error ellipse: s-maj=11.8km s-min=7.7km az=98.0*
ISC 03 02:25:01.4±4.2, 743S±007×15584E±006, h11km±27km, n36, σ0°91/32, mb4.5/20, MS4.0/2, 1D, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	4.53	116	Pn	Pb	02 26 20.4	-0.6
	14nm,0.3s,baz=82,slow=22,SNR=3.7						
HNR				Sn	Sb	02 27 15.3	-0.3
	52nm,0.3s,baz=275,slow=21,SNR=6.6						
HNR				LR	LR	02 27 49.7	
	comp=Z,827nm,21.6s,baz=353,slow=38						
CTA	Charters Tower	15.64	215	Pn	Pn	02 28 47.8	+5.9
	0.4nm,0.3s,baz=41,slow=9.5,SNR=5.9						
CTAO	Charters Tower	15.64	215	ePn	Pn	02 28 40.6	-1.4
	16nm,0.9s						
DZM	Mont Dzumac	17.79	146	P	Pn	02 29 11.8	+2.6
	0.4nm,0.3s,baz=348,slow=15,SNR=6.1						
ARMA	Armidale	23.21	189	eP	P	02 30 09.1	+0.5
	0.6nm,1.2s						
GUMO	Guam	23.55	332	eP	P	02 30 13.3	+1.0
	673nm,1.5s						
KAKA	Kakadu	23.62	255 ‖iP		P	02 30 12.6	-0.4
	11nm,0.6s,mb4.5						
WB2	Warramunga Arr	24.26	237	eP	P	02 30 18.9	+0.1
WRA	Warramunga Arr	24.27	237	P	P	02 30 19.4	+0.6
	9.6nm,1.0s,mb4.2,baz=62,slow=9.9,SNR=10						
ASAR	Alice Springs	26.52	230	P	P	02 30 39.0	-0.3
	1.8nm,0.5s,mb3.9,baz=60,slow=9.7,SNR=24						
ASAR				ScP	ScP	02 37 44.9	+0.6
	1.2nm,0.8s,baz=64,slow=3.7,SNR=8.8						
STKA	Stephens Creek	27.71	207	eP	P	02 30 43.5	-6.4
	3.9nm,0.8s,mb4.1						
STKA	Stephens Creek	27.71	207	P	P	02 30 50.0	+0.1
	5.7nm,0.8s,mb4.2,baz=36,slow=13,SNR=6.0						
STKA				LR	LR	02 42 07.2	
	comp=Z,594nm,18.4s,MS4.2,baz=18,slow=37						
FITZ	Fitzroy Crossi	31.25	247	eP	P	02 31 21.3	-0.2
	9.9nm,0.8s,mb4.7						
FITZ	Fitzroy Crossi	31.25	247	P	P	02 31 19.8	-1.7
	2.4nm,0.6s,mb4.2,baz=78,slow=12,SNR=7.1						
RAO	Raoul Island	32.89	135	LR	LR	02 42 07.6	
	comp=Z,161nm,19.2s,MS3.7,baz=102,slow=31						
MBWA	Marble Bar	37.44	245	eP	P	02 32 15.9	+0.8
	3.5nm,0.5s,mb4.5						
KLBR	Kellerberrin	42.85	231	eP	P	02 32 58.9	-1.0
	16nm,0.5s,mb5.0						
NWAO	Narrogin (SRO)	43.84	229	eP	P	02 33 07.2	-0.6
	26nm,1.3s,mb4.8						
MJAR	Matsushiro Arr	46.76	340	P	P	02 33 31.4	+0.5
MJAR	Matsushiro Arr	46.76	340	P	P	02 33 31.4	+0.5
	3.2nm,0.8s,mb4.3,baz=171,slow=8.5,SNR=6.4						
KSRS	Korea Array	51.71	332	P	P	02 34 10.2	+1.4
	4.2nm,1.0s,mb4.3,baz=151,slow=9.3,SNR=6.3						
CHTO	Chiang Mai	61.84	296	eP	P	02 35 21.7	+0.6
	19nm,1.4s,mb5.0						
VNDA	Vanda	70.13	179	P	P	02 36 13.8	+0.3
	1.8nm,1.0s,mb4.0,baz=336,slow=7.2,SNR=4.7						
SONM	Songino Array	70.15	327	P	P	02 36 14.4	+0.4
	9.1nm,0.9s,mb4.7,baz=134,slow=6.5,SNR=6.1						
SBA	Scott Base	70.62	178	eP	P	02 36 17.7	+1.2
	32nm,2.0s,mb4.9						
BILL	Bilibino	75.65	4	eP	P	02 36 45.0	-1.2
	15nm,1.0s,mb4.9						
MCK	McKinley	82.15	22	eP	P	02 37 22.9	+0.9
	5.2nm,0.8s,mb4.5						
MKAR	Makanchi Array	84.28	319	P	P	02 37 32.8	-0.6
	5.0nm,0.7s,mb4.7,baz=103,slow=5.6,SNR=28						
MAW	Mawson	84.32	203	P	P	02 37 33.2	0.0
	5.8nm,0.9s,mb4.7,baz=145,slow=2.4,SNR=4.5						
ZAA0	Zalesovo Array	85.00	326	eP	P	02 37 35.5	-1.3
ZALV	Zalesovo Beam	85.00	326	P	P	02 37 35.8	-1.1
	3.8nm,0.8s,mb4.6,baz=102,slow=6.2,SNR=12						
YKA	Yellowknife Ar	96.33	28	P	P	02 38 28.9	-1.1
	0.2nm,0.7s,mb3.7,baz=264,slow=5.5,SNR=4.7						
CLL	Collm	126.59	332	ePKPdf	PKPdf	02 44 04.0	-0.9
BDFB	Brasilia	147.08	134	PKPbc	PKPbc	02 44 45.0	-0.6
	7.4nm,0.7s,baz=211,slow=7.1,SNR=13						
MDT	Midelt	148.89	327	PKPbc	PKPbc	02 44 48.8	-1.2
	4.9nm,0.9s,baz=20,slow=5.2,SNR=5.1						
TORD	Torodi Ar. Bea	153.94	285	PKPbc	PKPbc	02 45 01.5	-0.7
	0.9nm,0.9s,baz=68,slow=1.6,SNR=7.6						

*MOS **03** 02:32:41.3±1.9, 5235N×10580E, h13km, mb4.4/1, Error ellipse: s-maj=23.4km s-min=15.5km az=55.8*
MOS Felt (II) at Irkutsk.
BYKL 03 02:32:40.7±0.2, 5228N×10583E, h23km±3km, 12C-5D, FELT I=II MSK at Maloye Goloustnoye, Irkutsk, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STDB	Stepnoy Dvoret	0.35	108	ePg	Pb	02 32 49.0	+0.7
STDB				i		02 32 49.2	
STDB				eSg	Sb	02 32 54.8	+1.4
STDB				i		02 32 55.7	
STDB				max			
	3μm,0.1s						
STDB				max			
	8μm,0.2s						
KAB	Kabansk	0.56	114	ePG	Pb	02 32 51.3	-0.5
KAB				e		02 32 59.4	
KAB				pmax	pmax		
	comp=Z,2μm,0.2s						
KAB				smax			
	comp=N,7μm,0.3s						
KAB	Kabansk	0.56	114	⇑iPg	Pb	02 32 51.3	-0.5
KAB				eSg	Sb	02 32 59.1	-0.2
KAB				Pmax			
	comp=N,2μm,0.2s						
KAB				Smax			
	comp=N,7μm,0.3s						
TRG	Tyrgan	0.58	33	⇑iPG	Pb	02 32 52.0	-0.1
TRG				e		02 33 00.1	
TRG				pmax	pmax		
	comp=Z,125nm,0.2s						
TRG				smax			
	comp=E,1μm,0.1s						
TRG	Tyrgan	0.58	33	⇑iPg	Pb	02 32 52.1	0.0
TRG				eSg	Sb	02 33 00.6	+0.7
TRG				Pmax			

	comp=E,109nm,0.2s						
TRG				Smax			
	comp=E,972nm,0.2s						
LSTR	**Listvyanka**	**0.74**	**237**	⇑*i*Pg	Pb	02 32 54.7	-0.2
	comp=E,72nm,0.2s						
LSTR				⇑*i*Pg	Pb	02 32 54.7	-0.2
	comp=E,114nm,0.2s						
LSTR				⇓*i*Pg	Pb	02 32 54.7	-0.2
	comp=E,119nm,0.2s						
LSTR				*i* Sg	Sb	02 33 04.3	-0.3
LSTR				Pmax			
	comp=E,103nm,0.1s						
LSTR				Smax			
	comp=E,2μm,0.1s						
ZRHB	**Zarechye**	**0.85**	**71**	⇑*i*Pg	Pb	02 32 56.8	0.0
ZRHB				*e*Sg	Sb	02 33 08.9	+1.1
ZRHB				Pmax			
	comp=E,213nm,0.2s						
ZRHB				Smax			
	comp=E,2μm,0.4s						
IRK	**Irkutsk**	**0.96**	**268**	⇓*i*PG	Pb	02 32 59.2	+0.6
IRK				*e*		02 33 11.8	
IRK				pmax	pmax		
	comp=Z,1μm,0.2s						
IRK				smax			
	comp=N,5μm,0.3s						
IRK	**Irkutsk**	**0.96**	**268**	⇑*i*Pg	Pb	02 32 59.2	+0.6
IRK				*e*Sg	Sb	02 33 11.8	+1.0
IRK				Pmax			
	comp=N,975nm,0.2s						
IRK				Smax			
	comp=N,3μm,0.2s						
TRTB	**Turuntaevo**	**1.11**	**92**	⇑*i*Pg	Pn	02 33 00.7	0.0
TRTB				*e*Sg	Sb	02 33 15.6	+0.5
TRTB				Pmax			
	comp=N,151nm,0.1s						
TRTB				Smax			
	comp=N,807nm,0.1s						
UUDB	**Ulan-Yde**	**1.21**	**109**	⇓*i*Pg	Pn	02 33 02.1	0.0
	comp=N,41nm,0.4s						
UUDB				⇑*i*Pg	Pn	02 33 02.1	0.0
	comp=N,31nm,0.4s						
UUDB				⇑*i*Pg	Pn	02 33 02.1	0.0
	comp=N,81nm,0.4s						
UUDB				*e*Sg	Sn	02 33 17.8	+0.1
UUDB				Pmax			
	comp=N,116nm,0.1s						
UUDB				Smax			
	comp=N,414nm,0.2s						
TLY	**Talaya**	**1.48**	**247**	⇑*i*PN	Pn	02 33 07.4	+1.5
TLY				*e*		02 33 26.6	
TLY				pmax	pmax		
	comp=Z,141nm,0.3s						
TLY				smax			
	comp=E,470nm,0.3s						
TLY	**Talaya**	**1.48**	**247**	⇓*i*Pg	Pn	02 33 07.4	+1.5
	comp=E,21nm,0.5s						
TLY				⇓*i*Pg	Pn	02 33 07.4	+1.5
	comp=E,55nm,0.5s						
TLY				⇑*i*Pg	Pn	02 33 07.4	+1.5
	comp=E,92nm,0.5s						
TLY				*i* Sg	Sn	02 33 26.6	+2.2
TLY				Pmax			
	comp=E,109nm,0.1s						
TLY				Smax			
	comp=E,447nm,0.2s						
OGRR	**Ongureny**	**1.73**	**37**	*e*PN	Pn	02 33 10.8	+1.4
OGRR				*e*		02 33 33.9	
OGRR				pmax	pmax		
	comp=Z,28nm,0.3s						
OGRR				smax			
	comp=E,258nm,0.4s						
OGRR	**Ongureny**	**1.73**	**37**	*e*Pn	Pn	02 33 10.8	+1.4
OGRR				*e*Pg	Pn	02 33 11.3	+1.9
OGRR				*e*Sg	Sn	02 33 34.5	+3.8
OGRR				Pmax			
	comp=E,24nm,0.2s						
OGRR				Smax			
	comp=E,238nm,0.4s						
MXMB	**Maximikha**	**2.03**	**60**	*e*Pn	Pn	02 33 15.3	+1.9
MXMB				*e*Pg	Pn	02 33 17.8	+4.4
MXMB				*e*		02 33 39.5	
MXMB				*e*Sg	Sn	02 33 44.3	+6.4
MXMB				Pmax			
	comp=E,20nm,0.1s						
MXMB				Smax			
	comp=E,353nm,0.2s						
ARS	**Arshan**	**2.13**	**262**	*e*Pn	Pn	02 33 16.9	+2.1
ARS				*e*Pg	Pn	02 33 18.5	+3.7
ARS				*e*Sg	Sn	02 33 46.0	+5.5
ARS				Pmax			
	comp=E,109nm,0.2s						
ARS				Smax			
	comp=E,916nm,0.3s						
ZAK	**Zakamensk**	**2.48**	**221**	*e*Pn	Pn	02 33 21.6	+1.9
ZAK				*e*Pg	Pn	02 33 25.6	+5.9
ZAK				*e*Sg	Sn	02 33 57.2	+8.0
ZAK				Pmax			
	comp=E,13nm,0.1s						
ZAK				Smax			
	comp=E,72nm,0.3s						
SYVR	**Suvo**	**2.87**	**60**	*e*Pn	Pn	02 33 25.6	+0.6
SYVR				*e*Pg	Pn	02 33 32.5	+7.5
SYVR				*e*Sg	Sn	02 34 09.8	+11
SYVR				Pmax			
	comp=E,10.0nm,0.5s						
SYVR				Smax			
	comp=E,69nm,0.3s						
MOY	**Mondy**	**3.05**	**260**	*e*Pn	Pn	02 33 28.9	+1.4
MOY				*e*Pg	Pn	02 33 34.7	+7.2
MOY				*e*Sg	Sn	02 34 14.0	+11
MOY				Pmax			
	comp=E,34nm,0.3s						
MOY				Smax			
	comp=E,197nm,1.3s						
ORL	**Orlik**	**3.70**	**276**	*e*PN	Pn	02 33 38.5	+2.2
ORL				*e*		02 33 47.6	
ORL				*e*		02 34 35.5	
ORL				pmax	pmax		
	comp=Z,14nm,0.3s						
ORL				smax			
	comp=N,151nm,1.0s						
ORL	**Orlik**	**3.70**	**276**	*e*Pn	Pn	02 33 38.9	+2.6
ORL				*e*Pg	Pn	02 33 47.7	+11
ORL				*e*Sg	Sn	02 34 35.7	+17
ORL				Pmax			
	comp=N,11nm,0.4s						
ORL				Smax			
	comp=N,148nm,0.7s						
YLYR	**Ulyunkhan**	**4.11**	**49**	*i* Pn	Pn	02 33 42.7	+0.8
YLYR				*e*Pg	Pn	02 33 54.7	+13
YLYR				*e*Sg	Sn	02 34 47.0	+18
YLYR				Pmax			
	comp=N,2.0nm,0.2s						
YLYR				Smax			
	comp=N,20nm,0.6s						
NIZ	**Nizh Angarsk**	**4.13**	**31**	*e*PN	Pn	02 33 43.4	+1.1
NIZ				*e*		02 33 54.0	
NIZ				*e*S	Sn	02 34 31.7	+1.9
NIZ				*e*		02 34 46.6	
NIZ				pmax	pmax		
	comp=Z,8.0nm,0.3s						
NIZ				smax			
	comp=N,67nm,1.0s						
NIZ	**Nizh Angarsk**	**4.13**	**31**	*e*Pn	Pn	02 33 43.5	+1.2
NIZ				*e*Pg	Pn	02 33 54.7	+12
NIZ				*e*Sn	Sn	02 34 30.2	+0.4
NIZ				*e*Sg	Sn	02 34 46.8	+17
NIZ				Pmax			
	comp=N,8.0nm,0.3s						
NIZ				Smax			
	comp=N,65nm,1.1s						
CIT	**Chita**	**4.76**	**90**	*e*Sg	Sn	02 35 06.2	+21
CIT				Smax			
	comp=N,56nm,1.3s						
KMO	**Kumora**	**4.80**	**39**	*e*Sg	Sn	02 35 07.5	+21
KMO				Smax			
	comp=N,47nm,1.0s						
KPC	**Khapcheranga**	**4.87**	**119**	*e*Pn	Pn	02 33 52.2	-0.3
KPC				*e*Pg	Pn	02 34 07.6	+15
KPC				*e*Sg	Sn	02 35 09.5	+21
KPC				Pmax			
	comp=N,5.0nm,0.7s						
KPC				Smax			
	comp=N,53nm,1.2s						
UKT	**Uakit**	**5.62**	**52**	*e*Pn	Pn	02 34 03.8	+1.1
UKT				*e*Pg	Pn	02 34 21.0	+18
UKT				*e*Sg	Sn	02 35 34.0	+28
UKT				Pmax			
	comp=N,4.0nm,0.9s						
UKT				Smax			
	comp=N,14nm,1.3s						
TDJR	**Todzha**	**5.97**	**275**	*e*Pg	Pn	02 34 28.1	+21
TDJR				*e*Sg	Sn	02 35 44.2	+29
TUP	**Tupik**	**8.72**	**70**	*e*Pg	Pn	02 35 19.0	+34
TUP				*e*Sg	Sn	02 37 10.3	+48
TUP				Smax			
	comp=N,24nm,1.2s						

NEIC ***03*** *02:35:20.5, 3488N×2640E, h20km, MD3.5(ATH), After ATH.*
CSEM ***03*** *02:35:20.5±0.0, 3488N×2640E, h20km, MD3.5, Error ellipse: s-maj=0.6km s-min=0.2km az=155.0, After ATH*
ATH 03 02:35:20.5, 3488N×2641E, h19km±3km, MD3.5/7, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
XRY	**Khrisi**	**0.59**	**270**	*e*PN	Pn	02 35 32.0	-1.8
XRY				*e*SN	Sb	02 35 40.0	-0.1
NPS	**Neapolis**	**0.76**	**300**	*e*PN	Pn	02 35 35.2	-1.0
NPS				*e*SN	Sn	02 35 45.5	-1.6
KARP	**Karpathos**	**0.91**	**43**	*e*PN	Pn	02 35 37.7	-0.5
KARP				*e*SN	Sn	02 35 50.7	-0.1
VAM	**Vamos**	**1.89**	**287**	*e*PN	Pn	02 35 55.2	+3.5
ARG	**Arkhangelos**	**1.93**	**46**	*e*PN	Pn	02 35 55.3	+3.0
ARG	**Arkhangelos**	**1.93**	**46**	*e*Pn	Pn	02 35 55.5	+3.2
APE	**Apeiranthos**	**2.30**	**342**	*e*PB	Pb	02 35 58.9	-2.4
APE	**Apeiranthos**	**2.30**	**342**	*e*Pb	Pb	02 35 58.0	-3.3
VLI	**Veliai**	**3.37**	**304**	*e*PN	Pn	02 36 13.6	+1.6

ISCJB ***03*** *02:38:01.6±1.2, 88S±02×15709E±006, h10km, mb3.9/5, Error ellipse: s-maj=29.6km s-min=9.1km az=0.4*
IDC ***03*** *02:38:01.5±1.5, 865S×15702E, h0km, mb4.0/4, mb1 4.1/5, mb1mx3.9/15, mbtmp4.0/5, ML4.4/1, Error ellipse: s-maj=40.9km s-min=27.3km az=168.0*
NEIC ***03*** *02:38:02.8±0.9, 873S×157.12E, h10km, mb4.5/1, Error ellipse: s-maj=24.2km s-min=12.4km az=174.0*
ISC 03 02:38:04.0±7.1, 87S±02×15710E±007, h18km±44km, n9, σ0§58/10, mb3.9/5, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.90**	**104**	*e*Pn	**Pn**	**02 38 48.8**	**-0.5**
HNR				*e*Sn	**Sn**	**02 39 24.3**	**+0.6**
HNR	**Honiara**	**2.90**	**104**	Pn	**Pn**	**02 38 49.8**	**+0.5**
	45nm,0.3s,baz=266,slow=8.7,SNR=8.2						
HNR				Sn	**Sn**	**02 39 23.6**	**-0.1**
	90nm,0.3s,baz=91,slow=11,SNR=6.7						
WB2	**Warramunga Arr**	**24.67**	**241**	*e*P	**P**	**02 43 24.8**	**+0.8**
WRA	**Warramunga Arr**	**24.68**	**241**	P	**P**	**02 43 25.0**	**+0.9**
	4.9nm,0.9s,mb4.0,baz=66,slow=9.5,SNR=13						
ASAR	**Alice Springs**	**26.71**	**233**	P	**P**	**02 43 42.1**	**-0.4**
	0.7nm,0.8s,mb3.3,baz=65,slow=9.6,SNR=7.7						
STKA	**Stephens Creek**	**27.17**	**210**	P	**P**	**02 43 46.3**	**-0.3**
	3.7nm,0.7s,mb4.0,baz=42,slow=14,SNR=9.8						
TAU	**Tasmania Unive**	**35.12**	**193**	*e*P	**P**	**02 44 55.7**	**-0.7**
	4.7nm,0.7s,mb4.5						
MKAR	**Makanchi Array**	**86.08**	**318**	P	**P**	**02 50 43.4**	**-0.5**
	0.4nm,0.6s,mb3.8,baz=97,slow=4.2,SNR=4.3						
BDFB	**Brasilia**	**145.29**	**134**	PKPbc	PKPbc	02 57 42.4	+0.9
	1.1nm,0.5s,baz=186,slow=9.2,SNR=4.0						

NEIC ***03*** *02:38:37.5±2.1, 3907N×1191W, h10km, MN3.5(MDD), Error ellipse: s-maj=24.8km s-min=4.9km az=76.0*
MDD ***03*** *02:38:40.9±1.0, 39.11N×1155W, h0km, mbLg3.4/45, Error ellipse: s-maj=9.5km s-min=5.8km az=78.0, PRXIMO*
IGIL ***03*** *02:38:42.1, 3906N×1175W, h31km, ML3.8*
LDG ***03*** *02:38:42.4±0.2, 3907N×1179W, h25km, Md3.6/1, Ml3.8/6, Error ellipse: s-maj=4.7km s-min=2.7km az=74.0*
ISCJB ***03*** *02:38:42.7±0.5, 3917N±002×1112W±004, h10km, Error ellipse: s-maj=4.7km s-min=2.7km az=168.3*
INMG ***03*** *02:38:42.9±1.5, 3902N×1196W, h10km, Mb3.9, ML3.3, Error ellipse: s-maj=3.3km s-min=2.2km az=111.0*
CNRM ***03*** *02:38:43.6, 3868N×1179W, h30km, MD3.8*
CSEM ***03*** *02:38:45.3±0.2, 3925N×1089W, h10km, ML3.3, Error ellipse: s-maj=3.9km s-min=2.4km az=70.0*
ISC 03 02:38:43.9±0.5, 3915N±002×1120W±004, h10km, n148, σ1§22/278, 2C-3D, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMAFR	**Mafra**	**1.51**	**97**	*i* Pn	**Pn**	**02 39 12.4**	**+1.5**
PMAFR				*e*Sn	**Sn**	**02 39 34.2**	**+3.6**
PMAFR				A		02 39 35.8	
	583nm,0.2s						
PMAFR	**Mafra**	**1.51**	**97**	⇓P	**Pn**	**02 39 12.4**	**+1.5**
PMAFR				S	**Sn**	**02 39 34.2**	**+3.6**
	292nm,0.2s						
LIS	**Lisbon**	**1.66**	**105**	*e*P	**Pn**	**02 39 14.2**	**+1.1**
LIS				*e*S	**Sn**	**02 39 36.1**	**+1.7**
LIS				*e*S	**Sn**	**02 39 36.1**	**+1.8**
LIS				AML	AML	02 39 41.8	
	comp=E,878nm,0.5s						
LIS	**Lisbon**	**1.66**	**105**	P	**Pn**	**02 39 14.2**	**+1.1**
LIS				S	**Sn**	**02 39 36.1**	**+1.8**
LIS	**Lisbon**	**1.66**	**105**	*e*P	**Pn**	**02 39 14.2**	**+1.2**
LIS				*e*S	**Sn**	**02 39 36.1**	**+1.7**
INMG	**Instituto de M**	**1.66**	**103**	*e*Pn	**Pn**	**02 39 14.4**	**+1.3**
INMG				*e*Sn	**Sn**	**02 39 38.7**	**+4.3**
ALMR	**Almeirim**	**2.04**	**89**	*e*P	**Pn**	**02 39 19.8**	**+1.5**
ALMR				*e*S	**Sn**	**02 39 45.3**	**+1.5**
ALMR				*e*S	**Sn**	**02 39 45.4**	**+1.6**
ALMR				AML	AML	02 39 56.0	
	comp=N,273nm,0.4s						
ALMR	**Almeirim**	**2.04**	**89**	P	**Pn**	**02 39 19.8**	**+1.5**
ALMR				S	**Sn**	**02 39 45.4**	**+1.6**
ALMR	**Almeirim**	**2.04**	**89**	*e*P	**Pn**	**02 39 19.8**	**+1.5**
ALMR				*e*S	**Sn**	**02 39 45.3**	**+1.5**
MOE	**Montemor**	**2.31**	**105**	*e*Pn	**Pn**	**02 39 22.8**	**+0.8**
MOE				*e*Sn	**Sn**	**02 39 52.5**	**+2.0**
EVOP	**Sao Brissos**	**2.48**	**104**	*e*Pn	**Pn**	**02 39 24.7**	**+0.3**
EVOP				*e*Sn	**Sn**	**02 39 56.1**	**+1.4**
	comp=N,63nm,0.3s						
PTEO	**Sao Teotonio**	**2.52**	**129**	*e*Pn	**Pn**	**02 39 23.7**	**-1.2**
PTEO				*e*Sn	**Sn**	**02 39 54.1**	**-1.6**
PTEO				A		02 39 57.9	
	comp=N,164nm,0.2s						
PTEO	**Sao Teotonio**	**2.52**	**129**	*e*Pn	**Pn**	**02 39 23.7**	**-1.2**
PTEO				*e*Sn	**Sn**	**02 39 54.1**	**-1.6**
	comp=N,164nm,0.2s						
EVO	**Evora**	**2.56**	**103**	*e*Pn	**Pn**	**02 39 24.7**	**-0.8**
EVO				*e*Sn	**Sn**	**02 39 56.1**	**-0.6**
	comp=N,126nm,0.3s						
EVO	**Evora**	**2.56**	**103**	*e*Pn	**Pn**	**02 39 26.1**	**+0.6**
EVO				*e*Sn	**Sn**	**02 39 58.5**	**+1.8**
EVO				A		02 40 04.5	
	comp=N,62nm,0.2s						
EVO	**Evora**	**2.56**	**103**	P	**Pn**	**02 39 26.1**	**+0.6**
EVO				S	**Sn**	**02 39 58.5**	**+1.8**
	comp=N,31nm,0.2s						
MORF	**Marmelete**	**2.73**	**132**	*e*Pn	**Pn**	**02 39 26.2**	**-1.5**
MORF				*e*Sn	**Sn**	**02 39 58.6**	**-2.1**
MORF				A		02 40 02.7	
	comp=N,211nm,0.1s						
MORF	**Marmelete**	**2.73**	**132**	P	**Pn**	**02 39 26.2**	**-1.5**
MORF				S	**Sn**	**02 39 57.7**	**-3.0**
PFVI	**Vila Bisbo**	**2.75**	**136**	*i* Pn	**Pn**	**02 39 26.0**	**-2.1**
PFVI				*e*Sn	**Sn**	**02 39 58.6**	**-2.7**
PFVI				A		02 40 03.4	
	comp=N,81nm,0.1s						
PFVI	**Vila Bisbo**	**2.75**	**136**	⇓P	**Pn**	**02 39 26.0**	**-2.1**
PFVI				S	**Sn**	**02 39 58.6**	**-2.7**
	comp=N,40nm,0.1s						
PTO	**Porto**	**2.81**	**44**	*e*Pn	**Pn**	**02 39 28.8**	**-0.1**
PTO				*e*Sn	**Sn**	**02 40 03.6**	**+0.8**
PTO				A		02 40 05.5	
	comp=N,107nm,0.3s						
PTO	**Porto**	**2.81**	**44**	P	**Pn**	**02 39 28.8**	**-0.1**
PTO				S	**Sn**	**02 40 03.6**	**+0.8**
	comp=N,54nm,0.3s						
PESTR	**Estremoz**	**2.83**	**95**	*e*Pn	**Pn**	**02 39 30.2**	**+1.1**
PESTR				*e*Sn	**Sn**	**02 40 05.7**	**+2.5**
PESTR				A		02 40 07.5	
	comp=N,42nm,0.4s						
PBEJ	**Beja**	**2.84**	**112**	*e*Pn	**Pn**	**02 39 29.4**	**0.0**
PBEJ				*e*Sn	**Sn**	**02 40 04.4**	**+0.8**
PBEJ				A		02 40 08.1	
	comp=N,59nm,0.2s						
PBEJ	**Beja**	**2.84**	**112**	P	**Pn**	**02 39 29.4**	**0.0**
PBEJ				S	**Sn**	**02 40 04.4**	**+0.8**
	comp=N,29nm,0.2s						
PCBR	**Castelo Branco**	**2.96**	**75**	*e*Pn	**Pn**	**02 39 32.0**	**+1.0**
PCBR				*e*Sn	**Sn**	**02 40 09.0**	**+2.5**
PCBR				A		02 40 14.7	
	comp=N,24nm,0.3s						
PCBR	**Castelo Branco**	**2.96**	**75**	P	**Pn**	**02 39 32.0**	**+1.0**
PCBR				S	**Sn**	**02 40 09.0**	**+2.5**
	comp=N,12nm,0.3s						
PVIS	**Viseu**	**2.98**	**57**	*e*Pn	**Pn**	**02 39 32.0**	**+0.8**
PVIS				*e*Sn	**Sn**	**02 40 08.9**	**+1.8**
PVIS				A		02 40 11.8	
	comp=N,46nm,0.1s						
PVIS	**Viseu**	**2.98**	**57**	P	**Pn**	**02 39 32.0**	**+0.8**
PVIS				S	**Sn**	**02 40 08.9**	**+1.8**
	comp=N,23nm,0.1s						
MTE	**Manteigas**	**3.08**	**65**	*e*Pn	**Pn**	**02 39 33.9**	**+1.3**
MTE				*e*Sn	**Sn**	**02 40 11.9**	**+2.4**
MTE				A		02 40 14.7	
	comp=N,43nm,0.3s						
MTE	**Manteigas**	**3.08**	**65**	P	**Pn**	**02 39 33.9**	**+1.3**
MTE				S	**Sn**	**02 40 11.9**	**+2.4**
	comp=N,22nm,0.3s						
PBDV	**Barranco-do-Ve**	**3.20**	**126**	*e*Pn	**Pn**	**02 39 33.8**	**-0.5**
PBDV				*e*Sn	**Sn**	**02 40 11.9**	**-0.6**
PBDV				A		02 40 17.9	
	comp=N,43nm,0.2s						
PBDV	**Barranco-do-Ve**	**3.20**	**126**	*e*Pn	**Pn**	**02 39 33.8**	**-0.5**
PBDV				*e*Sn	**Sn**	**02 40 11.9**	**-0.6**
	comp=N,43nm,0.2s						
PVAQ	**Vaqueiros**	**3.25**	**121**	*e*Pn	**Pn**	**02 39 34.6**	**-0.3**
PVAQ				*e*Sn	**Sn**	**02 40 12.9**	**-0.8**
PVAQ				A		02 40 17.9	
	comp=N,72nm,0.2s						
PVAQ	**Vaqueiros**	**3.25**	**121**	*e*Pn	**Pn**	**02 39 34.6**	**-0.3**
PVAQ				*e*Sn	**Sn**	**02 40 12.9**	**-0.8**
	comp=N,72nm,0.2s						
EBAD	**Badajoz**	**3.29**	**96**	P	**Pn**	**02 39 36.1**	**+0.6**
	comp=N,12nm,0.1s,SNR=108						
EBAD				S	**Sn**	**02 40 16.7**	**+2.1**
	comp=N,111nm,0.2s,SNR=17						
EBAD	**Badajoz**	**3.29**	**96**	P	**Pn**	**02 39 36.1**	**+0.6**
	comp=N,12nm,0.1s,SNR=108						
EBAD				S	**Sn**	**02 40 16.7**	**+2.1**
	comp=N,111nm,0.2s,SNR=17						
EGRO	**El Granado**	**3.34**	**118**	P	**Pn**	**02 39 35.8**	**-0.4**
	comp=N,58nm,0.1s,SNR=18						
EGRO				S	**Sn**	**02 40 15.6**	**-0.3**
	comp=N,62nm,0.2s,SNR=7.7						
PBAR	**Barrancos**	**3.40**	**105**	*e*Pn	**Pn**	**02 39 37.8**	**+0.8**
PBAR				*e*Sn	**Sn**	**02 40 18.1**	**+0.7**
PBAR				A		02 40 24.4	
	comp=N,45nm,0.3s						
PBAR	**Barrancos**	**3.40**	**105**	P	**Pn**	**02 39 37.8**	**+0.8**
PBAR				S	**Sn**	**02 40 18.1**	**+0.7**
	comp=N,23nm,0.3s						
PVRL	**Vila Real**	**3.41**	**50**	*e*Pn	**Pn**	**02 39 37.5**	**+0.4**
PVRL				*e*Sn	**Sn**	**02 40 18.2**	**+0.7**
PVRL				A		02 40 20.4	
	comp=N,41nm,0.3s						
PVRL	**Vila Real**	**3.41**	**50**	P	**Pn**	**02 39 37.5**	**+0.4**
PVRL				S	**Sn**	**02 40 18.2**	**+0.7**
	comp=N,21nm,0.3s						
PCAB	**Cabril**	**3.52**	**42**	*e*Pn	**Pn**	**02 39 38.4**	**-0.2**
PCAB				*e*Sn	**Sn**	**02 40 20.1**	**-0.2**
PCAB				A		02 40 23.3	
	comp=N,15nm,0.1s						
PCAB	**Cabril**	**3.52**	**42**	P	**Pn**	**02 39 38.4**	**-0.2**
PCAB				S	**Sn**	**02 40 20.1**	**-0.2**
	comp=N,7.6nm,0.1s						
ELOB	**Lobios**	**3.62**	**40**	P	**Pn**	**02 39 39.1**	**-0.9**
ELOB				S	**Sn**	**02 40 21.4**	**-1.3**
ELOB	**Lobios**	**3.62**	**40**	P	**Pn**	**02 39 39.1**	**-0.9**
	comp=N,4.0nm,0.1s,SNR=32						
ELOB				S	**Sn**	**02 40 22.4**	**-0.3**
	comp=N,37nm,0.2s,SNR=8.5						
ELOB	**Lobios**	**3.62**	**40**	P	**Pn**	**02 39 39.1**	**-0.9**
	comp=N,4.0nm,0.1s,SNR=32						
MVO	**Moncorvo**	**3.77**	**57**	*e*Pn	**Pn**	**02 39 43.0**	**+0.9**
MVO				*e*Sn	**Sn**	**02 40 27.0**	**+0.4**
MVO				A		02 40 29.8	
	comp=N,87nm,0.4s						
MVO	**Moncorvo**	**3.77**	**57**	P	**Pn**	**02 39 43.0**	**+0.9**
MVO				S	**Sn**	**02 40 27.0**	**+0.4**
	comp=N,43nm,0.4s						
EMIN	**Mina Concepcio**	**3.81**	**110**	P	**Pn**	**02 39 43.0**	**+0.3**
	comp=N,21nm,0.1s,SNR=264						
EMIN				S	**Sn**	**02 40 27.5**	**-0.1**
	comp=N,25nm,0.2s,SNR=6.5						
EMIN	**Mina Concepcio**	**3.81**	**110**	P	**Pn**	**02 39 43.0**	**+0.3**
	comp=N,21nm,0.1s,SNR=264						
EMIN				S	**Sn**	**02 40 27.5**	**-0.1**
	comp=N,25nm,0.2s,SNR=6.5						
EMAZ	**Mazaricos**	**4.15**	**23**	P	**Pn**	**02 39 44.1**	**-3.1**
EMAZ				S	**Sn**	**02 40 29.6**	**-6.2**
EMAZ	**Mazaricos**	**4.15**	**23**	P	**Pn**	**02 39 45.4**	**-1.9**
	comp=N,4.1nm,0.1s,SNR=24						
EMAZ				S	**Sn**	**02 40 29.6**	**-6.2**
	comp=N,56nm,0.2s,SNR=25						
EMAZ	**Mazaricos**	**4.15**	**23**	P	**Pn**	**02 39 44.1**	**-3.2**
	comp=N,4.1nm,0.1s,SNR=24						
STS	**Santiago**	**4.23**	**27**	P	**Pn**	**02 39 47.2**	**-1.2**
	comp=N,6.9nm,0.2s,SNR=7.9						
STS				S	**Sn**	**02 40 33.5**	**-4.4**
	comp=N,6.8nm,0.2s,SNR=5.6						
PBRG	**Braganca**	**4.31**	**51**	*e*Pn	**Pn**	**02 39 50.5**	**+1.0**
PBRG				*e*Sn	**Sn**	**02 40 40.0**	**+0.2**
PBRG				A		02 40 42.8	
	comp=N,13nm,0.1s						
PBRG	**Braganca**	**4.31**	**51**	P	**Pn**	**02 39 50.5**	**+1.0**
PBRG				S	**Sn**	**02 40 40.0**	**+0.2**
	comp=N,6.7nm,0.1s						
ECAL	**Calabor**	**4.39**	**49**	P	**Pn**	**02 39 50.5**	**-0.1**
	comp=N,4.4nm,0.1s,SNR=30						
ECAL				S	**Sn**	**02 40 41.7**	**-0.2**
	comp=N,53nm,0.3s,SNR=9.0						
ECAL	**Calabor**	**4.39**	**49**	P	**Pn**	**02 39 50.5**	**-0.2**
	comp=N,4.4nm,0.1s,SNR=30						
ECAL				S	**Sn**	**02 40 41.7**	**-0.2**
	comp=N,53nm,0.3s,SNR=9.0						
ECAB	**El Cabril**	**4.65**	**102**	⇓P	**Pn**	**02 39 55.0**	**+0.7**
	comp=N,17nm,0.2s,SNR=18						
ECAB				S	**Sn**	**02 40 47.9**	**-0.4**
	comp=N,38nm,0.3s,SNR=7.6						
ECAB	**El Cabril**	**4.65**	**102**	P	**Pn**	**02 39 55.0**	**+0.8**
	comp=N,17nm,0.2s,SNR=18						
ECAB				S	**Sn**	**02 40 47.9**	**-0.4**
	comp=N,38nm,0.3s,SNR=7.6						
ESPR	**Espera**	**4.80**	**117**	P	**Pn**	**02 39 56.8**	**+0.6**
	comp=N,20nm,0.2s,SNR=43						
ESPR				S	**Sn**	**02 40 51.4**	**-0.4**
	comp=N,68nm,0.3s,SNR=16						
ESPR	**Espera**	**4.80**	**117**	P	**Pn**	**02 39 56.8**	**+0.

PAB	**San Pablo**	**5.33**	**84**	*e*Pn	**Pn**	**02 40 03.8 +0.3**
	comp=N,9.6nm,0.4s					
PAB				*e*Sn	**Sn**	**02 41 04.9 +0.1**
GUD	**Guadarrama**	**5.62**	**72**	P	**Pn**	**02 40 08.5 +1.1**
	comp=N,1.5nm,0.2s,SNR=15					
GUD				S	**Sn**	**02 41 12.9 +0.9**
	comp=N,8.8nm,0.4s,SNR=5.5					
ESDC	**Sonseca Array**	**5.63**	**82**	P	**Pn**	**02 40 08.7 +1.1**
	comp=N,22nm,0.1s,baz=259,slow=12,SNR=97					
ESDC				S	**Sn**	**02 41 12.5 +0.2**
	comp=N,9.6nm,0.2s,baz=265,slow=24,SNR=7.1					
ESDC	**Sonseca Array**	**5.63**	**82**	P	**Pn**	**02 40 08.7 +1.1**
	comp=N,22nm,0.1s,SNR=97					
ESDC				S	**Sn**	**02 41 12.5 +0.2**
	comp=N,9.6nm,0.2s,SNR=7.1					
ELUQ	**Luque**	**5.68**	**104**	P	**Pn**	**02 40 09.2 +0.9**
ELUQ				S	**Sn**	**02 41 14.9 +1.4**
ELUQ	**Luque**	**5.68**	**104**	P	**Pn**	**02 40 09.2 +0.9**
	comp=N,4.4nm,0.2s,SNR=5.7					
ELUQ				S	**Sn**	**02 41 14.1 +0.6**
	comp=N,15nm,0.3s,SNR=7.9					
ELUQ	**Luque**	**5.68**	**104**	P	**Pn**	**02 40 09.2 +0.9**
	comp=N,4.4nm,0.2s,SNR=5.7					
ELUQ				S	**Sn**	**02 41 14.9 +1.4**
	comp=N,15nm,0.3s,SNR=7.9					
EMIJ	**Mijas**	**5.70**	**115**	P	**Pn**	**02 40 08.7 +0.1**
	comp=N,4.8nm,0.2s,SNR=15					
EMIJ				S	**Sn**	**02 41 12.1 -2.1**
	comp=N,16nm,0.3s,SNR=7.9					
EBAN	**Banos Encina**	**5.89**	**97**	P	**Pn**	**02 40 11.6 +0.4**
	comp=N,5.6nm,0.1s,SNR=13					
EBAN				S	**Sn**	**02 41 17.9 -0.7**
	comp=N,24nm,0.4s,SNR=10					
ELOJ	**Sierra Loja**	**5.90**	**108**	P	**Pn**	**02 40 12.2 +0.8**
	comp=N,6.6nm,0.3s,SNR=14					
ELOJ				S	**Sn**	**02 41 19.6 +0.5**
	comp=N,3.7nm,0.2s,SNR=4.8					
EARI	**Arriondas**	**6.13**	**46**	P	**Pn**	**02 40 15.0 +0.5**
	comp=N,0.7nm,0.1s,SNR=10					
EARI				S	**Sn**	**02 41 23.5 -1.0**
	comp=N,5.9nm,0.3s,SNR=5.2					
EARI	**Arriondas**	**6.13**	**46**	P	**Pn**	**02 40 15.0 +0.5**
	comp=N,0.7nm,0.1s,SNR=10					
EARI				S	**Sn**	**02 41 23.5 -1.1**
	comp=N,5.9nm,0.3s,SNR=5.2					
ERON	**Agron**	**6.21**	**108**	P	**Pn**	**02 40 16.4 +0.8**
	comp=N,2.1nm,0.2s,SNR=9.1					
ERON				S	**Sn**	**02 41 25.9 -0.7**
	comp=N,8.7nm,0.4s,SNR=5.3					
ECOG	**Cogollos-Vega**	**6.30**	**105**	P	**Pn**	**02 40 17.9 +1.1**
	comp=N,1.6nm,0.2s,SNR=7.9					
ECOG				S	**Sn**	**02 41 29.0 +0.3**
	comp=N,3.2nm,0.2s,SNR=7.9					
EQUE	**Quentar**	**6.42**	**105**	P	**Pn**	**02 40 19.5 +1.1**
	comp=N,3.6nm,0.2s,SNR=22					
EQUE				S	**Sn**	**02 41 30.9 -0.8**
	comp=N,14nm,0.6s,SNR=5.2					
EGUA	**Guajares**	**6.46**	**109**	P	**Pn**	**02 40 20.6 +1.5**
	comp=N,1.8nm,0.2s,SNR=7.9					
EGUA				S	**Sn**	**02 41 32.0 -0.8**
	comp=N,3.1nm,0.4s,SNR=7.9					
EGUA	**Guajares**	**6.46**	**109**	S	**Sn**	**02 41 32.0 -0.8**
	comp=N,3.1nm,0.4s,SNR=7.9					
EQES	**Quesada**	**6.52**	**99**	P	**Pn**	**02 40 20.1 +0.3**
	comp=N,1.0nm,0.1s,SNR=22					
EQES				S	**Sn**	**02 41 34.9 +0.7**
	comp=N,8.1nm,0.4s					
EQES	**Quesada**	**6.52**	**99**	P	**Pn**	**02 40 20.1 +0.3**
	comp=N,1.0nm,0.1s,SNR=22					
EQES				S	**Sn**	**02 41 34.9 +0.7**
	comp=N,8.1nm,0.4s					
EVIA	**Vianos**	**6.80**	**92**	P	**Pn**	**02 40 24.2 +0.5**
	comp=N,3.2nm,0.3s,SNR=7.5					
EVIA				S	**Sn**	**02 41 41.1 -0.2**
	comp=N,9.0nm,0.5s,SNR=6.2					
EBER	**Berja**	**6.94**	**106**	P	**Pn**	**02 40 27.0 +1.5**
	comp=N,5.0nm,0.3s,SNR=13					
EBER				S	**Sn**	**02 41 45.0 +0.5**
	comp=N,18nm,0.5s					
EBER	**Berja**	**6.94**	**106**	P	**Pn**	**02 40 27.0 +1.4**
	comp=N,5.0nm,0.3s,SNR=13					
EBER				S	**Sn**	**02 41 45.0 +0.5**
	comp=N,18nm,0.5s					
TGT	**Taghat**	**7.08**	**134**	*i* P	**Pn**	**02 40 25.0 -2.6**
TGT				*e*S	**Pb**	**02 40 40.0 -7.0**
ELAN	**Lanestosa**	**7.13**	**53**	P	**Pn**	**02 40 29.2 +1.0**
	comp=N,0.3nm,0.1s,SNR=7.4					
ELAN				S	**Sn**	**02 41 48.1 -1.3**
	comp=N,10nm,0.4s,SNR=4.7					
ELAN	**Lanestosa**	**7.13**	**53**	P	**Pn**	**02 40 29.2 +0.9**
	comp=N,0.3nm,0.1s,SNR=7.4					
ELAN				S	**Sn**	**02 41 48.1 -1.2**
	comp=N,10nm,0.4s,SNR=4.7					
ETOR	**Torete**	**7.22**	**74**	P	**Pn**	**02 40 30.6 +1.2**
	comp=N,16nm,0.3s,SNR=23					
ETOR				S	**Sn**	**02 41 50.0 -1.4**
	comp=N,16nm,0.5s					
EALB	**Alboran**	**7.24**	**114**	P	**Pn**	**02 40 30.4 +0.7**
	comp=N,5.4nm,0.3s,SNR=7.9					
EALB	**Alboran**	**7.24**	**114**	P	**Pn**	**02 40 30.4 +0.7**
	comp=N,5.4nm,0.3s,SNR=7.9					
ENIJ	**Nijar**	**7.42**	**104**	P	**Pn**	**02 40 32.9 +0.7**
ENIJ				S	**Sn**	**02 41 56.3 -0.2**
ENIJ	**Nijar**	**7.42**	**104**	P	**Pn**	**02 40 32.9 +0.7**
	comp=N,7.3nm,0.4s,SNR=6.8					
ENIJ				S	**Sn**	**02 41 54.9 -1.6**
	comp=N,1.7nm,0.3s,SNR=4.0					
ENIJ	**Nijar**	**7.42**	**104**	P	**Pn**	**02 40 32.9 +0.7**
	comp=N,7.3nm,0.4s,SNR=6.8					
ENIJ				S	**Sn**	**02 41 56.3 -0.2**
	comp=N,1.7nm,0.3s,SNR=4.0					
ECRI	**Cripan**	**7.43**	**60**	P	**Pn**	**02 40 33.6 +1.2**
ECRI				S	**Sn**	**02 41 56.4 -0.3**
ECRI	**Cripan**	**7.43**	**60**	P	**Pn**	**02 40 33.6 +1.2**
	comp=N,2.0nm,0.3s,SNR=7.9					
ECRI				S	**Sn**	**02 41 55.5 -1.2**
	comp=N,2.9nm,0.2s,SNR=7.9					
ECRI	**Cripan**	**7.43**	**60**	P	**Pn**	**02 40 33.6 +1.2**
	comp=N,2.0nm,0.3s,SNR=7.9					
ECRI				S	**Sn**	**02 41 56.4 -0.3**
	comp=N,2.9nm,0.2s,SNR=7.9					
MIF	**Mishlifen**	**7.49**	**138**	*i* P	**Pn**	**02 40 31.0 -2.2**
MIF				*e*S	**Pb**	**02 40 49.0 -4.9**
ETOB	**Tobarra**	**7.54**	**91**	P	**Pn**	**02 40 34.3 +0.3**
	comp=N,0.6nm,0.1s,SNR=11					
ETOB				S	**Sn**	**02 41 58.7 -0.8**
	comp=N,6.2nm,0.4s					
ETOB	**Tobarra**	**7.54**	**91**	P	**Pn**	**02 40 34.3 +0.4**
	comp=N,0.6nm,0.1s,SNR=11					
ETOB				S	**Sn**	**02 41 58.7 -0.8**
	comp=N,6.2nm,0.4s					
TZK	**Tazeka**	**7.57**	**130**	*i* P	**Pn**	**02 40 33.0 -1.3**
TZK				*i* S	**Pb**	**02 40 54.0 -1.3**
EMEL	**Melilla**	**7.62**	**118**	P	**Pn**	**02 40 31.7 -3.2**
	comp=N,80nm,0.4s,SNR=7.9					
CIA	**Chichaoua**	**7.83**	**165**	*i* P	**Pn**	**02 40 30.5 -7.3**
CIA				*i* S	**Pb**	**02 40 51.0 -8.7**
CZD	**Col de Zad**	**7.88**	**139**	*i* P	**Pn**	**02 40 36.0 -2.6**
CZD				*i* S	**Pb**	**02 40 58.5 -2.1**
EMUR	**La Murta**	**7.92**	**96**	P	**Pn**	**02 40 39.1 0.0**
	comp=N,3.4nm,0.3s,SNR=7.5					
EMUR				S	**Sn**	**02 42 03.2 -5.6**
	comp=N,3.3nm,0.5s,SNR=7.9					
EMUR	**La Murta**	**7.92**	**96**	P	**Pn**	**02 40 39.1 0.0**
	comp=N,3.4nm,0.3s,SNR=7.5					
ECHE	**Chera**	**7.94**	**84**	P	**Pn**	**02 40 40.7 +1.4**
	comp=N,0.9nm,0.2s,SNR=7.9					
ECHE				S	**Sn**	**02 42 08.8 -0.4**
	comp=N,5.4nm,0.4s,SNR=7.9					
IUSE	**Utxeti**	**8.22**	**59**	S	**Sn**	**02 42 14.2 -1.8**
	comp=N,0.8nm,0.5s,SNR=7.9					
IUSE	**Utxeti**	**8.22**	**59**	S	**Sn**	**02 42 15.7 -0.3**
	comp=N,0.8nm,0.5s,SNR=7.9					
IZUN	**Zunzarren**	**8.24**	**60**	P	**Pn**	**02 40 45.0 +1.4**
	comp=N,0.8nm,0.2s,SNR=7.9					
IZUN				S	**Sn**	**02 42 15.6 -1.1**
	comp=N,0.6nm,0.8s,SNR=7.9					
IPRE	**Itoiz**	**8.29**	**61**	S	**Sn**	**02 42 16.1 -1.7**
	comp=N,3.8nm,0.6s,SNR=7.9					
IPRE	**Itoiz**	**8.29**	**61**	S	**Sn**	**02 42 16.1 -1.7**
	comp=N,3.8nm,0.6s,SNR=7.9					
ELIZ	**Elizondo**	**8.32**	**58**	P	**Pn**	**02 40 45.8 +1.2**
	comp=N,2.0nm,0.3s,SNR=7.9					
ELIZ				S	**Sn**	**02 42 17.4 -1.1**
	comp=N,1.6nm,0.2s,SNR=7.9					
EMOS	**Mosqueruela**	**8.35**	**78**	P	**Pn**	**02 40 46.4 +1.4**
	comp=N,0.4nm,0.2s,SNR=7.1					
EMOS				S	**Sn**	**02 42 17.6 -1.7**
	comp=N,4.5nm,0.3s,SNR=62					
EMOS	**Mosqueruela**	**8.35**	**78**	P	**Pn**	**02 40 46.4 +1.4**
	comp=N,0.4nm,0.2s,SNR=7.1					
EMOS				S	**Sn**	**02 42 17.6 -1.7**
	comp=N,4.5nm,0.3s,SNR=62					
SJPF	**Ste Jean**	**8.50**	**59**	*e*Pn	**Pn**	**02 40 48.0 +1.0**
SJPF				*e*Sn	**Sn**	**02 42 20.6 -2.4**
	comp=N,9.3nm,0.5s					
SJPF	**Ste Jean**	**8.50**	**59**	P	**Pn**	**02 40 48.0 +1.0**
SJPF				S	**Sn**	**02 42 20.6 -2.4**
	comp=N,4.7nm,0.5s					
ESAC	**San Caprasio**	**8.58**	**69**	P	**Pn**	**02 40 51.1 +3.1**
ESAC				S	**Sn**	**02 42 23.4 -1.4**
ESAC	**San Caprasio**	**8.58**	**69**	P	**Pn**	**02 40 49.5 +1.5**
	comp=N,7.7nm,0.3s,SNR=7.9					
ESAC				S	**Sn**	**02 42 23.4 -1.4**
	comp=N,28nm,0.3s,SNR=7.9					
ETSF	**Etsaut**	**8.87**	**62**	*e*Pn	**Pn**	**02 40 53.0 +0.9**
ETSF				*e*Sn	**Sn**	**02 42 30.2 -1.8**
	comp=N,7.9nm,0.4s					
ETSF	**Etsaut**	**8.87**	**62**	P	**Pn**	**02 40 53.0 +0.9**
ETSF				S	**Sn**	**02 42 30.2 -1.8**
	comp=N,4.0nm,0.4s					
ERTA	**Horta de San J**	**9.03**	**75**	P	**Pn**	**02 40 55.7 +1.5**
	SNR=7.9					
ERTA				S	**Sn**	**02 42 34.3 -1.6**
	comp=N,1.9nm,0.3s,SNR=7.9					
ZFT	**Errachidia**	**9.03**	**140**	*i* P	**Pn**	**02 40 52.0 -2.3**
ZFT				*i* S	Pn	02 41 26.0 +32
EBIE	**Bielsa**	**9.28**	**64**	P	**Pn**	**02 40 59.9 +2.1**
EBIE				S	**Sn**	**02 42 40.1 -2.1**
EBIE	**Bielsa**	**9.28**	**64**	P	**Pn**	**02 40 57.9 +0.2**
	comp=N,1.3nm,0.3s,SNR=7.7					
EBIE				S	**Sn**	**02 42 40.1 -2.1**
	comp=N,2.2nm,0.3s,SNR=7.9					
EBIE	**Bielsa**	**9.28**	**64**	P	**Pn**	**02 40 59.9 +2.2**
EBIE				S	**Sn**	**02 42 40.1 -2.1**
EPF	**Esparros**	**9.53**	**62**	*e*Pn	**Pn**	**02 41 02.4 +1.2**
EPF				*e*Sn	**Sn**	**02 42 46.3 -2.0**
	comp=N,4.9nm,0.4s					
EPF	**Esparros**	**9.53**	**62**	P	**Pn**	**02 41 02.4 +1.2**
EPF				S	**Sn**	**02 42 46.3 -2.0**
	comp=N,2.5nm,0.4s					
EPOB	**Poblet**	**9.64**	**73**	P	**Pn**	**02 41 04.2 +1.6**
	comp=N,0.6nm,0.2s,SNR=4.0					
EPOB				S	**Sn**	**02 42 48.8 -2.2**
	comp=N,1.6nm,0.3s,SNR=4.0					
EPOB	**Poblet**	**9.64**	**73**	P	**Pn**	**02 41 04.2 +1.5**
EPOB				S	**Sn**	**02 42 48.8 -2.2**
EMIR	**Miracle**	**10.07**	**70**	S	**Sn**	**02 43 00.1 -1.5**
	comp=N,0.6nm,0.4s,SNR=7.9					
QUIF	**Quistinic**	**10.52**	**31**	*e*Pn	**Pn**	**02 41 13.0 -1.6**
LFF	**La Frestale**	**10.59**	**53**	*e*Pn	**Pn**	**02 41 15.4 -0.3**
ROSF	**Rostrenen**	**10.82**	**29**	*e*Pn	**Pn**	**02 41 16.9 -1.8**
MFF	**Saint Martin d**	**11.00**	**44**	*e*Pn	**Pn**	**02 41 20.4 -0.9**
SGMF	**Saint Gilles**	**11.03**	**32**	*e*Pn	**Pn**	**02 41 19.5 -2.2**
RJF	**Les Rejaudoux**	**11.25**	**53**	*e*Pn	**Pn**	**02 41 24.3 -0.3**
RJF				*e*Sn	**Sn**	**02 43 26.3 -4.1**
	comp=N,3.0nm,0.2s					
RJF	**Les Rejaudoux**	**11.25**	**53**	P	**Pn**	**02 41 24.3 -0.3**
RJF				S	**Sn**	**02 43 26.3 -4.1**
	comp=N,1.5nm,0.2s					
CAF	**Calviac**	**11.42**	**55**	*e*Pn	**Pn**	**02 41 26.7 -0.3**
CAF				*e*Sn	**Sn**	**02 43 30.5 -4.1**
	comp=N,2.4nm,0.3s					
CAF	**Calviac**	**11.42**	**55**	P	**Pn**	**02 41 26.7 -0.3**
CAF				S	**Sn**	**02 43 30.5 -4.1**
	comp=N,1.2nm,0.3s					
GRR	**Gorron**	**11.87**	**36**	*e*Pn	**Pn**	**02 41 31.7 -1.4**
LASF	**Ste Croix**	**12.29**	**62**	*e*Pn	**Pn**	**02 41 39.0 +0.1**

IDC 03 02:39:24.7±8.8, 773S×15694E, h0km, mb3.9/4, mb1 4.0/4, mb1mx3.7/14, mbtmp3.9/4, Error ellipse: s-maj=264.9km s-min=39.8km az=116.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**25.04**	**239**	P	P	02 44 50.8	-0.1
	0.3nm,0.6s,baz=65,slow=9.5,SNR=2.2						
SONM	**Songino Array**	**71.00**	**327**	P	P	02 50 44.2	-0.1
	0.4nm,0.4s,baz=131,slow=7.3,SNR=5.2						
MKAR	**Makanchi Array**	**85.23**	**318**	P	P	02 52 03.9	+0.6
	0.9nm,0.6s,baz=104,slow=5.5,SNR=9.7						
ZALV	**Zalesovo Beam**	**85.87**	**326**	P	P	02 52 06.3	0.0
	1.1nm,0.5s,baz=97,slow=6.5,SNR=5.9						

ISCJB ***03*** *02:46:36.3±0.1, 775S±003×15561E±003, h10km, mb5.3/86, MS4.7/28, Error ellipse: s-maj=4.9km s-min=4.0km az=179.3*

IDC ***03*** *02:46:36.3±0.4, 775S×15562E, h0km, mb5.0/16, mb1 5.1/19, mb1mx5.1/20, mbtmp5.0/19, ML4.2/3, MS4.6/18, Ms1 4.6/18, ms1mx4.4/26, Error ellipse: s-maj=19.2km s-min=13.1km az=84.0*

BJI ***03*** *02:46:39.7, 738S×15578E, h23km, mB5.4, mb5.2, Ms5.0, Msz4.7*

MOS ***03*** *02:46:40.3±1.2, 767S×15564E, h33km, mb5.5/28, Error ellipse: s-maj=9.1km s-min=6.7km az=98.3*

GCMT ***03*** *02:46:41.8±0.2, 793S×15567E, h12km, MW5.2/75, Moment Tensor Solution. s45,c72; s75,c123; Duration: 1s0 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.47±.02; $M_{\theta\theta}$0.90±.02; $M_{\phi\phi}$-0.42±.02; $M_{r\theta}$-0.30±.05; $M_{\phi\phi}$0.20±.02; $M_{\phi r}$-0.08±.06; Best double couple: $M_0$0.77100×10^{17} NP1:ϕ_s286.00000°, δ38.00000°, λ-54.00000°. NP2: ϕ_s64.00000°, δ60.00000°, λ-114.00000°. Principal axes: T 0.9900, Plg12.0000°, Azm171.0000°; N -0.4390, Plg21.0000°, Azm77.0000°; P -0.5520, Plg66.0000°, Azm289.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***03*** *02:46:41.8±1.0, 779S×15565E, h40km, 9km, mb5.2/37 Error ellipse: s-maj=5.9km s-min=5.1km az=141.0*

ISC 03 02:46:38.1±1.3, 777S±004×15566E±003, h12km±8km, h17km±2.0km: pP-P, n413, σ0.074/327, mb5.3/86, MS4.7/28, 78C-69D, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.55**	**112**	P	**Pn**	**02 47 49.2**	**+2.3**
HNR						02 48 45.9	
HNR	**Honiara**	**4.55**	**112**	Pn	**Pn**	**02 47 49.2**	**+2.3**
	53nm,0.3s,baz=241,slow=3.7,SNR=8.1						
HNR				Sn	**Sn**	**02 48 45.9**	**+6.1**
	95nm,0.3s,baz=99,slow=18,SNR=5.7						
HNR				LR	LR	02 49 29.9	
	comp=Z,2μm,21.6s,baz=327,slow=38						
CTA	**Charters Tower**	**15.26**	**216**	*e*P	**Pn**	**02 50 15.0**	**+1.4**
	86nm,0.9s						
CTA				*i* S	**Sn**	**02 53 12.4**	**+10**
CTA	**Charters Tower**	**15.26**	**216**	*e*P	**Pn**	**02 50 15.0**	**+1.4**
CTA				*i* S	**Sn**	**02 53 12.4**	**+10**
CTA				pmax	pmax		
	comp=Z,86nm,0.9s						
CTA	**Charters Tower**	**15.26**	**216**	Pn	**Pn**	**02 50 14.7**	**+1.1**
	comp=Z,0.4nm,0.3s,baz=38,slow=13,SNR=15						
CTA				LR	LR	02 55 30.4	
	comp=Z,3μm,18.9s,baz=38,slow=35						
CTAO	**Charters Tower**	**15.26**	**216**	*e*Pn	**Pn**	**02 50 15.5**	**+1.9**
	comp=Z,161nm,1.0s						
CTAO	**Charters Tower**	**15.26**	**216**	*e*P	**Pn**	**02 50 15.5**	**+1.9**
CTAO				pmax	pmax		
	comp=Z,161nm,1.0s						
DZM	**Mont Dzumac**	**17.61**	**145**	P	**Pn**	**02 50 44.3**	**+0.7**
	comp=Z,0.5nm,0.3s,baz=347,slow=12,SNR=6.8						
EIDS	**Eidsvold**	**18.04**	**193**	*e*Pn	**Pn**	**02 50 48.5**	**-0.2**
	comp=Z,120nm,1.4s						
ARMA	**Armidale**	**22.85**	**189⇑**	*i* P	**P**	**02 51 40.9**	**-0.4**
FUNA	**Funafuti**	**23.32**	**94**	*e*P	**P**	**02 51 45.6**	**-0.9**
	comp=Z,172nm,1.1s,mb5.4						
KAKA	**Kakadu**	**23.36**	**256**	*e*P	**P**	**02 51 46.7**	**-0.2**
	comp=Z,93nm,1.0s,mb5.2						
WB2	**Warramunga Arr**	**23.93**	**237⇑**	*i* P	**P**	**02 51 52.1**	**-0.2**
WRA	**Warramunga Arr**	**23.94**	**237**	P	**P**	**02 51 52.4**	**0.0**
WRA						02 55 35.6	
WRA	**Warramunga Arr**	**23.94**	**237**	P	**P**	**02 51 52.4**	**0.0**
	comp=Z,31nm,0.8s,mb4.8,baz=63,slow=9.8,SNR=54						
WRA				PcP	PcP	02 55 35.6	+0.7
	comp=Z,6.2nm,1.0s,baz=59,slow=2.1,SNR=4.8						
WRA				ScP	ScP	02 59 15.2	+1.8
	comp=Z,2.9nm,0.9s,baz=40,slow=1.8,SNR=6.4						
WRA				LR	LR	03 00 41.5	
	comp=Z,2μm,19.9s,MS4.5,baz=55,slow=35						
ASAR	**Alice Springs**	**26.17**	**230**	P	**P**	**02 52 12.0**	**-0.6**
	comp=Z,34nm,0.9s,mb4.9,baz=61,slow=8.5,SNR=98						
STKA	**Stephens Creek**	**27.33**	**207**	*e*P	**P**	**02 52 21.7**	**-1.3**
	comp=Z,24nm,0.9s,mb4.7						
STKA	**Stephens Creek**	**27.33**	**207**	P	**P**	**02 52 22.4**	**-0.6**
	comp=Z,28nm,0.9s,mb4.8,baz=15,slow=9.1,SNR=22						
STKA				LR	LR	03 03 00.1	
	comp=Z,3μm,18.7s,MS4.9,baz=282,slow=36						
CNB	**Canberra Magne**	**28.02**	**191**	*e*P	**P**	**02 52 28.7**	**-0.4**
	comp=Z,32nm,1.2s,mb4.8						
FITZ	**Fitzroy Crossi**	**30.96**	**248**	*e*P	**P**	**02 52 50.2**	**-5.2**
	comp=Z,17nm,0.6s,mb5.1						
FITZ	**Fitzroy Crossi**	**30.96**	**248**	*e*P	**P**	**02 52 53.9**	**-1.5**
	comp=Z,49nm,1.1s,mb5.2						
FITZ	**Fitzroy Crossi**	**30.96**	**248**	LR	LR	03 05 14.4	
	comp=Z,1μm,19.2s,MS4.5,baz=71,slow=36						
BATI	**Kupang**	**31.68**	**263**	LR	LR	03 07 44.2	
	comp=Z,2μm,18.4s,MS4.9,baz=96,slow=40						
RAO	**Raoul Island**	**32.78**	**134**	LR	LR	03 03 16.4	
	comp=Z,690nm,20.3s,MS4.3,baz=327,slow=30						
FORT	**Forrest**	**34.49**	**225**	*e*P	**P**	**02 53 25.2**	**-1.0**
	comp=Z,52nm,0.7s,mb5.6						
TAU	**Tasmania Unive**	**35.76**	**191**	*e*P	**P**	**02 53 36.6**	**-0.4**
	comp=Z,94nm,1.2s,mb5.6						
TAU	**Tasmania Unive**	**35.76**	**191**	*e*P	**P**	**02 53 36.6**	**-0.4**
TAU				pmax	pmax		
	comp=Z,94nm,1.2s,mb5.6						
KAPI	**Kappang**	**35.78**	**272**	P	**P**	**02 53 38.8**	**+1.3**
	comp=Z,374nm,0.9s,mb6.3,SNR=5.5						
URZ	**Urewera**	**36.02**	**151**	P	**P**	**02 53 39.1**	**-0.1**
	comp=Z,6.4nm,0.7s,mb4.7,baz=16,slow=16,SNR=4.7						
URZ				LR	LR	03 06 28.3	
	comp=Z,1μm,18.5s,MS4.6,baz=22,slow=33						
CBIJ	**Chichi jima**	**37.04**	**340**	LR	LR	03 06 43.3	
	comp=Z,599nm,21.7s,MS4.3,baz=121,slow=33						
MBWA	**Marble Bar**	**37.14**	**245**	*e*P	**P**	**02 53 48.2**	**-0.8**
	comp=Z,19nm,0.8s,mb5.0						
RPZ	**Rata Peaks**	**38.26**	**162**	LR	LR	03 07 47.8	
	comp=Z,1μm,20.6s,MS4.8,baz=320,slow=33						
KKM	**Kota Kinabalu**	**41.67**	**288**	*e*P	**P**	**02 54 27.0**	**0.0**
KLBR	**Kellerberrin**	**42.50**	**231**	*e*P	**P**	**02 54 32.5**	**-1.1**
	comp=Z,86nm,0.8s,mb5.4						
JHJ	**Hachijo jima 2**	**43.38**	**340**	LR	LR	03 09 21.9	
	comp=Z,519nm,20.4s,MS4.4,baz=316,slow=32						
NWAO	**Narrogin (SRO)**	**43.48**	**229**	*e*P	**P**	**02 54 41.1**	**-0.4**
NWAO	**Narrogin (SRO)**	**43.48**	**229**	LR	LR	03 12 40.4	
	comp=Z,1μm,18.1s,MS4.9,baz=62,slow=36						
MUN	**Mundaring**	**43.86**	**231**	*e*P	**P**	**02 54 44.0**	**-0.5**
RAR	**Rarotonga**	**45.01**	**112**	LR	LR	03 09 16.6	
	comp=Z,232nm,19.5s,MS4.1,baz=286,slow=30						
KSM	**Kuching**	**46.15**	**280**	*e*P	**P**	**02 55 02.8**	**-0.3**
YHNB	**Yeheng**	**46.43**	**315**	*e*P	**P**	**02 55 05.1**	**0.0**
JNU	**Nakatsue**	**47.00**	**331**	P	**P**	**02 55 09.2**	**-0.2**
	comp=Z,30nm,0.9s,mb5.2,baz=161,slow=11,SNR=10.0						
JNU				LR	LR	03 12 52.3	
	comp=Z,262nm,21.8s,MS4.2,baz=152,slow=34						
MJAR	**Matsushiro Arr**	**47.02**	**341**	P	**P**	**02 55 08.4**	**-1.0**
	comp=Z,17nm,0.7s,mb5.1,baz=163,slow=7.7,SNR=32						
MJAR				LR	LR	03 12 33.9	
	comp=Z,503nm,20.6s,MS4.5,baz=190,slow=33						
MAJO	**Matsushiro**	**47.02**	**341**	*e*P	**P**	**02 55 08.8**	**-0.7**
	comp=Z,32nm,0.7s,mb5.4						
MAJO	**Matsushiro**	**47.02**	**341**	*e*P	**P**	**02 55 08.8**	**-0.7**
MAJO				pmax	pmax		
	comp=Z,32nm,0.7s,mb5.4						
MAT	**Matsushiro**	**47.02**	**341**	P	**P**	**02 55 08.5**	**-1.0**
MAT				S	**S**	**03 01 59.0**	**-2.0**
KSRS	**Korea Array**	**51.92**	**332**	P	**P**	**02 55 47.0**	**+0.2**
	comp=Z,14nm,0.8s,mb4.9,baz=151,slow=8.4,SNR=25						
KSRS				LR	LR	03 16 47.7	
	comp=Z,321nm,20.6s,MS4.3,baz=149,slow=35						
QIZ	**Qiongzhong**	**52.42**	**301**	P	**P**	**02 55 51.4**	**+0.5**
QIZ				S	**S**	**03 03 21.2**	**+4.1**
QIZ				AMB	AMB		
	comp=Z,54nm,2.3s,mb5.1						
QIZ				LR	LR		
	comp=Z,577nm,21.5s,MS4.6						
INCN	**Inchon**	**52.56**	**331**	*e*P	**P**	**02 55 52.0**	**+0.4**
NJ2	**Nanjing**	**52.92**	**320**	*e*P	**P**	**02 55 55.5**	**+1.1**
NJ2				AP	pP	02 56 00.2	+2.0
NJ2				XP	sP	02 56 01.8	+2.1
NJ2				PP	PP	02 57 56.8	+2.6
NJ2				S	**S**	**03 03 24.0**	**+0.4**
NJ2				XS	sS	03 03 32.0	+2.1
NJ2				AMB	AMB		
	comp=Z,70nm,1.1s

KKTK	Khon Kaen	57.50	295	P	P	02 56 28.5	+0.7
CN2	Changchun	58.17	335	eP	P	02 56 32.0	+0.1
CN2				PCP	PcP	02 57 20.7	-2.7
CN2				eS	S	03 04 32.9	-0.3
CN2				AMB	AMB		
	comp=Z,300nm,1.0s,mb5.3						
CN2				AMB	AMB		
	comp=Z,200nm,5.0s						
CN2				LR	LR		
	comp=N,600nm,20.0s,MS4.8						
CN2				LR	LR		
	comp=E,500nm,20.0s,MS4.8						
CN2				LR	LR		
	comp=Z,700nm,21.0s,MS4.8						
GYA	Guiyang	58.44	307⇑	iP	P	02 56 36.9	+2.7
GYA				AP	pP	02 56 40.9	+2.9
GYA				XP	sP	02 56 43.8	+4.3
GYA				PCP	PcP	02 57 27.3	+2.4
GYA				PP	PP	02 58 49.2	+5.5
GYA				SCP	ScP	03 01 26.3	+1.0
GYA				S	S	03 04 39.8	+2.3
GYA				SCS	ScS	03 06 23.6	-0.7
GYA				AMB	AMB		
	comp=Z,60nm,1.0s,mb5.6						
GYA				LR	LR		
	comp=N,4μm,20.2s,MS5.8						
GYA				LR	LR		
	comp=E,5μm,21.0s,MS5.8						
GYA				LR	LR		
	comp=Z,5μm,20.8s,MS5.6						
HABR	Khabarovsk	58.87	344	eP	P	02 56 37.1	+0.4
HABR				eS	S	03 04 42.7	+0.5
HABR				pmax	pmax		
	comp=Z,139nm,1.6s,mb5.7						
NST	Nakhon Sawan	59.72	293	P	P	02 56 43.7	+0.5
	comp=Z,62nm,1.0s,mb5.6						
BJI	Beijing	59.92	326	P	P	02 56 43.4	-0.8
BJI				S	S	03 04 55.2	-1.0
BJI				AMB	AMB		
	comp=Z,8.0nm,0.7s,mb4.9						
BJI				AMB	AMB		
	comp=Z,128nm,3.3s						
BJI				LR	LR		
	comp=N,339nm,28.0s,MS4.5						
BJI				LR	LR		
	comp=E,269nm,26.5s,MS4.5						
BJI				LR	LR		
	comp=Z,651nm,34.6s						
BJI	Beijing	59.92	326	P	P	02 56 43.4	-0.8
	comp=Z,8.0nm,0.7s,mb4.9						
BJI				S	S	03 04 55.2	-1.0
BJI				LR	LR		
	comp=Z,650nm,34.6s,MS4.5						
KLR	Kul'dur	60.50	342	eP	P	02 56 44.0	-3.9
KLR				eS	S	03 04 52.0	-11
KLR				pmax	pmax		
	comp=E,64nm,1.8s						
KLR				pmax	pmax		
	comp=Z,170nm,1.8s,mb5.8						
PET	Petropavlovsk	60.61	2	eP	P	02 56 49.3	+0.7
PET				eS	S	03 05 01.8	-2.7
XAN	Xi'an	60.72	316	P	P	02 56 47.9	-1.8
XAN				AMB	AMB		
	comp=Z,8.0nm,2.9s,mb4.3						
KMI	Kunming	60.99	304	P	P	02 56 53.5	+1.7
KMI				AP	pP	02 56 57.3	+1.6
KMI				PP	PP	02 59 08.7	+2.4
KMI				S	S	03 05 12.6	+2.2
KMI				SS	SS	03 09 12.6	+2.4
KMI				AMB	AMB		
	comp=Z,22nm,1.1s,mb5.2						
KMI				AMB	AMB		
	comp=Z,217nm,4.3s						
KMI				LR	LR		
	comp=N,436nm,17.0s,MS4.7						
KMI				LR	LR		
	comp=E,276nm,17.8s,MS4.7						
KMI	Kunming	60.99	304	P	P	02 56 53.5	+1.7
	comp=E,22nm,1.1s,mb5.2						
KMI				pP	pP	02 56 57.3	+1.6
KMI				sP	sP	02 56 59.4	+2.3
KMI				PP	PP	02 59 08.7	+2.4
KMI				PPP		03 00 37.2	
KMI				S	S	03 05 12.6	+2.2
KMI				SS	SS	03 09 12.6	+2.4
KMI				SSS		03 11 49.5	
KMI	Kunming	60.99	304	P	P	02 56 53.5	+1.7
KMI				*SP	sP	02 56 59.4	+2.3
KMI						02 59 08.7	
KMI				PPP		03 00 37.2	
KMI				S	S	03 05 12.6	+2.2
KMI				SS	SS	03 09 12.6	+2.4
KMI				SSS		03 11 49.5	
KMI				pmax	pmax		
	comp=Z,22nm,1.1s,mb5.2						
CHTO	Chiang Mai	61.83	296	eP	P	02 56 58.1	+0.5
CD2	Chengdu	62.81	311	P	P	02 57 04.6	+0.7
CD2				AP	pP	02 57 08.9	+1.1
CD2				PP	PP	02 59 24.4	+2.1
CD2				PCS	PcS	03 01 44.0	-1.8
CD2				S	S	03 05 32.5	-0.8
CD2				XS	sS	03 05 40.3	+0.7
CD2				SCS	ScS	03 06 52.8	-4.0
CD2				SS	SS	03 09 40.0	+1.4
CD2				AMB	AMB		
	comp=Z,70nm,1.0s,mb5.8						
CD2				AMB	AMB		
	comp=Z,150nm,6.4s						
CD2				LR	LR		
	comp=N,680nm,20.4s,MS5.0						
CD2				LR	LR		
	comp=E,690nm,19.2s,MS5.0						
CD2				LR	LR		
	comp=Z,480nm,16.8s,MS4.7						
HHC	Hu-ho-hao-te	63.10	324	eP	P	02 57 08.7	+3.0
HHC				AP	pP	02 57 13.3	+3.8
HHC				XP	sP	02 57 15.9	+4.9
HHC				PP	PP	02 59 29.7	+5.1
HHC				S	S	03 05 40.4	+3.9
HHC				XS	sS	03 05 47.7	+4.8
HHC				SCS	ScS	03 06 56.7	-1.9
HHC				AMB	AMB		
	comp=Z,14nm,0.3s,mb5.6						
HHC				AMB	AMB		
	comp=Z,225nm,5.7s						
HHC				LR	LR		
	comp=N,244nm,20.6s						
HHC				LR	LR		
	comp=E,279nm,15.2s						
HHC				LR	LR		
	comp=Z,453nm,27.8s						
ADK	Adak	63.98	19	eP	P	02 57 10.8	-0.4
HIA	Hailar	64.90	335	eP	P	02 57 17.5	+0.3
	comp=Z,30nm,0.9s,mb5.3						
HIA	Hailar	64.90	335	eP	P	02 57 17.5	+0.2
HIA				pmax	pmax		
	comp=Z,30nm,0.9s						
LZH	Lanzhou	65.32	316	eP	P	02 57 22.0	+1.6
LZH				AP	pP	02 57 30.0	+5.8
LZH				XP	sP	02 57 33.1	+7.4
LZH				PP	PP	02 59 48.5	+4.2
LZH				eS	S	03 06 05.0	+0.8
LZH				XS	sS	03 06 11.0	+0.4
LZH				SS	SS	03 10 20.0	+2.4
LZH				AMB	AMB		
	comp=Z,56nm,1.5s,mb5.4						
LZH				AMB	AMB		
	comp=Z,250nm,5.1s						
LZH				LR	LR		
	comp=N,598nm,16.8s						
LZH				LR	LR		
	comp=Z,859nm,17.8s,MS5.0						
LZH	Lanzhou	65.32	316	eP	P	02 57 22.0	+1.6
	comp=Z,56nm,1.5s,mb5.4						
LZH				pP	pP	02 57 30.0	+5.8
LZH				sP	sP	02 57 33.1	+7.4
LZH				PP	PP	02 59 48.5	+4.2
LZH				eS	S	03 06 05.0	+0.8
LZH				sS	sS	03 06 11.0	+0.4
LZH				SS	SS	03 10 20.0	+2.4
LZH				LR	LR		
	comp=Z,860nm,17.8s,MS5.0						
LZH	Lanzhou	65.32	316	eP	P	02 57 22.0	+1.6
LZH				*SP	sP	02 57 33.1	+7.4
LZH						02 59 48.5	
LZH				eS	S	03 06 05.0	+0.8
LZH				SS	SS	03 10 20.0	+2.4
LZH				pmax	pmax		
	comp=Z,56nm,1.5s,mb5.4						
LZH				MLR	MLR		
	comp=Z,860nm,17.8s,MS5.0						
MA2	Magadan	67.24	357	eP	P	02 57 30.3	-1.8
MA2	Magadan	67.24	357	eP	P	02 57 31.2	-0.9
MA2				eS	S	03 06 18.6	-8.0
MA2				eSS	SS	03 10 38.3	-8.1
MA2				pmax	pmax		
	comp=Z,50nm,1.0s,mb5.5						
RKT	Rikitea	68.05	112	eLR	LR	03 18 17.0	
	comp=Z,578nm,23.5s						
IMP	Imphal	68.24	300	eP	P	02 57 39.0	-0.2
CLNS	Chul'man	69.16	342	eP	P	02 57 45.6	+1.4
CLNS				pmax	pmax		
	comp=N,23nm,0.9s						
CLNS				pmax	pmax		
	comp=E,11nm,0.9s						
CLNS				pmax	pmax		
	comp=Z,41nm,0.9s,mb5.4						
CIT	Chita	69.59	334	eP	P	02 57 48.3	+1.3
CIT				e	pP	02 57 53.7	+2.8
GTA	Gaotai	69.75	317	eP	P	02 57 49.3	+1.0
GTA				AP	pP	02 57 53.0	+0.8
GTA				PP	PP	03 00 27.0	+4.3
GTA				S	S	03 06 59.0	+1.7
GTA				XS	sS	03 07 07.0	+3.3
GTA				SKS		03 07 45.8	
GTA				AMB	AMB		
	comp=Z,10.0nm,1.9s,mb4.4						
GTA				AMB	AMB		
	comp=Z,291nm,4.9s						
GTA				LR	LR		
	comp=N,238nm,18.3s,MS4.6						
GTA				LR	LR		
	comp=E,186nm,19.8s,MS4.6						
GTA				LR	LR		
	comp=Z,270nm,19.0s,MS4.5						
VNDA	Vanda	69.79	179	P	P	02 57 47.8	-0.2
	comp=Z,6.5nm,1.1s,mb4.5,baz=345,slow=6.5,SNR=7.9						
VNDA				LR	LR	03 22 25.1	
	comp=Z,508nm,21.6s,MS4.7,baz=15,slow=31						
SHL	Shillong	70.25	301	eP	P	02 57 52.0	+0.3
SBA	Scott Base	70.29	178	eP	P	02 57 51.1	+0.1
	comp=Z,41nm,1.5s,mb5.1						
SBA	Scott Base	70.29	178	eP	P	02 57 51.1	+0.1
SBA				pmax	pmax		
	comp=Z,41nm,1.5s,mb5.1						
SONM	Songino Array	70.34	327	P	P	02 57 52.6	+0.9
	comp=Z,16nm,1.0s,mb4.9,baz=140,slow=6.2,SNR=25						
SEY	Seymchan	70.54	358⇑	eP	P	02 57 51.6	-1.0
LSA	Lhasa	72.25	304	P	P	02 58 05.4	+1.7
LSA				AMB	AMB		
	comp=Z,20nm,1.0s,mb5.0						
LSA	Lhasa	72.25	304	eP	P	02 58 05.2	+1.5
	comp=Z,25nm,0.9s,mb5.1						
LSA	Lhasa	72.25	304	eP	P	02 58 05.2	+1.5
LSA				pmax	pmax		
	comp=Z,25nm,0.9s,mb5.1						
YAK	Yakutsk	72.45	347	eP	P	02 58 05.0	+0.8
YAK	Yakutsk	72.45	347	eP	P	02 58 03.9	-0.2
YAK				i *PP	pP	02 58 12.8	+4.7
YAK				i		02 58 19.3	
YAK				eS	S	03 07 28.9	+1.2
YAK				i		03 08 07.2	
YAK				i SS	SS	03 12 07.1	+0.5
YAK				pmax	pmax		
	comp=E,12nm,1.1s						
YAK				pmax	pmax		
	comp=Z,91nm,0.9s,mb5.7						
YAK				pmax	pmax		
	comp=N,33nm,1.3s						
YAK				smax			
	comp=E,211nm,4.4s						
YAK				smax			
	comp=N,294nm,5.8s						
ZAK	Zakamensk	73.49	328	eP	P	02 58 10.7	+0.1
ZAK				pmax	pmax		
	comp=Z,12nm,1.6s,mb4.6						
BOD	Bodaibo	73.57	338	eP	P	02 58 10.0	-0.9
BOD				pmax	pmax		
	comp=Z,24nm,1.0s,mb5.1						
TLY	Talaya	74.06	329	eP	P	02 58 14.3	+0.4
TLY	Talaya	74.06	329	eP	P	02 58 14.7	+0.8
TLY				pmax	pmax		
	comp=Z,21nm,1.2s,mb4.9						
IRK	Irkutsk	74.08	330	eP	P	02 58 14.1	+0.1
IRK				pmax	pmax		
	comp=Z,54nm,1.6s,mb5.2						
BOK	Bokaro	74.93	297	eP	P	02 58 18.9	-0.7
BOK				AMb	AMB	02 58 24.2	
	comp=Z,26nm,1.5s,mb4.9						
MOY	Mondy	75.41	328	eP	P	02 58 22.4	+0.7
MOY				pmax	pmax		
	comp=Z,52nm,4.1s						
JIRN	Jiri	75.74	301	eP	P	02 58 24.5	+0.3
	comp=Z,113nm,1.3s,mb5.6						
BILL	Bilibino	76.00	4	i P	P	02 58 24.9	+0.2
BILL	Bilibino	76.00	4⇑	iP	P	02 58 24.8	+0.1
BILL				e		03 01 15.1	
BILL				eS	S	03 07 54.6	-13
BILL				pmax	pmax		
	comp=Z,154nm,1.1s,mb5.8						
KKN	Kakani	76.55	301	eP	P	02 58 29.3	+0.5
	comp=Z,197nm,1.6s,mb5.8						
GKN	Gorkha	77.16	301	eP	P	02 58 32.4	+0.2
	comp=Z,140nm,1.1s,mb5.8						
BLSP	Bilaspur	77.86	295	eP	P	02 58 36.0	-0.2
BLSP				AMb	AMB	02 58 40.5	
	comp=Z,35nm,1.0s,mb5.3						
TNA	Tin City	77.90	15	eP	P	02 58 34.9	-0.6
	comp=Z,17nm,1.0s,mb4.9						
TNA				ePcP	PcP	02 58 43.1	-2.2
KOLN	Koldanda	77.98	300	eP	P	02 58 36.9	+0.1
	comp=Z,68nm,0.9s,mb5.6						
SVW2	Sparrevohn	78.47	22	eP	P	02 58 39.1	+0.4
TTA	Tatalina	79.51	20	eP	P	02 58 45.1	+0.7
WMQ	Urumqi	79.83	317	P	P	02 58 46.7	+0.1
WMQ				AMB	AMB		
	comp=Z,17nm,1.4s,mb4.8						
WMQ				AMB	AMB		
	comp=Z,129nm,5.1s						
WMQ				LR	LR		
	comp=N,431nm,20.5s						
WMQ				LR	LR		
	comp=E,456nm,26.4s						
WMQ				LR	LR		
	comp=Z,519nm,26.0s						
KOD	Kodaikanal	79.87	282	eP	P	02 58 47.3	-0.2
KOD				AMb	AMB	02 59 02.0	
	comp=Z,25nm,0.6s,mb5.3						
HYB	Hyderabad	80.14	289	eP	P	02 58 49.5	+0.7
HYB	Hyderabad	80.14	289	i P	P	02 58 49.5	+0.7
SLKM	Skilak Lake	80.17	24	eP	P	02 58 47.3	-0.8
NGP	Nagpur	80.44	293	eP	P	02 58 48.9	-1.4
NGP				AMb	AMB	02 58 52.0	
	comp=Z,30nm,3.0s						
TIXI	Tiksi	81.21	352	eP	P	02 58 52.9	-0.5
	comp=Z,22nm,1.1s,mb5.0						
TIXI	Tiksi	81.21	352⇑	eP	P	02 58 52.5	-0.9
TIXI				pmax	pmax		
	comp=Z,44nm,1.7s,mb5.1						
PMR	Palmer	81.23	23	eP	P	02 58 52.3	-1.4
	comp=Z,27nm,1.1s,mb5.1						
PMR	Palmer	81.23	23	eP	P	02 58 52.3	-1.4
PMR				pmax	pmax		
	comp=Z,27nm,1.1s,mb5.1						
SML	Sawmill	81.67	23	eP	P	02 58 55.0	-1.0
AKL	Akola	82.21	292	eP	P	02 58 59.9	+0.1
AKL				AMb	AMB	02 59 01.3	
	comp=Z,44nm,1.3s,mb5.2						
IMA2	Indian Mountai	82.32	19	eP	P	02 58 59.1	-0.3
BHPL	Bhopal	82.34	295	eP	P	02 58 59.3	-1.2
BHPL				AMb	AMB	02 59 13.9	
	comp=Z,42nm,1.6s,mb5.1						
COLA	College	83.56	21	i P	P	02 59 04.2	-1.6
NDI	New Delhi	83.66	300	eP	P	02 59 05.5	-1.7
NDI				eP		02 59 05.8	
NDI				AMb	AMB	02 59 09.8	
	comp=Z,56nm,1.3s,mb5.5						
MAW	Mawson	83.94	203	P	P	02 59 09.2	+1.3
	comp=Z,15nm,1.2s,mb5.0,baz=90,slow=4.8,SNR=6.7						
MENT	Mentasta	84.09	24	eP	P	02 59 08.6	0.0
KAD	Karad	84.22	288	eP	P	02 59 09.9	-0.4
KAD				AMb	AMB	02 59 23.5	
	comp=Z,52nm,1.3s,mb5.5						
SMLA	Simla	84.23	302	eP	P	02 59 09.6	-0.5
SMLA				AMb	AMB	02 59 13.6	
	comp=Z,59nm,0.9s,mb5.7						
MK31	Makanchi Array	84.42	319⇓	iP	P	02 59 10.7	+0.1
MKAR	Makanchi Array	84.42	319⇓	eP	P	02 59 10.8	+0.2
MKAR	Makanchi Array	84.42	319	P	P	02 59 10.8	+0.2
	comp=Z,24nm,0.7s,mb5.4,baz=104,slow=6.2,SNR=136						
ZALV	Zalesovo Beam	85.18	326	P	P	02 59 13.3	-1.0
ZALV	Zalesovo Beam	85.18	326	P	P	02 59 13.3	-1.0
	comp=Z,12nm,0.5s,mb5.2,baz=113,slow=5.6,SNR=57						
ZAL	Zalesovo	85.19	326	P	P	02 59 13.3	-1.0
AJM	Ajmer	85.46	297	eP	P	02 59 15.4	-0.9
AJM				AMb	AMB	02 59 20.2	
	comp=Z,89nm,1.1s,mb5.8						
EGAK	Eagle	85.97	23	eP	P	02 59 17.6	-0.4
	comp=Z,30nm,1.1s,mb5.4						
SKAG	Skagway	86.23	29	eP	P	02 59 19.9	+0.5
	comp=Z,76nm,2.0s,mb5.6						
DAWY	Dawson	86.34	24	eP	P	02 59 19.8	0.0
NVS	Novosibirsk	86.36	326	eP	P	02 59 18.3	-1.8
NVS				pmax	pmax		
	comp=Z,58nm,1.8s,mb5.5						
NVS				pmax	pmax		
	comp=N,14nm,1.3s						
NVS				pmax	pmax		
	comp=E,32nm,1.5s						
KSH	Kashi	87.01	310	eP	P	02 59 26.0	+2.3
KSH				eAP	pP	02 59 30.6	+2.9
KSH				eXP	sP	02 59 33.5	+4.4
KSH				PP	PP	03 02 53.9	+6.8
KSH				SKS		03 09 50.9	
KSH				S	S	03 10 05.3	+2.8
KSH				XS	sS	03 10 12.3	+3.2
KSH				AMB	AMB		
	comp=Z,171nm,1.2s,mb6.2						
KSH				AMB	AMB		
	comp=Z,692nm,3.1s						
KSH				LR	LR		
	comp=N,716nm,5.4s						
KSH				LR	LR		
	comp=E,711nm,5.5s						
KSH				LR	LR		
	comp=Z,654nm,7.4s						
KURK	Kurchatov	87.84	322⇑	eP	P	02 59 26.3	-1.1
TKM2	Tokmak 2	88.02	314	eP	P	02 59 28.4	-0.1
	comp=Z,6.3nm,0.8s,mb4.9						
TKM2	Tokmak 2	88.02	314	eP	P	02 59 28.4	-0.1
TKM2				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.9						
DLBC	Dease Lake	88.47	30	eP	P	02 59 29.9	-0.3
O02C	Red Bluff	88.56	49	⇓P	P	02 59 31.1	+0.1
	baz=89						
UCH	Uchtor	88.66	313	eP	P	02 59 32.7	+1.2
	comp=Z,17nm,1.2s,mb5.3						
FRU	Bishkek	88.71	313	eP	P	02 59 30.0	-1.7
M02C	Callahan	88.75	48	⇓P	P	02 59 31.1	-0.9
	baz=89						
YBH	Yreka Blue Hor	88.92	48	⇑P	P	02 59 32.5	-0.2
	baz=89						
PACP	Pacheco Peak	89.12	53	⇓P	P	02 59 34.7	+1.0
	baz=89						
AML	Almayashu	89.24	313	eP	P	02 59 35.1	+0.8
	comp=Z,50nm,1.4s,mb5.7						
NLWA	Neilton Lookou	89.26	42	⇑P	P	02 59 33.9	-0.3
	baz=89						
M03C	McCloud	89.27	48	⇓P	P	02 59 34.6	+0.2
	baz=89						
EKS2	Erkin-Say	89.28	313	eP	P	02 59 34.4	0.0
	comp=Z,9.6nm,1.1s,mb5.0						
E03A	Lebam	89.29	43	⇑P	P	02 59 36.0	+1.7
	baz=89						
U04C	Hernandez Rese	89.40	53	⇓P	P	02 59 36.4	+1.3
	baz=89						
ORV	Oroville	89.41	50	⇑P	P	02 59 35.5	+0.4
	baz=89						
PKD	Parkfield	89.52	54	⇑P	P	02 59 36.2	+0.5
	baz=90						
O04C	Chester	89.86	49	⇑P	P	02 59 37.1	-0.1
	baz=90						
C04A	Brinnon	89.92	42	⇑P	P	02 59 36.9	-0.4
	baz=90						
PKM	Peak Mountain	89.93	55	⇓P	P	02 59 37.8	+0.1
	baz=90						
INK	Inuvik	90.21	21	eP	P	02 59 37.2	-0.9
	comp=Z,1μm,1.2s						
J05A	Fort Rock	90.28	46	⇓P	P	02 59 39.2	+0.1
	baz=90						
A04A	Legoe Bay, Lum	90.30	41	⇓P	P	02 59 39.1	+0.1
	baz=90						
BEKR	Beckwourth	90.33	50	⇑P	P	02 59 39.6	+0.2
	baz=90						
L05A	Lakeview	90.36	48	⇑P	P	02 59 40.0	+0.6
	baz=90						
T06C	Millerton Lake	90.36	53	⇑P	P	02 59 39.8	+0.2
	baz=90						
K05A	Summer Lake	90.43	47	⇑P	P	02 59 40.3	+0.5
	baz=90						
E05A	Randle	90.51	43	⇓P	P	02 59 40.3	+0.3
	baz=90						
VES	Vestal, Richgr	90.68	54	⇓P	P	02 59 41.0	-0.1
	baz=91						
MOD	Modoc	90.72	48	⇓P	P	02 59 41.0	-0.2
	baz=91						
KCC	Kaiser Creek	90.72	53	⇑P	P	02 59 41.4	+0.2
	baz=91						
O06A	Flanigan	90.79	50	⇑P	P	02 59 40.9	-0.6
	baz=91						
R06C	Coleville	90.81	51	⇓P	P	02 59 41.5	-0.2
	baz=91						
HELL	Mitchell Peak	90.85	53	⇑P	P	02 59 41.7	-0.2
	baz=91						
N06A	Buffalo Meadow	90.88	49	⇓P	P	02 59 41.9	0.0
	baz=91						
K06A	Valley Falls	90.91	47	⇓P	P	02 59 42.2	+0.2
	baz=91						
E06A	Yakima	91.04	43	⇑P	P	02 59 42.8	+0.2
	baz=91						
F06A	Goldendale	91.04	44	⇓P	P	02 59 42.7	+0.2
	baz=91						
J06A	Christmas Vall	91.06	47	⇓P	P	02 59 42.8	+0.1
	baz=91						
I06A	Prineville	91.13	46	⇑P	P	02 59 42.9	-0.1
	baz=91						
ISA	Isabella	91.14	54	⇓P	P	02 59 42.7	-0.5
	baz=91						
MTUM	Tungsten Hills	91.32	53	eP	P	02 59 44.2	+0.1
EDW2	Edwards Air Fo	91.41	55	⇓P	P	02 59 44.9	+0.3
	baz=91,SNR=8.2						
L07A	Adell	91.45	48	⇑P	P	02 59 44.8	+0.3
	baz=92						
M07A	Soldier Meadow	91.47	49	⇑P	P	02 59 44.8	+0.2
	baz=92						
N07B	Gerlach	91.53	49	⇑P	P	02 59 45.2	+0.3
	baz=92						
TIN	Tinemaha	91.54	53	⇑P	P	02 59 45.3	+0.3
	baz=92						
CWC	Cottonwood Cre	91.57	54	⇓P	P	02 59 45.2	0.0
	baz=92						
BFSC	Mount Baldy St	91.59	56	⇓P	P	02 59 44.7	-0.7
	baz=92						
K07A	Rock Creek Ran	91.62	47	⇓P	P	02 59 44.9	-0.4
	baz=92						
S08C	White Mtn Res	91.65	53	⇑P	P	02 59 45.7	+0.2
	baz=92						
I07A	Izee	91.65	46	⇓P	P	02 59 45.3	-0.1
	baz=92						
NVAR	Mina Array Bea	91.68	52	P	P	02 59 46.7	+1.0
NVAR				PP	PP	03 03 27.3	+2.9
NVAR	Mina Array Bea	91.68	52	P	P	02 59 46.7	+1.0
	comp=Z,3.3nm,0.8s,mb4.7,baz=242,slow=4.1,SNR=20						
NVAR				PP	PP	03 03 27.3	+2.9
	comp=Z,0.9nm,0.9s,baz=237,slow=8.3,SNR=3.6						
H07A	Lands Inn, Kim	91.69	45	⇓P	P	02 59 45.4	-0.2
	baz=92						
G07A	Ruggs Ranch, H	91.73	45	⇓P	P	02 59 45.7	-0.1
	baz=92						
LRMC	Laurel Mountai	91.74	55	⇑P	P	02 59 46.5	+0.5
	baz=92						
SYO	Syowa Base	91.81	199⇓	eP	P	02 59 40.0	-5.7
A07A	Ashnola River,	91.86	41	⇑P	P	02 59 45.8	-0.4
	baz=92						
B07A	Winthrop	91.94	42	⇓P	P	02 59 46.3	-0.3
	baz=92						

MPMC	Manual Prospec	91.98	54	P		P	02 59 47.6 +0.5
	baz=92,SNR=9.3						
WVOR	Wild Horse Val	92.03	48	*e*P		P	02 59 46.7 -0.5
	comp=Z,10nm,1.1s,mb5.1						
WVOR	Wild Horse Val	92.03	48	*e*P		P	02 59 46.7 -0.5
WVOR				pmax		pmax	
	comp=Z,10.0nm,1.1s,mb5.1						
Q08A	Gabbs	92.03	51	P		P	02 59 48.0 +0.7
	baz=92,SNR=6.7						
M08A	Happy Creek Ra	92.07	49	⇓P		P	02 59 47.1 -0.3
	baz=92						
N08A	GE Springer Mi	92.16	49	⇑P		P	02 59 48.1 +0.3
	baz=92						
L08A	Fields	92.20	48	⇑P		P	02 59 48.1 +0.1
	baz=92						
GRAC	Grapevine Rang	92.21	53	⇑P		P	02 59 48.1 -0.1
	baz=92						
G08A	Pilot Rock	92.23	45	⇓P		P	02 59 47.8 -0.2
	baz=92						
J08A	Circle Bar Ran	92.28	47	⇑P		P	02 59 48.1 -0.3
	baz=92						
H08A	Prairie City	92.31	46	⇓P		P	02 59 49.7 +1.2
	baz=92						
S09A	Goldfield	92.43	52	P		P	02 59 50.0 +0.8
	baz=92,SNR=9.7						
GSC	Goldstone	92.43	55	*e*PKPdf		P	02 59 49.2 -0.1
	comp=Z,5.3nm,0.9s,mb4.9						
GSC	Goldstone	92.43	55	*e*P		P	02 59 49.2 -0.1
GSC				pmax		pmax	
	comp=Z,5.0nm,0.9s,mb4.8						
GSC	Goldstone	92.43	55	⇑P		P	02 59 49.4 +0.2
	baz=92						
B08A	Colville Reser	92.44	42	⇑P		P	02 59 48.2 -0.7
	baz=92						
FURC	Furnace Creek,	92.55	54	P		P	02 59 50.5 +0.8
	baz=92,SNR=5.7						
R09A	Tonopah	92.62	52	P		P	02 59 50.7 +0.7
	baz=93,SNR=7.7						
K09A	Rome	92.73	47	⇑P		P	02 59 50.6 +0.2
	baz=93						
HEC	Hector,Ludlow	92.76	55	⇓P		P	02 59 51.0 +0.3
	baz=93						
M09A	Marrel Ranch,	92.76	49	⇓P		P	02 59 51.0 +0.4
	baz=93						
O09A	Fish Creek Ran	92.78	50	⇓P		P	02 59 51.2 +0.5
	baz=93						
J09A	Fry Pan Ranch,	92.80	47	⇓P		P	02 59 51.0 +0.2
	baz=93						
D09A	Jones Farm, Ri	92.93	43	⇑P		P	02 59 50.8 -0.4
	baz=93						
S10A	Tonopah Range,	92.95	52	P		P	02 59 52.5 +0.9
	baz=93,SNR=15						
U10A	Ash Meadows, A	92.96	54	⇓P		P	02 59 51.9 +0.2
	baz=93,SNR=5.5						
E09A	Wood Farm, Sta	92.97	44	⇑P		P	02 59 51.5 +0.1
	baz=93						
TPNV	Topopah Spring	93.09	53	*e*P		P	02 59 52.2 -0.1
	comp=Z,6.2nm,0.9s,mb5.0						
TPNV	Topopah Spring	93.09	53	*e*P		P	02 59 52.2 -0.1
TPNV				pmax		pmax	
	comp=Z,6.0nm,0.9s,mb5.0						
TPNV	Topopah Spring	93.09	53	⇓P		P	02 59 52.6 +0.4
	baz=93						
TUQ	Turquoise Mtn.	93.17	55	⇑P		P	02 59 52.9 +0.3
	baz=93						
Q10A	Clear Creek Ra	93.22	51	⇓P		P	02 59 53.3 +0.5
	baz=93						
B09A	Rice	93.23	42	⇑P		P	02 59 51.3 -1.3
	baz=93						
GMRC	Granite Mounta	93.30	56	⇑P		P	02 59 53.5 +0.3
	baz=93,SNR=6.0						
K10A	MacKenzie Ranc	93.37	47	⇑P		P	02 59 52.9 -0.5
	baz=93						
BRVK	Borovoye	93.37	323⇑	*e*P		P	02 59 52.2 -0.9
M10A	I.L. Ranch, Tu	93.45	49	⇓P		P	02 59 52.7 -1.1
	baz=94						
G10A	Bishop Farm, J	93.51	45	⇑P		P	02 59 53.1 -0.9
	baz=94						
F10A	Beach Ranch, E	93.53	44	⇓P		P	02 59 53.0 -1.0
	baz=94						
L10A	Juniper Basin	93.57	48	P		P	02 59 54.5 +0.2
	baz=94,SNR=6.0						
S11A	Rachel	93.58	53	⇑P		P	02 59 54.1 -0.4
	baz=94						
V11A	Goodsprings	93.61	54	⇓P		P	02 59 54.7 +0.1
	baz=94						
D10A	Wagner Farm, O	93.63	43	⇑P		P	02 59 53.7 -0.8
	baz=94						
IRM	Iron Mountain	93.64	56	⇓P		P	02 59 55.6 +0.8
	baz=94						
H10A	Noah's Angus R	93.69	46	⇓P		P	02 59 54.1 -0.7
	baz=94						
A10A	Northport	93.69	41	⇓P		P	02 59 53.8 -0.9
	baz=94						
R11A	Troy Canyon, C	93.79	52	⇓P		P	02 59 55.7 +0.3
	baz=94,SNR=7.3						
Q11A	Duckwater	93.80	51	⇓P		P	02 59 55.7 +0.3
	baz=94,SNR=10						
O11A	Cowboy Ranch,	93.95	50	P		P	02 59 57.0 +0.9
	baz=94,SNR=7.5						
T11A	Corn Creek, Al	93.95	53	P		P	02 59 56.6 +0.4
	baz=94,SNR=6.9						
K11A	Parker Ranch,	93.98	48	⇑P		P	02 59 56.2 0.0
	baz=94						
M11A	Holland Ranch,	94.00	49	⇓P		P	02 59 56.5 +0.2
	baz=94						
V12A	Nelson	94.07	55	⇓P		P	02 59 56.9 +0.2
	baz=94						
G11A	Walters Elk Ra	94.12	45	⇓P		P	02 59 56.4 -0.4
	baz=94						
H11A	Donnelly	94.22	46	⇑P		P	02 59 56.3 -0.9
	baz=94						
E11A	Bogner Ranch,	94.27	44	⇑P		P	02 59 56.8 -0.6
	baz=94						
S12A	Delamar Landin	94.28	53	⇓P		P	02 59 57.3 -0.4
	baz=94						
B11A	Sandpoint	94.41	42	⇑P		P	02 59 57.2 -0.8
	baz=94						
P12A	McGill	94.44	51	⇑P		P	02 59 58.6 +0.1
	baz=94,SNR=5.7						
Q12A	Willow Creek R	94.46	51	⇑P		P	02 59 59.0 +0.5
	baz=94,SNR=6.5						
A11A	Hall Mountain,	94.47	41	P		P	02 59 58.5 +0.2
	baz=94,SNR=5.8						
N12A	Clover Valley,	94.50	50	P		P	02 59 59.5 +0.9
	baz=94,SNR=8.0						
R12A	Pony Springs,	94.55	52	⇓P		P	02 59 58.5 -0.4
	baz=95						
M12A	Wells	94.65	49	⇑P		P	02 59 59.4 +0.1
	baz=95,SNR=6.5						
L12A	House Creek Ra	94.65	48	⇑P		P	02 59 59.8 +0.5
	baz=95,SNR=6.9						
O12A	Currie	94.66	50	P		P	03 00 00.0 +0.6
	baz=95,SNR=9.0						
J12A	Stokes Ranch,	94.71	47	P		P	02 59 59.6 +0.1
	baz=95,SNR=6.0						
X13A	Yucca	94.77	56	⇑P		P	03 00 00.1 +0.1
	baz=95						
W13A	Hualapai Mount	94.78	55	⇑P		P	03 00 00.6 +0.5
	baz=95						
K12A	Draper Farm, C	94.79	48	⇓P		P	03 00 00.0 +0.1
	baz=95						
U13A	Pakoon Wash	94.86	54	⇑P		P	03 00 00.7 +0.3
	baz=95						
F12A	Elk City	94.87	45	⇓P		P	02 59 59.4 -0.8
	baz=95						
D12A	Red Ives Fores	94.94	43	⇑P		P	03 00 00.1 -0.4
	baz=95						
T13A	Saint George	94.97	53	⇓P		P	03 00 01.3 +0.4
	baz=95						
H12A	Diamond D Ranc	95.02	46	⇓P		P	03 00 00.5 -0.5
	baz=95						
S13A	Holt Ranch, En	95.06	53	⇓P		P	03 00 00.8 -0.4
	baz=95						
N13A	Wendover, West	95.13	50	⇑P		P	03 00 01.5 0.0
	baz=95						
P13A	Bates Ranch, G	95.13	51	⇓P		P	03 00 00.8 -0.8
	baz=95						
M13A	Montello	95.21	49	P		P	03 00 02.5 +0.6
	baz=95,SNR=7.3						
O13A	Hicks Ranch, I	95.22	50	⇓P		P	03 00 02.3 +0.4
	baz=95						
HLID	Hailey	95.24	47	⇑P		P	03 00 01.8 -0.1
	baz=95						
J13A	Cove Ranch, Pi	95.40	47	⇓P		P	03 00 02.7 0.0
	baz=95						
H13A	Challis	95.45	46	⇑P		P	03 00 02.8 -0.1
	baz=96						
V14A	Boquillas Ranc	95.47	55	⇑P		P	03 00 02.9 -0.3
	baz=96						
U14A	Mt Trumbull	95.49	54	⇑P		P	03 00 03.9 +0.6
	baz=96						
I13A	Wildhorse Cree	95.49	47	⇑P		P	03 00 02.7 -0.4
	baz=96						
F13A	Darby	95.51	45	⇓P		P	03 00 01.8 -1.3
	baz=96						
G13A	Cobalt	95.52	45	⇓P		P	03 00 02.8 -0.3
	baz=96						
T14A	Hurricane	95.62	53	⇑P		P	03 00 04.0 +0.1
	baz=96						
B13A	Whitefish	95.66	42	⇑P		P	03 00 03.4 -0.4
	baz=96						
A13A	Flathead Natio	95.75	42	⇓P		P	03 00 04.5 +0.4
	baz=96						
M14A	Sheep Mountain	95.83	49	⇓P		P	03 00 04.6 -0.1
	baz=96						
K14A	Jones Ranch, D	96.05	48	⇑P		P	03 00 06.0 +0.3
	baz=96						
G14A	Jackson	96.08	45	⇑P		P	03 00 05.6 -0.1
	baz=96						
N15A	Stansbury Isla	96.40	50	⇓P		P	03 00 07.8 +0.5
	baz=96						
YKA	Yellowknife Ar	96.71	28	P		P	03 00 07.6 -0.6
YKA				PKKPbc		PKKPbc	03 16 50.0 -3.7
YKA	Yellowknife Ar	96.71	28	P		P	03 00 07.6 -0.6
	comp=Z,5.6nm,0.7s,mb5.1,baz=267,slow=4.5,SNR=111						
YKA				PKKPbc		PKKPbc	03 16 50.0 -3.7
	comp=Z,0.2nm,0.5s,baz=80,slow=3.2,SNR=4.4						
EDM	Edmonton	96.76	37	*e*P		P	03 00 06.2 -2.4
BOZ	Bozeman (W)	97.39	45	⇓P		P	03 00 11.5 -0.2
	baz=97						
PDAR	Pinedale Array	98.73	48	P		P	03 00 17.1 -0.7
	comp=Z,2.2nm,0.9s,mb4.7,baz=244,slow=2.7,SNR=16						
PDAR				PP		PP	03 04 25.8 +6.8
	comp=Z,1.2nm,0.9s,baz=266,slow=6.3,SNR=4.8						
SDCO	Great Sand Dun	101.69	53	*e*P		Pdif	03 00 30.1 -0.6
	comp=Z,2.3nm,0.7s						
ARCES	ARCESS Array B	110.52	343	PKPdf		PKiKP	03 05 10.1 0.0
ARCES	ARCESS Array B	110.52	343	PKiKP		PKiKP	03 05 10.1 0.0
	comp=Z,7.8nm,1.0s,baz=44,slow=3.7,SNR=6.5						
KIV	Kislovodsk	111.85	314	*e*PKIKP		PKiKP	03 05 08.9 -4.4
KIV				pmax		pmax	
	comp=Z,1.0nm,0.4s						
FINES	FINESS Array B	114.91	336	PKP		PKiKP	03 05 17.8 -0.8
	comp=Z,1.3nm,0.7s,baz=26,slow=6.7,SNR=5.7						
PLCA	Paso Flores	115.71	142	PKP		PKPdf	03 05 21.0 +0.1
	comp=Z,0.9nm,0.6s,baz=8.7,slow=6.1,SNR=3.2						
AKASG	Malin Array Be	118.55	324	PKP		PKPdf	03 05 25.4 -0.6
	comp=Z,0.3nm,0.2s,baz=68,slow=1.9,SNR=10						
BOSA	Boshof	120.05	231	PKP		PKPdf	03 05 30.8 +1.2
	comp=Z,2.3nm,0.9s,baz=123,slow=17,SNR=3.1						
HFS	Hagfors	120.46	339	PKP		PKPdf	03 05 28.3 -1.0
	comp=Z,34nm,1.4s,baz=85,slow=6.4,SNR=5.9						
NB2	NORSAR Subarra	120.64	341	PKPdf		PKPdf	03 05 28.8 -0.9
	comp=Z,1.2nm,0.8s,baz=38,slow=1.9						
NOA	NORSAR Array B	120.64	341	PKP		PKPdf	03 05 27.6 -2.1
	comp=Z,2.3nm,0.8s,baz=45,slow=2.0,SNR=5.5						
MLR	Muntele Rosu	122.74	320	⇑P		PKPdf	03 05 34.0 -0.2
MLR	Muntele Rosu	122.74	320	PKP		PKPdf	03 05 33.5 -0.7
	comp=Z,1.5nm,0.6s,baz=51,slow=2.5,SNR=5.3						
MLR	Muntele Rosu	122.74	320	⇑*i*P		PKPdf	03 05 34.0 -0.2
KWP	Kalwaria	122.75	326	⇑*i*P		PKPdf	03 05 34.5 +0.4
KOLS	Kolonicke sedl	123.35	325	*i* PKP		PKPdf	03 05 36.0 +0.8
KOLS				*e*PP		PP	03 07 15.5 -0.2
STHS	Stebnicka Huta	123.68	326	*i* PKP		PKPdf	03 05 36.8 +0.9
CRVS	Cervenica-Dubn	123.83	325	*e*PKP		PKPdf	03 05 36.0 -0.2
OKC	Ostrava-Krasne	125.13	328	*e*PKPdf		PKPdf	03 05 38.8 +0.2
OKC				*ex*		x	03 05 47.6
BZS	Buzias	125.39	322	⇓P		PKPdf	03 05 39.0 -0.3
BZS	Buzias	125.39	322	⇓*i*P		PKPdf	03 05 39.0 -0.3
MORC	Moravsky Berou	125.49	328	⇓P		PKPdf	03 05 40.2 +0.9
MORC	Moravsky Berou	125.49	328	⇓*i*P		PKPdf	03 05 40.2 +0.9
VYHS	Vyhne	125.52	326	*e*PKP		PKPdf	03 05 39.1 -0.3
DPC	Dobruska-Polom	125.78	329	*e*PKPdf		PKPdf	03 05 40.4 +0.6
DPC				*ep*PKP		pPKPdf	03 05 50.3 +6.3
UPC	Upice	125.84	329	*e*PKPdf		PKPdf	03 05 40.8 +0.8
UPC				*ep*PKP		pPKPdf	03 05 48.4 +4.3
VRAC	Vranov	126.26	328	PKP		PKPdf	03 05 40.8 0.0
	comp=Z,1.7nm,0.6s,baz=214,slow=5.3,SNR=3.6						
VRAC	Vranov	126.26	328	⇓*i*P		PKPdf	03 05 41.3 +0.5
PVCC	Panska Ves	126.55	330	*e*PKPdf		PKPdf	03 05 42.2 +0.9
BRG	Berggiesshubel	126.64	331	*i* PKIKP		PKPdf	03 05 41.7 +0.2
BRG				*i*			03 05 50.6
BRG				pmax		pmax	
	comp=Z,31nm,1.1s						
BRG	Berggiesshubel	126.64	331	*e*P		PKPdf	03 05 41.9 +0.4
	comp=Z,9.5nm,1.0s						
BRG				*i*			03 05 50.5
	comp=Z,15nm,1.2s						
CLL	Collm	126.80	332	*i* PKP		PKPdf	03 05 41.7 -0.1
CLL				*i*			03 05 50.6
CLL	Collm	126.80	332	*i* PKIKP		PKPdf	03 05 41.7 -0.1
CLL				*i*			03 05 50.6
CLL				pmax		pmax	
	comp=Z,31nm,1.1s						
CLL	Collm	126.80	332	*i* PKPdf		PKPdf	03 05 41.7 -0.1
	comp=Z,11nm,1.1s						
CLL				*i* (pPKPdf)			03 05 50.6
CLL				*i* sPKPdf			03 05 57.0
CLL				*e*PP		PP	03 07 40.0 +1.6
TREC	Trest	126.85	328	*e*PKPdf		PKPdf	03 05 42.2 +0.3
TREC				*ep*PKP		pPKPdf	03 05 50.3 +4.3
PKSM	Moragy	126.87	324	⇑P		PKPdf	03 05 42.2 +0.2
PKSM	Moragy	126.87	324	⇑*i*P		PKPdf	03 05 42.3 +0.2
PRU	Pruhonice	126.90	330	*e*PKPdf		PKPdf	03 05 41.2 -0.8
PRU				*ep*PKP		pPKPdf	03 05 49.5 +3.4
CONA	Conrad Observa	127.47	327	⇑*i*PKIKP		PKiKP	03 05 43.7 0.0
	comp=Z,7.5nm,1.3s						
NKC	Novy Kostel	127.78	331	*e*PKPdf		PKPdf	03 05 44.1 +0.4
NKC				*ep*PKP		pPKPdf	03 05 52.3 +4.5
KHC	Kasperske Hory	127.93	329	*e*PKPdf		PKPdf	03 05 44.3 +0.3
KHC				*ep*PKP		pPKPdf	03 05 53.3 +5.2
GERES	GERESS Array B	128.05	329	PKP		PKPdf	03 05 44.6 +0.3
	comp=Z,3.3nm,0.9s,baz=75,slow=1.5,SNR=24						
PERS	Pernice	128.65	326	*e*PKPdf		PKPdf	03 05 45.3 -0.2
PERS				*e*			03 05 55.5
GRA1	Grafenberg Arr	128.73	331	*e*PKPdf		PKPdf	03 05 45.9 +0.4
GRA1				*ep*PKPdf		pPKPdf	03 05 54.4 +4.8
GRA1				*e*PP		PP	03 07 53.8 +2.7
GRF	Grafenberg Arr	128.73	331	*e*PKPdf		PKPdf	03 05 45.9 +0.4
GRF				*ep*PKPdf		pPKPdf	03 05 54.4 +4.8
GRF				*e*PP		PP	03 07 53.8 +2.7
BOJS	Bojanci	129.23	325	*e*PKPdf		PKPdf	03 05 46.8 +0.2
BOJS				*e*			03 05 56.7
LJU	Ljubljana	129.33	326	*e*PKPbc		PKPdf	03 05 47.0 +0.3
KBA	Koelnbreinsper	129.34	327	⇑*i*P		PKPdf	03 05 45.9 -0.8
	comp=Z,4.9nm,1.2s						
CADS	Cadrg	129.66	326	*e*PKPbc		PKPdf	03 05 46.7 -0.7
EKA	Eskdalemuir Ar	129.66	344	PKP		PKPdf	03 05 47.0 0.0
	comp=Z,2.3nm,0.8s,baz=15,slow=2.9,SNR=6.9						
WTTA	Wattenberg	130.13	328	⇑*i*P		PKPdf	03 05 48.6 +0.3
	comp=Z,15nm,1.3s						
LPAZ	La Paz	130.51	119	PKP		PKPdf	03 05 51.2 +1.4
LPAZ	La Paz	130.51	119	PKP		PKPdf	03 05 51.2 +1.4
	comp=Z,1.3nm,0.8s,baz=319,slow=4.4,SNR=6.4						
DAVOX	Davos/Dischmat	131.35	329	PKP		PKPdf	03 05 51.5 +0.9
	comp=Z,3.0nm,0.7s,baz=346,slow=6.7,SNR=5.7						
HAU	Haudompre	132.20	332	*e*PKIKP		PKPdf	03 05 50.1 -2.1
	comp=Z,22nm,1.0s						
LPG	La Plagne	133.81	330	*e*PKIKP		PKPdf	03 05 53.8 -1.5
	comp=Z,20nm,1.1s						
VAE	Valguarnera	134.12	316	PKP		PKPdf	03 05 55.5 -0.6
	comp=Z,16nm,0.6s,baz=40,slow=5.0,SNR=5.8						
SSF	Saint Saulge	134.19	334	*e*PKIKP		PKPdf	03 05 54.0 -1.9
	comp=Z,36nm,1.3s						
SDV	Santo Domingo	134.21	85	*e*PKPdf		PKPdf	03 05 56.2 -0.7
ETSF	Etsaut	139.24	333	*e*PKIKP		PKPdf	03 06 02.2 -3.2
	comp=Z,23nm,1.0s						
GUD	Guadarrama	142.64	334	PKP		PKPdf	03 06 10.4 -1.2
ESDC	Sonseca Array	143.35	333	PKP		PKPdf	03 06 09.8 -3.1
ESDC	Sonseca Array	143.35	333	PKP		PKPdf	03 06 10.2 -2.7
	comp=Z,0.4nm,0.3s,baz=137,slow=48,SNR=8.9						
MVO	Moncorvo	143.35	338	*e*PKP		PKPdf	03 06 10.5 -2.4
EVIA	Vianos	143.50	331	PKP		PKPdf	03 06 11.5 -1.7
MTE	Manteigas	144.21	338	*e*PKP		PKPdf	03 06 15.6 +1.2
MTE	Manteigas	144.21	338	*e*PKPdf		PKPdf	03 06 12.0 -2.4
EQES	Quesada	144.43	330	PKP		PKPdf	03 06 12.4 -2.4
EBAN	Banos Encina	144.49	332	PKP		PKPdf	03 06 13.2 -1.7
ENIJ	Nijar	144.64	329	PKP		PKPdf	03 06 13.4 -1.8
PCBR	Castelo Branco	144.67	337	*e*PKP		PKPdf	03 06 14.4 -0.8
EADA	Adamuz	144.86	332	PKP		PKPdf	03 06 13.2 -2.4
ECOG	Cogollos-Vega	145.09	330	PKP		PKPdf	03 06 14.2 -1.9
ELUQ	Luque	145.20	331	PKP		PKPdf	03 06 15.9 -0.3
ECAB	El Cabril	145.31	333	PKP		PKPdf	03 06 15.7 -0.7
ERON	Agron	145.41	330	PKP		PKPdf	03 06 15.3 -1.3
EBAD	Badajoz	145.42	336	PKP		PKPdf	03 06 15.7 -0.9
EGUA	Guajares	145.44	330	PKP		PKPdf	03 06 15.2 -1.4
ELOJ	Sierra Loja	145.48	331	PKP		PKPdf	03 06 15.7 -0.9
PESTR	Estremoz	145.56	337	*e*PKP		PKPdf	03 06 17.0 +0.2
EALB	Alboran	145.86	328	PKP		PKPdf	03 06 16.5 -0.9
PBAR	Barrancos	145.93	335	*e*PKP		PKPdf	03 06 18.8 +1.4
EVO	Evora	146.01	337	*e*PKP		PKPdf	03 06 18.4 +0.8
EMIN	Mina Concepcio	146.12	334	PKP		PKPdf	03 06 17.4 -0.4
EMIJ	Mijas	146.24	331	PKP		PKPdf	03 06 16.3 -1.7
PBEJ	Beja	146.39	336	*e*PKP		PKPab	03 06 20.2 -0.1
ESPR	Espera	146.50	333	PKP		PKPdf	03 06 18.0 -0.4
PVAQ	Vaqueiros	146.86	335	*e*PKP		PKPab	03 06 21.8 -1.1
BDFB	Brasilia	146.97	135	PKPbc		PKPbc	03 06 21.5 -0.3
	comp=Z,30nm,1.0s,baz=217,slow=2.7,SNR=23						
PBDV	Barranco-do-Ve	147.09	335	*e*PKP		PKPab	03 06 25.4 +2.4
PTEO	Sao Teotonio	147.15	337	*e*PKP		PKPab	03 06 22.6 -0.6
MORF	Marmelete	147.32	336	*e*PKP		PKPbc	03 06 22.5 +0.4
MDT	Midelt	149.08	326	PKPbc		PKPbc	03 06 27.4 +0.5
	comp=Z,5.3nm,0.9s,baz=43,slow=3.4,SNR=14						
TORD	Torodi Ar. Bea	153.85	284	PKP		PKPdf	03 06 31.7 +1.2
TORD				PKPbc		PKPbc	03 06 37.2 -1.2
TORD				PKPab		PKPab	03 06 51.5 0.0
TORD	Torodi Ar. Bea	153.85	284	PKP		PKPdf	03 06 31.7 +1.2
	comp=Z,1.4nm,0.9s,baz=241,slow=4.9,SNR=5.8						
TORD				PKPbc		PKPbc	03 06 37.2 -1.2
	comp=Z,4.9nm,1.0s,baz=52,slow=1.5,SNR=14						
TORD				PKPab		PKPab	03 06 51.5 0.0
	comp=Z,13nm,1.1s,baz=77,slow=2.1,SNR=9.0						
DBIC	Dimbokro	160.64	268	PKP		PKPdf	03 06 40.6 +1.4
	comp=Z,7.4nm,1.1s,baz=350,slow=4.3,SNR=3.9						
DBIC				PKPab		PKPab	03 07 21.2 +0.3
	comp=Z,8.3nm,1.1s,baz=91,slow=5.0,SNR=7.2						

NEIC ***03*** *02:46:43.4, 3171S×72.14W, h9km, ML3.5(GUC), After GUC.*

GUC 03 02:46:43.4±0.7, 3171S×7214W, h9km±4km, MD3.9, ML3.5, 5C, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PACH	Papudo	1.01	144	*e*P	Pg	02 47 02.2	-0.7
PACH				*i* S	Sg	02 47 16.0	-0.1
CMCH	Combarbala	1.11	61	⇑*i*P	Pg	02 47 02.2	-2.6
CMCH				*i* S	Sg	02 47 17.8	-1.4
CMCH	Combarbala	1.11	61	⇑*i*P	Pg	02 47 02.2	-2.6
CMCH				*i* S	Sg	02 47 17.8	-1.4
CMCH				AML	AML	02 47 18.6	
	comp=E,4μm,0.6s						
PTCH	Petorca	1.17	118	*e*P	Pb	02 47 04.2	-1.5
PTCH				*i* S	Sb	02 47 20.0	-0.9
ROCH	El Roble	1.58	143	*i* P	Pn	02 47 11.6	+0.1
ROCH				*i* S	Sn	02 47 32.9	+0.8
JACH	Jahuel	1.63	127	*e*P	Pn	02 47 12.0	-0.2
JACH				*i* S	Sn	02 47 33.8	+0.5
PEL	Peldehue	1.88	140	*i* P	Pn	02 47 15.7	0.0
PEL				*e*S	Sn	02 47 40.6	+1.0
PEL				AML	AML	02 47 46.5	
	comp=E,2μm,0.4s						
TLL	Tololo Astrono	1.92	37	*e*P	Pn	02 47 16.8	+0.6
TLL				*i* S	Sn	02 47 42.2	+1.7
TLL	Tololo Astrono	1.92	37	*e*P	Pn	02 47 16.8	+0.6
TLL				*i* S	Sn	02 47 42.2	+1.7
TLL				AML	AML	02 47 44.6	
	comp=N,648nm,0.6s						
RCDM	Rinconada Maip	2.10	148	*i* P	Pn	02 47 19.1	+0.4
RCDM				*i* S	Sn	02 47 46.4	+1.5
CLCH	Cerro Calan	2.15	142	*e*P	Pn	02 47 19.9	+0.5
CLCH				*i* S	Sn	02 47 48.4	+2.1
CLCH				AML	AML	02 48 04.0	
	comp=E,450nm,0.5s						
TACH	Talagante	2.18	153	*i* P	Pn	02 47 20.3	+0.5
TACH				*i* S	Sn	02 47 48.3	+1.3
FCH	Farellones	2.24	136	⇑*i*P	Pn	02 47 21.2	+0.5
FCH				*i* S	Sn	02 47 50.2	+1.7
FCH				AML	AML	02 47 57.2	
	comp=E,288nm,0.4s						
ANTU	Antumapu	2.24	146	AML	AML	02 48 02.3	
	comp=N,286nm,0.3s						
PCH	Pirque	2.34	145	⇑*i*P	Pn	02 47 23.4	+1.3
PCH				*i* S	Sn	02 47 53.7	+2.7
CHCH	Chadas Angostu	2.54	151	⇑*i*P	Pn	02 47 26.0	+1.2
CHCH				*i* S	Sn	02 47 58.4	+2.5
LCO	Las Campanas	2.97	25	*e*

1.4nm,0.7s,baz=99,slow=3.7,SNR=7.8
HFS Hagfors 139.01 351 PKhKP 03 12 11.1
1.3nm,0.4s,baz=57,slow=5.5,SNR=8.6
AKASG Malin Array Be 142.62 332 PKhKP 03 12 23.3
3.3nm,0.4s,baz=44,slow=4.3,SNR=36
EKA Eskdalemuir Ar 144.42 5 PKP PKPdf 03 12 29.3 -0.9
1.8nm,0.5s,baz=315,slow=3.2,SNR=16
KWP Kalwaria 146.15 336 ⇓P PKPdf 03 12 35.5 +2.1
ASF Jabal al Asfar 146.69 299 PKPbc PKPbc 03 12 38.2 +0.7
4.6nm,1.0s,baz=7.2,slow=5.6,SNR=5.0
OJC Ojcow 146.71 339 *e*PX PKPbc 03 12 37.1 +0.1
STHS Stebnicka Huta 146.88 337 *i* PKP PKPbc 03 12 37.8 +0.3
KOLS Kolonicke sedl 146.88 336 *i* PKP PKPbc 03 12 37.8 +0.3
NIE Niedzica 147.21 338 *e*P PKPbc 03 12 38.8 +0.4
CRVS Cervenica-Dubn 147.22 336 *i* PKP PKPbc 03 12 38.2 -0.2
PLOR Plostina 147.25 328 ⇓*i*P PKPbc 03 12 38.5 -0.1
TRPA Tarpa 147.42 334 ⇑*i*P PKPbc 03 12 38.8 -0.2
CLL Collm 147.56 347 ⇓*i*PKPbc PKPbc 03 12 39.0 -0.2
comp=Z,18nm,0.9s
UPC Upice 147.59 344 *e*SKS PKPbc 03 12 39.3 0.0
DPC Dobruska-Polom 147.65 343 *e*SKS PKPbc 03 12 39.5 0.0
MMAI Mount Meron Ar 147.71 301 PKPbc PKPbc 03 12 40.8 +0.6
comp=Z,11nm,0.8s,baz=68,slow=7.3,SNR=17
BRG Berggiesshubel 147.76 346 *i* P PKPbc 03 12 39.6 -0.2
comp=Z,8.9nm,0.7s
MORC Moravsky Berou 147.81 341 ⇑*i*P PKPbc 03 12 40.4 +0.5
MLR Muntele Rosu 147.86 328 ⇓*i*P PKPbc 03 12 39.8 -0.4
KECS Kecovo 147.93 337 *i* PKP PKPbc 03 12 40.4 +0.2
PVCC Panska Ves 147.94 345 *e*SKS PKPbc 03 12 40.4 +0.2
PRU Pruhonice 148.44 345 *e*SKS PKPbc 03 12 41.4 -0.1
MOX Moxa 148.46 349 *e*P PKPbc 03 12 41.3 -0.2
comp=Z,14nm,1.3s
VRAC Vranov 148.51 342 ⇓*i*P PKPbc 03 12 41.6 0.0
VYHS Vyhne 148.51 339 *i* PKP PKPbc 03 12 41.9 +0.2
PSZ Piszkesteto 148.62 337 ⇑*i*P PKPbc 03 12 42.0 0.0
NKC Novy Kostel 148.69 347 *e*SKS PKPbc 03 12 41.9 -0.2
TREC Trest 148.84 343 *e*SKS PKPbc 03 12 42.4 0.0
EIL Elat 148.84 295 PKPbc PKPbc 03 12 42.1 -1.0
comp=Z,8.6nm,1.0s,baz=343,slow=7.1,SNR=5.1
SMOL Smolenice 148.96 340 *e*PKP PKPbc 03 12 43.6 +0.8
MODS Modra-Piesok 149.13 340 *i* PKP PKPbc 03 12 43.7 +0.5
GRA1 Grafenberg Arr 149.45 348 *e*PKPdf PKPbc 03 12 44.1 +0.2
GRF Grafenberg Arr 149.45 348 *e*PKP PKPbc 03 12 44.1 +0.2
GZR Gura Zlata 149.45 331 ⇑*i*P PKPbc 03 12 43.7 -0.4
KHC Kasperske Hory 149.47 345 *e*SKS PKPbc 03 12 44.0 0.0
GERES GERESS Array B 149.71 345 PKPbc PKPbc 03 12 44.5 -0.1
comp=Z,5.7nm,0.8s,baz=29,slow=3.0,SNR=46
BZS Buzias 149.80 332 ⇓*i*P PKPbc 03 12 44.4 -0.5
GIVF Givet 149.82 357 *e*PKP1 PKPbc 03 12 44.5 -0.3
comp=Z,26nm,0.7s
BAIF Baives 149.90 357 *e*PKP1 PKPbc 03 12 44.7 -0.3
comp=Z,19nm,0.8s
CONA Conrad Observa 149.96 342 ⇓*i*PKPbc PKPbc 03 12 45.5 +0.3
comp=Z,7.9nm,0.7s
CONA ⇑*i*PKPab PKPab 03 12 54.1 +0.8
PKSM Moragy 150.52 336 ⇓*i*P PKPbc 03 12 46.0 -0.5
FLN La Foliniere 151.16 4 *e*PKP1 PKPbc 03 12 47.1 -0.8
comp=Z,37nm,0.9s
CDF Champ du Feu 151.30 353 *e*PKP1 PKPbc 03 12 47.7 -0.5
comp=Z,10nm,0.7s
ROSF Rostrenen 151.32 8 *e*PKP1 PKPbc 03 12 47.6 -0.7
LDF La Druitiere 151.34 3 *e*PKP1 PKPbc 03 12 47.4 -0.9
comp=Z,6.1nm,0.3s
KBA Koelnbreinsper 151.44 344 ⇑*i*P PKPbc 03 12 47.5 -1.1
comp=Z,7.7nm,1.2s
SGMF Saint Gilles 151.48 7 *e*PKP1 PKPbc 03 12 48.2 -0.4
GRR Gorron 151.50 4 *e*PKP1 PKPbc 03 12 48.0 -0.7
HAU Haudompre 151.80 354 *e*PKP1 PKPbc 03 12 48.7 -0.7
comp=Z,7.5nm,0.7s
HINF Hinteralfeld 151.93 353 *e*PKP1 PKPbc 03 12 48.9 -0.8
VNDS Vrh nad Dolski 151.95 341 *e*PKP PKPbc 03 12 49.1 -0.7
CRES Cresnjev 151.97 340 *e*PKP PKPbc 03 12 49.2 -0.6
DAVA Damuels 152.01 349 ⇑*i*PKPbc PKPbc 03 12 50.2 +0.3
comp=Z,7.4nm,1.1s
DAVA ⇑*i*PKPab PKPab 03 13 01.7 -0.3
BOJS Bojanci 152.32 340 *i* PKP PKPbc 03 12 50.4 -0.2
CEY Cerknica 152.36 341 *i* PKP PKPbc 03 12 50.1 -0.5
LOR Lormes 152.70 358 *e*PKP1 PKPbc 03 12 50.8 -0.6
comp=Z,5.4nm,0.7s
CABF La Chapelle 153.20 354 *e*PKP1 PKPbc 03 12 52.4 -0.1
MFF Saint Martin d 153.33 4 *e*PKP1 PKPbc 03 12 51.9 -0.8
TCF Toulx Ste Croi 153.71 0 *e*PKP1 PKPbc 03 12 53.6 0.0
LPL La Plagne 154.21 353 *e*PKP1 PKPbc 03 12 55.3 +0.7
LPG La Plagne 154.23 353 *e*PKP1 PKPbc 03 12 55.5 +0.8
LIC Lamto 164.66 152 *e*PKP2 PKPab 03 14 02.9 +5.1
comp=Z,6.8nm,1.1s
TORD Torodi Ar. Bea 173.24 176 PKP PKPdf 03 13 02.2 -1.6
comp=Z,1.1nm,0.9s,baz=252,slow=1.4,SNR=4.0

IDC 03 03:02:05.0±29.0, 1619S×17625W, h0^{km}, mb4.4/4, mb1 4.6/4, mb1mx3.9/15, mbtmp4.4/4, Error ellipse: s-maj=567.3km s-min=138.0km az=84.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**41.27**	**240**	*e*P	P	03 09 52.1	0.0
	3.4nm,0.5s						
STKA	**Stephens Creek**	**41.27**	**240**	P	P	03 09 52.2	0.0
	6.4nm,0.7s,baz=94,slow=10,SNR=18						
WB2	**Warramunga Arr**	**46.98**	**258**	*e*P	P	03 10 38.2	0.0
WRA	**Warramunga Arr**	**47.00**	**258**	P	P	03 10 38.4	+0.1
	1.6nm,0.5s,baz=93,slow=7.9,SNR=10						
ASAR	**Alice Springs**	**47.26**	**253**	P	P	03 10 40.3	0.0
	16nm,0.6s,baz=88,slow=8.3,SNR=209						
KAKA	**Kakadu**	**49.71**	**267**	*e*P	P	03 11 01.2	+1.9
	3.5nm,0.4s						
FITZ	**Fitzroy Crossi**	**55.37**	**259**	P	P	03 11 40.8	-0.4
	1.3nm,0.8s,baz=180,slow=7.1,SNR=4.3						

*NEIC **03** 03:29:18.7±2.2, 672S×1556E, h10^{km}, Error ellipse: s-maj=56.3km s-min=16.6km az=184.0*
*IDC **03** 03:29:20.4±1.4, 742S×1557E, h0^{km}, mb3.9/5, mb1 4.1/5, mb1mx3.9/15, mbtmp3.9/5, Error ellipse: s-maj=62.2km s-min=27.5km az=140.0*
*ISCJB **03** 03:29:24.6±1.3, 75S±02×1556E±01, h33^{km}, mb3.7/5, Error ellipse: s-maj=32.1km s-min=16.2km az=173.7*
ISC 03 03:29:26.4±1.2, 74S±02×1556E±01, h35^{km}, n7, σ0^{s}53/6, mb3.7/5, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.75**	**115**	*e*Pn	**Pn**	**03 30 35.4**	**-0.1**
	414nm,0.8s						
WRA	**Warramunga Arr**	**24.09**	**237**	P	**P**	**03 34 38.8**	**0.0**
	2.3nm,0.8s,mb3.7,baz=62,slow=9.8,SNR=8.0						
ASAR	**Alice Springs**	**26.36**	**230**	P	**P**	**03 35 00.0**	**+0.6**
	0.6nm,0.7s,mb3.2,baz=59,slow=9.5,SNR=3.5						
STKA	**Stephens Creek**	**27.63**	**228**	P	**P**	**03 35 10.8**	**0.0**
	4.0nm,1.0s,mb4.0,baz=26,slow=12,SNR=5.4						
FITZ	**Fitzroy Crossi**	**31.04**	**247**	P	**P**	**03 35 40.5**	**-0.7**
	1.5nm,0.6s,mb4.0,baz=68,slow=11,SNR=4.8						
YKA	**Yellowknife Ar**	**96.42**	**28**	P	**P**	**03 42 51.7**	**+0.2**
	0.2nm,0.8s,mb3.6,baz=266,slow=4.1,SNR=3.0						
BDFB	**Brasilia**	**147.27**	**134**	PKPbc	PKPbc	03 49 03.9	-3.2
	1.0nm,0.5s,baz=181,slow=4.9,SNR=3.7						

*NEIC **03** 03:33:07.2, 3828N×2037E, h11^{km}, MD3.6(ATH), After ATH.*
*ATH **03** 03:33:07.2, 3828N×2037E, h11^{km}±2^{km}, MD3.6/7*
*ISCJB **03** 03:33:08.1±0.7, 3836N±003×2050E±005, h3^{km}, Error ellipse: s-maj=6.6km s-min=3.1km az=156.8*
*CSEM **03** 03:33:08.9±0.2, 3831N×2046E, h1^{km}±1^{km}, MD3.6, Error ellipse: s-maj=4.2km s-min=2.0km az=56.0*
*THE **03** 03:33:08.7, 3840N×2047E, h3^{km}, ML3.4*
ISC 03 03:33:07.9±1.0, 3834N±003×2044E±006, h2^{km}±6^{km}, n18, σ0^{s}84/27, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.20**	**143**	*e*PG	**Pg**	**03 33 11.8**	**+0.1**
VLS				*e*SG	**Sg**	**03 33 15.2**	**+1.0**
KFL	**Anninata**	**0.36**	**129**	*e*Pg	**Pg**	**03 33 14.4**	**-0.3**
LKD	**Levkas**	**0.41**	**24**	*e*Pg	**Pg**	**03 33 14.7**	**-1.0**
LKD				*e*Sg	**Sg**	**03 33 20.2**	**-0.8**
RLS	**Riolos of Patr**	**0.86**	**109**	*e*PB	**Pb**	**03 33 24.2**	**-1.2**
RLS				*e*SB	**Sb**	**03 33 36.7**	**-0.6**
SELA	**Sela**	**1.15**	**93**	*e*Pg	**Pg**	**03 33 28.9**	**-0.9**
SELA				*e*Sg	**Sg**	**03 33 45.8**	**+1.1**
IGT	**Igoumenitsa**	**1.20**	**356**	*e*Pg	**Pg**	**03 33 29.5**	**-1.4**
IGT				*e*Sg	**Sg**	**03 33 47.5**	**+1.2**
EVR	**Evrytania**	**1.22**	**61**	*e*PN	**Pn**	**03 33 31.0**	**-0.9**
JAN	**Janina**	**1.36**	**14**	*e*PB	**Pb**	**03 33 33.9**	**-0.1**
JAN				*e*SB	**Sg**	**03 33 53.8**	**+2.3**
KEK	**Kerkira**	**1.46**	**340**	*e*PB	**Pb**	**03 33 36.0**	**+0.3**
KEK				*e*SB	**Sb**	**03 33 55.1**	**+0.3**
MEV	**Metsovon**	**1.57**	**23**	*e*Pg	**Pn**	**03 33 36.7**	**-0.1**
AGG	**Agios Georgios**	**1.63**	**65**	*e*Pg	**Pn**	**03 33 36.8**	**-0.7**
AGG				*e*Sg	**Sg**	**03 34 00.1**	**-0.2**
ITM	**Ithomi**	**1.65**	**134**	*e*PB	**Pb**	**03 33 38.5**	**-0.4**
THL	**Klokotos Trika**	**1.74**	**45**	*e*PN	**Pg**	**03 33 40.5**	**-0.6**
VLX	**Vlachokerasia**	**1.81**	**122**	*e*Pb	**Pb**	**03 33 41.4**	**-0.3**
VLX				*e*Sb	**Sg**	**03 34 06.7**	**+0.6**
LTK	**Loutraki**	**2.02**	**98**	*e*Pn	**Pn**	**03 33 43.5**	**+0.6**
LKR	**Lokris**	**2.03**	**80**	*e*PN	**Pn**	**03 33 44.3**	**+1.2**
DID	**Didima**	**2.36**	**110**	*e*Pn	**Pn**	**03 33 48.5**	**+0.9**
AOS	**Alonnisos**	**2.82**	**72**	*e*Pn	**Pn**	**03 33 54.2**	**+0.4**

*ISCJB **03** 03:35:05.5±0.2, 3647N±001×7064E±001, h216^{km}±2^{km}, mb5.7/380, Error ellipse: s-maj=2.1km s-min=1.5km az=16.4*
*MOS **03** 03:35:05.6±0.8, 3651N×7063E, h211^{km}, mb5.7/90, MS5.3/18, Error ellipse: s-maj=6.2km s-min=3.3km az=44.7*
MOS Felt (IV) at Dushanbe.
*CRAAG **03** 03:35:05.0, 3650N×7066E, Mb6.0*
*SZGRF **03** 03:35:05.7, 3627N×7069E, h215^{km}, mb5.9, Hindu Kush, Afghanistan, region*
*IGIL **03** 03:35:06.1, 3653N×7067E, h210^{km}, MS5.5*
*BJI **03** 03:35:06.4, 3664N×7065E, h222^{km}, mB6.1, mb5.9*
*IDC **03** 03:35:07.5±0.3, 3648N×7074E, h225^{km}±2^{km}, mb5.5/37, mb1 5.5/39, mb1mx5.5/39, mbtmp5.5/39, Error ellipse: s-maj=7.0km s-min=5.2km az=0.0*
*GCMT **03** 03:35:07.3±0.1, 3653N×7062E, h223^{km}, MW6.2/111, Moment Tensor Solution. s106,c248; s111,c396; Duration: 3s2 Moment tensor: Scale 10^{18}Nm; M_{rr}1.71±.02; $M_{\theta\theta}$0.48±.02; $M_{\phi\phi}$-2.19±.02; $M_{r\theta}$1.39±.02; $M_{\theta\phi}$-0.19±.02; $M_{\phi r}$-1.66±.02; Best double couple: M_o2.94300×10^{18} NP1:ϕ_s30.00000°, δ32.00000°, λ141.00000°. NP2:ϕ_s155.00000°, δ71.00000°, λ64.00000°. Principal axes: T 3.0530, Plg57.0000°, Azm31.0000°; N -0.2240, Plg24.0000°, Azm163.0000°; P -2.8320, Plg22.0000°, Azm264.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
*NEIC **03** 03:35:07.3±0.4, 3645N×7069E, h222^{km}±4^{km}, mb5.7/200, MW6.2 Error ellipse: s-maj=3.5km s-min=2.0km az=188.0, Moment Tensor Solution. s41 Moment tensor: Scale 10^{18}Nm; M_{rr}1.71; $M_{\theta\theta}$0.53; $M_{\phi\phi}$-2.24; $M_{r\theta}$0.96; $M_{\theta\phi}$-0.26; $M_{\phi r}$-1.25; Best double couple: M_o2.60000×10^{18} NP1: ϕ_s31.00000°, δ36.00000°, λ136.00000°. NP2: ϕ_s160.00000°, δ66.00000°, λ62.00000°. Principal axes: T 2.5600, Plg60.0000°, Azm29.0000°; N 0.0400, Plg25.0000°, Azm172.0000°; P -2.6000, Plg16.0000°, Azm270.0000°;*
NEIC Felt [IV] at Baghrami, Charikar and Kabul; [III] at Jalalabad. Also felt [IV] at Chandigarh, India; Islamabad, Lahore and Peshawar, Pakistan; and Dushanbe, Tajikistan. Felt in much of north-eastern Afghanistan, northern Pakistan and northern India. Also felt at Kashi, China.
*BGS **03** 03:35:09.1, 3636N×7012E, h222^{km}, mb5.6*
*NNC **03** 03:35:10.2±2.4, 3686N×7059E, h214^{km}±17^{km}, mb5.7, mpv6.9, Error ellipse: s-maj=23.3km s-min=13.7km az=23.0*
ISC 03 03:35:06.8±0.2, 3652N±001×7069E±001, h213^{km}±1^{km}, h222^{km}±.8^{km}: pP-P, n1789, σ0^{s}87/1713, mb5.7/375, 281C-281D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**2.38**	**215**	⇑*i*Pn	**Pn**	**03 35 50.4**	**+0.1**
KBL				*e*Sn	**S**	**03 36 23.3**	**-0.9**
CEP	**Cherat**	**2.87**	**159**	⇑P	**Pn**	**03 35 56.1**	**+0.4**
CEP				S	**S**	**03 36 33.0**	**-0.9**
CHCP	**Chirah Chowk**	**3.55**	**143**	⇑P	**Pn**	**03 36 04.3**	**+0.7**
THW	**Thamme Wali**	**3.81**	**166**	⇓P	**Pn**	**03 36 06.8**	**0.0**
SRNI	**Srinagar**	**4.17**	**124**	*e*P	**Pn**	**03 36 16.5**	**+5.3**
SRNI				*e*S	**S**	**03 37 07.5**	**+5.6**
DRP	**Derazinda**	**4.78**	**185**	⇑P	**Pn**	**03 36 18.2**	**-0.6**
KSH	**Kashi**	**5.14**	**53**	P	**Pn**	**03 36 24.8**	**+1.6**
KSH				S	**S**	**03 37 20.8**	**-2.9**
KSH				Smax			
	comp=N,215μm,0.6s						
KSH				Smax			
	comp=E,387μm,0.9s						
JMU	**Jammu**	**5.14**	**136**	*e*P	**Pn**	**03 36 22.5**	**-0.9**
THN	**Thein Dam**	**5.82**	**133**	*e*P	**Pn**	**03 36 31.5**	**-0.5**
THN				*e*x	x	03 37 29.6	
DLH	**Dalhousie**	**5.89**	**131**	*e*P	**Pn**	**03 36 32.0**	**-0.9**
DLH				*e*S	**S**	**03 37 36.0**	**-5.2**
AML	**Almayashu**	**6.07**	**22**	*e*Pn	**Pn**	**03 36 35.3**	**+0.3**
	comp=E,7μm,0.8s						
AML				*e*S	**S**	**03 37 43.4**	**-1.8**
AML	**Almayashu**	**6.07**	**22**	P	**Pn**	**03 36 35.3**	**+0.2**
	SNR=7340						
UCH	**Uchtor**	**6.43**	**26**	*e*Pn	**Pn**	**03 36 40.1**	**+0.5**
	comp=E,28nm,0.8s						
UCH				*e*S	**S**	**03 37 52.3**	**-1.2**
UCH	**Uchtor**	**6.43**	**26**	P	**Pn**	**03 36 40.1**	**+0.5**
	SNR=2817						
KK31	**Karatay Array**	**6.58**	**359**	⇑P	**Pn**	**03 36 41.2**	**-0.3**
	comp=E,4μm,0.8s,baz=172,slow=12						
KK31				⇓S	**S**	**03 37 52.7**	**-4.3**
	comp=E,10μm,0.8s,baz=174,slow=15,SNR=14						
EKS2	**Erkin-Say**	**6.58**	**20**	*e*Pn	**Pn**	**03 36 41.9**	**+0.3**
	comp=E,840nm,0.8s						
EKS2				*e*S	**S**	**03 37 55.4**	**-1.7**
EKS2	**Erkin-Say**	**6.58**	**20**	P	**Pn**	**03 36 42.0**	**+0.4**
	SNR=5085						
KZA	**Kyzart**	**6.58**	**31**	P	**Pn**	**03 36 41.7**	**+0.1**
	SNR=1555						
AAK	**Ala-Archa**	**6.78**	**25**	P	**Pn**	**03 36 44.5**	**+0.4**
	SNR=998						
KBK	**Karagaybulak**	**6.96**	**27**	P	**Pn**	**03 36 47.2**	**+0.7**
	SNR=371						
BHK	**Bhakra**	**6.97**	**135**	*i* P	**Pn**	**03 36 46.0**	**-0.7**
BHK				*e*x	x	03 37 48.2	
FRU	**Bishkek**	**7.00**	**24**	⇑*i*PN	**Pn**	**03 36 47.0**	**0.0**
FRU				*i*		03 38 05.0	
FRU				pmax	pmax		
	comp=Z,15μm,2.0s						
ULHL	**Ulahol**	**7.16**	**35**	P	**Pn**	**03 36 49.0**	**0.0**
	SNR=6397						
CHMS	**Chumysh**	**7.19**	**25**	P	**Pn**	**03 36 49.3**	**-0.2**
	SNR=2135						
SDNR	**Sundarnagar**	**7.23**	**132**	*e*P	**Pn**	**03 36 49.4**	**-0.7**
SDNR				*e*S	**S**	**03 38 05.0**	**-7.4**
USP	**Ospenovka**	**7.35**	**22**	P	**Pn**	**03 36 50.9**	**-0.6**
	SNR=447						
TKM2	**Tokmak 2**	**7.43**	**29**	⇑P	**Pn**	**03 36 52.8**	**+0.3**
	comp=Z,5μm,0.6s						
TKM2				⇓S	**S**	**03 38 15.3**	**-1.7**
	comp=Z,16μm,0.9s						
TKM2	**Tokmak 2**	**7.43**	**29**	*e*Pn	**Pn**	**03 36 52.8**	**+0.3**
	comp=Z,1μm,0.7s						
TKM2				*e*S	**S**	**03 38 17.1**	**+0.2**
TKM2	**Tokmak 2**	**7.43**	**29**	*e*PN	**Pn**	**03 36 52.8**	**+0.3**
TKM2				*e*S	**S**	**03 38 17.1**	**+0.2**
TKM2				smax			
	comp=N,1μm,0.7s						
TKM2	**Tokmak 2**	**7.43**	**29**	P	**Pn**	**03 36 52.8**	**+0.3**
	SNR=1064						
SMLA	**Simla**	**7.61**	**133**	*e*P	**Pn**	**03 36 54.9**	**-0.1**
SMLA				AMb	AMB	03 36 58.0	
	comp=Z,11μm,0.7s						
KNDC	**Almaty**	**8.25**	**34**	⇑P	**Pn**	**03 37 04.4**	**+1.2**
	comp=Z,7μm,0.6s						
KNDC				⇑S	**S**	**03 38 35.1**	**-1.2**
	comp=Z,10μm,0.9s						
AAA	**Alma-Ata**	**8.28**	**34**	*c i*PN	**Pn**	**03 37 04.5**	**+0.9**
AAA				pmax	pmax		
	comp=Z,40μm,3.0s						
KKR	**Kurukshetra**	**8.31**	**140**	⇑*i*x	x	03 36 54.4	
DDI	**Dehra Dun**	**8.72**	**133**	*e*P	**Pn**	**03 37 08.0**	**-1.4**
DDI				*e*x	x	03 38 55.0	
BHGR	**Bahadurgarh**	**9.42**	**144**	⇑*i*x	x	03 37 12.7	
KHET	**Khetri**	**9.47**	**151**	*e*P	**Pn**	**03 37 18.9**	**-0.1**
KHET				*e*S	**S**	**03 38 57.7**	**-7.6**
JOSI	**Joshimath**	**9.49**	**126**	⇑*i*P	**Pn**	**03 37 19.4**	**0.0**
JOSI				*e*S	**S**	**03 39 00.2**	**-5.7**
NDI	**New Delhi**	**9.55**	**143**	*e*P	**Pn**	**03 37 19.3**	**-0.9**
NDI				AMb	AMB	03 37 21.1	
	comp=Z,8μm,0.4s						
JASL	**Jaisalmer**	**9.57**	**179**	⇓*i*x	x	03 37 18.5	
AYAN	**Aya Nagar**	**9.68**	**144**	*e*P	**Pn**	**03 37 21.5**	**-0.3**
KUDL	**Kundal**	**9.68**	**148**	*e*P	**Pn**	**03 37 21.6**	**-0.3**
KUDL				*e*S	**S**	**03 39 02.8**	**-7.7**
BISR	**Bishrakh**	**9.76**	**142**	*e*P	**Pn**	**03 37 23.1**	**+0.4**
SONA	**Sohna**	**9.86**	**145**	⇓*i*P	**Pn**	**03 37 25.0**	**+1.0**
SONA				*i* S	**S**	**03 39 04.9**	**-10**
VAN	**Vannovskaya**	**10.13**	**282**	⇓*e*P	**Pn**	**03 37 24.9**	**-2.6**
AJM	**Ajmer**	**10.56**	**160**	*e*P	**Pn**	**03 37 32.3**	**-0.8**
AJM				AMb	AMB	03 37 34.1	
	comp=Z,1μm,0.9s						
AJM				*e*x	x	03 39 01.2	
PTH	**Pithoragarh**	**10.59**	**128**	*e*P	**Pn**	**03 37 33.0**	**-0.4**
LGTI	**Lohaghat**	**10.68**	**129**	*e*x	**Pn**	**03 37 32.0**	**-2.6**
LGTI				*e*S	**S**	**03 39 24.0**	**-10**
AGRA	**Agra**	**11.12**	**144**	⇑*i*P	**Pn**	**03 37 39.1**	**-1.2**
AGRA				*e*S	**S**	**03 39 34.9**	**-10**
BHJ	**Bhuj**	**13.25**	**184**	*e*P	**Pn**	**03 38 11.0**	**+4.0**
BHJ				AMb	AMB	03 38 11.2	
	comp=Z,4μm,0.7s						
BHJ				*e*S	**S**	**03 40 26.3**	**-8.3**
MK31	**Makanchi Array**	**13.43**	**37**	⇑P	**Pn**	**03 38 08.9**	**-0.1**
	comp=Z,2μm,0.8s,baz=207,slow=7.5						
MKAR	**Makanchi Array**	**13.43**	**37**	P	**Pn**	**03 38 08.7**	**-0.3**
	comp=Z,170nm,0.3s,baz=228,slow=11,SNR=1685						
MKAR				S	**S**	**03 40 36.9**	**-1.4**
	baz=227,slow=27,SNR=1.6						
MKAR				P3KPbc		04 14 00.8	
	comp=Z,0.3nm,0.3s,baz=39,slow=2.3,SNR=3.6						
DANN	**Dangsing**	**13.71**	**123**	*e*P	**Pn**	**03 38 10.8**	**-1.9**
DANN				*e*S	**S**	**03 40 35.9**	**-9.3**
KOLN	**Koldanda**	**13.98**	**125**	*e*P	**Pn**	**03 38 14.2**	**-1.8**
	comp=Z,4μm,0.5s						
KOLN				*e*S	**S**	**03 40 44.2**	**-7.3**
KOLN	**Koldanda**	**13.98**	**125**	*e*P	**Pn**	**03 38 14.2**	**-1.8**
KOLN				*e*P		03 38 20.4	
KOLN				*e*S	**S**	**03 40 44.2**	**-7.3**
KOLN				*e*S	**S**	**03 40 55.5**	**+4.0**
BHPL	**Bhopal**	**14.46**	**154**	*e*P	**Pn**	**03 38 20.9**	**-1.0**
BHPL				AMb	AMB	03 38 28.4	
	comp=Z,2μm,1.3s						
BHPL				*e*x	x	03 40 52.2	
GKN	**Gorkha**	**14.53**	**122**	*e*P	**Pn**	**03 38 20.4**	**-2.3**
	comp=Z,21μm,0.7s						
GKN				*e*S	**S**	**03 40 55.5**	**-8.5**
BHV	**Bhavnagar**	**14.77**	**175**	*e*P	**Pn**	**03 38 26.5**	**+0.8**
WMQ	**Urumqi**	**14.90**	**55**	⇑*i*P	**Pn**	**03 38 27.8**	**+0.8**
WMQ				XP		03 39 21.0	
WMQ				S	**S**	**03 41 09.0**	**-3.1**
WMQ				PCP	PcP	03 43 23.0	+1.7
WMQ				AMB	AMB		
	comp=Z,4μm,0.8s						
WMQ				AMB	AMB		
	comp=Z,3μm,3.6s						
AB31	**Akbulak array**	**14.95**	**332**	⇑P	**Pn**	**03 38 26.0**	**-1.6**
	comp=Z,1μm,0.8s,baz=141,slow=9.6,SNR=7691						
AB31				⇑S	**S**	**03 41 09.4**	**-3.7**
	comp=Z,336nm,0.7s,baz=163,slow=22,SNR=4.4						
KKN	**Kakani**	**15.10**	**121**	*e*P	**Pn**	**03 38 28.4**	**-1.3**
	comp=Z,12μm,0.4s						
KKN				*e*S	**S**	**03 41 08.8**	**-8.3**
KURK	**Kurchatov**	**15.30**	**19**	⇑P	**Pn**	**03 38 30.3**	**-1.6**
	comp=Z,3μm,1.8s						
KURK				⇓S	**S**	**03 41 17.8**	**-3.3**
	comp=Z,1μm,1.4s						
KURK	**Kurchatov**	**15.30**	**19**	*e*Pn	**Pn**	**03 38 30.3**	**-1.5**
KURK	**Kurchatov**	**15.30**	**19**	⇑*e*P	**Pn**	**03 38 30.2**	**-1.6**
KURK	**Kurchatov**	**15.30**	**19**	P	**Pn**	**03 38 30.8**	**-1.1**
	SNR=950						
JBP	**Jabalpur**	**15.55**	**146**	⇓*i*P	**Pn**	**03 38 34.3**	**-0.8**
JBP				*e*x	x	03 38 38.6	
	comp=Z,2μm,0.4s						
JBP				*e*x	x	03 41 12.5	
JIRN	**Jiri**	**15.82**	**120**	*e*P	**Pn**	**03 38 37.7**	**-0.6**
	comp=Z,16μm,0.4s						
JIRN				*e*S	**S**	**03 41 25.8**	**-7.4**
BANOM	**Banah**	**16.20**	**233**	P	**P**	**03 38 41.4**	**-0.7**
	SNR=84						
BVA0	**Borovoye Array**	**16.51**	**359**	⇑P	**P**	**03 38 46.0**	**+0.8**
	comp=Z,365nm,0.8s						
BVA0				⇑S	**S**	**03 41 43.0**	**-3.7**
	comp=Z,372nm,1.6s,baz=175,slow=21,SNR=5.3						
BRVK	**Borovoye**	**16.54**	**359**	*e*Pn	**Pn**	**03 38 46.1**	**-0.6**
BRVK	**Borovoye**	**16.54**	**359**	P	**P**	**03 38 46.4**	**+0.9**
	SNR=3149						
AKTK	**Aktyubinsk**	**16.64**	**331**	P	**P**	**03 38 47.3**	**+0.7**
AKTK				S	**S**	**03 41 44.5**	**-4.8**
AKTO	**Aktyubinsk**	**16.64**	**331**	P	**P**	**03 38 47.3**	**+0.6**
AKTO				S	**S**	**03 41 44.6**	**-4.8**
AKTO				pmax	pmax		
	comp=Z,118nm,0.3s						
AKTO				smax			
	comp=N,10.0nm,0.3s						
AKTO	**Aktyubinsk**	**16.64**	**331**	P	**P**	**03 38 47.3**	**+0.7**
	comp=N,118nm,0.3s,baz=140,slow=10,SNR=792						
AKTO				S	**S**	**03 41 44.5**	**-4.8**
	comp=N,9.9nm,0.3s,ba

comp=Z,2μm,0.7s
LSA *eS* **S** **03 42 24.8 -0.7**
LSA Lhasa 18.43 106⇑*iP* P 03 39 09.5 +3.1
LSA *eS* **S** **03 42 24.8 -0.7**
LSA pmax pmax
comp=Z,2μm,0.7s
LATR Latur 18.76 162 *eP* **P 03 39 09.8 -0.3**
LATR *eP* 03 39 09.9
LATR AMb AMB 03 39 14.3
comp=Z,534nm,1.1s
LATR *eS* **S** **03 42 33.6 +1.4**
MAK Makhachkala 18.92 297⇓*iP* P 03 39 12.0 +0.4
MAK pmax pmax
comp=Z,2μm,1.1s
MAK pmax pmax
comp=N,2μm,1.0s
MAK pmax pmax
comp=E,2μm,1.0s
MAK MLR MLR
comp=Z,14μm,12.0s
KAD Karad 19.38 170 *eP* **P 03 39 16.1 -0.7**
KAD AMb AMB 03 39 27.1
comp=Z,526nm,1.4s
ZAL Zalesovo 19.99 25 P **P 03 39 23.1 +0.2**
ZAL S **S** **03 42 55.4 -0.1**
ZAA0 Zalesovo Array 20.00 25⇑*iP* P 03 39 23.1 0.0
ZALV Zalesovo Beam 20.00 25 P **P 03 39 23.1 +0.1**
ZALV S **S** **03 42 55.4 -0.5**
ZALV Zalesovo Beam 20.00 25 P **P 03 39 23.1 +0.1**
comp=Z,1μm,0.4s,baz=219,slow=12,SNR=577
ZALV S **S** **03 42 55.4 -0.5**
comp=Z,718nm,1.1s,baz=215,slow=12,SNR=4.6
ZALV P3KPbc 04 13 31.5
comp=Z,0.8nm,0.6s,baz=37,slow=3.6,SNR=3.8
ZALV P3KP 04 14 01.3
comp=Z,2.5nm,0.9s,baz=225,slow=1.3,SNR=5.0
TURI Tura 20.04 118 *eP* **P 03 39 21.0 -2.7**
DGRG David-gareji 20.25 292 P **P 03 39 26.8 +0.9**
DGRG S **S** **03 43 04.5 +3.5**
NVS Novosibirsk 20.26 21⇑*iP* P 03 39 26.0 +0.3
NVS *i* 03 40 29.9
NVS *iS* **S** **03 43 00.5 -0.2**
HYB Hyderabad 20.26 158 *eP* **P 03 39 26.5 +0.4**
HYB *e*sP sP 03 40 28.0 -0.1
HYB *eS* **S** **03 42 56.0 -5.4**
HYB *e* 03 47 48.0
HYB Hyderabad 20.26 158 *eP* **P 03 39 26.5 +0.4**
HYB *e**SP sP 03 40 28.0 -0.1
HYB *eS* **S** **03 42 56.0 -5.4**
HYB Hyderabad 20.26 158 *iP* **P 03 39 27.0 +0.9**
comp=Z,819nm,0.8s
HYB *e*sP sP 03 40 28.0 -0.1
HYB *eS* **S** **03 42 56.0 -5.4**
HYB LR LR 03 47 48.0
comp=Z,22nm,8.0s
KBD Kabd 20.63 256 *eP* **P 03 39 29.6 -0.4**
KBD AMb AMB 03 39 34.0
comp=Z,9μm,0.5s
MIB Mutribah 20.63 258 *eP* **P 03 39 29.4 -0.6**
MIB AMb AMB 03 39 34.1
comp=Z,4μm,1.0s
QRN Al-Qurain 20.65 254 *eP* **P 03 39 29.4 -0.8**
QRN AMb AMB 03 39 35.9
comp=Z,2μm,0.5s
MTA Mtatsminda 20.71 292 P **P 03 39 31.0 +0.3**
MTA S **S** **03 43 11.5 +1.7**
TBLG Delisi 20.76 292 P **P 03 39 31.7 +0.5**
TBLG S **S** **03 43 12.2 +1.6**
RDF Al-Radifah 20.85 255 *eP* **P 03 39 31.5 -0.8**
RDF AMb AMB 03 39 38.0
comp=Z,2μm,0.5s
BWNR Bhubaneshwar 20.89 137 *eP* pP 03 40 03.0 -5.0
BWNR *eS* PcP 03 43 40.0 +8.3
NAY Al-Naaiem 20.95 257 *eP* **P 03 39 32.8 -0.5**
NAY AMb AMB 03 39 36.9
comp=Z,2μm,0.9s
GOA Goa 21.13 172 *eP* **P 03 39 35.3 0.0**
GOA AMb AMB 03 39 39.7
comp=Z,879nm,0.8s,mb6.3
SHL Shillong 21.14 115 *iP* **P 03 39 36.0 +0.6**
SHL *eS* **S** **03 43 17.0 -0.2**
comp=E,80nm,1.0s
CLDR Caldiran 21.28 285 *eP* **P 03 39 38.3 +1.6**
DYDN Diyadin 21.45 286⇓*iP* P 03 39 40.1 +1.6
HKR Hakkari 21.51 281 *eP* **P 03 39 40.8 +1.7**
ARU Arti 21.54 341⇑*iP* P 03 39 39.2 0.0
comp=E,9.6nm,0.6s,mb4.5
ARU Arti 21.54 341 *eP* **P 03 39 39.4 +0.2**
ARU *e* 03 40 20.6
ARU *eS* **S** **03 43 26.6 +3.7**
HAKT HAKKARI 21.54 281⇓*iP* P 03 39 40.5 +1.1
CUKT Cukurca 21.65 280 *eP* **P 03 39 40.8 +0.3**
DIGO Kars 21.70 289⇓*iP* P 03 39 42.3 +1.3
TVAN Van 21.70 284⇓*eP* P 03 39 41.9 +0.9
VANB Van 21.71 284 *eP* **P 03 39 42.4 +1.2**
VANT Van 21.72 283 *eP* **P 03 39 45.9 +4.7**
AGT Agartala 21.73 120 *iP* **P 03 39 41.0 -0.4**
AGT *ix* x 03 41 26.0
BHD Baghdad 21.80 269 *ix* x 03 39 41.0
BHD *ix* x 03 40 14.0
BHD *ix* x 03 40 41.5
BHD *ix* x 03 43 27.0
BHD *ix* x 03 43 35.0
BHD *ix* x 03 44 19.0
BHD *ix* x 03 45 19.0
BHD *ix* x 03 46 19.0
BHD *ix* x 03 50 31.0
VIS Vishakhapatnam 21.80 146 *eP* **P 03 39 41.2 -0.9**
VIS *ex* x 03 39 46.5
comp=Z,556nm,0.7s
VIS AMb AMB 03 39 46.6
comp=Z,572nm,0.6s,mb6.3
VIS *iS* **S** **03 43 27.2 -0.8**
ONI Oni 21.80 294 P **P 03 39 43.5 +1.5**
ONI S **S** **03 43 36.6 +9.0**
AGRB Hanur-Agry 21.99 286 *eP* **P 03 39 45.8 +2.1**
TUTA Tutak 22.13 286⇓*iP* P 03 39 47.0 +2.1
MSL Mosul 22.19 278 *ex* x 03 39 44.5
MSL *ex* x 03 40 23.5
MSL *ex* x 03 40 52.0
MSL *ex* x 03 43 34.0
KIV Kislovodsk 22.56 298 *eP* **P 03 39 49.0 +0.2**
comp=Z,1000nm,0.8s,mb6.4
KIV Kislovodsk 22.56 298*diP* **P 03 39 48.9 +0.1**
KIV *e**SP sP 03 40 49.6 -3.4
KIV *eS* **S** **03 43 42.6 +2.8**
KIV pmax pmax
comp=Z,2μm,4.4s
KIV pmax pmax
comp=Z,462nm,0.9s,mb6.0
KIV MLR MLR
comp=Z,4μm,14.0s
KIV Kislovodsk 22.56 298 P **P 03 39 49.3 +0.5**
SNR=127
SHAO Shalim 22.72 220⇓P P 03 39 51.0 +0.5
SNR=15
ARTV Artvin 22.82 291⇓*iP* P 03 39 52.9 +1.6
BCA Borcka 23.07 291 *eP* **P 03 39 54.6 +1.1**
GTA Gaotai 23.10 74⇑*iP* P 03 39 55.6 +1.8
GTA AP 03 40 38.2
GTA PP 03 40 40.5
GTA XP sP 03 41 04.5 +5.6
GTA PCP PcP 03 43 34.9 -0.9
GTA S **S** **03 43 51.4 +2.7**
GTA SS 03 45 02.9
GTA SCP ScP 03 46 50.8 -2.5
GTA PCS PcS 03 47 13.2 -1.9
GTA SCS ScS 03 50 36.8 -2.7
GTA AMB AMB
comp=Z,668nm,1.1s,mb6.1
GTA AMB AMB
comp=Z,9μm,5.7s
GTA LR LR
comp=N,6μm,17.1s
GTA LR LR
comp=E,7μm,18.3s
GTA LR LR
comp=Z,6μm,18.3s
IMP Imphal 23.11 114 *iP* **P 03 39 54.0 0.0**
BTMT Batman 23.23 283 *eP* **P 03 39 56.2 +1.2**
EZM Erzurum 23.24 287 *eP* **P 03 39 57.8 +2.7**
PZAR Pazar-Rize 23.60 291 *eP* **P 03 39 59.5 +1.1**
MNGI Mangalore 23.77 170 *iP* **P 03 40 00.1 +0.1**

MNGI *ex* x 03 41 12.9
comp=Z,2μm,1.6s
MNGI *ix* x 03 44 01.8
WHFO Wadi Hawf 23.80 223 P **P 03 39 59.8 -0.5**
SNR=338
MARD Mardin 23.88 281⇓*iP* P 03 40 02.1 +1.2
RBK Rabkut 23.90 222 P **P 03 40 01.0 -0.2**
SNR=164
BINT Bingol 23.96 285 *eP* **P 03 40 03.2 +1.6**
DIY Diyarbakir 24.25 282 *eP* **P 03 40 05.4 +1.1**
EZC Erzincan 24.43 287 *eP* **P 03 40 11.1 +5.2**
MACK Trabzon 24.45 290⇓*iP* P 03 40 07.8 +1.7
KTUT Trabzon 24.45 290 *eP* **P 03 40 07.5 +1.4**
ABTO Aybut 24.52 223 P **P 03 40 06.6 -0.2**
SNR=790
SOC Sochi 24.64 296*diP* **P 03 40 07.6 -0.1**
SOC *e**PP 03 40 50.8
SOC *e**SP sP 03 41 15.5 +0.7
SOC *eS* **S** **03 44 15.2 +2.2**
SOC *e**SS sS 03 45 29.7 +1.4
SOC pmax pmax
comp=Z,227nm,0.8s,mb5.8
GUMT Gumushane 24.67 289 *eP* **P 03 40 10.3 +2.2**
SOKR Solikamsk 24.76 343*ciP* **P 03 40 10.2 +1.6**
SOKR *i* 03 41 16.3
SOKR S **S** **03 44 16.1 +1.5**
SOKR SS 03 45 33.7
SOKR pmax pmax
comp=Z,2μm,1.5s,mb6.6
SOKR MLR MLR
comp=Z,6μm,5.0s
MDRS Chennai 24.88 157 *eP* **P 03 40 10.0 -0.1**
MDRS *eS* **S** **03 44 15.0 -2.2**
ELZG Elazig 25.16 284⇓*iP* P 03 40 14.3 +1.8
ESPY Espiye-Giresun 25.24 290 *eP* **P 03 40 14.2 +1.1**
VRHR Novokhopersk 25.33 314 *eP* **P 03 40 13.7 -0.1**
VRHR *eS* **S** **03 44 23.9 +0.2**
VRHR *e* 03 50 44.8
VRHR pmax pmax
comp=N,390nm,1.4s
VRHR pmax pmax
comp=Z,450nm,1.4s,mb5.9
VRHR pmax pmax
comp=E,730nm,1.6s
VRHR smax
comp=N,920nm,1.1s
VRHR smax
comp=Z,270nm,1.6s
VRHR smax
comp=E,930nm,1.7s
URFA Urfa 25.41 282 *eP* **P 03 40 15.6 +0.8**
GRSN GIRESUNGRSN 25.59 290⇑*iP* P 03 40 17.2 +0.9
MALT Malatya 25.62 284 *eP* **P 03 40 17.1 +0.4**
MALT Malatya 25.62 284⇓P P 03 40 18.1 +1.5
MALT Malatya 25.62 284⇓*iP* P 03 40 18.4 +1.8
MYA Malataya 25.62 284 *eP* **P 03 40 18.0 +1.4**
ATAB Bozova 25.82 282⇓*iP* P 03 40 19.8 +1.3
MOY Mondy 26.27 45⇑*iP* P 03 40 24.2 +1.9
MOY pmax pmax
comp=Z,1μm,1.7s,mb6.3
ANN Anapa 26.40 299 *eP* **P 03 40 20.9 -2.7**
ANN *e**PP pP 03 41 01.1 -4.9
ANN *i* 03 41 12.7
ANN *eS* **S** **03 44 39.5 -1.3**
ANN *e**SS sS 03 45 52.4 -4.9
ANN pmax pmax
comp=Z,260nm,1.3s,mb5.7
GZT Gaziantep 26.42 282⇓*iP* P 03 40 25.2 +1.4
VORD Divnogorie 26.64 313 *eP* **P 03 40 25.3 -0.3**
VORD *eS* **S** **03 44 42.7 -1.7**
VORD pmax pmax
comp=Z,320nm,1.3s,mb5.8
VORD pmax pmax
comp=N,140nm,1.0s
VORD pmax pmax
comp=E,350nm,1.0s
LZH Lanzhou 26.66 81⇑P P 03 40 27.7 +1.8
LZH AP pP 03 41 11.0 +2.6
LZH PP PP 03 41 22.2 -8.4
LZH XP sP 03 41 37.2 +4.0
LZH S **S** **03 44 45.9 +0.9**
LZH XS sS 03 46 05.0 +3.5
LZH SS SS 03 46 18.0 -28
LZH AMB AMB
comp=Z,445nm,1.5s,mb5.9
LZH AMB AMB
comp=Z,2μm,4.0s
LZH Lanzhou 26.66 81⇑P P 03 40 27.7 +1.8
comp=Z,445nm,1.5s,mb5.9
LZH pP pP 03 41 11.0 +2.6
LZH PP PP 03 41 22.2 -8.4
LZH sP sP 03 41 37.2 +4.0
LZH S **S** **03 44 45.9 +0.9**
LZH sS sS 03 46 05.0 +3.5
LZH SS SS 03 46 18.0 -28
LZH Lanzhou 26.66 81⇑P P 03 40 27.7 +1.8
LZH *PP pP 03 41 11.0 +2.6
LZH 03 41 22.2
LZH *SP sP 03 41 37.2 +4.0
LZH S **S** **03 44 45.9 +0.9**
LZH *SS sS 03 46 05.0 +3.5
LZH SS SS 03 46 18.0 -28
LZH pmax pmax
comp=Z,445nm,1.5s,mb5.9
VRSR Storozhevoye 26.79 313*diP* **P 03 40 26.4 -0.5**
VRSR *e**PP pP 03 41 06.7 -2.8
VRSR *eS* **S** **03 44 45.0 -1.8**
VRSR *e*SS ScS 03 50 47.6 -6.8
VRSR pmax pmax
comp=N,40nm,1.1s
VRSR pmax pmax
comp=Z,70nm,1.1s,mb5.2
VRSR pmax pmax
comp=E,100nm,1.0s
KOD Kodaikanal 26.88 165 *eP* **P 03 40 29.4 +1.4**
KOD AMb AMB 03 40 33.0
comp=Z,206nm,1.0s,mb5.7
KMRS Kahramanmaras 26.92 282 *eP* **P 03 40 29.2 +1.0**
TOKT Tokat 26.92 289 *eP* **P 03 40 28.8 +0.6**
VOR Voronezh 26.98 314 *iP* **P 03 40 27.0 -1.6**
VOR *eS* **S** **03 44 56.0 +6.3**
VOR pmax pmax
comp=Z,1μm,1.6s,mb6.3
ZAK Zakamensk 27.17 49⇓*iP* P 03 40 31.7 +1.4
ZAK *e* 03 43 45.1
ZAK pmax pmax
comp=Z,336nm,1.2s,mb5.8
KVT Kavak 27.27 290 *eP* **P 03 40 29.5 -1.8**
ANDN Andirin 27.34 283⇓*iP* P 03 40 33.2 +1.2
BNN Bunyan 27.57 285 *eP* **P 03 40 34.5 +0.5**
HTY Hatay 27.75 280 *eP* **P 03 40 32.3 -3.4**
KOZT Kozan 27.77 283 *eP* **P 03 40 38.4 +2.6**
TLY Talaya 27.81 47 *iP* **P 03 40 36.1 +0.1**
DIKM Dikmen 27.84 292 *eP* **P 03 40 37.0 +0.6**
CEYT Ceyhan 27.90 282 *eP* **P 03 40 38.1 +1.1**
CD2 Chengdu 27.99 92⇑*iP* P 03 40 37.8 0.0
CD2 PP PP 03 41 35.4 -10
CD2 PCP PcP 03 43 45.8 -1.4
CD2 S **S** **03 45 04.0 -2.0**
CD2 PCS PcS 03 47 29.7 +0.2
CD2 AMB AMB
comp=Z,180nm,0.5s,mb6.0
CD2 AMB AMB
comp=Z,3μm,4.9s
CD2 LR LR
comp=N,8μm,10.8s
CD2 LR LR
comp=E,10μm,10.2s
CD2 LR LR
comp=Z,7μm,9.6s
BOYT Boyabat 28.12 291⇑*iP* P 03 40 39.8 +1.0
ASF Jabal al Asfar 28.15 271 P **P 03 40 40.2 +1.0**
ASF *PP pP 03 41 23.9 +1.9
ASF pmax pmax
comp=Z,56nm,1.1s
ASF pmax pmax
comp=N,100nm,1.0s
ASF Jabal al Asfar 28.15 271 P **P 03 40 40.2 +1.0**
comp=N,56nm,1.1s,mb5.1,baz=340,slow=2.3,SNR=30
ASF pP pP 03 41 23.9 +1.9
comp=N,100nm,1.0s,baz=306,slow=3.9,SNR=6.3
KRTS Karatas 28.27 281 *eP* **P 03 40 39.8 -0.5**
HWQ Hawqa 28.32 276 *eP* **P 03 40 41.8 +1.1**

AVNT Avonos 28.35 286⇓*iP* P 03 40 41.9 +1.0
IRK Irkutsk 28.37 46⇑*iP* P 03 40 42.5 +1.6
IRK *e* 03 41 52.9
CORM Corum 28.39 288 *eP* **P 03 40 42.1 +0.8**
KARA Karaisali 28.41 282 *eP* **P 03 40 42.4 +0.9**
TRD Trivandrum 28.46 167 *eP* **P 03 40 43.5 +1.4**
TRD AMb AMB 03 40 46.1
comp=Z,326nm,0.9s,mb6.0
SONM Songino Array 28.53 55 P **P 03 40 44.1 +1.6**
SONM pP pP 03 41 28.6 +3.3
SONM *e* 04 12 55.4
SONM Songino Array 28.53 55 P **P 03 40 44.1 +1.7**
SONM *PP pP 03 41 28.6 +3.3
SONM pmax pmax
comp=Z,458nm,1.0s
SONM Songino Array 28.53 55 P **P 03 40 44.1 +1.6**
comp=Z,458nm,1.0s,mb6.1,baz=258,slow=8.9,SNR=751
SONM pP pP 03 41 28.6 +3.3
comp=Z,52nm,0.8s,baz=237,slow=11,SNR=1.3
SONM P3KPbc 04 12 55.4
comp=Z,3.6nm,0.8s,baz=99,slow=3.8,SNR=16
SONM P3KP 04 13 50.9
comp=Z,1.8nm,0.8s,baz=90,slow=3.0,SNR=4.0
RCY Rachaya 28.63 274 *eP* **P 03 40 44.4 +0.9**
CDAG Cicekdag 28.63 287⇓*iP* P 03 40 43.3 -0.1
BHL Bhannes 28.65 275 *eP* **P 03 40 44.7 +1.0**
SIM Simferopol' 28.77 298*deP* **P 03 40 44.5 0.0**
SIM *e**PP pP 03 41 31.7 +4.3
SIM *e* 03 41 46.0
SIM *eS* **S** **03 45 18.0 0.0**
SIM *SS sS 03 46 32.0 -2.7
SIM *i* 03 51 01.0
SIM pmax pmax
comp=Z,78nm,1.4s,mb5.2
SIM MLR MLR
comp=Z,7μm,19.4s
BZK Bozkurt 28.77 292 *eP* **P 03 40 44.8 +0.1**
KSHT Keshet 28.78 273 P **P 03 40 46.5 +1.7**
TOS Tosya 28.80 290 *eP* **P 03 40 45.8 +0.9**
KSDI Kefar Szold 28.84 274 P **P 03 40 46.3 +1.0**
MERS Mersin 28.89 282 *eP* **P 03 40 45.8 0.0**
MMAI Mount Meron Ar 29.09 274 P **P 03 40 48.9 +1.3**
comp=Z,18nm,0.5s,mb5.0,baz=72,slow=8.9,SNR=58
MMAI pP pP 03 41 32.6 +2.1
comp=Z,34nm,0.9s,baz=72,slow=9.4,SNR=2.7
MMAI PcP PcP 03 43 50.5 +0.7
comp=Z,34nm,0.6s,baz=75,slow=5.6,SNR=6.9
MMAI ScP ScP 03 47 10.5 -0.5
comp=Z,46nm,0.7s,baz=65,slow=4.8,SNR=11
CANT Cankiri 29.13 289 *eP* **P 03 40 48.8 +1.0**
KAMT Kaman 29.17 287 *eP* **P 03 40 48.4 +0.2**
HMDT Nahal Hemdat 29.23 272⇓P P 03 40 49.7 +1.0
BALT Daday 29.25 291⇓*iP* P 03 40 49.7 +0.8
MMLI Mount Malkishu 29.25 272⇓P P 03 40 50.3 +1.3
MUKL Al Mukalla 29.25 227⇑*eP* P 03 40 48.9 -0.2
HNTI Hanita 29.26 274 P **P 03 40 50.9 +1.9**
ELDT Eldivan 29.28 289⇑*iP* P 03 40 50.2 +1.1
MOS Moscow 29.49 321κ *iP* **P 03 40 51.6 +0.8**
MOS *i* *PP pP 03 41 35.0 +1.3
MOS *e* 03 41 50.8
MOS *iS* **S** **03 45 27.8 -1.2**
MOS *e*SS SS 03 47 17.5 -26
MOS *e* 03 51 04.0
MOS pmax pmax
comp=Z,4μm,2.0s,mb6.7
MOS pmax pmax
comp=Z,2μm,1.3s,mb6.5
MOS smax
comp=N,16μm,5.8s
MOS smax
comp=E,8μm,5.8s
OFRI 'Ofer 29.55 273⇓P P 03 40 52.8 +1.2
DSI Dead Sea 29.56 271⇓P P 03 40 52.9 +1.2
SLTI Sal'it 29.62 272⇓P P 03 40 53.7 +1.5
KMI Kunming 29.65 103 P **P 03 40 53.5 +1.0**
KMI AP pP 03 41 35.2 -0.4
KMI XP sP 03 42 01.4 +1.3
KMI PCP PcP 03 43 52.3 +0.9
KMI S **S** **03 45 32.6 +0.4**
KMI SCP ScP 03 47 10.4 -2.5
KMI SS SS 03 47 25.9 -22
KMI SCS ScS 03 51 06.5 -1.9
KMI AMB AMB
comp=Z,222nm,1.3s,mb5.6
KMI AMB AMB
comp=Z,3μm,5.6s
KMI LR LR
comp=N,3μm,13.9s
KMI LR LR
comp=E,3μm,16.7s
KMI LR LR
comp=Z,4μm,14.5s
KMI Kunming 29.65 103 P **P 03 40 53.5 +1.0**
comp=Z,222nm,1.3s,mb5.6
KMI pP pP 03 41 35.2 -0.4
KMI sP sP 03 42 01.4 +1.3
KMI PPP 03 42 19.9
KMI PcP PcP 03 43 52.3 +0.9
KMI S **S** **03 45 32.6 +0.4**
KMI sS sS 03 46 46.6 -2.4
KMI ScP ScP 03 47 10.4 -2.5
KMI SS SS 03 47 25.9 -22
KMI SSS 03 47 55.3
KMI ScS ScS 03 51 06.5 -1.9
KMI LR LR
comp=Z,4μm,14.5s
KMI Kunming 29.65 103 P **P 03 40 53.5 +1.0**
KMI *PP pP 03 41 35.2 -0.4
KMI *SP sP 03 42 01.4 +1.3
KMI 03 43 52.3
KMI S **S** **03 45 32.6 +0.4**
KMI *SS sS 03 46 46.6 -2.4
KMI SS SS 03 47 25.9 -22
KMI 03 51 06.5
KMI pmax pmax
comp=Z,222nm,1.3s,mb5.6
KMI MLR MLR
comp=Z,4μm,14.5s
MZDA Masada 29.66 270 P **P 03 40 53.9 +1.3**
OBN Obninsk 29.76 320 *eP* **P 03 40 53.5 +0.3**
comp=Z,2μm,1.4s,mb6.6
OBN Obninsk 29.76 320⇑*eP* P 03 40 53.6 +0.4
OBN *e**PP pP 03 41 37.1 +0.9
OBN *e* 03 41 53.4
OBN *iS* **S** **03 45 33.0 -0.3**
OBN *e*SS SS 03 47 23.1 -26
OBN pmax pmax
comp=Z,2μm,1.6s,mb6.5
SAFT Safranbolu 29.79 291 *eP* **P 03 40 54.1 +0.5**
ANTO Ankara 29.82 288 *eP* **P 03 40 53.7 -0.2**
ANTO Ankara 29.82 288⇓P P 03 40 54.6 +0.6
ANTO Ankara 29.82 288 P **P 03 40 54.9 +1.0**
ANTO pmax pmax
comp=Z,420nm,1.6s,mb5.8
ANTO Ankara 29.82 288 P **P 03 40 55.1 +1.2**
SNR=22
ANTO Ankara 29.82 288⇓*iP* P 03 40 54.6 +0.7
LOD Lodumlu 29.84 288 *eP* **P 03 40 54.4 +0.3**
YTIR Yattir 29.84 271⇓P P 03 40 56.0 +1.8
LFK Lefkose 30.00 279 *eP* **P 03 40 53.8 -1.8**
ZFRI Zfri 30.07 269 P **P 03 40 57.8 +1.6**
CSS Prodhromos 30.24 278 P **P 03 40 58.2 +0.5**
PRNI Paran 30.29 269⇓P P 03 40 59.5 +1.4
HRFI Mount Harif 30.38 268⇓P P 03 40 59.8 +0.9
CHRT Chiangrai 30.38 115⇑P P 03 41 00.0 +1.0
comp=Z,1μm,0.6s,mb6.7
RMNI Mount Ramon 30.39 269⇓P P 03 41 00.7 +1.6
KONT Konya--Tatoy 30.41 284 *eP* **P 03 40 59.8 +0.7**
CHTO Chiang Mai 30.45 118 *eP* **P 03 40 59.8 +0.2**
CHTO Chiang Mai 30.45 118 P **P 03 41 00.1 +0.5**
SNR=68
KDHN Kadinhani 30.51 286⇓*iP* P 03 41 00.3 +0.3
PALK Pallekele 30.51 160 *eP* **P 03 41 00.9 +0.7**
comp=Z,189nm,1.0s,mb5.7
PALK Pallekele 30.51 160 P **P 03 41 01.6 +1.4**
SNR=17
LEF Lefka 30.55 279 *eP* **P 03 41 00.5 +0.1**
EIL Elat 30.58 268⇓P P 03 41 01.4 +0.7
EIL Elat 30.58 268 P **P 03 41 01.4 +0.7**
comp=Z,275nm,1.1s,mb5.8,baz=56,slow=3.8,SNR=76
EIL ScP ScP 03 47 15.7 -0.2
comp=Z,51nm,0.9s,baz=192,slow=4.1,SNR=3.9
KIZT Kizilcal 30.64 286 *eP* **P 03 41 01.7 +0.5**

SZAC	Souni-Zanaja	30.65	278	P	P	03 41 02.2	+1.0
KDZE	Karadeniz Ereo	30.72	291	eP	P	03 41 00.9	-1.0
ALFC	Alevga	30.78	279	⇑P	P	03 41 02.6	+0.2
	comp=Z,4.2nm,0.6s,mb4.3						
BTO	Baotou	30.85	70	eP	P	03 41 04.8	+1.8
BTO				S	S	03 45 54.4	+3.7
BTO				LR	LR		
	comp=N,1μm,4.4s						
BTO				LR	LR		
	comp=E,2μm,5.9s						
AKMC	Akamas	31.02	279	P	P	03 41 04.5	0.0
PPCY	Paphos	31.04	279	P	P	03 41 04.7	0.0
HENT	Hendek	31.17	290	⇓iP	P	03 41 06.4	+0.6
XAN	Xi'an	31.18	83	P	P	03 41 06.5	+0.6
XAN				S	S	03 45 56.1	+0.2
XAN				AMB	AMB		
	comp=Z,140nm,1.0s,mb5.5						
XAN				AMB	AMB		
	comp=Z,2μm,8.4s						
XAN				LR	LR		
	comp=N,4μm,9.1s						
XAN				LR	LR		
	comp=E,5μm,11.7s						
XAN				LR	LR		
	comp=Z,4μm,10.4s						
ESKT	Eskisehir	31.35	288	eP	P	03 41 07.1	-0.3
ESKT	Eskisehir	31.35	288	⇓iP	P	03 41 07.2	-0.1
GULT	Gulveren	31.50	290	eP	P	03 41 09.3	+0.6
BDT	Bhumibol Dam	31.54	120	P	P	03 41 11.0	+1.8
	comp=Z,116nm,0.9s,mb5.4						
GPA	Golpazari	31.67	289	eP	P	03 41 09.5	-0.6
SHUT	Suhut-Afyon	31.72	286	eP	P	03 41 10.9	+0.4
BDHA	Al Bayda'	31.76	232	⇓eP	P	03 41 11.4	+0.3
BDHA				AMb	AMB	03 41 12.8	
	comp=Z,331nm,1.2s,mb5.7						
HAJJ	Hajjah	31.77	236	eP	P	03 41 11.6	+0.3
ISP	Isparta	31.87	285	eP	P	03 41 11.0	-0.9
ISP	Isparta	31.87	285	P	P	03 41 11.8	-0.1
ISP	Isparta	31.87	285	eP	P	03 41 12.3	+0.4
BCK	Bucak	31.88	284	eP	P	03 41 09.9	-2.0
ALT	Altintas	31.98	287	eP	P	03 41 13.1	+0.2
HHC	Hu-ho-hao-te	32.00	70	⇑iP	P	03 41 14.4	+1.4
HHC				AP	pP	03 41 55.7	-0.5
HHC				XP	sP	03 42 20.7	-0.1
HHC				PP	PP	03 42 27.5	-2.2
HHC				S	S	03 46 12.5	+4.0
HHC				XS	sS	03 47 23.6	-2.0
HHC				PCS	PcS	03 47 45.1	+2.8
HHC				SS	SS	03 48 16.7	-10
HHC				SCS	ScS	03 51 18.7	-0.8
HHC				AMB	AMB		
	comp=Z,265nm,1.0s,mb5.7						
HHC				AMB	AMB		
	comp=Z,1μm,4.1s						
HHC				LR	LR		
	comp=N,6μm,5.4s						
HHC				LR	LR		
	comp=E,5μm,6.9s						
HHC				LR	LR		
	comp=Z,6μm,9.2s						
LBOS		32.04	232	⇓eP	P	03 41 13.8	+0.3
LBOS				i S	S	03 46 19.3	+10
DHBB	Dhamar BB	32.07	234	⇓eP	P	03 41 14.2	+0.4
DHBB				i S	S	03 46 19.9	+10
ADVT	Abdulvahap	32.09	290	eP	P	03 41 13.3	-0.5
HRT	Hereke	32.10	290	eP	P	03 41 12.8	-1.1
HRT	Hereke	32.10	290	eP	P	03 41 14.1	+0.2
GYA	Guiyang	32.12	98	⇑iP	P	03 41 14.3	+0.1
GYA				AP	pP	03 41 59.8	+2.3
GYA				XP	sP	03 42 24.0	+2.0
GYA				PP	PP	03 42 31.7	+0.4
GYA				PCP	PcP	03 44 00.4	+2.4
GYA				S	S	03 46 10.3	-0.4
GYA				SCP	ScP	03 47 22.7	+1.5
GYA				XS	sS	03 47 28.6	+0.8
GYA				PCS	PcS	03 47 44.3	+1.1
GYA				SS	SS	03 48 22.4	-7.7
GYA				SCS	ScS	03 51 20.3	-0.3
GYA				AMB	AMB		
	comp=Z,160nm,1.0s,mb5.5						
GYA				AMB	AMB		
	comp=Z,21μm,12.9s						
GYA				LR	LR		
	comp=N,11μm,11.8s						
GYA				LR	LR		
	comp=E,12μm,12.4s						
GYA				LR	LR		
	comp=Z,11μm,11.9s						
IZI	Iznik	32.30	290	eP	P	03 41 15.5	-0.1
YLV	Yalova	32.35	290	eP	P	03 41 15.7	-0.3
GDZ	Gediz	32.46	287	⇓iP	P	03 41 17.2	+0.2
GEMT	Gemlik	32.51	290	eP	P	03 41 17.0	-0.4
ISK	Istanbul-Kandi	32.54	291	eP	P	03 41 17.6	-0.1
ELL	Elmali	32.55	283	eP	P	03 41 18.3	+0.4
KHL	Karahalli	32.55	286	eP	P	03 41 18.1	+0.3
KIS	Kishinev	32.59	302	κ iP	P	03 41 16.0	-2.0
KIS				e	pP	03 41 56.0	-5.4
KIS				i *PP	pP	03 42 23.0	+22
KIS				i S	S	03 46 16.0	-1.5
KIS				i *SS	SS	03 48 36.0	-4.5
KIS				pmax	pmax		
	comp=Z,900nm,1.6s,mb6.0						
KIS				pmax	pmax		
	comp=Z,1μm,1.6s,mb6.1						
KIS				smax			
	comp=N,8μm,10.0s						
KIS				smax			
	comp=E,6μm,10.0s						
KIS	Kishinev	32.59	302	⇓iP	P	03 41 16.0	-2.0
	comp=E,900nm,1.6s,mb6.0						
KIS				i pP	pP	03 42 23.0	+22
KIS	Kishinev	32.59	302	i PP	PP	03 42 46.0	+10
	comp=E,4μm,8.0s						
KIS	Kishinev	32.59	302	i PcP	PcP	03 43 40.0	-19
KIS				i S	S	03 46 16.0	-1.5
	comp=E,8μm,10.0s						
KIS	Kishinev	32.59	302	i PcS	PcS	03 47 42.0	-2.2
KIS				i sS	SS	03 48 36.0	-4.5
GOLH	Golhisar	32.72	284	⇓iP	P	03 41 18.6	-0.7
AKASG	Malin Array Be	32.74	309	P	P	03 41 18.8	-0.5
AKASG				pP	pP	03 42 05.6	+3.0
AKASG				sP	sP	03 42 29.6	+2.4
AKASG				S	S	03 46 15.3	-4.4
AKASG				ScP	ScP	03 47 19.4	-3.4
AKASG				e		04 12 35.0	
AKASG	Malin Array Be	32.74	309	P	P	03 41 18.8	-0.5
	comp=E,182nm,0.8s,mb5.6,baz=88,slow=7.1,SNR=370						
AKASG				pP	pP	03 42 05.6	+3.0
	comp=E,137nm,0.8s,baz=83,slow=7.3,SNR=4.1						
AKASG				sP	sP	03 42 29.6	+2.4
	comp=E,50nm,0.6s,baz=88,slow=7.9,SNR=1.8						
AKASG				S	S	03 46 15.3	-4.4
	comp=E,11nm,0.7s,baz=99,slow=11,SNR=2.5						
AKASG				ScP	ScP	03 47 19.4	-3.4
	comp=E,31nm,0.8s,baz=83,slow=3.5,SNR=6.1						
AKASG				P3KPbc		04 12 35.0	
	comp=E,0.6nm,0.4s,baz=272,slow=3.6,SNR=6.8						
KIEV	Kiev	32.75	309	⇓iP	P	03 41 18.3	-1.0
	comp=E,453nm,1.2s,mb5.9						
KIEV				epP	pP	03 42 05.3	+2.6
KIEV				esP	sP	03 42 29.2	+1.9
KIEV				ePP	PP	03 42 37.5	-0.3
KIEV				eS	S	03 46 18.0	-1.8
KIEV	Kiev	32.75	309	⇓iP	P	03 41 18.3	-1.0
KIEV				e*PP	pP	03 42 05.3	+2.6
KIEV				e*SP	sP	03 42 29.2	+1.9
KIEV				e		03 42 37.5	
KIEV				eS	S	03 46 18.0	-1.8
KIEV				pmax	pmax		
	comp=Z,453nm,1.2s,mb5.9						
TIRR	Tirgusor	32.82	297	P	P	03 41 20.5	+0.4
TIRR	Tirgusor	32.82	297	⇑iP	P	03 41 20.4	+0.4
AKAS	Kas	32.90	282	⇓eP	P	03 41 20.0	-0.9
KSL	Kastellorizon	32.94	282	eP	P	03 41 20.0	-1.2
KSL	Kastellorizon	32.94	282	eP	P	03 41 20.0	-1.2
CTT	Catalca	33.00	291	eP	P	03 41 19.3	-2.4
ELBA	Catalca	33.00	291	⇓iP	P	03 41 21.8	+0.1
PSN	Preselentsi	33.00	296	P	P	03 41 22.3	+0.6
PSN	Preselentsi	33.00	296	i P	P	03 41 22.2	+0.5
CFR	Carcaliu	33.01	299	P	P	03 41 23.9	+2.2
DENT	Denizli	33.03	285	eP	P	03 41 21.0	-1.0
TIY	Taiyuan	33.12	75	⇑iP	P	03 41 23.6	+0.9
TIY				S	S	03 46 21.9	-4.0
TIY				AMB	AMB		
	comp=Z,3μm,3.0s						
TIY				LR	LR		
	comp=N,4μm,6.2s						
TIY				LR	LR		
	comp=E,4μm,8.2s						
TIY				LR	LR		
	comp=Z,5μm,10.3s						
HARR	Harsova	33.16	298	P	P	03 41 23.6	+0.7
HARR	Harsova	33.16	298	⇓iP	P	03 41 22.5	-0.5
KULA	Kula-Manisa	33.19	286	eP	P	03 41 23.8	+0.5
TRBA	At Turbah	33.24	233	⇓eP	P	03 41 24.3	+0.3
TRBA				AMb	AMB	03 41 26.2	
	comp=Z,402nm,1.3s,mb5.8						
NST	Nakhon Sawan	33.40	121	⇑P	P	03 41 27.2	+1.8
	comp=Z,921nm,0.8s,mb6.4						
BTOK	Tokmak	33.48	289	⇓iP	P	03 41 25.7	-0.1
BNT	Bandirma	33.48	290	eP	P	03 41 26.7	+0.9
PRD	Provadia	33.60	295	i P	P	03 41 27.3	+0.5
BALB	Balikesir	33.61	289	eP	P	03 41 27.2	+0.3
MRMT	Marmara Adasi	33.69	290	eP	P	03 41 26.0	-1.6
AKHS	Akhisar	33.78	287	⇓iP	P	03 41 28.4	-0.1
AKS	Akhisar	33.78	287	eP	P	03 41 27.6	-0.9
CIT	Chita	33.83	49	⇑iP	P	03 41 30.2	+1.5
CIT				pmax	pmax		
	comp=Z,4μm,1.3s,mb6.8						
MFT	Murefte	33.91	291	eP	P	03 41 24.7	-4.8
TMCR	Tamitsa	33.92	335	i P	P	03 41 30.4	+1.1
TMCR				pmax	pmax		
	comp=Z,2μm,1.1s,mb6.5						
SART	Tekirdag	33.99	291	⇓iP	P	03 41 30.1	-0.2
RKY	Sarkoy-Tekirda	34.00	291	eP	P	03 41 29.6	-0.7
VRI	Vrincioaia	34.00	300	⇑P	P	03 41 31.7	+1.5
VRI	Vrincioaia	34.00	300	⇑iP	P	03 41 31.7	+1.5
PLOR	Plostina	34.05	300	⇑iP	P	03 41 32.4	+1.7
ARG	Arkhangelos	34.07	282	P	P	03 41 30.3	-0.7
ARG	Arkhangelos	34.07	282	eP	P	03 41 30.8	-0.2
ARG	Arkhangelos	34.07	282	eP	P	03 41 30.5	-0.5
MLSB	Milas	34.10	284	eP	P	03 41 26.2	-5.1
JMB	Yambol	34.25	294	eP	P	03 41 33.5	+1.1
JMB	Yambol	34.25	294	P	P	03 41 33.5	+1.1
KDAG	Bornova	34.28	287	⇓iP	P	03 41 32.9	+0.1
MNK	Minsk	34.34	315	⇓eP	P	03 41 31.0	-2.0
MNK				e*PP	pP	03 42 16.0	-0.6
MNK				e		03 42 44.0	
MNK				eS	S	03 46 40.0	-4.2
MNK				eSSS		03 49 06.0	
MNK				pmax	pmax		
	comp=Z,560nm,1.0s,mb6.0						
MNK				pmax	pmax		
	comp=E,2μm,1.0s						
MNK				smax			
	comp=N,23μm,8.0s						
DAT	Datca	34.38	284	eP	P	03 41 31.3	-2.3
BDRM	Kayabasi	34.41	284	⇓iP	P	03 41 33.1	-0.8
BODT	Bodrum	34.52	284	eP	P	03 41 33.0	-1.8
BUC1	Bucharest	34.53	297	P	P	03 41 36.2	+1.4
MLR	Muntele Rosu	34.55	299	P	P	03 41 36.7	+1.7
MLR	Muntele Rosu	34.55	299	⇓iP	P	03 41 36.5	+1.5
AYVA	Ayvalik	34.57	288	⇓eP	P	03 41 34.7	-0.5
SZH	Strazhica	34.66	295	i P	P	03 41 36.2	+0.3
SMG	Samos	34.75	285	eP	P	03 41 37.0	+0.2
SMG	Samos	34.75	285	eP	P	03 41 37.0	+0.2
PUL	Pulkovo	34.75	325	⇑eP	P	03 41 37.0	+0.5
ENEZ	Enez	34.76	291	eP	P	03 41 37.5	+0.6
EZN	Ezine	34.77	289	eP	P	03 41 37.0	+0.2
URLA	Izmir	34.81	287	⇓iP	P	03 41 37.2	-0.1
ALN	Alexandroupoli	34.82	291	eP	P	03 41 37.2	-0.2
KKTK	Khon Kaen	34.86	117	⇑P	P	03 41 38.5	+0.6
	comp=N,7μm,0.4s						
PRK	Paraskevi	34.90	288	eP	P	03 41 37.5	-0.5
PRK	Paraskevi	34.90	288	eP	P	03 41 37.5	-0.5
BOZC	Bozcaada	34.97	289	⇓iP	P	03 41 38.7	+0.1
KARP	Karpathos	34.99	282	eP	P	03 41 38.5	-0.4
KARP	Karpathos	34.99	282	eP	P	03 41 38.5	-0.4
GADA	Gvkgeada	35.03	290	eP	P	03 41 38.6	-0.6
ZIMR		35.05	296	P	P	03 41 40.4	+1.2
DIM	Dimitrovgrad	35.07	293	P	P	03 41 40.4	+1.0
PVL	Pavlikeni	35.10	295	i P	P	03 41 41.4	+1.7
IDID	Didziasalis	35.15	316	eP	P	03 41 40.1	+0.2
IDID				AMb	AMB	03 41 43.2	
	comp=Z,144nm,1.6s,mb5.2						
IDID	Didziasalis	35.15	316	eP	P	03 41 40.1	+0.2
	comp=Z,144nm,1.6s,mb5.2,SNR=28						
RDO	Rodhopi	35.17	292	P	P	03 41 38.4	-1.9
RDO	Rodhopi	35.17	292	eP	P	03 41 40.5	+0.2
RDO	Rodhopi	35.17	292	eP	P	03 41 40.5	+0.2
MTUR	Matau	35.18	299	⇓P	P	03 41 41.8	+1.4
MTUR	Matau	35.18	299	⇓iP	P	03 41 41.8	+1.5
VOIR		35.18	299	P	P	03 41 41.2	+0.9
VOIR		35.18	299	⇑iP	P	03 41 41.4	+1.0
KDZ	Kurdzhali	35.20	293	i P	P	03 41 41.9	+1.3
CHOS	Chios island	35.22	287	eP	P	03 41 41.5	+0.6
ATD	Arta Tunnel	35.33	232	P	P	03 41 42.6	+0.7
	comp=Z,629nm,1.1s,mb6.0,baz=13,slow=5.2,SNR=89						
ATD				sP	sP	03 42 55.4	+5.2
	comp=Z,129nm,1.1s,baz=0.2,slow=6.7,SNR=1.7						
ATD				S	S	03 47 01.9	+1.7
	comp=Z,4.9nm,0.4s,baz=144,slow=19,SNR=1.7						
IIGN	Ignalina	35.44	316	eP	P	03 41 42.7	+0.3
	SNR=28						
BOD	Bodaibo	35.50	39	⇓iP	P	03 41 43.2	+0.3
BOD				pmax	pmax		
	comp=Z,1μm,1.2s,mb6.3						
IZAR	Zarasai	35.52	317	eP	P	03 41 43.5	+0.4
IZAR				AMb	AMB	03 41 46.5	
	comp=Z,190nm,1.7s,mb5.3						
IZAR	Zarasai	35.52	317	eP	P	03 41 43.5	+0.4
	comp=Z,190nm,1.7s,mb5.3,SNR=28						
BJT	Baijiatuau	35.59	70	⇑iP	P	03 41 44.6	+0.8
	comp=Z,76nm,0.6s,mb5.4						
BJT				epP	pP	03 42 28.4	+0.7
BJT				esP	sP	03 42 54.5	+2.4
BJT				ePcP	PcP	03 44 08.6	+0.8
BJT				eS	S	03 47 02.8	-0.9
BJT	Baijiatuau	35.59	70	⇑iP	P	03 41 44.7	+0.8
BJT				e*PP	pP	03 42 28.4	+0.7
BJT				e*SP	sP	03 42 54.6	+2.4
BJT				e		03 44 08.6	
BJT				eS	S	03 47 02.8	-0.9
BJT				pmax	pmax		
	comp=Z,76nm,0.6s						
BJI	Beijing	35.59	70	P	P	03 41 43.7	-0.2
BJI				AP	pP	03 42 27.0	-0.8
BJI				XP	sP	03 42 51.4	-0.8
BJI				PP	PP	03 43 09.0	-0.3
BJI				S	S	03 47 00.8	-2.9
BJI				LR	LR		
	comp=N,5μm,13.3s						
BJI				LR	LR		
	comp=E,5μm,16.1s						
BJI				LR	LR		
	comp=Z,10μm,20.6s						
BJI	Beijing	35.59	70	P	P	03 41 43.7	-0.2
BJI				*PP	pP	03 42 27.0	-0.8
BJI				*SP	sP	03 42 51.4	-0.8
BJI						03 43 09.0	
BJI				S	S	03 47 00.8	-2.9
BJI				MLR	MLR		
	comp=Z,10μm,20.6s						
PLD	Plovdiv	35.67	293	P	P	03 41 44.9	+0.3
RZN	Rozhen	35.71	293	i P	P	03 41 45.8	+0.8
JOF	Joensuu	35.73	330	ep	P	03 41 44.4	-0.4
	comp=Z,315nm,0.3s,mb6.3						
JOF	Joensuu	35.73	330	eP	P	03 41 44.4	-0.4
JOF				pmax	pmax		
	comp=Z,315nm,0.3s,mb6.3						
ZKR	Zakros	35.85	281	eP	P	03 41 46.2	0.0
APE	Apeiranthos	35.91	285	P	P	03 41 46.7	+0.1
APE	Apeiranthos	35.91	285	eP	P	03 41 46.3	-0.4
APE	Apeiranthos	35.91	285	eP	P	03 41 46.5	-0.1
APE	Apeiranthos	35.91	285	eP	P	03 41 46.5	-0.1
APE	Apeiranthos	35.91	285	⇑iP	P	03 41 47.0	+0.4
LVV	L'vov	35.95	307	i P	P	03 41 47.2	+0.4
LVV				i *PP	pP	03 42 35.2	+4.5
LVV				i		03 43 14.4	
LVV				i S	S	03 47 09.4	+0.5
LVV				i SS	sS	03 48 26.6	-0.3
LVV				i SS	SS	03 49 45.6	-9.5
PGB	Panagyurishte	36.02	294	i P	P	03 41 48.7	+1.2
NPS	Neapolis	36.28	282	eP	P	03 41 49.7	-0.2
NPS	Neapolis	36.28	282	eP	P	03 41 49.5	-0.4
XRY	Khrisi	36.33	281	eP	P	03 41 49.0	-1.2
XRY	Khrisi	36.33	281	eP	P	03 41 49.0	-1.2
LAST	Lasithi	36.42	282	eP	P	03 41 51.4	+0.4
OUR	Ouranopolis	36.46	291	eP	P	03 41 52.0	+0.7
MMB	Musomiste	36.46	293	i P	P	03 41 51.3	0.0
WHN	Wuhan	36.65	86	⇑P	P	03 41 53.1	+0.1
WHN				AP	pP	03 42 39.7	+2.7
WHN				XP	sP	03 43 03.6	+2.2
WHN				S	S	03 47 20.1	+0.1
WHN				SCP	ScP	03 47 32.9	-4.4
WHN				PCS	PcS	03 47 56.9	-2.5
WHN				SCS	ScS	03 51 42.6	-2.1
WHN				AMB	AMB		
	comp=Z,144nm,0.8s,mb5.6						
WHN				AMB	AMB		
	comp=Z,6μm,7.7s						
WHN				LR	LR		
	comp=Z,6μm,14.5s						
VTS	Vitosha	36.72	294	P	P	03 41 54.3	+0.8
VTS	Vitosha	36.72	294	eP	P	03 41 54.2	+0.8
VTS	Vitosha	36.72	294	⇑iP	P	03 41 54.5	+1.1
VTS	Vitosha	36.72	294	i P	P	03 41 54.6	+1.2
AOS	Alonnisos	36.74	289	eP	P	03 41 53.3	-0.4
PAIG	Paliouri	36.76	290	eP	P	03 41 53.8	0.0
DRGR		36.77	302	P	P	03 41 54.8	+1.0
DRGR		36.77	302	⇑iP	P	03 41 55.2	+1.4
GZR	Gura Zlata	36.78	299	P	P	03 41 54.3	+0.4
GZR	Gura Zlata	36.78	299	⇑iP	P	03 41 54.4	+0.5
KWP	Kalwaria	36.80	306	eP	P	03 41 54.6	+0.6
	comp=Z,1μm,1.5s,mb6.2						
KWP				epP	pP	03 42 40.2	+2.1
KWP				esP	sP	03 43 05.6	+3.1
KWP				eS	S	03 47 22.5	+0.8
KWP				eSS	SS	03 50 15.0	+2.9
KWP	Kalwaria	36.80	306	eP	P	03 41 54.6	+0.6
KWP				epP	pP	03 42 40.2	+2.1
KWP				esP	sP	03 43 05.6	+3.1
KWP				eS	S	03 47 22.5	+0.7
KWP				eSS	SS	03 50 15.0	+2.9
KWP	Kalwaria	36.80	306	eP	P	03 41 54.6	+0.6
KWP				e*PP	pP	03 42 40.2	+2.1
KWP				e*SP	sP	03 43 05.6	+3.1
KWP				eS	S	03 47 22.5	+0.7
KWP				pmax	pmax		
	comp=Z,1μm,1.5s,mb6.2						
KWP	Kalwaria	36.80	306	⇑iP	P	03 41 55.0	+1.0
IDI	Anoyia	36.85	282	P	P	03 41 53.8	-0.8
	comp=Z,172nm,0.7s,mb5.7,baz=46,slow=12,SNR=74						
IDI				S	S	03 47 15.1	-7.9
	comp=Z,24nm,1.0s,baz=351,slow=18,SNR=1.5						
SOH	Sokhos	36.85	292	eP	P	03 41 54.9	+0.3
PLG	Polygyros	36.86	291	eP	P	03 41 54.9	+0.2
PLG	Polygyros	36.86	291	eP	P	03 41 54.5	-0.1
PLG	Polygyros	36.86	291	eP	P	03 41 54.5	-0.1
TRPA	Tarpa	36.87	304	⇓iP	P	03 41 55.7	+1.0
KKB	Krupnik	36.90	293	P	P	03 41 55.1	+0.1
KKB	Krupnik	36.90	293	i P	P	03 41 55.2	+0.2
SUW	Suwalki	36.92	314	eP	P	03 41 54.8	-0.2
	comp=Z,2μm,2.6s,mb6.2						
SUW				epP	pP	03 42 40.8	+1.7
SUW				esP	sP	03 43 06.6	+3.1
SUW				ePP	PP	03 43 23.6	-0.1
SUW				eS	S	03 47 22.4	-1.1
SUW				eSS	SS	03 50 09.5	-5.0
SUW	Suwalki	36.92	314	eP	P	03 41 54.7	-0.3
SUW				epP	pP	03 42 40.8	+1.7
SUW				esP	sP	03 43 06.6	+3.1
SUW				ePP	PP	03 43 23.6	-0.1
SUW				eS	S	03 47 22.4	-1.2
SUW				eSS	SS	03 50 09.5	-5.0
SUW	Suwalki	36.92	314	eP	P	03 41 54.7	-0.3
SUW				e*PP	pP	03 42 40.8	+1.7
SUW				e*SP	sP	03 43 06.6	+3.1
SUW				e		03 43 23.6	
SUW				eS	S	03 47 22.4	-1.2
SUW				eSS	SS	03 50 09.5	-5.0
SUW				pmax	pmax		
	comp=Z,2μm,2.6s,mb6.2						
PTL	Penteli	36.98	287	eP	P	03 41 55.8	+0.1
PTL	Penteli	36.98	287	eP	P	03 41 55.8	+0.1
SIVA	Sivas	36.98	282	eP	P	03 41 55.8	0.0
UZH	Uzhgorod	37.04	305	⇓iP	P	03 41 55.0	-1.1
UZH				e*PP	pP	03 42 41.6	+1.4
UZH				i *SP	sP	03 43 06.0	+1.4
UZH				i		03 43 25.0	
UZH				i S	S	03 47 24.0	-1.5
UZH				i *SS	sS	03 48 45.0	+1.2
UZH				i SSS		03 50 10.0	
KOLS	Kolonicke sedl	37.06	305	i P	P	03 41 56.6	+0.4
KOLS				ePP	pP	03 42 41.2	+0.9
KOLS				i SP		03 43 06.9	
KOLS				ePP	PP	03 43 23.3	-2.0
KOLS				i S	S	03 47 20.8	-5.0
KOLS				i SS	sS	03 48 40.1	-4.0
KOLS				i SS	SS	03 50 09.9	-7.5
KOLS	Kolonicke sedl	37.06	305	i P	P	03 41 56.6	+0.4
KOLS				epP	pP	03 42 41.2	+0.9
KOLS				i sP	sP	03 43 06.9	+2.2
KOLS				ePP	PP	03 43 23.3	-2.0
KOLS				i S	S	03 47 20.8	-5.0
KOLS				i sS	sS	03 48 40.0	-4.1
KOLS				i SS	SS	03 50 09.9	-7.5
HORT	Hortiatis	37.08	291	eP	P	03 41 56.6	+0.1
KVR	Kavouri	37.10	287	eP	P	03 41 56.0	-0.7
KVR	Kavouri	37.10	287	eP	P	03 41 56.0	-0.7
ATH	Athens Observa	37.11	287	eP	P	03 41 56.5	-0.3
ATH	Athens Observa	37.11	287	eP	P	03 41 56.5	-0.3
TIA	Tai'an	37.11	76	⇑P	P	03 41 57.9	+1.1
TIA				AP	pP	03 42 45.0	+4.0
TIA				XP	sP	03 43 10.0	+4.7
TIA				S	S	03 47 30.5	+3.6
TIA				SCP	ScP	03 47 36.5	-2.5
TIA				XS	sS	03 48 44.0	-1.2
TIA				AMB	AMB		
	comp=Z,191nm,0.6s,mb5.8						
TIA				AMB	AMB		
	comp=Z,3μm,6.0s						
TIA				LR	LR		
	comp=N,4μm,10.0s						
TIA				LR	LR		
	comp=E,3μm,10.0s						
KNT	Kendrikon	37.14	292	eP	P	03 41 56.9	-0.1
NEO	Neokhori	37.22	289	eP	P	03 41 57.5	-0.2
NEO	Neokhori	37.22	289	eP	P	03 41 57.5	-0.2
FINES	FINESS Array B	37.33	326	P	P	03 41 58.6	+0.3
FINES				pP	pP	03 42 43.9	+1.5
FINES				sP	sP	03 43 09.5	+2.7
FINES				e		04 12 14.5	
FINES	FINESS Array B	37.33	326	P	P	03 41 58.6	+0.3
	comp=E,242nm,0.7s,m

comp=Z,8μm,10.0s
GRG Griva 37.55 292 *e*P **P 03 41 59.7 -0.7**
KARN Karanos 37.58 283 *e*P **P 03 42 00.8 0.0**
BZS Buzias 37.58 300 P **P 03 42 01.2 +0.6**
BZS Buzias 37.58 300 ⇑*i*P **P 03 42 01.7 +1.0**
DID Didima 37.59 286 *e*P **P 03 41 59.1 -1.7**
CRVS Cervenica-Dubn 37.59 305 *i* P **P 03 42 01.0 +0.3**
CRVS *i* PP pP 03 42 46.8 +1.9
CRVS *i* SP 03 43 12.1
CRVS *i* PP PP 03 43 32.6 +1.5
CRVS *i* S **S 03 47 32.1 -1.7**
CRVS *i* SS sS 03 48 50.8 -1.5
CRVS *e*SS SS 03 50 20.8 -7.3
CRVS Cervenica-Dubn 37.59 305 *i* P **P 03 42 01.0 +0.3**
CRVS *i* pP pP 03 42 46.8 +1.9
CRVS *i* sP sP 03 43 12.0 +2.7
CRVS *i* PP PP 03 43 32.6 +1.5
CRVS *i* S **S 03 47 32.1 -1.7**
CRVS *i* sS sS 03 48 50.8 -1.5
CRVS *e*SS SS 03 50 20.8 -7.3
GVD Gavdhos 37.60 282⇓*i*P **P 03 42 00.0 -0.9**
comp=Z,505nm,0.9s,mb6.0
GVD *e*S **S 03 47 31.9 -2.5**
GVD Gavdhos 37.60 282 *e*P **P 03 42 00.3 -0.7**
GVD Gavdhos 37.60 282 *e*P **P 03 42 00.0 -1.0**
GVD Gavdhos 37.60 282 *e*P **P 03 42 00.0 -1.0**
LIT Litokhoron 37.62 291 *e*P **P 03 42 00.8 -0.3**
LTK Loutraki 37.68 287 *e*P **P 03 42 00.2 -1.3**
MEF Metsahovi 37.70 324 P **P 03 42 00.6 -0.8**
BARS Barje 37.70 295 P **P 03 42 01.5 -0.2**
DESE Dese 37.73 236 *e*P **P 03 42 04.6 +2.4**
DESE S **S 03 47 33.7 -2.9**
STHS Stebnicka Huta 37.74 306 *i* P **P 03 42 01.7 -0.2**
comp=Z,44nm,0.8s,mb5.0
STHS *e*PP pP 03 42 43.6 -2.6
STHS *e*SS SS 03 50 29.9 -1.2
STHS Stebnicka Huta 37.74 306 *i* P **P 03 42 01.7 -0.2**
STHS pmax pmax
comp=Z,45nm,0.8s,mb5.0
STHS Stebnicka Huta 37.74 306 *i* P **P 03 42 01.6 -0.3**
STHS *e*pP pP 03 42 43.6 -2.6
STHS *e*SS SS 03 50 29.9 -1.2
AGG Agios Georgios 37.95 289 *e*P **P 03 42 02.7 -1.2**
VLI Veliai 38.01 285 *e*P **P 03 42 01.5 -2.8**
VLI Veliai 38.01 285 *e*P **P 03 42 02.0 -2.3**
WAR Warsaw 38.01 310 *e*P **P 03 42 04.7 +0.5**
WAR *e*pP pP 03 42 50.2 +1.8
WAR *e*sP sP 03 43 15.7 +2.9
WAR *e*PP PP 03 43 42.0 +6.5
WAR *e*S **S 03 47 40.9 +0.8**
WAR *e*SS SS 03 50 38.7 +2.3
WAR Warsaw 38.01 310 *e*P **P 03 42 04.7 +0.6**
WAR *e**PP pP 03 42 50.3 +1.8
WAR *e**SP sP 03 43 15.6 +2.8
WAR *e* 03 43 42.0
WAR *e*S **S 03 47 40.9 +0.8**
WAR *e*SS SS 03 50 38.7 +2.4
KYTH Kithira 38.04 284 *e*P **P 03 42 04.0 -0.6**
KYTH Kithira 38.04 284 *e*P **P 03 42 04.0 -0.6**
SKO Skopje 38.10 294 *i* P **P 03 42 05.0 0.0**
KZN Kozani 38.13 291 *e*P **P 03 42 05.1 -0.2**
KZN Kozani 38.13 291 *e*P **P 03 42 05.0 -0.3**
BSI Banda Aceh 38.24 138 P **P 03 42 04.0 -2.4**
KECS Kecovo 38.24 304 *i* P **P 03 42 06.4 +0.3**
comp=Z,27nm,0.7s,mb4.9
KECS *i* PP pP 03 42 54.4 +3.9
KECS *e*PP PP 03 43 38.0 -0.1
KECS *i* S **S 03 47 41.4 -2.2**
KECS Kecovo 38.24 304 *i* P **P 03 42 06.4 +0.3**
KECS pmax pmax
comp=Z,27nm,0.7s,mb4.9
VLX Vlachokerasia 38.28 286 *e*P **P 03 42 04.7 -1.9**
KRUS Krusevo 38.34 293 *i* P **P 03 42 06.8 -0.3**
BIA Bitola 38.34 292 P **P 03 42 06.9 -0.1**
FNA Florina 38.34 292 *e*P **P 03 42 06.8 -0.2**
NIE Niedzica 38.35 306 *e*P **P 03 42 08.0 +1.0**
NIE *e*PP PP 03 43 41.2 +1.9
EVR Evrytania 38.37 289 *e*P **P 03 42 06.5 -0.8**
EVR Evrytania 38.37 289 *e*P **P 03 42 06.5 -0.8**
SELA Sela 38.45 288 *e*P **P 03 42 06.8 -1.2**
BEO Beograd 38.47 298 P **P 03 42 09.0 +1.0**
QIZ Qiongzhong 38.47 106 P **P 03 42 08.4 +0.1**
QIZ AP pP 03 42 51.7 -1.1
QIZ XP sP 03 43 19.2 +2.2
QIZ S **S 03 47 46.6 -1.0**
QIZ XS sS 03 49 07.8 +1.5
QIZ AMB AMB
comp=Z,254nm,1.0s,mb5.7
QIZ AMB AMB
comp=Z,3μm,6.3s
QIZ Qiongzhong 38.47 106 *e*P **P 03 42 08.3 -0.1**
comp=Z,165nm,0.8s,mb5.6
PSZ Piszkesteto 38.65 303 P **P 03 42 10.4 +0.9**
PSZ Piszkesteto 38.65 303⇑*i*P **P 03 42 10.8 +1.3**
PSZ Piszkesteto 38.65 303⇓*e*P **P 03 42 10.4 +0.9**
ITM Ithomi 38.68 286 P **P 03 42 07.6 -2.3**
ITM Ithomi 38.68 286 *e*P **P 03 42 08.3 -1.6**
ITM Ithomi 38.68 286 *e*P **P 03 42 08.5 -1.4**
OJC Ojcow 38.69 307 *e*P **P 03 42 09.8 0.0**
OJC *e*PP PP 03 43 41.3 -1.7
OJC *e*S **S 03 47 48.7 -1.6**
OJC L 03 51 00.7
comp=Z,4.7nm,22.2s
OJC Ojcow 38.69 307 *e*P **P 03 42 09.8 0.0**
OJC *e* 03 43 41.3
OJC *e*S **S 03 47 48.7 -1.6**
OUL Oulu 38.84 332 P **P 03 42 10.6 -0.3**
DIVS Divibare 38.87 297 *e*P **P 03 42 11.9 +0.5**
JAN Janina 38.95 290 *e*P **P 03 42 11.5 -0.6**
JAN Janina 38.95 290 *e*P **P 03 42 11.5 -0.6**
GZH Guangzhou 39.05 98 P **P 03 42 13.4 +0.2**
GZH S **S 03 47 55.7 -0.6**
GZH AMB AMB
comp=Z,323nm,0.7s,mb6.0
GZH LR LR
comp=N,7μm,16.0s
GZH LR LR
comp=E,5μm,13.9s
GZH LR LR
comp=Z,16μm,19.4s
PVY Plav 39.09 295⇓*i*P **P 03 42 12.1 -1.1**
IVA Berane 39.10 295⇓*i*P **P 03 42 12.4 -0.9**
LIKS Likavka 39.15 305 *e*P **P 03 42 14.5 +0.9**
comp=Z,52nm,0.8s,mb5.1
LIKS Likavka 39.15 305 *e*P **P 03 42 14.5 +0.9**
LIKS pmax pmax
comp=Z,52nm,0.8s,mb5.1
BUD Budapest 39.26 303⇓*e*P **P 03 42 15.1 +0.5**
LKD Levkas 39.30 289 *e*P **P 03 42 14.7 -0.3**
KFL Anninata 39.33 288 *e*P **P 03 42 14.5 -0.8**
VYHS Vyhne 39.34 304 *i* P **P 03 42 15.6 +0.4**
comp=Z,85nm,1.3s,mb5.1
VYHS *i* PP pP 03 43 02.0 +2.2
VYHS *i* SP 03 43 26.7
VYHS *e*PP PP 03 43 46.7 -3.3
VYHS *e* 03 44 58.5
VYHS *i* S **S 03 47 58.1 -1.9**
VYHS *i* SS sS 03 49 18.2 -0.7
VYHS *i* SS SS 03 50 51.9 -11
VYHS Vyhne 39.34 304 *i* P **P 03 42 15.6 +0.4**
VYHS *i* S **S 03 47 58.1 -1.9**
VYHS *i* SS sS 03 49 18.2 -0.7
VYHS *i* SS SS 03 50 51.9 -11
VYHS pmax pmax
comp=Z,85nm,1.3s,mb5.1
VYHS Vyhne 39.34 304 *i* P **P 03 42 15.6 +0.4**
VYHS *i* pP pP 03 43 02.0 +2.2
VYHS *i* sP sP 03 43 26.7 +2.7
VYHS *e*PP PP 03 43 46.7 -3.3
VYHS *i* 03 44 58.5
VYHS *i* S **S 03 47 58.1 -1.9**
VYHS *i* sS sS 03 49 18.2 -0.7
VYHS *i* SS SS 03 50 51.9 -11
IGT Igoumenitsa 39.37 290 *e*P **P 03 42 14.2 -1.4**
TIR Tirane 39.37 293 P **P 03 42 16.3 +0.8**
PLE Pljevlja 39.40 296 *e*P **P 03 42 16.8 +1.0**
PKSM Moragy 39.61 301⇓*i*P **P 03 42 18.0 +0.5**
KOLL Kolacno 39.62 305 *i* P **P 03 42 18.2 +0.6**
KOLL *e*pP pP 03 43 04.3 +2.1
KOLL *i* sP sP 03 43 27.7 +1.3
KOLL *e*PP PP 03 43 52.4 -0.7

TTG Podgorica 39.63 295⇓*i*P **P 03 42 15.8 -1.9**
SGF Sodankyl 39.68 335 P **P 03 42 17.2 -0.6**
ULC Ulcinj 39.72 294⇓*i*P **P 03 42 17.4 -1.0**
RAC Raciborz 39.72 307 *e*P **P 03 42 18.6 +0.3**
RAC *e*S **S 03 48 06.5 +0.8**
RAC LR LR
comp=Z,2μm,21.8s
RAC Raciborz 39.72 307 *e*P **P 03 42 18.6 +0.3**
RAC *e*S **S 03 48 06.5 +0.8**
NJ2 Nanjing 39.72 82 *e*P **P 03 42 19.6 +1.0**
NJ2 AP pP 03 43 03.7 +0.4
NJ2 XP sP 03 43 27.6 +0.1
NJ2 PP PP 03 43 59.2 +4.7
NJ2 S **S 03 48 07.0 +0.9**
NJ2 XS sS 03 49 27.0 +1.9
NJ2 AMB AMB
comp=Z,200nm,0.8s,mb5.6
NJ2 AMB AMB
comp=Z,1μm,10.0s
NJ2 LR LR
comp=N,4μm,16.0s
NJ2 LR LR
comp=E,1μm,16.0s
NJ2 LR LR
comp=Z,97μm,14.0s
KEK Kerkira 39.73 291 *e*P **P 03 42 17.0 -1.6**
KEK Kerkira 39.73 291 *e*P **P 03 42 17.0 -1.6**
OKC Ostrava-Krasne 39.76 307 *e*P **P 03 42 19.2 +0.6**
OKC *e*S **S 03 48 07.7 +1.5**
OKC Ostrava-Krasne 39.76 307⇓*e*P **P 03 42 19.2 +0.6**
OKC *e*pP pP 03 43 09.0 +5.7
OKC *e*S **S 03 48 07.7 +1.5**
OKC *e*x x 03 49 18.6
NKY Niksic 39.76 295⇓*i*P **P 03 42 17.7 -1.1**
UPM Unac-Piva 39.77 296⇓*i*P **P 03 42 18.4 -0.4**
MRKH Merkhyat 39.82 249 *i* P **P 03 42 18.9 -0.6**
baz=51,slow=7.4
MRKH AMb AMB 03 42 22.5
comp=Z,727nm,1.0s,mb6.1
MRKH *i* S **S 03 48 08.0 +0.2**
BUM Brajici-Budva 39.92 295 *e*P **P 03 42 19.2 -0.9**
DL2 Dalían 39.95 71⇑*i*P **P 03 42 21.6 +1.2**
DL2 AP pP 03 43 09.4 +4.3
DL2 XP sP 03 43 31.0 +1.7
DL2 PCP PcP 03 44 21.9 +0.6
DL2 S **S 03 48 10.6 +1.3**
DL2 SS SS 03 51 06.2 -8.9
DL2 SCS ScS 03 52 00.2 -3.4
DL2 AMB AMB
comp=Z,160nm,0.8s,mb5.5
DL2 AMB AMB
comp=Z,2μm,5.6s
SNG Songkhla 39.98 130 P **P 03 42 21.0 +0.1**
comp=Z,1μm,1.0s,mb6.3
JAWL J.Aulia 40.02 248 *i* P **P 03 42 20.9 -0.4**
JAWL *i* S **S 03 48 09.9 -0.9**
BRY Bratogost 40.08 296⇓*i*P **P 03 42 20.3 -1.1**
JAVC Velka Javorina 40.10 305 P **P 03 42 22.5 +1.1**
HKC Hong Kong Obse 40.11 98⇑*i*P **P 03 42 22.0 +0.1**
MORC Moravsky Berou 40.15 306 *e*P **P 03 42 22.2 +0.4**
MORC Moravsky Berou 40.15 306⇑*i*P **P 03 42 23.0 +1.1**
HCY Herceg Novi 40.19 295⇓*i*P **P 03 42 20.7 -1.6**
SMOL Smolenice 40.27 304 *i* P **P 03 42 23.8 +0.9**
GKP Gorka Klasztor 40.37 312 *e*P **P 03 42 23.8 +0.2**
comp=Z,1μm,1.5s,mb6.1
GKP *e*pP pP 03 43 10.6 +2.2
GKP *e*S **S 03 48 18.6 +3.4**
GKP *e*SS SS 03 51 13.9 -9.0
GKP Gorka Klasztor 40.37 312 *e*P **P 03 42 23.8 +0.2**
comp=Z,1.3nm,1.5s
GKP *e*pP pP 03 43 10.6 +2.2
GKP *e*S **S 03 48 18.6 +3.4**
GKP *e*SS SS 03 51 13.9 -9.1
GKP Gorka Klasztor 40.37 312 *e*P **P 03 42 23.8 +0.2**
GKP *e**PP pP 03 43 10.6 +2.2
GKP *e*S **S 03 48 18.6 +3.4**
GKP *e*SS SS 03 51 13.9 -9.1
GKP pmax pmax
comp=Z,1μm,1.5s,mb6.1
MODS Modra-Piesok 40.38 304 *i* P **P 03 42 24.4 +0.6**
comp=Z,67nm,1.3s,mb4.9
MODS *e*PP pP 03 43 09.0 +0.4
MODS *i* SP 03 43 35.1
MODS *i* PP PP 03 44 00.3 -1.0
MODS *e*PcP PcP 03 44 26.9 +4.4
MODS *e* 03 45 05.1
MODS *i* S **S 03 48 12.3 -3.2**
MODS *i* SS sS 03 49 35.9 +1.3
MODS *i* SS SS 03 51 09.5 -14
MODS Modra-Piesok 40.38 304 *i* P **P 03 42 24.4 +0.6**
MODS *i* S **S 03 48 12.3 -3.2**
MODS *i* SS sS 03 49 35.9 +1.3
MODS pmax pmax
comp=Z,67nm,1.3s,mb4.9
MODS Modra-Piesok 40.38 304 *i* P **P 03 42 24.4 +0.6**
MODS *e*pP pP 03 43 09.0 +0.4
MODS *i* sP sP 03 43 35.1 +2.3
MODS *i* PP PP 03 44 00.2 -1.1
MODS *e*PCP PcP 03 44 26.9 +4.4
MODS *i* 03 45 05.1
MODS *i* S **S 03 48 12.3 -3.2**
MODS *i* sS sS 03 49 35.9 +1.3
MODS *i* SS SS 03 51 09.5 -14
MODS *e* 08 43 11.0
ZST Bratislava 40.51 304 *i* P **P 03 42 25.4 +0.6**
comp=Z,57nm,1.3s,mb4.8
ZST *e*PP pP 03 43 10.4 +0.8
ZST *i* SP 03 43 36.4
ZST *i* PP PP 03 44 02.1 -0.6
ZST *e* 03 45 07.0
ZST *i* S **S 03 48 15.8 -1.6**
ZST *i* SS sS 03 49 37.7 +1.2
ZST *i* SS SS 03 51 13.2 -13
ZST Bratislava 40.51 304 *i* P **P 03 42 25.4 +0.6**
ZST *i* S **S 03 48 15.8 -1.6**
ZST *i* SS sS 03 49 37.7 +1.2
ZST *i* SS SS 03 51 13.2 -13
ZST pmax pmax
comp=Z,57nm,1.3s,mb4.8
ZST Bratislava 40.51 304 *i* P **P 03 42 25.4 +0.6**
ZST *e*pP pP 03 43 10.4 +0.8
ZST *i* sP sP 03 43 36.4 +2.6
ZST *i* PP PP 03 44 02.1 -0.6
ZST *i* 03 45 07.0
ZST *i* S **S 03 48 15.8 -1.6**
ZST *i* sS sS 03 49 37.7 +1.2
ZST *i* SS SS 03 51 13.2 -13
KEV Kevo 40.69 338 *ep* **P 03 42 26.6 +0.6**
comp=Z,91nm,0.3s,mb5.7
KEV Kevo 40.69 338 P **P 03 42 26.7 +0.7**
KEV pmax pmax
comp=Z,640nm,1.0s,mb6.0
VRAC Vranov 40.78 306 P **P 03 42 28.1 +1.0**
VRAC Vranov 40.78 306⇓*i*P **P 03 42 28.3 +1.2**
SNY Shenyang 40.81 66⇑P **P 03 42 27.7 +0.3**
SNY S **S 03 48 21.3 -0.7**
SNY AMB AMB
comp=Z,309nm,0.6s,mb5.9
SNY AMB AMB
comp=Z,3μm,6.4s
SNY LR LR
comp=N,7μm,17.3s
SNY LR LR
comp=E,6μm,16.7s
SNY LR LR
comp=Z,6μm,22.9s
LCI Lecce 40.87 292 P **P 03 42 26.2 -1.7**
SOP Sopron 40.91 303 P **P 03 42 27.7 -0.4**
SOP Sopron 40.91 303⇓*e*P **P 03 42 28.5 +0.4**
DPC Dobruska-Polom 40.92 307⇓*i*P **P 03 42 28.8 +0.7**
DPC *e*pP pP 03 43 16.1 +3.1
DPC *e*x x 03 43 40.4
DPC *e*PP PP 03 44 07.1 +0.1
DPC *e*S **S 03 48 24.5 +1.1**
DPC *e*x x 03 49 39.2
KRUC Moravsky 40.93 305 P **P 03 42 28.6 +0.4**
KSP Ksiaz 40.93 308 *e*P **P 03 42 28.4 +0.2**
KSP *e*pP pP 03 43 14.2 +1.1
NRGR Nerungri 40.96 43 *i* P **P 03 42 30.1 +1.7**
NRGR S **S 03 48 30.3 +6.5**
NRGR pmax pmax
comp=Z,870nm,1.4s,mb6.0

NRGR smax
comp=N,3μm,3.8s
ARCES ARCESS Array B 41.03 338 P **P 03 42 29.4 +0.7**
comp=N,290nm,0.6s,mb5.9,baz=115,slow=7.9,SNR=1045
ARCES pP pP 03 43 16.3 +2.6
comp=N,154nm,0.8s,baz=115,slow=8.7,SNR=2.7
ARCES sP sP 03 43 40.0 +2.0
comp=N,150nm,0.8s,baz=117,slow=7.4,SNR=2.6
ARCES ScP ScP 03 47 51.9 -1.6
comp=N,75nm,1.1s,baz=126,slow=5.7,SNR=4.9
CLNS Chul'man 41.07 43 *e*P **P 03 42 30.9 +1.6**
CLNS *e* 03 44 25.8
CLNS *e*S **S 03 48 30.7 +5.3**
CLNS *e*SS SS 03 51 36.8 +0.3
CLNS pmax pmax
comp=N,278nm,1.1s
CLNS pmax pmax
comp=Z,902nm,1.1s,mb6.1
CLNS pmax pmax
comp=E,753nm,1.2s
CLNS MLR MLR
comp=E,2μm,13.0s
CLNS MLR MLR
comp=Z,3μm,13.0s
CLNS MLR MLR
comp=N,4μm,14.0s
UPC Upice 41.11 308⇓*i*P **P 03 42 30.3 +0.6**
UPC *e*pP pP 03 43 17.4 +2.8
KOGS Kog 41.24 301 *e*P **P 03 42 30.8 0.0**
KOGS *e* 03 45 20.4
KOGS *e*ScP ScP 03 47 53.8 -0.9
KOGS *e*S **S 03 48 27.7 -0.4**
CONA Conrad Observa 41.36 304 *i* P **P 03 42 32.1 +0.4**
comp=N,526nm,1.5s,mb5.7,SNR=144
KULM Kulim 41.48 131 *e*P **P 03 42 33.0 -0.1**
KULM *e*pP pP 03 43 17.8 -0.3
KULM *e*sP sP 03 43 42.7 +0.6
KULM Kulim 41.48 131⇓P **P 03 42 33.7 +0.6**
KTK1 Kautokeino 41.50 336 *e*P **P 03 42 34.0 +1.4**
TREC Trest 41.51 306⇓*i*P **P 03 42 33.5 +0.6**
TREC *e*pP pP 03 43 19.6 +1.7
TREC *e*sP sP 03 43 45.2 +3.1
TREC *e*S **S 03 48 33.9 +1.8**
TREC *e*x x 03 49 48.4
ARSA Arzberg 41.65 303 *i* P **P 03 42 34.4 +0.3**
comp=N,172nm,1.5s,mb5.3,SNR=46
ARSA Arzberg 41.65 303 P **P 03 42 34.3 +0.2**
GROS Grobnik 41.75 302 *i* P **P 03 42 35.1 +0.2**
BSD Bornholm Skovb 41.82 315⇓*i*P **P 03 42 34.1 -1.3**
BSD *i* S **S 03 48 33.8 -2.6**
BSD pmax pmax
comp=Z,220nm,1.1s,mb5.5
BSD MLR MLR
comp=Z,7μm,19.0s
BSD Bornholm Skovb 41.82 315⇓*i*P **P 03 42 34.1 -1.3**
comp=Z,216nm,1.1s,mb5.5
BSD *i* 03 45 09.5
BSD *i* S **S 03 48 33.8 -2.6**
BSD
comp=Z,7μm,19.0s
CN2 Changchun 41.83 62⇑P **P 03 42 35.7 +0.1**
CN2 *e*AP pP 03 43 19.8 -0.8
CN2 *e*XP sP 03 43 43.3 -1.5
CN2 PP PP 03 44 18.4 +1.6
CN2 *e*S **S 03 48 35.9 -1.0**
CN2 XS sS 03 49 56.7 +0.3
CN2 LR LR
comp=N,7μm,11.0s
CN2 LR LR
comp=E,5μm,11.0s
CN2 LR LR
comp=Z,6μm,11.0s
CRES Cresnjev 41.86 301 *e*P **P 03 42 36.2 +0.4**
CRES *e*pP pP 03 43 22.1 +1.2
CRES *e*sP sP 03 43 48.2 +3.2
CRES *e*ScP ScP 03 47 56.6 -0.6
CRES *e* 03 48 40.0
CRES *e* 03 50 00.3
CRES *e*SS SS 03 52 08.3 +16
SSE Sheshan 41.92 82 P **P 03 42 37.2 +0.6**
SSE AP pP 03 43 21.7 +0.1
SSE S **S 03 48 36.8 -1.8**
SSE XS sS 03 49 56.6 -1.6
SSE AMB AMB
comp=Z,426nm,0.9s,mb5.9
SSE AMB AMB
comp=Z,3μm,6.9s
SSE LR LR
comp=N,3μm,15.6s
SSE LR LR
comp=E,2μm,15.6s
SSE LR LR
comp=Z,4μm,16.9s
SSE Sheshan 41.92 82 P **P 03 42 37.2 +0.6**
comp=Z,426nm,0.9s,mb5.9
SSE pP pP 03 43 21.7 +0.1
SSE S **S 03 48 36.8 -1.8**
SSE sS sS 03 49 56.6 -1.6
SSE LR LR
comp=Z,4μm,16.9s
PERS Pernice 41.99 302 *e*P **P 03 42 37.3 +0.4**
PVCC Panska Ves 42.03 308⇓*i*P **P 03 42 38.0 +0.8**
PVCC *e**PP pP 03 43 26.2 +3.9
PVCC *e* 03 43 48.8
PVCC *e*S **S 03 48 40.6 +0.9**
PVCC Panska Ves 42.03 308⇓*i*P **P 03 42 38.0 +0.8**
PVCC *e*pP pP 03 43 26.2 +3.9
PVCC *e*sP sP 03 43 48.8 +2.4
PVCC *e*S **S 03 48 40.6 +0.9**
PVCC *e*x x 03 49 54.5
BOJS Bojanci 42.04 300 *e*P **P 03 42 37.6 +0.3**
BOJS *e*PP PP 03 44 19.3 +0.2
BOJS *e*S **S 03 48 40.0 0.0**
PRU Pruhonice 42.08 307⇓*i*P **P 03 42 38.0 +0.4**
PRU *e**PP pP 03 43 25.4 +2.7
PRU *e* 03 43 49.4
PRU *e* 03 44 25.0
PRU *e*S **S 03 48 41.8 +1.4**
PRU Pruhonice 42.08 307⇓*i*P **P 03 42 38.0 +0.4**
PRU *e*pP pP 03 43 25.4 +2.7
PRU *e*sP sP 03 43 49.4 +2.6
PRU *e*PP PP 03 44 25.0 +5.6
PRU *e*S **S 03 48 41.8 +1.4**
PRU *e*x x 03 49 55.1
TIP Timpagrande 42.14 291 *e*P **P 03 42 37.3 -1.0**
PRA Prague 42.15 307⇓P **P 03 42 39.0 +0.9**
PRA pP pP 03 43 20.0 -3.2
ORI Oriolo Calabro 42.17 292 P **P 03 42 37.7 -0.7**
FGMS Monte Sant'Ang 42.18 294 P **P 03 42 38.0 -0.5**
MSAG Monte S. Angel 42.22 294 P **P 03 42 38.2 -0.6**
SGRT San Giovanni R 42.33 295 P **P 03 42 39.2 -0.5**
TDS Terranova Siba 42.35 291 P **P 03 42 40.2 +0.3**
QZH Quanzhou 42.38 92⇑*i*P **P 03 42 39.3 -1.0**
QZH AP pP 03 43 27.0 +1.5
QZH S **S 03 48 39.1 -6.3**
QZH SCS ScS 03 52 17.5 -1.3
QZH AMB AMB
comp=Z,560nm,0.8s,mb6.0
QZH AMB AMB
comp=Z,5μm,4.0s
QZH LR LR
comp=N,13μm,20.4s
QZH LR LR
comp=E,6μm,15.0s
QZH LR LR
comp=Z,5μm,13.6s
OBKA Obir 42.40 302 *i* P **P 03 42 40.7 +0.5**
comp=Z,378nm,1.6s,mb5.6,SNR=80
OBKA Obir 42.40 302 P **P 03 42 40.7 +0.5**
BRG Berggiesshubel 42.41 308 *i* P **P 03 42 40.7 +0.5**
BRG *i**PP pP 03 43 28.0 +2.6
BRG *i**SP sP 03 43 53.0 +3.5
BRG S **S 03 48 45.0 -0.3**
BRG **SS sS 03 50 03.0 -2.0
BRG SS SS 03 52 02.0 -0.9
BRG pmax pmax
comp=Z,3.0nm,1.4s
BRG Berggiesshubel 42.41 308 *e*P **P 03 42 40.7 +0.5**
comp=Z,340nm,1.4s,mb5.6
BRG Berggiesshubel 42.41 308 *i* P **P 03 42 40.7 +0.5**
comp=Z,339nm,1.4s,mb5.6
BRG *i* pP pP 03 43 28.0 +2.6
BRG *i* sP sP 03 43 53.0 +3.5

comp=Z,307nm,1.3s
BRG pPP 03 45 21.0
BRG *i* SCP ScP 03 47 56.2 -3.1
comp=Z,71nm,1.1s
BRG S **S** **03 48 45.0 -0.3**
BRG sS sS 03 50 03.0 -2.0
BRG SS SS 03 52 02.0 -0.9
MOA Molln 42.44 304 *i* P **P** **03 42 40.5 0.0**
comp=Z,368nm,1.5s,mb5.6,SNR=72
MOA Molln 42.44 304 P **P** **03 42 40.4 -0.1**
RUE Ruedersdorf 42.46 311 *eP* **P** **03 42 40.9 +0.4**
comp=Z,218nm,1.1s,mb5.5
RUE Ruedersdorf 42.46 311 *eP* **P** **03 42 41.0 +0.4**
comp=Z,426nm,1.4s,mb5.7
RGNG Rignano Grg 42.46 294 P **P** **03 42 40.3 -0.4**
PSI Prapat 42.47 136 P **P** **03 42 40.5 -0.6**
PSI sP sP 03 43 51.0 +0.8
PSI ScP ScP 03 47 57.3 -2.8
PSI S **S** **03 48 43.4 -3.5**
PSI Prapat 42.47 136 P **P** **03 42 40.6 -0.5**
PSI *SP sP 03 43 51.1 +0.8
PSI S **S** **03 48 43.4 -3.5**
PSI pmax pmax
comp=Z,718nm,0.9s,mb6.1
PSI smax
comp=N,23nm,1.0s
PSI Prapat 42.47 136 P **P** **03 42 40.5 -0.6**
comp=N,718nm,0.9s,mb6.1,baz=326,slow=8.9,SNR=164
PSI sP sP 03 43 51.0 +0.8
comp=N,87nm,0.7s,baz=315,slow=10.0,SNR=1.2
PSI ScP ScP 03 47 57.3 -2.8
comp=N,48nm,0.8s,baz=332,slow=8.1,SNR=5.3
PSI S **S** **03 48 43.4 -3.5**
comp=N,22nm,1.0s,baz=244,slow=22,SNR=7.8
LJU Ljubljana 42.47 301 *eP* **P** **03 42 41.3 +0.6**
LJU *e*pP pP 03 43 27.4 +1.4
LJU *e*sP sP 03 43 53.1 +3.0
LJU *e*PP PP 03 44 23.9 +0.2
LJU *e* 03 45 28.1
LJU *e*ScP ScP 03 47 59.4 -0.3
LJU *e*S **S** **03 48 46.3 0.0**
LJU *e*SS SS 03 52 15.8 +12
LJU Ljubljana 42.47 301 *eP* **P** **03 42 41.3 +0.6**
LJU *e*pP pP 03 43 27.4 +1.4
LJU *e* pP 03 43 30.0 +4.0
LJU *e*sP sP 03 43 53.1 +3.0
LJU *e*PP PP 03 44 23.9 +0.2
LJU *e* 03 45 28.1
LJU *e*ScP ScP 03 47 59.4 -0.3
LJU *e*S **S** **03 48 46.3 0.0**
LJU *e*SS SS 03 52 15.8 +12
LJU Ljubljana 42.47 301 *eP* **P** **03 42 41.3 +0.6**
LJU *e*pP pP 03 43 27.4 +1.4
LJU *e* pP 03 43 30.0 +4.0
LJU *e*sP sP 03 43 53.1 +3.0
LJU *e*PP PP 03 44 23.9 +0.2
LJU *e* 03 45 28.1
LJU *e*ScP ScP 03 47 59.4 -0.3
LJU *e*S **S** **03 48 46.3 0.0**
LJU *e*SS SS 03 52 15.8 +12
GRI Girifalco 42.49 290 P **P** **03 42 40.7 -0.3**
FG4 Candela 42.62 294 P **P** **03 42 42.4 +0.3**
GEC2 GERESS Array S 42.71 305 *eP* **P** **03 42 42.7 0.0**
GEC2 pmax pmax
comp=Z,98nm,1.2s,mb5.1
GEC2 GERESS Array S 42.71 305 *eP* **P** **03 42 42.7 0.0**
comp=Z,98nm,1.2s,mb5.1
GERES GERESS Array B 42.71 305 P **P** **03 42 43.0 +0.3**
comp=Z,62nm,1.1s,mb4.9,baz=91,slow=6.9,SNR=136
GERES pP pP 03 43 29.8 +1.9
comp=Z,10nm,0.6s,baz=86,slow=6.8,SNR=2.4
GERES sP sP 03 43 54.8 +2.9
comp=Z,21nm,0.9s,baz=98,slow=6.9,SNR=2.5
GERES PP PP 03 44 25.3 -0.9
comp=Z,47nm,0.8s,baz=81,slow=8.2,SNR=4.7
GERES ScP ScP 03 47 58.3 -2.3
comp=Z,12nm,0.8s,baz=102,slow=4.1,SNR=5.3
RGN Rugen 42.72 314 *eP* **P** **03 42 43.3 +0.6**
comp=Z,660nm,1.0s,mb6.0
RGN Rugen 42.72 314 *eP* **P** **03 42 43.4 +0.7**
comp=Z,1μm,1.3s,mb6.2
FG2 Serracapriola 42.74 295 P **P** **03 42 43.6 +0.6**
KHC Kasperske Hory 42.77 306 ⇓*iP* **P** **03 42 43.4 +0.3**
KHC *ex* x 03 42 50.0
KHC *e*pP pP 03 43 29.9 +1.6
KHC *e*sP sP 03 43 55.0 +2.6
KHC *e*S **S** **03 48 51.4 +0.9**
KHC *ex* x 03 50 06.1
FG5 Orsara di Pugl 42.78 294 P **P** **03 42 43.9 +0.6**
FBE Freiberg 42.78 308 *eP* **P** **03 42 43.5 +0.3**
MGR Morigerati 42.82 292 P **P** **03 42 43.3 -0.4**
HFS Hagfors 42.90 322 P **P** **03 42 43.8 -0.2**
HFS *PP pP 03 43 30.8 +1.6
HFS pmax pmax
comp=Z,259nm,0.6s
HFS Hagfors 42.90 322 P **P** **03 42 43.8 -0.2**
comp=Z,259nm,0.6s,mb5.8,baz=96,slow=12,SNR=356
HFS pP pP 03 43 30.8 +1.6
comp=Z,165nm,0.7s,baz=96,slow=9.5,SNR=2.3
HFA0 Hagfors New Ar 42.90 322 P **P** **03 42 43.4 -0.6**
SGO Sicignano 42.91 293 P **P** **03 42 44.8 +0.5**
VOY Vojsko 42.91 301 *ep*P pP 03 43 30.7 +1.1
VOJS Vojsko 42.92 301 *i* P **P** **03 42 44.4 0.0**
SOI Samo 42.96 289 P **P** **03 42 44.7 -0.1**
CIGN Sant'Elia a Pi 42.96 295 P **P** **03 42 45.2 +0.4**
KTGM Kuala Trenggan 42.98 128 ⇑P **P** **03 42 46.2 +1.0**
CLL Collm 42.98 309 ⇓*iP* **P** **03 42 44.7 -0.1**
comp=Z,223nm,1.4s,mb5.4
CLL *i* pP pP 03 43 34.3 +4.2
CLL *i* ScP ScP 03 48 01.1 -0.5
CLL *e*S **S** **03 48 51.0 -2.6**
CLL Collm 42.98 309 ⇓*iP* **P** **03 42 44.7 -0.1**
CLL *i* *PP pP 03 43 34.3 +4.2
CLL *e*S **S** **03 48 51.0 -2.6**
CLL Collm 42.98 309 *eP* **P** **03 42 45.3 +0.5**
comp=Z,225nm,1.4s,mb5.4
CLL *e*pP pP 03 43 31.9 +1.8
CLL *e*sP sP 03 43 57.5 +3.3
CLL *e*PP PP 03 44 31.3 +2.3
CLL *e*sPP 03 45 36.5
CLL *e*ScP ScP 03 48 00.8 -0.8
CLL *e*S **S** **03 48 52.2 -1.4**
CLL *e*sS sS 03 50 19.4 +6.0
CLL *e*SS SS 03 52 18.0 +4.1
CLL *e*ScS ScS 03 52 21.7 0.0
CLL Collm 42.98 309 ⇓*iP* **P** **03 42 44.7 -0.1**
comp=Z,223nm,1.4s,mb5.4
CLL *i* pP pP 03 43 32.0 +1.9
CLL *i* sP sP 03 43 57.0 +2.8
CLL *e*PP PP 03 44 28.0 -1.0
CLL *e*PcP PcP 03 44 30.0 -1.0
CLL *i* x x 03 44 40.4
CLL *i* x x 03 44 43.4
CLL *e*pPP 03 45 06.0
CLL *ex* x 03 45 25.0
CLL *i* (sPP) 03 45 41.3
CLL *i* ScP ScP 03 48 01.1 -0.5
CLL *e*PcS PcS 03 48 25.0 +1.5
CLL *e*S **S** **03 48 51.0 -2.6**
comp=N,4μm,28.3s
CLL *e*S **S** **03 48 51.0 -2.6**
comp=E,5μm,26.5s
CLL *e*sS sS 03 50 19.0 +5.6
CLL *e*SS SS 03 52 09.0 -4.9
CLL *e*ScS ScS 03 52 18.0 -3.7
CLL *ex* x 03 53 23.0
CLL *e*SSS 03 53 48.0
CADS Cadrg 42.99 301 *eP* **P** **03 42 44.8 -0.2**
CADS *e*pP pP 03 43 31.7 +1.5
CADS *e*sP sP 03 43 57.2 +2.9
MYKA Terra Mystica 43.00 302 ⇓*iP* **P** **03 42 45.1 +0.1**
comp=E,771nm,1.8s,mb5.8
MRB1 Monte Rocchett 43.03 294 P **P** **03 42 46.0 +0.7**
CSSN Cassano Irpino 43.05 293 P **P** **03 42 45.7 +0.2**
DRE Drenchia 43.06 301 ⇓*iP* **P** **03 42 45.0 -0.5**
LSR Lussari 43.10 302 ⇓*iP* **P** **03 42 46.0 +0.2**
PSB1 Pescosannita 43.12 294 P **P** **03 42 46.4 +0.3**
KBA Koelnbreinsper 43.15 303 *i* P **P** **03 42 46.2 +0.1**
comp=E,255nm,1.7s,mb5.4,SNR=46
TRO Tromso 43.15 336 *eP* **P** **03 42 45.2 -0.7**
TRO *e*S **S** **03 48 55.2 -0.4**
TRO AMS AMS 03 53 35.7
comp=Z,4μm,20.6s
WET Wettzell 43.23 306 *eP* **P** **03 42 46.6 -0.2**
WET pmax pmax
comp=Z,109nm,1.6s,mb5.0
WET Wettzell 43.23 306 *eP* **P** **03 42 46.6 -0.2**
comp=Z,109nm,1.6s,mb5.0
PTCC Patocco-Chiusa 43.23 302 P **P** **03 42 46.7 -0.1**
COLI Coloredo 43.25 301 ⇑*iP* **P** **03 42 47.0 0.0**
COP Copenhagen 43.25 315 ⇑*iP* **P** **03 42 48.0 +1.1**
COP *i* 03 43 58.1
COP *e* 03 45 10.2
COP *i* S **S** **03 48 57.8 +0.5**
COP pmax pmax
comp=Z,180nm,1.0s,mb5.5
COP MLR MLR
comp=Z,2μm,17.0s
COP Copenhagen 43.25 315 ⇑*iP* **P** **03 42 48.0 +1.1**
comp=Z,185nm,1.0s,mb5.5
COP *i* 03 43 58.1
COP *e* 03 45 10.2
COP *i* S **S** **03 48 57.8 +0.5**
COP
comp=Z,2μm,17.0s
GMNA Gemona 43.33 302 P **P** **03 42 47.9 +0.3**
BAD Bernadia 43.33 302 ⇓*eP* **P** **03 42 47.0 -0.6**
PLRO Paularo 43.35 302 ⇑*eP* **P** **03 42 48.0 +0.2**
SGG Gregorio Mates 43.41 294 P **P** **03 42 48.4 +0.1**
NKC Novy Kostel 43.41 307 ⇓*iP* **P** **03 42 48.7 +0.5**
NKC *ep*P pP 03 43 35.8 +2.2
NKC *e*S **S** **03 49 02.0 +2.2**
BUA Buia 43.41 301 ⇑*eP* **P** **03 42 48.0 -0.3**
MIDA Miranda 43.44 295 P **P** **03 42 48.8 +0.2**
WERN Wernitzgruen 43.45 307 *eP* **P** **03 42 49.1 +0.6**
comp=Z,164nm,1.5s,mb5.2
GUNZ Gunzen 43.47 308 *eP* **P** **03 42 49.2 +0.5**
comp=Z,213nm,1.3s,mb5.4
WERD Werda 43.48 308 *eP* **P** **03 42 49.0 +0.2**
comp=Z,183nm,1.3s,mb5.3
RNI2 Rionero Sannit 43.50 295 P **P** **03 42 49.6 +0.5**
MPRI Monte Prat 43.50 302 ⇑*eP* **P** **03 42 49.0 0.0**
AOI Ancona 43.53 298 P **P** **03 42 49.2 -0.1**
OFFI Offida 43.59 297 P **P** **03 42 50.7 +1.0**
FVI Forni Avoltri 43.59 302 P **P** **03 42 49.5 -0.3**
ROTZ Rotzenmuhle 43.60 307 *eP* **P** **03 42 50.7 +0.9**
comp=Z,326nm,1.4s,mb5.5
MANZ Manzenberg 43.65 307 *eP* **P** **03 42 50.7 +0.6**
comp=Z,219nm,1.4s,mb5.3
MOR8 Moi Rana 43.68 331 *eP* **P** **03 42 49.7 -0.4**
TERO Teramo 43.71 296 P **P** **03 42 50.7 0.0**
RFI Roccamonfina 43.72 294 P **P** **03 42 50.9 +0.1**
SDI San Donato 43.75 295 P **P** **03 42 50.2 -0.9**
SLNA Salina 43.75 290 P **P** **03 42 51.0 -0.1**
CING Cingoli 43.85 297 P **P** **03 42 52.0 +0.2**
VVLD Villa Vallelon 43.85 295 P **P** **03 42 51.8 -0.1**
MOX Moxa 43.90 308 *eP* **P** **03 42 52.3 +0.2**
comp=Z,448nm,1.9s,mb5.5
MOX *e* pP 03 43 40.5 +2.9
MOX
comp=Z,2μm,23.0s
MOX Moxa 43.90 308 *eP* **P** **03 42 52.3 +0.2**
MOX *e* pP 03 43 40.5 +2.9
MOX Moxa 43.90 308 *eP* **P** **03 42 52.4 +0.3**
comp=Z,212nm,1.3s,mb5.3
AQU L'Aquila 43.91 296 P **P** **03 42 52.8 +0.5**
AQU L'Aquila 43.91 296 ⇓*iP* **P** **03 42 52.4 +0.1**
SEST Monte Rota 43.96 302 P **P** **03 42 52.2 -0.4**
SSY Sortino 43.96 288 P **P** **03 42 52.5 -0.3**
PESA Pesaro 43.99 298 P **P** **03 42 53.4 +0.4**
NRCA Norcia 44.02 297 P **P** **03 42 52.8 -0.4**
SNTG Esanatoglia 44.06 297 P **P** **03 42 53.4 -0.1**
FSSB Fossombrone 44.09 298 P **P** **03 42 53.9 +0.2**
YAK Yakutsk 44.10 35 *eP* **P** **03 42 54.0 +0.4**
YAK Yakutsk 44.10 35*c iP* **P** **03 42 53.9 +0.4**
YAK *i* *PP pP 03 43 43.3 +4.3
YAK *i* 03 44 33.6
YAK *e* 03 44 41.0
YAK *e*S **S** **03 49 09.3 -0.2**
YAK *i* *SS sS 03 50 25.6 -4.0
YAK *i* 03 52 21.2
YAK *i* SSS 03 53 34.4
YAK pmax pmax
comp=Z,2μm,0.9s,mb6.4
YAK pmax pmax
comp=N,473nm,1.2s
YAK pmax pmax
comp=E,1μm,1.5s
YAK smax
comp=N,16μm,1.7s
YAK smax
comp=E,2μm,1.8s
YAK smax
comp=Z,700nm,1.8s
INCN Inchon 44.12 71 *eP* **P** **03 42 54.3 +0.2**
INCN Inchon 44.12 71 P **P** **03 42 56.4 +2.3**
SNR=10
FIAM Fiamignano 44.13 296 P **P** **03 42 54.4 +0.3**
NB2 NORSAR Subarra 44.21 323 P **P** **03 42 54.0 -0.4**
comp=Z,333nm,0.7s,mb5.8,baz=96,slow=7.9
NB2 NORSAR Subarra 44.21 323 P **P** **03 42 55.3 +0.9**
NOA NORSAR Array B 44.21 323 P **P** **03 42 53.9 -0.5**
NOA pmax pmax
comp=Z,260nm,0.7s
NOA NORSAR Array B 44.21 323 P **P** **03 42 53.9 -0.6**
comp=Z,260nm,0.7s,mb5.7,baz=97,slow=7.8,SNR=652
HVZN Vizzini 44.23 288 P **P** **03 42 55.1 +0.2**
GRA1 Grafenberg Arr 44.25 307 *eP* **P** **03 42 55.9 +1.0**
comp=Z,355nm,1.3s,mb5.5
GRA1 *ep*P pP 03 43 41.7 +1.3
GRA1 *es*P sP 03 44 07.1 +2.7
GRF Grafenberg Arr 44.25 307 *eP* **P** **03 42 55.9 +1.0**
GRF *e*PP pP 03 43 41.7 +1.3
GRF *e*SP sP 03 44 07.1 +2.7
GRF pmax pmax
comp=Z,355nm,1.3s,mb5.5
GRF Grafenberg Arr 44.25 307 *eP* **P** **03 42 55.9 +1.0**
GRF *e*PP pP 03 43 41.7 +1.3
GRF *e*SP sP 03 44 07.1 +2.7
GRF pmax pmax
comp=Z,355nm,1.3s,mb5.5
GRF Grafenberg Arr 44.25 307 *eP* **P** **03 42 55.9 +1.0**
comp=Z,355nm,1.3s,mb5.5
GRF *ep*P pP 03 43 41.7 +1.3
GRF *es*P sP 03 44 07.1 +2.7
GRFO Grafenberg 44.25 307 ⇓*iP* **P** **03 42 56.0 +1.1**
comp=Z,735nm,1.6s,mb5.8
GRFO *ep*P pP 03 43 39.1 -1.3
GRFO *es*P sP 03 44 05.8 +1.4
GRFO *e*S **S** **03 49 12.8 +0.9**
GRFO Grafenberg 44.25 307 *eP* **P** **03 42 56.0 +1.1**
GRFO pmax pmax
comp=Z,720nm,1.6s,mb5.8
RSM Repubblica di 44.27 298 P **P** **03 42 55.7 +0.5**
WTTA Wattenberg 44.27 303 ⇑*iP* **P** **03 42 54.7 -0.5**
comp=Z,264nm,1.4s,mb5.4,SNR=27
WTTA Wattenberg 44.27 303 P **P** **03 42 54.8 -0.3**
STOK Stokkvaagen 44.28 331 *eP* **P** **03 42 55.6 +0.7**
PIEI Pieia 44.29 298 P **P** **03 42 55.6 +0.3**
ASS Assisi 44.30 297 P **P** **03 42 56.1 +0.7**
CERT Cerreto 44.30 295 P **P** **03 42 55.0 -0.4**
WATA Walderalm 44.30 303 ⇓*iP* **P** **03 42 54.9 -0.4**
comp=Z,117nm,1.3s,mb5.1,SNR=10
WATA Walderalm 44.30 303 P **P** **03 42 55.1 -0.3**
NSS Namsos 44.35 328 *eP* **P** **03 42 56.2 +0.8**
NSS *e*S **S** **03 49 13.4 +0.4**
NSS LR LR
comp=Z,3μm,18.2s
NSS Namsos 44.35 328 *eP* **P** **03 42 56.2 +0.8**
NSS *e*S **S** **03 49 13.4 +0.4**
NSS *e*SS SS 03 52 33.0 -4.0
NSS AMS AMS 04 02 48.7
comp=Z,3μm,18.2s
MURB Monte Urbino 44.35 297 P **P** **03 42 56.7 +0.9**
OSL Oslo 44.36 321 *eP* **P** **03 42 55.9 +0.2**
VAE Valguarnera 44.37 289 P **P** **03 42 56.8 +0.7**
comp=Z,75nm,0.9s,mb5.0,baz=50,slow=6.5,SNR=9.5
FUR Furstenfeldbru 44.39 305 *eP* **P** **03 42 56.6 +0.5**
FUR pmax pmax
comp=Z,367nm,1.3s,mb5.5
FUR Furstenfeldbru 44.39 305 *eP* **P** **03 42 56.6 +0.5**
comp=Z,367nm,1.3s,mb5.5
MNS Montasola 44.42 296 P **P** **03 42 55.9 -0.5**
CTI Castel Tesino 44.45 301 P **P** **03 42 56.7 +0.1**
MTCE Montecelio 44.46 296 P **P** **03 42 56.0 -0.7**
RAFF Raffo Rosso 44.48 289 P **P** **03 42 57.9 +0.9**
BSEG Bad Segeberg 44.49 313 *eP* **P** **03 42 57.5 +0.7**
comp=Z,383nm,1.3s,mb5.6
BADI Badiali 44.50 298 P **P** **03 42 58.0 +1.0**
CSLB Castelbuono 44.51 290 P **P** **03 42 56.6 -0.6**
LOF Lofoten 44.52 333 *eP* **P** **03 42 58.9 +2.2**
CDCA Citt' di Caste 44.52 298 P **P** **03 42 58.1 +1.0**
GIB Gibilmanna 44.52 290 P **P** **03 42 56.4 -0.8**
LAV9 Lanuvio 44.57 295 P **P** **03 42 57.2 -0.4**
SQTA Sankt Quirin 44.57 303 ⇑*iP* **P** **03 42 56.9 -0.6**
comp=Z,123nm,1.3s,mb5.1,SNR=44
SQTA Sankt Quirin 44.57 303 P **P** **03 42 57.0 -0.5**
MA9 Marino 44.58 295 P **P** **03 42 57.2 -0.4**
CLZ Clausthal 44.59 310 *eP* **P** **03 42 57.7 +0.2**
CLZ pmax pmax
comp=Z,314nm,1.3s,mb5.5
CLZ Clausthal 44.59 310 *eP* **P** **03 42 57.7 +0.2**
comp=Z,314nm,1.3s,mb5.5
MDJ Mudanjiang 44.62 61 P **P** **03 42 57.5 -0.4**
MDJ AP pP 03 43 42.3 -1.2
MDJ XP sP 03 44 07.4 -0.1
MDJ PCP PcP 03 44 37.5 +0.8
MDJ PP PP 03 44 46.1 -0.3
MDJ SCP ScP 03 48 08.7 +0.3
MDJ PCS PcS 03 48 32.9 +2.5
MDJ S **S** **03 49 16.6 -0.8**
MDJ XS sS 03 50 35.7 -2.0
MDJ SCS ScS 03 52 32.8 +0.5
MDJ AMB AMB
comp=Z,159nm,1.6s,mb5.1
MDJ AMB AMB
comp=Z,3μm,7.4s
MDJ Mudanjiang 44.62 61 ⇑*eP* **P** **03 42 57.7 -0.1**
comp=Z,369nm,1.5s,mb5.5
MDJ *ep*P pP 03 43 48.2 +4.8
MDJ *es*P sP 03 44 09.3 +1.8
MOTA Moosalm 44.62 303 ⇓*iP* **P** **03 42 57.2 -0.7**
comp=Z,96nm,1.1s,mb5.0,SNR=55
MOTA Moosalm 44.62 303 P **P** **03 42 57.3 -0.6**
APPI Appiano 44.67 302 P **P** **03 42 56.9 -1.4**
CRE Caprese Michel 44.69 298 P **P** **03 42 58.7 +0.2**
TATO Taipei 44.70 90 *eP* **P** **03 42 57.8 -1.0**
comp=Z,450nm,1.4s,mb5.6
NRDL Niedersach Rie 44.70 311 *eP* **P** **03 42 59.0 +0.6**
comp=Z,335nm,1.4s,mb5.5
SFI Santa Sofia 44.70 298 P **P** **03 42 59.5 +0.9**
YHNB Yeheng 44.75 91 *eP* **P** **03 43 00.0 +0.8**
YHNB *e*PcP PcP 03 44 35.4 -2.2
RETA Reutte 44.83 304 *i* P **P** **03 42 58.9 -0.6**
comp=Z,188nm,1.6s,mb5.2,SNR=24
VMG Vicchio 44.91 299 P **P** **03 43 01.2 +1.0**
UBBA Unterbreizbach 44.91 308 *eP* **P** **03 43 00.1 0.0**
comp=Z,216nm,1.6s,mb5.2
KONO Kongsberg 44.91 321 *eP* **P** **03 43 00.7 +0.7**
KONO *e* 03 45 59.4
KONO Kongsberg 44.91 321 *eP* **P** **03 43 00.2 +0.2**
MCT Mte Cammarata 44.92 289 P **P** **03 43 01.0 +0.6**
FETA Feichten 44.92 303 *i* P **P** **03 42 59.8 -0.5**
comp=Z,164nm,1.4s,mb5.2,SNR=62
USI Ustica 44.96 291 P **P** **03 43 00.2 -0.5**
TOLF Tolfa 44.99 296 P **P** **03 43 00.3 -0.6**
LATE Laterza 45.01 297 P **P** **03 43 00.4 -0.6**
HDH Heidenheim-Cha 45.04 305 P **P** **03 43 02.2 +1.0**
RAVA Ravarino 45.05 300 P **P** **03 43 02.5 +1.2**
MUD Monsted U'grnd 45.08 316 ⇑*iP* **P** **03 43 02.4 +1.0**
MUD *e* 03 44 12.4
MUD *i* S **S** **03 49 23.9 +0.2**
MUD pmax pmax
comp=Z,140nm,1.2s,mb5.2
MUD MLR MLR
comp=Z,7μm,18.0s
MUD Monsted U'grnd 45.08 316 ⇑*iP* **P** **03 43 02.4 +1.0**
comp=Z,143nm,1.2s,mb5.2
MUD *e* 03 44 12.4
MUD *i* S **S** **03 49 23.9 +0.2**
MUD
comp=Z,7μm,18.0s
KSRS Korea Array 45.11 71 P **P** **03 43 01.7 -0.2**
comp=Z,110nm,0.5s,mb5.4,baz=276,slow=7.2,SNR=134
KSRS pP pP 03 43 50.0 +2.4
comp=Z,24nm,0.7s,baz=275,slow=5.9,SNR=1.5
KSRS PcP PcP 03 44 38.3 -0.3
comp=Z,87nm,1.0s,baz=280,slow=3.6,SNR=8.6
KSRS ScP ScP 03 48 08.1 -2.5
comp=Z,15nm,0.9s,baz=280,slow=5.0,SNR=5.5
BJO Bjornoya 45.13 343 *eP* **P** **03 43 02.1 +0.5**
BJO *e*S **S** **03 49 25.6 +1.6**
BJO *e*SS SS 03 52 53.8 +4.2
NACB Ninganchiao 45.15 91 *eP* **P** **03 43 03.7 +1.3**
NACB PcP PcP 03 44 38.1 -0.9
FNVD Fontana Vidola 45.16 299 P **P** **03 43 02.3 +0.1**
BJO1 Bjornoya 45.17 343 *eP* **P** **03 43 02.1 +0.2**
BJO1 *e*SS SS 03 52 53.8 +3.5
CSNT Castellina Chi 45.19 298 P **P** **03 43 01.9 -0.5**
MAGA Magasa 45.20 301 P **P** **03 43 02.6 +0.1**
MABI Malga Bissina 45.23 302 P **P** **03 43 02.2 -0.5**
UBR Ueberruh 45.24 304 P **P** **03 43 02.7 0.0**
BRMO Bormio 45.26 302 P **P** **03 43 02.2 -0.7**
FUORN Ofenpass-Fuorn 45.30 303 ⇓*iP* **P** **03 43 02.8 -0.5**
comp=Z,395nm,1.8s,mb5.4
DOMB Dombas 45.33 324 *eP* **P** **03 43 03.7 +0.4**
SIND Sindeldorf 45.33 306 P **P** **03 43 04.2 +0.8**
DAVA Damuels 45.45 303 ⇓*iP* **P** **03 43 03.9 -0.5**
comp=Z,402nm,1.3s,mb5.6,SNR=172
DAVA Damuels 45.45 303 P **P** **03 43 04.3 -0.1**
GSCL Gusciola 45.50 299 P **P** **03 43 06.0 +1.1**
BERNI Berninapass 45.51 302 ⇓*iP* **P** **03 43 04.3 -0.5**
comp=Z,278nm,1.2s,mb5.5
MAON Monte Argentar 45.53 297 P **P** **03 43 04.4 -0.7**
DAVOX Davos/Dischmat 45.54 303 ⇓*iP* **P** **03 43 04.4 -0.7**
comp=Z,202nm,1.2s,mb5.3
BDI Bagni Di Lucca 45.56 299 P **P** **03 43 05.0 -0.3**
BUCH Bad Urach 45.62 305 P **P** **03 43 06.5 +0.8**
KGM Kluang 45.68 131 ⇓P **P** **03 43 07.8 +1.2**
STU Stuttgart 45.68 306 *eP* **P** **03 43 06.6 +0.4**
comp=Z,222nm,1.4s,mb5.3
VLC Villacollemand 45.69 299 *eP* **P** **03 43 06.6 +0.3**
LIENZ Kamor/St.Gall 45.71 304 ⇓*iP* **P** **03 43 06.0 -0.4**
comp=Z,558nm,1.2s,mb5.8
TOD Tromm 45.82 307 P **P** **03 43 08.1 +0.9**
PLONS Plons/SG 45.83 303 ⇓*iP* **P** **03 43 06.6 -0.8**
comp=Z,482nm,1.3s,mb5.7
GUT Gutenstein 45.84 305 P **P** **03 43 07.7 +0.3**
TIXI Tiksi 45.85 22 *eP* **P** **03 43 07.3 +0.1**
comp=Z,2μm,1.0s,mb6.4
TIXI Tiksi 45.85 22*c iP* **P** **03 43 07.4 +0.2**
TIXI *e*SP sP 03 44 15.3 -1.7
TIXI *e* 03 44 59.1
TIXI *e*S **S** **03 49 34.3 -0.1**
TIXI *e*SS sS 03 50 54.5 -0.6
TIXI *i* 03 52 33.8
TIXI *e*SS SS 03 53 05.5 +4.2
TIXI pmax pmax
comp=Z,3μm,1.1s,mb6.5
VDL Val di Lei 45.88 302 ⇓P **P** **03 43 07.4 -0.4**
VDL Val di Lei 45.88 302 ⇓*iP* **P** **03 43 07.1 -0.7**
comp=Z,230nm,1.3s,mb5.3
SWS Schriesheim-Wi 45.90 307 P **P** **03 43 08.6 +0.7**
TUE Stuetta 45.95 302 P **P** **03 43 07.8 -0.5**
LBG Lerchenberg 45.96 306 P **P** **03 43 08.9 +0.6**
TNS Taunus Mts 45.96 308 *eP* **P** **03 43 08.9 +0.5**
TNS pmax pmax
comp=Z,134nm,1.3s,mb5.1
TNS Taunus Mts 45.96 308 *eP* **P** **03 43 08.9 +0.5**
comp=Z,134nm,1.3s,mb5.1
SISB Singen-Schiene 46.00 304 P **P** **03 43 08.6 -0.1**
WEIN Weingarten 46.01 304 ⇓*iP* **P** **03 43 08.0 -0.8**
comp=Z,337nm,1.9s,mb5.3
SPAK Spaichingen-Ko 46.05 305 P **P** **03 43 09.6 +0.5**
STEIN Stein am Rhein 46.07 304 ⇓*iP* **P** **03 43 08.4 -0.8**
comp=Z,292nm,1.4s,mb5.4
MOL Molde 46.08 325 *eP* **P** **03 43 08.8 -0.2**
MOL *e*S **S** **03 49 39.1 +1.5**
MOL *e*SS SS 03 53 06.5 +1.3
MOL AMS AMS 04 04 04.9
comp=Z,3μm,18.7s
WILA Wila 46.08 304 ⇑P **P** **03 43 07.6 -1.7**
WILA Wila 46.08 304 ⇓*iP* **P** **03 43 08.6 -0.7**
comp=Z,391nm,1.9s,mb5.4
LLS Linth-Limmern 46.12 303 ⇓*iP* **P** **03 43 08.8 -0.8**
comp=Z,195nm,1.2s,mb5.3
SNART Snartemo 46.12 319 *eP* **P** **03 43 10.2 +0.7**
IBBN Ibbenburen 46.15 311 *eP* **P** **03 43 10.1 +0.3**
comp=Z,556nm,1.4s,mb5.7
MYKOM Kota Tinggi 46.18 131 ⇓P **P** **03 43 11.6 +1.1**
TRULL Truellikon 46.20 304 ⇓*iP* **P** **03 43 09.3 -0.9**
comp=Z,324nm,1.2s,mb5.5

BOB **Bobbio (Coli)** 46.22 300 P P 03 43 11.3 +0.9
MUGIO **Muggio** 46.27 302⇓*i*P P 03 43 10.0 -0.8
comp=Z,441nm,1.9s,mb5.5
FLACH **Flaach** 46.28 304⇓*i*P P 03 43 09.3 -1.6
comp=Z,401nm,2.0s,mb5.4
SLE **Schleitheim** 46.30 304 ⇓P P 03 43 10.3 -0.7
SLE **Schleitheim** 46.30 304⇓*i*P P 03 43 10.2 -0.8
comp=Z,308nm,1.9s,mb5.3
ZUR **Degenried** 46.31 304 ⇓P P 03 43 10.5 -0.6
ZUR **Degenried** 46.31 304⇓*i*P P 03 43 10.3 -0.8
comp=Z,404nm,2.3s,mb5.3
BFO **Black Forest** 46.32 305 P P 03 43 10.8 -0.3
BFO pmax pmax
comp=Z,120nm,1.2s,mb5.1
BFO **Black Forest** 46.32 305 *e*P P 03 43 10.8 -0.3
comp=Z,113nm,1.3s,mb5.0
KTD **Kalmit** 46.32 307 P P 03 43 12.3 +1.1
MUO **Muotathal** 46.34 303 ⇓P P 03 43 10.7 -0.7
MUO **Muotathal** 46.34 303⇓*i*P P 03 43 10.9 -0.5
comp=Z,1µm,2.3s,mb5.8
FUSIO **Fusio** 46.42 303⇓*i*P P 03 43 11.0 -1.0
comp=Z,280nm,1.4s,mb5.4
ODD1 **Odda** 46.42 321⇑*i*P P 03 43 11.8 0.0
VAI **Varese** 46.46 302 P P 03 43 11.2 -1.1
BNALP **Bannalp** 46.51 303⇓*i*P P 03 43 12.0 -0.6
comp=Z,397nm,1.2s,mb5.6
BLS5 **Blasjo** 46.51 321⇑*i*P P 03 43 14.0 +1.6
LANF **Langenberg** 46.55 306 *e*P P 03 43 13.6 +0.6
LANF **Langenberg** 46.55 306 P P 03 43 14.1 +1.1
VLA **Vladivostok** 46.56 62 *i*P P 03 43 13.1 0.0
VLA **Vladivostok** 46.56 62*d*P P 03 43 12.9 -0.2
VLA *e**PP pP 03 44 02.2 +3.1
VLA *e*S S 03 49 45.5 +0.3
VLA pmax pmax
comp=Z,1µm,1.2s,mb6.1
VLA MLR MLR
comp=Z,4µm,14.0s
ABH **Alteburg** 46.59 307 P P 03 43 14.2 +1.0
SULZ **Cheisacher** 46.60 304 ⇓P P 03 43 12.7 -0.6
SULZ **Cheisacher** 46.60 304⇓*i*P P 03 43 12.4 -0.9
comp=Z,364nm,1.1s,mb5.6
FELD **Feldberg im Sc** 46.61 305 P P 03 43 13.6 +0.2
STR **Strasbourg** 46.64 306 *e*P P 03 43 13.8 +0.1
KIZ **Kirchzarten** 46.65 305 P P 03 43 13.7 0.0
HYA **Hoyanger** 46.66 323 *e*P P 03 43 15.2 +1.6
HASLI **Hasliberg/Brie** 46.71 303⇓*i*P P 03 43 13.3 -0.9
comp=Z,386nm,1.3s,mb5.6
WTSB **Winterswijk** 46.78 310 *e*P P 03 43 15.0 +0.4
comp=Z,150nm,1.7s,mb5.0
WTSB **Winterswijk** 46.78 310 *e*pP pP 03 44 03.2 +2.5
WTSB **Winterswijk** 46.78 310 *e*sP sP 03 44 28.0 +3.5
STAV **Stavanger** 46.90 320⇑*i*P P 03 43 16.1 +0.6
BALST **Balsthal** 46.91 304⇓*i*P P 03 43 14.7 -1.0
comp=Z,358nm,1.5s,mb5.5
RUP **Ruppelstein** 46.92 307 P P 03 43 16.8 +1.0
MMK **Mattmark** 46.98 302⇓*i*P P 03 43 15.3 -1.0
comp=Z,336nm,1.9s,mb5.3
CDF **Champ du Feu** 46.99 305 *e*P P 03 43 15.7 -0.7
comp=Z,78nm,1.0s,mb4.7
CDF *e*pP pP 03 44 04.1 +1.7
CDF **Champ du Feu** 46.99 305 *e*P P 03 43 15.7 -0.7
comp=Z,39nm,1.0s,mb4.7
CDF *e*pP pP 03 44 04.1 +1.7
CDF **Champ du Feu** 46.99 305 *e*P P 03 43 15.7 -0.7
CDF *e**PP pP 03 44 04.1 +1.7
CDF pmax pmax
comp=Z,39nm,1.0s,mb4.7
BBS **Basel-Blauen** 47.01 304 P P 03 43 16.7 +0.2
PGF **Pioggiola** 47.04 297 *e*P P 03 43 15.9 -0.9
comp=Z,157nm,0.8s,mb5.1
PGF *e*pP pP 03 44 04.3 +1.4
PGF **Pioggiola** 47.04 297 *e*P P 03 43 15.9 -0.9
comp=Z,78nm,0.8s,mb5.1
PGF *e*pP pP 03 44 04.3 +1.4
PGF **Pioggiola** 47.04 297 *e*P P 03 43 15.9 -0.9
PGF *e**PP pP 03 44 04.3 +1.4
PGF pmax pmax
comp=Z,78nm,0.8s,mb5.1
ORO **Oropa** 47.05 302 P P 03 43 15.2 -1.7
RUND **Rundenannen** 47.05 322⇑*i*P P 03 43 19.7 +3.0
BER **Bergen** 47.07 322 *e*P P 03 43 17.5 +0.7
BER ⇑*i*P 03 43 17.6
BER AMb AMB 03 43 20.0
comp=Z,617nm,1.5s,mb5.7
BER *e*S S 03 49 52.5 +0.6
WIMIS **Wimmis** 47.08 303⇓*i*P P 03 43 16.3 -0.8
comp=Z,353nm,1.3s,mb5.5
ECH **Echery** 47.11 305 *e*P P 03 43 16.6 -0.7
ECH **Echery** 47.11 305 P P 03 43 17.8 +0.5
EGD **Espegrend** 47.12 322 *e*P P 03 43 17.6 +0.4
LKBD **Leukerbad** 47.14 303 ⇓P P 03 43 17.2 -0.3
LKBD **Leukerbad** 47.14 303⇓*i*P P 03 43 16.8 -0.7
comp=Z,252nm,1.0s,mb5.5
ASK **Askoy** 47.14 322 *e*P P 03 43 17.8 +0.5
DGI **Dorgali Grotta** 47.18 294 P P 03 43 17.0 -0.9
MOF **Molkenrain** 47.19 305 *e*P P 03 43 17.5 -0.4
MOF **Molkenrain** 47.19 305 P P 03 43 18.2 +0.3
FIN **Finale Ligure** 47.20 300 P P 03 43 17.1 -1.0
BOURR **Bourrignon** 47.21 304⇓*i*P P 03 43 17.2 -0.9
comp=Z,464nm,2.0s,mb5.5
FOO **Floro** 47.22 324 *e*P P 03 43 17.9 0.0
DIX **Grande Dixence** 47.35 302 ⇓P P 03 43 19.1 -0.1
DIX **Grande Dixence** 47.35 302⇓*i*P P 03 43 18.8 -0.4
comp=Z,555nm,2.5s,mb5.5
SENIN **Lac Senin/Sane** 47.37 303⇓*i*P P 03 43 18.9 -0.4
comp=Z,404nm,1.7s,mb5.5
HINF **Hinteralfeld** 47.38 305 *e*P P 03 43 18.1 -1.3
comp=Z,315nm,1.2s,mb5.2
HINF **Hinteralfeld** 47.38 305 *e*P P 03 43 18.1 -1.3
comp=Z,157nm,1.2s,mb5.2
HINF **Hinteralfeld** 47.38 305 *e*P P 03 43 18.1 -1.3
HINF pmax pmax
comp=Z,157nm,1.2s,mb5.2
MEM **Membach** 47.45 309 P P 03 43 20.4 +0.5
comp=Z,76nm,1.4s,mb4.8
HGN **Heimansgroeve** 47.48 309 *e*P P 03 43 20.1 +0.1
comp=Z,73nm,1.5s,mb4.8
HGN **Heimansgroeve** 47.48 309 *e*pP pP 03 44 08.2 +1.9
HGN **Heimansgroeve** 47.48 309 *e*sP sP 03 44 32.1 +2.0
LOMF **Lomont** 47.49 304 *e*P P 03 43 19.2 -1.0
LOMF **Lomont** 47.49 304 P P 03 43 20.7 +0.5
IMI **Imperia** 47.50 299 P P 03 43 20.1 -0.2
TORNY **Torny/Romont** 47.51 303⇓*i*P P 03 43 19.8 -0.6
comp=Z,554nm,1.7s,mb5.6
WLF **Walferdange** 47.51 307 *e*P P 03 43 20.6 +0.3
comp=Z,256nm,1.0s,mb5.5
WLF *e*pP pP 03 44 08.8 +2.2
WLF *e*sP sP 03 44 32.7 +2.4
WLF **Walferdange** 47.51 307 *e*P P 03 43 20.6 +0.2
WLF *e**PP pP 03 44 08.8 +2.3
WLF *e**SP sP 03 44 32.7 +2.3
WLF pmax pmax
comp=Z,256nm,1.0s,mb5.5
WLF **Walferdange** 47.51 307 P P 03 43 21.4 +1.0
comp=Z,164nm,1.4s,mb5.2
WLF **Walferdange** 47.51 307 *e*P P 03 43 21.1 +0.7
comp=Z,333nm,1.3s,mb5.5
GRYON **Gryon** 47.52 303⇓*i*P P 03 43 19.9 -0.5
comp=Z,411nm,1.3s,mb5.6
VSL **Villasalto** 47.58 293 *e*P P 03 43 19.9 -1.1
comp=Z,107nm,1.2s,mb5.0
AIGLE **Aigle** 47.60 303⇓*i*P P 03 43 20.5 -0.6
comp=Z,518nm,1.2s,mb5.7
HABR **Khabarovsk** 47.61 54 *i*P P 03 43 21.3 +0.2
HABR *e* 03 45 14.9
HABR *e*S S 03 50 00.5 +0.6
HABR pmax pmax
comp=Z,698nm,1.2s,mb5.9
SALAN **Lac Salanfe** 47.63 302⇓*i*P P 03 43 21.0 -0.3
comp=Z,792nm,2.5s,mb5.6
BEBN **Eben Emael** 47.63 309 P P 03 43 21.4 +0.1
RSP **Reno Superiore** 47.65 301 P P 03 43 23.0 +1.5
HAU **Haudompre** 47.68 305 *e*P P 03 43 20.6 -1.1
comp=Z,400nm,1.3s,mb5.3
HAU *e*MLR MLR
comp=Z,2µm,20.4s
HAU **Haudompre** 47.68 305 *e*P P 03 43 20.6 -1.1
comp=Z,200nm,1.3s,mb5.3
HAU LR LR
comp=Z,2µm,20.4s
HAU **Haudompre** 47.68 305 *e*P P 03 43 20.6 -1.1
HAU pmax pmax
comp=Z,200nm,1.3s,mb5.3
HAU MLR MLR
comp=Z,2µm,20.4s

EMV **Vieux Emosson** 47.70 302 ⇓P P 03 43 21.9 +0.1
EMV **Vieux Emosson** 47.70 302⇓*i*P P 03 43 21.6 -0.2
comp=Z,1µm,2.9s,mb5.7
SAOF **Saorge** 47.71 299 *e*P P 03 43 22.0 0.0
AUTN **L'Aution** 47.80 300 *e*P P 03 43 24.1 +1.4
BRANT **Les Verrieres** 47.80 304⇓*i*P P 03 43 22.2 -0.4
comp=Z,542nm,2.1s,mb5.5
STV **Sta Anna Valdi** 47.81 300 P P 03 43 21.7 -1.1
SBF **Sospel** 47.83 299 *e*P P 03 43 22.1 -0.8
comp=Z,674nm,1.2s,mb5.5
SBF **Sospel** 47.83 299 *e*P P 03 43 22.1 -0.8
comp=Z,337nm,1.2s,mb5.5
SBF **Sospel** 47.83 299 *e*P P 03 43 22.1 -0.8
SBF pmax pmax
comp=Z,337nm,1.2s,mb5.5
BOLP **Bolinao** 47.85 101 *e*P P 03 43 24.6 +1.2
THEF **They Montfort** 47.88 305 *e*P P 03 43 22.9 -0.3
THEF **They Montfort** 47.88 305 P P 03 43 23.7 +0.5
LUCF **Luceram** 47.88 299 *e*P P 03 43 23.3 0.0
REVF **Revere** 47.90 299 *e*P P 03 43 22.7 -0.8
TOUF **Mont Tournerai** 47.92 300 *e*P P 03 43 24.0 +0.4
LPG **La Plagne** 47.92 302 *e*P P 03 43 23.0 -0.6
comp=Z,195nm,0.8s,mb5.2
LPG *e*pP pP 03 44 12.1 +2.3
LPG **La Plagne** 47.92 302 *e*P P 03 43 23.0 -0.6
comp=Z,98nm,0.8s,mb5.2
LPG *e*pP pP 03 44 12.1 +2.3
LPG **La Plagne** 47.92 302 *e*P P 03 43 23.0 -0.6
LPG *e**PP pP 03 44 12.1 +2.3
LPG pmax pmax
comp=Z,98nm,0.8s,mb5.2
BCLA **Clavier** 47.93 308 P P 03 43 24.1 +0.5
comp=Z,33nm,1.3s,mb4.5
LPL **La Plagne** 47.93 302 *e*P P 03 43 23.6 0.0
comp=Z,432nm,1.2s,mb5.4
LPL **La Plagne** 47.93 302 *e*P P 03 43 23.6 0.0
comp=Z,216nm,1.2s,mb5.4
LPL **La Plagne** 47.93 302 *e*P P 03 43 23.6 0.0
LPL pmax pmax
comp=Z,216nm,1.2s,mb5.4
MVIF **Mont Vial** 48.02 299 *e*P P 03 43 24.3 0.0
GIMEL **St. Georges /** 48.03 303⇓*i*P P 03 43 24.3 -0.1
comp=Z,728nm,2.0s,mb5.7
BNI **Bardonecchia** 48.07 301 *e*Pn P 03 43 24.4 -0.3
comp=Z,370nm,1.3s,mb5.5
BNI **Bardonecchia** 48.07 301 P P 03 43 24.6 -0.1
BNI pmax pmax
comp=Z,370nm,1.3s,mb5.5
APYP **Conner** 48.08 99 *e*P P 03 43 25.9 +0.8
MBDF **Montbardon** 48.09 301 *e*P P 03 43 24.2 -0.6
comp=Z,94nm,0.6s,mb5.0
MBDF **Montbardon** 48.09 301 *e*P P 03 43 24.2 -0.6
comp=Z,47nm,0.6s,mb5.0
MBDF **Montbardon** 48.09 301 *e*P P 03 43 24.2 -0.6
MBDF pmax pmax
comp=Z,47nm,0.6s,mb5.0
SURF **Saint Ours** 48.11 300 *e*P P 03 43 25.5 +0.4
CABF **La Chapelle** 48.13 303 *e*P P 03 43 24.7 -0.5
comp=Z,745nm,1.4s,mb5.5
CABF **La Chapelle** 48.13 303 *e*P P 03 43 24.7 -0.5
comp=Z,372nm,1.4s,mb5.5
CABF **La Chapelle** 48.13 303 *e*P P 03 43 24.7 -0.5
CABF pmax pmax
comp=Z,372nm,1.4s,mb5.5
SCZP **Santa Cruz** 48.19 102 *e*P P 03 43 26.8 +0.8
CALN **Salern** 48.24 299 *e*P P 03 43 25.6 -0.4
GIVF **Givet** 48.28 308 *e*P P 03 43 26.3 0.0
comp=Z,790nm,1.6s,mb5.5
GIVF *e*pP pP 03 44 15.1 +2.5
GIVF **Givet** 48.28 308 *e*P P 03 43 26.3 0.0
comp=Z,395nm,1.6s,mb5.5
GIVF *e*pP pP 03 44 15.1 +2.5
GIVF **Givet** 48.28 308 *e*P P 03 43 26.3 0.0
GIVF *e**PP pP 03 44 15.1 +2.5
GIVF pmax pmax
comp=Z,395nm,1.6s,mb5.5
BCPH **Baguio City Da** 48.38 101⇑*e*P P 03 43 28.1 +0.7
GDM **Grand'Maison** 48.43 301 *e*P P 03 43 27.1 -0.3
DOU **Dourbes** 48.43 308 P P 03 43 27.8 +0.4
comp=Z,98nm,1.7s,mb4.9
MEZF **Maizieres J'vi** 48.43 306 *e*P P 03 43 27.5 +0.1
comp=Z,723nm,1.4s,mb5.5
MEZF **Maizieres J'vi** 48.43 306 *e*P P 03 43 27.5 +0.1
comp=Z,723nm,1.4s,mb5.8
FRF **La Foret Royal** 48.45 299 *e*P P 03 43 27.0 -0.7
comp=Z,322nm,1.2s,mb5.2
FRF **La Foret Royal** 48.45 299 *e*P P 03 43 27.0 -0.7
comp=Z,161nm,1.2s,mb5.2
FRF **La Foret Royal** 48.45 299 *e*P P 03 43 27.0 -0.7
FRF pmax pmax
comp=Z,161nm,1.2s,mb5.2
UCC **Uccle** 48.46 309 P P 03 43 27.9 +0.3
KBS **Kingsbay** 48.54 347 *e*P P 03 43 27.7 -0.1
KBS *e*PP PP 03 45 22.9 +0.5
KBS *e*S S 03 50 15.8 +3.6
KBS **Kingsbay** 48.54 347⇑*e*P P 03 43 29.3 +1.5
KBS *e**SP sP 03 44 35.0 -3.0
KBS *e* 03 45 22.9
SNF **Seneffe** 48.56 309 P P 03 43 28.2 -0.1
comp=Z,129nm,1.6s,mb5.0
LMR **La Mourre** 48.61 299 *e*P P 03 43 27.7 -1.1
comp=Z,326nm,1.6s,mb5.1
LMR **La Mourre** 48.61 299 *e*P P 03 43 27.7 -1.1
comp=Z,163nm,1.6s,mb5.1
LMR **La Mourre** 48.61 299 *e*P P 03 43 27.7 -1.1
LMR pmax pmax
comp=Z,163nm,1.6s,mb5.1
KMBO **Kilima Mbogo** 48.66 227 P P 03 43 30.4 +0.9
KMBO pmax pmax
comp=Z,101nm,0.6s
KMBO **Kilima Mbogo** 48.66 227 P P 03 43 30.7 +1.1
SNR=110
KMBO **Kilima Mbogo** 48.66 227 P P 03 43 30.4 +0.9
comp=Z,101nm,0.6s,mb5.4,baz=31,slow=9.9,SNR=300
ORIF **Oris-en-Rattie** 48.66 301 *e*P P 03 43 28.1 -1.1
comp=Z,27nm,0.6s,mb4.4
ORIF *e*MLR MLR
comp=Z,2µm,21.8s
ORIF **Oris-en-Rattie** 48.66 301 *e*P P 03 43 28.1 -1.1
comp=Z,14nm,0.6s,mb4.5
ORIF **Oris-en-Rattie** 48.66 301 *e*P P 03 43 28.1 -1.1
ORIF pmax pmax
comp=Z,14nm,0.6s,mb4.5
GRN **Grenoble** 48.67 302 *e*P P 03 43 29.1 -0.2
BAIF **Baives** 48.68 308 *e*P P 03 43 29.5 +0.2
comp=Z,698nm,1.3s,mb5.5
BAIF **Baives** 48.68 308 *e*P P 03 43 29.5 +0.2
comp=Z,349nm,1.3s,mb5.5
BAIF **Baives** 48.68 308 *e*P P 03 43 29.5 +0.2
BAIF pmax pmax
comp=Z,349nm,1.3s,mb5.5
KEST **Kesra** 48.79 288 P P 03 43 30.9 +0.6
comp=Z,95nm,1.0s,mb5.1,baz=347,slow=2.0,SNR=117
KEST pP pP 03 44 19.8 +3.1
comp=Z,134nm,1.1s,baz=166,slow=1.4,SNR=6.2
JNU **Nakatsue** 48.83 75 P P 03 43 31.4 +0.7
comp=Z,811nm,1.1s,mb6.0,baz=302,slow=7.9,SNR=83
JNU pP pP 03 44 20.4 +3.2
comp=Z,384nm,1.2s,baz=343,slow=3.0,SNR=2.6
TAVF **Tavernes** 48.85 299 *e*P P 03 43 30.2 -0.5
STOF **St-Etienne Org** 48.86 300 *e*P P 03 43 31.1 +0.3
VILF **Villemus** 49.03 300 *e*P P 03 43 31.2 -0.9
SMRF **Simiane la Rot** 49.10 300 *e*P P 03 43 31.9 -0.7
comp=Z,514nm,1.8s,mb5.2
SMRF **Simiane la Rot** 49.10 300 *e*P P 03 43 31.9 -0.7
comp=Z,514nm,1.8s,mb5.6
PUYF **Puyloubier** 49.13 299 *e*P P 03 43 32.3 -0.5
BERF **Bertagne** 49.19 299 *e*P P 03 43 32.7 -0.6
JOW **Kunigami** 49.32 84 P P 03 43 34.3 -0.2
comp=Z,172nm,0.4s,mb5.7,baz=307,slow=6.4,SNR=49
JOW ScP ScP 03 48 26.4 -2.1
comp=Z,104nm,0.9s,baz=302,slow=3.4,SNR=6.4
TREF **Trevaresse** 49.33 300 *e*P P 03 43 34.3 0.0
GELF **Grande-Etoile** 49.36 299 *e*P P 03 43 34.4 -0.1
PRAF **Pradon** 49.43 300 *e*P P 03 43 35.0 0.0
LOR **Lormes** 49.48 305 *e*P P 03 43 33.9 -1.5
comp=Z,253nm,1.5s,mb5.0
LOR *e*pP pP 03 44 23.3 +1.4
LOR *e*MLR MLR
comp=Z,2µm,21.8s
LOR **Lormes** 49.48 305 *e*P P 03 43 33.9 -1.5
comp=Z,126nm,1.5s,mb5.0
LOR *e*pP pP 03 44 23.3 +1.4
LOR LR LR
comp=Z,2µm,21.8s

LOR **Lormes** 49.48 305 *e*P P 03 43 33.9 -1.5
LOR *e**PP pP 03 44 23.3 +1.4
LOR pmax pmax
comp=Z,126nm,1.5s,mb5.0
LOR MLR MLR
comp=Z,2µm,21.8s
VIVF **Saint-Julien-l** 49.50 301 *e*P P 03 43 35.2 -0.4
comp=Z,425nm,1.1s,mb5.4
VIVF *e*pP pP 03 44 24.1 +2.0
VIVF **Saint-Julien-l** 49.50 301 *e*P P 03 43 35.2 -0.4
comp=Z,213nm,1.1s,mb5.4
VIVF *e*pP pP 03 44 24.1 +2.0
VIVF **Saint-Julien-l** 49.50 301 *e*P P 03 43 35.2 -0.4
VIVF *e**PP pP 03 44 24.1 +2.0
VIVF pmax pmax
comp=Z,213nm,1.1s,mb5.4
BALP **Baler** 49.53 101 *e*P P 03 43 37.4 +1.2
SMF **Signal de Mont** 49.63 304 *e*P P 03 43 35.8 -0.7
comp=Z,532nm,1.3s,mb5.4
SMF *e*pP pP 03 44 24.7 +1.6
SMF **Signal de Mont** 49.63 304 *e*P P 03 43 35.8 -0.7
comp=Z,266nm,1.3s,mb5.4
SMF *e*pP pP 03 44 24.7 +1.6
SMF **Signal de Mont** 49.63 304 *e*P P 03 43 35.8 -0.7
SMF *e**PP pP 03 44 24.7 +1.6
SMF pmax pmax
comp=Z,266nm,1.3s,mb5.4
LUBP **Lubang** 49.64 104 *e*P P 03 43 38.0 +1.0
LUBP *e*S PcP 03 44 56.7 +1.6
SSF **Saint Saulge** 49.76 304 *e*P P 03 43 36.6 -0.9
comp=Z,432nm,1.5s,mb5.3
SSF **Saint Saulge** 49.76 304 *e*P P 03 43 36.6 -0.9
comp=Z,216nm,1.5s,mb5.3
SSF **Saint Saulge** 49.76 304 *e*P P 03 43 36.6 -0.9
SSF pmax pmax
comp=Z,216nm,1.5s,mb5.3
MENF **Mencas** 49.88 309 *e*P P 03 43 35.7 -2.6
AVF **Avril sur Loir** 49.93 304 *e*P P 03 43 38.1 -0.6
comp=Z,485nm,1.3s,mb5.4
AVF **Avril sur Loir** 49.93 304 *e*P P 03 43 38.1 -0.6
comp=Z,243nm,1.3s,mb5.4
AVF **Avril sur Loir** 49.93 304 *e*P P 03 43 38.1 -0.6
AVF pmax pmax
comp=Z,243nm,1.3s,mb5.4
PLDF **La Plantade** 49.94 303 *e*P P 03 43 38.8 -0.1
CMAH **Djebel Manchou** 49.95 290 P P 03 43 38.0 -1.1
TGY **Tagaytay City** 49.97 103⇓*e*P P 03 43 42.0 +2.5
AGO **Saint Agoulin** 50.25 303 *e*P P 03 43 41.1 -0.1
LASF **Ste Croix** 50.27 301 *e*P P 03 43 41.1 -0.3
comp=Z,654nm,1.3s,mb5.5
HYF **Humbligny** 50.29 305 *e*P P 03 43 40.8 -0.6
BGF **Bois d'Agland** 50.32 304 *e*P P 03 43 41.0 -0.7
comp=Z,177nm,1.2s,mb5.0
BGF **Bois d'Agland** 50.32 304 *e*P P 03 43 41.0 -0.7
comp=Z,88nm,1.2s,mb5.0
BGF **Bois d'Agland** 50.32 304 *e*P P 03 43 41.0 -0.7
BGF pmax pmax
comp=Z,88nm,1.2s,mb5.0
LRW **Lerwick** 50.33 322⇑*e*P P 03 43 41.8 +0.3
LRW AMb AMB 03 43 44.4
comp=Z,683nm,1.4s,mb5.8
CAEH **'Ain El Ouahch** 50.33 291 P P 03 43 41.0 -0.9
LBL **Lubilhac** 50.38 302 *e*P P 03 43 42.6 +0.4
PYM **Petit Puy Mans** 50.41 303 *e*P P 03 43 42.1 -0.3
ENPP **El Nido** 50.53 107 *e*P P 03 43 44.8 +1.1
KSM **Kuching** 50.55 124⇑*i*P P 03 43 44.4 +0.6
KSM *e*PcP PcP 03 44 58.5 +0.1
KSM **Kuching** 50.55 124 ⇑P P 03 43 45.0 +1.2
CKFL **Kef-Lekhel** 50.56 290 P P 03 43 44.0 +0.4
BUSP **Coron** 50.64 106 *e*P P 03 43 45.3 +0.8
CASM **Ain Smara** 50.78 290 P P 03 43 45.0 -0.3
BATP **Bataraza** 50.81 111 *e*P P 03 43 46.8 +1.0
BATP *e*S PcP 03 45 01.2 +1.7
TCF **Toulx Ste Croi** 50.81 304 *e*P P 03 43 45.1 -0.3
comp=Z,772nm,1.5s,mb5.6
TCF *e*pP pP 03 44 34.3 +2.1
TCF **Toulx Ste Croi** 50.81 304 *e*P P 03 43 45.1 -0.3
comp=Z,386nm,1.5s,mb5.6
TCF *e*pP pP 03 44 34.3 +2.1
TCF **Toulx Ste Croi** 50.81 304 *e*P P 03 43 45.1 -0.3
TCF *e**PP pP 03 44 34.3 +2.1
TCF pmax pmax
comp=Z,386nm,1.5s,mb5.6
PPR **Puerto Princes** 50.89 109 *e*P P 03 43 47.6 +1.2
CTEI **Djebel Teioual** 50.91 290 P P 03 43 46.5 +0.2
BOAC **Boac** 51.06 103 *e*P P 03 43 48.5 +0.9
BOAC *e*S pP 03 44 14.1 -20
SBUM **Sibu** 51.12 122 ⇑P P 03 43 49.5 +1.4
DFRA **Djebel Bou Aff** 51.14 291 P P 03 43 48.0 0.0
BTM **Bintulu** 51.18 120 ⇑P P 03 43 50.1 +1.6
CAF **Calviac** 51.27 302 *e*P P 03 43 48.2 -0.6
comp=Z,375nm,1.4s,mb5.3
CAF **Calviac** 51.27 302 *e*P P 03 43 48.2 -0.6
comp=Z,187nm,1.4s,mb5.3
CAF **Calviac** 51.27 302 *e*P P 03 43 48.2 -0.6
CAF pmax pmax
comp=Z,187nm,1.4s,mb5.3
KDM **Kudat** 51.32 113 ⇑P P 03 43 50.7 +1.1
EJON **La Jonquera** 51.41 299 ⇓P P 03 43 48.9 -1.0
comp=Z,340nm,1.8s,mb5.5
KKM **Kota Kinabalu** 51.45 115 *e*P P 03 43 51.7 +1.2
KKM *e*pP pP 03 44 38.6 +1.2
KKM *e* 03 45 05.2
KKM **Kota Kinabalu** 51.45 115 ⇓P P 03 43 52.4 +1.9
CMER **Merouana** 51.45 290 P P 03 43 51.0 +0.7
SKP1 **Kophill** 51.47 311⇑*e*P P 03 43 50.0 -0.2
HPK **Haverah Park** 51.49 314⇑*e*P P 03 43 50.3 0.0
HPK AMb AMB 03 43 53.0
comp=Z,415nm,1.4s,mb5.7
LRDF **Laroque-de-Fa** 51.51 299 *e*P P 03 43 50.8 +0.2
RJF **Les Rejaudoux** 51.54 303 *e*P P 03 43 50.1 -0.7
comp=Z,649nm,1.7s,mb5.5
RJF *e*pP pP 03 44 40.1 +2.4
RJF *e*MLR MLR
comp=Z,2µm,18.0s
RJF **Les Rejaudoux** 51.54 303 *e*P P 03 43 50.1 -0.7
comp=Z,325nm,1.7s,mb5.5
RJF *e*pP pP 03 44 40.1 +2.4
RJF LR LR
comp=Z,2µm,18.0s
RJF **Les Rejaudoux** 51.54 303 *e*P P 03 43 50.1 -0.7
RJF *e**PP pP 03 44 40.1 +2.4
RJF pmax pmax
comp=Z,325nm,1.7s,mb5.5
RJF MLR MLR
comp=Z,2µm,18.0s
CWF **Charnwood Fore** 51.55 312 *e*P P 03 43 50.2 -0.6
XSO **Sourhope Farm** 51.56 316⇑*e*P P 03 43 50.3 -0.5
KBI1 **Birley Grange** 51.58 313⇑*e*P P 03 43 50.4 -0.5
CKHR **Kef el Ahmar** 51.60 290 P P 03 43 51.0 -0.4
FILF **Fillols** 51.61 299 *e*P P 03 43 51.8 +0.4
MTLF **Montolieu** 51.62 300 *e*P P 03 43 50.6 -0.8
comp=Z,265nm,1.3s,mb5.2
MTLF *e*pP pP 03 44 40.1 +1.8
MTLF **Montolieu** 51.62 300 *e*P P 03 43 50.6 -0.8
comp=Z,132nm,1.3s,mb5.2
MTLF *e*pP pP 03 44 40.1 +1.8
MTLF **Montolieu** 51.62 300 *e*P P 03 43 50.6 -0.8
MTLF *e**PP pP 03 44 40.1 +1.8
MTLF pmax pmax
comp=Z,133nm,1.3s,mb5.2
SET **Setif** 51.62 290 P P 03 43 51.0 -0.6
MME1 **Meikle Cairn** 51.63 318⇑*e*P P 03 43 51.1 -0.2
XAL **Allendale** 51.66 315 *e*P P 03 43 51.1 -0.4
MLA1 **Latheron** 51.68 320⇑*e*P P 03 43 51.6 0.0
ESY **Stoneypath** 51.68 317⇑*e*P P 03 43 51.5 -0.2
LHO **Holmfirth** 51.71 314⇑*e*P P 03 43 51.4 -0.5
MCD **Coleburn Disti** 51.74 319⇑*e*P P 03 43 52.3 +0.3
LDF **La Druitiere** 51.77 307 *e*P P 03 43 51.8 -0.6
comp=Z,173nm,1.0s,mb5.2
LDF **La Druitiere** 51.77 307 *e*P P 03 43 51.8 -0.6
comp=Z,87nm,1.0s,mb5.1
LDF **La Druitiere** 51.77 307 *e*P P 03 43 51.8 -0.6
LDF pmax pmax
comp=Z,87nm,1.0s,mb5.1
WOL **Wolverton** 51.81 311⇑*e*P P 03 43 52.6 -0.1
WOL AMb AMB 03 43 55.4
comp=Z,827nm,1.7s,mb5.9
KWE **Weaver Farm** 51.81 313 *e*P P 03 43 52.1 -0.6
ORE **Reay** 51.85 320⇑*e*P P 03 43 52.9 +0.1
CARF **Carcanieres** 51.88 299 *e*P P 03 43 53.0 -0.4
EBL **Broad Law** 51.95 316⇑*e*P P 03 43 53.4 -0.2
FLN **La Foliniere** 51.95 307 *e*P P 03 43 53.1 -0.7
FLN *e*MLR MLR

comp=Z,3µm,20.8s
FLN La Foliniere 51.95 307 *e*P **P 03 43 53.1 -0.7**
FLN MLR MLR
comp=Z,3µm,20.8s
CUYO Cuyo Island 51.98 106 *e*P **P 03 43 55.5 +1.0**
EDI Edinburgh 52.00 317⇑ *e*P **P 03 43 53.7 -0.3**
EDI AMb AMB 03 43 56.6
comp=Z,332nm,1.6s,mb5.5
VALF Valcebollere 52.04 299 *e*P **P 03 43 55.0 +0.5**
SSW Stow on the Wo 52.04 312 *e*P **P 03 43 54.7 +0.3**
EKA Eskdalemuir Ar 52.10 316 P **P 03 43 54.5 -0.3**
EKA *PP pP 03 44 42.7 +0.9
EKA pmax pmax
comp=Z,68nm,1.0s
EKA Eskdalemuir Ar 52.10 316 P **P 03 43 54.5 -0.3**
comp=Z,68nm,1.0s,mb5.0,baz=90,slow=7.8,SNR=63
EKA pP pP 03 44 42.7 +0.9
comp=Z,59nm,0.9s,baz=90,slow=8.1,SNR=3.2
ECK Cauldkaine Hil 52.11 316⇑ *e*P **P 03 43 54.4 -0.4**
EBH Black Hill 52.12 317⇑ *e*P **P 03 43 54.7 -0.2**
SWN1 Swindon 52.12 311⇑ *e*P **P 03 43 55.0 0.0**
SWN1 AMb AMB 03 43 59.8
comp=Z,619nm,1.6s,mb5.8
ESK Eskdalemuir 52.13 316⇑ *e*P **P 03 43 54.6 -0.3**
ESK AMb AMB 03 43 57.5
comp=Z,307nm,1.7s,mb5.5
ESK Eskdalemuir 52.13 316 *e*P **P 03 43 54.6 -0.4**
comp=Z,165nm,1.1s,mb5.4
ESK Eskdalemuir 52.13 316 P **P 03 43 54.7 -0.3**
ESK pmax pmax
comp=Z,170nm,1.1s,mb5.4
EAU Auchinoon 52.16 317⇑ *e*P **P 03 43 55.0 -0.2**
LFF La Frestale 52.17 302 *e*P **P 03 43 54.8 -0.7**
comp=Z,104nm,0.7s,mb5.0
LFF La Frestale 52.17 302 *e*P **P 03 43 54.8 -0.7**
comp=Z,52nm,0.7s,mb5.1
LFF La Frestale 52.17 302 *e*P **P 03 43 54.8 -0.7**
LFF pmax pmax
comp=Z,52nm,0.7s,mb5.1
MVH1 Achvaich 52.17 319⇑ *e*P **P 03 43 55.0 -0.3**
CKE Keswick 52.22 315⇑ *e*P **P 03 43 55.7 0.0**
GRR Gorron 52.29 307 *e*P **P 03 43 55.7 -0.6**
comp=Z,408nm,1.2s,mb5.4
GRR Gorron 52.29 307 *e*P **P 03 43 55.7 -0.6**
comp=Z,204nm,1.2s,mb5.4
GRR Gorron 52.29 307 *e*P **P 03 43 55.7 -0.6**
GRR pmax pmax
comp=Z,204nm,1.2s,mb5.4
MFF Saint Martin d 52.30 305 *e*P **P 03 43 55.6 -0.8**
comp=Z,326nm,1.4s,mb5.3
MFF Saint Martin d 52.30 305 *e*P **P 03 43 55.6 -0.8**
comp=Z,163nm,1.4s,mb5.3
MFF Saint Martin d 52.30 305 *e*P **P 03 43 55.6 -0.8**
MFF pmax pmax
comp=Z,163nm,1.4s,mb5.3
ETOS Mallorca 52.31 296 P **P 03 43 56.3 -0.3**
comp=Z,383nm,1.6s,mb5.6
MDO Dochfour 52.35 319⇑ *e*P **P 03 43 56.4 -0.2**
SDKM Sandakan 52.44 114 ⇑ P **P 03 43 58.4 +0.6**
JMIC Jan Mayen 52.47 336 *e*P **P 03 43 59.1 +1.9**
JMIC *e*S **S 03 51 08.5 +2.1**
JMIC Jan Mayen 52.47 336 P **P 03 43 55.6 -1.7**
comp=Z,84nm,0.8s,mb5.2,baz=106,slow=15,SNR=2.1
SWK Warminster 52.48 311⇑ *e*P **P 03 43 57.4 -0.2**
SALF Salau 52.51 300 *e*P **P 03 43 56.9 -1.1**
MLS Moulis 52.52 300 *e*P **P 03 43 57.2 -0.8**
HLM1 Long Mynd 52.54 312 *e*P **P 03 43 57.1 -0.9**
EMIR Miracle 52.54 299 P **P 03 43 57.4 -0.8**
comp=Z,741nm,2.0s,mb5.8
EAB Aberfoyle 52.58 317⇑ *e*P **P 03 43 58.1 -0.2**
RSC Scourie 52.61 320⇑ *e*P **P 03 43 59.0 +0.5**
GCD Castle Douglas 52.63 315⇑ *e*P **P 03 43 58.6 -0.1**
SBD1 Bryn Du 52.67 313⇑ *e*P **P 03 43 59.0 0.0**
HGH Gray Hill 52.70 311⇑ *e*P **P 03 43 58.8 -0.4**
REB Eisgbhrachaidh 52.71 320⇑ *e*P **P 03 43 59.4 +0.2**
MCH1 Michaelchurch 52.73 312⇑ *e*P **P 03 43 59.0 -0.4**
MCH1 AMb AMB 03 44 01.8
comp=Z,528nm,1.4s,mb5.8
PGBU Glenifferbraes 52.74 317⇑ *e*P **P 03 43 58.9 -0.5**
PGBU AMb AMB 03 44 02.3
comp=Z,406nm,1.6s,mb5.6
PVCP Virac 52.80 101 *e*P **P 03 44 00.8 +0.3**
AKET Djebel Ketaf 52.82 291 P **P 03 44 01.0 +0.6**
KAC Achnashellach 52.84 319⇑ *e*P **P 03 44 00.2 0.0**
HTR Trewern Hill 52.87 312⇑ *e*P **P 03 44 00.2 -0.3**
RCP Roxas 52.89 104⇑ *e*P **P 03 44 01.2 +0.1**
KSB Sheil Bridge 52.96 319⇑ *e*P **P 03 44 00.9 -0.1**
EPF Esparros 53.02 300 *e*P **P 03 44 00.7 -1.0**
comp=Z,32nm,0.6s,mb4.6
EPF Esparros 53.02 300 *e*P **P 03 44 00.7 -1.0**
comp=Z,16nm,0.6s,mb4.6
EPF Esparros 53.02 300 *e*P **P 03 44 00.7 -1.0**
EPF pmax pmax
comp=Z,16nm,0.6s,mb4.6
YSS Yuzh-Sakhalins 53.02 55⇑ *e*P **P 03 44 01.9 +0.2**
YSS Yuzh-Sakhalins 53.02 55α *i*P **P 03 44 01.8 +0.1**
YSS *e**PP pP 03 44 52.0 +3.2
YSS *e**SP sP 03 45 15.0 +2.6
YSS *e*PPP 03 47 13.0
YSS *i* S **S 03 51 14.0 -0.5**
YSS *e**SS sS 03 52 40.0 +2.8
YSS pmax pmax
comp=Z,1µm,1.0s,mb6.3
YSS pmax pmax
comp=Z,5µm,7.0s
YSS smax
comp=N,3µm,12.0s
YSS MLR MLR
comp=Z,2µm,18.0s
YSS MLR MLR
comp=E,2µm,19.0s
EPOB Poblet 53.04 298 P **P 03 44 01.4 -0.5**
comp=E,314nm,1.7s,mb5.5
RRR Rubha Reidh 53.04 319⇑ *e*P **P 03 44 01.5 -0.1**
GIM North Isle of 53.06 315⇑ *e*P **P 03 44 02.0 +0.2**
KPL Plockton 53.06 319 *e*P **P 03 44 01.7 -0.1**
KPL AMb AMB 03 44 04.4
comp=Z,494nm,1.5s,mb5.7
GAL1 Galloway 53.07 316⇑ *e*P **P 03 44 01.6 -0.2**
GAL1 AMb AMB 03 44 04.6
comp=Z,234nm,1.5s,mb5.4
ADJB Djebel Djouab 53.12 291 P **P 03 44 02.2 -0.3**
RTO Tolsta 53.14 320⇑ *e*P **P 03 44 02.8 +0.5**
MAJO Matsushiro 53.18 68⇑ *e*P **P 03 44 02.3 -0.7**
comp=Z,530nm,1.0s,mb5.9
MAJO Matsushiro 53.18 68⇑ *e*P **P 03 44 02.3 -0.7**
MAJO pmax pmax
comp=Z,530nm,1.0s,mb5.9
MAT Matsushiro 53.18 68 P **P 03 44 02.4 -0.6**
MAT S **S 03 51 13.0 -4.0**
ABA Alger-Bouzarea 53.18 292 P **P 03 44 03.2 +0.2**
MJAR Matsushiro Arr 53.18 68 P **P 03 44 03.0 0.0**
MJAR *PP pP 03 44 54.5 +4.3
MJAR pmax pmax
comp=Z,414nm,1.0s
MJAR Matsushiro Arr 53.18 68 P **P 03 44 03.0 -0.1**
comp=Z,414nm,1.0s,mb5.8,baz=291,slow=9.1,SNR=237
MJAR pP pP 03 44 54.5 +4.3
comp=Z,51nm,0.9s,baz=289,slow=9.3,SNR=2.1
LABF Labassere 53.20 300 *e*P **P 03 44 02.3 -0.7**
KAR1 Arisaig 53.24 318⇑ *e*P **P 03 44 03.2 +0.1**
EBIE Bielsa 53.27 300 P **P 03 44 03.1 -0.4**
comp=Z,193nm,1.4s,mb5.3
VIEF Viey 53.29 300 *e*P **P 03 44 04.0 +0.3**
GUIM Jordan 53.33 105 *e*P **P 03 44 05.0 +0.6**
GUIM *e*S sP 03 45 17.6 +2.5
SGMF Saint Gilles 53.42 307 *e*P **P 03 44 03.7 -0.8**
comp=Z,297nm,1.2s,mb5.3
SGMF Saint Gilles 53.42 307 *e*P **P 03 44 03.7 -0.8**
comp=Z,148nm,1.2s,mb5.3
SGMF Saint Gilles 53.42 307 *e*P **P 03 44 03.7 -0.8**
SGMF pmax pmax
comp=Z,149nm,1.2s,mb5.3
GMK Mull of Kintyr 53.45 316⇑ *e*P **P 03 44 04.6 -0.1**
EMHD Djebel Mahouad 53.47 291 P **P 03 44 05.0 -0.1**
RRH Rhenigidale 53.48 320⇑ *e*P **P 03 44 04.7 -0.1**
REYF Montagne du Re 53.52 300 *e*P **P 03 44 04.7 -0.6**
KSK Scoval 53.59 319 *e*P **P 03 44 06.0 +0.4**
EIBI Ibiza 53.63 295 P **P 03 44 06.2 0.0**
comp=Z,659nm,1.5s,mb5.9
ETSF Etsaut 53.69 300 *e*P **P 03 44 05.9 -0.7**
comp=Z,169nm,0.6s,mb5.5
ETSF Etsaut 53.69 300 *e*P **P 03 44 05.9 -0.7**
comp=Z,84nm,0.6s,mb5.5
ETSF Etsaut 53.69 300 *e*P **P 03 44 05.9 -0.7**
ETSF pmax pmax
comp=Z,84nm,0.6s,mb5.5
DYA Yadsworthy 53.69 310 *e*P **P 03 44 05.2 -1.3**
DYA AMb AMB 03 44 08.7
comp=Z,253nm,1.6s,mb5.5
ERTA Horta de San J 53.70 298 P **P 03 44 06.2 -0.5**
comp=Z,575nm,1.5s,mb5.9
ASAJ Asahikawa 53.76 58 P **P 03 44 06.9 -0.2**
ASAJ pmax pmax
comp=Z,83nm,0.6s
ASAJ Asahikawa 53.76 58 P **P 03 44 06.8 -0.2**
comp=Z,83nm,0.6s,mb5.5,baz=274,slow=9.3,SNR=115
GCL Cushendall 53.82 316⇑ *e*P **P 03 44 07.1 -0.2**
CNP Catarman 53.83 102 *e*P **P 03 44 08.2 +0.3**
TSM Tawau 53.84 115 ⇑ P **P 03 44 08.6 +0.6**
ROSF Rostrenen 53.85 307 *e*P **P 03 44 06.4 -1.3**
comp=Z,264nm,1.2s,mb5.4
ROSF *e*pP pP 03 44 56.5 +1.5
ROSF Rostrenen 53.85 307 *e*P **P 03 44 06.4 -1.3**
comp=Z,132nm,1.2s,mb5.3
ROSF *e*pP pP 03 44 56.5 +1.5
ROSF Rostrenen 53.85 307 *e*P **P 03 44 06.4 -1.3**
ROSF *e**PP pP 03 44 56.5 +1.5
ROSF pmax pmax
comp=Z,132nm,1.2s,mb5.3
HTL Hartland 53.88 311⇑ *e*P **P 03 44 08.0 +0.2**
QUIF Quistinic 53.91 307 *e*P **P 03 44 07.4 -0.7**
GMM Mts of Mourne 53.92 315⇑ *e*P **P 03 44 07.7 -0.4**
ESAC San Caprasio 54.01 299 ⇓ P **P 03 44 07.8 -1.1**
comp=Z,889nm,1.5s,mb6.1
OSSF Osses 54.06 301 *e*P **P 03 44 08.6 -0.7**
SJPF Ste Jean 54.08 301 *e*P **P 03 44 08.7 -0.7**
comp=Z,87nm,1.0s,mb4.9
SJPF Ste Jean 54.08 301 *e*P **P 03 44 08.7 -0.7**
comp=Z,44nm,1.0s,mb4.9
SJPF Ste Jean 54.08 301 *e*P **P 03 44 08.7 -0.7**
SJPF pmax pmax
comp=Z,44nm,1.0s,mb4.9
ELIZ Elizondo 54.27 301 P **P 03 44 10.9 +0.1**
comp=Z,78nm,1.1s,mb5.2
ELIZ Elizondo 54.27 301 P **P 03 44 10.9 +0.1**
ELIZ pmax pmax
comp=Z,78nm,1.1s,mb5.2
CSA1 St Austell 54.30 310⇑ *e*P **P 03 44 10.4 -0.5**
EMOS Mosqueruela 54.48 297 P **P 03 44 12.2 -0.1**
comp=Z,509nm,1.5s,mb5.8
DLF Lyons Farm 54.49 314 *e*P **P 03 44 05.4 -6.8**
DLF Lyons Farm 54.49 314⇑ *i*P **P 03 44 12.1 -0.1**
DLF Lyons Farm 54.49 314⇑ *i*P **P 03 44 12.1 -0.1**
EBNR Beni Rached 54.50 292 P **P 03 44 13.0 +0.5**
MA2 Magadan 54.51 38⇑ *e*P **P 03 44 12.9 +0.7**
MA2 Magadan 54.51 38*c* *i*P **P 03 44 12.8 +0.6**
MA2 *e* 03 45 11.9
MA2 *e**SP sP 03 45 24.8 +1.7
MA2 *e* 03 46 17.4
MA2 *i* S **S 03 51 36.3 +2.2**
MA2 *e**SS sS 03 52 54.0 -3.1
MA2 *e*SSS 03 57 27.5
MA2 pmax pmax
comp=E,700nm,1.2s
MA2 pmax pmax
comp=Z,1µm,1.2s,mb6.3
CMA1 Manaccan 54.52 310 *e*P **P 03 44 12.0 -0.5**
CRQ2 Rosemanowes 2 54.53 310 *e*P **P 03 44 11.9 -0.6**
SEY Seymchan 54.55 34⇑ *e*P **P 03 44 13.1 +0.7**
DMUB Kingscourt 54.55 315 *e*P **P 03 44 05.8 -6.8**
DMUB Kingscourt 54.55 315⇑ *i*P **P 03 44 12.5 -0.1**
DMUB Kingscourt 54.55 315⇑ *i*P **P 03 44 12.5 -0.1**
LLP Lapu-Lapu 54.59 105⇑ *e*P **P 03 44 14.0 +0.5**
SNPH Sibulan 54.62 106 *e*P **P 03 44 14.5 +0.8**
DAG Danmarks Havn 54.64 344 ⇓ *i*P **P 03 44 12.8 -0.1**
DAG pmax pmax
comp=Z,310nm,1.8s,mb5.5
DAG Danmarks Havn 54.64 344 ⇓ *i*P **P 03 44 12.8 -0.1**
comp=Z,313nm,1.8s,mb5.5
ECHA Ech Chlef 54.67 292 P **P 03 44 14.0 +0.2**
CPZ Penzance 54.79 310 *e*P **P 03 44 13.6 -0.8**
ERM Erimo 54.84 60 *e*P **P 03 44 13.4 -1.5**
comp=Z,200nm,0.5s,mb5.9
ERM Erimo 54.84 60 P **P 03 44 14.1 -0.8**
ERM pmax pmax
comp=Z,200nm,0.5s,mb5.9
PLP Palo 54.88 103 *e*P **P 03 44 14.8 -0.7**
TBP Tagbilaran 54.89 105 *e*P **P 03 44 15.9 +0.3**
EBEN Beniarda 54.89 295 P **P 03 44 15.0 -0.4**
comp=Z,467nm,1.6s,mb5.8
DCN Croghan 54.91 314 *e*P **P 03 44 08.2 -7.0**
DCN Croghan 54.91 314⇑ *i*P **P 03 44 15.2 0.0**
DCN Croghan 54.91 314⇑ *i*P **P 03 44 15.2 0.0**
EANR 'Ain N'Sour 54.95 292 P **P 03 44 16.0 +0.2**
ETRT Tiaret 55.02 291 P **P 03 44 16.5 +0.2**
ECHE Chera 55.11 297 P **P 03 44 17.0 +0.1**
comp=Z,68nm,0.9s,mb5.2
ECHE Chera 55.11 297 P **P 03 44 17.0 +0.1**
ECHE pmax pmax
comp=Z,68nm,0.9s,mb5.2
ECRI Cripan 55.14 301 P **P 03 44 16.9 -0.1**
comp=Z,142nm,1.2s,mb5.4
ECRI Cripan 55.14 301 P **P 03 44 16.9 -0.1**
ECRI pmax pmax
comp=Z,142nm,1.2s,mb5.4
MSLP Maasin 55.40 104 *e*P **P 03 44 19.8 +0.5**
ETOR Torete 55.45 298 P **P 03 44 18.6 -0.6**
comp=Z,68nm,1.6s,mb4.9
ETOR Torete 55.45 298 P **P 03 44 18.6 -0.6**
ETOR pmax pmax
comp=Z,69nm,1.6s,mb4.9
ELAN Lanestosa 55.56 302 P **P 03 44 19.9 -0.1**
comp=Z,635nm,1.6s,mb5.9
PAGZ Pagadian 55.66 107 *e*P **P 03 44 21.9 +0.8**
ETOB Tobarra 55.88 296 P **P 03 44 22.0 -0.3**
comp=Z,496nm,1.6s,mb5.8
CART Cartagena 55.88 294 *e*P **P 03 44 21.8 -0.6**
comp=Z,423nm,1.1s,mb5.9
EMUR La Murta 55.96 295 P **P 03 44 21.6 -1.3**
comp=Z,536nm,1.7s,mb5.8
YUK Yuzh-Kuril'sk 56.01 57⇑ *i*P **P 03 44 22.0 -1.2**
YUK pmax pmax
comp=N,2µm,3.0s
YUK pmax pmax
comp=Z,8µm,3.0s
YUK pmax pmax
comp=E,5µm,4.0s
SCPH Surigao 56.10 104⇑ *e*P **P 03 44 23.8 -0.5**
ODJA Bouhanifia 56.13 292 P **P 03 44 25.0 +0.8**
EVIA Vianos 56.57 296 P **P 03 44 27.0 -0.2**
comp=E,69nm,0.6s,mb5.5
EVIA Vianos 56.57 296 P **P 03 44 27.0 -0.2**
EVIA pmax pmax
comp=Z,69nm,0.6s,mb5.5
EARI Arriondas 56.76 302 P **P 03 44 28.4 -0.1**
comp=Z,294nm,1.4s,mb5.7
BUKP Musuan 56.94 106 *e*P **P 03 44 31.2 +1.1**
GUD Guadarrama 56.99 299 P **P 03 44 30.1 -0.1**
comp=Z,104nm,0.9s,mb5.5
GUD Guadarrama 56.99 299 P **P 03 44 30.1 -0.1**
GUD pmax pmax
comp=Z,104nm,0.9s,mb5.5
ENIJ Nijar 57.00 294 P **P 03 44 29.9 -0.4**
comp=Z,548nm,1.2s,mb6.1
ENIJ Nijar 57.00 294 P **P 03 44 29.9 -0.4**
ENIJ pmax pmax
comp=Z,548nm,1.2s,mb6.1
VAL Valentia 57.05 313 *e*P **P 03 44 24.0 -6.4**
VAL Valentia 57.05 313⇑ *i*S **S 03 52 06.5 -1.3**
XMIS Christmas Isla 57.16 138 *e*P **P 03 44 28.1 -3.5**
ESDC Sonseca Array 57.23 298 P **P 03 44 31.0 -0.8**
comp=Z,276nm,1.4s,mb5.7
ESDC Sonseca Array 57.23 298 P **P 03 44 31.4 -0.4**
comp=Z,45nm,0.6s,mb5.3,baz=54,slow=7.8,SNR=133
ESDC PKPPKP 04 14 21.9
comp=Z,2.8nm,0.9s,baz=279,slow=2.2,SNR=7.0
EQES Quesada 57.31 295 P **P 03 44 32.1 -0.3**
comp=Z,445nm,1.3s,mb5.9
EBER Berja 57.53 294 P **P 03 44 32.9 -1.1**
comp=Z,607nm,1.7s,mb6.0
PAB San Pablo 57.55 298 *e*P **P 03 44 33.5 -0.6**
comp=Z,280nm,1.3s,mb5.7
PAB San Pablo 57.55 298 P **P 03 44 33.7 -0.4**
PAB pmax pmax
comp=Z,280nm,1.2s,mb5.8
EBAN Banos Encina 57.68 296 P **P 03 44 34.4 -0.6**
comp=Z,102nm,0.6s,mb5.6
EBAN Banos Encina 57.68 296 P **P 03 44 34.4 -0.6**
EBAN pmax pmax
comp=Z,102nm,0.6s,mb5.6
BIPH Bislig 57.76 105⇑ *i*P **P 03 44 33.8 -2.1**
DAV Davao City (W) 57.84 106 *e*P **P 03 44 39.1 +2.7**
comp=Z,670nm,0.9s,mb6.3
DAV Davao City (W) 57.84 106⇑ *e*P **P 03 44 36.0 -0.4**
ECOG Cogollos-Vega 57.88 295 P **P 03 44 35.5 -0.9**
comp=Z,62nm,0.9s,mb5.2
ECOG Cogollos-Vega 57.88 295 P **P 03 44 35.5 -0.9**
ECOG pmax pmax
comp=Z,62nm,0.9s,mb5.2
EALB Alboran 58.03 293 P **P 03 44 36.0 -1.5**
comp=Z,454nm,1.5s,mb5.9
EGUA Guajares 58.06 294 P **P 03 44 36.3 -1.3**
comp=Z,28nm,1.2s,mb4.8
EGUA Guajares 58.06 294 P **P 03 44 36.3 -1.3**
EGUA pmax pmax
comp=Z,28nm,1.2s,mb4.8
EPON Pontenova 58.06 303 P **P 03 44 36.6 -1.0**
comp=Z,190nm,1.2s,mb5.6
ERON Agron 58.16 295 P **P 03 44 37.3 -1.0**
comp=Z,36nm,0.8s,mb5.0
EADA Adamuz 58.26 296 P **P 03 44 38.4 -0.6**
comp=Z,354nm,1.3s,mb5.8
ELUQ Luque 58.27 296 P **P 03 44 38.4 -0.7**
comp=Z,155nm,0.8s,mb5.7
ELUQ Luque 58.27 296 P **P 03 44 38.4 -0.7**
ELUQ pmax pmax
comp=Z,155nm,0.8s,mb5.7
ECAL Calabor 58.30 301 P **P 03 44 38.0 -1.2**
comp=Z,440nm,1.5s,mb5.9
ELOJ Sierra Loja 58.36 295 P **P 03 44 38.2 -1.5**
comp=Z,63nm,1.3s,mb5.1
ELOJ Sierra Loja 58.36 295 P **P 03 44 38.2 -1.5**
ELOJ pmax pmax
comp=Z,63nm,1.3s,mb5.1
PBRG Braganca 58.36 301 *e*P **P 03 44 39.6 -0.1**
comp=Z,181nm,1.7s,mb5.4
PBRG *e*pP pP 03 45 28.4 +0.7
BORG Borgarnes 58.46 330 *e*P **P 03 44 39.9 0.0**
comp=Z,553nm,1.7s,mb5.9
BILL Bilibino 58.70 26⇑ *i*P **P 03 44 42.7 +1.1**
BILL Bilibino 58.70 26⇑ *e*P **P 03 44 42.6 +1.0**
BILL *e**PP pP 03 45 34.6 +4.9
BILL *e* 03 46 54.9
BILL *e*S **S 03 52 33.0 +4.2**
BILL pmax pmax
comp=Z,2µm,1.2s,mb6.6
MVO Moncorvo 58.81 300 *e*P **P 03 44 42.6 -0.1**
comp=Z,227nm,1.3s,mb5.6
MVO *e*pP pP 03 45 32.5 +1.6
MVO *i* S **S 03 52 29.4 -1.6**
ECAB El Cabril 58.90 297 P **P 03 44 43.0 -0.4**
comp=Z,327nm,1.0s,mb5.9
ALE Alert 58.99 354 P **P 03 44 44.0 +0.6**
comp=Z,1µm,0.9s,mb6.5,SNR=51
EMIJ Mijas 59.05 295 P **P 03 44 42.2 -2.3**
comp=Z,127nm,1.0s,mb5.5
STS Santiago 59.18 303 P **P 03 44 44.6 -0.7**
comp=Z,110nm,1.3s,mb5.3
STS Santiago 59.18 303 P **P 03 44 44.6 -0.7**
STS pmax pmax
comp=Z,110nm,1.3s,mb5.3
PVRL Vila Real 59.24 301 *e*P **P 03 44 45.8 +0.1**
PVRL *e*pP pP 03 45 35.4 +1.5
ELOB Lobios 59.24 302 P **P 03 44 45.8 0.0**
comp=Z,455nm,1.4s,mb5.9
PCAB Cabril 59.28 301 *e*P **P 03 44 46.4 +0.4**
comp=Z,379nm,1.6s,mb5.8
PCAB *e*pP pP 03 45 34.9 +0.7
EMAZ Mazaricos 59.45 303 P **P 03 44 46.3 -0.8**
comp=Z,442nm,2.1s,mb5.7
MTE Manteigas 59.47 300 *e*P **P 03 44 47.6 +0.3**
comp=Z,447nm,1.3s,mb5.9
MTE *e*pP pP 03 45 37.5 +1.9
MTE *i* S **S 03 52 39.0 -0.5**
MTE Manteigas 59.47 300 *e*P **P 03 44 47.4 +0.1**
comp=Z,418nm,1.3s,mb5.9
PVIS Viseu 59.59 300 *e*P **P 03 44 48.6 +0.5**
comp=Z,330nm,1.2s,mb5.8
PVIS *e*pP pP 03 45 36.6 +0.2
EJIF Jimena Fronter 59.61 295 P **P 03 44 46.9 -1.4**
comp=Z,302nm,1.4s,mb5.7
EJIF Jimena Fronter 59.61 295 P **P 03 44 46.9 -1.4**
EJIF pmax pmax
comp=Z,302nm,1.4s,mb5.7
PCBR Castelo Branco 59.65 299 *e*P **P 03 44 48.7 +0.2**
comp=Z,169nm,1.4s,mb5.5
PCBR *e*pP pP 03 45 39.6 +2.8
ESPR Espera 59.72 295 P **P 03 44 47.6 -1.4**
comp=Z,317nm,1.3s,mb5.8
EBAD Badajoz 59.76 298 P **P 03 44 48.9 -0.5**
comp=Z,868nm,1.3s,mb6.2
PTO Porto 59.91 301 *e*P **P 03 44 51.0 +0.7**
EMIN Mina Concepcio 59.93 297 P **P 03 44 49.7 -0.8**
comp=Z,397nm,1.4s,mb5.8
PBAR Barrancos 60.02 297 *e*P **P 03 44 50.6 -0.5**
comp=Z,476nm,1.4s,mb5.9
PBAR *e*pP pP 03 45 40.6 +1.1
PBAR *i* S **S 03 52 44.9 -1.7**
PESTR Estremoz 60.13 298 *e*P **P 03 44 51.2 -0.6**
comp=Z,290nm,1.3s,mb5.8
PESTR *e*pP pP 03 45 41.5 +1.3
PESTR *i* S **S 03 52 45.6 -2.4**
SKR Severo-Kuril's 60.14 47 *e*P **P 03 44 50.0 -1.6**
SKR *e* 03 46 05.0
SKR pmax pmax
comp=Z,3µm,12.0s
SFS San Fernando 60.14 295 P **P 03 44 51.2 -0.7**
comp=Z,102nm,0.8s,mb5.5
SFS San Fernando 60.14 295 P **P 03 44 51.2 -0.7**
SFS pmax pmax
comp=Z,102nm,0.8s,mb5.5
CBIJ Chichi jima 60.24 77 P **P 03 44 50.5 -2.3**
comp=Z,204nm,0.7s,mb5.9,baz=256,slow=4.9,SNR=8.3
EVO Evora 60.57 298⇑ *i*P **P 03 44 55.6 +0.8**
comp=Z,687nm,1.4s,mb5.8
EVO *e*MLR MLR
comp=Z,2µm,22.0s
EVO Evora 60.57 298 *e*P **P 03 44 55.1 +0.3**
EVO *e*pP pP 03 45 44.6 +1.4
EGRO El Granado 60.61 297 P **P 03 44 54.5 -0.6**
comp=Z,524nm,1.9s,mb5.8
PBEJ Beja 60.68 297 *e*P **P 03 44 55.3 -0.2**
comp=Z,292nm,1.5s,mb5.7
PBEJ *e*pP pP 03 45 45.4 +1.4
PET Petropavlovsk 60.70 44α *i*P **P 03 44 54.0 -1.4**
PET *e* 03 45 36.1
PET *i* *SP sP 03 46 07.1 0.0
PET *e* 03 47 15.2
PET *e*S **S 03 52 52.1 -2.6**
PET *i* *SS sS 03 54 19.1 -0.4
PET *e*SS SS 03 57 00.1 +3.6
PET *e*SSS 03 59 42.3
PET pmax pmax
comp=Z,660nm,1.2s,mb6.1
PET smax
comp=N,1µm,14.0s
PET MLR MLR
comp=Z,2µm,14.0s
PET MLR MLR
comp=Z,3µm,14.0s
MOE Montemor 60.81 298 *e*P **P 03 44 57.5 +1.1**
PVAQ Vaqueiros 60.84 297 *e*P **P 03 44 56.2 -0.4**
comp=Z,422nm,1.4s,mb5.9
PVAQ *e*pP pP 03 45 46.5 +1.4
PVAQ *i* S **S 03 52 54.3 -2.7**
PBDV Barranco-do-Ve 61.06 297 *e*P **P 03 44 58.0 -0.1**
comp=Z,484nm,1.2s,mb6.0
PBDV *e*pP pP 03 45 48.4 +1.8
PBDV *i* S **S 03 52 57.2 -2.6**
PMAFR Mafra 61.29 299 *e*P **P 03 45 00.1 +0.5**
comp=Z,398nm,1.3s,mb5.9
PMAFR *e*pP pP 03 45 49.9 +1.7
PMAFR *i* S **S 03 53 01.9 -0.7**
LIS Lisbon 61.30 299 *e*P **P 03 45 00.4 +0.7**
LIS *e*S **S 03 53 02.1 -0.7**
LIS *e*S **S 03 53 02.2 -0.6**
LIS AMS AMS 03 53 46.0
comp=E,3µm,17.0s
LIS Lisbon 61.30 299 *e*P **P 03 45 00.4 +0.7**
LIS *e*S **S 03 53 02.1 -0.7**
PTEO Sao Teotonio 61.50 297 *e*P **P 03 45 01.5 +0.5**
comp=E,406nm,1.3s,mb5.9
PTEO *e*pP pP 03 45 51.2 +1.6

MORF Marmelete 61.55 297 *e*P **P 03 45 01.6 +0.2**
comp=E,227nm,1.7s,mb5.5
MORF *e*pP pP 03 45 51.5 +1.5
MORF *i* S **S 03 53 05.0 -1.0**
PFVI Vila Bisbo 61.75 297 *e*P **P 03 45 03.2 +0.5**
comp=E,287nm,1.6s,mb5.7
PFVI *e*pP pP 03 45 52.8 +1.4
PFVI *i* S **S 03 53 07.7 -0.8**
LSZ Lusaka 65.28 226 *e*P **P 03 45 25.7 -0.3**
comp=E,460nm,1.2s,mb6.0
LSZ Lusaka 65.28 226 *e*P **P 03 45 25.7 -0.3**
LSZ pmax pmax
comp=Z,460nm,1.2s,mb6.0
WSI Waingapu 65.43 124⇓*e*P **P 03 45 25.2 -1.8**
WSI Waingapu 65.43 124⇓*e*P **P 03 45 25.2 -1.8**
TORD Torodi Ar. Bea 65.47 268 P **P 03 45 25.2 -2.1**
TORD pP pP 03 46 17.3 +0.8
TORD P'P' 04 13 53.1
TORD Torodi Ar. Bea 65.47 268 P **P 03 45 25.2 -2.1**
comp=Z,81nm,0.5s,mb5.7,baz=48,slow=5.9,SNR=1127
TORD pP pP 03 46 17.3 +0.8
comp=Z,99nm,0.7s,baz=45,slow=5.7,SNR=3.7
TORD PKPPKP 04 13 53.1
comp=Z,5.4nm,1.0s,baz=246,slow=4.1,SNR=11
SFJD Kangerlussuaq 67.65 339 *e*P **P 03 45 39.9 -0.4**
comp=Z,852nm,1.7s,mb6.1
SFJD *e*pP pP 03 46 32.1 +2.3
SFJD *e*PP PP 03 48 12.1 +0.3
SFJD Kangerlussuaq 67.65 339⇑*i*P **P 03 45 40.5 +0.2**
SFJD *i* pP 03 46 30.2 +0.4
SFJD *i* S S 03 54 22.5 +2.9
SFJD pmax pmax
comp=Z,350nm,1.6s,mb5.7
SFJD MLR MLR
comp=Z,2μm,19.0s
SFJD Kangerlussuaq 67.65 339⇑*i*P **P 03 45 40.5 +0.2**
comp=Z,351nm,1.6s,mb5.7
SFJD *i* pP 03 46 30.2 +0.4
SFJD *i* S S 03 54 22.5 +2.9
SFJD *i* 03 55 51.9
SFJD
comp=Z,2μm,19.0s
BATI Kupang 68.09 122 P **P 03 45 42.5 -1.3**
comp=Z,2μm,0.7s,mb6.9,baz=258,slow=0.5,SNR=124
GAMB Gambell 68.60 25 *e*P **P 03 45 46.6 +0.4**
comp=Z,730nm,1.3s,mb6.2
GAMB *e*PcP PcP 03 46 10.2 +0.5
TNA Tin City 68.64 22⇑*i*P **P 03 45 46.8 +0.3**
comp=Z,829nm,0.7s,mb6.5
TNA *e*PcP PcP 03 46 10.1 +0.3
RES Resolute Bay 68.67 356 *e*P **P 03 45 46.6 +0.1**
comp=Z,8μm,1.4s
EFAM Famara 69.03 291 P **P 03 45 49.0 -0.5**
comp=Z,385nm,1.1s,mb5.9
PMPS Porto Santo 69.09 296 *e*P **P 03 45 49.8 0.0**
PMPS *e*pP pP 03 46 41.4 +1.8
GUMO Guam 69.40 88 P **P 03 45 50.2 -1.7**
comp=Z,78nm,0.4s,mb5.7,baz=104,slow=4.5,SNR=3.8
PMAR Madeira 69.68 296 *e*P **P 03 45 53.9 +0.4**
comp=Z,840nm,1.4s,mb6.2
PMAR *e*pP pP 03 46 45.2 +1.9
CFTV Fuerteventura 69.81 291 P **P 03 45 52.6 -1.7**
comp=Z,114nm,1.1s,mb5.4
EOSO Osorio 71.09 291 P **P 03 46 00.4 -1.6**
comp=Z,651nm,1.4s,mb6.1
EBAJ Bajamar 71.44 292 P **P 03 46 02.4 -1.7**
comp=Z,249nm,1.3s,mb5.7
CCAN Las Canadas 71.80 292 P **P 03 46 05.8 -0.5**
comp=Z,286nm,1.8s,mb5.6
IMA2 Indian Mountai 72.18 17 *e*P **P 03 46 07.6 -0.2**
EGOM La Gomera 72.29 292 P **P 03 46 08.3 -0.8**
comp=Z,282nm,1.2s,mb5.8
EHIG Higuera 72.52 293 P **P 03 46 09.0 -1.6**
comp=Z,456nm,0.9s,mb6.1
MBWA Marble Bar 73.72 133 *e*P **P 03 46 16.6 -0.9**
comp=Z,531nm,1.1s,mb6.1
INK Inuvik 73.93 9⇑*i*P **P 03 46 18.4 +0.3**
comp=Z,50nm,0.6s,mb5.3
INK Inuvik 73.93 9⇑*i*P **P 03 46 18.4 +0.3**
INK pmax pmax
comp=Z,50nm,0.6s
TTA Tatalina 74.09 20 *e*P **P 03 46 19.6 +0.5**
comp=Z,4μm,1.8s,mb6.7
TTA *e*PP PP 03 49 05.8 -1.0
TTA Tatalina 74.09 20 *e*P **P 03 46 19.6 +0.5**
TTA *e* 03 49 05.8
TTA pmax pmax
comp=Z,4μm,1.8s,mb6.7
DBIC Dimbokro 74.44 267 P **P 03 46 20.3 -1.7**
comp=Z,72nm,0.9s,mb5.3,baz=35,slow=7.0,SNR=69
DBIC pP pP 03 47 13.2 +0.8
comp=Z,69nm,0.8s,baz=48,slow=6.9,SNR=4.3
DBIC PKKPbc PKKPbc 04 05 47.1 +0.9
comp=Z,2.2nm,0.7s,baz=219,slow=2.0,SNR=4.4
COLA College 74.53 16⇑*i*P **P 03 46 22.1 +0.5**
TSUM Tsumeb 74.73 232 *e*P **P 03 46 22.3 -1.0**
comp=Z,466nm,1.1s,mb6.0
LIC Lamto 74.84 267 *e*P **P 03 46 22.3 -1.9**
comp=Z,71nm,0.4s,mb5.3
LIC *e*MLR MLR
comp=Z,3μm,18.0s
FITZ Fitzroy Crossi 75.11 126⇑*i*P **P 03 46 24.8 -0.7**
comp=Z,846nm,1.2s,mb6.2
FITZ *e*S S 03 55 44.0 -2.2
MCK McKinley 75.26 17 *e*P **P 03 46 24.7 -1.1**
comp=Z,9.4nm,0.5s,mb4.7
MCK *e*PP PP 03 49 16.0 -0.5
MCK McKinley 75.26 17 P **P 03 46 25.0 -0.8**
MCK pmax pmax
comp=Z,470nm,1.2s,mb6.0
SVW2 Sparrevohn 75.68 21 *e*P **P 03 46 28.6 +0.4**
SVW2 *e*P 03 46 29.0
KAKA Kakadu 75.97 118 *e*P **P 03 46 29.0 -1.5**
comp=Z,712nm,0.6s,mb6.5
EGAK Eagle 75.99 13⇑*i*P **P 03 46 29.9 +0.1**
comp=Z,65nm,0.3s,mb5.7
EGAK *e*pP pP 03 47 24.0 +3.4
DAWY Dawson 76.96 13⇑*i*P **P 03 46 35.4 +0.1**
PMR Palmer 77.03 18⇑*i*P **P 03 46 35.4 -0.3**
comp=Z,874nm,1.4s,mb6.2
PMR Palmer 77.03 18⇑*i*P **P 03 46 35.4 -0.4**
PMR pmax pmax
comp=Z,874nm,1.4s,mb6.2
SML Sawmill 77.05 18⇑*i*P **P 03 46 35.9 +0.1**
UNV Unalaska Valle 77.37 31 *e*P **P 03 46 36.6 -1.2**
comp=Z,356nm,1.0s,mb6.0
AKUT Akutan 77.46 30 *e*P **P 03 46 36.7 -1.6**
comp=Z,110nm,0.5s,mb5.7
BOSA Boshof 77.60 220 P **P 03 46 38.7 -0.6**
BOSA pP pP 03 47 31.6 +1.4
BOSA PKKPbc PKKPbc 04 05 41.5 +0.1
BOSA P'P' 04 13 44.2
BOSA Boshof 77.60 220 P **P 03 46 38.7 -0.6**
BOSA *PP pP 03 47 31.6 +1.4
BOSA pmax pmax
comp=Z,496nm,1.0s,mb6.1
BOSA Boshof 77.60 220 P **P 03 46 38.7 -0.6**
comp=Z,496nm,1.0s,mb6.1,baz=43,slow=6.4,SNR=231
BOSA pP pP 03 47 31.6 +1.4
comp=Z,51nm,0.6s,baz=43,slow=9.1,SNR=1.6
BOSA PKKPbc PKKPbc 04 05 41.5 +0.1
comp=Z,1.5nm,0.5s,baz=153,slow=2.1,SNR=5.5
BOSA PKPPKP 04 13 44.2
comp=Z,13nm,1.2s,baz=254,slow=6.1,SNR=2.8
FALS False Pass 77.86 29 *e*P **P 03 46 39.3 -1.2**
comp=Z,782nm,1.0s,mb6.3
SDPT Sand Point 78.59 27 *e*Pn **P 03 46 43.9 -0.6**
comp=Z,217nm,0.7s,mb5.9
SDPT *e*P 03 46 45.7
EYAK Cordova Ski Ar 78.77 17⇑*i*P **P 03 46 46.0 +0.6**
comp=Z,1μm,1.1s,mb6.5
KDAK Kodiak Island 79.28 22⇑*e*P **P 03 46 48.1 -0.1**
comp=Z,2μm,1.0s,mb6.7
KDAK *e*pP pP 03 47 39.9 +0.7
MID Middleton Isla 79.60 18 *e*P **P 03 46 50.9 +1.0**
MUN Mundaring 80.36 142⇑*i*P **P 03 46 52.5 -1.7**
KLBR Kellerberrin 80.83 141 *e*P **P 03 46 54.7 -2.0**
comp=Z,156nm,0.8s,mb5.7
YKA Yellowknife Ar 81.24 2 P **P 03 46 58.4 -0.1**
YKA pP pP 03 47 52.8 +3.0
YKA PP PP 03 50 07.3 +1.1
YKA PKKPbc PKKPbc 04 05 29.4 -3.0
YKA P'P' 04 13 35.9
YKA Yellowknife Ar 81.24 2 P **P 03 46 58.4 -0.1**
YKA *PP pP 03 47 52.8 +3.0
YKA 03 50 07.3
YKA pmax pmax
comp=Z,79nm,0.4s
YKA Yellowknife Ar 81.24 2 P **P 03 46 58.4 -0.1**
comp=Z,79nm,0.4s,mb5.7,baz=349,slow=5.2,SNR=1278
YKA pP pP 03 47 52.8 +3.0
comp=Z,98nm,0.8s,baz=348,slow=5.4,SNR=3.9
YKA PP PP 03 50 07.3 +1.1
comp=Z,52nm,1.0s,baz=353,slow=7.4,SNR=4.9
YKA PKKPbc PKKPbc 04 05 29.4 -3.0
comp=Z,1.8nm,0.3s,baz=170,slow=2.2,SNR=40
YKA PKPPKP 04 13 35.9
comp=Z,3.1nm,0.9s,baz=161,slow=2.1,SNR=9.4
NWAO Narrogin (SRO) 81.64 142⇑*i*P **P 03 46 59.0 -1.9**
comp=Z,174nm,1.0s,mb5.6
NWAO *e*pP pP 03 47 52.5 +0.2
NWAO *e*sP sP 03 48 13.9 -0.8
NWAO Narrogin (SRO) 81.64 142⇑*i*P **P 03 46 59.0 -1.9**
NWAO *e*PP pP 03 47 52.5 +0.2
NWAO *e*SP sP 03 48 13.9 -0.8
NWAO pmax pmax
comp=Z,174nm,1.0s
SKAG Skagway 81.97 13⇑*i*P **P 03 47 03.1 +0.7**
comp=Z,933nm,1.2s,mb6.3
SCHQ Schefferville 81.98 337 P **P 03 47 02.3 -0.2**
SCHQ pP pP 03 47 57.0 +3.0
SCHQ PKKPbc PKKPbc 04 05 27.8 -2.7
SCHQ Schefferville 81.98 337 P **P 03 47 02.3 -0.2**
comp=Z,62nm,0.8s,mb5.3,baz=35,slow=5.0,SNR=79
SCHQ pP pP 03 47 57.0 +3.1
comp=Z,63nm,0.8s,baz=58,slow=5.4,SNR=5.8
SCHQ PKKPbc PKKPbc 04 05 27.8 -2.7
comp=Z,4.7nm,0.9s,baz=225,slow=5.1,SNR=6.8
WRA Warramunga Arr 82.22 122 P **P 03 47 02.6 -1.6**
WRA *PP pP 03 47 57.5 +1.8
WRA pmax pmax
comp=Z,584nm,0.8s
WRA Warramunga Arr 82.22 122 P **P 03 47 02.6 -1.7**
comp=Z,584nm,0.8s,mb6.3,baz=323,slow=5.0,SNR=567
WRA pP pP 03 47 57.5 +1.8
comp=Z,49nm,0.8s,baz=321,slow=4.7,SNR=1.1
WRA PKKPbc PKKPbc 04 05 30.8 +0.5
comp=Z,6.4nm,1.0s,baz=126,slow=2.1,SNR=12
WRA PKPPKP 04 13 33.3
comp=Z,4.8nm,1.1s,baz=133,slow=1.8,SNR=9.0
WB2 Warramunga Arr 82.22 122 *e*P **P 03 47 02.6 -1.7**
WB2 *e*S S 03 56 55.0 -6.6
SUR Sutherland 82.90 221 *e*P **P 03 47 07.8 +0.3**
comp=Z,306nm,1.0s,mb6.0
DLBC Dease Lake 83.83 11⇑*i*P **P 03 47 12.6 +0.6**
DLBC Dease Lake 83.83 11 PKKPbc PKKPbc 04 05 24.9 -1.6
baz=180,slow=3.2
SIT Sitka 84.22 14 *e*P **P 03 47 14.9 +0.9**
comp=Z,660nm,1.2s,mb6.2
SIT Sitka 84.22 14 *e*P **P 03 47 14.9 +0.9**
SIT pmax pmax
comp=Z,660nm,1.2s,mb6.2
FCC Fort Churchill 84.23 352⇑*i*P **P 03 47 13.9 -0.1**
comp=Z,0.1nm,0.6s
FCC *e*pP pP 03 48 07.3 +1.7
ASAR Alice Springs 84.47 125 P **P 03 47 14.2 -1.5**
comp=Z,421nm,0.7s,mb6.3,baz=311,slow=4.9,SNR=1521
ASAR PKKPbc PKKPbc 04 05 25.0 -0.2
comp=Z,2.9nm,0.9s,baz=123,slow=2.4,SNR=6.7
ASAR PKPPKP 04 13 30.8
comp=Z,2.1nm,0.9s,baz=143,slow=3.0,SNR=7.4
WRAK Wrangell Islan 85.38 13 *e*P **P 03 47 20.3 +0.5**
comp=Z,518nm,1.2s,mb6.1
FORT Forrest 85.86 133 *e*P **P 03 47 20.9 -1.5**
comp=Z,984nm,0.6s,mb6.7
CRAG Craig 86.14 13 *e*P **P 03 47 23.9 +0.4**
comp=Z,247nm,1.3s,mb5.8
FFC Flin Flon 88.91 356 *e*P **P 03 47 36.5 -0.2**
comp=Z,15μm,2.3s
FFC *e*pP pP 03 48 30.3 +1.5
FFC *e*sP sP 03 48 53.0 +1.8
EDM Edmonton 90.56 2 *e*P **P 03 47 44.9 +0.4**
CTA Charters Tower 90.78 114 *e*P **P 03 47 44.7 -1.2**
comp=Z,210nm,0.6s,mb6.2
CTA *e* pP 03 48 41.5 +3.3
CTA Charters Tower 90.78 114 P **P 03 47 44.7 -1.2**
CTA *PP pP 03 48 41.6 +3.4
CTA pmax pmax
comp=Z,318nm,0.9s
CTA Charters Tower 90.78 114 P **P 03 47 44.7 -1.2**
comp=Z,318nm,0.9s,mb6.3,baz=312,slow=5.4,SNR=87
CTA pP pP 03 48 41.5 +3.4
comp=Z,47nm,0.9s,baz=334,slow=5.8,SNR=2.4
CTAO Charters Tower 90.78 114⇑*i*P **P 03 47 44.6 -1.3**
comp=Z,533nm,1.1s,mb6.4
CTAO *e*pP pP 03 48 39.5 +1.3
CTAO Charters Tower 90.78 114⇑*i*P **P 03 47 44.6 -1.3**
CTAO *e*PP pP 03 48 39.5 +1.3
CTAO pmax pmax
comp=Z,533nm,1.1s,mb6.4
ULM Lac du Bonnet 92.80 351 P **P 03 47 53.9 -0.9**
ULM pP pP 03 48 49.5 +2.4
ULM PP PP 03 51 41.7 +2.8
ULM PKKPbc PKKPbc 04 05 01.0 -3.7
ULM P'P'ab 04 11 47.3
ULM Lac du Bonnet 92.80 351 P **P 03 47 53.9 -0.9**
comp=Z,55nm,0.9s,mb5.6,baz=6.7,slow=4.8,SNR=87
ULM pP pP 03 48 49.5 +2.4
comp=Z,33nm,1.0s,baz=13,slow=5.4,SNR=3.2
ULM PP PP 03 51 41.7 +2.8
comp=Z,39nm,1.1s,baz=21,slow=9.8,SNR=5.6
ULM PKKPbc PKKPbc 04 05 01.0 -3.7
comp=Z,4.0nm,0.7s,baz=20,slow=1.0,SNR=7.5
ULM PKP2ab 04 11 47.3
comp=Z,2.9nm,1.0s,baz=179,slow=11,SNR=2.9
MSNY Massena 93.08 336 *e*P **P 03 47 55.6 -0.6**
LONY Lake Ozonia 93.33 336 *e*P **P 03 47 57.1 -0.3**
comp=Z,70nm,1.1s,mb5.6
A06A Chilliwack 94.08 8⇑P **P 03 47 59.4 -1.3**
baz=94,SNR=7.8
VDB Vedder Mountai 94.08 8 P **P 03 47 59.9 -0.8**
A05A Maple Falls 94.11 8⇓P **P 03 47 59.8 -1.0**
baz=94,SNR=23
ACCN Adirondack Com 94.12 335 *e*P **P 03 48 00.7 -0.3**
comp=Z,34nm,1.0s,mb5.3
A07A Ashnola River, 94.24 7⇓P **P 03 48 00.9 -0.6**
baz=94,SNR=103
PGC Sidney 94.28 9 *e*P **P 03 48 01.9 +0.2**
comp=Z,952nm,1.8s,mb6.5
PGC *e*pP pP 03 48 57.7 +3.7
PGC *e*PP PP 03 51 46.1 -4.4
A04A Legoe Bay, Lum 94.31 9⇑P **P 03 48 01.7 0.0**
baz=94,SNR=71
MCW Mount Constitu 94.33 9 P **P 03 48 02.9 +1.0**
MBW Mount Baker 94.34 8 P **P 03 48 01.7 -0.2**
EYMN Ely 94.42 348 *e*P **P 03 48 01.9 -0.4**
comp=Z,124nm,1.0s,mb5.9
A08A Turner Farm, O 94.45 7⇓P **P 03 48 02.3 -0.1**
baz=94,SNR=80
A09A Danville 94.48 6⇓P **P 03 48 02.3 -0.3**
baz=94,SNR=23
A10A Northport 94.56 5⇓P **P 03 48 02.7 -0.3**
baz=94,SNR=19
B06A Marblemount 94.65 8⇑P **P 03 48 02.8 -0.5**
baz=94,SNR=20
CMW Cultus Mountai 94.67 9 P **P 03 48 03.8 +0.4**
A11A Hall Mountain, 94.67 5 P **P 03 48 04.0 +0.6**
baz=94,SNR=47
WALA Waterton Lakes 94.70 3 *e*P **P 03 48 03.2 -0.3**
comp=Z,201nm,1.3s,mb6.1
WALA *e*pP pP 03 48 58.8 +2.9
WALA *e*PP PP 03 51 53.0 -0.7
AGMN Agassiz Refuge 94.71 351 *e*P **P 03 48 03.1 -0.6**
comp=Z,258nm,1.4s,mb6.2
AGMN *e*pP pP 03 48 58.0 +2.0
AGMN *e*PP PP 03 51 51.6 -2.2
OTR Olympics--Tyee 94.71 10 P **P 03 48 05.3 +1.7**
A12A Yaak River Ran 94.74 4⇓P **P 03 48 03.5 -0.3**
baz=94,SNR=14
STW Striped Peak 94.74 10 P **P 03 48 05.1 +1.4**
OBC Olympics--Boni 94.80 10 P **P 03 48 05.8 +1.7**
A13A Flathead Natio 94.81 3 P **P 03 48 03.8 -0.2**
baz=94,SNR=49
C03A Quillayute Air 94.81 10⇑P **P 03 48 05.2 +1.1**
baz=94,SNR=5.6
B05A Bryant 94.83 9 P **P 03 48 04.2 +0.1**
baz=94,SNR=89
B07A Winthrop 94.85 7⇓P **P 03 48 04.3 0.0**
baz=94,SNR=105
B04A Port Angeles 94.85 9⇓P **P 03 48 05.0 +0.7**
baz=94,SNR=12
JCW Jim Creek 94.92 8 P **P 03 48 05.2 +0.6**
STKA Stephens Creek 95.00 126 *e*S SKSac 03 58 12.1 -7.9
STKA Stephens Creek 95.00 126 *e*P **P 03 48 02.8 -2.3**
comp=Z,30nm,0.5s,mb5.7
STKA *e*S SKSac 03 58 12.1 -7.9
STKA Stephens Creek 95.00 126 P **P 03 48 02.9 -2.2**
comp=Z,42nm,0.6s,mb5.7,baz=325,slow=5.4,SNR=53
STKA SKKPbc 04 08 16.8
comp=Z,4.5nm,1.1s,baz=100,slow=6.1,SNR=3.1
B08A Colville Reser 95.03 7⇓P **P 03 48 04.9 -0.2**
baz=95,SNR=74
OSD Olympics--Snow 95.06 10 P **P 03 48 06.5 +1.3**
B09A Rice 95.07 6⇓P **P 03 48 05.3 0.0**
baz=95,SNR=46
OOW Octopus West 95.07 10 P **P 03 48 07.1 +1.8**
ADE Adelaide 95.19 130 *e*P **P 03 48 04.9 -0.9**
B11A Sandpoint 95.19 5⇑P **P 03 48 05.8 0.0**
baz=95,SNR=32
B12A Libby 95.20 4⇑P **P 03 48 06.0 +0.2**
baz=95,SNR=20
BLH Bald Hill 95.26 9 P **P 03 48 06.9 +0.8**
C04A Brinnon 95.26 9⇓P **P 03 48 06.9 +0.8**
baz=95
B10A Chitwood Farm, 95.27 5⇑P **P 03 48 05.8 -0.3**
baz=95,SNR=7.1
DGMT Dagmar 95.27 357 *e*P **P 03 48 06.6 +0.4**
comp=Z,390nm,1.4s,mb6.3
DGMT *e*pP pP 03 49 02.1 +3.6
C06A Tall Timber Ra 95.30 8⇓P **P 03 48 05.4 -0.9**
baz=95,SNR=7.5
NEW Newport 95.31 5 *e*P **P 03 48 06.4 +0.1**
comp=Z,139nm,1.2s,mb6.0
NEW *e*pP pP 03 49 01.3 +2.6
NEW *e*PP PP 03 51 55.8 -2.6
NEW Newport 95.31 5 *e*P **P 03 48 06.4 +0.1**
NEW *e*PP pP 03 49 01.3 +2.6
NEW *e* 03 51 55.8
NEW pmax pmax
comp=Z,139nm,1.2s
NEW Newport 95.31 5 PKKPbc PKKPbc 04 04 57.0 -1.2
comp=Z,3.8nm,0.6s,baz=158,slow=2.7,SNR=5.2
B13A Whitefish 95.36 3⇓P **P 03 48 06.1 -0.5**
baz=95,SNR=58
C05A Tolt Reservoir 95.44 8⇓P **P 03 48 06.6 -0.3**
baz=95,SNR=29
NLWA Neilton Lookou 95.46 10 *e*P **P 03 48 07.7 +0.7**
comp=Z,155nm,1.1s,mb6.0
NLWA Neilton Lookou 95.46 10⇓P **P 03 48 07.7 +0.6**
baz=95,SNR=27
C07A Waterville 95.62 7⇓P **P 03 48 07.3 -0.4**
baz=95,SNR=25
C08A Higginbotham F 95.62 7⇓P **P 03 48 07.2 -0.6**
baz=95,SNR=36
C09A Chrisman Ranch 95.68 6⇑P **P 03 48 08.2 +0.2**
baz=95,SNR=31
C10A Spilker Farm, 95.74 5⇑P **P 03 48 08.2 -0.1**
baz=95
D03A Wishkah Elem. 95.74 10⇓P **P 03 48 09.5 +1.1**
baz=95,SNR=8.2
COWI Conover 95.78 346 *e*P **P 03 48 07.6 -0.9**
comp=Z,57nm,1.0s,mb5.8
COWI *e*sP sP 03 49 21.6 -1.6
EGMT Eagleton 95.83 0 *e*P **P 03 48 08.4 -0.3**
comp=Z,27nm,0.5s,mb5.7
EGMT *e*pP pP 03 49 03.3 +2.1
EGMT *e*PP PP 03 52 03.2 +0.8
EGMT Eagleton 95.83 0⇑P **P 03 48 08.3 -0.4**
baz=96,SNR=76
D04A Dobbs Creek Ra 95.87 9⇓P **P 03 48 09.3 +0.3**
baz=96
D05A Enumclaw 95.90 9⇑P **P 03 48 09.2 +0.2**
baz=96,SNR=40
C14A Swan Lake 96.00 3⇓P **P 03 48 09.0 -0.5**
baz=96
GLMI Grayling 96.00 343 *e*P **P 03 48 09.3 -0.3**
comp=Z,131nm,0.9s,mb6.2
D06A Cle Elum 96.03 8⇓P **P 03 48 08.8 -0.8**
baz=96,SNR=8.7
C13A Hot Springs 96.05 4⇑P **P 03 48 09.6 -0.1**
baz=96,SNR=108
D07A Quincy 96.12 7⇓P **P 03 48 09.0 -1.0**
baz=96
E03A Lebam 96.33 10⇑P **P 03 48 11.6 +0.6**
baz=96
D08A Wollman Farm, 96.36 7⇓P **P 03 48 10.5 -0.7**
baz=96,SNR=30
E04A Onalaska 96.39 9⇑P **P 03 48 11.9 +0.6**
baz=96,SNR=6.5
D09A Jones Farm, Ri 96.41 6⇓P **P 03 48 10.5 -0.8**
baz=96,SNR=13
D10A Wagner Farm, O 96.50 5⇓P **P 03 48 11.7 -0.1**
baz=96,SNR=65
E05A Randle 96.55 9⇓P **P 03 48 11.7 -0.3**
baz=96,SNR=27
D12A Red Ives Fores 96.63 4⇑P **P 03 48 11.7 -0.7**
baz=96
D13A Huson 96.64 4 P **P 03 48 12.3 -0.1**
baz=96,SNR=22
E06A Yakima 96.65 8⇑P **P 03 48 12.7 +0.2**
baz=96,SNR=43
D14A Greenough 96.69 3 P **P 03 48 12.5 -0.2**
baz=96,SNR=63
D15A Lincoln 96.77 2⇑P **P 03 48 12.3 -0.7**
baz=96,SNR=24
CHMT Chamberlain Mo 96.87 3 *e*P **P 03 48 13.1 -0.3**
CHMT *e*pP pP 03 49 06.3 +0.4
CHMT *e*PP PP 03 52 08.7 -1.7
E08A Dider Farm, El 96.91 7⇑P **P 03 48 13.6 -0.1**
baz=97,SNR=20
MSO Missoula 96.93 3 *e*P **P 03 48 13.0 -0.8**
comp=Z,156nm,1.4s,mb6.0
MSO *e*pP pP 03 49 08.1 +2.0
MSO *e*PP PP 03 52 06.6 -4.2
F03A Seaside 96.93 10⇓P **P 03 48 14.2 +0.5**
baz=97,SNR=16
HAWA Hanford 96.96 7 *e*P **P 03 48 13.0 -0.9**
comp=Z,89nm,1.6s,mb5.8
E09A Wood Farm, Sta 96.97 6⇓P **P 03 48 13.9 0.0**
baz=97,SNR=36
E10A Myers Farm, Un 97.08 5⇓P **P 03 48 14.0 -0.4**
baz=97,SNR=11
F04A Amboy 97.08 9 P **P 03 48 14.7 +0.2**
baz=97,SNR=21
LAO LASA Array 97.12 358 *e*P **P 03 48 15.2 +0.6**
comp=Z,349nm,1.6s,mb6.3
LAO *e*pP pP 03 49 10.2 +3.1
F05A White Salmon 97.25 9⇑P **P 03 48 16.0 +0.8**
baz=97,SNR=8.5
E11A Bogner Ranch, 97.27 5 P **P 03 48 14.8 -0.4**
baz=97,SNR=72
ERPA Erie 97.28 338 *e*P **P 03 48 14.4 -1.0**
comp=Z,50nm,1.2s,mb5.6
E13A Victor 97.30 3 P **P 03 48 15.2 -0.3**
baz=97,SNR=29
E14A Clinton 97.36 3 P **P 03 48 15.7 +0.1**
baz=97,SNR=64
E15A Deer Lodge 97.38 2 P **P 03 48 16.1 +0.3**
baz=97,SNR=44
F07A Phinny Hill Vi 97.41 7⇑P **P 03 48 16.5 +0.6**
baz=97,SNR=13
F06A Goldendale 97.44 8⇑P **P 03 48 16.3 +0.3**
baz=97,SNR=12
EIDS Eidsvold 97.52 116 *e*P **P 03 48 14.2 -2.4**
comp=Z,16nm,1.0s,mb5.3
G03A Yamhill 97.57 10⇓P **P 03 48 17.2 +0.5**
baz=97,SNR=15
F10A Beach Ranch, E 97.58 6 P **P 03 48 17.0 +0.3**
baz=97,SNR=26
F08A Pendleton 97.62 7 P **P 03 48 17.6 +0.8**
baz=97,SNR=24
ALLY Alegheny Colle 97.75 338 *e*P **P 03 48 16.5 -1.1**
comp=Z,14nm,0.7s,mb5.4
F09A S2 Ranch, Elgi 97.78 6⇑P **P 03 48 17.7 +0.1**
baz=98,SNR=11
G04A Mulino 97.79 9 P **P 03 48 18.1 +0.5**
baz=98,SNR=34
G05A Wamic 97.90 9⇑P **P 03 48 18.6 +0.5**
baz=98,SNR=7.5
F12A Elk City 97.93 4 P **P 03 48 17.2 -1.0**
baz=98,SNR=28
F13A Darby 97.95 4⇓P **P 03 48 17.6 -0.7**
baz=98,SNR=52
F14A Wisdom 97.97 3⇑P **P 03 48 18.8 +0.4**
baz=98,SNR=40
F15A Butte 97.97 2⇓P **P 03 48 18.4 0.0**
baz=98,SNR=37
G06A Carlson Farm, 97.98 8 P **P 03 48 19.1 +0.6**

baz=98,SNR=15
G07A **Ruggs Ranch, H** 98.06 7 P P 03 48 19.4 +0.6
baz=98,SNR=32
GCMT **Greycliff** 98.07 0 eP P 03 48 19.6 +0.7
H02A **Toledo** 98.10 11 ⇓P P 03 48 19.4 +0.4
baz=98
G08A **Pilot Rock** 98.11 7 ⇓P P 03 48 19.1 +0.1
baz=98,SNR=11
BOZ **Bozeman (W)** 98.19 2 eP P 03 48 19.8 +0.4
comp=Z,327nm,1.7s,mb6.4
BOZ epP pP 03 49 15.8 +3.9
BOZ **Bozeman (W)** 98.19 2 eP P 03 48 19.8 +0.4
BOZ e*PP pP 03 49 15.8 +3.9
BOZ pmax pmax
comp=Z,327nm,1.7s,mb6.4
BOZ **Bozeman (W)** 98.19 2 P P 03 48 20.1 +0.8
baz=98,SNR=50
H03A **Soap Creek Ran** 98.20 10 ⇓P P 03 48 19.6 +0.1
baz=98,SNR=12
G11A **Walters Elk Ra** 98.22 5 ⇓P P 03 48 18.7 -0.8
baz=98,SNR=33
G10A **Bishop Farm, J** 98.26 6 P P 03 48 19.2 -0.6
baz=98,SNR=12
COR **Corvallis** 98.28 10 eP P 03 48 19.1 -0.8
comp=Z,373nm,1.8s,mb6.4
COR **Corvallis** 98.28 10 P P 03 48 20.9 +1.0
COR pmax pmax
comp=Z,370nm,1.8s,mb6.4
H04A **Detroit Lake** 98.34 9 ⇑P P 03 48 20.3 +0.3
baz=98,SNR=19
DLMT **Dillon** 98.44 2 eP P 03 48 21.2 +0.7
comp=Z,52nm,1.4s,mb5.7
H05A **Madras** 98.50 9 ⇑P P 03 48 21.4 +0.7
baz=98,SNR=7.3
H06A **Lindquist Farm** 98.51 8 ⇑P P 03 48 20.9 0.0
baz=98,SNR=22
G14A **Jackson** 98.53 3 ⇓P P 03 48 20.8 -0.1
baz=98,SNR=49
G15A **Dillon** 98.64 2 ⇓P P 03 48 21.4 0.0
baz=98,SNR=53
G13A **Cobalt** 98.65 4 P P 03 48 21.4 -0.1
baz=98,SNR=54
BMO **Blue Mountains** 98.69 6 eP P 03 48 20.9 -0.7
comp=Z,348nm,0.7s,mb6.8
H07A **Lands Inn, Kim** 98.74 7 ⇑P P 03 48 22.6 +0.7
baz=98
RLMT **Red Lodge** 98.74 360 eP P 03 48 22.6 +0.7
comp=Z,3µm,0.5s
RLMT epP pP 03 49 16.7 +2.3
I02A **Mapleton** 98.78 11 ⇓P P 03 48 23.0 +0.9
baz=98
H09A **Durkee** 98.84 6 ⇑P P 03 48 22.4 0.0
baz=98,SNR=6.6
I03A **Eugene** 98.89 10 ⇓P P 03 48 23.1 +0.5
baz=99
H08A **Prairie City** 98.90 7 P P 03 48 23.3 +0.7
baz=99,SNR=27
H11A **Donnelly** 98.93 5 P P 03 48 23.4 +0.6
baz=99,SNR=39
I05A **Bend** 98.97 9 ⇑P P 03 48 23.4 +0.5
baz=99,SNR=6.6
MCMT **McKenzie Canyo** 98.97 3 eP P 03 48 23.1 +0.2
H10A **Noah's Angus R** 98.99 5 P Pdif 03 48 22.8 -0.3
baz=99,SNR=29
QLMT **Earthquake Lak** 99.01 2 ePdif Pdif 03 48 23.5 +0.4
JFWS **Jewell Farm** 99.06 346 eP Pdif 03 48 21.9 -1.5
comp=Z,51nm,1.1s
JFWS **Jewell Farm** 99.06 346 P Pdif 03 48 23.1 -0.3
JFWS pmax pmax
comp=Z,51nm,1.1s,mb5.8
YNR **Norris Junctio** 99.14 1 ePdif Pdif 03 48 26.0 +2.3
H12A **Diamond D Ranc** 99.16 4 ⇑P Pdif 03 48 23.7 -0.2
baz=99
H13A **Challis** 99.17 4 P Pdif 03 48 23.6 -0.3
baz=99,SNR=15
YMR **Madison River** 99.18 1 eP Pdif 03 48 26.0 +2.1
comp=Z,64nm,1.4s
I04A **Tendick Farm,** 99.19 10 ⇑P Pdif 03 48 24.1 +0.1
baz=99,SNR=14
I07A **Izee** 99.25 7 ⇓P Pdif 03 48 25.1 +0.9
baz=99,SNR=34
ECSD **EROS,Sioux Fal** 99.30 351 ePdif Pdif 03 48 24.1 -0.4
comp=Z,0.7nm,0.7s
I06A **Prineville** 99.31 8 ⇑P Pdif 03 48 25.3 +0.8
baz=99,SNR=26
YFT **Old Faithful** 99.40 1 ePdif Pdif 03 48 27.3 +2.4
J02A **Umpqua** 99.44 10 ⇓P Pdif 03 48 25.4 +0.3
baz=99
I10A **Payette** 99.49 5 ⇓P Pdif 03 48 25.4 +0.1
baz=99
I08A **Drewsey** 99.51 7 ⇑P Pdif 03 48 25.9 +0.5
baz=99,SNR=20
I09A **Lost Marbles R** 99.52 6 ⇓P Pdif 03 48 25.2 -0.2
baz=99,SNR=11
J03A **Ideyld Park** 99.52 10 P Pdif 03 48 26.6 +1.1
baz=99,SNR=8.2
RSSD **Black Hills** 99.60 356 ePdif Pdif 03 48 25.8 0.0
comp=Z,30nm,1.0s
RSSD **Black Hills** 99.60 356 eP Pdif 03 48 25.8 0.0
RSSD pmax pmax
comp=Z,30nm,1.0s,mb5.7
FLWY **Flagg Ranch** 99.77 1 eP Pdif 03 48 28.8 +2.2
comp=Z,250nm,1.7s
J04A **Umpqua Nationa** 99.77 9 P Pdif 03 48 27.2 +0.7
baz=99,SNR=19
I13A **Wildhorse Cree** 99.83 4 ⇑P Pdif 03 48 27.9 +1.1
baz=100,SNR=6.4
J05A **Fort Rock** 99.84 9 ⇓P Pdif 03 48 27.7 +0.9
baz=100,SNR=34
K01A **Sixes** 99.85 11 ⇓P Pdif 03 48 27.9 +1.0
baz=100
ACSO **Alum Creek Sta** 99.88 340 ePdif Pdif 03 48 26.3 -0.7
comp=Z,11nm,0.7s
IMW **Indian Meadow** 99.95 1 ePdif Pdif 03 48 29.0 +1.7
comp=Z,23nm,1.1s
J07A **Hines** 99.97 7 ⇑P Pdif 03 48 28.3 +0.8
baz=100,SNR=10
J06A **Christmas Vall** 100.00 8 P Pdif 03 48 28.5 +0.9
baz=100,SNR=29
K02A **Glendale** 100.04 11 P Pdif 03 48 28.5 +0.7
baz=100,SNR=7.3
J08A **Circle Bar Ran** 100.07 7 ⇑P Pdif 03 48 28.5 +0.6
baz=100,SNR=20
J09A **Fry Pan Ranch,** 100.14 6 P Pdif 03 48 29.0 +0.8
baz=100,SNR=33
J10A **Berg Farm, Mel** 100.14 6 ⇑P Pdif 03 48 28.5 +0.3
baz=100,SNR=6.3
HLID **Hailey** 100.16 4 eP Pdif 03 48 28.5 +0.2
comp=Z,8.8nm,0.7s
HLID **Hailey** 100.16 4 P Pdif 03 48 28.9 +0.6
baz=100,SNR=12
MFID **Camas Ranch** 100.22 5 P Pdif 03 48 29.4 +0.8
baz=100,SNR=17
DCID1 **Drake Creek** 100.25 1 ePdif Pdif 03 48 30.6 +2.0
J13A **Cove Ranch, Pi** 100.34 4 P Pdif 03 48 30.2 +1.1
baz=100,SNR=12
K05A **Summer Lake** 100.43 9 P Pdif 03 48 31.1 +1.6
baz=100,SNR=20
K06A **Valley Falls** 100.43 8 ⇓P Pdif 03 48 30.0 +0.5
baz=100,SNR=11
K04A **Chilquin** 100.44 9 ⇑P Pdif 03 48 30.7 +1.2
baz=100
J12A **Stokes Ranch,** 100.44 4 P Pdif 03 48 30.7 +1.2
baz=100,SNR=73
K07A **Rock Creek Ran** 100.65 7 P Pdif 03 48 31.8 +1.3
baz=100,SNR=16
K08A **Mann Creek Ran** 100.69 7 ⇑P Pdif 03 48 31.7 +1.1
baz=100
K10A **MacKenzie Ranc** 100.78 6 P Pdif 03 48 31.5 +0.5
baz=100,SNR=13
K09A **Rome** 100.79 6 P Pdif 03 48 32.0 +0.9
baz=100,SNR=12
K11A **Parker Ranch,** 100.85 5 ⇑P Pdif 03 48 32.0 +0.7
baz=100,SNR=14
ARMA **Armidale** 100.89 120 ⇑iP Pdif 03 48 30.6 -0.9
WVOR **Wild Horse Val** 100.97 7 ePdif Pdif 03 48 32.2 +0.4
comp=Z,37nm,1.2s
WVOR **Wild Horse Val** 100.97 7 eP Pdif 03 48 32.2 +0.3
WVOR pmax pmax
comp=Z,37nm,1.2s
K12A **Draper Farm, C** 101.06 4 ⇑P Pdif 03 48 33.3 +1.0
baz=101,SNR=14
AHID **Auburn Hatcher** 101.08 1 ePdif Pdif 03 48 28.0 -4.3
comp=Z,16nm,0.8s
K13A **Stover Farm, H** 101.09 4 ⇓P Pdif 03 48 32.8 +0.4
baz=101,SNR=8.8
PDAR **Pinedale Array** 101.09 0 P Pdif 03 48 32.2 -0.2
PDAR PP PP 03 52 37.1 -5.3
PDAR **Pinedale Array** 101.09 0 P Pdif 03 48 32.2 -0.2
comp=Z,2.3nm,0.8s,baz=38,slow=2.8,SNR=14
PDAR PP PP 03 52 37.1 -5.3
comp=Z,36nm,1.2s,baz=22,slow=10.0,SNR=7.8
PDAR PKiKP PKiKP 03 52 55.9 -0.3
comp=Z,9.7nm,0.9s,baz=84,slow=2.0,SNR=5.6
PDAR PKKPbc PKKPbc 04 04 40.0 -2.2
comp=Z,2.7nm,0.4s,baz=128,slow=4.7,SNR=22
PDAR PKPPKP 04 12 56.8
comp=Z,1.1nm,0.9s,baz=116,slow=3.4,SNR=5.7
L05A **Lakeview** 101.11 9 P Pdif 03 48 33.9 +1.4
baz=101,SNR=10
HDIL **Hopedale** 101.13 345 ePdif Pdif 03 48 32.6 0.0
comp=Z,168nm,1.8s
YBH **Yreka Blue Hor** 101.17 10 ePdif Pdif 03 48 32.0 -0.8
comp=Z,9.5nm,1.0s
YBH **Yreka Blue Hor** 101.17 10 P Pdif 03 48 33.1 +0.3
YBH pmax pmax
comp=Z,9.0nm,1.0s
YBH **Yreka Blue Hor** 101.17 10 ⇑P Pdif 03 48 33.4 +0.6
baz=101
K14A **Jones Ranch, D** 101.24 3 P Pdif 03 48 34.8 +1.7
baz=101,SNR=16
L08A **Fields** 101.24 7 P Pdif 03 48 34.4 +1.3
baz=101,SNR=19
M04C **Macdoel** 101.24 10 ⇑P Pdif 03 48 33.3 +0.2
baz=101
L07A **Adell** 101.31 8 P Pdif 03 48 34.7 +1.3
baz=101,SNR=25
MOD **Modoc** 101.31 8 ePKPdf Pdif 03 48 34.0 +0.6
comp=Z,65nm,1.4s
MOD **Modoc** 101.31 8 ⇑P Pdif 03 48 34.2 +0.8
baz=101,SNR=14
L09A **Wilkinson Ranc** 101.47 6 ⇓P Pdif 03 48 35.1 +1.0
baz=101,SNR=16
M02C **Callahan** 101.48 10 ⇓P Pdif 03 48 35.3 +1.1
baz=101
L10A **Juniper Basin** 101.51 5 ⇓P Pdif 03 48 35.3 +1.1
baz=101,SNR=28
L12A **House Creek Ra** 101.54 4 ⇓P Pdif 03 48 36.0 +1.6
baz=101,SNR=12
L13A **Double Diamond** 101.66 4 ⇓P Pdif 03 48 36.2 +1.3
baz=101,SNR=12
M03C **McCloud** 101.70 10 ⇓P Pdif 03 48 35.7 +0.5
baz=101
M05C **Lookout** 101.75 9 P Pdif 03 48 36.3 +0.9
baz=101,SNR=12
M07A **Soldier Meadow** 101.95 8 ⇑P Pdif 03 48 37.3 +1.1
baz=102,SNR=14
M08A **Happy Creek Ra** 101.97 7 ⇓P Pdif 03 48 37.5 +1.2
baz=102
N02C **Big Bar** 101.97 11 ⇑P Pdif 03 48 37.5 +1.1
baz=102
M06C **Likely Place G** 101.98 9 P Pdif 03 48 37.9 +1.5
baz=102,SNR=7.3
ELN **Prospectdale** 102.00 337 ePdif Pdif 03 48 35.7 -0.8
HVU **Hansel Valley** 102.02 3 ePdif Pdif 03 48 36.6 +0.1
comp=Z,27nm,1.1s
HVU **Hansel Valley** 102.02 3 eP Pdif 03 48 36.6 +0.1
HVU pmax pmax
comp=Z,27nm,1.1s
M10A **I.L. Ranch, Tu** 102.06 6 ⇑P Pdif 03 48 37.8 +1.1
baz=102,SNR=14
M09A **Marrel Ranch,** 102.08 6 ⇑P Pdif 03 48 38.5 +1.7
baz=102
M11A **Holland Ranch,** 102.20 5 ⇑P Pdif 03 48 38.8 +1.4
baz=102,SNR=7.2
CNB **Canberra Magne** 102.22 125 eP Pdif 03 48 36.2 -1.2
comp=Z,16nm,1.1s
HWUT **Hardware Ranch** 102.22 2 ePdif Pdif 03 48 38.1 +0.7
comp=Z,58nm,1.3s
HATC **Hat Creek Radi** 102.24 9 ⇑P Pdif 03 48 39.2 +1.7
baz=102
M14A **Sheep Mountain** 102.27 3 P Pdif 03 48 38.9 +1.2
baz=102,SNR=15
M12A **Wells** 102.27 4 ⇑P Pdif 03 48 38.7 +1.1
baz=102,SNR=17
WDC **Whiskeytown Da** 102.32 10 ePdif Pdif 03 48 37.7 -0.2
comp=Z,12nm,1.1s
WDC **Whiskeytown Da** 102.32 10 P Pdif 03 48 38.9 +1.0
WDC pmax pmax
comp=Z,12nm,1.1s
WDC **Whiskeytown Da** 102.32 10 ⇓P Pdif 03 48 38.2 +0.3
baz=102
M15A **Larsen Ranch,** 102.34 2 ⇓P Pdif 03 48 39.4 +1.4
baz=102
M13A **Montelio** 102.37 4 P Pdif 03 48 40.0 +1.9
baz=102,SNR=19
N06A **Buffalo Meadow** 102.51 8 ⇓P Pdif 03 48 40.4 +1.7
baz=102,SNR=16
ELFS **Eagle Lake Fie** 102.53 9 ⇓P Pdif 03 48 40.3 +1.5
baz=102
O01C **Eel River Cons** 102.56 11 ⇓P Pdif 03 48 40.6 +1.6
baz=102
N07B **Gerlach** 102.57 7 ⇓P Pdif 03 48 40.1 +1.1
baz=102
N09A **Rock Creek Ran** 102.64 6 P Pdif 03 48 41.0 +1.6
baz=102,SNR=10
N08A **GE Springer Mi** 102.65 7 ⇓P Pdif 03 48 41.1 +1.7
baz=102,SNR=11
O02C **Red Bluff** 102.68 11 ⇑P Pdif 03 48 41.3 +1.8
baz=102
O04C **Chester** 102.78 9 P Pdif 03 48 41.5 +1.5
baz=102,SNR=15
N11A **Elko Archery C** 102.82 5 ⇓P Pdif 03 48 41.6 +1.5
baz=102
N12A **Clover Valley,** 102.83 4 P Pdif 03 48 42.1 +1.9
baz=102,SNR=12
N10A **Dunphy** 102.86 6 ⇑P Pdif 03 48 41.7 +1.4
baz=102
BGU **Big Grassy Mou** 102.86 3 ePdif Pdif 03 48 41.0 +0.7
BGU ePKPdf PKiKP 03 53 01.3 +1.8
N13A **Wendover, West** 102.87 4 ⇑P Pdif 03 48 42.2 +1.9
baz=102
N15A **Stansbury Isla** 102.91 2 ⇓P Pdif 03 48 42.0 +1.5
baz=103
N14A **Grayback Hills** 102.92 3 P Pdif 03 48 42.2 +1.6
baz=103,SNR=9.1
O06A **Flanigan** 103.08 8 P Pdif 03 48 42.4 +1.1
baz=103,SNR=16
CTU **Camp Tracy** 103.13 2 ePdif Pdif 03 48 42.2 +0.7
comp=Z,110nm,1.9s
O05C **Quincy** 103.15 9 ⇑P Pdif 03 48 42.8 +1.2
baz=103
JLU **Jordanelle** 103.23 2 ePdif Pdif 03 48 43.3 +1.3
O10A **Cortez Mining,** 103.28 6 ⇓P Pdif 03 48 43.9 +1.7
baz=103
BEKR **Beckwourth** 103.31 9 P Pdif 03 48 43.2 +0.9
baz=103,SNR=18
O09A **Fish Creek Ran** 103.34 6 ⇑P Pdif 03 48 43.8 +1.4
baz=103,SNR=10
DAU **Daniels Canyon** 103.42 2 ePdif Pdif 03 48 44.7 +1.9
DAU e 03 52 59.3
O12A **Currie** 103.43 4 ⇑P Pdif 03 48 44.5 +1.7
baz=103,SNR=10.0
ORV **Oroville** 103.47 10 ⇓P Pdif 03 48 43.7 +0.7
baz=103
O11A **Cowboy Ranch,** 103.50 5 ⇓P Pdif 03 48 44.5 +1.3
baz=103,SNR=6.6
P06A **Stead Airport,** 103.56 8 ⇓P Pdif 03 48 44.1 +0.7
baz=103
DUG **Dugway** 103.59 3 ePdif Pdif 03 48 44.5 +1.0
comp=Z,29nm,1.4s
DUG **Dugway** 103.59 3 eP Pdif 03 48 44.6 +1.0
DUG pmax pmax
comp=Z,29nm,1.4s
DUG **Dugway** 103.59 3 P Pdif 03 48 44.8 +1.3
baz=103,SNR=11
O13A **Hicks Ranch, I** 103.61 4 ⇓P Pdif 03 48 45.0 +1.4
baz=103,SNR=6.0
OHCM **Honcut** 103.69 10 ePdif Pdif 03 48 45.1 +1.1
P08A **Dixie Valley** 103.73 7 ⇓P Pdif 03 48 45.8 +1.6
baz=103
P07A **Fallon** 103.81 8 ⇑P Pdif 03 48 46.2 +1.7
baz=104
P05C **Yuba Gap, Truc** 103.84 9 ⇑P Pdif 03 48 45.7 +1.0
baz=104
WCN **Washoe City** 103.94 8 ⇓P Pdif 03 48 46.3 +1.2
baz=104
P10A **Eureka** 103.95 6 ⇓P Pdif 03 48 46.3 +1.1
baz=104
P09A **Austin** 103.96 6 ⇓P Pdif 03 48 46.6 +1.4
baz=104
MAW **Mawson** 103.97 183 eP PKiKP 03 53 01.3 +0.9
comp=Z,8.1nm,0.9s
MAW **Mawson** 103.97 183 Pdiff Pdif 03 48 44.2 -1.0
comp=Z,4.7nm,0.6s,baz=269,slow=13,SNR=4.0
MAW PKiKP PKiKP 03 53 00.0 -0.4
comp=Z,3.5nm,0.5s,baz=27,slow=4.6,SNR=7.3
MAW PKKPbc PKKPbc 04 04 33.7 -1.4
comp=Z,4.0nm,0.7s,baz=161,slow=5.3,SNR=5.0
Q04C **Lincoln** 104.19 10 ⇓P Pdif 03 48 47.2 +1.0
baz=104
P12A **McGill** 104.21 4 ⇑P Pdif 03 48 47.6 +1.4
baz=104
P13A **Bates Ranch, G** 104.28 4 ⇑P Pdif 03 48 48.0 +1.4
baz=104,SNR=7.3
LAVA **Lava Cap Winer** 104.36 9 ⇓P Pdif 03 48 49.4 +2.4
baz=104
R05C **Kirkwood Meado** 104.50 9 ⇓P Pdif 03 48 49.6 +2.1
baz=104
Q08A **Gabbs** 104.58 7 ⇓P Pdif 03 48 49.5 +1.6
baz=104,SNR=6.8
Q12A **Willow Creek R** 104.64 4 ⇑P Pdif 03 48 49.9 +1.7
baz=104,SNR=9.1
Q09A **Carvers** 104.67 6 ⇓P Pdif 03 48 50.1 +1.8
baz=104
SRU **San Rafael** 104.74 1 ePdif Pdif 03 48 48.0 -0.6
comp=Z,13µm,0.9s
SRU ePKPdf PKiKP 03 52 59.1 -3.9
Q10A **Clear Creek Ra** 104.75 6 ⇑P Pdif 03 48 50.6 +1.9
baz=104
R06C **Coleville** 104.75 8 ⇓P Pdif 03 48 50.2 +1.5
baz=104
Q11A **Duckwater** 104.78 5 P Pdif 03 48 50.4 +1.5
baz=104,SNR=12
NVAR **Mina Array Bea** 104.96 7 Pdiff Pdif 03 48 50.4 +0.7
comp=Z,12nm,1.1s,baz=21,slow=3.7,SNR=27
NVAR PKiKP PKiKP 03 53 03.8 +0.4
comp=Z,6.8nm,0.9s,baz=28,slow=3.0,SNR=6.1
NVAR PKKPbc PKKPbc 04 04 30.4 -0.5
comp=Z,5.6nm,0.6s,baz=162,slow=4.7,SNR=25
NVAR SKKP 04 07 50.3
comp=Z,2.4nm,0.8s,baz=199,slow=4.8,SNR=5.4
NVAR PKPPKP 04 12 48.5
comp=Z,1.0nm,0.9s,baz=162,slow=5.2,SNR=4.7
BDM **Black Diamond** 105.00 10 ⇑P Pdif 03 48 52.9 +3.2
baz=105
CMB **Columbia Colle** 105.12 9 ePKPdf PKiKP 03 53 02.4 -1.2
CMB **Columbia Colle** 105.12 9 ⇑P Pdif 03 48 52.0 +1.6
baz=105
R07C **Lee Vining** 105.22 8 ⇓P Pdif 03 48 52.8 +2.0
baz=105
R09A **Tonopah** 105.27 6 ⇓P Pdif 03 48 52.2 +1.2
baz=105,SNR=19
R11A **Troy Canyon, C** 105.28 5 ⇑P Pdif 03 48 52.8 +1.8
baz=105,SNR=13
R10A **Warm Springs** 105.29 6 ⇓P Pdif 03 48 52.5 +1.4
baz=105
MSU **Marysvale** 105.30 2 ePdif Pdif 03 48 52.6 +1.5
R12A **Pony Springs,** 105.37 4 ⇓P Pdif 03 48 53.0 +1.5
baz=105,SNR=6.2
R14A **James Farms, M** 105.48 3 ⇓P Pdif 03 48 52.3 +0.4
baz=105
S10A **Tonopah Range,** 105.63 6 ⇓P Pdif 03 48 53.9 +1.4
baz=105,SNR=16
S09A **Goldfield** 105.77 7 ⇑P Pdif 03 48 54.6 +1.4
baz=105,SNR=10
S05C **Merced** 105.80 9 ⇑P Pdif 03 48 54.1 +0.8
baz=106
S08C **White Mtn Res** 105.90 7 P Pdif 03 48 56.0 +2.2
baz=106,SNR=15
KCC **Kaiser Creek** 105.95 8 ⇓P Pdif 03 48 56.1 +2.1
baz=106
S11A **Rachel** 105.97 5 ⇓P Pdif 03 48 55.4 +1.3
baz=106
MTUM **Tungsten Hills** 106.00 8 ePdif Pdif 03 48 55.8 +1.5
MTUM ePKPdf PKiKP 03 53 05.7 +0.4
S14A **Cedar City** 106.01 3 ⇑P Pdif 03 48 56.0 +1.7
baz=106
SDCO **Great Sand Dun** 106.02 357 ePKPdf PKiKP 03 53 05.2 -0.1
S13A **Holt Ranch, En** 106.15 4 P Pdif 03 48 56.8 +1.9
baz=106,SNR=11
CCUT **Cedar City** 106.21 3 ePdif Pdif 03 48 56.9 +1.7
T06C **Milleton Lake** 106.21 9 P Pdif 03 48 56.5 +1.3
baz=106,SNR=11
T11A **Corn Creek, Al** 106.41 5 ⇑P Pdif 03 48 58.4 +2.3
baz=106
GRAC **Grapevine Rang** 106.47 7 ⇑P Pdif 03 48 58.9 +2.5
baz=106
HELL **Mitchell Peak** 106.62 8 ⇑P Pdif 03 48 59.0 +2.0
baz=106
TPNV **Topopah Spring** 106.62 6 ePKPdf PKiKP 03 53 02.5 -4.0
TPNV **Topopah Spring** 106.62 6 ⇓P Pdif 03 48 59.2 +2.2
baz=106
MVCO **Mesa Verde** 106.64 359 ePKPdf PKiKP 03 53 09.1 +2.6
T14A **Hurricane** 106.71 3 ⇑P Pdif 03 48 59.6 +2.2
baz=106,SNR=5.6
T13A **Saint George** 106.71 4 ⇓P Pdif 03 48 59.5 +2.1
baz=106
T16A **Glen Canyon Da** 106.84 2 ⇑P Pdif 03 48 58.4 +0.4
baz=106
CWC **Cottonwood Cre** 106.96 7 ⇓P Pdif 03 49 00.8 +2.3
baz=107
FURC **Furnace Creek,** 107.05 6 ⇓P Pdif 03 49 01.3 +2.4
baz=107
U10A **Ash Meadows, A** 107.14 6 ⇓P Pdif 03 49 01.6 +2.3
baz=107
U12A **Valley of Fire** 107.26 4 ⇑P Pdif 03 49 01.8 +2.0
baz=107
U13A **Pakoon Wash** 107.31 4 ⇓P Pdif 03 49 01.8 +1.8
baz=107
U14A **Mt Trumbull** 107.34 3 ⇓P Pdif 03 49 02.3 +2.1
baz=107,SNR=5.7
MPMC **Manual Prospec** 107.39 7 ⇓P Pdif 03 49 02.9 +2.4
baz=107,SNR=9.4
SHOC **Shoshone** 107.66 6 ⇓P Pdif 03 49 02.2 +0.6
baz=107
V12A **Nelson** 107.94 5 ⇑P Pdif 03 49 05.0 +2.1
baz=108
V14A **Boquillas Ranc** 108.13 3 ⇑P Pdif 03 49 05.9 +2.2
baz=108
TUQ **Turquoise Mtn.** 108.15 6 ⇓P Pdif 03 49 06.3 +2.5
baz=108
GSC **Goldstone** 108.21 6 ⇓P Pdif 03 49 05.6 +1.5
baz=108
EDW2 **Edwards Air Fo** 108.51 8 ⇑P Pdif 03 49 07.9 +2.5
baz=108
W14A **Seligman** 108.55 3 ⇓P Pdif 03 49 08.4 +2.8
baz=108,SNR=5.6
GMRC **Granite Mounta** 108.82 6 ⇓P Pdif 03 49 09.3 +2.5
baz=108
ANMO **Albuquerque** 108.85 358 PKKPbc PKKPbc 04 04 18.4 -0.5
comp=Z,3.4nm,0.9s,baz=194,slow=4.3,SNR=8.4
ANMO PKKP PKKPbc 04 04 31.1 +12
comp=Z,7.9nm,1.0s,baz=204,slow=5.0,SNR=7.9
X13A **Yucca** 109.13 4 ⇓P Pdif 03 49 10.4 +2.2
baz=109
X14A **Yava** 109.30 3 ⇓P Pdif 03 49 11.3 +2.4
baz=109
X15A **Humboldt** 109.31 3 ⇓P Pdif 03 49 11.3 +2.3
baz=109
X16A **Lo Mia Camp, P** 109.40 2 ⇓P Pdif 03 49 11.7 +2.4
baz=109
IRM **Iron Mountain** 109.48 5 ⇑P Pdif 03 49 11.5 +1.8
baz=109
Y15A **Casa Rosa Ranc** 109.84 3 ⇓P Pdif 03 49 12.9 +1.6
baz=110
PFO **Pinyon Flat Ob** 109.92 6 PKKP PKKPbc 04 04 25.6 +10
comp=Z,5.1nm,1.0s,baz=284,slow=4.2,SNR=2.9
MNTX **Cornudas Mount** 112.04 356 ePdif Pdif 03 49 22.2 +1.1
MNTX ePKPdf PKiKP 03 53 16.4 -0.5
SJG **San Juan** 112.07 315 PKKPbc PKKPbc 04 04 05.5 -2.5
comp=Z,8.1nm,0.4s,baz=306,slow=3.7,SNR=6.9
HKT **Hockley** 112.68 347 ePKPdf PKiKP 03 53 17.9 -0.2
JCT **Junction City** 112.76 351 ePKPdf PKiKP 03 53 17.0 -1.3
TXAR **Lajitas Array** 114.28 355 PKP PKiKP 03 53 19.6 -1.6
TXAR PKKPbc PKKPbc 04 03 59.6 -1.5
TXAR **Lajitas Array** 114.28 355 PKP PKiKP 03 53 19.6 -1.6
baz=93,slow=1.8
TXAR PKKPbc PKKPbc 04 03 59.6 -1.5
baz=187,slow=5.3
MAIT **Maitri** 114.92 198 ePKP PKiKP 03 53 19.1 -1.9
DRV **Dumont d'Urvil** 115.47 156 Pdif Pdif 03 49 48.0 +12
DRV **Dumont d'Urvil** 115.47 156 PP PP 03 54 33.0 +5.1
DRV SP SP 04 03 21.0 -24
DRV SS SS 04 10 25.0 +15
DRV L 04 22 00.0
DRV R 04 31 00.0
CAM3 **Guarapari** 118.77 265 i 04 03 59.7
CAM3 i 04 04 13.3
CAM3 **Guarapari** 118.77 265 ⇑eP PKKPbc 04 03 46.8 +1.9
SNAA **Sanae** 119.32 200 ePKPdf PKPdf 03 53 27.9 -1.5
SNAA e 03 53 31.6
SNAA e 03 53 42.1

SNAA			*e*			03 53 51.7	
SNAA			*e*			03 54 24.9	
SNAA			*e*			03 56 42.6	
SNAA			*e*			03 56 46.1	
SNAA			*e*			04 03 42.0	
TEIG	**Tepich**	**120.16 337**	PKKPbc	PKKPbc		04 03 39.0	-1.2
comp=Z,11nm,0.8s,baz=219,slow=6.5,SNR=5.6							
VNA2	**Neumayer--Watz**	**120.32 202**	*e*PKPdf	PKPdf		03 53 30.2	-1.1
baz=9.9,slow=3.1							
VNA2			*e*			03 53 33.9	
VNA2			*e*			03 53 44.9	
VNA2			*e*			03 53 53.8	
VNA2			*e*			03 54 29.1	
VNA2			*e*			03 56 45.3	
VNA2			*e*			03 56 48.9	
VNA2			*e*			03 56 53.0	
VNA2			*e*			04 03 39.4	
VNA1	**Neumayer--Stat**	**120.47 202**	*e*PKPdf	PKPdf		03 53 31.2	-0.4
VNA1			*e*			03 53 34.5	
VNA1			*e*			03 53 44.9	
VNA1			*e*			03 53 54.1	
VNA1			*e*			03 54 30.1	
VNA1			*e*			03 56 45.9	
VNA1			*e*			03 56 49.2	
VNA3	**Neumayer Olymp**	**121.13 202**	*e*PKPdf	PKPdf		03 53 32.0	-0.9
VNA3			*e*			03 53 35.4	
VNA3			*e*			03 53 45.9	
VNA3			*e*			03 53 57.0	
VNA3			*e*			03 54 29.3	
VNA3			*e*			03 56 46.4	
VNA3			*e*			03 56 49.7	
VNA3			*e*			03 56 54.2	
VNA3			*e*			04 03 35.9	
CAM4	**Nova Friburgo**	**121.23 264⇑**	*i*P	PKPdf		03 53 32.0	-2.6
CAM4			*i*			03 53 33.5	
CAM4			*i*			03 53 39.6	
CAM4			*i*			03 53 44.8	
CAM4	**Nova Friburgo**	**121.23 264**	*i*	PKKPab		04 03 42.1	+4.6
CAM4			*i*			04 03 47.5	
CAM4			*i*			04 04 35.8	
CAM4			*i*			04 05 01.3	
CAM4	**Nova Friburgo**	**121.23 264⇓**	*i*P	PKKPbc		04 03 37.8	+2.0
SDV	**Santo Domingo**	**122.04 313**	*e*PKPdf	PKPdf		03 53 34.5	-2.0
SDV	**Santo Domingo**	**122.04 313**	SKKPbc			04 07 03.4	
comp=Z,8.8nm,1.0s,baz=303,slow=2.0,SNR=3.2							
BDFB	**Brasilia**	**122.10 274**	PKP	PKPdf		03 53 35.6	-0.8
comp=Z,3.6nm,0.5s,baz=31,slow=4.0,SNR=9.1							
BDFB			PP	PP		03 55 06.0	-8.3
comp=Z,2.7nm,0.7s,baz=18,slow=15,SNR=2.6							
BDFB			PKKPab	PKKPab		04 03 33.9	-0.4
comp=Z,26nm,1.0s,baz=244,slow=5.5,SNR=22							
SNZO	**South Karori**	**122.46 120**	*e*PKPdf	PKPdf		03 53 33.9	-2.4
TGUH	**Tegucigalpa,Un**	**125.57 333**	*e*PKPdf	PKPdf		03 53 42.4	-0.8
TGUH			*ep*PKPdf	pPKPdf		03 54 39.4	+1.4
VNDA	**Vanda**	**125.58 164**	PKIKP	PKPdf		03 53 39.5	-1.8
VNDA			pmax	pmax			
comp=Z,33nm,1.0s							
VNDA	**Vanda**	**125.58 164**	PKP	PKPdf		03 53 39.5	-1.8
comp=Z,33nm,1.0s,baz=291,slow=5.0,SNR=46							
SBA	**Scott Base**	**126.66 165**	*e*PKPdf	PKPdf		03 53 43.2	-0.2
BCIP	**Isla Barro Col**	**126.78 323**	*e*PKPdf	PKPdf		03 53 42.1	-3.5
ROSC	**El Rosal**	**127.44 314**	PKP	PKPdf		03 53 44.0	-2.8
ROSC			pPKP	pPKPdf		03 54 43.9	+2.3
ROSC	**El Rosal**	**127.44 314**	PKhKP			03 53 35.1	
comp=Z,4.6nm,0.5s,baz=107,slow=19,SNR=2.8							
ROSC			PKP	PKPdf		03 53 44.0	-2.8
comp=Z,54nm,0.9s,baz=94,slow=4.7,SNR=30							
ROSC			pPKP	pPKPdf		03 54 43.9	+2.3
comp=Z,49nm,1.0s,baz=83,slow=7.5,SNR=3.0							
SIV	**San Ignacio**	**132.70 282**	SKKPbc			04 06 13.2	
comp=Z,4.9nm,0.9s,baz=347,slow=1.5,SNR=6.2							
OTAV	**Otavalo**	**133.56 315**	*e*PKPdf	PKPdf		03 53 59.1	+0.7
LPAZ	**La Paz**	**138.37 288**	PKP	PKPdf		03 54 06.2	-1.0
LPAZ			SKP			03 57 18.2	
LPAZ			SKKPbc			04 05 51.7	
LPAZ	**La Paz**	**138.37 288**	PKIKP	PKPdf		03 54 06.2	-0.9
LPAZ			pmax	pmax			
comp=Z,10.0nm,0.8s							
LPAZ			pmax	pmax			
comp=N,16nm,1.0s							
LPAZ	**La Paz**	**138.37 288**	PKhKP			03 53 57.5	
comp=N,2.8nm,0.9s,baz=85,slow=3.6,SNR=7.6							
LPAZ			PKP	PKPdf		03 54 06.2	-1.0
comp=N,10nm,0.8s,baz=7.7,slow=2.6,SNR=20							
LPAZ			SKP			03 57 18.2	
comp=N,16nm,1.0s,baz=71,slow=4.3,SNR=4.2							
LPAZ			SKKPbc			04 05 51.7	
comp=N,13nm,1.1s,baz=233,slow=3.2,SNR=6.8							
ATAH	**Atahualpa**	**139.27 309**	SKPbc	SKPbc		03 57 24.4	+0.4
comp=N,69nm,1.1s,baz=6.7,slow=3.4,SNR=11							
ATAH			SKKPbc			04 05 57.1	
comp=N,17nm,0.9s,baz=271,slow=1.5,SNR=7.1							
PMOR	**Pomariorio Ree**	**139.55 68**	*e*PKIKP	PKPdf		03 54 08.5	-0.8
comp=N,142nm,1.2s							
PPT	**Papeete**	**139.83 73**	*e*PKIKP	PKPdf		03 54 09.1	-0.7
comp=N,155nm,1.5s							
PPT	**Papeete**	**139.83 73**	*e*PP	PP		03 57 00.5	-7.8
comp=N,972nm,25.0s							
PPT	**Papeete**	**139.83 73**	*e*SS	SS		04 15 15.9	+3.7
comp=N,8μm,34.8s							
PPT	**Papeete**	**139.83 73**	PKP	PKPdf		03 54 04.4	-5.4
PPT			*e*PKPdf	PKPdf		03 54 09.1	-0.7
PPT			*e*PP	PP		03 57 00.5	-7.8
PPT			*e*SS	SS		04 15 15.9	+3.7
PPT	**Papeete**	**139.83 73**	*i* PKHKP			03 54 04.4	
PPT			pmax	pmax			
comp=Z,92nm,1.1s							
PPT	**Papeete**	**139.83 73**	PKhKP			03 54 04.4	
comp=Z,92nm,1.1s,baz=215,slow=6.9,SNR=4.6							
PAE	**Paea**	**139.89 73**	*e*PKIKP	PKPdf		03 54 08.9	-1.0
comp=Z,193nm,1.4s							
VAH	**Vaihoa**	**139.90 68**	*e*PKIKP	PKPdf		03 54 09.0	-1.0
comp=Z,233nm,1.4s							
TVO	**Taravao**	**140.21 73**	*e*PKIKP	PKPdf		03 54 10.1	-0.4
comp=Z,287nm,1.3s							
TAOE	**Nuku Hiva Isla**	**140.73 53**	*e*PKIKP	PKPdf		03 54 11.9	+0.3
comp=Z,8μm,1.2s							
ARE	**Arequipa**	**141.03 291**	*e*P	PKPdf		03 54 08.0	-4.0
EFI	**East Falkland**	**141.04 231**	*e*PKPdf	PKPdf		03 54 07.6	-3.3
PMSA	**Palmer Station**	**141.10 209**	SKPbc	SKPbc		03 57 25.8	-1.2
comp=Z,160nm,1.0s,baz=108,slow=1.6,SNR=7.9							
NNA	**Nana**	**141.93 302**	*e*PKPdf	PKPdf		03 54 09.4	-4.3
TRQA	**Tornquist**	**142.62 253**	*e*PKPdf	PKPdf		03 54 09.8	-4.4
TRQA			*ep*PKPdf	pPKPdf		03 55 10.2	+1.1
TRQA			*e*SKPbc	SKPbc		03 57 31.1	-0.8
TBI	**Tubuai**	**143.08 81**	*e*PKIKP	PKPdf		03 54 12.7	-2.8
comp=Z,914nm,1.1s							
TBI	**Tubuai**	**143.08 81**	*e*SS	SS		04 15 53.8	+3.8
comp=Z,1μm,32.0s							
TBI	**Tubuai**	**143.08 81**	*e*PKPdf	PKPdf		03 54 12.7	-2.8
TBI			*e*SS	SS		04 15 53.8	+3.8
CFAA	**Coronel Fontan**	**145.81 266**	SKKPbc			04 05 32.7	
comp=Z,2.1nm,0.9s,baz=251,slow=4.1,SNR=9.0							
LCO	**Las Campanas**	**146.85 272**	*e*PKPdf	PKPdf		03 54 22.2	+0.4
TLL	**Tololo Astrono**	**147.37 270⇑**	*e*P	PKPdf		03 54 22.7	+0.1
CMCH	**Combarbala**	**147.88 268**	*e*P	PKPdf		03 54 22.5	-0.9
FCH	**Farellones**	**147.99 264⇓**	*e*P	PKPdf		03 54 23.0	-0.6
CLCH	**Cerro Calan**	**148.21 264**	*e*P	PKPdf		03 54 23.9	0.0
PEL	**Peldehue**	**148.25 265**	*e*P	PKPdf		03 54 23.7	-0.3
PLCA	**Paso Flores**	**149.59 250**	PKP	PKPdf		03 54 26.4	+0.5
comp=Z,108nm,0.9s,baz=110,slow=2.0,SNR=38							
PLCA			PKPbc	PKPbc		03 54 31.3	+0.6
comp=Z,201nm,0.9s,baz=76,slow=4.2,SNR=92							
PLCA			pPKPbc	pPKPbc		03 55 27.0	+1.7
comp=Z,60nm,1.1s,baz=70,slow=2.2,SNR=2.0							
CCHI	**Chillan**	**150.21 259**	*e*P	PKPdf		03 54 26.8	-0.2
RKT	**Rikitea**	**154.14 66**	*e*PKPbc	PKPbc		03 54 41.2	-0.3
comp=Z,334nm,1.2s							
RPN	**Rapa Nui**	**170.64 0**	*e*PKPdf	PKPdf		03 54 50.1	+0.8

NEIC 03 03:44:26.5,5130N×17873E,h1km,mb4.7/1,ML4.4(AEIC), After AEIC.,Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMKA	**Amchitka**	**0.37**	**78**	P	Pg	03 44 34.2	+0.7
AMKA				S	Sg	03 44 40.6	+2.4
ADK	**Adak**	**2.92**	**77**	P	Pn	03 45 12.5	-1.5
ADK				S	Sn	03 45 47.0	-2.6
SMY	**Shemya**	**3.20**	**298**	P	Pn	03 45 16.9	-0.9
SMY				S	Sn	03 45 56.7	+0.2
ATKA	**Atka Island**	**4.49**	**76**	P	Pn	03 45 34.2	-1.3
ATKA				S	Sn	03 46 26.6	-1.6
COR	**Corvallis**	**38.51**	**77**	P	P	03 51 48.8	-1.2
HAWA	**Hanford**	**39.87**	**72**	*e*P	P	03 51 59.6	-1.7
21nm,1.1s							
LZH	**Lanzhou**	**53.91**	**285**	*e*P	P	03 53 48.0	-3.2
LZH				pP	pP	03 53 51.0	-0.7
LZH				sP	sP	03 53 53.1	+1.3

*ISCJB **03** 03:55:08.7±0.3,788S±005×15600E±007,h10km, mb5.0/37,MS5.0/5,Error ellipse: s-maj=9.9km s-min=7.2km az=28.7*
*NEIC **03** 03:55:10.5±0.3,788S×15599E,h10km,mb4.9/17,Error ellipse: s-maj=9.0km s-min=6.6km az=126.0*
*IDC **03** 03:55:10.7±0.6,777S×15572E,h0km,mb4.8/10, mb1 4.9/12,mb1mx4.8/17,mbtmp4.8/12,ML3.6/1,MS4.6/3, Ms1 4.6/3,ms1mx4.0/18,Error ellipse: s-maj=25.2km s-min=17.0km az=103.0*
*BJI **03** 03:55:11.3,750S×15582E,h11km,mB5.7,mb5.0,Ms5.3, Msz5.0*
*MOS **03** 03:55:12.2±1.1,790S×15602E,h33km,mb5.6/9,Error ellipse: s-maj=11.8km s-min=8.9km az=92.8*
ISC 03 03:55:09.5±7.1,787S±009×15592E±009,h2km±45km,n91, σ0:99/79,mb5.0/37,MS5.0/5,6C,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.28**	**112**	*e*Pn	**Pn**	**03 56 13.8**	**-1.8**
CTA	**Charters Tower**	**15.34**	**217**	*e*P	**Pn**	**03 58 49.8**	**+2.6**
24nm,0.9s							
CTA	**Charters Tower**	**15.34**	**217**	*e*P	**Pn**	**03 58 49.8**	**+2.6**
CTA				pmax	pmax		
comp=Z,24nm,0.9s							
CTA	**Charters Tower**	**15.34**	**217**	Pn	**Pn**	**03 58 47.7**	**+0.5**
comp=Z,0.1nm,0.3s,baz=33,slow=14,SNR=5.0							
CTA				LR	LR	04 04 00.7	
comp=Z,1μm,18.4s,baz=211,slow=35							
CTAO	**Charters Tower**	**15.34**	**217**	*e*Pn	**Pn**	**03 58 47.5**	**+0.3**
comp=Z,29nm,0.8s							
CTAO	**Charters Tower**	**15.34**	**217**	*e*P	**Pn**	**03 58 47.5**	**+0.3**
CTAO				pmax	pmax		
comp=Z,29nm,0.8s							
DZM	**Mont Dzumac**	**17.39**	**145**	P	**Pn**	**03 59 18.5**	**+5.1**
baz=9.8,slow=20,SNR=4.3							
EIDS	**Eidsvold**	**18.01**	**194**	*e*P	**Pn**	**03 59 20.7**	**-0.4**
comp=Z,20nm,1.1s							
FUNA	**Funafuti**	**23.05**	**93**	*e*P	**P**	**04 00 14.0**	**-2.5**
KAKA	**Kakadu**	**23.59**	**256**	*e*P	**P**	**04 00 21.2**	**-0.9**
comp=Z,19nm,0.8s,mb4.6							
KAKA	**Kakadu**	**23.59**	**256**	*e*P	**P**	**04 00 21.7**	**-0.5**
comp=Z,89nm,1.1s,mb5.1							
WB2	**Warramunga Arr**	**24.09**	**238**	*e*P	**P**	**04 00 26.9**	**+0.2**
WRA	**Warramunga Arr**	**24.11**	**238**	P	**P**	**04 00 27.1**	**+0.3**
comp=Z,30nm,1.2s,mb4.6,baz=63,slow=9.8,SNR=16							
WRA				PcP	PcP	04 04 09.8	+1.4
comp=Z,2.5nm,0.9s,baz=58,slow=2.3,SNR=5.1							
ASAR	**Alice Springs**	**26.31**	**231**	P	**P**	**04 00 46.5**	**-0.4**
comp=Z,6.0nm,0.8s,mb4.2,baz=62,slow=8.6,SNR=13							
STKA	**Stephens Creek**	**27.36**	**207**	*e*P	**P**	**04 01 00.3**	**+4.1**
comp=Z,11nm,1.0s,mb4.3							
STKA	**Stephens Creek**	**27.36**	**207**	P	**P**	**04 00 59.5**	**+3.4**
comp=Z,13nm,1.0s,mb4.4,baz=23,slow=14,SNR=5.2							
STKA				LR	LR	04 11 47.7	
comp=Z,2μm,21.0s,MS4.7,baz=132,slow=36							
FITZ	**Fitzroy Crossi**	**31.16**	**248**	*e*P	**P**	**04 01 29.4**	**-0.7**
comp=Z,11nm,0.6s,mb4.8							
FITZ	**Fitzroy Crossi**	**31.16**	**248**	*e*P	**P**	**04 01 29.4**	**-0.7**
FORT	**Forrest**	**34.61**	**225**	*e*P	**P**	**04 02 00.0**	**-0.1**
comp=Z,21nm,0.8s,mb5.1							
FORT	**Forrest**	**34.61**	**225**	*e*P	**P**	**04 01 59.7**	**-0.4**
RPZ	**Rata Peaks**	**38.09**	**162**	LR	LR	04 16 07.5	
comp=Z,1μm,18.8s,MS4.7,baz=302,slow=33							
KKM	**Kota Kinabalu**	**41.94**	**288**	*e*P	**P**	**04 03 02.2**	**+0.1**
KLBR	**Kellerberrin**	**42.64**	**231**	*e*P	**P**	**04 03 07.0**	**-0.6**
comp=Z,27nm,1.1s,mb4.9							
MUN	**Mundaring**	**44.00**	**231**	*e*P	**P**	**04 03 18.4**	**-0.2**
KSM	**Kuching**	**46.42**	**280**	*e*P	**P**	**04 03 38.3**	**+0.1**
MJAR	**Matsushiro Arr**	**47.20**	**340**	P	**P**	**04 03 43.6**	**-0.2**
comp=Z,22nm,0.7s,mb5.2,baz=163,slow=7.9,SNR=51							
MAJO	**Matsushiro**	**47.20**	**340**	*e*P	**P**	**04 03 43.2**	**-0.6**
comp=Z,40nm,0.6s,mb5.5							
MAJO	**Matsushiro**	**47.20**	**340**	*e*P	**P**	**04 03 43.2**	**-0.6**
MAJO				pmax	pmax		
comp=Z,40nm,0.6s,mb5.5							
MAT	**Matsushiro**	**47.20**	**340**	P	**P**	**04 03 43.1**	**-0.7**
KSRS	**Korea Array**	**52.13**	**332**	P	**P**	**04 04 22.2**	**+0.8**
comp=Z,7.4nm,0.6s,mb4.8,baz=148,slow=7.3,SNR=22							
INCN	**Inchon**	**52.77**	**331**	*e*P	**P**	**04 04 25.0**	**-1.1**
VLA	**Vladivostok**	**55.25**	**339**	*e*P	**P**	**04 04 43.6**	**-0.5**
VLA				pmax	pmax		
comp=Z,162nm,1.6s,mb5.8							
PMOR	**Pomariorio Ree**	**55.41**	**103**	*e*P	**P**	**04 04 49.9**	**+4.1**
comp=Z,56nm,1.2s,mb5.5							
YSS	**Yuzh-Sakhalins**	**55.82**	**349⇑**	*e*P	**P**	**04 04 49.6**	**+1.4**
YSS				pmax	pmax		
comp=Z,41nm,1.3s,mb5.3							
MDJ	**Mudanjiang**	**57.38**	**338**	P	**P**	**04 05 00.6**	**+1.3**
MDJ				AMB	AMB		
comp=Z,26nm,1.4s,mb5.1							
CN2	**Changchun**	**58.37**	**334**	*e*P	**P**	**04 05 06.9**	**+0.6**
CN2				AMB	AMB		
comp=Z,30nm,1.2s,mb5.2							
HABR	**Khabarovsk**	**59.03**	**344**	*e*P	**P**	**04 05 10.9**	**+0.1**
KLR	**Kul'dur**	**60.67**	**342**	*e*P	**P**	**04 05 19.0**	**-3.1**
KLR				pmax	pmax		
comp=E,50nm,1.6s							
KLR				pmax	pmax		
comp=Z,110nm,1.6s,mb5.7							
KMI	**Kunming**	**61.26**	**304**	P	**P**	**04 05 27.8**	**+1.2**
KMI				AP	pP	04 05 38.6	+11
KMI				AMB	AMB		
comp=Z,20nm,1.3s,mb5.1							
KMI				LR	LR		
comp=Z,668nm,22.1s,MS4.8							
KMI	**Kunming**	**61.26**	**304**	P	**P**	**04 05 27.8**	**+1.2**
comp=Z,20nm,1.3s,mb5.1							
KMI				pP	pP	04 05 38.6	+11
KMI				sP	sP	04 05 42.8	+15
KMI				LR	LR		
comp=Z,670nm,22.1s,MS4.8							
KMI	**Kunming**	**61.26**	**304**	P	**P**	**04 05 27.8**	**+1.2**
KMI				*PP	pP	04 05 38.6	+11
KMI				*SP	sP	04 05 42.8	+15
KMI				pmax	pmax		
comp=Z,20nm,1.3s,mb5.1							
KMI				MLR	MLR		
comp=Z,670nm,22.1s,MS4.8							
HIA	**Hailar**	**65.09**	**335**	*i* P	**P**	**04 05 52.8**	**+1.3**
LZH	**Lanzhou**	**65.57**	**315**	⇑P	**P**	**04 05 56.5**	**+1.5**
LZH				AP	pP	04 06 05.0	+9.3
LZH				XP	sP	04 06 07.5	+12
LZH				AMB	AMB		
comp=Z,47nm,1.5s,mb5.3							
LZH				AMB	AMB		
comp=Z,130nm,4.5s							
LZH				LR	LR		
comp=N,645nm,14.4s							
LZH				LR	LR		
comp=Z,965nm,15.6s,MS5.1							
LZH	**Lanzhou**	**65.57**	**315**	⇑P	**P**	**04 05 56.5**	**+1.5**
comp=Z,47nm,1.5s,mb5.3							
LZH				pP	pP	04 06 05.0	+9.3
LZH				sP	sP	04 06 07.5	+12
LZH				LR	LR		
comp=Z,970nm,15.6s,MS5.1							
MA2	**Magadan**	**67.35**	**357**	*e*P	**P**	**04 06 05.7**	**-0.1**
MA2				*e*S	S	04 14 58.7	-3.2
MA2				*e*SSS		04 22 11.4	
MA2				pmax	pmax		
comp=Z,30nm,0.9s,mb5.3							
GTA	**Gaotai**	**70.00**	**317**	P	**P**	**04 06 24.5**	**+1.7**
GTA				AP	pP	04 06 28.1	+4.6
GTA				XP	sP	04 06 29.7	+5.9
GTA				AMB	AMB		
comp=Z,10.0nm,1.4s,mb4.5							
SONM	**Songino Array**	**70.56**	**327**	P	**P**	**04 06 27.4**	**+1.4**
comp=Z,3.5nm,0.6s,mb4.4,baz=136,slow=5.6,SNR=18							
SEY	**Seymchan**	**70.64**	**358⇑**	*e*P	**P**	**04 06 26.9**	**+0.7**
YAK	**Yakutsk**	**72.60**	**347**	*e*P	**P**	**04 06 36.5**	**-1.5**
YAK				pmax	pmax		
comp=Z,82nm,1.3s,mb5.5							
YAK				pmax	pmax		
comp=N,23nm,1.4s							
YAK				pmax	pmax		
comp=E,12nm,1.5s							
ZAK	**Zakamensk**	**73.71**	**328**	*e*P	**P**	**04 06 45.2**	**+0.3**
ZAK				pmax	pmax		
comp=Z,5.0nm,1.8s,mb4.1							
BOD	**Bodaibo**	**73.76**	**338**	*e*P	**P**	**04 06 44.2**	**-0.8**
BOD				pmax	pmax		
comp=Z,15nm,1.5s,mb4.7							
TLY	**Talaya**	**74.27**	**329**	*i* P	**P**	**04 06 49.0**	**+0.9**
BILL	**Bilibino**	**76.08**	**4**	*e*P	**P**	**04 06 57.5**	**-0.7**
comp=Z,42nm,1.0s,mb5.3							
BILL	**Bilibino**	**76.08**	**4⇑**	*e*P	**P**	**04 06 59.4**	**+1.2**
BILL				*e*		04 09 50.2	
BILL				*e*S	S	04 16 47.4	+5.1
BILL				pmax	pmax		
comp=Z,72nm,1.5s,mb5.4							
BILL				MLR	MLR		
comp=Z,4μm,19.0s,MS5.8							
GUN	**Gumba**	**76.35**	**301**	*e*P	**P**	**04 06 59.8**	**-0.8**
comp=Z,186nm,0.4s							
KKN	**Kakani**	**76.82**	**301**	*e*P	**P**	**04 07 02.6**	**-0.7**
GKN	**Gorkha**	**77.43**	**301**	*e*P	**P**	**04 07 06.3**	**-0.4**
comp=Z,83nm,1.2s,mb5.5							
TNA	**Tin City**	**77.93**	**15**	*e*P	**P**	**04 07 07.9**	**-0.7**
comp=Z,5.0nm,1.0s,mb4.4							
KOLN	**Koldanda**	**78.25**	**300**	*e*P	**P**	**04 07 10.7**	**-0.6**
comp=Z,102nm,1.4s,mb5.5							
TTA	**Tatalina**	**79.51**	**20**	*e*P	**P**	**04 07 16.8**	**-0.6**
comp=Z,6.8nm,1.0s,mb4.5							
TTA	**Tatalina**	**79.51**	**20**	*e*P	**P**	**04 07 16.8**	**-0.6**
TTA				pmax	pmax		
comp=Z,7.0nm,1.0s,mb4.5							
SLKM	**Skilak Lake**	**80.16**	**24**	*e*P	**P**	**04 07 19.8**	**-1.2**
TIXI	**Tiksi**	**81.34**	**352**	*e*P	**P**	**04 07 27.2**	**+0.1**
comp=Z,44nm,1.6s,mb5.1							
TIXI	**Tiksi**	**81.34**	**352**	*e*P	**P**	**04 07 25.8**	**-1.3**
TIXI				pmax	pmax		
comp=Z,23nm,1.7s,mb4.8							
MCK	**McKinley**	**82.52**	**22**	*e*P	**P**	**04 07 32.4**	**-1.1**
comp=Z,10μm,0.6s							
MCK	**McKinley**	**82.52**	**22**	*e*P	**P**	**04 07 32.4**	**-1.1**
MCK				pmax	pmax		
comp=Z,10μm,0.6s							
COLA	**College**	**83.56**	**21**	*i* P	**P**	**04 07 38.5**	**-0.3**
MK31	**Makanchi Array**	**84.66**	**319**	*e*P	**P**	**04 07 44.2**	**-0.7**
MKAR	**Makanchi Array**	**84.66**	**319**	P	**P**	**04 07 45.6**	**+0.8**
comp=Z,20nm,0.7s,mb5.3,baz=104,slow=5.8,SNR=82							
ZAA0	**Zalesovo Array**	**85.41**	**326**	*e*P	**P**	**04 07 47.8**	**-0.7**
ZALV	**Zalesovo Beam**	**85.41**	**326**	P	**P**	**04 07 48.1**	**-0.3**
comp=Z,10nm,0.7s,mb5.1,baz=112,slow=5.7,SNR=28							
ZAL	**Zalesovo**	**85.42**	**326**	P	**P**	**04 07 48.2**	**-0.3**
NVS	**Novosibirsk**	**86.58**	**326**	*e*P	**P**	**04 07 52.2**	**-2.0**
KURK	**Kurchatov**	**88.08**	**322⇑**	*e*P	**P**	**04 08 01.9**	**+0.3**
DLBC	**Dease Lake**	**88.42**	**30**	P	**P**	**04 08 05.8**	**+2.8**
baz=288,slow=6.4							
UCH	**Uchtor**	**88.92**	**313**	*e*P	**P**	**04 08 05.5**	**-0.3**
comp=Z,11nm,1.3s,mb5.0							
AML	**Almayashu**	**89.49**	**313**	*e*P	**P**	**04 08 08.8**	**+0.4**
comp=Z,15nm,1.1s,mb5.2							
EKS2	**Erkin-Say**	**89.53**	**313**	*e*P	**P**	**04 08 08.2**	**-0.4**
comp=Z,18nm,0.8s,mb4.5							
INK	**Inuvik**	**90.21**	**21**	P	**P**	**04 08 12.2**	**+1.0**
comp=Z,2.3nm,0.7s,mb4.6,baz=236,slow=4.5,SNR=12							
YKA	**Yellowknife Ar**	**96.67**	**28**	P	**P**	**04 08 42.1**	**+1.1**
comp=Z,3.5nm,0.9s,mb4.8,baz=265,slow=4.5,SNR=17							
FINES	**FINESS Array B**	**115.10**	**336**	PKP	PKiKP	04 13 52.3	+0.3
comp=Z,2.2nm,0.8s,baz=46,slow=4.0,SNR=3.3							
AKASG	**Malin Array Be**	**118.78**	**324**	PKP	PKPdf	04 13 59.6	+0.2
comp=Z,1.3nm,0.7s,baz=59,slow=2.4,SNR=5.5							
NB2	**NORSAR Subarra**	**120.82**	**341**	PKPdf	PKPdf	04 14 03.5	+0.4
comp=Z,1.0nm,0.7s,baz=42,slow=1.9							
NOA	**NORSAR Array B**	**120.82**	**341**	PKP	PKPdf	04 14 03.0	-0.1
comp=Z,1.4nm,0.7s,baz=46,slow=2.0,SNR=4.3							
CFAA	**Coronel Fontan**	**122.38**	**135**	PKP	PKPdf	04 14 08.1	+1.0
comp=Z,0.1nm,0.7s,baz=252,slow=4.4,SNR=3.1							
KHC	**Kasperske Hory**	**128.15**	**329**	*e*	PKPdf	04 14 18.0	+0.5
KHC	**Kasperske Hory**	**128.15**	**329**	*e*PKPdf	PKPdf	04 14 18.0	+0.5
GERES	**GERESS Array B**	**128.27**	**329**	PKP	PKPdf	04 14 19.5	+1.8
comp=Z,1.3nm,0.8s,baz=281,slow=0.7,SNR=8.2							
LPAZ	**La Paz**	**130.24**	**119**	PKP	PKPdf	04 14 24.9	+2.5
comp=Z,2.1nm,1.0s,baz=8.1,slow=1.8,SNR=5.5							
BDFB	**Brasilia**	**146.72**	**135**	PKPbc	PKPbc	04 14 55.3	+1.2
comp=Z,15nm,1.0s,baz=224,slow=0.9,SNR=20							
DBIC	**Dimbokro**	**160.89**	**268**	PKPab	PKPab	04 15 55.5	+0.5
comp=Z,5.7nm,1.0s,baz=86,slow=5.3,SNR=4

0.9nm,0.7s,baz=101,slow=6.3,SNR=7.2
YKA Yellowknife Ar 96.72 28 P P 04 33 36.3 -0.6
0.2nm,0.7s,baz=267,slow=4.4,SNR=3.6

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*IDC **03** 04:21:00.5±1.2,7.17S×15503E,h0km,mb3.8/6,mb1 4.0/6, mb1mx3.8/14,mbtmp3.8/6,MS3.9/2,Ms1 3.9/2, ms1mx3.4/25,Error ellipse: s-maj=44.6km s-min=24.5km az=114.0*
*NEIC **03** 04:21:01.8±0.7,7.23S×155.10E,h10km,mb4.6/2,Error ellipse: s-maj=22.0km s-min=12.3km az=129.0*
*ISCJB **03** 04:21:03.7±1.3,73S±02×1551E±03,h33km,mb3.9/8, Error ellipse: s-maj=40.7km s-min=17.8km az=31.7*
ISC 03 04:21:05.7±1.3,**73S**±02×**1551E**±02,**h35**km,**n14**,σ**0**§**36**/11, **mb3.9**/8,**Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.28 114**		LR	LR	04 24 19.5	
	comp=Z,989nm,20.4s,baz=353,slow=37						
CTA	**Charters Tower**	**15.36 213**		LR	LR	04 29 13.6	
	comp=Z,534nm,21.9s,baz=312,slow=32						
KAKA	**Kakadu**	**22.93 255**		*eP*	**P**	**04 26 07.6**	**+0.6**
	11nm,0.6s,mb4.5						
KAKA	**Kakadu**	**22.93 255**		*eP*	**P**	**04 26 07.0**	**0.0**
	18nm,0.6s,mb4.7						
WB2	**Warramunga Arr**	**23.73 236**		*eP*	**P**	**04 26 14.7**	**-0.1**
WRA	**Warramunga Arr**	**23.74 236**		P	**P**	**04 26 15.2**	**+0.3**
	1.5nm,0.4s,mb3.7,baz=58,slow=9.3,SNR=7.4						
ASAR	**Alice Springs**	**26.06 229**		P	**P**	**04 26 36.2**	**+0.2**
	0.5nm,0.8s,mb3.1,baz=54,slow=9.6,SNR=2.7						
STKA	**Stephens Creek**	**27.53 205**		P	**P**	**04 26 48.8**	**-0.4**
	1.1nm,0.3s,mb3.9,baz=11,slow=10,SNR=3.2						
FITZ	**Fitzroy Crossi**	**30.62 247**		*eP*	**P**	**04 27 16.6**	**-0.2**
	10nm,1.0s,mb4.6						
SONM	**Songino Array**	**69.60 327**		P	**P**	**04 32 10.6**	**-0.6**
	0.6nm,0.6s,mb3.7,baz=138,slow=8.1,SNR=3.1						
MKAR	**Makanchi Array**	**83.65 319**		P	**P**	**04 33 30.8**	**+0.1**
MKAR	**Makanchi Array**	**83.65 319**		P	**P**	**04 33 30.8**	**+0.1**
	0.3nm,0.4s,mb3.7,baz=100,slow=7.1,SNR=2.7						
YKA	**Yellowknife Ar**	**96.53 28**		P	**P**	**04 34 31.8**	**+0.5**
	0.2nm,0.6s,mb3.7,baz=269,slow=4.5,SNR=3.5						
BDFB	**Brasilia**	**147.74 135**		PKPbc	PKPbc	04 40 47.9	+0.2
	1.0nm,0.6s,baz=175,slow=11,SNR=2.1						

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*IDC **03** 04:33:15.9±0.6,751S×15598E,h0km,mb4.4/13, mb1 4.5/15,mb1mx4.5/17,mbtmp4.4/15,ML3.9/2,MS4.0/1, Ms1 4.0/1,ms1mx3.2/26,Error ellipse: s-maj=21.6km s-min=16.0km az=101.0*
*NEIC **03** 04:33:17.5±0.4,748S×15601E,h10km,mb4.8/6,Error ellipse: s-maj=13.0km s-min=10.6km az=126.0*
*ISCJB **03** 04:33:19.6±0.5,753S±008×15599E±009,h33km, mb4.5/18,Error ellipse: s-maj=13.1km s-min=11.0km az=24.7*
ISC 03 04:33:21.5±0.5,**750S**±008×**15601E**±009,**h35**km,**n36**, σ**0**§**95**/28,**mb4.5**/18,**1D**,**Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.34 117**		Pn	**Pn**	**04 34 24.9**	**-0.1**
	23nm,0.3s,baz=244,slow=4.1,SNR=3.2						
HNR				Sn	**Sn**	**04 35 22.9**	**+8.4**
	40nm,0.3s,baz=87,slow=19,SNR=4.5						
CTA	**Charters Tower**	**15.69 216**		Pn	**Pn**	**04 36 56.6**	**-3.4**
	0.2nm,0.3s,baz=68,slow=8.4,SNR=1.9						
KAKA	**Kakadu**	**23.77 256**		*eP*	**P**	**04 38 32.7**	**+1.6**
	31nm,1.1s,mb4.7						
WB2	**Warramunga Arr**	**24.37 237**		*eP*	**P**	**04 38 38.2**	**+1.7**
WRA	**Warramunga Arr**	**24.38 237**		P	**P**	**04 38 35.3**	**-1.3**
	9.2nm,0.6s,mb4.4,baz=62,slow=9.1,SNR=34						
ASAR	**Alice Springs**	**26.61 230**		P	**P**	**04 38 56.6**	**-0.2**
	2.8nm,0.7s,mb3.9,baz=62,slow=9.3,SNR=26						
STKA	**Stephens Creek**	**27.73 207**		P	**P**	**04 39 05.6**	**-1.2**
STKA	**Stephens Creek**	**27.73 207**		P	**P**	**04 39 05.6**	**-1.2**
	4.2nm,0.7s,mb4.2,baz=40,slow=12,SNR=8.4						
FITZ	**Fitzroy Crossi**	**31.38 247**		*eP*	**P**	**04 39 39.8**	**+0.5**
	6.8nm,0.6s,mb4.7						
FITZ	**Fitzroy Crossi**	**31.38 247**		P	**P**	**04 39 39.7**	**+0.4**
	3.9nm,0.6s,mb4.4,baz=100,slow=7.6,SNR=9.5						
FORT	**Forrest**	**34.93 225**		*eP*	**P**	**04 40 10.4**	**+0.2**
	16nm,0.6s,mb5.1						
KLBR	**Kellerberrin**	**42.94 231**		*eP*	**P**	**04 41 17.3**	**+0.1**
	32nm,1.5s,mb4.8						
MJAR	**Matsushiro Arr**	**46.88 340**		P	**P**	**04 41 48.1**	**-0.4**
	2.6nm,0.8s,mb4.2,baz=159,slow=7.6,SNR=6.5						
KSRS	**Korea Array**	**51.85 332**		P	**P**	**04 42 25.9**	**-0.4**
	2.8nm,0.7s,mb4.3,baz=143,slow=6.2,SNR=5.9						
KSRS				LR	LR	05 00 12.0	
	comp=Z,143nm,20.9s,baz=125,slow=31						
VNDA	**Vanda**	**70.06 179**		P	**P**	**04 44 29.1**	**-0.4**
	0.8nm,0.9s,mb3.6,baz=348,slow=4.2,SNR=3.2						
SONM	**Songino Array**	**70.30 327**		P	**P**	**04 44 31.9**	**+0.5**
	3.3nm,0.6s,mb4.4,baz=129,slow=6.2,SNR=17						
MAW	**Mawson**	**84.32 203**		P	**P**	**04 45 50.8**	**+1.2**
	4.1nm,0.7s,mb4.7,baz=60,slow=7.4,SNR=4.1						
MK31	**Makanchi Array**	**84.44 318**‖		*eP*	**P**	**04 45 50.2**	**-0.3**
MKAR	**Makanchi Array**	**84.44 318**		P	**P**	**04 45 50.8**	**+0.2**
	13nm,0.6s,mb5.2,baz=102,slow=6.2,SNR=128						
ZAA0	**Zalesovo Array**	**85.16 326**		*eP*	**P**	**04 45 52.7**	**-1.3**
ZALV	**Zalesovo Beam**	**85.16 326**		P	**P**	**04 45 52.9**	**-1.1**
	8.5nm,0.5s,mb5.1,baz=117,slow=5.6,SNR=41						
TKM2	**Tokmak 2**	**88.09 314**		*eP*	**P**	**04 46 08.5**	**-0.1**
	2.6nm,0.6s,mb4.6						
AML	**Almayashu**	**89.31 313**		*eP*	**P**	**04 46 14.8**	**+0.4**
	3.5nm,0.8s,mb4.7						
NVAR	**Mina Array Bea**	**91.24 52**		P	**P**	**04 46 25.4**	**+1.9**
NVAR	**Mina Array Bea**	**91.24 52**		P	**P**	**04 46 25.4**	**+1.9**
	0.4nm,0.7s,mb3.8,baz=246,slow=3.7,SNR=4.2						
YKA	**Yellowknife Ar**	**96.31 28**		P	**P**	**04 46 45.9**	**-0.2**
YKA	**Yellowknife Ar**	**96.31 28**		P	**P**	**04 46 45.9**	**-0.2**
	0.4nm,0.5s,mb4.1,baz=264,slow=4.7,SNR=8.6						
AKASG	**Malin Array Be**	**118.53 325**		PKP	PKPdf	04 52 06.6	+1.0
	0.4nm,0.2s,baz=70,slow=1.1,SNR=6.2						
CFAA	**Coronel Fontan**	**122.58 135**		PKP	PKPdf	04 52 12.6	-1.5
CFAA	**Coronel Fontan**	**122.58 135**		PKP	PKPdf	04 52 12.6	-1.5
	0.2nm,0.7s,baz=146,slow=3.6,SNR=5.1						
GERES	**GERESS Array B**	**128.00 329**		PKP	PKPdf	04 52 22.2	-1.6
	0.4nm,0.4s,baz=3.4,slow=3.3,SNR=3.5						
LPAZ	**La Paz**	**130.34 119**		PKP	PKPdf	04 52 29.8	+0.6
	1.5nm,0.7s,baz=334,slow=0.7,SNR=5.5						
BDFB	**Brasilia**	**146.91 134**		PKPbc	PKPbc	04 53 00.8	-0.5
	5.3nm,0.9s,baz=228,slow=1.3,SNR=6.6						
MDT	**Midelt**	**149.05 327**		PKPbc	PKPbc	04 53 07.0	+0.5
	4.0nm,0.9s,baz=44,slow=4.9,SNR=10						
TORD	**Torodi Ar. Bea**	**154.13 285**		PKPbc	PKPbc	04 53 17.6	-1.2
	1.5nm,0.9s,baz=79,slow=2.0,SNR=8.1						
DBIC	**Dimbokro**	**160.99 269**		PKPab	PKPab	04 54 02.3	+0.1
	1.5nm,0.7s,baz=24,slow=4.8,SNR=4.0						

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*BJI **03** 04:36:04.6,781S×15594E,h9km,mB5.2,mb4.9,Ms5.1, Msz5.0*
*NEIC **03** 04:36:06.3±0.6,804S×15587E,h10km,mb4.7/16,Error ellipse: s-maj=18.4km s-min=9.8km az=111.0*
*IDC **03** 04:36:06.4±0.7,776S×15560E,h0km,mb4.5/13, mb1 4.6/13,mb1mx4.6/15,mbtmp4.4/13,MS4.3/6, Ms1 4.3/6,ms1mx3.8/29,Error ellipse: s-maj=26.2km s-min=16.9km az=107.0*
*ISCJB **03** 04:36:09.1±0.5,786S±007×1557E±01,h33km,mb4.7/34, MS4.5/6,Error ellipse: s-maj=16.6km s-min=7.9km az=23.4*
*MOS **03** 04:36:10.5±1.4,779S×15541E,h33km,mb5.1/10,Error ellipse: s-maj=16.5km s-min=10.3km az=101.2*
ISC 03 04:36:11.0±0.6,**791S**±007×**1557E**±01,**h35**km, (**h24**km±7.5km:**pP-P**),**n82**,σ**1**§**23**/73,**mb4.7**/34,**MS4.5**/6,**3C**, **Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.44 110**		LR	LR	04 38 49.7	
	comp=Z,2μm,20.9s,baz=349,slow=36						
CTA	**Charters Tower**	**15.19 216**		*eP*	**Pn**	**04 39 50.7**	**+7.7**
	22nm,0.9s						
CTA	**Charters Tower**	**15.19 216**		*eP*	**Pn**	**04 39 50.7**	**+7.7**
CTA				pmax	pmax		
	comp=Z,22nm,0.9s						
CTA	**Charters Tower**	**15.19 216**		Pn	**Pn**	**04 39 48.9**	**+5.9**
	comp=Z,0.2nm,0.3s,baz=43,slow=14,SNR=3.2						
CTAO	**Charters Tower**	**15.19 216**		*e*Pn	**Pn**	**04 39 41.1**	**-1.9**
	comp=Z,105nm,1.4s						
CTAO	**Charters Tower**	**15.19 216**		*eP*	**Pn**	**04 39 41.1**	**-1.9**
CTAO				pmax	pmax		
	comp=Z,105nm,1.4s						
EIDS	**Eidsvold**	**17.92 194**		*eP*	**Pn**	**04 40 12.7**	**-4.8**
	comp=Z,131nm,2.0s						
ARMA	**Armidale**	**22.72 189**		*eP*	**P**	**04 41 09.6**	**-0.3**
ARMA	**Armidale**	**22.72 189**		*eP*	**P**	**04 41 04.8**	**-5.0**
	comp=Z,2.1nm,1.7s						
KAKA	**Kakadu**	**23.39 256**		*eP*	**P**	**04 41 14.6**	**-2.5**
	comp=Z,16nm,0.9s,mb4.4						
WB2	**Warramunga Arr**	**23.91 238**		*eP*	**P**	**04 41 22.3**	**+0.5**
WRA	**Warramunga Arr**	**23.92 238**		P	**P**	**04 41 22.0**	**+0.1**
	comp=Z,12nm,1.0s,mb4.3,baz=64,slow=9.6,SNR=15						
WRA				PcP	PcP	04 45 04.4	+0.3
	comp=Z,0.8nm,0.4s,baz=57,slow=1.9,SNR=4.9						
ASAR	**Alice Springs**	**26.14 231**		P	**P**	**04 41 41.7**	**-0.3**
	comp=Z,5.3nm,0.9s,mb4.1,baz=64,slow=8.5,SNR=11						
STKA	**Stephens Creek**	**27.24 207**		*eP*	**P**	**04 41 54.6**	**+2.8**
	comp=Z,10.0nm,0.9s,mb4.3						
STKA	**Stephens Creek**	**27.24 207**		P	**P**	**04 41 54.2**	**+2.4**
	comp=Z,13nm,0.9s,mb4.4,baz=16,slow=11,SNR=13						
STKA				LR	LR	04 52 14.2	
	comp=Z,912nm,19.4s,MS4.3,baz=42,slow=35						
FITZ	**Fitzroy Crossi**	**30.97 248**		*eP*	**P**	**04 42 25.2**	**+0.1**
	comp=Z,4.8nm,0.7s,mb4.4						
FITZ	**Fitzroy Crossi**	**30.97 248**		P	**P**	**04 42 25.2**	**+0.1**
	comp=Z,2.6nm,0.7s,mb4.2,baz=86,slow=14,SNR=3.6						
FORT	**Forrest**	**34.44 225**		*eP*	**P**	**04 42 55.5**	**+0.1**
	comp=Z,11nm,0.8s,mb4.8						
FORT	**Forrest**	**34.44 225**		*eP*	**P**	**04 42 54.8**	**-0.6**
	comp=Z,1.4nm,0.6s,mb4.1						
FORT				*eP*		04 42 55.5	
MBWA	**Marble Bar**	**37.14 245**		*eP*	**P**	**04 43 18.2**	**-0.5**
CBIJ	**Chichi jima**	**37.19 340**		LR	LR	04 55 41.6	
	comp=Z,260nm,19.8s,MS4.0,baz=52,slow=32						
RPZ	**Rata Peaks**	**38.11 162**		LR	LR	04 56 53.0	
	comp=Z,523nm,18.7s,MS4.4,baz=96,slow=33						
KKM	**Kota Kinabalu**	**41.77 288**		*eP*	**P**	**04 43 58.8**	**+1.4**
KLBR	**Kellerberrin**	**42.47 231**		*eP*	**P**	**04 44 00.8**	**-2.0**
	comp=Z,11nm,0.6s,mb4.7						
MJAR	**Matsushiro Arr**	**47.17 341**		P	**P**	**04 44 39.0**	**-1.2**
	comp=Z,24nm,0.7s,mb5.2,baz=163,slow=7.9,SNR=41						
MAJO	**Matsushiro**	**47.17 341**		*eP*	**P**	**04 44 39.1**	**-1.0**
	comp=Z,39nm,0.7s,mb5.5						
MAJO	**Matsushiro**	**47.17 341**		*eP*	**P**	**04 44 39.1**	**-1.1**
MAJO				pmax	pmax		
	comp=Z,39nm,0.7s,mb5.5						
MAT	**Matsushiro**	**47.17 341**		P	**P**	**04 44 39.1**	**-1.1**
KSRS	**Korea Array**	**52.08 332**		P	**P**	**04 45 17.1**	**-0.3**
	comp=Z,4.5nm,0.7s,mb4.5,baz=150,slow=6.9,SNR=7.1						
VLA	**Vladivostok**	**55.22 339**		P	**P**	**04 45 43.0**	**+2.6**
VLA	**Vladivostok**	**55.22 339**		*eP*	**P**	**04 45 42.7**	**+2.3**
VLA				*e*		04 45 57.6	
VLA				pmax	pmax		
	comp=Z,86nm,1.6s,mb5.5						
YSS	**Yuzh-Sakhalins**	**55.82 349**		P	**P**	**04 45 48.2**	**+3.5**
MDJ	**Mudanjiang**	**57.35 338**		P	**P**	**04 45 57.5**	**+1.9**
MDJ				AMB	AMB		
	comp=Z,18nm,1.9s,mb4.8						
MDJ				AMB	AMB		
	comp=Z,122nm,7.3s						
MDJ	**Mudanjiang**	**57.35 338**		*eP*	**P**	**04 45 55.8**	**+0.2**
	comp=Z,54nm,1.7s,mb5.3						
CN2	**Changchun**	**58.32 335**		*eP*	**P**	**04 46 02.9**	**+0.5**
CN2				AMB	AMB		
	comp=Z,30nm,1.3s,mb5.2						
HABR	**Khabarovsk**	**59.02 344**		*eP*	**P**	**04 46 06.8**	**-0.4**
KLR	**Kul'dur**	**60.65 342**		*eP*	**P**	**04 46 14.2**	**-4.2**
KLR				pmax	pmax		
	comp=Z,100nm,1.8s,mb5.6						
KMI	**Kunming**	**61.12 304**		P	**P**	**04 46 23.7**	**+1.6**
KMI				AP	pP	04 46 34.6	+1.8
KMI				AMB	AMB		
	comp=Z,14nm,1.8s,mb4.8						
KMI	**Kunming**	**61.12 304**		P	**P**	**04 46 23.7**	**+1.6**
	comp=Z,14nm,1.8s,mb4.8						
KMI				pP	pP	04 46 34.6	+1.8
CHTO	**Chiang Mai**	**61.95 296**		*eP*	**P**	**04 46 28.7**	**+0.9**
	comp=Z,4.6nm,0.8s,mb4.7						
CHTO	**Chiang Mai**	**61.95 296**		*eP*	**P**	**04 46 28.7**	**+0.9**
CHTO				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.7						
HIA	**Hailar**	**65.05 335**		*eP*	**P**	**04 46 48.4**	**+0.7**
	comp=Z,10nm,0.9s,mb4.9						
HIA	**Hailar**	**65.05 335**		*eP*	**P**	**04 46 48.4**	**+0.7**
HIA				pmax	pmax		
	comp=Z,10.0nm,0.9s						
LZH	**Lanzhou**	**65.47 316**		*eP*	**P**	**04 46 51.5**	**+0.8**
LZH				AP	pP	04 46 59.0	-2.5
LZH				XP	sP	04 47 02.0	-3.5
LZH				AMB	AMB		
	comp=Z,34nm,1.6s,mb5.1						
LZH				AMB	AMB		
	comp=Z,142nm,5.5s						
LZH				LR	LR		
	comp=N,526nm,15.3s						
LZH				LR	LR		
	comp=Z,856nm,16.1s,MS5.0						
LZH	**Lanzhou**	**65.47 316**		*eP*	**P**	**04 46 51.5**	**+0.8**
	comp=Z,34nm,1.6s,mb5.1						
LZH				pP	pP	04 46 59.0	-2.5
LZH				sP	sP	04 47 02.0	-3.5
LZH				LR	LR		
	comp=Z,860nm,16.1s,MS5.0						
MA2	**Magadan**	**67.38 357**		*eP*	**P**	**04 47 01.2**	**-1.2**
MA2	**Magadan**	**67.38 357**		*eP*	**P**	**04 47 04.2**	**+1.8**
MA2				pmax	pmax		
	comp=Z,20nm,0.7s,mb5.3						
VNDA	**Vanda**	**69.66 179**		P	**P**	**04 47 17.3**	**+0.9**
	comp=Z,0.4nm,0.7s,baz=6.4,slow=7.0,SNR=3.8						
VNDA				LR	LR	05 13 26.5	
	comp=Z,287nm,18.3s,MS4.5,baz=110,slow=32						
CIT	**Chita**	**69.74 334**		*eP*	**P**	**04 47 18.0**	**+0.7**
CIT				*e*	pP	04 47 25.8	-2.4
GTA	**Gaotai**	**69.89 317**		*eP*	**P**	**04 47 19.6**	**+1.1**
GTA				AP	pP	04 47 23.3	-6.1
GTA				XP	sP	04 47 24.7	-8.8
GTA				AMB	AMB		
	comp=Z,5.0nm,1.7s,mb4.2						
SONM	**Songino Array**	**70.49 327**		P	**P**	**04 47 22.7**	**+0.7**
	comp=Z,2.1nm,0.5s,mb4.3,baz=134,slow=6.8,SNR=12						
SEY	**Seymchan**	**70.68 358**‖		*eP*	**P**	**04 47 22.3**	**-0.5**
YAK	**Yakutsk**	**72.59 347**		P	**P**	**04 47 35.4**	**+1.0**
YAK	**Yakutsk**	**72.59 347**		*eP*	**P**	**04 47 31.5**	**-2.9**
YAK				pmax	pmax		
	comp=E,7.0nm,1.2s						
YAK				pmax	pmax		
	comp=Z,33nm,1.1s,mb5.2						
YAK				pmax	pmax		
	comp=N,11nm,1.2s						
ZAK	**Zakamensk**	**73.64 328**		*eP*	**P**	**04 47 40.2**	**-0.6**
BOD	**Bodaibo**	**73.72 338**		*eP*	**P**	**04 47 39.7**	**-1.4**
BOD				pmax	pmax		
	comp=Z,12nm,1.9s,mb4.5						
TLY	**Talaya**	**74.21 329**		P	**P**	**04 47 46.2**	**+2.1**
TLY	**Talaya**	**74.21 329**		*eP*	**P**	**04 47 48.2**	**+4.1**
TLY				*e*		04 57 03.2	
TLY				pmax	pmax		
	comp=Z,12nm,2.3s,mb4.4						
MOY	**Mondy**	**75.56 328**		*eP*	**P**	**04 47 50.8**	**-1.1**
MOY				pmax	pmax		
	comp=Z,32nm,2.8s,mb4.8						
BILL	**Biiibino**	**76.13 4**		*eP*	**P**	**04 47 52.2**	**-2.6**
BILL	**Biiibino**	**76.13 4**‖		*eP*	**P**	**04 47 54.9**	**+0.1**
BILL				*e*		04 50 52.2	
BILL				*e*S	S	04 57 31.7	-4.1
BILL				pmax	pmax		
	comp=Z,46nm,1.8s,mb5.1						
TIXI	**Tiksi**	**81.35 352**		*eP*	**P**	**04 48 22.2**	**-1.3**
TIXI	**Tiksi**	**81.35 352**‖		*eP*	**P**	**04 48 24.1**	**+0.6**
TIXI				pmax	pmax		
	comp=Z,19nm,2.2s,mb4.6						
IMA2	**Indian Mountai**	**82.43 19**		*eP*	**P**	**04 48 26.5**	**-2.8**
MCK	**McKinley**	**82.63 22**		*eP*	**P**	**04 48 27.2**	**-3.1**
	comp=Z,5.6nm,0.7s,mb4.7						
MCK	**McKinley**	**82.63 22**		*eP*	**P**	**04 48 27.2**	**-3.1**
MCK				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.7						
MK31	**Makanchi Array**	**84.56 319**		*eP*	**P**	**04 48 40.7**	**+0.1**
MKAR	**Makanchi Array**	**84.56 319**		*eP*	**P**	**04 48 41.0**	**+0.4**
MKAR	**Makanchi Array**	**84.56 319**		P	**P**	**04 48 41.0**	**+0.4**
	comp=Z,5.0nm,0.7s,mb4.8,baz=101,slow=6.2,SNR=18						
ZALV	**Zalesovo Beam**	**85.33 326**		P	**P**	**04 48 43.5**	**-0.8**
	comp=Z,4.1nm,0.7s,mb4.7,baz=100,slow=6.2,SNR=9.3						
ZAL	**Zalesovo**	**85.34 326**		P	**P**	**04 48 43.5**	**-0.9**
AML	**Almayashu**	**89.38 313**		*eP*	**P**	**04 49 05.2**	**+1.0**
	comp=Z,3.3nm,0.9s,mb4.7						
NVAR	**Mina Array Bea**	**91.72 52**		P	**P**	**04 49 16.6**	**+1.4**
	comp=Z,0.8nm,0.8s,mb4.1,baz=247,slow=3.6,SNR=4.6						
BRVK	**Borovoye**	**93.52 323**		P	**P**	**04 49 22.2**	**-0.9**
NEW	**Newport**	**93.94 42**		LR	LR	05 24 41.5	
	comp=Z,180nm,18.8s,MS4.6,baz=202,slow=31						
YKA	**Yellowknife Ar**	**96.80 28**		P	**P**	**04 49 37.4**	**-0.5**
	comp=Z,1.4nm,0.6s,mb4.5,baz=266,slow=4.6,SNR=19						
YKA				PKKP	PKKPbc	05 06 21.5	-1.2
	comp=Z,0.2nm,0.7s,baz=84,slow=2.8,SNR=4.5						
PDAR	**Pinedale Array**	**98.77 48**		P	**P**	**04 49 48.9**	**+1.7**
	comp=Z,0.3nm,0.8s,mb3.9,baz=219,slow=4.2,SNR=2.6						
GERES	**GERESS Array B**	**128.20 329**		PKP	PKPdf	04 55 15.0	+1.3
	comp=Z,0.8nm,0.7s,baz=82,slow=2.8,SNR=5.9						
LPAZ	**La Paz**	**130.39 119**		PKP	PKPdf	04 55 22.9	+4.1
	comp=Z,1.4nm,0.9s,baz=30,slow=8.0,SNR=4.2						
BDFB	**Brasilia**	**146.83 135**		PKPbc	PKPbc	04 55 51.2	+0.7
	comp=Z,1.5nm,0.9s,baz=177,slow=4.8,SNR=18						
TORD	**Torodi Ar. Bea**	**153.95 284**		PKPbc	PKPbc	04 56 07.5	-0.4
TORD	**Torodi Ar. Bea**	**153.95 284**		PKPbc	PKPbc	04 56 07.5	-0.4
	comp=Z,1.1nm,0.7s,baz=60,slow=2.5,SNR=5.9						

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*CSEM **03** 04:38:15.9±0.7,2770N×3702E,h30km,ML3.1,Error ellipse: s-maj=16.6km s-min=7.4km az=119.0*
HLW 03 04:38:15.9,2767N×3704E,h15km,**Mb3.1**,**4C-1D**, **Western Arabian Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HDHB	**Dhahab**	**2.38 297**‖		*e*P	Pn	04 38 53.6	-0.8
GLFJ		**2.56 316**		*e*P	Pn	04 38 48.2	-8.6
	SNR=102						
SHRM		**2.59 276**↑		*e*P	Pn	04 38 56.9	-0.3
SHRM				S	Sn	04 39 26.4	-2.0
TR1		**2.75 278**		P	Pn	04 38 59.0	-0.5
TR1		**2.75 278**		P	Pn	04 38 59.0	-0.5
HKAT	**Jabal Katrina**	**2.82 288**↑		*e*P	Pn	04 38 59.9	-0.6
HKAT	**Jabal Katrina**	**2.82 288**		P	Pn	04 38 59.8	-0.7
HSFG		**2.98 249**↑		*e*P	Pn	04 39 02.0	-0.6
HSFG		**2.98 249**		P	Pn	04 39 02.0	-0.7
HNKL	**Nakhl**	**3.50 311**↑		*e*P	Pn	04 39 09.5	-0.4

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*IDC **03** 04:41:37.2±2.9,772S×15506E,h0km,mb3.8/5,mb1 4.0/5, mb1mx3.9/14,mbtmp3.8/5,Error ellipse: s-maj=83.6km s-min=24.2km az=106.0*
NEIC 03 04:41:40.3±0.6,**769S**×**15474E**,**h10**km,**mb4.6**/2,**Error ellipse: s-maj=24.0km s-min=11.5km az=113.0, Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.22 236**		P	P	04 46 48.6	+0.7
	1.5nm,0.6s,baz=60,slow=9.5,SNR=4.8						
ASAR	**Alice Springs**	**25.53 229**		P	P	04 47 08.7	-0.6
	0.8nm,0.9s,baz=59,slow=11,SNR=4.2						
STKA	**Stephens Creek**	**27.01 205**		P	P	04 47 22.4	-0.1
	2.4nm,0.9s,baz=27,slow=6.8,SNR=3.2						
MJAR	**Matsushiro Arr**	**46.65 342**		P	P	04 50 08.0	-1.0
	0.7nm,0.4s,baz=165,slow=8.2,SNR=4.1						
SONM	**Songino Array**	**69.78 328**		P	P	04 52 51.5	+0.7
	0.2nm,0.4s,baz=134,slow=4.2,SNR=2.3						

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*ISCJB **03** 04:41:41.1±0.6,778S±008×1558E±01,h10km,mb4.4/17, Error ellipse: s-maj=20.9km s-min=9.9km az=16.2*
*IDC **03** 04:41:41.5±0.7,773S×15575E,h0km,mb4.4/12, mb1 4.6/13,mb1mx4.5/16,mbtmp4.4/13,ML3.7/1,MS4.1/1, Ms1 4.1/1,ms1mx3.3/26,Error ellipse: s-maj=27.6km s-min=16.6km az=102.0*
*NEIC **03** 04:41:42.7±1.2,775S×15579E,h10km,mb4.2/1,Error ellipse: s-maj=37.4km s-min=13.9km az=104.0*
*BJI **03** 04:41:45.3,770S×15470E,h10km,mB5.4,mb4.8,Ms4.8, Msz4.6*
ISC 03 04:41:42.7±0.6,**781S**±008×**1559E**±01,**h10**km,**n31**, σ**1**§**09**/28,**mb4.4**/17,**Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**15.35 216**		Pn	**Pn**	**04 45 20.1**	**+0.7**
	0.2nm,0.3s,baz=54,slow=9.6,SNR=3.2						
CTA				LR	LR	04 50 10.9	
	comp=Z,801nm,21.9s,baz=37,slow=33						
ARMA	**Armidale**	**22.84 189**		*eP*	**P**	**04 46 44.0**	**-2.0**
WRA	**Warramunga Arr**	**24.08 238**		P	**P**	**04 46 57.6**	**-0

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BREU	**Bredtraesk**	**0.03**	**294**	*i* P	**Pb**	**04 45 25.1**	**-0.2**
BREU				*i* S	**Sb**	**04 45 28.2**	**-0.2**
SVAU	**Svanoeiden**	**0.74**	**33**	*i* P	**Pb**	**04 45 34.7**	**-0.5**
SVAU				*i* S	**Sb**	**04 45 44.8**	**-0.1**
SOLU	**Sollefteaa**	**0.89**	**225**	*i* P	**Pb**	**04 45 36.7**	**-0.9**
SOLU				*i* S	**Sb**	**04 45 48.0**	**-1.0**
UMAU	**Umeaa**	**0.90**	**89**	*e*P	**Pn**	**04 45 37.7**	**-0.2**
UMAU				*e*S	**Sb**	**04 45 49.9**	**+0.4**
HEMU	**Hemsoen**	**1.24**	**193**	*e*P	**Pn**	**04 45 42.9**	**+0.4**
HEMU				*e*S	**Sn**	**04 45 58.6**	**+0.3**
HEMU	**Hemsoen**	**1.24**	**193**	P	**Pn**	**04 45 42.8**	**+0.3**
HEMU				S	**Sn**	**04 45 58.6**	**+0.3**
BURU	**Burvik**	**1.39**	**58**	*e*P	**Pn**	**04 45 45.8**	**+1.2**
BURU				*e*S	**Sn**	**04 46 04.3**	**+2.2**
BURU	**Burvik**	**1.39**	**58**	P	**Pn**	**04 45 45.7**	**+1.1**
BURU				S	**Sn**	**04 46 04.2**	**+2.1**
LILU	**Lilltraesk**	**1.51**	**20**	*e*P	**Pn**	**04 45 47.1**	**+0.9**
LILU				*e*S	**Sn**	**04 46 06.4**	**+1.5**
LILU	**Lilltraesk**	**1.51**	**20**	P	**Pn**	**04 45 47.3**	**+1.1**
LILU				S	**Sn**	**04 46 06.7**	**+1.8**
LILU	**Lilltraesk**	**1.51**	**20**	P	**Pn**	**04 45 47.0**	**+0.8**
LILU				S	**Sn**	**04 46 06.4**	**+1.5**
NOD	**Norderasen**	**1.74**	**257**	*e*P	**Pn**	**04 45 50.0**	**+0.6**
HASU	**Hassela**	**1.96**	**209**	*e*P	**Pn**	**04 45 53.0**	**+0.6**
HASU	**Hassela**	**1.96**	**209**	P	**Pn**	**04 45 53.0**	**+0.6**
VAF	**Ylistaro**	**2.00**	**113**	*e*P	**Pn**	**04 45 53.5**	**+0.6**
VAF				*e*PB	**Pb**	**04 45 55.9**	**-0.6**
VAF				*e*S	**Sn**	**04 46 19.1**	**+2.1**
VAF				MSG		04 46 23.1	
	comp=Z,70nm,0.1s						
VAF	**Ylistaro**	**2.00**	**113**	P	**Pn**	**04 45 53.4**	**+0.5**
VAF				S	**Sn**	**04 46 19.1**	**+2.1**
	comp=Z,70nm,0.1s						
SJUU	**Sjulsmark**	**2.07**	**37**	*e*P	**Pn**	**04 45 54.9**	**+0.9**
SJUU	**Sjulsmark**	**2.07**	**37**	P	**Pn**	**04 45 54.8**	**+0.8**
SJUU				Sg	**Sn**	**04 46 23.1**	**+4.2**
HUDU	**Hudiksvall**	**2.26**	**199**	*e*P	**Pn**	**04 45 57.0**	**+0.5**
HUDU	**Hudiksvall**	**2.26**	**199**	P	**Pn**	**04 45 57.0**	**+0.5**
ARNU	**Arnoeviken**	**2.27**	**195**	*e*P	**Pn**	**04 45 57.0**	**+0.3**
ARNU	**Arnoeviken**	**2.27**	**195**	P	**Pn**	**04 45 56.9**	**+0.2**
HARU	**Harads**	**2.50**	**22**	*e*P	**Pn**	**04 46 00.4**	**+0.6**
MOR8	**Moi Rana**	**2.91**	**324**	*e*P	**Pn**	**04 46 06.3**	**+0.9**
MOR8				*e*PB	**Pb**	**04 46 12.4**	**+0.3**
MOR8				*e*SB	**Sb**	**04 46 50.7**	**+3.6**
MOR8				AML	AML	04 46 57.7	
	comp=Z,62nm,0.4s						
MOR8	**Moi Rana**	**2.91**	**324**	*e*Pg	**Pb**	**04 46 12.4**	**+0.4**
	SNR=91						
MOR8				*e*Sg	**Sb**	**04 46 50.7**	**+3.6**
	SNR=91						
NSS	**Namsos**	**2.99**	**286**	*e*P	**Pn**	**04 46 09.4**	**+2.9**
NSS				*e*S	**Sn**	**04 46 41.2**	**-0.2**
NSS				AML	AML	04 46 55.4	
	comp=Z,38nm,0.4s						
NSS	**Namsos**	**2.99**	**286**	*e*P	**Pn**	**04 46 09.4**	**+2.9**
	SNR=55						
NSS				*e*S	**Sn**	**04 46 41.2**	**-0.3**
	comp=Z,38nm,0.4s,SNR=55						
ERTU	**Ertsjaerv**	**3.08**	**28**	*e*P	**Pn**	**04 46 08.1**	**+0.3**
ERTU	**Ertsjaerv**	**3.08**	**28**	P	**Pn**	**04 46 07.9**	**+0.2**
IGGU	**Iggoen**	**3.08**	**192**	*e*P	**Pn**	**04 46 08.5**	**+0.7**
RAF	**Rauma**	**3.21**	**152**	*e*P	**Pn**	**04 46 10.6**	**+0.9**
RAF				*e*S	**Sn**	**04 46 47.5**	**+0.5**
RAF				MSG		04 47 02.1	
	comp=Z,56nm,0.2s						
RAF	**Rauma**	**3.21**	**152**	P	**Pn**	**04 46 10.5**	**+0.9**
RAF				S	**Sn**	**04 46 47.4**	**+0.4**
	comp=Z,56nm,0.2s						
KEF	**Keuruu**	**3.32**	**118**	*e*P	**Pn**	**04 46 12.4**	**+1.3**
KEF				*e*S	**Sn**	**04 46 50.4**	**+0.8**
KEF				MSG		04 47 09.8	
	comp=Z,40nm,0.2s						
KEF	**Keuruu**	**3.32**	**118**	P	**Pn**	**04 46 12.4**	**+1.3**
KEF				S	**Sn**	**04 46 50.3**	**+0.7**
	comp=Z,40nm,0.2s						
DUNU	**Dundret**	**3.35**	**13**	*e*P	**Pn**	**04 46 12.5**	**+1.0**
OUL	**Oulu**	**3.37**	**66**	*e*P	**Pn**	**04 46 11.8**	**0.0**
OUL				*e*S	**Sn**	**04 46 50.6**	**-0.2**
OUL				MSG		04 47 09.9	
	comp=Z,18nm,0.2s						
OUL	**Oulu**	**3.37**	**66**	P	**Pn**	**04 46 11.7**	**0.0**
OUL				S	**Sn**	**04 46 50.5**	**-0.3**
	comp=Z,18nm,0.2s						
STOK	**Stokkvaagen**	**3.42**	**319**	*e*P	**Pn**	**04 46 13.1**	**+0.6**
STOK				*e*Pg	**Pb**	**04 46 20.5**	**-0.2**
STOK				*e*Sg	**Sb**	**04 47 06.3**	**+4.4**
STOK				AML	AML	04 47 10.1	
	comp=Z,57nm,0.7s						
GRAU	**Graesoe**	**3.56**	**181**	*e*P	**Pn**	**04 46 15.0**	**+0.6**
GRAU	**Graesoe**	**3.56**	**181**	P	**Pn**	**04 46 14.9**	**+0.5**
SUF	**Sumiainen**	**3.58**	**106**	*e*P	**Pn**	**04 46 15.2**	**+0.5**
SUF				*e*S	**Sn**	**04 46 57.5**	**+1.3**
SUF				MSG		04 47 17.8	
	comp=Z,25nm,0.2s						
SUF	**Sumiainen**	**3.58**	**106**	P	**Pn**	**04 46 15.2**	**+0.5**
SUF				S	**Sn**	**04 46 57.4**	**+1.3**
	comp=Z,25nm,0.2s						
FALU	**Falun**	**3.64**	**202**	*e*P	**Pn**	**04 46 15.8**	**+0.3**
PAJU	**Pajala**	**3.67**	**29**	*e*P	**Pn**	**04 46 15.7**	**-0.2**
PAJU	**Pajala**	**3.67**	**29**	P	**Pn**	**04 46 15.6**	**-0.3**
OSTU	**Oestervaala**	**3.73**	**192**	*e*P	**Pn**	**04 46 16.9**	**+0.2**
AAL	**Aland**	**3.77**	**170**	*e*P	**Pn**	**04 46 18.1**	**+0.8**
FLYU	**Flymyra**	**3.78**	**186**	*e*P	**Pn**	**04 46 17.3**	**-0.1**
KAF	**Kangasniemi**	**3.92**	**113**	*e*P	**Pn**	**04 46 19.1**	**-0.2**
KAF				*e*S	**Sn**	**04 47 04.9**	**+0.5**
KAF				MSG		04 47 25.8	
	comp=Z,27nm,0.3s						
KAF	**Kangasniemi**	**3.92**	**113**	P	**Pn**	**04 46 19.1**	**-0.2**
KAF				S	**Sn**	**04 47 04.8**	**+0.4**
	comp=Z,27nm,0.3s						
KJN	**Kajaani**	**4.00**	**83**	*e*P	**Pn**	**04 46 20.7**	**+0.2**
KJN				*e*S	**Sn**	**04 47 06.0**	**-0.5**
KJN				MSG		04 47 31.9	
	comp=Z,15nm,0.2s						
KJN	**Kajaani**	**4.00**	**83**	P	**Pn**	**04 46 20.6**	**+0.1**
KJN				S	**Sn**	**04 47 05.9**	**-0.5**
	comp=Z,15nm,0.2s						
NIKU	**Nikkaluokta**	**4.01**	**2**	*e*P	**Pn**	**04 46 21.6**	**+1.0**
NIKU	**Nikkaluokta**	**4.01**	**2**	P	**Pn**	**04 46 21.5**	**+1.0**
BACU	**Backbrunna**	**4.10**	**191**	*e*P	**Pn**	**04 46 21.5**	**-0.4**
KUA	**Kurravaara**	**4.15**	**9**	*e*P	**Pn**	**04 46 24.4**	**+2.0**
FIA0	**FINESS Array S**	**4.21**	**122**	*e*P	**Pn**	**04 46 23.2**	**-0.2**
FIA0				*e*S	**Sn**	**04 47 12.1**	**+0.5**
FIA0				*e*		04 47 30.3	
FIA0				MSG		04 47 34.4	
	comp=Z,15nm,0.2s						
FIA0	**FINESS Array S**	**4.21**	**122**	Pn	**Pn**	**04 46 23.8**	**+0.5**
	baz=314,slow=12						
FIA0				Sn	**Sn**	**04 47 10.6**	**-1.0**
	baz=312,slow=22						
FIA0				Lg		04 47 29.8	
	baz=314,slow=28						
FIA0	**FINESS Array S**	**4.21**	**122**	Pn	**Pn**	**04 46 23.8**	**+0.5**
	SNR=55						
FIA0				Sn	**Sn**	**04 47 10.6**	**-1.0**
	SNR=55						
FIA0				S	**Sn**	**04 47 12.0**	**+0.4**
	comp=Z,15nm,0.2s						
FINES	**FINESS Array B**	**4.21**	**122**	Pn	**Pn**	**04 46 23.8**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=323,slow=13,SNR=2.0						
FINES				Pg	**Pb**	**04 46 32.8**	**-1.4**
	comp=Z,0.4nm,0.3s,baz=320,slow=15,SNR=16						
FINES				Sn	**Sn**	**04 47 11.3**	**-0.2**
	comp=Z,1.1nm,0.3s,baz=316,slow=21,SNR=5.3						
FINES				Lg		04 47 30.3	
	comp=Z,9.7nm,0.3s,baz=313,slow=24,SNR=44						
NRTU	**Norrtaelje**	**4.22**	**180**	*e*P	**Pn**	**04 46 23.7**	**+0.3**
LANU	**Lannavaara**	**4.41**	**17**	*e*P	**Pn**	**04 46 27.3**	**+1.3**
HFS	**Hagfors**	**4.42**	**214**	Pn	**Pn**	**04 46 26.4**	**+0.2**
	baz=30,slow=12						
HFS				Sn	**Sn**	**04 47 14.2**	**-2.6**
	baz=45,slow=22						
HFS				Lg		04 47 33.4	
	baz=26,slow=37						
HFS	**Hagfors**	**4.42**	**214**	*e*P	**Pn**	**04 46 26.4**	**+0.2**
HFS				*e*S	**Sn**	**04 47 14.2**	**-2.6**
HFS				*e*SB	**Sb**	**04 47 33.4**	**+2.8**
HFS	**Hagfors**	**4.42**	**214**	Pn	**Pn**	**04 46 26.4**	**+0.2**
	comp=Z,0.4nm,0.3s,baz=31,slow=13,SNR=10.0						
HFS				Pg	**Pb**	**04 46 35.3**	**-2.4**
	comp=Z,0.7nm,0.3s,baz=37,slow=14,SNR=12						
HFS				Sn	**Sn**	**04 47 14.3**	**-2.5**
	comp=Z,1.8nm,0.3s,baz=39,slow=19,SNR=9.9						
HFS				Lg		04 47 32.7	
	comp=Z,1.5nm,0.3s,baz=33,slow=29,SNR=5.5						
HFS	**Hagfors**	**4.42**	**214**	Pn	**Pn**	**04 46 26.4**	**+0.2**
	SNR=55						
HFS				Sn	**Sn**	**04 47 14.2**	**-2.6**
	SNR=55						
HFS				Sb	**Sb**	**04 47 33.3**	**+2.8**
NB2	**NORSAR Subarra**	**4.47**	**234**	Pn	**Pn**	**04 46 26.5**	**-0.4**
	baz=51,slow=14						
NB2				Sn	**Sn**	**04 47 17.2**	**-0.8**
	baz=44,slow=28						
NB2				Lg		04 47 37.3	
	baz=46,slow=37						
NB2	**NORSAR Subarra**	**4.47**	**234**	*e*P	**Pn**	**04 46 26.5**	**-0.4**
NB2				*e*S	**Sn**	**04 47 17.2**	**-0.8**
NB2				*e*		04 47 37.3	
NB2	**NORSAR Subarra**	**4.47**	**234**	Pn	**Pn**	**04 46 26.5**	**-0.4**
	SNR=55						
NB2				Sn	**Sn**	**04 47 17.2**	**-0.8**
	SNR=55						
NOA	**NORSAR Array B**	**4.47**	**234**	Pn	**Pn**	**04 46 26.2**	**-0.7**
	comp=Z,0.3nm,0.3s,baz=67,slow=14,SNR=2.4						
NOA				Sn	**Sn**	**04 47 14.9**	**-3.1**
	comp=Z,1.4nm,0.3s,baz=37,slow=21,SNR=5.0						
NOA				Lg		04 47 28.8	
	comp=Z,3.8nm,0.3s,baz=283,slow=11,SNR=11						
MEF	**Metsahovi**	**4.56**	**141**	*e*P	**Pn**	**04 46 28.9**	**+0.7**
MEF				*e*S	**Sn**	**04 47 19.7**	**-0.5**
MEF				MSG		04 47 42.2	
	comp=Z,13nm,0.2s						
MEF	**Metsahovi**	**4.56**	**141**	P	**Pn**	**04 46 28.8**	**+0.6**
MEF				S	**Sn**	**04 47 19.7**	**-0.6**
	comp=Z,13nm,0.2s						
DOMB	**Dombas**	**4.74**	**251**	*e*Pg	**Pb**	**04 46 44.1**	**+0.9**
DOMB				*e*S	**Sn**	**04 47 21.8**	**-2.8**
DOMB				AML	AML	04 47 51.1	
	comp=Z,21nm,0.4s						
PVF	**Pernaja**	**4.75**	**131**	*e*P	**Pn**	**04 46 32.8**	**+2.0**
PVF				*e*S	**Sn**	**04 47 24.7**	**-0.3**
PVF				MSG		04 47 51.5	
	comp=Z,14nm,0.2s						
PVF	**Pernaja**	**4.75**	**131**	P	**Pn**	**04 46 32.7**	**+1.9**
PVF				S	**Sn**	**04 47 24.6**	**-0.4**
	comp=Z,14nm,0.2s						
ESKU	**Eskilstuna**	**4.79**	**194**	*e*P	**Pn**	**04 46 31.0**	**-0.2**
SGF	**Sodankyl**	**4.84**	**39**	*e*P	**Pn**	**04 46 31.0**	**-0.9**
SGF				MSG		04 47 51.1	
	comp=Z,20nm,0.2s						
SGF	**Sodankyl**	**4.84**	**39**	P	**Pn**	**04 46 30.9**	**-1.0**
MSF	**Maaselka**	**4.88**	**61**	*e*P	**Pn**	**04 46 32.0**	**-0.4**
MSF				*e*S	**Sn**	**04 47 25.7**	**-2.2**
MSF				MSG		04 47 54.5	
	comp=Z,4.9nm,0.2s						
MSF	**Maaselka**	**4.88**	**61**	P	**Pn**	**04 46 32.0**	**-0.4**
MSF				S	**Sn**	**04 47 25.7**	**-2.2**
	comp=Z,4.9nm,0.2s						
HEF	**Hetta**	**4.98**	**22**	*e*P	**Pn**	**04 46 33.4**	**-0.5**
HEF				*e*S	**Sn**	**04 47 27.5**	**-3.0**
HEF				MSG		04 48 01.1	
	comp=Z,6.1nm,0.3s						
HEF	**Hetta**	**4.98**	**22**	P	**Pn**	**04 46 33.3**	**-0.6**
KIF	**Kilpisjarvi**	**5.22**	**9**	*e*P	**Pn**	**04 46 37.8**	**+0.7**
KU6	**Riekki**	**5.24**	**61**	*e*P	**Pn**	**04 46 37.0**	**-0.4**
KU6				*e*S	**Sn**	**04 47 34.8**	**-2.1**
KU6				MSG		04 48 07.6	
	comp=Z,9.3nm,0.3s						
KU6	**Riekki**	**5.24**	**61**	P	**Pn**	**04 46 37.0**	**-0.5**
KU6				S	**Sn**	**04 47 34.8**	**-2.2**
	comp=Z,9.3nm,0.3s						
ASKU	**Askersund**	**5.33**	**202**	*e*P	**Pn**	**04 46 38.4**	**-0.2**
VJF	**Virojoki**	**5.35**	**125**	*e*P	**Pn**	**04 46 38.8**	**-0.1**
VJF				*e*S	**Sn**	**04 47 37.5**	**-2.1**
VJF				MSG		04 48 13.6	
	comp=Z,11nm,0.3s						
VJF	**Virojoki**	**5.35**	**125**	P	**Pn**	**04 46 38.8**	**-0.2**
VJF				S	**Sn**	**04 47 37.5**	**-2.1**
	comp=Z,11nm,0.3s						
KTK1	**Kautokeino**	**5.47**	**18**	*e*S	**Sn**	**04 47 41.1**	**-1.5**
KTK1				AML	AML	04 48 18.9	
	comp=Z,8.0nm,0.5s						
VIKU	**Vikbolandet**	**5.48**	**191**	*e*P	**Pn**	**04 46 40.1**	**-0.6**
NASU	**Vaermlandsnaes**	**5.62**	**210**	*e*P	**Pn**	**04 46 42.6**	**+0.1**
JOF	**Joensuu**	**5.78**	**94**	*e*P	**Pn**	**04 46 43.6**	**-1.2**
JOF				*e*S	**Sn**	**04 47 48.3**	**-1.8**
JOF				MSG		04 48 26.8	
	comp=Z,8.2nm,0.2s						
TRO	**Tromso**	**5.78**	**1**	*e*P	**Pn**	**04 46 49.8**	**+5.0**
TRO				*e*S	**Sn**	**04 47 46.5**	**-3.6**
TRO	**Tromso**	**5.78**	**1**	*e*P	**Pn**	**04 46 49.8**	**+5.0**
TRO				*e*S	**Sn**	**04 47 46.5**	**-3.6**
STRU	**Stroemstad**	**6.03**	**220**	*e*P	**Pn**	**04 46 47.8**	**-0.5**
ARA0	**ARCESS Array S**	**6.29**	**23**	Pn	**Pn**	**04 46 51.0**	**-0.9**
	baz=206,slow=16						
ARA0				Sn	**Sn**	**04 47 58.9**	**-3.9**
	baz=204,slow=28						
ARA0				Lg		04 48 32.8	
	baz=215,slow=22						
ARA0	**ARCESS Array S**	**6.29**	**23**	*e*P	**Pn**	**04 46 51.0**	**-0.9**
ARA0				*e*S	**Sn**	**04 47 58.9**	**-3.9**
ARA0				*e*		04 48 32.8	
ARA0	**ARCESS Array S**	**6.29**	**23**	Pn	**Pn**	**04 46 51.0**	**-0.9**
	SNR=55						
ARA0				Sn	**Sn**	**04 47 58.9**	**-3.9**
	SNR=55						
ARCES	**ARCESS Array B**	**6.29**	**23**	Pn	**Pn**	**04 46 51.1**	**-0.8**
	comp=Z,0.2nm,0.3s,baz=205,slow=14,SNR=11						
ARCES				Sn	**Sn**	**04 47 58.6**	**-4.3**
	comp=Z,0.5nm,0.3s,baz=202,slow=16,SNR=3.8						
ARCES				Lg		04 48 33.4	
	comp=Z,1.6nm,0.3s,baz=206,slow=26,SNR=6.4						
VSTU	**Vaestervik**	**6.33**	**190**	*e*P	**Pn**	**04 46 52.1**	**-0.2**
HYA	**Hoyanger**	**6.37**	**250**	*e*P	**Pn**	**04 46 52.5**	**-0.4**
HYA				*e*S	**Sn**	**04 47 59.8**	**-5.0**
HYA				AML	AML	04 48 04.7	
	comp=Z,3.5nm,0.3s						
KEV	**Kevo**	**6.76**	**26**	*e*P	**Pn**	**04 46 57.3**	**-0.9**
KEV				*e*S	**Sn**	**04 48 11.7**	**-2.4**
KEV				MSG		04 48 59.1	
	comp=Z,2.6nm,0.2s						
OSKU	**Oskarshamn**	**6.82**	**192**	*e*P	**Pn**	**04 46 58.4**	**-0.7**
ODD1	**Odda**	**6.93**	**240**	*e*S	**Sn**	**04 48 11.6**	**-6.8**
ODD1				AML	AML	04 48 57.9	
	comp=Z,14nm,0.5s						

IDC 03 04:46:04.0±2.4, 761S×15551E, h0km, mb3.9/5, mb1 4.1/5, mb1mx3.8/14, mbtmp3.9/5, Error ellipse: s-maj=71.2km s-min=33.4km az=127.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.91**	**237**	P	P	04 51 19.4	-0.3
	0.7nm,0.6s,baz=61,slow=9.6,SNR=4.8						
MJAR	**Matsushiro Arr**	**46.82**	**341**	P	P	04 54 36.2	+0.6
	1.1nm,0.5s,baz=157,slow=6.6,SNR=4.7						
MKAR	**Makanchi Array**	**84.20**	**319**	P	P	04 58 38.1	+0.8
	1.3nm,0.7s,baz=108,slow=5.8,SNR=8.7						
ZALV	**Zalesovo Beam**	**84.97**	**326**	P	P	04 58 40.4	-0.6
	0.4nm,0.4s,baz=90,slow=5.8,SNR=2.7						
YKA	**Yellowknife Ar**	**96.63**	**28**	P	P	04 59 34.8	-0.8
	0.2nm,0.6s,baz=271,slow=4.7,SNR=4.1						

*SKO **03** 04:47:11.5, 3888N×1911E, h135km*
*TIR **03** 04:47:18.8±1.6, 4021N×1954E, h6km±250km*
*NEIC **03** 04:47:21.8, 40.15N×1953E, h16km, MD3.6(ATH), After ATH.*
*ATH **03** 04:47:21.8, 40.15N×1953E, h16km, MD3.6/4*
*ROM **03** 04:47:24.3±0.3, 4005N×1969E, h10km, Ml2.8/3, Error ellipse: s-maj=6.7km s-min=4.2km az=115.0*

ISC 03 04:47:23.5±0.8, 4014N±003×1972E±005, h1km±6km, n34, σ1°15/38, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPE	**Tepelena**	**0.27**	**55**	*i* PG	**Pg**	**04 47 27.7**	**-1.0**
TPE				*i* SG	**Sg**	**04 47 32.2**	**0.0**
KEK	**Kerkira**	**0.43**	**172**	Pn	**Pg**	**04 47 31.5**	**-0.2**
KEK				Sn	**Sg**	**04 47 38.6**	**+1.4**
	728nm,0.9s						
KEK	**Kerkira**	**0.43**	**172**	*e*Pb	**Pg**	**04 47 31.4**	**-0.3**
KEK				*e*Sb	**Sg**	**04 47 38.4**	**+1.2**
IGT	**Igoumenitsa**	**0.77**	**142**	*e*P	**Pg**	**04 47 37.2**	**-0.9**
IGT	**Igoumenitsa**	**0.77**	**142**	*i* PG	**Pg**	**04 47 37.2**	**-1.0**
SCTE	**Santa Cesarea**	**0.96**	**267**	Pn	**Pn**	**04 47 42.2**	**-1.9**
SCTE				Sn	**Sn**	**04 47 58.7**	**+0.3**
	460nm,0.4s						
JAN	**Janina**	**0.99**	**119**	*e*PN	**Pn**	**04 47 43.0**	**-1.5**
MEV	**Metsovon**	**1.21**	**106**	*e*P	**Pg**	**04 47 48.0**	**+1.3**
MEV	**Metsovon**	**1.21**	**106**	*i* PG	**Pg**	**04 47 48.0**	**+1.3**
TIR	**Tirane**	**1.21**	**5**	*e*P	**Pg**	**04 47 48.5**	**+1.7**
TIR	**Tirane**	**1.21**	**5**	Pn	**Pn**	**04 47 48.4**	**+0.8**
	236nm,0.7s						
LCI	**Lecce**	**1.25**	**280**	Pn	**Pn**	**04 47 46.6**	**-1.4**
	57nm,0.2s						
OHR	**Ohrid**	**1.27**	**40**	*e*P	**Pg**	**04 47 46.1**	**-1.8**
OHR	**Ohrid**	**1.27**	**40**	*e*Pn	**Pn**	**04 47 48.1**	**-0.2**
OHR	**Ohrid**	**1.27**	**40**	*i* PG	**Pn**	**04 47 46.1**	**-2.3**
FNA	**Florina**	**1.42**	**62**	*e*P	**Pn**	**04 47 49.7**	**-0.7**
FNA	**Florina**	**1.42**	**62**	*i* PG	**Pn**	**04 47 49.7**	**-0.7**
BIA	**Bitola**	**1.50**	**54**	*e*P	**Pn**	**04 47 52.5**	**+0.9**
BIA	**Bitola**	**1.50**	**54**	*e*Pn	**Pn**	**04 47 50.7**	**-0.9**
KZN	**Kozani**	**1.58**	**83**	*e*PN	**Pn**	**04 47 53.4**	**+0.8**
LKD	**Levkas**	**1.60**	**153**	*e*P	**Pn**	**04 47 52.9**	**0.0**
KRUS	**Krusevo**	**1.69**	**43**	*e*Pn	**Pn**	**04 47 54.6**	**+0.5**
THL	**Klokotos Trika**	**1.85**	**107**	*e*PN	**Pn**	**04 47 57.2**	**+0.8**
LIT	**Litokhoron**	**2.12**	**90**	*e*P	**Pb**	**04 48 02.6**	**-0.1**
NOCI	**Noci**	**2.13**	**289**	Pn	**Pn**	**04 48 02.8**	**+2.7**
KFL	**Anninata**	**2.19**	**157**	*e*P	**Pn**	**04 48 01.6**	**+0.7**
GRG	**Griva**	**2.20**	**67**	*e*P	**Pn**	**04 48 02.5**	**+1.4**
AGG	**Agios Georgios**	**2.30**	**118**	*e*P	**Pn**	**04 47 59.8**	**-2.7**
TIP	**Timpagrande**	**2.48**	**248**	*e*Pn	**Pn**	**04 48 00.5**	**-4.5**
AMUR	**Altamura**	**2.50**	**289**	Pn	**Pn**	**04 48 04.7**	**-0.5**
MIGL	**Miglionico**	**2.55**	**282**	Pn	**Pn**	**04 48 06.5**	**+0.6**
KNT	**Kendrikon**	**2.62**	**66**	*e*P	**Pn**	**04 48 08.5**	**+1.5**
PAIG	**Paliouri**	**3.05**	**93**	*e*P	**Pn**	**04 48 12.4**	**-0.3**
AOS	**Alonnisos**	**3.35**	**105**	*e*P	**Pn**	**04 48 16.6**	**-0.4**

*ISCJB **03** 04:47:46.9±0.6, 3841N±004×2192E±006, h21km, Error ellipse: s-maj=6.7km s-min=5.3km az=27.6*
*NEIC **03** 04:47:46.9, 3836N×2201E, h20km, ML3.2(ATH), After ATH.*
*CSEM **03** 04:47:46.9, 3836N×2201E, h20km, MD3.6/8, After ATH*
*ATH **03** 04:47:46.9, 3836N×2200E, h21km±2km, MD3.5/8, ML3.2*

ISC 03 04:47:47.4±0.7, 3837N±004×2202E±006, h14km±8km, n12, σ0°86/16, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RLS	**Riolos of Patr**	**0.54**	**235**	*e*PN	**Pg**	**04 47 57.3**	**-0.6**
RLS				*e*SN	**Sg**	**04 48 05.4**	**+0.3**
EVR	**Evrytania**	**0.57**	**343**	*e*PN	**Pg**	**04 47 57.9**	**-0.7**
EVR				*e*SN	**Sg**	**04 48 07.3**	**+1.1**
LKR	**Lokris**	**0.82**	**70**	*e*PB	**Pb**	**04 48 02.5**	**-0.9**
LKR				*e*SN	**Sn**	**04 48 15.0**	**-1.4**
LTK	**Loutraki**	**0.82**	**115**	*e*P	**Pg**	**04 48 03.1**	**-0.2**
VLX	**Vlachokerasia**	**1.04**	**164**	*e*P	**Pb**	**04 48 06.2**	**-0.9**
VLS	**Valsamata**	**1.14**	**261**	*e*PN	**Pn**	**04 48 07.8**	**-1.2**
ITM	**Ithomi**	**1.19**	**184**	*e*PN	**Pn**	**04 48 09.1**	**-0.5**
ITM				*e*SN	**Sn**	**04 48 25.7**	**+0.2**
DID	**Didima**	**1.29**	**132**	*e*P	**Pn**	**04 48 12.1**	**+1.1**
NEO	**Neokhori**	**1.32**	**45**	*e*PN	**Pn**	**04 48 12.5**	**+1.0**
ATH	**Athens Observa**	**1.39**	**106**	*e*PN	**Pn**	**04 48 13.4**	**+1.0**
PYL	**PYLOS**	**1.49**	**189**	*e*P	**Pn**	**04 48 14.2**	**+0.6**
VLI	**Veliai**	**1.80**	**156**	*e*PN	**Pn**	**04 48 19.1**	**+1.1**

*IDC **03** 04:49:08.5±1.7, 722S×15553E, h0km, mb3.9/8, mb1 4.1/8, mb1mx3.9/15, mbtmp3.9/8, Error ellipse: s-maj=57.9km s-min=22.1km az=114.0*
*NEIC **03** 04:49:10.1±1.0, 724S×15553E, h10km, mb4.5/1, Error ellipse: s-maj=34.7km s-min=12.9km az=117.0*
*ISCJB **03** 04:49:12.0±1.4, 73S±02×1555E±03, h33km, mb3.8/8, Error ellipse: s-maj=46.6km s-min=17.1km az=28.4*

ISC 03 04:49:13.9±1.4, 73S±02×1555E±03, h35km, n11, σ0°41/11, mb3.8/8, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WB2	**Warramunga Arr**	**24.09**	**236**	*e*P	**P**	**04 54 26.3**	**0.0**
WRA	**Warramunga Arr**	**24.10**	**236**	P	**P**	**04 54 26.7**	**+0.3**
	4.9nm,1.0s,mb3.9,baz=62,slow=9.6,SNR=

MKAR Makanchi Array 85.72 318 P **P 05 09 25.1 -0.2**
0.8nm,0.6s,mb4.1,baz=93,slow=5.2,SNR=5.9
YKA Yellowknife Ar 96.59 28 P **P 05 10 14.7 -1.0**
YKA Yellowknife Ar 96.59 28 P **P 05 10 14.7 -1.0**
0.1nm,0.5s,mb3.5,baz=260,slow=4.6,SNR=4.5

*IDC **03** 05:03:30.2±0.7,2003N×12132E,h0km,mb4.0/11,*
mb1 4.1/12,mb1mx4.1/21,mbtmp4.0/12,ML3.7/1,MS3.5/1,
Ms1 3.5/1,ms1mx2.9/30,Error ellipse: s-maj=41.3km
s-min=14.2km az=73.0
*NEIC **03** 05:03:35.7±0.4,1998N×12134E,h35km,mb4.4/4,Error*
ellipse: s-maj=14.3km s-min=7.6km az=76.0
*MAN **03** 05:03:35,20.13N×12124E,h17km,mb4.6,ML3.5,MS3.5*
*ISCJB **03** 05:03:36.7±0.6,20.11N±003×12131E±009,h60km±7km,*
mb4.0/15,Error ellipse: s-maj=14.4km s-min=4.7km
az=0.0
*BJI **03** 05:03:45.2,2074N×12051E,h20km,mB4.5,mb4.3,ML3.9*
ISC 03 05:03:38.1±0.5,2009N±003×12129E±008,h57km±6km,
n30,σ1°06/36,mb4.0/15,1C,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PIP	**Pasuquin**	**1.87**	**200**	⇑*iP*		**Pn**	**05 04 06.5 -1.2**
PIP				*e*S		**Sn**	**05 04 28.8 -1.4**
SGCP	**Mt. Cagua**	**1.97**	**159**	*e*P		**Pn**	**05 04 08.8 -0.4**
SGCP				*e*S		**Sn**	**05 04 35.2 +2.4**
APYP	**Conner**	**2.22**	**181**	*e*P		**Pn**	**05 04 12.0 -0.5**
APYP				*e*S		**Sn**	**05 04 39.3 +0.6**
CVP	**Callao Caves**	**2.43**	**168**	*e*P		**Pn**	**05 04 15.0 -0.4**
CVP				*e*S		**Sn**	**05 04 44.8 +0.9**
ABRA	**Dolores**	**2.49**	**193**	*e*P		**Pn**	**05 04 16.8 +0.6**
ABRA				*e*S		**Sn**	**05 04 46.7 +1.3**
BOLP	**Bolinao**	**3.91**	**200**	*e*P		**Pn**	**05 04 36.1 +0.4**
NACB	**Ninganchiao**	**4.07**	**4**	*e*Pn		**Pn**	**05 04 36.6 -1.3**
NACB				*e*Sn		**Sn**	**05 05 22.7 -1.6**
YHNB	**Yeheng**	**4.56**	**1**	*e*Pn		**Pn**	**05 04 45.3 +0.7**
YHNB				*e*Sn		**Sn**	**05 05 37.2 +1.0**
QIZ	**Qiongzhong**	**10.84**	**266**	*e*Pn		**Pn**	**05 06 09.3 -1.3**
	22nm,0.8s						
KSRS	**Korea Array**	**18.24**	**17**	P		**Pn**	**05 07 46.9 -0.3**
	0.3nm,0.3s,baz=324,slow=6.1,SNR=3.7						
BJT	**Baijiatuan**	**20.34**	**349**	*e*P		**P**	**05 08 11.5 +1.8**
	16nm,0.8s						
JHJ	**Hachijo jima 2**	**20.98**	**48**	LR		LR	05 15 07.9
	comp=Z,127nm,19.4s,baz=289,slow=33						
LZH	**Lanzhou**	**22.10**	**320**	*e*P		**P**	**05 08 36.0 +7.4**
LZH				AP			05 08 42.0
LZH				XP		sP	05 08 45.1 -3.2
LZH				AMB		AMB	
	comp=Z,36nm,1.7s,mb4.5						
LZH				AMB		AMB	
	comp=Z,120nm,5.5s						
SONM	**Songino Array**	**30.20**	**340**	P		**P**	**05 09 43.0 0.0**
	comp=Z,0.6nm,0.5s,mb3.6,baz=155,slow=11,SNR=3.6						
FITZ	**Fitzroy Crossi**	**38.19**	**173**	P		**P**	**05 10 51.1 -1.4**
	comp=Z,1.3nm,0.7s,mb3.8,baz=90,slow=22,SNR=6.6						
MKAR	**Makanchi Array**	**41.41**	**319**	P		**P**	**05 11 19.2 +0.4**
	comp=Z,1.1nm,0.6s,mb3.7,baz=117,slow=9.0,SNR=8.4						
WRA	**Warramunga Arr**	**41.79**	**161**	P		**P**	**05 11 20.4 -1.8**
	comp=Z,5.7nm,0.5s,mb4.5,baz=343,slow=9.0,SNR=45						
WB2	**Warramunga Arr**	**41.79**	**161**	*e*P		**P**	**05 11 21.1 -1.1**
ZAA0	**Zalesovo Array**	**43.76**	**329**	*e*P		**P**	**05 11 39.2 +1.3**
ZALV	**Zalesovo Beam**	**43.76**	**329**	P		**P**	**05 11 38.9 +1.0**
	comp=Z,1.5nm,0.7s,mb3.9,baz=111,slow=8.1,SNR=8.6						
UCH	**Uchtor**	**45.03**	**310**	*e*P		**P**	**05 11 51.2 +3.0**
	comp=Z,5.5nm,1.1s,mb4.3						
ASAR	**Alice Springs**	**45.20**	**164**	P		**P**	**05 11 48.8 -0.9**
	comp=Z,3.7nm,0.4s,mb4.5,baz=346,slow=6.9,SNR=57						
KURK	**Kurchatov**	**45.34**	**323**	*e*P		**P**	**05 11 49.6 -0.9**
	comp=Z,6.4nm,1.4s,mb4.3						
AML	**Almayashu**	**45.60**	**310**	*e*P		**P**	**05 11 53.6 +1.0**
	comp=Z,3.8nm,1.0s,mb4.3						
STKA	**Stephens Creek**	**55.22**	**159**	P		**P**	**05 13 05.5 +0.2**
	comp=Z,2.5nm,0.7s,mb4.4,baz=312,slow=12,SNR=4.7						
FINES	**FINESS Array B**	**75.02**	**330**	P		**P**	**05 15 12.8 -0.6**
	comp=Z,1.0nm,0.9s,mb3.7,baz=250,slow=28,SNR=2.3						
AKASG	**Malin Array Be**	**76.00**	**319**	P		**P**	**05 15 19.5 +0.3**
	comp=Z,0.2nm,0.3s,mb3.5,baz=59,slow=5.4,SNR=4.1						
INK	**Inuvik**	**76.97**	**22**	P		**P**	**05 15 24.5 +0.2**
INK	**Inuvik**	**76.97**	**22**	P		**P**	**05 15 24.5 +0.2**
	comp=Z,2.1nm,1.2s,mb3.9,baz=311,slow=4.8,SNR=2.9						
YKA	**Yellowknife Ar**	**86.69**	**23**	P		**P**	**05 16 15.3 -0.2**
	comp=Z,0.4nm,0.5s,mb3.9,baz=307,slow=4.6,SNR=12						

*IDC **03** 05:07:40.6±0.6,860S×15755E,h0km,mb4.5/16,*
mb1 4.6/17,mb1mx4.6/18,mbtmp4.4/17,ML4.1/1,Error
ellipse: s-maj=20.3km s-min=15.5km az=124.0
*BJI **03** 05:07:41.2,855S×15799E,h19km,mB5.2,mb4.9,Ms5.1,*
Msz4.8
*ISCJB **03** 05:07:42.7±0.2,857S±006×15743E±004,h15km,*
mb4.8/44,MS4.8/7,Error ellipse: s-maj=8.0km
s-min=5.4km az=179.9
*NEIC **03** 05:07:42.8±0.2,863S×15755E,h10km,mb5.1/13,Error*
ellipse: s-maj=9.6km s-min=6.9km az=142.0
*MOS **03** 05:07:45.2±0.9,855S×15742E,h33km,mb5.2/11,Error*
ellipse: s-maj=15.4km s-min=11.7km az=89.7
ISC 03 05:07:44.2±0.2,864S±006×15752E±004,h15km,
h15km±.7km:pP-P,n223,σ0°71/220,mb4.8/44,MS4.8/7,
73C-45D,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**2.53**	**108**	*e*Pn		**Pn**	**05 08 23.2 -1.5**
HNR	**Honiara**	**2.53**	**108**	Pn		**Pn**	**05 08 21.8 -2.9**
	41nm,0.3s,baz=254,slow=4.4,SNR=6.8						
HNR				Sn		**Sn**	**05 08 58.2 +3.0**
	296nm,0.3s,baz=270,slow=17,SNR=5.6						
ARMA	**Armidale**	**22.35**	**193**	*e*P		**P**	**05 12 41.6 -0.1**
	0.3nm,0.7s						
KAKA	**Kakadu**	**24.96**	**258**	*e*P		**P**	**05 13 07.6 +0.2**
	12nm,0.7s,mb4.5						
WB2	**Warramunga Arr**	**25.06**	**241**	*e*P		**P**	**05 13 08.0 -0.2**
WRA	**Warramunga Arr**	**25.07**	**241**	P		**P**	**05 13 06.8 -1.5**
	9.4nm,0.6s,mb4.5,baz=66,slow=9.4,SNR=30						
ASAR	**Alice Springs**	**27.09**	**234**	P		**P**	**05 13 24.9 -1.6**
	1.9nm,0.8s,mb3.7,baz=64,slow=9.9,SNR=9.0						
ASAR				PcP		PcP	05 16 45.5 -2.0
	1.3nm,0.8s,baz=42,slow=2.2,SNR=4.2						
STKA	**Stephens Creek**	**27.45**	**210**	P		**P**	**05 13 29.1 -0.6**
	7.5nm,0.7s,mb4.3,baz=42,slow=13,SNR=12						
FITZ	**Fitzroy Crossi**	**32.36**	**250**	P		**P**	**05 14 13.6 +0.3**
	1.7nm,0.5s,mb4.1,baz=80,slow=8.5,SNR=4.5						
TAU	**Tasmania Unive**	**35.29**	**193**	*e*P		**P**	**05 14 41.7 +3.3**
	63nm,1.4s,mb5.4						
TAU	**Tasmania Unive**	**35.29**	**193**	*e*P		**P**	**05 14 41.7 +3.3**
TAU				pmax		pmax	
	comp=Z,63nm,1.4s,mb5.3						
MJAR	**Matsushiro Arr**	**48.47**	**339**	P		**P**	**05 16 24.0 -2.2**
	comp=Z,3.3nm,0.8s,mb4.4,baz=167,slow=8.2,SNR=4.7						
KSRS	**Korea Array**	**53.57**	**331**	P		**P**	**05 17 03.9 -0.7**
	comp=Z,5.0nm,0.9s,mb4.5,baz=150,slow=9.1,SNR=12						
NJ2	**Nanjing**	**54.77**	**320**	*e*P		**P**	**05 17 14.3 +0.8**
NJ2				AMB		AMB	
	comp=Z,120nm,1.2s,mb5.8						
WHN	**Wuhan**	**56.86**	**315**	⇑P		**P**	**05 17 29.9 +1.4**
WHN				AMB		AMB	
	comp=Z,36nm,0.8s,mb5.5						
MDJ	**Mudanjiang**	**58.70**	**337**	P		**P**	**05 17 41.5 +0.4**
MDJ				AMB		AMB	
	comp=Z,12nm,1.0s,mb4.9						
MDJ				AMB		AMB	
	comp=Z,55nm,5.3s						
CN2	**Changchun**	**59.75**	**334**	*e*P		**P**	**05 17 48.1 -0.3**
CN2				AMB		AMB	
	comp=Z,20nm,1.0s,mb5.1						
CN2				AMB		AMB	
	comp=Z,200nm,4.0s						
CN2				LR		LR	
	comp=N,500nm,20.0s,MS4.8						
CN2				LR		LR	
	comp=E,400nm,20.0s,MS4.8						
GYA	**Guiyang**	**60.43**	**307**	⇑*i*P		**P**	**05 17 55.8 +2.3**
GYA				AP		pP	05 17 59.9 +1.5
GYA				XP		sP	05 18 02.8 +2.5
GYA				PCP		PcP	05 18 40.4 +2.1
GYA				SCP		ScP	05 22 40.0 +0.8
GYA				S		**S**	**05 26 10.0 +1.7**
GYA				SCS		ScS	05 27 43.3 -0.9
GYA				SS		SS	05 30 09.8 +3.2
GYA				AMB		AMB	
	comp=Z,60nm,1.0s,mb5.6						
GYA				AMB		AMB	
	comp=Z,660nm,10.8s						
GYA				LR		LR	
	comp=N,920nm,20.8s,MS5.0						
GYA				LR		LR	
	comp=E,700nm,21.4s,MS5.0						
GYA				LR		LR	
	comp=Z,840nm,22.2s,MS4.8						
BJI	**Beijing**	**61.69**	**325**	P		**P**	**05 18 01.8 +0.1**
BJI				S		**S**	**05 26 26.3 +2.5**
BJI				AMB		AMB	
	comp=Z,5.0nm,0.4s,mb5.0						
BJI				AMB		AMB	
	comp=Z,127nm,5.5s						
BJI				LR		LR	
	comp=N,354nm,12.2s						
BJI				LR		LR	
	comp=E,635nm,7.1s						
BJI				LR		LR	
	comp=Z,498nm,37.8s						
KLR	**Kul'dur**	**61.90**	**341**	*e*P		**P**	**05 17 58.4 -4.5**
XAN	**Xi'an**	**62.62**	**315**	P		**P**	**05 18 06.8 -1.3**
XAN				AP		pP	05 18 12.0 -1.1
XAN				AMB		AMB	
	comp=Z,3.0nm,0.9s,mb4.4						
KMI	**Kunming**	**63.00**	**304**	P		**P**	**05 18 12.4 +1.6**
KMI				AP		pP	05 18 17.3 +1.5
KMI				XP		sP	05 18 19.4 +1.7
KMI				PP		PP	05 20 33.9 +4.3
KMI				S		**S**	**05 26 44.4 +3.4**
KMI				SS		SS	05 30 50.1 +3.2
KMI				AMB		AMB	
	comp=Z,17nm,1.2s,mb5.0						
KMI				AMB		AMB	
	comp=Z,138nm,4.2s						
KMI				LR		LR	
	comp=N,195nm,17.0s,MS4.5						
KMI				LR		LR	
	comp=E,223nm,18.0s,MS4.5						
KMI				LR		LR	
	comp=Z,174nm,42.7s						
KMI	**Kunming**	**63.00**	**304**	P		**P**	**05 18 12.4 +1.6**
	comp=Z,17nm,1.2s,mb5.0						
KMI				pP		pP	05 18 17.3 +1.5
KMI				sP		sP	05 18 19.4 +1.7
KMI				PP		PP	05 20 33.9 +4.3
KMI				S		**S**	**05 26 44.4 +3.4**
KMI				SS		SS	05 30 50.1 +3.2
KMI				LR		LR	
	comp=Z,170nm,42.7s,MS3.9						
KMI	**Kunming**	**63.00**	**304**	P		**P**	**05 18 12.4 +1.6**
KMI				*SP		sP	05 18 19.4 +1.7
KMI							05 20 33.9
KMI				S		**S**	**05 26 44.4 +3.4**
KMI				SS		SS	05 30 50.1 +3.2
KMI				pmax		pmax	
	comp=Z,17nm,1.2s,mb5.0						
KMI				MLR		MLR	
	comp=Z,170nm,42.7s,MS3.9						
CHTO	**Chiang Mai**	**63.86**	**296**	*e*P		**P**	**05 18 17.0 +0.4**
CD2	**Chengdu**	**64.78**	**310**	P		**P**	**05 18 23.3 +0.9**
CD2				AP		pP	05 18 28.1 +0.7
CD2				XP		sP	05 18 30.5 +1.2
CD2				PP		PP	05 20 48.4 +3.3
CD2				S		**S**	**05 27 03.7 +0.9**
CD2				SCS		ScS	05 28 14.0 -2.9
CD2				SS		SS	05 31 16.7 +2.2
CD2				AMB		AMB	
	comp=Z,40nm,0.8s,mb5.5						
CD2				AMB		AMB	
	comp=Z,80nm,6.4s						
HHC	**Hu-ho-hao-te**	**64.89**	**323**	*e*P		**P**	**05 18 24.4 +1.4**
HHC				AP		pP	05 18 29.2 +1.2
HHC				XP		sP	05 18 31.9 +2.1
HHC				PP		PP	05 20 47.9 +1.9
HHC				PCS			05 22 59.2
HHC				S		**S**	**05 27 06.9 +3.0**
HHC				XS		sS	05 27 14.2 +2.1
HHC				SS		SS	05 31 16.7 +0.8
HHC				AMB		AMB	
	comp=Z,18nm,0.4s,mb5.5						
HHC				AMB		AMB	
	comp=Z,402nm,14.1s						
HHC				LR		LR	
	comp=N,287nm,11.8s,MS4.9						
HHC				LR		LR	
	comp=E,460nm,14.2s,MS4.9						
HHC				LR		LR	
	comp=Z,222nm,9.0s						
HIA	**Hailar**	**66.47**	**334**	*e*P		**P**	**05 18 32.7 -0.3**
LZH	**Lanzhou**	**67.23**	**315**	*e*P		**P**	**05 18 39.7 +1.6**
LZH				AP		pP	05 18 44.0 +0.9
LZH				XP		sP	05 18 46.0 +1.0
LZH				PP		PP	05 21 10.2 +3.7
LZH				AMB		AMB	
	comp=Z,39nm,1.5s,mb5.2						
LZH				AMB		AMB	
	comp=Z,170nm,5.7s						
LZH				LR		LR	
	comp=N,462nm,13.5s						
LZH				LR		LR	
	comp=Z,720nm,14.6s,MS5.0						
LZH	**Lanzhou**	**67.23**	**315**	*e*P		**P**	**05 18 39.7 +1.6**
	comp=Z,39nm,1.5s,mb5.2						
LZH				pP		pP	05 18 44.0 +0.9
LZH				sP		sP	05 18 46.0 +1.0
LZH				PP		PP	05 21 10.2 +3.7
LZH				*e*S		S	05 27 33.5 +0.9
LZH				sS		sS	05 27 40.0 -0.9
LZH				SS		SS	05 31 55.0 +2.5
LZH				LR		LR	
	comp=Z,720nm,14.6s,MS5.0						
LZH	**Lanzhou**	**67.23**	**315**	*e*P		**P**	**05 18 39.7 +1.6**
LZH				*SP		sP	05 18 46.0 +1.0
LZH							05 21 10.2
LZH				*e*S		S	05 27 33.5 +0.9
LZH				SS		SS	05 31 55.0 +2.5
LZH				pmax		pmax	
	comp=Z,39nm,1.5s,mb5.2						
LZH				MLR		MLR	
	comp=Z,720nm,14.6s,MS5.0						
VNDA	**Vanda**	**68.89**	**179**	P		**P**	**05 18 47.9 +0.1**
VNDA	**Vanda**	**68.89**	**179**	P		**P**	**05 18 47.9 +0.1**
	comp=Z,1.0nm,0.9s,mb3.7,baz=346,slow=9.3,SNR=4.0						
SBA	**Scott Base**	**69.35**	**178**	P		**P**	**05 18 55.2 +4.5**
	comp=Z,7.8nm,1.3s,mb4.5						
SBA	**Scott Base**	**69.35**	**178**	P		**P**	**05 18 55.2 +4.5**
SBA				pmax		pmax	
	comp=Z,8.0nm,1.3s,mb4.5						
GTA	**Gaotai**	**71.64**	**316**	*e*P		**P**	**05 19 06.1 +0.8**
GTA				AP		pP	05 19 09.7 -0.7
GTA				PP		PP	05 21 49.9 +5.3
GTA				S		S	05 28 29.7 +5.2
GTA				XS		sS	05 28 36.5 +3.7
GTA				SKS			05 29 06.2
GTA				AMB		AMB	
	comp=Z,9.0nm,1.0s,mb4.7						
GTA				AMB		AMB	
	comp=Z,202nm,5.7s						
GTA				LR		LR	
	comp=N,270nm,18.2s,MS4.6						
GTA				LR		LR	
	comp=E,167nm,17.1s,MS4.6						
GTA				LR		LR	
	comp=Z,1μm,16.7s,MS5.2						
SONM	**Songino Array**	**72.07**	**327**	P		**P**	**05 19 07.3 -0.3**
	comp=Z,4.4nm,0.9s,mb4.4,baz=135,slow=5.6,SNR=18						
YAK	**Yakutsk**	**73.70**	**347**	*e*P		**P**	**05 19 17.0 -0.1**
YAK				pmax		pmax	
	comp=Z,24nm,1.0s,mb5.1						
LSA	**Lhasa**	**74.26**	**304**	P		**P**	**05 19 22.1 +1.1**
LSA				AMB		AMB	
	comp=Z,30nm,0.9s,mb5.2						
LSA	**Lhasa**	**74.26**	**304**	*e*P		**P**	**05 19 20.7 -0.3**
	comp=Z,15nm,1.1s,mb4.8						
LSA	**Lhasa**	**74.26**	**304**	*e*P		**P**	**05 19 20.7 -0.3**
LSA				pmax		pmax	
	comp=Z,15nm,1.1s,mb4.8						
BOD	**Bodaibo**	**75.07**	**338**	*e*P		**P**	**05 19 23.9 -1.2**
BOD				pmax		pmax	
	comp=Z,5.0nm,1.2s,mb4.3						
ZAK	**Zakamensk**	**75.21**	**328**	⇑*i*P		**P**	**05 19 26.0 -0.1**
ZAK				pmax		pmax	
	comp=Z,4.0nm,1.2s,mb4.2						
TLY	**Talaya**	**75.75**	**329**	*e*P		**P**	**05 19 30.0 +0.8**
TLY				pmax		pmax	
	comp=Z,4.0nm,0.9s,mb4.3						
BILL	**Bilibino**	**76.74**	**3**	*e*P		**P**	**05 19 33.6 -0.8**
	comp=Z,13nm,1.3s,mb4.7						
BILL	**Bilibino**	**76.74**	**3**	⇓*e*P		**P**	**05 19 33.9 -0.6**
BILL				pmax		pmax	
	comp=Z,11nm,1.0s,mb4.7						
BILL				MLR		MLR	
	comp=Z,700nm,19.0s,MS5.0						
PALK	**Pallekele**	**78.17**	**279**	*e*P		**P**	**05 19 44.2 +0.5**
	comp=Z,16nm,1.0s,mb4.9						
TNA	**Tin City**	**78.28**	**14**	*e*P		**P**	**05 19 42.3 -0.8**
SVW2	**Sparrevohn**	**78.59**	**21**	*e*P		**P**	**05 19 44.7 -0.3**
TTA	**Tatalina**	**79.70**	**20**	*e*P		**P**	**05 19 50.9 0.0**
SLKM	**Skilak Lake**	**80.23**	**23**	*e*P		**P**	**05 19 53.4 -0.4**
WMQ	**Urumqi**	**81.72**	**317**	*e*P		**P**	**05 20 02.1 -0.1**
WMQ				AMB		AMB	
	comp=Z,9.0nm,0.7s,mb4.8						
SML	**Sawmill**	**81.74**	**23**	*e*P		**P**	**05 20 01.3 -0.6**
COLA	**College**	**83.72**	**21**	*e*P		**P**	**05 20 10.7 -1.4**
	comp=Z,34nm,0.9s,mb5.5						
COLA	**College**	**83.72**	**21**	*c i*P		**P**	**05 20 10.5 -1.6**
MAW	**Mawson**	**83.85**	**203**	P		**P**	**05 20 13.1 +0.2**
	comp=Z,9.1nm,1.0s,mb4.8,baz=101,slow=5.0,SNR=5.0						
MENT	**Mentasta**	**84.16**	**23**	*e*P		**P**	**05 20 14.2 -0.2**
EGAK	**Eagle**	**86.08**	**22**	*e*P		**P**	**05 20 24.0 0.0**
MKAR	**Makanchi Array**	**86.28**	**318**	*i* P		**P**	**05 20 25.1 -0.3**
MKAR				pmax		pmax	
	comp=Z,3.0nm,0.7s						
MKAR	**Makanchi Array**	**86.28**	**318**	P		**P**	**05 20 24.4 -1.1**
	comp=Z,2.9nm,0.7s,mb4.6,baz=104,slow=5.6,SNR=22						
ZALV	**Zalesovo Beam**	**86.94**	**326**	P		**P**	**05 20 26.9 -1.5**
	comp=Z,0.5nm,0.5s,mb4.0,baz=133,slow=6.1,SNR=3.3						
ZAL	**Zalesovo**	**86.94**	**326**	P		**P**	**05 20 26.9 -1.6**
PACP	**Pacheco Peak**	**88.19**	**52**	⇓P		**P**	**05 20 35.0 +0.2**
	baz=88						
DLBC	**Dease Lake**	**88.29**	**30**	P		**P**	**05 20 34.7 -0.2**
DLBC	**Dease Lake**	**88.29**	**30**	P		**P**	**05 20 34.7 -0.2**
	baz=281,slow=8.5						
H03A	**Soap Creek Ran**	**88.41**	**45**	⇑P		**P**	**05 20 36.3 +0.5**
	baz=88						
U04C	**Hernandez Rese**	**88.45**	**53**	⇑P		**P**	**05 20 36.6 +0.5**
	baz=88						
M03C	**McCloud**	**88.47**	**48**	⇓P		**P**	**05 20 36.8 +0.7**
	baz=88						
PKD	**Parkfield**	**88.56**	**53**	⇑P		**P**	**05 20 37.1 +0.5**
	baz=88						
ORV	**Oroville**	**88.56**	**50**	⇑P		**P**	**05 20 36.7 +0.1**
	baz=88						
G04A	**Mulino**	**89.10**	**44**	⇑P		**P**	**05 20 38.8 -0.2**
	baz=89						
T06C	**Millerton Lake**	**89.42**	**53**	⇓P		**P**	**05 20 40.3 -0.4**
	baz=89						
BEKR	**Beckwourth**	**89.49**	**50**	⇑P		**P**	**05 20 40.8 -0.1**
	baz=89						
J05A	**Fort Rock**	**89.55**	**46**	⇑P		**P**	**05 20 40.7 -0.4**
	baz=89						
L05A	**Lakeview**	**89.58**	**47**	⇓P		**P**	**05 20 41.5 +0.2**
	baz=89						
KURK	**Kurchatov**	**89.66**	**321**	*e*P		**P**	**05 20 39.6 -1.9**
K05A	**Summer Lake**	**89.68**	**47**	⇑P		**P**	**05 20 42.1 +0.3**
	baz=90						
VES	**Vestal, Richgr**	**89.70**	**54**	⇓P		**P**	**05 20 41.7 -0.3**
	baz=90						
KCC	**Kaiser Creek**	**89.79**	**52**	⇑P		**P**	**05 20 42.8 +0.4**
	baz=90						
CIS	**Catalina Islan**	**89.80**	**56**	⇓P		**P**	**05 20 42.2 -0.4**
	baz=90						
WCN	**Washoe City**	**89.83**	**50**	⇑P		**P**	**05 20 43.0 +0.5**
	baz=90						
H05A	**Madras**	**89.84**	**45**	⇓P		**P**	**05 20 41.9 -0.6**
	baz=90						
E05A	**Randle**	**89.89**	**43**	⇓P		**P**	**05 20 42.2 -0.4**
	baz=90						
HELL	**Mitchell Peak**	**89.90**	**53**	P		**P**	**05 20 43.3 +0.4**
	baz=90,SNR=6.9						
R06C	**Coleville**	**89.92**	**51**	⇓P		**P**	**05 20 43.5 +0.5**
	baz=90						
N06A	**Buffalo Meadow**	**90.06**	**49**	⇓P		**P**	**05 20 44.1 +0.5**
	baz=90						
R07C	**Lee Vining**	**90.14**	**52**	⇑P		**P**	**05 20 44.5 +0.4**
	baz=90						
ISA	**Isabella**	**90.15**	**54**	⇑P		**P**	**05 20 43.6 -0.5**
	baz=90						
K06A	**Valley Falls**	**90.16**	**47**	⇑P		**P**	**05 20 43.8 -0.2**
	baz=90						
MWC	**Mount Wilson**	**90.23**	**56**	*e*P		**P**	**05 20 44.7 +0.1**
J06A	**Christmas Vall**	**90.32**	**46**	⇑P		**P**	**05 20 44.6 -0.2**
	baz=90						
INK	**Inuvik**	**90.38**	**20**	P		**P**	**05 20 43.1 -1.4**
	comp=Z,2.3nm,0.9s,mb4.5,baz=231,slow=5.7,SNR=7.9						
MTUM	**Tungsten Hills**	**90.39**	**52**	*e*P		**P**	**05 20 45.4 +0.2**
EDW2	**Edwards Air Fo**	**90.40**	**55**	⇓P		**P**	**05 20 45.4 0.0**
	baz=90						
E06A	**Yakima**	**90.41**	**43**	⇓P		**P**	**05 20 44.3 -0.8**
	baz=90						
I06A	**Prineville**	**90.41**	**46**	⇑P		**P**	**05 20 45.3 +0.1**
	baz=90						
BFSC	**Mount Baldy St**	**90.56**	**56**	⇓P		**P**	**05 20 45.4 -0.7**
	baz=90						
CWC	**Cottonwood Cre**	**90.60**	**53**	⇑P		**P**	**05 20 46.1 -0.2**
	baz=90						
L07A	**Adell**	**90.67**	**48**	⇑P		**P**	**05 20 46.7 +0.3**
	baz=90						
M07A	**Soldier Meadow**	**90.67**	**48**	⇓P		**P**	**05 20 46.5 +0.1**
	baz=90						
S08C	**White Mtn Res**	**90.72**	**52**	⇓P		**P**	**05 20 46.6 -0.1**
	baz=91						
LRMC	**Laurel Mountai**	**90.75**	**54**	⇑P		**P**	**05 20 47.5 +0.6**
	baz=91						
NVAR	**Mina Array Bea**	**90.78**	**51**	P		**P**	**05 20 46.3 -0.7**
	comp=Z,5.0nm,0.9s,mb4.8,baz=236,slow=4.7,SNR=30						
K07A	**Rock Creek Ran**	**90.86**	**47**	⇑P		**P**	**05 20 47.3 0.0**
	baz=91						
I07A	**Izee**	**90.94**	**46**	⇑P		**P**	**05 20 47.4 -0.2**
	baz=91						
J07A	**Hines**	**90.94**	**46**	⇓P		**P**	**05 20 47.6 -0.1**
	baz=91						
H07A	**Lands Inn, Kim**	**91.00**	**45**	⇑P		**P**	**05 20 47.2 -0.6**
	baz=91						
MPMC	**Manual Prospec**	**91.01**	**54**	⇑P		**P**	**05 20 48.4 +0.3**
	baz=91,SNR=6.2						
G07A	**Ruggs Ranch, H**	**91.05**	**44**	⇓P		**P**	**05 20 47.2 -0.9**
	baz=91						
Q08A	**Gabbs**	**91.15**	**

M09A	Marrel Ranch,	91.95	49	⇓P	P	05 20 53.1 +0.7
baz=92						
K09A	Rome	91.97	47	⇓P	P	05 20 51.9 -0.5
baz=92						
U10A	Ash Meadows, A	91.99	54	⇑P	P	05 20 52.6 -0.1
baz=92						
A08A	Turner Farm, O	92.02	41	⇑P	P	05 20 52.1 -0.4
baz=92						
S10A	Tonopah Range,	92.02	52	P	P	05 20 53.6 +0.8
baz=92,SNR=13						
J09A	Fry Pan Ranch,	92.06	47	P	P	05 20 52.6 -0.2
baz=92,SNR=8.7						
TPNV	Topopah Spring	92.14	53	eP	P	05 20 53.5 +0.2
comp=Z,11nm,1.0s,mb5.2						
TPNV	Topopah Spring	92.14	53	eP	P	05 20 53.6 +0.2
TPNV				pmax	pmax	
comp=Z,11nm,1.0s,mb5.1						
TPNV	Topopah Spring	92.14	53	⇓P	P	05 20 53.5 +0.2
baz=92,SNR=11						
I09A	Lost Marbles R	92.17	46	⇓P	P	05 20 52.9 -0.5
baz=92						
GMRC	Granite Mounta	92.27	55	⇓P	P	05 20 54.2 +0.1
baz=92,SNR=5.6						
R10A	Warm Springs	92.31	52	⇑P	P	05 20 54.7 +0.6
baz=92						
Q10A	Clear Creek Ra	92.32	51	⇑P	P	05 20 54.3 +0.1
baz=92,SNR=8.9						
E09A	Wood Farm, Sta	92.33	43	⇓P	P	05 20 53.9 -0.1
baz=92						
H09A	Durkee	92.34	45	⇓P	P	05 20 54.2 +0.1
baz=92						
P10A	Eureka	92.40	50	⇑P	P	05 20 54.9 +0.4
baz=92						
IRM	Iron Mountain	92.60	56	⇑P	P	05 20 56.0 +0.5
baz=92						
K10A	MacKenzie Ranc	92.60	47	P	P	05 20 56.0 +0.6
baz=92,SNR=6.0						
V11A	Goodsprings	92.62	54	⇑P	P	05 20 56.2 +0.6
baz=92						
BMO	Blue Mountains	92.63	45	eP	P	05 20 55.3 -0.1
comp=Z,12nm,1.8s,mb5.0						
BMO	Blue Mountains	92.63	45	eP	P	05 20 55.3 -0.1
BMO				pmax	pmax	
comp=Z,12nm,1.8s,mb5.0						
M10A	I.L. Ranch, Tu	92.64	49	⇑P	P	05 20 56.0 +0.4
baz=92						
S11A	Rachel	92.64	53	⇑P	P	05 20 55.5 -0.2
baz=92						
LDFC	Landfair	92.77	55	eP	P	05 20 56.4 +0.1
J10A	Berg Farm, Mel	92.78	47	⇓P	P	05 20 56.1 0.0
baz=93						
L10A	Juniper Basin	92.78	48	⇑P	P	05 20 56.3 +0.1
baz=93,SNR=7.0						
G10A	Bishop Farm, J	92.83	45	P	P	05 20 55.8 -0.5
baz=93,SNR=5.7						
F10A	Beach Ranch, E	92.86	44	⇓P	P	05 20 55.6 -0.9
baz=93						
R11A	Troy Canyon, C	92.88	52	P	P	05 20 57.5 +0.7
baz=93,SNR=11						
Q11A	Duckwater	92.90	51	P	P	05 20 57.6 +0.8
baz=93,SNR=16						
H10A	Noah's Angus R	92.98	46	⇑P	P	05 20 56.3 -0.7
baz=93						
T11A	Corn Creek, Al	93.00	53	P	P	05 20 58.2 +0.9
baz=93,SNR=7.6						
D10A	Wagner Farm, O	93.01	43	⇑P	P	05 20 56.4 -0.8
baz=93						
O11A	Cowboy Ranch,	93.09	50	P	P	05 20 58.7 +1.1
baz=93,SNR=7.5						
M11A	Holland Ranch,	93.18	49	⇑P	P	05 20 58.6 +0.6
baz=93						
K11A	Parker Ranch,	93.21	47	P	P	05 20 58.8 +0.7
baz=93,SNR=6.9						
NEW	Newport	93.30	42	P	P	05 20 56.8 -1.6
comp=Z,0.9nm,0.4s,mb4.5,baz=129,slow=6.5,SNR=3.0						
S12A	Delamar Landin	93.34	53	⇑P	P	05 20 59.2 +0.3
baz=93						
G11A	Walters Elk Ra	93.44	45	⇓P	P	05 20 58.1 -1.1
baz=93						
MFID	Camas Ranch	93.45	47	⇑P	P	05 20 58.4 -0.9
baz=93						
H11A	Donnelly	93.51	45	⇑P	P	05 20 58.8 -0.7
baz=93						
Q12A	Willow Creek R	93.56	51	⇑P	P	05 21 00.3 +0.5
baz=93,SNR=7.3						
P12A	McGill	93.56	51	⇓P	P	05 21 00.3 +0.5
baz=93,SNR=7.1						
R12A	Pony Springs,	93.63	52	⇑P	P	05 21 00.4 +0.2
baz=94,SNR=8.7						
N12A	Clover Valley,	93.66	49	⇓P	P	05 21 00.8 +0.5
baz=94						
W13A	Hualapai Mount	93.76	55	⇓P	P	05 21 00.5 -0.4
baz=94						
O12A	Currie	93.80	50	⇑P	P	05 21 01.2 +0.2
baz=94,SNR=5.9						
B11A	Sandpoint	93.83	42	⇓P	P	05 21 00.7 -0.1
baz=94						
M12A	Wells	93.83	49	⇑P	P	05 21 01.2 +0.2
baz=94						
L12A	House Creek Ra	93.86	48	⇑P	P	05 21 01.3 +0.2
baz=94,SNR=6.4						
J12A	Stokes Ranch,	93.95	47	⇓P	P	05 21 01.4 -0.2
baz=94,SNR=10						
T13A	Saint George	94.00	53	⇑P	P	05 21 02.2 +0.3
baz=94						
K12A	Draper Farm, C	94.01	48	⇑P	P	05 21 01.7 -0.2
baz=94,SNR=6.0						
S13A	Holt Ranch, En	94.12	53	P	P	05 21 03.0 +0.5
baz=94,SNR=6.1						
F12A	Elk City	94.19	45	⇓P	P	05 21 02.5 -0.1
baz=94						
P13A	Bates Ranch, G	94.25	51	⇑P	P	05 21 03.0 0.0
baz=94						
D12A	Red Ives Fores	94.31	43	⇑P	P	05 21 03.0 -0.1
baz=94						
O13A	Hicks Ranch, I	94.36	50	⇑P	P	05 21 04.2 +0.7
baz=94						
M13A	Montello	94.38	49	⇓P	P	05 21 03.5 -0.1
baz=94						
W14A	Seligman	94.43	55	⇑P	P	05 21 04.5 +0.6
baz=94						
HLID	Hailey	94.49	47	eP	P	05 21 04.2 +0.2
comp=Z,26nm,2.4s,mb5.2						
HLID	Hailey	94.49	47	⇑P	P	05 21 04.3 +0.3
baz=94						
U14A	Mt Trumbull	94.50	54	⇑P	P	05 21 04.9 +0.6
baz=94						
K13A	Stover Farm, H	94.61	48	⇓P	P	05 21 05.3 +0.7
baz=94						
T14A	Hurricane	94.66	53	⇓P	P	05 21 05.2 +0.2
baz=94						
S14A	Cedar City	94.69	53	⇑P	P	05 21 05.4 +0.4
baz=94						
H13A	Challis	94.74	46	⇑P	P	05 21 05.0 -0.2
baz=95						
I13A	Wildhorse Cree	94.75	46	⇑P	P	05 21 05.2 -0.1
baz=95						
G13A	Cobalt	94.82	45	⇓P	P	05 21 04.7 -0.8
baz=95						
F13A	Darby	94.84	45	⇑P	P	05 21 04.6 -1.0
baz=95						
M14A	Sheep Mountain	95.01	49	⇑P	P	05 21 06.5 0.0
baz=95						
N14A	Grayback Hills	95.05	50	⇑P	P	05 21 06.4 -0.3
baz=95						
K14A	Jones Ranch, D	95.26	48	⇓P	P	05 21 08.1 +0.5
baz=95						
G14A	Jackson	95.38	45	⇓P	P	05 21 07.9 -0.2
baz=95						
MSU	Marysvale	95.55	52	ePKKPbc	PKKPbc	05 38 04.1 +2.7
JLU	Jordanelle	96.34	50	ePKKPbc	PKKPbc	05 38 06.5 +7.1
DAU	Daniels Canyon	96.46	50	eP	P	05 21 12.9 -0.2
YKA	Yellowknife Ar	96.62	28	P	P	05 21 11.8 -1.5
comp=Z,1.8nm,0.8s,mb4.6,baz=264,slow=4.6,SNR=23						
YKW3	Yellowknife Ar	96.62	28	eP	P	05 21 13.1 -0.2
HRY	Holter Researc	96.67	44	ePKKPbc	PKKPbc	05 37 50.2 -8.5
BOZ	Bozeman (W)	96.70	45	eP	P	05 21 14.1 0.0
comp=Z,24nm,2.5s,mb5.2						
BOZ	Bozeman (W)	96.70	45	eP	P	05 21 14.1 0.0
BOZ				pmax	pmax	
comp=Z,24nm,2.5s,mb5.2						
BOZ	Bozeman (W)	96.70	45	⇑P	P	05 21 13.8 -0.2
baz=96						
SRU	San Rafael	96.90	52	eP	P	05 21 15.2 +0.1
PDAR	Pinedale Array	97.94	48	P	P	05 21 18.8 -1.0
comp=Z,1.2nm,0.9s,mb4.4,baz=244,slow=1.9,SNR=9.1						
JCT	Junction City	105.23	61	ePKPdf	PKiKP	05 26 06.8 0.0
LPAZ	La Paz	128.48	119	PKP	PKPdf	05 26 51.3 -0.2
comp=Z,1.5nm,0.9s,baz=299,slow=5.5,SNR=6.2						
GERES	GERESS Array B	129.74	330	PKP	PKPdf	05 26 51.6 -1.4
comp=Z,0.3nm,0.4s,baz=33,slow=10.0,SNR=4.0						
MVO	Moncorvo	144.83	340	ePKP	PKPdf	05 27 19.6 -1.3
ESDC	Sonseca Array	144.94	335	PKP	PKPdf	05 27 18.4 -2.7
comp=Z,0.3nm,0.3s,baz=18,slow=3.4,SNR=7.1						
BDFB	Brasilia	145.05	134	PKP	PKPdf	05 27 19.8 -2.2
comp=Z,5.9nm,0.9s,baz=214,slow=2.1,SNR=12						
MTE	Manteigas	145.69	340	ePKP	PKPdf	05 27 22.9 +0.5
PMAFR	Mafra	147.57	341	ePKP	PKPdf	05 27 26.9 +1.3

*IDC **03** 05:13:34.2±0.9, 861S×15749E, h0km, mb4.1/8, mb1 4.3/9, mb1mx4.2/15, mbtmp4.2/9, ML4.3/1, Error ellipse: s-maj=27.1km s-min=21.1km az=131.0*
*BJI **03** 05:13:35.6, 860S×15760E, h10km, mB5.1, mb5.0*
*NEIC **03** 05:13:35.7±0.4, 865S×15755E, h10km, mb4.8/4, Error ellipse: s-maj=15.0km s-min=10.0km az=145.0*
*ISCJB **03** 05:13:38.2±0.5, 857S±009×15737E±007, h33km, mb4.3/12, Error ellipse: s-maj=13.6km s-min=9.5km az=3.7*

ISC 03 05:13:40.2±0.5, 856S±010×15738E±007, h35km, n18, σ0s86/19, mb4.3/12, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	2.68	109		P	Pn	05 14 15.9	-5.0
55nm,0.3s,baz=249,slow=2.4,SNR=7.8								
HNR					Sn	Sn	05 14 52.6	+0.5
181nm,0.3s,baz=267,slow=19,SNR=9.0								
WB2	Warramunga Arr	24.99	241	eP	P	P	05 19 01.7	+0.9
WRA	Warramunga Arr	25.00	241	P	P	P	05 19 00.9	0.0
4.3nm,0.9s,mb4.0,baz=74,slow=11,SNR=7.6								
ASAR	Alice Springs	27.03	233	P	P	P	05 19 17.9	-1.4
1.8nm,0.9s,mb3.6,baz=65,slow=9.1,SNR=7.9								
STKA	Stephens Creek	27.45	210	eP	P	P	05 19 22.7	-0.2
4.4nm,0.7s,mb4.1								
STKA	Stephens Creek	27.45	210	P	P	P	05 19 23.1	+0.1
4.4nm,0.7s,mb4.1,baz=36,slow=12,SNR=9.2								
KSRS	Korea Array	53.43	331	P	P	P	05 22 56.9	+0.2
0.6nm,0.4s,mb3.9,baz=72,slow=3.7,SNR=4.0								
LZH	Lanzhou	67.08	315	eP	P	P	05 24 32.5	+2.3
LZH				AP	pP	pP	05 24 41.0	0.0
LZH				XP	sP	sP	05 24 44.2	-0.8
LZH				AMB	AMB			
comp=Z,30nm,1.4s,mb5.1								
LZH				AMB	AMB			
comp=Z,121nm,5.0s								
SONM	Songino Array	71.92	327	P	P	P	05 25 00.5	+0.7
comp=Z,1.3nm,0.9s,mb3.9,baz=129,slow=5.4,SNR=7.5								
SVW2	Sparrevohn	78.56	21	eP	P	P	05 25 37.9	+0.1
TTA	Tatalina	79.66	20	eP	P	P	05 25 44.0	+0.3
comp=Z,10nm,1.0s,mb4.7								
IMA2	Indian Mountai	82.52	18	eP	P	P	05 25 58.1	-0.8
MCK	McKinley	82.63	21	eP	P	P	05 25 58.5	-0.9
comp=Z,15nm,1.0s,mb5.0								
COLA	College	83.69	21	eP	P	P	05 26 03.7	-1.3
comp=Z,7.7nm,0.9s,mb4.8								
MKAR	Makanchi Array	86.13	318	P	P	P	05 26 16.9	-0.7
comp=Z,0.7nm,0.6s,mb4.0,baz=96,slow=5.4,SNR=6.5								
DAWY	Dawson	86.38	23	eP	P	P	05 26 19.0	+0.6
NVAR	Mina Array Bea	90.83	51	P	P	P	05 26 40.7	+0.5
comp=Z,1.2nm,0.9s,mb4.2,baz=236,slow=4.7,SNR=8.8								
YKA	Yellowknife Ar	96.60	28	P	P	P	05 27 05.4	-0.7
comp=Z,0.6nm,0.8s,mb4.1,baz=262,slow=4.7,SNR=10								

IDC 03 05:18:50.9±8.8, 623S×15056E, h0km, mb3.9/4, mb1 4.1/4, mb1mx3.7/14, mbtmp4.0/4, MS3.9/1, Ms1 3.9/1, ms1mx3.1/19, Error ellipse: s-maj=137.2km s-min=68.6km az=38.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	20.83	228	P	P	P	05 23 34.8	+0.4
3.3nm,0.5s,baz=52,slow=11,SNR=8.6								
ASAR	Alice Springs	23.60	221	P	P	P	05 24 03.0	-0.9
0.9nm,0.4s,baz=59,slow=9.4,SNR=5.1								
STKA	Stephens Creek	26.85	197	P	P	P	05 24 33.2	-0.1
2.0nm,0.7s,baz=33,slow=7.8,SNR=3.4								
FITZ	Fitzroy Crossi	27.02	242	P	P	P	05 24 35.5	+0.5
1.6nm,0.7s,baz=43,slow=10,SNR=5.1								
FITZ					LR	LR	05 35 17.9	
comp=Z,229nm,19.4s,baz=174,slow=36								

*IDC **03** 05:19:16.2±1.2, 721S×15568E, h0km, mb4.3/10, mb1 4.4/10, mb1mx4.3/15, mbtmp4.3/10, MS4.7/2, Ms1 4.6/2, ms1mx3.8/18, Error ellipse: s-maj=39.3km s-min=19.8km az=109.0*
*NEIC **03** 05:19:17.4±0.6, 722S×15573E, h10km, mb4.6/3, Error ellipse: s-maj=22.2km s-min=11.4km az=114.0*
*ISCJB **03** 05:19:19.8±1.2, 72S±0.1×1556E±0.2, h33km, mb4.2/13, MS4.7/2, Error ellipse: s-maj=37.4km s-min=14.1km az=23.4*

ISC 03 05:19:21.6±1.2, 72S±01×1556E±02, h35km, n19, σ0s74/16, mb4.2/13, MS4.7/2, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	24.23	236	P	P	P	05 24 35.1	-0.3
5.8nm,1.0s,mb4.0,baz=61,slow=9.6,SNR=6.6								
ASAR	Alice Springs	26.52	230	P	P	P	05 24 55.6	-0.5
1.3nm,0.9s,mb3.5,baz=56,slow=9.6,SNR=4.3								
STKA	Stephens Creek	27.83	206	P	P	P	05 25 08.6	+0.9
1.6nm,0.6s,mb3.8,baz=39,slow=14,SNR=3.6								
FITZ	Fitzroy Crossi	31.16	247	P	P	P	05 25 36.6	-0.8
4.8nm,0.8s,mb4.4,baz=78,slow=11,SNR=6.8								
RAR	Rarotonga	45.24	113	LR	LR		05 41 08.5	
comp=Z,814nm,20.3s,MS4.7,baz=92,slow=29								
MJAR	Matsushiro Arr	46.49	341	P	P	P	05 27 44.9	-0.5
MJAR	Matsushiro Arr	46.49	341	P	P	P	05 27 44.9	-0.5
2.9nm,0.6s,mb4.4,baz=158,slow=7.3,SNR=6.5								
KSRS	Korea Array	51.42	332	P	P	P	05 28 22.6	-0.7
1.1nm,0.6s,mb4.0,baz=135,slow=37,SNR=3.9								
CHTO	Chiang Mai	61.57	296	eP	P	P	05 29 36.8	+0.9
6.9nm,1.3s,mb4.6								
SONM	Songino Array	69.86	327	P	P	P	05 30 30.4	+1.6
3.1nm,0.6s,mb4.4,baz=135,slow=5.9,SNR=18								
BILL	Bilibino	75.44	4	eP	P	P	05 31 01.4	-0.1
4.3nm,0.7s,mb4.5								
MKAR	Makanchi Array	83.98	319	P	P	P	05 31 49.2	+0.8
MKAR	Makanchi Array	83.98	319	P	P	P	05 31 49.2	+0.8
8.1nm,0.8s,mb4.9,baz=101,slow=6.3,SNR=46								
ZAA0	Zalesovo Array	84.71	326	eP	P	P	05 31 51.0	-0.8
ZALV	Zalesovo Beam	84.71	326	P	P	P	05 31 51.6	-0.2
5.5nm,0.7s,mb4.8,baz=112,slow=5.5,SNR=27								
TKM2	Tokmak 2	87.62	314	eP	P	P	05 32 06.9	+0.4
1.6nm,0.6s,mb4.4								
YKA	Yellowknife Ar	96.22	28	P	P	P	05 32 45.3	-0.5
0.2nm,0.7s,mb3.7,baz=273,slow=4.3,SNR=6.0								
YKA					LR	LR	06 11 46.1	
comp=Z,317nm,20.4s,MS4.8,baz=225,slow=33								
GERES	GERESS Array B	127.56	329	PKP	PKPdf		05 38 23.1	0.0
0.6nm,0.6s,baz=0.0,slow=1.5,SNR=5.9								
BDFB	Brasilia	147.38	134	PKPbc	PKPbc		05 39 02.0	-0.6
1.7nm,0.6s,baz=144,slow=14,SNR=4.3								

*IDC **03** 05:21:15.6±0.4, 877S×15721E, h0km, mb4.8/23, mb1 4.8/25, mb1mx4.8/26, mbtmp4.8/25, ML4.0/2, MS4.7/11, Ms1 4.7/11, ms1mx4.5/16, Error ellipse: s-maj=13.5km s-min=9.8km az=121.0*
*BJI **03** 05:21:16.1, 848S×15765E, h10km, mB5.6, mb5.4, Ms5.1, Msz4.8*
*ISCJB **03** 05:21:16.6±0.1, 873S±004×15727E±003, h10km, mb5.2/79, MS4.8/25, Error ellipse: s-maj=5.3km s-min=3.8km az=174.7*
*NEIC **03** 05:21:17.5±0.2, 878S×15740E, h10km, mb5.4/31, Error ellipse: s-maj=6.7km s-min=5.0km az=125.0*
*GCMT **03** 05:21:17.5±0.2, 889S×15748E, h12km, MW5.3/66, Moment Tensor Solution. s20, c23; s66, c100; Duration: 1s1 Moment tensor: Scale 10^17Nm; M_{rr}0.53±.03; $M_{\theta\theta}$0.06±.03; $M_{\phi\phi}$-0.59±.03; $M_{r\theta}$0.37±.10; $M_{\theta\phi}$0.55±.02; $M_{\phi r}$-0.64±.08; Best double couple: $M_0$1.03100×10^17 NP1:ϕ_s332.00000°, δ22.00000°, λ92.00000°. NP2: ϕ_s150.00000°, δ68.00000°, λ89.00000°. Principal axes: T 0.8470, Plg67.0000°, Azm58.0000°; N 0.3690, Plg1.0000°, Azm150.0000°; P -1.2150, Plg23.0000°, Azm240.0000°;*

nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.
*MOS **03** 05:21:20.2±1.3, 871S×15720E, h33km, mb5.5/16, MS4.8/6 Error ellipse: s-maj=10.7km s-min=8.1km az=73.7*

ISC 03 05:21:17.3±1.3, 875S±004×15733E±003, h5km±7km, h17km±1.6km: pP-P, n417, σ0s85/390, mb5.2/79, MS4.8/25, 75C-78D, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	2.67	105	ePn	P	Pn	05 21 54.4	-6.6
HNR				eSn	Sn	Sn	05 22 36.1	+2.3
HNR	Honiara	2.67	105	Pn	P	Pn	05 21 54.8	-6.1
167nm,0.3s,baz=281,slow=7.5,SNR=9.9								
HNR				Sn	Sn	Sn	05 22 34.8	+1.1
893nm,0.3s,baz=273,slow=22,SNR=13								
HNR				LR	LR		05 23 03.0	
comp=Z,12μm,18.8s,baz=147,slow=39								
CTA	Charters Tower	15.55	222	eP	P	Pn	05 25 01.8	+4.5
18nm,0.6s								
CTA	Charters Tower	15.55	222	Pn	P	Pn	05 24 56.7	-0.6
0.5nm,0.3s,baz=64,slow=11,SNR=3.2								
CTAO	Charters Tower	15.55	222	ePn	P	Pn	05 24 57.0	-0.3
278nm,1.7s								
CTAO	Charters Tower	15.55	222	eP	P	Pn	05 24 57.0	-0.3
CTAO				pmax	pmax			
comp=Z,278nm,1.7s								
DZM	Mont Dzumac	15.88	148	Pn	Pn	Pn	05 25 01.4	-0.2
comp=Z,0.4nm,0.3s,baz=12,slow=9.2,SNR=9.0								
EIDS	Eidsvold	17.56	199	ePn	Pn	Pn	05 25 24.7	+1.7
comp=Z,80nm,1.4s								
ARMA	Armidale	22.20	193	eP	P	P	05 26 14.2	-0.4
KAKA	Kakadu	24.76	259	⇓iP	P	P	05 26 41.2	+1.1
comp=Z,39nm,0.6s,mb5.1								
WB2	Warramunga Arr	24.85	241	eP	P	P	05 26 41.1	+0.2
WB2				eS	S	S	05 31 05.1	+0.7
WRA	Warramunga Arr	24.86	241	P	P	P	05 26 39.3	-1.7
WRA							05 30 16.3	
WRA				S	S	S	05 31 03.6	-1.0
WRA	Warramunga Arr	24.86	241	P	P	P	05 26 39.3	-1.7
comp=Z,22nm,0.6s,mb4.9,baz=68,slow=9.7,SNR=68								
WRA				PcP	PcP	PcP	05 30 16.3	-0.9
comp=Z,3.9nm,0.7s,baz=65,slow=2.8,SNR=5.8								
WRA				S	S	S	05 31 03.6	-1.0
comp=Z,1.0nm,0.9s,baz=77,slow=3.8,SNR=1.8								
WRA				LR	LR		05 35 54.8	
comp=Z,5μm,20.3s,MS5.0,baz=65,slow=36								
GUMO	Guam	25.41	331	LR	LR		05 34 15.7	
comp=Z,1μm,20.9s,MS4.5,baz=299,slow=31								
ASAR	Alice Springs	26.88	234	P	P	P	05 26 57.4	-1.9
comp=Z,4.4nm,0.9s,baz=59,slow=10,SNR=11								
ASAR				PcP	PcP		05 30 21.6	-0.1
comp=Z,4.2nm,0.9s,baz=58,slow=3.8,SNR=5.9								
STKA	Stephens Creek	27.26	210	eP	P	P	05 27 02.0	-0.6
comp=Z,23nm,0.8s,mb4.8								
STKA				eS	S	S	05 31 46.9	+4.5
STKA	Stephens Creek	27.26	210	P	P	P	05 27 01.3	-1.3
comp=Z,17nm,0.6s,mb4.8,baz=38,slow=11,SNR=29								
STKA				PcP	PcP	PcP	05 30 22.1	-0.5
comp=Z,6.7nm,0.9s,baz=29,slow=5.9,SNR=3.1								
STKA				S	S	S	05 31 44.2	+1.8
comp=Z,1.2nm,0.7s,baz=284,slow=22,SNR=1.6								
STKA				LR	LR		05 37 12.6	
comp=Z,2μm,19.0s,MS4.8,baz=28,slow=35								
CNB	Canberra Magne	27.43	194	eP	P	P	05 27 07.0	+3.0
comp=Z,33nm,1.1s,mb4.8								
FITZ	Fitzroy Crossi	32.15	250	eP	P	P	05 27 45.8	-0.3
comp=Z,32nm,1.2s,mb5.0								
FITZ				eS	S	S	05 32 57.7	-1.7
FITZ	Fitzroy Crossi	32.15	250	P	P	P	05 27 44.1	-2.0
comp=Z,1.4nm,0.5s,baz=53,slow=5.1,SNR=6.1								
FITZ				S	S	S	05 32 55.5	-3.9
comp=Z,2.7nm,1.1s,baz=129,slow=19,SNR=1.5								
BATI	Kupang	33.23	265	P	P	P	05 27 51.9	-3.7
comp=Z,19nm,0.6s,mb5.2,baz=27,slow=14,SNR=2.7								
BATI				LR	LR		05 42 48.4	
comp=Z,4μm,19.2s,MS5.2,baz=108,slow=39								
URZ	Urewera	34.36	152	P	P	P	05 28 03.8	-1.3
comp=Z,6.3nm,0.9s,mb4.5,baz=12,slow=6.5,SNR=3.1								
FORT	Forrest	35.00	227	eP	P	P	05 28 10.3	-0.5
comp=Z,20nm,0.7s,mb5.2								
RPZ	Rata Peaks	36.83	163	P	P	P	05 28 24.5	-1.8
comp=Z,5.2nm,0.7s,mb4.5,baz=325,slow=7.4,SNR=4.1								
KAPI	Kappang	37.48	273	P	P	P	05 28 33.5	+1.3
comp=Z,182nm,1.6s,mb5.7,SNR=5.4								
MBWA	Marble Bar	38.25	247	eP	P	P	05 28 40.9	+2.2
CBIJ	Chichi jima	38.54	338	LR	LR		05 42 36.4	
comp=Z,623nm,18.7s,MS4.5,baz=114,slow=33								
KLBR	Kellerberrin	43.20	233	eP	P	P	05 29 18.6	-0.8
comp=Z,37nm,1.4s,mb4.9								
KKM	Kota Kinabalu	43.54	288	eP	P	P	05 29 25.3	+2.9
NWAO	Narrogin (SRO)	44.13	231	eP	P	P	05 29 25.4	-1.5
comp=Z,2μm,4.3s								
NWAO	Narrogin (SRO)	44.13	231	eP	P	P	05 29 25.4	-1.5
NWAO				pmax	pmax			
comp=Z,2μm,4.3s								
NWAO	Narrogin (SRO)	44.13	231	P	P	P	05 29 26.0	-0.9
comp=Z,6.4nm,0.8s,mb4.4,baz=76,slow=8.3,SNR=4.6								
MUN	Mundaring	44.56	233	eP	P	P	05 29 36.6	+6.2
JHJ	Hachijo jima 2	44.86	339	LR	LR		05 45 08.8	
comp=Z,586nm,19.2s,MS4.5,baz=145,slow=32								
JOW	Kunigami	45.23	322	P	P	P	05 29 35.4	-0.3
comp=Z,58nm,0.8s,mb5.5,baz=122,slow=10,SNR=5.5								
YHNB	Yeheng	48.30	314	eP	P	P	05 30 01.4	+1.6
MJAR	Matsushiro Arr	48.50	339	P	P	P	05 29 58.2	-3.0
comp=Z,7.7nm,0.8s,mb4.8,baz=165,slow=8.2,SNR=11								
MAT	Matsushiro	48.51	339	P	P	P	05 30 00.1	-1.1
MAT				S	S	S	05 36 56.0	-7.0
JNU	Nakatsue	48.66	330	P	P	P	05 30 02.7	+0.3
comp=Z,47nm,0.

WHN				S	S	05 39 00.3	+3.6
WHN				AMB	AMB		
comp=Z,118nm,1.2s,mb5.8							
WHN				LR	LR		
comp=Z,858nm,18.6s,MS4.9							
YSS	**Yuzh-Sakhalins**	**56.96**	**348**	*i* P	**P**	**05 31 04.3**	**+0.8**
YSS	**Yuzh-Sakhalins**	**56.96**	**348**	*eP*	**P**	**05 31 03.0**	**-0.5**
YSS				*e*		05 31 18.8	
KULM	**Kulim**	**58.20**	**282**	*eP*	**P**	**05 31 13.8**	**+0.7**
TIA	**Tai'an**	**58.56**	**322**	⇓P	**P**	**05 31 15.4**	**+0.4**
MDJ	**Mudanjiang**	**58.73**	**337**	P	**P**	**05 31 16.5**	**+0.5**
MDJ				AP	pP	05 31 19.8	+2.1
MDJ				XP	sP	05 31 21.9	+3.6
MDJ				PCP	PcP	05 32 06.4	+0.6
MDJ				PP	PP	05 33 25.9	-0.2
MDJ				SCP	ScP	05 36 06.1	-1.1
MDJ				PCS	PcS	05 36 07.5	+0.1
MDJ				S	S	05 39 21.0	-0.5
MDJ				SCS	ScS	05 41 06.2	-0.5
MDJ				AMB	AMB		
comp=Z,29nm,1.2s,mb5.2							
MDJ				AMB	AMB		
comp=Z,240nm,7.0s							
MDJ				LR	LR		
comp=E,336nm,17.3s,MS4.8							
MDJ				LR	LR		
comp=N,467nm,14.3s,MS4.8							
MDJ				LR	LR		
comp=Z,432nm,15.5s,MS4.7							
MDJ	**Mudanjiang**	**58.73**	**337**	*eP*	**P**	**05 31 16.6**	**+0.6**
comp=Z,34nm,1.1s,mb5.3							
PSI	**Prapat**	**59.34**	**278**	P	**P**	**05 31 19.5**	**-1.4**
comp=Z,4.6nm,0.6s,mb4.7,baz=110,slow=3.7,SNR=10							
CN2	**Changchun**	**59.77**	**334**	*eP*	**P**	**05 31 23.1**	**-0.1**
CN2				PCP	PcP	05 32 06.4	-3.6
CN2				*eS*	**S**	**05 39 39.7**	**+4.8**
CN2				SS	SS	05 43 26.7	-4.5
CN2				AMB	AMB		
comp=Z,40nm,1.3s,mb5.3							
CN2				AMB	AMB		
comp=Z,200nm,5.0s							
CN2				LR	LR		
comp=N,800nm,21.0s,MS4.9							
CN2				LR	LR		
comp=E,600nm,21.0s,MS4.9							
CN2				LR	LR		
comp=Z,500nm,21.0s,MS4.6							
GYA	**Guiyang**	**60.35**	**307**	⇑*iP*	**P**	**05 31 30.0**	**+2.4**
GYA				AP	pP	05 31 34.6	+5.4
GYA				XP	sP	05 31 37.8	+8.0
GYA				PCP	PcP	05 32 15.7	+2.9
GYA				PP	PP	05 33 45.8	+5.0
GYA				SCP	ScP	05 36 15.2	+0.3
GYA				S	S	**05 39 44.2**	**+1.1**
GYA				SCS	ScS	05 41 17.6	-1.9
GYA				SS	SS	05 43 42.9	+1.9
GYA				AMB	AMB		
comp=Z,90nm,1.0s,mb5.8							
GYA				AMB	AMB		
comp=Z,12μm,12.8s							
PET	**Petropavlovsk**	**61.54**	**1**	*eP*	**P**	**05 31 37.5**	**+2.3**
PET				*eS*	**S**	**05 39 55.2**	**-2.1**
PET				pmax	pmax		
comp=Z,300nm,17.2s							
PET				MLR	MLR		
comp=Z,600nm,17.0s,MS4.8							
TAOE	**Nuku Hiva Isla**	**61.72**	**95**	*e*LR	LR	05 49 38.2	
comp=Z,29μm,27.1s							
KLR	**Kul'dur**	**61.94**	**341**	*eP*	**P**	**05 31 32.2**	**-5.7**
KLR				*eS*	**S**	**05 40 00.0**	**-2.5**
KLR				pmax	pmax		
comp=Z,57nm,1.6s,mb5.5							
XAN	**Xi'an**	**62.57**	**316**	P	**P**	**05 31 41.1**	**-1.4**
XAN				AP	pP	05 31 47.4	+3.3
XAN				AMB	AMB		
comp=Z,7.0nm,1.0s,mb4.8							
XAN				LR	LR		
comp=N,220nm,12.0s,MS4.7							
XAN				LR	LR		
comp=E,250nm,14.0s,MS4.7							
XAN				LR	LR		
comp=Z,383nm,17.2s,MS4.6							
KMI	**Kunming**	**62.91**	**304**	P	**P**	**05 31 47.1**	**+2.2**
KMI				AP	pP	05 31 51.2	+4.6
KMI				XP	sP	05 31 52.8	+5.6
KMI				PP	PP	05 34 07.6	+4.2
KMI				S	S	**05 40 17.8**	**+2.2**
KMI				XS	sS	05 40 21.6	+3.3
KMI				SS	SS	05 44 23.4	+2.3
KMI				AMB	AMB		
comp=Z,377nm,3.5s							
KMI				LR	LR		
comp=N,336nm,16.7s,MS4.8							
KMI				LR	LR		
comp=E,487nm,18.8s,MS4.8							
KMI				LR	LR		
comp=Z,477nm,17.0s,MS4.7							
KMI	**Kunming**	**62.91**	**304**	P	**P**	**05 31 47.1**	**+2.2**
comp=Z,0.4nm,3.5s							
KMI				pP	pP	05 31 51.2	+4.6
KMI				sP	sP	05 31 52.8	+5.6
KMI				PP	PP	05 34 07.6	+4.2
KMI				PPP		05 35 39.2	
KMI				S	S	**05 40 17.8**	**+2.2**
KMI				sS	sS	05 40 21.6	+3.3
KMI				SS	SS	05 44 23.4	+2.3
KMI				SSS		05 47 11.8	
KMI				LR	LR		
comp=Z,480nm,17.0s,MS4.7							
KMI	**Kunming**	**62.91**	**304**	P	**P**	**05 31 47.1**	**+2.2**
KMI				*SP	sP	05 31 52.8	+5.6
KMI						05 34 07.6	
KMI				PPP		05 35 39.2	
KMI				S	S	**05 40 17.8**	**+2.2**
KMI				*SS	sS	05 40 21.6	+3.3
KMI				SS	SS	05 44 23.4	+2.3
KMI				MLR	MLR		
comp=Z,480nm,17.0s,MS4.7							
CHTO	**Chiang Mai**	**63.74**	**296**	*eP*	**P**	**05 31 52.0**	**+1.4**
CD2	**Chengdu**	**64.71**	**310**	P	**P**	**05 31 58.1**	**+1.4**
CD2				AP	pP	05 32 02.9	+4.6
CD2				XP	sP	05 32 05.9	+7.0
CD2				PP	PP	05 34 22.6	+3.5
CD2				PCS		05 36 34.0	
CD2				S	S	**05 40 36.8**	**-1.0**
CD2				XS	sS	05 40 44.6	+4.1
CD2				SCS	ScS	05 41 48.4	-3.9
CD2				SS	SS	05 44 49.9	+0.9
CD2				AMB	AMB		
comp=Z,130nm,1.0s,mb5.9							
CD2				AMB	AMB		
comp=Z,540nm,5.8s							
CD2				LR	LR		
comp=N,540nm,18.0s,MS4.9							
CD2				LR	LR		
comp=E,560nm,18.0s,MS4.9							
CD2				LR	LR		
comp=Z,520nm,13.6s,MS4.9							
HHC	**Hu-ho-hao-te**	**64.87**	**323**	*eP*	**P**	**05 31 59.0**	**+1.5**
HHC				AP	pP	05 32 03.3	+4.1
HHC				XP	sP	05 32 06.1	+6.3
HHC				PP	PP	05 34 25.2	+4.8
HHC				SCP		05 36 32.1	
HHC				PCS		05 36 33.3	
HHC				S	S	**05 40 45.4**	**+6.0**
HHC				XS	sS	05 40 46.7	+4.6
HHC				SCS	ScS	05 41 50.2	-3.0
HHC				SS	SS	05 44 51.7	+0.5
HHC				AMB	AMB		
comp=Z,19nm,0.3s,mb5.6							
HHC				AMB	AMB		
comp=Z,411nm,7.3s							
HHC				LR	LR		
comp=N,382nm,15.3s,MS4.9							
HHC				LR	LR		
comp=E,489nm,14.9s,MS4.9							
HHC				LR	LR		
comp=Z,489nm,17.1s,MS4.8							
BTO	**Baotou**	**65.65**	**322**	*eP*	**P**	**05 32 03.9**	**+1.3**
RKT	**Rikitea**	**66.15**	**111**	*e*LR	LR	05 52 01.7	
comp=Z,647nm,32.8s							
HIA	**Hailar**	**66.49**	**334**	*eP*	**P**	**05 32 08.0**	**+0.2**
comp=Z,30nm,1.1s,mb5.2							
HIA	**Hailar**	**66.49**	**334**	*eP*	**P**	**05 32 08.0**	**+0.2**
HIA				pmax	pmax		
comp=Z,30nm,1.1s							
LZH	**Lanzhou**	**67.18**	**315**	⇑P	**P**	**05 32 14.5**	**+2.0**
LZH				AP	pP	05 32 18.4	+4.3
LZH				XP	sP	05 32 20.6	+5.8
LZH				PP	PP	05 34 44.5	+3.8
LZH				S	S	05 41 10.3	+2.5
LZH				XS	sS	05 41 15.0	+4.5
LZH				SS	SS	05 45 25.1	-2.3
LZH				AMB	AMB		
comp=Z,181nm,1.5s,mb5.9							
LZH				AMB	AMB		
comp=Z,350nm,4.0s							
LZH				LR	LR		
comp=N,632nm,13.5s							
LZH				LR	LR		
comp=Z,1μm,14.4s,MS5.2							
LZH	**Lanzhou**	**67.18**	**315**	⇑P	**P**	**05 32 14.5**	**+2.0**
comp=Z,181nm,1.5s,mb5.9							
LZH				pP	pP	05 32 18.4	+4.3
LZH				sP	sP	05 32 20.6	+5.8
LZH				PP	PP	05 34 44.5	+3.8
LZH				S	S	05 41 10.3	+2.5
LZH				sS	sS	05 41 15.0	+4.5
LZH				SS	SS	05 45 25.1	-2.3
LZH				LR	LR		
comp=Z,1μm,14.4s,MS5.2							
LZH	**Lanzhou**	**67.18**	**315**	⇑P	**P**	**05 32 14.5**	**+2.0**
LZH				*SP	sP	05 32 20.6	+5.8
LZH						05 34 44.5	
LZH				S	S	05 41 10.3	+2.5
LZH				SS	SS	05 45 25.1	-2.3
LZH				pmax	pmax		
comp=Z,181nm,1.5s,mb5.9							
LZH				MLR	MLR		
comp=Z,1μm,14.4s,MS5.2							
VNDA	**Vanda**	**68.78**	**179**	P	**P**	**05 32 20.6**	**-1.3**
comp=Z,5.6nm,1.1s,mb4.4,baz=341,slow=6.5,SNR=17							
SBA	**Scott Base**	**69.25**	**178**	*eP*	**P**	**05 32 27.8**	**+3.0**
CIT	**Chita**	**71.20**	**333**	*eP*	**P**	**05 32 38.3**	**+1.2**
SEY	**Seymchan**	**71.57**	**358**	⇑*eP*	**P**	**05 32 38.1**	**-1.0**
SONM	**Songino Array**	**72.06**	**327**	P	**P**	**05 32 41.9**	**-0.4**
comp=Z,13nm,0.9s,mb4.8,baz=134,slow=5.8,SNR=45							
SONM				LR	LR	06 01 08.3	
comp=Z,398nm,19.8s,MS4.7,baz=245,slow=33							
SHL	**Shillong**	**72.17**	**300**	*eP*	**P**	**05 32 43.0**	**-0.5**
SHL				*eS*	S	05 42 09.0	+2.1
AGT	**Agartala**	**72.18**	**298**	*eP*	**P**	**05 32 42.0**	**-1.6**
YAK	**Yakutsk**	**73.77**	**347**	*eP*	**P**	**05 32 52.2**	**0.0**
comp=Z,51nm,0.8s,mb5.5							
YAK	**Yakutsk**	**73.77**	**347**	*eP*	**P**	**05 32 51.3**	**-0.9**
YAK				*i*		05 33 05.0	
YAK				*i* *PP	pP	05 33 08.1	+14
YAK				*eS*	S	05 42 23.3	-0.3
YAK				*i* *SS	sS	05 42 45.0	+19
YAK				*i*		05 42 58.5	
YAK				pmax	pmax		
comp=N,13nm,1.4s							
YAK				pmax	pmax		
comp=E,5.0nm,1.1s							
YAK				pmax	pmax		
comp=Z,43nm,0.9s,mb5.4							
YAK				smax			
comp=N,241nm,5.8s							
YAK				smax			
comp=E,615nm,8.1s							
LSA	**Lhasa**	**74.17**	**304**	P	**P**	**05 32 55.4**	**+0.1**
LSA				AMB	AMB		
comp=Z,20nm,1.0s,mb5.0							
LSA	**Lhasa**	**74.17**	**304**	*eP*	**P**	**05 32 56.0**	**+0.7**
comp=Z,88nm,1.5s,mb5.5							
LSA	**Lhasa**	**74.17**	**304**	*eP*	**P**	**05 32 56.0**	**+0.7**
LSA				pmax	pmax		
comp=Z,88nm,1.5s,mb5.5							
BOD	**Bodaibo**	**75.10**	**338**	*eP*	**P**	**05 32 58.4**	**-1.6**
BOD				pmax	pmax		
comp=Z,14nm,1.8s,mb4.6							
ZAK	**Zakamensk**	**75.20**	**328**	*eP*	**P**	**05 32 59.9**	**-0.9**
ZAK				*e*		05 43 06.1	
ZAK				pmax	pmax		
comp=Z,13nm,1.2s,mb4.7							
TLY	**Talaya**	**75.75**	**329**	P	**P**	**05 33 04.6**	**+0.7**
comp=Z,77nm,1.4s,mb5.4,SNR=5.5							
TLY	**Talaya**	**75.75**	**329**	*eP*	**P**	**05 33 03.4**	**-0.5**
TLY	**Talaya**	**75.75**	**329**	*eP*	**P**	**05 33 04.2**	**+0.3**
TLY				*eS*	S	05 42 46.6	+0.4
TLY				*e*SS	SS	05 47 37.0	-1.1
TLY				pmax	pmax		
comp=Z,26nm,1.4s,mb5.0							
TLY				MLR	MLR		
comp=Z,322nm,15.0s,MS4.8							
BOK	**Bokaro**	**76.85**	**297**	*eP*	**P**	**05 33 11.2**	**+0.4**
BOK				AMb	AMB	05 33 19.2	
comp=Z,47nm,1.7s,mb5.1							
BILL	**Bilibino**	**76.86**	**3**	⇑*iP*	**P**	**05 33 09.6**	**-0.3**
BILL	**Bilibino**	**76.86**	**3**	⇓*eP*	**P**	**05 33 09.5**	**-0.4**
BILL				*eS*	S	05 43 14.1	+16
BILL				pmax	pmax		
comp=Z,53nm,2.5s,mb5.0							
BILL				MLR	MLR		
comp=Z,400nm,18.0s,MS4.8							
MOY	**Mondy**	**77.11**	**328**	*eP*	**P**	**05 33 12.2**	**+0.6**
MOY				pmax	pmax		
comp=Z,42nm,2.1s,mb5.0							
VIS	**Vishakhapatnam**	**77.64**	**290**	*eP*	**P**	**05 33 18.0**	**+2.6**
VIS				AMb	AMB	05 33 20.9	
comp=Z,56nm,1.4s,mb5.3							
KDAK	**Kodiak Island**	**77.75**	**25**	*eP*	**P**	**05 33 14.2**	**-0.9**
comp=Z,28nm,1.1s,mb5.1							
PALK	**Pallekele**	**78.01**	**279**	P	**P**	**05 33 18.4**	**+0.9**
comp=Z,172nm,1.0s,mb5.9,SNR=5.3							
PALK	**Pallekele**	**78.01**	**279**	*eP*	**P**	**05 33 18.0**	**+0.5**
comp=Z,36nm,1.1s,mb5.2							
TNA	**Tin City**	**78.44**	**14**	*eP*	**P**	**05 33 18.3**	**-0.4**
KKN	**Kakani**	**78.47**	**301**	*eP*	**P**	**05 33 19.5**	**-0.3**
comp=Z,131nm,1.4s,mb5.7							
SVW2	**Sparrevohn**	**78.76**	**21**	*eP*	**P**	**05 33 18.5**	**-2.1**
GKN	**Gorkha**	**79.08**	**301**	*eP*	**P**	**05 33 21.7**	**-1.4**
comp=Z,316nm,1.6s,mb6.0							
BLSP	**Bilaspur**	**79.77**	**294**	*eP*	**P**	**05 33 27.0**	**0.0**
BLSP				AMb	AMB	05 33 34.2	
comp=Z,65nm,1.1s,mb5.5							
TTA	**Tatalina**	**79.86**	**20**	*eP*	**P**	**05 33 26.4**	**-0.1**
KOLN	**Koldanda**	**79.90**	**300**	*eP*	**P**	**05 33 26.5**	**-1.1**
comp=Z,66nm,0.9s,mb5.6							
DANN	**Dangsing**	**79.92**	**301**	*eP*	**P**	**05 33 24.5**	**-3.2**
comp=Z,0.5nm,0.5s							
SLKM	**Skilak Lake**	**80.40**	**23**	*eP*	**P**	**05 33 28.6**	**-1.0**
PMR	**Palmer**	**81.48**	**23**	*eP*	**P**	**05 33 33.6**	**-1.7**
comp=Z,212nm,2.4s,mb5.7							
PMR	**Palmer**	**81.48**	**23**	*eP*	**P**	**05 33 33.6**	**-1.7**
PMR				pmax	pmax		
comp=Z,212nm,2.4s,mb5.7							
WMQ	**Urumqi**	**81.68**	**317**	P	**P**	**05 33 37.5**	**+0.8**
WMQ				AP	pP	05 33 42.5	+4.1
WMQ				XP	sP	05 33 45.0	+6.0
WMQ				PP	PP	05 36 46.0	+2.4
WMQ				S	S	05 43 48.0	-2.0
WMQ				XS	sS	05 43 55.0	+2.3
WMQ				AMB	AMB		
comp=Z,19nm,1.0s,mb5.0							
WMQ				AMB	AMB		
comp=Z,385nm,4.3s							
WMQ				LR	LR		
comp=N,408nm,24.4s,MS4.8							
WMQ				LR	LR		
comp=E,398nm,27.2s,MS4.8							
WMQ				LR	LR		
comp=Z,488nm,25.0s,MS4.8							
KOD	**Kodaikanal**	**81.69**	**282**	*eP*	**P**	**05 33 37.4**	**0.0**
KOD				AMb	AMB	05 33 43.8	
comp=Z,36nm,1.3s,mb5.2							
SML	**Sawmill**	**81.91**	**23**	*eP*	**P**	**05 33 37.2**	**-0.3**
HYB	**Hyderabad**	**82.03**	**289**	*eP*	**P**	**05 33 40.0**	**+0.9**
HYB	**Hyderabad**	**82.03**	**289**	⇓*iP*	**P**	**05 33 40.0**	**+0.9**
EYAK	**Cordova Ski Ar**	**82.23**	**25**	*eP*	**P**	**05 33 38.8**	**-0.4**
comp=Z,50nm,1.5s,mb5.2							
TIXI	**Tiksi**	**82.42**	**351**	*eP*	**P**	**05 33 39.4**	**-0.6**
comp=Z,65nm,1.7s,mb5.3							
TIXI	**Tiksi**	**82.42**	**351**	⇓*iP*	**P**	**05 33 38.7**	**-1.3**
TIXI				*eS*	S	05 43 56.9	+0.3
TIXI				pmax	pmax		
comp=Z,22nm,1.6s,mb4.8							
TIXI				MLR	MLR		
comp=Z,383nm,19.0s,MS4.8							
IMA2	**Indian Mountai**	**82.72**	**18**	*eP*	**P**	**05 33 40.5**	**-1.2**
MCK	**McKinley**	**82.83**	**21**	*eP*	**P**	**05 33 41.7**	**-0.6**
comp=Z,64nm,0.8s,mb5.7							
MCK	**McKinley**	**82.83**	**21**	*eP*	**P**	**05 33 41.7**	**-0.6**
MCK				pmax	pmax		
comp=Z,31nm,0.8s,mb5.4							
MAW	**Mawson**	**83.67**	**203**	P	**P**	**05 33 46.3**	**-0.4**
comp=Z,5.9nm,0.8s,mb4.8,baz=79,slow=8.4,SNR=5.3							
COLA	**College**	**83.89**	**21**	⇑*iP*	**P**	**05 33 46.1**	**-1.6**
COLA	**College**	**83.89**	**21**	*c iP*	**P**	**05 33 46.0**	**-1.7**
LATR	**Latur**	**84.08**	**290**	*eP*	**P**	**05 33 49.9**	**+0.2**
LATR				AMb	AMB	05 33 54.7	
comp=Z,66nm,2.1s,mb5.4							
AKL	**Akola**	**84.11**	**292**	*eP*	**P**	**05 33 49.8**	**-0.1**
AKL				AMb	AMB	05 33 53.5	
comp=Z,233nm,0.9s,mb6.3							
BHPL	**Bhopal**	**84.26**	**294**	*eP*	**P**	**05 33 49.6**	**-1.0**
BHPL				AMb	AMB	05 33 57.4	
comp=Z,55nm,1.5s,mb5.5							
NDI	**New Delhi**	**85.59**	**300**	*eP*	**P**	**05 33 55.0**	**-2.2**
KAD	**Karad**	**86.10**	**288**	*eP*	**P**	**05 33 59.0**	**-0.9**
KAD				AMb	AMB	05 34 06.4	
comp=Z,57nm,1.7s,mb5.5							
SMLA	**Simla**	**86.15**	**302**	*eP*	**P**	**05 33 60.0**	**0.0**
SMLA				AMb	AMB	05 34 04.2	
comp=Z,56nm,0.8s,mb5.8							
MKAR	**Makanchi Array**	**86.24**	**318**	*i* P	**P**	**05 33 58.2**	**-1.8**
MKAR				pmax	pmax		
comp=Z,12nm,0.8s							
MKAR	**Makanchi Array**	**86.24**	**318**	P	**P**	**05 33 58.3**	**-1.7**
comp=Z,12nm,0.8s,mb5.2,baz=96,slow=5.6,SNR=39							
MKAR				LR	LR	06 13 54.5	
comp=Z,224nm,18.8s,MS4.6,baz=115,slow=37							
EGAK	**Eagle**	**86.25**	**22**	*eP*	**P**	**05 33 59.9**	**+0.3**
SKAG	**Skagway**	**86.30**	**28**	*eP*	**P**	**05 33 59.0**	**-1.0**
comp=Z,88nm,1.6s,mb5.7							
DAWY	**Dawson**	**86.58**	**23**	*eP*	**P**	**05 34 01.1**	**-0.2**
POO	**Poona**	**86.63**	**289**	*eP*	**P**	**05 34 02.0**	**-0.5**
ZAA0	**Zalesovo Array**	**86.92**	**326**	*eP*	**P**	**05 34 00.9**	**-2.2**
ZALV	**Zalesovo Beam**	**86.92**	**326**	P	**P**	**05 34 02.4**	**-0.8**
comp=Z,3.1nm,0.8s,mb4.6,baz=106,slow=5.2,SNR=13							
ZAL	**Zalesovo**	**86.93**	**326**	P	**P**	**05 34 02.4**	**-0.8**
THN	**Thein Dam**	**87.64**	**303**	*eP*	**P**	**05 34 06.6**	**-0.5**
BNLO	**Ben Lomond (Sa**	**87.73**	**52**	⇓P	**P**	**05 34 07.5**	**+0.1**
baz=88							
O02C	**Red Bluff**	**87.94**	**49**	⇑P	**P**	**05 34 08.9**	**+0.5**
baz=88							
HAST	**Hastings Reser**	**88.06**	**53**	⇓P	**P**	**05 34 09.3**	**+0.3**
baz=88							
NVS	**Novosibirsk**	**88.08**	**326**	*eP*	**P**	**05 34 06.5**	**-2.2**
NVS				*eS*	S	05 44 36.2	-17
NVS				pmax	pmax		
comp=N,12nm,1.4s							
NVS				pmax	pmax		
comp=E,17nm,1.4s							
NVS				pmax	pmax		
comp=Z,29nm,1.4s,mb5.3							
NVS				smax			
comp=E,43nm,2.3s							
WENL	**Wente Brothers**	**88.16**	**52**	⇑P	**P**	**05 34 09.8**	**+0.3**
baz=88							
M02C	**Callahan**	**88.17**	**48**	⇓P	**P**	**05 34 09.8**	**+0.4**
baz=88							
WDC	**Whiskeytown Da**	**88.22**	**49**	⇑P	**P**	**05 34 10.4**	**+0.7**
baz=88							
V03C	**Hunter Liggett**	**88.23**	**53**	⇑P	**P**	**05 34 10.4**	**+0.5**
baz=88							
YBH	**Yreka Blue Hor**	**88.35**	**48**	*eP*	**P**	**05 34 12.2**	**+1.9**
YBH	**Yreka Blue Hor**	**88.35**	**48**	⇑P	**P**	**05 34 10.8**	**+0.5**
baz=88							
PACP	**Pacheco Peak**	**88.40**	**52**	P	**P**	**05 34 11.1**	**+0.5**
baz=88,SNR=7.8							
S04C	**Ingram Canyon,**	**88.47**	**52**	⇑P	**P**	**05 34 10.9**	**-0.1**
baz=88							
DLBC	**Dease Lake**	**88.48**	**30**	P	**P**	**05 34 10.3**	**-0.2**
DLBC	**Dease Lake**	**88.48**	**30**	P	**P**	**05 34 10.3**	**-0.2**
baz=218,slow=19							
J03A	**Ideyld Park**	**88.55**	**46**	⇑P	**P**	**05 34 11.2**	**+0.1**
baz=88							
H03A	**Soap Creek Ran**	**88.62**	**45**	⇓P	**P**	**05 34 12.0**	**+0.5**
baz=88							
U04C	**Hernandez Rese**	**88.66**	**53**	⇓P	**P**	**05 34 12.1**	**+0.1**
baz=88							
M03C	**McCloud**	**88.68**	**48**	⇑P	**P**	**05 34 12.3**	**+0.4**
baz=89							
OHCM	**Honcut**	**88.74**	**50**	*eP*	**P**	**05 34 11.6**	**-0.6**
ORV	**Oroville**	**88.77**	**50**	⇓P	**P**	**05 34 12.1**	**-0.3**
baz=89							
KSH	**Kashi**	**88.90**	**310**	P	**P**	**05 34 15.1**	**+2.1**
KSH				AP	pP	05 34 19.6	+5.0
KSH				XP	sP	05 34 21.6	+6.4
KSH				PP	PP	05 37 46.5	+4.0
KSH				SKS		05 44 44.7	
KSH				S	S	05 45 00.6	-1.0
KSH				XS	sS	05 45 08.7	+4.3
KSH				SS	SS	05 50 56.6	+2.3
KSH				AMB	AMB		
comp=Z,137nm,1.0s,mb6.2							
KSH				LR	LR		
comp=N,542nm,6.0s							
KSH				LR	LR		
comp=E,607nm,5.0s							
KSH				LR	LR		
comp=Z,851nm,5.7s							
I04A	**Tendick Farm,**	**89.03**	**46**	⇓P	**P**	**05 34 13.5**	**+0.1**
baz=89							
SNCC	**San Nicolas Is**	**89.06**	**56**	⇓P	**P**	**05 34 13.9**	**+0.1**
baz=89							
HATC	**Hat Creek Radi**	**89.07**	**49**	⇓P	**P**	**05 34 13.8**	**+0.1**
baz=89							
SMMC	**Simmler**	**89.07**	**54**	⇑P	**P**	**05 34 15.0**	**+1.1**
baz=89							
PKM	**Peak Mountain**	**89.14**	**55**	⇑P	**P**	**05 34 14.6**	**+0.4**
baz=89							
LAVA	**Lava Cap Winer**	**89.18**	**51**	⇓P	**P**	**05 34 14.0**	**-0.3**
baz=89							
S05C	**Merced**	**89.22**	**52**	P	**P**	**05 34 14.8**	**+0.3**
baz=89,SNR=7.2							
O04C	**Chester**	**89.24**	**49**	⇑P	**P**	**05 34 15.0**	**+0.5**
baz=89							
ULHL	**Ulahol**	**89.28**	**313**	P	**P**	**05 34 16.0**	**+1.3**
SNR=10							
CMB	**Columbia Colle**	**89.31**	**51**	⇓P	**P**	**05 34 15.1**	**+0.2**
baz=89							
P05C	**Yuba Gap, Truc**	**89.39**	**50**	⇑P	**P**	**05 34 16.0**	**+0.7**
baz=89							
M05C	**Lookout**	**89.42**	**48**	⇑P	**P**	**05 34 15.8**	**+0.5**
baz=89							
GNW	**Green Mountain**	**89.61**	**42**	*eP*	**P**	**05 34 15.9**	**-0.1**
KURK	**Kurchatov**	**89.64**	**321**	P	**P**	**05 34 15.4**	**-0.7**
comp=Z,36nm,1.4s,mb5.5,SNR=5.3							
KURK	**Kurchatov**	**89.64**	**321**	*eP*	**P**	**05 34 15.7**	**-0.5**
comp=Z,101nm,2.6s,mb5.7							
KURK	**Kurchatov**	**89.64**	**321**	*c iP*	**P**	**05 34 15.0**	**-1.1**
T06C	**Millerton Lake**	**89.64**	**53**	P	**P**	**05 34 16.4**	**-0.1**
baz=90,SNR=20							
R05C	**Kirkwood Meado**	**89.68**	**51**	⇑P	**P**	**05 34 16.9**	**+0.3**
baz=90							
BEKR	**Beckwourth**	**89.70**	**50**	P	**P**	**05 34 17.3**	**+0.6**
baz=90,SNR=11							
J05A	**Fort Rock**	**89.76**	**46**	P	**P**	**05 34 16.9**	**+0.1**

HELL	Mitchell Peak	90.11	53	P		P	05 34 19.0 +0.3
	baz=90,SNR=17						
R06C	Coleville	90.13	51	P		P	05 34 19.6 +0.9
	baz=90,SNR=11						
O06A	Flanigan	90.16	49	⇑P		P	05 34 19.3 +0.5
	baz=90,SNR=10						
N06A	Buffalo Meadow	90.27	49	P		P	05 34 19.8 +0.5
	baz=90,SNR=9.3						
R07C	Lee Vining	90.36	52	P		P	05 34 20.4 +0.6
	baz=90,SNR=5.8						
ISA	Isabella	90.36	54	eP		P	05 34 19.6 -0.3
ISA	Isabella	90.36	54	P		P	05 34 20.0 +0.1
	baz=90,SNR=7.9						
K06A	Valley Falls	90.36	47	⇑P		P	05 34 19.1 -0.6
	baz=90						
MWC	Mount Wilson	90.44	56	eP		P	05 34 20.1 -0.2
J06A	Christmas Vall	90.52	46	P		P	05 34 20.5 0.0
	baz=90,SNR=8.3						
UCH	Uchtor	90.54	313	eP		P	05 34 21.6 +1.0
	comp=Z,47nm,1.8s,mb5.5						
UCH	Uchtor	90.54	313	P		P	05 34 21.9 +1.3
	SNR=6.8						
INK	Inuvik	90.55	20	eP		P	05 34 20.1 +0.1
FRU	Bishkek	90.58	313	eP		P	05 34 24.0 +3.3
MTUM	Tungsten Hills	90.60	52	eP		P	05 34 20.6 -0.4
EDW2	Edwards Air Fo	90.61	55	P		P	05 34 21.4 +0.4
	baz=90,SNR=13						
E06A	Yakima	90.62	43	⇓P		P	05 34 20.4 -0.4
	baz=90						
I06A	Prineville	90.62	46	P		P	05 34 21.2 +0.4
	baz=90,SNR=6.5						
AAK	Ala-Archa	90.63	313	P		P	05 34 15.0 -6.0
	SNR=5.3						
H06A	Lindquist Farm	90.69	45	⇓P		P	05 34 20.9 -0.3
	baz=91						
BFSC	Mount Baldy St	90.77	56	P		P	05 34 22.2 +0.4
	baz=91,SNR=9.8						
TIN	Tinemaha	90.81	53	⇑P		P	05 34 22.2 +0.2
	baz=91						
CWC	Cottonwood Cre	90.82	53	P		P	05 34 22.7 +0.7
	baz=91,SNR=10						
L07A	Adell	90.87	48	P		P	05 34 23.0 +0.9
	baz=91,SNR=6.3						
M07A	Soldier Meadow	90.88	48	⇓P		P	05 34 22.8 +0.6
	baz=91						
S08C	White Mtn Res	90.93	52	P		P	05 34 23.3 +0.8
	baz=91,SNR=16						
LRMC	Laurel Mountai	90.96	54	⇓P		P	05 34 23.3 +0.6
	baz=91,SNR=12						
NVAR	Mina Array Bea	90.99	51	P		P	05 34 22.3 -0.5
NVAR	Mina Array Bea	90.99	51	P		P	05 34 22.3 -0.5
	comp=Z,13nm,0.9s,mb5.3,baz=234,slow=4.7,SNR=53						
109C	Camp Elliot, M	91.00	57	⇓P		P	05 34 22.8 -0.1
	baz=91						
K07A	Rock Creek Ran	91.07	47	P		P	05 34 23.1 0.0
	baz=91,SNR=13						
AML	Almayashu	91.12	312	eP		P	05 34 24.2 +1.0
	comp=Z,12nm,1.1s,mb5.2						
AML	Almayashu	91.12	312	P		P	05 34 24.9 +1.6
	SNR=6.6						
I07A	Izee	91.15	46	P		P	05 34 23.6 +0.2
	baz=91,SNR=7.2						
J07A	Hines	91.15	46	⇓P		P	05 34 23.5 +0.1
	baz=91						
EKS2	Erkin-Say	91.16	313	eP		P	05 34 22.0 -1.4
	comp=Z,7.9nm,1.0s,mb5.0						
H07A	Lands Inn, Kim	91.20	45	⇓P		P	05 34 23.2 -0.3
	baz=91						
MPMC	Manual Prospec	91.22	54	P		P	05 34 24.4 +0.5
	baz=91,SNR=12						
G07A	Ruggs Ranch, H	91.26	45	⇑P		P	05 34 23.3 -0.6
	baz=91						
Q08A	Gabbs	91.36	51	P		P	05 34 24.8 +0.4
	baz=91,SNR=23						
BBRC	Big Bear Sol-O	91.38	56	⇓P		P	05 34 24.8 +0.2
	baz=91						
P08A	Dixie Valley	91.39	50	⇓P		P	05 34 24.7 +0.2
	baz=91						
SYO	Syowa Base	91.42	199	⇓eP		P	05 34 24.0 -0.2
SYO	Syowa Base	91.42	199	⇓ePcP		PcP	05 34 25.8 +0.7
C07A	Waterville	91.46	42	⇓P		P	05 34 23.6 -1.1
	baz=91						
WVOR	Wild Horse Val	91.46	47	eP		P	05 34 24.0 -0.8
	comp=Z,15nm,1.2s,mb5.2						
WVOR	Wild Horse Val	91.46	47	eP		P	05 34 24.0 -0.9
WVOR				pmax		pmax	
	comp=Z,15nm,1.2s,mb5.2						
GRAC	Grapevine Rang	91.47	53	⇓P		P	05 34 25.4 +0.4
	baz=91,SNR=19						
M08A	Happy Creek Ra	91.48	48	⇑P		P	05 34 25.6 +0.7
	baz=91						
A07A	Ashnola River,	91.52	41	⇓P		P	05 34 24.2 -0.7
	baz=91						
N08A	GE Springer Mi	91.54	49	⇓P		P	05 34 24.9 -0.3
	baz=91,SNR=6.8						
HAWA	Hanford	91.57	43	eP		P	05 34 24.8 -0.4
	comp=Z,56nm,2.4s,mb5.5						
B07A	Winthrop	91.58	41	⇑P		P	05 34 25.0 -0.3
	baz=92						
K08A	Mann Creek Ran	91.63	47	⇑P		P	05 34 25.2 -0.4
	baz=92						
L08A	Fields	91.63	48	⇓P		P	05 34 26.0 +0.3
	baz=92,SNR=11						
GSC	Goldstone	91.64	55	eP		P	05 34 25.5 -0.4
GSC	Goldstone	91.64	55	⇓P		P	05 34 26.1 +0.2
	baz=92						
PFO	Pinyon Flat Ob	91.65	56	⇑P		P	05 34 25.6 -0.3
	baz=92						
S09A	Goldfield	91.71	52	⇓P		P	05 34 26.0 -0.1
	baz=92,SNR=38						
J08A	Circle Bar Ran	91.75	47	P		P	05 34 26.0 -0.1
	baz=92,SNR=14						
G08A	Pilot Rock	91.75	45	⇓P		P	05 34 25.5 -0.6
	baz=92						
I08A	Drewsey	91.78	46	⇑P		P	05 34 25.8 -0.5
	baz=92						
FURC	Furnace Creek,	91.79	54	⇑P		P	05 34 26.1 -0.4
	baz=92,SNR=11						
H08A	Prairie City	91.82	45	⇓P		P	05 34 26.2 -0.2
	baz=92						
E08A	Dider Farm, El	91.91	43	⇑P		P	05 34 26.5 -0.3
	baz=92						
R09A	Tonopah	91.92	52	P		P	05 34 27.7 +0.6
	baz=92,SNR=24						
Q09A	Carvers	91.93	51	⇓P		P	05 34 27.6 +0.5
	baz=92						
HEC	Hector,Ludlow	91.95	55	P		P	05 34 27.7 +0.4
	baz=92,SNR=8.1						
N09A	Rock Creek Ran	92.01	49	⇑P		P	05 34 27.6 +0.2
	baz=92						
B08A	Colville Reser	92.07	42	⇓P		P	05 34 27.0 -0.5
	baz=92						
P09A	Austin	92.08	50	⇓P		P	05 34 27.9 +0.2
	baz=92						
L09A	Wilkinson Ranc	92.10	48	P		P	05 34 28.6 +0.7
	baz=92,SNR=7.1						
D08A	Wollman Farm,	92.10	43	⇓P		P	05 34 26.8 -0.9
	baz=92						
O09A	Fish Creek Ran	92.14	50	⇓P		P	05 34 28.6 +0.5
	baz=92						
M09A	Marrel Ranch,	92.16	49	⇓P		P	05 34 28.3 +0.2
	baz=92						
SHOC	Shoshone	92.16	54	⇑P		P	05 34 28.3 +0.1
	baz=92						
K09A	Rome	92.17	47	P		P	05 34 28.4 +0.3
	baz=92,SNR=5.8						
U10A	Ash Meadows, A	92.20	54	⇑P		P	05 34 28.8 +0.3
	baz=92,SNR=8.7						
A08A	Turner Farm, O	92.22	41	⇑P		P	05 34 27.8 -0.4
	baz=92						
S10A	Tonopah Range,	92.24	52	P		P	05 34 29.2 +0.6
	baz=92,SNR=28						
J09A	Fry Pan Ranch,	92.26	47	P		P	05 34 28.9 +0.3
	baz=92,SNR=13						
TPNV	Topopah Spring	92.35	53	eP		P	05 34 28.4 -0.7
	comp=Z,27nm,1.0s,mb5.5						
TPNV	Topopah Spring	92.35	53	eP		P	05 34 28.4 -0.7
TPNV				pmax		pmax	
	comp=Z,27nm,1.0s,mb5.5						
TPNV	Topopah Spring	92.35	53	P		P	05 34 29.5 +0.3
	baz=92,SNR=25						
TUQ	Turquoise Mtn.	92.38	55	P		P	05 34 29.8 +0.6
	baz=92,SNR=8.3						
I09A	Lost Marbles R	92.38	46	⇑P		P	05 34 28.8 -0.3
	baz=92						
GMRC	Granite Mounta	92.49	55	P		P	05 34 30.4 +0.6
	baz=92,SNR=13						
R10A	Warm Springs	92.52	52	P		P	05 34 30.9 +1.0
	baz=92,SNR=11						
Q10A	Clear Creek Ra	92.53	51	P		P	05 34 30.1 +0.2
	baz=92,SNR=16						
E09A	Wood Farm, Sta	92.53	43	⇓P		P	05 34 29.1 -0.6
	baz=92						
H09A	Durkee	92.55	45	⇓P		P	05 34 29.7 -0.1
	baz=92						
P10A	Eureka	92.61	50	⇑P		P	05 34 30.2 0.0
	baz=92						
A09A	Danville	92.67	41	⇓P		P	05 34 30.6 +0.3
	baz=93						
O10A	Cortez Mining,	92.69	50	⇓P		P	05 34 31.1 +0.5
	baz=93						
K10A	MacKenzie Ranc	92.81	47	P		P	05 34 31.5 +0.5
	baz=93,SNR=10						
IRM	Iron Mountain	92.81	56	⇑P		P	05 34 31.5 +0.2
	baz=93						
BMO	Blue Mountains	92.83	45	eP		P	05 34 30.5 -0.6
V11A	Goodsprings	92.83	54	⇓P		P	05 34 32.0 +0.7
	baz=93						
M10A	I.L. Ranch, Tu	92.85	49	⇑P		P	05 34 31.7 +0.4
	baz=93						
S11A	Rachel	92.86	53	⇓P		P	05 34 31.1 -0.3
	baz=93						
B09A	Rice	92.86	42	⇓P		P	05 34 30.5 -0.7
	baz=93						
LDFC	Landfair	92.98	55	eP		P	05 34 31.5 -0.6
J10A	Berg Farm, Mel	92.99	47	⇓P		P	05 34 31.7 -0.2
	baz=93						
L10A	Juniper Basin	92.99	48	P		P	05 34 32.6 +0.7
	baz=93,SNR=13						
G10A	Bishop Farm, J	93.03	45	P		P	05 34 31.1 -0.9
	baz=93,SNR=9.3						
F10A	Beach Ranch, E	93.07	44	⇓P		P	05 34 31.5 -0.7
	baz=93						
R11A	Troy Canyon, C	93.09	52	P		P	05 34 33.1 +0.7
	baz=93,SNR=16						
Q11A	Duckwater	93.11	51	⇑P		P	05 34 32.8 +0.2
	baz=93,SNR=40						
H10A	Noah's Angus R	93.18	46	P		P	05 34 32.2 -0.5
	baz=93,SNR=8.1						
T11A	Corn Creek, Al	93.21	53	P		P	05 34 33.9 +0.9
	baz=93,SNR=14						
D10A	Wagner Farm, O	93.21	43	⇑P		P	05 34 32.1 -0.7
	baz=93						
O11A	Cowboy Ranch,	93.30	50	P		P	05 34 34.0 +0.7
	baz=93,SNR=14						
M11A	Holland Ranch,	93.39	49	⇓P		P	05 34 34.2 +0.4
	baz=93,SNR=7.7						
K11A	Parker Ranch,	93.42	47	⇑P		P	05 34 33.8 -0.1
	baz=93,SNR=11						
NEW	Newport	93.51	42	P		P	05 34 33.2 -1.0
NEW	Newport	93.51	42	P		P	05 34 33.2 -1.0
	comp=Z,0.7nm,0.4s,mb4.5,baz=322,slow=10,SNR=3.1						
S12A	Delamar Landin	93.56	53	⇓P		P	05 34 35.1 +0.4
	baz=93,SNR=11						
G11A	Walters Elk Ra	93.64	45	⇓P		P	05 34 34.0 -0.9
	baz=94						
MFID	Camas Ranch	93.66	47	⇓P		P	05 34 35.0 +0.1
	baz=94						
H11A	Donnelly	93.72	46	⇓P		P	05 34 34.4 -0.8
	baz=94						
Q12A	Willow Creek R	93.77	51	⇑P		P	05 34 35.6 0.0
	baz=94,SNR=20						
P12A	McGill	93.78	51	⇑P		P	05 34 35.7 +0.1
	baz=94,SNR=14						
E11A	Bogner Ranch,	93.83	44	⇓P		P	05 34 34.9 -0.7
	baz=94						
R12A	Pony Springs,	93.85	52	⇑P		P	05 34 36.3 +0.3
	baz=94,SNR=12						
N12A	Clover Valley,	93.87	49	⇓P		P	05 34 36.1 +0.1
	baz=94						
W13A	Hualapai Mount	93.98	55	⇑P		P	05 34 36.7 0.0
	baz=94						
O12A	Currie	94.01	50	⇑P		P	05 34 36.5 -0.1
	baz=94,SNR=20						
M12A	Wells	94.04	49	⇓P		P	05 34 36.7 -0.1
	baz=94						
L12A	House Creek Ra	94.07	48	P		P	05 34 37.9 +1.0
	baz=94,SNR=8.2						
U13A	Pakoon Wash	94.09	54	⇓P		P	05 34 37.2 0.0
	baz=94						
A11A	Hall Mountain,	94.11	41	⇑P		P	05 34 36.5 -0.5
	baz=94						
J12A	Stokes Ranch,	94.16	47	P		P	05 34 37.9 +0.6
	baz=94,SNR=15						
T13A	Saint George	94.22	53	⇓P		P	05 34 38.2 +0.5
	baz=94						
K12A	Draper Farm, C	94.22	48	P		P	05 34 38.1 +0.6
	baz=94,SNR=8.2						
S13A	Holt Ranch, En	94.33	53	⇓P		P	05 34 38.7 +0.5
	baz=94,SNR=6.7						
F12A	Elk City	94.40	45	⇓P		P	05 34 38.8 +0.5
	baz=94						
P13A	Bates Ranch, G	94.46	51	⇑P		P	05 34 39.2 +0.5
	baz=94,SNR=8.7						
D12A	Red Ives Fores	94.51	43	⇑P		P	05 34 37.8 -1.0
	baz=94						
O13A	Hicks Ranch, I	94.57	50	⇓P		P	05 34 39.7 +0.5
	baz=94,SNR=9.8						
M13A	Montello	94.59	49	⇓P		P	05 34 39.7 +0.4
	baz=94						
W14A	Seligman	94.64	55	⇓P		P	05 34 39.9 +0.2
	baz=94						
V14A	Boquillas Ranc	94.68	55	⇑P		P	05 34 39.7 -0.1
	baz=94						
HLID	Hailey	94.70	47	eP		P	05 34 39.4 -0.3
	comp=Z,51nm,2.3s,mb5.5						
HLID	Hailey	94.70	47	P		P	05 34 40.2 +0.4
	baz=95,SNR=8.5						
U14A	Mt Trumbull	94.72	54	⇑P		P	05 34 39.9 -0.1
	baz=95,SNR=7.7						
K13A	Stover Farm, H	94.82	48	⇓P		P	05 34 40.6 +0.3
	baz=95						
J13A	Cove Ranch, Pi	94.85	47	⇑P		P	05 34 40.5 0.0
	baz=95						
L13A	Double Diamond	94.85	48	⇓P		P	05 34 40.6 +0.1
	baz=95						
T14A	Hurricane	94.88	53	⇑P		P	05 34 41.1 +0.4
	baz=95						
S14A	Cedar City	94.90	53	⇑P		P	05 34 41.5 +0.7
	baz=95						
H13A	Challis	94.94	46	⇑P		P	05 34 40.9 0.0
	baz=95						
I13A	Wildhorse Cree	94.96	46	⇓P		P	05 34 41.0 0.0
	baz=95,SNR=5.8						
G13A	Cobalt	95.03	45	⇑P		P	05 34 40.8 -0.4
	baz=95						
F13A	Darby	95.05	45	⇑P		P	05 34 40.3 -0.9
	baz=95						
Y15A	Casa Rosa Ranc	95.10	57	⇑P		P	05 34 42.0 +0.2
	baz=95						
BRVK	Borovoye	95.15	323	⇑iP		P	05 34 40.1 -1.5
M14A	Sheep Mountain	95.22	49	P		P	05 34 42.7 +0.5
	baz=95,SNR=8.5						
N14A	Grayback Hills	95.26	50	⇓P		P	05 34 42.5 +0.1
	baz=95						
T15A	Red Dirt Ranch	95.43	54	⇑P		P	05 34 43.5 +0.3
	baz=95						
K14A	Jones Ranch, D	95.47	48	⇓P		P	05 34 43.4 +0.1
	baz=95						
G14A	Jackson	95.59	45	⇓P		P	05 34 43.3 -0.5
	baz=96						
HVU	Hansel Valley	95.68	49	eP		P	05 34 43.9 -0.4
MSU	Marysvale	95.76	52	eP		P	05 34 44.3 -0.5
Y16A	Circle Bar Ran	95.80	57	⇓P		P	05 34 45.3 +0.3
	baz=96						
217A	Green Valley	96.11	59	⇑P		P	05 34 45.8 -0.7
	baz=96						
G15A	Dillon	96.26	45	⇑P		P	05 34 45.8 -1.0
	baz=96						
E15A	Deer Lodge	96.29	44	⇑P		P	05 34 46.0 -1.0
	baz=96						
EDM	Edmonton	96.53	37	eP		P	05 34 47.5 -0.4
JLU	Jordanelle	96.55	50	eP		P	05 34 49.4 +1.1
YKA	Yellowknife Ar	96.80	28	P		P	05 34 48.1 -0.8
	comp=Z,2.3nm,0.8s,mb4.7,baz=263,slow=4.4,SNR=24						
YKA				PKKPbc		PKKPbc	05 51 34.1 +0.4
	comp=Z,0.5nm,0.8s,baz=81,slow=2.8,SNR=9.4						
YKW3	Yellowknife Ar	96.80	28	eP		P	05 34 48.9 0.0
BOZ	Bozeman (W)	96.91	45	eP		P	05 34 49.4 -0.4
	comp=Z,45nm,2.6s,mb5.4						
BOZ	Bozeman (W)	96.91	45	eP		P	05 34 49.4 -0.4
BOZ				pmax		pmax	
	comp=Z,45nm,2.6s,mb5.4						
BOZ	Bozeman (W)	96.91	45	⇑P		P	05 34 49.0 -0.8
	baz=97						
319A	Douglas	97.37	59	⇓P		P	05 34 51.4 -0.8
	baz=97						
BW06	Boulder Array	98.15	48	eP		P	05 34 55.0 -0.5
PDAR	Pinedale Array	98.15	48	P		P	05 34 54.2 -1.2
	comp=Z,2.8nm,0.9s,mb4.8,baz=247,slow=2.3,SNR=13						
SNAA	Sanae	98.67	186	⇑eP		P	05 34 58.8 +1.6
LAO	LASA Array	100.72	44	ePdif		Pdif	05 35 06.6 0.0
KIV	Kislovodsk	113.72	314	iPKIKP		PKiKP	05 39 58.3 +1.1
KIV				pmax		pmax	
	comp=Z,3.0nm,0.7s						
FINES	FINESS Array B	116.47	336	PKP		PKPdf	05 40 01.1 -0.8
	comp=Z,1.6nm,0.7s,baz=166,slow=17,SNR=3.5						
KMBO	Kilima Mbogo	119.50	264	PKP		PKPdf	05 40 06.8 -2.4
	comp=Z,0.5nm,0.3s,baz=76,slow=19,SNR=2.5						
AKASG	Malin Array Be	120.30	325	PKP		PKPdf	05 40 07.5 -2.1
AKASG	Malin Array Be	120.30	325	PKP		PKPdf	05 40 07.5 -2.1
	comp=Z,3.3nm,0.8s,baz=65,slow=1.9,SNR=14						
BOSA	Boshof	120.69	229	PKP		PKPdf	05 40 11.2 +0.2
	comp=Z,4.9nm,0.8s,baz=105,slow=3.6,SNR=7.2						
CFAA	Coronel Fontan	120.77	135	PKP		PKPdf	05 40 12.2 +1.0
	comp=Z,0.3nm,0.8s,baz=236,slow=4.7,SNR=6.5						
UZH	Uzhgorod	125.25	325	ePKIKP		PKPdf	05 40 18.8 -0.4
DPC	Dobruska-Polom	127.46	329	ePKPdf		PKPdf	05 40 21.1 -2.3
BRG	Berggiesshubel	128.29	331	ePKIKP		PKPdf	05 40 25.0 +0.1
BRG	Berggiesshubel	128.29	331	ePKP		PKPdf	05 40 25.2 +0.3
	comp=Z,11nm,1.2s						
CLL	Collm	128.44	332	ePKP		PKPdf	05 40 25.0 -0.2
CLL				e			05 41 02.0
PRU	Pruhonice	128.58	330	ePKPdf		PKPdf	05 40 25.4 -0.1
LPAZ	La Paz	128.59	119	PKP		PKPdf	05 40 25.9 -0.6
	comp=Z,1.1nm,0.9s,baz=262,slow=7.1,SNR=5.3						
CONA	Conrad Observa	129.19	327	⇑iPKIKP		PKiKP	05 40 27.6 +0.2
	comp=Z,5.9nm,1.1s						
KHC	Kasperske Hory	129.61	330	ePKPdf		PKPdf	05 40 27.8 +0.3
KHC				epPKP		pPKPdf	05 40 29.0 -0.2
GERES	GERESS Array B	129.74	329	PKP		PKPdf	05 40 25.9 -1.9
	comp=Z,1.0nm,0.5s,baz=90,slow=2.7,SNR=8.4						
GRA1	Grafenberg Arr	130.38	332	ePKPdf		PKPdf	05 40 29.8 +0.9
GRF	Grafenberg Arr	130.38	332	ePKPdf		PKPdf	05 40 29.8 +0.9
SDV	Santo Domingo	132.63	86	PKP		PKPdf	05 40 34.3 +0.1
SDV	Santo Domingo	132.63	86	PKP		PKPdf	05 40 34.3 +0.1
	comp=Z,4.9nm,0.9s,baz=216,slow=3.4,SNR=5.5						
HAU	Haudompre	133.83	333	ePKIKP		PKPdf	05 40 35.2 -0.3
	comp=Z,3.0nm,0.4s						
SIV	San Ignacio	134.72	123	PKP		PKPdf	05 40 38.2 +0.1
	comp=Z,0.9nm,0.8s,baz=227,slow=2.2,SNR=5.8						
LPG	La Plagne	135.48	330	ePKIKP		PKPdf	05 40 38.9 +0.2
	comp=Z,7.3nm,0.8s						
SSF	Saint Saulge	135.79	334	ePKIKP		PKPdf	05 40 39.1 -0.1
	comp=Z,8.1nm,0.8s						
ETSF	Etsaut	140.85	334	ePKIKP		PKPdf	05 40 47.6 -1.0
	comp=Z,12nm,1.0s						
CAM4	Nova Friburgo	143.45	148	(P)		PKPdf	05 40 58.0 +4.1
CAM4				i			05 41 00.4
CAM4				i			05 41 28.7
CAM4				i			05 41 31.1
CAM4				i			05 41 35.4
PBRG	Braganca	144.20	339	ePKP		PKPdf	05 40 53.5 -1.1
PCAB	Cabril	144.72	341	ePKP		PKPdf	05 40 54.5 -1.0
MVO	Moncorvo	144.87	339	ePKP		PKPdf	05 40 54.4 -1.4
ESDC	Sonseca Array	144.96	334	PKP		PKPdf	05 40 53.7 -2.3
	comp=Z,3.8nm,0.8s,baz=22,slow=3.7,SNR=15						
PVRL	Vila Real	145.00	340	ePKP		PKPdf	05 40 55.1 -0.9
BDFB	Brasilia	145.11	134	PKPbc		PKPbc	05 40 53.2 -3.1
	comp=Z,16nm,0.9s,baz=198,slow=5.5,SNR=15						
PVIS	Viseu	145.56	340	ePKP		PKPdf	05 40 57.4 +0.4
MTE	Manteigas	145.72	339	ePKP		PKPdf	05 40 58.0 +0.7
MTE	Manteigas	145.72	339	ePKPdf		PKPdf	05 40 57.2 -0.1
CAM3	Guarapari	145.85	149	eP		PKPdf	05 40 56.6 -1.5
CAM3				i			05 41 01.7
CAM3				i			05 41 06.2
CAM3				i			05 41 10.6
CAM3				i			05 41 19.4
CAM3				i			05 41 32.8
PCBR	Castelo Branco	146.20	339	ePKP		PKPdf	05 40 58.9 +0.8
PESTR	Estremoz	147.10	338	ePKP		PKPdf	05 41 01.9 +2.2
PBAR	Barrancos	147.49	337	ePKP		PKPdf	05 41 01.0 +0.7
EVO	Evora	147.55	338	ePKP		PKPbc	05 41 03.2 +0.2
TORD	Torodi Ar. Bea	155.69	283	PKP		PKPdf	05 41 11.3 -2.1
TORD	Torodi Ar. Bea	155.69	283	PKP		PKPdf	05 41 11.3 -2.1
	comp=Z,2.8nm,0.8s,baz=45,slow=0.7,SNR=18						

*NEIC **03** 05:27:51.6, 3833N×2209E, h29km, MD3.3(ATH), After ATH.*
*ATH **03** 05:27:51.6, 3833N×2209E, h29km, MD3.3/5*
*ISCJB **03** 05:27:52.9±0.6, 3840N±003×2186E±006, h17km±6km, Error ellipse: s-maj=7.7km s-min=5.4km az=6.1*
*CSEM **03** 05:27:54.4±0.1, 3835N×2196E, h5km, ML2.9, Error ellipse: s-maj=2.2km s-min=1.7km az=46.0*
*THE **03** 05:27:54.3, 3836N×2200E, h2km, ML2.9*

ISC 03 05:27:53.6±0.5, 3837N±003×2199E±004, h17km±6km, n13, σ1§15/21, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SELA	Sela	0.12	220	ePg	Pg	05 27 56.4	-0.9
SELA				eSg	Sg	05 27 58.5	-1.4
RLS	Riolos of Patr	0.52	233	ePN	Pg	05 28 03.4	-0.6
RLS				eSN	Sg	05 28 11.8	+0.8
EVR	Evrytania	0.56	345	ePN	Pg	05 28 04.3	-0.5
EVR				eSN	Sg	05 28 13.8	+1.5
AGG	Agios Georgios	0.70	22	ePg	Pg	05 28 06.5	-0.8
AGG				eSg	Sg	05 28 18.0	+1.4
LKR	Lokris	0.84	70	ePN	Pg	05 28 07.1	-2.8
LTK	Loutraki	0.84	114	ePg	Pg	05 28 10.6	+0.6
LTK				eSg	Sg	05 28 22.6	+1.5
VLX	Vlachokerasia	1.05	163	ePg	Pg	05 28 12.8	-1.1
VLX				eSg	Sg	05 28 28.6	+1.0
LKD	Levkas	1.10	288	ePg	Pg	05 28 14.5	-0.5
LKD				eSg	Sg	05 28 32.2	+2.7
THL	Klokotos Trika	1.19	1	ePN	Pn	05 28 14.6	-0.9
DID	Didima	1.31	131	ePg	Pg	05 28 18.7	-0.1
DID				eSg	Sg	05 28 36.3	+0.4

*ISCJB **03** 05:50:52.9±0.4, 3809N±003×22.13E±003, h12km±5km, Error ellipse: s-maj=4.6km s-min=3.9km az=42.6*
*CSEM **03** 05:50:53.6±0.2, 3808N×2212E, h5km, ML2.6, Error ellipse: s-maj=4.5km s-min=3.5km az=51.0*
*THE **03** 05:50:53.7, 3808N×2213E, h2km, ML2.6*
ISC 03 05:50:53.4±0.4, 3810N±003×2213E±003, h18km±6km, n15, σ1§02/25, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SELA	**Sela**	**0.26**	**314**	*e*Pg	**Pg**	**05 50 58.6**	**-0.6**
SELA				*e*Sg	**Sg**	**05 51 03.0**	**-0.2**
RLS	**Riolos of Patr**	**0.52**	**266**	*e*P	**Pg**	**05 51 02.9**	**-1.0**
RLS				*e*S	**Sg**	**05 51 11.0**	**+0.1**
LTK	**Loutraki**	**0.67**	**96**	*e*Pg	**Pg**	**05 51 06.0**	**-0.5**
LTK				*e*Sg	**Sg**	**05 51 15.6**	**+0.2**
VLX	**Vlachokerasia**	**0.75**	**165**	*e*Pg	**Pg**	**05 51 06.9**	**-1.1**
VLX				*e*Sg	**Sg**	**05 51 18.6**	**+0.6**
EVR	**Evrytania**	**0.86**	**343**	*e*P	**Pb**	**05 51 05.5**	**-4.3**
LKR	**Lokris**	**0.88**	**51**	*e*P	**Pb**	**05 51 09.4**	**-0.8**
LKR				*e*S	**Sb**	**05 51 22.2**	**+0.6**
ITM	**Ithomi**	**0.93**	**190**	*e*P	**Pb**	**05 51 11.1**	**+0.2**
AGG	**Agios Georgios**	**0.94**	**10**	*e*Pg	**Pg**	**05 51 11.2**	**-0.5**
AGG				*e*Sg	**Sg**	**05 51 26.2**	**+2.1**
DID	**Didima**	**1.06**	**123**	*e*Pg	**Pg**	**05 51 12.9**	**-0.9**
DID				*e*Sg	**Sg**	**05 51 29.3**	**+1.6**
DID	**Didima**	**1.06**	**123**	*e*Pg	**Pg**	**05 51 12.9**	**-1.0**
DID				*e*Sg	**Sg**	**05 51 29.3**	**+1.6**
VLS	**Valsamata**	**1.22**	**274**	*e*Pn	**Pn**	**05 51 15.4**	**-0.1**
PYL	**PYLOS**	**1.24**	**194**	*e*Pg	**Pg**	**05 51 15.5**	**-1.7**
PYL				*e*Sg	**Sg**	**05 51 34.8**	**+1.4**
LKD	**Levkas**	**1.31**	**298**	*e*Pg	**Pg**	**05 51 18.6**	**-0.1**
LKD				*e*Sg	**Sg**	**05 51 37.4**	**+1.6**
VLI	**Veliai**	**1.52**	**155**	*e*P	**Pn**	**05 51 20.8**	**+1.2**
AOS	**Alonnisos**	**1.74**	**51**	*e*Pb	**Pb**	**05 51 23.2**	**-1.6**

*NEIC **03** 06:02:38.6, 3807N×2034E, h11km, MD3.5(ATH), After ATH.*
*ISCJB **03** 06:02:39.8±0.9, 3834N±003×2053E±007, h1km±6km, Error ellipse: s-maj=8.8km s-min=5.1km az=174.0*
*CSEM **03** 06:02:40.0±0.2, 3834N×2046E, h1km±1km, MD3.5, Error ellipse: s-maj=4.6km s-min=2.1km az=85.0*
*THE **03** 06:02:40.6, 3832N×2054E, h3km, ML3.4*
*ATH **03** 06:02:40.1, 3818N×2040E, h12km±1km, MD3.5/6*
ISC 03 06:02:40.0±1.0, 3831N±003×2048E±007, h4km±6km, n16, σ1§03/24, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.16**	**147**	*e*PG	**Pg**	**06 02 43.6**	**+0.5**
VLS				*e*SG	**Sg**	**06 02 46.8**	**+1.6**
LKD	**Levkas**	**0.42**	**19**	*e*Pg	**Pg**	**06 02 47.4**	**-0.7**
LKD				*e*Sg	**Sg**	**06 02 53.6**	**+0.1**
RLS	**Riolos of Patr**	**0.82**	**108**	*e*PG	**Pg**	**06 02 55.9**	**+0.2**
RLS				*e*SB	**Sb**	**06 03 08.1**	**-0.1**
SELA	**Sela**	**1.11**	**91**	*e*Pg	**Pg**	**06 02 59.7**	**-1.6**
SELA				*e*Sg	**Sg**	**06 03 16.1**	**+0.3**
EVR	**Evrytania**	**1.20**	**59**	*e*PB	**Pb**	**06 03 05.8**	**+2.4**
KEK	**Kerkira**	**1.50**	**339**	*e*PB	**Pb**	**06 03 10.3**	**+1.9**
MEV	**Metsovon**	**1.58**	**21**	*e*Pg	**Pg**	**06 03 09.3**	**-1.1**
ITM	**Ithomi**	**1.61**	**134**	*e*Pg	**Pn**	**06 03 07.2**	**-2.0**
ITM	**Ithomi**	**1.61**	**134**	*e*PB	**Pb**	**06 03 09.4**	**-0.9**
ITM				*e*SB	**Sb**	**06 03 31.8**	**+0.8**
AGG	**Agios Georgios**	**1.61**	**63**	*e*Pg	**Pg**	**06 03 09.5**	**-1.4**
AGG				*e*Sg	**Sg**	**06 03 31.9**	**+0.1**
PYL	**PYLOS**	**1.73**	**144**	*e*Pb	**Pb**	**06 03 11.2**	**-1.2**
PYL				*e*Sb	**Sb**	**06 03 34.2**	**-0.3**
THL	**Klokotos Trika**	**1.73**	**43**	*e*PN	**Pg**	**06 03 14.0**	**+0.8**
VLX	**Vlachokerasia**	**1.77**	**121**	*e*Pb	**Pn**	**06 03 10.8**	**-0.6**
LTK	**Loutraki**	**1.98**	**98**	*e*Pb	**Pn**	**06 03 14.5**	**+0.1**
DID	**Didima**	**2.32**	**109**	*e*Pn	**Pn**	**06 03 19.8**	**+0.7**
DID				*e*Sn	**Sn**	**06 03 48.4**	**+0.4**
AOS	**Alonnisos**	**2.79**	**71**	*e*Pn	**Pn**	**06 03 25.8**	**+0.3**

IDC 03 06:19:22.0±1.7, 2720N×14004E, h369km±15km, mb3.2/4, mb1 3.5/4, mb1mx3.0/17, mbtmp3.2/4, Error ellipse: s-maj=48.9km s-min=18.6km az=103.0, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**1.91**	**93**	P	Pn	06 20 16.4	+1.9
	13nm,0.3s,baz=278,slow=24,SNR=11						
CBIJ				S	S	06 20 56.8	0.0
	49nm,0.3s,baz=275,slow=21,SNR=15						
WRA	**Warramunga Arr**	**47.19**	**187**	P	P	06 27 18.8	-0.3
	0.6nm,0.3s,baz=6.9,slow=8.4,SNR=18						
YKA	**Yellowknife Ar**	**72.95**	**28**	P	P	06 30 11.5	-0.1
	0.5nm,0.4s,baz=298,slow=6.1,SNR=10.0						
FINES	**FINESS Array B**	**77.00**	**333**	P	P	06 30 34.5	-0.1
	0.5nm,0.3s,baz=57,slow=7.0,SNR=5.4						
NVAR	**Mina Array Bea**	**81.94**	**51**	P	P	06 31 02.4	+0.9
	0.2nm,0.5s,baz=290,slow=3.7,SNR=3.9						

IDC 03 06:26:27.4±6.6, 714S×15511E, h0km, mb3.7/3, mb1 3.8/3, mb1mx3.5/14, mbtmp3.7/3, Error ellipse: s-maj=188.8km s-min=40.3km az=117.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.83**	**236**	P	P	06 31 42.5	+0.1
	0.7nm,0.5s,baz=61,slow=9.8,SNR=5.9						
SONM	**Songino Array**	**69.52**	**327**	P	P	06 37 38.6	+0.7
	0.4nm,0.6s,baz=125,slow=7.2,SNR=5.3						
MKAR	**Makanchi Array**	**83.59**	**319**	P	P	06 38 57.1	-0.5
	0.6nm,0.6s,baz=113,slow=5.5,SNR=4.3						

*IDC **03** 06:42:16.0±1.2, 697S×15496E, h0km, mb4.0/8, mb1 4.2/8, mb1mx4.0/15, mbtmp3.9/8, Error ellipse: s-maj=47.2km s-min=21.4km az=125.0*
*NEIC **03** 06:42:17.7±0.9, 703S×15508E, h10km, mb4.3/1, Error ellipse: s-maj=33.4km s-min=15.4km az=131.0*
*ISCJB **03** 06:42:19.7±1.0, 7.1S±02×155.1E±02, h33km, mb3.9/9, Error ellipse: s-maj=36.1km s-min=16.1km az=38.8*
ISC 03 06:42:21.6±1.0, 71S±02×1551E±02, h35km, n13, σ1§01/12, mb3.9/9, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**22.97**	**254**	*e*P	**P**	**06 47 24.8**	**+1.6**
	5.4nm,0.6s,mb4.2						
WB2	**Warramunga Arr**	**23.82**	**235**	*e*P	**P**	**06 47 31.9**	**+0.3**
WRA	**Warramunga Arr**	**23.83**	**235**	P	**P**	**06 47 31.3**	**-0.3**
	6.0nm,0.8s,mb4.1,baz=59,slow=9.7,SNR=24						
ASAR	**Alice Springs**	**26.18**	**229**	P	**P**	**06 47 51.4**	**-1.6**
	1.5nm,0.9s,mb3.5,baz=62,slow=8.5,SNR=10						
STKA	**Stephens Creek**	**27.70**	**205**	P	**P**	**06 48 06.9**	**+0.3**
	2.9nm,0.8s,mb4.0,baz=5.3,slow=13,SNR=6.0						
FITZ	**Fitzroy Crossi**	**30.69**	**246**	P	**P**	**06 48 33.0**	**-0.2**
	1.4nm,0.7s,mb3.9,baz=176,slow=0.9,SNR=3.9						
SONM	**Songino Array**	**69.42**	**327**	P	**P**	**06 53 25.7**	**-0.3**
	0.8nm,0.8s,mb3.7,baz=140,slow=4.8,SNR=4.7						
MKAR	**Makanchi Array**	**83.49**	**319**	P	**P**	**06 54 45.7**	**-0.1**
MKAR	**Makanchi Array**	**83.49**	**319**	P	**P**	**06 54 45.7**	**-0.1**
	0.5nm,0.7s,mb3.7,baz=100,slow=4.9,SNR=5.0						
NVAR	**Mina Array Bea**	**91.71**	**52**	P	**P**	**06 55 27.5**	**+1.8**
	0.4nm,0.7s,mb3.9,baz=257,slow=8.2,SNR=3.4						
YKA	**Yellowknife Ar**	**96.36**	**28**	P	**P**	**06 55 45.0**	**-1.4**
YKA	**Yellowknife Ar**	**96.36**	**28**	P	**P**	**06 55 45.0**	**-1.4**
	0.3nm,0.6s,mb3.9,baz=261,slow=4.7,SNR=5.9						
TORD	**Torodi Ar. Bea**	**153.10**	**285**	PKPbc	PKPbc	07 02 14.7	-1.9
	0.6nm,0.7s,baz=184,slow=0.3,SNR=4.1						

*ISCJB **03** 06:45:55.7±3.1, 733S±007×15573E±006, h5km±19km, mb4.3/19, MS4.1/2, Error ellipse: s-maj=11.9km s-min=9.5km az=21.1*
*IDC **03** 06:45:56.0±0.6, 745S×15565E, h0km, mb4.4/14, mb1 4.5/15, mb1mx4.5/17, mbtmp4.4/15, ML4.9/1, MS3.8/4, Ms1 3.8/4, ms1mx3.4/25, Error ellipse: s-maj=17.6km s-min=14.3km az=114.0*
*NEIC **03** 06:45:57.6±0.4, 733S×15587E, h10km, mb4.6/6, Error ellipse: s-maj=11.7km s-min=10.1km az=116.0*
ISC 03 06:46:03.0±1.8, 740S±009×15580E±009, h48km±18km, n32, σ0§99/29, mb4.3/19, MS4.1/2, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.57**	**116**	Pn	**Pn**	**06 47 08.9**	**-0.7**
HNR				LR	LR	06 48 04.7	
HNR	**Honiara**	**4.57**	**116**	Pn	**Pn**	**06 47 08.9**	**-0.7**
	59nm,0.3s,baz=258,slow=4.6,SNR=4.1						
HNR				LR	LR	06 48 04.7	
	comp=Z,424nm,18.4s,baz=175,slow=28						
HNR				Sn	**Sn**	**06 48 04.7**	**+3.2**
	40nm,0.3s,baz=263,slow=20,SNR=2.5						
CTA	**Charters Tower**	**15.64**	**215**	Pn	**Pn**	**06 49 39.5**	**-0.9**
	0.1nm,0.3s,baz=254,slow=23,SNR=1.9						
CTA				LR	LR	06 53 27.4	
	comp=Z,142nm,19.8s,baz=40,slow=29						
KAKA	**Kakadu**	**23.59**	**255**	*e*P	**P**	**06 51 12.0**	**+2.2**
	4.8nm,0.6s,mb4.1						
WB2	**Warramunga Arr**	**24.25**	**237**	*e*P	**P**	**06 51 17.6**	**+1.9**
WRA	**Warramunga Arr**	**24.26**	**237**	P	**P**	**06 51 14.8**	**-1.0**
	5.4nm,1.1s,mb3.9,baz=64,slow=9.6,SNR=5.1						
WRA				PcP	PcP	06 54 55.8	+0.6
	1.7nm,1.3s,baz=64,slow=2.6,SNR=4.9						
WRA				S	**S**	**06 55 30.5**	**-0.9**
	2.4nm,0.8s,baz=68,slow=9.7,SNR=5.6						
ASAR	**Alice Springs**	**26.52**	**230**	P	**P**	**06 51 35.0**	**-1.2**
	1.8nm,0.7s,mb3.7,baz=64,slow=9.1,SNR=14						
ASAR				PcP	PcP	06 55 00.9	+0.7
	0.2nm,0.5s,baz=20,slow=3.7,SNR=5.0						
STKA	**Stephens Creek**	**27.72**	**207**	P	**P**	**06 51 46.4**	**-0.5**
	5.0nm,0.9s,mb4.1,baz=35,slow=11,SNR=7.7						
STKA				LR	LR	07 03 09.6	
	comp=Z,339nm,19.2s,MS3.9,baz=22,slow=37						
FITZ	**Fitzroy Crossi**	**31.23**	**247**	*e*P	**P**	**06 52 19.6**	**+1.4**
	4.6nm,0.6s,mb4.5						
FITZ	**Fitzroy Crossi**	**31.23**	**247**	P	**P**	**06 52 17.8**	**-0.5**
	3.2nm,0.8s,mb4.2,baz=85,slow=14,SNR=7.2						
FORT	**Forrest**	**34.85**	**225**	*e*P	**P**	**06 52 50.6**	**+0.9**
	12nm,0.6s,mb5.0						
RPZ	**Rata Peaks**	**38.56**	**162**	P	**P**	**06 53 20.2**	**-0.9**
	8.3nm,0.8s,mb4.5,baz=24,slow=14,SNR=3.6						
KLBR	**Kellerberrin**	**42.84**	**231**	*e*P	**P**	**06 53 57.2**	**+0.6**
	6.9nm,0.6s,mb4.6						
MJAR	**Matsushiro Arr**	**46.73**	**340**	P	**P**	**06 54 25.8**	**-1.6**
MJAR	**Matsushiro Arr**	**46.73**	**340**	P	**P**	**06 54 25.8**	**-1.6**
	0.5nm,0.3s,mb3.9,baz=126,slow=6.2,SNR=4.5						
KSRS	**Korea Array**	**51.67**	**332**	P	**P**	**06 55 04.0**	**-1.1**
	0.7nm,0.7s,mb3.7,baz=266,slow=40,SNR=4.4						
SONM	**Songino Array**	**70.11**	**327**	P	**P**	**06 57 11.0**	**+0.8**
	5.3nm,0.7s,mb4.6,baz=142,slow=6.5,SNR=36						
VNDA	**Vanda**	**70.16**	**179**	P	**P**	**06 57 09.7**	**-0.4**
	0.9nm,0.8s,mb3.7,baz=333,slow=6.0,SNR=4.7						
VNDA				LR	LR	07 20 14.9	
	comp=Z,152nm,20.3s,MS4.2,baz=73,slow=29						
MK31	**Makanchi Array**	**84.24**	**319**	*e*P	**P**	**06 58 30.5**	**+1.0**
MKAR	**Makanchi Array**	**84.24**	**319**	P	**P**	**06 58 30.1**	**+0.6**
	11nm,0.7s,mb5.1,baz=101,slow=6.1,SNR=114						
MAW	**Mawson**	**84.33**	**203**	P	**P**	**06 58 29.7**	**+0.1**
	5.2nm,0.8s,mb4.7,baz=80,slow=1.7,SNR=4.6						
ZAA0	**Zalesovo Array**	**84.96**	**326**	*e*P	**P**	**06 58 32.9**	**-0.1**
ZALV	**Zalesovo Beam**	**84.96**	**326**	P	**P**	**06 58 33.1**	**+0.1**
	11nm,0.7s,mb5.1,baz=113,slow=5.8,SNR=34						
KURK	**Kurchatov**	**87.65**	**322**	*e*P	**P**	**06 58 46.2**	**0.0**
	10nm,1.4s,mb4.9						
AML	**Almayashu**	**89.10**	**313**	*e*P	**P**	**06 58 53.7**	**+0.4**
	3.2nm,1.0s,mb4.6						
NVAR	**Mina Array Bea**	**91.34**	**52**	P	**P**	**06 59 04.1**	**+0.2**
	0.2nm,0.5s,mb3.7,baz=304,slow=45,SNR=3.2						
YKA	**Yellowknife Ar**	**96.32**	**28**	P	**P**	**06 59 25.5**	**-0.7**
	0.5nm,0.7s,mb4.1,baz=265,slow=4.6,SNR=11						
GERES	**GERESS Array B**	**127.81**	**329**	PKP	PKPdf	07 05 02.6	-0.8
	0.4nm,0.4s,baz=339,slow=3.4,SNR=4.2						
LPAZ	**La Paz**	**130.56**	**119**	PKP	PKPdf	07 05 10.3	+0.7
LPAZ	**La Paz**	**130.56**	**119**	PKP	PKPdf	07 05 10.3	+0.7
	1.1nm,0.8s,baz=356,slow=3.1,SNR=4.2						
BDFB	**Brasilia**	**147.12**	**134**	PKPbc	PKPbc	07 05 40.4	-1.4
	5.6nm,0.8s,baz=171,slow=0.5,SNR=8.0						
TORD	**Torodi Ar. Bea**	**153.91**	**285**	PKPbc	PKPbc	07 05 57.5	-0.7
	0.9nm,0.8s,baz=48,slow=4.6,SNR=5.0						

IDC 03 06:51:30.5±3.7, 726S×15572E, h0km, mb3.9/6, mb1 4.0/6, mb1mx3.9/14, mbtmp3.9/6, Error ellipse: s-maj=120.0km s-min=25.8km az=105.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.27**	**237**	P	P	06 56 49.8	+0.3
	0.9nm,0.8s,baz=62,slow=9.4,SNR=3.4						
ASAR	**Alice Springs**	**26.55**	**230**	P	P	06 57 09.9	-0.3
	0.8nm,1.1s,baz=55,slow=10,SNR=2.8						
STKA	**Stephens Creek**	**27.82**	**206**	P	P	06 57 21.9	+0.3
	1.7nm,0.7s,baz=22,slow=15,SNR=3.5						
SONM	**Songino Array**	**69.94**	**327**	P	P	07 02 44.5	+0.9
	0.9nm,0.7s,baz=137,slow=5.9,SNR=5.0						
MKAR	**Makanchi Array**	**84.08**	**319**	P	P	07 04 03.3	+0.1
	1.9nm,0.7s,baz=104,slow=5.3,SNR=15						
ZALV	**Zalesovo Beam**	**84.80**	**326**	P	P	07 04 06.0	-0.7
	1.2nm,0.5s,baz=117,slow=4.4,SNR=5.9						

*NIED **03** 06:57:00, 2400N×12230E, h29km, Mw4.2 Best double couple: M0=2.17000×10^15 NP1:φs=332.00000°, δ86.00000°, λ176.00000°. NP2:φs=62.00000°, δ86.00000°, λ4.00000°.*
*MOS **03** 06:57:52.1±1.1, 2412N×12248E, h33km, mb4.5/10, Error ellipse: s-maj=28.0km s-min=8.8km az=118.1*
*BJI **03** 06:57:53.5, 2407N×12220E, h24km, mB4.6, mb4.2, ML4.2, Ms4.3, Msz4.2*
*NEIC **03** 06:57:53.1±3.3, 2412N×12237E, h26km±23km, mb4.5/12, Error ellipse: s-maj=15.1km s-min=5.9km az=63.0*
*JMA **03** 06:57:54.3±0.3, 2405N×12228E, h25km, M4.5*
*ISCJB **03** 06:57:54.5±0.4, 2399N±004×12224E±002, h53km±4km, mb4.4/30, MS3.8/7, Error ellipse: s-maj=7.3km s-min=3.6km az=8.4*
*IDC **03** 06:57:56.6±5.3, 2406N×12228E, h57km±49km, mb4.1/15, mb1 4.2/16, mb1mx4.1/22, mbtmp4.1/16, ML3.9/1, MS3.6/6, Ms1 3.6/6, ms1mx3.3/39, Error ellipse: s-maj=37.1km s-min=12.2km az=65.0*
ISC 03 06:57:55.8±0.4, 2406N±005×12226E±002, h46km±4km, n76, σ1§04/87, mb4.4/30, MS3.8/7, 1C-2D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NACB	**Ninganchiao**	**0.61**	**281**	*e*Pn	**Pn**	**06 58 06.7**	**-1.5**
NACB				*e*Sn	**Sn**	**06 58 17.4**	**+0.2**
YOJ	**Yonaguni jima**	**0.80**	**60**	P	**Pn**	**06 58 09.0**	**-1.7**
YOJ				S	**Sn**	**06 58 19.3**	**-2.2**
YHNB	**Yeheng**	**1.01**	**307**	*e*Pn	**Pn**	**06 58 13.4**	**0.0**
YHNB				*e*Sn	**Sn**	**06 58 28.0**	**+1.4**
TATO	**Taipei**	**1.15**	**323**	*e*Pn	**Pn**	**06 58 13.8**	**-1.6**
IRIF	**Iriomote-Funau**	**1.38**	**78**	P	**Pn**	**06 58 18.4**	**-0.1**
IRIF				S	**Sn**	**06 58 36.1**	**+0.6**
HATJ	**Hateruma jima**	**1.42**	**90**	P	**Pn**	**06 58 18.4**	**-0.7**
HATJ				S	**Sn**	**06 58 36.8**	**+0.2**
JKRS	**Kuro-shima**	**1.61**	**83**	P	**Pn**	**06 58 21.4**	**-0.3**
JKRS				S	**Sn**	**06 58 41.7**	**+0.3**
JIJ	**Ishigaki jima**	**1.75**	**80**	P	**Pn**	**06 58 22.6**	**-1.0**
JIJ				S	**Sn**	**06 58 45.1**	**+0.4**
JTJ	**Tarama**	**2.31**	**75**	P	**Pn**	**06 58 31.7**	**+0.4**
JTJ				S	**Sn**	**06 59 00.1**	**+1.7**
JMJ	**Miyako jima 2**	**2.87**	**74**	S	**Sn**	**06 59 14.3**	**+2.0**
QZH	**Quanzhou**	**3.45**	**286**	*i*P	**Pn**	**06 58 46.7**	**-0.3**
QZH				S	**Sn**	**06 59 24.9**	**-1.7**
QZH				Smax			
	comp=N,600nm,0.5s						
QZH				Smax			
	comp=E,430nm,0.5s						
NJ2	**Nanjing**	**8.51**	**340**	*e*P	**Pn**	**06 59 59.8**	**+3.4**
NJ2				AP		07 00 03.5	
NJ2				XP		07 00 06.5	
NJ2				S	**Sn**	**07 01 37.5**	**+6.4**
NJ2				XS		07 01 42.5	
NJ2				AMB	AMB		
	comp=Z,20nm,1.0s						
NJ2				Smax			
	comp=N,80nm,0.8s						
NJ2				Smax			
	comp=E,75nm,0.9s						
WHN	**Wuhan**	**9.54**	**314**	*e*P	**Pn**	**07 00 12.0**	**+1.4**
WHN				*e*S	**Sn**	**07 02 01.3**	**+4.8**
WHN				LR	LR		
	comp=Z,1μm,11.8s						
JNU	**Nakatsue**	**11.78**	**38**	LR	LR	07 05 31.3	
	comp=Z,164nm,19.5s,baz=203,slow=39						
QIZ	**Qiongzhong**	**12.59**	**249**	P	**Pn**	**07 00 52.0**	**-0.2**
QIZ				S	**Sn**	**07 03 13.5**	**+2.5**
QIZ				AMB	AMB		
	comp=Z,261nm,3.1s						
KSRS	**Korea Array**	**14.21**	**19**	P	**Pn**	**07 01 16.2**	**+2.0**
	comp=Z,0.6nm,0.3s,baz=197,slow=12,SNR=13						
KSRS				LR	LR	07 07 24.3	
	comp=Z,179nm,19.7s,baz=64,slow=40						
CN2	**Changchun**	**19.87**	**7**	*e*P	**Pn**	**07 02 24.8**	**0.0**
LZH	**Lanzhou**	**19.90**	**311**	*e*P	**Pn**	**07 02 26.5**	**+1.2**
LZH				AP	pP	07 02 33.2	-1.1
LZH				XP	sP	07 02 35.1	-5.1
LZH				AMB	AMB		
	comp=Z,15nm,1.4s						
LZH				AMB	AMB		
	comp=Z,67nm,4.2s						
LZH	**Lanzhou**	**19.90**	**311**	*e*P	**Pn**	**07 02 26.5**	**+1.2**
	comp=Z,15nm,1.4s						
LZH				pP	pP	07 02 33.2	-1.1
LZH				sP	sP	07 02 35.1	-5.1
GUMO	**Guam**	**23.77**	**112**	LR	LR	07 12 03.1	
	comp=Z,100nm,18.1s,MS3.3,baz=316,slow=36						
GTA	**Gaotai**	**24.37**	**314**	*e*P	**P**	**07 03 12.2**	**+2.8**
GTA				AP		07 03 15.7	
GTA				XP	sP	07 03 17.3	-10
GTA				AMB	AMB		
	comp=Z,5.0nm,0.9s,mb3.9						
SONM	**Songino Array**	**26.87**	**336**	P	**P**	**07 03 32.3**	**+0.3**
	comp=Z,21nm,0.7s,mb4.8,baz=149,slow=9.7,SNR=98						
ZAK	**Zakamensk**	**30.13**	**336**	*e*P	**P**	**07 04 00.8**	**-0.2**
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.0						
TLY	**Talaya**	**31.06**	**337**	*e*P	**P**	**07 04 08.5**	**-0.7**
	comp=Z,14nm,0.7s,mb4.9						
TLY	**Talaya**	**31.06**	**337**	*e*P	**P**	**07 04 09.6**	**+0.4**
TLY				pmax	pmax		
	comp=Z,14nm,0.7s,mb4.9						
TLY				MLR	MLR		
	comp=Z,178nm,13.0s,MS3.9						
KAKA	**Kakadu**	**37.88**	**164**	*e*P	**P**	**07 05 07.5**	**-0.9**
	comp=Z,7.4nm,0.7s,mb4.5						
MKAR	**Makanchi Array**	**39.11**	**316**	P	**P**	**07 05 19.3**	**+0.8**
MKAR	**Makanchi Array**	**39.11**	**316**	P	**P**	**07 05 18.7**	**+0.2**
	comp=Z,2.9nm,0.6s,mb4.2,baz=101,slow=9.7,SNR=29						
MKAR				PcP	PcP	07 07 27.6	+0.2
	comp=Z,0.7nm,0.7s,baz=93,slow=5.3,SNR=3.7						
MKAR				LR	LR	07 23 10.1	
	comp=Z,101nm,19.0s,MS3.7,baz=217,slow=39						
ZAA0	**Zalesovo Array**	**40.88**	**327**	*e*P	**P**	**07 05 32.6**	**-0.5**
ZALV	**Zalesovo Beam**	**40.88**	**327**	P	**P**	**07 05 32.0**	**-1.0**
	comp=Z,6.7nm,0.5s,mb4.5,baz=112,slow=7.6,SNR=34						
ZALV				LR	LR	07 23 51.5	
	comp=Z,107nm,18.6s,MS3.7,baz=124,slow=38						
ZAL	**Zalesovo**	**40.89**	**327**	P	**P**	**07 05 32.1**	**-1.0**
NVS	**Novosibirsk**	**42.14**	**327**	*e*P	**P**	**07 05 42.4**	**-1.0**
TKM2	**Tokmak 2**	**42.61**	**308**	*e*P	**P**	**07 05 47.4**	**0.0**
	comp=Z,8.0nm,0.9s,mb4.5						
TKM2	**Tokmak 2**	**42.61**	**308**	*e*P	**P**	**07 05 47.4**	**0.0**
TKM2				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.5						
KURK	**Kurchatov**	**42.82**	**320**	*e*P	**P**	**07 05 48.5**	**-0.5**
	comp=Z,7.1nm,1.1s,mb4.3						
KURK	**Kurchatov**	**42.82**	**320**	*d*P	**P**	**07 05 50.0**	**+1.1**
UCH	**Uchtor**	**43.28**	**307**	*e*P	**P**	**07 05 52.7**	**-0.1**
	comp=Z,9.3nm,1.0s,mb4.5						
AML	**Almayashu**	**43.86**	**307**	*e*P	**P**	**07 05 57.7**	**+0.2**
	comp=Z,7.1nm,0.9s,mb4.4						
EKS2	**Erkin-Say**	**43.89**	**307**	*e*P	**P**	**07 05 57.5**	**-0.2**
	comp=Z,1.9nm,0.7s,mb3.9						
WRA	**Warramunga Arr**	**45.29**	**164**	P	**P**	**07 06 09.6**	**+0.6**
WRA	**Warramunga Arr**	**45.29**	**164**	P	**P**	**07 06 08.8**	**-0.2**
	comp=Z,5.2nm,0.7s,mb4.5,baz=345,slow=8.8,SNR=28						
WB2	**Warramunga Arr**	**45.29**	**164**	*e*P	**P**	**07 06 09.6**	**+0.5**
TIXI	**Tiksi**	**47.77**	**3**	*e*P	**P**	**07 06 26.5**	**-1.4**
	comp=Z,4.0nm,0.8s,mb4.5						
TIXI	**Tiksi**	**47.77**	**3**	*e*P	**P**	**07 06 27.0**	**-0.9**
TIXI				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.5						
TIXI				MLR	MLR		
	comp=Z,224nm,14.0s,MS4.3						
BRVK	**Borovoye**	**48.46**	**321**	*e*P	**P**	**07 06 33.2**	**-0.3**
	comp=Z,4.8nm,0.7s,mb4.6						
BRVK	**Borovoye**	**48.46**	**321**	*e*P	**P**	**07 06 33.2**	**-0.3**
BRVK				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.7						
ASAR	**Alice Springs**	**48.77**	**166**	P	**P**	**07 06 36.4**	**+0.2**
	comp=Z,1.2nm,0.5s,mb4.2,baz=353,slow=14,SNR=20						
CTA	**

*IDC **03** 07:02:54.8±0.7, 727S×15532E, h0km, mb4.3/12, mb1 4.5/12, mb1mx4.4/15, mbtmp4.3/12, MS3.5/2, Ms1 3.5/2, ms1mx3.1/20, Error ellipse: s-maj=27.6km s-min=17.4km az=97.0*
*NEIC **03** 07:02:56.5±0.3, 7.18S×15523E, h10km, mb4.7/6, Error ellipse: s-maj=11.7km s-min=9.4km az=139.0*
*ISCJB **03** 07:03:00.9±2.5, 72S±0.1×15523E±008, h55km±24km, mb4.4/21, MS3.6/1, Error ellipse: s-maj=17.7km s-min=11.9km az=153.2*

ISC 03 07:03:03.1±2.1, 725S±010×15521E±008, h60km±21km, n35, σ0§82/29, mb4.4/21, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.16**	**115**	Pn		**Pn**		**07 04 16.1**	**-1.7**
8.7nm,0.3s,baz=96,slow=3.0,SNR=3.4									
HNR				Sn		**Sn**		**07 05 17.5**	**+1.4**
18nm,0.3s,baz=99,slow=0.9,SNR=2.6									
CTA	**Charters Tower**	**15.44**	**213**	LR		LR		07 11 49.1	
comp=Z,132nm,19.0s,baz=190,slow=34									
KAKA	**Kakadu**	**23.07**	**255**	*eP*		**P**		**07 08 04.2**	**+0.4**
14nm,0.6s,mb4.6									
WB2	**Warramunga Arr**	**23.84**	**236**	*eP*		**P**		**07 08 11.2**	**+0.3**
WRA	**Warramunga Arr**	**23.85**	**236**	P		**P**		**07 08 11.5**	**+0.5**
10nm,0.6s,mb4.4,baz=58,slow=9.0,SNR=43									
WRA				PcP		PcP		07 11 53.7	+0.7
1.2nm,0.7s,baz=63,slow=2.3,SNR=6.3									
ASAR	**Alice Springs**	**26.17**	**229**	P		**P**		**07 08 31.9**	**-0.2**
1.6nm,0.6s,mb3.7,baz=63,slow=8.7,SNR=16									
ASAR				PcP		PcP		07 11 59.2	+1.2
0.5nm,0.5s,baz=73,slow=2.6,SNR=4.8									
STKA	**Stephens Creek**	**27.60**	**206**	*eP*		**P**		**07 08 44.3**	**-0.5**
8.7nm,0.9s,mb4.4									
STKA	**Stephens Creek**	**27.60**	**206**	P		**P**		**07 08 44.4**	**-0.4**
12nm,0.8s,mb4.6,baz=40,slow=13,SNR=9.1									
STKA				LR		LR		07 20 15.4	
comp=Z,151nm,19.2s,baz=26,slow=38									
FITZ	**Fitzroy Crossi**	**30.75**	**247**	*eP*		**P**		**07 09 12.9**	**0.0**
11nm,0.7s,mb4.8									
KSRS	**Korea Array**	**51.26**	**332**	P		**P**		**07 12 01.1**	**+0.2**
0.8nm,0.6s,mb3.8,baz=143,slow=9.1,SNR=5.9									
SONM	**Songino Array**	**69.66**	**327**	P		**P**		**07 14 07.9**	**+1.7**
2.8nm,0.8s,mb4.2,baz=140,slow=7.2,SNR=14									
VNDA	**Vanda**	**70.32**	**178**	P		**P**		**07 14 09.9**	**0.0**
1.0nm,0.8s,mb3.8,baz=312,slow=7.2,SNR=6.0									
BILL	**Bilibino**	**75.51**	**4**	*eP*		**P**		**07 14 41.7**	**+1.2**
8.8nm,1.0s,mb4.6									
KKN	**Kakani**	**75.91**	**301**	*eP*		**P**		**07 14 44.6**	**+0.9**
23nm,0.8s,mb5.2									
GKN	**Gorkha**	**76.51**	**301**	*eP*		**P**		**07 14 47.3**	**+0.2**
70nm,1.1s,mb5.5									
KOLN	**Koldanda**	**77.34**	**300**	*eP*		**P**		**07 14 52.3**	**+0.5**
30nm,1.0s,mb5.2									
DANN	**Dangsing**	**77.35**	**301**	*eP*		**P**		**07 14 50.3**	**-1.6**
0.4nm,0.5s,mb3.6									
IMA2	**Indian Mountai**	**81.97**	**19**	*eP*		**P**		**07 15 16.2**	**+0.2**
MCK	**McKinley**	**82.21**	**22**	*eP*		**P**		**07 15 16.3**	**-1.0**
4.4nm,0.7s,mb4.5									
QSPA	**South Pole Qui**	**82.73**	**180**	P		**P**		**07 15 19.9**	**0.0**
2.9nm,0.8s,mb4.4,baz=42,slow=1.8,SNR=11									
COLA	**College**	**83.24**	**21**	*eP*		**P**		**07 15 21.3**	**-1.3**
3.4nm,0.7s,mb4.5									
MKAR	**Makanchi Array**	**83.73**	**319**	P		**P**		**07 15 25.7**	**+0.1**
MKAR	**Makanchi Array**	**83.73**	**319**	P		**P**		**07 15 25.7**	**+0.1**
2.6nm,0.8s,mb4.4,baz=100,slow=5.6,SNR=20									
MAW	**Mawson**	**84.25**	**203**	P		**P**		**07 15 27.3**	**-0.6**
3.0nm,0.6s,mb4.6,baz=239,slow=22,SNR=4.4									
ZAA0	**Zalesovo Array**	**84.51**	**326**	*eP*		**P**		**07 15 28.9**	**-0.5**
ZALV	**Zalesovo Beam**	**84.51**	**326**	P		**P**		**07 15 28.7**	**-0.7**
ZALV	**Zalesovo Beam**	**84.51**	**326**	P		**P**		**07 15 28.7**	**-0.7**
1.5nm,0.7s,mb4.3,baz=104,slow=4.7,SNR=8.1									
NVAR	**Mina Array Bea**	**91.71**	**52**	P		**P**		**07 16 05.1**	**+0.9**
0.7nm,0.8s,mb4.1,baz=252,slow=4.5,SNR=5.1									
YKA	**Yellowknife Ar**	**96.46**	**28**	P		**P**		**07 16 25.1**	**-0.3**
1.1nm,0.7s,mb4.4,baz=266,slow=4.7,SNR=22									
GERES	**GERESS Array B**	**127.38**	**329**	PKP		PKPdf		07 22 02.4	+1.2
0.4nm,0.5s,baz=116,slow=3.1,SNR=5.1									
LPAZ	**La Paz**	**131.15**	**119**	PKP		PKPdf		07 22 10.4	+1.2
3.0nm,1.0s,baz=3.1,slow=4.2,SNR=6.8									
SDV	**Santo Domingo**	**134.60**	**85**	*e*PKPdf		PKPdf		07 22 15.5	-0.3
BDFB	**Brasilia**	**147.65**	**135**	PKPbc		PKPbc		07 22 41.8	0.0
4.5nm,0.7s,baz=216,slow=1.7,SNR=8.1									
TORD	**Torodi Ar. Bea**	**153.30**	**285**	PKPbc		PKPbc		07 22 56.0	+0.5
1.3nm,0.7s,baz=63,slow=2.6,SNR=6.1									
TORD				PKPab		PKPab		07 23 07.9	+0.4
1.1nm,0.8s,baz=72,slow=5.6,SNR=4.1									
DBIC	**Dimbokro**	**160.21**	**270**	PKPab		PKPab		07 23 37.6	+0.3
2.5nm,0.7s,baz=60,slow=7.7,SNR=4.6									

*IDC **03** 07:12:44.0±1.2, 852S×15736E, h0km, mb3.7/5, mb1 3.9/6, mb1mx3.8/15, mbtmp3.8/6, ML4.2/1, Error ellipse: s-maj=33.9km s-min=21.8km az=167.0*
*NEIC **03** 07:12:45.4±0.7, 849S×15736E, h10km, mb4.4/1, Error ellipse: s-maj=21.8km s-min=13.0km az=166.0*
*ISCJB **03** 07:12:46.1±7.1, 86S±02×15734E±008, h24km±51km, mb3.7/6, Error ellipse: s-maj=34.2km s-min=13.2km az=179.3*

ISC 03 07:12:46.1±7.4, 85S±02×15736E±008, h14km±45km, n7, σ0§73/8, mb3.7/6, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.71**	**110**	Pn		**Pn**		**07 13 29.3**	**0.0**
40nm,0.3s,baz=258,slow=6.2,SNR=6.1									
HNR				Sn		**Sn**		**07 14 01.9**	**0.0**
70nm,0.3s,baz=91,slow=23,SNR=8.1									
WRA	**Warramunga Arr**	**25.00**	**241**	P		**P**		**07 18 09.7**	**-0.1**
1.4nm,0.6s,mb3.6,baz=67,slow=9.4,SNR=10									
ASAR	**Alice Springs**	**27.04**	**233**	P		**P**		**07 18 27.4**	**-0.8**
0.3nm,0.8s,mb2.9,baz=212,slow=8.3,SNR=3.4									
STKA	**Stephens Creek**	**27.48**	**210**	P		**P**		**07 18 32.8**	**+0.7**
1.5nm,0.7s,mb3.6,baz=41,slow=12,SNR=4.3									
MKAR	**Makanchi Array**	**86.09**	**318**	P		**P**		**07 25 27.2**	**+0.6**
0.3nm,0.6s,mb3.7,baz=102,slow=5.8,SNR=5.5									
ISA	**Isabella**	**90.20**	**54**	*eP*		**P**		**07 25 45.8**	**-0.8**
1.0nm,0.4s,mb4.5									
NVAR	**Mina Array Bea**	**90.82**	**51**	P		**P**		**07 25 49.7**	**+0.3**
0.5nm,0.8s,mb3.9,baz=248,slow=8.6,SNR=3.9									

*ISCJB **03** 07:26:49.6±1.2, 188S±0.1×1779W±0.1, h597km±17km, mb3.7/9, Error ellipse: s-maj=23.9km s-min=13.5km az=156.0*
*NEIC **03** 07:26:50.3±1.1, 1880S×17785W, h590km±16km, mb4.1/4, Error ellipse: s-maj=23.9km s-min=12.1km az=148.0*
*IDC **03** 07:26:52.0±2.6, 1889S×17790W, h611km±33km, mb3.2/8, mb1 3.5/9, mb1mx3.3/17, mbtmp3.2/9, Error ellipse: s-maj=26.2km s-min=12.6km az=160.0*

ISC 03 07:26:50.7±1.2, 188S±01×1779W±01, h594km±16km, n17, σ0§85/19, mb3.7/9, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.63**	**51**	*eP*		**P**		**07 28 45.8**	**-0.5**
21nm,0.6s									
URZ	**Urewera**	**19.86**	**192**	P		**P**		**07 30 41.6**	**-1.6**
2.3nm,0.3s,baz=346,slow=1.7,SNR=17									
ARMA	**Armidale**	**29.93**	**241**	*eP*		**P**		**07 32 13.8**	**+1.7**
STKA	**Stephens Creek**	**38.64**	**242**	*eP*		**P**		**07 33 25.9**	**+1.3**
2.5nm,0.4s,mb4.1									
STKA	**Stephens Creek**	**38.64**	**242**	P		**P**		**07 33 25.3**	**+0.7**
3.0nm,0.3s,mb4.3,baz=73,slow=7.8,SNR=11									
WB2	**Warramunga Arr**	**44.95**	**260**	*eP*		**P**		**07 34 14.1**	**-0.2**
WRA	**Warramunga Arr**	**44.97**	**260**	P		**P**		**07 34 14.2**	**-0.2**
2.5nm,0.4s,mb4.1,baz=98,slow=7.2,SNR=53									
WRA				S		**S**		**07 40 09.6**	**-1.0**
0.7nm,0.9s,baz=40,slow=29,SNR=4.7									
ASAR	**Alice Springs**	**45.03**	**255**	P		**P**		**07 34 15.1**	**+0.2**
7.2nm,0.7s,mb4.3,baz=91,slow=7.5,SNR=92									
ASAR				PcP		PcP		07 35 42.5	-0.3
0.5nm,0.5s,baz=112,slow=3.7,SNR=4.4									
ASAR				S		**S**		**07 40 09.8**	**-1.8**
1.2nm,0.7s,baz=90,slow=16,SNR=11									
KAKA	**Kakadu**	**48.07**	**270**	*eP*		**P**		**07 34 37.7**	**-0.1**
4.3nm,0.6s,mb4.2									
FITZ	**Fitzroy Crossi**	**53.38**	**261**	*eP*		**P**		**07 35 16.4**	**+0.2**
1.8nm,0.3s,mb3.9									
FITZ	**Fitzroy Crossi**	**53.38**	**261**	P		**P**		**07 35 16.4**	**+0.2**
1.0nm,0.3s,mb3.6,baz=105,slow=8.1									
VNDA	**Vanda**	**59.58**	**185**	P		**P**		**07 35 58.9**	**+1.2**
0.6nm,0.6s,mb3.0,baz=359,slow=4.7,SNR=5.2									
NVAR	**Mina Array Bea**	**79.73**	**43**	P		**P**		**07 37 57.2**	**-0.7**
0.4nm,0.5s,mb3.0,baz=219,slow=7.3,SNR=5.6									
TXAR	**Lajitas Array**	**86.06**	**57**	P		**P**		**07 38 30.7**	**+1.0**
0.8nm,0.7s,mb3.5,baz=209,slow=7.2,SNR=2.0									
PDAR	**Pinedale Array**	**87.67**	**43**	P		**P**		**07 38 37.1**	**+0.2**
0.4nm,0.8s,mb3.2,baz=176,slow=4.2,SNR=3.3									
VNA3	**Neumayer Olymp**	**89.80**	**176**	*e*		**P**		**07 38 45.9**	**-0.5**
VNA2	**Neumayer--Watz**	**90.25**	**177**	*e*		**P**		**07 38 48.2**	**-0.2**
baz=189,slow=1.7									

*IDC **03** 07:30:21.8±0.9, 850S×15701E, h0km, mb4.1/8, mb1 4.2/9, mb1mx4.1/16, mbtmp4.1/9, ML4.4/1, MS3.5/5, Ms1 3.5/5, ms1mx3.2/27, Error ellipse: s-maj=23.7km s-min=22.9km az=9.0*
*NEIC **03** 07:30:23.6±0.7, 851S×15701E, h10km, Error ellipse: s-maj=20.3km s-min=16.1km az=176.0*
*ISCJB **03** 07:30:25.7±0.7, 86S±0.1×15693E±007, h33km, mb3.9/8, MS3.5/4, Error ellipse: s-maj=19.6km s-min=9.8km az=8.3*

ISC 03 07:30:27.7±0.8, 85S±01×15692E±008, h35km, n14, σ0§93/13, mb3.9/8, MS3.5/4, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
HNR	**Honiara**	**3.13**	**107**	*e*Pn		**Pn**		**07 31 11.3**	**-3.2**
HNR				*e*Pg		**Pn**		**07 31 21.1**	**+6.6**
HNR	**Honiara**	**3.13**	**107**	Pn		**Pn**		**07 31 10.0**	**-4.5**
43nm,0.3s,baz=271,slow=2.8,SNR=7.0									
HNR				Sn		**Sn**		**07 31 50.6**	**0.0**
45nm,0.3s,baz=92,slow=22,SNR=7.3									
CTA	**Charters Tower**	**15.45**	**221**	LR		LR		07 37 59.9	
comp=Z,74nm,18.8s,baz=68,slow=30									
WRA	**Warramunga Arr**	**24.62**	**240**	P		**P**		**07 35 45.9**	**+0.9**
7.9nm,0.8s,mb4.3,baz=66,slow=9.6,SNR=26									
WRA				LR		LR		07 44 57.7	
comp=Z,189nm,19.0s,MS3.6,baz=75,slow=35									
GUMO	**Guam**	**25.01**	**331**	LR		LR		07 43 51.5	
comp=Z,68nm,21.1s,MS3.1,baz=276,slow=32									
ASAR	**Alice Springs**	**26.69**	**233**	P		**P**		**07 36 02.3**	**-1.4**
1.0nm,0.8s,mb3.4,baz=60,slow=9.5,SNR=6.9									
STKA	**Stephens Creek**	**27.26**	**209**	P		**P**		**07 36 09.8**	**+1.1**
3.9nm,0.8s,mb4.0,baz=28,slow=13,SNR=6.3									
STKA				LR		LR		07 46 07.4	
comp=Z,127nm,21.1s,MS3.5,baz=24,slow=35									
NWAO	**Narrogin (SRO)**	**43.96**	**231**	LR		LR		07 58 50.4	
comp=Z,125nm,18.2s,MS3.9,baz=75,slow=39									
VNDA	**Vanda**	**69.02**	**179**	P		**P**		**07 41 29.0**	**-0.3**
3.1nm,0.8s,mb3.9,baz=333,slow=5.8,SNR=7.3									
SONM	**Songino Array**	**71.64**	**327**	P		**P**		**07 41 45.7**	**0.0**
0.7nm,0.6s,mb3.8,baz=132,slow=4.4,SNR=5.7									
QSPA	**South Pole Qui**	**81.47**	**180**	P		**P**		**07 42 40.6**	**-0.2**
4.2nm,1.0s,mb4.3,baz=318,slow=2.6									
MKAR	**Makanchi Array**	**85.80**	**318**	P		**P**		**07 43 02.5**	**-1.1**
0.6nm,0.8s,mb3.9,baz=142,slow=4.9,SNR=4.2									
YKA	**Yellowknife Ar**	**96.78**	**28**	P		**P**		**07 43 55.7**	**+1.3**
YKA	**Yellowknife Ar**	**96.78**	**28**	P		**P**		**07 43 55.7**	**+1.3**
0.2nm,0.7s,mb3.7,baz=259,slow=4.4,SNR=4.4									

NNC 03 07:36:08.6±2.7, 5388N×8593E, h0km, mb3.5, mpv3.3, 4C-3D, Error ellipse: s-maj=23.0km s-min=13.3km az=55.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KURK	**Kurchatov**	**5.49**	**238**	⇑Pn		Pn		07 37 33.9	+2.4
2.3nm,0.6s									
KURK				⇑Sn		Sn		07 38 37.0	+1.7
1.4nm,0.6s									
KURK				⇑Lg				07 39 04.8	
6.7nm,0.8s									
MK31	**Makanchi Array**	**7.46**	**200**	Pn		Pn		07 38 00.9	+2.2
1.0nm,0.6s,baz=24,slow=12,SNR=42									
MK31				⇑Sn		Sn		07 39 30.3	+6.4
1.1nm,0.5s,baz=23,slow=25,SNR=6.0									
MK31				⇓Lg				07 40 03.2	
5.6nm,0.8s,baz=28,slow=32,SNR=5.2									
CHKZ	**Chkalovo**	**9.07**	**275**	⇓Pn		Pn		07 38 21.3	+0.6
1.9nm,1.1s									
CHKZ				⇓Sn		Sn		07 40 01.6	-1.8
2.3nm,0.8s									
BVA0	**Borovoye Array**	**9.31**	**271**	Pn		Pn		07 38 25.3	+1.3
0.3nm,0.7s,baz=70,slow=15,SNR=9.7									
BVA0				Sn		Sn		07 40 08.9	-0.4
0.6nm,0.7s,baz=73,slow=22,SNR=5.3									

*IDC **03** 07:44:46.8±1.0, 7.13S×15544E, h0km, mb3.9/7, mb1 4.1/8, mb1mx3.9/16, mbtmp4.0/8, ML4.6/1, Error ellipse: s-maj=29.4km s-min=23.3km az=128.0*
*NEIC **03** 07:44:48.4±0.5, 7.19S×15549E, h10km, mb4.6/1, Error ellipse: s-maj=14.6km s-min=12.6km az=183.0*
*ISCJB **03** 07:44:52.6±4.1, 74S±02×1557E±02, h64km±45km, mb3.9/8, Error ellipse: s-maj=37.1km s-min=19.5km az=139.2*

ISC 03 07:44:52.3±4.0, 72S±02×1555E±02, h36km±46km, n11, σ0§64/11, mb3.9/8, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.89**	**117**	Pn		**Pn**		**07 46 03.3**	**0.0**
24nm,0.3s,baz=165,slow=1.8,SNR=4.0									
HNR				Sn		**Sn**		**07 46 51.8**	**-7.0**
37nm,0.3s,baz=276,slow=23,SNR=6.0									
WRA	**Warramunga Arr**	**24.11**	**236**	P		**P**		**07 50 04.5**	**-0.3**
3.2nm,0.9s,mb3.8,baz=62,slow=9.3,SNR=10									
ASAR	**Alice Springs**	**26.41**	**229**	P		**P**		**07 50 25.9**	**+0.3**
0.4nm,0.7s,mb3.1,baz=57,slow=8.8,SNR=5.2									
STKA	**Stephens Creek**	**27.74**	**206**	P		**P**		**07 50 37.8**	**+0.3**
3.0nm,0.8s,mb4.0,baz=27,slow=10,SNR=5.2									
FITZ	**Fitzroy Crossi**	**31.04**	**247**	P		**P**		**07 51 05.9**	**-1.1**
1.1nm,0.6s,mb3.9,baz=68,slow=15,SNR=5.7									
KKM	**Kota Kinabalu**	**41.38**	**288**	*eP*		**P**		**07 52 36.7**	**+1.4**
MA2	**Magadan**	**66.71**	**357**	*eP*		**P**		**07 55 39.1**	**-0.2**
3.1nm,0.6s,mb4.5									
SONM	**Songino Array**	**69.82**	**327**	P		**P**		**07 55 58.4**	**-0.7**
1.1nm,0.7s,mb3.9,baz=121,slow=6.0,SNR=6.3									
MKAR	**Makanchi Array**	**83.93**	**319**	P		**P**		**07 57 18.2**	**-0.3**
0.5nm,0.6s,mb3.8,baz=117,slow=4.3,SNR=6.5									
YKA	**Yellowknife Ar**	**96.31**	**28**	P		**P**		**07 58 17.2**	**+0.5**
0.4nm,0.7s,mb4.0,baz=266,slow=4.5,SNR=8.5									
BDFB	**Brasilia**	**147.44**	**134**	PKPbc		PKPbc		08 04 32.8	-0.6
2.4nm,0.6s,baz=240,slow=5.0,SNR=5.7									

*IDC **03** 07:51:12.7±0.9, 769S×15575E, h0km, mb4.4/11, mb1 4.5/11, mb1mx4.4/15, mbtmp4.4/11, MS4.2/14, Ms1 4.2/14, ms1mx4.0/22, Error ellipse: s-maj=30.9km s-min=17.8km az=115.0*
*BJI **03** 07:51:14.9, 750S×15550E, h10km, mb5.0, mB5.2*
*NEIC **03** 07:51:15.0±0.5, 751S×15555E, h10km, mb4.8/8, Error ellipse: s-maj=14.4km s-min=9.7km az=128.0*
*ISCJB **03** 07:51:19.7±2.4, 77S±0.1×15572E±008, h65km±25km, mb4.4/19, Error ellipse: s-maj=19.2km s-min=10.2km az=145.3*

ISC 03 07:51:21.9±2.1, 78S±01×15572E±009, h71km±24km, n36, σ1§07/28, mb4.4/19, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.49**	**112**	Pn		**Pn**		**07 52 28.9**	**+1.5**
13nm,0.3s,baz=91,slow=4.7,SNR=2.9									
HNR				Sn		**Sn**		**07 53 17.5**	**-1.0**
30nm,0.3s,baz=278,slow=11,SNR=3.8									
HNR				LR		LR		07 53 55.5	
comp=Z,3μm,21.8s,baz=342,slow=36									
CTA	**Charters Tower**	**15.28**	**216**	Pn		**Pn**		**07 54 53.9**	**+0.3**
0.4nm,0.3s,baz=45,slow=13,SNR=5.9									
CTA				LR		LR		08 00 06.4	
comp=Z,762nm,19.4s,baz=37,slow=35									
CTAO	**Charters Tower**	**15.28**	**216**	*e*Pn		**Pn**		**07 54 52.7**	**-1.0**
185nm,1.9s									
KAKA	**Kakadu**	**23.42**	**256**	*eP*		**P**		**07 56 24.6**	**-0.3**
54nm,1.1s,mb4.8									
GUMO	**Guam**	**23.81**	**333**	LR		LR		08 04 23.0	
comp=Z,278nm,21.5s,baz=312,slow=33									
WB2	**Warramunga Arr**	**23.97**	**238**	*eP*		**P**		**07 56 29.8**	**-0.1**
WRA	**Warramunga Arr**	**23.98**	**238**	P		**P**		**07 56 29.8**	**-0.1**
22nm,1.0s,mb4.4,baz=64,slow=9.4,SNR=38									
WRA				PcP		PcP		08 00 10.5	-0.1
1.0nm,0.9s,baz=63,slow=2.9,SNR=4.5									
ASAR	**Alice Springs**	**26.21**	**230**	P		**P**		**07 56 49.7**	**-0.5**
3.7nm,0.9s,mb3.8,baz=60,slow=8.9,SNR=20									
STKA	**Stephens Creek**	**27.34**	**207**	P		**P**		**07 57 01.8**	**+1.5**
6.3nm,1.0s,mb4.1,baz=30,slow=13,SNR=7.7									
STKA				LR		LR		08 07 51.9	
comp=Z,765nm,18.3s,baz=27,slow=36									
FITZ	**Fitzroy Crossi**	**31.01**	**248**	*eP*		**P**		**07 57 32.2**	**-0.8**
5.6nm,0.8s,mb4.3									
FITZ	**Fitzroy Crossi**	**31.01**	**248**	P		**P**		**07 57 32.1**	**-0.9**
2.0nm,0.5s,mb4.1,baz=75,slow=8.0,SNR=12									
FITZ				LR		LR		08 09 56.5	
comp=Z,153nm,18.9s,baz=256,slow=36									
BATI	**Kupang**	**31.74**	**263**	LR		LR		08 11 53.2	
comp=Z,551nm,18.6s,baz=238,slow=39									
URZ	**Urewera**	**35.97**	**151**	LR		LR		08 11 19.0	
comp=Z,369nm,19.2s,baz=31,slow=34									
MBWA	**Marble Bar**	**37.19**	**245**	*eP*		**P**		**07 58 26.8**	**+0.4**
5.6nm,0.8s,mb4.5									
RPZ	**Rata Peaks**	**38.22**	**162**	LR		LR		08 12 10.0	
comp=Z,533nm,20.1s,baz=330,slow=33									
KLBR	**Kellerberrin**	**42.54**	**231**	*eP*		**P**		**07 59 10.1**	**-0.6**
29nm,1.3s,mb4.8									
MJAR	**Matsushiro Arr**	**47.06**	**341**	P		**P**		**07 59 44.3**	**-2.2**
5.3nm,0.8s,mb4.3,baz=170,slow=8.5,SNR=10									
MJAR				LR		LR		08 17 03.7	
comp=Z,208nm,20.5s,baz=210,slow=33									
MAJO	**Matsushiro**	**47.06**	**341**	*eP*		**P**		**07 59 45.4**	**-1.1**
10nm,0.6s,mb4.7									
MAT	**Matsushiro**	**47.06**	**341**	P		**P**		**07 59 45.2**	**-1.3**
KSRS	**Korea Array**	**51.97**	**332**	P		**P**		**08 00 23.6**	**-0.2**
5.0nm,0.9s,mb4.5,baz=151,slow=7.9,SNR=11									
KSRS				LR		LR		08 19 37.4	
comp=Z,132nm,20.4s,baz=48,slow=33									
ASAJ	**Asahikawa**	**53.01**	**348**	P		**P**		**08 00 33.5**	**+2.0**
5.8nm,0.9s,mb4.6,baz=268,slow=22,SNR=5.0									
PPT	**Papeete**	**54.09**	**106**	LR		LR		08 21 39.6	
comp=Z,166nm,18.4s,baz=359,slow=34									
MDJ	**Mudanjiang**	**57.24**	**338**	P		**P**		**08 01 03.4**	**+1.5**
MDJ				AMB		AMB			
comp=Z,12nm,1.4s,mb4.7									
MDJ				AMB		AMB			
comp=Z,97nm,4.2s									
CN2	**Changchun**	**58.21**	**335**	*eP*		**P**		**08 01 09.8**	**+1.1**
VNDA	**Vanda**	**69.78**	**179**	LR		LR		08 26 55.2	
comp=Z,299nm,18.2s,baz=355,slow=31									
SONM	**Songino Array**	**70.39**	**327**	P		**P**		**08 02 29.3**	**+1.0**
comp=Z,1.7nm,0.5s,mb4.1,baz=145,slow=6.6,SNR=11									
MCK	**McKinley**	**82.52**	**22**	*eP*		**P**		**08 03 34.9**	**-1.6**
comp=Z,7.8nm,1.0s,mb4.5									
COLA	**College**	**83.56**	**21**	*eP*		**P**		**08 03 41.3**	**-0.6**
comp=Z,5.8nm,1.0s,mb4.4									
MAW	**Mawson**	**83.95**	**203**	LR		LR		08 35 53.9	
comp=Z,183nm,18.9s,baz=278,slow=32									
MKAR	**Makanchi Array**	**84.47**	**319**	P		**P**		**08 03 47.4**	**+0.5**
comp=Z,4.0nm,0.7s,mb4.3,baz=104,slow=7.1,SNR=19									
ZAA0	**Zalesovo Array**	**85.23**	**326**	*eP*		**P**		**08 03 51.0**	**+0.5**
ZALV	**Zalesovo Beam**	**85.23**	**326**	P		**P**		**08 03 51.1**	**+0.6**
comp=Z,1.7nm,0.6s,mb4.2,baz=122,slow=5.0,SNR=6.8									
ZALV				LR		LR		08 39 47.9	
comp=Z,61nm,18.4s,baz=54,slow=34									
NVAR	**Mina Array Bea**	**91.65**	**52**	P		**P**		**08 04 23.0**	**+1.5**
comp=Z,0.3nm,0.5s,mb3.8,baz=249,slow=4.6,SNR=3.4									
YKA	**Yellowknife Ar**	**96.70**	**28**	P		**P**		**08 04 42.8**	**-1.2**
comp=Z,1.2nm,0.8s,mb4.3,baz=265,slow=4.6,SNR=15									
GERES	**GERESS Array B**	**128.10**	**329**	PKP		PKPdf		08 10 20.7	+0.7
comp=Z,0.3nm,0.2s,baz=72,slow=4.3,SNR=4.8									
BDFB	**Brasilia**	**146

TIP	**Timpagrande**	**2.93**	**289**	P		**Pn**	**07 54 01.4 +4.5**
KYTH	**Kithira**	**2.95**	**132**	*e*PB		**Pb**	**07 53 59.0 -3.5**
KRUS	**Krusevo**	**3.15**	**13**	*e*Pn		**Pn**	**07 53 59.9 0.0**
KRUS	**Krusevo**	**3.15**	**13**	*e*Pn		**Pn**	**07 53 59.8 -0.1**
TA1	**Taranto**	**3.17**	**313**	*e*Pn		**Pn**	**07 54 03.9 +3.7**
PLG	**Polygyros**	**3.18**	**48**	*e*Pn		**Pn**	**07 54 00.5 +0.2**
PLG	**Polygyros**	**3.18**	**48**	*e*PN		**Pn**	**07 54 01.4 +1.1**
PE1	**Pezze di Greco**	**3.37**	**319**	*e*Pn		**Pn**	**07 54 05.4 +2.5**
VAY	**Valandovo**	**3.48**	**29**	*e*Pn		**Pn**	**07 54 02.7 -1.7**
VAY	**Valandovo**	**3.48**	**29**	*e*Pn		**Pn**	**07 54 02.6 -1.8**
ULC	**Ulcinj**	**3.75**	**348**	⇓*i*Pn		**Pn**	**07 54 08.3 +0.1**
ULC				*e*Sn		**Sn**	**07 54 53.0 -0.1**
PUK	**Puka**	**3.76**	**355**	*i*Pn		**Pn**	**07 54 07.0 -1.2**
SG1	**Sgolgore (BA)**	**3.80**	**313**	*e*Pn		**Pn**	**07 54 09.8 +1.0**
BUM	**Brajici-Budva**	**4.15**	**345**	⇑*i*Pn		**Pn**	**07 54 14.8 +1.2**
BUM				*e*Sn		**Sn**	**07 55 02.9 +0.2**
PDG	**Podgorica**	**4.21**	**349**	⇑*i*Pn		**Pn**	**07 54 14.5 0.0**
PDG				*e*Sn		**Sn**	**07 55 03.8 -0.4**
TTG	**Podgorica**	**4.21**	**349**	⇑*i*Pn		**Pn**	**07 54 14.5 0.0**
TTG				*e*Sn		**Sn**	**07 55 03.8 -0.4**
PVY	**Plav**	**4.30**	**356**	⇑*i*Pn		**Pn**	**07 54 16.3 +0.6**
PVY				*e*Sn		**Sn**	**07 55 05.1 -1.4**
HCY	**Herceg Novi**	**4.38**	**342**	⇑*i*Pn		**Pn**	**07 54 17.5 +0.7**
HCY				*e*Sn		**Sn**	**07 55 08.8 +0.4**
BEY	**Berane**	**4.58**	**356**	⇑*i*Pn		**Pn**	**07 54 20.2 +0.6**
BEY				*e*Sn		**Sn**	**07 55 12.0 -1.4**
IVA	**Berane**	**4.58**	**356**	⇑*i*Pn		**Pn**	**07 54 20.2 +0.6**
IVA				*e*Sn		**Sn**	**07 55 12.0 -1.4**
NKY	**Niksic**	**4.62**	**348**	⇑*i*Pn		**Pn**	**07 54 20.1 -0.1**
NKY				*e*Sn		**Sn**	**07 55 13.8 -0.7**
IDI	**Anoyia**	**4.73**	**128**	P		**Pn**	**07 54 25.9 +4.2**
	1.2nm,0.3s,baz=359,slow=9.4,SNR=2.8						
IDI				S		**Sn**	**07 55 17.8 +0.6**
	3.6nm,0.3s,baz=356,slow=22,SNR=4.0						
VAE	**Valguarnera**	**4.76**	**262**	LR		LR	07 56 46.6
	comp=Z,192nm,19.0s,baz=358,slow=43						
MS1	**Monte Sant'Ang**	**4.79**	**317**	*e*Pn		**Pn**	**07 54 25.2 +2.7**
BRY	**Bratogost**	**4.80**	**344**	⇑*i*Pn		**Pn**	**07 54 23.3 +0.8**
BRY				*e*Sn		**Sn**	**07 55 18.4 -0.3**
VTS	**Vitosha**	**4.82**	**26**	⇑*i*P		**Pn**	**07 54 30.6 +7.8**
RDO	**Rodhopi**	**4.92**	**53**	*e*PN		**Pn**	**07 54 26.1 +1.9**
STON	**Ston**	**4.99**	**337**	*e*Pn		**Pn**	**07 54 24.2 -1.0**
STON				Sn		**Sn**	**07 55 20.2 -3.3**
UPM	**Unac-Piva**	**5.02**	**348**	⇑*i*Pn		**Pn**	**07 54 26.6 +1.0**
UPM				*e*Sn		**Sn**	**07 55 23.2 -1.0**
PLE	**Pljevlja**	**5.08**	**352**	⇑*i*Pn		**Pn**	**07 54 27.4 +1.0**
PLE				*e*Sn		**Sn**	**07 55 24.6 -1.1**
GZR	**Gura Zlata**	**7.32**	**14**	⇓*i*P		**Pn**	**07 55 00.2 +3.0**
MLR	**Muntele Rosu**	**8.31**	**28**	P		**Pn**	**07 55 13.6 +2.8**
	0.2nm,0.3s,baz=259,slow=10,SNR=6.1						
MLR	**Muntele Rosu**	**8.31**	**28**	⇓*i*P		**Pn**	**07 55 17.0 +6.2**
PLOR	**Plostina**	**8.88**	**30**	⇓*i*P		**Pn**	**07 55 27.0 +8.4**
VOY	**Vojsko**	**9.09**	**330**	*e*Pn		**Pn**	**07 55 20.4 -1.0**
VOY				*e*			07 55 25.7
VOY				*e*Sn		**Sn**	**07 57 02.7 -1.6**
HMAT	**Matruh**	**9.09**	**140**	⇑P		**Pn**	**07 55 16.6 -4.9**
OBKA	**Obir**	**9.25**	**334**	⇓*i*Sn		**Sn**	**07 57 00.1 -8.3**
OBKA	**Obir**	**9.25**	**334**	⇑*i*Pn		**Pn**	**07 55 23.1 -0.5**
OBKA				*i*Sn		**Sn**	**07 57 00.1 -8.3**
OBKA	**Obir**	**9.25**	**334**	⇑*i*Pn		**Pn**	**07 55 23.1 -0.5**
OBKA				⇓*i*Sn		**Sn**	**07 57 03.3 -5.1**
SWA1		**10.06**	**152**	⇓P		**Pn**	**07 55 34.1 -0.7**
SWA1				S		**Sn**	**07 57 09.6 -19**
MOA	**Molln**	**10.52**	**337**	⇑*i*Sn		**Sn**	**07 57 32.9 -6.7**
MOA	**Molln**	**10.52**	**337**	⇑*i*Pn		**Pn**	**07 55 40.5 -0.5**
MOA				⇑*i*Sn		**Sn**	**07 57 37.9 -1.7**
DAVOX	**Davos/Dischmat**	**11.45**	**321**	P		**Pn**	**07 55 55.3 +1.5**
	0.3nm,0.3s,baz=169,slow=14,SNR=2.5						
DAVOX				LR		LR	08 00 34.1
	comp=Z,96nm,18.6s,baz=84,slow=38						
GERES	**GERESS Array B**	**11.58**	**338**	P		**Pn**	**07 55 55.6 +0.1**
	0.2nm,0.3s,baz=158,slow=14,SNR=6.6						
HFRF	**Wahat Farafira**	**12.98**	**147**	⇓P		**Pn**	**07 56 11.9 -2.9**
HDK1	**Dakhla**	**14.85**	**146**	⇓P		**Pn**	**07 56 37.7 -2.6**
MDT	**Midelt**	**21.00**	**262**	LR		LR	08 07 34.3
	comp=Z,59nm,19.9s,MS3.0,baz=229,slow=41						
HFS	**Hagfors**	**22.26**	**351**	P		**P**	**07 58 08.0 +0.7**
	5.6nm,0.7s,mb4.1,baz=163,slow=11,SNR=8.2						
HFS				LR		LR	08 06 06.2
	comp=Z,57nm,18.4s,MS3.0,baz=156,slow=35						
FINES	**FINESS Array B**	**23.45**	**7**	P		**P**	**07 58 18.1 -1.7**
	1.7nm,0.7s,mb3.7,baz=131,slow=8.6,SNR=7.2						
NB2	**NORSAR Subarra**	**23.47**	**349**	P		**P**	**07 58 20.7 +0.6**
	comp=Z,2.3nm,0.8s,mb3.8,baz=153,slow=9.3						
NOA	**NORSAR Array B**	**23.47**	**349**	P		**P**	**07 58 20.1 0.0**
	comp=Z,1.0nm,0.6s,mb3.5,baz=163,slow=11,SNR=4.5						
NOA				LR		LR	08 09 13.4
	comp=Z,49nm,18.4s,MS3.0,baz=75,slow=41						
TORD	**Torodi Ar. Bea**	**30.03**	**218**	P		**P**	**07 59 19.9 +0.2**
	comp=Z,1.7nm,0.9s,mb3.9,baz=34,slow=9.1,SNR=4.6						
MKAR	**Makanchi Array**	**45.36**	**58**	P		**P**	**08 01 26.9 -2.0**
	comp=Z,0.8nm,0.5s,mb3.9,baz=283,slow=6.8,SNR=6.8						
ZALV	**Zalesovo Beam**	**45.72**	**48**	P		**P**	**08 01 29.9 -1.8**
	comp=Z,2.1nm,0.6s,mb4.4,baz=274,slow=8.7,SNR=4.1						

IDC 03 07:58:39.2±2.1,5370N×8792E,h0km,mb1 3.2/1, mb1mx3.0/22,mbtmp3.2/1,ML3.2/1,Error ellipse: s-maj=20.6km s-min=6.0km az=96.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZALV	**Zalesovo Beam**	**1.85**	**279**	Pg	Pg	07 59 13.0	-1.7
	2.9nm,0.3s,baz=100,slow=15,SNR=29						
ZALV				Lg		07 59 37.9	
	5.4nm,0.3s,baz=102,slow=28,SNR=18						
MKAR	**Makanchi Array**	**7.79**	**210**	Pn	Pn	08 00 34.9	+1.2
	0.3nm,0.3s,baz=28,slow=13,SNR=19						
MKAR				Sn	Sn	08 02 03.1	+0.6
	0.1nm,0.3s,baz=31,slow=20,SNR=3.5						
MKAR				Lg		08 02 43.9	
	0.1nm,0.3s,baz=27,slow=29,SNR=5.4						

*IDC **03** 08:00:02.3±0.9,591S×15132E,h0km,mb4.2/7,mb1 4.4/7, mb1mx4.1/14,mbtmp4.1/7,MS3.4/1,Ms1 3.4/1, ms1mx2.8/23,Error ellipse: s-maj=44.2km s-min=21.1km az=125.0*
*ISCJB **03** 08:00:07.4±4.4,59S±02×151.1E±0.1,h43km±43km, mb4.0/7,Error ellipse: s-maj=37.4km s-min=15.7km az=152.6*
*NEIC **03** 08:00:11.3±1.7,597S×151.17E,h67km±16km,mb4.4/2, Error ellipse: s-maj=18.5km s-min=8.2km az=154.0*

ISC 03 08:00:09.9±2.9,59S±02×1511E±01,h51km±30km,n14, σ0=44/11,mb4.0/7,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**9.44**	**112**	Pn	Pn	**08 02 23.5**	**+0.1**
	53nm,0.3s,baz=249,slow=1.9,SNR=8.9						
HNR				LR	LR	08 05 15.9	
	comp=Z,221nm,21.0s,baz=180,slow=34						
KAKA	**Kakadu**	**19.61**	**248**	*e*P	Pn	**08 04 35.3**	**-0.6**
	11nm,0.6s						
WB2	**Warramunga Arr**	**21.44**	**228**	*e*P	P	**08 04 53.9**	**-0.1**
WRA	**Warramunga Arr**	**21.45**	**228**	P	P	**08 04 54.2**	**+0.1**
	4.8nm,0.5s,mb4.1,baz=54,slow=11,SNR=42						
ASAR	**Alice Springs**	**24.20**	**221**	P	P	**08 05 22.2**	**+0.4**
	4.0nm,0.6s,mb4.1,baz=58,slow=8.7,SNR=48						
STKA	**Stephens Creek**	**27.33**	**198**	P	P	**08 05 49.7**	**-0.3**
	2.0nm,0.7s,mb3.8,baz=7.9,slow=11,SNR=4.5						
FITZ	**Fitzroy Crossi**	**27.65**	**242**	*e*P	P	**08 05 53.4**	**+0.3**
	7.3nm,0.6s,mb4.5						
FITZ	**Fitzroy Crossi**	**27.65**	**242**	P	P	**08 05 53.9**	**+0.8**
	3.5nm,0.5s,mb4.2,baz=58,slow=8.6,SNR=24						
SONM	**Songino Array**	**66.37**	**329**	P	P	**08 10 53.9**	**+0.5**
	0.3nm,0.4s,mb3.6,baz=128,slow=4.5,SNR=3.7						
NVAR	**Mina Array Bea**	**94.09**	**52**	P	P	**08 13 23.4**	**+0.2**
	0.4nm,0.6s,mb4.0,baz=254,slow=8.1,SNR=4.7						
YKA	**Yellowknife Ar**	**97.19**	**28**	P	P	**08 13 35.9**	**-0.8**
	0.4nm,0.6s,mb4.0,baz=270,slow=4.7,SNR=9.6						
GERES	**GERESS Array B**	**124.08**	**327**	PKP	PKPdf	08 19 03.0	+0.2
	0.8nm,0.5s,baz=85,slow=1.6,SNR=6.3						
TORD	**Torodi Ar. Bea**	**149.00**	**286**	PKPbc	PKPbc	08 19 53.3	-0.1
	3.0nm,0.7s,baz=68,slow=2.4,SNR=12						
BDFB	**Brasilia**	**151.43**	**139**	PKPbc	PKPbc	08 19 58.2	-1.0
	2.2nm,0.7s,baz=209,slow=1.5,SNR=3.9						

IDC 03 08:09:16.2±2.5,789S×15591E,h0km,mb3.9/6,mb1 4.0/6, mb1mx3.9/14,mbtmp3.8/6,MS3.6/2,Ms1 3.5/2, ms1mx3.0/23,Error ellipse: s-maj=80.4km s-min=26.1km az=118.0,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**15.31**	**217**	LR	LR	08 17 33.2	
	comp=Z,167nm,18.0s,baz=227,slow=32						
WRA	**Warramunga Arr**	**24.08**	**238**	P	P	08 14 33.2	-0.3
	2.0nm,0.8s,baz=61,slow=9.6,SNR=14						
ASAR	**Alice Springs**	**26.28**	**231**	P	P	08 14 53.9	+0.3
	0.9nm,1.0s,baz=58,slow=12,SNR=5.8						
STKA	**Stephens Creek**	**27.33**	**207**	LR	LR	08 23 59.7	
	comp=Z,133nm,20.2s,baz=294,slow=32						
MJAR	**Matsushiro Arr**	**47.22**	**341**	P	P	08 17 49.9	-1.0
	1.6nm,0.5s,baz=157,slow=6.9,SNR=6.0						
SONM	**Songino Array**	**70.58**	**327**	P	P	08 20 34.7	+1.5
	0.7nm,0.8s,baz=142,slow=5.9,SNR=4.6						
MKAR	**Makanchi Array**	**84.67**	**319**	P	P	08 21 51.6	-0.3
	1.0nm,0.7s,baz=104,slow=5.1,SNR=12						
YKA	**Yellowknife Ar**	**96.70**	**28**	P	P	08 22 48.0	-0.2
	0.1nm,0.5s,baz=266,slow=4.7,SNR=4.6						

*IDC **03** 08:20:52.6±1.3,250N×9572E,h0km,mb4.1/8,mb1 4.2/9, mb1mx4.0/22,mbtmp4.1/9,ML3.6/1,Error ellipse: s-maj=42.7km s-min=16.1km az=53.0*
*ISCJB **03** 08:20:54.7±6.8,25N±01×957E±01,h28km±48km,mb4.1/9, Error ellipse: s-maj=23.0km s-min=13.6km az=32.5*
*NEIC **03** 08:20:57.3±0.7,251N×9576E,h30km,mb4.2/1,Error ellipse: s-maj=19.4km s-min=8.5km az=48.0*

ISC 03 08:20:55.3±6.5,25N±01×9571E±008,h17km±41km,n13, σ0=31/15,mb4.1/9,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**3.23**	**84**	Pn	**Pn**	**08 21 45.4**	**+0.1**
PSI				Sn	**Sn**	**08 22 23.4**	**0.0**
PSI	**Prapat**	**3.23**	**84**	Pn	**Pn**	**08 21 45.4**	**+0.1**
	6.2nm,0.3s,baz=287,slow=7.0,SNR=24						
PSI				Sn	**Sn**	**08 22 23.4**	**0.0**
	4.9nm,0.3s,baz=252,slow=13,SNR=4.7						
KKM	**Kota Kinabalu**	**20.75**	**80**	*e*P	**P**	**08 25 35.5**	**0.0**
FITZ	**Fitzroy Crossi**	**35.88**	**126**	P	**P**	**08 27 54.1**	**-0.6**
	0.8nm,0.4s,mb4.0,baz=315,slow=13,SNR=4.4						
WRA	**Warramunga Arr**	**43.98**	**122**	P	**P**	**08 29 01.8**	**-0.2**
	1.4nm,0.5s,mb4.0,baz=299,slow=9.4,SNR=15						
ASAR	**Alice Springs**	**45.35**	**127**	P	**P**	**08 29 13.0**	**0.0**
	0.7nm,0.5s,mb3.7,baz=302,slow=8.0,SNR=19						
MKAR	**Makanchi Array**	**45.66**	**347**	P	**P**	**08 29 15.1**	**+0.2**
	2.0nm,0.5s,mb4.3,baz=162,slow=7.6,SNR=22						
SONM	**Songino Array**	**46.11**	**10**	P	**P**	**08 29 18.3**	**-0.3**
	1.7nm,0.6s,mb4.2,baz=189,slow=9.1,SNR=15						
KURK	**Kurchatov**	**50.19**	**346**	P	**P**	**08 29 50.2**	**+0.2**
	1.3nm,0.6s,mb4.1						
ZAA0	**Zalesovo Array**	**52.08**	**352**	*e*P	**P**	**08 30 04.2**	**0.0**
ZALV	**Zalesovo Beam**	**52.08**	**352**	P	**P**	**08 30 04.2**	**+0.1**
	2.2nm,0.5s,mb4.3,baz=170,slow=6.1,SNR=11						
STKA	**Stephens Creek**	**55.32**	**132**	P	**P**	**08 30 29.1**	**+0.8**
	2.1nm,0.9s,mb4.2,baz=320,slow=13,SNR=4.2						
ARCES	**ARCESS Array B**	**80.83**	**340**	P	**P**	**08 33 07.6**	**-0.3**
	4.4nm,1.0s,mb4.3,baz=66,slow=5.9,SNR=5.0						

*ATH **03** 08:25:14.0,3989N×2090E,h29km,MD3.1/3*
*ISCJB **03** 08:25:15.6±1.1,395N±01×2064E±009,h10km,Error ellipse: s-maj=16.8km s-min=8.4km az=161.4*
*CSEM **03** 08:25:16.9,3954N×2073E,h10km,MD3.1/3,After ATH*

ISC 03 08:25:15.5±1.2,394N±01×2062E±009,h10km,n5,σ0=78/6, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGT	**Igoumenitsa**	**0.24**	**292**	*e*P	**Pg**	**08 25 20.9**	**+0.5**
JAN	**Janina**	**0.28**	**40**	*e*PB	**Pg**	**08 25 20.1**	**-1.0**
JAN				*e*SB	**Sg**	**08 25 25.5**	**+0.6**
MEV	**Metsovon**	**0.58**	**54**	*e*P	**Pg**	**08 25 26.9**	**+0.1**
KEK	**Kerkira**	**0.69**	**293**	*e*PN	**Pn**	**08 25 31.0**	**-0.4**
EVR	**Evrytania**	**1.06**	**119**	*e*PN	**Pn**	**08 25 36.7**	**+0.2**

IDC 03 08:27:10.7±1.8,741S×15654E,h0km,mb3.7/3,mb1 3.9/4, mb1mx3.6/15,mbtmp3.8/4,ML3.7/1,Error ellipse: s-maj=43.5km s-min=28.0km az=17.0,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**3.92**	**121**	Pn	Pn	08 28 12.9	+0.6
	5.7nm,0.3s,baz=89,slow=7.4,SNR=2.2						
HNR				Sn	Sn	08 28 58.7	-0.3
	14nm,0.3s,baz=110,slow=5.2,SNR=2.3						
WRA	**Warramunga Arr**	**24.87**	**238**	P	P	08 32 35.3	0.0
	2.7nm,0.7s,baz=64,slow=9.3,SNR=17						
ASAR	**Alice Springs**	**27.08**	**231**	P	P	08 32 55.3	0.0
	0.4nm,0.9s,baz=68,slow=10,SNR=3.3						
MKAR	**Makanchi Array**	**84.73**	**318**	P	P	08 39 46.8	+0.1
	0.7nm,0.8s,baz=100,slow=6.7,SNR=5.3						

IDC 03 08:33:06.6±1.9,938S×16018E,h126km±4km,mb3.3/3, mb1 3.4/3,mb1mx3.2/14,mbtmp3.3/3,Error ellipse: s-maj=40.5km s-min=11.5km az=79.0,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**0.23**	**256**	P	Pn	08 33 24.8	+0.8
	83nm,0.3s,baz=84,slow=12,SNR=26						
HNR				S	Sn	08 33 38.5	+1.4
	598nm,0.3s,baz=78,slow=18,SNR=70						
WRA	**Warramunga Arr**	**27.07**	**244**	P	P	08 38 37.9	+0.3
	0.8nm,0.7s,baz=72,slow=9.0,SNR=9.7						
ASAR	**Alice Springs**	**28.85**	**237**	P	P	08 38 53.4	0.0
	0.2nm,0.4s,baz=58,slow=10,SNR=5.2						
SONM	**Songino Array**	**74.14**	**326**	P	P	08 44 29.1	-0.1
	0.6nm,0.6s,baz=141,slow=7.0,SNR=4.7						

*CSEM **03** 08:37:32.8±0.2,3969N×4181E,h20km,MD3.0,Error ellipse: s-maj=5.5km s-min=2.5km az=1.0*
*ISK **03** 08:37:33.4,3993N×4198E,h5km,MD3.0*
*ISCJB **03** 08:37:35.6±0.8,3976N±009×4187E±007,h26km±12km, Error ellipse: s-maj=15.6km s-min=6.2km az=25.4*

ISC 03 08:37:35.4±0.7,3977N±007×4190E±005,h18km±7km,n10, σ0=99/17,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERZM	**Erzurum**	**0.44**	**289**	*i*P	**Pg**	**08 37 43.0**	**-1.3**
ERZM				*i*S	**Sg**	**08 37 51.6**	**+1.3**
ERZM	**Erzurum**	**0.44**	**289**	*i*P	**Pg**	**08 37 43.0**	**-1.3**
ERZM				*i*S	**Sg**	**08 37 51.6**	**+1.3**
EZM	**Erzurum**	**0.44**	**288**	*i*PG	**Pg**	**08 37 43.6**	**-0.8**
EZM				*i*SG	**Sg**	**08 37 51.5**	**+1.1**
AGRB	**Hanur-Agry**	**0.86**	**102**	PG	**Pg**	**08 37 50.5**	**-1.7**
AGRB				SG	**Sg**	**08 38 04.4**	**+0.8**
BNGL	**BINGOL**	**1.00**	**216**	*i*P	**Pb**	**08 37 54.6**	**+0.4**
DIGO	**Kars**	**1.30**	**60**	*i*P	**Pn**	**08 37 59.2**	**+0.5**
DIGO	**Kars**	**1.30**	**60**	*i*P	**Pn**	**08 37 59.2**	**+0.5**
DIGO				*i*S	**Sn**	**08 38 17.0**	**+1.4**
ARTV	**Artvin**	**1.42**	**1**	*i*P	**Pn**	**08 37 59.4**	**-0.9**
ARTV	**Artvin**	**1.42**	**1**	*i*P	**Pn**	**08 37 59.4**	**-0.9**
ARTV				*i*S	**Sn**	**08 38 18.7**	**+0.2**
BCA	**Borcka**	**1.69**	**353**	*e*PN	**Pn**	**08 38 03.0**	**-1.0**
BCA				*e*SN	**Sn**	**08 38 24.9**	**-0.3**

IDC 03 08:39:50.8±1.6,856S×15725E,h0km,mb3.9/4,mb1 4.2/5, mb1mx3.8/15,mbtmp4.0/5,ML4.2/1,MS3.3/3,Ms1 3.3/3, ms1mx2.9/22,Error ellipse: s-maj=45.7km s-min=22.2km az=167.0,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.81**	**108**	Pn	Pn	08 40 36.7	-0.3
	34nm,0.3s,baz=272,slow=5.9,SNR=6.9						
HNR				Sn	Sn	08 41 13.0	+1.5
	64nm,0.3s,baz=275,slow=13,SNR=5.6						
HNR				LR	LR	08 41 27.0	
	comp=Z,218nm,20.5s,baz=182,slow=34						
CTA	**Charters Tower**	**15.64**	**222**	LR	LR	08 48 26.5	
	comp=Z,96nm,19.5s,baz=99,slow=33						

WRA	**Warramunga Arr**	**24.88**	**240**	P	P	08 45 15.5	0.0
	3.0nm,0.9s,baz=68,slow=9.8,SNR=11						
ASAR	**Alice Springs**	**26.93**	**233**	P	P	08 45 33.1	-0.9
	0.5nm,0.8s,baz=74,slow=9.8,SNR=4.0						
STKA	**Stephens Creek**	**27.39**	**210**	P	P	08 45 38.9	+0.8
	3.5nm,0.8s,baz=38,slow=6.7,SNR=9.2						
RAO	**Raoul Island**	**31.11**	**135**	LR	LR	08 56 46.8	
	comp=Z,115nm,21.2s,baz=74,slow=33						
NVAR	**Mina Array Bea**	**90.94**	**51**	P	P	08 52 57.3	+0.4
	0.7nm,0.8s,baz=249,slow=7.6,SNR=5.7						

*NEIC **03** 08:40:56.5,3828N×2037E,h9km,ML3.9(ATH),After ATH.*
*ATH **03** 08:40:56.3,3828N×2035E,h9km±1km,MD3.8/10,ML3.9*
*THE **03** 08:40:57.9,3837N×2040E,h3km,ML3.8*
*ISCJB **03** 08:40:57.3±0.6,3832N±003×2039E±005,h9km,Error ellipse: s-maj=6.1km s-min=3.2km az=148.5*
*CSEM **03** 08:40:57.3±0.3,3828N×2027E,h5km,ML3.9,Error ellipse: s-maj=5.9km s-min=2.1km az=73.0*
*SKO **03** 08:40:58.7,3836N×2010E,h19km*

ISC 03 08:40:56.9±0.9,3831N±003×2039E±005,h0km±6km,n31, σ0=79/44,Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.20**	**130**	*e*PG	**Pg**	**08 41 00.9**	**+0.2**
VLS				*e*SG	**Sg**	**08 41 04.7**	**+1.3**
LKD	**Levkas**	**0.45**	**27**	*e*Pg	**Pg**	**08 41 04.5**	**-1.0**
LKD				*e*Sg	**Sg**	**08 41 10.8**	**-0.4**
LKD	**Levkas**	**0.45**	**27**	*e*Pg	**Pg**	**08 41 04.4**	**-1.0**
LKD				*e*Sg	**Sg**	**08 41 10.8**	**-0.4**
RLS	**Riolos of Patr**	**0.88**	**106**	*e*PG	**Pg**	**08 41 13.1**	**-0.7**
IGT	**Igoumenitsa**	**1.22**	**358**	*e*Pg	**Pg**	**08 41 19.3**	**-1.0**
IGT				*e*Sg	**Sg**	**08 41 37.7**	**+1.5**
EVR	**Evrytania**	**1.27**	**61**	*e*PN	**Pn**	**08 41 20.3**	**-1.4**
EVR				*e*SB	**Sg**	**08 41 39.5**	**+2.0**
JAN	**Janina**	**1.39**	**15**	*e*PB	**Pb**	**08 41 23.1**	**-0.6**
JAN				*e*SB	**Sb**	**08 41 42.4**	**+0.3**
KEK	**Kerkira**	**1.48**	**342**	*e*PB	**Pb**	**08 41 24.7**	**-0.5**
KEK				*e*SB	**Sb**	**08 41 44.9**	**+0.4**
MEV	**Metsovon**	**1.61**	**24**	*e*Pg	**Pn**	**08 41 26.5**	**0.0**
ITM	**Ithomi**	**1.66**	**132**	*e*PB	**Pb**	**08 41 27.7**	**-0.5**
AGG	**Agios Georgios**	**1.68**	**64**	*e*Pb	**Pb**	**08 41 27.5**	**-1.1**
AGG				*e*Sb	**Sb**	**08 41 50.6**	**+0.4**
THL	**Klokotos Trika**	**1.78**	**45**	*e*PN	**Pb**	**08 41 30.1**	**-0.3**
VLX	**Vlachokerasia**	**1.83**	**120**	*e*Pb	**Pb**	**08 41 30.5**	**-0.7**
VLX				*e*Sb	**Sb**	**08 41 54.4**	**-0.2**
LTK	**Loutraki**	**2.05**	**97**	*e*Pn	**Pn**	**08 41 32.7**	**+0.2**
LTK				*e*Sn	**Sb**	**08 42 00.6**	**-0.3**
LKR	**Lokris**	**2.08**	**80**	*e*PN	**Pb**	**08 41 34.3**	**-1.0**
DID	**Didima**	**2.39**	**109**	*e*Pn	**Pn**	**08 41 37.7**	**+0.5**
DID				*e*Sn	**Sb**	**08 42 10.0**	**-0.7**
LIT	**Litokhoron**	**2.42**	**42**	*e*Pn	**Pn**	**08 41 38.8**	**+1.1**
NAIG	**Nisos Aigina**	**2.51**	**102**	*e*PB	**Pn**	**08 41 39.5**	**+0.7**
VLI	**Veliai**	**2.57**	**127**	*e*PN	**Pn**	**08 41 40.6**	**+0.9**
FNA	**Florina**	**2.59**	**17**	*e*Pn	**Pn**	**08 41 39.8**	**-0.1**
ATH	**Athens Observa**	**2.64**	**96**	*e*PN	**Pn**	**08 41 42.0**	**+1.3**
BIA	**Bitola**	**2.80**	**15**	*e*Pn	**Pn**	**08 41 42.9**	**+0.1**
OHR	**Ohrid**	**2.82**	**6**	*e*Pn	**Pn**	**08 41 42.8**	**-0.3**
OHR	**Ohrid**	**2.82**	**6**	*e*Pn	**Pn**	**08 41 42.7**	**-0.4**
TIP	**Timpagrande**	**2.97**	**288**	*e*Pn	**Pn**	**08 41 45.9**	**+0.7**
TIP				*e*Sn	**Sn**	**08 42 16.4**	**-5.1**
TIP	**Timpagrande**	**2.97**	**288**	*e*Pn	**Pn**	**08 41 45.9**	**+0.7**
TIP				*e*Sn	**Sn**	**08 42 16.4**	**-5.1**
GRG	**Griva**	**3.07**	**30**	*e*Pn	**Pn**	**08 41 46.4**	**-0.1**
KRUS	**Krusevo**	**3.13**	**12**	*e*Pn	**Pn**	**08 41 48.1**	**+0.7**
KRUS	**Krusevo**	**3.13**	**12**	*e*Pn	**Pn**	**08 41 48.0**	**+0.7**
KNT	**Kendrikon**	**3.44**	**33**	*e*Pn	**Pn**	**08 41 51.4**	**-0.3**
VAY	**Valandovo**	**3.44**	**28**	*e*Pn	**Pn**	**08 41 50.9**	**-0.8**

**BJI 03 08:53:08.3,

YKA Yellowknife Ar 96.57 28 P P 09 19 47.5 -0.5
0.2nm,0.4s,baz=269,slow=4.3,SNR=7.4
TORD Torodi Ar. Bea 153.08 285 PKPbc PKPbc 09 26 17.6 +0.4
0.5nm,0.8s,baz=166,slow=0.4,SNR=2.6

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*BJI **03** 09:11:42.2, 702S×155.83E, h7km, mB5.2, mb5.2, Ms5.0, Msz4.7*
*GCMT **03** 09:11:43.9±0.2, 743S×155.73E, h31km, MW5.1/77, Moment Tensor Solution. s63,c89; s77,c119; Duration: 0 Moment tensor: Scale 10^16Nm; M_rr5.06±.21; M_θθ-5.81±.14; M_φφ0.75±.14; M_rθ0.54±.18; M_rφ-0.21±.11; M_θφ1.84±.20; Best double couple: M_o5.80300×10^16 NP1:φ_s287.00000°, δ45.00000°, λ119.00000°. NP2: φ_s69.00000°, δ51.00000°, λ64.00000°. Principal axes: T 5.7560, Plg70.0000°, Azm276.0000°; N 0.1010, Plg20.0000°, Azm86.0000°; P -5.8510, Plg3.0000°, Azm177.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*ISCJB **03** 09:11:43.3±0.2, 726S±004×15573E±005, h15km, mb5.2/85, MS4.5/33 Error ellipse: s-maj=6.4km s-min=5.5km az=178.3*
*NEIC **03** 09:11:43.9±0.2, 722S×15572E, h10km, mb5.2/39, Error ellipse: s-maj=7.3km s-min=5.8km az=106.0*
*IDC **03** 09:11:45.3±3.3, 728S×15571E, h18km±19km, mb4.9/17, mb1 5.0/18, mb1mx5.0/19, mbtmp4.9/18, ML4.0/1, MS4.4/18, Ms1 4.4/18, ms1mx4.2/25, Error ellipse: s-maj=19.3km s-min=12.9km az=98.0*
*MOS **03** 09:11:46.5±1.2, 721S×15572E, h33km, mb5.5/27, MS4.3/6, Error ellipse: s-maj=10.0km s-min=7.4km az=105.3*
ISC 03 09:11:45.2±0.2, 728S±004×15572E±004, h15km, h15km±1.7km: pP-P, n278, σ0=90/186, mb5.2/85, MS4.5/33, 21C-8D, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.70**	**117**	*e*Pn	**Pn**	**09 12 54.7**	**-0.8**
HNR				Sn	**Sg**	**09 14 08.5**	**-7.6**
HNR				LR	LR	09 14 43.1	
HNR	**Honiara**	**4.70**	**117**	Pn	**Pn**	**09 12 59.3**	**+3.8**
30nm,0.3s,baz=269,slow=14,SNR=6.4							
HNR				Sn	**Sg**	**09 14 08.5**	**-7.6**
75nm,0.3s,baz=93,slow=23,SNR=5.0							
HNR				LR	LR	09 14 43.1	
comp=Z,6μm,18.4s,baz=350,slow=38							
CTA	**Charters Tower**	**15.70**	**215**	*e*P	**Pn**	**09 15 29.5**	**+3.6**
30nm,1.4s							
CTA				*e*S	**Sn**	**09 18 26.7**	**+7.0**
CTA	**Charters Tower**	**15.70**	**215**	*e*P	**Pn**	**09 15 29.5**	**+3.6**
CTA				*e*S	**Sn**	**09 18 26.7**	**+7.0**
CTA				pmax	pmax		
comp=Z,30nm,1.4s							
CTA	**Charters Tower**	**15.70**	**215**	Pn	**Pn**	**09 15 29.3**	**+3.4**
comp=Z,0.7nm,0.3s,baz=48,slow=12,SNR=11							
CTA				LR	LR	09 20 58.8	
comp=Z,1μm,18.2s,baz=38,slow=35							
CTAO	**Charters Tower**	**15.70**	**215**	*e*Pn	**Pn**	**09 15 25.1**	**-0.9**
comp=Z,171nm,1.6s							
CTAO	**Charters Tower**	**15.70**	**215**	*e*P	**Pn**	**09 15 25.1**	**-0.8**
CTAO				pmax	pmax		
comp=Z,171nm,1.6s							
DZM	**Mont Dzumac**	**17.98**	**146**	P	**Pn**	**09 15 56.2**	**+1.5**
comp=Z,0.5nm,0.3s,baz=26,slow=20,SNR=5.1							
EIDS	**Eidsvold**	**18.53**	**193**	*e*P	**Pn**	**09 16 02.0**	**+0.6**
comp=Z,17nm,1.0s							
TLE	**Tual**	**22.90**	**273**	⇑*e*P	**P**	**09 16 50.0**	**+1.4**
TLE	**Tual**	**22.90**	**273**	⇑*e*P	**P**	**09 16 50.0**	**+1.4**
ARMA	**Armidale**	**23.34**	**189**	*e*P	**P**	**09 16 54.7**	**+1.6**
GUMO	**Guam**	**23.36**	**332**	LR	LR	09 25 09.4	
comp=Z,404nm,20.6s,baz=321,slow=34							
KAKA	**Kakadu**	**23.55**	**255**	⇑*i*P	**P**	**09 16 54.6**	**-0.8**
comp=Z,45nm,0.6s,mb5.1							
WB2	**Warramunga Arr**	**24.25**	**237**	⇑*i*P	**P**	**09 17 01.8**	**+0.1**
WRA	**Warramunga Arr**	**24.26**	**237**	P	**P**	**09 17 01.5**	**-0.3**
WRA				PcP	PcP	09 20 40.8	-1.3
WRA				ScP	ScP	09 24 19.8	-0.6
WRA				LR	LR	09 26 24.5	
WRA	**Warramunga Arr**	**24.26**	**237**	P	**P**	**09 17 01.5**	**-0.3**
WRA						09 20 40.8	
WRA	**Warramunga Arr**	**24.26**	**237**	P	**P**	**09 17 01.5**	**-0.3**
comp=Z,84nm,1.2s,mb5.0,baz=63,slow=9.4,SNR=74							
WRA				PcP	PcP	09 20 40.8	-1.3
comp=Z,7.2nm,1.1s,baz=60,slow=1.9,SNR=7.1							
WRA				ScP	ScP	09 24 19.8	-0.6
comp=Z,1.3nm,0.7s,baz=65,slow=3.3,SNR=5.7							
WRA				LR	LR	09 26 24.5	
comp=Z,1μm,18.6s,MS4.4,baz=60,slow=36							
ASAR	**Alice Springs**	**26.54**	**230**	P	**P**	**09 17 22.1**	**-0.4**
ASAR						09 20 45.0	
ASAR	**Alice Springs**	**26.54**	**230**	P	**P**	**09 17 22.1**	**-0.4**
comp=Z,23nm,1.2s,mb4.6,baz=60,slow=9.2,SNR=48							
ASAR				PcP	PcP	09 20 45.0	-2.1
comp=Z,4.5nm,1.0s,baz=53,slow=3.0,SNR=6.6							
ASAR				ScP	ScP	09 24 26.1	-0.7
comp=Z,1.5nm,1.0s,baz=51,slow=3.7,SNR=4.4							
STKA	**Stephens Creek**	**27.80**	**206**	⇑*i*P	**P**	**09 17 32.8**	**-0.9**
comp=Z,19nm,0.9s,mb4.7							
STKA				*e*S	**S**	**09 22 29.5**	**+13**
STKA	**Stephens Creek**	**27.80**	**206**	P	**P**	**09 17 33.2**	**-0.5**
comp=Z,20nm,1.0s,mb4.7,baz=13,slow=9.2,SNR=25							
STKA				PcP	PcP	09 20 49.4	-0.6
comp=Z,4.1nm,0.8s,baz=73,slow=5.2,SNR=3.2							
STKA				LR	LR	09 28 39.6	
comp=Z,1μm,18.9s,MS4.5,baz=25,slow=36							
CNB	**Canberra Magne**	**28.51**	**191**	*e*P	**P**	**09 17 41.5**	**+1.5**
comp=Z,22nm,1.3s,mb4.7							
FITZ	**Fitzroy Crossi**	**31.21**	**247**	⇑*i*P	**P**	**09 18 03.6**	**-0.5**
comp=Z,56nm,1.0s,mb5.3							
FITZ				*e*		09 20 59.3	
FITZ	**Fitzroy Crossi**	**31.21**	**247**	P	**P**	**09 18 03.7**	**-0.4**
comp=Z,32nm,0.9s,mb5.2,baz=84,slow=9.8,SNR=53							
FITZ				PcP	PcP	09 20 59.0	+0.1
comp=Z,9.6nm,0.9s,baz=108,slow=12,SNR=4.8							
FITZ				LR	LR	09 30 54.8	
comp=Z,725nm,18.2s,MS4.4,baz=82,slow=37							
BATI	**Kupang**	**31.81**	**262**	LR	LR	09 33 01.9	
comp=Z,1μm,18.2s,MS4.6,baz=92,slow=40							
AFI	**Afiamalu**	**32.59**	**104**	*e*P	**P**	**09 18 16.0**	**-0.4**
comp=Z,53nm,1.0s,mb5.4							
AFI	**Afiamalu**	**32.59**	**104**	*e*P	**P**	**09 18 16.0**	**-0.3**
AFI				pmax	pmax		
comp=Z,53nm,1.0s,mb5.4							
RAO	**Raoul Island**	**33.07**	**135**	LR	LR	09 29 08.7	
comp=Z,455nm,18.9s,MS4.2,baz=353,slow=32							
FORT	**Forrest**	**34.89**	**224**	⇑*i*P	**P**	**09 18 35.4**	**-0.8**
comp=Z,18nm,0.6s,mb5.2							
KAPI	**Kappang**	**35.83**	**271**	P	**P**	**09 18 44.1**	**-0.4**
comp=Z,435nm,1.1s,mb6.3,SNR=15							
CBIJ	**Chichi jima**	**36.60**	**340**	LR	LR	09 33 30.0	
comp=Z,234nm,18.4s,MS4.0,baz=97,slow=36							
MBWA	**Marble Bar**	**37.41**	**245**	*e*P	**P**	**09 18 57.2**	**-0.7**
comp=Z,25nm,1.0s,mb5.0							
MBWA				*e*PcP	PcP	09 21 15.7	-1.0
RPZ	**Rata Peaks**	**38.70**	**162**	P	**P**	**09 19 08.6**	**+0.2**
comp=Z,17nm,0.9s,mb4.8,baz=332,slow=5.5,SNR=4.7							
KKM	**Kota Kinabalu**	**41.58**	**288**	*e*P	**P**	**09 19 32.6**	**-0.1**
KLBR	**Kellerberrin**	**42.86**	**231**	⇑*i*P	**P**	**09 19 42.1**	**-0.9**
comp=Z,55nm,1.2s,mb5.2							
NWAO	**Narrogin (SRO)**	**43.85**	**229**	*e*P	**P**	**09 19 50.6**	**-0.4**
comp=Z,78nm,1.5s,mb5.2							
NWAO	**Narrogin (SRO)**	**43.85**	**229**	*e*P	**P**	**09 19 50.6**	**-0.4**
NWAO				pmax	pmax		
comp=Z,78nm,1.5s							
NWAO	**Narrogin (SRO)**	**43.85**	**229**	P	**P**	**09 19 50.1**	**-0.9**
comp=Z,26nm,1.1s,mb4.9,baz=81,slow=8.1,SNR=8.2							
MUN	**Mundaring**	**44.22**	**231**	*e*P	**P**	**09 19 53.6**	**-0.3**
RAR	**Rarotonga**	**45.13**	**113**	LR	LR	09 35 30.5	
comp=Z,356nm,20.8s,MS4.3,baz=288,slow=32							
KSM	**Kuching**	**46.14**	**279**	*e*P	**P**	**09 20 09.2**	**-0.2**
KSM				*e*		09 20 20.2	
KSM				*e*		09 20 27.6	
MJAR	**Matsushiro Arr**	**46.58**	**341**	P	**P**	**09 20 11.8**	**-0.7**
comp=Z,8.7nm,0.8s,mb4.7,baz=162,slow=7.5,SNR=21							
MJAR				PcP	PcP	09 21 46.2	-0.4
comp=Z,8.9nm,0.9s,baz=155,slow=4.0,SNR=8.2							
MAJO	**Matsushiro**	**46.58**	**341**	*e*P	**P**	**09 20 12.1**	**-0.4**
comp=Z,16nm,0.9s,mb5.0							
MAJO	**Matsushiro**	**46.58**	**341**	*e*P	**P**	**09 20 12.1**	**-0.4**
MAJO				pmax	pmax		
comp=Z,16nm,0.9s,mb5.0							
MAT	**Matsushiro**	**46.58**	**341**	P	**P**	**09 20 11.7**	**-0.8**

KSRS	**Korea Array**	**51.52**	**332**	P	**P**	**09 20 50.7**	**+0.3**
comp=Z,12nm,0.9s,mb4.8,baz=151,slow=8.5,SNR=24						
KSRS				PcP	PcP	09 22 04.8	+0.4
comp=Z,3.5nm,0.8s,baz=168,slow=4.9,SNR=5.3						
KSRS				LR	LR	09 39 39.0	
comp=Z,149nm,20.2s,MS4.0,baz=310,slow=32						
QIZ	**Qiongzhong**	**52.23**	**301**	P	**P**	**09 20 57.3**	**+1.3**
QIZ				PP	PP	09 22 54.9	+0.3
QIZ				S	**S**	**09 28 20.5**	**-0.1**
QIZ				AMB	AMB		
comp=Z,96nm,1.6s,mb5.5							
QIZ				AMB	AMB		
comp=Z,678nm,3.0s							
QIZ				LR	LR		
comp=Z,876nm,23.1s,MS4.7							
NJ2	**Nanjing**	**52.59**	**320**	*e*P	**P**	**09 20 59.0**	**+0.5**
NJ2				AP	pP	09 21 04.9	+1.5
NJ2				XP	sP	09 21 06.3	+1.0
NJ2				S	**S**	**09 28 25.0**	**-0.2**
NJ2				XS	sS	09 28 34.0	+0.7
NJ2				AMB	AMB		
comp=Z,30nm,0.8s,mb5.3							
NJ2				AMB	AMB		
comp=Z,1μm,4.2s							
NJ2				LR	LR		
comp=N,700nm,16.2s,MS4.9							
NJ2				LR	LR		
comp=E,520nm,14.0s,MS4.9							
NJ2				LR	LR		
comp=Z,1μm,14.8s,MS5.1							
PPT	**Papeete**	**54.22**	**106**	*e*LQ		09 34 48.7	
PPT				*e*LR	LR	09 37 02.3	
comp=Z,221nm,22.5s							
PPT	**Papeete**	**54.22**	**106**	LR	LR	09 41 10.4	
comp=Z,352nm,19.4s,MS4.4,baz=16,slow=32							
VLA	**Vladivostok**	**54.64**	**339**	*e*P	**P**	**09 21 09.7**	**-3.5**
VLA				pmax	pmax		
comp=Z,131nm,1.5s,mb5.7							
WHN	**Wuhan**	**54.65**	**316**	⇓P	**P**	**09 21 14.5**	**+0.9**
WHN				S	**S**	**09 28 41.6**	**-12**
WHN				AMB	AMB		
comp=Z,74nm,0.9s,mb5.7							
WHN				LR	LR		
comp=Z,950nm,21.7s,MS4.8							
TBI	**Tubuai**	**54.90**	**113**	*e*LQ		09 34 59.8	
comp=Z,961nm,31.8s							
TBI				*e*LR	LR	09 37 17.8	
comp=Z,587nm,31.2s							
YSS	**Yuzh-Sakhalins**	**55.21**	**349**	*e*P	**P**	**09 21 18.2**	**+1.0**
comp=Z,38nm,0.9s,mb5.4							
YSS	**Yuzh-Sakhalins**	**55.21**	**349**	*e*P	**P**	**09 21 17.0**	**-0.3**
YSS				pmax	pmax		
comp=Z,70nm,1.1s,mb5.6							
YSS				MLR	MLR		
comp=Z,400nm,18.0s,MS4.5							
PMOR	**Pomariorio Ree**	**55.73**	**103**	*e*P	**P**	**09 21 23.3**	**+1.6**
comp=Z,113nm,1.3s,mb5.8							
VAH	**Vaihoa**	**55.99**	**103**	*e*P	**P**	**09 21 25.2**	**+1.7**
comp=Z,61nm,1.1s,mb5.5							
KULM	**Kulim**	**56.35**	**281**	*e*P	**P**	**09 21 25.1**	**-1.1**
KULM				*e*		09 21 33.1	
KULM				*e*		09 21 42.0	
MDJ	**Mudanjiang**	**56.77**	**338**	P	**P**	**09 21 28.9**	**+0.4**
MDJ				AP	pP	09 21 32.1	-1.4
MDJ				XP	sP	09 21 33.8	-1.6
MDJ				PCP	PcP	09 22 24.1	-0.2
MDJ				PP	PP	09 23 33.2	-1.8
MDJ				SCP	ScP	09 26 23.8	+0.3
MDJ				PCS	PcS	09 26 24.9	0.0
MDJ				S	**S**	**09 29 23.3**	**+2.4**
MDJ				SCS	ScS	09 31 19.0	+1.7
MDJ				AMB	AMB		
comp=Z,26nm,1.4s,mb5.1							
MDJ				AMB	AMB		
comp=Z,143nm,6.8s							
MDJ				LR	LR		
comp=N,118nm,17.4s							
MDJ				LR	LR		
comp=E,89nm,9.6s							
MDJ				LR	LR		
comp=Z,191nm,16.8s,MS4.3							
MDJ	**Mudanjiang**	**56.77**	**338**	*e*P	**P**	**09 21 29.2**	**+0.7**
comp=Z,13nm,0.9s,mb5.0							
CN2	**Changchun**	**57.75**	**334**	*e*P	**P**	**09 21 36.0**	**+0.5**
CN2				*e*S	**S**	**09 29 40.3**	**+6.4**
CN2				AMB	AMB		
comp=Z,30nm,1.3s,mb5.2							
CN2				AMB	AMB		
comp=Z,200nm,5.0s							
CN2				LR	LR		
comp=N,1μm,20.0s,MS5.1							
CN2				LR	LR		
comp=E,1μm,20.0s,MS5.1							
CN2				LR	LR		
comp=Z,900nm,21.0s,MS4.9							
GYA	**Guiyang**	**58.20**	**307**	⇑*i*P	**P**	**09 21 40.8**	**+1.8**
GYA				AP	pP	09 21 45.2	+1.2
GYA				XP	sP	09 21 48.6	+2.8
GYA				PCP	PcP	09 22 32.0	+1.6
GYA				PP	PP	09 23 52.3	+4.2
GYA				SCP	ScP	09 26 31.8	+1.5
GYA				S	**S**	**09 29 41.7**	**+1.3**
GYA				SCS	ScS	09 31 27.4	-1.2
GYA				SS	SS	09 33 34.9	+2.4
GYA				AMB	AMB		
comp=Z,60nm,1.0s,mb5.6							
GYA				AMB	AMB		
comp=Z,680nm,11.8s							
GYA				LR	LR		
comp=N,820nm,20.6s,MS5.0							
GYA				LR	LR		
comp=E,690nm,19.4s,MS5.0							
GYA				LR	LR		
comp=Z,740nm,21.2s,MS4.8							
HABR	**Khabarovsk**	**58.41**	**344**	*e*P	**P**	**09 21 39.1**	**-0.9**
HABR						09 31 28.8	
BJI	**Beijing**	**59.56**	**325**	P	**P**	**09 21 48.2**	**0.0**
BJI				AP	pP	09 21 51.4	-1.8
BJI				XP	sP	09 21 52.7	-2.3
BJI				S	**S**	**09 29 59.3**	**+1.7**
BJI				SS	SS	09 33 56.2	+2.8
BJI				AMB	AMB		
comp=Z,10.0nm,1.3s,mb4.7							
BJI				LR	LR		
comp=N,197nm,6.4s							
BJI				LR	LR		
comp=E,259nm,17.4s							
BJI				LR	LR		
comp=Z,285nm,21.3s,MS4.4							
BJI	**Beijing**	**59.56**	**325**	P	**P**	**09 21 48.2**	**0.0**
comp=Z,10.0nm,1.3s,mb4.7							
BJI				pP	pP	09 21 51.4	-1.8
BJI				sP	sP	09 21 52.7	-2.3
BJI				S	**S**	**09 29 59.3**	**+1.7**
BJI				SS	SS	09 33 56.2	+2.8
BJI				LR	LR		
comp=Z,290nm,21.3s,MS4.4							
KLR	**Kul'dur**	**60.05**	**342**	*e*P	**P**	**09 21 47.2**	**-4.2**
KLR				pmax	pmax		
comp=Z,57nm,1.6s,mb5.3							
PET	**Petropavlovsk**	**60.12**	**2**	*e*P	**P**	**09 21 59.4**	**+7.7**
PET				*e*S	**S**	**09 30 10.2**	**+5.9**
PET				MLR	MLR		
comp=Z,300nm,16.0s,MS4.5							
XAN	**Xi'an**	**60.41**	**316**	P	**P**	**09 21 53.1**	**-1.0**
XAN				AP	pP	09 21 57.5	-1.6
XAN				S	**S**	**09 30 09.7**	**+0.9**
XAN				AMB	AMB		
comp=Z,20nm,1.6s,mb4.9							
XAN				AMB	AMB		
comp=Z,108nm,7.4s							
XAN				LR	LR		
comp=N,215nm,12.4s,MS4.6							
XAN				LR	LR		
comp=E,215nm,17.1s,MS4.6							
XAN				LR	LR		
comp=Z,298nm,22.8s							
KMI	**Kunming**	**60.77**	**304**	P	**P**	**09 21 58.1**	**+1.3**
KMI				AP	pP	09 22 04.2	+2.4
KMI				XP	sP	09 22 08.4	+4.7
KMI				PP	PP	09 24 15.1	+4.2
KMI				S	**S**	**09 30 15.1**	**+1.4**
KMI				XS	sS	09 30 27.9	+5.9
KMI				SS	SS	09 34 15.6	+2.6
KMI				AMB	AMB		

comp=Z,53nm,1.3s,mb5.5						
KMI				AMB	AMB	
comp=Z,202nm,3.9s						
KMI				LR	LR	
comp=N,199nm,22.1s,MS4.5						
KMI				LR	LR	
comp=E,318nm,23.9s,MS4.5						
KMI				LR	LR	
comp=Z,340nm,22.8s,MS4.4						
KMI	**Kunming**	**60.77**	**304**	P	**P**	**09 21 58.1**	**+1.3**
comp=Z,53nm,1.3s,mb5.5						
KMI				pP	pP	09 22 04.2	+2.4
KMI				sP	sP	09 22 08.4	+4.7
KMI				PP	PP	09 24 15.1	+4.2
KMI				S	**S**	**09 30 15.1**	**+1.4**
KMI				sS	sS	09 30 27.9	+5.9
KMI				SS	SS	09 34 15.6	+2.6
KMI				SSS		09 36 46.8	
KMI				LR	LR		
comp=Z,340nm,22.8s,MS4.4						
KMI	**Kunming**	**60.77**	**304**	P	**P**	**09 21 58.1**	**+1.3**
KMI				*SP	sP	09 22 08.4	+4.7
KMI						09 24 15.1	
KMI				S	**S**	**09 30 15.1**	**+1.4**
KMI				*SS	sS	09 30 27.9	+5.9
KMI				SS	SS	09 34 15.6	+2.6
KMI				SSS		09 36 46.8	
KMI				pmax	pmax		
comp=Z,53nm,1.3s,mb5.5						
KMI				MLR	MLR	
comp=Z,340nm,22.8s,MS4.4						
CHTO	**Chiang Mai**	**61.67**	**296**	*e*P	**P**	**09 22 03.6**	**+0.6**
comp=Z,37nm,1.0s,mb5.5						
CHTO	**Chiang Mai**	**61.67**	**296**	*e*P	**P**	**09 22 03.6**	**+0.6**
CHTO				pmax	pmax		
comp=Z,37nm,1.0s,mb5.5						
CD2	**Chengdu**	**62.55**	**310**	*e*P	**P**	**09 22 10.1**	**+1.4**
CD2				AP	pP	09 22 15.0	+1.3
CD2				XP	sP	09 22 17.8	+2.3
CD2				PP	PP	09 24 29.9	+3.4
CD2				PCS	PcS	09 26 50.2	-0.9
CD2				S	**S**	**09 30 37.1**	**+1.1**
CD2				XS	sS	09 30 44.9	+0.6
CD2				SCS	ScS	09 31 58.4	-2.5
CD2				SS	SS	09 34 44.0	+3.4
CD2				AMB	AMB		
comp=Z,30nm,0.8s,mb5.5						
CD2				AMB	AMB		
comp=Z,80nm,6.8s						
CD2				LR	LR		
comp=N,210nm,17.8s,MS4.7						
CD2				LR	LR		
comp=E,310nm,13.6s,MS4.7						
CD2				LR	LR		
comp=Z,200nm,14.4s,MS4.4						
HHC	**Hu-ho-hao-te**	**62.75**	**324**	*e*P	**P**	**09 22 10.3**	**+0.5**
HHC				AP	pP	09 22 14.7	-0.1
HHC				XP	sP	09 22 17.5	+0.8
HHC				PP	PP	09 24 27.0	-1.0
HHC				SCP	ScP	09 26 48.6	-1.5
HHC				PCS	PcS	09 26 52.5	+0.9
HHC				S	**S**	**09 30 40.4**	**+2.2**
HHC				XS	sS	09 30 46.4	0.0
HHC				AMB	AMB		
comp=Z,21nm,0.7s,mb5.4						
HHC				AMB	AMB		
comp=Z,130nm,9.0s						
HHC				LR	LR		
comp=N,154nm,16.3s,MS4.6						
HHC				LR	LR		
comp=E,309nm,15.3s,MS4.6						
HHC				LR	LR		
comp=Z,210nm,18.0s,MS4.3						
TAOE	**Nuku Hiva Isla**	**63.45**	**96**	*e*LR	LR	09 41 07.0	
comp=Z,8μm,21.8s						
HIA	**Hailar**	**64.48**	**335**	*e*P	**P**	**09 22 21.5**	**+0.4**
comp=Z,40nm,0.9s,mb5.5						
HIA	**Hailar**	**64.48**	**335**	*e*P	**P**	**09 22 21.5**	**+0.4**
HIA				pmax	pmax		
comp=Z,41nm,0.9s						
LZH	**Lanzhou**	**65.02**	**315**	⇑P	**P**	**09 22 25.5**	**+0.6**
LZH				AP	pP	09 22 29.7	-0.2
LZH				XP	sP	09 22 30.7	-1.1
LZH				PP	PP	09 24 50.7	+2.6
LZH				*e*S	S	09 31 05.5	-1.1
LZH				XS	sS	09 31 11.0	-3.9
LZH				SS	SS	09 35 23.0	+3.9
LZH				AMB	AMB		
comp=Z,26nm,1.1s,mb5.2						
LZH				AMB	AMB		
comp=Z,120nm,4.8s						
LZH				LR	LR		
comp=N,452nm,13.2s						
LZH				LR	LR		
comp=Z,715nm,14.3s,MS5.0						
LZH	**Lanzhou**	**65.02**	**315**	⇑P	**P**	**09 22 25.5**	**+0.6**
comp=Z,26nm,1.1s,mb5.2						
LZH				pP	pP	09 22 29.7	-0.2
LZH				sP	sP	09 22 30.7	-1.1
LZH				PP	PP	09 24 50.7	+2.6
LZH				*e*S	S	09 31 05.5	-1.1
LZH				sS	sS	09 31 11.0	-3.9
LZH				SS	SS	09 35 23.0	+3.9
LZH				LR	LR		
comp=Z,720nm,14.3s,MS5.0						
LZH	**Lanzhou**	**65.02**	**315**	⇑P	**P**	**09 22 25.5**	**+0.6**
LZH				*SP	sP	09 22 30.7	-1.1
LZH						09 24 50.7	
LZH				*e*S	S	09 31 05.5	-1.1
LZH				SS	SS	09 35 23.0	+3.9
LZH				pmax	pmax		
comp=Z,26nm,1.1s,mb5.2						
LZH				MLR	MLR		
comp=Z,720nm,14.3s,MS5.0						
RKT	**Rikitea**	**68.17**	**112**	*e*LR	LR	09 43 25.4	
comp=Z,512nm,27.8s						
CLNS	**Chul'man**	**68.71**	**342**	*e*P	**P**	**09 22 48.9**	**+1.0**
CLNS				pmax	pmax		
comp=E,11nm,0.7s						
CLNS				pmax	pmax		
comp=Z,28nm,0.7s,mb5.3						
CLNS				pmax	pmax		
comp=N,19nm,1.0s						
CIT	**Chita**	**69.18**	**334**	*e*P	**P**	**09 22 51.6**	**+0.7**
CIT				*e*		09 23 12.8	
GTA	**Gaotai**	**69.44**	**317**	⇑P	**P**	**09 22 53.6**	**+0.8**
GTA				AP	pP	09 22 57.1	-0.8
GTA				XP	sP	09 22 58.6	-1.2
GTA				PP	PP	09 25 30.3	+3.7
GTA				S	S	09 32 02.3	+2.6
GTA				XS	sS	09 32 10.3	+2.2
GTA				SKS		09 32 50.2	
GTA				AMB	AMB		
comp=Z,16nm,1.4s,mb4.8						
GTA				AMB	AMB		
comp=Z,83nm,6.1s						
GTA				LR	LR		
comp=N,142nm,19.4s,MS4.5						
GTA				LR	LR		
comp=E,236nm,19.4s,MS4.5						
GTA				LR	LR		
comp=Z,308nm,19.4s,MS4.6						
SONM	**Songino Array**	**69.96**	**327**	P	**P**	**09 22 56.7**	**+0.8**
comp=Z,24nm,0.9s,mb5.1,baz=132,slow=6.6,SNR=117						
SONM				LR	LR	09 55 28.3	
comp=Z,208nm,18.4s,MS4.4,baz=105,slow=38						
SEY	**Seymchan**	**70.05**	**358**	⇓*e*P	**P**	**09 22 56.4**	**+0.3**
VNDA	**Vanda**	**70.28**	**179**	P	**P**	**09 22 57.8**	**+0.4**
comp=Z,5.8nm,1.0s,mb4.5,baz=341,slow=6.8,SNR=18						
SBA	**Scott Base**	**70.78**	**178**	*e*P	**P**	**09 23 01.3**	**+0.9**
comp=Z,54nm,1.8s,mb5.2						
SBA	**Scott Base**	**70.78**	**178**	*e*P

YAK smax
comp=E,106nm,21.0s
YAK smax
comp=Z,31nm,17.1s
YAK smax
comp=N,85nm,20.7s
LSA Lhasa 72.03 304 *e*P **P 09 23 10.5 +1.6**
comp=N,63nm,1.2s,mb5.4
LSA Lhasa 72.03 304 *e*P **P 09 23 10.5 +1.7**
LSA pmax pmax
comp=Z,63nm,1.2s,mb5.4
ZAK Zakamensk 73.11 328 *e*P **P 09 23 14.6 -0.2**
ZAK pmax pmax
comp=Z,17nm,1.3s,mb4.8
BOD Bodaibo 73.14 338 *e*P **P 09 23 14.2 -0.6**
BOD pmax pmax
comp=Z,25nm,1.7s,mb4.9
TLY Talaya 73.67 329 *e*P **P 09 23 18.4 +0.3**
comp=Z,19nm,1.1s,mb4.9
TLY Talaya 73.67 329 *e*P **P 09 23 18.2 +0.1**
TLY *e*S S 09 32 41.5 -6.6
TLY pmax pmax
comp=Z,23nm,1.0s,mb5.1
TLY MLR MLR
comp=Z,147nm,23.0s,MS4.2
CHGN Chignik 73.70 25 *e*P **P 09 23 16.8 -1.4**
BOK Bokaro 74.77 297 *e*P **P 09 23 24.8 -0.3**
BOK AMb AMB 09 23 27.4
comp=Z,45nm,1.6s,mb5.1
MOY Mondy 75.03 328 *e*P **P 09 23 26.6 +0.6**
MOY pmax pmax
comp=Z,42nm,1.7s,mb5.1
BILL Bilibino 75.51 4 *e*P **P 09 23 28.5 +0.1**
comp=Z,40nm,0.9s,mb5.3
BILL Bilibino 75.51 4⇓ *e*P **P 09 23 28.5 +0.1**
BILL *e* 09 26 18.2
BILL pmax pmax
comp=Z,28nm,0.8s,mb5.2
JIRN Jiri 75.55 301 *e*P **P 09 23 30.4 +0.9**
comp=Z,4.2nm,0.4s,mb4.8
VIS Vishakhapatnam 75.65 290 *e*P **P 09 23 29.2 -1.1**
VIS AMb AMB 09 23 35.1
comp=Z,41nm,1.4s,mb5.2
PALK Pallekele 76.20 279 *e*P **P 09 23 32.7 -0.8**
KKN Kakani 76.36 301 *e*P **P 09 23 34.3 +0.1**
comp=Z,116nm,1.0s,mb5.8
GKN Gorkha 76.96 301 *e*P **P 09 23 37.6 0.0**
comp=Z,242nm,1.0s,mb6.1
TNA Tin City 77.41 15 *e*P **P 09 23 38.9 -0.4**
comp=Z,7.5nm,1.0s,mb4.6
BLSP Bilaspur 77.72 294 *e*P **P 09 23 41.2 -0.7**
BLSP AMb AMB 09 23 43.3
comp=Z,38nm,1.9s,mb5.0
KOLN Koldanda 77.79 300 *e*P **P 09 23 41.9 -0.3**
comp=Z,141nm,1.1s,mb5.8
SVW2 Sparrevohn 77.99 22 *e*P **P 09 23 42.7 +0.2**
TTA Tatalina 79.03 20 *e*P **P 09 23 48.1 -0.2**
WMQ Urumqi 79.52 317⇓ *i*P **P 09 23 52.2 +0.8**
WMQ AP pP 09 23 57.0 +0.5
WMQ AMB AMB
comp=Z,22nm,1.2s,mb5.0
WMQ AMB AMB
comp=Z,190nm,4.8s
WMQ LR LR
comp=N,237nm,23.8s,MS4.7
WMQ LR LR
comp=E,313nm,24.9s,MS4.7
WMQ LR LR
comp=Z,388nm,23.8s,MS4.7
KOD Kodaikanal 79.83 282 *e*P **P 09 23 53.5 -0.3**
KOD AMb AMB 09 23 57.4
comp=Z,28nm,1.9s,mb4.9
HYB Hyderabad 80.05 289 *e*P **P 09 23 54.5 -0.3**
NGP Nagpur 80.31 293 *e*P **P 09 23 55.0 -1.1**
NGP AMb AMB 09 23 56.5
comp=Z,49nm,0.1s,mb6.2
TIXI Tiksi 80.73 352 *e*P **P 09 23 56.4 -0.9**
comp=Z,4.1nm,0.7s,mb4.5
TIXI Tiksi 80.73 352*c* *i*P **P 09 23 56.3 -1.0**
TIXI pmax pmax
comp=Z,22nm,1.9s,mb4.8
PMR Palmer 80.76 23 *e*P **P 09 23 57.2 -0.4**
comp=Z,0.4nm,1.4s
SML Sawmill 81.19 23 *e*P **P 09 23 59.7 -0.2**
IMA2 Indian Mountai 81.83 19 *i*P **P 09 24 03.0 -0.3**
MCK McKinley 82.05 22 *e*P **P 09 24 03.3 -1.1**
comp=Z,23nm,1.0s,mb5.1
MCK McKinley 82.05 22 *e*P **P 09 24 03.3 -1.1**
MCK pmax pmax
comp=Z,23nm,1.0s,mb5.1
AKL Akola 82.09 292 *e*P **P 09 24 04.9 -0.7**
AKL AMb AMB 09 24 07.4
comp=Z,58nm,1.4s,mb5.3
BHPL Bhopal 82.20 295 *e*P **P 09 24 05.5 -0.7**
BHPL AMb AMB 09 24 09.1
comp=Z,29nm,1.7s,mb4.9
QSPA South Pole Qui 82.70 180 LR LR 09 56 54.4
comp=Z,231nm,19.5s,MS4.6,baz=359,slow=33
COLA College 83.08 21 *e*P **P 09 24 08.2 -1.6**
comp=Z,9.5nm,0.9s,mb4.8
COLA College 83.08 21 *e*P **P 09 24 08.2 -1.6**
COLA pmax pmax
comp=Z,9.0nm,0.9s,mb4.8
NDI New Delhi 83.48 300 *e*P **P 09 24 11.4 -1.2**
NDI AMb AMB 09 24 12.5
comp=Z,74nm,1.1s,mb5.6
MENT Mentasta 83.62 24 *e*P **P 09 24 12.9 +0.3**
SMLA Simla 84.03 302 *e*P **P 09 24 15.2 -0.3**
SMLA AMb AMB 09 24 16.2
comp=Z,75nm,1.1s,mb5.7
MKAR Makanchi Array 84.09 319 P **P 09 24 15.8 +0.4**
MKAR PKKPbc PKKPbc 09 42 29.8 -1.8
MKAR LR LR 09 59 47.9
MKAR Makanchi Array 84.09 319 P **P 09 24 15.8 +0.4**
comp=Z,53nm,0.9s,mb5.7,baz=101,slow=6.3,SNR=228
MKAR PKKPbc PKKPbc 09 42 29.8 -1.8
comp=Z,0.2nm,0.3s,baz=260,slow=4.2,SNR=2.7
MKAR LR LR 09 59 47.9
comp=Z,108nm,21.6s,MS4.2,baz=103,slow=34
MAW Mawson 84.42 203⇑ *i*P **P 09 24 16.7 0.0**
comp=Z,25nm,0.9s,mb5.3
MAW Mawson 84.42 203⇑ *i*P **P 09 24 16.7 0.0**
MAW pmax pmax
comp=Z,25nm,0.9s
MAW Mawson 84.42 203 P **P 09 24 16.3 -0.4**
comp=Z,36nm,1.0s,mb5.5,baz=88,slow=6.4,SNR=22
ZAA0 Zalesovo Array 84.82 326 *e*P **P 09 24 18.0 -0.9**
ZALV Zalesovo Beam 84.82 326 P **P 09 24 18.2 -0.7**
comp=Z,30nm,0.8s,mb5.5,baz=106,slow=5.4,SNR=31
ZALV LR LR 10 03 31.6
comp=Z,137nm,19.4s,MS4.3,baz=110,slow=37
ZAL Zalesovo 84.82 326 P **P 09 24 18.3 -0.6**
AJM Ajmer 85.29 297 *e*P **P 09 24 21.4 -0.5**
AJM AMb AMB 09 24 22.8
comp=Z,88nm,1.1s,mb5.8
EGAK Eagle 85.50 23 *e*P **P 09 24 21.9 -0.2**
comp=Z,11nm,1.1s,mb4.9
THN Thein Dam 85.50 303 *e*P **P 09 24 21.2 -1.7**
DAWY Dawson 85.86 24 *e*P **P 09 24 23.9 0.0**
NVS Novosibirsk 85.98 326⇑ *i*P **P 09 24 22.5 -2.2**
NVS pmax pmax
comp=N,30nm,1.5s
NVS pmax pmax
comp=E,49nm,1.5s
NVS pmax pmax
comp=Z,83nm,1.5s,mb5.7
KSH Kashi 86.74 310 P **P 09 24 30.8 +2.0**
KSH *e*AP pP 09 24 34.8 +0.8
KSH *e*XP sP 09 24 37.4 +1.5
KSH PP PP 09 27 56.1 +4.7
KSH SKS 09 34 53.9
KSH S S 09 35 06.2 +0.2
KSH XS sS 09 35 14.3 -0.3
KSH SS SS 09 40 52.9 +4.9
KSH LR LR
comp=N,716nm,5.4s
KSH LR LR
comp=E,766nm,5.0s
KSH LR LR
comp=Z,653nm,5.5s
ULHL Ulahol 87.12 313 P **P 09 24 31.1 +0.4**
SNR=15
KURK Kurchatov 87.50 322 P **P 09 24 31.5 -0.7**
comp=Z,143nm,1.0s,mb6.2,SNR=12
KURK Kurchatov 87.50 322 *e*P **P 09 24 31.3 -0.9**
comp=Z,91nm,1.7s,mb5.7
KURK Kurchatov 87.50 322*c* *i*P **P 09 24 31.1 -1.1**
TKM2 Tokmak 2 87.73 314 *e*P **P 09 24 33.5 0.0**
comp=Z,14nm,0.9s,mb5.2
TKM2 *e*pP pP 09 24 44.3 +5.6
TKM2 *e*sP sP 09 24 50.0 +9.5
TKM2 Tokmak 2 87.73 314 *e*P **P 09 24 33.5 0.0**
TKM2 *e**PP pP 09 24 44.3 +5.6
TKM2 *e**SP sP 09 24 50.0 +9.4
TKM2 pmax pmax
comp=Z,14nm,0.9s,mb5.2
TKM2 Tokmak 2 87.73 314 P **P 09 24 33.7 +0.2**
SNR=13
KZA Kyzart 87.81 313 P **P 09 24 35.0 +1.1**
SNR=8.0
CHMS Chumysh 88.36 314 P **P 09 24 36.7 +0.2**
SNR=9.7
UCH Uchtor 88.38 313 *e*P **P 09 24 36.8 +0.2**
comp=Z,35nm,1.5s,mb5.4
UCH Uchtor 88.38 313 P **P 09 24 37.6 +1.0**
SNR=14
FRU Bishkek 88.42 313 *e*P **P 09 24 36.0 -0.8**
AAK Ala-Archa 88.47 313 P **P 09 24 36.0 -1.0**
comp=Z,90nm,0.9s,mb6.0,SNR=15
AAK Ala-Archa 88.47 313 P **P 09 24 37.2 +0.1**
SNR=19
USP Ospenovka 88.59 314 P **P 09 24 37.4 -0.2**
SNR=18
AML Almayashu 88.96 313 *e*P **P 09 24 39.9 +0.6**
comp=Z,16nm,0.8s,mb5.4
AML *e*pP pP 09 24 53.7 +9.1
AML Almayashu 88.96 313 P **P 09 24 40.2 +0.8**
SNR=17
EKS2 Erkin-Say 88.99 313 *e*P **P 09 24 39.4 -0.1**
comp=Z,12nm,0.9s,mb5.2
EKS2 Erkin-Say 88.99 313 P **P 09 24 39.7 +0.2**
SNR=17
BHJ Bhuj 89.25 293 *e*P **P 09 24 40.7 -0.4**
BHJ AMb AMB 09 24 42.6
comp=Z,45nm,1.4s,mb5.6
INK Inuvik 89.73 21 *e*P **P 09 24 41.8 -0.6**
comp=Z,350nm,1.1s
INK Inuvik 89.73 21 P **P 09 24 41.6 -0.7**
comp=Z,6.9nm,1.0s,mb5.0,baz=233,slow=5.5,SNR=19
NVAR Mina Array Bea 91.33 52 P **P 09 24 51.1 +0.6**
comp=Z,2.8nm,1.1s,mb4.5,baz=241,slow=3.9,SNR=13
SYO Syowa Base 92.30 199⇑ *e*P **P 09 24 52.8 -1.6**
SYO Syowa Base 92.30 199⇓ *e*P pP 09 25 02.0 +2.4
BRVK Borovoye 93.02 323 P **P 09 24 56.4 -1.6**
comp=Z,152nm,1.0s,mb6.4,SNR=11
BRVK Borovoye 93.02 323 *e*P **P 09 24 56.9 -1.1**
comp=Z,27nm,1.0s,mb5.6
BRVK *e*pP pP 09 25 07.1 +3.9
BRVK Borovoye 93.02 323 *e*P **P 09 24 56.9 -1.1**
BRVK *e**PP pP 09 25 07.1 +3.9
BRVK pmax pmax
comp=Z,27nm,1.0s,mb5.6
YKA Yellowknife Ar 96.25 28 P **P 09 25 11.6 -1.0**
comp=Z,2.4nm,0.8s,mb4.7,baz=266,slow=4.6,SNR=42
YKA PKKPbc PKKPbc 09 41 56.6 -4.8
comp=Z,0.5nm,0.9s,baz=77,slow=2.4,SNR=6.5
YKA LR LR 10 04 43.9
comp=Z,184nm,19.5s,MS4.6,baz=180,slow=33
SRU San Rafael 97.44 52 P **P 09 25 20.0 +1.5**
comp=Z,0.6nm,0.4s,mb4.4
PDAR Pinedale Array 98.35 48 P **P 09 25 21.8 -0.8**
comp=Z,1.3nm,0.9s,mb4.4,baz=221,slow=1.6,SNR=7.5
PDAR LR LR 10 05 55.6
comp=Z,271nm,18.1s,MS4.8,baz=265,slow=33
ARU Arti 99.98 326⇓ *e*P Pdif 09 25 27.8 -1.8
ARU Arti 99.98 326*c* *i*P Pdif 09 25 27.4 -2.2
ARU *e* 09 29 32.8
ARU S SKSac 09 36 06.2 -1.4
ARU SS SS 09 43 53.8 -2.6
ARU pmax pmax
comp=Z,17nm,1.0s,mb5.4
AKTK Aktyubinsk 100.48 320 P Pdif 09 25 29.6 -2.2
AKTO Aktyubinsk 100.48 320 P Pdif 09 25 29.6 -2.2
comp=Z,3.2nm,0.9s,baz=85,slow=7.1,SNR=7.3
ECSD EROS,Sioux Fal 107.75 46 *e*PKPdf PKiKP 09 30 06.4 -5.6
KIV Kislovodsk 111.56 314 *i*PKIKP PKiKP 09 30 14.5 -4.7
KIV pmax pmax
comp=Z,3.0nm,0.6s
KIV MLR MLR
comp=Z,98nm,23.0s,MS4.3
FINES FINESS Array B 114.49 336 PKP PKiKP 09 30 23.4 -0.8
FINES FINESS Array B 114.49 336 PKP PKiKP 09 30 23.4 -0.8
comp=Z,2.4nm,0.8s,baz=108,slow=4.2,SNR=7.8
PLCA Paso Flores 116.06 142 PKP PKPdf 09 30 27.4 -0.6
comp=Z,1.4nm,1.0s,baz=226,slow=6.2,SNR=5.3
PLCA PKKPbc PKKPbc 09 40 59.0 -0.4
comp=Z,2.9nm,0.9s,baz=62,slow=7.6,SNR=6.0
AKASG Malin Array Be 118.19 325 PKP PKPdf 09 30 29.9 -1.8
AKASG Malin Array Be 118.19 325 PKP PKPdf 09 30 29.9 -1.8
comp=Z,2.1nm,0.7s,baz=65,slow=2.1,SNR=10
NB2 NORSAR Subarra 120.20 341 PKPdf PKPdf 09 30 34.3 -1.0
comp=Z,4.7nm,1.0s,baz=39,slow=1.9
NOA NORSAR Array B 120.20 341 PKP PKPdf 09 30 34.4 -0.8
NOA NORSAR Array B 120.20 341 PKP PKPdf 09 30 34.4 -0.8
comp=Z,5.1nm,0.8s,baz=47,slow=2.0,SNR=10.0
BOSA Boshof 120.41 231 PKP PKPdf 09 30 36.0 -0.8
comp=Z,3.2nm,0.8s,baz=266,slow=5.5,SNR=4.6
LCO Las Campanas 122.56 131 *e*PKPdf PKPdf 09 30 40.7 -0.1
TRQA Tornquist 122.84 145 *e*PKPdf PKPdf 09 30 40.6 -0.5
KOLS Kolonicke sedl 122.99 325 *i*PKP PKPdf 09 30 41.1 +0.1
STHS Stebnicka Huta 123.31 326 *e*PKP PKPdf 09 30 39.7 -1.9
CRVS Cervenica-Dubn 123.47 325 *i*PKP PKPdf 09 30 42.3 +0.4
VYHS Vyhne 125.15 326 *e*PKP PKPdf 09 30 44.9 -0.2
DPC Dobruska-Polom 125.39 329 *e*PKPdf PKPdf 09 30 46.4 +0.8
UPC Upice 125.45 330 *e*PKPdf PKPdf 09 30 45.9 +0.2
BSEG Bad Segeberg 125.76 336 *e*PKPdf PKPdf 09 30 46.6 +0.5
MODS Modra-Piesok 126.07 327 *i*PKP PKPdf 09 30 46.7 -0.2
PVCC Panska Ves 126.16 330 *e*PKPdf PKPdf 09 30 46.6 -0.4
BRG Berggiesshubel 126.24 331 *e*PKIKP PKPdf 09 30 47.5 +0.3
BRG pmax pmax
comp=Z,6.0nm,1.0s
BRG Berggiesshubel 126.24 331 *e*PKPdf PKPdf 09 30 47.4 +0.2
BRG Berggiesshubel 126.24 331 *e*PKP PKPdf 09 30 47.5 +0.3
comp=Z,18nm,1.0s
PRU Pruhonice 126.52 330 *e*PKPdf PKPdf 09 30 47.6 -0.1
NRDL Niedersach Rie 126.88 334 *e*PKPdf PKPdf 09 30 48.5 +0.2
CLZ Clausthal 127.23 334 *e*PKPdf PKPdf 09 30 49.7 +0.7
NKC Novy Kostel 127.38 331 *e*PKPdf PKPdf 09 30 46.1 -3.3
NKC *e*pPKP pPKPdf 09 30 50.3 -4.4
MOX Moxa 127.50 332 *e*PKPdf PKPdf 09 30 49.6 0.0
KHC Kasperske Hory 127.55 329*d* *i*PKIKP PKPdf 09 30 50.0 +0.3
KHC Kasperske Hory 127.55 329 *e*PKPdf PKPdf 09 30 49.9 +0.2
KHC *e*x x 09 30 58.8
GEC2 GERESS Array S 127.67 329 *e*PKPdf PKPdf 09 30 49.8 -0.1
GERES GERESS Array B 127.67 329 PKP PKPdf 09 30 50.0 0.0
comp=Z,4.8nm,0.8s,baz=70,slow=1.6,SNR=23
MANZ Manzenberg 127.71 331 *e*PKPdf PKPdf 09 30 50.2 +0.2
ROTZ Rotzenmuhle 127.81 331 *e*PKPdf PKPdf 09 30 50.3 +0.1
WET Wettzell 127.89 330 *e*PKPdf PKPdf 09 30 50.7 +0.3
IBBN Ibbenburen 128.00 336 *e*PKPdf PKPdf 09 30 50.1 -0.4
PERS Pernice 128.28 326 *i*PKPdf PKPdf 09 30 50.9 -0.3
GRA1 Grafenberg Arr 128.33 331 *e*PKPdf PKPdf 09 30 51.2 0.0
GRF Grafenberg Arr 128.33 331 *e*PKPdf PKPdf 09 30 51.2 0.0
LEGS Legarje 128.57 325 *e*PKPdf PKPdf 09 30 51.9 +0.1
BOJS Bojanci 128.87 325 *e*PKPdf PKPdf 09 30 52.6 +0.3
TNS Taunus Mts 129.24 333 *e*PKPdf PKPdf 09 30 53.2 +0.3
CADS Cadrg 129.28 326 *e*PKPdf PKPdf 09 30 52.5 -0.6
FUR Furstenfeldbru 129.33 330 *e*PKPdf PKPdf 09 30 53.9 +0.8
STU Stuttgart 129.93 332 *e*PKPdf PKPdf 09 30 55.1 +0.8
MEM Membach 130.00 335 PKPdf PKPdf 09 30 54.5 +0.1
BFO Black Forest 130.65 332 *e*PKPdf PKPdf 09 30 55.9 +0.3
WLF Walferdange 130.65 334 *e*PKPdf PKPdf 09 30 56.7 +1.1
LPAZ La Paz 130.69 119 PKP PKPdf 09 30 56.9 +0.3
LPAZ La Paz 130.69 119 PKP PKPdf 09 30 56.9 +0.3
comp=Z,7.7nm,1.0s,baz=329,slow=1.6,SNR=23
HAU Haudompre 131.80 333 *e*PKIKP PKPdf 09 30 55.3 -2.5
comp=Z,12nm,0.6s
LPG La Plagne 133.42 330 *e*PKIKP PKPdf 09 30 58.9 -2.1
comp=Z,5.7nm,0.4s
BNI Bardonecchia 133.77 330 *e*PKPdf PKPdf 09 31 01.6 0.0
SSF Saint Saulge 133.78 334 *e*PKIKP PKPdf 09 30 59.0 -2.6
comp=Z,44nm,1.1s
ETSF Etsaut 138.83 333 *e*PKIKP PKPdf 09 31 07.4 -3.7
comp=Z,17nm,0.8s
ETOR Torete 141.16 333 P PKPdf 09 31 17.3 +1.9
GUD Guadarrama 142.23 335 P PKPdf 09 31 13.1 -4.3
ETOB Tobarra 142.63 330 P PKPdf 09 31 14.6 -3.6
MVO Moncorvo 142.93 338 *e*PKP PKPdf 09 31 15.0 -3.6
ESDC Sonseca Array 142.94 334 P PKPdf 09 31 15.3 -3.4
ESDC Sonseca Array 142.94 334 PKhKP 09 31 14.0
comp=Z,3.2nm,0.7s,baz=27,slow=2.9,SNR=15
PVIS Viseu 143.63 339 *e*PKP PKPdf 09 31 17.7 -2.1
MTE Manteigas 143.78 338 *e*PKP PKPdf 09 31 18.1 -2.0
MTE Manteigas 143.78 338 *e*PKPdf PKPdf 09 31 17.8 -2.2
EQES Quesada 144.04 331 P PKPdf 09 31 17.8 -2.9
EBAN Banos Encina 144.09 332 P PKPdf 09 31 18.5 -2.2
PCBR Castelo Branco 144.25 338 *e*PKP PKPdf 09 31 19.2 -1.7
EADA Adamuz 144.45 333 P PKPdf 09 31 18.9 -2.5
EBER Berja 144.66 330 P PKPdf 09 31 18.5 -3.2
ELUQ Luque 144.80 332 P PKPdf 09 31 21.0 -1.0
ECAB El Cabril 144.90 334 P PKPdf 09 31 20.5 -1.6
EBAD Badajoz 145.00 336 P PKPab 09 31 20.4 -1.1
ERON Agron 145.02 331 P PKPab 09 31 20.5 -1.1
EGUA Guajares 145.05 330 P PKPbc 09 31 20.5 -1.3
PESTR Estremoz 145.13 337 *e*PKP PKPdf 09 31 21.8 -0.7
EALB Alboran 145.48 329 P PKPbc 09 31 21.6 -1.6
PBAR Barrancos 145.51 336 *e*PKP PKPdf 09 31 23.2 0.0
CAM4 Nova Friburgo 145.53 149⇑ *i*P PKPdf 09 31 24.1 +0.5
CAM4 *i* 09 31 27.0
CAM4 *i* 09 31 34.1
CAM4 *i* 09 31 39.9
CAM4 *i* 09 31 59.8
EVO Evora 145.59 337 *e*PKP PKPdf 09 31 23.4 +0.1
PMAFR Mafra 145.69 339 *e*PKP PKPdf 09 31 24.3 +0.9
EMIN Mina Concepcio 145.70 335 P PKPdf 09 31 23.9 +0.3
EMIJ Mijas 145.84 331 P PKPdf 09 31 22.0 -1.8
PBEJ Beja 145.97 337 *e*PKP PKPdf 09 31 24.9 +1.0
EGRO El Granado 146.24 336 P PKPdf 09 31 24.1 -0.3
PVAQ Vaqueiros 146.44 336 *e*PKP PKPdf 09 31 26.1 +1.3
PBDV Barranco-do-Ve 146.67 336 *e*PKP PKPdf 09 31 27.1 +1.9
PTEO Sao Teotonio 146.72 337 *e*PKP PKPdf 09 31 27.3 +2.1
MORF Marmelete 146.90 337 *e*PKP PKPdf 09 31 27.4 +1.9
PFVI Vila Bisbo 147.12 337 *e*PKP PKPdf 09 31 28.2 +2.3
BDFB Brasilia 147.27 134 PKPbc PKPbc 09 31 27.2 -1.9
comp=Z,32nm,0.9s,baz=176,slow=3.3,SNR=30
CAM3 Guarapari 147.91 150⇓ *i*P PKPdf 09 31 30.2 +2.5
CAM3 *i* 09 31 34.3
CAM3 *i* 09 31 39.7
CAM3 *i* 09 31 45.9
CAM3 *i* 09 31 50.0
CAM3 *i* 09 32 01.8
CAM3 *i* 09 32 14.9
TORD Torodi Ar. Bea 153.80 285 PKP PKPdf 09 31 34.9 -2.1
comp=Z,0.8nm,0.8s,baz=107,slow=1.5,SNR=3.9
TORD PKPbc PKPbc 09 31 43.5 -1.2
comp=Z,5.8nm,1.0s,baz=127,slow=1.4,SNR=12
TORD PKPab PKPab 09 31 53.6 -4.2
comp=Z,9.3nm,1.1s,baz=78,slow=1.6,SNR=11
DBIC Dimbokro 160.71 269 PKP PKPdf 09 31 44.2 -1.5
DBIC PKPab PKPab 09 32 26.1 -1.5
DBIC Dimbokro 160.71 269 PKP PKPdf 09 31 44.2 -1.5
comp=Z,3.6nm,0.9s,baz=257,slow=1.5,SNR=5.0
DBIC PKPab PKPab 09 32 26.1 -1.5
comp=Z,5.7nm,0.8s,baz=100,slow=5.7,SNR=6.9

*IDC **03** 09:20:26.7±1.2, 794S×1568 0E, h0km, mb3.8/7, mb1 4.0/7, mb1mx3.9/14, mbtmp3.8/7, Error ellipse: s-maj=44.6km s-min=23.6km az=106.0*
*NEIC **03** 09:20:29.3±1.1, 792S×1565 5E, h10km, mb4.5/1, Error ellipse: s-maj=28.1km s-min=16.0km az=188.0*
*ISCJB **03** 09:20:32.8±3.2, 80S±02×1566E±01, h52km±32km, mb3.7/8, Error ellipse: s-maj=28.0km s-min=18.0km az=162.6*
ISC 03 09:20:33.8±3.1, 79S±02×1566E±01, h47km±32km, n11, σ0 978/14, mb3.7/8, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**3.63**	**114**	*e*Pn	**Pn**	**09 21 26.7**	**-0.8**
HNR				*e*Sn	**Sn**	**09 22 09.4**	**+0.3**
HNR				Sn	**Sn**	**09 22 09.9**	**+0.9**
HNR	**Honiara**	**3.63**	**114**	Pn	**Pn**	**09 21 26.8**	**-0.7**
56nm,0.3s,baz=252,slow=3.2,SNR=8.7							
HNR				Sn	**Sn**	**09 22 09.9**	**+0.9**
66nm,0.3s,baz=270,slow=20,SNR=4.1							
KAKA	**Kakadu**	**24.23**	**257**	*e*P	**P**	**09 25 46.0**	**-0.5**
7.8nm,0.6s,mb4.3							
WRA	**Warramunga Arr**	**24.64**	**239**	P	**P**	**09 25 49.5**	**-0.8**
2.3nm,0.7s,mb3.8,baz=64,slow=9.5,SNR=11							
WRA				PcP	PcP	09 29 27.1	+0.1
0.3nm,0.5s,baz=61,slow=2.3,SNR=7.1							
ASAR	**Alice Springs**	**26.80**	**232**	P	**P**	**09 26 11.2**	**+1.5**
0.4nm,0.8s,mb3.0,baz=61,slow=8.6,SNR=2.8							
ASAR				PcP	PcP	09 29 32.0	+0.1
0.4nm,0.8s,baz=68,slow=5.1,SNR=3.2							
STKA	**Stephens Creek**	**27.62**	**208**	P	**P**	**09 26 17.4**	**+0.4**
1.4nm,0.5s,mb3.9,baz=38,slow=12,SNR=5.0							
VNDA	**Vanda**	**69.61**	**179**	P	**P**	**09 31 36.7**	**-1.0**
VNDA	**Vanda**	**69.61**	**179**	P	**P**	**09 31 36.7**	**-1.0**
0.2nm,0.3s,mb3.5,baz=308,slow=4.7,SNR=3.6							
SONM	**Songino Array**	**70.98**	**327**	P	**P**	**09 31 47.3**	**+0.8**
1.9nm,0.8s,mb4.0,baz=143,slow=7.1,SNR=12							
MKAR	**Makanchi Array**	**85.16**	**318**	P	**P**	**09 33 05.2**	**+0.2**
0.3nm,0.7s,mb3.5,baz=117,slow=5.0,SNR=2.0							
YKA	**Yellowknife Ar**	**96.42**	**28**	P	**P**	**09 33 57.1**	**-0.4**
0.1nm,0.5s,mb3.5,baz=267,slow=4.7,SNR=5.6							

*NEIC **03** 09:40:25.8, 3861N×2352E, h30km, ML3.0(ATH), After ATH.*
*ATH **03** 09:40:25.8, 3861N×2352E, h30km±1km, MD3.3/8, ML3.0*
*ISCJB **03** 09:40:26.3±0.6, 3859N±002×2366E±005, h18km±8km, Error ellipse: s-maj=6.5km s-min=4.2km az=3.6*
*CSEM **03** 09:40:26.8±0.1, 3862N×2362E, h2km, ML3.0, Error ellipse: s-maj=2.6km s-min=1.2km az=87.0*
*THE **03** 09:40:26.5, 3859N×2359E, h3km, ML3.2*
ISC 03 09:40:26.1±0.6, 3860N±002×2361E±005, h20km±5km, n22, σ1 903/31, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKR	**Lokris**	**0.48**	**277**	*e*Pb	**Pb**	**09 40 34.8**	**-1.1**
LKR				*e*Sb	**Sb**	**09 40 42.0**	**-0.5**
PTL	**Penteli**	**0.58**	**160**	*e*Pn	**Pn**	**09 40 38.0**	**-1.3**
AOS	**Alonnisos**	**0.61**	**20**	*e*Pg	**Pg**	**09 40 38.3**	**0.0**
ATH	**Athens Observa**	**0.63**	**172**	*e*PN	**Pn**	**09 40 39.2**	**-0.7**
ATH				*e*SN	**Sb**	**09 40 48.2**	**+1.4**
LTK	**Loutraki**	**0.76**	**222**	*e*Pg	**Pg**	**09 40 40.5**	**-0.6**
LTK				*e*Sg	**Sg**	**09 40 51.9**	**+0.7**
NEO	**Neokhori**	**0.77**	**337**	*e*PN	**Pn**	**09 40 40.9**	**-1.0**
KVR	**Kavouri**	**0.78**	**171**	*e*PN	**Pn**	**09 40 42.0**	**0.0**
NAIG	**Nisos Aigina**	**0.84**	**187**	*e*PN	**Pn**	**09 40 42.5**	**-0.3**
NAIG				*e*SN	**Sn**	**09 40 55.0**	**+0.4**
AGG	**Agios Georgios**	**1.09**	**294**	*e*Pg	**Pg**	**09 40 47.5**	**+0.3**
AGG				*e*Sg	**Sg**	**09 41 01.7**	**+0.2**
DID	**Didima**	**1.13**	**195**	*e*Pg	**Pg**	**09 40 48.0**	**0.0**
DID				*e*Sg	**Sg**	**09 41 03.7**	**+0.9**
PAIG	**Paliouri**	**1.33**	**2**	*e*Pg	**Pg**	**09 40 50.8**	**-1.1**
PAIG				*e*Sg	**Sg**	**09 41 11.5**	**+2.2**
VLX	**Vlachokerasia**	**1.56**	**219**	*e*Pg	**Pg**	**09 40 55.0**	**-1.2**
LIT	**Litokhoron**	**1.74**	**330**	*e*Pb	**Pb**	**09 40 56.8**	**-0.5**
LIT				*e*Sb	**Sb**	**09 41 20.9**	**+2.2**
LOS	**Limnos**	**1.76**	**40**	*e*Pb	**Pb**	**09 40 57.1**	**-0.6**
OUR	**Ouranopolis**	**1.76**	**9**	*e*Pb	**Pb**	**09 40 57.2**	**-0.5**
OUR	**Ouranopolis**	**1.76**	**9**	*e*Pb	**Pb**	**09 40 57.2**	**-0.5**
PLG	**Polygyros**	**1.78**	**356**	*e*Pb	**Pb**	**09 40 57.5**	**-0.6**
PLG	**Polygyros**	**1.78**	**356**	*e*Pn	**Pn**	**09 40 55.3**	**-0.5**
PLG	**Polygyros**	**1.78**	**356**	*e*Pb	**Pb**	**09 40 57.5**	**-0.6**
CHOS	**Chios island**	**1.93**	**95**	*e*Pb	**Pb**	**09 40 60.0**	**-0.7**
HORT	**Hortiatis**	**2.04**	**349**	*e*Pn	**Pn**	**09 41 01.6**	**+2.3**
HORT				*e*Sn	**Sn**	**09 41 28.3**	**+4.1**
APE	**Apeiranthos**	**2.15**	**134**	*e*PN	**Pn**	**09 41 03.0**	**+2.1**

IDC 03 09:41:24.3±1.2, 759S×1558 8E, h0km, mb3.9/5, mb1 4.0/6, mb1mx3.8/15, mbtmp4.0/6, ML4.4/1, Error ellipse: s-maj=29.6km s-min=27.7km az=17.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.42**	**115**	Pn	Pn	09 42 32.5	-0.2
21nm,0.3s,baz=268,slow=3.1,SNR=4.8							
HNR				Sn	Sn	09 43 25.1	+0.1
26nm,0.3s,baz=99,slow=19,SNR=4.8							
WRA	**Warramunga Arr**	**24.22**	**237**	P	P	09 46 43.0	+0.2
1.3nm,0.6s,baz=61,slow=9.5,SNR=5.6							
ASAR	**Alice Springs**	**26.45**	**230**	P	P	09 47 03.2	0.0
0.3nm,0.8s,baz=54,slow=9.3,SNR=3.8							

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**70.30**	**327**	P	P	09 52 40.2	+0.6
	1.5nm,1.0s,baz=128,slow=4.6,SNR=5.3						
MKAR	**Makanchi Array**	**84.42**	**319**	P	P	09 53 59.6	+0.9
	3.5nm,0.7s,baz=101,slow=6.3,SNR=21						
ZALV	**Zalesovo Beam**	**85.16**	**326**	P	P	09 54 01.1	-1.2
	1.5nm,0.7s,baz=117,slow=5.8,SNR=6.2						

IDC 03 09:45:58.1±1.1,3161S×5823E,h0km,mb4.3/4,mb1 4.4/5, mb1mx3.9/23,mbtmp4.3/5,ML4.3/1,MS3.7/3,Ms1 3.7/3, ms1mx3.3/35,Error ellipse: s-maj=40.7km s-min=29.6km az=41.0,Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPO	**Ambohidratompo**	**16.38**	**320**	Pn	Pn	09 49 50.1	+0.6
	1.0nm,0.3s,baz=128,slow=5.9,SNR=5.9						
OPO				T		10 04 19.3	
	1.0nm,0.3s,baz=263,slow=21,SNR=2.5						
LBTB	**Lobatse**	**29.40**	**275**	LR	LR	10 01 43.9	
	comp=Z,76nm,18.4s,baz=335,slow=32						
SUR	**Sutherland**	**31.64**	**259**	LR	LR	10 02 30.9	
	comp=Z,154nm,18.4s,baz=219,slow=31						
MAW	**Mawson**	**36.13**	**177**	LR	LR	10 05 29.3	
	comp=Z,180nm,18.9s,baz=97,slow=32						
QSPA	**South Pole Qui**	**58.55**	**180**	P	P	09 55 56.1	+0.2
	4.9nm,1.0s,baz=254,slow=3.4,SNR=13						
ASAR	**Alice Springs**	**66.31**	**104**	P	P	09 56 48.7	0.0
	2.1nm,0.8s,baz=239,slow=6.1,SNR=19						
WRA	**Warramunga Arr**	**68.31**	**101**	P	P	09 57 01.7	+0.3
	3.8nm,0.9s,baz=243,slow=5.5,SNR=18						
STKA	**Stephens Creek**	**69.02**	**115**	P	P	09 57 06.0	+0.3
	1.3nm,0.8s,baz=225,slow=11,SNR=3.1						
YKA	**Yellowknife Ar**	**148.76**	**354**	PKPbc	PKPbc	10 05 44.8	-1.9
	1.0nm,0.7s,baz=0.0,slow=2.7,SNR=20						
ULM	**Lac du Bonnet**	**153.21**	**322**	PKPbc	PKPbc	10 05 59.1	+1.7
	1.6nm,0.7s,baz=53,slow=5.1,SNR=3.9						

MEX 03 09:58:03.1±0.9,1697N×9987W,h18km±25km,MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	**Acapulco**	**0.11**	**206**	*i* P	Pg	09 58 05.5	-1.4
ACX				*e*S	Sg	09 58 09.0	-0.5
CAIG	**El Cayaco**	**0.39**	**282**	*i* P	Pg	09 58 10.3	-1.0
CAIG				*e*S	Sg	09 58 15.2	-1.6
MEIG	**Mezcala**	**0.98**	**14**	*e*P	Pb	09 58 18.8	-2.8
MEIG				*e*S	Sb	09 58 30.1	-4.1
UTMO	**Huajuapan**	**2.15**	**66**	*e*P	Pn	09 58 36.0	-2.0
UTMO				*e*S	Sn	09 59 00.7	-3.5
PPM	**Popocatepetl**	**2.40**	**29**	*e*P	Pn	09 58 45.3	+3.8
PPM				*e*S	Sn	09 59 11.3	+0.9

*IDC **03** 10:00:26.4±0.8, 730S×15568E, h0km, mb4.3/12, mb1 4.5/12, mb1mx4.4/15, mbtmp4.3/12, MS3.9/9, Ms1 3.9/9, ms1mx3.6/25, Error ellipse: s-maj=28.8km s-min=16.7km az=98.0*

*NEIC **03** 10:00:28.0±0.5, 732S×15573E, h10km, mb4.6/7, Error ellipse: s-maj=13.9km s-min=11.1km az=113.0*

*ISCJB **03** 10:00:32.8±2.6, 732S±0.10×15553E±008, h50km±25km, mb4.3/16, MS3.9/7, Error ellipse: s-maj=17.9km s-min=11.8km az=146.7*

ISC 03 10:00:34.9±2.2,734S±010×15551E±009,h56km±22km, n38,σ0°81/33,mb4.3/16,MS3.9/7,1C,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.86**	**116**	*e*Pn	**Pn**	**10 01 37.6**	**-7.9**
HNR				Pn	**Pn**	**10 01 45.9**	**+0.4**
HNR				*e*Sn	**Sn**	**10 02 32.9**	**-7.6**
HNR				Sn	**Sn**	**10 02 40.0**	**-0.4**
HNR	**Honiara**	**4.86**	**116**	Pn	**Pn**	**10 01 45.8**	**+0.4**
	16nm,0.3s,baz=254,slow=1.1,SNR=4.7						
HNR				Sn	**Sn**	**10 02 40.0**	**-0.4**
	23nm,0.3s,baz=269,slow=21,SNR=2.4						
HNR				LR	LR	10 03 18.7	
	comp=Z,607nm,20.0s,baz=352,slow=36						
CTA	**Charters Tower**	**15.53**	**214**	*e*P	**Pn**	**10 04 11.8**	**+1.4**
	6.8nm,0.9s						
CTA	**Charters Tower**	**15.53**	**214**	Pn	**Pn**	**10 04 11.4**	**+1.0**
	0.2nm,0.3s,baz=36,slow=16,SNR=4.7						
CTA				LR	LR	10 09 31.4	
	comp=Z,239nm,19.2s,baz=45,slow=35						
ARMA	**Armidale**	**23.25**	**189**	*e*P	**P**	**10 05 36.5**	**-1.0**
GUMO	**Guam**	**23.32**	**333**	LR	LR	10 12 38.6	
	comp=Z,155nm,20.3s,MS3.5,baz=281,slow=31						
KAKA	**Kakadu**	**23.33**	**255**	*e*P	**P**	**10 05 38.3**	**-0.2**
	20nm,0.6s,mb4.7						
WB2	**Warramunga Arr**	**24.04**	**236**	*e*P	**P**	**10 05 44.5**	**-0.4**
WRA	**Warramunga Arr**	**24.05**	**236**	P	**P**	**10 05 45.1**	**0.0**
WRA				PcP	PcP	10 09 26.0	+0.3
WRA	**Warramunga Arr**	**24.05**	**236**	P	**P**	**10 05 45.1**	**0.0**
	6.7nm,0.9s,mb4.1,baz=61,slow=9.6,SNR=34						
WRA				PcP	PcP	10 09 26.0	+0.3
	1.0nm,0.6s,baz=62,slow=2.4,SNR=8.1						
WRA				LR	LR	10 15 05.9	
	comp=Z,192nm,18.2s,MS3.6,baz=45,slow=36						
ASAR	**Alice Springs**	**26.33**	**230**	P	**P**	**10 06 04.8**	**-0.9**
	2.1nm,0.9s,mb3.7,baz=58,slow=9.2,SNR=18						
ASAR				PcP	PcP	10 09 31.4	+0.6
	0.9nm,0.8s,baz=78,slow=2.3,SNR=5.0						
STKA	**Stephens Creek**	**27.65**	**206**	⇑*i*P	**P**	**10 06 17.7**	**+0.3**
	7.3nm,0.8s,mb4.4						
STKA	**Stephens Creek**	**27.65**	**206**	P	**P**	**10 06 17.4**	**0.0**
	8.2nm,0.8s,mb4.4,baz=8.1,slow=9.1,SNR=11						
STKA				LR	LR	10 17 03.6	
	comp=Z,242nm,18.5s,MS3.8,baz=28,slow=36						
FITZ	**Fitzroy Crossi**	**30.99**	**247**	*e*P	**P**	**10 06 47.7**	**+0.5**
	8.2nm,0.8s,mb4.6						
FITZ	**Fitzroy Crossi**	**30.99**	**247**	P	**P**	**10 06 47.1**	**-0.2**
	4.9nm,0.8s,mb4.4,baz=93,slow=8.8,SNR=11						
FITZ				PcP	PcP	10 09 43.5	+1.0
	1.6nm,0.8s,baz=164,slow=20,SNR=3.7						
RAO	**Raoul Island**	**33.18**	**134**	LR	LR	10 17 42.9	
	comp=Z,700nm,19.0s,MS4.4,baz=339,slow=31						
URZ	**Urewera**	**36.46**	**151**	LR	LR	10 18 34.3	
	comp=Z,584nm,19.0s,MS4.4,baz=41,slow=30						
RPZ	**Rata Peaks**	**38.71**	**162**	LR	LR	10 21 55.8	
	comp=Z,208nm,19.1s,MS4.0,baz=205,slow=33						
MJAR	**Matsushiro Arr**	**46.57**	**341**	P	**P**	**10 08 55.5**	**-1.7**
	1.9nm,0.7s,mb4.1,baz=162,slow=7.9,SNR=6.0						
KSRS	**Korea Array**	**51.48**	**332**	P	**P**	**10 09 34.0**	**-0.8**
	1.6nm,0.8s,mb4.0,baz=148,slow=8.5,SNR=3.6						
ASAJ	**Asahikawa**	**52.53**	**348**	LR	LR	10 31 37.5	
	comp=Z,105nm,18.3s,MS3.9,baz=0.8,slow=36						
SONM	**Songino Array**	**69.90**	**327**	P	**P**	**10 11 40.4**	**+0.4**
	1.8nm,0.6s,mb4.2,baz=143,slow=6.6,SNR=16						
VNDA	**Vanda**	**70.22**	**179**	P	**P**	**10 11 41.1**	**-0.4**
	1.5nm,0.9s,mb3.9,baz=313,slow=3.4,SNR=7.1						
MCK	**McKinley**	**82.19**	**22**	*e*P	**P**	**10 12 51.2**	**+1.7**
	5.6nm,0.9s,mb4.5						
COLA	**College**	**83.22**	**21**	*e*P	**P**	**10 12 55.7**	**+0.8**
	12nm,1.4s,mb4.7						
MKAR	**Makanchi Array**	**84.00**	**319**	P	**P**	**10 12 60.0**	**+0.7**
	5.5nm,0.7s,mb4.8,baz=102,slow=5.6,SNR=38						
MAW	**Mawson**	**84.28**	**203**	P	**P**	**10 13 01.2**	**+0.8**
	6.3nm,0.9s,mb4.8,baz=106,slow=5.6,SNR=5.4						
ZAA0	**Zalesovo Array**	**84.75**	**326**	*e*P	**P**	**10 13 02.3**	**-0.6**
ZALV	**Zalesovo Beam**	**84.75**	**326**	P	**P**	**10 13 02.7**	**-0.2**
ZALV	**Zalesovo Beam**	**84.75**	**326**	P	**P**	**10 13 02.7**	**-0.2**
	3.1nm,0.6s,mb4.6,baz=113,slow=5.7,SNR=17						
TKM2	**Tokmak 2**	**87.62**	**314**	*e*P	**P**	**10 13 17.6**	**+0.3**
	1.7nm,0.6s,mb4.5						
UCH	**Uchtor**	**88.26**	**313**	*e*P	**P**	**10 13 21.4**	**+1.0**
YKA	**Yellowknife Ar**	**96.40**	**28**	P	**P**	**10 13 56.4**	**-1.1**
YKA	**Yellowknife Ar**	**96.40**	**28**	P	**P**	**10 13 56.4**	**-1.1**
	0.5nm,0.7s,mb4.1,baz=266,slow=4.6,SNR=8.9						
LPAZ	**La Paz**	**130.84**	**119**	PKP	PKPdf	10 19 41.2	+0.2
LPAZ	**La Paz**	**130.84**	**119**	PKP	PKPdf	10 19 41.2	+0.2
	2.3nm,1.0s,baz=314,slow=0.9,SNR=5.7						
BDFB	**Brasilia**	**147.37**	**134**	PKPbc	PKPbc	10 20 11.6	-1.8
	8.6nm,0.6s,baz=176,slow=4.6,SNR=11						
TORD	**Torodi Ar. Bea**	**153.61**	**285**	PKPbc	PKPbc	10 20 26.6	-1.9
	0.8nm,0.7s,baz=34,slow=5.4,SNR=3.0						
TORD				PKPab	PKPab	10 20 38.1	-3.0
	0.3nm,0.5s,baz=90,slow=3.3,SNR=3.2						

*IDC **03** 10:11:49.2±0.8, 700S×15507E, h0km, mb4.1/12, mb1 4.3/12, mb1mx4.3/14, mbtmp4.1/12, Error ellipse: s-maj=31.1km s-min=17.1km az=100.0*

*NEIC **03** 10:11:51.6±0.5, 686S×15483E, h10km, mb4.6/6, Error ellipse: s-maj=14.8km s-min=12.8km az=127.0*

*ISCJB **03** 10:11:59.4±2.4, 7.1S±0.1×15495E±009, h89km±23km, mb4.1/17, Error ellipse: s-maj=19.1km s-min=12.5km az=141.1*

ISC 03 10:12:00.9±2.1,707S±010×15496E±009,h90km±21km, n30,σ0°57/27,mb4.1/17,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.47**	**116**	Pn	**Pn**	**10 13 20.2**	**+0.3**
	11nm,0.3s,baz=274,slow=7.5,SNR=3.1						
CTA	**Charters Tower**	**15.45**	**212**	Pn	**Pn**	**10 15 39.5**	**+5.7**
	0.2nm,0.3s,baz=42,slow=16,SNR=3.7						
DZM	**Mont Dzumac**	**18.58**	**145**	P	**Pn**	**10 16 11.4**	**-0.8**
	0.3nm,0.3s,baz=313,slow=19,SNR=2.4						
KAKA	**Kakadu**	**22.87**	**254**	*e*P	**P**	**10 16 57.9**	**+0.8**
	2.3nm,0.2s,mb4.2						
WB2	**Warramunga Arr**	**23.73**	**235**	*e*P	**P**	**10 17 05.3**	**+0.4**
WRA	**Warramunga Arr**	**23.74**	**235**	P	**P**	**10 17 04.9**	**-0.1**
	6.3nm,0.8s,mb4.0,baz=59,slow=9.7,SNR=31						
WRA				PcP	PcP	10 20 48.4	+1.6
	1.3nm,0.6s,baz=60,slow=2.4,SNR=12						
ASAR	**Alice Springs**	**26.09**	**228**	P	**P**	**10 17 26.1**	**-0.2**
	1.7nm,0.9s,mb3.5,baz=64,slow=8.9,SNR=15						
ASAR				PcP	PcP	10 20 53.4	+1.4
	0.5nm,0.6s,baz=76,slow=2.9,SNR=4.8						
STKA	**Stephens Creek**	**27.65**	**205**	*e*P	**P**	**10 17 40.2**	**0.0**
	2.8nm,0.7s,mb3.9						
STKA	**Stephens Creek**	**27.65**	**205**	P	**P**	**10 17 40.6**	**+0.4**
	3.9nm,0.8s,mb4.0,baz=4.7,slow=4.6,SNR=5.7						
FITZ	**Fitzroy Crossi**	**30.59**	**246**	*e*P	**P**	**10 18 06.1**	**-0.4**
	6.5nm,0.6s,mb4.5						
MJAR	**Matsushiro Arr**	**46.14**	**341**	P	**P**	**10 20 16.2**	**-0.2**
	1.1nm,0.7s,mb3.7,baz=169,slow=7.2,SNR=3.1						
KSRS	**Korea Array**	**50.99**	**332**	P	**P**	**10 20 52.1**	**-1.4**
	0.7nm,0.6s,mb3.9,baz=149,slow=4.9,SNR=3.7						
SONM	**Songino Array**	**69.38**	**327**	P	**P**	**10 22 59.4**	**+0.4**
	1.3nm,0.6s,mb3.9,baz=146,slow=5.5,SNR=12						
VNDA	**Vanda**	**70.50**	**178**	P	**P**	**10 23 05.1**	**-0.3**
VNDA				*e*P		10 23 06.1	
VNDA	**Vanda**	**70.50**	**178**	P	**P**	**10 23 05.1**	**-0.3**
	0.6nm,0.7s,mb3.5,baz=351,slow=6.0,SNR=3.8						
TTA	**Tatalina**	**79.11**	**21**	*e*P	**P**	**10 23 55.5**	**+0.3**
	10.0nm,1.2s,mb4.5						
IMA2	**Indian Mountai**	**81.89**	**19**	*e*P	**P**	**10 24 10.2**	**+0.2**
MCK	**McKinley**	**82.14**	**22**	*e*P	**P**	**10 24 10.7**	**-0.7**
	7.2nm,0.7s,mb4.6						
MKAR	**Makanchi Array**	**83.44**	**319**	P	**P**	**10 24 18.9**	**+0.4**
	1.2nm,0.7s,mb3.9,baz=101,slow=5.1,SNR=14						
ZALV	**Zalesovo Beam**	**84.22**	**326**	P	**P**	**10 24 21.4**	**-0.9**
	1.3nm,0.5s,mb4.0,baz=110,slow=5.3,SNR=7.3						
MAW	**Mawson**	**84.31**	**203**	P	**P**	**10 24 22.8**	**+0.3**
	4.0nm,1.0s,mb4.2,baz=101,slow=9.0,SNR=4.6						
EGAK	**Eagle**	**85.60**	**23**	*e*P	**P**	**10 24 29.4**	**+0.5**
	3.0nm,0.6s,mb4.4						
DAWY	**Dawson**	**85.98**	**24**	*e*P	**P**	**10 24 32.0**	**+1.1**
INK	**Inuvik**	**89.81**	**21**	*e*P	**P**	**10 24 48.9**	**-0.1**
	139nm,0.9s						
NVAR	**Mina Array Bea**	**91.80**	**52**	P	**P**	**10 24 59.4**	**+0.4**
NVAR	**Mina Array Bea**	**91.80**	**52**	P	**P**	**10 24 59.4**	**+0.4**
	0.6nm,0.7s,mb4.0,baz=259,slow=3.7,SNR=6.0						
YKA	**Yellowknife Ar**	**96.42**	**28**	P	**P**	**10 25 19.4**	**-0.2**
	0.8nm,0.6s,mb4.3,baz=267,slow=4.5,SNR=27						
BDFB	**Brasilia**	**147.95**	**135**	PKPbc	PKPbc	10 31 36.9	+0.1
	2.6nm,0.7s,baz=107,slow=9.0,SNR=3.9						
MDT	**Midelt**	**148.12**	**326**	PKPbc	PKPbc	10 31 36.9	+0.1
	2.0nm,0.6s,baz=349,slow=2.9,SNR=6.5						
TORD	**Torodi Ar. Bea**	**153.01**	**285**	PKPbc	PKPbc	10 31 49.2	+0.3
	1.0nm,0.7s,baz=76,slow=0.7,SNR=6.4						

*NEIC **03** 10:16:11.2, 2884S×7121W, h43km, MD3.7(GUC), After GUC.*

GUC 03 10:16:11.2±0.9,2884S×7121W,h43km±8km,MD3.7, ML3.3,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VACH	**Vallenar**	**0.47**	**56**	*e*P	Pn	10 16 24.3	+2.6
VACH				*i* S	Sn	10 16 33.1	+4.0
LCO	**Las Campanas**	**0.47**	**112**	*e*Pn	Pn	10 16 25.1	+3.4
LCO				*e*Sn	Sn	10 16 35.5	+6.3
LSCH	**La Serena**	**1.07**	**182**	*e*P	Pn	10 16 30.5	+0.8
LSCH				*i* S	Sn	10 16 44.9	+1.5
TLL	**Tololo Astrono**	**1.37**	**165**	*e*P	Pn	10 16 37.1	+3.2
TLL				*i* S	Sn	10 16 55.6	+4.8
TLL	**Tololo Astrono**	**1.37**	**165**	*e*P	Pn	10 16 37.1	+3.2
TLL				*i* S	Sn	10 16 55.6	+4.8
TLL				AML	AML	10 16 59.9	
	comp=E,322nm,0.6s						
CPCH	**Copiapo**	**1.66**	**27**	*e*P	Pn	10 16 38.6	+0.8
CPCH				*i* S	Sn	10 16 59.4	+1.6
CPCH	**Copiapo**	**1.66**	**27**	*e*P	Pn	10 16 38.6	+0.8
CPCH				*i* S	Sn	10 16 59.4	+1.6
CPCH				AML	AML	10 17 09.3	
	comp=N,942nm,0.2s						
CDCH	**Caldera**	**1.79**	**11**	*e*P	Pn	10 16 40.4	+0.8
CDCH				*i* S	Sn	10 17 02.3	+1.2
CMCH	**Combarbala**	**2.33**	**176**	*e*P	Pn	10 16 47.9	+0.8
CMCH				*i* S	Sn	10 17 16.5	+1.9
CMCH	**Combarbala**	**2.33**	**176**	*e*P	Pn	10 16 47.9	+0.8
CMCH				*i* S	Sn	10 17 16.5	+1.9
CMCH				AML	AML	10 17 27.3	
	comp=E,280nm,0.5s						

*IDC **03** 10:19:35.7±0.8, 780S×15589E, h0km, mb4.5/11, mb1 4.5/13, mb1mx4.4/17, mbtmp4.4/13, ML3.7/2, MS3.8/13, Ms1 3.8/13, ms1mx3.6/29, Error ellipse: s-maj=25.4km s-min=17.6km az=105.0*

*BJI **03** 10:19:37.4, 790S×15590E, h10km, mB5.2, mb4.8, Ms5.0, Msz4.4*

*NEIC **03** 10:19:37.5±0.3, 787S×15593E, h10km, mb4.9/9, Error ellipse: s-maj=11.3km s-min=7.3km az=124.0*

*ISCJB **03** 10:19:39.5±0.4, 787S±006×15593E±008, h33km, mb4.7/32, MS4.0/19, Error ellipse: s-maj=11.5km s-min=8.3km az=29.8*

*MOS **03** 10:19:39.3±0.8, 786S×15587E, h33km, mb5.0/8, MS4.0/4, Error ellipse: s-maj=13.3km s-min=9.7km az=91.3*

ISC 03 10:19:41.3±0.4,793S±006×15599E±008,h35km, (h8km±4.5km:pP-P),n73,σ1°14/69,mb4.7/32,MS4.0/19, 5C-3D,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.19**	**111**	Pn	**Pn**	**10 20 43.8**	**+1.0**
	5.1nm,0.3s,baz=131,slow=2.2,SNR=2.7						
HNR				LR	LR	10 22 20.9	
	comp=Z,1μm,18.7s,baz=169,slow=38						
CTA	**Charters Tower**	**15.33**	**217**	Pn	**Pn**	**10 23 13.8**	**-1.3**
	0.2nm,0.3s,baz=21,slow=9.6,SNR=3.3						
CTA				LR	LR	10 27 31.0	
	comp=Z,195nm,20.5s,baz=44,slow=31						
CTAO	**Charters Tower**	**15.33**	**217**	*e*Pn	**Pn**	**10 23 14.8**	**-0.3**
GUMO	**Guam**	**24.06**	**333**	LR	LR	10 32 22.9	
	comp=Z,246nm,21.3s,MS3.7,baz=119,slow=32						
WB2	**Warramunga Arr**	**24.12**	**238**	‖*i*P	**P**	**10 24 54.7**	**+0.7**
WRA	**Warramunga Arr**	**24.13**	**238**	P	**P**	**10 24 52.8**	**-1.3**
	43nm,1.2s,mb4.7,baz=64,slow=9.7,SNR=38						
WRA				LR	LR	10 33 39.4	
	comp=Z,108nm,18.1s,MS3.4,baz=50,slow=35						
ASAR	**Alice Springs**	**26.32**	**231**	P	**P**	**10 25 14.2**	**+0.2**
	5.7nm,1.0s,mb4.0,baz=60,slow=9.2,SNR=27						
STKA	**Stephens Creek**	**27.34**	**207**	*e*P	**P**	**10 25 24.0**	**+0.9**
	4.8nm,0.9s,mb4.0						
STKA	**Stephens Creek**	**27.34**	**207**	*e*P	**P**	**10 25 23.2**	**+0.1**
STKA				*e*P		10 25 24.0	
STKA	**Stephens Creek**	**27.34**	**207**	P	**P**	**10 25 23.7**	**+0.6**
	7.2nm,1.1s,mb4.1,baz=22,slow=12,SNR=6.8						
STKA				LR	LR	10 36 24.5	
	comp=Z,340nm,18.6s,MS4.0,baz=26,slow=37						
FITZ	**Fitzroy Crossi**	**31.20**	**248**	*e*P	**P**	**10 25 56.3**	**-1.2**
	5.1nm,1.0s,mb4.3						
URZ	**Urewera**	**35.72**	**151**	LR	LR	10 37 40.7	
	comp=Z,128nm,19.0s,MS3.7,baz=300,slow=30						
MBWA	**Marble Bar**	**37.37**	**245**	*e*P	**P**	**10 26 51.5**	**+0.6**
	16nm,1.1s,mb4.8						
RPZ	**Rata Peaks**	**38.01**	**162**	LR	LR	10 39 56.4	
	comp=Z,374nm,20.3s,MS4.2,baz=127,slow=32						
NWAO	**Narrogin (SRO)**	**43.63**	**230**	LR	LR	10 45 48.8	
	comp=Z,150nm,20.4s,MS3.9,baz=348,slow=36						
JOW	**Kunigami**	**43.77**	**323**	LR	LR	10 44 38.6	
	comp=Z,53nm,19.9s,MS3.5,baz=6.2,slow=34						
RAR	**Rarotonga**	**44.65**	**112**	LR	LR	10 43 52.9	
	comp=Z,144nm,18.1s,MS3.9,baz=257,slow=32						
MJAR	**Matsushiro Arr**	**47.28**	**340**	P	**P**	**10 28 10.1**	**-1.2**
	5.3nm,0.7s,mb4.6,baz=167,slow=7.6,SNR=15						
MJAR				LR	LR	10 44 50.2	
	comp=Z,100nm,20.1s,MS3.8,baz=125,slow=32						
MAJO	**Matsushiro**	**47.28**	**340**	*e*P	**P**	**10 28 09.9**	**-1.4**
MAT	**Matsushiro**	**47.28**	**340**	P	**P**	**10 28 09.7**	**-1.6**
KSRS	**Korea Array**	**52.22**	**332**	P	**P**	**10 28 46.6**	**-2.2**
	6.4nm,1.1s,mb4.5,baz=156,slow=9.2,SNR=10						
ASAJ	**Asahikawa**	**53.20**	**348**	P	**P**	**10 28 55.4**	**-0.7**
	6.9nm,0.9s,mb4.6,baz=214,slow=14,SNR=4.8						
NJ2	**Nanjing**	**53.25**	**320**	*e*P	**P**	**10 28 59.1**	**+2.4**
NJ2				AMB	AMB		
	comp=Z,100nm,1.2s,mb5.6						
VLA	**Vladivostok**	**55.33**	**339**	*e*P	**P**	**10 29 10.6**	**-1.0**
VLA				pmax	pmax		
	comp=Z,37nm,1.3s,mb5.2						
YSS	**Yuzh-Sakhalins**	**55.89**	**349**	‖*e*P	**P**	**10 29 16.2**	**+0.7**
MDJ	**Mudanjiang**	**57.47**	**338**	P	**P**	**10 29 26.7**	**0.0**
MDJ				PCP	PcP	10 30 19.9	-0.2
MDJ				SCP	ScP	10 34 20.5	+3.0
MDJ				PCS	PcS	10 34 21.7	+0.6
MDJ				S	**S**	**10 37 25.2**	**+3.6**
MDJ				SS	SS	10 41 16.3	+4.3
MDJ				AMB	AMB		
	comp=Z,12nm,1.1s,mb4.8						
MDJ	**Mudanjiang**	**57.47**	**338**	*e*P	**P**	**10 29 26.9**	**+0.2**
	comp=Z,24nm,1.4s,mb5.0						
CN2	**Changchun**	**58.45**	**334**	*e*P	**P**	**10 29 33.3**	**-0.4**
GYA	**Guiyang**	**58.80**	**307**	‖*i*P	**P**	**10 29 39.2**	**+2.8**
GYA				AP	pP	10 29 43.8	-3.3
GYA				XP	sP	10 29 46.7	-4.5
GYA				PCP	PcP	10 30 28.5	+2.6
GYA				PP	PP	10 31 52.0	+5.2
GYA				SCP	ScP	10 34 27.6	+3.7
GYA				S	**S**	**10 37 44.2**	**+4.6**
GYA				SCS	ScS	10 39 26.0	+1.9
GYA				SS	SS	10 41 39.4	+5.8
GYA				AMB	AMB		
	comp=Z,20nm,1.0s,mb5.1						
GYA				AMB	AMB		
	comp=Z,160nm,10.9s						
GYA				LR	LR		
	comp=N,490nm,19.2s,MS4.8						
GYA				LR	LR		
	comp=E,480nm,20.4s,MS4.8						
GYA				LR	LR		
	comp=Z,440nm,20.6s,MS4.6						
HABR	**Khabarovsk**	**59.11**	**344**	*e*P	**P**	**10 29 32.7**	**-5.4**
BJI	**Beijing**	**60.24**	**326**	P	**P**	**10 29 47.6**	**+1.5**
BJI				PP	PP	10 32 00.7	+1.3
BJI				S	**S**	**10 38 03.3**	**+5.5**
BJI				SCS	ScS	10 39 38.4	+4.2
BJI				SS	SS	10 42 02.1	+6.3
BJI				AMB	AMB		
	comp=Z,6.0nm,0.6s,mb4.8						
BJI				AMB	AMB		
	comp=Z,44nm,3.3s						
BJI				LR	LR		
	comp=N,141nm,4.8s						
BJI				LR	LR		
	comp=E,165nm,4.8s						
BJI				LR	LR		
	comp=Z,146nm,51.0s,MS3.7						
BJI	**Beijing**	**60.24**	**326**	P	**P**	**10 29 47.6**	**+1.5**
	comp=Z,6.0nm,0.6s,mb4.8						
BJI				PP	PP	10 32 00.7	+1.3
BJI				S	**S**	**10 38 03.3**	**+5.5**
BJI				ScS	ScS	10 39 38.4	+4.2
BJI				SS	SS	10 42 02.1	+6.3
BJI				LR	LR		
	comp=Z,150nm,51.0s,MS3.7						
KLR	**Kul'dur**	**60.75**	**342**	*e*P	**P**	**10 29 45.0**	**-4.4**
KLR				pmax	pmax		
	comp=Z,30nm,1.4s,mb5.2						
KMI	**Kunming**	**61.35**	**304**	P	**P**	**10 29 57.4**	**+3.4**
KMI				AP	pP	10 30 00.2	-4.5
KMI				XP	sP	10 30 01.4	-7.4
KMI				S	**S**	**10 38 17.0**	**+4.5**
KMI				SS	SS	10 42 19.4	+5.7
KMI				AMB	AMB		
	comp=Z,7.0nm,0.6s,mb5.0						
KMI				AMB	AMB		
	comp=Z,81nm,3.4s						
KMI				LR	LR		
	comp=N,157nm,11.1s,MS4.5						
KMI				LR	LR		
	comp=E,130nm,12.7s,MS4.5						
KMI				LR	LR		
	comp=Z,118nm,17.4s,MS4.1						
KMI	**Kunming**	**61.35**	**304**	P	**P**	**10 29

BILL Bilibino 76.13 4⇑eP P 10 31 25.0 -0.2
BILL e 10 34 24.2
BILL eS S 10 41 06.2 0.0
BILL eSS SS 10 45 59.2 -1.0
BILL pmax pmax
comp=Z,26nm,1.1s,mb5.1
TNA Tin City 77.97 15 eP **P 10 31 35.8 +0.3**
comp=Z,40nm,3.0s
WMQ Urumqi 80.17 317 eP **P 10 31 48.8 +0.7**
WMQ AMB AMB
comp=Z,9.0nm,0.7s,mb4.8
WMQ LR LR
comp=Z,112nm,19.4s,MS4.2
PMR Palmer 81.25 23 eP **P 10 31 53.7 +0.2**
TIXI Tiksi 81.41 352⇑eP **P 10 31 53.7 -0.4**
TIXI pmax pmax
comp=Z,5.0nm,1.4s,mb4.2
TIXI MLR MLR
comp=Z,100nm,19.0s,MS4.2
QSPA South Pole Qui 82.06 180 LR LR 11 01 55.9
comp=Z,136nm,21.1s,MS4.3,baz=283,slow=31
IMA2 Indian Mountai 82.36 18 eP **P 10 31 59.6 +0.3**
MCK McKinley 82.55 22 eP **P 10 31 59.9 -0.3**
MCK eP 10 32 00.3
COLA College 83.59 21 eP **P 10 32 05.2 -0.4**
comp=Z,8.4nm,1.3s,mb4.7
COLA College 83.59 21⇓eP **P 10 32 05.3 -0.3**
MK31 Makanchi Array 84.75 319 eP **P 10 32 11.7 -0.2**
MKAR Makanchi Array 84.75 319 P **P 10 32 11.8 -0.1**
MKAR LR LR 11 08 51.5
MKAR Makanchi Array 84.75 319 P **P 10 32 11.8 -0.1**
comp=Z,5.0nm,0.9s,mb4.6,baz=100,slow=6.3,SNR=25
MKAR LR LR 11 08 51.5
comp=Z,47nm,19.0s,MS3.9,baz=273,slow=35
ZALV Zalesovo Beam 85.50 326 P **P 10 32 13.8 -1.7**
comp=Z,1.5nm,0.6s,mb4.3,baz=114,slow=7.0,SNR=8.4
ZAL Zalesovo 85.50 326 P **P 10 32 13.8 -1.7**
EGAK Eagle 85.99 22 eP **P 10 32 18.2 +0.5**
INK Inuvik 90.24 21 eP **P 10 32 38.4 +0.5**
YKA Yellowknife Ar 96.69 28 P **P 10 33 07.8 +0.1**
YKA Yellowknife Ar 96.69 28 P **P 10 33 07.8 +0.1**
comp=Z,1.3nm,0.6s,mb4.5,baz=266,slow=4.6,SNR=25
PDAR Pinedale Array 98.59 48 P **P 10 33 16.2 -0.5**
comp=Z,0.4nm,0.8s,mb4.0,baz=281,slow=0.8,SNR=3.6
GERES GERESS Array B 128.35 329 PKP PKPdf 10 38 43.1 -1.2
comp=Z,0.8nm,0.8s,baz=59,slow=3.6,SNR=5.6
SDV Santo Domingo 133.89 85 PKP PKPdf 10 38 54.1 -1.7
comp=Z,2.7nm,0.7s,baz=335,slow=13,SNR=2.9
PAB San Pablo 143.91 334 ePKPdf PKPdf 10 39 17.8 +4.4
BDFB Brasilia 146.63 135 PKPbc PKPbc 10 39 20.3 +0.1
comp=Z,4.0nm,0.8s,baz=143,slow=6.2,SNR=6.1
TORD Torodi Ar. Bea 154.21 284 PKPbc PKPbc 10 39 37.9 -0.8
comp=Z,1.1nm,0.9s,baz=18,slow=5.0,SNR=3.1

IDC 03 10:23:16.7±1.8, 737S×15553E, h0km, mb3.9/6, mb1 4.1/6, mb1mx4.0/14, mbtmp3.9/6, Error ellipse: s-maj=66.0km s-min=24.9km az=113.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.05**	**237**	P	P	10 28 33.5	-0.2
	4.9nm,0.9s,baz=60,slow=8.9,SNR=6.0						
ASAR	**Alice Springs**	**26.33**	**230**	P	P	10 28 54.5	+0.1
	0.7nm,0.7s,baz=64,slow=9.1,SNR=6.8						
STKA	**Stephens Creek**	**27.63**	**206**	P	P	10 29 06.3	+0.2
	3.8nm,0.8s,baz=20,slow=10.0,SNR=7.3						
SONM	**Songino Array**	**69.94**	**327**	P	P	10 34 29.7	0.0
	0.3nm,0.4s,baz=149,slow=5.9,SNR=4.3						
MKAR	**Makanchi Array**	**84.04**	**319**	P	P	10 35 49.8	+0.6
	0.4nm,0.7s,baz=116,slow=5.4,SNR=3.7						
YKA	**Yellowknife Ar**	**96.42**	**28**	P	P	10 36 47.0	-0.4
	0.2nm,0.5s,baz=266,slow=4.6,SNR=5.9						

IDC 03 10:26:44.1±8.9, 732S×15444E, h0km, mb3.7/3, mb1 3.7/3, mb1mx3.5/14, mbtmp3.7/3, Error ellipse: s-maj=254.1km s-min=38.9km az=116.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.18**	**235**	P	P	10 31 52.4	-0.3
	0.4nm,0.9s,baz=58,slow=9.6,SNR=2.8						
SONM	**Songino Array**	**69.31**	**328**	P	P	10 37 53.7	+0.5
	1.0nm,0.7s,baz=137,slow=6.1,SNR=7.5						
MKAR	**Makanchi Array**	**83.28**	**319**	P	P	10 39 12.8	+0.1
	1.6nm,0.7s,baz=100,slow=6.8,SNR=6.5						

*NIED **03** 10:28:00, 3560N×14100E, h41km, Mw4.1 Best double couple: M0=1.61000×10^15 NP1:φs=7.00000°, δ79.00000°, λ93.00000°. NP2:φs=172.00000°, δ11.00000°, λ76.00000°.*
*ISCJB **03** 10:28:46.6±0.8, 3553N±004×14119E±008, h40km±7km, mb4.0/9, Error ellipse: s-maj=10.3km s-min=5.8km az=170.3*
*NEIC **03** 10:28:48.3, 3556N×14102E, h38km, mb4.5/2, MW4.1(NIED), After JMA.*
*IDC **03** 10:28:48.4±2.9, 3550N×141.14E, h38km±25km, mb3.7/7, mb1 3.8/12, mb1mx3.7/25, mbtmp3.8/12, ML3.8/5, MS3.3/5, Ms1 3.3/5, ms1mx3.0/42, Error ellipse: s-maj=31.1km s-min=15.5km az=80.0*
*JMA **03** 10:28:48.2±0.1, 3556N×14102E, h37km±1km, M3.6*
JMA Felt I J1.
ISC 03 10:28:47.4±0.8, 3552N±003×14115E±006, h29km±5km, n31, σ0°93/40, mb4.0/9, 4D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.30**	**308**	⇓P	**Pb**	**10 28 55.1**	**+0.4**
CHOJ				S	**Sb**	**10 28 59.9**	**+0.2**
KTR	**Katsuura**	**0.77**	**242**	P	**Pb**	**10 29 01.9**	**-0.4**
KTR				S	**Sb**	**10 29 12.1**	**-0.4**
JCN	**Nagara**	**0.78**	**263**	⇓P	**Pn**	**10 29 02.5**	**+0.1**
JCN				S	**Sb**	**10 29 10.4**	**-2.2**
BSO4	**Boso 4**	**0.85**	**232**	⇓P	**Pn**	**10 29 03.2**	**-0.1**
BSO1	**Boso 1**	**0.87**	**189**	P	**Pn**	**10 29 03.9**	**+0.2**
BSO1				S	**Sb**	**10 29 16.2**	**+0.9**
BSO3	**Boso 3**	**0.89**	**216**	P	**Pn**	**10 29 03.7**	**-0.1**
BSO3				S	**Sb**	**10 29 16.2**	**+0.6**
JYT	**Yasato**	**1.05**	**313**	⇓P	**Pn**	**10 29 05.1**	**-1.0**
JYT				S	**Sn**	**10 29 19.1**	**-0.6**
JIM2	**Oshima 3**	**1.62**	**241**	P	**Pn**	**10 29 12.4**	**-1.5**
JIM2				eS	**Sn**	**10 29 33.1**	**-0.7**
JAG	**Ashikaga**	**1.65**	**304**	P	**Pn**	**10 29 15.4**	**+1.1**
JOD2	**Odawara 2**	**1.70**	**262**	P	**Pn**	**10 29 15.0**	**-0.1**
MJAR	**Matsushiro Arr**	**2.59**	**294**	Pn	**Pn**	**10 29 28.4**	**+1.1**
	17nm,0.3s,baz=99,slow=7.8,SNR=128						
MJAR				LR	LR	10 30 34.1	
	comp=Z,489nm,20.0s,baz=85,slow=41						
MAJO	**Matsushiro**	**2.59**	**294**	ePn	**Pn**	**10 29 28.0**	**+0.7**
MAT	**Matsushiro**	**2.59**	**294**	P	**Pn**	**10 29 28.5**	**+1.2**
MAT				eS	**Sn**	**10 29 59.1**	**+1.3**
JHJ	**Hachijo jima 2**	**2.65**	**206**	Pn	**Pn**	**10 29 27.8**	**-0.3**
	28nm,0.3s,baz=11,slow=20,SNR=9.5						
JHJ				Sn	**Sn**	**10 29 54.6**	**-4.5**
	43nm,0.3s,baz=248,slow=20,SNR=5.0						
CBIJ	**Chichi jima**	**8.44**	**174**	Pn	**Pn**	**10 30 47.3**	**-0.4**
	9.3nm,0.3s,baz=107,slow=23,SNR=4.0						
CBIJ				Sn	**Sn**	**10 32 13.8**	**-8.2**
	4.5nm,0.3s,baz=90,slow=20,SNR=2.2						
CBIJ				LR	LR	10 33 37.8	
	comp=Z,182nm,20.4s,baz=113,slow=34						
ASAJ	**Asahikawa**	**8.66**	**7**	Pn	**Pn**	**10 30 49.4**	**-1.2**
	1.3nm,0.3s,baz=44,slow=29,SNR=14						
ASAJ				Sn	**Sn**	**10 32 24.0**	**-3.2**
	0.2nm,0.3s,baz=99,slow=28,SNR=3.7						
JNU	**Nakatsue**	**8.82**	**257**	LR	LR	10 34 08.8	
	comp=Z,91nm,20.2s,baz=318,slow=36						
KSRS	**Korea Array**	**10.82**	**284**	Pn	**Pn**	**10 31 21.9**	**+1.7**
	0.2nm,0.3s,baz=99,slow=14,SNR=2.7						
KSRS				LR	LR	10 35 30.5	
	comp=Z,172nm,20.1s,baz=278,slow=37						
ZALV	**Zalesovo Beam**	**42.79**	**314**	P	**P**	**10 36 42.3**	**+0.2**
ZALV	**Zalesovo Beam**	**42.79**	**314**	P	**P**	**10 36 42.3**	**+0.2**
	1.9nm,0.5s,mb4.1,baz=97,slow=6.7,SNR=2.0						
MKAR	**Makanchi Array**	**44.76**	**303**	P	**P**	**10 36 57.8**	**-0.2**
	0.7nm,0.4s,mb3.8,baz=86,slow=9.4,SNR=6.9						
KURK	**Kurchatov**	**46.71**	**309**	eP	**P**	**10 37 12.8**	**-0.6**
	8.4nm,1.1s,mb4.6						
AML	**Almayashu**	**51.74**	**299**	eP	**P**	**10 37 53.6**	**+1.6**
	2.9nm,0.6s,mb4.4						
WRA	**Warramunga Arr**	**55.53**	**188**	P	**P**	**10 38 19.4**	**-0.4**
	1.3nm,0.7s,mb4.1,baz=8.1,slow=8.1,SNR=19						
ASAR	**Alice Springs**	**59.26**	**188**	P	**P**	**10 38 46.0**	**-0.1**
	0.2nm,0.4s,mb3.5,baz=17,slow=12,SNR=7.9						
YKA	**Yellowknife Ar**	**65.23**	**30**	P	**P**	**10 39 26.9**	**+1.2**
YKA	**Yellowknife Ar**	**65.23**	**30**	P	**P**	**10 39 26.9**	**+1.2**
	0.2nm,0.7s,mb3.2,baz=303,slow=6.6,SNR=4.9						
FINES	**FINESS Array B**	**70.06**	**332**	P	**P**	**10 39 54.8**	**-1.4**
	1.3nm,0.5s,mb4.1,baz=57,slow=7.0,SNR=5.9						
NB2	**NORSAR Subarra**	**75.50**	**337**	P	**P**	**10 40 28.7**	**+0.2**
	comp=Z,1.1nm,0.6s,mb4.0,baz=39,slow=5.9						
NOA	**NORSAR Array B**	**75.50**	**337**	P	**P**	**10 40 28.7**	**+0.2**
	comp=Z,2.0nm,0.8s,mb4.1,baz=38,slow=5.8,SNR=5.8						
IDI	**Anoyia**	**87.86**	**313**	LR	LR	11 25 00.2	
	comp=Z,31nm,19.5s,baz=254,slow=38						

*ISCJB **03** 10:35:09.1±0.9, 3864N±004×2354E±006, h15km±12km, Error ellipse: s-maj=8.6km s-min=7.1km az=13.8*
*CSEM **03** 10:35:09.7±0.1, 3864N×2355E, h10km, ML2.5, Error ellipse: s-maj=4.6km s-min=2.3km az=78.0*
*THE **03** 10:35:10.4, 3863N×2353E, h13km, ML2.5*
*ATH **03** 10:35:11.3, 3846N×2368E, h46km±7km, MD3.0/4, ML2.8*
ISC 03 10:35:09.5±0.5, 3861N±003×2355E±006, h13km±8km, n10, σ0°89/16, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AOS	**Alonnisos**	**0.61**	**25**	ePg	**Pg**	**10 35 21.0**	**-0.4**
AOS				eSg	**Sg**	**10 35 31.7**	**+2.2**
PTL	**Penteli**	**0.61**	**156**	eP	**Pg**	**10 35 21.5**	**0.0**
PTL				eS	**Sg**	**10 35 29.5**	**-0.1**
ATH	**Athens Observa**	**0.65**	**169**	eP	**Pg**	**10 35 22.5**	**+0.3**
ATH				eS	**Sg**	**10 35 31.0**	**+0.2**
KVR	**Kavouri**	**0.80**	**168**	eP	**Pg**	**10 35 25.5**	**+0.5**
KVR				eS	**Sg**	**10 35 34.5**	**-1.0**
NAIG	**Nisos Aigina**	**0.85**	**183**	eP	**Pg**	**10 35 26.0**	**0.0**
AGG	**Agios Georgios**	**1.04**	**294**	ePg	**Pg**	**10 35 29.0**	**-0.5**
AGG				eSg	**Sg**	**10 35 44.5**	**+1.4**
PAIG	**Paliouri**	**1.31**	**4**	ePg	**Pg**	**10 35 33.2**	**-1.6**
PAIG				eSg	**Sg**	**10 35 51.0**	**-0.9**
LIT	**Litokhoron**	**1.70**	**331**	ePb	**Pn**	**10 35 37.9**	**-0.9**
OUR	**Ouranopolis**	**1.75**	**11**	ePb	**Pn**	**10 35 39.7**	**+0.2**
CHOS	**Chios island**	**1.98**	**96**	ePn	**Pn**	**10 35 43.6**	**+1.0**

*IDC **03** 10:35:59.4±1.8, 698S×15609E, h0km, mb4.0/6, mb1 4.1/6, mb1mx3.9/15, mbtmp4.0/6, Error ellipse: s-maj=54.2km s-min=26.7km az=116.0*
*NEIC **03** 10:36:00.5±0.9, 701S×15620E, h10km, mb4.3/2, Error ellipse: s-maj=28.3km s-min=15.1km az=124.0*
ISC 03 10:36:04.3±4.0, 71S±04×1562E±07, h35km, n11, σ0°50/10, mb4.0/7, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**24.06**	**255**	eP	**P**	**10 41 16.8**	**+0.3**
	2.3nm,0.3s,mb4.1						
WB2	**Warramunga Arr**	**24.76**	**237**	eP	**P**	**10 41 23.1**	**+0.2**
WRA	**Warramunga Arr**	**24.77**	**237**	P	**P**	**10 41 23.4**	**+0.5**
	2.3nm,0.5s,mb4.0,baz=61,slow=9.2,SNR=30						
ASAR	**Alice Springs**	**27.04**	**230**	P	**P**	**10 41 43.2**	**-0.2**
	0.3nm,0.4s,mb3.2,baz=60,slow=9.7,SNR=10						
FITZ	**Fitzroy Crossi**	**31.73**	**247**	eP	**P**	**10 42 24.6**	**-0.5**
	3.3nm,0.6s,mb4.3						
FITZ	**Fitzroy Crossi**	**31.73**	**247**	P	**P**	**10 42 23.9**	**-1.2**
	1.7nm,0.7s,mb4.0,baz=65,slow=9.3,SNR=8.6						
SONM	**Songino Array**	**70.04**	**327**	P	**P**	**10 47 12.5**	**0.0**
	1.1nm,0.8s,mb3.8,baz=136,slow=7.2,SNR=8.4						
MKAR	**Makanchi Array**	**84.24**	**318**	P	**P**	**10 48 33.0**	**+0.7**
	0.9nm,0.6s,mb4.1,baz=105,slow=5.3,SNR=7.7						
ZALV	**Zalesovo Beam**	**84.90**	**326**	P	**P**	**10 48 34.9**	**-0.6**
ZALV	**Zalesovo Beam**	**84.90**	**326**	P	**P**	**10 48 34.9**	**-0.6**
	0.8nm,0.3s,mb4.3,baz=92,slow=7.3,SNR=4.1						
BDFB	**Brasilia**	**147.08**	**133**	PKPbc	PKPbc	10 55 45.0	+0.5
	1.5nm,0.5s,baz=221,slow=10,SNR=3.4						

*BJI **03** 10:40:33.6, 701S×156.18E, h21km, mB5.1, mb4.8, Ms5.0, Msz4.7*
*IDC **03** 10:40:33.3±0.5, 689S×15586E, h0km, mb4.8/19, mb1 4.9/19, mb1mx4.8/20, mbtmp4.8/19, MS4.0/13, Ms1 4.0/13, ms1mx3.8/24, Error ellipse: s-maj=18.3km s-min=13.1km az=85.0*
*ISCJB **03** 10:40:35.1±2.1, 691S±004×15575E±005, h15km±15km, mb5.0/67, MS4.2/19, Error ellipse: s-maj=8.1km s-min=7.2km az=153.5*
*NEIC **03** 10:40:35.6±0.2, 686S×15576E, h10km, mb5.1/29, Error ellipse: s-maj=7.1km s-min=6.2km az=86.0*
*MOS **03** 10:40:38.0±0.9, 687S×15576E, h33km, mb5.2/14, Error ellipse: s-maj=10.3km s-min=8.0km az=111.7*
ISC 03 10:40:38.8±2.0, 693S±004×15575E±005, h29km±14km, h13km±1.0km: pP-P, n193, σ0°99/152, mb5.0/67, MS4.2/19, 11C-10D, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.84**	**121**	Pn	**Pn**	**10 41 50.2**	**+0.4**
HNR				eSn	**Sn**	**10 42 39.6**	**-5.4**
HNR	**Honiara**	**4.84**	**121**	Pn	**Pn**	**10 41 54.1**	**+4.3**
	77nm,0.3s,baz=246,slow=4.3,SNR=20						
HNR				Sn	**Sn**	**10 42 41.7**	**-3.3**
	72nm,0.3s,baz=274,slow=18,SNR=6.4						
HNR				LR	LR	10 42 51.4	
	comp=Z,363nm,19.6s,baz=2.1,slow=29						
CTA	**Charters Tower**	**16.00**	**214**	eP	**Pn**	**10 44 24.9**	**+2.9**
	26nm,0.9s						
CTA	**Charters Tower**	**16.00**	**214**	eP	**Pn**	**10 44 24.9**	**+2.9**
CTA				pmax	pmax		
	comp=Z,26nm,0.9s						
CTA	**Charters Tower**	**16.00**	**214**	Pn	**Pn**	**10 44 25.0**	**+3.0**
	comp=Z,1.1nm,0.3s,baz=36,slow=13,SNR=20						
CTA				LR	LR	10 48 24.4	
	comp=Z,282nm,20.5s,baz=44,slow=29						
CTAO	**Charters Tower**	**16.00**	**214**	eP	**Pn**	**10 44 25.8**	**+3.8**
DZM	**Mont Dzumac**	**18.25**	**147**	P	**Pn**	**10 44 51.6**	**+1.4**
	comp=Z,2.0nm,0.3s,baz=324,slow=20,SNR=9.2						
EIDS	**Eidsvold**	**18.87**	**193**	eP	**Pn**	**10 44 59.6**	**+2.0**
	comp=Z,11nm,1.0s						
KAKA	**Kakadu**	**23.66**	**254⇑**	iP	**P**	**10 45 48.1**	**-0.2**
	comp=Z,28nm,0.6s,mb4.9						
ARMA	**Armidale**	**23.69**	**189**	eP	**P**	**10 45 48.6**	**+0.3**
WB2	**Warramunga Arr**	**24.46**	**236**	eP	**P**	**10 45 55.9**	**+0.4**
WRA	**Warramunga Arr**	**24.47**	**236**	P	**P**	**10 45 55.9**	**+0.3**
WRA						10 49 33.1	
WRA	**Warramunga Arr**	**24.47**	**236**	P	**P**	**10 45 55.9**	**+0.3**
	comp=Z,10nm,0.6s,mb4.4,baz=61,slow=9.9,SNR=51						
WRA				PcP	PcP	10 49 33.1	-0.9
	comp=Z,4.9nm,0.7s,baz=58,slow=2.1,SNR=6.8						
WRA				LR	LR	10 55 32.9	
	comp=Z,446nm,18.2s,MS4.0,baz=55,slow=37						
ASAR	**Alice Springs**	**26.78**	**229**	P	**P**	**10 46 16.2**	**-0.2**
	comp=Z,6.6nm,0.8s,mb4.2,baz=59,slow=9.7,SNR=56						
ASAR				PcP	PcP	10 49 39.0	-0.3
	comp=Z,3.2nm,0.4s,baz=71,slow=2.5,SNR=10.0						
STKA	**Stephens Creek**	**28.12**	**206**	eP	**P**	**10 46 28.0**	**-0.4**
	comp=Z,15nm,0.8s,mb4.7						
STKA				ePCP	PcP	10 49 41.5	-0.8
STKA	**Stephens Creek**	**28.12**	**206**	P	**P**	**10 46 28.2**	**-0.2**
	comp=Z,16nm,0.8s,mb4.7,baz=23,slow=12,SNR=17						
STKA				PcP	PcP	10 49 40.7	-1.6
	comp=Z,2.2nm,0.6s,baz=52,slow=5.2,SNR=4.1						
STKA				LR	LR	10 57 50.9	
	comp=Z,626nm,18.8s,MS4.2,baz=30,slow=37						
CNB	**Canberra Magne**	**28.86**	**191**	eP	**P**	**10 46 35.4**	**+0.5**
	comp=Z,14nm,0.7s,mb4.8						
FITZ	**Fitzroy Crossi**	**31.37**	**246⇑**	iP	**P**	**10 46 57.0**	**-0.4**
	comp=Z,78nm,0.7s,mb5.6						
FITZ				ePCP	PcP	10 49 51.0	+0.1
FITZ	**Fitzroy Crossi**	**31.37**	**246**	P	**P**	**10 46 57.1**	**-0.2**
	comp=Z,38nm,0.6s,mb5.4,baz=81,slow=8.7,SNR=141						
FITZ				PcP	PcP	10 49 50.8	-0.1
	comp=Z,6.2nm,0.8s,baz=42,slow=23,SNR=3.7						
BATI	**Kupang**	**31.89**	**262**	LR	LR	11 01 26.9	
	comp=Z,390nm,19.4s,MS4.1,baz=269,slow=39						
AFI	**Afiamalu**	**32.66**	**105**	eP	**P**	**10 47 08.8**	**+0.1**
	comp=Z,115nm,1.1s,mb5.7						
AFI	**Afiamalu**	**32.66**	**105**	eP	**P**	**10 47 08.9**	**+0.2**
AFI				pmax	pmax		
	comp=Z,115nm,1.1s,mb5.7						
FORT	**Forrest**	**35.15**	**224**	eP	**P**	**10 47 29.6**	**-0.6**
	comp=Z,48nm,0.6s,mb5.6						
TAU	**Tasmania Unive**	**36.60**	**190**	eP	**P**	**10 47 43.0**	**+0.6**
BKZ	**Black Stump Fm**	**37.14**	**153**	P*	**P**	**10 47 46.7**	**-0.5**
MBWA	**Marble Bar**	**37.58**	**244**	eP	**P**	**10 47 50.8**	**-0.3**
	comp=Z,33nm,0.8s,mb5.1						
THZ	**Tophouse**	**37.89**	**159**	P*	**P**	**10 47 53.2**	**-0.2**
LTZ	**Lake Taylor**	**38.57**	**160**	P*	**P**	**10 47 59.3**	**+0.2**
RPZ	**Rata Peaks**	**39.03**	**162**	P	**P**	**10 48 02.0**	**-0.9**
	comp=Z,26nm,0.4s,mb5.3,baz=225,slow=0.8,SNR=20						
RPZ				LR	LR	11 02 12.8	
	comp=Z,369nm,18.6s,MS4.2,baz=346,slow=33						
RPZ	**Rata Peaks**	**39.03**	**162**	P*	**P**	**10 48 03.3**	**+0.4**
KKM	**Kota Kinabalu**	**41.50**	**287**	eP	**P**	**10 48 24.6**	**+0.7**
JHJ	**Hachijo jima 2**	**42.62**	**340**	LR	LR	11 03 47.9	
	comp=Z,114nm,21.3s,MS3.7,baz=84,slow=33						
KLBR	**Kellerberrin**	**43.10**	**230⇑**	iP	**P**	**10 48 35.6**	**-1.1**
	comp=Z,21nm,0.7s,mb5.0						
NWAO	**Narrogin (SRO)**	**44.10**	**229**	P	**P**	**10 48 43.8**	**-0.9**
NWAO				eP		10 48 44.6	
NWAO				LR	LR	11 06 13.5	
NWAO	**Narrogin (SRO)**	**44.10**	**229**	P	**P**	**10 48 43.8**	**-0.9**
	comp=Z,6.8nm,0.7s,mb4.5,baz=82,slow=5.6,SNR=6.0						
NWAO				LR	LR	11 06 13.5	
	comp=Z,265nm,21.6s,MS4.1,baz=69,slow=35						
MUN	**Mundaring**	**44.45**	**231**	eP	**P**	**10 48 47.2**	**-0.4**
RAR	**Rarotonga**	**45.25**	**113**	P	**P**	**10 48 51.8**	**-2.2**
	comp=Z,25nm,0.8s,mb5.1,baz=260,slow=3.3,SNR=4.6						
RAR				LR	LR	11 04 10.3	
	comp=Z,324nm,19.6s,MS4.3,baz=279,slow=31						
KSM	**Kuching**	**46.11**	**279**	eP	**P**	**10 49 01.2**	**+0.3**
MJAR	**Matsushiro Arr**	**46.26**	**340**	P	**P**	**10 49 00.1**	**-1.7**
	comp=Z,2.5nm,0.5s,mb4.4,baz=167,slow=7.4,SNR=11						
MJAR				PcP	PcP	10 50 36.4	-0.6
	comp=Z,1.2nm,0.6s,baz=165,slow=4.2,SNR=4.4						
MAJO	**Matsushiro**	**46.27**	**340**	eP	**P**	**10 49 01.7**	**-0.1**
MAT	**Matsushiro**	**46.27**	**340**	P	**P**	**10 49 01.7**	**-0.1**
JNU	**Nakatsue**	**46.31**	**331**	P	**P**	**10 49 01.8**	**-0.4**
	comp=Z,8.8nm,0.8s,mb4.7,baz=38,slow=26,SNR=5.1						
JNU				LR	LR	11 05 11.3	
	comp=Z,97nm,20.4s,MS3.7,baz=323,slow=32						
KSRS	**Korea Array**	**51.23**	**332**	P	**P**	**10 49 38.1**	**-1.9**
	comp=Z,2.4nm,0.8s,mb4.2,baz=153,slow=6.4,SNR=4.8						
KSRS				PcP	PcP	10 50 54.8	-0.2
	comp=Z,2.5nm,0.7s,baz=175,slow=3.7,SNR=6.1						
PPT	**Papeete**	**54.30**	**107**	eLR	LR	11 06 05.1	
	comp=Z,150nm,22.5s						
PPT	**Papeete**	**54.30**	**107**	P	**P**	**10 50 03.8**	**+0.8**
	comp=Z,17nm,0.4s,mb5.3,baz=265,slow=2.1,SNR=9.3						
PAE	**Paea**	**54.30**	**107**	eP	**P**	**10 50 04.0**	**+1.0**
	comp=Z,130nm,1.2s,mb5.7						
PAE	**Paea**	**54.30**	**107**	eP	**P**	**10 50 04.0**	**+1.0**
PAE				pmax	pmax		
	comp=Z,130nm,1.2s,mb5.7						
VLA	**Vladivostok**	**54.32**	**339**	eP	**P**	**10 50 01.9**	**-0.8**
VLA				pmax	pmax		
	comp=Z,33nm,1.3s,mb5.1						
TVO	**Taravao**	**54.62**	**107**	eP	**P**	**10 50 06.8**	**+1.4**
	comp=Z,109nm,0.9s,mb5.9						
TVO	**Taravao**	**54.62**	**107**	eP	**P**	**10 50 06.8**	**+1.4**
TVO				pmax	pmax		
	comp=Z,109nm,0.9s,mb5.9						
YSS	**Yuzh-Sakhalins**	**54.87**	**349**	eP	**P**	**10 50 08.1**	**+1.5**
	comp=Z,19nm,0.9s,mb5.1						
YSS	**Yuzh-Sakhalins**	**54.87**	**349⇑**	eP	**P**	**10 50 07.9**	**+1.3**
YSS				pmax	pmax		
	comp=Z,21nm,0.9s,mb5.2						
YSS				MLR	MLR		
	comp=Z,200nm,19.0s,MS4.2						
TBI	**Tubuai**	**55.02**	**114**	eLR	LR	11 06 28.0	
	comp=Z,324nm,29.0s						
PMOR	**Pomariorio Ree**	**55.78**	**103**	eP	**P**	**10 50 15.3**	**+1.5**
	comp=Z,64nm,0.8s,mb5.7						
KULM	**Kulim**	**56.31**	**281**	eP	**P**	**10 50 16.7**	**-0.9**
MDJ	**Mudanjiang**	**56.46**	**338**	P	**P**	**10 50 18.7**	**+0.7**
MDJ				AMB	AMB		
	comp=Z,9.0nm,0.9s,mb4.8						
MDJ				AMB	AMB		
	comp=Z,103nm,4.7s						
PSI	**Prapat**	**57.53**	**278**	P	**P**	**10 50 24.6**	**-1.7**
	comp=Z,2.8nm,0.3s,mb4.8,baz=288,slow=17,SNR=5.0						
GYA	**Guiyang**	**58.01**	**307⇑**	iP	**P**	**10 50 31.9**	**+2.5**
GYA				AP	pP	10 50 36.2	-2.0
GYA				XP	sP	10 50 39.6	-2.0
GYA				PCP	PcP	10 51 23.9	+2.7
GYA				PP	PP	10 52 42.6	+4.4
GYA				SCP	ScP	10 55 22.4	+2.8
GYA				S	**S**	**10 58 30.8**	**+2.4**
GYA				SCS	ScS	11 00 18.2	+0.8
GYA				SS	SS	11 02 23.2	+3.1
GYA				AMB	AMB		
	comp=Z,60nm,1.0s,mb5.6						
GYA				AMB	AMB		
	comp=Z,480nm,12.8s						
GYA				LR	LR		
	comp=N,720nm,20.4s,MS4.9						
GYA				LR	LR		
	comp=E,690nm,19.9s,MS4.9						
GYA				LR	LR		
	comp=Z,540nm,20.2s,MS4.7						
HABR	**Khabarovsk**	**58.09**	**344**	eP	**P**	**10 50 28.6**	**-0.9**
HABR				eS	**S**	**10 58 30.0**	**+1.4**
HABR				pmax	pmax		
	comp=Z,34nm,1.4s,mb5.2						
BJI	**

comp=Z,30nm,0.8s,mb5.5
CD2 AMB AMB
comp=Z,60nm,6.8s
CD2 LR LR
comp=N,350nm,15.6s,MS4.7
CD2 LR LR
comp=E,250nm,14.4s,MS4.7
CD2 LR LR
comp=Z,380nm,15.6s,MS4.7
HHC Hu-ho-hao-te 62.48 323 *e*P **P 10 51 00.4 +0.7**
HHC AP pP 10 51 05.0 -3.6
HHC XP sP 10 51 07.6 -4.4
HHC PP PP 10 53 19.9 +2.4
HHC SCP ScP 10 55 35.2 -3.9
HHC PCS PcS 10 55 41.3 -0.7
HHC S **S 10 59 24.5 -0.8**
HHC SCS ScS 11 00 49.7 -0.5
HHC SS SS 11 03 34.1 +4.3
HHC AMB AMB
comp=Z,17nm,0.4s,mb5.5
HHC AMB AMB
comp=Z,130nm,5.7s
HHC LR LR
comp=N,144nm,7.6s
HHC LR LR
comp=E,125nm,7.1s
HHC LR LR
comp=Z,121nm,4.7s
TAOE Nuku Hiva Isla 63.46 96 *e*LR LR 11 10 00.2
comp=Z,3μm,22.7s
HIA Hailar 64.18 335 *e*P **P 10 51 11.5 +0.7**
comp=Z,11nm,0.9s,mb4.9
HIA Hailar 64.18 335⇓*e*P **P 10 51 11.7 +0.9**
LZH Lanzhou 64.79 315 *e*P **P 10 51 16.8 +1.7**
LZH AP pP 10 51 20.4 -3.6
LZH AMB AMB
comp=Z,25nm,1.5s,mb5.0
LZH AMB AMB
comp=Z,120nm,4.9s
LZH LR LR
comp=N,412nm,12.3s
LZH LR LR
comp=Z,702nm,13.4s,MS5.0
LZH Lanzhou 64.79 315 *e*P **P 10 51 16.8 +1.7**
comp=Z,25nm,1.5s,mb5.0
LZH pP pP 10 51 20.4 -3.6
LZH sP sP 10 51 21.9 -5.5
LZH LR LR
comp=Z,700nm,13.4s,MS5.0
RKT Rikitea 68.27 112 *e*LR LR 11 12 29.0
comp=Z,364nm,34.5s
GTA Gaotai 69.20 317 P **P 10 51 44.2 +1.2**
GTA AP pP 10 51 47.8 -4.3
GTA PP PP 10 54 20.1 +3.8
GTA S S 11 00 51.0 +3.7
GTA XS sS 11 00 59.0 -3.2
GTA SS SS 11 05 19.8 +5.4
GTA AMB AMB
comp=Z,5.0nm,1.4s,mb4.2
GTA AMB AMB
comp=Z,101nm,5.0s
GTA LR LR
comp=N,85nm,15.6s,MS4.3
GTA LR LR
comp=E,98nm,16.3s,MS4.3
GTA LR LR
comp=Z,127nm,16.7s,MS4.2
ULN Ulaanbaatar 69.35 327⇓*e*P **P 10 51 45.4 +1.6**
SONM Songino Array 69.69 327 P **P 10 51 46.8 +1.0**
SONM LR LR 11 19 00.6
SONM ⇑*e* 11 19 51.5
SONM Songino Array 69.69 327 P **P 10 51 46.8 +1.0**
comp=Z,18nm,0.9s,mb5.0,baz=139,slow=6.2,SNR=59
SONM LR LR 11 19 00.6
comp=Z,106nm,19.9s,MS4.1,baz=125,slow=33
SONM PKP2bc 11 19 51.5
comp=Z,1.3nm,1.0s,baz=279,slow=2.7,SNR=6.4
SEY Seymchan 69.70 358⇑*e*P **P 10 51 46.3 +0.7**
VNDA Vanda 70.63 179 P **P 10 51 50.8 -0.4**
comp=Z,5.2nm,0.9s,mb4.5,baz=340,slow=7.0,SNR=27
VNDA LR LR 11 17 01.4
comp=Z,181nm,19.2s,MS4.3,baz=358,slow=31
SBA Scott Base 71.12 178 *e*P **P 10 51 55.0 +0.8**
BOD Bodaibo 72.83 338 *e*P **P 10 51 58.8 -5.8**
BOD *e* 10 52 04.5
ZAK Zakamensk 72.83 328⇓*i*P **P 10 52 05.0 +0.2**
ZAK pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
TLY Talaya 73.39 329 *e*P **P 10 52 09.1 +1.0**
TLY Talaya 73.39 329⇓*e*P **P 10 52 09.0 +0.9**
TLY pmax pmax
comp=Z,11nm,0.8s,mb4.8
BOK Bokaro 74.63 297 *e*P **P 10 52 16.1 +0.2**
BOK AMb AMB 10 52 17.7
comp=Z,18nm,1.1s,mb4.9
BILL Bilibino 75.16 4 *e*P **P 10 52 18.6 +0.5**
comp=Z,39nm,1.2s,mb5.2
BILL Bilibino 75.16 4⇑*e*P **P 10 52 18.6 +0.5**
BILL *e*S S 11 02 21.2 +27
BILL pmax pmax
comp=Z,20nm,0.9s,mb5.0
JIRN Jiri 75.39 301 *e*P **P 10 52 20.6 +0.3**
comp=Z,3.9nm,0.2s,mb4.9
PALK Pallekele 76.17 279 *e*P **P 10 52 25.5 +0.5**
KKN Kakani 76.20 301 *e*P **P 10 52 24.4 -0.5**
comp=Z,32nm,0.6s,mb5.4
GKN Gorkha 76.81 301 *e*P **P 10 52 27.9 -0.4**
comp=Z,44nm,0.6s,mb5.6
TNA Tin City 77.07 15 *e*P **P 10 52 29.4 +0.4**
comp=Z,73nm,2.5s,mb5.2
BLSP Bilaspur 77.60 294 *e*P **P 10 52 32.7 -0.2**
BLSP AMb AMB 10 52 33.1
comp=Z,31nm,0.8s,mb5.3
KOLN Koldanda 77.63 300 *e*P **P 10 52 32.4 -0.6**
comp=Z,33nm,0.6s,mb5.5
TTA Tatalina 78.70 20 *e*P **P 10 52 38.1 0.0**
comp=Z,3.2nm,0.7s,mb4.4
TTA Tatalina 78.70 20 *e*P **P 10 52 38.1 0.0**
TTA pmax pmax
comp=Z,3.0nm,0.7s,mb4.3
WMQ Urumqi 79.29 317 *e*P **P 10 52 42.5 +0.8**
WMQ AMB AMB
comp=Z,7.0nm,0.7s,mb4.7
WMQ LR LR
comp=Z,139nm,21.4s,MS4.3
NGP Nagpur 80.20 293 *e*P **P 10 52 45.6 -1.6**
NGP AMb AMB 10 52 45.8
comp=Z,35nm,0.7s,mb5.4
TIXI Tiksi 80.39 352 *e*P **P 10 52 47.0 -0.2**
comp=Z,4.2nm,0.5s,mb4.6
TIXI Tiksi 80.39 352⇑*e*P **P 10 52 46.6 -0.6**
PMR Palmer 80.43 23 *e*P **P 10 52 46.9 -0.6**
comp=Z,16nm,1.4s,mb4.8
PMR Palmer 80.43 23 *e*P **P 10 52 46.9 -0.6**
PMR pmax pmax
comp=Z,16nm,1.4s,mb4.8
SML Sawmill 80.86 23 *e*P **P 10 52 50.0 +0.1**
MCK McKinley 81.72 22 *e*P **P 10 52 53.7 -0.7**
AKL Akola 81.98 292 *e*P **P 10 52 55.7 -1.0**
BHPL Bhopal 82.08 295 *e*P **P 10 52 56.6 -0.6**
COLA College 82.75 21 *e*P **P 10 52 59.1 -0.6**
comp=Z,4.8nm,0.7s,mb4.6
COLA College 82.75 21 *d i*P **P 10 52 58.6 -1.1**
QSPA South Pole Qui 83.05 180 P **P 10 53 01.1 0.0**
comp=Z,17nm,0.5s,mb5.3,baz=336,slow=0.7,SNR=177
NDI New Delhi 83.33 300 *e*P **P 10 53 02.3 -1.3**
NDI AMb AMB 10 53 03.0
comp=Z,30nm,1.4s,mb5.1
MK31 Makanchi Array 83.85 319 *e*P **P 10 53 05.9 +0.1**
MKAR Makanchi Array 83.85 319⇑*e*P **P 10 53 05.5 -0.3**
MKAR Makanchi Array 83.85 319 P **P 10 53 05.6 -0.2**
comp=Z,6.1nm,0.5s,mb5.0,baz=101,slow=6.7,SNR=31
SMLA Simla 83.86 302 *e*P **P 10 53 05.7 -0.5**
ZAA0 Zalesovo Array 84.54 326 *e*P **P 10 53 08.4 -0.7**
ZALV Zalesovo Beam 84.54 326 P **P 10 53 08.1 -1.1**
comp=Z,6.3nm,0.5s,mb5.0,baz=108,slow=5.3,SNR=24
ZAL Zalesovo 84.55 326 P **P 10 53 08.1 -1.1**
POO Poona 84.56 289 *e*P **P 10 53 08.8 -1.2**
MAW Mawson 84.75 203 *e*P **P 10 53 09.2 -0.8**
comp=Z,9.4nm,1.1s,mb4.8
MAW Mawson 84.75 203 *e*P **P 10 53 09.2 -0.8**
MAW pmax pmax
comp=Z,9.0nm,1.1s
MAW Mawson 84.75 203 P **P 10 53 09.0 -1.0**
comp=Z,9.8nm,0.6s,mb5.1,baz=93,slow=7.2,SNR=16

AJM Ajmer 85.16 297 *e*P **P 10 53 11.9 -0.9**
EGAK Eagle 85.17 23 *e*P **P 10 53 11.7 -0.3**
NVS Novosibirsk 85.71 326 *e*P **P 10 53 13.7 -1.3**
NVS pmax pmax
comp=Z,13nm,1.4s,mb5.0
NVS pmax pmax
comp=E,11nm,1.5s
KURK Kurchatov 87.24 322 *e*P **P 10 53 21.8 -0.8**
comp=E,14nm,1.4s,mb5.0
KURK Kurchatov 87.24 322 *c i*P **P 10 53 21.9 -0.7**
TKM2 Tokmak 2 87.51 314 *e*P **P 10 53 23.7 -0.4**
comp=E,4.5nm,0.7s,mb4.8
TKM2 Tokmak 2 87.51 314 *e*P **P 10 53 23.7 -0.4**
TKM2 pmax pmax
comp=Z,5.0nm,0.7s,mb4.8
TKM2 Tokmak 2 87.51 314 P **P 10 53 24.8 +0.7**
SNR=6.5
UCH Uchtor 88.16 313 *e*P **P 10 53 28.3 +1.1**
comp=Z,4.6nm,0.8s,mb4.8
UCH Uchtor 88.16 313 P **P 10 53 28.5 +1.3**
SNR=5.8
AAK Ala-Archa 88.25 313 P **P 10 53 27.4 -0.2**
comp=Z,54nm,0.5s,mb6.0,SNR=6.3
AAK Ala-Archa 88.25 313 P **P 10 53 27.5 -0.1**
SNR=8.4
USP Ospenovka 88.37 314 P **P 10 53 28.2 +0.1**
SNR=5.4
AML Almayashu 88.74 313 *e*P **P 10 53 31.0 +1.0**
comp=Z,9.4nm,0.8s,mb5.2
AML Almayashu 88.74 313 P **P 10 53 31.1 +1.2**
SNR=11
EKS2 Erkin-Say 88.77 313 *e*P **P 10 53 31.1 +1.0**
comp=Z,3.8nm,0.4s,mb5.1
GNW Green Mountain 89.31 42 *e*P **P 10 53 40.8 +8.3**
INK Inuvik 89.39 21 *e*P **P 10 53 32.2 -0.2**
KBL Kabul 91.18 304 *e*P **P 10 53 40.0 -1.5**
comp=Z,5.2nm,0.5s,mb5.1
SYO Syowa Base 92.63 199⇓*e*X **P 10 53 45.0 -2.6**
SYO Syowa Base 92.63 199⇓*e*PcP PcP 10 53 47.6 -0.6
BRVK Borovoye 92.76 323 *e*P **P 10 53 47.4 -1.0**
YKA Yellowknife Ar 95.93 28 P **P 10 54 01.8 -0.9**
YKA PKKPbc PKKPbc 11 10 49.2 -4.7
YKA LR LR 11 33 12.5
YKA Yellowknife Ar 95.93 28 P **P 10 54 01.8 -0.9**
comp=Z,1.2nm,0.7s,mb4.5,baz=272,slow=4.5,SNR=4.3
YKA PKKPbc PKKPbc 11 10 49.2 -4.7
comp=Z,0.6nm,0.6s,baz=83,slow=2.9,SNR=19
YKA LR LR 11 33 12.5
comp=Z,91nm,21.6s,MS4.2,baz=55,slow=33
HRY Holter Researc 96.65 44 *e*P **P 10 54 12.2 +5.8**
PDAR Pinedale Array 98.10 48 P **P 10 54 11.7 -1.3**
comp=Z,0.4nm,0.9s,mb4.0,baz=264,slow=0.9,SNR=2.8
JOF Joensuu 111.31 336 *e*pkp PKiKP 10 59 05.2 -4.5
KAF Kangasniemi 113.72 337 *e*pkp PKiKP 10 59 11.7 -2.6
FINES FINESS Array B 114.18 336 PKP PKiKP 10 59 13.7 -1.5
comp=Z,2.1nm,0.5s,baz=73,slow=2.7,SNR=17
FINES PKKPbc PKKPbc 11 10 00.9 +2.8
comp=Z,2.2nm,0.8s,baz=186,slow=5.7,SNR=4.2
AKASG Malin Array Be 117.92 325 PKP PKPdf 10 59 20.9 -1.8
AKASG Malin Array Be 117.92 325 PKP PKPdf 10 59 20.9 -1.8
comp=Z,3.7nm,0.5s,baz=57,slow=2.1,SNR=20
KMBO Kilima Mbogo 118.11 265 PKP PKPdf 10 59 22.2 -2.1
KMBO Kilima Mbogo 118.11 265 PKP PKPdf 10 59 22.2 -2.1
comp=Z,0.4nm,0.4s,baz=235,slow=22,SNR=4.0
NB2 NORSAR Subarra 119.88 341 PKPdf PKPdf 10 59 24.4 -1.8
comp=Z,0.7nm,0.4s,baz=39,slow=1.9
NOA NORSAR Array B 119.88 341 PKP PKPdf 10 59 25.0 -1.2
comp=Z,2.6nm,0.6s,baz=46,slow=2.0,SNR=10
BOSA Boshof 120.65 231 PKP PKPdf 10 59 27.7 -1.0
comp=Z,3.8nm,0.6s,baz=180,slow=0.9,SNR=8.9
KOLS Kolonicke sedl 122.72 325 *i* PKP PKPdf 10 59 32.2 +0.2
STHS Stebnicka Huta 123.04 326 *e*PKP PKPdf 10 59 32.0 -0.6
CRVS Cervenica-Dubn 123.19 326 *e*PKP PKPdf 10 59 32.9 0.0
LSZ Lusaka 123.55 247 *e*PKPdf PKPdf 10 59 34.4 -0.2
VYHS Vyhne 124.87 326 *i* PKP PKPdf 10 59 35.8 -0.4
MODS Modra-Piesok 125.79 327 *e*PKP PKPdf 10 59 37.9 0.0
BRG Berggiesshubel 125.95 331 *i* PKIKP PKPdf 10 59 37.7 -0.5
BRG pmax pmax
comp=Z,11nm,0.9s
BRG Berggiesshubel 125.95 331 *i* PKP PKPdf 10 59 37.7 -0.4
comp=Z,11nm,0.8s
CLL Collm 126.11 332⇓*i*PKIKP PKPdf 10 59 38.1 -0.3
CLL pmax pmax
comp=Z,5.0nm,0.7s
CLL Collm 126.11 332⇓*i*PKPdf PKPdf 10 59 38.1 -0.3
comp=Z,9.0nm,0.7s
GERES GERESS Array B 127.38 329 PKP PKPdf 10 59 40.8 -0.2
comp=Z,5.2nm,0.7s,baz=80,slow=1.6,SNR=33
PERS Pernice 128.00 326 *i* PKPdf PKPdf 10 59 41.8 -0.4
GRA1 Grafenberg Arr 128.04 331 *e*PKPdf PKPdf 10 59 42.2 0.0
GRF Grafenberg Arr 128.04 331 *e*PKPdf PKPdf 10 59 42.2 0.0
CRES Cresnjev 128.29 325 *i* PKPdf PKPdf 10 59 42.9 +0.1
BOJS Bojanci 128.60 325 *e*PKPdf PKPdf 10 59 43.9 +0.5
LPAZ La Paz 130.83 118 PKP PKPdf 10 59 48.3 -0.2
comp=Z,1.2nm,0.8s,baz=43,slow=4.5,SNR=3.4
TSUM Tsumeb 131.29 237 *e*PKPdf PKPdf 10 59 49.2 0.0
HAU Haudompre 131.50 333 *e*PKIKP PKPdf 10 59 47.6 -1.2
comp=Z,16nm,0.7s
LPG La Plagne 133.13 330 *e*PKIKP PKPdf 10 59 51.1 -0.9
comp=Z,10nm,0.6s
SSF Saint Saulge 133.48 334 *e*PKIKP PKPdf 10 59 51.3 -1.3
comp=Z,10nm,0.8s
SDV Santo Domingo 134.04 84 PKP PKPdf 10 59 52.6 -2.0
SDV Santo Domingo 134.04 84 PKP PKPdf 10 59 52.6 -2.0
comp=Z,2.5nm,0.5s,baz=194,slow=1.5,SNR=3.7
ETSF Etsaut 138.53 334 *e*PKIKP PKPdf 10 59 59.8 -2.3
comp=Z,13nm,0.6s
MVO Moncorvo 142.61 338 *e*PKP PKPdf 11 00 07.6 -1.9
ESDC Sonseca Array 142.64 334 PKhKP 11 00 05.4
comp=Z,0.2nm,0.3s,baz=8.5,slow=4.0,SNR=4.3
PCBR Castelo Branco 143.93 338 *e*PKP PKPdf 11 00 10.8 -1.1
PBAR Barrancos 145.20 336 *e*PKP PKPdf 11 00 13.6 -0.6
EVO Evora 145.28 337 *e*PKP PKPdf 11 00 13.6 -0.7
PBEJ Beja 145.66 337 *e*PKP PKPdf 11 00 15.6 +0.6
PVAQ Vaqueiros 146.14 336 *e*PKP PKPdf 11 00 16.7 +0.9
BDFB Brasilia 147.49 134 PKPbc PKPbc 11 00 19.3 -1.9
comp=Z,18nm,0.8s,baz=233,slow=5.2,SNR=17
TORD Torodi Ar. Bea 153.73 286 PKP PKPdf 11 00 26.2 -2.1
comp=Z,1.4nm,0.8s,baz=32,slow=1.5,SNR=6.3
TORD PKPbc PKPbc 11 00 34.8 -1.4
comp=Z,3.3nm,0.4s,baz=31,slow=2.8,SNR=16
TORD PKPab PKPab 11 00 47.5 -1.5
comp=Z,8.6nm,0.8s,baz=85,slow=4.0,SNR=14
DBIC Dimbokro 160.74 270 PKP PKPdf 11 00 36.1 -1.1
comp=Z,6.0nm,1.0s,baz=113,slow=1.1,SNR=5.4
DBIC PKPab PKPab 11 01 18.6 -0.8
comp=Z,14nm,0.7s,baz=75,slow=4.5,SNR=21

*NEIC **03** 10:40:57.2±0.7, 1164N×14020E, h10km, Error ellipse: s-maj=20.0km s-min=17.2km az=113.0*
*ISCJB **03** 10:40:59.6±3.3, 116N±0.1×1403E±0.1, h41km±31km, mb4.2/10, MS3.4/2, Error ellipse: s-maj=24.4km s-min=17.7km az=17.7*
*IDC **03** 10:41:02.6±3.8, 1163N×14036E, h52km±37km, mb4.0/9, mb1 4.2/9, mb1mx4.0/17, mbtmp4.0/9, ML4.6/1, MS3.5/3, Ms1 3.5/3, ms1mx3.1/31, Error ellipse: s-maj=25.6km s-min=17.0km az=100.0*
ISC 03 10:41:02.9±2.9, 116N±01×1404E±02, h56km±29km, n15, σ0°74/14, mb4.2/10, MS3.4/2, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**4.81**	**66**	P		P	**Pn**	**10 42 12.8**	**-0.1**
	23nm,0.3s,baz=204,slow=5.8,SNR=8.5								
GUMO				S			**Sn**	**10 43 07.5**	**+0.1**
	14nm,0.3s,baz=72,slow=19,SNR=2.2								
GUMO				LR		LR	LR	10 43 58.6	
	comp=Z,532nm,21.4s,baz=297,slow=37								
JHJ	**Hachijo jima 2**	**21.40**	**359**	LR		LR	LR	10 52 03.6	
	comp=Z,222nm,20.6s,MS3.5,baz=82,slow=31								
JNU	**Nakatsue**	**23.10**	**339**	LR		LR	LR	10 53 08.9	
	comp=Z,97nm,20.3s,MS3.2,baz=223,slow=32								
KSRS	**Korea Array**	**28.04**	**339**	P		P	**Pn**	**10 46 48.9**	**0.0**
	0.9nm,0.6s,mb3.5,baz=149,slow=11,SNR=3.1								
WRA	**Warramunga Arr**	**31.92**	**191**	P		P	**P**	**10 47 22.9**	**-0.5**
	5.1nm,0.6s,mb4.5,baz=7.7,slow=10.0,SNR=3.4								
ASAR	**Alice Springs**	**35.64**	**190**	P		P	**P**	**10 47 56.1**	**+0.5**
	4.1nm,0.5s,mb4.6,baz=17,slow=12,SNR=11								
SONM	**Songino Array**	**45.94**	**328**	P		P	**P**	**10 49 19.7**	**-0.4**
	0.4nm,0.7s,mb3.4,baz=146,slow=8.8,SNR=2.9								
MKAR	**Makanchi Array**	**59.90**	**318**	P		P	**P**	**10 51 04.5**	**+1.4**
	0.9nm,0.8s,mb3.9,baz=124,slow=8.2,SNR=5.0								
ZALV	**Zalesovo Beam**	**60.72**	**326**	P		P	**P**	**10 51 07.7**	**-0.8**
ZALV	**Zalesovo Beam**	**60.72**	**326**	P		P	**P**	**10 51 07.7**	**-0.8**
	0.6nm,0.3s,mb4.1,baz=125,slow=7.6,SNR=2.8								
YKA	**Yellowknife Ar**	**86.60**	**27**	P		P	**P**	**10 53 41.4**	**+1.4**
	1.5nm,0.9s,mb4.2,baz=293,slow=5.3,SNR=18								
ARCES	**ARCESS Array B**	**87.56**	**341**	P		P	**P**	**10 53 43.9**	**-0.7**
	2.7nm,0.8s,mb4.5,baz=66,slow=6.8,SNR=4.3								
FINES	**FINESS Array B**	**91.03**	**334**	P		P	**P**	**10 54 01.0**	**0.0**
FINES	**FINESS Array B**	**91.03**	**334**	P		P	**P**	**10 54 01.0**	**+0.1**
	4.1nm,0.8s,mb4.8,baz=66,slow=4.6,SNR=7.5								
NVAR	**Mina Array Bea**	**91.57**	**50**	P		P	**P**	**10 54 03.0**	**-0.9**
	1.1nm,0.8s,mb4.2,baz=252,slow=4.6,SNR=3.4								

*IDC **03** 10:47:09.8±0.8, 790S×15600E, h0km, mb4.2/12, mb1 4.4/12, mb1mx4.3/16, mbtmp4.2/12, Error ellipse: s-maj=29.0km s-min=18.0km az=109.0*
*NEIC **03** 10:47:11.8±0.5, 778S×15586E, h10km, mb4.6/3, Error ellipse: s-maj=14.0km s-min=11.6km az=152.0*
*ISCJB **03** 10:47:14.3±2.7, 78S±0.1×1559E±0.1, h36km±27km, mb4.2/14, Error ellipse: s-maj=23.3km s-min=14.0km az=44.5*
*BJI **03** 10:47:16.7, 764S×15596E, h6km, mB5.2, mb4.9*
ISC 03 10:47:16.3±2.5, 78S±01×1559E±01, h40km±26km, n26, σ0°94/23, mb4.2/14, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.32**	**112**	Pn		P	**Pn**	**10 48 19.6**	**0.0**
	13nm,0.3s,baz=254,slow=3.9,SNR=2.1								
CTA	**Charters Tower**	**15.33**	**216**	Pn		P	**Pn**	**10 50 54.8**	**+4.9**
	0.2nm,0.3s,baz=29,slow=4.9,SNR=3.7								
KAKA	**Kakadu**	**23.56**	**256**	*e*P		P	**P**	**10 52 24.3**	**+0.9**
	11nm,0.8s,mb4.3								
WB2	**Warramunga Arr**	**24.07**	**238**	*e*P		P	**P**	**10 52 28.0**	**-0.1**
WRA	**Warramunga Arr**	**24.08**	**238**	P		P	**P**	**10 52 27.8**	**-0.4**
	22nm,1.1s,mb4.5,baz=64,slow=9.7,SNR=21								
ASAR	**Alice Springs**	**26.30**	**231**	P		P	**P**	**10 52 47.8**	**-0.5**
	2.8nm,0.9s,mb3.8,baz=60,slow=9.2,SNR=9.9								
STKA	**Stephens Creek**	**27.37**	**207**	P		P	**P**	**10 52 58.8**	**+1.0**
	4.0nm,0.9s,mb3.9,baz=45,slow=12,SNR=4.6								
FITZ	**Fitzroy Crossi**	**31.13**	**248**	*e*P		P	**P**	**10 53 30.8**	**-0.6**
	4.6nm,0.6s,mb4.5								
FITZ	**Fitzroy Crossi**	**31.13**	**248**	P		P	**P**	**10 53 30.8**	**-0.6**
	2.4nm,0.6s,mb4.2,baz=89,slow=7.9,SNR=5.6								
MJAR	**Matsushiro Arr**	**47.16**	**341**	P		P	**P**	**10 55 43.8**	**-1.1**
	3.0nm,0.7s,mb4.4,baz=149,slow=7.6,SNR=7.2								
MAT	**Matsushiro**	**47.16**	**341**	P		P	**P**	**10 55 43.3**	**-1.6**
KSRS	**Korea Array**	**52.09**	**332**	P		P	**P**	**10 56 24.3**	**+1.9**
	1.5nm,0.9s,mb3.9,baz=152,slow=7.9,SNR=3.6								
CN2	**Changchun**	**58.32**	**334**	*e*P		P	**P**	**10 57 14.3**	**+7.1**
SONM	**Songino Array**	**70.52**	**327**	P		P	**P**	**10 58 27.9**	**+1.0**
	0.8nm,0.5s,mb3.9,baz=149,slow=6.3,SNR=8.8								
BILL	**Bilibino**	**76.05**	**4**	*e*P		P	**P**	**10 58 59.3**	**+0.2**
	11nm,0.9s,mb4.8								
QSPA	**South Pole Qui**	**82.14**	**180**	P		P	**P**	**10 59 31.5**	**-0.8**
QSPA	**South Pole Qui**	**82.14**	**180**	P		P	**P**	**10 59 31.5**	**-0.8**
	2.5nm,0.7s,mb4.2,baz=45,slow=2.7,SNR=8.1								
MKAR	**Makanchi Array**	**84.61**	**319**	P		P	**P**	**10 59 45.5**	**-0.1**
	1.2nm,0.7s,mb4.1,baz=99,slow=6.3,SNR=8.1								
ZAA0	**Zalesovo Array**	**85.36**	**326**	*e*P		P	**P**	**10 59 52.5**	**+3.3**
ZALV	**Zalesovo Beam**	**85.36**	**326**	P		P	**P**	**10 59 48.3**	**-0.9**
	0.7nm,0.3s,mb4.3,baz=88,slow=4.8,SNR=4.3								
NVAR	**Mina Array Bea**	**91.56**	**52**	P		P	**P**	**11 00 19.8**	**+0.7**
	0.3nm,0.7s,mb3.7,baz=242,slow=5.0,SNR=3.2								
YKA	**Yellowknife Ar**	**96.67**	**28**	P		P	**P**	**11 00 41.5**	**-0.5**
YKA	**Yellowknife Ar**	**96.67**	**28**	P		P	**P**	**11 00 41.5**	**-0.5**
	1.3nm,0.9s,mb4.4,baz=267,slow=4.7,SNR=14								
BDFB	**Brasilia**	**146.77**	**135**	PKPbc		PKPbc		11 06 53.3	-1.7
	5.7nm,0.8s,baz=156,slow=5.8,SNR=5.5								
TORD	**Torodi Ar. Bea**	**154.08**	**284**	PKPbc		PKPbc		11 07 11.9	-0.9
TORD	**Torodi Ar. Bea**	**154.08**	**284**	PKPbc		PKPbc		11 07 12.0	-0.9
	0.5nm,0.9s,baz=34,slow=2.3,SNR=2.6								

*IDC **03** 10:51:22.7±1.9, 777S×15583E, h0km, mb4.0/9, mb1 4.2/9, mb1mx4.1/15, mbtmp4.0/9, Error ellipse: s-maj=62.6km s-min=21.7km az=113.0*
*ISCJB **03** 10:51:26.3±1.4, 78S±02×1558E±03, h33km, mb3.8/9, Error ellipse: s-maj=46.3km s-min=16.9km az=24.9*
ISC 03 10:51:28.1±1.4, 78S±02×1558E±03, h35km, n9, σ0°84/9, mb3.8/9, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.04**	**238**	P		P	**P**	**10 56 40.2**	**+0.1**
	6.4nm,0.9s,mb4.0,baz=63,slow=9.3,SNR=11								
ASAR	**Alice Springs**	**26.27**	**231**	P		P	**P**	**10 57 00.3**	**+0.1**
	0.8nm,0.8s,mb3.3,baz=64,slow=9.6,SNR=4.7								
STKA	**Stephens Creek**	**27.38**	**207**	P		P	**P**	**10 57 09.9**	**-0.3**
	3.0nm,0.9s,mb3.8,baz=7.6,slow=9.7,SNR=3.3								
FITZ	**Fitzroy Crossi**	**31.08**	**248**	P		P	**P**	**10 57 42.9**	**-0.3**
	2.5nm,1.1s,mb4.0,baz=71,slow=12,SNR=3.4								
MJAR	**Matsushiro Arr**	**47.08**	**341**	P		P	**P**	**10 59 54.9**	**-1.7**
	2.4nm,0.9s,mb4.1,baz=145,slow=8.9,SNR=5.1								
SONM	**Songino Array**	**70.43**	**327**	P		P	**P**	**11 02 40.5**	**+1.8**
	0.6nm,0.7s,mb3.6,baz=148,slow=6.7,SNR=5.1								
MKAR	**Makanchi Array**	**84.52**	**319**	P		P	**P**	**11 03 58.1**	**+0.6**
	0.6nm,0.5s,mb4.0,baz=111,slow=6.9,SNR=5.6								
ZALV	**Zalesovo Beam**	**85.28**	**326**	P		P	**P**	**11 04 00.7**	**-0.4**
	0.3nm,0.3s,mb3.9,baz=120,slow=5.2,SNR=2.4								
YKA	**Yellowknife Ar**	**96.66**	**28**	P		P	**P**	**11 04 54.4**	**+0.1**
	0.2nm,1.0s,mb3.5,baz=270,slow=4.7,SNR=4.0								

IDC 03 10:56:44.0±1.7, 770S×15688E, h0km, mb3.5/3, mb1 3.7/4, mb1mx3.5/15, mbtmp3.6/4, ML3.7/1, Error ellipse: s-maj=37.8km s-min=34.0km az=6.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**3.49**	**120**	Pn		Pn	Pn	10 57 38.2	-1.4
	6.8nm,0.3s,baz=278,slow=7.0,SNR=3.1								
HNR				Sn		Sn	Sn	10 58 13.8	-7.9
	25nm,0.3s,baz=271,slow=21,SNR=8.8								
WRA	**Warramunga Arr**	**25.00**	**239**	P		P	P	11 02 08.9	-0.8
	1.1nm,0.8s,baz=58,slow=9.1,SNR=6.0								
ASAR	**Alice Springs**	**27.15**	**232**	P		P	P	11 02 29.8	+0.6
	0.4nm,0.9s,baz=49,slow=10.0,SNR=3.7								
SONM	**Songino Array**	**70.94**	**327**	P		P	P	11 08 04.2	+1.0
	0.3nm,0.8s,baz=141,slow=6.4,SNR=4.8								

*NSSC **03** 11:00:45.7, 3638N×4098E, h6km±2km*
*ISCJB **03** 11:00:46.7±1.3, 3645N±006×4101E±006, h2km±11km, Error ellipse: s-maj=9.9km s-min=8.2km az=163.3*
*CSEM **03** 11:00:50.1±0.6, 3660N×4062E, h5km, Mc2.6, Error ellipse: s-maj=20.0km s-min=8.2km az=119.0*
ISC 03 11:00:47.6±1.3, 3648N±006×4102E±006, h3km±10km, n23, σ1°34/26, 4D, Iraq

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KBSD	**Kabsdagh**	**0.65**	**324**	⇑P		**Pg**		**11 00 59.6**	**-0.3**
KBSD				⇑S		**Sg**		**11 01 09.8**	**+1.5**
KBSD	**Kabsdagh**	**0.65**	**324**	⇑*i*P		**Pg**		**11 00 59.6**	**-0.4**
KBSD				⇑*i*S		**Sg**		**11 01 09.8**	**+1.4**
SFNV	**Sufian**	**0.74**	**265**	⇓P		**Pg**		**11 00 59.0**	**-2.7**
SFNV				⇑S		**Sg**		**11 01 10.1**	**-1.1**
SFNV	**Sufian**	**0.74**	**265**	⇓*i*P		**Pg**		**11 00 59.0**	**-2.7**
SFNV				⇑*i*S		**Sg**		**11 01 10.1**	**-1.1**
MARD	**Mardin**	**0.85**	**347**	*i* P		**Pg**		**11 01 04.5**	**+0.6**
DRBT	**Darb Altahta**	**1.04**	**291**	⇑P		Px		11 01 20.3	
DRBT				⇓S		Sx		11 01 46.5	
DRBT	**Darb Altahta**	**1.04**	**291**	⇑*i*P		Px		11 01 20.3	

KMRS	Kahramanmaras	3.45 288	*e*PN	Pn	11 01 41.5	-0.6
KOZT	Kozan	4.28 285	*e*P	Pn	11 01 55.0	+1.5

IDC 03 11:04:32.9±2.5, 753S×15564E, h0km, mb3.9/4, mb1 4.1/4, mb1mx3.7/14, mbtmp3.9/4, MS2.7/1, Ms1 2.7/1, ms1mx2.4/19, Error ellipse: s-maj=76.6km s-min=33.3km az=124.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	4.66	114	LR	LR	11 06 41.0	
	comp=Z,91nm,19.1s,baz=176,slow=28						
WRA	Warramunga Arr	24.05	237	P	P	11 09 49.7	-0.3
	1.5nm,0.8s,baz=60,slow=9.5,SNR=9.5						
MJAR	Matsushiro Arr	46.80	341	P	P	11 13 04.4	0.0
	1.5nm,0.6s,baz=156,slow=8.1,SNR=5.8						
MKAR	Makanchi Array	84.23	319	P	P	11 17 07.1	+0.7
	0.9nm,0.7s,baz=101,slow=6.3,SNR=8.9						
YKA	Yellowknife Ar	96.51	28	P	P	11 18 03.2	-0.9
	0.2nm,0.6s,baz=264,slow=4.6,SNR=5.8						

*CSEM **03** 11:10:12.5±0.1, 3842N×2186E, h2km, ML3.3, Error ellipse: s-maj=1.6km s-min=1.4km az=138.0*
*THE **03** 11:10:12.3, 3837N×2189E, h3km, ML3.4*
*NEIC **03** 11:10:12.4, 3843N×2188E, h21km, ML3.9(THE), ML3.3(ATH), After ATH.*
*ATH **03** 11:10:12.4, 3843N×2187E, h21km±2km, MD3.5/10, ML3.3*
*ISCJB **03** 11:10:13.8±0.4, 3841N±003×2187E±004, h21km, Error ellipse: s-maj=4.7km s-min=3.5km az=33.8*
ISC 03 11:10:12.6±0.7, 3840N±003×2189E±004, h4km±5km, n25, σ1°26/34, 2D, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RLS	Riolos of Patr	0.47	225	*e*PB	Pg	11 10 22.0	+0.3
RLS				*e*SB	Sg	11 10 30.0	+2.2
EVR	Evrytania	0.53	353	⇓*i*PB	Pg	11 10 22.2	-0.5
EVR				*e*SB	Sg	11 10 30.1	+0.6
AGG	Agios Georgios	0.71	29	*e*Pg	Pg	11 10 25.6	-0.7
AGG				*e*Sg	Sg	11 10 37.5	+1.9
LKR	Lokris	0.91	73	*e*PN	Pn	11 10 29.6	-2.5
LKD	Levkas	1.02	288	*e*Pg	Pg	11 10 31.1	-1.1
LKD				*e*Sg	Sg	11 10 47.0	+1.5
VLS	Valsamata	1.05	258	*e*PB	Pb	11 10 31.5	-1.7
VLS				*e*SN	Sn	11 10 47.2	-1.9
THL	Klokotos Trika	1.17	5	*e*PN	Pn	11 10 34.2	-1.6
ITM	Ithomi	1.21	179	*e*PN	Pn	11 10 35.7	-0.6
ITM				*e*SN	Sn	11 10 54.3	+1.1
NEO	Neokhori	1.38	48	⇓*i*PN	Pn	11 10 38.3	-0.3
NAIG	Nisos Aigina	1.41	116	*e*PN	Pn	11 10 40.0	+1.0
MEV	Metsovon	1.48	340	*e*Pg	Pg	11 10 39.7	-1.2
ATH	Athens Observa	1.50	106	*e*PN	Pn	11 10 40.0	-0.2
AOS	Alonnisos	1.74	63	*e*Pb	Pb	11 10 43.2	-1.9
LIT	Litokhoron	1.77	15	*e*Pb	Pb	11 10 43.2	-2.3
LIT				*e*Sb	Sb	11 11 08.4	+0.4
VLI	Veliai	1.87	153	*e*PN	Pn	11 10 46.0	+0.7
PAIG	Paliouri	2.07	42	*e*Pn	Pn	11 10 47.2	-0.8
PAIG				*e*Sn	Sn	11 11 15.3	+1.1
KEK	Kerkira	2.09	310	*e*PN	Pn	11 10 48.3	-0.1
HORT	Hortiatis	2.39	23	*e*Pn	Pn	11 10 52.0	-0.5
FNA	Florina	2.42	351	*e*Pn	Pn	11 10 54.2	+1.4
FNA	Florina	2.42	351	*e*Pn	Pn	11 10 54.2	+1.3
GRG	Griva	2.59	9	*e*Pn	Pn	11 10 56.0	+0.7
GRG				*e*Sn	Sn	11 11 29.1	+1.9
SOH	Sokhos	2.67	25	*e*Pn	Pn	11 10 55.6	-0.8
KNT	Kendrikon	2.87	15	*e*Pn	Pn	11 10 59.5	+0.4
KRUS	Krusevo	3.01	351	*e*Pn	Pn	11 11 03.5	+2.5
CHOS	Chios island	3.27	89	*e*Pn	Pn	11 11 05.5	+0.9

*CSEM **03** 11:13:00.7, 2991N×3629E, h6km, ML2.8, After SNSN*
*SGS **03** 11:13:00.7, 2991N×3629E, h6km*
GII 03 11:13:17.1±1.2, 2988N×3623E, h0km, ML1.5/1, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HRFI	Mount Harif	1.04	279	Pg	Pg	11 13 37.4	+0.3
HRFI				Sg	Sg	11 13 53.6	+2.9
EIL	Elat	1.13	260	Pg	Pg	11 13 39.4	+0.7
EIL				Sg	Sg	11 13 56.7	+3.4
ZFRI	Zfri	1.13	307	Pg	Pg	11 13 38.8	0.0
ZFRI				Sg	Sg	11 13 56.1	+2.6
MBH	Mount Berech	1.14	266	Pg	Pg	11 13 39.9	+0.9
MBH				Sg	Sg	11 13 57.1	+3.3
PRNI	Paran	1.16	295	Pg	Pg	11 13 39.6	+0.3
PRNI				Sg	Sg	11 13 56.2	+1.8
HQLS		1.16	241	P	Pg	11 13 22.1	-17
HQLS		1.16	241	P	Pg	11 13 22.1	-17
HQLS				S	Sg	11 13 39.2	-15
JLOS		1.30	210	P	Pg	11 13 24.8	-17
JLOS		1.30	210	P	Pg	11 13 24.8	-17
JLOS				S	Sg	11 13 41.8	-17
KRMI	Paran Flat	1.32	281	Pn	Pn	11 13 42.8	-0.1
KRMI				Sn	Sn	11 14 02.0	+0.8
RMNI	Mount Ramon	1.46	300	Pn	Pn	11 13 45.1	+0.4
RMNI				Sn	Sn	11 14 06.5	+2.1
DSI	Dead Sea	1.84	337	Pn	Pn	11 13 50.5	+0.6
DSI				Sn	Sn	11 14 16.7	+2.7
RSHS		2.01	219	P	Pn	11 13 34.1	-18

IDC 03 11:21:42.0±1.8, 793S×15690E, h0km, mb3.9/5, mb1 4.0/6, mb1mx3.7/16, mbtmp3.9/6, ML4.5/1, MS2.8/1, Ms1 2.8/1, ms1mx2.3/20, Error ellipse: s-maj=40.9km s-min=25.3km az=9.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	3.36	116	Pn	Pn	11 22 35.6	-0.2
	52nm,0.3s,baz=271,slow=1.9,SNR=9.9						
HNR				Sn	Sn	11 23 18.1	+1.6
	35nm,0.3s,baz=279,slow=22,SNR=7.9						
HNR				LR	LR	11 23 33.2	
	comp=Z,138nm,18.8s,baz=353,slow=33						
WB2	Warramunga Arr	24.89	239	*e*P	P	11 27 06.9	+0.2
WRA	Warramunga Arr	24.89	239	P	P	11 27 06.4	-0.4
	2.0nm,0.6s,baz=66,slow=10,SNR=13						
ASAR	Alice Springs	27.02	232	P	P	11 27 25.1	-1.0
	0.8nm,0.9s,baz=66,slow=8.9,SNR=5.6						
STKA	Stephens Creek	27.76	209	*e*P	P	11 27 34.8	+2.3
	1.8nm,0.5s						
STKA	Stephens Creek	27.76	209	P	P	11 27 33.1	+0.5
	2.5nm,0.6s,baz=40,slow=14,SNR=8.9						
FITZ	Fitzroy Crossi	32.03	248	P	P	11 28 11.7	+1.0
	0.8nm,0.7s,baz=61,slow=13,SNR=3.4						
MKAR	Makanchi Array	85.35	318	P	P	11 34 21.2	0.0
	0.4nm,0.6s,baz=92,slow=6.8,SNR=3.7						

*NEIC **03** 11:26:52.2, 3846N×2196E, h23km, MD3.2(ATH), After ATH.*
*CSEM **03** 11:26:52.2, 3846N×2196E, h23km, MD3.2/4, After ATH*
ATH 03 11:26:52.6, 3837N×2198E, h31km, MD3.2/4, 2C-2D, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RLS	Riolos of Patr	0.51	233	⇑*i*PN	Pn	11 27 03.5	-0.2
RLS				*e*SN	Sn	11 27 11.8	+0.4
RLS	Riolos of Patr	0.51	233	*e*Pn	Pn	11 27 03.5	-0.2
RLS				*e*Sn	Sn	11 27 11.8	+0.4
EVR	Evrytania	0.56	346	⇓*i*PN	Pn	11 27 04.3	-0.2
EVR				*e*SN	Sn	11 27 12.9	+0.2
EVR	Evrytania	0.56	346	⇓*e*Pb	Pb	11 27 02.0	-2.1
AGG	Agios Georgios	0.71	23	*e*P	Pn	11 27 06.4	-0.1
LKR	Lokris	0.85	70	⇑*i*PN	Pn	11 27 09.1	+0.7
LKR				*e*SN	Sn	11 27 21.4	+1.7
LKR	Lokris	0.85	70	*e*Pn	Pn	11 27 08.4	0.0
LKD	Levkas	1.10	288	*e*P	Pn	11 27 13.9	+2.1
VLS	Valsamata	1.11	260	*e*PN	Pn	11 27 13.8	+1.8

IDC 03 11:26:57.4±3.5, 583S×15141E, h0km, mb3.6/3, mb1 3.9/3, mb1mx3.6/14, mbtmp3.7/3, MS2.9/1, Ms1 2.9/1, ms1mx2.5/16, Error ellipse: s-maj=114.5km s-min=49.5km az=122.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	Charters Tower	15.04	199	LR	LR	11 34 59.6	
	comp=Z,50nm,21.2s,baz=57,slow=32						
WRA	Warramunga Arr	21.73	228	P	P	11 31 50.1	-0.4
	1.7nm,0.9s,baz=54,slow=11,SNR=10						
ASAR	Alice Springs	24.46	222	P	P	11 32 19.1	+0.9
	1.7nm,0.8s,baz=58,slow=8.8,SNR=16						
FITZ	Fitzroy Crossi	27.95	242	P	P	11 32 49.4	-0.4
	1.1nm,0.6s,baz=76,slow=13,SNR=4.3						
TORD	Torodi Ar. Bea	149.28	286	PKPbc	PKPbc	11 46 48.7	-0.5
	1.0nm,0.7s,baz=71,slow=1.9,SNR=5.0						

NNC 03 11:44:45.6±4.3, 3781N×6995E, h0km, mb3.9, mpv3.5, 2C-3D, Error ellipse: s-maj=35.5km s-min=20.6km az=14.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	Karatay Array	5.31	4	⇓Pn	Pn	11 46 10.2	+4.1
	3.5nm,0.4s,baz=180,slow=14,SNR=22						
KK31				⇑Sn	Sn	11 47 14.2	+6.2
	4.5nm,0.6s,baz=173,slow=28,SNR=3.5						
TKM2	Tokmak 2	6.69	38	⇓Pn	Pn	11 46 24.1	-0.9
	1.5nm,0.5s						
TKM2				⇓Sn	Sn	11 47 45.7	+3.8
	5.6nm,0.8s						
AB31	Akbulak array	13.54	331	Pn	Pn	11 48 00.1	+1.4
	1.2nm,0.8s,baz=140,slow=13,SNR=4.7						
AB31				⇑Sn	Sn	11 50 30.8	+1.0
	0.5nm,0.6s						

*IDC **03** 11:52:20.4±0.6, 742S×15561E, h0km, mb4.4/13, mb1 4.5/13, mb1mx4.5/16, mbtmp4.4/13, Error ellipse: s-maj=21.4km s-min=16.9km az=100.0*
*BJI **03** 11:52:21.0, 7.14S×15589E, h12km, mB5.1, mb4.7, Ms5.3, Msz5.0*
*NEIC **03** 11:52:22.1±0.3, 752S×15567E, h10km, mb4.8/16, Error ellipse: s-maj=10.6km s-min=8.2km az=122.0*
*MOS **03** 11:52:23.8±0.8, 751S×15568E, h33km, mb5.0/11, Error ellipse: s-maj=18.5km s-min=11.4km az=107.9*
*ISCJB **03** 11:52:24.1±0.5, 750S±008×15565E±009, h33km, mb4.5/31, Error ellipse: s-maj=14.2km s-min=9.6km az=28.8*
ISC 03 11:52:26.0±0.5, 752S±008×15565E±009, h35km, (h8km±5.8km:pP-P), n61, σ0°87/56, mb4.5/31, 4C-2D, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	Charters Tower	15.46	215	Pn	Pn	11 56 08.3	+6.8
	0.2nm,0.3s,baz=38,slow=11,SNR=5.5						
KAKA	Kakadu	23.42	255	*e*P	P	11 57 31.7	-0.7
	21nm,0.7s,mb4.7						
WB2	Warramunga Arr	24.05	237	⇓*i*P	P	11 57 38.4	+0.3
WRA	Warramunga Arr	24.06	237	P	P	11 57 38.3	+0.1
	13nm,0.9s,mb4.3,baz=61,slow=9.8,SNR=41						
WRA				PcP	PcP	12 01 19.7	+0.3
	1.1nm,1.0s,baz=54,slow=1.8,SNR=4.9						
ASAR	Alice Springs	26.32	230	P	P	11 57 58.1	-0.6
	3.1nm,1.1s,mb3.8,baz=60,slow=9.8,SNR=12						
ASAR				PcP	PcP	12 01 26.5	+2.1
	0.7nm,0.8s,baz=80,slow=2.1,SNR=3.4						
STKA	Stephens Creek	27.55	207	*e*P	P	11 58 10.3	+0.7
	4.0nm,0.9s,mb4.0						
STKA	Stephens Creek	27.55	207	P	P	11 58 10.4	+0.8
	4.5nm,0.8s,mb4.1,baz=13,slow=9.8,SNR=6.7						
FITZ	Fitzroy Crossi	31.05	247	*e*P	P	11 58 40.7	-0.2
	9.8nm,0.6s,mb4.8						
FITZ	Fitzroy Crossi	31.05	247	P	P	11 58 40.6	-0.2
	5.5nm,0.7s,mb4.5,baz=90,slow=8.5,SNR=18						
RAR	Rarotonga	45.11	112	P	P	12 00 38.1	-1.1
	7.8nm,0.4s,mb4.9,baz=191,slow=7.6,SNR=4.6						
KSM	Kuching	46.10	279	*e*P	P	12 00 47.2	-0.1
YHNB	Yeheng	46.26	315	*e*P	P	12 00 49.0	+0.7
MJAR	Matsushiro Arr	46.79	341	*e*P	P	12 00 50.3	-1.9
MJAR	Matsushiro Arr	46.79	341	P	P	12 00 50.3	-2.0
	1.3nm,0.8s,mb3.9,baz=150,slow=9.0,SNR=4.0						
KSRS	Korea Array	51.71	332	P	P	12 01 28.2	-1.6
	3.5nm,0.8s,mb4.3,baz=154,slow=8.0,SNR=7.8						
VLA	Vladivostok	54.84	339	*e*P	P	12 01 54.2	+1.5
VLA				pmax	pmax		
	comp=Z,15nm,1.1s,mb4.9						
YSS	Yuzh-Sakhalins	55.44	349	*e*P	P	12 01 56.9	0.0
	comp=Z,21nm,1.0s,mb5.1						
YSS	Yuzh-Sakhalins	55.44	349	⇑*i*P	P	12 01 56.8	-0.1
YSS				pmax	pmax		
	comp=Z,30nm,1.0s,mb5.3						
HABR	Khabarovsk	58.63	344	*e*P	P	12 02 18.6	-0.9
KLR	Kul'dur	60.26	342	*e*P	P	12 02 24.4	-6.4
KMI	Kunming	60.85	304	P	P	12 02 36.4	+1.1
KMI				AP	pP	12 02 40.4	-5.6
KMI				AMB	AMB		
	comp=Z,13nm,1.0s,mb5.0						
KMI	Kunming	60.85	304	P	P	12 02 36.4	+1.1
	comp=Z,13nm,1.0s,mb5.0						
KMI				pP	pP	12 02 40.4	-5.6
HIA	Hailar	64.67	335	*e*P	P	12 03 00.2	0.0
	comp=Z,7.2nm,0.9s,mb4.7						
HIA	Hailar	64.67	335	*e*P	P	12 03 00.3	0.0
HIA				pmax	pmax		
	comp=Z,7.0nm,0.9s						
LZH	Lanzhou	65.15	315	*e*P	P	12 03 04.5	+0.9
LZH				AP	pP	12 03 08.6	-5.8
LZH				XP	sP	12 03 12.1	-6.4
LZH				AMB	AMB		
	comp=Z,15nm,1.3s,mb4.9						
LZH				AMB	AMB		
	comp=Z,68nm,4.1s						
LZH	Lanzhou	65.15	315	*e*P	P	12 03 04.5	+0.9
	comp=Z,15nm,1.3s,mb4.9						
LZH				pP	pP	12 03 08.6	-5.8
LZH				sP	sP	12 03 12.1	-6.4
GTA	Gaotai	69.57	317	*e*P	P	12 03 32.5	+0.9
GTA				AP	pP	12 03 36.8	-5.6
GTA				XP	sP	12 03 39.4	-7.1
GTA				AMB	AMB		
	comp=Z,4.0nm,1.4s,mb4.2						
ULN	Ulaanbaatar	69.80	327	*e*P	P	12 03 33.4	+0.6
	comp=Z,5.9nm,0.9s,mb4.5						
ULN	Ulaanbaatar	69.80	327	*d i*P	P	12 03 33.2	+0.4
VNDA	Vanda	70.04	179	P	P	12 03 33.9	0.0
	comp=Z,0.8nm,0.3s,mb4.2,baz=347,slow=4.2,SNR=16						
SONM	Songino Array	70.13	327	P	P	12 03 35.2	+0.3
	comp=Z,7.9nm,0.9s,mb4.7,baz=139,slow=6.5,SNR=36						
SEY	Seymchan	70.30	358	⇑*e*P	P	12 03 36.6	+1.1
YAK	Yakutsk	72.21	347	*e*P	P	12 03 46.7	-0.4
YAK				pmax	pmax		
	comp=Z,15nm,0.9s,mb4.9						
YAK				pmax	pmax		
	comp=N,6.0nm,1.1s						
ZAK	Zakamensk	73.28	328	*e*P	P	12 03 53.3	-0.4
BOD	Bodaibo	73.34	338	*e*P	P	12 03 50.6	-3.3
BOD				pmax	pmax		
	comp=Z,4.0nm,1.3s,mb4.2						
BILL	Bilibino	75.76	4	*e*P	P	12 04 08.4	+0.7
	comp=Z,16nm,1.0s,mb4.9						
BILL	Bilibino	75.76	4	⇑*e*P	P	12 04 07.9	+0.2
BILL				*e*		12 07 00.0	
BILL				pmax	pmax		
	comp=Z,13nm,1.5s,mb4.6						
TIXI	Tiksi	80.97	352	*e*P	P	12 04 37.1	+0.6
	comp=Z,3.6nm,0.9s,mb4.3						
TIXI	Tiksi	80.97	352	*e*P	P	12 04 36.7	+0.2
TIXI				pmax	pmax		
	comp=Z,7.0nm,1.7s,mb4.3						
IMA2	Indian Mountai	82.09	19	*e*P	P	12 04 42.7	+0.2
MCK	McKinley	82.30	22	*e*P	P	12 04 44.1	+0.5
	comp=Z,12nm,0.9s,mb4.8						
MCK	McKinley	82.30	22	*e*P	P	12 04 44.1	+0.4
MCK				pmax	pmax		
	comp=Z,12nm,0.9s,mb4.8						
COLA	College	83.34	21	*e*P	P	12 04 48.6	-0.4
	comp=Z,5.6nm,0.8s,mb4.7						
COLA	College	83.34	21	*i*P	P	12 04 48.3	-0.7
MKAR	Makanchi Array	84.23	319	P	P	12 04 53.5	-0.4
	comp=Z,7.7nm,0.7s,mb4.9,baz=103,slow=5.7,SNR=74						
ZAA0	Zalesovo Array	84.98	326	*e*P	P	12 04 57.2	-0.4
ZALV	Zalesovo Beam	84.98	326	P	P	12 04 56.1	-1.4
	comp=Z,3.6nm,0.6s,mb4.7,baz=114,slow=6.0,SNR=14						
ZAL	Zalesovo	84.99	326	P	P	12 04 56.2	-1.4
KURK	Kurchatov	87.65	322	*e*P	P	12 05 10.1	-0.7
	comp=Z,4.1nm,1.0s,mb4.6						
KURK	Kurchatov	87.65	322	⇑*e*P	P	12 05 10.4	-0.4
TKM2	Tokmak 2	87.85	314	*e*P	P	12 05 12.4	+0.5
	comp=Z,2.1nm,0.7s,mb4.5						
TKM2	Tokmak 2	87.85	314	*e*P	P	12 05 12.4	+0.4
TKM2				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.5						
UCH	Uchtor	88.49	313	*e*P	P	12 05 16.1	+1.1
	comp=Z,5.5nm,1.2s,mb4.7						
EKS2	Erkin-Say	89.11	313	*e*P	P	12 05 18.4	+0.5
	comp=Z,3.1nm,0.9s,mb4.6						
NVAR	Mina Array Bea	91.54	52	P	P	12 05 31.1	+1.7
	comp=Z,0.4nm,0.7s,mb3.8,baz=226,slow=4.5,SNR=4.4						
YKA	Yellowknife Ar	96.50	28	P	P	12 05 51.5	-0.1
	comp=Z,0.9nm,0.8s,mb4.3,baz=269,slow=4.6,SNR=15						
AKASG	Malin Array Be	118.35	324	*i* PKIKP	PKPdf	12 11 12.1	+2.3
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.2s						
LPAZ	La Paz	130.63	119	PKP	PKPdf	12 11 36.0	+1.7
	comp=Z,1.7nm,1.0s,baz=248,slow=2.4,SNR=5.2						
BDFB	Brasilia	147.15	135	PKPbc	PKPbc	12 12 06.0	-0.5
	comp=Z,2.7nm,0.7s,baz=150,slow=8.1,SNR=5.1						
TORD	Torodi Ar. Bea	153.79	284	PKPbc	PKPbc	12 12 20.5	-2.0
TORD				PKPab	PKPab	12 12 33.0	-2.5
TORD	Torodi Ar. Bea	153.79	284	PKPbc	PKPbc	12 12 20.5	-2.0
	comp=Z,1.0nm,0.9s,baz=174,slow=2.6,SNR=3.6						
TORD				PKPab	PKPab	12 12 33.0	-2.5
	comp=Z,1.1nm,0.7s,baz=88,slow=3.4,SNR=5.0						

*BJI **03** 11:56:21.7, 771S×15598E, h10km, mB5.0, mb4.7*
*IDC **03** 11:56:26.0±0.6, 726S×15536E, h0km, mb4.4/15, mb1 4.5/16, mb1mx4.5/19, mbtmp4.4/16, ML3.9/1, Error ellipse: s-maj=21.9km s-min=15.7km az=91.0*
*NEIC **03** 11:56:28.4±0.6, 724S×15538E, h10km, mb4.7/11, Error ellipse: s-maj=14.0km s-min=11.7km az=88.0*
*ISCJB **03** 11:56:29.6±4.6, 725S±008×15539E±009, h31km±33km, mb4.4/24, Error ellipse: s-maj=15.1km s-min=12.6km az=34.2*
ISC 03 11:56:31.9±2.0, 726S±008×15537E±009, h36km±19km, h10km±7.2km:pP-P, n40, σ0°86/38, mb4.4/24, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	5.02	116	Pn	Pn	11 57 43.9	-0.8
	4.6nm,0.3s,baz=270,slow=20,SNR=2.7						
CTA	Charters Tower	15.52	214	*e*P	Pn	12 00 14.0	+5.8
	26nm,1.1s						
CTA	Charters Tower	15.52	214	Pn	Pn	12 00 10.5	+2.3
CTA				*e*P		12 00 14.0	
CTA	Charters Tower	15.52	214	Pn	Pn	12 00 10.5	+2.3
	0.4nm,0.3s,baz=38,slow=13,SNR=11						
EIDS	Eidsvold	18.47	192	*e*P	Pn	12 00 46.1	+0.9
	22nm,1.4s						
KAKA	Kakadu	23.21	255	*e*P	P	12 01 36.3	+0.1
	12nm,0.6s,mb4.5						
ARMA	Armidale	23.30	188	*e*P	P	12 01 37.6	+0.7
WB2	Warramunga Arr	23.97	236	*e*P	P	12 01 42.8	-0.4
WRA	Warramunga Arr	23.98	236	P	P	12 01 43.0	-0.3
	22nm,1.1s,mb4.5,baz=61,slow=10,SNR=41						
ASAR	Alice Springs	26.28	229	P	P	12 02 03.0	-1.2
	2.4nm,1.0s,mb3.7,baz=64,slow=8.6,SNR=9.1						
STKA	Stephens Creek	27.66	206	*e*P	P	12 02 16.0	-0.5
	17nm,0.9s,mb4.7						
STKA	Stephens Creek	27.66	206	P	P	12 02 16.2	-0.3
	24nm,0.9s,mb4.8,baz=23,slow=10.0,SNR=18						
CNB	Canberra Magne	28.46	190	*e*P	P	12 02 23.6	0.0
	7.8nm,0.8s,mb4.4						
FITZ	Fitzroy Crossi	30.89	247	*e*P	P	12 02 45.0	-0.4
	12nm,0.8s,mb4.8						
FITZ	Fitzroy Crossi	30.89	247	P	P	12 02 43.8	-1.5
	6.1nm,0.7s,mb4.5,baz=90,slow=6.7,SNR=17						
RPZ	Rata Peaks	38.83	162	P	P	12 03 52.7	-0.8
	8.9nm,1.0s,mb4.5,baz=346,slow=8.7,SNR=3.4						
KSRS	Korea Array	51.34	332	P	P	12 05 32.2	-0.7
	2.3nm,0.8s,mb4.2,baz=150,slow=7.1,SNR=5.4						
ASAJ	Asahikawa	52.42	348	P	P	12 05 41.1	+0.3
	6.1nm,0.9s,mb4.5,baz=175,slow=8.3,SNR=3.1						
YSS	Yuzh-Sakhalins	55.13	349	*e*P	P	12 06 04.8	+4.2
	9.6nm,0.8s,mb4.9						
KMI	Kunming	60.47	304	P	P	12 06 41.8	+3.2
KMI				AP	pP	12 06 47.8	-1.6
KMI				AMB	AMB		
	comp=Z,9.0nm,0.9s,mb4.8						
KMI	Kunming	60.47	304	P	P	12 06 41.8	+3.2
	comp=Z,9.0nm,0.9s,mb4.8						
KMI				pP	pP	12 06 47.8	-1.6
LZH	Lanzhou	64.76	315	*e*P	P	12 07 05.5	-1.5
LZH				AP	pP	12 07 10.1	-7.8
LZH				XP	sP	12 07 12.5	-10
LZH				AMB	AMB		
	comp=Z,22nm,1.4s,mb5.0						
LZH				AMB	AMB		
	comp=Z,90nm,5.0s						
LZH	Lanzhou	64.76	315	*e*P	P	12 07 05.5	-1.5
	comp=Z,22nm,1.4s,mb5.0						
LZH				pP	pP	12 07 10.1	-7.8
LZH				sP	sP	12 07 12.5	-10
GTA	Gaotai	69.19	317	*e*P	P	12 07 40.3	+5.2
GTA				AP	pP	12 07 43.7	-2.3
GTA				XP	sP	12 07 45.3	-4.9
GTA				AMB	AMB		
	comp=Z,4.0nm,1.4s,mb4.2						
ULN	Ulaanbaatar	69.42	328	*e*P	P	12 07 36.9	+0.6
	comp=Z,7.4nm,1.1s,mb4.5						
SONM	Songino Array	69.76	327	P	P	12 07 38.6	+0.2
SONM	Songino Array	69.76	327	P	P	12 07 38.6	+0.2
	comp=Z,4.9nm,1.1s,mb4.4,baz=140,slow=6.8,SNR=15						
VNDA	Vanda	70.31	179	P	P	12 07 41.4	0.0
	comp=Z,1.9nm,1.0s,mb4.0,baz=329,slow=6.0,SNR=6.9						
BILL	Bilibino	75.51	4	*e*P	P	12 08 13.0	+0.8
	comp=Z,6.0nm,0.9s,mb4.5						
TNA	Tin City	77.48	15	*e*P	P	12 08 24.7	+1.3
	comp=Z,4.3nm,1.0s,mb4.3						
QSPA	South Pole Qui	82.72

az=113.1

ISC 03 11:57:33.6±2.0,**784S**±004×**15559E**±003,**h27**km±13km,
h16km±2.0km:**pP-P,n306,**σ1§**18**/198,**mb5.4**/89,**MS5.5**/13,
14C-7D,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.59**	**111**	P	**Pn**	**11 58 41.4**	**0.0**
HNR						11 59 35.3	
HNR	**Honiara**	**4.59**	**111**	Pn	**Pn**	**11 58 41.4**	**0.0**
	72nm,0.3s,baz=258,slow=13,SNR=5.6						
HNR				Sn	**Sn**	**11 59 35.3**	**+1.4**
	117nm,0.3s,baz=110,slow=2.4,SNR=3.8						
HNR				LR	LR	12 00 11.0	
	comp=Z,22μm,18.1s,baz=337,slow=35						
CTA	**Charters Tower**	**15.17**	**216**	*e*P	**Pn**	**12 01 07.0**	**+0.9**
	84nm,0.9s						
CTA	**Charters Tower**	**15.17**	**216**	*e*P	**Pn**	**12 01 07.0**	**+0.9**
CTA				pmax	pmax		
	comp=Z,84nm,0.9s						
CTA	**Charters Tower**	**15.17**	**216**	Pn	**Pn**	**12 01 05.4**	**-0.7**
	comp=Z,0.3nm,0.3s,baz=44,slow=14,SNR=10						
CTA				Sn	**Sn**	**12 03 57.0**	**+3.6**
	baz=7.0,slow=14,SNR=1.8						
CTA				LR	LR	12 05 23.6	
	comp=Z,4μm,21.9s,baz=218,slow=31						
CTAO	**Charters Tower**	**15.17**	**216**	*e*Pn	**Pn**	**12 01 06.5**	**+0.4**
	comp=Z,451nm,1.5s						
CTAO	**Charters Tower**	**15.17**	**216**	*e*P	**Pn**	**12 01 07.9**	**+1.8**
CTAO				pmax	pmax		
	comp=Z,450nm,1.5s						
DZM	**Mont Dzumac**	**17.60**	**145**	P	**Pn**	**12 01 37.7**	**+0.6**
	baz=312,slow=16,SNR=4.5						
DZM				S	**Sn**	**12 04 54.0**	**+1.5**
	comp=Z,0.2nm,0.3s,baz=349,slow=23,SNR=1.9						
EIDS	**Eidsvold**	**17.96**	**193**	*e*P	**Pn**	**12 01 42.8**	**+1.3**
	comp=Z,352nm,2.0s						
ARMA	**Armidale**	**22.77**	**189**	*e*P	**P**	**12 02 34.1**	**+0.1**
TLE	**Tual**	**22.80**	**274⇑**	*e*P	**P**	**12 02 36.0**	**+1.5**
TLE	**Tual**	**22.80**	**274⇑**	*e*P	**P**	**12 02 36.0**	**+1.5**
KAKA	**Kakadu**	**23.28**	**256**	*e*P	**P**	**12 02 39.1**	**-0.4**
	comp=Z,140nm,1.4s,mb5.2						
GUMO	**Guam**	**23.80**	**333**	P	**P**	**12 02 43.6**	**-0.9**
GUMO				*e*P		12 02 45.6	
GUMO	**Guam**	**23.80**	**333**	P	**P**	**12 02 43.6**	**-0.9**
	comp=Z,143nm,0.8s,mb5.5,baz=131,slow=5.5,SNR=7.5						
WB2	**Warramunga Arr**	**23.83**	**237**	*e*P	**P**	**12 02 43.5**	**-1.3**
WRA	**Warramunga Arr**	**23.84**	**238**	P	**P**	**12 02 44.6**	**-0.3**
	comp=Z,88nm,1.1s,mb5.1,baz=59,slow=9.3,SNR=15						
WRA				PcP	PcP	12 06 28.0	+0.2
	comp=Z,7.1nm,0.8s,baz=64,slow=2.1,SNR=7.6						
WRA				S	**S**	**12 07 01.8**	**+2.5**
	comp=Z,4.3nm,1.1s,baz=63,slow=14,SNR=2.0						
ASAR	**Alice Springs**	**26.07**	**230**	P	**P**	**12 03 04.4**	**-0.8**
	comp=Z,36nm,0.9s,mb4.9,baz=62,slow=8.6,SNR=26						
STKA	**Stephens Creek**	**27.24**	**207**	*e*P	**P**	**12 03 16.0**	**+0.4**
	comp=Z,58nm,0.9s,mb5.1						
STKA	**Stephens Creek**	**27.24**	**207**	P	**P**	**12 03 16.1**	**+0.5**
	comp=Z,79nm,0.9s,mb5.2,baz=23,slow=11,SNR=17						
CNB	**Canberra Magne**	**27.94**	**191**	*e*P	**P**	**12 03 20.8**	**-1.0**
	comp=Z,14nm,0.8s,mb4.7						
FITZ	**Fitzroy Crossi**	**30.87**	**248**	*e*P	**P**	**12 03 47.4**	**-0.6**
	comp=Z,24nm,0.6s,mb5.2						
FITZ	**Fitzroy Crossi**	**30.87**	**248**	P	**P**	**12 03 45.9**	**-2.1**
	comp=Z,13nm,0.6s,mb4.9,baz=92,slow=9.0,SNR=12						
BATI	**Kupang**	**31.61**	**263**	P	**P**	**12 03 55.5**	**+0.9**
	comp=Z,8.1nm,0.3s,mb5.0,baz=129,slow=9.5,SNR=2.2						
FORT	**Forrest**	**34.40**	**225**	*e*P	**P**	**12 04 16.8**	**-1.9**
	comp=Z,101nm,1.1s,mb5.7						
TAU	**Tasmania Unive**	**35.68**	**190**	*e*P	**P**	**12 04 31.0**	**+1.3**
	comp=Z,42nm,1.0s,mb5.3						
TAU				*e*P		12 04 31.1	
TAU	**Tasmania Unive**	**35.68**	**190**	*e*P	**P**	**12 04 31.1**	**+1.5**
TAU				pmax	pmax		
	comp=Z,120nm,1.6s,mb5.6						
KAPI	**Kappang**	**35.71**	**272**	P	**P**	**12 04 30.9**	**+0.6**
	comp=Z,440nm,1.0s,mb6.3,SNR=7.3						
URZ	**Urewera**	**35.99**	**151**	P	**P**	**12 04 32.0**	**-0.4**
	comp=Z,13nm,1.0s,mb4.8,baz=308,slow=18,SNR=3.7						
MBWA	**Marble Bar**	**37.05**	**245**	*e*P	**P**	**12 04 41.2**	**-0.4**
	comp=Z,50nm,0.9s,mb5.3						
CBIJ	**Chichi jima**	**37.07**	**340**	P	**P**	**12 04 39.9**	**-1.8**
	comp=Z,99nm,0.7s,mb5.8,baz=277,slow=15,SNR=5.6						
RPZ	**Rata Peaks**	**38.22**	**162**	P	**P**	**12 04 50.1**	**-1.1**
	comp=Z,12nm,0.8s,mb4.7,baz=315,slow=2.9,SNR=2.2						
PPR	**Puerto Princes**	**40.66**	**295**	*e*P	**P**	**12 05 13.2**	**+1.2**
KKM	**Kota Kinabalu**	**41.62**	**288**	*e*P	**P**	**12 05 20.1**	**+0.2**
KLBR	**Kellerberrin**	**42.41**	**231**	*e*P	**P**	**12 05 24.6**	**-1.5**
	comp=Z,52nm,0.7s,mb5.3						
NWAO	**Narrogin (SRO)**	**43.39**	**229**	*e*P	**P**	**12 05 33.2**	**-0.8**
NWAO	**Narrogin (SRO)**	**43.39**	**229**	P	**P**	**12 05 31.8**	**-2.2**
	comp=Z,24nm,0.8s,mb5.0,baz=54,slow=8.8,SNR=9.7						
JOW	**Kunigami**	**43.46**	**323**	P	**P**	**12 05 34.9**	**+0.2**
	comp=Z,88nm,0.8s,mb5.6,baz=139,slow=6.4,SNR=9.0						
MUN	**Mundaring**	**43.76**	**231**	*e*P	**P**	**12 05 36.7**	**-0.4**
RAR	**Rarotonga**	**45.05**	**112**	P	**P**	**12 05 47.3**	**-0.2**
	comp=Z,22nm,0.8s,mb5.0,baz=225,slow=6.8,SNR=6.3						
NACB	**Ningaanchiao**	**45.36**	**315**	*e*P	**P**	**12 05 58.4**	**+3.7**
KSM	**Kuching**	**46.09**	**280**	*e*P	**P**	**12 05 56.3**	**+0.4**
YHNB	**Yeheng**	**46.43**	**315**	*e*P	**P**	**12 06 02.2**	**+3.9**
JNU	**Nakatsue**	**47.02**	**331**	P	**P**	**12 06 02.3**	**-0.5**
	comp=Z,132nm,0.9s,mb5.9,baz=134,slow=9.1,SNR=34						
MJAR	**Matsushiro Arr**	**47.06**	**341**	P	**P**	**12 06 01.7**	**-1.3**
	comp=Z,111nm,0.7s,mb5.9,baz=160,slow=8.2,SNR=57						
MAJO	**Matsushiro**	**47.06**	**341**	*e*P	**P**	**12 06 01.7**	**-1.4**
MAT	**Matsushiro**	**47.06**	**341**	P	**P**	**12 06 01.4**	**-1.7**
QZH	**Quanzhou**	**48.58**	**313⇓**	*i*P	**P**	**12 06 16.2**	**+1.2**
QZH				AMB	AMB		
	comp=Z,130nm,0.8s,mb6.0						
QZH				LR	LR		
	comp=N,5μm,14.4s						
QZH				LR	LR		
	comp=E,2μm,9.4s						
QZH				LR	LR		
	comp=Z,6μm,20.5s						
ERM	**Erimo**	**50.90**	**348⇓**	*e*P	**P**	**12 06 31.0**	**-1.4**
ERM	**Erimo**	**50.90**	**348⇓**	*e*P	**P**	**12 06 31.9**	**-0.5**
KSRS	**Korea Array**	**51.95**	**332**	P	**P**	**12 06 39.5**	**-0.9**
	comp=Z,21nm,0.8s,mb5.1,baz=150,slow=7.8,SNR=29						
QIZ	**Qiongzhong**	**52.39**	**301**	P	**P**	**12 06 45.4**	**+1.4**
INCN	**Inchon**	**52.58**	**331**	*e*P	**P**	**12 06 45.9**	**+0.9**
NJ2	**Nanjing**	**52.93**	**320**	*e*P	**P**	**12 06 48.9**	**+1.2**
NJ2				AP	pP	12 06 53.6	-2.4
NJ2				XP	sP	12 06 56.1	-3.1
NJ2				PP	PP	12 08 48.9	+1.3
NJ2				AMB	AMB		
	comp=Z,150nm,1.4s,mb5.7						
NJ2				AMB	AMB		
	comp=Z,1μm,5.2s						
NJ2				LR	LR		
	comp=N,3μm,16.2s,MS5.5						
NJ2				LR	LR		
	comp=E,1μm,14.6s,MS5.5						
NJ2				LR	LR		
	comp=Z,1μm,13.8s,MS5.2						
ASAJ	**Asahikawa**	**53.03**	**348**	P	**P**	**12 06 47.9**	**-0.3**
	comp=Z,44nm,0.7s,mb5.5,baz=217,slow=9.8,SNR=25						
PPT	**Papeete**	**54.20**	**106**	*e*LR	LR	12 22 43.4	
	comp=Z,2μm,22.5s						
PAE	**Paea**	**54.20**	**106**	*e*P	**P**	**12 06 56.4**	**-1.0**
	comp=Z,58nm,1.1s,mb5.4						
PAE	**Paea**	**54.20**	**106**	*e*P	**P**	**12 06 56.4**	**-1.0**
PAE				pmax	pmax		
	comp=Z,58nm,1.1s,mb5.4						
TVO	**Taravao**	**54.52**	**106**	*e*P	**P**	**12 06 59.2**	**-0.5**
	comp=Z,160nm,1.3s,mb5.9						
TVO	**Taravao**	**54.52**	**106**	*e*P	**P**	**12 06 59.2**	**-0.5**
TVO				pmax	pmax		
	comp=Z,160nm,1.3s,mb5.9						
TBI	**Tubuai**	**54.81**	**113**	*e*LR	LR	12 23 01.4	
	comp=Z,3μm,32.2s						
WHN	**Wuhan**	**54.95**	**316**	⇓P	**P**	**12 07 06.3**	**+3.8**
WHN				AMB	AMB		
	comp=Z,90nm,1.4s,mb5.6						
VLA	**Vladivostok**	**55.10**	**339⇑**	*i*P	**P**	**12 07 02.5**	**-0.9**
VLA	**Vladivostok**	**55.10**	**339**	*e*P	**P**	**12 07 02.4**	**-1.0**
VLA				*i* *PP	pP	12 07 11.3	-0.4
VLA				pmax	pmax		
	comp=Z,416nm,1.3s,mb6.3						
YSS	**Yuzh-Sakhalins**	**55.73**	**349**	*e*P	**P**	**12 07 08.2**	**+0.4**
	comp=Z,82nm,1.0s,mb5.7						
YSS	**Yuzh-Sakhalins**	**55.73**	**349**	*e*P	**P**	**12 07 07.0**	**-0.8**
YSS				pmax	pmax		
	comp=Z,40nm,1.1s,mb5.4						
PMOR	**Pomariorio Ree**	**55.73**	**103**	*e*P	**P**	**12 07 08.0**	**-0.5**
	comp=Z,224nm,1.5s,mb6.0						
VAH	**Vaihoa**	**56.00**	**103**	*e*P	**P**	**12 07 09.6**	**-0.7**
	comp=Z,82nm,1.3s,mb5.6						
DL2	**Dalian**	**56.19**	**328**	P	**P**	**12 07 13.2**	**+2.0**
DL2				AMB	AMB		
	comp=Z,40nm,0.8s,mb5.5						
DL2				AMB	AMB		
	comp=Z,160nm,6.4s						
DL2				LR	LR		
	comp=N,920nm,17.7s,MS5.1						
DL2				LR	LR		
	comp=E,1μm,16.7s,MS5.1						
DL2				LR	LR		
	comp=Z,790nm,19.5s,MS4.8						
KULM	**Kulim**	**56.33**	**282**	*e*P	**P**	**12 07 12.5**	**-0.3**
MDJ	**Mudanjiang**	**57.23**	**338**	P	**P**	**12 07 19.4**	**+0.8**
MDJ				AP	pP	12 07 22.3	-4.6
MDJ				PCP	PcP	12 08 12.8	0.0
MDJ				PP	PP	12 09 27.3	+1.3
MDJ				SCP	ScP	12 12 13.0	+2.1
MDJ				PCS	PcS	12 12 14.5	+0.9
MDJ				AMB	AMB		
	comp=Z,97nm,1.6s,mb5.6						
MDJ				AMB	AMB		
	comp=Z,365nm,3.2s						
MDJ				LR	LR		
	comp=N,4μm,22.8s,MS5.5						
MDJ				LR	LR		
	comp=E,2μm,26.9s,MS5.5						
MDJ				LR	LR		
	comp=Z,5μm,22.8s,MS5.6						
MDJ	**Mudanjiang**	**57.23**	**338**	*e*P	**P**	**12 07 19.3**	**+0.7**
	comp=Z,294nm,1.6s,mb6.1						
SNY	**Shenyang**	**57.46**	**332**	⇑P	**P**	**12 07 19.9**	**-0.3**
SNY				AMB	AMB		
	comp=Z,41nm,2.9s,mb5.0						
PSI	**Prapat**	**57.50**	**278**	P	**P**	**12 07 19.8**	**-1.3**
	comp=Z,6.3nm,0.8s,mb4.7,baz=221,slow=10,SNR=6.9						
CN2	**Changchun**	**58.20**	**335**	*e*P	**P**	**12 07 24.1**	**-1.3**
CN2				AMB	AMB		
	comp=Z,30nm,1.2s,mb5.2						
CN2				AMB	AMB		
	comp=Z,200nm,3.0s						
CN2				LR	LR		
	comp=N,1μm,20.0s,MS5.2						
CN2				LR	LR		
	comp=E,2μm,20.0s,MS5.2						
CN2				LR	LR		
	comp=Z,1μm,21.0s,MS5.0						
GYA	**Guiyang**	**58.43**	**308⇑**	*i*P	**P**	**12 07 29.0**	**+1.7**
GYA				AP	pP	12 07 33.5	-2.2
GYA				XP	sP	12 07 36.4	-2.5
GYA				PCP	PcP	12 08 19.8	+1.9
GYA				PP	PP	12 09 41.2	+4.3
GYA				SCP	ScP	12 12 18.6	+1.9
GYA				AMB	AMB		
	comp=Z,90nm,1.0s,mb5.8						
GYA				AMB	AMB		
	comp=Z,10μm,12.9s						
GYA				LR	LR		
	comp=N,10μm,20.6s,MS6.1						
GYA				LR	LR		
	comp=E,12μm,21.3s,MS6.1						
GYA				LR	LR		
	comp=Z,9μm,22.0s,MS5.9						
HABR	**Khabarovsk**	**58.91**	**344**	*e*P	**P**	**12 07 30.8**	**+0.6**
HABR				*e*S	**S**	**12 15 34.1**	**-0.4**
HABR				pmax	pmax		
	comp=Z,336nm,1.6s,mb6.1						
BJT	**Baijiatuau**	**59.93**	**326**	*e*P	**P**	**12 07 39.3**	**+1.8**
	comp=Z,64nm,1.4s,mb5.5						
BJT	**Baijiatuau**	**59.93**	**326**	*e*P	**P**	**12 07 39.3**	**+1.8**
BJT				pmax	pmax		
	comp=Z,64nm,1.4s						
BJI	**Beijing**	**59.94**	**326**	P	**P**	**12 07 38.2**	**+0.7**
BJI				AMB	AMB		
	comp=Z,33nm,2.0s,mb5.0						
BJI				AMB	AMB		
	comp=Z,674nm,3.3s						
BJI	**Beijing**	**59.94**	**326**	P	**P**	**12 07 38.2**	**+0.7**
	comp=Z,33nm,2.0s,mb5.0						
KLR	**Kul'dur**	**60.54**	**342**	*e*P	**P**	**12 07 37.4**	**-4.0**
KLR				pmax	pmax		
	comp=N,78nm,1.8s						
KLR				pmax	pmax		
	comp=E,150nm,1.8s						
KLR				pmax	pmax		
	comp=Z,460nm,1.8s,mb6.3						
TIY	**Taiyuan**	**60.61**	**321⇑**	*i*P	**P**	**12 07 44.0**	**+1.8**
TIY				LR	LR		
	comp=N,905nm,11.7s,MS5.3						
TIY				LR	LR		
	comp=E,926nm,10.3s,MS5.3						
TIY				LR	LR		
	comp=Z,1μm,15.1s,MS5.1						
PET	**Petropavlovsk**	**60.68**	**2**	*e*P	**P**	**12 07 45.5**	**+3.2**
PET				*e*		12 16 03.9	
PET				MLR	MLR		
	comp=Z,12μm,20.0s,MS6.0						
KMI	**Kunming**	**60.97**	**304**	P	**P**	**12 07 46.1**	**+1.2**
KMI				AP	pP	12 07 50.1	-3.2
KMI				PP	PP	12 10 01.0	+1.5
KMI				AMB	AMB		
	comp=Z,23nm,1.2s,mb5.2						
KMI				AMB	AMB		
	comp=Z,424nm,6.9s						
KMI				LR	LR		
	comp=N,2μm,21.0s,MS5.3						
KMI				LR	LR		
	comp=E,1μm,20.1s,MS5.3						
KMI				LR	LR		
	comp=Z,2μm,19.2s,MS5.2						
KMI	**Kunming**	**60.97**	**304**	P	**P**	**12 07 46.1**	**+1.2**
	comp=Z,23nm,1.2s,mb5.2						
KMI				pP	pP	12 07 50.1	-3.2
KMI				sP	sP	12 07 52.1	-4.4
KMI				PP	PP	12 10 01.0	+1.5
KMI				PPP		12 11 30.0	
KMI				S	**S**	**12 16 02.5**	**+0.6**
KMI				sS	sS	12 16 08.9	-6.8
KMI				SS	SS	12 20 05.0	+3.1
KMI				LR	LR		
	comp=Z,2μm,19.2s,MS5.2						
KMI	**Kunming**	**60.97**	**304**	P	**P**	**12 07 46.1**	**+1.2**
KMI				*SP	sP	12 07 52.1	-4.4
KMI						12 10 01.0	
KMI				PPP		12 11 30.0	
KMI				S	**S**	**12 16 02.5**	**+0.6**
KMI				*SS	sS	12 16 08.9	-6.8
KMI				SS	SS	12 20 05.0	+3.1
KMI				pmax	pmax		
	comp=Z,23nm,1.2s,mb5.2						
KMI				MLR	MLR		
	comp=Z,2μm,19.2s,MS5.2						
CHTO	**Chiang Mai**	**61.80**	**296**	*e*P	**P**	**12 07 50.9**	**+0.3**
CHTO	**Chiang Mai**	**61.80**	**296**	*e*P	**P**	**12 07 51.4**	**+0.8**
CD2	**Chengdu**	**62.80**	**311**	P	**P**	**12 07 58.0**	**+0.9**
CD2				AP	pP	12 08 04.2	-1.3
CD2				XP	sP	12 08 06.9	-1.8
CD2				PP	PP	12 10 19.8	+4.2
CD2				PCS	PcS	12 12 39.3	+0.4
CD2				AMB	AMB		
	comp=Z,60nm,1.7s,mb5.5						
CD2				AMB	AMB		
	comp=Z,600nm,7.2s						
CD2				LR	LR		
	comp=E,2μm,15.6s						
CD2				LR	LR		
	comp=Z,950nm,15.6s,MS5.1						
HHC	**Hu-ho-hao-te**	**63.11**	**324**	*e*P	**P**	**12 08 02.0**	**+3.0**
HHC				AP	pP	12 08 06.1	-1.3
HHC				XP	sP	12 08 09.3	-1.3
HHC				AMB	AMB		
	comp=Z,26nm,0.4s,mb5.7						
HHC				AMB	AMB		
	comp=Z,279nm,6.3s						
TAOE	**Nuku Hiva Isla**	**63.52**	**96**	*e*P	**P**	**12 08 01.2**	**-1.0**
	comp=Z,7μm,1.2s						
TAOE	**Nuku Hiva Isla**	**63.52**	**96**	*e*LR	LR	12 26 55.4	
	comp=Z,40μm,27.1s						
BTO	**Baotou**	**63.88**	**323**	*e*P	**P**	**12 08 07.0**	**+3.0**
HIA	**Hailar**	**64.93**	**335**	*e*P	**P**	**12 08 11.5**	**+0.8**
	comp=Z,55nm,0.9s,mb5.6						
HIA	**Hailar**	**64.93**	**335**	*e*P	**P**	**12 08 11.5**	**+0.8**
HIA				pmax	pmax		
	comp=Z,55nm,0.9s						
LZH	**Lanzhou**	**65.32**	**316**	*e*P	**P**	**12 08 13.5**	**-0.1**
LZH				PP	PP	12 10 39.5	+1.9
LZH				AMB	AMB		
	comp=Z,85nm,1.6s,mb5.5						
LZH				AMB	AMB		
	comp=Z,260nm,4.9s						
LZH				LR	LR		
	comp=E,2μm,14.9s						
LZH				LR	LR		
	comp=Z,3μm,17.0s,MS5.6						
LZH	**Lanzhou**	**65.32**	**316**	*e*P	**P**	**12 08 13.5**	**-0.1**
	comp=Z,85nm,1.6s,mb5.5						
LZH				pP	pP	12 08 16.9	-5.1
LZH				sP	sP	12 08 18.6	-6.6
LZH				PP	PP	12 10 39.5	+1.9
LZH				S	S	12 16 55.8	-0.1
LZH				sS	sS	12 17 02.0	-7.9
LZH				SS	SS	12 21 10.5	+1.0
LZH				LR	LR		
	comp=Z,3μm,17.0s,MS5.6						
LZH	**Lanzhou**	**65.32**	**316**	*e*P	**P**	**12 08 13.5**	**-0.1**
LZH				*SP	sP	12 08 18.6	-6.6
LZH						12 10 39.5	
LZH				S	S	12 16 55.8	-0.1
LZH				SS	SS	12 21 10.5	+1.0
LZH				pmax	pmax		
	comp=Z,85nm,1.6s,mb5.5						
LZH				MLR	MLR		
	comp=Z,3μm,17.0s,MS5.6						
MA2	**Magadan**	**67.30**	**357**	*e*P	**P**	**12 08 25.2**	**-0.5**
	comp=Z,91nm,1.1s,mb5.7						
MA2	**Magadan**	**67.30**	**357**	*e*P	**P**	**12 08 26.1**	**+0.4**
MA2				pmax	pmax		
	comp=Z,100nm,1.0s,mb5.8						
RKT	**Rikitea**	**68.09**	**112**	*e*LR	LR	12 28 55.8	
	comp=Z,2μm,32.0s						
IMP	**Imphal**	**68.21**	**301**	*e*P	**P**	**12 08 33.0**	**+0.8**
NRGR	**Nerungri**	**69.10**	**342**	*e*P	**P**	**12 08 38.3**	**+1.3**
CLNS	**Chul'man**	**69.20**	**343**	*e*P	**P**	**12 08 38.6**	**+0.9**
CLNS				pmax	pmax		
	comp=Z,51nm,0.9s,mb5.5						
CLNS				pmax	pmax		
	comp=N,34nm,0.8s						
CLNS				pmax	pmax		
	comp=E,38nm,1.0s						
CIT	**Chita**	**69.62**	**334**	*e*P	**P**	**12 08 40.9**	**+0.5**
CIT				*e*	pP	12 08 50.5	+1.6
CIT				*e*		12 11 12.1	
CIT				pmax	pmax		
	comp=Z,281nm,2.0s,mb5.8						
VNDA	**Vanda**	**69.73**	**179**	P	**P**	**12 08 40.1**	**-0.6**
	comp=Z,5.0nm,1.1s,mb4.4,baz=340,slow=7.9,SNR=7.0						
GTA	**Gaotai**	**69.75**	**317**	P	**P**	**12 08 42.1**	**+0.6**
GTA				AP	pP	12 08 45.6	-4.4
GTA				PP	PP	12 11 20.0	+3.9
GTA				AMB	AMB		
	comp=Z,8.0nm,1.3s,mb4.5						
GTA				AMB	AMB		
	comp=Z,562nm,4.9s						
GTA				LR	LR		
	comp=N,2μm,24.3s,MS5.5						
GTA				LR	LR		
	comp=E,3μm,24.3s,MS5.5						
GTA				LR	LR		
	comp=Z,6μm,25.9s,MS5.7						
ULN	**Ulaanbaatar**	**70.02**	**328**	*e*P	**P**	**12 08 43.8**	**+0.8**
	comp=Z,550nm,2.6s,mb6.0						
ULN	**Ulaanbaatar**	**70.02**	**328⇑**	*e*P	**P**	**12 08 44.0**	**+1.1**
SHL	**Shillong**	**70.22**	**301**	*i* P	**P**	**12 08 46.0**	**+1.3**
SBA	**Scott Base**	**70.23**	**178**	*e*P	**P**	**12 08 43.0**	**-0.8**
	comp=Z,202nm,2.6s,mb5.6						
SBA	**Scott Base**	**70.23**	**178**	*e*P	**P**	**12 08 43.0**	**-0.8**
SBA				pmax	pmax		
	comp=Z,200nm,2.6s,mb5.6						
SONM	**Songino Array**	**70.36**	**327**	P	**P**	**12 08 44.4**	**-0.6**
	comp=Z,12nm,0.7s,mb4.9,baz=143,slow=6.1,SNR=23						
SEY	**Seymchan**	**70.60**	**358⇓**	*e*P	**P**	**12 08 46.1**	**-0.1**
LSA	**Lhasa**	**72.23**	**304**	P	**P**	**12 08 57.6**	**+0.9**
LSA				AMB	AMB		
	comp=Z,30nm,1.0s,mb5.2						
LSA	**Lhasa**	**72.23**	**304**	*e*P	**P**	**12 08 57.9**	**+1.1**
	comp=Z,26nm,0.8s,mb5.2						
LSA	**Lhasa**	**72.23**	**304**	*e*P	**P**	**12 08 57.9**	**+1.2**
LSA				pmax	pmax		
	comp=Z,26nm,0.8s,mb5.2						
YAK	**Yakutsk**	**72.50**	**348**	*e*P	**P**	**12 08 57.2**	**-0.4**
	comp=Z,228nm,1.2s,mb6.0						
YAK	**Yakutsk**	**72.50**	**348**	*e*P	**P**	**12 08 56.2**	**-1.4**
YAK				pmax	pmax		
	comp=E,27nm,1.3s						
YAK				pmax	pmax		
	comp=Z,198nm,1.3s,mb5.9						
YAK				pmax	pmax		
	comp=N,60nm,1.4s						
ZAK	**Zakamensk**	**73.51**	**328**	*e*P	**P**	**12 09 03.6**	**-0.3**
BOD	**Bodaibo**	**73.61**	**338**	*e*P	**P**	**12 09 03.3**	**-1.0**
BOD				pmax	pmax		
	comp=Z,61nm,1.7s,mb5.2						
TLY	**Talaya**	**74.08**	**329**	P	**P**	**12 09 10.7**	**+3.5**
	comp=Z,125nm,1.0s,mb5.8,SNR=6.8						
TLY	**Talaya**	**74.08**	**329**	*i* P	**P**	**12 09 07.5**	**+0.3**
TLY				*e*P		12 09 10.9	
TLY	**Talaya**	**74.08**	**329**	*e*P	**P**	**12 09 09.5**	**+2.3**
TLY				pmax	pmax		
	comp=Z,74nm,2.1s,mb5.2						
IRK	**Irkutsk**	**74.10**	**330⇓**	*e*P	**P**	**12 09 10.0**	**+2.7**
IRK				pmax	pmax		
	comp=Z,132nm,2.0s,mb5.5						
BOK	**Bokaro**	**74.90**	**297**	*e*P	**P**	**12 09 11.1**	**-1.5**
BOK				AMb	AMB	12 09 28.0	
	comp=Z,43nm,1.8s,mb5.1						
MOY	**Mondy**	**75.43**	**328**	*e*P	**P**	**12 09 17.1**	**+2.1**
MOY				pmax	pmax		
	comp=Z,139nm,3.1s						
GAMB	**Gambell**	**75.58**	**14**	P	**P**	**12 09 15.5**	**-0.1**
VIS	**Vishakhapatnam**	**75.71**	**290**	*e*P	**P**	**12 09 16.1**	**-1.2**
VIS				AMb	AMB	12 09 23.9	
	comp=Z,31nm,1.4s,mb5.0						
VIS				*ex*	x	12 16 13.8	
BILL	**Bilibino**	**76.07**	**4⇑**	*i*P	**P**	**12 09 17.9**	**-0.4**
BILL	**Bilibino**	**76.07**	**4⇑**	*e*P	**P**	**12 09 17.8**	**-0.5**
BILL				*e*		12 12 10.5	
BILL				*e*S	S	12 18 55.5	-4.3
BILL				pmax	pmax		
	comp=Z,103nm,0.9s,mb5.8						
BILL

comp=Z,39nm,1.1s,mb5.2
BHPL ex x 12 16 46.2
IMA2 Indian Mountai 82.40 19 eP **P 12 09 51.8 -1.2**
MCK McKinley 82.61 22 eP **P 12 09 53.4 -0.7**
MNGI Mangalore 82.83 284 i P **P 12 09 56.0 -0.2**
MNGI AMb AMB 12 10 12.5
comp=Z,41nm,1.4s,mb5.3
DDI Dehra Dun 83.28 302 eP **P 12 09 57.0 -1.3**
NDI New Delhi 83.64 300 ex x 12 09 56.0
COLA College 83.65 21 i P **P 12 09 56.7 -2.7**
MAW Mawson 83.85 203 eP **P 12 10 01.7 +1.2**
comp=Z,11nm,1.0s,mb4.9
MAW Mawson 83.85 203 eP **P 12 10 01.7 +1.2**
MAW pmax pmax
comp=Z,11nm,1.0s
MAW Mawson 83.85 203 P **P 12 09 59.9 -0.6**
comp=Z,7.1nm,0.9s,mb4.8,baz=70,slow=11,SNR=5.1
MKAR Makanchi Array 84.42 319 P **P 12 10 03.4 -0.3**
MKAR Makanchi Array 84.42 319 P **P 12 10 03.4 -0.3**
comp=Z,43nm,1.0s,mb5.5,baz=98,slow=6.7,SNR=32
POO Poona 84.70 289⇑ i P **P 12 10 04.0 -1.8**
comp=Z,50nm,1.0s,mb5.6
POO eP 12 10 04.4
POO AMb AMB 12 10 11.5
comp=Z,42nm,1.4s,mb5.4
ZAA0 Zalesovo Array 85.20 326 eP **P 12 10 06.0 -1.5**
ZALV Zalesovo Beam 85.20 326 P **P 12 10 05.6 -1.9**
comp=Z,14nm,0.8s,mb5.2,baz=113,slow=4.9,SNR=30
ZAL Zalesovo 85.21 326 P **P 12 10 05.6 -1.9**
AJM Ajmer 85.43 297 eP **P 12 10 08.5 -0.8**
AJM AMb AMB 12 10 10.9
comp=Z,130nm,1.1s,mb6.0
THN Thein Dam 85.69 303 eP **P 12 10 09.1 -1.4**
SKAG Skagway 86.32 29 eP **P 12 10 13.3 +0.4**
NVS Novosibirsk 86.37 326 i P **P 12 10 12.0 -1.3**
NVS pmax pmax
comp=N,43nm,2.0s
NVS pmax pmax
comp=Z,92nm,2.0s,mb5.7
NVS pmax pmax
comp=E,50nm,1.7s
DAWY Dawson 86.43 24 eP **P 12 10 13.8 +0.5**
KSH Kashi 87.00 310 eP **P 12 10 18.6 +1.8**
KSH eAP pP 12 10 22.9 -2.6
KSH eXP sP 12 10 25.1 -3.5
KSH PP PP 12 13 44.8 +4.5
KSH AMB AMB
comp=Z,125nm,0.8s,mb6.2
KSH AMB AMB
comp=Z,2μm,4.2s
KSH LR LR
comp=N,1μm,7.9s
KSH LR LR
comp=E,3μm,10.2s
KSH LR LR
comp=Z,8μm,25.2s
KURK Kurchatov 87.85 322⇑ eP **P 12 10 19.2 -1.4**
KURK Kurchatov 87.85 322 P **P 12 10 19.4 -1.2**
KURK pmax pmax
comp=Z,41nm,1.5s,mb5.4
TKM2 Tokmak 2 88.02 314 eP **P 12 10 21.5 -0.1**
comp=Z,8.2nm,1.1s,mb4.9
TKM2 Tokmak 2 88.02 314 P **P 12 10 24.4 +2.8**
TKM2 pmax pmax
comp=Z,8.0nm,1.1s,mb4.9
DLBC Dease Lake 88.56 30 eP **P 12 10 24.1 +0.3**
UCH Uchtor 88.65 313 eP **P 12 10 26.5 +1.9**
comp=Z,17nm,1.2s,mb5.3
FRU Bishkek 88.70 313 eP **P 12 10 28.0 +3.2**
AML Almayashu 89.23 313 eP **P 12 10 28.9 +1.6**
comp=Z,16nm,1.0s,mb5.3
EKS2 Erkin-Say 89.27 313 eP **P 12 10 29.8 +2.3**
comp=Z,18nm,1.4s,mb5.2
OHCM Honcut 89.48 50 eP **P 12 10 32.2 +3.6**
INK Inuvik 90.30 21 eP **P 12 10 31.4 -0.3**
ISA Isabella 91.23 54 eP **P 12 10 38.7 +1.9**
MWC Mount Wilson 91.35 56 eP **P 12 10 37.7 +0.3**
MTUM Tungsten Hills 91.41 53 eP **P 12 10 40.0 +2.4**
SYO Syowa Base 91.73 199⇑ esP sP 12 10 47.2 -3.1
SYO Syowa Base 91.73 199⇑ ePP PP 12 14 15.4 -1.4
NVAR Mina Array Bea 91.78 52 P **P 12 10 39.5 +0.2**
comp=Z,3.0nm,0.8s,mb4.7,baz=242,slow=4.1,SNR=14
NVAR PP PP 12 14 15.6 -2.9
comp=Z,0.5nm,0.8s,baz=246,slow=6.6,SNR=3.5
WVOR Wild Horse Val 92.12 48 eP **P 12 10 40.6 -0.2**
comp=Z,3.2nm,0.4s,mb5.0
WVOR Wild Horse Val 92.12 48 eP **P 12 10 40.7 -0.1**
WVOR pmax pmax
comp=Z,3.0nm,0.5s,mb4.9
BAR Barrett 92.28 57 eP **P 12 10 42.6 +0.8**
GSC Goldstone 92.53 55 eP **P 12 10 44.8 +2.0**
TPNV Topopah Spring 93.19 53 eP **P 12 10 45.9 0.0**
comp=Z,46nm,1.8s,mb5.6
TPNV Topopah Spring 93.19 53 eP **P 12 10 45.9 +0.1**
TPNV pmax pmax
comp=Z,46nm,1.8s,mb5.6
BRVK Borovoye 93.38 323 eP **P 12 10 45.1 -1.2**
comp=Z,6.7nm,0.9s,mb5.1
BRVK Borovoye 93.38 323 eP **P 12 10 45.1 -1.2**
BRVK pmax pmax
comp=Z,7.0nm,1.0s,mb5.0
LDFC Landfair 93.88 55 eP **P 12 10 50.6 +1.6**
YKA Yellowknife Ar 96.80 28 P **P 12 10 59.6 -2.1**
comp=Z,7.2nm,0.8s,mb5.2,baz=266,slow=4.6,SNR=22
YKA PKKPbc PKKPbc 12 27 42.4 -4.1
comp=Z,0.4nm,0.7s,baz=81,slow=3.0,SNR=6.6
EDM Edmonton 96.85 37 eP **P 12 11 01.1 -1.1**
EDM Edmonton 96.85 37 eP **P 12 11 01.5 -0.7**
PDAR Pinedale Array 98.82 48 P **P 12 11 10.2 -1.1**
comp=Z,1.1nm,0.8s,mb4.5,baz=246,slow=3.0,SNR=8.4
SNAA Sanae 99.38 187 P **P 12 11 13.0 -0.2**
comp=Z,0.3nm,0.7s,baz=136,slow=11,SNR=2.4
ARCES ARCESS Array B 110.56 343 PKiKP PKiKP 12 16 02.9 -0.3
comp=Z,1.7nm,0.7s,baz=57,slow=4.5,SNR=4.6
KIV Kislovodsk 111.85 314 ePKIKP PKiKP 12 16 06.9 +0.5
KIV pmax pmax
comp=Z,6.0nm,1.2s
MOS Moscow 111.99 327 ePKIKP PKiKP 12 16 06.4 +0.1
MOS e 12 16 49.1
FINES FINESS Array B 114.94 336 PKPdf PKiKP 12 16 11.8 +0.1
FINES PP PP 12 17 08.6 -1.9
FINES FINESS Array B 114.94 336 PKiKP PKiKP 12 16 11.8 +0.1
comp=Z,2.0nm,0.8s,baz=12,slow=9.8,SNR=4.4
FINES PP PP 12 17 08.6 -1.9
comp=Z,6.1nm,1.1s,baz=123,slow=7.0,SNR=4.5
PLCA Paso Flores 115.70 143 PKP PKPdf 12 16 14.5 +0.6
comp=Z,1.1nm,0.7s,baz=253,slow=8.7,SNR=3.8
AKASG Malin Array Be 118.56 324 PKP PKPdf 12 16 17.5 -1.5
comp=Z,3.3nm,0.8s,baz=63,slow=2.2,SNR=5.8
BOSA Boshof 119.95 231 PKP PKPdf 12 16 22.4 0.0
comp=Z,3.1nm,0.8s,baz=159,slow=3.7,SNR=5.6
HFS Hagfors 120.49 339 PKP PKPdf 12 16 21.7 -0.8
comp=Z,3.0nm,0.7s,baz=86,slow=20,SNR=3.8
NB2 NORSAR Subarra120.68 341 PKPdf PKPdf 12 16 22.1 -0.7
comp=Z,1.4nm,0.7s,baz=39,slow=1.9
NOA NORSAR Array B 120.68 341 PKP PKPdf 12 16 21.8 -1.0
comp=Z,2.3nm,0.8s,baz=47,slow=2.0,SNR=6.2
LBTB Lobatse 121.38 235 PKP PKPdf 12 16 24.9 -0.3
comp=Z,3.7nm,0.7s,baz=165,slow=6.8,SNR=7.2
MLR Muntele Rosu 122.75 320 PKP PKPdf 12 16 26.7 -0.5
comp=Z,2.4nm,0.8s,baz=123,slow=4.9,SNR=4.2
LSZ Lusaka 123.05 246 ePKPdf PKPdf 12 16 28.9 +0.3
KOLS Kolonicke sedl 123.37 325 ePKP PKPdf 12 16 28.2 -0.1
CRVS Cervenica-Dubn 123.84 325 ePKP PKPdf 12 16 29.5 +0.3
OKC Ostrava-Krasne 125.15 328 ePKPdf PKPdf 12 16 32.3 +0.6
MORC Moravsky Berou 125.51 328 ePKPdf PKPdf 12 16 33.4 +1.0
KSP Ksiaz 125.52 329 ePKP PKPdf 12 16 32.6 +0.2
VYHS Vyhne 125.53 326 ePKP PKPdf 12 16 32.4 -0.1
DPC Dobruska-Polom 125.80 329 ePKPdf PKPdf 12 16 34.5 +1.6
DPC epPKP pPKPdf 12 16 41.2 -0.7
UPC Upice 125.86 329 ePKPdf PKPdf 12 16 33.8 +0.7
MODS Modra-Piesok 126.46 327 ePKP PKPdf 12 16 33.1 -1.2
MODS Modra-Piesok 126.46 327 ePKP PKPdf 12 16 33.0 -1.3
PVCC Panska Ves 126.57 330 ePKPdf PKPdf 12 16 34.5 +0.1
BRG Berggiesshubel 126.66 331 ePKIKP PKPdf 12 16 34.0 -0.6
BRG pmax pmax
comp=Z,7.0nm,1.3s
BRG Berggiesshubel 126.66 331 ePKPdf PKPdf 12 16 34.3 -0.3
BRG ePP PP 12 18 34.4 +3.7
BRG Berggiesshubel 126.66 331 ePKP PKPdf 12 16 34.0 -0.6
comp=Z,15nm,1.3s
CLL Collm 126.83 332 ePKIKP PKPdf 12 16 35.0 +0.1
CLL pmax pmax
comp=Z,9.0nm,1.1s
CLL Collm 126.83 332 ePKPdf PKPdf 12 16 36.2 +1.3
CLL ePP PP 12 18 35.1 +3.3
CLL Collm 126.83 332 ePKPdf PKPdf 12 16 35.0 +0.1
comp=Z,12nm,1.1s
TREC Trest 126.87 328 ePKPdf PKPdf 12 16 34.0 -1.0
PRU Pruhonice 126.92 329 ePKPdf PKPdf 12 16 35.6 +0.5
CLZ Clausthal 127.67 333 ePKPdf PKPdf 12 16 36.6 +0.1
CLZ ePP PP 12 18 40.5 +3.2
NKC Novy Kostel 127.80 331 ePKPdf PKPdf 12 16 36.1 -0.7
MOX Moxa 127.92 332 ePKPdf PKPdf 12 16 37.5 +0.5
MOX ePP PP 12 18 43.1 +4.1
KHC Kasperske Hory 127.95 329⇑ i PKIKP PKPdf 12 16 37.3 +0.2
KHC Kasperske Hory 127.95 329 ePKPdf PKPdf 12 16 37.0 -0.1
KHC epPKP pPKPdf 12 16 44.0 -2.1
GEC2 GERESS Array S 128.07 329 ePKPdf PKPdf 12 16 36.8 -0.5
GERES GERESS Array B 128.07 329 PKP PKPdf 12 16 37.3 0.0
comp=Z,2.3nm,0.7s,baz=48,slow=2.0,SNR=12
MANZ Manzenberg 128.13 331 ePKPdf PKPdf 12 16 37.5 +0.1
ROTZ Rotzenmuhle 128.22 331 ePKPdf PKPdf 12 16 37.6 0.0
ROTZ ePP PP 12 18 44.6 +3.5
WET Wettzell 128.30 330 ePKPdf PKPdf 12 16 37.0 -0.8
WET ePP PP 12 18 45.9 +4.3
IBBN Ibbenburen 128.45 335 ePP PP 12 18 45.0 +2.6
UBBA Unterbreizbach 128.55 333 ePKPdf PKPdf 12 16 39.4 +1.2
GRA1 Grafenberg Arr 128.75 331 ePKPdf PKPdf 12 16 38.3 -0.3
GRF Grafenberg Arr 128.75 331 ePKPdf PKPdf 12 16 38.3 -0.3
BOJS Bojanci 129.25 325 ePKPdf PKPdf 12 16 39.6 -0.1
LJU Ljubljana 129.34 326 ePKPdf PKPdf 12 16 40.6 +0.7
CEY Cerknica 129.58 325 ePKPdf PKPdf 12 16 40.0 -0.3
TNS Taunus Mts 129.67 333 ePKPdf PKPdf 12 16 42.1 +1.8
TNS ePP PP 12 18 53.8 +3.4
EKA Eskdalemuir Ar 129.70 344 PKP PKPdf 12 16 40.5 +0.3
comp=Z,2.1nm,0.6s,baz=24,slow=2.9,SNR=4.8
LPAZ La Paz 130.54 119 SKPbc SKPbc 12 20 09.7 +4.8
comp=Z,2.3nm,1.1s,baz=284,slow=4.7,SNR=5.8
FETA Feichten 130.78 329⇑ i PKiKP PKiKP 12 16 42.4 -1.0
comp=Z,9.0nm,1.2s
BFO Black Forest 131.07 331 ePP PP 12 19 03.4 +3.8
WLF Walferdange 131.09 334 ePKPdf PKPdf 12 16 42.4 -0.7
WLF eP PP 12 19 03.2 +3.6
GIVF Givet 131.33 335 ePKIKP PKPdf 12 16 43.9 +0.4
DAVOX Davos/Dischmat 131.37 329 PKP PKPdf 12 16 44.0 +0.3
comp=Z,4.1nm,0.8s,baz=345,slow=16,SNR=6.0
BAIF Baives 131.61 336 ePKIKP PKPdf 12 16 44.1 +0.1
HINF Hinteralfeld 132.13 332 ePKIKP PKPdf 12 16 45.2 +0.1
HAU Haudompre 132.23 332 ePKIKP PKPdf 12 16 45.5 +0.2
CABF La Chapelle 133.36 331 ePKIKP PKPdf 12 16 47.5 +0.1
comp=Z,38nm,1.1s
LPL La Plagne 133.83 330 ePKIKP PKPdf 12 16 48.7 +0.3
comp=Z,21nm,1.1s
LPG La Plagne 133.83 330 ePKIKP PKPdf 12 16 48.8 +0.4
LOR Lormes 133.90 333 ePKIKP PKPdf 12 16 48.8 +0.4
comp=Z,6.0nm,0.7s
SSF Saint Saulge 134.22 333 ePKIKP PKPdf 12 16 49.3 +0.3
SDV Santo Domingo 134.28 85 ePKPdf PKPdf 12 16 51.6 +1.5
MBDF Montbardon 134.36 329 ePKIKP PKPdf 12 16 49.7 +0.3
comp=Z,3.8nm,0.6s
SMF Signal de Mont 134.38 333 ePKIKP PKPdf 12 16 49.2 -0.2
comp=Z,14nm,0.8s
FLN La Foliniere 134.49 338 ePKIKP PKPdf 12 16 49.7 +0.2
comp=Z,15nm,0.6s
AVF Avril sur Loir 134.49 333 ePKIKP PKPdf 12 16 49.6 0.0
LDF La Druitiere 134.49 337 ePKIKP PKPdf 12 16 49.7 +0.2
SBF Sospel 134.61 328 ePKIKP PKPdf 12 16 49.8 -0.1
PGF Pioggiola 134.62 325 ePKIKP PKPdf 12 16 50.1 +0.2
comp=Z,30nm,1.0s
BGF Bois d'Agland 134.89 334 ePKIKP PKPdf 12 16 50.3 0.0
GRR Gorron 134.94 338 ePKIKP PKPdf 12 16 50.6 +0.3
comp=Z,9.3nm,0.6s
FRF La Foret Royal 135.23 328 ePKIKP PKPdf 12 16 51.1 +0.1
VIVF Saint-Julien-l 135.32 331 ePKIKP PKPdf 12 16 51.2 0.0
comp=Z,9.7nm,0.8s
TCF Toulx Ste Croi 135.38 334 ePKIKP PKPdf 12 16 51.2 0.0
comp=Z,25nm,1.0s
LMR La Mourre 135.46 328 ePKIKP PKPdf 12 16 51.4 -0.1
comp=Z,31nm,1.0s
SMRF Simiane la Rot 135.50 329 ePKIKP PKPdf 12 16 51.5 0.0
comp=Z,22nm,1.0s
ROSF Rostrenen 135.85 340 ePKIKP PKPdf 12 16 52.0 0.0
comp=Z,112nm,1.4s
LASF Ste Croix 136.29 330 ePKIKP PKPdf 12 16 53.0 0.0
CAF Calviac 136.50 333 ePKIKP PKPdf 12 16 53.1 -0.3
MTLF Montolieu 137.63 331 ePKIKP PKPdf 12 16 55.4 -0.1
comp=Z,18nm,1.1s
EPF Esparros 138.75 332 ePKIKP PKPdf 12 16 57.5 -0.1
ETSF Etsaut 139.26 333 ePKIKP PKPdf 12 16 58.0 -0.5
comp=Z,13nm,0.8s
PBRG Braganca 142.72 338 ePKP PKPdf 12 17 06.4 +1.6
ESDC Sonseca Array 143.38 333 PKP PKPdf 12 17 02.7 -3.3
comp=Z,2.0nm,0.7s,baz=43,slow=2.0,SNR=7.0
MVO Moncorvo 143.39 338 ePKP PKPdf 12 17 05.4 -0.6
PVIS Viseu 144.10 338 ePKP PKPdf 12 17 05.7 -1.5
MTE Manteigas 144.25 338 ePKP PKPdf 12 17 08.7 +1.2
MTE Manteigas 144.25 338 ePKPdf PKPdf 12 17 07.5 0.0
PCBR Castelo Branco 144.71 337 ePKP PKPdf 12 17 07.1 -1.2
PESTR Estremoz 145.59 336 ePKP PKPdf 12 17 10.8 +0.9
PBAR Barrancos 145.96 335 ePKP PKPdf 12 17 11.8 +1.3
EVO Evora 146.04 337 ePKIKP PKPdf 12 17 09.8 -0.9
comp=Z,28nm,0.9s
EVO Evora 146.04 337 ePKP PKPdf 12 17 12.1 +1.4
PBEJ Beja 146.42 336 ePKP PKPdf 12 17 13.2 +1.9
PVAQ Vaqueiros 146.89 335 ePKP PKPdf 12 17 14.0 +1.9
BDFB Brasilia 146.97 135 PKPbc PKPbc 12 17 12.2 -2.6
comp=Z,32nm,0.8s,baz=199,slow=1.2,SNR=18
PBDV Barranco-do-Ve 147.12 335 ePKP PKPbc 12 17 16.0 +1.4
PTEO Sao Teotonio 147.18 337 ePKP PKPbc 12 17 16.3 +1.5
MORF Marmelete 147.36 336 ePKP PKPbc 12 17 17.1 +1.8
PFVI Vila Bisbo 147.58 336 ePKP PKPbc 12 17 16.3 +0.4
MDT Midelt 149.10 326 PKPbc PKPbc 12 17 17.7 -2.3
comp=Z,13nm,0.8s,baz=28,slow=4.9,SNR=11
TORD Torodi Ar. Bea 153.80 284 PKP PKPdf 12 17 24.4 +0.9
comp=Z,3.0nm,0.9s,baz=84,slow=1.3,SNR=4.5
TORD PKPbc PKPbc 12 17 30.5 -0.9
comp=Z,5.1nm,1.1s,baz=37,slow=3.5,SNR=6.6
TORD PKPab PKPab 12 17 43.8 -0.6
comp=Z,5.0nm,0.9s,baz=117,slow=1.7,SNR=6.7
DBIC Dimbokro 160.56 268 PKP PKPdf 12 17 32.8 +0.7
comp=Z,4.5nm,1.0s,baz=118,slow=3.3,SNR=4.2
DBIC PKPab PKPab 12 18 13.1 -0.6
comp=Z,13nm,1.0s,baz=115,slow=6.0,SNR=8.3

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*ORF **03** 12:04:19.9, 1443S×15830E, h30km, mb5.8*
*IDC **03** 12:04:25.7±0.3, 785S×15572E, h0km, mb5.3/28, mb1 5.3/30, mb1mx5.3/30, mbtmp5.3/30, ML4.5/2, MS5.5/16, Ms1 5.6/16, ms1mx5.4/19, Error ellipse: s-maj=11.3km s-min=8.8km az=73.0*
*BJI **03** 12:04:26.1, 755S×156.12E, h11km, mB6.3, mb5.7, Ms5.8, Msz5.7*
*ISCJB **03** 12:04:26.3±0.1, 782S±003S×15578E±002, h8km, mb5.7/119, MS5.8/77, Error ellipse: s-maj=3.9km s-min=2.7km az=3.1*
*NEIC **03** 12:04:27.4±0.1, 786S×15580E, h8km, mb5.8/58, ME5.9, MS6.0/10, MW5.9, Error ellipse: s-maj=3.5km s-min=3.3km az=139.0 Broadband fault plane solution: P waves. NP1:φs100.00000°, δ55.00000°, λ-90.00000°. NP2: φs280.00000°, δ35.00000°, λ-90.00000°. Principal axes: T Plg10.0000°, Azm190.0000°; N Plg0.0000°, Azm0.0000°; P Plg59.0000°, Azm144.0000°; Moment Tensor Solution. s40 Moment tensor: Scale 10^17 Nm; Mrr-9.22; Mθθ7.19; Mφφ2.03; Mrθ-0.45; Mθφ3.38; Mφr-1.79; Best double couple: M0 9.2000×10^17 NP1:φs252.00000°, δ42.00000°, λ-78.00000°. NP2:φs56.00000°, δ49.00000°, λ-101.00000°. Principal axes: T 8.9500, Plg4.0000°, Azm153.0000°; N 0.5500, Plg8.0000°, Azm63.0000°; P -9.5000, Plg81.0000°, Azm268.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*
*GCMT **03** 12:04:27.4±0.1, 808S×15580E, h12km, MW6.0/110, Moment Tensor Solution. s100, c209; s110, c403; Duration: 2≥6 Moment tensor: Scale 10^18 Nm; Mrr-1.25±.01; Mθθ1.60±.01; Mφφ-0.35±.01; Mrθ-0.40±.03; Mθφ0.06±.01; Mφr-0.10±.03; Best double couple: M0 1.48400×10^18 NP1:φs274.00000°, δ37.00000°, λ-81.00000°. NP2:φs83.00000°, δ53.00000°, λ-97.00000°. Principal axes: T 1.6560, Plg8.0000°, Azm178.0000°; N -0.3460, Plg5.0000°, Azm87.0000°; P -1.3130, Plg81.0000°, Azm324.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
*CRAAG **03** 12:04:27.0, 775S×15573E, Mb5.8*
*IGIL **03** 12:04:28.0, 784S×15581E, h10km*
*MOS **03** 12:04:29.6±0.9, 785S×15575E, h33km, mb6.1/38, MS6.0/32, Error ellipse: s-maj=10.0km s-min=7.2km az=107.8*
ISC 03 12:04:27.2±1.0, 783S±003S×15583E±002, h4km±6km, h17km±2.1km: pP-P, n985, σ0.8 77/661, mb5.7/119, MS5.8/77, 145C-177D, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
HNR	**Honiara**	**4.38**	**112**	ePn	**Pn**		**12 05 33.6**	**-0.9**
HNR				eSn	**Sn**		**12 06 24.4**	**-1.5**
HNR	**Honiara**	**4.38**	**112**	Pn	**Pn**		**12 05 33.9**	**-0.6**
50nm,0.3s,baz=267,slow=5.2,SNR=5.0								
HNR				Sn	**Sn**		**12 06 29.7**	**+3.7**
307nm,0.3s,baz=281,slow=5.3,SNR=7.9								
CTA	**Charters Tower**	**15.31**	**216**	eP	**Pn**		**12 08 05.7**	**+1.4**
143nm,0.9s								
CTA				eS	**Sn**		**12 11 05.7**	**+11**
CTA	**Charters Tower**	**15.31**	**216**	eP	**Pn**		**12 08 05.7**	**+1.4**
CTA				pmax	pmax			
comp=Z,143nm,0.9s								
CTA	**Charters Tower**	**15.31**	**216**	Pn	**Pn**		**12 08 05.9**	**+1.6**
comp=Z,0.7nm,0.3s,baz=40,slow=14,SNR=35								
CTA				Sn	**Sn**		**12 10 56.4**	**+1.9**
comp=Z,0.4nm,0.3s,baz=42,slow=17,SNR=2.3								
CTAO	**Charters Tower**	**15.31**	**216**	ePn	**Pn**		**12 08 04.5**	**+0.2**
DZM	**Mont Dzumac**	**17.47**	**145**	eP	**Pn**		**12 08 31.7**	**-0.2**
DZM	**Mont Dzumac**	**17.47**	**145**	P	**Pn**		**12 08 31.9**	**0.0**
comp=Z,0.8nm,0.3s,baz=346,slow=10,SNR=16								
DZM				S	**Sn**		**12 11 49.2**	**+2.4**
baz=306,slow=23,SNR=1.1								
EIDS	**Eidsvold**	**18.02**	**194**	eP	**Pn**		**12 08 37.0**	**-1.7**
comp=Z,2μm,2.5s								
ARMA	**Armidale**	**22.82**	**189**	eP	**P**		**12 09 31.2**	**0.0**
ARMA				eS	**S**		**12 13 47.7**	**+6.4**
TLE	**Tual**	**23.03**	**274**	‖ eP	**P**		**12 09 36.0**	**+2.4**
FUNA	**Funafuti**	**23.14**	**93**	eP	**P**		**12 09 34.1**	**-0.8**
comp=Z,890nm,1.4s,mb6.0								
KAKA	**Kakadu**	**23.51**	**256**	‖ i P	**P**		**12 09 37.4**	**-1.3**
comp=Z,662nm,1.5s,mb5.8								
GUMO	**Guam**	**23.90**	**333**	P	**P**		**12 09 41.4**	**-0.9**
GUMO				eP			12 09 42.2	
GUMO				LR	LR		12 18 13.0	
GUMO	**Guam**	**23.90**	**333**	P	**P**		**12 09 41.3**	**-0.9**
comp=Z,155nm,0.7s,mb5.6,baz=166,slow=9.8,SNR=7.6								
GUMO				LR	LR		12 18 13.0	
comp=Z,9μm,19.8s,MS5.2,baz=147,slow=35								
WB2	**Warramunga Arr**	**24.04**	**238**	eP	**P**		**12 09 43.2**	**-0.3**
WB2				eS	**S**		**12 14 04.3**	**+2.9**
WB2				ePCS	PcS		12 17 04.2	-1.2
WB2				eSCS	ScS		12 20 53.8	+1.6
WRA	**Warramunga Arr**	**24.05**	**238**	P	**P**		**12 09 42.3**	**-1.3**
WRA							12 13 25.6	
WRA				S	**S**		**12 13 59.1**	**-2.5**
WRA	**Warramunga Arr**	**24.05**	**238**	P	**P**		**12 09 42.3**	**-1.3**
comp=Z,382nm,1.2s,mb5.7,baz=64,slow=9.6,SNR=87								
WRA				PcP	PcP		12 13 25.6	+0.1
comp=Z,22nm,0.9s,baz=61,slow=2.3,SNR=6.6								
WRA				S	**S**		**12 13 59.1**	**-2.5**
comp=Z,5.9nm,0.9s,baz=62,slow=16,SNR=2.0								
WRA				LR	LR		12 18 33.2	
comp=Z,10μm,18.4s,MS5.3,baz=65,slow=35								
RIV	**Riverview**	**26.23**	**189**	eP	**P**		**12 10 06.2**	**+2.9**
ASAR	**Alice Springs**	**26.26**	**231**	P	**P**		**12 10 02.6**	**-1.1**
comp=Z,58nm,1.1s,mb5.0,baz=61,slow=9.1,SNR=73								
ASAR				PcP	PcP		12 13 30.6	+0.1
comp=Z,9.1nm,0.9s,baz=52,slow=3.8,SNR=4.9								
STKA	**Stephens Creek**	**27.36**	**207**	‖ i P	**P**		**12 10 12.0**	**-1.5**
comp=Z,86nm,1.0s,mb5.2								
STKA				eS	**S**		**12 14 53.1**	**-0.9**
STKA	**Stephens Creek**	**27.36**	**207**	P	**P**		**12 10 10.7**	**-2.8**
comp=Z,38nm,0.9s,mb4.9,baz=12,slow=7.5,SNR=19								
STKA				S	**S**		**12 14 52.2**	**-1.7**
comp=Z,4.0nm,0.9s,baz=207,slow=19,SNR=1.4								
STKA				LR	LR		12 21 17.4	
comp=Z,42μm,18.3s,MS6.0,baz=26,slow=37								
CNB	**Canberra Magne**	**27.99**	**191**	eP	**P**		**12 10 18.7**	**-0.4**
comp=Z,131nm,1.3s,mb5.4								
FITZ	**Fitzroy Crossi**	**31.09**	**248**	eP	**P**		**12 10 46.0**	**-0.8**
comp=Z,107nm,1.4s,mb5.5								
FITZ				esP	sP		12 10 52.7	+3.9
FITZ	**Fitzroy Crossi**	**31.09**	**248**	P	**P**		**12 10 46.0**	**-0.8**
comp=Z,49nm,1.0s,mb5.3,baz=78,slow=10,SNR=42								
FITZ				LR	LR		12 23 25.4	
comp=Z,5μm,18.3s,MS5.2,baz=255,slow=37								
BATI	**Kupang**	**31.84**	**263**	P	**P**		**12 10 52.8**	**-0.8**
comp=Z,30nm,0.8s,mb5.2,baz=95,slow=0.9,SNR=8.5								
AFI	**Afiamalu**	**32.36**	**104**	eP	**P**		**12 10 57.5**	**-0.6**
comp=Z,173nm,1.0s,mb5.8								
AFI	**Afiamalu**	**32.36**	**104**	eP	**P**		**12 10 57.5**	**-0.6**
AFI				pmax	pmax			
comp=Z,170nm,1.0s,mb5.8								
RAO	**Raoul Island**	**32.62**	**134**	LR	LR		12 21 48.9	
comp=Z,11μm,19.3s,MS5.6,baz=309,slow=32								
MATI	**Mati**	**32.94**	**296**	eP	**P**		**12 11 02.4**	**-0.7**
DAV	**Davao City (W)**	**33.59**	**295**	‖ eP	**P**		**12 11 16.0**	**+7.1**
BUKP	**Musuan**	**34.41**	**296**	eP	**P**		**12 11 16.6**	**+0.6**
FORT	**Forrest**	**34.57**	**225**	eP	**P**		**12 11 15.9**	**-1.3**
comp=Z,99nm,0.7s,mb5.8								
WSI	**Waingapu**	**35.15**	**264**	‖ eP	**P**		**12 11 23.1**	**+0.7**
WSI	**Waingapu**	**35.15**	**264**	‖ eP	**P**		**12 11 23.1**	**+0.7**
WSI	**Waingapu**	**35.15**	**264**	‖ eP	**P**		**12 11 31.7**	**+9.3**
MSLP	**Maasin**	**35.62**	**300**	eP	**P**		**12 11 27.1**	**+0.6**
TAU	**Tasmania Unive**	**35.74**	**191**	eP	**P**		**12 11 27.4**	**+0.4**
comp=Z,163nm,1.3s,mb5.8								
TAU	**Tasmania Unive**	**35.74**	**191**	eP	**P**		**12 11 27.4**	**+0.4**
TAU				pmax	pmax			
comp=Z,160nm,1.3s,mb5.8								
URZ	**Urewera**	**35.88**	**151**	P	**P**		**12 11 29.3**	**+0.9**
comp=Z,23nm,0.9s,mb5.1,baz=0.9,slow=3.2,SNR=10								
URZ				LR	LR		12 24 15.1	
comp=Z,10μm,20.3s,MS5.6,baz=211,slow=33								
CNP	**Catarman**	**36.98**	**303**	eP	**P**		**12 11 38.3**	**+0.3**
CBIJ	**Chichi jima**	**37.15**	**340**	P	**P**		**12 11 37.7**	**-1.5**
comp=Z,101nm,0.5s,mb5.9,baz=138,slow=23,SNR=12								
CBIJ				LR	LR		12 25 01.8	
comp=Z,3μm,19.2s,MS5.1,baz=317,slow=33								
MBWA	**Marble Bar**	**37.27**	**245**	eP	**P**		**12 11 39.5**	**-0.9**
comp=Z,248nm,1.2s,mb5.9								
MBWA	**Marble Bar**	**37.27**	**245**	P	**P**		**12 11 39.9**	**-0.5**
SNR=26								
SNZO	**South Karori**	**37.32**	**156**	eP	**P**		**12 11 43.2**	**+2.6**
comp=Z,109nm,1.1s,mb5.6								
GUIM	**Jordan**	**37.82**	**299**	eP	**P**		**12 11 45.6**	**+0.4**
PVCP	**Virac**	**37.97**	**304**	eP	**P**		**12 11 47.0**	**+0.6**
RCP	**Roxas**	**38.13**	**300**	‖ eP	**P**		**12 11 48.9**	**+1.2**
RPZ	**Rata Peaks**	**38.15**	**162**	P	**P**		**12 11 45.8**	**-1.7**
comp=Z,26nm,0.8s,mb5.0,baz=336,slow=4.9,SNR=8.1								
OTRP	**Odiongan**	**39.13**	**301**	eP	**P**		**12 11 56.8**	**+0.6**
CUYO	**Cuyo Island**	**39.30**	**298**	eP	**P**		**12 11 59.0**	**+1.4**
TSM	**Tawau**	**39.73**	**286**	‖ P	**P**		**12 11 60.0**	**-1.3**
**POLP

comp=Z,55nm,0.8s,mb5.4,baz=244,slow=9.3,SNR=9.9
RAR LR LR 12 29 25.5
comp=Z,2μm,19.4s,MS5.0,baz=281,slow=33
NACB Ninganchiao 46.12 315 *e*P **P 12 12 53.7 +0.7**
KSM Kuching 46.33 280 *e*P **P 12 12 54.8 +0.1**
KSM Kuching 46.33 280 ⇑P **P 12 12 54.7 0.0**
YHNB Yeheng 46.59 315 *e*P **P 12 12 57.5 +0.9**
JNU Nakatsue 47.13 331 P **P 12 12 58.2 -2.4**
comp=Z,167nm,0.8s,mb6.0,baz=112,slow=9.0,SNR=18
JNU LR LR 12 31 52.9
comp=Z,3μm,19.6s,MS5.3,baz=154,slow=35
MJAR Matsushiro Arr 47.13 341 P **P 12 12 57.9 -2.6**
comp=Z,66nm,0.7s,mb5.7,baz=80,slow=1.8,SNR=114
MAJO Matsushiro 47.13 341 *e*P **P 12 12 59.2 -1.4**
MAT Matsushiro 47.13 341 P **P 12 12 59.4 -1.2**
MAT S **S 12 19 52.0 -1.6**
QZH Quanzhou 48.75 313 ⇓*i*P **P 12 13 13.8 +0.5**
QZH S **S 12 20 18.5 +1.6**
QZH AMB AMB
comp=Z,370nm,1.3s,mb6.2
QZH AMB AMB
comp=Z,7μm,4.5s
QZH LR LR
comp=N,12μm,23.2s,MS6.0
QZH LR LR
comp=E,15μm,27.0s,MS6.0
QZH LR LR
comp=Z,5μm,16.1s
XMIS Christmas Isla 49.57 263 *e*P **P 12 13 20.3 +0.5**
HKC Hong Kong Obse 50.61 307 ⇑*i*P **P 12 13 30.0 +2.4**
ERM Erimo 50.94 348 *i*P **P 12 13 31.2 +1.5**
SSE Sheshan 50.97 321 P **P 12 13 31.0 +0.9**
SSE AP pP 12 13 34.3 +2.8
SSE S **S 12 20 49.1 +1.3**
SSE AMB AMB
comp=Z,118nm,0.9s,mb5.8
SSE AMB AMB
comp=Z,2μm,9.3s
SSE LR LR
comp=N,5μm,20.0s,MS5.6
SSE LR LR
comp=E,4μm,20.0s,MS5.6
SSE LR LR
comp=Z,7μm,20.0s,MS5.7
SSE Sheshan 50.97 321 P **P 12 13 31.0 +0.9**
comp=Z,118nm,0.9s,mb5.8
SSE pP pP 12 13 34.3 +2.8
SSE S **S 12 20 49.1 +1.3**
SSE LR LR
comp=Z,7μm,20.0s,MS5.7
GZH Guangzhou 51.67 308 P **P 12 13 37.3 +1.7**
GZH S **S 12 21 00.6 +2.8**
GZH LR LR
comp=N,1μm,21.6s,MS5.5
GZH LR LR
comp=E,4μm,20.7s,MS5.5
GZH LR LR
comp=Z,8μm,21.3s,MS5.7
KSRS Korea Array 52.05 332 P **P 12 13 37.6 -0.5**
comp=Z,37nm,0.8s,mb5.4,baz=146,slow=7.0,SNR=57
KSRS LR LR 12 33 06.3
comp=Z,4μm,21.3s,MS5.4,baz=137,slow=33
YUK Yuzh-Kuril'sk 52.40 351 *e*P **P 12 13 42.0 +1.4**
YUK S **S 12 21 03.0 -4.0**
YUK pmax pmax
comp=N,6μm,5.0s
YUK pmax pmax
comp=Z,4μm,5.0s
QIZ Qiongzhong 52.59 301 P **P 12 13 43.0 +0.5**
QIZ S **S 12 21 09.3 -1.2**
QIZ XS sS 12 21 16.7 +3.9
QIZ SS SS 12 24 48.1 -0.9
QIZ AMB AMB
comp=Z,100nm,1.8s,mb5.4
QIZ AMB AMB
comp=Z,2μm,7.5s
QIZ LR LR
comp=Z,6μm,38.4s,MS5.3
QIZ Qiongzhong 52.59 301 *e*P **P 12 13 44.1 +1.6**
comp=Z,384nm,1.8s,mb6.0
INCN Inchon 52.69 331 *e*P **P 12 13 43.7 +0.8**
INCN Inchon 52.69 331 P **P 12 13 43.4 +0.5**
SNR=13
INCN Inchon 52.69 331 P **P 12 13 43.4 +0.5**
SNR=13
MYKOM Kota Tinggi 52.71 278 ⇑P **P 12 13 43.4 -0.1**
ASAJ Asahikawa 53.07 348 P **P 12 13 45.6 +0.1**
comp=Z,52nm,0.7s,mb5.6,baz=218,slow=13,SNR=32
ASAJ LR LR 12 33 49.6
comp=Z,15μm,21.0s,MS6.0,baz=182,slow=33
NJ2 Nanjing 53.08 320 *e*P **P 12 13 46.4 +0.6**
NJ2 AP pP 12 13 51.1 +3.9
NJ2 XP sP 12 13 53.4 +5.6
NJ2 PP PP 12 15 46.2 +0.4
NJ2 S **S 12 21 13.0 -3.7**
NJ2 XS sS 12 21 23.0 +3.9
NJ2 AMB AMB
comp=Z,140nm,1.4s,mb5.7
NJ2 AMB AMB
comp=Z,6μm,5.6s
NJ2 LR LR
comp=N,14μm,20.9s,MS6.1
NJ2 LR LR
comp=E,10μm,16.0s,MS6.1
KGM Kluang 53.27 278 ⇑P **P 12 13 48.2 +0.5**
PPT Papeete 53.98 106 *e*P **P 12 13 53.1 +0.4**
comp=E,67nm,1.4s,mb5.4
PPT *e*S **S 12 21 23.3 -6.2**
comp=E,4μm,29.8s
PPT *e*LQ 12 27 21.2
comp=E,10μm,24.0s
PPT *e*LR LR 12 29 41.5
comp=E,6μm,22.2s,baz=270
PPT Papeete 53.98 106 P **P 12 13 51.2 -1.6**
comp=E,31nm,1.0s,mb5.2,baz=240,slow=7.2,SNR=4.5
PPT LR LR 12 31 46.4
comp=E,3μm,20.8s,MS5.4,baz=272,slow=30
PAE Paea 53.98 106 *e*P **P 12 13 52.7 -0.1**
comp=E,174nm,1.3s,mb5.8
PAE Paea 53.98 106 *e*P **P 12 13 52.7 -0.1**
PAE pmax pmax
comp=Z,174nm,1.3s,mb5.8
KTGM Kuala Trenggan 54.16 282 ⇑P **P 12 13 54.5 +0.3**
TVO Taravao 54.30 106 *e*P **P 12 13 55.5 +0.4**
comp=Z,272nm,1.4s,mb6.0
TVO Taravao 54.30 106 *e*P **P 12 13 55.5 +0.4**
TVO pmax pmax
comp=Z,273nm,1.4s,mb6.0
TBI Tubuai 54.60 113 *e*P **P 12 13 57.6 +0.4**
comp=Z,405nm,1.2s,mb6.3
TBI *e*S **S 12 21 30.8 -6.9**
comp=Z,4μm,30.8s
TBI *e*LQ 12 27 35.4
comp=Z,36μm,30.2s
TBI *e*LR LR 12 29 56.5
comp=Z,7μm,32.5s
TBI Tubuai 54.60 113 *e*P **P 12 13 57.6 +0.4**
comp=Z,405nm,1.2s,mb6.3
TBI *e*S **S 12 21 30.8 -6.9**
TBI *e*LQ 12 27 35.4
KHU Kahuku 54.88 60 *e*P **P 12 14 00.3 +1.0**
WHN Wuhan 55.11 316 ⇓P **P 12 14 01.0 +0.3**
WHN S **S 12 21 45.2 +0.9**
WHN AMB AMB
comp=Z,511nm,2.2s,mb6.2
WHN AMB AMB
comp=Z,6μm,6.0s
WHN LR LR
comp=Z,10μm,18.8s,MS5.9
VLA Vladivostok 55.18 339 ⇑*i*P **P 12 14 01.1 +0.1**
VLA Vladivostok 55.18 339 *c i*P **P 12 14 00.7 -0.3**
VLA *i* *PP pP 12 14 09.1 +6.7
VLA 12 15 04.0
VLA *e*S **S 12 21 44.8 0.0**
VLA pmax pmax
comp=Z,706nm,1.9s,mb6.4
VLA MLR MLR
comp=Z,3μm,16.0s,MS5.5
PMOR Pomariorio Ree 55.51 103 *e*P **P 12 14 04.3 +0.4**
comp=Z,558nm,1.6s,mb6.3
YSS Yuzh-Sakhalins 55.76 349 *e*P **P 12 14 05.4 +0.3**
comp=Z,82nm,0.8s,mb5.8
YSS Yuzh-Sakhalins 55.76 349 κ*e*P **P 12 14 05.0 -0.1**
YSS *e* 12 14 24.0
YSS *e*S **S 12 21 48.0 -4.4**
YSS *e*PS 12 21 59.0
YSS pmax pmax
comp=Z,130nm,1.3s,mb5.8
YSS pmax pmax
comp=N,1μm,6.0s
YSS pmax pmax
comp=Z,2μm,6.0s
YSS MLR MLR
comp=Z,7μm,18.0s,MS5.8
YSS MLR MLR
comp=N,7μm,19.0s,MS5.8
YSS MLR MLR
comp=E,4μm,17.0s,MS5.8
VAH Vaihoa 55.77 103 *e*P **P 12 14 05.9 +0.1**
comp=E,123nm,1.0s,mb5.9
DL2 Dalian 56.30 328 *i*P **P 12 14 07.9 -1.2**
DL2 S **S 12 22 01.8 +1.9**
DL2 AMB AMB
comp=Z,50nm,0.9s,mb5.5
DL2 AMB AMB
comp=Z,1μm,8.0s
DL2 LR LR
comp=N,2μm,24.5s,MS5.3
DL2 LR LR
comp=E,2μm,27.8s,MS5.3
DL2 LR LR
comp=Z,5μm,29.6s,MS5.4
KULM Kulim 56.56 282 *e*P **P 12 14 10.5 -1.0**
KULM Kulim 56.56 282 ⇓P **P 12 14 10.9 -0.6**
TIA Tai'an 56.92 323 *e*P **P 12 14 12.9 -0.7**
TIA S **S 12 22 09.0 +0.8**
TIA AMB AMB
comp=Z,203nm,1.2s,mb6.0
TIA LR LR
comp=N,2μm,11.0s,MS5.4
TIA LR LR
comp=E,368nm,10.0s,MS5.4
SNG Songkhla 57.03 284 P **P 12 14 15.0 +0.2**
MDJ Mudanjiang 57.31 338 P **P 12 14 16.3 +0.1**
MDJ AP pP 12 14 19.5 +1.9
MDJ XP sP 12 14 20.7 +2.6
MDJ PCP PcP 12 15 11.3 +1.0
MDJ PP PP 12 16 22.7 -0.9
MDJ SCP ScP 12 19 10.5 -0.6
MDJ S **S 12 22 13.9 +0.8**
MDJ SCS ScS 12 24 05.5 -0.9
MDJ AMB AMB
comp=Z,124nm,1.7s,mb5.7
MDJ AMB AMB
comp=Z,2μm,4.6s
MDJ LR LR
comp=E,3μm,21.6s,MS5.6
MDJ LR LR
comp=N,4μm,23.6s,MS5.6
MDJ LR LR
comp=Z,6μm,22.6s,MS5.6
MDJ Mudanjiang 57.31 338 *e*P **P 12 14 16.3 +0.1**
comp=Z,324nm,1.6s,mb6.1
SNY Shenyang 57.56 332 ⇓P **P 12 14 17.7 -0.3**
SNY AP pP 12 14 25.9 +6.5
SNY XP sP 12 14 31.4 +11
SNY AMB AMB
comp=Z,3μm,5.6s
SNY LR LR
comp=N,3μm,19.2s,MS5.6
SNY LR LR
comp=E,4μm,21.4s,MS5.6
SNY LR LR
comp=Z,12μm,38.2s
KKTK Khon Kaen 57.68 295 P **P 12 14 19.5 +0.2**
comp=Z,926nm,0.6s
PSI Prapat 57.73 278 P **P 12 14 18.1 -1.7**
comp=Z,15nm,1.0s,mb5.0,baz=158,slow=4.5,SNR=22
SKR Severo-Kuril's 58.27 0 *e*P **P 12 14 22.0 -0.8**
SKR *e* 12 14 29.6
SKR *e* 12 16 34.0
SKR *e*PPP 12 17 57.0
SKR *e*S **S 12 22 20.0 -5.4**
SKR *e*PS 12 22 46.0
SKR *e*SSS 12 28 30.0
SKR pmax pmax
comp=N,800nm,1.5s
SKR pmax pmax
comp=Z,800nm,1.5s,mb6.5
SKR smax
comp=E,3μm,10.0s
SKR MLR MLR
comp=Z,6μm,18.0s,MS5.8
SKR MLR MLR
comp=N,3μm,20.0s
CN2 Changchun 58.29 335 ⇓P **P 12 14 22.7 -0.4**
CN2 *e*XP sP 12 14 30.0 +5.0
CN2 *e*S **S 12 22 16.5 -9.4**
CN2 SS SS 12 26 17.0 -1.1
CN2 AMB AMB
comp=Z,200nm,5.0s
CN2 LR LR
comp=N,4μm,20.0s,MS5.8
CN2 LR LR
comp=E,6μm,20.0s,MS5.8
CN2 LR LR
comp=Z,6μm,21.0s,MS5.7
GYA Guiyang 58.61 307 ⇑*i*P **P 12 14 27.8 +2.1**
GYA AP pP 12 14 31.8 +4.7
GYA XP sP 12 14 35.2 +7.6
GYA PCP PcP 12 15 17.7 +1.8
GYA PP PP 12 16 40.0 +4.6
GYA SCP ScP 12 19 16.7 -0.6
GYA S **S 12 22 31.4 +0.7**
GYA SCS ScS 12 24 14.1 -2.7
GYA AMB AMB
comp=Z,110nm,1.0s,mb5.8
GYA AMB AMB
comp=Z,20μm,12.0s
GYA LR LR
comp=N,17μm,19.4s,MS6.3
GYA LR LR
comp=E,15μm,20.3s,MS6.3
GYA LR LR
comp=Z,18μm,20.8s,MS6.2
HABR Khabarovsk 58.97 344 ⇓*i*P **P 12 14 28.2 +0.5**
HABR *e* 12 16 38.9
HABR *e*S **S 12 22 37.5 +2.9**
HABR pmax pmax
comp=Z,430nm,1.6s,mb6.2
NNT Nongplab 59.31 290 P **P 12 14 31.8 +1.0**
DRV Dumont d'Urvil 59.75 187 P **P 12 14 36.0 +3.1**
DRV Dumont d'Urvil 59.75 187 PP PP 12 16 23.0 -22
DRV S **S 12 22 44.0 -0.2**
DRV R 12 32 00.0
BJT Baijiatuau 60.05 326 *e*P **P 12 14 36.0 +0.6**
comp=Z,257nm,1.8s,mb6.0
BJT Baijiatuau 60.05 326 *e*P **P 12 14 36.0 +0.6**
BJT pmax pmax
comp=Z,257nm,1.8s
BJI Beijing 60.07 326 P **P 12 14 35.5 0.0**
BJI AP pP 12 14 38.7 +1.8
BJI XP sP 12 14 40.0 +2.6
BJI PCP PcP 12 15 20.9 -0.5
BJI PP PP 12 16 48.0 -0.1
BJI S **S 12 22 49.0 -0.1**
BJI SCS ScS 12 24 26.1 -0.9
BJI SS SS 12 26 47.6 +1.4
BJI AMB AMB
comp=Z,3μm,4.9s
BJI LR LR
comp=N,4μm,21.7s
BJI LR LR
comp=E,4μm,26.8s
BJI LR LR
comp=Z,13μm,33.5s
BJI Beijing 60.07 326 P **P 12 14 35.5 0.0**
comp=Z,28nm,2.0s,mb5.0
BJI pP pP 12 14 38.7 +1.8
BJI sP sP 12 14 40.0 +2.6
BJI PcP PcP 12 15 20.9 -0.5
BJI PP PP 12 16 48.0 -0.1
BJI S **S 12 22 49.0 -0.1**
BJI ScS ScS 12 24 26.1 -0.9
BJI SS SS 12 26 47.6 +1.4
BJI LR LR
comp=Z,13μm,33.5s,MS5.8
BJI Beijing 60.07 326 P **P 12 14 35.5 0.0**
BJI 12 15 20.9
BJI 12 16 48.0
BJI S **S 12 22 49.0 -0.1**
BJI 12 24 26.1
BJI SS SS 12 26 47.6 +1.4
BJI pmax pmax
comp=Z,28nm,2.0s,mb5.0
BJI MLR MLR
comp=Z,13μm,33.5s,MS5.8
KLR Kul'dur 60.60 342 ⇑*i*P **P 12 14 35.0 -3.9**
KLR *e*S **S 12 22 49.5 -6.1**
KLR *e*SS SS 12 26 45.5 -8.7
KLR pmax pmax
comp=N,85nm,1.8s
KLR pmax pmax
comp=E,200nm,1.8s
KLR pmax pmax
comp=Z,650nm,1.8s,mb6.5
KLR pmax pmax
comp=N,4μm,9.0s
KLR pmax pmax
comp=E,1μm,9.0s
KLR pmax pmax
comp=Z,4μm,9.0s
PET Petropavlovsk 60.66 2 *i*P **P 12 14 40.4 +1.1**
PET Petropavlovsk 60.66 2 *d i*P **P 12 14 38.7 -0.6**
PET *e* 12 15 22.0
PET *e*S **S 12 22 54.0 -2.2**
PET *e*PS 12 23 12.1
PET *e*SS SS 12 26 57.1 +2.1
PET pmax pmax
comp=Z,3μm,6.2s
PET pmax pmax
comp=Z,57nm,0.6s,mb5.9
PET pmax pmax
comp=Z,1μm,12.1s
TIY Taiyuan 60.75 321 *i*P **P 12 14 39.7 -0.5**
TIY AP pP 12 14 49.5 +7.9
TIY S **S 12 23 03.8 +5.8**
TIY AMB AMB
comp=Z,2μm,4.5s
TIY LR LR
comp=N,3μm,17.7s,MS5.7
TIY LR LR
comp=E,2μm,13.4s,MS5.7
TIY LR LR
comp=Z,9μm,25.0s
XAN Xi'an 60.87 316 P **P 12 14 40.4 -0.7**
XAN AP pP 12 14 45.0 +2.5
XAN S **S 12 22 55.0 -4.7**
XAN AMB AMB
comp=Z,2μm,6.9s
XAN LR LR
comp=N,2μm,25.0s,MS5.4
XAN LR LR
comp=E,3μm,25.0s,MS5.4
XAN LR LR
comp=Z,6μm,26.2s,MS5.6
KMI Kunming 61.16 304 P **P 12 14 44.6 +1.3**
KMI AP pP 12 14 48.8 +4.1
KMI XP sP 12 14 51.0 +5.8
KMI S **S 12 23 02.3 -1.4**
KMI XS sS 12 23 11.3 +5.3
KMI SS SS 12 27 07.8 +3.9
KMI AMB AMB
comp=Z,101nm,1.5s,mb5.7
KMI AMB AMB
comp=Z,2μm,5.5s
KMI LR LR
comp=N,1μm,23.7s,MS5.4
KMI LR LR
comp=E,3μm,24.9s,MS5.4
KMI LR LR
comp=Z,5μm,23.7s,MS5.6
KMI Kunming 61.16 304 P **P 12 14 44.6 +1.3**
comp=Z,101nm,1.5s,mb5.7
KMI pP pP 12 14 48.8 +4.1
KMI sP sP 12 14 51.0 +5.8
KMI PP PP 12 17 06.5 +8.4
KMI PPP 12 18 28.6
KMI S **S 12 23 02.3 -1.4**
KMI sS sS 12 23 11.3 +5.3
KMI SS SS 12 27 07.8 +3.9
KMI SSS 12 29 44.7
KMI LR LR
comp=Z,5μm,23.7s,MS5.6
KMI Kunming 61.16 304 P **P 12 14 44.6 +1.3**
KMI *SP sP 12 14 51.0 +5.8
KMI 12 17 06.5
KMI PPP 12 18 28.6
KMI S **S 12 23 02.3 -1.4**
KMI *SS sS 12 23 11.3 +5.3
KMI SSS 12 29 44.7
KMI pmax pmax
comp=Z,101nm,1.5s,mb5.7
KMI MLR MLR
comp=Z,5μm,23.7s,MS5.6
BDT Bhumibol Dam 61.43 294 P **P 12 14 45.0 -0.2**
CHRT Chiangrai 61.63 297 ⇓P **P 12 14 47.5 +1.0**
comp=Z,566nm,1.2s,mb6.6
CHTO Chiang Mai 62.00 296 *e*P **P 12 14 49.4 +0.3**
CHTO Chiang Mai 62.00 296 P **P 12 14 49.8 +0.7**
SNR=46
CD2 Chengdu 62.98 310 ⇓*i*P **P 12 14 55.4 +0.1**
CD2 AP pP 12 15 01.7 +4.9
CD2 XP sP 12 15 05.5 +8.2
CD2 PP PP 12 17 17.7 +3.7
CD2 PCS PcS 12 19 37.3 +0.4
CD2 S **S 12 23 25.6 -0.8**
CD2 XS sS 12 23 33.2 +4.4
CD2 SCS ScS 12 24 46.1 -3.2
CD2 SS SS 12 27 33.3 +1.2
CD2 AMB AMB
comp=Z,150nm,1.2s,mb6.0
CD2 AMB AMB
comp=Z,4μm,5.0s
CD2 LR LR
comp=E,5μm,20.4s,MS5.8
CD2 LR LR
comp=N,4μm,19.2s,MS5.8
CD2 LR LR
comp=Z,6μm,19.8s,MS5.8
HHC Hu-ho-hao-te 63.25 324 ⇓*i*P **P 12 14 56.8 -0.1**
HHC AP pP 12 15 01.5 +3.1
HHC XP sP 12 15 03.8 +4.9
HHC PP PP 12 17 18.3 +2.1
HHC SCP ScP 12 19 31.1 -6.5
HHC PCS PcS 12 19 34.9 -2.8
HHC S **S 12 23 27.1 -2.3**
HHC XS sS 12 23 37.6 +5.8
HHC SCS ScS 12 24 47.3 -3.6
HHC SS SS 12 27 35.5 -0.5
HHC LR LR
comp=N,4μm,21.6s,MS5.7
HHC LR LR
comp=E,3μm,24.0s,MS5.7
HHC LR LR
comp=Z,7μm,23.1s,MS5.8
TAOE Nuku Hiva Isla 63.29 96 *e*LQ 12 31 01.0
comp=Z,105μm,25.4s
TAOE *e*LR LR 12 33 45.2
comp=Z,102μm,28.0s
TAOE Nuku Hiva Isla 63.29 96 *e*P **P 12 14 58.7 +0.9**
comp=Z,10μm,1.4s
TAOE *e*LQ 12 31 01.0
BTO Baotou 64.01 323 *e*P **P 12 15 02.7 +0.7**
HIA Hailar 65.02 335 *i*P **P 12 15 08.2 -0.2**
HIA *e*P pP 12 15 08.4 -1.4
LZH Lanzhou 65.48 315 ⇓P **P 12 15 12.5 +0.8**
LZH AP pP 12 15 15.7 +2.6
LZH XP sP 12 15 17.5 +3.8
LZH PP PP 12 17 39.0 +3.1
LZH S *e*S S 12 23 56.0 -1.3
LZH XS sS 12 24 02.0 +2.4
LZH SS SS 12 28 13.0 +1.9
LZH AMB AMB
comp=Z,184nm,1.7s,mb5.8
LZH AMB AMB
comp=Z,630nm,7.4s
LZH LR LR
comp=N,2μm,17.3s
LZH LR LR
comp=Z,5μm,20.0s,MS5.7
LZH Lanzhou 65.48 315 ⇓P **P 12 15 12.5 +0.8**
comp=Z,184nm,1.7s,mb5.8
LZH pP pP 12 15 15.7 +2.6
LZH sP sP 12 15 17.5 +3.8

LZH PP PP 12 17 39.0 +3.1
LZH eS S 12 23 56.0 -1.3
LZH sS sS 12 24 02.0 +2.4
LZH SS SS 12 28 13.0 +1.9
LZH LR LR
comp=Z,5µm,20.0s,MS5.7
LZH Lanzhou 65.48 315 ⇓P **P 12 15 12.5 +0.8**
LZH *SP sP 12 15 17.5 +3.8
LZH 12 17 39.0
LZH eS S 12 23 56.0 -1.3
LZH SS SS 12 28 13.0 +1.9
LZH pmax pmax
comp=Z,184nm,1.7s,mb5.8
LZH MLR MLR
comp=Z,5µm,20.0s,MS5.7
MA2 Magadan 67.30 357 *eP* **P 12 15 22.8 0.0**
MA2 Magadan 67.30 357 *d iP* **P 12 15 22.5 -0.3**
MA2 eS S 12 24 16.0 -2.5
MA2 e 12 25 07.6
MA2 eSS SS 12 28 39.3 +0.9
MA2 eSSS 12 31 36.8
MA2 pmax pmax
comp=Z,100nm,0.9s,mb5.8
MA2 MLR MLR
comp=Z,9µm,17.2s,MS6.0
RKT Rikitea 67.87 112 *eS* S 12 24 22.1 -4.7
comp=Z,1µm,28.8s
RKT eLQ 12 33 02.5
comp=Z,8µm,37.5s
RKT eLR LR 12 36 06.1
comp=Z,8µm,22.8s,baz=274
CLNS Chul'man 69.26 342 *eP* **P 12 15 36.3 +1.1**
CLNS e 12 15 55.4
CLNS e 12 18 04.7
CLNS ePPP 12 19 45.0
CLNS eS S 12 24 44.6 +2.7
CLNS eSS SS 12 29 09.4 +0.6
CLNS pmax pmax
comp=Z,171nm,0.9s,mb6.0
CLNS pmax pmax
comp=N,174nm,1.4s
CLNS pmax pmax
comp=E,66nm,1.0s
CLNS pmax pmax
comp=Z,66nm,0.8s,mb5.6
CLNS pmax pmax
comp=N,39nm,1.0s
CLNS pmax pmax
comp=E,23nm,1.1s
CLNS smax
comp=N,309nm,16.6s
CLNS smax
comp=Z,687nm,11.9s
CLNS smax
comp=E,916nm,17.6s
CLNS MLR MLR
comp=Z,2µm,16.0s,MS5.5
CLNS MLR MLR
comp=N,2µm,15.0s,MS5.7
CLNS MLR MLR
comp=E,2µm,15.0s,MS5.7
CIT Chita 69.72 334 *eP* **P 12 15 38.5 +0.4**
CIT *e* 12 15 56.6
CIT pmax pmax
comp=Z,639nm,2.7s,mb6.1
VNDA Vanda 69.73 179 P **P 12 15 37.2 -0.7**
VNDA *eP* pP 12 15 37.4 -2.0
VNDA LR LR 12 40 23.5
VNDA Vanda 69.73 179 P **P 12 15 37.2 -0.7**
comp=Z,4.5nm,1.1s,baz=343,slow=7.3,SNR=11
VNDA LR LR 12 40 23.5
comp=Z,12µm,21.7s,MS6.1,baz=16,slow=31
GTA Gaotai 69.91 317 ⇓P **P 12 15 40.1 +0.5**
GTA AP pP 12 15 44.9 +3.9
GTA XP sP 12 15 47.1 +5.6
GTA PP PP 12 18 18.1 +3.8
GTA S S 12 24 50.5 +0.3
GTA XS sS 12 24 58.8 +6.2
GTA SKS 12 25 36.9
GTA AMB AMB
comp=Z,55nm,1.7s,mb5.2
GTA AMB AMB
comp=Z,3µm,6.5s
GTA LR LR
comp=N,3µm,22.4s,MS5.6
GTA LR LR
comp=E,3µm,24.7s,MS5.6
GTA LR LR
comp=Z,5µm,24.3s,MS5.7
ULN Ulaanbaatar 70.14 327 *i* P **P 12 15 41.6 +0.8**
ULN Ulaanbaatar 70.14 327 *d iP* **P 12 15 41.5 +0.7**
ULN Ulaanbaatar 70.14 327 P **P 12 15 42.0 +1.2**
SNR=53
ULN Ulaanbaatar 70.14 327 P **P 12 15 42.0 +1.2**
SNR=53
SBA Scott Base 70.23 178 *eP* **P 12 15 41.2 +0.3**
comp=Z,272nm,1.9s,mb5.9
SBA Scott Base 70.23 178 *eP* **P 12 15 41.3 +0.4**
SBA pmax pmax
comp=Z,270nm,1.9s,mb5.8
SONM Songino Array 70.48 327 P **P 12 15 42.6 -0.3**
SONM S S 12 24 55.6 -1.0
SONM Songino Array 70.48 327 P **P 12 15 42.6 -0.2**
comp=Z,23nm,0.7s,mb5.2,baz=142,slow=5.4,SNR=46
SONM S S 12 24 55.6 -1.0
comp=Z,0.2nm,0.6s,baz=175,slow=36,SNR=2.4
SONM PKPPKP 12 43 39.6
comp=Z,1.6nm,1.1s,baz=267,slow=3.0,SNR=8.1
SEY Seymchan 70.60 358 ⇓*eP* **P 12 15 42.0 -1.3**
MIR Mirnyy 72.23 202 ⇓*iP* **P 12 16 00.0 +6.8**
MIR *i* 12 16 08.0
MIR *i* S S 12 25 14.0 -2.4
MIR *e*PS 12 25 54.0
MIR pmax pmax
comp=Z,200nm,1.0s,mb6.0
LSA Lhasa 72.42 304 P **P 12 15 56.1 +1.1**
LSA S S 12 25 15.4 -4.4
LSA AMB AMB
comp=Z,2µm,6.0s
LSA LR LR
comp=N,860nm,22.0s,MS5.3
LSA LR LR
comp=E,2µm,22.0s,MS5.3
LSA LR LR
comp=Z,3µm,24.0s,MS5.5
LSA Lhasa 72.42 304 *eP* **P 12 15 56.2 +1.2**
comp=Z,142nm,1.3s,mb5.7
LSA Lhasa 72.42 304 *eP* **P 12 15 56.2 +1.2**
LSA pmax pmax
comp=Z,142nm,1.3s,mb5.7
YAK Yakutsk 72.54 347 *eP* **P 12 15 55.1 +0.1**
YAK Yakutsk 72.54 347 *d iP* **P 12 15 55.0 0.0**
YAK *i* *PP pP 12 16 05.0 +8.5
YAK *i* 12 16 10.6
YAK *i* S S 12 25 21.4 +1.5
YAK *i* SS SS 12 29 58.9 -0.1
YAK pmax pmax
comp=Z,424nm,1.5s,mb6.2
YAK pmax pmax
comp=N,173nm,1.4s
YAK pmax pmax
comp=E,96nm,1.4s
YAK smax
comp=N,2µm,4.8s
YAK smax
comp=E,2µm,4.4s
YAK smax
comp=Z,763nm,4.4s
ZAK Zakamensk 73.63 328 *eP* **P 12 16 01.0 -0.7**
ZAK pmax pmax
comp=Z,37nm,2.0s,mb5.0
BOD Bodaibo 73.69 338 *eP* **P 12 16 00.9 -1.0**
BOD pmax pmax
comp=Z,104nm,1.7s,mb5.5
TLY Talaya 74.19 329 *eP* **P 12 16 05.3 +0.3**
TLY Talaya 74.19 329 *d iP* **P 12 16 05.0 0.0**
TLY *e*S S 12 25 39.7 +0.7
TLY *e*SS SS 12 30 28.5 +3.9
TLY *e*SSS 12 33 29.4
TLY pmax pmax
comp=Z,174nm,2.3s,mb5.6
TLY Talaya 74.19 329 P **P 12 16 05.5 +0.5**
SNR=29
TLY Talaya 74.19 329 P **P 12 16 05.5 +0.5**
SNR=29

IRK Irkutsk 74.21 330 ⇓*iP* **P 12 16 04.1 -1.0**
IRK *e* 12 16 23.8
IRK *e* 12 25 40.8
IRK pmax pmax
comp=Z,317nm,2.7s,mb5.8
BOK Bokaro 75.11 297 *eP* **P 12 16 11.0 +0.1**
BOK AMb AMB 12 16 13.9
comp=Z,155nm,1.6s,mb5.7
BOK Bokaro 75.11 297 *ex* **P 12 16 10.5 -0.4**
GAMB Gambell 75.51 14 *eP* **P 12 16 11.9 -0.4**
MOY Mondy 75.55 328 *eP* **P 12 16 12.6 -0.2**
MOY pmax pmax
comp=Z,486nm,3.5s
JIRN Jiri 75.92 301 *eP* **P 12 16 16.0 +0.5**
comp=Z,543nm,1.7s,mb6.2
VIS Vishakhapatnam 75.93 290 *eP* **P 12 16 15.3 -0.4**
VIS AMb AMB 12 16 18.4
comp=Z,124nm,1.3s,mb5.7
BILL Bilibino 76.04 4 *i P* **P 12 16 15.0 -0.3**
BILL Bilibino 76.04 4 ⇓*eP* **P 12 16 15.0 -0.3**
BILL *i* S S 12 26 00.1 +1.1
BILL *e*SS SS 12 30 45.6 -6.5
BILL pmax pmax
comp=Z,287nm,1.2s,mb6.1
BILL MLR MLR
comp=Z,5µm,19.0s,MS5.9
PALK Pallekele 76.39 279 *eP* **P 12 16 18.9 +0.5**
comp=Z,111nm,1.4s,mb5.6
PALK Pallekele 76.39 279 P **P 12 16 19.5 +1.0**
SNR=8.0
KKN Kakani 76.72 301 *eP* **P 12 16 20.2 +0.1**
comp=Z,715nm,1.6s,mb6.3
GKN Gorkha 77.33 301 *eP* **P 12 16 23.2 -0.3**
comp=Z,1µm,1.6s,mb6.5
KDAK Kodiak Island 77.55 25 *eP* **P 12 16 28.9 +4.9**
KDAK *e*pP pP 12 16 39.5 +14
TNA Tin City 77.91 15 *eP* **P 12 16 25.7 -0.2**
BLSP Bilaspur 78.04 295 *eP* **P 12 16 27.1 -0.5**
BLSP AMb AMB 12 16 29.5
comp=Z,208nm,1.2s,mb5.9
KOLN Koldanda 78.15 300 *eP* **P 12 16 27.7 -0.4**
comp=Z,794nm,1.6s,mb6.4
SVW2 Sparrevohn 78.45 22 *eP* **P 12 16 28.6 -0.4**
TTA Tatalina 79.51 20 *eP* **P 12 16 35.1 +0.4**
TTA Tatalina 79.51 20 *eP* **P 12 16 34.6 -0.1**
TTA 12 16 47.1
WMQ Urumqi 79.99 317 ⇓*iP* **P 12 16 38.0 +0.2**
WMQ AP pP 12 16 43.0 +3.7
WMQ PP PP 12 19 39.6 -0.1
WMQ S S 12 26 40.0 -2.5
WMQ SS SS 12 31 51.0 -1.6
WMQ AMB AMB
comp=Z,38nm,1.2s,mb5.2
WMQ AMB AMB
comp=Z,3µm,4.8s
WMQ LR LR
comp=N,4µm,24.6s,MS5.9
WMQ LR LR
comp=E,5µm,26.0s,MS5.9
WMQ LR LR
comp=Z,5µm,27.6s,MS5.7
SLKM Skilak Lake 80.16 24 *eP* **P 12 16 38.2 -0.1**
SLKM Skilak Lake 80.16 24 P **P 12 16 38.0 -0.3**
JBP Jabalpur 80.20 295 *eP* **P 12 16 39.2 -0.2**
JBP AMb AMB 12 16 42.7
comp=Z,202nm,1.0s,mb6.0
TRD Trivandrum 80.25 280 *eP* **P 12 16 39.0 -0.8**
TRD AMb AMB 12 16 43.0
comp=Z,163nm,1.6s,mb5.7
HYB Hyderabad 80.32 289 *eP* **P 12 16 39.0 -1.1**
comp=Z,136nm,1.2s,mb5.8
HYB *e* 12 16 44.0
HYB *e*S S 12 26 44.0 -3.0
HYB Hyderabad 80.32 289 *eP* **P 12 16 39.0 -1.1**
HYB *e* 12 16 44.0
HYB *e*S S 12 26 44.0 -3.0
HYB pmax pmax
comp=Z,136nm,1.2s,mb5.8
HYB Hyderabad 80.32 289 *i P* **P 12 16 39.5 -0.6**
comp=Z,136nm,1.2s,mb5.8
HYB *es*P sP 12 16 44.0 +1.9
HYB *e*S S 12 26 46.0 -1.0
PMR Palmer 81.22 23 *eP* **P 12 16 42.9 -1.1**
comp=Z,96nm,1.4s,mb5.5
PMR Palmer 81.22 23 *eP* **P 12 16 42.8 -1.2**
TIXI Tiksi 81.29 352 *eP* **P 12 16 43.4 -0.8**
comp=Z,330nm,2.0s,mb5.9
TIXI Tiksi 81.29 352 *eP* **P 12 16 42.3 -1.9**
TIXI *e*S S 12 26 52.3 -2.8
TIXI *e*SS SS 12 32 08.3 -2.5
TIXI pmax pmax
comp=Z,133nm,1.7s,mb5.6
TIXI pmax pmax
comp=N,48nm,1.6s
TIXI pmax pmax
comp=E,59nm,1.9s
TIXI pmax pmax
comp=Z,1µm,9.3s
SML Sawmill 81.65 23 *eP* **P 12 16 45.9 -0.4**
EYAK Cordova Ski Ar 82.02 25 *eP* **P 12 16 48.2 0.0**
comp=Z,102nm,1.5s,mb5.5
QSPA South Pole Qui 82.16 180 P **P 12 16 48.2 -0.5**
comp=Z,44nm,0.9s,mb5.4,baz=359,slow=1.9,SNR=60
QSPA PKKPbc PKKPbc 12 35 17.3 -3.3
comp=Z,3.7nm,1.0s,baz=215,slow=4.6,SNR=5.3
IMA2 Indian Mountai 82.32 19 *eP* **P 12 16 49.4 -0.3**
MCK McKinley 82.52 22 *eP* **P 12 16 49.5 -1.3**
comp=Z,122nm,1.0s,mb5.9
MCK McKinley 82.52 22 *eP* **P 12 16 49.5 -1.3**
MCK pmax pmax
comp=Z,122nm,1.0s,mb5.9
BHPL Bhopal 82.52 295 *eP* **P 12 16 51.2 -0.5**
BHPL AMb AMB 12 16 55.1
comp=Z,183nm,1.5s,mb5.9
COLA College 83.55 21 ⇑*iP* **P 12 16 53.9 -2.2**
COLA College 83.55 21 P **P 12 16 54.5 -1.6**
COLA pmax pmax
comp=Z,62nm,0.9s,mb5.7
MAW Mawson 83.95 203 *eP* **P 12 16 57.5 -0.7**
comp=Z,27nm,1.2s,mb5.2
MAW Mawson 83.95 203 *eP* **P 12 16 57.5 -0.7**
MAW pmax pmax
comp=Z,27nm,1.2s
MAW Mawson 83.95 203 P **P 12 16 55.7 -2.5**
comp=Z,24nm,1.1s,mb5.2,baz=88,slow=7.4,SNR=14
MENT Mentasta 84.08 24 *eP* **P 12 16 57.8 -1.0**
MK31 Makanchi Array 84.57 319 *i P* **P 12 17 01.6 -0.1**
MKAR Makanchi Array 84.57 319 *i P* **P 12 17 01.5 -0.2**
MKAR pmax pmax
comp=Z,80nm,0.8s
MKAR Makanchi Array 84.57 319 P **P 12 17 00.7 -1.0**
comp=Z,80nm,0.8s,mb5.9,baz=99,slow=6.4,SNR=109
MKAR PKKPbc PKKPbc 12 35 11.6 -2.8
comp=Z,0.6nm,0.7s,baz=326,slow=1.7,SNR=5.3
POO Poona 84.92 289 *eP* **P 12 17 03.9 -0.3**
POO AMb AMB 12 17 07.5
comp=Z,249nm,1.7s,mb6.1
SIT Sitka 85.29 31 *eP* **P 12 17 05.4 +0.3**
comp=Z,458nm,2.9s,mb6.1
SIT Sitka 85.29 31 *eP* **P 12 17 05.5 +0.4**
ZALV Zalesovo Beam 85.33 326 P **P 12 17 04.1 -1.3**
ZALV PKKPbc PKKPbc 12 35 08.7 -4.1
ZALV Zalesovo Beam 85.33 326 P **P 12 17 04.1 -1.3**
comp=Z,35nm,0.7s,mb5.6,baz=112,slow=5.6,SNR=60
ZALV PKKPbc PKKPbc 12 35 08.7 -4.1
comp=Z,0.8nm,0.4s,baz=323,slow=2.2,SNR=3.7
ZAL Zalesovo 85.33 326 P **P 12 17 04.1 -1.3**
AJM Ajmer 85.63 297 *eP* **P 12 17 07.0 -0.5**
CRAG Craig 85.87 33 *eP* **P 12 17 07.1 -0.9**
comp=Z,274nm,2.4s,mb6.1
EGAK Eagle 85.96 23 *eP* **P 12 17 08.1 -0.2**
SKAG Skagway 86.20 29 *eP* **P 12 17 09.4 -0.2**
comp=Z,414nm,2.6s,mb6.2
DAWY Dawson 86.32 23 *eP* **P 12 17 10.3 +0.3**
NVS Novosibirsk 86.50 326 ⇓*iP* **P 12 17 09.6 -1.5**
NVS *e*S S 12 27 43.3 -4.7
NVS pmax pmax
comp=N,98nm,3.0s
NVS pmax pmax
comp=Z,402nm,3.0s
NVS pmax pmax
comp=E,28nm,3.2s
NVS smax
comp=N,84nm,3.3s
NVS smax
comp=E,37nm,4.0s
WRAK Wrangell Islan 86.60 32 *eP* **P 12 17 11.5 -0.1**
comp=E,222nm,2.0s,mb6.0
KSH Kashi 87.17 310 P **P 12 17 16.5 +1.7**
KSH AP pP 12 17 20.8 +4.5
KSH XP sP 12 17 23.1 +6.3
KSH PP PP 12 20 43.4 +4.7
KSH S S 12 27 54.7 -0.6
KSH XS sS 12 28 02.4 +4.7
KSH SS SS 12 33 42.3 +3.1
KSH LR LR
comp=N,578nm,6.8s
KSH LR LR
comp=E,1µm,8.8s
KSH LR LR
comp=Z,5µm,32.2s,MS5.8
AAA Alma-Ata 87.30 314 *i* P **P 12 17 15.9 +0.6**
AAA Alma-Ata 87.30 314 *eP* **P 12 17 16.0 +0.7**
AAA *e*S S 12 27 46.0 -10
AAA pmax pmax
comp=Z,4µm,5.5s
AAA smax
comp=E,3µm,7.0s
AAA MLR MLR
comp=Z,3µm,21.5s,MS5.7
ULHL Ulahol 87.57 313 P **P 12 17 17.2 +0.6**
SNR=16
JCC Jacoby Creek 87.67 48 ⇓P **P 12 17 17.6 +0.4**
baz=88
O01C Eel River Cons 87.68 49 ⇓P **P 12 17 17.6 +0.4**
baz=88
K01A Sixes 87.78 46 ⇓P **P 12 17 17.2 -0.4**
baz=88
FARB Farallon Islan 87.81 52 ⇓P **P 12 17 18.0 +0.1**
baz=88
P01C Double 8 Ranch 87.91 50 ⇑P **P 12 17 18.3 0.0**
baz=88
KURK Kurchatov 87.99 322 *eP* **P 12 17 17.2 -1.3**
KURK Kurchatov 87.99 322 *d iP* **P 12 17 16.7 -1.8**
KURK pmax pmax
comp=Z,81nm,2.7s,mb5.5
KURK Kurchatov 87.99 322 P **P 12 17 17.6 -0.8**
SNR=19
KURK Kurchatov 87.99 322 P **P 12 17 17.6 -0.8**
SNR=19
MCCM Marconi Confer 87.99 51 ⇑P **P 12 17 18.5 -0.3**
baz=88
HOPS Hopland 88.01 50 ⇑P **P 12 17 19.0 +0.1**
baz=88
TKM2 Tokmak 2 88.18 314 *eP* **P 12 17 19.4 -0.2**
comp=Z,11nm,0.8s,mb5.1
TKM2 Tokmak 2 88.18 314 *eP* **P 12 17 19.4 -0.2**
TKM2 pmax pmax
comp=Z,11nm,0.8s,mb5.1
TKM2 Tokmak 2 88.18 314 P **P 12 17 19.5 0.0**
SNR=10
N02C Big Bar 88.21 49 ⇓P **P 12 17 19.9 +0.1**
baz=88
KZA Kyzart 88.25 313 P **P 12 17 21.1 +1.2**
SNR=51
BNLO Ben Lomond (Sa 88.34 52 ⇓P **P 12 17 20.1 -0.4**
baz=88
JRSC Jasper Ridge 88.35 52 ⇓P **P 12 17 20.6 +0.2**
baz=88
CVS Carmenet Viney 88.36 51 ⇑P **P 12 17 20.3 -0.2**
baz=88
GASB Alder Springs 88.42 50 ⇑P **P 12 17 21.2 +0.5**
baz=88
DLBC Dease Lake 88.44 30 *eP* **P 12 17 21.2 +0.8**
O02C Red Bluff 88.47 49 ⇓P **P 12 17 21.7 +0.7**
baz=89
MNRC McLaughlin Nat 88.47 51 ⇓P **P 12 17 21.4 +0.3**
baz=89
K02A Glendale 88.48 47 ⇑P **P 12 17 20.6 -0.3**
baz=89
I02A Mapleton 88.49 45 ⇓P **P 12 17 20.9 -0.2**
baz=89
J02A Umpqua 88.54 46 ⇓P **P 12 17 20.2 -1.1**
baz=89
M02C Callahan 88.66 48 ⇓P **P 12 17 21.9 0.0**
baz=89
HAST Hastings Reser 88.70 53 ⇓P **P 12 17 22.0 -0.1**
baz=89
WDC Whiskeytown Da 88.73 49 *eP* **P 12 17 22.8 +0.6**
comp=Z,98nm,2.1s,mb5.8
WDC Whiskeytown Da 88.73 49 *eP* **P 12 17 22.8 +0.6**
WDC pmax pmax
comp=Z,98nm,2.1s,mb5.8
WDC Whiskeytown Da 88.73 49 ⇓P **P 12 17 21.9 -0.3**
baz=89
BDM Black Diamond 88.74 52 ⇑P **P 12 17 22.1 -0.2**
baz=89
WENL Wente Brothers 88.76 52 ⇑P **P 12 17 22.5 0.0**
baz=89
CHMS Chumysh 88.80 314 P **P 12 17 22.3 -0.2**
SNR=5.4
UCH Uchtor 88.82 313 *eP* **P 12 17 23.4 +0.8**
comp=Z,146nm,1.7s,mb6.0
UCH Uchtor 88.82 313 P **P 12 17 23.1 +0.5**
SNR=38
YBH Yreka Blue Hor 88.83 48 *eP* **P 12 17 23.5 +0.8**
comp=Z,106nm,2.5s,mb5.7
YBH Yreka Blue Hor 88.83 48 *eP* **P 12 17 23.5 +0.8**
YBH pmax pmax
comp=Z,100nm,2.5s
YBH Yreka Blue Hor 88.83 48 ⇓P **P 12 17 22.6 -0.1**
baz=89
C03A Quillayute Air 88.85 41 ⇓P **P 12 17 22.4 -0.2**
baz=89
FRU Bishkek 88.87 313 ⇑*iP* **P 12 17 22.0 -0.8**
FRU pmax pmax
comp=Z,180nm,2.0s,mb6.0
I03A Eugene 88.88 45 ⇓P **P 12 17 22.4 -0.4**
baz=89
V03C Hunter Liggett 88.88 54 ⇓P **P 12 17 23.4 +0.3**
baz=89
AAK Ala-Archa 88.92 313 P **P 12 17 23.3 +0.3**
SNR=13
J03A Ideyld Park 88.98 46 ⇓P **P 12 17 22.9 -0.4**
baz=89
O03C Acorn Hollow, 89.00 50 ⇑P **P 12 17 23.0 -0.5**
baz=89
H03A Soap Creek Ran 89.01 45 ⇓P **P 12 17 22.9 -0.5**
baz=89
PACP Pacheco Peak 89.02 53 ⇑P **P 12 17 23.2 -0.5**
baz=89
USP Ospenovka 89.04 314 P **P 12 17 23.2 -0.4**
SNR=12
S04C Ingram Canyon, 89.08 52 ⇓P **P 12 17 23.9 0.0**
baz=89
F03A Seaside 89.09 44 ⇓P **P 12 17 24.0 +0.2**
baz=89
G03A Yamhill 89.15 44 ⇑P **P 12 17 23.3 -0.8**
baz=89
M03C McCloud 89.18 48 ⇑P **P 12 17 24.2 -0.1**
baz=89
NLWA Neilton Lookou 89.19 42 ⇓P **P 12 17 23.7 -0.5**
baz=89
D03A Wishkah Elem. 89.20 42 ⇑P **P 12 17 24.0 -0.2**
baz=89
E03A Lebam 89.22 43 ⇑P **P 12 17 23.7 -0.6**
baz=89
Q04C Lincoln 89.28 51 ⇓P **P 12 17 24.5 -0.3**
baz=89
OHCM Honcut 89.29 50 *eP* **P 12 17 25.2 +0.4**
U04C Hernandez Rese 89.30 53 ⇓P **P 12 17 26.0 +1.0**
baz=89
ORV Oroville 89.32 50 ⇓P **P 12 17 24.8 -0.2**
baz=89
AML Almayashu 89.40 313 *eP* **P 12 17 25.8 +0.4**
comp=Z,159nm,1.5s,mb6.1
AML Almayashu 89.40 313 P **P 12 17 26.1 +0.8**
SNR=36
PKD Parkfield 89.42 54 P **P 12 17 26.3 +0.7**
baz=90,SNR=7.5
EKS2 Erkin-Say 89.44 313 *eP* **P 12 17 25.6 +0.1**
comp=Z,86nm,1.7s,mb5.8
EKS2 Erkin-Say 89.44 313 P **P 12 17 25.6 +0.1**
SNR=17
I04A Tendick Farm, 89.45 46 ⇓P **P 12 17 25.0 -0.6**
baz=90
M04C Macdoel 89.48 48 ⇑P **P 12 17 25.8 +0.1**
baz=90
T05C Eagle Field, D 89.48 53 ⇑P **P 12 17 25.8 0.0**
baz=90
R04C Big Horse Ranc 89.52 51 ⇓P **P 12 17 25.6 -0.4**
baz=90

BHJ	Bhuj	89.56	293	eP		P	12 17 26.3	-0.2
J04A	Umpqua Nationa	89.56	46	⇓P		P	12 17 26.2	+0.2
	baz=90							
B04A	Port Angeles	89.57	41	⇑P		P	12 17 25.5	-0.5
	baz=90							
HATC	Hat Creek Radi	89.58	49	⇑P		P	12 17 26.2	0.0
	baz=90							
G04A	Mulino	89.69	44	⇓P		P	12 17 25.8	-0.8
	baz=90							
K04A	Chilquin	89.72	47	⇑P		P	12 17 26.2	-0.6
	baz=90							
SMMC	Simmler	89.75	54	⇓P		P	12 17 27.7	+0.6
	baz=90,SNR=6.7							
LAVA	Lava Cap Winer	89.76	51	⇑P		P	12 17 26.7	-0.3
	baz=90							
O04C	Chester	89.77	49	⇓P		P	12 17 27.3	+0.2
	baz=90,SNR=8.1							
H04A	Detroit Lake	89.79	45	⇓P		P	12 17 25.8	-1.3
	baz=90							
SNCC	San Nicolas Is	89.79	57	eP		P	12 17 29.1	+1.7
SNCC	San Nicolas Is	89.79	57	⇓P		P	12 17 27.9	+0.5
	baz=90							
E04A	Onalaska	89.80	43	⇓P		P	12 17 27.8	+0.7
	baz=90							
U05C	Westside ANR,	89.82	53	⇓P		P	12 17 27.5	+0.1
	baz=90							
PKM	Peak Mountain	89.82	55	⇓P		P	12 17 27.7	+0.2
	baz=90,SNR=9.9							
BSC	Santa Cruz Isl	89.83	56	⇑P		P	12 17 27.3	-0.2
	baz=90							
S05C	Merced	89.83	52	⇑P		P	12 17 27.6	+0.1
	baz=90							
SBC	Santa Barbara	89.83	55	⇓P		P	12 17 28.0	+0.4
	baz=90							
O05C	Quincy	89.83	50	⇓P		P	12 17 27.2	-0.2
	baz=90							
D04A	Dobbs Creek Ra	89.84	42	⇑P		P	12 17 27.9	+0.6
	baz=90							
C04A	Brinnon	89.85	42	⇑P		P	12 17 27.2	-0.1
	baz=90							
F04A	Amboy	89.87	44	⇑P		P	12 17 26.8	-0.7
	baz=90							
CMB	Columbia Colle	89.90	52	eP		P	12 17 27.4	-0.4
	comp=Z,45nm,1.8s,mb5.5							
CMB	Columbia Colle	89.90	52	eP		P	12 17 27.4	-0.4
CMB				pmax		pmax		
	comp=Z,45nm,1.8s,mb5.5							
CMB	Columbia Colle	89.90	52	P		P	12 17 27.9	+0.1
	baz=90,SNR=8.2							
M05C	Lookout	89.92	48	⇓P		P	12 17 27.9	+0.1
	baz=90							
V05C	Boulder Hill,	89.92	54	⇓P		P	12 17 28.5	+0.6
	baz=90							
GNW	Green Mountain	89.92	42	eP		P	12 17 27.6	0.0
P05C	Yuba Gap, Truc	89.95	50	P		P	12 17 28.7	+0.7
	baz=90,SNR=11							
ELFS	Eagle Lake Fie	90.09	49	⇑P		P	12 17 29.2	+0.6
	baz=90							
J05A	Fort Rock	90.20	46	P		P	12 17 29.1	+0.1
	baz=90,SNR=10							
INK	Inuvik	90.20	21	eP		P	12 17 27.4	-1.1
INK	Inuvik	90.20	21	PKKPbc		PKKPbc	12 34 57.1	-4.2
	comp=Z,1.9nm,0.9s,baz=326,slow=3.1,SNR=5.5							
A04A	Legoe Bay, Lum	90.23	41	⇓P		P	12 17 29.1	0.0
	baz=90							
BEKR	Beckwourth	90.24	50	P		P	12 17 29.6	+0.3
	baz=90,SNR=18							
R05C	Kirkwood Meado	90.26	51	⇑P		P	12 17 29.6	+0.1
	baz=90,SNR=7.5							
T06C	Millerton Lake	90.26	53	⇓P		P	12 17 29.7	+0.2
	baz=90,SNR=8.9							
L05A	Lakeview	90.27	48	⇑P		P	12 17 29.5	+0.1
	baz=90,SNR=5.3							
BLG	Laguna Peak	90.31	56	⇑P		P	12 17 29.8	0.0
	baz=90							
I05A	Bend	90.34	46	⇑P		P	12 17 28.7	-1.0
	baz=90							
K05A	Summer Lake	90.34	47	⇓P		P	12 17 29.8	+0.1
	baz=90,SNR=9.1							
M06C	Likely Place G	90.38	49	P		P	12 17 30.4	+0.5
	baz=90,SNR=7.9							
D05A	Enumclaw	90.40	43	⇓P		P	12 17 29.5	-0.4
	baz=90							
E05A	Randle	90.44	43	⇓P		P	12 17 29.7	-0.4
	baz=90							
H05A	Madras	90.45	45	⇑P		P	12 17 29.4	-0.8
	baz=91							
G05A	Wamic	90.50	45	⇑P		P	12 17 29.6	-0.8
	baz=91							
F05A	White Salmon	90.52	44	⇓P		P	12 17 29.9	-0.6
	baz=91							
B05A	Bryant	90.54	41	⇑P		P	12 17 29.6	-0.9
	baz=91							
P06A	Stead Airport,	90.56	50	⇓P		P	12 17 31.2	+0.4
	baz=91							
SCI	San Clemente I	90.56	57	⇓P		P	12 17 31.2	+0.2
	baz=91							
VES	Vestal, Richgr	90.57	54	⇓P		P	12 17 30.9	-0.1
	baz=91,SNR=7.0							
WCN	Washoe City	90.61	51	P		P	12 17 31.8	+0.8
	baz=91,SNR=11							
KCC	Kaiser Creek	90.62	53	⇑P		P	12 17 31.4	+0.2
	baz=91							
MOD	Modoc	90.63	48	eP		P	12 17 31.1	+0.1
MOD	Modoc	90.63	48	⇑P		P	12 17 31.1	0.0
	baz=91,SNR=9.7							
ARVC	Arvin	90.66	55	⇓P		P	12 17 31.8	+0.4
	baz=91,SNR=7.3							
OSI	Osito Adit	90.67	55	⇓P		P	12 17 32.2	+0.8
	baz=91							
A05A	Maple Falls	90.69	41	⇑P		P	12 17 30.1	-1.1
	baz=91							
O06A	Flanigan	90.69	50	⇑P		P	12 17 31.3	-0.1
	baz=91							
C05A	Tolt Reservoir	90.70	42	⇑P		P	12 17 30.2	-1.0
	baz=91							
R06C	Coleville	90.71	51	⇓P		P	12 17 32.3	+0.7
	baz=91							
CIS	Catalina Islan	90.75	57	⇑P		P	12 17 31.8	-0.1
	baz=91,SNR=8.0							
HELL	Mitchell Peak	90.75	53	P		P	12 17 31.9	+0.2
	baz=91,SNR=13							
N06A	Buffalo Meadow	90.78	49	P		P	12 17 32.2	+0.3
	baz=91,SNR=19							
K06A	Valley Falls	90.82	47	⇓P		P	12 17 31.8	-0.1
	baz=91,SNR=9.5							
FMP	Fort Macarthur	90.88	56	⇑P		P	12 17 32.4	0.0
	baz=91							
DECC	Green Verdugo	90.93	56	⇑P		P	12 17 32.7	0.0
	baz=91							
R07C	Lee Vining	90.96	52	⇓P		P	12 17 33.2	+0.5
	baz=91,SNR=7.2							
F06A	Goldendale	90.96	44	⇑P		P	12 17 32.0	-0.6
	baz=91							
E06A	Yakima	90.97	43	P		P	12 17 32.1	-0.4
	baz=91,SNR=8.6							
G06A	Carlson Farm,	90.97	45	⇑P		P	12 17 31.4	-1.2
	baz=91							
J06A	Christmas Vall	90.97	47	P		P	12 17 32.1	-0.6
	baz=91,SNR=11							
B06A	Marblemount	90.99	41	⇑P		P	12 17 31.2	-1.4
	baz=91							
ISA	Isabella	91.03	54	eP		P	12 17 33.5	+0.4
ISA	Isabella	91.03	54	P		P	12 17 33.6	+0.5
	baz=91,SNR=8.9							
I06A	Prineville	91.05	46	P		P	12 17 32.8	-0.2
	baz=91,SNR=8.6							
MLAC	Mammoth Lakes	91.05	52	⇓P		P	12 17 33.7	+0.6
	baz=91							
H06A	Lindquist Farm	91.09	45	⇓P		P	12 17 32.7	-0.5
	baz=91,SNR=7.1							
A06A	Chilliwack	91.10	41	⇑P		P	12 17 32.0	-1.1
	baz=91							
MWC	Mount Wilson	91.15	56	eP		P	12 17 34.5	+0.8
MTUM	Tungsten Hills	91.22	53	eP		P	12 17 34.5	+0.5
C06A	Tall Timber Ra	91.27	42	⇑P		P	12 17 34.4	+0.5
	baz=91							
Q07A	Schurz	91.28	51	⇑P		P	12 17 34.8	+0.6
	baz=91							
EDW2	Edwards Air Fo	91.31	55	P		P	12 17 35.2	+0.8
	baz=91,SNR=18							
P07A	Fallon	91.31	50	⇑P		P	12 17 33.8	-0.5
	baz=91							
L07A	Adell	91.36	48	⇓P		P	12 17 34.4	-0.1
	baz=92,SNR=20							
M07A	Soldier Meadow	91.38	49	⇑P		P	12 17 35.0	+0.4
	baz=92							
N07B	Gerlach	91.44	49	P		P	12 17 35.4	+0.5
	baz=92,SNR=15							
TIN	Tinemaha	91.44	53	⇓P		P	12 17 35.3	+0.3
	baz=92							
CWC	Cottonwood Cre	91.47	54	P		P	12 17 35.7	+0.6
	baz=92,SNR=12							
BFSC	Mount Baldy St	91.48	56	⇓P		P	12 17 35.2	0.0
	baz=92,SNR=13							
K07A	Rock Creek Ran	91.53	47	P		P	12 17 35.3	+0.1
	baz=92,SNR=14							
S08C	White Mtn Res	91.55	53	⇓P		P	12 17 35.9	+0.4
	baz=92,SNR=11							
F07A	Phinny Hill Vi	91.57	44	⇑P		P	12 17 36.0	+0.7
	baz=92							
I07A	Izee	91.57	46	P		P	12 17 35.2	-0.2
	baz=92,SNR=9.8							
NVAR	Mina Array Bea	91.59	52	P		P	12 17 35.3	-0.3
NVAR				PKKPbc		PKKPbc	12 34 54.5	-2.2
NVAR				P'P'			12 43 00.6	
NVAR	Mina Array Bea	91.59	52	P		P	12 17 35.3	-0.3
	comp=Z,4.0nm,0.8s,mb4.8,baz=235,slow=4.2,SNR=30							
NVAR				PKKPbc		PKKPbc	12 34 54.5	-2.2
	comp=Z,0.4nm,0.8s,baz=262,slow=1.8,SNR=2.7							
NVAR				PKPPKP			12 43 00.6	
	comp=Z,1.3nm,1.1s,baz=95,slow=3.5,SNR=6.3							
J07A	Hines	91.60	47	⇓P		P	12 17 35.3	-0.3
	baz=92							
LRMC	Laurel Mountai	91.64	55	P		P	12 17 36.8	+0.9
	baz=92,SNR=11							
G07A	Ruggs Ranch, H	91.65	45	P		P	12 17 35.1	-0.6
	baz=92,SNR=7.3							
109C	Camp Elliot, M	91.75	57	⇑P		P	12 17 36.9	+0.4
	baz=92							
D07A	Quincy	91.76	43	⇑P		P	12 17 35.6	-0.6
	baz=92							
MURC	Murrieta	91.77	56	P		P	12 17 37.3	+0.8
	baz=92,SNR=5.7							
C07A	Waterville	91.78	42	⇑P		P	12 17 35.5	-0.8
	baz=92							
A07A	Ashnola River,	91.80	41	⇓P		P	12 17 36.4	+0.1
	baz=92							
SYO	Syowa Base	91.81	199	⇑eP		P	12 17 33.0	-3.1
B07A	Winthrop	91.87	41	⇓P		P	12 17 35.8	-0.9
	baz=92,SNR=5.6							
MPMC	Manual Prospec	91.88	54	P		P	12 17 37.6	+0.6
	baz=92,SNR=22							
HAWA	Hanford	91.92	44	eP		P	12 17 36.8	-0.2
Q08A	Gabbs	91.94	51	P		P	12 17 37.6	+0.4
	baz=92,SNR=13							
WVOR	Wild Horse Val	91.94	48	eP		P	12 17 37.1	-0.1
	comp=Z,54nm,1.4s,mb5.7							
WVOR	Wild Horse Val	91.94	48	P		P	12 17 37.1	-0.1
WVOR				pmax		pmax		
	comp=Z,54nm,1.4s,mb5.7							
P08A	Dixie Valley	91.95	50	⇑P		P	12 17 38.0	+0.7
	baz=92,SNR=6.7							
O08A	Rochester Mine	91.98	50	⇑P		P	12 17 37.5	+0.1
	baz=92							
M08A	Happy Creek Ra	91.98	49	P		P	12 17 38.0	+0.7
	baz=92,SNR=18							
N08A	GE Springer Mi	92.07	49	P		P	12 17 38.4	+0.6
	baz=92,SNR=10							
BAR	Barrett	92.08	57	eP		P	12 17 39.0	+1.0
BBRC	Big Bear Sol-O	92.09	56	⇑P		P	12 17 38.1	+0.1
	baz=92							
K08A	Mann Creek Ran	92.09	47	⇓P		P	12 17 37.9	+0.1
	baz=92,SNR=9.2							
GRAC	Grapevine Rang	92.11	53	⇑P		P	12 17 38.4	+0.3
	baz=92							
RRX	Edison Barstow	92.11	55	⇓P		P	12 17 38.1	0.0
	baz=92							
L08A	Fields	92.12	48	P		P	12 17 38.4	+0.4
	baz=92,SNR=17							
G08A	Pilot Rock	92.15	45	P		P	12 17 37.4	-0.6
	baz=92,SNR=11							
J08A	Circle Bar Ran	92.20	47	P		P	12 17 38.1	-0.2
	baz=92,SNR=8.6							
I08A	Drewsey	92.21	46	⇑P		P	12 17 37.8	-0.5
	baz=92							
H08A	Prairie City	92.23	46	⇑P		P	12 17 37.7	-0.8
	baz=92,SNR=5.6							
E08A	Dider Farm, El	92.26	44	⇓P		P	12 17 38.0	-0.6
	baz=92							
MONP	Monument Peak	92.32	57	⇑P		P	12 17 39.7	+0.5
	baz=92							
S09A	Gofield	92.33	52	⇓P		P	12 17 39.1	+0.1
	baz=92,SNR=24							
GSC	Goldstone	92.33	55	eP		P	12 17 39.4	+0.3
GSC	Goldstone	92.33	55	P		P	12 17 39.5	+0.4
	baz=92,SNR=8.5							
B08A	Colville Reser	92.37	42	⇓P		P	12 17 38.2	-0.8
	baz=92,SNR=8.8							
PFO	Pinyon Flat Ob	92.39	57	eP		P	12 17 39.8	+0.4
	comp=Z,37nm,1.4s,mb5.5							
PFO	Pinyon Flat Ob	92.39	57	eP		P	12 17 39.8	+0.4
PFO				pmax		pmax		
	comp=Z,37nm,1.4s,mb5.5							
PFO	Pinyon Flat Ob	92.39	57	P		P	12 17 39.4	0.0
	baz=92,SNR=7.2							
FURC	Furnace Creek,	92.44	54	⇑P		P	12 17 40.0	+0.4
	baz=92,SNR=21							
D08A	Wollman Farm,	92.44	43	⇑P		P	12 17 38.5	-0.8
	baz=92							
C08A	Higginbotham F	92.47	42	⇑P		P	12 17 38.8	-0.7
	baz=93							
A08A	Turner Farm, O	92.50	41	P		P	12 17 38.8	-0.8
	baz=93,SNR=7.0							
Q09A	Carvers	92.52	51	⇓P		P	12 17 40.6	+0.7
	baz=93							
R09A	Tonopah	92.52	52	P		P	12 17 40.5	+0.5
	baz=93,SNR=18							
N09A	Rock Creek Ran	92.53	49	⇓P		P	12 17 40.3	+0.4
	baz=93,SNR=8.3							
DVTC	Desert V Tower	92.55	58	⇑P		P	12 17 40.8	+0.5
	baz=93							
L09A	Wilkinson Ranc	92.59	48	P		P	12 17 40.6	+0.4
	baz=93,SNR=9.7							
K09A	Rome	92.65	47	P		P	12 17 40.2	-0.2
	baz=93,SNR=11							
P09A	Austin	92.65	51	⇑P		P	12 17 40.6	+0.1
	baz=93							
HEC	Hector,Ludlow	92.65	55	⇑P		P	12 17 41.1	+0.4
	baz=93,SNR=6.2							
M09A	Marrel Ranch,	92.67	49	⇑P		P	12 17 41.1	+0.5
	baz=93,SNR=11							
O09A	Fish Creek Ran	92.69	50	⇑P		P	12 17 40.9	+0.2
	baz=93,SNR=13							
J09A	Fry Pan Ranch,	92.72	47	⇓P		P	12 17 40.4	-0.3
	baz=93,SNR=8.2							
I09A	Lost Marbles R	92.81	46	⇑P		P	12 17 40.5	-0.7
	baz=93							
SHOC	Shoshone	92.83	54	⇑P		P	12 17 41.6	+0.1
	baz=93							
SWSC	Sam W. Stewart	92.84	57	⇑P		P	12 17 41.9	+0.3
	baz=93							
S10A	Tonopah Range,	92.85	52	P		P	12 17 42.0	+0.5
	baz=93,SNR=19							
D09A	Jones Farm, Ri	92.86	43	⇑P		P	12 17 40.4	-0.8
	baz=93							
U10A	Ash Meadows, A	92.86	54	⇑P		P	12 17 41.9	+0.4
	baz=93,SNR=8.8							
E09A	Wood Farm, Sta	92.89	44	⇑P		P	12 17 41.0	-0.5
	baz=93							
F09A	S2 Ranch, Elgi	92.94	44	⇓P		P	12 17 41.3	-0.4
	baz=93							
A09A	Danville	92.95	41	⇑P		P	12 17 40.7	-0.9
	baz=93							
H09A	Durkee	92.97	45	⇑P		P	12 17 41.7	-0.2
	baz=93							
C09A	Chrisman Ranch	92.99	42	⇓P		P	12 17 40.8	-1.1
	baz=93							
TPNV	Topopah Spring	92.99	53	eP		P	12 17 42.8	+0.6
	comp=Z,40nm,1.3s,mb5.7							
TPNV	Topopah Spring	92.99	53	eP		P	12 17 42.8	+0.6
TPNV				pmax		pmax		
	comp=Z,40nm,1.3s,mb5.7							
TPNV	Topopah Spring	92.99	53	⇓P		P	12 17 42.2	0.0
	baz=93							
TUQ	Turquoise Mtn.	93.06	55	⇑P		P	12 17 43.0	+0.5
	baz=93,SNR=8.8							
Q10A	Clear Creek Ra	93.12	51	P		P	12 17 43.2	+0.6
	baz=93,SNR=7.7							
R10A	Warm Springs	93.12	52	⇑P		P	12 17 43.4	+0.7
	baz=93							
B09A	Rice	93.16	42	⇑P		P	12 17 41.6	-1.1
	baz=93							
P10A	Eureka	93.17	51	⇓P		P	12 17 43.1	+0.2
	baz=93							
GMRC	Granite Mounta	93.19	56	⇓P		P	12 17 43.3	+0.2
	baz=93,SNR=18							
O10A	Cortez Mining,	93.23	50	⇑P		P	12 17 43.6	+0.5
	baz=93							
BMO	Blue Mountains	93.24	45	eP		P	12 17 42.8	-0.3
	comp=Z,33nm,1.5s,mb5.5							
BMO	Blue Mountains	93.24	45	eP		P	12 17 42.8	-0.3
BMO				pmax		pmax		
	comp=Z,33nm,1.5s,mb5.5							
K10A	MacKenzie Ranc	93.28	47	⇑P		P	12 17 43.4	0.0
	baz=93,SNR=12							
N10A	Dunphy	93.28	50	⇑P		P	12 17 44.2	+0.8
	baz=93							
M10A	I.L. Ranch, Tu	93.36	49	⇓P		P	12 17 43.7	0.0
	baz=93,SNR=7.2							
CHKZ	Chkalovo	93.41	324	i P		P	12 17 41.1	-2.6
CHKZ	Chkalovo	93.41	324	i P		P	12 17 41.0	-2.7
CHKZ				pmax		pmax		
	comp=Z,48nm,1.9s,mb5.6							
J10A	Berg Farm, Mel	93.44	47	⇓P		P	12 17 43.8	-0.2
	baz=94							
F10A	Beach Ranch, E	93.45	44	⇑P		P	12 17 43.0	-1.0
	baz=94,SNR=6.2							
S11A	Rachel	93.48	53	⇑P		P	12 17 44.8	+0.4
	baz=94							
L10A	Juniper Basin	93.48	48	P		P	12 17 44.6	+0.4
	baz=94,SNR=15							
I10A	Payette	93.50	46	⇓P		P	12 17 44.1	-0.2
	baz=94							
V11A	Goodsprings	93.51	54	⇑P		P	12 17 44.9	+0.3
	baz=94							
BRVK	Borovoye	93.52	323	eP		P	12 17 42.5	-1.7
BRVK	Borovoye	93.52	323	P		P	12 17 42.9	-1.3
	SNR=10.0							
IRM	Iron Mountain	93.53	56	⇑P		P	12 17 45.0	+0.3
	baz=94,SNR=22							
D10A	Wagner Farm, O	93.56	43	⇓P		P	12 17 43.5	-1.0
	baz=94,SNR=11							
E10A	Myers Farm, Un	93.60	44	⇓P		P	12 17 44.2	-0.5
	baz=94							
H10A	Noah's Angus R	93.60	46	P		P	12 17 44.0	-0.8
	baz=94,SNR=7.0							
U11A	Corn Creek	93.62	54	⇑P		P	12 17 45.5	+0.5
	baz=94							
A10A	Northport	93.62	41	⇑P		P	12 17 43.8	-1.0
	baz=94							
C10A	Spilker Farm,	93.64	42	⇓P		P	12 17 43.1	-1.7
	baz=94							
LDFC	Landfair	93.68	55	eP		P	12 17 46.6	+1.3
R11A	Troy Canyon, C	93.69	52	P		P	12 17 45.9	+0.5
	baz=94,SNR=12							
Q11A	Duckwater	93.70	51	P		P	12 17 45.9	+0.5
	baz=94,SNR=20							
B10A	Chitwood Farm,	93.75	42	⇑P		P	12 17 44.3	-1.1
	baz=94							
NEW	Newport	93.82	42	eP		P	12 17 45.0	-0.7
	comp=Z,150nm,2.8s,mb5.9							
NEW	Newport	93.82	42	eP		P	12 17 45.0	-0.7
NEW				pmax		pmax		
	comp=Z,150nm,2.8s							
T11A	Corn Creek, Al	93.85	53	⇓P		P	12 17 46.8	+0.7
	baz=94,SNR=14							
O11A	Cowboy Ranch,	93.85	50	P		P	12 17 46.7	+0.7
	baz=94,SNR=13							
N11A	Elko Archery C	93.88	50	⇓P		P	12 17 46.4	+0.3
	baz=94							
W12A	Cal Nev Ari	93.90	55	⇑P		P	12 17 46.9	+0.6
	baz=94							
M11A	Holland Ranch,	93.91	49	⇓P		P	12 17 47.0	+0.7
	baz=94,SNR=12							
V12A	Nelson	93.96	55	⇑P		P	12 17 47.1	+0.4
	baz=94,SNR=7.7							
Y12C	Blythe	94.00	57	⇑P		P	12 17 47.5	+0.6
	baz=94							
NEE2	Needles Airpor	94.04	56	⇑P		P	12 17 47.3	+0.3
	baz=94							
G11A	Walters Elk Ra	94.04	45	⇑P		P	12 17 45.6	-1.2
	baz=94							
MFID	Camas Ranch	94.12	47	P		P	12 17 47.1	-0.1
	baz=94,SNR=8.1							
H11A	Donnelly	94.14	46	P		P	12 17 47.0	-0.2
	baz=94,SNR=5.6							
S12A	Delamar Landin	94.18	53	⇑P		P	12 17 48.2	+0.6
	baz=94,SNR=6.3							
T12A	Moapa	94.19	54	⇓P		P	12 17 48.2	+0.6
	baz=94							
E11A	Bogner Ranch,	94.20	44	⇓P		P	12 17 47.7	+0.2
	baz=94,SNR=6.0							
U12A	Valley of Fire	94.30	54	⇓P		P	12 17 48.5	+0.3
	baz=94							
B11A	Sandpoint	94.34	42	⇓P		P	12 17 46.7	-1.4
	baz=94							
P12A	McGill	94.35	51	P		P	12 17 49.2	+0.9
	baz=94,SNR=7.0							
Q12A	Willow Creek R	94.36	51	⇓P		P	12 17 48.8	+0.4
	baz=94,SNR=11							
PDMCI	Parker Dam,Lak	94.38	56	⇓P		P	12 17 49.1	+0.5
	baz=94							
A11A	Hall Mountain,	94.40	41	P		P	12 17 48.7	+0.4
	baz=94,SNR=8.6							
N12A	Clover Valley,	94.41	50	⇓P		P	12 17 49.1	+0.6
	baz=94,SNR=16							
R12A	Pony Springs,	94.45	52	P		P	12 17 49.6	+0.8
	baz=94,SNR=12							
M12A	Wells	94.56	49	P		P	12 17 49.8	+0.5
	baz=95,SNR=10							
O12A	Currie	94.56	50	⇓P		P	12 17 49.6	+0.3
	baz=95,SNR=12							
L12A	House Creek Ra	94.57	48	P		P	12 17 49.8	+0.6
	baz=95,SNR=14							
Y13A	Salome	94.58	57	⇑P		P	12 17 50.5	+1.0
	baz=95							
J12A	Stokes Ranch,	94.63	47	P		P	12 17 49.6	+0.1
	baz=95,SNR=16							
X13A	Yucca	94.67	56	⇓P		P	12 17 50.1	+0.1
	baz=95							
W13A	Hualapai Mount	94.68	55	⇓P		P	12 17 50.7	+0.8
	baz=95							
K12A	Draper Farm, C	94.70	48	P		P	12 17 50.5	+0.6
	baz=95,SNR=8.6							
U13A	Pakoon Wash	94.75	54	P		P	12 17 51.2	+1.0
	baz=95,SNR=8.3							
F12A	Elk City	94.79	45	⇓P		P	12 17 49.5	-0.7
	baz=95							
B12A	Libby	94.86	42	⇑P		P	12 17 50.3	-0.2
	baz=95							
D12A	Red Ives Fores	94.86	43	⇓P		P	12 17 49.7	-0.8
	baz=95							
T13A	Saint George	94.86	53	P		P	12 17

baz=96
F13A **Darby** 95.44 45 ⇓P P 12 17 52.2 -1.0
baz=96
G13A **Cobalt** 95.44 45 ⇓P P 12 17 52.5 -0.6
baz=96
C13A **Hot Springs** 95.45 43 ⇓P P 12 17 52.5 -0.7
baz=96
S14A **Cedar City** 95.52 53 ⇓P P 12 17 55.1 +1.3
baz=96
T14A **Hurricane** 95.52 53 ⇓P P 12 17 54.7 +0.9
baz=96,SNR=6.5
B13A **Whitefish** 95.59 42 P P 12 17 53.6 -0.1
baz=96,SNR=6.0
E13A **Victor** 95.60 44 ⇓P P 12 17 53.8 -0.1
baz=96
R14A **James Farms, M** 95.69 52 ⇑P P 12 17 55.1 +0.6
baz=96
M14A **Sheep Mountain** 95.74 49 P P 12 17 55.4 +0.7
baz=96,SNR=8.1
N14A **Grayback Hills** 95.80 50 P P 12 17 55.7 +0.8
baz=96,SNR=8.1
Y15A **Casa Rosa Ranc** 95.83 57 ⇑P P 12 17 55.8 +0.6
baz=96
BGU **Big Grassy Mou** 95.93 50 *e*P P 12 17 56.0 +0.5
K14A **Jones Ranch, D** 95.96 48 ⇑P P 12 17 55.9 +0.3
baz=96
X15A **Humboldt** 95.97 56 ⇓P P 12 17 55.6 -0.3
baz=96
C14A **Swan Lake** 96.02 43 ⇑P P 12 17 54.9 -0.8
baz=96
WALA **Waterton Lakes** 96.02 41 *e*P P 12 17 55.8 0.0
comp=Z,74nm,2.1s,mb5.8
DUG **Dugway** 96.03 50 *e*P P 12 17 56.8 +0.8
comp=Z,30nm,1.6s,mb5.5
DUG **Dugway** 96.03 50 *e*P P 12 17 56.8 +0.8
DUG *e**PP pP 12 18 08.3 +11
DUG pmax pmax
comp=Z,30nm,1.6s,mb5.5
DUG **Dugway** 96.03 50 ⇓P P 12 17 55.7 -0.3
baz=96
T15A **Red Dirt Ranch** 96.08 54 ⇑P P 12 17 56.1 -0.2
baz=96
D14A **Greenough** 96.12 43 ⇑P P 12 17 55.9 -0.4
baz=96
HVU **Hansel Valley** 96.19 49 *e*P P 12 17 57.5 +0.8
CHMT **Chamberlain Mo** 96.28 44 *e*P P 12 17 56.7 -0.2
MSU **Marysvale** 96.37 52 *e*P P 12 17 57.8 +0.2
MCMT **McKenzie Canyo** 96.39 46 *e*P P 12 17 57.7 +0.1
E15A **Deer Lodge** 96.66 44 ⇓P P 12 17 58.1 -0.7
baz=97
YKA **Yellowknife Ar** 96.68 28 P P 12 17 57.2 -1.2
YKA PKKPbc PKKPbc 12 34 39.5 -4.6
YKA **Yellowknife Ar** 96.68 28 P P 12 17 57.2 -1.2
comp=Z,13nm,0.7s,mb5.5,baz=267,slow=4.5,SNR=64
YKA PKKPbc PKKPbc 12 34 39.5 -4.6
comp=Z,0.5nm,0.7s,baz=80,slow=2.9,SNR=4.3
YKW3 **Yellowknife Ar** 96.68 28 *e*P P 12 17 57.4 -1.0
EDM **Edmonton** 96.70 37 *e*P P 12 17 58.2 -0.5
D15A **Lincoln** 96.79 44 ⇓P P 12 17 59.0 -0.3
baz=97
JLU **Jordanelle** 97.10 50 *e*P P 12 18 01.8 +0.9
TMUT **Trail Mountain** 97.19 51 *e*P P 12 18 02.1 +0.8
DAU **Daniels Canyon** 97.23 50 *e*P P 12 17 57.6 -3.8
BOZ **Bozeman (W)** 97.31 45 *e*P P 12 18 02.2 +0.5
comp=Z,65nm,2.8s,mb5.6
BOZ **Bozeman (W)** 97.31 45 *e*P P 12 18 02.2 +0.5
BOZ pmax pmax
comp=Z,65nm,2.8s,mb5.6
BOZ **Bozeman (W)** 97.31 45 ⇑P P 12 18 00.8 -0.8
baz=97
TPAW **Teton Pass** 97.66 47 *e*P P 12 18 04.0 +0.7
IMW **Indian Meadow** 97.69 47 *e*P P 12 18 03.9 +0.4
YMR **Madison River** 97.72 46 *e*P P 12 18 04.6 +1.1
comp=Z,23nm,1.7s,mb5.4
REDW **Red Top Meadow** 97.72 47 *e*P P 12 18 04.6 +1.0
comp=Z,38nm,1.8s,mb5.6
REDW *e*pP pP 12 18 16.9 +12
MOOW **Moose Ponds** 97.83 47 *e*P P 12 18 04.1 +0.1
comp=Z,63nm,2.5s,mb5.7
MOOW *e*pP pP 12 18 21.8 +16
BW06 **Boulder Array** 98.64 48 *e*P P 12 18 07.4 -0.4
PDAR **Pinedale Array** 98.64 48 P P 12 18 06.8 -0.9
comp=Z,2.0nm,0.8s,mb4.7,baz=176,slow=1.9,SNR=12
SNAA **Sanae** 99.42 187 P P 12 18 09.1 -1.6
comp=Z,1.1nm,0.9s,baz=62,slow=23,SNR=3.6
ARU **Arti** 100.49 326 *e*P Pdif 12 18 13.1 -2.6
VNA3 **Neumayer Olymp** 100.50 185 *e*Pdiff Pdif 12 18 13.2 -2.6
VNA3 *e* 12 18 18.4
VNA3 *e* 12 18 23.1
VNA3 *e* 12 18 43.7
VNA3 *e* 12 18 48.1
VNA3 *e* 12 18 56.5
VNA3 *e* 12 22 41.3
VNA3 *e* 12 22 44.5
VNA3 *e* 12 22 51.3
VNA2 **Neumayer--Watz** 100.61 186 *e*Pdiff Pdif 12 18 14.5 -1.7
VNA2 *e* 12 18 18.4
VNA2 *e* 12 18 23.9
VNA2 *e* 12 18 46.4
VNA2 *e* 12 18 49.7
VNA2 *e* 12 18 57.5
VNA2 *e* 12 22 41.9
VNA2 *e* 12 22 45.0
VNA2 *e* 12 22 52.0
AKTK **Aktyubinsk** 100.96 320 P Pdif 12 18 16.2 -1.6
AKTO **Aktyubinsk** 100.96 320 P Pdif 12 18 16.2 -1.6
comp=Z,1.5nm,0.7s,baz=81,slow=7.0,SNR=4.5
LAO **LASA Array** 101.10 44 *e*Pdif Pdif 12 18 18.7 +0.3
RES **Resolute Bay** 102.55 15 *e*Pdif Pdif 12 18 23.3 -1.6
KBS **Kingsbay** 106.71 353 *e*PP PP 12 23 09.6 +1.6
KBS *e*SS SS 12 38 16.4 +3.6
KBS AMS AMS 13 03 13.2
comp=Z,4μm,22.0s,MS5.9
ULM **Lac du Bonnet** 107.66 40 PKiKP PKiKP 12 22 54.1 -1.5
comp=Z,1.6nm,0.6s,baz=309,slow=3.6,SNR=5.4
MAK **Makhachkala** 108.69 313 *e*P Pdif 12 18 49.9 -2.3
MAK *i* 12 23 20.2
MAK *e* 12 29 35.6
MAK *i* PS PS 12 32 46.2 -2.9
MAK MLR MLR
comp=Z,4μm,24.0s,MS5.9
BJO **Bjornoya** 108.90 349 AMS AMS 13 07 43.2
comp=Z,3μm,20.8s,MS5.9
DGRG **David-gareji** 110.45 311 P PP 12 23 31.5 -4.9
ARCES **ARCESS Array B** 110.62 343 PKiKP PKiKP 12 22 59.6 -1.0
comp=Z,3.6nm,0.8s,baz=74,slow=1.7,SNR=9.9
MTA **Mtatsminda** 110.85 312 P PP 12 23 21.8 -18
TBLG **Delisi** 110.89 312 P PP 12 23 21.3 -18
DAG **Danmarks Havn** 111.02 359 *e*PKIKP PKiKP 12 23 04.0 +2.7
DAG pmax pmax
comp=Z,2.0nm,0.4s
DAG **Danmarks Havn** 111.02 359 *i* P PKiKP 12 23 04.0 +2.7
comp=Z,1.7nm,0.4s
ONI **Oni** 111.70 313 P PP 12 23 47.7 +2.3
KIV **Kislovodsk** 112.01 314 *i* PKIKP PKiKP 12 22 58.5 -5.5
KIV *e* 12 29 40.7
KIV *e*PS PS 12 33 15.2 -5.7
KIV *e*SS SS 12 39 26.5 +0.6
KIV *e*SSS 12 43 31.8
KIV pmax pmax
comp=Z,9.0nm,1.2s
KIV MLR MLR
comp=Z,3μm,22.0s,MS5.8
JOF **Joensuu** 112.16 336 *e*pkp PKiKP 12 23 00.1 -3.6
TRO **Tromso** 112.33 345 *e*SS SS 12 39 37.0 +8.5
TRO AMS AMS 13 09 50.7
comp=Z,4μm,22.5s,MS6.0
OBN **Obninsk** 112.89 327 ⇓*i*PKIKP PKiKP 12 23 01.4 -3.9
OBN *e* 12 23 52.9
OBN *e* 12 30 14.5
OBN *i* PS PS 12 33 27.8 -0.7
OBN *e*SS SS 12 39 54.5 +18
OBN pmax pmax
comp=Z,31nm,1.4s
SOC **Sochi** 114.19 314 *i* PKIKP PKiKP 12 23 05.1 -3.1
SOC *i* 12 24 01.7
SOC *e*PPP 12 26 26.5
SOC *e*PS PS 12 33 39.5 -1.5
SOC *e*SS SS 12 40 09.6 +15
SOC MLR MLR
comp=Z,4μm,23.0s,MS5.9
KAF **Kangasniemi** 114.57 336 *e*pkp PKiKP 12 23 05.7 -2.6
FINES **FINESS Array B** 115.03 336 PKP PKiKP 12 23 07.4 -1.8
FINES PP PP 12 24 04.8 -3.4
FINES **FINESS Array B** 115.03 336 PKP PKiKP 12 23 07.4 -1.8
comp=Z,9.8nm,1.1s,baz=230,slow=1.5,SNR=8.2
FINES PP PP 12 24 04.8 -3.4
comp=Z,5.2nm,1.0s,baz=173,slow=3.3,SNR=2.5
ESPY **Espiye-Giresun** 115.49 312 *e*P PP 12 24 11.6 -0.6
PLCA **Paso Flores** 115.57 142 PKP PKPdf 12 23 10.2 -0.7
comp=Z,2.7nm,0.8s,baz=182,slow=4.9,SNR=6.0
URFA **Urfa** 116.10 308 *e*P PP 12 24 12.5 -4.2
JMIC **Jan Mayen** 116.13 354 AMS AMS 13 09 48.5
comp=Z,2μm,20.4s,MS5.6
MALT **Malatya** 116.24 309 *e*P PP 12 24 15.0 -2.7
LRAL **Lakeview Retre** 116.97 57 *e*PKPdf PKPdf 12 23 13.0 -0.9
KMRS **Kahramanmaras** 117.59 308 *e*P PP 12 24 24.2 -2.9
MNK **Minsk** 117.75 329 *e*PKIKP PKPdf 12 23 15.0 +0.3
MNK *e* 12 24 34.0
MNK MLR MLR
comp=Z,16μm,24.0s,MS6.6
NSS **Namsos** 117.90 343 AMS AMS 13 13 09.8
comp=Z,7μm,22.8s,MS6.2
KMBO **Kilima Mbogo** 118.11 265 PKP PKPdf 12 23 16.1 -0.5
KMBO *e*PKPdf PKPdf 12 23 16.8 +0.2
KMBO PP PP 12 24 27.6 -3.9
KMBO **Kilima Mbogo** 118.11 265 PKP PKPdf 12 23 16.1 -0.5
comp=Z,1.8nm,0.8s,baz=48,slow=7.0,SNR=7.3
KMBO PP PP 12 24 27.6 -3.9
comp=Z,1.4nm,0.4s,baz=56,slow=11,SNR=4.0
AKASG **Malin Array Be** 118.69 324 PKP PKPdf 12 23 14.8 -1.9
comp=Z,5.4nm,0.7s,baz=63,slow=2.0,SNR=32
KIEV **Kiev** 118.70 324 *e*PKPdf PKPdf 12 23 16.0 -0.6
KARA **Karaisali** 119.08 308 *e*P PP 12 24 35.1 -2.4
TZTN **Tazewell** 119.12 52 *e*PKPdf PKPdf 12 23 17.2 -0.6
CANT **Cankiri** 119.32 312 *e*P PP 12 24 37.4 -1.5
MERS **Mersin** 119.58 308 *e*P PP 12 24 37.4 -3.5
MMAI **Mount Meron Ar** 119.66 304 PKP PKPdf 12 23 16.0 -3.1
comp=Z,6.2nm,0.9s,baz=247,slow=43,SNR=3.4
ANTO **Ankara** 120.14 312 *e*P PP 12 24 41.6 -2.9
ANTO **Ankara** 120.14 312 PKPdf PKPdf 12 23 19.4 -0.4
SNR=7.1
ANTO **Ankara** 120.14 312 ⇓*i*P PKPdf 12 23 19.8 +0.1
BOSA **Boshof** 120.14 231 PKP PKPdf 12 23 19.6 -0.6
comp=Z,7.2nm,0.9s,baz=216,slow=3.2,SNR=9.5
LOD **Lodumlu** 120.15 312 *e*P PP 12 24 42.1 -2.6
SUW **Suwalki** 120.36 330 *e*PKP PKPdf 12 23 19.4 -0.3
IKL **Isikli** 120.38 307 *e*P PP 12 24 38.4 -8.0
KIS **Kishinev** 120.45 321 *e*PKIKP PKPdf 12 23 20.0 -0.1
KIS *e* 12 27 30.0
KIS *e* 12 30 14.0
KIS *e* 12 34 30.0
KIS MLR MLR
comp=Z,4μm,21.0s,MS6.0
KIS MLR MLR
comp=E,29μm,20.0s
HFS **Hagfors** 120.57 339 PKP PKPdf 12 23 18.4 -1.5
comp=E,5.3nm,0.7s,baz=82,slow=3.1,SNR=9.7
HFS PP PP 12 24 45.2 -1.3
comp=E,4.5nm,0.8s,baz=116,slow=6.8,SNR=4.0
EIL **Elat** 120.61 300 PKP PKPdf 12 23 20.6 -0.3
comp=E,9.8nm,1.0s,baz=0.9,slow=4.2,SNR=7.2
MOL **Molde** 120.68 344 AMS AMS 13 15 43.3
comp=Z,2μm,22.5s,MS5.7
KDZE **Karadeniz Ereo** 120.69 314 *e*P PP 12 24 45.4 -2.9
NB2 **NORSAR Subarra** 120.75 341 PKPdf PKPdf 12 23 19.1 -1.2
comp=Z,39nm,1.4s,baz=40,slow=1.8
NB2 **NORSAR Subarra** 120.75 341 PKPdf PKPdf 12 23 19.1 -1.2
baz=40,slow=1.8
NOA **NORSAR Array B** 120.75 341 PKP PKPdf 12 23 18.6 -1.6
NOA PP PP 12 24 46.2 -1.5
NOA **NORSAR Array B** 120.75 341 PKP PKPdf 12 23 18.6 -1.6
comp=Z,3.7nm,0.7s,baz=44,slow=2.0,SNR=12
NOA PP PP 12 24 46.2 -1.5
comp=Z,4.0nm,0.9s,baz=43,slow=6.9,SNR=4.0
KONT **Konya--Tatoy** 120.98 310 *e*P PP 12 24 47.3 -3.1
LEF **Lefka** 121.27 306 *e*P PP 12 24 48.7 -3.8
SUR **Sutherland** 121.39 224 PKP PKPdf 12 23 22.0 -0.4
comp=Z,31nm,1.3s,baz=152,slow=4.8,SNR=4.9
BLA **Blacksburg** 121.40 51 *e*PKPdf PKPdf 12 23 21.4 -0.9
LBTB **Lobatse** 121.58 234 PKP PKPdf 12 23 22.6 -0.3
comp=Z,10nm,0.8s,baz=136,slow=3.2,SNR=15
TIRR **Tirgusor** 121.70 318 ⇓*i*P PKPdf 12 23 22.0 -0.6
LHS **Liberty Hill** 121.77 54 *e*PKPdf PKPdf 12 23 22.8 -0.2
HARR **Harsova** 121.93 318 P PKPdf 12 23 23.5 +0.5
LVV **L'vov** 122.06 325 *e*PKIKP PKPdf 12 23 22.4 -0.7
LCO **Las Campanas** 122.13 131 *e*PKPdf PKPdf 12 23 24.5 +0.6
SCHQ **Schefferville** 122.13 28 PKP PKPdf 12 23 22.9 -0.2
comp=Z,2.1nm,0.8s,baz=270,slow=2.0,SNR=3.7
SHUT **Suhut-Afyon** 122.18 311 *e*P PP 12 24 53.9 -4.7
ADVT **Abdulvahap** 122.20 313 *e*P PP 12 24 54.4 -4.2
SSPA **Standing Stone** 122.28 47 *e*PKPdf PKPdf 12 23 23.1 -0.7
KONO **Kongsberg** 122.33 340 *e*PP PP 12 24 59.4 +0.9
KONO *e*SS SS 12 41 38.2 -0.4
KONO AMS AMS 13 19 32.2
comp=Z,5μm,20.6s,MS6.2
KONO **Kongsberg** 122.33 340 ⇑*i*PKIKP PKPdf 12 23 25.0 +1.7
ALT **Altintas** 122.36 312 *e*P PP 12 24 50.6 -9.1
ISP **Isparta** 122.42 310 *e*P PP 12 24 54.4 -5.8
YLV **Yalova** 122.42 313 *e*P PP 12 24 52.6 -7.5
BCK **Bucak** 122.47 310 *e*P PP 12 24 55.8 -4.8
ISK **Istanbul-Kandi** 122.48 314 *e*P PP 12 24 53.9 -6.5
MLR **Muntele Rosu** 122.89 320 ⇓P PKPdf 12 23 24.5 -0.4
MLR **Muntele Rosu** 122.89 320 PKP PKPdf 12 23 23.9 -0.9
comp=Z,38nm,1.3s,baz=20,slow=3.1,SNR=18
MLR PKKPbc PKKPbc 12 33 17.3 -0.9
comp=Z,2.0nm,0.7s,baz=152,slow=11,SNR=3.6
MLR **Muntele Rosu** 122.89 320 ⇓*i*P PKPdf 12 23 24.5 -0.3
KWP **Kalwaria** 122.90 326 *e*PKP PKPdf 12 23 25.2 +0.5
BER **Bergen** 123.07 343 *e*PP PP 12 25 02.6 -0.9
BER *e*SS SS 12 41 49.8 +1.9
BER AMS AMS 13 13 24.9
comp=Z,3μm,23.3s,MS5.9
ELL **Elmali** 123.19 309 *e*P PP 12 25 03.9 -1.6
LSZ **Lusaka** 123.27 246 *e*PKPdf PKPdf 12 23 26.5 +0.1
LSZ **Lusaka** 123.27 246 PKPdf PKPdf 12 23 26.6 +0.2
SNR=10
VOIR 123.48 320 ⇑P PKPdf 12 23 30.1 +4.1
VOIR 123.48 320 ⇑*i*P PKPdf 12 23 30.0 +4.0
KOLS **Kolonicke sedl** 123.50 325 *i* PKP PKPdf 12 23 26.6 +0.7
MVL **Millersville** 123.60 47 *e*PKPdf PKPdf 12 23 25.9 -0.4
UZH **Uzhgorod** 123.64 325 *i* PKIKP PKPdf 12 23 26.2 0.0
UZH *e* 12 23 39.6
UZH *e* 12 25 06.0
UZH *i* 12 35 02.0
UZH MLR MLR
comp=Z,3μm,22.0s,MS6.0
TRPA **Tarpa** 123.75 324 ⇑*i*P PKPdf 12 23 27.3 +0.9
STHS **Stebnicka Huta** 123.82 326 *i* PKP PKPdf 12 23 27.1 +0.6
CRVS **Cervenica-Dubn** 123.97 325 *i* PKP PKPdf 12 23 26.4 -0.4
OJC **Ojcow** 124.17 327 *e*PKPdf PKPdf 12 23 27.0 -0.2
OJC *e*PP PP 12 25 11.9 +0.5
OJC *e*SP SP 12 35 08.0 -0.7
OJC L 13 18 24.2
comp=Z,3.4nm,22.8s
COP **Copenhagen** 124.19 336 *i* P PKPdf 12 23 28.6 +1.6
COP *e* 12 24 56.0
COP
comp=Z,890nm,20.0s
DRGR 124.30 323 ⇓P PKPdf 12 23 28.3 +0.8
DRGR 124.30 323 PKIKP PKPdf 12 23 27.9 +0.4
DRGR 124.30 323 ⇓*i*P PKPdf 12 23 28.3 +0.8
KECS **Kecovo** 124.74 325 *e*PKP PKPdf 12 23 31.7 +3.4
MUD **Monsted U'grnd** 124.89 338 *i* P PP 12 25 07.1 -8.7
comp=Z,66nm,1.3s
GZR **Gura Zlata** 124.93 321 ⇑P PKPdf 12 23 28.6 -0.2
GZR **Gura Zlata** 124.93 321 ⇑*i*P PKPdf 12 23 28.6 -0.2
PAL **Palisades** 124.97 45 *e*PKPdf PKPdf 12 23 28.5 -0.4
LRW **Lerwick** 125.00 346 *e*P PKPdf 12 23 28.0 -0.4
OKC **Ostrava-Krasne** 125.27 328 *e*PKPdf PKPdf 12 23 29.6 +0.3
OKC AMS AMS 13 22 10.0
comp=Z,3μm,19.5s,MS5.9
PSZ **Piszkesteto** 125.38 325 P PKPdf 12 23 29.8 +0.2
PSZ **Piszkesteto** 125.38 325 ⇑*i*P PKPdf 12 23 29.3 -0.2
PSZ **Piszkesteto** 125.38 325 ⇓*e*PKP PKPdf 12 23 29.3 -0.2
OTAV **Otavalo** 125.39 95 *e*PKPdf PKPdf 12 23 31.0 +0.4
QUA2 **Belchertown** 125.52 43 *e*PKPdf PKPdf 12 23 29.6 -0.4
BZS **Buzias** 125.54 322 ⇓P PKPdf 12 23 29.8 -0.2
BZS **Buzias** 125.54 322 ⇓*i*P PKPdf 12 23 29.8 -0.1
MORC **Moravsky Berou** 125.62 328 P PKPdf 12 23 30.6 +0.6
MORC **Moravsky Berou** 125.62 328 ⇓*i*P PKPdf 12 23 29.8 -0.2
KSP **Ksiaz** 125.63 330 *e*PKP PKPdf 12 23 30.3 +0.4
KSP **Ksiaz** 125.63 330 *e*PKP PKPdf 12 23 30.0 +0.1
KSP *e*PP PP 12 25 20.0 -1.0
KSP *e*SP SP 12 35 19.0 -2.4
KSP *e*SS SS 12 42 07.0 -14
KSP LR LR
comp=Z,16μm,22.9s,MS6.6
KSP **Ksiaz** 125.63 330 *e*PKIKP PKPdf 12 23 30.0 +0.1
KSP *e* 12 25 20.0
KSP *e*SP SP 12 35 19.0 -2.4
KSP MLR MLR
comp=Z,16μm,22.9s,MS6.6
VYHS **Vyhne** 125.66 326 *i* PKP PKPdf 12 23 30.1 0.0
DPC **Dobruska-Polom** 125.91 329 *e*PKPdf PKPdf 12 23 30.2 -0.3
DPC *ex* x 12 25 08.3
DPC *e*SS SS 12 42 28.3 +3.8
DPC AMS AMS 13 18 30.0
comp=Z,6μm,23.1s,MS6.2
VTS **Vitosha** 125.92 318 ⇓P PKPdf 12 23 30.3 -0.5
VTS **Vitosha** 125.92 318 ⇓*i*P PKPdf 12 23 30.3 -0.4
UPC **Upice** 125.97 329 *e*PKPdf PKPdf 12 23 30.9 +0.3
BUD **Budapest** 126.11 325 ⇑*e*PKP PKPdf 12 23 31.2 +0.2
BRYW **Bryant College** 126.22 43 *e*PKPdf PKPdf 12 23 31.0 -0.3
VRAC **Vranov** 126.40 328 ⇓P PKPdf 12 23 31.9 +0.5
VRAC **Vranov** 126.40 328 PKP PKPdf 12 23 31.2 -0.3
comp=Z,4.4nm,0.4s,baz=104,slow=0.8,SNR=14
VRAC **Vranov** 126.40 328 ⇓*i*P PKPdf 12 23 31.9 +0.4
MODS **Modra-Piesok** 126.58 327 *i* PKP PKPdf 12 23 32.0 +0.2
PVCC **Panska Ves** 126.68 330 *e*PKPdf PKPdf 12 23 32.5 +0.5
PVCC *e*SS SS 12 42 28.3 -5.7
PVCC AMS AMS 13 21 40.0
comp=Z,5μm,21.5s,MS6.1
BRG **Berggiesshubel** 126.77 331 *i* PKP PKPdf 12 23 32.2 +0.1
BRG *e* 12 25 29.0
BRG *i* 12 35 24.0
BRG SS SS 12 42 55.0 +20
BRG LR LR
comp=Z,3μm,29.5s,MS5.8
BRG **Berggiesshubel** 126.77 331 *i* PKIKP PKPdf 12 23 32.4 +0.3
BRG *i* 12 23 44.5
BRG *e* 12 30 40.0
BRG pmax pmax
comp=Z,45nm,1.3s
BRG MLR MLR
comp=Z,4μm,25.8s,MS6.0
BRG **Berggiesshubel** 126.77 331 *e*PKPdf PKPdf 12 23 32.1 0.0
BRG **Berggiesshubel** 126.77 331 *i* PKP PKPdf 12 23 32.2 +0.1
comp=Z,84nm,1.4s
BRG *e* 12 25 29.0
BRG *i* 12 35 24.0
BRG SS SS 12 42 55.0 +20
BRG
comp=N,4μm,28.0s
BRG
comp=E,3μm,26.3s
BRG
comp=Z,5μm,29.5s
ZST **Bratislava** 126.78 327 *i* PKP PKPdf 12 23 32.7 +0.5
VAY **Valandovo** 126.90 317 *e*PKP PKPdf 12 23 30.5 -2.1
CLL **Collm** 126.93 332 *i* PKP PKPdf 12 23 32.4 0.0
CLL *i* 12 23 44.5
CLL *e*SKP 12 26 54.0
CLL *e*SKS SKSdf 12 30 40.0 -5.0
CLL LR LR
comp=Z,4μm,25.8s,MS6.0
CLL **Collm** 126.93 332 *i* PKIKP PKPdf 12 23 32.4 0.0
CLL *i* 12 23 44.5
CLL *e* 12 30 40.0
CLL pmax pmax
comp=Z,45nm,1.3s
CLL MLR MLR
comp=Z,4μm,25.8s,MS6.0
CLL **Collm** 126.93 332 *e*PKPdf PKPdf 12 23 32.6 +0.2
CLL *e*PP PP 12 25 29.9 +0.3
CLL *e*SKPdf SKPdf 12 26 58.1 -11
CLL *e*(PPP) 12 28 07.8
CLL *e*(SKKSac) 12 32 27.4
CLL *e*PS PS 12 35 31.9 -2.5
CLL *e*PPS 12 37 04.7
CLL *e*SS SS 12 42 37.5 +0.5
CLL *e*SSS 12 47 24.6
CLL *e*(SSSS) 12 51 38.6
CLL *e*LR LR 13 05 32.8
CLL **Collm** 126.93 332 *i* PKPdf PKPdf 12 23 32.4 0.0
comp=Z,47nm,1.3s
CLL *i* x x 12 23 44.5
CLL *e*PP PP 12 25 31.0 +1.4
CLL *e*SKPdf SKPdf 12 26 59.0 -10
CLL *e*PPP 12 28 11.0
CLL *e*SKSac SKSac 12 30 40.0 +0.8
CLL *e*SKKSac SKKSac 12 32 30.0 +1.3
CLL *ex* x 12 33 01.0
CLL *e*PSKS 12 35 24.0
CLL *e*PPS 12 37 01.0
CLL *ex* x 12 38 06.0
CLL *e*SS SS 12 42 48.0 +11
CLL *ex* x 12 43 36.0
CLL *e*SSS 12 47 16.0
CLL *e*SSSS 12 51 18.0
TREC **Trest** 126.99 328 *e*PKPdf PKPdf 12 23 32.6 0.0
TREC AMS AMS 13 22 20.0
comp=Z,5μm,21.5s,MS6.1
PKSM **Moragy** 127.02 324 ⇑P PKPdf 12 23 32.0 -0.7
PKSM **Moragy** 127.02 324 ⇑*i*P PKPdf 12 23 32.0 -0.7
PRU **Pruhonice** 127.04 330 *e*PKIKP PKPdf 12 23 32.8 +0.2
PRU *e* 12 25 30.8
PRU MLR MLR
comp=Z,4μm,21.0s,MS6.1
PRU **Pruhonice** 127.04 330 *e*PKPdf PKPdf 12 23 32.8 +0.2
PRU *e*PP PP 12 25 30.8 +0.4
PRU *ex* x 12 42 29.8
PRU AMS AMS 13 21 40.0
comp=Z,4μm,21.0s,MS6.1
PRA **Prague** 127.04 330 PKPdf PKPdf 12 23 32.0 -0.7
MLA1 **Latheron** 127.15 346 *e*P PKPdf 12 23 32.0 -0.6
DIVS **Divibare** 127.29 321 *e*P PKPdf 12 23 32.7 -0.6
SKO **Skopje** 127.37 318 *e*PKP PKPdf 12 23 32.2 -1.4
SOP **Sopron** 127.38 326 ⇑*e*PKP PKPdf 12 23 33.8 +0.4
NRDL **Niedersach Rie** 127.42 334 *e*PKPdf PKPdf 12 23 33.2 -0.1
NRDL *e*PP PP 12 25 31.4 -1.3
CONA **Conrad Observa** 127.61 327 ⇑*i*PKiKP PKiKP 12 23 33.5 -0.9
comp=Z,417nm,4.0s,SNR=13
MVH1 **Achvaich** 127.68 347 *e*P PKPdf 12 23 33.0 -0.6
CLZ **Clausthal** 127.76 334 *e*PKPdf PKPdf 12 23 34.3 +0.3
CLZ *e*PP PP 12 25 34.7 -0.3
KRUS **Krusevo** 127.77 317 *e*PKP PKPdf 12 23 33.1 -1.2
BIA **Bitola** 127.88 317 *e*PKP PKPdf 12 23 32.6 -1.9
NKC **Novy Kostel** 127.91 331 *e*PKP PKPdf 12 23 34.1 -0.2
NKC *e* 12 42 55.5
NKC **Novy Kostel** 127.91 331 *e*PKPdf PKPdf 12 23 34.1 -0.2
NKC *e*SS SS 12 42 55.5 +6.3
NKC AMS AMS 13 20 40.0
comp=Z,6μm,21.2s,MS6.2
FNA **Florina** 127.94 317 *e*P PKPdf 12 23 32.0 -2.6
MOX **Moxa** 128.03 332 *e*P PKPdf 12 23 34.5 0.0
comp=Z,80nm,1.9s
MOX *e* 12 25 33.9
MOX
comp=Z,3μm,22.0s
MOX **Moxa** 128.03 332 *e*PKIKP PKPdf 12 23 34.5 0.0
MOX *e* 12 25 33.9
MOX pmax pmax
comp=Z,3.0nm,1.9s
MOX MLR MLR
comp=Z,80μm,22.0s
MOX **Moxa** 128.03 332 *e*PKPdf PKPdf 12 23 34.2 -0.3
MOX *e*PP PP 12 25 37.2 +0.4
AGG **Agios Georgios** 128.03 314 *e*P PKPdf 12 23 33.1 -1.8
KHC **Kasperske Hory** 128.07 329 *e*PKIKP PKPdf 12 23 35.0 +0.4
KHC *e* 12 23 51.0
KHC *e* 12 25 43.1
KHC *e* 12 42 57.0
KHC MLR MLR
comp=Z,6μm,21.9s,MS6.2
KHC **Kasperske Hory** 128.07 329 *e*PKPdf PKPdf 12 23 35.0 +0.4
KHC *ex* x 12 23 51.0
KHC *e*PP PP 12 25 43.1 +5.9
KHC *ex* x 12 26 03.5
KHC *e*SS SS 12 42 57.0 +5.7
KHC AMS AMS 13 20 10.0
comp=Z,6μm,21.9s,MS6.2
MDO **Dochfour** 128.16 347 *e*P PKPdf 12 23 33.0 -1.6
GEC2 **GERESS Array S** 128.19 329 *e*PKPdf PKPdf 12 23 34.5 -0.4
GEC2 *e*PKPdf PKPdf 12 23 34.7 -0.1
GERES **GERESS Array B** 128.19 329 PKP PKPdf 12 23 34.4 -0.4
comp=Z,11nm,1.0s,baz=70,slow=1.6,SNR=47
OHR **Ohrid** 128.19 317 *e*PKP PKPdf 12 23 33.7 -1.4
ARSA **Arzberg** 128.20 326 ⇓*i*P PKPdf 12 23 34.5 -0.5

comp=Z,296nm,4.6s
MANZ Manzenberg 128.24 331 *e*PKPdf PKPdf 12 23 34.7 -0.2
KOGS Kog 128.26 325 *e*PKPdf PKPdf 12 23 34.3 -0.8
KOGS *e*PP PP 12 25 39.5 +0.8
GVD Gavdhos 128.28 309 *e*PKPdf PKPdf 12 23 35.5 0.0
ROTZ Rotzenmuhle 128.33 331 *e*PKPdf PKPdf 12 23 34.8 -0.3
ROTZ *e*PP PP 12 25 37.2 -1.7
WET Wettzell 128.41 330 *e*PKPdf PKPdf 12 23 35.1 -0.2
MOA Molln 128.51 328 ⇓*i*P PKPdf 12 23 35.1 -0.4
comp=Z,507nm,4.6s
IBBN Ibbenburen 128.54 335 *e*PKPdf PKPdf 12 23 35.8 +0.4
SELA Sela 128.65 313 *e*P PKPdf 12 23 37.8 +1.7
UBBA Unterbreizbach 128.65 333 *e*PKPdf PKPdf 12 23 35.4 -0.3
GROS Grobnik 128.68 326 *i* PKPdf PKPdf 12 23 35.1 -0.8
GRA1 Grafenberg Arr 128.86 331 *e*PKPdf PKPdf 12 23 36.2 +0.1
GRA1 *e*PP PP 12 25 43.5 +1.2
GRA1 LR LR
comp=Z,3μm,21.2s,MS5.9
GRF Grafenberg Arr 128.86 331 *e*PKPdf PKPdf 12 23 36.2 +0.1
GRF *e*PP PP 12 25 43.5 +1.2
GRF *e*L 13 23 58.0
comp=Z,3μm,21.2s
CRES Cresnjev 129.07 325 *e*PKPdf PKPdf 12 23 36.3 -0.3
OBKA Obir 129.18 326 ⇓*i*P PKPdf 12 23 36.3 -0.6
comp=Z,184nm,2.9s
STON Ston 129.35 321 P PKPdf 12 23 34.2 -3.1
BOJS Bojanci 129.38 325 *e*PKPdf PKPdf 12 23 37.2 -0.1
BOJS *e*PP PP 12 25 48.2 +2.3
LJU Ljubljana 129.47 326 *e*PKIKP PKPdf 12 23 37.3 -0.1
LJU *e* 12 25 48.9
LJU Ljubljana 129.47 326 *e*PKPdf PKPdf 12 23 37.3 -0.1
LJU *e*PP PP 12 25 48.9 +2.4
LJU *e* 12 26 58.2
KBA Koelnbreinsper 129.48 327 ⇑*i*P PKPdf 12 23 36.2 -1.2
comp=Z,142nm,2.6s,SNR=9.4
GORS Gorjuse 129.60 326 *e*PKPdf PKPdf 12 23 36.7 -1.0
MYKA Terra Mystica 129.60 327 ⇓*i*PKPdf PKPdf 12 23 36.7 -1.0
comp=Z,4μm,3.9s
CEY Cerknica 129.71 325 *e*PKPdf PKPdf 12 23 37.6 -0.3
CEY *e* 12 27 01.6
EKA Eskdalemuir Ar 129.75 345 PKP PKPdf 12 23 36.8 -0.9
comp=Z,2.7nm,0.5s,baz=23,slow=2.9,SNR=9.1
TNS Taunus Mts 129.77 333 *e*PKPdf PKPdf 12 23 37.8 -0.1
TNS *e*PP PP 12 25 49.3 +1.1
ESK Eskdalemuir 129.78 345 *e*P PKPdf 12 23 36.2 -1.5
VOY Vojsko 129.83 326 *e*PKPdf PKPdf 12 23 36.7 -1.4
VOY *e* 12 24 08.7
FUR Furstenfeldbru 129.85 330 *e*PKPdf PKPdf 12 23 38.4 +0.3
ROSC El Rosal 130.09 90 PKP PKPdf 12 23 39.8 +0.3
comp=Z,4.6nm,0.4s,baz=263,slow=17,SNR=7.9
ABTA Abfaltersbach 130.13 327 *i* PKiKP PKiKP 12 23 38.0 -1.5
comp=Z,112nm,1.8s,SNR=15
NVLJ Novalja 130.14 324 P PKPdf 12 23 36.9 -1.8
WATA Walderalm 130.25 329 ⇑*i*P PKPdf 12 23 38.8 -0.1
comp=Z,84nm,1.7s
WTTA Wattenberg 130.26 329 ⇓*i*P PKPdf 12 23 38.7 -0.2
comp=Z,682nm,4.1s,SNR=18
LPAZ La Paz 130.34 119 PKP PKPdf 12 23 40.4 +0.5
LPAZ SKP 12 27 17.9
LPAZ La Paz 130.34 119 PKP PKPdf 12 23 40.4 +0.5
comp=Z,22nm,1.2s,baz=330,slow=1.7,SNR=30
LPAZ SKP 12 27 17.9
comp=Z,3.4nm,0.9s,baz=266,slow=7.8,SNR=3.6
CKE Keswick 130.40 344 *e*P PKPdf 12 23 37.3 -1.6
ABH Alteburg 130.42 333 PKP PKPdf 12 23 39.9 +0.8
STU Stuttgart 130.46 331 *e*PKPdf PKPdf 12 23 39.4 +0.2
MOTA Moosalm 130.48 329 ⇑*i*P PKPdf 12 23 39.3 0.0
comp=Z,58nm,1.5s,SNR=5.8
SQTA Sankt Quirin 130.51 329 ⇑*i*P PKPdf 12 23 39.6 +0.2
comp=Z,68nm,1.6s
RETA Reutte 130.56 329 ⇓*i*PKiKP PKiKP 12 23 39.1 -1.2
comp=Z,394nm,4.4s
GAL1 Galloway 130.57 345 *e*P PKPdf 12 23 38.5 -0.8
RUP Ruppelstein 130.77 334 PKP PKPdf 12 23 40.3 +0.5
TSUM Tsumeb 130.86 236 *e*PKPdf PKPdf 12 23 41.1 +0.2
FETA Feichten 130.89 329 ⇓*i*PKiKP PKiKP 12 23 40.0 -1.0
comp=Z,579nm,4.9s,SNR=11
LANF Langenberg 130.96 332 PKP PKPdf 12 23 41.0 +0.9
LHO Holmfirth 130.96 343 *e*P PKPdf 12 23 39.5 -0.5
SPAK Spaichingen-Ko 131.12 331 PKP PKPdf 12 23 40.7 +0.2
DAVA Damuels 131.14 330 ⇓*i*P PKPdf 12 23 40.4 -0.2
comp=Z,553nm,4.3s
BFO Black Forest 131.18 332 *e*PKPdf PKPdf 12 23 39.9 -0.7
BFO *e*PP PP 12 25 57.7 +0.3
WLF Walferdange 131.19 334 *e*PKPdf PKPdf 12 23 41.3 +0.7
GIVF Givet 131.42 335 *e*PKIKP PKPdf 12 23 40.9 -0.1
DAVOX Davos/Dischmat 131.49 329 PKP PKPdf 12 23 41.0 -0.2
comp=Z,14nm,0.9s,baz=14,slow=2.2,SNR=19
CDF Champ du Feu 131.61 332 *e*PKIKP PKPdf 12 23 41.1 -0.3
comp=Z,101nm,1.6s
FELD Feldberg im Sc 131.65 331 PKP PKPdf 12 23 41.8 +0.3
BAIF Baives 131.70 336 *e*PKIKP PKPdf 12 23 41.3 -0.2
ECH Echery 131.81 332 PKP PKPdf 12 23 41.8 0.0
TIP Timpagrande 131.83 317 *e*PKPdf PKPdf 12 23 41.8 -0.3
DMUB Kingscourt 131.99 346 *e*P PKPdf 12 23 41.1 -0.8
MOF Molkenrain 132.08 332 PKP PKPdf 12 23 42.7 +0.4
HINF Hinteralfeld 132.24 332 *e*PKIKP PKPdf 12 23 41.8 -0.8
comp=Z,219nm,1.7s
HAU Haudompre 132.33 333 *e*PKIKP PKPdf 12 23 42.3 -0.5
comp=Z,152nm,1.6s
HAU *e*MLR MLR
comp=Z,5μm,22.8s,MS5.8
HAU Haudompre 132.33 333 *e*PKIKP PKPdf 12 23 42.3 -0.5
HAU MLR MLR
comp=Z,5μm,22.8s,MS6.2
THEF They Montfort 132.33 333 PKP PKPdf 12 23 42.7 -0.1
DLF Lyons Farm 132.45 346 *e*P PKPdf 12 23 44.0 +1.2
LOMF Lomont 132.58 332 PKP PKPdf 12 23 43.6 +0.3
DCN Croghan 132.59 346 *e*P PKPdf 12 23 42.8 -0.3
HTR Trewern Hill 132.66 343 *e*P PKPdf 12 23 41.6 -1.7
HGH Gray Hill 132.91 342 *e*P PKPdf 12 23 43.2 -0.6
CABF La Chapelle 133.47 331 *e*PKIKP PKPdf 12 23 44.6 -0.4
comp=Z,239nm,1.7s
LPL La Plagne 133.94 330 *e*PKIKP PKPdf 12 23 45.5 -0.4
LPG La Plagne 133.94 330 *e*PKIKP PKPdf 12 23 45.5 -0.4
comp=Z,15nm,0.6s
LOR Lormes 134.00 334 *e*PKIKP PKPdf 12 23 44.9 -1.0
comp=Z,82nm,1.4s
LOR *e*MLR MLR
comp=Z,7μm,23.0s,MS6.0
LOR Lormes 134.00 334 *e*PKIKP PKPdf 12 23 44.9 -1.0
LOR MLR MLR
comp=Z,7μm,23.0s,MS6.3
BNI Bardonecchia 134.29 329 *e*PKPdf PKPdf 12 23 47.0 +0.5
SSF Saint Saulge 134.31 334 *e*PKIKP PKPdf 12 23 46.3 -0.2
comp=Z,70nm,1.2s
MBDF Montbardon 134.48 329 *e*PKIKP PKPdf 12 23 46.3 -0.6
SMF Signal de Mont 134.48 333 *e*PKIKP PKPdf 12 23 46.3 -0.6
comp=Z,17nm,0.7s
FLN La Foliniere 134.57 338 *e*PKIKP PKPdf 12 23 46.1 -0.9
comp=Z,56nm,1.0s
FLN *e*MLR MLR
comp=Z,9μm,21.5s,MS6.1
FLN La Foliniere 134.57 338 *e*PKIKP PKPdf 12 23 46.1 -0.9
FLN MLR MLR
comp=Z,9μm,21.5s,MS6.4
LDF La Druitiere 134.57 338 *e*PKIKP PKPdf 12 23 46.4 -0.6
AVF Avril sur Loir 134.59 334 *e*PKIKP PKPdf 12 23 46.2 -0.9
comp=Z,18nm,1.0s
SBF Sospel 134.73 328 *e*PKIKP PKPdf 12 23 46.9 -0.5
PGF Pioggiola 134.75 325 *e*PKIKP PKPdf 12 23 46.9 -0.6
comp=Z,264nm,1.5s
ORIF Oris-en-Rattie 134.79 330 *e*PKIKP PKPdf 12 23 46.9 -0.6
ORIF *e*MLR MLR
comp=Z,3μm,20.8s,MS5.8
BGF Bois d'Agland 134.99 334 *e*PKIKP PKPdf 12 23 47.4 -0.4
comp=Z,34nm,0.9s
GRR Gorron 135.02 338 *e*PKIKP PKPdf 12 23 47.3 -0.5
PLDF La Plantade 135.09 333 PKP PKPdf 12 23 48.5 +0.5
FRF La Foret Royal 135.35 328 *e*PKIKP PKPdf 12 23 47.9 -0.7
VIVF Saint-Julien-l 135.43 331 *e*PKIKP PKPdf 12 23 48.1 -0.6
comp=Z,89nm,1.4s
TCF Toulx Ste Croi 135.48 334 *e*PKIKP PKPdf 12 23 48.4 -0.3
comp=Z,70nm,1.2s
PYM Petit Puy Mans 135.54 333 PKP PKPdf 12 23 49.4 +0.5
LMR La Mourre 135.58 328 *e*PKIKP PKPdf 12 23 48.3 -0.7
comp=Z,70nm,1.2s
SMRF Simiane la Rot 135.61 329 *e*PKIKP PKPdf 12 23 48.5 -0.6
comp=Z,72nm,1.3s
SGMF Saint Gilles 135.74 339 *e*PKIKP PKPdf 12 23 48.7 -0.5
comp=Z,167nm,1.4s
LBL Lubilhac 135.82 332 PKP PKPdf 12 23 50.5 +1.1
ROSF Rostrenen 135.92 340 *e*PKIKP PKPdf 12 23 49.1 -0.4
MFF Saint Martin d 136.22 336 *e*PKIKP PKPdf 12 23 49.4 -0.7
comp=Z,24nm,0.8s
QUIF Quistinic 136.24 340 *e*PKIKP PKPdf 12 23 49.6 -0.5
LASF Ste Croix 136.40 331 *e*PKIKP PKPdf 12 23 49.8 -0.7
comp=Z,43nm,1.1s
RJF Les Rejaudoux 136.55 334 *e*PKIKP PKPdf 12 23 50.1 -0.7
RJF *e*MLR MLR
comp=Z,6μm,22.0s,MS6.0
RJF Les Rejaudoux 136.55 334 *e*PKIKP PKPdf 12 23 50.1 -0.7
RJF MLR MLR
comp=Z,6μm,22.0s,MS6.3
CAF Calviac 136.60 333 *e*PKIKP PKPdf 12 23 50.2 -0.7
comp=Z,81nm,1.5s
MTLF Montolieu 137.74 331 *e*PKIKP PKPdf 12 23 52.0 -1.0
comp=Z,32nm,1.2s
SJG San Juan 137.93 72 *e*PKPdf PKPdf 12 23 53.8 -0.3
KEST Kesra 138.65 317 PKP PKPdf 12 23 54.5 -0.5
comp=Z,5.7nm,1.1s,baz=56,slow=3.6,SNR=3.2
EPF Esparros 138.85 332 *e*PKIKP PKPdf 12 23 54.0 -1.1
ETSF Etsaut 139.36 333 *e*PKIKP PKPdf 12 23 55.1 -0.9
comp=Z,69nm,1.3s
SJPF Ste Jean 139.49 334 *e*PKIKP PKPdf 12 23 55.5 -0.7
ELAN Lanestosa 140.31 336 PKP PKPdf 12 23 56.0 -1.8
ECRI Cripan 140.45 335 PKP PKPdf 12 23 58.2 +0.2
EARI Arriondas 140.94 338 PKP PKPdf 12 23 58.2 -0.6
EMOS Mosqueruela 141.30 331 PKP PKPdf 12 23 58.1 -1.5
EPON Pontenova 141.61 340 PKP PKPdf 12 23 59.4 -0.7
ECHE Chera 142.14 330 PKP PKPdf 12 24 01.1 -0.1
EBEN Beniarda 142.44 329 PKP PKPdf 12 24 01.0 -0.8
EMHD Djebel Mahouad 142.45 323 P PKPdf 12 24 06.0 +4.2
STS Santiago 142.47 341 PKP PKPdf 12 24 01.6 0.0
ECAL Calabor 142.69 338 PKP PKPdf 12 24 02.3 +0.2
GUD Guadarrama 142.76 334 PKP PKPdf 12 24 01.4 -0.8
PBRG Braganca 142.81 338 *e*PKP PKPdf 12 23 58.4 -3.9
ELOB Lobios 143.22 340 PKP PKPdf 12 23 57.5 -5.4
PCAB Cabril 143.35 340 *e*PKP PKPdf 12 24 00.2 -3.0
PCAB Cabril 143.35 340 *e*PP PP 12 27 16.1 +3.0
MVO Moncorvo 143.47 338 *e*PKP PKPdf 12 24 00.7 -2.8
MVO Moncorvo 143.47 338 *e*PP PP 12 27 16.1 +2.2
MVO Moncorvo 143.47 338 *e*LR LR 13 13 27.3
comp=Z,3μm,19.0s
ESDC Sonseca Array 143.48 333 PKP PKPdf 12 24 00.3 -3.2
comp=Z,3.9nm,0.7s,baz=16,slow=3.6,SNR=11
ESDC PP PP 12 27 12.9 -1.1
comp=Z,3.1nm,0.9s,baz=16,slow=6.0,SNR=5.0
EMUR La Murta 143.62 329 PKP PKPdf 12 24 03.5 -0.3
PVRL Vila Real 143.62 339 *e*PKP PKPdf 12 24 01.1 -2.6
EVIA Vianos 143.63 331 PKP PKPdf 12 24 01.8 -2.0
EANR 'Ain N'Sour 143.71 324 P PKPdf 12 24 03.8 -0.2
PAB San Pablo 143.75 334 *e*PKPdf PKPdf 12 24 04.7 +0.7
ETRT Tiaret 143.98 323 P PKPdf 12 24 03.0 -1.5
PVIS Viseu 144.18 339 *e*PKP PKPdf 12 24 02.4 -2.3
PVIS Viseu 144.18 339 *e*PP PP 12 27 16.6 -1.5
MTE Manteigas 144.33 338 *e*PKP PKPdf 12 24 03.2 -1.8
MTE Manteigas 144.33 338 *e*PP PP 12 27 23.9 +4.9
MTE Manteigas 144.33 338 *e*LR LR 13 14 16.9
comp=Z,4μm,28.8s
MTE Manteigas 144.33 338 *e*PKPdf PKPdf 12 24 03.7 -1.2
EQES Quesada 144.56 331 PKP PKPdf 12 24 03.4 -2.0
EBAN Banos Encina 144.62 332 PKP PKPdf 12 24 03.3 -2.3
ENIJ Nijar 144.78 329 PKP PKPdf 12 24 03.9 -2.0
PCBR Castelo Branco 144.79 337 *e*PKP PKPdf 12 24 04.5 -1.3
PCBR Castelo Branco 144.79 337 *e*PP PP 12 27 25.3 +3.5
EADA Adamuz 144.98 333 PKP PKPdf 12 24 05.1 -1.1
CAMM Nova Friburgo 145.01 149 ⇑*i*P PKPab 12 24 05.7 -0.2
CAM4 *i* 12 24 10.8
CAM4 *i* 12 24 18.8
CAM4 *i* 12 24 31.1
CAM4 *i* 12 24 53.0
CAM4 *i* 12 25 14.2
CAM4 *i* 12 26 37.3
EBER Berja 145.18 329 PKP PKPdf 12 24 05.2 -1.3
ECOG Cogollos-Vega 145.22 331 PKP PKPdf 12 24 05.5 -1.1
ELUQ Luque 145.33 332 PKP PKPdf 12 24 06.7 -0.1
ECAB El Cabril 145.44 333 PKP PKPdf 12 24 05.8 -1.2
EBAD Badajoz 145.54 336 PKP PKPdf 12 24 05.7 -1.4
ERON Agron 145.54 331 PKP PKPdf 12 24 05.8 -1.4
EGUA Guajares 145.57 330 PKP PKPdf 12 24 06.1 -1.2
ELOJ Sierra Loja 145.61 331 PKP PKPdf 12 24 06.0 -1.3
PESTR Estremoz 145.68 337 *e*PKP PKPdf 12 24 07.3 -0.1
PESTR Estremoz 145.68 337 *e*LR LR 13 13 54.2
comp=Z,3μm,21.7s
EALB Alboran 145.99 328 PKP PKPdf 12 24 07.6 -0.4
PBAR Barrancos 146.05 335 *e*PKP PKPdf 12 24 07.4 -0.6
PBAR Barrancos 146.05 335 *e*PP PP 12 27 30.9 +1.5
PBAR Barrancos 146.05 335 *e*LR LR 13 14 18.4
comp=Z,4μm,19.6s
EVO Evora 146.13 337 *e*PKIKP PKPdf 12 24 08.7 +0.6
comp=Z,345nm,1.4s
EVO *e*MLR MLR
comp=Z,5μm,21.8s,MS6.0
EVO Evora 146.13 337 *e*PKP PKPdf 12 24 08.0 -0.1
EVO Evora 146.13 337 *e*PP PP 12 27 34.2 +4.4
PMAFR Mafra 146.23 339 *e*PKP PKPdf 12 24 09.3 +1.0
PMAFR Mafra 146.23 339 *e*LR LR 13 14 45.4
comp=Z,3μm,32.1s
EMIN Mina Concepcio 146.24 335 PKP PKPdf 12 24 08.2 -0.2
EMIJ Mijas 146.37 331 PKP PKPdf 12 24 07.2 -1.4
LIS Lisbon 146.40 339 *e*P PKPdf 12 24 08.3 -0.3
PBEJ Beja 146.51 336 *e*PKP PKPdf 12 24 09.5 +0.7
ESPR Espera 146.63 333 PKP PKPdf 12 24 09.1 0.0
EGRO El Granado 146.78 335 PKP PKPdf 12 24 09.8 +0.5
EJIF Jimena Fronter 146.79 332 PKP PKPdf 12 24 09.2 -0.1
BDFB Brasilia 146.81 135 PKPbc PKPbc 12 24 10.3 -1.3
comp=Z,96nm,1.0s,baz=221,slow=1.5,SNR=67
PVAQ Vaqueiros 146.98 336 *e*PKP PKPdf 12 24 10.1 +0.5
PVAQ Vaqueiros 146.98 336 *e*PP PP 12 27 36.2 +1.3
PVAQ Vaqueiros 146.98 336 *e*LR LR 13 16 02.2
comp=Z,3μm,27.5s
SFS San Fernando 147.12 333 *e*PKPbc PKPbc 12 24 13.3 +1.3
PBDV Barranco-do-Ve 147.21 336 *e*PKP PKPdf 12 24 10.2 +0.2
PBDV Barranco-do-Ve 147.21 336 *e*PP PP 12 27 37.7 +1.5
PBDV Barranco-do-Ve 147.21 336 *e*LR LR 13 16 14.4
comp=Z,3μm,24.8s
PTEO Sao Teotonio 147.26 337 *e*PKP PKPdf 12 24 12.7 +2.6
CAM3 Guarapari 147.39 151 ⇑*i*P PKPdf 12 24 11.6 +0.8
CAM3 *i* 12 24 17.0
CAM3 *i* 12 24 22.7
MORF Marmelete 147.44 337 *e*PKP PKPdf 12 24 10.4 0.0
MORF Marmelete 147.44 337 *e*LR LR 13 16 32.6
comp=Z,4μm,24.9s
PFVI Vila Bisbo 147.66 337 *e*PKP PKPdf 12 24 13.4 +2.6
PFVI Vila Bisbo 147.66 337 *e*LR LR 13 15 03.4
comp=Z,3μm,22.0s
TORD Torodi Ar. Bea 154.03 284 PKP PKPdf 12 24 19.8 -1.4
comp=Z,9.7nm,1.3s,baz=42,slow=2.4,SNR=14
TORD PKPbc PKPbc 12 24 27.6 -1.7
comp=Z,13nm,0.9s,baz=36,slow=1.1,SNR=17
TORD PKPab PKPab 12 24 41.0 -1.6
comp=Z,20nm,1.1s,baz=57,slow=1.4,SNR=6.3
TORD PP PP 12 28 13.2 -4.2
comp=Z,3.4nm,1.1s,baz=61,slow=6.8,SNR=2.8
CFTV Fuerteventura 157.41 336 PKP PKPdf 12 24 24.8 -0.6
DBIC Dimbokro 160.80 268 PKP PKPdf 12 24 28.9 -0.8
comp=Z,18nm,1.2s,baz=90,slow=1.6,SNR=9.7
DBIC PKPab PKPab 12 25 11.4 -0.5
comp=Z,28nm,0.9s,baz=91,slow=4.5,SNR=11
BBTS Babate 169.89 313 PKP PKPdf 12 24 37.0 -0.3
comp=Z,15nm,0.4s,baz=166,slow=1.0,SNR=5.1

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*IDC **03** 12:06:54.5±0.8, 780S×15573E, h0km, mb4.9/13, mb1 5.0/13, mb1mx4.9/18, mbtmp4.9/13, MS5.7/1, Ms1 5.7/1, ms1mx4.3/21, Error ellipse: s-maj=29.5km s-min=20.0km az=106.0*
*ISCJB **03** 12:06:58.4±0.8, 780S±009×1557E±02, h33km, mb4.8/13, Error ellipse: s-maj=23.2km s-min=11.8km az=18.0*
ISC 03 12:07:00.2±0.8, 785S±009×1557E±02, h35km, n40, σ0§94/33, mb4.8/13, 1D, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**15.23**	**216**	Pn	**Pn**	**12 10 38.1**	**+5.5**
	0.8nm,0.3s,baz=53,slow=16,SNR=3.4						
WRA	**Warramunga Arr**	**23.94**	**238**	P	**P**	**12 12 11.7**	**+0.4**
	20nm,0.9s,mb4.5,baz=62,slow=9.6,SNR=4.5						
ASAR	**Alice Springs**	**26.16**	**231**	P	**P**	**12 12 31.5**	**+0.1**
	7.1nm,0.8s,mb4.2,baz=61,slow=9.6,SNR=2.6						
FITZ	**Fitzroy Crossi**	**30.97**	**248**	P	**P**	**12 13 14.2**	**-0.2**
	13nm,0.8s,mb4.8,baz=70,slow=12,SNR=2.9						
PPR	**Puerto Princes**	**40.78**	**295**	⇓*i*P	**P**	**12 14 39.0**	**+0.6**
JOD2	**Odawara 2**	**45.66**	**341**	P	**P**	**12 15 17.4**	**-0.1**
JIE	**Ise**	**45.71**	**338**	P	**P**	**12 15 17.9**	**0.0**
JYT	**Yasato**	**46.21**	**343**	P	**P**	**12 15 21.7**	**-0.1**
JMN	**Monobe**	**46.26**	**335**	P	**P**	**12 15 23.0**	**+0.8**
JRY	**Ryogami san**	**46.41**	**341**	P	**P**	**12 15 22.6**	**-0.8**
JGF	**Kuroka**	**46.55**	**339**	P	**P**	**12 15 23.9**	**-0.6**
JWT	**Wachi**	**46.99**	**337**	P	**P**	**12 15 28.0**	**+0.1**
JNU	**Nakatsue**	**47.10**	**331**	P	**P**	**12 15 29.2**	**+0.4**
JNU	**Nakatsue**	**47.10**	**331**	P	**P**	**12 15 28.4**	**-0.4**
	33nm,0.9s,mb5.3,baz=109,slow=8.8,SNR=3.6						
MJAR	**Matsushiro Arr**	**47.12**	**341**	P	**P**	**12 15 27.0**	**-1.9**
	24nm,0.7s,mb5.2,baz=155,slow=7.6,SNR=7.1						
MAT	**Matsushiro**	**47.12**	**341**	P	**P**	**12 15 27.7**	**-1.2**
MAT	**Matsushiro**	**47.12**	**341**	P	**P**	**12 15 27.3**	**-1.6**
JAD	**Aida**	**47.18**	**336**	P	**P**	**12 15 30.0**	**+0.6**
JHS	**Saijyo**	**47.67**	**335**	P	**P**	**12 15 33.6**	**+0.4**
JYA	**Atsumi**	**48.55**	**343**	P	**P**	**12 15 41.0**	**+1.1**
JTM	**Tenmabayashi**	**50.24**	**346**	P	**P**	**12 15 52.5**	**-0.4**
KSRS	**Korea Array**	**52.02**	**332**	P	**P**	**12 16 04.5**	**-1.7**
	12nm,0.8s,mb4.9,baz=148,slow=7.9,SNR=4.5						
JEW	**Eniwo**	**52.10**	**347**	P	**P**	**12 16 08.2**	**+1.5**
JSH	**Shimam**	**52.25**	**345**	P	**P**	**12 16 07.5**	**-0.3**
JMP	**Maruseppu**	**52.81**	**349**	P	**P**	**12 16 13.7**	**+1.7**
ASAJ	**Asahikawa**	**53.07**	**348**	P	**P**	**12 16 16.2**	**+2.3**
ASAJ	**Asahikawa**	**53.07**	**348**	P	**P**	**12 16 14.1**	**+0.1**
	29nm,0.8s,mb5.2,baz=223,slow=13,SNR=4.8						
SONM	**Songino Array**	**70.44**	**327**	P	**P**	**12 18 11.8**	**+0.9**
	5.5nm,0.6s,mb4.6,baz=140,slow=6.4,SNR=5.0						
QSPA	**South Pole Qui**	**82.13**	**180**	P	**P**	**12 19 16.2**	**-0.5**
	10nm,0.9s,mb4.8,baz=37,slow=8.8,SNR=4.0						
MKAR	**Makanchi Array**	**84.51**	**319**	P	**P**	**12 19 29.5**	**0.0**
	30nm,0.8s,mb5.5,baz=104,slow=5.7,SNR=8.5						
ZALV	**Zalesovo Beam**	**85.28**	**326**	P	**P**	**12 19 32.1**	**-1.1**
	12nm,0.7s,mb5.1,baz=106,slow=4.9,SNR=5.9						
NVAR	**Mina Array Bea**	**91.69**	**52**	P	**P**	**12 20 05.7**	**+1.5**
	0.9nm,0.8s,mb4.1,baz=256,slow=7.3,SNR=2.6						
YKA	**Yellowknife Ar**	**96.76**	**28**	P	**P**	**12 20 25.4**	**-1.4**
	3.0nm,0.8s,mb4.8,baz=266,slow=4.5,SNR=5.2						
AKASG	**Malin Array Be**	**118.65**	**324**	PKP	PKPdf	12 25 44.0	-0.5
	1.3nm,0.6s,baz=56,slow=2.0,SNR=5.1						
HFS	**Hagfors**	**120.55**	**339**	PKP	PKPdf	12 25 47.6	-0.2
	1.8nm,0.7s,baz=182,slow=40,SNR=3.4						
NOA	**NORSAR Array B**	**120.74**	**341**	PKP	PKPdf	12 25 47.7	-0.5
	1.6nm,0.8s,baz=44,slow=2.0,SNR=3.0						
GERES	**GERESS Array B**	**128.15**	**329**	PKP	PKPdf	12 26 03.1	+0.4
	4.6nm,1.1s,baz=75,slow=1.5,SNR=3.9						
EKA	**Eskdalemuir Ar**	**129.75**	**344**	PKP	PKPdf	12 26 05.9	+0.3
	2.9nm,0.9s,baz=15,slow=3.7,SNR=3.4						
BDFB	**Brasilia**	**146.88**	**135**	PKPbc	PKPbc	12 26 39.9	+0.1
	10nm,0.8s,baz=180,slow=6.9,SNR=3.7						
TORD	**Torodi Ar. Bea**	**153.93**	**284**	PKPbc	PKPbc	12 26 56.6	-0.4
	4.0nm,1.0s,baz=50,slow=0.4,SNR=3.3						
TORD				PKPab	PKPab	12 27 13.1	+2.8
	5.3nm,1.0s,baz=87,slow=1.9,SNR=3.5						

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*IDC **03** 12:16:07.8±0.5, 098N×12654E, h0km, mb4.5/16, mb1 4.5/17, mb1mx4.5/20, mbtmp4.5/17, ML3.8/1, Error ellipse: s-maj=27.6km s-min=9.2km az=74.0*
*ISCJB **03** 12:16:08.1±0.3, 106N±004×12643E±010, h10km, mb4.7/34, MS5.6/2, Error ellipse: s-maj=14.6km s-min=5.3km az=169.8*
*NEIC **03** 12:16:09.6±0.3, 109N×12665E, h10km, mb4.8/11, Error ellipse: s-maj=14.7km s-min=6.9km az=76.0*
*MOS **03** 12:16:11.7±1.0, 108N×12633E, h33km, mb5.1/8, Error ellipse: s-maj=19.5km s-min=8.8km az=102.8*
ISC 03 12:16:11.4±2.6, 101N±004×1265E±01, h20km±18km, n64, σ0§84/62, mb4.7/34, MS5.6/2, 6C-3D, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Kupang**	**11.50**	**194**	Pn	**Pn**	**12 19 01.1**	**+6.5**
	0.4nm,0.3s,baz=271,slow=21,SNR=1.7						
KAKA	**Kakadu**	**14.85**	**157**	*e*P	**Pn**	**12 19 39.2**	**-1.2**
	36nm,0.6s						
KSM	**Kuching**	**16.20**	**272**	*e*P	**Pn**	**12 20 02.9**	**+4.8**
FITZ	**Fitzroy Crossi**	**19.01**	**183**	*e*P	**Pn**	**12 20 32.7**	**-0.2**
	12nm,0.7s						
FITZ	**Fitzroy Crossi**	**19.01**	**183**	P	**Pn**	**12 20 32.0**	**-0.9**
	0.2nm,0.3s,baz=18,slow=13,SNR=8.0						
WRA	**Warramunga Arr**	**22.20**	**160**	P	**P**	**12 21 06.9**	**+0.3**
	62nm,0.6s,mb5.2,baz=342,slow=11,SNR=214						
WRA				S	**S**	**12 25 09.0**	**-1.4**
	3.7nm,1.0s,baz=338,slow=15,SNR=6.0						
WB2	**Warramunga Arr**	**22.20**	**160**	⇑*i*P	**P**	**12 21 07.0**	**+0.4**
WB2				*e*S	**S**	**12 25 08.3**	**-2.1**
MBWA	**Marble Bar**	**23.01**	**196**	*e*P	**P**	**12 21 15.2**	**0.0**
	10nm,0.8s,mb4.3						
ASAR	**Alice Springs**	**25.56**	**164**	P	**P**	**12 21 39.6**	**+0.5**
	13nm,0.9s,mb4.5,baz=347,slow=7.1,SNR=80						
ASAR				S	**S**	**12 26 06.6**	**+0.6**
	4.5nm,1.1s,baz=348,slow=24,SNR=4.5						
PSI	**Prapat**	**27.62**	**274**	P	**P**	**12 21 56.8**	**-1.1**
	13nm,1.1s,mb4.5,baz=123,slow=4.1,SNR=5.5						
FORT	**Forrest**	**31.65**	**177**	*e*P	**P**	**12 22 34.6**	**+1.2**
	50nm,0.7s,mb5.5						
KLBR	**Kellerberrin**	**33.47**	**194**	*e*P	**P**	**12 22 49.7**	**+0.4**
	9.0nm,0.5s,mb5.0						
MUN	**Mundaring**	**34.23**	**196**	*e*P	**P**	**12 22 56.7**	**+0.8**
NWAO	**Narrogin (SRO)**	**34.87**	**194**	P	**P**	**12 23 01.5**	**0.0**
	6.1nm,0.5s,mb4.8,baz=16,slow=7.9,SNR=9.9						
STKA	**Stephens Creek**	**35.70**	**158**	*e*P	**P**	**12 23 07.1**	**-1.5**
	12nm,0.6s,mb5.0						
STKA	**Stephens Creek**	**35.70**	**158**	P	**P**	**12 23 08.6**	**0.0**
	14nm,0.6s,mb5.1,baz=329,slow=8.8,SNR=24						
KSRS	**Korea Array**	**36.29**	**2**	P	**P**	**12 23 13.2**	**-0.3**
	2.5nm,0.6s,mb4.3,baz=183,slow=9.7,SNR=10.0						
KSRS				PcP	PcP	12 25 38.4	+0.1
	1.4nm,0.8s,baz=176,slow=5.8,SNR=3.5						
MJAR	**Matsushiro Arr**	**36.98**	**16**	P	**P**	**12 23 16.5**	**-3.0**
	0.9nm,0.6s,mb3.8,baz=180,slow=16,SNR=4.8						
MDJ	**Mudanjiang**	**43.50**	**3**	*e*P	**P**	**12 24 14.1**	**+0.7**
	8.7nm,0.9s,mb4.5						
ASAJ	**Asahikawa**	**45.24**	**16**	P	**P**	**12 24 26.4**	**-1.0**
	4.5nm,0.8s,mb4.3,baz=214,slow=13,SNR=9.5						
HABR	**Kh

BILL Bilibino 72.22 15⇓eP P P 12 27 34.8 +0.1
BILL pmax pmax
comp=Z,2.0nm,0.5s,mb4.3
BILL MLR MLR
comp=Z,2μm,17.0s,MS5.4
AKTK Aktyubinsk 75.64 322 P **P 12 27 55.0 -0.1**
AKTO Aktyubinsk 75.64 322 P **P 12 27 55.0 -0.1**
comp=Z,3.2nm,0.4s,mb4.6,baz=90,slow=7.1,SNR=8.8
VNDA Vanda 80.78 173 P **P 12 28 23.5 +0.5**
comp=Z,4.8nm,0.8s,mb4.5,baz=313,slow=6.7,SNR=17
SBA Scott Base 81.69 172 *eP* **P 12 28 29.3 +1.4**
SVW2 Sparrevohn 83.28 29 *eP* **P 12 28 38.4 +1.9**
ASF Jabal al Asfar 89.14 302 P **P 12 29 06.5 +0.5**
comp=Z,3.0nm,0.5s,mb4.8,baz=104,slow=4.2,SNR=3.1
OBN Obninsk 89.14 325⇓eP P 12 29 04.3 -1.2
OBN *i* 12 32 30.3
OBN pmax pmax
comp=Z,6.0nm,0.5s,mb5.2
OBN MLR MLR
comp=Z,3μm,23.0s,MS5.7
KMBO Kilima Mbogo 89.28 269 P **P 12 29 07.2 +0.2**
KMBO *eP* 12 29 07.6
KMBO Kilima Mbogo 89.28 269 P **P 12 29 07.2 +0.2**
comp=Z,0.6nm,0.4s,mb4.3,baz=83,slow=22,SNR=2.8
QSPA South Pole Qui 90.94 180 P **P 12 29 14.0 +0.6**
comp=Z,1.5nm,0.7s,mb4.5,baz=347,slow=1.0,SNR=8.9
INK Inuvik 92.76 22 P **P 12 29 21.6 -0.4**
comp=Z,2.9nm,1.1s,mb4.6,baz=280,slow=6.6,SNR=4.6
ARCES ARCESS Array B 92.91 340 P **P 12 29 22.2 -0.5**
comp=Z,3.4nm,0.8s,mb4.8,baz=76,slow=4.6,SNR=3.0
FINES FINESS Array B 94.11 332 P **P 12 29 25.7 -2.7**
FINES FINESS Array B 94.11 332 P **P 12 29 25.7 -2.7**
comp=Z,2.8nm,1.0s,mb4.7,baz=164,slow=18,SNR=2.9
YKA Yellowknife Ar 102.05 25 P Pdif 12 30 04.3 +0.1
comp=Z,0.3nm,0.6s,baz=297,slow=4.5,SNR=5.4
TORD Torodi Ar. Bea 123.51 286 PKP PKPdf 12 35 07.1 -1.3
comp=Z,1.2nm,0.8s,baz=165,slow=1.8,SNR=4.2
DBIC Dimbokro 130.87 280 PKP PKPdf 12 35 22.6 0.0
comp=Z,1.0nm,0.6s,baz=198,slow=5.1,SNR=3.7
PLCA Paso Flores 137.54 161 PKP PKPdf 12 35 34.9 +0.5
comp=Z,1.1nm,0.6s,baz=248,slow=8.2,SNR=3.0
LCO Las Campanas 147.68 151 *e*PKPdf PKPdf 12 35 53.6 +1.0
LCO *e*PKPbc PKPbc 12 35 56.6 +1.3
LCO *e*PKPab PKPab 12 35 57.7 +0.2

BJI ***03*** *12:25:29.7, 767S×15605E, h16km, mb4.8*
IDC ***03*** *12:25:29.4±0.7, 778S×15563E, h0km, mb4.3/13, mb1 4.5/14, mb1mx4.4/18, mbtmp4.4/14, ML3.5/1, Error ellipse: s-maj=25.5km s-min=16.8km az=108.0*
NEIC ***03*** *12:25:31.0±0.5, 772S×15580E, h10km, mb4.9/7, Error ellipse: s-maj=16.3km s-min=12.3km az=110.0*
ISCJB ***03*** *12:25:33.1±0.5, 777S±007×1556E±01, h33km, mb4.4/20, Error ellipse: s-maj=15.1km s-min=10.3km az=13.8*
ISC 03 12:25:39.2±3.9, 79S±01×1557E±01, h77km±39km, n33, σ0§94/30, mb4.3/20, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**15.21**	**216**	Pn	**Pn**	**12 29 12.4**	**+2.7**
	0.1nm,0.3s,baz=54,slow=8.6,SNR=4.4						
DZM	**Mont Dzumac**	**17.53**	**145**	P	**Pn**	**12 29 38.3**	**-0.3**
	0.2nm,0.3s,baz=284,slow=14,SNR=3.8						
WB2	**Warramunga Arr**	**23.91**	**238**	*eP*	**P**	**12 30 46.1**	**0.0**
WRA	**Warramunga Arr**	**23.92**	**238**	P	**P**	**12 30 45.1**	**-1.0**
	2.6nm,0.4s,mb3.9,baz=60,slow=9.5,SNR=21						
WRA				PcP	PcP	12 34 27.6	+0.5
	1.0nm,1.1s,baz=52,slow=1.9,SNR=4.9						
ASAR	**Alice Springs**	**26.14**	**231**	P	**P**	**12 31 05.4**	**-0.9**
	1.4nm,0.8s,mb3.4,baz=58,slow=9.0,SNR=10						
STKA	**Stephens Creek**	**27.27**	**207**	P	**P**	**12 31 15.9**	**-0.4**
	4.7nm,1.1s,mb4.0,baz=23,slow=13,SNR=4.9						
FITZ	**Fitzroy Crossi**	**30.95**	**248**	*eP*	**P**	**12 31 48.7**	**-0.5**
	3.8nm,1.0s,mb4.1						
FITZ	**Fitzroy Crossi**	**30.95**	**248**	P	**P**	**12 31 48.5**	**-0.8**
	1.1nm,0.6s,mb3.8,baz=51,slow=12,SNR=6.5						
MJAR	**Matsushiro Arr**	**47.11**	**341**	P	**P**	**12 34 02.4**	**-1.3**
	7.8nm,0.8s,mb4.5,baz=154,slow=7.5,SNR=20						
MAJO	**Matsushiro**	**47.12**	**341**	*eP*	**P**	**12 34 03.0**	**-0.7**
	12nm,0.8s,mb4.7						
MAT	**Matsushiro**	**47.12**	**341**	P	**P**	**12 34 02.7**	**-0.9**
KSRS	**Korea Array**	**52.02**	**332**	P	**P**	**12 34 40.5**	**-0.4**
	2.2nm,0.8s,mb4.3,baz=145,slow=7.8,SNR=6.4						
ASAJ	**Asahikawa**	**53.07**	**348**	P	**P**	**12 34 48.5**	**-0.1**
	9.9nm,0.9s,mb4.8,baz=218,slow=9.3,SNR=7.4						
CN2	**Changchun**	**58.26**	**335**	*eP*	**P**	**12 35 26.0**	**+0.3**
KMI	**Kunming**	**61.06**	**304**	P	**P**	**12 35 47.8**	**+2.4**
KMI				AP	pP	12 35 52.3	-13
KMI				AMB	AMB		
	comp=Z,13nm,1.4s,mb4.8						
KMI	**Kunming**	**61.06**	**304**	P	**P**	**12 35 47.8**	**+2.4**
	comp=Z,13nm,1.4s,mb4.8						
KMI				pP	pP	12 35 52.3	-13
GTA	**Gaotai**	**69.83**	**317**	*eP*	**P**	**12 36 42.5**	**+0.8**
GTA				AP	pP	12 36 48.0	-14
GTA				XP	sP	12 36 50.5	-20
GTA				AMB	AMB		
	comp=Z,2.0nm,1.2s,mb3.8						
ULN	**Ulaanbaatar**	**70.09**	**327**	*eP*	**P**	**12 36 47.1**	**+4.0**
	comp=Z,3.3nm,1.0s,mb4.1						
SONM	**Songino Array**	**70.43**	**327**	P	**P**	**12 36 44.9**	**-0.3**
	comp=Z,1.5nm,0.7s,mb3.9,baz=135,slow=5.1,SNR=11						
YAK	**Yakutsk**	**72.54**	**347**	*eP*	**P**	**12 36 58.6**	**+1.0**
	comp=Z,87nm,1.5s,mb5.4						
BILL	**Bilibino**	**76.08**	**4**	*eP*	**P**	**12 37 18.4**	**+0.4**
	comp=Z,27nm,1.0s,mb4.9						
MCK	**McKinley**	**82.59**	**22**	*eP*	**P**	**12 37 52.9**	**-0.6**
	comp=Z,7.2nm,1.0s,mb4.5						
COLA	**College**	**83.63**	**21**	*eP*	**P**	**12 37 58.1**	**-0.8**
MK31	**Makanchi Array**	**84.50**	**319**	*eP*	**P**	**12 38 04.8**	**+1.1**
MKAR	**Makanchi Array**	**84.50**	**319**	P	**P**	**12 38 04.2**	**+0.5**
	comp=Z,6.5nm,0.8s,mb4.5,baz=101,slow=6.3,SNR=36						
ZALV	**Zalesovo Beam**	**85.27**	**326**	P	**P**	**12 38 07.2**	**-0.2**
	comp=Z,3.1nm,0.7s,mb4.3,baz=104,slow=4.9,SNR=12						
INK	**Inuvik**	**90.28**	**21**	P	**P**	**12 38 30.8**	**-0.3**
INK	**Inuvik**	**90.28**	**21**	P	**P**	**12 38 30.8**	**-0.3**
	comp=Z,3.7nm,1.1s,mb4.4,baz=224,slow=6.5,SNR=5.3						
NVAR	**Mina Array Bea**	**91.71**	**52**	P	**P**	**12 38 40.2**	**+1.8**
	comp=Z,0.5nm,0.8s,mb3.8,baz=260,slow=3.6,SNR=4.0						
YKA	**Yellowknife Ar**	**96.77**	**28**	P	**P**	**12 39 00.7**	**-0.3**
	comp=Z,1.9nm,0.9s,mb4.5,baz=267,slow=4.6,SNR=21						
GERES	**GERESS Array B**	**128.14**	**329**	PKP	PKPdf	12 44 37.2	+0.6
	comp=Z,0.9nm,0.7s,baz=76,slow=5.6,SNR=5.5						
LPAZ	**La Paz**	**130.44**	**119**	PKP	PKPdf	12 44 43.5	+1.6
	comp=Z,0.9nm,0.9s,baz=211,slow=1.5,SNR=3.5						
BDFB	**Brasilia**	**146.89**	**135**	PKPbc	PKPbc	12 45 14.2	+0.4
	comp=Z,7.4nm,0.8s,baz=270,slow=1.0,SNR=8.0						

IDC ***03*** *12:29:33.7±0.8, 794S×15581E, h0km, mb4.5/13, mb1 4.6/13, mb1mx4.5/17, mbtmp4.5/13, MS4.6/2, Ms1 4.6/2, ms1mx3.9/25, Error ellipse: s-maj=28.1km s-min=16.3km az=108.0*
ISCJB ***03*** *12:29:37.6±0.4, 785S±006×15575E±006, h33km, mb4.5/18, Error ellipse: s-maj=9.3km s-min=8.8km az=6.2*
NEIC ***03*** *12:30:04.6±0.9, 583S×15108E, h35km, mb4.9/4, Error ellipse: s-maj=40.9km s-min=17.0km az=114.0*
BJI ***03*** *12:30:04.6, 580S×15110E, h35km, mb4.8*
ISC 03 12:29:39.7±0.4, 786S±007×15572E±006, h35km, n42, σ0§92/28, mb4.5/18, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.46**	**111**	Pn	**Pn**	**12 30 49.7**	**+4.9**
	9.1nm,0.3s,baz=270,slow=19,SNR=2.1						
HNR				Sn	**Sn**	**12 31 35.5**	**0.0**
	14nm,0.3s,baz=283,slow=6.2,SNR=3.9						
HNR				LR	LR	12 32 17.0	
	comp=Z,4μm,20.9s,baz=186,slow=38						
CTA	**Charters Tower**	**15.22**	**216**	Pn	**Pn**	**12 33 14.4**	**+2.3**
	0.2nm,0.3s,baz=63,slow=14,SNR=3.6						
KAKA	**Kakadu**	**23.40**	**256**	*eP*	**P**	**12 34 46.9**	**+1.0**
	7.7nm,0.5s,mb4.3						
WB2	**Warramunga Arr**	**23.93**	**238**	*eP*	**P**	**12 34 50.7**	**0.0**
WRA	**Warramunga Arr**	**23.94**	**238**	P	**P**	**12 34 50.3**	**-0.4**
	10nm,0.8s,mb4.3,baz=60,slow=9.6,SNR=30						
WRA				PcP	PcP	12 38 32.3	-0.5
	1.6nm,0.8s,baz=65,slow=2.6,SNR=4.6						
ASAR	**Alice Springs**	**26.16**	**231**	P	**P**	**12 35 09.8**	**-1.1**
	2.5nm,0.8s,mb3.8,baz=63,slow=8.7,SNR=15						
STKA	**Stephens Creek**	**27.28**	**207**	*eP*	**P**	**12 35 21.6**	**+0.7**
	3.8nm,0.8s,mb4.0						
STKA	**Stephens Creek**	**27.28**	**207**	P	**P**	**12 35 21.2**	**+0.3**
	3.5nm,0.8s,mb3.9,baz=358,slow=11,SNR=6.3						
FITZ	**Fitzroy Crossi**	**30.98**	**248**	*eP*	**P**	**12 35 53.5**	**-0.5**
	5.3nm,0.6s,mb4.5						
FITZ	**Fitzroy Crossi**	**30.98**	**248**	P	**P**	**12 35 52.9**	**-1.0**
	3.1nm,0.5s,mb4.4,baz=92,slow=7.1,SNR=12						
FORT	**Forrest**	**34.47**	**225**	*eP*	**P**	**12 36 24.5**	**+0.2**
	11nm,0.7s,mb4.9						
RPZ	**Rata Peaks**	**38.15**	**162**	LR	LR	12 48 49.7	
	comp=Z,2μm,19.5s,baz=309,slow=30						
KLBR	**Kellerberrin**	**42.49**	**231**	*eP*	**P**	**12 37 29.9**	**-1.8**
	9.7nm,0.7s,mb4.5						
MJAR	**Matsushiro Arr**	**47.13**	**341**	P	**P**	**12 38 07.2**	**-1.3**
MJAR				PP	PP	12 39 59.7	0.0
MJAR	**Matsushiro Arr**	**47.13**	**341**	P	**P**	**12 38 07.2**	**-1.3**
	14nm,0.7s,mb5.0,baz=155,slow=8.0,SNR=37						
MJAR				PP	PP	12 39 59.7	0.0
	0.9nm,0.8s,baz=171,slow=8.5,SNR=4.8						
MAJO	**Matsushiro**	**47.13**	**341**	*eP*	**P**	**12 38 07.8**	**-0.7**
	26nm,0.6s,mb5.3						
MAT	**Matsushiro**	**47.13**	**341**	P	**P**	**12 38 07.4**	**-1.1**
KSRS	**Korea Array**	**52.04**	**332**	P	**P**	**12 38 46.6**	**+0.8**
	3.1nm,0.6s,mb4.4,baz=143,slow=7.1,SNR=13						
ASAJ	**Asahikawa**	**53.08**	**348**	P	**P**	**12 38 54.5**	**+1.0**
	9.1nm,0.8s,mb4.8,baz=224,slow=12,SNR=13						
CN2	**Changchun**	**58.28**	**335**	*eP*	**P**	**12 39 31.8**	**+1.0**
SONM	**Songino Array**	**70.45**	**327**	P	**P**	**12 40 51.2**	**+0.8**
	1.2nm,0.5s,mb4.1,baz=140,slow=5.9,SNR=9.9						
YAK	**Yakutsk**	**72.55**	**347**	*eP*	**P**	**12 41 03.5**	**+0.7**
	28nm,0.9s,mb5.2						
QSPA	**South Pole Qui**	**82.12**	**180**	P	**P**	**12 41 55.4**	**-0.8**
	1.5nm,0.7s,mb4.0,baz=288,slow=3.6,SNR=4.2						
MK31	**Makanchi Array**	**84.53**	**319**	*eP*	**P**	**12 42 09.4**	**+0.3**
MKAR	**Makanchi Array**	**84.53**	**319**	P	**P**	**12 42 09.4**	**+0.3**
	8.6nm,0.8s,mb5.0,baz=101,slow=6.3,SNR=38						
ZALV	**Zalesovo Beam**	**85.30**	**326**	P	**P**	**12 42 12.4**	**-0.4**
	4.0nm,0.7s,mb4.6,baz=111,slow=6.0,SNR=20						
NVAR	**Mina Array Bea**	**91.69**	**52**	P	**P**	**12 42 44.5**	**+0.8**
	0.5nm,0.8s,mb3.9,baz=248,slow=10,SNR=3.6						
YKA	**Yellowknife Ar**	**96.76**	**28**	P	**P**	**12 43 05.4**	**-1.0**
	1.9nm,0.8s,mb4.6,baz=266,slow=4.6,SNR=19						
NOA	**NORSAR Array B**	**120.75**	**341**	PKP	PKPdf	12 48 27.8	+0.1
	0.6nm,0.8s,baz=80,slow=19,SNR=3.3						
GERES	**GERESS Array B**	**128.16**	**329**	PKP	PKPdf	12 48 41.0	-1.3
	0.5nm,0.2s,baz=54,slow=2.5,SNR=6.5						
EQES	**Quesada**	**144.55**	**330**	PKP	PKPdf	12 49 12.4	-0.5
EBAN	**Banos Encina**	**144.60**	**332**	PKP	PKPdf	12 49 12.8	-0.2
EADA	**Adamuz**	**144.97**	**332**	PKP	PKPdf	12 49 13.7	+0.1
ECAB	**El Cabril**	**145.42**	**333**	PKP	PKPab	12 49 14.9	+0.4
ERON	**Agron**	**145.52**	**330**	PKP	PKPab	12 49 14.5	-0.4
EBAD	**Badajoz**	**145.53**	**336**	PKP	PKPdf	12 49 14.9	+0.3
EMIN	**Mina Concepcio**	**146.23**	**334**	PKP	PKPab	12 49 17.6	0.0
ESPR	**Espera**	**146.61**	**333**	PKP	PKPab	12 49 19.3	+0.2
EGRO	**El Granado**	**146.77**	**335**	PKP	PKPab	12 49 18.8	-0.8
BDFB	**Brasilia**	**146.86**	**135**	PKPbc	PKPbc	12 49 17.8	-1.5
	9.7nm,0.9s,baz=162,slow=5.7,SNR=12						
TORD	**Torodi Ar. Bea**	**153.94**	**284**	PKPbc	PKPbc	12 49 35.9	-0.6
	1.4nm,0.8s,baz=182,slow=2.6,SNR=5.2						
DBIC	**Dimbokro**	**160.70**	**268**	PKPab	PKPab	12 50 18.4	-0.6
	2.4nm,0.8s,baz=5.7,slow=2.6,SNR=4.5						

SZGRF ***03*** *12:29:18.8, 1959S×17842W, h33km, Fiji Islands region*
ISCJB ***03*** *12:30:17.7±1.1, 1911S±009×17765W±008, h555km±15km, mb4.2/23, Error ellipse: s-maj=16.3km s-min=9.3km az=143.1*
BJI ***03*** *12:30:19.4, 1910S×17760W, h566km, mb4.8*
NEIC ***03*** *12:30:19.5±1.1, 1906S×17761W, h567km±12km, mb4.5/13, Error ellipse: s-maj=16.7km s-min=9.1km az=139.0*
IDC ***03*** *12:30:22.6±2.5, 1900S×17769W, h603km±30km, mb3.6/13, mb1 3.8/13, mb1mx3.6/19, mbtmp3.6/13, Error ellipse: s-maj=15.1km s-min=13.4km az=146.0*
ISC 03 12:30:18.9±1.1, 1907S±009×17762W±009, h555km±14km, n111, σ0§95/39, mb4.2/23, 8C-6D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.60**	**48**	*eP*	**P**	**12 32 13.1**	**+0.2**
	129nm,0.4s						
RAR	**Rarotonga**	**16.90**	**100**	P	**P**	**12 33 43.5**	**-3.0**
	2.3nm,0.3s,baz=171,slow=9.2,SNR=3.7						
URZ	**Urewera**	**19.66**	**192**	P	**P**	**12 34 09.8**	**-1.6**
	1.7nm,0.3s,baz=104,slow=6.9,SNR=6.2						
URZ				S	**S**	**12 37 13.8**	**-6.4**
	0.2nm,0.3s,baz=246,slow=20,SNR=3.9						
RPZ	**Rata Peaks**	**26.35**	**199**	P	**P**	**12 35 12.1**	**+1.1**
	7.8nm,0.5s,mb4.6,baz=345,slow=1.7,SNR=7.8						
CTA	**Charters Tower**	**34.01**	**262**	*eP*	**P**	**12 36 18.2**	**+0.9**
	11nm,0.6s,mb4.5						
CTA	**Charters Tower**	**34.01**	**262**	P	**P**	**12 36 17.7**	**+0.4**
	13nm,0.7s,mb4.6,baz=91,slow=12,SNR=12						
STKA	**Stephens Creek**	**38.74**	**243**	P	**P**	**12 36 58.0**	**+1.9**
STKA	**Stephens Creek**	**38.74**	**243**	P	**P**	**12 36 58.0**	**+1.9**
	3.1nm,0.8s,mb3.9,baz=66,slow=10.0,SNR=3.0						
WB2	**Warramunga Arr**	**45.16**	**261**	*eP*	**P**	**12 37 46.5**	**-0.2**
WRA	**Warramunga Arr**	**45.17**	**261**	P	**P**	**12 37 46.6**	**-0.2**
	5.6nm,0.5s,mb4.4,baz=97,slow=8.0,SNR=60						
ASAR	**Alice Springs**	**45.21**	**255**	P	**P**	**12 37 46.8**	**-0.3**
	4.6nm,0.4s,mb4.4,baz=90,slow=7.6,SNR=81						
ASAR				PcP	PcP	12 39 14.0	-1.4
	2.8nm,0.6s,baz=104,slow=3.8,SNR=11						
ASAR				S	**S**	**12 43 45.0**	**-1.9**
	2.6nm,0.8s,baz=89,slow=17,SNR=5.3						
KAKA	**Kakadu**	**48.32**	**270**	*eP*	**P**	**12 38 10.2**	**-0.4**
	13nm,0.6s,mb4.6						
FORT	**Forrest**	**50.20**	**246**	*eP*	**P**	**12 38 24.1**	**-0.2**
	12nm,0.6s,mb4.5						
FITZ	**Fitzroy Crossi**	**53.58**	**261**	*eP*	**P**	**12 38 48.8**	**0.0**
	7.2nm,0.5s,mb4.3						
FITZ	**Fitzroy Crossi**	**53.58**	**261**	P	**P**	**12 38 48.0**	**-0.8**
	3.5nm,0.5s,mb4.0,baz=118,slow=4.7,SNR=16						
KLBR	**Kellerberrin**	**58.99**	**244**	*eP*	**P**	**12 39 24.1**	**-1.7**
	9.2nm,0.7s,mb4.1						
VNDA	**Vanda**	**59.36**	**185**	P	**P**	**12 39 28.7**	**+1.3**
	2.1nm,0.8s,mb3.4,baz=355,slow=6.6,SNR=8.2						
MUN	**Mundaring**	**60.27**	**244**	*eP*	**P**	**12 39 34.6**	**+0.3**
MJAR	**Matsushiro Arr**	**69.28**	**323**	P	**P**	**12 40 30.0**	**-0.8**
	6.2nm,0.6s,mb4.3,baz=149,slow=6.2,SNR=15						
QSPA	**South Pole Qui**	**70.99**	**180**	P	**P**	**12 40 40.9**	**+0.6**
	4.6nm,0.8s,mb4.1,baz=72,slow=1.4,SNR=20						
ASAJ	**Asahikawa**	**72.65**	**331**	P	**P**	**12 40 50.8**	**+0.4**
	9.1nm,0.8s,mb4.3,baz=224,slow=11,SNR=7.2						
YSS	**Yuzh-Sakhalins**	**74.78**	**333**	*eP*	**P**	**12 41 03.3**	**+0.9**
	12nm,0.8s,mb4.4						
MDJ	**Mudanjiang**	**79.56**	**325**	P	**P**	**12 41 28.8**	**+0.3**
MDJ				AMB	AMB		
	comp=Z,14nm,0.9s,mb4.3						
MDJ				AMB	AMB		
	comp=Z,2μm,12.8s						
MDJ	**Mudanjiang**	**79.56**	**325**	*eP*	**P**	**12 41 29.3**	**+0.8**
	comp=Z,4.8nm,0.8s,mb3.9						
NVAR	**Mina Array Bea**	**79.75**	**43**	P	**P**	**12 41 29.6**	**0.0**
	comp=Z,2.2nm,0.6s,mb3.6,baz=228,slow=9.7,SNR=26						
CN2	**Changchun**	**81.39**	**322**	*eP*	**P**	**12 41 38.2**	**+0.2**
WVOR	**Wild Horse Val**	**81.81**	**40**	*eP*	**P**	**12 41 40.6**	**+0.4**
	comp=Z,6.0nm,0.9s,mb4.0						
HDW	**Hoodsport**	**82.45**	**34**	P	**P**	**12 41 43.8**	**+0.6**
MCK	**McKinley**	**85.51**	**12**	*eP*	**P**	**12 41 56.9**	**-1.1**
	comp=Z,15nm,1.0s,mb4.6						
MNTX	**Cornudas Mount**	**85.64**	**55**	*eP*	**P**	**12 42 00.0**	**+0.6**
	comp=Z,8.7nm,1.5s,mb4.2						
MCMT	**McKenzie Canyo**	**86.64**	**40**	*eP*	**P**	**12 42 04.7**	**+0.9**
COLA	**College**	**86.74**	**12**	*eP*	**P**	**12 42 02.6**	**-1.2**
	comp=Z,11nm,0.7s,mb4.6						
QLMT	**Earthquake Lak**	**87.51**	**41**	*eP*	**P**	**12 42 09.2**	**+1.3**
PDAR	**Pinedale Array**	**87.68**	**43**	P	**P**	**12 42 08.0**	**-0.7**
	comp=Z,2.1nm,0.9s,mb3.9,baz=202,slow=3.0,SNR=15						
DAWY	**Dawson**	**88.00**	**16**	*eP*	**P**	**12 42 09.6**	**-0.1**
CHTO	**Chiang Mai**	**90.10**	**290**	*eP*	**P**	**12 42 21.4**	**+0.9**
	comp=Z,4.9nm,0.9s,mb4.3						
YKA	**Yellowknife Ar**	**95.07**	**25**	P	**P**	**12 42 40.9**	**-1.4**
	comp=Z,0.8nm,0.8s,mb3.9,baz=238,slow=4.5,SNR=13						
ZALV	**Zalesovo Beam**	**109.60**	**322**	PKiKP	PKiKP	12 47 44.5	-2.0
	comp=Z,0.9nm,0.5s,baz=50,slow=4.5,SNR=2.8						
MKAR	**Makanchi Array**	**110.48**	**314**	PKiKP	PKiKP	12 47 45.9	-2.5
	comp=Z,0.8nm,0.4s,baz=177,slow=1.6,SNR=4.4						
ARCES	**ARCESS Array B**	**127.59**	**350**	PKP	PKPdf	12 48 19.0	-1.6
	comp=Z,3.5nm,0.5s,baz=16,slow=2.2,SNR=21						
FINES	**FINESS Array B**	**134.50**	**344**	PKP	PKPdf	12 48 32.7	-1.1
FINES	**FINESS Array B**	**134.50**	**344**	PKP	PKPdf	12 48 32.7	-1.1
	comp=Z,1.5nm,0.6s,baz=59,slow=5.0,SNR=4.7						
NB2	**NORSAR Subarra**	**137.61**	**354**	PKP	PKPdf	12 48 40.1	+0.5
	comp=Z,1.1nm,0.6s,baz=17,slow=2.4						
NOA	**NORSAR Array B**	**137.61**	**354**	PKP	PKPdf	12 48 40.1	+0.5
	comp=Z,1.6nm,0.7s,baz=14,slow=4.1,SNR=5.6						
MALT	**Malatya**	**143.33**	**309**	*eP*	PKPdf	12 48 49.4	-1.2
MALT	**Malatya**	**143.33**	**309**	⇓*iP*	PKPdf	12 48 48.8	-1.8
KWP	**Kalwaria**	**145.43**	**337**	*eP*	PKPdf	12 48 54.7	+0.8
OJC	**Ojcow**	**145.96**	**340**	*e*PKPdf	PKPbc	12 48 55.8	-0.8
STHS	**Stebnicka Huta**	**146.15**	**338**	*e*PKP	PKPbc	12 48 56.3	-0.9
CRVS	**Cervenica-Dubn**	**146.50**	**337**	*e*PKP	PKPbc	12 48 58.3	+0.2
VRI	**Vrincioaia**	**146.56**	**328**	⇑*iP*	PKPbc	12 48 57.8	-0.6
TIRR	**Tirgusor**	**146.64**	**325**	⇑*iP*	PKPbc	12 48 58.0	-0.7
CLL	**Collm**	**146.75**	**348**	*e*PKPbc	PKPbc	12 48 57.8	-1.0
CLL				*e*PKPab	PKPab	12 49 00.7	-1.0
CLL	**Collm**	**146.75**	**348**	⇓*i*PKPbc	PKPbc	12 48 58.0	-0.8
	comp=Z,16nm,0.6s						
CLL				*i* PKPab	PKPab	12 49 00.7	-1.0
	comp=Z,13nm,1.0s						
UPC	**Upice**	**146.81**	**344**	*e*PKPdf	PKPbc	12 48 57.9	-1.0
UPC				*ex*	PKPab	12 49 01.6	-0.3
DPC	**Dobruska-Polom**	**146.87**	**344**	*e*PKP	PKPbc	12 48 59.0	-0.1
DPC				*ep*PKP	PKPab	12 49 02.2	0.0
BRG	**Berggiesshubel**	**146.97**	**347**	*e*PKPbc	PKPbc	12 48 58.8	-0.5
BRG				*e*PKPab	PKPab	12 49 01.9	-0.6
FBE	**Freiberg**	**147.05**	**347**	*e*PKPbc	PKPbc	12 48 59.0	-0.5
FBE				*e*PKPab	PKPab	12 49 02.3	-0.6
PVCC	**Panska Ves**	**147.15**	**346**	*e*PKPdf	PKPbc	12 48 59.3	-0.5
PVCC				*ex*	PKPab	12 49 03.0	-0.3
KECS	**Kecovo**	**147.20**	**338**	*e*PKP	PKPbc	12 48 59.6	-0.4
KECS				*e*		12 49 03.5	
KECS	**Kecovo**	**147.20**	**338**	*e*PKP	PKPbc	12 48 59.5	-0.5
KECS				*e*		12 49 03.5	
MLR	**Muntele Rosu**	**147.21**	**329**	⇓*i*P	PKPbc	12 48 59.2	-1.0
MOX	**Moxa**	**147.65**	**349**	*e*PKPbc	PKPbc	12 49 00.7	-0.4
MOX				*e*PKPab	PKPab	12 49 04.1	-1.2
PRU	**Pruhonice**	**147.66**	**345**	*e*PKPdf	PKPbc	12 49 00.7	-0.5
PRU				*ex*	PKPab	12 49 04.4	-1.0
DRGR		**147.71**	**333**	⇑*i*P	PKPbc	12 49 01.2	-0.2
WERD	**Werda**	**147.71**	**348**	*e*PKPbc	PKPbc	12 49 00.4	-0.9
WERD				*e*PKPab	PKPab	12 49 04.7	-0.9
VYHS	**Vyhne**	**147.77**	**339**	*i* PKP	PKPbc	12 49 01.1	-0.4
VYHS				*e*		12 49 05.5	
GUNZ	**Gunzen**	**147.79**	**348**	*e*PKPbc	PKPbc	12 49 00.8	-0.7
GUNZ				*e*PKPab	PKPab	12 49 05.3	-0.6
WERN	**Wernitzgruen**	**147.85**	**348**	*e*PKPbc	PKPbc	12 49 01.6	0.0
WERN				*e*PKPab	PKPab	12 49 05.7	-0.4
NKC	**Novy Kostel**	**147.89**	**348**	*e*PKPdf	PKPbc	12 49 01.4	-0.3
TREC	**Trest**	**148.06**	**344**	*e*PKPdf	PKPbc	12 49 01.5	-0.7
MANZ	**Manzenberg**	**148.19**	**348**	*e*PKPbc	PKPbc	12 49 02.0	-0.5
SMOL	**Smolenice**	**148.20**	**341**	*e*PKP	PKPbc	12 49 04.9	+2.3
MODS	**Modra-Piesok**	**148.37**	**341**	*i* PKP	PKPbc	12 49 03.0	0.0
ROTZ	**Rotzenmuhle**	**148.38**	**348**	*e*PKPbc	PKPbc	12 49 02.4	-0.6
**GR

PDAR Pinedale Array 97.95 48 P **P** **12 47 21.6 -0.1**
0.7nm,0.7s,mb4.3,baz=242,slow=3.2,SNR=5.4
BDFB Brasilia 144.85 134 PKP PKPdf 12 53 21.2 -2.4
6.6nm,0.7s,baz=213,slow=5.1,SNR=8.1

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*IDC **03** 12:36:46.7±0.6, 788S×15590E, h0km, mb4.7/14, mb1 4.8/14, mb1mx4.7/16, mbtmp4.7/14, MS4.7/1, Ms1 4.7/1, ms1mx3.6/24, Error ellipse: s-maj=25.5km s-min=15.4km az=103.0*
*NEIC **03** 12:36:48.8±0.3, 784S×15589E, h10km, mb4.9/20, Error ellipse: s-maj=10.4km s-min=7.2km az=104.0*
*BJI **03** 12:36:49.1, 732S×15585E, h8km, mB5.4, mb4.9, Ms5.3, Msz5.2*
*ISCJB **03** 12:36:51.3±3.2, 779S±007×15583E±008, h37km±29km, mb4.8/39, MS4.7/1, Error ellipse: s-maj=14.3km s-min=10.6km az=22.9*
*MOS **03** 12:36:52.6±0.8, 742S×15589E, h33km, mb5.2/12, Error ellipse: s-maj=16.6km s-min=9.0km az=102.5*

ISC 03 12:36:55.5±3.0, 787S±007×15587E±008, h62km±29km, n113, σ0§92/82, mb4.8/39, 12C-3D, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**15.30**	**216**	*e*P		**Pn**	**12 40 32.5**	**+4.6**
	17nm,0.9s							
CTA	**Charters Tower**	**15.30**	**216**	*e*P		**Pn**	**12 40 32.5**	**+4.6**
CTA					pmax	pmax		
	comp=Z,17nm,0.9s							
CTA	**Charters Tower**	**15.30**	**216**	Pn		**Pn**	**12 40 31.6**	**+3.7**
	comp=Z,0.2nm,0.3s,baz=42,slow=12,SNR=9.3							
CTAO	**Charters Tower**	**15.30**	**216**	*e*P		**Pn**	**12 40 32.7**	**+4.8**
	comp=Z,140nm,1.8s							
CTAO	**Charters Tower**	**15.30**	**216**	*e*P		**Pn**	**12 40 32.7**	**+4.8**
CTAO					pmax	pmax		
	comp=Z,141nm,1.8s							
DZM	**Mont Dzumac**	**17.41**	**145**	P		**Pn**	**12 40 54.1**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=11,slow=12,SNR=5.2							
EIDS	**Eidsvold**	**17.99**	**194**	*e*P		**Pn**	**12 41 03.3**	**+2.0**
	comp=Z,41nm,1.6s							
ARMA	**Armidale**	**22.78**	**189**	*e*P		**P**	**12 41 53.6**	**+0.7**
KAKA	**Kakadu**	**23.54**	**256**	*e*P		**P**	**12 42 00.9**	**+0.4**
	comp=Z,16nm,0.6s,mb4.6							
WB2	**Warramunga Arr**	**24.05**	**238**	*e*P		**P**	**12 42 05.0**	**-0.1**
WRA	**Warramunga Arr**	**24.06**	**238**	P		**P**	**12 42 03.5**	**-1.7**
	comp=Z,27nm,0.9s,mb4.7,baz=65,slow=9.2,SNR=22							
WRA					PcP	PcP	12 45 46.0	+0.4
	comp=Z,4.8nm,0.9s,baz=60,slow=2.1,SNR=12							
ASAR	**Alice Springs**	**26.27**	**231**	P		**P**	**12 42 24.4**	**-0.8**
	comp=Z,6.0nm,0.9s,mb4.1,baz=62,slow=8.8,SNR=13							
ASAR					PcP	PcP	12 45 50.5	+0.1
	comp=Z,1.5nm,0.9s,baz=41,slow=2.5,SNR=5.7							
STKA	**Stephens Creek**	**27.34**	**207**	*e*P		**P**	**12 42 33.7**	**-1.0**
	comp=Z,11nm,0.9s,mb4.4							
STKA	**Stephens Creek**	**27.34**	**207**	P		**P**	**12 42 34.0**	**-0.6**
	comp=Z,14nm,0.9s,mb4.5,baz=17,slow=8.6,SNR=9.6							
STKA					ScP	ScP	12 49 33.8	+5.6
	comp=Z,1.2nm,0.6s,baz=51,slow=6.5,SNR=3.8							
FITZ	**Fitzroy Crossi**	**31.11**	**248**	*e*P		**P**	**12 43 07.9**	**-0.5**
	comp=Z,9.5nm,0.7s,mb4.7							
FITZ	**Fitzroy Crossi**	**31.11**	**248**	P		**P**	**12 43 07.4**	**-0.9**
	comp=Z,5.1nm,0.7s,mb4.5,baz=90,slow=9.3,SNR=7.5							
FORT	**Forrest**	**34.57**	**225**	*e*P		**P**	**12 43 37.6**	**-0.8**
	comp=Z,14nm,0.8s,mb5.0							
MBWA	**Marble Bar**	**37.28**	**245**	*e*P		**P**	**12 44 01.6**	**-0.2**
	comp=Z,20nm,1.1s,mb4.9							
RPZ	**Rata Peaks**	**38.10**	**162**	LR		LR	12 57 42.6	
	comp=Z,1μm,21.3s,baz=276,slow=33							
KLBR	**Kellerberrin**	**42.60**	**231**	*e*P		**P**	**12 44 45.1**	**-0.6**
	comp=Z,9.1nm,0.6s,mb4.7							
KSM	**Kuching**	**46.37**	**280**	*e*P		**P**	**12 45 16.6**	**+0.5**
MJAR	**Matsushiro Arr**	**47.18**	**341**	P		**P**	**12 45 20.6**	**-1.4**
	comp=Z,16nm,0.8s,mb5.0,baz=156,slow=7.3,SNR=32							
MAJO	**Matsushiro**	**47.19**	**341**	*e*P		**P**	**12 45 21.3**	**-0.7**
	comp=Z,23nm,0.8s,mb5.2							
MAJO	**Matsushiro**	**47.19**	**341**	*e*P		**P**	**12 45 21.3**	**-0.7**
MAJO					pmax	pmax		
	comp=Z,23nm,0.8s,mb5.2							
MAT	**Matsushiro**	**47.19**	**341**	P		**P**	**12 45 20.7**	**-1.3**
KSRS	**Korea Array**	**52.11**	**332**	P		**P**	**12 45 59.1**	**-0.3**
	comp=Z,12nm,1.1s,mb4.8,baz=153,slow=8.6,SNR=16							
ASAJ	**Asahikawa**	**53.12**	**348**	P		**P**	**12 46 06.8**	**0.0**
	comp=Z,12nm,0.8s,mb4.8,baz=231,slow=12,SNR=11							
VLA	**Vladivostok**	**55.23**	**339⇑**	*e*P		**P**	**12 46 22.0**	**-0.2**
VLA	**Vladivostok**	**55.23**	**339**	*e*P		**P**	**12 46 20.8**	**-1.4**
VLA					pmax	pmax		
	comp=Z,58nm,1.2s,mb5.5							
YSS	**Yuzh-Sakhalins**	**55.81**	**349**	*i*P		**P**	**12 46 26.3**	**0.0**
YSS				*e*P			12 46 26.7	
KULM	**Kulim**	**56.61**	**282**	*e*P		**P**	**12 46 32.4**	**-0.2**
MDJ	**Mudanjiang**	**57.37**	**338**	P		**P**	**12 46 37.5**	**+0.1**
MDJ					AMB	AMB		
	comp=Z,17nm,1.8s,mb4.8							
MDJ					AMB	AMB		
	comp=Z,939nm,14.3s							
MDJ	**Mudanjiang**	**57.37**	**338**	*e*P		**P**	**12 46 38.3**	**+0.9**
	comp=Z,4.7nm,0.7s,mb4.6							
CN2	**Changchun**	**58.34**	**334**	*e*P		**P**	**12 46 44.2**	**0.0**
CN2					AMB	AMB		
	comp=Z,20nm,1.0s,mb5.1							
HABR	**Khabarovsk**	**59.02**	**344**	*e*P		**P**	**12 46 48.6**	**-0.2**
NST	**Nakhon Sawan**	**59.95**	**293**	P		**P**	**12 46 55.0**	**-0.8**
KLR	**Kul'dur**	**60.66**	**342**	*e*P		**P**	**12 46 51.8**	**-8.2**
KMI	**Kunming**	**61.22**	**304**	P		**P**	**12 47 06.1**	**+1.7**
KMI					AMB	AMB		
	comp=Z,13nm,1.2s,mb4.9							
KMI	**Kunming**	**61.22**	**304**	P		**P**	**12 47 06.1**	**+1.7**
	comp=Z,13nm,1.2s,mb4.9							
CHRT	**Chiangrai**	**61.68**	**297**	⇑P		**P**	**12 47 07.5**	**-0.1**
	comp=Z,1μm,0.9s							
CHTO	**Chiang Mai**	**62.06**	**296**	*e*P		**P**	**12 47 11.1**	**+1.0**
	comp=Z,23nm,1.5s,mb5.1							
CHTO	**Chiang Mai**	**62.06**	**296**	*e*P		**P**	**12 47 11.1**	**+1.0**
CHTO					pmax	pmax		
	comp=Z,23nm,1.5s,mb5.1							
HIA	**Hailar**	**65.07**	**335**	*i*P		**P**	**12 47 30.0**	**+0.6**
HIA				*e*P			12 47 30.4	
LZH	**Lanzhou**	**65.54**	**315**	*e*P		**P**	**12 47 32.5**	**-0.2**
LZH					AP	pP	12 47 40.6	-8.8
LZH					XP	sP	12 47 44.0	-12
LZH					AMB	AMB		
	comp=Z,15nm,1.3s,mb4.9							
LZH					AMB	AMB		
	comp=Z,68nm,4.1s							
LZH	**Lanzhou**	**65.54**	**315**	*e*P		**P**	**12 47 32.5**	**-0.2**
	comp=Z,15nm,1.3s,mb4.9							
LZH					pP	pP	12 47 40.6	-8.8
LZH					sP	sP	12 47 44.0	-12
MA2	**Magadan**	**67.35**	**357**	*e*P		**P**	**12 47 43.7**	**-0.1**
MA2				⇑*e*P			12 47 43.9	
MA2	**Magadan**	**67.35**	**357**	*e*P		**P**	**12 47 43.8**	**+0.1**
MA2					pmax	pmax		
	comp=Z,50nm,1.0s,mb5.5							
VNDA	**Vanda**	**69.69**	**179**	P		**P**	**12 47 58.0**	**-0.2**
	comp=Z,1.5nm,0.9s,mb3.9,baz=347,slow=6.2,SNR=3.3							
CIT	**Chita**	**69.77**	**334**	*e*P		**P**	**12 48 00.2**	**+1.2**
GTA	**Gaotai**	**69.96**	**317**	*e*P		**P**	**12 48 02.0**	**+1.5**
GTA					AP	pP	12 48 05.3	-12
GTA					XP	sP	12 48 07.1	-17
GTA					AMB	AMB		
	comp=Z,5.0nm,1.1s,mb4.4							
ULN	**Ulaanbaatar**	**70.20**	**327**	*e*P		**P**	**12 48 03.4**	**+1.6**
	comp=Z,10nm,0.9s,mb4.8							
ULN				⇑*e*P			12 48 03.7	
ULN	**Ulaanbaatar**	**70.20**	**327**	*e*P		**P**	**12 48 03.4**	**+1.7**
ULN					pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.8							
SONM	**Songino Array**	**70.53**	**327**	P		**P**	**12 48 04.4**	**+0.6**
	comp=Z,6.5nm,0.8s,mb4.6,baz=138,slow=6.1,SNR=16							
SEY	**Seymchan**	**70.64**	**358⇓**	*e*P		**P**	**12 48 03.8**	**-0.3**
LSA	**Lhasa**	**72.47**	**304**	P		**P**	**12 48 19.0**	**+3.1**
LSA					AMB	AMB		
	comp=Z,30nm,1.0s,mb5.2							
YAK	**Yakutsk**	**72.59**	**347⇓**	*e*P		**P**	**12 48 16.2**	**+0.4**
YAK				*e*P			12 48 16.6	
YAK	**Yakutsk**	**72.59**	**347**	*e*P		**P**	**12 48 14.5**	**-1.3**
YAK					pmax	pmax		
	comp=E,6.0nm,1.3s							
YAK					pmax	pmax		
	comp=Z,52nm,1.2s,mb5.3							
YAK					pmax	pmax		
	comp=N,15nm,1.4s							
ZAK	**Zakamensk**	**73.69**	**328**	*e*P		**P**	**12 48 23.1**	**+0.5**
ZAK					pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.3							
BOD	**Bodaibo**	**73.74**	**338**	*e*P		**P**	**12 48 22.3**	**-0.4**
BOD					pmax	pmax		
	comp=Z,13nm,1.7s,mb4.6							
TLY	**Talaya**	**74.25**	**329⇑**	*e*P		**P**	**12 48 26.8**	**+1.0**
BILL	**Bilibino**	**76.08**	**4**	*i*P		**P**	**12 48 36.2**	**+0.2**
BILL				*e*P			12 48 36.4	
TIXI	**Tiksi**	**81.34**	**352⇓**	*e*P		**P**	**12 49 04.1**	**-0.7**
TIXI	**Tiksi**	**81.34**	**352**	*e*P		**P**	**12 49 04.7**	**-0.1**
TIXI					pmax	pmax		
	comp=Z,13nm,2.0s,mb4.5							
MCK	**McKinley**	**82.54**	**22**	*e*P		**P**	**12 49 10.7**	**-0.7**
	comp=Z,25nm,1.1s,mb5.2							
MCK	**McKinley**	**82.54**	**22**	*e*P		**P**	**12 49 10.7**	**-0.6**
MCK					pmax	pmax		
	comp=Z,25nm,1.1s,mb5.2							
COLA	**College**	**83.58**	**21**	*e*P		**P**	**12 49 15.9**	**-0.8**
	comp=Z,6.7nm,0.9s,mb4.8							
COLA				⇑*e*P			12 49 16.0	
COLA	**College**	**83.58**	**21⇑**	*e*P		**P**	**12 49 16.0**	**-0.6**
NDI	**New Delhi**	**83.89**	**300**	*e*P		**P**	**12 49 16.0**	**-3.1**
MAW	**Mawson**	**83.93**	**203**	P		**P**	**12 49 18.9**	**+0.4**
	comp=Z,3.7nm,0.9s,mb4.5,baz=84,slow=10.0,SNR=3.9							
MK31	**Makanchi Array**	**84.63**	**319**	*e*P		**P**	**12 49 23.1**	**+0.8**
MKAR	**Makanchi Array**	**84.63**	**319⇑**	*e*P		**P**	**12 49 22.8**	**+0.4**
MKAR	**Makanchi Array**	**84.63**	**319**	P		**P**	**12 49 22.9**	**+0.5**
	comp=Z,11nm,0.8s,mb5.0,baz=101,slow=6.3,SNR=31							
ZAA0	**Zalesovo Array**	**85.38**	**326**	*e*P		**P**	**12 49 25.6**	**-0.3**
ZALV	**Zalesovo Beam**	**85.38**	**326**	P		**P**	**12 49 25.2**	**-0.7**
	comp=Z,7.2nm,0.9s,mb4.8,baz=107,slow=5.0,SNR=21							
ZAL	**Zalesovo**	**85.39**	**326**	P		**P**	**12 49 25.3**	**-0.7**
EGAK	**Eagle**	**85.99**	**22**	*e*P		**P**	**12 49 29.4**	**+0.6**
	comp=Z,5.6nm,1.0s,mb4.8							
NVS	**Novosibirsk**	**86.55**	**326**	*e*P		**P**	**12 49 29.9**	**-1.8**
NVS					pmax	pmax		
	comp=Z,24nm,2.3s,mb5.0							
NVS					pmax	pmax		
	comp=N,10.0nm,2.0s							
NVS					pmax	pmax		
	comp=E,16nm,2.0s							
KURK	**Kurchatov**	**88.05**	**322**	*i*P		**P**	**12 49 38.8**	**-0.2**
UCH	**Uchtor**	**88.88**	**313**	*e*P		**P**	**12 49 45.8**	**+2.6**
	comp=E,18nm,1.8s,mb5.1							
AML	**Alayashu**	**89.46**	**313**	*e*P		**P**	**12 49 47.5**	**+1.6**
	comp=E,6.7nm,1.1s,mb4.9							
NVAR	**Mina Array Bea**	**91.58**	**52**	P		**P**	**12 49 56.1**	**+0.3**
	comp=E,0.8nm,0.8s,mb4.1,baz=229,slow=4.6,SNR=6.0							
BRVK	**Borovoye**	**93.58**	**323**	*e*P		**P**	**12 50 04.6**	**-0.1**
BRVK				⇑*e*P			12 50 05.2	
YKA	**Yellowknife Ar**	**96.70**	**28**	P		**P**	**12 50 18.6**	**-0.1**
	comp=E,4.2nm,0.9s,mb4.8,baz=267,slow=4.5,SNR=25							
KIV	**Kislovodsk**	**112.07**	**314**	*e*PKIKP		PKIKP	12 55 22.7	-1.4
KIV					pmax	pmax		
	comp=Z,4.0nm,0.8s							
AKASG	**Malin Array Be**	**118.75**	**324**	PKP		PKPdf	12 55 36.2	-0.5
	comp=Z,0.7nm,0.5s,baz=71,slow=2.4,SNR=6.8							
NOA	**NORSAR Array B**	**120.80**	**341**	PKP		PKPdf	12 55 39.1	-1.3
	comp=Z,0.6nm,0.7s,baz=6.2,slow=5.1,SNR=3.3							
KOLS	**Kolonicke sedl**	**123.55**	**325**	*i*PKP		PKPdf	12 55 47.6	+1.6
VYHS	**Vyhne**	**125.72**	**326**	*i*PKP		PKPdf	12 55 52.0	+1.8
BRG	**Berggiesshubel**	**126.82**	**331⇑**	*i*PKIKP		PKPdf	12 55 53.5	+1.3
BRG					pmax	pmax		
	comp=Z,13nm,1.1s							
BRG	**Berggiesshubel**	**126.82**	**331**	*e*P		PKPdf	12 55 53.4	+1.2
	comp=Z,9.7nm,1.2s							
CLL	**Collm**	**126.99**	**332⇑**	*i*P		PKPdf	12 55 53.5	+1.0
CLL	**Collm**	**126.99**	**332⇑**	*i*PKPdf		PKPdf	12 55 53.5	+1.0
	comp=Z,10.0nm,1.1s							
KHC	**Kasperske Hory**	**128.12**	**329**	*e*PKP		PKPdf	12 55 52.0	-2.7
GERES	**GERESS Array B**	**128.24**	**329**	PKP		PKPdf	12 55 55.3	+0.4
	comp=Z,2.3nm,0.9s,baz=149,slow=0.8,SNR=12							
GRA1	**Grafenberg Arr**	**128.91**	**331**	*e*PKP		PKPdf	12 55 57.5	+1.3
GRF	**Grafenberg Arr**	**128.91**	**331**	*e*PKP		PKPdf	12 55 57.5	+1.3
LPAZ	**La Paz**	**130.28**	**119**	PKP		PKPdf	12 56 00.9	+1.2
	comp=Z,1.8nm,1.0s,baz=16,slow=16,SNR=5.7							
SDV	**Santo Domingo**	**134.01**	**85**	*e*PKPdf		PKPdf	12 56 08.1	+1.2
ESDC	**Sonseca Array**	**143.53**	**333**	PKP		PKPdf	12 56 21.6	-2.0
	comp=Z,1.4nm,0.8s,baz=20,slow=3.6,SNR=4.7							
ESLA	**Sonseca Array**	**143.53**	**333**	*e*PKPdf		PKPdf	12 56 23.8	+0.2
EQES	**Quesada**	**144.62**	**331**	PKP		PKPdf	12 56 25.1	-0.5
EBAN	**Banos Encina**	**144.68**	**332**	PKP		PKPdf	12 56 25.6	0.0
EADA	**Adamuz**	**145.04**	**333**	PKP		PKPdf	12 56 26.5	+0.2
ECAB	**El Cabril**	**145.49**	**333**	PKP		PKPdf	12 56 27.6	+0.6
EBAD	**Badajoz**	**145.60**	**336**	PKP		PKPdf	12 56 28.0	+0.8
ERON	**Agron**	**145.60**	**331**	PKP		PKPdf	12 56 27.5	+0.3
ELOJ	**Sierra Loja**	**145.66**	**331**	PKP		PKPdf	12 56 27.6	+0.3
EMIN	**Mina Concepcio**	**146.29**	**335**	PKP		PKPbc	12 56 30.9	+1.3
ESPR	**Espera**	**146.69**	**333**	PKP		PKPbc	12 56 32.4	+1.6
BDFB	**Brasilia**	**146.76**	**135**	PKPbc		PKPbc	12 56 30.9	-0.7
	comp=Z,22nm,0.9s,baz=182,slow=1.4,SNR=21							
EGRO	**El Granado**	**146.83**	**335**	PKP		PKPbc	12 56 32.8	+1.6
TORD	**Torodi Ar. Bea**	**154.08**	**284**	PKPbc		PKPbc	12 56 47.9	-1.5
	comp=Z,2.5nm,0.8s,baz=84,slow=1.3,SNR=8.5							
TORD					PKPab	PKPab	12 57 03.3	+0.2
	comp=Z,2.8nm,1.1s,baz=72,slow=4.7,SNR=3.6							
DBIC	**Dimbokro**	**160.84**	**268**	PKPab		PKPab	12 57 32.3	-0.1
	comp=Z,4.4nm,0.8s,baz=77,slow=5.5,SNR=7.6							

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*CSEM **03** 12:38:14.6, 37.17N×5660E, h2km, ML3.8, After TEH*

TEH 03 12:38:14.6, 37.17N×5660E, h2km, ML3.8, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ISHV	**Shirvan**	**0.94**	**67**	*e*Pg		Pg	12 38 49.5	+17
ISHV					*e*		12 39 06.6	
	comp=Z,24μm,0.1s							
ISFR	**Sfrayin**	**1.13**	**96**	*e*Pg		Pg	12 38 53.2	+17
ISFR					*e*		12 39 22.6	
	comp=Z,17μm,0.3s							
IQHU	**Qucahn**	**1.56**	**93**	*e*Pn		Pn	12 39 01.5	+18
IQHU					*e*		12 39 42.8	
	comp=Z,17μm,0.3s							
IKRD	**Kardeh**	**1.59**	**104**	*e*Pn		Pn	12 39 13.0	+29
IKRD					*e*		12 39 54.3	
	comp=Z,2μm,0.2s							
IEMG	**Emamgholi**	**1.65**	**81**	*e*Pg		Pg	12 39 02.1	+16
IEMG					*e*		12 39 32.2	
	comp=Z,10μm,0.4s							
IAKL	**Akhelmad**	**1.80**	**108**	*e*Pn		Pn	12 39 05.0	+18
IAKL					*e*		12 39 37.0	
	comp=Z,5μm,0.2s							
IPAY	**Payeh**	**2.05**	**110**	*e*Pn		Pn	12 39 07.9	+18
IPAY					*e*		12 39 39.3	
	comp=Z,4μm,0.3s							
IGLO	**Ghaloghah**	**2.64**	**252**	*e*Pn		Pn	12 39 10.0	+12
IGLO					*e*		12 39 51.6	
	comp=Z,12μm,0.3s							
IANJ	**Anjilo**	**2.76**	**233**	*e*Pn		Pn	12 39 16.9	+17
IANJ				*e*Sn		Sn	12 39 51.2	+18
IANJ					*e*		12 40 05.1	
	comp=Z,3μm,0.2s							
IANJ	**Anjilo**	**2.76**	**233**	*e*Pn		Pn	12 39 16.9	+17
IANJ				*e*Sn		Sn	12 39 51.2	+18
IMYA	**Miami**	**2.93**	**105**	*e*Pn		Pn	12 39 20.4	+18
IMYA					*e*		12 40 19.0	
	comp=Z,2μm,0.3s							
ISHM	**Shahmirzad**	**2.99**	**244**	*e*Pn		Pn	12 39 21.4	+18
ISHM					*e*		12 40 14.1	
	comp=Z,5μm,0.3s							
ILAS	**Lasjerd**	**3.44**	**240**	*e*Pn		Pn	12 39 30.6	+21
ILAS					*e*		12 40 29.8	
	comp=Z,2μm,0.3s							
IFIR	**Firoozkooh**	**3.46**	**245**	*e*Pn		Pn	12 39 27.8	+18
IFIR					*e*		12 39 39.2	
	comp=Z,1μm,0.1s							
IPRN	**Peran**	**3.62**	**256**	*e*Pn		Pn	12 39 27.2	+16
IPRN					*e*		12 40 32.3	
	comp=Z,5μm,0.3s							
IDMV	**Damavand**	**4.01**	**248**	*e*Pn		Pn	12 39 34.9	+18
IDMV					*e*		12 39 52.8	
	comp=Z,906nm,0.2s							
ISFB	**Sefidab**	**4.53**	**233**	*e*Pn		Pn	12 39 40.2	+16
ISFB					*e*		12 41 04.0	
	comp=Z,617nm,0.2s							
ICHK	**Chekchek**	**5.24**	**201**	*e*Pn		Pn	12 39 51.2	+17
ICHK				*e*Sn		Sn	12 40 49.5	+15
ICHK					*e*		12 40 53.4	
	comp=Z,606nm,0.2s							
ICHK	**Chekchek**	**5.24**	**201**	*e*Pn		Pn	12 39 51.2	+17
ICHK				*e*Sn		Sn	12 40 49.5	+15
IZEF	**Zefreh**	**5.52**	**221**	*e*Pn		Pn	12 39 55.4	+18
IZEF					*e*		12 40 17.5	
	comp=Z,297nm,0.3s							
IKLH	**Kolahrood**	**5.62**	**228**	*e*Pn		Pn	12 39 56.1	+17
IKLH					*e*		12 41 39.3	
	comp=Z,502nm,0.3s							
IBAF	**Bafgh**	**5.63**	**189**	*e*Pn		Pn	12 39 56.7	+17
IPIR	**Pirpir**	**6.48**	**228**	*e*Pn		Pn	12 40 10.7	+20

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*ISCJB **03** 12:48:15.7±0.6, 3861N±003×2354E±006, h28km±9km, Error ellipse: s-maj=7.8km s-min=4.7km az=159.1*
*NEIC **03** 12:48:15.6, 3860N×2353E, h5km, ML2.7(ATH), After ATH.*
*ATH **03** 12:48:15.7, 3859N×2352E, h5km, MD3.0/6, ML2.7*
*CSEM **03** 12:48:16.7±0.1, 3859N×2347E, h15km, ML2.7, Error ellipse: s-maj=3.4km s-min=3.1km az=19.0*
*THE **03** 12:48:18.7, 3867N×2356E, h5km, ML2.8*

ISC 03 12:48:15.7±0.5, 3862N±003×2357E±006, h21km±15km, n14, σ1§21/21, Greece

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
LKR	**Lokris**	**0.44**	**274**	*e*PB		**Pb**	**12 48 23.7**	**-1.2**
LKR				*e*SB		**Sb**	**12 48 29.9**	**-1.2**
AOS	**Alonnisos**	**0.60**	**24**	*e*Pg		**Pb**	**12 48 29.2**	**+1.6**
AOS				*e*Sg		**Sb**	**12 48 39.1**	**+3.4**
PTL	**Penteli**	**0.61**	**157**	*e*PB		**Pb**	**12 48 27.0**	**-0.8**
ATH	**Athens Observa**	**0.66**	**169**	*e*PB		**Pb**	**12 48 27.5**	**-1.0**
NEO	**Neokhori**	**0.74**	**339**	*e*PB		**Pb**	**12 48 30.1**	**+0.2**
NEO				*e*SB		**Sb**	**12 48 41.1**	**+1.6**
KVR	**Kavouri**	**0.81**	**168**	*e*PB		**Pb**	**12 48 31.4**	**+0.4**
KVR				*e*SB		**Sb**	**12 48 43.0**	**+1.6**
NAIG	**Nisos Aigina**	**0.86**	**184**	*e*PB		**Pb**	**12 48 32.5**	**+0.6**
AGG	**Agios Georgios**	**1.05**	**293**	*e*Pg		**Pb**	**12 48 35.4**	**+0.3**
AGG				*e*Sg		**Sb**	**12 48 50.4**	**+2.0**
THL	**Klokotos Trika**	**1.53**	**309**	*e*PB		**Pn**	**12 48 45.1**	**+3.2**
LIT	**Litokhoron**	**1.70**	**331**	*e*Pb		**Pb**	**12 48 45.7**	**-0.6**
LIT				*e*Sb		**Sb**	**12 49 05.6**	**-1.6**
OUR	**Ouranopolis**	**1.75**	**11**	*e*Pb		**Pb**	**12 48 46.2**	**-0.8**
OUR	**Ouranopolis**	**1.75**	**11**	*e*Pb		**Pb**	**12 48 46.2**	**-0.8**
PLG	**Polygyros**	**1.76**	**357**	*e*Pb		**Pb**	**12 48 46.6**	**-0.6**
PLG				*e*Sb		**Sn**	**12 49 06.0**	**-0.6**
CHOS	**Chios island**	**1.97**	**96**	*e*Pb		**Pb**	**12 48 49.5**	**-1.4**

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*IDC **03** 12:52:11.7±1.0, 708S×15537E, h0km, mb4.2/9, mb1 4.4/9, mb1mx4.2/15, mbtmp4.2/9, Error ellipse: s-maj=33.9km s-min=19.7km az=111.0*
*BJI **03** 12:52:13.2, 700S×15520E, h10km, mB4.9, mb4.7*
*NEIC **03** 12:52:14.2±0.6, 697S×155.17E, h10km, mb4.9/5, Error ellipse: s-maj=17.9km s-min=14.1km az=150.0*
*ISCJB **03** 12:52:20.2±3.2, 72S±0.1×15527E±0.10, h72km±33km, mb4.2/14, Error ellipse: s-maj=25.5km s-min=12.7km az=152.3*

ISC 03 12:52:22.3±2.9, 72S±01×1553E±01, h76km±32km, n25, σ0§98/23, mb4.2/14, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.15**	**116**	Pn		**Pn**	**12 53 36.1**	**-0.8**
	6.8nm,0.3s,baz=260,slow=6.6,SNR=2.8							
HNR					Sn	**Sn**	**12 54 35.7**	**+0.7**
	12nm,0.3s,baz=278,slow=4.6,SNR=4.6							
KAKA	**Kakadu**	**23.13**	**254**	*e*P		**P**	**12 57 21.5**	**-0.7**
	40nm,1.8s,mb4.4							
WB2	**Warramunga Arr**	**23.91**	**236**	*e*P		**P**	**12 57 29.6**	**+0.3**
WRA	**Warramunga Arr**	**23.93**	**236**	P		**P**	**12 57 28.8**	**-0.6**
	9.6nm,1.0s,mb4.1,baz=58,slow=9.2,SNR=27							
WRA					PcP	PcP	13 01 10.7	+0.4
	0.7nm,0.6s,baz=65,slow=2.8,SNR=8.0							
ASAR	**Alice Springs**	**26.24**	**229**	P		**P**	**12 57 50.2**	**-0.2**
	0.7nm,0.5s,mb3.3,baz=60,slow=9.2,SNR=12							
STKA	**Stephens Creek**	**27.67**	**206**	P

ATH.

ATH 03 12:56:34.8, 3536N×2380E, h20km, MD3.5/5, 2D, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VAM	**Vamos**	**0.33**	**82**	⇓*i*PB	Pb	12 56 41.6	-0.4
VAM				*e*SB	Sb	12 56 47.6	+0.7
VAM	**Vamos**	**0.33**	**82**	⇓*i*Pb	Pb	12 56 41.5	-0.5
GVD	**Gavdhos**	**0.57**	**156**	*e*PN	Pn	12 56 46.0	-1.8
GVD				*e*SN	Sb	12 56 54.5	+0.7
KYTH	**Kithira**	**1.11**	**326**	*e*PN	Pn	12 56 56.0	+0.8
NPS	**Neapolis**	**1.49**	**93**	*e*PN	Pn	12 57 02.0	+1.7
VLI	**Veliai**	**1.52**	**333**	*e*PN	Pn	12 57 03.0	+2.1

*IDC **03** 12:58:02.6±0.8, 709S×15538E, h0km, mb4.3/11, mb1 4.4/11, mb1mx4.4/15, mbtmp4.3/11, Error ellipse: s-maj=29.4km s-min=17.9km az=112.0*
*NEIC **03** 12:58:05.4±0.5, 703S×155.15E, h10km, mb4.9/10, Error ellipse: s-maj=16.2km s-min=12.9km az=139.0*
*ISCJB **03** 12:58:07.4±0.5, 698S±008×155.15E±008, h33km, mb4.6/21, Error ellipse: s-maj=12.8km s-min=9.8km az=39.9*
*BJI **03** 12:58:09.7, 6.12S×15486E, h10km, mB5.1, mb4.8*

ISC 03 12:58:09.3±0.5, 704S±008×15513E±009, h35km, n40, σ1§12/36, mb4.6/21, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.33**	**117**	Pn	**Pn**	**12 59 27.9**	**+1.4**
6.3nm,0.3s,baz=262,slow=4.2,SNR=1.9							
CTA	**Charters Tower**	**15.57**	**213**	Pn	**Pn**	**13 01 49.9**	**+3.7**
CTA	**Charters Tower**	**15.57**	**213**	Pn	**Pn**	**13 01 49.9**	**+3.7**
0.1nm,0.3s,baz=24,slow=13,SNR=4.0							
KAKA	**Kakadu**	**23.04**	**254**	*e*P	**P**	**13 03 12.1**	**+0.3**
45nm,1.4s,mb4.7							
KAKA				*e*P		13 03 12.3	
WB2	**Warramunga Arr**	**23.89**	**235**	*e*P	**P**	**13 03 20.3**	**+0.4**
WRA	**Warramunga Arr**	**23.90**	**235**	P	**P**	**13 03 20.1**	**+0.1**
19nm,1.0s,mb4.5,baz=61,slow=9.4,SNR=35							
WRA				PcP	PcP	13 07 02.1	-0.3
1.0nm,0.6s,baz=63,slow=2.7,SNR=7.2							
ASAR	**Alice Springs**	**26.24**	**229**	P	**P**	**13 03 40.5**	**-0.8**
1.4nm,0.9s,baz=60,slow=9.2,SNR=7.5							
ASAR				PcP	PcP	13 07 08.1	+0.6
0.7nm,0.8s,baz=32,slow=3.1,SNR=4.2							
STKA	**Stephens Creek**	**27.75**	**205**	*e*P	**P**	**13 03 53.3**	**-1.5**
4.9nm,1.0s,mb4.1							
STKA	**Stephens Creek**	**27.75**	**205**	P	**P**	**13 03 53.3**	**-1.5**
4.9nm,0.8s,mb4.2,baz=36,slow=13,SNR=7.9							
FITZ	**Fitzroy Crossi**	**30.76**	**246**	*e*P	**P**	**13 04 22.2**	**+0.6**
18nm,0.9s,mb4.9							
FITZ	**Fitzroy Crossi**	**30.76**	**246**	P	**P**	**13 04 21.6**	**0.0**
11nm,0.9s,mb4.7,baz=68,slow=9.6,SNR=19							
MBWA	**Marble Bar**	**36.98**	**244**	*e*P	**P**	**13 05 16.0**	**+0.4**
MJAR	**Matsushiro Arr**	**46.16**	**341**	P	**P**	**13 06 30.3**	**-0.3**
1.0nm,0.6s,mb4.0,baz=165,slow=8.0,SNR=3.7							
KSRS	**Korea Array**	**51.04**	**332**	P	**P**	**13 07 07.8**	**-0.3**
1.8nm,0.7s,mb4.1,baz=141,slow=8.1,SNR=5.5							
CN2	**Changchun**	**57.28**	**335**	*e*P	**P**	**13 07 54.4**	**+0.9**
KMI	**Kunming**	**60.15**	**304**	P	**P**	**13 08 16.8**	**+3.0**
KMI				AP	pP	13 08 27.1	+2.6
KMI				AMB	AMB		
comp=Z,18nm,1.3s,mb4.9							
KMI	**Kunming**	**60.15**	**304**	P	**P**	**13 08 16.8**	**+3.0**
comp=Z,18nm,1.3s,mb4.9							
KMI				pP	pP	13 08 27.1	+2.6
LZH	**Lanzhou**	**64.44**	**316**	*e*P	**P**	**13 08 41.5**	**-0.8**
LZH				AP	pP	13 08 49.5	-3.6
LZH				XP	sP	13 08 51.2	-6.0
LZH				AMB	AMB		
comp=Z,27nm,1.3s,mb5.1							
LZH				AMB	AMB		
comp=Z,96nm,4.0s							
LZH	**Lanzhou**	**64.44**	**316**	*e*P	**P**	**13 08 41.5**	**-0.8**
comp=Z,27nm,1.3s,mb5.1							
LZH				pP	pP	13 08 49.5	-3.6
LZH				sP	sP	13 08 51.2	-6.0
ULN	**Ulaanbaatar**	**69.11**	**328**	*e*P	**P**	**13 09 14.3**	**+2.5**
comp=Z,6.4nm,1.0s,mb4.5							
SONM	**Songino Array**	**69.44**	**327**	P	**P**	**13 09 14.6**	**+0.7**
comp=Z,5.1nm,0.8s,mb4.5,baz=136,slow=7.1,SNR=31							
GUN	**Gumba**	**75.25**	**301**	*e*P	**P**	**13 09 47.5**	**-1.5**
comp=Z,651nm,0.7s							
BILL	**Bilibino**	**75.31**	**4**	*e*P	**P**	**13 09 49.1**	**+0.6**
comp=Z,11nm,1.1s,mb4.7							
KKN	**Kakani**	**75.73**	**301**	*e*P	**P**	**13 09 50.0**	**-1.8**
comp=Z,30nm,0.8s,mb5.3							
GKN	**Gorkha**	**76.33**	**301**	*e*P	**P**	**13 09 56.2**	**+1.0**
comp=Z,76nm,1.0s,mb5.6							
KOLN	**Koldanda**	**77.16**	**300**	*e*P	**P**	**13 10 00.9**	**+1.0**
comp=Z,30nm,0.9s,mb5.2							
TNA	**Tin City**	**77.33**	**15**	*e*P	**P**	**13 10 00.8**	**+0.8**
comp=Z,3.4nm,0.9s,mb4.3							
IMA2	**Indian Mountai**	**81.80**	**19**	*e*P	**P**	**13 10 25.1**	**+0.8**
MCK	**McKinley**	**82.05**	**22**	*e*P	**P**	**13 10 24.4**	**-1.2**
comp=Z,16nm,1.2s,mb4.8							
COLA	**College**	**83.07**	**21**	*e*P	**P**	**13 10 30.1**	**-0.9**
comp=Z,15nm,1.4s,mb4.8							
MKAR	**Makanchi Array**	**83.52**	**319**	P	**P**	**13 10 33.2**	**-0.5**
comp=Z,3.1nm,0.8s,mb4.5,baz=98,slow=5.9,SNR=16							
ZALV	**Zalesovo Beam**	**84.29**	**326**	P	**P**	**13 10 36.8**	**-0.6**
comp=Z,1.5nm,0.6s,mb4.3,baz=119,slow=5.6,SNR=7.2							
NVAR	**Mina Array Bea**	**91.64**	**52**	P	**P**	**13 11 11.8**	**-1.4**
NVAR	**Mina Array Bea**	**91.64**	**52**	P	**P**	**13 11 11.8**	**-1.4**
comp=Z,1.0nm,1.1s,mb4.1,baz=248,slow=12,SNR=5.5							
YKA	**Yellowknife Ar**	**96.31**	**28**	P	**P**	**13 11 30.6**	**-3.4**
YKA	**Yellowknife Ar**	**96.31**	**28**	P	**P**	**13 11 30.6**	**-3.4**
comp=Z,0.7nm,0.7s,mb4.2,baz=265,slow=4.7,SNR=14							
KMBO	**Kilima Mbogo**	**117.49**	**265**	*e*PKPdf	PKPdf	13 16 53.1	+0.5
LPAZ	**La Paz**	**131.32**	**119**	PKP	PKPdf	13 17 19.4	+0.5
comp=Z,2.3nm,1.0s,baz=9.2,slow=3.8,SNR=6.0							
BDFB	**Brasilia**	**147.86**	**135**	PKPbc	PKPbc	13 17 49.5	-2.2
comp=Z,5.4nm,0.8s,baz=27,slow=1.8,SNR=6.5							
TORD	**Torodi Ar. Bea**	**153.16**	**285**	PKPbc	PKPbc	13 18 02.3	-2.2
comp=Z,1.3nm,0.7s,baz=110,slow=1.7,SNR=5.1							
TORD				PKPab	PKPab	13 18 16.3	+0.1
comp=Z,1.7nm,0.8s,baz=61,slow=4.6,SNR=4.9							

*NEIC **03** 13:04:38.9, 3340S×7129W, h52km, MD3.7(GUC), After GUC.*

GUC 03 13:04:38.9±0.5, 3340S×7129W, h52km±3km, MD3.7, ML2.7, 5C-7D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TACH	**Talagante**	**0.39**	**131**	⇓*i*P	Pn	13 04 49.5	+0.4
TACH				*i*S	Sn	13 04 57.2	+0.8
RCDM	**Rinconada Maip**	**0.41**	**103**	⇑*e*P	Pn	13 04 49.6	+0.3
RCDM				*i*S	Sn	13 04 57.3	+0.4
RCDM	**Rinconada Maip**	**0.41**	**103**	⇑*e*P	Pn	13 04 49.6	+0.3
RCDM				*i*S	Sn	13 04 57.3	+0.4
RCDM				AML	AML	13 04 58.0	
comp=N,3μm,0.0s							
STL	**Santa Lucia**	**0.54**	**94**	⇑*i*P	Pn	13 04 51.0	+0.2
STL				*i*S	Sn	13 05 00.5	+1.1
PEL	**Peldehue**	**0.56**	**64**	*e*P	Pn	13 04 51.4	+0.4
PEL				*i*S	Sn	13 05 00.9	+1.1
PEL				AML	AML	13 05 04.0	
comp=E,488nm,0.2s							
LNV	**Longovilo**	**0.57**	**190**	⇓*i*P	Pn	13 04 50.3	-0.8
ANTU	**Antumapu**	**0.57**	**108**	*i*S	Sn	13 05 01.1	+1.1
ANTU				AML	AML	13 05 02.2	
comp=N,478nm,0.3s							
PCH	**Pirque**	**0.69**	**109**	*e*P	Pn	13 04 53.0	+0.5
PCH				*i*S	Sn	13 05 03.8	+1.3
CHCH	**Chadas Angostu**	**0.75**	**135**	*e*P	Pn	13 04 53.9	+0.5
CHCH				*i*S	Sn	13 05 05.2	+1.1
SJCH	**San Jose de Ma**	**0.82**	**108**	⇓*i*P	Pn	13 04 54.5	+0.3
SJCH				*i*S	Sn	13 05 06.8	+1.3
SJCH	**San Jose de Ma**	**0.82**	**108**	⇓*i*P	Pn	13 04 54.5	+0.3
SJCH				*i*S	Sn	13 05 06.8	+1.3
SJCH				AML	AML	13 05 07.3	
comp=N,372nm,0.3s							
FCH	**Farellones**	**0.84**	**86**	⇓*i*P	Pn	13 04 55.4	+0.9
FCH				*i*S	Sn	13 05 07.9	+1.9
FCH				AML	AML	13 05 08.6	
comp=N,207nm,0.2s							
LMEL	**Las Melosas**	**1.01**	**117**	⇑*e*P	Pn	13 04 57.9	+1.1
LMEL				*i*S	Sn	13 05 11.8	+1.8
LMEL	**Las Melosas**	**1.01**	**117**	⇑*e*P	Pn	13 04 57.9	+1.1
LMEL				*i*S	Sn	13 05 11.8	+1.8
LMEL				AML	AML	13 05 13.5	
comp=N,459nm,0.2s							
CICH	**Cipreses**	**1.17**	**142**	⇓*i*P	Pn	13 04 59.9	+0.9
CICH				*i*S	Sn	13 05 15.5	+1.6
SFDO	**San Fernando**	**1.24**	**169**	⇓*e*P	Pn	13 05 00.1	+0.3
SFDO				*i*S	Sn	13 05 16.6	+1.1
TLL	**Tololo Astrono**	**3.25**	**7**	*e*P	Pn	13 05 32.6	+5.3
TLL				*i*S	Sn	13 06 10.1	+5.4

*IDC **03** 13:05:21.9±1.0, 783S×15595E, h0km, mb4.0/9, mb1 4.1/10, mb1mx4.0/16, mbtmp4.0/10, ML3.3/1, Error ellipse: s-maj=27.5km s-min=21.8km az=118.0*
*NEIC **03** 13:05:23.1±0.5, 785S×15600E, h10km, Error ellipse: s-maj=16.0km s-min=12.7km az=185.0*
*ISCJB **03** 13:05:24.6±0.7, 79S±01×1560E±01, h33km, mb4.0/9, Error ellipse: s-maj=18.1km s-min=15.2km az=3.7*

ISC 03 13:05:26.5±0.7, 79S±01×1561E±01, h35km, n12, σ0§79/11, mb4.0/9, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.14**	**112**	Pn	**Pn**	**13 06 26.9**	**-0.3**
1.6nm,0.3s,baz=267,slow=18,SNR=2.1							
WRA	**Warramunga Arr**	**24.19**	**238**	P	**P**	**13 10 39.8**	**-0.1**
5.3nm,1.0s,mb3.9,baz=65,slow=9.1,SNR=12							
ASAR	**Alice Springs**	**26.38**	**231**	P	**P**	**13 11 00.1**	**+0.4**
1.1nm,0.9s,mb3.4,baz=64,slow=8.3,SNR=9.0							
FITZ	**Fitzroy Crossi**	**31.26**	**248**	P	**P**	**13 11 42.8**	**-0.5**
1.6nm,0.6s,mb4.0,baz=117,slow=6.8,SNR=5.7							
MJAR	**Matsushiro Arr**	**47.29**	**340**	P	**P**	**13 13 55.2**	**-1.4**
2.8nm,0.7s,mb4.3,baz=154,slow=7.4,SNR=8.2							
KSRS	**Korea Array**	**52.24**	**332**	P	**P**	**13 14 34.3**	**0.0**
1.2nm,0.7s,mb3.9,baz=140,slow=7.2,SNR=3.7							
SONM	**Songino Array**	**70.67**	**327**	P	**P**	**13 16 39.7**	**+1.0**
0.6nm,0.6s,mb3.7,baz=156,slow=5.7,SNR=6.1							
MKAR	**Makanchi Array**	**84.78**	**319**	P	**P**	**13 17 58.0**	**+0.7**
MKAR	**Makanchi Array**	**84.78**	**319**	P	**P**	**13 17 58.0**	**+0.7**
2.2nm,0.9s,mb4.3,baz=106,slow=6.0,SNR=17							
ZALV	**Zalesovo Beam**	**85.52**	**326**	P	**P**	**13 17 59.8**	**-1.1**
0.3nm,0.3s,mb4.0,baz=104,slow=6.3,SNR=4.1							
YKA	**Yellowknife Ar**	**96.66**	**28**	P	**P**	**13 18 53.8**	**+1.1**
0.4nm,0.7s,mb3.9,baz=268,slow=4.5,SNR=7.2							
BDFB	**Brasilia**	**146.59**	**134**	PKPbc	PKPbc	13 25 06.9	+1.5
2.2nm,0.5s,baz=158,slow=1.5,SNR=5.1							

IDC 03 13:16:48.1±2.5, 787S×15578E, h0km, mb3.8/7, mb1 4.0/7, mb1mx3.9/14, mbtmp3.8/7, Error ellipse: s-maj=80.0km s-min=26.4km az=119.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.98**	**238**	P	P	13 22 04.6	0.0
0.5nm,0.5s,baz=60,slow=9.3,SNR=13							
ASAR	**Alice Springs**	**26.20**	**231**	P	P	13 22 24.9	+0.1
0.8nm,1.0s,baz=60,slow=8.3,SNR=4.1							
MJAR	**Matsushiro Arr**	**47.15**	**341**	P	P	13 25 21.7	-0.6
2.1nm,0.7s,baz=152,slow=7.6,SNR=6.0							
SONM	**Songino Array**	**70.48**	**327**	P	P	13 28 06.2	+1.7
1.0nm,1.1s,baz=134,slow=5.0,SNR=3.8							
MKAR	**Makanchi Array**	**84.56**	**319**	P	P	13 29 23.2	-0.1
0.2nm,0.2s,baz=101,slow=6.3,SNR=4.0							
ZALV	**Zalesovo Beam**	**85.33**	**326**	P	P	13 29 25.9	-1.1
0.3nm,0.3s,baz=104,slow=6.3,SNR=4.2							
YKA	**Yellowknife Ar**	**96.74**	**28**	P	P	13 30 20.3	0.0
0.2nm,0.6s,baz=268,slow=4.9,SNR=5.0							

*BJI **03** 13:18:27.7, 727S×15583E, h19km, mB5.2, mb4.9, Ms4.9, Msz4.6*
*ISCJB **03** 13:18:29.4±0.3, 7.12S±005×15539E±006, h10km, mb4.7/47, MS4.5/7, Error ellipse: s-maj=8.3km s-min=6.9km az=8.0*
*IDC **03** 13:18:29.1±0.5, 707S×15538E, h0km, mb4.4/15, mb1 4.6/15, mb1mx4.6/16, mbtmp4.4/15, MS4.1/1, Ms1 4.1/1, ms1mx3.1/28, Error ellipse: s-maj=23.9km s-min=15.1km az=88.0*
*MOS **03** 13:18:32.9±1.0, 707S×15539E, h33km, mb5.0/16, Error ellipse: s-maj=13.9km s-min=9.3km az=109.7*
*NEIC **03** 13:18:34.7±3.5, 7.15S×15536E, h35km±24km, mb4.8/25, MS4.4/1, Error ellipse: s-maj=7.5km s-min=7.1km az=161.0*

ISC 03 13:18:30.8±2.4, 715S±005×15540E±006, h9km±15km, h15km±1.2km: pP-P, n110, σ0§87/106, mb4.7/47, MS4.5/7, 2C-6D, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.04**	**117**	*e*Pn	**Pn**	**13 19 47.2**	**+0.5**
505nm,0.9s							
HNR				Pn	**Pn**	**13 19 51.9**	**+5.3**
HNR	**Honiara**	**5.04**	**117**	*e*P	**Pn**	**13 19 47.2**	**+0.5**
HNR				pmax	pmax		
comp=Z,505nm,0.9s							
HNR	**Honiara**	**5.04**	**117**	Pn	**Pn**	**13 19 51.9**	**+5.3**
comp=Z,4.6nm,0.3s,baz=262,slow=5.7,SNR=3.0							
CTA	**Charters Tower**	**15.63**	**214**	*e*P	**Pn**	**13 22 17.8**	**+6.3**
comp=Z,7.9nm,0.8s							
CTA	**Charters Tower**	**15.63**	**214**	*e*P	**Pn**	**13 22 17.8**	**+6.3**
CTA				pmax	pmax		
comp=Z,8.0nm,0.8s							
CTA	**Charters Tower**	**15.63**	**214**	Pn	**Pn**	**13 22 17.0**	**+5.5**
comp=Z,0.2nm,0.3s,baz=44,slow=12,SNR=6.8							
CTAO	**Charters Tower**	**15.63**	**214**	*e*P	**Pn**	**13 22 18.4**	**+6.9**
DZM	**Mont Dzumac**	**18.26**	**145**	P	**Pn**	**13 22 48.9**	**+4.2**
comp=Z,0.2nm,0.3s,baz=333,slow=19,SNR=3.3							
KAKA	**Kakadu**	**23.28**	**254**	*e*P	**P**	**13 23 38.1**	**-1.1**
comp=Z,24nm,1.0s,mb4.6							
ARMA	**Armidale**	**23.42**	**188**	*e*P	**P**	**13 23 47.6**	**+7.1**
ARMA	**Armidale**	**23.42**	**188**	*e*P	**P**	**13 23 39.4**	**-1.2**
comp=Z,0.8nm,1.1s							
ARMA				*e*P		13 23 47.6	
WB2	**Warramunga Arr**	**24.06**	**236**	*e*P	**P**	**13 23 46.3**	**-0.4**
WRA	**Warramunga Arr**	**24.07**	**236**	P	**P**	**13 23 46.3**	**-0.4**
comp=Z,25nm,0.9s,mb4.6,baz=60,slow=9.4,SNR=43							
WRA				PcP	PcP	13 27 28.0	-0.5
comp=Z,3.5nm,1.0s,baz=60,slow=2.1,SNR=9.1							
ASAR	**Alice Springs**	**26.38**	**229**	P	**P**	**13 24 07.0**	**-0.7**
comp=Z,1.4nm,0.6s,mb3.6,baz=62,slow=8.2,SNR=13							
ASAR				PcP	PcP	13 27 33.5	-0.1
comp=Z,1.6nm,0.9s,baz=66,slow=3.3,SNR=5.1							
STKA	**Stephens Creek**	**27.77**	**206**	*e*P	**P**	**13 24 22.2**	**+2.0**
comp=Z,5.5nm,0.7s,mb4.3							
STKA	**Stephens Creek**	**27.77**	**206**	P	**P**	**13 24 22.1**	**+1.9**
comp=Z,6.5nm,0.8s,mb4.3,baz=28,slow=11,SNR=15							
STKA				PcP	PcP	13 27 35.5	-1.2
comp=Z,2.8nm,0.9s,baz=353,slow=2.7,SNR=3.2							
FITZ	**Fitzroy Crossi**	**30.97**	**247**	*e*P	**P**	**13 24 47.8**	**-0.9**
comp=Z,31nm,0.8s,mb5.2							
FITZ	**Fitzroy Crossi**	**30.97**	**247**	LR	LR	13 36 52.3	
comp=Z,344nm,18.9s,MS4.0,baz=94,slow=36							
URZ	**Urewera**	**36.68**	**151**	P	**P**	**13 25 38.4**	**+0.3**
comp=Z,11nm,0.9s,mb4.7,baz=299,slow=19,SNR=2.9							
MBWA	**Marble Bar**	**37.17**	**244**	*e*P	**P**	**13 25 42.1**	**-0.5**
comp=Z,13nm,0.8s,mb4.8							
RPZ	**Rata Peaks**	**38.92**	**162**	P	**P**	**13 25 57.5**	**+0.5**
comp=Z,6.1nm,0.6s,mb4.5,baz=243,slow=9.4,SNR=4.4							
KLBR	**Kellerberrin**	**42.70**	**230**	*e*P	**P**	**13 26 26.8**	**-1.6**
comp=Z,13nm,0.9s,mb4.7							
KSM	**Kuching**	**45.80**	**279**	*e*P	**P**	**13 26 53.5**	**-0.1**
YHNB	**Yeheng**	**45.82**	**315**	*e*P	**P**	**13 26 53.9**	**+0.4**
MJAR	**Matsushiro Arr**	**46.36**	**341**	P	**P**	**13 26 56.0**	**-1.5**
comp=Z,1.2nm,0.7s,mb4.0,baz=159,slow=7.7,SNR=4.1							
MJAR				PcP	PcP	13 28 32.6	0.0
comp=Z,3.6nm,0.9s,baz=128,slow=3.8,SNR=5.8							
KSRS	**Korea Array**	**51.26**	**332**	P	**P**	**13 27 34.6**	**-0.6**
comp=Z,4.7nm,0.9s,mb4.4,baz=155,slow=10,SNR=8.2							
NJ2	**Nanjing**	**52.29**	**320**	*e*P	**P**	**13 27 44.3**	**+1.3**
NJ2				AMB	AMB		
comp=Z,40nm,1.1s,mb5.3							
WHN	**Wuhan**	**54.33**	**316**	*e*P	**P**	**13 27 59.1**	**+1.1**
YSS	**Yuzh-Sakhalins**	**55.02**	**349**	⇓*e*P	**P**	**13 28 03.6**	**+0.9**
YSS				pmax	pmax		
comp=Z,6.0nm,1.0s,mb4.6							
KULM	**Kulim**	**56.02**	**281**	*e*P	**P**	**13 28 09.8**	**-0.8**
MDJ	**Mudanjiang**	**56.53**	**338**	P	**P**	**13 28 14.4**	**+0.8**
MDJ				AMB	AMB		
comp=Z,5.0nm,1.2s,mb4.4							
MDJ				AMB	AMB		
comp=Z,201nm,10.1s							
CN2	**Changchun**	**57.50**	**335**	*e*P	**P**	**13 28 20.6**	**+0.1**
GYA	**Guiyang**	**57.87**	**307**	⇑*i*P	**P**	**13 28 25.2**	**+1.8**
GYA				AP	pP	13 28 29.7	+3.5
GYA				XP	sP	13 28 32.4	+5.2
GYA				PCP	PcP	13 29 17.6	+1.7
GYA				PP	PP	13 30 36.4	+4.6
GYA				SCP	ScP	13 33 16.6	+0.1
GYA				S	**S**	**13 36 24.4**	**+0.8**
GYA				SCS	ScS	13 38 11.9	-1.9
GYA				SS	SS	13 40 16.4	+1.7
GYA				AMB	AMB		
comp=Z,20nm,1.0s,mb5.1							
GYA				AMB	AMB		
comp=Z,150nm,11.9s							
GYA				LR	LR		
comp=N,480nm,19.0s,MS4.8							
GYA				LR	LR		
comp=E,470nm,20.2s,MS4.8							
GYA				LR	LR		
comp=Z,490nm,20.7s,MS4.6							
HABR	**Khabarovsk**	**58.20**	**344**	*e*P	**P**	**13 28 24.3**	**-1.0**
BJI	**Beijing**	**59.27**	**326**	P	**P**	**13 28 33.8**	**+0.8**
BJI				AMB	AMB		
comp=Z,3.0nm,0.7s,mb4.4							
BJI	**Beijing**	**59.27**	**326**	P	**P**	**13 28 33.8**	**+0.8**
comp=Z,3.0nm,0.7s,mb4.4							
KLR	**Kul'dur**	**59.83**	**342**	*e*P	**P**	**13 28 32.2**	**-4.4**
KMI	**Kunming**	**60.44**	**304**	P	**P**	**13 28 42.3**	**+1.0**
KMI				AP	pP	13 28 46.1	+2.1
KMI				XP	sP	13 28 47.6	+2.5
KMI				AMB	AMB		
comp=Z,27nm,1.2s,mb5.2							
KMI				LR	LR		
comp=Z,271nm,20.5s,MS4.4							
KMI	**Kunming**	**60.44**	**304**	P	**P**	**13 28 42.3**	**+1.0**
comp=Z,27nm,1.2s,mb5.2							
KMI				pP	pP	13 28 46.1	+2.1
KMI				sP	sP	13 28 47.6	+2.5
KMI				LR	LR		
comp=Z,270nm,20.5s,MS4.4							
CM31	**Chiang Mai Array**	**61.22**	**295**	*e*P	**P**	**13 28 47.3**	**+0.6**
CHTO	**Chiang Mai**	**61.33**	**296**	*e*P	**P**	**13 28 47.8**	**+0.4**
comp=Z,21nm,1.3s,mb5.1							
CHTO	**Chiang Mai**	**61.33**	**296**	*e*P	**P**	**13 28 47.8**	**+0.3**
CHTO				pmax	pmax		
comp=Z,21nm,1.3s,mb5.1							
CD2	**Chengdu**	**62.22**	**310**	*e*P	**P**	**13 28 54.3**	**+1.0**
CD2				AP	pP	13 28 59.2	+3.2
CD2				XP	sP	13 29 02.1	+5.0
CD2				PP	PP	13 31 13.6	+3.3
CD2				S	**S**	**13 37 19.0**	**-0.4**
CD2				SS	SS	13 41 24.4	+1.5
CD2				AMB	AMB		
comp=Z,20nm,0.9s,mb5.2							
CD2				AMB	AMB		
comp=Z,30nm,5.8s							
CD2				LR	LR		
comp=N,310nm,16.4s,MS4.7							
CD2				LR	LR		
comp=E,250nm,13.8s,MS4.7							
CD2				LR	LR		
comp=Z,180nm,14.4s,MS4.4							
HHC	**Hu-ho-hao-te**	**62.46**	**324**	*e*P	**P**	**13 28 55.7**	**+1.1**
HHC				AP	pP	13 29 00.4	+3.0
HHC				XP	sP	13 29 03.3	+4.9
HHC				PP	PP	13 31 15.8	+3.6
HHC				SCP	ScP	13 33 31.4	-5.1
HHC				PCS	PcS	13 33 35.3	-1.8
HHC				S	**S**	**13 37 27.8**	**+5.8**
HHC				XS	sS	13 37 33.2	+6.6
HHC				SCS	ScS	13 38 42.4	-5.0
HHC				SS	SS	13 41 28.1	+1.9
HHC				AMB	AMB		
comp=Z,17nm,0.4s,mb5.5							
HHC				AMB	AMB		
comp=Z,240nm,17.8s							
HHC				LR	LR		
comp=N,307nm,14.9s							
HHC				LR	LR		
comp=E,204nm,9.0s							
HHC				LR	LR		
comp=Z,250nm,16.7s,MS4.5							
HIA	**Hailar**	**64.23**	**335**	*e*P	**P**	**13 29 05.9**	**-0.3**
comp=Z,9.3nm,1.0s,mb4.8							
HIA	**Hailar**	**64.23**	**335**	*e*P	**P**	**13 29 05.9**	**-0.3**
HIA				pmax	pmax		
comp=Z,9.0nm,1.0s							
LZH	**Lanzhou**	**64.71**	**315**	⇓P	**P**	**13 29 10.5**	**+0.9**
LZH				AP	pP	13 29 16.0	+3.6
LZH				XP	sP	13 29 18.7	+5.3
LZH				PP	PP	13 31 35.0	+2.9
LZH				*e*S	**S**	**13 37 50.0**	**-0.3**
LZH				SS	SS	13 42 02.5	+0.9
LZH				AMB	AMB		
comp=Z,42nm,1.5s,mb5.2							
LZH				AMB	AMB		
comp=Z,140nm,4.9s							
LZH				LR	LR		
comp=E,420nm,14.0s							
LZH				LR	LR		
comp=Z,720nm,14.9s,MS5.0							
LZH	**Lanzhou**	**64.71**	**315**	⇓P	**P**	**13 29 10.5**	**+0.9**
comp=Z,42nm,1.5s,mb5

ZAK	Zakamensk	72.84	328	*e*P		P	13 29 59.2	-0.8
ZAK				pmax	pmax			
comp=Z,6.0nm,1.1s,mb4.4								
BOD	Bodaibo	72.91	338	*e*P		P	13 29 58.7	-1.5
BOD				pmax	pmax			
comp=Z,5.0nm,1.2s,mb4.3								
GAMB	Gambell	74.96	14	*e*P		P	13 30 12.8	+0.6
comp=Z,9.1nm,0.8s,mb4.8								
BILL	Bilibino	75.40	4	*e*P		P	13 30 15.2	+0.6
comp=Z,24nm,1.2s,mb5.0								
BILL	Bilibino	75.40	4⇓	*e*P		P	13 30 15.3	+0.7
BILL				pmax	pmax			
comp=Z,25nm,1.3s,mb5.0								
TNA	Tin City	77.36	15	*e*P		P	13 30 26.2	+0.4
SVW2	Sparrevohn	77.99	22	*e*P		P	13 30 29.5	+0.2
TTA	Tatalina	79.02	20	*e*P		P	13 30 35.6	+0.6
WMQ	Urumqi	79.21	317	*e*P		P	13 30 35.8	-0.7
SLKM	Skilak Lake	79.71	24	*e*P		P	13 30 37.6	-1.3
TIXI	Tiksi	80.56	352	*e*P		P	13 30 42.6	-0.7
comp=Z,7.1nm,1.1s,mb4.5								
TIXI	Tiksi	80.56	352	*e*P		P	13 30 42.1	-1.1
TIXI				pmax	pmax			
comp=Z,9.0nm,1.4s,mb4.5								
PMR	Palmer	80.77	24	*e*P		P	13 30 44.2	-0.3
comp=Z,12nm,1.0s,mb4.8								
PMR	Palmer	80.77	24	*e*P		P	13 30 44.2	-0.3
PMR				pmax	pmax			
comp=Z,12nm,1.0s,mb4.8								
SML	Sawmill	81.20	24	*e*P		P	13 30 47.1	+0.3
IMA2	Indian Mountai	81.81	19	*e*P		P	13 30 49.6	-0.4
MCK	McKinley	82.05	22	*e*P		P	13 30 50.7	-0.6
comp=Z,18nm,0.8s,mb5.0								
MCK	McKinley	82.05	22	*e*P		P	13 30 50.7	-0.5
MCK				pmax	pmax			
comp=Z,18nm,0.8s,mb5.0								
QSPA	South Pole Qui	82.83	180	*e*P		P	13 30 55.5	+0.3
COLA	College	83.08	21	*e*P		P	13 30 55.5	-1.1
comp=Z,13nm,1.0s,mb4.9								
COLA	College	83.08	21	*c i*P		P	13 30 55.3	-1.3
MK31	Makanchi Array	83.79	319	*e*P		P	13 31 00.5	-0.2
MKAR	Makanchi Array	83.79	319	P		P	13 31 00.1	-0.5
comp=Z,5.4nm,0.8s,mb4.7,baz=99,slow=5.3,SNR=27								
MAW	Mawson	84.41	203	P		P	13 31 03.4	-0.1
comp=Z,3.9nm,0.9s,mb4.5,baz=120,slow=4.6,SNR=5.0								
ZALV	Zalesovo Beam	84.53	326	P		P	13 31 02.7	-1.6
ZALV	Zalesovo Beam	84.53	326	P		P	13 31 02.7	-1.6
comp=Z,1.4nm,0.6s,mb4.2,baz=113,slow=5.8,SNR=6.7								
ZAL	Zalesovo	84.54	326	P		P	13 31 02.7	-1.6
EGAK	Eagle	85.50	23	*e*P		P	13 31 09.1	+0.2
comp=Z,3.7nm,0.7s,mb4.7								
DAWY	Dawson	85.87	24	*e*P		P	13 31 11.5	+0.8
KURK	Kurchatov	87.20	322	*i*P		P	13 31 16.7	-0.9
UCH	Uchtor	88.06	313	*e*P		P	13 31 22.8	+0.9
comp=Z,1.6nm,0.9s,mb4.2								
DLBC	Dease Lake	88.06	30	*e*P		P	13 31 21.4	-0.2
AML	Almayashu	88.64	313	*e*P		P	13 31 25.3	+0.7
comp=Z,6.9nm,0.9s,mb5.0								
EKS2	Erkin-Say	88.67	313	*e*P		P	13 31 25.5	+0.7
comp=Z,1.5nm,0.7s,mb4.4								
INK	Inuvik	89.72	21	*e*P		P	13 31 28.7	-0.5
NVAR	Mina Array Bea	91.50	52	P		P	13 31 38.8	+0.7
comp=Z,0.6nm,0.8s,mb4.0,baz=243,slow=4.1,SNR=7.7								
YKA	Yellowknife Ar	96.28	28	P		P	13 31 59.0	-0.6
comp=Z,1.2nm,0.7s,mb4.5,baz=265,slow=4.5,SNR=24								
EDM	Edmonton	96.42	37	*e*P		P	13 31 59.4	-1.0
PDAR	Pinedale Array	98.50	48	P		P	13 32 09.2	-0.9
comp=Z,0.6nm,0.8s,mb4.2,baz=169,slow=1.5,SNR=5.0								
KMBO	Kilima Mbogo	117.75	265	*i* PKIKP		PKPdf	13 37 10.3	-8.5
KMBO				pmax	pmax			
comp=Z,1.0nm,0.4s								
BOSA	Boshof	120.24	231	PKP		PKPdf	13 37 21.7	-1.5
comp=Z,1.6nm,0.7s,baz=66,slow=8.2,SNR=3.0								
GERES	GERESS Array B	127.39	329	PKP		PKPdf	13 37 36.0	-0.3
comp=Z,0.3nm,0.3s,baz=68,slow=0.7,SNR=5.9								
LPAZ	La Paz	131.03	119	PKP		PKPdf	13 37 45.3	+1.1
comp=Z,4.3nm,1.0s,baz=343,slow=1.5,SNR=12								
PCBR	Castelo Branco	144.01	337	*e*PKP		PKPdf	13 38 05.7	-1.6
PESTR	Estremoz	144.89	337	*e*PKP		PKPdf	13 38 08.0	-0.9
PBAR	Barrancos	145.26	335	*e*PKP		PKPdf	13 38 09.2	-0.4
PBEJ	Beja	145.72	336	*e*PKP		PKPdf	13 38 10.6	+0.2
BDFB	Brasilia	147.58	134	PKPbc		PKPbc	13 38 14.6	-2.2
comp=Z,15nm,0.8s,baz=218,slow=3.0,SNR=18								
TORD	Torodi Ar. Bea	153.46	285	PKPbc		PKPbc	13 38 30.0	-0.9
comp=Z,2.8nm,0.8s,baz=162,slow=1.5,SNR=9.3								
TORD				PKPab		PKPab	13 38 39.4	-3.7
comp=Z,3.1nm,1.0s,baz=108,slow=1.5,SNR=3.7								

IDC 03 13:23:31.2±3.9, 694S×15710E, h0km, mb3.9/6, mb1 4.0/6, mb1mx3.8/14, mbtmp3.9/6, Error ellipse: s-maj=124.7km s-min=27.3km az=107.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	3.75	131	Pn	Pn	13 24 33.6	+3.2
7.7nm,0.3s,baz=270,slow=20,SNR=3.3							
WRA	Warramunga Arr	25.59	237	P	P	13 29 02.2	-0.1
1.3nm,0.5s,baz=60,slow=9.5,SNR=11							
ASAR	Alice Springs	27.80	231	P	P	13 29 22.4	+0.2
1.0nm,0.8s,baz=58,slow=10,SNR=6.5							
STKA	Stephens Creek	28.72	208	P	P	13 29 30.4	+0.1
1.4nm,0.8s,baz=27,slow=16,SNR=2.0							
SONM	Songino Array	70.43	326	P	P	13 34 47.9	+0.6
0.3nm,0.6s,baz=135,slow=5.6,SNR=3.0							
MKAR	Makanchi Array	84.75	318	P	P	13 36 07.5	+0.2
0.9nm,0.6s,baz=103,slow=5.6,SNR=8.8							
ZALV	Zalesovo Beam	85.31	326	P	P	13 36 09.7	-0.3
0.5nm,0.3s,baz=123,slow=5.3,SNR=3.8							

IDC 03 13:25:18.8±2.7, 772S×15594E, h0km, mb4.0/6, mb1 4.2/6, mb1mx3.9/14, mbtmp4.0/6, Error ellipse: s-maj=80.2km s-min=35.8km az=122.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	24.20	238	P	P	13 30 37.3	+0.1
4.4nm,1.1s,baz=63,slow=9.8,SNR=5.6							
MJAR	Matsushiro Arr	47.07	340	P	P	13 33 51.7	-0.6
2.1nm,0.7s,baz=155,slow=8.2,SNR=5.6							
SONM	Songino Array	70.45	327	P	P	13 36 36.2	+1.2
0.4nm,0.6s,baz=145,slow=7.0,SNR=3.7							
MKAR	Makanchi Array	84.56	319	P	P	13 37 54.7	+0.8
1.0nm,0.7s,baz=106,slow=5.6,SNR=5.3							
ZALV	Zalesovo Beam	85.30	326	P	P	13 37 56.0	-1.5
0.4nm,0.3s,baz=113,slow=3.7,SNR=2.8							
YKA	Yellowknife Ar	96.53	28	P	P	13 38 50.1	+0.1
0.3nm,0.6s,baz=261,slow=4.5,SNR=5.2							

CSEM ***03*** *13:28:36.9±0.1, 3840N×3906E, h5km, MD3.4, Error ellipse: s-maj=1.6km s-min=1.3km az=5.0*
ISK ***03*** *13:28:36.7, 3841N×3905E, h4km, MD3.6*
DDA ***03*** *13:28:36.9, 3855N×3918E, h8km±2km, Md3.4*
ISCJB ***03*** *13:28:37.4±0.5, 3839N±002×3909E±002, h4km±4km, Error ellipse: s-maj=3.6km s-min=3.2km az=17.2*
NSSC ***03*** *13:28:45.1, 3827N×3941E, h30km±4km*
ISC 03 13:28:38.3±0.5, 3839N±002×3908E±003, h7km±4km, n38, σ1§10/57, 1C-3D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ELZG	Elazig	0.13	324⇑	*i*P	Pg	13 28 40.1	-1.0
ELZG				*i* S	Sg	13 28 42.6	-0.3
MYA	Malataya	0.52	263	*i* PG	Pg	13 28 47.2	-1.1
MALT	Malatya	0.52	261	*i* PG	Pg	13 28 46.7	-1.6
MALT				*i* SG	Sg	13 28 54.4	-0.7
URFA	Urfa	0.97	192	*i* PG	Pg	13 28 56.5	-0.5
URFA				*i* SG	Sg	13 29 10.8	+1.2
DIY	Diyarbakir	1.03	118	*i* PG	Pg	13 28 57.2	-0.9
DIY				*i* SG	Sg	13 29 12.5	+1.0
ATAB	Bozova	1.11	214	*i* P	Pg	13 29 00.4	+0.8
ATAB				*i* S	Sg	13 29 16.8	+2.7
BINT	Bingol	1.20	66	PN	Pn	13 29 00.4	-1.2
EZC	Erzincan	1.47	23	PN	Pn	13 29 02.5	-2.8
GZT	Gaziantep	1.59	230	*i* P	Pn	13 29 06.4	-0.5
GZT				*i* S	Sg	13 29 31.8	+2.6
DRBT	Darb Altahta	1.65	159	⇑P	Pg	13 29 15.7	+5.8
DRBT				⇑S	Sg	13 29 39.5	+8.3
MARD	Mardin	1.72	128	*i* P	Pn	13 29 08.1	-0.6
MARD				*i* S	Sn	13 29 30.2	-0.8
KBSD	Kabsdagh	1.81	140	⇑P	Pn	13 29 10.6	+0.7
KBSD				⇑S	Sn	13 29 30.7	-2.5
KBSD	Kabsdagh	1.81	140	⇑*i*P	Pn	13 29 10.6	+0.6
KBSD				⇑*i*S	Sn	13 29 30.7	-2.5
BTMT	Batman	1.91	95	PN	Pn	13 29 09.3	-2.0
KMRS	Kahramanmaras	1.94	243	PN	Pn	13 29 10.5	-1.2
GUMT	Gumushane	2.09	8	PN	Pn	13 29 13.7	-0.1
SFNV	Sufian	2.14	157	⇑P	Pn	13 29 16.0	+1.6
SFNV				⇓S	Sn	13 29 40.6	-0.6
SFNV	Sufian	2.14	157	⇑*i*P	Pn	13 29 16.0	+1.6
SFNV				⇓*i*S	Sn	13 29 40.6	-0.6
ANDN	Andirin	2.31	250	*i* P	Pn	13 29 16.7	-0.1
ANDN				*i* S	Sg	13 29 53.0	+0.5
EZM	Erzurum	2.33	49	PN	Pn	13 29 17.7	+0.6
ESPY	Espiye-Giresun	2.53	354	*e*PN	Pn	13 29 19.9	0.0
BNN	Bunyan	2.57	281	*e*PN	Pn	13 29 20.8	+0.3
GRSN	GIRESUNGRSN	2.60	346	*i* P	Pn	13 29 23.3	+2.5
GRSN				*i* S	Sb	13 29 58.3	+0.7
DRWC	Darouich	2.61	228	⇑P	Pg	13 29 27.5	-0.8
DRWC				⇓S	Sg	13 29 59.9	-2.3
KTUT	Trabzon	2.64	11	*e*PN	Pn	13 29 21.5	+0.1
KOZT	Kozan	2.73	251	*e*PN	Pn	13 29 22.5	-0.1
BSHR	Al Beshri	2.78	168	⇑P	Pb	13 29 29.2	+0.8
BSHR				⇑S	Sb	13 30 02.6	-0.1
SIRT	Sirnak	2.80	108	*e*PN	Pn	13 29 24.0	+0.4
BTCH	Batrach	3.15	222	⇑P	Pb	13 29 34.1	-0.5
BTCH				⇑S	Sb	13 30 12.7	-0.5
YOZ	Yozgat	3.18	294	*e*PN	Pn	13 29 28.5	-0.3
AGRB	Hanur-Agry	3.27	68	*e*PN	Pn	13 29 31.0	+1.0
AVNT	Avonos	3.33	278	*i* P	Pn	13 29 32.1	+1.2
AVNT				*e*S	Sg	13 30 29.1	+3.7
KARA	Karaisali	3.38	252	*e*PN	Pn	13 29 31.8	+0.2
NIG	Nigde	3.53	267	*e*PN	Pn	13 29 34.1	+0.5
BCA	Borcka	3.62	32	*e*PN	Pn	13 29 35.3	+0.5
HAKT	HAKKARI	3.75	101	*e*P	Pn	13 29 36.4	-0.3
HAKT				*i* S	Sg	13 30 42.3	+3.5
CUKT	Cukurca	3.76	106	*e*PN	Pn	13 29 37.8	+1.0
CORM	Corum	3.89	299	*e*PN	Pn	13 29 39.5	+1.0

NEIC ***03*** *13:31:46.9, 3945S×17498E, h104km, MG3.9(WEL), After WEL.*
WEL 03 13:31:46.8±0.2, 3952S×17505E, h129km±1km, ML3.7/19, Error ellipse: s-maj=1.1km s-min=0.8km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WAZ	Wanganui	0.24	192	PN	Pn	13 32 05.0	+0.4
WAZ				SN	Sn	13 32 18.4	+0.2
PKVZ	Pokaka	0.32	45	PN	Pn	13 32 04.7	-0.2
PKVZ				SN	Sn	13 32 17.9	-0.7
MTVZ	Mangateitei	0.35	68	PN	Pn	13 32 04.9	-0.1
MTVZ				SN	Sn	13 32 18.2	-0.6
TRVZ	Turoa	0.44	60	PN	Pn	13 32 05.5	0.0
TRVZ				SN	Sn	13 32 18.5	-1.1
VRZ	Vera Road	0.45	330	PN	Pn	13 32 05.2	-0.4
VRZ				SN	Sn	13 32 18.9	-0.8
WNVZ	Wahianoa	0.47	66	PN	Pn	13 32 05.6	0.0
WNVZ				SN	Sn	13 32 19.1	-0.6
DRZ	Dome Shelter	0.47	59	PN	Pn	13 32 06.1	+0.5
FWVZ	Far West T-bar	0.47	56	PN	Pn	13 32 05.6	0.0
FWVZ				SN	Sn	13 32 18.6	-1.2
WPVZ	Whakapapa	0.50	51	PN	Pn	13 32 05.7	-0.1
TUVZ	Tukino	0.53	62	PN	Pn	13 32 06.1	+0.1
TWVZ	Taurewa	0.54	34	PN	Pn	13 32 05.7	-0.3
NGZ	Ngauruhoe	0.55	51	PN	Pn	13 32 06.0	-0.1
MOVZ	Moawhango	0.56	79	PN	Pn	13 32 05.7	-0.4
RAEZ	Rainy Point	0.56	294	PN	Pn	13 32 06.3	+0.2
WTVZ	West Tongariro	0.58	46	PN	Pn	13 32 06.1	-0.1
OTVZ	Oturere	0.59	54	PN	Pn	13 32 06.5	+0.1
KRVZ	Karewarewa	0.62	47	PN	Pn	13 32 06.2	-0.3
KATZ	Kakaramea	0.74	43	PN	Pn	13 32 07.3	-0.2
NEZ	North Egmont	0.78	288	PN	Pn	13 32 07.9	+0.2
RITZ	Rihia Road	0.83	49	PN	Pn	13 32 07.6	-0.5
RATZ	Rangitukua	0.86	41	PN	Pn	13 32 08.3	-0.1
TSZ	Takapari Road	0.89	128	PN	Pn	13 32 08.9	+0.3
PKE	Pukeiti	0.89	291	PN	Pn	13 32 08.4	-0.2
NWEZ	Newall Road	0.95	285	PN	Pn	13 32 09.1	0.0
WATZ	Wairara	0.97	33	PN	Pn	13 32 09.3	0.0
HIZ	Hauiti	1.02	351	PN	Pn	13 32 09.3	-0.5
HATZ	Hinemaiaia	1.02	53	PN	Pn	13 32 09.3	-0.6
BFZ	Black Stump Fm	1.17	73	PN	Pn	13 32 11.1	-0.2
WPHZ	Waipukurau	1.20	117	PN	Pn	13 32 11.9	+0.3
MRZ	Mangatainoka R	1.21	161	PN	Pn	13 32 11.7	0.0
KIW	Kapiti Island	1.34	185	PN	Pn	13 32 12.9	-0.2
TIWZ	Tintock	1.41	153	PN	Pn	13 32 13.9	0.0
BFZ	Birch Farm	1.48	142	PN	Pn	13 32 14.4	-0.2
PXZ	Pawanui	1.49	111	PN	Pn	13 32 14.8	+0.1
DUWZ	D'Urville Isla	1.55	214	PN	Pn	13 32 15.1	-0.3
CAW	Cannon Point	1.59	180	PN	Pn	13 32 15.7	-0.1
MTW	Mount Morrison	1.67	168	PN	Pn	13 32 16.4	-0.4
MRW	Makara Radio	1.73	189	PN	Pn	13 32 17.2	-0.3
WEL	Wellington	1.78	187	PN	Pn	13 32 17.6	-0.4
TCW	Tory Channel	1.79	199	PN	Pn	13 32 17.9	-0.3
SNZO	South Karori	1.81	188	P	Pn	13 32 17.9	-0.5
SNZO	South Karori	1.81	188	PN	Pn	13 32 17.9	-0.5
SNZO				SN	Sn	13 32 39.5	-3.1
PAWZ	Paruwai Farm	1.88	171	P	Pn	13 32 18.8	-0.5
PAWZ	Paruwai Farm	1.88	171	PN	Pn	13 32 18.8	-0.5
PAWZ				SN	Sn	13 32 41.5	-2.6
BHW	Baring Head	1.89	184	P	Pn	13 32 18.9	-0.5
BHW	Baring Head	1.89	184	PN	Pn	13 32 18.9	-0.5
BHW				SN	Sn	13 32 42.1	-2.3
MSWZ	Moikau Station	1.90	175	P	Pn	13 32 19.0	-0.5
MSWZ	Moikau Station	1.90	175	PN	Pn	13 32 19.0	-0.4
MSWZ				SN	Sn	13 32 41.6	-3.0
TRWZ	Traveller	1.94	166	PN	Pn	13 32 19.5	-0.5
TRWZ				SN	Sn	13 32 41.4	-4.0
URZ	Urewera	2.04	53	P	Pn	13 32 20.0	-1.2
URZ	Urewera	2.04	53	PN	Pn	13 32 20.0	-1.2
URZ				SN	Sn	13 32 44.2	-3.4
TUWZ	Tuamarina	2.09	204	PN	Pn	13 32 20.9	-0.8
TUWZ				SN	Sn	13 32 45.8	-2.8
KNZ	Kokohu	2.10	77	*e*P	Pn	13 32 21.3	-0.6
KNZ	Kokohu	2.10	77	PN	Pn	13 32 21.3	-0.6
NNZ	Nelson	2.12	216	P	Pn	13 32 21.4	-0.8
NNZ	Nelson	2.12	216	PN	Pn	13 32 21.4	-0.8
MWZ	Matawai	2.27	59	*e*P	Pn	13 32 23.3	-0.7
MWZ	Matawai	2.27	59	PN	Pn	13 32 23.3	-0.7
QRZ	Quartz Range	2.33	235	P	Pn	13 32 23.5	-1.3
QRZ	Quartz Range	2.33	235	PN	Pn	13 32 23.5	-1.3
BSWZ	Blackbirch Sta	2.37	202	P	Pn	13 32 24.6	-0.7
BSWZ				S	Sn	13 32 53.0	-1.8
BSWZ	Blackbirch Sta	2.37	202	PN	Pn	13 32 24.6	-0.7
BSWZ				SN	Sn	13 32 53.0	-1.8
THZ	Tophouse	2.77	215	*e*P	Pn	13 32 29.4	-1.0
THZ				S	Sn	13 33 02.8	-1.2
THZ	Tophouse	2.77	215	PN	Pn	13 32 29.3	-1.1
THZ				SN	Sn	13 33 02.8	-1.2
PUZ	Puketiti	2.89	61	*e*P	Pn	13 32 30.6	-1.4
PUZ	Puketiti	2.89	61	PN	Pn	13 32 30.6	-1.4
KHZ	Kahutara	3.11	201	P	Pn	13 32 33.9	-0.9
KHZ	Kahutara	3.11	201	PN	Pn	13 32 33.9	-0.9
DSZ	Denniston Nort	3.32	227	*e*P	Pn	13 32 36.0	-1.6
DSZ	Denniston Nort	3.32	227	PN	Pn	13 32 36.0	-1.6
LTZ	Lake Taylor	3.88	212	*e*P	Pn	13 32 42.7	-2.1
LTZ	Lake Taylor	3.88	212	PN	Pn	13 32 42.7	-2.2
CRLZ	Canterbury Las	4.44	203	*e*P	Pn	13 32 49.6	-2.8
CRLZ	Canterbury Las	4.44	203	PN	Pn	13 32 49.6	-2.8
MQZ	McQueen's Vall	4.55	202	*e*P	Pn	13 32 50.8	-3.0
MQZ	McQueen's Vall	4.55	202	PN	Pn	13 32 50.8	-3.1
RPZ	Rata Peaks	5.15	214	*e*P	Pn	13 33 00.1	-1.7
RPZ	Rata Peaks	5.15	214	PN	Pn	13 33 00.1	-1.7
LBZ	Lake Benmore	6.07	215	*e*P	Pn	13 33 12.1	-2.0
ODZ	Otahua Downs	6.41	209	*e*P	Pn	13 33 16.3	-2.5
ODZ	Otahua Downs	6.41	209	PN	Pn	13 33 15.7	-3.1
TUZ	Tuapeka	7.57	210	*e*P	Pn	13 33 32.1	-2.2

IDC ***03*** *13:32:30.7±0.9, 734S×15597E, h0km, mb4.3/11, mb1 4.4/11, mb1mx4.3/16, mbtmp4.3/11, Error ellipse: s-maj=28.2km s-min=19.0km az=88.0*
NEIC ***03*** *13:32:32.5±0.8, 737S×15582E, h10km, mb4.6/3, Error ellipse: s-maj=22.2km s-min=17.8km az=99.0*
ISCJB ***03*** *13:32:35.3±0.8, 73S±01×1557E±02, h33km, mb4.2/13, Error ellipse: s-maj=24.3km s-min=15.6km az=22.4*
ISC 03 13:32:37.1±0.8, 73S±01×1557E±02, h35km, n18, σ0§93/18, mb4.2/13, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	Kakadu	23.48	255	*e*P	P	13 37 43.1	-1.0
12nm,0.6s,mb4.5							
WB2	Warramunga Arr	24.18	237	*e*P	P	13 37 47.6	-2.8
WRA	Warramunga Arr	24.19	237	P	P	13 37 51.2	+0.7
4.1nm,0.9s,mb3.9,baz=62,slow=9.5,SNR=12							
ASAR	Alice Springs	26.47	230	P	P	13 38 11.3	+0.2
1.2nm,1.0s,mb3.4,baz=60,slow=9.5,SNR=9.7							
STKA	Stephens Creek	27.74	206	P	P	13 38 22.2	-0.3
2.4nm,0.6s,mb4.0,baz=3.6,slow=7.0,SNR=7.0							
FITZ	Fitzroy Crossi	31.14	247	*e*P	P	13 38 53.1	+0.3
5.5nm,0.6s,mb4.6							
FITZ	Fitzroy Crossi	31.14	247	P	P	13 38 53.2	+0.4
2.9nm,0.6s,mb4.3,baz=69,slow=8.2,SNR=8.4							
URZ	Urewera	36.41	151	P	P	13 39 33.7	-4.6
2.6nm,0.5s,mb4.4,baz=225,slow=18,SNR=3.5							
SONM	Songino Array	69.95	327	P	P	13 43 45.6	+0.7
1.8nm,0.6s,mb4.2,baz=139,slow=6.7,SNR=13							
VNDA	Vanda	70.25	179	P	P	13 43 46.9	+0.6
1.8nm,0.6s,mb4.2,baz=251,slow=22,SNR=14							
QSPA	South Pole Qui	82.67	180	*e*P	P	13 44 57.5	+0.9
5.4nm,1.0s,mb4.5							
MK31	Makanchi Array	84.07	319	*e*P	P	13 45 05.0	+0.7
MKAR	Makanchi Array	84.07	319	P	P	13 45 05.0	+0.7
4.5nm,0.7s,mb4.7,baz=102,slow=5.5,SNR=54							
MAW	Mawson	84.36	203	P	P	13 45 05.2	-0.2
4.0nm,0.9s,mb4.6,baz=60,slow=11,SNR=3.5							
ZALV	Zalesovo Beam	84.81	326	P	P	13 45 07.6	-0.3
ZALV	Zalesovo Beam	84.81	326	P	P	13 45 07.6	-0.3
3.1nm,0.6s,mb4.6,baz=116,slow=6.1,SNR=15							
YKA	Yellowknife Ar	96.30	28	P	P	13 45 60.0	-1.8
YKA	Yellowknife Ar	96.30	28	P	P	13 45 60.0	-1.8
0.2nm,0.6s,mb3.7,baz=271,slow=4.1,SNR=5.0							

IDC ***03*** *13:35:07.0±1.5, 791S×15609E, h0km, mb4.1/10, mb1 4.2/10, mb1mx4.1/15, mbtmp4.1/10, MS3.4/1, Ms1 3.4/1, ms1mx2.9/26, Error ellipse: s-maj=51.8km s-min=20.4km az=112.0*
ISCJB ***03*** *13:35:10.7±1.2, 79S±02×1560E±03, h33km, mb3.9/10, Error ellipse: s-maj=40.9km s-min=16.2km az=24.2*
ISC 03 13:35:12.4±1.2, 79S±02×1561E±03, h35km, n11, σ0§92/10, mb3.9/10, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	4.12	112	LR	LR	13 37 27.3	
comp=Z,466nm,19.5s,baz=0.6,slow=34							
WRA	Warramunga Arr	24.20	238	P	P	13 40 25.0	-0.9
8.0nm,0.9s,mb4.1,baz=64,slow=9.4,SNR=14							
ASAR	Alice Springs	26.38	231	P	P	13 40 45.5	-0.1
1.6nm,1.0s,mb3.5,baz=61,slow=9.9,SNR=7.1							
STKA	Stephens Creek	27.37	208	P	P	13 40 55.0	+0.5
3.2nm,0.9s,mb3.9,baz=8.6,slow=8.9,SNR=4.5							
MJAR	Matsushiro Arr	47.31	340	P	P	13 43 40.4	-2.2
2.5nm,0.7s,mb4.3,baz=146,slow=6.8,SNR=7.6							
KSRS	Korea Array	52.26	332	P	P	13 44 20.9	+0.6
1.1nm,0.9s,mb3.8,baz=148,slow=7.4,SNR=4.2							
SONM	Songino Array	70.69	327	P	P	13 46 26.4	+1.7
1.1nm,0.8s,mb3.9,baz=138,slow=6.5,SNR=8.0							
MKAR	Makanchi Array	84.80	319	P	P	13 47 43.5	+0.2
1.2nm,0.7s,mb4.1,baz=98,slow=6.5,SNR=9.2							
ZALV	Zalesovo Beam	85.55	326	P	P	13 47 47.2	+0.3
0.3nm,0.3s,mb4.0,baz=132,slow=8.0,SNR=3.7							
INK	Inuvik	90.22	21	P	P	13 48 08.6	-0.3
0.5nm,0.6s,mb4.0,baz=304,slow=1.6,SNR=4.0							
YKA	Yellowknife Ar	96.66	28	P	P	13 48 38.5	-0.2
0.3nm,0.6s,mb3.9,baz=267,slow=4.4,SNR=6.1							

**IDC 03 13:39:18.0±3.9, 749S×15520E, h0km, mb

159nm,0.2s,SNR=1.0
CDF eSn Sg 13 43 38.5 +3.2
CDF Champ du Feu 0.45 80 ePg Pg 13 43 29.8 +0.5
SNR=1.0
CDF eSg Sg 13 43 35.3 0.0
80nm,0.2s,SNR=1.0
CDF eSn Sg 13 43 38.5 +3.2
HINF Hinteralfeld 0.54 163 ePg Pg 13 43 32.0 +1.0
SNR=1.0
HINF eSg Sg 13 43 38.7 +0.5
366nm,0.2s,SNR=1.0
HINF eSn Sg 13 43 41.7 +3.5
HINF Hinteralfeld 0.54 163 ePg Pg 13 43 32.0 +1.0
SNR=1.0
HINF eSg Sg 13 43 38.7 +0.5
183nm,0.2s,SNR=1.0
HINF eSn Sg 13 43 41.7 +3.5
MOF Molkenrain 0.60 144 ⇓iP* Pb 13 43 33.0 +0.4
MOF PmP 13 43 34.1
MOF Molkenrain 0.60 144 Pg Pg 13 43 33.4 +1.4
BREM Bremgarten 0.80 122 ⇓Pg Pg 13 43 37.0 +1.1
RFYF Reffroy 0.81 292 ePg Pg 13 43 37.7 +1.6
baz=111
RFYF eSn Sn 13 43 49.9 +0.7
177nm,0.2s,baz=115
RFYF Reffroy 0.81 292 ePg Pg 13 43 37.7 +1.6
RFYF eSn Sn 13 43 49.9 +0.7
88nm,0.2s
STAU Staufen im Bre 0.88 121 Pn Pn 13 43 38.3 -0.1
FBB Freiburg im Br 0.89 111 Pg Pg 13 43 38.5 +0.8
FBB Freiburg im Br 0.89 111 Px Px 13 43 38.5
OFBG Offenburg 0.92 83 Pn Pn 13 43 38.7 -0.1
OFBG Offenburg 0.92 83 P Pb 13 43 39.0 +1.1
KIZ Kirchzarten 0.95 113 Pg Pg 13 43 39.3 +0.6
KIZ Sg Sg 13 43 51.5 +0.3
KIZ Kirchzarten 0.95 113 ⇑Pn Pn 13 43 39.3 +0.1
KIZ Kirchzarten 0.95 113 P Pg 13 43 39.3 +0.6
KIZ S Sg 13 43 51.5 +0.3
ENDD Endenburg 0.98 129 ⇓Pn Pn 13 43 39.9 +0.2
ENDD S Sb 13 43 52.1 +0.3
LOMF Lomont 1.00 172 ⇓ePn Pn 13 43 40.7 +0.8
LOMF ⇑iPg Pg 13 43 41.0 +1.4
LOMF Lomont 1.00 172 Pg Pn 13 43 40.7 +0.8
LOMF Sg Sg 13 43 53.6 +1.0
LOMF Lomont 1.00 172 ⇑iP Pg 13 43 41.0 +1.4
LANF Langenberg 1.02 50 Pg Pg 13 43 39.9 -0.1
LANF Sg Sg 13 43 52.8 -0.6
LANF Langenberg 1.02 50 Pn Pn 13 43 40.1 -0.1
BOURR Bourrignon 1.03 156 ⇑iPn Pn 13 43 41.3 +1.0
674nm,0.2s
BOURR iSn Sn 13 43 54.8 +0.3
674nm,0.2s
FELD Feldberg im Sc 1.04 116 P Pb 13 43 40.4 +0.3
FELD Feldberg im Sc 1.04 116 S Sb 13 43 54.8 +1.3
FELD Feldberg im Sc 1.04 116 Pg Pg 13 43 40.9 +0.5
MEZF Maizieres J'vi 1.05 280 ePg Pg 13 43 41.7 +1.0
baz=103,SNR=1.0
MEZF eSg Sg 13 43 56.3 +1.9
90nm,0.3s
MEZF Maizieres J'vi 1.05 280 ePg Pg 13 43 41.7 +1.0
SNR=1.0
MEZF eSg Sg 13 43 56.3 +1.9
45nm,0.3s
BBS Basel-Blauen 1.06 145 Pg Pg 13 43 41.8 +1.0
BBS Basel-Blauen 1.06 145 Pg Pg 13 43 41.2 +0.4
SFTF Sexfontaines 1.06 264 ePn Pn 13 43 41.8 +1.0
baz=92
SFTF Sexfontaines 1.06 264 ePg Pg 13 43 42.6 +1.8
baz=93
SFTF eSg Sg 13 43 56.4 +1.8
65nm,0.2s
SFTF Sexfontaines 1.06 264 ePn Pn 13 43 41.8 +1.0
SFTF ePg Pg 13 43 42.6 +1.8
SFTF eSg Sg 13 43 56.4 +1.8
SFTF Sexfontaines 1.06 264 ePg Pg 13 43 42.6 +1.8
SFTF eSg Sg 13 43 56.4 +1.8
32nm,0.2s
WYH Wyhlen 1.07 137 Pn Pn 13 43 41.5 +0.6
BFO Black Forest 1.15 90 ⇑iPn Pn 13 43 41.7 -0.2
BFO Sn Sn 13 43 55.4 -2.0
BFO Sg Sg 13 43 57.6 +0.2
BFO Black Forest 1.15 90 ePg Pg 13 43 41.9 -0.5
BFO eSg Sg 13 43 55.3 -2.0
BFO Black Forest 1.15 90 ⇑iPn Pn 13 43 41.7 -0.2
BFO Sn Sn 13 43 55.4 -2.0
BFO S Sg 13 43 57.6 +0.2
BFO Black Forest 1.15 90 ePg Pg 13 43 41.9 -0.5
BFO Sn Sn 13 43 55.4 -2.0
BFO Sg Sg 13 43 57.6 +0.3
BALST Balsthal 1.24 144 ePn Pn 13 43 44.6 +1.4
468nm,0.2s
WLF Walferdange 1.36 347 ePg Pg 13 43 47.8 +1.2
SNR=4.5
WLF eSg Sg 13 44 03.9 -0.4
SNR=5.8
WLF Walferdange 1.36 347 PN Pn 13 43 47.9 +2.9
WLF PG Pg 13 43 48.4 +1.8
WLF SN Sn 13 44 05.2 +2.4
comp=E,30nm,0.0s
WLF Walferdange 1.36 347 Pg Pg 13 43 47.8 +1.2
SNR=4.5
WLF Sg Sg 13 44 03.9 -0.4
SNR=5.8
WLF Sn Sn 13 44 05.2 +2.4
KTD Kalmit 1.38 44 P Pn 13 43 48.1 +2.9
KTD Kalmit 1.38 44 Pg Pg 13 43 47.7 +0.8
KTD Sg Sg 13 44 05.3 +0.4
KTD Kalmit 1.38 44 Px Px 13 43 48.1
KTD Kalmit 1.38 44 P Pn 13 43 48.1 +2.9
KTD Sg Sg 13 44 05.3 +0.4
SLE Schleitheim 1.38 114 ePn Pn 13 43 45.4 +0.2
comp=E,553nm,0.4s
RUP Ruppelstein 1.40 12 Pg Pg 13 43 47.8 +0.5
RUP Ruppelstein 1.40 12 Pg Pg 13 43 47.4 +0.2
BRANT Les Verrieres 1.40 184 ePn Pn 13 43 46.9 +1.4
comp=E,275nm,0.2s
SPAK Spaichingen-Ko 1.47 98 ⇓iPg Pg 13 43 49.3 +0.7
SPAK Spaichingen-Ko 1.47 98 Pg Pg 13 43 48.3 -0.3
LBG Lerchenberg 1.49 76 Pg Pg 13 43 49.4 +0.4
LBG Sg Sg 13 44 08.3 +0.1
TUBL Tuebingen-Lenn 1.66 83 Sg Sg 13 44 13.7 +0.1
ABH Alteburg 1.67 21 ⇑ePg Pg 13 43 52.2 -0.1
ABH Alteburg 1.67 21 ⇑eP Pg 13 43 52.2 -0.1
GUT Gutenstein 1.69 98 ⇓iPg Pg 13 43 53.3 +0.5
GUT Sg Sg 13 44 15.0 +0.1
SISB Singen-Schiene 1.71 112 ⇓iPg Pg 13 43 53.8 +0.7
SISB Sg Sg 13 44 15.0 -0.2
CABF La Chapelle 1.76 192 ePg Pg 13 43 54.8 +0.6
SNR=1.0
CABF eSg Sg 13 44 17.3 +0.3
comp=E,85nm,0.6s,SNR=1.0
CABF La Chapelle 1.76 192 ePn Pn 13 43 51.1 +0.7
CABF ePg Pg 13 43 54.8 +0.6
CABF eSg Sg 13 44 17.3 +0.3
CABF La Chapelle 1.76 192 ePg Pg 13 43 54.8 +0.6
SNR=1.0
CABF eSg Sg 13 44 17.3 +0.3
comp=E,43nm,0.6s,SNR=1.0
STU Stuttgart 1.77 75 eSg Sg 13 44 16.0 -1.2
SNR=4.5
SWS Schriesheim-Wi 1.79 49 Pg Pg 13 43 55.4 +0.6
SWS Sg Sg 13 44 17.2 -0.9
GIMEL St. Georges / 1.82 188 ePn Pn 13 43 52.5 +1.3
comp=E,196nm,0.3s
BUCH Bad Urach 1.83 85 Pn Pn 13 43 51.9 +0.5
BUCH Pg Pg 13 43 55.7 +0.3
BUCH Sn Sn 13 44 11.8 -2.4
BUCH Bad Urach 1.83 85 P Pg 13 43 55.7 +0.3
GIVF Givet 2.12 327 ePg Pg 13 44 01.0 0.0
SNR=1.0
GIVF eSg Sg 13 44 27.6 -1.0
comp=E,37nm,0.4s,SNR=1.0
GIVF Givet 2.12 327 ePg Pg 13 44 01.0 0.0
SNR=1.0
GIVF eSg Sg 13 44 27.6 -1.0
comp=E,19nm,0.4s,SNR=1.0
LOR Lormes 2.14 241 ePn Pn 13 43 56.0 +0.4
baz=69,SNR=1.0
LOR Lormes 2.14 241 ePg Pg 13 44 01.7 +0.3
baz=62,SNR=1.0
LOR eSg Sg 13 44 29.0 -0.2
comp=E,42nm,0.2s,baz=71
LOR Lormes 2.14 241 ePn Pn 13 43 56.0 +0.4
LOR ePg Pg 13 44 01.7 +0.3
LOR eSg Sg 13 44 29.0 -0.2
LOR Lormes 2.14 241 ePg Pg 13 44 01.7 +0.3
SNR=1.0
LOR eSg Sg 13 44 29.0 -0.2
comp=E,21nm,0.2s
SIND Sindeldorf 2.22 62 Sg Sg 13 44 32.0 +0.3
TNS Taunus Mts 2.24 32 ePn Pn 13 43 56.8 -0.2
SNR=2.0
TNS eSg Sg 13 44 30.3 -2.0
SNR=5.6
BAIF Baives 2.34 318 ePg Pg 13 44 04.9 -0.3
BAIF eSg Sg 13 44 34.5 -1.0
comp=E,19nm,0.4s,SNR=1.0
BAIF Baives 2.34 318 ePg Pg 13 44 04.9 -0.3
BAIF eSg Sg 13 44 34.5 -1.0
comp=E,9.4nm,0.4s,SNR=1.0
HDH Heidenheim-Cha 2.40 83 Pg Pg 13 44 06.5 +0.1
HDH Sg Sg 13 44 36.9 -0.7
UBR Ueberruh 2.44 104 ⇓Pg Pg 13 44 07.7 +0.6
UBR Sg Sg 13 44 38.8 +0.2
DAVA Damuels 2.44 114 ⇑iPg Pg 13 44 07.6 +0.6
DAVA ⇑iSn Sn 13 44 31.1 +1.8
DAVA Damuels 2.44 114 Pg Pg 13 44 07.6 +0.5
DAVA Sn Sn 13 44 31.1 +1.8
SSF Saint Saulge 2.46 240 ePg Pg 13 44 07.3 -0.1
SSF eSg Sg 13 44 38.2 -1.0
comp=E,41nm,0.3s
SSF Saint Saulge 2.46 240 ePn Pn 13 44 00.2 +0.3
SSF ePg Pg 13 44 07.3 -0.1
SSF eSg Sg 13 44 38.2 -1.0
SSF Saint Saulge 2.46 240 ePg Pg 13 44 07.3 -0.1
SSF eSg Sg 13 44 38.2 -1.0
comp=E,20nm,0.3s
SMF Signal de Mont 2.53 229 ePg Pg 13 44 08.4 -0.4
SNR=1.0
SMF eSg Sg 13 44 40.9 -0.7
comp=E,70nm,0.3s,SNR=1.0
SMF Signal de Mont 2.53 229 ePn Pn 13 44 00.9 0.0
SMF ePg Pg 13 44 08.4 -0.4
SMF eSg Sg 13 44 40.9 -0.7
SMF Signal de Mont 2.53 229 ePg Pg 13 44 08.4 -0.4
SNR=1.0
SMF eSg Sg 13 44 40.9 -0.7
comp=E,35nm,0.3s,SNR=1.0
AVF Avril sur Loir 2.70 236 ePg Pg 13 44 12.1 +0.1
SNR=1.0
AVF eSg Sg 13 44 47.3 +0.4
comp=E,14nm,0.2s,SNR=1.0
AVF Avril sur Loir 2.70 236 ePn Pn 13 44 03.5 +0.3
AVF ePg Pg 13 44 12.1 +0.1
AVF eSg Sg 13 44 47.3 +0.4
AVF Avril sur Loir 2.70 236 ePg Pg 13 44 12.1 +0.1
SNR=1.0
AVF eSg Sg 13 44 47.3 +0.4
comp=E,7.2nm,0.2s,SNR=1.0
LPL La Plagne 2.82 178 ePg Pg 13 44 14.5 +0.1
SNR=1.0
LPL eSg Sg 13 44 50.6 -0.4
comp=E,5.6nm,0.2s
LPL La Plagne 2.82 178 ePg Pg 13 44 14.5 +0.1
SNR=1.0
LPL eSg Sg 13 44 50.6 -0.4
comp=E,2.8nm,0.2s
LPG La Plagne 2.84 178 ePg Pg 13 44 13.0 -1.8
SNR=1.0
LPG eSg Sg 13 44 51.1 -0.5
comp=E,8.8nm,0.4s,SNR=1.0
LPG La Plagne 2.84 178 ePg Pg 13 44 13.0 -1.8
SNR=1.0
LPG eSg Sg 13 44 51.1 -0.5
comp=E,4.4nm,0.4s,SNR=1.0
HYF Humbligny 2.88 250 eSg Sg 13 44 52.5 -0.5
FETA Feichten 3.08 114 ⇑iPg Pg 13 44 19.9 +0.6
FETA ⇑iSn Sn 13 44 47.2 +2.2
BGF Bois d'Agland 3.12 237 ePg Pg 13 44 19.4 -0.6
BGF eSg Sg 13 44 58.2 -2.1
comp=E,41nm,0.3s,SNR=1.0
BGF Bois d'Agland 3.12 237 ePn Pn 13 44 08.6 -0.4
BGF ePg Pg 13 44 19.4 -0.6
BGF eSg Sg 13 44 58.2 -2.1
BGF Bois d'Agland 3.12 237 ePg Pg 13 44 19.4 -0.6
BGF eSg Sg 13 44 58.2 -2.1
comp=E,20nm,0.3s,SNR=1.0
PLDF La Plantade 3.13 222 Pg Pg 13 44 20.0 -0.2
MOTA Moosalm 3.18 106 ⇑iPn Pg 13 44 21.1 -0.2
AGO Saint Agoulin 3.29 227 Pg Pg 13 44 23.3 -0.2
UBBA Unterbreizbach 3.32 40 eSg Sg 13 45 06.5 -0.5
SNR=2.6
GRA1 Grafenberg Arr 3.32 64 Sg Sg 13 45 04.5 -2.5
SNR=3.6
GRF Grafenberg Arr 3.32 64 eSg Sg 13 45 04.5 -2.5
SNR=3.6
ORIF Oris-en-Rattie 3.46 189 ePg Pg 13 44 25.3 -1.2
SNR=1.0
ORIF eSg Sg 13 45 09.9 -1.4
comp=E,8.9nm,0.2s,SNR=1.0
ORIF Oris-en-Rattie 3.46 189 ePn Pn 13 44 13.8 +0.1
ORIF ePg Pg 13 44 25.3 -1.2
ORIF eSg Sg 13 45 09.9 -1.4
ORIF Oris-en-Rattie 3.46 189 ePg Pg 13 44 25.3 -1.2
SNR=1.0
ORIF eSg Sg 13 45 09.9 -1.4
comp=E,4.4nm,0.2s,SNR=1.0
PYM Petit Puy Mans 3.57 225 Pg Pg 13 44 29.0 +0.2
MBDF Montbardon 3.61 178 ePg Pg 13 44 30.1 +0.6
TCF Toulx Ste Croi 3.63 237 ePg Pg 13 44 29.5 -0.4
SNR=1.0
TCF eSg Sg 13 45 15.0 -1.8
comp=E,14nm,0.3s,SNR=1.0
TCF Toulx Ste Croi 3.63 237 ePn Pn 13 44 16.0 -0.1
TCF ePg Pg 13 44 29.5 -0.4
TCF eSg Sg 13 45 15.0 -1.8
TCF Toulx Ste Croi 3.63 237 ePg Pg 13 44 29.5 -0.4
SNR=1.0
TCF eSg Sg 13 45 15.0 -1.8
comp=E,6.8nm,0.3s,SNR=1.0
VIVF Saint-Julien-l 3.73 202 ePg Pg 13 44 30.5 -1.3
SNR=1.0
VIVF eSn Sn 13 44 58.7 -2.4
SNR=1.0
VIVF eSg Sg 13 45 17.9 -2.1
comp=E,13nm,0.3s,SNR=1.0
VIVF Saint-Julien-l 3.73 202 ePn Pn 13 44 17.3 -0.1
VIVF ePg Pg 13 44 30.5 -1.3
VIVF eSn Sn 13 44 58.7 -2.4
VIVF eSg Sg 13 45 17.9 -2.1
VIVF Saint-Julien-l 3.73 202 ePg Pg 13 44 30.5 -1.3
SNR=1.0
VIVF eSn Sn 13 44 58.7 -2.4
SNR=1.0
VIVF eSg Sg 13 45 17.9 -2.1
comp=E,6.5nm,0.3s,SNR=1.0
LBL Lubilhac 3.87 218 Pg Pg 13 44 36.4 +1.9
MOX Moxa 4.00 53 eSg Sg 13 45 25.7 -2.9
SNR=2.8
GUNZ Gunzen 4.25 59 eSg Sg 13 45 34.8 -2.0
SNR=3.1
WERD Werda 4.28 58 eSg Sg 13 45 34.2 -3.4
SNR=4.9
TANN Tannenbergstha 4.35 59 eSg Sg 13 45 36.9 -3.0
SNR=3.9
SMRF Simiane la Rot 4.42 190 eSg Sg 13 45 38.8 -3.4
comp=E,5.8nm,0.6s,SNR=1.0
SMRF Simiane la Rot 4.42 190 eSg Sg 13 45 38.8 -3.4
comp=E,2.9nm,0.6s,SNR=1.0
RJF Les Rejaudoux 4.63 231 eSg Sg 13 45 46.9 -2.0
comp=E,15nm,0.4s,SNR=1.0
RJF Les Rejaudoux 4.63 231 eSg Sg 13 45 46.9 -2.0
comp=E,7.3nm,0.4s,SNR=1.0
CAF Calviac 4.63 224 eSg Sg 13 45 46.9 -2.1
comp=E,7.7nm,0.3s,SNR=1.0
CAF Calviac 4.63 224 eSg Sg 13 45 46.9 -2.1
comp=E,3.8nm,0.3s,SNR=1.0
LASF Ste Croix 4.67 205 eSn Sn 13 45 22.8 -1.5
SNR=1.0
LASF eSg Sg 13 45 47.9 -2.3
comp=E,5.6nm,0.4s,SNR=1.0
LASF Ste Croix 4.67 205 eSn Sn 13 45 22.8 -1.5
SNR=1.0
LASF eSg Sg 13 45 47.9 -2.3
comp=E,2.8nm,0.4s,SNR=1.0
KHC Kasperske Hory 4.68 78 ePN Pn 13 44 35.3 +4.8
KHC ePG Pg 13 44 45.0 -4.9
KHC eSN Sn 13 45 22.5 -2.0
KHC eSG Sg 13 45 46.2 -4.2
GEC2 GERESS Array S 4.73 81 eSn Sn 13 45 24.6 -1.2
SNR=5.9
GEC2 eSg Sg 13 45 49.7 -2.4
SNR=2.4
FRF La Foret Royal 4.78 180 ePg Pg 13 44 50.1 -1.7
SNR=1.0
MFF Saint Martin d 4.90 252 ePn Pn 13 44 32.5 -1.0
SNR=1.0
MFF eSg Sg 13 45 55.4 -2.2
comp=E,4.1nm,0.3s
MFF Saint Martin d 4.90 252 ePn Pn 13 44 32.5 -1.0
SNR=1.0
MFF eSg Sg 13 45 55.4 -2.2
comp=E,2.0nm,0.3s
CLL Collm 5.09 52 eSg Sg 13 46 04.0 +0.3
LFF La Frestale 5.28 232 eSg Sg 13 46 06.8 -3.0
comp=E,16nm,0.5s
LFF La Frestale 5.28 232 eSg Sg 13 46 06.8 -3.0
comp=E,7.8nm,0.5s
PRU Pruhonice 5.46 69 eSG Sg 13 46 12.9 -2.5
MTLF Montolieu 5.86 213 eSg Sg 13 46 25.6 -2.8
comp=E,2.9nm,0.4s
MTLF Montolieu 5.86 213 eSg Sg 13 46 25.6 -2.8
comp=E,1.5nm,0.4s

IDC 03 13:43:40.7±8.2, 931S×15917E, h0km, mb3.9/4, mb1 4.1/4, mb1mx3.8/14, mbtmp3.9/4, Error ellipse: s-maj=235.5km s-min=31.3km az=115.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**26.20**	**243**	P	P	13 49 16.1	-1.3
	1.1nm,1.0s,baz=63,slow=10,SNR=3.6						
ASAR	**Alice Springs**	**28.04**	**236**	P	P	13 49 34.8	+0.9
	0.4nm,0.9s,baz=70,slow=9.0,SNR=3.3						
MJAR	**Matsushiro Arr**	**49.69**	**338**	P	P	13 52 32.2	-2.2
	2.3nm,0.8s,baz=162,slow=7.5,SNR=6.0						
MKAR	**Makanchi Array**	**87.87**	**318**	P	P	13 56 34.1	+2.0
	1.5nm,0.8s,baz=104,slow=6.0,SNR=13						

*BJI **03** 13:46:40.1, 5190N×17661W, h27km, mB5.1, mb4.8, Ms4.4, Msz4.2*
*ISCJB **03** 13:46:47.3±0.8, 5156N±009×177.15W±005, h64km±7km, mb4.4/22, Error ellipse: s-maj=15.9km s-min=4.3km az=171.8*
*IDC **03** 13:46:47.8±6.6, 5170N×17721W, h58km±59km, mb4.0/13, mb1 4.1/13, mb1mx3.8/27, mbtmp3.9/13, Error ellipse: s-maj=32.0km s-min=14.1km az=167.0*
*NEIC **03** 13:46:48.1±1.2, 5144N×177.19W, h65km±11km, mb4.4/5, ML4.4(AEIC), Error ellipse: s-maj=23.9km s-min=10.4km az=167.0*

ISC 03 13:46:48.7±0.8, 5151N±010×17713W±005, h61km±7km, n139, σ0°65/138, mb4.4/22, 50C-38D, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATKA	**Atka Island**	**1.95**	**68**	P	Pn	13 47 17.9	-1.6
ATKA				S	Sn	13 47 41.4	-1.4
AMKA	**Amchitka**	**2.23**	**268**	P	Pn	13 47 22.4	-0.9
AMKA				S	Sn	13 47 50.6	+0.9
SMY	**Shemya**	**5.54**	**286**	P	Pn	13 48 07.7	-0.8
SMY				S	Sn	13 49 11.7	+1.0
UNV	**Unalaska Valle**	**6.88**	**66**	P	Pn	13 48 26.7	0.0
UNV				S	Sn	13 49 46.3	+2.9
SPIA	**Saint Paul Isl**	**6.96**	**33**	P	Pn	13 48 28.7	+0.8
SDPT	**Sand Point**	**10.65**	**62**	eP	Pn	13 49 18.1	-0.2
KDAK	**Kodiak Island**	**15.48**	**57**	ePn	Pn	13 50 25.2	+2.2
	18nm,0.4s						
TTA	**Tatalina**	**16.08**	**37**	eP	Pn	13 50 33.1	+2.6
IMA2	**Indian Mountai**	**18.80**	**30**	eP	Pn	13 51 04.1	+0.2
EGAK	**Eagle**	**22.77**	**41**	eP	P	13 51 44.1	-1.4
	7.5nm,0.8s,mb4.2						
DAWY	**Dawson**	**23.30**	**43**	eP	P	13 51 49.4	-1.4
INK	**Inuvik**	**26.76**	**35**	P	P	13 52 20.5	-1.6
	0.7nm,0.4s,mb3.5,baz=234,slow=12,SNR=7.0						
ASAJ	**Asahikawa**	**27.75**	**271**	P	P	13 52 30.6	-0.7
	3.6nm,0.8s,mb4.0,baz=20,slow=7.2,SNR=3.6						
YKA	**Yellowknife Ar**	**34.38**	**47**	P	P	13 53 26.4	-2.9
YKA				PcP	PcP	13 56 03.3	-0.3
YKA	**Yellowknife Ar**	**34.38**	**47**	P	P	13 53 26.4	-2.9
	1.0nm,0.8s,mb3.8,baz=282,slow=8.2,SNR=12						
YKA				PcP	PcP	13 56 03.3	-0.3
	1.8nm,0.8s,baz=291,slow=2.9,SNR=25						
B05A	**Bryant**	**34.91**	**73**	⇓P	P	13 53 33.8	-0.2
	baz=35						
A07A	**Ashnola River,**	**35.58**	**71**	P	P	13 53 40.3	+0.5
	baz=35,SNR=7.2						
MDJ	**Mudanjiang**	**35.58**	**280**	P	P	13 53 38.8	-1.1
MDJ				AMB	AMB		
	comp=Z,4.0nm,0.5s,mb4.6						
MDJ				AMB	AMB		
	comp=Z,60nm,4.9s						
B07A	**Winthrop**	**35.99**	**72**	⇑P	P	13 53 43.6	+0.2
	baz=36						
A08A	**Turner Farm, O**	**36.27**	**71**	⇓P	P	13 53 45.2	-0.5
	baz=36						
B08A	**Colville Reser**	**36.51**	**72**	⇑P	P	13 53 47.7	-0.1
	baz=36						
H04A	**Detroit Lake**	**36.57**	**79**	⇓P	P	13 53 47.3	-1.1
	baz=36						
A09A	**Danville**	**36.67**	**70**	⇑P	P	13 53 49.2	+0.1
	baz=36						
B09A	**Rice**	**37.18**	**71**	⇑P	P	13 53 53.3	-0.2
	baz=37						
H06A	**Lindquist Farm**	**37.67**	**77**	⇓P	P	13 53 57.4	-0.3
	baz=38						
NEW	**Newport**	**37.86**	**71**	P	P	13 53 58.6	-0.6
	comp=Z,11nm,0.9s,mb4.6,baz=307,slow=6.1,SNR=14						
J05A	**Fort Rock**	**37.89**	**80**	⇑P	P	13 53 59.4	-0.1
	baz=38						
M02C	**Callahan**	**37.93**	**84**	⇑P	P	13 53 59.6	-0.3
	baz=38						
A11A	**Hall Mountain,**	**37.98**	**69**	P	P	13 54 00.9	+0.7
	baz=38,SNR=7.4						
B11A	**Sandpoint**	**38.22**	**70**	⇑P	P	13 54 01.7	-0.5
	baz=38						
G08A	**Pilot Rock**	**38.23**	**76**	⇓P	P	13 54 01.9	-0.5
	baz=38						
D10A	**Wagner Farm, O**	**38.35**	**72**	⇑P	P	13 54 03.1	-0.2
	baz=38						
K05A	**Summer Lake**	**38.40**	**80**	⇑P	P	13 54 03.4	-0.5
	baz=38						
I07A	**Izee**	**38.52**	**78**	⇓P	P	13 54 04.3	-0.5
	baz=38						
J06A	**Christmas Vall**	**38.57**	**79**	⇓P	P	13 54 04.9	-0.3
	baz=38						
WDC	**Whiskeytown Da**	**38.59**	**84**	⇑P	P	13 54 05.0	-0.5
	baz=38						
F09A	**S2 Ranch, Elgi**	**38.65**	**75**	⇓P	P	13 54 05.9	+0.1
	baz=38						
B12A	**Libby**	**38.66**	**69**	⇑P	P	13 54 06.6	+0.6
	baz=38						
E10A	**Myers Farm, Un**	**38.73**	**73**	⇑P	P	13 54 06.2	-0.4
	baz=39						
H08A	**Prairie City**	**38.80**	**77**	⇑P	P	13 54 07.0	-0.1
	baz=39						
M05C	**Lookout**	**39.01**	**82**	⇑P	P	13 54 09.3	+0.3
	baz=39						
HATC	**Hat Creek Radi**	**39.12**	**83**	⇑P	P	13 54 10.2	+0.3
	baz=39						
MOD	**Modoc**	**39.22**	**81**	⇑P	P	13 54 11.0	+0.2
	baz=39						
B13A	**Whitefish**	**39.36**	**69**	⇓P	P	13 54 11.7	-0.1
	baz=39						
K07A	**Rock Creek Ran**	**39.44**	**79**	⇑P	P	13 54 12.8	+0.3
	baz=39						
J08A	**Circle Bar Ran**	**39.54**	**78**	⇑P	P	13 54 13.6	+0.2
	baz=39						
C13A	**Hot Springs**	**39.64**	**70**	⇓P	P	13 54 13.7	-0.4
	baz=40						
ELFS	**Eagle Lake Fie**	**39.69**	**83**	⇓P	P	13 54 14.3	-0.3
	baz=40						
G11A	**Walters Elk Ra**	**39.79**	**74**	⇑P	P	13 54 15.9	+0.5
	baz=40						
K08A	**Mann Creek Ran**	**39.88**	**79**	⇓P	P	13 54 16.4	+0.2
	baz=40						
H10A	**Noah's Angus R**	**39.93**	**75**	⇑P	P	13 54 16.5	-0.1
	baz=40						
J09A	**Fry Pan Ranch,**	**39.99**	**78**	⇓P	P	13 54 17.2	+0.1
	baz=40						
N06A	**Buffalo Meadow**	**40.17**	**82**	⇓P	P	13 54 19.1	+0.5
	baz=40,SNR=5.5						

F12A	Elk City	40.21	73	P		P	13 54 18.8	-0.1
	baz=40,SNR=9.0							
M07A	Soldier Meadow	40.21	81	⇑P		P	13 54 19.8	+0.9
	baz=40,SNR=7.5							
L08A	Fields	40.27	80	⇓P		P	13 54 20.1	+0.7
	baz=40							
BEKR	Beckwourth	40.36	84	⇓P		P	13 54 20.3	+0.1
	baz=40							
K09A	Rome	40.36	78	⇓P		P	13 54 20.5	+0.3
	baz=40							
E13A	Victor	40.49	72	⇓P		P	13 54 20.7	-0.5
	baz=40							
O06A	Flanigan	40.52	83	⇑P		P	13 54 21.4	0.0
	baz=40							
D14A	Greenough	40.57	70	P		P	13 54 21.4	-0.4
	baz=40,SNR=12							
M08A	Happy Creek Ra	40.67	80	⇑P		P	13 54 22.9	+0.1
	baz=40							
KSRS	Korea Array	40.68	272	P		P	13 54 22.5	-0.3
	comp=Z,3.4nm,1.1s,mb3.9,baz=57,slow=7.8,SNR=4.3							
N07B	Gerlach	40.69	82	⇑P		P	13 54 23.1	+0.2
	baz=40							
F13A	Darby	40.75	72	P		P	13 54 23.3	0.0
	baz=41,SNR=5.3							
CHMT	Chamberlain Mo	40.80	70	eP		P	13 54 23.3	-0.4
K10A	MacKenzie Ranc	40.84	78	⇓P		P	13 54 24.5	+0.3
	baz=41							
WCN	Washoe City	41.07	84	⇑P		P	13 54 25.7	-0.3
	baz=41							
H12A	Diamond D Ranc	41.09	74	⇑P		P	13 54 25.5	-0.7
	baz=41							
D15A	Lincoln	41.17	70	P		P	13 54 26.1	-0.7
	baz=41,SNR=7.0							
G13A	Cobalt	41.17	73	P		P	13 54 26.5	-0.3
	baz=41,SNR=8.0							
N08A	GE Springer Mi	41.20	81	⇓P		P	13 54 27.0	-0.1
	baz=41							
R05C	Kirkwood Meado	41.23	85	⇑P		P	13 54 27.3	-0.1
	baz=41							
E15A	Deer Lodge	41.42	71	⇑P		P	13 54 28.0	-0.8
	baz=41							
L10A	Juniper Basin	41.48	78	⇓P		P	13 54 29.6	+0.2
	baz=41							
J12A	Stokes Ranch,	41.66	76	⇓P		P	13 54 31.0	+0.1
	baz=42							
I13A	Wildhorse Cree	41.88	75	P		P	13 54 33.1	+0.4
	baz=42,SNR=6.5							
HLID	Hailey	41.90	75	P		P	13 54 33.4	+0.6
	baz=42,SNR=5.1							
K12A	Draper Farm, C	42.12	77	⇑P		P	13 54 35.0	+0.4
	baz=42							
J13A	Cove Ranch, Pi	42.14	75	P		P	13 54 35.0	+0.3
	baz=42,SNR=7.3							
MCMT	McKenzie Canyo	42.15	73	eP		P	13 54 34.7	0.0
G15A	Dillon	42.18	72	⇑P		P	13 54 34.5	-0.5
	baz=42							
R07C	Lee Vining	42.25	85	⇓P		P	13 54 35.7	+0.1
	baz=42							
EGMT	Eagleton	42.27	67	⇓P		P	13 54 35.8	+0.1
	baz=42							
L12A	House Creek Ra	42.33	77	⇓P		P	13 54 36.9	+0.6
	baz=42							
BOZ	Bozeman (W)	42.43	71	eP		P	13 54 36.8	-0.3
	comp=Z,7.9nm,0.9s,mb4.3							
BOZ	Bozeman (W)	42.43	71	⇑P		P	13 54 37.0	-0.1
	baz=42							
NVAR	Mina Array Bea	42.50	84	P		P	13 54 38.4	+0.7
	comp=Z,1.2nm,0.8s,mb3.7,baz=299,slow=6.1,SNR=7.6							
NVAR				PcP		PcP	13 56 29.2	-0.1
	comp=Z,0.6nm,0.7s,baz=309,slow=1.1,SNR=3.7							
M12A	Wells	42.81	78	⇑P		P	13 54 40.5	+0.2
	baz=43							
P10A	Eureka	42.92	81	⇑P		P	13 54 41.1	0.0
	baz=43							
L13A	Double Diamond	43.02	77	⇑P		P	13 54 42.1	+0.3
	baz=43							
N12A	Clover Valley,	43.07	79	⇑P		P	13 54 42.6	+0.3
	baz=43							
HELL	Mitchell Peak	43.14	87	⇑P		P	13 54 42.9	0.0
	baz=43							
S08C	White Mtn Res	43.16	85	⇑P		P	13 54 43.7	+0.7
	baz=43							
M13A	Montello	43.30	78	⇓P		P	13 54 44.2	0.0
	baz=43							
Q10A	Clear Creek Ra	43.44	82	⇑P		P	13 54 45.8	+0.5
	baz=43							
O12A	Currie	43.59	80	P		P	13 54 47.1	+0.6
	baz=43,SNR=5.8							
S09A	Goldfield	43.61	84	⇑P		P	13 54 46.9	+0.2
	baz=43							
M14A	Sheep Mountain	43.72	77	⇓P		P	13 54 47.9	+0.4
	baz=44							
R10A	Warm Springs	43.83	83	⇑P		P	13 54 48.3	-0.1
	baz=44							
S10A	Tonopah Range,	43.87	83	⇑P		P	13 54 48.7	-0.1
	baz=44							
CWC	Cottonwood Cre	43.88	86	⇓P		P	13 54 48.8	-0.1
	baz=44							
Q11A	Duckwater	43.89	82	⇓P		P	13 54 48.8	-0.1
	baz=44							
P12A	McGill	43.97	81	⇓P		P	13 54 50.2	+0.7
	baz=44							
ISA	Isabella	44.13	87	⇓P		P	13 54 50.9	+0.1
	baz=44							
N14A	Grayback Hills	44.20	78	⇑P		P	13 54 51.6	+0.3
	baz=44							
R11A	Troy Canyon, C	44.24	82	⇑P		P	13 54 51.9	+0.2
	baz=44							
P13A	Bates Ranch, G	44.53	80	⇓P		P	13 54 54.2	+0.2
	baz=44							
TPNV	Topopah Spring	44.70	84	eP		P	13 54 56.0	+0.7
	comp=Z,3.6nm,0.8s,mb4.2							
TPNV	Topopah Spring	44.70	84	⇑P		P	13 54 55.6	+0.2
	baz=44							
R12A	Pony Springs,	44.85	82	⇑P		P	13 54 56.4	-0.2
	baz=45							
T11A	Corn Creek, Al	45.15	83	⇓P		P	13 54 59.1	+0.2
	baz=45,SNR=5.3							
PDAR	Pinedale Array	45.27	73	P		P	13 54 59.6	-0.3
	comp=Z,5.4nm,0.8s,mb4.4,baz=305,slow=3.9,SNR=45							
GSC	Goldstone	45.40	87	⇑P		P	13 55 00.9	0.0
	baz=45							
S13A	Holt Ranch, En	45.78	82	⇓P		P	13 55 04.2	+0.2
	baz=46							
GMRC	Granite Mounta	46.45	86	⇓P		P	13 55 09.2	0.0
	baz=46							
U13A	Pakoon Wash	46.45	83	⇑P		P	13 55 09.6	+0.3
	baz=46							
SRU	San Rafael	46.88	78	eP		P	13 55 13.1	+0.5
	comp=Z,2.9nm,0.6s,mb4.4							
U14A	Mt Trumbull	46.94	83	⇓P		P	13 55 13.5	+0.5
	baz=47							
T15A	Red Dirt Ranch	47.05	82	⇑P		P	13 55 14.3	+0.4
	baz=47							
IRM	Iron Mountain	47.18	86	⇑P		P	13 55 14.6	-0.3
	baz=47							
MONP	Monument Peak	47.23	89	⇓P		P	13 55 14.9	-0.4
	baz=47							
W13A	Hualapai Mount	47.35	85	⇑P		P	13 55 16.3	+0.1
	baz=47							
V14A	Boquillas Ranc	47.49	83	⇓P		P	13 55 17.5	+0.2
	baz=47							
SONM	Songino Array	47.52	297	P		P	13 55 16.4	-1.0
	comp=Z,1.0nm,0.7s,mb4.0,baz=60,slow=7.5,SNR=8.8							
SONM				PcP		PcP	13 56 46.0	-0.5
	comp=Z,1.8nm,0.8s,baz=99,slow=2.2,SNR=8.6							
NJ2	Nanjing	49.85	273	eP		P	13 55 38.3	+2.8
NJ2				AMB		AMB		
	comp=Z,30nm,0.6s,mb5.5							
LZH	Lanzhou	56.34	287	eP		P	13 56 24.0	+0.8
LZH				AP		pP	13 56 27.7	-12
LZH				AMB		AMB		
	comp=Z,33nm,1.5s,mb5.1							
LZH				AMB		AMB		
	comp=Z,158nm,5.0s							
GYA	Guiyang	61.34	277	P		P	13 56 59.4	+1.4
GYA				AMB		AMB		
	comp=Z,10.0nm,0.8s,mb5.0							
KMI	Kunming	64.74	279	P		P	13 57 20.3	-0.2
KMI				AP		pP	13 57 31.9	-5.1
KMI				XP		sP	13 57 35.4	-8.4
KMI				AMB		AMB		
	comp=Z,14nm,1.0s,mb5.0							
KMI				AMB		AMB		
	comp=Z,229nm,5.4s							
KMI				LR		LR		
	comp=N,192nm,20.0s							
KMI				LR		LR		
	comp=E,220nm,21.7s							
KMI				LR		LR		
	comp=Z,237nm,21.7s							
WRA	Warramunga Arr	82.84	225	P		P	13 59 05.4	-0.8
	comp=Z,1.5nm,0.8s,mb4.1,baz=36,slow=6.0,SNR=5.9							
PSI	Prapat	84.04	267	P		P	13 59 12.0	-0.7
	comp=Z,8.5nm,0.9s,mb4.9,baz=338,slow=4.0,SNR=6.2							
FITZ	Fitzroy Crossi	85.37	233	P		P	13 59 18.9	-0.3
	comp=Z,2.8nm,0.8s,mb4.5,baz=58,slow=2.6,SNR=5.1							
ASAR	Alice Springs	86.30	224	P		P	13 59 23.8	+0.2
	comp=Z,1.7nm,0.8s,mb4.3,baz=25,slow=5.5,SNR=10							
STKA	Stephens Creek	90.61	214	P		P	13 59 43.8	0.0
	comp=Z,2.6nm,0.7s,mb4.7,baz=297,slow=4.0,SNR=8.0							
QSPA	South Pole Qui	141.26	180	PKP		PKPdf	14 06 11.3	+0.9
	comp=Z,1.7nm,0.9s,baz=203,slow=2.6,SNR=5.2							
MATP	Matopo	143.06	318	PKP		PKPdf	14 06 13.1	-2.4
	comp=Z,4.1nm,0.7s,baz=98,slow=15,SNR=7.9							
MAW	Mawson	147.22	218	PKPbc		PKPbc	14 06 22.5	-1.0
	comp=Z,4.0nm,0.8s,baz=333,slow=4.2,SNR=5.4							
LBTB	Lobatse	148.35	318	PKPbc		PKPbc	14 06 27.2	-0.6
	comp=Z,7.4nm,0.9s,baz=288,slow=1.7,SNR=4.4							
BOSA	Boshof	151.64	315	PKPbc		PKPbc	14 06 33.7	-2.0
	comp=Z,4.5nm,0.7s,baz=345,slow=3.7,SNR=4.3							

IDC 03 13:47:58.0±2.2,3308N×9654E,h0km,mb3.3/2,mb1 3.6/3, mb1mx3.4/21,mbtmp3.6/3,ML3.6/1,Error ellipse: s-maj=101.9km s-min=29.8km az=72.0,Qinghai

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	Songino Array	16.51	24	Pn	Pn	13 51 51.3	+0.4
	0.2nm,0.3s,baz=209,slow=14,SNR=22						
ZALV	Zalesovo Beam	22.47	342	P	P	13 52 58.5	0.0
	0.8nm,0.7s,baz=142,slow=12,SNR=4.1						
ASAR	Alice Springs	66.73	143	P	P	13 58 51.1	+0.1
	0.2nm,0.6s,baz=334,slow=8.2,SNR=2.3						

*ISCJB **03** 13:48:05.8±3.1,779S×006×15579E±005,h3km±19km, mb4.6/31,MS4.4/6,Error ellipse: s-maj=10.6km s-min=8.7km az=26.6*

*IDC **03** 13:48:07.0±0.6,788S×15578E,h0km,mb4.6/13, mb1 4.6/15,mb1mx4.5/20,mbtmp4.5/15,ML3.3/2,MS4.3/6, Ms1 4.3/6,ms1mx4.0/23,Error ellipse: s-maj=20.5km s-min=15.1km az=104.0*

*BJI **03** 13:48:07.4,790S×15580E,h10km,mB5.5,mb4.8,Ms4.8, Msz4.4*

*GCMT **03** 13:48:08.4±0.5,805S×15578E,h19km±1km,MW5.2/64, Moment Tensor Solution. s36,c40; s64,c82; Duration: 1s0 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.88±.07; $M_{\theta\theta}$0.80±.05; $M_{\phi\phi}$0.07±.04; $M_{r\theta}$-0.05±.09; $M_{\theta\phi}$0.02±.03; $M_{\phi r}$0.17±.10; Best double couple: $M_0$0.85500×10^{17} NP1:ϕ_s258.00000°,δ44.00000°,λ-104.00000°. NP2: ϕ_s98.00000°,δ47.00000°,λ-76.00000°. Principal axes: T 0.8020, Plg1.0000°, Azm179.0000°; N 0.1060, Plg10.0000°, Azm269.0000°; P -0.9080, Plg80.0000°, Azm80.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **03** 13:48:08.4±0.4,790S×15584E,h10km,mb4.7/15 Error ellipse: s-maj=12.4km s-min=9.1km az=124.0*

*MOS **03** 13:48:10.4±1.6,784S×15579E,h33km,mb5.1/11,Error ellipse: s-maj=14.2km s-min=10.0km az=103.6*

ISC 03 13:48:09.2±3.5,783S±006×15577E±006,h13km±21km, n74,σ1°08/67,mb4.6/31,MS4.4/6,3C-1D,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	4.43	111	P	Pn	13 49 15.9	-0.1
HNR						13 50 08.6	
HNR	Honiara	4.43	111	Pn	Pn	13 49 15.9	-0.2
	3.9nm,0.3s,baz=257,slow=6.2,SNR=2.7						
HNR				Sn	Sn	13 50 08.5	+1.1
	9.1nm,0.3s,baz=275,slow=11,SNR=4.9						
HNR				LR	LR	13 50 52.9	
	comp=Z,2μm,18.8s,baz=340,slow=38						
CTA	Charters Tower	15.28	216	eP	Pn	13 51 52.1	+7.5
	12nm,0.8s						
CTA	Charters Tower	15.28	216	Pn	Pn	13 51 43.3	-1.3
CTA				eP		13 51 52.1	
CTA				LR	LR	13 56 57.8	
CTA	Charters Tower	15.28	216	Pn	Pn	13 51 43.3	-1.3
	0.0nm,0.3s,baz=288,slow=20,SNR=1.9						
CTA				LR	LR	13 56 57.8	
	comp=Z,1μm,18.3s,baz=214,slow=35						
CTAO	Charters Tower	15.28	216	eP	Pn	13 51 52.5	+7.9
	17nm,0.8s						
CTAO	Charters Tower	15.28	216	eP	Pn	13 51 52.5	+7.9
CTAO				pmax	pmax		
	comp=Z,17nm,0.8s						
KAKA	Kakadu	23.45	256	eP	P	13 53 19.3	+0.6
	comp=Z,13nm,0.6s,mb4.5						
WB2	Warramunga Arr	23.99	238	eP	P	13 53 23.5	-0.1
WB2				eP		13 53 24.5	
WRA	Warramunga Arr	24.00	238	P	P	13 53 23.4	-0.3
WRA						13 57 06.0	
WRA	Warramunga Arr	24.00	238	P	P	13 53 23.4	-0.3
	comp=Z,8.0nm,0.7s,mb4.2,baz=60,slow=9.5,SNR=87						
WRA				PcP	PcP	13 57 06.0	+0.2
	comp=Z,2.9nm,1.0s,baz=62,slow=1.8,SNR=6.5						
WRA				LR	LR	14 02 08.2	
	comp=Z,558nm,19.0s,MS4.1,baz=70,slow=35						
ASAR	Alice Springs	26.22	231	P	P	13 53 43.2	-0.6
	comp=Z,3.6nm,0.8s,mb3.9,baz=61,slow=8.7,SNR=20						
STKA	Stephens Creek	27.33	207	eP	P	13 53 55.4	+1.6
	comp=Z,6.0nm,0.9s,mb4.1						
STKA				eP		13 53 55.7	
STKA	Stephens Creek	27.33	207	P	P	13 53 54.7	+1.0
	comp=Z,7.5nm,0.8s,mb4.2,baz=20,slow=11,SNR=12						
FITZ	Fitzroy Crossi	31.04	248	eP	P	13 54 26.1	-0.8
	comp=Z,4.7nm,0.6s,mb4.5						
FITZ	Fitzroy Crossi	31.04	248	P	P	13 54 26.1	-0.8
	comp=Z,2.4nm,0.5s,mb4.2,baz=62,slow=10.0,SNR=19						
MBWA	Marble Bar	37.21	245	eP	P	13 55 20.8	+0.3
	comp=Z,8.0nm,0.9s,mb4.5						
RPZ	Rata Peaks	38.17	162	LR	LR	14 08 30.6	
	comp=Z,1μm,19.3s,MS4.7,baz=244,slow=32						
KLBR	Kellerberrin	42.55	231	eP	P	13 56 04.0	-0.7
	comp=Z,8.7nm,0.6s,mb4.7						
KSM	Kuching	46.27	280	eP	P	13 56 35.8	+1.0
MJAR	Matsushiro Arr	47.11	341	P	P	13 56 41.2	+0.2
	comp=Z,15nm,0.6s,mb5.1,baz=157,slow=8.3,SNR=31						
MJAR				LR	LR	14 13 22.1	
	comp=Z,256nm,18.5s,MS4.2,baz=230,slow=32						
MAJO	Matsushiro	47.12	341	eP	P	13 56 41.6	+0.6
	comp=Z,25nm,0.6s,mb5.3						
MAJO	Matsushiro	47.12	341	eP	P	13 56 41.6	+0.6
MAJO				pmax	pmax		
	comp=Z,25nm,0.6s,mb5.3						
MAT	Matsushiro	47.12	341	P	P	13 56 40.1	-0.9
KSRS	Korea Array	52.03	332	P	P	13 57 19.0	+0.5
	comp=Z,4.1nm,0.7s,mb4.5,baz=145,slow=6.3,SNR=16						
KSRS				LR	LR	14 18 31.1	
	comp=Z,250nm,18.0s,MS4.3,baz=31,slow=35						
ASAJ	Asahikawa	53.06	348	P	P	13 57 27.6	+1.6
	comp=Z,7.6nm,0.7s,mb4.8,baz=210,slow=14,SNR=14						
WHN	Wuhan	55.07	316	eP	P	13 57 47.7	+6.8
VLA	Vladivostok	55.16	339	eP	P	13 57 40.4	-0.9
VLA				pmax	pmax		
	comp=Z,39nm,1.7s,mb5.2						
YSS	Yuzh-Sakhalins	55.76	349	eP	P	13 57 47.4	+1.8
	comp=Z,14nm,1.0s,mb4.9						
YSS	Yuzh-Sakhalins	55.76	349	i P	P	13 57 47.0	+1.5
YSS				pmax	pmax		
	comp=Z,15nm,1.1s,mb4.9						
KULM	Kulim	56.51	282	eP	P	13 57 52.1	+0.6
MDJ	Mudanjiang	57.29	338	P	P	13 57 56.5	0.0
MDJ				AMB	AMB		
	comp=Z,10.0nm,1.3s,mb4.7						
MDJ				AMB	AMB		
	comp=Z,137nm,5.8s						
MDJ	Mudanjiang	57.29	338	eP	P	13 57 57.7	+1.2
	comp=Z,26nm,1.4s,mb5.1						
CN2	Changchun	58.27	335	eP	P	13 58 02.9	-0.5
HABR	Khabarovsk	58.95	344	eP	P	13 58 08.0	-0.1
HABR				eS	S	14 06 14.0	+0.1
HABR				pmax	pmax		
	comp=Z,49nm,1.6s,mb5.3						
KLR	Kul'dur	60.59	342	eP	P	13 58 15.2	-4.1
KLR				pmax	pmax		
	comp=Z,45nm,1.6s,mb5.3						
PET	Petropavlovsk	60.66	2	i P	P	13 58 20.2	+0.4
KMI	Kunming	61.12	304	P	P	13 58 25.2	+1.8
KMI				AMB	AMB		
	comp=Z,8.0nm,1.3s,mb4.7						
KMI				LR	LR		
	comp=Z,193nm,23.4s,MS4.2						
KMI	Kunming	61.12	304	P	P	13 58 25.2	+1.8
	comp=Z,8.0nm,1.3s,mb4.7						
KMI				LR	LR		
	comp=Z,190nm,23.4s,MS4.2						
ULN	Ulaanbaatar	70.11	327	eP	P	13 59 24.1	+3.1
	comp=Z,3.7nm,0.8s,mb4.4						
ULN	Ulaanbaatar	70.11	327	eP	P	13 59 24.2	+3.1
ULN				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
SONM	Songino Array	70.45	327	P	P	13 59 25.3	+2.1
	comp=Z,2.8nm,0.6s,mb4.4,baz=140,slow=6.5,SNR=18						
SEY	Seymchan	70.60	358⇑	eP	P	13 59 24.0	+0.3
YAK	Yakutsk	72.53	347	eP	P	13 59 36.0	+0.6
	comp=Z,25nm,0.8s,mb5.2						
YAK	Yakutsk	72.53	347	eP	P	13 59 33.5	-1.9
YAK				pmax	pmax		
	comp=Z,25nm,1.1s,mb5.1						
YAK				pmax	pmax		
	comp=N,7.0nm,1.2s						
YAK				pmax	pmax		
	comp=E,4.0nm,1.2s						
YAK				MLR	MLR		
	comp=Z,508nm,24.0s,MS4.7						
YAK				MLR	MLR		
	comp=N,446nm,23.0s,MS4.8						
YAK				MLR	MLR		
	comp=E,401nm,27.0s,MS4.8						
ZAK	Zakamensk	73.60	328	eP	P	13 59 42.2	+0.2
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.4s,mb4.0						
BOD	Bodaibo	73.67	338	eP	P	13 59 39.9	-2.3
BOD				pmax	pmax		
	comp=Z,5.0nm,1.7s,mb4.2						
TLY	Talaya	74.17	329	i P	P	13 59 47.0	+1.7
BILL	Bilibino	76.05	4	eP	P	13 59 56.0	+0.2
	comp=Z,19nm,1.1s,mb4.9						
BILL	Bilibino	76.05	4⇑	eP	P	13 59 56.1	+0.3
BILL				e		14 02 42.8	
BILL				eS	S	14 09 40.1	+1.6
BILL				pmax	pmax		
	comp=Z,29nm,1.4s,mb5.0						
TIXI	Tiksi	81.28	352	eP	P	14 00 24.1	-0.5
TIXI				e		14 00 39.5	
TIXI				pmax	pmax		
	comp=Z,10.0nm,1.8s,mb4.4						
QSPA	South Pole Qui	82.15	180	P	P	14 00 29.1	0.0
	comp=Z,3.5nm,0.8s,mb4.4,baz=299,slow=0.5,SNR=9.6						
MCK	McKinley	82.54	22	eP	P	14 00 29.7	-1.6
	comp=Z,3.7nm,0.7s,mb4.5						
MCK	McKinley	82.54	22	eP	P	14 00 29.7	-1.6
MCK				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.6						
COLA	College	83.58	21	eP	P	14 00 35.7	-1.0
	comp=Z,3.8nm,0.8s,mb4.6						
COLA	College	83.58	21⇑	eP	P	14 00 35.4	-1.3
MK31	Makanchi Array	84.53	319	eP	P	14 00 42.1	+0.1
MKAR	Makanchi Array	84.53	319	P	P	14 00 41.4	-0.6
	comp=Z,6.6nm,0.7s,mb4.9,baz=101,slow=5.6,SNR=33						
ZAA0	Zalesovo Array	85.30	326	eP	P	14 00 43.8	-1.9
ZALV	Zalesovo Beam	85.30	326	P	P	14 00 44.3	-1.3
	comp=Z,4.7nm,0.7s,mb4.7,baz=110,slow=5.5,SNR=19						
ZAL	Zalesovo	85.30	326	P	P	14 00 44.3	-1.4
KURK	Kurchatov	87.96	322⇓	eP	P	14 00 58.3	-0.4
UCH	Uchtor	88.78	313	eP	P	14 01 06.0	+3.1
INK	Inuvik	90.22	21	P	P	14 01 07.8	-1.2
	comp=Z,0.9nm,0.5s,mb4.4,baz=203,slow=6.0,SNR=8.7						
YKA	Yellowknife Ar	96.71	28	P	P	14 01 38.3	-0.7
YKA	Yellowknife Ar	96.71	28	P	P	14 01 38.3	-0.7
	comp=Z,1.1nm,0.6s,mb4.5,baz=265,slow=4.6,SNR=19						
NOA	NORSAR Array B	120.73	341	PKP	PKPdf	14 07 00.8	+0.1
	comp=Z,1.2nm,0.7s,baz=349,slow=1.8,SNR=3.4						
KHC	Kasperske Hory	128.04	329	i PKIKP	PKPdf	14 07 16.8	+1.8
GERES	GERESS Array B	128.16	329	PKP	PKPdf	14 07 16.5	+1.3
	comp=Z,0.4nm,0.4s,baz=48,slow=2.0,SNR=7.0						
EKA	Eskdalemuir Ar	129.74	345	PKP	PKPdf	14 07 19.6	+1.6
	comp=Z,1.6nm,0.8s,baz=44,slow=2.5,SNR=4.8						
BDFB	Brasilia	146.85	135	PKPbc	PKPbc	14 07 50.6	-1.5
	comp=Z,8.3nm,0.9s,baz=92,slow=1.3,SNR=8.8						
TORD	Torodi Ar. Bea	153.98	284	PKPbc	PKPbc	14 08 09.1	-0.4
TORD				PKPab	PKPab	14 08 20.6	-2.2
TORD	Torodi Ar. Bea	153.98	284	PKPbc	PKPbc	14 08 09.1	-0.4
	comp=Z,1.1nm,0.7s,baz=180,slow=5.6,SNR=4.0						
TORD				PKPab	PKPab	14 08 20.6	-2.2
	comp=Z,1.9nm,0.9s,baz=129,slow=1.0,SNR=5.6						
DBIC	Dimbokro	160.75	268	PKP	PKPdf	14 08 11.2	+1.2
	comp=Z,2.2nm,0.9s,baz=138,slow=9.3,SNR=3.6						
DBIC				PKPab	PKPab	14 08 52.8	+0.7
	comp=Z,3.2nm,1.0s,baz=12,slow=2.5,SNR=3.4						

*IDC **03** 13:49:13.9±0.6,6297S×16786E,h0km,mb4.3/10, mb1 4.5/12,mb1mx4.4/14,mbtmp4.4/12,ML4.2/2,MS4.9/14, Ms1 4.9/14,ms1mx4.8/17,Error ellipse: s-maj=24.5km s-min=15.1km az=79.0*

*ISCJB **03** 13:49:14.2±0.5,6285S±006×1679E±02,h10km,mb4.2/10, MS4.8/12,Error ellipse: s-maj=15.6km s-min=8.3km az=2.1*

*GCMT **03** 13:49:15.2±0.2,6274S×16861E,h12km,MW5.4/73, Moment Tensor Solution. s41,c56; s73,c134; Duration: 1s2 Moment tensor: Scale 10^{17}Nm; M_{rr}-1.31±.03; $M_{\theta\theta}$1.16±.02; $M_{\phi\phi}$0.14±.03; $M_{r\theta}$-0.99±.08; $M_{\theta\phi}$0.15±.02; $M_{\phi r}$-0.53±.09; Best double couple: $M_0$1.67300×10^{17} NP1:ϕ_s271.00000°,δ25.00000°,λ-70.00000°. NP2: ϕ_s69.00000°,δ66.00000°,λ-99.00000°. Principal axes: T 1.5800, Plg21.0000°, Azm166.0000°; N 0.1840, Plg8.0000°, Azm73.0000°; P -1.7660, Plg68.0000°, Azm322.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **03** 13:49:15.2±0.4,6291S×16798E,h10km,mb5.0/1 Error ellipse: s-maj=19.5km s-min=9.6km az=87.0*

**ISC 03 13:49:15.9±0.5,6285S±006×1680E±02,h10km, (h13km±.8km:pP-P),n44,σ0°93/21,mb4.2/10,MS4.8/12,

VNA3				*e*			13 57 47.5	
VNA3				*e*			13 57 49.6	
VNA2	**Neumayer--Watz**	**46.46**	**182**	*e*		**P**	**13 57 42.3**	**+0.1**
baz=177,slow=6.2								
VNA2				*e*		pP	13 57 46.3	+1.0
VNA2				*e*			13 57 48.9	
VNA2				*e*			13 57 50.2	
VNA1	**Neumayer--Stat**	**46.75**	**182**	*e*		**P**	**13 57 46.4**	**+2.0**
VNA1				*e*		pP	13 57 49.5	+1.9
VNA1				*e*			13 57 52.4	
TBI	**Tubuai**	**48.63**	**56**	*e*S		**S**	**14 05 00.3**	**-1.1**
246nm,24.7s								
TBI				*e*LQ			14 09 09.3	
1μm,26.8s								
TBI				*e*LR		LR	14 11 22.4	
1μm,30.5s,baz=203								
WRA	**Warramunga Arr**	**48.67**	**316**	P		**P**	**13 57 58.9**	**-1.0**
0.7nm,0.9s,mb3.7,baz=165,slow=4.1,SNR=5.8								
WRA				LR		LR	14 16 32.2	
comp=Z,1μm,20.1s,MS4.9,baz=145,slow=34								
HNR	**Honiara**	**53.65**	**350**	LR		LR	14 16 14.0	
comp=Z,720nm,20.8s,MS4.7,baz=225,slow=30								
PPT	**Papeete**	**53.87**	**53**	*e*S		**S**	**14 06 13.0**	**-0.7**
254nm,24.8s								
PPT				*e*LQ			14 11 08.6	
724nm,24.8s								
PPT				*e*LR		LR	14 14 00.1	
930nm,23.5s,baz=205								
RKT	**Rikitea**	**54.77**	**71**	*e*LR		LR	14 14 22.5	
367nm,27.0s								
TAOE	**Nuku Hiva Isla**	**65.42**	**59**	*e*LR		LR	14 19 25.5	
15μm,26.6s								
PLCA	**Paso Flores**	**66.69**	**135**	P		**P**	**14 00 05.7**	**-0.7**
PLCA	**Paso Flores**	**66.69**	**135**	P		**P**	**14 00 05.7**	**-0.7**
8.4nm,1.2s,mb4.7,baz=207,slow=5.5,SNR=6.8								
BOSA	**Boshof**	**84.13**	**212**	P		**P**	**14 01 45.2**	**-1.5**
0.9nm,0.6s,mb4.1,baz=84,slow=15,SNR=4.0								
BOSA				LR		LR	14 38 00.5	
comp=Z,552nm,18.9s,MS5.0,baz=184,slow=35								
LPAZ	**La Paz**	**89.87**	**127**	P		**P**	**14 02 14.8**	**0.0**
1.9nm,0.9s,mb4.4,baz=170,slow=4.5,SNR=6.8								
BDFB	**Brasilia**	**96.85**	**145**	LR		LR	14 46 56.7	
comp=Z,342nm,18.1s,MS4.9,baz=216,slow=36								
TMUT	**Trail Mountain**	**120.23**	**62**	*e*PKPdf		PKPdf	14 08 05.5	-0.5
PDAR	**Pinedale Array**	**123.82**	**61**	PKP		PKPdf	14 08 13.2	+0.3
0.4nm,0.7s,baz=160,slow=4.7,SNR=3.6								
CHMT	**Chamberlain Mo**	**125.84**	**56**	*e*PKPdf		PKPdf	14 08 13.1	-3.4
RSSD	**Black Hills**	**127.20**	**65**	*e*PKPdf		PKPdf	14 08 18.1	-1.2
INK	**Inuvik**	**137.37**	**28**	PKP		PKPdf	14 08 38.3	+0.7
1.2nm,0.9s,baz=194,slow=3.5,SNR=5.3								
YKA	**Yellowknife Ar**	**137.77**	**42**	PKP		PKPdf	14 08 39.2	+0.7
YKA	**Yellowknife Ar**	**137.77**	**42**	PKP		PKPdf	14 08 39.2	+0.7
0.6nm,0.7s,baz=220,slow=2.1,SNR=7.3								
KIV	**Kislovodsk**	**143.72**	**265**	*e*PKPdf		PKPdf	14 08 47.2	-2.7
KEST	**Kesra**	**149.80**	**216**	PKPbc		PKPdf	14 09 03.0	+2.6
2.6nm,1.0s,baz=297,slow=9.0,SNR=2.1								
RES	**Resolute Bay**	**150.65**	**33**	*e*PKPdf		PKPdf	14 09 00.1	-0.4
RES				*e*PKPbc		PKPbc	14 09 04.7	-1.4
RES				*e*PKPab		PKPab	14 09 13.0	-0.1
TIP	**Timpagrande**	**150.66**	**230**	*e*PKPdf		PKPdf	14 09 00.9	-0.7
TIP				*e*PKPbc		PKPbc	14 09 07.0	-0.1
TIP				*e*PKPab		PKPab	14 09 12.6	-1.4
SCHQ	**Schefferville**	**151.35**	**81**	PKPbc		PKPbc	14 09 07.2	-0.9
SCHQ	**Schefferville**	**151.35**	**81**	PKPbc		PKPbc	14 09 07.2	-0.9
7.3nm,1.0s,baz=30,slow=6.7,SNR=5.6								
MLR	**Muntele Rosu**	**152.39**	**249**	PKPbc		PKPbc	14 09 09.6	-1.2
2.8nm,0.7s,baz=140,slow=7.4,SNR=5.9								
MLR				PKPab		PKPab	14 09 20.9	-0.2
8.3nm,0.9s,baz=290,slow=1.9,SNR=7.8								
AKASG	**Malin Array Be**	**154.85**	**260**	PKPab		PKPab	14 09 31.1	-0.3
2.6nm,0.6s,baz=130,slow=3.6,SNR=9.2								
GERES	**GERESS Array B**	**160.08**	**237**	PKPab		PKPab	14 09 50.5	-3.5
0.3nm,0.2s,baz=318,slow=3.8,SNR=3.6								

IDC 03 14:02:35.4±7.2, 774S×15632E, h0km, mb3.6/5, mb1 3.7/5, mb1mx3.6/14, mbtmp3.6/5, Error ellipse: s-maj=221.7km s-min=30.0km az=113.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.51**	**238**	P	P	14 07 56.0	-0.7
0.8nm,0.8s,baz=67,slow=8.6,SNR=9.0							
ASAR	**Alice Springs**	**26.70**	**231**	P	P	14 08 17.2	+0.7
0.2nm,0.6s,baz=60,slow=9.2,SNR=4.3							
SONM	**Songino Array**	**70.67**	**327**	P	P	14 13 53.1	+0.2
0.3nm,0.5s,baz=143,slow=6.6,SNR=3.4							
MKAR	**Makanchi Array**	**84.83**	**318**	P	P	14 15 12.2	+0.4
0.9nm,0.7s,baz=111,slow=5.5,SNR=11							
ZALV	**Zalesovo Beam**	**85.53**	**326**	P	P	14 15 15.1	-0.1
0.8nm,0.7s,baz=108,slow=4.8,SNR=4.0							

*NEIC **03** 14:03:02.0±0.8, 757S×15590E, h10km, Error ellipse: s-maj=20.9km s-min=14.5km az=182.0*
*IDC **03** 14:03:01.9±1.1, 740S×15565E, h0km, mb4.0/6, mb1 4.1/7, mb1mx3.9/16, mbtmp4.0/7, ML4.5/1, Error ellipse: s-maj=27.0km s-min=24.5km az=140.0*
*ISCJB **03** 14:03:05.6±0.8, 74S±01×15563E±007, h33km, mb4.0/7, Error ellipse: s-maj=20.7km s-min=9.3km az=15.3*
ISC 03 14:03:07.6±0.8, 74S±01×15557E±007, h35km, n11, σ0§92/13, mb4.0/7, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.76**	**115**	*e*Pn	**Pn**	**14 04 08.8**	**-7.9**
HNR				*e*		14 04 21.5	
HNR				Sn	**Sn**	**14 05 11.2**	**+0.5**
HNR	**Honiara**	**4.76**	**115**	Pn	**Pn**	**14 04 14.2**	**-2.6**
19nm,0.3s,baz=272,slow=18,SNR=5.5							
HNR				Sn	**Sn**	**14 05 11.2**	**+0.5**
5.7nm,0.3s,baz=90,slow=20,SNR=2.8							
KAKA	**Kakadu**	**23.36**	**255**	*e*P	**P**	**14 08 13.1**	**-0.3**
14nm,0.6s,mb4.6							
WB2	**Warramunga Arr**	**24.04**	**237**	*e*P	**P**	**14 08 20.2**	**+0.7**
WRA	**Warramunga Arr**	**24.04**	**237**	P	**P**	**14 08 20.5**	**+0.9**
2.8nm,0.6s,mb3.9,baz=62,slow=8.9,SNR=24							
ASAR	**Alice Springs**	**26.32**	**230**	P	**P**	**14 08 40.1**	**-0.1**
1.2nm,0.7s,mb3.5,baz=56,slow=10,SNR=16							
FITZ	**Fitzroy Crossi**	**31.01**	**247**	P	**P**	**14 09 20.8**	**-1.3**
0.9nm,0.7s,mb3.7,baz=81,slow=13,SNR=2.4							
SONM	**Songino Array**	**70.02**	**327**	P	**P**	**14 14 16.8**	**+1.1**
1.0nm,0.4s,mb4.1,baz=139,slow=6.1,SNR=12							
MKAR	**Makanchi Array**	**84.12**	**319**	P	**P**	**14 15 35.4**	**+0.4**
1.5nm,0.7s,mb4.2,baz=110,slow=5.8,SNR=8.5							
ZALV	**Zalesovo Beam**	**84.87**	**326**	P	**P**	**14 15 37.5**	**-1.1**
ZALV	**Zalesovo Beam**	**84.87**	**326**	P	**P**	**14 15 37.5**	**-1.1**
0.4nm,0.4s,mb3.9,baz=112,slow=6.5,SNR=2.6							

*NEIC **03** 14:07:22.6, 3448S×7209W, h31km, ML2.5(GUC), After GUC.*
GUC 03 14:07:22.6±0.5, 3448S×7209W, h31km±15km, MD3.6, ML2.5, 2C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**0.77**	**47**	⇓*i*P	Pn	14 07 36.8	-0.5
LNV				*i* S	Sb	14 07 47.9	+0.2
SFDO	**San Fernando**	**0.90**	**99**	⇑*i*P	Pn	14 07 39.3	+0.2
SFDO				*i* S	Sn	14 07 51.1	0.0
TACH	**Talagante**	**1.27**	**50**	⇑*i*P	Pn	14 07 44.6	+0.5
CACH	**El Canelo**	**1.29**	**74**	*e*P	Pn	14 07 45.8	+1.4
CACH				*i* S	Sn	14 08 03.2	+2.6
CHCH	**Chadas Angostu**	**1.31**	**66**	⇓*i*P	Pn	14 07 45.1	+0.3
CICH	**Cipreses**	**1.39**	**84**	⇓*e*P	Pn	14 07 46.9	+1.1
CICH				*i* S	Sn	14 08 05.5	+2.4
PCH	**Pirque**	**1.57**	**57**	⇓*i*P	Pn	14 07 49.7	+1.4
PCH				*i* S	Sn	14 08 10.2	+2.7
LMEL	**Las Melosas**	**1.69**	**68**	*e*P	Pn	14 07 51.7	+1.8
LMEL				*e*S	Sn	14 08 13.7	+3.2
LMEL	**Las Melosas**	**1.69**	**68**	*e*P	Pn	14 07 51.7	+1.8
LMEL				*e*S	Sn	14 08 13.7	+3.2
LMEL				AML	AML	14 08 16.8	
comp=N,96nm,0.1s							

IDC 03 14:09:53.7±2.4, 802S×15595E, h0km, mb3.7/6, mb1 3.9/6, mb1mx3.7/14, mbtmp3.7/6, Error ellipse: s-maj=82.6km s-min=28.0km az=123.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.05**	**238**	P	P	14 15 10.9	+0.2
1.2nm,0.6s,baz=61,slow=9.4,SNR=12							
ASAR	**Alice Springs**	**26.24**	**231**	P	P	14 15 30.8	+0.2
0.4nm,0.9s,baz=62,slow=9.9,SNR=4.5							
SONM	**Songino Array**	**70.70**	**327**	P	P	14 21 12.7	+1.3
0.6nm,0.9s,baz=118,slow=6.0,SNR=2.6							
MKAR	**Makanchi Array**	**84.79**	**319**	P	P	14 22 29.6	-0.4
0.7nm,0.8s,baz=104,slow=5.1,SNR=5.2							
ZALV	**Zalesovo Beam**	**85.55**	**326**	P	P	14 22 32.2	-1.4
0.6nm,0.4s,baz=130,slow=4.5,SNR=5.0							
YKA	**Yellowknife Ar**	**96.79**	**28**	P	P	14 23 26.2	+0.1
0.2nm,0.5s,baz=263,slow=4.3,SNR=4.0							

*NNC **03** 14:18:16.3±11.0, 3684N×7021E, h0km, mb4.0, mpv3.9, Error ellipse: s-maj=107.6km s-min=79.1km az=31.0*
ISC 03 14:18:14.8±2.9, 365N±02×700E±02, h35km, n11, σ1§13/13, 2C-1D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**6.35**	**26**	P	**Pn**	**14 19 47.0**	**+1.2**
SNR=55							
KK31	**Karatay Array**	**6.64**	**3**	P	**Pn**	**14 19 52.7**	**+2.9**
1.6nm,0.4s,baz=176,slow=12,SNR=34							
KK31				S	**Sn**	**14 21 03.3**	**-0.9**
4.2nm,0.5s,baz=181,slow=18,SNR=11							
UCH	**Uchtor**	**6.74**	**30**	P	**Pn**	**14 19 51.7**	**+0.5**
SNR=54							
EKS2	**Erkin-Say**	**6.85**	**24**	P	**Pn**	**14 19 53.5**	**+0.9**
SNR=7.3							
AAK	**Ala-Archa**	**7.08**	**28**	P	**Pn**	**14 19 56.2**	**+0.4**
SNR=20							
KBK	**Karagaybulak**	**7.28**	**30**	P	**Pn**	**14 19 58.7**	**+0.2**
SNR=9.4							
ULHL	**Ulahol**	**7.54**	**38**	P	**Pn**	**14 20 01.3**	**-0.8**
SNR=10							
USP	**Ospenovka**	**7.63**	**26**	P	**Pn**	**14 20 02.2**	**-1.2**
SNR=7.1							
TKM2	**Tokmak 2**	**7.76**	**32**	⇓P	**Pn**	**14 20 04.2**	**-1.0**
9.0nm,0.5s							
TKM2	**Tokmak 2**	**7.76**	**32**	P	**Pn**	**14 20 04.4**	**-0.8**
SNR=19							
AB31	**Akbulak array**	**14.72**	**333**	⇑P	**Pn**	**14 21 38.3**	**-2.1**
0.4nm,0.5s,baz=140,slow=12,SNR=5.6							
AB31				⇑S	**Sn**	**14 24 22.9**	**+0.7**
0.2nm,0.4s							

*IDC **03** 14:23:29.5±1.9, 2081S×16853E, h0km, mb4.1/4, mb1 4.3/5, mb1mx4.0/13, mbtmp4.0/5, ML3.2/1, Error ellipse: s-maj=90.9km s-min=25.8km az=148.0*
*NEIC **03** 14:23:30.9±0.9, 2080S×16851E, h10km, mb4.3/1, Error ellipse: s-maj=30.6km s-min=16.7km az=148.0*
*ISCJB **03** 14:23:32.4±6.6, 208S±02×1685E±02, h32km±46km, mb4.0/5, Error ellipse: s-maj=37.3km s-min=17.8km az=149.3*
ISC 03 14:23:33.1±7.0, 209S±02×1685E±02, h24km±49km, n11, σ0§68/10, mb4.0/5, Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**2.24**	**238**	*e*P	**Pn**	**14 24 08.3**	**-0.4**
DZM	**Mont Dzumac**	**2.24**	**238**	Pn	**Pn**	**14 24 08.3**	**-0.4**
6.4nm,0.3s,baz=113,slow=21,SNR=31							
DZM				Sn	**Sn**	**14 24 35.3**	**-0.4**
47nm,0.3s,baz=158,slow=21,SNR=8.7							
STKA	**Stephens Creek**	**26.39**	**240**	P	**P**	**14 29 09.6**	**+1.8**
2.0nm,0.7s,mb3.7,baz=86,slow=8.8,SNR=4.5							
WRA	**Warramunga Arr**	**31.98**	**266**	P	**P**	**14 29 57.2**	**-0.4**
0.3nm,0.4s,mb3.5,baz=99,slow=8.5,SNR=6.9							
ASAR	**Alice Springs**	**32.08**	**259**	P	**P**	**14 29 58.7**	**+0.3**
4.7nm,0.7s,mb4.5,baz=83,slow=9.2,SNR=102							
SBA	**Scott Base**	**57.03**	**180**	*e*P	**P**	**14 33 17.0**	**+0.5**
3.1nm,1.0s,mb4.3							
VNA3	**Neumayer Olymp**	**88.12**	**181**	*e*	**P**	**14 36 20.9**	**-0.5**
VNA3				*e*		14 36 23.0	
VNA3				*e*		14 36 32.1	
VNA2	**Neumayer--Watz**	**88.40**	**181**	*e*	**P**	**14 36 22.4**	**-0.3**
baz=192,slow=4.5							
VNA2				*e*		14 36 24.8	
VNA2				*e*		14 36 34.3	
NVAR	**Mina Array Bea**	**90.41**	**49**	P	**P**	**14 36 32.2**	**-0.4**
0.6nm,0.7s,mb4.1,baz=228,slow=9.1,SNR=5.7							
KHC	**Kasperske Hory**	**145.43**	**331**	*e*PKP	PKPdf	14 43 09.5	+0.6
KHC				*ex*	x	14 43 21.0	
GERES	**GERESS Array B**	**145.57**	**330**	PKPbc	PKPbc	14 43 09.9	+0.6
1.9nm,0.7s,baz=56,slow=3.4,SNR=15							

*IDC **03** 14:28:22.3±0.8, 5239N×10625E, h0km, mb3.8/8, mb1 3.9/11, mb1mx3.8/24, mbtmp3.8/11, ML3.4/3, MS4.4/2, Ms1 4.4/2, ms1mx3.4/43, Error ellipse: s-maj=21.9km s-min=13.9km az=60.0*
*NEIC **03** 14:28:23.9±0.5, 5234N×10622E, h10km, mb3.8/4, Error ellipse: s-maj=10.4km s-min=8.1km az=207.0*
NEIC Felt [III] at Irkutsk and Yelantsy.
*ISCJB **03** 14:28:24.3±0.3, 5229N±003×10588E±003, h15km±3km, mb3.9/13, MS4.2/3, Error ellipse: s-maj=4.9km s-min=2.3km az=156.2*
*MOS **03** 14:28:24.1±1.3, 5224N×10593E, h12km, mb4.7/5, Error ellipse: s-maj=9.4km s-min=7.0km az=61.0*
MOS Felt (III) at Elancy; (II-III) at Irkutsk.
*BYKL **03** 14:28:26.2±0.2, 5224N×10581E, h28km±3km, FELT I=IV MSK at Maloye Goloustnoye, III-IV at Buguldeyka, Posolskoye Shigaevo, Kolesovo, Kabansk, Kamensk, Oymur, Yelantsy, III at Irkutsk*
ISC 03 14:28:24.3±0.3, 5230N±002×10582E±002, h3km±3km, n88, σ1§43/146, mb3.9/13, MS4.2/3, 22C-18D, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STDB	**Stepnoy Dvoret**	**0.36**	**111**	⇑*i*Pg	**Pg**	**14 28 34.9**	**+3.7**
STDB				Pmax		14 28 35.0	
27μm,0.3s							
STDB				*e*		14 28 39.6	
STDB				*i* Sg	**Sg**	**14 28 41.5**	**+5.7**
STDB				Smax		14 28 45.9	
51μm,0.3s							
TRG	**Tyrgan**	**0.56**	**35**	⇓*i*PG	**Pg**	**14 28 38.0**	**+3.0**
TRG				*e*		14 28 45.3	
TRG				pmax	pmax		
comp=Z,1μm,0.1s							
TRG				smax			
comp=E,24μm,0.2s							
TRG	**Tyrgan**	**0.56**	**35**	⇓*i*Pg	**Pg**	**14 28 37.9**	**+2.9**
TRG				*i*		14 28 39.6	
TRG				max		14 28 39.8	
comp=E,1μm,0.2s							
TRG				*i* Sg	**Sg**	**14 28 46.3**	**+4.0**
TRG				Smax		14 28 47.0	
comp=E,6μm,0.3s							
KAB	**Kabansk**	**0.57**	**116**	⇑*i*PG	**Pg**	**14 28 37.1**	**+1.9**
KAB				*i*		14 28 45.1	
KAB				pmax	pmax		
comp=Z,10μm,0.3s							
KAB				smax			
comp=N,84μm,0.5s							
KAB	**Kabansk**	**0.57**	**116**	⇑*i*Pg	**Pg**	**14 28 37.1**	**+1.9**
KAB				Pmax		14 28 37.8	
comp=N,5μm,0.2s							
KAB				*e*Sg	**Sg**	**14 28 45.0**	**+2.4**
KAB				Smax		14 28 45.5	
comp=N,8μm,0.6s							
LSTR	**Listvyanka**	**0.75**	**235**	⇓*i*PG	**Pg**	**14 28 40.1**	**+1.5**
LSTR				*e*		14 28 49.6	
LSTR				pmax	pmax		
comp=Z,689nm,0.2s							
LSTR				smax			
comp=E,7μm,0.2s							
LSTR	**Listvyanka**	**0.75**	**235**	⇓*i*Pg	**Pg**	**14 28 40.1**	**+1.5**
LSTR				*e*Pb	**Pb**	**14 28 41.6**	**+1.6**
LSTR				max		14 28 42.1	
comp=E,690nm,0.2s							
LSTR				*e*		14 28 44.3	
LSTR				*i* Sg	**Sg**	**14 28 49.6**	**+1.2**
LSTR				Smax		14 28 49.9	
comp=E,14μm,0.6s							
ZRHB	**Zarechye**	**0.85**	**72**	⇑*i*Pg	**Pg**	**14 28 42.7**	**+2.1**
ZRHB				Pmax		14 28 43.6	
comp=E,3μm,0.4s							
ZRHB				*i* Sg	**Sg**	**14 28 54.9**	**+3.2**
ZRHB				Smax		14 29 08.4	
comp=E,29μm,0.6s							
IRK	**Irkutsk**	**0.95**	**267**	⇑*i*PG	**Pg**	**14 28 44.6**	**+2.0**
IRK				*e*		14 28 57.3	
IRK				pmax	pmax		
comp=Z,7μm,0.2s							
IRK				smax			
comp=N,38μm,0.3s							
IRK	**Irkutsk**	**0.95**	**267**	⇑*i*Pg	**Pg**	**14 28 44.6**	**+2.0**
IRK				Pmax		14 28 45.5	
comp=N,7μm,0.2s							
IRK				*i* Sg	**Sg**	**14 28 57.1**	**+2.1**
IRK				Smax		14 28 58.3	
comp=N,22μm,0.3s							
TRTB	**Turuntaevo**	**1.11**	**93**	⇓*i*Pg	**Pg**	**14 28 46.4**	**+0.8**
comp=N,67nm,0.5s							
TRTB				⇑*i*Pg	**Pg**	**14 28 46.4**	**+0.8**
comp=N,520nm,0.5s							
TRTB				⇑*i*Pg	**Pg**	**14 28 46.4**	**+0.8**
comp=N,453nm,0.5s							
TRTB				Pmax		14 28 47.2	
comp=N,1μm,0.2s							
TRTB				*i* Sg	**Sg**	**14 29 01.2**	**+1.2**
TRTB				Smax		14 29 03.0	
comp=N,7μm,0.2s							
UUDB	**Ulan-Yde**	**1.22**	**110**	⇓*i*Pg	**Pg**	**14 28 47.6**	**0.0**
UUDB				Pmax		14 28 48.5	
comp=N,1μm,0.7s							
UUDB				*i* Sg	**Sg**	**14 29 03.4**	**+0.1**
UUDB				Smax		14 29 04.8	
comp=N,6μm,0.9s							
KELR	**Kotokel**	**1.45**	**71**	⇓*i*Pg	**Pg**	**14 28 51.9**	**-0.2**
KELR				*e*		14 28 55.2	
KELR				max		14 28 59.6	
comp=N,2μm,0.3s							
KELR				*e*		14 29 11.3	
KELR				*e*Sg	**Sg**	**14 29 12.1**	**+1.1**
KELR				Smax		14 29 12.6	
comp=N,14μm,0.5s							
TLY	**Talaya**	**1.48**	**246**	⇑*i*Pn	**Pn**	**14 28 52.4**	**+0.5**
TLY				*e*Sn	**Sn**	**14 29 11.5**	**-0.2**
TLY	**Talaya**	**1.48**	**246**	*c i*PN	**Pn**	**14 28 52.5**	**+0.7**
TLY				*e*		14 29 11.1	
TLY				pmax	pmax		
comp=Z,1μm,0.4s							
TLY				smax			
comp=E,2μm,0.3s							
TLY	**Talaya**	**1.48**	**246**	⇓*i*Pg	**Pg**	**14 28 52.4**	**-0.3**
comp=E,451nm,0.7s							
TLY				⇓*i*Pg	**Pg**	**14 28 52.4**	**-0.3**
comp=E,612nm,0.7s							
TLY				⇑*i*Pg	**Pg**	**14 28 52.4**	**-0.3**
comp=E,878nm,0.7s							
TLY						14 28 52.8	
TLY				max		14 28 53.5	
comp=E,2μm,0.4s							
TLY				*e*Sg	**Sg**	**14 29 11.8**	**-0.1**
TLY				Smax		14 29 15.0	
comp=E,4μm,0.3s							
OGRR	**Ongureny**	**1.72**	**38**	*e*PN	**Pn**	**14 28 56.7**	**+1.6**
OGRR				*e*		14 28 57.4	
OGRR				*e*		14 29 20.0	
OGRR				pmax	pmax		
comp=Z,351nm,0.4s							
OGRR				smax			
comp=E,4μm,0.5s							
OGRR	**Ongureny**	**1.72**	**38**	⇓*i*Pn	**Pn**	**14 28 56.4**	**+1.3**
OGRR				*e*Pg	**Pg**	**14 28 57.1**	**-0.1**
OGRR				*e*		14 28 58.1	
OGRR				max		14 29 00.7	
comp=E,235nm,0.2s							
OGRR				*e*Sg	**Sg**	**14 29 21.0**	**+1.5**
OGRR				Smax		14 29 22.0	
comp=E,4μm,0.5s							
MXMB	**Maximikha**	**2.02**	**60**	⇓*i*Pn	**Pn**	**14 28 59.5**	**+0.3**
MXMB				*e*Pg	**Pg**	**14 29 03.0**	**0.0**
MXMB				Pmax		14 29 03.5	
comp=E,258nm,0.3s							
MXMB				*e*Sn	**Sn**	**14 29 25.3**	**+0.4**
MXMB				*e*Sg	**Sg**	**14 29 31.8**	**+2.7**
MXMB				Smax		14 29 33.8	
comp=E,5μm,0.4s							
ARS	**Arshan**	**2.13**	**261**	*e*PN	**Pg**	**14 29 02.9**	**-2.2**
ARS				*e*		14 29 31.2	
ARS				pmax	pmax		
comp=Z,769nm,0.4s							
ARS				smax			
comp=E,9μm,0.4s							
ARS	**Arshan**	**2.13**	**261**	⇑*i*Pn	**Pn**	**14 29 01.2**	**+0.5**
ARS				⇑*i*Pg	**Pg**	**14 29 02.9**	**-2.2**
ARS				Pmax		14 29 04.1	
comp=E,850nm,0.6s							
ARS				*e*		14 29 11.2	
ARS				*i* Sg	**Sg**	**14 29 31.3**	**-1.4**
ARS				*e*		14 29 34.8	
ARS				max		14 29 35.1	
comp=E,9μm,0.6s							
ZAK	**Zakamensk**	**2.50**	**221**	*e*PN	**Pn**	**14 29 06.6**	**+0.8**
ZAK				*e*		14 29 10.5	
ZAK				*e*		14 29 42.1	
ZAK				smax			
comp=N,842nm,0.5s							
ZAK	**Zakamensk**	**2.50**	**221**	*e*Pn	**Pn**	**14 29 06.7**	**+0.9**
ZAK				*e*Pg	**Pg**	**14 29 10.5**	**-1.6**
ZAK				Pmax		14 29 19.0	
comp=N,113nm,0.8s							
ZAK				*e*Sn	**Sn**	**14 29 36.4**	**-0.3**
ZAK				*e*Sg	**Sg**	**14 29 42.7**	**-1.8**
ZAK				Smax		14 29 53.6	
comp=N,914nm,1.3s							
SYVR	**Suvo**	**2.87**	**60**	*e*PN	**Pn**	**14 29 11.6**	**+0.7**
SYVR				*e*		14 29 18.6	
SYVR				*e*		14 29 56.8	
SYVR				pmax	pmax		
comp=Z,132nm,0.4s							
SYVR				smax			
comp=N,1μm,0.4s							
SYVR	**Suvo**	**2.87**	**60**	⇓*i*Pn	**Pn**	**14 29 11.4**	**+0.5**
SYVR				*e*Pg	**Pg**	**14 29 18.3**	**-0.9**
SYVR				Pmax		14 29 33.8	
comp=N,159nm,0.6s							
SYVR				*e*		14 29 45.2	
SYVR				*e*Sg	**Sg**	**14 29 56.8**	**+0.5**
SYVR				Smax		14 30 00.1	
comp=N,1μm,0.4s							
MOY	**Mondy**	**3.05**	**260**	⇑*i*PN	**Pn**	**14 29 15.5**	**+2.1**
MOY				*e*		14 29 20.1	
MOY				*e*		14 29 59.3	
MOY				pmax	pmax		
comp=Z,278nm,0.4s							
MOY				smax			
comp=N,2μm,1.0s							
MOY	**Mondy**	**3.05**	**260**	max		14 19 18.2	

YLYR				*e*			14 29 39.1	
YLYR				*e*S		**Sn**	**14 30 16.5**	**+0.4**
YLYR				*e*			14 30 32.1	
YLYR				pmax	pmax			
	comp=Z,46nm,0.4s							
YLYR				smax				
	comp=N,443nm,1.0s							
YLYR	**Ulyunkhan**	**4.09**	**49⇓**	*i*Pn		**Pn**	**14 29 28.6**	**+0.9**
YLYR				*e*			14 29 36.1	
YLYR				*e*			14 29 40.9	
YLYR				max			14 29 57.8	
	comp=N,49nm,0.8s							
YLYR				*e*Sg		**Sg**	**14 30 33.6**	**-2.1**
YLYR				Smax			14 30 38.5	
	comp=N,443nm,1.0s							
NIZ	**Nizh Angarsk**	**4.11**	**31**	*e*PN		**Pn**	**14 29 29.4**	**+1.4**
NIZ				*e*			14 29 39.7	
NIZ				*e*S		**Sn**	**14 30 16.1**	**-0.4**
NIZ				*e*			14 30 34.1	
NIZ				pmax	pmax			
	comp=Z,105nm,0.6s							
NIZ				smax				
	comp=N,847nm,0.9s							
NIZ	**Nizh Angarsk**	**4.11**	**31⇑**	*i*Pn		**Pn**	**14 29 29.0**	**+1.0**
NIZ				*e*			14 29 39.7	
NIZ				max			14 29 44.7	
	comp=N,74nm,0.3s							
NIZ				*e*Sn		**Sn**	**14 30 16.1**	**-0.4**
NIZ				*i* Sg		**Sg**	**14 30 34.1**	**-2.2**
NIZ				Smax			14 30 38.4	
	comp=N,844nm,1.1s							
SONM	**Songino Array**	**4.49**	**175**	Pn		**Pn**	**14 29 33.1**	**0.0**
	comp=N,2.9nm,0.3s,baz=346,slow=13,SNR=108							
SONM				Pg		**Pg**	**14 29 45.9**	**-4.3**
	comp=N,5.9nm,0.3s,baz=347,slow=16,SNR=12							
SONM				Lg			14 30 44.4	
	comp=N,38nm,0.3s,baz=349,slow=30,SNR=44							
ULN	**Ulaanbaatar**	**4.51**	**169**	*e*Pn		**Pn**	**14 29 33.0**	**-0.5**
ULN				*e*Pg		**Pg**	**14 29 47.9**	**-2.8**
ULN				*e*Sg		**Sg**	**14 30 44.9**	**-4.2**
ULN	**Ulaanbaatar**	**4.51**	**169⇓**	*i*Pn		**Pn**	**14 29 33.2**	**-0.2**
ULN				*e*			14 29 48.0	
ULN				*e*Sg		**Sg**	**14 30 42.4**	**-6.7**
CIT	**Chita**	**4.77**	**90⇓**	*i*Pn		**Pn**	**14 29 36.1**	**-0.9**
CIT				*e*			14 29 52.8	
CIT				max			14 30 01.9	
	comp=N,156nm,1.5s							
CIT				*e*Sn		**Sn**	**14 30 28.4**	**-4.3**
CIT				*e*Sg		**Sg**	**14 30 51.8**	**-5.5**
CIT				Smax			14 30 56.8	
	comp=N,907nm,1.3s							
KMO	**Kumora**	**4.79**	**39**	*e*PN		**Pn**	**14 29 38.2**	**+1.0**
KMO				*e*S		**Sn**	**14 30 30.9**	**-2.2**
KMO	**Kumora**	**4.79**	**39⇑**	*i*Pn		**Pn**	**14 29 38.2**	**+1.0**
KMO				*e*Pg		**Pg**	**14 29 51.9**	**-4.1**
KMO				Pmax			14 30 18.4	
	comp=N,95nm,0.4s							
KMO				*e*Sg		**Sg**	**14 30 55.8**	**-2.1**
KMO				Smax			14 31 15.5	
	comp=N,724nm,1.0s							
KPC	**Khapcheranga**	**4.89**	**120**	*e*PN		**Pg**	**14 29 53.5**	**-4.4**
KPC				*e*			14 30 55.9	
KPC				pmax	pmax			
	comp=Z,95nm,0.6s							
KPC				smax				
	comp=N,648nm,0.6s							
KPC	**Khapcheranga**	**4.89**	**120⇓**	*i*Pn		**Pn**	**14 29 36.6**	**-2.0**
KPC				⇑*i*			14 29 37.1	
KPC				*e*Pg		**Pg**	**14 29 53.5**	**-4.4**
KPC				Pmax			14 30 05.3	
	comp=N,103nm,1.6s							
KPC				*e*Sn		**Sn**	**14 30 30.2**	**-5.5**
KPC				*e*Sg		**Sg**	**14 30 55.9**	**-5.3**
KPC				Smax			14 31 02.9	
	comp=N,829nm,1.3s							
YOA	**Uoyan**	**5.17**	**40**	*e*PN		**Pg**	**14 30 00.0**	**-3.3**
YOA				*e*			14 31 08.7	
YOA				pmax	pmax			
	comp=Z,85nm,0.4s							
YOA				smax				
	comp=E,1μm,0.9s							
YOA	**Uoyan**	**5.17**	**40**	*e*		**Pg**	**14 29 59.6**	**-3.7**
YOA				*e*Sg		**Sg**	**14 31 09.9**	**-0.3**
YOA				Smax			14 31 45.7	
	comp=E,1μm,1.7s							
SVKR	**Severomuysk**	**5.93**	**47**	*e*		**Pg**	**14 30 23.3**	**+5.4**
SVKR				max			14 30 27.8	
	comp=E,53nm,0.3s							
SVKR				*i* Sg		**Sg**	**14 31 33.8**	**-0.9**
SVKR				Smax			14 32 03.0	
	comp=E,649nm,0.9s							
TDJR	**Todzha**	**5.96**	**275**	*e*		**Pb**	**14 30 08.0**	**-0.7**
TDJR				*e*			14 30 14.7	
TDJR				*i* Sg		**Sg**	**14 31 29.1**	**-6.5**
NLYR	**Nelyaty**	**7.13**	**50**	*e*PG		**Pg**	**14 30 37.1**	**-3.7**
NLYR	**Nelyaty**	**7.13**	**50**	*e*Pn		**Pn**	**14 30 10.3**	**+0.9**
NLYR				*e*			14 31 23.5	
NLYR				max			14 31 25.1	
	comp=E,28nm,0.7s							
NLYR				*e*Sg		**Sg**	**14 32 10.7**	**-2.4**
NLYR				Smax			14 32 16.1	
	comp=E,305nm,1.1s							
BOD	**Bodaibo**	**7.25**	**37**	*e*PG		**Pg**	**14 30 34.5**	**-8.6**
BOD				*e*S		**Sn**	**14 31 34.3**	**+0.5**
BOD				*e*			14 32 10.4	
BOD				pmax	pmax			
	comp=Z,11nm,0.5s							
BOD				smax				
	comp=E,154nm,1.4s							
BOD	**Bodaibo**	**7.25**	**37**	*i* Pn		**Pn**	**14 30 10.9**	**-0.1**
BOD				max			14 31 01.0	
	comp=E,11nm,0.6s							
BOD				*e*			14 31 55.9	
BOD				*e*Sg		**Sg**	**14 32 12.3**	**-4.6**
BOD				Smax			14 32 23.8	
	comp=E,154nm,1.6s							
ARDR	**Aradan**	**7.58**	**277**	*e*		**Pb**	**14 30 32.8**	**-3.5**
ARDR				*e*Sg		**Sg**	**14 32 18.7**	**-8.8**
CRS	**Chara**	**8.56**	**53**	*e*Pn		**Pn**	**14 30 30.3**	**+1.3**
CRS				*e*			14 31 06.6	
CRS				max			14 31 22.3	
	comp=E,13nm,0.7s							
CRS				*i* Sg		**Sg**	**14 32 54.0**	**-5.0**
CRS				Smax			14 33 28.7	
	comp=E,188nm,1.3s							
TUP	**Tupik**	**8.72**	**70**	*e*PG		**Pg**	**14 31 01.4**	**-10**
TUP				*e*			14 32 56.8	
TUP				pmax	pmax			
	comp=Z,23nm,0.6s							
TUP				smax				
	comp=N,299nm,1.1s							
TUP	**Tupik**	**8.72**	**70⇑**	*i*Pn		**Pn**	**14 30 30.7**	**-0.4**
TUP				max			14 31 11.0	
	comp=N,29nm,2.0s							
TUP				*i* Sg		**Sg**	**14 32 57.1**	**-6.7**
TUP				Smax			14 33 05.0	
	comp=N,307nm,1.3s							
HIA	**Hailar**	**9.33**	**103**	*e*Pn		**Pn**	**14 30 33.7**	**-5.8**
HIA	**Hailar**	**9.33**	**103**	*i* P		**Pn**	**14 30 37.8**	**-1.7**
HIA	**Hailar**	**9.33**	**103**	*e*		rx	14 32 48.6	
HIA				*e*Sg		Sx	14 33 14.6	
ZAA0	**Zalesovo Array**	**12.72**	**286**	*e*P		**Pn**	**14 31 28.4**	**+2.5**
ZALV	**Zalesovo Beam**	**12.72**	**286**	Pn		**Pn**	**14 31 28.5**	**+2.6**
	comp=N,0.2nm,0.3s,baz=91,slow=11,SNR=32							
ZALV				Lg			14 35 00.2	
	comp=N,0.2nm,0.3s,baz=101,slow=23,SNR=6.2							
ZAL	**Zalesovo**	**12.73**	**286**	P		**Pn**	**14 31 28.5**	**+2.5**
MKAR	**Makanchi Array**	**16.20**	**259**	Pn		**Pn**	**14 32 15.2**	**+2.4**
	comp=N,0.1nm,0.3s,baz=70,slow=7.9,SNR=8.4							
MKAR				Lg			14 36 55.6	
	comp=N,0.0nm,0.3s,baz=57,slow=40,SNR=2.9							
KLR	**Kul'dur**	**16.66**	**90**	*e*P		**Pn**	**14 32 18.4**	**-0.1**
KURK	**Kurchatov**	**16.97**	**275**	*e*Pn		**Pn**	**14 32 24.3**	**+1.8**
	comp=N,4.8nm,1.0s							
KURK	**Kurchatov**	**16.97**	**275**	*i* P		**Pn**	**14 32 22.5**	**0.0**
HABR	**Khabarovsk**	**18.96**	**90**	*e*P		**Pn**	**14 32 45.7**	**-1.3**
HABR				*e*S		**Sn**	**14 36 18.8**	**-0.7**
KSRS	**Korea Array**	**21.45**	**125**	P		**P**	**14 33 10.8**	**-2.8**
	comp=N,1.5nm,0.8s,mb3.4,baz=310,slow=10,SNR=3.0							
TIXI	**Tiksi**	**21.94**	**19**	*e*P		**P**	**14 33 17.9**	**-0.5**
	comp=N,5.0nm,0.6s,mb4.1							
TIXI	**Tiksi**	**21.94**	**19**	*e*P		**P**	**14 33 18.9**	**+0.4**
TIXI				pmax	pmax			
	comp=Z,7.0nm,0.9s,mb4.1							
TKM2	**Tokmak 2**	**22.29**	**257**	*e*P		**P**	**14 33 24.8**	**+2.3**
	comp=Z,2.4nm,0.7s,mb3.7							
TKM2	**Tokmak 2**	**22.29**	**257**	*e*P		**P**	**14 33 24.8**	**+2.3**
TKM2				pmax	pmax			
	comp=Z,20nm,0.7s,mb4.7							
EKS2	**Erkin-Say**	**23.53**	**259**	*e*P		**P**	**14 33 36.0**	**+0.4**
	comp=Z,2.1nm,0.9s,mb3.6							
AKTK	**Aktyubinsk**	**29.48**	**286**	P		**P**	**14 34 29.0**	**-0.2**
AKTO	**Aktyubinsk**	**29.48**	**286**	P		**P**	**14 34 29.0**	**-0.2**
AKTO				pmax	pmax			
	comp=Z,4.0nm,0.7s,mb4.3							
AKTO	**Aktyubinsk**	**29.48**	**286**	P		**P**	**14 34 29.0**	**-0.2**
	comp=Z,3.6nm,0.7s,mb4.2,baz=80,slow=9.8,SNR=16							
ARCES	**ARCESS Array B**	**39.18**	**327**	P		**P**	**14 35 52.9**	**0.0**
ARCES				pmax	pmax			
	comp=Z,2.0nm,0.8s							
ARCES	**ARCESS Array B**	**39.18**	**327**	P		**P**	**14 35 52.9**	**0.0**
	comp=Z,1.8nm,0.8s,mb3.8,baz=81,slow=11,SNR=3.8							
OBN	**Obninsk**	**39.56**	**302⇑**	*e*P		**P**	**14 35 52.4**	**-3.8**
OBN				*e*S		**S**	**14 41 56.1**	**-3.0**
OBN				pmax	pmax			
	comp=Z,8.0nm,0.7s,mb4.6							
OBN				MLR	MLR			
	comp=Z,100nm,17.0s,MS3.7							
FINES	**FINESS Array B**	**41.87**	**315**	*i* P		**P**	**14 36 15.6**	**+0.4**
FINES				pmax	pmax			
	comp=Z,20nm,0.8s							
FINES	**FINESS Array B**	**41.87**	**315**	P		**P**	**14 36 14.9**	**-0.2**
	comp=Z,1.9nm,0.8s,mb3.8,baz=79,slow=9.9,SNR=6.0							
SOC	**Sochi**	**43.70**	**286**	*e*P		**P**	**14 36 28.8**	**-1.5**
SOC				pmax	pmax			
	comp=Z,13nm,0.6s,mb4.8							
AKASG	**Malin Array Be**	**45.60**	**300**	P		**P**	**14 36 43.8**	**-1.5**
AKASG	**Malin Array Be**	**45.60**	**300**	P		**P**	**14 36 43.8**	**-1.5**
	comp=Z,0.1nm,0.2s,mb3.4,baz=51,slow=8.8,SNR=4.0							
PSI	**Prapat**	**49.67**	**189**	LR		LR	15 01 51.0	
	comp=Z,272nm,19.1s,MS4.3,baz=32,slow=40							
YKA	**Yellowknife Ar**	**61.19**	**20**	*i* P		**P**	**14 38 39.0**	**-0.6**
YKA				pmax	pmax			
	comp=Z,1.0nm,0.8s							
YKA	**Yellowknife Ar**	**61.19**	**20**	P		**P**	**14 38 36.1**	**-3.5**
	comp=Z,0.5nm,0.8s,mb3.7,baz=333,slow=7.0,SNR=8.4							
BATI	**Kupang**	**64.12**	**160**	LR		LR	15 11 45.6	
	comp=Z,322nm,18.3s,MS4.5,baz=4.7,slow=41							
WRA	**Warramunga Arr**	**76.11**	**152**	P		**P**	**14 40 11.5**	**-1.7**
	comp=Z,0.4nm,0.9s,mb3.4,baz=344,slow=6.0,SNR=5.9							
ASAR	**Alice Springs**	**79.53**	**154**	P		**P**	**14 40 31.2**	**-0.9**
ASAR				pmax	pmax			
	comp=Z,10.0nm,0.9s							
ASAR	**Alice Springs**	**79.53**	**154**	P		**P**	**14 40 31.1**	**-1.0**
	comp=Z,0.8nm,0.9s,mb3.7,baz=349,slow=5.7,SNR=8.3							

*ISCJB **03** 14:36:23.6±0.6, 74S×01×15595E±009, h10km, mb3.9/9, Error ellipse: s-maj=15.9km s-min=12.4km az=3.1*
*IDC **03** 14:36:24.5±2.0, 733S×15578E, h0km, mb4.1/8, mb1 4.1/8, mb1mx4.0/16, mbtmp4.1/8, Error ellipse: s-maj=66.7km s-min=23.1km az=119.0*
*NEIC **03** 14:36:25.4±0.4, 740S×15587E, h10km, mb4.1/1, Error ellipse: s-maj=12.7km s-min=8.9km az=188.0*
ISC 03 14:36:25.5±6.5, 74S±03×1559E±02, h10km±48km, n15, σ0°47/15, mb3.9/9, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.50**	**117**	*e*Pg		**Pg**	**14 37 51.8**	**0.0**
KAKA	**Kakadu**	**23.66**	**255**	*e*P		**P**	**14 41 36.9**	**-0.7**
WRA	**Warramunga Arr**	**24.31**	**237**	P		**P**	**14 41 43.9**	**+0.4**
	2.1nm,1.0s,mb3.5,baz=62,slow=9.6,SNR=5.7							
WRA				PcP		PcP	14 45 24.2	+0.7
	0.3nm,0.6s,baz=67,slow=2.7,SNR=5.0							
ASAR	**Alice Springs**	**26.57**	**230**	P		**P**	**14 42 04.2**	**+0.3**
	0.3nm,0.6s,mb3.0,baz=67,slow=8.2,SNR=6.7							
FITZ	**Fitzroy Crossi**	**31.30**	**247**	P		**P**	**14 42 46.1**	**0.0**
	1.0nm,0.6s,mb3.8,baz=143,slow=8.0,SNR=5.5							
ASAJ	**Asahikawa**	**52.67**	**348**	P		**P**	**14 45 40.5**	**+0.4**
	3.6nm,0.8s,mb4.3,baz=251,slow=12,SNR=3.7							
SONM	**Songino Array**	**70.16**	**327**	P		**P**	**14 47 38.8**	**+0.4**
SONM	**Songino Array**	**70.16**	**327**	P		**P**	**14 47 38.8**	**+0.4**
	1.6nm,0.6s,mb4.1,baz=142,slow=6.5,SNR=13							
BILL	**Bilibino**	**75.63**	**4**	*e*P		**P**	**14 48 10.7**	**+0.3**
MCK	**McKinley**	**82.11**	**22**	*e*P		**P**	**14 48 45.4**	**-0.6**
	0.9nm,0.5s,mb4.0							
MKAR	**Makanchi Array**	**84.29**	**319**	P		**P**	**14 48 57.9**	**+0.2**
	3.4nm,0.7s,mb4.6,baz=104,slow=5.6,SNR=33							
ZALV	**Zalesovo Beam**	**85.01**	**326**	P		**P**	**14 49 00.2**	**-1.0**
ZALV	**Zalesovo Beam**	**85.01**	**326**	P		**P**	**14 49 00.2**	**-1.0**
	2.5nm,0.6s,mb4.5,baz=115,slow=5.8,SNR=15							
YKA	**Yellowknife Ar**	**96.29**	**28**	P		**P**	**14 49 54.3**	**+0.3**
YKA	**Yellowknife Ar**	**96.29**	**28**	P		**P**	**14 49 54.3**	**+0.3**
	0.1nm,0.5s,mb3.5,baz=264,slow=4.6,SNR=4.8							

IDC 03 14:42:19.7±5.1, 767S×15690E, h0km, mb3.8/5, mb1 3.9/5, mb1mx3.7/14, mbtmp3.8/5, Error ellipse: s-maj=153.9km s-min=30.3km az=113.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**25.04**	**239**	P		P	14 47 46.0	+0.3
	1.0nm,0.6s,baz=63,slow=9.5,SNR=13							
ASAR	**Alice Springs**	**27.19**	**232**	P		P	14 48 04.6	-0.6
	0.5nm,0.8s,baz=70,slow=8.2,SNR=5.7							
SONM	**Songino Array**	**70.93**	**327**	P		P	14 53 38.1	-0.7
	0.7nm,0.9s,baz=145,slow=7.2,SNR=3.7							
MKAR	**Makanchi Array**	**85.16**	**318**	P		P	14 54 59.3	+1.4
	1.5nm,0.6s,baz=98,slow=6.1,SNR=17							
ZALV	**Zalesovo Beam**	**85.80**	**326**	P		P	14 55 00.5	-0.4
	1.0nm,0.5s,baz=114,slow=6.1,SNR=5.6							

*IDC **03** 14:45:17.0±0.6, 700S×15604E, h0km, mb4.6/15, mb1 4.7/15, mb1mx4.6/18, mbtmp4.6/15, Error ellipse: s-maj=24.5km s-min=14.2km az=81.0*
*NEIC **03** 14:45:19.0±0.3, 696S×15593E, h10km, mb4.7/13, Error ellipse: s-maj=9.6km s-min=8.3km az=68.0*
*BJI **03** 14:45:21.9, 648S×15537E, h10km, mB5.0, mb4.7*
*ISCJB **03** 14:45:24.2±2.1, 702S±007×15592E±007, h63km±20km, mb4.7/28, Error ellipse: s-maj=12.2km s-min=11.6km az=21.1*
ISC 03 14:45:26.4±1.8, 704S±007×15591E±008, h68km±18km, n53, σ0°62/49, mb4.6/28, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.65**	**121**	*e*Pn		**Pn**	**14 46 32.5**	**-1.7**
HNR	**Honiara**	**4.65**	**121**	Pn		**Pn**	**14 46 32.7**	**-1.4**
	22nm,0.3s,baz=288,slow=1.5,SNR=6.5							
HNR				Sn		**Sn**	**14 47 28.2**	**+1.4**
	62nm,0.3s,baz=90,slow=20,SNR=5.4							
CTA	**Charters Tower**	**16.00**	**215**	*e*P		**Pn**	**14 49 11.8**	**+4.4**
	7.2nm,0.6s							
CTA	**Charters Tower**	**16.00**	**215**	Pn		**Pn**	**14 49 12.0**	**+4.6**
	1.0nm,0.3s,baz=34,slow=14,SNR=9.8							
CTAO	**Charters Tower**	**16.00**	**215**	*e*P		**Pn**	**14 49 11.7**	**+4.2**
	20nm,0.8s							
ARMA	**Armidale**	**23.61**	**189**	*e*P		**P**	**14 50 31.8**	**+0.5**
KAKA	**Kakadu**	**23.79**	**254**	*e*P		**P**	**14 50 33.8**	**+0.6**
	19nm,0.4s,mb4.8							
WB2	**Warramunga Arr**	**24.54**	**236**	*e*P		**P**	**14 50 40.6**	**+0.7**
WRA	**Warramunga Arr**	**24.55**	**236**	P		**P**	**14 50 40.7**	**+0.7**
	24nm,0.7s,mb4.7,baz=61,slow=9.8,SNR=99							
WRA				PcP		PcP	14 54 16.6	-0.2
	2.4nm,0.8s,baz=67,slow=2.8,SNR=5.3							
ASAR	**Alice Springs**	**26.83**	**230**	P		**P**	**14 51 00.5**	**-0.1**
	2.2nm,0.4s,mb4.0,baz=59,slow=10,SNR=62							
ASAR				PcP		PcP	14 54 22.2	+0.2
	1.0nm,0.6s,baz=75,slow=2.9,SNR=4.6							
STKA	**Stephens Creek**	**28.09**	**207**	*e*P		**P**	**14 51 11.2**	**-0.6**
	5.0nm,0.8s,mb4.1							
STKA	**Stephens Creek**	**28.09**	**207**	P		**P**	**14 51 11.4**	**-0.4**
	3.3nm,0.8s,mb3.9,baz=23,slow=15,SNR=4.8							
CNB	**Canberra Magne**	**28.78**	**191**	*e*P		**P**	**14 51 18.1**	**+0.2**
	12nm,0.8s,mb4.6							
FITZ	**Fitzroy Crossi**	**31.47**	**247**	*e*P		**P**	**14 51 41.8**	**-0.1**
	16nm,0.6s,mb4.9							
FITZ	**Fitzroy Crossi**	**31.47**	**247**	P		**P**	**14 51 41.9**	**0.0**
	10.0nm,0.6s,mb4.7,baz=85,slow=9.4,SNR=39							
URZ	**Urewera**	**36.53**	**151**	P		**P**	**14 52 24.6**	**-0.9**
	12nm,1.0s,mb4.8,baz=295,slow=19,SNR=3.9							
MBWA	**Marble Bar**	**37.68**	**244**	*e*P		**P**	**14 52 34.0**	**-1.5**
	12nm,0.8s,mb4.8							
RPZ	**Rata Peaks**	**38.88**	**162**	P		**P**	**14 52 44.6**	**-0.6**
	25nm,0.8s,mb5.1,baz=294,slow=1.4,SNR=11							
KLBR	**Kellerberrin**	**43.16**	**230**	*e*P		**P**	**14 53 20.0**	**-0.6**
	19nm,0.5s,mb5.1							
MUN	**Mundaring**	**44.51**	**231**	*e*P		**P**	**14 53 31.5**	**+0.1**
KSM	**Kuching**	**46.29**	**279**	*e*P		**P**	**14 53 45.7**	**-0.1**
MJAR	**Matsushiro Arr**	**46.42**	**340**	P		**P**	**14 53 46.5**	**+0.2**
	1.2nm,0.7s,mb3.7,baz=154,slow=8.8,SNR=3.8							
JNU	**Nakatsue**	**46.49**	**331**	P		**P**	**14 53 46.4**	**-0.6**
	13nm,0.8s,mb4.7,baz=200,slow=6.5,SNR=5.3							
KSRS	**Korea Array**	**51.40**	**331**	P		**P**	**14 54 24.8**	**+0.3**
	3.6nm,0.6s,mb4.6,baz=144,slow=7.4,SNR=10							
PMOR	**Pomariorio Ree**	**55.60**	**103**	*e*P		**P**	**14 54 55.3**	**-0.4**
	29nm,1.0s,mb5.3							
KMI	**Kunming**	**60.80**	**304**	P		**P**	**14 55 32.1**	**+0.3**
KMI				AMB		AMB		
	comp=Z,5.0nm,1.4s,mb4.3							
KMI	**Kunming**	**60.80**	**304**	P		**P**	**14 55 32.1**	**+0.3**
	comp=Z,5.0nm,1.4s,mb4.3							
SONM	**Songino Array**	**69.86**	**327**	P		**P**	**14 56 31.0**	**+1.0**
	comp=Z,10nm,0.8s,mb4.7,baz=138,slow=7.2,SNR=50							
VNDA	**Vanda**	**70.52**	**179**	P		**P**	**14 56 33.9**	**+0.4**
	comp=Z,2.5nm,0.9s,mb4.0,baz=340,slow=6.5,SNR=10							
BILL	**Bilibino**	**75.25**	**4**	*e*P		**P**	**14 57 01.4**	**-0.2**
	comp=Z,4.4nm,1.1s,mb4.1							
JIRN	**Jiri**	**75.59**	**301**	*e*P		**P**	**14 57 04.3**	**0.0**
	comp=Z,7.7nm,0.5s,mb4.7							
KKN	**Kakani**	**76.40**	**301**	*e*P		**P**	**14 57 09.0**	**0.0**
	comp=Z,37nm,1.0s,mb5.1							
GKN	**Gorkha**	**77.00**	**301**	*e*P		**P**	**14 57 12.6**	**+0.2**
	comp=Z,99nm,1.2s,mb5.4							
BLSP	**Bilaspur**	**77.79**	**294**	*e*P		**P**	**14 57 17.1**	**+0.2**
KOLN	**Koldanda**	**77.83**	**300**	*e*P		**P**	**14 57 17.3**	**+0.3**
	comp=Z,30nm,0.8s,mb5.0							
BHPL	**Bhopal**	**82.27**	**295**	*e*P		**P**	**14 57 40.9**	**-0.1**
QSPA	**South Pole Qui**	**82.94**	**180**	*e*P		**P**	**14 57 43.6**	**+0.2**
	comp=Z,20nm,0.9s,mb4.9							
MKAR	**Makanchi Array**	**84.04**	**318**	P		**P**	**14 57 50.2**	**+0.6**
	comp=Z,8.1nm,0.7s,mb4.7,baz=100,slow=5.8,SNR=103							
SMLA	**Simla**	**84.06**	**302**	*e*P		**P**	**14 57 49.8**	**-0.3**
KAD	**Karad**	**84.24**	**288**	*e*P		**P**	**14 57 50.7**	**-0.5**
MAW	**Mawson**	**84.71**	**203**	P		**P**	**14 57 52.8**	**+0.2**
	comp=Z,3.7nm,0.6s,mb4.5,baz=107,slow=4.8,SNR=12							
ZAA0	**Zalesovo Array**	**84.72**	**326**	*e*P		**P**	**14 57 52.4**	**-0.5**
ZALV	**Zalesovo Beam**	**84.72**	**326**	P		**P**	**14 57 52.2**	**-0.7**
ZALV	**Zalesovo Beam**	**84.72**	**326**	P		**P**	**14 57 52.2**	**-0.7**
	comp=Z,4.5nm,0.6s,mb4.6,baz=118,slow=5.8,SNR=24							
AJM	**Ajmer**	**85.35**	**297**	*e*P		**P**	**14 57 56.3**	**-0.4**
AML	**Almayashu**	**88.93**	**313**	*e*P		**P**	**14 58 14.8**	**+1.2**
	comp=Z,3.3nm,0.8s,mb4.4							
YKA	**Yellowknife Ar**	**95.95**	**28**	P		**P**	**14 58 45.5**	**0.0**
YKA	**Yellowknife Ar**	**95.95**	**28**	P		**P**	**14 58 45.5**	**0.0**
	comp=Z,0.1nm,0.4s,mb3.6,baz=261,slow=5.2,SNR=4.1							
AKASG	**Malin Array Be**	**118.10**	**325**	PKP		PKPdf	15 04 04.3	-1.4
	comp=Z,0.9nm,0.5s,baz=56,slow=2.1,SNR=8.3							
GERES	**GERESS Array B**	**127.56**	**329**	PKP		PKPdf	15 04 24.0	+0.1
	comp=Z,1.1nm,0.7s,baz=48,slow=2.0,SNR=9.2							
BDFB	**Brasilia**	**147.30**	**134**	PKPbc		PKPbc	15 05 02.8	-0.4
	comp=Z,11nm,0.7s,baz=197,slow=2.9,SNR=16							
TORD	**Torodi Ar. Bea**	**153.92**	**286**	PKPbc		PKPbc	15 05 18.3	-0.9
TORD				PKPab		PKPab	15 05 31.7	-0.8
TORD	**Torodi Ar. Bea**	**153.92**	**286**	PKPbc		PKPbc	15 05 18.3	-0.9
	comp=Z,2.4nm,0.7s,baz=74,slow=1.9,SNR=12							
TORD				PKPab		PKPab	15 05 31.7	-0.8
	comp=Z,1.7nm,0.6s,baz=75,slow=2.5,SNR=6.6							

*IDC **03** 14:45:31.4±0.8, 699S×15589E, h0km, mb4.5/12, mb1 4.6/12, mb1mx4.5/16, mbtmp4.5/12, MS3.7/1, Ms1 3.7/1, ms1mx3.0/26, Error ellipse: s-maj=30.8km s-min=17.2km az=99.0*
*NEIC **03** 14:45:33.2±0.6, 703S×15584E, h10km, mb4.8/2, Error ellipse: s-maj=22.6km s-min=12.8km az=114.0*
*ISCJB **03** 14:45:35.5±0.7, 702S±008×1558E±01, h33km, mb4.5/14, Error ellipse: s-maj=21.2km s-min=10.3km az=14.1*
ISC 03 14:45:37.6±0.7, 704S±008×1558E±02, h35km, n29, σ0°81/24, mb4.5/14, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.76**	**120**	LR		LR	14 48 17.0	
	comp=Z,951nm,21.0s,baz=350,slow

ASAR PcP PcP 14 58 06.1 -0.9
1.1nm,0.8s,baz=112,slow=3.6,SNR=6.4
FITZ Fitzroy Crossi 41.25 266 P **P 14 56 34.3 +0.6**
1.7nm,0.8s,mb3.7,baz=96,slow=17,SNR=2.8
SBA Scott Base 57.22 181 *eP* **P 14 58 35.9 +0.9**
8.8nm,1.0s,mb4.7
MJAR Matsushiro Art 64.10 332 P **P 14 59 21.8 -0.6**
3.2nm,0.8s,mb4.4,baz=151,slow=7.2,SNR=6.7
QSPA South Pole Qui 69.36 180 *eP* **P 14 59 55.2 -0.1**
11nm,0.8s,mb4.8
CN2 Changchun 75.77 329 *eP* **P 15 00 34.4 +0.5**
CN2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.8
VNA3 Neumayer Olymp 88.30 180 *e* **P 15 01 38.2 -1.1**
VNA3 *e* 15 01 41.3
VNA3 *e* pP 15 01 49.0 -0.4
VNA3 *e* 15 01 52.4
SONM Songino Array 88.46 323 P **P 15 01 40.6 +0.4**
comp=Z,2.2nm,0.8s,mb4.4,baz=141,slow=5.6,SNR=12
VNA1 Neumayer--Stat 88.89 181 *e* **P 15 01 41.9 -0.1**
VNA1 *e* 15 01 44.3
VNA1 *e* pP 15 01 52.2 0.0
NVAR Mina Array Bea 89.66 48 P **P 15 01 46.3 +0.2**
comp=Z,0.8nm,0.8s,mb4.1,baz=213,slow=5.8,SNR=6.3
ARCES ARCESS Array B 126.50 345 PKP PKPdf 15 07 48.5 -1.9
comp=Z,2.9nm,0.7s,baz=72,slow=4.0,SNR=12
FINES FINESS Array B 131.98 337 PKP PKPdf 15 07 59.5 -1.5
comp=Z,1.1nm,0.7s,baz=114,slow=2.8,SNR=6.3
NOA NORSAR Array B 136.88 345 PKP PKPdf 15 08 07.8 -2.4
comp=Z,1.2nm,0.8s,baz=30,slow=2.0,SNR=3.5
DPC Dobruska-Polom 143.56 331 *e*PKP PKPdf 15 08 19.7 -2.9
DPC *e*pPKP pPKPdf 15 08 30.5 -2.6
UPC Upice 143.59 331 *e*PKP PKPdf 15 08 19.7 -3.0
PVCC Panska Ves 144.22 332 *e*PKP PKPdf 15 08 21.9 -1.9
BRG Berggiesshubel 144.23 333 *i* P PKPdf 15 08 21.3 -2.5
BRG Berggiesshubel 144.23 333 *e*PKPbc PKPdf 15 08 21.2 -2.6
BRG Berggiesshubel 144.23 333 *i* P PKPdf 15 08 21.3 -2.5
comp=Z,12nm,0.8s
CLL Collm 144.29 334 *e*PKPbc PKPdf 15 08 21.3 -2.6
CLL Collm 144.29 334 ⇑*i*PKPdf PKPdf 15 08 21.4 -2.5
comp=Z,11nm,0.7s
NRDL Niedersach Rie 144.43 338 *e*PKPbc PKPdf 15 08 21.7 -2.4
PRU Pruhonice 144.62 332 *e*PKP PKPdf 15 08 23.0 -1.5
CLZ Clausthal 144.87 337 *e*PKPbc PKPdf 15 08 23.1 -1.8
EKA Eskdalemuir Ar 144.96 353 PKPbc PKPdf 15 08 22.9 -2.1
comp=Z,5.0nm,0.6s,baz=356,slow=2.2,SNR=13
TANN Tannenbergstha 145.19 334 *e*PKPbc PKPbc 15 08 24.4 -0.7
NKC Novy Kostel 145.34 334 *e*P PKPbc 15 08 25.3 -0.3
NKC *e* 15 08 37.1
NKC Novy Kostel 145.34 334 *e*PKP PKPdf 15 08 25.3 -0.4
NKC *ep*PKP pPKPdf 15 08 37.1 +0.9
MOX Moxa 145.36 335 *e*PKPbc PKPbc 15 08 25.0 -0.6
IBBN Ibbenburen 145.37 340 *e*PKPbc PKPbc 15 08 25.0 -0.6
CONA Conrad Observa 145.45 328⇑*e*PKPab PKPab 15 08 26.2 0.0
comp=Z,12nm,0.8s
MANZ Manzenberg 145.67 334 *e*PKPbc PKPbc 15 08 25.2 -1.4
KHC Kasperske Hory 145.68 331 *e*PKP PKPdf 15 08 26.3 0.0
KHC *ep*PKP pPKPdf 15 08 37.6 +0.8
ROTZ Rotzenmuhle 145.79 333 *e*PKPbc PKPbc 15 08 26.7 -0.3
GEC2 GERESS Array S 145.83 331 *e*PKPbc PKPbc 15 08 26.3 -0.9
GERES GERESS Array B 145.83 331 PKPbc PKPbc 15 08 27.0 -0.2
comp=Z,3.8nm,0.5s,baz=30,slow=3.8,SNR=32
GRA1 Grafenberg Arr 146.26 334 *e*PKPbc PKPbc 15 08 28.2 -0.2
GRF Grafenberg Arr 146.26 334 *e*PKPbc PKPbc 15 08 28.2 -0.2
CRES Cresnjev 147.06 326 *i* PKPbc PKPbc 15 08 30.2 -0.7
BOJS Bojanci 147.38 325 *i* PKPbc PKPbc 15 08 31.4 -0.4
LJU Ljubljana 147.40 327 *i* PKPbc PKPbc 15 08 31.1 -0.7
CEY Cerknica 147.66 326 *i* PKPbc PKPbc 15 08 31.7 -0.9
WTTA Wattenberg 147.93 331⇑*i*P PKPdf 15 08 28.1 -2.1
comp=Z,4.6nm,0.5s
MOTA Moosalm 148.11 332⇑*eP* PKPdf 15 08 32.7 +2.2
comp=Z,4.9nm,0.9s
GIVF Givet 148.21 341 *e*PKP1 PKPbc 15 08 32.9 -1.0
BFO Black Forest 148.50 336 *e*PKPbc PKPbc 15 08 33.7 -1.0
FETA Feichten 148.52 332⇑*i*PKPbc PKPbc 15 08 34.0 -0.8
comp=Z,5.1nm,0.7s
CDF Champ du Feu 148.83 337 *e*PKP1 PKPbc 15 08 34.5 -1.0
comp=Z,5.5nm,0.6s
DAVOX Davos/Dischmat 149.08 332 PKPbc PKPbc 15 08 35.6 -0.7
comp=Z,7.8nm,0.6s,baz=34,slow=3.1,SNR=8.3
HAU Haudompre 149.51 337 *e*PKP1 PKPbc 15 08 35.6 -1.6
CABF La Chapelle 150.78 336 *e*PKP1 PKPbc 15 08 39.9 -0.4
comp=Z,8.7nm,0.5s
FLN La Foliniere 150.84 346 *e*PKP1 PKPbc 15 08 39.1 -1.3
comp=Z,19nm,0.6s
LDF La Druitiere 150.92 346 *e*PKP1 PKPbc 15 08 39.2 -1.4
comp=Z,7.1nm,0.5s
LOR Lormes 151.00 339 *e*PKP1 PKPbc 15 08 39.9 -1.0
comp=Z,12nm,0.7s
GRR Gorron 151.28 346 *e*PKP1 PKPbc 15 08 40.2 -1.3
comp=Z,17nm,0.6s
SSF Saint Saulge 151.30 340 *e*PKP1 PKPbc 15 08 40.6 -1.0
comp=Z,8.9nm,0.6s
LPL La Plagne 151.42 334 *e*PKP1 PKPbc 15 08 41.4 -0.5
comp=Z,9.0nm,0.6s
LPG La Plagne 151.43 334 *e*PKP1 PKPbc 15 08 41.5 -0.4
comp=Z,7.7nm,0.5s
SGMF Saint Gilles 151.75 349 *e*PKP1 PKPbc 15 08 41.1 -1.4
comp=Z,20nm,0.7s
ROSF Rostrenen 151.80 350 *e*PKP1 PKPbc 15 08 41.0 -1.7
comp=Z,5.3nm,0.4s
BGF Bois d'Agland 151.96 340 *e*PKP1 PKPbc 15 08 41.9 -1.2
MBDF Montbardon 152.04 333 *e*PKP1 PKPbc 15 08 42.2 -1.1
comp=Z,4.7nm,0.6s
QUIF Quistinic 152.18 349 *e*PKP1 PKPbc 15 08 41.9 -1.6
ORIF Oris-en-Rattie 152.26 334 *e*PKP1 PKPbc 15 08 42.9 -0.9
comp=Z,13nm,0.6s
TCF Toulx Ste Croi 152.40 341 *e*PKP1 PKPbc 15 08 42.9 -1.2
comp=Z,5.7nm,0.5s
PGF Pioggiola 152.68 327 *e*PKP1 PKPbc 15 08 43.7 -1.1
comp=Z,27nm,0.8s
MFF Saint Martin d 152.78 344 *e*PKP1 PKPbc 15 08 44.2 -0.7

IDC 03 14:51:38.7±2.1,241N×12647E,h0km,mb3.4/3,mb1 3.6/3, mb1mx3.4/16,mbtmp3.4/3,Error ellipse: s-maj=180.7km s-min=24.8km az=66.0,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.52**	**161**	P	P	14 56 50.0	-0.7
	1.2nm,0.6s,baz=340,slow=11,SNR=6.9						
ASAR	**Alice Springs**	**26.91**	**165**	P	P	14 57 22.6	+0.9
	0.2nm,0.3s,baz=350,slow=10,SNR=4.5						
MKAR	**Makanchi Array**	**58.49**	**326**	P	P	15 01 36.5	-0.2
	0.2nm,0.5s,baz=110,slow=6.7,SNR=3.9						

*IDC **03** 14:53:39.4±1.2,703S×15557E,h0km,mb3.8/5,mb1 3.9/7, mb1mx3.8/16,mbtmp3.9/7,ML4.0/2,MS4.6/1,Ms1 4.6/1, ms1mx3.3/29,Error ellipse: s-maj=30.9km s-min=25.7km az=66.0*

NEIC 03 14:53:40.9±0.8,702S×15558E,h10km,Error ellipse: s-maj=22.2km s-min=13.4km az=216.0,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.94**	**119**	Pn	Pn	14 54 54.9	-0.4
HNR				Sn	Sn	14 55 45.1	-7.4
HNR	**Honiara**	**4.94**	**119**	Pn	Pn	14 54 54.5	-0.8
	3.6nm,0.3s,baz=240,slow=2.2,SNR=2.4						
HNR				Sn	Sn	14 55 45.1	-7.4
	9.0nm,0.3s,baz=274,slow=19,SNR=4.7						
DZM	**Mont Dzumac**	**18.27**	**146**	P	Pn	14 57 55.4	+0.7
	0.8nm,0.3s,baz=325,slow=20,SNR=6.1						
WRA	**Warramunga Arr**	**24.29**	**236**	P	P	14 58 57.9	-0.7
	0.5nm,0.6s,baz=64,slow=9.4,SNR=4.1						
ASAR	**Alice Springs**	**26.60**	**229**	P	P	14 59 20.2	+0.6
	0.4nm,0.9s,baz=57,slow=9.2,SNR=4.2						
RAO	**Raoul Island**	**33.36**	**135**	LR	LR	15 10 39.4	
	comp=Z,1μm,20.6s,baz=123,slow=31						
SONM	**Songino Array**	**69.67**	**327**	P	P	15 04 52.1	+1.5
	0.7nm,0.7s,baz=146,slow=6.4,SNR=4.9						
MKAR	**Makanchi Array**	**83.81**	**319**	P	P	15 06 10.9	+0.3
	1.9nm,0.7s,baz=104,slow=6.1,SNR=18						
ZALV	**Zalesovo Beam**	**84.52**	**326**	P	P	15 06 12.8	-1.3
ZALV	**Zalesovo Beam**	**84.52**	**326**	P	P	15 06 12.8	-1.2
	1.0nm,0.5s,baz=116,slow=4.6,SNR=4.6						

IDC 03 14:56:33.5±2.4,800S×15574E,h0km,mb3.6/6,mb1 3.7/6, mb1mx3.6/14,mbtmp3.6/6,Error ellipse: s-maj=84.2km s-min=27.8km az=123.0,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.89**	**238**	P	P	15 01 48.3	-0.8
	0.4nm,0.4s,baz=60,slow=9.3,SNR=7.1						
ASAR	**Alice Springs**	**26.09**	**231**	P	P	15 02 10.0	+0.9
	0.3nm,1.0s,baz=56,slow=12,SNR=2.9						
SONM	**Songino Array**	**70.58**	**327**	P	P	15 07 52.0	+1.5
	0.1nm,0.3s,baz=122,slow=7.3,SNR=3.7						
MKAR	**Makanchi Array**	**84.64**	**319**	P	P	15 09 08.9	-0.2
	1.0nm,0.8s,baz=100,slow=5.8,SNR=10						
ZALV	**Zalesovo Beam**	**85.42**	**326**	P	P	15 09 11.8	-1.0
	0.7nm,0.5s,baz=94,slow=4.5,SNR=4.4						
YKA	**Yellowknife Ar**	**96.87**	**28**	P	P	15 10 06.2	-0.1
	0.1nm,0.5s,baz=264,slow=4.3,SNR=3.5						

IDC 03 15:00:12.1±1.3,810S×15750E,h0km,mb3.6/5,mb1 3.6/6, mb1mx3.5/15,mbtmp3.6/6,ML3.5/1,Error ellipse: s-maj=34.1km s-min=31.9km az=31.0,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.76**	**119**	Pn	Pn	15 00 57.3	-0.3
	7.1nm,0.3s,baz=253,slow=9.1,SNR=3.5						
HNR				Sn	Sn	15 01 37.0	+5.3
	5.6nm,0.3s,baz=267,slow=5.2,SNR=2.7						
WRA	**Warramunga Arr**	**25.32**	**240**	P	P	15 05 41.6	+0.8
	0.3nm,0.6s,baz=65,slow=9.2,SNR=4.3						
ASAR	**Alice Springs**	**27.40**	**233**	P	P	15 05 58.6	-0.9
	0.2nm,0.8s,baz=58,slow=9.9,SNR=2.8						
SONM	**Songino Array**	**71.61**	**326**	P	P	15 11 35.9	+0.5
	0.2nm,0.3s,baz=136,slow=5.1,SNR=3.3						
MKAR	**Makanchi Array**	**85.87**	**318**	P	P	15 12 54.4	+0.6
	0.9nm,0.7s,baz=101,slow=5.9,SNR=12						
ZALV	**Zalesovo Beam**	**86.48**	**326**	P	P	15 12 56.0	-0.7
	0.6nm,0.5s,baz=123,slow=5.3,SNR=3.5						

*NEIC **03** 15:05:27.4,3832N×2049E,h12km,MD3.5(ATH),After ATH.*
*ATH **03** 15:05:27.4,3831N×2048E,h13km±1km,MD3.5/6*
*ISCJB **03** 15:05:28.1±0.7,3835N±003×2056E±006,h10km,Error ellipse: s-maj=7.1km s-min=3.9km az=162.0*
*CSEM **03** 15:05:28.7±0.2,3833N×2055E,h0km±2km,MD3.5,Error ellipse: s-maj=4.8km s-min=2.5km az=75.0*
*THE **03** 15:05:30.7,3846N×2052E,h3km,ML3.3*
ISC 03 15:05:28.1±0.8,3833N±003×2053E±007,h1km±8km,n12, σ0§84/18,1D,Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.16**	**164**	⇓*i*PG	**Pg**	**15 05 31.4**	**+0.3**
VLS				*e*SG	**Sg**	**15 05 34.5**	**+1.3**
LKD	**Levkas**	**0.39**	**14**	*e*Pg	**Pg**	**15 05 35.1**	**-0.4**
LKD				*e*Sg	**Sg**	**15 05 40.7**	**+0.2**
RLS	**Riolos of Patr**	**0.79**	**110**	*e*PB	**Pb**	**15 05 43.2**	**-1.3**
RLS				*e*SB	**Sb**	**15 05 54.5**	**-1.2**
EVR	**Evrytania**	**1.16**	**59**	*e*PG	**Pg**	**15 05 49.9**	**-0.4**
IGT	**Igoumenitsa**	**1.21**	**353**	*e*Pg	**Pg**	**15 05 50.5**	**-0.8**
IGT				*e*Sg	**Sg**	**15 06 06.9**	**0.0**
KEK	**Kerkira**	**1.49**	**338**	*e*PB	**Pb**	**15 05 55.6**	**-1.0**
KEK				*e*SB	**Sb**	**15 06 16.1**	**+0.1**
MEV	**Metsovon**	**1.55**	**20**	*e*Pg	**Pg**	**15 05 58.0**	**+0.3**
AGG	**Agios Georgios**	**1.57**	**63**	*e*Pg	**Pg**	**15 05 58.5**	**+0.4**
AGG				*e*Sg	**Sg**	**15 06 19.3**	**+0.8**
ITM	**Ithomi**	**1.60**	**136**	*e*PG	**Pg**	**15 05 57.3**	**-1.3**
LIT	**Litokhoron**	**2.33**	**40**	*e*Pn	**Pn**	**15 06 08.9**	**+1.4**
VLI	**Veliai**	**2.50**	**129**	*e*PN	**Pn**	**15 06 10.7**	**+0.8**
FNA	**Florina**	**2.53**	**15**	*e*Pn	**Pn**	**15 06 11.2**	**+0.8**

IDC 03 15:05:51.0±3.5,705S×15509E,h0km,mb3.6/4,mb1 3.7/4, mb1mx3.6/14,mbtmp3.6/4,Error ellipse: s-maj=108.2km s-min=31.1km az=116.0,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.86**	**235**	P	P	15 11 06.5	+0.2
	0.5nm,0.7s,baz=61,slow=9.5,SNR=5.2						
ASAR	**Alice Springs**	**26.20**	**229**	P	P	15 11 27.1	-0.5
	0.3nm,0.6s,baz=59,slow=9.7,SNR=7.4						
MKAR	**Makanchi Array**	**83.50**	**319**	P	P	15 18 20.9	+0.2
	0.7nm,0.8s,baz=106,slow=5.6,SNR=7.4						
ZALV	**Zalesovo Beam**	**84.27**	**326**	P	P	15 18 24.8	+0.3
	0.3nm,0.3s,baz=113,slow=3.7,SNR=2.6						

IDC 03 15:07:14.7±7.2,893N×9329E,h0km,mb3.6/3,mb1 3.8/3, mb1mx3.5/21,mbtmp3.6/3,Error ellipse: s-maj=374.7km s-min=27.4km az=59.0,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**38.89**	**348**	P	P	15 14 41.8	0.0
	0.4nm,0.5s,baz=167,slow=8.6,SNR=7.7						
WRA	**Warramunga Arr**	**49.55**	**126**	P	P	15 16 08.2	+0.4
	0.8nm,0.6s,baz=307,slow=8.5,SNR=8.5						
ASAR	**Alice Springs**	**51.23**	**130**	P	P	15 16 19.9	-0.4
	0.8nm,0.8s,baz=303,slow=8.5,SNR=8.9						

IDC 03 15:11:24.8±2.0,212S×12609E,h0km,mb3.3/2,mb1 3.4/3, mb1mx3.3/16,mbtmp3.3/3,ML3.4/1,Error ellipse: s-maj=171.1km s-min=27.3km az=65.0,Ceram Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.47**	**156**	P	Pn	15 15 53.6	-0.9
	0.1nm,0.3s,baz=334,slow=11,SNR=7.1						
ASAR	**Alice Springs**	**22.72**	**161**	P	P	15 16 28.6	+0.1
	0.3nm,0.4s,baz=347,slow=12,SNR=8.2						
MKAR	**Makanchi Array**	**62.03**	**327**	P	P	15 21 47.1	0.0
	0.5nm,0.8s,baz=110,slow=5.7,SNR=4.0						

*NEIC **03** 15:19:36.5±0.5,2108S×16833E,h10km,mb4.7/8,Error ellipse: s-maj=16.5km s-min=11.9km az=142.0*
*ISCJB **03** 15:19:37.1±0.6,2111S±0.1×16837E±009,h25km,mb4.4/13, MS4.8/2,Error ellipse: s-maj=15.6km s-min=9.7km az=150.6*
*IDC **03** 15:19:38.7±0.7,2106S×16832E,h25km±3km,mb4.0/9, mb1 4.2/10,mb1mx4.1/16,mbtmp4.1/10,MS4.1/3, Ms1 4.1/3,ms1mx3.4/21,Error ellipse: s-maj=21.1km s-min=16.5km az=157.0*
*SZGRF **03** 15:19:40.2,2129S×16827E,h27km,Loyalty Islands*
ISC 03 15:19:39.1±0.6,211S±01×16833E±009,h26km, h26km±4km:pP-P,n55,σ0§98/26,mb4.4/13,MS4.8/2,1C, Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**2.01**	**240**	*e*P	**Pn**	**15 20 09.6**	**-1.7**
DZM	**Mont Dzumac**	**2.01**	**240**	Pn	**Pn**	**15 20 09.5**	**-1.8**
	18nm,0.3s,baz=62,slow=18,SNR=173						
DZM				Sn	**Sn**	**15 20 36.5**	**+0.8**
	84nm,0.3s,baz=32,slow=19,SNR=11						
RAO	**Raoul Island**	**14.86**	**126**	LR	LR	15 27 10.6	
	comp=Z,44nm,19.7s,baz=356,slow=30						
CTA	**Charters Tower**	**20.69**	**269**	*e*P	**P**	**15 24 20.7**	**+3.3**
	13nm,1.5s						
CTA	**Charters Tower**	**20.69**	**269**	P	**P**	**15 24 18.7**	**+1.3**
	6.9nm,0.7s,baz=83,slow=10,SNR=5.5						
CTAO	**Charters Tower**	**20.69**	**269**	*e*P	**P**	**15 24 19.3**	**+2.0**
	16nm,1.0s						
STKA	**Stephens Creek**	**26.17**	**240**	*e*P	**P**	**15 25 11.8**	**+0.4**
	7.5nm,1.0s,mb4.2						
STKA	**Stephens Creek**	**26.17**	**240**	P	**P**	**15 25 12.7**	**+1.3**
	2.6nm,0.7s,mb3.9,baz=80,slow=14,SNR=6.4						
STKA				pP	pP	15 25 19.9	+0.8
	6.0nm,0.9s,baz=90,slow=12,SNR=6.0						
WRA	**Warramunga Arr**	**31.82**	**266**	P	**P**	**15 26 00.1**	**-1.8**
	1.4nm,0.7s,mb3.9,baz=106,slow=7.4,SNR=14						
WRA				pP	pP	15 26 07.8	-2.0
	5.5nm,1.1s,baz=95,slow=9.1,SNR=11						
ASAR	**Alice Springs**	**31.89**	**259**	P	**P**	**15 26 01.6**	**-0.9**
	4.5nm,0.7s,mb4.4,baz=86,slow=8.9,SNR=77						
ASAR				pP	pP	15 26 09.2	-1.1
	7.8nm,1.0s,baz=77,slow=8.7,SNR=11						
ASAR				pPcP		15 29 00.2	
	1.3nm,1.1s,baz=95,slow=5.7,SNR=4.2						
FITZ	**Fitzroy Crossi**	**40.24**	**267**	⇑*iP*	**P**	**15 27 13.4**	**-0.6**
	22nm,0.8s,mb4.9						
FITZ	**Fitzroy Crossi**	**40.24**	**267**	*eP*	**P**	**15 27 13.3**	**-0.7**
FITZ				*e*	pP	15 27 21.1	-0.9
FITZ	**Fitzroy Crossi**	**40.24**	**267**	P	**P**	**15 27 13.7**	**-0.3**
	6.6nm,0.6s,mb4.5,baz=120,slow=8.8,SNR=33						
FITZ				pP	pP	15 27 21.7	-0.3
	14nm,0.8s,baz=119,slow=10,SNR=15						
MBWA	**Marble Bar**	**45.19**	**261**	*eP*	**P**	**15 27 53.4**	**-0.7**
	14nm,0.9s,mb4.8						
MBWA				*e*	pP	15 28 01.2	-0.9
VNDA	**Vanda**	**56.57**	**182**	P	**P**	**15 29 19.3**	**+0.4**
	1.1nm,0.8s,mb3.9,baz=6.8,slow=7.1,SNR=5.0						
SBA	**Scott Base**	**56.82**	**180**	*eP*	**P**	**15 29 21.9**	**+1.2**
SBA				*e*	pP	15 29 29.6	+0.6
JHJ	**Hachijo jima 2**	**60.40**	**333**	LR	LR	15 56 01.3	
	comp=Z,489nm,18.3s,MS4.7,baz=139,slow=36						
JOW	**Kunigami**	**61.44**	**319**	LR	LR	15 54 33.7	
	comp=Z,936nm,18.8s,MS5.0,baz=323,slow=34						
QSPA	**South Pole Qui**	**68.98**	**180**	P	**P**	**15 30 41.5**	**-0.1**
	6.0nm,1.0s,mb4.5,baz=1.3,slow=2.0,SNR=12						
QSPA				pP	pP	15 30 49.8	-0.1
	6.7nm,1.0s,baz=41,slow=1.8,SNR=7.1						
KMI	**Kunming**	**78.53**	**303**	P	**P**	**15 31 40.2**	**+1.8**
	10.0nm,1.0s,mb4.7						
KMI				pP	pP	15 31 47.4	+0.5
KMI				sP	sP	15 31 52.2	+2.2
CHTO	**Chiang Mai**	**78.65**	**295**	*eP*	**P**	**15 31 40.0**	**+0.8**
	6.1nm,1.3s,mb4.4						
CHTO				*e*	pP	15 31 47.5	-0.2
ULN	**Ulaanbaatar**	**87.83**	**324**	*eP*	**P**	**15 32 26.3**	**+0.4**
	10nm,1.5s,mb4.8						
ULN				*e*	pP	15 32 33.6	-0.9
VNA3	**Neumayer Olymp**	**87.91**	**181**	*e*	**P**	**15 32 25.4**	**-0.6**
VNA3				*e*		15 32 28.1	
VNA3				*e*	pP	15 32 33.8	-0.8
VNA3				*e*		15 32 39.0	
VNA3				*e*		15 32 47.4	
VNA3				*e*		15 32 54.1	
SONM	**Songino Array**	**88.18**	**323**	P	**P**	**15 32 27.8**	**+0.2**
	1.2nm,1.1s,mb4.0,baz=131,slow=4.1,SNR=5.5						
SONM				pP	pP	15 32 35.2	-1.0
	2.5nm,1.0s,baz=142,slow=5.2,SNR=10.0						
VNA2	**Neumayer--Watz**	**88.19**	**181**	*e*	**P**	**15 32 27.0**	**-0.4**
	baz=191,slow=4.4						
VNA2				*e*		15 32 29.6	
VNA2				*e*	pP	15 32 35.5	-0.5
VNA2				*e*		15 32 41.5	
VNA2				*e*		15 32 49.0	
VNA2				*e*		15 32 55.8	
BILL	**Bilibino**	**88.87**	**359**	*eP*	**P**	**15 32 29.6**	**-0.8**
	4.5nm,1.2s,mb4.7						
BILL				*e*	pP	15 32 37.4	-1.5
NVAR	**Mina Array Bea**	**90.65**	**49**	P	**P**	**15 32 39.2**	**-0.2**
NVAR	**Mina Array Bea**	**90.65**	**49**	P	**P**	**15 32 39.2**	**-0.2**
	0.4nm,0.6s,mb4.0,baz=230,slow=9.2,SNR=5.0						
ARCES	**ARCESS Array B 126.62 345**			PKP	PKPdf	15 38 37.5	-1.7
ARCES				pPKP	pPKPdf	15 38 46.4	-1.7
ARCES	**ARCESS Array B 126.62 345**			PKP	PKPdf	15 38 37.5	-1.7
	2.9nm,0.9s,baz=67,slow=1.6,SNR=8.0						
ARCES				pPKP	pPKPdf	15 38 46.4	-1.7
	4.0nm,1.0s,baz=48,slow=4.0,SNR=1.5						
UPC	**Upice**	**143.44**	**330**	*e*PKP	PKPdf	15 39 16.1	+5.0
CLZ	**Clausthal**	**144.84**	**336**	*e*PKPbc	PKPdf	15 39 12.2	-1.3
CLZ				*ep*PKPbc		15 39 20.6	
TANN	**Tannenbergstha**	**145.10**	**333**	*e*PKPbc	PKPbc	15 39 13.0	-0.4
TANN				*ep*PKPbc	pPKPbc	15 39 21.7	-0.5
NKC	**Novy Kostel**	**145.24**	**333**	*e*PKP	PKPdf	15 39 13.8	-0.4
NKC				*ex*	x	15 39 21.8	
MOX	**Moxa**	**145.28**	**334**	*e*P	PKPbc	15 39 14.2	+0.2
	17nm,1.2s						
MOX	**Moxa**	**145.28**	**334**	*e*PKPbc	PKPbc	15 39 13.9	-0.1
MOX				*ep*PKPbc	pPKPbc	15 39 22.3	-0.5
IBBN	**Ibbenburen**	**145.39**	**339**	*e*PKPbc	PKPbc	15 39 14.0	-0.3
IBBN				*ep*PKPbc	pPKPbc	15 39 22.6	-0.5
KHC	**Kasperske Hory**	**145.54**	**330**	*e*PKP	PKPdf	15 39 15.1	+0.3
KHC				*ex*	x	15 39 22.7	
MANZ	**Manzenberg**	**145.57**	**333**	*e*PKPbc	PKPbc	15 39 15.3	+0.3
MANZ				*ep*PKPbc	pPKPbc	15 39 23.3	-0.4
GEC2	**GERESS Array S**	**145.68**	**330**	*e*PKPbc	PKPbc	15 39 15.6	+0.2
GEC2				*ep*PKPbc	pPKPbc	15 39 23.9	-0.2
GERES	**GERESS Array B**	**145.68**	**330**	PKPbc	PKPbc	15 39 15.5	+0.2
	2.7nm,0.9s,baz=29,slow=3.0,SNR=12						
GERES				pPKPbc	pPKPbc	15 39 23.3	-0.8
	5.0nm,0.9s,baz=48,slow=2.0,SNR=12						
ROTZ	**Rotzenmuhle**	**145.69**	**332**	*e*PKPbc	PKPbc	15 39 15.1	-0.3
ROTZ				*ep*PKPbc	pPKPbc	15 39 23.7	-0.4
UBBA	**Unterbreizbach**	**145.79**	**335**	*e*PKPbc	PKPbc	15 39 16.2	+0.6
UBBA				*ep*PKPbc	pPKPbc	15 39 24.2	-0.2
WET	**Wettzell**	**145.85**	**331**	*e*PKPbc	PKPbc	15 39 16.7	+0.8
WET				*ep*PKPbc	pPKPbc	15 39 24.5	-0.1
GRA1	**Grafenberg Arr**	**146.17**	**333**	*e*PKPbc	PKPbc	15 39 17.3	+0.5
GRA1				*ep*PKPbc	pPKPbc	15 39 25.4	-0.2
GRF	**Grafenberg Arr**	**146.17**	**333**	*e*PKPbc	PKPbc	15 39 17.3	+0.5
GRF				*ep*PKPbc	pPKPbc	15 39 25.4	-0.2
TNS	**Taunus Mts**	**146.86**	**336**	*e*PKPbc	PKPbc	15 39 19.4	+0.6
TNS				*ep*PKPbc	pPKPbc	15 39 27.5	-0.1
WLF	**Walferdange**	**148.16**	**338**	*e*PKPbc	PKPbc	15 39 23.7	+1.3
WLF				*ep*PKPbc	pPKPbc	15 39 31.5	+0.3
GIVF	**Givet**	**148.24**	**340**	*e*PKP1	PKPbc	15 39 22.8	+0.2
BAIF	**Baives**	**148.47**	**340**	*e*PKP1	PKPbc	15 39 22.4	-0.8
CDF	**Champ du Feu**	**148.78**	**335**	*e*PKP1	PKPbc	15 39 23.0	-1.1
	20nm,1.1s						
HINF	**Hinteralfeld**	**149.43**	**335**	*e*PKP1	PKP

$M_{\theta\theta}$1.04±.02; $M_{\phi\phi}$-0.46±.06; Best double couple: $M_0$1.91800×10^{17} NP1:ϕ_s306.00000°, δ33.00000°, λ90.00000°. NP2:ϕ_s126.00000°, δ57.00000°, λ90.00000°. Principal axes: T 1.7760, Plg78.0000°, Azm36.0000°; N 0.2880, Plg0.0000°, Azm126.0000°; P -2.0590, Plg12.0000°, Azm216.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.

NEIC ***03*** *15:27:08.4±2.0, 729S×15538E, h33^{km}±14^{km}, mb5.2/37, MS4.8/1 Error ellipse: s-maj=5.4km s-min=4.9km az=165.0*

ISC 03 15:27:07.4±1.1, 729S±004×15543E±004, h25km±7km, **h14**km±.5km:**pP-P, n226,** σ1**903**/199, **mb5.1**/72, **MS4.8**/40, **15C-11D, Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
HNR	**Honiara**	**4.95**	**116**	*e*Pn		**Pn**	**15 28 22.6**	**+2.4**
HNR				*e*Sn		**Sb**	**15 29 34.5**	**+1.9**
HNR	**Honiara**	**4.95**	**116**	Pn		**Pn**	**15 28 21.0**	**+0.8**
	14nm,0.3s,baz=267,slow=8.4,SNR=5.7							
HNR				Sn		**Sb**	**15 29 33.8**	**+1.2**
	69nm,0.3s,baz=95,slow=15,SNR=3.5							
CTA	**Charters Tower**	**15.53**	**214**	*e*P		**Pn**	**15 30 46.0**	**+1.3**
	33nm,0.9s							
CTA				*e*S		**Sn**	**15 33 51.8**	**+16**
CTA	**Charters Tower**	**15.53**	**214**	*e*P		**Pn**	**15 30 46.0**	**+1.3**
CTA				pmax		pmax		
	comp=Z,33nm,0.9s							
CTA	**Charters Tower**	**15.53**	**214**	Pn		**Pn**	**15 30 43.4**	**-1.4**
	comp=Z,0.2nm,0.3s,baz=54,slow=15,SNR=5.2							
CTA				Sn		**Sn**	**15 33 47.1**	**+11**
	comp=Z,0.0nm,0.3s,baz=314,slow=15,SNR=1.3							
CTA				LR		LR	15 35 51.0	
	comp=Z,7μm,20.0s,baz=34,slow=34							
CTAO	**Charters Tower**	**15.53**	**214**	*e*P		**Pn**	**15 30 45.9**	**+1.1**
	comp=Z,55nm,1.0s							
CTAO	**Charters Tower**	**15.53**	**214**	*e*P		**Pn**	**15 30 45.9**	**+1.2**
CTAO				pmax		pmax		
	comp=Z,55nm,1.0s							
DZM	**Mont Dzumac**	**18.14**	**145**	P		**Pn**	**15 31 18.3**	**+0.7**
	comp=Z,0.8nm,0.3s,baz=0.2,slow=13,SNR=10							
EIDS	**Eidsvold**	**18.46**	**193**	P		**Pn**	**15 31 19.5**	**-2.0**
	comp=Z,18nm,1.0s							
TLE	**Tual**	**22.61**	**273**	⇓*e*P		**P**	**15 32 09.0**	**+2.6**
TLE	**Tual**	**22.61**	**273**	⇑*e*P		**P**	**15 32 09.0**	**+2.6**
GUMO	**Guam**	**23.24**	**333**	LR		LR	15 39 25.5	
	comp=Z,1μm,21.4s,MS4.3,baz=321,slow=32							
KAKA	**Kakadu**	**23.26**	**255**	*e*P		**P**	**15 32 12.3**	**-1.0**
	comp=Z,46nm,0.7s,mb5.0							
KAKA				*e*S		**S**	**15 36 25.8**	**+1.8**
ARMA	**Armidale**	**23.29**	**188**	*e*P		**P**	**15 32 12.6**	**-0.8**
ARMA				*e*S		**S**	**15 36 26.7**	**+2.6**
FUNA	**Funafuti**	**23.57**	**95**	P		**P**	**15 32 16.0**	**-0.5**
	comp=Z,110nm,0.9s,mb5.3							
WB2	**Warramunga Arr**	**24.00**	**236**	*e*P		**P**	**15 32 20.0**	**-0.3**
WB2				*e*S		**S**	**15 36 36.1**	**+0.2**
WRA	**Warramunga Arr**	**24.01**	**236**	P		**P**	**15 32 20.1**	**-0.2**
WRA							15 36 02.8	
WRA				S		**S**	**15 36 42.4**	**+6.3**
WRA	**Warramunga Arr**	**24.01**	**236**	P		**P**	**15 32 20.1**	**-0.3**
	comp=Z,26nm,0.7s,mb4.8,baz=62,slow=9.7,SNR=59							
WRA				PcP		PcP	15 36 02.8	+0.7
	comp=Z,5.2nm,1.1s,baz=58,slow=2.3,SNR=5.1							
WRA				S		**S**	**15 36 42.4**	**+6.4**
	comp=Z,3.4nm,1.3s,baz=57,slow=14,SNR=7.0							
WRA				ScP		ScP	15 39 42.5	+3.4
	comp=Z,1.6nm,0.9s,baz=59,slow=2.9,SNR=5.1							
WRA				LR		LR	15 41 25.2	
	comp=Z,3μm,19.7s,MS4.8,baz=55,slow=36							
ASAR	**Alice Springs**	**26.31**	**229**	P		**P**	**15 32 39.9**	**-1.3**
ASAR							15 36 07.1	
ASAR				S		**S**	**15 37 19.5**	**+6.8**
ASAR	**Alice Springs**	**26.31**	**229**	P		**P**	**15 32 39.9**	**-1.3**
	comp=Z,3.3nm,0.8s,baz=58,slow=9.5,SNR=19							
ASAR				PcP		PcP	15 36 07.0	-0.1
	comp=Z,2.5nm,0.9s,baz=64,slow=2.6,SNR=5.3							
ASAR				S		**S**	**15 37 19.5**	**+6.8**
	comp=Z,1.0nm,1.1s,baz=64,slow=12,SNR=3.4							
ASAR				ScP		ScP	15 39 49.1	+3.6
	comp=Z,1.0nm,0.8s,baz=40,slow=3.9,SNR=4.8							
RIV	**Riverview**	**26.71**	**188**	*e*P		**P**	**15 32 44.7**	**0.0**
STKA	**Stephens Creek**	**27.66**	**206**	*e*P		**P**	**15 32 52.6**	**-0.7**
	comp=Z,24nm,0.9s,mb4.8							
STKA				*e*S		**S**	**15 37 31.4**	**-2.4**
STKA	**Stephens Creek**	**27.66**	**206**	P		**P**	**15 32 52.8**	**-0.5**
	comp=Z,31nm,0.9s,mb5.0,baz=5.4,slow=7.7,SNR=20							
STKA				LR		LR	15 43 33.9	
	comp=Z,5μm,19.3s,MS5.1,baz=16,slow=36							
CNB	**Canberra Magne**	**28.45**	**190**	*e*P		**P**	**15 33 00.6**	**+0.4**
	comp=Z,19nm,0.9s,mb4.7							
FITZ	**Fitzroy Crossi**	**30.93**	**247**	*e*P		**P**	**15 33 21.9**	**-0.6**
	comp=Z,22nm,0.6s,mb5.2							
FITZ				*e*S		**S**	**15 38 19.4**	**-6.2**
AFI	**Afiamalu**	**32.87**	**104**	*e*P		**P**	**15 33 39.4**	**-0.2**
	comp=Z,62nm,0.9s,mb5.5							
AFI	**Afiamalu**	**32.87**	**104**	*e*P		**P**	**15 33 39.4**	**-0.2**
AFI				pmax		pmax		
	comp=Z,62nm,0.9s,mb5.5							
RAO	**Raoul Island**	**33.28**	**134**	LR		LR	15 44 59.4	
	comp=Z,679nm,18.9s,MS4.4,baz=326,slow=32							
KAPI	**Kappang**	**35.54**	**272**	P		**P**	**15 34 02.3**	**-0.5**
	comp=Z,432nm,1.1s,SNR=6.2							
URZ	**Urewera**	**36.55**	**151**	P		**P**	**15 34 11.5**	**+0.4**
	comp=Z,15nm,1.1s,mb4.7,baz=325,slow=16,SNR=3.7							
URZ				LR		LR	15 46 39.1	
	comp=Z,1μm,19.6s,MS4.7,baz=31,slow=32							
MBWA	**Marble Bar**	**37.14**	**244**	*e*P		**P**	**15 34 15.3**	**-1.0**
	comp=Z,12nm,0.7s,mb4.8							
RPZ	**Rata Peaks**	**38.79**	**162**	P		**P**	**15 34 30.2**	**+0.3**
	comp=Z,13nm,0.8s,mb4.7,baz=191,slow=2.8,SNR=6.6							
RPZ				LR		LR	15 48 20.3	
	comp=Z,2μm,19.3s,MS4.8,baz=134,slow=33							
SDKM	**Sandakan**	**40.25**	**288**	⇑P		**P**	**15 34 45.6**	**+3.1**
KKM	**Kota Kinabalu**	**41.30**	**288**	⇓P		**P**	**15 34 52.7**	**+1.4**
KLBR	**Kellerberrin**	**42.63**	**230**	*e*P		**P**	**15 35 00.8**	**-1.1**
	comp=Z,15nm,0.8s,mb4.8							
BTM	**Bintulu**	**43.52**	**282**	⇓P		**P**	**15 35 11.9**	**+2.5**
MUN	**Mundaring**	**43.98**	**231**	*e*P		**P**	**15 35 12.6**	**-0.2**
SBUM	**Sibu**	**44.19**	**281**	⇓P		**P**	**15 35 11.9**	**-2.8**
RAR	**Rarotonga**	**45.40**	**113**	P		**P**	**15 35 24.8**	**+0.6**
	comp=Z,24nm,0.8s,mb5.1,baz=240,slow=8.0,SNR=7.7							
RAR				LR		LR	15 50 17.0	
	comp=Z,445nm,20.8s,MS4.4,baz=281,slow=31							
KSM	**Kuching**	**45.85**	**279**	*e*P		**P**	**15 35 27.8**	**-0.2**
KSM	**Kuching**	**45.85**	**279**	⇑P		**P**	**15 35 28.6**	**+0.7**
YHNB	**Yeheng**	**45.93**	**315**	*e*P		**P**	**15 35 29.3**	**+0.9**
JNU	**Nakatsue**	**46.47**	**331**	LR		LR	15 50 52.5	
	comp=Z,454nm,21.2s,MS4.4,baz=316,slow=31							
MJAR	**Matsushiro Arr**	**46.49**	**341**	P		**P**	**15 35 31.4**	**-1.2**
	comp=Z,4.3nm,0.7s,mb4.5,baz=157,slow=7.6,SNR=6.7							
MJAR				PcP		PcP	15 37 06.8	0.0
	comp=Z,7.3nm,0.8s,baz=155,slow=3.9,SNR=8.3							
MAT	**Matsushiro**	**46.49**	**341**	P		**P**	**15 35 31.1**	**-1.5**
MAT				S		**S**	**15 42 21.0**	**+1.6**
QZH	**Quanzhou**	**48.09**	**313**	*e*P		**P**	**15 35 46.2**	**+1.0**
QZH				S		**S**	**15 42 41.1**	**-1.4**
QZH				LR		LR		
	comp=Z,1μm,21.6s,MS4.8							
KSRS	**Korea Array**	**51.39**	**332**	P		**P**	**15 36 09.9**	**-0.2**
	comp=Z,5.1nm,0.8s,mb4.5,baz=146,slow=8.3,SNR=12							
QIZ	**Qiongzhong**	**51.98**	**301**	P		**P**	**15 36 14.3**	**-0.5**
QIZ				S		**S**	**15 43 39.9**	**+3.0**
QIZ				XS		sS	15 43 44.2	-5.7
QIZ				AMB		AMB		
	comp=Z,32nm,1.7s,mb5.0							
QIZ				AMB		AMB		
	comp=Z,285nm,4.3s							
QIZ				LR		LR		
	comp=E,687nm,15.9s							
QIZ				LR		LR		
	comp=Z,875nm,22.7s							
MYKOM	**Kota Tinggi**	**52.24**	**278**	⇓P		**P**	**15 36 17.5**	**+0.5**
NJ2	**Nanjing**	**52.41**	**320**	*e*P		**P**	**15 36 14.1**	**-3.7**
NJ2				PP		PP	15 38 12.0	-4.9
NJ2				S		**S**	**15 43 38.0**	**-4.5**
NJ2				XS		sS	15 43 47.0	-8.4
NJ2				AMB		AMB		
	comp=Z,20nm,0.6s,mb5.2							
NJ2				LR		LR		
	comp=N,990nm,15.4s,MS5.1							
NJ2				LR		LR		
	comp=E,1μm,15.1s,MS5.1							
KGM	**Kluang**	**52.81**	**278**	⇓P		**P**	**15 36 21.9**	**+0.7**
KTGM	**Kuala Trenggan**	**53.66**	**282**	⇑P		**P**	**15 36 28.1**	**+0.7**
WHN	**Wuhan**	**54.45**	**316**	⇓P		**P**	**15 36 33.7**	**+0.9**
WHN				SCS		ScS	15 46 21.7	+0.9
WHN				AMB		AMB		
	comp=Z,107nm,1.7s,mb5.5							
WHN				AMB		AMB		
	comp=Z,953nm,4.6s							
WHN				LR		LR		
	comp=Z,1μm,15.1s,MS5.1							
PPT	**Papeete**	**54.50**	**106**	*e*S		**S**	**15 44 07.3**	**-4.1**
	comp=Z,682nm,31.2s							
PPT				*e*LQ			15 50 10.1	
	comp=Z,2μm,27.0s							
PPT				*e*LR		LR	15 52 20.2	
	comp=Z,1μm,29.0s,baz=277							
PPT	**Papeete**	**54.50**	**106**	LR		LR	15 53 16.1	
	comp=Z,602nm,20.0s,MS4.7,baz=276,slow=29							
VLA	**Vladivostok**	**54.54**	**339**	*e*P		**P**	**15 36 33.2**	**0.0**
VLA				pmax		pmax		
	comp=Z,30nm,1.3s,mb5.2							
YSS	**Yuzh-Sakhalins**	**55.16**	**349**	*e*P		**P**	**15 36 37.7**	**0.0**
	comp=Z,28nm,0.9s,mb5.3							
YSS	**Yuzh-Sakhalins**	**55.16**	**349**	*e*P		**P**	**15 36 38.0**	**+0.3**
YSS				MLR		MLR		
	comp=Z,600nm,18.0s,MS4.7							
TBI	**Tubuai**	**55.17**	**113**	*e*S		**S**	**15 44 20.2**	**-0.1**
	comp=Z,259nm,37.2s							
TBI				*e*LQ			15 50 27.4	
	comp=Z,4μm,28.8s							
TBI				*e*LR		LR	15 52 47.3	
	comp=Z,1μm,31.5s							
PMOR	**Pomariorio Ree**	**56.01**	**103**	*e*P		**P**	**15 36 45.3**	**+0.9**
	comp=Z,61nm,1.0s,mb5.6							
KULM	**Kulim**	**56.07**	**281**	*e*P		**P**	**15 36 43.9**	**-0.9**
KULM	**Kulim**	**56.07**	**281**	⇑P		**P**	**15 36 45.3**	**+0.4**
MDJ	**Mudanjiang**	**56.67**	**338**	P		**P**	**15 36 48.5**	**0.0**
MDJ				AP		pP	15 36 51.7	-4.7
MDJ				XP		sP	15 36 53.1	-6.4
MDJ				PCP		PcP	15 37 45.2	+0.7
MDJ				PP		PP	15 38 57.0	+2.1
MDJ				SCP		ScP	15 41 44.1	+1.5
MDJ				PCS		PcS	15 41 46.1	+1.0
MDJ				S		**S**	**15 44 42.3**	**+3.0**
MDJ				AMB		AMB		
	comp=Z,11nm,1.7s,mb4.6							
MDJ				AMB		AMB		
	comp=Z,209nm,8.4s							
MDJ				LR		LR		
	comp=N,321nm,33.1s,MS4.4							
MDJ				LR		LR		
	comp=E,453nm,33.1s,MS4.4							
MDJ				LR		LR		
	comp=Z,215nm,19.5s							
MDJ	**Mudanjiang**	**56.67**	**338**	*e*P		**P**	**15 36 48.1**	**-0.4**
	comp=Z,12nm,1.0s,mb4.9							
CN2	**Changchun**	**57.63**	**335**	*e*P		**P**	**15 36 55.5**	**+0.1**
CN2				*e*XP		sP	15 37 02.3	-4.0
CN2				*e*S		**S**	**15 44 57.3**	**+5.2**
CN2				AMB		AMB		
	comp=Z,20nm,1.0s,mb5.1							
CN2				AMB		AMB		
	comp=Z,200nm,8.0s							
CN2				LR		LR		
	comp=N,600nm,19.0s,MS5.0							
CN2				LR		LR		
	comp=E,900nm,19.0s,MS5.0							
CN2				LR		LR		
	comp=Z,600nm,21.0s,MS4.7							
GYA	**Guiyang**	**57.97**	**307**	⇑*i*P		**P**	**15 37 01.2**	**+3.1**
GYA				AP		pP	15 37 05.4	-0.6
GYA				XP		sP	15 37 08.9	-0.1
GYA				PCP		PcP	15 37 52.0	+1.9
GYA				PP		PP	15 39 10.8	+4.0
GYA				SCP		ScP	15 41 50.7	+1.9
GYA				S		**S**	**15 44 59.3**	**+2.1**
GYA				SCS		ScS	15 46 46.4	-0.1
GYA				SS		SS	15 48 51.0	+2.3
GYA				AMB		AMB		
	comp=Z,80nm,1.0s,mb5.7							
GYA				AMB		AMB		
	comp=Z,480nm,12.0s							
GYA				LR		LR		
	comp=N,920nm,20.9s,MS5.0							
GYA				LR		LR		
	comp=E,790nm,19.8s,MS5.0							
GYA				LR		LR		
	comp=Z,840nm,20.0s,MS4.8							
HABR	**Khabarovsk**	**58.34**	**344**	⇑*i*P		**P**	**15 36 57.1**	**-3.1**
HABR				*e*S		**S**	**15 45 02.1**	**+0.9**
HABR				pmax		pmax		
	comp=Z,56nm,2.0s,mb5.2							
NST	**Nakhon Sawan**	**59.32**	**293**	P		**P**	**15 37 07.0**	**-0.7**
BJI	**Beijing**	**59.40**	**326**	P		**P**	**15 36 57.3**	**-10**
BJI				S		**S**	**15 45 09.4**	**-5.9**
BJI				SS		SS	15 49 18.5	+7.7
BJI				LR		LR		
	comp=Z,520nm,25.3s,MS4.6							
BJI	**Beijing**	**59.40**	**326**	P		**P**	**15 36 57.3**	**-10**
BJI				S		**S**	**15 45 09.4**	**-5.9**
BJI				MLR		MLR		
	comp=Z,520nm,25.3s,MS4.6							
KLR	**Kul'dur**	**59.97**	**342**	*e*P		**P**	**15 37 05.7**	**-5.8**
KLR				*e*S		**S**	**15 45 17.0**	**-5.3**
KLR				pmax		pmax		
	comp=Z,70nm,1.8s,mb5.4							
TIY	**Taiyuan**	**60.08**	**321**	P		**P**	**15 37 11.3**	**-1.2**
TIY				S		**S**	**15 45 21.9**	**-2.3**
TIY				LR		LR		
	comp=N,160nm,4.6s							
TIY				LR		LR		
	comp=E,251nm,9.5s							
TIY				LR		LR		
	comp=Z,460nm,21.8s,MS4.6							
PET	**Petropavlovsk**	**60.14**	**2**	*e*P		**P**	**15 37 12.4**	**-0.2**
PET				*e*S		**S**	**15 45 21.5**	**-2.8**
PET				*e*SS		SS	15 49 20.6	-1.2
PET				pmax		pmax		
	comp=Z,200nm,13.0s							
PET				MLR		MLR		
	comp=Z,500nm,16.0s,MS4.8							
XAN	**Xi'an**	**60.21**	**316**	P		**P**	**15 37 13.1**	**-0.4**
XAN				S		**S**	**15 45 21.3**	**-4.7**
XAN				AMB		AMB		
	comp=Z,17nm,2.0s,mb4.7							
XAN				AMB		AMB		
	comp=Z,337nm,8.9s							
XAN				LR		LR		
	comp=N,350nm,24.7s,MS4.5							
XAN				LR		LR		
	comp=E,305nm,23.0s,MS4.5							
XAN				LR		LR		
	comp=Z,600nm,23.0s,MS4.7							
DRV				L			15 52 00.0	
DRV				R			15 56 00.0	
DRV	**Dumont d'Urvil**	**60.23**	**187**	S		**S**	**15 45 44.0**	**+19**
KMI	**Kunming**	**60.53**	**304**	P		**P**	**15 37 17.5**	**+1.6**
KMI				AP		pP	15 37 21.5	-2.3
KMI				XP		sP	15 37 23.0	-3.9
KMI				PP		PP	15 39 32.7	+3.1
KMI				S		**S**	**15 45 30.6**	**+0.2**
KMI				AMB		AMB		
	comp=Z,37nm,1.3s,mb5.3							
KMI				AMB		AMB		
	comp=Z,254nm,3.1s							
KMI				LR		LR		
	comp=N,533nm,20.2s,MS4.8							
KMI				LR		LR		
	comp=E,347nm,16.6s,MS4.8							
KMI				LR		LR		
	comp=Z,639nm,19.5s,MS4.8							
KMI	**Kunming**	**60.53**	**304**	P		**P**	**15 37 17.5**	**+1.6**
	comp=Z,37nm,1.3s,mb5.3							
KMI				pP		pP	15 37 21.5	-2.3
KMI				sP		sP	15 37 23.0	-3.9
KMI				PP		PP	15 39 32.7	+3.1
KMI				PPP			15 41 00.9	
KMI				S		**S**	**15 45 30.6**	**+0.2**
KMI				SS		SS	15 49 32.1	+3.0
KMI				SSS			15 52 00.1	
KMI				LR		LR		
	comp=Z,640nm,19.5s,MS4.8							
KMI	**Kunming**	**60.53**	**304**	P		**P**	**15 37 17.5**	**+1.6**
KMI				*SP		sP	15 37 23.0	-3.9
KMI							15 39 32.7	
KMI				PPP			15 41 00.9	
KMI				S		**S**	**15 45 30.6**	**+0.2**
KMI				SS		SS	15 49 32.1	+3.0
KMI				SSS			15 52 00.1	
KMI				pmax		pmax		
	comp=Z,37nm,1.3s,mb5.3							
KMI				MLR		MLR		
	comp=Z,640nm,19.5s,MS4.8							
CHRT	**Chiangrai**	**61.03**	**297**	P		**P**	**15 37 20.5**	**+1.2**
CHTO	**Chiang Mai**	**61.41**	**296**	P		**P**	**15 37 21.8**	**-0.1**
	comp=Z,110nm,1.9s,mb5.7							
CHTO	**Chiang Mai**	**61.41**	**296**	P		**P**	**15 37 21.8**	**-0.1**
CHTO				pmax		pmax		
	comp=Z,110nm,1.9s,mb5.7							
CD2	**Chengdu**	**62.33**	**310**	P		**P**	**15 37 28.9**	**+1.0**
CD2				AP		pP	15 37 33.7	-2.2
CD2				XP		sP	15 37 36.8	-2.1
CD2				PCS		PcS	15 42 10.5	-0.3
CD2				S		**S**	**15 45 53.7**	**+0.7**
CD2				XS		sS	15 46 01.4	-4.8
CD2				SCS		ScS	15 47 17.0	-1.8
CD2				SS		SS	15 49 59.1	+2.1
CD2				AMB		AMB		
	comp=Z,50nm,0.7s,mb5.8							
CD2				AMB		AMB		
	comp=Z,120nm,8.4s							
CD2				LR		LR		
	comp=N,540nm,13.8s,MS5.0							
CD2				LR		LR		
	comp=E,450nm,14.6s,MS5.0							
CD2				LR		LR		
	comp=Z,350nm,16.8s,MS4.6							
HHC	**Hu-ho-hao-te**	**62.58**	**324**	*e*P		**P**	**15 37 30.1**	**+0.7**
HHC				AP		pP	15 37 34.3	-3.1
HHC				XP		sP	15 37 37.3	-3.1
HHC				PP		PP	15 39 52.0	+4.7
HHC				SCP		ScP	15 42 04.0	-4.9
HHC				PCS		PcS	15 42 12.6	+1.1
HHC				S		**S**	**15 45 58.1**	**+2.3**
HHC				XS		sS	15 46 02.3	-6.7
HHC				SCS		ScS	15 47 17.8	-2.5
HHC				SS		SS	15 50 01.3	+0.7
HHC				AMB		AMB		
	comp=Z,32nm,0.4s,mb5.8							
HHC				AMB		AMB		
	comp=Z,319nm,8.6s							
HHC				LR		LR		
	comp=N,380nm,14.7s,MS4.8							
HHC				LR		LR		
	comp=E,423nm,16.3s,MS4.8							
HHC				LR		LR		
	comp=Z,428nm,19.8s,MS4.6							
BTO	**Baotou**	**63.35**	**323**	*e*P		**P**	**15 37 34.9**	**+0.4**
TAOE	**Nuku Hiva Isla**	**63.74**	**96**	*e*S		**S**	**15 46 09.8**	**-1.5**
	comp=Z,25μm,24.3s							
TAOE				*e*SS		SS	15 50 22.2	+2.6
	comp=Z,7μm,29.0s							
TAOE				*e*LR		LR	15 56 34.7	
	comp=Z,12μm,21.6s							
HIA	**Hailar**	**64.36**	**335**	*e*P		**P**	**15 37 40.6**	**-0.4**
	comp=Z,18nm,1.0s,mb5.0							
HIA	**Hailar**	**64.36**	**335**	*e*P		**P**	**15 37 40.6**	**-0.4**
HIA				pmax		pmax		
	comp=Z,18nm,1.0s							
LZH	**Lanzhou**	**64.82**	**315**	⇑P		**P**	**15 37 45.2**	**+0.9**
LZH				AP		pP	15 37 49.3	-3.0
LZH				XP		sP	15 37 50.5	-4.8
LZH				PP		PP	15 40 10.0	+2.8
LZH				*e*S		**S**	**15 46 27.0**	**+3.1**
LZH				XS		sS	15 46 34.0	-3.1
LZH				SS		SS	15 50 35.0	-0.8
LZH				AMB		AMB		
	comp=Z,80nm,1.6s,mb5.5							
LZH				AMB		AMB		
	comp=Z,210nm,4.9s							
LZH				LR		LR		
	comp=N,529nm,15.5s							
LZH				LR		LR		
	comp=Z,834nm,16.4s,MS5.0							
LZH	**Lanzhou**	**64.82**	**315**	⇑P		**P**	**15 37 45.2**	**+0.9**
	comp=Z,80nm,1.6s,mb5.5							
LZH				pP		pP	15 37 49.3	-3.0
LZH				sP		sP	15 37 50.5	-4.8
LZH				PP		PP	15 40 10.0	+2.8
LZH				*e*S		**S**	**15 46 27.0**	**+3.1**
LZH				sS		sS	15 46 34.0	-3.1
LZH				SS		SS	15 50 35.0	-0.8
LZH				LR		LR		
	comp=Z,830nm,16.4s,MS5.0							
LZH	**Lanzhou**	**64.82**	**315**	⇑P		**P**	**15 37 45.2**	**+0.9**
LZH				*SP		sP	15 37 50.5	-4.8
LZH							15 40 10.0	
LZH				*e*S		**S**	**15 46 27.0**	**+3.1**
LZH				*SS		sS	15 46 34.0	-3.1
LZH				SS		SS	15 50 35.0	-0.8
LZH				pmax		pmax		
	comp=Z,80nm,1.6s,mb5.5							
LZH				MLR		MLR		
	comp=Z,830nm,16.4s,MS5.0							
MA2	**Magadan**	**66.75**	**357**	*e*P		**P**	**15 37 56.3**	**+0.1**
MA2				*e*			15 38 09.0	
MA2				*e*S		S	15 46 48.3	+1.8
MA2				*e*SS		SS	15 50 58.4	-6.4
MA2				*e*SSS			15 53 56.2	
MA2				pmax		pmax		
	comp=Z,20nm,0.8s,mb5.2							
MA2				MLR		MLR		
	comp=Z,800nm,19.0s,MS5.0							
RKT	**Rikitea**	**68.44**	**112**	*e*LR		LR	15 58 56.5	
	comp=Z,726nm,23.0s							
CIT	**Chita**	**69.06**	**334**	*e*P		**P**	**15 38 11.9**	**+1.0**
CIT				*e*			15 38 24.6	
CIT				*e*			15 42 20.4	
GTA	**Gaotai**	**69.24**	**317**	P		**P**	**15 38 13.3**	**+1.0**
GTA				AP		pP	15 38 17.0	-3.4
GTA				XP		sP	15 38 18.6	-4.8
GTA				PP		PP	15 40 48.7	+3.1
GTA				S		S	15 47 19.2	+2.1
GTA				XS		sS	15 47 27.2	-3.2
GTA				AMB		AMB		
	comp=Z,17nm,1.9s,mb4.7							
GTA				AMB		AMB		
	comp=Z,364nm,8.0s							
GTA				LR		LR		
	comp=N,353nm,17.5s,MS4.8							
GTA				LR		LR		
	comp=E,372nm,17.1s,MS4.8							
GTA				LR		LR		
	comp=Z,608nm,18.6s,MS4.9							
SONM	**Songino Array**	**69.81**	**327**	P		**P**	**15 38 16.3**	**+0.6**
	comp=Z,10nm,1.0s,mb4.7,baz=135,slow=7.0,SNR=44							
SONM				PKPPKP			16 06 21.9	
	comp=Z,1

YAK			*e*S	S	15 47 47.4	-0.1
YAK			*i* *SS	sS	15 48 16.4	+16
YAK			*i*		15 48 27.4	
YAK			*i* SS	SS	15 52 31.1	+6.5
YAK			pmax	pmax		
	comp=Z,28nm,0.8s,mb5.2					
YAK			pmax	pmax		
	comp=N,6.0nm,1.6s					
YAK			pmax	pmax		
	comp=E,3.0nm,1.0s					
YAK			smax			
	comp=N,401nm,7.7s					
YAK			smax			
	comp=E,399nm,8.6s					
ZAK	**Zakamensk**	**72.97 328**	*e*P	**P**	**15 38 34.6**	**0.0**
ZAK			pmax	pmax		
	comp=Z,8.0nm,1.3s,mb4.5					
BOD	**Bodaibo**	**73.04 338**⇓	*i*P	**P**	**15 38 33.8**	**-1.1**
BOD			pmax	pmax		
	comp=Z,9.0nm,1.6s,mb4.5					
TLY	**Talaya**	**73.53 329**	*e*P	**P**	**15 38 37.4**	**-0.5**
TLY			*e*PPP		15 43 13.3	
TLY			*e*S	S	15 48 07.4	+1.2
TLY			*e*		15 48 39.6	
TLY			pmax	pmax		
	comp=Z,11nm,1.5s,mb4.6					
TLY			MLR	MLR		
	comp=Z,236nm,16.0s,MS4.6					
IRK	**Irkutsk**	**73.55 330**⇑	*i*P	**P**	**15 38 37.5**	**-0.5**
IRK			pmax	pmax		
	comp=Z,37nm,2.1s,mb5.0					
MOY	**Mondy**	**74.88 328**	*e*P	**P**	**15 38 44.9**	**-0.9**
MOY			pmax	pmax		
	comp=Z,45nm,4.1s					
GAMB	**Gambell**	**75.09 14**	*e*P	**P**	**15 38 47.4**	**+0.6**
	comp=Z,17nm,0.9s,mb5.0					
BILL	**Bilibino**	**75.54 4**	*e*P	**P**	**15 38 48.8**	**-0.4**
	comp=Z,51nm,1.2s,mb5.3					
BILL	**Bilibino**	**75.54 4**⇑	*e*P	**P**	**15 38 49.6**	**+0.4**
BILL			*e*S	S	15 48 26.2	-1.8
BILL			pmax	pmax		
	comp=Z,23nm,1.0s,mb5.1					
BILL			MLR	MLR		
	comp=Z,200nm,16.0s,MS4.5					
PALK	**Pallekele**	**75.91 279**	*e*P	**P**	**15 38 51.9**	**-0.7**
	comp=Z,24nm,1.4s,mb4.9					
KDAK	**Kodiak Island**	**77.24 26**	P	**P**	**15 38 59.6**	**+0.5**
	comp=Z,14nm,0.9s,mb4.9,baz=180,slow=4.0,SNR=4.9					
TNA	**Tin City**	**77.49 15**	*e*P	**P**	**15 39 00.4**	**0.0**
	comp=Z,19nm,0.8s,mb5.1					
SVW2	**Sparrevohn**	**78.10 22**	*e*P	**P**	**15 39 04.5**	**+0.6**
TTA	**Tatalina**	**79.14 20**	*e*P	**P**	**15 39 10.2**	**+0.7**
WMQ	**Urumqi**	**79.33 317**⇑	*i*P	**P**	**15 39 10.6**	**-0.4**
WMQ			PCP	PcP	15 39 19.0	-0.1
WMQ			S	S	15 49 10.0	-0.1
WMQ			XS	sS	15 49 19.5	-4.1
WMQ			AMB	AMB		
	comp=Z,18nm,1.8s,mb4.7					
WMQ			AMB	AMB		
	comp=Z,495nm,5.6s					
WMQ			LR	LR		
	comp=N,710nm,20.6s,MS5.1					
WMQ			LR	LR		
	comp=E,576nm,22.2s,MS5.1					
WMQ			LR	LR		
	comp=Z,688nm,22.2s,MS4.9					
HYB	**Hyderabad**	**79.77 289**	*e*P	**P**	**15 39 13.5**	**-0.4**
HYB	**Hyderabad**	**79.77 289**	*i*P	**P**	**15 39 14.0**	**+0.1**
SLKM	**Skilak Lake**	**79.83 24**	*e*P	**P**	**15 39 12.5**	**-0.8**
TIXI	**Tiksi**	**80.70 352**	*e*P	**P**	**15 39 16.9**	**-0.9**
	comp=Z,9.0nm,0.8s,mb4.8					
TIXI	**Tiksi**	**80.70 352**	*e*P	**P**	**15 39 17.3**	**-0.5**
TIXI			pmax	pmax		
	comp=Z,37nm,2.1s,mb5.0					
PMR	**Palmer**	**80.88 24**	*e*P	**P**	**15 39 18.7**	**-0.3**
	comp=Z,20nm,1.3s,mb4.9					
PMR	**Palmer**	**80.88 24**	*e*P	**P**	**15 39 18.7**	**-0.3**
PMR			pmax	pmax		
	comp=Z,20nm,1.3s,mb4.9					
SML	**Sawmill**	**81.32 24**	*e*P	**P**	**15 39 20.7**	**-0.6**
IMA2	**Indian Mountai**	**81.94 19**	*e*P	**P**	**15 39 24.3**	**-0.2**
MCK	**McKinley**	**82.16 22**	*e*P	**P**	**15 39 24.3**	**-1.4**
	comp=Z,58nm,0.8s,mb5.6					
MCK	**McKinley**	**82.16 22**	*e*P	**P**	**15 39 24.3**	**-1.4**
MCK			pmax	pmax		
	comp=Z,58nm,0.8s,mb5.6					
QSPA	**South Pole Qui**	**82.69 180**	*e*P	**P**	**15 39 28.4**	**+0.1**
	comp=Z,28nm,1.2s,mb5.2					
QSPA	**South Pole Qui**	**82.69 180**	LR	LR	16 14 41.3	
	comp=Z,385nm,18.6s,MS4.8,baz=26,slow=34					
COLA	**College**	**83.19 21**	*e*P	**P**	**15 39 29.9**	**-1.2**
	comp=Z,26nm,0.8s,mb5.3					
COLA	**College**	**83.19 21**	*e*P	**P**	**15 39 29.9**	**-1.1**
COLA			pmax	pmax		
	comp=Z,26nm,0.8s,mb5.3					
MK31	**Makanchi Array**	**83.90 319**	*i*P	**P**	**15 39 35.4**	**+0.3**
MK31			pmax	pmax		
	comp=Z,41nm,1.0s,mb5.5					
MKAR	**Makanchi Array**	**83.90 319**	P	**P**	**15 39 35.0**	**-0.1**
	comp=Z,15nm,0.8s,mb5.2,baz=99,slow=6.3,SNR=64					
MKAR			PKPPKP		16 05 59.8	
	comp=Z,0.4nm,0.8s,baz=291,slow=3.4,SNR=3.7					
MKAR			LR	LR	16 19 07.0	
	comp=Z,305nm,18.3s,MS4.7,baz=202,slow=37					
MAW	**Mawson**	**84.30 203**	*e*P	**P**	**15 39 36.7**	**0.0**
	comp=Z,7.8nm,0.8s,mb4.9					
MAW	**Mawson**	**84.30 203**	*e*P	**P**	**15 39 36.7**	**0.0**
MAW			pmax	pmax		
	comp=Z,8.0nm,0.8s					
MAW	**Mawson**	**84.30 203**	P	**P**	**15 39 36.9**	**+0.2**
	comp=Z,8.8nm,0.8s,mb4.9,baz=100,slow=3.3,SNR=10					
MAW			LR	LR	16 12 56.6	
	comp=Z,274nm,19.3s,MS4.7,baz=85,slow=33					
ZALV	**Zalesovo Beam**	**84.66 326**	P	**P**	**15 39 37.7**	**-1.0**
ZALV			LR	LR	16 17 06.5	
ZALV	**Zalesovo Beam**	**84.66 326**	P	**P**	**15 39 37.7**	**-1.0**
	comp=Z,13nm,0.8s,mb5.1,baz=107,slow=5.5,SNR=46					
ZALV			LR	LR	16 17 06.6	
	comp=Z,352nm,19.0s,MS4.8,baz=107,slow=36					
ZAL	**Zalesovo**	**84.67 326**	P	**P**	**15 39 37.7**	**-1.1**
EGAK	**Eagle**	**85.62 23**	*e*P	**P**	**15 39 43.3**	**0.0**
	comp=Z,12nm,0.8s,mb5.2					
NVS	**Novosibirsk**	**85.83 326**⇑	*i*P	**P**	**15 39 43.3**	**-1.3**
NVS			*e*S	S	15 50 04.7	-11
NVS			pmax	pmax		
	comp=Z,64nm,2.2s,mb5.5					
NVS			pmax	pmax		
	comp=N,21nm,2.0s					
NVS			pmax	pmax		
	comp=E,40nm,2.0s					
NVS			smax			
	comp=E,32nm,2.5s					
SKAG	**Skagway**	**85.92 29**	*e*P	**P**	**15 39 46.1**	**+1.2**
	comp=E,50nm,2.1s,mb5.4					
SKAG			LR	LR		
	comp=Z,500nm,17.0s,MS5.0					
DAWY	**Dawson**	**85.99 24**	*e*P	**P**	**15 39 45.0**	**-0.2**
KSH	**Kashi**	**86.53 310**	P	**P**	**15 39 50.8**	**+2.4**
KSH			AP	pP	15 39 54.6	-2.1
KSH			XP	sP	15 39 57.1	-2.5
KSH			PP	PP	15 43 14.9	+4.5
KSH			SKS		15 50 13.0	
KSH			S	S	15 50 25.2	+1.6
KSH			XS	sS	15 50 33.9	-3.3
KSH			LR	LR		
	comp=N,709nm,4.5s					
KSH			LR	LR		
	comp=E,755nm,5.0s					
KSH			LR	LR		
	comp=Z,639nm,6.0s					
KURK	**Kurchatov**	**87.32 322**	P	**P**	**15 39 51.0**	**-1.0**
	comp=Z,69nm,1.2s,mb5.8,SNR=5.0					
KURK	**Kurchatov**	**87.32 322**	*e*P	**P**	**15 39 50.9**	**-1.1**
	comp=Z,85nm,1.9s,mb5.7					
KURK	**Kurchatov**	**87.32 322***c*	*i*P	**P**	**15 39 51.2**	**-0.8**
KURK			pmax	pmax		
	comp=Z,14nm,1.4s,mb5.0					
TKM2	**Tokmak 2**	**87.53 314**	*e*P	**P**	**15 39 53.2**	**0.0**
	comp=Z,6.0nm,0.8s,mb4.9					
TKM2	**Tokmak 2**	**87.53 314**	*e*P	**P**	**15 39 53.2**	**0.0**
TKM2			pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.9					
UCH	**Uchtor**	**88.17 313**	*e*P	**P**	**15 39 56.8**	**+0.6**
DLBC	**Dease Lake**	**88.17 30**	*e*P	**P**	**15 39 55.8**	**-0.1**
DLBC	**Dease Lake**	**88.17 30**	P	**P**	**15 39 56.4**	**+0.5**
	baz=240,slow=8.1					
FRU	**Bishkek**	**88.21 313**	*e*P	**P**	**15 39 55.5**	**-1.0**
FRU			pmax	pmax		
	comp=Z,68nm,2.2s,mb5.5					
AAK	**Ala-Archa**	**88.26 313**	P	**P**	**15 39 56.4**	**-0.3**
	comp=Z,76nm,0.8s,mb6.0,SNR=6.2					
EKS2	**Erkin-Say**	**88.78 313**	*e*P	**P**	**15 39 59.4**	**+0.2**
	comp=Z,12nm,0.8s,mb5.3					
INK	**Inuvik**	**89.84 21**	*e*P	**P**	**15 40 03.1**	**-0.4**
INK	**Inuvik**	**89.84 21**	P	**P**	**15 40 03.0**	**-0.5**
	comp=Z,14nm,0.8s,mb5.3,baz=231,slow=5.5,SNR=41					
NVAR	**Mina Array Bea**	**91.56 52**	P	**P**	**15 40 14.2**	**+1.9**
	comp=Z,3.7nm,0.8s,mb4.7,baz=244,slow=4.6,SNR=20					
SYO	**Syowa Base**	**92.19 199**⇓	*e*P	**P**	**15 40 14.0**	**-0.6**
CHKZ	**Chkalovo**	**92.75 324**	*i*P	**P**	**15 40 15.6**	**-1.7**
CHKZ			pmax	pmax		
	comp=Z,13nm,1.0s,mb5.3					
BRVK	**Borovoye**	**92.85 323**	P	**P**	**15 40 16.6**	**-1.2**
	comp=Z,91nm,0.9s,mb6.2,SNR=10					
BRVK	**Borovoye**	**92.85 323**	*e*P	**P**	**15 40 16.6**	**-1.3**
	comp=Z,15nm,0.9s,mb5.4					
BRVK	**Borovoye**	**92.85 323**	*e*P	**P**	**15 40 16.6**	**-1.2**
BRVK			pmax	pmax		
	comp=Z,15nm,0.9s,mb5.4					
YKA	**Yellowknife Ar**	**96.39 28**	P	**P**	**15 40 33.2**	**-0.7**
YKA			PKKP	PKKPbc	15 57 18.0	-3.6
YKA			LR	LR	16 22 14.1	
YKA	**Yellowknife Ar**	**96.39 28**	P	**P**	**15 40 33.2**	**-0.6**
	comp=Z,8.5nm,0.8s,mb5.2,baz=266,slow=4.5,SNR=37					
YKA			PKKP	PKKPbc	15 57 18.0	-3.6
	comp=Z,0.4nm,0.7s,baz=80,slow=2.8,SNR=8.1					
YKA			LR	LR	16 22 14.1	
	comp=Z,215nm,18.6s,MS4.7,baz=340,slow=34					
EDM	**Edmonton**	**96.51 37**	*e*P	**P**	**15 40 32.8**	**-1.8**
PDAR	**Pinedale Array**	**98.57 48**	P	**P**	**15 40 43.7**	**-0.5**
	comp=Z,1.0nm,0.8s,mb4.4,baz=205,slow=2.4,SNR=7.1					
PDAR			LR	LR	16 21 36.8	
	comp=Z,334nm,18.2s,MS4.9,baz=255,slow=33					
KIV	**Kislovodsk**	**111.35 314**	*i* PKIKP	PKiKP	15 45 40.8	+1.4
KIV			pmax	pmax		
	comp=Z,2.0nm,0.5s					
KIV			MLR	MLR		
	comp=Z,219nm,19.0s,MS4.8					
SFJD	**Kangerlussuaq**	**117.78 11**	PKP	PKPdf	15 45 51.5	+0.4
	comp=Z,10nm,0.9s,baz=264,slow=3.0,SNR=4.5					
AKASG	**Malin Array Be**	**118.02 324**	PKP	PKPdf	15 45 51.5	-0.5
	comp=Z,2.8nm,0.7s,baz=65,slow=1.9,SNR=16					
HFS	**Hagfors**	**119.93 339**	PKP	PKPdf	15 45 54.5	-0.8
	comp=Z,6.5nm,1.0s,baz=123,slow=5.3,SNR=3.1					
NB2	**NORSAR Subarra**	**120.11 341**	PKPdf	PKPdf	15 45 54.4	-1.3
	comp=Z,1.6nm,0.8s,baz=39,slow=1.9					
NOA	**NORSAR Array B**	**120.11 341**	PKP	PKPdf	15 45 55.3	-0.4
	comp=Z,2.2nm,0.7s,baz=45,slow=1.9,SNR=9.8					
BOSA	**Boshof**	**120.17 231**	PKP	PKPdf	15 45 57.5	+0.7
	comp=Z,2.4nm,0.8s,baz=72,slow=7.7,SNR=3.9					
MLR	**Muntele Rosu**	**122.22 320**	PKP	PKPdf	15 45 59.7	-0.5
	comp=Z,1.6nm,0.6s,baz=171,slow=3.0,SNR=4.7					
KWP	**Kalwaria**	**122.23 326**	*e*PKPdf	PKPdf	15 46 00.2	+0.1
LCO	**Las Campanas**	**122.78 131**	*e*PKPdf	PKPdf	15 46 02.6	+0.7
KOLS	**Kolonicke sedl**	**122.83 325**	*i* PKP	PKPdf	15 46 02.0	+0.7
CFAA	**Coronel Fontan**	**123.14 135**	PKP	PKPdf	15 46 02.2	-0.3
	comp=Z,0.5nm,0.7s,baz=269,slow=3.3,SNR=6.8					
CRVS	**Cervenica-Dubn**	**123.31 325**	*e*PKP	PKPdf	15 46 01.9	-0.3
OKC	**Ostrava-Krasne**	**124.61 328**	*e*PKP	PKPdf	15 46 04.6	-0.1
VYHS	**Vyhne**	**124.99 326**	*i* PKP	PKPdf	15 46 04.5	-0.9
DPC	**Dobruska-Polom**	**125.25 329**	*e*PKPdf	PKPdf	15 46 07.2	+1.3
MODS	**Modra-Piesok**	**125.92 327**	*e*PKP	PKPdf	15 46 08.9	+1.7
PVCC	**Panska Ves**	**126.02 330**	*e*PKPdf	PKPdf	15 46 08.0	+0.7
BRG	**Berggiesshubel**	**126.11 331**	*e*PKIKP	PKPdf	15 46 07.4	-0.1
BRG			pmax	pmax		
	comp=Z,5.0nm,0.9s					
BRG			MLR	MLR		
	comp=N,5μm,16.5s,MS6.3					
BRG			MLR	MLR		
	comp=E,164nm,14.2s,MS6.3					
BRG			MLR	MLR		
	comp=Z,118nm,13.2s,MS4.7					
BRG	**Berggiesshubel**	**126.11 331**	*e*PKP	PKPdf	15 46 07.4	-0.1
	comp=Z,8.9nm,0.9s					
BRG						
	comp=N,274nm,16.4s					
BRG						
	comp=E,197nm,14.2s					
BRG						
	comp=Z,254nm,13.2s					
CLL	**Collm**	**126.27 332**	*i* PKIKP	PKPdf	15 46 08.6	+0.8
CLL			pmax	pmax		
	comp=Z,11nm,1.0s					
CLL	**Collm**	**126.27 332**	*i* PKPdf	PKPdf	15 46 08.6	+0.8
	comp=Z,11nm,1.0s					
PRU	**Pruhonice**	**126.37 330**	*e*PKP	PKPdf	15 46 02.5	-5.5
NKC	**Novy Kostel**	**127.25 331**	*e*PKPdf	PKPdf	15 46 09.8	+0.1
KHC	**Kasperske Hory**	**127.40 329**⇓	*i*PKIKP	PKPdf	15 46 10.6	+0.6
KHC	**Kasperske Hory**	**127.40 329**	*e*PKPdf	PKPdf	15 46 10.1	+0.1
GERES	**GERESS Array B**	**127.52 329**	PKP	PKPdf	15 46 10.7	+0.5
	comp=Z,4.4nm,0.8s,baz=75,slow=1.5,SNR=30					
GRA1	**Grafenberg Arr**	**128.20 331**	*e*PKPdf	PKPdf	15 46 11.9	+0.4
GRF	**Grafenberg Arr**	**128.20 331**	*e*PKPdf	PKPdf	15 46 11.9	+0.4
DAVOX	**Dachmat Dischmat**	**130.82 329**	PKP	PKPdf	15 46 17.8	+1.2
	comp=Z,6.1nm,0.8s,baz=46,slow=5.3,SNR=7.2					
LPAZ	**La Paz**	**130.94 119**	PKP	PKPdf	15 46 19.1	+1.3
	comp=Z,12nm,0.9s,baz=349,slow=2.0,SNR=27					
HAU	**Haudompre**	**131.67 332**	*e*PKIKP	PKPdf	15 46 19.0	+0.8
	comp=Z,4.7nm,0.3s					
LPG	**La Plagne**	**133.28 330**	*e*PKIKP	PKPdf	15 46 22.4	+1.1
	comp=Z,12nm,0.8s					
SSF	**Saint Saulge**	**133.66 334**	*e*PKIKP	PKPdf	15 46 22.8	+0.8
	comp=Z,10nm,0.8s					
SDV	**Santo Domingo**	**134.39 85**	*e*PKPdf	PKPdf	15 46 23.8	-0.5
ETSF	**Etsaut**	**138.71 333**	*e*PKIKP	PKPdf	15 46 32.4	+0.9
	comp=Z,14nm,0.8s					
PBRG	**Braganca**	**142.16 338**	*e*PKP	PKPdf	15 46 34.9	-2.9
ESDC	**Sonseca Array**	**142.82 333**	PKhKP		15 46 36.0	
	comp=Z,1.6nm,0.4s,baz=4.3,slow=5.9,SNR=10					
MVO	**Moncorvo**	**142.82 338**	*e*PKP	PKPdf	15 46 36.3	-2.7
PVIS	**Viseu**	**143.53 338**	*e*PKP	PKPdf	15 46 38.8	-1.4
MTE	**Manteigas**	**143.68 338**	*e*PKP	PKPdf	15 46 38.7	-1.8
MTE	**Manteigas**	**143.68 338**	*e*PKPdf	PKPdf	15 46 38.2	-2.3
PCBR	**Castelo Branco**	**144.14 337**	*e*PKP	PKPdf	15 46 40.0	-1.3
PESTR	**Estremoz**	**145.03 337**	*e*PKP	PKPdf	15 46 42.3	-0.6
PBAR	**Barrancos**	**145.39 335**	*e*PKP	PKPdf	15 46 43.5	-0.1
EVO	**Evora**	**145.48 337**	*e*PKP	PKPdf	15 46 43.8	+0.1
PMAFR	**Mafra**	**145.59 339**	*e*PKP	PKPdf	15 46 43.7	-0.2
PBEJ	**Beja**	**145.86 336**	*e*PKP	PKPdf	15 46 45.1	+0.8
PVAQ	**Vaqueiros**	**146.33 335**	*e*PKP	PKPdf	15 46 46.8	+1.6
PBDV	**Barranco-do-Ve**	**146.56 336**	*e*PKP	PKPbc	15 46 48.0	+1.0
PTEO	**Sao Teotonio**	**146.61 337**	*e*PKP	PKPbc	15 46 49.0	+1.8
MORF	**Marmelete**	**146.79 336**	*e*PKP	PKPbc	15 46 48.5	+0.8
PFVI	**Vila Bisbo**	**147.01 337**	*e*PKP	PKPdf	15 46 47.7	+1.4
BDFB	**Brasilia**	**147.47 135**	PKPbc	PKPbc	15 46 49.1	-1.1
	comp=Z,27nm,0.8s,baz=176,slow=3.6,SNR=16					
TORD	**Torodi Ar. Bea**	**153.51 285**	PKP	PKPdf	15 46 57.2	+0.2
	comp=Z,1.3nm,0.9s,baz=19,slow=6.3,SNR=5.2					
TORD			PKPbc	PKPbc	15 47 04.5	-0.2
	comp=Z,9.8nm,1.0s,baz=56,slow=1.9,SNR=15					
DBIC	**Dimbokro**	**160.42 269**	PKPab	PKPab	15 47 47.1	+0.1
	comp=Z,8.7nm,0.8s,baz=78,slow=8.8,SNR=10					

*NEIC **03** 15:29:44.8,3824N×2025E,h5km,MD3.7(ATH),After ATH.*
*ISCJB **03** 15:29:45.5±1.1,3831N±005×2033E±009,h10km±5km, Error ellipse: s-maj=13.5km s-min=5.2km az=148.1*
*ATH **03** 15:29:45.2,3824N×2028E,h7km±3km,MD3.7/5*
*CSEM **03** 15:29:46.7±0.2,3837N×2051E,h0km±2km,MD3.7,Error ellipse: s-maj=4.7km s-min=2.5km az=80.0*
*THE **03** 15:29:47.8,3845N×2041E,h5km,ML3.7*

ISC 03 15:29:46.1±1.0,3833N±004×2037E±008,h9km±5km,n17, σ1§05/24,Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.23**	**130**	*e*PG	**Pg**	**15 29 50.6**	**-0.1**
VLS				*e*SG	**Sg**	**15 29 54.7**	**+0.9**
LKD	**Levkas**	**0.44**	**30**	*e*Pg	**Pg**	**15 29 53.2**	**-1.5**
LKD				*e*Sg	**Sg**	**15 29 59.3**	**-1.3**
RLS	**Riolos of Patr**	**0.90**	**107**	*e*PG	**Pg**	**15 30 02.8**	**-0.7**
IGT	**Igoumenitsa**	**1.21**	**359**	*e*Pg	**Pb**	**15 30 07.1**	**-2.1**
IGT				*e*Sg	**Sb**	**15 30 24.1**	**-0.7**
EVR	**Evrytania**	**1.27**	**62**	*e*PB	**Pb**	**15 30 11.6**	**+1.3**
JAN	**Janina**	**1.38**	**16**	*e*PB	**Pb**	**15 30 13.0**	**+0.9**
JAN				*e*SB	**Sg**	**15 30 32.7**	**+2.1**
KEK	**Kerkira**	**1.46**	**342**	*e*PG	**Pg**	**15 30 13.2**	**-0.9**
KEK				*e*SB	**Sg**	**15 30 35.4**	**+2.4**
MEV	**Metsovon**	**1.60**	**24**	*e*Pg	**Pn**	**15 30 14.8**	**+0.1**
ITM	**Ithomi**	**1.68**	**132**	*e*PB	**Pb**	**15 30 16.7**	**-0.5**
AGG	**Agios Georgios**	**1.69**	**65**	*e*Pg	**Pn**	**15 30 15.8**	**0.0**
AGG				*e*Sg	**Sn**	**15 30 37.4**	**-0.1**
THL	**Klokotos Trika**	**1.78**	**46**	*e*PN	**Pg**	**15 30 20.1**	**-0.2**
LKR	**Lokris**	**2.09**	**80**	*e*PN	**Pb**	**15 30 24.2**	**0.0**
LIT	**Litokhoron**	**2.42**	**42**	*e*Pn	**Pn**	**15 30 25.2**	**-0.7**
LIT				*e*Sn	**Sn**	**15 30 55.2**	**-0.5**
FNA	**Florina**	**2.58**	**17**	*e*Pn	**Pn**	**15 30 28.9**	**+0.9**
OHR	**Ohrid**	**2.80**	**7**	*e*Pn	**Pn**	**15 30 30.9**	**-0.2**
AOS	**Alonnisos**	**2.87**	**72**	*e*Pn	**Pn**	**15 30 34.0**	**+1.9**
KRUS	**Krusevo**	**3.12**	**12**	*e*Pn	**Pn**	**15 30 35.3**	**-0.1**

*IDC **03** 15:35:07.7±1.3,2881N×7655E,h0km,mb3.6/5,mb1 3.8/6, mb1mx3.5/22,mbtmp3.5/6,Error ellipse: s-maj=65.6km s-min=23.1km az=54.0*
*NEIC **03** 15:35:09.4±1.1,2895N×7658E,h10km,Error ellipse: s-maj=39.1km s-min=14.8km az=70.0*
*ISCJB **03** 15:35:11.7±0.4,2893N±003×7665E±003,h39km±7km, mb3.6/5,Error ellipse: s-maj=5.7km s-min=4.7km az=35.0*
*NDI **03** 15:35:11.2±2.5,2894N×7663E,h10km,ML2.8*

ISC 03 15:35:12.4±0.6,2893N±002×7666E±003,h25km±5km,n29, σ0§92/46,mb3.6/5,2C,Northern India

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BHGR	**Bahadurgarh**	**0.34**	**134**	*e*P	**Pb**	**15 35 13.8**	**-6.1**
BHGR				*e*S	**Sb**	**15 35 20.1**	**-5.2**
BHGR				AML	AML	15 35 21.0	
	comp=Z,1μm,0.2s						
NDI	**New Delhi**	**0.55**	**116**	*e*P	**Pb**	**15 35 22.6**	**-0.7**
NDI				*e*S	**Sb**	**15 35 30.1**	**-0.7**
NDI				AML	AML	15 35 31.1	
	comp=N,589nm,0.2s						
NDI				AML	AML	15 35 31.1	
	comp=E,620nm,0.5s						
AYAN	**Aya Nagar**	**0.60**	**137**	*e*P	**Pb**	**15 35 23.2**	**-1.1**
AYAN				*e*S	**Sb**	**15 35 32.7**	**+0.3**
AYAN				AML	AML	15 35 33.3	
	comp=Z,311nm,0.3s						
SONA	**Sohna**	**0.77**	**151**	*e*P	**Pb**	**15 35 26.4**	**-0.7**
SONA				*e*S	**Sb**	**15 35 37.4**	**+0.2**
SONA				AML	AML	15 35 38.4	
	comp=E,236nm,0.2s						
SONA				AML	AML	15 35 38.4	
	comp=N,187nm,0.3s						
KHET	**Khetri**	**1.13**	**222**	*e*P	**Pn**	**15 35 33.1**	**+0.5**
KHET				*e*S	**Sn**	**15 35 48.0**	**+0.6**
KHET				AML	AML	15 35 50.1	
	comp=E,208nm,0.3s						
KHET				AML	AML	15 35 50.1	
	comp=N,164nm,0.2s						
DDI	**Dehra Dun**	**1.85**	**41**	*e*P	**Pn**	**15 35 43.5**	**+1.0**
DDI				*e*S	**Sn**	**15 36 07.0**	**+2.0**
BHK	**Bhakra**	**2.49**	**355**	*e*P	**Pn**	**15 35 50.6**	**-0.7**
BHK				*e*S	**Sn**	**15 36 19.4**	**-1.5**
SDNR	**Sundarnagar**	**2.58**	**6**	*e*P	**Pn**	**15 35 53.0**	**+0.5**
SDNR				*e*x	**Sb**	**15 36 28.5**	**-0.7**
JOSI	**Joshimath**	**3.00**	**57**	*e*P	**Pn**	**15 35 58.7**	**+0.4**
JOSI				*e*S	**Sn**	**15 36 33.7**	**+0.3**
AJM	**Ajmer**	**3.02**	**217**	*e*x	**Pn**	**15 35 57.0**	**-1.6**
AJM				*i* x	**Sb**	**15 36 44.0**	**+2.1**
LGTI	**Loghaghat**	**3.18**	**80**	*e*P	**Pn**	**15 36 02.0**	**+1.2**
LGTI				*e*x	**Sb**	**15 36 45.5**	**-1.0**
THN	**Thein Dam**	**3.59**	**347**	*e*P	**Pn**	**15 36 07.6**	**+1.2**
THN				*e*x	**Sb**	**15 37 00.0**	**+1.8**
DLH	**Dalhousie**	**3.65**	**351**	*e*x	**Pb**	**15 36 17.0**	**+0.8**
DLH				*e*x	**Sn**	**15 37 09.0**	**+19**
THW	**Thamme Wali**	**5.72**	**314**	⇑P	**Pn**	**15 36 35.2**	**-0.5**
KOLN	**Koldanda**	**6.22**	**99**	*e*Pn	**Pn**	**15 36 44.1**	**+1.5**
KOLN				*e*Sn	**Sn**	**15 37 57.0**	**+4.0**
DRP	**Derazinda**	**6.25**	**298**	⇑P	**Pn**	**15 36 42.2**	**-0.7**
DRP				S	**Sn**	**15 37 53.0**	**-0.5**
GKN	**Gorkha**	**7.08**	**96**	*e*Pn	**Pn**	**15 36 54.7**	**+0.3**
GKN				*e*Sn	**Sn**	**15 38 13.9**	**-0.2**
KKN	**Kakani**	**7.68**	**96**	*e*Pn	**Pn**	**15 37 02.4**	**-0.2**
JIRN	**Jiri**	**8.50**	**96**	*e*Pn	**Pn**	**15 37 14.8**	**+1.0**
JIRN				*e*Sn	**Sn**	**15 38 48.3**	**-0.6**
UCH	**Uchtor**	**13.39**	**353**	*e*P	**Pn**	**15 38 19.5**	**-1.2**
	comp=N,3.4nm,0.7s						
AML	**Almayashu**	**13.39**	**350**	*e*P	**Pn**	**15 38 16.7**	**-4.1**
	comp=N,5.3nm,0.6s						
EKS2	**Erkin-Say**	**13.90**	**351**	P	**Pn**	**15 38 26.9**	**-0.8**
MKAR	**Makanchi Array**	**18.38**	**12**	P	**Pn**	**15 39 25.5**	**+0.3**
	baz=187,slow=10.0,SNR=3.5						
AKASG	**Malin Array Be**	**41.54**	**315**	P	**P**	**15 42

ASAR	**Alice Springs**	**45.60 257**	P	P	15 48 16.1	-0.1
	2.4nm,0.7s,baz=98,slow=7.3,SNR=23					
WRA	**Warramunga Arr**	**45.76 262**	P	P	15 48 17.7	+0.2
	0.9nm,0.5s,baz=96,slow=7.9,SNR=23					
FITZ	**Fitzroy Crossi**	**54.18 262**	P	P	15 49 22.3	+0.7
	0.6nm,0.4s,baz=106,slow=7.4,SNR=5.8					
AKASG	**Malin Array Be**	**144.10 332**	PKP	PKPdf	15 59 30.1	-1.5
	1.1nm,0.5s,baz=43,slow=4.3,SNR=6.4					
MMAI	**Mount Meron Ar**	**149.17 299**	PKPbc	PKPbc	15 59 44.6	-0.2
	1.7nm,0.5s,baz=65,slow=8.6,SNR=7.2					

*NEIC **03** 15:48:12.2±0.6,5158N×1612E,h5km,MG2.5(WAR), Error ellipse: s-maj=8.0km s-min=5.6km az=92.0*
*ISCJB **03** 15:48:14.0±0.8,5137N±004×1594E±005,h0km, Error ellipse: s-maj=6.3km s-min=3.2km az=28.4*
*CSEM **03** 15:48:13.0±0.1,5150N×1613E,h2km,ML2.9/6, Error ellipse: s-maj=2.2km s-min=1.7km az=85.0*
*IPEC **03** 15:48:13.6±0.3,5148N×1609E,h0km,ML2.0/4, Error ellipse: s-maj=4.2km s-min=1.9km az=80.0*
*WAR **03** 15:48:14,5148N×1604E,ML2.5,Mining Induced*
*PRU **03** 15:48:14.6,5142N×1606E,h0km*
*IDC **03** 15:48:14.3±0.9,5146N×1599E,h0km,mb1 3.4/5, mb1mx3.2/22,mbtmp3.2/5,ML2.8/5, Error ellipse: s-maj=18.3km s-min=8.1km az=101.0*
*VIE **03** 15:48:15.1±0.5,5134N×1608E,h0km,mb2.1/2,ML2.5/4, Error ellipse: s-maj=3.5km s-min=2.9km az=174.0 71 km WNW of Wroclaw Suspected Mining induced.*

ISC 03 15:48:12.6±0.6,5150N±003×1608E±004,h0km,n31, σ1§07/61,2C-2D,Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.67**	**169**	*e*Pg	**Pg**	**15 48 26.5**	**+1.1**
KSP				*e*Sg	**Sg**	**15 48 35.9**	**+1.8**
KSP	**Ksiaz**	**0.67**	**169**	⇓*i*Pg	**Pg**	**15 48 26.5**	**+1.1**
KSP				*e*Sg	**Sg**	**15 48 34.7**	**+0.6**
KSP	**Ksiaz**	**0.67**	**169**	*e*Pg	**Pg**	**15 48 26.4**	**+1.0**
KSP				*e*Sg	**Sg**	**15 48 33.8**	**-0.3**
UPC	**Upice**	**0.99**	**183**	*e*PG	**Pg**	**15 48 32.3**	**+0.7**
DPC	**Dobruska-Polom**	**1.16**	**172**	*e*PG	**Pg**	**15 48 35.2**	**+0.4**
DPC				*e*SG	**Sg**	**15 48 49.2**	**-0.6**
	17nm,0.4s						
DPC	**Dobruska-Polom**	**1.16**	**172**	*e*Pg	**Pg**	**15 48 35.1**	**+0.3**
DPC				*e*Sg	**Sg**	**15 48 49.2**	**-0.6**
PVCC	**Panska Ves**	**1.36**	**225**	*e*PG	**Pg**	**15 48 39.0**	**+0.3**
PVCC				*e*SG	**Sg**	**15 48 57.5**	**+1.1**
	79nm,0.2s						
BRG	**Berggiesshubel**	**1.49**	**246**	PN	**Pn**	**15 48 40.6**	**0.0**
BRG				PG	**Pg**	**15 48 41.4**	**+0.3**
BRG				SG	**Sg**	**15 49 00.9**	**+0.6**
	32nm,0.3s						
PRU	**Pruhonice**	**1.80**	**214**	*e*PN	**Pn**	**15 48 44.8**	**-0.1**
PRU				*e*PG	**Pg**	**15 48 46.3**	**-0.8**
PRU				*e*SG	**Sg**	**15 49 08.5**	**-2.0**
	13nm,0.5s						
CLL	**Collm**	**1.94**	**266**	*e*Pg	**Pg**	**15 48 49.0**	**-0.8**
CLL				*e*Sg	**Sg**	**15 49 15.0**	**+0.1**
	comp=Z,12nm,0.5s						
MORC	**Moravsky Berou**	**1.96**	**151**	*e*Pn	**Pn**	**15 48 46.8**	**-0.2**
MORC				*e*Sn	**Sn**	**15 49 14.1**	**+1.9**
MORC	**Moravsky Berou**	**1.96**	**151**	*e*Pn	**Pn**	**15 48 46.8**	**-0.2**
MORC				*e*Sn	**Sn**	**15 49 14.1**	**+1.8**
OKC	**Ostrava-Krasne**	**2.12**	**141**	*e*SG	**Sg**	**15 49 19.3**	**-1.3**
VRAC	**Vranov**	**2.22**	**171**	Pn	**Pn**	**15 48 51.6**	**+1.0**
	comp=Z,1.2nm,0.3s,baz=347,slow=19,SNR=7.9						
VRAC				Lg		15 49 24.1	
	comp=Z,2.6nm,0.3s,baz=86,slow=18,SNR=5.5						
VRAC	**Vranov**	**2.22**	**171**	*e*Pn	**Pn**	**15 48 51.5**	**+0.9**
VRAC				*e*Sg	**Sg**	**15 49 22.9**	**-0.9**
	comp=Z,4.9nm,0.2s						
TREC	**Trest**	**2.24**	**190**	*e*PN	**Pn**	**15 48 52.2**	**+1.3**
TREC				*e*PG	**Pg**	**15 48 54.7**	**-0.8**
KRUC	**Moravsky**	**2.45**	**175**	*e*Pn	**Pn**	**15 48 55.0**	**+1.2**
KRUC				*e*Sg	**Sg**	**15 49 29.3**	**-1.9**
	comp=Z,6.4nm,0.5s						
NKC	**Novy Kostel**	**2.63**	**243**	*e*Pn	**Pn**	**15 48 56.9**	**+0.6**
NKC				*e*Pg	**Pg**	**15 49 01.8**	**-1.2**
NKC				*e*Sg	**Sg**	**15 49 38.0**	**+1.0**
NKC	**Novy Kostel**	**2.63**	**243**	*e*PN	**Pn**	**15 48 56.9**	**+0.6**
NKC				*e*PG	**Pg**	**15 49 01.8**	**-1.2**
NKC				*e*SG	**Sg**	**15 49 38.0**	**+1.0**
	comp=Z,19nm,0.3s						
JAVC	**Velka Javorina**	**2.83**	**158**	*e*Sg	**Sg**	**15 49 44.8**	**+1.2**
	comp=Z,8.6nm,0.6s						
KHC	**Kasperske Hory**	**2.86**	**215**	*e*Pn	**Pn**	**15 48 59.6**	**+0.1**
KHC				*e*Pg	**Pg**	**15 49 05.4**	**-2.1**
KHC				*e*Sn	**Sn**	**15 49 33.4**	**-1.2**
KHC				*e*Sg	**Sg**	**15 49 42.9**	**-1.6**
KHC	**Kasperske Hory**	**2.86**	**215**	*e*PN	**Pn**	**15 48 59.6**	**+0.1**
KHC				*e*PG	**Pg**	**15 49 05.4**	**-2.1**
KHC				*e*SN	**Sn**	**15 49 33.4**	**-1.2**
KHC				*e*SG	**Sg**	**15 49 42.9**	**-1.6**
	comp=Z,4.8nm,0.5s						
MOX	**Moxa**	**2.94**	**255**	*e*PN	**Pn**	**15 49 00.8**	**+0.2**
MOX				*e*PG	**Pg**	**15 49 08.8**	**-0.2**
MOX				*e*SG	**Sg**	**15 49 48.7**	**+1.5**
GERES	**GERESS Array B**	**3.07**	**211**	Pn	**Pn**	**15 49 03.2**	**+0.9**
	comp=Z,0.5nm,0.3s,baz=28,slow=13,SNR=14						
GERES				Pg	**Pg**	**15 49 09.2**	**-2.2**
	comp=Z,2.5nm,0.3s,baz=31,slow=17,SNR=29						
GERES				Lg		15 49 49.1	
	comp=Z,1.9nm,0.3s,baz=29,slow=28,SNR=6.7						
GERES	**GERESS Array B**	**3.07**	**211**	Pg	**Pg**	**15 49 09.2**	**-2.2**
CONA	**Conrad Observa**	**3.58**	**182**	⇑*i*Pn	**Pn**	**15 49 10.3**	**+1.0**
MOA	**Molln**	**3.84**	**199**	⇑*i*Pn	**Pn**	**15 49 13.8**	**+0.9**
MOA				⇓*i*Sg	**Sg**	**15 50 17.0**	**+1.1**
	comp=Z,4.3nm,0.5s						
NOA	**NORSAR Array B**	**9.94**	**346**	Pn	**Pn**	**15 50 35.9**	**-0.6**
NOA	**NORSAR Array B**	**9.94**	**346**	Pn	**Pn**	**15 50 35.9**	**-0.6**
	comp=Z,0.1nm,0.3s,baz=160,slow=8.9,SNR=2.3						
FINES	**FINESS Array B**	**11.38**	**25**	Pn	**Pn**	**15 50 54.8**	**-1.4**
	comp=Z,0.2nm,0.3s,baz=210,slow=10.0,SNR=5.5						
ARCES	**ARCESS Array B**	**18.64**	**10**	Pn	**Pn**	**15 52 27.4**	**-4.3**
	comp=Z,0.1nm,0.3s,baz=192,slow=11,SNR=5.0						

*JMA **03** 15:50:14.0±0.5,4428N×14938E,h30km,M4.1*
*MOS **03** 15:50:15.6±1.0,4433N×14923E,h36km,mb4.2/8, Error ellipse: s-maj=15.8km s-min=12.5km az=117.7*
*ISCJB **03** 15:50:16.1±1.3,4365N±008×1492E±01,h67km±11km, mb3.6/11, Error ellipse: s-maj=13.9km s-min=12.5km az=162.8*
*IDC **03** 15:50:20.5±1.0,4567N×14865E,h0km,mb3.8/10, mb1 4.0/11,mb1mx3.9/20,mbtmp3.8/11,ML3.2/1,MS4.3/3, Ms1 4.3/3,ms1mx3.3/37, Error ellipse: s-maj=28.2km s-min=19.8km az=167.0*
*NEIC **03** 15:50:21.1±2.4,4444N×14873E,h44km±23km,mb3.7/1, Error ellipse: s-maj=30.1km s-min=21.5km az=176.0*

ISC 03 15:50:17.6±1.2,4375N±009×1493E±01,h59km±12km,n59, σ0§89/65,mb3.7/11,MS4.2/4,2C,East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.78**	**327**	⇑*i*PN	**Pn**	**15 50 38.7**	**-7.3**
KUR				pmax	pmax		
	comp=Z,290nm,0.6s						
YUK	**Yuzh-Kuril'sk**	**2.46**	**278**	*e*PN	**Pn**	**15 50 53.3**	**-1.9**
YUK				*e*S	**Sn**	**15 51 24.0**	**-0.1**
YUK				pmax	pmax		
	comp=Z,190nm,0.4s						
YUK				pmax	pmax		
	comp=E,110nm,5.0s						
YUK				smax			
	comp=N,520nm,0.4s						
YUK				smax			
	comp=E,770nm,0.5s						
YUK				smax			
	comp=N,2μm,1.0s						
NEM2	**Nemuro 2**	**2.58**	**263**	P	**Pn**	**15 50 55.5**	**-1.3**
NEM2				*e*S	**Sn**	**15 51 26.7**	**-0.2**
JRA	**Rausu**	**2.99**	**275**	P	**Pn**	**15 51 01.9**	**-0.5**
JNK	**Nakash**	**3.29**	**269**	P	**Pn**	**15 51 05.9**	**-0.6**
JAK	**Akkeshi**	**3.40**	**259**	P	**Pn**	**15 51 07.5**	**-0.6**
JAK				*e*S	**Sn**	**15 51 47.1**	**0.0**
JTKR	**Abashiri--Toko**	**3.87**	**275**	P	**Pn**	**15 51 14.2**	**-0.2**
JAR	**Ashorobuto**	**4.01**	**265**	P	**Pn**	**15 51 16.3**	**-0.1**
JOB	**Onbets**	**4.04**	**260**	P	**Pn**	**15 51 16.5**	**-0.3**
JMP	**Maruseppu**	**4.26**	**275**	P	**Pn**	**15 51 19.9**	**0.0**
JCH	**Churui**	**4.45**	**257**	P	**Pn**	**15 51 22.5**	**+0.1**
JKK2	**Kamakawa 2**	**4.70**	**274**	P	**Pn**	**15 51 26.8**	**+0.9**
ERM	**Erimo**	**4.80**	**251**	*e*P	**Pn**	**15 51 29.1**	**+1.9**
JEM	**Erimo**	**4.80**	**251**	P	**Pn**	**15 51 29.0**	**+1.8**
ASAJ	**Asahikawa**	**4.82**	**277**	PN	**Pn**	**15 51 28.9**	**+1.5**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ	**Asahikawa**	**4.82**	**277**	Pn	**Pn**	**15 51 28.9**	**+1.5**
	comp=Z,0.8nm,0.3s,baz=74,slow=17,SNR=11						
JFR	**Furan**	**4.88**	**265**	P	**Pn**	**15 51 29.3**	**+1.0**
JNBK	**Urakawa-nobuka**	**4.98**	**255**	P	**Pn**	**15 51 29.8**	**+0.1**
JBT2	**Biratori 2**	**5.12**	**261**	P	**Pn**	**15 51 31.7**	**+0.1**
YSS	**Yuzh-Sakhalins**	**5.58**	**307**	Pn	**Pn**	**15 51 32.5**	**-5.4**
YSS	**Yuzh-Sakhalins**	**5.58**	**307**	*i* PN	**Pn**	**15 51 44.6**	**+6.7**
JEW	**Eniwo**	**5.76**	**264**	P	**Pn**	**15 51 41.7**	**+1.3**
JNB	**Noboribetsu**	**6.14**	**261**	P	**Pn**	**15 51 46.0**	**+0.4**
JNB				*e*S	**Sn**	**15 52 54.7**	**+0.3**
JKB	**Kayabe**	**6.32**	**256**	P	**Pn**	**15 51 48.3**	**+0.3**
JKB				*e*S	**Sn**	**15 52 57.2**	**-1.6**
JANG	**Nango**	**6.67**	**242**	P	**Pn**	**15 51 52.2**	**-0.6**
JANG				*e*S	**Sn**	**15 53 03.8**	**-3.6**
JTH	**Tanohata**	**6.70**	**238**	P	**Pn**	**15 51 52.0**	**-1.2**
JTH				*e*S	**Sn**	**15 53 04.5**	**-3.6**
JYM2	**Yakumo 2**	**6.72**	**259**	P	**Pn**	**15 51 53.9**	**+0.4**
JTM	**Tenmabayashi**	**6.75**	**247**	P	**Pn**	**15 51 54.3**	**+0.4**
JTM				*e*S	Sx	15 53 07.9	
OFUJ	**Ofunato**	**7.36**	**233**	P	**Pn**	**15 52 01.9**	**-0.4**
OFUJ				*e*S	Sx	15 53 21.9	
JOSM	**Okushiri--Mats**	**7.36**	**260**	P	**Pn**	**15 52 02.6**	**+0.3**
JRG	**Rokugo**	**7.78**	**239**	P	**Pn**	**15 52 08.9**	**+0.8**
JRG				*e*S	Sx	15 53 32.7	
JIO	**Ouri**	**7.97**	**231**	P	**Pn**	**15 52 09.8**	**-0.8**
JIO				*e*S	Sx	15 53 35.8	
JFK	**Kawauchi**	**9.01**	**228**	P	**Pn**	**15 52 24.9**	**0.0**
JFK				*e*S	Sx	15 54 01.0	
SEY	**Seymchan**	**19.31**	**4**	*i* P	**Pn**	**15 54 32.1**	**-6.8**
YAK	**Yakutsk**	**21.62**	**335**	*i* P	**P**	**15 54 57.8**	**-4.6**
BILL	**Bilibino**	**25.96**	**15**	⇑*e*P	**P**	**15 55 41.3**	**-2.8**
BILL				*e*S	Sx	15 59 59.6	
BILL				pmax	pmax		
	comp=Z,4.0nm,1.8s,mb3.6						
BILL				MLR	MLR		
	comp=Z,300nm,20.0s,MS3.8						
ULN	**Ulaanbaatar**	**29.43**	**293**	*e*P	**P**	**15 56 16.0**	**+0.7**
	comp=Z,1.7nm,0.9s,mb3.8						
ULN	**Ulaanbaatar**	**29.43**	**293**	*e*P	**P**	**15 56 16.0**	**+0.7**
ULN				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb3.9						
SONM	**Songino Array**	**29.87**	**293**	P	**P**	**15 56 19.2**	**0.0**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.8s						
SONM	**Songino Array**	**29.87**	**293**	P	**P**	**15 56 19.2**	**0.0**
	comp=Z,1.1nm,0.8s,mb3.6,baz=80,slow=8.9,SNR=9.4						
MKAR	**Makanchi Array**	**45.93**	**298**	*i* P	**P**	**15 58 35.0**	**+0.8**
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.8s						
MKAR	**Makanchi Array**	**45.93**	**298**	P	**P**	**15 58 35.0**	**+0.9**
	comp=Z,2.7nm,0.8s,mb4.2,baz=76,slow=8.2,SNR=19						
KURK	**Kurchatov**	**46.78**	**305**	*i* P	**P**	**15 58 40.9**	**0.0**
YKA	**Yellowknife Ar**	**54.95**	**34**	P	**P**	**15 59 42.3**	**+0.3**
YKA	**Yellowknife Ar**	**54.95**	**34**	P	**P**	**15 59 42.3**	**+0.3**
	comp=Z,0.2nm,0.5s,mb3.4,baz=299,slow=6.9,SNR=6.0						
FINES	**FINESS Array B**	**65.56**	**334**	*i* P	**P**	**16 00 54.0**	**-0.5**
FINES				pmax	pmax		
	comp=Z,3.0nm,0.6s						
FINES	**FINESS Array B**	**65.56**	**334**	P	**P**	**16 00 53.6**	**-0.8**
	comp=Z,2.5nm,0.6s,mb4.4,baz=43,slow=8.6,SNR=8.2						
NVAR	**Mina Array Bea**	**66.29**	**59**	P	**P**	**16 01 07.1**	**+7.6**
	comp=Z,0.1nm,0.5s,mb3.1,baz=195,slow=22,SNR=2.8						
PDAR	**Pinedale Array**	**68.74**	**51**	P	**P**	**16 01 19.9**	**+5.0**
PDAR	**Pinedale Array**	**68.74**	**51**	P	**P**	**16 01 19.9**	**+5.0**
	comp=Z,0.2nm,0.6s,mb3.2,baz=215,slow=4.9,SNR=2.5						
NB2	**NORSAR Subarra**	**70.14**	**340**	P	**P**	**16 01 22.8**	**-0.5**
	comp=Z,1.4nm,0.6s,mb4.1,baz=30,slow=6.5						
NOA	**NORSAR Array B**	**70.14**	**340**	P	**P**	**16 01 23.2**	**-0.1**
NOA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
NOA	**NORSAR Array B**	**70.14**	**340**	P	**P**	**16 01 23.1**	**-0.1**
	comp=Z,3.2nm,0.8s,mb4.3,baz=32,slow=6.1,SNR=9.1						
AKASG	**Malin Array Be**	**72.47**	**325**	P	**P**	**16 01 37.6**	**+0.1**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.5s						
AKASG				MLR	MLR		
	comp=Z,202nm,20.1s						
AKASG	**Malin Array Be**	**72.47**	**325**	P	**P**	**16 01 37.5**	**+0.1**
	comp=Z,0.8nm,0.5s,mb3.9,baz=36,slow=5.8,SNR=6.0						
AKASG				LR	LR	16 35 43.5	
	comp=Z,202nm,20.1s,MS4.4,baz=40,slow=38						
GERES	**GERESS Array B**	**79.89**	**332**	P	**P**	**16 02 20.0**	**+0.3**
GERES				LR	LR	16 41 06.1	
GERES	**GERESS Array B**	**79.89**	**332**	P	**P**	**16 02 20.0**	**+0.4**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
GERES				MLR	MLR		
	comp=Z,233nm,19.1s						
GERES	**GERESS Array B**	**79.89**	**332**	P	**P**	**16 02 20.0**	**+0.3**
	comp=Z,0.5nm,0.6s,mb3.6,baz=46,slow=5.8,SNR=4.6						
GERES				LR	LR	16 41 06.1	
	comp=Z,233nm,19.1s,MS4.5,baz=51,slow=39						
KEST	**Kesra**	**92.89**	**328**	LR	LR	16 52 21.1	
	comp=Z,70nm,18.8s,MS4.1,baz=324,slow=41						

ISC 03 15:54:22.3±1.7,351S±03×1797E±04,h319km±21km,n12, σ0§77/16,mb2.7/1,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUZ	**Puketiti**	**3.16**	**201**	PN	**Pn**	**15 55 20.8**	**+0.1**
PUZ				SN	**S**	**15 56 05.7**	**-2.0**
MWZ	**Matawai**	**3.65**	**208**	PN	**Pn**	**15 55 26.0**	**+0.3**
MWZ				SN	**S**	**15 56 16.4**	**-0.1**
URZ	**Urewera**	**3.76**	**213**	PN	**Pn**	**15 55 27.1**	**+0.3**
URZ				SN	**S**	**15 56 19.2**	**+0.6**
BKZ	**Black Stump Fm**	**4.78**	**212**	PN	**Pn**	**15 55 38.5**	**+0.6**
BKZ				SN	**S**	**15 56 39.3**	**+0.5**
PXZ	**Pawanui**	**5.39**	**204**	PN	**Pn**	**15 55 46.3**	**+1.5**
TSZ	**Takapari Road**	**5.75**	**210**	PN	**Pn**	**15 55 49.2**	**+0.1**
BFZ	**Birch Farm**	**6.18**	**205**	PN	**Pn**	**15 55 54.6**	**+0.6**
MRZ	**Mangatainoka R**	**6.41**	**209**	PN	**Pn**	**15 55 55.9**	**-1.0**
KIW	**Kapiti Island**	**6.86**	**212**	PN	**Pn**	**15 56 01.1**	**-1.0**
CAW	**Cannon Point**	**7.00**	**210**	PN	**Pn**	**15 56 03.4**	**-0.3**
THZ	**Tophouse**	**8.50**	**217**	SN	**S**	**15 57 59.5**	**+0.1**
ASAR	**Alice Springs**	**41.20**	**273**	P	**P**	**16 01 36.2**	**-0.4**
	0.3nm,0.6s,mb2.7,baz=13,slow=7.6,SNR=6.4						

IDC 03 16:00:49.2±1.3,733S×15562E,h0km,mb3.8/5,mb1 3.8/6, mb1mx3.7/15,mbtmp3.8/6,ML4.4/1,MS3.0/1,Ms1 3.0/1, ms1mx2.4/23,Error ellipse: s-maj=34.2km s-min=29.0km az=113.0,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.77**	**116**	Pn	Pn	16 02 01.5	-0.8
	16nm,0.3s,baz=259,slow=7.4,SNR=6.3						
HNR				Sn	Sn	16 03 03.2	+4.9
	17nm,0.3s,baz=69,slow=16,SNR=9.7						
HNR				LR	LR	16 03 45.9	
	comp=Z,162nm,20.9s,baz=4.2,slow=37						
WRA	**Warramunga Arr**	**24.15**	**237**	P	P	16 06 07.9	+0.8
	0.9nm,0.7s,baz=61,slow=9.7,SNR=7.0						
ASAR	**Alice Springs**	**26.43**	**230**	P	P	16 06 27.6	-0.2
	0.3nm,0.6s,baz=61,slow=9.7,SNR=4.6						
SONM	**Songino Array**	**69.95**	**327**	P	P	16 12 03.4	+1.1
	0.7nm,0.4s,baz=146,slow=6.7,SNR=10						
MKAR	**Makanchi Array**	**84.06**	**319**	P	P	16 13 21.7	-0.1
	1.1nm,0.8s,baz=109,slow=5.6,SNR=8.8						
ZALV	**Zalesovo Beam**	**84.80**	**326**	P	P	16 13 24.2	-1.1
	0.7nm,0.4s,baz=110,slow=5.5,SNR=4.5						

*IDC **03** 16:07:31.6±1.7,725S×15538E,h0km,mb3.9/8,mb1 4.0/8, mb1mx3.9/15,mbtmp3.8/8,Error ellipse: s-maj=58.9km s-min=22.5km az=116.0*
*NEIC **03** 16:07:32.2±1.0,724S×15552E,h10km,mb4.4/2,Error ellipse: s-maj=40.6km s-min=13.8km az=122.0*
*ISCJB **03** 16:07:34.3±1.1,73S±02×1555E±03,h33km,mb3.8/10, Error ellipse: s-maj=42.3km s-min=14.6km az=32.8*

ISC 03 16:07:36.1±1.1,73S±02×1555E±03,h35km,n15,σ0§94/15, mb3.8/10,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WB2	**Warramunga Arr**	**24.06**	**236**	*e*P	**P**	**16 12 48.1**	**-0.2**
WRA	**Warramunga Arr**	**24.07**	**236**	P	**P**	**16 12 48.4**	**+0.1**
	2.0nm,0.7s,mb3.7,baz=58,slow=9.1,SNR=13						
ASAR	**Alice Springs**	**26.36**	**229**	P	**P**	**16 13 08.5**	**-0.7**
	0.5nm,0.8s,mb3.1,baz=64,slow=8.3,SNR=8.8						
STKA	**Stephens Creek**	**27.70**	**206**	*e*P	**P**	**16 13 22.1**	**+1.1**
	2.6nm,0.9s,mb3.9						
STKA	**Stephens Creek**	**27.70**	**206**	*e*P	**P**	**16 13 21.9**	**+0.9**
STKA	**Stephens Creek**	**27.70**	**206**	P	**P**	**16 13 21.9**	**+0.9**
	2.6nm,0.8s,mb3.9,baz=4.6,slow=7.9,SNR=5.4						
FITZ	**Fitzroy Crossi**	**31.00**	**247**	P	**P**	**16 13 49.7**	**-0.8**
	1.8nm,0.9s,mb3.9,baz=75,slow=12,SNR=3.3						
SONM	**Songino Array**	**69.84**	**327**	P	**P**	**16 18 44.4**	**+1.3**
	0.4nm,0.5s,mb3.6,baz=138,slow=5.7,SNR=4.3						
BILL	**Bilibino**	**75.52**	**4**	*e*P	**P**	**16 19 14.0**	**-2.5**
	1.8nm,0.4s,mb4.3						
MCK	**McKinley**	**82.13**	**22**	*e*P	**P**	**16 19 52.2**	**-0.6**
	2.5nm,0.8s,mb4.2						
MKAR	**Makanchi Array**	**83.94**	**319**	P	**P**	**16 20 03.4**	**+0.8**
MKAR	**Makanchi Array**	**83.94**	**319**	P	**P**	**16 20 03.4**	**+0.8**
	0.5nm,0.7s,mb3.8,baz=107,slow=4.7,SNR=6.1						
ZALV	**Zalesovo Beam**	**84.69**	**326**	P	**P**	**16 20 06.4**	**+0.2**
	0.5nm,0.6s,mb3.8,baz=102,slow=6.2,SNR=3.9						
YKA	**Yellowknife Ar**	**96.35**	**28**	P	**P**	**16 21 01.6**	**+0.7**
YKA	**Yellowknife Ar**	**96.35**	**28**	P	**P**	**16 21 01.6**	**+0.7**
	0.3nm,0.7s,mb3.8,baz=266,slow=4.6,SNR=8.5						

IDC 03 16:07:44.8±1.6,145N×12354E,h0km,mb3.6/4,mb1 3.8/5, mb1mx3.6/18,mbtmp3.6/5,Error ellipse: s-maj=145.2km s-min=22.4km az=64.0,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**19.54**	**174**	*e*P	Pn	16 12 12.4	-2.9
	5.1nm,0.9s						
FITZ	**Fitzroy Crossi**	**19.54**	**174**	P	Pn	16 12 13.2	-2.1
	0.1nm,0.3s,baz=356,slow=13,SNR=4.2						
WRA	**Warramunga Arr**	**23.75**	**154**	P	P	16 12 59.4	+0.3
	1.7nm,0.8s,baz=337,slow=9.6,SNR=7.5						
ASAR	**Alice Springs**	**26.92**	**159**	P	P	16 13 26.0	-1.9
	0.4nm,0.8s,baz=345,slow=14,SNR=5.7						
STKA	**Stephens Creek**	**37.30**	**154**	P	P	16 15 00.2	+1.4
	1.6nm,0.8s,baz=331,slow=10,SNR=3.5						
MKAR	**Makanchi Array**	**57.68**	**328**	P	P	16 17 37.6	+0.5
	0.4nm,0.8s,baz=116,slow=8.5,SNR=2.7						

*IDC **03** 16:11:48.5±0.9,042S×12568E,h0km,mb4.0/7,mb1 4.0/8, mb1mx3.9/17,mbtmp4.0/8,ML3.5/1,MS3.7/1,Ms1 3.7/1, ms1mx2.9/30,Error ellipse: s-maj=77.4km s-min=15.7km az=72.0*
*NEIC **03** 16:11:49.5±0.5,026S×12609E,h10km,mb4.6/2,Error ellipse: s-maj=40.7km s-min=6.8km az=68.0*
*ISCJB **03** 16:11:50.9±0.6,04S±01×1260E±03,h33km,mb4.1/9, Error ellipse: s-maj=44.9km s-min=9.1km az=160.1*

ISC 03 16:11:53.3±0.6,04S±01×1260E±03,h35km,n18,σ0§68/17, mb4.1/9,Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**13.84**	**153**	*e*Pn	**Pn**	**16 15 06.3**	**-0.9**
FITZ	**Fitzroy Crossi**	**17.62**	**181**	*e*P	**Pn**	**16 15 57.3**	**+1.1**
	2.3nm,0.6s						
FITZ	**Fitzroy Crossi**	**17.62**	**181**	*e*P	**Pn**	**16 15 57.2**	**+1.0**
FITZ	**Fitzroy Crossi**	**17.62**	**181**	P	**Pn**	**16 15 56.9**	**+0.7**
	0.1nm,0.3s,baz=21,slow=10.0,SNR=4.5						
WRA	**Warramunga Arr**	**21.11**	**158**	P	**P**	**16 16 34.6**	**-0.5**
	1.8nm,0.4s,mb3.8,baz=336,slow=11,SNR=40						
WB2	**Warramunga Arr**	**21.12**	**158**	*e*P	**P**	**16 16 34.4**	**-0.7**
ASAR	**Alice Springs**	**24.41**	**162**	P	**P**	**16 17 09.5**	**+0.9**
	2.7nm,0.9s,mb3.7,baz=346,slow=12,SNR=26						
NWAO	**Narrogin (SRO)**	**33.40**	**193**	LR	LR	16 34 21.3	
	comp=Z,118nm,20.5s,baz=106,slow=41						
STKA	**Stephens Creek**	**34.65**	**156**	*e*P	**P**	**16 18 40.4**	**+0.9**
STKA	**Stephens Creek**	**34.65**	**156**	P	**P**	**16 18 40.0**	**+0.5**
	1.6nm,0.9s,mb4.0,baz=37,slow=6.4,SNR=4.6						
KSRS	**Korea Array**	**37.68**	**3**	P	**P**	**16 19 06.5**	**+1.1**
	1.1nm,0.5s,mb3.8,baz=182,slow=9.7,SNR=6.3						
SONM	**Songino Array**	**50.94**	**343**	P	**P**	**16 20

ZALV Zalesovo Beam 71.51 334 P P 16 28 33.6 -1.0
0.5nm,0.4s,mb3.6,baz=119,slow=5.1,SNR=3.8

RSPR 03 16:26:26.5, 1908N×6955W, h90km±2km, MD3.7/6, 6C-4D, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DR12	**Loma Pena Alta**	**0.33**	**151⇑**	*e*P	Pn	16 26 39.5	-0.6
DR12				*e*S	Sn	16 26 50.0	-0.1
DR12	**Loma Pena Alta**	**0.33**	**151⇑**	*e*P	Pn	16 26 39.3	-0.8
DR12				*e*S	Sn	16 26 50.1	-0.1
STDO	**Santo Domingo**	**0.72**	**210**	*e*S	Sn	16 26 55.1	-0.5
STDO	**Santo Domingo**	**0.72**	**210**	*e*S	Sn	16 26 55.1	-0.6
SDDR	**Presa de Saban**	**1.65**	**267⇓**	*e*P	Pn	16 26 53.4	-0.7
SDDR	**Presa de Saban**	**1.65**	**267**	*e*S	Sn	16 27 15.0	-0.1
SDDR	**Presa de Saban**	**1.65**	**267⇓**	*e*P	Pn	16 26 53.4	-0.7
SDDR	**Presa de Saban**	**1.65**	**267**	*e*S	Sn	16 27 15.0	-0.1
LSP	**Las Mesas**	**2.50**	**111**	*e*S	Sn	16 27 36.6	+1.4
LSP	**Las Mesas**	**2.50**	**111**	*e*S	Sn	16 27 34.2	-0.9
LSP	**Las Mesas**	**2.50**	**111⇑**	*e*P	Pn	16 27 05.2	-0.1
CRPR	**Cabo Rojo, PR**	**2.55**	**114**	*e*S	Sn	16 27 38.5	+2.3
CRPR	**Cabo Rojo, PR**	**2.55**	**114⇓**	*e*P	Pn	16 27 06.4	+0.4
CRPR	**Cabo Rojo, PR**	**2.55**	**114**	*e*S	Sn	16 27 36.6	+0.4
CRPR	**Cabo Rojo, PR**	**2.55**	**114⇑**	*e*P	Pn	16 27 06.1	+0.2
CBYP	**Canovanas**	**3.59**	**102⇓**	*e*P	Pn	16 27 17.5	-2.5
CBYP	**Canovanas**	**3.59**	**102⇑**	*e*P	Pn	16 27 17.6	-2.4
CBYP	**Canovanas**	**3.59**	**102**	*e*S	Sn	16 27 57.5	-3.9
MTP	**Monte Pirata**	**3.91**	**104⇑**	*e*P	Pn	16 27 21.8	-2.6
MTP	**Monte Pirata**	**3.91**	**104**	*e*S	Sn	16 28 05.9	-3.3

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*MDD **03** 16:33:07.7±1.4, 3537N×1122W, h0km, mbLg3.0/23, Error ellipse: s-maj=16.3km s-min=9.4km az=104.0, PRXIMO*
*NEIC **03** 16:33:09.0, 3586N×1147W, h0km, MG4.4(MDD), After MDD.*
*ISCJB **03** 16:33:08.8±0.8, 3542N±005×1093W±007, h10km, Error ellipse: s-maj=8.2km s-min=6.1km az=27.3*
*CNRM **03** 16:33:10.2, 3534N×1113W, h30km, MD3.4*
*INMG **03** 16:33:10.8±0.7, 3553N×1133W, h10km, ML2.7, Error ellipse: s-maj=4.2km s-min=3.3km az=109.0*
*CSEM **03** 16:33:11.7±0.5, 35.13N×1053W, h10km, ML3.7/4, Error ellipse: s-maj=11.6km s-min=5.4km az=94.0*

ISC 03 16:33:10.9±0.9, 3553N±005×1100W±006, h10km, n61, σ1°08/115, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PFVI	**Vila Bisbo**	**2.37**	**47**	*i*Pn	**Pn**	**16 33 50.5**	**+0.6**
PFVI				*e*Sn	**Sn**	**16 34 20.5**	**+1.5**
MORF	**Marmelete**	**2.59**	**46**	*e*Pn	**Pn**	**16 33 53.7**	**+0.8**
MORF				*e*Sn	**Sn**	**16 34 25.9**	**+1.4**
MORF				A		16 34 27.9	
	29nm,0.1s						
MORF	**Marmelete**	**2.59**	**46**	P	**Pn**	**16 33 53.6**	**+0.7**
MORF				S	**Sn**	**16 34 25.5**	**+1.1**
PTEO	**Sao Teotonio**	**2.72**	**42**	*e*Pn	**Pn**	**16 33 55.0**	**+0.4**
PTEO				*e*Sn	**Sn**	**16 34 28.6**	**+1.0**
PTEO				A		16 34 34.9	
	16nm,0.3s						
PTEO	**Sao Teotonio**	**2.72**	**42**	*e*Pn	**Pn**	**16 33 55.0**	**+0.4**
PTEO				*e*Sn	**Sn**	**16 34 28.6**	**+1.0**
	16nm,0.3s						
PBDV	**Barranco-do-Ve**	**3.01**	**54**	*e*Pn	**Pn**	**16 33 59.6**	**+1.0**
PBDV				*e*Sn	**Sn**	**16 34 36.1**	**+1.4**
PBDV				A		16 34 43.4	
	8.4nm,0.1s						
PBDV	**Barranco-do-Ve**	**3.01**	**54**	P	**Pn**	**16 33 59.6**	**+1.0**
PBDV				S	**Sn**	**16 34 36.1**	**+1.4**
	4.2nm,0.1s						
PVAQ	**Vaqueiros**	**3.24**	**54**	*e*Pn	**Pn**	**16 34 02.6**	**+0.8**
PVAQ				*e*Sn	**Sn**	**16 34 41.2**	**+0.8**
PVAQ				A		16 34 42.8	
	13nm,0.1s						
PVAQ	**Vaqueiros**	**3.24**	**54**	P	**Pn**	**16 34 02.6**	**+0.8**
PVAQ				S	**Sn**	**16 34 41.2**	**+0.8**
	6.7nm,0.1s						
EGRO	**El Granado**	**3.46**	**54**	P	**Pn**	**16 34 05.8**	**+0.9**
	2.2nm,0.1s,SNR=27						
EGRO				S	**Sn**	**16 34 46.6**	**+0.6**
	9.3nm,0.1s						
EGRO	**El Granado**	**3.46**	**54**	P	**Pn**	**16 34 05.8**	**+0.9**
	2.6nm,0.1s,SNR=27						
EGRO				S	**Sn**	**16 34 46.6**	**+0.6**
	4.0nm,0.1s						
PBEJ	**Beja**	**3.54**	**44**	*e*Pn	**Pn**	**16 34 06.1**	**+0.2**
PBEJ				*e*Sn	**Sn**	**16 34 48.1**	**+0.3**
PBEJ				A		16 34 50.7	
	8.4nm,0.1s						
PBEJ	**Beja**	**3.54**	**44**	*e*Pn	**Pn**	**16 34 06.1**	**+0.2**
PBEJ				*e*Sn	**Sn**	**16 34 48.1**	**+0.3**
	8.4nm,0.1s						
PMAFR	**Mafra**	**3.68**	**21**	*e*Pn	**Pn**	**16 34 07.0**	**-0.9**
PMAFR				*e*Sn	**Sn**	**16 34 49.3**	**-2.1**
PMAFR				A		16 34 53.5	
	31nm,0.2s						
PMAFR	**Mafra**	**3.68**	**21**	P	**Pn**	**16 34 07.0**	**-0.9**
PMAFR				S	**Sn**	**16 34 49.3**	**-2.1**
	16nm,0.2s						
EVO	**Evora**	**3.83**	**38**	*e*Pn	**Pn**	**16 34 10.0**	**+0.1**
EVO				*e*Sn	**Sn**	**16 34 54.5**	**-0.5**
EVO				A		16 34 56.0	
	24nm,0.1s						
EVO	**Evora**	**3.83**	**38**	*e*Pn	**Pn**	**16 34 10.0**	**+0.1**
EVO				*e*Sn	**Sn**	**16 34 54.5**	**-0.5**
	24nm,0.1s						
PBAR	**Barrancos**	**4.13**	**49**	*e*Pn	**Pn**	**16 34 14.5**	**+0.5**
PBAR				*e*Sn	**Sn**	**16 35 02.4**	**+0.1**
EMIN	**Mina Concepcio**	**4.13**	**56**	P	**Pn**	**16 34 14.7**	**+0.7**
	1.0nm,0.1s,SNR=27						
EMIN				S	**Sn**	**16 35 03.3**	**+0.9**
	2.9nm,0.1s						
EMIN	**Mina Concepcio**	**4.13**	**56**	P	**Pn**	**16 34 14.7**	**+0.7**
	2.6nm,0.1s,SNR=27						
EMIN				S	**Sn**	**16 35 03.3**	**+0.9**
	1.0nm,0.1s						
PESTR	**Estremoz**	**4.30**	**38**	*e*Pn	**Pn**	**16 34 16.7**	**+0.3**
PESTR				*e*Sn	**Sn**	**16 35 05.3**	**-1.3**
PESTR				A		16 35 08.0	
	5.8nm,0.4s						
PESTR	**Estremoz**	**4.30**	**38**	*e*Pn	**Pn**	**16 34 16.7**	**+0.3**
PESTR				*e*Sn	**Sn**	**16 35 05.3**	**-1.3**
	5.8nm,0.4s						
ESPR	**Espera**	**4.37**	**71**	P	**Pn**	**16 34 18.5**	**+1.3**
	12nm,0.2s,SNR=13						
ESPR				S	**Sn**	**16 35 09.0**	**+0.8**
	14nm,0.2s						
ESPR	**Espera**	**4.37**	**71**	P	**Pn**	**16 34 18.5**	**+1.2**
	16nm,0.2s,SNR=13						
ESPR				S	**Sn**	**16 35 09.0**	**+0.8**
	7.6nm,0.2s						
CIA	**Chichaoua**	**4.37**	**154**	*i*P	**Pn**	**16 34 12.0**	**-5.3**
CIA				*i*S	**Sn**	**16 34 57.0**	**-11**
EBAD	**Badajoz**	**4.53**	**43**	P	**Pn**	**16 34 19.3**	**-0.2**
EBAD				S	**Sn**	**16 35 11.3**	**-0.8**
EBAD	**Badajoz**	**4.53**	**43**	P	**Pn**	**16 34 19.2**	**-0.2**
	1.8nm,0.1s,SNR=16						
EBAD				S	**Sn**	**16 35 11.8**	**-0.3**
	16nm,0.2s						
EBAD	**Badajoz**	**4.53**	**43**	P	**Pn**	**16 34 19.3**	**-0.2**
	1.7nm,0.1s,SNR=16						
EBAD				S	**Sn**	**16 35 11.3**	**-0.8**
	2.6nm,0.1s						
OUK	**Oukaimeden**	**5.04**	**148**	*i*P	**Pn**	**16 34 22.0**	**-4.5**
OUK				*i*S	**Sn**	**16 35 16.0**	**-8.8**
PCBR	**Castelo Branco**	**5.13**	**32**	*e*Pn	**Pn**	**16 34 27.8**	**+0.1**
PCBR				*e*Sn	**Sn**	**16 35 24.7**	**-2.3**
PCBR				A		16 35 33.8	
	3.5nm,0.2s						
PCBR	**Castelo Branco**	**5.13**	**32**	P	**Pn**	**16 34 27.8**	**+0.1**
PCBR				S	**Sn**	**16 35 24.7**	**-2.3**
	1.8nm,0.2s						
ECAB	**El Cabril**	**5.15**	**59**	P	**Pn**	**16 34 28.9**	**+0.9**
	5.1nm,0.1s,SNR=13						
ECAB				S	**Sn**	**16 35 26.4**	**-1.0**
	1.3nm,0.1s						
ECAB	**El Cabril**	**5.15**	**59**	P	**Pn**	**16 34 28.9**	**+0.9**
	5.1nm,0.1s,SNR=13						
ECAB				S	**Sn**	**16 35 26.4**	**-1.0**
	1.3nm,0.1s						
EMIJ	**Mijas**	**5.15**	**77**	P	**Pn**	**16 34 27.9**	**-0.1**
EMIJ				S	**Sn**	**16 35 27.2**	**-0.2**
	1.3nm,0.2s,SNR=7.9						
EMIJ	**Mijas**	**5.15**	**77**	P	**Pn**	**16 34 27.9**	**-0.1**
	0.6nm,0.1s,SNR=7.9						
EMIJ				S	**Sn**	**16 35 29.1**	**+1.7**
	2.0nm,0.2s,SNR=7.9						
CZD	**Col de Zad**	**5.52**	**115**	*e*P	**Pn**	**16 34 30.0**	**-3.1**
CZD				*i*S	**Sn**	**16 35 30.0**	**-6.6**
EADA	**Adamuz**	**5.78**	**61**	P	**Pn**	**16 34 37.5**	**+0.8**
EADA				S	**Sn**	**16 35 41.8**	**-1.2**
EADA	**Adamuz**	**5.78**	**61**	P	**Pn**	**16 34 37.4**	**+0.7**
	5.0nm,0.2s,SNR=24						
EADA				S	**Sn**	**16 35 41.8**	**-1.2**
	2.6nm,0.2s						
EADA	**Adamuz**	**5.78**	**61**	P	**Pn**	**16 34 37.5**	**+0.8**
	5.0nm,0.2s,SNR=24						
EADA				S	**Sn**	**16 35 41.8**	**-1.3**
	1.0nm,0.1s						
TZK	**Tazeka**	**5.78**	**102**	*e*P	**Pn**	**16 34 35.0**	**-1.8**
TZK				*i*S	**Sn**	**16 35 36.0**	**-7.2**
PVRL	**Vila Real**	**6.29**	**23**	*e*Sn	**Sn**	**16 35 50.9**	**-4.7**
PVRL				A		16 35 54.6	
	9.9nm,0.3s						
PVRL	**Vila Real**	**6.29**	**23**	S	**Sn**	**16 35 50.9**	**-4.7**
	4.9nm,0.3s						
EQUE	**Quentar**	**6.32**	**72**	P	**Pn**	**16 34 45.2**	**+1.1**
	0.5nm,0.1s,SNR=7.9						
EQUE				S	**Sn**	**16 35 55.9**	**-0.5**
	1.1nm,0.2s,SNR=7.9						
EQUE	**Quentar**	**6.32**	**72**	P	**Pn**	**16 34 45.7**	**+1.6**
	0.7nm,0.1s,SNR=7.9						
EQUE				S	**Sn**	**16 35 55.9**	**-0.5**
	0.4nm,0.1s,SNR=7.9						
EBAN	**Banos Encina**	**6.35**	**63**	P	**Pn**	**16 34 45.0**	**+0.4**
	3.1nm,0.1s,SNR=6.5						
EBAN				S	**Sn**	**16 35 56.2**	**-0.9**
	2.8nm,0.2s						
MVO	**Moncorvo**	**6.43**	**28**	*e*Pn	**Pn**	**16 34 44.8**	**-0.8**
MVO				*e*Sn	**Sn**	**16 35 55.1**	**-4.0**
MVO				A		16 35 59.9	
	7.0nm,0.2s						
MVO	**Moncorvo**	**6.43**	**28**	P	**Pn**	**16 34 44.8**	**-0.8**
MVO				S	**Sn**	**16 35 55.1**	**-4.0**
	3.5nm,0.2s						
PCAB	**Cabril**	**6.59**	**20**	*e*Sn	**Sn**	**16 35 59.1**	**-4.0**
ELOB	**Lobios**	**6.73**	**19**	P	**Pn**	**16 34 47.0**	**-2.7**
ELOB				S	**Sn**	**16 35 58.5**	**-8.0**
ELOB	**Lobios**	**6.73**	**19**	P	**Pn**	**16 34 49.5**	**-0.3**
	0.4nm,0.2s,SNR=7.9						
ELOB				S	**Sn**	**16 36 01.4**	**-5.1**
	4.4nm,0.2s,SNR=9.5						
EQES	**Quesada**	**6.76**	**68**	P	**Pn**	**16 34 50.8**	**+0.6**
	1.1nm,0.2s,SNR=7.9						
EQES				S	**Sn**	**16 36 06.4**	**-0.8**
	1.2nm,0.2s,SNR=7.9						
EQES	**Quesada**	**6.76**	**68**	P	**Pn**	**16 34 50.8**	**+0.6**
	0.7nm,0.1s,SNR=7.9						
EQES				S	**Sn**	**16 36 06.4**	**-0.8**
	0.4nm,0.1s,SNR=7.9						
ESDC	**Sonseca Array**	**6.95**	**51**	P	**Pn**	**16 34 53.3**	**+0.6**
	1.1nm,0.2s,baz=240,slow=13,SNR=12						
ESDC				S	**Sn**	**16 36 09.3**	**-2.5**
	0.6nm,0.2s,baz=241,slow=23,SNR=6.1						
ESDC	**Sonseca Array**	**6.95**	**51**	P	**Pn**	**16 34 53.3**	**+0.6**
	1.1nm,0.2s,SNR=12						
PBRG	**Braganca**	**7.09**	**27**	*e*Sn	**Sn**	**16 36 11.3**	**-4.1**
PBRG				A		16 36 15.2	
	3.3nm,0.2s						
PBRG	**Braganca**	**7.09**	**27**	S	**Sn**	**16 36 11.3**	**-4.1**
	1.7nm,0.2s						
GUD	**Guadarrama**	**7.43**	**45**	P	**Pn**	**16 34 59.2**	**-0.1**
GUD				S	**Sn**	**16 36 18.4**	**-5.2**
GUD	**Guadarrama**	**7.43**	**45**	P	**Pn**	**16 34 59.2**	**-0.1**
	0.9nm,0.2s,SNR=7.9						
GUD				S	**Sn**	**16 36 21.7**	**-1.8**
	1.1nm,0.3s,SNR=7.9						
EVIA	**Vianos**	**7.46**	**63**	P	**Pn**	**16 34 59.7**	**-0.1**
	1.2nm,0.1s,SNR=7.9						
EVIA				S	**Sn**	**16 36 22.2**	**-2.2**
	0.8nm,0.1s,SNR=7.9						
EMAZ	**Mazaricos**	**7.58**	**11**	S	**Sn**	**16 36 18.8**	**-8.3**
	2.7nm,0.1s,SNR=7.9						

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*IDC **03** 16:35:03.8±1.8, 2117S×16963E, h0km, mb4.2/6, mb1 4.5/7, mb1mx4.2/14, mbtmp4.2/7, ML3.8/1, MS4.0/8, Ms1 3.9/8, ms1mx3.6/25, Error ellipse: s-maj=86.7km s-min=21.5km az=152.0*
*NEIC **03** 16:35:05.1±0.6, 2112S×16962E, h10km, mb4.5/5, Error ellipse: s-maj=20.8km s-min=10.7km az=150.0*
*ISCJB **03** 16:35:09.4±3.3, 2133S±02×1695E±0.2, h53km±25km, mb4.3/8, MS3.9/8, Error ellipse: s-maj=27.9km s-min=23.3km az=10.0*

ISC 03 16:35:10.0±3.4, 2133S±02×1696E±02, h45km±26km, h50km±12.0km; pP-P, n28, σ0°76/19, mb4.3/8, MS3.9/8, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.01**	**254**	*e*P	**Pn**	**16 35 55.6**	**+0.4**
DZM				*e*S	**Sn**	**16 36 29.8**	**-0.2**
DZM	**Mont Dzumac**	**3.01**	**254**	Pn	**Pn**	**16 35 55.0**	**-0.1**
	12nm,0.3s,baz=95,slow=17,SNR=124						
DZM				Sn	**Sn**	**16 36 29.6**	**-0.4**
	37nm,0.3s,baz=153,slow=17,SNR=14						
EIDS	**Eidsvold**	**17.46**	**253**	*e*P	**Pn**	**16 39 09.6**	**-0.7**
	10.0nm,1.2s						
CTA	**Charters Tower**	**21.84**	**269**	LR	LR	16 47 56.4	
	comp=Z,406nm,18.9s,MS3.9,baz=51,slow=35						
RPZ	**Rata Peaks**	**22.42**	**177**	LR	LR	16 47 08.7	
	comp=Z,270nm,19.8s,MS3.7,baz=5.1,slow=32						
CNB	**Canberra Magne**	**22.57**	**227**	*e*P	**P**	**16 40 08.1**	**+1.7**
	31nm,1.1s,mb4.7						
STKA	**Stephens Creek**	**27.08**	**241**	*e*P	**P**	**16 40 49.6**	**+1.1**
	5.4nm,0.9s,mb4.1						
STKA	**Stephens Creek**	**27.08**	**241**	P	**P**	**16 40 49.5**	**+1.1**
	5.6nm,0.8s,mb4.2,baz=83,slow=9.8,SNR=12						
STKA				LR	LR	16 51 01.5	
	comp=Z,286nm,19.1s,MS3.9,baz=25,slow=35						
RAR	**Rarotonga**	**28.56**	**96**	LR	LR	16 49 38.6	
	comp=Z,104nm,19.1s,MS3.5,baz=287,slow=31						
WB2	**Warramunga Arr**	**32.95**	**266**	*e*P	**P**	**16 41 39.6**	**-0.9**
WRA	**Warramunga Arr**	**32.96**	**266**	P	**P**	**16 41 40.1**	**-0.5**
	2.9nm,0.9s,mb4.2,baz=94,slow=8.1,SNR=12						
WRA				LR	LR	16 55 22.1	
	comp=Z,329nm,18.8s,MS4.1,baz=105,slow=37						
ASAR	**Alice Springs**	**32.99**	**259**	P	**P**	**16 41 40.9**	**0.0**
	5.5nm,0.8s,mb4.5,baz=88,slow=9.4,SNR=51						
PPT	**Papeete**	**38.64**	**92**	*e*LR	LR	16 53 01.4	
	160nm,26.8s						
PPT	**Papeete**	**38.64**	**92**	LR	LR	16 54 53.2	
	comp=Z,172nm,21.3s,MS3.8,baz=250,slow=31						
FITZ	**Fitzroy Crossi**	**41.38**	**266**	*e*P	**P**	**16 42 52.4**	**+0.3**
	17nm,0.7s,mb4.8						
FITZ	**Fitzroy Crossi**	**41.38**	**266**	P	**P**	**16 42 53.0**	**+1.0**
	9.5nm,0.7s,mb4.5,baz=127,slow=8.2,SNR=27						
FITZ				LR	LR	17 00 16.5	
	comp=Z,241nm,18.4s,MS4.1,baz=124,slow=36						
BATI	**Kupang**	**45.38**	**277**	LR	LR	17 02 56.8	
	comp=Z,207nm,18.1s,MS4.1,baz=330,slow=37						
SBA	**Scott Base**	**56.65**	**181**	*e*P	**P**	**16 44 48.2**	**+0.1**
	4.9nm,1.0s,mb4.5						
VNA3	**Neumayer Olymp**	**87.73**	**180**	*e*	**P**	**16 47 52.5**	**-1.1**
VNA3				*e*		16 47 57.0	
VNA3				*e*		16 48 00.1	
VNA3				*e*	pP	16 48 03.8	-3.3
VNA3				*e*	pP	16 48 10.4	+3.3
VNA3				*e*		16 48 16.9	
VNA3				*e*		17 21 58.8	
VNA3				*e*		17 22 02.6	
VNA2	**Neumayer--Watz**	**88.03**	**181**	*e*	**P**	**16 47 54.0**	**-1.0**
	baz=193,slow=3.7						
VNA2				*e*		16 47 58.6	
VNA2				*e*		16 48 01.8	
VNA2				*e*	pP	16 48 05.5	-3.1
VNA2				*e*	pP	16 48 11.8	+3.2
VNA2				*e*		16 48 18.8	
VNA2				*e*		17 21 58.8	
VNA2				*e*		17 22 02.3	
VNA1	**Neumayer--Stat**	**88.32**	**181**	*e*	**P**	**16 47 56.5**	**+0.1**
VNA1				*e*		16 48 00.9	
VNA1				*e*		16 48 04.0	
VNA1				*e*	pP	16 48 08.1	-1.8
VNA1				*e*	pP	16 48 13.8	+3.9
SONM	**Songino Array**	**89.02**	**323**	P	**P**	**16 48 00.4**	**+0.5**
	0.5nm,0.9s,mb3.8,baz=179,slow=4.8,SNR=3.6						
NVAR	**Mina Array Bea**	**89.91**	**48**	P	**P**	**16 48 04.6**	**+0.3**
	0.3nm,0.5s,mb3.9,baz=242,slow=7.7,SNR=2.8						
ARCES	**ARCESS Array B**	**127.10**	**345**	PKP	PKPdf	16 54 08.0	-0.5
	4.8nm,1.0s,baz=79,slow=1.9,SNR=5.2						
CLL	**Collm**	**144.88**	**334**	*e*PKPdf	PKPdf	16 54 44.0	+2.2
EKA	**Eskdalemuir Ar**	**145.55**	**353**	PKPbc	PKPbc	16 54 43.2	+0.1
	3.4nm,0.6s,baz=343,slow=2.6,SNR=13						
KHC	**Kasperske Hory**	**146.26**	**331**	*e*PKP	PKPdf	16 54 46.0	+1.7
KHC				*ex*	x	16 54 52.5	
GERES	**GERESS Array B**	**146.41**	**331**	PKPbc	PKPbc	16 54 46.6	+0.8
	1.8nm,0.7s,baz=33,slow=3.2,SNR=11						

IDC 03 16:41:31.6±4.5, 674S×15522E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.3/14, mbtmp3.3/3, Error ellipse: s-maj=136.6km s-min=38.2km az=114.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.14**	**235**	P	P	16 46 49.4	-0.1
	0.5nm,0.8s,baz=60,slow=9.3,SNR=4.6						
ASAR	**Alice Springs**	**26.51**	**228**	P	P	16 47 11.1	+0.1
	0.2nm,0.7s,baz=57,slow=10,SNR=3.7						
MKAR	**Makanchi Array**	**83.36**	**319**	P	P	16 54 00.9	+0.2
	0.4nm,0.8s,baz=112,slow=3.9,SNR=3.9						

IDC 03 16:44:31.2±3.9, 710S×15522E, h0km, mb3.4/3, mb1 3.5/3, mb1mx3.4/14, mbtmp3.4/3, Error ellipse: s-maj=118.1km s-min=37.3km az=117.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.94**	**236**	P	P	16 49 48.0	+0.8
	0.3nm,0.5s,baz=61,slow=9.7,SNR=4.5						
ASAR	**Alice Springs**	**26.27**	**229**	P	P	16 50 07.8	-0.6
	0.2nm,0.8s,baz=65,slow=8.7,SNR=4.3						
MKAR	**Makanchi Array**	**83.63**	**319**	P	P	16 57 01.8	+0.1
	0.9nm,0.8s,baz=105,slow=5.4,SNR=10.0						

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*IDC **03** 16:44:45.9±0.9, 745S×15567E, h0km, mb4.1/11, mb1 4.2/12, mb1mx4.1/17, mbtmp4.1/12, ML4.5/1, Error ellipse: s-maj=27.6km s-min=17.7km az=102.0*
*NEIC **03** 16:44:47.5±0.4, 742S×15570E, h10km, mb4.4/3, Error ellipse: s-maj=10.7km s-min=9.7km az=134.0*
*ISCJB **03** 16:44:49.4±3.1, 75S±0.1×1558E±0.1, h35km±31km, mb4.1/15, Error ellipse: s-maj=26.3km s-min=14.0km az=39.3*
*MOS **03** 16:44:49.2±0.7, 745S×15575E, h33km, mb4.5/4, Error ellipse: s-maj=21.7km s-min=17.5km az=134.2*

ISC 03 16:44:50.5±7.1, 75S±01×1557E±01, h30km±53km, n26, σ0°69/27, mb4.1/15, 1C, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.62**	**115**	*e*Pn	**Pn**	**16 45 58.4**	**0.0**
HNR				*e*Sg	**Sb**	**16 47 11.6**	**+5.4**
HNR	**Honiara**	**4.62**	**115**	Pn	**Pn**	**16 45 58.6**	**+0.3**
	21nm,0.3s,baz=236,slow=2.5,SNR=9.1						
KAKA	**Kakadu**	**23.49**	**255**	*e*P	**P**	**16 49 57.8**	**-0.3**
	11nm,0.6s,mb4.5						
KAKA	**Kakadu**	**23.49**	**255**	*e*P	**P**	**16 49 57.4**	**-0.7**
WB2	**Warramunga Arr**	**24.13**	**237**	*e*P	**P**	**16 50 04.5**	**+0.5**
WRA	**Warramunga Arr**	**24.14**	**237**	*i*P	**P**	**16 50 04.5**	**+0.4**
WRA				pmax	pmax		
	comp=Z,3.0nm,0.6s						
WRA	**Warramunga Arr**	**24.14**	**237**	P	**P**	**16 50 04.6**	**+0.5**
	comp=Z,3.1nm,0.6s,mb3.9,baz=59,slow=9.0,SNR=21						
ASAR	**Alice Springs**	**26.40**	**230**	P	**P**	**16 50 24.4**	**-0.2**
	comp=Z,1.6nm,0.7s,mb3.6,baz=58,slow=8.9,SNR=18						
STKA	**Stephens Creek**	**27.62**	**207**	P	**P**	**16 50 35.4**	**0.0**
	comp=Z,2.3nm,0.8s,mb3.9,baz=44,slow=12,SNR=7.1						
FITZ	**Fitzroy Crossi**	**31.12**	**247**	*e*P	**P**	**16 51 06.7**	**0.0**
	comp=Z,4.0nm,0.7s,mb4.4						
FITZ	**Fitzroy Crossi**	**31.12**	**247**	P	**P**	**16 51 04.9**	**-1.7**
	comp=Z,1.1nm,0.5s,mb3.9,baz=98,slow=11,SNR=6.9						
MJAR	**Matsushiro Arr**	**46.76**	**341**	P	**P**	**16 53 16.3**	**-0.8**
	comp=Z,1.3nm,0.7s,mb4.0,baz=162,slow=8.2,SNR=5.2						
ASAJ	**Asahikawa**	**52.70**	**348**	P	**P**	**16 54 01.9**	**-0.3**
	comp=Z,1.9nm,0.6s,mb4.2,baz=247,slow=7.7,SNR=4.1						
ULN	**Ulaanbaatar**	**69.78**	**327**	*e*P	**P**	**16 55 58.9**	**+1.0**
	comp=Z,2.1nm,0.9s,mb4.1						
ULN	**Ulaanbaatar**	**69.78**	**327**	*e*P	**P**	**16 55 58.9**	**+1.0**
ULN				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.0						
VNDA	**Vanda**	**70.09**	**179**	P	**P**	**16 55 59.4**	**0.0**
	comp=Z,0.8nm,0.8s,mb3.7,baz=17,slow=5.8,SNR=5.1						
SONM	**Songino Array**	**70.12**	**327**	P	**P**	**16 56 01.0**	**+1.1**
	comp=Z,1.3nm,0.6s,mb4.0,baz=140,slow=6.1,SNR=12						
YAK	**Yakutsk**	**72.17**	**347**	*i*P	**P**	**16 56 13.0**	**+0.9**
YAK				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.6						
BILL	**Bilibino**	**75.70**	**4**	*e*P	**P**	**16 56 32.2**	**-0.5**
	comp=Z,5.6nm,1.1s,mb4.4						
BILL	**Bilibino**	**75.70**	**4**	*e*P	**P**	**16 56 32.7**	**+0.1**
BILL				*e*S	S	17 06 19.6	+7.8
BIL

az=137.0
*NEIC **03** 16:59:18.6±0.5, 653S×154.64E, h10km, mb4.6/4, Error ellipse: s-maj=19.0km s-min=12.7km az=148.0*
*ISCJB **03** 16:59:24.4±3.6, 69S±02×154.9E±0.1, h68km±36km, mb4.1/12, Error ellipse: s-maj=35.4km s-min=13.8km az=149.6*
ISC 03 16:59:26.4±2.9, 69S±02×1549E±01, h73km±30km, n23, σ1§21/20, mb4.1/12, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.59**	**117**	*e*Pn			**Pn**	**17 00 49.0**	**+1.9**
	170nm,0.8s								
HNR					LR		LR	17 02 42.6	
HNR	**Honiara**	**5.59**	**117**	Pn			**Pn**	**17 00 45.2**	**-1.9**
	4.9nm,0.3s,baz=254,slow=7.8,SNR=2.7								
HNR					LR		LR	17 02 42.6	
	comp=Z,365nm,20.0s,baz=346,slow=36								
CTA	**Charters Tower**	**15.52**	**212**	LR			LR	17 07 10.9	
	comp=Z,111nm,19.6s,baz=209,slow=30								
KAKA	**Kakadu**	**22.84**	**254**	*e*P			**P**	**17 04 24.0**	**+0.4**
	20nm,1.0s,mb4.4								
KAKA	**Kakadu**	**22.84**	**254**	*e*P			**P**	**17 04 23.9**	**+0.3**
WB2	**Warramunga Arr**	**23.75**	**235**	*e*P			**P**	**17 04 31.7**	**-0.5**
WRA	**Warramunga Arr**	**23.76**	**235**	P			**P**	**17 04 31.4**	**-0.8**
	5.6nm,0.8s,mb3.9,baz=58,slow=9.7,SNR=17								
WRA				PcP			PcP	17 08 15.8	+1.3
	1.1nm,0.6s,baz=57,slow=2.4,SNR=15								
ASAR	**Alice Springs**	**26.12**	**228**	P			**P**	**17 04 53.1**	**-0.6**
	1.9nm,0.8s,mb3.6,baz=60,slow=8.5,SNR=17								
ASAR				PcP			PcP	17 08 20.9	+1.2
	0.3nm,0.5s,baz=63,slow=2.9,SNR=4.2								
STKA	**Stephens Creek**	**27.74**	**205**	*e*P			**P**	**17 05 09.6**	**+1.5**
	4.6nm,0.9s,mb4.0								
STKA	**Stephens Creek**	**27.74**	**205**	P			**P**	**17 05 09.7**	**+1.6**
	5.7nm,0.9s,mb4.1,baz=44,slow=10,SNR=6.8								
FITZ	**Fitzroy Crossi**	**30.57**	**246**	P			**P**	**17 05 32.8**	**-0.6**
	2.0nm,0.8s,mb3.9,baz=68,slow=18,SNR=3.4								
FITZ					LR		LR	17 18 27.4	
	comp=Z,77nm,19.6s,baz=249,slow=38								
KMI	**Kunming**	**59.89**	**304**	P			**P**	**17 09 26.5**	**+1.5**
	4.0nm,1.0s,mb4.4								
KMI				pP			pP	17 09 36.5	-7.5
SONM	**Songino Array**	**69.23**	**327**	P			**P**	**17 10 26.6**	**+1.1**
	1.1nm,0.8s,mb3.8,baz=143,slow=5.9,SNR=8.1								
LSA	**Lhasa**	**71.15**	**304**	*e*P			**P**	**17 10 43.5**	**+5.9**
	5.9nm,0.9s,mb4.4								
BILL	**Bilibino**	**75.23**	**4**	P			**P**	**17 10 58.3**	**-2.6**
IMA2	**Indian Mountai**	**81.78**	**19**	*e*P			**P**	**17 11 37.1**	**+0.2**
MCK	**McKinley**	**82.05**	**22**	*e*P			**P**	**17 11 36.8**	**-1.5**
	7.1nm,1.0s,mb4.5								
NVAR	**Mina Array Bea**	**91.77**	**52**	P			**P**	**17 12 28.2**	**+1.8**
	0.7nm,0.7s,mb4.0,baz=250,slow=4.3,SNR=5.3								
YKA	**Yellowknife Ar**	**96.34**	**28**	P			**P**	**17 12 47.0**	**+0.2**
YKA	**Yellowknife Ar**	**96.34**	**28**	P			**P**	**17 12 47.0**	**+0.3**
	0.9nm,0.8s,mb4.2,baz=265,slow=4.6,SNR=14								
PDAR	**Pinedale Array**	**98.75**	**48**	P			**P**	**17 12 57.1**	**-0.9**
	0.5nm,0.9s,mb4.0,baz=191,slow=1.5,SNR=3.4								
BDFB	**Brasilia**	**148.10**	**135**	PKPbc			PKPbc	17 19 04.6	-0.2
	1.7nm,0.5s,baz=196,slow=0.9,SNR=3.7								
TORD	**Torodi Ar. Bea**	**152.90**	**285**	PKPbc			PKPbc	17 19 15.9	-0.4
	1.4nm,0.8s,baz=41,slow=5.1,SNR=3.9								

*ISCJB **03** 17:03:28.8±1.6, 3466N±010×23.1E±0.1, h67km±10km, mb3.9/6, Error ellipse: s-maj=21.4km s-min=8.5km az=43.7*
*NEIC **03** 17:03:28.5, 3475N×23.14E, h29km, MD3.8(ATH), After ATH.*
*ATH **03** 17:03:28.4, 3473N×23.15E, h30km±3km, MD3.8/7*
*CSEM **03** 17:03:29.2±0.3, 3473N×2309E, h20km, MD3.8, Error ellipse: s-maj=8.8km s-min=3.2km az=34.0*
*IDC **03** 17:03:34.8±2.6, 3543N×2340E, h50km±29km, mb3.8/6, mb1 3.8/6, mb1mx3.5/20, mbtmp3.8/6, Error ellipse: s-maj=30.5km s-min=24.5km az=141.0*
ISC 03 17:03:30.0±1.5, 3468N±010×231E±01, h58km±10km, n23, σ1§13/27, mb4.0/6, Crete

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
GVD	**Gavdhos**	**0.84**	**79**	*e*PN			**Pn**	**17 03 45.0**	**-1.0**
GVD				*e*SN			**Sn**	**17 03 55.0**	**-2.7**
VAM	**Vamos**	**1.17**	**51**	*e*PN			**Pn**	**17 03 49.0**	**-1.3**
VAM				*e*SN			**Sn**	**17 04 05.0**	**-0.3**
KYTH	**Kithira**	**1.60**	**359**	*e*PN			**Pn**	**17 03 56.0**	**0.0**
IDI	**Anoyia**	**1.61**	**67**	P			**Pn**	**17 03 55.4**	**-0.7**
	20nm,0.3s,baz=254,slow=13,SNR=83								
IDI				S			**Sn**	**17 04 17.4**	**+1.6**
	15nm,0.3s,baz=309,slow=22,SNR=6.1								
VLI	**Veliai**	**2.04**	**357**	*e*PN			**Pn**	**17 04 02.0**	**0.0**
VLI				*e*SN			**Sn**	**17 04 27.2**	**+0.9**
NPS	**Neapolis**	**2.16**	**74**	P			**Pn**	**17 04 04.9**	**+1.3**
XRY	**Khrisi**	**2.16**	**84**	*e*PN			**Pn**	**17 04 04.0**	**+0.4**
ZKR	**Zakros**	**2.62**	**80**	P			**Pn**	**17 04 11.3**	**+1.5**
APE	**Apeiranthos**	**3.11**	**39**	*e*PN			**Pn**	**17 04 16.0**	**-0.5**
KARP	**Karpathos**	**3.46**	**74**	*e*PN			**Pn**	**17 04 22.0**	**+0.7**
LKR	**Lokris**	**3.96**	**359**	P			**Pn**	**17 04 28.6**	**+0.3**
EVR	**Evrytania**	**4.35**	**347**	P			**Pn**	**17 04 36.8**	**+3.2**
NEO	**Neokhori**	**4.62**	**1**	P			**Pn**	**17 04 37.5**	**+0.2**
MMAI	**Mount Meron Ar**	**10.38**	**96**	P			**Pn**	**17 05 53.0**	**-3.2**
	1.2nm,0.3s,baz=297,slow=13,SNR=9.4								
EIL	**Elat**	**11.23**	**113**	P			**Pn**	**17 06 08.8**	**+1.0**
	0.4nm,0.3s,baz=17,slow=3.1,SNR=4.0								
GERES	**GERESS Array B**	**15.77**	**337**	P			**Pn**	**17 07 13.1**	**+4.8**
	0.1nm,0.3s,baz=146,slow=9.4,SNR=4.9								
AKASG	**Malin Array Be**	**16.63**	**14**	P			**Pn**	**17 07 17.8**	**-1.3**
	1.6nm,0.3s,baz=210,slow=9.7,SNR=11								
HFS	**Hagfors**	**26.19**	**349**	P			**P**	**17 08 58.6**	**-0.2**
	1.7nm,0.5s,mb3.8,baz=159,slow=13,SNR=7.6								
FINES	**FINESS Array B**	**26.85**	**3**	P			**P**	**17 09 03.0**	**-1.8**
	3.4nm,1.1s,mb3.8,baz=182,slow=9.7,SNR=3.4								
ARCES	**ARCESS Array B**	**34.94**	**1**	P			**P**	**17 10 14.9**	**-0.9**
	2.6nm,0.8s,mb4.2,baz=205,slow=8.0,SNR=5.5								
MKAR	**Makanchi Array**	**45.46**	**56**	P			**P**	**17 11 43.8**	**+0.6**
	1.2nm,0.5s,mb4.0,baz=277,slow=7.5,SNR=15								
ZALV	**Zalesovo Beam**	**46.57**	**46**	P			**P**	**17 11 51.3**	**-0.4**
	1.2nm,0.4s,mb4.2,baz=266,slow=9.4,SNR=7.3								
SONM	**Songino Array**	**61.11**	**50**	P			**P**	**17 13 39.4**	**+1.5**
	0.5nm,0.4s,mb4.0,baz=279,slow=5.9,SNR=8.8								

IDC 03 17:06:59.5±1.2, 711S×15548E, h0km, mb3.9/5, mb1 3.9/6, mb1mx3.7/15, mbtmp3.9/6, ML3.5/1, Error ellipse: s-maj=28.6km s-min=26.9km az=45.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.99**	**118**	Pn			Pn	17 08 15.1	-0.6
	1.7nm,0.3s,baz=256,slow=7.2,SNR=3.1								
HNR				Sn			Sn	17 09 14.8	+0.7
	8.0nm,0.3s,baz=270,slow=9.1,SNR=2.8								
WRA	**Warramunga Arr**	**24.14**	**236**	P			P	17 12 18.5	+1.0
	0.8nm,0.7s,baz=60,slow=9.5,SNR=6.7								
ASAR	**Alice Springs**	**26.45**	**229**	P			P	17 12 37.8	-0.6
	0.4nm,0.8s,baz=58,slow=10.0,SNR=6.7								
SONM	**Songino Array**	**69.69**	**327**	P			P	17 18 12.0	+0.9
	1.1nm,0.7s,baz=146,slow=6.8,SNR=10								
MKAR	**Makanchi Array**	**83.81**	**319**	P			P	17 19 31.1	+0.3
	2.6nm,0.7s,baz=103,slow=5.9,SNR=32								
ZALV	**Zalesovo Beam**	**84.54**	**326**	P			P	17 19 33.5	-0.9
	1.6nm,0.8s,baz=114,slow=6.6,SNR=6.8								

*IDC **03** 17:17:08.6±1.6, 840S×157.46E, h0km, mb3.7/4, mb1 3.9/5, mb1mx3.7/15, mbtmp3.8/5, ML4.4/1, MS2.9/1, Ms1 2.9/1, ms1mx2.6/25, Error ellipse: s-maj=38.4km s-min=24.4km az=6.0*
*NEIC **03** 17:17:09.1±1.0, 862S×157.60E, h10km, mb4.2/1, Error ellipse: s-maj=33.5km s-min=13.6km az=182.0*
*ISCJB **03** 17:17:11.7±1.3, 85S±02×157.47E±008, h33km, mb3.6/5, Error ellipse: s-maj=33.0km s-min=10.5km az=8.2*
ISC 03 17:17:13.4±1.3, 85S±02×15750E±009, h35km, n7, σ1§21/9, mb3.6/5, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.61**	**112**	*e*Pn			**Pn**	**17 17 49.2**	**-3.8**
HNR				*e*Sn			**Sn**	**17 18 22.3**	**-1.2**
HNR	**Honiara**	**2.61**	**112**	Pn			**Pn**	**17 17 52.5**	**-0.5**
	69nm,0.3s,baz=264,slow=5.3,SNR=10								
HNR				Sn			**Sn**	**17 18 26.1**	**+2.6**
	66nm,0.3s,baz=266,slow=22,SNR=8.7								
HNR				LR			LR	17 18 26.7	
	comp=Z,213nm,19.7s,baz=346,slow=29								
WRA	**Warramunga Arr**	**25.14**	**241**	P			**P**	**17 22 35.2**	**-0.3**
	3.4nm,1.1s,mb3.8,baz=67,slow=9.4,SNR=6.3								
ASAR	**Alice Springs**	**27.18**	**233**	P			**P**	**17 22 53.0**	**-0.8**
	0.6nm,1.0s,mb3.1,baz=74,slow=7.8,SNR=3.3								
STKA	**Stephens Creek**	**27.59**	**210**	P			**P**	**17 22 59.5**	**+2.1**
	1.1nm,0.8s,mb3.6,baz=45,slow=16,SNR=3.5								
FITZ	**Fitzroy Crossi**	**32.40**	**250**	*e*P			**P**	**17 23 39.4**	**-0.8**
	4.0nm,1.4s,mb4.1								
MKAR	**Makanchi Array**	**86.14**	**318**	P			**P**	**17 29 51.6**	**+0.7**
	0.2nm,0.6s,mb3.5,baz=98,slow=6.0,SNR=2.6								

*IDC **03** 17:17:56.1±1.2, 776S×155.56E, h0km, mb4.4/12, mb1 4.5/12, mb1mx4.4/16, mbtmp4.3/12, Error ellipse: s-maj=38.9km s-min=16.8km az=114.0*
*NEIC **03** 17:17:57.3±0.6, 773S×155.58E, h10km, mb4.8/8, Error ellipse: s-maj=19.4km s-min=8.4km az=121.0*
*ISCJB **03** 17:17:59.4±0.7, 775S±010×1556E±0.1, h33km, mb4.4/24, Error ellipse: s-maj=23.1km s-min=10.0km az=29.5*
*MOS **03** 17:18:00.8±1.7, 751S×155.51E, h33km, mb4.9/8, Error ellipse: s-maj=15.7km s-min=10.4km az=78.7*
*BJI **03** 17:18:00.2, 710S×155.43E, h11km, mB4.9, mb4.7*
ISC 03 17:18:01.1±0.7, 78S±01×1556E±01, h35km, n49, σ0§97/47, mb4.4/24, 4C-1D, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**15.22**	**216**	Pn			**Pn**	**17 21 39.6**	**+6.1**
	0.2nm,0.3s,baz=45,slow=12,SNR=6.6								
CTAO	**Charters Tower**	**15.22**	**216**	*e*P			**Pn**	**17 21 39.7**	**+6.3**
	22nm,1.2s								
CTAO	**Charters Tower**	**15.22**	**216**	*e*P			**Pn**	**17 21 39.7**	**+6.3**
CTAO					pmax		pmax		
	comp=Z,22nm,1.2s								
WB2	**Warramunga Arr**	**23.87**	**237**	*e*P			**P**	**17 23 11.5**	**-0.1**
WRA	**Warramunga Arr**	**23.88**	**237**	P			**P**	**17 23 11.9**	**+0.2**
	comp=Z,2.0nm,0.5s,mb3.8,baz=62,slow=9.3,SNR=13								
ASAR	**Alice Springs**	**26.12**	**230**	P			**P**	**17 23 31.4**	**-0.6**
	comp=Z,1.8nm,0.8s,mb3.6,baz=60,slow=8.7,SNR=13								
STKA	**Stephens Creek**	**27.29**	**207**	P			**P**	**17 23 44.0**	**+1.5**
	comp=Z,4.1nm,0.9s,mb4.0,baz=42,slow=11,SNR=7.1								
FITZ	**Fitzroy Crossi**	**30.90**	**248**	P			**P**	**17 24 13.5**	**-1.2**
	comp=Z,2.3nm,1.0s,mb4.0,baz=63,slow=9.1,SNR=5.8								
NWAO	**Narrogin (SRO)**	**43.43**	**229**	P			**P**	**17 25 60.0**	**-0.8**
NWAO	**Narrogin (SRO)**	**43.43**	**229**	P			**P**	**17 25 60.0**	**-0.8**
	comp=Z,7.9nm,1.0s,mb4.4,baz=284,slow=2.9,SNR=2.7								
MJAR	**Matsushiro Arr**	**47.03**	**341**	P			**P**	**17 26 28.6**	**-0.5**
	comp=Z,8.3nm,0.8s,mb4.7,baz=160,slow=7.6,SNR=20								
MAJO	**Matsushiro**	**47.03**	**341**	*e*P			**P**	**17 26 28.1**	**-1.1**
	comp=Z,12nm,0.8s,mb4.9								
MAJO	**Matsushiro**	**47.03**	**341**	*e*P			**P**	**17 26 28.1**	**-1.1**
MAJO					pmax		pmax		
	comp=Z,12nm,0.8s,mb4.9								
MAT	**Matsushiro**	**47.03**	**341**	P			**P**	**17 26 28.4**	**-0.8**
KSRS	**Korea Array**	**51.92**	**332**	P			**P**	**17 27 07.0**	**+0.5**
	comp=Z,3.5nm,0.7s,mb4.4,baz=146,slow=7.0,SNR=10								
YSS	**Yuzh-Sakhalins**	**55.69**	**349**	*e*P			**P**	**17 27 35.2**	**+1.3**
YSS					pmax		pmax		
	comp=Z,7.0nm,0.7s,mb4.8								
KLR	**Kul'dur**	**60.50**	**342**	*e*P			**P**	**17 28 03.2**	**-4.3**
CHTO	**Chiang Mai**	**61.80**	**296**	P			**P**	**17 28 16.6**	**-0.3**
	comp=Z,3.2nm,0.9s,mb4.5								
CHTO	**Chiang Mai**	**61.80**	**296**	P			**P**	**17 28 16.6**	**-0.3**
CHTO					pmax		pmax		
	comp=Z,3.0nm,0.9s,mb4.4								
ULN	**Ulaanbaatar**	**70.00**	**328**	*e*P			**P**	**17 29 12.5**	**+3.4**
SONM	**Songino Array**	**70.33**	**327**	P			**P**	**17 29 12.2**	**+1.1**
	comp=Z,2.3nm,0.8s,mb4.2,baz=141,slow=6.1,SNR=15								
SEY	**Seymchan**	**70.56**	**358**	*i* P			**P**	**17 29 12.8**	**+0.6**
LSA	**Lhasa**	**72.22**	**304**	P			**P**	**17 29 25.1**	**+2.1**
LSA	**Lhasa**	**72.22**	**304**	P			**P**	**17 29 23.4**	**+0.4**
	comp=Z,4.3nm,0.7s,mb4.5								
LSA	**Lhasa**	**72.22**	**304**	P			**P**	**17 29 23.4**	**+0.4**
LSA					pmax		pmax		
	comp=Z,4.0nm,0.7s,mb4.5								
YAK	**Yakutsk**	**72.46**	**348**	*e*P			**P**	**17 29 23.9**	**+0.2**
	comp=Z,25nm,0.9s,mb5.2								
YAK	**Yakutsk**	**72.46**	**348**	*e*P			**P**	**17 29 23.3**	**-0.4**
YAK					pmax		pmax		
	comp=Z,25nm,1.1s,mb5.1								
YAK					pmax		pmax		
	comp=N,5.0nm,1.3s								
ZAK	**Zakamensk**	**73.49**	**328**	*e*P			**P**	**17 29 29.8**	**-0.2**
ZAK					pmax		pmax		
	comp=Z,2.0nm,1.9s,mb3.7								
BOD	**Bodaibo**	**73.58**	**338**	*e*P			**P**	**17 29 29.8**	**-0.6**
BOD					pmax		pmax		
	comp=Z,3.0nm,1.3s,mb4.1								
TLY	**Talaya**	**74.05**	**329**	*i* P			**P**	**17 29 36.3**	**+3.0**
TLY					pmax		pmax		
	comp=Z,1.0nm,0.6s,mb3.9								
BILL	**Bilibino**	**76.03**	**4**	*e*P			**P**	**17 29 44.5**	**+0.1**
	comp=Z,17nm,1.0s,mb4.9								
BILL	**Bilibino**	**76.03**	**4**	*e*P			**P**	**17 29 44.7**	**+0.3**
BILL				*e*				17 32 33.7	
BILL					pmax		pmax		
	comp=Z,15nm,0.9s,mb4.9								
BILL					MLR		MLR		
	comp=Z,500nm,20.0s								
TIXI	**Tiksi**	**81.23**	**352**	*e*P			**P**	**17 30 14.2**	**+1.3**
TIXI					pmax		pmax		
	comp=Z,2.0nm,0.9s,mb4.0								
IMA2	**Indian Mountai**	**82.36**	**19**	*e*P			**P**	**17 30 18.3**	**-0.7**
MCK	**McKinley**	**82.57**	**22**	*e*P			**P**	**17 30 18.5**	**-1.6**
	comp=Z,12nm,1.3s,mb4.8								
MCK	**McKinley**	**82.57**	**22**	*e*P			**P**	**17 30 18.5**	**-1.6**
MCK					pmax		pmax		
	comp=Z,12nm,1.3s,mb4.8								
COLA	**College**	**83.60**	**21**	*i* P			**P**	**17 30 24.1**	**-1.3**
MKAR	**Makanchi Array**	**84.40**	**319**	P			**P**	**17 30 30.4**	**+0.5**
	comp=Z,7.6nm,0.7s,mb4.9,baz=102,slow=6.0,SNR=62								
ZAA0	**Zalesovo Array**	**85.18**	**326**	*e*P			**P**	**17 30 32.8**	**-0.9**
ZALV	**Zalesovo Beam**	**85.18**	**326**	P			**P**	**17 30 33.2**	**-0.5**
ZALV	**Zalesovo Beam**	**85.18**	**326**	P			**P**	**17 30 33.2**	**-0.4**
	comp=Z,4.0nm,0.6s,mb4.7,baz=110,slow=6.0,SNR=22								
ZAL	**Zalesovo**	**85.18**	**326**	P			**P**	**17 30 33.2**	**-0.5**
AML	**Almayashu**	**89.22**	**313**	*e*P			**P**	**17 30 54.9**	**+1.4**
	comp=Z,3.5nm,0.8s,mb4.7								
NVAR	**Mina Array Bea**	**91.73**	**52**	P			**P**	**17 31 06.3**	**+1.0**
	comp=Z,0.6nm,0.8s,mb4.0,baz=237,slow=6.3,SNR=3.9								
BRVK	**Borovoye**	**93.36**	**323**	*e*P			**P**	**17 31 12.3**	**-0.1**
YKA	**Yellowknife Ar**	**96.75**	**28**	P			**P**	**17 31 27.4**	**-0.3**
YKA	**Yellowknife Ar**	**96.75**	**28**	P			**P**	**17 31 27.4**	**-0.3**
	comp=Z,0.9nm,0.6s,mb4.4,baz=268,slow=4.5,SNR=16								
KHC	**Kasperske Hory**	**127.93**	**329**	*i* PKIKP			PKPdf	17 37 06.0	+2.7
GERES	**GERESS Array B**	**128.04**	**329**	PKP			PKPdf	17 37 03.9	+0.4
	comp=Z,0.5nm,0.7s,baz=119,slow=1.7,SNR=4.8								

*IDC **03** 17:25:31.6±0.6, 041S×125.68E, h0km, mb4.7/15, mb1 4.7/16, mb1mx4.6/21, mbtmp4.6/16, ML4.2/1, Error ellipse: s-maj=28.4km s-min=12.9km az=71.0*
*MOS **03** 17:25:35.1±1.3, 036S×125.72E, h33km, mb5.1/19, Error ellipse: s-maj=16.4km s-min=7.0km az=110.0*
*ISCJB **03** 17:25:36.5±1.2, 046S±005×125.87E±005, h51km±11km, mb5.0/64, MS4.3/7, Error ellipse: s-maj=9.7km s-min=7.4km az=149.8*
*BJI **03** 17:25:36.9, 050S×125.80E, h46km, mB5.1, mb4.9, Ms4.8, Msz4.5*
*NEIC **03** 17:25:38.0±0.3, 046S×125.81E, mb4.9/18, MS4.4/1, Error ellipse: s-maj=11.6km s-min=5.8km az=70.0*
ISC 03 17:25:38.6±1.0, 051S±005×12584E±005, h54km±10km, h45km±2.5km: pP-P, n121, σ1§01/121, mb5.0/64, MS4.3/7, 5C-9D, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
AAI	**Ambon**	**3.94**	**143**	P			**Pn**	**17 26 36.6**	**0.0**
	232nm,0.5s								
PCI	**Palu**	**6.01**	**266**	P			**Pn**	**17 27 05.0**	**0.0**
	204nm,0.9s								
KAKA	**Kakadu**	**13.78**	**152**	*e*P			**Pn**	**17 28 49.5**	**-1.8**
	15nm,0.6s								
KSM	**Kuching**	**15.65**	**277**	P			**Pn**	**17 29 15.9**	**+0.1**
BJII	**Banjamegara**	**17.45**	**247**	P			**Pn**	**17 29 41.6**	**+3.2**
	67nm,1.4s								
FITZ	**Fitzroy Crossi**	**17.49**	**181**	*e*P			**Pn**	**17 29 39.5**	**+0.7**
	10nm,0.7s								
FITZ	**Fitzroy Crossi**	**17.49**	**181**	P			**Pn**	**17 29 39.6**	**+0.8**
	0.6nm,0.3s,baz=16,slow=8.7,SNR=23								
TPI	**Tanjungpandan**	**18.31**	**263**	P			**Pn**	**17 29 51.7**	**+2.8**
	10nm,1.6s								
LEM	**Lembang**	**19.23**	**251**	P			**Pn**	**17 30 00.3**	**+0.4**
	92nm,1.0s								
CBJI	**Citeko**	**19.83**	**252**	P			**Pn**	**17 30 06.2**	**-0.9**
	280nm,0.9s								
WRA	**Warramunga Arr**	**21.03**	**157**	P			**P**	**17 30 17.8**	**-0.3**
	12nm,0.5s,mb4.5,baz=335,slow=11,SNR=104								
WB2	**Warramunga Arr**	**21.04**	**157**	*e*P			**P**	**17 30 17.5**	**-0.6**
MBWA	**Marble Bar**	**21.37**	**196**	*e*P			**P**	**17 30 22.3**	**+0.6**
	15nm,1.0s,mb4.3								
ASAR	**Alice Springs**	**24.32**	**162**	P			**P**	**17 30 53.0**	**+1.6**
	6.5nm,0.7s,mb4.2,baz=345,slow=12,SNR=104								
QIZ	**Qiongzhong**	**24.97**	**322**	P			**P**	**17 30 59.0**	**+1.7**
QIZ				S			**S**	**17 35 20.2**	**+2.7**
QIZ					AMB		AMB		
	comp=Z,356nm,3.2s								
PSI	**Prapat**	**27.10**	**277**	P			**P**	**17 31 15.0**	**-1.7**
	comp=Z,9.0nm,0.8s,mb4.3,baz=142,slow=1.4,SNR=5.9								
JOW	**Kunigami**	**27.28**	**5**	P			**P**	**17 31 17.4**	**-0.6**
	comp=Z,18nm,0.5s,mb4.8,baz=176,slow=14,SNR=2.8								
GYA	**Guiyang**	**32.56**	**327**	*i* P			**P**	**17 32 07.8**	**+2.9**
GYA					AP		pP	17 32 19.8	+1.3
GYA					XP		sP	17 32 24.6	-0.2
GYA					PP		PP	17 33 17.0	-2.3
GYA					PCP		PcP	17 34 53.0	+2.5
GYA					AMB		AMB		
	comp=Z,20nm,0.9s,mb5.0								
GYA					AMB		AMB		
	comp=Z,140nm,5.8s								
GYA					LR		LR		
	comp=N,680nm,16.8s,MS4.5								
GYA					LR		LR		
	comp=E,560nm,17.9s,MS4.5								
GYA					LR		LR		
	comp=Z,860nm,18.3s,MS4.5								
NJ2	**Nanjing**	**33.05**	**349**	*e*P			**P**	**17 32 12.1**	**+3.1**
NJ2					AMB		AMB		
	comp=Z,30nm,0.5s,mb5.5								
KMI	**Kunming**	**33.89**	**320**	P			**P**	**17 32 17.8**	**+1.3**
KMI					AP		pP	17 32 30.8	+0.6
KMI					XP		sP	17 32 36.1	-0.4
KMI					AMB		AMB		
	comp=Z,5.0nm,1.0s,mb4.4								
KMI					AMB		AMB		
	comp=Z,81nm,4.4s								
KMI	**Kunming**	**33.89**	**320**	P			**P**	**17 32 17.8**	**+1.3**
	comp=Z,5.0nm,1.0s,mb4.4								
KMI					pP		pP	17 32 30.8	+0.6
KMI					sP		sP	17 32 36.1	-0.4
KMI					PP		PP	17 33 34.5	+0.4
KMI					S		**S**	**17 37 37.6**	**+0.2**
KMI					LR		LR		
	comp=Z,70nm,24.8s,MS3.3								
CD2	**Chengdu**	**37.63**	**328**	*e*P			**P**	**17 32 49.5**	**+1.0**
CD2					AP		pP	17 33 01.7	-0.6
CD2					XP		sP	17 33 07.2	-1.4
CD2					PP		PP	17 34 19.6	+4.3
CD2					PCP		PcP	17 35 06.0	+0.8
CD2					AMB		AMB		
	comp=Z,10.0nm,0.6s,mb4.7								
CD2					AMB		AMB		
	comp=Z,30nm,5.6s								
CD2					LR		LR		
	comp=E,760nm,10.8s								
CD2					LR		LR		
	comp=Z,210nm,9.6s								
KSRS	**Korea Array**	**37.82**	**3**	P			**P**	**17 32 50.6**	**+0.7**
	comp=Z,12nm,0.6s,mb4.8,baz=180,slow=9.8,SNR=59								
MJAR	**Matsushiro Arr**	**38.61**	**16**	P			**P**	**17 32 55.1**	**-1.5**
	comp=Z,1.4nm,0.5s,mb4.0,baz=179,slow=9.6,SNR=6.1								
DL2	**Dalian**	**39.41**	**355**	P			**P**	**17 33 03.5**	**+0.2**
DL2					AMB		AMB		
	comp=Z,20nm,0.6s,mb5.0								
BJT	**Baijiatuau**	**41.29**	**349**	*e*P			**P**

comp=Z,104nm,8.4s
GTA LR LR
comp=N,208nm,16.0s,MS4.3
GTA LR LR
comp=E,152nm,16.3s,MS4.3
GTA LR LR
comp=Z,117nm,16.4s,MS3.9
JIRN Jiri 47.24 310 *e*P **P 17 34 05.5 -1.1**
comp=Z,9.8nm,0.4s,mb5.1
KKN Kakani 48.01 309 *e*P **P 17 34 11.1 -1.5**
comp=Z,13nm,0.8s,mb5.0
GKN Gorkha 48.61 309 *e*P **P 17 34 16.6 -0.6**
comp=Z,31nm,0.8s,mb5.4
KOLN Koldanda 49.31 308 *e*P **P 17 34 20.6 -2.0**
comp=Z,36nm,0.8s,mb5.5
HABR Khabarovsk 49.44 8 *e*P **P 17 34 23.8 +0.7**
KLR Kul'dur 49.80 5 *e*P **P 17 34 21.0 -4.9**
HYB Hyderabad 49.83 293 *i*P **P 17 34 27.0 +0.3**
HIA Hailar 49.86 355 *e*P **P 17 34 27.8 +1.5**
comp=Z,17nm,0.8s,mb5.1
HIA Hailar 49.86 355 *c i*P **P 17 34 27.4 +1.1**
ULN Ulaanbaatar 50.88 344 *c i*P **P 17 34 34.1 +0.1**
SONM Songino Array 51.04 343 P **P 17 34 35.2 -0.1**
comp=Z,10nm,0.7s,mb4.8,baz=159,slow=8.4,SNR=47
SONM PcP PcP 17 35 51.5 +0.9
comp=Z,0.8nm,0.7s,baz=166,slow=1.4,SNR=1.8
CIT Chita 53.35 351 *e*P **P 17 34 51.8 -0.6**
CIT pmax pmax
comp=Z,31nm,1.4s,mb5.0
ZAK Zakamensk 54.23 342⇓ *i*P **P 17 34 58.5 -0.3**
ZAK pmax pmax
comp=Z,2.0nm,0.8s,mb4.1
TLY Talaya 55.28 343⇓ *e*P **P 17 35 06.2 -0.2**
TLY pmax pmax
comp=Z,5.0nm,0.9s,mb4.5
MOY Mondy 56.06 342 *e*P **P 17 35 12.9 +0.9**
RPZ Rata Peaks 58.88 143 P **P 17 35 33.5 +1.4**
comp=Z,6.7nm,0.8s,mb4.7,baz=304,slow=21,SNR=2.7
BOD Bodaibo 58.91 353⇑ *i*P **P 17 35 31.4 -0.5**
BOD pmax pmax
comp=Z,9.0nm,1.0s,mb4.8
URZ Urewera 60.14 135 P **P 17 35 42.0 +1.1**
comp=Z,4.5nm,0.6s,mb4.7,baz=209,slow=2.6,SNR=4.3
MK31 Makanchi Array 60.55 327 *i*P **P 17 35 42.8 -0.6**
MK31 pmax pmax
comp=Z,6.0nm,0.3s,mb5.2
MKAR Makanchi Array 60.55 327 P **P 17 35 42.8 -0.7**
MKAR PcP PcP 17 36 28.0 +0.5
MKAR Makanchi Array 60.55 327 P **P 17 35 42.8 -0.7**
comp=Z,8.7nm,0.4s,mb5.3,baz=123,slow=7.4,SNR=206
MKAR PcP PcP 17 36 28.0 +0.5
comp=Z,2.8nm,0.7s,baz=116,slow=5.5,SNR=4.1
TKM2 Tokmak 2 62.36 320 *e*P **P 17 35 55.5 -0.3**
comp=Z,7.9nm,0.7s,mb5.0
TKM2 Tokmak 2 62.36 320 *e*P **P 17 35 55.5 -0.3**
TKM2 pmax pmax
comp=Z,8.0nm,0.7s,mb5.0
TKM2 Tokmak 2 62.36 320 P **P 17 35 55.8 +0.1**
SNR=13
YAK Yakutsk 62.44 2 *e*P **P 17 35 56.0 +0.2**
comp=Z,39nm,0.8s,mb5.6
YAK Yakutsk 62.44 2 *e*P **P 17 35 54.6 -1.3**
YAK pmax pmax
comp=Z,31nm,0.9s,mb5.4
YAK pmax pmax
comp=N,10.0nm,1.3s
YAK pmax pmax
comp=E,4.0nm,1.4s
KBK Karagaybulak 62.65 320 P **P 17 35 58.3 +0.6**
SNR=5.6
UCH Uchtor 62.73 319 P **P 17 35 58.9 +0.7**
SNR=15
AAK Ala-Archa 62.93 320 P **P 17 35 59.3 -0.2**
comp=E,55nm,0.8s,mb5.7,SNR=12
AAK Ala-Archa 62.93 320 P **P 17 36 00.1 +0.6**
SNR=11
MA2 Magadan 63.00 14 *e*P **P 17 36 00.7 +1.1**
comp=E,17nm,0.7s,mb5.3
MA2 Magadan 63.00 14 *d i*P **P 17 36 01.6 +1.9**
MA2 *e*S **S 17 44 29.3 +3.4**
MA2 *e*SSS 17 51 14.5
MA2 pmax pmax
comp=Z,40nm,0.9s,mb5.5
AML Almayashu 63.22 319 *e*P **P 17 36 01.8 +0.3**
comp=Z,13nm,0.8s,mb5.1
AML Almayashu 63.22 319 P **P 17 36 02.0 +0.6**
SNR=20
USP Ospenovka 63.23 320 P **P 17 36 01.1 -0.5**
SNR=19
EKS2 Erkin-Say 63.41 319 *e*P **P 17 36 02.7 0.0**
comp=Z,14nm,0.9s,mb5.1
EKS2 Erkin-Say 63.41 319 P **P 17 36 03.2 +0.5**
SNR=20
ZAA0 Zalesovo Array 63.97 334 *e*P **P 17 36 04.8 -1.3**
ZALV Zalesovo Beam 63.97 334 P **P 17 36 05.3 -0.9**
comp=Z,3.8nm,0.4s,mb4.8,baz=121,slow=4.8,SNR=26
ZAL Zalesovo 63.97 334 P **P 17 36 05.3 -0.8**
KURK Kurchatov 64.85 329 P **P 17 36 11.6 -0.4**
comp=Z,340nm,0.4s,mb6.7,SNR=39
KURK Kurchatov 64.85 329 *e*P **P 17 36 11.3 -0.7**
comp=Z,29nm,0.6s,mb5.5
KURK Kurchatov 64.85 329 *e*P **P 17 36 11.3 -0.7**
KURK pmax pmax
comp=Z,29nm,0.6s,mb5.5
NVS Novosibirsk 65.25 334 *i*P **P 17 36 13.7 -0.8**
NVS pmax pmax
comp=Z,8.0nm,0.7s,mb4.9
NVS pmax pmax
comp=N,5.0nm,0.8s
NVS pmax pmax
comp=E,6.0nm,0.8s
KK31 Karatay Array 65.75 319 *i*P **P 17 36 17.2 -0.8**
KK31 pmax pmax
comp=Z,3.0nm,0.4s,mb4.7
SEY Seymchan 66.33 13⇓ *e*P **P 17 36 23.1 +1.8**
BRVK Borovoye 70.46 328 P **P 17 36 47.8 +0.5**
comp=Z,88nm,0.5s,mb5.9,SNR=8.9
BRVK Borovoye 70.46 328 *e*P **P 17 36 46.8 -0.5**
comp=Z,14nm,0.9s,mb4.9
BRVK Borovoye 70.46 328 *e*P **P 17 36 46.8 -0.5**
BRVK pmax pmax
comp=Z,14nm,0.9s,mb4.9
CHKZ Chkalovo 70.59 329 *i*P **P 17 36 47.6 -0.5**
CHKZ pmax pmax
comp=Z,9.0nm,1.1s,mb4.6
TIXI Tiksi 72.06 1 *e*P **P 17 36 56.0 -0.7**
comp=Z,7.0nm,0.6s,mb4.8
TIXI Tiksi 72.06 1 *i*P **P 17 36 56.1 -0.5**
TIXI pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
ABKT Ailbek 72.88 310 P **P 17 37 01.5 -0.7**
comp=Z,53nm,0.5s,mb5.7,SNR=5.5
BILL Bilibino 73.85 15⇓ *e*P **P 17 37 08.2 +0.9**
BILL *i*S S 17 46 37.7 +3.2
BILL pmax pmax
comp=Z,4.0nm,1.1s,mb4.3
BILL MLR MLR
comp=Z,500nm,19.0s,MS4.8
ARU Arti 78.03 328 *d i*P **P 17 37 31.0 -0.3**
ARU *e* 17 40 30.9
ARU *e*PPP 17 42 13.9
ARU *e*S S 17 47 21.9 +0.9
ARU *e*SS SS 17 52 19.3 -4.0
ARU pmax pmax
comp=Z,19nm,1.0s,mb5.0
UMR Umm Al-Rimmam 79.92 300 *e*P **P 17 37 42.4 +0.1**
UMR AMb AMB 17 37 43.7
comp=Z,62nm,0.8s,mb5.6
RDF Al-Radifah 79.99 299 *e*P **P 17 37 42.6 -0.1**
RDF AMb AMB 17 37 44.2
comp=Z,64nm,1.1s,mb5.5
MIB Mutribah 80.27 300 *e*P **P 17 37 44.2 +0.1**
MIB AMb AMB 17 37 45.6
comp=Z,96nm,0.8s,mb5.8
NAY Al-Naaiem 80.30 300 *e*P **P 17 37 44.1 -0.2**
NAY AMb AMB 17 37 45.3
comp=Z,41nm,0.7s,mb5.5
RST Umm Al-Ruwaisa 80.53 300 *e*P **P 17 37 45.4 -0.2**
RST AMb AMB 17 37 46.3
comp=Z,126nm,0.5s,mb6.1
KIV Kislovodsk 85.41 314 *e*P **P 17 38 08.9 -1.6**
comp=Z,4.4nm,0.6s,mb4.8
KIV Kislovodsk 85.41 314⇑ *e*P **P 17 38 10.8 +0.3**
KIV pmax pmax
comp=Z,8.0nm,1.3s,mb4.7
VRHR Novokhopersk 86.74 321 *e*P **P 17 38 15.9 -1.0**
VRHR pmax pmax
comp=N,10.0nm,0.6s
VRHR pmax pmax
comp=E,9.0nm,0.6s
VRHR pmax pmax
comp=Z,30nm,0.6s,mb5.7
SYO Syowa Base 88.18 201⇓ *e*P **P 17 38 23.7 +0.3**
MALT Malatya 88.27 308 *e*P **P 17 38 25.7 +1.2**
comp=Z,6.9nm,0.8s,mb4.9
MALT Malatya 88.27 308 *e*P **P 17 38 25.7 +1.2**
MALT pmax pmax
comp=Z,7.0nm,0.8s,mb4.9
VRSR Storozhevoye 88.28 321 *e*P **P 17 38 24.0 -0.3**
VRSR pmax pmax
comp=E,1.0nm,0.8s
VRSR pmax pmax
comp=Z,1.0nm,0.8s,mb4.1
VRSR pmax pmax
comp=N,1.0nm,1.4s
KMBO Kilima Mbogo 88.57 269⇑ *e*P **P 17 38 24.7 -1.8**
ANN Anapa 89.22 315 *e*P **P 17 38 21.7 -7.1**
ANN *e**PP pP 17 38 31.2 -13
ANN pmax pmax
comp=Z,46nm,1.0s,mb5.8
OBN Obninsk 89.99 325⇓ *e*P **P 17 38 31.5 -0.7**
OBN *e*S S 17 48 59.9 -21
OBN pmax pmax
comp=Z,8.0nm,0.9s,mb5.0
MENT Mentasta 90.65 27 *e*P **P 17 38 30.5 -4.6**
ARCES ARCESS Array B 94.09 340 P **P 17 38 50.0 -0.9**
ARCES ARCESS Array B 94.09 340 P **P 17 38 50.0 -0.9**
comp=Z,3.3nm,0.7s,mb4.9,baz=90,slow=3.6,SNR=13
INK Inuvik 94.41 21 *e*P **P 17 38 51.6 -0.7**
AKASG Malin Array Be 94.59 321 P **P 17 38 52.5 -1.1**
comp=Z,0.3nm,0.3s,mb4.2,baz=76,slow=4.3,SNR=4.7
MBAR Mbarara 95.09 269 P **P 17 38 56.3 -0.4**
SNR=5.1
FINES FINESS Array B 95.11 332 P **P 17 38 54.2 -1.5**
comp=Z,3.1nm,1.1s,mb4.7,baz=202,slow=20,SNR=3.1
BOSA Boshof 99.05 241 P **P 17 39 15.2 +1.0**
comp=Z,2.1nm,0.8s,mb4.7,baz=76,slow=4.2,SNR=3.6
ULM Lac du Bonnet 119.08 29 PKP PKPdf 17 44 22.1 +0.6
comp=Z,1.5nm,0.7s,baz=34,slow=3.6,SNR=3.3
TORD Torodi Ar. Bea 123.28 285 PKP PKPdf 17 44 31.3 +0.7
comp=Z,1.5nm,0.6s,baz=138,slow=1.5,SNR=6.0
JCT Junction City 127.45 51 *e*PKPdf PKPdf 17 44 40.3 +2.1
PLCA Paso Flores 136.33 162 PKP PKPdf 17 44 56.8 +2.1
comp=Z,1.4nm,0.7s,baz=214,slow=5.9,SNR=3.1
CFAA Coronel Fontan 145.39 159 PKPbc PKPbc 17 45 12.8 +1.6
comp=Z,0.4nm,0.5s,baz=264,slow=2.7,SNR=3.9

BJI ***03*** *17:25:57.9, 839S×15771E, h12km, mB5.5, mb5.2, Ms5.1, Msz4.8*
ISCJB ***03*** *17:25:57.8±0.1, 872S±004×15739E±003, h10km, mb5.1/78, MS4.8/34, Error ellipse: s-maj=5.2km s-min=3.7km az=175.0*
IDC ***03*** *17:25:57.3±0.5, 868S×157.40E, h0km, mb4.9/20, mb1 4.9/22, mb1mx4.9/24, mbtmp4.9/22, ML4.1/2, MS4.7/16, Ms1 4.7/16, ms1mx4.5/22, Error ellipse: s-maj=17.1km s-min=12.4km az=83.0*
NEIC ***03*** *17:25:58.8±0.2, 873S×157.45E, h10km, mb5.2/36, MS4.9/1, Error ellipse: s-maj=6.9km s-min=5.5km az=115.0*
GCMT ***03*** *17:25:58.8±0.1, 880S×15754E, h12km, MW5.4/91, Moment Tensor Solution. s56,c81; s91,c154; Duration: 1s2 Moment tensor: Scale 10^17Nm; M_rr0.68±.02: M_θθ0.06±.02; M_φφ-0.74±.02; M_rθ-0.75±.05; M_θφ0.78±.01; M_φr-0.44±.04; Best double couple: M_0 1.35100×10^17 NP1:φs183.00000°, δ58.00000°, λ143.00000°. NP2: φs294.00000°, δ59.00000°, λ38.00000°. Principal axes: T 1.4820, Plg47.0000°, Azm149.0000°; N -0.2610, Plg43.0000°, Azm328.0000°; P -1.2210, Plg1.0000°, Azm58.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
MOS ***03*** *17:26:01.4±1.4, 857S×15725E, h33km, mb5.3/22, MS4.7/6 Error ellipse: s-maj=10.5km s-min=7.9km az=87.0*

ISC 03 17:25:57.7±1.3, 872S±004×15745E±003, h0km±7km, n361, σ0.99/99/328, mb5.2/78, MS4.8/34, 81C-61D, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**		**2.57 106**	*e*Pn	**Pn**	**17 26 37.7**	**-2.9**
HNR	**Honiara**		**2.57 106**	Pn	**Pn**	**17 26 37.3**	**-3.3**
276nm,0.3s,baz=256,slow=8.3,SNR=42							
HNR				LR	LR	17 27 05.1	
comp=Z,7μm,19.8s,baz=355,slow=26							
HNR				Sn	**Sn**	**17 27 15.5**	**+2.9**
390nm,0.3s,baz=82,slow=23,SNR=4.0							
CTA	**Charters Tower**		**15.65 223**	*e*P	**Pn**	**17 29 39.0**	**-0.8**
39nm,0.9s							
CTA				*e*S	**Sn**	**17 32 39.0**	**+5.0**
CTA	**Charters Tower**		**15.65 223**	*e*P	**Pn**	**17 29 39.0**	**-0.8**
CTA				*e*S	**Sn**	**17 32 39.0**	**+5.0**
CTA				pmax	pmax		
comp=Z,39nm,0.9s							
CTA	**Charters Tower**		**15.65 223**	Pn	**Pn**	**17 29 38.1**	**-1.6**
comp=Z,0.6nm,0.3s,baz=48,slow=12,SNR=7.5							
CTAO	**Charters Tower**		**15.65 223**	P	**Pn**	**17 29 39.4**	**-0.3**
comp=Z,277nm,1.5s							
CTAO	**Charters Tower**		**15.65 223**	P	**Pn**	**17 29 39.4**	**-0.4**
CTAO				pmax	pmax		
comp=Z,277nm,1.5s							
DZM	**Mont Dzumac**		**15.85 148**	Pn	**Pn**	**17 29 41.4**	**-1.0**
comp=Z,0.6nm,0.3s,baz=355,slow=12,SNR=16							
EIDS	**Eidsvold**		**17.64 199**	*e*P	**Pn**	**17 30 04.9**	**-0.1**
comp=Z,201nm,1.6s							
ARMA	**Armidale**		**22.27 193**	*e*P	**P**	**17 30 55.9**	**-0.5**
KAKA	**Kakadu**		**24.89 259**	*e*P	**P**	**17 31 22.6**	**+0.1**
comp=Z,229nm,2.0s,mb5.6							
WB2	**Warramunga Arr**		**24.97 241**	*e*P	**P**	**17 31 22.7**	**-0.5**
WB2				*e*S	**S**	**17 35 52.0**	**+3.9**
WRA	**Warramunga Arr**		**24.98 241**	P	**P**	**17 31 22.9**	**-0.4**
WRA						17 34 58.0	
WRA	**Warramunga Arr**		**24.98 241**	P	**P**	**17 31 22.9**	**-0.4**
comp=Z,36nm,0.6s,mb5.3,baz=67,slow=9.2,SNR=34							
WRA				PcP	PcP	17 34 58.0	-0.9
comp=Z,5.2nm,0.6s,baz=67,slow=2.8,SNR=9.7							
WRA				LR	LR	17 40 51.5	
comp=Z,3μm,19.1s,MS4.9,baz=65,slow=36							
GUMO	**Guam**		**25.44 330**	P	**P**	**17 31 25.0**	**-2.4**
comp=Z,108nm,0.9s,mb5.6,baz=178,slow=15,SNR=3.1							
ASAR	**Alice Springs**		**26.99 234**	P	**P**	**17 31 39.8**	**-1.7**
comp=Z,19nm,1.0s,mb4.8,baz=67,slow=9.3,SNR=16							
ASAR				PcP	PcP	17 35 03.1	-0.3
comp=Z,2.5nm,0.7s,baz=64,slow=3.3,SNR=5.1							
STKA	**Stephens Creek**		**27.35 210**	*e*P	**P**	**17 31 43.7**	**-0.9**
comp=Z,42nm,0.6s,mb5.3							
STKA				*i*S	**S**	**17 36 26.8**	**+1.3**
STKA	**Stephens Creek**		**27.35 210**	P	**P**	**17 31 43.8**	**-0.8**
comp=Z,47nm,0.6s,mb5.4,baz=24,slow=9.6,SNR=60							
STKA				LR	LR	17 41 58.9	
comp=Z,3μm,18.2s,MS4.9,baz=29,slow=35							
CNB	**Canberra Magne**		**27.49 194**	*e*P	**P**	**17 31 45.5**	**-0.3**
comp=Z,52nm,1.0s,mb5.2							
FITZ	**Fitzroy Crossi**		**32.27 250**	*e*P	**P**	**17 32 29.4**	**+1.0**
comp=Z,17nm,0.7s,mb5.1							
FITZ	**Fitzroy Crossi**		**32.27 250**	*e*P	**P**	**17 32 26.4**	**-2.0**
FITZ	**Fitzroy Crossi**		**32.27 250**	P	**P**	**17 32 27.4**	**-1.0**
comp=Z,10nm,1.1s,mb4.7,baz=77,slow=12,SNR=11							
FITZ				LR	LR	17 44 47.8	
comp=Z,1μm,19.5s,MS4.7,baz=273,slow=35							
BATI	**Kupang**		**33.35 265**	P	**P**	**17 32 39.0**	**+1.1**
comp=Z,49nm,0.9s,mb5.4,baz=97,slow=6.3,SNR=7.4							
URZ	**Urewera**		**34.34 152**	P	**P**	**17 32 45.6**	**-0.6**
comp=Z,34nm,1.1s,mb5.2,baz=30,slow=8.2,SNR=6.4							
RPZ	**Rata Peaks**		**36.83 163**	P	**P**	**17 33 07.3**	**-0.3**
comp=Z,34nm,1.2s,mb5.0,baz=9.6,slow=6.5,SNR=9.3							
KAPI	**Kappang**		**37.59 273**	P	**P**	**17 33 14.9**	**+0.4**
comp=Z,454nm,0.9s,mb6.2,SNR=6.3							
MBWA	**Marble Bar**		**38.38 247**	*e*P	**P**	**17 33 19.3**	**-1.7**
CBIJ	**Chichi jima**		**38.55 338**	P	**P**	**17 33 20.6**	**-1.6**
comp=Z,26nm,0.6s,mb5.0,baz=232,slow=21,SNR=1.5							
TSM	**Tawau**		**41.52 287**	⇑P	**P**	**17 33 48.9**	**+1.7**
SDKM	**Sandakan**		**42.59 288**	⇓P	**P**	**17 33 58.1**	**+2.1**
KLBR	**Kellerberrin**		**43.31 233**	⇓ *i*P	**P**	**17 34 00.7**	**-0.9**
comp=Z,101nm,1.9s,mb5.2							
KDM	**Kudat**		**43.36 290**	⇑P	**P**	**17 34 04.7**	**+2.5**
KKM	**Kota Kinabalu**		**43.65 288**	⇑P	**P**	**17 34 06.8**	**+2.3**
NWAO	**Narrogin (SRO)**		**44.24 231**	*e*P	**P**	**17 34 08.1**	**-1.0**
comp=Z,25nm,1.0s,mb4.9							
NWAO	**Narrogin (SRO)**		**44.24 231**	*e*P	**P**	**17 34 08.1**	**-1.0**
NWAO				pmax	pmax		
comp=Z,25nm,1.0s							
NWAO	**Narrogin (SRO)**		**44.24 231**	P	**P**	**17 34 09.1**	**0.0**
comp=Z,28nm,1.1s,mb4.9,baz=39,slow=8.7,SNR=6.1							
NWAO				LR	LR	17 53 13.6	
comp=Z,2μm,18.2s,MS5.0,baz=73,slow=37							
MUN	**Mundaring**		**44.68 233**	*e*P	**P**	**17 34 12.6**	**+0.1**
MUN				*i*S	**S**	**17 40 47.6**	**-2.6**
JOW	**Kunigami**		**45.27 322**	LR	LR	17 51 17.5	
comp=Z,770nm,18.4s,MS4.7,baz=54,slow=34							
BTM	**Bintulu**		**45.79 283**	⇓P	**P**	**17 34 24.0**	**+2.4**
SBUM	**Sibu**		**46.43 282**	⇓P	**P**	**17 34 28.6**	**+1.9**
KSM	**Kuching**		**48.06 280**	*e*P	**P**	**17 34 39.2**	**-0.2**
KSM	**Kuching**		**48.06 280**	⇑P	**P**	**17 34 40.6**	**+1.2**
MJAR	**Matsushiro Arr**		**48.51 339**	P	**P**	**17 34 41.0**	**-1.5**
comp=Z,4.3nm,0.6s,mb4.6,baz=159,slow=8.6,SNR=7.7							
MJAR				LR	LR	17 52 23.6	
comp=Z,604nm,21.3s,MS4.5,baz=180,slow=33							
MAT	**Matsushiro**		**48.52 339**	P	**P**	**17 34 41.3**	**-1.2**
MAT				S	**S**	**17 41 37.0**	**-7.9**
PPT	**Papeete**		**52.19 105**	*e*S	**S**	**17 42 27.9**	**-8.9**
comp=Z,389nm,23.1s							
PPT				*e*LQ		17 48 05.7	
comp=Z,2μm,29.2s							
PPT				*e*LR	LR	17 50 09.2	
comp=Z,2μm,33.8s,baz=273							
PPT	**Papeete**		**52.19 105**	LR	LR	17 52 16.7	
comp=Z,605nm,18.2s,MS4.7,baz=279,slow=30							
SSE	**Sheshan**		**52.67 320**	P	**P**	**17 35 14.5**	**+0.5**
SSE				XP		17 35 19.0	
SSE				S	**S**	**17 42 42.8**	**0.0**
SSE				XS		17 42 48.0	
SSE				AMB	AMB		
comp=Z,35nm,0.8s,mb5.3							
SSE				AMB	AMB		
comp=Z,327nm,4.9s							
SSE				LR	LR		
comp=N,535nm,17.9s,MS4.7							
SSE				LR	LR		
comp=E,273nm,17.9s,MS4.7							
SSE				LR	LR		
comp=Z,708nm,17.0s,MS4.8							
SSE	**Sheshan**		**52.67 320**	P	**P**	**17 35 14.5**	**+0.5**
comp=Z,35nm,0.8s,mb5.3							
SSE				sP		17 35 19.0	
SSE				S	**S**	**17 42 42.8**	**0.0**
SSE				sS		17 42 48.0	
SSE				LR	LR		
comp=Z,710nm,17.0s,MS4.8							
TBI	**Tubuai**		**52.77 113**	*e*S	**S**	**17 42 41.4**	**-3.2**
comp=Z,353nm,26.0s							
TBI				*e*LQ		17 48 20.5	
comp=Z,3μm,31.8s							
TBI				*e*LR	LR	17 50 34.8	
comp=Z,1μm,34.2s,baz=285							
KSRS	**Korea Array**		**53.60 331**	P	**P**	**17 35 20.5**	**-0.3**
comp=Z,3.9nm,0.6s,mb4.6,baz=151,slow=8.2,SNR=14							
KSRS				LR	LR	17 56 32.1	
comp=Z,400nm,19.2s,MS4.5,baz=33,slow=34							
PMOR	**Pomariorio Ree**		**53.75 102**	*e*P	**P**	**17 35 22.5**	**+0.2**
comp=Z,168nm,1.5s,mb5.8							
QIZ	**Qiongzhong**		**54.42 301**	P	**P**	**17 35 26.9**	**-0.2**
QIZ				S	**S**	**17 43 07.3**	**+0.2**
QIZ				XS		17 43 11.6	
QIZ				SCS	ScS	17 45 15.4	-3.0
QIZ				AMB	AMB		
comp=Z,64nm,1.2s,mb5.5							
QIZ				LR	LR		
comp=E,916nm,16.3s							
QIZ				LR	LR		
comp=Z,979nm,18.5s,MS4.9							
MYKOM	**Kota Tinggi**		**54.43 278**	⇑P	**P**	**17 35 28.0**	**+0.7**
NJ2	**Nanjing**		**54.79 320**	*e*P	**P**	**17 35 29.8**	**+0.3**
NJ2				AP		17 35 35.1	
NJ2				XP		17 35 36.6	
NJ2				PP	PP	17 37 34.0	+1.6
NJ2				S	**S**	**17 43 08.0**	**-3.5**
NJ2				XS		17 43 17.0	
NJ2				AMB	AMB		
comp=Z,50nm,0.9s,mb5.5							
NJ2				AMB	AMB		
comp=Z,32nm,5.2s							
NJ2				LR	LR		
comp=N,1μm,17.5s,MS5.1							
NJ2				LR	LR		
comp=E,1μm,20.2s,MS5.1							
NJ2				LR	LR		
comp=Z,1μm,20.2s,MS4.9							
KGM	**Kluang**		**54.99 279**	⇓P	**P**	**17 35 32.9**	**+1.5**
KTGM	**Kuala Trenggan**		**55.92 282**	⇓P	**P**	**17 35 39.7**	**+1.6**
VLA	**Vladivostok**		**56.60 338**	*e*P	**P**	**17 35 35.6**	**-6.7**
VLA				pmax	pmax		
comp=Z,11nm,0.9s,mb4.9							
VLA				MLR	MLR		
comp=Z,500nm,16.5s,MS4.7							
WHN	**Wuhan**		**56.86 315**	⇑P	**P**	**17 35 45.4**	**+0.9**
WHN				S	**S**	**17 43 41.1**	**+1.8**
WHN				AMB	AMB		
comp=Z,40nm,1.0s,mb5.4							
WHN				AMB	AMB		
comp=Z,698nm,10.2s							
WHN				LR	LR		
comp=Z,1μm,17.7s,MS5.1							
YSS	**Yuzh-Sakhalins**		**56.95 348**	*e*P	**P**	**17 35 44.1**	**-0.6**
comp=Z,18nm,1.1s,mb5.0							
YSS	**Yuzh-Sakhalins**		**56.95 348**	*e*P	**P**	**17 35 44.0**	**-0.7**
IPM	**Ipoh**		**57.76 281**	⇑P	**P**	**17 35 52.3**	**+1.2**
DL2	**Dalian**		**57.91 327**	⇑P	**P**	**17 35 54.4**	**+2.7**
DL2				S	**S**	**17 43 56.6**	**+3.9**
DL2				SS	SS	17 47 43.5	-0.4
DL2				AMB	AMB		
comp=Z,10.0nm,0.7s,mb5.0							
DL2				AMB	AMB		
comp=Z,180nm,7.5s							
DL2				LR	LR		
comp=N,360nm,12.9s,MS4.8							
DL2				LR	LR		
comp=E,250nm,12.3s,MS4.8							
DL2				LR	LR		
comp=Z,340nm,17.7s							
KULM	**Kulim**		**58.31 282**	P	**P**	**17 35 53.0**	**-2.0**
KULM	**Kulim**		**58.31 282**	⇑P	**P**	**17 35 55.2**	**+0.2**
TIA	**Tai'an**		**58.60 322**	*e*P	**P**	**17 35 56.4**	**-0.2**
MDJ	**Mudanjiang**		**58.74 337**	P	**P**	**17 35 57.1**	**-0.3**
MDJ				AP		17 36 00.5	
MDJ				PCP	PcP	17 36 46.2	-1.0
MDJ				PP	PP	17 38 07.4	0.0
MDJ				SCP	ScP	17 40 46.9	-2.3
MDJ				PCS	PcS	17 40 49.0	+0.2
MDJ				S	**S**	**17 44 03.6**	**+0.2**
MDJ				SCS	ScS	17 45 48.0	-0.7
MDJ				AMB	AMB		
comp=Z,22nm,1.3s,mb5.0							
MDJ				AMB	AMB		
comp=Z,321nm,8.6s							
MDJ				LR	LR		
comp=N,282nm,26.6s							
MDJ				LR	LR		
comp=E,130nm,20.0s							
MDJ				LR	LR		
comp=Z,392nm,28.5s,MS4.4							
MDJ	**Mudanjiang**		**58.74 337**	*e*P	**P**	**17 35 57.5**	**+0.1**
comp=Z,19nm,1.1s,mb5.0							
PSI	**Prapat**		**59.45 278**	P	**P**	**17 36 01.2**	**-1.8**
comp=Z,12nm,0.9s,mb4.9,baz=130,slow=6.2,SNR=13							
CN2	**Changchun**		**59.79 334**	*e*P	**P**	**17 36 04.7**	**0.0**
CN2				*e*XP		17 36 17.3	
CN2				*e*S	**S**	**17 44 20.4**	**+3.4**
CN2				SS	SS	17 48 11.2	-2.0
CN2				AMB	AMB		
comp=Z,20nm,1.3s,mb5.0							
CN2				AMB	AMB		
comp=Z,500nm,7.0s							
CN2				LR	LR		
comp=N,500nm,18.0s,MS4.9							
CN2				LR	LR		
comp=E,600nm,18.0s,MS4.9							
CN2				LR	LR		
comp=Z,700nm,18.0s,MS4.8							
HABR	**Khabarovsk**		**60.27 343**⇓	*i*P	**P**	**17 36 07.3**	**-0.6**
HABR				pmax	pmax		
comp=Z,43nm,1.6s,mb5.2							
GYA	**Guiyang**		**60.42 307**⇑	*i*P	**P**	**17 36 11.2**	**+1.8**

GYA				AP		17 36 15.8	
GYA				XP		17 36 19.7	
GYA				PCP	PcP	17 36 55.2	+0.8
GYA				PP	PP	17 38 26.4	+3.7
GYA				SCP	ScP	17 40 55.0	-2.1
GYA				S	**S**	**17 44 25.5**	**-0.3**
GYA				SCS	ScS	17 45 58.2	-3.7
GYA				SS	SS	17 48 25.0	+1.2
GYA				AMB	AMB		
	comp=Z,60nm,1.0s,mb5.6						
GYA				AMB	AMB		
	comp=Z,680nm,10.7s						
GYA				LR	LR		
	comp=N,820nm,20.6s,MS5.0						
GYA				LR	LR		
	comp=E,900nm,21.0s,MS5.0						
GYA				LR	LR		
	comp=Z,640nm,22.4s,MS4.7						
PET	**Petropavlovsk**	**61.51**	**1**	*e*P	**P**	**17 36 14.4**	**-1.8**
PET				*e*S	**S**	**17 44 30.7**	**-7.9**
PET				pmax	pmax		
	comp=Z,200nm,11.4s						
PET				MLR	MLR		
	comp=Z,700nm,17.0s,MS4.9						
TAOE	**Nuku Hiva Isla**	**61.60**	**95**	*e*SS	SS	17 48 42.1	-0.6
	comp=Z,5μm,29.9s						
TAOE				*e*LR	LR	17 54 33.4	
	comp=Z,31μm,29.8s						
BJI	**Beijing**	**61.71**	**325**	P	**P**	**17 36 17.7**	**-0.1**
BJI				AP		17 36 20.9	
BJI				XP		17 36 22.2	
BJI				S	**S**	**17 44 42.7**	**+1.0**
BJI				SS	SS	17 48 44.7	+1.2
BJI				AMB	AMB		
	comp=Z,9.0nm,1.1s,mb4.9						
BJI				AMB	AMB		
	comp=Z,327nm,6.4s						
BJI				LR	LR		
	comp=N,480nm,24.2s						
BJI				LR	LR		
	comp=E,466nm,29.6s						
BJI				LR	LR		
	comp=Z,573nm,32.6s						
BJI	**Beijing**	**61.71**	**325**	P	**P**	**17 36 17.7**	**-0.1**
	comp=Z,9.0nm,1.1s,mb4.9						
BJI				pP		17 36 20.9	
BJI				sP		17 36 22.2	
BJI				S	**S**	**17 44 42.7**	**+1.0**
BJI				SS	SS	17 48 44.7	+1.2
BJI				LR	LR		
	comp=Z,570nm,32.6s,MS4.5						
NST	**Nakhon Sawan**	**61.72**	**293**	P	**P**	**17 36 19.0**	**+0.7**
	comp=Z,56nm,0.9s,mb5.8						
KLR	**Kul'dur**	**61.95**	**341**	*e*P	**P**	**17 36 14.0**	**-5.2**
KLR				*e*S	**S**	**17 44 41.0**	**-3.4**
KLR				pmax	pmax		
	comp=Z,56nm,1.8s,mb5.5						
XAN	**Xi'an**	**62.63**	**316**	P	**P**	**17 36 23.9**	**-0.2**
XAN				AP		17 36 29.3	
XAN				S	**S**	**17 44 52.2**	**-1.3**
XAN				SS	SS	17 48 54.9	-3.2
XAN				AMB	AMB		
	comp=Z,28nm,1.5s,mb5.2						
XAN				AMB	AMB		
	comp=Z,256nm,6.8s						
XAN				LR	LR		
	comp=N,311nm,24.3s,MS4.6						
XAN				LR	LR		
	comp=E,386nm,24.3s,MS4.6						
XAN				LR	LR		
	comp=Z,678nm,19.4s,MS4.8						
KMI	**Kunming**	**62.99**	**304**	P	**P**	**17 36 26.7**	**0.0**
KMI				AP		17 36 31.7	
KMI				XP		17 36 33.5	
KMI				PP	PP	17 38 50.3	+4.9
KMI				S	**S**	**17 44 57.5**	**-0.9**
KMI				XS		17 45 06.9	
KMI				SKS		17 46 16.2	
KMI				SS	SS	17 49 05.7	+1.6
KMI				AMB	AMB		
	comp=Z,27nm,1.5s,mb5.2						
KMI				AMB	AMB		
	comp=Z,671nm,4.9s						
KMI				LR	LR		
	comp=N,444nm,18.6s,MS4.8						
KMI				LR	LR		
	comp=E,550nm,20.8s,MS4.8						
KMI				LR	LR		
	comp=Z,718nm,18.6s,MS4.9						
KMI	**Kunming**	**62.99**	**304**	P	**P**	**17 36 26.7**	**0.0**
	comp=Z,27nm,1.5s,mb5.2						
KMI				pP		17 36 31.7	
KMI				sP		17 36 33.5	
KMI				PP	PP	17 38 50.3	+4.9
KMI				PPP		17 40 16.8	
KMI				S	**S**	**17 44 57.5**	**-0.9**
KMI				sS		17 45 06.9	
KMI				SKS		17 46 16.2	
KMI				SS	SS	17 49 05.7	+1.6
KMI				LR	LR		
	comp=Z,720nm,18.6s,MS4.9						
KMI	**Kunming**	**62.99**	**304**	P	**P**	**17 36 26.7**	**0.0**
KMI				*SP		17 36 33.5	
KMI						17 38 50.3	
KMI				PPP		17 40 16.8	
KMI				S	**S**	**17 44 57.5**	**-0.9**
KMI				*SS		17 45 06.9	
KMI						17 46 16.2	
KMI				pmax	pmax		
	comp=Z,27nm,1.5s,mb5.2						
KMI				MLR	MLR		
	comp=Z,720nm,18.6s,MS4.9						
CHRT	**Chiangrai**	**63.46**	**297**	⇓P	**P**	**17 36 31.0**	**+1.0**
	comp=Z,282nm,1.1s,mb6.3						
CHTO	**Chiang Mai**	**63.84**	**296**	*e*P	**P**	**17 36 32.9**	**+0.5**
	comp=Z,83nm,1.3s,mb5.8						
CHTO	**Chiang Mai**	**63.84**	**296**	*e*P	**P**	**17 36 32.9**	**+0.5**
CHTO				pmax	pmax		
	comp=Z,83nm,1.3s,mb5.8						
CD2	**Chengdu**	**64.77**	**310**	*e*P	**P**	**17 36 39.0**	**+0.6**
CD2				AP		17 36 44.2	
CD2				XP		17 36 47.2	
CD2				PP	PP	17 39 04.3	+3.3
CD2				PCS		17 41 14.8	
CD2				S	**S**	**17 45 18.8**	**-1.6**
CD2				XS		17 45 27.0	
CD2				SCS	ScS	17 46 29.9	-4.8
CD2				SS	SS	17 49 33.0	+1.2
CD2				AMB	AMB		
	comp=Z,130nm,1.0s,mb6.1						
CD2				AMB	AMB		
	comp=Z,210nm,5.8s						
CD2				LR	LR		
	comp=N,540nm,14.6s,MS4.9						
CD2				LR	LR		
	comp=E,230nm,15.6s,MS4.9						
CD2				LR	LR		
	comp=Z,460nm,16.8s,MS4.7						
HHC	**Hu-ho-hao-te**	**64.92**	**323**	*e*P	**P**	**17 36 40.8**	**+1.7**
HHC				AP		17 36 45.1	
HHC				XP		17 36 48.2	
HHC				PP	PP	17 39 05.4	+3.4
HHC				SCP		17 41 13.5	
HHC				PCS		17 41 17.7	
HHC				XS		17 45 30.3	
HHC				AMB	AMB		
	comp=Z,13nm,0.3s,mb5.6						
HHC				AMB	AMB		
	comp=Z,366nm,6.8s						
HHC				LR	LR		
	comp=N,434nm,12.9s						
HHC				LR	LR		
	comp=E,572nm,18.4s						
HHC				LR	LR		
	comp=Z,635nm,17.5s,MS4.9						
BTO	**Baotou**	**65.69**	**322**	*e*P	**P**	**17 36 43.4**	**-0.8**
RKT	**Rikitea**	**66.05**	**111**	*e*LR	LR	17 56 40.7	
	comp=Z,668nm,28.0s						
HIA	**Hailar**	**66.51**	**334**	*e*P	**P**	**17 36 49.0**	**-0.2**
	comp=Z,15nm,0.9s,mb5.2						
HIA	**Hailar**	**66.51**	**334**	*e*P	**P**	**17 36 49.0**	**-0.2**
HIA				pmax	pmax		
	comp=Z,15nm,0.9s						
LZH	**Lanzhou**	**67.24**	**315**	*e*P	**P**	**17 36 54.9**	**+0.7**
LZH				AP		17 36 58.5	
LZH				XP		17 36 59.9	
LZH				PP	PP	17 39 25.5	+3.1
LZH				S	S	17 45 49.0	-1.3
LZH				XS		17 45 55.0	
LZH				SS	SS	17 50 10.0	0.0
LZH				AMB	AMB		
	comp=Z,130nm,1.2s,mb6.0						
LZH				AMB	AMB		
	comp=Z,461nm,5.7s						
LZH				LR	LR		
	comp=N,459nm,12.9s						
LZH				LR	LR		
	comp=Z,759nm,14.0s,MS5.1						
LZH	**Lanzhou**	**67.24**	**315**	*e*P	**P**	**17 36 54.9**	**+0.7**
	comp=Z,130nm,1.2s,mb6.0						
LZH				pP		17 36 58.5	
LZH				sP		17 36 59.9	
LZH				PP	PP	17 39 25.5	+3.1
LZH				S	S	17 45 49.0	-1.3
LZH				sS		17 45 55.0	
LZH				SS	SS	17 50 10.0	0.0
LZH				LR	LR		
	comp=Z,760nm,14.0s,MS5.1						
LZH	**Lanzhou**	**67.24**	**315**	*e*P	**P**	**17 36 54.9**	**+0.7**
LZH				*SP		17 36 59.9	
LZH						17 39 25.5	
LZH				S	S	17 45 49.0	-1.3
LZH				SS	SS	17 50 10.0	0.0
LZH				pmax	pmax		
	comp=Z,130nm,1.2s,mb6.0						
LZH				MLR	MLR		
	comp=Z,760nm,14.0s,MS5.1						
MA2	**Magadan**	**68.28**	**356**	*e*P	**P**	**17 37 05.8**	**+5.6**
MA2				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb5.1						
VNDA	**Vanda**	**68.82**	**179**	P	**P**	**17 37 03.0**	**-0.4**
	comp=Z,6.0nm,1.1s,mb4.8,baz=349,slow=7.4,SNR=17						
VNDA				LR	LR	18 04 14.4	
	comp=Z,370nm,18.1s,MS4.7,baz=359,slow=33						
IMP	**Imphal**	**70.25**	**300**	*e*P	**P**	**17 37 15.0**	**+1.8**
CLNS	**Chul'man**	**70.60**	**342**	*e*P	**P**	**17 37 15.0**	**+0.4**
CLNS				pmax	pmax		
	comp=E,9.0nm,1.0s						
CLNS				pmax	pmax		
	comp=Z,18nm,1.0s,mb5.2						
CLNS				pmax	pmax		
	comp=N,11nm,0.9s						
CIT	**Chita**	**71.22**	**333**	*e*P	**P**	**17 37 17.3**	**-1.2**
CIT				*e*		17 37 33.7	
SEY	**Seymchan**	**71.54**	**358**	*i* P	**P**	**17 37 18.8**	**-1.4**
GTA	**Gaotai**	**71.65**	**316**	⇓P	**P**	**17 37 22.2**	**+0.8**
GTA				AP		17 37 25.7	
GTA				XP		17 37 27.2	
GTA				PP	PP	17 40 05.3	+4.8
GTA				S	S	17 46 44.4	+2.2
GTA				XS		17 46 52.0	
GTA				SKS		17 47 22.4	
GTA				AMB	AMB		
	comp=Z,16nm,1.2s,mb5.0						
GTA				AMB	AMB		
	comp=Z,381nm,6.5s						
GTA				LR	LR		
	comp=N,371nm,17.9s,MS4.9						
GTA				LR	LR		
	comp=E,386nm,17.9s,MS4.9						
GTA				LR	LR		
	comp=Z,515nm,18.6s,MS4.8						
ULN	**Ulaanbaatar**	**71.76**	**327**	*d i*P	**P**	**17 37 22.5**	**+0.7**
SONM	**Songino Array**	**72.09**	**327**	P	**P**	**17 37 24.2**	**+0.3**
	comp=Z,6.7nm,1.0s,mb4.7,baz=134,slow=5.5,SNR=20						
SONM				LR	LR	18 10 34.7	
	comp=Z,321nm,18.5s,MS4.6,baz=127,slow=37						
SHL	**Shillong**	**72.26**	**300**	*e*P	**P**	**17 37 27.0**	**+1.7**
	comp=Z,20nm,1.5s,mb5.0						
SHL				*e*S	S	17 46 52.0	+2.3
AGT	**Agartala**	**72.27**	**298**	*ex*	x	17 37 41.0	
YAK	**Yakutsk**	**73.76**	**347**	*e*P	**P**	**17 37 32.5**	**-0.9**
YAK	**Yakutsk**	**73.76**	**347**	*e*P	**P**	**17 37 32.1**	**-1.3**
YAK				*i*		17 37 47.8	
YAK				*e*S	S	17 46 56.6	-8.8
YAK				*i*		17 47 29.7	
YAK				*i* *SS		17 47 43.4	
YAK				*i* SS	SS	17 51 50.6	+1.4
YAK				pmax	pmax		
	comp=Z,25nm,1.2s,mb5.1						
YAK				pmax	pmax		
	comp=N,8.0nm,1.3s						
YAK				pmax	pmax		
	comp=E,5.0nm,1.1s						
YAK				smax			
	comp=E,1μm,10.3s						
YAK				smax			
	comp=Z,202nm,5.2s						
YAK				smax			
	comp=N,818nm,16.8s						
LSA	**Lhasa**	**74.24**	**304**	P	**P**	**17 37 38.7**	**+1.7**
LSA				AMB	AMB		
	comp=Z,30nm,1.0s,mb5.3						
LSA	**Lhasa**	**74.24**	**304**	*e*P	**P**	**17 37 38.4**	**+1.4**
	comp=Z,55nm,1.1s,mb5.5						
LSA	**Lhasa**	**74.24**	**304**	*e*P	**P**	**17 37 38.4**	**+1.4**
LSA				pmax	pmax		
	comp=Z,55nm,1.1s,mb5.5						
BOD	**Bodaibo**	**75.11**	**338**	*e*P	**P**	**17 37 37.6**	**-3.8**
BOD				pmax	pmax		
	comp=Z,9.0nm,1.6s,mb4.5						
ZAK	**Zakamensk**	**75.23**	**328**	*e*P	**P**	**17 37 41.4**	**-0.9**
ZAK				pmax	pmax		
	comp=Z,8.0nm,1.3s,mb4.6						
TLY	**Talaya**	**75.78**	**329**	*e*P	**P**	**17 37 45.4**	**+0.1**
	comp=Z,6.9nm,0.9s,mb4.8						
TLY	**Talaya**	**75.78**	**329**	*e*P	**P**	**17 37 44.3**	**-1.1**
TLY				*e*PPP		17 42 18.3	
TLY				*e*S	S	17 47 28.1	-0.2
TLY				*e*		17 48 05.4	
TLY				*e*SS	SS	17 52 15.4	-4.9
TLY				pmax	pmax		
	comp=Z,13nm,1.4s,mb4.9						
TLY				MLR	MLR		
	comp=Z,321nm,17.0s,MS4.7						
IRK	**Irkutsk**	**75.78**	**329**	*e*P	**P**	**17 37 41.8**	**-3.6**
IRK				pmax	pmax		
	comp=Z,30nm,1.5s,mb5.2						
BILL	**Bilibino**	**76.82**	**3**	*e*P	**P**	**17 37 49.2**	**-1.7**
	comp=Z,13nm,0.8s,mb5.1						
BILL	**Bilibino**	**76.82**	**3**	⇓*e*P	**P**	**17 37 49.9**	**-1.0**
BILL				pmax	pmax		
	comp=Z,10.0nm,1.3s,mb4.8						
MOY	**Mondy**	**77.15**	**328**	*e*P	**P**	**17 37 53.2**	**+0.1**
MOY				pmax	pmax		
	comp=Z,29nm,2.1s,mb5.0						
PALK	**Pallekele**	**78.12**	**279**	P	**P**	**17 38 00.6**	**+1.2**
	comp=Z,62nm,1.1s,mb5.7						
TNA	**Tin City**	**78.37**	**14**	*e*P	**P**	**17 37 58.7**	**-1.0**
	comp=Z,14nm,1.1s,mb5.0						
SVW2	**Sparrevohn**	**78.69**	**21**	*e*P	**P**	**17 38 01.5**	**0.0**
TTA	**Tatalina**	**79.79**	**20**	*e*P	**P**	**17 38 07.4**	**-0.1**
SLKM	**Skilak Lake**	**80.32**	**23**	*e*P	**P**	**17 38 09.3**	**-1.1**
QSPA	**South Pole Qui**	**81.27**	**180**	LR	LR	18 07 00.8	
	comp=Z,272nm,21.8s,MS4.6,baz=206,slow=30						
PMR	**Palmer**	**81.40**	**23**	*e*P	**P**	**17 38 14.3**	**-1.8**
	comp=Z,26nm,1.0s,mb5.2						
WMQ	**Urumqi**	**81.73**	**317**	P	**P**	**17 38 18.4**	**+0.1**
WMQ				XP		17 38 26.0	
WMQ				*e*S	S	17 48 30.0	-2.4
WMQ				SKS		17 48 36.0	
WMQ				AMB	AMB		
	comp=Z,18nm,1.4s,mb5.0						
WMQ				AMB	AMB		
	comp=Z,397nm,6.6s						
WMQ				LR	LR		
	comp=N,447nm,15.0s,MS5.0						
WMQ				LR	LR		
	comp=E,324nm,14.2s,MS5.0						
WMQ				LR	LR		
	comp=Z,306nm,21.4s						
SML	**Sawmill**	**81.83**	**23**	*e*P	**P**	**17 38 17.7**	**-0.8**
HYB	**Hyderabad**	**82.13**	**289**	*e*P	**P**	**17 38 22.0**	**+1.0**
HYB	**Hyderabad**	**82.13**	**289**	*i* P	**P**	**17 38 22.0**	**+1.0**
HYB				*e*pP		17 38 24.0	
HYB				*e*S	S	17 48 40.0	+2.5
TIXI	**Tiksi**	**82.40**	**351**	*e*P	**P**	**17 38 20.2**	**-1.1**
TIXI				pmax	pmax		
	comp=Z,29nm,1.8s,mb5.1						
NGP	**Nagpur**	**82.44**	**293**	*e*P	**P**	**17 38 20.6**	**-2.0**
NGP				*ex*	x	17 38 25.6	
	comp=Z,79nm,1.8s						
NGP				*ex*	x	17 48 37.0	
IMA2	**Indian Mountai**	**82.66**	**18**	*e*P	**P**	**17 38 22.6**	**-0.1**
MCK	**McKinley**	**82.75**	**21**	*e*P	**P**	**17 38 21.7**	**-1.6**
	comp=Z,94nm,1.1s,mb5.9						
LGTI	**Lohaghat**	**83.26**	**301**	*e*P	**P**	**17 38 26.5**	**-0.1**
MAW	**Mawson**	**83.75**	**203**	*e*P	**P**	**17 38 29.1**	**+0.7**
	comp=Z,20nm,1.7s,mb5.1						
MAW	**Mawson**	**83.75**	**203**	*e*P	**P**	**17 38 29.1**	**+0.7**
MAW				pmax	pmax		
	comp=Z,21nm,1.7s						
MAW	**Mawson**	**83.75**	**203**	P	**P**	**17 38 27.9**	**-0.5**
	comp=Z,4.4nm,0.5s,mb4.9,baz=82,slow=5.7,SNR=8.3						
MAW				LR	LR	18 14 23.1	
	comp=Z,301nm,19.8s,MS4.7,baz=176,slow=35						
COLA	**College**	**83.81**	**21**	*e*P	**P**	**17 38 26.4**	**-2.3**
	comp=Z,43nm,1.0s,mb5.6						
NDI	**New Delhi**	**85.67**	**300**	*e*P	**P**	**17 38 36.5**	**-2.4**
EGAK	**Eagle**	**86.17**	**22**	*e*P	**P**	**17 38 40.2**	**-0.4**
	comp=Z,48nm,1.3s,mb5.5						
SKAG	**Skagway**	**86.21**	**28**	*e*P	**P**	**17 38 41.1**	**+0.3**
	comp=Z,90nm,2.0s,mb5.5						
MKAR	**Makanchi Array**	**86.30**	**318**	P	**P**	**17 38 41.0**	**-0.5**
	comp=Z,6.2nm,0.6s,mb4.9,baz=99,slow=5.6,SNR=16						
DAWY	**Dawson**	**86.50**	**23**	*e*P	**P**	**17 38 42.0**	**-0.2**
ZAA0	**Zalesovo Array**	**86.96**	**326**	*e*P	**P**	**17 38 41.8**	**-2.9**
ZALV	**Zalesovo Beam**	**86.96**	**326**	P	**P**	**17 38 42.1**	**-2.6**
	comp=Z,1.5nm,0.5s,mb4.5,baz=101,slow=7.7,SNR=6.2						
ZALV				LR	LR	18 19 25.1	
	comp=Z,215nm,18.8s,MS4.6,baz=104,slow=37						
ZAL	**Zalesovo**	**86.97**	**326**	P	**P**	**17 38 42.1**	**-2.6**
FARB	**Farallon Islan**	**87.10**	**51**	⇑P	**P**	**17 38 44.5**	**-1.2**
	baz=87						
P01C	**Double 8 Ranch**	**87.25**	**50**	⇓P	**P**	**17 38 46.3**	**-0.1**
	baz=87						
THN	**Thein Dam**	**87.72**	**303**	*e*P	**P**	**17 38 47.1**	**-1.7**
GASB	**Alder Springs**	**87.77**	**50**	⇑P	**P**	**17 38 49.3**	**+0.4**
	baz=88						
MNRC	**McLaughlin Nat**	**87.80**	**50**	⇑P	**P**	**17 38 49.4**	**+0.4**
	baz=88						
O02C	**Red Bluff**	**87.83**	**49**	⇑P	**P**	**17 38 49.3**	**+0.1**
	baz=88						
HAST	**Hastings Reser**	**87.94**	**53**	⇑P	**P**	**17 38 49.7**	**-0.1**
	baz=88						
J02A	**Umpqua**	**88.00**	**46**	⇓P	**P**	**17 38 49.7**	**-0.2**
	baz=88						
M02C	**Callahan**	**88.06**	**48**	⇓P	**P**	**17 38 50.1**	**-0.1**
	baz=88						
WDC	**Whiskeytown Da**	**88.11**	**49**	⇓P	**P**	**17 38 50.4**	**-0.1**
	baz=88						
NVS	**Novosibirsk**	**88.12**	**326**	*i* P	**P**	**17 38 47.6**	**-2.6**
NVS				*i* S	S	17 49 16.6	-19
NVS				pmax	pmax		
	comp=Z,18nm,1.9s,mb5.1						
NVS				pmax	pmax		
	comp=N,7.0nm,1.7s						
NVS				pmax	pmax		
	comp=E,9.0nm,1.7s						
YBH	**Yreka Blue Hor**	**88.24**	**47**	⇑P	**P**	**17 38 51.0**	**-0.1**
	baz=88						
PACP	**Pacheco Peak**	**88.28**	**52**	⇓P	**P**	**17 38 51.9**	**+0.5**
	baz=88						
S04C	**Ingram Canyon,**	**88.36**	**52**	⇑P	**P**	**17 38 51.8**	**+0.1**
	baz=88						
C03A	**Quillayute Air**	**88.46**	**41**	⇓P	**P**	**17 38 49.9**	**-2.1**
	baz=89						
H03A	**Soap Creek Ran**	**88.51**	**45**	⇓P	**P**	**17 38 50.3**	**-2.0**
	baz=89						
U04C	**Hernandez Rese**	**88.55**	**53**	⇓P	**P**	**17 38 53.2**	**+0.6**
	baz=89						
PKD	**Parkfield**	**88.65**	**53**	⇑P	**P**	**17 38 53.6**	**+0.5**
	baz=89						
ORV	**Oroville**	**88.66**	**50**	⇓P	**P**	**17 38 52.9**	**-0.2**
	baz=89						
M04C	**Macdoel**	**88.89**	**48**	⇑P	**P**	**17 38 54.3**	**+0.1**
	baz=89						
KSH	**Kashi**	**88.97**	**310**	P	**P**	**17 38 56.4**	**+1.8**
KSH				AP		17 39 01.2	
KSH				XP		17 39 03.6	
KSH				PP	PP	17 42 30.2	+5.9
KSH				SKS		17 49 24.3	
KSH				S	S	17 49 44.5	+0.4
KSH				XS		17 49 52.3	
KSH				AMB	AMB		
	comp=Z,98nm,0.9s,mb6.0						
KSH				AMB	AMB		
	comp=Z,1μm,6.3s						
KSH				LR	LR		
	comp=N,421nm,4.7s						
KSH				LR	LR		
	comp=E,812nm,5.8s						
KSH				LR	LR		
	comp=Z,510nm,5.0s						
PKM	**Peak Mountain**	**89.02**	**55**	⇓P	**P**	**17 38 56.0**	**+1.0**
	baz=89						
S05C	**Merced**	**89.10**	**52**	⇑P	**P**	**17 38 55.8**	**+0.6**
	baz=89						
CMB	**Columbia Colle**	**89.19**	**51**	*e*P	**P**	**17 38 55.8**	**+0.1**
	comp=Z,6.1nm,1.0s,mb4.8						
CMB	**Columbia Colle**	**89.19**	**51**	*e*P	**P**	**17 38 55.8**	**+0.1**
CMB				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.8						
CMB	**Columbia Colle**	**89.19**	**51**	⇑P	**P**	**17 38 55.9**	**+0.2**
	baz=89						
P05C	**Yuba Gap, Truc**	**89.28**	**50**	⇓P	**P**	**17 38 56.3**	**+0.3**
	baz=89						
ELFS	**Eagle Lake Fie**	**89.46**	**49**	⇓P	**P**	**17 38 57.0**	**+0.1**
	baz=90						
T06C	**Millerton Lake**	**89.52**	**53**	⇓P	**P**	**17 38 57.3**	**0.0**
	baz=90						
R05C	**Kirkwood Meado**	**89.57**	**51**	⇑P	**P**	**17 38 57.2**	**-0.2**
	baz=90						
BEKR	**Beckwourth**	**89.58**	**50**	⇓P	**P**	**17 38 57.6**	**+0.2**
	baz=90						
J05A	**Fort Rock**	**89.65**	**46**	⇑P	**P**	**17 38 57.4**	**-0.3**
	baz=90						
KURK	**Kurchatov**	**89.68**	**321**	*e*P	**P**	**17 38 55.0**	**-2.6**
K05A	**Summer Lake**	**89.78**	**47**	⇑P	**P**	**17 38 57.7**	**-0.6**
	baz=90						
VES	**Vestal, Richgr**	**89.80**	**54**	⇑P	**P**	**17 38 58.4**	**-0.1**
	baz=90						
KCC	**Kaiser Creek**	**89.89**	**52**	⇓P	**P**	**17 38 59.0**	**+0.1**
	baz=90						
CIS	**Catalina Islan**	**89.90**	**56**	⇑P	**P**	**17 38 59.6**	**+0.5**
	baz=90						
TKM2	**Tokmak 2**	**89.95**	**313**	*e*P	**P**	**17 38 57.9**	**-1.2**
	comp=Z,13nm,1.2s,mb5.0						
TKM2	**Tokmak 2**	**89.95**	**313**	*e*P	**P**	**17 38 57.9**	**-1.2**
TKM2				pmax	pmax		
	comp=Z,13nm,1.2s,mb5.0						
HELL	**Mitchell Peak**	**90.00**	**53**	P	**P**	**17 38 59.8**	**+0.3**
	baz=90,SNR=10.0						
R06C	**Coleville**	**90.01**	**51**	⇑P	**P**	**17 39 00.2**	**+0.7**
	baz=90						
MOD	**Modoc**	**90.04**	**48**	⇑P	**P**	**17 38 59.3**	**-0.3**
	baz=90						
N06A	**Buffalo Meadow**	**90.15**	**49**	⇓P	**P**	**17 38 60.0**	**-0.1**
	baz=90						
ISA	**Isabella**	**90.25**	**54**	*e*P	**P**	**17 39 00.7**	**0.0**
	comp=Z,17nm,1.3s,mb5.1						
ISA	**Isabella**	**90.25**	**54**	*e*P	**P**	**17 39 00.7**	**0.0**
ISA				pmax	pmax		
	comp=Z,17nm,1.3s,mb5.1						
ISA	**Isabella**	**90.25**	**54**	P	**P**	**17 39 01.2**	**+0.5**
	baz=90,SNR=7.5						
K06A	**Valley Falls**	**90.25**	**47**	⇑P	**P**	**17 39 00.1**	**-0.4**
	baz=90						
J06A	**Christmas Vall**	**90.42**	**46**	⇑P	**P**	**17 39 00.1**	**-1.2**
	baz=90						
G06A	**Carlson Farm,**	**90.48**	**44**	⇓P	**P**	**17 39 00.5**	**-1.0**
	baz=91						
MTUM	**Tungsten Hills**	**90.48**	**52**	*e*P	**P**	**17 39 02.2**	**+0.5**
EDW2	**Edwards Air Fo**	**90.50**	**55**	⇑P	**P**	**17 39 01.3**	**-0.5**
	baz=91,SNR=6.9						
E06A	**Yakima**	**90.51**	**43**	⇓P	**P**	**17 39 00.1**	**-1.5**
	baz=91						
I06A	**Prineville**	**90.51**	**46**	⇑P	**P**	**17 39 01.1**	**-0.6**
	baz=91						
H06A	**Lindquist Farm**	**90.58**	**45**	⇑P	**P**	**17 39 00.7**	**-1.3**
	baz=91						
FRU	**Bishkek**	**90.64**	**313**	*e*P	**P**	**17 39 04.5**	**+2.2**
BFSC	**Mount Baldy St**	**90.65**	**56**	⇑P	**P**	**17 39 02.8**	**+0.2**
	baz=91						
TIN	**Tinemaha**

CWC	Cottonwood Cre	90.70	53	⇑P		P	17 39 03.7 +1.0
	baz=91						
M07A	Soldier Meadow	90.77	48	⇓P		P	17 39 03.0 0.0
	baz=91						
N07B	Gerlach	90.80	49	⇓P		P	17 39 03.1 0.0
	baz=91						
S08C	White Mtn Res	90.82	52	⇑P		P	17 39 03.4 +0.2
	baz=91						
LRMC	Laurel Mountai	90.84	54	P		P	17 39 04.4 +0.9
	baz=91,SNR=12						
NVAR	Mina Array Bea	90.88	51	P		P	17 39 04.0 +0.4
	comp=Z,6.2nm,0.8s,mb5.0,baz=233,slow=4.5,SNR=31						
K07A	Rock Creek Ran	90.96	47	⇓P		P	17 39 03.5 -0.3
	baz=91						
I07A	Izee	91.04	46	⇓P		P	17 39 03.6 -0.6
	baz=91						
H07A	Lands Inn, Kim	91.09	45	⇑P		P	17 39 03.8 -0.6
	baz=91						
MPMC	Manual Prospec	91.10	54	⇑P		P	17 39 05.1 +0.4
	baz=91						
G07A	Ruggs Ranch, H	91.15	44	⇓P		P	17 39 03.4 -1.3
	baz=91						
AML	Almayashu	91.18	312	eP		P	17 39 04.7 -0.2
	comp=Z,19nm,1.3s,mb5.3						
EKS2	Erkin-Say	91.22	313	eP		P	17 39 04.7 -0.3
	comp=Z,4.1nm,0.9s,mb4.8						
Q08A	Gabbs	91.24	51	⇓P		P	17 39 04.9 -0.3
	baz=91						
WVOR	Wild Horse Val	91.35	47	eP		P	17 39 05.8 +0.2
	comp=Z,10.0nm,1.1s,mb5.1						
WVOR	Wild Horse Val	91.35	47	eP		P	17 39 05.8 +0.2
WVOR				pmax		pmax	
	comp=Z,10.0nm,1.1s,mb5.1						
GRAC	Grapevine Rang	91.36	53	⇓P		P	17 39 05.8 0.0
	baz=91						
M08A	Happy Creek Ra	91.36	48	⇑P		P	17 39 05.7 0.0
	baz=92						
N08A	GE Springer Mi	91.43	49	⇓P		P	17 39 06.3 +0.2
	baz=92						
MONP	Monument Peak	91.45	57	⇑P		P	17 39 06.2 -0.1
	baz=92						
SYO	Syowa Base	91.49	199	⇑eP		P	17 39 05.3 -0.5
L08A	Fields	91.52	48	P		P	17 39 07.1 +0.7
	baz=92,SNR=6.0						
GSC	Goldstone	91.53	55	eP		P	17 39 06.2 -0.4
	comp=Z,16nm,1.4s,mb5.2						
GSC	Goldstone	91.53	55	eP		P	17 39 06.2 -0.4
GSC				pmax		pmax	
	comp=Z,16nm,1.4s,mb5.2						
GSC	Goldstone	91.53	55	⇑P		P	17 39 07.4 +0.8
	baz=92						
PFO	Pinyon Flat Ob	91.53	56	⇑P		P	17 39 08.4 +1.7
	baz=92						
S09A	Goldfield	91.60	52	⇓P		P	17 39 07.4 +0.5
	baz=92						
J08A	Circle Bar Ran	91.64	47	⇑P		P	17 39 06.8 -0.1
	baz=92						
G08A	Pilot Rock	91.65	45	⇑P		P	17 39 06.2 -0.7
	baz=92						
FURC	Furnace Creek,	91.67	54	⇑P		P	17 39 07.9 +0.6
	baz=92						
H08A	Prairie City	91.71	45	⇓P		P	17 39 06.5 -0.7
	baz=92						
R09A	Tonopah	91.80	52	P		P	17 39 08.0 +0.2
	baz=92,SNR=15						
N09A	Rock Creek Ran	91.90	49	⇓P		P	17 39 08.7 +0.5
	baz=92						
B08A	Colville Reser	91.97	42	⇓P		P	17 39 07.4 -0.9
	baz=92						
L09A	Wilkinson Ranc	91.99	48	⇓P		P	17 39 08.4 -0.2
	baz=92						
D08A	Wollman Farm,	92.00	43	⇓P		P	17 39 07.6 -0.9
	baz=92						
O09A	Fish Creek Ran	92.03	50	⇓P		P	17 39 08.6 -0.3
	baz=92						
K09A	Rome	92.06	47	⇓P		P	17 39 09.0 +0.1
	baz=92						
U10A	Ash Meadows, A	92.09	54	⇓P		P	17 39 10.2 +1.0
	baz=92						
A08A	Turner Farm, O	92.12	41	⇓P		P	17 39 08.6 -0.4
	baz=92						
S10A	Tonopah Range,	92.12	52	P		P	17 39 09.7 +0.3
	baz=92,SNR=17						
J09A	Fry Pan Ranch,	92.15	47	P		P	17 39 09.5 +0.2
	baz=92,SNR=6.3						
TPNV	Topopah Spring	92.24	53	eP		P	17 39 09.8 -0.1
	comp=Z,52nm,1.6s,mb5.6						
TPNV	Topopah Spring	92.24	53	eP		P	17 39 09.8 -0.1
TPNV				pmax		pmax	
	comp=Z,52nm,1.6s,mb5.6						
TPNV	Topopah Spring	92.24	53	P		P	17 39 10.6 +0.7
	baz=92,SNR=12						
TUQ	Turquoise Mtn.	92.26	55	⇑P		P	17 39 10.4 +0.3
	baz=92						
I09A	Lost Marbles R	92.27	46	⇑P		P	17 39 09.9 0.0
	baz=92						
GMRC	Granite Mounta	92.37	55	P		P	17 39 11.3 +0.8
	baz=92,SNR=8.4						
R10A	Warm Springs	92.41	52	⇑P		P	17 39 11.1 +0.5
	baz=92						
Q10A	Clear Creek Ra	92.42	51	P		P	17 39 10.9 +0.2
	baz=92,SNR=12						
E09A	Wood Farm, Sta	92.43	43	⇑P		P	17 39 09.8 -0.7
	baz=92						
P10A	Eureka	92.49	50	⇑P		P	17 39 11.7 +0.7
	baz=93						
O10A	Cortez Mining,	92.57	50	⇑P		P	17 39 11.5 +0.2
	baz=93						
IRM	Iron Mountain	92.69	56	⇑P		P	17 39 12.9 +0.8
	baz=93						
K10A	MacKenzie Ranc	92.70	47	⇑P		P	17 39 11.5 -0.3
	baz=93						
V11A	Goodsprings	92.72	54	⇑P		P	17 39 12.4 +0.3
	baz=93						
S11A	Rachel	92.74	53	⇑P		P	17 39 13.3 +1.1
	baz=93						
B09A	Rice	92.75	42	⇑P		P	17 39 11.7 -0.3
	baz=93						
L10A	Juniper Basin	92.88	48	P		P	17 39 13.3 +0.6
	baz=93,SNR=8.5						
G10A	Bishop Farm, J	92.93	45	⇑P		P	17 39 12.1 -0.8
	baz=93						
F10A	Beach Ranch, E	92.96	44	⇓P		P	17 39 12.3 -0.7
	baz=93						
R11A	Troy Canyon, C	92.97	52	P		P	17 39 13.9 +0.7
	baz=93,SNR=11						
Q11A	Duckwater	93.00	51	P		P	17 39 14.4 +1.0
	baz=93,SNR=10						
H10A	Noah's Angus R	93.08	46	⇑P		P	17 39 13.1 -0.5
	baz=93						
T11A	Corn Creek, Al	93.09	53	P		P	17 39 14.6 +0.7
	baz=93,SNR=8.1						
D10A	Wagner Farm, O	93.11	43	⇑P		P	17 39 12.9 -0.7
	baz=93						
V12A	Nelson	93.17	55	⇑P		P	17 39 15.4 +1.2
	baz=93						
O11A	Cowboy Ranch,	93.19	50	P		P	17 39 15.2 +1.0
	baz=93,SNR=11						
M11A	Holland Ranch,	93.28	49	⇓P		P	17 39 14.5 -0.1
	baz=93						
K11A	Parker Ranch,	93.31	47	P		P	17 39 15.2 +0.6
	baz=93,SNR=6.1						
G11A	Walters Elk Ra	93.54	45	⇑P		P	17 39 15.2 -0.5
	baz=94						
MFID	Camas Ranch	93.55	47	⇑P		P	17 39 15.4 -0.3
	baz=94						
Q12A	Willow Creek R	93.66	51	⇓P		P	17 39 17.5 +1.1
	baz=94						
P12A	McGill	93.66	51	⇑P		P	17 39 17.0 +0.6
	baz=94						
E11A	Bogner Ranch,	93.72	44	⇓P		P	17 39 15.5 -1.0
	baz=94						
R12A	Pony Springs,	93.73	52	⇑P		P	17 39 18.1 +1.4
	baz=94						
N12A	Clover Valley,	93.76	49	⇑P		P	17 39 17.0 +0.2
	baz=94						
X13A	Yucca	93.83	56	⇓P		P	17 39 18.0 +0.7
	baz=94						
W13A	Hualapai Mount	93.86	55	⇑P		P	17 39 18.7 +1.3
	baz=94						
O12A	Currie	93.90	50	P		P	17 39 18.2 +0.7
	baz=94,SNR=8.6						
M12A	Wells	93.93	49	⇓P		P	17 39 17.7 +0.2
	baz=94						
L12A	House Creek Ra	93.96	48	P		P	17 39 18.7 +1.0
	baz=94,SNR=6.8						
U13A	Pakoon Wash	93.97	54	⇓P		P	17 39 19.0 +1.1
	baz=94						
A11A	Hall Mountain,	94.01	41	⇑P		P	17 39 18.2 +0.5
	baz=94						
J12A	Stokes Ranch,	94.05	47	P		P	17 39 18.6 +0.6
	baz=94,SNR=10						
T13A	Saint George	94.10	53	⇓P		P	17 39 20.3 +1.8
	baz=94						
K12A	Draper Farm, C	94.11	48	⇑P		P	17 39 18.6 +0.2
	baz=94						
F12A	Elk City	94.29	45	⇓P		P	17 39 17.8 -1.3
	baz=94						
P13A	Bates Ranch, G	94.34	51	P		P	17 39 20.4 +0.9
	baz=94,SNR=6.3						
N13A	Wendover, West	94.39	50	⇓P		P	17 39 20.5 +0.8
	baz=94						
D12A	Red Ives Fores	94.41	43	⇑P		P	17 39 19.1 -0.5
	baz=94						
H12A	Diamond D Ranc	94.41	46	⇓P		P	17 39 19.5 -0.2
	baz=94						
M13A	Montello	94.48	49	⇑P		P	17 39 21.0 +0.9
	baz=95						
W14A	Seligman	94.53	55	⇓P		P	17 39 22.3 +1.9
	baz=95						
V14A	Boquillas Ranc	94.56	55	⇑P		P	17 39 21.9 +1.3
	baz=95						
HLID	Hailey	94.59	47	⇑P		P	17 39 21.1 +0.6
	baz=95						
U14A	Mt Trumbull	94.60	54	⇑P		P	17 39 22.0 +1.2
	baz=95						
H13A	Challis	94.83	46	⇑P		P	17 39 21.6 -0.1
	baz=95						
I13A	Wildhorse Cree	94.85	46	⇑P		P	17 39 22.1 +0.4
	baz=95						
G13A	Cobalt	94.92	45	⇑P		P	17 39 21.3 -0.8
	baz=95						
F13A	Darby	94.94	45	⇓P		P	17 39 22.0 -0.1
	baz=95						
M14A	Sheep Mountain	95.11	49	⇑P		P	17 39 23.4 +0.4
	baz=95						
217A	Green Valley	95.99	59	⇑P		P	17 39 28.4 +1.2
	baz=96						
G15A	Dillon	96.15	45	⇑P		P	17 39 27.6 -0.1
	baz=96						
YKA	Yellowknife Ar	96.71	28	P		P	17 39 28.5 -1.2
YKA				PKKP		PKKPbc	17 56 10.4 -4.9
YKA				LR		LR	18 19 20.9
YKA	Yellowknife Ar	96.71	28	P		P	17 39 28.5 -1.2
	comp=Z,2.1nm,0.9s,mb4.8,baz=264,slow=4.4,SNR=17						
YKA				PKKP		PKKPbc	17 56 10.4 -4.9
	comp=Z,0.3nm,0.7s,baz=100,slow=3.5,SNR=3.6						
YKA				LR		LR	18 19 20.9
	comp=Z,397nm,19.7s,MS4.9,baz=270,slow=33						
BOZ	Bozeman (W)	96.80	45	⇑P		P	17 39 30.4 -0.2
	baz=97						
PDAR	Pinedale Array	98.04	48	LR		LR	18 19 10.8
	comp=Z,252nm,18.1s,MS4.8,baz=279,slow=33						
OBN	Obninsk	114.50	327	⇑ePKIKP		PKiKP	17 44 37.9 -1.7
OBN				e			17 45 33.7
OBN				eS		SKSac	17 51 22.0 -6.0
OBN				eSS		SS	18 01 35.2 +5.5
OBN				pmax		pmax	
	comp=Z,8.0nm,1.5s						
AKASG	Malin Array Be	120.34	325	PKP		PKPdf	17 44 49.4 -1.6
	comp=Z,2.3nm,0.7s,baz=64,slow=1.8,SNR=11						
BOSA	Boshof	120.80	229	PKP		PKPdf	17 44 52.6 0.0
	comp=Z,2.5nm,0.7s,baz=3.8,slow=0.5,SNR=8.6						
SUR	Sutherland	121.86	223	PKP		PKPdf	17 44 55.8 +1.2
	comp=Z,3.4nm,0.7s,baz=276,slow=5.3,SNR=4.3						
MATP	Matopo	122.05	239	PKP		PKPdf	17 44 56.2 +1.0
MATP	Matopo	122.05	239	PKP		PKPdf	17 44 56.2 +1.0
	comp=Z,3.0nm,0.8s,baz=99,slow=2.3,SNR=7.1						
NOA	NORSAR Array B	122.11	341	PKP		PKPdf	17 44 53.8 -0.3
	comp=Z,0.4nm,0.6s,baz=41,slow=4.2,SNR=2.9						
LBTB	Lobatse	122.35	233	PKP		PKPdf	17 44 55.0 -0.8
	comp=Z,3.9nm,0.8s,baz=152,slow=8.2,SNR=7.0						
UPC	Upice	127.55	330	ePKPdf		PKPdf	17 45 07.1 +2.3
CLL	Collm	128.47	332	e(PKPdf)		PKPdf	17 45 09.0 +2.4
CLL				eSS		SS	18 04 42.0 +14
CLL				LmV			18 47 00.0
	comp=Z,300nm,18.8s						
LPAZ	La Paz	128.50	119	PKP		PKPdf	17 45 09.0 +1.4
LPAZ	La Paz	128.50	119	PKP		PKPdf	17 45 09.0 +1.4
	comp=Z,1.5nm,0.8s,baz=127,slow=2.7,SNR=5.9						
TREC	Trest	128.58	329	ePKPdf		PKPdf	17 45 09.7 +2.9
NKC	Novy Kostel	129.46	332	ePKPdf		PKPdf	17 45 11.5 +3.0
KHC	Kasperske Hory	129.64	330	i PKIKP		PKPdf	17 45 09.4 +0.5
KHC	Kasperske Hory	129.64	330	ePKPdf		PKPdf	17 45 09.2 +0.3
GERES	GERESS Array B	129.77	329	PKP		PKPdf	17 45 09.6 +0.5
	comp=Z,1.1nm,0.6s,baz=45,slow=2.1,SNR=11						
GRA1	Grafenberg Arr	130.40	332	ePKPdf		PKPdf	17 45 10.9 +0.6
GRF	Grafenberg Arr	130.40	332	ePKPdf		PKPdf	17 45 10.9 +0.6
TSUM	Tsumeb	131.69	235	PKP		PKPdf	17 45 13.5 -0.2
	comp=Z,1.7nm,0.6s,baz=243,slow=4.7,SNR=3.5						
HAU	Haudompre	133.85	333	ePKIKP		PKPdf	17 45 11.5 -5.4
	comp=Z,2.7nm,0.3s						
SIV	San Ignacio	134.64	123	PKP		PKPdf	17 45 19.2 0.0
	comp=Z,0.6nm,0.4s,baz=236,slow=12,SNR=4.4						
LPG	La Plagne	135.51	331	ePKIKP		PKPdf	17 45 14.7 -5.4
	comp=Z,9.9nm,0.9s						
SSF	Saint Saulge	135.81	334	ePKIKP		PKPdf	17 45 14.7 -5.9
	comp=Z,7.9nm,0.8s						
ETSF	Etsaut	140.87	334	ePKIKP		PKPdf	17 45 23.9 -6.1
	comp=Z,3.6nm,0.7s						
GUD	Guadarrama	144.24	336	PKP		PKPdf	17 45 34.7 -1.4
ELOB	Lobios	144.59	341	PKP		PKPdf	17 45 29.5 -7.1
ETOB	Tobarra	144.72	331	PKP		PKPdf	17 45 38.7 +1.8
MVO	Moncorvo	144.88	339	ePKP		PKPdf	17 45 34.4 -2.7
ESDC	Sonseca Array	144.98	335	PKP		PKPdf	17 45 35.6 -1.7
ESDC	Sonseca Array	144.98	335	PKP		PKPdf	17 45 35.7 -1.6
	comp=Z,2.2nm,0.7s,baz=20,slow=3.6,SNR=9.5						
BDFB	Brasilia	145.05	134	PKPbc		PKPbc	17 45 36.6 -0.8
	comp=Z,11nm,0.7s,baz=240,slow=4.2,SNR=17						
EVIA	Vianos	145.18	332	PKP		PKPdf	17 45 37.5 -0.2
PVIS	Viseu	145.57	340	ePKP		PKPdf	17 45 38.3 -0.1
MTE	Manteigas	145.73	339	ePKP		PKPdf	17 45 36.5 -2.1
MTE	Manteigas	145.73	339	ePKP		PKPdf	17 45 38.2 -0.4
EQES	Quesada	146.11	332	PKP		PKPdf	17 45 38.8 -0.6
EBAN	Banos Encina	146.15	333	PKP		PKPbc	17 45 42.8 +2.5
PCBR	Castelo Branco	146.21	339	ePKP		PKPbc	17 45 42.7 +2.3
EADA	Adamuz	146.50	334	PKP		PKPbc	17 45 42.5 +1.2
ELUQ	Luque	146.86	333	PKP		PKPbc	17 45 46.1 +3.7
ECAB	El Cabril	146.94	335	PKP		PKPbc	17 45 42.7 +0.1
PESTR	Estremoz	147.11	338	ePKP		PKPbc	17 45 44.1 +1.0
PBAR	Barrancos	147.50	337	ePKP		PKPbc	17 45 45.4 +1.2
EMIN	Mina Concepcio	147.71	336	PKP		PKPbc	17 45 44.4 -0.4
ESPR	Espera	148.14	334	PKP		PKPbc	17 45 45.9 0.0
EGRO	El Granado	148.24	337	PKP		PKPab	17 45 55.1 +6.0
EJIF	Jimena Fronter	148.32	333	PKP		PKPdf	17 45 44.0 +0.9
MORF	Marmelete	148.88	338	ePKP		PKPdf	17 45 45.7 +1.7
TORD	Torodi Ar. Bea	155.80	283	PKP		PKPdf	17 45 52.6 -2.3
	comp=Z,1.3nm,0.8s,baz=193,slow=3.6,SNR=5.0						
TORD				PP		PP	17 49 57.6 -1.0
	comp=Z,1.2nm,0.9s,baz=46,slow=4.2,SNR=3.7						
DBIC	Dimbokro	162.35	265	PKPab		PKPab	17 46 50.8 +0.8
	comp=Z,3.8nm,0.7s,baz=78,slow=3.8,SNR=6.0						

SKO ***03*** *17:42:19.3, 4073N×2173E, h15km*
THE ***03*** *17:42:20.1, 4075N×2176E, h1km, ML2.7*
CSEM 03 17:42:19.9±0.2, 4079N×2172E, h20km, ML2.7, Error ellipse: s-maj=4.3km s-min=3.0km az=33.0, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FNA	Florina	0.26	270	ePg	Pb	17 42 25.8	-0.1
FNA				eSg	Sb	17 42 29.8	-0.1
BIA	Bitola	0.38	308	ePg	Pb	17 42 27.5	-0.4
BIA				eSg	Sb	17 42 35.4	+2.1
BIA	Bitola	0.38	308	ePg	Pb	17 42 27.4	-0.5
BIA				eSg	Sb	17 42 35.3	+2.0
KRUS	Krusevo	0.68	329	ePg	Pb	17 42 34.2	+1.1
KRUS				eSg	Sb	17 42 44.1	+2.0
KRUS	Krusevo	0.68	329	ePg	Pb	17 42 34.1	+1.0
KRUS				eSg	Sb	17 42 44.0	+1.9
LIT	Litokhoron	0.90	139	ePg	Pb	17 42 36.2	-0.7
LIT				eSg	Sb	17 42 48.4	0.0
KNT	Kendrikon	0.97	67	ePg	Pb	17 42 38.0	0.0
MEV	Metsovon	1.07	201	ePg	Pb	17 42 39.8	+0.2

IDC 03 17:47:26.1±4.5, 715S×15544E, h0km, mb3.4/5, mb1 3.5/5, mb1mx3.4/14, mbtmp3.4/5, Error ellipse: s-maj=135.4km s-min=28.8km az=113.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	24.09	236	P	P	17 52 44.0	+0.4
	0.4nm,0.9s,baz=61,slow=9.4,SNR=2.8						
ASAR	Alice Springs	26.40	229	P	P	17 53 04.5	-0.1
	0.1nm,0.7s,baz=60,slow=9.9,SNR=3.0						
SONM	Songino Array	69.70	327	P	P	17 58 38.9	+1.1
	0.4nm,0.5s,baz=140,slow=6.7,SNR=8.5						
MKAR	Makanchi Array	83.81	319	P	P	17 59 57.4	-0.1
	0.4nm,0.7s,baz=101,slow=6.3,SNR=4.6						
ZALV	Zalesovo Beam	84.55	326	P	P	17 59 59.9	-1.2
	0.6nm,0.5s,baz=132,slow=6.0,SNR=3.6						

IDC 03 17:54:19.0±1.9, 040S×12572E, h0km, mb3.3/3, mb1 3.6/3, mb1mx3.3/16, mbtmp3.4/3, Error ellipse: s-maj=207.4km s-min=24.8km az=64.0, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	21.17	157	P	P	17 59 05.4	-0.7
	0.8nm,0.6s,baz=335,slow=11,SNR=8.4						
ASAR	Alice Springs	24.45	162	P	P	17 59 40.3	+0.6
	0.7nm,0.8s,baz=337,slow=8.1,SNR=7.6						
MKAR	Makanchi Array	60.40	327	P	P	18 04 30.2	+0.1
	0.2nm,0.4s,baz=126,slow=7.7,SNR=10						

IDC 03 17:55:29.1±1.5, 878S×15771E, h0km, mb3.8/4, mb1 3.9/5, mb1mx3.7/15, mbtmp3.8/5, ML3.2/1, Error ellipse: s-maj=46.0km s-min=27.0km az=175.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	2.30	107	Pn	Pn	17 56 08.6	+0.4
	6.1nm,0.3s,baz=36,slow=2.0,SNR=3.0						
HNR				Sn	Sn	17 56 44.9	+7.6
	17nm,0.3s,baz=93,slow=20,SNR=6.8						
WRA	Warramunga Arr	25.18	241	P	P	18 00 56.1	-0.3
	4.9nm,1.1s,baz=68,slow=9.7,SNR=9.8						
ASAR	Alice Springs	27.17	234	P	P	18 01 12.9	-1.4
	0.8nm,0.9s,baz=61,slow=7.5,SNR=4.6						
STKA	Stephens Creek	27.43	211	P	P	18 01 19.9	+3.2
	1.8nm,0.7s,baz=32,slow=11,SNR=3.9						
FITZ	Fitzroy Crossi	32.49	250	P	P	18 02 03.3	+1.6
	1.8nm,0.6s,baz=95,slow=11,SNR=8.6						
MKAR	Makanchi Array	86.52	318	P	P	18 08 13.9	0.0
	0.2nm,1.0s,baz=108,slow=4.7,SNR=1.9						

IDC ***03*** *17:56:50.5±2.3, 8.11S×156.27E, h0km, mb4.0/8, mb1 4.2/8, mb1mx4.0/14, mbtmp4.0/8, MS4.3/4, Ms1 4.2/4, ms1mx3.6/26, Error ellipse: s-maj=70.7km s-min=25.1km az=117.0*
NEIC ***03*** *17:56:52.7±1.6, 808S×156.14E, h10km, mb4.9/1, Error ellipse: s-maj=56.4km s-min=18.8km az=121.0*
ISCJB ***03*** *17:56:55.2±1.7, 80S±02×156.0E±0.3, h33km, mb4.0/9, MS4.4/3, Error ellipse: s-maj=52.0km s-min=18.1km az=30.3*
ISC 03 17:56:56.6±1.7, 81S±02×1561E±03, h35km, n14, σ0§94/12, mb4.0/9, MS4.4/3, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	Charters Tower	15.27	218	LR	LR	18 05 34.8	
	comp=Z,326nm,19.4s,baz=57,slow=34						
WRA	Warramunga Arr	24.14	239	P	P	18 02 09.5	-0.1
	1.2nm,0.5s,mb3.6,baz=61,slow=9.6,SNR=15						
ASAR	Alice Springs	26.31	231	P	P	18 02 29.2	-0.1
	1.2nm,0.9s,mb3.4,baz=61,slow=7.9,SNR=5.0						
STKA	Stephens Creek	27.25	208	LR	LR	18 12 01.7	
	comp=Z,336nm,18.5s,MS3.9,baz=25,slow=33						
MJAR	Matsushiro Arr	47.46	340	P	P	18 05 26.6	-1.5
	0.8nm,0.3s,mb4.1,baz=152,slow=7.3,SNR=5.2						
MJAR				LR	LR	18 21 52.8	
	comp=Z,768nm,20.6s,MS4.7,baz=60,slow=32						
KSRS	Korea Array	52.41	332	P	P	18 06 05.3	-0.3
	1.1nm,0.7s,mb3.9,baz=143,slow=8.6,SNR=3.2						
KSRS				LR	LR	18 26 24.9	
	comp=Z,596nm,18.1s,MS4.7,baz=63,slow=34						
SONM	Songino Array	70.84	327	P	P	18 08 11.4	+1.7
	0.7nm,0.6s,mb3.7,baz=141,slow=6.0,SNR=6.5						
BILL	Bilibino	76.28	4	eP	P	18 08 42.9	+1.6
	13nm,1.1s,mb4.8						
MK31	Makanchi Array	84.94	319	eP	P	18 09 28.4	+0.2
MKAR	Makanchi Array	84.94	319	P	P	18 09 28.6	+0.4
	1.2nm,0.6s,mb4.2,baz=101,slow=6.2,SNR=16						
ZALV	Zalesovo Beam	85.69	326	P	P	18 09 30.9	-0.8
ZALV	Zalesovo Beam	85.69	326	P	P	18 09 30.9	-0.8
	0.9nm,0.5s,mb4.3,baz=125,slow=6.3,SNR=5.2						
YKA	Yellowknife Ar	96.78	28	P	P	18 10 22.5	-0.9
YKA	Yellowknife Ar	96.78	28	P	P	18 10 22.5	-0.9
	0.6nm,0.9s,mb4.0,baz=260,slow=4.5,SNR=6.6						

IDC 03 17:59:05.6±1.4, 762S×15668E, h0km, mb3.8/4, mb1 3.9/5, mb1mx3.7/15, mbtmp3.9/5, ML4.0/1, Error ellipse: s-maj=35.3km s-min=33.5km az=146.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	3.70	119	Pn	Pn	18 00 03.3	-0.7
	11nm,0.3s,baz=277,slow=18,SNR=3.2						
HNR				Sn	Sn	18 00 40.0	-8.4
	36nm,0.3s,baz=89,slow=22,SNR=2.7						
WRA	Warramunga Arr	24.87	238	P	P	18 04 30.2	0.0
	0.8nm,0.6s,baz=61,slow=9.4,SNR=5.3						
ASAR	Alice Springs	27.05	231	P	P	18 04 49.7	-0.1
	0.4nm,0.8s,baz=64,slow=8.4,SNR=3.9						
MKAR	Makanchi Array	84.98	318	P	P	18 11 43.6	+0.7
	1.6nm,0.6s,baz=102,slow=6.3,SNR=14						
ZALV	Zalesovo Beam	85.63	326	P	P	18 11 45.7	-0.3
	0.7nm,0.5s,baz=106,slow=4.9,SNR=4.4						

**IDC 03 18:02:25.5±2.1, 2090S×16844E, h0km, mb3.7/4, mb1 3.9

s-min=13.5km az=119.0

ISC 03 18:14:01.4±0.9,4415N±003×14918E±003,h22km±6km,
h33km±1.8km:pP-P,n400,σ0:99/419,mb4.8/129,MS4.5/24,
35C-16D,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.43**	**320**	⇑ *i*	PN	**Pn**	**18 14 24.3**	**-1.7**
KUR				*i*	S	**Sn**	**18 14 44.0**	**-0.2**
KUR					pmax	pmax		
	comp=N,6μm,1.0s							
KUR					pmax	pmax		
	comp=E,7μm,1.0s							
KUR					pmax	pmax		
	comp=Z,10μm,1.0s							
KUR					pmax	pmax		
	comp=N,270nm,0.8s							
KUR					pmax	pmax		
	comp=E,540nm,0.8s							
KUR					pmax	pmax		
	comp=Z,3μm,0.8s							
KUR					smax			
	comp=N,27μm,2.0s							
KUR					smax			
	comp=E,11μm,2.0s							
KUR					smax			
	comp=E,7240μm,0.9s							
KUR					smax			
	comp=E,4μm,0.9s							
KUR	**Kuril'sk**	**1.43**	**320**	⇑ *i*	P	**Pn**	**18 14 24.3**	**-1.7**
KUR				⇓ *i*	P		18 14 24.3	
KUR					AMB	AMB	18 14 25.0	
	comp=E,6μm,1.0s							
KUR					AMB	AMB	18 14 25.0	
	comp=E,7μm,1.0s							
KUR					AMB	AMB	18 14 25.0	
	comp=E,10μm,1.0s							
KUR					AMB	AMB	18 14 25.5	
	comp=E,269nm,0.8s							
KUR					AMB	AMB	18 14 25.5	
	comp=E,537nm,0.8s							
KUR					AMB	AMB	18 14 25.5	
	comp=E,3μm,0.8s							
KUR				*e*	S	**Sn**	**18 14 44.0**	**-0.2**
KUR					A		18 15 03.0	
	comp=E,7μm,0.9s							
KUR					A		18 15 03.0	
	comp=E,4μm,0.9s							
KUR					A		18 15 04.2	
	comp=E,27μm,2.0s							
KUR					A		18 15 04.2	
	comp=E,11μm,2.0s							
YUK	**Yuzh-Kuril'sk**	**2.39**	**268**	*e*	PN	**Pn**	**18 14 39.0**	**-0.2**
YUK				*e*	S	**Sn**	**18 15 08.9**	**+1.0**
YUK					pmax	pmax		
	comp=Z,350nm,0.4s							
YUK					pmax	pmax		
	comp=Z,6μm,1.0s							
YUK					pmax	pmax		
	comp=N,2μm,2.0s							
YUK					pmax	pmax		
	comp=E,2μm,2.0s							
YUK					smax			
	comp=N,1μm,0.5s							
YUK					smax			
	comp=E,1μm,0.5s							
YUK					smax			
	comp=N,12μm,2.0s							
YUK					smax			
	comp=E,13μm,1.0s							
YUK					MLR	MLR		
	comp=Z,11μm,12.0s							
YUK	**Yuzh-Kuril'sk**	**2.39**	**268**	*e*	P	**Pn**	**18 14 39.0**	**-0.2**
YUK					AMB	AMB	18 14 40.0	
	comp=Z,350nm,0.4s							
YUK					AMB	AMB	18 14 52.2	
	comp=Z,6μm,1.0s							
YUK					AMB	AMB	18 14 52.2	
	comp=Z,2μm,2.0s							
YUK				*e*	S	**Sn**	**18 15 08.9**	**+1.0**
YUK					A		18 15 23.3	
	comp=Z,1μm,0.5s							
YUK					A		18 15 44.0	
	comp=Z,13μm,1.0s							
YUK					A		18 15 44.0	
	comp=Z,12μm,2.0s							
YUK					AMS	AMS	18 15 48.0	
	comp=Z,11μm,12.0s							
NEM2	**Nemuro 2**	**2.61**	**254**		P	**Pn**	**18 14 41.3**	**-0.9**
NEM2				*e*	S	**Sn**	**18 15 11.2**	**-2.0**
JRA	**Rausu**	**2.93**	**267**		P	**Pn**	**18 14 47.7**	**+1.0**
JNK	**Nakash**	**3.28**	**262**		P	**Pn**	**18 14 51.5**	**+0.1**
JAK	**Akkeshi**	**3.46**	**252**		P	**Pn**	**18 14 53.3**	**-0.5**
JAK				*e*	S	**Sn**	**18 15 32.0**	**-2.1**
JTKR	**Abashiri--Toko**	**3.81**	**269**		P	**Pn**	**18 14 59.9**	**+1.3**
JAR	**Ashorobuto**	**4.01**	**260**		P	**Pn**	**18 15 02.2**	**+0.7**
JOB	**Onbets**	**4.08**	**254**		P	**Pn**	**18 15 02.5**	**+0.1**
JMP	**Maruseppu**	**4.20**	**270**		P	**Pn**	**18 15 05.7**	**+1.7**
JCH	**Churui**	**4.51**	**252**		P	**Pn**	**18 15 08.2**	**-0.1**
JKK2	**Kamakawa 2**	**4.65**	**269**		P	**Pn**	**18 15 11.9**	**+1.7**
ASAJ	**Asahikawa**	**4.74**	**272**		P	**Pn**	**18 15 13.4**	**+1.9**
ASAJ	**Asahikawa**	**4.74**	**272**		PN	**Pn**	**18 15 13.3**	**+1.8**
ASAJ					pmax	pmax		
	comp=Z,2.0nm,0.3s							
ASAJ					MLR	MLR		
	comp=Z,3μm,19.7s							
ASAJ	**Asahikawa**	**4.74**	**272**		P	**Pn**	**18 15 13.2**	**+1.8**
	comp=Z,2.3nm,0.3s,baz=99,slow=9.4,SNR=26							
ASAJ					LR	LR	18 17 18.6	
	comp=Z,3μm,19.7s,baz=128,slow=42							
JFR	**Furan**	**4.88**	**261**		P	**Pn**	**18 15 14.7**	**+1.3**
ERM	**Erimo**	**4.90**	**246**	⇓ *e*	Pn	**Pn**	**18 15 14.5**	**+0.8**
ERM	**Erimo**	**4.90**	**246**	*i*	PN	**Pn**	**18 15 14.9**	**+1.2**
JEM	**Erimo**	**4.90**	**246**		P	**Pn**	**18 15 14.4**	**+0.7**
JNBK	**Urakawa-nobuka**	**5.05**	**251**		P	**Pn**	**18 15 15.5**	**-0.3**
JNBK				*e*	S	**Sn**	**18 16 12.2**	**-1.3**
JAB	**Ashibetsu**	**5.08**	**265**		P	**Pn**	**18 15 19.1**	**+3.0**
JBT2	**Biratori 2**	**5.15**	**257**		P	**Pn**	**18 15 17.1**	**0.0**
YSS	**Yuzh-Sakhalins**	**5.31**	**304**	*e*	Pn	**Pn**	**18 15 18.5**	**-0.8**
	comp=Z,58nm,0.8s							
YSS	**Yuzh-Sakhalins**	**5.31**	**304**	*e*	P	**Pn**	**18 15 21.0**	**+1.7**
YSS				*e*	S	**Sn**	**18 16 18.5**	**-1.3**
YSS					A		18 16 20.0	
	comp=Z,80nm,0.9s							
YSS				*e*	LQ		18 16 38.0	
YSS				*e*	LR	LR	18 17 10.0	
YSS					AMS	AMS	18 17 43.0	
	comp=Z,1μm,16.0s							
YSS					AMS	AMS	18 17 43.0	
	comp=Z,2μm,16.0s							
YSS					AMS	AMS	18 17 43.0	
	comp=Z,2μm,17.0s							
JEW	**Eniwo**	**5.77**	**260**		P	**Pn**	**18 15 27.7**	**+2.0**
JNB	**Noboribetsu**	**6.17**	**257**		P	**Pn**	**18 15 31.8**	**+0.6**
JNB				*e*	S	**Sn**	**18 16 40.5**	**-0.6**
JSK	**Shakotan**	**6.36**	**266**		P	**Pn**	**18 15 36.4**	**+2.7**
JKB	**Kayabe**	**6.39**	**252**		P	**Pn**	**18 15 34.1**	**0.0**
JKB				*e*	S	**Sn**	**18 16 42.8**	**-3.5**
JYM2	**Yakumo 2**	**6.76**	**256**		P	**Pn**	**18 15 39.6**	**+0.4**
JANG	**Nango**	**6.82**	**239**		P	**Pn**	**18 15 38.0**	**-2.1**
JANG				*e*	S	**Sn**	**18 16 50.3**	**-6.8**
JSH	**Shimam**	**6.82**	**260**		P	**Pn**	**18 15 41.6**	**+1.5**
JTM	**Tenmabayashi**	**6.87**	**244**		P	**Pn**	**18 15 39.7**	**-1.1**
JTM				*e*	S	**Sn**	**18 16 53.1**	**-5.2**
JTH	**Tanohata**	**6.88**	**235**		P	**Pn**	**18 15 38.1**	**-2.8**
JTH				*e*	S	**Sn**	**18 16 49.4**	**-9.1**
JSR	**Shiriuchi**	**6.95**	**251**		P	**Pn**	**18 15 42.0**	**+0.1**
JOSM	**Okushiri--Mats**	**7.40**	**257**		P	**Pn**	**18 15 48.2**	**+0.3**
OFUJ	**Ofunato**	**7.57**	**231**		P	**Pn**	**18 15 47.7**	**-2.6**
OFUJ				*e*	S	**Sn**	**18 17 05.8**	**-10**
JRG	**Rokugo**	**7.96**	**236**		P	**Pn**	**18 15 54.8**	**-0.9**
JRG				*e*	S	**Sn**	**18 17 20.5**	**-4.5**
SKR	**Severo-Kuril's**	**8.05**	**33**	*e*	P	**Pn**	**18 15 56.5**	**-0.4**
SKR					AMB	AMB	18 15 57.0	
	comp=Z,60nm,0.5s							
SKR				*e*	S	**Sn**	**18 17 25.0**	**-2.2**
SKR					A		18 17 33.5	
	comp=Z,90nm,0.5s							
SKR					A		18 17 33.5	
	comp=Z,80nm,0.5s							
SKR					AMS	AMS	18 19 14.0	
	comp=Z,3μm,16.0s							
SKR					AMS	AMS	18 19 14.0	
	comp=Z,3μm,16.0s							
JOG2	**Oga 2**	**8.17**	**242**		P	**Pn**	**18 15 58.5**	**0.0**
JIO	**Ouri**	**8.19**	**229**		P	**Pn**	**18 15 55.5**	**-3.3**
JIO				*e*	S	**Sn**	**18 17 20.4**	**-10**
TEY	**Ternei**	**9.02**	**280**	*e*	P	**Pn**	**18 16 10.0**	**-0.2**
TEY				*e*	LR	LR	18 18 48.0	
JFK	**Kawauchi**	**9.25**	**226**		P	**Pn**	**18 16 11.0**	**-2.4**
JFK				*e*	S	**Sn**	**18 17 46.7**	**-10**
NKL	**Nikolayevsk**	**10.61**	**331**	*e*	P	**Pn**	**18 16 30.0**	**-1.9**
NKL					AMB	AMB	18 16 40.5	
	comp=Z,19nm,1.0s							
NKL				*e*	L		18 19 30.0	
HABR	**Khabarovsk**	**10.69**	**299**	*e*	PN	**Pn**	**18 16 35.6**	**+2.6**
PET	**Petropavlovsk**	**10.86**	**32**		Pn	**Pn**	**18 16 37.1**	**+1.7**
MAJO	**Matsushiro**	**11.30**	**231**	*e*	Pn	**Pn**	**18 16 37.6**	**-3.9**
	comp=Z,23nm,1.0s							
MAJO	**Matsushiro**	**11.30**	**231**	*e*	PN	**Pn**	**18 16 37.6**	**-3.8**
MAJO					pmax	pmax		
	comp=Z,23nm,1.0s							
MAT	**Matsushiro**	**11.30**	**231**		P	**Pn**	**18 16 40.3**	**-1.1**
MAT					S	**Sn**	**18 18 46.7**	**-0.3**
MJAR	**Matsushiro Arr**	**11.30**	**231**		P	**Pn**	**18 16 40.1**	**-1.3**
	comp=Z,0.3nm,0.3s,baz=28,slow=14,SNR=9.4							
KLR	**Kul'dur**	**12.99**	**299**	*e*	PN	**Pn**	**18 17 05.0**	**+0.5**
MDJ	**Mudanjiang**	**14.02**	**279**		P	**Pn**	**18 17 18.7**	**+0.1**
MDJ					S	**Sn**	**18 19 53.5**	**+0.1**
MDJ					AMB	AMB		
	comp=Z,10.0nm,0.6s							
MDJ					AMB	AMB		
	comp=Z,154nm,5.0s							
MDJ					LR	LR		
	comp=N,219nm,18.1s							
MDJ					LR	LR		
	comp=E,424nm,22.2s							
MDJ					LR	LR		
	comp=Z,634nm,18.7s							
MDJ	**Mudanjiang**	**14.02**	**279**	*e*	Pn	**Pn**	**18 17 18.8**	**+0.2**
	comp=Z,18nm,0.9s							
MA2	**Magadan**	**15.48**	**3**	*e*	Pn	**Pn**	**18 17 36.9**	**-1.2**
	comp=Z,16nm,0.9s							
MA2	**Magadan**	**15.48**	**3**	*i*	P	**Pn**	**18 17 37.0**	**-1.1**
MA2					pmax	pmax		
	comp=Z,21nm,1.2s							
CN2	**Changchun**	**17.08**	**277**	*e*	P	**Pn**	**18 17 56.4**	**-2.2**
CN2				*e*	S	**Sn**	**18 21 03.0**	**-4.7**
CN2					AMB	AMB		
	comp=Z,30nm,1.0s							
CN2					AMB	AMB		
	comp=Z,200nm,4.0s							
CN2					LR	LR		
	comp=N,900nm,17.0s							
CN2					LR	LR		
	comp=E,900nm,17.0s							
CN2					LR	LR		
	comp=Z,1μm,17.0s							
ZEA	**Zeya**	**17.24**	**312**	*e*	P	**Pn**	**18 17 58.8**	**-1.8**
ZEA					AMB	AMB	18 17 59.8	
	comp=Z,22nm,0.9s							
KSRS	**Korea Array**	**17.41**	**255**		P	**Pn**	**18 18 01.6**	**-1.1**
	comp=Z,0.1nm,0.3s,baz=60,slow=13,SNR=7.9							
JNU	**Nakatsue**	**18.00**	**238**		P	**Pn**	**18 18 10.5**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=53,slow=16,SNR=3.9							
INCN	**Inchon**	**18.29**	**256**		P	**Pn**	**18 18 13.8**	**+0.2**
	comp=Z,45nm,1.1s							
SEY	**Seymchan**	**18.91**	**5**	⇑ *e*	P	**Pn**	**18 18 19.1**	**-1.8**
HIA	**Hailar**	**20.75**	**295**	*e*	P	**P**	**18 18 37.7**	**-2.7**
	comp=Z,23nm,1.2s							
HIA	**Hailar**	**20.75**	**295**	*i*	P	**P**	**18 18 38.6**	**-1.8**
YAK	**Yakutsk**	**21.24**	**334**	⇑ *e*	P	**P**	**18 18 42.4**	**-3.2**
	comp=Z,58nm,0.9s,mb4.9							
YAK	**Yakutsk**	**21.24**	**334**	*e*	P	**P**	**18 18 42.8**	**-2.8**
YAK				*i*	*PP		18 19 00.6	
YAK					pmax	pmax		
	comp=Z,61nm,1.0s,mb4.9							
YAK					pmax	pmax		
	comp=N,21nm,1.2s							
YAK					pmax	pmax		
	comp=E,18nm,1.1s							
YAK					MLR	MLR		
	comp=E,606nm,16.0s,MS4.2							
YAK					MLR	MLR		
	comp=Z,725nm,16.0s,MS4.2							
YAK					MLR	MLR		
	comp=N,618nm,18.0s,MS4.2							
BJI	**Beijing**	**24.74**	**272**		P	**P**	**18 19 21.0**	**0.0**
BJI					S	**S**	**18 23 40.6**	**-1.2**
BJI					AMB	AMB		
	comp=Z,24nm,1.0s,mb4.7							
BJI					LR	LR		
	comp=N,488nm,18.4s,MS4.3							
BJI					LR	LR		
	comp=E,791nm,18.3s,MS4.3							
BJI					LR	LR		
	comp=Z,662nm,18.6s,MS4.2							
BJI	**Beijing**	**24.74**	**272**		P	**P**	**18 19 21.0**	**0.0**
	comp=Z,24nm,1.0s,mb4.7							
BJI					S	**S**	**18 23 40.6**	**-1.2**
BJI					LR	LR		
	comp=Z,660nm,18.6s,MS4.2							
BJT	**Baijiatuau**	**24.75**	**272**	*e*	P	**P**	**18 19 20.9**	**-0.2**
	comp=Z,32nm,1.0s,mb4.8							
BJT				*e*			18 19 33.2	
BJT	**Baijiatuau**	**24.75**	**272**	*e*	P	**P**	**18 19 20.9**	**-0.3**
BJT				*e*			18 19 33.2	
BJT					pmax	pmax		
	comp=Z,32nm,1.0s							
CIT	**Chita**	**24.87**	**301**	*e*	P	**P**	**18 19 18.7**	**-3.4**
SSE	**Sheshan**	**25.58**	**249**		P	**P**	**18 19 30.4**	**+1.6**
SSE					AP	pP	18 19 41.0	+5.7
SSE					S	**S**	**18 23 56.2**	**+0.8**
SSE					AMB	AMB		
	comp=Z,18nm,0.8s,mb4.7							
SSE					AMB	AMB		
	comp=Z,175nm,6.6s							
SSE					LR	LR		
	comp=N,479nm,17.7s,MS4.2							
SSE					LR	LR		
	comp=E,406nm,17.7s,MS4.2							
SSE					LR	LR		
	comp=Z,638nm,16.3s,MS4.2							
SSE	**Sheshan**	**25.58**	**249**		P	**P**	**18 19 30.4**	**+1.6**
	comp=Z,18nm,0.8s,mb4.7							
SSE					pP	pP	18 19 41.0	+5.7
SSE					S	**S**	**18 23 56.2**	**+0.8**
SSE					LR	LR		
	comp=Z,640nm,16.3s,MS4.2							
BILL	**Bilibino**	**25.58**	**15**	*e*	P	**P**	**18 19 25.7**	**-2.8**
	comp=Z,5.6nm,0.9s,mb4.1							
BILL	**Bilibino**	**25.58**	**15**	⇑ *e*	P	**P**	**18 19 26.5**	**-2.0**
BILL				*e*			18 20 04.7	
BILL				*e*	S	**S**	**18 23 51.2**	**-3.6**
BILL					pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.0							
BILL					MLR	MLR		
	comp=Z,700nm,19.0s,MS4.2							
TIA	**Tai'an**	**25.62**	**263**	*e*	P	**P**	**18 19 29.7**	**+0.6**
BOD	**Bodaibo**	**25.68**	**315**	*e*	P	**P**	**18 19 25.4**	**-4.0**
BOD					pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.2							
NJ2	**Nanjing**	**26.59**	**253**	*e*	P	**P**	**18 19 40.9**	**+3.0**
NJ2					AP	pP	18 19 48.8	+4.3
NJ2					XP	sP	18 19 54.4	+7.2
NJ2					PP		18 20 21.4	
NJ2					AMB	AMB		
	comp=Z,40nm,0.5s,mb5.2							
NJ2					AMB	AMB		
	comp=Z,40nm,4.0s							
NJ2					LR	LR		
	comp=N,2μm,15.6s,MS4.8							
NJ2					LR	LR		
	comp=E,1μm,16.0s,MS4.8							
NJ2					LR	LR		
	comp=Z,5μm,16.3s,MS5.2							
HHC	**Hu-ho-hao-te**	**27.77**	**276**	*e*	P	**P**	**18 19 51.7**	**+3.3**
HHC					AP	pP	18 20 01.5	+6.5
HHC					XP	sP	18 20 05.3	+7.6
HHC					PP		18 20 41.5	
HHC					AMB	AMB		
	comp=Z,36nm,0.5s,mb5.3							
HHC					AMB	AMB		
	comp=Z,222nm,4.3s							
HHC					LR	LR		
	comp=N,534nm,12.7s,MS4.4							
HHC					LR	LR		
	comp=E,580nm,16.7s,MS4.4							
HHC					LR	LR		
	comp=Z,700nm,16.9s,MS4.3							
BTO	**Baotou**	**28.96**	**277**	*e*	P	**P**	**18 20 03.8**	**+4.8**
ULN	**Ulaanbaatar**	**29.23**	**292**	*e*	P	**P**	**18 20 01.2**	**-0.1**
	comp=Z,14nm,1.1s,mb4.6							
ULN	**Ulaanbaatar**	**29.23**	**292**	*c i*	P	**P**	**18 20 01.6**	**+0.3**
TIXI	**Tiksi**	**29.28**	**347**	*e*	P	**P**	**18 19 57.5**	**-4.1**
TIXI					pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.0							
TATO	**Taipei**	**29.55**	**239**		P	**P**	**18 20 04.1**	**-0.3**
	comp=Z,271nm,1.5s,mb5.8							
SONM	**Songino Array**	**29.67**	**292**		P	**P**	**18 20 05.6**	**+0.3**
SONM					pmax	pmax		
	comp=Z,6.0nm,0.9s							
SONM					MLR	MLR		
	comp=Z,898nm,18.9s							
SONM	**Songino Array**	**29.67**	**292**		P	**P**	**18 20 05.6**	**+0.3**
	comp=Z,6.2nm,0.9s,mb4.3,baz=82,slow=8.5,SNR=46							
SONM					LR	LR	18 33 20.0	
	comp=Z,898nm,18.9s,MS4.4,baz=126,slow=39							
WHN	**Wuhan**	**30.60**	**255**	⇓	P	**P**	**18 20 17.2**	**+3.6**
GUMO	**Guam**	**30.68**	**188**		P	**P**	**18 20 14.5**	**+0.1**
	comp=Z,218nm,1.2s,mb5.9							
TLY	**Talaya**	**31.01**	**300**		P	**P**	**18 20 16.7**	**-0.3**
	comp=Z,5.0nm,0.6s,mb4.5							
TLY	**Talaya**	**31.01**	**300**	*e*	P	**P**	**18 20 16.1**	**-0.9**
TLY					pmax	pmax		
	comp=Z,10.0nm,1.7s,mb4.4							
TLY					MLR	MLR		
	comp=Z,917nm,16.0s,MS4.5							
ZAK	**Zakamensk**	**31.36**	**298**	*e*	P	**P**	**18 20 20.0**	**-0.1**
ZAK					pmax	pmax		
	comp=Z,3.0nm,1.2s,mb4.0							
XAN	**Xi'an**	**32.55**	**266**		P	**P**	**18 20 30.2**	**-0.6**
XAN					AP	pP	18 20 36.2	-1.2
XAN					AMB	AMB		
	comp=Z,6.0nm,2.6s,mb4.1							
MOY	**Mondy**	**32.65**	**301**	*e*	P	**P**	**18 20 32.0**	**+0.5**
LZH	**Lanzhou**	**35.22**	**273**	⇑	P	**P**	**18 20 55.0**	**+1.0**
LZH					AP	pP	18 21 04.0	+3.4
LZH					XP	sP	18 21 08.0	+4.7
LZH					AMB	AMB		
	comp=Z,76nm,1.0s,mb5.6							
LZH					AMB	AMB		
	comp=Z,320nm,4.9s							
LZH					LR	LR		
	comp=N,730nm,16.7s							
LZH					LR	LR		
	comp=Z,1μm,17.5s,MS4.7							
LZH	**Lanzhou**	**35.22**	**273**	⇑	P	**P**	**18 20 55.0**	**+1.0**
	comp=Z,76nm,1.0s,mb5.6							
LZH					pP	pP	18 21 04.0	+3.4
LZH					sP	sP	18 21 08.0	+4.7
LZH					LR	LR		
	comp=Z,1μm,17.5s,MS4.7							
TTA	**Tatalina**	**36.20**	**39**	*e*	P	**P**	**18 21 02.6**	**+0.6**
SVW2	**Sparrevohn**	**36.28**	**42**	*e*	P	**P**	**18 21 02.6**	**-0.2**
IMA2	**Indian Mountai**	**37.52**	**34**	*e*	P	**P**	**18 21 13.8**	**+0.6**
CD2	**Chengdu**	**37.90**	**265**		P	**P**	**18 21 18.0**	**+1.1**
CD2					AP	pP	18 21 28.3	+4.8
CD2					XP	sP	18 21 32.6	+6.4
CD2					PP	PP	18 22 48.3	+4.8
CD2					AMB	AMB		
	comp=Z,50nm,0.8s,mb5.3							
CD2					AMB	AMB		
	comp=Z,120nm,7.4s							
CD2					LR	LR		
	comp=N,340nm,16.8s,MS4.5							
CD2					LR	LR		
	comp=E,450nm,16.8s,MS4.5							
CD2					LR	LR		
	comp=Z,250nm,14.2s,MS4.2							
GYA	**Guiyang**	**38.44**	**257**	⇓ *i*	P	**P**	**18 21 23.2**	**+1.8**
GYA					AP	pP	18 21 33.6	+5.5
GYA					XP	sP	18 21 37.6	+6.8
GYA					PP	PP	18 22 55.0	+5.5
GYA					PCP	PcP	18 23 37.0	+2.6
GYA					AMB	AMB		
	comp=Z,20nm,0.9s,mb4.8							
GYA					AMB	AMB		
	comp=Z,120nm,5.8s							
GYA					LR	LR		
	comp=N,480nm,16.6s,MS4.5							
GYA					LR	LR		
	comp=E,460nm,17.0s,MS4.5							
GYA					LR	LR		
	comp=Z,490nm,16.3s,MS4.4							
MCK	**McKinley**	**39.42**	**38**	*e*	P	**P**	**18 21 26.3**	**-2.8**
	comp=Z,8.9nm,1.0s,mb4.5							
MCK	**McKinley**	**39.42**	**38**	*e*	P	**P**	**18 21 26.3**	**-2.9**
MCK					pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.5							
SML	**Sawmill**	**39.76**	**41**	*e*	P	**P**	**18 21 31.8**	**-0.2**
COLA	**College**	**39.88**	**36**	*e*	P	**P**	**18 21 32.8**	**-0.2**
	comp=Z,17nm,1.0s,mb4.7							
COLA	**College**	**39.88**	**36**	*e*	P	**P**	**18 21 32.8**	**-0.2**
COLA					pmax	pmax		
	comp=Z,17nm,1.0s,mb4.7							
QIZ	**Qiongzhong**	**41.27**	**245**		P	**P**	**18 21 48.5**	**+3.5**
QIZ				*e*	S	**S**	**18 27 57.7**	**-0.1**
QIZ					AMB	AMB		
	comp=Z,47nm,2.2s,mb4.7							
QIZ					AMB	AMB		
	comp=Z,233nm,4.3s							
QIZ					LR	LR		
	comp=E,699nm,17.2s							
QIZ					LR	LR		
	comp=Z,491nm,15.8s,MS4.5							
ZALV	**Zalesovo Beam**	**41.93**	**307**		P	**P**	**18 21 50.2**	**+0.1**
ZALV					PcP	PcP	18 23 45.1	0.0
ZALV					LR	LR	18 40 31.2	
ZALV	**Zalesovo Beam**	**41.93**	**307**		P	**P**	**18 21 50.2**	**+0.1**
	comp=Z,1.0nm,0.4s,mb3.8,baz=69,slow=8.1,SNR=10							
ZALV					PcP	PcP	18 23 45.1	0.0
	comp=Z,5.6nm,0.8s,baz=79,slow=3.2,SNR=13							
ZALV					LR	LR	18 40 31.2	
	comp=Z,229nm,19.1s,MS4.1,baz=227,slow=38							
ZAL	**Zalesovo**	**41.94**	**307**		P	**P**	**18 21 50.2**	**+0.1**
ZAL							18 23 45.1	
KMI	**Kunming**	**42.03**	**259**		P	**P**	**18 21 51.7**	**+0.5**
KMI					AP	pP	18 22 00.9	+3.0
KMI					XP	sP	18 22 04.7	+4.1
KMI					PP	PP	18 23 32.4	+3.8
KMI					AMB	AMB		
	comp=Z,9.0nm,1.1s,mb4.3							
KMI					AMB	AMB		
	comp=Z,215nm,7.4s							
KMI					LR	LR		
	comp=N,342nm,15.7s,MS4.4							
KMI					LR	LR		
	comp=E,175nm,13.9s,MS4.4							
KMI					LR	LR		
	comp=Z,280nm,19.2s							
KMI	**Kunming**	**42.03**	**259**		P	**P**	**18 21 51.7**	**+0.5**
	comp=Z,9.0nm,1.1s,mb4.3							
KMI					pP	pP	18 22 00.9	+3.0
KMI					sP	sP	18 22 04.7	+4.1
KMI					PP	PP	18 23 32.4	+3.8
KMI					PPP		18 23 57.9	
KMI					S	**S**	**18 28 05.8**	**-3.3**
KMI					SS	SS	18 31 05.1	-11
KMI					LR	LR		
	comp=Z,280nm,19.2s,MS4.2							
NVS	**Novosibirsk**	**42.62**	**309**	*e*	P	**P**	**18 22 05.3**	**+10**
EGAK	**Eagle**	**42.75**	**36**	*e*	P	**P**	**18 21 53.7**	**-2.9**
	comp=Z,22nm,1.4s,mb4.7							
WMQ	**Urumqi**	**43.31**	**292**	⇑ *i*	P	**P**	**18 22 02.3**	**+0.9**
WMQ					AP	pP	18 22 12.0	+3.

MKAR LR LR 18 42 57.2
comp=Z,872nm,18.3s,MS4.7,baz=47,slow=38
KURK Kurchatov 46.52 304 *e*P **P 18 22 25.2 -1.7**
comp=Z,14nm,1.1s,mb4.8
KURK *e*PcP PcP 18 24 00.1 -0.8
KURK Kurchatov 46.52 304 *e*P **P 18 22 25.2 -1.6**
KURK *e* 18 24 00.1
KURK pmax pmax
comp=Z,14nm,1.1s,mb4.8
LSA Lhasa 47.64 273 *e*P **P 18 22 35.2 -0.7**
comp=Z,12nm,1.0s,mb4.9
LSA *e* 18 22 50.3
LSA Lhasa 47.64 273 *e*P **P 18 22 35.2 -0.7**
LSA *e* 18 22 50.3
LSA pmax pmax
comp=Z,12nm,1.0s,mb4.9
CHTO Chiang Mai 48.80 255 *e*P **P 18 22 45.4 +0.4**
comp=Z,23nm,1.0s,mb5.2
CHTO *e* 18 22 59.1
CHTO Chiang Mai 48.80 255 *e*P **P 18 22 45.4 +0.5**
CHTO *e* 18 22 59.1
CHTO pmax pmax
comp=Z,23nm,1.0s,mb5.2
DLBC Dease Lake 49.39 43 P **P 18 22 50.6 +1.7**
CHKZ Chkalovo 50.00 310 *i* P **P 18 22 52.9 -0.7**
CHKZ pmax pmax
comp=Z,6.0nm,1.0s,mb4.6
BRVK Borovoye 50.43 310 *e*P **P 18 22 56.0 -0.8**
comp=Z,2.8nm,0.7s,mb4.4
BRVK *e*pP pP 18 23 07.5 +3.9
BRVK Borovoye 50.43 310 *e*P **P 18 22 56.0 -0.9**
BRVK *e**PP pP 18 23 07.5 +3.8
BRVK pmax pmax
comp=Z,3.0nm,0.7s,mb4.4
ULHL Ulahol 51.56 295 P **P 18 23 06.5 +0.9**
SNR=14
TKM2 Tokmak 2 51.65 296 *e*P **P 18 23 07.0 +0.7**
comp=Z,29nm,1.0s,mb5.2
TKM2 Tokmak 2 51.65 296 *e*P **P 18 23 07.0 +0.7**
TKM2 pmax pmax
comp=Z,29nm,1.0s,mb5.2
TKM2 Tokmak 2 51.65 296 P **P 18 23 07.4 +1.1**
SNR=22
USP Ospenovka 52.20 297 P **P 18 23 11.0 +0.7**
SNR=30
KBK Karagaybulak 52.20 296 P **P 18 23 11.2 +0.9**
SNR=34
KZA Kyzart 52.28 295 P **P 18 23 12.8 +1.8**
SNR=13
FRU Bishkek 52.33 296 *e*P **P 18 23 11.4 +0.1**
FRU pmax pmax
comp=Z,46nm,1.2s,mb5.3
JIRN Jiri 52.38 274 *e*P **P 18 23 12.4 +0.6**
comp=Z,21nm,0.9s,mb5.1
AAK Ala-Archa 52.50 296 P **P 18 23 13.0 +0.4**
SNR=15
UCH Uchtor 52.69 296 *e*P **P 18 23 14.0 0.0**
comp=Z,4.4nm,0.9s,mb4.4
UCH Uchtor 52.69 296 P **P 18 23 15.5 +1.6**
SNR=6.8
KKN Kakani 52.95 275 *e*P **P 18 23 16.4 +0.3**
comp=Z,46nm,1.0s,mb5.4
EKS2 Erkin-Say 52.95 297 *e*P **P 18 23 16.1 +0.2**
comp=Z,21nm,1.0s,mb5.0
EKS2 Erkin-Say 52.95 297 P **P 18 23 16.6 +0.7**
SNR=28
AML Almayashu 53.27 296 *e*P **P 18 23 19.4 +1.1**
comp=Z,16nm,0.9s,mb4.9
AML *e* 18 23 33.0
AML Almayashu 53.27 296 P **P 18 23 19.6 +1.4**
SNR=14
GKN Gorkha 53.29 275 *e*P **P 18 23 18.8 +0.2**
comp=Z,68nm,1.0s,mb5.5
RES Resolute Bay 54.16 17 *e*P **P 18 23 22.8 -1.5**
comp=Z,285nm,0.9s,mb6.2
KOLN Koldanda 54.17 276 *e*P **P 18 23 25.5 +0.5**
comp=Z,46nm,1.0s,mb5.4
YKA Yellowknife Ar 54.65 34 P **P 18 23 28.1 +0.1**
YKA Yellowknife Ar 54.65 34 *i* P **P 18 23 28.1 +0.1**
YKA pmax pmax
comp=Z,3.0nm,0.8s
YKA Yellowknife Ar 54.65 34 P **P 18 23 28.1 +0.1**
comp=Z,3.0nm,0.8s,mb4.4,baz=297,slow=6.8,SNR=40
KSM Kuching 54.69 230 *e*P **P 18 23 27.1 -1.8**
KK31 Karatay Array 54.82 299 *i* P **P 18 23 29.5 0.0**
KK31 pmax pmax
comp=Z,29nm,1.0s,mb5.3
ARU Arti 55.05 317 *e*P **P 18 23 25.9 -5.1**
comp=Z,6.7nm,0.8s,mb4.7
ARU Arti 55.05 317 *d i*P **P 18 23 30.6 -0.4**
ARU *e* 18 24 31.7
ARU *e* 18 25 30.6
ARU *e*S **S 18 31 09.3 -2.6**
ARU *e*SS SS 18 34 51.2 -3.9
ARU pmax pmax
comp=Z,11nm,1.2s,mb4.8
KULM Kulim 57.43 242 *e*P **P 18 23 49.2 +0.7**
KULM *e* 18 24 04.0
AKTO Aktyubinsk 58.38 311 LR LR 18 50 51.3
comp=Z,131nm,20.1s,MS4.0,baz=198,slow=38
ARCES ARCESS Array B 59.38 340 P **P 18 23 59.9 -1.5**
ARCES pmax pmax
comp=Z,3.0nm,0.9s
ARCES ARCESS Array B 59.38 340 P **P 18 23 59.9 -1.4**
comp=Z,3.0nm,0.9s,mb4.3,baz=132,slow=28,SNR=3.4
EDM Edmonton 60.11 43 *e*P **P 18 24 06.1 -0.6**
JOF Joensuu 62.41 333 *e*p **P 18 24 20.9 -1.2**
WVOR Wild Horse Val 63.49 56 *e*P **P 18 24 23.8 -5.8**
comp=Z,5.9nm,0.4s,mb5.1
WVOR Wild Horse Val 63.49 56 *e*P **P 18 24 23.8 -5.8**
WVOR pmax pmax
comp=Z,6.0nm,0.4s,mb5.1
MSO Missoula 63.55 50 *e*P **P 18 24 30.4 +0.5**
comp=Z,8.9nm,1.1s,mb4.7
HYB Hyderabad 64.25 270 *e*P **P 18 24 35.0 +0.1**
HYB *e* 18 24 49.0
HYB Hyderabad 64.25 270 *i* P **P 18 24 35.0 +0.1**
HYB *e* 18 24 49.0
FFC Flin Flon 64.50 37 *e*P **P 18 24 35.5 -0.5**
comp=Z,8.9nm,0.8s,mb4.8
FFC *e* 18 24 49.2
FFC Flin Flon 64.50 37 *e*P **P 18 24 35.5 -0.5**
FFC *e* 18 24 49.2
FFC pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
KAF Kangasniemi 64.61 334 *e*p **P 18 24 34.8 -1.8**
comp=Z,24nm,0.9s,mb5.2,baz=41,slow=6.2
KAF Kangasniemi 64.61 334 *e*P **P 18 24 34.8 -1.8**
KAF pmax pmax
comp=Z,24nm,0.9s,mb5.2
FCC Fort Churchill 64.94 31 *e*P **P 18 24 38.0 -0.8**
comp=Z,5.4nm,0.6s,mb4.8
FCC Fort Churchill 64.94 31 *e*P **P 18 24 38.0 -0.8**
FCC pmax pmax
comp=Z,5.0nm,0.6s,mb4.7
EGMT Eagleton 65.06 47 *e*P **P 18 24 37.2 -2.5**
comp=Z,12nm,1.0s,mb4.9
FINES FINESS Array B 65.18 334 *i* P **P 18 24 39.5 -0.8**
FINES pmax pmax
comp=Z,15nm,0.8s
FINES FINESS Array B 65.18 334 P **P 18 24 39.6 -0.7**
comp=Z,15nm,0.8s,mb5.1,baz=48,slow=9.0,SNR=38
WB2 Warramunga Arr 65.21 195 *e*P **P 18 24 40.3 -0.6**
WRA Warramunga Arr 65.21 195 P **P 18 24 39.9 -1.0**
WRA pmax pmax
comp=Z,5.0nm,1.1s
WRA Warramunga Arr 65.21 195 P **P 18 24 39.9 -1.0**
comp=Z,5.0nm,1.1s,mb4.5,baz=15,slow=6.7,SNR=12
BOZ Bozeman (W) 65.54 50 *e*P **P 18 24 43.1 +0.2**
comp=Z,5.8nm,0.8s,mb4.7
BOZ Bozeman (W) 65.54 50 *e*P **P 18 24 43.1 +0.2**
BOZ pmax pmax
comp=Z,6.0nm,0.8s,mb4.7
FITZ Fitzroy Crossi 65.58 205 P **P 18 24 43.1 -0.2**
comp=Z,1.3nm,0.9s,mb4.0,baz=97,slow=19,SNR=1.9
OBN Obninsk 65.85 324 *e*P **P 18 24 43.4 -1.4**
comp=Z,32nm,0.9s,mb5.3
OBN Obninsk 65.85 324⇓ *e*P **P 18 24 44.5 -0.3**
OBN *e*S S 18 33 22.4 -7.7
OBN pmax pmax
comp=Z,35nm,1.1s,mb5.3
OBN MLR MLR
comp=Z,300nm,15.0s,MS4.6
NVAR Mina Array Bea 66.12 59 P **P 18 24 47.3 +0.5**
comp=Z,1.7nm,0.8s,mb4.1,baz=304,slow=5.7,SNR=9.7
VRHR Novokhopersk 66.31 319 *e*P **P 18 24 47.3 -0.5**
VRHR pmax pmax
comp=Z,10.0nm,0.8s,mb4.9
VRHR pmax pmax
comp=N,10.0nm,0.6s
VRHR pmax pmax
comp=E,10.0nm,0.5s
GCMT Greycliff 66.52 48 *e*P **P 18 24 48.5 -0.7**
IMW Indian Meadow 67.03 51 *e*P **P 18 24 54.5 +2.0**
comp=E,11nm,1.1s,mb4.8
FLWY Flagg Ranch 67.04 50 P **P 18 24 53.6 +1.0**
comp=E,8.2nm,1.0s,mb4.7
TPAW Teton Pass 67.28 51 *e*P **P 18 24 55.2 +1.1**
comp=E,26nm,1.2s,mb5.1
VRSR Storozhevoye 67.37 320 *e*P **P 18 24 54.1 -0.4**
VRSR pmax pmax
comp=N,10.0nm,0.9s
VRSR pmax pmax
comp=E,9.0nm,0.9s
VRSR pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
SFJD Kangerlussuaq 68.16 8 *i* P **P 18 24 58.9 -0.3**
SFJD pmax pmax
comp=Z,16nm,1.0s,mb5.0
SFJD Kangerlussuaq 68.16 8 *i* P **P 18 24 58.9 -0.3**
comp=Z,16nm,1.0s,mb5.0
PDAR Pinedale Array 68.53 51 P **P 18 25 02.0 0.0**
comp=Z,2.0nm,0.9s,mb4.1,baz=31,slow=0.6,SNR=8.4
ASAR Alice Springs 68.92 195 P **P 18 25 04.8 +0.4**
ASAR pmax pmax
comp=Z,1.0nm,1.0s
ASAR Alice Springs 68.92 195 P **P 18 25 04.8 +0.4**
comp=Z,0.8nm,1.0s,mb3.6,baz=15,slow=7.0,SNR=9.6
NB2 NORSAR Subarra 69.75 340 P **P 18 25 08.3 -0.9**
comp=Z,30nm,0.9s,mb5.2,baz=32,slow=6.2
NOA NORSAR Array B 69.75 340 P **P 18 25 08.7 -0.5**
NOA pmax pmax
comp=Z,22nm,0.8s
NOA NORSAR Array B 69.75 340 P **P 18 25 08.7 -0.5**
comp=Z,22nm,0.8s,mb5.1,baz=32,slow=6.1,SNR=59
MNK Minsk 69.80 328 *e*P **P 18 25 09.0 -0.6**
ULM Lac du Bonnet 70.29 38 P **P 18 25 11.8 -0.9**
comp=Z,1.5nm,0.7s,mb4.0,baz=333,slow=6.7,SNR=3.9
SRU San Rafael 70.37 54 *e*P **P 18 25 13.3 -0.1**
comp=Z,4.0nm,0.7s,mb4.5
SRU San Rafael 70.37 54 *e*P **P 18 25 13.3 -0.1**
SRU pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
KIV Kislovodsk 70.58 313 *e*P **P 18 25 15.4 +0.8**
comp=Z,14nm,0.8s,mb5.0
KIV Kislovodsk 70.58 313 *e*P **P 18 25 15.6 +1.0**
KIV *e*S S 18 34 26.0 -0.9
KIV pmax pmax
comp=Z,17nm,0.8s,mb5.0
KIV MLR MLR
comp=Z,480nm,17.0s,MS4.8
KIV Kislovodsk 70.58 313⇓ *i*P **P 18 25 15.6 +1.0**
SUW Suwalki 71.91 330 *e*P **P 18 25 22.4 -0.1**
AKASG Malin Array Be 72.12 325 P **P 18 25 23.2 -0.6**
AKASG pmax pmax
comp=Z,12nm,0.8s
AKASG Malin Array Be 72.12 325 P **P 18 25 23.2 -0.6**
comp=Z,12nm,0.8s,mb4.9,baz=37,slow=6.1,SNR=67
KIEV Kiev 72.13 325 *e*P **P 18 25 22.9 -1.0**
comp=Z,27nm,1.0s,mb5.1
KIEV *e* 18 25 35.6
KIEV Kiev 72.13 325 *e*P **P 18 25 22.9 -0.9**
KIEV *e* 18 25 35.6
KIEV pmax pmax
comp=Z,27nm,1.0s,mb5.1
ANN Anapa 72.69 316 *e*P **P 18 25 29.6 +2.3**
ANN *e**PP pP 18 25 39.7 +5.4
ANN *e* 18 28 11.0
ANN *e*S S 18 34 55.7 +4.5
ANN pmax pmax
comp=Z,53nm,1.1s,mb5.4
ANN MLR MLR
comp=Z,318nm,20.0s,MS4.6
ISCO Idaho Springs 72.72 51 *e*P **P 18 25 27.7 +0.1**
comp=Z,4.5nm,0.8s,mb4.5
ISCO Idaho Springs 72.72 51 *e*P **P 18 25 27.7 +0.1**
ISCO pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
ECSD EROS,Sioux Fal 74.68 43 *e*P **P 18 25 38.1 -0.9**
comp=Z,14nm,1.3s,mb4.7
ANMO Albuquerque 75.57 55 *i* P **P 18 25 45.5 +1.2**
KWP Kalwaria 75.58 327 *e*P **P 18 25 45.1 +1.1**
KWP Kalwaria 75.58 327⇓ *i*P **P 18 25 45.1 +1.0**
OJC Ojcow 76.20 329 *e*P **P 18 25 47.5 -0.1**
KOLS Kolonicke sedl 76.31 327 *i* P **P 18 25 48.7 +0.5**
STHS Stebnicka Huta 76.31 328 *i* P **P 18 25 49.2 +0.9**
comp=Z,5.4nm,0.9s,mb4.5
STHS Stebnicka Huta 76.31 328 *i* P **P 18 25 49.2 +0.9**
STHS pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
CRVS Cervenica-Dubn 76.65 328 *i* P **P 18 25 50.4 +0.2**
SCHQ Schefferville 76.75 20 P **P 18 25 50.2 -0.4**
SCHQ Schefferville 76.75 20 P **P 18 25 50.2 -0.4**
comp=Z,3.4nm,0.8s,mb4.3,baz=17,slow=5.4,SNR=3.9
CFR Carcaliu 76.81 322 P **P 18 25 52.5 +1.4**
MALT Malatya 76.83 311 *e*P **P 18 25 51.6 +0.2**
comp=Z,9.9nm,1.3s,mb4.6
MALT Malatya 76.83 311 *e*P **P 18 25 51.6 +0.2**
MALT pmax pmax
comp=Z,10.0nm,1.3s,mb4.6
MALT Malatya 76.83 311⇓ *i*P **P 18 25 53.2 +1.8**
VRI Vrincioaia 76.90 323⇑ *i*P **P 18 25 52.7 +1.0**
KSR Ksiaz 76.93 332 *e*P **P 18 25 51.6 -0.1**
OKC Ostrava-Krasne 77.12 330 *e*P **P 18 25 53.6 +0.8**
OKC AMS AMS 19 03 40.0
comp=Z,300nm,19.9s,MS4.6
TIRR Tirgusor 77.25 321⇑ *i*P **P 18 25 54.1 +0.5**
HARR Harsova 77.28 321 P **P 18 25 55.0 +1.1**
UPC Upice 77.31 331 *e*P **P 18 25 54.1 +0.3**
DPC Dobruska-Polom 77.33 331 *e*P **P 18 25 54.4 +0.4**
KECS Kecovo 77.36 328 *i* P **P 18 25 54.7 +0.5**
comp=Z,3.2nm,0.9s,mb4.2
KECS Kecovo 77.36 328 *i* P **P 18 25 54.7 +0.5**
KECS pmax pmax
comp=Z,3.0nm,0.9s,mb4.2
MORC Moravsky Berou 77.39 330 *e*P **P 18 25 53.9 -0.3**
comp=Z,14nm,1.3s,mb4.7
MORC Moravsky Berou 77.39 330 *e*P **P 18 25 54.7 +0.4**
MORC Moravsky Berou 77.39 330⇑ *i*P **P 18 25 54.6 +0.3**
MLR Muntele Rosu 77.54 323 P **P 18 25 57.1 +1.9**
MLR Muntele Rosu 77.54 323⇓ *i*P **P 18 25 55.9 +0.7**
MIB Mutribah 77.59 299 *e*P **P 18 25 55.0 -0.8**
MIB AMb AMB 18 25 57.3
comp=Z,31nm,0.8s,mb5.3
CLL Collm 77.63 334 *i* P **P 18 25 55.1 -0.5**
comp=Z,13nm,0.9s,mb4.9
CLL *i* 18 26 08.6
CLL Collm 77.63 334 *i* P **P 18 25 55.1 -0.5**
CLL *i* 18 26 08.6
CLL pmax pmax
comp=Z,11nm,0.9s,mb4.8
CLL Collm 77.63 334 *i* P **P 18 25 55.1 -0.5**
comp=Z,13nm,0.9s,mb4.9
CLL *i* sP sP 18 26 08.6 +3.3
CLL *es*PcP 18 26 22.0
BRG Berggiesshubel 77.69 333 *i* P **P 18 25 55.1 -0.9**
BRG *i* 18 26 08.6
BRG pmax pmax
comp=Z,11nm,0.9s,mb4.8
BRG Berggiesshubel 77.69 333 *e*P **P 18 25 55.7 -0.3**
comp=Z,8.9nm,1.3s,mb4.5
PVCC Panska Ves 77.78 332 *e*P **P 18 25 56.5 0.0**
KBD Kabd 77.80 299 *e*P **P 18 25 56.2 -0.8**
DRGR 77.86 326⇑ *i*P **P 18 25 57.2 +0.2**
DRGR 77.86 326⇑ *i*P **P 18 25 57.2 +0.2**
QRN Al-Qurain 77.96 298 *e*P **P 18 25 56.8 -1.1**
QRN AMb AMB 18 25 59.3
comp=Z,25nm,0.6s,mb5.3
VOIR 77.97 323 P **P 18 25 58.3 +0.7**
VOIR 77.97 323⇑ *i*P **P 18 25 58.2 +0.6**
VYHS Vyhne 77.98 329 *i* P **P 18 25 57.7 +0.1**
comp=Z,3.0nm,0.9s,mb4.2
VYHS Vyhne 77.98 329 *i* P **P 18 25 57.7 +0.1**
VYHS pmax pmax
comp=Z,3.0nm,0.9s,mb4.2
RST Umm Al-Ruwaisa 78.02 299 *e*P **P 18 25 57.2 -1.0**
RST AMb AMB 18 25 59.4
comp=Z,35nm,0.9s,mb5.3
NAY Al-Naaiem 78.04 299 *e*P **P 18 25 57.4 -0.9**
NAY AMb AMB 18 25 59.8
comp=Z,17nm,1.0s,mb5.0
PSZ Piszkesteto 78.06 328 *e*P **P 18 25 58.2 +0.1**
comp=Z,10nm,0.9s,mb4.8
PSZ Piszkesteto 78.06 328 P **P 18 25 58.7 +0.6**
PSZ Piszkesteto 78.06 328⇑ *i*P **P 18 25 58.5 +0.4**
RDF Al-Radifah 78.07 299 *e*P **P 18 25 58.2 -0.3**
RDF AMb AMB 18 26 00.1
comp=Z,39nm,1.0s,mb5.3
VRAC Vranov 78.12 330 P **P 18 25 59.4 +1.0**
VRAC Vranov 78.12 330⇓ *i*P **P 18 25 59.2 +0.8**
PRU Pruhonice 78.25 332 *e*P **P 18 25 59.2 +0.1**
PRU AMS AMS 19 04 10.0
comp=Z,400nm,15.2s,MS4.9
TREC Trest 78.52 331 *e*P **P 18 26 00.9 +0.3**
TREC *e*pP pP 18 26 05.6 -2.1
MOX Moxa 78.64 334 *e*P **P 18 26 01.0 -0.2**
comp=Z,14nm,1.3s,mb4.7
MOX Moxa 78.64 334 *e*P **P 18 26 01.0 -0.2**
MOX pmax pmax
comp=Z,17nm,1.3s,mb4.8
ANTO Ankara 78.64 315⇑ P **P 18 26 02.1 +0.6**
ANTO Ankara 78.64 315⇑ *i*P **P 18 26 02.1 +0.6**
MODS Modra-Piesok 78.66 330 *i* P **P 18 26 02.1 +0.7**
comp=Z,7.5nm,1.1s,mb4.5
MODS Modra-Piesok 78.66 330 *i* P **P 18 26 02.1 +0.7**
MODS pmax pmax
comp=Z,8.0nm,1.1s,mb4.6
NKC Novy Kostel 78.73 333 *e*P **P 18 26 01.7 -0.1**
ZST Bratislava 78.87 330 *e*P **P 18 26 03.6 +1.1**
comp=Z,7.7nm,0.9s,mb4.6
ZST Bratislava 78.87 330 *e*P **P 18 26 03.6 +1.1**
ZST pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
GZR Gura Zlata 78.96 325⇓ P **P 18 26 03.1 0.0**
GZR Gura Zlata 78.96 325⇓ *i*P **P 18 26 03.1 0.0**
BZS Buzias 79.26 326 P **P 18 26 04.9 +0.1**
BZS Buzias 79.26 326⇑ *i*P **P 18 26 04.5 -0.2**
KHC Kasperske Hory 79.31 332 *e*P **P 18 26 05.2 +0.3**
KHC *e*pP pP 18 26 14.5 +2.5
KHC AMS AMS 19 05 40.0
comp=Z,400nm,17.2s,MS4.8
GERES GERESS Array B 79.51 332 P **P 18 26 05.9 -0.2**
GERES pmax pmax
comp=Z,5.0nm,0.8s
GERES GERESS Array B 79.51 332 P **P 18 26 05.9 -0.2**
comp=Z,4.7nm,0.8s,mb4.5,baz=35,slow=4.9,SNR=33
CONA Conrad Observa 79.54 330⇑ *i*P **P 18 26 07.0 +0.8**
comp=Z,12nm,0.9s,mb4.8
GRA1 Grafenberg Arr 79.59 334 *e*P **P 18 26 07.1 +0.6**
comp=Z,10.0nm,0.8s,mb4.8
GRF Grafenberg Arr 79.59 334 *e*P **P 18 26 07.1 +0.6**
GRF pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
GRF Grafenberg Arr 79.59 334 *e*P **P 18 26 07.1 +0.6**
GRF pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
GRF Grafenberg Arr 79.59 334 *e*P **P 18 26 07.1 +0.6**
comp=Z,10.0nm,0.8s,mb4.8
PKSM Moragy 79.95 328 P **P 18 26 08.1 -0.4**
PKSM Moragy 79.95 328⇑ *i*P **P 18 26 08.5 0.0**
ARSA Arzberg 80.24 330⇑ *i*P **P 18 26 10.4 +0.4**
comp=Z,7.6nm,1.1s,mb4.5
PERS Pernice 80.91 330 *e*P **P 18 26 13.3 -0.3**
VTS Vitosha 81.04 323 P **P 18 26 15.2 +0.8**
VTS Vitosha 81.04 323⇑ *i*P **P 18 26 14.9 +0.5**
GIVF Givet 81.12 338 *e*P **P 18 26 15.2 +0.5**
KBA Koelnbreinsper 81.16 331⇓ *i*P **P 18 26 15.8 +0.9**
comp=Z,24nm,1.1s,mb5.0
KBA Koelnbreinsper 81.16 331⇓ *i*P **P 18 26 15.8 +0.9**
KBA pmax pmax
comp=Z,24nm,1.1s,mb5.0
BAIF Baives 81.33 338 *e*P **P 18 26 15.6 -0.2**
comp=Z,71nm,1.5s,mb5.1
BAIF Baives 81.33 338 *e*P **P 18 26 15.6 -0.2**
comp=Z,35nm,1.5s,mb5.1
BAIF Baives 81.33 338 *e*P **P 18 26 15.6 -0.2**
BAIF pmax pmax
comp=Z,35nm,1.5s,mb5.1
LEGS Legarje 81.42 329 *e*P **P 18 26 15.8 -0.5**
WATA Walderalm 81.53 332⇑ *i*P **P 18 26 17.4 +0.4**
comp=Z,15nm,1.0s,mb4.8
WATA Walderalm 81.53 332⇑ *i*P **P 18 26 17.4 +0.5**
WATA pmax pmax
comp=Z,15nm,1.0s,mb4.9
WTTA Wattenberg 81.58 332⇑ *i*P **P 18 26 17.0 -0.1**
comp=Z,25nm,1.2s,mb5.0
WTTA Wattenberg 81.58 332⇑ *i*P **P 18 26 17.0 -0.2**
WTTA pmax pmax
comp=Z,25nm,1.2s,mb5.0
RETA Reutte 81.67 333⇑ *i*P **P 18 26 17.9 +0.2**
comp=Z,16nm,1.1s,mb4.8
MOTA Moosalm 81.68 333⇑ *i*P **P 18 26 18.0 +0.2**
comp=Z,20nm,1.1s,mb5.0
MOTA Moosalm 81.68 333⇑ *i*P **P 18 26 18.0 +0.3**
MOTA pmax pmax
comp=Z,20nm,1.1s,mb5.0
BFO Black Forest 81.70 335 *e*P **P 18 26 16.6 -1.1**
comp=Z,6.4nm,0.9s,mb4.5
BFO *e* 18 26 30.3
BFO Black Forest 81.70 335 *e*P **P 18 26 16.7 -1.1**
BFO *e* 18 26 30.3
BFO pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
SQTA Sankt Quirin 81.76 333⇑ *i*P **P 18 26 18.3 +0.2**
comp=Z,12nm,1.0s,mb4.8
SQTA Sankt Quirin 81.76 333⇑ *i*P **P 18 26 18.3 +0.2**
SQTA pmax pmax
comp=Z,12nm,1.0s,mb4.8
BOJS Bojanci 81.82 329 *e*P **P 18 26 17.9 -0.6**
CEY Cerknica 81.92 330 *e*P **P 18 26 18.1 -0.9**
CDF Champ du Feu 81.94 335 *e*P **P 18 26 19.0 -0.1**
comp=Z,22nm,1.1s,mb4.7
CDF Champ du Feu 81.94 335 *e*P **P 18 26 19.0 -0.1**
comp=Z,11nm,1.1s,mb4.7
CDF Champ du Feu 81.94 335 *e*P **P 18 26 19.0 -0.1**
CDF pmax pmax
comp=Z,11nm,1.1s,mb4.7
NWAO Narrogin (SRO) 82.05 207 P **P 18 26 24.4 +4.8**
comp=Z,18nm,1.3s,mb4.8
NWAO Narrogin (SRO) 82.05 207 P **P 18 26 24.4 +4.8**
NWAO pmax pmax
comp=Z,18nm,1.3s
FETA Feichten 82.09 333⇓ *i*P **P 18 26 20.5 +0.7**
comp=Z,11nm,1.1s,mb4.7
DAVA Damuels 82.13 333⇑ *i*P **P 18 26 19.3 -0.7**
comp=Z,15nm,1.0s,mb4.9
MEZF Maizieres J'vi 82.51 337 *e*P **P 18 26 22.3 +0.3**
HAU Haudompre 82.58 336 *e*P **P 18 26 22.3 -0.1**
HINF Hinteralfeld 82.60 335 *e*P **P 18 26 21.9 -0.6**
comp=Z,17nm,1.1s,mb4.7
HINF Hinteralfeld 82.60 335 *e*P **P 18 26 21.9 -0.6**
comp=Z,8.4nm,1.1s,mb4.7
HINF Hinteralfeld 82.60 335 *e*P **P 18 26 21.9 -0.6**
HINF pmax pmax
comp=Z,8.0nm,1.1s,mb4.7
PPT Papeete 82.98 123 LR LR 18 54 22.5
comp=Z,287nm,20.5s,MS4.6,baz=293,slow=29
FLN La Foliniere 83.72 340 *e*P **P 18 26 28.2 -0.1**
LDF La Druitiere 83.79 340 *e*P **P 18 26 28.6 -0.1**
CABF La Chapelle 83.92 335 *e*P **P 18 26 29.4 +0.1**
comp=Z,18nm,0.9s,mb4.9
CABF La Chapelle 83.92 335 *e*P **P 18 26 29.4 +0.1**
comp=Z,8.9nm,0.9s,mb4.9
CABF La Chapelle 83.92 335 *e*P **P 18 26 29.4 +0.1**
CABF pmax pmax
comp=Z,9.0nm,0.9s,mb4.9
LOR Lormes 83.97 337 *e*P **P 18 26 29.3 -0.3**
comp=Z,19nm,1.0s,mb4.9
LOR Lormes 83.97 337 *e*P **P 18 26 29.3 -0.3**
comp=Z,9.6nm,1.0s,mb4.9
LOR Lormes 83.97 337 *e*P **P 18 26 29.3 -0.3**
LOR pmax pmax
comp=Z,10.0nm,1.0s,mb4.9
GRR Gorron 84.16 340 *e*P **P 18 26 30.7 +0.1**
SSF Saint Saulge 84.25 337 *e*P **P 18 26 31.0 0.0**
SMF Signal de Mont 84.54 337 *e*P **P 18 26 32.5 0.0**
comp=Z,44nm,1.1s,mb5.2
SMF Signal de Mont 84.54 337 *e*P **P 18 26 32.5 0.0**
comp=Z,22nm,1.1s,mb5.2
SMF Signal de Mont 84.54 337 *e*P **P 18 26 32.5 0.0**
SMF pmax pmax
comp=Z,22nm,1.1s,mb5.2
AVF Avril sur Loir 84.55 337 *e*P **P 18 26 32.7 +0.2**
comp=Z,30nm,1.2s,mb5.0
AVF Avril sur Loir 84.55 337 *e*P **P 18 26 32.7 +0.2**
comp=Z,15nm,1.2s,mb5.0

AVF	**Avril sur Loir**	**84.55 337**	*e*P	**P**	**18 26 32.7 +0.2**	
AVF			pmax	pmax		
	comp=Z,15nm,1.2s,mb5.0					
SGMF	**Saint Gilles**	**84.69 341**	*e*P	**P**	**18 26 33.4 +0.2**	
	comp=Z,31nm,0.9s,mb5.2					
SGMF	**Saint Gilles**	**84.69 341**	*e*P	**P**	**18 26 33.4 +0.2**	
	comp=Z,15nm,0.9s,mb5.1					
SGMF	**Saint Gilles**	**84.69 341**	*e*P	**P**	**18 26 33.4 +0.2**	
SGMF			pmax	pmax		
	comp=Z,15nm,0.9s,mb5.1					
LPL	**La Plagne**	**84.70 335**	*e*P	**P**	**18 26 33.9 +0.6**	
LPG	**La Plagne**	**84.72 334**	*e*P	**P**	**18 26 34.2 +0.8**	
	comp=Z,22nm,0.9s,mb5.0					
LPG	**La Plagne**	**84.72 334**	*e*P	**P**	**18 26 34.2 +0.8**	
	comp=Z,11nm,0.9s,mb5.0					
LPG	**La Plagne**	**84.72 334**	*e*P	**P**	**18 26 34.2 +0.8**	
LPG			pmax	pmax		
	comp=Z,11nm,0.9s,mb5.0					
WVT	**Waverly**	**84.83 43**	*e*P	**P**	**18 26 32.7 -1.4**	
	comp=Z,3.1nm,0.8s,mb4.5					
WVT			*e*		18 26 49.6	
WVT	**Waverly**	**84.83 43**	*e*P	**P**	**18 26 32.7 -1.5**	
WVT			*e*		18 26 49.7	
WVT			pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.5					
BGF	**Bois d'Agland**	**84.90 337**	*e*P	**P**	**18 26 34.4 +0.1**	
	comp=Z,55nm,1.4s,mb5.2					
BGF	**Bois d'Agland**	**84.90 337**	*e*P	**P**	**18 26 34.4 +0.1**	
	comp=Z,27nm,1.4s,mb5.2					
BGF	**Bois d'Agland**	**84.90 337**	*e*P	**P**	**18 26 34.4 +0.1**	
BGF			pmax	pmax		
	comp=Z,27nm,1.4s,mb5.2					
BNI	**Bardonecchia**	**85.14 334**	*e*P	**P**	**18 26 36.1 +0.6**	
	comp=Z,5.6nm,1.0s,mb4.7					
BNI			*e*		18 26 50.9	
BNI	**Bardonecchia**	**85.14 334**	*e*P	**P**	**18 26 36.1 +0.6**	
BNI			*e*		18 26 50.9	
BNI			pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.7					
TCF	**Toulx Ste Croi**	**85.32 338**	*e*P	**P**	**18 26 36.9 +0.5**	
	comp=Z,16nm,1.0s,mb4.8					
TCF	**Toulx Ste Croi**	**85.32 338**	*e*P	**P**	**18 26 36.9 +0.5**	
	comp=Z,8.2nm,1.0s,mb4.8					
TCF	**Toulx Ste Croi**	**85.32 338**	*e*P	**P**	**18 26 36.9 +0.5**	
TCF			pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.8					
MBDF	**Montbardon**	**85.40 334**	*e*P	**P**	**18 26 36.9 0.0**	
	comp=Z,12nm,0.9s,mb4.8					
MBDF	**Montbardon**	**85.40 334**	*e*P	**P**	**18 26 36.9 0.0**	
	comp=Z,6.1nm,0.9s,mb4.7					
MBDF	**Montbardon**	**85.40 334**	*e*P	**P**	**18 26 36.9 0.0**	
MBDF			pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.7					
ORIF	**Oris-en-Rattie**	**85.51 335**	*e*P	**P**	**18 26 38.0 +0.6**	
	comp=Z,13nm,0.8s,mb4.9					
ORIF	**Oris-en-Rattie**	**85.51 335**	*e*P	**P**	**18 26 38.0 +0.6**	
	comp=Z,6.5nm,0.8s,mb4.9					
ORIF	**Oris-en-Rattie**	**85.51 335**	*e*P	**P**	**18 26 38.0 +0.6**	
ORIF			pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.9					
MFF	**Saint Martin d**	**85.65 339**	*e*P	**P**	**18 26 38.5 +0.4**	
	comp=Z,24nm,1.0s,mb5.1					
MFF	**Saint Martin d**	**85.65 339**	*e*P	**P**	**18 26 38.5 +0.4**	
	comp=Z,12nm,1.0s,mb5.1					
MFF	**Saint Martin d**	**85.65 339**	*e*P	**P**	**18 26 38.5 +0.4**	
MFF			pmax	pmax		
	comp=Z,12nm,1.0s,mb5.1					
VIVF	**Saint-Julien-l**	**85.93 336**	*e*P	**P**	**18 26 40.0 +0.5**	
	comp=Z,16nm,1.0s,mb4.9					
VIVF	**Saint-Julien-l**	**85.93 336**	*e*P	**P**	**18 26 40.0 +0.5**	
	comp=Z,8.2nm,1.0s,mb4.9					
VIVF	**Saint-Julien-l**	**85.93 336**	*e*P	**P**	**18 26 40.0 +0.5**	
VIVF			pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.9					
SBF	**Sospel**	**85.96 333**	*e*P	**P**	**18 26 39.3 -0.4**	
RJF	**Les Rejaudoux**	**86.42 338**	*e*P	**P**	**18 26 42.3 +0.4**	
SMRF	**Simiane la Rot**	**86.45 335**	*e*P	**P**	**18 26 41.7 -0.4**	
SWET	**Sewanee**	**86.48 42**	*e*P	**P**	**18 26 40.9 -1.5**	
SWET			*e*		18 26 54.9	
FRF	**La Foret Royal**	**86.49 334**	*e*P	**P**	**18 26 42.1 -0.2**	
CAF	**Calviac**	**86.61 337**	*e*P	**P**	**18 26 43.8 +0.9**	
	comp=Z,22nm,1.1s,mb5.0					
CAF	**Calviac**	**86.61 337**	*e*P	**P**	**18 26 43.8 +0.9**	
	comp=Z,11nm,1.1s,mb5.0					
CAF	**Calviac**	**86.61 337**	*e*P	**P**	**18 26 43.8 +0.9**	
CAF			pmax	pmax		
	comp=Z,11nm,1.1s,mb5.0					
PGF	**Pioggiola**	**86.61 332**	*e*P	**P**	**18 26 43.4 +0.5**	
	comp=Z,48nm,1.2s,mb5.3					
PGF	**Pioggiola**	**86.61 332**	*e*P	**P**	**18 26 43.4 +0.5**	
	comp=Z,24nm,1.2s,mb5.3					
PGF	**Pioggiola**	**86.61 332**	*e*P	**P**	**18 26 43.4 +0.5**	
PGF			pmax	pmax		
	comp=Z,24nm,1.2s,mb5.3					
LMR	**La Mourre**	**86.74 334**	*e*P	**P**	**18 26 43.4 -0.1**	
	comp=Z,49nm,1.0s,mb5.4					
LMR	**La Mourre**	**86.74 334**	*e*P	**P**	**18 26 43.4 -0.1**	
	comp=Z,25nm,1.0s,mb5.4					
LMR	**La Mourre**	**86.74 334**	*e*P	**P**	**18 26 43.4 -0.1**	
LMR			pmax	pmax		
	comp=Z,25nm,1.0s,mb5.4					
LASF	**Ste Croix**	**86.88 336**	*e*P	**P**	**18 26 44.8 +0.6**	
	comp=Z,22nm,1.2s,mb5.0					
LFF	**La Frestale**	**86.96 338**	*e*P	**P**	**18 26 45.2 +0.6**	
	comp=Z,31nm,1.0s,mb5.2					
LFF	**La Frestale**	**86.96 338**	*e*P	**P**	**18 26 45.2 +0.6**	
	comp=Z,15nm,1.0s,mb5.2					
LFF	**La Frestale**	**86.96 338**	*e*P	**P**	**18 26 45.2 +0.6**	
LFF			pmax	pmax		
	comp=Z,15nm,1.0s,mb5.2					
ETSF	**Etsaut**	**89.21 338**	*e*P	**P**	**18 26 55.9 +0.6**	
BDFB	**Brasilia**	**148.05 33**	PKP2	PKPbc	18 33 43.3 -2.1	
BDFB			pmax	pmax		
	comp=Z,3.0nm,0.7s					
BDFB	**Brasilia**	**148.05 33**	PKPbc	PKPbc	18 33 43.3 -2.1	
	comp=Z,2.5nm,0.7s,baz=177,slow=11,SNR=3.3					
SNAA	**Sanae**	**149.27 197**	*e*PKPdf	PKPbc	18 33 50.9 +4.0	
SNAA			*e*		18 33 54.5	
SNAA			*e*		18 33 58.8	
SNAA			*e*		18 34 00.4	
SNAA			*e*		18 34 03.9	
SNAA			*e*		18 34 08.0	
PLCA	**Paso Flores**	**150.68 97**	PKIKP	PKPbc	18 33 50.4 -0.8	
PLCA			pmax	pmax		
	comp=Z,2.0nm,0.7s					
PLCA	**Paso Flores**	**150.68 97**	PKPbc	PKPbc	18 33 50.4 -0.8	
	comp=Z,1.7nm,0.7s,baz=5.7,slow=0.5,SNR=4.2					
VNA2	**Neumayer--Watz**	**150.77 196**	*e*PKPdf	PKPdf	18 33 46.3 +1.4	
VNA2			*e*		18 33 50.6	
VNA2			*e*		18 33 55.9	
VNA2			*e*		18 33 57.2	
VNA2			*e*		18 33 58.6	
VNA2			*e*		18 34 01.8	
VNA2			*e*		18 34 06.1	
VNA2			*e*		18 34 08.3	
VNA2			*e*		18 34 10.1	
VNA2			*e*		18 34 14.0	
VNA2			*e*		18 34 17.4	
VNA2			*e*		18 34 22.0	
VNA2			*e*		18 34 27.2	
VNA2			*e*		18 34 29.8	
VNA2			*e*		18 34 38.8	
VNA2			*e*		18 37 16.8	
VNA3	**Neumayer Olymp**	**150.92 194**	*e*PKPdf	PKPdf	18 33 46.8 +1.7	
VNA3			*e*		18 33 52.4	
VNA3			*e*		18 33 56.6	
VNA3			*e*		18 33 57.8	
VNA3			*e*		18 33 59.3	
VNA3			*e*		18 34 02.6	
VNA3			*e*		18 34 06.2	
VNA3			*e*		18 34 08.6	
VNA3			*e*		18 34 10.5	
VNA3			*e*		18 34 13.2	
VNA3			*e*		18 34 17.7	
VNA3			*e*		18 34 22.8	
VNA3			*e*		18 34 27.4	
VNA3			*e*		18 34 29.9	
VNA3			*e*		18 34 39.0	
VNA3			*e*		18 37 17.4	
VNA1	**Neumayer--Stat**	**151.16 195**	*e*PKPdf	PKPdf	18 33 46.7 +1.2	
VNA1			*e*		18 33 52.0	
VNA1			*e*		18 33 57.9	
VNA1			*e*		18 33 59.6	
VNA1			*e*		18 34 01.8	
VNA1			*e*		18 34 10.9	
VNA1			*e*		18 34 14.5	
VNA1			*e*		18 34 18.0	
VNA1			*e*		18 34 28.3	
VNA1			*e*		18 34 40.3	

NIED ***03*** *18:17:00, 44.30N×149.20E, h17km, Mw4.6 Best double couple: M0:9.80000×10^15 NP1:φs=42.00000°, δ=62.00000°, λ=99.00000°. NP2:φs=203.00000°, δ=30.00000°, λ=73.00000°.*

SKHL ***03*** *18:17:21.4±0.9, 43.90N×149.50E, h30km±16km, mb5.1/5, ms4.4/3, msh5.9/1*

ISCJB ***03*** *18:17:25.2±0.9, 44.05N±0.04×149.18E±0.04, h22km±6km, mb4.8/124, MS4.4/12, Error ellipse: s-maj=7.0km s-min=3.5km az=154.9*

BJI ***03*** *18:17:27.3, 44.25N×149.06E, h30km, mB5.0, mb4.9, Ms4.6, Msz4.4*

MOS ***03*** *18:17:27.6±0.7, 44.23N×149.20E, h41km, mb5.2/70, MS4.1/9, Error ellipse: s-maj=8.6km s-min=6.5km az=115.5*

JMA ***03*** *18:17:27.1±0.4, 44.26N×149.24E, h30km, M4.7*

NEIC ***03*** *18:17:29.1±0.3, 44.19N×149.11E, mb4.9/74, Error ellipse: s-maj=7.8km s-min=4.3km az=151.0*

SZGRF ***03*** *18:17:32.0, 44.59N×149.73E, h38km, mb4.9, Kuril Islands, Russia*

IDC ***03*** *18:17:32.5±3.5, 44.18N×149.11E, h66km±31km, mb4.2/22, mb1 4.4/24, mb1mx4.3/28, mbtmp4.2/24, ML3.8/2, MS3.7/1, Ms1 3.7/1, ms1mx3.1/34, Error ellipse: s-maj=18.4km s-min=14.4km az=155.0*

ISC 03 18:17:27.7±0.9, 4408N±004×14918E±003, h27km±6km, h38km±1.2km: pP-P, n391, σ1°09/418, mb4.8/124, MS4.4/12, 44C-12D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.49**	**321**	*e*PN	**Pn**	**18 17 50.5**	**-2.1**
KUR				*i* S	**Sn**	**18 18 13.0**	**+1.8**
KUR				pmax	pmax		
	comp=N,190nm,0.5s						
KUR				pmax	pmax		
	comp=E,460nm,0.5s						
KUR				pmax	pmax		
	comp=Z,2μm,0.5s						
KUR				pmax	pmax		
	comp=N,12μm,1.0s						
KUR				pmax	pmax		
	comp=E,10μm,1.0s						
KUR				pmax	pmax		
	comp=Z,12μm,1.0s						
KUR				smax			
	comp=N,12μm,1.0s						
KUR				smax			
	comp=E,5μm,1.0s						
KUR				smax			
	comp=N,30μm,2.0s						
KUR				smax			
	comp=E,8μm,2.0s						
KUR	**Kuril'sk**	**1.49**	**321**	*e*P	**Pn**	**18 17 50.5**	**-2.1**
KUR				AMB	AMB	18 17 51.0	
KUR				AMB	AMB	18 17 51.0	
	comp=E,190nm,0.5s						
KUR				AMB	AMB	18 17 51.0	
	comp=E,456nm,0.5s						
KUR				AMB	AMB	18 17 51.0	
	comp=E,2μm,0.5s						
KUR				AMB	AMB	18 17 52.0	
	comp=E,12μm,1.0s						
KUR				AMB	AMB	18 17 52.0	
	comp=E,10μm,1.0s						
KUR				AMB	AMB	18 17 52.0	
	comp=E,12μm,1.0s						
KUR				*e*S	**Sn**	**18 18 13.0**	**+1.8**
KUR				A		18 18 26.0	
	comp=E,12μm,1.0s						
KUR				A		18 18 26.0	
	comp=E,5μm,1.0s						
KUR				A		18 18 40.0	
	comp=E,30μm,2.0s						
KUR				A		18 18 40.0	
	comp=E,8μm,2.0s						
YUK	**Yuzh-Kuril'sk**	**2.39**	**270⇓**	*i*PN	**Pn**	**18 18 05.0**	**-0.1**
YUK				*e*S	**Sn**	**18 18 37.0**	**+3.5**
YUK				pmax	pmax		
	comp=N,190nm,0.5s						
YUK				pmax	pmax		
	comp=Z,380nm,0.5s						
YUK				pmax	pmax		
	comp=N,2μm,1.0s						
YUK				pmax	pmax		
	comp=Z,5μm,1.0s						
YUK				pmax	pmax		
	comp=E,5μm,2.0s						
YUK				smax			
	comp=N,2μm,0.4s						
YUK				smax			
	comp=E,1μm,0.5s						
YUK				smax			
	comp=N,10μm,1.0s						
YUK				smax			
	comp=E,6μm,2.0s						
YUK				MLR	MLR		
	comp=E,16μm,11.0s						
YUK				MLR	MLR		
	comp=Z,10μm,11.0s						
YUK	**Yuzh-Kuril'sk**	**2.39**	**270⇓**	*i*P	**Pn**	**18 18 05.0**	**-0.1**
YUK				AMB	AMB	18 18 05.1	
	comp=Z,190nm,0.5s						
YUK				AMB	AMB	18 18 05.1	
	comp=Z,380nm,0.5s						
YUK				AMB	AMB	18 18 24.5	
	comp=Z,2μm,1.0s						
YUK				AMB	AMB	18 18 24.5	
	comp=Z,5μm,2.0s						
YUK				AMB	AMB	18 18 24.5	
	comp=Z,5μm,1.0s						
YUK				*e*S	**Sn**	**18 18 37.0**	**+3.5**
YUK				A		18 18 46.5	
	comp=Z,1μm,0.5s						
YUK				A		18 18 46.5	
	comp=Z,2μm,0.4s						
YUK				A		18 18 51.9	
	comp=Z,6μm,2.0s						
YUK				A		18 18 51.9	
	comp=Z,10μm,1.0s						
YUK				AMS	AMS	18 19 46.0	
	comp=Z,16μm,11.0s						
YUK				AMS	AMS	18 19 46.0	
	comp=Z,10μm,11.0s						
NEM2	**Nemuro 2**	**2.59**	**255**	P	**Pn**	**18 18 07.3**	**-0.5**
NEM2				*e*S	**Sn**	**18 18 36.2**	**-2.1**
JRA	**Rausu**	**2.93**	**269**	P	**Pn**	**18 18 13.7**	**+1.2**
JRA				*e*S	**Sn**	**18 18 49.5**	**+2.8**
JNK	**Nakash**	**3.27**	**263**	P	**Pn**	**18 18 17.3**	**+0.2**
JAK	**Akkeshi**	**3.43**	**253**	P	**Pn**	**18 18 19.2**	**-0.2**
JAK				*e*S	**Sn**	**18 18 57.9**	**-1.2**
JTKR	**Abashiri--Toko**	**3.80**	**270**	P	**Pn**	**18 18 25.8**	**+1.3**
JAR	**Ashorobuto**	**4.00**	**261**	P	**Pn**	**18 18 28.1**	**+0.9**
JAR				*e*S	**Sn**	**18 19 14.1**	**+1.0**
JOB	**Onbets**	**4.06**	**255**	P	**Pn**	**18 18 28.8**	**+0.8**
JOB				*e*S	**Sn**	**18 19 14.6**	**0.0**
JMP	**Maruseppu**	**4.20**	**271**	P	**Pn**	**18 18 31.4**	**+1.5**
JCH	**Churui**	**4.49**	**253**	P	**Pn**	**18 18 34.3**	**+0.4**
JCH				*e*S	**Sn**	**18 19 24.2**	**-0.9**
JKK2	**Kamakawa 2**	**4.65**	**270**	P	**Pn**	**18 18 37.4**	**+1.4**
ASAJ	**Asahikawa**	**4.74**	**273**	P	**Pn**	**18 18 40.0**	**+2.7**
ASAJ	**Asahikawa**	**4.74**	**273**	PN	**Pn**	**18 18 40.1**	**+2.8**
ASAJ				pmax	pmax		
	comp=Z,5.0nm,0.3s						
ASAJ	**Asahikawa**	**4.74**	**273**	P	**Pn**	**18 18 40.0**	**+2.7**
	comp=Z,5.1nm,0.3s,baz=90,slow=16,SNR=13						
JSE	**Soyaes**	**4.80**	**283**	P	**Pn**	**18 18 39.6**	**+1.5**
JFR	**Furan**	**4.87**	**261**	P	**Pn**	**18 18 40.3**	**+1.2**
JEM	**Erimo**	**4.87**	**247**	P	**Pn**	**18 18 40.6**	**+1.5**
ERM	**Erimo**	**4.87**	**247⇓**	*e*Pn	**Pn**	**18 18 39.9**	**+0.7**
ERM	**Erimo**	**4.87**	**247**	*i* PN	**Pn**	**18 18 40.6**	**+1.5**
JNBK	**Urakawa-nobuka**	**5.03**	**251**	P	**Pn**	**18 18 41.8**	**+0.5**
JNBK				*e*S	**Sn**	**18 19 36.6**	**-1.9**
JAB	**Ashibetsu**	**5.07**	**266**	P	**Pn**	**18 18 44.7**	**+2.9**
JBT2	**Biratori 2**	**5.13**	**258**	P	**Pn**	**18 18 43.3**	**+0.6**
JWK2	**Keihoku**	**5.34**	**286**	P	**Pn**	**18 18 49.4**	**+3.9**
YSS	**Yuzh-Sakhalins**	**5.35**	**305**	*e*Pn	**Pn**	**18 18 45.0**	**-0.8**
YSS	**Yuzh-Sakhalins**	**5.35**	**305**	*e*PN	**Pn**	**18 18 48.0**	**+2.3**
YSS				*e*S	**Sn**	**18 19 46.0**	**-0.4**
YSS				smax			
	comp=E,80nm,0.9s						
YSS				MLR	MLR		
	comp=Z,2μm,17.0s						
YSS				MLR	MLR		
	comp=N,1μm,16.0s						
YSS				MLR	MLR		
	comp=E,2μm,16.0s						
YSS	**Yuzh-Sakhalins**	**5.35**	**305**	*e*P	**Pn**	**18 18 48.0**	**+2.3**
YSS				A		18 19 52.0	
	comp=E,80nm,0.9s						
YSS				*e*LR	LR	18 20 35.0	
YSS				AMS	AMS	18 21 08.0	
	comp=E,1μm,16.0s						
YSS				AMS	AMS	18 21 08.0	
	comp=E,2μm,16.0s						
YSS				AMS	AMS	18 21 08.0	
	comp=E,2μm,17.0s						
JEW	**Eniwo**	**5.76**	**260**	P	**Pn**	**18 18 53.6**	**+2.3**
JNB	**Noboribetsu**	**6.16**	**258**	P	**Pn**	**18 18 57.5**	**+0.7**
JNB				*e*S	**Sn**	**18 20 05.4**	**-0.8**
JSK	**Shakotan**	**6.35**	**266**	P	**Pn**	**18 19 02.0**	**+2.6**
JKB	**Kayabe**	**6.36**	**253**	P	**Pn**	**18 18 59.6**	**0.0**
JKB				*e*S	**Sn**	**18 20 08.4**	**-2.9**
JYM2	**Yakumo 2**	**6.74**	**256**	P	**Pn**	**18 19 05.4**	**+0.6**
JYM2				*e*S	**Sn**	**18 20 18.7**	**-1.9**
JANG	**Nango**	**6.79**	**240**	P	**Pn**	**18 19 03.6**	**-1.8**
JANG				*e*S	**Sn**	**18 20 15.3**	**-6.4**
JSH	**Shimam**	**6.81**	**261**	P	**Pn**	**18 19 07.1**	**+1.3**
JSH				*e*S	**Sn**	**18 20 25.7**	**+3.4**
JTH	**Tanohata**	**6.84**	**235**	P	**Pn**	**18 19 03.7**	**-2.4**
JTH				*e*S	**Sn**	**18 20 14.5**	**-8.5**
JTM	**Tenmabayashi**	**6.84**	**244**	P	**Pn**	**18 19 05.5**	**-0.7**
JTM				*e*S	**Sn**	**18 20 18.7**	**-4.4**
JSR	**Shiriuchi**	**6.93**	**251**	P	**Pn**	**18 19 07.8**	**+0.4**
JSR				*e*S	**Sn**	**18 20 22.1**	**-3.1**
UGL	**Uglegorsk**	**7.00**	**318**	*e*P	**Pn**	**18 19 10.0**	**+1.6**
UGL				AMB	AMB	18 19 14.0	
	comp=E,57nm,0.9s						
UGL				AMS	AMS	18 22 18.0	
	comp=E,3μm,16.0s						
UGL				AMS	AMS	18 22 18.0	
	comp=E,2μm,16.0s						
UGL				AMS	AMS	18 22 18.0	
	comp=E,2μm,16.0s						
JOSM	**Okushiri--Mats**	**7.38**	**258**	P	**Pn**	**18 19 14.2**	**+0.6**
JOSM				*e*S	**Sn**	**18 20 35.4**	**-0.9**
OFUJ	**Ofunato**	**7.52**	**231**	P	**Pn**	**18 19 13.5**	**-2.0**
OFUJ				*e*S	**Sn**	**18 20 31.4**	**-8.5**
JRG	**Rokugo**	**7.92**	**237**	P	**Pn**	**18 19 20.6**	**-0.3**
JRG				*e*S	**Sn**	**18 20 43.7**	**-5.8**
SKR	**Severo-Kuril's**	**8.11**	**33**	*e*P	**Pn**	**18 19 23.0**	**-0.6**
SKR				AMB	AMB	18 19 23.9	
	comp=E,80nm,0.5s						
SKR				A		18 20 50.0	
	comp=E,90nm,0.5s						
SKR				A		18 20 50.0	
	comp=E,50nm,0.5s						
SKR				AMS	AMS	18 22 14.0	
	comp=E,3μm,16.0s						
SKR				AMS	AMS	18 22 14.0	
	comp=E,3μm,16.0s						
SKR				AMS	AMS	18 22 14.0	
	comp=E,6μm,16.0s						
JIO	**Ouri**	**8.14**	**229**	P	**Pn**	**18 19 22.3**	**-1.7**
JIO				*e*S	**Sn**	**18 20 46.4**	**-8.7**
JYA	**Atsumi**	**8.98**	**236**	P	**Pn**	**18 19 34.7**	**-0.8**
JFK	**Kawauchi**	**9.20**	**226**	P	**Pn**	**18 19 36.5**	**-2.0**
JFK				*e*S	**Sn**	**18 21 11.4**	**-10**
NKL	**Nikolayevsk**	**10.68**	**331**	*e*P	**Pn**	**18 19 55.5**	**-3.1**
NKL				AMB	AMB	18 20 02.0	
	comp=E,22nm,1.0s						
NKL				AMB	AMB	18 20 02.0	
	comp=E,26nm,1.0s						
NKL				AMS	AMS	18 24 34.0	
	comp=E,1μm,16.0s						
NKL				AMS	AMS	18 24 34.0	
	comp=E,900nm,16.0s						
HABR	**Khabarovsk**	**10.72**	**299**	*e*PN	**Pn**	**18 19 56.5**	**-2.8**
MJAR	**Matsushiro Arr**	**11.25**	**232**	PN	**Pn**	**18 20 05.3**	**-1.3**
MJAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MJAR	**Matsushiro Arr**	**11.25**	**232**	P	**Pn**	**18 20 05.3**	**-1.4**
	comp=Z,0.5nm,0.3s,baz=29,slow=14,SNR=4.6						
MAJO	**Matsushiro**	**11.25**	**232**	*e*Pn	**Pn**	**18 20 05.3**	**-1.3**
MAT	**Matsushiro**	**11.25**	**232**	P	**Pn**	**18 20 05.7**	**-1.0**
MAT				S	**Sn**	**18 22 18.0**	**+6.6**
VLA	**Vladivostok**	**12.57**	**272**	PN	**Pn**	**18 20 32.0**	**+7.3**
VLA				pmax	pmax		
	comp=Z,50nm,1.6s						
VLA				MLR	MLR		
	comp=Z,1μm,20.0s						
KLR	**Kul'dur**	**13.03**	**299**	*e*PN	**Pn**	**18 20 31.2**	**+0.4**
MDJ	**Mudanjiang**	**14.03**	**279**	P	**Pn**	**18 20 41.9**	**-2.6**
MDJ				AMB	AMB		
	comp=Z,7.0nm,1.1s						
MDJ				AMB	AMB		
	comp=Z,258nm,8.3s						
MDJ	**Mudanjiang**	**14.03**	**279**	*e*Pn	**Pn**	**18 20 42.8**	**-1.7**
	comp=Z,18nm,0.9s						
MA2	**Magadan**	**15.55**	**3**	P	**Pn**	**18 21 03.1**	**-1.7**
	comp=Z,20nm,1.0s						
MA2	**Magadan**	**15.55**	**3**	P	**Pn**	**18 21 03.1**	**-1.7**
MA2				pmax	pmax		
	comp=Z,20nm,1.0s						
CN2	**Changchun**	**17.09**	**277**	*e*P	**Pn**	**18 21 22.1**	**-2.4**
CN2				*e*S	**Sn**	**18 24 28.8**	**-4.7**
CN2				AMB	AMB		
	comp=Z,30nm,1.0s						
CN2				AMB	AMB		
	comp=Z,200nm,4.0s						
CN2				LR	LR		
	comp=N,900nm,18.0s						
CN2				LR	LR		
	comp=E,800nm,18.0s						
CN2				LR	LR		
	comp=Z,1μm,18.0s						
ZEA	**Zeya**	**17.29**	**312**	*e*P	**Pn**	**18 21 24.3**	**-2.6**
ZEA				AMB	AMB	18 21 26.0	
	comp=Z,16nm,0.9s						
ZEA				AMB	AMB	18 21 26.0	
	comp=Z,18nm,1.0s						
ZEA				AMB	AMB	18 21 26.0	
	comp=Z,29nm,1.0s						
ZEA				AMS	AMS	18 25 31.0	
	comp=Z,500nm,15.0s						
ZEA				AMS	AMS	18 25 31.0	
	comp=Z,700nm,16.0s						
ZEA				AMS	AMS	18 25 31.0	
	comp=Z,900nm,15.0s						
KSRS	**Korea Array**	**17.39**	**255**	P	**Pn**	**18 21 25.8**	**-2.4**
	comp=Z,0.1nm,0.3s,baz=66,slow=14,SNR=4.0						
JNU	**Nakatsue**	**17.97**	**239**	P	**Pn**	**18 21 38.5**	**+3.1**
	comp=Z,0.2nm,0.3s,baz=27,slow=24,SNR=3.4						
INCN	**Inchon**	**18.27**	**257**	P	**Pn**	**18 21 41.1**	**+1.9**
	comp=Z,26nm,0.8s						
SNY	**Shenyang**	**18.86**	**272**	⇑P	**Pn**	**18 21 45.7**	**-0.5**
SNY				AMB	AMB		
	comp=Z,28nm,1.1s						
SNY				AMB	AMB		
	comp=Z,236nm,5.9s						
SNY				LR	LR		
	comp=N,681nm,15.9s						
SNY				LR	LR		
	comp=E,876nm,13.7s						
SNY				LR	LR		
	comp=Z,1μm,15.9s						
SEY	**Seymchan**	**18.98**	**5⇑**	*e*P	**Pn**	**18 21 45.3**	**-2.3**
HIA	**Hailar**	**20.78**	**295**	*e*P	**P**	**18 22 03.8**	**-2.6**
HIA	**Hailar**	**20.78**	**295**	*i* P	**P**	**18 22 06.9**	**+0.5**
YAK	**Yakutsk**	**21.31**	**334**	*e*P	**P**	**18 22 08.2**	**-3.8**
	comp=Z,51nm,0.6s,mb5.0						

BJT *e* 18 22 58.7
BJT Baijiatuau 24.75 272 *e*P **P 18 22 46.1 -0.7**
BJT *e* 18 22 58.7
BJT pmax pmax
comp=Z,48nm,1.3s
TIA Tai'an 25.61 263 *e*P **P 18 22 55.7 +1.0**
TIA AMB AMB
comp=Z,21nm,0.9s,mb4.7
BILL Bilibino 25.66 15 *e*P **P 18 22 50.6 -4.1**
BILL Bilibino 25.66 15⇑ *e*P **P 18 22 58.0 +3.3**
BILL *e* 18 23 33.9
BILL *e*S **S 18 27 18.0 -3.1**
BILL pmax pmax
comp=Z,9.0nm,1.2s,mb4.2
BILL MLR MLR
comp=Z,700nm,19.0s,MS4.2
BOD Bodaibo 25.73 315 *e*P **P 18 22 50.4 -5.1**
BOD pmax pmax
comp=Z,8.0nm,1.0s,mb4.2
NJ2 Nanjing 26.57 253 *e*P **P 18 23 02.5 -0.9**
NJ2 AMB AMB
comp=Z,30nm,0.5s,mb5.1
HHC Hu-ho-hao-te 27.78 277 *e*P **P 18 23 16.9 +2.8**
HHC PP 18 24 05.2
HHC S **S 18 28 01.4 +6.3**
HHC PCS PcS 18 30 14.5 +2.7
HHC AMB AMB
comp=Z,32nm,0.8s,mb5.0
HHC AMB AMB
comp=Z,136nm,5.7s
HHC LR LR
comp=N,534nm,12.9s,MS4.4
HHC LR LR
comp=E,580nm,16.3s,MS4.4
HHC LR LR
comp=Z,700nm,17.6s,MS4.3
BTO Baotou 28.97 277 *e*P **P 18 23 29.2 +4.5**
ULN Ulaanbaatar 29.26 292⇑ *i*P **P 18 23 27.2 0.0**
comp=Z,11nm,0.8s,mb4.6
ULN Ulaanbaatar 29.26 292 *d i*P **P 18 23 27.8 +0.6**
SONM Songino Array 29.70 293 P **P 18 23 31.6 +0.5**
SONM pmax pmax
comp=Z,8.0nm,0.9s
SONM Songino Array 29.70 293 P **P 18 23 31.6 +0.5**
comp=Z,7.6nm,0.8s,mb4.5,baz=80,slow=8.6,SNR=18
GUMO Guam 30.61 188 LR LR 18 35 26.3
comp=Z,134nm,19.1s,MS3.6,baz=8.9,slow=35
TLY Talaya 31.04 300 P **P 18 23 42.2 -0.8**
comp=Z,10nm,1.1s,mb4.6
TLY Talaya 31.04 300 *e*P **P 18 23 43.1 +0.1**
TLY pmax pmax
comp=Z,9.0nm,1.6s,mb4.3
ZAK Zakamensk 31.39 298 *e*P **P 18 23 45.5 -0.5**
XAN Xi'an 32.55 266 P **P 18 23 56.2 -0.1**
XAN AMB AMB
comp=Z,8.0nm,1.5s,mb4.4
MOY Mondy 32.69 301 *e*P **P 18 23 56.6 -0.8**
LZH Lanzhou 35.23 273 ⇑P **P 18 24 20.5 +0.9**
LZH AMB AMB
comp=Z,91nm,1.0s,mb5.7
LZH AMB AMB
comp=Z,396nm,4.5s
LZH LR LR
comp=N,556nm,15.2s
LZH LR LR
comp=Z,897nm,16.3s,MS4.6
LZH Lanzhou 35.23 273 ⇑P **P 18 24 20.5 +0.9**
comp=Z,91nm,1.0s,mb5.7
LZH pP pP 18 24 23.7 -4.0
LZH sP sP 18 24 25.0 -6.1
LZH LR LR
comp=Z,900nm,16.3s,MS4.6
TTA Tatalina 36.25 39 *e*P **P 18 24 28.0 -0.1**
comp=Z,24nm,1.5s,mb4.9
TTA Tatalina 36.25 39 *e*P **P 18 24 28.0 -0.1**
TTA pmax pmax
comp=Z,24nm,1.5s,mb4.9
GTA Gaotai 36.68 280 P **P 18 24 33.1 +1.1**
GTA AP pP 18 24 36.7 -3.5
GTA PP PP 18 25 58.5 +2.8
GTA PCP PcP 18 26 56.0 +1.7
GTA S **S 18 30 16.7 +3.1**
GTA SS SS 18 32 43.5 -11
GTA SCS ScS 18 34 47.1 +1.4
GTA AMB AMB
comp=Z,19nm,1.0s,mb4.9
GTA AMB AMB
comp=Z,219nm,6.1s
GTA LR LR
comp=N,291nm,15.6s,MS4.4
GTA LR LR
comp=E,398nm,14.4s,MS4.4
GTA LR LR
comp=Z,664nm,15.2s,MS4.5
IMA2 Indian Mountai 37.59 34 *e*P **P 18 24 39.1 -0.3**
CD2 Chengdu 37.90 265 P **P 18 24 44.6 +2.2**
CD2 PP PP 18 26 13.1 +4.0
CD2 S **S 18 30 35.4 +3.2**
CD2 SS SS 18 33 08.4 -11
CD2 AMB AMB
comp=Z,60nm,0.6s,mb5.5
CD2 AMB AMB
comp=Z,100nm,5.6s
CD2 LR LR
comp=N,210nm,12.6s
CD2 LR LR
comp=Z,160nm,13.8s,MS4.0
GYA Guiyang 38.42 257⇓ *i*P **P 18 24 49.2 +2.3**
GYA PP PP 18 26 20.4 +5.4
GYA PCP PcP 18 27 04.3 +4.4
GYA S **S 18 30 44.5 +4.3**
GYA SS SS 18 33 21.8 -7.8
GYA AMB AMB
comp=Z,20nm,0.9s,mb4.8
GYA AMB AMB
comp=Z,120nm,5.6s
GYA LR LR
comp=N,490nm,16.4s,MS4.5
GYA LR LR
comp=E,460nm,17.2s,MS4.5
GYA LR LR
comp=Z,470nm,16.5s,MS4.4
MCK McKinley 39.47 38 *e*P **P 18 24 54.6 -0.6**
comp=Z,9.0nm,1.0s,mb4.5
MCK McKinley 39.47 38 *e*P **P 18 24 54.6 -0.6**
MCK pmax pmax
comp=Z,9.0nm,1.0s,mb4.5
SML Sawmill 39.81 41 *e*P **P 18 24 57.4 -0.6**
COLA College 39.94 36 *e*P **P 18 24 58.1 -1.0**
comp=Z,12nm,0.8s,mb4.7
COLA College 39.94 36 *e*P **P 18 24 58.1 -1.0**
COLA pmax pmax
comp=Z,12nm,0.8s,mb4.7
ZALV Zalesovo Beam 41.97 307 P **P 18 25 14.7 -1.3**
ZALV PcP PcP 18 27 10.8 0.0
ZALV Zalesovo Beam 41.97 307 P **P 18 25 14.7 -1.3**
comp=Z,1.8nm,0.5s,mb4.0,baz=84,slow=7.0,SNR=6.0
ZALV PcP PcP 18 27 10.8 0.0
comp=Z,4.9nm,0.8s,baz=78,slow=3.1,SNR=12
ZAL Zalesovo 41.99 307 P **P 18 25 14.7 -1.4**
ZAL 18 27 10.8
KMI Kunming 42.02 259 P **P 18 25 17.4 +0.7**
KMI PP PP 18 26 57.4 +3.3
KMI S **S 18 31 34.9 +0.9**
KMI SS SS 18 34 40.2 -1.3
KMI AMB AMB
comp=Z,11nm,1.1s,mb4.4
KMI AMB AMB
comp=Z,79nm,4.1s
KMI LR LR
comp=N,425nm,15.2s,MS4.5
KMI LR LR
comp=E,247nm,17.4s,MS4.5
KMI LR LR
comp=Z,362nm,16.5s,MS4.3
KMI Kunming 42.02 259 P **P 18 25 17.4 +0.7**
comp=Z,11nm,1.1s,mb4.4
KMI pP pP 18 25 21.0 -4.0
KMI sP sP 18 25 23.9 -4.4
KMI PP PP 18 26 57.4 +3.3
KMI PPP 18 27 28.6
KMI S **S 18 31 34.9 +0.9**
KMI SS SS 18 34 40.2 -1.3
KMI SSS 18 35 19.7
KMI LR LR
comp=Z,360nm,16.5s,MS4.3
KMI Kunming 42.02 259 P **P 18 25 17.4 +0.7**
KMI 18 26 57.4
KMI PPP 18 27 28.6
KMI S **S 18 31 34.9 +0.9**
KMI SS SS 18 34 40.2 -1.3
KMI SSS 18 35 19.7
KMI pmax pmax
comp=Z,11nm,1.1s,mb4.4
KMI MLR MLR
comp=Z,360nm,16.5s,MS4.3
NVS Novosibirsk 42.66 309 *i* P **P 18 25 25.0 +3.4**
NVS *e*S **S 18 31 42.0 -0.8**
NVS pmax pmax
comp=Z,19nm,2.5s,mb4.4
NVS pmax pmax
comp=E,6.0nm,1.4s
NVS smax
comp=N,14nm,2.0s
NVS smax
comp=E,12nm,2.4s
EGAK Eagle 42.81 36 *e*P **P 18 25 21.6 -1.0**
comp=E,21nm,1.3s,mb4.7
WMQ Urumqi 43.34 292⇑ *i*P **P 18 25 28.0 +0.8**
WMQ PP PP 18 27 10.0 +2.0
WMQ *e*S **S 18 31 54.0 +1.0**
WMQ AMB AMB
comp=Z,34nm,1.0s,mb5.0
WMQ AMB AMB
comp=Z,246nm,4.6s
WMQ LR LR
comp=N,941nm,17.9s,MS4.9
WMQ LR LR
comp=E,616nm,14.0s,MS4.9
WMQ LR LR
comp=Z,986nm,17.9s,MS4.8
INK Inuvik 45.38 31 *e*P **P 18 25 43.4 +0.2**
comp=Z,455nm,1.1s,mb6.2
INK Inuvik 45.38 31 P **P 18 25 43.7 +0.5**
INK pmax pmax
comp=Z,8.0nm,0.9s
INK Inuvik 45.38 31 P **P 18 25 43.7 +0.5**
comp=Z,7.8nm,0.9s,mb4.5,baz=291,slow=7.1,SNR=8.9
MK31 Makanchi Array 45.73 298⇑ *i*P **P 18 25 45.6 -0.6**
MKAR Makanchi Array 45.73 298 P **P 18 25 46.3 0.0**
MKAR pmax pmax
comp=Z,18nm,0.8s
MKAR Makanchi Array 45.73 298 P **P 18 25 46.3 0.0**
comp=Z,18nm,0.8s,mb5.0,baz=74,slow=9.0,SNR=33
KURK Kurchatov 46.56 304 *e*P **P 18 25 50.9 -1.9**
comp=Z,20nm,0.9s,mb5.0
KURK Kurchatov 46.56 304⇑ *e*P **P 18 25 51.3 -1.4**
KKM Kota Kinabalu 47.63 227 P **P 18 26 05.9 +4.5**
LSA Lhasa 47.64 273 P **P 18 26 03.2 +1.7**
LSA AMB AMB
comp=Z,30nm,1.0s,mb5.3
LSA LR LR
comp=N,120nm,15.0s,MS4.3
LSA LR LR
comp=E,250nm,17.0s,MS4.3
LSA LR LR
comp=Z,290nm,20.0s,MS4.2
LSA Lhasa 47.64 273 *e*P **P 18 26 02.7 +1.3**
comp=Z,9.2nm,0.9s,mb4.8
LSA Lhasa 47.64 273 *e*P **P 18 26 02.7 +1.2**
LSA pmax pmax
comp=Z,9.0nm,0.9s,mb4.8
CHTO Chiang Mai 48.78 255 *e*P **P 18 26 10.3 0.0**
comp=Z,25nm,1.0s,mb5.2
CHTO *e* 18 26 24.8
CHTO Chiang Mai 48.78 255 *e*P **P 18 26 10.4 0.0**
CHTO *e* 18 26 24.8
CHTO pmax pmax
comp=Z,25nm,1.0s,mb5.2
DLBC Dease Lake 49.44 43 P **P 18 26 16.4 +1.5**
BRVK Borovoye 50.47 310 *e*P **P 18 26 22.5 -0.3**
comp=Z,3.3nm,0.8s,mb4.4
BRVK *e*pP pP 18 26 33.1 +1.9
BRVK Borovoye 50.47 310 *e*P **P 18 26 22.5 -0.3**
BRVK *e**PP pP 18 26 33.1 +1.9
BRVK pmax pmax
comp=Z,3.0nm,0.8s,mb4.4
ULHL Ulahol 51.59 295 P **P 18 26 32.2 +0.9**
SNR=6.2
TKM2 Tokmak 2 51.69 296 *e*P **P 18 26 32.2 +0.2**
comp=Z,28nm,0.9s,mb5.2
TKM2 Tokmak 2 51.69 296 *e*P **P 18 26 32.2 +0.1**
TKM2 pmax pmax
comp=Z,28nm,0.9s,mb5.2
TKM2 Tokmak 2 51.69 296 P **P 18 26 33.0 +0.9**
SNR=20
USP Ospenovka 52.23 297 P **P 18 26 36.6 +0.5**
SNR=24
KBK Karagaybulak 52.23 296 P **P 18 26 36.8 +0.7**
SNR=27
KZA Kyzart 52.31 295 P **P 18 26 38.8 +2.0**
SNR=15
JIRN Jiri 52.38 274 *e*P **P 18 26 38.3 +0.9**
comp=Z,36nm,1.0s,mb5.2
AAK Ala-Archa 52.54 296 P **P 18 26 38.8 +0.4**
SNR=14
UCH Uchtor 52.72 296 *e*P **P 18 26 40.4 +0.7**
comp=Z,6.0nm,0.9s,mb4.5
KKN Kakani 52.96 275 *e*P **P 18 26 42.2 +0.5**
comp=Z,51nm,0.9s,mb5.4
EKS2 Erkin-Say 52.98 297 *e*P **P 18 26 41.9 +0.2**
comp=Z,26nm,0.9s,mb5.2
EKS2 Erkin-Say 52.98 297 P **P 18 26 42.2 +0.5**
SNR=27
GKN Gorkha 53.30 275 *e*P **P 18 26 44.2 0.0**
comp=Z,65nm,1.0s,mb5.5
AML Almayashu 53.30 296 *e*P **P 18 26 44.8 +0.8**
comp=Z,17nm,0.9s,mb5.0
AML Almayashu 53.30 296 P **P 18 26 45.0 +1.0**
SNR=14
KOLN Koldanda 54.17 276 *e*P **P 18 26 51.3 +0.7**
comp=Z,62nm,1.0s,mb5.5
RES Resolute Bay 54.23 17 *e*P **P 18 26 49.0 -1.4**
comp=Z,211nm,0.8s,mb6.1
YKA Yellowknife Ar 54.71 34 P **P 18 26 54.0 0.0**
YKA Yellowknife Ar 54.71 34 *i* P **P 18 26 54.0 0.0**
YKA pmax pmax
comp=Z,2.0nm,0.7s
YKA Yellowknife Ar 54.71 34 P **P 18 26 54.0 0.0**
comp=Z,2.3nm,0.7s,mb4.3,baz=298,slow=6.8,SNR=12
KK31 Karatay Array 54.85 299 *i* P **P 18 26 55.2 -0.1**
KK31 pmax pmax
comp=Z,11nm,0.5s,mb5.1
ARU Arti 55.11 317 *d i*P **P 18 26 56.5 -0.5**
ARU *e* 18 27 53.0
ARU *e*S **S 18 34 37.8 +0.2**
ARU *e*SS SS 18 38 21.9 +0.9
ARU pmax pmax
comp=Z,13nm,1.2s,mb4.8
LGTI Lohaghat 55.59 279 *e*P **P 18 27 02.0 +1.1**
THN Thein Dam 57.08 285 *e*P **P 18 27 10.9 -0.5**
KULM Kulim 57.40 242 *e*P **P 18 27 13.9 0.0**
KULM *e* 18 27 25.2
NDI New Delhi 58.19 281 *e*P **P 18 27 18.0 -1.3**
BLSP Bilaspur 58.65 271 *e*P **P 18 27 22.1 -0.5**
BLSP AMb AMB 18 27 23.0
comp=Z,10nm,0.6s,mb5.0
TMCR Tamitsa 59.39 332 *e*P **P 18 27 23.9 -3.2**
TMCR pmax pmax
comp=Z,16nm,0.4s,mb5.4
ARCES ARCESS Array B 59.45 340 P **P 18 27 27.3 -0.1**
ARCES pmax pmax
comp=Z,5.0nm,1.0s
ARCES ARCESS Array B 59.45 340 P **P 18 27 27.3 -0.1**
comp=Z,5.3nm,1.0s,mb4.5,baz=51,slow=6.4,SNR=7.2
EDM Edmonton 60.16 43 *e*P **P 18 27 31.0 -1.6**
AJM Ajmer 61.34 280 *e*P **P 18 27 40.0 -1.0**
AJM AMb AMB 18 27 42.3
comp=Z,25nm,1.4s,mb5.2
BHPL Bhopal 61.34 275 *e*P **P 18 27 41.0 -0.1**
BHPL AMb AMB 18 27 41.7
comp=Z,20nm,1.2s,mb5.1
JOF Joensuu 62.48 333 *e*p **P 18 27 46.2 -1.9**
comp=Z,7.1nm,0.4s,mb5.2
JOF Joensuu 62.48 333 *e*P **P 18 27 46.2 -1.9**
JOF pmax pmax
comp=Z,7.0nm,0.4s,mb5.1
MSO Missoula 63.60 50 *e*P **P 18 27 57.3 +1.6**
comp=Z,14nm,1.2s,mb4.9
HYB Hyderabad 64.25 270 *e*P **P 18 28 00.5 0.0**
HYB Hyderabad 64.25 270 *i* P **P 18 28 00.5 0.0**
FFC Flin Flon 64.56 37 *e*P **P 18 28 01.7 -0.3**
comp=Z,5.9nm,0.8s,mb4.7
FFC Flin Flon 64.56 37 *e*P **P 18 28 01.7 -0.2**
FFC pmax pmax
comp=Z,6.0nm,0.8s,mb4.7
KAF Kangasniemi 64.67 334 *e*p **P 18 28 00.5 -2.0**
comp=Z,22nm,0.7s,mb5.3,baz=40,slow=6.2
KAF Kangasniemi 64.67 334 *e*P **P 18 28 00.5 -2.0**
KAF pmax pmax
comp=Z,22nm,0.7s,mb5.3
FCC Fort Churchill 65.00 31 *e*P **P 18 28 03.5 -1.2**
comp=Z,7.2nm,0.9s,mb4.7
FCC Fort Churchill 65.00 31 *e*P **P 18 28 03.5 -1.2**
FCC pmax pmax
comp=Z,7.0nm,0.9s,mb4.7
EGMT Eagleton 65.11 47 *e*P **P 18 28 05.9 +0.3**
comp=Z,7.3nm,0.9s,mb4.7
WRA Warramunga Arr 65.14 195 *i* P **P 18 28 07.6 +1.6**
WRA pmax pmax
comp=Z,2.0nm,0.8s
WRA Warramunga Arr 65.14 195 P **P 18 28 06.3 +0.3**
comp=Z,1.8nm,0.8s,mb4.2,baz=17,slow=6.9,SNR=4.7
FINES FINESS Array B 65.24 334 *i* P **P 18 28 05.5 -0.8**
FINES pmax pmax
comp=Z,16nm,0.6s
FINES FINESS Array B 65.24 334 P **P 18 28 04.9 -1.4**
comp=Z,16nm,0.6s,mb5.2,baz=42,slow=8.0,SNR=41
BOZ Bozeman (W) 65.59 50 *e*P **P 18 28 08.6 -0.2**
comp=Z,3.0nm,0.9s,mb4.3
BOZ Bozeman (W) 65.59 50 *e*P **P 18 28 08.6 -0.2**
BOZ pmax pmax
comp=Z,3.0nm,0.9s,mb4.3
OBN Obninsk 65.91 324 *e*P **P 18 28 09.9 -0.8**
comp=Z,12nm,0.7s,mb5.0
OBN Obninsk 65.91 324⇑ *e*P **P 18 28 10.0 -0.7**
OBN *e* 18 30 40.5
OBN pmax pmax
comp=Z,16nm,0.5s,mb5.3
NVAR Mina Array Bea 66.16 59 P **P 18 28 13.8 +1.2**
NVAR Mina Array Bea 66.16 59 P **P 18 28 13.8 +1.2**
comp=Z,1.8nm,1.0s,mb4.1,baz=289,slow=6.7,SNR=3.8
GCMT Greycliff 66.57 48 *e*P **P 18 28 18.0 +2.9**
GCMT *e* 18 28 32.4
POO Poona 66.91 274 *e*P **P 18 28 17.9 +0.2**
POO AMb AMB 18 28 18.4
comp=Z,18nm,0.4s,mb5.5
IMW Indian Meadow 67.08 51 *e*P **P 18 28 20.5 +2.1**
comp=Z,3.7nm,1.0s,mb4.4
IMW *e* 18 28 34.9
FLWY Flagg Ranch 67.09 50 *e*P **P 18 28 21.9 +3.5**
comp=Z,7.8nm,1.0s,mb4.7
TPAW Teton Pass 67.33 51 *e*P **P 18 28 23.0 +3.1**
comp=Z,6.9nm,0.9s,mb4.7
TPAW *e* 18 28 37.2
VRSR Storozhevoye 67.42 320 *e*P **P 18 28 20.2 -0.2**
VRSR pmax pmax
comp=Z,7.0nm,0.8s,mb4.7
VRSR pmax pmax
comp=N,10.0nm,0.9s
VRSR pmax pmax
comp=E,10.0nm,1.0s
KAD Karad 67.47 273 AMb AMB 18 28 19.9
comp=Z,16nm,1.6s,mb4.8
KAD *e*P 18 28 21.3
PDAR Pinedale Array 68.57 51 P **P 18 28 27.5 -0.3**
comp=Z,3.1nm,1.0s,mb4.2,baz=233,slow=1.5,SNR=3.9
ASAR Alice Springs 68.85 195 P **P 18 28 30.8 +1.2**
comp=Z,0.9nm,0.9s,mb3.7,baz=16,slow=6.8,SNR=5.1
CCUT Cedar City 69.74 57 *e*P **P 18 28 37.5 +2.4**
NB2 NORSAR Subarra 69.82 340 P **P 18 28 34.1 -1.1**
comp=Z,32nm,0.9s,mb5.2,baz=30,slow=6.5
NOA NORSAR Array B 69.82 340 P **P 18 28 34.2 -1.0**
NOA NORSAR Array B 69.82 340 P **P 18 28 34.2 -1.0**
NOA pmax pmax
comp=Z,23nm,0.8s
NOA NORSAR Array B 69.82 340 P **P 18 28 34.2 -1.0**
comp=Z,23nm,0.8s,mb5.2,baz=32,slow=6.1,SNR=38
ULM Lac du Bonnet 70.35 38 P **P 18 28 37.6 -1.0**
comp=Z,0.7nm,0.5s,mb3.9,baz=2.4,slow=9.6,SNR=1.9
KIV Kislovodsk 70.63 313 *e*P **P 18 28 40.8 +0.4**
comp=Z,24nm,0.7s,mb5.2
KIV Kislovodsk 70.63 313 *e*P **P 18 28 40.0 -0.5**
KIV pmax pmax
comp=Z,20nm,0.7s,mb5.2
KIV Kislovodsk 70.63 313⇓ *i*P **P 18 28 41.3 +0.8**
SUW Suwalki 71.97 330 *e*P **P 18 28 47.8 -0.5**
AKASG Malin Array Be 72.18 325 P **P 18 28 49.0 -0.7**
AKASG pmax pmax
comp=Z,13nm,0.7s
AKASG Malin Array Be 72.18 325 P **P 18 28 49.0 -0.7**
comp=Z,13nm,0.7s,mb5.0,baz=37,slow=6.1,SNR=33
KIEV Kiev 72.19 325 *e*P **P 18 28 48.6 -1.1**
comp=Z,26nm,1.0s,mb5.1
KIEV Kiev 72.19 325 *e*P **P 18 28 48.6 -1.1**
KIEV pmax pmax
comp=Z,27nm,1.0s,mb5.1
ANN Anapa 72.74 316 *e*P **P 18 28 52.7 -0.5**
ANN *e**PP pP 18 29 03.1 +1.2
ANN *e* 18 29 09.1
ANN *e* 18 31 35.0
ANN *e*S S 18 38 18.1 +1.3
ANN pmax pmax
comp=Z,28nm,1.0s,mb5.2
ECSD EROS,Sioux Fal 74.73 43 *e*P **P 18 29 05.6 +0.8**
comp=Z,17nm,1.4s,mb4.8
ANMO Albuquerque 75.61 55 *i* P **P 18 29 12.2 +2.1**
KWP Kalwaria 75.64 327 *e*P **P 18 29 10.9 +1.0**
OJC Ojcow 76.26 329 *e*P **P 18 29 13.6 +0.1**
KOLS Kolonicke sedl 76.37 327 *i* P **P 18 29 14.2 +0.1**
STHS Stebnicka Huta 76.38 328 *i* P **P 18 29 15.1 +1.0**
comp=Z,5.8nm,0.9s,mb4.5
STHS Stebnicka Huta 76.38 328 *i* P **P 18 29 15.1 +1.0**
STHS pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
UZH Uzhgorod 76.61 327 *e*P **P 18 29 06.2 -9.3**
CRVS Cervenica-Dubn 76.71 328 *i* P **P 18 29 16.1 +0.1**
SCHQ Schefferville 76.82 20 P **P 18 29 16.1 -0.4**
comp=Z,3.9nm,1.0s,mb4.3,baz=341,slow=9.5,SNR=3.1
MALT Malatya 76.88 311 *e*P **P 18 29 18.1 +0.9**
comp=Z,8.2nm,1.2s,mb4.5
MALT Malatya 76.88 311 *e*P **P 18 29 18.1 +0.9**
MALT pmax pmax
comp=Z,8.0nm,1.2s,mb4.5
MALT Malatya 76.88 311⇑ *i*P **P 18 29 18.7 +1.5**
TRPA Tarpa 76.91 327⇑ *i*P **P 18 29 17.6 +0.4**
PLOR Plostina 77.01 323⇑ *i*P **P 18 29 18.3 +0.5**
OKC Ostrava-Krasne 77.18 330 *e*P **P 18 29 19.0 +0.3**
OKC *e*pP pP 18 29 31.1 +3.7
TIRR Tirgusor 77.30 321⇑ P **P 18 29 19.4 0.0**
TIRR Tirgusor 77.30 321⇑ *i*P **P 18 29 19.5 0.0**
HARR Harsova 77.34 321⇓ P **P 18 29 20.1 +0.4**
HARR Harsova 77.34 321⇓ *i*P **P 18 29 20.1 +0.4**
UPC Upice 77.37 331 *e*P **P 18 29 19.7 0.0**
UPC *e*pP pP 18 29 30.9 +2.4
DPC Dobruska-Polom 77.40 331 *e*P **P 18 29 20.2 +0.3**
DPC *e*pP pP 18 29 32.3 +3.7
KECS Kecovo 77.43 328 *e*P **P 18 29 19.8 -0.3**
comp=Z,3.2nm,0.9s,mb4.2
KECS Kecovo 77.43 328 *e*P **P 18 29 19.8 -0.3**
KECS pmax pmax
comp=Z,3.0nm,0.9s,mb4.2
MORC Moravsky Berou 77.45 330 *e*P **P 18 29 19.9 -0.3**
comp=Z,4.5nm,0.7s,mb4.5
MORC Moravsky Berou 77.45 330 *e*P **P 18 29 19.9 -0.3**
MORC pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
MORC Moravsky Berou 77.45 330⇓ *i*P **P 18 29 20.5 +0.3**
MLR Muntele Rosu 77.59 323⇑ P **P 18 29 20.7 -0.4**
MLR Muntele Rosu 77.59 323 P **P 18 29 20.6 -0.5**
MLR pmax pmax
comp=Z,7.0nm,0.7s
MLR Muntele Rosu 77.59 323 P **P 18 29 20.6 -0.5**
comp=Z,7.4nm,0.7s,mb4.8,baz=157,slow=8.1,SNR=15
MLR Muntele Rosu 77.59 323⇑ *i*P **P 18 29 20.7 -0.4**
CLL Collm 77.69 334⇑ *i*P **P 18 29 20.9 -0.6**
comp=Z,15nm,0.8s,mb5.0
CLL *i* 18 29 34.3
CLL LR LR
comp=Z,300nm,16.8s,MS4.7
CLL Collm 77.69 334⇑ *i*P **P 18 29 20.9 -0.6**
CLL *i* 18 29 34.3
CLL pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
CLL MLR MLR
comp=Z,300nm,16.8s,MS4.7

CLL	**Collm**	**77.69 334**	*e*P	**P**	**18 29 21.0**	**-0.5**
	comp=Z,15nm,0.8s,mb5.0					
CLL	**Collm**	**77.69 334**	⇑*i*P	**P**	**18 29 20.9**	**-0.6**
	comp=Z,15nm,0.8s,mb5.0					
CLL			*i* sP	sP	18 29 34.3	+0.8
CLL			*i* pPcP		18 29 40.0	
BRG	**Berggiesshubel**	**77.76 333**	⇑*i*P	**P**	**18 29 20.9**	**-1.0**
BRG			*i*		18 29 34.3	
BRG			pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.6					
BRG			MLR	MLR		
	comp=Z,300nm,16.8s,MS4.7					
VOIR		**78.02 323**	⇑P	**P**	**18 29 24.4**	**+0.9**
VOIR		**78.02 323**	⇑*i*P	**P**	**18 29 24.4**	**+0.9**
VYHS	**Vyhne**	**78.04 329**	*i* P	**P**	**18 29 23.8**	**+0.3**
	comp=Z,3.1nm,0.8s,mb4.3					
VYHS	**Vyhne**	**78.04 329**	*i* P	**P**	**18 29 23.8**	**+0.3**
VYHS			pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3					
CLZ	**Clausthal**	**78.05 335**	*e*P	**P**	**18 29 23.2**	**-0.3**
CLZ			pmax	pmax		
	comp=Z,14nm,1.0s,mb4.8					
CLZ	**Clausthal**	**78.05 335**	*e*P	**P**	**18 29 23.2**	**-0.3**
	comp=Z,14nm,1.0s,mb4.8					
PSZ	**Piszkesteto**	**78.12 328**	*e*P	**P**	**18 29 23.4**	**-0.5**
	comp=Z,8.3nm,0.8s,mb4.7					
PSZ	**Piszkesteto**	**78.12 328**	*e*P	**P**	**18 29 23.4**	**-0.5**
PSZ			pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.7					
PSZ	**Piszkesteto**	**78.12 328**	⇑P	**P**	**18 29 24.2**	**+0.3**
PSZ	**Piszkesteto**	**78.12 328**	⇑*i*P	**P**	**18 29 24.2**	**+0.3**
VRAC	**Vranov**	**78.18 331**	⇑P	**P**	**18 29 24.5**	**+0.3**
VRAC	**Vranov**	**78.18 331**	P	**P**	**18 29 24.0**	**-0.3**
VRAC			pmax	pmax		
	comp=Z,9.0nm,0.8s					
VRAC	**Vranov**	**78.18 331**	P	**P**	**18 29 24.0**	**-0.3**
	comp=Z,8.9nm,0.8s,mb4.7,baz=17,slow=4.0,SNR=8.8					
VRAC	**Vranov**	**78.18 331**	⇑*i*P	**P**	**18 29 24.5**	**+0.2**
PRU	**Pruhonice**	**78.31 332**	*e*P	**P**	**18 29 24.5**	**-0.5**
PRU			*e*pP	pP	18 29 36.4	+2.6
SMOL	**Smolenice**	**78.55 330**	*i* P	**P**	**18 29 27.0**	**+0.7**
TREC	**Trest**	**78.58 331**	*e*P	**P**	**18 29 26.4**	**-0.1**
ANTO	**Ankara**	**78.69 315**	⇑P	**P**	**18 29 28.0**	**+0.8**
ANTO	**Ankara**	**78.69 315**	⇑*i*P	**P**	**18 29 28.0**	**+0.7**
MOX	**Moxa**	**78.71 334**	*e*P	**P**	**18 29 27.1**	**0.0**
MODS	**Modra-Piesok**	**78.72 330**	*i* P	**P**	**18 29 27.9**	**+0.7**
	comp=Z,4.9nm,0.9s,mb4.4					
MODS	**Modra-Piesok**	**78.72 330**	*i* P	**P**	**18 29 27.9**	**+0.7**
MODS			pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.4					
ZST	**Bratislava**	**78.93 330**	*i* P	**P**	**18 29 29.6**	**+1.2**
	comp=Z,9.3nm,0.8s,mb4.8					
ZST	**Bratislava**	**78.93 330**	*i* P	**P**	**18 29 29.6**	**+1.2**
ZST			pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.8					
GZR	**Gura Zlata**	**79.02 325**	⇑*i*P	**P**	**18 29 28.9**	**-0.1**
MANZ	**Manzenberg**	**79.12 333**	*e*P	**P**	**18 29 29.2**	**-0.2**
	comp=Z,8.0nm,1.1s,mb4.6					
ROTZ	**Rotzenmuhle**	**79.28 333**	*e*P	**P**	**18 29 30.7**	**+0.4**
	comp=Z,9.0nm,1.2s,mb4.6					
ZIMR		**79.30 322**	⇑P	**P**	**18 29 31.5**	**+0.9**
ZIMR		**79.30 322**	⇑*i*P	**P**	**18 29 31.5**	**+1.0**
BZS	**Buzias**	**79.32 326**	⇑P	**P**	**18 29 30.1**	**-0.5**
BZS	**Buzias**	**79.32 326**	⇑*i*P	**P**	**18 29 30.1**	**-0.5**
KHC	**Kasperske Hory**	**79.37 332**	*e*P	**P**	**18 29 30.9**	**+0.1**
KHC			*e*pP	pP	18 29 42.2	+2.6
GEC2	**GERESS Array S**	**79.58 332**	*e*P	**P**	**18 29 31.9**	**0.0**
GEC2			pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.7					
GEC2	**GERESS Array S**	**79.58 332**	*e*P	**P**	**18 29 31.9**	**0.0**
	comp=Z,7.0nm,0.7s,mb4.7					
GERES	**GERESS Array B**	**79.58 332**	P	**P**	**18 29 31.9**	**0.0**
GERES			pmax	pmax		
	comp=Z,4.0nm,0.6s					
GERES	**GERESS Array B**	**79.58 332**	P	**P**	**18 29 31.9**	**0.0**
	comp=Z,4.3nm,0.6s,mb4.6,baz=35,slow=5.7,SNR=28					
WET	**Wettzell**	**79.60 333**	*e*P	**P**	**18 29 32.0**	**0.0**
WET			pmax	pmax		
	comp=Z,16nm,1.0s,mb4.9					
WET	**Wettzell**	**79.60 333**	*e*P	**P**	**18 29 32.0**	**0.0**
	comp=Z,16nm,1.0s,mb4.9					
CONA	**Conrad Observa**	**79.61 330**	⇑*i*P	**P**	**18 29 32.7**	**+0.6**
	comp=Z,12nm,0.7s,mb4.9,SNR=13					
GRA1	**Grafenberg Arr**	**79.66 334**	*e*P	**P**	**18 29 32.5**	**+0.1**
	comp=Z,25nm,1.0s,mb5.1					
GRA1			*e*pP	pP	18 29 43.3	+2.2
GRF	**Grafenberg Arr**	**79.66 334**	*e*P	**P**	**18 29 32.5**	**+0.1**
GRF			*e**PP	pP	18 29 43.3	+2.2
GRF			pmax	pmax		
	comp=Z,25nm,1.0s,mb5.1					
GRF	**Grafenberg Arr**	**79.66 334**	*e*P	**P**	**18 29 32.5**	**+0.1**
GRF			*e**PP	pP	18 29 43.3	+2.2
GRF			pmax	pmax		
	comp=Z,25nm,1.0s,mb5.1					
GRF	**Grafenberg Arr**	**79.66 334**	*e*P	**P**	**18 29 32.5**	**+0.1**
	comp=Z,25nm,1.0s,mb5.1					
GRF			*e*pP	pP	18 29 43.3	+2.2
PKSM	**Moragy**	**80.01 328**	⇑P	**P**	**18 29 33.4**	**-0.9**
PKSM	**Moragy**	**80.01 328**	⇑*i*P	**P**	**18 29 33.4**	**-0.9**
TNS	**Taunus Mts**	**80.05 336**	*e*P	**P**	**18 29 34.2**	**-0.3**
TNS			pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.6					
TNS	**Taunus Mts**	**80.05 336**	*e*P	**P**	**18 29 34.2**	**-0.3**
	comp=Z,7.0nm,0.9s,mb4.6					
PERS	**Pernice**	**80.97 330**	*e*P	**P**	**18 29 39.1**	**-0.4**
VTS	**Vitosha**	**81.10 323**	⇓P	**P**	**18 29 41.0**	**+0.8**
VTS	**Vitosha**	**81.10 323**	⇓*i*P	**P**	**18 29 41.0**	**+0.8**
KBA	**Koelnbreinsper**	**81.22 331**	⇑*i*P	**P**	**18 29 41.6**	**+0.8**
	comp=Z,28nm,1.1s,mb5.1,SNR=11					
KBA	**Koelnbreinsper**	**81.22 331**	⇑*i*P	**P**	**18 29 41.6**	**+0.8**
KBA			pmax	pmax		
	comp=Z,29nm,1.1s,mb5.1					
BAIF	**Baives**	**81.40 338**	*e*P	**P**	**18 29 41.0**	**-0.7**
LEGS	**Legarje**	**81.48 329**	*e*P	**P**	**18 29 41.7**	**-0.5**
WTTA	**Wattenberg**	**81.64 332**	⇑*i*P	**P**	**18 29 43.5**	**+0.5**
	comp=Z,28nm,1.2s,mb5.1					
WTTA	**Wattenberg**	**81.64 332**	⇑*i*P	**P**	**18 29 43.5**	**+0.5**
WTTA			pmax	pmax		
	comp=Z,28nm,1.2s,mb5.1					
BFO	**Black Forest**	**81.77 335**	*e*P	**P**	**18 29 42.7**	**-0.9**
	comp=Z,7.4nm,0.9s,mb4.6					
BFO	**Black Forest**	**81.77 335**	*e*P	**P**	**18 29 42.7**	**-1.0**
BFO			pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.6					
BFO	**Black Forest**	**81.77 335**	*e*P	**P**	**18 29 43.2**	**-0.5**
	comp=Z,10.0nm,1.1s,mb4.7					
SQTA	**Sankt Quirin**	**81.82 333**	⇑*i*P	**P**	**18 29 44.2**	**+0.2**
	comp=Z,12nm,1.0s,mb4.8					
SQTA	**Sankt Quirin**	**81.82 333**	⇑*i*P	**P**	**18 29 44.2**	**+0.2**
SQTA			pmax	pmax		
	comp=Z,12nm,1.0s,mb4.8					
CEY	**Cerknica**	**81.99 330**	*e*P	**P**	**18 29 45.0**	**+0.1**
CDF	**Champ du Feu**	**82.01 335**	*e*P	**P**	**18 29 44.4**	**-0.5**
	comp=Z,22nm,1.1s,mb4.7					
CDF	**Champ du Feu**	**82.01 335**	*e*P	**P**	**18 29 44.4**	**-0.5**
	comp=Z,11nm,1.1s,mb4.7					
CDF	**Champ du Feu**	**82.01 335**	*e*P	**P**	**18 29 44.4**	**-0.5**
CDF			pmax	pmax		
	comp=Z,11nm,1.1s,mb4.7					
FETA	**Feichten**	**82.16 333**	⇑*i*P	**P**	**18 29 45.9**	**+0.2**
	comp=Z,11nm,1.0s,mb4.7					
MMAI	**Mount Meron Ar**	**82.43 309**	P	**P**	**18 29 48.5**	**+1.1**
	comp=Z,5.3nm,0.7s,mb4.6,baz=50,slow=7.8,SNR=6.4					
DAVOX	**Davos/Dischmat**	**82.65 333**	P	**P**	**18 29 48.8**	**+0.5**
	comp=Z,2.8nm,0.5s,mb4.6,baz=293,slow=4.4,SNR=6.5					
HINF	**Hinteralfeld**	**82.67 335**	*e*P	**P**	**18 29 47.4**	**-1.0**
	comp=Z,37nm,1.4s,mb4.9					
HINF	**Hinteralfeld**	**82.67 335**	*e*P	**P**	**18 29 47.4**	**-1.0**
	comp=Z,18nm,1.4s,mb4.9					
HINF	**Hinteralfeld**	**82.67 335**	*e*P	**P**	**18 29 47.4**	**-1.0**
HINF			pmax	pmax		
	comp=Z,18nm,1.4s,mb4.9					
FLN	**La Foliniere**	**83.79 340**	*e*P	**P**	**18 29 53.5**	**-0.7**
	comp=Z,86nm,1.2s,mb5.5					
FLN	**La Foliniere**	**83.79 340**	*e*P	**P**	**18 29 53.5**	**-0.7**
	comp=Z,43nm,1.2s,mb5.5					
FLN	**La Foliniere**	**83.79 340**	*e*P	**P**	**18 29 53.5**	**-0.7**
FLN			pmax	pmax		
	comp=Z,43nm,1.2s,mb5.5					
LDF	**La Druitiere**	**83.86 340**	*e*P	**P**	**18 29 54.1**	**-0.4**
	comp=Z,147nm,1.8s,mb5.5					
LDF	**La Druitiere**	**83.86 340**	*e*P	**P**	**18 29 54.1**	**-0.4**
	comp=Z,73nm,1.8s,mb5.5					
LDF	**La Druitiere**	**83.86 340**	*e*P	**P**	**18 29 54.1**	**-0.4**
LDF			pmax	pmax		
	comp=Z,73nm,1.8s,mb5.5					
CABF	**La Chapelle**	**83.98 335**	*e*P	**P**	**18 29 54.9**	**-0.3**
LOR	**Lormes**	**84.03 337**	*e*P	**P**	**18 29 54.8**	**-0.6**
	comp=Z,20nm,0.9s,mb4.9					
LOR	**Lormes**	**84.03 337**	*e*P	**P**	**18 29 54.8**	**-0.6**
	comp=Z,9.9nm,0.9s,mb4.9					
LOR	**Lormes**	**84.03 337**	*e*P	**P**	**18 29 54.8**	**-0.6**
LOR			pmax	pmax		
	comp=Z,10.0nm,0.9s,mb5.0					
GRR	**Gorron**	**84.23 340**	*e*P	**P**	**18 29 55.8**	**-0.6**
	comp=Z,92nm,1.3s,mb5.5					
GRR	**Gorron**	**84.23 340**	*e*P	**P**	**18 29 55.8**	**-0.6**
	comp=Z,46nm,1.3s,mb5.5					
GRR	**Gorron**	**84.23 340**	*e*P	**P**	**18 29 55.8**	**-0.6**
GRR			pmax	pmax		
	comp=Z,46nm,1.3s,mb5.5					
SSF	**Saint Saulge**	**84.32 337**	*e*P	**P**	**18 29 56.2**	**-0.7**
	comp=Z,15nm,1.1s,mb4.7					
SSF	**Saint Saulge**	**84.32 337**	*e*P	**P**	**18 29 56.2**	**-0.7**
	comp=Z,7.3nm,1.1s,mb4.7					
SSF	**Saint Saulge**	**84.32 337**	*e*P	**P**	**18 29 56.2**	**-0.7**
SSF			pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.7					
SMF	**Signal de Mont**	**84.61 337**	*e*P	**P**	**18 29 57.9**	**-0.5**
	comp=Z,42nm,1.1s,mb5.2					
SMF	**Signal de Mont**	**84.61 337**	*e*P	**P**	**18 29 57.9**	**-0.5**
	comp=Z,21nm,1.1s,mb5.2					
SMF	**Signal de Mont**	**84.61 337**	*e*P	**P**	**18 29 57.9**	**-0.5**
SMF			pmax	pmax		
	comp=Z,21nm,1.1s,mb5.2					
AVF	**Avril sur Loir**	**84.61 337**	*e*P	**P**	**18 29 58.0**	**-0.4**
	comp=Z,48nm,1.4s,mb5.2					
AVF	**Avril sur Loir**	**84.61 337**	*e*P	**P**	**18 29 58.0**	**-0.4**
	comp=Z,24nm,1.4s,mb5.1					
AVF	**Avril sur Loir**	**84.61 337**	*e*P	**P**	**18 29 58.0**	**-0.4**
AVF			pmax	pmax		
	comp=Z,24nm,1.4s,mb5.1					
SGMF	**Saint Gilles**	**84.76 341**	*e*P	**P**	**18 29 58.6**	**-0.5**
	comp=Z,129nm,1.3s,mb5.6					
SGMF	**Saint Gilles**	**84.76 341**	*e*P	**P**	**18 29 58.6**	**-0.5**
	comp=Z,65nm,1.3s,mb5.6					
SGMF	**Saint Gilles**	**84.76 341**	*e*P	**P**	**18 29 58.6**	**-0.5**
SGMF			pmax	pmax		
	comp=Z,65nm,1.3s,mb5.6					
LPL	**La Plagne**	**84.77 335**	*e*P	**P**	**18 29 59.4**	**+0.2**
	comp=Z,26nm,1.0s,mb5.0					
LPL	**La Plagne**	**84.77 335**	*e*P	**P**	**18 29 59.4**	**+0.2**
	comp=Z,13nm,1.0s,mb5.0					
LPL	**La Plagne**	**84.77 335**	*e*P	**P**	**18 29 59.4**	**+0.2**
LPL			pmax	pmax		
	comp=Z,13nm,1.0s,mb5.0					
LPG	**La Plagne**	**84.78 334**	*e*P	**P**	**18 29 59.5**	**+0.2**
	comp=Z,17nm,0.8s,mb4.9					
LPG	**La Plagne**	**84.78 334**	*e*P	**P**	**18 29 59.5**	**+0.2**
	comp=Z,8.5nm,0.8s,mb4.9					
LPG	**La Plagne**	**84.78 334**	*e*P	**P**	**18 29 59.5**	**+0.2**
LPG			pmax	pmax		
	comp=Z,9.0nm,0.8s,mb5.0					
BGF	**Bois d'Agland**	**84.97 337**	*e*P	**P**	**18 29 59.7**	**-0.5**
EIL	**Elat**	**85.19 307**	P	**P**	**18 30 01.8**	**+0.2**
	comp=Z,6.4nm,0.9s,mb4.8,baz=48,slow=4.5,SNR=6.5					
TCF	**Toulx Ste Croi**	**85.39 338**	*e*P	**P**	**18 30 02.1**	**-0.2**
	comp=Z,29nm,1.1s,mb5.0					
TCF	**Toulx Ste Croi**	**85.39 338**	*e*P	**P**	**18 30 02.1**	**-0.2**
	comp=Z,14nm,1.1s,mb5.0					
TCF	**Toulx Ste Croi**	**85.39 338**	*e*P	**P**	**18 30 02.1**	**-0.2**
TCF			pmax	pmax		
	comp=Z,14nm,1.1s,mb5.0					
MBDF	**Montbardon**	**85.47 334**	*e*P	**P**	**18 30 02.2**	**-0.5**
	comp=Z,10nm,0.7s,mb4.8					
MBDF	**Montbardon**	**85.47 334**	*e*P	**P**	**18 30 02.2**	**-0.5**
	comp=Z,5.3nm,0.7s,mb4.8					
MBDF	**Montbardon**	**85.47 334**	*e*P	**P**	**18 30 02.2**	**-0.5**
MBDF			pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.8					
ORIF	**Oris-en-Rattie**	**85.57 335**	*e*P	**P**	**18 30 03.3**	**+0.1**
	comp=Z,17nm,0.8s,mb5.0					
ORIF	**Oris-en-Rattie**	**85.57 335**	*e*P	**P**	**18 30 03.3**	**+0.1**
	comp=Z,8.5nm,0.8s,mb5.0					
ORIF	**Oris-en-Rattie**	**85.57 335**	*e*P	**P**	**18 30 03.3**	**+0.1**
ORIF			pmax	pmax		
	comp=Z,9.0nm,0.8s,mb5.0					
MFF	**Saint Martin d**	**85.72 339**	*e*P	**P**	**18 30 03.8**	**-0.1**
	comp=Z,32nm,1.1s,mb5.2					
MFF	**Saint Martin d**	**85.72 339**	*e*P	**P**	**18 30 03.8**	**-0.1**
	comp=Z,16nm,1.1s,mb5.2					
MFF	**Saint Martin d**	**85.72 339**	*e*P	**P**	**18 30 03.8**	**-0.1**
MFF			pmax	pmax		
	comp=Z,16nm,1.1s,mb5.2					
VIVF	**Saint-Julien-l**	**85.99 336**	*e*P	**P**	**18 30 05.3**	**0.0**
	comp=Z,16nm,1.0s,mb4.9					
VIVF	**Saint-Julien-l**	**85.99 336**	*e*P	**P**	**18 30 05.3**	**0.0**
	comp=Z,7.8nm,1.0s,mb4.9					
VIVF	**Saint-Julien-l**	**85.99 336**	*e*P	**P**	**18 30 05.3**	**0.0**
VIVF			pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.9					
SBF	**Sospel**	**86.03 333**	*e*P	**P**	**18 30 04.7**	**-0.8**
	comp=Z,34nm,0.9s,mb5.3					
SBF	**Sospel**	**86.03 333**	*e*P	**P**	**18 30 04.7**	**-0.8**
	comp=Z,17nm,0.9s,mb5.3					
SBF	**Sospel**	**86.03 333**	*e*P	**P**	**18 30 04.7**	**-0.8**
SBF			pmax	pmax		
	comp=Z,17nm,0.9s,mb5.3					
IDI	**Anoyia**	**86.19 317**	P	**P**	**18 30 05.4**	**-1.1**
	comp=Z,2.3nm,0.4s,mb4.7,baz=315,slow=8.6,SNR=6.5					
RJF	**Les Rejaudoux**	**86.48 338**	*e*P	**P**	**18 30 07.6**	**-0.1**
	comp=Z,19nm,1.0s,mb5.0					
RJF	**Les Rejaudoux**	**86.48 338**	*e*P	**P**	**18 30 07.6**	**-0.1**
	comp=Z,9.6nm,1.0s,mb5.0					
RJF	**Les Rejaudoux**	**86.48 338**	*e*P	**P**	**18 30 07.6**	**-0.1**
RJF			pmax	pmax		
	comp=Z,10.0nm,1.0s,mb5.0					
CAF	**Calviac**	**86.68 337**	*e*P	**P**	**18 30 09.1**	**+0.4**
	comp=Z,49nm,1.4s,mb5.2					
CAF	**Calviac**	**86.68 337**	*e*P	**P**	**18 30 09.1**	**+0.4**
	comp=Z,24nm,1.4s,mb5.2					
CAF	**Calviac**	**86.68 337**	*e*P	**P**	**18 30 09.1**	**+0.4**
CAF			pmax	pmax		
	comp=Z,24nm,1.4s,mb5.2					
LMR	**La Mourre**	**86.80 334**	*e*P	**P**	**18 30 08.8**	**-0.5**
	comp=Z,55nm,1.2s,mb5.4					
LMR	**La Mourre**	**86.80 334**	*e*P	**P**	**18 30 08.8**	**-0.5**
	comp=Z,28nm,1.2s,mb5.4					
LMR	**La Mourre**	**86.80 334**	*e*P	**P**	**18 30 08.8**	**-0.5**
LMR			pmax	pmax		
	comp=Z,28nm,1.2s,mb5.4					
LASF	**Ste Croix**	**86.95 336**	*e*P	**P**	**18 30 10.2**	**+0.2**
LFF	**La Frestale**	**87.03 338**	*e*P	**P**	**18 30 10.6**	**+0.2**
	comp=Z,20nm,0.8s,mb5.1					
LFF	**La Frestale**	**87.03 338**	*e*P	**P**	**18 30 10.6**	**+0.2**
	comp=Z,9.8nm,0.8s,mb5.1					
LFF	**La Frestale**	**87.03 338**	*e*P	**P**	**18 30 10.6**	**+0.2**
LFF			pmax	pmax		
	comp=Z,10.0nm,0.8s,mb5.1					
ETSF	**Etsaut**	**89.28 338**	*e*P	**P**	**18 30 21.2**	**+0.1**
TORD	**Torodi Ar. Bea**	**115.81 324**	PKP	PKPdf	18 36 05.8	-2.1
	comp=Z,0.5nm,0.7s,baz=41,slow=4.6,SNR=2.7					
SIV	**San Ignacio**	**142.05 52**	PKP	PKPdf	18 36 55.4	-2.0
	comp=Z,0.3nm,0.4s,baz=200,slow=21,SNR=3.0					
SNAA	**Sanae**	**149.20 197**	*e*PKPdf	PKPbc	18 37 18.8	+6.6
SNAA			*e*		18 37 23.6	
SNAA			*e*		18 37 30.1	
SNAA			*e*		18 37 32.6	
SNAA			*e*		18 37 35.8	
SNAA			*e*		18 37 39.6	
SNAA			*e*		18 37 46.7	
SNAA			*e*		18 37 59.3	
SNAA	**Sanae**	**149.20 197**	PKHKP		18 37 07.4	
SNAA			pmax	pmax		
	comp=Z,1.0nm,0.9s					
SNAA	**Sanae**	**149.20 197**	PKP	PKPdf	18 37 07.4	-0.5
	comp=Z,0.6nm,0.9s,baz=334,slow=23,SNR=9.8					
PLCA	**Paso Flores**	**150.67 97**	PKIKP	PKPbc	18 37 20.6	+3.9
PLCA			pmax	pmax		
	comp=Z,3.0nm,0.8s					
PLCA	**Paso Flores**	**150.67 97**	PKPbc	PKPbc	18 37 20.6	+3.9
	comp=Z,2.6nm,0.8s,baz=272,slow=5.8,SNR=5.0					
VNA2	**Neumayer--Watz**	**150.70 195**	*e*PKPdf	PKPbc	18 37 20.8	+5.0
VNA2			*e*		18 37 25.5	
VNA2			*e*		18 37 27.4	
VNA2			*e*		18 37 29.1	
VNA2			*e*		18 37 33.9	
VNA2			*e*		18 37 35.0	
VNA2			*e*		18 37 40.2	
VNA2			*e*		18 37 43.3	
VNA2			*e*		18 37 46.5	
VNA2			*e*		18 37 49.2	
VNA2			*e*		18 37 54.0	
VNA2			*e*		18 37 59.9	
VNA2			*e*		18 38 04.5	
VNA2			*e*		18 38 16.1	
VNA2			*e*		18 38 23.5	
VNA3	**Neumayer Olymp**	**150.85 194**	*e*PKPdf	PKPbc	18 37 21.3	+5.1
VNA3			*e*		18 37 25.8	
VNA3			*e*		18 37 27.9	
VNA3			*e*		18 37 30.7	
VNA3			*e*		18 37 34.0	
VNA3			*e*		18 37 35.7	
VNA3			*e*		18 37 39.8	
VNA3			*e*		18 37 43.2	
VNA3			*e*		18 37 46.6	
VNA3			*e*		18 37 49.3	
VNA3			*e*		18 37 54.1	
VNA3			*e*		18 37 59.9	
VNA3			*e*		18 38 04.3	
VNA3			*e*		18 38 16.3	
VNA3			*e*		18 38 23.5	
VNA1	**Neumayer--Stat**	**151.09 195**	*e*PKPdf	PKPbc	18 37 19.2	+2.4
VNA1			*e*		18 37 25.4	
VNA1			*e*		18 37 28.4	
VNA1			*e*		18 37 33.4	
VNA1			*e*		18 37 44.6	
VNA1			*e*		18 37 47.8	
VNA1			*e*		18 37 51.9	
VNA1			*e*		18 37 56.3	
VNA1			*e*		18 37 58.6	
VNA1			*e*		18 38 07.1	
VNA1			*e*		18 38 13.6	
VNA1			*e*		18 38 19.4	

*IDC **03** 18:30:31.2±5.2, 1395S×16670E, h234km±51km, mb3.8/8, mb1 3.8/9, mb1mx3.6/17, mbtmp3.7/9, Error ellipse: s-maj=36.6km s-min=17.7km az=1.0*
*ISCJB **03** 18:30:33.4±1.6, 143S±0.1×1667E±0.1, h272km±15km, mb4.1/11, Error ellipse: s-maj=22.2km s-min=14.4km az=139.9*
*NEIC **03** 18:30:33.8±1.8, 1429S×16667E, h266km±17km, mb4.2/4, Error ellipse: s-maj=21.8km s-min=16.2km az=48.0*

ISC 03 18:30:34.5±1.6, 142S±01×1667E±01, h271km±15km, n31, σ1§37/17, mb4.1/11, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**7.88**	**182**	P	**Pn**	**18 32 23.6**	**-2.7**
	0.5nm,0.3s,baz=84,slow=17,SNR=4.1						
DZM				S	**S**	**18 33 59.1**	**+2.5**
	0.5nm,0.3s,baz=59,slow=22,SNR=2.8						
HNR	**Honiara**	**8.12**	**305**	P	**Pn**	**18 32 29.3**	**-0.2**
	88nm,0.7s						
CTA	**Charters Tower**	**20.42**	**250**	P	**P**	**18 34 54.3**	**+2.6**
	4.3nm,0.8s,baz=70,slow=12,SNR=2.5						
CTAO	**Charters Tower**	**20.42**	**250**	P	**P**	**18 34 47.6**	**-4.0**
	6.8nm,0.8s						
URZ	**Urewera**	**25.72**	**161**	P	**P**	**18 35 42.0**	**+1.7**
	4.2nm,0.8s,mb3.9,baz=311,slow=11,SNR=2.3						
STKA	**Stephens Creek**	**28.96**	**228**	*e*P	**P**	**18 36 09.9**	**+0.7**
STKA	**Stephens Creek**	**28.96**	**228**	P	**P**	**18 36 10.2**	**+1.0**
	2.3nm,0.5s,mb3.9,baz=61,slow=8.1,SNR=13						
WRA	**Warramunga Arr**	**31.45**	**255**	P	**P**	**18 36 31.7**	**+0.5**
	2.1nm,0.5s,mb3.9,baz=86,slow=9.4,SNR=21						
ASAR	**Alice Springs**	**32.38**	**248**	P	**P**	**18 36 39.5**	**+0.2**
	1.8nm,0.4s,mb3.9,baz=75,slow=9.6,SNR=75						
RAR	**Rarotonga**	**32.64**	**107**	P	**P**	**18 36 42.7**	**+1.1**
	12nm,0.6s,mb4.6,baz=225,slow=7.1,SNR=5.4						
NWAO	**Narrogin (SRO)**	**48.59**	**238**	P	**P**	**18 38 50.0**	**-1.1**
	12nm,1.0s,mb4.2						
SBA	**Scott Base**	**63.71**	**180**	*e*P	**P**	**18 40 35.1**	**-1.8**
	6.8nm,1.3s,mb4.1						
SONM	**Songino Array**	**81.72**	**324**	P	**P**	**18 42 23.7**	**+0.9**
	0.3nm,0.4s,mb3.4,baz=133,slow=5.3,SNR=4.3						
PMSA	**Palmer Station**	**92.48**	**161**	P	**P**	**18 43 12.6**	**-2.0**
	28nm,0.7s,mb5.3,baz=199,slow=24,SNR=5.9						
MKAR	**Makanchi Array**	**96.42**	**317**	P	**P**	**18 43 33.5**	**+0.7**
	0.6nm,0.6s,mb3.9,baz=90,slow=6.3,SNR=7.1						
ZALV	**Zalesovo Beam**	**96.61**	**324**	P	**P**	**18 43 32.8**	**-0.8**
	0.3nm,0.4s,mb3.9,baz=106,slow=3.2,SNR=3.6						
ARCES	**ARCESS Array B**	**119.56**	**345**	PKP	PKPdf	18 48 50.0	-1.4
	2.9nm,0.8s,baz=62,slow=2.9,SNR=7.0						
SSF	**Saint Saulge**	**144.32**	**340**	*e*PKP1	PKPdf	18 49 37.1	-1.2
	2.7nm,0.5s						
LPL	**La Plagne**	**144.45**	**336**	*e*PKP1	PKPdf	18 49 38.2	-0.4
LPG	**La Plagne**	**144.46**	**336**	*e*P

comp=Z,15nm,1.0s,mb5.0
GTA Gaotai 71.95 316 P **P** **18 49 23.2 +1.1**
GTA AP pP 18 49 26.7 -6.3
GTA XP sP 18 49 28.2 -8.9
GTA AMB AMB
comp=Z,4.0nm,1.1s,mb4.3
ULN Ulaanbaatar 72.04 327 *eP* **P** **18 49 23.3 +0.9**
comp=Z,5.0nm,1.4s,mb4.2
SONM Songino Array 72.38 326 P **P** **18 49 25.1 +0.6**
comp=Z,1.5nm,1.1s,mb3.9,baz=122,slow=5.2,SNR=7.6
YAK Yakutsk 73.97 347 P **P** **18 49 33.6 +0.1**
comp=Z,3.4nm,0.6s,mb4.5
LSA Lhasa 74.56 304 *eP* **P** **18 49 37.5 -0.2**
comp=Z,8.8nm,1.4s,mb4.5
MCK McKinley 82.80 21 *eP* **P** **18 50 20.9 -1.4**
comp=Z,11nm,1.0s,mb4.8
MKAR Makanchi Array 86.59 318 P **P** **18 50 41.6 -0.2**
comp=Z,0.8nm,0.7s,mb4.1,baz=94,slow=5.8,SNR=8.7
ZALV Zalesovo Beam 87.24 326 P **P** **18 50 45.0 +0.2**
comp=Z,0.3nm,0.3s,mb3.9,baz=104,slow=6.1,SNR=2.6
NVAR Mina Array Bea 90.76 51 P **P** **18 51 04.3 +2.6**
comp=Z,1.6nm,0.7s,mb4.5,baz=240,slow=4.4,SNR=11
YKA Yellowknife Ar 96.72 28 P **P** **18 51 28.2 -0.3**
comp=Z,0.2nm,0.8s,mb3.6,baz=261,slow=5.0,SNR=5.2
PDAR Pinedale Array 97.94 48 P **P** **18 51 34.8 +0.2**
comp=Z,0.5nm,0.8s,mb4.1,baz=266,slow=3.5,SNR=3.6
BDFB Brasilia 144.74 134 PKP PKPdf 18 57 35.6 -0.6
comp=Z,2.7nm,0.7s,baz=177,slow=3.5,SNR=6.7

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*BJI **03** 18:40:36.7, 858S×158.11E, h11km, mB5.0, mb4.7, Ms4.8, Msz4.5*
*ISCJB **03** 18:40:37.6±3.4, 88S±01×15759E±008, h8km±23km, mb4.3/19, MS3.7/4, Error ellipse: s-maj=18.9km s-min=11.4km az=148.6*
*NEIC **03** 18:40:38.5±6.1, 875S×15762E, h7km±38km, mb4.7/10, Error ellipse: s-maj=16.5km s-min=10.6km az=160.0*
*IDC **03** 18:40:38.2±0.7, 873S×15756E, h0km, mb4.1/10, mb1 4.3/12, mb1mx4.2/16, mbtmp4.1/12, ML4.0/2, MS3.8/4, Ms1 3.8/4, ms1mx3.3/32, Error ellipse: s-maj=25.7km s-min=19.0km az=133.0*
ISC 03 18:40:41.0±3.1, 89S±01×15762E±008, h20km±21km, h13km±1.9km; pP-P, n36, σ1s21/36, mb4.3/19, MS3.7/4, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.36**	**104**	Pn	**Pn**	**18 41 18.2**	**-0.5**
HNR				*e*Sn	**Sg**	**18 41 58.6**	**+1.6**
HNR	**Honiara**	**2.36**	**104**	Pn	**Pn**	**18 41 18.2**	**-0.5**
	43nm,0.3s,baz=261,slow=6.4,SNR=6.5						
HNR				Sn	**Sg**	**18 41 55.7**	**-1.3**
	145nm,0.3s,baz=86,slow=21,SNR=7.8						
CTA	**Charters Tower**	**15.66**	**223**	Pn	**Pn**	**18 44 22.1**	**+1.5**
	0.3nm,0.3s,baz=56,slow=13,SNR=5.6						
CTA				LR	LR	18 49 28.2	
	comp=Z,317nm,19.8s,baz=44,slow=34						
CTAO	**Charters Tower**	**15.66**	**223**	*e*Pn	**Pn**	**18 44 20.3**	**-0.4**
	9.6nm,0.8s						
WB2	**Warramunga Arr**	**25.05**	**241**	*e*P	**P**	**18 46 04.2**	**0.0**
WRA	**Warramunga Arr**	**25.06**	**241**	P	**P**	**18 46 04.0**	**-0.4**
WRA				PcP	PcP	18 49 39.1	+0.1
WRA	**Warramunga Arr**	**25.06**	**241**	P	**P**	**18 46 04.0**	**-0.4**
	4.0nm,0.8s,mb4.0,baz=67,slow=9.6,SNR=14						
WRA				PcP	PcP	18 49 39.1	+0.1
	1.1nm,0.7s,baz=68,slow=2.9,SNR=7.9						
WRA				LR	LR	18 55 19.1	
	comp=Z,292nm,20.0s,MS3.8,baz=65,slow=35						
ASAR	**Alice Springs**	**27.04**	**234**	P	**P**	**18 46 22.2**	**-0.1**
	1.3nm,1.0s,mb3.4,baz=68,slow=8.2,SNR=5.7						
ASAR				PcP	PcP	18 49 43.5	+0.1
	0.7nm,0.8s,baz=75,slow=2.4,SNR=5.1						
STKA	**Stephens Creek**	**27.30**	**211**	*e*P	**P**	**18 46 28.1**	**+3.6**
	7.7nm,0.7s,mb4.3						
STKA	**Stephens Creek**	**27.30**	**211**	P	**P**	**18 46 27.4**	**+2.9**
	8.8nm,0.7s,mb4.4,baz=34,slow=12,SNR=19						
STKA				LR	LR	18 56 25.4	
	comp=Z,156nm,19.3s,MS3.6,baz=31,slow=35						
BATI	**Kupang**	**33.51**	**265**	LR	LR	19 02 02.5	
	comp=Z,237nm,19.5s,MS3.9,baz=227,slow=38						
MBWA	**Marble Bar**	**38.47**	**247**	*e*P	**P**	**18 48 00.5**	**-1.5**
	13nm,1.3s,mb4.5						
KKM	**Kota Kinabalu**	**43.86**	**288**	*e*P	**P**	**18 48 45.9**	**-0.6**
KSM	**Kuching**	**48.26**	**280**	*e*P	**P**	**18 49 20.1**	**-1.1**
NJ2	**Nanjing**	**55.02**	**320**	*e*P	**P**	**18 50 11.8**	**+0.4**
NJ2				AMB	AMB		
	comp=Z,20nm,0.9s,mb5.2						
MDJ	**Mudanjiang**	**58.96**	**337**	P	**P**	**18 50 38.9**	**-0.2**
MDJ				AMB	AMB		
	comp=Z,5.0nm,1.4s,mb4.3						
MDJ				AMB	AMB		
	comp=Z,44nm,4.7s						
MDJ	**Mudanjiang**	**58.96**	**337**	*e*P	**P**	**18 50 36.3**	**-2.8**
	comp=Z,22nm,1.9s,mb4.9						
KMI	**Kunming**	**63.22**	**304**	P	**P**	**18 51 10.4**	**+2.0**
KMI				AP	pP	18 51 13.7	-1.0
KMI				XP	sP	18 51 15.8	-1.3
KMI				AMB	AMB		
	comp=Z,5.0nm,1.2s,mb4.5						
KMI				LR	LR		
	comp=Z,38nm,20.5s,MS3.6						
KMI	**Kunming**	**63.22**	**304**	P	**P**	**18 51 10.4**	**+2.0**
	comp=Z,5.0nm,1.2s,mb4.5						
KMI				pP	pP	18 51 13.7	-1.0
KMI				sP	sP	18 51 15.8	-1.3
CASY	**Casey**	**65.65**	**199**	*e*P	**P**	**18 51 22.9**	**-0.7**
	comp=Z,30nm,1.2s,mb5.2						
LZH	**Lanzhou**	**67.47**	**315**	*e*P	**P**	**18 51 37.0**	**+1.2**
LZH				AP	pP	18 51 41.8	-0.3
LZH				XP	sP	18 51 44.0	-0.5
LZH				AMB	AMB		
	comp=Z,25nm,1.0s,mb5.2						
LZH				AMB	AMB		
	comp=Z,110nm,4.3s						
LZH	**Lanzhou**	**67.47**	**315**	*e*P	**P**	**18 51 37.0**	**+1.2**
	comp=Z,25nm,1.0s,mb5.2						
LZH				pP	pP	18 51 41.8	-0.3
LZH				sP	sP	18 51 44.0	-0.5
VNDA	**Vanda**	**68.66**	**179**	P	**P**	**18 51 43.2**	**+0.6**
VNDA	**Vanda**	**68.66**	**179**	P	**P**	**18 51 43.2**	**+0.6**
	comp=Z,1.3nm,0.9s,mb3.9,baz=298,slow=6.5,SNR=4.4						
GTA	**Gaotai**	**71.88**	**316**	*e*P	**P**	**18 52 04.8**	**+1.9**
GTA				AP	pP	18 52 08.4	-0.9
GTA				XP	sP	18 52 09.8	-1.9
ULN	**Ulaanbaatar**	**71.98**	**327**	P	**P**	**18 52 03.9**	**+0.6**
	comp=Z,3.6nm,1.3s,mb4.1						
SONM	**Songino Array**	**72.32**	**327**	P	**P**	**18 52 05.9**	**+0.6**
	comp=Z,1.2nm,0.9s,mb3.8,baz=112,slow=6.6,SNR=6.3						
LSA	**Lhasa**	**74.47**	**304**	P	**P**	**18 52 18.5**	**+0.1**
BILL	**Bilibino**	**76.97**	**3**	*e*P	**P**	**18 52 28.7**	**-3.2**
	comp=Z,6.2nm,1.2s,mb4.4						
MCK	**McKinley**	**82.84**	**21**	*e*P	**P**	**18 53 01.6**	**-2.1**
	comp=Z,9.7nm,0.9s,mb4.8						
MKAR	**Makanchi Array**	**86.53**	**318**	P	**P**	**18 53 21.6**	**-1.1**
	comp=Z,0.5nm,0.7s,mb3.9,baz=106,slow=5.9,SNR=4.8						
ZALV	**Zalesovo Beam**	**87.19**	**326**	P	**P**	**18 53 24.5**	**-1.3**
	comp=Z,0.3nm,0.3s,mb4.0,baz=110,slow=7.8,SNR=2.4						
NVAR	**Mina Array Bea**	**90.84**	**51**	P	**P**	**18 53 44.4**	**+1.0**
	comp=Z,1.9nm,0.8s,mb4.5,baz=232,slow=4.4,SNR=12						
YKA	**Yellowknife Ar**	**96.77**	**28**	P	**P**	**18 54 11.9**	**+1.9**
	comp=Z,0.1nm,0.4s,mb3.6,baz=268,slow=5.1,SNR=4.8						
PDAR	**Pinedale Array**	**98.02**	**48**	P	**P**	**18 54 15.8**	**-0.4**
	comp=Z,0.5nm,0.8s,mb4.1,baz=263,slow=3.9,SNR=4.4						
BDFB	**Brasilia**	**144.81**	**134**	PKP	PKPdf	19 00 18.6	+0.9
	comp=Z,6.8nm,0.8s,baz=225,slow=6.0,SNR=4.6						

IDC 03 18:46:29.3±1.6, 832S×15711E, h0km, mb3.8/7, mb1 4.0/7, mb1mx3.9/14, mbtmp3.8/7, Error ellipse: s-maj=55.0km s-min=24.7km az=118.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**3.01**	**112**	Pn	Pn	18 47 10.6	-7.7
	20nm,0.3s,baz=271,slow=12,SNR=4.5						
HNR				Sn	Sn	18 47 44.0	-11
	23nm,0.3s,baz=99,slow=19,SNR=3.6						
WRA	**Warramunga Arr**	**24.88**	**240**	P	P	18 51 55.1	+1.1
	2.9nm,1.0s,baz=68,slow=9.6,SNR=10						
ASAR	**Alice Springs**	**26.96**	**233**	P	P	18 52 12.3	-0.4
	0.4nm,0.9s,baz=40,slow=33,SNR=3.4						
STKA	**Stephens Creek**	**27.53**	**210**	P	P	18 52 17.1	-0.6
	1.6nm,0.8s,baz=58,slow=10,SNR=3.2						
SONM	**Songino Array**	**71.58**	**327**	P	P	18 57 52.2	-0.2

2007 APR

	0.5nm,0.5s,baz=141,slow=3.8,SNR=6.2						
MKAR	**Makanchi Array**	**85.78**	**318**	P	P	18 59 11.3	+0.7
	0.5nm,0.6s,baz=109,slow=4.6,SNR=6.2						
ZALV	**Zalesovo Beam**	**86.44**	**326**	P	P	18 59 13.2	-0.5
	0.5nm,0.4s,baz=119,slow=7.2,SNR=3.4						
NVAR	**Mina Array Bea**	**90.90**	**51**	P	P	18 59 35.9	+0.7
	0.8nm,0.7s,baz=242,slow=3.7,SNR=4.2						

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*ISCJB **03** 18:48:33.6±1.4, 480S±004×14543E±005, h135km±13km, mb4.7/62, Error ellipse: s-maj=9.2km s-min=5.8km az=15.5*
*BJI **03** 18:48:35.1, 505S×14587E, h181km, mB4.9, mb4.8*
*MOS **03** 18:48:39.6±0.7, 481S×14530E, h191km, mb4.7/18, Error ellipse: s-maj=15.1km s-min=7.1km az=96.7*
*NEIC **03** 18:48:40.3±1.4, 485S×14527E, h183km±14km, mb4.6/36, Error ellipse: s-maj=8.0km s-min=5.1km az=78.0*
*IDC **03** 18:48:41.1±2.5, 488S×14529E, h190km±24km, mb4.3/15, mb1 4.4/17, mb1mx4.4/19, mbtmp4.3/17, Error ellipse: s-maj=15.8km s-min=7.9km az=93.0*
ISC 03 18:48:38.8±1.3, 487S±003×14536E±006, h168km±12km, h180km±4.9km; pP-P, n134, σ0s88/134, mb4.7/62, 10C-21D, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**14.95**	**238**	*e*P	**Pn**	**18 52 00.2**	**-1.7**
	266nm,0.6s						
KAKA				*e*S	**Sn**	**18 54 43.8**	**-4.7**
CTA	**Charters Tower**	**15.15**	**177**	⇓*i*P	**Pn**	**18 52 07.1**	**+2.8**
	11nm,0.9s						
CTA	**Charters Tower**	**15.15**	**177**	⇓*i*P	**Pn**	**18 52 07.1**	**+2.8**
CTA				pmax	pmax		
	comp=Z,11nm,0.9s						
CTA	**Charters Tower**	**15.15**	**177**	P	**Pn**	**18 52 07.2**	**+2.9**
	comp=Z,0.4nm,0.3s,baz=340,slow=11,SNR=8.1						
CTAO	**Charters Tower**	**15.15**	**177**	*e*Pn	**Pn**	**18 52 05.8**	**+1.6**
	comp=Z,14nm,1.0s						
CTAO	**Charters Tower**	**15.15**	**177**	*e*P	**Pn**	**18 52 05.9**	**+1.6**
CTAO				pmax	pmax		
	comp=Z,14nm,1.0s						
WB2	**Warramunga Arr**	**18.42**	**215**	*e*P	**P**	**18 52 41.7**	**+0.3**
WB2				*e*S	**S**	**18 56 04.4**	**+1.3**
WRA	**Warramunga Arr**	**18.42**	**215**	P	**P**	**18 52 42.2**	**+0.6**
	comp=Z,9.9nm,0.3s,baz=42,slow=11,SNR=226						
WRA				S	**S**	**18 56 01.8**	**-1.4**
	baz=37,slow=24,SNR=5.9						
ASAR	**Alice Springs**	**21.70**	**209**	P	**P**	**18 53 16.8**	**+0.2**
	comp=Z,29nm,0.6s,mb4.9,baz=44,slow=6.9,SNR=385						
ASAR				S	**S**	**18 57 05.0**	**-0.7**
	comp=Z,23nm,1.2s,baz=27,slow=19,SNR=10						
BATI	**Kupang**	**22.14**	**255**	P	**P**	**18 53 21.5**	**+0.2**
	comp=Z,186nm,0.8s,mb5.6,baz=143,slow=2.3,SNR=54						
FITZ	**Fitzroy Crossi**	**23.33**	**234**	⇓*i*P	**P**	**18 53 31.5**	**-0.7**
	comp=Z,172nm,0.6s,mb5.7						
FITZ				*e*S	**S**	**18 57 33.2**	**+0.8**
FITZ	**Fitzroy Crossi**	**23.33**	**234**	P	**P**	**18 53 32.1**	**0.0**
	comp=Z,84nm,0.6s,mb5.4,baz=52,slow=9.6,SNR=399						
ARMA	**Armidale**	**26.09**	**168**	*e*P	**P**	**18 53 57.9**	**+0.9**
STKA	**Stephens Creek**	**27.09**	**187**	*e*P	**P**	**18 54 05.9**	**0.0**
	comp=Z,11nm,0.9s,mb4.5						
STKA	**Stephens Creek**	**27.09**	**187**	P	**P**	**18 54 05.7**	**-0.3**
	comp=Z,12nm,0.6s,mb4.7,baz=353,slow=7.7,SNR=21						
MBWA	**Marble Bar**	**29.67**	**235**	*e*P	**P**	**18 54 27.8**	**-1.2**
	comp=Z,11nm,0.8s,mb4.7						
MBWA				*e*	pP	18 55 07.2	+3.2
MBWA				*e*		18 55 23.5	
CNB	**Canberra Magne**	**30.52**	**174**	*e*P	**P**	**18 54 37.0**	**+0.8**
	comp=Z,27nm,0.9s,mb5.0						
KSM	**Kuching**	**35.58**	**279**	P	**P**	**18 55 15.8**	**-4.7**
KLBR	**Kellerberrin**	**37.10**	**221**	*e*P	**P**	**18 55 31.6**	**-1.6**
	comp=Z,15nm,0.4s,mb5.0						
YHNB	**Yeheng**	**37.51**	**323**	*e*P	**P**	**18 55 37.0**	**+0.4**
TAU	**Tasmania Unive**	**37.92**	**178**	*e*P	**P**	**18 55 40.3**	**+0.5**
	comp=Z,51nm,1.4s,mb5.0						
TAU	**Tasmania Unive**	**37.92**	**178**	*e*P	**P**	**18 55 40.3**	**+0.5**
TAU				pmax	pmax		
	comp=Z,51nm,1.4s,mb5.0						
NWAO	**Narrogin (SRO)**	**38.30**	**220**	*e*P	**P**	**18 55 42.5**	**-0.7**
	comp=Z,17nm,1.1s,mb4.6						
NWAO	**Narrogin (SRO)**	**38.30**	**220**	*e*P	**P**	**18 55 42.5**	**-0.7**
NWAO				pmax	pmax		
	comp=Z,17nm,1.1s						
MUN	**Mundaring**	**38.37**	**222**	*e*P	**P**	**18 55 43.4**	**-0.4**
JNU	**Nakatsue**	**40.20**	**341**	P	**P**	**18 55 58.5**	**-0.4**
	comp=Z,8.9nm,0.9s,mb4.4,baz=187,slow=8.1,SNR=2.9						
MJAR	**Matsushiro Arr**	**41.74**	**351**	P	**P**	**18 56 10.2**	**-1.2**
	comp=Z,2.4nm,0.8s,mb3.9,baz=221,slow=5.0,SNR=8.3						
MAJO	**Matsushiro**	**41.74**	**351**	*e*P	**P**	**18 56 09.8**	**-1.6**
	comp=Z,4.3nm,0.6s,mb4.3						
MAJO	**Matsushiro**	**41.74**	**351**	*e*P	**P**	**18 56 09.8**	**-1.6**
MAJO				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.2						
MAT	**Matsushiro**	**41.74**	**351**	P	**P**	**18 56 10.3**	**-1.1**
URZ	**Urewera**	**44.02**	**143**	P	**P**	**18 56 29.8**	**0.0**
	comp=Z,4.9nm,0.7s,mb4.3,baz=241,slow=0.5,SNR=5.0						
NJ2	**Nanjing**	**44.55**	**327**	*e*P	**P**	**18 56 35.3**	**+1.3**
NJ2				AMB	AMB		
	comp=Z,30nm,1.1s,mb4.8						
RPZ	**Rata Peaks**	**44.83**	**154**	P	**P**	**18 56 36.7**	**+0.6**
	comp=Z,16nm,0.6s,mb4.8,baz=218,slow=0.9,SNR=10						
KSRS	**Korea Array**	**45.13**	**340**	P	**P**	**18 56 38.5**	**0.0**
	comp=Z,10.0nm,1.0s,mb4.4,baz=158,slow=9.3,SNR=13						
KULM	**Kulim**	**45.78**	**282**	*e*P	**P**	**18 56 43.3**	**-0.8**
WHN	**Wuhan**	**46.04**	**322**	⇑P	**P**	**18 56 46.7**	**+0.9**
WHN				AMB	AMB		
	comp=Z,112nm,1.1s,mb5.4						
GYA	**Guiyang**	**48.72**	**312**	P	**P**	**18 57 07.8**	**+1.3**
GYA				AP	pP	18 57 48.6	+4.4
GYA				XP	sP	18 58 08.8	+6.0
GYA				PCP	PcP	18 58 30.6	+1.5
GYA				SCP	ScP	19 02 07.2	-1.1
GYA				PCS	PcS	19 02 25.7	+0.1
GYA				S	**S**	**19 03 55.8**	**-0.6**
GYA				XS	sS	19 05 06.4	+4.5
GYA				SCS	ScS	19 06 38.8	-3.1
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.5						
GYA				AMB	AMB		
	comp=Z,70nm,4.9s						
KMI	**Kunming**	**51.02**	**308**	P	**P**	**18 57 24.8**	**+0.9**
KMI				AMB	AMB		
	comp=Z,9.0nm,1.3s,mb4.2						
KMI	**Kunming**	**51.02**	**308**	P	**P**	**18 57 24.8**	**+0.9**
	comp=Z,9.0nm,1.3s,mb4.2						
KMI				pP	pP	18 57 55.9	-6.0
MDJ	**Mudanjiang**	**51.26**	**346**	P	**P**	**18 57 25.2**	**-0.1**
MDJ				AMB	AMB		
	comp=Z,14nm,1.2s,mb4.5						
MDJ				AMB	AMB		
	comp=Z,70nm,4.5s						
MDJ	**Mudanjiang**	**51.26**	**346**	*e*P	**P**	**18 57 24.2**	**-1.2**
	comp=Z,5.6nm,0.8s,mb4.2						
YSS	**Yuzh-Sakhalins**	**51.65**	**358**	*e*P	**P**	**18 57 28.2**	**0.0**
	comp=Z,15nm,0.9s,mb4.6						
YSS	**Yuzh-Sakhalins**	**51.65**	**358**	⇑*e*P	**P**	**18 57 28.0**	**-0.2**
YSS				pmax	pmax		
	comp=Z,20nm,1.0s,mb4.7						
XAN	**Xi'an**	**51.78**	**321**	P	**P**	**18 57 29.2**	**-0.2**
XAN				AMB	AMB		
	comp=Z,44nm,1.0s,mb5.0						
BJT	**Baijiatuau**	**52.12**	**332**	*e*P	**P**	**18 57 30.7**	**-1.1**
	comp=Z,8.4nm,0.6s,mb4.5						
BJT	**Baijiatuau**	**52.12**	**332**	*e*P	**P**	**18 57 30.7**	**-1.1**
BJT				pmax	pmax		
	comp=Z,8.0nm,0.6s						
BJI	**Beijing**	**52.13**	**332**	P	**P**	**18 57 31.9**	**0.0**
BJI				AMB	AMB		
	comp=Z,14nm,0.7s,mb4.7						
BJI				AMB	AMB		
	comp=Z,123nm,4.6s						
BJI	**Beijing**	**52.13**	**332**	P	**P**	**18 57 31.9**	**0.0**
	comp=Z,14nm,0.7s,mb4.7						
CD2	**Chengdu**	**53.32**	**315**	*e*P	**P**	**18 57 42.3**	**+1.5**
CD2				AP	pP	18 58 22.1	+3.0
CD2				XP	sP	18 58 41.6	+4.0
CD2				PP	PP	18 59 46.5	+3.5
CD2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.5						
CD2				AMB	AMB		
	comp=Z,30nm,5.8s						
CD2				LR	LR		
	comp=N,180nm,16.8s						
CD2				LR	LR		
	comp=E,150nm,16.4s						
CD2				LR	LR		
	comp=Z,120nm,14.4s						
HHC	**Hu-ho-hao-te**	**55.03**	**329**	*e*P	**P**	**18 57 55.2**	**+2.2**
HHC				AP	pP	18 58 35.8	+4.4
HHC				XP	sP	18 58 54.8	+4.9
HHC				PP	PP	19 00 04.1	+6.0
HHC				SCP	ScP	19 02 34.2	-1.1
HHC				PCS	PcS	19 02 52.1	-0.4
HHC				S	**S**	**19 05 21.9**	**-0.2**
HHC				SS	SS	19 09 08.0	-0.6
HHC				AMB	AMB		
	comp=Z,17nm,0.3s,mb5.2						
HHC				AMB	AMB		
	comp=Z,113nm,6.1s						
HHC				LR	LR		
	comp=N,134nm,7.8s						
HHC				LR	LR		
	comp=E,122nm,8.2s						
HHC				LR	LR		
	comp=Z,131nm,9.6s						
KLR	**Kul'dur**	**55.17**	**349**	*e*P	**P**	**18 57 48.6**	**-5.2**
LZH	**Lanzhou**	**56.30**	**320**	*e*P	**P**	**18 58 03.0**	**+0.9**
LZH				AP	pP	18 58 40.5	-0.3
LZH				AMB	AMB		
	comp=Z,42nm,1.2s,mb5.1						
LZH				AMB	AMB		
	comp=Z,149nm,4.8s						
LZH	**Lanzhou**	**56.30**	**320**	*e*P	**P**	**18 58 03.0**	**+0.9**
	comp=Z,42nm,1.2s,mb5.1						
LZH				pP	pP	18 58 40.5	-0.3
LZH				sP	sP	18 58 57.5	-1.7
HIA	**Hailar**	**58.34**	**341**	*e*P	**P**	**18 58 15.5**	**-0.6**
	comp=Z,14nm,1.1s,mb4.7						
HIA	**Hailar**	**58.34**	**341**	*d*iP	**P**	**18 58 16.3**	**+0.1**
GTA	**Gaotai**	**60.84**	**321**	⇓P	**P**	**18 58 34.5**	**+1.0**
GTA				AP	pP	18 59 15.6	+2.9
GTA				XP	sP	18 59 34.7	+3.8
GTA				S	**S**	**19 06 39.8**	**+2.0**
GTA				AMB	AMB		
	comp=Z,29nm,0.8s,mb5.2						
GTA				AMB	AMB		
	comp=Z,97nm,6.5s						
GTA				LR	LR		
	comp=N,99nm,14.8s						
GTA				LR	LR		
	comp=E,88nm,14.1s						
GTA				LR	LR		
	comp=Z,124nm,16.0s						
LSA	**Lhasa**	**62.26**	**307**	⇓*e*P	**P**	**18 58 44.4**	**+1.2**
	comp=Z,2.2nm,0.4s,mb4.3						
LSA	**Lhasa**	**62.26**	**307**	⇓*e*P	**P**	**18 58 44.4**	**+1.2**
LSA				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.3						
ULN	**Ulaanbaatar**	**62.35**	**332**	⇓*i*P	**P**	**18 58 43.7**	**+0.3**
	comp=Z,7.0nm,1.0s,mb4.5						
ULN				*e*PcP	PcP	18 59 21.3	-0.1
ULN	**Ulaanbaatar**	**62.35**	**332**	⇑*e*P	**P**	**18 58 44.4**	**+1.0**
SONM	**Songino Array**	**62.64**	**332**	P	**P**	**18 58 45.9**	**+0.6**
	comp=Z,3.7nm,0.7s,mb4.3,baz=161,slow=6.3,SNR=26						
SONM				PcP	PcP	18 59 22.7	+0.1
	comp=Z,1.2nm,0.5s,baz=150,slow=4.3,SNR=6.2						
MA2	**Magadan**	**64.39**	**3**	*e*P	**P**	**18 58 56.6**	**0.0**
	comp=Z,13nm,0.8s,mb4.8						
MA2	**Magadan**	**64.39**	**3**	*e*P	**P**	**18 58 56.9**	**+0.4**
MA2				pmax	pmax		
	comp=Z,20nm,0.7s,mb5.1						
JIRN	**Jiri**	**65.54**	**303**	*e*P	**P**	**18 59 04.9**	**+0.2**
	comp=Z,3.4nm,0.4s,mb4.5						
ZAK	**Zakamensk**	**65.88**	**332**	⇑*i*P	**P**	**18 59 06.2**	**-0.1**
ZAK				pmax	pmax		
	comp=Z,14nm,1.1s,mb4.7						
CASY	**Casey**	**65.91**	**195**	*e*P	**P**	**18 59 05.9**	**-0.4**
	comp=Z,23nm,0.6s,mb5.2						
KKN	**Kakani**	**66.35**	**303**	*e*P	**P**	**18 59 09.5**	**-0.3**
	comp=Z,20nm,0.9s,mb4.9						
TLY	**Talaya**	**66.61**	**333**	⇓*e*P	**P**	**18 59 11.2**	**+0.2**
	comp=Z,5.3nm,1.0s,mb4.3						
TLY	**Talaya**	**66.61**	**333**	*e*P	**P**	**18 59 11.5**	**+0.6**
TLY				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.6						
GKN	**Gorkha**	**66.95**	**303**	*e*P	**P**	**18 59 13.6**	**-0.1**
	comp=Z,13nm,0.6s,mb4.9						
BOD	**Bodaibo**	**67.41**	**342**	*e*P	**P**	**18 59 15.1**	**-0.8**
BOD				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.6						
KOLN	**Koldanda**	**67.75**	**302**	*e*P	**P**	**18 59 17.6**	**-1.1**
YAK	**Yakutsk**	**67.80**	**352**	⇓*i*P	**P**	**18 59 17.6**	**-0.6**
	comp=Z,9.1nm,0.8s,mb4.6						
YAK	**Yakutsk**	**67.80**	**352**	⇑*e*P	**P**	**18 59 18.1**	**-0.1**
YAK				pmax	pmax		
	comp=Z,30nm,1.5s,mb4.8						
MOY	**Mondy**	**67.81**	**332**	*e*P	**P**	**18 59 19.0**	**+0.5**
SEY	**Seymchan**	**67.83**	**3**	⇓*e*P	**P**	**18 59 18.8**	**+0.4**
WMQ	**Urumqi**	**70.88**	**320**	⇑*i*P	**P**	**18 59 38.3**	**+0.7**
WMQ				AMB	AMB		
	comp=Z,20nm,0.8s,mb4.9						
WMQ				AMB	AMB		
	comp=Z,228nm,5.4s						
VNDA	**Vanda**	**73.13**	**176**	P	**P**	**18 59 50.4**	**0.0**
	comp=Z,2.2nm,0.6s,mb4.1,baz=330,slow=6.4,SNR=19						
SBA	**Scott Base**	**73.80**	**175**	*e*P	**P**	**18 59 54.5**	**+0.3**
	comp=Z,1.7nm,0.7s,mb3.9						
SBA	**Scott Base**	**73.80**	**175**	*e*P	**P**	**18 59 54.6**	**+0.3**
SBA				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.0

TTA	Tatalina	80.66	23	eP	P	19 00 33.4	+0.8
KBL	Kabul	81.55	306	eP	P	19 00 37.0	-1.0
	comp=Z,2.9nm,0.8s,mb4.0						
MAW	Mawson	82.65	203	P	P	19 00 43.0	-0.1
	comp=Z,4.1nm,0.6s,mb4.3,baz=79,slow=6.2,SNR=11						
PMR	Palmer	82.91	26	eP	P	19 00 43.1	-1.3
	comp=Z,9.0nm,0.4s,mb4.8						
PMR	Palmer	82.91	26	eP	P	19 00 43.1	-1.3
PMR				pmax	pmax		
	comp=Z,9.0nm,0.4s,mb4.8						
IMA2	Indian Mountai	83.09	21	eP	P	19 00 45.8	+0.5
SML	Sawmill	83.35	26	eP	P	19 00 46.4	-0.3
MCK	McKinley	83.87	24	eP	P	19 00 48.2	-1.1
	comp=Z,45nm,0.9s,mb5.2						
MCK	McKinley	83.87	24	eP	P	19 00 48.2	-1.1
MCK				pmax	pmax		
	comp=Z,45nm,0.9s,mb5.2						
COLA	College	84.76	23	eP	P	19 00 52.4	-1.4
	comp=Z,24nm,0.7s,mb5.0						
COLA	College	84.76	23	d iP	P	19 00 52.8	-0.9
BRVK	Borovoye	84.97	324	eP	P	19 00 53.7	-1.3
	comp=Z,9.1nm,0.8s,mb4.6						
BRVK	Borovoye	84.97	324	eP	P	19 00 53.7	-1.4
BRVK				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.5						
MENT	Mentasta	85.76	26	eP	P	19 00 59.3	+0.5
EGAK	Eagle	87.41	24	eP	P	19 01 06.9	+0.1
	comp=Z,9.1nm,0.8s,mb4.7						
DAWY	Dawson	87.95	25	eP	P	19 01 09.7	+0.4
SYO	Syowa Base	91.08	200⇓	eP	P	19 01 22.0	-1.9
INK	Inuvik	91.21	22	eP	P	19 01 23.3	-1.2
	comp=Z,255nm,1.0s						
YKA	Yellowknife Ar	98.94	28⇑	eP	P	19 01 59.7	-0.1
YKA	Yellowknife Ar	98.94	28	P	P	19 01 59.4	-0.4
	comp=Z,1.1nm,0.7s,mb4.4,baz=275,slow=4.9,SNR=22						
PDAR	Pinedale Array	104.36	47	Pdiff	Pdif	19 02 24.7	+0.6
	comp=Z,0.3nm,0.6s,baz=288,slow=3.7,SNR=3.0						
ARCES	ARCESS Array B	104.68	342	Pdiff	Pdif	19 02 23.8	-1.7
	comp=Z,2.3nm,0.8s,baz=74,slow=5.2,SNR=5.9						
OBN	Obninsk	104.68	326⇓	eP	Pdif	19 02 25.2	-0.3
OBN				ePS	PS	19 15 57.7	-6.3
OBN				pmax	pmax		
	comp=Z,6.0nm,0.8s						
TORD	Torodi Ar. Bea	143.22	285	PKP	PKPdf	19 07 50.2	-3.8
TORD	Torodi Ar. Bea	143.22	285	PKhKP		19 07 50.2	
	comp=Z,1.4nm,0.8s,baz=48,slow=4.4,SNR=4.6						
DBIC	Dimbokro	150.31	275	PKPbc	PKPbc	19 08 10.8	-0.5
DBIC	Dimbokro	150.31	275	PKPbc	PKPbc	19 08 10.8	-0.5
	comp=Z,5.6nm,0.8s,baz=62,slow=3.5,SNR=7.1						
BDFB	Brasilia	155.69	147	PKPbc	PKPdf	19 08 20.7	+7.0
	comp=Z,2.1nm,0.4s,baz=163,slow=6.7,SNR=4.2						

*IDC **03** 18:54:25.5±0.6, 731S×15568E, h0km, mb4.5/15, mb1 4.6/16, mb1mx4.5/19, mbtmp4.5/16, ML3.8/1, MS3.9/11, Ms1 3.9/11, ms1mx3.6/26, Error ellipse: s-maj=23.9km s-min=14.6km az=88.0*

*MOS **03** 18:54:29.3±1.1, 726S×15569E, h33km, mb4.9/10, Error ellipse: s-maj=12.1km s-min=10.1km az=86.3*

*BJI **03** 18:54:29.5, 685S×15558E, h12km, mB5.0, mb4.8, Ms4.7, Msz4.5*

*NEIC **03** 18:54:29.8±2.8, 732S×15565E, h29km±19km, mb4.6/23, Error ellipse: s-maj=7.2km s-min=7.1km az=51.0*

*ISCJB **03** 18:54:30.4±2.0, 734S±006×15567E±008, h46km±19km, mb4.5/41, MS3.9/11, Error ellipse: s-maj=13.2km s-min=10.2km az=23.8*

ISC 03 18:54:33.3±1.9, 737S±007×15567E±008, h58km±18km, n92, σ0°80/82, mb4.5/41, MS3.9/11, 6C, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	4.70	116	ePn	Pn	18 55 38.8	-2.9
HNR				Pn	Pn	18 55 41.9	+0.1
HNR				Sn	Sn	18 56 42.3	+7.3
HNR				LR	LR	18 57 27.0	
HNR	Honiara	4.70	116	eP	Pn	18 55 38.8	-2.9
HNR						18 56 42.3	
HNR	Honiara	4.70	116	Pn	Pn	18 55 41.9	+0.1
	baz=266,slow=6.0,SNR=2.6						
HNR				Sn	Sn	18 56 42.3	+7.3
	8.1nm,0.3s,baz=254,slow=20,SNR=2.5						
HNR				LR	LR	18 57 27.0	
	comp=Z,2μm,18.4s,baz=346,slow=38						
CTA	Charters Tower	15.59	215	eP	Pn	18 58 11.0	+1.5
	8.6nm,0.9s						
CTA	Charters Tower	15.59	215	eP	Pn	18 58 11.0	+1.5
CTA				pmax	pmax		
	comp=Z,9.0nm,0.9s						
CTA	Charters Tower	15.59	215	Pn	Pn	18 58 10.7	+1.2
	comp=Z,0.4nm,0.3s,baz=51,slow=12,SNR=4.4						
CTA				LR	LR	19 03 30.1	
	comp=Z,303nm,18.4s,baz=42,slow=35						
CTAO	Charters Tower	15.59	215	ePn	Pn	18 58 10.8	+1.3
	comp=Z,14nm,0.9s						
CTAO	Charters Tower	15.59	215	eP	Pn	18 58 10.8	+1.3
CTAO				pmax	pmax		
	comp=Z,14nm,0.9s						
DZM	Mont Dzumac	17.93	146	P	Pn	18 58 38.9	+0.2
	comp=Z,0.3nm,0.3s,baz=325,slow=9.8,SNR=3.8						
GUMO	Guam	23.42	333	LR	LR	19 07 26.9	
	comp=Z,132nm,20.2s,MS3.4,baz=297,slow=33						
KAKA	Kakadu	23.47	255	eP	P	18 59 37.4	-0.6
	comp=Z,24nm,0.6s,mb4.8						
WB2	Warramunga Arr	24.15	237	eP	P	18 59 44.3	+0.1
WB2				ePCP	PcP	19 03 25.0	+0.9
WRA	Warramunga Arr	24.16	237	P	P	18 59 44.4	+0.1
WRA						19 03 25.0	
WRA	Warramunga Arr	24.16	237	P	P	18 59 44.4	+0.1
	comp=Z,11nm,0.8s,mb4.3,baz=60,slow=9.4,SNR=16						
WRA				PcP	PcP	19 03 25.0	+0.9
	comp=Z,1.4nm,0.6s,baz=63,slow=2.0,SNR=7.3						
WRA				LR	LR	19 09 05.4	
	comp=Z,307nm,19.0s,MS3.8,baz=65,slow=36						
ASAR	Alice Springs	26.43	230	P	P	19 00 04.3	-0.5
	comp=Z,1.2nm,0.5s,mb3.7,baz=59,slow=9.7,SNR=7.5						
ASAR				PcP	PcP	19 03 29.8	+0.6
	comp=Z,1.2nm,0.8s,baz=67,slow=2.6,SNR=5.2						
STKA	Stephens Creek	27.68	206	eP	P	19 00 15.4	-0.6
	comp=Z,8.6nm,0.8s,mb4.4						
STKA	Stephens Creek	27.68	206	P	P	19 00 16.2	+0.2
	comp=Z,10nm,0.8s,mb4.5,baz=15,slow=11,SNR=7.5						
STKA				LR	LR	19 11 29.5	
	comp=Z,342nm,18.4s,MS4.0,baz=27,slow=37						
FITZ	Fitzroy Crossi	31.12	247	eP	P	19 00 46.0	-0.6
	comp=Z,14nm,0.9s,mb4.8						
FITZ				ePCP	PcP	19 03 42.1	+1.1
FITZ	Fitzroy Crossi	31.12	247	P	P	19 00 46.4	-0.2
	comp=Z,2.9nm,0.6s,mb4.3,baz=95,slow=13,SNR=5.6						
FITZ				PcP	PcP	19 03 41.7	+0.7
	comp=Z,4.6nm,0.9s,baz=187,slow=2.4,SNR=4.4						
FITZ				LR	LR	19 13 17.1	
	comp=Z,191nm,18.5s,MS3.8,baz=268,slow=36						
BATI	Kupang	31.74	263	LR	LR	19 14 42.5	
	comp=Z,398nm,18.8s,MS4.1,baz=258,slow=38						
MBWA	Marble Bar	37.31	245	eP	P	19 01 39.8	-0.5
	comp=Z,5.3nm,0.9s,mb4.4						
RPZ	Rata Peaks	38.63	162	P	P	19 01 51.3	+0.3
	comp=Z,10nm,0.7s,mb4.7,baz=215,slow=4.0,SNR=4.3						
KKM	Kota Kinabalu	41.55	288	eP	P	19 02 15.4	-0.3
KLBR	Kellerberrin	42.76	231	eP	P	19 02 24.3	-0.9
	comp=Z,15nm,0.9s,mb4.7						
NWAO	Narrogin (SRO)	43.75	229	eP	P	19 02 32.5	-0.7
	comp=Z,7.8nm,0.8s,mb4.5						
NWAO	Narrogin (SRO)	43.75	229	eP	P	19 02 32.5	-0.7
NWAO				pmax	pmax		
	comp=Z,8.0nm,0.8s						
NWAO	Narrogin (SRO)	43.75	229	P	P	19 02 32.6	-0.5
	comp=Z,10nm,0.9s,mb4.6,baz=304,slow=1.9,SNR=3.9						
NWAO				LR	LR	19 20 17.4	
	comp=Z,154nm,19.0s,MS3.9,baz=221,slow=35						
MUN	Mundaring	44.11	231	eP	P	19 02 35.9	-0.2
KSM	Kuching	46.10	279	eP	P	19 02 51.8	-0.3
MJAR	Matsushiro Arr	46.66	341	P	P	19 02 54.2	-1.9
	comp=Z,1.3nm,0.6s,mb4.0,baz=140,slow=7.5,SNR=4.5						
MJAR				PcP	PcP	19 04 29.2	+0.1
	comp=Z,1.9nm,0.8s,baz=158,slow=5.1,SNR=4.1						
JNU	Nakatsue	46.66	331	LR	LR	19 18 21.6	
	comp=Z,65nm,21.6s,MS3.5,baz=225,slow=31						
ERM	Erimo	50.46	348	P	P	19 03 15.9	-9.4
KSRS	Korea Array	51.58	332	P	P	19 03 33.8	0.0
	comp=Z,1.5nm,0.7s,mb4.0,baz=158,slow=8.9,SNR=3.9						
KSRS				LR	LR	19 22 06.3	
	comp=Z,60nm,20.4s,MS3.6,baz=234,slow=32						
NJ2	Nanjing	52.63	320	eP	P	19 03 41.2	-0.5
NJ2				AMB	AMB		
	comp=Z,20nm,0.8s,mb5.1						
YSS	Yuzh-Sakhalins	55.29	349	P	P	19 03 59.4	-1.4
	comp=Z,15nm,1.2s,mb4.9						
YSS	Yuzh-Sakhalins	55.29	349	eP	P	19 04 01.4	+0.6
KULM	Kulim	56.32	281	eP	P	19 04 08.1	-0.7
MDJ	Mudanjiang	56.84	338	P	P	19 04 12.0	+0.1
MDJ				AMB	AMB		
	comp=Z,6.0nm,2.0s,mb4.3						
MDJ				AMB	AMB		
	comp=Z,107nm,5.5s						
KLR	Kul'dur	60.13	342	eP	P	19 04 30.7	-4.0
KMI	Kunming	60.78	304	P	P	19 04 41.0	+1.4
KMI				AMB	AMB		
	comp=Z,10.0nm,1.2s,mb4.8						
KMI				LR	LR		
	comp=Z,73nm,17.8s,MS3.9						
KMI	Kunming	60.78	304	P	P	19 04 41.0	+1.4
	comp=Z,10.0nm,1.2s,mb4.8						
KMI				LR	LR		
	comp=Z,70nm,17.8s,MS3.9						
CD2	Chengdu	62.56	310	eP	P	19 04 53.4	+1.8
CD2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb5.1						
CD2				AMB	AMB		
	comp=Z,20nm,6.4s						
HIA	Hailar	64.55	335	eP	P	19 05 04.5	+0.3
	comp=Z,10nm,0.9s,mb4.9						
HIA	Hailar	64.55	335	eP	P	19 05 04.5	+0.3
HIA				pmax	pmax		
	comp=Z,10.0nm,0.9s						
LZH	Lanzhou	65.05	315	eP	P	19 05 12.6	+4.8
LZH				AP	pP	19 05 17.0	-6.5
LZH				XP	sP	19 05 19.4	-11
LZH				AMB	AMB		
	comp=Z,15nm,1.0s,mb5.0						
LZH				AMB	AMB		
	comp=Z,73nm,4.2s						
LZH	Lanzhou	65.05	315	eP	P	19 05 12.6	+4.8
	comp=Z,15nm,1.0s,mb5.0						
LZH				pP	pP	19 05 17.0	-6.5
LZH				sP	sP	19 05 19.4	-11
ULN	Ulaanbaatar	69.68	327	eP	P	19 05 37.6	+0.8
	comp=Z,1.7nm,0.4s,mb4.3						
ULN	Ulaanbaatar	69.68	327⇑	iP	P	19 05 38.2	+1.4
SONM	Songino Array	70.01	327	P	P	19 05 39.7	+0.9
	comp=Z,3.6nm,0.6s,mb4.5,baz=142,slow=6.6,SNR=33						
VNDA	Vanda	70.19	179	P	P	19 05 40.0	+0.4
	comp=Z,1.3nm,0.8s,mb3.9,baz=336,slow=7.1,SNR=7.4						
LSA	Lhasa	72.03	304	eP	P	19 05 51.7	+0.2
	comp=Z,5.7nm,0.9s,mb4.5						
LSA	Lhasa	72.03	304	eP	P	19 05 51.7	+0.2
LSA				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.5						
YAK	Yakutsk	72.07	347	eP	P	19 05 51.5	+0.5
	comp=Z,8.8nm,0.8s,mb4.7						
YAK	Yakutsk	72.07	347⇑	eP	P	19 05 52.6	+1.6
YAK				pmax	pmax		
	comp=Z,11nm,0.8s,mb4.8						
ZAK	Zakamensk	73.17	328	eP	P	19 05 58.2	+0.4
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.4s,mb3.9						
BOD	Bodaibo	73.21	338	eP	P	19 05 57.0	-0.9
BOD				pmax	pmax		
	comp=Z,3.0nm,1.1s,mb4.1						
JIRN	Jiri	75.55	301	eP	P	19 06 13.3	+1.1
	comp=Z,3.8nm,0.4s,mb4.7						
BILL	Bilibino	75.61	4	eP	P	19 06 05.1	-6.5
	comp=Z,4.0nm,0.6s,mb4.5						
BILL	Bilibino	75.61	4⇑	eP	P	19 06 11.9	+0.3
BILL				eS	S	19 15 42.3	-5.6
BILL				pmax	pmax		
	comp=Z,6.0nm,1.3s,mb4.4						
KKN	Kakani	76.36	301	eP	P	19 06 17.2	+0.4
	comp=Z,17nm,0.9s,mb5.0						
GKN	Gorkha	76.97	301	eP	P	19 06 20.4	+0.2
KOLN	Koldanda	77.79	300	eP	P	19 06 24.9	+0.1
	comp=Z,11nm,0.7s,mb4.9						
TIXI	Tiksi	80.82	352	eP	P	19 06 39.5	-0.9
	comp=Z,1.9nm,0.8s,mb4.1						
TIXI	Tiksi	80.82	352	iP	P	19 06 40.1	-0.3
QSPA	South Pole Qui	82.60	180	P	P	19 06 50.8	+1.1
	comp=Z,4.9nm,0.8s,mb4.6,baz=1.8,slow=2.5,SNR=15						
COLA	College	83.19	21	iP	P	19 06 52.3	-0.6
MKAR	Makanchi Array	84.13	319	P	P	19 06 58.7	+0.6
MKAR	Makanchi Array	84.13	319	P	P	19 06 58.7	+0.6
	comp=Z,8.7nm,0.7s,mb5.0,baz=103,slow=5.7,SNR=75						
MAW	Mawson	84.31	203	P	P	19 06 59.0	+0.3
	comp=Z,4.5nm,0.8s,mb4.7,baz=335,slow=6.0,SNR=5.2						
ZALV	Zalesovo Beam	84.86	326	P	P	19 07 01.4	-0.3
	comp=Z,4.8nm,0.6s,mb4.8,baz=114,slow=5.3,SNR=24						
ZAL	Zalesovo	84.87	326	P	P	19 07 01.4	-0.3
KURK	Kurchatov	87.54	322	eP	P	19 07 14.6	-0.3
	comp=Z,4.8nm,0.9s,mb4.7						
KURK	Kurchatov	87.54	322⇑	eP	P	19 07 14.7	-0.2
TKM2	Tokmak 2	87.76	314	eP	P	19 07 16.3	+0.1
	comp=Z,2.7nm,0.6s,mb4.7						
TKM2	Tokmak 2	87.76	314	eP	P	19 07 16.3	+0.2
TKM2				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.7						
UCH	Uchtor	88.40	313	eP	P	19 07 20.2	+1.0
	comp=Z,1.6nm,0.8s,mb4.3						
AML	Almayashu	88.98	313	P	P	19 07 21.8	-0.1
	comp=Z,3.0nm,0.9s,mb4.6						
EKS2	Erkin-Say	89.02	313	eP	P	19 07 22.1	0.0
	comp=Z,2.2nm,0.8s,mb4.5						
SYO	Syowa Base	92.19	199⇑	eP	P	19 07 35.0	-1.4
BRVK	Borovoye	93.06	323	eP	P	19 07 38.6	-2.1
	comp=Z,2.9nm,0.9s,mb4.7						
BRVK	Borovoye	93.06	323	eP	P	19 07 38.6	-2.1
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.7						
NEW	Newport	93.59	42	LR	LR	19 42 14.6	
	comp=Z,131nm,21.9s,MS4.3,baz=257,slow=31						
YKA	Yellowknife Ar	96.36	28	P	P	19 07 55.4	-0.1
	comp=Z,0.6nm,0.7s,mb4.1,baz=266,slow=4.8,SNR=10						
OBN	Obninsk	112.42	327⇑	eP	Pdif	19 09 04.4	-2.9
OBN				pmax	pmax		
	comp=Z,8.0nm,1.0s						
OBN				MLR	MLR		
	comp=Z,100nm,19.0s,MS4.4						
FINES	FINESS Array B	114.55	336	PKP	PKiKP	19 13 06.4	-0.2
	comp=Z,0.7nm,0.6s,baz=128,slow=3.1,SNR=4.7						
NOA	NORSAR Array B	120.27	341	PKP	PKPdf	19 13 17.0	-0.6
	comp=Z,1.6nm,0.9s,baz=39,slow=1.8,SNR=3.3						
BOSA	Boshof	120.30	231	PKP	PKPdf	19 13 19.3	+0.5
BOSA	Boshof	120.30	231	PKP	PKPdf	19 13 19.3	+0.5
	comp=Z,1.2nm,0.6s,baz=145,slow=14,SNR=5.8						
GERES	GERESS Array B	127.72	329	PKP	PKPdf	19 13 33.4	+1.1
	comp=Z,0.5nm,0.6s,baz=132,slow=1.5,SNR=5.8						
LPAZ	La Paz	130.69	119	PKP	PKPdf	19 13 40.4	+1.5
	comp=Z,2.7nm,1.1s,baz=8.3,slow=1.9,SNR=7.3						
TSUM	Tsumeb	130.98	237	PKP	PKPdf	19 13 41.0	+1.6
	comp=Z,1.5nm,0.7s,baz=212,slow=5.4,SNR=4.2						
BDFB	Brasilia	147.24	134	PKPbc	PKPbc	19 14 10.6	-0.6
	comp=Z,6.6nm,0.7s,baz=202,slow=5.2,SNR=6.9						

*ATH **03** 18:57:38.9, 4181N×2042E, h16km±7km, MD4.1/13*

*SKO **03** 18:57:38.9, 4166N×2047E, h23km, M2.9, ML3.2*

*TIR **03** 18:57:39.3±2.6, 4175N×2048E, h7km±28km, ML3.5*

*ISCJB **03** 18:57:39.5±0.3, 4174N±001×2049E±002, h7km±2km, Error ellipse: s-maj=2.7km s-min=1.6km az=140.5*

*PRU **03** 18:57:39.1, 4158N×2043E, h0km*

*THE **03** 18:57:39.8, 4170N×2052E, h3km, ML4.2*

*PDG **03** 18:57:40.2±2.0, 4176N×2047E, h8km±4km, MD3.6/9, ML3.5/9, Error ellipse: s-maj=2.7km s-min=3.2km az=0.0*

*CSEM **03** 18:57:40.2±0.4, 4181N×2047E, h10km, ML3.5, Error ellipse: s-maj=1.8km s-min=1.1km az=44.0*

*NEIC **03** 18:57:41.2±0.3, 4169N×2042E, h10km, MD4.1(ATH), ML3.5(PDG), Error ellipse: s-maj=6.5km s-min=4.1km az=56.0*

*BEO **03** 18:57:42.2±0.5, 4187N×2055E, ML3.4/6*

ISC 03 18:57:40.2±0.3, 4172N±001×2051E±002, h0km±2km, n150, σ1°09/220, 35C-20D, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKS	Kukesi	0.36	349	iPG	Pg	18 57 46.6	-0.6
KKS				iSG	Sg	18 57 52.7	+0.8
PUK	Puka	0.56	305	iPG	Pg	18 57 49.2	-1.8
PUK				iSG	Sg	18 57 58.6	+0.3
TIR	Tirane	0.61	233	P	Pg	18 57 50.6	-1.3
TIR	Tirane	0.61	233	ePg	Pg	18 57 50.6	-1.3
TIR				eSg	Sg	18 58 00.4	+0.6
TIR	Tirane	0.61	233	eSg	Sg	18 58 05.4	+5.6
TIR	Tirane	0.61	233	iPG	Pg	18 57 51.3	-0.6
TIR				iSG	Sg	18 57 59.8	0.0
TIR	Tirane	0.61	233	iPg	Pg	18 57 51.3	-0.6
TIR				eSg	Sg	18 58 00.4	+0.6
OHR	Ohrid	0.65	160	ePg	Pg	18 57 51.1	-1.5
OHR				eSg	Sg	18 58 01.8	+0.8
OHR	Ohrid	0.65	160⇑	iPg	Pg	18 57 51.2	-1.4
OHR				iSg	Sg	18 58 01.8	+0.9
	comp=E,2μm,0.5s						
OHR				eLg		18 58 02.3	
OHR				eLg		18 58 02.3	
OHR	Ohrid	0.65	160	ePg	Pg	18 57 51.1	-1.5
OHR				iSg	Sg	18 58 01.7	+0.8
	comp=E,2μm,0.5s						
KRUS	Krusevo	0.66	122	iPg	Pg	18 57 52.8	0.0
SKO	Skopje	0.74	70	iPg	Pg	18 57 54.4	0.0
SKO				iSg	Sg	18 58 05.0	+1.0
	comp=E,640nm,0.5s						
SKO				eLg		18 58 06.2	
SKO				eLg		18 58 07.1	
SKO	Skopje	0.74	70	ePg	Pg	18 57 54.4	0.0
SKO				eSg	Sg	18 58 06.6	+2.6
SDA	Shkodra	0.82	294	iPG	Pg	18 57 54.5	-1.5
SDA				iSG	Sg	18 58 07.6	+0.9
BIA	Bitola	0.93	138	iPg	Pg	18 57 56.4	-1.7
BIA				eSg	Sg	18 58 11.2	+1.1
	comp=N,389nm,0.5s						
BIA				eLg		18 58 12.1	
BIA				eLg		18 58 12.5	
BIA	Bitola	0.93	138	ePg	Pg	18 57 56.3	-1.7
BIA				eSg	Sg	18 58 10.0	-0.1
PVY	Plav	0.96	336⇑	iPg	Pg	18 57 57.4	-1.3
PVY				eSg	Sg	18 58 11.9	+0.8
PVY	Plav	0.96	336	iPG	Pg	18 57 57.4	-1.3
PVY				iSG	Sg	18 58 11.9	+0.8
ULC	Ulcinj	0.97	285⇑	iPg	Pg	18 57 57.0	-1.9
ULC				eSg	Sg	18 58 12.3	+0.9
ULC	Ulcinj	0.97	285	iPG	Pg	18 57 57.0	-1.9
ULC				iSG	Sg	18 58 12.3	+0.9
KBN	Korca	1.11	169	iPG	Pg	18 58 03.4	+1.8
KBN				iSG	Sg	18 58 18.9	+2.9
FNA	Florina	1.14	145	ePg	Pg	18 58 00.3	-1.8
FNA				eSg	Sg	18 58 16.9	+0.1
PDG	Podgorica	1.17	308	iPG	Pg	18 58 00.4	-2.2
PDG				iSG	Sg	18 58 18.2	+0.4
PDG	Podgorica	1.17	308⇓	iPg	Pg	18 58 00.4	-2.2
PDG				eSg	Sg	18 58 18.3	+0.5
TTG	Podgorica	1.17	308⇓	iPg	Pg	18 58 00.4	-2.2
TTG				eSg	Sg	18 58 18.3	+0.5
BEY	Berane	1.24	339	iPG	Pg	18 58 02.2	-1.8
BEY				iSG	Sg	18 58 20.9	+0.9
BEY	Berane	1.24	339⇓	iPg	Pg	18 58 02.3	-1.7
BEY				eSg	Sg	18 58 20.9	+0.9
IVA	Berane	1.24	339⇓	iPg	Pg	18 58 02.3	-1.7
IVA				eSg	Sg	18 58 20.9	+0.9
STIP	Stip	1.26	91	ePg	Pg	18 58 02.9	-1.5
STIP				eSg	Sg	18 58 21.9	+1.3
STIP	Stip	1.26	91	iPg	Pg	18 58 02.7	-1.6
STIP				eSg	Sg	18 58 21.3	+0.7
	comp=N,214nm,0.6s						
STIP				eLg		18 58 23.4	
STIP				eLg		18 58 23.5	
STIP	Stip	1.26	91	ePg	Pg	18 58 02.8	-1.5
STIP				eSg	Sg	18 58 21.2	+0.6
	comp=N,214nm,0.6s						
BUM	Brajici-Budva	1.33	296⇑	iPg	Pg	18 58 03.6	-2.2
BUM				eSg	Sg	18 58 24.4	+1.3
BUM	Brajici-Budva	1.33	296	iPG	Pg	18 58 03.6	-2.2
BUM				iSG	Sg	18 58 24.4	+1.3
VLO	Vlora	1.47	212	iPG	Pg	18 58 09.8	+1.5
BARS	Barje	1.47	41⇑	iPn	Pn	18 58 07.2	-0.8
NKY	Niksic	1.57	315⇑	iPg	Pn	18 58 08.4	-0.9
NKY				eSg	Sg	18 58 32.0	+1.5
NKY	Niksic	1.57	315	iPG	Pn	18 58 08.4	-0.9
NKY				iSG	Sg	18 58 32.0	+1.5
VAY	Valandovo	1.60	104	ePg	Pn	18 58 08.8	-0.9
VAY	Valandovo	1.60	104	iPn	Pn	18 58 08.9	-0.8
VAY				eSn	Sn	18 58 26.0	-5.0
VAY				eLg		18 58 31.6	
VAY				eLg		18 58 31.8	
VAY	Valandovo	1.60	104	iPn	Pn	18 58 08.8	-0.9
SJES	Sjenica	1.60	345⇑	iPn	Pn	18 58 10.3	+0.5
HCY	Herceg Novi	1.66	297	iPn	Pn	18 58 09.4	-1.2
HCY				eSn	Sg	18 58 34.6	+0.9
HCY	Herceg Novi	1.66	297	iPG	Pn	18 58 09.4	-1.2
HCY				iSG	Sg	18 58 34.6	+0.9
KZN	Kozani	1.70	145	ePN	Pn	18 58 11.8	+0.7
KZN				eSN	Sg	18 58 35.8	+0.9
PLE	Pljevlja	1.81	333⇑	iPn	Pn	18 58 13.2	+0.2
PLE				eSn	Sg	18 58 37.9	-0.4
BRY	Bratogost	1.88	310⇓	iPn	Pn	18 58 13.5	0.0
BRY				eSn	Sn	18 58 39.1	+1.2
KNT	Kendrikon	1.88	106	ePb	Pn	18 58 12.8	-0.8
UPM	Unac-Piva	1.90	322⇓	iPn	Pn	18 58 14.0	+0.2
UPM				eSn	Sn	18 58 39.5	+1.1
MEV	Metsovon	2.01	164	ePn

PKSM	**Moragy**	**4.69 344**	⇑P	**Pn**	**18 58 51.5**	**-0.7**
PKSM			*e*S	**Sn**	**18 59 44.5**	**-2.7**
VOIR		**4.97 40**	⇓P	**Pn**	**18 58 57.5**	**+1.5**
VOIR		**4.97 40**	⇓*i*P	**Pn**	**18 58 57.5**	**+1.5**
NVLJ	**Novalja**	**5.01 306**	*e*Pn	**Pn**	**18 58 56.5**	**-0.1**
NVLJ	**Novalja**	**5.01 306**	*e*Pn	**Pn**	**18 58 56.4**	**-0.2**
AQU	**L'Aquila**	**5.33 279**	*e*Pn	**Pn**	**18 58 59.9**	**-1.1**
	comp=N,93nm,1.0s					
AQU	**L'Aquila**	**5.33 279**	*e*Pn	**Pn**	**18 58 59.8**	**-1.2**
	comp=N,93nm,1.0s					
AQU	**L'Aquila**	**5.33 279**	⇑*i*P	**Pn**	**18 59 00.8**	**-0.2**
BOJS	**Bojanci**	**5.37 317**	*i* Pn	**Pn**	**18 59 02.8**	**+1.2**
MLR	**Muntele Rosu**	**5.46 44**	⇑*i*P	**Pn**	**18 59 04.3**	**+1.6**
KOGS	**Kog**	**5.63 328**	*i* Pn	**Pn**	**18 59 06.1**	**+0.9**
BUD	**Budapest**	**5.86 350**	⇑*e*Pn	**Pn**	**18 59 13.0**	**+4.8**
BUD			*e*Sn	**Sn**	**19 00 23.9**	**+7.8**
APE	**Apeiranthos**	**6.06 138**	⇓P	**Pn**	**18 59 12.0**	**+1.1**
APE	**Apeiranthos**	**6.06 138**	⇓*i*P	**Pn**	**18 59 12.0**	**+1.0**
SKDS	**Skadanscina**	**6.07 311**	*i* Pn	**Pn**	**18 59 10.9**	**-0.3**
PSZ	**Piszkesteto**	**6.21 356**	*e*Pn	**Pn**	**18 59 10.2**	**-2.9**
PSZ			*e*Sn	**Sn**	**19 00 19.0**	**-5.8**
PSZ	**Piszkesteto**	**6.21 356**	S	**Sn**	**19 00 25.8**	**+1.0**
PSZ	**Piszkesteto**	**6.21 356**	⇓*e*Pn	**Pn**	**18 59 15.7**	**+2.6**
PSZ			*e*Sn	**Sn**	**19 00 24.7**	**-0.1**
PSZ	**Piszkesteto**	**6.21 356**	*e*Pn	**Pn**	**18 59 10.2**	**-2.9**
PSZ	**Piszkesteto**	**6.21 356**	⇑*i*P	**Pn**	**18 59 12.6**	**-0.5**
PSZ			*e*Sn	**Sn**	**19 00 19.0**	**-5.8**
PSZ			*e*S	**Sn**	**19 00 24.7**	**-0.1**
PERS	**Pernice**	**6.26 324**	*i* Pn	**Pn**	**18 59 15.0**	**+1.3**
OBKA	**Obir**	**6.43 320**	⇓*i*Pn	**Pn**	**18 59 16.8**	**+0.8**
OBKA			⇓*i*Sn	**Sn**	**19 00 29.6**	**-0.5**
OBKA	**Obir**	**6.43 320**	Pn	**Pn**	**18 59 16.8**	**+0.8**
VOY	**Vojsko**	**6.44 314**	*e*Pn	**Pn**	**18 59 16.3**	**+0.1**
VOY			*e*Sn	**Sn**	**19 00 32.0**	**+1.7**
GORS	**Gorjuse**	**6.57 317**	*i* Pn	**Pn**	**18 59 18.1**	**+0.1**
KECS	**Kecovo**	**6.76 360**	*e*Pn	**Pn**	**18 59 20.6**	**-0.1**
KECS			*e*SN	**Sn**	**19 00 36.0**	**-2.3**
ROBS	**Robic**	**6.78 314**	*i* Pn	**Pn**	**18 59 21.0**	**+0.2**
VYHS	**Vyhne**	**6.88 351**	*e*PN	**Pn**	**18 59 24.2**	**+2.0**
VYHS			*e*SN	**Sn**	**19 00 36.0**	**-5.1**
ZST	**Bratislava**	**6.91 341**	*e*SN	**Sn**	**19 00 38.2**	**-3.8**
MODS	**Modra-Piesok**	**7.04 342**	*e*PN	**Pn**	**18 59 25.6**	**+1.2**
MODS			*e*SN	**Sn**	**19 00 43.9**	**-1.1**
CRVS	**Cervenica-Dubn**	**7.21 5**	*e*PN	**Pn**	**18 59 27.6**	**+0.8**
KOLS	**Kolonicke sedl**	**7.32 9**	*e*PN	**Pn**	**18 59 29.5**	**+1.2**
GVD	**Gavdhos**	**7.42 157**	Pn	**Pn**	**18 59 29.6**	**-0.2**
GVD			*e*Sn	**Sn**	**19 00 50.0**	**-4.6**
GVD	**Gavdhos**	**7.42 157**	Pn	**Pn**	**18 59 29.5**	**-0.2**
GVD			*e*Sn	**Sn**	**19 00 50.0**	**-4.6**
MOA	**Molln**	**7.57 326**	⇓*i*Pn	**Pn**	**18 59 32.2**	**+0.5**
MOA			⇑*i*Sn	**Sn**	**19 00 57.4**	**-0.7**
ABTA	**Abfaltersbach**	**7.63 314**	⇑*i*Pn	**Pn**	**18 59 32.2**	**-0.3**
	SNR=8.2					
STHS	**Stebnicka Huta**	**7.72 4**	*e*PN	**Pn**	**18 59 35.5**	**+1.8**
STHS			*e*SN	**Sn**	**19 01 06.5**	**+4.8**
VLC	**Villacollemand**	**7.82 292**	Pn	**Pn**	**18 59 31.4**	**-3.8**
VLC	**Villacollemand**	**7.82 292**	Pn	**Pn**	**18 59 31.4**	**-3.7**
WTTA	**Wattenberg**	**8.42 314**	⇑*i*Pn	**Pn**	**18 59 44.2**	**+0.9**
WTTA			*i* Sn	**Sn**	**19 01 19.2**	**+0.1**
WTTA	**Wattenberg**	**8.42 314**	⇑*i*Pn	**Pn**	**18 59 44.3**	**+0.9**
WTTA			⇑*i*Sn	**Sn**	**19 01 19.2**	**+0.1**
WTTA	**Wattenberg**	**8.42 314**	⇑*i*Pn	**Pn**	**18 59 44.2**	**+0.8**
SQTA	**Sankt Quirin**	**8.63 313**	⇑*i*Pn	**Pn**	**18 59 47.5**	**+1.3**
	SNR=5.8					
SQTA			⇑*i*Sn	**Sn**	**19 01 24.3**	**+0.1**
MOTA	**Moosalm**	**8.76 313**	⇑*i*Pn	**Pn**	**18 59 49.0**	**+0.9**
MOTA			*i* Sn	**Sn**	**19 01 27.2**	**-0.2**
MOTA	**Moosalm**	**8.76 313**	⇑*i*Pn	**Pn**	**18 59 48.9**	**+0.9**
	SNR=7.3					
MOTA			⇓*i*Sn	**Sn**	**19 01 27.2**	**-0.1**
KHC	**Kasperske Hory**	**8.87 329**	*e*PN	**Pn**	**18 59 49.9**	**+0.4**
KHC			*e*SN	**Sn**	**19 01 31.0**	**+1.0**
ESK	**Eskdalemuir**	**20.64 319**	*e*P	**P**	**19 02 20.1**	**-1.0**
	comp=N,9.9nm,0.8s					
ESK	**Eskdalemuir**	**20.64 319**	*e*P	**P**	**19 02 20.1**	**-1.0**
	comp=N,9.9nm,0.8s					
BRVK	**Borovoye**	**34.87 54**	*e*P	**P**	**19 04 33.1**	**+0.2**
	comp=N,0.9nm,0.6s					
BRVK	**Borovoye**	**34.87 54**	*e*P	**P**	**19 04 33.1**	**+0.2**

IDC 03 19:00:04.9±17.0, 2318S×17443W, h0km, mb4.3/5, mb1 4.4/5, mb1mx4.0/16, mbtmp4.3/5, Error ellipse: s-maj=318.7km s-min=142.5km az=81.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**36.61**	**267**	*e*P	P	19 07 13.8	+0.8
	5.5nm,0.4s						
CTA	**Charters Tower**	**36.61**	**267**	P	P	19 07 14.0	+0.9
	9.7nm,0.5s,baz=98,slow=7.8,SNR=14						
STKA	**Stephens Creek**	**39.73**	**248**	P	P	19 07 38.0	-1.2
	0.7nm,0.4s,baz=63,slow=9.0,SNR=3.9						
ASAR	**Alice Springs**	**47.20**	**259**	P	P	19 08 39.0	-0.6
	0.7nm,0.4s,baz=94,slow=6.8,SNR=22						
WB2	**Warramunga Arr**	**47.55**	**264**	*e*P	P	19 08 42.0	-0.5
WRA	**Warramunga Arr**	**47.57**	**264**	P	P	19 08 42.2	-0.4
	2.2nm,0.3s,baz=100,slow=8.3,SNR=89						
FITZ	**Fitzroy Crossi**	**55.99**	**263**	*e*P	P	19 09 46.6	+1.1
	4.7nm,0.8s						
FITZ	**Fitzroy Crossi**	**55.99**	**263**	P	P	19 09 46.3	+0.8
	2.7nm,0.8s,baz=119,slow=10,SNR=6.7						

*BJI **03** 19:06:29.0, 761S×15597E, h25km, mB4.7, mb4.5, Ms4.6, Msz4.2*
*IDC **03** 19:06:29.8±1.1, 7.17S×15621E, h0km, mb4.3/9, mb1 4.3/9, mb1mx4.1/16, mbtmp4.3/9, Error ellipse: s-maj=36.7km s-min=20.8km az=98.0*
*NEIC **03** 19:06:32.5±0.7, 697S×15584E, h10km, mb4.5/8, Error ellipse: s-maj=16.9km s-min=15.2km az=46.0*
*ISCJB **03** 19:06:38.0±2.8, 7.1S±0.1×1560E±0.1, h73km±30km, mb4.2/16, Error ellipse: s-maj=20.8km s-min=15.1km az=43.2*

ISC 03 19:06:39.9±2.6, 72S±01×1560E±01, h74km±29km, n26, σ0§86/26, mb4.2/16, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.51**	**120**	*e*Pn	**Pn**	**19 07 46.3**	**+0.5**
HNR	**Honiara**	**4.51**	**120**	Pn	**Pn**	**19 07 46.0**	**+0.2**
	3.8nm,0.3s,baz=49,slow=1.1,SNR=2.7						
HNR				Sn	**Sn**	**19 08 36.6**	**-0.4**
	19nm,0.3s,baz=91,slow=20,SNR=3.9						
KAKA	**Kakadu**	**23.84**	**255**	*e*P	**P**	**19 11 47.1**	**+0.6**
	14nm,0.5s,mb4.6						
WB2	**Warramunga Arr**	**24.54**	**237**	*e*P	**P**	**19 11 53.3**	**+0.5**
WRA	**Warramunga Arr**	**24.55**	**237**	P	**P**	**19 11 53.5**	**+0.7**
	4.5nm,0.4s,mb4.2,baz=60,slow=9.7,SNR=52						
ASAR	**Alice Springs**	**26.82**	**230**	P	**P**	**19 12 13.0**	**-0.3**
	0.3nm,0.5s,baz=62,slow=9.7,SNR=6.2						
ASAR				PcP	PcP	19 15 35.0	+0.4
	0.3nm,0.4s,baz=73,slow=2.5,SNR=6.7						
STKA	**Stephens Creek**	**28.02**	**207**	P	**P**	**19 12 24.1**	**+0.1**
	2.0nm,1.0s,mb3.6,baz=141,slow=18,SNR=2.9						
FITZ	**Fitzroy Crossi**	**31.50**	**247**	*e*P	**P**	**19 12 55.0**	**0.0**
	7.2nm,0.6s,mb4.6						
FITZ	**Fitzroy Crossi**	**31.50**	**247**	P	**P**	**19 12 55.2**	**+0.2**
	3.8nm,0.6s,mb4.3,baz=89,slow=8.1,SNR=22						
MBWA	**Marble Bar**	**37.70**	**245**	*e*P	**P**	**19 13 46.9**	**-1.6**
	2.3nm,0.5s,mb4.3						
KSRS	**Korea Array**	**51.55**	**331**	P	**P**	**19 15 40.0**	**+1.7**
	1.3nm,0.7s,mb4.0,baz=148,slow=6.0,SNR=4.3						
NJ2	**Nanjing**	**52.68**	**320**	*e*P	**P**	**19 15 46.5**	**-0.4**
NJ2				AMB	AMB		
	comp=Z,30nm,0.8s						
MDJ	**Mudanjiang**	**56.76**	**338**	P	**P**	**19 16 15.4**	**-0.8**
MDJ				AMB	AMB		
	comp=Z,5.0nm,1.9s,mb4.2						
MDJ				AMB	AMB		
	comp=Z,59nm,6.3s						
KMI	**Kunming**	**60.94**	**304**	P	**P**	**19 16 43.8**	**-1.7**
KMI				AP	pP	19 16 48.6	-16
KMI				AMB	AMB		
	comp=Z,4.0nm,0.8s,mb4.5						
KMI				LR	LR		
	comp=Z,28nm,18.8s						
KMI	**Kunming**	**60.94**	**304**	P	**P**	**19 16 43.8**	**-1.7**
	comp=Z,4.0nm,0.8s,mb4.5						
KMI				pP	pP	19 16 48.6	-16
KMI				sP	sP	19 16 51.1	-22
LZH	**Lanzhou**	**65.13**	**315**	*e*P	**P**	**19 17 11.5**	**-1.6**
LZH				AMB	AMB		
	comp=Z,15nm,1.0s,mb4.8						
LZH				AMB	AMB		
	comp=Z,60nm,4.1s						
LZH	**Lanzhou**	**65.13**	**315**	*e*P	**P**	**19 17 11.5**	**-1.6**
	comp=Z,15nm,1.0s,mb4.8						
LZH				pP	pP	19 17 15.0	-18
LZH				sP	sP	19 17 16.5	-24
ULN	**Ulaanbaatar**	**69.68**	**327**	*e*P	**P**	**19 17 42.3**	**+0.8**
	comp=Z,1.1nm,0.6s,mb3.9						
SONM	**Songino Array**	**70.01**	**327**	P	**P**	**19 17 44.5**	**+0.9**
	comp=Z,1.7nm,0.8s,mb3.9,baz=148,slow=6.4,SNR=12						
QSPA	**South Pole Qui**	**82.82**	**180**	P	**P**	**19 18 55.8**	**+0.3**
	comp=Z,1.8nm,0.7s,mb4.0,baz=346,slow=3.1,SNR=11						
MKAR	**Makanchi Array**	**84.19**	**318**	P	**P**	**19 19 03.9**	**+0.8**
	comp=Z,3.4nm,0.5s,mb4.4,baz=99,slow=7.7,SNR=58						
ZALV	**Zalesovo Beam**	**84.87**	**326**	P	**P**	**19 19 05.5**	**-0.9**
ZALV	**Zalesovo Beam**	**84.87**	**326**	P	**P**	**19 19 05.5**	**-0.9**
	comp=Z,2.0nm,0.4s,mb4.4,baz=108,slow=5.4,SNR=13						
TKM2	**Tokmak 2**	**87.85**	**314**	*e*P	**P**	**19 19 21.7**	**+0.5**
	comp=Z,1.7nm,0.6s,mb4.2						
EKS2	**Erkin-Say**	**89.11**	**313**	P	**P**	**19 19 27.3**	**+0.1**
	comp=Z,2.2nm,1.1s,mb4.1						
BDFB	**Brasilia**	**147.15**	**134**	PKPbc	PKPbc	19 26 15.3	-0.2
	comp=Z,4.3nm,0.7s,baz=193,slow=2.5,SNR=3.6						

*NEIC **03** 19:20:32.6±0.5, 2120S×16970E, h10km, mb4.8/9, Error ellipse: s-maj=12.5km s-min=11.0km az=152.0*
*IDC **03** 19:20:32.3±0.8, 2137S×16957E, h0km, mb4.3/8, mb1 4.5/10, mb1mx4.4/15, mbtmp4.3/10, ML3.9/2, MS3.8/6, Ms1 3.8/6, ms1mx3.7/18, Error ellipse: s-maj=25.9km s-min=19.2km az=150.0*
*ISCJB **03** 19:20:37.6±2.5, 214S±0.1×1695E±0.1, h56km±19km, mb4.5/15, MS4.0/3, Error ellipse: s-maj=20.7km s-min=13.2km az=38.4*

ISC 03 19:20:39.4±2.4, 214S±01×1695E±01, h56km±19km, h57km±13.7km; pP-P, n59, σ1§07/33, mb4.5/15, MS4.0/3, 2D, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**2.95**	**257**	*e*P	**Pn**	**19 21 23.1**	**-0.7**
DZM				*e*S	**Sn**	**19 21 57.7**	**-0.3**
DZM	**Mont Dzumac**	**2.95**	**257**	Pn	**Pn**	**19 21 22.6**	**-1.2**
	24nm,0.3s,baz=89,slow=16,SNR=231						
DZM				Sn	**Sn**	**19 21 57.2**	**-0.8**
	47nm,0.3s,baz=44,slow=23,SNR=15						
RAO	**Raoul Island**	**13.75**	**127**	LR	LR	19 27 05.2	
	comp=Z,103nm,18.8s,baz=344,slow=28						
HNR	**Honiara**	**15.07**	**321**	LR	LR	19 28 39.8	
	comp=Z,156nm,19.8s,baz=173,slow=32						
URZ	**Urewera**	**18.01**	**160**	P	**Pn**	**19 24 46.4**	**+0.7**
	0.3nm,0.3s,baz=30,slow=8.7,SNR=6.1						
URZ				LR	LR	19 29 54.2	
	comp=Z,213nm,18.7s,baz=35,slow=31						
ARMA	**Armidale**	**18.42**	**237**	*e*P	**Pn**	**19 24 52.0**	**+1.3**
CTA	**Charters Tower**	**21.82**	**269**	LR	LR	19 33 04.2	
	comp=Z,449nm,21.7s,MS3.8,baz=84,slow=34						
CTAO	**Charters Tower**	**21.82**	**269**	*e*P	**P**	**19 25 28.6**	**+1.6**
	15nm,1.0s,mb4.4						
RPZ	**Rata Peaks**	**22.27**	**177**	LR	LR	19 32 47.9	
	comp=Z,468nm,20.6s,MS3.9,baz=287,slow=33						
CNB	**Canberra Magne**	**22.46**	**228**	*e*P	**P**	**19 25 34.9**	**+1.2**
	54nm,1.1s,mb4.9						
STKA	**Stephens Creek**	**26.99**	**241**	*e*P	**P**	**19 26 17.0**	**+1.0**
	9.0nm,0.9s,mb4.3						
STKA	**Stephens Creek**	**26.99**	**241**	P	**P**	**19 26 16.8**	**+0.8**
	9.2nm,0.8s,mb4.4,baz=60,slow=7.9,SNR=20						
STKA				LR	LR	19 36 57.2	
	comp=Z,535nm,18.2s,MS4.1,baz=36,slow=36						
WB2	**Warramunga Arr**	**32.92**	**266**	*e*P	**P**	**19 27 07.7**	**-0.8**
WRA	**Warramunga Arr**	**32.93**	**266**	P	**P**	**19 27 07.9**	**-0.7**
	3.2nm,0.9s,mb4.3,baz=95,slow=8.1,SNR=14						
ASAR	**Alice Springs**	**32.94**	**259**	P	**P**	**19 27 08.7**	**0.0**
	7.4nm,0.8s,mb4.6,baz=83,slow=8.9,SNR=57						
TBI	**Tubuai**	**37.87**	**101**	*e*LR	LR	19 38 08.5	
	179nm,27.0s						
PPT	**Papeete**	**38.65**	**92**	*e*LR	LR	19 38 25.7	
	236nm,24.8s						
FITZ	**Fitzroy Crossi**	**41.35**	**267**	⇓*i*P	**P**	**19 28 20.6**	**+0.5**
	20nm,0.8s,mb4.8						
FITZ	**Fitzroy Crossi**	**41.35**	**267**	P	**P**	**19 28 20.8**	**+0.8**
	11nm,0.7s,mb4.6,baz=120,slow=9.2,SNR=32						
MBWA	**Marble Bar**	**46.25**	**261**	*e*P	**P**	**19 28 59.6**	**+0.3**
	7.5nm,0.8s,mb4.7						
NWAO	**Narrogin (SRO)**	**47.51**	**245**	*e*P	**P**	**19 29 06.7**	**-2.3**
	13nm,1.1s,mb4.9						
TAOE	**Nuku Hiva Isla**	**49.94**	**84**	*e*LR	LR	19 43 44.8	
	7μm,26.6s						
VNDA	**Vanda**	**56.27**	**182**	P	**P**	**19 30 13.3**	**-0.3**
VNDA	**Vanda**	**56.27**	**182**	P	**P**	**19 30 13.3**	**-0.3**
	2.1nm,1.0s,mb4.1,baz=2.5,slow=4.5,SNR=5.5						
SBA	**Scott Base**	**56.50**	**181**	*e*P	**P**	**19 30 15.3**	**+0.1**
	14nm,1.1s,mb4.9						
CASY	**Casey**	**58.26**	**204**	*e*P	**P**	**19 30 37.6**	**+10**
	21nm,0.6s,mb5.3						
KSM	**Kuching**	**62.15**	**284**	*e*P	**P**	**19 30 55.1**	**-0.1**
MJAR	**Matsushiro Arr**	**64.80**	**332**	P	**P**	**19 31 11.7**	**-0.4**
	0.5nm,0.3s,mb4.0,baz=266,slow=6.2,SNR=3.6						
MAJO	**Matsushiro**	**64.80**	**332**	P	**P**	**19 31 17.1**	**+4.9**
MDJ	**Mudanjiang**	**75.17**	**332**	*e*P	**P**	**19 32 13.6**	**-2.0**
KMI	**Kunming**	**79.66**	**302**	P	**P**	**19 32 42.5**	**+1.3**
	6.0nm,1.3s,mb4.4						
KMI				pP	pP	19 32 51.0	-6.1
KMI				sP	sP	19 32 55.0	-8.3
SNAA	**Sanae**	**87.01**	**182**	*e*	**P**	**19 33 16.3**	**-1.9**
SNAA				*e*		19 33 18.7	
SNAA				*e*		19 33 23.6	
SNAA				*e*	pP	19 33 30.2	-4.1
SNAA				*e*	pP	19 33 35.3	+1.0
SNAA				*e*		19 33 37.1	
SNAA				*e*		19 33 42.3	
VNA3	**Neumayer Olymp**	**87.59**	**180**	*e*	**P**	**19 33 20.3**	**-0.7**
VNA3				*e*		19 33 22.1	
VNA3				*e*		19 33 26.2	
VNA3				*e*	pP	19 33 31.8	-5.3
VNA3				*e*	pP	19 33 37.2	+0.1
VNA3				*e*	pP	19 33 40.1	+3.0
VNA3				*e*		19 33 44.9	
VNA3				*e*		19 33 48.1	
VNA3				*e*		19 33 51.9	
VNA2	**Neumayer--Watz**	**87.88**	**181**	*e*	**P**	**19 33 21.9**	**-0.5**
	baz=176,slow=4.2						
VNA2				*e*		19 33 23.7	
VNA2				*e*		19 33 28.3	
VNA2				*e*	pP	19 33 33.4	-5.1
VNA2				*e*	pP	19 33 38.4	-0.1
VNA2				*e*	pP	19 33 41.5	+3.0
VNA2				*e*		19 33 46.8	
VNA2				*e*		19 33 50.4	
VNA2				*e*		19 33 53.6	
VNA1	**Neumayer--Stat**	**88.17**	**181**	*e*	**P**	**19 33 23.7**	**0.0**
VNA1				*e*		19 33 25.4	
VNA1				*e*		19 33 32.8	
SONM	**Songino Array**	**89.12**	**323**	P	**P**	**19 33 30.8**	**+2.3**
	0.8nm,1.0s,mb4.0,baz=134,slow=4.2,SNR=4.2						
NVAR	**Mina Array Bea**	**90.02**	**48**	P	**P**	**19 33 33.5**	**+0.6**
NVAR	**Mina Array Bea**	**90.02**	**48**	P	**P**	**19 33 33.5**	**+0.6**
	0.6nm,0.8s,mb4.0,baz=219,slow=6.6,SNR=3.7						
ARCES	**ARCESS Array B**	**127.23**	**345**	PKP	PKPdf	19 39 36.0	-0.7
	1.7nm,0.6s,baz=75,slow=2.9,SNR=9.4						
FINES	**FINESS Array B**	**132.70**	**337**	PKP	PKPdf	19 39 49.8	+2.5
	1.6nm,0.8s,baz=196,slow=35,SNR=3.4						
PVCC	**Panska Ves**	**144.92**	**332**	*e*PKP	PKPdf	19 40 14.9	+5.0
BRG	**Berggiesshubel**	**144.94**	**333**	*e*PKP	PKPdf	19 40 09.3	-0.6
	3.7nm,0.5s						
CLL	**Collm**	**145.00**	**334**	*e*PKPdf	PKPdf	19 40 09.0	-1.0
	comp=Z,4.0nm,0.6s						
CLL				*e*(pPKPdf)		19 40 16.0	
EKA	**Eskdalemuir Ar**	**145.69**	**353**	PKPbc	PKPbc	19 40 13.9	+2.4
	comp=Z,4.1nm,0.6s,baz=340,slow=1.8,SNR=18						
NKC	**Novy Kostel**	**146.05**	**333**	*e*PKP	PKPab	19 40 20.3	+6.9
KHC	**Kasperske Hory**	**146.38**	**331**	*e*PKP	PKPdf	19 40 13.6	+1.1
KHC				*e*x	x	19 40 21.5	
GERES	**GERESS Array B**	**146.53**	**331**	PKPbc	PKPbc	19 40 14.4	+0.1
	comp=Z,2.0nm,0.6s,baz=28,slow=3.0,SNR=22						
GRA1	**Grafenberg Arr**	**146.97**	**334**	*e*PKP	PKPdf	19 40 11.9	-1.5
GRF	**Grafenberg Arr**	**146.97**	**334**	*e*PKP	PKPdf	19 40 11.9	-1.5
MOA	**Molln**	**146.97**	**329**	⇓*i*PKPdf	PKPdf	19 40 12.7	-0.8
	comp=Z,6.3nm,1.2s						
GIVF	**Givet**	**148.93**	**341**	*e*PKIKP	PKPbc	19 40 23.8	+3.1
HAU	**Haudompre**	**150.23**	**337**	*e*PKIKP	PKPbc	19 40 27.2	+3.3
	comp=Z,9.0nm,0.6s						
CABF	**La Chapelle**	**151.49**	**336**	*e*PKIKP	PKPbc	19 40 27.7	+0.7
LOR	**Lormes**	**151.73**	**339**	*e*PKIKP	PKPbc	19 40 27.4	-0.1
	comp=Z,18nm,1.0s						
SSF	**Saint Saulge**	**152.02**	**339**	*e*PKIKP	PKPbc	19 40 28.4	+0.2
	comp=Z,11nm,1.0s						
LPL	**La Plagne**	**152.13**	**334**	*e*PKIKP	PKPbc	19 40 28.9	+0.5
	comp=Z,2.9nm,0.5s						
LPG	**La Plagne**	**152.14**	**334**	*e*PKIKP	PKPbc	19 40 28.8	+0.3
	comp=Z,8.4nm,0.8s						
MBDF	**Montbardon**	**152.75**	**333**	*e*PKIKP	PKPbc	19 40 30.3	+0.4
ORIF	**Oris-en-Rattie**	**152.97**	**334**	*e*PKIKP	PKPbc	19 40 30.1	-0.2
	comp=Z,3.9nm,0.7s						

IDC 03 19:35:56.9±4.1, 300S×13106E, h0km, mb3.9/2, mb1 4.0/3, mb1mx3.6/15, mbtmp3.8/3, ML3.3/1, Error ellipse: s-maj=292.3km s-min=27.6km az=72.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**17.14**	**169**	P	Pn	19 39 59.0	+0.9
	0.1nm,0.3s,baz=350,slow=11,SNR=7.3						
ASAR	**Alice Springs**	**20.73**	**173**	P	P	19 40 38.8	-0.4
	4.7nm,0.6s,baz=351,slow=11,SNR=53						
MKAR	**Makanchi Array**	**65.51**	**325**	P	P	19 46 42.3	+0.2
	0.7nm,0.7s,baz=122,slow=7.9,SNR=8.2						

*BJI **03** 19:40:57.1, 670S×15572E, h19km, mB5.4, mb5.3, Ms5.2, Msz4.9*
*ISCJB **03** 19:40:57.3±0.1, 706S±003×15522E±002, h14km, mb5.4/111, MS5.4/149, Error ellipse: s-maj=4.3km s-min=3.3km az=0.1*
*IDC **03** 19:40:58.8±1.7, 704S×15524E, h16km±9km, mb5.2/17, mb1 5.3/19, mb1mx5.3/20, mbtmp5.2/19, ML4.5/2, MS4.7/3, Ms1 4.7/3, ms1mx4.2/19, Error ellipse: s-maj=18.0km s-min=11.7km az=76.0*
*MOS **03** 19:41:00.6±1.0, 703S×155.15E, h33km, mb5.5/31, MS5.0/21, Error ellipse: s-maj=9.2km s-min=6.1km az=98.8*
*GCMT **03** 19:41:01.4±0.1, 725S×15528E, h23km, MW5.6/98, Moment Tensor Solution. s85,c156; s98,c199; Duration: 1§5 Moment tensor: Scale 10^{17}Nm; M_{rr}1.33±.04; $M_{\theta\theta}$-0.89±.03; $M_{\phi\phi}$-0.44±.03; $M_{r\theta}$1.75±.07; $M_{\theta\phi}$1.71±.03; $M_{\phi r}$-0.51±.06; Best double couple: $M_0$2.69800×10^{17} NP1:ϕ_s344.00000°, δ33.00000°, λ143.00000°. NP2:ϕ_s107.00000°, δ71.00000°, λ63.00000°. Principal axes: T 2.3620, Plg55.0000°, Azm342.0000°; N 0.6740, Plg26.0000°, Azm116.0000°; P -3.0350, Plg21.0000°, Azm217.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
*NEIC **03** 19:41:01.4±1.7, 707S×15524E, h35km±11km, mb5.4/57, MS5.6/127 Error ellipse: s-maj=5.0km s-min=4.5km az=78.0*

ISC 03 19:40:59.0±0.1, 706S±003×15527E±002, h15km, h15km±1.7km; pP-P, n676, σ0§84/411, mb5.4/111, MS5.4/149, 121C-79D, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.20**	**117**	*e*Pn	**Pn**	**19 42 14.9**	**-1.5**
	4μm,0.9s						
HNR	**Honiara**	**5.20**	**117**	*e*P	**Pn**	**19 42 14.9**	**-1.4**
HNR				pmax	pmax		
	comp=Z,4μm,0.9s						
HNR	**Honiara**	**5.20**	**117**	Pn	**Pn**	**19 42 14.2**	**-2.1**
	comp=Z,30nm,0.3s,baz=256,slow=2.0,SNR=6.1						
HNR				Sn	**Sn**	**19 43 21.9**	**+5.8**
	comp=Z,115nm,0.3s,baz=278,slow=9.3,SNR=4.6						
HNR				LR	LR	19 44 09.7	
	comp=Z,13μm,21.9s,baz=334,slow=36						
CTA	**Charters Tower**	**15.63**	**213**	*e*P	**Pn**	**19 44 39.3**	**+0.5**
	comp=Z,174nm,0.9s						
CTA	**Charters Tower**	**15.63**	**213**	*e*P	**Pn**	**19 44 39.3**	**+0.5**
CTA				pmax	pmax		
	comp=Z,174nm,0.9s						
CTA	**Charters Tower**	**15.63**	**213**	Pn	**Pn**	**19 44

comp=Z,19nm,1.0s,mb4.9,baz=31,slow=9.0,SNR=5.4
PVCP Virac 37.08 304 *e*P **P 19 48 09.7 +0.6**
MBWA Marble Bar 37.09 244⇓*i*P **P 19 48 08.2 -0.8**
comp=Z,136nm,0.8s,mb5.8
MBWA LR LR
comp=Z,2μm,20.0s,MS4.9
SNZO South Karori 38.25 156 PFAKE 19 48 30.0 +11
SNZO LR LR
comp=Z,3μm,20.0s,MS5.1
CUYO Cuyo Island 38.45 297 *e*P **P 19 48 21.9 +1.3**
TSM Tawau 38.99 286⇑P **P 19 48 25.2 0.0**
RPZ Rata Peaks 39.05 162 P **P 19 48 25.4 +0.1**
comp=Z,73nm,0.8s,mb5.4,baz=341,slow=1.0,SNR=25
BUSP Coron 39.68 298 *e*P **P 19 48 31.4 +0.5**
ENPP El Nido 40.01 297 *e*P **P 19 48 34.7 +1.0**
SDKM Sandakan 40.03 287⇑P **P 19 48 34.1 +0.3**
PPR Puerto Princes 40.05 294 *e*P **P 19 48 35.6 +1.6**
BATP Bataraza 40.53 292 *e*P **P 19 48 39.2 +1.3**
CAUP Cauayan 40.77 306 *e*P **P 19 48 45.5 +5.6**
KKM Kota Kinabalu 41.08 288⇓*e*P **P 19 48 42.6 +0.1**
KKM Kota Kinabalu 41.08 288⇑P **P 19 48 43.7 +1.1**
KLBR Kellerberrin 42.65 230⇓*i*P **P 19 48 54.1 -1.1**
comp=Z,141nm,0.9s,mb5.7
JOW Kunigami 42.65 323 LR LR 20 03 42.6
comp=Z,1μm,21.2s,MS4.7,baz=118,slow=32
BTM Bintulu 43.32 282⇓P **P 19 49 01.8 +1.0**
NWAO Narrogin (SRO) 43.65 229⇑*e*P **P 19 49 01.9 -1.3**
comp=Z,46nm,0.9s,mb5.2
NWAO LR LR
comp=Z,3μm,19.0s,MS5.3
NWAO Narrogin (SRO) 43.65 229⇑*e*P **P 19 49 01.9 -1.4**
NWAO pmax pmax
comp=Z,46nm,0.9s
NWAO MLR MLR
comp=Z,3μm,19.0s
SBUM Sibu 43.98 281⇓P **P 19 49 07.7 +1.5**
MUN Mundaring 44.00 230⇓*i*P **P 19 49 05.6 -0.5**
NACB Ninganchiao 45.19 314 *e*P **P 19 49 16.4 +0.7**
RAR Rarotonga 45.64 113 P **P 19 49 19.9 +0.5**
RAR LR LR
comp=Z,1.0nm,20.0s
RAR Rarotonga 45.64 113 P **P 19 49 19.8 +0.5**
comp=Z,23nm,0.8s,mb5.1,baz=260,slow=8.2,SNR=7.1
KSM Kuching 45.65 279 *e*P **P 19 49 19.5 0.0**
KSM Kuching 45.65 279⇑P **P 19 49 20.1 +0.5**
YHNB Yeheng 45.66 315 *e*P **P 19 49 20.0 +0.6**
YHNB *e* 19 49 32.1
TATO Taipei 45.77 315 PFAKE 19 49 30.0 +10
TATO LR LR
comp=Z,2μm,20.0s,MS5.1
MJAR Matsushiro Arr 46.23 341 P **P 19 49 22.3 -1.3**
MJAR 19 50 59.0
MJAR Matsushiro Arr 46.23 341 P **P 19 49 22.3 -1.4**
comp=Z,10.0nm,0.9s,mb4.7,baz=156,slow=7.4,SNR=14
MJAR PcP PcP 19 50 59.0 -0.2
comp=Z,13nm,0.9s,baz=141,slow=3.2,SNR=7.8
MJAR ScP ScP 19 54 52.0 -0.2
comp=Z,3.7nm,1.0s,baz=169,slow=5.8,SNR=4.0
MAJO Matsushiro 46.23 341 *e*P **P 19 49 20.8 -2.8**
comp=Z,16nm,0.8s,mb5.0
MAJO LR LR
comp=Z,923nm,19.0s,MS4.8
MAJO Matsushiro 46.23 341 *e*P **P 19 49 20.8 -2.8**
MAJO pmax pmax
comp=Z,16nm,0.8s,mb5.0
MAJO MLR MLR
comp=Z,923nm,19.0s,MS4.8
MAT Matsushiro 46.23 341 P **P 19 49 23.0 -0.6**
MAT S **S 19 56 09.0 -0.8**
QZH Quanzhou 47.82 313⇓*i*P **P 19 49 37.5 +1.2**
QZH S **S 19 56 31.1 -1.8**
QZH AMB AMB
comp=Z,160nm,1.1s,mb6.0
QZH LR LR
comp=Z,2μm,14.2s,MS5.2
SSE Sheshan 50.02 321 P **P 19 49 53.4 +0.3**
SSE S **S 19 57 05.3 +1.6**
SSE XS sS 19 57 10.6 -0.8
SSE AMB AMB
comp=Z,22nm,0.8s,mb5.2
SSE AMB AMB
comp=Z,365nm,8.4s
SSE LR LR
comp=N,696nm,23.2s,MS4.8
SSE LR LR
comp=E,923nm,23.2s,MS4.8
SSE LR LR
comp=Z,1μm,23.2s,MS4.8
SSE Sheshan 50.02 321 P **P 19 49 53.4 +0.3**
comp=Z,22nm,0.8s,mb5.2
SSE sP sP 19 49 57.9 -1.7
SSE S **S 19 57 05.3 +1.6**
SSE sS sS 19 57 10.6 -0.8
SSE LR LR
comp=Z,1μm,23.2s,MS4.8
ERM Erimo 50.07 348 PFAKE 19 50 00.0 +6.7
ERM LR LR
comp=Z,2μm,21.0s,MS5.2
KSRS Korea Array 51.12 332 P **P 19 50 00.8 -0.5**
comp=Z,14nm,0.8s,mb4.9,baz=150,slow=8.3,SNR=28
QIZ Qiongzhong 51.72 301 P **P 19 50 05.7 -0.4**
QIZ S **S 19 57 29.0 +1.4**
QIZ AMB AMB
comp=Z,59nm,1.1s,mb5.4
QIZ AMB AMB
comp=Z,365nm,4.3s
QIZ LR LR
comp=E,1μm,19.7s
QIZ LR LR
comp=Z,2μm,20.9s,MS5.1
QIZ Qiongzhong 51.72 301 *e*P **P 19 50 07.4 +1.3**
comp=Z,43nm,0.9s,mb5.4
QIZ LR LR
comp=Z,2μm,20.0s,MS5.1
INCN Inchon 51.75 331 *e*P **P 19 50 05.7 -0.3**
comp=Z,26nm,0.6s,mb5.3
INCN LR LR
comp=Z,1μm,19.0s,MS4.9
MYKOM Kota Tinggi 52.05 278⇑P **P 19 50 09.2 +0.5**
NJ2 Nanjing 52.13 320 *e*P **P 19 50 10.2 +1.2**
NJ2 AP pP 19 50 14.7 +1.0
NJ2 XP sP 19 50 17.0 +1.5
NJ2 AMB AMB
comp=Z,60nm,0.9s,mb5.5
NJ2 AMB AMB
comp=Z,1μm,4.2s
NJ2 LR LR
comp=N,1μm,17.3s,MS5.2
NJ2 LR LR
comp=E,1μm,15.2s,MS5.2
NJ2 LR LR
comp=Z,1μm,17.2s,MS5.0
KGM Kluang 52.62 278⇑P **P 19 50 13.6 +0.7**
KTGM Kuala Trenggan 53.46 282⇓P **P 19 50 19.8 +0.7**
KIP Kipapa 53.87 57 PFAKE 19 50 30.0 +8.0
KIP LR LR
comp=Z,2μm,20.0s,MS5.2
WHN Wuhan 54.17 316⇓P **P 19 50 25.3 +1.3**
WHN S **S 19 57 57.6 -3.1**
WHN AMB AMB
comp=Z,51nm,0.7s,mb5.6
WHN LR LR
comp=Z,2μm,22.7s,MS5.2
VLA Vladivostok 54.27 339 *i*P **P 19 50 24.9 +0.4**
VLA Vladivostok 54.27 339 *e*P **P 19 50 21.4 -3.1**
VLA *e*S **S 19 57 58.6 -3.0**
VLA pmax pmax
comp=Z,63nm,1.8s,mb5.2
VLA MLR MLR
comp=Z,600nm,16.7s,MS4.7
PPT Papeete 54.72 106 *e*P **P 19 50 29.0 +0.7**
comp=Z,41nm,1.3s,mb5.3
PPT *e*S **S 19 58 05.9 -2.7**
comp=Z,245nm,27.2s
PPT *e*LQ 20 04 02.1
comp=Z,3μm,24.8s
PPT *e*LR LR 20 06 24.2
comp=Z,1μm,24.8s,baz=269
PPT Papeete 54.72 106 *e*P **P 19 50 29.0 +0.7**
comp=Z,41nm,1.3s,mb5.3
PPT *e*S **S 19 58 05.9 -2.7**
PPT *e*LQ 20 04 02.1
PPT Papeete 54.72 106 *e*P **P 19 50 29.0 +0.7**
PPT *e*S **S 19 58 05.9 -2.7**
PPT pmax pmax
comp=Z,41nm,1.3s
PAE Paea 54.73 107 *e*P **P 19 50 28.9 +0.6**
comp=Z,62nm,1.0s,mb5.6
PAE Paea 54.73 107 *e*P **P 19 50 28.9 +0.6**
PAE pmax pmax
comp=Z,62nm,1.0s,mb5.6
YSS Yuzh-Sakhalins 54.91 350 *e*P **P 19 50 29.0 0.0**
comp=Z,45nm,0.9s,mb5.5
YSS LR LR
comp=Z,1μm,21.0s,MS5.0
YSS Yuzh-Sakhalins 54.91 350⇑*i*P **P 19 50 29.0 0.0**
YSS *e* 19 51 31.5
YSS pmax pmax
comp=Z,30nm,1.0s,mb5.3
YSS MLR MLR
comp=Z,1μm,18.0s,MS4.9
TVO Taravao 55.05 107 *e*P **P 19 50 31.6 +1.0**
comp=Z,76nm,0.8s,mb5.8
TVO Taravao 55.05 107 *e*P **P 19 50 31.6 +1.0**
TVO pmax pmax
comp=Z,76nm,0.8s,mb5.8
POHA Pohakuloa 55.27 60 PFAKE 19 50 40.0 +7.9
POHA LR LR
comp=Z,4μm,19.0s,MS5.5
IPM Ipoh 55.33 280⇓P **P 19 50 33.8 +1.0**
DL2 Dalian 55.36 328 P **P 19 50 32.1 -0.4**
DL2 S **S 19 58 18.9 +2.5**
DL2 AMB AMB
comp=Z,30nm,0.8s,mb5.4
DL2 AMB AMB
comp=Z,120nm,7.4s
DL2 LR LR
comp=N,320nm,22.1s,MS4.5
DL2 LR LR
comp=E,340nm,20.8s,MS4.5
DL2 LR LR
comp=Z,530nm,25.8s,MS4.5
TBI Tubuai 55.41 113 *e*S **S 19 58 14.5 -3.2**
comp=Z,280nm,27.0s
TBI *e*LQ 20 04 23.3
comp=Z,6μm,31.8s
TBI *e*LR LR 20 06 37.4
comp=Z,2μm,29.0s
KULM Kulim 55.87 281 *e*P **P 19 50 35.7 -0.9**
KULM Kulim 55.87 281⇑P **P 19 50 36.5 -0.1**
TIA Tai'an 55.98 323 *e*P **P 19 50 36.3 -0.7**
PMOR Pomariorio Ree 56.22 103 *e*P **P 19 50 40.0 +0.9**
comp=Z,103nm,0.9s,mb5.8
SNG Songkhla 56.31 283 P **P 19 50 40.0 +0.2**
MDJ Mudanjiang 56.40 338 P **P 19 50 39.5 -0.3**
MDJ AP pP 19 50 42.8 -1.7
MDJ PCP PcP 19 51 35.8 -1.0
MDJ AMB AMB
comp=Z,14nm,1.1s,mb4.9
MDJ AMB AMB
comp=Z,160nm,8.3s
MDJ LR LR
comp=N,417nm,38.0s,MS4.5
MDJ LR LR
comp=E,525nm,38.0s,MS4.5
MDJ LR LR
comp=Z,547nm,21.9s
MDJ Mudanjiang 56.40 338 *e*P **P 19 50 39.1 -0.7**
comp=Z,16nm,1.0s,mb5.0
VAH Vaihoa 56.48 104 *e*P **P 19 50 41.5 +0.5**
comp=Z,76nm,1.0s,mb5.7
KKTK Khon Kaen 56.85 295⇑P **P 19 50 44.5 +0.9**
comp=Z,864nm,0.6s
CN2 Changchun 57.36 335⇑P **P 19 50 46.4 -0.2**
CN2 *e*XP sP 19 50 53.5 +0.3
CN2 PCP PcP 19 51 36.8 -3.8
CN2 AMB AMB
comp=Z,20nm,1.0s,mb5.1
CN2 AMB AMB
comp=Z,200nm,5.0s
CN2 LR LR
comp=N,500nm,18.0s,MS4.9
CN2 LR LR
comp=E,600nm,18.0s,MS4.9
CN2 LR LR
comp=Z,600nm,19.0s,MS4.7
ENH Enshi 57.48 313 PFAKE 19 51 00.0 +12
ENH LR LR
comp=Z,5.0nm,19.0s
SKR Severo-Kuril's 57.51 1 *e*P **P 19 50 50.9 +3.4**
GYA Guiyang 57.70 307⇑*i*P **P 19 50 51.8 +2.4**
GYA AMB AMB
comp=Z,60nm,1.0s,mb5.6
GYA AMB AMB
comp=Z,9μm,12.8s
GYA LR LR
comp=N,9μm,19.8s,MS5.9
GYA LR LR
comp=E,5μm,20.6s,MS5.9
GYA LR LR
comp=Z,6μm,20.9s,MS5.7
HABR Khabarovsk 58.08 344 *e*P **P 19 50 50.7 -0.9**
HABR *e* 19 52 58.5
HABR *e*S **S 19 58 53.2 +1.2**
NST Nakhon Sawan 59.08 293 P **P 19 51 00.0 +0.8**
comp=Z,133nm,0.9s,mb6.0
BJT Baijiatuau 59.11 326 *e*P **P 19 50 58.8 -0.2**
comp=Z,10nm,0.6s,mb5.0
BJT Baijiatuau 59.11 326 *e*P **P 19 50 58.8 -0.2**
BJT pmax pmax
comp=Z,10.0nm,0.6s
BJI Beijing 59.12 326 P **P 19 50 58.4 -0.7**
BJI AMB AMB
comp=Z,10.0nm,1.3s,mb4.7
BJI AMB AMB
comp=Z,227nm,3.5s
BJI LR LR
comp=N,694nm,25.2s,MS4.9
BJI LR LR
comp=E,759nm,21.9s,MS4.9
BJI LR LR
comp=Z,1μm,27.2s
BJI Beijing 59.12 326 P **P 19 50 58.4 -0.7**
comp=Z,10.0nm,1.3s,mb4.7
BJI S **S 19 59 06.3 +0.4**
BJI SS SS 20 03 01.3 +0.8
BJI LR LR
comp=Z,1μm,27.2s,MS4.9
BJI Beijing 59.12 326 S **S 19 59 05.3 -0.6**
KLR Kul'dur 59.70 342 *e*P **P 19 50 59.0 -3.9**
PET Petropavlovsk 59.92 2 *e*P **P 19 51 03.9 -0.3**
comp=Z,51nm,0.7s,mb5.7
PET *e* 19 51 13.9
PET LR LR
comp=Z,2μm,20.0s,MS5.2
PET Petropavlovsk 59.92 2 *e*P **P 19 51 05.0 +0.7**
PET *e*S **S 19 59 14.1 -1.6**
PET *e*SS SS 20 03 12.9 +0.4
PET pmax pmax
comp=Z,98nm,0.7s,mb6.0
PET MLR MLR
comp=Z,900nm,17.0s,MS5.0
XAN Xi'an 59.94 316 P **P 19 51 04.2 -0.6**
XAN AP pP 19 51 14.0 +4.4
XAN S **S 19 59 12.2 -4.5**
XAN AMB AMB
comp=Z,27nm,1.2s,mb5.2
XAN AMB AMB
comp=Z,239nm,14.0s
XAN LR LR
comp=N,497nm,22.3s,MS4.8
XAN LR LR
comp=E,651nm,19.6s,MS4.8
XAN LR LR
comp=Z,1μm,20.5s,MS5.0
KMI Kunming 60.27 304 P **P 19 51 09.3 +2.0**
KMI AP pP 19 51 13.3 +1.3
KMI XP sP 19 51 14.9 +1.1
KMI PP PP 19 53 27.1 +6.7
KMI S **S 19 59 24.6 +3.3**
KMI AMB AMB
comp=Z,99nm,1.3s,mb5.7
KMI AMB AMB
comp=Z,308nm,3.1s
KMI LR LR
comp=N,329nm,19.2s,MS4.8
KMI LR LR
comp=E,624nm,19.8s,MS4.8
KMI LR LR
comp=Z,1μm,23.5s,MS4.9
KMI Kunming 60.27 304 P **P 19 51 09.3 +2.0**
comp=Z,99nm,1.3s,mb5.7
KMI pP pP 19 51 13.3 +1.3
KMI sP sP 19 51 14.9 +1.1
KMI PP PP 19 53 27.1 +6.7
KMI PPP 19 54 51.0
KMI S **S 19 59 24.6 +3.3**
KMI PS 19 59 37.7
KMI SSS 20 05 56.3
KMI LR LR
comp=Z,1μm,23.5s,MS4.9
KMI Kunming 60.27 304 P **P 19 51 09.3 +2.0**
KMI *SP sP 19 51 14.9 +1.1
KMI 19 53 27.1
KMI PPP 19 54 51.0
KMI S **S 19 59 24.6 +3.3**
KMI PS 19 59 37.7
KMI pmax pmax
comp=Z,99nm,1.3s,mb5.7
DRV L 20 06 00.0
DRV Dumont d'Urvil 60.44 187 S **S 19 59 28.0 +5.9**
BDT Bhumibol Dam 60.61 294 P **P 19 51 11.0 +1.3**
CHTO Chiang Mai 61.17 296 *e*P **P 19 51 13.7 +0.2**
comp=Z,88nm,1.0s,mb5.8
CHTO LR LR
comp=Z,751nm,19.0s,MS4.9
CHTO Chiang Mai 61.17 296 *e*P **P 19 51 13.7 +0.2**
CHTO pmax pmax
comp=Z,88nm,1.0s,mb5.8
CHTO MLR MLR
comp=Z,751nm,19.0s,MS4.9
SMY Shemya 61.68 13 PFAKE 19 51 30.0 +14
SMY LR LR
comp=Z,3μm,20.0s,MS5.5
CD2 Chengdu 62.06 310 P **P 19 51 20.5 +1.2**
CD2 AP pP 19 51 25.7 +1.6
CD2 XP sP 19 51 28.3 +2.5
CD2 AMB AMB
comp=Z,50nm,0.9s,mb5.6
CD2 AMB AMB
comp=Z,310nm,4.4s
CD2 LR LR
comp=N,460nm,18.0s,MS5.0
CD2 LR LR
comp=E,860nm,15.0s,MS5.0
CD2 LR LR
comp=Z,940nm,19.2s,MS5.0
HHC Hu-ho-hao-te 62.30 324 *e*P **P 19 51 20.9 +0.2**
HHC AP pP 19 51 25.4 -0.1
HHC XP sP 19 51 27.9 +0.6
HHC AMB AMB
comp=Z,19nm,0.4s,mb5.6
HHC AMB AMB
comp=Z,377nm,6.1s
HHC LR LR
comp=N,761nm,19.0s,MS5.0
HHC LR LR
comp=E,586nm,19.4s,MS5.0
HHC LR LR
comp=Z,899nm,19.0s,MS5.0
BTO Baotou 63.07 323 *e*P **P 19 51 25.8 0.0**
TAOE Nuku Hiva Isla 63.92 96 *e*LR LR 20 10 42.1
comp=Z,27μm,22.0s
HIA Hailar 64.09 335 *e*P **P 19 51 32.0 -0.4**
comp=Z,34nm,0.9s,mb5.4
HIA LR LR
comp=Z,768nm,19.0s,MS4.9
HIA Hailar 64.09 335⇑*i*P **P 19 51 32.4 0.0**
LZH Lanzhou 64.55 315⇑P **P 19 51 36.8 +1.1**
LZH AP pP 19 51 39.9 -0.6
LZH AMB AMB
comp=Z,69nm,1.5s,mb5.5
LZH AMB AMB
comp=Z,260nm,4.5s
LZH LR LR
comp=N,420nm,13.8s
LZH LR LR
comp=Z,731nm,14.6s,MS5.0
LZH Lanzhou 64.55 315⇑P **P 19 51 36.8 +1.1**
comp=Z,69nm,1.5s,mb5.5
LZH pP pP 19 51 39.9 -0.6
LZH sP sP 19 51 41.7 -0.6
LZH PP PP 19 54 01.0 +3.1
LZH S **S 20 00 14.5 -0.3**
LZH sS sS 20 00 19.0 -3.7
LZH SS SS 20 04 27.3 +1.7
LZH LR LR
comp=Z,730nm,14.6s,MS5.0
LZH Lanzhou 64.55 315⇑P **P 19 51 36.8 +1.1**
LZH 19 54 01.0
LZH S **S 20 00 14.5 -0.3**
LZH SS SS 20 04 27.3 +1.7
LZH pmax pmax
comp=Z,69nm,1.5s,mb5.5
LZH MLR MLR
comp=Z,730nm,14.6s,MS5.0
MA2 Magadan 66.51 358 *e*P **P 19 51 47.1 -0.8**
comp=Z,70nm,0.8s,mb5.7
MA2 *e* 19 51 56.7
MA2 LR LR
comp=Z,855nm,20.0s,MS5.0
MA2 Magadan 66.51 358 *e*P **P 19 51 47.3 -0.6**
MA2 *e*S S 20 00 34.2 -3.7
MA2 *e* 20 01 32.7
MA2 pmax pmax
comp=Z,100nm,0.7s,mb6.0
MA2 MLR MLR
comp=Z,1μm,20.1s,MS5.0
CASY Casey 66.62 198⇑*i*P **P 19 51 48.3 -0.2**
CASY LR LR
comp=Z,3μm,19.0s,MS5.5
NRGR Nerungri 68.27 342 *e*P **P 19 52 00.0 +1.0**
NRGR S S 20 01 15.7 +17
NRGR smax
comp=N,25nm,0.6s
CLNS Chul'man 68.37 343 *e*P **P 19 52 00.3 +0.6**
CLNS pmax pmax
comp=N,23nm,0.9s
CLNS pmax pmax
comp=Z,38nm,0.9s,mb5.4
CLNS pmax pmax
comp=E,13nm,1.1s
RKT Rikitea 68.67 112 *e*LR LR 20 12 48.8
comp=E,1μm,21.0s
UNV Unalaska Valle 68.68 23 PFAKE 19 52 10.0 +8.3
UNV LR LR
comp=Z,9μm,20.0s,MS6.0
CIT Chita 68.78 334 *e*P **P 19 52 02.9 +0.5**
CIT pmax pmax
comp=Z,56nm,2.3s,mb5.1
GTA Gaotai 68.97 317⇑P **P 19 52 04.6 +0.8**
GTA AP pP 19 52 08.1 -0.5
GTA AMB AMB
comp=Z,12nm,1.2s,mb4.7
GTA AMB AMB
comp=Z,277nm,5.3s
GTA LR LR
comp=N,570nm,22.1s,MS4.9
GTA LR LR
comp=E,445nm,22.1s,MS4.9
GTA LR LR
comp=Z,543nm,20.5s,MS4.8
ULN Ulaanbaatar 69.20 328 *e*P **P 19 52 05.6 +0.5**
comp=Z,34nm,1.0s,mb5.2
ULN *e* 19 52 15.0
ULN Ulaanbaatar 69.20 328⇑*i*P **P 19 52 05.9 +0.8**
SONM Songino Array 69.53 327 P **P 19 52 07.7 +0.6**
comp=Z,28nm,0.8s,mb5.2,baz=138,slow=6.3,SNR=133
SONM PKPPKP 20 20 15.5
comp=Z,5.0nm,1.0s,baz=294,slow=2.5,SNR=18
SHL Shillong 69.56 300 *i*P **P 19 52 07.5 -0.3**
comp=Z,13nm,1.0s,mb4.8
SHL *e*S S 20 01 14.0 -1.6
SEY Seymchan 69.82 359⇑*e*P **P 19 52 08.0 -0.6**
SEY Seymchan 69.82 359⇑*e*P **P 19 52 08.9 +0.3**
VNDA Vanda 70.51 178 P **P 19 52 12.7 0.0**
comp=Z,22nm,0.9s,mb5.1,baz=333,slow=6.5,SNR=68
SBA Scott Base 71.02 177 *e*P **P 19 52 16.4 +0.6**
comp=Z,21nm,1.0s,mb5.0
SBA LR LR
comp=Z,1μm,21.0s,MS5.2
SBA Scott Base 71.02 177 *e*P **P 19 52 16.4 +0.6**
SBA pmax pmax
comp=Z,21nm,1.0s,mb5.0
SBA MLR MLR
comp=Z,1μm,21.0s,MS5.2

LSA Lhasa 71.53 304 P **P** **19 52 21.4 +1.7**
LSA AMB AMB
comp=Z,80nm,1.0s,mb5.6
LSA LR LR
comp=N,210nm,20.0s,MS4.7
LSA LR LR
comp=E,390nm,24.0s,MS4.7
LSA LR LR
comp=Z,590nm,24.0s,MS4.8
LSA Lhasa 71.53 304 *e*P **P** **19 52 21.2 +1.5**
comp=Z,72nm,0.9s,mb5.6
LSA LR LR
comp=Z,666nm,21.0s,MS4.9
LSA Lhasa 71.53 304 *e*P **P** **19 52 21.2 +1.5**
LSA pmax pmax
comp=Z,72nm,0.9s,mb5.6
LSA MLR MLR
comp=Z,666nm,21.0s,MS4.9
YAK Yakutsk 71.67 348 *e*P **P** **19 52 19.9 0.0**
comp=Z,52nm,0.9s,mb5.5
YAK LR LR
comp=Z,679nm,19.0s,MS4.9
YAK Yakutsk 71.67 348*c i*P **P** **19 52 19.9 0.0**
YAK *i* 19 52 35.4
YAK *e*S S 20 01 39.3 +0.4
YAK *i* *SS sS 20 02 23.6 +37
YAK *i* SS SS 20 06 06.8 -8.0
YAK pmax pmax
comp=Z,44nm,1.4s,mb5.2
YAK pmax pmax
comp=N,20nm,1.3s
YAK pmax pmax
comp=E,11nm,1.1s
YAK smax
comp=N,135nm,2.8s
YAK smax
comp=E,282nm,3.8s
ZAK Zakamensk 72.69 328⇓*i*P **P** **19 52 26.1 -0.1**
ZAK pmax pmax
comp=Z,18nm,1.0s,mb5.0
MIR Mirnyy 72.73 202⇑*i*P **P** **19 52 28.0 +1.7**
MIR pmax pmax
comp=Z,400nm,1.0s,mb6.3
BOD Bodaibo 72.77 338 *e*P **P** **19 52 25.5 -1.0**
BOD pmax pmax
comp=Z,13nm,1.2s,mb4.7
TLY Talaya 73.25 329 *e*P **P** **19 52 29.3 -0.2**
TLY Talaya 73.25 329*c i*P **P** **19 52 29.5 0.0**
TLY *e*S S 20 01 51.1 -6.2
TLY *e* 20 02 25.2
TLY pmax pmax
comp=Z,19nm,1.2s,mb4.9
TLY MLR MLR
comp=Z,384nm,18.0s,MS4.7
IRK Irkutsk 73.27 330 *e*P **P** **19 52 28.0 -1.6**
IRK pmax pmax
comp=Z,32nm,0.8s,mb5.3
BOK Bokaro 74.26 297 *e*P **P** **19 52 36.0 -0.1**
BOK AMb AMB 19 52 38.4
comp=Z,104nm,0.9s,mb5.8
MOY Mondy 74.61 328 *e*P **P** **19 52 37.8 +0.4**
MOY pmax pmax
comp=Z,43nm,1.8s,mb5.1
GAMB Gambell 74.91 15 *e*P **P** **19 52 38.9 -0.1**
comp=Z,20nm,0.7s,mb5.2
JIRN Jiri 75.05 301 *e*P **P** **19 52 41.1 +0.6**
comp=Z,153nm,0.8s,mb6.0
VIS Vishakhapatnam 75.14 290 *e*P **P** **19 52 39.8 -1.5**
VIS AMb AMB 19 52 44.6
comp=Z,56nm,1.2s,mb5.3
BILL Bilibino 75.32 4 *e*P **P** **19 52 41.5 +0.2**
comp=Z,66nm,1.1s,mb5.5
BILL LR LR
comp=Z,996nm,20.0s,MS5.1
BILL Bilibino 75.32 4*c i*P **P** **19 52 41.6 +0.3**
BILL *e* 19 55 32.6
BILL *i* S S 20 02 19.9 -0.1
BILL pmax pmax
comp=Z,64nm,1.2s,mb5.4
BILL MLR MLR
comp=Z,1μm,19.0s,MS5.1
PALK Pallekele 75.72 279 *e*P **P** **19 52 44.8 +0.1**
comp=Z,40nm,1.3s,mb5.2
PALK LR LR
comp=Z,507nm,21.0s,MS4.8
KKN Kakani 75.86 301 *e*P **P** **19 52 45.5 +0.3**
comp=Z,198nm,0.8s,mb6.1
GKN Gorkha 76.46 301 *e*P **P** **19 52 48.8 +0.2**
comp=Z,414nm,1.0s,mb6.3
KDAK Kodiak Island 77.10 26 *e*P **P** **19 52 51.1 -0.5**
comp=Z,20nm,0.8s,mb5.1
KDAK LR LR
comp=Z,359nm,20.0s,MS4.7
BLSP Bilaspur 77.21 295 *e*P **P** **19 52 51.9 -1.2**
BLSP AMb AMB 19 52 54.2
comp=Z,92nm,0.7s,mb5.8
KOLN Koldanda 77.28 300 *e*P **P** **19 52 53.4 +0.1**
comp=Z,229nm,1.0s,mb6.1
TNA Tin City 77.31 15 *e*P **P** **19 52 52.5 -0.1**
comp=Z,30nm,0.9s,mb5.2
TNA LR LR
comp=Z,1μm,21.0s,MS5.2
SVW2 Sparrevohn 77.95 22 *e*P **P** **19 52 54.7 -1.6**
TTA Tatalina 78.99 21 *e*P **P** **19 53 02.0 +0.1**
WMQ Urumqi 79.05 317⇑*i*P **P** **19 53 02.6 -0.1**
WMQ PCP PcP 19 53 11.0 -0.2
WMQ S S 20 03 00.5 -1.0
WMQ SKS 20 03 13.0
WMQ AMB AMB
comp=Z,10.0nm,1.1s,mb4.7
WMQ AMB AMB
comp=Z,319nm,6.6s
WMQ LR LR
comp=N,623nm,20.0s,MS5.0
WMQ LR LR
comp=E,574nm,24.0s,MS5.0
WMQ LR LR
comp=Z,694nm,26.0s,MS4.9
KOD Kodaikanal 79.34 282 *e*P **P** **19 53 04.5 -0.5**
KOD AMb AMB 19 53 07.3
comp=Z,36nm,1.1s,mb5.2
HYB Hyderabad 79.54 289 *e*P **P** **19 53 05.0 -1.0**
HYB *e* 19 53 16.5
HYB *e*S S 20 03 04.0 -3.7
HYB Hyderabad 79.54 289 *i* P **P** **19 53 06.0 0.0**
HYB *e*pP pP 19 53 16.5 +5.6
HYB *e*S S 20 03 16.5 +8.8
SLKM Skilak Lake 79.69 24 *e*P **P** **19 53 05.0 -0.8**
NGP Nagpur 79.81 293 *e*P **P** **19 53 06.1 -1.2**
NGP AMb AMB 19 53 06.7
comp=Z,90nm,1.4s,mb5.5
TIXI Tiksi 80.45 352⇑*i*P **P** **19 53 08.8 -0.9**
comp=Z,13nm,0.8s,mb4.9
TIXI LR LR
comp=Z,846nm,19.0s,MS5.1
TIXI Tiksi 80.45 352*c i*P **P** **19 53 08.8 -1.0**
TIXI *e*S S 20 03 11.5 -3.8
TIXI pmax pmax
comp=Z,30nm,1.5s,mb5.0
LGTI Lohaghat 80.56 301 *e*P **P** **19 53 11.0 -0.2**
PMR Palmer 80.74 24 *e*P **P** **19 53 11.3 -0.2**
comp=Z,46nm,0.8s,mb5.5
PMR LR LR
comp=Z,2μm,20.0s,MS5.5
PMR Palmer 80.74 24 *e*P **P** **19 53 11.3 -0.2**
PMR pmax pmax
comp=Z,47nm,0.8s,mb5.5
PMR MLR MLR
comp=Z,2μm,20.0s,MS5.5
SML Sawmill 81.17 24⇑*i*P **P** **19 53 13.5 -0.2**
EYAK Cordova Ski Ar 81.57 25 *e*P **P** **19 53 15.6 -0.3**
comp=Z,21nm,1.0s,mb5.0
EYAK *e* 19 53 23.7
AKL Akola 81.58 292 *e*P **P** **19 53 16.2 -0.7**
AKL AMb AMB 19 53 18.0
comp=Z,106nm,0.6s,mb5.9
LATR Latur 81.59 290 *e*P **P** **19 53 14.1 -2.9**
LATR AMb AMB 19 53 18.4
comp=Z,43nm,1.9s,mb5.1
BHPL Bhopal 81.70 295 *e*P **P** **19 53 16.1 -1.3**
BHPL AMb AMB 19 53 18.3
comp=Z,105nm,0.9s,mb5.8
IMA2 Indian Mountai 81.77 19 *e*P **P** **19 53 17.0 +0.1**
MCK McKinley 82.01 22⇑*i*P **P** **19 53 17.1 -1.1**
comp=Z,92nm,0.8s,mb5.8
MCK LR LR
comp=Z,2μm,20.0s,MS5.4
MCK McKinley 82.01 22⇑*i*P **P** **19 53 17.1 -1.1**
MCK pmax pmax
comp=Z,92nm,0.8s,mb5.8
MCK MLR MLR
comp=Z,2μm,20.0s,MS5.4
NDI New Delhi 82.97 300 *e*P **P** **19 53 22.5 -1.5**
NDI AMb AMB 19 53 24.4
comp=Z,129nm,1.1s,mb5.9
COLA College 83.04 21⇑*i*P **P** **19 53 21.9 -1.6**
comp=Z,50nm,0.8s,mb5.6
COLA LR LR
comp=Z,3μm,21.0s,MS5.6
COLA College 83.04 21⇑*i*P **P** **19 53 22.2 -1.3**
SMLA Simla 83.53 302 *e*P **P** **19 53 26.6 -0.2**
SMLA AMb AMB 19 53 29.4
comp=Z,152nm,1.0s,mb6.1
MKAR Makanchi Array 83.63 319 P **P** **19 53 25.9 -1.0**
MKAR P'P' 20 19 49.7
MKAR Makanchi Array 83.63 319 P **P** **19 53 25.9 -1.0**
comp=Z,18nm,0.8s,mb5.3,baz=98,slow=6.7,SNR=122
MKAR PKPPKP 20 19 49.7
comp=Z,1.0nm,0.8s,baz=260,slow=3.5,SNR=6.9
KAD Karad 83.63 288 *e*P **P** **19 53 25.2 -2.5**
KAD *e*P 19 53 26.8
KAD AMb AMB 19 53 28.1
comp=Z,87nm,0.6s,mb6.1
POO Poona 84.14 289 *e*P **P** **19 53 28.8 -1.4**
POO AMb AMB 19 53 32.5
comp=Z,50nm,1.2s,mb5.5
ZAA0 Zalesovo Array 84.38 326 *e*P **P** **19 53 29.0 -1.6**
ZALV Zalesovo Beam 84.38 326 P **P** **19 53 29.1 -1.5**
comp=Z,6.6nm,0.5s,mb5.0,baz=110,slow=5.2,SNR=41
ZALV PKPPKP 20 19 49.2
comp=Z,0.5nm,0.6s,baz=328,slow=5.3,SNR=3.6
ZAL Zalesovo 84.39 326 P **P** **19 53 29.1 -1.6**
MAW Mawson 84.44 203 *e*P **P** **19 53 30.8 0.0**
comp=Z,59nm,0.9s,mb5.7
MAW Mawson 84.44 203 *e*P **P** **19 53 30.8 0.0**
MAW pmax pmax
comp=Z,59nm,0.9s
MAW Mawson 84.44 203 P **P** **19 53 30.9 +0.1**
comp=Z,76nm,0.9s,mb5.8,baz=94,slow=6.2,SNR=51
AJM Ajmer 84.79 297 *e*P **P** **19 53 31.6 -1.7**
AJM *i* P 19 53 32.0
AJM AMb AMB 19 53 34.0
comp=Z,229nm,1.1s,mb6.2
SIT Sitka 84.92 31 PFAKE 19 53 40.0 +6.7
SIT LR LR
comp=Z,2μm,21.0s,MS5.5
EGAK Eagle 85.47 23⇑*i*P **P** **19 53 35.8 -0.1**
comp=Z,27nm,0.8s,mb5.4
NVS Novosibirsk 85.55 327⇑*i*P **P** **19 53 35.2 -1.3**
NVS *i* S S 20 03 54.2 -13
NVS *i* PS 20 05 09.5
NVS pmax pmax
comp=Z,44nm,2.4s,mb5.3
NVS pmax pmax
comp=N,13nm,2.3s
NVS pmax pmax
comp=E,23nm,2.3s
NVS smax
comp=N,28nm,2.6s
NVS smax
comp=E,38nm,2.3s
DAWY Dawson 85.84 24 *e*P **P** **19 53 37.8 0.0**
WRAK Wrangell Islan 86.25 32 *e*P **P** **19 53 38.9 -1.0**
comp=E,9.7nm,0.8s,mb5.1
WRAK *e* 19 53 47.1
WRAK LR LR
comp=Z,2μm,20.0s,MS5.5
KSH Kashi 86.26 310 P **P** **19 53 42.2 +1.8**
KSH AP pP 19 53 47.0 +1.7
KSH XP sP 19 53 49.0 +2.0
KSH PP PP 19 57 06.1 +4.7
KSH SKS 20 04 05.5
KSH S S 20 04 16.3 +1.0
KSH XS sS 20 04 25.1 +1.7
KSH SS SS 20 10 00.6 +5.8
KSH AMB AMB
comp=Z,288nm,1.0s,mb6.5
KSH AMB AMB
comp=Z,1μm,3.2s
KSH LR LR
comp=N,674nm,6.1s
KSH LR LR
comp=E,596nm,4.6s
KSH LR LR
comp=Z,889nm,15.5s,MS5.3
ULHL Ulahol 86.64 313 P **P** **19 53 42.7 +0.5**
SNR=5.8
KURK Kurchatov 87.05 322 P **P** **19 53 42.7 -1.2**
comp=Z,47nm,0.8s,mb5.8,SNR=5.9
KURK Kurchatov 87.05 322 *e*P **P** **19 53 42.4 -1.5**
comp=Z,5.3nm,0.8s,mb4.8
KURK LR LR
comp=Z,469nm,21.0s,MS4.9
KURK Kurchatov 87.05 322 *i* P **P** **19 53 42.7 -1.2**
TKM2 Tokmak 2 87.25 314 *e*P **P** **19 53 44.8 -0.3**
comp=Z,7.6nm,0.6s,mb5.1
TKM2 Tokmak 2 87.25 314 *e*P **P** **19 53 44.8 -0.3**
TKM2 pmax pmax
comp=Z,8.0nm,0.6s,mb5.1
TKM2 Tokmak 2 87.25 314 P **P** **19 53 45.1 0.0**
SNR=11
KZA Kyzart 87.33 313 P **P** **19 53 46.6 +1.1**
SNR=5.0
KBK Karagaybulak 87.66 313 P **P** **19 53 47.6 +0.4**
SNR=5.4
UCH Uchtor 87.89 313 *e*P **P** **19 53 49.0 +0.8**
comp=Z,23nm,1.3s,mb5.2
UCH Uchtor 87.89 313 P **P** **19 53 51.1 +2.9**
SNR=12
FRU Bishkek 87.94 313 *e*P **P** **19 53 47.4 -1.0**
MCCM Marconi Confer 87.95 51 PFAKE 19 54 00.0 +11
MCCM LR LR
comp=Z,2μm,21.0s,MS5.5
HOPS Hopland 87.96 50 PFAKE 19 54 00.0 +11
HOPS LR LR
comp=Z,2μm,20.0s,MS5.5
AAK Ala-Archa 87.99 313 P **P** **19 53 47.7 -1.0**
comp=Z,45nm,0.8s,mb5.8,SNR=8.9
AAK Ala-Archa 87.99 313 P **P** **19 53 48.9 +0.2**
SNR=9.3
DLBC Dease Lake 88.06 31⇑*i*P **P** **19 53 48.9 +0.3**
N02C Big Bar 88.12 49⇓P **P** **19 53 49.1 -0.2**
baz=88
GASB Alder Springs 88.35 50⇓P **P** **19 53 50.7 +0.2**
baz=88
K02A Glendale 88.36 47⇑P **P** **19 53 50.9 +0.5**
baz=88
O02C Red Bluff 88.39 49⇑P **P** **19 53 51.0 +0.3**
baz=88
J02A Umpqua 88.41 46⇑P **P** **19 53 51.0 +0.3**
baz=88
AML Almayashu 88.47 313⇑*e*P **P** **19 53 51.5 +0.5**
comp=Z,53nm,1.4s,mb5.6
AML LR LR
comp=Z,548nm,20.0s,MS5.0
AML Almayashu 88.47 313 P **P** **19 53 53.6 +2.6**
SNR=17
EKS2 Erkin-Say 88.51 313 *e*P **P** **19 53 51.0 -0.2**
comp=Z,6.2nm,0.8s,mb5.0
EKS2 LR LR
comp=Z,674nm,19.0s,MS5.1
EKS2 Erkin-Say 88.51 313 P **P** **19 53 51.2 +0.1**
SNR=13
M02C Callahan 88.56 48⇑P **P** **19 53 52.0 +0.6**
baz=89
WDC Whiskeytown Da 88.65 49⇑P **P** **19 53 51.9 +0.1**
baz=89
HUMO Hull Mountain 88.71 47 PFAKE 19 54 00.0 +7.9
HUMO LR LR
comp=Z,2μm,20.0s,MS5.5
YBH Yreka Blue Hor 88.73 48⇓P **P** **19 53 51.8 -0.5**
baz=89
BHJ Bhuj 88.74 293 *e*P **P** **19 53 51.1 -1.6**
BHJ AMb AMB 19 53 53.8
comp=Z,124nm,2.0s,mb5.9
SAO San Andreas Ge 88.83 53 PFAKE 19 54 00.0 +7.2
SAO LR LR
comp=Z,2μm,19.0s,MS5.7
COR Corvallis 88.84 45 PFAKE 19 54 00.0 +7.3
COR LR LR
comp=Z,2μm,20.0s,MS5.4
J03A Ideyld Park 88.85 46⇓P **P** **19 53 52.5 -0.3**
baz=89
NLWA Neilton Lookou 89.00 42 PFAKE 19 54 00.0 +6.7
NLWA LR LR
comp=Z,2μm,19.0s,MS5.6
PACP Pacheco Peak 89.00 53⇓P **P** **19 53 53.6 0.0**
baz=89
M03C McCloud 89.08 48⇓P **P** **19 53 53.9 0.0**
baz=89
ORV Oroville 89.26 50⇓P **P** **19 53 55.0 +0.3**
baz=89
I04A Tendick Farm, 89.32 46⇓P **P** **19 53 54.8 -0.1**
baz=89
M04C Macdoel 89.38 48⇑P **P** **19 53 55.3 +0.1**
baz=89,SNR=5.3
J04A Umpqua Nationa 89.44 46⇑P **P** **19 53 56.0 +0.5**
baz=90
HATC Hat Creek Radi 89.50 49⇑P **P** **19 53 56.0 +0.1**
baz=90
C04A Brinnon 89.66 42⇑P **P** **19 53 56.5 0.0**
baz=90
INK Inuvik 89.68 21⇑*i*P **P** **19 53 55.5 -0.6**
comp=Z,2μm,1.1s
F04A Amboy 89.70 44⇑P **P** **19 53 56.3 -0.4**
baz=90
LAVA Lava Cap Winer 89.71 51⇓P **P** **19 53 57.4 +0.6**
baz=90
O05C Quincy 89.77 50⇓P **P** **19 53 57.7 +0.6**
baz=90
M05C Lookout 89.82 48⇓P **P** **19 53 57.7 +0.3**
baz=90
PKM Peak Mountain 89.84 55⇑P **P** **19 53 58.7 +1.1**
baz=90
CMB Columbia Colle 89.87 52 PFAKE 19 54 10.0 +12
CMB LR LR
comp=Z,1μm,20.0s,MS5.4
P05C Yuba Gap, Truc 89.90 51⇑P **P** **19 53 58.5 +0.7**
baz=90
ELFS Eagle Lake Fie 90.02 49⇑P **P** **19 53 58.8 +0.5**
baz=90
J05A Fort Rock 90.08 47 P **P** **19 53 59.0 +0.5**
baz=90,SNR=6.7
L05A Lakeview 90.17 48⇑P **P** **19 53 59.6 +0.7**
baz=90
R05C Kirkwood Meado 90.21 51⇑P **P** **19 53 59.7 +0.5**
baz=90
K05A Summer Lake 90.23 47⇓P **P** **19 53 59.1 -0.1**
baz=90,SNR=5.2
T06C Millerton Lake 90.24 53⇓P **P** **19 53 59.5 +0.1**
baz=90
MOD Modoc 90.53 48 PFAKE 19 54 10.0 +9.3
MOD LR LR
comp=Z,3μm,19.0s,MS5.7
KCC Kaiser Creek 90.60 53⇓P **P** **19 54 01.9 +0.8**
baz=91
O06A Flanigan 90.62 50⇑P **P** **19 54 01.3 +0.2**
baz=91
R06C Coleville 90.67 51⇓P **P** **19 54 02.3 +1.0**
baz=91
N06A Buffalo Meadow 90.71 49⇓P **P** **19 54 01.4 -0.1**
baz=91
K06A Valley Falls 90.71 47⇑P **P** **19 54 01.1 -0.3**
baz=91
HELL Mitchell Peak 90.74 53⇓P **P** **19 54 02.2 +0.4**
baz=91
CIS Catalina Islan 90.79 57⇑P **P** **19 54 02.6 +0.6**
baz=91
E06A Yakima 90.79 43⇑P **P** **19 54 01.1 -0.6**
baz=91
J06A Christmas Vall 90.85 47 P **P** **19 54 01.9 -0.2**
baz=91,SNR=6.9
I06A Prineville 90.92 46⇑P **P** **19 54 02.2 -0.2**
baz=91
R07C Lee Vining 90.92 52⇑P **P** **19 54 03.6 +1.1**
baz=91
H06A Lindquist Farm 90.95 45⇓P **P** **19 54 01.5 -1.0**
baz=91
D06A Cle Elum 90.99 43⇑P **P** **19 54 02.3 -0.3**
baz=91
ISA Isabella 91.04 54 PFAKE 19 54 10.0 +6.8
ISA LR LR
comp=Z,962nm,19.0s,MS5.3
MTUM Tungsten Hills 91.20 53 *e*P **P** **19 54 05.0 +1.1**
L07A Adell 91.26 48⇑P **P** **19 54 04.2 +0.1**
baz=91,SNR=14
M07A Soldier Meadow 91.30 49 P **P** **19 54 05.0 +0.7**
baz=91,SNR=14
EDW2 Edwards Air Fo 91.33 55⇓P **P** **19 54 04.6 +0.1**
baz=91
N07B Gerlach 91.36 49 P **P** **19 54 05.0 +0.4**
baz=91,SNR=14
K07A Rock Creek Ran 91.43 47 P **P** **19 54 04.8 0.0**
baz=92,SNR=8.6
I07A Izee 91.44 46 P **P** **19 54 05.0 +0.2**
baz=92,SNR=7.3
H07A Lands Inn, Kim 91.47 45⇑P **P** **19 54 04.4 -0.5**
baz=92
G07A Ruggs Ranch, H 91.50 45⇑P **P** **19 54 04.6 -0.4**
baz=92
BFSC Mount Baldy St 91.51 56⇑P **P** **19 54 05.1 -0.3**
baz=92
S08C White Mtn Res 91.53 53⇓P **P** **19 54 06.0 +0.6**
baz=92
NVAR Mina Array Bea 91.55 52 P **P** **19 54 06.0 +0.6**
comp=Z,2.4nm,0.7s,mb4.7,baz=241,slow=4.8,SNR=20
E07A Sunnyside 91.56 43⇓P **P** **19 54 04.8 -0.5**
baz=92
D07A Quincy 91.57 43⇑P **P** **19 54 04.5 -0.8**
baz=92
A07A Ashnola River, 91.58 41⇓P **P** **19 54 05.0 -0.4**
baz=92
C07A Waterville 91.59 42⇑P **P** **19 54 04.2 -1.2**
baz=92
LRMC Laurel Mountai 91.65 55⇑P **P** **19 54 06.2 +0.2**
baz=92,SNR=6.7
HAWA Hanford 91.76 44 PFAKE 19 54 20.0 +14
HAWA LR LR
comp=Z,2μm,21.0s,MS5.6
WVOR Wild Horse Val 91.84 48 *e*P **P** **19 54 06.4 -0.3**
comp=Z,7.1nm,0.9s,mb5.0
WVOR Wild Horse Val 91.84 48 *e*P **P** **19 54 06.4 -0.3**
WVOR pmax pmax
comp=Z,7.0nm,0.9s,mb5.0
Q08A Gabbs 91.89 51⇓P **P** **19 54 07.6 +0.5**
baz=92
M08A Happy Creek Ra 91.89 49⇓P **P** **19 54 07.3 +0.3**
baz=92,SNR=6.1
K08A Mann Creek Ran 91.99 47⇑P **P** **19 54 07.5 +0.1**
baz=92
N08A GE Springer Mi 91.99 49 P **P** **19 54 08.0 +0.5**
baz=92,SNR=12
G08A Pilot Rock 92.00 45⇓P **P** **19 54 07.1 -0.3**
baz=92
L08A Fields 92.02 48 P **P** **19 54 08.2 +0.6**
baz=92,SNR=14
J08A Circle Bar Ran 92.08 47 P **P** **19 54 07.6 -0.2**
baz=92,SNR=6.2
I08A Drewsey 92.08 46⇑P **P** **19 54 07.7 -0.1**
baz=92
E08A Dider Farm, El 92.09 44⇓P **P** **19 54 07.3 -0.4**
baz=92
H08A Prairie City 92.09 46⇓P **P** **19 54 07.2 -0.6**
baz=92
B08A Colville Reser 92.17 42⇓P **P** **19 54 07.0 -1.1**
baz=92
C08A Higginbotham F 92.28 42⇑P **P** **19 54 07.9 -0.7**
baz=92
A08A Turner Farm, O 92.29 41⇓P **P** **19 54 08.0 -0.7**
baz=92
S09A Goldfield 92.30 52⇑P **P** **19 54 09.1 +0.1**
baz=92
GSC Goldstone 92.34 55 PFAKE 19 54 20.0 +11
GSC LR LR
comp=Z,2μm,20.0s,MS5.6
GSC Goldstone 92.34 55⇑P **P** **19 54 10.0 +0.8**
baz=92
SYO Syowa Base 92.36 199⇑*e*P **P** **19 54 06.2 -2.4**
SYO Syowa Base 92.36 199⇓*e*X 19 54 11.3
MONP Monument Peak 92.37 57⇑P **P** **19 54 10.4 +1.0**
baz=92
PFO Pinyon Flat Ob 92.43 57 PFAKE 19 54 20.0 +10
PFO LR LR
comp=Z,2μm,20.0s,MS5.6
PFO Pinyon Flat Ob 92.43 57⇑P **P** **19 54 10.7 +1.1**
baz=92
FURC Furnace Creek, 92.44 54⇑P **P** **19 54 10.1 +0.5**
baz=92
N09A Rock Creek Ran 92.46 49⇓P **P** **19 54 10.4 +0.8**
baz=92

R09A Tonopah 92.48 52 P **P** 19 54 09.7 -0.1
baz=92,SNR=9.2
L09A Wilkinson Ranc 92.50 48 P **P** 19 54 10.4 +0.6
baz=93,SNR=5.9
K09A Rome 92.54 47 ⇑P **P** 19 54 09.7 -0.3
baz=93
BRVK Borovoye 92.57 323 *e*P **P** 19 54 08.0 -1.8
comp=Z,8.5nm,0.9s,mb5.2
BRVK LR LR
comp=Z,746nm,20.0s,MS5.1
BRVK Borovoye 92.57 323 *e*P **P** 19 54 08.0 -1.8
BRVK pmax pmax
comp=Z,9.0nm,0.9s,mb5.2
BRVK MLR MLR
comp=Z,746nm,20.0s,MS5.1
J09A Fry Pan Ranch, 92.60 47 ⇑P **P** 19 54 09.9 -0.3
baz=93
O09A Fish Creek Ran 92.63 50 ⇑P **P** 19 54 10.6 +0.2
baz=93
HEC Hector,Ludlow 92.67 55 P **P** 19 54 11.4 +0.6
baz=93,SNR=5.0
D09A Jones Farm, Ri 92.68 43 ⇑P **P** 19 54 09.9 -0.6
baz=93
E09A Wood Farm, Sta 92.72 44 ⇓P **P** 19 54 09.1 -1.6
baz=93
G09A Cove 92.82 45 ⇑P **P** 19 54 10.4 -0.8
baz=93
S10A Tonopah Range, 92.82 52 ⇑P **P** 19 54 11.8 +0.4
baz=93,SNR=10
U10A Ash Meadows, A 92.86 54 ⇑P **P** 19 54 12.1 +0.5
baz=93
SWSC Sam W. Stewart 92.90 57 ⇑P **P** 19 54 13.0 +1.1
baz=93
B09A Rice 92.96 42 ⇓P **P** 19 54 11.0 -0.7
baz=93
TPNV Topopah Spring 92.98 53 *e*P **P** 19 54 12.1 0.0
comp=Z,3.9nm,0.8s,mb4.9
TPNV Topopah Spring 92.98 53 *e*P **P** 19 54 12.1 0.0
TPNV pmax pmax
comp=Z,4.0nm,0.8s,mb4.9
TPNV Topopah Spring 92.98 53 P **P** 19 54 12.7 +0.6
baz=93,SNR=6.1
TUQ Turquoise Mtn. 93.07 55 ⇑P **P** 19 54 12.8 +0.2
baz=93
BMO Blue Mountains 93.10 45 PFAKE 19 54 20.0 +7.5
BMO LR LR
comp=Z,1μm,20.0s,MS5.3
K10A MacKenzie Ranc 93.17 47 ⇓P **P** 19 54 12.9 +0.1
baz=93
GMRC Granite Mounta 93.22 56 P **P** 19 54 13.7 +0.5
baz=93,SNR=6.2
G10A Bishop Farm, J 93.28 45 ⇓P **P** 19 54 12.2 -1.1
baz=93
F10A Beach Ranch, E 93.29 44 ⇓P **P** 19 54 12.4 -0.9
baz=93
D10A Wagner Farm, O 93.38 43 ⇑P **P** 19 54 13.0 -0.7
baz=93
L10A Juniper Basin 93.39 48 ⇓P **P** 19 54 13.7 -0.2
baz=93,SNR=8.5
H10A Noah's Angus R 93.47 46 ⇓P **P** 19 54 13.4 -0.8
baz=94
V11A Goodsprings 93.52 54 ⇓P **P** 19 54 15.1 +0.5
baz=94
IRM Iron Mountain 93.57 56 P **P** 19 54 15.9 +1.0
baz=94,SNR=8.3
NEW Newport 93.62 42 PFAKE 19 54 30.0 +15
NEW LR LR
comp=Z,2μm,20.0s,MS5.6
Q11A Duckwater 93.66 51 P **P** 19 54 15.7 +0.5
baz=94,SNR=10
R11A Troy Canyon, C 93.66 52 P **P** 19 54 15.9 +0.7
baz=94,SNR=9.1
K11A Parker Ranch, 93.79 48 ⇑P **P** 19 54 15.2 -0.5
baz=94
O11A Cowboy Ranch, 93.79 50 ⇓P **P** 19 54 16.2 +0.5
baz=94,SNR=8.5
T11A Corn Creek, Al 93.83 53 ⇓P **P** 19 54 16.4 +0.3
baz=94
G11A Walters Elk Ra 93.89 45 ⇑P **P** 19 54 15.2 -1.0
baz=94
V12A Nelson 93.97 55 ⇓P **P** 19 54 17.3 +0.6
baz=94
E11A Bogner Ranch, 94.03 44 ⇓P **P** 19 54 15.1 -1.7
baz=94
ELK Elko 94.17 50 PFAKE 19 54 30.0 +12
ELK LR LR
comp=Z,49nm,19.0s
A11A Hall Mountain, 94.20 41 ⇓P **P** 19 54 17.0 -0.4
baz=94
U12A Valley of Fire 94.30 54 ⇑P **P** 19 54 19.5 +1.3
baz=94
P12A McGill 94.30 51 ⇑P **P** 19 54 18.8 +0.7
baz=94
Q12A Willow Creek R 94.32 51 P **P** 19 54 19.3 +1.1
baz=94,SNR=6.7
N12A Clover Valley, 94.33 50 ⇑P **P** 19 54 18.5 +0.3
baz=94,SNR=6.7
PDMCI Parker Dam,Lak 94.42 56 ⇓P **P** 19 54 19.3 +0.5
baz=94
R12A Pony Springs, 94.42 52 ⇓P **P** 19 54 19.7 +1.0
baz=94
L12A House Creek Ra 94.47 48 ⇑P **P** 19 54 19.1 +0.2
baz=94
M12A Wells 94.48 49 ⇑P **P** 19 54 19.5 +0.6
baz=94
O12A Currie 94.50 50 P **P** 19 54 19.8 +0.8
baz=94,SNR=6.5
J12A Stokes Ranch, 94.52 47 ⇓P **P** 19 54 18.9 -0.2
baz=95
K12A Draper Farm, C 94.60 48 ⇑P **P** 19 54 19.8 +0.4
baz=95
F12A Elk City 94.64 45 ⇑P **P** 19 54 19.4 -0.1
baz=95
D12A Red Ives Fores 94.69 43 ⇑P **P** 19 54 19.5 -0.2
baz=95
X13A Yucca 94.70 56 ⇑P **P** 19 54 20.5 +0.4
baz=95
W13A Hualapai Mount 94.70 55 ⇓P **P** 19 54 20.6 +0.6
baz=95
U13A Pakoon Wash 94.75 54 ⇑P **P** 19 54 21.0 +0.7
baz=95
H12A Diamond D Ranc 94.81 46 ⇓P **P** 19 54 19.9 -0.5
baz=95
T13A Saint George 94.86 53 ⇓P **P** 19 54 21.5 +0.7
baz=95
N13A Wendover, West 94.96 50 ⇑P **P** 19 54 21.2 0.0
baz=95
P13A Bates Ranch, G 94.98 51 ⇑P **P** 19 54 21.5 +0.2
baz=95
M13A Montello 95.03 49 ⇓P **P** 19 54 21.3 -0.2
baz=95
HLID Hailey 95.04 47 PFAKE 19 54 30.0 +8.6
HLID LR LR
comp=Z,2μm,20.0s,MS5.6
HLID Hailey 95.04 47 ⇑P **P** 19 54 21.6 +0.2
baz=95
H13A Challis 95.24 46 ⇓P **P** 19 54 22.1 -0.2
baz=95
F13A Darby 95.28 45 ⇓P **P** 19 54 21.8 -0.7
baz=95
I13A Wildhorse Cree 95.28 47 ⇓P **P** 19 54 22.6 0.0
baz=95
G13A Cobalt 95.30 45 ⇓P **P** 19 54 22.7 +0.1
baz=95
V14A Boquillas Ranc 95.38 55 ⇓P **P** 19 54 23.5 +0.3
baz=95
U14A Mt Trumbull 95.39 54 ⇓P **P** 19 54 23.6 +0.4
baz=95
B13A Whitefish 95.40 42 ⇑P **P** 19 54 22.4 -0.6
baz=96
MSO Missoula 95.63 44 PFAKE 19 54 30.0 +5.9
MSO LR LR
comp=Z,2μm,21.0s,MS5.6
YKA Yellowknife Ar 96.27 28 P **P** 19 54 26.1 -0.5
YKA PKKP PKKPbc 20 11 11.6 -3.7
YKA Yellowknife Ar 96.27 28 P **P** 19 54 26.1 -0.5
comp=Z,8.1nm,0.7s,mb5.3,baz=264,slow=4.6,SNR=123
YKA PKKP PKKPbc 20 11 11.5 -3.7
comp=Z,1.0nm,0.8s,baz=84,slow=2.7,SNR=13
E15A Deer Lodge 96.50 44 ⇓P **P** 19 54 27.2 -0.8
baz=97
MPU Maple Canyon 96.86 51 PFAKE 19 54 40.0 +10
MPU LR LR
comp=Z,3μm,21.0s,MS5.7
HWUT Hardware Ranch 97.00 49 *e*P **P** 19 54 29.3 -1.1
comp=Z,2.6nm,0.5s,mb4.9
HWUT LR LR
comp=Z,2μm,22.0s,MS5.7

TUC Tucson 97.06 58 PFAKE 19 54 40.0 +9.1
TUC LR LR
comp=Z,2μm,20.0s,MS5.5
BOZ Bozeman (W) 97.16 45 PFAKE 19 54 40.0 +9.0
BOZ LR LR
comp=Z,2μm,22.0s,MS5.5
AHID Auburn Hatcher 97.41 48 PFAKE 19 54 40.0 +7.8
AHID LR LR
comp=Z,2μm,20.0s,MS5.6
EGMT Eagleton 98.53 43 PFAKE 19 54 50.0 +13
EGMT LR LR
comp=Z,2μm,20.0s,MS5.7
EGMT Eagleton 98.53 43 ⇑P **P** 19 54 36.2 -0.9
baz=99
BW06 Boulder Array 98.54 48 PFAKE 19 54 50.0 +13
BW06 LR LR
comp=Z,3μm,20.0s,MS5.8
PDAR Pinedale Array 98.54 48 P **P** 19 54 36.0 -1.4
comp=Z,3.4nm,0.8s,mb5.0,baz=244,slow=2.4,SNR=35
RLMT Red Lodge 98.81 45 PFAKE 19 54 50.0 +12
RLMT LR LR
comp=Z,2μm,22.0s,MS5.5
MVCO Mesa Verde 99.18 54 PFAKE 19 54 50.0 +10
MVCO LR LR
comp=Z,3μm,22.0s,MS5.8
ARU Arti 99.55 326 PFAKE 19 54 50.0 +8.6
ARU LR LR
comp=Z,764nm,20.0s,MS5.2
SNAA Sanae 100.11 187 *e*Pdiff Pdif 19 54 43.9 -0.2
SNAA *e* 19 54 47.6
SNAA *e* 19 54 50.5
ANMO Albuquerque 100.78 56 PFAKE 19 55 00.0 +13
ANMO LR LR
comp=Z,3μm,20.0s,MS5.8
LAO LASA Array 100.93 44 PFAKE 19 55 00.0 +12
LAO LR LR
comp=Z,2μm,20.0s,MS5.6
VNA3 Neumayer Olymp 101.22 185 *e*Pdiff Pdif 19 54 48.8 -0.2
VNA3 *e* 19 54 53.1
VNA3 *e* 19 54 54.8
VNA3 *e* 19 54 57.8
VNA2 Neumayer--Watz 101.32 186 *e*Pdiff Pdif 19 54 49.5 +0.1
VNA2 *e* 19 54 52.2
VNA2 *e* 19 54 54.0
VNA2 *e* 19 54 56.6
ISCO Idaho Springs 101.48 51 PFAKE 19 55 00.0 +10
ISCO LR LR
comp=Z,1μm,19.0s,MS5.5
SDCO Great Sand Dun 101.58 53 PFAKE 19 55 00.0 +9.4
SDCO LR LR
comp=Z,3μm,21.0s,MS5.8
MNTX Cornudas Mount 101.61 59 PFAKE 19 55 00.0 +9.3
MNTX LR LR
comp=Z,3μm,20.0s,MS5.8
DGMT Dagmar 102.23 42 PFAKE 19 55 00.0 +6.5
DGMT LR LR
comp=Z,1μm,20.0s,MS5.5
RSSD Black Hills 102.56 46 PFAKE 19 55 10.0 +15
RSSD LR LR
comp=Z,2μm,21.0s,MS5.7
FFC Flin Flon 103.09 36 PFAKE 19 55 10.0 +13
FFC LR LR
comp=Z,2μm,21.0s,MS5.6
AMTX Amarillo 104.70 56 PFAKE 19 55 20.0 +16
AMTX LR LR
comp=Z,2μm,22.0s,MS5.6
KBS Kingsbay 105.88 353 *e*P PKiKP 19 59 29.5 +7.9
KBS *i* 20 09 50.1
KBS LR LR
comp=Z,1μm,21.0s,MS5.5
CBKS Cedar Bluff 106.07 52 PFAKE 19 59 30.0 +7.0
CBKS LR LR
comp=Z,2μm,19.0s,MS5.8
WMOK Wichita Mounta 107.09 56 PFAKE 19 59 40.0 +15
WMOK LR LR
comp=Z,2μm,19.0s,MS5.7
LVZ Lovozero 107.71 340 PFAKE 19 59 40.0 +15
LVZ LR LR
comp=Z,1μm,21.0s,MS5.4
AGMN Agassiz Refuge 107.77 42 PFAKE 19 59 40.0 +14
AGMN LR LR
comp=Z,2μm,19.0s,MS5.8
ECSD EROS,Sioux Fal 107.93 46 PFAKE 19 59 40.0 +14
ECSD LR LR
comp=Z,3μm,19.0s,MS5.8
KVTX Kingsville 108.15 63 PFAKE 19 59 40.0 +13
KVTX LR LR
comp=Z,4μm,20.0s,MS6.0
KSU1 Kansas State U 108.48 51 PFAKE 19 59 40.0 +13
KSU1 LR LR
comp=Z,1μm,19.0s,MS5.5
KEV Kevo 109.17 343 PFAKE 19 59 40.0 +12
KEV LR LR
comp=Z,1μm,20.0s,MS5.5
ARCES ARCESS Array B 109.72 343 PKiKP PKiKP 19 59 28.4 -0.5
comp=Z,3.6nm,0.8s,baz=52,slow=2.2,SNR=6.3
ARCES PKKPbc PKKPbc 20 10 39.1 +3.7
comp=Z,4.1nm,0.9s,baz=305,slow=4.3,SNR=5.0
HKT Hockley 109.86 61 PFAKE 19 59 40.0 +10
HKT LR LR
comp=Z,4μm,19.0s,MS6.0
EYMN Ely 110.71 41 PFAKE 19 59 40.0 +8.6
EYMN LR LR
comp=Z,1μm,19.0s,MS5.5
NATX Nacogdoches 110.74 59 PFAKE 19 59 40.0 +8.0
NATX LR LR
comp=Z,3μm,20.0s,MS5.9
KIV Kislovodsk 111.08 314 PFAKE 19 59 40.0 +7.8
KIV LR LR
comp=Z,1μm,19.0s,MS5.5
KIV Kislovodsk 111.08 314 *i* PKIKP PKiKP 19 59 32.9 +0.7
KIV *e* 20 00 12.5
KIV *e* 20 06 13.1
KIV *e*PS PS 20 09 44.1 +1.6
KIV *e*SS SS 20 15 46.6 +4.1
KIV pmax pmax
comp=Z,4.0nm,1.1s
KIV MLR MLR
comp=Z,582nm,21.0s,MS5.1
OBN Obninsk 111.94 327 PFAKE 19 59 40.0 +6.5
OBN LR LR
comp=Z,789nm,19.0s,MS5.3
OBN Obninsk 111.94 327 ⇑*e*P Pdif 19 55 31.6 -5.1
OBN *i* PS PS 20 09 43.9 -6.1
OBN *e*SS SS 20 15 54.8 +1.6
OBN pmax pmax
comp=Z,6.0nm,0.5s
COWI Conover 112.71 43 PFAKE 19 59 50.0 +15
COWI LR LR
comp=Z,3μm,22.0s,MS5.8
SOC Sochi 113.26 314 *i* PKIKP PKiKP 19 59 30.5 -5.9
SOC *e* 20 00 35.5
SOC *e* 20 06 18.6
SOC *e*PS PS 20 09 56.8 -5.8
SOC *e*SSS 20 20 28.7
SOC MLR MLR
comp=Z,735nm,12.0s,MS5.5
KAF Kangasniemi 113.65 336 *e*pkp PKiKP 19 59 34.2 -2.3
HDIL Hopedale 113.82 49 PFAKE 19 59 50.0 +12
HDIL LR LR
comp=Z,2μm,20.0s,MS5.6
FINES FINESS Array B 114.10 336 PKP PKiKP 19 59 35.6 -1.8
comp=Z,2.7nm,0.9s,baz=333,slow=0.4,SNR=4.7
FINES PKKPbc PKKPbc 20 10 18.1 -2.5
comp=Z,1.2nm,0.9s,baz=100,slow=4.5,SNR=3.8
MALT Malatya 115.33 309 *e*PKPdf PKPdf 19 59 39.8 -0.7
MALT *e* 19 59 50.3
WVT Waverly 115.80 53 PFAKE 19 59 50.0 +8.5
WVT LR LR
comp=Z,3μm,22.0s,MS5.8
PLAL Pickwick Lake 115.81 55 PFAKE 19 59 50.0 +8.5
PLAL LR LR
comp=Z,2μm,21.0s,MS5.8
GLMI Grayling 116.11 43 PFAKE 19 59 50.0 +8.2
GLMI LR LR
comp=Z,2μm,19.0s,MS5.8
PLCA Paso Flores 116.51 142 PKP PKPdf 19 59 42.3 -0.5
comp=Z,2.9nm,0.7s,baz=163,slow=2.8,SNR=8.4
PLCA PKKPbc PKKPbc 20 10 07.9 -3.9
comp=Z,2.1nm,0.5s,baz=34,slow=6.0,SNR=7.4
WCI Wyandotte Cave 116.58 51 PFAKE 19 59 50.0 +7.1
WCI LR LR
comp=Z,3μm,21.0s,MS5.8
LRAL Lakeview Retre 117.02 57 PFAKE 19 59 50.0 +6.1
LRAL LR LR
comp=Z,3μm,19.0s,MS6.0
BRAL Brewton 117.28 59 PFAKE 20 00 00.0 +15
BRAL LR LR
comp=Z,2μm,20.0s,MS5.8
AAM Ann Arbor 117.51 46 PFAKE 20 00 00.0 +15
AAM LR LR
comp=Z,3μm,21.0s,MS5.9
SFJD Kangerlussuaq 117.59 11 PFAKE 19 59 50.0 +6.0
SFJD LR LR
comp=Z,1μm,21.0s,MS5.5
KMBO Kilima Mbogo 117.62 265 *e*PKPdf PKPdf 19 59 44.9 -0.8
KMBO LR LR
comp=Z,2μm,21.0s,MS5.7
KMBO Kilima Mbogo 117.62 265 ⇑*i*PKIKP PKPdf 19 59 45.7 0.0
KMBO Kilima Mbogo 117.62 265 PKP PKPdf 19 59 45.8 +0.1
comp=Z,2.5nm,0.9s,baz=61,slow=21,SNR=6.6
ASF Jabal al Asfar 117.68 303 PKP PKPdf 19 59 45.1 -0.2
comp=Z,1.4nm,0.6s,baz=154,slow=4.4,SNR=3.9
AKASG Malin Array Be 117.75 324 PKP PKPdf 19 59 43.7 -1.1
AKASG PKKPbc PKKPbc 20 10 05.7 -1.9
AKASG Malin Array Be 117.75 324 PKP PKPdf 19 59 43.7 -1.0
comp=Z,4.4nm,0.8s,baz=62,slow=2.3,SNR=20
AKASG PKKPbc PKKPbc 20 10 05.7 -2.0
comp=Z,2.5nm,0.9s,baz=257,slow=4.2,SNR=12
KIEV Kiev 117.76 324 *e*PKPdf PKPdf 19 59 42.0 -2.8
KIEV *e* 19 59 53.3
KIEV LR LR
comp=Z,868nm,19.0s,MS5.4
HOPE Hope Point 118.09 172 PFAKE 20 00 00.0 +15
HOPE LR LR
comp=Z,5.0nm,21.0s
TGUH Tegucigalpa,Un 118.27 78 PFAKE 20 00 00.0 +13
TGUH LR LR
comp=Z,2μm,21.0s,MS5.7
ACSO Alum Creek Sta 118.58 48 PFAKE 20 00 00.0 +13
ACSO LR LR
comp=Z,2μm,21.0s,MS5.6
ANTO Ankara 119.21 312 PFAKE 20 00 00.0 +12
ANTO LR LR
comp=Z,1μm,19.0s,MS5.5
HFS Hagfors 119.66 339 PKP PKPdf 19 59 46.9 -1.2
comp=Z,5.0nm,1.0s,baz=145,slow=5.4,SNR=9.5
EIL Elat 119.74 300 PKP PKPdf 19 59 48.8 -0.5
comp=Z,2.3nm,0.7s,baz=37,slow=2.8,SNR=4.7
NB2 NORSAR Subarra 119.85 341 PKPdf PKPdf 19 59 47.3 -1.2
comp=Z,2.0nm,0.6s,baz=39,slow=1.9
NOA NORSAR Array B 119.85 341 PKP PKPdf 19 59 47.5 -1.0
comp=Z,3.7nm,0.9s,baz=46,slow=1.9,SNR=9.1
GOGA Godfrey 119.86 56 PFAKE 20 00 00.0 +11
GOGA LR LR
comp=Z,4μm,22.0s,MS6.0
ERPA Erie 120.16 45 PFAKE 20 00 00.0 +10
ERPA LR LR
comp=Z,2μm,21.0s,MS5.8
BOSA Boshof 120.19 231 *e*PKPdf PKPdf 19 59 49.8 -0.4
BOSA *e* 20 00 01.8
BOSA Boshof 120.19 231 PKP PKPdf 19 59 50.3 +0.1
comp=Z,3.6nm,0.8s,baz=230,slow=8.7,SNR=5.2
BOSA PKKPbc PKKPbc 20 09 57.0 -1.2
comp=Z,0.6nm,0.5s,baz=10.0,slow=4.5,SNR=3.5
MATP Matopo 120.99 241 PKP PKPdf 19 59 51.4 -0.5
comp=Z,8.6nm,1.0s,baz=121,slow=1.9,SNR=9.6
BLA Blacksburg 121.34 51 PFAKE 20 00 00.0 +7.9
BLA LR LR
comp=Z,2μm,20.0s,MS5.8
KONO Kongsberg 121.42 340 PFAKE 20 00 00.0 +8.4
KONO LR LR
comp=Z,1μm,19.0s,MS5.6
SUR Sutherland 121.54 225 *e*PKPdf PKPdf 19 59 50.8 -1.9
SCHQ Schefferville 121.71 27 PKP PKPdf 19 59 50.0 -2.2
comp=Z,3.2nm,0.5s,baz=108,slow=16,SNR=13
SCHQ PKKPbc PKKPbc 20 09 51.3 -1.8
comp=Z,6.0nm,0.9s,baz=143,slow=5.2,SNR=5.1
MLR Muntele Rosu 121.95 320 PKP PKPdf 19 59 52.3 -0.7
comp=Z,2.1nm,0.7s,baz=272,slow=1.4,SNR=7.5
MLR PKKPbc PKKPbc 20 09 50.1 -1.9
comp=Z,3.4nm,0.8s,baz=146,slow=6.0,SNR=9.4
KWP Kalwaria 121.95 326 *e*PKP PKPdf 19 59 53.1 +0.2
SSPA Standing Stone 122.15 46 *e*PKPdf PKPdf 19 59 51.9 -1.7
SSPA LR LR
comp=Z,1μm,20.0s,MS5.6
MSNY Massena 122.51 40 *e*PKPdf PKPdf 19 59 52.3 -1.8
KOLS Kolonicke sedl 122.55 325 *i* PKP PKPdf 19 59 53.9 -0.2
KOLS *e* 20 00 04.1
KOLS Kolonicke sedl 122.55 325 *i* PKP PKPdf 19 59 53.9 -0.2
KOLS *i* 20 00 04.1
DWPF Disney 122.59 61 PFAKE 20 00 10.0 +15
DWPF LR LR
comp=Z,5μm,20.0s,MS6.2
NHSC New Hope 122.61 55 PFAKE 20 00 10.0 +15
NHSC LR LR
comp=Z,3μm,19.0s,MS6.0
GKP Gorka Klasztor 122.74 331 *e*PKP PKPdf 20 00 04.0 +10
LONY Lake Ozonia 122.85 41 PFAKE 20 00 10.0 +15
LONY LR LR
comp=Z,3μm,21.0s,MS6.0
STHS Stebnicka Huta 122.88 326 *i* PKP PKPdf 19 59 54.3 -0.4
BINY Binghamton 122.91 44 PFAKE 20 00 10.0 +15
BINY LR LR
comp=Z,1μm,21.0s,MS5.6
CRVS Cervenica-Dubn 123.03 325 *i* PKP PKPdf 19 59 54.5 -0.5
CRVS *e* 20 00 04.9
CRVS Cervenica-Dubn 123.03 325 *i* PKP PKPdf 19 59 54.5 -0.5
CRVS *i* 20 00 04.9
LCO Las Campanas 123.05 131 *e*PKPdf PKPdf 19 59 55.5 -0.2
LCO LR LR
comp=Z,3μm,22.0s,MS6.0
LSZ Lusaka 123.06 247 PKP PKPdf 19 59 56.0 0.0
LSZ LR LR
comp=Z,2μm,19.0s,MS5.8
LSZ Lusaka 123.06 247 PKP PKPdf 19 59 56.0 0.0
comp=Z,7.6nm,1.1s,baz=119,slow=3.2,SNR=6.9
OJC Ojcow 123.23 327 *e*PKPdf PKPdf 19 59 55.2 -0.1
TRQA Tornquist 123.28 145 PFAKE 20 00 10.0 +14
TRQA LR LR
comp=Z,866nm,21.0s,MS5.4
CBN Corbin 123.35 49 PFAKE 20 00 10.0 +14
CBN LR LR
comp=Z,3μm,19.0s,MS5.9
NCB Newcomb 123.36 41 PFAKE 20 00 10.0 +14
NCB LR LR
comp=Z,4μm,21.0s,MS6.0
NIE Niedzica 123.39 326 *e*PKPdf PKPdf 19 59 56.1 +0.4
OKC Ostrava-Krasne 124.33 328 *e*PKPdf PKPdf 19 59 57.8 +0.3
OKC *ep*PKP pPKPdf 20 00 07.8 +5.3
PSZ Piszkesteto 124.43 325 ⇑*e*PKP PKPdf 19 59 57.3 -0.4
MORC Moravsky Berou 124.68 328 *e*PKPdf PKPdf 19 59 57.7 -0.4
MORC *e* 20 00 07.2
VYHS Vyhne 124.71 326 *i* PKP PKPdf 19 59 57.6 -0.6
LBNH Lisbon 124.73 40 PFAKE 20 00 10.0 +12
LBNH LR LR
comp=Z,3μm,20.0s,MS6.0
NNA Nana 124.84 110 PFAKE 20 00 10.0 +11
NNA LR LR
comp=Z,2μm,21.0s,MS5.7
DPC Dobruska-Polom 124.97 329 *e*PKPdf PKPdf 19 59 58.7 0.0
DPC *ep*PKP pPKPdf 20 00 08.1 +4.4
UPC Upice 125.03 329 *e*PKPdf PKPdf 19 59 57.9 -0.9
UPC *ep*PKP pPKPdf 20 00 08.7 +4.8
VRAC Vranov 125.46 328 PKP PKPdf 19 59 59.4 -0.2
comp=Z,2.7nm,0.8s,baz=260,slow=2.0,SNR=4.1
MODS Modra-Piesok 125.64 327 *i* PKP PKPdf 19 59 59.9 -0.1
PVCC Panska Ves 125.74 330 *e*PKPdf PKPdf 20 00 00.2 +0.1
PVCC *ep*PKP pPKPdf 20 00 09.6 +4.4
HRV Adam Dziewonsk 125.76 42 PFAKE 20 00 10.0 +10
HRV LR LR
comp=Z,3μm,20.0s,MS5.9
BRG Berggiesshubel 125.83 331 *e*PKIKP PKPdf 20 00 00.0 -0.3
BRG *e* 20 00 09.8
BRG *e* 20 01 54.0
BRG pmax pmax
comp=Z,2.0nm,1.0s
BRG Berggiesshubel 125.83 331 *e*PKPdf PKPdf 20 00 00.1 -0.2
BRG *ep*PKPdf pPKPdf 20 00 09.7 +4.3
BRG Berggiesshubel 125.83 331 *e*PKP PKPdf 20 00 00.0 -0.3
comp=Z,15nm,1.0s
BRG *e* 20 00 09.8
comp=Z,16nm,0.9s
BRG *e* 20 01 54.0
BRG *i* 20 12 02.0
CLL Collm 125.99 332 ⇑*i* PKP PKPdf 20 00 00.4 -0.2
CLL *i* 20 00 10.3
CLL LR LR
comp=Z,1μm,16.8s,MS5.7

CLL	**Collm**	**125.99 332**	⇑*i*PKIKP	PKPdf	20 00 00.4	-0.2
CLL			*i*		20 00 10.3	
CLL			pmax	pmax		
	comp=Z,4.0nm,0.9s					
CLL			MLR	MLR		
	comp=Z,1μm,16.8s,MS5.7					
CLL	**Collm**	**125.99 332**	*e*PKPdf	PKPdf	20 00 00.3	-0.3
CLL	**Collm**	**125.99 332**	⇑*i*PKPdf	PKPdf	20 00 00.4	-0.2
	comp=Z,13nm,0.9s					
CLL			*i* pPKPdf	pPKPdf	20 00 10.3	+4.6
	comp=Z,16nm,0.9s					
CLL			*e*PP	PP	20 02 00.0	+6.5
CLL			*e*(pSKPdf)		20 03 50.0	
CLL			*e*PPP		20 04 30.0	
CLL			*e*PPS		20 13 29.0	
CLL			*ex*	x	20 14 46.0	
TREC	**Trest**	**126.04 328**	*e*PKPdf	PKPdf	20 00 00.9	+0.1
TREC			*ep*PKP	pPKPdf	20 00 10.5	+4.7
PRU	**Pruhonice**	**126.10 330**	*e*PKPdf	PKPdf	20 00 00.2	-0.6
PRU			*ep*PKP	pPKPdf	20 00 10.5	+4.6
SOP	**Sopron**	**126.43 326**	⇑*e*PKP	PKPdf	20 00 01.5	-0.1
NRDL	**Niedersach Rie**	**126.49 334**	*e*PKPdf	PKPdf	20 00 01.7	+0.2
NRDL			*ep*PKPdf	pPKPdf	20 00 11.3	+4.7
IDI	**Anoyia**	**126.60 309**	PKP	PKPdf	20 00 02.2	-0.1
	comp=Z,11nm,0.9s,baz=88,slow=3.9,SNR=5.9					
CONA	**Conrad Observa**	**126.67 327**	⇑*i*PKiKP	PKiKP	20 00 01.8	-0.6
	comp=Z,7.4nm,1.4s					
CLZ	**Clausthal**	**126.83 334**	*e*PKPdf	PKPdf	20 00 02.3	+0.1
CLZ			*ep*PKPdf	pPKPdf	20 00 12.2	+4.9
TANN	**Tannenbergstha**	**126.84 331**	*e*PKPdf	PKPdf	20 00 02.2	0.0
TANN			*ep*PKPdf	pPKPdf	20 00 11.9	+4.6
NKC	**Novy Kostel**	**126.97 331**	*e*PKP	PKPdf	20 00 02.9	+0.4
NKC			*e*		20 00 12.2	
NKC	**Novy Kostel**	**126.97 331**	*e*PKPdf	PKPdf	20 00 02.9	+0.4
NKC			*ep*PKP	pPKPdf	20 00 12.2	+4.6
MOX	**Moxa**	**127.09 332**	*e*PKP	PKPdf	20 00 02.8	+0.1
	comp=Z,9.0nm,1.3s					
MOX			*e*		20 00 12.0	
MOX	**Moxa**	**127.09 332**	*e*PKIKP	PKPdf	20 00 02.8	+0.1
MOX			*e*		20 00 12.0	
MOX			pmax	pmax		
	comp=Z,14nm,1.3s					
MOX	**Moxa**	**127.09 332**	*e*PKPdf	PKPdf	20 00 02.5	-0.2
KHC	**Kasperske Hory**	**127.13 329**	*e*PKP	PKPdf	20 00 03.1	+0.3
KHC			*e*		20 00 12.5	
KHC			*e*		20 01 24.0	
KHC	**Kasperske Hory**	**127.13 329**	*e*PKPdf	PKPdf	20 00 03.1	+0.3
KHC			*ep*PKP	pPKPdf	20 00 12.5	+4.6
GEC2	**GERESS Array S**	**127.24 329**	*e*PKPdf	PKPdf	20 00 02.8	-0.3
GERES	**GERESS Array B**	**127.24 329**	PKP	PKPdf	20 00 03.1	+0.1
	comp=Z,4.8nm,0.8s,baz=76,slow=1.7,SNR=30					
MANZ	**Manzenberg**	**127.30 331**	*e*PKPdf	PKPdf	20 00 03.5	+0.4
GVD	**Gavdhos**	**127.37 309**	*e*PKPdf	PKPdf	20 00 03.2	-0.6
ROTZ	**Rotzenmuhle**	**127.39 331**	*e*PKPdf	PKPdf	20 00 02.8	-0.5
WET	**Wettzell**	**127.47 330**	*e*PKPdf	PKPdf	20 00 03.5	0.0
IBBN	**Ibbenburen**	**127.61 335**	*e*PKPdf	PKPdf	20 00 04.4	+0.7
IBBN			*ep*PKPdf	pPKPdf	20 00 13.3	+4.6
GRA1	**Grafenberg Arr**	**127.92 331**	*e*PKPdf	PKPdf	20 00 03.9	-0.4
GRA1			*ep*PKPdf	pPKPdf	20 00 13.8	+4.4
GRF	**Grafenberg Arr**	**127.92 331**	*e*PKPdf	PKPdf	20 00 03.9	-0.4
GRF			*ep*PKPdf	pPKPdf	20 00 13.8	+4.4
GRFO	**Grafenberg**	**127.92 331**	PFAKE		20 00 20.0	+16
GRFO			LR	LR		
	comp=Z,2μm,20.0s,MS5.7					
TNS	**Taunus Mts**	**128.84 333**	*e*PKPdf	PKPdf	20 00 06.4	+0.3
EKA	**Eskdalemuir Ar**	**128.87 344**	PKP	PKPdf	20 00 05.9	-0.1
	comp=Z,1.6nm,0.9s,baz=22,slow=5.4,SNR=5.5					
EKA			SKPbc		20 03 25.5	
	comp=Z,4.7nm,0.8s,baz=7.6,slow=2.5,SNR=7.2					
ESK	**Eskdalemuir**	**128.90 344**	PFAKE		20 00 20.0	+14
ESK			LR	LR		
	comp=Z,1μm,21.0s,MS5.5					
ABTA	**Abfaltersbach**	**129.19 328**	⇑*i*PKiKP	PKiKP	20 00 06.0	-1.6
	comp=Z,8.6nm,1.1s					
WTTA	**Wattenberg**	**129.32 329**	⇓*i*P	PKPdf	20 00 06.7	-0.4
	comp=Z,20nm,1.2s					
STU	**Stuttgart**	**129.52 331**	*e*PKPdf	PKPdf	20 00 07.3	-0.1
BFO	**Black Forest**	**130.24 332**	PFAKE		20 00 20.0	+11
BFO			LR	LR		
	comp=Z,3μm,19.0s,MS6.0					
WLF	**Walferdange**	**130.26 334**	*e*PKPdf	PKPdf	20 00 10.1	+1.3
WLF			*ep*PKPdf	pPKPdf	20 00 19.1	+5.2
GIVF	**Givet**	**130.49 335**	*e*PKIKP	PKPdf	20 00 08.6	-0.6
DAVOX	**Davos/Dischmat**	**130.54 329**	PKP	PKPdf	20 00 09.3	-0.2
	comp=Z,4.3nm,0.7s,baz=231,slow=22,SNR=5.9					
DAVOX			SKPbc	SKPbc	20 03 33.5	+0.9
	comp=Z,15nm,1.1s,baz=343,slow=7.7,SNR=7.4					
ROSC	**El Rosal**	**130.64 90**	SKPbc	SKPbc	20 03 33.6	-0.5
	comp=Z,4.7nm,0.4s,baz=278,slow=7.1,SNR=4.0					
CDF	**Champ du Feu**	**130.67 332**	*e*PKIKP	PKPdf	20 00 08.5	-1.1
BAIF	**Baives**	**130.78 336**	*e*PKIKP	PKPdf	20 00 09.1	-0.7
TSUM	**Tsumeb**	**130.82 237**	*e*PKPdf	PKPdf	20 00 11.5	+0.7
TSUM			*e*		20 00 23.0	
LPAZ	**La Paz**	**131.19 119**	PKP	PKPdf	20 00 12.3	+0.8
	comp=Z,11nm,1.0s,baz=271,slow=1.5,SNR=26					
LPAZ			SKPbc	SKPbc	20 03 36.5	+0.6
	comp=Z,12nm,0.8s,baz=274,slow=3.2,SNR=15					
LPAZ			SKP		20 03 44.1	
	comp=Z,5.3nm,0.9s,baz=94,slow=3.2,SNR=4.2					
LPAZ			PKKP		20 10 07.2	
	comp=Z,0.9nm,0.8s,baz=291,slow=6.4,SNR=3.5					
HINF	**Hinteralfeld**	**131.30 332**	*e*PKIKP	PKPdf	20 00 09.8	-1.0
	comp=Z,31nm,1.0s					
HAU	**Haudompre**	**131.40 332**	*e*PKIKP	PKPdf	20 00 10.1	-0.9
	comp=Z,21nm,0.8s					
MEZF	**Maizieres J'vi**	**131.61 334**	*e*PKIKP	PKPdf	20 00 11.1	-0.3
	comp=Z,66nm,1.3s					
DCN	**Croghan**	**131.71 346**	*e*P	PKPdf	20 00 20.9	+9.5
CABF	**La Chapelle**	**132.53 331**	*e*PKIKP	PKPdf	20 00 12.5	-0.7
LPL	**La Plagne**	**133.00 330**	*e*PKIKP	PKPdf	20 00 13.9	-0.2
	comp=Z,19nm,0.9s					
LPG	**La Plagne**	**133.00 330**	*e*PKIKP	PKPdf	20 00 14.1	0.0
	comp=Z,24nm,0.9s					
LOR	**Lormes**	**133.07 334**	*e*PKIKP	PKPdf	20 00 13.8	-0.4
	comp=Z,14nm,0.8s					
SDDR	**Presa de Saban**	**133.26 71**	PFAKE		20 00 30.0	+15
SDDR			LR	LR		
	comp=Z,2μm,20.0s,MS5.8					
BNI	**Bardonecchia**	**133.35 329**	*e*PKPdf	PKPdf	20 00 14.2	-0.6
SSF	**Saint Saulge**	**133.38 334**	*e*PKIKP	PKPdf	20 00 14.4	-0.4
	comp=Z,23nm,0.9s					
SMF	**Signal de Mont**	**133.55 333**	*e*PKIKP	PKPdf	20 00 14.5	-0.6
	comp=Z,24nm,1.1s					
FLN	**La Foliniere**	**133.65 338**	*e*PKIKP	PKPdf	20 00 14.6	-0.6
	comp=Z,62nm,1.3s					
AVF	**Avril sur Loir**	**133.66 333**	*e*PKIKP	PKPdf	20 00 14.5	-0.8
LDF	**La Druitiere**	**133.66 338**	*e*PKIKP	PKPdf	20 00 14.8	-0.4
	comp=Z,81nm,1.4s					
SBF	**Sospel**	**133.79 328**	*e*PKIKP	PKPdf	20 00 15.4	-0.2
	comp=Z,50nm,1.3s					
PGF	**Pioggiola**	**133.80 325**	*e*PKIKP	PKPdf	20 00 15.3	-0.4
	comp=Z,73nm,1.3s					
ORIF	**Oris-en-Rattie**	**133.85 330**	*e*PKIKP	PKPdf	20 00 15.2	-0.5
	comp=Z,15nm,0.8s					
BGF	**Bois d'Agland**	**134.06 334**	*e*PKIKP	PKPdf	20 00 15.8	-0.3
	comp=Z,13nm,0.7s					
FRF	**La Foret Royal**	**134.41 328**	*e*PKIKP	PKPdf	20 00 16.3	-0.5
VIVF	**Saint-Julien-l**	**134.49 331**	*e*PKIKP	PKPdf	20 00 16.6	-0.3
	comp=Z,27nm,1.1s					
SDV	**Santo Domingo**	**134.53 84**	*e*PKPdf	PKPdf	20 00 17.1	-0.8
SDV			*e*SKP		20 03 45.2	
SDV			LR	LR		
	comp=Z,729nm,21.0s,MS5.4					
TCF	**Toulx Ste Croi**	**134.55 334**	*e*PKIKP	PKPdf	20 00 16.8	-0.2
	comp=Z,36nm,0.9s					
LMR	**La Mourre**	**134.64 328**	*e*PKIKP	PKPdf	20 00 16.8	-0.5
	comp=Z,72nm,1.5s					
SMRF	**Simiane la Rot**	**134.67 329**	*e*PKIKP	PKPdf	20 00 17.1	-0.2
	comp=Z,60nm,1.3s					
BBSR	**BB Station**	**135.14 50**	PFAKE		20 00 30.0	+11
BBSR			LR	LR		
	comp=Z,2μm,20.0s,MS5.9					
MFF	**Saint Martin d**	**135.29 336**	*e*PKIKP	PKPdf	20 00 17.9	-0.5
	comp=Z,37nm,1.1s					
LASF	**Ste Croix**	**135.46 331**	*e*PKIKP	PKPdf	20 00 17.6	-1.2
	comp=Z,26nm,1.1s					
RJF	**Les Rejaudoux**	**135.62 333**	*e*PKIKP	PKPdf	20 00 18.0	-1.0
CAF	**Calviac**	**135.66 333**	*e*PKIKP	PKPdf	20 00 18.6	-0.5
	comp=Z,8.0nm,0.8s					
MTLF	**Montolieu**	**136.80 331**	*e*PKIKP	PKPdf	20 00 21.3	0.0
	comp=Z,41nm,1.3s					
KEST	**Kesra**	**137.71 317**	SKPbc	SKPbc	20 03 55.4	-1.3
	comp=Z,5.4nm,1.0s,baz=358,slow=5.9,SNR=4.7					
SJG	**San Juan**	**138.21 71**	PFAKE		20 00 40.0	+15
SJG			LR	LR		
	comp=Z,1μm,21.0s,MS5.7					
EBIE	**Bielsa**	**138.28 332**	PKP	PKPdf	20 00 26.4	+2.4
ETSF	**Etsaut**	**138.43 333**	*e*PKIKP	PKPdf	20 00 24.0	-0.3
	comp=Z,27nm,0.8s					
ELAN	**Lanestosa**	**139.39 336**	PKP	PKPdf	20 00 19.4	-6.6
ECRI	**Cripan**	**139.52 335**	PKP	PKPdf	20 00 27.8	+1.5
EMOS	**Mosqueruela**	**140.37 331**	PKP	PKPdf	20 00 27.5	-0.4
EPON	**Pontenova**	**140.71 340**	PKP	PKPdf	20 00 23.9	-4.5
ETOR	**Torete**	**140.76 332**	PKP	PKPdf	20 00 23.1	-5.6
MSKU	**Masuku**	**140.77 259**	PFAKE		20 00 40.0	+11
MSKU			LR	LR		
	comp=Z,3.0nm,22.0s					
EMAZ	**Mazaricos**	**141.65 341**	PKP	PKPdf	20 00 24.9	-5.2
ECAL	**Calabor**	**141.77 338**	PKP	PKPdf	20 00 27.2	-3.2
GUD	**Guadarrama**	**141.84 334**	PKP	PKPdf	20 00 26.0	-4.6
ESDC	**Sonseca Array**	**142.55 333**	PKP	PKPdf	20 00 28.3	-3.6
ESDC	**Sonseca Array**	**142.55 333**	PKP	PKPdf	20 00 27.8	-4.0
	comp=Z,2.5nm,0.8s,baz=15,slow=2.9,SNR=10.0					
ESDC			SKPbc	SKPbc	20 04 08.7	-0.8
	comp=Z,4.2nm,0.9s,baz=29,slow=3.1,SNR=6.5					
MVO	**Moncorvo**	**142.55 338**	*e*PKP	PKPdf	20 00 28.0	-3.8
EVIA	**Vianos**	**142.69 331**	PKP	PKPdf	20 00 29.5	-2.6
PVRL	**Vila Real**	**142.71 339**	*e*PKP	PKPdf	20 00 28.8	-3.3
PAB	**San Pablo**	**142.82 334**	PFAKE		20 00 40.0	+7.7
PAB			LR	LR		
	comp=Z,1μm,19.0s,MS5.6					
PVIS	**Viseu**	**143.26 338**	*e*PKP	PKPdf	20 00 30.6	-2.5
MTE	**Manteigas**	**143.41 338**	*e*PKP	PKPdf	20 00 31.2	-2.2
MTE	**Manteigas**	**143.41 338**	*e*PKPdf	PKPdf	20 00 30.3	-3.0
EQES	**Quesada**	**143.63 330**	PKP	PKPdf	20 00 31.0	-2.8
EBAN	**Banos Encina**	**143.68 332**	PKP	PKPdf	20 00 31.7	-2.2
ENIJ	**Nijar**	**143.84 329**	PKP	PKPdf	20 00 32.2	-2.0
PCBR	**Castelo Branco**	**143.87 337**	*e*PKP	PKPdf	20 00 32.0	-2.2
EADA	**Adamuz**	**144.05 332**	PKP	PKPdf	20 00 33.0	-1.6
EBER	**Berja**	**144.24 329**	PKP	PKPdf	20 00 32.5	-2.4
ECOG	**Cogollos-Vega**	**144.28 330**	PKP	PKPdf	20 00 32.6	-2.4
ELUQ	**Luque**	**144.39 331**	PKP	PKPdf	20 00 33.6	-1.6
ECAB	**El Cabril**	**144.50 333**	PKP	PKPdf	20 00 34.0	-1.4
ERON	**Agron**	**144.60 330**	PKP	PKPdf	20 00 33.1	-2.4
EBAD	**Badajoz**	**144.62 336**	PKP	PKPdf	20 00 33.8	-1.7
EGUA	**Guajares**	**144.63 330**	PKP	PKPdf	20 00 33.5	-2.1
ELOJ	**Sierra Loja**	**144.67 331**	PKP	PKPdf	20 00 34.1	-1.6
PESTR	**Estremoz**	**144.75 336**	*e*PKP	PKPdf	20 00 34.4	-1.4
EALB	**Alboran**	**145.05 328**	PKP	PKPdf	20 00 35.2	-1.2
PBAR	**Barrancos**	**145.12 335**	*e*PKP	PKPdf	20 00 35.9	-0.5
EVO	**Evora**	**145.21 337**	⇑*i*PKIKP	PKPdf	20 00 36.2	-0.3
	comp=Z,221nm,1.3s					
EVO	**Evora**	**145.21 337**	*e*PKP	PKPdf	20 00 36.3	-0.2
EMIN	**Mina Concepcio**	**145.31 334**	PKP	PKPdf	20 00 36.9	+0.2
PMAFR	**Mafra**	**145.32 339**	*e*PKP	PKPdf	20 00 36.6	-0.1
EMIJ	**Mijas**	**145.43 331**	PKP	PKPdf	20 00 35.5	-1.5
PBEJ	**Beja**	**145.59 336**	*e*PKP	PKPdf	20 00 37.8	+0.6
ESPR	**Espera**	**145.69 333**	PKP	PKPdf	20 00 38.4	+0.9
EGRO	**El Granado**	**145.85 335**	PKP	PKPdf	20 00 38.5	+0.8
EJIF	**Jimena Fronter**	**145.85 332**	PKP	PKPdf	20 00 38.3	+0.6
CAM4	**Nova Friburgo**	**145.95 150**	⇑*i*P	PKPdf	20 00 39.1	+0.8
CAM4			*i*		20 00 43.8	
CAM4			*i*		20 00 48.8	
CAM4			*i*		20 00 56.3	
CAM4			*i*		20 01 10.5	
PVAQ	**Vaqueiros**	**146.06 335**	*e*PKP	PKPdf	20 00 39.1	+1.1
SFS	**San Fernando**	**146.19 333**	*e*PKPdf	PKPdf	20 00 36.9	-1.4
PBDV	**Barranco-do-Ve**	**146.28 335**	*e*PKP	PKPdf	20 00 38.5	+0.1
PTEO	**Sao Teotonio**	**146.34 337**	*e*PKP	PKPdf	20 00 40.3	+1.8
MORF	**Marmelete**	**146.52 336**	*e*PKP	PKPdf	20 00 40.7	+1.9
PFVI	**Vila Bisbo**	**146.74 336**	*e*PKP	PKPdf	20 00 41.1	+1.9
BDFB	**Brasilia**	**147.75 134**	PKPbc	PKPbc	20 00 41.9	-2.4
	comp=Z,72nm,0.8s,baz=192,slow=2.4,SNR=44					
MDT	**Midelt**	**148.28 327**	PKPbc	PKPbc	20 00 45.6	+0.4
	comp=Z,21nm,0.9s,baz=70,slow=3.5,SNR=40					
CAM3	**Guarapari**	**148.33 151**	⇑*i*P	PKPbc	20 00 45.8	+0.1
CAM3			*i*		20 00 54.6	
PMPS	**Porto Santo**	**152.98 344**	*e*PKPbc	PKPbc	20 00 56.8	+0.4
TORD	**Torodi Ar. Bea**	**153.30 285**	PKP	PKPdf	20 00 47.8	-2.3
	comp=Z,2.2nm,0.9s,baz=211,slow=1.7,SNR=4.2					
TORD			PKPbc	PKPbc	20 00 56.5	-1.1
	comp=Z,12nm,0.8s,baz=60,slow=1.9,SNR=25					
PMAR	**Madeira**	**153.45 345**	*e*PKPbc	PKPbc	20 00 58.2	+0.7
DBIC	**Dimbokro**	**160.26 270**	PKP	PKPdf	20 00 58.3	-0.8
	comp=Z,8.4nm,1.1s,baz=197,slow=3.5,SNR=5.9					
DBIC			PKPab	PKPab	20 01 39.2	-0.4
	comp=Z,17nm,0.8s,baz=80,slow=4.4,SNR=14					
LIC	**Lamto**	**160.41 269**	*e*PKP2	PKPab	20 01 39.0	-1.2
	comp=Z,22nm,0.8s					
ASCN	**Ascension**	**161.87 215**	PFAKE		20 01 10.0	+9.2
ASCN			LR	LR		
	comp=Z,2μm,19.0s					

*ISCJB **03** 19:42:17.8±0.3, 708S±004×15537E±006, h10km, mb5.2/55, MS4.9/15, Error ellipse: s-maj=8.5km s-min=6.0km az=0.6*

*IDC **03** 19:42:17.5±0.6, 704S×15542E, h0km, mb5.1/12, mb1 5.3/12, mb1mx5.2/15, mbtmp5.1/12, MS4.9/8, Ms1 4.9/8, ms1mx4.6/21, Error ellipse: s-maj=29.4km s-min=16.3km az=89.0*

*NEIC **03** 19:42:19.3±0.2, 702S×15532E, h10km, mb5.4/42, Error ellipse: s-maj=7.4km s-min=5.0km az=100.0*

*MOS **03** 19:42:21.5±1.3, 706S×15532E, h33km, mb5.4/28, MS4.8/6, Error ellipse: s-maj=12.3km s-min=8.4km az=85.6*

*BJI **03** 19:42:23.7, 670S×155.18E, h9km, mB5.3, mb5.2, Ms5.1, Msz4.9*

ISC 03 19:42:18.6±2.2, 705S±005×15531E±006, h4km±13km, h15km±1.9km; pP-P, n145, σ0=93/119, mb5.2/55, MS4.9/15, 5C-3D, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time (h m s)	Res
				Op	ISC		ISC
CTA	**Charters Tower**	**15.66**	**213**	*e*P	**Pn**	**19 46 06.9**	**+6.7**
	108nm,0.9s						
CTA	**Charters Tower**	**15.66**	**213**	P	**Pn**	**19 46 03.3**	**+3.1**
CTA				pmax	pmax		
	comp=Z,3.0nm,0.3s						
CTA	**Charters Tower**	**15.66**	**213**	Pn	**Pn**	**19 46 03.3**	**+3.1**
	comp=Z,2.6nm,0.3s,baz=39,slow=13,SNR=6.7						
CTAO	**Charters Tower**	**15.66**	**213**	*e*Pn	**Pn**	**19 45 59.9**	**-0.3**
	comp=Z,233nm,1.0s						
CTAO	**Charters Tower**	**15.66**	**213**	*e*P	**Pn**	**19 45 59.9**	**-0.3**
CTAO				pmax	pmax		
	comp=Z,233nm,1.0s						
EIDS	**Eidsvold**	**18.66**	**192**	*e*Pn	**Pn**	**19 46 37.7**	**-0.2**
	comp=Z,72nm,1.4s						
GUMO	**Guam**	**22.98**	**333**	*e*P	**P**	**19 47 25.5**	**+1.0**
	comp=Z,227nm,1.1s,mb5.5						
GUMO				LR	LR	19 55 09.3	
GUMO	**Guam**	**22.98**	**333**	*e*P	**P**	**19 47 25.5**	**+1.1**
GUMO				pmax	pmax		
	comp=Z,227nm,1.1s,mb5.5						
GUMO	**Guam**	**22.98**	**333**	P	**P**	**19 47 28.8**	**+4.4**
	comp=Z,52nm,0.8s,mb5.0,baz=18,slow=22,SNR=3.6						
GUMO				LR	LR	19 55 09.3	
	comp=Z,2μm,20.1s,MS4.5,baz=287,slow=34						
KAKA	**Kakadu**	**23.21**	**254**	P	**P**	**19 47 26.5**	**-0.5**
	comp=Z,202nm,0.7s,mb5.7						
ARMA	**Armidale**	**23.50**	**188**	*e*P	**P**	**19 47 29.9**	**+0.1**
WB2	**Warramunga Arr**	**24.03**	**236**	*e*P	**P**	**19 47 34.9**	**0.0**
WRA	**Warramunga Arr**	**24.04**	**236**	P	**P**	**19 47 35.9**	**+0.9**
WRA				pmax	pmax		
	comp=Z,261nm,1.0s						
WRA				pmax	pmax		
	comp=N,3.0nm,0.9s						
WRA				MLR	MLR		
	comp=Z,6μm,18.2s						
WRA	**Warramunga Arr**	**24.04**	**236**	P	**P**	**19 47 35.9**	**+0.9**
	comp=Z,261nm,1.0s,mb5.6,baz=60,slow=9.6,SNR=14						
WRA				ScP	ScP	19 54 54.1	-2.3
	comp=Z,3.2nm,0.8s,baz=61,slow=2.5,SNR=6.1						
WRA				LR	LR	19 56 03.1	
	comp=Z,6μm,18.2s,MS5.1,baz=70,slow=34						
ASAR	**Alice Springs**	**26.37**	**229**	P	**P**	**19 47 55.8**	**-0.4**
ASAR				pmax	pmax		
	comp=Z,42nm,0.9s						
ASAR				pmax	pmax		
	comp=N,3.0nm,0.9s						
ASAR	**Alice Springs**	**26.37**	**229**	P	**P**	**19 47 55.8**	**-0.4**
	comp=N,42nm,0.8s,mb5.0,baz=62,slow=8.9,SNR=6.5						
ASAR				ScP	ScP	19 55 00.8	-2.2
	comp=N,3.2nm,0.9s,baz=57,slow=3.4,SNR=4.4						
RIV	**Riverview**	**26.92**	**188**	*e*P	**P**	**19 48 01.8**	**+0.8**
STKA	**Stephens Creek**	**27.82**	**206**	*e*P	**P**	**19 48 08.7**	**-0.4**
	comp=N,56nm,0.8s,mb5.2						
STKA	**Stephens Creek**	**27.82**	**206**	P	**P**	**19 48 09.2**	**+0.2**
	comp=N,66nm,0.8s,mb5.3,baz=29,slow=12,SNR=7.2						
CNB	**Canberra Magne**	**28.66**	**190**	*e*P	**P**	**19 48 16.8**	**+0.3**
	comp=N,43nm,0.9s,mb5.2						
FITZ	**Fitzroy Crossi**	**30.92**	**246**	*e*P	**P**	**19 48 36.7**	**-0.1**
	comp=N,116nm,0.7s,mb5.8						
BATI	**Kupang**	**31.44**	**262**	LR	LR	20 02 29.9	
	comp=N,6μm,19.2s,MS5.3,baz=109,slow=38						
RAO	**Raoul Island**	**33.52**	**135**	LR	LR	20 00 26.2	
	comp=N,2μm,18.1s,MS4.9,baz=315,slow=32						
TAU	**Tasmania Unive**	**36.40**	**190**	*e*P	**P**	**19 49 24.6**	**+0.4**
	comp=N,99nm,1.0s,mb5.7						
TAU	**Tasmania Unive**	**36.40**	**190**	*e*P	**P**	**19 49 24.6**	**+0.4**
TAU				pmax	pmax		
	comp=Z,99nm,1.0s,mb5.7						
URZ	**Urewera**	**36.80**	**151**	LR	LR	20 01 58.0	
	comp=Z,2μm,18.3s,MS5.0,baz=37,slow=32						
MBWA	**Marble Bar**	**37.13**	**244**	*e*P	**P**	**19 49 30.3**	**-0.4**
	comp=Z,93nm,0.8s,mb5.7						
RPZ	**Rata Peaks**	**39.04**	**162**	P	**P**	**19 49 46.4**	**-0.1**
	comp=Z,45nm,0.7s,mb5.3,baz=172,slow=7.9,SNR=5.8						
JHJ	**Hachijo jima 2**	**42.59**	**341**	LR	LR	20 06 11.7	
	comp=Z,1μm,19.6s,MS4.7,baz=171,slow=34						
KLBR	**Kellerberrin**	**42.69**	**230**	⇓*i*P	**P**	**19 50 16.0**	**-0.8**
	comp=Z,114nm,0.7s,mb5.7						
NWAO	**Narrogin (SRO)**	**43.69**	**229**	⇑*e*P	**P**	**19 50 23.9**	**-1.0**
	comp=Z,30nm,0.7s,mb5.1						
NWAO	**Narrogin (SRO)**	**43.69**	**229**	⇑*e*P	**P**	**19 50 23.9**	**-1.0**
NWAO				pmax	pmax		
	comp=Z,30nm,0.7s						
MUN	**Mundaring**	**44.04**	**230**	*e*P	**P**	**19 50 27.4**	**-0.3**
KSM	**Kuching**	**45.70**	**279**	*e*P	**P**	**19 50 41.0**	**-0.2**
MJAR	**Matsushiro Arr**	**46.24**	**341**	P	**P**	**19 50 44.8**	**-0.2**
MJAR				LR	LR	20 09 34.9	
MJAR	**Matsushiro Arr**	**46.24**	**341**	P	**P**	**19 50 44.8**	**-0.2**
MJAR				pmax	pmax		
	comp=Z,5.0nm,0.8s						
MJAR				MLR	MLR		
	comp=Z,693nm,19.1s						
MJAR	**Matsushiro Arr**	**46.24**	**341**	P	**P**	**19 50 44.8**	**-0.2**
	comp=Z,4.8nm,0.8s,mb4.5,baz=97,slow=1.7,SNR=4.0						
MJAR				LR	LR	20 09 34.9	
	comp=Z,693nm,19.1s,MS4.6,baz=170,slow=35						
MAJO	**Matsushiro**	**46.24**	**341**	*e*P	**P**	**19 50 44.1**	**-0.9**
	comp=Z,28nm,0.9s,mb5.2						
MAJO	**Matsushiro**	**46.24**	**341**	*e*P	**P**	**19 50 44.1**	**-0.9**
MAJO				pmax	pmax		
	comp=Z,28nm,0.9s,mb5.2						
KSRS	**Korea Array**	**51.13**	**332**	P	**P**	**19 51 23.6**	**+0.9**
	comp=Z,6.7nm,0.7s,mb4.7,baz=146,slow=6.3,SNR=6.3						
QIZ	**Qiongzhong**	**51.76**	**301**	*e*P	**P**	**19 51 28.9**	**+1.1**
	comp=Z,83nm,1.3s,mb5.5						
NJ2	**Nanjing**	**52.16**	**320**	*e*P	**P**	**19 51 35.9**	**+5.4**
NJ2				AMB	AMB		
	comp=Z,20nm,0.7s,mb5.2						
VLA	**Vladivostok**	**54.28**	**339**	*e*P	**P**	**19 51 49.3**	**+3.4**
PAE	**Paea**	**54.68**	**107**	*e*P	**P**	**19 51 49.8**	**+0.5**
	comp=Z,57nm,1.1s,mb5.5						
PAE	**Paea**	**54.68**	**107**	*e*P	**P**	**19 51 49.8**	**+0.5**
PAE				pmax	pmax		
	comp=Z,57nm,1.1s,mb5.5						
YSS	**

HHC			SCS	ScS	20 02 33.8	-1.6
HHC			SS	SS	20 05 15.3	+2.3
HHC			AMB	AMB		
	comp=Z,25nm,0.5s,mb5.6					
HHC			AMB	AMB		
	comp=Z,118nm,5.1s					
HHC			LR	LR		
	comp=N,761nm,18.8s,MS5.0					
HHC			LR	LR		
	comp=E,586nm,19.6s,MS5.0					
HHC			LR	LR		
	comp=Z,881nm,17.6s,MS5.0					
HIA	**Hailar**	**64.11 335**	*e*P	**P**	**19 52 52.5**	**-1.4**
	comp=Z,29nm,0.9s,mb5.3					
HIA	**Hailar**	**64.11 335**	*e*P	**P**	**19 52 52.5**	**-1.4**
HIA			pmax	pmax		
	comp=Z,29nm,0.9s					
LZH	**Lanzhou**	**64.58 315**	*e*P	**P**	**19 53 02.6**	**+5.3**
LZH			AP	pP	19 53 06.0	+7.4
LZH			XP	sP	19 53 07.5	+8.4
LZH			PP	PP	19 55 26.0	+6.6
LZH			*e*S	**S**	**20 01 39.0**	**+1.4**
LZH			XS	sS	20 01 45.0	+5.1
LZH			SS	SS	20 05 50.5	+2.1
LZH			AMB	AMB		
	comp=Z,38nm,1.0s,mb5.4					
LZH			AMB	AMB		
	comp=Z,180nm,4.5s					
LZH			LR	LR		
	comp=N,420nm,13.8s					
LZH			LR	LR		
	comp=Z,731nm,14.6s,MS5.0					
LZH	**Lanzhou**	**64.58 315**	*e*P	**P**	**19 53 02.6**	**+5.3**
	comp=Z,38nm,1.0s,mb5.4					
LZH			pP	pP	19 53 06.0	+7.4
LZH			sP	sP	19 53 07.5	+8.4
LZH			PP	PP	19 55 26.0	+6.6
LZH			*e*S	**S**	**20 01 39.0**	**+1.4**
LZH			sS	sS	20 01 45.0	+5.1
LZH			SS	SS	20 05 50.5	+2.1
LZH			LR	LR		
	comp=Z,730nm,14.6s,MS5.0					
LZH	**Lanzhou**	**64.58 315**	*e*P	**P**	**19 53 02.6**	**+5.3**
LZH					19 55 26.0	
LZH			*e*S	**S**	**20 01 39.0**	**+1.4**
LZH			SS	SS	20 05 50.5	+2.1
LZH			pmax	pmax		
	comp=Z,38nm,1.0s,mb5.4					
LZH			MLR	MLR		
	comp=Z,730nm,14.6s,MS5.0					
MA2	**Magadan**	**66.51 357**	*e*P	**P**	**19 53 08.4**	**-0.8**
	comp=Z,26nm,0.8s,mb5.3					
MA2	**Magadan**	**66.51 357**	*e*P	**P**	**19 53 08.4**	**-0.8**
MA2			pmax	pmax		
	comp=Z,26nm,0.8s,mb5.3					
CASY	**Casey**	**66.64 198**	*e*P	**P**	**19 53 08.8**	**-1.3**
	comp=Z,37nm,0.9s,mb5.4					
GTA	**Gaotai**	**69.00 317**	*e*P	**P**	**19 53 33.0**	**+7.6**
GTA			AP	pP	19 53 36.6	+10
GTA			XP	sP	19 53 38.0	+11
GTA			S	S	20 02 39.8	+8.8
GTA			XS	sS	20 02 47.4	+14
GTA			AMB	AMB		
	comp=Z,8.0nm,1.4s,mb4.5					
GTA			AMB	AMB		
	comp=Z,207nm,5.7s					
GTA			LR	LR		
	comp=N,403nm,19.0s,MS4.8					
GTA			LR	LR		
	comp=E,363nm,17.5s,MS4.8					
GTA			LR	LR		
	comp=Z,295nm,17.5s,MS4.6					
ULN	**Ulaanbaatar**	**69.22 327**	P	**P**	**19 53 26.9**	**+0.3**
	comp=Z,13nm,0.8s,mb4.9					
ULN	**Ulaanbaatar**	**69.22 327**	P	**P**	**19 53 26.9**	**+0.3**
ULN			pmax	pmax		
	comp=Z,13nm,0.8s,mb4.9					
SONM	**Songino Array**	**69.55 327**	P	**P**	**19 53 29.0**	**+0.4**
SONM			pmax	pmax		
	comp=Z,4.0nm,0.4s					
SONM			MLR	MLR		
	comp=Z,642nm,21.1s					
SONM	**Songino Array**	**69.55 327**	P	**P**	**19 53 29.0**	**+0.4**
	comp=Z,4.0nm,0.4s,mb4.7,baz=147,slow=5.2,SNR=6.5					
SONM			LR	LR	20 24 07.4	
	comp=Z,642nm,21.1s,MS4.8,baz=115,slow=36					
VNDA	**Vanda**	**70.52 178**	P	**P**	**19 53 34.7**	**+0.6**
VNDA			pmax	pmax		
	comp=Z,12nm,0.9s					
VNDA	**Vanda**	**70.52 178**	P	**P**	**19 53 34.7**	**+0.6**
	comp=Z,12nm,0.9s,mb4.8,baz=322,slow=5.1,SNR=4.9					
SBA	**Scott Base**	**71.02 177**	*e*P	**P**	**19 53 37.7**	**+0.5**
	comp=Z,24nm,1.1s,mb5.0					
SBA	**Scott Base**	**71.02 177**	*e*P	**P**	**19 53 37.7**	**+0.5**
SBA			pmax	pmax		
	comp=Z,24nm,1.1s,mb5.0					
LSA	**Lhasa**	**71.56 304**	*e*P	**P**	**19 53 41.9**	**+0.6**
	comp=Z,33nm,1.0s,mb5.2					
LSA	**Lhasa**	**71.56 304**	*e*P	**P**	**19 53 41.9**	**+0.6**
LSA			pmax	pmax		
	comp=Z,33nm,1.0s,mb5.2					
YAK	**Yakutsk**	**71.68 348**	*e*P	**P**	**19 53 42.0**	**+0.7**
	comp=Z,58nm,0.9s,mb5.5					
YAK	**Yakutsk**	**71.68 348**	*e*P	**P**	**19 53 44.6**	**+3.3**
YAK			pmax	pmax		
	comp=Z,55nm,1.0s,mb5.4					
ZAK	**Zakamensk**	**72.71 328**	*e*P	**P**	**19 53 43.9**	**-3.8**
GAMB	**Gambell**	**74.89 15**	*e*P	**P**	**19 53 59.3**	**-1.0**
	comp=Z,29nm,1.1s,mb5.1					
BILL	**Bilibino**	**75.31 4**	*e*P	**P**	**19 54 03.9**	**+1.2**
	comp=Z,31nm,0.9s,mb5.2					
BILL	**Bilibino**	**75.31 4**	*e*P	**P**	**19 54 03.9**	**+1.3**
BILL			pmax	pmax		
	comp=Z,31nm,0.9s,mb5.2					
PALK	**Pallekele**	**75.76 279**	P	**P**	**19 54 06.3**	**0.0**
	comp=Z,11nm,0.9s,mb4.8					
TNA	**Tin City**	**77.30 15**	*e*P	**P**	**19 54 14.0**	**+0.1**
	comp=Z,18nm,0.9s,mb5.0					
TIXI	**Tiksi**	**80.45 352**	*e*P	**P**	**19 54 30.6**	**-0.5**
	comp=Z,6.1nm,0.7s,mb4.6					
TIXI	**Tiksi**	**80.45 352**	*e*P	**P**	**19 54 30.7**	**-0.5**
TIXI			pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.6					
COLA	**College**	**83.02 21**	*e*P	**P**	**19 54 42.7**	**-2.1**
	comp=Z,18nm,1.0s,mb5.0					
COLA	**College**	**83.02 21**	*e*P	**P**	**19 54 42.7**	**-2.1**
COLA			pmax	pmax		
	comp=Z,18nm,1.0s,mb5.1					
MKAR	**Makanchi Array**	**83.65 319**	P	**P**	**19 54 48.0**	**-0.5**
MKAR	**Makanchi Array**	**83.65 319**	P	**P**	**19 54 48.0**	**-0.5**
MKAR			pmax	pmax		
	comp=Z,4.0nm,0.9s					
MKAR	**Makanchi Array**	**83.65 319**	P	**P**	**19 54 48.0**	**-0.5**
	comp=Z,3.7nm,0.9s,mb4.5,baz=109,slow=4.4,SNR=13					
ZAA0	**Zalesovo Array**	**84.40 326**	P	**P**	**19 54 50.0**	**-2.1**
ZALV	**Zalesovo Beam**	**84.40 326**	P	**P**	**19 54 53.4**	**+1.2**
	comp=Z,5.5nm,0.6s,mb4.9,baz=116,slow=4.2,SNR=4.1					
ZAL	**Zalesovo**	**84.41 326**	P	**P**	**19 54 53.4**	**+1.2**
MAW	**Mawson**	**84.47 203**	*e*P	**P**	**19 54 52.4**	**+0.1**
	comp=Z,37nm,0.6s,mb5.7					
MAW	**Mawson**	**84.47 203**	P	**P**	**19 54 52.5**	**+0.2**
MAW			pmax	pmax		
	comp=Z,48nm,0.7s					
MAW	**Mawson**	**84.47 203**	P	**P**	**19 54 52.5**	**+0.2**
	comp=Z,48nm,0.7s,mb5.7,baz=107,slow=7.1,SNR=16					
EGAK	**Eagle**	**85.45 23**	*e*P	**P**	**19 54 57.0**	**-0.2**
	comp=Z,13nm,0.7s,mb5.2					
NVS	**Novosibirsk**	**85.57 326**	*i*P	**P**	**19 54 52.2**	**-5.8**
KURK	**Kurchatov**	**87.07 322**	P	**P**	**19 55 05.3**	**-0.2**
	comp=Z,8.5nm,0.9s,mb5.0					
KURK	**Kurchatov**	**87.07 322**	P	**P**	**19 55 05.3**	**-0.2**
KURK			pmax	pmax		
	comp=Z,9.0nm,0.9s,mb5.0					
TKM2	**Tokmak 2**	**87.28 314**	*e*P	**P**	**19 55 05.8**	**-1.0**
	comp=Z,5.5nm,0.7s,mb4.9					
TKM2	**Tokmak 2**	**87.28 314**	*e*P	**P**	**19 55 05.8**	**-0.9**
TKM2			pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.8					
UCH	**Uchtor**	**87.92 313**	*e*P	**P**	**19 55 14.4**	**+4.6**
	comp=Z,2.8nm,0.5s,mb4.8					
EKS2	**Erkin-Say**	**88.54 313**	*e*P	**P**	**19 55 12.4**	**-0.3**
	comp=Z,5.4nm,0.8s,mb4.9					
INK	**Inuvik**	**89.66 21**	*e*P	**P**	**19 55 16.2**	**-1.2**
	comp=Z,839nm,1.1s					
SYO	**Syowa Base**	**92.38 199⇓**	*e*X	**P**	**19 55 26.0**	**-4.1**
SYO	**Syowa Base**	**92.38 199⇓**	*i*PcP	PcP	19 55 28.4	-2.5
YKA	**Yellowknife Ar**	**96.24 28**	P	**P**	**19 55 46.0**	**-1.9**
YKA			PKKPbc	PKKPbc	20 12 32.9	-3.9
YKA	**Yellowknife Ar**	**96.24 28**	P	**P**	**19 55 46.0**	**-1.9**
	comp=Z,1.5nm,0.4s,mb4.7,baz=266,slow=4.5,SNR=7.9					
YKA			PKKPbc	PKKPbc	20 12 32.9	-3.9
	comp=Z,0.8nm,0.7s,baz=78,slow=2.8,SNR=6.5					
ARCES	**ARCESS Array B**	**109.73 343**	PKiKP	PKiKP	20 00 50.5	+0.1
	comp=Z,4.2nm,1.0s,baz=66,slow=2.9,SNR=4.3					
FINES	**FINESS Array B**	**114.12 336**	*i* PKiKP	PKiKP	20 00 58.9	0.0
FINES			pmax	pmax		
	comp=Z,1.0nm,0.7s					
FINES	**FINESS Array B**	**114.12 336**	PKiKP	PKiKP	20 00 58.9	0.0
	comp=Z,1.3nm,0.7s,baz=31,slow=3.2,SNR=2.9					
PLCA	**Paso Flores**	**116.49 142**	PKIKP	PKPdf	20 01 03.8	-0.4
PLCA			pmax	pmax		
	comp=Z,2.0nm,0.6s					
PLCA	**Paso Flores**	**116.49 142**	PKP	PKPdf	20 01 03.8	-0.4
	comp=Z,1.9nm,0.6s,baz=251,slow=2.2,SNR=5.2					
AKASG	**Malin Array Be**	**117.77 324**	PKIKP	PKPdf	20 01 04.9	-1.4
AKASG			pmax	pmax		
	comp=Z,1.0nm,0.5s					
AKASG			pmax	pmax		
	comp=Z,1.0nm,0.6s					
AKASG	**Malin Array Be**	**117.77 324**	PKP	PKPdf	20 01 04.9	-1.4
	comp=Z,0.7nm,0.5s,baz=50,slow=1.9,SNR=3.1					
AKASG			PKKPbc	PKKPbc	20 11 26.3	-2.7
	comp=Z,0.9nm,0.6s,baz=257,slow=4.4,SNR=5.7					
HFS	**Hagfors**	**119.67 339**	PKIKP	PKPdf	20 01 07.1	-2.6
HFS			pmax	pmax		
	comp=Z,1.0nm,0.5s					
HFS	**Hagfors**	**119.67 339**	PKP	PKPdf	20 01 07.1	-2.6
	comp=Z,1.3nm,0.5s,baz=88,slow=4.6,SNR=4.4					
NOA	**NORSAR Array B**	**119.86 341**	PKIKP	PKPdf	20 01 09.3	-0.7
NOA			pmax	pmax		
	comp=Z,1.0nm,0.6s					
NOA	**NORSAR Array B**	**119.86 341**	PKP	PKPdf	20 01 09.3	-0.7
	comp=Z,0.9nm,0.6s,baz=353,slow=1.8,SNR=2.8					
BOSA	**Boshof**	**120.23 231**	*e*PKPdf	PKPdf	20 01 10.5	-1.2
BOSA	**Boshof**	**120.23 231**	PKIKP	PKPdf	20 01 11.2	-0.6
BOSA			pmax	pmax		
	comp=Z,3.0nm,0.9s					
BOSA	**Boshof**	**120.23 231**	PKP	PKPdf	20 01 11.2	-0.6
	comp=Z,3.2nm,0.9s,baz=98,slow=7.2,SNR=3.4					
SCHQ	**Schefferville**	**121.69 27**	PKKPbc	PKKPbc	20 11 13.7	-0.9
	comp=Z,4.4nm,0.8s,baz=58,slow=2.5,SNR=4.6					
MLR	**Muntele Rosu**	**121.97 320**	PKKPbc	PKKPbc	20 11 11.9	-1.4
	comp=Z,2.1nm,0.7s,baz=153,slow=15,SNR=4.7					
BRG	**Berggiesshubel**	**125.85 331**	*e*PKIKP	PKPdf	20 01 16.0	-5.8
BRG			*e*		20 01 30.0	
CLL	**Collm**	**126.01 332**	*e*PKIKP	PKPdf	20 01 16.0	-6.1
CLL			*e*		20 01 30.0	
CLL	**Collm**	**126.01 332**	*e*PKPdf	PKPdf	20 01 20.0	-2.1
CLL			*e*(pPKPdf)		20 01 30.0	
EKA	**Eskdalemuir Ar**	**128.88 344**	PKIKP	PKPdf	20 01 27.2	-0.3
EKA			pmax	pmax		
	comp=Z,1.0nm,0.5s					
EKA	**Eskdalemuir Ar**	**128.88 344**	PKP	PKPdf	20 01 27.2	-0.3
	comp=Z,1.2nm,0.5s,baz=20,slow=2.1,SNR=4.1					
SDV	**Santo Domingo**	**134.48 84**	*e*PKPdf	PKPdf	20 01 38.3	-1.0
CAM4	**Nova Friburgo**	**145.93 150⇑**	*e*P	PKPdf	20 02 00.6	+0.9
CAM4			*i*		20 02 07.8	
CAM4			*i*		20 02 21.5	
CAM4			*i*		20 02 28.8	
CAM4			*i*		20 03 24.4	
BDFB	**Brasilia**	**147.72 134**	PKP2	PKPab	20 02 04.9	-3.0
BDFB			pmax	pmax		
	comp=Z,34nm,0.8s					
BDFB	**Brasilia**	**147.72 134**	PKPbc	PKPbc	20 02 04.9	-0.7
	comp=Z,34nm,0.8s,baz=204,slow=4.8,SNR=7.6					
MDT	**Midelt**	**148.30 327**	PKPbc	PKPbc	20 02 07.0	+0.2
	comp=Z,15nm,0.8s,baz=65,slow=4.9,SNR=4.5					
CAM3	**Guarapari**	**148.31 151⇑**	*i*P	PKPdf	20 02 06.7	+2.9
CAM3			*i*		20 02 16.6	
CAM3			*i*		20 02 24.0	
DBIC	**Dimbokro**	**160.31 270**	PKP2	PKPab	20 03 00.6	-0.6
DBIC			pmax	pmax		
	comp=Z,4.0nm,0.7s					
DBIC	**Dimbokro**	**160.31 270**	PKPab	PKPab	20 03 00.6	-0.6
	comp=Z,4.4nm,0.7s,baz=92,slow=4.3,SNR=3.4					

*IDC **03** 19:47:19.9±2.4, 775S×15579E, h0km, mb4.3/8, mb1 4.5/8, mb1mx4.3/14, mbtmp4.3/8, Error ellipse: s-maj=74.6km s-min=24.6km az=115.0*
*NEIC **03** 19:47:23.0±1.3, 756S×15549E, h10km, mb4.8/10, Error ellipse: s-maj=37.6km s-min=12.5km az=116.0*
*ISCJB **03** 19:47:25.4±5.1, 76S±02×1555E±02, h41km±47km, mb4.5/17, Error ellipse: s-maj=43.7km s-min=20.5km az=26.5*

ISC 03 19:47:29.2±4.6, 77S±02×1556E±02, h65km±43km, n23, σ0§98/23, mb4.5/17, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CTAO	**Charters Tower**	**15.26**	**215**	*e*Pn		**Pn**	**19 51 01.5**	**+0.6**
	22nm,1.0s							
WRA	**Warramunga Arr**	**23.90**	**237**	P		**P**	**19 52 36.9**	**-0.3**
	3.8nm,1.0s,mb3.8,baz=61,slow=9.7,SNR=2.5							
ASAR	**Alice Springs**	**26.14**	**230**	P		**P**	**19 52 57.4**	**-0.1**
	1.9nm,0.8s,mb3.7,baz=57,slow=10,SNR=2.6							
MBWA	**Marble Bar**	**37.08**	**245**	P		**P**	**19 54 32.5**	**-1.1**
	13nm,1.1s,mb4.7							
KKM	**Kota Kinabalu**	**41.57**	**288**	P		**P**	**19 55 11.8**	**+0.8**
KSM	**Kuching**	**46.06**	**280**	P		**P**	**19 55 44.0**	**-3.1**
MJAR	**Matsushiro Arr**	**46.94**	**341**	P		**P**	**19 55 53.0**	**-0.5**
	5.3nm,0.8s,mb4.5,baz=157,slow=7.5,SNR=9.5							
MAJO	**Matsushiro**	**46.94**	**341**	*e*P		**P**	**19 55 51.3**	**-2.3**
	10nm,0.8s,mb4.8							
KSRS	**Korea Array**	**51.83**	**332**	P		**P**	**19 56 30.4**	**-0.5**
	2.8nm,0.8s,mb4.3,baz=148,slow=6.5,SNR=5.8							
YSS	**Yuzh-Sakhalins**	**55.60**	**349**	P		**P**	**19 56 58.9**	**+0.6**
	7.7nm,0.8s,mb4.8							
MDJ	**Mudanjiang**	**57.11**	**338**	*e*P		**P**	**19 57 09.6**	**+0.6**
	11nm,0.9s,mb4.9							
HIA	**Hailar**	**64.81**	**335**	P		**P**	**19 58 00.8**	**-0.3**
SONM	**Songino Array**	**70.24**	**327**	P		**P**	**19 58 37.1**	**+1.7**
	1.5nm,0.8s,mb4.0,baz=135,slow=5.3,SNR=4.4							
LSA	**Lhasa**	**72.14**	**304**	*e*P		**P**	**19 58 49.0**	**+1.7**
	4.7nm,0.8s,mb4.5							
YAK	**Yakutsk**	**72.37**	**348**	P		**P**	**19 58 48.1**	**+0.2**
	27nm,1.0s,mb5.1							
BILL	**Bilibino**	**75.95**	**4**	*e*P		**P**	**19 59 09.1**	**+0.4**
	24nm,1.1s,mb5.0							
MKAR	**Makanchi Array**	**84.31**	**319**	P		**P**	**19 59 55.3**	**+1.1**
	6.6nm,0.7s,mb4.3,baz=103,slow=5.9,SNR=18							
ZAA0	**Zalesovo Array**	**85.09**	**326**	*e*P		**P**	**19 59 56.9**	**-1.0**
ZALV	**Zalesovo Beam**	**85.09**	**326**	P		**P**	**19 59 57.5**	**-0.4**
	3.8nm,0.7s,mb4.6,baz=110,slow=5.4,SNR=9.7							
TKM2	**Tokmak 2**	**87.92**	**314**	P		**P**	**20 00 20.0**	**+7.9**
	1.2nm,0.6s,mb4.3							
UCH	**Uchtor**	**88.56**	**313**	P		**P**	**20 00 15.4**	**+0.4**
	17nm,1.7s,mb5.1							
YKA	**Yellowknife Ar**	**96.70**	**28**	P		**P**	**20 00 51.5**	**-0.6**
YKA	**Yellowknife Ar**	**96.70**	**28**	P		**P**	**20 00 51.5**	**-0.6**
	0.7nm,0.9s,mb4.1,baz=264,slow=4.9,SNR=4.3							

MAN 03 19:51:57, 1845N×12103E, h28km, mb4.5, ML3.4, MS3.2, 1D, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PIP	**Pasuquin**	**0.41**	**252**	*i*P		Pb	19 52 08.2	+2.3
PIP				*e*S		Sb	19 52 15.5	+3.5
APYP	**Conner**	**0.62**	**161**	*e*P		Pb	19 52 09.8	+0.4
APYP				*e*S		Sb	19 52 17.6	-0.1
ABRA	**Dolores**	**0.85**	**201**	*e*P		Pn	19 52 13.4	+0.2
ABRA				*e*S		Sb	19 52 26.4	+2.0
SGCP	**Mt. Cagua**	**0.99**	**102**	*e*P		Pn	19 52 16.0	+1.1
SGCP				*e*S		Sn	19 52 29.1	+1.1
CVP	**Callao Caves**	**1.06**	**135**	*e*P		Pn	19 52 16.7	+0.7
CVP				*e*S		Sn	19 52 30.0	+0.2
CAUP	**Cauayan**	**1.68**	**153**	*e*P		Pn	19 52 27.8	+3.2
CAUP				*e*S		Sn	19 52 51.1	+6.0
BALP	**Baler**	**2.75**	**169**	*e*P		Pn	19 52 41.7	+2.4

*ISCJB **03** 19:59:10.5±2.8, 77S±0.1×1567E±0.1, h28km±22km, mb4.2/10, Error ellipse: s-maj=20.4km s-min=16.9km az=155.0*
*IDC **03** 19:59:10.4±1.5, 746S×15625E, h0km, mb4.3/8, mb1 4.4/8, mb1mx4.2/15, mbtmp4.3/8, MS3.6/1, Ms1 3.6/1, ms1mx3.0/34, Error ellipse: s-maj=46.9km s-min=20.9km az=106.0*
*NEIC **03** 19:59:11.6±0.8, 760S×15631E, h10km, mb4.3/3, Error ellipse: s-maj=17.5km s-min=15.6km az=163.0*

ISC 03 19:59:10.2±3.8, 77S±01×15671E±007, h15km±24km, n17, σ1§20/20, mb4.2/10, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**3.64**	**119**	*e*Pn		**Pn**	**20 00 13.1**	**+7.0**
HNR				Pn		**Pb**	**20 00 14.5**	**+0.2**
HNR				*e*Sn		**Sn**	**20 00 48.5**	**-0.3**
HNR				Sn		**Sb**	**20 00 51.8**	**-6.5**
HNR				LR		LR	20 01 30.4	
HNR	**Honiara**	**3.64**	**119**	Pn		**Pb**	**20 00 14.5**	**+0.2**
	8.3nm,0.3s,baz=98,slow=6.6,SNR=4.8							
HNR				Sn		**Sb**	**20 00 51.8**	**-6.5**
	46nm,0.3s,baz=98,slow=16,SNR=5.3							
HNR				LR		LR	20 01 30.4	
	comp=Z,703nm,20.9s,baz=357,slow=34							
CTAO	**Charters Tower**	**15.95**	**218**	P		**Pn**	**20 02 51.2**	**-3.1**
KAKA	**Kakadu**	**24.39**	**256**	*e*P		**P**	**20 04 26.9**	**-1.4**
	4.2nm,0.6s,mb4.0							
WB2	**Warramunga Arr**	**24.85**	**238**	*e*P		**P**	**20 04 33.0**	**+0.6**
WRA	**Warramunga Arr**	**24.86**	**238**	P		**P**	**20 04 33.2**	**+0.8**
	8.2nm,0.7s,mb4.4,baz=63,slow=10,SNR=40							
ASAR	**Alice Springs**	**27.03**	**231**	P		**P**	**20 04 52.5**	**+0.4**
	1.1nm,0.7s,mb3.5,baz=62,slow=9.2,SNR=22							
STKA	**Stephens Creek**	**27.88**	**208**	P		**P**	**20 05 02.0**	**+2.4**
	1.8nm,0.6s,mb3.9,baz=32,slow=14,SNR=7.2							
FITZ	**Fitzroy Crossi**	**31.95**	**248**	*e*P		**P**	**20 05 35.0**	**-0.9**
	5.3nm,0.8s,mb4.4							
FITZ	**Fitzroy Crossi**	**31.95**	**248**	P		**P**	**20 05 35.2**	**-0.7**
	2.6nm,0.7s,mb4.2,baz=72,slow=8.9,SNR=11							
KSRS	**Korea Array**	**52.36**	**331**	P		**P**	**20 08 22.2**	**+0.5**
	2.7nm,0.9s,mb4.2,baz=145,slow=8.4,SNR=5.8							
ULN	**Ulaanbaatar**	**70.50**	**327**	*e*P		**P**	**20 10 25.6**	**+1.2**
	1.2nm,0.6s,mb4.0							
SONM	**Songino Array**	**70.84**	**327**	P		**P**	**20 10 27.6**	**+1.1**
	3.0nm,0.7s,mb4.4,baz=144,slow=5.7,SNR=19							
BILL	**Bilibino**	**75.85**	**4**	*e*P		**P**	**20 10 52.3**	**-3.2**
MKAR	**Makanchi Array**	**85.05**	**318**	P		**P**	**20 11 44.7**	**-0.7**
	3.2nm,0.8s,mb4.5,baz=95,slow=5.4,SNR=33							
ZALV	**Zalesovo Beam**	**85.71**	**326**	P		**P**	**20 11 47.5**	**-1.1**
	1.3nm,0.5s,mb4.4,baz=114,slow=6.7,SNR=9.0							
BDFB	**Brasilia**	**146.28**	**133**	PKPbc		PKPbc	20 18 55.4	+4.1
	1.7nm,0.7s,baz=170,slow=6.1,SNR=3.9							

IDC 03 19:59:35.9±1.6, 761S×15658E, h0km, mb4.2/5, mb1 4.5/5, mb1mx4.0/15, mbtmp4.2/5, Error ellipse: s-maj=74.8km s-min=29.0km az=142.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.80**	**238**	P		P	20 05 01.1	+1.2
	9.7nm,1.0s,baz=61,slow=9.6,SNR=8.7							
ASAR	**Alice Springs**	**26.98**	**231**	P		P	20 05 20.8	+1.2
	1.3nm,0.5s,baz=64,slow=8.9,SNR=7.8							
STKA	**Stephens Creek**	**27.90**	**208**	P		P	20 05 25.9	-1.8
	3.1nm,0.8s,baz=38,slow=8.0,SNR=5.6							
FITZ	**Fitzroy Crossi**	**31.87**	**248**	P		P	20 06 02.3	-0.8
	2.1nm,0.6s,baz=91,slow=10,SNR=3.6							
NVAR	**Mina Array Bea**	**90.86**	**52**	P		P	20 12 42.1	+0.4
	1.3nm,0.9s,baz=232,slow=4.4,SNR=7.3							

IDC 03 20:03:33.6±1.1, 813S×15753E, h0km, mb3.8/6, mb1 3.9/7, mb1mx3.8/15, mbtmp3.8/7, ML3.9/1, Error ellipse: s-maj=27.2km s-min=24.7km az=36.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.72**	**119**	Pn		Pn	20 04 17.6	-0.9
	20nm,0.3s,baz=268,slow=5.4,SNR=4.0							
HNR				Sn		Sn	20 04 54.4	+2.2
	43nm,0.3s,baz=274,slow=20,SNR=4.4							
WRA	**Warramunga Arr**	**25.34**	**240**	P		P	20 09 01.8	-0.6
	2.1nm,0.6s,baz=67,slow=9.4,SNR=14							
ASAR	**Alice Springs**	**27.40**	**233**	P		P	20 09 21.0	-0.1
	0.3nm,0.6s,baz=56,slow=9.5,SNR=4.7							
STKA	**Stephens Creek**	**27.89**	**210**	P		P	20 09 26.5	+1.1
	1.5nm,0.8s,baz=44,slow=16,SNR=4.0							
SONM	**Songino Array**	**71.65**	**326**	P		P	20 14 57.7	+0.6
	0.2nm,0.4s,baz=115,slow=6.4,SNR=3.6							
MKAR	**Makanchi Array**	**85.91**	**318**	P		P	20 16 15.9	+0.4
	0.2nm,0.5s,baz=88,slow=9.1,SNR=4.8							
ZALV	**Zalesovo Beam**	**86.52**	**326**	P		P	20 16 18.2	-0.2
	0.5nm,0.5s,baz=89,slow=6.1,SNR=3.1							

MAN 03 20:05:26, 1050N×12625E, h35km, mb3.7, ML2.4, MS2.0, 1C, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**1.03**	**227⇑**	*e*P		Pn	20 05 44.2	+0.2
SCPH				*e*S		Sn	20 05 57.9	+0.7
BESP	**Borongan**	**1.36**	**324**	*e*P		Pn	20 05 48.9	+0.5
MSLP	**Maasin**	**1.41**	**255**	*e*P		Pn	20 05 50.0	+0.7

*IDC **03** 20:07:21.4±7.7, 799S×15739E, h0km, mb4.0/7, mb1 4.1/7, mb1mx4.0/14, mbtmp4.0/7, Error ellipse: s-maj

KSRS Korea Array 51.94 332 P P 20 20 13.9 -0.5
1.8nm,0.7s,mb4.1,baz=148,slow=6.8,SNR=4.8
ULN Ulaanbaatar 70.01 328 P **P 20 22 19.2 +2.2**
1.9nm,1.0s,mb4.0
SONM Songino Array 70.34 327 P **P 20 22 19.9 +0.8**
0.7nm,0.5s,mb3.9,baz=142,slow=5.6,SNR=8.2
LSA Lhasa 72.24 304 *e*P **P 20 22 32.6 +1.7**
3.0nm,0.6s,mb4.4
YAK Yakutsk 72.47 348 P **P 20 22 31.4 -0.1**
16nm,0.8s,mb5.0
BILL Bilibino 76.03 4 *e*P **P 20 22 52.2 0.0**
12nm,1.0s,mb4.8
MK31 Makanchi Array 84.42 319 *e*P **P 20 23 38.2 +0.3**
MKAR Makanchi Array 84.42 319 P **P 20 23 38.4 +0.6**
MKAR Makanchi Array 84.42 319 P **P 20 23 38.4 +0.6**
4.7nm,0.7s,mb4.7,baz=102,slow=5.9,SNR=42
ZALV Zalesovo Beam 85.19 326 P **P 20 23 40.9 -0.7**
2.8nm,0.6s,mb4.5,baz=111,slow=5.5,SNR=14
NVAR Mina Array Bea 91.73 52 P **P 20 24 13.1 0.0**
0.3nm,0.6s,mb3.8,baz=263,slow=4.5,SNR=2.9
YKA Yellowknife Ar 96.75 28 P **P 20 24 35.1 -0.5**
0.5nm,0.6s,mb4.1,baz=266,slow=4.7,SNR=12
GERES GERESS Array B 128.06 329 PKP PKPdf 20 30 12.2 +0.8
0.5nm,0.8s,baz=338,slow=1.4,SNR=4.1
BDFB Brasilia 146.97 135 PKPbc PKPbc 20 30 48.3 -0.6
2.2nm,0.8s,baz=57,slow=9.5,SNR=3.4
MDT Midelt 149.09 326 PKPbc PKPbc 20 30 54.5 +0.4
1.5nm,0.9s,baz=324,slow=5.7,SNR=4.2

*THE **03** 20:14:11.6, 3829N×2179E, h3km, ML3.6*
*NEIC **03** 20:14:11.4, 3831N×2180E, h15km, ML3.3(ATH), After ATH.*
*ATH **03** 20:14:11.5, 3832N×2179E, h16km±2km, MD3.5/11, ML3.3*
*ISCJB **03** 20:14:12.3±0.4, 3832N±002×2178E±004, h15km, Error ellipse: s-maj=4.1km s-min=3.4km az=5.3*
*CSEM **03** 20:14:12.3±0.1, 3830N×2181E, h2km, ML3.3, Error ellipse: s-maj=1.8km s-min=1.6km az=60.0*

ISC 03 20:14:11.4±0.7, 3830N±002×2182E±004, h0km±5km, n32, σ1§13/45, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RLS	**Riolos of Patr**	**0.37**	**230**	*e*PB	**Pg**	**20 14 18.9**	**+0.5**
RLS				*e*SB	**Sg**	**20 14 24.9**	**+1.7**
EVR	**Evrytania**	**0.62**	**359**	*e*PN	**Pg**	**20 14 22.8**	**-0.4**
EVR				*e*SN	**Sg**	**20 14 31.9**	**+0.7**
EVR	**Evrytania**	**0.62**	**359**	*e*Pb	**Pg**	**20 14 22.6**	**-0.6**
EVR				*e*Sn	**Sg**	**20 14 31.9**	**+0.7**
AGG	**Agios Georgios**	**0.82**	**29**	*e*Pg	**Pg**	**20 14 26.6**	**-0.6**
AGG				*e*Sg	**Sg**	**20 14 39.8**	**+1.9**
VLS	**Valsamata**	**0.98**	**263**	*e*PB	**Pb**	**20 14 29.0**	**-2.2**
LKR	**Lokris**	**0.99**	**69**	*e*PB	**Pb**	**20 14 30.0**	**-1.3**
LKD	**Levkas**	**1.01**	**294**	*e*Pg	**Pg**	**20 14 29.1**	**-1.5**
LKD				*e*Sg	**Sg**	**20 14 44.0**	**+0.3**
LKD	**Levkas**	**1.01**	**294**	*e*Pg	**Pg**	**20 14 29.1**	**-1.6**
LKD				*e*Sg	**Sg**	**20 14 44.0**	**+0.3**
ITM	**Ithomi**	**1.12**	**176**	*e*PN	**Pn**	**20 14 32.8**	**-1.4**
ITM				*e*SN	**Sn**	**20 14 50.0**	**-0.3**
THL	**Klokotos Trika**	**1.27**	**7**	*e*PN	**Pn**	**20 14 35.3**	**-1.1**
THL				*e*SN	**Sn**	**20 14 52.6**	**-1.5**
NAIG	**Nisos Aigina**	**1.42**	**112**	*e*PN	**Pn**	**20 14 39.5**	**+1.1**
NEO	**Neokhori**	**1.49**	**47**	*e*PN	**Pn**	**20 14 39.1**	**-0.2**
ATH	**Athens Observa**	**1.53**	**102**	*e*PN	**Pn**	**20 14 40.7**	**+0.8**
JAN	**Janina**	**1.55**	**331**	*e*PN	**Pn**	**20 14 40.7**	**+0.5**
JAN	**Janina**	**1.55**	**331**	*e*Pn	**Pn**	**20 14 41.0**	**+0.8**
MEV	**Metsovon**	**1.55**	**343**	*e*Pg	**Pg**	**20 14 40.3**	**-0.9**
MEV				*e*Sg	**Sg**	**20 15 02.1**	**+0.8**
PTL	**Penteli**	**1.63**	**98**	*e*PN	**Pn**	**20 14 41.5**	**+0.3**
IGT	**Igoumenitsa**	**1.69**	**317**	*e*Pb	**Pb**	**20 14 42.0**	**-1.4**
IGT				*e*Sb	**Sb**	**20 15 05.0**	**-0.2**
VLI	**Veliai**	**1.81**	**150**	*e*PN	**Pn**	**20 14 44.2**	**+0.5**
AOS	**Alonnisos**	**1.83**	**61**	*e*Pb	**Pb**	**20 14 43.2**	**-2.4**
LIT	**Litokhoron**	**1.87**	**16**	*e*Pb	**Pb**	**20 14 44.6**	**-1.8**
LIT				*e*Sb	**Sb**	**20 15 09.7**	**-0.7**
LIT	**Litokhoron**	**1.87**	**16**	*e*Pb	**Pb**	**20 14 44.6**	**-1.8**
LIT				*e*Sb	**Sb**	**20 15 09.6**	**-0.7**
KZN	**Kozani**	**2.00**	**359**	*e*PN	**Pn**	**20 14 47.8**	**+1.4**
KEK	**Kerkira**	**2.12**	**312**	*e*PN	**Pn**	**20 14 48.5**	**+0.5**
FNA	**Florina**	**2.51**	**352**	*e*Pn	**Pn**	**20 14 54.2**	**+0.9**
FNA				*e*Sn	**Sn**	**20 15 25.8**	**+1.2**
OUR	**Ouranopolis**	**2.63**	**39**	*e*Pn	**Pn**	**20 14 54.9**	**-0.2**
OUR	**Ouranopolis**	**2.63**	**39**	*e*Pn	**Pn**	**20 14 54.8**	**-0.3**
SOH	**Sokhos**	**2.78**	**25**	*e*Pn	**Pn**	**20 14 57.9**	**+0.8**
KNT	**Kendrikon**	**2.98**	**16**	*e*Pn	**Pn**	**20 15 00.3**	**+0.5**
KRUS	**Krusevo**	**3.10**	**352**	*e*Pn	**Pn**	**20 15 03.9**	**+2.4**
KRUS	**Krusevo**	**3.10**	**352**	*e*Pn	**Pn**	**20 15 03.8**	**+2.4**
CHOS	**Chios island**	**3.33**	**87**	*e*Pn	**Pn**	**20 15 05.4**	**+0.8**

*IDC **03** 20:16:55.9±0.5, 7055×15532E, h0km, mb4.7/18, mb1 4.8/19, mb1mx4.8/20, mbtmp4.6/19, ML4.4/1, Error ellipse: s-maj=18.4km s-min=13.9km az=96.0*
*BJI **03** 20:16:57.3, 7005×15530E, h10km, mB5.1, mb4.9, Ms5.5, Msz5.1*
*NEIC **03** 20:16:57.4±0.2, 7015×15533E, h10km, mb4.9/30, Error ellipse: s-maj=8.6km s-min=6.1km az=102.0*
*ISCJB **03** 20:16:58.1±0.3, 7085±004×15529E±006, h22km, mb4.8/50, MS5.0/2, Error ellipse: s-maj=8.6km s-min=6.1km az=5.6*
*MOS **03** 20:16:59.6±1.0, 7085×15531E, h33km, mb5.5/21, Error ellipse: s-maj=12.1km s-min=9.3km az=96.7*

ISC 03 20:16:59.8±0.3, 7095±004×15530E±006, h21km, h21km±3.9km: pP-P, n144, σ1§01/113, mb4.8/50, MS5.0/2, 9C-5D, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.15**	**117**	Pn	**Pn**	**20 18 16.0**	**+0.3**
HNR				Sn	**Sb**	**20 19 23.9**	**-6.9**
HNR				*e*Sn	**Sb**	**20 19 25.5**	**-5.2**
HNR	**Honiara**	**5.15**	**117**	Pn	**Pn**	**20 18 16.0**	**+0.3**
13nm,0.3s,baz=198,slow=2.5,SNR=2.9
HNR Sn **Sb 20 19 23.9 -6.9**
81nm,0.3s,baz=274,slow=16,SNR=2.5
CTA Charters Tower 15.62 213 *e*P **Pn 20 20 44.9 +6.2**
50nm,0.9s
CTA Charters Tower 15.62 213 Pn **Pn 20 20 40.9 +2.1**
CTA *e*P 20 20 44.9
CTA Charters Tower 15.62 213 Pn **Pn 20 20 40.9 +2.1**
0.2nm,0.3s,baz=48,slow=16,SNR=3.6
CTAO Charters Tower 15.62 213 *e*P **Pn 20 20 44.6 +5.9**
105nm,1.1s
CTAO Charters Tower 15.62 213 *e*P **Pn 20 20 44.6 +5.9**
CTAO pmax pmax
comp=Z,105nm,1.1s
EIDS Eidsvold 18.62 192 *e*P **Pn 20 21 16.9 +0.6**
comp=Z,11nm,1.0s
GUMO Guam 23.01 333 P **P 20 22 11.0 +7.5**
comp=Z,48nm,0.7s,mb5.0
GUMO Guam 23.01 333 P **P 20 22 11.0 +7.6**
GUMO pmax pmax
comp=Z,47nm,0.7s,mb5.0
KAKA Kakadu 23.20 254 *e*P **P 20 22 05.2 -0.3**
comp=Z,40nm,0.6s,mb5.0
ARMA Armidale 23.46 188 *e*P **P 20 22 08.6 +0.5**
WB2 Warramunga Arr 24.01 236⇓ *i*P **P 20 22 13.4 +0.2**
WRA Warramunga Arr 24.02 236⇑ *e*P **P 20 22 12.3 -1.0**
WRA Warramunga Arr 24.02 236 P **P 20 22 13.0 -0.3**
comp=Z,87nm,1.0s,mb5.2,baz=58,slow=9.3,SNR=135
WRA PcP PcP 20 25 54.7 -0.4
comp=Z,0.9nm,0.5s,baz=80,slow=2.1,SNR=4.3
ASAR Alice Springs 26.34 229 P **P 20 22 34.0 -0.4**
comp=Z,16nm,0.9s,mb4.6,baz=58,slow=9.8,SNR=165
STKA Stephens Creek 27.78 206 *e*P **P 20 22 46.5 -0.8**
comp=Z,22nm,0.8s,mb4.8
STKA Stephens Creek 27.78 206 P **P 20 22 47.1 -0.1**
comp=Z,29nm,0.8s,mb4.9,baz=6.9,slow=7.3,SNR=24
CNB Canberra Magne 28.62 190 *e*P **P 20 22 55.4 +0.7**
comp=Z,21nm,1.1s,mb4.8
FITZ Fitzroy Crossi 30.90 246⇓ *i*P **P 20 23 14.8 -0.3**
comp=Z,46nm,0.7s,mb5.4
FITZ Fitzroy Crossi 30.90 246 P **P 20 23 14.9 -0.2**
comp=Z,26nm,0.7s,mb5.2,baz=83,slow=9.1,SNR=93
BATI Kupang 31.43 262 P **P 20 23 20.5 +0.7**
comp=Z,12nm,0.5s,mb5.0,baz=84,slow=11,SNR=4.8
TAU Tasmania Unive 36.36 190 *e*P **P 20 24 03.0 +0.7**
comp=Z,45nm,1.0s,mb5.3
TAU Tasmania Unive 36.36 190 *e*P **P 20 24 03.0 +0.7**
TAU pmax pmax
comp=Z,45nm,1.0s,mb5.3
MBWA Marble Bar 37.11 244 *e*P **P 20 24 08.4 -0.6**
comp=Z,22nm,0.7s,mb5.1
RPZ Rata Peaks 39.01 162 P **P 20 24 24.4 -0.3**
comp=Z,8.3nm,0.7s,mb4.6,baz=360,slow=19,SNR=4.1
KKM Kota Kinabalu 41.13 288 P **P 20 24 42.9 +0.2**
KLBR Kellerberrin 42.66 230⇓ *i*P **P 20 24 54.0 -1.0**
comp=Z,23nm,0.5s,mb5.2
NWAO Narrogin (SRO) 43.66 229 *e*P **P 20 25 02.0 -1.1**
comp=Z,14nm,0.8s,mb4.8
NWAO Narrogin (SRO) 43.66 229 *e*P **P 20 25 02.0 -1.1**
NWAO pmax pmax
comp=Z,15nm,0.8s
NWAO Narrogin (SRO) 43.66 229 P **P 20 25 02.5 -0.6**
comp=Z,13nm,0.7s,mb4.8,baz=62,slow=7.4,SNR=11
MUN Mundaring 44.01 230 *e*P **P 20 25 04.8 -1.1**
KSM Kuching 45.70 279 *e*Pn **P 20 25 19.1 -0.6**
MJAR Matsushiro Arr 46.27 341 P **P 20 25 23.2 -0.5**
comp=Z,1.1nm,0.8s,mb3.9,baz=171,slow=8.5,SNR=3.1
MJAR PcP PcP 20 26 59.2 +0.2
comp=Z,1.1nm,0.7s,baz=145,slow=4.5,SNR=2.6
MAJO Matsushiro 46.27 341 *e*P **P 20 25 22.0 -1.7**
comp=Z,3.9nm,0.6s,mb4.5
MAJO Matsushiro 46.27 341 *e*P **P 20 25 22.0 -1.7**
MAJO pmax pmax
comp=Z,4.0nm,0.6s,mb4.5
KSRS Korea Array 51.16 332 P **P 20 26 01.4 0.0**
comp=Z,2.1nm,0.8s,mb4.1,baz=145,slow=7.1,SNR=5.2
NJ2 Nanjing 52.18 320 *e*P **P 20 26 09.0 -0.1**
NJ2 AMB AMB
comp=Z,30nm,0.6s,mb5.4
YSS Yuzh-Sakhalins 54.95 350 *i*P **P 20 26 31.3 +2.2**
YSS pmax pmax
comp=Z,8.0nm,1.1s,mb4.7
MDJ Mudanjiang 56.44 338 P **P 20 26 38.0 -1.8**
MDJ AMB AMB
comp=Z,4.0nm,1.5s,mb4.2
MDJ AMB AMB
comp=Z,184nm,11.6s
GYA Guiyang 57.75 307⇑ *i*P **P 20 26 50.6 +1.1**
GYA PCP PcP 20 27 43.6 +1.4
GYA PP PP 20 29 00.4 +2.6
GYA AMB AMB
comp=Z,20nm,1.0s,mb5.1
GYA AMB AMB
comp=Z,160nm,9.8s
GYA LR LR
comp=N,440nm,18.2s,MS4.8
GYA LR LR
comp=E,570nm,19.6s,MS4.8
GYA LR LR
comp=Z,460nm,21.4s,MS4.6
NST Nakhon Sawan 59.13 293 P **P 20 27 00.0 +0.7**
KLR Kul'dur 59.75 342 *e*P **P 20 27 00.0 -2.9**
KMI Kunming 60.32 304 P **P 20 27 08.6 +1.2**
KMI AP pP 20 27 18.1 +3.9
KMI XP sP 20 27 22.2 +5.4
KMI AMB AMB
comp=Z,11nm,1.2s,mb4.8
KMI Kunming 60.32 304 P **P 20 27 08.6 +1.2**
comp=Z,11nm,1.2s,mb4.8
KMI pP pP 20 27 18.1 +3.9
KMI sP sP 20 27 22.2 +5.4
CHRT Chiangrai 60.83 297 P **P 20 27 11.0 +0.1**
comp=Z,1μm,0.8s
CHTO Chiang Mai 61.22 296 *e*P **P 20 27 14.0 +0.4**
comp=Z,33nm,1.0s,mb5.4
CHTO *e* 20 27 23.3
CHTO Chiang Mai 61.22 296 *e*P **P 20 27 14.0 +0.4**
CHTO *e* 20 27 23.3
CHTO pmax pmax
comp=Z,33nm,1.0s,mb5.4
HHC Hu-ho-hao-te 62.35 324 *e*P **P 20 27 22.5 +1.7**
HHC AP pP 20 27 27.1 -0.6
HHC XP sP 20 27 29.7 -0.5
HHC PP PP 20 29 42.2 +4.0
HHC AMB AMB
comp=Z,9.0nm,0.3s,mb5.4
HHC AMB AMB
comp=Z,234nm,10.0s
HIA Hailar 64.14 335 P **P 20 27 32.0 -0.4**
comp=Z,8.0nm,0.9s,mb4.8
HIA Hailar 64.14 335 P **P 20 27 32.1 -0.3**
HIA pmax pmax
comp=Z,8.0nm,0.9s
LZH Lanzhou 64.60 315 *e*P **P 20 27 37.3 +1.6**
LZH AP pP 20 27 40.5 -2.2
LZH XP sP 20 27 42.5 -2.7
LZH AMB AMB
comp=Z,23nm,1.0s,mb5.2
LZH AMB AMB
comp=Z,110nm,4.5s
LZH Lanzhou 64.60 315 *e*P **P 20 27 37.3 +1.6**
comp=Z,23nm,1.0s,mb5.2
LZH pP pP 20 27 40.5 -2.2
LZH sP sP 20 27 42.5 -2.7
MA2 Magadan 66.55 357 *e*P **P 20 27 46.6 -1.2**
comp=Z,29nm,0.8s,mb5.3
MA2 *e* 20 27 56.1
MA2 Magadan 66.55 357 *e*P **P 20 27 56.0 +8.2**
MA2 pmax pmax
comp=Z,30nm,0.7s,mb5.4
CASY Casey 66.60 198 *e*P **P 20 27 47.7 -0.4**
comp=Z,51nm,1.5s,mb5.3
ULN Ulaanbaatar 69.25 328 *e*P **P 20 28 05.3 +0.3**
comp=Z,7.7nm,1.0s,mb4.6
ULN *e* 20 28 13.9
ULN Ulaanbaatar 69.25 328 *e*P **P 20 28 05.4 +0.3**
ULN *e* 20 28 13.9
ULN pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
SONM Songino Array 69.58 327 P **P 20 28 07.5 +0.3**
comp=Z,2.8nm,0.8s,mb4.2,baz=138,slow=6.0,SNR=19
SEY Seymchan 69.85 359⇑ *e*P **P 20 28 10.9 +2.4**
VNDA Vanda 70.48 178 P **P 20 28 12.8 +0.6**
VNDA Vanda 70.48 178 P **P 20 28 12.8 +0.6**
comp=Z,3.2nm,0.9s,mb4.3,baz=317,slow=5.3,SNR=14
SBA Scott Base 70.98 177 *e*P **P 20 28 15.9 +0.6**
comp=Z,6.0nm,1.1s,mb4.4
SBA Scott Base 70.98 177 *e*P **P 20 28 15.9 +0.6**
SBA pmax pmax
comp=Z,6.0nm,1.1s,mb4.4
LSA Lhasa 71.58 304 *e*P **P 20 28 21.2 +1.4**
comp=Z,16nm,0.8s,mb5.0
LSA *e* 20 28 30.4
LSA Lhasa 71.58 304 *e*P **P 20 28 21.2 +1.4**
LSA *e* 20 28 30.4
LSA pmax pmax
comp=Z,16nm,0.8s,mb5.0
YAK Yakutsk 71.71 348 P **P 20 28 18.2 -1.7**
YAK Yakutsk 71.71 348 *i*P **P 20 28 21.7 +1.9**
ZAK Zakamensk 72.73 328 *e*P **P 20 28 26.0 -0.2**
ZAK *e* pP 20 28 32.9 -0.3
ZAK pmax pmax
comp=Z,2.0nm,1.0s,mb4.0
BOD Bodaibo 72.81 338 *e*P **P 20 28 30.7 +4.2**
MOY Mondy 74.65 328 *e*P **P 20 28 46.2 +8.8**
JIRN Jiri 75.09 301 *e*P **P 20 28 41.2 +0.7**
BILL Bilibino 75.35 4 *e*P **P 20 28 42.5 +1.4**
comp=Z,19nm,1.0s,mb5.0
BILL *e* pP 20 28 50.1 +2.0
BILL Bilibino 75.35 4⇑ *e*P **P 20 28 42.9 +1.8**
BILL *e* 20 31 30.9
BILL *e*S S 20 38 35.9 +17
BILL *e*SS SS 20 43 07.7 -2.1
BILL pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
BILL MLR MLR
comp=Z,2μm,21.0s,MS5.3
KKN Kakani 75.91 301 *e*P **P 20 28 45.4 +0.2**
comp=Z,37nm,0.7s,mb5.4
GKN Gorkha 76.51 301 *e*P **P 20 28 48.7 +0.1**
comp=Z,85nm,0.9s,mb5.7
KOLN Koldanda 77.33 300 *e*P **P 20 28 53.2 -0.1**
comp=Z,60nm,1.0s,mb5.5
TTA Tatalina 79.00 20 *e*P **P 20 29 01.8 +0.1**
comp=Z,11nm,1.0s,mb4.8
TTA Tatalina 79.00 20 *e*P **P 20 29 01.8 +0.1**
TTA pmax pmax
comp=Z,11nm,1.0s,mb4.7
HYB Hyderabad 79.59 289 *e*P PcP 20 29 15.0 +1.2
HYB Hyderabad 79.59 289 *i*P **P 20 29 06.0 +0.1**
HYB *e*PcP PcP 20 29 16.0 +2.2
TIXI Tiksi 80.49 352 *e*P **P 20 29 08.9 -0.8**
comp=Z,2.1nm,0.7s,mb4.2
TIXI Tiksi 80.49 352 *i*P **P 20 29 12.4 +2.7**
TIXI pmax pmax
comp=Z,3.0nm,1.1s,mb4.1
SML Sawmill 81.19 24 *e*P **P 20 29 13.2 -0.3**
IMA2 Indian Mountai 81.79 19 *e*P **P 20 29 16.9 +0.2**
MCK McKinley 82.03 22 *e*P **P 20 29 17.1 -0.9**
comp=Z,10μm,0.6s
MCK McKinley 82.03 22 *e*P **P 20 29 17.1 -0.9**
MCK pmax pmax
comp=Z,10μm,0.6s
QSPA South Pole Qui 82.89 180 P **P 20 29 22.8 +0.5**
comp=Z,16nm,0.9s,mb5.1,baz=356,slow=1.3,SNR=48
COLA College 83.06 21 *i*P **P 20 29 22.5 -0.8**
MK31 Makanchi Array 83.68 319 *e*P **P 20 29 26.5 -0.4**
MK31 *e* 20 29 35.2
MKAR Makanchi Array 83.68 319⇑ *e*P **P 20 29 26.3 -0.6**
MKAR Makanchi Array 83.68 319 P **P 20 29 26.4 -0.5**
comp=Z,2.8nm,0.7s,mb4.5,baz=100,slow=5.2,SNR=25
ZALV Zalesovo Beam 84.43 326 P **P 20 29 29.2 -1.4**
ZALV Zalesovo Beam 84.43 326 P **P 20 29 29.2 -1.4**
comp=Z,1.4nm,0.5s,mb4.3,baz=109,slow=4.9,SNR=7.0
MAW Mawson 84.43 203 *e*P **P 20 29 30.5 +0.1**
comp=Z,9.7nm,0.6s,mb5.1
MAW Mawson 84.43 203 *e*P **P 20 29 30.5 +0.1**
MAW pmax pmax
comp=Z,10.0nm,0.6s
MAW Mawson 84.43 203 P **P 20 29 29.9 -0.5**
comp=Z,11nm,0.6s,mb5.2,baz=107,slow=7.6,SNR=23
ZAL Zalesovo 84.44 326 P **P 20 29 29.2 -1.4**
DAWY Dawson 85.86 24 *e*P **P 20 29 39.0 +1.5**
DAWY *e* pP 20 29 45.4 +0.7
KURK Kurchatov 87.09 322 *e*P **P 20 29 41.4 -2.4**
comp=Z,1.9nm,0.8s,mb4.4
KURK Kurchatov 87.09 322 *e*P **P 20 29 41.4 -2.5**
KURK pmax pmax
comp=Z,2.0nm,0.8s,mb4.4
TKM2 Tokmak 2 87.30 314 *e*P **P 20 29 44.8 -0.3**
comp=Z,1.7nm,0.4s,mb4.6
TKM2 *e* 20 29 54.4
TKM2 Tokmak 2 87.30 314 *e*P **P 20 29 44.8 -0.3**
TKM2 *e* 20 29 54.4
TKM2 pmax pmax
comp=Z,2.0nm,0.4s,mb4.7
UCH Uchtor 87.94 313 P **P 20 29 49.8 +1.6**
comp=Z,1.7nm,0.8s,mb4.3
AML Almayashu 88.52 313 *e*P **P 20 29 51.6 +0.6**
comp=Z,3.1nm,0.8s,mb4.7
EKS2 Erkin-Say 88.56 313 *e*P **P 20 29 51.3 +0.2**
comp=Z,1.4nm,0.9s,mb4.3
INK Inuvik 89.70 21 *e*P **P 20 29 54.9 -0.9**
comp=Z,393nm,1.1s
NVAR Mina Array Bea 91.54 52 P **P 20 30 05.9 +0.8**
comp=Z,0.1nm,0.3s,baz=249,slow=4.7,SNR=3.0
SYO Syowa Base 92.34 199⇓ *e*P **P 20 30 06.3 -1.9**
YKA Yellowknife Ar 96.28 28 P **P 20 30 24.5 -1.8**
comp=Z,0.9nm,0.7s,mb4.3,baz=266,slow=4.5,SNR=14
PDAR Pinedale Array 98.53 48 P **P 20 30 36.1 -0.9**
comp=Z,0.3nm,0.7s,mb4.0,baz=225,slow=1.9,SNR=3.5
OBN Obninsk 111.99 327⇑ *e*P Pdif 20 31 35.2 -1.4
OBN *e* 20 36 18.0
OBN *e*PS PS 20 45 51.3 +1.1
OBN pmax pmax
comp=Z,32nm,2.3s
FINES FINESS Array B 114.15 336 PKP PKiKP 20 35 35.5 -1.7
comp=Z,2.6nm,1.1s,baz=112,slow=2.1,SNR=3.6
NB2 NORSAR Subarra119.89 341 PKPdf pPKPdf 20 35 55.7 +0.1
comp=Z,0.2nm,0.5s,baz=39,slow=1.9
PLOR Plostina 121.40 320⇓ *i*P PKPdf 20 35 45.0 -6.6
DRGR 123.41 323 P PKPdf 20 35 59.3 +3.9
DRGR 123.41 323⇑ *i*P PKPdf 20 35 59.1 +3.7
GZR Gura Zlata 124.03 321 P PKPdf 20 35 57.5 +0.9
GZR Gura Zlata 124.03 321⇑ *i*P PKPdf 20 35 57.9 +1.2
BZS Buzias 124.64 322 P PKPdf 20 36 01.6 +3.8
BZS Buzias 124.64 322⇑ *i*P PKPdf 20 36 01.3 +3.4
BRG Berggiesshubel 125.88 331 *i* PKIKP pPKPdf 20 36 09.2 +1.8
BRG pmax pmax
comp=Z,13nm,0.8s
CLL Collm 126.04 332 *i* P pPKPdf 20 36 09.2 +1.5
CLL Collm 126.04 332 *i* (pPKPdf) pPKPdf 20 36 09.2 +1.5
comp=Z,5.0nm,0.8s
KHC Kasperske Hory 127.17 329 *e*P pPKPdf 20 36 11.6 +1.7
GERES GERESS Array B 127.29 329 PKP PKPdf 20 36 01.9 -0.9
comp=Z,0.4nm,0.6s,baz=116,slow=3.1,SNR=3.7
LPAZ La Paz 131.14 119 PKP PKPdf 20 36 10.8 -0.2
comp=Z,0.9nm,0.7s,baz=17,slow=0.8,SNR=4.9
SIV San Ignacio 137.31 123 PKP PKPdf 20 36 22.9 +0.2
comp=Z,1.4nm,0.8s,baz=253,slow=4.7,SNR=4.4
GUD Guadarrama 141.88 334 PKP PKPdf 20 36 27.9 -2.4
EQES Quesada 143.67 330 PKP PKPdf 20 36 31.2 -2.4
EBAN Banos Encina 143.73 332 PKP PKPdf 20 36 31.3 -2.4
EADA Adamuz 144.09 332 PKP PKPdf 20 36 32.4 -1.9
ELUQ Luque 144.44 332 PKP PKPdf 20 36 33.7 -1.2
ECAB El Cabril 144.55 333 PKP PKPdf 20 36 34.6 -0.5
ERON Agron 144.65 330 PKP PKPdf 20 36 33.4 -1.9
EBAD Badajoz 144.66 336 PKP PKPdf 20 36 34.0 -1.2
ELOJ Sierra Loja 144.72 331 PKP PKPdf 20 36 32.8 -2.6
EMIN Mina Concepcio 145.35 334 PKP PKPdf 20 36 36.7 +0.2
EMIJ Mijas 145.48 331 PKP PKPbc 20 36 43.3 +6.6
ESPR Espera 145.74 333 PKP PKPdf 20 36 38.2 +1.0
EJIF Jimena Fronter 145.90 332 PKP PKPdf 20 36 38.1 +0.7
BDFB Brasilia 147.70 134 PKPbc PKPbc 20 36 42.1 -1.7
comp=Z,5.4nm,0.8s,baz=41,slow=4.5,SNR=4.9
TORD Torodi Ar. Bea 153.35 285 PKPbc PKPbc 20 36 56.4 -1.0
comp=Z,1.8nm,0.8s,baz=48,slow=2.5,SNR=7.8
DBIC Dimbokro 160.30 270 PKPab PKPab 20 37 38.8 -0.6
comp=Z,3.7nm,0.8s,baz=69,slow=6.0,SNR=5.9

*ISCJB **03** 20:18:09.5±0.2, 4281N±002×1.11W±002, h2km, Error ellipse: s-maj=2.7km s-min=1.7km az=161.0*
*NEIC **03** 20:18:10.9, 4275N×1.07W, h5km, ML3.1(LDG), ML2.7(STR), MN2.5(MDD), After STR.*
NEIC Felt [II] at Urzainqui, Spain.
*STR **03** 20:18:10.9±0.3, 4275N×1.07W, h5km, Ml2.7, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
*INMG **03** 20:18:11.4±1.5, 4284N×0.99W, h0km, ML2.2, Error ellipse: s-maj=6.3km s-min=2.8km az=55.0*
*CSEM **03** 20:18:12.6±0.0, 4284N×1.03W, h2km, ML3.0/22, Error ellipse: s-maj=0.9km s-min=0.8km az=137.0*
*LDG **03** 20:18:12.5±0.1, 4283N×1.03W, h2km, Md3.0/2, Ml3.1/17, Error ellipse: s-maj=1.4km s-min=1.2km az=155.0*
*MDD **03** 20:18:12.3±0.1, 4280N×1.06W, h6km±2km, mbLg2.5/22, Error ellipse: s-maj=1.5km s-min=0.9km az=173.0, PRXIMO I ISABA*
MDD EMS: II URZAINQUI.

ISC 03 20:18:11.8±0.2, 4284N±001×104W±002, h18km±1km, n166, σ1§15/266, 5C, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LARF	**Larrau**	**0.20**	**11**	Pg	**Pg**	**20 18 16.6**	**-0.1**
LARF				Sg	**Sg**	**20 18 22.1**	**+2.0**
LARF	**Larrau**	**0.20**	**11**	Pg	**Pg**	**20 18 16.6**	**-0.1**
LARF				Lg		20 18 21.1	
IPRE	**Itoiz**	**0.23**	**263**	⇑Pg	**Pg**	**20 18 15.9**	**-1.3**
SNR=18
IPRE Lg 20 18 19.9
366nm,0.2s,SNR=7.9
IPRE Itoiz 0.23 263 Pg **Pg 20 18 15.9 -1.2**
126nm,0.2s,SNR=18
IPRE Lg 20 18 19.9
366nm,0.2s,SNR=7.9
IZUN Zunzarren 0.31 275 ⇑Pg **Pg 20 18 17.4 -0.9**
20nm,0.1s,SNR=18
IZUN Lg 20 18 22.9
412nm,0.3s,SNR=7.9
IZUN Zunzarren 0.31 275 Pg **Pg 20 18 17.4 -0.9**
20nm,0.1s,SNR=18
SJPF Ste Jean 0.31 334 *e*Pg **Pg 20 18 18.1 -0.3**
SNR=1.0
SJPF *e*Sg **Sg 20 18 23.3 +0.4**
579nm,0.3s
SJPF Ste Jean 0.31 334 *e*Pg **Pg 20 18 18.1 -0.3**
SNR=1.0
SJPF *e*Sg **Sg 20 18 23.3 +0.4**
290nm,0.3s
FDAF Les Forges d'A 0.35 93 Pg **Pg 20 18 18.9 -0.2**
FDAF Lg 20 18 25.0
ATE Arette 0.35 45 Pg **Pg 20 18 19.5 +0.3**
ATE Sg **Sg 20 18 25.2 +1.0**
ATE Arette 0.35 45 Pg **Pg 20 18 19.4 +0.2**
ATE Lg 20 18 25.5
ETSF Etsaut 0.36 80 *e*Pg **Pg 20 18 18.9 -0.4**
SNR=1.0
ETSF *e*Sg **Sg 20 18 24.5 +0.1**

299nm,0.3s
ETSF Etsaut 0.36 80 *e*Pg **Pg 20 18 18.9 -0.4**
SNR=1.0
ETSF *e*Sg **Sg 20 18 24.5 +0.1**

150nm,0.3s
ORDF Ordiarp 0.39 12 Pg **Pg 20 18 20.0 +0.3**
ORDF Sg **Sg 20 18 26.5 +1.4**
ORDF Ordiarp 0.39 12 Pg **Pg 20 18 20.0 +0.3**
ORDF Lg 20 18 26.6
IUSE Utxeti 0.39 287 Pg **Pg 20 18 19.2 -0.6**
17nm,0.1s,SNR=65
IUSE Lg 20 18 25.7

107nm,0.2s,SNR=18
IUSE Utxeti 0.39 287 Pg **Pg 20 18 19.2 -0.6**
17nm,0.1s,SNR=65
EARA Aranguren 0.40 261 ⇑Pg **Pg 20 18 19.4 -0.6**
22nm,0.1s,SNR=18
EARA Lg 20 18 26.2

306nm,0.2s,SNR=16
OSSF Osses 0.45 339 Pg **Pg 20 18 20.7 -0.2**
OSSF Sg **Sg 20 18 28.2 +1.2**
OSSF Osses 0.45 339 Pg **Pg 20 18 20.8 -0.1**
OSSF Lg 20 18 28.3
ELIZ Elizondo 0.48 313 ⇑Pg **Pg 20 18 21.1 -0.4**
38nm,0.2s,SNR=18
ELIZ Lg 20 18 28.2

44nm,0.2s,SNR=15
REYF Montagne du Re 0.53 64 Pg **Pg 20 18 22.3 -0.1**
REYF Sg **Sg 20 18 30.1 +0.6**
REYF Montagne du Re 0.53 64 Pg **Pg 20 18 22.4 0.0**
REYF Lg 20 18 30.4
VIEF Viey 0.79 86 Pg **Pg 20 18 26.3 -0.8**
VIEF Sg **Sg 20 18 38.1 +0.6**
VIEF Viey 0.79 86 Pg **Pg 20 18 26.6 -0.5**
VIEF Lg 20 18 38.3
LABF Labassere 0.85 75 Pg **Pg 20 18 27.7 -0.5**
LABF Sg **Sg 20 18 40.2 +0.8**
LABF Labassere 0.85 75 Pg **Pg 20 18 27.7 -0.5**
LABF Lg 20 18 39.5
EBIE Bielsa 0.89 99 Pg **Pg 20 18 28.3 -0.7**
4.1nm,0.2s,SNR=18
EBIE Lg 20 18 41.2

21nm,0.2s,SNR=5.0
EBIE Bielsa 0.89 99 Pg **Pg 20 18 28.3 -0.7**
4.1nm,0.2s,SNR=18
RESF Ens 1.02 91 Pg **Pg 20 18 31.3 -0.2**
RESF Lg 20 18 44.4
EPF Esparros 1.03 79 *e*Pn **Pn 20 18 31.8 +0.4**
EPF *e*Sg **Sg 20 18 46.0 +0.7**

63nm,0.3s,SNR=1.0
EPF Esparros 1.03 79 *e*Pg **Pg 20 18 31.1 -0.7**
EPF *e*Pn **Pn 20 18 31.8 +0.4**
EPF *e*Sg **Sg 20 18 46.0 +0.7**
EPF Esparros 1.03 79 Pg **Pg 20 18 31.1 -0.7**
EPF Lg 20 18 46.0

32nm,0.3s
EPF Esparros 1.03 79 *e*Pn **Pn 20 18 31.8 +0.4**
EPF *e*Sg **Sg 20 18 46.0 +0.7**

32nm,0.3s,SNR=1.0
ECRI Cripan 1.11 259 ⇑Pg **Pg 20 18 33.1 -0.1**
7.7nm,0.1s,SNR=18
ECRI Lg 20 18 49.3

26nm,0.2s,SNR=11
ESAC San Caprasio 1.19 159 Pg **Pg 20 18 34.3 -0.5**
ESAC Lg 20 18 51.1
ESAC San Caprasio 1.19 159 Pg **Pg 20 18 34.3 -0.5**
36nm,0.2s,SNR=36
ESAC Lg 20 18 51.1

268nm,0.3s,SNR=5.0
ESAC San Caprasio 1.19 159 Pg **Pg 20 18 34.3 -0.5**
36nm,0.2s,SNR=36
MELF Melles 1.32 88 Pg **Pg 20 18 36.6 -0.7**
MELF Lg 20 18 56.4
MLS Moulis 1.57 85 Lg 20 19 04.2
SALF Salau 1.64 92 Pg **Pg 20 18 43.2 -0.2**
SALF Sg **Sg 20 19 05.8 +1.0**
SALF Salau 1.64 92 Pg **Pg 20 18 43.2 -0.2**
SALF Lg 20 19 05.8
ELAN Lanestosa 1.80 284 Pg **Pg 20 18 44.5 -1.8**
4.6nm,0.2s,SNR=45
ELAN Lg 20 19 09.5

22nm,0.3s,SNR=8.4
ELAN Lanestosa 1.80 284 Pg **Pg 20 18 44.5 -1.8**
4.6nm,0.2s,SNR=45
GRBF Gourbit 1.90 89 Pg **Pg 20 18 48.5 +0.3**
PAND Andorre 1.93 98 Pg **Pg 20 18 47.7 -1.2**
PAND Lg 20 19 13.0
EMIR Miracle 2.11 115 Pg **Pg 20 18 51.3 -1.0**
4.0nm,0.2s,SNR=14
EMIR Lg 20 19 20.1

18nm,0.1s,SNR=9.5
EMIR Miracle 2.11 115 Pg **Pg 20 18 51.3 -1.0**
4.0nm,0.2s,SNR=14
ERTA Horta de San J 2.14 151 Pn **Pn 20 18 47.9 +1.3**
0.3nm,0.1s,SNR=7.6
ERTA Pg **Pg 20 18 52.3 -0.5**

1.1nm,0.1s,SNR=10
ERTA Sn **Sn 20 19 13.8 +1.1**
4.1nm,0.2s,SNR=7.9
ERTA Lg 20 19 20.9

11nm,0.2s,SNR=5.0
ERTA Horta de San J 2.14 151 Pn **Pn 20 18 47.9 +1.3**
0.3nm,0.1s,SNR=7.6
ERTA Horta de San J 2.14 151 Pg **Pg 20 18 52.3 -0.5**
1.1nm,0.1s,SNR=10
ERTA Sn **Sn 20 19 13.8 +1.1**
4.1nm,0.2s,SNR=7.9
ETOR Torete 2.15 201 Pn **Pn 20 18 48.4 +1.7**
ETOR Pg **Pg 20 18 52.4 -0.6**
ETOR Sn **Sn 20 19 15.9 +2.9**
ETOR Lg 20 19 21.2
ETOR Torete 2.15 201 Pn **Pn 20 18 48.4 +1.7**
13nm,0.1s,SNR=7.9
ETOR Pg **Pg 20 18 52.4 -0.6**

7.8nm,0.1s,SNR=23
ETOR Sn **Sn 20 19 13.2 +0.2**
22nm,0.1s,SNR=5.7
ETOR Lg 20 19 21.2

27nm,0.2s,SNR=5.0
ETOR Torete 2.15 201 Pg **Pg 20 18 52.4 -0.7**
7.8nm,0.1s,SNR=23
ETOR Sn **Sn 20 19 15.9 +2.9**

22nm,0.1s,SNR=5.7
EPOB Poblet 2.17 132 Pn **Pn 20 18 48.4 +1.4**
EPOB Pg **Pg 20 18 52.0 -1.4**
EPOB Lg 20 19 19.1
EPOB Poblet 2.17 132 Pn **Pn 20 18 48.4 +1.4**
1.2nm,0.1s,SNR=11
EPOB Pg **Pg 20 18 51.9 -1.4**

2.3nm,0.1s,SNR=7.9
EPOB Lg 20 19 20.5

5.6nm,0.1s,SNR=5.0
EPOB Poblet 2.17 132 Pn **Pn 20 18 48.4 +1.5**
1.2nm,0.1s,SNR=11
EPOB Poblet 2.17 132 Pg **Pg 20 18 52.0 -1.3**
VALF Valcebollere 2.30 100 Pg **Pg 20 18 54.3 -1.6**
VALF Valcebollere 2.30 100 Pg **Pg 20 18 55.3 -0.5**
VALF Lg 20 19 26.9
CARF Carcanieres 2.32 92 Pg **Pg 20 18 54.7 -1.6**
CARF Sg **Sg 20 19 26.7 +0.3**
CARF Carcanieres 2.32 92 Pg **Pg 20 18 55.8 -0.5**
CARF Lg 20 19 26.4
MTLF Montolieu 2.44 77 *e*P **Pn 20 18 54.2 +3.5**
MTLF Montolieu 2.44 77 *e*Pg **Pg 20 18 57.8 -0.8**
MTLF *e*Sn **Sn 20 19 20.1 0.0**

26nm,0.5s
MTLF Montolieu 2.44 77 *e*Pn **Pn 20 18 51.6 +0.9**
MTLF *e*P 20 18 54.2
MTLF *e*Pg **Pg 20 18 57.8 -0.8**
MTLF *e*Sn **Sn 20 19 20.1 0.0**
MTLF Montolieu 2.44 77 Pn **Pn 20 18 51.6 +0.9**
MTLF Pg **Pg 20 18 57.8 -0.8**
MTLF Sn **Sn 20 19 20.1 0.0**

13nm,0.5s
MTLF Montolieu 2.44 77 *e*Pn **Pn 20 18 51.6 +0.9**
MTLF Montolieu 2.44 77 *e*P **Pn 20 18 54.2 +3.5**
MTLF Montolieu 2.44 77 *e*Pg **Pg 20 18 57.8 -0.8**
MTLF *e*Sn **Sn 20 19 20.1 0.0**

13nm,0.5s
LFF La Frestale 2.47 31 *e*Pn **Pn 20 18 51.7 +0.6**
SNR=1.0
LFF *e*Sn **Sn 20 19 20.7 0.0**
EMOS Mosqueruela 2.51 170 Pn **Pn 20 18 54.4 +2.8**
EMOS Pg **Pg 20 18 59.7 -0.1**
EMOS Lg 20 19 29.5
EMOS Mosqueruela 2.51 170 Pn **Pn 20 18 53.1 +1.5**
0.1nm,0.1s,SNR=7.9
EMOS Pg **Pg 20 18 58.3 -1.5**

0.2nm,0.1s,SNR=13
EMOS Lg 20 19 29.5

4.6nm,0.2s,SNR=7.9
EMOS Mosqueruela 2.51 170 Pn **Pn 20 18 54.4 +2.8**
0.1nm,0.1s,SNR=7.9
EMOS Mosqueruela 2.51 170 Pg **Pg 20 18 59.7 -0.1**
0.2nm,0.1s,SNR=13
EJON La Jonquera 2.93 96 Pn **Pn 20 19 01.6 +4.2**
EJON Pg **Pg 20 19 06.2 -1.6**
EJON Lg 20 19 45.8
EJON La Jonquera 2.93 96 Pn **Pn 20 18 59.6 +2.2**
0.3nm,0.1s,SNR=7.9
EJON Pg **Pg 20 19 06.2 -1.6**

0.2nm,0.1s,SNR=8.2
EJON Lg 20 19 45.8

2.7nm,0.1s,SNR=7.9
EJON La Jonquera 2.93 96 Pn **Pn 20 19 01.6 +4.2**
0.3nm,0.1s,SNR=7.9
EJON La Jonquera 2.93 96 Pg **Pg 20 19 06.2 -1.6**
0.2nm,0.1s,SNR=8.2
CAF Calviac 3.07 46 *e*Pn **Pn 20 19 00.1 +0.8**
SNR=1.0
CAF *e*Sn **Sn 20 19 35.2 -0.3**

5.7nm,0.2s
CAF Calviac 3.07 46 *e*Pn **Pn 20 19 00.1 +0.8**
SNR=1.0
CAF *e*Sn **Sn 20 19 35.2 -0.3**

2.8nm,0.2s
RJF Les Rejaudoux 3.08 36 *e*Pn **Pn 20 19 00.0 +0.5**
SNR=1.0
RJF *e*Sn **Sn 20 19 35.5 -0.4**

12nm,0.2s
RJF Les Rejaudoux 3.08 36 *e*Pn **Pn 20 19 00.0 +0.5**
SNR=1.0
RJF *e*Sn **Sn 20 19 35.5 -0.4**

6.0nm,0.2s
EARI Arriondas 3.09 280 Pn **Pn 20 19 02.2 +2.5**
EARI Sn **Sn 20 19 39.3 +3.2**
EARI Arriondas 3.09 280 Pn **Pn 20 19 00.8 +1.1**
0.4nm,0.1s,SNR=12
EARI Sn **Sn 20 19 39.3 +3.2**

2.6nm,0.2s,SNR=5.0
EARI Arriondas 3.09 280 Pn **Pn 20 19 02.2 +2.6**
0.4nm,0.1s,SNR=12
EARI Sn **Sn 20 19 39.3 +3.2**

2.6nm,0.2s,SNR=5.0
GUD Guadarrama 3.20 228 Pn **Pn 20 19 02.7 +1.6**
5.4nm,0.3s,SNR=16
GUD Sn **Sn 20 19 36.8 -2.0**

2.3nm,0.4s,SNR=7.9
GUD Lg 20 19 51.7

3.9nm,0.3s,SNR=5.0
ECHE Chera 3.24 179 Pn **Pn 20 19 02.7 +1.0**
1.9nm,0.3s,SNR=4.0
ECHE Lg 20 19 53.6

2.7nm,0.3s,SNR=7.9
LASF Ste Croix 3.78 69 *e*P **Pn 20 19 13.6 +4.5**
LASF *e*Sn **Sn 20 19 52.4 -0.6**

12nm,0.4s,SNR=1.0
LASF Ste Croix 3.78 69 *e*Pn **Pn 20 19 10.1 +1.0**
LASF *e*P 20 19 13.6
LASF *e*Sn **Sn 20 19 52.4 -0.6**
LASF Ste Croix 3.78 69 Pn **Pn 20 19 10.1 +1.0**
LASF Sn **Sn 20 19 52.4 -0.6**

6.1nm,0.4s
LASF Ste Croix 3.78 69 *e*Pn **Pn 20 19 10.1 +1.0**
LASF Ste Croix 3.78 69 *e*P **Pn 20 19 13.6 +4.5**
LASF *e*Sn **Sn 20 19 52.4 -0.6**

6.1nm,0.4s,SNR=1.0
MFF Saint Martin d 3.82 9 *e*Pn **Pn 20 19 10.2 +0.5**
SNR=1.0
MFF *e*Sn **Sn 20 19 53.5 -0.6**

8.1nm,0.4s,SNR=1.0
MFF Saint Martin d 3.82 9 *e*Pn **Pn 20 19 10.2 +0.5**
SNR=1.0
MFF *e*Sn **Sn 20 19 53.5 -0.6**

4.1nm,0.4s,SNR=1.0
ESDC Sonseca Array 3.85 216 Pn **Pn 20 19 10.0 -0.1**
ESDC Pg **Pg 20 19 23.8 -1.8**
ESDC Sn **Sn 20 19 55.1 +0.2**
ESDC Lg 20 20 12.2
ESDC Sonseca Array 3.85 216 Pn **Pn 20 19 10.0 -0.1**
0.4nm,0.1s,baz=39,slow=13,SNR=11
ESDC Pg **Pg 20 19 21.8 -3.7**

0.5nm,0.1s,baz=31,slow=18,SNR=7.3
ESDC Sn **Sn 20 19 54.1 -0.8**

0.6nm,0.1s,baz=37,slow=24,SNR=3.8
ESDC Lg 20 20 12.2

2.5nm,0.3s,baz=32,slow=30,SNR=12
ESDC Sonseca Array 3.85 216 Pn **Pn 20 19 10.0 -0.1**
0.4nm,0.1s,SNR=11
ESDC Sonseca Array 3.85 216 Pg **Pg 20 19 23.8 -1.7**
0.5nm,0.1s,SNR=7.3
ESDC Sn **Sn 20 19 55.1 +0.2**

0.6nm,0.1s,SNR=3.8
TCF Toulx Ste Croi 4.16 33 *e*Sn **Sn 20 20 01.1 -1.4**
5.7nm,0.3s
TCF Toulx Ste Croi 4.16 33 *e*Sn **Sn 20 20 01.1 -1.4**
2.8nm,0.3s
ETOB Tobarra 4.21 185 Pn **Pn 20 19 17.0 +2.0**
ETOB Pg **Pg 20 19 30.7 -1.6**
ETOB Lg 20 20 27.8
ETOB Tobarra 4.21 185 Pn **Pn 20 19 17.0 +2.0**
0.1nm,0.1s,SNR=7.9
ETOB Pg **Pg 20 19 28.6 -3.7**

0.2nm,0.1s,SNR=7.9
ETOB Lg 20 20 25.3

0.4nm,0.1s,SNR=4.0
ETOB Tobarra 4.21 185 Pn **Pn 20 19 17.0 +2.0**
0.1nm,0.1s,SNR=7.9
ETOB Tobarra 4.21 185 Pg **Pg 20 19 30.7 -1.6**
0.2nm,0.1s,SNR=7.9
EIBI Ibiza 4.21 154 Pn **Pn 20 19 15.3 +0.3**
EIBI Sn **Sn 20 20 03.9 +0.1**
EIBI Ibiza 4.21 154 Pn **Pn 20 19 15.3 +0.3**
0.0nm,0.0s,SNR=4.0
EIBI Sn **Sn 20 20 02.3 -1.5**

0.2nm,0.1s,SNR=7.9
EIBI Ibiza 4.21 154 Pn **Pn 20 19 15.3 +0.2**
SNR=4.0
EIBI Sn **Sn 20 20 03.9 +0.1**

0.2nm,0.1s,SNR=7.9
ECAL Calabor 4.31 260 Pn **Pn 20 19 17.2 +0.7**
0.2nm,0.1s,SNR=12
ECAL Pg **Pg 20 19 32.0 -2.4**

3.2nm,0.3s,SNR=7.9
ECAL Sn **Sn 20 20 05.5 -0.8**

1.2nm,0.2s,SNR=7.9
ECAL Lg 20 20 28.6

7.7nm,0.4s,SNR=7.9
ECAL Calabor 4.31 260 Pn **Pn 20 19 17.2 +0.8**
0.2nm,0.1s,SNR=12
ECAL Calabor 4.31 260 Pg **Pg 20 19 32.0 -2.3**
EVIA Vianos 4.34 195 Pn **Pn 20 19 19.2 +2.4**
EVIA Vianos 4.34 195 Pn **Pn 20 19 17.6 +0.8**
0.5nm,0.2s,SNR=4.0
EVIA Sn **Sn 20 20 04.3 -2.6**

SNR=7.9
EVIA Lg 20 20 29.3

SNR=7.9
EVIA Vianos 4.34 195 Pn **Pn 20 19 19.2 +2.4**
0.5nm,0.2s,SNR=4.0
PBRG Braganca 4.35 258 *e*Pn **Pn 20 19 18.3 +1.3**
PBRG *e*Sn **Sn 20 20 08.5 +1.3**
EPON Pontenova 4.50 278 Pn **Pn 20 19 21.3 +2.3**
EPON Sn **Sn 20 20 12.1 +1.2**
EPON Pontenova 4.50 278 Pn **Pn 20 19 21.3 +2.2**
0.3nm,0.1s,SNR=7.9
EPON Sn **Sn 20 20 09.1 -1.8**

0.6nm,0.1s,SNR=7.9
EPON Pontenova 4.50 278 Pn **Pn 20 19 21.3 +2.3**
EPON Sn **Sn 20 20 12.1 +1.2**
VIVF Saint-Julien-l 4.60 62 *e*Pn **Pn 20 19 21.1 +0.7**
SNR=1.0
VIVF *e*Sn **Sn 20 20 11.8 -1.5**

2.0nm,0.2s,SNR=1.0
VIVF Saint-Julien-l 4.60 62 *e*Pn **Pn 20 19 21.1 +0.7**
SNR=1.0
VIVF *e*Sn **Sn 20 20 11.8 -1.5**

1.0nm,0.2s,SNR=1.0
BGF Bois d'Agland 4.64 35 *e*Pn **Pn 20 19 21.0 +0.1**
SNR=1.0
BGF *e*Sn **Sn 20 20 13.2 -1.1**

25nm,0.6s,SNR=1.0
BGF Bois d'Agland 4.64 35 *e*Pn **Pn 20 19 21.0 +0.1**
SNR=1.0
BGF *e*Sn **Sn 20 20 13.2 -1.1**

13nm,0.6s,SNR=1.0
MVO Moncorvo 4.76 251 *e*Pn **Pn 20 19 23.7 +1.1**
MVO *e*Sn **Sn 20 20 18.1 +0.7**
MVO *e*Sg **Sg 20 20 42.4 -2.2**
MVO A 20 20 47.5

5.2nm,0.4s
MVO Moncorvo 4.76 251 *e*Pn **Pn 20 19 23.7 +1.1**
MVO *e*Sn **Sn 20 20 18.1 +0.7**
MVO *e*Sg **Sg 20 20 42.4 -2.2**

5.2nm,0.4s
SMRF Simiane la Rot 4.95 74 *e*P **Pn 20 19 30.1 +4.9**
AVF Avril sur Loir 5.04 37 *e*Pn **Pn 20 19 27.0 +0.6**
SNR=1.0
AVF *e*Sn **Sn 20 20 22.2 -2.0**

4.2nm,0.5s
AVF Avril sur Loir 5.04 37 *e*Pn **Pn 20 19 27.0 +0.6**
SNR=1.0
AVF *e*Sn **Sn 20 20 22.2 -2.0**

2.1nm,0.5s
SMF Signal de Mont 5.16 41 *e*Pn **Pn 20 19 28.5 +0.5**
SNR=1.0
PVRL Vila Real 5.21 255 *e*Pn **Pn 20 19 30.3 +1.6**
EQES Quesada 5.26 198 Pn **Pn 20 19 30.2 +0.7**
EQES Sn **Sn 20 20 28.9 -0.7**
EQES Lg 20 20 57.6
EQES Quesada 5.26 198 Pn **Pn 20 19 30.2 +0.7**
0.1nm,0.1s,SNR=7.9
EQES Sn **Sn 20 20 28.0 -1.7**

0.9nm,0.3s,SNR=4.0
EQES Lg 20 20 57.6

0.8nm,0.3s,SNR=4.0
EQES Quesada 5.26 198 Pn **Pn 20 19 30.2 +0.7**
EQES Sn **Sn 20 20 28.9 -0.8**
ELOB Lobios 5.29 262 Pn **Pn 20 19 30.4 +0.5**
0.3nm,0.1s,SNR=7.9
ELOB Sn **Sn 20 20 27.5 -2.9**

0.3nm,0.1s,SNR=4.0
ELOB Lg 20 20 58.7

0.4nm,0.2s,SNR=4.0
ELOB Lobios 5.29 262 Pn **Pn 20 19 30.4 +0.5**
QUIF Quistinic 5.30 344 *e*Pn **Pn 20 19 31.1 +1.2**
SNR=1.0
QUIF *e*Sn **Sn 20 20 28.6 -1.9**

7.5nm,0.3s,SNR=1.0
QUIF Quistinic 5.30 344 *e*Pn **Pn 20 19 31.1 +1.2**
SNR=1.0
QUIF *e*Sn **Sn 20 20 28.6 -1.9**

3.8nm,0.3s,SNR=1.0
PCAB Cabril 5.30 260 *e*Pn **Pn 20 19 31.6 +1.5**
SSF Saint Saulge 5.32 36 *e*Pn **Pn 20 19 30.9 +0.7**
SNR=1.0
SSF *e*Sn **Sn 20 20 29.0 -2.0**

3.7nm,0.4s
SSF Saint Saulge 5.32 36 *e*Pn **Pn 20 19 30.9 +0.7**
SNR=1.0
SSF *e*Sn **Sn 20 20 29.0 -2.0**

1.9nm,0.4s
EADA Adamuz 5.39 211 Pn **Pn 20 19 32.4 +1.2**
0.3nm,0.1s,SNR=7.9
EADA Lg 20 20 59.2

0.4nm,0.1s,SNR=4.0
EADA Adamuz 5.39 211 Pn **Pn 20 19 32.5 +1.3**
ORIF Oris-en-Rattie 5.42 65 *e*P **Pn 20 19 36.4 +4.8**
ORIF Oris-en-Rattie 5.42 65 *e*Pn **Pn 20 19 32.3 +0.7**
ORIF *e*P 20 19 36.4
ORIF Oris-en-Rattie 5.42 65 *e*P **Pn 20 19 36.4 +4.8**
SGMF Saint Gilles 5.52 349 *e*Pn **Pn 20 19 33.7 +0.7**
SNR=1.0
SGMF *e*Sn **Sn 20 20 34.4 -1.6**

11nm,0.8s,SNR=1.0
SGMF Saint Gilles 5.52 349 *e*Pn **Pn 20 19 33.7 +0.7**
SNR=1.0
SGMF *e*Sn **Sn 20 20 34.4 -1.6**

5.5nm,0.8s,SNR=1.0
PVIS Viseu 5.54 250 *e*Pn **Pn 20 19 34.0 +0.6**
PVIS *e*Sn **Sn 20 20 37.3 +0.7**
GRR Gorron 5.55 1 *e*Sn **Sn 20 20 34.2 -2.6**
6.2nm,0.3s,SNR=1.0
GRR Gorron 5.55 1 *e*Sn **Sn 20 20 34.2 -2.6**
3.1nm,0.3s,SNR=1.0
LOR Lormes 5.63 36 *e*Pn **Pn 20 19 35.0 +0.5**
LOR *e*Sn **Sn 20 20 36.6 -2.1**

1.7nm,0.3s
LOR Lormes 5.63 36 *e*Pn **Pn 20 19 35.0 +0.5**
LOR *e*Sn **Sn 20 20 36.6 -2.1**

0.9nm,0.3s
FRF La Foret Royal 5.67 80 *e*P **Pn 20 19 39.5 +4.5**
ROSF Rostrenen 5.72 345 *e*Pn **Pn 20 19 36.9 +1.2**
ROSF *e*Sn **Sn 20 20 39.5 -1.4**

23nm,0.9s,SNR=1.0
ROSF Rostrenen 5.72 345 *e*Pn **Pn 20 19 36.9 +1.2**
ROSF *e*Sn **Sn 20 20 39.5 -1.4**

11nm,0.9s,SNR=1.0
LDF La Druitiere 5.79 6 *e*Pn **Pn 20 19 37.6 +0.8**
ECAB El Cabril 5.81 217 Pn **Pn 20 19 37.4 +0.4**
ECAB Sn **Sn 20 20 41.5 -1.7**
ECAB Lg 20 21 15.3
ECAB El Cabril 5.81 217 Pn **Pn 20 19 37.4 +0.4**
0.4nm,0.1s,SNR=7.9
ECAB Sn **Sn 20 20 41.5 -1.7**

0.1nm,0.1s,SNR=4.0
ECAB Lg 20 21 15.3

0.2nm,0.1s,SNR=4.0
ECAB El Cabril 5.81 217 Pn **Pn 20 19 37.4 +0.4**
ECAB Sn **Sn 20 20 41.5 -1.7**
EMAZ Mazaricos 5.83 274 Pn **Pn 20 19 38.2 +1.0**
0.4nm,0.1s,SNR=7.9
EMAZ Sn **Sn 20 20 42.2 -1.5**

0.4nm,0.1s,SNR=4.0
EMAZ Mazaricos 5.83 274 Pn **Pn 20 19 38.2 +0.9**
EMAZ Sn **Sn 20 20 42.2 -1.5**
FLN La Foliniere 5.94 4 *e*Pn **Pn 20 19 39.2 +0.4**
EBAD Badajoz 6.09 230 Pn **Pn 20 19 40.9 0.0**
0.3nm,0.1s,SNR=7.9
EBAD Sn **Sn 20 20 47.6 -2.5**

0.2nm,0.1s,SNR=4.0
EBAD Badajoz 6.09 230 Pn **Pn 20 19 40.9 0.0**
LPG La Plagne 6.20 62 *e*P **Pn 20 19 48.0 +5.6**
PESTR Estremoz 6.35 234 *e*Pn **Pn 20 19 44.8 +0.3**
PBAR Barrancos 6.52 226 *e*Pn **Pn 20 19 48.1 +1.3**
PBAR *e*Sn **Sn 20 20 59.7 -1.1**
EMIN Mina Concepcio 6.64 222 Sn **Sn 20 20 59.6 -4.2**
0.1nm,0.1s,SNR=7.9

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*IDC **03** 20:21:18.4±1.7, 688S×155.16E, h0km, mb4.2/5, mb1 4.4/5, mb1mx4.1/15, mbtmp4.2/5, MS3.5/1, Ms1 3.5/1, ms1mx3.0/33, Error ellipse: s-maj=72.3km s-min=29.5km az=132.0*

*NEIC **03** 20:21:19.7±1.0, 683S×155.18E, h10km, Error ellipse: s-maj=37.7km s-min=15.0km az=122.0*

*ISCJB **03** 20:21:22.0±1.5, 70S±03×1552E±03, h33km, mb4.0/5, Error ellipse: s-maj=61.5km s-min=23.7km az=43.1*

ISC 03 20:21:23.8±1.5, 69S±03×1552E±03, h35km, n10, σ0°38/8, mb4.0/5, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.36**	**118**	LR	LR	20 24 38.7	
	comp=Z,527nm,20.8s,baz=359,slow=37						
WB2	**Warramunga Arr**	**24.00**	**235**	*e*P	**P**	**20 26 35.5**	**+0.1**
WRA	**Warramunga Arr**	**24.01**	**235**	P	**P**	**20 26 35.4**	**-0.1**
	10nm,1.0s,mb4.2,baz=61,slow=9.8,SNR=8.4						
ASAR	**Alice Springs**	**26.36**	**228**	P	**P**	**20 26 56.1**	**-0.8**
	1.1nm,0.4s,mb3.7,baz=58,slow=10,SNR=7.1						
STKA	**Stephens Creek**	**27.89**	**205**	P	**P**	**20 27 10.8**	**+0.3**
STKA	**Stephens Creek**	**27.89**	**205**	P	**P**	**20 27 10.8**	**+0.3**
	3.3nm,0.8s,mb4.0,baz=18,slow=14,SNR=3.4						
FITZ	**Fitzroy Crossi**	**30.85**	**246**	P	**P**	**20 27 37.3**	**+0.4**
	3.1nm,0.6s,mb4.3,baz=89,slow=11,SNR=5.6						
YKA	**Yellowknife Ar**	**96.17**	**28**	P	**P**	**20 34 47.8**	**0.0**
YKA	**Yellowknife Ar**	**96.17**	**28**	P	**P**	**20 34 47.8**	**0.0**
	0.2nm,0.4s,mb3.9,baz=266,slow=4.5,SNR=3.4						
TORD	**Torodi Ar. Bea**	**153.16**	**285**	PKPbc	PKPbc	20 41 18.7	-0.2
	0.7nm,0.9s,baz=80,slow=1.6,SNR=2.0						

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*BJI **03** 20:23:15.6, 536S×10281E, h85km, mB5.3, mb5.7, Ms5.6, Msz5.2*

*MOS **03** 20:23:17.2±0.8, 439S×10297E, h33km, mb5.8/79,*

MS5.9/4, Error ellipse: s-maj=8.9km s-min=4.2km az=118.8

ISCJB ***03*** *20:23:21.3±0.1, 449S±003×10283E±002, h68km, mb5.5/195, Error ellipse: s-maj=3.9km s-min=2.9km az=24.9*

IDC ***03*** *20:23:23.5±1.4, 443S×10301E, h75km±11km, mb5.2/39, mb1 5.2/40, mb1mx5.2/40, mbtmp5.2/40, MS4.1/1, Ms1 4.1/1, ms1mx3.9/34, Error ellipse: s-maj=10.8km s-min=7.2km az=43.0*

GCMT ***03*** *20:23:23.4±0.4, 487S×10263E, h70km±2km, MW5.2/44, Moment Tensor Solution. s29,c45; s44,c67; Duration: 1s0 Moment tensor: Scale 10^17Nm; Mrr0.62±.04; Mθθ-0.45±.04; Mφφ-0.17±.05; Mrθ0.40±.03; Mθφ0.52±.03; Mφr-0.11±.04; Best double couple: M0 0.85000×10^17 NP1:φs325.00000°, δ34.00000°, λ118.00000°. NP2: φs113.00000°, δ60.00000°, λ73.00000°. Principal axes: T 0.7570, Plg69.0000°, Azm346.0000°; N 0.1860, Plg15.0000°, Azm122.0000°; P -0.9430, Plg14.0000°, Azm216.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***03*** *20:23:23.4±0.1, 443S×10295E, mb5.4/99 Error ellipse: s-maj=5.2km s-min=3.4km az=47.0*

NEIC Felt [IV] at Bintuhan and Kapahiang.

SZGRF ***03*** *20:23:54.6, 226S×10386E, h312km, mb5.4, Southern Sumatera, Indonesia*

ISC 03 20:23:23.0±0.1, 451S±003×10282E±002, h70km, h70km±2.3km; pP-P, n1085, σ0 89/655, mb5.5/194, 237C-110D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSI	**Kapahiang**	**0.88**	**345**	P	**Pn**	**20 23 39.2**	**-0.9**
	234μm,0.6s						
KLI	**Kotabumi**	**2.06**	**100**	P	**Pn**	**20 23 54.7**	**-0.7**
	26μm,0.9s						
SBJI	**Serang**	**3.66**	**116**	P	**Pn**	**20 24 17.9**	**+0.6**
	2μm,1.0s						
CBJI	**Citeko**	**4.43**	**116**	P	**Pn**	**20 24 30.7**	**+2.9**
	4μm,0.9s						
PPI	**Padang Panjang**	**4.70**	**329**	P	**Pn**	**20 24 31.0**	**-0.5**
	2μm,0.8s						
MYKOM	**Kota Tinggi**	**6.34**	**9**	⇓P	**Pn**	**20 24 56.7**	**+2.7**
KGM	**Kluang**	**6.50**	**4**	⇓P	**Pn**	**20 24 58.8**	**+2.7**
BJII	**Banjamegara**	**7.40**	**113**	P	**Pn**	**20 25 09.3**	**+0.9**
	182nm,0.8s						
PSI	**Prapat**	**8.24**	**332**	P	**Pn**	**20 25 17.9**	**-2.0**
PSI	**Prapat**	**8.24**	**332**	P	**Pn**	**20 25 17.9**	**-2.0**
	13nm,0.3s,baz=163,slow=2.4,SNR=28						
PSI				LR	LR	20 29 05.7	
	comp=Z,1μm,21.4s,baz=145,slow=42						
KSM	**Kuching**	**9.55**	**52**	*e*Pn	**Pn**	**20 25 38.1**	**+0.3**
KSM	**Kuching**	**9.55**	**52**	⇑P	**Pn**	**20 25 40.2**	**+2.3**
COCO	**West Island**	**9.66**	**217**	Pn	**Pn**	**20 25 35.5**	**-3.8**
	12μm,0.6s,SNR=25						
KTGM	**Kuala Trenggan**	**9.78**	**2**	⇓P	**Pn**	**20 25 45.3**	**+4.4**
KULM	**Kulim**	**9.97**	**347**	⇑*i*P	**Pn**	**20 25 43.6**	**0.0**
KULM	**Kulim**	**9.97**	**347**	⇑P	**Pn**	**20 25 44.9**	**+1.3**
KMMI	**Kalianget**	**11.37**	**103**	P	**Pn**	**20 26 03.3**	**+0.6**
	302nm,1.1s						
SBUM	**Sibu**	**11.66**	**54**	⇑P	**Pn**	**20 26 10.9**	**+4.2**
SNG	**Songkhla**	**11.82**	**349**	P	**Pn**	**20 26 10.0**	**+1.2**
	720nm,1.0s						
BSI	**Banda Aceh**	**12.46**	**323**	P	**Pn**	**20 26 13.5**	**-4.1**
	235nm,1.4s						
BTM	**Bintulu**	**12.80**	**53**	⇑P	**Pn**	**20 26 25.6**	**+3.4**
DNP	**Denpasar**	**12.98**	**109**	P	**Pn**	**20 26 22.5**	**-2.1**
	1μm,0.9s						
KAPI	**Kappang**	**16.88**	**92**	P	**Pn**	**20 27 14.0**	**-0.9**
	1μm,0.9s,SNR=22						
KKM	**Kota Kinabalu**	**16.99**	**52**	*e*P	**Pn**	**20 27 18.1**	**+1.8**
KKM	**Kota Kinabalu**	**16.99**	**52**	⇑P	**Pn**	**20 27 18.1**	**+1.8**
NNT	**Nongplab**	**17.26**	**350**	P	**Pn**	**20 27 19.3**	**-0.3**
PCI	**Palu**	**17.36**	**79**	P	**Pn**	**20 27 22.8**	**+1.9**
	725nm,1.4s						
TSM	**Tawau**	**17.39**	**60**	⇓P	**Pn**	**20 27 24.3**	**+3.1**
SDKM	**Sandakan**	**17.54**	**55**	⇓P	**Pn**	**20 27 25.4**	**+2.3**
KDM	**Kudat**	**18.01**	**51**	⇓P	**Pn**	**20 27 31.9**	**+3.1**
WSI	**Waingapu**	**18.08**	**107**	⇓*e*P	**Pn**	**20 27 26.5**	**-3.1**
WSI				*e*S	**S**	**20 30 47.5**	**-4.4**
WSI	**Waingapu**	**18.08**	**107**	⇑*e*P	**Pn**	**20 27 23.0**	**-6.6**
	16nm,1.1s						
WSI	**Waingapu**	**18.08**	**107**	⇑*e*P	**Pn**	**20 27 26.5**	**-3.1**
WSI				*e*S	**S**	**20 30 47.5**	**-4.4**
BATP	**Bataraza**	**19.94**	**48**	*e*P	**Pn**	**20 27 51.3**	**-0.5**
NST	**Nakhon Sawan**	**20.23**	**352**	P	**P**	**20 27 52.0**	**-0.6**
	208nm,0.8s						
KKTK	**Khon Kaen**	**20.71**	**360**	⇑P	**P**	**20 27 59.0**	**+1.2**
	2μm,0.4s						
PPR	**Puerto Princes**	**21.27**	**48**	*e*P	**P**	**20 28 04.2**	**+0.3**
BATI	**Kupang**	**21.42**	**106**	P	**P**	**20 28 04.5**	**-1.1**
	332nm,0.4s,mb6.0,baz=328,slow=1.8,SNR=169						
BDT	**Bhumibol Dam**	**21.94**	**350**	P	**P**	**20 28 10.0**	**-1.0**
	49nm,0.9s,mb4.8						
ENPP	**El Nido**	**22.73**	**47**	*e*P	**P**	**20 28 20.3**	**+0.9**
MBWA	**Marble Bar**	**23.31**	**137**	*e*P	**P**	**20 28 24.5**	**-0.7**
	15nm,0.6s,mb4.5						
MBWA	**Marble Bar**	**23.31**	**137**	P	**P**	**20 28 25.2**	**+0.1**
	SNR=6.2						
MBWA	**Marble Bar**	**23.31**	**137**	P	**P**	**20 28 25.2**	**+0.1**
	SNR=6.2						
CHTO	**Chiang Mai**	**23.49**	**351**	P	**P**	**20 28 26.3**	**-0.4**
	SNR=17						
CHTO	**Chiang Mai**	**23.49**	**351**	P	**P**	**20 28 26.3**	**-0.4**
	SNR=17						
CUYO	**Cuyo Island**	**23.68**	**50**	*e*P	**P**	**20 28 29.5**	**+0.9**
BUSP	**Coron**	**23.83**	**46**	*e*P	**P**	**20 28 30.8**	**+0.9**
PAGZ	**Pagadian**	**23.90**	**59**	*e*P	**P**	**20 28 31.6**	**+1.0**
QIZ	**Qiongzhong**	**24.39**	**16**	P	**P**	**20 28 36.1**	**+1.1**
QIZ				S	**S**	**20 32 50.7**	**+0.8**
QIZ				AMB	AMB		
	comp=Z,60nm,0.8s,mb5.0						
QIZ				AMB	AMB		
	comp=Z,358nm,5.8s						
QIZ				LR	LR		
	comp=Z,2μm,20.4s						
QIZ	**Qiongzhong**	**24.39**	**16**	*e*P	**P**	**20 28 36.1**	**+1.2**
	comp=Z,52nm,0.8s,mb4.9						
QIZ				*e*		20 29 08.3	
GUIM	**Jordan**	**24.77**	**53**	*e*P	**P**	**20 28 40.1**	**+1.7**
PALK	**Pallekele**	**24.99**	**298**	P	**P**	**20 28 43.8**	**+3.3**
	comp=Z,394nm,0.8s,mb5.9,SNR=11						
PALK	**Pallekele**	**24.99**	**298**	*e*P	**P**	**20 28 43.2**	**+2.7**
	comp=Z,82nm,1.1s,mb5.1						
PALK	**Pallekele**	**24.99**	**298**	P	**P**	**20 28 43.7**	**+3.2**
	SNR=6.2						
LUBP	**Lubang**	**25.05**	**43**	*e*P	**P**	**20 28 41.8**	**+0.8**
AAI	**Ambon**	**25.32**	**89**	P	**P**	**20 28 46.4**	**+2.9**
	comp=Z,128nm,0.9s,mb5.3						
BUKP	**Musuan**	**25.37**	**61**	*e*P	**P**	**20 28 44.9**	**+0.9**
OTRP	**Odiongan**	**25.40**	**49**	*e*P	**P**	**20 28 45.2**	**+1.0**
RCP	**Roxas**	**25.45**	**51**	⇑*e*P	**P**	**20 28 45.8**	**+1.1**
DAV	**Davao City (W)**	**25.46**	**63**	*e*P	**P**	**20 28 46.2**	**+1.5**
	comp=Z,248nm,0.6s,mb5.8						
DAV	**Davao City (W)**	**25.46**	**63**	P	**P**	**20 28 46.8**	**+2.1**
	SNR=7.5						
MATI	**Mati**	**26.01**	**64**	*e*P	**P**	**20 28 48.9**	**-0.8**
FITZ	**Fitzroy Crossi**	**26.08**	**123**	⇑*i*P	**P**	**20 28 49.6**	**-0.8**
	comp=Z,104nm,0.6s,mb5.4						
FITZ	**Fitzroy Crossi**	**26.08**	**123**	P	**P**	**20 28 49.8**	**-0.6**
	comp=Z,42nm,0.6s,mb5.0,baz=299,slow=6.9,SNR=62						
POLP	**Polillo Island**	**26.91**	**44**	*e*P	**P**	**20 28 58.5**	**+0.6**
BALP	**Baler**	**27.38**	**42**	*e*P	**P**	**20 29 01.8**	**-0.2**
PVCP	**Virac**	**27.78**	**49**	*e*P	**P**	**20 29 05.9**	**+0.3**
ABRA	**Dolores**	**28.22**	**38**	*e*P	**P**	**20 29 09.4**	**-0.2**
CAUP	**Cauayan**	**28.41**	**41**	*e*P	**P**	**20 29 11.0**	**-0.2**
MDRS	**Chennai**	**28.42**	**308**	*e*P	**P**	**20 29 12.8**	**+1.4**
MDRS				AMb	AMB	20 29 14.2	
	comp=Z,186nm,1.0s,mb5.6						
APYP	**Conner**	**28.71**	**39**	*e*P	**P**	**20 29 15.0**	**+1.1**
VIS	**Vishakhapatnam**	**29.29**	**319**	*e*P	**P**	**20 29 19.3**	**+0.2**
VIS				AMb	AMB	20 29 21.4	
	comp=Z,76nm,1.1s,mb5.3						
KMI	**Kunming**	**29.46**	**360**	P	**P**	**20 29 21.6**	**+1.2**
KMI				AP	pP	20 29 40.6	+3.5
KMI				XP	sP	20 29 50.4	+5.2
KMI				PP	PP	20 30 21.7	-6.4
KMI				S	**S**	**20 34 10.8**	**+1.0**
KMI				AMB	AMB		
	comp=Z,59nm,1.0s,mb5.2						
KMI				AMB	AMB		
	comp=Z,235nm,7.5s						
KMI	**Kunming**	**29.46**	**360**	P	**P**	**20 29 21.6**	**+1.2**
	comp=Z,59nm,1.0s,mb5.2						
KMI				pP	pP	20 29 40.6	+3.5
KMI				sP	sP	20 29 50.4	+5.2
KMI				PP	PP	20 30 21.7	-6.4
KMI				S	**S**	**20 34 10.8**	**+1.0**
KMI				sS	sS	20 34 41.0	+2.7
KMI	**Kunming**	**29.46**	**360**	P	**P**	**20 29 21.6**	**+1.2**
KMI						20 30 21.7	
KMI				S	**S**	**20 34 10.8**	**+1.0**
KMI				pmax	pmax		
	comp=Z,59nm,1.0s,mb5.2						
MUN	**Mundaring**	**30.07**	**157**	*e*P	**P**	**20 29 25.7**	**-0.1**
KAKA	**Kakadu**	**30.37**	**107**	⇑*i*P	**P**	**20 29 25.1**	**-3.5**
	comp=Z,52nm,0.6s,mb5.3						
KLBR	**Kellerberrin**	**30.37**	**154**	*e*P	**P**	**20 29 28.1**	**-0.3**
	comp=Z,7.0nm,0.6s,mb4.5						
IMP	**Imphal**	**30.37**	**344**	*e*P	**P**	**20 29 28.0**	**-0.5**
GYA	**Guiyang**	**31.01**	**7**	⇑*i*P	**P**	**20 29 34.8**	**+0.7**
GYA				AP	pP	20 29 52.7	+1.9
GYA				XP	sP	20 30 01.9	+2.9
GYA				PP	PP	20 30 41.2	-4.2
GYA				PCP	PcP	20 32 29.0	+0.2
GYA				S	**S**	**20 34 33.1**	**-1.0**
GYA				XS	sS	20 35 07.8	+5.1
GYA				AMB	AMB		
	comp=Z,80nm,1.0s,mb5.4						
GYA				AMB	AMB		
	comp=Z,260nm,6.0s						
GYA				LR	LR		
	comp=N,10μm,20.6s						
GYA				LR	LR		
	comp=E,12μm,19.3s						
GYA				LR	LR		
	comp=Z,10μm,20.0s						
NWAO	**Narrogin (SRO)**	**31.31**	**156**	P	**P**	**20 29 35.2**	**-1.5**
	comp=Z,21nm,1.0s,mb4.8						
NWAO	**Narrogin (SRO)**	**31.31**	**156**	P	**P**	**20 29 36.8**	**+0.1**
NWAO				pmax	pmax		
	comp=Z,6.0nm,0.7s						
NWAO	**Narrogin (SRO)**	**31.31**	**156**	P	**P**	**20 29 36.8**	**+0.1**
	comp=Z,6.4nm,0.7s,mb4.5,baz=176,slow=6.1,SNR=5.7						
HYB	**Hyderabad**	**32.39**	**313**	*e*P	**P**	**20 29 47.0**	**+0.7**
	comp=Z,60nm,1.0s,mb5.3						
HYB	**Hyderabad**	**32.39**	**313**	*e*P	**P**	**20 29 47.0**	**+0.7**
HYB				pmax	pmax		
	comp=Z,60nm,1.0s,mb5.3						
HYB	**Hyderabad**	**32.39**	**313**	*i* P	**P**	**20 29 47.0**	**+0.7**
	comp=Z,60nm,1.0s,mb5.3						
BOK	**Bokaro**	**32.62**	**330**	*e*P	**P**	**20 29 48.8**	**+0.5**
MNGI	**Mangalore**	**32.78**	**302**	*i* P	**P**	**20 29 50.1**	**+0.4**
BLSP	**Bilaspur**	**33.33**	**323**	*e*P	**P**	**20 29 54.7**	**+0.2**
BLSP				AMb	AMB	20 29 56.4	
	comp=Z,220nm,0.8s,mb6.0						
WRA	**Warramunga Arr**	**34.31**	**119**	*i* P	**P**	**20 30 02.0**	**-1.1**
WRA				pmax	pmax		
	comp=Z,74nm,0.6s						
WRA	**Warramunga Arr**	**34.31**	**119**	P	**P**	**20 30 02.1**	**-0.9**
	comp=Z,74nm,0.6s,mb5.7,baz=301,slow=9.1,SNR=242						
WRA				S	**S**	**20 35 22.3**	**-3.3**
	comp=Z,4.4nm,0.9s,baz=308,slow=17,SNR=5.1						
WB2	**Warramunga Arr**	**34.32**	**119**	⇑*i*P	**P**	**20 30 02.2**	**-0.9**
WB2				*e*S	**S**	**20 35 20.8**	**-5.0**
LATR	**Latur**	**34.48**	**312**	*e*P	**P**	**20 30 03.4**	**-1.2**
CD2	**Chengdu**	**35.23**	**1**	*e*P	**P**	**20 30 10.4**	**-0.4**
CD2				AP	pP	20 30 29.8	+2.1
CD2				XP	sP	20 30 38.5	+2.6
CD2				PP	PP	20 31 33.1	+1.0
CD2				PCP	PcP	20 32 39.0	-1.5
CD2				S	**S**	**20 35 39.7**	**+0.2**
CD2				AMB	AMB		
	comp=Z,220nm,0.7s,mb6.1						
CD2				AMB	AMB		
	comp=Z,590nm,5.8s						
CD2				LR	LR		
	comp=N,1μm,15.6s						
CD2				LR	LR		
	comp=E,10μm,14.4s						
CD2				LR	LR		
	comp=Z,2μm,10.8s						
ASAR	**Alice Springs**	**35.51**	**125**	P	**P**	**20 30 13.2**	**-0.2**
ASAR				S	**S**	**20 35 41.5**	**-2.5**
ASAR				pmax	pmax		
	comp=Z,38nm,0.5s						
ASAR				smax			
	comp=N,5.0nm,0.7s						
ASAR	**Alice Springs**	**35.51**	**125**	P	**P**	**20 30 13.2**	**-0.2**
	comp=N,38nm,0.5s,mb5.6,baz=298,slow=7.6,SNR=262						
ASAR				S	**S**	**20 35 41.5**	**-2.5**
	comp=N,5.4nm,0.7s,baz=298,slow=18,SNR=7.0						
ASAR				ScP	ScP	20 36 21.4	-0.2
	comp=N,6.3nm,1.0s,baz=270,slow=3.5,SNR=4.3						
KAD	**Karad**	**35.63**	**308**	*e*P	**P**	**20 30 15.0**	**+0.5**
KAD				AMb	AMB	20 30 16.6	
	comp=Z,90nm,0.8s,mb5.7						
LSA	**Lhasa**	**35.81**	**342**	*e*P	**P**	**20 30 15.9**	**+0.1**
	comp=Z,56nm,0.6s,mb5.7						
LSA	**Lhasa**	**35.81**	**342**	*e*P	**P**	**20 30 15.9**	**+0.1**
LSA				pmax	pmax		
	comp=Z,56nm,0.6s,mb5.7						
WHN	**Wuhan**	**36.56**	**17**	⇓P	**P**	**20 30 22.8**	**+0.6**
WHN				PCP	PcP	20 32 44.7	+0.3
WHN				*e*S	**S**	**20 36 12.1**	**+12**
WHN				AMB	AMB		
	comp=Z,277nm,1.8s,mb5.9						
WHN				LR	LR		
	comp=Z,2μm,15.0s						
POO	**Poona**	**36.60**	**310**	*e*P	**P**	**20 30 23.5**	**+0.8**
POO				AMb	AMB	20 30 24.9	
	comp=Z,60nm,1.1s,mb5.4						
BHPL	**Bhopal**	**37.09**	**319**	*i* P	**P**	**20 30 26.8**	**0.0**
BHPL				AMb	AMB	20 30 29.5	
	comp=Z,122nm,0.5s,mb6.0						
XAN	**Xi'an**	**38.77**	**8**	P	**P**	**20 30 39.5**	**-1.3**
XAN				AMB	AMB		
	comp=Z,14nm,0.8s,mb4.8						
NJ2	**Nanjing**	**39.43**	**22**	*e*P	**P**	**20 30 47.1**	**+0.7**
NJ2				AMB	AMB		
	comp=Z,60nm,0.6s,mb5.6						
SSE	**Sheshan**	**39.51**	**25**	P	**P**	**20 30 47.9**	**+0.9**
SSE				AMB	AMB		
	comp=Z,50nm,0.9s,mb5.3						
SSE				AMB	AMB		
	comp=Z,154nm,5.4s						
SSE	**Sheshan**	**39.51**	**25**	P	**P**	**20 30 47.9**	**+0.9**
	comp=Z,50nm,0.9s,mb5.3						
AGRA	**Agra**	**39.67**	**324**	*e*P	**P**	**20 30 48.2**	**-0.2**
AGRA				AMb	AMB	20 30 49.1	
	comp=Z,208nm,0.6s,mb6.2						
JOW	**Kunigami**	**39.71**	**37**	P	**P**	**20 30 49.1**	**+0.3**
	comp=Z,62nm,0.8s,mb5.5,baz=281,slow=6.8,SNR=7.9						
LGTI	**Lohaghat**	**40.12**	**329**	*e*P	**P**	**20 30 52.0**	**-0.1**
PTH	**Pithoragarh**	**40.22**	**329**	*e*P	**P**	**20 30 53.0**	**+0.1**
PTH				*e*S	**S**	**20 36 56.0**	**+0.9**
LZH	**Lanzhou**	**40.40**	**1**	⇑P	**P**	**20 30 55.0**	**+0.7**
LZH				AP	pP	20 31 12.5	+1.0
LZH				XP	sP	20 31 23.5	+4.0
LZH				PP	PP	20 32 31.0	+2.4
LZH				S	**S**	**20 36 58.0**	**+0.5**
LZH				AMB	AMB		
	comp=Z,250nm,1.0s,mb6.0						
LZH				AMB	AMB		
	comp=Z,1μm,4.0s						
LZH				LR	LR		
	comp=E,2μm,15.4s						
LZH				LR	LR		
	comp=Z,3μm,16.5s						
LZH	**Lanzhou**	**40.40**	**1**	⇑P	**P**	**20 30 55.0**	**+0.7**
	comp=Z,250nm,1.0s,mb6.0						
LZH				pP	pP	20 31 12.5	+1.0
LZH				sP	sP	20 31 23.5	+4.0
LZH				PP	PP	20 32 31.0	+2.4
LZH				S	**S**	**20 36 58.0**	**+0.5**
LZH				sS	sS	20 37 30.2	+3.4
LZH				SS	SS	20 39 55.0	-4.2
LZH	**Lanzhou**	**40.40**	**1**	⇑P	**P**	**20 30 55.0**	**+0.7**
LZH				*PP	pP	20 31 12.5	+1.0
LZH						20 32 31.0	
LZH				S	**S**	**20 36 58.0**	**+0.5**
LZH				SS	SS	20 39 55.0	-4.2
LZH				pmax	pmax		
	comp=Z,250nm,1.0s,mb6.0						
SONA	**Sohna**	**40.93**	**324**	*e*P	**P**	**20 30 58.8**	**-0.1**
SONA				AMb	AMB	20 30 59.8	
	comp=Z,289nm,0.9s,mb6.1						
BISR	**Bishrakh**	**40.97**	**325**	*e*P	**P**	**20 30 59.1**	**-0.1**
BISR				AMb	AMB	20 31 00.9	
	comp=Z,5.8nm,0.8s,mb4.5						
AYAN	**Aya Nagar**	**41.08**	**324**	*e*P	**P**	**20 30 59.9**	**-0.2**
AYAN				AMb	AMB	20 31 00.9	
	comp=Z,232nm,0.9s,mb6.0						
AJM	**Ajmer**	**41.15**	**320**	*e*P	**P**	**20 31 00.7**	**+0.1**
AJM				AMb	AMB	20 31 02.6	
	comp=Z,53nm,0.7s,mb5.5						
JOSI	**Joshimath**	**41.36**	**329**	*e*P	**P**	**20 31 01.9**	**-0.5**
KHET	**Khetri**	**41.56**	**323**	*e*P	**P**	**20 31 04.0**	**0.0**
KHET				AMb	AMB	20 31 05.8	
	comp=Z,138nm,1.0s,mb5.7						
BHJ	**Bhuj**	**42.54**	**312**	*e*P	**P**	**20 31 12.6**	**+0.6**
BHJ				AMb	AMB	20 31 14.9	
	comp=Z,125nm,0.8s,mb5.7						
TIA	**Tai'an**	**42.66**	**17**	⇓P	**P**	**20 31 12.3**	**-0.6**
TIA				AMB	AMB		
	comp=Z,51nm,0.8s,mb5.3						
SDNR	**Sundarnagar**	**43.47**	**327**	*e*P	**P**	**20 31 20.5**	**+1.0**
GTA	**Gaotai**	**43.79**	**357**	⇑*i*P	**P**	**20 31 22.0**	**+0.1**
GTA				AP	pP	20 31 41.6	+2.4
GTA				XP	sP	20 31 52.6	+5.4
GTA				PP	PP	20 33 06.3	+1.2
GTA				PCP	PcP	20 33 08.1	+0.6
GTA				PCS	PcS	20 37 00.4	+0.1
GTA				S	**S**	**20 37 45.8**	**-1.7**
GTA				AMB	AMB		
	comp=Z,162nm,0.6s,mb5.9						
GTA				AMB	AMB		
	comp=Z,296nm,7.2s						
GTA				LR	LR		
	comp=N,4μm,15.2s						
GTA				LR	LR		
	comp=E,2μm,16.7s						
GTA				LR	LR		
	comp=Z,1μm,16.4s						
JASL	**Jaisalmer**	**43.92**	**317**	*e*P	**P**	**20 31 23.9**	**+0.7**
THN	**Thein Dam**	**44.87**	**327**	*e*P	**P**	**20 31 29.8**	**-0.8**
ADE	**Adelaide**	**44.93**	**137**	*e*P	**P**	**20 31 32.0**	**+0.9**
CTA	**Charters Tower**	**45.00**	**114**	*e*P	**P**	**20 31 31.6**	**-0.3**
	comp=Z,281nm,0.8s,mb6.0						
CTA	**Charters Tower**	**45.00**	**114**	*e*P	**P**	**20 31 31.6**	**-0.3**
CTA				pmax	pmax		
	comp=Z,281nm,0.8s						
CTA	**Charters Tower**	**45.00**	**114**	P	**P**	**20 31 31.3**	**-0.6**
	comp=Z,323nm,0.8s,mb6.1,baz=289,slow=8.8,SNR=8.5						
CTAO	**Charters Tower**	**45.00**	**114**	*e*P	**P**	**20 31 31.7**	**-0.2**
	comp=Z,307nm,0.8s,mb6.1						
CTAO	**Charters Tower**	**45.00**	**114**	*e*P	**P**	**20 31 31.7**	**-0.2**
CTAO				pmax	pmax		
	comp=Z,307nm,0.8s,mb6.1						
BTO	**Baotou**	**45.38**	**8**	*e*P	**P**	**20 31 34.7**	**+0.2**
STKA	**Stephens Creek**	**45.39**	**132**	⇑*i*P	**P**	**20 31 34.9**	**+0.1**
	comp=Z,282nm,0.6s,mb6.2						
STKA	**Stephens Creek**	**45.39**	**132**	P	**P**	**20 31 34.7**	**-0.1**
	comp=Z,335nm,0.6s,mb6.2,baz=304,slow=8.9,SNR=1232						
GUMO	**Guam**	**45.44**	**66**	*e*P	**P**	**20 31 31.9**	**-3.5**
	comp=Z,142nm,0.6s,mb5.9						
GUMO	**Guam**	**45.44**	**66**	P	**P**	**20 31 32.3**	**-3.1**
GUMO				pmax	pmax		
	comp=Z,163nm,0.3s,mb6.2						
GUMO	**Guam**	**45.44**	**66**	P	**P**	**20 31 32.3**	**-3.1**
	comp=Z,163nm,0.3s,mb6.2,baz=170,slow=11,SNR=15						
HHC	**Hu-ho-hao-te**	**45.84**	**9**	⇑*i*P	**P**	**20 31 39.1**	**+0.9**
HHC				AP	pP	20 31 57.7	+2.0
HHC				XP	sP	20 32 06.1	+2.5
HHC				S	**S**	**20 38 16.6**	**-0.6**
HHC				AMB	AMB		
	comp=Z,116nm,0.8s,mb5.7						
HHC				LR	LR		
	comp=N,2μm,9.8s						
HHC				LR	LR		
	comp=E,1μm,12.7s						
HHC				LR	LR		
	comp=Z,1μm,13.5s						
BJT	**Baijiatuau**	**45.98**	**14**	*e*P	**P**	**20 31 38.8**	**-0.5**
	comp=Z,157nm,0.8s,mb5.8						
BJT	**Baijiatuau**	**45.98**	**14**	*e*P	**P**	**20 31 38.8**	**-0.5**
BJT				pmax	pmax		
	comp=Z,157nm,0.8s						
BJI	**Beijing**	**46.00**	**14**	P	**P**	**20 31 39.6**	**+0.2**
BJI				AP	pP	20 31 57.9	+1.0
BJI				XP	sP	20 32 06.3	+1.4
BJI				PCP	PcP	20 33 15.1	0.0
BJI				AMB	AMB		
	comp=Z,193nm,0.6s,mb6.0						
BJI				LR	LR		
	comp=N,4μm,21.9s						
BJI				LR	LR		
	comp=E,3μm,24.4s						
BJI				LR	LR		
	comp=Z,4μm,24.4s						
BJI	**Beijing**	**46.00**	**14**	P	**P**	**20 31 39.6**	**+0.2**
	comp=Z,193nm,0.6s,mb6.0						
BJI				pP	pP	20 31 57.9	+1.0
BJI				sP	sP	20 32 06.3	+1.4
BJI				PcP	PcP	20 33 15.1	0.0
BJI				S	**S**	**20 38 05.5**	**-14**
BJI				ScS	ScS	20 41 29.2	+0.6
BJI				SS	SS	20 41 48.8	+3.4
DL2	**Dalian**	**46.57**	**20**	P	**P**	**20 31 43.4**	**-0.5**
DL2				AMB	AMB		
	comp=Z,20nm,0.7s,mb5.0						
KSRS	**Korea Array**	**47.84**	**27**	P	**P**	**20 31 53.5**	**-0.4**
	comp=Z,28nm,0.6s,mb5.3,baz=224,slow=7.1,SNR=72						
KSRS				PcP	PcP	20 33 21.1	-0.6
	comp=Z,16nm,0.8s,baz=212,slow=3.1,SNR=13						
CBIJ	**Chichi jima**	**49.33**	**48**	P	**P**	**20 32 02.6**	**-2.8**
	comp=Z,151nm,0.6s,mb6.1,baz=278,slow=17,SNR=12						
SNY	**Shenyang**	**49.85**	**20**	⇑P	**P**	**20 32 07.6**	**-1.5**
SNY				AMB	AMB		
	comp=Z,27nm,1.1s,mb5.1						
WMQ	**Urumqi**	**50.01**	**346**	⇑*i*P	**P**	**20 32 10.6**	**+0.3**
WMQ				AP	pP	20 32 29.0	+1.0
W

SONM PcP PcP 20 33 37.4 -0.1
comp=Z,50nm,0.6s,baz=182,slow=4.1,SNR=9.3
CN2 Changchun 52.23 21 ⇑P P 20 32 25.9 -1.1
CN2 eAP pP 20 32 44.2 -0.6
CN2 PCP PcP 20 33 37.3 -0.3
CN2 AMB AMB
comp=Z,20nm,0.7s,mb5.3
CN2 AMB AMB
comp=Z,200nm,6.0s
ULN Ulaanbaatar 52.29 4⇑iP P 20 32 27.6 +0.3
comp=Z,116nm,0.8s,mb6.0
ULN ePcP PcP 20 33 36.4 -1.3
ULN Ulaanbaatar 52.29 4 P P 20 32 28.2 +0.9
SNR=49
ULN Ulaanbaatar 52.29 4 P P 20 32 28.2 +0.9
SNR=49
HOQ Hoqain 52.42 304 P P 20 32 30.4 +1.7
SNR=9.9
HOQ Hoqain 52.42 304 P P 20 32 30.4 +1.7
SNR=9.9
ULHL Ulahol 52.43 335 P P 20 32 28.6 +0.1
SNR=9.0
MAJO Matsushiro 52.54 36⇑iP P 20 32 27.3 -2.1
comp=Z,46nm,0.8s,mb5.6
MAJO ePcP PcP 20 33 38.0 -1.0
MAJO Matsushiro 52.54 36⇑iP P 20 32 27.3 -2.1
MAJO e 20 33 38.0
MAJO pmax pmax
comp=Z,46nm,0.8s,mb5.6
MAT Matsushiro 52.54 36 P P 20 32 27.5 -1.9
MJAR Matsushiro Arr 52.54 36 P P 20 32 27.7 -1.7
MJAR PcP PcP 20 33 38.7 -0.3
MJAR Matsushiro Arr 52.54 36 P P 20 32 27.7 -1.7
MJAR 20 33 38.7
MJAR pmax pmax
comp=Z,59nm,0.8s
MJAR Matsushiro Arr 52.54 36 P P 20 32 27.7 -1.7
comp=Z,59nm,0.8s,mb5.7,baz=214,slow=6.6,SNR=108
MJAR PcP PcP 20 33 38.7 -0.3
comp=Z,18nm,0.8s,baz=197,slow=4.8,SNR=6.6
ARMA Armidale 52.66 125 eP P 20 32 31.7 +1.2
KZA Kyzart 52.72 334 P P 20 32 31.1 +0.5
SNR=32
RBK Rabkut 52.73 296 P P 20 32 32.9 +1.7
SNR=12
RBK Rabkut 52.73 296 P P 20 32 32.9 +1.7
SNR=12
UCH Uchtor 53.16 334iP P 20 32 33.8 0.0
comp=Z,37nm,0.6s,mb5.6
UCH ePcP PcP 20 33 42.4 +1.2
UCH Uchtor 53.16 334 P P 20 32 34.3 +0.4
SNR=97
TKM2 Tokmak 2 53.26 335⇑iP P 20 32 34.4 -0.2
comp=Z,202nm,0.6s,mb6.3
TKM2 Tokmak 2 53.26 335⇑iP P 20 32 34.4 -0.2
TKM2 pmax pmax
comp=Z,200nm,0.6s,mb6.3
TKM2 Tokmak 2 53.26 335 P P 20 32 34.6 0.0
SNR=293
WHFO Wadi Hawf 53.26 296 P P 20 32 36.1 +1.1
SNR=30
WHFO Wadi Hawf 53.26 296 P P 20 32 36.1 +1.1
SNR=30
KBK Karagaybulak 53.32 335 P P 20 32 35.5 +0.5
SNR=36
AML Almayashu 53.45 333⇑iP P 20 32 35.9 -0.1
comp=Z,106nm,0.6s,mb6.0
AML ePcP PcP 20 33 43.0 +0.7
AML Almayashu 53.45 333 P P 20 32 36.3 +0.3
SNR=25
RIV Riverview 53.49 129 eP P 20 32 37.0 +0.5
AAK Ala-Archa 53.49 334 P P 20 32 35.7 -0.6
comp=Z,272nm,0.6s,mb6.5,SNR=54
AAK Ala-Archa 53.49 334 P P 20 32 36.6 +0.3
SNR=67
ABTO Aybut 53.50 295 P P 20 32 38.2 +1.4
SNR=31
ABTO Aybut 53.50 295 P P 20 32 38.2 +1.4
SNR=31
FRU Bishkek 53.60 334 eP P 20 32 36.5 -0.6
FRU pmax pmax
comp=Z,166nm,1.4s,mb5.9
CHMS Chumysh 53.68 335 P P 20 32 38.0 +0.3
SNR=6.1
EKS2 Erkin-Say 53.83 334⇑iP P 20 32 38.7 -0.1
comp=Z,189nm,0.7s,mb6.2
EKS2 Erkin-Say 53.83 334 P P 20 32 39.0 +0.2
SNR=36
HATD Hatta, Dubai 53.93 305 P P 20 32 41.6 +1.8
SNR=5.5
HATD Hatta, Dubai 53.93 305 P P 20 32 41.6 +1.8
SNR=5.5
USP Ospenovka 54.01 335 P P 20 32 39.7 -0.3
SNR=29
VLA Vladivostok 54.21 26⇑eP P 20 32 41.7 +0.2
VLA Vladivostok 54.21 26⇑eP P 20 32 41.6 +0.1
VLA pmax pmax
comp=Z,31nm,0.5s,mb5.6
MK31 Makanchi Array 54.22 343⇑iP P 20 32 40.6 -0.9
MK31 Makanchi Array 54.22 343 iP P 20 32 40.9 -0.6
MK31 pmax pmax
comp=Z,387nm,0.8s,mb6.5
MKAR Makanchi Array 54.22 343⇑eP P 20 32 40.9 -0.6
MKAR Makanchi Array 54.22 343 P P 20 32 40.9 -0.6
comp=Z,315nm,0.7s,mb6.4,baz=149,slow=6.9,SNR=533
MKAR PKPPKP 21 02 55.4
comp=Z,0.3nm,0.6s,baz=247,slow=6.3,SNR=4.0
MDJ Mudanjiang 54.48 23 P P 20 32 43.0 -0.4
MDJ AP pP 20 33 01.3 -0.1
MDJ XP sP 20 33 09.2 0.0
MDJ PCP PcP 20 33 39.8 -6.3
MDJ PP PP 20 34 48.8 +2.4
MDJ SCP ScP 20 37 33.6 -4.9
MDJ PCS PcS 20 37 41.8 -3.8
MDJ AMB AMB
comp=Z,42nm,0.8s,mb5.5
MDJ AMB AMB
comp=Z,322nm,15.5s
MDJ LR LR
comp=N,3μm,21.7s
MDJ LR LR
comp=E,3μm,25.9s
MDJ LR LR
comp=Z,2μm,15.5s
MDJ Mudanjiang 54.48 23⇑iP P 20 32 42.2 -1.2
comp=Z,36nm,0.8s,mb5.5
ZAK Zakamensk 54.67 0⇓iP P 20 32 44.6 -0.1
ZAK e 20 33 46.8
ZAK pmax pmax
comp=Z,44nm,0.8s,mb5.5
TAU Tasmania Unive 54.87 141 eP P 20 32 46.9 +0.5
comp=Z,48nm,0.8s,mb5.6
TAU Tasmania Unive 54.87 141 eP P 20 32 46.9 +0.5
TAU pmax pmax
comp=Z,48nm,0.8s,mb5.6
HIA Hailar 55.54 13⇑iP P 20 32 49.9 -1.1
comp=Z,11nm,0.8s,mb4.9
KK31 Karatay Array 55.67 332 iP P 20 32 50.8 -1.3
TLY Talaya 55.98 1 P P 20 32 54.9 +0.8
comp=Z,1μm,0.7s,SNR=38
TLY Talaya 55.98 1⇑iP P 20 32 54.5 +0.4
comp=Z,128nm,0.7s,mb6.1
TLY Talaya 55.98 1c iP P 20 32 54.7 +0.6
TLY pmax pmax
comp=Z,128nm,0.7s,mb6.1
TLY Talaya 55.98 1 P P 20 32 55.1 +1.0
SNR=44
TLY Talaya 55.98 1 P P 20 32 55.1 +1.0
SNR=44
MOY Mondy 55.98 359⇑iP P 20 32 54.4 +0.3
MOY pmax pmax
comp=Z,65nm,1.5s,mb5.4
OPO Ambohidratompo 56.05 251 P P 20 32 56.4 +1.1
comp=Z,7.0nm,1.0s,mb4.6,baz=60,slow=15,SNR=3.9
IRK Irkutsk 56.55 1 eP P 20 32 57.7 -0.4
IRK pmax pmax
comp=Z,103nm,0.8s,mb5.9
HNR Honiara 56.86 98 P P 20 33 01.3 +0.2
comp=Z,523nm,1.0s,mb6.5
HNR Honiara 56.86 98 P P 20 33 01.3 +0.2
HNR pmax pmax
comp=Z,523nm,1.0s,mb6.5
CIT Chita 57.05 8⇑iP P 20 33 02.0 +0.3
CIT e 20 33 55.8
CIT pmax pmax
comp=Z,138nm,1.2s,mb5.9

KURK Kurchatov 58.82 342 P P 20 33 13.3 -0.8
comp=Z,2μm,0.7s
KURK Kurchatov 58.82 342⇑iP P 20 33 13.2 -0.9
comp=Z,296nm,0.9s,mb6.3
KURK ePcP PcP 20 34 02.5 -0.4
KURK Kurchatov 58.82 342⇑iP P 20 33 13.5 -0.6
KURK pmax pmax
comp=Z,142nm,0.9s,mb6.0
KURK Kurchatov 58.82 342 P P 20 33 13.3 -0.8
SNR=91
ERM Erimo 59.05 34 P P 20 33 15.5 -0.4
comp=Z,482nm,0.5s,mb6.8,SNR=35
ERM Erimo 59.05 34 eP P 20 33 14.5 -1.4
comp=Z,73nm,0.9s,mb5.7
ERM Erimo 59.05 34 iP P 20 33 15.2 -0.7
KLR Kul'dur 59.13 22⇓iP P 20 33 11.2 -5.1
KLR pmax pmax
comp=E,60nm,0.9s
KLR pmax pmax
comp=Z,120nm,0.9s,mb5.9
ABKT Ailbek 59.17 320 P P 20 33 16.5 -0.3
comp=Z,630nm,0.6s,mb6.8,SNR=32
HABR Khabarovsk 59.81 24 eP P 20 33 19.4 -1.6
HABR eS S 20 41 28.5 +1.5
HABR pmax pmax
comp=Z,42nm,0.8s,mb5.5
ZAL Zalesovo 60.16 348 P P 20 33 22.6 -0.7
ZAA0 Zalesovo Array 60.17 348⇑iP P 20 33 22.5 -0.8
ZALV Zalesovo Beam 60.17 348 P P 20 33 22.6 -0.8
comp=Z,461nm,0.7s,mb6.6,baz=163,slow=4.9,SNR=1054
ZALV PKPPKP 21 02 46.1
comp=Z,1.8nm,1.0s,baz=331,slow=4.0,SNR=4.4
NVS Novosibirsk 61.34 347⇑iP P 20 33 30.0 -1.3
NVS i*PP pP 20 33 45.9 -3.6
NVS e 20 34 09.7
NVS iS S 20 41 42.3 -4.1
NVS iPS 20 42 06.8
NVS pmax pmax
comp=E,92nm,1.1s
NVS pmax pmax
comp=Z,158nm,1.1s,mb6.0
NVS pmax pmax
comp=N,107nm,1.2s
NVS smax
comp=N,43nm,1.8s
NVS smax
comp=E,51nm,2.0s
CASY Casey 61.89 176 P P 20 33 29.0 -5.8
comp=E,20nm,1.0s,mb5.1
YSS Yuzh-Sakhalins 62.17 30⇑iP P 20 33 36.1 -0.9
comp=E,139nm,0.8s,mb6.0
YSS Yuzh-Sakhalins 62.17 30c iP P 20 33 36.3 -0.8
YSS pmax pmax
comp=Z,146nm,0.9s,mb6.0
QRN Al-Qurain 62.23 306 eP P 20 33 38.0 +0.2
QRN AMb AMB 20 33 39.2
comp=Z,328nm,0.7s,mb6.5
KBD Kabd 62.58 306 eP P 20 33 40.3 +0.2
KBD AMb AMB 20 33 41.3
comp=Z,541nm,0.5s,mb6.7
RDF Al-Radifah 62.60 306 eP P 20 33 40.5 +0.3
RDF AMb AMB 20 33 42.3
comp=Z,443nm,0.9s,mb6.4
UMR Umm Al-Rimmam 62.70 306 eP P 20 33 41.3 +0.4
UMR AMb AMB 20 33 42.5
comp=Z,563nm,0.7s,mb6.6
BOD Bodaibo 62.78 7⇓iP P 20 33 39.9 -1.0
BOD pmax pmax
comp=Z,123nm,0.8s,mb5.9
NAY Al-Naaiem 62.97 306 eP P 20 33 42.8 +0.1
NAY AMb AMB 20 33 44.4
comp=Z,214nm,0.7s,mb6.2
MIB Mutribah 63.10 307 eP P 20 33 43.9 +0.3
MIB AMb AMB 20 33 46.2
comp=Z,293nm,1.0s,mb6.2
RST Umm Al-Ruwaisa 63.26 306 eP P 20 33 44.6 -0.1
RST AMb AMB 20 33 45.8
comp=Z,419nm,0.7s,mb6.5
BRVK Borovoye 63.58 339 P P 20 33 45.6 -0.6
comp=Z,968nm,0.8s,mb6.7,SNR=65
BRVK Borovoye 63.58 339⇑iP P 20 33 45.1 -1.1
comp=Z,89nm,0.6s,mb5.8
BRVK Borovoye 63.58 339⇑iP P 20 33 45.1 -1.1
BRVK pmax pmax
comp=Z,89nm,0.6s,mb5.8
BRVK Borovoye 63.58 339 P P 20 33 45.4 -0.8
SNR=21
CLNS Chul'man 63.73 13 eP P 20 33 46.8 -0.4
CLNS pmax pmax
comp=Z,48nm,0.8s,mb5.4
CLNS pmax pmax
comp=N,45nm,0.9s
CLNS pmax pmax
comp=E,37nm,0.9s
CHKZ Chkalovo 63.96 339 iP P 20 33 48.0 -0.7
CHKZ pmax pmax
comp=Z,128nm,0.6s,mb5.9
AB31 Akbulak array 65.19 331 iP P 20 33 55.9 -0.9
KMBO Kilima Mbogo 65.56 271⇑iP P 20 34 01.2 +1.2
comp=Z,17nm,1.1s,mb4.8
KMBO Kilima Mbogo 65.56 271⇑iP P 20 34 01.2 +1.2
KMBO pmax pmax
comp=Z,17nm,1.1s
KMBO Kilima Mbogo 65.56 271 P P 20 34 02.0 +2.0
SNR=5.5
KMBO Kilima Mbogo 65.56 271 P P 20 34 02.0 +2.0
SNR=5.5
KMBO Kilima Mbogo 65.56 271 P P 20 34 01.6 +1.6
comp=Z,14nm,0.9s,mb4.8,baz=62,slow=9.2,SNR=41
AKTK Aktyubinsk 66.90 331 P P 20 34 06.8 -1.0
AKTO Aktyubinsk 66.90 331 P P 20 34 06.8 -1.0
AKTO pmax pmax
comp=Z,20nm,0.4s,mb5.3
AKTO Aktyubinsk 66.90 331 P P 20 34 06.8 -1.1
comp=Z,20nm,0.4s,mb5.3,baz=132,slow=6.3,SNR=78
MAW Mawson 68.59 195 eP P 20 34 18.9 +0.7
comp=Z,12nm,0.9s,mb4.7
MAW Mawson 68.59 195 eP P 20 34 18.9 +0.7
MAW pmax pmax
comp=Z,12nm,0.9s
MAW Mawson 68.59 195 P P 20 34 18.3 +0.1
comp=Z,4.9nm,0.8s,mb4.4,baz=16,slow=11,SNR=5.9
MAW PKPPKP 21 02 28.8
comp=Z,4.3nm,0.7s,baz=218,slow=4.4,SNR=7.9
HAKT HAKKARI 68.94 313 iP P 20 34 20.9 -0.1
DGRG David-gareji 69.41 317 P P 20 34 24.9 +1.2
DGRG David-gareji 69.41 317 P P 20 34 31.2 +7.5
YAK Yakutsk 69.49 13⇑iP P 20 34 21.9 -1.8
comp=Z,198nm,1.0s,mb5.9
YAK Yakutsk 69.49 13 eP P 20 34 21.3 -2.4
YAK pmax pmax
comp=Z,141nm,1.0s,mb5.8
YAK pmax pmax
comp=N,48nm,1.0s
YAK pmax pmax
comp=E,36nm,1.2s
TVAN Van 69.55 314 eP P 20 34 27.1 +2.4
DYDN Diyadin 69.76 315 iP P 20 34 26.7 +0.8
MTA Mtatsminda 69.91 317 P P 20 34 26.9 +0.1
TBLG Delisi 69.96 317 P P 20 34 27.5 +0.4
DIGO Kars 70.34 316 iP P 20 34 29.7 +0.2
ARU Arti 70.63 336 P P 20 34 30.2 -0.7
comp=E,676nm,0.5s,mb6.7,SNR=27
ARU Arti 70.63 336⇑iP P 20 34 29.5 -1.4
comp=E,76nm,0.8s,mb5.6
ARU Arti 70.63 336c iP P 20 34 30.0 -0.9
ARU e pP 20 34 50.5 +1.0
ARU e 20 37 04.2
ARU ePPP 20 38 50.5
ARU eS S 20 43 42.4 +3.1
ARU eSS SS 20 48 09.8 -2.5
ARU pmax pmax
comp=Z,72nm,0.8s,mb5.5
MARD Mardin 71.01 312 iP P 20 34 33.9 +0.4
ONI Oni 71.19 318 P P 20 34 34.8 +0.2
RPZ Rata Peaks 71.22 135 P P 20 34 34.5 -0.3
comp=Z,28nm,0.6s,mb5.2,baz=248,slow=4.0,SNR=19
ERZM Erzurum 71.55 315 iP P 20 34 37.2 +0.4
ARTV Artvin 71.65 316 iP P 20 34 37.9 +0.5
KIV Kislovodsk 72.27 319 P P 20 34 41.3 +0.3
comp=Z,424nm,0.7s,mb6.4,SNR=20
KIV Kislovodsk 72.27 319⇑iP P 20 34 40.8 -0.2
comp=Z,54nm,0.8s,mb5.4
KIV Kislovodsk 72.27 319 eP P 20 34 41.0 0.0
KIV e pP 20 34 56.9 -2.8

KIV e 20 37 21.8
KIV eS S 20 43 56.0 -2.7
KIV pmax pmax
comp=Z,59nm,0.9s,mb5.4
KIV pmax pmax
comp=Z,39nm,5.8s
KIV Kislovodsk 72.27 319 P P 20 34 41.4 +0.4
SNR=12
KIV Kislovodsk 72.27 319⇑iP P 20 34 41.0 0.0
ASF Jabal al Asfar 72.33 306 P P 20 34 43.2 +1.5
ASF pmax pmax
comp=Z,76nm,0.8s
ASF Jabal al Asfar 72.33 306 P P 20 34 43.2 +1.6
comp=Z,76nm,0.8s,mb5.6,baz=335,slow=4.5,SNR=121
ELZG Elazig 72.75 312 iP P 20 34 44.8 +0.8
MACK Trabzon 73.07 315 iP P 20 34 47.0 +1.2
MALT Malatya 73.10 312⇑iP P 20 34 46.4 +0.3
comp=Z,51nm,1.2s,mb5.2
MALT Malatya 73.10 312⇑iP P 20 34 46.6 +0.5
EIL Elat 73.24 303 P P 20 34 48.1 +1.0
comp=Z,124nm,0.7s,mb5.9,baz=104,slow=1.5,SNR=142
GZT Gaziantep 73.42 311 iP P 20 34 48.7 +0.6
SOKR Solikamsk 73.44 338c iP P 20 34 47.3 -0.3
SOKR pmax pmax
comp=Z,80nm,0.8s,mb5.6
MMAI Mount Meron Ar 73.78 306 P P 20 34 51.8 +1.6
comp=Z,56nm,0.6s,mb5.5,baz=91,slow=9.2,SNR=118
PET Petropavlovsk 73.98 31⇑iP P 20 34 49.2 -1.7
comp=Z,48nm,0.5s,mb5.5
PET Petropavlovsk 73.98 31 iP P 20 34 49.6 -1.3
PET pmax pmax
comp=Z,89nm,0.5s,mb5.8
PET MLR MLR
comp=Z,5μm,18.0s
SOC Sochi 74.10 318 iP P 20 34 51.6 -0.2
SOC Sochi 74.10 318c iP P 20 34 51.0 -0.8
SOC ePPP 20 39 21.8
SOC eS S 20 44 19.1 -0.3
SOC pmax pmax
comp=Z,110nm,0.8s,mb5.6
GRSN GIRESUNGRSN 74.12 315 iP P 20 34 50.5 -1.5
COBT Iskenderun 74.15 310 iP P 20 34 52.9 +0.6
MA2 Magadan 74.18 23 eP P 20 34 51.1 -0.8
comp=Z,35nm,0.9s,mb5.1
MA2 Magadan 74.18 23 eP P 20 34 51.6 -0.3
MA2 e 20 44 20.8
MA2 e 20 44 51.1
MA2 eSS SS 20 49 12.0 +5.5
MA2 pmax pmax
comp=Z,40nm,0.5s,mb5.4
ANDN Andirin 74.42 311 iP P 20 34 54.3 +0.5
URZ Urewera 74.89 128 P P 20 34 55.0 -1.5
comp=Z,15nm,0.6s,mb4.9,baz=110,slow=23,SNR=5.5
AVNT Avonos 75.90 312 iP P 20 35 02.1 -0.2
CSS Prodhromos 75.98 308⇑iP P 20 35 03.1 +0.3
comp=Z,68nm,0.7s,mb5.5
CSS Prodhromos 75.98 308 eP P 20 35 03.3 +0.4
VRHR Novokhopersk 75.98 325 eP P 20 35 01.4 -1.1
VRHR eS S 20 44 36.1 -3.9
VRHR pmax pmax
comp=Z,110nm,0.8s,mb5.6
VRHR pmax pmax
comp=N,30nm,0.6s
VRHR pmax pmax
comp=E,40nm,0.6s
VRHR smax
comp=N,310nm,2.0s
VRHR smax
comp=Z,40nm,2.2s
VRHR smax
comp=E,250nm,2.8s
ANN Anapa 76.07 318 eP P 20 34 57.3 -5.8
ANN e*PP pP 20 35 07.9 -14
ANN e 20 35 10.0
ANN eS S 20 44 34.8 -6.5
ANN pmax pmax
comp=Z,34nm,1.3s,mb4.9
MAMC Mammari 76.12 308 P P 20 35 04.6 +0.9
SZAC Souni-Zanaja 76.28 307 ⇑P P 20 35 05.2 +0.7
SYO Syowa Base 76.43 199⇓eP P 20 35 03.9 -0.8
SYO Syowa Base 76.43 199⇑ePcP PcP 20 35 16.0 -0.2
CDAG Cicekdag 76.52 312 iP P 20 35 04.4 -1.4
CTKT Corum 76.52 313 iP P 20 35 05.8 0.0
LBTB Lobatse 76.54 245⇑eP P 20 35 06.8 +0.5
comp=Z,13nm,0.8s,mb4.7
LBTB Lobatse 76.54 245⇑eP P 20 35 06.8 +0.6
LBTB pmax pmax
comp=Z,13nm,0.8s,mb4.7
ALFC Alevga 76.61 308 P P 20 35 05.5 -0.9
comp=Z,1.4nm,0.6s
BOYT Boyabat 76.68 314 iP P 20 35 06.1 -0.6
PPCY Paphos 76.74 307 P P 20 35 06.7 -0.5
AKMC Akamas 76.79 307 ⇑P P 20 35 07.4 0.0
SEY Seymchan 76.92 21⇑eP P 20 35 07.1 -0.4
BOSA Boshof 76.94 242⇑iP P 20 35 08.8 +0.4
comp=Z,23nm,0.9s,mb4.9
BOSA e pP 20 35 25.2 -2.2
BOSA Boshof 76.94 242 P P 20 35 09.1 +0.6
comp=Z,21nm,0.8s,mb4.9,baz=97,slow=5.3,SNR=34
BOSA PKKPbc PKKPbc 20 54 16.3 -0.8
comp=Z,2.3nm,0.8s,baz=40,slow=20,SNR=3.0
VORD Divnogorie 77.26 325 eP P 20 35 08.7 -1.0
VORD pmax pmax
comp=N,60nm,0.7s
VORD pmax pmax
comp=Z,50nm,0.7s,mb5.3
VORD pmax pmax
comp=E,50nm,0.9s
VRSR Storozhevoye 77.42 325c iP P 20 35 09.5 -1.1
VRSR eS S 20 44 50.6 -5.2
VRSR e 20 45 20.3
VRSR pmax pmax
comp=Z,10.0nm,0.8s,mb4.6
VRSR pmax pmax
comp=N,5.0nm,0.7s
VRSR pmax pmax
comp=E,10.0nm,0.7s
VRSR smax
comp=N,10.0nm,1.0s
VRSR smax
comp=Z,1.0nm,0.9s
VRSR smax
comp=E,5.0nm,0.8s
ELDT Eldivan 77.47 313 iP P 20 35 10.5 -0.6
ANTO Ankara 77.75 312⇑iP P 20 35 12.1 -0.6
comp=E,47nm,0.8s,mb5.3
ANTO Ankara 77.75 312⇑iP P 20 35 12.1 -0.6
ANTO pmax pmax
comp=Z,47nm,0.8s,mb5.3
ANTO Ankara 77.75 312 P P 20 35 12.8 +0.1
SNR=14
ANTO Ankara 77.75 312⇑iP P 20 35 12.0 -0.7
BALT Daday 77.80 314 iP P 20 35 13.1 +0.2
KDHN Kadinhani 77.88 311 iP P 20 35 12.6 -0.9
TIXI Tiksi 77.90 8⇑iP P 20 35 10.5 -2.4
comp=Z,22nm,0.4s,mb5.2
TIXI e pP 20 35 26.3 -5.4
TIXI Tiksi 77.90 8 iP P 20 35 10.6 -2.3
TIXI pmax pmax
comp=Z,23nm,0.8s,mb5.0
SIM Simferopol' 78.34 318c iP P 20 35 16.0 +0.1
SIM S S 20 45 11.0 +5.1
SIM pmax pmax
comp=Z,109nm,0.6s,mb5.8
ISP Isparta 78.93 310 eP P 20 35 15.4 -3.8
ESKT Eskisehir 79.10 311 iP P 20 35 19.5 -0.6
VNDA Vanda 79.17 169 P P 20 35 20.2 +0.3
VNDA pmax pmax
comp=Z,9.0nm,1.0s
VNDA pmax pmax
comp=Z,1.0nm,0.8s
VNDA Vanda 79.17 169 P P 20 35 20.2 +0.3
comp=Z,8.7nm,1.0s,mb4.5,baz=306,slow=5.5,SNR=26
VNDA PKKPbc PKKPbc 20 54 09.4 -4.8
comp=Z,1.1nm,0.8s,baz=180,slow=1.2,SNR=5.8
AKAS Kas 79.24 308 iP P 20 35 19.6 -1.4
HENT Hendek 79.40 313 iP P 20 35 21.2 -0.6
BORA Eskisehir 79.49 312 iP P 20 35 21.1 -1.1
GOLH Golhisar 79.51 309 iP P 20 35 22.2 -0.3
MOS Moscow 80.09 329⇓iP P 20 35 23.7 -1.4
MOS e 20 35 32.5
MOS e pP 20 35 42.1 -2.0
MOS e 20 38 26.6
MOS ePPP 20 40 18.4
MOS eS S 20 45 24.2 +0.2

MOS *e*SS SS 20 50 39.5 +3.7
MOS pmax pmax
comp=Z,200nm,0.7s,mb6.1
MOS pmax pmax
comp=Z,129nm,0.7s,mb5.9
MOS MLR MLR
comp=Z,600nm,15.0s
SBA Scott Base 80.26 169 *e*P **P 20 35 26.8 +1.0**
comp=Z,249nm,1.8s,mb5.7
SBA Scott Base 80.26 169 P **P 20 35 27.1 +1.3**
SBA pmax pmax
comp=Z,250nm,1.8s,mb5.7
ARG Arkhangelos 80.40 308 *e*P **P 20 35 27.0 -0.3**
OBN Obninsk 80.40 328 P **P 20 35 26.5 -0.3**
comp=Z,895nm,0.9s,mb6.6,SNR=17
OBN Obninsk 80.40 328⇑ *e*P **P 20 35 26.2 -0.6**
comp=Z,102nm,0.8s,mb5.7
OBN Obninsk 80.40 328⇑ *i*P **P 20 35 26.7 -0.1**
OBN *e* 20 38 28.8
OBN *e*S S 20 45 26.4 -0.9
OBN pmax pmax
comp=Z,127nm,1.0s,mb5.7
SUR Sutherland 80.86 238 P **P 20 35 31.8 +1.9**
comp=Z,192nm,0.9s,mb5.9,SNR=9.4
SUR Sutherland 80.86 238⇑ *e*P **P 20 35 30.6 +0.7**
comp=Z,31nm,0.9s,mb5.1
KARP Karpathos 81.02 307 *e*P **P 20 35 31.0 +0.4**
BDRM Kayabasi 81.12 308 *i*P **P 20 35 30.5 -0.5**
AKHS Akhisar 81.23 310 *i*P **P 20 35 31.8 +0.2**
BTOK Tokmak 81.27 311 *i*P **P 20 35 31.8 -0.1**
KDAG Bornova 81.52 311 *i*P **P 20 35 33.9 +0.6**
ZKR Zakros 81.69 306 *e*P **P 20 35 34.8 +0.6**
SMG Samos 81.73 309 *e*P **P 20 35 34.5 +0.2**
URLA Izmir 82.05 310 *i*P **P 20 35 36.5 +0.5**
TIRR Tirgusor 82.11 316 P **P 20 35 36.3 +0.2**
TIRR Tirgusor 82.11 316‖ *i*P **P 20 35 36.0 -0.1**
SART Tekirdag 82.11 312 *i*P **P 20 35 35.9 -0.4**
AYVA Ayvalik 82.18 311 *i*P **P 20 35 35.5 -1.1**
NPS Neapolis 82.20 306 *e*P **P 20 35 37.5 +0.7**
LAST Lasithi 82.29 306 *e*P **P 20 35 37.9 +0.6**
KIS Kishinev 82.47 318 *e*PKP **P 20 35 35.0 -2.9**
CHOS Chios island 82.47 309 *e*P **P 20 35 38.7 +0.5**
CFR Carcaliu 82.47 317 P **P 20 35 39.0 +1.0**
PRK Paraskevi 82.48 310 *e*P **P 20 35 38.0 -0.2**
HARR Harsova 82.50 316 P **P 20 35 38.6 +0.5**
HARR Harsova 82.50 316⇑ *i*P **P 20 35 38.7 +0.5**
APE Apeiranthos 82.62 308 P **P 20 35 38.7 -0.3**
APE Apeiranthos 82.62 308 *e*P **P 20 35 38.4 -0.6**
APE Apeiranthos 82.62 308 *e*P **P 20 35 38.0 -1.0**
APE Apeiranthos 82.62 308⇑ *i*P **P 20 35 38.3 -0.7**
BOZC Bozcaada 82.77 311 *i*P **P 20 35 39.5 -0.2**
IDI Anoyia 82.79 306 P **P 20 35 40.0 +0.1**
comp=Z,95nm,0.7s,mb5.8,baz=31,slow=9.9,SNR=145
SIVA Sivas 82.80 306 *e*P **P 20 35 40.6 +0.6**
JMB Yambol 82.94 314 *e*P **P 20 35 40.7 +0.2**
ALN Alexandroupoli 83.00 312 *e*P **P 20 35 40.6 -0.2**
AKASG Malin Array Be 83.18 322 *i*P **P 20 35 40.7 -0.9**
AKASG pmax pmax
comp=Z,37nm,0.7s
AKASG Malin Array Be 83.18 322 P **P 20 35 40.8 -0.8**
comp=Z,37nm,0.7s,mb5.3,baz=87,slow=4.8,SNR=175
AKASG PP PP 20 38 50.7 -3.1
comp=Z,2.9nm,0.7s,baz=86,slow=6.6,SNR=5.0
AKASG PKiKP PKiKP 20 40 58.3 -1.3
comp=Z,0.7nm,0.5s,baz=82,slow=2.1,SNR=4.1
KIEV Kiev 83.19 322⇑ *i*P **P 20 35 40.4 -1.2**
comp=Z,42nm,0.8s,mb5.3
KIEV Kiev 83.19 322⇑ *i*P **P 20 35 40.4 -1.2**
KIEV pmax pmax
comp=Z,42nm,0.8s,mb5.3
TMCR Tamitsa 83.35 336⇑ *i*P **P 20 35 41.9 -0.2**
TMCR *e**PP pP 20 35 51.1 -10
TMCR *e* 20 38 53.2
TMCR pmax pmax
comp=Z,88nm,0.7s,mb5.7
IAS Iasi 83.35 318 P **P 20 35 42.9 +0.4**
GVD Gavdhos 83.35 306⇑ *i*P **P 20 35 43.0 +0.1**
comp=Z,92nm,0.6s,mb5.8
GVD Gavdhos 83.35 306 *e*P **P 20 35 43.0 +0.1**
VAM Vamos 83.36 306 *e*P **P 20 35 43.5 +0.6**
RDO Rodhopi 83.42 312 *e*P **P 20 35 42.0 -1.0**
LIA Limnos Island 83.44 311 *e*P **P 20 35 38.0 -5.1**
SZH Strazhica 83.58 314 *i*P **P 20 35 43.7 -0.1**
KARN Karanos 83.59 306 *e*P **P 20 35 44.7 +0.6**
VRI Vrincioaia 83.60 317 P **P 20 35 44.6 +0.8**
VRI Vrincioaia 83.60 317⇑ *i*P **P 20 35 44.7 +0.9**
DIM Dimitrovgrad 83.61 313 *i*P **P 20 35 43.7 -0.3**
PVL Pavlikeni 84.00 314 *i*P **P 20 35 47.1 +1.2**
TSUM Tsumeb 84.05 251⇑ *i*P **P 20 35 47.5 +0.8**
comp=Z,12nm,0.9s,mb4.7
MLR Muntele Rosu 84.05 316 P **P 20 35 46.8 +0.7**
MLR Muntele Rosu 84.05 316 P **P 20 35 46.7 +0.5**
comp=Z,78nm,0.9s,mb5.5,baz=142,slow=0.7,SNR=148
MLR PP PP 20 39 00.3 -0.7
comp=Z,8.7nm,0.8s,baz=77,slow=4.3,SNR=3.2
MLR Muntele Rosu 84.05 316 *i*P **P 20 35 46.7 +0.6**
ZIMR 84.07 315 P **P 20 35 46.9 +0.6**
PLD Plovdiv 84.23 313 *e*P **P 20 35 48.5 -0.2**
OUR Ouranopolis 84.43 311 *e*P **P 20 35 48.0 -0.2**
DID Didima 84.49 308 *e*P **P 20 35 48.1 -0.5**
BILL Bilibino 84.53 20 *e*P **P 20 35 46.6 -1.5**
comp=Z,31nm,1.4s,mb5.0
BILL Bilibino 84.53 20⇑ *e*P **P 20 35 46.7 -1.4**
BILL pmax pmax
comp=Z,19nm,1.3s,mb4.9
VLI Velíai 84.60 307 *e*P **P 20 35 46.5 -2.6**
VOIR 84.65 316 P **P 20 35 48.9 -0.3**
VOIR 84.65 316⇑ *i*P **P 20 35 48.8 -0.4**
NVR Nevrokopi 84.70 312 *e*P **P 20 35 48.5 -1.0**
PGB Panagyurishte 84.71 313 *i*P **P 20 35 49.8 +0.3**
PLG Polygyros 84.84 311 *e*P **P 20 35 50.6 +0.3**
PLG Polygyros 84.84 311 *e*P **P 20 35 49.5 -0.7**
MMB Musomiste 84.85 312 *i*P **P 20 35 49.8 -0.5**
LKR Lokris 84.88 309 *e*P **P 20 35 49.0 -1.5**
HORT Hortiatis 85.14 311 *e*P **P 20 35 51.1 -0.7**
VLX Vlachokerasia 85.14 308 *e*P **P 20 35 52.3 +0.4**
PUL Pulkovo 85.17 331‖ *e*P **P 20 35 51.0 -0.4**
KNT Kendrikon 85.39 312 *e*P **P 20 35 52.2 -0.7**
VTS Vitosha 85.41 313 P **P 20 35 53.2 +0.2**
VTS Vitosha 85.41 313 *e*P **P 20 35 53.1 +0.1**
VTS Vitosha 85.41 313⇑ *i*P **P 20 35 53.2 +0.2**
VTS Vitosha 85.41 313 *i*P **P 20 35 52.3 -0.7**
AGG Agios Georgios 85.45 310 *e*P **P 20 35 51.8 -1.6**
QSPA South Pole Qui 85.47 180 P **P 20 35 53.1 +0.5**
comp=Z,8.2nm,0.8s,mb4.7,baz=284,slow=3.2,SNR=27
QSPA PKKPbc PKKPbc 20 53 56.0 -3.8
comp=Z,1.8nm,0.6s,baz=241,slow=1.8,SNR=12
ITM Ithomi 85.47 308 *e*P **P 20 35 53.0 -0.5**
LIT Litokhoron 85.51 311 *e*P **P 20 35 52.9 -0.7**
PYL PYLOS 85.57 307 *e*P **P 20 35 54.4 +0.4**
VAY Valandovo 85.66 312 *e*P **P 20 35 52.2 -2.1**
VAY Valandovo 85.66 312⇑ *i*P **P 20 35 53.2 -1.1**
comp=Z,39nm,1.0s,mb5.3
SELA Sela 85.67 309 *e*P **P 20 35 56.2 +1.8**
JOF Joensuu 85.69 334 *e*p **P 20 35 53.1 -0.8**
comp=Z,19nm,0.5s,mb5.3
JOF Joensuu 85.69 334 *e*P **P 20 35 53.1 -0.8**
JOF pmax pmax
comp=Z,19nm,0.5s,mb5.3
THL Klokotos Trika 85.78 310 *e*P **P 20 35 53.5 -1.5**
EVR Evrytania 85.84 309 *e*P **P 20 35 55.0 -0.3**
RLS Riolos of Patr 85.97 309 *e*P **P 20 35 56.0 +0.1**
STIP Stip 86.00 312 *e*P **P 20 35 54.3 -1.7**
MAIT Maitri 86.13 199 *e*P **P 20 35 57.2 +1.1**
MAIT *e*PP pP 20 36 08.6 -6.6
LVV L'vov 86.22 320 *e*PKIKP **P 20 35 56.6 -0.3**
LVV L'vov 86.22 320 *e*P **P 20 35 56.6 -0.3**
APA Apatity 86.42 339⇑ *i*P **P 20 35 57.0 -0.5**
APA pmax pmax
comp=Z,47nm,1.2s,mb5.3
FNA Florina 86.46 311 *e*P **P 20 35 57.3 -1.0**
BIA Bitola 86.53 311 *e*P **P 20 35 57.3 -1.3**
VSU Vasula 86.59 329⇑ *e*P **P 20 35 58.3 -0.2**
SKO Skopje 86.60 312 *e*P **P 20 35 58.5 -0.4**
KRUS Krusevo 86.65 312⇑ *i*P **P 20 35 58.8 -0.4**
JAN Janina 86.69 310 *e*P **P 20 35 59.5 +0.1**
LKD Levkas 86.70 309 *e*P **P 20 35 59.7 +0.2**
TRPA Tarpa 86.86 319⇑ *i*P **P 20 36 00.4 +0.3**
OHR Ohrid 86.94 311 *e*P **P 20 35 59.2 -1.4**
KWP Kalwaria 87.02 320 *e*P **P 20 36 01.3 +0.5**
KWP Kalwaria 87.02 320 *e*P **P 20 36 01.3 +0.5**
KWP Kalwaria 87.02 320⇑ *i*P **P 20 36 01.4 +0.6**

IGT Igoumenitsa 87.06 310 *e*P **P 20 36 01.3 0.0**
UZH Uzhgorod 87.11 319⇑ *i*P **P 20 35 59.8 -1.5**
UZH *e* pP 20 36 16.2 -4.3
KOLS Kolonicke sedl 87.18 319 *i*P **P 20 36 02.5 +0.9**
KOLS Kolonicke sedl 87.18 319 *i*P **P 20 36 02.5 +0.9**
KEK Kerkira 87.50 310 *e*P **P 20 36 02.5 -0.8**
SUW Suwalki 87.55 324 *e*pP **P 20 36 03.1 -0.1**
FINES FINESS Array B 87.63 332 P **P 20 36 03.3 -0.2**
comp=Z,26nm,0.6s,mb5.5,baz=111,slow=5.3,SNR=158
FINES PKiKP PKiKP 20 41 06.9 +0.5
comp=Z,2.1nm,0.6s,baz=83,slow=4.6,SNR=3.3
KAF Kangasniemi 87.69 333 *ep* **P 20 36 02.8 -0.9**
comp=Z,60nm,0.6s,mb5.8,baz=97,slow=4.4
KAF Kangasniemi 87.69 333 *e*P **P 20 36 02.8 -0.9**
KAF pmax pmax
comp=Z,60nm,0.6s,mb5.8
CRVS Cervenica-Dubn 87.70 319 *i*P **P 20 36 04.1 0.0**
PVY Plav 87.77 313⇑ *i*P **P 20 36 04.4 -0.2**
IVA Berane 87.86 313⇑ *i*P **P 20 36 05.0 0.0**
STHS Stebnicka Huta 87.93 320 *i*P **P 20 36 05.9 +0.8**
comp=Z,57nm,0.7s,mb5.7
STHS Stebnicka Huta 87.93 320 *i*P **P 20 36 05.9 +0.8**
STHS pmax pmax
comp=Z,57nm,0.7s,mb5.7
DIVS Divibare 87.97 314 *e*P **P 20 36 06.3 +0.8**
ULC Ulcinj 88.21 312⇑ *i*P **P 20 36 06.7 0.0**
TTG Podgorica 88.27 313⇑ *i*P **P 20 36 06.8 -0.1**
KECS Kecovo 88.27 319 *i*P **P 20 36 06.6 -0.2**
comp=Z,20nm,0.8s,mb5.2
KECS Kecovo 88.27 319 *i*P **P 20 36 06.6 -0.2**
PLE Pljevlja 88.29 314⇑ *i*P **P 20 36 07.8 +0.8**
PLE Pljevlja 88.29 314⇑ *i*P **P 20 36 07.8 +0.8**
NKY Niksic 88.51 313⇑ *i*P **P 20 36 08.2 +0.1**
BUM Brajici-Budva 88.52 312⇑ *i*P **P 20 36 08.2 +0.1**
NIE Niedzica 88.53 320 *i*P **P 20 36 08.9 +0.9**
NIE *e*PP PP 20 39 38.1 +1.1
PSZ Piszkesteto 88.58 318⇑ *i*P **P 20 36 08.3 0.0**
comp=Z,37nm,1.1s,mb5.3
PSZ Piszkesteto 88.58 318 P **P 20 36 08.8 +0.5**
PSZ Piszkesteto 88.58 318⇑ *i*P **P 20 36 08.7 +0.4**
PSZ Piszkesteto 88.58 318⇑ *e*PcP PcP 20 36 08.7 -1.1
UPM Unac-Piva 88.62 313⇑ *i*P **P 20 36 08.6 0.0**
HCY Herceg Novi 88.83 313⇑ *i*P **P 20 36 09.5 -0.1**
HCY Herceg Novi 88.83 313⇑ *i*P **P 20 36 09.5 -0.1**
BRY Bratogost 88.85 313⇑ *i*P **P 20 36 09.8 +0.1**
BRY Bratogost 88.85 313⇑ *i*P **P 20 36 09.8 +0.1**
OJC Ojcow 88.97 320 *e*P **P 20 36 10.6 +0.5**
BUD Budapest 89.10 318⇑ *e*PcP PcP 20 36 11.0 -1.2
PKSM Moragy 89.20 316 P **P 20 36 11.8 +0.5**
PKSM Moragy 89.20 316⇑ *i*P **P 20 36 11.5 +0.3**
VYHS Vyhne 89.36 319 *i*P **P 20 36 11.8 -0.1**
comp=Z,17nm,1.3s,mb4.9
VYHS Vyhne 89.36 319 *i*P **P 20 36 11.8 -0.1**
VYHS pmax pmax
comp=Z,17nm,1.3s,mb4.9
KOLL Kolacno 89.66 319 *i*P **P 20 36 13.8 +0.5**
TIP Timpagrande 89.77 309⇑ *i*P **P 20 36 15.2 +1.1**
comp=Z,27nm,0.8s,mb5.4
ARCES ARCESS Array B 89.78 340 P **P 20 36 13.0 -0.4**
ARCES 20 39 45.7
ARCES pmax pmax
comp=Z,18nm,0.6s
ARCES pmax pmax
comp=Z,5.0nm,0.9s
ARCES ARCESS Array B 89.78 340 P **P 20 36 13.0 -0.4**
comp=Z,18nm,0.6s,mb5.4,baz=103,slow=5.1,SNR=90
ARCES PP PP 20 39 45.6 -0.8
comp=Z,5.3nm,0.9s,baz=98,slow=6.2,SNR=3.7
OKC Ostrava-Krasne 89.98 320 *e*P **P 20 36 15.4 +0.6**
OKC Ostrava-Krasne 89.98 320 *e*P **P 20 36 15.4 +0.6**
OKC MLR MLR
comp=Z,4μm,19.1s
RAC Raciborz 89.98 320 *e*P **P 20 36 15.9 +1.1**
SMOL Smolenice 90.29 318 *i*P **P 20 36 17.0 +0.7**
MORC Moravsky Berou 90.36 320⇑ *i*P **P 20 36 16.8 +0.2**
comp=Z,35nm,0.8s,mb5.5
MORC Moravsky Berou 90.36 320⇑ *i*P **P 20 36 17.4 +0.8**
MODS Modra-Piesok 90.38 318 *i*P **P 20 36 16.9 +0.2**
comp=Z,19nm,1.2s,mb5.1
MODS Modra-Piesok 90.38 318 *i*P **P 20 36 16.9 +0.2**
MODS pmax pmax
comp=Z,19nm,1.2s,mb5.1
ZST Bratislava 90.47 318 *i*P **P 20 36 17.6 +0.5**
comp=Z,28nm,1.0s,mb5.3
ZST Bratislava 90.47 318 *i*P **P 20 36 17.6 +0.5**
ZST pmax pmax
comp=Z,28nm,1.0s,mb5.3
SNAA Sanae 90.63 198 *e*PKiKP **P 20 36 18.3 +0.9**
SNAA *e* 20 36 21.1
SNAA *e* 20 36 25.0
SNAA *e* 20 36 29.6
SNAA *e* pP 20 36 35.5 -1.2
SNAA *e* pP 20 36 39.8 +3.1
SNAA *e* 20 36 42.7
SNAA *e* 20 36 46.8
SNAA *e* 20 36 50.5
SNAA Sanae 90.63 198 P **P 20 36 18.7 +1.3**
comp=Z,2.8nm,0.9s,mb4.4,baz=125,slow=6.1,SNR=11
SNAA PKKPbc PKKPbc 20 53 41.5 -5.4
comp=Z,0.6nm,0.6s,baz=308,slow=4.5,SNR=9.1
KOGS Kog 90.87 316 *e*P **P 20 36 19.6 +0.5**
VRAC Vranov 90.93 319 P **P 20 36 18.9 -0.3**
VRAC 20 39 53.4
VRAC pmax pmax
comp=Z,6.0nm,0.9s
VRAC pmax pmax
comp=Z,2.0nm,0.7s
VRAC Vranov 90.93 319 P **P 20 36 18.9 -0.3**
comp=Z,5.6nm,0.9s,mb4.7,baz=96,slow=1.8,SNR=6.3
VRAC PP PP 20 39 53.4 -2.7
comp=Z,2.0nm,0.7s,baz=68,slow=9.8,SNR=2.1
GKP Gorka Klasztor 90.94 323 *e*P **P 20 36 19.2 0.0**
DPC Dobruska-Polom 91.20 320 *e*P **P 20 36 21.5 +1.0**
DPC Dobruska-Polom 91.20 320 *e*P **P 20 36 21.5 +1.0**
DPC MLR MLR
comp=Z,4μm,24.5s
KSP Ksiaz 91.27 321 *e*P **P 20 36 21.9 +1.1**
KSP Ksiaz 91.27 321 *e*P **P 20 36 21.1 +0.3**
CRES Cresnjev 91.36 316 *e*P **P 20 36 21.8 +0.4**
UPC Upice 91.42 320 *e*P **P 20 36 22.1 +0.7**
ARSA Arzberg 91.44 317⇑ *i*P **P 20 36 22.0 +0.3**
comp=Z,24nm,1.2s,mb5.2,SNR=12
ARSA Arzberg 91.44 317⇑ *i*PcP PcP 20 36 22.0 -0.6
comp=Z,24nm,1.2s,SNR=12
BOJS Bojanci 91.48 315 *e*P **P 20 36 22.4 +0.5**
BOJS *e* pP 20 36 38.8 -2.4
TREC Trest 91.65 319 *e*P **P 20 36 22.5 0.0**
PERS Pernice 91.67 316 *e*P **P 20 36 23.2 +0.5**
LJU Ljubljana 92.03 316 *e*P **P 20 36 25.2 +0.8**
LJU *e* pP 20 36 41.6 -2.1
PRU Pruhonice 92.31 320 *e*P **P 20 36 25.8 +0.2**
PVCC Panska Ves 92.34 320 *e*P **P 20 36 26.3 +0.6**
JAVS Javornik 92.34 316 *e*P **P 20 36 25.6 -0.2**
MOA Molln 92.34 318⇑ *i*P **P 20 36 25.4 -0.4**
comp=Z,7.4nm,0.8s,mb5.0,SNR=5.9
GORS Gorjuse 92.42 316 *i*P **P 20 36 26.4 +0.2**
VOJS Vojsko 92.48 316 *i*P **P 20 36 26.4 -0.1**
AQU L'Aquila 92.58 312⇑ *e*P **P 20 36 27.1 +0.1**
comp=Z,22nm,0.8s,mb5.5
AQU L'Aquila 92.58 312 P **P 20 36 27.4 +0.4**
AQU L'Aquila 92.58 312⇑ *i*P **P 20 36 27.3 +0.3**
BRG Berggiesshubel 92.76 321 *i*P **P 20 36 30.2 +2.6**
BRG *i* 20 36 39.4
BRG pmax pmax
comp=Z,5.0nm,1.2s,mb4.7
BRG Berggiesshubel 92.76 321 *e*P **P 20 36 28.1 +0.5**
comp=Z,19nm,0.7s,mb5.5
BRG Berggiesshubel 92.76 321 *e*P **P 20 36 22.4 -5.2**
comp=Z,4.3nm,1.0s,mb4.7
BRG *i* 20 36 28.0
comp=Z,19nm,0.7s
GEC2 GERESS Array S 92.78 319 *e*P **P 20 36 28.2 +0.4**
comp=Z,16nm,0.8s,mb5.4
GEC2 GERESS Array S 92.78 319 *e*P **P 20 36 28.2 +0.4**
GEC2 pmax pmax
comp=Z,16nm,0.8s,mb5.4
GERES GERESS Array B 92.78 319 P **P 20 36 28.1 +0.3**
GERES 20 40 08.9
GERES pmax pmax
comp=Z,8.0nm,0.7s
GERES pmax pmax
comp=Z,2.0nm,0.8s
GERES GERESS Array B 92.78 319 P **P 20 36 28.1 +0.3**
comp=Z,8.4nm,0.7s,mb5.2,baz=97,slow=3.3,SNR=37

GERES PP PP 20 40 08.9 -1.8
comp=Z,1.6nm,0.8s,baz=92,slow=9.0,SNR=3.8
KHC Kasperske Hory 92.88 319 *i*P **P 20 36 28.9 +0.6**
KHC Kasperske Hory 92.88 319 *e*P **P 20 36 28.4 +0.1**
KHC *ex* x 20 36 38.0
WET Wettzell 93.34 319 *e*P **P 20 36 30.6 +0.2**
comp=Z,16nm,0.8s,mb5.4
WET Wettzell 93.34 319 *e*P **P 20 36 30.6 +0.2**
WET pmax pmax
comp=Z,16nm,0.8s,mb5.4
CLL Collm 93.37 321 *i*P **P 20 36 30.2 -0.3**
CLL *i* 20 36 39.4
CLL pmax pmax
comp=Z,5.0nm,1.2s,mb4.7
CLL Collm 93.37 321 *e*P **P 20 36 30.2 -0.3**
comp=Z,14nm,1.2s,mb5.2
CLL Collm 93.37 321 *i*P **P 20 36 30.2 -0.3**
comp=Z,14nm,1.2s,mb5.2
CLL *i* x x 20 36 33.2
CLL *i* x x 20 36 39.4
HFS Hagfors 93.44 330 P **P 20 36 30.1 -0.5**
HFS 20 40 14.9
HFS pmax pmax
comp=Z,18nm,0.7s
HFS pmax pmax
comp=Z,22nm,1.0s
HFS Hagfors 93.44 330 P **P 20 36 30.1 -0.4**
comp=Z,18nm,0.7s,mb5.5,baz=151,slow=3.4,SNR=39
HFS PP PP 20 40 14.9 -0.7
comp=Z,22nm,1.0s,baz=81,slow=11,SNR=7.0
TANN Tannenbergstha 93.67 320 *e*P **P 20 36 32.0 +0.1**
comp=Z,8.0nm,0.8s,mb5.1
NKC Novy Kostel 93.67 320 *e*P **P 20 36 31.6 -0.3**
ROTZ Rotzenmuhle 93.81 319 *e*P **P 20 36 33.0 +0.5**
comp=Z,14nm,0.9s,mb5.3
MANZ Manzenberg 93.88 320 *e*P **P 20 36 33.5 +0.7**
comp=Z,17nm,0.9s,mb5.4
WTTA Wattenberg 94.09 317⇑ *i*P **P 20 36 33.4 -0.5**
comp=Z,16nm,1.0s,mb5.3
WTTA Wattenberg 94.09 317⇑ *i*P **P 20 36 33.4 -0.5**
WTTA pmax pmax
comp=Z,16nm,1.0s,mb5.3
WATA Walderalm 94.13 317⇑ *i*P **P 20 36 33.4 -0.6**
comp=Z,10nm,1.1s,mb5.0
WATA Walderalm 94.13 317⇑ *i*P **P 20 36 33.4 -0.7**
WATA pmax pmax
comp=Z,10.0nm,1.1s,mb5.1
MOX Moxa 94.22 320 *e*P **P 20 36 34.4 0.0**
comp=Z,17nm,1.4s,mb5.2
MOX Moxa 94.22 320 *e*P **P 20 36 34.4 0.0**
MOX pmax pmax
comp=Z,9.0nm,1.4s,mb4.9
GRA1 Grafenberg Arr 94.44 319 *e*P **P 20 36 35.7 +0.3**
comp=Z,24nm,1.0s,mb5.5
GRF Grafenberg Arr 94.44 319 *e*P **P 20 36 35.7 +0.3**
GRF pmax pmax
comp=Z,24nm,1.0s,mb5.5
GRF Grafenberg Arr 94.44 319 *e*P **P 20 36 35.7 +0.3**
GRF pmax pmax
comp=Z,24nm,1.0s,mb5.5
GRF Grafenberg Arr 94.44 319 *e*P **P 20 36 35.7 +0.3**
comp=Z,24nm,1.0s,mb5.5
GRFO Grafenberg 94.45 319⇑ *e*P **P 20 36 35.2 -0.3**
comp=Z,7.9nm,0.8s,mb5.1
GRFO Grafenberg 94.45 319⇑ *e*P **P 20 36 35.2 -0.2**
GRFO pmax pmax
comp=Z,8.0nm,0.8s,mb5.1
MOTA Moosalm 94.45 317⇑ *i*P **P 20 36 35.1 -0.5**
comp=Z,11nm,1.0s,mb5.1,SNR=5.8
MOTA Moosalm 94.45 317⇑ *i*P **P 20 36 35.1 -0.4**
MOTA pmax pmax
comp=Z,11nm,1.0s,mb5.1
RETA Reutte 94.69 317⇑ *i*P **P 20 36 36.3 -0.3**
comp=Z,11nm,0.8s,mb5.3
NB2 NORSAR Subarra 94.70 331 P **P 20 36 35.1 -1.2**
comp=Z,6.9nm,0.7s,mb5.2,baz=94,slow=5.3
NOA NORSAR Array B 94.70 331 P **P 20 36 35.6 -0.7**
NOA PP PP 20 40 24.7 -0.6
NOA NORSAR Array B 94.70 331 P **P 20 36 35.6 -0.7**
NOA 20 40 24.7
NOA pmax pmax
comp=Z,5.0nm,0.8s
NOA pmax pmax
comp=Z,2.0nm,0.7s
NOA NORSAR Array B 94.70 331 P **P 20 36 35.6 -0.7**
comp=Z,5.1nm,0.8s,mb5.0,baz=95,slow=5.0,SNR=19
NOA PP PP 20 40 24.7 -0.6
comp=Z,1.7nm,0.7s,baz=100,slow=6.9,SNR=4.4
CLZ Clausthal 95.03 322 *e*P **P 20 36 37.5 -0.6**
comp=Z,8.0nm,1.0s,mb5.1
CLZ Clausthal 95.03 322 *e*P **P 20 36 37.5 -0.6**
CLZ pmax pmax
comp=Z,8.0nm,1.0s,mb5.1
NRDL Niedersach Rie 95.20 322 *e*P **P 20 36 39.0 +0.2**
comp=Z,25nm,1.5s,mb5.4
DAVOX Davos/Dischmat 95.28 316 P **P 20 36 38.9 -0.4**
DAVOX Davos/Dischmat 95.28 316 P **P 20 36 38.9 -0.4**
comp=Z,8.5nm,0.7s,mb5.3,baz=119,slow=3.4,SNR=12
DAVA Damuels 95.28 317⇑ *i*P **P 20 36 39.5 +0.2**
comp=Z,17nm,1.1s,mb5.4
DAVA Damuels 95.28 317⇑ *i*PcP PcP 20 36 39.5 -0.1
comp=Z,17nm,1.1s
KEST Kesra 95.43 305 P **P 20 36 41.0 +0.7**
comp=Z,4.8nm,0.7s,mb5.0,baz=253,slow=0.8,SNR=13
PGF Pioggiola 95.84 312 *e*P **P 20 36 41.4 -0.6**
comp=Z,34nm,1.0s,mb5.4
PGF Pioggiola 95.84 312 *e*P **P 20 36 41.4 -0.6**
comp=Z,17nm,1.0s,mb5.4
PGF Pioggiola 95.84 312 *e*P **P 20 36 41.4 -0.6**
PGF pmax pmax
comp=Z,17nm,1.0s,mb5.4
TNS Taunus Mts 96.24 320 *e*P **P 20 36 43.8 +0.2**
comp=Z,20nm,1.0s,mb5.5
TNS Taunus Mts 96.24 320 *e*P **P 20 36 43.8 +0.2**
TNS pmax pmax
comp=Z,20nm,1.0s,mb5.5
SBF Sospel 96.99 313 *e*P **P 20 36 46.5 -0.7**
comp=Z,44nm,0.9s,mb5.6
SBF Sospel 96.99 313 *e*P **P 20 36 46.5 -0.7**
comp=Z,22nm,0.9s,mb5.6
SBF Sospel 96.99 313 *e*P **P 20 36 46.5 -0.7**
SBF pmax pmax
comp=Z,22nm,0.9s,mb5.6
CDF Champ du Feu 97.03 318 *e*P **P 20 36 46.3 -1.0**
comp=Z,7.6nm,0.8s,mb4.9
CDF Champ du Feu 97.03 318 *e*P **P 20 36 46.3 -1.0**
comp=Z,3.8nm,0.8s,mb4.9
CDF Champ du Feu 97.03 318 *e*P **P 20 36 46.3 -1.0**
CDF pmax pmax
comp=Z,4.0nm,0.8s,mb4.9
LPG La Plagne 97.45 315 *e*P **P 20 36 48.9 -0.3**
comp=Z,17nm,1.0s,mb5.2
LPG La Plagne 97.45 315 *e*P **P 20 36 48.9 -0.3**
comp=Z,8.7nm,1.0s,mb5.1
LPG La Plagne 97.45 315 *e*P **P 20 36 48.9 -0.3**
LPG pmax pmax
comp=Z,9.0nm,1.0s,mb5.2
MBDF Montbardon 97.45 314 *e*P **P 20 36 48.7 -0.5**
comp=Z,11nm,1.0s,mb4.9
MBDF Montbardon 97.45 314 *e*P **P 20 36 48.7 -0.5**
comp=Z,5.4nm,1.0s,mb4.9
MBDF Montbardon 97.45 314 *e*P **P 20 36 48.7 -0.5**
MBDF pmax pmax
comp=Z,5.0nm,1.0s,mb4.9
LPL La Plagne 97.47 315 *e*P **P 20 36 48.8 -0.5**
comp=Z,13nm,0.7s,mb5.2
LPL La Plagne 97.47 315 *e*P **P 20 36 48.8 -0.5**
comp=Z,6.6nm,0.7s,mb5.2
LPL La Plagne 97.47 315 *e*P **P 20 36 48.8 -0.5**
LPL pmax pmax
comp=Z,7.0nm,0.7s,mb5.2
FRF La Foret Royal 97.56 313 *e*P **P 20 36 49.1 -0.7**
comp=Z,18nm,0.8s,mb5.3
FRF La Foret Royal 97.56 313 *e*P **P 20 36 49.1 -0.7**
comp=Z,8.8nm,0.8s,mb5.3
FRF La Foret Royal 97.56 313 *e*P **P 20 36 49.1 -0.7**
FRF pmax pmax
comp=Z,9.0nm,0.8s,mb5.3
HAU Haudompre 97.67 318 *e*P **P 20 36 49.2 -0.9**
comp=Z,15nm,0.8s,mb5.3
HAU Haudompre 97.67 318 *e*P **P 20 36 49.2 -0.9**
comp=Z,7.3nm,0.8s,mb5.3
HAU Haudompre 97.67 318 *e*P **P 20 36 49.2 -0.9**
HAU pmax pmax
comp=Z,7.0nm,0.8s,mb5.2
LMR La Mourre 97.67 313 *e*P **P 20 36 48.9 -1.3**

CABF La Chapelle 97.89 316 *e*P **P 20 36 49.6 -1.5**
comp=Z,30nm,1.2s,mb5.4
CABF La Chapelle 97.89 316 *e*P **P 20 36 49.6 -1.5**
comp=Z,15nm,1.2s,mb5.4
CABF La Chapelle 97.89 316 *e*P **P 20 36 49.6 -1.5**
CABF pmax pmax
comp=Z,15nm,1.2s,mb5.4
ORIF Oris-en-Rattie 98.08 315 *e*P **P 20 36 51.4 -0.7**
comp=Z,33nm,1.3s,mb5.4
ORIF Oris-en-Rattie 98.08 315 *e*P **P 20 36 51.4 -0.7**
comp=Z,16nm,1.3s,mb5.4
ORIF Oris-en-Rattie 98.08 315 *e*P **P 20 36 51.4 -0.7**
ORIF pmax pmax
comp=Z,16nm,1.3s,mb5.4
SMRF Simiane la Rot 98.33 314 *e*P **P 20 36 53.2 0.0**
comp=Z,64nm,1.6s,mb5.6
SMRF Simiane la Rot 98.33 314 *e*P **P 20 36 53.2 0.0**
comp=Z,64nm,1.6s,mb5.9
GIVF Givet 98.58 320 *e*P **P 20 36 53.3 -0.8**
comp=Z,28nm,1.1s,mb5.4
GIVF Givet 98.58 320 *e*P **P 20 36 53.3 -0.8**
comp=Z,14nm,1.1s,mb5.4
GIVF Givet 98.58 320 *e*P **P 20 36 53.3 -0.8**
GIVF pmax pmax
comp=Z,14nm,1.1s,mb5.4
VIVF Saint-Julien-l 98.94 315 *e*P **P 20 36 56.1 +0.2**
comp=Z,16nm,1.2s,mb5.1
VIVF Saint-Julien-l 98.94 315 *e*P **P 20 36 56.1 +0.2**
comp=Z,7.8nm,1.2s,mb5.1
VIVF Saint-Julien-l 98.94 315 *e*P **P 20 36 56.1 +0.2**
VIVF pmax pmax
comp=Z,8.0nm,1.2s,mb5.1
BAIF Baives 98.97 320 *e*P **P 20 36 55.5 -0.4**
comp=Z,8.1nm,0.6s,mb5.1
BAIF Baives 98.97 320 *e*P **P 20 36 55.5 -0.4**
comp=Z,4.1nm,0.6s,mb5.1
BAIF Baives 98.97 320 *e*P **P 20 36 55.5 -0.4**
BAIF pmax pmax
comp=Z,4.0nm,0.6s,mb5.1
LOR Lormes 99.38 317 *e*P **P 20 36 57.1 -0.7**
comp=Z,15nm,0.9s,mb5.2
LOR Lormes 99.38 317 *e*P **P 20 36 57.1 -0.7**
comp=Z,7.7nm,0.9s,mb5.2
LOR Lormes 99.38 317 *e*P **P 20 36 57.1 -0.7**
LOR pmax pmax
comp=Z,8.0nm,0.9s,mb5.2
SMF Signal de Mont 99.43 316 *e*P **P 20 36 57.2 -0.9**
comp=Z,26nm,1.2s,mb5.3
SMF Signal de Mont 99.43 316 *e*P **P 20 36 57.2 -0.9**
comp=Z,13nm,1.2s,mb5.3
SMF Signal de Mont 99.43 316 *e*P **P 20 36 57.2 -0.9**
SMF pmax pmax
comp=Z,13nm,1.2s,mb5.3
LASF Ste Croix 99.56 314 *e*P Pdif 20 36 57.7 -0.8
comp=Z,49nm,1.5s
SSF Saint Saulge 99.64 317 *e*P Pdif 20 36 58.1 -0.7
comp=Z,30nm,1.4s
SSF Saint Saulge 99.64 317 *e*P Pdif 20 36 58.1 -0.7
comp=Z,15nm,1.4s
SSF Saint Saulge 99.64 317 *e*P Pdif 20 36 58.1 -0.7
SSF pmax pmax
comp=Z,15nm,1.4s,mb5.4
AVF Avril sur Loir 99.76 317 *e*P Pdif 20 36 58.7 -0.6
comp=Z,21nm,1.2s
AVF Avril sur Loir 99.76 317 *e*P Pdif 20 36 58.7 -0.6
comp=Z,10nm,1.2s
AVF Avril sur Loir 99.76 317 *e*P Pdif 20 36 58.7 -0.6
AVF pmax pmax
comp=Z,10.0nm,1.2s,mb5.3
BGF Bois d'Agland 100.12 316 *e*P Pdif 20 37 00.9 0.0
comp=Z,16nm,1.0s
BGF Bois d'Agland 100.12 316 *e*P Pdif 20 37 00.9 0.0
comp=Z,8.1nm,1.0s
BGF Bois d'Agland 100.12 316 *e*P Pdif 20 37 00.9 0.0
BGF pmax pmax
comp=Z,8.0nm,1.0s
CAF Calviac 100.79 315 *e*P Pdif 20 37 03.9 0.0
MTLF Montolieu 100.80 313 *e*P Pdif 20 37 03.8 -0.1
FLN La Foliniere 102.14 319 *e*P Pdif 20 37 10.1 +0.2
MFF Saint Martin d 102.17 317 *e*P Pdif 20 37 09.7 -0.4
COLA College 102.21 24 *i*P Pdif 20 37 07.8 -2.4
EKA Eskdalemuir Ar 102.77 326 P Pdif 20 37 13.5 +0.8
EKA 20 41 20.9
EKA pmax pmax
comp=Z,1.0nm,0.6s
EKA pmax pmax
comp=Z,3.0nm,0.9s
EKA Eskdalemuir Ar 102.77 326 P Pdif 20 37 13.4 +0.7
comp=Z,1.2nm,0.6s,baz=98,slow=4.4,SNR=5.1
EKA PP PP 20 41 20.9 -6.1
comp=Z,3.1nm,0.8s,baz=90,slow=7.6,SNR=4.7
ESDC Sonseca Array 105.78 310 PP PP 20 41 53.4 +3.5
comp=Z,1.7nm,0.7s,baz=83,slow=6.7,SNR=8.1
INK Inuvik 106.14 19 Pdiff Pdif 20 37 26.1 -1.6
comp=Z,1.2nm,0.8s,baz=319,slow=5.7,SNR=4.9
INK PKiKP PKiKP 20 41 37.8 -1.0
comp=Z,2.0nm,0.5s,baz=283,slow=3.4,SNR=7.0
DBIC Dimbokro 108.05 276 PKKPbc PKKPbc 20 52 55.3 -0.6
comp=Z,2.0nm,0.8s,baz=250,slow=8.5,SNR=4.3
RES Resolute Bay 109.13 5 *e*PKPdf PKiKP 20 41 42.9 -1.4
YKA Yellowknife Ar 115.90 18 PKP PKPdf 20 41 56.1 -1.4
YKA PP PP 20 42 59.0 -2.6
YKA PKKPbc PKKPbc 20 52 29.1 -2.3
YKA Yellowknife Ar 115.90 18 PKIKP PKPdf 20 41 56.1 -1.4
YKA 20 42 59.0
YKA 20 52 29.1
YKA pmax pmax
comp=Z,4.0nm,0.8s
YKA Yellowknife Ar 115.90 18 PKP PKPdf 20 41 56.1 -1.4
comp=Z,4.1nm,0.8s,baz=326,slow=2.0,SNR=46
YKA PP PP 20 42 59.0 -2.6
comp=Z,2.1nm,0.9s,baz=324,slow=7.1,SNR=7.6
YKA PKKPbc PKKPbc 20 52 29.1 -2.3
comp=Z,0.7nm,0.7s,baz=137,slow=4.0,SNR=5.8
C03A Quillayute Air 120.77 35 ⇑P PKPdf 20 42 07.3 0.0
baz=121
OSD Olympics--Snow 121.33 35 P PKPdf 20 42 09.2 +0.9
NLWA Neilton Lookou 121.46 35 ⇑P PKPdf 20 42 08.5 -0.1
baz=121
A05A Maple Falls 121.59 33 ⇓P PKPdf 20 42 08.6 -0.2
baz=121
C04A Brinnon 121.80 35 ⇑P PKPdf 20 42 09.3 0.0
baz=122
A06A Chilliwack 121.86 33 ⇓P PKPdf 20 42 08.9 -0.5
baz=122
B05A Bryant 121.99 34 P PKPdf 20 42 09.8 +0.2
baz=122,SNR=10
E03A Lebam 122.08 36 ⇑P PKPdf 20 42 10.2 +0.3
baz=122,SNR=6.1
B06A Marblemount 122.19 33 ⇓P PKPdf 20 42 09.6 -0.4
baz=122
F03A Seaside 122.41 37 ⇓P PKPdf 20 42 10.6 +0.1
baz=122
A07A Ashnola River, 122.47 32 P PKPdf 20 42 10.5 0.0
baz=122,SNR=16
C05A Tolt Reservoir 122.54 34 P PKPdf 20 42 10.7 0.0
baz=122,SNR=6.7
D05A Enumclaw 122.65 35 ⇓P PKPdf 20 42 11.2 +0.3
baz=122
H02A Toledo 122.78 38 ⇑P PKPdf 20 42 11.7 +0.5
baz=123
G03A Yamhill 122.89 37 ⇓P PKPdf 20 42 11.6 +0.2
baz=123
B07A Winthrop 122.96 33 P PKPdf 20 42 11.3 -0.2
baz=123,SNR=5.2
F04A Amboy 123.08 36 ⇑P PKPdf 20 42 11.8 0.0
baz=123,SNR=9.0
EDM Edmonton 123.12 25 *e*PKPdf PKPdf 20 42 11.0 -0.6
EDM Edmonton 123.12 25 PKIKP PKPdf 20 42 11.3 -0.3
A08A Turner Farm, O 123.12 32 ⇑P PKPdf 20 42 11.6 -0.1
baz=123,SNR=8.2
E05A Randle 123.13 35 P PKPdf 20 42 11.8 -0.1
baz=123,SNR=6.7
H03A Soap Creek Ran 123.22 38 ⇑P PKPdf 20 42 12.5 +0.4
baz=123,SNR=10
I02A Mapleton 123.22 39 ⇓P PKPdf 20 42 12.3 +0.2
baz=123
D06A Cle Elum 123.30 34 ⇑P PKPdf 20 42 12.3 +0.2
baz=123
K01A Sixes 123.40 40 ⇓P PKPdf 20 42 12.4 -0.1
baz=123
G04A Mulino 123.44 37 ⇓P PKPdf 20 42 12.2 -0.2
baz=123
C07A Waterville 123.44 33 ⇓P PKPdf 20 42 11.9 -0.5
baz=123,SNR=7.2
B08A Colville Reser 123.44 32 ⇓P PKPdf 20 42 11.9 -0.5
baz=123,SNR=8.4

TBM Table Mountain 123.45 34 P PKPdf 20 42 12.7 +0.2
A09A Danville 123.47 31 ⇓P PKPdf 20 42 12.4 0.0
baz=123
I03A Eugene 123.58 39 ⇑P PKPdf 20 42 13.0 +0.2
baz=123,SNR=6.9
E06A Yakima 123.58 35 ⇑P PKPdf 20 42 12.8 0.0
baz=123,SNR=5.1
F05A White Salmon 123.67 36 ⇑P PKPdf 20 42 12.9 0.0
baz=124
J02A Umpqua 123.70 39 ⇓P PKPdf 20 42 13.1 +0.1
baz=124,SNR=8.1
D07A Quincy 123.78 34 ⇓P PKPdf 20 42 12.8 -0.3
baz=124
H04A Detroit Lake 123.89 37 ⇑P PKPdf 20 42 13.1 -0.3
baz=124,SNR=11
EPH Ephrata 123.90 34 P PKPdf 20 42 13.3 0.0
C08A Higginbotham F 123.94 33 ⇓P PKPdf 20 42 12.9 -0.5
baz=124,SNR=7.7
A10A Northport 123.99 31 ⇑P PKPdf 20 42 13.2 -0.3
baz=124
B09A Rice 124.03 32 ⇑P PKPdf 20 42 13.5 0.0
baz=124,SNR=23
K02A Glendale 124.05 40 ⇓P PKPdf 20 42 13.9 +0.2
baz=124,SNR=14
J03A Ideyld Park 124.08 39 ⇓P PKPdf 20 42 14.1 +0.3
baz=124,SNR=10
M01C Crescent City 124.09 41 ⇑P PKPdf 20 42 13.9 +0.1
baz=124
G05A Wamic 124.11 36 ⇑P PKPdf 20 42 13.9 +0.1
baz=124
F06A Goldendale 124.13 36 ⇓P PKPdf 20 42 14.1 +0.3
baz=124,SNR=6.7
I04A Tendick Farm, 124.21 38 P PKPdf 20 42 13.8 -0.2
baz=124,SNR=21
HBO Huckleberry Mo 124.24 38 P PKPdf 20 42 14.4 +0.3
FCC Fort Churchill 124.32 11 *e*PKPdf PKPdf 20 42 12.2 -1.6
FCC Fort Churchill 124.32 11 PKIKP PKPdf 20 42 12.5 -1.3
C09A Chrisman Ranch 124.35 32 ⇓P PKPdf 20 42 14.0 -0.1
baz=124
KRMB Red Mountain 124.38 41 *e*PKPdf PKPdf 20 42 14.6 +0.2
D08A Wollman Farm, 124.44 34 ⇓P PKPdf 20 42 14.6 +0.2
baz=124,SNR=14
WRD Warden 124.47 34 P PKPdf 20 42 14.7 +0.3
H05A Madras 124.48 37 ⇓P PKPdf 20 42 14.9 +0.3
baz=124
HAWA Hanford 124.49 34 *e*PKPdf PKPdf 20 42 14.6 +0.1
BBOR Butler Butte 124.51 40 P PKPdf 20 42 14.7 0.0
G06A Carlson Farm, 124.51 36 ⇓P PKPdf 20 42 14.9 +0.3
baz=124,SNR=5.9
F07A Phinny Hill Vi 124.55 35 ⇓P PKPdf 20 42 14.9 +0.2
baz=124
VTHM Trough 124.59 36 P PKPdf 20 42 15.2 +0.5
B10A Chitwood Farm, 124.59 31 ⇓P PKPdf 20 42 15.0 +0.4
baz=124
A11A Hall Mountain, 124.62 30 ⇑P PKPdf 20 42 15.2 +0.6
baz=124,SNR=8.3
JCC Jacoby Creek 124.63 42 ⇓P PKPdf 20 42 15.3 +0.4
baz=124
NEW Newport 124.67 31 *e*PKPdf PKPdf 20 42 13.8 -0.9
NEW Newport 124.67 31 PKIKP PKPdf 20 42 14.7 -0.1
NEW Newport 124.67 31 PKP PKPdf 20 42 13.8 -1.0
comp=Z,9.4nm,0.8s,baz=339,slow=3.0,SNR=13
J04A Umpqua Nationa 124.69 39 P PKPdf 20 42 15.5 +0.5
baz=124,SNR=37
E08A Dider Farm, El 124.70 34 ⇑P PKPdf 20 42 15.2 +0.3
baz=124,SNR=7.2
I05A Bend 124.72 38 ⇓P PKPdf 20 42 15.6 +0.6
baz=124
D09A Jones Farm, Ri 124.78 33 ⇓P PKPdf 20 42 14.8 -0.2
baz=125,SNR=7.4
VIPM Ingram Point 124.92 37 P PKPdf 20 42 16.2 +0.9
B11A Sandpoint 124.95 31 ⇑P PKPdf 20 42 15.2 -0.1
baz=125,SNR=8.7
H06A Lindquist Farm 124.97 37 ⇑P PKPdf 20 42 15.4 0.0
baz=125,SNR=11
A12A Yaak River Ran 124.99 30 ⇑P PKPdf 20 42 15.5 +0.2
baz=125
G07A Ruggs Ranch, H 125.06 36 ⇑P PKPdf 20 42 15.7 +0.1
baz=125
YBH Yreka Blue Hor 125.07 41 *e*PKPdf PKPdf 20 42 15.0 -0.8
YBH Yreka Blue Hor 125.07 41 *e*PKIKP PKPdf 20 42 17.5 +1.8
YBH Yreka Blue Hor 125.07 41 ⇑P PKPdf 20 42 16.2 +0.5
baz=125
N02C Big Bar 125.11 42 ⇑P PKPdf 20 42 16.2 +0.4
baz=125,SNR=12
E09A Wood Farm, Sta 125.20 34 ⇑P PKPdf 20 42 15.7 -0.1
baz=125,SNR=6.0
J05A Fort Rock 125.21 38 ⇓P PKPdf 20 42 16.6 +0.6
baz=125,SNR=16
K04A Chiloquin 125.25 39 ⇓P PKPdf 20 42 16.3 +0.3
baz=125
B12A Libby 125.32 30 ⇓P PKPdf 20 42 15.8 -0.2
baz=125
D10A Wagner Farm, O 125.34 33 P PKPdf 20 42 16.7 +0.6
baz=125,SNR=5.8
LHEM Herd Peak 125.44 41 P PKPdf 20 42 16.8 +0.4
G08A Pilot Rock 125.46 35 ⇑P PKPdf 20 42 16.6 +0.2
baz=125
KCPM Cabin Peak 125.46 43 *e*PKPdf PKPdf 20 42 17.2 +0.7
KIPM Iron Peak 125.47 43 *e*PKPdf PKPdf 20 42 17.1 +0.5
I06A Prineville 125.48 37 ⇓P PKPdf 20 42 17.0 +0.6
baz=125,SNR=5.4
M04C Macdoel 125.61 40 ⇓P PKPdf 20 42 16.8 0.0
baz=125
M03C McCloud 125.68 41 ⇓P PKPdf 20 42 16.9 0.0
baz=126
K05A Summer Lake 125.72 39 ⇓P PKPdf 20 42 17.5 +0.6
baz=126,SNR=14
P01C Double 8 Ranch 125.73 43 ⇓P PKPdf 20 42 17.2 +0.2
baz=126
WDC Whiskeytown Da 125.74 42 *e*PKPdf PKPdf 20 42 16.6 -0.5
WDC Whiskeytown Da 125.74 42 ⇓P PKPdf 20 42 16.9 -0.1
baz=126,SNR=6.2
O02C Red Bluff 125.77 42 P PKPdf 20 42 17.9 +0.8
baz=126,SNR=15
E10A Myers Farm, Un 125.78 33 P PKPdf 20 42 17.2 +0.2
baz=126,SNR=5.7
I07A Izee 125.83 37 ⇑P PKPdf 20 42 17.6 +0.5
baz=126,SNR=6.6
J06A Christmas Vall 125.89 38 ⇑P PKPdf 20 42 17.7 +0.4
baz=126,SNR=18
B13A Whitefish 125.95 30 P PKPdf 20 42 17.1 -0.1
baz=126,SNR=26
F10A Beach Ranch, E 126.03 34 ⇓P PKPdf 20 42 17.8 +0.3
baz=126,SNR=19
FFC Flin Flon 126.06 18 *e*PKPdf PKPdf 20 42 16.1 -1.1
FFC Flin Flon 126.06 18 PKIKP PKPdf 20 42 16.5 -0.7
GASB Alder Springs 126.07 43 ⇑P PKPdf 20 42 18.8 +1.0
baz=126,SNR=9.0
H08A Prairie City 126.07 36 ⇑P PKPdf 20 42 18.1 +0.6
baz=126
K06A Valley Falls 126.08 38 ⇑P PKPdf 20 42 18.2 +0.6
baz=126,SNR=13
L05A Lakeview 126.11 40 ⇓P PKPdf 20 42 18.4 +0.7
baz=126,SNR=9.2
HOPS Hopland 126.13 44 ⇓P PKPdf 20 42 17.8 -0.1
baz=126
G09A Cove 126.14 35 ⇑P PKPdf 20 42 17.5 -0.2
baz=126
M05C Lookout 126.27 40 ⇓P PKPdf 20 42 18.2 +0.2
baz=126,SNR=5.6
HATC Hat Creek Radi 126.34 41 ⇑P PKPdf 20 42 18.5 +0.3
baz=126,SNR=5.3
J07A Hines 126.34 37 ⇑P PKPdf 20 42 18.9 +0.8
baz=126,SNR=5.1
E11A Bogner Ranch, 126.35 33 P PKPdf 20 42 17.7 -0.3
baz=126,SNR=9.4
C13A Hot Springs 126.36 31 P PKPdf 20 42 17.6 -0.4
baz=126,SNR=7.6
D12A Red Ives Fores 126.36 32 ⇓P PKPdf 20 42 17.5 -0.5
baz=126,SNR=9.9
O03C Acorn Hollow, 126.36 42 ⇑P PKPdf 20 42 18.1 -0.2
baz=126
I08A Drewsey 126.48 36 P PKPdf 20 42 19.1 +0.7
baz=126,SNR=23
G10A Bishop Farm, J 126.50 34 ⇑P PKPdf 20 42 18.3 -0.1
baz=126
MOD Modoc 126.52 39 *e*PKPdf PKPdf 20 42 19.0 +0.5
MOD Modoc 126.52 39 P PKPdf 20 42 19.4 +0.9
baz=126,SNR=21
H09A Durkee 126.57 35 P PKPdf 20 42 18.7 +0.2
baz=126,SNR=6.1
MNRC McLaughlin Nat 126.62 44 P PKPdf 20 42 19.7 +0.9
baz=126,SNR=14
MCCM Marconi Confer 126.66 45 ⇑P PKPdf 20 42 18.8 -0.1
baz=126
NSHM Saint Helena R 126.67 44 *e*PKPdf PKPdf 20 42 19.0 +0.1

C14A Swan Lake 126.71 30 P PKPdf 20 42 18.0 -0.7
baz=126,SNR=13
K07A Rock Creek Ran 126.76 38 ⇑P PKPdf 20 42 19.3 +0.4
baz=126,SNR=27
FARB Farallon Islan 126.77 45 ⇑P PKPdf 20 42 19.2 +0.1
baz=127
M06C Likely Place G 126.78 40 ⇑P PKPdf 20 42 19.2 +0.2
baz=127
D13A Huson 126.80 31 P PKPdf 20 42 18.4 -0.4
baz=127,SNR=13
O04C Chester 126.83 41 ⇓P PKPdf 20 42 19.5 +0.3
baz=127
J08A Circle Bar Ran 126.85 37 P PKPdf 20 42 19.8 +0.7
baz=127,SNR=20
CVS Carmenet Viney 126.86 44 ⇓P PKPdf 20 42 19.5 +0.3
baz=127,SNR=5.7
G11A Walters Elk Ra 126.91 34 ⇓P PKPdf 20 42 19.1 -0.1
baz=127,SNR=13
ELFS Eagle Lake Fie 126.92 41 ⇓P PKPdf 20 42 19.8 +0.4
baz=127,SNR=7.8
ORV Oroville 126.94 43 ⇑P PKPdf 20 42 19.0 -0.3
baz=127,SNR=7.3
Q03C Winters 127.03 44 ⇑P PKPdf 20 42 20.5 +0.9
baz=127
OHCM Honcut 127.06 43 *e*PKPdf PKPdf 20 42 19.8 +0.2
L07A Adell 127.07 39 ⇓P PKPdf 20 42 20.5 +1.0
baz=127,SNR=8.3
O05C Quincy 127.13 42 P PKPdf 20 42 20.3 +0.6
baz=127,SNR=9.2
H10A Noah's Angus R 127.14 35 P PKPdf 20 42 19.5 -0.1
baz=127,SNR=11
K08A Mann Creek Ran 127.20 38 ⇓P PKPdf 20 42 20.5 +0.7
baz=127,SNR=14
MSO Missoula 127.24 31 *e*PKPdf PKPdf 20 42 18.9 -0.8
F12A Elk City 127.24 33 ⇑P PKPdf 20 42 20.1 +0.3
baz=127,SNR=5.7
WVOR Wild Horse Val 127.27 38 *e*PKPdf PKPdf 20 42 20.6 +0.6
WVOR Wild Horse Val 127.27 38 *e*PKIKP PKPdf 20 42 20.8 +0.9
J09A Fry Pan Ranch, 127.29 37 P PKPdf 20 42 20.6 +0.7
baz=127,SNR=10
D14A Greenough 127.30 31 P PKPdf 20 42 19.0 -0.8
baz=127,SNR=11
E13A Victor 127.37 32 P PKPdf 20 42 19.9 -0.1
baz=127,SNR=21
I10A Payette 127.41 35 ⇓P PKPdf 20 42 20.6 +0.5
baz=127
N06A Buffalo Meadow 127.43 40 ⇓P PKPdf 20 42 20.8 +0.5
baz=127,SNR=12
H11A Donnelly 127.48 34 P PKPdf 20 42 20.7 +0.4
baz=127,SNR=8.5
M07A Soldier Meadow 127.52 39 ⇑P PKPdf 20 42 21.2 +0.8
baz=127,SNR=9.0
CHMT Chamberlain Mo 127.54 31 *e*PKPdf PKPdf 20 42 19.7 -0.6
BEKR Beckwourth 127.55 42 P PKPdf 20 42 21.1 +0.5
baz=127,SNR=7.8
L08A Fields 127.59 38 ⇓P PKPdf 20 42 21.4 +0.9
baz=127,SNR=18
BNLO Ben Lomond (Sa 127.62 46 ⇑P PKPdf 20 42 20.8 +0.1
baz=127
P05C Yuba Gap, Truc 127.66 42 ⇑P PKPdf 20 42 21.4 +0.6
baz=128,SNR=8.3
K09A Rome 127.68 37 ⇑P PKPdf 20 42 21.5 +0.8
baz=128,SNR=14
WENL Wente Brothers 127.69 45 ⇑P PKPdf 20 42 21.2 +0.4
baz=128
F13A Darby 127.72 32 P PKPdf 20 42 20.1 -0.6
baz=128,SNR=8.8
E14A Clinton 127.75 31 P PKPdf 20 42 20.6 -0.1
baz=128,SNR=15
D15A Lincoln 127.82 30 P PKPdf 20 42 20.8 0.0
baz=128,SNR=11
LAVA Lava Cap Winer 127.85 43 ⇑P PKPdf 20 42 21.4 +0.2
baz=128,SNR=11
R04C Big Horse Ranc 127.95 44 ⇓P PKPdf 20 42 21.5 +0.1
baz=128
M08A Happy Creek Ra 127.98 39 ⇑P PKPdf 20 42 22.1 +0.8
baz=128
S04C Ingram Canyon, 128.04 45 ⇓P PKPdf 20 42 22.1 +0.6
baz=128
L09A Wilkinson Ranc 128.10 38 ⇓P PKPdf 20 42 22.6 +1.1
baz=128,SNR=13
K10A MacKenzie Ranc 128.15 37 ⇑P PKPdf 20 42 22.3 +0.7
baz=128,SNR=9.3
E15A Deer Lodge 128.18 31 P PKPdf 20 42 21.4 -0.1
baz=128,SNR=6.9
F14A Wisdom 128.21 32 ⇓P PKPdf 20 42 22.0 +0.4
baz=128
G13A Cobalt 128.22 33 ⇑P PKPdf 20 42 21.8 +0.1
baz=128
H12A Diamond D Ranc 128.23 34 P PKPdf 20 42 21.9 +0.3
baz=128,SNR=15
WCN Washoe City 128.23 42 ⇑P PKPdf 20 42 22.4 +0.6
baz=128
PACP Pacheco Peak 128.30 45 ⇓P PKPdf 20 42 22.9 +0.9
baz=128,SNR=9.8
R05C Kirkwood Meado 128.32 43 ⇓P PKPdf 20 42 22.7 +0.6
baz=128,SNR=10
MFID Camas Ranch 128.38 35 P PKPdf 20 42 22.6 +0.6
baz=128,SNR=12
HAST Hastings Reser 128.40 46 ⇑P PKPdf 20 42 22.8 +0.5
baz=128,SNR=5.8
CMB Columbia Colle 128.44 44 *e*PKPdf PKPdf 20 42 22.1 -0.2
CMB Columbia Colle 128.44 44 *e*PKIKP PKPdf 20 42 23.2 +0.9
CMB Columbia Colle 128.44 44 ⇑P PKPdf 20 42 22.1 -0.2
baz=128
EGMT Eagleton 128.45 27 *e*PKPdf PKPdf 20 42 18.0 -4.0
EGMT Eagleton 128.45 27 ⇑P PKPdf 20 42 22.6 +0.6
baz=128,SNR=8.4
N08A GE Springer Mi 128.50 40 ⇑P PKPdf 20 42 22.5 +0.2
baz=128
G14A Jackson 128.54 32 P PKPdf 20 42 23.4 +1.1
baz=128,SNR=7.7
H13A Challis 128.55 33 P PKPdf 20 42 22.8 +0.5
baz=128,SNR=26
K11A Parker Ranch, 128.65 36 P PKPdf 20 42 23.1 +0.6
baz=128,SNR=8.7
F15A Butte 128.65 31 P PKPdf 20 42 22.6 +0.2
baz=128,SNR=6.8
P07A Fallon 128.68 41 ⇑P PKPdf 20 42 23.3 +0.6
baz=128
V03C Hunter Liggett 128.79 46 ⇑P PKPdf 20 42 23.6 +0.5
baz=129
L10A Juniper Basin 128.80 37 P PKPdf 20 42 24.2 +1.3
baz=129,SNR=14
S05C Merced 128.82 44 ⇓P PKPdf 20 42 24.0 +1.0
baz=129,SNR=6.2
R06C Coleville 128.84 43 P PKPdf 20 42 24.3 +1.3
baz=129,SNR=8.2
N09A Rock Creek Ran 128.85 39 P PKPdf 20 42 24.2 +1.2
baz=129,SNR=15
J12A Stokes Ranch, 128.90 35 ⇓P PKPdf 20 42 24.4 +1.4
baz=129,SNR=13
DLMT Dillon 128.92 32 *e*PKPdf PKPdf 20 42 23.0 0.0
U04C Hernandez Rese 128.96 46 ⇓P PKPdf 20 42 24.5 +1.1
baz=129,SNR=7.5
I13A Wildhorse Cree 129.04 34 P PKPdf 20 42 24.2 +1.0
baz=129,SNR=13
M10A I.L. Ranch, Tu 129.08 38 ⇓P PKPdf 20 42 23.9 +0.5
baz=129
HLID Hailey 129.10 35 *e*PKPdf PKPdf 20 42 24.2 +0.8
HLID Hailey 129.10 35 ⇓P PKPdf 20 42 24.1 +0.7
baz=129,SNR=7.3
G15A Dillon 129.10 32 P PKPdf 20 42 24.1 +0.8
baz=129,SNR=23
P08A Dixie Valley 129.13 41 ⇑P PKPdf 20 42 24.4 +0.9
baz=129
SCHQ Schefferville 129.13 352 PKP PKPdf 20 42 22.7 -0.3
SCHQ PP PP 20 44 29.5 -1.4
SCHQ Schefferville 129.13 352 PKP PKPdf 20 42 22.7 -0.4
comp=Z,15nm,0.7s,baz=45,slow=3.5,SNR=36
SCHQ PP PP 20 44 29.5 -1.4
comp=Z,8.3nm,0.9s,baz=18,slow=8.7,SNR=4.5
MCMT McKenzie Canyo 129.14 32 *e*PKPdf PKPdf 20 42 23.7 +0.3
BOZ Bozeman (W) 129.22 31 *e*PKPdf PKPdf 20 42 23.4 -0.1
BOZ Bozeman (W) 129.22 31 PKIKP PKPdf 20 42 23.8 +0.3
BOZ Bozeman (W) 129.22 31 P PKPdf 20 42 23.9 +0.3
baz=129,SNR=23
PKD Parkfield 129.33 46 ⇓P PKPdf 20 42 24.6 +0.5
baz=129
R07C Lee Vining 129.33 43 ⇓P PKPdf 20 42 24.9 +0.9
baz=129
J13A Cove Ranch, Pi 129.34 35 ⇓P PKPdf 20 42 24.6 +0.8
baz=129,SNR=9.8
K12A Draper Farm, C 129.39 36 ⇓P PKPdf 20 42 24.9 +0.9
baz=129
T06C Milleton Lake 129.41 44 ⇑P PKPdf 20 42 24.7 +0.5
baz=129
O09A Fish Creek Ran 129.44 40 ⇓P PKPdf 20 42 25.0 +0.9

baz=129
KCC Kaiser Creek 129.53 44 ⇓P PKPdf 20 42 25.2 +0.8
baz=129
M11A Holland Ranch, 129.59 38 ⇑P PKPdf 20 42 25.6 +1.3
baz=129,SNR=6.9
L12A House Creek Ra 129.62 36 ⇓P PKPdf 20 42 25.6 +1.2
baz=129
NVAR Mina Array Bea 129.66 42 PKP PKPdf 20 42 15.7 -8.9
NVAR PKP PKPdf 20 42 24.6 +0.1
NVAR SKPbc 20 45 41.4
NVAR Mina Array Bea 129.66 42 PKhKP 20 42 15.7
comp=Z,1.1nm,0.7s,baz=291,slow=1.6,SNR=4.0
NVAR PKP PKPdf 20 42 24.6 +0.1
comp=Z,11nm,0.6s,baz=355,slow=2.7,SNR=38
NVAR SKPbc 20 45 41.4
comp=Z,2.1nm,0.6s,baz=270,slow=5.5,SNR=7.7
Q08A Gabbs 129.67 41 ⇓P PKPdf 20 42 25.6 +1.0
baz=130
O10A Cortez Mining, 129.81 39 ⇑P PKPdf 20 42 25.8 +1.0
baz=130
P09A Austin 129.82 40 ⇑P PKPdf 20 42 25.5 +0.6
baz=130
V05C Boulder Hill, 129.82 46 ⇑P PKPdf 20 42 25.7 +0.8
baz=130
K13A Stover Farm, H 129.86 35 ⇓P PKPdf 20 42 25.6 +0.8
baz=130
MTUM Tungsten Hills 130.03 43 *e*PKPdf PKPdf 20 42 25.5 +0.2
HELL Mitchell Peak 130.05 44 ⇑P PKPdf 20 42 25.4 0.0
baz=130
M12A Wells 130.13 37 P PKPdf 20 42 26.8 +1.4
baz=130,SNR=20
S08C White Mtn Res 130.23 43 P PKPdf 20 42 27.3 +1.6
baz=130,SNR=11
L13A Double Diamond 130.29 36 P PKPdf 20 42 27.2 +1.5
baz=130,SNR=9.3
PKM Peak Mountain 130.34 47 ⇑P PKPdf 20 42 26.7 +0.7
baz=130
N12A Clover Valley, 130.39 38 P PKPdf 20 42 27.1 +1.2
baz=130,SNR=8.7
VES Vestal, Richgr 130.42 45 ⇑P PKPdf 20 42 26.1 0.0
baz=130
O11A Cowboy Ranch, 130.43 39 P PKPdf 20 42 27.2 +1.2
baz=130,SNR=9.5
K14A Jones Ranch, D 130.44 35 ⇑P PKPdf 20 42 27.0 +1.0
baz=130,SNR=5.8
R09A Tonopah 130.58 42 ⇑P PKPdf 20 42 26.4 0.0
baz=130
M13A Montello 130.61 37 P PKPdf 20 42 27.4 +1.1
baz=130,SNR=9.4
S09A Goldfield 130.75 42 P PKPdf 20 42 27.4 +0.7
baz=130,SNR=5.9
RLMT Red Lodge 130.78 30 *e*PKPdf PKPdf 20 42 23.7 -2.8
CWC Cottonwood Cre 130.83 44 P PKPdf 20 42 27.9 +1.0
baz=131,SNR=7.6
N13A Wendover, West 130.89 37 ⇓P PKPdf 20 42 27.5 +0.6
baz=131
O12A Currie 130.91 38 ⇑P PKPdf 20 42 27.9 +1.0
baz=131,SNR=5.8
ISA Isabella 130.94 45 *e*PKPdf PKPdf 20 42 26.4 -0.7
ISA Isabella 130.94 45 ⇑P PKPdf 20 42 27.6 +0.5
baz=131
M14A Sheep Mountain 131.00 36 P PKPdf 20 42 27.9 +0.8
baz=131,SNR=19
GRAC Grapevine Rang 131.03 43 ⇓P PKPdf 20 42 27.8 +0.5
baz=131
LAO LASA Array 131.04 26 *e*PKPdf PKPdf 20 42 24.5 -2.5
TPAW Teton Pass 131.05 32 *e*PKPdf PKPdf 20 42 27.5 +0.4
S10A Tonopah Range, 131.06 42 ⇑P PKPdf 20 42 27.8 +0.6
baz=131
HVU Hansel Valley 131.16 35 *e*PKPdf PKPdf 20 42 27.2 -0.1
HVU Hansel Valley 131.16 35 PKIKP PKPdf 20 42 28.1 +0.8
Q11A Duckwater 131.17 40 ⇑P PKPdf 20 42 28.4 +0.9
baz=131,SNR=6.8
SNOW Snow King Moun 131.17 32 *e*PKPdf PKPdf 20 42 27.7 +0.4
REDW Red Top Meadow 131.19 33 *e*PKPdf PKPdf 20 42 27.2 -0.2
BLG Laguna Peak 131.25 47 ⇓P PKPdf 20 42 28.4 +0.7
baz=131
P12A McGill 131.28 39 P PKPdf 20 42 28.1 +0.5
baz=131,SNR=20
MPMC Manual Prospec 131.43 44 P PKPdf 20 42 29.2 +1.1
baz=131,SNR=8.2
AHID Auburn Hatcher 131.46 33 *e*PKPdf PKPdf 20 42 28.4 +0.5
O13A Hicks Ranch, I 131.47 38 ⇓P PKPdf 20 42 28.4 +0.4
baz=131
R11A Troy Canyon, C 131.49 41 P PKPdf 20 42 29.4 +1.3
baz=131,SNR=11
N14A Grayback Hills 131.50 37 P PKPdf 20 42 28.7 +0.7
baz=131,SNR=11
BGU Big Grassy Mou 131.55 36 *e*PKPdf PKPdf 20 42 28.4 +0.3
M15A Larsen Ranch, 131.55 35 ⇑P PKPdf 20 42 28.8 +0.7
baz=131
Q12A Willow Creek R 131.58 39 ⇓P PKPdf 20 42 28.8 +0.5
baz=131
LRMC Laurel Mountai 131.59 45 P PKPdf 20 42 29.2 +0.9
baz=131,SNR=8.6
FURC Furnace Creek, 131.66 44 ⇑P PKPdf 20 42 29.1 +0.6
baz=131
EDW2 Edwards Air Fo 131.67 46 ⇑P PKPdf 20 42 29.1 +0.6
baz=132,SNR=11
ULM Lac du Bonnet 131.77 16 PKP PKPdf 20 42 27.0 -1.2
comp=Z,18nm,0.7s,baz=345,slow=3.0,SNR=36
ULM SKPbc SKPbc 20 45 46.4 -1.7
comp=Z,7.1nm,0.5s,baz=340,slow=5.0,SNR=13
S11A Rachel 131.78 42 ⇑P PKPdf 20 42 29.5 +0.9
baz=132
TPNV Topopah Spring 131.82 43 *e*PKPdf PKPdf 20 42 28.5 -0.2
TPNV Topopah Spring 131.82 43 *e*PKIKP PKPdf 20 42 29.6 +0.9
TPNV Topopah Spring 131.82 43 P PKPdf 20 42 29.6 +0.9
baz=132,SNR=5.2
P13A Bates Ranch, G 131.85 39 ⇑P PKPdf 20 42 29.5 +0.8
baz=132
N15A Stansbury Isla 131.87 36 P PKPdf 20 42 29.4 +0.7
baz=132,SNR=5.6
HWUT Hardware Ranch 131.96 35 *e*PKPdf PKPdf 20 42 23.2 -5.7
HWUT Hardware Ranch 131.96 35 P Pdif 20 39 27.3 +4.8
HWUT LR LR
comp=Z,6μm,19.0s
U10A Ash Meadows, A 132.05 43 ⇑P PKPdf 20 42 30.4 +1.2
baz=132,SNR=5.9
CIS Catalina Islan 132.07 48 ⇑P PKPdf 20 42 29.8 +0.5
baz=132
DUG Dugway 132.13 37 ⇓P PKPdf 20 42 30.4 +1.2
baz=132,SNR=6.7
SCI San Clemente I 132.16 49 ⇓P PKPdf 20 42 29.9 +0.4
baz=132
BFSC Mount Baldy St 132.22 47 ⇑P PKPdf 20 42 30.5 +0.9
baz=132
PDAR Pinedale Array 132.29 32 PKP PKPdf 20 42 28.6 -0.8
comp=Z,4.7nm,0.6s,baz=177,slow=1.6,SNR=24
PDAR SKPbc SKPbc 20 45 49.5 -0.7
comp=Z,1.7nm,0.7s,baz=308,slow=2.2,SNR=5.6
GSC Goldstone 132.30 45 *e*PKPdf PKPdf 20 42 30.2 +0.5
GSC Goldstone 132.30 45 *e*PKIKP PKPdf 20 42 30.5 +0.8
GSC Goldstone 132.30 45 P PKPdf 20 42 30.7 +1.0
baz=132,SNR=12
T11A Corn Creek, Al 132.35 42 ⇑P PKPdf 20 42 30.8 +1.0
baz=132,SNR=14
SHOC Shoshone 132.36 44 ⇓P PKPdf 20 42 31.1 +1.3
baz=132
S12A Delamar Landin 132.39 41 ⇓P PKPdf 20 42 31.0 +1.2
baz=132
U11A Corn Creek 132.69 43 ⇑P PKPdf 20 42 31.5 +1.1
baz=132
NLU North Lily Min 132.73 37 *e*PKPdf PKPdf 20 42 30.1 -0.2
TUQ Turquoise Mtn. 132.85 44 ⇓P PKPdf 20 42 31.5 +0.8
baz=133
HEC Hector,Ludlow 132.88 45 ⇑P PKPdf 20 42 31.7 +0.9
baz=133
DAU Daniels Canyon 132.92 36 *e*PKPdf PKPdf 20 42 30.7 0.0
S13A Holt Ranch, En 133.05 41 ⇓P PKPdf 20 42 32.0 +1.0
baz=133
U12A Valley of Fire 133.25 42 ⇓P PKPdf 20 42 32.3 +0.8
baz=133
T13A Saint George 133.34 41 ⇑P PKPdf 20 42 32.6 +1.0
baz=133
GMRC Granite Mounta 133.37 45 ⇓P PKPdf 20 42 33.0 +1.2
baz=133,SNR=30
CCUT Cedar City 133.39 40 *e*PKPdf PKPdf 20 42 30.4 -1.2
S14A Cedar City 133.39 40 ⇓P PKPdf 20 42 32.5 +0.8
baz=133
PFO Pinyon Flat Ob 133.40 47 *e*PKPdf PKPdf 20 42 31.5 -0.3
PFO Pinyon Flat Ob 133.40 47 *e*PKIKP PKPdf 20 42 33.1 +1.3
PFO Pinyon Flat Ob 133.40 47 ⇓P PKPdf 20 42 32.6 +0.8
baz=133,SNR=6.2
V12A Nelson 133.43 43 ⇑P PKPdf 20 42 32.7 +0.9
baz=133,SNR=9.8
MSU Marysvale 133.56 38 *e*PKPdf PKPdf 20 42 30.9 -1.1

U13A Pakoon Wash 133.65 42 ⇑P PKPdf 20 42 33.0 +0.8
baz=133
TMUT Trail Mountain 133.66 37 *e*PKPdf PKPdf 20 42 32.7 +0.5
MONP Monument Peak 133.78 47 ⇑P PKPdf 20 42 33.6 +1.0
baz=134,SNR=6.9
RSSD Black Hills 134.01 27 *e*PKPdf PKPdf 20 42 25.2 -7.4
IRM Iron Mountain 134.06 45 P PKPdf 20 42 34.1 +1.1
baz=134,SNR=6.9
DVTC Desert V Tower 134.12 48 ⇑P PKPdf 20 42 34.2 +1.0
baz=134,SNR=5.6
U14A Mt Trumbull 134.16 41 P PKPdf 20 42 34.4 +1.2
baz=134,SNR=7.8
SWSC Sam W. Stewart 134.21 47 ⇑P PKPdf 20 42 34.7 +1.3
baz=134
T15A Red Dirt Ranch 134.33 40 ⇓P PKPdf 20 42 34.8 +1.3
baz=134
W13A Hualapai Mount 134.43 43 P PKPdf 20 42 35.0 +1.3
baz=134,SNR=6.8
PLCA Paso Flores 134.57 187 PKP PKPdf 20 42 34.4 +0.6
PLCA Paso Flores 134.57 187 PKIKP PKPdf 20 42 34.4 +0.6
PLCA pmax pmax
comp=Z,2.0nm,0.6s
PLCA Paso Flores 134.57 187 PKP PKPdf 20 42 34.4 +0.6
comp=Z,1.9nm,0.6s,baz=179,slow=3.8,SNR=7.3
V14A Boquillas Ranc 134.66 42 ⇑P PKPdf 20 42 35.4 +1.3
baz=134,SNR=7.8
PDMCI Parker Dam,Lak 134.69 44 ⇑P PKPdf 20 42 34.8 +0.6
baz=134
Y12C Blythe 134.71 45 P PKPdf 20 42 35.3 +1.1
baz=134,SNR=5.2
X13A Yucca 134.75 44 P PKPdf 20 42 35.4 +1.1
baz=134,SNR=6.9
T16A Glen Canyon Da 134.91 40 ⇑P PKPdf 20 42 35.8 +1.3
baz=135
W14A Seligman 134.91 43 ⇓P PKPdf 20 42 35.5 +0.9
baz=135
Y13A Salome 135.17 45 ⇑P PKPdf 20 42 36.3 +1.2
baz=135
TRQA Tornquist 135.36 197 *e*PKPdf PKPdf 20 42 35.0 -0.4
X14A Yava 135.46 43 ⇑P PKPdf 20 42 36.9 +1.2
baz=135,SNR=6.1
W15A Williams 135.48 42 ⇑P PKPdf 20 42 37.0 +1.4
baz=135
Y14A Wickenburg 135.68 44 ⇓P PKPdf 20 42 36.5 +0.5
baz=136
X15A Humboldt 135.90 43 P PKPdf 20 42 37.7 +1.2
baz=136,SNR=7.0
Z14A Wintersburg 136.03 45 ⇓P PKPdf 20 42 37.9 +1.2
baz=136
Y15A Casa Rosa Ranc 136.13 44 P PKPdf 20 42 38.1 +1.2
baz=136,SNR=11
X16A Lo Mia Camp, P 136.48 43 ⇑P PKPdf 20 42 38.7 +1.1
baz=136,SNR=11
MVCO Mesa Verde 136.63 37 *e*PKPdf PKPdf 20 42 36.8 -1.0
MVCO Mesa Verde 136.63 37 ⇑P PKPdf 20 42 39.0 +1.3
baz=136
Y16A Circle Bar Ran 136.76 43 ⇓P PKPdf 20 42 39.1 +1.1
baz=136
Z16A Peralta Trail, 137.10 44 ⇓P PKPdf 20 42 40.0 +1.3
baz=137
ECSD EROS,Sioux Fal 137.33 21 *e*PKPpre 20 42 26.9
ECSD *e*PKPdf PKPdf 20 42 39.6 +0.7
116A Eloy 137.34 45 ⇓P PKPdf 20 42 40.5 +1.3
baz=137
216A Three Points, 137.82 45 ⇑P PKPdf 20 42 41.3 +1.2
baz=138
SDCO Great Sand Dun 138.01 34 *e*PKPdf PKPdf 20 42 40.1 -0.2
TUC Tucson 138.13 45 *e*PKPdf PKPdf 20 42 41.8 +1.1
217A Green Valley 138.41 45 ⇑P PKPdf 20 42 43.0 +1.8
baz=138
218A Dragoon 138.84 44 ⇑P PKPdf 20 42 43.6 +1.6
baz=139
119A Ashpeak Ranch, 138.89 43 ⇑P PKPdf 20 42 43.3 +1.2
baz=139
318A Bisbee 139.18 45 ⇓P PKPdf 20 42 43.8 +1.2
baz=139
LAZ Ladron 139.30 39 *e*PKPpre 20 42 35.9
LAZ *e*PKPdf PKPdf 20 42 43.3 +0.6
ANMO Albuquerque 139.36 38 *e*PKPpre 20 42 36.1
ANMO *e*PKPdf PKPdf 20 42 42.3 -0.6
ANMO Albuquerque 139.36 38 PKHKP 20 42 36.6
LENM Lemitar 139.55 39 *e*PKPdf PKPdf 20 42 38.8 -4.5
MSNY Massena 139.62 357 *e*PKPdf PKPdf 20 42 42.0 -1.0
LPM Los Pinos Moun 139.68 39 *e*PKPpre 20 42 37.4
LPM *e*PKPdf PKPdf 20 42 44.2 +0.8
BNM Barren Site 139.78 39 *e*PKPpre 20 42 35.7
BNM *e*PKPdf PKPdf 20 42 44.5 +0.9
LONY Lake Ozonia 139.99 357 *e*PKPpre 20 42 32.5
LONY *e*PKPdf PKPdf 20 42 42.9 -0.8
JFWS Jewell Farm 140.03 15 *e*PKPpre 20 42 33.2
JFWS Jewell Farm 140.03 15 PKIKP PKPdf 20 42 40.8 -3.0
CBKS Cedar Bluff 140.18 28 *e*PKPpre 20 42 35.6
KSU1 Kansas State U 141.32 24 *e*PKPpre 20 42 39.5
MNTX Cornudas Mount 142.16 41 *e*PKPpre 20 42 42.4
AMTX Amarillo 142.21 34 *e*PKPpre 20 42 39.3
BINY Binghamton 142.46 359 *e*PKPpre 20 42 42.4
ERPA Erie 142.47 3 *e*PKPpre 20 42 43.1
HDIL Hopedale 142.49 15 *e*PKPpre 20 42 43.1
CFAA Coronel Fontan 143.09 193 PKhKP 20 42 46.5
comp=Z,1.6nm,0.6s,baz=232,slow=2.4,SNR=16
WMOK Wichita Mounta 143.87 31 *e*PKPdf PKPdf 20 42 47.1 -3.8
WMOK Wichita Mounta 143.87 31 *e*PKHKP 20 42 47.3
SSPA Standing Stone 144.03 1 *e*PKPdf PKPdf 20 42 47.5 -3.6
ACSO Alum Creek Sta 144.06 8 *e*PKPdf PKPdf 20 42 47.6 -3.5
BLO Bloomington 144.47 13 *e*PKPdf PKPdf 20 42 48.5 -3.3
BLO Bloomington 144.47 13 PKIKP PKPdf 20 42 48.7 -3.1
FVM French Village 144.56 18 *e*PKPdf PKPdf 20 42 49.1 -2.9
FVM French Village 144.56 18 PKIKP PKPdf 20 42 49.2 -2.8
MVL Millersville 144.66 359 *e*PKPdf PKPdf 20 42 49.9 -2.3
TXAR Lajitas Array 144.81 43 PKIKP PKPdf 20 42 52.0 -0.7
TXAR pmax pmax
comp=Z,101nm,0.6s
TXAR Lajitas Array 144.81 43 PKP PKPdf 20 42 52.0 -0.8
comp=Z,101nm,0.6s,baz=270,slow=0.9
BDFB Brasilia 144.87 235 PKP2 PKPdf 20 42 53.3 +0.2
BDFB pmax pmax
comp=Z,40nm,0.5s
BDFB Brasilia 144.87 235 PKPbc PKPdf 20 42 53.3 +0.2
comp=Z,40nm,0.5s,baz=113,slow=4.8,SNR=61
SIUC Southern Illin 145.17 17 *e*PKPdf PKPdf 20 42 51.8 -1.3
SDMD Soldier's Deli 145.26 360 *e*PKPdf PKPdf 20 42 51.5 -1.7
USIN University of 145.35 15 *e*PKPdf PKPdf 20 42 52.2 -1.1
WCI Wyandotte Cave 145.43 13 *e*PKPdf PKPdf 20 42 52.6 -0.9
WCI Wyandotte Cave 145.43 13 *e*PKIKP PKPdf 20 42 52.8 -0.7
PARMO Parma 145.98 18 *e*PKPdf PKPdf 20 42 54.5 0.0
LCO Las Campanas 146.09 190 *e*PKPdf PKPdf 20 42 55.1 +0.1
CBN Corbin 146.46 0 *e*PKPdf PKPdf 20 42 55.2 -0.1
MIAR Mount Ida 146.47 25 *e*PKPdf PKPdf 20 42 55.3 -0.1
MIAR Mount Ida 146.47 25 PKIKP PKPdf 20 42 55.4 0.0
GLAT Glass 146.49 18 *e*PKPbc PKPbc 20 42 56.2 -0.6
JCT Junction City 146.50 37 *e*PKPdf PKPdf 20 42 55.3 -0.2
JCT Junction City 146.50 37 PKIKP PKPdf 20 42 55.8 +0.2
UTMT University of 146.55 17 *e*PKPbc PKPbc 20 42 56.3 -0.7
HBAR Harrisburg 146.69 20 *e*PKPbc PKPbc 20 42 56.8 -0.7
UALR University of 146.77 23 *e*PKPdf PKPdf 20 42 55.3 -0.6
HALT Halls 146.80 18 *e*PKPbc PKPbc 20 42 56.0 -1.8
WVT Waverly 147.04 16 *e*PKPdf PKPdf 20 42 55.4 -0.9
WVT Waverly 147.04 16 PKIKP PKPdf 20 42 55.9 -0.4
URVA University of 147.09 1 *e*PKPdf PKPdf 20 42 55.6 -0.8
ELN Prospectdale 147.27 5 *e*PKPdf PKPdf 20 42 56.1 -0.6
BLA Blacksburg 147.32 5 *e*PKPdf PKPdf 20 42 55.8 -0.9
BLA Blacksburg 147.32 5 *e*PKIKP PKPdf 20 42 56.3 -0.4
TZTN Tazewell 147.59 10 *e*PKPdf PKPdf 20 42 56.5 -0.8
PLAL Pickwick Lake 148.04 17 *e*PKPdf PKPdf 20 42 57.1 -0.9
SWET Sewanee 148.39 14 *e*PKPdf PKPdf 20 42 56.8 -1.8
SWET *e*PKPbc PKPbc 20 43 00.6 -1.5
SWET *e*PKPab PKPab 20 43 03.8 -1.5
CPCT Cooper Cave 148.47 12 *e*PKPdf PKPdf 20 42 58.3 -0.4
CPCT *e*PKPbc PKPbc 20 43 01.6 -0.6
CPCT *e*PKPab PKPab 20 43 04.7 -1.0
HKT Hockley 149.16 33 *e*PKPdf PKPdf 20 42 59.7 -0.2
HKT *e*PKPbc PKPbc 20 43 04.5 +0.3
HKT Hockley 149.16 33 PKIKP PKPdf 20 43 00.8 +0.8
BBSR BB Station 149.92 339 *e*PKPbc PKPbc 20 43 05.8 -0.2
JSC Jenkinsville 150.14 7 *e*PKPdf PKPdf 20 43 01.3 -0.1
JSC *e*PKPbc PKPbc 20 43 05.5 -1.0
JSC Jenkinsville 150.14 7 *e*PKHKP 20 43 01.6
LRAL Lakeview Retre 150.18 17 *e*PKPdf PKPdf 20 43 00.5 -1.0
LRAL *e*PKPbc PKPbc 20 43 05.0 -1.6
GOGA Godfrey 150.66 11 *e*PKPdf PKPdf 20 43 01.5 -0.7
GOGA *e*PKPbc PKPbc 20 43 06.8 -0.9
GOGA *e*PKPab PKPab 20 43 13.5 -1.1
GOGA Godfrey 150.66 11 *e*PKIKP PKPdf 20 43 02.5 +0.3

BRAL Brewton 152.05 18 *e*PKPdf PKPdf 20 43 04.6 +0.2
SIV San Ignacio 154.14 218 PKP PKPdf 20 43 07.6 -0.2
comp=Z,7.2nm,0.8s,baz=129,slow=3.1,SNR=34
SIV PKPbc PKPbc 20 43 15.4 -0.6
comp=Z,17nm,0.8s,baz=129,slow=3.1,SNR=4.6
SIV PKPab PKPab 20 43 30.2 +0.5
comp=Z,12nm,0.8s,baz=121,slow=4.3,SNR=10
LPAZ La Paz 157.48 203 *e*PKPdf PKPdf 20 43 12.5 +0.2
LPAZ La Paz 157.48 203 PKP2 PKPab 20 43 45.3 +1.4
LPAZ pmax pmax
comp=Z,3.0nm,0.7s
LPAZ La Paz 157.48 203 PKP PKPdf 20 43 13.1 +0.8
comp=Z,5.4nm,1.0s,baz=60,slow=3.3,SNR=14
LPAZ PKPab PKPab 20 43 45.3 +1.4
comp=Z,3.4nm,0.7s,baz=111,slow=4.2,SNR=6.3
CMIG Matias Romero 158.61 53 PKP PKPdf 20 43 12.7 -0.9
comp=Z,3.7nm,0.7s,baz=319,slow=2.7,SNR=6.3
CMIG PKPab PKPab 20 43 48.0 -1.0
comp=Z,4.7nm,0.7s,baz=301,slow=6.1,SNR=4.5
SOR Soroa 160.97 17 *e*P PKPdf 20 43 16.1 -0.1
TEIG Tepich 161.01 34 *e*PKPdf PKPdf 20 43 15.2 -1.1
TEIG Tepich 161.01 34 PKP PKPdf 20 43 15.6 -0.7
comp=Z,12nm,0.9s,baz=12,slow=9.2,SNR=5.1
TEIG PKPab PKPab 20 43 58.3 -0.9
comp=Z,7.9nm,0.6s,baz=313,slow=3.6,SNR=7.7
MGV Manicaragua 162.30 9 *e*P PKPab 20 44 03.8 -0.9
SJG San Juan 162.71 322 PKIKP PKPdf 20 43 18.2 +0.1
SJG pmax pmax
comp=Z,8.0nm,0.3s
SJG San Juan 162.71 322 PKP PKPdf 20 43 18.2 +0.1
comp=Z,7.6nm,0.3s,baz=311,slow=19,SNR=3.9
ATAH Atahualpa 168.50 174 PKP PKPdf 20 43 23.2 +0.3
comp=Z,5.9nm,0.8s,baz=160,slow=8.0,SNR=4.5
SDV Santo Domingo 172.18 304 *e*PKPdf PKPdf 20 43 23.1 -1.9
SDV *e*PKPab PKPab 20 44 48.0 -0.8
SDV Santo Domingo 172.18 304 PKP PKPdf 20 43 23.8 -1.2
comp=Z,7.4nm,0.8s,baz=296,slow=3.8,SNR=7.3
SDV PKPab PKPab 20 44 48.3 -0.6
comp=Z,13nm,0.7s,baz=103,slow=2.8,SNR=12
SDV PP PP 20 48 38.8 -1.0
comp=Z,4.6nm,0.7s,baz=308,slow=5.2,SNR=5.3
ROSC El Rosal 177.14 277 PKP PKPdf 20 43 25.9 -0.7
comp=Z,4.8nm,0.3s,baz=106,slow=23,SNR=4.1

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*ISCJB **03** 20:26:07.1±1.5,2066S±004×16893E±003,h2km±9km, mb5.4/87,MS6.0/204,Error ellipse: s-maj=7.1km s-min=4.5km az=159.5*

*IDC **03** 20:26:08.5±0.5,2067S×16887E,h0km,mb5.0/20, mb1 5.0/22,mb1mx5.0/25,mbtmp5.0/22,ML4.3/2,MS5.9/22, Ms1 5.9/22,ms1mx5.6/33,Error ellipse: s-maj=16.5km s-min=13.4km az=125.0*

*NEIC **03** 20:26:09.6±0.2,2063S×16899E,h12km,mb5.6/55,ME5.7, MS6.0/166,MW6.1,Error ellipse: s-maj=10.2km s-min=6.3km az=142.0 Broadband fault plane solution: P waves. NP1:ϕ_s145.00000°,δ75.00000°,λ90.00000°. NP2:ϕ_s325.00000°,δ15.00000°,λ90.00000°. Principal axes: T Plg60.0000°, Azm55.0000°; N Plg0.0000°, Azm0.0000°; P Plg30.0000°, Azm240.0000°; Moment Tensor Solution. s28 Moment tensor: Scale 10^{18} Nm; M_{rr}1.13; $M_{\theta\theta}$-0.02; $M_{\phi\phi}$-1.11; $M_{r\theta}$0.36; $M_{\theta\phi}$0.20; $M_{\phi r}$-1.03; Best double couple: $M_0$1.60000×10^{18} NP1:ϕ_s357.00000°, δ24.00000°,λ102.00000°. NP2:ϕ_s164.00000°,δ67.00000°, λ85.00000°. Principal axes: T 1.5800, Plg68.0000°, Azm64.0000°; N 0.0000, Plg5.0000°, Azm166.0000°; P -1.5800, Plg22.0000°, Azm258.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*

*GCMT **03** 20:26:09.6±0.1,2081S×16874E,h16km,MW6.2/113, Moment Tensor Solution. s110,c255; s113,c399; Duration: 3*0 Moment tensor: Scale 10^{18}Nm; M_{rr}1.57±.01; $M_{\theta\theta}$-0.31±.01; $M_{\phi\phi}$-1.26±.01; $M_{r\theta}$1.11±.03; $M_{\theta\phi}$0.73±.01; $M_{\phi r}$-1.21±.03; Best double couple: $M_0$2.30300×10^{18} NP1:ϕ_s342.00000°,δ23.00000°, λ109.00000°. NP2:ϕ_s141.00000°,δ68.00000°,λ82.00000°. Principal axes: T 2.2860, Plg66.0000°, Azm37.0000°; N 0.0310, Plg7.0000°, Azm144.0000°; P -2.3190, Plg23.0000°, Azm238.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

*LDG **03** 20:26:11.9±0.3,2046S×16808E,h10km,Mb5.5/4, Ms6.0/10 Error ellipse: s-maj=26.3km s-min=6.5km az=128.0*

*BGS **03** 20:26:11.1±3.1,2063S×16899E,h10km,mb5.6(NEIC)*

*BJI **03** 20:26:12.1,20.10S×16902E,h20km,mB6.2,mb5.1,Ms6.0, Msz5.8*

*MOS **03** 20:26:12.6±0.9,1964S×16872E,h33km,mb5.5/41, MS6.0/49,Error ellipse: s-maj=51.8km s-min=17.3km az=116.1*

ISC 03 20:26:09.6±1.7,2065S±004×16899E±003,h8km±10km, h38km±2.3km:pP-P,n1008,c0°64/498,mb5.4/87,MS6.0/204, 152C-175D,Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**2.76**	**239**	⇓*iP*		**Pn**	**Pn**	**20 26 50.7**	**-3.5**
DZM	**Mont Dzumac**	**2.76**	**239**	Pn		**Pn**	**Pn**	**20 26 50.5**	**-3.8**
39nm,0.3s,baz=61,slow=17,SNR=130									
DZM				Sn		**Sn**	**Sn**	**20 27 23.8**	**-4.1**
291nm,0.3s,baz=323,slow=23,SNR=9.3									
HNR	**Honiara**	**14.15**	**321**	Pn		**Pn**	**Pn**	**20 29 24.2**	**-6.3**
459nm,1.0s									
HNR	**Honiara**	**14.15**	**321**	P		**Pn**	**Pn**	**20 29 24.2**	**-6.4**
HNR				pmax		pmax	pmax		
comp=Z,459nm,1.0s									
FUNA	**Funafuti**	**15.57**	**41**	*e*Pn		**Pn**	**Pn**	**20 29 47.2**	**-2.4**
comp=Z,5μm,2.5s									
EIDS	**Eidsvold**	**17.14**	**251**	⇓*e*Pn		**Pn**	**Pn**	**20 30 09.4**	**-0.3**
comp=Z,66nm,1.4s									
ARMA	**Armidale**	**18.42**	**235**	*e*P		**Pn**	**Pn**	**20 30 24.7**	**-0.8**
URZ	**Urewera**	**18.91**	**160**	P		**Pn**	**Pn**	**20 30 31.5**	**+0.1**
comp=Z,1.2nm,0.3s,baz=31,slow=7.4,SNR=9.8									
RIV	**Riverview**	**20.54**	**227**	*e*P		**P**	**P**	**20 30 49.4**	**+0.7**
SNZO	**South Karori**	**21.16**	**168**	*e*P		**P**	**P**	**20 30 57.0**	**+1.6**
comp=Z,354nm,1.3s,mb5.5									
SNZO				LR		LR	LR		
comp=Z,32μm,19.0s,MS5.7									
CTA	**Charters Tower**	**21.32**	**267**	*e*P		**P**	**P**	**20 30 57.8**	**+0.6**
comp=Z,98nm,1.1s,mb5.0									
CTA				*i* S		**S**	**S**	**20 34 53.5**	**-0.8**
CTA	**Charters Tower**	**21.32**	**267**	*e*P		**P**	**P**	**20 30 57.8**	**+0.6**
CTA				*i* S		**S**	**S**	**20 34 53.5**	**-0.8**
CTA				pmax		pmax	pmax		
comp=Z,98nm,1.1s									
CTA	**Charters Tower**	**21.32**	**267**	P		**P**	**P**	**20 30 57.8**	**+0.6**
comp=Z,128nm,1.1s,mb5.2,baz=87,slow=12,SNR=22									
CTAO	**Charters Tower**	**21.32**	**267**	⇓*e*Pn		**P**	**P**	**20 30 57.4**	**+0.3**
comp=Z,339nm,0.8s,mb5.7									
CTAO				LR		LR	LR		
comp=Z,47μm,19.0s,MS5.9									
CNB	**Canberra Magne**	**22.61**	**226**	*e*P		**P**	**P**	**20 31 10.5**	**-0.3**
comp=Z,220nm,1.1s,mb5.5									
RPZ	**Rata Peaks**	**23.07**	**176**	P		**P**	**P**	**20 31 15.9**	**+0.3**
comp=Z,24nm,1.0s,mb4.6,baz=315,slow=3.0,SNR=5.6									
RPZ				LR		LR	LR	20 38 20.9	
comp=Z,13μm,20.6s,MS5.3,baz=347,slow=32									
STKA	**Stephens Creek**	**26.92**	**240**	P		**P**	**P**	**20 31 50.1**	**-1.4**
comp=Z,74nm,0.7s,mb5.3,baz=72,slow=9.5,SNR=5.2									
STKA				LR		LR	LR	20 41 56.6	
comp=Z,36μm,21.1s,MS5.9,baz=62,slow=35									
TAU	**Tasmania Unive**	**28.69**	**214**	*e*P		**P**	**P**	**20 32 07.8**	**+0.7**
comp=Z,62nm,1.3s,mb5.2									
TAU				LR		LR	LR		
comp=Z,41μm,20.0s,MS6.0									
RAR	**Rarotonga**	**29.16**	**97**	PFAKE				20 32 20.0	+8.4
RAR				LR		LR	LR		
comp=Z,1.0nm,19.0s									
WRA	**Warramunga Arr**	**32.47**	**265**	P		**P**	**P**	**20 32 37.9**	**-2.9**
comp=Z,22nm,0.9s,mb5.0,baz=94,slow=9.2,SNR=10									
WRA				ScP		ScP	ScP	20 39 13.4	+1.0
comp=Z,4.8nm,1.2s,baz=106,slow=2.9,SNR=5.8									
WRA				LR		LR	LR	20 46 08.2	
comp=Z,40μm,18.8s,MS6.1,baz=90,slow=37									
ASAR	**Alice Springs**	**32.58**	**258**	P		**P**	**P**	**20 32 39.8**	**-2.0**
ASAR				*e*				21 04 05.1	
ASAR	**Alice Springs**	**32.58**	**258**	P		**P**	**P**	**20 32 39.8**	**-2.0**
comp=Z,62nm,0.9s,mb5.5,baz=82,slow=8.7,SNR=32									
ASAR				P3KPbc				21 04 05.1	
comp=Z,0.6nm,0.6s,baz=275,slow=4.0,SNR=8.7									
TBI	**Tubuai**	**38.53**	**102**	*e*S		**S**	**S**	**20 39 30.2**	**+1.1**

comp=Z,8μm,28.2s
TBI eLQ 20 42 17.2
comp=Z,61μm,29.2s
TBI eLR LR 20 44 05.7
comp=Z,14μm,29.8s,baz=257
PPT Papeete 39.20 93 eS **S 20 39 39.0 -0.3**
comp=Z,10μm,23.8s
PPT eLQ 20 42 50.5
comp=Z,72μm,27.5s
PPT eLR LR 20 44 23.2
comp=Z,33μm,28.0s,baz=254
FITZ Fitzroy Crossi 40.89 266 eP **P 20 33 52.0 -0.6**
comp=Z,107nm,0.9s,mb5.5
FITZ eS **S 20 40 03.1 -1.5**
FITZ Fitzroy Crossi 40.89 266 P **P 20 33 51.6 -1.0**
comp=Z,76nm,0.9s,mb5.3,baz=115,slow=10,SNR=18
FITZ LR LR 20 51 45.5
comp=Z,24μm,18.2s,MS6.1,baz=100,slow=38
GUMO Guam 41.47 323 PFAKE 20 34 10.0 +13
GUMO LR LR
comp=Z,12μm,20.0s,MS5.8
GUMO Guam 41.47 323 LR LR 20 49 55.5
comp=Z,10μm,19.9s,MS5.7,baz=145,slow=34
BATI Kupang 44.77 276 P **P 20 34 23.6 -0.6**
comp=Z,58nm,0.8s,mb5.4,baz=135,slow=2.9,SNR=2.9
BATI LR LR 20 53 23.0
comp=Z,26μm,19.9s,MS6.2,baz=136,slow=37
MBWA Marble Bar 45.87 260⇓ eP **P 20 34 32.3 -0.5**
comp=Z,87nm,0.9s,mb5.7
MBWA LR LR
comp=Z,70μm,19.0s,MS6.6
KLBR Kellerberrin 46.91 246 eP **P 20 34 39.7 -1.2**
comp=Z,97nm,0.9s,mb5.7
NWAO Narrogin (SRO) 47.37 244⇓ eP **P 20 34 43.3 -1.2**
comp=Z,62nm,1.0s,mb5.5
NWAO LR LR
comp=Z,41μm,21.0s,MS6.4
NWAO Narrogin (SRO) 47.37 244 P **P 20 34 43.0 -1.5**
comp=Z,61nm,0.9s,mb5.5,baz=89,slow=8.1,SNR=16
MUN Mundaring 48.23 245 eP **P 20 34 51.6 +0.5**
KAPI Kappang 50.23 281 P **P 20 35 07.7 +1.0**
comp=Z,455nm,1.0s,mb6.5,SNR=10
KAPI Kappang 50.23 281 P **P 20 35 06.7 0.0**
TAOE Nuku Hiva Isla 50.38 84 eS **S 20 42 21.9 +0.4**
comp=Z,293μm,25.6s
TAOE eLQ 20 47 33.0
comp=Z,360μm,24.1s
TAOE eLR LR 20 49 39.6
comp=Z,539μm,26.5s
DAV Davao City (W) 50.77 298 PFAKE 20 35 20.0 +9.3
DAV LR LR
comp=Z,6μm,20.0s,MS5.6
RKT Rikitea 51.79 104 eS **S 20 42 40.6 -0.4**
comp=Z,8μm,27.5s
RKT eSS SS 20 46 18.0 +0.4
comp=Z,3μm,28.5s
RKT eLQ 20 48 04.3
comp=Z,10μm,27.8s
RKT eLR LR 20 50 11.4
comp=Z,8μm,27.8s
KIP Kipapa 52.80 40 PFAKE 20 35 40.0 +14
KIP LR LR
comp=Z,14μm,19.0s,MS6.0
POHA Pohakuloa 53.09 43 PFAKE 20 35 40.0 +12
POHA LR LR
comp=Z,10μm,19.0s,MS5.9
PTCN Pitcairn Islan 55.91 107 PFAKE 20 36 00.0 +12
PTCN LR LR
comp=Z,5μm,19.0s,MS5.7
VNDA Vanda 57.02 182 PFAKE 20 36 10.0 +14
VNDA LR LR
comp=Z,5μm,20.0s,MS5.6
VNDA Vanda 57.02 182 LR LR 20 57 38.9
comp=Z,6μm,18.4s,MS5.7,baz=19,slow=33
SBA Scott Base 57.26 181 eP **P 20 35 59.3 +2.0**
comp=Z,48nm,1.1s,mb5.4
SBA LR LR
comp=Z,4μm,19.0s,MS5.6
SBA Scott Base 57.26 181 eP **P 20 35 59.3 +2.0**
SBA pmax pmax
comp=Z,48nm,1.1s,mb5.4
SBA MLR MLR
comp=Z,4μm,19.0s,MS5.6
KKM Kota Kinabalu 58.21 291 eP **P 20 36 04.1 -0.8**
CASY Casey 58.75 204 eP **P 20 36 07.3 -0.5**
KSM Kuching 61.46 284 eP **P 20 36 27.4 +0.1**
JOW Kunigami 61.51 318 LR LR 20 57 27.2
comp=Z,4μm,20.9s,MS5.6,baz=290,slow=31
MJAR Matsushiro Arr 63.88 333 P **P 20 36 43.4 +0.5**
comp=Z,12nm,1.1s,mb4.8,baz=152,slow=6.3,SNR=7.4
MAJO Matsushiro 63.88 333⇑ i P **P 20 36 42.7 -0.2**
comp=Z,17nm,0.8s,mb5.1
MAJO LR LR
comp=Z,7μm,19.0s,MS5.9
MAT Matsushiro 63.88 333 P **P 20 36 42.7 -0.2**
MAT S **S 20 45 18.0 -0.7**
JNU Nakatsue 64.67 325 LR LR 21 04 05.1
comp=Z,3μm,18.1s,MS5.6,baz=310,slow=35
TATO Taipei 64.72 312 PFAKE 20 37 00.0 +11
TATO LR LR
comp=Z,9μm,20.0s,MS5.9
QZH Quanzhou 66.73 310 i P **P 20 37 01.0 -0.7**
QZH S S 20 45 56.0 +1.8
QZH AMB AMB
comp=Z,5μm,9.0s
QZH LR LR
comp=N,2μm,8.9s
QZH LR LR
comp=E,5μm,15.2s
QZH LR LR
comp=Z,5μm,19.4s,MS5.8
ERM Erimo 66.77 339 PFAKE 20 37 10.0 +8.5
ERM LR LR
comp=Z,10μm,20.0s,MS6.0
YUK Yuzh-Kuril'sk 67.76 342 eP **P 20 37 08.0 +0.2**
YUK e 20 37 32.0
YUK e 20 39 39.0
YUK ePPP 20 41 22.0
YUK eSS SS 20 50 25.0 -2.7
YUK pmax pmax
comp=Z,5μm,7.0s
HKC Hong Kong Obse 68.44 306 eP **P 20 37 12.0 -0.5**
ASAJ Asahikawa 68.83 340 P **P 20 37 16.1 +1.6**
comp=Z,16nm,1.0s,mb4.9,baz=222,slow=12,SNR=13
ASAJ LR LR 21 04 16.6
comp=Z,14μm,19.5s,MS6.2,baz=164,slow=33
SSE Sheshan 68.93 317 P **P 20 37 15.5 +0.1**
SSE XP sP 20 37 32.3 +14
SSE S S 20 46 18.2 -2.0
SSE SCS ScS 20 47 12.6 -3.8
SSE AMB AMB
comp=Z,21nm,0.8s,mb5.1
SSE AMB AMB
comp=Z,1μm,7.8s
SSE LR LR
comp=N,2μm,21.4s,MS5.6
SSE LR LR
comp=E,3μm,21.4s,MS5.6
SSE LR LR
comp=Z,5μm,17.3s,MS5.8
SSE Sheshan 68.93 317 P **P 20 37 15.5 +0.1**
comp=Z,21nm,0.8s,mb5.1
SSE sP sP 20 37 32.3 +14
SSE S S 20 46 18.2 -2.0
SSE ScS ScS 20 47 12.6 -3.8
SSE LR LR
comp=Z,5μm,17.3s,MS5.8
QSPA South Pole Qui 69.42 180 P **P 20 37 18.6 +0.9**
QSPA LR LR 21 06 04.6
QSPA South Pole Qui 69.42 180 P **P 20 37 18.6 +0.9**
comp=Z,17nm,0.9s,mb5.0,baz=116,slow=0.5,SNR=6.9
QSPA LR LR 21 06 04.6
comp=Z,9μm,18.6s,MS6.0,baz=32,slow=34
GZH Guangzhou 69.51 306 P **P 20 37 21.2 +2.0**
GZH S S 20 46 28.7 +1.3
GZH LR LR
comp=N,1μm,17.6s,MS5.8
GZH LR LR
comp=E,4μm,16.7s,MS5.8
GZH LR LR
comp=Z,5μm,18.5s,MS5.8
KSRS Korea Array 69.53 326 P **P 20 37 19.4 +0.4**
comp=Z,4.1nm,0.9s,baz=157,slow=6.5,SNR=4.9
QIZ Qiongzhong 70.07 300 P **P 20 37 23.0 +0.3**
QIZ XP sP 20 37 40.5 +14
QIZ S S 20 46 38.6 +4.4
QIZ SCS ScS 20 47 20.3 -5.6
QIZ SS SS 20 50 57.1 -7.1
QIZ AMB AMB
comp=Z,41nm,1.3s,mb5.2
QIZ AMB AMB
comp=Z,2μm,8.5s
QIZ LR LR
comp=N,4μm,18.8s
QIZ LR LR
comp=Z,3μm,20.4s,MS5.5
QIZ Qiongzhong 70.07 300 PFAKE 20 37 30.0 +7.3
QIZ LR LR
comp=Z,4μm,19.0s,MS5.6
INCN Inchon 70.23 325 eP **P 20 37 23.9 +0.6**
comp=Z,75nm,1.1s,mb5.5
INCN LR LR
comp=Z,4μm,19.0s,MS5.7
NJ2 Nanjing 71.05 316 eP **P 20 37 29.3 +0.9**
NJ2 AP pP 20 37 42.3 +11
NJ2 PP PP 20 40 09.3 +3.1
NJ2 S S 20 46 40.0 -5.2
NJ2 XS sS 20 47 00.0 +11
NJ2 AMB AMB
comp=Z,100nm,1.1s,mb5.7
NJ2 AMB AMB
comp=Z,3μm,9.0s
NJ2 LR LR
comp=N,7μm,19.2s,MS6.0
NJ2 LR LR
comp=E,4μm,14.7s,MS6.0
NJ2 LR LR
comp=Z,4μm,14.7s,MS5.8
YSS Yuzh-Sakhalins 71.33 341 eP **P 20 37 31.6 +1.9**
comp=Z,67nm,1.1s,mb5.5
YSS LR LR
comp=Z,17μm,20.0s,MS6.3
YSS Yuzh-Sakhalins 71.33 341αeP **P 20 37 31.5 +1.8**
YSS e 20 37 41.0
YSS e 20 40 04.0
YSS ePPP 20 41 48.0
YSS eSS SS 20 51 15.0 -7.5
YSS pmax pmax
comp=Z,370nm,2.0s,mb6.0
YSS pmax pmax
comp=N,2μm,8.0s
YSS pmax pmax
comp=Z,4μm,8.0s
YSS MLR MLR
comp=E,6μm,18.0s,MS6.2
YSS MLR MLR
comp=Z,13μm,18.0s,MS6.2
YSS MLR MLR
comp=N,11μm,19.0s,MS6.2
KULM Kulim 71.81 283 eP **P 20 37 33.4 -0.1**
SKR Severo-Kuril's 71.92 351 eP **P 20 37 30.0 -3.2**
SKR e 20 37 54.0
SKR pmax pmax
comp=E,2μm,6.0s
SKR pmax pmax
comp=Z,5μm,6.0s
SKR MLR MLR
comp=N,3μm,16.0s,MS6.0
SKR MLR MLR
comp=E,6μm,16.0s,MS6.0
SKR MLR MLR
comp=Z,6μm,16.0s,MS5.9
VLA Vladivostok 72.04 332⇓ eP **P 20 37 37.1 +3.0**
VLA Vladivostok 72.04 332 d i P **P 20 37 35.6 +1.5**
VLA i S S 20 47 01.2 +5.1
VLA pmax pmax
comp=Z,135nm,1.9s,mb5.5
PSI Prapat 72.42 280 P **P 20 37 36.5 -0.6**
comp=Z,12nm,0.7s,mb5.0,baz=208,slow=3.9,SNR=5.2
PSI LR LR 21 12 34.5
comp=Z,6μm,19.1s,MS5.9,baz=121,slow=38
WHN Wuhan 73.12 313⇑ P **P 20 37 42.4 +1.5**
WHN S S 20 47 12.4 +3.5
WHN AMB AMB
comp=Z,226nm,2.1s,mb5.7
WHN AMB AMB
comp=Z,4μm,7.8s
WHN LR LR
comp=Z,8μm,16.4s,MS6.1
SMY Shemya 73.20 3 PFAKE 20 37 50.0 +9.2
SMY LR LR
comp=Z,10μm,20.0s,MS6.1
RPN Rapa Nui 73.75 113 PFAKE 20 38 00.0 +15
RPN LR LR
comp=Z,3μm,19.0s,MS5.7
PET Petropavlovsk 73.90 354 eP **P 20 37 46.4 +1.5**
comp=Z,362nm,2.0s,mb6.0
PET LR LR
comp=Z,12μm,20.0s,MS6.2
PET Petropavlovsk 73.90 354 eP **P 20 37 44.9 0.0**
PET e 20 38 00.1
PET i S S 20 47 14.6 -2.3
PET eSS SS 20 51 59.8 -1.9
PET pmax pmax
comp=Z,76nm,1.8s,mb5.3
PET pmax pmax
comp=Z,4μm,8.1s
PET pmax pmax
comp=Z,2μm,13.1s
PET smax
comp=E,6μm,13.2s
DL2 Dalian 73.99 323⇑ i P **P 20 37 46.7 +0.9**
DL2 PP PP 20 40 32.0 +0.7
DL2 S S 20 47 19.5 +1.0
DL2 AMB AMB
comp=Z,40nm,0.9s,mb5.3
DL2 AMB AMB
comp=Z,2μm,6.7s
DL2 LR LR
comp=N,2μm,17.1s,MS5.7
DL2 LR LR
comp=E,2μm,17.8s,MS5.7
DL2 LR LR
comp=Z,4μm,17.5s,MS5.7
MDJ Mudanjiang 74.24 332 P **P 20 37 47.9 +0.8**
MDJ AP pP 20 38 00.5 +11
MDJ XP sP 20 38 04.0 +13
MDJ PP PP 20 40 32.8 -0.5
MDJ S S 20 47 19.6 -1.4
MDJ AMB AMB
comp=Z,45nm,2.3s,mb5.0
MDJ AMB AMB
comp=Z,3μm,6.5s
MDJ LR LR
comp=E,3μm,20.4s,MS5.7
MDJ LR LR
comp=N,3μm,22.9s,MS5.7
MDJ LR LR
comp=Z,6μm,16.6s
MDJ Mudanjiang 74.24 332 eP **P 20 37 49.1 +2.0**
comp=Z,64nm,1.3s,mb5.4
MDJ LR LR
comp=Z,6μm,19.0s,MS5.9
TIA Tai'an 74.84 319 eP **P 20 37 51.3 +0.5**
TIA S S 20 47 31.5 +3.4
TIA AMB AMB
comp=Z,1μm,7.0s
TIA LR LR
comp=N,909nm,12.0s
SNY Shenyang 75.02 327⇑ P **P 20 37 52.1 +0.4**
SNY AP pP 20 38 03.8 +10
SNY XP sP 20 38 06.7 +12
SNY AMB AMB
comp=Z,4μm,7.6s
SNY LR LR
comp=N,3μm,11.6s
SNY LR LR
comp=E,1μm,17.3s
SNY LR LR
comp=Z,1μm,21.6s
HABR Khabarovsk 75.20 337⇑ i P **P 20 37 53.1 +0.5**
HABR e 20 40 43.3
HABR eS S 20 47 34.1 +2.5
HABR pmax pmax
comp=Z,180nm,2.3s,mb5.6
CN2 Changchun 75.53 329 eP **P 20 37 53.9 -0.7**
CN2 eS S 20 47 32.2 -3.3
CN2 AMB AMB
comp=Z,30nm,1.3s,mb5.1
CN2 AMB AMB
comp=Z,4μm,6.0s
CN2 LR LR
comp=N,3μm,18.0s,MS5.8
CN2 LR LR
comp=E,3μm,18.0s,MS5.8
CN2 LR LR
comp=Z,5μm,18.0s,MS5.9
ENH Enshi 76.38 310 PFAKE 20 38 10.0 +10
ENH LR LR
comp=Z,7.0nm,19.0s
GYA Guiyang 76.43 305⇑ i P **P 20 38 01.3 +1.2**
GYA PP PP 20 40 56.0 +3.9
GYA S S 20 47 48.5 +2.4
GYA SKS 20 48 05.6
GYA SCS ScS 20 48 11.9 -4.5
GYA SS SS 20 52 41.8 +0.7
GYA AMB AMB
comp=Z,2μm,8.4s
GYA LR LR
comp=N,2μm,16.2s,MS5.6
GYA LR LR
comp=E,2μm,17.6s,MS5.6
GYA LR LR
comp=Z,4μm,19.7s,MS5.7
NST Nakhon Sawan 76.62 293 P **P 20 38 02.0 +0.6**
BSI Banda Aceh 76.79 281 P **P 20 38 01.0 -1.5**
KLR Kul'dur 77.05 336 eP **P 20 38 00.0 -3.1**
KLR eS S 20 47 53.0 +1.1
KLR eSS SS 20 52 49.5 -0.1
KLR pmax pmax
comp=E,100nm,2.0s
KLR pmax pmax
comp=Z,400nm,2.0s,mb6.0
KLR pmax pmax
comp=E,1μm,9.0s
KLR pmax pmax
comp=Z,6μm,9.0s
KLR smax
comp=N,4μm,12.5s
KLR smax
comp=E,6μm,12.5s
MAW Mawson 77.05 202 eP **P 20 38 04.4 +1.4**
comp=E,8.8nm,0.8s,mb4.7
MAW Mawson 77.05 202 eP **P 20 38 04.4 +1.4**
MAW pmax pmax
comp=Z,9.0nm,0.8s
MAW Mawson 77.05 202 P **P 20 38 03.1 +0.1**
comp=Z,11nm,0.8s,mb4.8,baz=120,slow=6.9,SNR=6.6
MAW LR LR 21 09 17.3
comp=Z,9μm,18.0s,MS6.1,baz=97,slow=34
UNV Unalaska Valle 77.14 15 PFAKE 20 38 10.0 +6.5
UNV LR LR
comp=Z,33μm,20.0s
BJT Baijiatuau 77.87 321 eP **P 20 38 07.1 -0.8**
comp=Z,193nm,1.9s,mb5.7
BJT LR LR
comp=Z,5μm,20.0s,MS5.8
BJT Baijiatuau 77.87 321 eP **P 20 38 07.1 -0.8**
BJT pmax pmax
comp=Z,193nm,1.9s
BJT MLR MLR
comp=Z,5μm,20.0s
BJI Beijing 77.88 321 P **P 20 38 08.5 +0.5**
BJI AP pP 20 38 20.5 +10
BJI XP sP 20 38 25.4 +14
BJI PP PP 20 40 59.2 -4.9
BJI S S 20 47 58.3 -3.0
BJI AMB AMB
comp=Z,22nm,2.2s,mb4.7
BJI AMB AMB
comp=Z,5μm,6.9s
BJI LR LR
comp=E,3μm,18.9s,MS5.8
BJI LR LR
comp=N,3μm,18.2s,MS5.8
BJI LR LR
comp=Z,3μm,18.9s,MS5.6
BJI Beijing 77.88 321 P **P 20 38 08.5 +0.5**
comp=Z,22nm,2.2s,mb4.7
BJI pP pP 20 38 20.5 +10
BJI sP sP 20 38 25.4 +14
BJI PP PP 20 40 59.2 -4.9
BJI S S 20 47 58.3 -3.0
BJI SS SS 20 53 01.0 -1.5
BJI LR LR
comp=Z,3μm,18.9s,MS5.6
BJI Beijing 77.88 321 P **P 20 38 08.5 +0.5**
BJI *PP pP 20 38 20.5 +10
BJI *SP sP 20 38 25.4 +14
BJI 20 40 59.2
BJI S S 20 47 58.3 -3.0
BJI SS SS 20 53 01.0 -1.5
BJI pmax pmax
comp=Z,22nm,2.2s,mb4.7
BJI MLR MLR
comp=Z,3μm,18.9s,MS5.6
TIY Taiyuan 78.70 318 i P **P 20 38 16.4 +3.8**
TIY S S 20 48 11.1 +0.8
TIY AMB AMB
comp=Z,3μm,10.3s
TIY LR LR
comp=N,2μm,13.6s
TIY LR LR
comp=E,5μm,19.0s
TIY LR LR
comp=Z,6μm,17.0s,MS6.0
CHRT Chiangrai 78.78 296⇑ P **P 20 38 14.0 +0.6**
comp=Z,182nm,1.0s,mb6.0
KMI Kunming 78.81 302 P **P 20 38 15.1 +1.6**
KMI AP pP 20 38 25.9 +10
KMI PP PP 20 41 11.6 -0.6
KMI S S 20 48 09.4 -2.6
KMI AMB AMB
comp=Z,21nm,2.0s,mb4.7
KMI AMB AMB
comp=Z,1μm,6.9s
KMI LR LR
comp=N,2μm,14.3s,MS5.8
KMI LR LR
comp=E,3μm,16.9s,MS5.8
KMI LR LR
comp=Z,4μm,18.2s,MS5.8
KMI Kunming 78.81 302 P **P 20 38 15.1 +1.6**
comp=Z,21nm,2.0s,mb4.7
KMI pP pP 20 38 25.9 +10
KMI sP sP 20 38 32.1 +15
KMI PP PP 20 41 11.6 -0.6
KMI PPP 20 43 05.9
KMI S S 20 48 09.4 -2.6
KMI sS sS 20 48 30.1 +14
KMI SS SS 20 53 15.8 -1.4
KMI SSS 20 56 39.0
KMI LR LR
comp=Z,4μm,18.2s,MS5.8
KMI Kunming 78.81 302 P **P 20 38 15.1 +1.6**
KMI *PP pP 20 38 25.9 +10
KMI *SP sP 20 38 32.1 +15
KMI 20 41 11.6
KMI PPP 20 43 05.9
KMI S S 20 48 09.4 -2.6
KMI *SS sS 20 48 30.1 +14
KMI SS SS 20 53 15.8 -1.4
KMI SSS 20 56 39.0
KMI pmax pmax
comp=Z,21nm,2.0s,mb4.7
KMI MLR MLR
comp=Z,4μm,18.2s,MS5.8
XAN Xi'an 78.88 313 P **P 20 38 13.9 +0.2**
XAN AP pP 20 38 23.0 +6.8
XAN S S 20 48 15.8 +3.4
XAN AMB AMB
comp=Z,16nm,2.0s,mb4.6
XAN AMB AMB
comp=Z,2μm,9.1s
XAN LR LR
comp=N,2μm,15.9s,MS5.8
XAN LR LR
comp=E,3μm,17.5s,MS5.8
XAN LR LR
comp=Z,6μm,18.3s,MS6.0
CHTO Chiang Mai 79.02 295 eP **P 20 38 15.3 +0.5**
comp=Z,31nm,1.0s,mb5.2
CHTO LR LR
comp=Z,3μm,19.0s,MS5.6
CHTO Chiang Mai 79.02 295 eP **P 20 38 15.6 +0.8**
CHTO pmax pmax
comp=Z,31nm,1.0s,mb5.2

CD2	**Chengdu**	**80.90**	**308**	P	**P**	**20 38 25.2**	**+0.5**
CD2				AP	pP	20 38 38.4	+11
CD2				PP	PP	20 41 32.5	+3.0
CD2				S	S	20 48 29.4	-4.4
CD2				AMB	AMB		
	comp=Z,60nm,1.4s,mb5.3						
CD2				AMB	AMB		
	comp=Z,1µm,7.2s						
CD2				LR	LR		
	comp=N,5µm,16.8s,MS5.9						
CD2				LR	LR		
	comp=E,2µm,18.0s,MS5.9						
CD2				LR	LR		
	comp=Z,2µm,19.2s,MS5.5						
HHC	**Hu-ho-hao-te**	**81.13**	**320**	⇑P	**P**	**20 38 27.0**	**+1.3**
HHC				PP	PP	20 41 32.3	+1.2
HHC				S	S	20 48 33.7	-2.1
HHC				SKS		20 48 39.0	
HHC				AMB	AMB		
	comp=Z,54nm,1.6s,mb5.2						
HHC				AMB	AMB		
	comp=Z,3µm,8.0s						
HHC				LR	LR		
	comp=N,2µm,15.3s						
HHC				LR	LR		
	comp=E,3µm,21.6s						
HHC				LR	LR		
	comp=Z,3µm,19.6s,MS5.7						
MA2	**Magadan**	**81.31**	**351**	*e*P	**P**	**20 38 25.2**	**-0.9**
	comp=Z,34nm,1.2s,mb5.2						
MA2				LR	LR		
	comp=Z,8µm,21.0s,MS6.1						
MA2	**Magadan**	**81.31**	**351**	*e*P	**P**	**20 38 25.5**	**-0.7**
MA2				*e*S	S	20 48 31.1	-5.7
MA2				*e*SS	SS	20 53 45.1	-8.1
MA2				*e*SSS		20 57 10.5	
MA2				pmax	pmax		
	comp=Z,60nm,1.6s,mb5.3						
MA2				MLR	MLR		
	comp=N,7µm,18.3s						
BTO	**Baotou**	**81.93**	**319**	*e*P	**P**	**20 38 30.5**	**+0.6**
HIA	**Hailar**	**82.20**	**330**	*e*P	**P**	**20 38 29.7**	**-1.4**
	comp=N,49nm,1.5s,mb5.2						
HIA				LR	LR		
	comp=Z,4µm,19.0s,MS5.8						
HIA	**Hailar**	**82.20**	**330**	*e*P	**P**	**20 38 29.7**	**-1.4**
HIA				pmax	pmax		
	comp=Z,49nm,1.5s						
HIA				MLR	MLR		
	comp=Z,4µm,19.0s						
LZH	**Lanzhou**	**83.49**	**312**	*e*P	**P**	**20 38 39.9**	**+1.8**
LZH				AP	pP	20 38 50.2	+10
LZH				XP	sP	20 38 54.1	+13
LZH				PP	PP	20 41 54.5	+3.8
LZH				SKS		20 48 55.5	
LZH				*e*S	S	20 48 57.0	-3.2
LZH				AMB	AMB		
	comp=Z,181nm,1.5s,mb5.9						
LZH				AMB	AMB		
	comp=Z,2µm,6.9s						
LZH				LR	LR		
	comp=E,6µm,17.8s						
LZH				LR	LR		
	comp=Z,7µm,18.5s,MS6.1						
LZH	**Lanzhou**	**83.49**	**312**	*e*P	**P**	**20 38 39.9**	**+1.8**
	comp=Z,181nm,1.5s,mb5.9						
LZH				pP	pP	20 38 50.2	+10
LZH				sP	sP	20 38 54.1	+13
LZH				PP	PP	20 41 54.5	+3.8
LZH				SKS		20 48 55.5	
LZH				*e*S	S	20 48 57.0	-3.2
LZH				sS	sS	20 49 20.0	+16
LZH				SS	SS	20 54 23.0	-3.6
LZH				LR	LR		
	comp=Z,7µm,18.5s,MS6.1						
LZH	**Lanzhou**	**83.49**	**312**	*e*P	**P**	**20 38 39.9**	**+1.8**
LZH				*PP	pP	20 38 50.2	+10
LZH				*SP	sP	20 38 54.1	+13
LZH						20 41 54.5	
LZH						20 48 55.5	
LZH				*e*S	S	20 48 57.0	-3.2
LZH				SS	SS	20 54 23.0	-3.6
LZH				pmax	pmax		
	comp=Z,181nm,1.5s,mb5.9						
LZH				MLR	MLR		
	comp=Z,7µm,18.5s,MS6.1						
SYO	**Syowa Base**	**83.53**	**196**⇑	*e*P	**P**	**20 38 37.6**	**-0.2**
SYO	**Syowa Base**	**83.53**	**196**⇓	*e*pP	pP	20 38 39.8	-0.6
SYO	**Syowa Base**	**83.53**	**196**⇓	*e*PcP	PcP	20 38 41.3	-0.8
SEY	**Seymchan**	**84.32**	**352**⇓	*e*P	**P**	**20 38 41.0**	**-0.7**
SEY	**Seymchan**	**84.32**	**352**⇓	*e*P	**P**	**20 38 41.9**	**+0.2**
KDAK	**Kodiak Island**	**84.43**	**20**	*e*P	**P**	**20 38 43.4**	**+1.0**
	comp=Z,387nm,2.3s,mb6.1						
KDAK				LR	LR		
	comp=Z,3µm,19.0s,MS5.6						
GAMB	**Gambell**	**85.49**	**8**	*e*P	**P**	**20 38 46.4**	**-1.2**
	comp=Z,44nm,1.3s,mb5.4						
NRGR	**Nerungri**	**85.52**	**337**	*e*P	**P**	**20 38 48.8**	**+0.9**
NRGR				S	S	20 49 24.1	+4.6
NRGR				smax			
	comp=N,30nm,0.5s						
CLNS	**Chul'man**	**85.59**	**337**	*e*P	**P**	**20 38 49.2**	**+1.0**
CLNS				*e*		20 42 04.1	
CLNS				*e*S	S	20 49 19.9	-0.3
CLNS				pmax	pmax		
	comp=Z,45nm,1.1s,mb5.6						
CLNS				pmax	pmax		
	comp=N,38nm,1.4s						
CLNS				pmax	pmax		
	comp=E,13nm,1.0s						
CLNS				smax			
	comp=N,1µm,11.5s						
CLNS				smax			
	comp=Z,894nm,13.4s						
CLNS				smax			
	comp=E,5µm,13.3s						
CLNS				MLR	MLR		
	comp=E,2µm,16.0s,MS5.8						
CLNS				MLR	MLR		
	comp=Z,5µm,16.0s,MS6.0						
CLNS				MLR	MLR		
	comp=N,2µm,17.0s,MS5.8						
FARB	**Farallon Islan**	**86.29**	**47**	⇓P	**P**	**20 38 51.6**	**-0.6**
	baz=86						
SVW2	**Sparrevohn**	**86.31**	**16**	*e*P	**P**	**20 38 52.9**	**+1.2**
BNLO	**Ben Lomond (Sa**	**86.59**	**48**	⇓P	**P**	**20 38 53.1**	**-0.6**
	baz=87						
MCCM	**Marconi Confer**	**86.59**	**47**	PFAKE		20 39 00.0	+6.3
MCCM				LR	LR		
	comp=Z,5µm,20.0s,MS5.9						
MCCM	**Marconi Confer**	**86.59**	**47**	⇑P	**P**	**20 38 52.9**	**-0.8**
	baz=87						
HAST	**Hastings Reser**	**86.67**	**49**	⇓P	**P**	**20 38 53.6**	**-0.5**
	baz=87						
JRSC	**Jasper Ridge**	**86.67**	**48**	⇓P	**P**	**20 38 53.6**	**-0.5**
	baz=87						
SNCC	**San Nicolas Is**	**86.68**	**53**	PFAKE		20 39 00.0	+5.8
SNCC				LR	LR		
	comp=Z,6µm,20.0s,MS6.0						
SNCC	**San Nicolas Is**	**86.68**	**53**	⇓P	**P**	**20 38 52.8**	**-1.4**
	baz=87						
V03C	**Hunter Liggett**	**86.72**	**50**	⇓P	**P**	**20 38 54.4**	**+0.1**
	baz=87						
HOPS	**Hopland**	**86.88**	**46**	PFAKE		20 39 10.0	+15
HOPS				LR	LR		
	comp=Z,7µm,19.0s,MS6.1						
HOPS	**Hopland**	**86.88**	**46**	⇓P	**P**	**20 38 55.0**	**-0.1**
	baz=87						
KCPM	**Cahto Peak**	**86.88**	**46**	*e*P	**P**	**20 38 56.2**	**+1.2**
SAO	**San Andreas Ge**	**86.92**	**49**	*e*P	**P**	**20 38 55.2**	**-0.1**
	comp=Z,37nm,1.4s,mb5.4						
SAO				LR	LR		
	comp=Z,10µm,19.0s,MS6.2						
SAO	**San Andreas Ge**	**86.92**	**49**	*e*P	**P**	**20 38 55.2**	**-0.1**
SAO				pmax	pmax		
	comp=Z,37nm,1.4s,mb5.4						
SAO				MLR	MLR		
	comp=Z,10µm,19.0s,MS6.2						
P01C	**Double 8 Ranch**	**86.94**	**46**	⇓P	**P**	**20 38 55.5**	**+0.2**
	baz=87						
BSC	**Santa Cruz Isl**	**86.94**	**52**	⇑P	**P**	**20 38 55.3**	**-0.2**
	baz=87						
O01C	**Eel River Cons**	**86.95**	**45**	⇓P	**P**	**20 38 56.0**	**+0.6**
	baz=87						
NSHM	**Saint Helena R**	**86.96**	**47**	*e*P	**P**	**20 38 55.6**	**+0.1**
CIT	**Chita**	**86.97**	**329**	*e*P	**P**	**20 38 56.3**	**+1.1**
CIT				*e*S	S	20 49 36.8	+2.9
CIT				pmax	pmax		
	comp=Z,220nm,5.0s						
CVS	**Carmenet Viney**	**86.98**	**47**	⇓P	**P**	**20 38 55.4**	**-0.2**
	baz=87						
KIPM	**Iron Peak**	**87.01**	**45**	*e*P	**P**	**20 38 56.1**	**+0.5**
SBC	**Santa Barbara**	**87.08**	**52**	⇑P	**P**	**20 38 56.2**	**0.0**
	baz=87						
WENL	**Wente Brothers**	**87.11**	**48**	⇑P	**P**	**20 38 56.6**	**+0.4**
	baz=87						
PACP	**Pacheco Peak**	**87.15**	**49**	⇑P	**P**	**20 38 56.5**	**+0.1**
	baz=87						
JCC	**Jacoby Creek**	**87.15**	**44**	⇑P	**P**	**20 38 56.7**	**+0.4**
	baz=87						
PKD	**Parkfield**	**87.18**	**50**	⇓P	**P**	**20 38 56.6**	**0.0**
	baz=87						
BDM	**Black Diamond**	**87.20**	**48**	⇓P	**P**	**20 38 57.1**	**+0.5**
	baz=87						
U04C	**Hernandez Rese**	**87.20**	**50**	⇓P	**P**	**20 38 57.0**	**+0.3**
	baz=87						
PKM	**Peak Mountain**	**87.22**	**51**	⇑P	**P**	**20 38 56.9**	**+0.1**
	baz=87						
MNRC	**McLaughlin Nat**	**87.25**	**47**	⇑P	**P**	**20 38 57.1**	**+0.3**
	baz=87,SNR=8.4						
SMMC	**Simmler**	**87.28**	**51**	⇑P	**P**	**20 38 57.2**	**+0.2**
	baz=87						
SCI	**San Clemente I**	**87.29**	**53**	⇑P	**P**	**20 38 57.4**	**+0.2**
	baz=87						
S04C	**Ingram Canyon,**	**87.36**	**48**	⇓P	**P**	**20 38 57.6**	**+0.2**
	baz=88,SNR=7.8						
BLG	**Laguna Peak**	**87.41**	**52**	⇓P	**P**	**20 38 57.1**	**-0.7**
	baz=88						
Q03C	**Winters**	**87.42**	**47**	⇓P	**P**	**20 38 57.6**	**-0.1**
	baz=88						
NVL	**N'lazarevskaya**	**87.44**	**187**	P	**P**	**20 39 00.0**	**+2.7**
NVL				pmax	pmax		
	comp=N,15nm,1.1s						
NVL				pmax	pmax		
	comp=E,8.0nm,1.1s						
NVL				pmax	pmax		
	comp=Z,24nm,1.1s,mb5.3						
GASB	**Alder Springs**	**87.44**	**46**	⇑P	**P**	**20 38 57.3**	**-0.5**
	baz=88,SNR=13						
T05C	**Eagle Field, D**	**87.53**	**49**	⇑P	**P**	**20 38 58.7**	**+0.4**
	baz=88						
KRMB	**Red Mountain**	**87.59**	**44**	*e*P	**P**	**20 38 59.0**	**+0.5**
CIS	**Catalina Islan**	**87.59**	**53**	⇑P	**P**	**20 38 57.7**	**-0.9**
	baz=88						
V05C	**Boulder Hill,**	**87.60**	**50**	⇓P	**P**	**20 38 58.4**	**-0.3**
	baz=88						
M01C	**Crescent City**	**87.61**	**43**	⇓P	**P**	**20 38 58.3**	**-0.3**
	baz=88						
N02C	**Big Bar**	**87.63**	**45**	⇓P	**P**	**20 38 58.8**	**+0.2**
	baz=88,SNR=8.5						
O02C	**Red Bluff**	**87.65**	**45**	P	**P**	**20 38 59.8**	**+1.0**
	baz=88,SNR=24						
U05C	**Westside ANR,**	**87.66**	**50**	⇑P	**P**	**20 38 58.9**	**0.0**
	baz=88						
TNA	**Tin City**	**87.72**	**9**	*e*P	**P**	**20 38 58.0**	**-0.5**
	comp=Z,58nm,1.8s,mb5.5						
TNA				LR	LR		
	comp=Z,4µm,20.0s,MS5.8						
SNAA	**Sanae**	**87.75**	**183**	*e*P	**P**	**20 38 58.4**	**-0.4**
SNAA				*e*	pP	20 39 00.7	-0.7
SNAA				*e*		20 39 04.4	
SNAA				*e*		20 39 09.8	
SNAA				*e*		20 39 14.2	
SNAA				*e*		20 39 19.3	
SNAA				*e*		20 39 22.6	
SNAA				*e*		20 39 26.5	
SNAA				*e*		20 39 32.5	
SNAA				*e*		20 39 35.5	
SNAA				*e*		20 39 42.8	
SNAA	**Sanae**	**87.75**	**183**	P	**P**	**20 38 59.1**	**+0.3**
	comp=Z,11nm,1.0s,mb5.0,baz=153,slow=4.0,SNR=9.3						
SNAA				LR	LR	21 16 33.1	
	comp=Z,2µm,18.5s,MS5.6,baz=269,slow=34						
FMP	**Fort Macarthur**	**87.81**	**53**	⇑P	**P**	**20 38 59.7**	**0.0**
	baz=88						
ULN	**Ulaanbaatar**	**87.85**	**324**	*e*P	**P**	**20 38 59.8**	**+0.3**
	comp=Z,165nm,1.8s,mb6.0						
ULN				LR	LR		
	comp=Z,4µm,19.0s,MS5.9						
ULN	**Ulaanbaatar**	**87.85**	**324**	*e*P	**P**	**20 38 59.8**	**+0.3**
ULN				pmax	pmax		
	comp=Z,165nm,1.8s,mb6.0						
ULN				MLR	MLR		
	comp=Z,4µm,19.0s,MS5.9						
K01A	**Sixes**	**87.88**	**42**	⇓P	**P**	**20 38 59.3**	**-0.5**
	baz=88						
OSI	**Osito Adit**	**87.89**	**52**	⇓P	**P**	**20 39 00.2**	**+0.2**
	baz=88						
GTA	**Gaotai**	**87.92**	**314**	P	**P**	**20 39 00.7**	**+0.6**
GTA				AP	pP	20 39 13.0	+10
GTA				PP	PP	20 42 30.0	+3.5
GTA				SKS		20 49 22.9	
GTA				S	S	20 49 39.2	-4.4
GTA				AMB	AMB		
	comp=Z,10.0nm,1.7s,mb4.8						
GTA				AMB	AMB		
	comp=Z,2µm,8.0s						
GTA				LR	LR		
	comp=N,3µm,17.9s,MS5.9						
GTA				LR	LR		
	comp=E,3µm,20.2s,MS5.9						
GTA				LR	LR		
	comp=Z,5µm,20.5s,MS5.9						
Q04C	**Lincoln**	**87.96**	**47**	⇑P	**P**	**20 38 59.9**	**-0.4**
	baz=88						
S05C	**Merced**	**87.98**	**49**	⇑P	**P**	**20 39 00.3**	**-0.1**
	baz=88						
R04C	**Big Horse Ranc**	**87.99**	**48**	⇑P	**P**	**20 38 59.7**	**-0.7**
	baz=88						
WDC	**Whiskeytown Da**	**88.01**	**45**	*e*P	**P**	**20 39 00.3**	**-0.2**
	comp=Z,179nm,1.9s,mb6.0						
WDC				LR	LR		
	comp=Z,8µm,22.0s,MS6.1						
WDC	**Whiskeytown Da**	**88.01**	**45**	*e*P	**P**	**20 39 00.3**	**-0.2**
WDC				pmax	pmax		
	comp=Z,179nm,1.9s,mb6.0						
WDC				MLR	MLR		
	comp=Z,8µm,22.0s,MS6.1						
WDC	**Whiskeytown Da**	**88.01**	**45**	⇑P	**P**	**20 39 00.5**	**0.0**
	baz=88,SNR=11						
DECC	**Green Verdugo**	**88.02**	**52**	⇓P	**P**	**20 39 00.5**	**-0.2**
	baz=88						
ARVC	**Arvin**	**88.05**	**51**	⇓P	**P**	**20 39 00.8**	**+0.1**
	baz=88						
O03C	**Acorn Hollow,**	**88.07**	**46**	⇓P	**P**	**20 39 00.4**	**-0.4**
	baz=88						
OHCM	**Honcut**	**88.12**	**47**	*e*P	**P**	**20 39 00.3**	**-0.7**
YAK	**Yakutsk**	**88.13**	**343**	*e*P	**P**	**20 39 00.4**	**-0.1**
	comp=Z,241nm,1.6s,mb6.2						
YAK				LR	LR		
	comp=Z,12µm,19.0s,MS6.3						
YAK	**Yakutsk**	**88.13**	**343**	*e*P	**P**	**20 38 58.7**	**-1.8**
YAK				*i* *PP	pP	20 39 09.2	+6.1
YAK				*e*		20 42 27.0	
YAK				*e*S	S	20 49 26.0	-19
YAK				*i*		20 49 46.8	
YAK				pmax	pmax		
	comp=N,9.0nm,1.4s						
YAK				pmax	pmax		
	comp=Z,17nm,1.4s,mb5.1						
YAK				pmax	pmax		
	comp=E,3.0nm,1.3s						
YAK				pmax	pmax		
	comp=Z,2µm,12.1s						
YAK				pmax	pmax		
	comp=N,1µm,10.1s						
YAK				pmax	pmax		
	comp=E,403nm,8.1s						
YAK				MLR	MLR		
	comp=Z,11µm,18.0s,MS6.3						
YAK				MLR	MLR		
	comp=N,9µm,19.0s,MS6.3						
YAK				MLR	MLR		
	comp=E,6µm,19.0s,MS6.3						
VES	**Vestal, Richgr**	**88.18**	**51**	⇑P	**P**	**20 39 00.9**	**-0.5**
	baz=88						
SONM	**Songino Array**	**88.20**	**323**	P	**P**	**20 39 01.3**	**+0.1**
	comp=E,8.0nm,1.0s,mb4.9,baz=144,slow=3.2,SNR=16						
SONM				LR	LR	21 19 50.2	
	comp=E,5µm,18.7s,MS5.9,baz=120,slow=36						
ORV	**Oroville**	**88.22**	**46**	⇓P	**P**	**20 39 01.0**	**-0.5**
	baz=88,SNR=14						
CMB	**Columbia Colle**	**88.27**	**48**	*e*P	**P**	**20 39 01.3**	**-0.4**
	comp=E,24nm,1.3s,mb5.3						
CMB				LR	LR		
	comp=Z,9µm,20.0s,MS6.2						
CMB	**Columbia Colle**	**88.27**	**48**	*e*P	**P**	**20 39 01.3**	**-0.4**
CMB				pmax	pmax		
	comp=Z,24nm,1.3s,mb5.3						
CMB				MLR	MLR		
	comp=Z,9µm,20.0s,MS6.2						
CMB	**Columbia Colle**	**88.27**	**48**	⇓P	**P**	**20 39 01.5**	**-0.2**
	baz=88,SNR=6.8						
T06C	**Millerton Lake**	**88.27**	**49**	⇓P	**P**	**20 39 01.3**	**-0.5**
	baz=88,SNR=5.6						
109C	**Camp Elliot, M**	**88.34**	**54**	⇓P	**P**	**20 39 01.3**	**-0.9**
	baz=88						
VNA3	**Neumayer Olymp**	**88.35**	**180**	*e*P	**P**	**20 39 01.0**	**-0.7**
VNA3				*e*	pP	20 39 03.1	-1.1
VNA3				*e*		20 39 05.8	
VNA3				*e*		20 39 10.8	
VNA3				*e*		20 39 15.3	
VNA3				*e*		20 39 21.0	
VNA3				*e*		20 39 24.9	
VNA3				*e*		20 39 27.9	
VNA3				*e*		20 39 34.1	
VNA3				*e*		20 39 37.3	
VNA3				*e*		20 39 44.4	
VNA3				*e*		20 44 27.0	
VNA3				*e*		20 44 29.6	
VNA3				*e*		20 44 35.5	
VNA3				*e*		20 44 39.6	
VNA3				*e*		20 44 44.7	
LAVA	**Lava Cap Winer**	**88.36**	**47**	⇓P	**P**	**20 39 02.2**	**+0.1**
	baz=88						
BILL	**Bilibino**	**88.44**	**359**	*e*P	**P**	**20 39 01.2**	**-0.6**
BILL				LR	LR		
	comp=Z,4µm,20.0s,MS5.8						
BILL	**Bilibino**	**88.44**	**359**⇑	*i*P	**P**	**20 39 01.5**	**-0.4**
BILL				*e*		20 42 26.2	
BILL				*e*S	S	20 49 20.2	-27
BILL				pmax	pmax		
	comp=Z,108nm,2.7s,mb5.6						
YBH	**Yreka Blue Hor**	**88.47**	**44**	*e*P	**P**	**20 39 02.7**	**0.0**
	comp=Z,59nm,1.5s,mb5.6						
YBH				LR	LR		
	comp=Z,7µm,20.0s,MS6.1						
YBH	**Yreka Blue Hor**	**88.47**	**44**	*e*P	**P**	**20 39 02.7**	**+0.1**
YBH				pmax	pmax		
	comp=Z,59nm,1.5s						
YBH				MLR	MLR		
	comp=Z,7µm,20.0s						
YBH	**Yreka Blue Hor**	**88.47**	**44**	⇑P	**P**	**20 39 03.2**	**+0.6**
	baz=89,SNR=14						
K02A	**Glendale**	**88.48**	**43**	⇑P	**P**	**20 39 02.6**	**0.0**
	baz=89,SNR=8.3						
BFSC	**Mount Baldy St**	**88.51**	**53**	⇑P	**P**	**20 39 02.6**	**-0.4**
	baz=89,SNR=5.7						
PMR	**Palmer**	**88.53**	**19**	P	**P**	**20 39 01.8**	**-0.6**
PMR				LR	LR		
	comp=Z,8µm,20.0s,MS6.1						
ISA	**Isabella**	**88.54**	**51**	*e*P	**P**	**20 39 03.0**	**-0.2**
	comp=Z,151nm,1.8s,mb6.0						
ISA				LR	LR		
	comp=Z,8µm,20.0s,MS6.1						
ISA	**Isabella**	**88.54**	**51**	*e*P	**P**	**20 39 03.0**	**-0.1**
ISA				pmax	pmax		
	comp=Z,151nm,1.8s,mb6.0						
ISA				MLR	MLR		
	comp=Z,8µm,20.0s,MS6.1						
ISA	**Isabella**	**88.54**	**51**	⇑P	**P**	**20 39 03.1**	**-0.1**
	baz=89,SNR=9.9						
EDW2	**Edwards Air Fo**	**88.55**	**52**	⇓P	**P**	**20 39 02.6**	**-0.6**
	baz=89,SNR=19						
HELL	**Mitchell Peak**	**88.61**	**50**	⇓P	**P**	**20 39 03.0**	**-0.4**
	baz=89,SNR=9.1						
M03C	**McCloud**	**88.63**	**45**	⇑P	**P**	**20 39 03.1**	**-0.3**
	baz=89						
VNA2	**Neumayer--Watz**	**88.64**	**181**	*e*P	**P**	**20 39 02.3**	**-0.7**
	baz=186,slow=3.2						
VNA2				*e*	pP	20 39 04.7	-0.9
VNA2				*e*		20 39 07.1	
VNA2				*e*		20 39 11.7	
VNA2				*e*		20 39 16.6	
VNA2				*e*		20 39 23.0	
VNA2				*e*		20 39 26.6	
VNA2				*e*		20 39 29.5	
VNA2				*e*		20 39 35.5	
VNA2				*e*		20 39 38.9	
VNA2				*e*		20 39 46.3	
VNA2				*e*		20 44 29.2	
VNA2				*e*		20 44 31.4	
VNA2				*e*		20 44 38.0	
VNA2				*e*		20 44 42.2	
VNA2				*e*		20 44 47.2	
KCC	**Kaiser Creek**	**88.69**	**49**	⇑P	**P**	**20 39 03.8**	**0.0**
	baz=89,SNR=6.5						
P05C	**Yuba Gap, Truc**	**88.71**	**47**	P	**P**	**20 39 04.2**	**+0.4**
	baz=89,SNR=12						
J02A	**Umpqua**	**88.72**	**42**	⇑P	**P**	**20 39 04.1**	**+0.4**
	baz=89						
R05C	**Kirkwood Meado**	**88.79**	**48**	⇓P	**P**	**20 39 04.4**	**+0.2**
	baz=89,SNR=16						
O05C	**Quincy**	**88.81**	**46**	⇑P	**P**	**20 39 04.4**	**+0.1**
	baz=89						
HATC	**Hat Creek Radi**	**88.85**	**45**	⇓P	**P**	**20 39 04.8**	**+0.4**
	baz=89,SNR=7.0						
MONP	**Monument Peak**	**88.86**	**54**	⇑P	**P**	**20 39 04.4**	**-0.3**
	baz=89,SNR=11						
O04C	**Chester**	**88.86**	**46**	⇑P	**P**	**20 39 04.6**	**+0.1**
	baz=89						
I02A	**Mapleton**	**88.89**	**42**	⇑P	**P**	**20 39 05.2**	**+0.6**
	baz=89						
VNA1	**Neumayer--Stat**	**88.93**	**181**	*e*P	**P**	**20 39 04.3**	**-0.1**
VNA1				*e*	pP	20 39 06.9	0.0
VNA1				*e*		20 39 10.3	
VNA1				*e*		20 39 15.6	
VNA1				*e*		20 39 19.0	
VNA1				*e*		20 39 25.0	
VNA1				*e*		20 39 28.5	
VNA1				*e*		20 39 32.1	
VNA1				*e*		20 39 38.2	
VNA1				*e*		20 39 40.8	
VNA1				*e*		20 39 48.5	
DVTC	**Desert V Tower**	**89.00**	**55**	⇑P	**P**	**20 39 05.4**	**0.0**
	baz=89						
LRMC	**Laurel Mountai**	**89.03**	**51**	⇑P	**P**	**20 39 05.4**	**-0.1**
	baz=89,SNR=6.8						
M04C	**Macdoel**	**89.06**	**44**	⇓P	**P**	**20 39 05.2**	**-0.2**
	baz=89						
BBRC	**Big Bear Sol-O**	**89.07**	**53**	⇑P	**P**	**20 39 05.8**	**+0.1**
	baz=89						
J03A	**Ideyld Park**	**89.11**	**43**	⇑P	**P**	**20 39 05.7**	**+0.1**
	baz=89,SNR=8.0						
H02A	**Toledo**	**89.12**	**41**	⇓P	**P**	**20 39 06.1**	**+0.5**
	baz=89						
BEKR	**Beckwourth**	**89.14**	**47**	⇓P	**P**	**20 39 05.8**	**0.0**
	baz=89,SNR=6.7						
PFO	**Pinyon Flat Ob**	**89.14**	**54**	P	**P**	**20 39 06.9**	**+0.9**
	comp=Z,73nm,2.0s,mb5.7,SNR=6.4						
PFO	**Pinyon Flat Ob**	**89.14**	**54**	*e*P	**P**	**20 39 04.3**	**-1.7**
	comp=Z,93nm,1.9s,mb5.8						
PFO				LR	LR		
	comp=Z,5µm,19.0s,MS6.0						
PFO	**Pinyon Flat Ob**	**89.14**	**54**	*e*P	**P**	**20 39 04.3**	**-1.7**
PFO				pmax	pmax		
	comp=Z,93nm,1.9s,mb5.8						
PFO				MLR	MLR		
	comp=Z,5µm,19.0s,MS6.0						
PFO	**Pinyon Flat Ob**	**89.14**	**54**	LR	LR	21 13 37.1	
	comp=Z,5µm,18.9s,MS6.0,baz=291,slow=32						
PFO	**Pinyon Flat Ob**	**89.14**	**54**	⇓P	**P**	**20 39 05.9**	**-0.1**
	baz=89						
R06C	**Coleville**	**89.14**	**48**	⇓P	**P**	**20 39 06.3**	**+0.4**
	baz=89,SNR=9.8						
MLAC	**Mammoth Lakes**	**89.17**	**49**	⇑P	**P**	**20 39 06.3**	**+0.2**
	baz=89						
CWC	**Cottonwood Cre**	**89.18**	**50**	⇓P	**P**	**20 39 05.9**	**-0.2**
	baz=89						
I03A	**Eugene**	**89.22**	**42**	⇓P	**P**	**20 39 06.2**	**+0.1**
	baz=89						
**

baz=89
WCN Washoe City 89.29 47 ⇑P P 20 39 06.9 +0.3
baz=89
M05C Lookout 89.32 45 ⇓P P 20 39 06.8 +0.1
baz=89,SNR=9.4
TIN Tinemaha 89.34 50 ⇓P P 20 39 07.2 +0.3
baz=90
SWSC Sam W. Stewart 89.36 54 ⇓P P 20 39 06.8 -0.2
baz=90
P06A Stead Airport, 89.37 47 ⇓P P 20 39 06.7 -0.2
baz=90
MPMC Manual Prospec 89.44 51 ⇓P P 20 39 07.4 0.0
baz=90,SNR=11
COR Corvallis 89.50 41 PFAKE 20 39 20.0 +13
COR LR LR
comp=Z,7μm,20.0s,MS6.1
K04A Chilquin 89.53 44 ⇓P P 20 39 07.7 +0.1
baz=90
H03A Soap Creek Ran 89.56 41 ⇓P P 20 39 07.9 +0.3
baz=90
S08C White Mtn Res 89.58 49 ⇓P P 20 39 08.2 +0.2
baz=90,SNR=16
J04A Umpqua Nationa 89.59 43 ⇓P P 20 39 08.2 +0.3
baz=90
GSC Goldstone 89.61 52 eP P 20 39 07.3 -0.8
comp=Z,148nm,2.0s,mb6.0
GSC Goldstone 89.61 52 eP P 20 39 07.3 -0.8
GSC pmax pmax
comp=Z,148nm,2.0s,mb6.0
GSC Goldstone 89.61 52 ⇓P P 20 39 08.3 +0.1
baz=90,SNR=12
O06A Flanigan 89.64 47 ⇑P P 20 39 08.1 0.0
baz=90
I04A Tendick Farm, 89.67 42 ⇓P P 20 39 07.7 -0.5
baz=90
M06C Likely Place G 89.69 45 ⇓P P 20 39 08.8 +0.5
baz=90,SNR=5.6
HEC Hector,Ludlow 89.76 53 ⇑P P 20 39 08.3 -0.5
baz=90
L05A Lakeview 89.85 44 ⇓P P 20 39 09.1 0.0
baz=90,SNR=12
G03A Yamhill 89.88 41 ⇓P P 20 39 09.2 0.0
baz=90
NVAR Mina Array Bea 89.90 49 P P 20 39 09.2 -0.3
comp=Z,2.8nm,0.7s,mb4.7,baz=213,slow=5.8,SNR=22
N06A Buffalo Meadow 89.91 46 P P 20 39 09.6 +0.2
baz=90,SNR=15
GRAC Grapevine Rang 89.94 50 ⇓P P 20 39 09.7 +0.1
baz=90
P07A Fallon 90.00 47 ⇑P P 20 39 08.9 -0.9
baz=90
R08A Mina 90.01 49 ⇑P P 20 39 09.9 0.0
baz=90
F03A Seaside 90.02 40 ⇓P P 20 39 09.8 0.0
baz=90
LSA Lhasa 90.06 302 P P 20 39 15.8 +5.4
LSA AMB AMB
comp=Z,90nm,0.9s,mb6.1
LSA AMB AMB
comp=Z,830nm,10.0s
LSA LR LR
comp=N,900nm,16.0s,MS5.4
LSA LR LR
comp=E,1μm,21.0s,MS5.4
LSA LR LR
comp=Z,1μm,21.0s,MS5.4
LSA Lhasa 90.06 302 eP P 20 39 11.8 +1.4
comp=Z,55nm,1.6s,mb5.6
LSA LR LR
comp=Z,2μm,21.0s,MS5.5
LSA Lhasa 90.06 302 eP P 20 39 11.8 +1.4
LSA pmax pmax
comp=Z,55nm,1.6s,mb5.6
LSA MLR MLR
comp=Z,2μm,21.0s,MS5.5
FURC Furnace Creek, 90.07 51 ⇓P P 20 39 10.2 -0.1
baz=90
K05A Summer Lake 90.13 44 ⇑P P 20 39 10.3 -0.1
baz=90,SNR=9.8
MOD Modoc 90.13 45 eP P 20 39 09.7 -0.7
comp=Z,16nm,1.0s,mb5.3
MOD LR LR
comp=Z,6μm,20.0s,MS6.0
MOD Modoc 90.13 45 ⇓P P 20 39 09.8 -0.6
baz=90,SNR=11
J05A Fort Rock 90.17 43 P P 20 39 11.2 +0.6
baz=90,SNR=16
GMRC Granite Mounta 90.23 53 ⇓P P 20 39 11.2 +0.1
baz=90,SNR=6.6
LPIG La Paz 90.23 64 LR LR 21 10 26.9
comp=Z,9μm,20.5s,MS6.2,baz=231,slow=29
H04A Detroit Lake 90.25 42 ⇑P P 20 39 10.5 -0.4
baz=90,SNR=10
SHOC Shoshone 90.25 52 ⇑P P 20 39 10.4 -0.7
baz=90
MCK McKinley 90.26 17 eP P 20 39 10.0 -0.5
comp=Z,56nm,2.1s,mb5.5
MCK LR LR
comp=Z,4μm,20.0s,MS5.8
MCK McKinley 90.26 17 eP P 20 39 10.0 -0.5
MCK pmax pmax
comp=Z,56nm,2.1s,mb5.5
MCK MLR MLR
comp=Z,4μm,20.0s,MS5.8
SIT Sitka 90.29 27 PFAKE 20 39 20.0 +9.2
SIT LR LR
comp=Z,20μm,20.0s,MS6.5
TUQ Turquoise Mtn. 90.32 52 ⇓P P 20 39 10.9 -0.5
baz=90,SNR=7.6
G04A Mulino 90.32 41 ⇑P P 20 39 11.1 -0.1
baz=90
E03A Lebam 90.33 40 ⇑P P 20 39 11.3 0.0
baz=90
IRM Iron Mountain 90.36 54 ⇑P P 20 39 11.6 -0.1
baz=90,SNR=12
S09A Goldfield 90.36 50 ⇓P P 20 39 11.5 0.0
baz=90
Q08A Gabbs 90.36 48 ⇑P P 20 39 11.5 0.0
baz=90
U10A Ash Meadows, A 90.44 51 ⇓P P 20 39 12.1 +0.1
baz=91
C03A Quillayute Air 90.45 38 ⇑P P 20 39 12.7 +1.0
baz=91
BOD Bodaibo 90.49 334 eP P 20 39 10.2 -1.5
BOD pmax pmax
comp=Z,26nm,1.9s,mb5.2
D03A Wishkah Elem. 90.49 39 ⇑P P 20 39 12.5 +0.6
baz=91
N07B Gerlach 90.50 46 ⇑P P 20 39 12.1 -0.1
baz=91,SNR=8.3
I05A Bend 90.57 42 ⇑P P 20 39 12.2 -0.2
baz=91
NLWA Neilton Lookou 90.57 39 eP P 20 39 09.0 -3.4
comp=Z,42nm,1.2s,mb5.6
NLWA LR LR
comp=Z,6μm,19.0s,MS6.0
NLWA Neilton Lookou 90.57 39 ⇑P P 20 39 13.3 +0.9
baz=91
K06A Valley Falls 90.58 44 P P 20 39 13.4 +0.9
baz=91,SNR=9.7
P08A Dixie Valley 90.62 48 ⇑P P 20 39 12.9 +0.1
baz=91
M07A Soldier Meadow 90.64 46 ⇓P P 20 39 13.0 +0.2
baz=91,SNR=6.7
Y12C Blythe 90.66 54 ⇑P P 20 39 12.9 -0.2
baz=91
R09A Tonopah 90.69 49 ⇑P P 20 39 13.1 0.0
baz=91
F04A Amboy 90.71 41 ⇑P P 20 39 13.0 0.0
baz=91
TPNV Topopah Spring 90.72 51 eP P 20 39 13.1 -0.2
comp=Z,12nm,0.8s,mb5.3
TPNV LR LR
comp=Z,8μm,19.0s,MS6.2
TPNV Topopah Spring 90.72 51 eP P 20 39 13.1 -0.2
TPNV pmax pmax
comp=Z,12nm,0.8s,mb5.3
TPNV MLR MLR
comp=Z,8μm,19.0s,MS6.2
TPNV Topopah Spring 90.72 51 ⇑P P 20 39 13.1 -0.2
baz=91,SNR=13
BBB Bella Bella 90.77 33 P P 20 39 13.4 +0.3
comp=Z,21nm,1.1s,mb5.4,baz=258,slow=2.5,SNR=2.0
BBB LR LR 21 11 44.3
comp=Z,5μm,21.2s,MS5.9,baz=250,slow=30
L07A Adell 90.82 45 ⇓P P 20 39 13.6 0.0
baz=91,SNR=12
H05A Madras 90.83 42 ⇑P P 20 39 13.2 -0.4
baz=91
O08A Rochester Mine 90.84 47 ⇓P P 20 39 14.3 +0.5
baz=91
V11A Goodsprings 90.85 52 ⇓P P 20 39 13.9 0.0
baz=91
E04A Onalaska 90.86 40 ⇑P P 20 39 14.2 +0.5
baz=91
J06A Christmas Vall 90.86 44 ⇑P P 20 39 13.5 -0.2
baz=91
Q09A Carvers 90.87 49 ⇓P P 20 39 14.0 +0.1
baz=91
S10A Tonopah Range, 90.89 50 P P 20 39 14.3 +0.2
baz=91,SNR=21
IMA2 Indian Mountai 90.93 14 eP P 20 39 12.4 -1.1
PALK Pallekele 90.93 277 PFAKE 20 39 30.0 +15
PALK LR LR
comp=Z,5μm,20.0s,MS5.9
NEE2 Needles Airpor 91.01 53 ⇑P P 20 39 14.4 -0.3
baz=91
W12A Cal Nev Ari 91.04 53 ⇑P P 20 39 14.8 0.0
baz=91
G05A Wamic 91.06 42 ⇓P P 20 39 14.6 0.0
baz=91
D04A Dobbs Creek Ra 91.06 39 ⇑P P 20 39 14.5 -0.1
baz=91
N08A GE Springer Mi 91.07 47 P P 20 39 15.1 +0.3
baz=91,SNR=6.5
B04A Port Angeles 91.12 38 ⇓P P 20 39 15.2 +0.3
baz=91
I06A Prineville 91.14 43 ⇑P P 20 39 15.2 +0.2
baz=91,SNR=6.5
PDMCI Parker Dam,Lak 91.18 54 ⇓P P 20 39 15.1 -0.3
baz=91,SNR=6.3
K07A Rock Creek Ran 91.19 44 P P 20 39 15.6 +0.3
baz=91,SNR=11
WRAK Wrangell Islan 91.19 28 eP P 20 39 13.6 -1.4
comp=Z,177nm,2.0s,mb6.0
WRAK LR LR
comp=Z,9μm,20.0s,MS6.2
M08A Happy Creek Ra 91.20 46 ⇓P P 20 39 15.4 -0.1
baz=91,SNR=12
Y13A Salome 91.21 54 ⇓P P 20 39 15.9 +0.3
baz=91
V12A Nelson 91.23 52 P P 20 39 16.1 +0.4
baz=91,SNR=5.2
R10A Warm Springs 91.26 49 ⇑P P 20 39 16.1 +0.3
baz=91,SNR=8.6
C04A Brinnon 91.26 39 ⇑P P 20 39 16.1 +0.5
baz=91
F05A White Salmon 91.28 41 ⇑P P 20 39 15.9 +0.2
baz=91
ZAK Zakamensk 91.29 324 eP P 20 39 15.3 -0.3
S11A Rachel 91.38 50 ⇑P P 20 39 15.9 -0.5
baz=92
E05A Randle 91.42 40 ⇓P P 20 39 15.9 -0.4
baz=92
H06A Lindquist Farm 91.43 42 P P 20 39 16.4 0.0
baz=92,SNR=14
O09A Fish Creek Ran 91.45 47 ⇑P P 20 39 16.0 -0.6
baz=92
COLA College 91.45 17 eP P 20 39 15.2 -0.8
comp=Z,104nm,2.0s,mb5.8
COLA LR LR
comp=Z,6μm,20.0s,MS6.0
COLA College 91.45 17 i P P 20 39 16.2 +0.2
PGC Sidney 91.45 38 eP P 20 39 16.9 +0.5
comp=Z,83nm,1.1s,mb6.0
J07A Hines 91.46 44 ⇓P P 20 39 16.3 -0.2
baz=92
WVOR Wild Horse Val 91.47 45 eP P 20 39 16.4 -0.2
comp=Z,17nm,1.1s,mb5.3
WVOR LR LR
comp=Z,6μm,20.0s,MS6.0
WVOR Wild Horse Val 91.47 45 eP P 20 39 16.4 -0.2
WVOR pmax pmax
comp=Z,17nm,1.1s,mb5.3
WVOR MLR MLR
comp=Z,6μm,20.0s,MS6.0
G06A Carlson Farm, 91.48 42 ⇑P P 20 39 16.4 -0.2
baz=92
N09A Rock Creek Ran 91.52 47 ⇓P P 20 39 17.1 +0.2
baz=92
X13A Yucca 91.53 54 P P 20 39 17.9 +0.8
baz=92,SNR=6.4
L08A Fields 91.56 45 P P 20 39 17.5 +0.5
baz=92,SNR=9.7
D05A Enumclaw 91.58 40 ⇑P P 20 39 16.6 -0.5
baz=92
T11A Corn Creek, Al 91.59 51 ⇓P P 20 39 17.6 +0.3
baz=92,SNR=11
F06A Goldendale 91.64 41 ⇑P P 20 39 17.5 +0.2
baz=92
I07A Izee 91.66 43 P P 20 39 17.8 +0.3
baz=92,SNR=10
W13A Hualapai Mount 91.69 53 ⇓P P 20 39 18.0 +0.2
baz=92
K08A Mann Creek Ran 91.70 45 ⇓P P 20 39 17.6 -0.1
baz=92
Z14A Wintersburg 91.71 55 ⇓P P 20 39 17.9 0.0
baz=92
IRK Irkutsk 91.75 326 eP P 20 39 16.6 -1.0
IRK pmax pmax
comp=Z,93nm,2.3s,mb5.7
U12A Valley of Fire 91.75 52 ⇑P P 20 39 18.7 +0.6
baz=92
TLY Talaya 91.78 326 P P 20 39 17.6 -0.2
comp=Z,20nm,1.1s,mb5.4
TLY LR LR
comp=Z,2μm,19.0s,MS5.6
TLY Talaya 91.78 326 eP P 20 39 14.5 -3.3
TLY e 20 49 44.2
TLY eS S 20 50 04.6 -14
TLY pmax pmax
comp=Z,41nm,2.5s,mb5.3
TLY MLR MLR
comp=Z,2μm,17.0s,MS5.7
R11A Troy Canyon, C 91.79 50 ⇑P P 20 39 18.2 -0.1
baz=92
M09A Marrel Ranch, 91.82 46 ⇑P P 20 39 18.2 -0.1
baz=92
SKAG Skagway 91.82 25 eP P 20 39 17.7 -0.1
comp=Z,132nm,2.1s,mb5.9
E06A Yakima 91.88 40 ⇑P P 20 39 18.6 +0.1
baz=92
Y14A Wickenburg 91.89 54 ⇓P P 20 39 18.4 -0.4
baz=92
A04A Legoe Bay, Lum 91.91 38 ⇓P P 20 39 18.6 +0.1
baz=92
L09A Wilkinson Ranc 91.93 46 ⇑P P 20 39 18.9 +0.1
baz=92
Q11A Duckwater 91.95 49 ⇑P P 20 39 18.7 -0.3
baz=92
O10A Cortez Mining, 91.98 48 ⇓P P 20 39 18.9 -0.1
baz=92
J08A Circle Bar Ran 92.00 44 ⇓P P 20 39 18.8 -0.3
baz=92
115A Sonoran Desert 92.00 56 ⇑P P 20 39 19.4 +0.1
baz=92
C05A Tolt Reservoir 92.01 39 ⇑P P 20 39 18.8 -0.2
baz=92
S12A Delamar Landin 92.01 50 ⇑P P 20 39 19.7 +0.4
baz=92
B05A Bryant 92.04 39 ⇓P P 20 39 19.0 -0.1
baz=92
G07A Ruggs Ranch, H 92.10 42 P P 20 39 19.9 +0.4
baz=92,SNR=5.3
N10A Dunphy 92.15 47 ⇓P P 20 39 19.7 -0.1
baz=92
U13A Pakoon Wash 92.17 52 ⇓P P 20 39 19.7 -0.3
baz=92
I08A Drewsey 92.18 44 ⇓P P 20 39 20.0 +0.1
baz=92
X14A Yava 92.19 54 ⇓P P 20 39 19.8 -0.4
baz=92,SNR=6.6
K09A Rome 92.19 45 ⇑P P 20 39 20.1 +0.1
baz=92,SNR=9.8
F07A Phinny Hill Vi 92.22 41 ⇓P P 20 39 20.0 -0.1
baz=92
D06A Cle Elum 92.27 40 ⇓P P 20 39 20.2 0.0
baz=92
216A Three Points, 92.33 57 ⇓P P 20 39 20.8 -0.1
baz=92
W14A Seligman 92.34 53 ⇑P P 20 39 21.1 +0.3
baz=92
116A Eloy 92.35 56 ⇑P P 20 39 21.0 +0.1
baz=92
H08A Prairie City 92.39 43 ⇓P P 20 39 20.7 -0.1
baz=92
A05A Maple Falls 92.41 38 ⇑P P 20 39 20.0 -0.8
baz=92
Y15A Casa Rosa Ranc 92.41 55 ⇑P P 20 39 21.4 +0.2
baz=92,SNR=9.6
T13A Saint George 92.46 51 ⇓P P 20 39 21.6 +0.2
baz=93
J09A Fry Pan Ranch, 92.46 44 P P 20 39 21.3 +0.1
baz=93,SNR=9.8
M10A I.L. Ranch, Tu 92.48 46 ⇓P P 20 39 21.2 -0.1
baz=93,SNR=5.8
R12A Pony Springs, 92.48 50 ⇑P P 20 39 21.6 +0.2
baz=93,SNR=6.0
V14A Boquillas Ranc 92.49 53 ⇓P P 20 39 21.8 +0.3
baz=93,SNR=6.8
O11A Cowboy Ranch, 92.49 48 ⇑P P 20 39 21.6 +0.2
baz=93
B06A Marblemount 92.52 39 ⇓P P 20 39 20.8 -0.6
baz=93
G08A Pilot Rock 92.55 42 ⇓P P 20 39 21.7 +0.2
baz=93,SNR=9.2
C06A Tall Timber Ra 92.59 39 ⇑P P 20 39 21.7 0.0
baz=93
Q12A Willow Creek R 92.62 49 ⇑P P 20 39 22.1 +0.1
baz=93
X15A Humboldt 92.69 54 ⇓P P 20 39 22.5 0.0
baz=93,SNR=5.7
HAWA Hanford 92.70 41 eP P 20 39 21.2 -1.0
comp=Z,34nm,1.5s,mb5.5
HAWA LR LR
comp=Z,7μm,20.0s,MS6.1
S13A Holt Ranch, En 92.72 51 ⇓P P 20 39 23.0 +0.5
baz=93
N11A Elko Archery C 92.73 47 ⇓P P 20 39 22.6 +0.1
baz=93
P12A McGill 92.74 49 ⇑P P 20 39 22.7 +0.1
baz=93
217A Green Valley 92.74 57 ⇓P P 20 39 23.3 +0.5
baz=93
I09A Lost Marbles R 92.75 44 ⇑P P 20 39 22.6 +0.1
baz=93
U14A Mt Trumbull 92.75 52 ⇑P P 20 39 22.6 -0.1
baz=93,SNR=11
L10A Juniper Basin 92.76 46 ⇑P P 20 39 22.3 -0.3
baz=93,SNR=6.7
K10A MacKenzie Ranc 92.80 45 ⇓P P 20 39 22.9 +0.2
baz=93
D07A Quincy 92.80 40 ⇑P P 20 39 22.5 -0.2
baz=93
A06A Chilliwack 92.80 38 ⇑P P 20 39 22.4 -0.2
baz=93
Z16A Peralta Trail, 92.87 56 ⇓P P 20 39 23.0 -0.3
baz=93
W15A Williams 92.94 54 ⇑P P 20 39 23.8 +0.1
baz=93
M11A Holland Ranch, 92.95 47 ⇑P P 20 39 23.1 -0.4
baz=93
TUC Tucson 92.97 57 eP P 20 39 22.8 -1.1
comp=Z,9.6nm,1.3s,mb5.1
TUC LR LR
comp=Z,4μm,20.0s,MS5.9
TUC Tucson 92.97 57 eP P 20 39 22.8 -1.0
TUC pmax pmax
comp=Z,10.0nm,1.3s,mb5.1
TUC MLR MLR
comp=Z,4μm,20.0s,MS5.9
C07A Waterville 92.97 40 ⇓P P 20 39 22.9 -0.5
baz=93
E08A Dider Farm, El 93.03 41 ⇓P P 20 39 24.2 +0.4
baz=93
Y16A Circle Bar Ran 93.03 55 ⇓P P 20 39 24.0 0.0
baz=93,SNR=9.2
ELK Elko 93.04 48 PFAKE 20 39 30.0 +6.1
ELK LR LR
comp=Z,107nm,20.0s
CCUT Cedar City 93.07 51 eP P 20 39 24.5 +0.3
T14A Hurricane 93.08 52 ⇓P P 20 39 24.5 +0.3
baz=93
H09A Durkee 93.10 43 ⇓P P 20 39 24.2 +0.1
baz=93
ARUT Antelope Range 93.11 51 eP P 20 39 25.4 +1.1
J10A Berg Farm, Mel 93.14 45 ⇑P P 20 39 24.2 -0.2
baz=93
O12A Currie 93.18 48 ⇓P P 20 39 24.4 -0.2
baz=93
MOY Mondy 93.19 325 eP P 20 39 25.2 +0.9
MOY pmax pmax
comp=Z,117nm,2.6s,mb5.8
N12A Clover Valley, 93.22 47 ⇑P P 20 39 24.9 +0.1
baz=93
318A Bisbee 93.27 58 ⇓P P 20 39 24.9 -0.3
baz=93
X16A Lo Mia Camp, P 93.27 55 ⇓P P 20 39 25.0 -0.2
baz=93,SNR=5.9
S14A Cedar City 93.29 51 ⇓P P 20 39 25.9 +0.7
baz=93
G09A Cove 93.29 43 ⇓P P 20 39 25.2 +0.3
baz=93
B07A Winthrop 93.30 39 ⇓P P 20 39 25.2 +0.2
baz=93
EGAK Eagle 93.32 19 eP P 20 39 21.9 -2.7
comp=Z,130nm,2.1s,mb6.0
EGAK LR LR
comp=Z,6μm,20.0s,MS6.0
K11A Parker Ranch, 93.35 45 ⇓P P 20 39 25.4 0.0
baz=94,SNR=5.4
P13A Bates Ranch, G 93.36 49 ⇓P P 20 39 25.3 -0.2
baz=94
D08A Wollman Farm, 93.38 41 ⇓P P 20 39 25.3 -0.1
baz=94
DAWY Dawson 93.39 20 eP P 20 39 23.6 -1.3
DLBC Dease Lake 93.39 27 eP P 20 39 24.5 -0.6
DLBC Dease Lake 93.39 27 P P 20 39 24.2 -0.9
baz=263,slow=4.9
F09A S2 Ranch, Elgi 93.40 42 ⇑P P 20 39 25.5 0.0
baz=94
I10A Payette 93.40 44 ⇓P P 20 39 25.7 +0.2
baz=94
BMO Blue Mountains 93.41 43 PFAKE 20 39 40.0 +14
BMO LR LR
comp=Z,11μm,19.0s,MS6.3
A07A Ashnola River, 93.42 38 ⇑P P 20 39 25.5 0.0
baz=94
218A Dragoon 93.42 57 ⇑P P 20 39 25.2 -0.8
baz=94,SNR=6.9
M12A Wells 93.54 47 ⇑P P 20 39 26.4 +0.2
baz=94
T15A Red Dirt Ranch 93.57 52 ⇑P P 20 39 26.7 +0.2
baz=94
E09A Wood Farm, Sta 93.61 41 ⇓P P 20 39 26.7 +0.3
baz=94
C08A Higginbotham F 93.63 40 ⇓P P 20 39 26.2 -0.3
baz=94
H10A Noah's Angus R 93.66 44 ⇓P P 20 39 26.1 -0.5
baz=94
O13A Hicks Ranch, I 93.66 48 ⇑P P 20 39 26.7 -0.1
baz=94
B08A Colville Reser 93.72 39 ⇑P P 20 39 26.4 -0.4
baz=94
G10A Bishop Farm, J 93.72 43 ⇑P P 20 39 26.3 -0.6
baz=94
WUAZ Wupatki 93.74 54 eP P 20 39 27.1 -0.2
comp=Z,8.9nm,0.9s,mb5.2
WUAZ LR LR
comp=Z,4μm,19.0s,MS5.9
D09A Jones Farm, Ri 93.75 41 ⇓P P 20 39 26.6 -0.5
baz=94
MFID Camas Ranch 93.76 45 ⇑P P 20 39 26.7 -0.5
baz=94
L12A House Creek Ra 93.77 46 ⇓P P 20 39 27.0 -0.3
baz=94
N13A Wendover, West 93.80 48 ⇑P P 20 39 26.5 -0.9
baz=94
319A Douglas 93.81 58 ⇑P P 20 39 27.2 -0.6
baz=94
Z18A Geronimo 93.85 56 ⇑P P 20 39 27.0 -0.9
baz=94
F10A Beach Ranch, E 93.94 42 ⇓P P 20 39 26.9 -1.1
baz=94
A08A Turner Farm, O 94.02 39 ⇑P P 20 39 28.0 -0.3
baz=94
M13A Montello 94.03 47 ⇓P P 20 39 27.7 -0.8
baz=94
K12A Draper Farm, C 94.05 46 ⇓P P 20 39 28.2 -0.4
baz=94
C09A Chrisman Ranch 94.10 40 ⇓P P 20 39 28.2 -0.4
baz=94
J12A Stokes Ranch, 94.17 45 ⇓P P 20 39 28.7 -0.4
baz=94,SNR=5.6

H11A	Donnelly	94.18	44	⇑P		P	20 39 28.8 -0.3
	baz=94						
T16A	Glen Canyon Da	94.21	52	⇓P		P	20 39 29.4 0.0
	baz=94						
E10A	Myers Farm, Un	94.24	42	⇓P		P	20 39 29.3 0.0
	baz=94						
119A	Ashpeak Ranch,	94.30	57	⇓P		P	20 39 29.9 0.0
	baz=94						
MSU	Marysvale	94.31	51	eP		P	20 39 28.5 -1.3
G11A	Walters Elk Ra	94.31	43	⇓P		P	20 39 30.2 +0.6
	baz=94						
D10A	Wagner Farm, O	94.38	41	⇓P		P	20 39 30.5 +0.5
	baz=94						
A09A	Danville	94.44	39	⇓P		P	20 39 30.7 +0.6
	baz=95						
B09A	Rice	94.45	40	⇑P		P	20 39 30.5 +0.3
	baz=95						
L13A	Double Diamond	94.48	47	⇑P		P	20 39 31.1 +0.6
	baz=95						
N14A	Grayback Hills	94.51	48	⇑P		P	20 39 31.3 +0.7
	baz=95						
DUG	Dugway	94.51	49	P		P	20 39 29.4 -1.3
DUG	comp=Z,6.3nm,0.3s,mb5.5			LR	LR		
	comp=Z,9μm,20.0s,MS6.2						
DUG	Dugway	94.51	49	⇑P		P	20 39 31.6 +0.9
	baz=95						
K13A	Stover Farm, H	94.61	46	⇓P		P	20 39 31.3 +0.2
	baz=95						
M14A	Sheep Mountain	94.65	47	⇓P		P	20 39 32.1 +0.8
	baz=95						
E11A	Bogner Ranch,	94.75	42	⇑P		P	20 39 31.9 +0.2
	baz=95						
HLID	Hailey	94.75	45	P		P	20 39 32.1 +0.4
HLID	comp=Z,2.1nm,0.8s,mb4.6			LR	LR		
	comp=Z,8μm,20.0s,MS6.2						
HLID	Hailey	94.75	45	⇓P		P	20 39 32.4 +0.6
	baz=95						
J13A	Cove Ranch, Pi	94.85	45	⇓P		P	20 39 32.8 +0.6
	baz=95						
H12A	Diamond D Ranc	94.87	44	⇓P		P	20 39 32.8 +0.5
	baz=95						
B10A	Chitwood Farm,	94.95	40	⇓P		P	20 39 33.0 +0.5
	baz=95						
N15A	Stansbury Isla	94.99	48	⇑P		P	20 39 33.1 +0.3
	baz=95						
NEW	Newport	95.00	40	PFAKE			20 39 40.0 +7.3
NEW				LR	LR		
	comp=Z,6μm,19.0s,MS6.1						
NEW	Newport	95.00	40	LR	LR		21 16 52.8
	comp=Z,6μm,19.0s,MS6.1,baz=244,slow=32						
A10A	Northport	95.05	39	⇓P		P	20 39 32.4 -0.6
	baz=95						
I13A	Wildhorse Cree	95.09	45	⇑P		P	20 39 33.7 +0.4
	baz=95						
F12A	Elk City	95.10	43	⇑P		P	20 39 33.2 -0.1
	baz=95						
K14A	Jones Ranch, D	95.18	47	⇓P		P	20 39 34.0 +0.3
	baz=95						
M15A	Larsen Ranch,	95.26	48	⇑P		P	20 39 33.6 -0.5
	baz=95						
H13A	Challis	95.27	44	⇓P		P	20 39 33.9 -0.1
	baz=95						
MPU	Maple Canyon	95.27	49	PFAKE			20 39 40.0 +5.8
MPU				LR	LR		
	comp=Z,8μm,20.0s,MS6.2						
G13A	Cobalt	95.49	44	⇓P		P	20 39 35.0 -0.1
	baz=96						
B11A	Sandpoint	95.53	40	⇓P		P	20 39 35.3 +0.1
	baz=96						
D12A	Red Ives Fores	95.58	42	⇑P		P	20 39 35.5 +0.1
	baz=96						
DAU	Daniels Canyon	95.69	49	eP		P	20 39 35.5 -0.6
F13A	Darby	95.71	43	⇑P		P	20 39 36.2 +0.1
	baz=96						
A11A	Hall Mountain,	95.75	40	⇑P		P	20 39 37.1 +1.0
	baz=96						
B12A	Libby	96.01	40	⇓P		P	20 39 38.0 +0.6
	baz=96						
G14A	Jackson	96.05	44	⇑P		P	20 39 38.5 +0.8
	baz=96						
E13A	Victor	96.06	43	⇓P		P	20 39 37.8 +0.1
	baz=96						
TIXI	Tiksi	96.06	348	PFAKE			20 39 50.0 +13
TIXI				LR	LR		
	comp=Z,4μm,19.0s,MS5.9						
D13A	Huson	96.15	42	⇓P		P	20 39 38.1 0.0
	baz=96						
A12A	Yaak River Ran	96.17	40	⇓P		P	20 39 38.6 +0.6
	baz=96						
C13A	Hot Springs	96.31	41	⇓P		P	20 39 39.4 +0.7
	baz=96						
F14A	Wisdom	96.33	43	⇑P		P	20 39 39.3 +0.3
	baz=96						
MSO	Missoula	96.37	42	PFAKE			20 39 50.0 +11
MSO				LR	LR		
	comp=Z,4μm,20.0s,MS6.0						
E14A	Clinton	96.49	43	⇑P		P	20 39 40.3 +0.7
	baz=97						
MVCO	Mesa Verde	96.53	53	PFAKE			20 39 50.0 +10
MVCO				LR	LR		
	comp=Z,4μm,19.0s,MS5.9						
MVCO	Mesa Verde	96.53	53	⇑P		P	20 39 40.8 +0.8
	baz=97						
G15A	Dillon	96.66	44	⇓P		P	20 39 40.8 +0.4
	baz=97						
AHID	Auburn Hatcher	96.68	47	PFAKE			20 39 50.0 +9.4
AHID				LR	LR		
	comp=Z,3μm,19.0s,MS5.8						
MNTX	Cornudas Mount	97.03	59	PFAKE			20 39 50.0 +7.6
MNTX				LR	LR		
	comp=Z,5μm,20.0s,MS6.0						
EFI	East Falkland	97.07	153	PFAKE			20 39 50.0 +7.7
EFI				LR	LR		
	comp=Z,3μm,19.0s,MS5.7						
ANMO	Albuquerque	97.29	56	P		P	20 39 42.4 -1.2
ANMO				LR	LR		
	comp=Z,5μm,19.0s,MS6.0						
ANMO	Albuquerque	97.29	56	LR	LR		21 18 54.9
	comp=Z,5μm,18.5s,MS6.1,baz=226,slow=32						
BOZ	Bozeman (W)	97.40	44	PFAKE			20 39 50.0 +6.3
BOZ				LR	LR		
	comp=Z,10μm,19.0s,MS6.3						
YMR	Madison River	97.47	45	PFAKE			20 39 50.0 +5.9
YMR				LR	LR		
	comp=Z,5μm,22.0s,MS6.0						
BW06	Boulder Array	97.74	47	PFAKE			20 40 00.0 +15
BW06				LR	LR		
	comp=Z,5μm,19.0s,MS6.0						
PDAR	Pinedale Array	97.74	47	P		P	20 39 46.0 +0.7
	comp=Z,0.2nm,0.5s,baz=252,slow=8.4,SNR=1.8						
PDAR				LR	LR		21 21 44.5
	comp=Z,4μm,18.7s,MS5.9,baz=236,slow=34						
INK	Inuvik	97.95	18	eP		P	20 39 44.0 -1.7
	comp=Z,2μm,1.8s						
INK	Inuvik	97.95	18	P		P	20 39 44.6 -1.1
	comp=Z,3.7nm,1.2s,mb4.8,baz=229,slow=7.7,SNR=11						
INK				LR	LR		21 25 35.1
	comp=Z,5μm,18.2s,MS6.0,baz=232,slow=36						
WMQ	Urumqi	98.00	314	eP		P	20 39 47.6 +1.1
WMQ				AP	pP		20 40 01.0 +12
WMQ				PP	PP		20 43 50.0 +4.3
WMQ				SKS			20 50 20.0
WMQ				S	S		20 51 07.5 -6.1
WMQ				AMB	AMB		
	comp=Z,14nm,1.3s,mb5.3						
WMQ				AMB	AMB		
	comp=Z,800nm,5.5s						
WMQ				LR	LR		
	comp=N,2μm,15.6s,MS6.0						
WMQ				LR	LR		
	comp=E,3μm,16.9s,MS6.0						
WMQ				LR	LR		
	comp=Z,2μm,18.0s,MS5.7						
RLMT	Red Lodge	98.76	45	PFAKE			20 40 00.0 +10
RLMT				LR	LR		
	comp=Z,9μm,22.0s,MS6.2						
SDCO	Great Sand Dun	98.95	53	PFAKE			20 40 00.0 +9.1
SDCO				LR	LR		
	comp=Z,5μm,19.0s,MS6.0						
EGMT	Eagleton	99.45	42	PFAKE			20 40 00.0 +7.1
EGMT				LR	LR		
	comp=Z,5μm,20.0s,MS6.0						
ISCO	Idaho Springs	99.53	51	PFAKE			20 40 00.0 +6.5
ISCO				LR	LR		
	comp=Z,5μm,19.0s,MS6.0						
AMTX	Amarillo	100.99	57	PFAKE			20 40 10.0 +10
AMTX				LR	LR		
	comp=Z,5μm,19.0s,MS6.0						
JCT	Junction City	101.19	62	PFAKE			20 40 10.0 +9.3
JCT				LR	LR		
	comp=Z,7μm,19.0s,MS6.2						
LAO	LASA Array	101.28	44	PFAKE			20 40 10.0 +8.9
LAO				LR	LR		
	comp=Z,10μm,19.0s,MS6.3						
KVTX	Kingsville	101.92	65	PFAKE			20 40 10.0 +6.1
KVTX				LR	LR		
	comp=Z,4μm,19.0s,MS6.0						
RSSD	Black Hills	101.98	47	PFAKE			20 40 20.0 +16
RSSD				LR	LR		
	comp=Z,3μm,19.0s,MS5.9						
YKA	Yellowknife Ar	102.02	27	P	Pdif		20 40 03.0 -1.4
YKA	Yellowknife Ar	102.02	27	P	Pdif		20 40 03.0 -1.4
	comp=Z,0.2nm,0.6s,baz=251,slow=3.8,SNR=3.8						
HOPE	Hope Point	102.23	165	PFAKE			20 40 20.0 +15
HOPE				LR	LR		
	comp=Z,5.0nm,20.0s						
MKAR	Makanchi Array	102.57	315	P	Pdif		20 40 05.0 -1.8
	comp=Z,0.5nm,0.7s,baz=147,slow=2.9,SNR=2.0						
ZALV	Zalesovo Beam	103.09	323	Pdiff	Pdif		20 40 08.4 -0.8
	comp=Z,0.8nm,0.5s,baz=155,slow=4.1,SNR=2.8						
ZAL	Zalesovo	103.10	323	P	Pdif		20 40 08.4 -0.8
DGMT	Dagmar	103.12	43	PFAKE			20 40 20.0 +11
DGMT				LR	LR		
	comp=Z,4μm,19.0s,MS6.0						
WMOK	Wichita Mounta	103.23	58	PFAKE			20 40 20.0 +10
WMOK				LR	LR		
	comp=Z,4μm,20.0s,MS5.9						
CBKS	Cedar Bluff	103.60	53	PFAKE			20 40 20.0 +8.6
CBKS				LR	LR		
	comp=Z,4μm,21.0s,MS5.9						
LCO	Las Campanas	104.18	129	PFAKE			20 40 30.0 +16
LCO				LR	LR		
	comp=Z,3μm,22.0s,MS5.8						
HKT	Hockley	104.33	63	PFAKE			20 40 30.0 +15
HKT				LR	LR		
	comp=Z,8μm,19.0s,MS6.3						
TRQA	Tornquist	104.50	141	PFAKE			20 40 30.0 +15
TRQA				LR	LR		
	comp=Z,3μm,21.0s,MS5.8						
NATX	Nacogdoches	105.78	62	PFAKE			20 44 50.0 +16
NATX				LR	LR		
	comp=Z,9μm,19.0s,MS6.3						
KURK	Kurchatov	105.92	319	PFAKE			20 44 40.0 +6.0
KURK				LR	LR		
	comp=Z,3μm,19.0s,MS5.8						
KSU1	Kansas State U	106.03	54	PFAKE			20 44 50.0 +15
KSU1				LR	LR		
	comp=Z,5μm,20.0s,MS6.1						
FFC	Flin Flon	106.04	37	PFAKE			20 44 40.0 +5.9
FFC				LR	LR		
	comp=Z,6μm,21.0s,MS6.2						
TKM2	Tokmak 2	106.17	310	PFAKE			20 44 50.0 +15
TKM2				LR	LR		
	comp=Z,3μm,20.0s,MS5.8						
UCH	Uchtor	106.80	309	PFAKE			20 44 50.0 +14
UCH				LR	LR		
	comp=Z,3μm,20.0s,MS5.8						
ECSD	EROS,Sioux Fal	107.07	49	PFAKE			20 44 50.0 +14
ECSD				LR	LR		
	comp=Z,6μm,21.0s,MS6.2						
MIAR	Mount Ida	107.33	59	PFAKE			20 44 50.0 +13
MIAR				LR	LR		
	comp=Z,5μm,20.0s,MS6.1						
AML	Almayashu	107.37	309	PFAKE			20 44 50.0 +13
AML				LR	LR		
	comp=Z,2μm,20.0s,MS5.8						
TGUH	Tegucigalpa,Un	107.49	81	PFAKE			20 44 50.0 +12
TGUH				LR	LR		
	comp=Z,4μm,19.0s,MS6.0						
NNA	Nana	107.63	110	PFAKE			20 44 50.0 +12
NNA				LR	LR		
	comp=Z,2μm,21.0s,MS5.7						
TEIG	Tepich	108.32	75	PFAKE			20 44 50.0 +11
TEIG				LR	LR		
	comp=Z,6μm,21.0s,MS6.1						
AGMN	Agassiz Refuge	108.48	45	PFAKE			20 44 50.0 +11
AGMN				LR	LR		
	comp=Z,8μm,20.0s,MS6.3						
EYMN	Ely	111.32	45	PFAKE			20 45 00.0 +16
EYMN				LR	LR		
	comp=Z,8μm,20.0s,MS6.3						
RES	Resolute Bay	111.37	16	ePKPdf	PKiKP		20 44 43.4 -0.1
BRVK	Borovoye	111.41	320	PFAKE			20 45 00.0 +16
BRVK				LR	LR		
	comp=Z,4μm,19.0s,MS6.0						
JFWS	Jewell Farm	111.49	51	PFAKE			20 45 00.0 +15
JFWS				LR	LR		
	comp=Z,7μm,22.0s,MS6.2						
HDIL	Hopedale	111.84	53	PFAKE			20 45 00.0 +15
HDIL				LR	LR		
	comp=Z,6μm,20.0s,MS6.2						
PLAL	Pickwick Lake	111.85	60	PFAKE			20 45 00.0 +14
PLAL				LR	LR		
	comp=Z,7μm,19.0s,MS6.3						
BRAL	Brewton	111.94	64	PFAKE			20 45 00.0 +14
BRAL				LR	LR		
	comp=Z,5μm,20.0s,MS6.1						
WVT	Waverly	112.25	58	PFAKE			20 45 00.0 +14
WVT				LR	LR		
	comp=Z,2μm,19.0s,MS5.8						
LRAL	Lakeview Retre	112.38	62	PFAKE			20 45 00.0 +13
LRAL				LR	LR		
	comp=Z,6μm,20.0s,MS6.2						
COWI	Conover	112.70	48	PFAKE			20 45 00.0 +13
COWI				LR	LR		
	comp=Z,7μm,20.0s,MS6.3						
WCI	Wyandotte Cave	113.79	56	eP	Pdif		20 40 54.6 -2.1
GOGA	Godfrey	115.36	62	PFAKE			20 45 00.0 +7.6
GOGA				LR	LR		
	comp=Z,7μm,19.0s,MS6.3						
TZTN	Tazewell	115.73	59	PFAKE			20 45 00.0 +7.0
TZTN				LR	LR		
	comp=Z,5μm,20.0s,MS6.1						
GLMI	Grayling	115.75	49	PFAKE			20 45 00.0 +7.3
GLMI				LR	LR		
	comp=Z,8μm,20.0s,MS6.3						
DWPF	Disney	116.20	68	PFAKE			20 45 00.0 +5.9
DWPF				LR	LR		
	comp=Z,3μm,20.0s,MS6.0						
AAM	Ann Arbor	116.25	52	PFAKE			20 45 00.0 +6.2
AAM				LR	LR		
	comp=Z,7μm,19.0s,MS6.3						
ACSO	Alum Creek Sta	116.58	54	PFAKE			20 45 10.0 +16
ACSO				LR	LR		
	comp=Z,5μm,19.0s,MS6.1						
LHS	Liberty Hill	117.69	61	eP	Pdif		20 41 16.3 +2.2
NHSC	New Hope	118.04	63	PFAKE			20 45 10.0 +12
NHSC				LR	LR		
	comp=Z,5μm,20.0s,MS6.1						
ARU	Arti	118.23	324	PFAKE			20 45 10.0 +13
ARU				LR	LR		
	comp=Z,3μm,19.0s,MS6.0						
ARU	Arti	118.23	324	i PKIKP	PKPdf		20 44 58.1 +1.0
ARU							20 46 16.5
ARU				PPP			20 48 45.2
BLA	Blacksburg	118.30	58	PFAKE			20 45 10.0 +12
BLA				LR	LR		
	comp=Z,6μm,20.0s,MS6.2						
ERPA	Erie	118.96	53	PFAKE			20 45 10.0 +11
ERPA				LR	LR		
	comp=Z,6μm,19.0s,MS6.2						
SUR	Sutherland	119.11	211	PFAKE			20 45 10.0 +10
SUR				LR	LR		
	comp=Z,3μm,19.0s,MS6.0						
BOSA	Boshof	119.80	217	PFAKE			20 45 10.0 +8.8
BOSA				LR	LR		
	comp=Z,3μm,20.0s,MS5.9						
CNNC	Cliffs of the	120.16	61	PFAKE			20 45 10.0 +8.5
CNNC				LR	LR		
	comp=Z,8μm,20.0s,MS6.3						
SSPA	Standing Stone	120.48	54	PFAKE			20 45 10.0 +8.0
SSPA				LR	LR		
	comp=Z,5μm,19.0s,MS6.2						
KBS	Kingsbay	120.70	355	PFAKE			20 45 10.0 +8.6
KBS				LR	LR		
	comp=Z,2μm,20.0s,MS5.8						
CBN	Corbin	120.78	57	PFAKE			20 45 10.0 +7.4
CBN				LR	LR		
	comp=Z,3μm,21.0s,MS6.0						
SDV	Santo Domingo	121.45	92	PFAKE			20 45 20.0 +15
SDV				LR	LR		
	comp=Z,702nm,21.0s,MS5.3						
BINY	Binghamton	121.94	53	PFAKE			20 45 20.0 +15
BINY				LR	LR		
	comp=Z,4μm,20.0s,MS6.1						
LUPA	Lehigh Univers	122.40	54	ePdif	Pdif		20 41 26.6 -8.4
TRIS	Tristan da Cun	122.59	179	PFAKE			20 45 20.0 +14
TRIS				LR	LR		
	comp=Z,4μm,19.0s,MS6.1						
LONY	Lake Ozonia	122.89	50	PFAKE			20 45 20.0 +14
LONY				LR	LR		
	comp=Z,8μm,19.0s,MS6.4						
NCB	Newcomb	123.18	50	PFAKE			20 45 20.0 +13
NCB				LR	LR		
	comp=Z,9μm,19.0s,MS6.5						
SDDR	Presa de Saban	123.56	80	PFAKE			20 45 20.0 +11
SDDR				LR	LR		
	comp=Z,4μm,19.0s,MS6.1						
LBNH	Lisbon	124.82	50	PFAKE			20 45 20.0 +10
LBNH				LR	LR		
	comp=Z,9μm,19.0s,MS6.4						
LVZ	Lovozero	124.90	341	PFAKE			20 45 20.0 +10
LVZ				LR	LR		
	comp=Z,5μm,19.0s,MS6.2						
HRV	Adam Dziewonsk	125.20	52	PFAKE			20 45 20.0 +9.0
HRV				LR	LR		
	comp=Z,7μm,19.0s,MS6.3						
WES	Weston	125.39	52	PFAKE			20 45 20.0 +8.6
WES				LR	LR		
	comp=Z,6μm,20.0s,MS6.2						
APA	Apatity	125.48	341	⇑iPKIKP	PKPdf		20 45 08.0 -2.8
APA				e			20 46 57.0
APA				ePPS			20 58 33.0
APA				pmax	pmax		
	comp=Z,65nm,1.4s						
KEV	Kevo	125.83	345	PFAKE			20 45 20.0 +8.6
KEV				LR	LR		
	comp=Z,3μm,19.0s,MS6.0						
ARCES	ARCESS Array B	126.36	345	PKP	PKPdf		20 45 13.0 +0.6
ARCES	ARCESS Array B	126.36	345	PKP	PKPdf		20 45 13.0 +0.6
	comp=Z,6.6nm,1.0s,baz=75,slow=3.1,SNR=6.2						
UMR	Umm Al-Rimmam	126.56	292	eP	PKPdf		20 45 08.1 -5.9
UMR				AMb	AMB		20 45 25.5
	comp=Z,27nm,0.8s						
PKME	Peaks-Kenny Pk	126.58	48	PFAKE			20 45 20.0 +6.5
PKME				LR	LR		
	comp=Z,7μm,19.0s,MS6.4						
MAK	Makhachkala	126.66	309	deP	Pdif		20 41 53.4 -0.5
MAK				i			20 45 15.7
MAK				i			20 47 14.5
MAK				i PPP			20 49 49.0
MAK				i			20 52 24.9
MAK				ePS	PS		20 57 10.4 -4.1
MAK				pmax	pmax		
	comp=Z,212nm,1.5s						
NAY	Al-Naaiem	126.94	292	eP	PKPdf		20 45 08.3 -6.4
NAY				AMb	AMB		20 45 21.0
	comp=Z,13nm,1.4s						
RST	Umm Al-Ruwaisa	127.17	292	eP	PKPdf		20 45 09.8 -5.4
RST				AMb	AMB		20 45 21.2
	comp=Z,33nm,1.2s						
SFJD	Kangerlussuaq	127.29	18	PFAKE			20 45 30.0 +16
SFJD				LR	LR		
	comp=Z,8μm,19.0s,MS6.4						
KMBO	Kilima Mbogo	128.06	251	ePKPdf	PKPdf		20 45 17.4 +0.1
KMBO				LR	LR		
	comp=Z,4μm,19.0s,MS6.1						
KMBO	Kilima Mbogo	128.06	251	PKP	PKPdf		20 45 17.8 +0.4
	comp=Z,3.4nm,0.9s,baz=223,slow=23,SNR=6.2						
SJG	San Juan	128.13	83	PKP	PKPdf		20 45 16.5 -0.8
SJG				LR	LR		
	comp=Z,2μm,22.0s,MS5.7						
SJG	San Juan	128.13	83	PKP	PKPdf		20 45 16.5 -0.8
	comp=Z,11nm,0.2s,baz=308,slow=18,SNR=4.5						
DGRG	David-gareji	128.38	307	P	PKPdf		20 45 20.1 +3.0
DGRG				S	SKPdf		20 48 42.0 -11
MTA	Mtatsminda	128.79	307	P	PKPdf		20 45 20.3 +2.4
MTA				S	SKPdf		20 48 42.2 -11
ONI	Oni	129.67	309	P	Pdif		20 42 03.2 -4.1
ONI				S			20 42 04.8
ONI	Oni	129.67	309	P	PKPdf		20 45 22.3 +2.7
ONI				S	SKPdf		20 48 46.3 -9.0
MOS	Moscow	129.72	327	e	Sdif		20 55 44.5 +6.2
KIV	Kislovodsk	130.01	311	ePKPdf	PKPdf		20 45 17.2 -2.9
KIV				LR	LR		
	comp=Z,3μm,19.0s,MS6.0						
KIV	Kislovodsk	130.01	311	i PKIKP	PKPdf		20 45 21.8 +1.7
KIV				e			20 47 29.4
KIV				eSS	SS		21 04 46.5 -12
KIV				pmax	pmax		
	comp=Z,6.0nm,1.2s						
OBN	Obninsk	130.53	326	⇑iPKIKP	PKPdf		20 45 21.1 +0.4
OBN				e			20 47 36.4
OBN				i SS	SS		21 05 13.5 +10
OBN				pmax	pmax		
	comp=Z,13nm,1.5s						
OBN				MLR	MLR		
	comp=Z,5μm,24.0s,MS6.1						
MSL	Mosul	130.56	301	ex	x		20 45 19.5
MSL				ex	x		20 48 41.5
BBSR	BB Station	131.01	65	PFAKE			20 45 30.0 +7.6
BBSR				LR	LR		
	comp=Z,2μm,20.0s,MS5.8						
TSUM	Tsumeb	131.49	217	PFAKE			20 45 30.0 +6.3
TSUM				LR	LR		
	comp=Z,4μm,20.0s,MS6.1						
FINES	FINESS Array B	131.79	337	PKP	PKPdf		20 45 24.2 +1.3
FINES				SKPbc	SKPbc		20 48 51.2 +2.1
FINES	FINESS Array B	131.79	337	PKP	PKPdf		20 45 24.2 +1.3
	comp=Z,2.3nm,0.8s,baz=66,slow=2.3,SNR=4.1						
FINES				SKPbc	SKPbc		20 48 51.2 +2.1
	comp=Z,6.6nm,0.9s,baz=85,slow=2.1,SNR=6.4						
SOC	Sochi	132.19	311	d iPKIKP	PKPdf		20 45 25.1 +0.8
SOC				e			20 47 48.1
SOC				e			20 52 28.3
SOC				eSS	SS		21 05 32.7 +7.9
SOC				eSSS			21 10 04.2
ANN	Anapa	133.51	313	i PKIKP	PKPdf		20 45 24.8 -1.9
ANN				e			20 52 31.7
ANN				eSS	SS		21 05 33.3 -7.3
ANN				pmax	pmax		
	comp=Z,28nm,1.3s						
MALT	Malatya	134.06	304	ePKPdf	PKPdf		20 45 27.5 -0.5
MALT	Malatya	134.06	304	⇓iP	PKPdf		20 45 22.2 -5.8
MNK	Minsk	135.25	329	ePKIKP	PKPdf		20 45 24.0 -5.7
MNK				e			20 48 04.0
MNK				ePS	PS		20 58 20.0 -8.1
MNK				MLR	MLR		
	comp=Z,16μm,20.0s						
BORG	Borgarnes	135.39	6	PFAKE			20 45 40.0 +10
BORG				LR	LR		
	comp=Z,3μm,19.0s,MS6.1						
SIM	Simferopol'	135.72	314	i PKIKP	PKPdf		20 45 35.3 +4.4
SIM				e			20 48 10.0
SIM				pmax	pmax		
	comp=Z,170nm,7.9s						
ASF	Jabal al Asfar	135.90	295	PKP	PKPdf		20 45 32.8 +1.2
	comp=Z,1.9nm,0.9s,baz=321,slow=5.6,SNR=4.6						
AKASG	Malin Array Be	136.48	323	PKP	PKPdf		20 45 32.7 +0.6
	comp=Z,0.5nm,0.5s,baz=59,slow=2.4,SNR=4.6						
KIEV	Kiev	136.49	323	PFAKE			20 45 40.0 +7.9
KIEV				LR	LR		
	comp=Z,4μm,19.0s,MS6.2						
HWQ	Hawqa	136.54	298	eP	PKPdf		20 45 30.9 -1.8
NOA	NORSAR Array B	136.73	344	PKP	PKPdf		20 45 32.6 +0.4
	comp=Z,2.6nm,1.0s,baz=43,slow=2.3,SNR=3.2						
BHL	Bhannes	136.82	298	eP	PKPdf		20 45 34.2 +0.9
EIL	Elat	137.66	292	PKP	PKPdf		20 45 34.8 -0.1
	comp=Z,2.6nm,0.9s,baz=64,slow=2.9,SNR=4.4						
ANTO	Ankara	138.07	307	PFAKE			20 45 50.0 +15
ANTO				LR	LR		
	comp=Z,2μm,19.0s,MS5.8						
KONO	Kongsberg	138.34	344	PFAKE			20 45 50.0 +15
KONO				LR	LR		
	comp=Z,4μm,20.0s,MS6.1						
KIS	Kishinev	138.40	319	ePKIKP

BSD
comp=Z,5µm,19.0s
COP Copenhagen 140.85 339 *i* P PKPdf 20 45 31.8 -8.1
COP *i* 20 48 42.2
COP
comp=Z,2µm,18.0s
MLR Muntele Rosu 140.86 318 PKP PKPdf 20 45 40.0 -0.3
comp=Z,2.0nm,0.9s,baz=87,slow=7.1,SNR=4.8
MUD Monsted U'grnd 141.22 342 *i* PKHKP 20 45 34.1
MUD *i* 20 48 45.5
MUD MLR MLR
comp=Z,4µm,20.0s,MS6.2
MUD Monsted U'grnd 141.22 342 *i* P PKPdf 20 45 34.1 -6.5
MUD *i* 20 48 45.5
MUD *i* 21 07 15.7
MUD
comp=Z,4µm,20.0s
KOLS Kolonicke sedl 141.24 325 *e*PKP PKPdf 20 45 41.0 +0.2
UZH Uzhgorod 141.40 324 ‖ *i*PKHKP 20 45 36.4
UZH *i* 20 48 43.0
UZH *e* 20 52 51.0
STHS Stebnicka Huta 141.51 326 *e*PKP PKPdf 20 45 43.6 +2.3
CRVS Cervenica-Dubn 141.70 325 *e*PKP PKPdf 20 45 42.0 +0.3
OJC Ojcow 141.75 328 *e*PKPdf PKPdf 20 45 38.2 -3.5
OJC *e*pPKPdf pPKPdf 20 45 52.7 +8.4
OJC *e*PP PP 20 48 49.7 +4.0
OJC *e*SS SS 21 07 21.5 +4.1
OJC L 21 49 10.1
comp=Z,5.1nm,21.4s
OJC Ojcow 141.75 328 *e*PKPdf PKPdf 20 45 38.2 -3.5
OJC *e*pPKPdf pPKPdf 20 45 52.7 +8.4
OJC *e*PP PP 20 48 49.7 +4.0
OJC Ojcow 141.75 328 *e*PKIKP PKPdf 20 45 38.2 -3.5
OJC *e* 20 45 52.7
OJC *e* 20 48 49.7
OJC MLR MLR
comp=Z,5µm,21.4s,MS6.2
ALN Alexandroupoli 142.67 311 *e*P PKPdf 20 45 36.2 -7.5
OKC Ostrava-Krasne 142.81 329 *e*SS SS 21 07 35.9 +6.2
OKC *ex* x 21 12 54.6
OKC AMS AMS 21 51 00.0
comp=Z,4µm,19.1s,MS6.2
KSP Ksiaz 143.00 331 *e*PKP PKPdf 20 45 40.0 -3.9
KSP *e*PP PP 20 48 51.0 -2.2
KSP Ksiaz 143.00 331 *e*PKHKP 20 45 40.0
KSP *e* 20 48 51.0
KSP MLR MLR
comp=Z,11µm,21.3s,MS6.6
PSZ Piszkesteto 143.12 325 *e*PKPpre 20 45 35.3
PSZ Piszkesteto 143.12 325 ‖ *e*PKP PKPdf 20 45 43.3 -0.9
PLD Plovdiv 143.13 314 *e*P PKPdf 20 45 40.0 -4.5
MORC Moravsky Berou 143.15 329 P PKPdf 20 45 44.1 -0.1
VYHS Vyhne 143.33 326 *e*PKP PKPdf 20 45 41.8 -2.8
VYHS *e* 20 45 50.3
VYHS Vyhne 143.33 326 *e*PKP PKPdf 20 45 41.8 -2.8
VYHS *i* 20 45 50.2
DPC Dobruska-Polom 143.33 330 *e*SS SS 21 07 45.4 +10
DPC *ex* x 21 12 58.3
DPC AMS AMS 21 48 30.0
comp=Z,4µm,24.5s,MS6.1
UPC Upice 143.37 331 *e*PKP PKPdf 20 45 42.2 -2.4
BZS Buzias 143.44 321 ‖ *i*P PKPdf 20 45 40.8 -4.1
CHOS Chios island 143.52 307 *e*P PKPdf 20 45 41.1 -4.1
BUD Budapest 143.85 325 ‖ *e*PKP PKPdf 20 45 45.6 +0.1
VRAC Vranov 143.92 329 PKP PKPdf 20 45 43.1 -2.5
comp=Z,1.4nm,0.3s,baz=59,slow=4.3,SNR=5.1
VRAC Vranov 143.92 329 ⇑ *i*P PKPdf 20 45 41.8 -3.8
VTS Vitosha 143.92 315 *e*P PKPdf 20 45 43.5 -2.3
VTS Vitosha 143.92 315 ⇑ *i*P PKPdf 20 45 43.8 -2.0
PVCC Panska Ves 144.00 332 *e*PKP PKPdf 20 45 43.7 -2.0
PVCC *ex* x 21 07 54.1
PVCC AMS AMS 21 55 50.0
comp=Z,5µm,18.5s,MS6.3
BRG Berggiesshubel 144.01 333 *i* PKP PKPdf 20 45 43.0 -2.7
BRG *e* 21 08 02.0
BRG LR LR
comp=Z,3µm,19.2s,MS6.0
BRG Berggiesshubel 144.01 333 *i* PKIKP PKPdf 20 45 43.0 -2.7
BRG pmax pmax
comp=Z,12nm,1.9s
BRG MLR MLR
comp=N,65µm,18.2s
BRG MLR MLR
comp=E,2µm,17.0s
BRG MLR MLR
comp=Z,869nm,19.2s,MS5.5
BRG Berggiesshubel 144.01 333 *e*PKPab PKPdf 20 45 42.1 -3.6
BRG Berggiesshubel 144.01 333 *i* PKP PKPdf 20 45 43.0 -2.7
comp=Z,108nm,1.9s
CLL Collm 144.08 334 *i* PKP PKPdf 20 45 43.0 -2.8
CLL *i* 20 45 53.4
CLL LR LR
comp=Z,4µm,20.0s,MS6.2
CLL Collm 144.08 334 *e*PKPab(1) 20 45 42.8
CLL *e*PKPab(2) 20 45 46.6
CLL *e*PP PP 20 48 57.7 -1.9
CLL *e*PPS 21 01 35.8
CLL *e*SS SS 21 07 55.7 +12
CLL *e*SSS 21 13 10.0
CLL Collm 144.08 334 *i* PKPdf PKPdf 20 45 43.0 -2.8
comp=Z,57nm,1.4s
CLL *i* pPKiKP 20 45 53.4
CLL *ex* x 20 46 16.0
CLL *e*PP PP 20 49 02.0 +2.4
CLL *e*PPS 21 01 31.0
CLL *e*SS SS 21 08 01.0 +17
CLL *ex* x 21 09 34.0
CLL *e*SSS 21 12 49.0
CLL Lm 21 52 00.0
comp=N,4µm,19.5s
CLL Lm 21 52 00.0
comp=E,1µm,21.7s
CLL Lm 21 52 00.0
comp=Z,4µm,20.0s
RCBR Riachuelo 144.09 134 PFAKE 20 46 00.0 +13
RCBR LR LR
comp=Z,2µm,21.0s,MS5.9
MODS Modra-Piesok 144.20 327 *e*PKP PKPdf 20 45 44.6 -1.5
MODS *e* 20 45 53.4
MODS Modra-Piesok 144.20 327 *e*PKP PKPdf 20 45 44.6 -1.5
MODS *i* 20 45 53.4
ZKR Zakros 144.30 302 *e*P PKPdf 20 45 44.0 -2.7
APE Apeiranthos 144.31 305 *e*P PKPdf 20 45 42.4 -4.2
APE Apeiranthos 144.31 305 ‖ *i*P PKPdf 20 45 45.0 -1.7
OUR Ouranopolis 144.34 311 *e*P PKPdf 20 45 44.4 -2.2
PRA Prague 144.39 332 PKP PKPdf 20 45 44.0 -2.4
PRU Pruhonice 144.40 331 *e*PKP PKPdf 20 45 45.3 -1.1
PRU Pruhonice 144.40 331 *e*PKP PKPdf 20 45 45.3 -1.1
PRU *ex* x 21 07 59.8
PRU *ex* x 21 13 14.3
PRU AMS AMS 21 58 40.0
comp=Z,3µm,18.4s,MS6.1
ZST Bratislava 144.41 327 *e*PKP PKPdf 20 45 45.3 -1.2
TREC Trest 144.46 330 *e*PKP PKPdf 20 45 44.8 -1.7
TREC *ex* x 21 08 00.2
TREC *ex* x 21 13 15.4
TREC AMS AMS 21 51 20.0
comp=Z,5µm,19.7s,MS6.3
SOH Sokhos 144.58 312 *e*P PKPdf 20 45 44.0 -3.0
CLZ Clausthal 144.68 337 *e*PKPab PKPdf 20 45 44.8 -2.0
PLG Polygyros 144.70 312 *e*P PKPdf 20 45 47.8 +0.6
PLG Polygyros 144.70 312 *e*P PKPdf 20 45 44.5 -2.7
NPS Neapolis 144.74 302 *e*P PKPdf 20 45 50.0 +2.5
KNT Kendrikon 144.75 313 *e*P PKPdf 20 45 45.2 -2.1
PKSM Moragy 144.82 323 ‖ *i*P PKPdf 20 45 42.5 -4.8
HORT Hortiatis 144.85 312 *e*P PKPdf 20 45 45.0 -2.5
EKA Eskdalemuir Ar 144.86 352 PKP PKPdf 20 45 44.2 -2.8
comp=Z,2.8nm,0.6s,baz=356,slow=2.8,SNR=11
LAST Lasithi 144.87 302 *e*P PKPdf 20 45 46.7 -1.0
ESK Eskdalemuir 144.88 352 *e*P PKPdf 20 45 46.8 -0.2
ESK Eskdalemuir 144.88 352 *e*PKIKP PKPdf 20 45 44.8 -2.3
ESK MLR MLR
comp=Z,3µm,19.0s,MS6.1
VAY Valandovo 144.91 314 *e*P PKPdf 20 45 45.5 -2.0
VAY Valandovo 144.91 314 *i* PKP PKPdf 20 45 46.7 -0.9
THE Thessaloniki 144.93 312 *e*P PKPdf 20 45 45.3 -2.3
TANN Tannenbergstha 144.98 334 *e*PKPab PKPdf 20 45 46.1 -1.3
STIP Stip 145.00 314 *e*P PKPbc 20 45 45.8 -1.2
STIP Stip 145.00 314 *e*PKP PKPdf 20 45 46.8 -0.9
SOP Sopron 145.02 327 ⇑ *e*PKP PKPdf 20 45 47.2 -0.4
WERD Werda 145.02 334 *e*PKPab PKPab 20 45 46.5 -0.3
GUNZ Gunzen 145.08 334 *e*PKPab PKPab 20 45 46.8 -0.2
GMK Mull of Kintyr 145.11 355 *e*P PKPbc 20 45 47.0 +0.1
WERN Wernitzgruen 145.12 334 *e*PKPab PKPab 20 45 46.5 -0.6
NKC Novy Kostel 145.13 333 *e*PKP PKPdf 20 45 47.2 -0.5
NKC Novy Kostel 145.13 333 *e*PKP PKPdf 20 45 47.2 -0.5
NKC *ex* x 21 08 10.1
NKC *ex* x 21 13 25.2
NKC AMS AMS 21 52 50.0
comp=Z,4µm,19.9s,MS6.2
MOX Moxa 145.15 335 *e*PKP PKPdf 20 45 47.0 -0.7
comp=Z,165nm,1.9s
MOX
comp=Z,2µm,21.0s
MOX Moxa 145.15 335 *e*PKPab PKPab 20 45 46.2 -1.1
XAL Allendale 145.19 351 *e*P PKPbc 20 45 45.9 -1.3
IBBN Ibbenburen 145.20 340 *e*PKPab PKPab 20 45 46.6 -0.8
CONA Conrad Observa 145.21 328 ⇑ *i*PKPdf PKPdf 20 45 48.1 +0.2
comp=Z,112nm,1.4s,SNR=7.9
DIVS Divibare 145.23 319 *e*P PKPbc 20 45 45.6 -2.1
PTL Penteli 145.26 308 *e*P PKPbc 20 45 47.0 -1.0
NEO Neokhori 145.27 310 *e*P PKPbc 20 45 47.0 -1.0
SKO Skopje 145.37 315 *e*P PKPbc 20 45 47.6 -0.6
SKO Skopje 145.37 315 *i* PKP PKPdf 20 45 47.5 -0.8
ATH Athens Observa 145.39 308 *e*P PKPbc 20 45 49.0 +0.6
KVR Kavouri 145.40 307 *e*P PKPbc 20 45 47.0 -1.5
GCD Castle Douglas 145.42 353 *e*P PKPbc 20 45 47.1 -0.9
GCL Cushendall 145.43 355 *e*P PKPbc 20 45 47.9 0.0
SIVA Sivas 145.44 302 *e*P PKPbc 20 45 47.6 -1.1
KHC Kasperske Hory 145.45 331 *e*PKIKP PKPdf 20 45 47.9 -0.4
KHC *e* 20 45 52.5
KHC MLR MLR
comp=Z,5µm,18.7s,MS6.3
KHC Kasperske Hory 145.45 331 *e*PKP PKPdf 20 45 47.9 -0.4
KHC *e*pPKP pPKPdf 20 45 52.5 +1.7
KHC *e*SS SS 21 08 08.0 +8.1
KHC *ex* x 21 13 28.7
KHC AMS AMS 21 57 20.0
comp=Z,5µm,18.7s,MS6.3
MANZ Manzenberg 145.46 333 *e*PKPab PKPab 20 45 48.2 -0.2
LIT Litokhoron 145.48 312 *e*P PKPdf 20 45 46.7 -1.9
GAL1 Galloway 145.50 354 *e*P PKPdf 20 45 48.2 +0.1
ROTZ Rotzenmuhle 145.58 333 *e*PKPab PKPab 20 45 48.4 -0.5
CKE Keswick 145.58 352 *e*P PKPdf 20 45 48.6 +0.3
GEC2 GERESS Array S 145.60 331 *e*PKPab PKPab 20 45 48.1 -0.9
GERES GERESS Array B 145.60 331 PKPbc PKPbc 20 45 48.5 -0.3
comp=Z,6.9nm,0.8s,baz=54,slow=2.3,SNR=28
NAIG Nisos Aigina 145.64 307 *e*P PKPdf 20 45 49.0 +0.1
UBBA Unterbreizbach 145.64 336 *e*PKPab PKPab 20 45 48.2 -0.9
WET Wettzell 145.76 332 *e*PKPab PKPab 20 45 48.9 -0.6
KRUS Krusevo 145.78 314 *i* PKP PKPdf 20 45 48.2 -0.8
WTSB Winterswijk 145.80 340 *e*PKP PKPdf 20 45 47.4 -1.4
comp=Z,233nm,2.6s
VAM Vamos 145.82 303 *e*P PKPdf 20 45 50.0 +0.7
ARSA Arzberg 145.83 327 *i* P PKPdf 20 45 50.2 +1.2
comp=Z,76nm,1.5s,SNR=17
ARSA Arzberg 145.83 327 P PKPdf 20 45 48.3 -0.7
ARSA Arzberg 145.83 327 *i* pPKPdf pPKPdf 20 45 50.2 -1.4
comp=Z,76nm,1.5s,SNR=17
BIA Bitola 145.89 314 *e*PKP PKPdf 20 45 47.7 -1.5
DID Didima 145.91 307 *e*P PKPdf 20 45 50.1 +0.7
LTK Loutraki 145.93 308 *e*P PKPdf 20 45 40.8 -8.7
FNA Florina 145.96 313 *e*P PKPdf 20 45 48.7 -0.7
HPK Haverah Park 145.98 350 *e*P PKPdf 20 45 49.0 0.0
KOGS Kog 145.98 326 *e*PKP PKPdf 20 45 49.5 +0.3
AGG Agios Georgios 146.02 310 *e*P PKPdf 20 45 47.6 -1.9
GIM North Isle of 146.04 353 *e*P PKPdf 20 45 48.8 -0.3
KARN Karanos 146.04 303 *e*P PKPdf 20 45 50.3 +0.6
MOA Molln 146.05 329 *i* P PKPdf 20 45 50.6 +1.3
comp=Z,51nm,1.5s,SNR=9.7
MOA Molln 146.05 329 P PKPdf 20 45 49.3 0.0
MOA Molln 146.05 329 *i* pPKPdf pPKPdf 20 45 50.6 -1.3
comp=Z,51nm,1.5s,SNR=9.7
GRA1 *e*SS SS 21 08 10.4 +3.9
GRA1 Grafenberg Arr 146.05 334 *e*PKPab PKPab 20 45 49.6 -1.0
GRF Grafenberg Arr 146.05 334 *e*PKPab PKPab 20 45 49.6 -1.0
GRF *e*SS SS 21 08 10.4 +3.9
GRF *e*L 21 56 48.8
comp=Z,3µm,19.2s
GRFO Grafenberg 146.05 334 *e*PKPdf PKPab 20 45 51.3 +0.7
GRFO LR LR
comp=Z,3µm,19.0s,MS6.1
GVD Gavdhos 146.06 302 *e*PKPdf PKPdf 20 45 49.3 -0.5
GVD Gavdhos 146.06 302 *e*P PKPdf 20 45 48.7 -1.1
GVD Gavdhos 146.06 302 *e*P PKPdf 20 45 50.0 +0.2
OHR Ohrid 146.20 314 *e*P PKPdf 20 45 50.0 +0.2
OHR Ohrid 146.20 314 *i* PKP PKPdf 20 45 48.9 -0.9
GMM Mts of Mourne 146.24 355 *e*P PKPdf 20 45 49.9 +0.5
VLI Veliai 146.40 306 *e*P PKPdf 20 45 50.0 -0.3
LHO Holmfirth 146.41 350 *e*P PKPdf 20 45 50.6 +0.8
EVR Evrytania 146.44 310 *e*P PKPdf 20 45 51.0 +0.7
PERS Pernice 146.45 327 *e*PKP PKPdf 20 45 50.6 +0.6
KYTH Kithira 146.46 305 *e*P PKPdf 20 45 50.0 -0.4
SISC Sisak 146.53 324 P PKPab 20 45 53.1 +0.4
VLX Vlachokerasia 146.60 307 *e*P PKPab 20 45 56.6 +3.4
SELA Sela 146.62 309 *e*P PKPbc 20 45 53.7 +1.5
KBI1 Birley Grange 146.64 350 *e*P PKPdf 20 45 51.7 +1.6
DMUB Kingscourt 146.65 356 *e*P PKPdf 20 45 51.7 +1.6
TNS Taunus Mts 146.71 337 *e*PKPab PKPab 20 45 51.8 -1.3
TIR Tirane 146.71 315 *e*P PKPdf 20 45 50.4 -0.2
CRES Cresnjev 146.81 325 *e*PKP PKPdf 20 45 51.9 +1.3
JAN Janina 146.81 312 *e*P PKPdf 20 45 53.0 +2.1
KWE Weaver Farm 146.92 350 *e*P PKPbc 20 45 53.0 +0.5
ITM Ithomi 147.00 307 *e*P PKPbc 20 45 53.5 +0.2
KBA Koelnbreinsper 147.03 329 P PKPdf 20 45 51.7 +0.7
CWF Charnwood Fore 147.10 349 *e*P PKPdf 20 45 51.8 +0.9
HGN Heimansgroeve 147.11 340 *e*PKP PKPbc 20 45 53.5 +0.4
comp=Z,213nm,2.9s
BOJS Bojanci 147.12 325 *e*PKP PKPbc 20 45 53.4 0.0
LJU Ljubljana 147.15 326 *e*PKP PKPdf 20 45 52.3 +1.1
BEBN Eben Emael 147.16 340 PKP PKPbc 20 45 55.5 +2.2
FUR Furstenfeldbru 147.19 332 *e*PKPab PKPab 20 45 54.2 -0.9
MEM Membach 147.22 340 PKP PKPbc 20 45 55.4 +2.0
IGT Igoumenitsa 147.22 312 *e*P PKPdf 20 45 54.2 +2.6
DLF Lyons Farm 147.22 355 *e*P PKPdf 20 45 53.1 +2.0
DCN Croghan 147.23 356 *e*P PKPbc 20 45 53.5 +0.1
PYL PYLOS 147.24 307 *e*P PKPab 20 46 00.6 +4.9
MSKU Masuku 147.24 230 PFAKE 20 46 00.0 +7.6
MSKU LR LR
comp=Z,7.0nm,19.0s
SBD1 Bryn Du 147.25 351 *e*P PKPdf 20 45 51.6 +0.5
STON Ston 147.29 319 P PKPdf 20 45 52.1 +0.6
ABH Alteburg 147.31 338 PKP PKPbc 20 45 53.4 -0.3
LKD Levkas 147.35 310 *e*P PKPdf 20 45 53.2 +1.4
VOJS Vojsko 147.49 327 *e*PKP PKPbc 20 45 55.1 +0.8
PTCC Patocco-Chiusa 147.50 328 P PKPdf 20 45 53.1 +1.3
KEK Kerkira 147.51 313 *e*P PKPdf 20 45 54.0 +2.0
UCC Uccle 147.56 342 PKP PKPab 20 45 57.0 +0.5
HLM1 Long Mynd 147.57 351 *e*P PKPdf 20 45 51.7 0.0
KTD Kalmit 147.58 336 PKP PKPbc 20 45 56.2 +1.7
STU Stuttgart 147.60 335 *e*PKPab PKPab 20 45 55.4 -1.3
BCLA Clavier 147.61 340 PKP PKPab 20 45 56.9 +0.2
VLS Valsamata 147.61 310 *e*P PKPdf 20 45 54.0 +1.7
RUP Ruppelstein 147.64 338 PKP PKPbc 20 45 54.2 -0.4
FVI Forni Avoltri 147.65 329 P PKPbc 20 45 54.0 -0.8
SNF Seneffe 147.84 342 PKP PKPab 20 45 57.4 -0.2
MOTA Moosalm 147.89 331 ‖ *i*P PKPbc 20 45 54.7 -0.7
comp=Z,176nm,1.9s,SNR=10.0
MOTA Moosalm 147.89 331 ‖ *i*pPKPdf pPKPdf 20 45 54.7 -0.3
comp=Z,176nm,1.9s,SNR=10.0
MOTA Moosalm 147.89 331 PKP2 PKPab 20 45 56.2 -1.7
NVLJ Novalja 147.93 324 P PKPbc 20 45 55.0 -0.6
SQTA Sankt Quirin 147.94 331 ⇑ *i*P PKPdf 20 45 54.1 +1.6
comp=Z,494nm,2.6s,SNR=7.7
SQTA Sankt Quirin 147.94 331 ⇑ *i*pPKPdf pPKPdf 20 45 54.1 -1.0
comp=Z,494nm,2.6s,SNR=7.7
LANF Langenberg 147.97 336 PKP PKPbc 20 45 55.3 -0.2
LANF Langenberg 147.97 336 PKP2 PKPab 20 45 57.5 -0.6
WLF Walferdange 147.98 339 *e*PKPdf PKPdf 20 45 53.4 +0.9
WLF Walferdange 147.98 339 PKP PKPab 20 45 58.3 +0.2
GIVF Givet 148.04 341 *e*PKP1 PKPbc 20 45 55.3 -0.4
HTR Trewern Hill 148.05 351 *e*P PKPdf 20 45 53.0 +0.5
MCH1 Michaelchurch 148.09 351 *e*P PKPbc 20 45 55.9 +0.1
MCH1 *e*P 20 45 55.9
DOU Dourbes 148.11 341 PKP PKPab 20 45 58.5 -0.2
BAIF Baives 148.26 341 *e*PKP1 PKPbc 20 45 55.8 -0.5
BFO Black Forest 148.29 335 *e*PKPdf PKPdf 20 45 53.3 +0.2
BFO LR LR
comp=Z,3µm,20.0s,MS6.1
SPAK Spaichingen-Ko 148.30 334 PKP PKPbc 20 45 55.5 -0.9
FETA Feichten 148.30 331 *i* PKiKP PKiKP 20 45 57.6 -0.6
comp=Z,60nm,1.1s,SNR=9.6
STR Strasbourg 148.31 336 PKP PKPbc 20 45 56.2 -0.2
SWN1 Swindon 148.36 349 *e*P PKPdf 20 45 52.5 -0.5
DAVA Damuels 148.48 332 ⇑ *i*P PKPbc 20 45 57.9 +0.9
comp=Z,46nm,1.1s
DAVA Damuels 148.48 332 P PKPdf 20 45 54.6 +1.2
CTI Castel Tesino 148.59 329 P PKPdf 20 45 55.2 +1.6
CDF Champ du Feu 148.63 336 *e*PKP1 PKPbc 20 45 56.7 -0.6
comp=Z,279nm,1.6s
FELD Feldberg im Sc 148.79 335 PKP PKPbc 20 45 56.8 -0.9
ECH Echery 148.84 336 PKP PKPbc 20 45 56.6 -1.2
DAVOX Davos/Dischmat 148.86 332 PKP PKPdf 20 45 52.2 -1.8
comp=Z,1.1nm,0.6s,baz=305,slow=20,SNR=2.5
DAVOX PKPbc PKPbc 20 45 58.6 +0.6
comp=Z,10nm,0.7s,baz=38,slow=6.5,SNR=13
MOF Molkenrain 149.15 336 PKP PKPbc 20 45 57.3 -1.3
THEF They Montfort 149.26 338 PKP PKPbc 20 45 57.5 -1.4
HTL Hartland 149.28 352 *e*P PKPdf 20 45 54.8 +0.3
HINF Hinteralfeld 149.29 336 *e*PKP1 PKPbc 20 45 58.1 -0.9
comp=Z,171nm,1.6s
HAU Haudompre 149.32 337 *e*PKP1 PKPbc 20 45 58.4 -0.6
HAU *e*MLR MLR
comp=Z,5µm,20.5s,MS6.0
HAU Haudompre 149.32 337 *e*PKP2 PKPbc 20 45 58.4 -0.6
HAU MLR MLR
comp=Z,5µm,20.5s,MS6.3
MEZF Maizieres J'vi 149.35 339 *e*PKP1 PKPbc 20 45 58.8 -0.3
comp=Z,392nm,1.7s
FSSB Fossombrone 149.65 325 P PKPdf 20 45 54.3 -1.1
RSM Repubblica di 149.66 325 P PKPbc 20 45 58.4 -1.6
LOMF Lomont 149.68 336 PKP PKPbc 20 45 58.6 -1.4
TIP Timpagrande 149.84 314 *e*PKPdf PKPdf 20 45 56.4 +0.5
TIP *e*PKPbc PKPbc 20 46 00.3 -0.3
MRLC Muro Lucano 149.84 318 P PKPdf 20 45 50.5 -5.3
TERO Teramo 149.88 322 P PKPdf 20 45 58.5 +2.7
PIEI Pieia 149.88 325 P PKPdf 20 45 54.7 -1.1
SFI Santa Sofia 150.00 326 P PKPdf 20 45 58.1 +2.2
NRCA Norcia 150.02 323 P PKPdf 20 45 55.0 -1.0
BADI Badiali 150.06 325 P PKPdf 20 45 56.9 +0.9
INTR Introdacqua 150.08 321 P PKPdf 20 45 57.2 +1.1
MIDA Miranda 150.09 320 P PKPdf 20 45 54.7 -1.5
RNI2 Rionero Sannit 150.12 320 P PKPdf 20 45 58.4 +2.2
AQU L'Aquila 150.16 322 *e*PKPdf PKPdf 20 45 57.0 +0.7
SGG Gregorio Mates 150.17 320 P PKPdf 20 45 51.1 -5.2
FNVD Fontana Vidola 150.19 327 P PKPdf 20 45 55.6 -0.6
FIAM Fiamignano 150.38 322 P PKPdf 20 45 55.7 -0.9
CABF La Chapelle 150.58 336 *e*PKP1 PKPbc 20 46 01.9 -0.3
CERT Cerreto 150.66 322 P PKPdf 20 45 58.3 +1.3
LDF La Druitiere 150.77 345 *e*PKP1 PKPbc 20 46 03.7 +1.1
LOR Lormes 150.82 339 *e*PKP1 PKPbc 20 46 03.7 +1.0
LOR *e*MLR MLR
comp=Z,3µm,20.8s,MS5.8
LOR Lormes 150.82 339 *e*PKP2 PKPbc 20 46 03.7 +1.0
LOR MLR MLR
comp=Z,3µm,20.8s,MS6.1
SSF Saint Saulge 151.12 339 *e*PKP1 PKPbc 20 46 04.3 +0.9
comp=Z,69nm,1.2s
LPL La Plagne 151.21 334 *e*PKP1 PKPbc 20 46 03.4 -0.3
comp=Z,110nm,1.3s
LPG La Plagne 151.22 334 *e*PKP1 PKPbc 20 46 03.6 -0.1
comp=Z,60nm,1.0s
AVF Avril sur Loir 151.41 339 *e*PKP1 PKPbc 20 46 05.5 +1.4
ASCN Ascension 151.41 173 PFAKE 20 46 10.0 +11
ASCN LR LR
comp=Z,3µm,19.0s,MS6.1
BNI Bardonecchia 151.61 333 *e*PKPbc PKPbc 20 46 04.1 -0.5
SGMF Saint Gilles 151.62 348 *e*PKP1 PKPbc 20 46 06.1 +1.6
comp=Z,68nm,1.0s
ROSF Rostrenen 151.68 349 *e*PKP1 PKPbc 20 46 05.6 +0.9
comp=Z,236nm,1.5s
SURF Saint Ours 152.00 332 PKP PKPdf 20 46 00.5 +1.5
PLDF La Plantade 152.03 338 PKP PKPbc 20 46 02.9 -2.6
PLDF La Plantade 152.03 338 PKIKP PKPbc 20 46 04.4 -1.1
SAOF Saorge 152.06 331 PKP PKPbc 20 46 03.5 -2.2
AGO Saint Agoulin 152.13 339 PKP PKPbc 20 46 03.2 -2.6
TOUF Mont Tournerai 152.18 331 PKP PKPdf 20 46 00.7 +1.4
TOUF Mont Tournerai 152.18 331 PKIKP PKPdf 20 46 01.4 +2.1
TCF Toulx Ste Croi 152.23 340 *e*PKP1 PKPbc 20 46 06.6 +0.6
comp=Z,95nm,1.4s
MVIF Mont Vial 152.31 331 PKP PKPdf 20 45 59.4 -0.1
PYM Petit Puy Mans 152.44 338 PKP PKPbc 20 46 03.4 -3.1
LBL Lubilhac 152.80 338 PKP PKPbc 20 46 05.0 -2.3
LBL Lubilhac 152.80 338 PKIKP PKPbc 20 46 06.5 -0.8
FRF La Foret Royal 152.80 331 *e*PKP1 PKPbc 20 46 08.0 +0.6
SMRF Simiane la Rot 152.94 333 *e*PKP1 PKPbc 20 46 08.9 +1.2
LMR La Mourre 153.04 331 *e*PKP1 PKPbc 20 46 08.7 +0.8
RJF Les Rejaudoux 153.32 340 *e*PKP1 PKPbc 20 46 09.6 +1.2
RJF *e*MLR MLR
comp=Z,6µm,19.0s,MS6.1
RJF Les Rejaudoux 153.32 340 *e*PKIKP PKPbc 20 46 09.6 +1.2
RJF MLR MLR
comp=Z,6µm,19.0s,MS6.4
EJON La Jonquera 155.31 335 PKP PKPdf 20 45 55.4 -8.4
EBIE Bielsa 156.11 339 PKP PKPdf 20 46 01.8 -3.0
SJPF Ste Jean 156.14 342 *e*PKP1 PKPdf 20 46 15.4 +11
EMIR Miracle 156.29 336 PKP PKPdf 20 45 59.8 -5.3
ELAN Lanestosa 156.60 346 PKP PKPdf 20 46 00.8 -4.7
EARI Arriondas 156.89 349 PKP PKPdf 20 45 57.2 -8.6
EPOB Poblet 156.95 336 PKP PKPdf 20 46 00.8 -5.2
EPON Pontenova 157.15 353 PKP PKPdf 20 45 57.3 -8.9
ESAC San Caprasio 157.17 339 PKP PKPdf 20 46 01.5 -4.8
ERTA Horta de San J 157.57 337 PKP PKPdf 20 46 04.2 -2.6
EMAZ Mazaricos 157.70 356 PKP PKPdf 20 46 01.5 -5.4
EMOS Mosqueruela 158.38 338 PKP PKPdf 20 46 02.8 -5.0
ECAL Calabor 158.46 351 PKP PKPdf 20 46 04.5 -3.4
PBRG Braganca 158.60 351 *e*PP PP 20 50 25.8 +3.5
ELOB Lobios 158.70 354 PKP PKPdf 20 46 03.8 -4.3
EIBI Ibiza 158.81 333 PKP PKPdf 20 46 04.5 -3.8
PCAB Cabril 158.85 354 *e*PKPab PKPab 20 46 43.4 -0.6
PCAB Cabril 158.85 354 *e*PP PP 20 50 27.4 +3.8
PVRL Vila Real 159.24 353 *e*PKPab PKPab 20 46 45.8 0.0
PVRL Vila Real 159.24 353 *e*PP PP 20 50 28.8 +3.0
MVO Moncorvo 159.27 351 *e*PKPdf PKPdf 20 46 07.3 -1.5
MVO Moncorvo 159.27 351 *e*PKPab PKPab 20 46 46.3 +0.4
MVO Moncorvo 159.27 351 *e*PP PP 20 50 26.5 +0.6
MVO Moncorvo 159.27 351 *e*SS SS 21 11 22.8 +52
MVO Moncorvo 159.27 351 *e*LR LR 21 51 51.0
comp=Z,4µm,18.0s
EBEN Beniarda 159.74 335 PKP PKPdf 20 46 06.8 -2.7
PVIS Viseu 159.82 353 *e*PKPab PKPab 20 46 49.2 +0.9
PVIS Viseu 159.82 353 *e*PP PP 20 50 31.6 +2.7
MTE Manteigas 160.09 352 *e*PKPdf PKPdf 20 46 08.7 -1.1
MTE Manteigas 160.09 352 *e*PKPab PKPab 20 46 49.0 -0.5
MTE Manteigas 160.09 352 *e*PP PP 20 50 31.4 +1.0
MTE Manteigas 160.09 352 *e*SS SS 21 10 53.7 +14
MTE Manteigas 160.09 352 *e*LR LR 21 52 27.5
comp=Z,3µm,19.7s
ESBB Sonseca Array 160.09 344 PKP PKPdf 20 46 07.8 -2.1
ESDC Sonseca Array 160.09 344 PKPab PKPab 20 46 48.8 -0.7
comp=Z,1.5nm,0.9s,baz=3.2,slow=6.4,SNR=7.0
ETOB Tobarra 160.29 338 PKP PKPdf 20 46 04.8 -5.3
PAB San Pablo 160.31 345 PFAKE 20 46 20.0 +10
PAB LR LR
comp=Z,4µm,21.0s
PCBR Castelo Branco 160.63 352 *e*PKPab PKPab 20 46 52.5 +0.7
PCBR Castelo Branco 160.63 352 *e*PP PP 20 50 36.8 +3.5
EMUR La Murta 160.88 336 PKP PKPdf 20 46 07.8 -3.0
PESTR Estremoz 161.60 352 *e*PKPdf PKPdf 20 46 10.1 -1.4
PESTR Estremoz 161.60 352 *e*PKPab PKPab 20 46 56.1 0.0
PESTR Estremoz 161.60 352 *e*PP PP 20 50 39.6 +1.1
PESTR Estremoz 161.60 352 *e*LR LR 21 49 17.7
comp=Z,5µm,18.1s
EBAD Badajoz 161.62 350 PKP PKPdf 20 46 07.8 -3.7
PMAFR Mafra 161.69 356 *e*PKPdf PKPdf 20 46 10.9 -0.7
PMAFR Mafra 161.69 356 *e*PKPab PKPab 20 46 56.6 +0.1
PMAFR Mafra 161.69 356 *e*PP PP 20 50 42.2 +3.2
PMAFR Mafra 161.69 356 *e*LR LR 21 51 48.0
comp=Z,4µm,18.8s
ECAB El Cabril 161.97 346 PKP PKPdf 20 46 07.8 -4.1
EVO Evora 161.99 352 *e*PKIKP PKPdf 20 46 12.2 +0.3
comp=Z,58nm,1.7s
EVO *e*MLR MLR
comp=Z,5µm,17.8s
EVO Evora 161.99 352 *e*PKPdf PKPdf 20 46 12.6 +0.7
EVO Evora 161.99 352 *e*PKPab PKPab 20 46 57.6 -0.2
EVO Evora 161.99 352 *e*PP PP 20 50 41.7 +1.1
PBAR Barrancos 162.19 350 *e*PKPdf PKPdf 20 46 10.5 -1.6
PBAR Barrancos 162.19 350 *e*PKPab PKPab 20 46 58.9 +0.2
PBAR Barrancos 162.19 350 *e*PP PP 20 50 42.4 +0.7
PBAR Barrancos 162.19 350 *e*LR LR 21 52 43.2
comp=Z,5µm,20.1s
PBEJ Beja 162.47 352 *e*PKPab PKPab 20 47 00.1 +0.2
PBEJ Beja 162.47 352 *e*PP PP 20 50 46.3 +3.2
EMIN Mina Concepcio 162.53 348 PKP PKPdf 20 46 09.8 -2.7
EGRO El Granado 162.89 350 PKP PKPdf 20 46 10.7 -2.1

PTEO	**Sao Teotonio**	**163.04 354**	*e*PKPab	PKPab	20 47 03.0	+0.6
PTEO	**Sao Teotonio**	**163.04 354**	*e*PP	PP	20 50 50.1	+3.9
PVAQ	**Vaqueiros**	**163.06 351**	*e*PKPdf	PKPdf	20 46 14.3	+1.3
PVAQ	**Vaqueiros**	**163.06 351**	*e*PKPab	PKPab	20 47 01.9	-0.6
PVAQ	**Vaqueiros**	**163.06 351**	*e*PP	PP	20 50 47.4	+1.1
PVAQ	**Vaqueiros**	**163.06 351**	*e*SS	SS	21 11 48.1	+38
PVAQ	**Vaqueiros**	**163.06 351**	*e*LR	LR	21 51 13.4	
	comp=Z,5μm,19.4s					
ESPR	**Espera**	**163.22 346**	PKP	PKPdf	20 46 14.1	+1.0
EMIJ	**Mijas**	**163.23 342**	PKP	PKPdf	20 46 09.8	-3.4
PBDV	**Barranco-do-Ve**	**163.25 351**	*e*PKPdf	PKPdf	20 46 14.5	+1.3
PBDV	**Barranco-do-Ve**	**163.25 351**	*e*PKPab	PKPab	20 47 04.6	+1.3
PBDV	**Barranco-do-Ve**	**163.25 351**	*e*PP	PP	20 50 50.5	+3.2
PBDV	**Barranco-do-Ve**	**163.25 351**	*e*SS	SS	21 11 29.8	+17
PBDV	**Barranco-do-Ve**	**163.25 351**	*e*LR	LR	21 50 36.7	
	comp=Z,6μm,17.8s					
MORF	**Marmelete**	**163.27 353**	*e*PKPdf	PKPdf	20 46 12.7	-0.5
MORF	**Marmelete**	**163.27 353**	*e*PKPab	PKPab	20 47 03.3	-0.2
MORF	**Marmelete**	**163.27 353**	*e*PP	PP	20 50 49.9	+2.5
MORF	**Marmelete**	**163.27 353**	*e*LR	LR	21 50 27.7	
	comp=Z,3μm,17.2s					
PFVI	**Vila Bisbo**	**163.46 354**	*e*PKPdf	PKPdf	20 46 13.0	-0.4
PFVI	**Vila Bisbo**	**163.46 354**	*e*PKPab	PKPab	20 47 04.5	+0.2
PFVI	**Vila Bisbo**	**163.46 354**	*e*PP	PP	20 50 51.7	+3.3
PFVI	**Vila Bisbo**	**163.46 354**	*e*SS	SS	21 11 33.6	+19
PFVI	**Vila Bisbo**	**163.46 354**	*e*LR	LR	21 50 28.1	
	comp=Z,4μm,18.2s					
LIC	**Lamto**	**164.53 203**	*e*PKP2	PKPab	20 47 11.9	+2.3
	comp=Z,140nm,1.6s					
LIC			*e*MLR	MLR		
	comp=Z,9μm,19.0s					
DBIC	**Dimbokro**	**164.88 204**	PKPab	PKPab	20 47 12.4	+1.3
	comp=Z,8.0nm,1.0s,baz=129,slow=7.4,SNR=4.6					
TORD	**Torodi Ar. Bea**	**165.74 240**	PKP	PKPdf	20 46 14.2	-1.8
TORD			PKPab	PKPab	20 47 16.4	+1.3
TORD	**Torodi Ar. Bea**	**165.74 240**	PKP	PKPdf	20 46 14.2	-1.8
	comp=Z,1.2nm,0.8s,baz=183,slow=0.5,SNR=6.3					
TORD			PKPab	PKPab	20 47 16.4	+1.3
	comp=Z,3.5nm,1.0s,baz=155,slow=4.2,SNR=4.2					
MDT	**Midelt**	**166.60 336**	PKP	PKPdf	20 46 14.3	-1.9
	comp=Z,0.2nm,0.4s,baz=276,slow=16,SNR=2.0					
MDT			PKPab	PKPab	20 47 18.4	+0.1
	comp=Z,1.8nm,0.9s,baz=65,slow=5.3,SNR=4.7					
EHIG	**Higuera**	**169.99 37**	PKP	PKPdf	20 46 16.7	-1.9
EGOM	**La Gomera**	**170.63 36**	PKP	PKPdf	20 46 14.7	-4.3
EFAM	**Famara**	**171.25 15**	PKP	PKPdf	20 46 16.7	-2.6
EOSO	**Osorio**	**171.53 28**	PKP	PKPdf	20 46 18.7	-0.8

*NEIC **03** 20:31:36.3±0.9, 21.20S×169.17E, h10km, mb4.5/4, Error ellipse: s-maj=30.5km s-min=16.3km az=166.0*
*ISCJB **03** 20:31:37.2±6.8, 21.2S±0.3×169.2E±0.1, h30km±48km, mb4.3/8, Error ellipse: s-maj=43.4km s-min=17.9km az=163.5*
*IDC **03** 20:31:37.9±3.7, 20.54S×166.66E, h0km, mb4.4/4, mb1 4.5/5, mb1mx4.2/14, mbtmp4.4/5, ML3.6/1, Error ellipse: s-maj=105.2km s-min=39.2km az=134.0*
ISC 03 20:31:36.9±6.7, 21.2S±0.2×169.1E±0.1, h14km±42km, n12, σ0.97/11, mb4.3/8, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**2.66**	**250**	Pn	**Pn**	**20 32 19.1**	**-0.1**
	13nm,0.3s,baz=52,slow=19,SNR=8.6						
DZM				Sn	**Sn**	**20 32 51.4**	**+0.2**
	72nm,0.3s,baz=74,slow=22,SNR=9.0						
CTA	**Charters Tower**	**21.43**	**269**	P	**P**	**20 36 26.9**	**+2.1**
	6.1nm,0.8s,mb4.0,baz=86,slow=14,SNR=2.1						
CTAO	**Charters Tower**	**21.43**	**269**	P	**P**	**20 36 29.6**	**+4.9**
	24nm,1.1s,mb4.4						
STKA	**Stephens Creek**	**26.78**	**241**	P	**P**	**20 37 20.5**	**+4.1**
	4.1nm,0.7s,mb4.1,baz=78,slow=12,SNR=3.2						
WRA	**Warramunga Arr**	**32.56**	**266**	P	**P**	**20 38 07.2**	**-0.7**
	0.8nm,0.5s,mb3.9,baz=92,slow=8.3,SNR=4.5						
ASAR	**Alice Springs**	**32.61**	**259**	P	**P**	**20 38 08.6**	**+0.3**
	6.9nm,0.8s,mb4.7,baz=93,slow=9.2,SNR=8.6						
FITZ	**Fitzroy Crossi**	**40.98**	**266**	P	**P**	**20 39 20.0**	**+0.4**
	5.5nm,0.7s,mb4.3,baz=126,slow=12,SNR=8.3						
MBWA	**Marble Bar**	**45.91**	**261**	P	**P**	**20 39 56.9**	**-2.5**
	11nm,0.9s,mb4.8						
VNDA	**Vanda**	**56.52**	**182**	P	**P**	**20 41 18.3**	**+0.1**
	0.8nm,0.8s,mb3.8						
ISA	**Isabella**	**88.77**	**51**	P	**P**	**20 44 30.6**	**+0.3**
	2.2nm,0.7s,mb4.6						
KHC	**Kasperske Hory**	**145.97**	**331**	*e*PKP	PKPdf	20 51 16.0	+0.8
GERES	**GERESS Array B**	**146.12**	**330**	PKPbc	PKPbc	20 51 16.6	+0.2
	2.3nm,0.8s,baz=42,slow=2.2,SNR=10						

*IDC **03** 20:44:55.6±0.4, 46.43N×153.00E, h0km, mb4.4/26, mb1 4.5/27, mb1mx4.5/30, mbtmp4.4/27, ML4.0/1, Error ellipse: s-maj=14.7km s-min=11.7km az=146.0*
*ISCJB **03** 20:44:55.8±0.2, 46.41N±0.04×153.06E±0.03, h10km, mb4.8/124, MS5.0/7, Error ellipse: s-maj=5.7km s-min=2.4km az=167.3*
*BJI **03** 20:44:55.5, 46.57N×153.11E, h9km, mB5.2, mb4.9, Ms5.1, Msz5.0*
*SZGRF **03** 20:44:57.1, 45.75N×153.71E, h33km, mb4.8, East of Kuril Islands, Russia*
*NEIC **03** 20:44:57.2±0.3, 46.45N×153.12E, h10km, mb4.8/70, Error ellipse: s-maj=8.8km s-min=5.0km az=152.0*
*SKHL **03** 20:44:57.8±1.6, 46.30N×153.40E, h65km±39km, mb5.3/6, msh5.4/1*
*MOS **03** 20:45:02.2±1.6, 46.29N×152.98E, h63km, mb5.0/55, Error ellipse: s-maj=7.9km s-min=5.3km az=107.3*
ISC 03 20:44:57.1±1.4, 46.49N±0.04×153.00E±0.03, h5km±8km, h14km±1.6km: pP-P, n450, σ0.87/455, mb4.8/124, MS5.0/7, 77C-66D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**3.80**	**253**	⇓*i*PN	**Pn**	**20 45 56.3**	**-0.1**
KUR				pmax	pmax		
	comp=E,110nm,0.5s						
KUR				pmax	pmax		
	comp=Z,1μm,0.5s						
KUR				pmax	pmax		
	comp=N,360nm,0.4s						
KUR	**Kuril'sk**	**3.80**	**253**	⇓*i*P	**Pn**	**20 45 56.3**	**-0.1**
KUR				AMB	AMB	20 45 57.5	
	comp=N,365nm,0.5s						
KUR				AMB	AMB	20 45 57.5	
	comp=N,114nm,0.5s						
KUR				AMB	AMB	20 45 57.5	
	comp=N,1μm,0.5s						
KUR				*e*S	**Sn**	**20 46 41.0**	**-0.5**
KUR				A		20 46 47.0	
	comp=N,821nm,0.5s						
KUR				A		20 46 47.0	
	comp=N,547nm,0.5s						
SKR	**Severo-Kuril's**	**4.68**	**25**	*e*P	**Pn**	**20 46 08.7**	**+0.3**
SKR				AMB	AMB	20 46 13.5	
	comp=N,160nm,0.9s						
SKR				AMB	AMB	20 46 13.5	
	comp=N,80nm,0.5s						
SKR				AMB	AMB	20 46 13.5	
	comp=N,230nm,0.5s						
SKR				*e*S	**Sn**	**20 47 03.0**	**0.0**
SKR				A		20 47 09.9	
	comp=N,230nm,0.5s						
SKR				A		20 47 09.9	
	comp=N,150nm,0.5s						
SKR				A		20 47 09.9	
	comp=N,110nm,0.5s						
SKR				A		20 47 12.0	
	comp=N,12μm,12.0s						
YUK	**Yuzh-Kuril'sk**	**5.61**	**247**	⇑*i*PN	**Pn**	**20 46 23.0**	**+1.8**
YUK				*i* S	**Sn**	**20 47 25.5**	**-0.4**
YUK				pmax	pmax		
	comp=Z,370nm,0.5s						
YUK				smax			
	comp=N,370nm,0.5s						
YUK				smax			
	comp=E,370nm,0.5s						
YUK				smax			
	comp=N,2μm,1.5s						
YUK				smax			
	comp=E,3μm,1.5s						
YUK	**Yuzh-Kuril'sk**	**5.61**	**247**	⇑*i*P	**Pn**	**20 46 23.0**	**+1.8**
YUK				AMB	AMB	20 46 28.1	
	comp=E,370nm,0.5s						
YUK				*i* S	**Sn**	**20 47 25.5**	**-0.4**
				A		20 47 39.5	
	comp=E,370nm,0.5s						
YUK				A		20 47 51.8	
	comp=E,2μm,1.5s						
YUK				A		20 47 51.8	
	comp=E,3μm,1.5s						
YSS	**Yuzh-Sakhalins**	**7.06**	**277**	*e*Pn	**Pn**	**20 46 46.4**	**+5.3**
	comp=E,42nm,0.6s						
YSS	**Yuzh-Sakhalins**	**7.06**	**277**	*e*PN	**Pn**	**20 46 48.0**	**+6.9**
YSS				*e*S	**Sn**	**20 48 10.0**	**+8.3**
YSS				pmax	pmax		
	comp=Z,80nm,0.9s						
YSS				smax			
	comp=E,50nm,0.5s						
YSS	**Yuzh-Sakhalins**	**7.06**	**277**	*e*P	**Pn**	**20 46 48.0**	**+6.9**
YSS				AMB	AMB	20 46 50.0	
	comp=E,80nm,0.9s						
YSS				*e*S	**Sn**	**20 48 10.0**	**+8.3**
YSS				A		20 48 12.0	
	comp=E,50nm,0.5s						
PET	**Petropavlovsk**	**7.49**	**27**	*e*Pn	**Pn**	**20 46 42.5**	**-4.5**
PET	**Petropavlovsk**	**7.49**	**27**	*e*PN	**Pn**	**20 46 44.5**	**-2.5**
PET				pmax	pmax		
	comp=Z,27nm,0.5s						
PET				MLR	MLR		
	comp=Z,2μm,15.0s						
ASAJ	**Asahikawa**	**7.71**	**256**	PN	**Pn**	**20 46 53.2**	**+3.2**
ASAJ				pmax	pmax		
	comp=Z,6.0nm,0.3s						
ASAJ	**Asahikawa**	**7.71**	**256**	Pn	**Pn**	**20 46 53.2**	**+3.2**
	comp=Z,6.4nm,0.3s,baz=95,slow=13,SNR=69						
UGL	**Uglegorsk**	**7.81**	**293**	⇓*i*P	**Pn**	**20 46 57.9**	**+6.5**
UGL				AMB	AMB	20 46 59.0	
	comp=Z,54nm,0.5s						
ERM	**Erimo**	**8.36**	**241**	*e*Pn	**Pn**	**20 46 59.0**	**0.0**
	comp=Z,108nm,0.6s						
ERM	**Erimo**	**8.36**	**241**	*i* PN	**Pn**	**20 46 59.1**	**+0.1**
NKL	**Nikolayevsk**	**10.38**	**314**	*e*P	**Pn**	**20 47 27.0**	**+0.5**
NKL				AMB	AMB	20 47 32.5	
	comp=Z,22μm,1.0s						
NKL				AMB	AMB	20 47 32.5	
	comp=Z,20nm,1.0s						
NKL				AMB	AMB	20 47 32.5	
	comp=Z,43nm,1.0s						
MA2	**Magadan**	**13.18**	**355**	*e*Pn	**Pn**	**20 47 58.2**	**-6.5**
	comp=Z,22nm,1.0s						
MA2	**Magadan**	**13.18**	**355**	*e*PN	**Pn**	**20 47 58.2**	**-6.5**
MA2				pmax	pmax		
	comp=Z,22nm,1.0s						
KLR	**Kul'dur**	**14.52**	**289**	*e*P	**Pn**	**20 48 23.3**	**+0.1**
MJAR	**Matsushiro Arr**	**14.86**	**233**	Pn	**Pn**	**20 48 25.5**	**-2.4**
MJAR	**Matsushiro Arr**	**14.86**	**233**	P	**Pn**	**20 48 25.5**	**-2.4**
MJAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MJAR	**Matsushiro Arr**	**14.86**	**233**	Pn	**Pn**	**20 48 25.5**	**-2.4**
	comp=Z,0.7nm,0.3s,baz=25,slow=14,SNR=10						
MAJO	**Matsushiro**	**14.86**	**233**	*e*Pn	**Pn**	**20 48 24.3**	**-3.6**
	comp=Z,19nm,0.6s						
MAJO	**Matsushiro**	**14.86**	**233**	*e*P	**Pn**	**20 48 24.3**	**-3.6**
MAJO				pmax	pmax		
	comp=Z,19nm,0.6s						
MAT	**Matsushiro**	**14.86**	**233**	P	**Pn**	**20 48 26.2**	**-1.7**
MDJ	**Mudanjiang**	**16.50**	**272**	P	**Pn**	**20 48 48.1**	**-1.1**
MDJ				AP	pP	20 48 53.1	-0.1
MDJ				XP	sP	20 48 54.9	+1.1
MDJ				S	**Sn**	**20 51 50.7**	**-1.8**
MDJ				PCP	PcP	20 53 41.6	+1.1
MDJ				SCP	ScP	20 57 13.2	-2.4
MDJ				PCS	PcS	20 57 15.6	-0.5
MDJ				SCS	ScS	21 00 51.5	-3.1
MDJ				AMB	AMB		
	comp=Z,18nm,0.9s						
MDJ				AMB	AMB		
	comp=Z,1μm,11.4s						
MDJ				LR	LR		
	comp=N,2μm,17.4s						
MDJ				LR	LR		
	comp=E,3μm,17.8s						
MDJ				LR	LR		
	comp=Z,6μm,18.9s						
MDJ	**Mudanjiang**	**16.50**	**272**	*e*Pn	**Pn**	**20 48 51.1**	**+1.9**
	comp=Z,14nm,0.7s						
ZEA	**Zeya**	**17.97**	**303**	*e*P	**Pn**	**20 49 06.3**	**-1.2**
ZEA				AMB	AMB	20 49 08.7	
	comp=Z,12nm,1.0s						
CN2	**Changchun**	**19.58**	**272**	*e*P	**Pn**	**20 49 24.6**	**-2.6**
CN2				*e*XP	sP	20 49 31.5	+3.7
CN2				*e*S	**Sn**	**20 52 59.5**	**-7.7**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.5s						
CN2				AMB	AMB		
	comp=Z,200nm,4.0s						
CN2				LR	LR		
	comp=N,300nm,13.0s						
CN2				LR	LR		
	comp=E,400nm,13.0s						
YAK	**Yakutsk**	**20.50**	**328**	*e*P	**P**	**20 49 36.6**	**+0.8**
	comp=E,20nm,0.4s						
YAK	**Yakutsk**	**20.50**	**328**	*e*P	**P**	**20 49 36.7**	**+1.0**
YAK				*e*S	**S**	**20 53 23.1**	**-2.2**
YAK				pmax	pmax		
	comp=E,7.0nm,1.2s						
YAK				pmax	pmax		
	comp=Z,16nm,0.9s						
YAK				pmax	pmax		
	comp=N,8.0nm,1.1s						
YAK				smax			
	comp=E,1μm,12.4s						
YAK				smax			
	comp=N,824nm,14.4s						
KSRS	**Korea Array**	**20.65**	**253**	P	**P**	**20 49 38.0**	**+0.4**
	comp=N,6.6nm,0.6s,baz=60,slow=10,SNR=21						
INCN	**Inchon**	**21.49**	**255**	P	**P**	**20 49 49.1**	**+2.5**
	comp=N,30nm,0.6s,mb4.8						
JNU	**Nakatsue**	**21.52**	**239**	P	**P**	**20 49 47.0**	**0.0**
	comp=N,4.8nm,0.8s,mb4.0,baz=0.0,slow=9.1,SNR=2.8						
HIA	**Hailar**	**22.38**	**289**	*e*P	**P**	**20 49 56.2**	**+0.1**
	comp=N,7.3nm,0.8s,mb4.2						
HIA	**Hailar**	**22.38**	**289**	*i* P	**P**	**20 49 58.8**	**+2.8**
BILL	**Biiibino**	**22.66**	**13**	*e*P	**P**	**20 49 57.0**	**-1.9**
	comp=N,10nm,0.6s,mb4.4						
BILL	**Bilibino**	**22.66**	**13**	⇓*i*P	**P**	**20 49 59.8**	**+0.9**
BILL				*e*S	**S**	**20 54 07.3**	**-0.2**
BILL				pmax	pmax		
	comp=Z,12nm,1.5s,mb4.1						
BOD	**Bodaibo**	**26.10**	**310**	*e*P	**P**	**20 50 28.0**	**-3.5**
BOD				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.0						
BJI	**Beijing**	**27.40**	**270**	P	**P**	**20 50 42.2**	**-1.2**
BJI				AMB	AMB		
	comp=Z,4.0nm,0.9s,mb4.0						
BJI	**Beijing**	**27.40**	**270**	P	**P**	**20 50 42.2**	**-1.2**
	comp=Z,4.0nm,0.9s,mb4.0						
BJT	**Baijiatuau**	**27.41**	**270**	*e*P	**P**	**20 50 41.5**	**-2.1**
	comp=Z,7.3nm,0.6s,mb4.4						
BJT	**Baijiatuau**	**27.41**	**270**	*e*P	**P**	**20 50 41.5**	**-2.1**
BJT				pmax	pmax		
	comp=Z,7.0nm,0.6s						
TIXI	**Tiksi**	**27.70**	**344**	*e*P	**P**	**20 50 43.3**	**-2.5**
	comp=Z,1.2nm,0.4s,mb3.9						
TIXI				*e*PcP	PcP	20 54 01.4	-0.9
TIXI	**Tiksi**	**27.70**	**344**	*i* P	**P**	**20 50 44.6**	**-1.2**
TNA	**Tin City**	**28.29**	**34**	*e*P	**P**	**20 50 47.5**	**-3.6**
	comp=Z,6.9nm,1.0s,mb4.2						
NJ2	**Nanjing**	**29.85**	**253**	*e*P	**P**	**20 51 06.6**	**+1.3**
NJ2				AMB	AMB		
	comp=Z,20nm,0.6s,mb5.0						
HHC	**Hu-ho-hao-te**	**30.24**	**274**	*e*P	**P**	**20 51 10.7**	**+2.0**
HHC				AP	pP	20 51 15.4	+5.3
HHC				XP	sP	20 51 18.0	+7.4
HHC				PP	PP	20 52 08.5	-8.2
HHC				PCP	PcP	20 54 11.2	+1.9
HHC				S	**S**	**20 56 12.5**	**+3.9**
HHC				XS	sS	20 56 17.2	+6.3
HHC				SS	SS	20 57 47.3	-30
HHC				SCP	ScP	20 57 52.4	+0.3
HHC				PCS	PcS	20 57 56.3	+3.6
HHC				SCS	ScS	21 01 49.0	+1.3
HHC				AMB	AMB		
	comp=Z,21nm,0.4s,mb5.2						
HHC				AMB	AMB		
	comp=Z,1μm,10.6s						
HHC				LR	LR		
	comp=N,2μm,17.5s,MS5.0						
HHC				LR	LR		
	comp=E,2μm,17.7s,MS5.0						
HHC				LR	LR		
	comp=Z,3μm,27.6s						
ULN	**Ulaanbaatar**	**30.91**	**290**	*e*P	**P**	**20 51 14.2**	**-0.4**
	comp=Z,5.2nm,1.0s,mb4.3						
ULN	**Ulaanbaatar**	**30.91**	**290**	⇓*e*P	**P**	**20 51 15.3**	**+0.7**
SONM	**Songino Array**	**31.35**	**290**	P	**P**	**20 51 18.3**	**-0.1**
SONM						20 54 12.0	
SONM				pmax	pmax		
	comp=Z,1.0nm,0.7s						
SONM	**Songino Array**	**31.35**	**290**	P	**P**	**20 51 18.3**	**-0.1**
	comp=Z,1.4nm,0.7s,mb3.9,baz=74,slow=8.3,SNR=9.3						
SONM				PcP	PcP	20 54 12.0	0.0
	comp=Z,1.1nm,0.8s,baz=107,slow=2.0,SNR=4.1						
TLY	**Talaya**	**32.23**	**298**	*e*P	**P**	**20 51 25.3**	**-0.8**
	comp=Z,3.3nm,0.9s,mb4.2						
TLY	**Talaya**	**32.23**	**298**	*e*P	**P**	**20 51 25.9**	**-0.2**
TLY				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb4.5						
TTA	**Tatalina**	**32.67**	**41**	*e*P	**P**	**20 51 29.9**	**+0.1**
ZAK	**Zakamensk**	**32.72**	**295**	*e*P	**P**	**20 51 29.1**	**-1.3**
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.2s,mb4.2						
SVW2	**Sparrevohn**	**32.73**	**45**	*e*P	**P**	**20 51 30.3**	**-0.1**
IMA2	**Indian Mountai**	**34.06**	**36**	*e*P	**P**	**20 51 41.1**	**-0.8**
MCK	**McKinley**	**35.90**	**40**	*e*P	**P**	**20 51 56.1**	**-1.7**
	comp=Z,5.0nm,0.7s,mb4.5						
MCK	**McKinley**	**35.90**	**40**	*e*P	**P**	**20 51 56.1**	**-1.7**
MCK				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.5						
SML	**Sawmill**	**36.21**	**43**	*e*P	**P**	**20 51 57.9**	**-2.6**
COLA	**College**	**36.39**	**38**	*e*P	**P**	**20 52 02.5**	**+0.5**
	comp=Z,8.1nm,0.8s,mb4.7						
COLA	**College**	**36.39**	**38**	*i* P	**P**	**20 52 02.4**	**+0.4**
LZH	**Lanzhou**	**37.82**	**272**	*e*P	**P**	**20 52 16.5**	**+2.0**
LZH				AP	pP	20 52 20.5	+4.6
LZH				XP	sP	20 52 23.1	+6.6
LZH				PP	PP	20 53 45.5	+4.9
LZH				*e*S	**S**	**20 58 05.5**	**-0.4**
LZH				SS	SS	20 58 11.0	+2.8
LZH				SS	SS	21 00 41.5	-10
LZH				LR	LR		
	comp=Z,3μm,15.2s,MS5.2						
LZH	**Lanzhou**	**37.82**	**272**	*e*P	**P**	**20 52 16.5**	**+2.0**
LZH						20 53 45.5	
LZH				*e*S	**S**	**20 58 05.5**	**-0.4**
LZH				SS	SS	21 00 41.5	-10
LZH				pmax	pmax		
	comp=Z,69nm,1.0s,mb5.3						
LZH				MLR	MLR		
	comp=Z,3μm,15.2s,MS5.2						
GTA	**Gaotai**	**38.94**	**279**	P	**P**	**20 52 26.0**	**+2.2**
GTA				AP	pP	20 52 29.5	+4.2
GTA				XP	sP	20 52 31.1	+5.3
GTA				PP	PP	20 54 00.4	+7.6
GTA				PCP	PcP	20 54 35.3	+0.9
GTA				S	**S**	**20 58 27.0**	**+4.3**
GTA				XS	sS	20 58 34.2	+9.2
GTA				AMB	AMB		
	comp=Z,20nm,1.2s,mb4.7						
GTA				AMB	AMB		
	comp=Z,812nm,5.7s						
GTA				LR	LR		
	comp=N,3μm,17.5s,MS5.3						
GTA				LR	LR		
	comp=E,3μm,19.0s,MS5.3						
GTA				LR	LR		
	comp=Z,5μm,19.8s,MS5.3						
CD2	**Chengdu**	**40.78**	**265**	*e*P	**P**	**20 52 39.8**	**+0.5**
CD2				AP	pP	20 52 44.5	+3.8
CD2				XP	sP	20 52 47.2	+5.9
CD2				PP	PP	20 54 17.4	+4.3
CD2				S	**S**	**20 58 50.1**	**-0.4**
CD2				XS	sS	20 58 57.6	+4.8
CD2				SS	SS	21 01 46.1	-4.9
CD2				AMB	AMB		
	comp=Z,90nm,1.1s,mb5.3						
CD2				AMB	AMB		
	comp=Z,100nm,5.8s						
CD2				LR	LR		
	comp=N,2μm,15.6s,MS5.3						
CD2				LR	LR		
	comp=E,3μm,14.4s,MS5.3						
CD2				LR	LR		
	comp=Z,2μm,13.2s,MS5.1						
GYA	**Guiyang**	**41.59**	**258**	⇓*i*P	**P**	**20 52 46.5**	**+0.6**
GYA				AP	pP	20 52 50.8	+3.5
GYA				XP	sP	20 52 53.7	+5.8
GYA				PP	PP	20 54 25.8	+4.0
GYA				PCP	PcP	20 54 44.4	+1.3
GYA				SCP	ScP	20 58 33.3	-0.4
GYA				S	**S**	**20 58 58.6**	**-3.9**
GYA				SS	SS	21 02 00.7	-6.4
GYA				SCS	ScS	21 02 48.2	-2.1
GYA				AMB	AMB		
	comp=Z,30nm,1.0s,mb4.9						
GYA				AMB	AMB		
	comp=Z,110nm,5.8s						
GYA				LR	LR		
	comp=N,490nm,19.2s,MS4.6						
GYA				LR	LR		
	comp=E,570nm,20.6s,MS4.6						
GYA				LR	LR		
	comp=Z,450nm,21.4s,MS4.3						
INK	**Inuvik**	**41.91**	**32**	*e*P	**P**	**20 52 48.3**	**+0.2**
	comp=Z,167nm,0.7s,mb5.8						
INK	**Inuvik**	**41.91**	**32**	P	**P**	**20 52 48.5**	**+0.4**
INK				pmax	pmax		
	comp=Z,5.0nm,0.7s						
INK	**Inuvik**	**41.91**	**32**	P	**P**	**20 52 48.5**	**+0.4**
	comp=Z,4.9nm,0.7s,mb4.3,baz=301,slow=7.2,SNR=31						
ZAA0	**Zalesovo Array**	**42.70**	**306**	*e*P	**P**	**20 52 52.9**	**-1.8**
ZAA0				*e*PcP	PcP	20 54 44.9	-1.4
ZALV	**Zalesovo Beam**	**42.70**	**306**	P	**P**	**20 52 53.5**	**-1.2**
	comp=Z,3.9nm,0.4s,mb4.5,baz=62,slow=6.7,SNR=26						
ZALV				PcP	PcP	20 54 46.5	+0.2
	comp=Z,2.9nm,0.9s,baz=64,slow=3.4,SNR=6.5						
ZAL	**Zalesovo**	**42.72**	**306**	P	**P**	**20 52 53.5**	**-1.3**
ZAL						20 54 46.5	
WMQ	**Urumqi**	**44.95**	**291**	*e*P	**P**	**20 53 14.0**	**+1.1**
WMQ				AMB	AMB		
	comp=Z,6.0nm,0.9s,mb4.4						
KMI	**Kunming**	**45.12**	**260**	P	**P**	**20 53 13.9**	**-0.6**
KMI				AP	pP	20 53 18.8	+2.9
KMI				XP	sP	20 53 21.1	+4.6
KMI				PP	PP	20 55 00.4	+0.6
KMI				S	**S**	**20 59 53.5**	**-0.8**
KMI				AMB	AMB		
	comp=Z,10.0nm,1.1s,mb4.6						
KMI				LR	LR		
	comp=N,2μm,15.5s						
KMI				LR	LR		
	comp=E,2μm,20.7s						
KMI				LR	LR		
	comp=Z,2μm,17.2s,MS5.1						
KMI	**Kunming**	**45.12**	**260**	P	**P**	**20 53 13.9**	**-0.6**
	comp=Z,10.0nm,1.1s,mb4.6						
KMI

KMI MLR MLR
comp=Z,2µm,17.2s,MS5.1
DLBC Dease Lake 45.83 46 P **P 20 53 19.7 0.0**
DLBC Dease Lake 45.83 46 P **P 20 53 19.7 0.0**
baz=270,slow=1.8
MK31 Makanchi Array 46.99 298 *i* P **P 20 53 27.8 -1.2**
MK31 pmax pmax
comp=Z,13nm,0.8s,mb4.9
MKAR Makanchi Array 46.99 298 P **P 20 53 28.0 -1.0**
MKAR PcP PcP 20 55 00.5 -0.7
MKAR Makanchi Array 46.99 298⇑ *e*P **P 20 53 28.0 -1.0**
MKAR Makanchi Array 46.99 298 P **P 20 53 28.0 -1.0**
comp=Z,6.6nm,0.7s,mb4.7,baz=68,slow=6.6,SNR=58
MKAR PcP PcP 20 55 00.5 -0.7
comp=Z,1.0nm,0.7s,baz=64,slow=5.1,SNR=3.5
KURK Kurchatov 47.45 304 *e*P **P 20 53 30.7 -1.8**
comp=Z,18nm,0.9s,mb5.0
KURK Kurchatov 47.45 304 *d i*P **P 20 53 31.0 -1.5**
KURK pmax pmax
comp=Z,11nm,1.2s,mb4.7
LSA Lhasa 50.21 273 *e*P **P 20 53 56.0 +2.0**
comp=Z,15nm,0.6s,mb5.2
LSA Lhasa 50.21 273 *e*P **P 20 53 56.0 +2.0**
LSA pmax pmax
comp=Z,15nm,0.6s,mb5.2
CHKZ Chkalovo 50.54 310 *i* P **P 20 53 54.8 -1.3**
CHKZ pmax pmax
comp=Z,8.0nm,0.6s,mb4.8
BRVK Borovoye 51.01 310 *e*P **P 20 53 57.6 -2.1**
comp=Z,15nm,0.9s,mb4.9
BRVK Borovoye 51.01 310 *e*P **P 20 53 57.6 -2.1**
BRVK pmax pmax
comp=Z,15nm,0.9s,mb4.9
RES Resolute Bay 51.11 18 *e*P **P 20 53 58.4 -1.8**
comp=Z,206nm,0.9s,mb6.1
YKA Yellowknife Ar 51.18 37 *i* P **P 20 54 00.6 -0.2**
YKA pmax pmax
comp=Z,3.0nm,0.7s
YKA Yellowknife Ar 51.18 37 P **P 20 54 00.0 -0.8**
comp=Z,2.5nm,0.7s,mb4.2,baz=297,slow=7.2,SNR=32
CHTO Chiang Mai 51.98 257 *e*P **P 20 54 07.8 +0.3**
comp=Z,15nm,0.9s,mb4.9
CHTO Chiang Mai 51.98 257 *e*P **P 20 54 07.8 +0.4**
CHTO pmax pmax
comp=Z,15nm,0.9s,mb4.9
ULHL Ulahol 53.01 295 P **P 20 54 14.6 -0.1**
SNR=12
TKM2 Tokmak 2 53.05 296 *e*P **P 20 54 15.3 +0.3**
comp=Z,6.5nm,1.0s,mb4.5
TKM2 Tokmak 2 53.05 296 *e*P **P 20 54 15.3 +0.3**
TKM2 pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
USP Ospenovka 53.54 297 P **P 20 54 18.9 +0.3**
SNR=17
KBK Karagaybulak 53.59 296 P **P 20 54 20.1 +1.1**
SNR=9.0
KZA Kyzart 53.72 296 P **P 20 54 22.0 +2.0**
SNR=8.4
AAK Ala-Archa 53.88 296 P **P 20 54 22.3 +1.1**
SNR=12
UCH Uchtor 54.09 296 P **P 20 54 22.8 +0.1**
comp=Z,2.4nm,0.9s,mb4.1
EKS2 Erkin-Say 54.31 297 *e*P **P 20 54 24.1 -0.1**
comp=Z,13nm,0.9s,mb4.8
EKS2 Erkin-Say 54.31 297 P **P 20 54 24.6 +0.4**
SNR=17
AML Almayashu 54.65 296 *e*P **P 20 54 26.3 -0.5**
comp=Z,4.0nm,0.8s,mb4.5
AML Almayashu 54.65 296 P **P 20 54 28.5 +1.7**
SNR=6.2
JIRN Jiri 54.89 275 *e*P **P 20 54 30.4 +1.7**
comp=Z,26nm,0.6s,mb5.5
ARU Arti 55.15 318 *e*P **P 20 54 28.1 -2.1**
comp=Z,5.3nm,0.4s,mb4.9
ARU Arti 55.15 318 *c i*P **P 20 54 29.2 -1.0**
ARU *e* 20 56 30.2
ARU *e*PPP 20 57 44.3
ARU *e*S **S 21 02 13.7 +0.3**
ARU *e*SS SS 21 05 55.9 -0.7
ARU pmax pmax
comp=Z,14nm,1.2s,mb4.9
A07A Ashnola River, 55.16 53⇑P **P 20 54 29.8 -0.6**
baz=55
KKN Kakani 55.44 275 *e*P **P 20 54 34.0 +1.4**
comp=Z,42nm,0.6s,mb5.6
H02A Toledo 55.48 59⇑P **P 20 54 31.7 -1.1**
baz=55
GKN Gorkha 55.74 276 *e*P **P 20 54 35.5 +0.6**
comp=Z,53nm,0.6s,mb5.8
A08A Turner Farm, O 55.83 53⇑P **P 20 54 34.9 -0.2**
baz=56
HNR Honiara 56.01 172 P **P 20 54 36.3 -0.4**
comp=Z,183nm,0.7s,mb6.2,baz=281,slow=5.0,SNR=2.4
KK31 Karatay Array 56.06 299 *i* P **P 20 54 36.4 -0.5**
KK31 pmax pmax
comp=Z,1.0nm,0.4s,mb4.2
G04A Mulino 56.09 58⇑P **P 20 54 36.9 -0.2**
baz=56
B08A Colville Reser 56.12 53⇑P **P 20 54 36.9 -0.3**
baz=56
A09A Danville 56.19 52⇓P **P 20 54 37.9 +0.1**
baz=56
J02A Umpqua 56.47 60⇓P **P 20 54 40.2 +0.3**
baz=56
EDM Edmonton 56.55 46 *e*P **P 20 54 38.8 -1.4**
H04A Detroit Lake 56.55 58⇓P **P 20 54 40.9 +0.6**
baz=56
KOLN Koldanda 56.60 277 *e*P **P 20 54 41.7 +0.7**
comp=Z,38nm,0.7s,mb5.5
NEW Newport 57.39 52 P **P 20 54 46.1 -0.2**
NEW pmax pmax
comp=Z,3.0nm,0.9s
NEW Newport 57.39 52 P **P 20 54 46.1 -0.2**
comp=Z,2.7nm,0.8s,mb4.3,baz=331,slow=10,SNR=2.4
J04A Umpqua Nationa 57.42 60⇓P **P 20 54 46.8 +0.2**
baz=57
BOK Bokaro 57.58 271 *e*P **P 20 54 49.5 +1.5**
BOK AMb AMB 20 54 51.4
comp=Z,12nm,1.2s,mb4.8
H06A Lindquist Farm 57.60 57⇓P **P 20 54 48.3 +0.4**
baz=57
JCC Jacoby Creek 57.66 63⇑P **P 20 54 48.7 +0.4**
baz=57
G07A Ruggs Ranch, H 57.68 57⇓P **P 20 54 48.7 +0.3**
baz=57
B11A Sandpoint 57.71 52⇓P **P 20 54 48.5 0.0**
baz=57
E09A Wood Farm, Sta 57.83 55⇑P **P 20 54 49.7 +0.3**
baz=58
G08A Pilot Rock 58.08 56⇑P **P 20 54 51.3 +0.2**
baz=58
K05A Summer Lake 58.45 60⇓P **P 20 54 54.3 +0.6**
baz=58
J06A Christmas Vall 58.58 59⇓P **P 20 54 54.7 +0.1**
baz=58
H08A Prairie City 58.70 57⇓P **P 20 54 55.7 +0.2**
baz=58
WDC Whiskeytown Da 58.72 63⇑P **P 20 54 55.7 0.0**
baz=58
G09A Cove 58.76 56⇑P **P 20 54 55.8 -0.1**
baz=58
B13A Whitefish 58.77 51⇑P **P 20 54 55.8 -0.1**
baz=58
K06A Valley Falls 58.78 59⇑P **P 20 54 56.3 +0.2**
baz=58,SNR=6.5
O02C Red Bluff 58.80 63⇓P **P 20 54 56.5 +0.2**
baz=58
AKTK Aktyubinsk 58.84 312 P **P 20 54 55.6 -0.8**
AKTO Aktyubinsk 58.84 312 P **P 20 54 55.6 -0.8**
AKTO pmax pmax
comp=Z,3.0nm,0.5s,mb4.6
AKTO Aktyubinsk 58.84 312 P **P 20 54 55.6 -0.8**
comp=Z,3.1nm,0.5s,mb4.6,baz=52,slow=10,SNR=19
SMLA Simla 58.88 284 *e*P **P 20 54 57.5 +0.6**
L05A Lakeview 58.88 60⇓P **P 20 54 56.9 +0.1**
baz=59
E11A Bogner Ranch, 59.01 54⇑P **P 20 54 57.3 -0.3**
baz=59
C13A Hot Springs 59.13 52⇑P **P 20 54 58.4 0.0**
baz=59
G10A Bishop Farm, J 59.13 55⇓P **P 20 54 58.6 +0.2**
baz=59,SNR=5.3
MOD Modoc 59.28 60⇑P **P 20 54 59.6 0.0**
baz=59
K07A Rock Creek Ran 59.44 59⇓P **P 20 55 00.5 -0.2**
baz=59
G11A Walters Elk Ra 59.55 55⇑P **P 20 55 01.2 -0.2**
baz=59
H10A Noah's Angus R 59.76 56⇑P **P 20 55 03.1 +0.3**
baz=59
L07A Adell 59.79 59⇓P **P 20 55 03.8 +0.7**
baz=60
ELFS Eagle Lake Fie 59.80 62⇑P **P 20 55 03.8 +0.6**
baz=60
K08A Mann Creek Ran 59.87 58⇓P **P 20 55 04.4 +0.8**
baz=60
F12A Elk City 59.90 54⇓P **P 20 55 04.6 +0.8**
baz=60
ORV Oroville 59.97 63⇑P **P 20 55 04.2 -0.1**
baz=60
D14A Greenough 60.06 52 P **P 20 55 04.9 0.0**
baz=60,SNR=7.0
H11A Donnelly 60.11 55⇑P **P 20 55 04.8 -0.5**
baz=60
M07A Soldier Meadow 60.27 60 P **P 20 55 07.5 +1.1**
baz=60,SNR=8.4
L08A Fields 60.28 59⇑P **P 20 55 06.8 +0.3**
baz=60
CHMT Chamberlain Mo 60.30 52 *e*P **P 20 55 05.0 -1.5**
NDI New Delhi 60.38 282 *e*P **P 20 55 07.7 +0.3**
F13A Darby 60.40 54⇑P **P 20 55 07.7 +0.5**
baz=60
BEKR Beckwourth 60.48 62⇑P **P 20 55 08.8 +1.0**
baz=60
O06A Flanigan 60.62 61⇓P **P 20 55 09.4 +0.6**
baz=60
M08A Happy Creek Ra 60.71 60⇓P **P 20 55 09.4 0.0**
baz=60
N07B Gerlach 60.76 60⇓P **P 20 55 10.1 +0.3**
baz=60
L09A Wilkinson Ranc 60.78 59⇑P **P 20 55 10.0 +0.1**
baz=60
K10A MacKenzie Ranc 60.78 58⇑P **P 20 55 10.3 +0.4**
baz=60
G13A Cobalt 60.88 54 P **P 20 55 10.5 0.0**
baz=60,SNR=10.0
KULM Kulim 60.89 244 P **P 20 55 08.2 -2.8**
LAVA Lava Cap Winer 60.92 63⇑P **P 20 55 11.0 +0.1**
baz=61
FFC Flin Flon 60.99 40 *e*P **P 20 55 10.6 -0.4**
comp=Z,10nm,1.0s,mb4.9
FFC Flin Flon 60.99 40 *e*P **P 20 55 10.6 -0.5**
FFC pmax pmax
comp=Z,10.0nm,1.0s,mb4.9
MFID Camas Ranch 61.00 56⇑P **P 20 55 11.4 +0.1**
baz=61
H13A Challis 61.19 55⇓P **P 20 55 12.0 -0.6**
baz=61
BLSP Bilaspur 61.27 273 *e*P **P 20 55 11.2 -2.2**
BLSP AMb AMB 20 55 14.3
comp=Z,11nm,0.7s,mb5.1
K11A Parker Ranch, 61.28 57⇓P **P 20 55 12.6 -0.7**
baz=61
R05C Kirkwood Meado 61.37 63⇓P **P 20 55 13.4 -0.5**
baz=61
F15A Butte 61.38 53 P **P 20 55 14.7 +0.8**
baz=61,SNR=8.3
L10A Juniper Basin 61.45 58⇑P **P 20 55 14.1 -0.3**
baz=61
FCC Fort Churchill 61.52 33 *e*P **P 20 55 12.2 -2.4**
comp=Z,7.4nm,1.3s,mb4.7
FCC Fort Churchill 61.52 33 *e*P **P 20 55 12.2 -2.4**
FCC pmax pmax
comp=Z,7.0nm,1.3s,mb4.6
J12A Stokes Ranch, 61.52 56 P **P 20 55 15.5 +0.6**
baz=61,SNR=5.9
JOF Joensuu 61.53 334 *ep* **P 20 55 13.4 -1.2**
comp=Z,2.4nm,0.4s,mb4.7
JOF Joensuu 61.53 334 *e*P **P 20 55 13.4 -1.2**
JOF pmax pmax
comp=Z,2.0nm,0.4s,mb4.6
N09A Rock Creek Ran 61.58 60⇑P **P 20 55 15.7 +0.3**
baz=61
CMB Columbia Colle 61.59 64⇓P **P 20 55 15.2 -0.2**
baz=61
PACP Pacheco Peak 61.66 65⇑P **P 20 55 15.9 -0.1**
baz=61
I13A Wildhorse Cree 61.67 55⇑P **P 20 55 15.9 +0.1**
baz=61
HLID Hailey 61.72 56⇑P **P 20 55 15.9 -0.3**
baz=61
M10A I.L. Ranch, Tu 61.75 58⇓P **P 20 55 16.3 -0.2**
baz=61
G15A Dillon 61.80 53⇑P **P 20 55 16.8 0.0**
baz=62
R06C Coleville 61.86 63⇓P **P 20 55 17.8 +0.5**
baz=62
HAST Hastings Reser 61.88 66⇓P **P 20 55 17.4 -0.1**
baz=62
J13A Cove Ranch, Pi 61.96 56⇑P **P 20 55 18.1 +0.3**
baz=62
BOZ Bozeman (W) 61.97 52⇓P **P 20 55 17.9 0.0**
baz=62,SNR=5.2
S05C Merced 62.05 64⇓P **P 20 55 18.3 -0.2**
baz=62
KBL Kabul 62.09 292 *e*P **P 20 55 18.1 -0.7**
comp=Z,20nm,0.9s,mb5.2
M11A Holland Ranch, 62.25 58⇓P **P 20 55 20.6 +0.8**
baz=62
R07C Lee Vining 62.38 63 P **P 20 55 21.9 +1.1**
baz=62,SNR=6.4
NVAR Mina Array Bea 62.62 62 P **P 20 55 22.5 +0.1**
comp=Z,3.6nm,0.7s,mb4.6,baz=303,slow=5.2,SNR=29
KCC Kaiser Creek 62.69 64⇓P **P 20 55 22.4 -0.5**
baz=62
O11A Cowboy Ranch, 63.15 59⇑P **P 20 55 25.5 -0.3**
baz=63
M13A Montello 63.24 57⇑P **P 20 55 26.4 0.0**
baz=63
V05C Boulder Hill, 63.25 65⇓P **P 20 55 26.1 -0.4**
baz=63
HELL Mitchell Peak 63.28 64 P **P 20 55 26.1 -0.6**
baz=63,SNR=6.3
S08C White Mtn Res 63.29 63⇑P **P 20 55 26.7 -0.1**
baz=63
R09A Tonopah 63.49 62⇑P **P 20 55 27.5 -0.6**
baz=63
KAF Kangasniemi 63.65 335 *ep* **P 20 55 25.8 -3.0**
comp=Z,6.1nm,0.6s,mb4.8
KAF Kangasniemi 63.65 335 *e*P **P 20 55 25.8 -3.0**
KAF pmax pmax
comp=Z,6.0nm,0.6s,mb4.8
BHPL Bhopal 63.77 277 *e*P **P 20 55 30.5 +0.3**
PKM Peak Mountain 63.92 66⇓P **P 20 55 30.4 -0.6**
baz=64
S10A Tonopah Range, 63.98 62⇑P **P 20 55 31.4 0.0**
baz=64
P12A McGill 64.01 59⇓P **P 20 55 31.6 +0.1**
baz=64
NGP Nagpur 64.05 274 *e*P **P 20 55 30.5 -1.5**
NGP AMb AMB 20 55 31.2
comp=Z,22nm,1.1s,mb5.1
GRAC Grapevine Rang 64.10 63⇑P **P 20 55 32.5 +0.3**
baz=64
M15A Larsen Ranch, 64.17 56⇓P **P 20 55 32.4 -0.2**
baz=64,SNR=8.1
FINES FINESS Array B 64.24 335 *i* P **P 20 55 32.0 -0.7**
FINES pmax pmax
comp=Z,5.0nm,0.5s
FINES FINESS Array B 64.24 335 P **P 20 55 31.5 -1.2**
comp=Z,5.1nm,0.5s,mb4.8,baz=35,slow=8.2,SNR=62
ISA Isabella 64.27 65⇑P **P 20 55 32.4 -0.9**
baz=64
R11A Troy Canyon, C 64.32 61⇑P **P 20 55 33.1 -0.5**
baz=64
HWUT Hardware Ranch 64.58 56 *e*P **P 20 55 34.0 -1.2**
comp=Z,3.5nm,0.8s,mb4.4
BSC Santa Cruz Isl 64.61 67⇓P **P 20 55 35.5 0.0**
baz=64
MPMC Manual Prospec 64.63 64⇓P **P 20 55 35.7 +0.1**
baz=64
FURC Furnace Creek, 64.75 63⇓P **P 20 55 36.6 +0.2**
baz=64
TPNV Topopah Spring 64.82 62⇓P **P 20 55 36.7 -0.2**
baz=64
LRMC Laurel Mountai 64.88 64⇑P **P 20 55 36.9 -0.4**
baz=65
PDAR Pinedale Array 64.96 54 P **P 20 55 38.0 +0.3**
comp=Z,3.2nm,0.7s,mb4.4,baz=284,slow=1.5,SNR=26
EDW2 Edwards Air Fo 65.08 65⇑P **P 20 55 38.3 -0.3**
baz=65,SNR=5.3
U10A Ash Meadows, A 65.11 63⇑P **P 20 55 38.7 -0.1**
baz=65
SNCC San Nicolas Is 65.16 67⇓P **P 20 55 38.8 -0.4**
baz=65
S12A Delamar Landin 65.24 61⇑P **P 20 55 39.9 +0.3**
baz=65
T11A Corn Creek, Al 65.26 61⇓P **P 20 55 39.8 0.0**
baz=65
OBN Obninsk 65.48 326⇑ *e*P **P 20 55 40.6 -0.3**
OBN *e*S S 21 04 29.6 +3.8
OBN pmax pmax
comp=Z,8.0nm,0.8s,mb4.8
OBN MLR MLR
comp=Z,500nm,17.0s,MS4.8
GSC Goldstone 65.54 64⇓P **P 20 55 41.3 -0.3**
baz=65
TUQ Turquoise Mtn. 66.00 63 P **P 20 55 44.7 +0.1**
baz=66,SNR=6.1
HEC Hector,Ludlow 66.15 64 P **P 20 55 45.5 0.0**
baz=66,SNR=5.4
U13A Pakoon Wash 66.56 61⇓P **P 20 55 48.0 -0.1**
baz=66
GMRC Granite Mounta 66.59 64⇑P **P 20 55 48.2 -0.2**
baz=66,SNR=5.0
ULM Lac du Bonnet 66.77 41 P **P 20 55 49.7 +0.5**
ULM Lac du Bonnet 66.77 41 P **P 20 55 49.7 +0.5**
comp=Z,2.1nm,0.7s,mb4.3,baz=316,slow=4.1,SNR=4.2
SRU San Rafael 66.82 57 *e*P **P 20 55 48.9 -0.9**
comp=Z,5.7nm,0.8s,mb4.7
SRU San Rafael 66.82 57 *e*P **P 20 55 48.9 -0.8**
SRU pmax pmax
comp=Z,6.0nm,0.8s,mb4.7
HYB Hyderabad 66.93 271 *i* P **P 20 55 51.5 +0.8**
U14A Mt Trumbull 67.03 61⇑P **P 20 55 51.0 -0.1**
baz=67
RSSD Black Hills 67.05 50 *e*P **P 20 55 50.2 -0.9**
comp=Z,2.9nm,0.6s,mb4.5
RSSD Black Hills 67.05 50 *e*P **P 20 55 50.2 -0.9**
RSSD pmax pmax
comp=Z,3.0nm,0.6s,mb4.5
T15A Red Dirt Ranch 67.11 60⇓P **P 20 55 51.8 +0.2**
baz=67
IRM Iron Mountain 67.32 64⇑P **P 20 55 52.6 -0.4**
baz=67
W13A Hualapai Mount 67.48 62⇑P **P 20 55 53.8 -0.2**
baz=67
V14A Boquillas Ranc 67.60 62 P **P 20 55 55.4 +0.7**
baz=67,SNR=6.3
X13A Yucca 67.85 63⇓P **P 20 55 56.5 +0.2**
baz=68
W14A Seligman 67.89 62 P **P 20 55 57.1 +0.5**
baz=68,SNR=7.6
Y12C Blythe 67.98 64⇑P **P 20 55 57.5 +0.3**
baz=68
WRA Warramunga Arr 68.24 199 *i* P **P 20 55 56.5 -2.2**
WRA pmax pmax
comp=Z,1.0nm,0.7s
WRA Warramunga Arr 68.24 199 P **P 20 55 56.6 -2.1**
comp=Z,1.3nm,0.7s,mb4.1,baz=17,slow=6.7,SNR=12
NB2 NORSAR Subarra 68.45 341 P **P 20 55 59.2 -0.4**
comp=Z,9.7nm,0.6s,mb5.0,baz=28,slow=6.5
NOA NORSAR Array B 68.45 341 P **P 20 55 58.9 -0.7**
NOA pmax pmax
comp=Z,9.0nm,0.5s
NOA NORSAR Array B 68.45 341 P **P 20 55 58.9 -0.8**
comp=Z,9.2nm,0.5s,mb5.1,baz=28,slow=6.5,SNR=43
X14A Yava 68.51 62⇓P **P 20 56 00.8 +0.3**
baz=68
Y14A Wickenburg 68.79 63⇑P **P 20 56 02.6 +0.3**
baz=68
FITZ Fitzroy Crossi 68.88 208 *e*P **P 20 56 01.2 -1.5**
comp=Z,4.6nm,0.8s,mb4.5
FITZ Fitzroy Crossi 68.88 208 P **P 20 56 01.2 -1.5**
comp=Z,1.9nm,0.7s,mb4.1,baz=63,slow=6.4,SNR=4.2
X15A Humboldt 68.89 62⇑P **P 20 56 03.3 +0.5**
baz=69
Y15A Casa Rosa Ranc 69.19 62⇓P **P 20 56 05.1 +0.3**
baz=69
MVCO Mesa Verde 69.28 58⇓P **P 20 56 05.4 +0.1**
baz=69
POO Poona 69.41 275 *e*P **P 20 56 06.0 -0.3**
POO AMb AMB 20 56 06.3
comp=Z,5.5nm,0.2s,mb5.2
X16A Lo Mia Camp, P 69.42 62⇓P **P 20 56 06.5 +0.3**
baz=69
KONO Kongsberg 70.06 341 *e*P **P 20 56 08.9 -0.7**
comp=Z,23nm,1.2s,mb5.0
KONO Kongsberg 70.06 341 *e*P **P 20 56 08.9 -0.7**
KONO pmax pmax
comp=Z,23nm,1.2s,mb5.0
KIV Kislovodsk 70.93 314 *e*P **P 20 56 15.2 0.0**
comp=Z,10.0nm,0.8s,mb4.8
KIV Kislovodsk 70.93 314 *i* P **P 20 56 16.7 +1.5**
KIV pmax pmax
comp=Z,21nm,1.7s,mb4.8
216A Three Points, 71.06 63⇑P **P 20 56 16.7 +0.5**
baz=71
GOA Goa 71.52 273 *e*P **P 20 56 17.6 -1.6**
GOA AMb AMB 20 56 29.3
comp=Z,18nm,1.0s,mb5.0
217A Green Valley 71.61 63⇓P **P 20 56 19.3 -0.2**
baz=71
AKASG Malin Array Be 71.72 326 P **P 20 56 18.9 -1.0**
AKASG pmax pmax
comp=Z,14nm,0.4s
AKASG Malin Array Be 71.72 326 P **P 20 56 18.9 -1.0**
comp=Z,14nm,0.4s,mb5.2,baz=34,slow=5.9,SNR=103
KIEV Kiev 71.73 326 *e*P **P 20 56 18.5 -1.5**
comp=Z,16nm,0.6s,mb5.1
KIEV Kiev 71.73 326 *e*P **P 20 56 18.5 -1.5**
KIEV pmax pmax
comp=Z,16nm,0.6s,mb5.1
119A Ashpeak Ranch, 71.85 61⇓P **P 20 56 21.0 0.0**
baz=72
ASAR Alice Springs 71.94 198 P **P 20 56 19.6 -1.8**
ASAR pmax pmax
comp=Z,2.0nm,0.7s
ASAR Alice Springs 71.94 198 P **P 20 56 19.6 -1.8**
comp=Z,1.5nm,0.7s,mb4.0,baz=15,slow=5.2,SNR=18
218A Dragoon 71.95 63⇑P **P 20 56 21.8 +0.3**
baz=72
ANMO Albuquerque 72.03 58 P **P 20 56 21.1 -0.9**
ANMO pmax pmax
comp=Z,2.0nm,0.6s
ANMO Albuquerque 72.03 58 P **P 20 56 21.1 -0.9**
comp=Z,2.0nm,0.6s,mb4.2,baz=313,slow=8.6,SNR=5.0
318A Bisbee 72.35 63⇑P **P 20 56 24.4 +0.4**
baz=72
PALK Pallekele 72.58 262 *e*P **P 20 56 25.8 +0.2**
comp=Z,12nm,1.0s,mb4.8
ANN Anapa 72.82 318 *e*P **P 20 56 29.1 +2.5**
ANN *e* 20 56 44.1
ANN pmax pmax
comp=Z,32nm,1.5s,mb5.0
319A Douglas 72.83 63 P **P 20 56 27.4 +0.6**
baz=72,SNR=7.2
SCHQ Schefferville 73.58 23 P **P 20 56 28.6 -2.3**
comp=Z,3.4nm,1.0s,mb4.2,baz=315,slow=7.1,SNR=3.2
KIS Kishinev 74.85 324 *e*PKP **P 20 56 35.0 -3.4**
KIS LRM 21 51 00.0
comp=Z,4µm,20.0s
KWP Kalwaria 75.01 329 *e*P **P 20 56 39.9 +0.6**
TRPA Tarpa 76.33 328⇑ *i*P **P 20 56 47.4 +0.5**
MORC Moravsky Berou 76.63 332 *e*P **P 20 56 48.1 -0.5**
comp=Z,16nm,1.1s,mb4.8
MORC Moravsky Berou 76.63 332 *e*P **P 20 56 48.1 -0.5**
MORC pmax pmax
comp=Z,16nm,1.1s,mb4.9
CLL Collm 76.67 336 *i* P **P 20 56 48.7 -0.1**
comp=Z,15nm,0.5s,mb5.2
CLL *i* pP 20 56 50.3 0.0
CLL *i* 20 56 59.9
CLL Collm 76.67 336 *i* P **P 20 56 48.7 -0.1**
CLL *i* 20 56 59.9
CLL pmax pmax
comp=Z,57nm,0.5s,mb5.8
CLL Collm 76.67 336 *e*P **P 20 56 47.3 -1.5**
comp=Z,15nm,0.5s,mb5.2
CLL Collm 76.67 336 *i* P **P 20 56 48.7 -0.1**
comp=Z,15nm,0.5s,mb5.2
CLL *i* x x 20 56 50.3
comp=Z,12nm,0.6s
CLL *i* PcP PcP 20 56 59.9 -0.3
BRG Berggiesshubel 76.78 335 *e*P **P 20 56 49.3 -0.1**
comp=Z,1.6nm,0.6s,mb4.1
BRG Berggiesshubel 76.78 335 *i* P **P 20 56 48.7 -0.7**
BRG *i* 20 56 59.9
BRG pmax pmax
comp=Z,57nm,0.5s,mb5.8
BRG Berggiesshubel 76.78 335 *e*P **P 20 56 49.4 0.0**
comp=Z,4.0nm,0.9s,mb4.3

CLZ	**Clausthal**	**76.92 337**	*e*P		**P**	**20 56 49.5**	**-0.7**
CLZ			pmax		pmax		
comp=Z,29nm,1.3s,mb5.0							
CLZ	**Clausthal**	**76.92 337**	*e*P		**P**	**20 56 49.5**	**-0.7**
comp=Z,29nm,1.3s,mb5.0							
TIRR	**Tirgusor**	**77.07 323**	P		**P**	**20 56 51.8**	**+0.6**
TIRR	**Tirgusor**	**77.07 323**	⇓*i*P		**P**	**20 56 51.7**	**+0.5**
HARR	**Harsova**	**77.08 323**	P		**P**	**20 56 51.6**	**+0.4**
MLR	**Muntele Rosu**	**77.23 325**	P		**P**	**20 56 53.7**	**+1.7**
MLR	**Muntele Rosu**	**77.23 325**	⇑*i*P		**P**	**20 56 53.5**	**+1.5**
MALT	**Malatya**	**77.27 313**	*e*P		**P**	**20 56 53.4**	**+1.0**
comp=Z,7.9nm,0.6s,mb4.8							
MALT	**Malatya**	**77.27 313**	⇓*i*P		**P**	**20 56 53.5**	**+1.1**
PRU	**Pruhonice**	**77.39 334**	*e*P		**P**	**20 56 54.1**	**+1.3**
PSZ	**Piszkesteto**	**77.45 330**	P		**P**	**20 56 53.2**	**0.0**
comp=Z,12nm,1.2s,mb4.7							
PSZ	**Piszkesteto**	**77.45 330**	P		**P**	**20 56 53.2**	**0.0**
PSZ			pmax		pmax		
comp=Z,12nm,1.2s,mb4.7							
VOIR		**77.63 325**	P		**P**	**20 56 55.4**	**+1.2**
VOIR		**77.63 325**	⇑*i*P		**P**	**20 56 55.3**	**+1.0**
MOX	**Moxa**	**77.66 336**	*e*P		**P**	**20 56 47.3**	**-7.0**
MOX	**Moxa**	**77.66 336**	*e*P		**P**	**20 56 54.4**	**+0.1**
comp=Z,8.0nm,1.3s,mb4.5							
NKC	**Novy Kostel**	**77.79 335**	*e*P		**P**	**20 56 56.2**	**+1.1**
MANZ	**Manzenberg**	**78.11 335**	*e*P		**P**	**20 56 57.4**	**+0.6**
comp=Z,5.0nm,1.0s,mb4.4							
ROTZ	**Rotzenmuhle**	**78.28 335**	*e*P		**P**	**20 56 58.3**	**+0.5**
comp=Z,10.0nm,1.2s,mb4.6							
KHC	**Kasperske Hory**	**78.44 334**	*e*P		**P**	**20 56 58.8**	**+0.1**
GZR	**Gura Zlata**	**78.55 327**	P		**P**	**20 57 00.4**	**+1.0**
GZR	**Gura Zlata**	**78.55 327**	⇑*i*P		**P**	**20 56 59.9**	**+0.5**
GRA1	**Grafenberg Arr**	**78.63 336**	*e*P		**P**	**20 56 59.0**	**-0.7**
comp=Z,26nm,1.3s,mb5.0							
GRF	**Grafenberg Arr**	**78.63 336**	*e*P		**P**	**20 56 59.0**	**-0.7**
GRF			pmax		pmax		
comp=Z,26nm,1.3s,mb5.0							
GRF	**Grafenberg Arr**	**78.63 336**	*e*P		**P**	**20 56 59.0**	**-0.7**
GRF			pmax		pmax		
comp=Z,26nm,1.3s,mb5.0							
GRF	**Grafenberg Arr**	**78.63 336**	*e*P		**P**	**20 56 59.0**	**-0.7**
comp=Z,26nm,1.3s,mb5.0							
GRFO	**Grafenberg**	**78.63 336**	*e*P		**P**	**20 56 59.7**	**0.0**
comp=Z,18nm,0.9s,mb5.0							
GRFO	**Grafenberg**	**78.63 336**	*e*P		**P**	**20 56 59.7**	**0.0**
GRFO			pmax		pmax		
comp=Z,18nm,0.9s,mb5.0							
WET	**Wettzell**	**78.64 335**	*e*P		**P**	**20 57 00.4**	**+0.6**
WET			pmax		pmax		
comp=Z,9.0nm,1.0s,mb4.7							
WET	**Wettzell**	**78.64 335**	*e*P		**P**	**20 57 00.4**	**+0.6**
comp=Z,9.0nm,1.0s,mb4.7							
GEC2	**GERESS Array S**	**78.66 334**	*e*P		**P**	**20 57 00.7**	**+0.8**
GEC2			pmax		pmax		
comp=Z,4.0nm,0.7s,mb4.5							
GEC2	**GERESS Array S**	**78.66 334**	*e*P		**P**	**20 57 00.7**	**+0.8**
comp=Z,4.0nm,0.7s,mb4.5							
GERES	**GERESS Array B**	**78.66 334**	P		**P**	**20 56 59.6**	**-0.3**
GERES			pmax		pmax		
comp=Z,3.0nm,0.5s							
GERES	**GERESS Array B**	**78.66 334**	P		**P**	**20 56 59.6**	**-0.3**
comp=Z,2.7nm,0.5s,mb4.5,baz=36,slow=5.6,SNR=24							
UMR	**Umm Al-Rimmam**	**78.70 301**	*e*P		**P**	**20 57 00.5**	**0.0**
UMR			AMb		AMB	20 57 02.7	
comp=Z,42nm,0.6s,mb5.6							
CONA	**Conrad Observa**	**78.79 332**	⇑*i*pP		pP	20 57 01.6	-0.5
comp=Z,6.8nm,0.6s							
BZS	**Buzias**	**78.79 328**	⇑P		**P**	**20 57 01.1**	**+0.4**
BZS	**Buzias**	**78.79 328**	⇑*i*P		**P**	**20 57 01.1**	**+0.4**
TNS	**Taunus Mts**	**78.90 338**	*e*P		**P**	**20 57 00.8**	**-0.4**
TNS			pmax		pmax		
comp=Z,8.0nm,0.6s,mb4.8							
TNS	**Taunus Mts**	**78.90 338**	*e*P		**P**	**20 57 00.8**	**-0.4**
comp=Z,8.0nm,0.6s,mb4.8							
KBD	**Kabd**	**78.98 301**	*e*P		**P**	**20 57 02.9**	**+0.9**
KBD			AMb		AMB	20 57 05.1	
comp=Z,116nm,0.6s,mb6.0							
RST	**Umm Al-Ruwaisa**	**79.16 301**	*e*P		**P**	**20 57 03.0**	**+0.1**
RST			AMb		AMB	20 57 06.0	
comp=Z,63nm,0.6s,mb5.7							
QRN	**Al-Qurain**	**79.17 300**	*e*P		**P**	**20 57 04.0**	**+1.0**
QRN			AMb		AMB	20 57 05.2	
comp=Z,51nm,0.5s,mb5.7							
NAY	**Al-Naaiem**	**79.20 301**	*e*P		**P**	**20 57 03.8**	**+0.6**
NAY			AMb		AMB	20 57 06.1	
comp=Z,18nm,0.8s,mb5.1							
RDF	**Al-Radifah**	**79.25 301**	*e*P		**P**	**20 57 04.4**	**+0.9**
RDF			AMb		AMB	20 57 06.7	
comp=Z,63nm,0.5s,mb5.8							
PKSM	**Moragy**	**79.35 330**	⇑P		**P**	**20 57 03.7**	**-0.1**
PKSM	**Moragy**	**79.35 330**	⇑*i*P		**P**	**20 57 03.7**	**-0.1**
ARSA	**Arzberg**	**79.50 332**	⇑*i*P		**P**	**20 57 04.4**	**-0.1**
comp=Z,3.5nm,0.5s,mb4.5							
ARSA	**Arzberg**	**79.50 332**	⇑*i*pP		pP	20 57 04.4	-1.6
comp=Z,3.5nm,0.5s							
GIVF	**Givet**	**79.92 340**	*e*P		**P**	**20 57 06.5**	**-0.3**
BAIF	**Baives**	**80.11 340**	*e*P		**P**	**20 57 07.5**	**-0.3**
PERS	**Pernice**	**80.17 332**	*i*P		**P**	**20 57 09.4**	**+1.3**
KBA	**Koelnbreinsper**	**80.34 333**	*i*P		**P**	**20 57 10.0**	**+0.9**
comp=Z,20nm,0.8s,mb5.1,SNR=15							
KBA	**Koelnbreinsper**	**80.34 333**	*i*pP		pP	20 57 10.0	-0.6
comp=Z,20nm,0.8s,SNR=15							
KBA	**Koelnbreinsper**	**80.34 333**	*i*P		**P**	**20 57 10.0**	**+0.9**
KBA			pmax		pmax		
comp=Z,20nm,0.8s,mb5.1							
WATA	**Walderalm**	**80.64 335**	⇑*i*P		**P**	**20 57 11.8**	**+1.0**
comp=Z,26nm,1.3s,mb5.0							
WATA	**Walderalm**	**80.64 335**	⇑*i*pP		pP	20 57 11.8	-0.5
comp=Z,26nm,1.3s							
WATA	**Walderalm**	**80.64 335**	⇑*i*P		**P**	**20 57 11.8**	**+1.1**
WATA			pmax		pmax		
comp=Z,26nm,1.3s,mb5.0							
BFO	**Black Forest**	**80.66 337**	*e*P		**P**	**20 57 10.1**	**-0.7**
BFO			pmax		pmax		
comp=Z,17nm,1.2s,mb4.8							
BFO	**Black Forest**	**80.66 337**	*e*P		**P**	**20 57 10.1**	**-0.7**
comp=Z,17nm,1.2s,mb4.8							
GCIS	**Gornji Cirnik**	**80.68 331**	*i*P		**P**	**20 57 12.0**	**+1.1**
WTTA	**Wattenberg**	**80.69 334**	*i*P		**P**	**20 57 11.4**	**+0.5**
comp=Z,20nm,0.5s,mb5.3,SNR=21							
WTTA	**Wattenberg**	**80.69 334**	*i*pP		pP	20 57 11.4	-1.1
comp=Z,20nm,0.5s,SNR=21							
WTTA	**Wattenberg**	**80.69 334**	*i*P		**P**	**20 57 11.4**	**+0.4**
WTTA			pmax		pmax		
comp=Z,20nm,0.5s,mb5.3							
VTS	**Vitosha**	**80.74 325**	⇑P		**P**	**20 57 11.9**	**+0.5**
VTS	**Vitosha**	**80.74 325**	⇑*i*P		**P**	**20 57 11.9**	**+0.6**
MOTA	**Moosalm**	**80.78 335**	⇓*i*P		**P**	**20 57 12.3**	**+0.9**
comp=Z,22nm,1.2s,mb5.0,SNR=12							
MOTA	**Moosalm**	**80.78 335**	⇓*i*pP		pP	20 57 12.3	-0.6
comp=Z,22nm,1.2s,SNR=12							
MOTA	**Moosalm**	**80.78 335**	⇓*i*P		**P**	**20 57 12.3**	**+0.9**
MOTA			pmax		pmax		
comp=Z,22nm,1.2s,mb5.0							
SQTA	**Sankt Quirin**	**80.86 335**	⇓*i*P		**P**	**20 57 12.9**	**+1.0**
comp=Z,14nm,1.1s,mb4.8,SNR=7.7							
SQTA	**Sankt Quirin**	**80.86 335**	⇓*i*pP		pP	20 57 12.9	-0.5
comp=Z,14nm,1.1s,SNR=7.7							
SQTA	**Sankt Quirin**	**80.86 335**	⇓*i*P		**P**	**20 57 12.9**	**+1.0**
SQTA			pmax		pmax		
comp=Z,14nm,1.1s,mb4.8							
CDF	**Champ du Feu**	**80.87 338**	*e*P		**P**	**20 57 11.9**	**0.0**
comp=Z,14nm,0.8s,mb4.7							
CDF	**Champ du Feu**	**80.87 338**	*e*P		**P**	**20 57 11.9**	**0.0**
comp=Z,6.8nm,0.8s,mb4.6							
CDF	**Champ du Feu**	**80.87 338**	*e*P		**P**	**20 57 11.9**	**0.0**
CDF			pmax		pmax		
comp=Z,7.0nm,0.8s,mb4.6							
MEZF	**Maizieres J'vi**	**81.35 339**	*e*P		**P**	**20 57 14.6**	**+0.1**
comp=Z,16nm,0.7s,mb4.8							
MEZF	**Maizieres J'vi**	**81.35 339**	*e*P		**P**	**20 57 14.6**	**+0.1**
comp=Z,16nm,0.7s,mb5.1							
HAU	**Haudompre**	**81.48 338**	*e*P		**P**	**20 57 15.7**	**+0.5**
HINF	**Hinteralfeld**	**81.53 338**	*e*P		**P**	**20 57 16.0**	**+0.6**
comp=Z,9.0nm,0.9s,mb4.4							
HINF	**Hinteralfeld**	**81.53 338**	*e*P		**P**	**20 57 16.0**	**+0.6**
comp=Z,4.5nm,0.9s,mb4.4							
HINF	**Hinteralfeld**	**81.53 338**	*e*P		**P**	**20 57 16.0**	**+0.6**
HINF			pmax		pmax		
comp=Z,5.0nm,0.9s,mb4.4							
GRR	**Gorron**	**82.79 343**	*e*P		**P**	**20 57 22.0**	**0.0**
LOR	**Lormes**	**82.79 339**	*e*P		**P**	**20 57 22.0**	**-0.1**
comp=Z,12nm,0.7s,mb4.7							
LOR	**Lormes**	**82.79 339**	*e*P		**P**	**20 57 22.0**	**-0.1**
comp=Z,5.9nm,0.7s,mb4.7							
LOR	**Lormes**	**82.79 339**	*e*P		**P**	**20 57 22.0**	**-0.1**
LOR			pmax		pmax		
comp=Z,6.0nm,0.7s,mb4.7							
ASF	**Jabal al Asfar**	**82.81 310**	P		**P**	**20 57 23.2**	**+0.8**
ASF			pmax		pmax		
comp=Z,1.0nm,0.5s							
ASF	**Jabal al Asfar**	**82.81 310**	P		**P**	**20 57 23.2**	**+0.8**
comp=Z,1.3nm,0.5s,mb4.2,baz=268,slow=2.8,SNR=4.8							
CABF	**La Chapelle**	**82.84 338**	*e*P		**P**	**20 57 22.7**	**+0.4**
MMAI	**Mount Meron Ar**	**82.93 311**	P		**P**	**20 57 23.8**	**+0.8**
comp=Z,3.8nm,0.6s,mb4.6,baz=48,slow=8.0,SNR=10							
SSF	**Saint Saulge**	**83.07 340**	*e*P		**P**	**20 57 23.4**	**-0.1**
comp=Z,14nm,1.1s,mb4.6							
SSF	**Saint Saulge**	**83.07 340**	*e*P		**P**	**20 57 23.4**	**-0.1**
comp=Z,7.2nm,1.1s,mb4.6							
SSF	**Saint Saulge**	**83.07 340**	*e*P		**P**	**20 57 23.4**	**-0.1**
SSF			pmax		pmax		
comp=Z,7.0nm,1.1s,mb4.6							
AVF	**Avril sur Loir**	**83.36 340**	*e*P		**P**	**20 57 25.1**	**+0.1**
comp=Z,28nm,1.0s,mb4.9							
AVF	**Avril sur Loir**	**83.36 340**	*e*P		**P**	**20 57 25.1**	**+0.1**
comp=Z,14nm,1.0s,mb4.9							
AVF	**Avril sur Loir**	**83.36 340**	*e*P		**P**	**20 57 25.1**	**+0.1**
AVF			pmax		pmax		
comp=Z,14nm,1.0s,mb5.0							
SMF	**Signal de Mont**	**83.38 339**	*e*P		**P**	**20 57 25.3**	**+0.2**
comp=Z,49nm,1.1s,mb5.1							
SMF	**Signal de Mont**	**83.38 339**	*e*P		**P**	**20 57 25.3**	**+0.2**
comp=Z,25nm,1.1s,mb5.2							
SMF	**Signal de Mont**	**83.38 339**	*e*P		**P**	**20 57 25.3**	**+0.2**
SMF			pmax		pmax		
comp=Z,25nm,1.1s,mb5.2							
LPL	**La Plagne**	**83.68 337**	*e*P		**P**	**20 57 27.5**	**+0.8**
comp=Z,8.5nm,0.7s,mb4.7							
LPL	**La Plagne**	**83.68 337**	*e*P		**P**	**20 57 27.5**	**+0.8**
comp=Z,4.3nm,0.6s,mb4.8							
LPL	**La Plagne**	**83.68 337**	*e*P		**P**	**20 57 27.5**	**+0.8**
LPL			pmax		pmax		
comp=Z,4.0nm,0.6s,mb4.7							
LPG	**La Plagne**	**83.69 337**	*e*P		**P**	**20 57 27.8**	**+1.1**
comp=Z,18nm,1.0s,mb4.8							
LPG	**La Plagne**	**83.69 337**	*e*P		**P**	**20 57 27.8**	**+1.1**
comp=Z,9.0nm,1.0s,mb4.8							
LPG	**La Plagne**	**83.69 337**	*e*P		**P**	**20 57 27.8**	**+1.1**
LPG			pmax		pmax		
comp=Z,9.0nm,1.0s,mb4.8							
BGF	**Bois d'Agland**	**83.70 340**	*e*P		**P**	**20 57 27.1**	**+0.3**
TCF	**Toulx Ste Croi**	**84.11 340**	*e*P		**P**	**20 57 29.0**	**+0.1**
comp=Z,14nm,1.0s,mb4.8							
TCF	**Toulx Ste Croi**	**84.11 340**	*e*P		**P**	**20 57 29.0**	**+0.1**
comp=Z,7.1nm,1.0s,mb4.8							
TCF	**Toulx Ste Croi**	**84.11 340**	*e*P		**P**	**20 57 29.0**	**+0.1**
TCF			pmax		pmax		
comp=Z,7.0nm,1.0s,mb4.8							
MFF	**Saint Martin d**	**84.34 342**	*e*P		**P**	**20 57 30.1**	**+0.1**
MBDF	**Montbardon**	**84.40 337**	*e*P		**P**	**20 57 30.4**	**0.0**
comp=Z,9.1nm,0.6s,mb4.8							
MBDF	**Montbardon**	**84.40 337**	*e*P		**P**	**20 57 30.4**	**0.0**
comp=Z,4.6nm,0.6s,mb4.8							
MBDF	**Montbardon**	**84.40 337**	*e*P		**P**	**20 57 30.4**	**0.0**
MBDF			pmax		pmax		
comp=Z,5.0nm,0.6s,mb4.8							
ORIF	**Oris-en-Rattie**	**84.46 337**	*e*P		**P**	**20 57 31.4**	**+0.7**
comp=Z,8.1nm,0.6s,mb4.8							
ORIF	**Oris-en-Rattie**	**84.46 337**	*e*P		**P**	**20 57 31.4**	**+0.7**
comp=Z,4.1nm,0.6s,mb4.7							
ORIF	**Oris-en-Rattie**	**84.46 337**	*e*P		**P**	**20 57 31.4**	**+0.7**
ORIF			pmax		pmax		
comp=Z,4.0nm,0.6s,mb4.7							
VIVF	**Saint-Julien-l**	**84.84 338**	*e*P		**P**	**20 57 33.2**	**+0.6**
comp=Z,7.9nm,0.9s,mb4.6							
VIVF	**Saint-Julien-l**	**84.84 338**	*e*P		**P**	**20 57 33.2**	**+0.6**
comp=Z,4.0nm,0.9s,mb4.5							
VIVF	**Saint-Julien-l**	**84.84 338**	*e*P		**P**	**20 57 33.2**	**+0.6**
VIVF			pmax		pmax		
comp=Z,4.0nm,0.9s,mb4.5							
SBF	**Sospel**	**85.01 336**	*e*P		**P**	**20 57 33.7**	**+0.2**
CAF	**Calviac**	**85.42 340**	*e*P		**P**	**20 57 36.1**	**+0.6**
comp=Z,11nm,1.0s,mb4.7							
CAF	**Calviac**	**85.42 340**	*e*P		**P**	**20 57 36.1**	**+0.6**
comp=Z,5.6nm,1.0s,mb4.7							
CAF	**Calviac**	**85.42 340**	*e*P		**P**	**20 57 36.1**	**+0.6**
CAF			pmax		pmax		
comp=Z,6.0nm,1.0s,mb4.7							
FRF	**La Foret Royal**	**85.51 336**	*e*P		**P**	**20 57 35.9**	**-0.1**
LMR	**La Mourre**	**85.76 336**	*e*P		**P**	**20 57 37.3**	**+0.1**
PGF	**Pioggiola**	**85.76 334**	*e*P		**P**	**20 57 37.4**	**+0.2**
EIL	**Elat**	**85.80 310**	P		**P**	**20 57 38.3**	**+0.6**
comp=Z,8.8nm,0.6s,mb5.2,baz=348,slow=3.3,SNR=11							
MTLF	**Montolieu**	**86.88 339**	*e*P		**P**	**20 57 43.4**	**+0.7**
SJPF	**Ste Jean**	**87.90 341**	*e*P		**P**	**20 57 47.7**	**0.0**
ETSF	**Etsaut**	**87.95 341**	*e*P		**P**	**20 57 48.6**	**+0.7**
comp=Z,7.7nm,0.7s,mb4.8							
ETSF	**Etsaut**	**87.95 341**	*e*P		**P**	**20 57 48.6**	**+0.7**
comp=Z,3.8nm,0.7s,mb4.7							
ETSF	**Etsaut**	**87.95 341**	*e*P		**P**	**20 57 48.6**	**+0.7**
ETSF			pmax		pmax		
comp=Z,4.0nm,0.7s,mb4.8							
ESDC	**Sonseca Array**	**91.78 342**	P		**P**	**20 58 05.7**	**-0.2**
comp=Z,0.1nm,0.3s,mb3.6,baz=358,slow=4.0,SNR=3.6							
KEST	**Kesra**	**91.86 331**	P		**P**	**20 58 05.5**	**-0.8**
comp=Z,1.6nm,0.7s,mb4.5,baz=290,slow=9.9,SNR=4.7							
TORD	**Torodi Ar. Bea**	**115.28 329**	PKP		PKiKP	21 03 38.3	-1.8
comp=Z,0.4nm,0.5s,baz=26,slow=2.4,SNR=3.6							
DBIC	**Dimbokro**	**123.52 333**	PKIKP		PKPdf	21 03 54.2	-1.8
DBIC			pmax		pmax		
comp=Z,3.0nm,0.7s							
DBIC	**Dimbokro**	**123.52 333**	PKP		PKPdf	21 03 54.1	-1.8
comp=Z,3.4nm,0.7s,baz=71,slow=2.6,SNR=7.5							
CFAA	**Coronel Fontan**	**145.12 80**	PKPbc		PKPbc	21 04 33.2	-1.8
CFAA	**Coronel Fontan**	**145.12 80**	PKPbc		PKPbc	21 04 33.2	-1.8
comp=Z,0.9nm,0.6s,baz=264,slow=3.7,SNR=8.6							
PLCA	**Paso Flores**	**148.26 96**	PKP2		PKPbc	21 04 42.8	-1.0
PLCA			pmax		pmax		
comp=Z,4.0nm,0.7s							
PLCA	**Paso Flores**	**148.26 96**	PKPbc		PKPbc	21 04 42.8	-1.0
comp=Z,4.4nm,0.7s,baz=258,slow=2.9,SNR=12							
VNA2	**Neumayer--Watz**	**153.73 194**	*e*PKPdf		PKPdf	21 04 47.3	-0.6
VNA2			*e*			21 04 51.9	
VNA2			*e*			21 04 54.8	
VNA2			*e*			21 04 59.8	
VNA2			*e*			21 05 04.0	
VNA2			*e*			21 05 07.7	
VNA2			*e*			21 05 10.9	
VNA2			*e*			21 05 14.5	
VNA2			*e*			21 05 17.3	
VNA3	**Neumayer Olymp**	**153.82 193**	*e*PKPdf		PKPdf	21 04 47.1	-0.9
VNA3			*e*			21 04 51.5	
VNA3			*e*			21 04 54.4	
VNA3			*e*			21 04 59.7	
VNA3			*e*			21 05 03.7	
VNA3			*e*			21 05 07.6	
VNA3			*e*			21 05 10.7	
VNA3			*e*			21 05 14.6	
VNA3			*e*			21 05 17.4	

IDC 03 20:46:37.9±1.6, 862S×15768E, h0km, mb3.9/4, mb1 4.0/5, mb1mx3.7/15, mbtmp3.9/5, ML3.6/1, Error ellipse: s-maj=39.4km s-min=28.8km az=175.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.38 110**		Pn		Pn	Pn	20 47 17.9	-0.2
15nm,0.3s,baz=91,slow=3.5,SNR=4.4									
HNR				Sn		Sn	Sn	20 47 55.5	+7.5
80nm,0.3s,baz=94,slow=23,SNR=10									
WRA	**Warramunga Arr**	**25.23 241**		P		P	P	20 52 05.9	+0.2
6.0nm,1.2s,baz=67,slow=9.5,SNR=19									
ASAR	**Alice Springs**	**27.24 234**		P		P	P	20 52 22.9	-1.0
0.7nm,0.9s,baz=61,slow=10,SNR=5.6									
STKA	**Stephens Creek**	**27.55 211**		P		P	P	20 52 27.4	+0.8
2.4nm,0.9s,baz=40,slow=11,SNR=2.9									
MKAR	**Makanchi Array**	**86.38 318**		P		P	P	20 59 22.5	+0.3
0.4nm,0.8s,baz=120,slow=8.5,SNR=3.0									

*ISCJB **03** 20:59:56.5±4.9, 208S±0.1×16888E±009, h7km±30km, mb4.5/15, Error ellipse: s-maj=19.1km s-min=11.6km az=152.9*

*IDC **03** 20:59:56.5±1.0, 2091S×16904E, h0km, mb4.4/8, mb1 4.5/9, mb1mx4.3/16, mbtmp4.4/9, ML4.0/1, Error ellipse: s-maj=31.7km s-min=23.2km az=161.0*

*NEIC **03** 20:59:58.2±0.4, 2086S×16893E, h10km, mb4.7/9, Error ellipse: s-maj=14.4km s-min=9.4km az=154.0*

ISC 03 20:59:58.7±5.8, 208S±01×16888E±009, h11km±35km, h7km±.3km: pP-P, n34, σ0970/27, mb4.5/15, Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**2.59 241**		Pn		**Pn**	**Pn**	**21 00 40.5**	**-0.1**
24nm,0.3s,baz=64,slow=18,SNR=24									
DZM				Sn		**Sn**	**Sn**	**21 01 12.0**	**-0.1**
43nm,0.3s,baz=286,slow=23,SNR=7.6									
CTA	**Charters Tower**	**21.22 268**		P		**P**	**P**	**21 04 46.6**	**+2.0**
5.6nm,0.6s,mb4.1,baz=103,slow=11,SNR=7.5									
CTAO	**Charters Tower**	**21.22 268**		*e*P		**P**	**P**	**21 04 43.4**	**-1.3**
10nm,0.8s,mb4.2									
STKA	**Stephens Creek**	**26.75 240**		*e*P		**P**	**P**	**21 05 40.3**	**+1.8**
6.4nm,0.9s,mb4.2									
STKA	**Stephens Creek**	**26.75 240**		*e*P		**P**	**P**	**21 05 39.5**	**+1.0**
8.3nm,1.0s,mb4.2									
STKA	**Stephens Creek**	**26.75 240**		P		**P**	**P**	**21 05 40.0**	**+1.5**
6.9nm,0.8s,mb4.2,baz=66,slow=8.5,SNR=14									
WB2	**Warramunga Arr**	**32.35 265**		*e*P		**P**	**P**	**21 06 27.6**	**-0.7**
WRA	**Warramunga Arr**	**32.36 265**		P		**P**	**P**	**21 06 27.6**	**-0.8**
2.3nm,0.6s,mb4.2,baz=92,slow=8.5,SNR=22									
WRA				PcP		PcP	PcP	21 09 16.1	-0.2
0.8nm,0.9s,baz=82,slow=3.0,SNR=4.3									
ASAR	**Alice Springs**	**32.45 258**		P		**P**	**P**	**21 06 29.4**	**+0.2**
9.9nm,0.7s,mb4.8,baz=84,slow=9.2,SNR=109									
ASAR				PcP		PcP	PcP	21 09 16.9	+0.4
0.3nm,0.5s,baz=93,slow=4.0,SNR=4.4									
FITZ	**Fitzroy Crossi**	**40.78 266**		*e*P		**P**	**P**	**21 07 40.7**	**+0.4**
20nm,0.6s,mb4.9									
MBWA	**Marble Bar**	**45.74 260**		*e*P		**P**	**P**	**21 08 20.3**	**-0.1**
21nm,1.2s,mb4.9									
KLBR	**Kellerberrin**	**46.75 246**		*e*P		**P**	**P**	**21 08 27.9**	**-0.3**
47nm,1.5s,mb5.2									
NWAO	**Narrogin (SRO)**	**47.21 244**		P		**P**	**P**	**21 08 30.8**	**-1.0**
8.8nm,0.9s,mb4.7									
SBA	**Scott Base**	**57.09 181**		*e*P		**P**	**P**	**21 09 45.1**	**+0.5**
4.9nm,1.0s,mb4.5									
KSM	**Kuching**	**61.41 284**		*e*P		**P**	**P**	**21 10 16.0**	**+0.5**
QSPA	**South Pole Qui**	**69.24 180**		P		**P**	**P**	**21 11 04.5**	**-0.7**
5.7nm,1.1s,mb4.4,baz=349,slow=1.3,SNR=6.7									
KMI	**Kunming**	**78.83 302**		P		**P**	**P**	**21 12 02.4**	**+0.3**
6.0nm,0.9s,mb4.5									
SNAA	**Sanae**	**87.58 183**		*e*		**P**	**P**	**21 12 46.2**	**-0.3**
SNAA				*e*			pP	21 12 48.2	-1.8
SNAA				*e*				21 12 52.6	
SNAA				*e*				21 13 01.8	
SNAA				*e*				21 13 06.0	
SNAA				*e*				21 13 30.3	
SNAA	**Sanae**	**87.58 183**		P		**P**	**P**	**21 12 45.5**	**-1.1**
1.3nm,0.9s,mb4.2,baz=194,slow=3.5,SNR=8.6									
VNA3	**Neumayer Olymp**	**88.18 180**		*e*		**P**	**P**	**21 12 49.2**	**-0.2**
VNA3				*e*			pP	21 12 51.5	-1.4
VNA3				*e*				21 12 56.8	
VNA3				*e*				21 12 59.9	
VNA3				*e*				21 13 05.0	
VNA3				*e*				21 13 10.5	
VNA3				*e*				21 13 14.7	
VNA3				*e*				21 13 28.8	
VNA3				*e*				21 13 31.5	
SONM	**Songino Array**	**88.28 323**		P		**P**	**P**	**21 12 50.2**	**+0.1**
1.2nm,1.0s,mb4.1,baz=133,slow=4.8,SNR=7.1									
VNA2	**Neumayer--Watz**	**88.47 181**		*e*		**P**	**P**	**21 12 50.9**	**+0.1**
ba

*IDC **03** 21:16:32.5±0.9, 705S×15536E, h0km, mb4.0/8, mb1 4.2/9, mb1mx4.0/16, mbtmp4.1/9, ML4.2/1, Error ellipse: s-maj=28.5km s-min=21.9km az=114.0*

*ISCJB **03** 21:16:36.1±0.6, 72S±0.1×15538E±0.10, h33km, mb4.0/13, Error ellipse: s-maj=15.2km s-min=13.3km az=138.5*

*NEIC **03** 21:16:38.0±2.3, 7.14S×15537E, h36km±23km, mb4.4/5, Error ellipse: s-maj=19.9km s-min=11.9km az=143.0*

ISC 03 21:16:38.0±0.6, 71S±01×1554E±01, h35km, n19, σ0°78/17, mb4.0/13, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res	ISC
HNR	**Honiara**	5.07	117	Pn		Pn	Pn	21 17 51.4	-0.1	
	9.1nm,0.3s,baz=110,slow=4.3,SNR=3.6									
WB2	**Warramunga Arr**	24.03	236	eP		P		21 21 49.9	0.0	
WRA	**Warramunga Arr**	24.04	236	P		P		21 21 49.7	-0.3	
	4.0nm,0.9s,mb3.9,baz=58,slow=9.2,SNR=22									
ASAR	**Alice Springs**	26.35	229	P		P		21 22 10.1	-0.9	
	0.6nm,0.8s,mb3.2,baz=62,slow=8.5,SNR=5.8									
STKA	**Stephens Creek**	27.76	206	P		P		21 22 25.2	+1.7	
	2.3nm,0.8s,mb3.8,baz=51,slow=13,SNR=4.9									
FITZ	**Fitzroy Crossi**	30.93	247	eP		P		21 22 51.3	-0.6	
	5.6nm,0.8s,mb4.5									
ULN	**Ulaanbaatar**	69.33	327	eP		P		21 27 42.2	+0.4	
	2.3nm,1.3s,mb4.0									
SONM	**Songino Array**	69.66	327	P		P		21 27 44.6	+0.6	
	2.1nm,0.8s,mb4.1,baz=137,slow=6.5,SNR=13									
LSA	**Lhasa**	71.66	304	P		P		21 27 57.6	+1.1	
	4.3nm,0.8s,mb4.4									
BILL	**Bilibino**	75.40	4	P		P		21 28 18.6	+0.9	
	3.7nm,0.9s,mb4.3									
MKAR	**Makanchi Array**	83.76	319	P		P		21 29 03.3	-0.3	
	1.1nm,0.8s,mb4.0,baz=101,slow=5.3,SNR=12									
ZALV	**Zalesovo Beam**	84.51	326	P		P		21 29 05.8	-1.4	
	0.2nm,0.3s,mb3.7,baz=108,slow=4.7,SNR=2.7									
TKM2	**Tokmak 2**	87.39	314	eP		P		21 29 21.7	0.0	
	2.1nm,0.9s,mb4.4									
INK	**Inuvik**	89.73	21	P		P		21 29 31.4	-0.8	
INK	**Inuvik**	89.73	21	P		P		21 29 31.4	-0.8	
	1.4nm,1.0s,mb4.3,baz=261,slow=4.4,SNR=4.4									
YKA	**Yellowknife Ar**	96.29	28	P		P		21 30 02.4	-0.2	
YKA	**Yellowknife Ar**	96.29	28	P		P		21 30 02.4	-0.2	
	0.3nm,0.4s,mb4.1,baz=264,slow=4.5,SNR=11									
SIV	**San Ignacio**	137.22	123	PKP		PKPdf		21 35 59.8	+1.1	
	0.3nm,0.4s,baz=236,slow=7.1,SNR=4.5									
BDFB	**Brasilia**	147.61	134	PKPbc		PKPbc		21 36 18.2	-1.6	
	3.8nm,0.8s,baz=231,slow=3.6,SNR=5.3									

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*ISCJB **03** 21:26:43.0±1.6, 77S±0.1×12759E±009, h149km±15km, mb4.1/9, Error ellipse: s-maj=19.2km s-min=12.1km az=28.5*

*NEIC **03** 21:26:43.1±2.2, 757S×12760E, h129km±21km, mb4.3/7, Error ellipse: s-maj=22.7km s-min=16.1km az=82.0*

*IDC **03** 21:26:47.5±4.8, 767S×12730E, h167km±44km, mb3.7/5, mb1 3.9/7, mb1mx3.7/13, mbtmp3.8/7, Error ellipse: s-maj=48.6km s-min=14.3km az=64.0*

ISC 03 21:26:43.0±1.8, 76S±01×12762E±009, h129km±16km, n21, σ1°34/28, mb4.1/9, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res	ISC
BATI	**Kupang**	4.68	236	P			Pn	21 27 55.0	+3.1	
	22nm,0.3s,baz=88,slow=1.6,SNR=36									
BATI				S			Sn	21 28 44.5	-0.9	
	31nm,0.3s,baz=108,slow=5.0,SNR=6.5									
KAKA	**Kakadu**	6.94	137	eP			Pn	21 28 24.1	+1.8	
	484nm,0.7s									
FITZ	**Fitzroy Crossi**	10.60	190	eP			Pn	21 29 10.2	-1.3	
	2.5nm,0.2s									
FITZ				eS			Sn	21 31 00.1	-8.4	
FITZ	**Fitzroy Crossi**	10.60	190	P			Pn	21 29 10.4	-1.1	
	0.7nm,0.3s,baz=33,slow=14,SNR=15									
FITZ				S			Sn	21 30 59.1	-9.4	
	1.0nm,0.3s,baz=66,slow=22,SNR=10									
WRA	**Warramunga Arr**	13.88	153	P			Pn	21 29 51.6	-2.7	
WRA				S			Sn	21 32 16.1	-12	
WRA	**Warramunga Arr**	13.88	153	P			Pn	21 29 51.6	-2.7	
	3.5nm,0.3s,baz=327,slow=13,SNR=103									
WRA				S			Sn	21 32 16.1	-12	
	3.2nm,0.3s,baz=331,slow=22,SNR=9.9									
WB2	**Warramunga Arr**	13.89	153	eP			Pn	21 29 52.7	-1.7	
WB2				eS			Sn	21 32 16.3	-12	
MBWA	**Marble Bar**	15.47	209	eP			Pn	21 30 16.9	+2.6	
	9.1nm,0.9s									
ASAR	**Alice Springs**	17.06	160	P			Pn	21 30 35.4	+1.6	
ASAR				S			S	21 33 28.6	-15	
ASAR	**Alice Springs**	17.06	160	P			Pn	21 30 35.4	+1.6	
	3.6nm,0.3s,baz=338,slow=11,SNR=235									
ASAR				S			S	21 33 28.6	-15	
	0.4nm,0.3s,baz=331,slow=17,SNR=5.7									
KLBR	**Kellerberrin**	25.57	200	eP			P	21 32 00.9	+0.8	
	7.3nm,0.7s,mb4.4									
NWAO	**Narrogin (SRO)**	26.97	200	P			P	21 32 12.6	0.0	
	6.2nm,0.7s,mb4.3									
STKA	**Stephens Creek**	27.43	154	eP			P	21 32 18.1	+1.3	
	2.3nm,0.4s,mb4.2									
STKA				e				21 32 22.2		
STKA	**Stephens Creek**	27.43	154	P			P	21 32 17.9	+1.2	
	4.0nm,0.5s,mb4.3,baz=322,slow=9.3,SNR=12									
SONM	**Songino Array**	58.31	343	P			P	21 36 25.1	+0.8	
	0.4nm,0.5s,mb3.5,baz=155,slow=7.2,SNR=4.1									
CASY	**Casey**	59.76	188	ePn			P	21 36 33.1	-0.9	
	10nm,1.0s,mb4.6									
MKAR	**Makanchi Array**	67.47	328	P			P	21 37 24.8	-0.1	
	1.0nm,0.5s,mb3.9,baz=117,slow=8.2,SNR=13									
ZALV	**Zalesovo Beam**	71.11	335	P			P	21 37 46.0	-1.1	
	1.4nm,0.5s,mb4.0,baz=132,slow=5.1,SNR=8.8									
KURK	**Kurchatov**	71.83	330	eP			P	21 37 51.0	-0.5	
	2.4nm,0.9s,mb3.9									
VNDA	**Vanda**	72.14	173	P			P	21 37 53.5	+0.4	
	1.2nm,0.6s,mb3.8,baz=309,slow=6.8,SNR=11									
LPAZ	**La Paz**	151.59	147	PKPbc		PKPbc		21 46 24.4	+1.3	
	0.7nm,0.4s,baz=50,slow=3.2,SNR=4.7									
LPAZ				PKPab		PKPab		21 46 33.8	+1.8	
	0.9nm,0.6s,baz=217,slow=9.6,SNR=5.4									

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*IDC **03** 21:34:52.9±0.5, 872S×15747E, h0km, mb4.9/17, mb1 4.9/20, mb1mx4.9/21, mbtmp4.8/20, ML4.2/2, MS4.8/14, Ms1 4.8/14, ms1mx4.6/29, Error ellipse: s-maj=16.9km s-min=14.1km az=113.0*

*ISCJB **03** 21:34:53.5±0.2, 868S±004×15745E±004, h10km, mb5.1/81, MS4.9/21, Error ellipse: s-maj=6.3km s-min=5.6km az=16.8*

*BJI **03** 21:34:55.7, 821S×15757E, h13km, mB5.6, mb5.2, Ms5.4, Msz5.1*

*GCMT **03** 21:34:56.4±0.3, 884S×15748E, h19km±1km, MW5.2/73, Moment Tensor Solution. s26,c33; s73,c106; Duration: 1s0 Moment tensor: Scale 10^17Nm; Mrr0.37±.05; Mθθ-0.09±.03; Mφφ-0.28±.04; Mrθ0.29±.08; Mθφ0.85±.03; Mφr-0.32±.08; Best double couple: M0 0.91600×10^17 NP1:φs4.00000°, δ78.00000°, λ-169.00000°. NP2: φs272.00000°, δ80.00000°, λ-12.00000°. Principal axes: T 0.6730, Plg1.0000°, Azm318.0000°; N 0.4850, Plg74.0000°, Azm51.0000°; P -1.1590, Plg16.0000°, Azm228.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **03** 21:34:56.4±2.9, 871S×15746E, h20km±20km, mb5.1/39 Error ellipse: s-maj=8.1km s-min=6.7km az=159.0*

*MOS **03** 21:34:56.9±1.0, 866S×15734E, h33km, mb5.2/23, Error ellipse: s-maj=10.5km s-min=7.9km az=88.7*

ISC 03 21:34:55.6±1.8, 869S±004×15746E±005, h13km±11km, h14km±1.3km; pP-P, n189, σ1°01/172, mb5.1/81, MS4.9/21, 24C-7D, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res	ISC
HNR	**Honiara**	2.56	107	ePn			Pn	21 35 34.0	-2.9	
HNR	**Honiara**	2.56	107	Pn			Pn	21 35 35.0	-1.9	
	120nm,0.3s,baz=256,slow=3.0,SNR=23									
HNR				LR			LR	21 35 58.3		
	comp=Z,104μm,18.3s,baz=352,slow=26									
CTA	**Charters Tower**	15.68	223	⇓iP			Pn	21 38 35.4	-1.0	
	45nm,1.0s									
CTA	**Charters Tower**	15.68	223	⇓iP			Pn	21 38 35.4	-1.0	
CTA					pmax	pmax				
	comp=Z,45nm,1.0s									
CTA	**Charters Tower**	15.68	223	Pn			Pn	21 38 35.1	-1.2	
	comp=Z,0.3nm,0.3s,baz=46,slow=14,SNR=5.2									
CTA				LR			LR	21 43 45.6		
	comp=Z,3μm,18.5s,baz=44,slow=34									
CTAO	**Charters Tower**	15.68	223	ePn			Pn	21 38 35.5	-0.9	
	comp=Z,120nm,1.2s									
CTAO	**Charters Tower**	15.68	223	eP			Pn	21 38 35.5	-0.9	
CTAO					pmax	pmax				
	comp=Z,120nm,1.2s									
DZM	**Mont Dzumac**	15.86	148	Pn			Pn	21 38 39.4	+0.7	
	baz=339,slow=16,SNR=3.2									
EIDS	**Eidsvold**	17.66	199	ePn			Pn	21 39 02.8	+1.3	
	comp=Z,47nm,1.1s									
ARMA	**Armidale**	22.30	193	⇓iP			P	21 39 54.3	+1.5	
KAKA	**Kakadu**	24.90	259	eP			P	21 40 18.8	+0.2	
	comp=Z,75nm,0.9s,mb5.2									
WB2	**Warramunga Arr**	24.99	241	eP			P	21 40 19.3	0.0	
WB2				eS			S	21 44 43.0	-0.1	
WB2				ePCS			PcS	21 47 34.7	-0.3	
WB2	**Warramunga Arr**	24.99	241	eP			P	21 40 19.3	0.0	
WB2				eS			S	21 44 43.0	-0.1	
WRA	**Warramunga Arr**	25.00	241	P			P	21 40 19.1	-0.3	
WRA				LR			LR	21 49 35.6		
WRA	**Warramunga Arr**	25.00	241	P			P	21 40 19.1	-0.3	
	comp=Z,188nm,1.0s,mb5.6,baz=66,slow=9.6,SNR=94									
WRA				LR			LR	21 49 35.6		
	comp=Z,2μm,19.4s,MS4.7,baz=80,slow=35									
GUMO	**Guam**	25.42	330	LR			LR	21 48 22.2		
	comp=Z,1μm,19.8s,MS4.4,baz=323,slow=32									
ASAR	**Alice Springs**	27.02	234	P			P	21 40 36.7	-0.9	
ASAR								21 43 59.1		
ASAR	**Alice Springs**	27.02	234	P			P	21 40 36.7	-0.9	
	comp=Z,35nm,1.0s,mb4.8,baz=63,slow=9.0,SNR=113									
ASAR				PcP			PcP	21 43 59.1	0.0	
	comp=Z,3.2nm,0.8s,baz=47,slow=2.8,SNR=5.3									
ASAR				ScP			ScP	21 47 41.0	+1.7	
	comp=Z,1.5nm,1.0s,baz=46,slow=2.9,SNR=5.2									
STKA	**Stephens Creek**	27.38	210	eP			P	21 40 40.6	-0.2	
	comp=Z,28nm,0.8s,mb4.8									
STKA	**Stephens Creek**	27.38	210	P			P	21 40 40.1	-0.7	
	comp=Z,30nm,0.6s,mb5.0,baz=39,slow=12,SNR=46									
STKA				PcP			PcP	21 43 59.7	-0.2	
	comp=Z,4.3nm,0.8s,baz=36,slow=7.9,SNR=2.8									
STKA				LR			LR	21 50 55.1		
	comp=Z,1μm,18.1s,MS4.5,baz=22,slow=35									
CNB	**Canberra Magne**	27.52	194	eP			P	21 40 45.7	+3.7	
	comp=Z,42nm,0.9s,mb5.1									
FITZ	**Fitzroy Crossi**	32.29	250	⇓iP			P	21 41 23.7	-0.8	
	comp=Z,22nm,1.1s,mb4.9									
FITZ	**Fitzroy Crossi**	32.29	250	P			P	21 41 23.5	-1.0	
	comp=Z,12nm,1.0s,mb4.7,baz=85,slow=9.3,SNR=13									
BATI	**Kupang**	33.37	265	P			P	21 41 34.8	+0.9	
	comp=Z,40nm,0.9s,mb5.4,baz=339,slow=2.3,SNR=7.1									
BATI				LR			LR	21 56 24.1		
	comp=Z,2μm,18.2s,MS4.9,baz=115,slow=39									
URZ	**Urewera**	34.36	152	LR			LR	21 53 46.0		
	comp=Z,686nm,18.2s,MS4.4,baz=210,slow=33									
TAU	**Tasmania Unive**	35.23	193	eP			P	21 41 49.5	-0.2	
	comp=Z,49nm,1.2s,mb5.3									
TAU	**Tasmania Unive**	35.23	193	eP			P	21 41 49.5	-0.2	
TAU					pmax	pmax				
	comp=Z,49nm,1.2s,mb5.3									
KAPI	**Kappang**	37.60	273	P			P	21 42 10.3	-0.2	
	comp=Z,16nm,0.9s,mb5.9,SNR=5.5									
MBWA	**Marble Bar**	38.40	247	eP			P	21 42 16.4	-0.7	
	comp=Z,42nm,1.0s,mb5.1									
CBIJ	**Chichi jima**	38.53	338	LR			LR	21 57 21.9		
	comp=Z,839nm,18.7s,MS4.6,baz=116,slow=35									
KLBR	**Kellerberrin**	43.34	233	eP			P	21 42 56.6	-1.1	
	comp=Z,45nm,1.0s,mb5.2									
KKM	**Kota Kinabalu**	43.65	288	eP			P	21 43 00.6	+0.2	
NWAO	**Narrogin (SRO)**	44.27	231	eP			P	21 43 04.3	-0.9	
	comp=Z,45nm,1.1s,mb5.1									
NWAO	**Narrogin (SRO)**	44.27	231	eP			P	21 43 04.3	-0.9	
NWAO					pmax	pmax				
	comp=Z,45nm,1.1s									
NWAO	**Narrogin (SRO)**	44.27	231	P			P	21 43 04.5	-0.6	
	comp=Z,51nm,1.0s,mb5.2,baz=64,slow=7.8,SNR=11									
NWAO				LR			LR	22 01 20.3		
	comp=Z,1μm,21.3s,MS4.8,baz=4.9,slow=36									
MUN	**Mundaring**	44.70	233	eP			P	21 43 08.5	-0.1	
JOW	**Kunigami**	45.26	322	LR			LR	21 58 40.9		
	comp=Z,908nm,18.8s,MS4.7,baz=127,slow=32									
KSM	**Kuching**	48.06	280	⇑iP			P	21 43 35.5	+0.2	
KSM				e				21 43 49.7		
MJAR	**Matsushiro Arr**	48.49	339	P			P	21 43 37.0	-1.2	
	comp=Z,1.9nm,0.9s,mb4.1,baz=146,slow=17,SNR=4.3									
MAJO	**Matsushiro**	48.49	339	eP			P	21 43 37.5	-0.8	
	comp=Z,4.9nm,0.6s,mb4.7									
MAJO	**Matsushiro**	48.49	339	eP			P	21 43 37.5	-0.7	
MAJO					pmax	pmax				
	comp=Z,5.0nm,0.6s,mb4.7									
MAT	**Matsushiro**	48.49	339	P			P	21 43 36.4	-1.8	
JNU	**Nakatsue**	48.67	330	P			P	21 43 39.8	+0.1	
JNU				LR			LR	22 00 09.3		
JNU	**Nakatsue**	48.67	330	P			P	21 43 39.8	+0.1	
	comp=Z,38nm,0.9s,mb5.4,baz=91,slow=5.4,SNR=11									
JNU				LR			LR	22 00 09.3		
	comp=Z,1μm,18.9s,MS4.8,baz=238,slow=31									
PPT	**Papeete**	52.19	105	eLQ				21 57 06.9		
	comp=Z,1μm,27.5s									
PPT				eLR			LR	21 59 10.7		
	comp=Z,827nm,23.2s									
TBI	**Tubuai**	52.77	113	eLQ				21 57 15.8		
	comp=Z,2μm,30.0s									
TBI				eLR			LR	21 59 24.1		
	comp=Z,770nm,28.5s									
KSRS	**Korea Array**	53.58	331	P			P	21 44 16.7	+0.2	
	comp=Z,14nm,1.0s,mb4.8,baz=152,slow=8.9,SNR=18									
KSRS				LR			LR	22 06 48.2		
	comp=Z,687nm,18.5s,MS4.7,baz=128,slow=36									
PMOR	**Pomariorio Ree**	53.74	102	eP			P	21 44 18.7	+0.6	
	comp=Z,38nm,1.1s,mb5.2									
VAH	**Vaihoa**	54.00	102	eP			P	21 44 20.4	+0.4	
	comp=Z,27nm,0.8s,mb5.2									
INCN	**Inchon**	54.24	330	eP			P	21 44 22.3	+1.0	
	comp=Z,66nm,0.9s,mb5.6									
ASAJ	**Asahikawa**	54.26	347	LR			LR	22 06 15.3		
	comp=Z,1μm,18.6s,MS5.0,baz=189,slow=35									
NJ2	**Nanjing**	54.77	320	eP			P	21 44 27.0	+1.7	
NJ2				AMB			AMB			
	comp=Z,70nm,1.0s,mb5.7									
WHN	**Wuhan**	56.85	315	⇓P			P	21 44 41.6	+1.4	
WHN				AMB			AMB			
	comp=Z,147nm,1.5s,mb5.8									
YSS	**Yuzh-Sakhalins**	56.92	348	P			P	21 44 39.9	-0.5	
YSS	**Yuzh-Sakhalins**	56.92	348	⇓eP			P	21 44 40.8	+0.4	
YSS					pmax	pmax				
	comp=Z,13nm,0.9s,mb5.0									
KULM	**Kulim**	58.32	282	eP			P	21 44 48.2	-2.7	
MDJ	**Mudanjiang**	58.73	337	P			P	21 44 53.2	+0.1	
MDJ				AMB			AMB			
	comp=Z,18nm,1.0s,mb5.1									
MDJ				AMB			AMB			
	comp=Z,1μm,14.7s									
MDJ	**Mudanjiang**	58.73	337	eP			P	21 44 51.9	-1.2	
	comp=Z,18nm,1.0s,mb5.1									
PSI	**Prapat**	59.46	278	P			P	21 44 56.4	-2.5	
	comp=Z,5.7nm,0.9s,mb4.6,baz=147,slow=3.1,SNR=8.9									
CN2	**Changchun**	59.77	334	eP			P	21 45 00.6	+0.2	
CN2				eXP			sP	21 45 07.5	+1.5	
CN2				PCP			PcP	21 45 46.7	-0.3	
CN2				eS			S	21 53 10.7	-0.5	
CN2				AMB			AMB			
	comp=Z,20nm,1.2s,mb5.0									
CN2				AMB			AMB			
	comp=Z,200nm,5.0s									
CN2				LR			LR			
	comp=N,500nm,17.0s,MS4.9									
CN2				LR			LR			
	comp=E,600nm,17.0s,MS4.9									
CN2				LR			LR			
	comp=Z,600nm,19.0s,MS4.8									
HABR	**Khabarovsk**	60.25	343	eP			P	21 45 02.2	-1.4	
GYA	**Guiyang**	60.42	307	⇑iP			P	21 45 06.4	+1.2	
GYA				AP			pP	21 45 10.6	+1.3	
GYA				XP			sP	21 45 13.7	+2.8	
GYA				PCP			PcP	21 45 53.0	+2.9	
GYA				PP			PP	21 47 23.8	+5.2	
GYA				SCP			ScP	21 49 52.7	+1.4	
GYA				S			S	21 53 18.6	-1.6	
GYA				AMB			AMB			
	comp=Z,30nm,1.0s,mb5.3									
GYA				AMB			AMB			
	comp=Z,130nm,6.4s									
GYA				LR			LR			
	comp=N,8μm,20.8s,MS6.0									
GYA				LR			LR			
	comp=E,6μm,19.6s,MS6.0									
GYA				LR			LR			
	comp=Z,9μm,20.2s,MS5.9									
BJT	**Baijiatuau**	61.68	325	P			P	21 45 13.0	-0.5	
	comp=Z,3.1nm,0.4s,mb4.8									
BJT	**Baijiatuau**	61.68	325	P			P	21 45 13.0	-0.5	
BJT					pmax	pmax				
	comp=Z,3.0nm,0.4s									
BJI	**Beijing**	61.69	325	P			P	21 45 13.5	-0.1	
BJI				AP			pP	21 45 16.7	-1.0	
BJI				S			S	21 53 36.1	+0.1	
BJI				AMB			AMB			
	comp=Z,9.0nm,1.5s,mb4.7									
BJI				AMB			AMB			
	comp=Z,320nm,3.3s									
BJI				LR			LR			
	comp=N,754nm,14.7s,MS5.1									
BJI				LR			LR			
	comp=E,896nm,19.6s,MS5.1									
BJI				LR			LR			
	comp=Z,838nm,16.3s,MS5.0									
BJI	**Beijing**	61.69	325	P			P	21 45 13.5	-0.1	
	comp=Z,9.0nm,1.5s,mb4.7									
BJI				pP			pP	21 45 16.7	-1.0	
BJI				sP			sP	21 45 18.0	-1.3	
BJI				S			S	21 53 36.1	+0.1	
BJI				LR			LR			
	comp=Z,840nm,16.3s,MS5.0									
NST	**Nakhon Sawan**	61.72	293	P			P	21 45 14.9	+0.7	
	comp=Z,38nm,0.8s,mb5.6									
KLR	**Kul'dur**	61.93	341	eP			P	21 45 10.3	-4.6	
KLR				pmax	pmax					
	comp=Z,38nm,1.4s,mb5.3									
XAN	**Xi'an**	62.62	316	P			P	21 45 19.8	-0.1	
XAN				AP			pP	21 45 24.5	+0.5	
XAN				AMB			AMB			
	comp=Z,29nm,1.4s,mb5.2									
KMI	**Kunming**	62.98	304	P			P	21 45 24.3	+1.8	
KMI				AP			pP	21 45 28.7	+2.0	
KMI				XP			sP	21 45 30.1	+1.9	
KMI				PP			PP	21 47 44.9	+3.7	
KMI				S			S	21 53 54.6	+1.8	
KMI				AMB			AMB			
	comp=Z,38nm,1.1s,mb5.4									
KMI				AMB			AMB			
	comp=Z,463nm,14.5s									
KMI				LR			LR			
	comp=Z,405nm,16.8s,MS4.7									
KMI	**Kunming**	62.98	304	P			P	21 45 24.3	+1.8	
	comp=Z,38nm,1.1s,mb5.4									
KMI				pP			pP	21 45 28.7	+2.0	
KMI				sP			sP	21 45 30.1	+1.9	
KMI				PP			PP	21 47 44.9	+3.7	
KMI				S			S	21 53 54.6	+1.8	
KMI				LR			LR			
	comp=Z,410nm,16.8s,MS4.7									
KMI	**Kunming**	62.98	304	P			P	21 45 24.3	+1.8	
KMI				*SP			sP	21 45 30.1	+1.9	
KMI								21 47 44.9		
KMI				S			S	21 53 54.6	+1.8	
KMI				pmax	pmax					
	comp=Z,38nm,1.1s,mb5.4									
KMI				MLR			MLR			
	comp=Z,410nm,16.8s,MS4.7									
CHRT	**Chiangrai**	63.46	297	⇑P			P	21 45 27.0	+1.2	
	comp=Z,197nm,1.0s,mb6.2									
CHTO	**Chiang Mai**	63.83	296	eP			P	21 45 28.5	+0.2	
CD2	**Chengdu**	64.77	310	eP			P	21 45 35.8	+1.6	
CD2				AP			pP	21 45 40.5	+2.2	
CD2				XP			sP	21 45 43.0	+3.1	
CD2				PP			PP	21 48 00.3	+3.5	
CD2				PCS				21 50 11.7		
CD2				S			S	21 54 14.6	-0.2	
CD2				XS			sS	21 54 22.3	+0.7	
CD2				SCS			ScS	21 55 26.2	-2.8	
CD2				SS			SS	21 58 27.6	+1.3	
CD2				AMB			AMB			
	comp=Z,120nm,0.8s,mb6.0									
CD2				AMB			AMB			
	comp=Z,360nm,9.2s									
CD2				LR			LR			
	comp=N,2μm,14.4s,MS5.4									
CD2				LR			LR			
	comp=E,960nm,14.4s,MS5.4									
CD2				LR			LR			
	comp=Z,2μm,13.2s,MS5.4									
HHC	**Hu-ho-hao-te**	64.90	323	eP			P	21 45 35.8	+1.0	
HHC				AP			pP	21 45 40.4	+1.4	
HHC				XP			sP	21 45 43.5	+3.0	
HHC				PP			PP	21 47 59.5	+1.7	
HHC				SCP				21 50 10.5		
HHC				PCS				21 50 12.5		
HHC				S			S	21 54 20.0	+3.9	
HHC				XS			sS	21 54 24.7	+1.8	
HHC				SCS			ScS	21 55 30.2	+0.7	
HHC				SS			SS	21 58 29.8	+1.7	
HHC				AMB			AMB			
	comp=

SEY	**Seymchan**	71.52	358	*i* P	P	21 46 16.0 +0.2
GTA	**Gaotai**	71.64	316	⇑P	P	21 46 18.5 +1.4
GTA				AP	pP	21 46 22.1 +0.8
GTA				XP	sP	21 46 23.5 +0.6
GTA				PP	PP	21 49 00.1 +3.7
GTA				S	S	21 55 37.5 +1.0
GTA				XS	sS	21 55 46.3 +2.8
GTA				SKS		21 56 17.8
GTA				AMB	AMB	
	comp=Z,25nm,1.5s,mb4.9					
GTA				AMB	AMB	
	comp=Z,930nm,5.7s					
GTA				LR	LR	
	comp=N,439nm,16.3s,MS5.1					
GTA				LR	LR	
	comp=E,802nm,16.7s,MS5.1					
GTA				LR	LR	
	comp=Z,533nm,16.0s,MS4.9					
ULN	**Ulaanbaatar**	71.74	327⇑	*i* P	P	21 46 18.4 +0.9
	comp=Z,26nm,1.3s,mb5.0					
ULN	**Ulaanbaatar**	71.74	327⇑	*i* P	P	21 46 18.4 +0.9
ULN				pmax	pmax	
	comp=Z,26nm,1.3s,mb5.0					
SONM	**Songino Array**	72.08	327	P	P	21 46 20.7 +1.1
	comp=Z,8.3nm,1.0s,mb4.6,baz=131,slow=5.1,SNR=37					
SHL	**Shillong**	72.25	300	*i* P	P	21 46 21.0 -0.1
	comp=Z,4.0nm,1.3s,mb4.2					
YAK	**Yakutsk**	73.74	347	*e*P	P	21 46 29.0 -0.1
	comp=Z,15nm,0.8s,mb5.0					
YAK	**Yakutsk**	73.74	347⇑	*e*P	P	21 46 29.0 -0.1
YAK				pmax	pmax	
	comp=Z,31nm,0.9s,mb5.2					
LSA	**Lhasa**	74.24	304	P	P	21 46 34.8 +2.0
LSA				AMB	AMB	
	comp=Z,30nm,1.0s,mb5.2					
LSA	**Lhasa**	74.24	304⇑	*i* P	P	21 46 34.4 +1.7
	comp=Z,27nm,1.1s,mb5.1					
LSA	**Lhasa**	74.24	304⇑	*i* P	P	21 46 34.4 +1.6
LSA				pmax	pmax	
	comp=Z,27nm,1.1s,mb5.1					
BOD	**Bodaibo**	75.09	338	*e*P	P	21 46 36.3 -0.7
BOD				pmax	pmax	
	comp=Z,10.0nm,1.3s,mb4.6					
ZAK	**Zakamensk**	75.22	328⇓	*i* P	P	21 46 37.5 -0.4
ZAK				pmax	pmax	
	comp=Z,8.0nm,1.2s,mb4.5					
TLY	**Talaya**	75.76	329	*e*P	P	21 46 41.9 +0.8
TLY	**Talaya**	75.76	329	*i* P	P	21 46 40.9 -0.1
TLY				pmax	pmax	
	comp=Z,17nm,1.9s,mb4.7					
IRK	**Irkutsk**	75.77	329⇑	*i* P	P	21 46 40.1 -0.9
IRK				pmax	pmax	
	comp=Z,28nm,2.2s,mb4.8					
BILL	**Bilibino**	76.80	3	*e*P	P	21 46 46.3 -0.3
	comp=Z,20nm,0.9s,mb5.0					
BILL	**Bilibino**	76.80	3⇑	*e*P	P	21 46 46.2 -0.4
BILL				pmax	pmax	
	comp=Z,17nm,1.4s,mb4.8					
MOY	**Mondy**	77.13	328	*e*P	P	21 46 49.2 +0.4
JIRN	**Jiri**	77.74	301	*e*P	P	21 46 53.7 +0.9
	comp=Z,3.5nm,0.4s,mb4.6					
PALK	**Pallekele**	78.12	279	P	P	21 46 56.6 +1.4
	comp=Z,179nm,1.0s,mb6.0,SNR=5.6					
PALK	**Pallekele**	78.12	279	*e*P	P	21 46 56.1 +0.9
	comp=Z,37nm,1.1s,mb5.2					
TNA	**Tin City**	78.34	14	*e*P	P	21 46 55.6 +0.3
KKN	**Kakani**	78.55	301	*e*P	P	21 46 57.7 +0.4
	comp=Z,34nm,1.0s,mb5.2					
SVW2	**Sparrevohn**	78.66	21	*e*P	P	21 46 57.9 +0.8
GKN	**Gorkha**	79.16	301	*e*P	P	21 47 00.9 +0.3
	comp=Z,62nm,0.9s,mb5.5					
TTA	**Tatalina**	79.76	20	*e*P	P	21 47 03.6 +0.5
KOLN	**Koldanda**	79.98	300	*e*P	P	21 47 05.3 +0.2
	comp=Z,64nm,1.0s,mb5.5					
SLKM	**Skilak Lake**	80.29	23	*e*P	P	21 47 03.6 -2.4
PMR	**Palmer**	81.37	23	*e*P	P	21 47 11.7 0.0
	comp=Z,20nm,1.0s,mb5.0					
PMR	**Palmer**	81.37	23	*e*P	P	21 47 11.7 -0.1
PMR				pmax	pmax	
	comp=Z,20nm,1.0s,mb5.0					
WMQ	**Urumqi**	81.72	317⇑	*i* P	P	21 47 14.6 +0.6
WMQ				AMB	AMB	
	comp=Z,16nm,1.4s,mb4.8					
WMQ				AMB	AMB	
	comp=Z,415nm,5.7s					
SML	**Sawmill**	81.81	23⇑	*i* P	P	21 47 13.6 -0.5
HYB	**Hyderabad**	82.13	289	*e*P	P	21 47 17.0 +0.3
HYB	**Hyderabad**	82.13	289	*i* P	P	21 47 17.0 +0.3
TIXI	**Tiksi**	82.38	351	*e*P	P	21 47 16.9 0.0
TIXI	**Tiksi**	82.38	351	*e*P	P	21 47 15.9 -1.0
TIXI				pmax	pmax	
	comp=Z,17nm,1.7s,mb4.7					
IMA2	**Indian Mountai**	82.63	18	*e*P	P	21 47 18.1 -0.2
MCK	**McKinley**	82.73	21⇑	*i* P	P	21 47 17.6 -1.3
	comp=Z,61nm,1.0s,mb5.6					
MCK	**McKinley**	82.73	21⇑	*i* P	P	21 47 17.6 -1.2
MCK				pmax	pmax	
	comp=Z,61nm,1.0s,mb5.6					
MAW	**Mawson**	83.78	203	*e*P	P	21 47 24.4 +0.1
	comp=Z,10nm,1.0s,mb4.9					
MAW	**Mawson**	83.78	203	*e*P	P	21 47 24.4 +0.1
MAW				pmax	pmax	
	comp=Z,11nm,1.0s					
MAW	**Mawson**	83.78	203	P	P	21 47 24.2 -0.1
	comp=Z,20nm,1.1s,mb5.2,baz=100,slow=7.3,SNR=8.9					
COLA	**College**	83.78	21⇑	*e*P	P	21 47 22.4 -1.9
	comp=Z,26nm,1.0s,mb5.3					
COLA	**College**	83.78	21	*c i*P	P	21 47 23.1 -1.2
JOSI	**Joshimath**	84.10	302	*e*P	P	21 47 27.2 +0.5
MENT	**Mentasta**	84.22	23	*e*P	P	21 47 27.0 +0.4
AGRA	**Agra**	84.73	298	*e*P	P	21 47 29.4 -0.6
AGRA				AMb	AMB	21 47 30.2
	comp=Z,61nm,0.5s,mb6.0					
KLP	**Kalpa**	85.42	303	*e*P	P	21 47 33.3 0.0
KLP				AMb	AMB	21 47 35.0
	comp=Z,41nm,1.2s,mb5.4					
SONA	**Sohna**	85.69	299	*e*P	P	21 47 34.1 -0.6
SONA				AMb	AMB	21 47 35.0
	comp=Z,23nm,1.6s,mb5.2					
EGAK	**Eagle**	86.14	22	*e*P	P	21 47 36.8 +0.7
MK31	**Makanchi Array**	86.28	318⇑	*i* P	P	21 47 36.8 -0.4
MKAR	**Makanchi Array**	86.28	318⇑	*e*P	P	21 47 37.0 -0.2
MKAR	**Makanchi Array**	86.28	318	P	P	21 47 37.1 -0.1
	comp=Z,5.5nm,0.8s,mb4.8,baz=100,slow=6.3,SNR=39					
KHET	**Khetri**	86.76	299	*e*P	P	21 47 39.5 -0.5
KHET				AMb	AMB	21 47 41.0
	comp=Z,19nm,0.8s,mb5.4					
ZALV	**Zalesovo Beam**	86.94	326	P	P	21 47 38.7 -1.6
ZALV	**Zalesovo Beam**	86.94	326	P	P	21 47 38.7 -1.6
	comp=Z,0.7nm,0.4s,mb4.3,baz=117,slow=5.3,SNR=6.8					
ZAL	**Zalesovo**	86.95	326	P	P	21 47 38.7 -1.6
THN	**Thein Dam**	87.71	303	*e*P	P	21 47 43.1 -1.4
NVS	**Novosibirsk**	88.11	326	*e*P	P	21 47 43.7 -2.2
NVS				pmax	pmax	
	comp=Z,26nm,2.4s,mb5.0					
NVS				pmax	pmax	
	comp=N,13nm,2.2s					
NVS				pmax	pmax	
	comp=E,25nm,2.7s					
KSH	**Kashi**	88.96	310	P	P	21 47 52.6 +2.3
KSH				AP	pP	21 47 55.7 +1.1
KSH				XP	sP	21 47 58.1 +2.0
KSH				*e*PP	PP	21 51 22.5 +2.4
KSH				SKS		21 58 17.5
KSH				S	S	21 58 35.5 -2.9
KSH				XS	sS	21 58 43.7 -1.8
KSH				SS	SS	22 04 30.6 -0.9
KSH				AMB	AMB	
	comp=Z,53nm,0.5s,mb6.1					
KSH				AMB	AMB	
	comp=Z,819nm,9.5s					
KSH				LR	LR	
	comp=N,4μm,14.8s,MS6.1					
KSH				LR	LR	
	comp=E,3μm,14.8s,MS6.1					
KSH				LR	LR	
	comp=Z,2μm,16.7s,MS5.6					
KURK	**Kurchatov**	89.67	321	*e*P	P	21 47 52.7 -0.6
	comp=Z,38nm,2.4s,mb5.3					
TKM2	**Tokmak 2**	89.95	313	*e*P	P	21 47 54.7 -0.1
	comp=Z,4.9nm,1.0s,mb4.8					
TKM2	**Tokmak 2**	89.95	313	*e*P	P	21 47 54.7 -0.1
TKM2				pmax	pmax	
	comp=Z,5.0nm,1.0s,mb4.8					
MWC	**Mount Wilson**	90.30	56	*e*P	P	21 47 58.1 +1.4
INK	**Inuvik**	90.44	20	*e*P	P	21 47 55.8 -0.7
	comp=Z,426nm,1.4s					
MTUM	**Tungsten Hills**	90.46	52	*e*P	P	21 47 58.8 +1.4
UCH	**Uchtor**	90.59	313	*e*P	P	21 47 58.5 +0.6
	comp=Z,48nm,2.0s,mb5.5					
NVAR	**Mina Array Bea**	90.86	51	P	P	21 48 00.5 +1.3
NVAR	**Mina Array Bea**	90.86	51	P	P	21 48 00.5 +1.3
	comp=Z,7.6nm,1.0s,mb5.0,baz=234,slow=4.6,SNR=29					
AML	**Almayashu**	91.17	312	*e*P	P	21 48 00.8 +0.2
	comp=Z,13nm,1.4s,mb5.1					
EKS2	**Erkin-Say**	91.21	313	*e*P	P	21 47 59.5 -1.2
	comp=Z,3.1nm,1.0s,mb4.6					
GSC	**Goldstone**	91.50	55	*e*P	P	21 48 02.5 +0.3
	comp=Z,1.8nm,0.6s,mb4.6					
GSC	**Goldstone**	91.50	55	*e*P	P	21 48 02.5 +0.3
GSC				pmax	pmax	
	comp=Z,2.0nm,0.6s,mb4.6					
SYO	**Syowa Base**	91.52	199⇑	*e*PcP	PcP	21 48 03.8 +1.2
TPNV	**Topopah Spring**	92.21	53	*e*P	P	21 48 06.7 +1.2
	comp=Z,12nm,1.0s,mb5.2					
TPNV	**Topopah Spring**	92.21	53	*e*P	P	21 48 06.7 +1.2
TPNV				pmax	pmax	
	comp=Z,13nm,1.0s,mb5.2					
BMO	**Blue Mountains**	92.70	45	*e*P	P	21 48 07.8 +0.2
KBL	**Kabul**	93.56	304	P	P	21 48 09.6 -2.2
	comp=Z,1.8nm,0.4s,mb4.8					
MCMT	**McKenzie Canyo**	95.83	46	P	P	21 48 22.7 +0.7
YKA	**Yellowknife Ar**	96.68	28	P	P	21 48 24.1 -1.2
	comp=Z,1.6nm,0.9s,mb4.5,baz=266,slow=4.5,SNR=19					
YKA				PKKPbc	PKKPbc	22 05 07.0 -4.0
	comp=Z,0.4nm,0.9s,baz=95,slow=2.7,SNR=6.3					
YKW3	**Yellowknife Ar**	96.69	28	*e*P	P	21 48 25.1 -0.2
LOHW	**Long Hollow**	97.32	47	*e*P	P	21 48 37.8 +9.1
PDAR	**Pinedale Array**	98.01	48	P	P	21 48 30.6 -1.3
	comp=Z,1.2nm,0.9s,mb4.4,baz=245,slow=2.5,SNR=8.1					
MALT	**Malatya**	118.04	309	*e*PKPdf	PKPdf	21 53 41.4 -1.2
KMBO	**Kilima Mbogo**	119.63	264	*e*PKPdf	PKPdf	21 53 47.6 +1.2
KMBO	**Kilima Mbogo**	119.63	264	PKP	PKPdf	21 53 47.1 +0.7
	comp=Z,0.5nm,0.2s,baz=65,slow=23,SNR=4.0					
AKASG	**Malin Array Be**	120.33	325	PKP	PKPdf	21 53 43.6 -3.0
	comp=Z,0.8nm,0.6s,baz=60,slow=2.2,SNR=7.2					
BOSA	**Boshof**	120.83	229	*e*PKPdf	PKPdf	21 53 48.8 +0.4
BOSA	**Boshof**	120.83	229	PKP	PKPdf	21 53 48.4 0.0
	comp=Z,1.5nm,0.7s,baz=45,slow=1.4,SNR=4.2					
BCIP	**Isla Barro Col**	123.45	85	*e*P	Pdif	21 50 30.8 +6.1
OKC	**Ostrava-Krasne**	126.86	328	*e*PKPdf	PKPdf	21 53 58.9 -0.3
DPC	**Dobruska-Polom**	127.48	330	*e*PKPdf	PKPdf	21 53 57.9 -2.5
LPAZ	**La Paz**	128.51	119	PKP	PKPdf	21 54 03.9 +0.5
	comp=Z,2.0nm,1.0s,baz=326,slow=3.7,SNR=5.4					
KHC	**Kasperske Hory**	129.63	330⇑	*i*PKIKP	PKPdf	21 54 06.0 +1.5
KHC	**Kasperske Hory**	129.63	330	*e*PKPdf	PKPdf	21 54 05.8 +1.3
GERES	**GERESS Array B**	129.75	329	PKP	PKPdf	21 54 03.4 -1.4
	comp=Z,0.6nm,0.8s,baz=222,slow=1.8,SNR=6.2					
ESDC	**Sonseca Array**	144.96	335	PKP	PKPdf	21 54 31.2 -1.8
	comp=Z,3.0nm,0.9s,baz=35,slow=2.6,SNR=12					
BDFB	**Brasilia**	145.06	134	PKP	PKPdf	21 54 32.1 -1.7
	comp=Z,13nm,1.0s,baz=208,slow=2.9,SNR=16					
MTE	**Manteigas**	145.71	339	*e*PKPdf	PKPdf	21 54 34.0 -0.2
MDT	**Midelt**	150.82	328	PKPbc	PKPbc	21 54 48.7 +0.2
	comp=Z,6.8nm,1.0s,baz=29,slow=3.9,SNR=10					
TOA0	**Torodi Ar. Sit**	155.80	283	*e*PKPdf	PKPdf	21 54 48.5 -2.0
TOA0				*e*PKPbc	PKPdf	21 54 59.5 +9.0
TOA0				*e*PKPab	PKPab	21 55 16.0 -1.1
TORD	**Torodi Ar. Bea**	155.80	283	PKP	PKPdf	21 54 48.0 -2.5
	comp=Z,1.7nm,1.1s,baz=186,slow=7.4,SNR=5.3					
TORD				PKPab	PKPab	21 55 16.0 -1.2
	comp=Z,4.2nm,1.0s,baz=86,slow=3.6,SNR=8.1					
DBIC	**Dimbokro**	162.36	265	PKPab	PKPab	21 55 42.9 -2.8
	comp=Z,7.6nm,1.1s,baz=114,slow=2.6,SNR=4.3					

IDC 03 21:37:02.0±1.3, 1240N×12245E, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.6/18, mbtmp3.7/4, Error ellipse: s-maj=153.0km s-min=20.6km az=68.0, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	34.21	160	P	P	21 43 49.1	-0.3
	1.9nm,0.5s,baz=340,slow=9.4,SNR=14						
ASAR	**Alice Springs**	37.56	163	P	P	21 44 18.5	+0.4
	1.2nm,0.9s,baz=346,slow=12,SNR=4.1						
SONM	**Songino Array**	37.79	342	P	P	21 44 20.3	+0.4
	0.2nm,0.5s,baz=153,slow=4.4,SNR=3.6						
MKAR	**Makanchi Array**	48.08	323	P	P	21 45 42.9	-0.4
	0.4nm,0.4s,baz=109,slow=8.3,SNR=5.6						

*BJI **03** 21:44:50.5, 750S×15580E, h10km, mB4.9, mb4.6, Ms5.0, Msz4.8*
*IDC **03** 21:44:51.0±0.8, 734S×15580E, h0km, mb4.2/12, mb1 4.3/12, mb1mx4.2/16, mbtmp4.2/12, Error ellipse: s-maj=29.3km s-min=17.5km az=112.0*
*NEIC **03** 21:44:52.5±0.7, 749S×15576E, h10km, mb4.7/14, Error ellipse: s-maj=24.7km s-min=12.4km az=110.0*
*ISCJB **03** 21:45:02.5±2.3, 74S±0.1×1556E±0.1, h97km±25km, mb4.3/25, Error ellipse: s-maj=23.8km s-min=11.9km az=41.8*

ISC 03 21:45:05.1±2.0, 75S±01×1557E±01, h109km±23km, n47, σ1§01/45, mb4.3/25, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	4.67	115	*e*Pn	Pn	21 46 13.7	+0.2
HNR				*e*Sn	Sn	21 47 16.1	+10
HNR	**Honiara**	4.67	115	Pn	Pn	21 46 14.2	+0.7
	28nm,0.3s,baz=258,slow=5.6,SNR=6.0						
HNR				Sn	Sn	21 47 16.0	+9.4
	25nm,0.3s,baz=269,slow=22,SNR=6.2						
CTA	**Charters Tower**	15.53	215	Pn	Pn	21 48 38.2	+0.2
CTA	**Charters Tower**	15.53	215	Pn	Pn	21 48 38.2	+0.2
	0.1nm,0.3s,baz=21,slow=18,SNR=2.5						
CTAO	**Charters Tower**	15.53	215	P	Pn	21 48 38.0	0.0
	18nm,1.2s						
KAKA	**Kakadu**	23.45	255	*e*P	P	21 50 04.9	+0.1
	5.3nm,0.6s,mb4.0						
KAKA	**Kakadu**	23.45	255	*e*P	P	21 49 58.9	-5.9
	23nm,0.9s,mb4.5						
WB2	**Warramunga Arr**	24.11	237	*e*P	P	21 50 10.1	-0.7
WRA	**Warramunga Arr**	24.11	237	P	P	21 50 10.3	-0.5
	1.9nm,0.5s,mb3.7,baz=58,slow=9.1,SNR=25						
WRA				PcP	PcP	21 53 51.2	+1.7
	0.5nm,0.5s,baz=59,slow=2.5,SNR=5.9						
ASAR	**Alice Springs**	26.38	230	P	P	21 50 29.6	-1.7
	0.5nm,0.5s,mb3.2,baz=60,slow=9.5,SNR=8.5						
STKA	**Stephens Creek**	27.62	206	P	P	21 50 42.3	0.0
	2.0nm,0.7s,mb3.8,baz=88,slow=3.8,SNR=4.3						
FITZ	**Fitzroy Crossi**	31.08	247	*e*P	P	21 51 14.6	+1.4
	3.9nm,0.6s,mb4.3						
FITZ	**Fitzroy Crossi**	31.08	247	P	P	21 51 12.7	-0.5
	1.8nm,0.6s,mb4.0,baz=118,slow=15,SNR=3.4						
MBWA	**Marble Bar**	37.28	245	P	P	21 52 02.4	-4.3
	9.3nm,1.2s,mb4.6						
NWAO	**Narrogin (SRO)**	43.70	229	*e*P	P	21 53 00.6	+1.2
	36nm,1.5s,mb4.9						
MJAR	**Matsushiro Arr**	46.72	341	P	P	21 53 20.8	-2.3
	1.5nm,0.9s,mb3.7,baz=141,slow=9.2,SNR=3.6						
MAJO	**Matsushiro**	46.72	341	P	P	21 53 24.0	+0.8
KSRS	**Korea Array**	51.65	332	P	P	21 53 59.1	-1.5
	1.0nm,0.5s,mb4.1,baz=88,slow=29,SNR=4.3						
ASAJ	**Asahikawa**	52.66	348	P	P	21 54 04.9	-3.2
	4.6nm,0.6s,mb4.7,baz=180,slow=9.1,SNR=4.9						
NJ2	**Nanjing**	52.68	320	*e*P	P	21 54 07.3	-1.1
NJ2				AMB	AMB		
	comp=Z,20nm,0.6s,mb5.3						
YSS	**Yuzh-Sakhalins**	55.36	349	P	P	21 54 27.7	0.0
	comp=Z,8.8nm,0.5s,mb5.0						
MDJ	**Mudanjiang**	56.90	338	P	P	21 54 39.1	+0.5
MDJ				AMB	AMB		
	comp=Z,7.0nm,1.1s,mb4.6						
MDJ				AMB	AMB		
	comp=Z,764nm,15.5s						
MDJ	**Mudanjiang**	56.90	338	P	P	21 54 38.8	+0.2
	comp=Z,12nm,1.1s,mb4.8						
GYA	**Guiyang**	58.25	307	P	P	21 54 49.4	+0.9
GYA				AP	pP	21 54 52.8	-22
GYA				XP	sP	21 54 59.6	-27
GYA				PCP	PcP	21 55 41.3	+2.7
GYA				PP	PP	21 56 59.2	+0.5
GYA				SCP	ScP	21 59 40.3	+11
GYA				S	S	22 02 46.8	+4.5
GYA				SCS	ScS	22 04 36.0	+7.9
GYA				SS	SS	22 06 38.5	+2.4
GYA				AMB	AMB		
	comp=Z,100nm,9.8s						
GYA				LR	LR		
	comp=N,440nm,18.2s						
GYA				LR	LR		
	comp=E,570nm,19.6s						
GYA				LR	LR		
	comp=Z,460nm,21.4s						
KMI	**Kunming**	60.82	304	P	P	21 55 07.5	+1.4
KMI				AMB	AMB		
	comp=Z,5.0nm,0.9s,mb4.5						
KMI	**Kunming**	60.82	304	P	P	21 55 07.5	+1.4
	comp=Z,5.0nm,0.9s,mb4.5						
HIA	**Hailar**	64.61	335	*e*P	P	21 55 30.5	-0.3
	comp=Z,5.7nm,0.8s,mb4.5						
ULN	**Ulaanbaatar**	69.74	327	*e*P	P	21 56 04.1	+0.9
	comp=Z,3.0nm,1.0s,mb4.1						
SONM	**Songino Array**	70.07	327	P	P	21 56 05.9	+0.6
	comp=Z,3.0nm,0.8s,mb4.2,baz=138,slow=6.2,SNR=22						
YAK	**Yakutsk**	72.14	347	P	P	21 56 18.6	+1.2
	comp=Z,21nm,0.7s,mb5.1						
BILL	**Bilibino**	75.68	4	P	P	21 56 37.7	-0.3
	comp=Z,7.8nm,0.9s,mb4.4						
MK31	**Makanchi Array**	84.18	319	*e*P	P	21 57 25.2	+1.0
MKAR	**Makanchi Array**	84.18	319	P	P	21 57 25.4	+1.2
MKAR	**Makanchi Array**	84.18	319	P	P	21 57 25.4	+1.2
	comp=Z,4.4nm,0.7s,mb4.4,baz=101,slow=5.7,SNR=46						
ZALV	**Zalesovo Beam**	84.92	326	P	P	21 57 27.9	+0.2
	comp=Z,1.8nm,0.6s,mb4.2,baz=121,slow=5.7,SNR=10						
KURK	**Kurchatov**	87.59	322	P	P	21 57 40.4	-0.5
TKM2	**Tokmak 2**	87.80	314	*e*P	P	21 57 41.6	-0.5
UCH	**Uchtor**	88.44	313	*e*P	P	21 57 46.3	+1.1
	comp=Z,2.1nm,1.0s,mb4.1						
NVAR	**Mina Array Bea**	91.48	52	P	P	21 57 58.0	-1.5
	comp=Z,0.1nm,0.4s,mb3.3,baz=251,slow=5.5,SNR=2.3						
BRVK	**Borovoye**	93.12	323	*e*P	P	21 58 05.8	-0.9
	comp=Z,3.2nm,1.0s,mb4.6						
YKA	**Yellowknife Ar**	96.42	28	P	P	21 58 22.1	+0.5
YKA	**Yellowknife Ar**	96.42	28	P	P	21 58 22.1	+0.5
	comp=Z,0.6nm,0.8s,mb4.1,baz=266,slow=4.7,SNR=11						
GERES	**GERESS Array B**	127.78	329	PKP	PKPdf	22 03 59.4	+1.5
	comp=Z,0.5nm,0.7s,baz=282,slow=4.8,SNR=4.0						
LPAZ	**La Paz**	130.66	119	PKP	PKPdf	22 04 04.4	+0.1
	comp=Z,1.4nm,0.8s,baz=337,slow=1.8,SNR=5.0						
BDFB	**Brasilia**	147.19	134	PKPbc	PKPbc	22 04 37.4	+0.8
	comp=Z,3.6nm,0.7s,baz=183,slow=5.9,SNR=5.8						
MDT	**Midelt**	148.82	327	PKPbc	PKPbc	22 04 41.2	+0.7
	comp=Z,1.6nm,0.9s,baz=124,slow=3.1,SNR=2.8						
TORD	**Torodi Ar. Bea**	153.78	285	PKPbc	PKPbc	22 04 51.2	-1.3
	comp=Z,1.3nm,0.8s,baz=178,slow=4.2,SNR=5.6						

JMA 03 21:46:57.9, 3529N×13334E, h11km, M3.5, 4C-2D, Western Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNM	**Ikuma**	0.33	309	⇓P	Pg	21 47 04.5	+0.1
JNM				S	Sg	21 47 09.4	+0.5
JHS	**Saijyo**	0.34	212	⇑P	Pg	21 47 04.8	+0.1
JHS				S	Sg	21 47 09.9	+0.5
JKR	**Kurayoshi**	0.40	77	⇑P	Pg	21 47 05.8	0.0
JKR				S	Sg	21 47 11.5	+0.3
JJG	**Jouge**	0.67	193	⇑P	Pg	21 47 10.6	-0.2
JJG				S	Sg	21 47 19.7	+0.2
JAD	**Aida**	0.76	117	⇓P	Pg	21 47 12.0	-0.6
JHT	**Toyohira**	0.98	231	⇑P	Pg	21 47 15.9	-0.9
JHT				S	Sg	21 47 29.1	-0.4

IDC 03 21:51:33.5±5.1, 792S×15592E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.6/14, mbtmp3.6/3, Error ellipse: s-maj=142.9km s-min=40.4km az=119.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	24.08	238	P	P	21 56 51.1	+0.3
	2.0nm,0.8s,baz=65,slow=9.6,SNR=7.3						
SONM	**Songino Array**	70.61	327	P	P	22 02 50.5	-0.1
	0.4nm,0.7s,baz=141,slow=7.1,SNR=4.0						
MKAR	**Makanchi Array**	84.70	319	P	P	22 04 09.7	+0.3
	0.5nm,0.9s,baz=98,slow=5.1,SNR=3.6						

*ISCJB **03** 21:55:47.4±5.7, 206S±0.1×1687E±0.1, h10km±34km, mb4.3/9, Error ellipse: s-maj=24.7km s-min=14.4km az=146.9*
*NEIC **03** 21:55:47.8±1.3, 2083S×16892E, h10km, mb4.9/3, Error ellipse: s-maj=39.6km s-min=20.6km az=142.0*
*IDC **03** 21:55:48.1±1.7, 2043S×16854E, h0km, mb4.1/5, mb1 4.3/6, mb1mx4.1/13, mbtmp4.1/6, ML3.3/1, Error ellipse: s-maj=72.2km s-min=24.0km az=143.0*

ISC 03 21:55:47.1±6.9, 207S±01×1688E±01, h0km±41km, n22, σ1§41/22, mb4.4/9, Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	2.56	238	*e*P	Pn	21 56 27.8	-2.0
DZM				*e*S	Sn	21 57 03.9	+2.3
DZM	**Mont Dzumac**	2.56	238	Pn	Pn	21 56 30.7	+0.9
	6.7nm,0.3s,baz=56,slow=21,SNR=25						
DZM				Sn	Sn	21 56 58.7	-2.9
	22nm,0.3s,baz=78,slow=22,SNR=7.4						
STKA	**Stephens Creek**	26.71	240	P	P	22 01 30.0

s-maj=123.7km s-min=33.9km az=108.0, South of Solomon Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.77**	**244**	P	P	22 04 27.7	+0.7
	1.8nm,1.0s,baz=71,slow=9.3,SNR=4.1						
STKA	**Stephens Creek**	**26.44**	**212**	P	P	22 04 41.9	-0.1
	1.0nm,0.8s,baz=38,slow=14,SNR=2.5						
ASAR	**Alice Springs**	**26.60**	**236**	P	P	22 04 42.9	-0.6
	0.4nm,0.7s,baz=72,slow=10,SNR=2.8						
SONM	**Songino Array**	**73.48**	**327**	P	P	22 10 36.9	-0.8
	0.3nm,0.7s,baz=142,slow=7.2,SNR=2.8						
MKAR	**Makanchi Array**	**87.62**	**318**	P	P	22 11 55.0	+1.5
	0.1nm,0.5s,baz=102,slow=6.1,SNR=2.0						

IDC 03 22:00:56.3±1.8, 699S×15471E, h0km, mb3.8/7, mb1 4.0/7, mb1mx3.8/14, mbtmp3.8/7, Error ellipse: s-maj=62.4km s-min=22.8km az=110.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.59**	**235**	P	P	22 06 08.5	-0.7
	1.1nm,0.6s,baz=61,slow=9.7,SNR=11						
ASAR	**Alice Springs**	**25.97**	**228**	P	P	22 06 30.3	-0.6
	0.7nm,0.8s,baz=61,slow=9.2,SNR=4.0						
STKA	**Stephens Creek**	**27.62**	**205**	P	P	22 06 46.7	+1.0
	4.8nm,0.8s,baz=6.8,slow=9.5,SNR=7.9						
SONM	**Songino Array**	**69.18**	**327**	P	P	22 12 05.7	+1.0
	0.6nm,0.8s,baz=134,slow=8.3,SNR=5.6						
MKAR	**Makanchi Array**	**83.21**	**319**	P	P	22 13 25.4	+0.8
	0.4nm,0.7s,baz=110,slow=6.6,SNR=5.4						
ZALV	**Zalesovo Beam**	**84.02**	**326**	P	P	22 13 27.7	-0.9
	0.5nm,0.4s,baz=234,slow=12,SNR=4.3						
YKA	**Yellowknife Ar**	**96.46**	**28**	P	P	22 14 26.4	-0.8
	0.4nm,0.8s,baz=268,slow=4.9,SNR=6.6						

ISC 03 22:09:22.7±3.7, 372N±03×721E±03, h132km±72km, n14, σ0§46/16, 1C, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**5.09**	**14**	P	**Pn**	**22 10 37.3**	**+0.3**
	SNR=47						
UCH	**Uchtor**	**5.37**	**20**	P	**Pn**	**22 10 40.8**	**+0.1**
	SNR=20						
KZA	**Kyzart**	**5.46**	**26**	P	**Pn**	**22 10 41.5**	**-0.4**
	SNR=6.1						
EKS2	**Erkin-Say**	**5.62**	**13**	P	**Pn**	**22 10 44.1**	**0.0**
	SNR=13						
AAK	**Ala-Archa**	**5.75**	**18**	P	**Pn**	**22 10 45.8**	**+0.1**
	SNR=22						
KBK	**Karagaybulak**	**5.89**	**21**	P	**Pn**	**22 10 48.8**	**+1.2**
	SNR=5.1						
ULHL	**Ulahol**	**5.99**	**31**	P	**Pn**	**22 10 48.5**	**-0.5**
	SNR=7.8						
KK31	**Karatay Array**	**6.02**	**349**	P	**Pn**	**22 10 49.4**	**0.0**
	0.5nm,0.2s,baz=159,slow=12,SNR=48						
KK31				S	**Sn**	22 11 51.5	-5.6
	6.0nm,0.3s,baz=160,slow=16,SNR=26						
TKM2	**Tokmak 2**	**6.33**	**24**	P	**Pn**	**22 10 53.0**	**-0.6**
	SNR=5.1						
KOLN	**Koldanda**	**13.52**	**131**	*e*P	**Pn**	**22 12 29.0**	**-0.2**
	2.8nm,0.3s						
GKN	**Gorkha**	**14.00**	**127**	*e*P	**Pn**	**22 12 34.9**	**-0.4**
	18nm,0.5s						
KKN	**Kakani**	**14.56**	**126**	*e*P	**Pn**	**22 12 42.5**	**+0.1**
	9.8nm,0.5s						
AB31	**Akbulak array**	**14.92**	**328**	P	**Pn**	**22 12 46.6**	**-0.1**
	0.8nm,0.4s,baz=125,slow=9.5,SNR=24						
AB31				⇑S	**Sn**	22 15 18.8	-13
	1.0nm,0.6s,baz=158,slow=22,SNR=6.2						
JIRN	**Jiri**	**15.24**	**125**	*e*P	**Pn**	**22 12 51.6**	**+0.7**

*IDC **03** 22:10:02.1±1.0, 44.07N×149.17E, h0km, mb4.0/10, mb1 4.2/10, mb1mx3.9/20, mbtmp4.0/10, Error ellipse: s-maj=27.1km s-min=24.7km az=138.0*
*ISCJB **03** 22:10:05.8±1.1, 43.79N±008×149.30E±009, h46km±10km, mb4.1/14, Error ellipse: s-maj=13.3km s-min=10.5km az=158.7*
*JMA **03** 22:10:06.8±0.6, 44.31N×149.20E, h30km, M4.2*
*MOS **03** 22:10:08.9±1.2, 44.38N×149.05E, h47km, mb4.5/11, Error ellipse: s-maj=16.2km s-min=11.3km az=133.7*
*NEIC **03** 22:10:09.7±2.3, 44.09N×149.15E, h52km±21km, mb4.5/1, Error ellipse: s-maj=22.0km s-min=16.4km az=156.0*

ISC 03 22:10:07.6±1.1, 4389N±008×14929E±009, h41km±9km, n73, σ1§01/81, mb4.1/14, 1C, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.69**	**323**	⇑*i*PN	**Pn**	**22 10 29.5**	**-5.1**
KUR				pmax	pmax		
	comp=N,330nm,0.5s						
KUR				pmax	pmax		
	comp=E,80nm,0.5s						
KUR				pmax	pmax		
	comp=Z,380nm,0.5s						
YUK	**Yuzh-Kuril'sk**	**2.48**	**275**	*e*PN	**Pn**	**22 10 45.7**	**+0.2**
YUK				*i* S	**Sn**	**22 11 15.0**	**+0.5**
YUK				smax			
	comp=N,2μm,1.0s						
YUK				smax			
	comp=E,2μm,1.0s						
YUK				smax			
	comp=N,650nm,0.5s						
YUK				smax			
	comp=E,650nm,0.5s						
NEM2	**Nemuro 2**	**2.63**	**260**	P	**Pn**	**22 10 46.7**	**-0.8**
NEM2				*e*S	**Sn**	**22 11 15.9**	**-2.3**
JRA	**Rausu**	**3.01**	**272**	P	**Pn**	**22 10 52.7**	**-0.1**
JNK	**Nakash**	**3.33**	**266**	P	**Pn**	**22 10 56.9**	**-0.2**
JAK	**Akkeshi**	**3.46**	**257**	P	**Pn**	**22 10 58.6**	**-0.4**
JAK				*e*S	**Sn**	**22 11 37.4**	**-1.3**
JTKR	**Abashiri--Toko**	**3.89**	**273**	P	**Pn**	**22 11 05.1**	**+0.3**
JAR	**Ashorobuto**	**4.05**	**264**	P	**Pn**	**22 11 07.2**	**+0.1**
JAR				*e*S	**Sn**	**22 11 53.3**	**0.0**
JOB	**Onbets**	**4.10**	**258**	P	**Pn**	**22 11 07.9**	**+0.2**
JMP	**Maruseppu**	**4.29**	**274**	P	**Pn**	**22 11 11.2**	**+0.9**
JCH	**Churui**	**4.51**	**256**	P	**Pn**	**22 11 13.6**	**+0.2**
JKK2	**Kamakawa 2**	**4.73**	**272**	P	**Pn**	**22 11 17.6**	**+1.2**
ASAJ	**Asahikawa**	**4.84**	**275**	PN	**Pn**	**22 11 19.5**	**+1.7**
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ASAJ	**Asahikawa**	**4.84**	**275**	Pn	**Pn**	**22 11 19.4**	**+1.6**
	comp=Z,2.2nm,0.3s,baz=78,slow=15,SNR=11						
JEM	**Erimo**	**4.87**	**250**	P	**Pn**	**22 11 19.7**	**+1.3**
ERM	**Erimo**	**4.88**	**250**	*e*Pn	**Pn**	**22 11 20.4**	**+2.1**
ERM				Sn	**Sn**	**22 12 14.8**	**+1.3**
JFR	**Furan**	**4.92**	**264**	P	**Pn**	**22 11 20.1**	**+1.1**
JNBK	**Urakawa-nobuka**	**5.05**	**254**	P	**Pn**	**22 11 20.8**	**0.0**
JBT2	**Biratori 2**	**5.17**	**260**	P	**Pn**	**22 11 22.6**	**+0.1**
YSS	**Yuzh-Sakhalins**	**5.53**	**306**	*e*PN	**Pn**	**22 11 26.5**	**-0.8**
JEW	**Eniwo**	**5.81**	**262**	P	**Pn**	**22 11 28.8**	**-2.4**
JNB	**Noboribetsu**	**6.20**	**260**	P	**Pn**	**22 11 37.1**	**+0.6**
JKB	**Kayabe**	**6.39**	**255**	P	**Pn**	**22 11 39.4**	**+0.3**
JKB				*e*S	**Sn**	**22 12 46.3**	**-4.4**
JANG	**Nango**	**6.76**	**241**	P	**Pn**	**22 11 43.2**	**-1.1**
JANG				*e*S	**Sn**	**22 12 54.2**	**-5.8**
JYM2	**Yakumo 2**	**6.78**	**258**	P	**Pn**	**22 11 44.6**	**+0.1**
JTH	**Tanohata**	**6.80**	**237**	P	**Pn**	**22 11 43.2**	**-1.6**
JTH				*e*S	**Sn**	**22 12 55.3**	**-5.6**
JTM	**Tenmabayashi**	**6.83**	**246**	P	**Pn**	**22 11 45.1**	**-0.2**
JTM				*e*S	**Sn**	**22 12 57.0**	**-4.7**
JSR	**Shiriuchi**	**6.95**	**253**	P	**Pn**	**22 11 47.2**	**+0.4**
JOSM	**Okushiri--Mats**	**7.42**	**259**	P	**Pn**	**22 11 53.7**	**+0.4**
OFUJ	**Ofunato**	**7.47**	**233**	P	**Pn**	**22 11 53.0**	**-1.0**
JRG	**Rokugo**	**7.88**	**238**	P	**Pn**	**22 12 00.0**	**+0.4**
JIO	**Ouri**	**8.08**	**231**	P	**Pn**	**22 12 00.9**	**-1.5**
JIO				*e*S	**Sn**	**22 13 25.2**	**-7.2**
SONM	**Songino Array**	**29.85**	**293**	P	**P**	**22 16 10.8**	**0.0**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.5s						
SONM	**Songino Array**	**29.85**	**293**	P	**P**	**22 16 10.8**	**0.0**
	comp=Z,0.8nm,0.5s,mb3.7,baz=84,slow=7.8,SNR=11						
IMA2	**Indian Mountai**	**37.70**	**34**	*e*P	**P**	**22 17 19.3**	**+0.6**
ZALV	**Zalesovo Beam**	**42.15**	**307**	P	**P**	**22 17 52.9**	**-2.8**
	comp=Z,0.3nm,0.4s,mb3.3,baz=53,slow=7.4,SNR=2.9						
ZALV				PcP	PcP	22 19 49.4	-0.1
	comp=Z,0.8nm,0.7s,baz=74,slow=5.1,SNR=5.1						
ZAL	**Zalesovo**	**42.17**	**307**	P	**P**	**22 17 52.9**	**-3.0**
ZAL						22 19 49.4	

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
INK	**Inuvik**	**45.50**	**31**	P	**P**	**22 18 22.0**	**-0.5**
INK	**Inuvik**	**45.50**	**31**	P	**P**	**22 18 22.0**	**-0.5**
INK				pmax	pmax		
	comp=Z,1.0nm,0.4s						
INK	**Inuvik**	**45.50**	**31**	P	**P**	**22 18 22.0**	**-0.5**
	comp=Z,0.8nm,0.4s,mb4.0,baz=213,slow=2.2,SNR=5.7						
MK31	**Makanchi Array**	**45.89**	**298**	*e*P	**P**	**22 18 25.8**	**0.0**
MKAR	**Makanchi Array**	**45.89**	**298**	*i* P	**P**	**22 18 25.7**	**-0.1**
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.8s						
MKAR	**Makanchi Array**	**45.89**	**298**	P	**P**	**22 18 25.8**	**0.0**
	comp=Z,2.8nm,0.8s,mb4.3,baz=76,slow=7.9,SNR=30						
ULHL	**Ulahol**	**51.74**	**295**	P	**P**	**22 19 11.4**	**+0.7**
	SNR=6.1						
USP	**Ospenovka**	**52.39**	**297**	P	**P**	**22 19 16.2**	**+0.6**
	SNR=6.3						
KBK	**Karagaybulak**	**52.39**	**296**	P	**P**	**22 19 16.6**	**+1.0**
	SNR=5.6						
KZA	**Kyzart**	**52.47**	**295**	P	**P**	**22 19 18.2**	**+2.0**
	SNR=6.2						
EKS2	**Erkin-Say**	**53.14**	**297**	P	**P**	**22 19 21.9**	**+0.8**
	SNR=5.7						
YKA	**Yellowknife Ar**	**54.82**	**34**	P	**P**	**22 19 32.8**	**-0.3**
YKA	**Yellowknife Ar**	**54.82**	**34**	P	**P**	**22 19 32.8**	**-0.3**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
YKA	**Yellowknife Ar**	**54.82**	**34**	P	**P**	**22 19 32.8**	**-0.3**
	comp=Z,0.5nm,0.6s,mb3.7,baz=297,slow=6.8,SNR=8.5						
KK31	**Karatay Array**	**55.02**	**299**	*i* P	**P**	**22 19 34.7**	**-0.1**
KK31				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.4						
JOF	**Joensuu**	**62.68**	**333**	*e*p	**P**	**22 20 25.5**	**-2.2**
	comp=Z,2.4nm,0.4s,mb4.7						
JOF	**Joensuu**	**62.68**	**333**	*e*P	**P**	**22 20 25.5**	**-2.2**
JOF				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.6						
WRA	**Warramunga Arr**	**64.98**	**196**	P	**P**	**22 20 44.4**	**+1.2**
	comp=Z,0.4nm,1.0s,mb3.4,baz=16,slow=6.8,SNR=3.1						
FINES	**FINESS Array B**	**65.45**	**334**	*i* P	**P**	**22 20 45.0**	**-0.8**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.6s						
FINES	**FINESS Array B**	**65.45**	**334**	P	**P**	**22 20 44.3**	**-1.5**
	comp=Z,2.3nm,0.6s,mb4.4,baz=44,slow=7.0,SNR=17						
NB2	**NORSAR Subarra**	**70.03**	**340**	P	**P**	**22 21 13.6**	**-1.1**
	comp=Z,1.6nm,0.5s,mb4.2,baz=30,slow=6.5						
NOA	**NORSAR Array B**	**70.03**	**340**	P	**P**	**22 21 13.8**	**-0.8**
NOA	**NORSAR Array B**	**70.03**	**340**	P	**P**	**22 21 13.8**	**-0.9**
NOA				pmax	pmax		
	comp=Z,4.0nm,0.7s						
NOA	**NORSAR Array B**	**70.03**	**340**	P	**P**	**22 21 13.8**	**-0.8**
	comp=Z,3.9nm,0.7s,mb4.5,baz=32,slow=6.0,SNR=13						
AKASG	**Malin Array Be**	**72.38**	**325**	P	**P**	**22 21 28.5**	**-0.5**
AKASG	**Malin Array Be**	**72.38**	**325**	P	**P**	**22 21 28.5**	**-0.6**
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.6s						
AKASG	**Malin Array Be**	**72.38**	**325**	P	**P**	**22 21 28.5**	**-0.5**
	comp=Z,1.6nm,0.6s,mb4.2,baz=37,slow=6.3,SNR=9.6						
CLL	**Collm**	**77.90**	**334**	*i* P	**P**	**22 22 00.6**	**-0.2**
CLL				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.5						
CLL	**Collm**	**77.90**	**334**	*i* P	**P**	**22 22 00.6**	**-0.2**
	comp=Z,4.0nm,0.8s,mb4.4						
BRG	**Berggiesshubel**	**77.97**	**333**	*i* P	**P**	**22 22 00.6**	**-0.6**
BRG				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.5						
PRU	**Pruhonice**	**78.52**	**332**	*e*P	**P**	**22 22 06.0**	**+1.7**
KHC	**Kasperske Hory**	**79.58**	**332**	*e*P	**P**	**22 22 10.8**	**+0.7**
KHC				*e*pP	pP	22 22 23.5	+1.1
GERES	**GERESS Array B**	**79.78**	**332**	P	**P**	**22 22 11.4**	**+0.2**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
GERES	**GERESS Array B**	**79.78**	**332**	P	**P**	**22 22 11.4**	**+0.1**
	comp=Z,0.9nm,0.5s,mb3.9,baz=37,slow=7.0,SNR=8.1						
BDFB	**Brasilia**	**148.23**	**33**	PKP2	PKPbc	22 29 50.4	+1.0
BDFB				pmax	pmax		
	comp=Z,3.0nm,1.0s						
BDFB	**Brasilia**	**148.23**	**33**	PKPbc	PKPbc	22 29 50.4	+1.0
	comp=Z,2.7nm,1.0s,baz=271,slow=0.6,SNR=3.5						

IDC 03 22:10:34.9±4.4, 696S×15541E, h0km, mb3.6/4, mb1 3.7/4, mb1mx3.5/14, mbtmp3.6/4, Error ellipse: s-maj=128.9km s-min=36.4km az=116.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.18**	**236**	P	P	22 15 53.3	+0.2
	0.8nm,0.6s,baz=62,slow=9.5,SNR=9.2						
SONM	**Songino Array**	**69.53**	**327**	P	P	22 21 45.3	-0.1
	0.2nm,0.8s,baz=104,slow=6.1,SNR=3.0						
MKAR	**Makanchi Array**	**83.65**	**319**	P	P	22 23 06.1	+0.7
	1.5nm,0.7s,baz=97,slow=5.6,SNR=12						
ZALV	**Zalesovo Beam**	**84.38**	**326**	P	P	22 23 08.8	-0.2
	0.3nm,0.5s,baz=111,slow=3.2,SNR=2.5						

IDC 03 22:16:59.6±1.5, 661S×15413E, h0km, mb3.9/6, mb1 4.0/6, mb1mx3.8/14, mbtmp3.9/6, MS4.2/2, Ms1 4.2/2, ms1mx3.8/23, Error ellipse: s-maj=56.0km s-min=25.7km az=117.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.34**	**234**	P	P	22 22 10.9	+1.1
	1.6nm,0.8s,baz=61,slow=9.4,SNR=9.2						
ASAR	**Alice Springs**	**25.80**	**227**	P	P	22 22 31.7	-0.8
	0.3nm,0.7s,baz=61,slow=10,SNR=4.2						
STKA	**Stephens Creek**	**27.73**	**203**	P	P	22 22 49.7	-0.3
	0.6nm,0.4s,baz=346,slow=16,SNR=3.3						
RAO	**Raoul Island**	**34.67**	**134**	LR	LR	22 33 39.8	
	comp=Z,404nm,19.7s,baz=311,slow=29						
JHJ	**Hachijo jima 2**	**41.79**	**342**	LR	LR	22 40 19.6	
	comp=Z,305nm,19.5s,baz=100,slow=34						
MKAR	**Makanchi Array**	**82.55**	**319**	P	P	22 29 25.4	+1.0
	2.8nm,0.8s,baz=101,slow=6.1,SNR=25						
ZALV	**Zalesovo Beam**	**83.38**	**326**	P	P	22 29 27.2	-1.4
	1.0nm,0.6s,baz=115,slow=7.0,SNR=6.0						
NVAR	**Mina Array Bea**	**92.16**	**52**	P	P	22 30 12.2	+0.7
	0.5nm,0.8s,baz=233,slow=5.1,SNR=4.8						

*CSEM **03** 22:17:00.3±0.3, 40.05N×32.80E, h0km±2km, MD3.6, Error ellipse: s-maj=1.9km s-min=1.6km az=161.0*
*ISK **03** 22:17:00.5, 40.06N×32.82E, h5km, MD3.6*
*ISCJB **03** 22:17:01.8±0.3, 40.06N±002×32.80E±003, h5km, Error ellipse: s-maj=3.6km s-min=2.4km az=144.4*
*DDA **03** 22:17:01.5, 40.09N×32.74E, h5km±3km, Md3.4*

ISC 03 22:17:01.7±0.5, 4006N±002×3280E±003, h0km±4km, n39, σ1§00/55, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LOD	**Lodumlu**	**0.17**	**188**	*i* PG	**Pg**	**22 17 04.7**	**-0.2**
LOD				*i* SG	**Sg**	**22 17 08.2**	**+1.1**
ANTO	**Ankara**	**0.19**	**181**	*i* PG	**Pg**	**22 17 04.4**	**-0.9**
ANTO				*i* SG	**Sg**	**22 17 08.8**	**+1.1**
ELDT	**Eldivan**	**0.65**	**48**	*i* P	**Pg**	**22 17 13.3**	**-0.8**
ELDT				*i* S	**Sg**	**22 17 24.3**	**+1.8**
CANT	**Cankiri**	**0.84**	**49**	*i* PG	**Pg**	**22 17 17.1**	**-0.6**
CANT				*i* SG	**Sg**	**22 17 29.8**	**+1.2**
KAMT	**Kaman**	**0.99**	**134**	*i* PG	**Pg**	**22 17 20.0**	**-0.6**
CDAG	**Cicekdag**	**1.29**	**109**	*i* P	**Pg**	**22 17 25.0**	**-1.4**
CDAG				*i* S	**Sg**	**22 17 44.7**	**+1.6**
TOS	**Tosya**	**1.35**	**43**	*i* PN	**Pn**	**22 17 27.0**	**-0.8**
KIZT	**Kizilcal**	**1.37**	**211**	*i* PN	**Pn**	**22 17 27.0**	**-1.0**
CORM	**Corum**	**1.41**	**84**	*i* PN	**Pn**	**22 17 28.5**	**-0.1**
BALT	**Daday**	**1.54**	**17**	*i* P	**Pn**	**22 17 28.8**	**-1.6**
BALT				*i* S	**Sn**	**22 17 51.5**	**+0.5**
BALT	**Daday**	**1.54**	**17**	*i* P	**Pn**	**22 17 28.8**	**-1.6**
BALT				*i* S	**Sn**	**22 17 51.5**	**+0.4**
ESKT	**Eskisehir**	**1.59**	**251**	*i* P	**Pn**	**22 17 29.2**	**-1.8**
ESKT				*i* S	**Sg**	**22 17 54.2**	**+1.3**
ESKT	**Eskisehir**	**1.59**	**251**	*i* Pn	**Pn**	**22 17 30.6**	**-0.5**
SEYT	**Eskypehyr**	**1.59**	**251**	*i* P	**Pn**	**22 17 29.2**	**-1.9**
SEYT				*i* S	**Sg**	**22 17 54.2**	**+1.4**
KDHN	**Kadinhani**	**1.62**	**199**	*i* P	**Pn**	**22 17 30.4**	**-1.1**
KDHN				*i* S	**Sn**	**22 17 53.4**	**+0.4**
KDZE	**Karadeniz Ereo**	**1.62**	**321**	PN	**Pn**	**22 17 31.1**	**-0.4**
CTKT	**Corum**	**1.63**	**69**	*i* P	**Pn**	**22 17 31.1**	**-0.4**
CTKT				*i* S	**Sn**	**22 17 52.7**	**-0.4**
HENT	**Hendek**	**1.64**	**298**	*i* P	**Pn**	**22 17 30.3**	**-1.4**
GULT	**Gulveren**	**1.79**	**283**	PN	**Pn**	**22 17 34.1**	**+0.4**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BORA	**Eskisehir**	**1.81**	**265**	*i* P	**Pn**	**22 17 32.4**	**-1.7**
BORA				*i* S	**Sn**	**22 17 57.0**	**-0.6**
GPA	**Golpazari**	**1.92**	**278**	PN	**Pn**	**22 17 35.8**	**+0.2**
YOZ	**Yozgat**	**1.99**	**101**	PN	**Pn**	**22 17 36.5**	**0.0**
AVNT	**Avonos**	**2.04**	**128**	*i* P	**Pn**	**22 17 38.0**	**+0.7**
AVNT				*i* S	**Sg**	**22 18 05.3**	**-2.0**
BYBT	**Boyabat**	**2.06**	**46**	PN	**Pn**	**22 17 37.2**	**-0.3**
BOYT	**Boyabat**	**2.10**	**49**	*i* P	**Pn**	**22 17 37.2**	**-0.9**
BOYT				*i* S	**Sn**	**22 18 05.6**	**+0.7**
BZK	**Bozkurt**	**2.11**	**25**	*e*PN	**Pn**	**22 17 38.8**	**+0.6**
KONT	**Konya--Tatoy**	**2.13**	**189**	*e*PN	**Pn**	**22 17 38.6**	**+0.1**
SHUT	**Suhut-Afyon**	**2.30**	**230**	*e*PN	**Pn**	**22 17 40.5**	**-0.3**
ALT	**Altintas**	**2.30**	**245**	*e*PN	**Pn**	**22 17 41.4**	**+0.5**
ADVT	**Abdulvahap**	**2.37**	**280**	*e*PN	**Pn**	**22 17 42.8**	**+1.0**
NIG	**Nigde**	**2.40**	**143**	*e*PN	**Pn**	**22 17 42.8**	**+0.6**
IZI	**Iznik**	**2.56**	**277**	*e*PN	**Pn**	**22 17 44.7**	**+0.3**
BNN	**Bunyan**	**2.65**	**116**	*e*PN	**Pn**	**22 17 45.7**	**+0.1**
KVT	**Kavak**	**2.68**	**67**	*e*PN	**Pn**	**22 17 47.0**	**+1.0**
GDZ	**Gediz**	**2.74**	**250**	*e*P	**Pn**	**22 17 49.7**	**+2.8**
GDZ				*i* S	**Sb**	**22 18 26.3**	**+0.8**
GEMT	**Gemlik**	**2.79**	**279**	*e*PN	**Pn**	**22 17 48.9**	**+1.4**
DST	**Dursunbey**	**3.24**	**263**	*e*PN	**Pn**	**22 17 54.9**	**+1.2**
BTOK	**Tokmak**	**3.68**	**267**	*i* P	**Pb**	**22 18 07.8**	**+0.3**
BTOK				*i* S	**Sg**	**22 18 57.6**	**-2.2**
GZT	**Gaziantep**	**4.60**	**124**	*i* P	**Pg**	**22 18 29.7**	**-0.2**

*ORF **03** 22:17:31.4, 1443S×15830E, h30km, mb5.5*
*IDC **03** 22:17:40.2±0.4, 672S×15473E, h0km, mb5.0/16, mb1 5.1/18, mb1mx5.1/19, mbtmp5.0/18, ML4.9/2, MS5.1/15, Ms1 5.1/15, ms1mx4.8/22, Error ellipse: s-maj=14.4km s-min=10.7km az=114.0*
*BJI **03** 22:17:40.9, 638S×155.17E, h7km, mB5.4, mb5.0, Ms5.1, Msz5.0*
*ISCJB **03** 22:17:41.2±0.1, 678S±003×15481E±003, h10km, mb5. 1/87, MS5.1/34, Error ellipse: s-maj=4.5km s-min=3.6km az=3.5*
*NEIC **03** 22:17:42.2±0.1, 674S×15489E, h10km, mb5.2/44, MS4.9/3, Error ellipse: s-maj=5.7km s-min=4.6km az=112.0*
*GCMT **03** 22:17:42.2±0.2, 703S×15491E, h24km, MW5.6/97, Moment Tensor Solution. s79,c120; s97,c170; Duration: 1§5 Moment tensor: Scale 10^{17}Nm; M_{rr}2.64±.07; $M_{\theta\theta}$-1.66±.04; $M_{\phi\phi}$-0.98±.05; $M_{r\theta}$1.17±.07; $M_{r\phi}$1.32±.03; $M_{\theta\phi}$-1.10±.08; Best double couple: $M_0$3.10900×10^{17} NP1ϕ_s305.00000°, δ30.00000°, λ85.00000°. NP2ϕ_s131.00000°, δ61.00000°, λ93.00000°. Principal axes: T 3.0900, Plg74.0000°, Azm48.0000°; N 0.0350, Plg2.0000°, Azm309.0000°; P -3.1280, Plg16.0000°, Azm219.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*MOS **03** 22:17:45.1±1.0, 670S×15482E, h33km, mb5.3/26, MS4.9/7 Error ellipse: s-maj=9.2km s-min=6.8km az=92.5*

ISC 03 22:17:42.4±1.3, 676S±004×15484E±003, h8km±7km, h15km±1.6km: pP-P, n485, σ0§84/364, mb5.1/87, MS5.1/34, 86C-62D, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.71**	**118**	Pn	**Pn**	**22 19 09.1**	**+1.6**
	2μm,0.8s						
HNR				Sn	**Sn**	**22 20 15.3**	**+2.0**
HNR	**Honiara**	**5.71**	**118**	P	**Pn**	**22 19 09.1**	**+1.5**
HNR						22 20 15.3	
HNR				pmax	pmax		
	comp=Z,2μm,0.8s						
HNR	**Honiara**	**5.71**	**118**	Pn	**Pn**	**22 19 08.0**	**+0.5**
	comp=Z,108nm,0.3s,baz=270,slow=20,SNR=2.8						
CTA	**Charters Tower**	**15.66**	**211**	*e*P	**Pn**	**22 21 25.5**	**+2.0**
	comp=Z,16nm,0.9s						
CTA				*e*		22 21 29.6	
CTA	**Charters Tower**	**15.66**	**211**	*e*P	**Pn**	**22 21 25.5**	**+2.0**
CTA				pmax	pmax		
	comp=Z,16nm,0.9s						
CTA	**Charters Tower**	**15.66**	**211**	Pn	**Pn**	**22 21 24.8**	**+1.3**
	comp=Z,1.0nm,0.3s,baz=38,slow=14,SNR=16						
CTAO	**Charters Tower**	**15.66**	**211**	*e*Pn	**Pn**	**22 21 25.6**	**+2.1**
	comp=Z,558nm,1.9s						
CTAO	**Charters Tower**	**15.66**	**211**	*e*P	**Pn**	**22 21 25.6**	**+2.1**
CTAO				pmax	pmax		
	comp=Z,558nm,1.9s						
EIDS	**Eidsvold**	**18.86**	**191**	*e*P	**Pn**	**22 22 03.3**	**-0.3**
	comp=Z,23nm,0.9s						
DZM	**Mont Dzumac**	**18.90**	**145**	P	**Pn**	**22 22 04.3**	**+0.1**
	comp=Z,1.1nm,0.3s,baz=0.6,slow=7.6,SNR=6.6				

JNU Nakatsue 45.73 332 P **P** **22 26 01.2 -3.0**
comp=Z,23nm,0.8s,mb5.2,baz=38,slow=9.5,SNR=4.6
MJAR Matsushiro Arr 45.81 341 P **P** **22 26 01.6 -3.2**
comp=Z,0.7nm,0.4s,mb3.9,baz=155,slow=6.6,SNR=4.2
MJAR LR LR 22 42 44.8
comp=Z,552nm,21.7s,MS4.5,baz=210,slow=33
MAJO Matsushiro 45.81 341 *e*P **P** **22 26 06.4 +1.5**
comp=Z,5.5nm,0.5s,mb4.7
MAJO Matsushiro 45.81 341 *e*P **P** **22 26 06.4 +1.6**
MAJO pmax pmax
comp=Z,6.0nm,0.5s,mb4.8
MAT Matsushiro 45.81 341 P **P** **22 26 08.5 +3.7**
MAT *e*S **S** **22 32 50.6 +1.6**
RAR Rarotonga 46.14 113 P **P** **22 26 04.5 -3.2**
comp=Z,22nm,0.8s,mb5.1,baz=260,slow=7.0,SNR=7.7
QZH Quanzhou 47.31 313⇓*i*P **P** **22 26 18.5 +1.7**
QZH *e*S **S** **22 33 10.0 -0.8**
QZH AMB AMB
comp=Z,80nm,0.7s,mb5.8
QZH LR LR
comp=Z,2μm,13.4s,MS5.2
KSRS Korea Array 50.66 332 P **P** **22 26 41.2 -1.1**
comp=Z,8.9nm,1.0s,mb4.7,baz=151,slow=8.2,SNR=13
QIZ Qiongzhong 51.21 301 P **P** **22 26 46.2 -0.6**
QIZ XP sP 22 26 51.4 +1.2
QIZ S **S** **22 34 06.1 +0.3**
QIZ XS sS 22 34 11.2 +1.3
QIZ AMB AMB
comp=Z,26nm,2.1s,mb4.8
QIZ LR LR
comp=E,1μm,20.7s
QIZ LR LR
comp=Z,2μm,20.9s,MS5.1
NJ2 Nanjing 51.64 320 *e*P **P** **22 26 51.5 +1.7**
NJ2 AP pP 22 26 57.8 +5.6
NJ2 XP sP 22 26 59.2 +6.0
NJ2 PP PP 22 28 48.0 +0.6
NJ2 S **S** **22 34 11.0 -0.3**
NJ2 XS sS 22 34 19.0 +3.6
NJ2 AMB AMB
comp=Z,50nm,1.0s,mb5.4
NJ2 AMB AMB
comp=Z,910nm,6.4s
NJ2 LR LR
comp=N,2μm,18.8s,MS5.3
NJ2 LR LR
comp=E,2μm,17.3s,MS5.3
NJ2 LR LR
comp=Z,8μm,17.3s,MS5.8
WHN Wuhan 53.66 316⇑P **P** **22 27 06.3 +1.5**
WHN S **S** **22 34 42.1 +3.0**
WHN AMB AMB
comp=Z,64nm,1.3s,mb5.4
WHN AMB AMB
comp=Z,643nm,10.9s
WHN LR LR
comp=Z,2μm,17.3s,MS5.3
YSS Yuzh-Sakhalins 54.54 350 *e*P **P** **22 27 11.3 +0.4**
comp=Z,27nm,0.8s,mb5.3
YSS Yuzh-Sakhalins 54.54 350 *i*P **P** **22 27 11.6 +0.7**
PPT Papeete 55.21 107 *e*S **S** **22 34 55.1 -5.3**
comp=Z,974nm,28.0s
PPT *e*LQ 22 41 02.6
comp=Z,2μm,29.2s
PPT *e*LR LR 22 43 26.5
comp=Z,742nm,20.8s
KULM Kulim 55.40 281 *e*P **P** **22 27 17.1 -0.7**
KULM *e*PcP PcP 22 28 15.6 -2.6
SNG Songkhla 55.84 283 P **P** **22 27 22.5 +1.6**
TBI Tubuai 55.91 114 *e*S **S** **22 35 05.1 -4.5**
comp=Z,486nm,32.8s
TBI *e*LQ 22 41 21.2
comp=Z,4μm,30.5s
TBI *e*LR LR 22 43 44.1
comp=Z,2μm,31.8s
MDJ Mudanjiang 55.96 338 P **P** **22 27 21.1 -0.1**
MDJ AP pP 22 27 24.8 +1.1
MDJ XP sP 22 27 26.2 +1.5
MDJ PCP PcP 22 28 20.3 +0.6
MDJ PP PP 22 29 29.2 +3.0
MDJ PCS PcS 22 32 19.5 -0.4
MDJ S **S** **22 35 10.3 +0.8**
MDJ SCS ScS 22 37 10.3 -0.6
MDJ AMB AMB
comp=Z,11nm,1.1s,mb4.8
MDJ AMB AMB
comp=Z,329nm,15.4s
MDJ LR LR
comp=N,264nm,21.9s,MS4.4
MDJ LR LR
comp=E,207nm,19.9s,MS4.4
MDJ LR LR
comp=Z,451nm,22.9s,MS4.5
PMOR Pomariorio Ree 56.70 103 *e*P **P** **22 27 26.3 -0.7**
comp=Z,41nm,0.9s,mb5.4
CN2 Changchun 56.91 335 *e*P **P** **22 27 27.5 -0.5**
CN2 *e*XP sP 22 27 34.7 +3.3
CN2 *e*S **S** **22 35 20.1 -2.0**
CN2 SS SS 22 39 09.0 -1.7
CN2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.9
CN2 AMB AMB
comp=Z,200nm,8.0s
CN2 LR LR
comp=N,500nm,19.0s,MS4.9
CN2 LR LR
comp=E,700nm,19.0s,MS4.9
CN2 LR LR
comp=Z,500nm,21.0s,MS4.6
VAH Vaihoa 56.96 104 *e*P **P** **22 27 27.9 -1.0**
comp=Z,30nm,1.0s,mb5.3
GYA Guiyang 57.19 307⇓*i*P **P** **22 27 31.8 +1.5**
GYA AP pP 22 27 35.2 +2.4
GYA XP sP 22 27 38.6 +4.8
GYA PCP PcP 22 28 27.0 +2.1
GYA PP PP 22 29 41.9 +4.4
GYA SCP ScP 22 32 25.5 +0.2
GYA S **S** **22 35 27.8 +1.4**
GYA SCS ScS 22 37 18.8 -1.8
GYA SS SS 22 39 17.0 +1.3
GYA AMB AMB
comp=Z,40nm,1.1s,mb5.4
GYA AMB AMB
comp=Z,330nm,8.3s
GYA LR LR
comp=N,710nm,16.2s,MS5.0
GYA LR LR
comp=E,590nm,17.4s,MS5.0
GYA LR LR
comp=Z,1μm,18.5s,MS5.0
NST Nakhon Sawan 58.58 293 P **P** **22 27 41.5 +1.2**
BJI Beijing 58.64 326 P **P** **22 27 40.2 0.0**
BJI AP pP 22 27 43.4 +0.7
BJI S **S** **22 35 45.2 +0.3**
BJI SS SS 22 39 40.5 +2.4
BJI AMB AMB
comp=Z,9.0nm,0.5s,mb5.1
BJI AMB AMB
comp=Z,314nm,9.4s
BJI LR LR
comp=N,516nm,20.8s,MS4.8
BJI LR LR
comp=E,535nm,20.3s,MS4.8
BJI LR LR
comp=Z,697nm,21.7s,MS4.7
BJI Beijing 58.64 326 P **P** **22 27 40.2 0.0**
comp=Z,9.0nm,0.5s,mb5.1
BJI pP pP 22 27 43.4 +0.7
BJI sP sP 22 27 44.7 +1.0
BJI S **S** **22 35 45.2 +0.3**
BJI SS SS 22 39 40.5 +2.4
BJI LR LR
comp=Z,700nm,21.7s,MS4.7
KLR Kul'dur 59.29 343 *e*P **P** **22 27 39.8 -4.8**
XAN Xi'an 59.43 316 P **P** **22 27 45.7 -0.2**
XAN AP pP 22 27 53.8 +5.4
XAN AMB AMB
comp=Z,5.0nm,1.0s,mb4.5
XAN AMB AMB
comp=Z,242nm,12.4s
XAN LR LR
comp=N,385nm,20.5s,MS4.9
XAN LR LR
comp=E,793nm,16.7s,MS4.9
XAN LR LR
comp=Z,994nm,19.2s,MS5.0
PET Petropavlovsk 59.64 3 P **P** **22 27 47.6 +0.8**
comp=Z,71nm,1.1s,mb5.6
PET Petropavlovsk 59.64 3 *e*P **P** **22 27 52.1 +5.2**
PET *e*S **S** **22 36 02.7 +5.4**
PET *e*SS SS 22 39 46.4 -6.8
PET pmax pmax
comp=Z,36nm,0.9s,mb5.4
PET MLR MLR
comp=Z,600nm,18.0s,MS4.8
KMI Kunming 59.76 304 P **P** **22 27 50.0 +1.7**
KMI AP pP 22 27 54.8 +4.0
KMI XP sP 22 27 56.8 +5.1
KMI PP PP 22 30 04.8 +4.5
KMI S **S** **22 36 02.3 +2.3**
KMI SS SS 22 39 58.0 +1.8
KMI AMB AMB
comp=Z,79nm,1.2s,mb5.6
KMI AMB AMB
comp=Z,526nm,5.3s
KMI LR LR
comp=N,538nm,18.1s,MS4.9
KMI LR LR
comp=E,633nm,21.2s,MS4.9
KMI LR LR
comp=Z,1μm,20.6s,MS5.0
KMI Kunming 59.76 304 P **P** **22 27 50.0 +1.7**
comp=Z,79nm,1.2s,mb5.6
KMI pP pP 22 27 54.8 +4.0
KMI sP sP 22 27 56.8 +5.1
KMI PP PP 22 30 04.8 +4.5
KMI S **S** **22 36 02.3 +2.3**
KMI SS SS 22 39 58.0 +1.8
KMI LR LR
comp=Z,1μm,20.6s,MS5.0
KMI Kunming 59.76 304 P **P** **22 27 50.0 +1.7**
KMI *SP sP 22 27 56.8 +5.1
KMI 22 30 04.8
KMI S **S** **22 36 02.3 +2.3**
KMI SS SS 22 39 58.0 +1.8
KMI pmax pmax
comp=Z,79nm,1.2s,mb5.6
KMI MLR MLR
comp=Z,1μm,20.6s,MS5.0
CHRT Chiangrai 60.27 297⇑P **P** **22 27 52.0 +0.1**
comp=Z,250nm,1.0s,mb6.2
CHTO Chiang Mai 60.66 296 *e*P **P** **22 27 55.5 +0.9**
CD2 Chengdu 61.55 310 P **P** **22 28 01.7 +1.3**
CD2 AP pP 22 28 06.3 +3.4
CD2 XP sP 22 28 09.5 +5.7
CD2 PP PP 22 30 19.5 +3.5
CD2 PCS PcS 22 32 44.1 -1.1
CD2 S **S** **22 36 21.6 -1.0**
CD2 XS sS 22 36 29.3 +2.5
CD2 SCS ScS 22 37 49.0 -3.7
CD2 SS SS 22 40 24.4 +0.4
CD2 AMB AMB
comp=Z,140nm,0.8s,mb6.1
CD2 AMB AMB
comp=Z,760nm,9.6s
CD2 LR LR
comp=N,800nm,14.4s,MS5.3
CD2 LR LR
comp=E,1μm,18.0s,MS5.3
CD2 LR LR
comp=Z,1μm,20.4s,MS5.1
HHC Hu-ho-hao-te 61.81 324 *e*P **P** **22 28 03.3 +1.3**
HHC AP pP 22 28 07.9 +3.4
HHC XP sP 22 28 11.1 +5.7
HHC PP PP 22 30 23.2 +5.0
HHC SCP ScP 22 32 43.5 -1.9
HHC PCS PcS 22 32 46.3 +0.3
HHC S **S** **22 36 24.7 -1.0**
HHC XS sS 22 36 30.6 +0.8
HHC SCS ScS 22 37 48.3 -6.0
HHC SS SS 22 40 27.9 0.0
HHC AMB AMB
comp=Z,19nm,0.3s,mb5.7
HHC AMB AMB
comp=Z,242nm,5.3s
HHC LR LR
comp=N,692nm,15.9s,MS5.0
HHC LR LR
comp=E,386nm,17.2s,MS5.0
HHC LR LR
comp=Z,894nm,17.8s,MS5.0
BTO Baotou 62.58 323 *e*P **P** **22 28 08.1 +1.0**
HIA Hailar 63.64 335 *e*P **P** **22 28 13.7 -0.3**
comp=Z,6.5nm,0.5s,mb4.9
HIA Hailar 63.64 335 *e*P **P** **22 28 13.7 -0.3**
HIA pmax pmax
comp=Z,7.0nm,0.5s
LZH Lanzhou 64.04 316 *e*P **P** **22 28 19.2 +2.3**
LZH AP pP 22 28 22.1 +2.7
LZH XP sP 22 28 24.4 +4.0
LZH PP PP 22 30 42.0 +4.1
LZH *e*S **S** **22 36 53.1 -0.7**
LZH XS sS 22 37 02.0 +4.1
LZH SS SS 22 41 03.0 +0.1
LZH AMB AMB
comp=Z,56nm,1.5s,mb5.4
LZH AMB AMB
comp=Z,180nm,5.0s
LZH LR LR
comp=E,775nm,15.3s
LZH LR LR
comp=Z,1μm,16.0s,MS5.1
LZH Lanzhou 64.04 316 *e*P **P** **22 28 19.2 +2.3**
comp=Z,56nm,1.5s,mb5.4
LZH pP pP 22 28 22.1 +2.7
LZH sP sP 22 28 24.4 +4.0
LZH PP PP 22 30 42.0 +4.1
LZH *e*S **S** **22 36 53.1 -0.7**
LZH sS sS 22 37 02.0 +4.1
LZH SS SS 22 41 03.0 +0.1
LZH LR LR
comp=Z,1μm,16.0s,MS5.1
LZH Lanzhou 64.04 316 *e*P **P** **22 28 19.2 +2.3**
LZH *SP sP 22 28 24.4 +4.0
LZH 22 30 42.0
LZH *e*S **S** **22 36 53.1 -0.7**
LZH *SS sS 22 37 02.0 +4.1
LZH SS SS 22 41 03.0 +0.1
LZH pmax pmax
comp=Z,56nm,1.5s,mb5.4
LZH MLR MLR
comp=Z,1μm,16.0s,MS5.1
TAOE Nuku Hiva Isla 64.37 97 *e*LR LR 22 47 38.5
comp=Z,33μm,21.6s
MA2 Magadan 66.20 358 *e*P **P** **22 28 30.9 +0.5**
comp=Z,25nm,0.7s,mb5.3
MA2 Magadan 66.20 358 *e*P **P** **22 28 30.3 -0.1**
MA2 *e* 22 28 56.0
MA2 *e*S S 22 37 13.2 -6.2
MA2 *e*SS SS 22 41 27.7 -7.9
MA2 pmax pmax
comp=Z,40nm,0.7s,mb5.6
MA2 MLR MLR
comp=N,800nm,18.6s
CASY Casey 66.77 198 *e*P **P** **22 28 33.0 -1.1**
comp=N,13nm,0.8s,mb5.0
IMP Imphal 67.03 300 *e*P **P** **22 28 36.0 -0.5**
CLNS Chul'man 67.96 343 *e*P **P** **22 28 36.7 -5.0**
CLNS pmax pmax
comp=E,5.0nm,0.8s
CLNS pmax pmax
comp=Z,15nm,0.8s,mb5.1
CLNS pmax pmax
comp=N,14nm,1.6s
CIT Chita 68.33 334 *e*P **P** **22 28 44.8 +0.7**
GTA Gaotai 68.46 317 *e*P **P** **22 28 46.5 +1.3**
GTA AP pP 22 28 50.1 +2.3
GTA XP sP 22 28 51.6 +2.9
GTA PP PP 22 31 20.8 +4.3
GTA S S 22 37 50.1 +2.6
GTA XS sS 22 37 56.9 +5.3
GTA AMB AMB
comp=Z,6.0nm,0.7s,mb4.7
GTA AMB AMB
comp=Z,496nm,5.7s
GTA LR LR
comp=N,437nm,20.9s,MS4.8
GTA LR LR
comp=E,450nm,20.9s,MS4.8
GTA LR LR
comp=Z,749nm,20.1s,MS4.9
ULN Ulaanbaatar 68.72 328 *e*P **P** **22 28 47.2 +0.6**
comp=Z,28nm,1.2s,mb5.1
ULN Ulaanbaatar 68.72 328⇓*e*P **P** **22 28 47.1 +0.4**
SHL Shillong 69.05 301 *e*P **P** **22 28 50.0 +0.8**
comp=Z,9.0nm,1.0s,mb4.7
SONM Songino Array 69.06 327 P **P** **22 28 48.9 +0.2**
SONM ⇑*e* 22 56 57.7
SONM LR LR 22 59 35.0
SONM Songino Array 69.06 327 P **P** **22 28 48.9 +0.2**
comp=Z,8.6nm,0.9s,mb4.7,baz=134,slow=6.5,SNR=33
SONM PKP2bc 22 56 57.7
comp=Z,1.6nm,1.0s,baz=302,slow=5.1,SNR=8.2
SONM LR LR 22 59 35.0
comp=Z,755nm,18.2s,MS5.0,baz=103,slow=36
RKT Rikitea 69.17 112 *e*S S 22 37 51.7 -4.8
comp=Z,564nm,29.8s
RKT *e*LQ 22 46 53.1
comp=Z,1μm,28.8s
RKT *e*LR LR 22 49 48.4
comp=Z,2μm,23.0s,baz=282
SEY Seymchan 69.51 359⇓*e*P **P** **22 28 50.5 -0.7**
VNDA Vanda 70.82 178 P **P** **22 28 58.4 -0.7**
VNDA Vanda 70.82 178 P **P** **22 28 58.4 -0.7**
comp=Z,5.4nm,0.8s,mb4.5,baz=329,slow=5.8,SNR=31
LSA Lhasa 71.01 304 P **P** **22 29 02.8 +1.6**
LSA AMB AMB
comp=Z,20nm,0.9s,mb5.0
LSA Lhasa 71.01 304 *e*P **P** **22 29 02.8 +1.6**
comp=Z,46nm,0.8s,mb5.5
LSA Lhasa 71.01 304 *e*P **P** **22 29 02.8 +1.6**
LSA pmax pmax
comp=Z,46nm,0.8s,mb5.5
YAK Yakutsk 71.29 348 *e*P **P** **22 29 02.7 +0.6**
comp=Z,34nm,0.7s,mb5.4
YAK Yakutsk 71.29 348 *e*P **P** **22 29 02.7 +0.6**
YAK pmax pmax
comp=Z,34nm,0.7s,mb5.4
SBA Scott Base 71.33 177 *e*P **P** **22 29 03.5 +1.2**
ZAK Zakamensk 72.21 328 *e*P **P** **22 29 07.1 -0.8**
ZAK pmax pmax
comp=Z,12nm,0.9s,mb4.8
BOD Bodaibo 72.34 338 *e*P **P** **22 29 06.5 -2.0**
BOD pmax pmax
comp=Z,6.0nm,1.5s,mb4.3
TLY Talaya 72.78 329 *e*P **P** **22 29 11.3 0.0**
TLY Talaya 72.78 329 *e*P **P** **22 29 11.2 -0.1**
TLY pmax pmax
comp=Z,10.0nm,1.2s,mb4.6
IRK Irkutsk 72.80 330 *e*P **P** **22 29 08.4 -3.0**
IRK pmax pmax
comp=Z,24nm,0.8s,mb5.2
BOK Bokaro 73.75 297 *e*P **P** **22 29 17.6 -0.1**
MOY Mondy 74.13 328 *e*P **P** **22 29 19.8 +0.6**
JIRN Jiri 74.53 301 *e*P **P** **22 29 23.2 +1.1**
comp=Z,61nm,0.7s,mb5.6
VIS Vishakhapatnam 74.65 290 *e*P **P** **22 29 22.3 -0.6**
VIS AMb AMB 22 29 25.9
comp=Z,44nm,0.8s,mb5.4
GAMB Gambell 74.73 15 *e*P **P** **22 29 21.9 -0.6**
comp=Z,28nm,1.5s,mb5.0
GAMB *e*PcP PcP 22 29 36.5 -0.1
BILL Bilibino 75.06 4 *e*P **P** **22 29 23.6 -0.6**
comp=Z,22nm,0.7s,mb5.2
BILL Bilibino 75.06 4⇓*e*P **P** **22 29 24.0 -0.3**
BILL *e*S S 22 38 52.5 -10
BILL pmax pmax
comp=Z,51nm,1.3s,mb5.3
BILL MLR MLR
comp=Z,800nm,18.0s,MS5.1
PALK Pallekele 75.25 279 *e*P **P** **22 29 27.3 +0.7**
KKN Kakani 75.34 301 *e*P **P** **22 29 27.0 +0.2**
comp=Z,165nm,0.8s,mb6.0
GKN Gorkha 75.95 301 *e*P **P** **22 29 30.3 0.0**
comp=Z,273nm,1.0s,mb6.1
BLSP Bilaspur 76.71 295 *e*P **P** **22 29 34.1 -0.6**
KOLN Koldanda 76.77 300 *e*P **P** **22 29 34.8 -0.2**
comp=Z,122nm,0.9s,mb5.8
TNA Tin City 77.13 15 *e*P **P** **22 29 36.8 +0.6**
SVW2 Sparrevohn 77.83 22 *e*P **P** **22 29 40.4 +0.2**
WMQ Urumqi 78.55 317 *e*P **P** **22 29 44.7 +0.2**
WMQ AMB AMB
comp=Z,8.0nm,1.0s,mb4.6
WMQ AMB AMB
comp=Z,312nm,7.2s
TTA Tatalina 78.85 21 *e*P **P** **22 29 45.9 +0.1**
HYB Hyderabad 79.05 289 *e*P **P** **22 29 48.0 +0.2**
HYB Hyderabad 79.05 289 *i*P **P** **22 29 48.0 +0.2**
comp=Z,40nm,1.0s,mb5.3
NGP Nagpur 79.30 293 *e*P **P** **22 29 47.6 -1.5**
NGP AMb AMB 22 29 49.2
comp=Z,54nm,1.6s,mb5.2
SLKM Skilak Lake 79.58 24 *e*P **P** **22 29 49.1 -0.7**
LGTI Lohaghat 80.04 301 *e*P **P** **22 29 54.0 +1.0**
TIXI Tiksi 80.10 352 *e*P **P** **22 29 51.9 -0.5**
comp=Z,4.9nm,0.9s,mb4.4
TIXI Tiksi 80.10 352 *e*P **P** **22 29 52.4 0.0**
TIXI pmax pmax
comp=Z,10.0nm,1.7s,mb4.5
PMR Palmer 80.63 24 *e*P **P** **22 29 54.9 -0.6**
comp=Z,24nm,0.7s,mb5.2
PMR Palmer 80.63 24 *e*P **P** **22 29 54.9 -0.6**
PMR pmax pmax
comp=Z,24nm,0.7s,mb5.2
SML Sawmill 81.07 24 *e*P **P** **22 29 57.0 -0.8**
AKL Akola 81.08 292 *e*P **P** **22 29 58.2 -0.6**
LATR Latur 81.10 290 *e*P **P** **22 29 56.8 -2.1**
LATR AMb AMB 22 30 01.0
comp=Z,36nm,1.2s,mb5.2
BHPL Bhopal 81.19 295 *e*P **P** **22 29 58.7 -0.6**
EYAK Cordova Ski Ar 81.48 25 *e*P **P** **22 29 59.3 -0.7**
comp=Z,17nm,0.7s,mb5.1
IMA2 Indian Mountai 81.62 19 *e*P **P** **22 30 00.9 +0.2**
MCK McKinley 81.89 22 *e*P **P** **22 30 00.8 -1.4**
comp=Z,60nm,1.0s,mb5.5
NDI New Delhi 82.46 300 *e*P **P** **22 30 04.9 -1.0**
COLA College 82.91 21 *e*P **P** **22 30 05.7 -1.7**
comp=Z,16nm,0.7s,mb5.2
COLA College 82.91 21 *e*P **P** **22 30 05.7 -1.7**
COLA pmax pmax
comp=Z,16nm,0.7s,mb5.2
SMLA Simla 83.01 302 *e*P **P** **22 30 08.5 -0.2**
MK31 Makanchi Array 83.13 319 *e*P **P** **22 30 08.2 -0.7**
MKAR Makanchi Array 83.13 319 P **P** **22 30 08.5 -0.5**
comp=Z,13nm,0.8s,mb5.0,baz=102,slow=4.4,SNR=44
MKAR PKKPbc PKKPbc 22 48 27.4 -4.9
comp=Z,0.9nm,0.8s,baz=281,slow=0.6,SNR=6.7
MKAR LR LR 23 08 59.6
comp=Z,621nm,19.0s,MS5.0,baz=112,slow=37
KAD Karad 83.14 288 *e*P **P** **22 30 08.9 -0.8**
MENT Mentasta 83.50 24 *e*P **P** **22 30 09.7 -0.8**
POO Poona 83.65 289 *e*P **P** **22 30 11.5 -0.7**
POO AMb AMB 22 30 21.3
comp=Z,62nm,1.3s,mb5.6
ZAA0 Zalesovo Array 83.90 326 *e*P **P** **22 30 09.7 -3.1**
ZALV Zalesovo Beam 83.90 326 P **P** **22 30 10.8 -1.9**
ZALV PKKPbc PKKPbc 22 48 27.0 -3.8
ZALV Zalesovo Beam 83.90 326 P **P** **22 30 10.8 -1.9**
comp=Z,6.1nm,0.8s,mb4.8,baz=104,slow=6.3,SNR=26
ZALV PKKPbc PKKPbc 22 48 27.0 -3.8
comp=Z,0.2nm,0.3s,baz=204,slow=3.3,SNR=3.9
ZAL Zalesovo 83.91 326 P **P** **22 30 10.8 -2.0**
AJM Ajmer 84.28 297 *e*P **P** **22 30 14.5 -0.8**
THN Thein Dam 84.49 303 *e*P **P** **22 30 15.1 -1.2**
MAW Mawson 84.56 203 P **P** **22 30 14.1 -1.8**
comp=Z,10nm,0.7s,mb5.1,baz=99,slow=7.5,SNR=19
MAW LR LR 23 08 35.6
comp=Z,904nm,18.5s,MS5.2,baz=34,slow=36
SIT Sitka 84.88 31 *e*P **P** **22 30 17.8 +0.1**
comp=Z,32nm,1.0s,mb5.4
SIT Sitka 84.88 31 *e*P **P** **22 30 17.8 +0.1**
SIT pmax pmax
comp=Z,32nm,1.0s,mb5.4
NVS Novosibirsk 85.07 327 *i*P **P** **22 30 17.6 -1.1**
NVS pmax pmax
comp=Z,28nm,1.7s,mb5.1
NVS pmax pmax
comp=N,11nm,1.5s
NVS pmax pmax
comp=E,15nm,1.5s
EGAK Eagle 85.36 23 *e*P **P** **22 30 19.7 -0.1**
CRAG Craig 85.50 33 *e*P **P** **22 30 21.0 +0.2**
SKAG Skagway 85.73 29 *e*P **P** **22 30 22.4 +0.5**
comp=E,42nm,1.3s,mb5.5

KSH **Kashi** 85.74 310 P P 22 30 24.6 +2.2
KSH AP pP 22 30 28.9 +3.9
KSH XP sP 22 30 30.9 +5.0
KSH SKS 22 40 46.4
KSH S S 22 40 55.1 -0.5
KSH XS sS 22 41 03.5 +3.6
KSH SS SS 22 46 37.2 +4.7
KSH AMB AMB
comp=Z,809nm,3.1s
KSH LR LR
comp=N,696nm,9.3s
KSH LR LR
comp=E,618nm,7.2s
KSH LR LR
comp=Z,1µm,14.9s,MS5.5
KURK Kurchatov 86.55 322 *e*P P 22 30 24.6 -1.5
comp=Z,5.3nm,0.9s,mb4.8
KURK Kurchatov 86.55 322 *e*P P 22 30 24.6 -1.5
KURK pmax pmax
comp=Z,5.0nm,0.9s,mb4.7
TKM2 Tokmak 2 86.74 314 *e*P P 22 30 26.5 -0.8
comp=Z,5.5nm,0.6s,mb5.0
TKM2 Tokmak 2 86.74 314 *e*P P 22 30 26.5 -0.7
TKM2 pmax pmax
comp=Z,5.0nm,0.6s,mb4.9
UCH Uchtor 87.38 313 *e*P P 22 30 31.6 +1.2
comp=Z,13nm,1.1s,mb5.1
BBB Bella Bella 87.42 37 LR LR 23 05 14.0
comp=Z,2µm,18.5s,MS5.5,baz=327,slow=33
FRU Bishkek 87.43 313 *e*P P 22 30 30.5 -0.1
KCPM Cahto Peak 87.82 50 *e*P P 22 30 32.4 -0.1
KIPM Iron Peak 87.92 50 *e*P P 22 30 32.5 -0.5
KHMM Horse Mountain 87.93 49 *e*P P 22 30 31.7 -1.3
AML Almayashu 87.96 313 *e*P P 22 30 33.6 +0.4
comp=Z,18nm,0.8s,mb5.4
P01C Double 8 Ranch 87.97 50 ⇑P P 22 30 32.7 -0.6
baz=88
EKS2 Erkin-Say 88.00 313 *e*P P 22 30 33.7 +0.3
comp=Z,6.5nm,0.8s,mb4.9
DLBC Dease Lake 88.01 31 *e*P P 22 30 33.3 +0.3
DLBC Dease Lake 88.01 31 P P 22 30 33.0 +0.1
baz=219,slow=4.7
I02A Mapleton 88.44 46 ⇓P P 22 30 35.2 -0.2
baz=88
H02A Toledo 88.45 45 ⇑P P 22 30 35.2 -0.3
baz=88
J02A Umpqua 88.51 46 ⇓P P 22 30 35.4 -0.3
baz=88
O02C Red Bluff 88.51 49 P P 22 30 36.0 +0.2
baz=88,SNR=12
M02C Callahan 88.68 48 ⇑P P 22 30 36.6 0.0
baz=89,SNR=7.0
HAST Hastings Reser 88.84 53 ⇓P P 22 30 37.4 0.0
baz=89
YBH Yreka Blue Hor 88.84 48 *e*P P 22 30 37.5 +0.2
comp=Z,3.8nm,0.7s,mb4.8
YBH Yreka Blue Hor 88.84 48 *e*P P 22 30 37.5 +0.2
YBH pmax pmax
comp=Z,4.0nm,0.7s
J03A Ideyld Park 88.94 46 ⇓P P 22 30 38.0 +0.2
baz=89
H03A Soap Creek Ran 88.95 45 ⇓P P 22 30 37.6 -0.1
baz=89
F03A Seaside 88.99 44 ⇑P P 22 30 37.8 -0.2
baz=89
E03A Lebam 89.10 43 P P 22 30 38.5 +0.1
baz=89,SNR=6.1
S04C Ingram Canyon, 89.19 52 ⇑P P 22 30 39.2 +0.1
baz=89
OHCM Honcut 89.36 50 *e*P P 22 30 40.0 +0.1
I04A Tendick Farm, 89.41 46 ⇓P P 22 30 39.7 -0.3
baz=89
U04C Hernandez Rese 89.45 53 ⇑P P 22 30 40.7 +0.4
baz=89
M04C Macdoel 89.49 48 ⇑P P 22 30 40.6 +0.2
baz=90
J04A Umpqua Nationa 89.54 47 ⇑P P 22 30 40.9 +0.4
baz=90
INK Inuvik 89.55 21 *e*P P 22 30 39.0 -1.0
INK Inuvik 89.55 21 LR LR 23 07 17.8
comp=Z,2µm,19.4s,MS5.5,baz=271,slow=33
HATC Hat Creek Radi 89.62 49 ⇑P P 22 30 41.4 +0.4
baz=90
C04A Brinnon 89.71 42 ⇓P P 22 30 41.2 -0.1
baz=90
H04A Detroit Lake 89.72 45 ⇓P P 22 30 40.9 -0.5
baz=90
F04A Amboy 89.78 44 ⇑P P 22 30 41.7 +0.1
baz=90
GNW Green Mountain 89.78 42 *e*P P 22 30 41.7 +0.1
O04C Chester 89.82 50 ⇓P P 22 30 41.6 -0.4
baz=90
LAVA Lava Cap Winer 89.85 51 ⇑P P 22 30 42.0 -0.1
baz=90
O05C Quincy 89.89 50 ⇓P P 22 30 41.9 -0.4
baz=90
S05C Merced 89.96 53 ⇓P P 22 30 43.4 +0.7
baz=90
P05C Yuba Gap, Truc 90.03 51 ⇓P P 22 30 43.0 +0.1
baz=90,SNR=5.8
J05A Fort Rock 90.17 47 P P 22 30 43.2 -0.3
baz=90,SNR=14
L05A Lakeview 90.28 48 ⇑P P 22 30 44.5 +0.4
baz=90
E05A Randle 90.33 43 ⇑P P 22 30 43.3 -0.9
baz=90
K05A Summer Lake 90.33 47 ⇓P P 22 30 44.4 +0.1
baz=90,SNR=6.3
R05C Kirkwood Meado 90.35 51 ⇓P P 22 30 44.2 -0.2
baz=90,SNR=5.5
B05A Bryant 90.39 42 ⇓P P 22 30 43.9 -0.5
baz=90
T06C Millerton Lake 90.40 53 ⇑P P 22 30 44.4 -0.3
baz=90
F05A White Salmon 90.43 44 ⇑P P 22 30 44.2 -0.5
baz=90
MOD Modoc 90.64 48 *e*P P 22 30 45.1 -0.7
comp=Z,12nm,1.1s,mb5.1
O06A Flanigan 90.75 50 P P 22 30 46.6 +0.3
baz=91,SNR=10
R06C Coleville 90.81 51 ⇓P P 22 30 46.9 +0.3
baz=91,SNR=7.5
K06A Valley Falls 90.81 47 ⇑P P 22 30 46.3 -0.2
baz=91
N06A Buffalo Meadow 90.83 49 P P 22 30 46.9 +0.3
baz=91,SNR=18
E06A Yakima 90.86 43 P P 22 30 46.3 -0.4
baz=91,SNR=5.2
F06A Goldendale 90.88 44 ⇑P P 22 30 46.6 -0.2
baz=91
HELL Mitchell Peak 90.90 53 P P 22 30 47.2 +0.2
baz=91,SNR=7.2
G06A Carlson Farm, 90.90 45 ⇓P P 22 30 47.0 +0.2
baz=91
J06A Christmas Vall 90.95 47 P P 22 30 47.1 0.0
baz=91,SNR=10
I06A Prineville 91.01 46 ⇑P P 22 30 47.4 0.0
baz=91,SNR=5.5
H06A Lindquist Farm 91.04 45 P P 22 30 47.4 -0.1
baz=91,SNR=5.7
D06A Cle Elum 91.05 43 ⇓P P 22 30 47.1 -0.4
baz=91
R07C Lee Vining 91.07 52 ⇑P P 22 30 47.9 +0.1
baz=91
MTUM Tungsten Hills 91.35 53 *e*P P 22 30 50.1 +1.0
MWC Mount Wilson 91.36 56 *e*P P 22 30 49.3 +0.1
L07A Adell 91.37 48 ⇑P P 22 30 49.2 0.0
baz=91,SNR=8.2
M07A Soldier Meadow 91.41 49 P P 22 30 49.7 +0.3
baz=91,SNR=13
N07B Gerlach 91.48 49 P P 22 30 49.8 +0.1
baz=92,SNR=7.7
K07A Rock Creek Ran 91.53 47 P P 22 30 50.2 +0.4
baz=92,SNR=11
I07A Izee 91.53 46 P P 22 30 49.1 -0.7
baz=92,SNR=7.7
J07A Hines 91.58 47 ⇑P P 22 30 49.7 -0.4
baz=92
G07A Ruggs Ranch, H 91.58 45 ⇑P P 22 30 49.5 -0.6
baz=92
D07A Quincy 91.64 43 ⇓P P 22 30 50.1 -0.2
baz=92
C07A Waterville 91.65 42 ⇑P P 22 30 50.0 -0.3
baz=92
S08C White Mtn Res 91.68 53 ⇑P P 22 30 50.6 0.0
baz=92
NVAR Mina Array Bea 91.69 52 P P 22 30 50.3 -0.4
comp=Z,12nm,0.9s,mb5.2,baz=248,slow=4.1,SNR=54
B07A Winthrop 91.72 42 ⇓P P 22 30 49.8 -0.8
baz=92
WVOR Wild Horse Val 91.94 48 *e*P P 22 30 51.1 -0.7
comp=Z,6.5nm,0.9s,mb5.0
WVOR Wild Horse Val 91.94 48 *e*P P 22 30 51.1 -0.7
WVOR pmax pmax
comp=Z,6.0nm,0.9s,mb4.9
M08A Happy Creek Ra 92.01 49 P P 22 30 52.0 -0.1
baz=92,SNR=8.6
P08A Dixie Valley 92.02 50 ⇑P P 22 30 52.4 +0.2
baz=92
Q08A Gabbs 92.03 51 ⇓P P 22 30 52.6 +0.3
baz=92
G08A Pilot Rock 92.08 45 P P 22 30 52.4 +0.1
baz=92,SNR=6.8
BRVK Borovoye 92.08 323 *e*P P 22 30 50.0 -2.2
comp=Z,5.8nm,1.0s,mb4.9
BRVK Borovoye 92.08 323 *e*P P 22 30 50.0 -2.2
BRVK pmax pmax
comp=Z,6.0nm,1.0s,mb4.9
K08A Mann Creek Ran 92.09 47 ⇓P P 22 30 52.4 -0.1
baz=92
N08A GE Springer Mi 92.11 49 P P 22 30 52.2 -0.4
baz=92,SNR=25
L08A Fields 92.13 48 P P 22 30 53.3 +0.7
baz=92,SNR=12
E08A Dider Farm, El 92.17 44 ⇓P P 22 30 52.8 +0.1
baz=92
J08A Circle Bar Ran 92.18 47 ⇑P P 22 30 52.7 -0.2
baz=92
H08A Prairie City 92.18 46 ⇑P P 22 30 52.0 -0.9
baz=92
B08A Colville Reser 92.22 42 ⇑P P 22 30 52.1 -0.8
baz=92
BAR Barrett 92.33 58 *e*P P 22 30 54.6 +0.8
D08A Wollman Farm, 92.33 43 ⇓P P 22 30 53.0 -0.5
baz=92
C08A Higginbotham F 92.34 42 ⇓P P 22 30 53.2 -0.3
baz=92
A08A Turner Farm, O 92.34 41 ⇑P P 22 30 53.3 -0.2
baz=92
S09A Goldfield 92.45 52 ⇓P P 22 30 54.1 -0.1
baz=92
SYO Syowa Base 92.50 199⇑*e*P P 22 30 53.8 0.0
SYO Syowa Base 92.50 199⇑*e*PcP PcP 22 30 55.6 +1.0
GSC Goldstone 92.51 55 *e*P P 22 30 55.3 +0.7
N09A Rock Creek Ran 92.58 49 ⇑P P 22 30 55.2 +0.5
baz=93,SNR=11
L09A Wilkinson Ranc 92.61 48 ⇑P P 22 30 54.7 -0.2
baz=93
Q09A Carvers 92.61 51 ⇓P P 22 30 55.1 +0.2
baz=93
PFO Pinyon Flat Ob 92.61 57 LR LR 23 07 31.0
comp=Z,1µm,18.2s,MS5.5,baz=132,slow=32
R09A Tonopah 92.63 52 P P 22 30 55.5 +0.4
baz=93,SNR=19
K09A Rome 92.64 47 ⇑P P 22 30 54.7 -0.3
baz=93
J09A Fry Pan Ranch, 92.70 47 ⇓P P 22 30 55.3 0.0
baz=93
M09A Marrel Ranch, 92.70 49 ⇑P P 22 30 55.4 +0.1
baz=93
P09A Austin 92.72 51 ⇑P P 22 30 55.7 +0.3
baz=93
D09A Jones Farm, Ri 92.75 43 ⇓P P 22 30 55.2 -0.2
baz=93
O09A Fish Creek Ran 92.76 50 ⇓P P 22 30 56.1 +0.5
baz=93
E09A Wood Farm, Sta 92.79 44 ⇑P P 22 30 55.3 -0.3
baz=93
A09A Danville 92.80 41 ⇑P P 22 30 55.4 -0.2
baz=93
G09A Cove 92.90 45 P P 22 30 56.1 0.0
baz=93,SNR=6.8
S10A Tonopah Range, 92.97 52 P P 22 30 56.9 +0.2
baz=93,SNR=24
B09A Rice 93.02 42 ⇓P P 22 30 55.8 -0.8
baz=93
Q10A Clear Creek Ra 93.22 51 ⇑P P 22 30 57.8 +0.1
baz=93
K10A MacKenzie Ranc 93.28 47 ⇑P P 22 30 57.6 -0.3
baz=93
O10A Cez Mining, 93.29 50 ⇓P P 22 30 58.4 +0.3
baz=93
F10A Beach Ranch, E 93.37 44 P P 22 30 57.9 -0.3
baz=93,SNR=6.2
G10A Bishop Farm, J 93.37 45 P P 22 30 57.2 -1.0
baz=93,SNR=8.4
M10A I.L. Ranch, Tu 93.39 49 ⇓P P 22 30 57.7 -0.8
baz=93
D10A Wagner Farm, O 93.45 43 P P 22 30 58.3 -0.3
baz=93,SNR=6.1
L10A Juniper Basin 93.50 48 ⇓P P 22 30 59.1 +0.1
baz=94,SNR=9.7
H10A Noah's Angus R 93.56 46 ⇑P P 22 30 58.5 -0.7
baz=94
S11A Rachel 93.61 53 ⇓P P 22 30 59.9 +0.3
baz=94
NEW Newport 93.68 42 *e*P P 22 30 58.6 -1.0
comp=Z,5.6nm,0.9s,mb5.0
NEW Newport 93.68 42 *e*P P 22 30 58.6 -1.0
NEW pmax pmax
comp=Z,6.0nm,0.9s
NEW Newport 93.68 42 LR LR 23 08 01.0
comp=Z,3µm,18.8s,MS5.7,baz=341,slow=32
V11A Goodsprings 93.68 55 ⇑P P 22 31 00.4 +0.4
baz=94
Q11A Duckwater 93.80 51 P P 22 31 01.1 +0.7
baz=94,SNR=21
R11A Troy Canyon, C 93.81 52 P P 22 31 00.5 +0.1
baz=94,SNR=14
LDFC Landfair 93.87 55 *e*P P 22 31 02.2 +1.3
K11A Parker Ranch, 93.89 48 ⇑P P 22 31 00.7 -0.1
baz=94
O11A Cowboy Ranch, 93.92 50 ⇑P P 22 31 01.5 +0.6
baz=94,SNR=14
M11A Holland Ranch, 93.94 49 ⇑P P 22 31 01.3 +0.3
baz=94,SNR=5.8
G11A Walters Elk Ra 93.98 45 ⇓P P 22 31 00.4 -0.7
baz=94
T11A Corn Creek, Al 93.99 53 ⇓P P 22 31 01.3 -0.1
baz=94,SNR=7.4
MFID Camas Ranch 94.10 47 ⇓P P 22 31 01.7 0.0
baz=94
E11A Bogner Ranch, 94.11 44 ⇑P P 22 31 00.9 -0.8
baz=94
V12A Nelson 94.14 55 ⇓P P 22 31 02.2 +0.2
baz=94
A11A Hall Mountain, 94.25 41 ⇑P P 22 31 02.4 +0.2
baz=94,SNR=10
P12A McGill 94.44 51 P P 22 31 04.6 +1.2
baz=94,SNR=5.3
N12A Clover Valley, 94.46 50 P P 22 31 04.4 +1.0
baz=94,SNR=12
Q12A Willow Creek R 94.46 51 P P 22 31 04.7 +1.2
baz=94,SNR=10.0
U12A Valley of Fire 94.46 54 ⇑P P 22 31 03.9 +0.4
baz=94
R12A Pony Springs, 94.57 52 ⇑P P 22 31 04.5 +0.5
baz=95
L12A House Creek Ra 94.58 48 P P 22 31 04.8 +0.8
baz=95,SNR=6.9
M12A Wells 94.60 49 P P 22 31 05.0 +0.9
baz=95,SNR=9.4
J12A Stokes Ranch, 94.62 47 P P 22 31 04.2 +0.1
baz=95,SNR=9.3
O12A Currie 94.63 50 P P 22 31 04.6 +0.4
baz=95,SNR=6.8
W13A Hualapai Mount 94.87 55 ⇑P P 22 31 06.5 +1.1
baz=95
X13A Yucca 94.88 56 ⇓P P 22 31 06.2 +0.7
baz=95
U13A Pakoon Wash 94.92 54 ⇑P P 22 31 06.2 +0.6
baz=95
T13A Saint George 95.01 53 ⇓P P 22 31 06.9 +0.8
baz=95
S13A Holt Ranch, En 95.10 53 P P 22 31 06.4 0.0
baz=95,SNR=8.0
P13A Bates Ranch, G 95.12 51 P P 22 31 07.5 +1.0
baz=95,SNR=7.2
M13A Montello 95.16 49 ⇑P P 22 31 07.1 +0.5
baz=95
BSMT Bassoo Peak 95.20 43 *e*P P 22 31 06.4 -0.2
H13A Challis 95.33 46 ⇓P P 22 31 07.0 -0.3
baz=95
F13A Darby 95.36 45 P P 22 31 06.8 -0.7
baz=95,SNR=8.1
I13A Wildhorse Cree 95.38 47 ⇓P P 22 31 07.5 -0.1
baz=95
G13A Cobalt 95.38 45 ⇓P P 22 31 07.6 +0.1
baz=95
ARUT Antelope Range 95.44 53 *e*P P 22 31 08.6 +0.6
B13A Whitefish 95.45 42 ⇓P P 22 31 07.8 0.0
baz=95
Y14A Wickenburg 95.51 57 ⇑P P 22 31 09.6 +1.2
baz=96
W14A Seligman 95.54 55 ⇑P P 22 31 09.3 +0.8
baz=96
U14A Mt Trumbull 95.55 54 P P 22 31 09.1 +0.6
baz=96,SNR=15
V14A Boquillas Ranc 95.55 55 ⇓P P 22 31 09.5 +1.0
baz=96
X14A Yava 95.64 56 ⇓P P 22 31 10.0 +1.1
baz=96
M14A Sheep Mountain 95.78 49 P P 22 31 09.9 +0.5
baz=96,SNR=9.4
WALA Waterton Lakes 95.87 41 *e*P P 22 31 09.8 +0.2
X15A Humboldt 96.18 56 ⇑P P 22 31 12.8 +1.4
baz=96
YKA Yellowknife Ar 96.20 28 P P 22 31 09.8 -1.0
comp=Z,21nm,0.9s,mb5.6,baz=268,slow=4.5,SNR=148
YKA PKiKP PKiKP 22 35 46.6 -2.4
comp=Z,0.4nm,0.6s,baz=268,slow=1.3,SNR=5.7
YKA PKKPbc PKKPbc 22 47 54.9 -5.1
comp=Z,0.4nm,0.6s,baz=84,slow=3.1,SNR=7.1
YKA LR LR 23 17 42.2
comp=Z,339nm,18.0s,MS4.9,baz=335,slow=37
EDM Edmonton 96.44 37 *e*P P 22 31 11.0 -1.2
SPUT South Promonto 96.44 49 *e*P P 22 31 11.2 -1.2
M15A Larsen Ranch, 96.45 49 P P 22 31 12.6 +0.1
baz=96,SNR=6.7
MSU Marysvale 96.49 52 *e*P P 22 31 14.5 +1.7
Y16A Circle Bar Ran 96.77 57 ⇓P P 22 31 14.7 +0.6
baz=97
HWUT Hardware Ranch 97.12 49 *e*P P 22 31 14.7 -0.8
comp=Z,2.8nm,0.7s,mb4.8
217A Green Valley 97.19 59 ⇑P P 22 31 18.0 +1.9
baz=97
BW06 Boulder Array 98.65 48 *e*P P 22 31 21.1 -1.3
comp=Z,4.7nm,0.9s,mb5.0
PDAR Pinedale Array 98.65 48 P P 22 31 20.8 -1.6
comp=Z,4.7nm,0.9s,mb5.0,baz=243,slow=2.6,SNR=24
PDAR LR LR 23 10 24.3
comp=Z,772nm,18.4s,MS5.2,baz=344,slow=32
SNAA Sanae 100.36 187 P Pdif 22 31 29.9 +0.2
comp=Z,0.7nm,0.9s,baz=215,slow=12,SNR=3.0
LAO LASA Array 101.01 44 *e*Pdif Pdif 22 31 32.7 +0.1
comp=Z,9.4nm,0.9s
ISCO Idaho Springs 101.62 51 *e*Pdif Pdif 22 31 35.4 +0.1
SDCO Great Sand Dun 101.73 53 *e*Pdif Pdif 22 31 36.0 +0.2
ULM Lac du Bonnet 107.47 39 PKPdf PKiKP 22 36 07.3 -2.5
ULM Lac du Bonnet 107.47 39 PKiKP PKiKP 22 36 07.3 -2.5
comp=Z,1.5nm,0.6s,baz=247,slow=1.6,SNR=3.5
ARCES ARCESS Array B 109.32 343 PKiKP PKiKP 22 36 11.9 -0.9
comp=Z,4.6nm,1.0s,baz=72,slow=7.8,SNR=3.8
FINES FINESS Array B 113.66 336 PKiKP PKiKP 22 36 19.3 -1.9
comp=Z,1.5nm,0.7s,baz=184,slow=5.7,SNR=4.2
MALT Malatya 114.82 309 *e*PKiKP PKiKP 22 36 23.6 -0.5
MALT Malatya 114.82 309 ⇓*i*P PKiKP 22 36 22.4 -1.7
PLCA Paso Flores 117.00 143 PKP PKPdf 22 36 27.2 -1.1
comp=Z,1.8nm,0.6s,baz=154,slow=1.9,SNR=9.4
KMBO Kilima Mbogo 117.23 265 *e*PKPdf PKPdf 22 36 30.4 +0.9
KMBO Kilima Mbogo 117.23 265 ⇑*i*PKIKP PKPdf 22 36 30.1 +0.6
KMBO Kilima Mbogo 117.23 265 PKP PKPdf 22 36 28.6 -0.9
comp=Z,2.2nm,0.9s,baz=240,slow=24,SNR=6.4
AKASG Malin Array Be 117.26 324 PKP PKPdf 22 36 27.0 -1.4
AKASG PKKPbc PKKPbc 22 46 50.2 -3.7
AKASG Malin Array Be 117.26 324 PKP PKPdf 22 36 27.0 -1.4
comp=Z,5.7nm,0.7s,baz=60,slow=2.1,SNR=17
AKASG PKKPbc PKKPbc 22 46 50.2 -3.7
comp=Z,0.9nm,0.6s,baz=263,slow=4.0,SNR=7.6
ACSO Alum Creek Sta 118.69 48 *e*PKPdf PKPdf 22 36 30.4 -1.1
ANTO Ankara 118.70 312 ⇑P PKPdf 22 36 31.1 -0.5
ANTO Ankara 118.70 312 ⇑*i*P PKPdf 22 36 31.1 -0.5
EIL Elat 119.23 300 PKKPbc PKKPbc 22 46 44.7 -1.5
comp=Z,3.9nm,0.7s,baz=241,slow=4.5,SNR=5.6
NB2 NORSAR Subarra 119.43 341 PKPdf PKPdf 22 36 30.9 -1.4
comp=Z,1.1nm,0.8s,baz=39,slow=1.9
NOA NORSAR Array B 119.43 341 PKP PKPdf 22 36 30.9 -1.4
comp=Z,2.7nm,1.0s,baz=48,slow=1.9,SNR=3.1
BOSA Boshof 120.05 232 PKP PKPdf 22 36 34.5 0.0
comp=Z,4.0nm,0.6s,baz=182,slow=5.0,SNR=12
TIRR Tirgusor 120.26 318 ⇑P PKPdf 22 36 33.5 -0.9
TIRR Tirgusor 120.26 318 ⇑*i*P PKPdf 22 36 33.5 -0.9
ISR Istrita 121.22 319 ⇓*i*P 22 36 25.3
LBTB Lobatse 121.39 235 PKP PKPdf 22 36 36.0 -1.2
comp=Z,5.3nm,0.9s,baz=161,slow=2.6,SNR=6.2
MLR Muntele Rosu 121.45 320 ⇑P PKPdf 22 36 35.9 -0.8
MLR Muntele Rosu 121.45 320 ⇑*i*P PKPdf 22 36 35.9 -0.8
SUR Sutherland 121.45 225 PKP PKPdf 22 36 37.4 +0.2
comp=Z,4.3nm,0.6s,baz=150,slow=4.5,SNR=9.6
KWP Kalwaria 121.47 326 ⇑P PKPdf 22 36 36.1 -0.5
KWP Kalwaria 121.47 326 ⇑*i*P PKPdf 22 36 36.1 -0.5
BLA Blacksburg 121.48 50 *e*PKPdf PKPdf 22 36 34.7 -2.3
SCHQ Schefferville 121.63 27 PKP PKPdf 22 36 34.9 -1.9
comp=Z,3.3nm,0.6s,baz=281,slow=3.1,SNR=8.4
VOIR 122.04 320 ⇑P PKPdf 22 36 37.8 0.0
VOIR 122.04 320 ⇑*i*P PKPdf 22 36 37.8 0.0
KOLS Kolonicke sedl 122.07 325 *e*PKP PKPdf 22 36 37.3 -0.5
KOLS *e* 22 36 43.4
SSPA Standing Stone 122.24 46 *e*PKPdf PKPdf 22 36 36.5 -1.8
TRPA Tarpa 122.32 324 ⇓*i*P PKPdf 22 36 38.1 -0.2
STHS Stebnicka Huta 122.40 326 *i* PKP PKPdf 22 36 38.1 -0.3
CRVS Cervenica-Dubn 122.54 325 *i* PKP PKPdf 22 36 38.9 +0.2
ZIMR 122.59 318 ⇑P PKPdf 22 36 37.0 -1.9
ZIMR 122.59 318 ⇑*i*P PKPdf 22 36 37.0 -1.9
LSZ Lusaka 122.80 247 PKP PKPdf 22 36 39.5 -0.6
comp=Z,7.9nm,1.0s,baz=124,slow=0.4,SNR=12
NIE Niedzica 122.91 326 *e*P PKPdf 22 36 39.3 -0.1
SDMD Soldier's Deli 123.43 47 *e*PKPdf PKPdf 22 36 38.8 -1.9
GZR Gura Zlata 123.49 321 ⇑*i*P PKPdf 22 36 37.8 -2.8
MVL Millersville 123.57 46 *e*PKPdf PKPdf 22 36 39.1 -1.9
OKC Ostrava-Krasne 123.85 328 *e*PKPdf PKPdf 22 36 41.4 +0.3
OKC *ep*PKP pPKPdf 22 36 47.7 +3.9
CFAA Coronel Fontan 123.92 135 PKP PKPdf 22 36 40.5 -1.4
comp=Z,1.1nm,0.6s,baz=244,slow=4.7
PSZ Piszkesteto 123.95 325 ⇑P PKPdf 22 36 41.1 -0.3
PSZ Piszkesteto 123.95 325 ⇑*i*P PKPdf 22 36 41.1 -0.3
PSZ Piszkesteto 123.95 325⇑*e*PKP PKPdf 22 36 41.1 -0.3
BZS Buzias 124.10 322 ⇑P PKPdf 22 36 40.5 -1.3
BZS Buzias 124.10 322 ⇑*i*P PKPdf 22 36 40.5 -1.3
MORC Moravsky Berou 124.21 328 ⇓P PKPdf 22 36 42.5 +0.6
MORC Moravsky Berou 124.21 328 ⇓*i*P PKPdf 22 36 42.5 +0.7
VYHS Vyhne 124.23 326 *i* PKP PKPdf 22 36 40.9 -1.0
VTS Vitosha 124.48 318 ⇓*i*P PKPdf 22 36 40.9 -1.7
DPC Dobruska-Polom 124.50 329 *e*PKPdf PKPdf 22 36 42.9 +0.5
DPC *ep*PKP pPKPdf 22 36 48.4 +3.4
UPC Upice 124.56 329 *e*PKPdf PKPdf 22 36 43.3 +0.8
UPC *ep*PKP pPKPdf 22 36 48.5 +3.3
VRAC Vranov 124.98 328 ⇑P PKPdf 22 36 42.9 -0.4
VRAC Vranov 124.98 328 ⇑*i*P PKPdf 22 36 42.9 -0.4
APE Apeiranthos 124.99 311 ⇑*i*P PKPdf 22 36 41.8 -1.9
MODS Modra-Piesok 125.16 327 *e*PKP PKPdf 22 36 42.4 -1.3
ATAH Atahualpa 125.16 103 PKP PKPdf 22 36 45.1 +0.4
comp=Z,5.6nm,0.7s,baz=347,slow=3.7,SNR=4.8
PVCC Panska Ves 125.28 330 *e*PKPdf PKPdf 22 36 44.3 +0.4
ZST Bratislava 125.36 327 *e*PKP PKPdf 22 36 44.5 +0.4
BRG Berggiesshubel 125.36 331 *i* PKIKP PKPdf 22 36 43.0 -1.0
BRG *i* 22 36 49.5
BRG *i* 22 36 54.3
BRG pmax pmax
comp=Z,4.0nm,0.9s
BRG MLR MLR
comp=Z,400nm,19.5s,MS5.1
BRG Berggiesshubel 125.36 331 *e*PKPdf PKPdf 22 36 44.2 +0.2
BRG Berggiesshubel 125.36 331 *e*PKP PKPdf 22 36 43.2 -0.8
comp=Z,14nm,1.1s
VAY Valandovo 125.46 317 *e*PKP PKPdf 22 36 42.8 -1.7
CLL Collm 125.53 332 *i* PKIKP PKPdf 22 36 43.0 -1.3
CLL *i* 22 36 49.5
CLL *i* 22 36 54.3
CLL pmax pmax
comp=Z,4.0nm,0.9s
CLL MLR MLR
comp=Z,400nm,19.5s,MS5.1
CLL Collm 125.53 332 *e*PKPdf PKPdf 22 36 43.3 -1.0
CLL Collm 125.53 332 *i* PKPdf PKPdf 22 36 43.0 -1.3
comp=Z,13nm,0.9s
CLL *i* (pPKPdf) 22 36 49.5
CLL *i* x x 22 36 54.3
CLL LmV 23 35 00.0

comp=Z,400nm,19.5s
STIP Stip 125.55 317 *e*PKP PKPdf 22 36 43.0 -1.7
TREC Trest 125.57 328 *e*PKPdf PKPdf 22 36 43.9 -0.6
TREC *ep*PKP pPKPdf 22 36 49.6 +2.5
PKSM Moragy 125.58 324 ⇑P PKPdf 22 36 43.9 -0.7
PKSM Moragy 125.58 324 ⇑*i*P PKPdf 22 36 43.9 -0.7
PRU Pruhonice 125.63 330 *e*PKPdf PKPdf 22 36 43.6 -0.9
PRU *ep*PKP pPKPdf 22 36 50.5 +3.3
SKO Skopje 125.93 318 *e*PKP PKPdf 22 36 43.7 -1.7
SOP Sopron 125.95 326⇓*e*PKP PKPdf 22 36 45.3 +0.1
NRDL Niedersach Rie 126.04 334 *e*PKPdf PKPdf 22 36 44.4 -0.8
KRUS Krusevo 126.33 317 *e*PKP PKPdf 22 36 44.5 -1.7
CLZ Clausthal 126.38 333 *e*PKPdf PKPdf 22 36 45.9 0.0
TANN Tannenbergstha 126.38 331 *e*PKPdf PKPdf 22 36 45.7 -0.3
BIA Bitola 126.43 317 *e*PKP PKPdf 22 36 44.7 -1.7
NKC Novy Kostel 126.50 331 *e*PKPdf PKPdf 22 36 46.6 +0.4
NKC *ep*PKP pPKPdf 22 36 52.3 +3.4
MOX Moxa 126.63 332 *e*PKP PKPdf 22 36 45.6 -0.8
comp=Z,10.0nm,1.3s
MOX Moxa 126.63 332 *e*PKIKP PKPdf 22 36 45.6 -0.8
MOX pmax pmax
comp=Z,2.0nm,1.3s
KHC Kasperske Hory 126.66 329 *e*PKPdf PKPdf 22 36 46.0 -0.5
KHC *ep*PKP pPKPdf 22 36 51.8 +2.6
OHR Ohrid 126.75 317 *e*PKP PKPdf 22 36 45.3 -1.7
GEC2 GERESS Array S 126.77 329 *e*PKPdf PKPdf 22 36 46.2 -0.6
GERES GERESS Array B 126.77 329 PKP PKPdf 22 36 46.0 -0.7
comp=Z,5.3nm,0.7s,baz=72,slow=1.7,SNR=38
MANZ Manzenberg 126.83 331 *e*PKPdf PKPdf 22 36 47.2 +0.3
ROTZ Rotzenmuhle 126.93 331 *e*PKPdf PKPdf 22 36 47.3 +0.3
WET Wettzell 127.00 330 *e*PKPdf PKPdf 22 36 46.5 -0.7
UBBA Unterbreizbach 127.26 333 *e*PKPdf PKPdf 22 36 47.8 +0.2
GRA1 Grafenberg Arr 127.46 331 *e*PKPdf PKPdf 22 36 47.8 -0.3
GRF Grafenberg Arr 127.46 331 *e*PKPdf PKPdf 22 36 47.8 -0.3
GCIS Gornji Cirnik 127.52 325 *i* PKPdf PKPdf 22 36 48.0 -0.3
ZAVS Zavodnje 127.53 326 *e*PKPdf PKPdf 22 36 47.8 -0.5
LJU Ljubljana 128.04 326 *e*PKPdf PKPdf 22 36 48.0 -1.3
CEY Cerknica 128.28 325 *e*PKPdf PKPdf 22 36 48.6 -1.1
FUR Furstenfeldbru 128.44 329 *e*PKPdf PKPdf 22 36 49.9 -0.1
WTTA Wattenberg 128.85 328⇑*i*P PKPdf 22 36 49.8 -1.0
comp=Z,17nm,1.1s
STU Stuttgart 129.06 331 *e*PKPdf PKPdf 22 36 51.2 +0.1
MOTA Moosalm 129.07 329⇑*i*P PKPdf 22 36 50.6 -0.6
comp=Z,9.6nm,1.1s
FETA Feichten 129.48 329⇑*i*PKIKP PKiKP 22 36 51.6 -1.1
comp=Z,12nm,1.1s
WLF Walferdange 129.81 334 *e*PKPdf PKPdf 22 36 53.3 +0.8
TSUM Tsumeb 130.63 238 PKP PKPdf 22 36 54.7 -0.3
comp=Z,3.3nm,0.8s,baz=122,slow=4.0,SNR=7.4
AQU L'Aquila 130.85 322 ⇓P PKPdf 22 36 56.3 +1.6
AQU L'Aquila 130.85 322 ⇓*i*P PKPdf 22 36 56.3 +1.5
HAU Haudompre 130.94 332 *e*PKIKP PKPdf 22 36 54.6 -0.1
comp=Z,19nm,0.8s
ROSC El Rosal 131.06 89 PKP PKPdf 22 36 55.2 -0.7
comp=Z,4.9nm,0.4s,baz=103,slow=22,SNR=3.8
LPAZ La Paz 131.70 119 PKP PKPdf 22 36 56.8 -0.3
comp=Z,4.6nm,0.6s,baz=326,slow=2.2,SNR=19
LPG La Plagne 132.54 330 *e*PKIKP PKPdf 22 36 57.8 0.0
comp=Z,13nm,0.8s
SSF Saint Saulge 132.93 333 *e*PKIKP PKPdf 22 36 58.1 -0.4
comp=Z,10nm,0.8s
SDV Santo Domingo 134.92 84 *e*PKPdf PKPdf 22 37 02.8 -0.4
KEST Kesra 137.21 317 PKhKP 22 37 08.9
comp=Z,2.6nm,0.7s,baz=118,slow=4.1,SNR=7.7
SIV San Ignacio 137.87 123 PKP PKPdf 22 37 06.9 -1.7
SIV San Ignacio 137.87 123 PKhKP 22 36 54.9
comp=Z,1.1nm,0.7s,baz=257,slow=9.4,SNR=4.4
SIV PKP PKPdf 22 37 06.9 -1.7
comp=Z,3.9nm,0.7s,baz=254,slow=2.0,SNR=9.6
ETSF Etsaut 137.97 333 *e*PKIKP PKPdf 22 37 08.2 +0.1
comp=Z,17nm,0.8s
ESDC Sonseca Array 142.09 333 PKP PKPdf 22 37 14.3 -1.3
comp=Z,0.9nm,0.7s,baz=9.2,slow=4.1,SNR=3.9
MVO Moncorvo 142.12 338 *e*PKP PKPdf 22 37 11.6 -4.0
MTE Manteigas 142.97 337 *e*PKP PKPdf 22 37 15.1 -2.1
PBAR Barrancos 144.67 335 *e*PKP PKPdf 22 37 20.4 +0.2
EVO Evora 144.77 336 *e*PKP PKPdf 22 37 18.9 -1.5
PMAFR Mafra 144.89 338 *e*PKP PKPdf 22 37 20.2 -0.4
PVAQ Vaqueiros 145.61 335 *e*PKP PKPdf 22 37 22.1 +0.2
PBDV Barranco-do-Ve 145.84 335 *e*PKP PKPdf 22 37 22.4 +0.1
MORF Marmelete 146.08 336 *e*PKP PKPdf 22 37 22.7 0.0
PFVI Vila Bisbo 146.30 336 *e*PKP PKPdf 22 37 24.5 +1.4
BDFB Brasilia 148.25 135 PKP PKPdf 22 37 25.6 -1.3
comp=Z,31nm,0.7s,baz=186,slow=1.4,SNR=24
BDFB PKPbc PKPbc 22 37 29.8 -0.4
comp=Z,31nm,0.7s,baz=303,slow=2.8,SNR=39
TORD Torodi Ar. Bea 152.82 286 PKP PKPdf 22 37 33.5 -0.6
comp=Z,2.1nm,0.7s,baz=29,slow=1.3,SNR=18
TORD PKPbc PKPbc 22 37 39.3 -1.9
comp=Z,32nm,0.9s,baz=32,slow=2.0,SNR=69
TORD PP PP 22 41 24.9 -0.3
comp=Z,2.3nm,1.0s,baz=36,slow=5.7,SNR=4.0
DBIC Dimbokro 159.84 271 PKP PKPdf 22 37 43.0 -0.3
DBIC PKPab PKPab 22 38 21.7 -0.7
DBIC Dimbokro 159.84 271 PKP PKPdf 22 37 43.0 -0.3
comp=Z,3.1nm,0.9s,baz=90,slow=6.0,SNR=3.3
DBIC PKPab PKPab 22 38 21.7 -0.7
comp=Z,4.9nm,0.7s,baz=80,slow=6.9,SNR=6.5

TEH ***03*** *22:25:59.8, 3589N×5310E, h2km, ML3.7*
CSEM ***03*** *22:27:35.1±0.1, 3591N×5309E, h5km, ML3.7, Error ellipse: s-maj=1.9km s-min=1.3km az=168.0*
ISCJB ***03*** *22:27:36.2±0.5, 3590N±004×5309E±004, h10km, Error ellipse: s-maj=5.8km s-min=3.9km az=161.0*
THR ***03*** *22:27:37.3±1.5, 3589N×5301E, h17km±16km, ML3.2*
ISC 03 22:27:37.7±0.5, 3586N±004×5306E±004, h10km, n30, σ1°31/40, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ISHM	**Shahmirzad**	**0.19**	**105**	*e*Pg	**Pg**	**22 27 39.6**	**-2.2**
ISHM				*e*Sg	**Sg**	**22 27 42.7**	**-1.8**
ISHM				*e*		22 27 43.6	
comp=Z,33μm,0.1s							
ISHM	**Shahmirzad**	**0.19**	**105**	*e*Pg	**Pg**	**22 27 39.6**	**-2.2**
ISHM				*e*Sg	**Sg**	**22 27 42.7**	**-1.8**
IFIR	**Firoozkooh**	**0.33**	**230**	*e*Pg	**Pg**	**22 27 43.6**	**-0.6**
IFIR				*e*Sg	**Sg**	**22 27 49.2**	**+0.5**
IFIR				*e*		22 27 51.0	
comp=Z,4μm,0.1s							
IFIR	**Firoozkooh**	**0.33**	**230**	*e*Pg	**Pg**	**22 27 43.6**	**-0.6**
IFIR				*e*Sg	**Sg**	**22 27 49.2**	**+0.5**
ILAS	**Lasjerd**	**0.48**	**190**	*e*Pg	**Pg**	**22 27 46.3**	**-0.7**
ILAS				*e*		22 27 54.9	
comp=Z,67μm,0.1s							
IGLO	**Ghaloghah**	**0.57**	**38**	*e*Pg	**Pg**	**22 27 51.9**	**+3.1**
IGLO				*e*		22 28 11.2	
comp=Z,13μm,0.2s							
IANJ	**Anjilo**	**0.79**	**119**	*e*Pg	**Pg**	**22 27 50.7**	**-2.3**
IANJ				*e*		22 28 04.1	
comp=Z,8μm,0.1s							
IDMV	**Damavand**	**0.88**	**252**	*e*Pg	**Pg**	**22 27 53.3**	**-1.4**
IDMV				*e*		22 28 11.7	
comp=Z,11μm,0.1s							
DAMV	**Damavand**	**0.92**	**256**	*e*Pg	**Pg**	**22 27 53.7**	**-1.6**
DAMV				AML	AML	22 28 09.8	
comp=E,725nm,0.6s							
DAMV				AML	AML	22 28 15.0	
comp=N,600nm,0.7s							
CHTH	**Charan**	**1.57**	**272**	*e*Pg	**Pn**	**22 28 05.2**	**-0.4**
ISFB	**Sefidab**	**1.64**	**205**	*e*Pn	**Pn**	**22 28 07.1**	**+0.5**
ISFB				*e*Sn	**Sn**	**22 28 29.7**	**+1.9**
ISFB				*e*		22 28 34.1	
comp=Z,14μm,0.1s							
ISFB	**Sefidab**	**1.64**	**205**	*e*Pn	**Pn**	**22 28 07.1**	**+0.5**
ISFB				*e*Sn	**Sn**	**22 28 29.7**	**+1.9**
THKV	**Tehran--Karaj**	**1.77**	**273**	*e*Pg	**Pg**	**22 28 09.5**	**-2.2**
THKV				AML	AML	22 28 45.2	
comp=E,240nm,0.2s							
THKV				AML	AML	22 28 48.9	
comp=N,250nm,0.1s							
IMHD	**Mahdasht**	**1.96**	**266**	*e*Pn	**Pn**	**22 28 12.0**	**+1.1**
IMHD				*e*		22 28 46.8	
comp=Z,2μm,0.1s							
GHVR	**GHOM**	**2.00**	**227**	*e*Pg	**Pg**	**22 28 14.5**	**-1.5**
IRAZ	**Razeghan**	**2.59**	**261**	*e*Pn	**Pn**	**22 28 21.6**	**+1.9**
IRAZ				*e*		22 29 06.8	
comp=Z,2μm,0.1s							
ASAO	**Ashtian**	**2.81**	**243**	*e*Pn	**Pn**	**22 28 24.3**	**+1.6**
ASAO				*e*Sg	**Sg**	**22 29 04.5**	**-3.5**
ASAO				AML	AML	22 29 09.7	
comp=E,72nm,0.5s							
ASAO	**Ashtian**	**2.81**	**243**	Pn	**Pn**	**22 28 24.3**	**+1.7**
SNR=1.0							
ASAO				*e*Sg	**Sg**	**22 29 04.5**	**-3.4**
comp=E,72nm,0.5s,SNR=91							
IKLH	**Kolahrood**	**2.81**	**206**	*e*Pn	**Pn**	**22 28 22.9**	**+0.2**
IKLH				*e*Sn	**Sn**	**22 28 57.4**	**+0.8**
IKLH				*e*		22 29 07.9	
comp=Z,2μm,0.2s							
IKLH	**Kolahrood**	**2.81**	**206**	*e*Pn	**Pn**	**22 28 22.9**	**+0.2**
IKLH				*e*Sn	**Sn**	**22 28 57.4**	**+0.8**
IZEF	**Zefreh**	**3.01**	**192**	*e*Pn	**Pn**	**22 28 24.9**	**-0.6**
IZEF				*e*		22 29 11.7	
comp=Z,1μm,0.1s							
MRVT	**Maraveh tapeh**	**3.02**	**53**	*e*Pn	**Pn**	**22 28 26.9**	**+1.3**
NASN	**Na'in**	**3.06**	**184**	*e*Pn	**Pn**	**22 28 27.1**	**+1.0**
ICHK	**Chekchek**	**3.77**	**162**	*e*Pn	**Pn**	**22 28 36.6**	**+0.7**
ICHK				*e*		22 29 46.1	
comp=Z,740nm,0.2s							
ISHV	**Shirvan**	**4.08**	**64**	*e*Pn	**Pn**	**22 28 39.9**	**-0.2**
ISHV				*e*		22 29 59.8	
comp=Z,614nm,0.2s							
ISFR	**Sfrayin**	**4.15**	**72**	*e*Pn	**Pn**	**22 28 42.5**	**+1.4**
ISFR				*e*		22 28 58.8	
comp=Z,346nm,0.2s							
IMEH	**Mehriz**	**4.64**	**163**	*e*Pn	**Pn**	**22 28 48.9**	**+1.1**
IMEH				*e*		22 28 49.4	
comp=Z,715nm,0.1s							
IBAF	**Bafgh**	**4.74**	**153**	*e*Pn	**Pn**	**22 28 49.9**	**+0.7**
GRMI	**Germi**	**5.07**	**307**	*e*Pn	**Pn**	**22 28 53.4**	**-0.3**
IMYA	**Miami**	**5.72**	**83**	*e*Pn	**Pn**	**22 29 02.2**	**-0.5**
IMYA				*e*		22 31 25.0	
comp=Z,99nm,0.3s							

IDC ***03*** *22:32:30.9±1.5, 209N×9664E, h0km, mb4.2/6, mb1 4.3/6, mb1mx3.9/20, mbtmp4.2/6, ML3.0/1, Error ellipse: s-maj=48.9km s-min=19.2km az=52.0*
NEIC ***03*** *22:32:35.2±0.8, 2.12N×9668E, h30km, mb4.3/6, Error ellipse: s-maj=19.6km s-min=11.1km az=30.0*
ISCJB ***03*** *22:32:37.6±4.9, 2.3N±02×969E±03, h60km±38km, mb4.3/15, Error ellipse: s-maj=60.0km s-min=15.7km az=141.1*
ISC 03 22:32:38.1±5.0, 22N±02×969E±03, h48km±40km, n21, σ0°70/21, mb4.3/15, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.14**	**74**	Pn	**Pn**	**22 33 11.4**	**0.0**
3.8nm,0.3s,baz=275,slow=8.9,SNR=16							
KULM	**Kulim**	**4.86**	**51**	*e*Pn	**Pn**	**22 33 48.9**	**+0.1**
JIRN	**Jiri**	**27.28**	**339**	*e*P	**P**	**22 38 19.0**	**+0.8**
3.0nm,0.3s,mb4.4							
KKN	**Kakani**	**27.74**	**338**	*e*P	**P**	**22 38 22.7**	**+0.4**
20nm,0.9s,mb4.8							
LSA	**Lhasa**	**27.87**	**349**	*e*Pn	**P**	**22 38 21.1**	**-2.3**
7.5nm,1.0s,mb4.3							
GKN	**Gorkha**	**28.18**	**337**	*e*P	**P**	**22 38 26.6**	**+0.4**
KOLN	**Koldanda**	**28.40**	**335**	*e*P	**P**	**22 38 27.9**	**-0.3**
20nm,0.7s,mb4.9							
KBL	**Kabul**	**41.30**	**324**	P	**P**	**22 40 17.7**	**-1.4**
3.0nm,0.5s,mb4.2							
WRA	**Warramunga Arr**	**42.86**	**123**	P	**P**	**22 40 32.4**	**+0.3**
1.8nm,0.7s,mb3.9,baz=301,slow=9.2,SNR=12							
ASAR	**Alice Springs**	**44.28**	**128**	P	**P**	**22 40 43.0**	**-0.4**
1.2nm,0.7s,mb3.8,baz=299,slow=7.8,SNR=12							
UCH	**Uchtor**	**44.59**	**336**	*e*P	**P**	**22 40 45.9**	**+0.3**
6.0nm,0.8s,mb4.5							
AML	**Almayashu**	**44.84**	**335**	*e*P	**P**	**22 40 49.0**	**+1.4**
2.0nm,0.5s,mb4.2							
MK31	**Makanchi Array**	**46.18**	**346**	*e*P	**P**	**22 40 58.1**	**+0.1**
MKAR	**Makanchi Array**	**46.18**	**346**	P	**P**	**22 40 57.9**	**-0.2**
MKAR	**Makanchi Array**	**46.18**	**346**	P	**P**	**22 40 57.9**	**-0.2**
1.5nm,0.3s,mb4.4,baz=163,slow=9.2,SNR=83							
SONM	**Songino Array**	**46.19**	**9**	P	**P**	**22 40 58.2**	**+0.1**
2.5nm,0.7s,mb4.3,baz=190,slow=9.6,SNR=21							
SONM				PcP	PcP	22 42 34.1	+0.8
0.4nm,0.5s,baz=193,slow=4.5,SNR=5.6							
KURK	**Kurchatov**	**50.73**	**345**	*e*P	**P**	**22 41 33.1**	**0.0**
4.5nm,0.9s,mb4.4							
ZAA0	**Zalesovo Array**	**52.51**	**351**	*e*P	**P**	**22 41 46.1**	**-0.2**
ZALV	**Zalesovo Beam**	**52.51**	**351**	P	**P**	**22 41 46.2**	**0.0**
4.1nm,0.4s,mb4.7,baz=174,slow=7.0,SNR=32							
BRVK	**Borovoye**	**55.25**	**341**	*e*P	**P**	**22 42 06.1**	**-0.2**
3.5nm,1.0s,mb4.3							
ARCES	**ARCESS Array B**	**81.47**	**340**	P	**P**	**22 44 50.3**	**+0.4**
4.1nm,1.0s,mb4.3,baz=97,slow=7.4,SNR=5.7							

IDC ***03*** *22:32:53.4±6.2, 4459N×149.15E, h0km, mb3.8/8, mb1 3.9/9, mb1mx3.7/21, mbtmp3.8/9, ML3.1/1, Error ellipse: s-maj=161.3km s-min=25.2km az=163.0*
MOS ***03*** *22:32:54.2±1.0, 4420N×149.26E, h33km, mb4.1/5, Error ellipse: s-maj=21.6km s-min=17.8km az=129.2*
ISCJB ***03*** *22:32:55.4±1.2, 4387N±009×1492E±01, h57km±11km, mb3.9/9, Error ellipse: s-maj=16.5km s-min=9.6km az=144.7*
NEIC ***03*** *22:32:55.3±1.4, 4404N×1494 1E, h35km, MG3.8(JMA), Error ellipse: s-maj=41.0km s-min=13.0km az=154.0*
JMA ***03*** *22:32:55.5±0.6, 4432N×149.16E, h30km, M3.8*
ISC 03 22:32:57.2±1.2, 4395N±007×1492E±01, h52km±11km, n48, σ0°81/58, mb3.9/9, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.59**	**325**	*e*PN	**Pn**	**22 33 18.0**	**-4.9**
KUR				*i* S	**Sn**	**22 33 41.0**	**-1.2**
KUR				pmax	pmax		
comp=Z,330nm,0.4s							
KUR				smax			
comp=N,840nm,0.5s							
KUR				smax			
comp=E,650nm,0.5s							
YUK	**Yuzh-Kuril'sk**	**2.39**	**273**	*e*PN	**Pn**	**22 33 23.0**	**-11**
NEM2	**Nemuro 2**	**2.56**	**258**	P	**Pn**	**22 33 35.2**	**-0.9**
NEM2				*e*S	**Sn**	**22 34 04.9**	**-1.0**
JRA	**Rausu**	**2.92**	**271**	P	**Pn**	**22 33 41.3**	**+0.2**
JNK	**Nakash**	**3.25**	**265**	P	**Pn**	**22 33 45.1**	**-0.4**
JAK	**Akkeshi**	**3.39**	**255**	P	**Pn**	**22 33 47.0**	**-0.5**
JAK				*e*S	**Sn**	**22 34 25.6**	**-0.9**
JTKR	**Abashiri--Toko**	**3.80**	**272**	P	**Pn**	**22 33 53.6**	**+0.5**
JAR	**Ashorobuto**	**3.98**	**262**	P	**Pn**	**22 33 55.6**	**+0.1**
JAR				*e*S	**Sn**	**22 34 41.3**	**+0.5**
JOB	**Onbets**	**4.03**	**257**	P	**Pn**	**22 33 56.3**	**+0.1**
JMP	**Maruseppu**	**4.20**	**273**	P	**Pn**	**22 33 59.1**	**+0.6**
JCH	**Churui**	**4.45**	**255**	P	**Pn**	**22 34 02.2**	**+0.2**
JCH				*e*S	**Sn**	**22 34 52.6**	**+0.2**
JKK2	**Kamakawa 2**	**4.64**	**271**	P	**Pn**	**22 34 06.1**	**+1.4**
ASAJ	**Asahikawa**	**4.74**	**274**	PN	**Pn**	**22 34 06.7**	**+0.6**
ASAJ				pmax	pmax		
comp=Z,1.0nm,0.3s							
ASAJ	**Asahikawa**	**4.74**	**274**	Pn	**Pn**	**22 34 06.7**	**+0.6**
comp=Z,0.7nm,0.3s,baz=96,slow=9.2,SNR=3.2							
ERM	**Erimo**	**4.82**	**248**	*e*Pn	**Pn**	**22 34 08.3**	**+1.3**
comp=Z,15nm,0.4s							
ERM				*e*Sn	**Sn**	**22 35 01.6**	**0.0**
ERM	**Erimo**	**4.82**	**248**	*e*PN	**Pn**	**22 34 08.3**	**+1.2**
ERM				pmax	pmax		
comp=Z,15nm,0.4s							
JNBK	**Urakawa-nobuka**	**4.99**	**253**	P	**Pn**	**22 34 09.6**	**+0.2**
JBT2	**Biratori 2**	**5.10**	**259**	P	**Pn**	**22 34 11.0**	**+0.1**
JEW	**Eniwo**	**5.73**	**262**	P	**Pn**	**22 34 21.2**	**+1.6**
JNB	**Noboribetsu**	**6.12**	**259**	P	**Pn**	**22 34 25.4**	**+0.4**
JNB				*e*S	**Sn**	**22 35 33.9**	**+0.2**
JKB	**Kayabe**	**6.32**	**254**	P	**Pn**	**22 34 27.7**	**0.0**
JKB				*e*S	**Sn**	**22 35 34.8**	**-3.7**
JYM2	**Yakumo 2**	**6.70**	**257**	P	**Pn**	**22 34 32.9**	**0.0**
JYM2				*e*S	**Sn**	**22 35 40.4**	**-7.5**
JANG	**Nango**	**6.71**	**241**	P	**Pn**	**22 34 31.4**	**-1.7**
JANG				*e*S	**Sn**	**22 35 42.5**	**-5.7**
JTM	**Tenmabayashi**	**6.78**	**245**	*e*S	**Sn**	**22 35 46.2**	**-3.6**
JSR	**Shiriuchi**	**6.88**	**252**	P	**Pn**	**22 34 35.5**	**+0.1**
JOSM	**Okushiri--Mats**	**7.35**	**259**	P	**Pn**	**22 34 42.0**	**+0.3**
OFUJ	**Ofunato**	**7.44**	**232**	*e*S	**Sn**	**22 36 01.0**	**-4.9**
JRG	**Rokugo**	**7.84**	**237**	P	**Pn**	**22 34 48.5**	**0.0**
JIO	**Ouri**	**8.05**	**230**	*e*S	**Sn**	**22 36 14.8**	**-6.2**
SONM	**Songino Array**	**29.74**	**293**	P	**P**	**22 38 59.4**	**+1.0**
SONM				pmax	pmax		
comp=Z,1.0nm,0.7s							
SONM	**Songino Array**	**29.74**	**293**	P	**P**	**22 38 59.4**	**+1.0**
comp=Z,0.7nm,0.7s,mb3.5,baz=89,slow=9.7,SNR=5.2							
TNA	**Tin City**	**31.90**	**32**	P	**P**	**22 39 18.2**	**+1.1**
INK	**Inuvik**	**45.49**	**31**	P	**P**	**22 41 10.8**	**0.0**
INK				pmax	pmax		
comp=Z,1.0nm,0.4s							
INK	**Inuvik**	**45.49**	**31**	P	**P**	**22 41 10.8**	**-0.1**
comp=Z,0.5nm,0.4s,mb3.7,baz=256,slow=12,SNR=3.7							
MKAR	**Makanchi Array**	**45.79**	**298**	P	**P**	**22 41 13.7**	**+0.3**
MKAR				pmax	pmax		
comp=Z,2.0nm,0.8s							
MKAR	**Makanchi Array**	**45.79**	**298**	P	**P**	**22 41 13.7**	**+0.3**
comp=Z,1.5nm,0.8s,mb4.0,baz=76,slow=7.3,SNR=7.2							
YKA	**Yellowknife Ar**	**54.82**	**34**	P	**P**	**22 42 20.2**	**-1.3**
YKA	**Yellowknife Ar**	**54.82**	**34**	P	**P**	**22 42 20.2**	**-1.3**
comp=Z,0.2nm,0.6s,mb3.3,baz=297,slow=6.8,SNR=2.8							
FINES	**FINESS Array B**	**65.36**	**334**	P	**P**	**22 43 33.2**	**-0.3**
FINES	**FINESS Array B**	**65.36**	**334**	P	**P**	**22 43 33.2**	**-0.4**
FINES				pmax	pmax		
comp=Z,2.0nm,0.6s							
FINES	**FINESS Array B**	**65.36**	**334**	P	**P**	**22 43 33.2**	**-0.3**
comp=Z,1.6nm,0.6s,mb4.3,baz=39,slow=7.1,SNR=11							
YMR	**Madison River**	**66.66**	**50**	*e*P	**P**	**22 43 40.3**	**-2.0**
comp=Z,12nm,0.6s,mb5.1							
NB2	**NORSAR Subarra**	**69.94**	**340**	P	**P**	**22 44 02.2**	**-0.2**
comp=Z,0.9nm,0.5s,mb4.0,baz=30,slow=6.5							
NOA	**NORSAR Array B**	**69.94**	**340**	P	**P**	**22 44 02.4**	**0.0**
NOA	**NORSAR Array B**	**69.94**	**340**	P	**P**	**22 44 02.4**	**0.0**
NOA				pmax	pmax		
comp=Z,2.0nm,0.8s							
NOA	**NORSAR Array B**	**69.94**	**340**	P	**P**	**22 44 02.4**	**0.0**
comp=Z,1.8nm,0.8s,mb4.1,baz=32,slow=6.1,SNR=5.5							
AKASG	**Malin Array Be**	**72.28**	**325**	P	**P**	**22 44 16.8**	**0.0**
comp=Z,0.2nm,0.2s,mb3.6,baz=41,slow=7.3,SNR=4.2							
GERES	**GERESS Array B**	**79.69**	**332**	P	**P**	**22 44 59.8**	**+0.9**
comp=Z,0.3nm,0.4s,mb3.6,baz=46,slow=7.6,SNR=5.1							

IDC 03 22:38:15.7±1.7, 757S×15510E, h0km, mb3.5/3, mb1 3.6/3, mb1mx3.4/14, mbtmp3.5/3, Error ellipse: s-maj=51.1km s-min=38.1km az=113.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.58**	**236**	P	P	22 43 27.8	-0.7
1.0nm,0.6s,baz=66,slow=9.5,SNR=8.8							
SONM	**Songino Array**	**69.88**	**327**	P	P	22 49 29.0	+0.7
0.3nm,0.8s,baz=142,slow=4.9,SNR=2.5							
MKAR	**Makanchi Array**	**83.91**	**319**	P	P	22 50 46.5	-1.0
0.3nm,0.7s,baz=113,slow=5.0,SNR=3.7							
BDFB	**Brasilia**	**147.50**	**135**	PKPbc	PKPbc	22 58 03.1	+0.3
2.5nm,0.5s,baz=243,slow=2.3,SNR=5.4							

IDC 03 22:42:24.1±1.4, 842S×15785E, h0km, mb3.5/3, mb1 3.6/4, mb1mx3.4/15, mbtmp3.6/4, ML4.0/1, MS3.3/1, Ms1 3.3/1, ms1mx3.0/27, Error ellipse: s-maj=41.6km s-min=30.2km az=24.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.30**	**116**	Pn	Pn	22 43 03.3	-0.1
38nm,0.3s,baz=84,slow=23,SNR=3.4							
HNR				LR	LR	22 43 52.6	
comp=Z,561nm,18.4s,baz=354,slow=38							
WRA	**Warramunga Arr**	**25.47**	**241**	P	P	22 47 54.1	0.0
1.0nm,1.0s,baz=66,slow=9.5,SNR=3.1							
SONM	**Songino Array**	**72.07**	**326**	P	P	22 53 50.9	+0.8
0.2nm,0.6s,baz=134,slow=7.6,SNR=2.8							
MKAR	**Makanchi Array**	**86.34**	**318**	P	P	22 55 07.7	-0.5
0.2nm,0.8s,baz=101,slow=6.0,SNR=2.2							

IDC 03 22:55:55.0±8.6, 1820S×17717E, h0km, mb4.1/5, mb1 4.3/5, mb1mx4.0/14, mbtmp4.1/5, Error ellipse: s-maj=194.5km s-min=38.7km az=33.0, Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**29.25**	**261**	P	P	23 01 58.8	-0.1
3.1nm,0.5s,baz=81,slow=10.0,SNR=4.2							
STKA	**Stephens Creek**	**34.82**	**240**	P	P	23 02 48.0	+0.3
3.9nm,0.8s,baz=77,slow=11,SNR=8.9							
WRA	**Warramunga Arr**	**40.44**	**260**	P	P	23 03 35.3	-0.2
0.4nm,0.6s,baz=97,slow=8.8,SNR=6.1							
ASAR	**Alice Springs**	**40.66**	**255**	P	P	23 03 37.3	0.0
3.0nm,0.8s,baz=83,slow=8.9,SNR=27							
VNDA	**Vanda**	**59.84**	**184**	P	P	23 06 01.8	-0.1
0.5nm,0.4s,baz=27,slow=2.3,SNR=8.2							

NEIC ***03*** *23:02:02.6±0.7, 4378N×14932E, h35km, mb4.3/5, Error ellipse: s-maj=19.3km s-min=11.5km az=166.0*
JMA ***03*** *23:02:02.6±0.5, 4435N×14925E, h30km, M4.2*
ISCJB ***03*** *23:02:04.0±1.0, 4370N±008×14920E±008, h65km±9km, mb4.0/17, Error ellipse: s-maj=13.8km s-min=9.0km az=164.2*
MOS ***03*** *23:02:03.6±1.0, 4427N×149.19E, h39km, mb4.5/10, Error ellipse: s-maj=17.7km s-min=12.5km az=131.1*
IDC ***03*** *23:02:07.8±4.7, 4435N×149.13E, h54km±41km, mb3.7/11, mb1 3.9/12, mb1mx3.7/21, mbtmp3.7/12, ML3.5/1, Error ellipse: s-maj=73.9km s-min=22.6km az=171.0*
**ISC 03 23:02:05

JTM	Tenmabayashi	6.76 246	P	Pn	23 03 42.2 +0.2
JTM			eS	Sx	23 04 53.7
JSH	Shimam	6.79 263	P	Pn	23 03 43.1 +0.7
JSR	Shiriuchi	6.87 253	P	Pn	23 03 43.6 +0.1
JOSM	Okushiri--Mats	7.35 259	P	Pn	23 03 50.3 +0.3
OFUJ	Ofunato	7.40 232	P	Pn	23 03 49.5 -1.3
OFUJ			eS	Sx	23 05 08.2
JRG	Rokugo	7.81 238	P	Pn	23 03 56.9 +0.5
JRG			eS	Sx	23 05 19.3
JIO	Ouri	8.02 230	eS	Sx	23 05 22.9
BJT	Baijiatuan	24.77 273	P	P	23 07 23.1 +1.2
	comp=E,23nm,0.4s,mb5.1				
ULN	Ulaanbaatar	29.34 293	eP	P	23 08 03.3 +0.4
	comp=Z,2.2nm,0.8s,mb3.9				
ULN	Ulaanbaatar	29.34 293	eP	P	23 08 03.3 +0.4
ULN			pmax	pmax	
	comp=Z,2.0nm,0.8s,mb3.9				
SONM	Songino Array	29.79 293	P	P	23 08 07.6 +0.8
SONM			pmax	pmax	
	comp=Z,1.0nm,0.7s				
SONM	Songino Array	29.79 293	P	P	23 08 07.6 +0.7
	comp=Z,1.0nm,0.7s,mb3.7,baz=81,slow=8.5,SNR=9.8				
IMA2	Indian Mountai	37.75 34	eP	P	23 09 15.1 -0.5
ZALV	Zalesovo Beam	42.10 307	P	P	23 09 53.2 +1.4
ZALV			PcP	PcP	23 11 46.9 +1.4
ZALV	Zalesovo Beam	42.10 307	P	P	23 09 53.2 +1.4
	comp=Z,0.5nm,0.4s,mb3.5,baz=75,slow=9.2,SNR=3.5				
ZALV			PcP	PcP	23 11 46.9 +1.4
	comp=Z,0.4nm,0.4s,baz=54,slow=3.8,SNR=3.8				
ZAL	Zalesovo	42.12 307	P	P	23 09 53.2 +1.2
ZAL					23 11 46.9
INK	Inuvik	45.55 31	P	P	23 10 19.5 +0.2
INK			pmax	pmax	
	comp=Z,1.0nm,0.5s				
INK	Inuvik	45.55 31	P	P	23 10 19.5 +0.2
	comp=Z,0.8nm,0.5s,mb3.9,baz=268,slow=7.6,SNR=5.6				
MK31	Makanchi Array	45.83 298	eP	P	23 10 22.1 +0.3
MKAR	Makanchi Array	45.83 298	P	P	23 10 22.2 +0.3
MKAR	Makanchi Array	45.83 298	P	P	23 10 22.2 +0.3
MKAR			pmax	pmax	
	comp=Z,2.0nm,0.6s				
MKAR	Makanchi Array	45.83 298	P	P	23 10 22.2 +0.3
	comp=Z,2.3nm,0.6s,mb4.3,baz=77,slow=8.5,SNR=30				
YKA	Yellowknife Ar	54.87 34	P	P	23 11 29.6 -0.3
YKA	Yellowknife Ar	54.87 34	P	P	23 11 29.6 -0.3
	comp=Z,0.4nm,0.6s,mb3.6,baz=299,slow=7.2,SNR=7.0				
ARCES	ARCESS Array B	59.64 340	P	P	23 12 02.1 -1.3
ARCES			pmax	pmax	
	comp=Z,3.0nm,0.9s				
ARCES	ARCESS Array B	59.64 340	P	P	23 12 02.1 -1.3
	comp=Z,2.9nm,0.9s,mb4.3,baz=48,slow=7.3,SNR=3.7				
KBL	Kabul	60.53 291	eP	P	23 12 10.1 0.0
	comp=Z,2.9nm,0.8s,mb4.5				
JOF	Joensuu	62.66 333	ep	P	23 12 22.6 -1.3
	comp=Z,2.5nm,0.3s,mb4.8				
JOF	Joensuu	62.66 333	eP	P	23 12 22.6 -1.3
JOF			pmax	pmax	
	comp=Z,3.0nm,0.3s,mb4.9				
FINES	FINESS Array B	65.43 334	P	P	23 12 41.3 -0.8
FINES			pmax	pmax	
	comp=Z,3.0nm,0.5s				
FINES	FINESS Array B	65.43 334	P	P	23 12 41.3 -0.8
	comp=Z,2.7nm,0.5s,mb4.5,baz=42,slow=8.5,SNR=24				
PDAR	Pinedale Array	68.69 51	P	P	23 13 04.0 +0.8
	comp=Z,0.1nm,0.3s,mb3.2,baz=249,slow=1.7,SNR=3.7				
NB2	NORSAR Subarra	70.01 340	P	P	23 13 09.9 -1.0
	comp=Z,1.7nm,0.5s,mb4.2,baz=30,slow=6.5				
NOA	NORSAR Array B	70.01 340	P	P	23 13 10.1 -0.8
NOA			pmax	pmax	
	comp=Z,3.0nm,0.7s				
NOA	NORSAR Array B	70.01 340	P	P	23 13 10.1 -0.8
	comp=Z,3.0nm,0.7s,mb4.3,baz=32,slow=6.1,SNR=11				
AKASG	Malin Array Be	72.34 325	P	P	23 13 24.9 -0.3
AKASG			pmax	pmax	
	comp=Z,1.0nm,0.4s				
AKASG	Malin Array Be	72.34 325	P	P	23 13 24.9 -0.4
	comp=Z,1.1nm,0.4s,mb4.1,baz=37,slow=6.3,SNR=9.4				
KIEV	Kiev	72.36 325	eP	P	23 13 24.9 -0.4
	comp=Z,1.8nm,0.4s,mb4.3				
KIEV	Kiev	72.36 325	eP	P	23 13 24.9 -0.4
KIEV			pmax	pmax	
	comp=Z,2.0nm,0.4s,mb4.4				
ARMA	Armidale	73.96 178	P	P	23 13 32.7 -2.1
	comp=Z,1.4nm,1.1s,mb3.8				
KHC	Kasperske Hory	79.56 332	eP	P	23 14 06.5 +0.2
GERES	GERESS Array B	79.76 332	P	P	23 14 07.7 +0.3
GERES			pmax	pmax	
	comp=Z,1.0nm,0.5s				
GERES	GERESS Array B	79.76 332	P	P	23 14 07.7 +0.3
	comp=Z,0.9nm,0.5s,mb4.0,baz=51,slow=7.0,SNR=6.8				

*BJI **03** 23:03:59.9, 44.11N×149.56E, h33km, mB5.0, mb4.5*
*NIED **03** 23:04:00, 44.30N×149.10E, h26km, Mw4.4 Best double couple: M0=4.24000×10^15 NP1:φ=48.00000°, δ71.00000°, λ139.00000°. NP2:φ=154.00000°, δ51.00000°, λ25.00000°.*
*ISCJB **03** 23:04:02.9±1.0, 44.13N±005×149.16E±008, h34km±8km, mb4.3/27, Error ellipse: s-maj=10.5km s-min=7.1km az=39.8*
*NEIC **03** 23:04:05.0±0.5, 44.19N×149.15E, h35km, mb4.4/6, Error ellipse: s-maj=13.8km s-min=7.8km az=151.0*
*MOS **03** 23:04:04.8±1.5, 44.27N×149.05E, h49km, mb4.5/15, Error ellipse: s-maj=12.9km s-min=8.9km az=114.2*
*JMA **03** 23:04:04.3±0.9, 44.32N×149.06E, h30km, M4.2*
*IDC **03** 23:04:05.6±3.6, 44.19N×149.22E, h46km±35km, mb3.9/10, mb1 4.1/12, mb1mx3.8/21, mbtmp3.9/12, ML3.5/2, MS3.9/1, Ms1 3.9/1, ms1mx3.1/36, Error ellipse: s-maj=25.7km s-min=24.0km az=87.0*

ISC 03 23:04:04.4±1.7, 4418N±005×14916E±006, h30km±12km, h47km±5.4km: pP-P, n105, σ0=95/113, mb4.3/27, 18C-4D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KUR	Kuril'sk	1.40	319	ePN		Pn	23 04 25.2	-2.6
KUR				S		Sn	23 04 46.0	+0.8
KUR				pmax		pmax		
	comp=Z,610nm,0.5s							
KUR				pmax		pmax		
	comp=Z,5μm,2.0s							
KUR				smax				
	comp=N,2μm,0.6s							
KUR				smax				
	comp=E,910nm,0.6s							
KUR				smax				
	comp=N,8μm,2.0s							
NEM2	Nemuro 2	2.61	253	P		Pn	23 04 42.9	-1.4
NEM2				eS		Sn	23 05 09.9	-5.0
JRA	Rausu	2.92	267	P		Pn	23 04 49.2	+0.5
JNK	Nakash	3.27	261	P		Pn	23 04 52.8	-0.6
JAK	Akkeshi	3.45	251	P		Pn	23 04 54.9	-1.1
JTKR	Abashiri--Toko	3.79	269	P		Pn	23 05 01.0	+0.4
JAR	Ashorobuto	4.00	259	P		Pn	23 05 04.0	+0.4
JAR				eS		Sn	23 05 49.4	0.0
JOB	Onbets	4.08	254	P		Pn	23 05 04.4	-0.2
JOB				eS		Sn	23 05 50.1	-1.1
JMP	Maruseppu	4.18	270	P		Pn	23 05 07.2	+1.2
JCH	Churui	4.50	252	P		Pn	23 05 10.5	0.0
JCH				eS		Sn	23 06 00.7	-1.1
ASAJ	Asahikawa	4.72	271	PN		Pn	23 05 15.4	+2.0
ASAJ				pmax		pmax		
	comp=Z,1.0nm,0.3s							
ASAJ				MLR		MLR		
	comp=Z,1μm,18.6s							
ASAJ	Asahikawa	4.72	271	P		Pn	23 05 15.4	+2.0
	comp=Z,1.4nm,0.3s,baz=70,slow=12,SNR=2.3							
ASAJ				LR		LR	23 07 17.6	
	comp=Z,1μm,18.6s,baz=182,slow=40							
JEM	Erimo	4.90	246	P		Pn	23 05 16.5	+0.6
JEM				eS		Sn	23 06 11.1	-0.4
JNBK	Urakawa-nobuka	5.05	250	P		Pn	23 05 19.2	+1.2
JBT2	Biratori 2	5.14	257	P		Pn	23 05 19.5	+0.3
YSS	Yuzh-Sakhalins	5.28	304	↑ePN		Pn	23 05 28.5	+7.4
YSS				eS		Sn	23 06 21.0	+0.1
YSS				pmax		pmax		
	comp=Z,30nm,1.0s							
YSS				MLR		MLR		
	comp=Z,900nm,16.0s							
YSS				MLR		MLR		
	comp=E,900nm,20.0s							
JNB	Noboribetsu	6.17	257	P		Pn	23 05 33.0	-0.3
JNB				eS		Sn	23 06 39.2	-3.5
JKB	Kayabe	6.38	252	P		Pn	23 05 35.5	-0.7
JKB				eS		Sn	23 06 43.6	-4.4
JANG	Nango	6.83	239	eS		Sn	23 06 50.6	-8.4
JTM	Tenmabayashi	6.88	243	eS		Sn	23 06 52.1	-8.1
JTH	Tanohata	6.89	235	eS		Sn	23 06 49.8	-11
JOSM	Okushiri--Mats	7.39	257	P		Pn	23 05 49.9	-0.1
OFUJ	Ofunato	7.58	230	eS		Sn	23 07 07.5	-10
JRG	Rokugo	7.96	236	eS		Sn	23 07 17.5	-9.4
JFK	Kawauchi	9.26	226	eS		Sn	23 07 47.3	-12
MJAR	Matsushiro Arr	11.31	231	P		Pn	23 06 43.7	0.0
	comp=E,0.4nm,0.3s,baz=30,slow=15,SNR=3.4							
VLA	Vladivostok	12.55	271	ePN		Pn	23 07 00.4	-0.4
KLR	Kul'dur	12.96	299	ePN		Pn	23 07 10.0	+3.7
CN2	Changchun	17.06	277	eP		Pn	23 08 01.9	+1.5
CN2				AMB		AMB		
	comp=Z,10.0nm,1.0s							
SEY	Seymchan	18.88	5	↑eP		Pn	23 08 20.9	-1.7
HIA	Hailar	20.72	295	↑P		P	23 08 37.2	-4.9
YAK	Yakutsk	21.21	334	eP		P	23 08 43.0	-4.2
YAK				pmax		pmax		
	comp=Z,22nm,0.6s,mb4.7							
BILL	Bilibino	25.56	15	↑eP		P	23 09 28.9	-1.2
BILL				pmax		pmax		
	comp=Z,7.0nm,1.7s,mb3.9							
TIA	Tai'an	25.61	263	eP		P	23 09 31.3	+0.4
ULN	Ulaanbaatar	29.20	292	eP		P	23 10 03.0	+0.1
	comp=Z,4.0nm,0.9s,mb4.2							
ULN	Ulaanbaatar	29.20	292	eP		P	23 10 03.0	0.0
ULN				pmax		pmax		
	comp=Z,4.0nm,0.9s,mb4.2							
TIXI	Tiksi	29.25	347	↑eP		P	23 10 00.2	-2.9
TIXI				pmax		pmax		
	comp=Z,3.0nm,1.7s,mb3.8							
SONM	Songino Array	29.65	292	P		P	23 10 07.3	+0.4
SONM				pmax		pmax		
	comp=Z,2.0nm,0.8s							
SONM	Songino Array	29.65	292	P		P	23 10 07.3	+0.4
	comp=Z,1.7nm,0.8s,mb3.9,baz=84,slow=7.7,SNR=8.1							
TLY	Talaya	30.98	300	eP		P	23 10 14.1	-4.5
TLY				pmax		pmax		
	comp=Z,2.0nm,0.9s,mb4.0							
ZAK	Zakamensk	31.33	298	eP		P	23 10 15.2	-6.5
ZAK				pmax		pmax		
	comp=Z,2.0nm,1.4s,mb3.8							
LZH	Lanzhou	35.20	273	eP		P	23 10 56.6	+0.9
LZH				AMB		AMB		
	comp=Z,36nm,1.0s,mb5.3							
LZH				AMB		AMB		
	comp=Z,120nm,4.4s							
LZH	Lanzhou	35.20	273	eP		P	23 10 56.6	+0.9
	comp=Z,36nm,1.0s,mb5.3							
LZH				pP		pP	23 11 11.5	+6.9
LZH				sP		sP	23 11 16.5	+8.3
LZH	Lanzhou	35.20	273	eP		P	23 10 56.6	+0.9
LZH				*PP		pP	23 11 11.5	+6.9
LZH				*SP		sP	23 11 16.5	+8.3
LZH				pmax		pmax		
	comp=Z,36nm,1.0s,mb5.3							
GTA	Gaotai	36.65	280	eP		P	23 11 08.5	+0.5
GTA				AMB		AMB		
	comp=Z,6.0nm,0.9s,mb4.4							
IMA2	Indian Mountai	37.51	34	eP		P	23 11 15.0	+0.1
GYA	Guiyang	38.43	257	P		P	23 11 23.1	-0.1
GYA				AMB		AMB		
	comp=Z,10.0nm,1.1s,mb4.5							
SML	Sawmill	39.74	41	P		P	23 11 33.7	-0.1
COLA	College	39.87	36	eP		P	23 11 42.6	+7.9
KMI	Kunming	42.02	259	P		P	23 11 52.9	-0.1
KMI				AP		pP	23 12 06.2	+4.2
KMI				AMB		AMB		
	comp=Z,6.0nm,1.3s,mb4.1							
KMI	Kunming	42.02	259	P		P	23 11 52.9	-0.1
	comp=Z,6.0nm,1.3s,mb4.1							
KMI				pP		pP	23 12 06.2	+4.2
MKAR	Makanchi Array	45.67	298	P		P	23 12 22.2	+0.2
MKAR				pmax		pmax		
	comp=Z,6.0nm,0.9s							
MKAR	Makanchi Array	45.67	298	P		P	23 12 22.2	+0.2
	comp=Z,6.1nm,0.9s,mb4.5,baz=72,slow=9.1,SNR=19							
KURK	Kurchatov	46.49	304	eP		P	23 12 28.2	-0.2
	comp=Z,2.9nm,0.9s,mb4.2							
KURK	Kurchatov	46.49	304	↑eP		P	23 12 26.5	-1.9
TKM2	Tokmak 2	51.63	296	P		P	23 13 08.9	+1.1
SNR=6.3								
USP	Ospenovka	52.17	297	P		P	23 13 12.2	+0.4
SNR=9.2								
KBK	Karagaybulak	52.17	296	P		P	23 13 12.4	+0.5
SNR=7.9								
KZA	Kyzart	52.26	295	P		P	23 13 14.3	+1.8
SNR=9.3								
AAK	Ala-Archa	52.48	296	P		P	23 13 14.5	+0.3
SNR=5.8								
EKS2	Erkin-Say	52.92	297	eP		P	23 13 17.6	+0.1
	comp=Z,7.9nm,0.9s,mb4.6							
EKS2	Erkin-Say	52.92	297	P		P	23 13 17.8	+0.3
SNR=9.6								
YKA	Yellowknife Ar	54.63	34	P		P	23 13 29.3	-0.3
YKA	Yellowknife Ar	54.63	34	P		P	23 13 29.3	-0.4
YKA				pmax		pmax		
	comp=Z,1.0nm,0.9s							
YKA	Yellowknife Ar	54.63	34	P		P	23 13 29.3	-0.3
	comp=Z,0.8nm,0.9s,mb3.8,baz=299,slow=7.0,SNR=6.4							
ARCES	ARCESS Array B	59.34	340	P		P	23 14 02.2	-0.7
ARCES				pmax		pmax		
	comp=Z,5.0nm,0.9s							
ARCES	ARCESS Array B	59.34	340	P		P	23 14 02.2	-0.7
	comp=Z,4.6nm,0.9s,mb4.5,baz=54,slow=8.1,SNR=2.9							
KBL	Kabul	60.40	291	eP		P	23 14 09.9	-0.8
	comp=Z,6.0nm,0.9s,mb4.6							
JOF	Joensuu	62.38	333	ep		P	23 14 21.7	-1.9
	comp=Z,2.9nm,0.4s,mb4.8							
JOF	Joensuu	62.38	333	eP		P	23 14 21.7	-1.9
JOF				pmax		pmax		
	comp=Z,3.0nm,0.4s,mb4.8							
FINES	FINESS Array B	65.14	334	P		P	23 14 40.9	-0.9
FINES	FINESS Array B	65.14	334	↑eP		P	23 14 40.9	-0.9
FINES	FINESS Array B	65.14	334	P		P	23 14 40.9	-0.9
	comp=Z,5.2nm,0.8s,mb4.6,baz=41,slow=7.0,SNR=10.0							
WRA	Warramunga Arr	65.24	195	P		P	23 14 42.5	-0.4
WRA				pmax		pmax		
	comp=Z,1.0nm,0.9s							
WRA	Warramunga Arr	65.24	195	P		P	23 14 42.5	-0.3
	comp=Z,0.7nm,0.9s,mb3.7,baz=14,slow=6.8,SNR=3.1							
MCMT	McKenzie Canyo	65.37	51	eP		P	23 14 45.4	+1.8
BOZ	Bozeman (W)	65.53	50	P		P	23 14 45.0	+0.3
OBN	Obninsk	65.82	324	↓eP		P	23 14 44.9	-1.4
OBN				pmax		pmax		
	comp=Z,19nm,1.5s,mb4.9							
PDAR	Pinedale Array	68.52	51	P		P	23 15 03.1	-0.5
	comp=Z,0.5nm,0.8s,mb3.5,baz=297,slow=4.0,SNR=3.0							
NB2	NORSAR Subarra	69.72	340	P		P	23 15 10.0	-0.7
	comp=Z,5.1nm,0.7s,mb4.6,baz=29,slow=6.2							
NOA	NORSAR Array B	69.72	340	P		P	23 15 10.1	-0.6
NOA				pmax		pmax		
	comp=Z,7.0nm,0.9s							
NOA	NORSAR Array B	69.72	340	P		P	23 15 10.1	-0.6
	comp=Z,6.6nm,0.9s,mb4.6,baz=32,slow=6.1,SNR=12							
KIV	Kislovodsk	70.55	313	eP		P	23 15 17.1	+0.9
KIV				pmax		pmax		
	comp=Z,10.0nm,1.0s,mb4.7							
AKASG	Malin Array Be	72.08	325	P		P	23 15 24.8	-0.5
AKASG				pmax		pmax		
	comp=Z,4.0nm,0.8s							
AKASG	Malin Array Be	72.08	325	P		P	23 15 24.8	-0.6
	comp=Z,3.5nm,0.8s,mb4.4,baz=38,slow=6.3,SNR=17							
KWP	Kalwaria	75.54	327	↑↑P		P	23 15 46.5	+0.9
KWP	Kalwaria	75.54	327	↑↓P		P	23 15 46.5	+0.9
CRVS	Cervenica-Dubn	76.61	328	eP		P	23 15 53.0	+1.3
MALT	Malatya	76.80	311	↑↑P		P	23 15 54.6	+1.7
TRPA	Tarpa	76.81	326	↑↓P		P	23 15 53.3	+0.4
TIRR	Tirgusor	77.21	321	↓↓P		P	23 15 54.9	-0.3
DPC	Dobruska-Polom	77.30	331	epP		pP	23 16 08.6	+3.5
MLR	Muntele Rosu	77.50	323	↑↑P		P	23 15 57.2	+0.4
MLR	Muntele Rosu	77.50	323	↑↓P		P	23 15 57.2	+0.4
CLL	Collm	77.59	334	eP		P	23 15 56.0	-1.1
	comp=Z,10.0nm,1.3s,mb4.6							
CLL				epP		pP	23 16 08.0	+1.3
VOIR		77.93	323	↑↑P		P	23 16 00.3	+1.2
VOIR		77.93	323	↑↓P		P	23 16 00.3	+1.1
BZS	Buzias	79.22	325	↑↑P		P	23 16 06.7	+0.4
BZS	Buzias	79.22	325	↑↓P		P	23 16 06.7	+0.4
KHC	Kasperske Hory	79.27	332	↑eP		P	23 16 06.7	+0.2
KHC	Kasperske Hory	79.27	332	eP		P	23 16 06.6	+0.1
GERES	GERESS Array B	79.48	332	P		P	23 16 07.5	-0.1
GERES				pmax		pmax		
	comp=Z,1.0nm,0.6s							
GERES	GERESS Array B	79.48	332	P		P	23 16 07.5	-0.1
	comp=Z,1.2nm,0.6s,mb4.0,baz=34,slow=5.0,SNR=6.9							
PKSM	Moragy	79.91	328	↓↓P		P	23 16 09.2	-0.8
PKSM	Moragy	79.91	328	↓↑P		P	23 16 09.2	-0.8

*ISCJB **03** 23:06:43.5±0.6, 532N±02×1723W±01, h125km±15km, mb3.6/3, Error ellipse: s-maj=35.2km s-min=6.9km az=163.8*
*NEIC **03** 23:06:44.5±0.8, 53.19N×172.35W, h120km±15km, mb3.9/2, Error ellipse: s-maj=28.0km s-min=10.4km az=167.0*
*IDC **03** 23:06:48.6±1.7, 53.37N×168.45W, h0km, mb3.8/4, mb1 4.1/4, mb1mx3.5/23, mbtmp3.8/4, Error ellipse: s-maj=68.0km s-min=30.9km az=140.0*

ISC 03 23:06:44.8±0.6, 532N±02×1723W±01, h120km±14km, n11, σ0=84/13, mb3.6/3, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ADK	Adak	2.97	245	P		Pn	23 07 29.9	-0.8
ADK				S		Sn	23 08 06.0	-0.1
UNV	Unalaska Valle	3.54	77	P		Pn	23 07 37.2	-0.8
UNV				S		Sn	23 08 19.5	+0.3
AKLV	Akutan Long Va	3.91	73	P		Pn	23 07 43.5	+0.5
AMKA	Amchitka	5.45	254	P		Pn	23 08 04.1	+0.3
AMKA				S		Sn	23 09 06.1	+0.8
BILL	Bilibino	18.03	334	Pn		Pn	23 10 45.9	-1.4
	4.5nm,0.6s							
EGAK	Eagle	19.55	42	P		P	23 11 03.8	+1.2
	2.3nm,0.5s							
INK	Inuvik	23.67	35	P		P	23 11 46.1	+1.3
	3.9nm,0.5s,mb4.0,baz=240,slow=8.8,SNR=19							
YKA	Yellowknife Ar	31.05	50	P		P	23 12 50.5	-0.3
YKA	Yellowknife Ar	31.05	50	P		P	23 12 50.5	-0.3
	0.2nm,0.3s,mb3.4,baz=274,slow=9.2,SNR=6.6							
PDAR	Pinedale Array	42.00	78	P		P	23 14 22.8	-1.0
	0.3nm,0.4s,mb3.3,baz=346,slow=6.9,SNR=3.3							
ASAR	Alice Springs	89.60	228	P		pP	23 19 56.4	-3.1
	0.7nm,0.8s,baz=27,slow=3.6,SNR=6.0							

IDC 03 23:17:19.9±1.9, 803S×15594E, h0km, mb3.9/8, mb1 4.0/8, mb1mx3.9/15, mbtmp3.8/8, Error ellipse: s-maj=63.6km s-min=25.0km az=123.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	24.04	238	P		P	23 22 37.8	+1.0
	1.3nm,0.6s,baz=62,slow=9.9,SNR=5.3							
ASAR	Alice Springs	26.22	231	P		P	23 22 55.9	-0.8
	0.2nm,0.5s,baz=66,slow=9.1,SNR=3.9							
MJAR	Matsushiro Arr	47.35	341	P		P	23 25 54.5	-1.2
	2.2nm,0.6s,baz=156,slow=8.2,SNR=5.6							
SONM	Songino Array	70.70	327	P		P	23 28 39.0	+1.4
	0.5nm,0.8s,baz=135,slow=6.3,SNR=3.8							
MKAR	Makanchi Array	84.79	319	P		P	23 29 56.5	+0.3
	1.4nm,0.7s,baz=103,slow=5.9,SNR=19							
ZALV	Zalesovo Beam	85.55	326	P		P	23 29 59.2	-0.6
	0.6nm,0.5s,baz=122,slow=4.8,SNR=3.9							
INK	Inuvik	90.35	21	P		P	23 30 22.4	-0.2
	0.3nm,0.4s,baz=263,slow=3.2,SNR=2.8							
YKA	Yellowknife Ar	96.81	28	P		P	23 30 52.6	+0.3
	0.3nm,0.6s,baz=263,slow=4.7,SNR=5.9							

*SKO **03** 23:17:48.5, 41.31N×208.2E, h27km, M1.0, ML1.3*
*ISCJB **03** 23:17:49.8±0.7, 41.36N±004×209.0E±004, h10km, Error ellipse: s-maj=6.2km s-min=4.2km az=170.5*
*THE **03** 23:17:50.4, 41.35N×209.0E, h4km, ML2.8*
*CSEM **03** 23:17:50.4, 41.35N×209.0E, h4km, ML2.8, After THE*

ISC 03 23:17:50.0±1.2, 4134N±005×2090E±004, h19km±13km, n10, σ0=78/20, Albania

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
OHR	Ohrid	0.24	198	ePg		Pg	23 17 54.8	-0.8
OHR				eSg		Sg	23 17 58.9	-0.6
OHR				eLg			23 17 59.0	
	comp=N,66nm,0.4s							
OHR				eLg			23 17 59.1	
	comp=E,90nm,0.4s							
OHR	Ohrid	0.24	198	ePg		Pg	23 17 54.8	-0.8
OHR				eSg		Sg	23 17 58.6	-0.9
KRUS	Krusevo	0.27	84	ePg		Pg	23 17 56.4	+0.4
KRUS				eSg		Sg	23 18 00.5	+0.3
BIA	Bitola	0.45	135	ePg		Pg	23 17 58.6	-0.7
BIA				eSg		Sg	23 18 06.3	+0.8
BIA	Bitola	0.45	135	ePg		Pg	23 17 58.5	-0.8
BIA				eSg		Sg	23 18 05.9	+0.4
BIA				eLg			23 18 06.2	
	comp=E,26nm,0.3s							
BIA				eLg			23 18 06.5	
	comp=N,22nm,0.3s							
BIA	Bitola	0.45	135	ePg		Pg	23 17 58.6	-0.7
BIA				eSg		Sg	23 18 06.3	+0.8
FNA	Florina	0.66	147	ePg		Pg	23 18 02.8	-0.3
FNA				eSg		Sg	23 18 13.1	+1.1
TIR	Tirane	0.78	271	ePg		Pg	23 18 04.5	-0.8
TIR				eSg		Sg	23 18 17.2	+1.7
TIR	Tirane	0.78	271	ePg		Pg	23 18 04.4	-0.8
TIR				eSg		Sg	23 18 17.2	+1.6
STIP	Stip	1.03	70	ePg		Pg	23 18 09.6	-0.4
STIP				eSg		Sg	23 18 23.4	-0.2
STIP				eLg			23 18 24.3	
	comp=N,4.0nm,0.3s							
STIP				eLg			23 18 24.8	
	comp=E,2.7nm,0.5s							

*NIED **03** 23:18:00, 37.20N×136.70E, h5km, Mw3.7 Best double couple: M0=4.30000×10^14 NP1:φ=50.00000°, δ81.00000°, λ142.00000°. NP2:φ=147.00000°, δ52.00000°, λ11.00000°.*
*ISCJB **03** 23:18:44.4±1.1, 37.28N±005×136.74E±008, h10km±8km, Error ellipse: s-maj=11.4km s-min=6.8km az=34.5*
*JMA **03** 23:18:44.8, 37.26N×136.74E, h7km±1km, M3.9

14nm,1.2s,mb4.2
CTA Charters Tower 21.24 268 P **P 23 24 58.3 +1.1**
11nm,0.9s,mb4.2,baz=94,slow=14,SNR=4.8
STKA Stephens Creek 26.73 240 *e*P **P 23 25 51.5 +1.2**
6.4nm,0.9s,mb4.2
STKA Stephens Creek 26.73 240 P **P 23 25 52.0 +1.7**
7.8nm,0.9s,mb4.2,baz=59,slow=7.9,SNR=14
STKA LR LR 23 35 14.3
comp=Z,604nm,20.6s,baz=25,slow=34
WB2 Warramunga Arr 32.37 265 *e*P **P 23 26 39.6 -0.9**
WRA Warramunga Arr 32.38 265 P **P 23 26 39.6 -1.0**
4.3nm,0.9s,mb4.3,baz=93,slow=9.0,SNR=12
ASAR Alice Springs 32.47 259 P **P 23 26 40.9 -0.4**
10nm,0.8s,mb4.7,baz=82,slow=9.1,SNR=96
FITZ Fitzroy Crossi 40.80 266 *e*P **P 23 27 52.4 0.0**
23nm,0.9s,mb4.8
FITZ Fitzroy Crossi 40.80 266 P **P 23 27 52.4 +0.1**
13nm,0.8s,mb4.6,baz=126,slow=9.6,SNR=25
NWAO Narrogin (SRO) 47.20 244 P **P 23 28 42.0 -1.5**
16nm,1.0s,mb4.9,baz=97,slow=7.3,SNR=4.4
VNDA Vanda 56.77 182 P **P 23 29 55.3 +1.2**
1.1nm,1.1s,mb3.8,baz=32,slow=5.7,SNR=3.0
LZH Lanzhou 83.61 312 *e*P **P 23 32 40.1 +1.2**
LZH AP pP 23 32 44.6 -5.4
LZH XP sP 23 32 47.5 -6.5
LZH AMB AMB
comp=Z,26nm,1.2s,mb5.2
LZH AMB AMB
comp=Z,112nm,5.0s
LZH Lanzhou 83.61 312 *e*P **P 23 32 40.1 +1.2**
comp=Z,26nm,1.2s,mb5.2
LZH pP pP 23 32 44.6 -5.4
LZH sP sP 23 32 47.5 -6.5
SNAA Sanae 87.50 183 P **P 23 32 57.6 -0.1**
comp=Z,2.3nm,1.0s,mb4.4,baz=111,slow=4.1,SNR=7.3
GTA Gaotai 88.04 314 *e*P **P 23 33 02.1 +1.3**
GTA AP pP 23 33 05.3 -6.6
GTA XP sP 23 33 07.1 -8.8
GTA AMB AMB
comp=Z,2.0nm,1.1s,mb4.3
SONM Songino Array 88.36 323 P **P 23 33 02.3 +0.2**
comp=Z,0.7nm,0.8s,mb3.9,baz=125,slow=5.5,SNR=5.9
NVAR Mina Array Bea 90.12 49 P **P 23 33 10.3 -0.2**
comp=Z,1.3nm,0.8s,mb4.3,baz=232,slow=7.5,SNR=5.9
TIXI Tiksi 96.30 348 *e*P **P 23 33 37.1 -1.1**
comp=Z,3.9nm,0.6s,mb5.0
MKAR Makanchi Array 102.70 315 P Pdif 23 34 07.5 0.0
comp=Z,0.2nm,0.7s,baz=134,slow=4.2,SNR=3.1
DPC Dobruska-Polom 143.52 330 *e*PKP PKPdf 23 39 44.9 +0.1
PVCC Panska Ves 144.19 332 *e*PKP PKPdf 23 39 48.3 +2.3
BRG Berggiesshubel 144.21 333 *e*P PKPdf 23 39 44.6 -1.4
comp=Z,10.0nm,1.2s
CLL Collm 144.28 334 *i* PKPdf PKPdf 23 39 48.2 +2.1
CLL *e*(pPKPdf) 23 39 56.0
TREC Trest 144.64 330 *e*PKP PKPdf 23 39 48.4 +1.6
NKC Novy Kostel 145.32 333 *e*PKP PKPdf 23 39 48.7 +0.7
MOX Moxa 145.35 334 *e*P PKPbc 23 39 47.1 -0.8
comp=Z,19nm,1.6s
CONA Conrad Observa 145.39 328 ⇑ *i*PKPdf PKPdf 23 39 49.4 +1.2
comp=Z,9.8nm,1.0s
KHC Kasperske Hory 145.64 331 *e*PKP PKPdf 23 39 49.3 +0.7
KHC *ep*PKP pPKPdf 23 39 53.0 -7.0
GERES GERESS Array B 145.79 330 PKPbc PKPbc 23 39 50.0 +0.6
comp=Z,4.6nm,0.9s,baz=33,slow=3.2,SNR=10
GRA1 Grafenberg Arr 146.25 334 *e*PKP PKPdf 23 39 51.5 +1.9
GRF Grafenberg Arr 146.25 334 *e*PKP PKPdf 23 39 51.5 +1.9
FETA Feichten 148.49 331 ⇑ *i*PKPbc PKPbc 23 39 57.6 +0.6
comp=Z,9.6nm,1.2s
CDF Champ du Feu 148.84 336 *e*PKP1 PKPbc 23 39 58.4 +0.6
comp=Z,8.5nm,0.8s
HINF Hinterlalfeld 149.49 336 *e*PKP1 PKPbc 23 39 59.9 +0.4
HAU Haudompre 149.52 337 *e*PKP1 PKPbc 23 40 00.2 +0.6
comp=Z,20nm,1.1s
LOR Lormes 151.04 339 *e*PKP1 PKPbc 23 40 03.0 -0.2
LPG La Plagne 151.42 333 *e*PKP1 PKPbc 23 40 05.1 +0.9
comp=Z,30nm,1.2s
ORIF Oris-en-Rattie 152.25 334 *e*PKP1 PKPbc 23 40 07.4 +1.3

IDC 03 23:25:32.7±2.5, 738S×15533E, h0km, mb3.8/5, mb1 3.9/5, mb1mx3.8/14, mbtmp3.7/5, Error ellipse: s-maj=75.7km s-min=36.8km az=130.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.87**	**236**	P	P	23 30 47.2	-0.9
	0.3nm,0.4s,baz=61,slow=9.6,SNR=2.3						
SONM	**Songino Array**	**69.84**	**327**	P	P	23 36 44.5	-0.6
	0.2nm,0.5s,baz=108,slow=4.7,SNR=3.2						
MKAR	**Makanchi Array**	**83.91**	**319**	P	P	23 38 06.3	+1.7
	1.1nm,0.7s,baz=103,slow=5.8,SNR=15						
ZALV	**Zalesovo Beam**	**84.68**	**326**	P	P	23 38 08.3	0.0
	0.6nm,0.8s,baz=104,slow=6.3,SNR=3.9						
YKA	**Yellowknife Ar**	**96.52**	**28**	P	P	23 39 03.3	-0.6
	0.1nm,0.3s,baz=262,slow=4.6,SNR=4.4						

*ISCJB **03** 23:40:43.3±1.1, 3821N±005×2041E±007, h16km, Error ellipse: s-maj=9.3km s-min=5.4km az=138.3*
*CSEM **03** 23:40:43.6±0.3, 3831N×2041E, h2km, MD3.6, Error ellipse: s-maj=8.2km s-min=3.3km az=62.0*
*NEIC **03** 23:40:43.8, 3832N×2051E, h7km, MD3.6(ATH), After ATH.*
*ATH **03** 23:40:43.1, 3826N×2044E, h16km±1km, MD3.6/4*
*THE **03** 23:40:44.0, 3833N×2042E, h3km, ML3.7*
ISC 03 23:40:43.6±0.9, 3830N±004×2044E±007, h1km±5km, n20, σ1§04/30, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.17**	**136**	*e*PB	**Pg**	**23 40 47.0**	**+0.2**
VLS				*e*SB	**Sg**	**23 40 50.4**	**+1.5**
LKD	**Levkas**	**0.44**	**22**	*e*Pg	**Pg**	**23 40 51.6**	**-0.4**
LKD				*e*Sg	**Sg**	**23 40 58.5**	**+0.7**
RLS	**Riolos of Patr**	**0.84**	**106**	*e*PN	**Pg**	**23 40 59.4**	**-0.3**
RLS				*e*SN	**Sg**	**23 41 11.2**	**+0.6**
IGT	**Igoumenitsa**	**1.24**	**356**	*e*Pg	**Pg**	**23 41 05.9**	**-1.4**
IGT				*e*Sg	**Sg**	**23 41 24.8**	**+1.6**
EVR	**Evrytania**	**1.24**	**60**	*e*PN	**Pn**	**23 41 06.2**	**-1.8**
EVR				*e*SN	**Sn**	**23 41 24.3**	**-1.1**
EVR	**Evrytania**	**1.24**	**60**	*e*Pb	**Pb**	**23 41 06.1**	**-1.6**
KEK	**Kerkira**	**1.50**	**341**	*e*PN	**Pn**	**23 41 12.1**	**+0.5**
MEV	**Metsovon**	**1.61**	**22**	*e*Pg	**Pg**	**23 41 13.0**	**-1.4**
SRN	**Sarande**	**1.62**	**348**	*i* Pn	**Pn**	**23 41 14.9**	**+1.7**
SRN				*i* Sn	**Sg**	**23 41 38.8**	**+3.3**
AGG	**Agios Georgios**	**1.65**	**63**	*e*Pb	**Pb**	**23 41 13.5**	**-1.2**
AGG				*e*Sb	**Sb**	**23 41 36.9**	**+0.9**
THL	**Klokotos Trika**	**1.76**	**44**	*e*PN	**Pn**	**23 41 15.3**	**+0.1**
LKR	**Lokris**	**2.04**	**79**	*e*PN	**Pn**	**23 41 20.0**	**+1.0**
NEO	**Neokhori**	**2.40**	**64**	*e*PN	**Pn**	**23 41 24.5**	**+0.5**
LIT	**Litokhoron**	**2.40**	**41**	*e*Pn	**Pn**	**23 41 24.2**	**+0.2**
LIT				*e*Sn	**Sn**	**23 41 54.6**	**+0.4**
FNA	**Florina**	**2.59**	**16**	*e*Pn	**Pn**	**23 41 26.3**	**-0.3**
FNA				*e*Sn	**Sn**	**23 41 59.5**	**+0.9**
BIA	**Bitola**	**2.80**	**14**	*e*Pn	**Pn**	**23 41 29.8**	**+0.2**
BIA	**Bitola**	**2.80**	**14**	*e*Pn	**Pn**	**23 41 29.4**	**-0.2**
OHR	**Ohrid**	**2.82**	**6**	*e*Pn	**Pn**	**23 41 28.1**	**-1.7**
KRUS	**Krusevo**	**3.13**	**11**	*e*Pn	**Pg**	**23 41 42.3**	**-1.2**
SOH	**Sokhos**	**3.38**	**41**	*e*Pn	**Pn**	**23 41 37.2**	**-0.3**
SOH				*e*Sn	**Sn**	**23 42 18.7**	**+0.5**

*NEIC **03** 23:44:01.0, 1539N×9902W, h16km, MD4.3(MEX), After MEX.*
MEX 03 23:44:00.8±0.8, 1538N×9903W, h18km±33km, MD4.3, Off coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**1.33**	**41**	*e*P	Pn	23 44 21.6	-2.9
PNIG				*e*S	Sn	23 44 36.3	-5.5
ACX	**Acapulco**	**1.71**	**330**	*e*P	Pn	23 44 26.1	-3.7
ACX				*e*S	Sn	23 44 47.1	-4.1
CAIG	**El Cayaco**	**2.04**	**324**	*e*P	Pn	23 44 31.1	-3.3
CAIG				*e*S	Sn	23 44 56.1	-3.3
UTMO	**Huajuapan**	**2.70**	**26**	*e*P	Pn	23 44 41.8	-1.6
UTMO				*e*S	Sn	23 45 12.0	-3.8
OXX	**Oaxaca**	**2.79**	**52**	*e*P	Pn	23 44 41.8	-2.8
OXX				*e*S	Sn	23 45 12.4	-5.3
OXX	**Oaxaca**	**2.79**	**52**	*e*P	Pn	23 44 42.4	-2.1
OXX				*e*S	Sn	23 45 14.3	-3.4
HUIG	**Huatulco**	**2.84**	**82**	*i* S	Sn	23 45 14.3	-4.8
YAIG	**Yautepec**	**3.46**	**359**	*e*P	Pn	23 44 51.5	-2.4
YAIG				*e*S	Sn	23 45 31.6	-2.9
PPM	**Popocatepetl**	**3.69**	**6**	*e*P	Pn	23 44 54.5	-2.4
PPM				*e*P		23 44 56.5	
PPM				*e*S	Sn	23 45 38.2	-1.8
PPM				*e*S	Sn	23 45 43.4	+3.4
MZVM		**3.79**	**357**	*e*P	Pn	23 44 55.3	-3.1
MZVM				*e*S	Sn	23 45 41.7	-0.9
SZVM	**Salazar**	**3.94**	**355**	*e*P	Pn	23 44 59.9	-0.5
SZVM				*i* S	Sn	23 45 38.6	-7.6
PBVM	**Pinon**	**4.04**	**359**	*e*P	Pn	23 45 04.1	+2.3
PBVM				*i* S	Sn	23 45 44.8	-3.9
PTVM	**Pico Tres Padr**	**4.19**	**359**	*e*P	Pn	23 45 00.8	-3.1
PTVM				*e*S	Sn	23 45 47.3	-5.2
PTVM	**Pico Tres Padr**	**4.19**	**359**	*e*P	Pn	23 45 01.6	-2.3
PTVM				*e*S	Sn	23 45 50.0	-2.4
IIO	**Organos**	**4.20**	**4**	*e*P	Pn	23 45 08.0	+4.0
IIO				*e*S	Sn	23 45 56.3	+3.6

*ISCJB **04** 00:00:31.9±3.7, 2335N±005×14357E±007, h8km±23km, mb4.4/47, Error ellipse: s-maj=10.8km s-min=7.8km az=168.8*
*IDC **04** 00:00:31.7±0.6, 2333N×14372E, h0km, mb4.1/15, mb1 4.3/18, mb1mx4.2/22, mbtmp4.2/18, ML4.0/3, MS3.3/3, Ms1 3.3/3, ms1mx3.0/41, Error ellipse: s-maj=24.3km s-min=14.2km az=80.0*
*MOS **04** 00:00:35.6±1.1, 2337N×14352E, h33km, mb4.6/23, Error ellipse: s-maj=14.3km s-min=7.4km az=105.8*
*BJI **04** 00:00:36.1, 2353N×14340E, h10km, mB5.0, mb4.7, Ms4.7, Msz4.2*
*NEIC **04** 00:00:37.3±0.2, 2334N×14362E, h35km, mb4.4/27, Error ellipse: s-maj=6.2km s-min=5.0km az=78.0*
ISC 04 00:00:33.7±3.9, 2336N±005×14364E±007, h9km±24km, n101, σ0§87/95, mb4.4/47, 1C-1D, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**3.94**	**341**	Pn	**Pn**	**00 01 34.0**	**-0.5**
	9.8nm,0.3s,baz=288,slow=20,SNR=3.7						
CBIJ				Sn	**Sn**	**00 02 18.9**	**-1.9**
	61nm,0.3s,baz=294,slow=22,SNR=8.4						
GUMO	**Guam**	**9.79**	**173**	LR	LR	00 06 22.9	
	comp=Z,128nm,20.6s,baz=292,slow=36						
MJAR	**Matsushiro Arr**	**13.95**	**342**	Pn	**Pn**	**00 03 51.6**	**0.0**
	1.1nm,0.3s,baz=150,slow=11,SNR=5.1						
MAJO	**Matsushiro**	**13.95**	**342**	*e*Pn	**Pn**	**00 03 50.9**	**-0.7**
JNU	**Nakatsue**	**14.85**	**314**	LR	LR	00 09 41.4	
	comp=Z,86nm,18.8s,baz=156,slow=37						
KSRS	**Korea Array**	**19.48**	**320**	P	**Pn**	**00 05 01.2**	**-0.9**
	0.7nm,0.3s,baz=135,slow=12,SNR=13						
KSRS				LR	LR	00 12 27.1	
	comp=Z,200nm,18.2s,baz=135,slow=37						
YHNB	**Yeheng**	**20.38**	**278**	P	**P**	**00 05 11.9**	**+1.1**
ASAJ	**Asahikawa**	**20.72**	**358**	P	**P**	**00 05 15.9**	**+1.6**
	3.8nm,0.6s,baz=257,slow=14,SNR=2.8						
NJ2	**Nanjing**	**23.55**	**297**	*e*P	**P**	**00 05 42.3**	**-2.4**
NJ2				AMB	AMB		
	comp=Z,30nm,1.0s,mb4.7						
MDJ	**Mudanjiang**	**24.12**	**335**	*e*P	**P**	**00 05 49.5**	**-0.2**
	comp=Z,6.0nm,0.6s,mb4.2						
KLR	**Kul'dur**	**27.47**	**343**	*e*P	**P**	**00 06 16.0**	**-4.0**
HIA	**Hailar**	**31.97**	**330**	*e*P	**P**	**00 07 00.7**	**+0.7**
	comp=Z,2.6nm,0.6s,mb4.2						
HIA	**Hailar**	**31.97**	**330**	*e*P	**P**	**00 07 00.7**	**+0.7**
HIA				pmax	pmax		
	comp=Z,3.0nm,0.6s						
GYA	**Guiyang**	**33.60**	**283**	P	**P**	**00 07 16.0**	**+1.5**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.8						
MA2	**Magadan**	**36.54**	**6**	*e*P	**P**	**00 07 39.9**	**+0.6**
	comp=Z,4.1nm,0.5s,mb4.5						
MA2	**Magadan**	**36.54**	**6**	*e*P	**P**	**00 07 39.9**	**+0.5**
MA2				pmax	pmax		
	comp=Z,4.0nm,0.5s,mb4.5						
KMI	**Kunming**	**37.23**	**281**	P	**P**	**00 07 45.5**	**-0.3**
KMI				AMB	AMB		
	comp=Z,7.0nm,0.7s,mb4.6						
KMI	**Kunming**	**37.23**	**281**	P	**P**	**00 07 45.5**	**-0.3**
	comp=Z,7.0nm,0.7s,mb4.6						
ULN	**Ulaanbaatar**	**37.97**	**319**	*e*P	**P**	**00 07 51.2**	**-0.5**
	comp=Z,4.8nm,1.0s,mb4.2						
ULN	**Ulaanbaatar**	**37.97**	**319**	*d i*P	**P**	**00 07 52.6**	**+0.9**
SONM	**Songino Array**	**38.35**	**319**	P	**P**	**00 07 55.5**	**+0.6**
	comp=Z,1.6nm,0.7s,mb3.9,baz=121,slow=8.2,SNR=8.5						
BOD	**Bodaibo**	**40.49**	**336**	*e*P	**P**	**00 08 10.8**	**-1.8**
BOD				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.0						
ZAK	**Zakamensk**	**41.30**	**321**	⇑ *i*P	**P**	**00 08 20.1**	**+0.7**
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.1s,mb4.0						
TLY	**Talaya**	**41.68**	**323**	*e*P	**P**	**00 08 22.2**	**-0.3**
	comp=Z,3.2nm,0.5s,mb4.2						
TLY	**Talaya**	**41.68**	**323**	*i* P	**P**	**00 08 23.6**	**+1.1**
TLY				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.1						
CTA	**Charters Tower**	**43.26**	**176**	*e*P	**P**	**00 08 35.4**	**-0.2**
	comp=Z,7.0nm,1.2s,mb4.3						
CTA	**Charters Tower**	**43.26**	**176**	*e*P	**P**	**00 08 35.4**	**-0.2**
CTA				pmax	pmax		
	comp=Z,7.0nm,1.2s						
CTAO	**Charters Tower**	**43.26**	**176**	*e*P	**P**	**00 08 35.4**	**-0.2**
	comp=Z,4.0nm,0.6s,mb4.3						
CTAO	**Charters Tower**	**43.26**	**176**	*e*P	**P**	**00 08 35.4**	**-0.2**
CTAO				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.3						
WB2	**Warramunga Arr**	**43.98**	**193**	*e*P	**P**	**00 08 40.8**	**-0.7**
WRA	**Warramunga Arr**	**43.98**	**193**	P	**P**	**00 08 41.1**	**-0.4**
	comp=Z,4.3nm,0.7s,mb4.3,baz=14,slow=8.7,SNR=12						
FITZ	**Fitzroy Crossi**	**44.80**	**205**	*e*P	**P**	**00 08 47.7**	**-0.4**
	comp=Z,3.0nm,0.5s,mb4.4						
BILL	**Bilibino**	**46.81**	**11**	P	**P**	**00 09 03.8**	**+0.4**
BILL	**Bilibino**	**46.81**	**11**	P	**P**	**00 09 03.8**	**+0.4**
LSA	**Lhasa**	**47.06**	**289**	*e*P	**P**	**00 09 08.8**	**+2.9**
LSA	**Lhasa**	**47.06**	**289**	*e*P	**P**	**00 09 07.4**	**+1.5**
	comp=Z,8.7nm,0.8s,mb4.7						
LSA				*e*PcP	PcP	00 10 43.5	+5.5
LSA	**Lhasa**	**47.06**	**289**	*e*P	**P**	**00 09 07.4**	**+1.5**
LSA				*e*		00 10 43.5	
LSA				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.8						
ASAR	**Alice Springs**	**47.69**	**192**	P	**P**	**00 09 10.3**	**-0.4**
	comp=Z,1.1nm,0.6s,mb4.1,baz=14,slow=8.7,SNR=19						
ZALV	**Zalesovo Beam**	**53.18**	**321**	P	**P**	**00 09 51.9**	**-0.1**
ZALV	**Zalesovo Beam**	**53.18**	**321**	P	**P**	**00 09 51.9**	**-0.1**
	comp=Z,3.1nm,0.5s,mb4.5,baz=106,slow=8.3,SNR=16						
ZAL	**Zalesovo**	**53.19**	**321**	P	**P**	**00 09 51.9**	**-0.2**
MK31	**Makanchi Array**	**53.90**	**312**	*i* P	**P**	**00 09 57.9**	**+0.5**
MK31				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
MKAR	**Makanchi Array**	**53.90**	**312**	P	**P**	**00 09 58.1**	**+0.8**
	comp=Z,1.5nm,0.5s,mb4.2,baz=87,slow=9.3,SNR=42						
STKA	**Stephens Creek**	**54.96**	**182**	*e*P	**P**	**00 10 03.9**	**-1.2**
	comp=Z,1.5nm,0.5s,mb4.3						
STKA	**Stephens Creek**	**54.96**	**182**	P	**P**	**00 10 03.7**	**-1.4**
	comp=Z,2.0nm,0.6s,mb4.3,baz=353,slow=6.5,SNR=8.5						
KURK	**Kurchatov**	**56.56**	**316**	*e*P	**P**	**00 10 16.8**	**+0.3**
	comp=Z,6.9nm,0.9s,mb4.7						
KURK				*e*PcP	PcP	00 11 12.6	-0.4
KURK	**Kurchatov**	**56.56**	**316**	*e*P	**P**	**00 10 16.8**	**+0.3**
KURK				*e*		00 11 12.6	
KURK				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.7						
TKM2	**Tokmak 2**	**58.67**	**307**	*e*P	**P**	**00 10 32.6**	**+1.1**
	comp=Z,2.4nm,0.6s,mb4.4						
TKM2				PcP	PcP	00 11 18.8	-2.7
TKM2	**Tokmak 2**	**58.67**	**307**	*e*P	**P**	**00 10 32.6**	**+1.1**
TKM2				*e*		00 11 18.8	
TKM2				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.3						
MCK	**McKinley**	**59.33**	**29**	*e*P	**P**	**00 10 35.2**	**-0.5**
	comp=Z,4.0nm,0.9s,mb4.5						
MCK	**McKinley**	**59.33**	**29**	*e*P	**P**	**00 10 35.3**	**-0.4**
MCK				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.5						
UCH	**Uchtor**	**59.52**	**306**	*e*P	**P**	**00 10 38.4**	**+1.0**
	comp=Z,2.8nm,0.7s,mb4.4						
EKS2	**Erkin-Say**	**60.02**	**307**	*e*P	**P**	**00 10 40.7**	**-0.2**
	comp=Z,2.2nm,1.0s,mb4.1						
AML	**Almayashu**	**60.14**	**306**	*e*P	**P**	**00 10 42.2**	**+0.5**
	comp=Z,2.4nm,0.6s,mb4.4						
NWAO	**Narrogin (SRO)**	**61.38**	**205**	P	**P**	**00 10 49.3**	**-0.8**
CHKZ	**Chkalovo**	**61.54**	**320**	*i* P	**P**	**00 10 51.0**	**0.0**
CHKZ				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.7						
BRVK	**Borovoye**	**61.76**	**319**	*e*P	**P**	**00 10 52.8**	**+0.3**
	comp=Z,5.8nm,0.6s,mb4.9						
BRVK	**Borovoye**	**61.76**	**319**	*e*P	**P**	**00 10 52.8**	**+0.3**
BRVK				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.9						
KK31	**Karatay Array**	**62.37**	**308**	*i* P	**P**	**00 10 57.3**	**+0.5**
KK31				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.6						
KBL	**Kabul**	**64.91**	**299**	*e*P	**P**	**00 11 14.1**	**+0.4**
	comp=Z,11nm,0.8s,mb4.9						
INK	**Inuvik**	**65.89**	**24**	*e*P	**P**	**00 11 18.2**	**-1.2**
	comp=Z,138nm,1.0s,mb5.9						
INK	**Inuvik**	**65.89**	**24**	P	**P**	**00 11 18.8**	**-0.6**
	comp=Z,1.6nm,0.9s,mb4.0,baz=254,slow=8.3,SNR=4.5						
ARU	**Arti**	**68.18**	**323**	*e*P	**P**	**00 11 34.0**	**-0.2**
	comp=Z,3.9nm,0.6s,mb4.6						
ARU	**Arti**	**68.18**	**323**	*e*P	**P**	**00 11 34.0**	**-0.2**
ARU				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.6						
YKA	**Yellowknife Ar**	**74.80**	**28**	P	**P**	**00 12 13.1**	**-0.9**
	comp=Z,0.7nm,0.5s,mb3.9,baz=293,slow=5.8,SNR=17						
RES	**Resolute Bay**	**75.37**	**14**	*e*P	**P**	**00 12 17.4**	**+0.2**
	comp=Z,38nm,0.7s,mb5.4						
ARCES	**ARCESS Array B**	**77.49**	**341**	P	**P**	**00 12 29.0**	**-0.2**
ARCES	**ARCESS Array B**	**77.49**	**341**	P	**P**	**00 12 29.0**	**-0.2**
	comp=Z,5.0nm,0.8s,mb4.5,baz=59,slow=7.2,SNR=7.3						
WALA	**Waterton Lakes**	**80.41**	**41**	*e*P	**P**	**00 12 46.4**	**+0.7**
	comp=Z,2.1nm,0.8s,mb4.1						
CMB	**Columbia Colle**	**80.42**	**53**	*e*P	**P**	**00 12 45.4**	**-0.5**
	comp=Z,1.5nm,0.7s,mb4.0						
CMB	**Columbia Colle**	**80.42**	**53**	*e*P	**P**	**00 12 45.4**	**-0.6**
CMB				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb3.9						
KAF	**Kangasniemi**	**81.40**	**335**	*ep*	**P**	**00 12 47.0**	**-3.7**
	comp=Z,3.5nm,0.5s,mb4.5,baz=54,slow=4.9						
KAF	**Kangasniemi**	**81.40**	**335**	*e*P	**P**	**00 12 47.0**	**-3.7**
KAF				pmax	pmax		
	comp=Z,4.0nm,0.5s,mb4.6						
KIV	**Kislovodsk**	**81.57**	**314**	P	**P**	**00 12 51.6**	**-0.3**
KIV	**Kislovodsk**	**81.57**	**314**	P	**P**	**00 12 51.7**	**-0.2**
NVAR	**Mina Array Bea**	**81.79**	**52**	P	**P**	**00 12 53.1**	**-0.1**
	comp=Z,1.3nm,0.8s,mb3.9,baz=285,slow=3.2,SNR=8.7						
FINES	**FINESS Array B**	**81.87**	**335**	*i* P	**P**	**00 12 52.2**	**-1.0**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
FINES	**FINESS Array B**	**81.87**	**335**	P	**P**	**00 12 52.3**	**-0.9**
	comp=Z,0.9nm,0.4s,mb4.0,baz=62,slow=5.0,SNR=15						
HLID	**Hailey**	**82.39**	**46**	*e*P	**P**	**00 12 56.8**	**+0.6**
ISA	**Isabella**	**82.75**	**54**	P	**P**	**00 12 59.9**	**+1.5**
TPNV	**Topopah Spring**	**83.88**	**52**	*e*P	**P**	**00 13 03.9**	**-0.2**
	comp=Z,1.4nm,0.6s,mb4.3						
TPNV	**Topopah Spring**	**83.88**	**52**	*e*P	**P**	**00 13 03.9**	**-0.2**
TPNV				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb4.1						
FFC	**Flin Flon**	**84.20**	**32**	*e*P	**P**	**00 13 05.0**	**-0.4**
	comp=Z,6.8nm,1.1s,mb4.7						
FFC	**Flin Flon**	**84.20**	**32**	*e*P	**P**	**00 13 05.0**	**-0.4**
FFC				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.7						
IMW	**Indian Meadow**	**84.51**	**44**	*e*P	**P**	**00 13 08.6**	**+1.4**
	comp=Z,2.0nm,0.8s,mb4.3						
DUG	**Dugway**	**84.92**	**48**	P	**P**	**00 13 09.6**	**+0.3**
HWUT	**Hardware Ranch**	**85.14**	**47**	*e*P	**P**	**00 13 09.3**	**-1.1**
	comp=Z,3.4nm,1.1s,mb4.4						
FCC	**Fort Churchill**	**85.37**	**26**	*e*P	**P**	**00 13 11.9**	**+0.7**
PDAR	**Pinedale Array**	**85.92**	**45**	P	**P**	**00 13 13.6**	**-0.7**
	comp=Z,0.3nm,0.6s,mb3.7,baz=192,slow=1.4,SNR=3.5						
AKASG	**Malin Array Be**	**86.40**	**325**	*i* P	**P**	**00 13 17.2**	**+0.7**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
AKASG	**Malin Array Be**	**86.40**	**325**	P	**P**	**00 13 15.2**	**-1.3**
	comp=Z,0.5nm,0.4s,mb4.1,baz=51,slow=4.6,SNR=4.7						
NB2	**NORSAR Subarra**	**87.55**	**339**	P	**P**	**00 13 20.3**	**-1.6**
	comp=Z,1.6nm,0.7s,mb4.4,baz=42,slow=5.1						
NOA	**NORSAR Array B**	**87.55**	**339**	P	**P**	**00 13 20.3**	**-1.6**
	comp=Z,1.8nm,0.8s,mb4.4,baz=45,slow=4.7,SNR=5.0						
ISCO	**Idaho Springs**	**89.97**	**46**	P	**P**	**00 13 35.1**	**+1.3**
ANMO	**Albuquerque**	**91.84**	**51**	*e*P	**P**	**00 13 43.1**	**+0.6**
WMOK	**Wichita Mounta**	**97.28**	**47**	P	**P**	**00 14 07.4**	**0.0**
SDDR	**Presa de Saban**	**125.84**	**42**	PKPdf	PKPdf	00 19 36.1	-0.6
TORD	**Torodi Ar. Bea**	**128.01**	**310**	PKP	PKPdf	00 19 40.2	-0.8
	comp=Z,0.4nm,0.9s,baz=164,slow=1.0,SNR=7.0						
PLCA	**Paso Flores**	**146.51**	**129**	PKPbc	PKPbc	00 20 14.6	-0.9
PLCA	**Paso Flores**	**146.51**	**129**	PKPbc	PKPbc	00 20 14.6	-0.9
	comp=Z,1.4nm,0.5s,baz=280,slow=6.8,SNR=4.8

SKTB			*e*S	Sn	00 18 27.1	+3.0
SKI	**Saint Kitts**	**0.59 236**	*e*P	Pn	00 18 17.0	+1.6
SKI			*e*S	Sn	00 18 26.7	+2.6
NVRH	**Round Hill, Ne**	**0.60 216**	*e*P	Pn	00 18 15.8	+0.3
NVRH			*e*S	Sn	00 18 26.0	+1.7
BPA	**Boggy Peak**	**0.71 150**	*e*P	Pn	00 18 18.5	+1.5
BPA			*e*S	Sn	00 18 29.6	+2.6
LZG	**Guadaloupe-1**	**1.58 164**	*e*P	Pn	00 18 29.8	+1.1
BCG	**Bois Riant Cap**	**1.68 160**	*e*P	Pn	00 18 31.7	+1.6
SCG	**Saint Claude**	**1.71 162**	*e*P	Pn	00 18 32.0	+1.5
SCG			*e*S	Sn	00 18 54.0	+2.7
DEG	**La Desirade**	**1.75 140**	*e*P	Pn	00 18 32.9	+1.8
DEG			*e*S	Sn	00 18 54.2	+2.0

ISCJB ***04*** *00:18:21.5±1.0, 2339N±003×14371E±003, h8km±6km, mb4.8/95, MS4.6/28, Error ellipse: s-maj=5.8km s-min=5.1km az=32.9*
IDC ***04*** *00:18:21.3±0.5, 2335N×14375E, h0km, mb4.4/17, mb1 4.5/20, mb1mx4.5/23, mbtmp4.4/20, ML4.4/3, MS4.4/5, Ms1 4.4/5, ms1mx3.9/48, Error ellipse: s-maj=22.5km s-min=13.1km az=79.0*
BJI ***04*** *00:18:23.0, 2358N×14369E, h10km, mB5.1, mb5.0, Ms4.8, Msz4.6*
MOS ***04*** *00:18:24.9±0.9, 2336N×14370E, h33km, mb5.1/35, MS4.8/9, Error ellipse: s-maj=9.8km s-min=5.5km az=106.8*
GCMT ***04*** *00:18:25.6±0.4, 2357N×14396E, h22km±1km, MW5.1/45, Moment Tensor Solution. s30,c38; s45,c65; Duration: 0 Moment tensor: Scale 1016Nm; M*$_{rr}$*4.58±.31; M*$_{\theta\theta}$*-1.22±.20; M*$_{\phi\phi}$*-3.36±.20; M*$_{r\theta}$*-0.76±.35; M*$_{\theta\phi}$*1.87±.11; M*$_{\phi r}$*3.33±.32; Best double couple: M*$_0$*5.65600×1016 NP1:*ϕ_s*340.00000°,*δ*64.00000°,*λ*99.00000°. Principal axes: T 5.7930, Plg70.0000°, Azm268.0000°; N -0.2730, Plg8.0000°, Azm156.0000°; P -5.5190, Plg18.0000°, Azm63.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***04*** *00:18:25.6±1.6, 2334N×14376E, h26km±11km, mb4.9/48 Error ellipse: s-maj=4.3km s-min=3.9km az=98.0*

ISC 04 00:18:25.4±1.0, 2339N±003×14374E±003, h22km±7km, h32km±1.5km: pP-P, n241, σ0°91/263, mb4.8/95, MS4.6/28, 9C-3D, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**3.95**	**339**	Pn	**Pn**	**00 19 24.4**	**-0.3**
	52nm,0.3s,baz=132,slow=10,SNR=14						
CBIJ				Sn	**Sn**	**00 20 09.6**	**-0.7**
	202nm,0.3s,baz=131,slow=22,SNR=17						
GUMO	**Guam**	**9.81**	**174**	Pn	**Pn**	**00 20 44.6**	**-0.5**
GUMO	**Guam**	**9.81**	**174**	LR	LR	00 24 00.2	
	comp=Z,2μm,18.6s,baz=219,slow=35						
JOD2	**Odawara 2**	**12.51**	**342**	P	**Pn**	**00 21 21.0**	**-1.0**
JRY	**Ryogami san**	**13.26**	**343**	P	**Pn**	**00 21 29.2**	**-3.1**
JRY				S	**Sn**	**00 23 50.7**	**-8.4**
MJAR	**Matsushiro Arr**	**13.95**	**341**	Pn	**Pn**	**00 21 41.0**	**-0.7**
	1.9nm,0.3s,baz=170,slow=14,SNR=11						
MAJO	**Matsushiro**	**13.95**	**341**	*e*Pn	**Pn**	**00 21 41.8**	**+0.1**
MAT	**Matsushiro**	**13.95**	**341**	P	**Pn**	**00 21 42.5**	**+0.8**
MAT				S	**Sn**	**00 24 16.9**	**+1.0**
MAT	**Matsushiro**	**13.95**	**341**	P	**Pn**	**00 21 39.7**	**-2.0**
MAT				S	**Sn**	**00 24 08.8**	**-7.1**
JOW	**Kunigami**	**14.42**	**287**	LR	LR	00 27 01.7	
	comp=Z,3μm,18.3s,baz=130,slow=36						
JMM	**Marumori**	**14.65**	**351**	P	**Pn**	**00 21 46.5**	**-4.7**
JMM				S	**Sn**	**00 24 20.3**	**-13**
JNU	**Nakatsue**	**14.90**	**313**	P	**Pn**	**00 21 51.6**	**-3.1**
JNU	**Nakatsue**	**14.90**	**313**	Pn	**Pn**	**00 21 57.0**	**+2.3**
	0.4nm,0.3s,baz=48,slow=14,SNR=2.4						
JNU				LR	LR	00 27 19.7	
	comp=Z,514nm,19.0s,baz=125,slow=36						
JSD	**Sado**	**15.34**	**343**	P	**Pn**	**00 21 56.2**	**-4.2**
JOM	**Ohasama**	**16.17**	**353**	P	**Pn**	**00 22 08.2**	**-3.0**
JTM	**Tenmabayashi**	**17.49**	**353**	P	**Pn**	**00 22 26.8**	**-1.0**
JEM	**Erimo**	**18.58**	**359**	P	**Pn**	**00 22 43.3**	**+2.1**
JEW	**Eniwo**	**19.49**	**355**	P	**Pn**	**00 22 51.8**	**-0.3**
KSRS	**Korea Array**	**19.52**	**320**	P	**Pn**	**00 22 51.3**	**-1.2**
	1.0nm,0.3s,baz=133,slow=12,SNR=24						
KSRS				LR	LR	00 30 08.0	
	comp=Z,1μm,18.8s,baz=134,slow=36						
NACB	**Ninganchiao**	**20.28**	**277**	P	**P**	**00 23 00.5**	**+0.9**
INCN	**Inchon**	**20.32**	**318**	*e*P	**P**	**00 22 59.7**	**-0.2**
	14nm,0.3s						
TATO	**Taipei**	**20.36**	**279**	P	**P**	**00 22 59.4**	**-1.0**
YHNB	**Yeheng**	**20.46**	**278**	*e*P	**P**	**00 23 01.4**	**-0.2**
JMP	**Maruseppu**	**20.57**	**359**	P	**P**	**00 23 02.3**	**-0.2**
ASAJ	**Asahikawa**	**20.70**	**358**	P	**P**	**00 23 04.8**	**+0.9**
ASAJ	**Asahikawa**	**20.70**	**358**	P	**P**	**00 23 04.3**	**+0.5**
	3.9nm,0.4s,baz=249,slow=25,SNR=4.5						
ASAJ				LR	LR	00 31 03.6	
	comp=Z,722nm,18.9s,MS4.1,baz=173,slow=37						
SSE	**Sheshan**	**21.44**	**296**	P	**P**	**00 23 11.2**	**-0.9**
SSE				S	**S**	**00 27 07.3**	**-1.7**
SSE				AMB	AMB		
	comp=Z,32nm,0.7s,mb4.8						
SSE				AMB	AMB		
	comp=Z,444nm,7.2s						
SSE				LR	LR		
	comp=N,1μm,16.8s,MS4.5						
SSE				LR	LR		
	comp=E,1μm,16.8s,MS4.5						
SSE				LR	LR		
	comp=Z,2μm,17.1s,MS4.6						
SSE	**Sheshan**	**21.44**	**296**	P	**P**	**00 23 11.2**	**-0.9**
	comp=Z,32nm,0.7s,mb4.8						
SSE				S	**S**	**00 27 07.3**	**-1.7**
SSE				sS	sS	00 27 22.6	+3.6
SSE				LR	LR		
	comp=Z,2μm,17.1s,MS4.6						
VLA	**Vladivostok**	**21.99**	**336**	*i* P	**P**	**00 23 19.2**	**+1.4**
VLA				pmax	pmax		
	comp=Z,172nm,2.3s,mb5.1						
QZH	**Quanzhou**	**22.99**	**279**	P	**P**	**00 23 29.8**	**+1.2**
QZH				LR	LR		
	comp=Z,2μm,20.4s,MS4.5						
YSS	**Yuzh-Sakhalins**	**23.53**	**358**	P	**P**	**00 23 34.9**	**+0.9**
YSS	**Yuzh-Sakhalins**	**23.53**	**358**	*e*P	**P**	**00 23 34.5**	**+0.5**
YSS				*e*		00 24 08.0	
YSS				*e*		00 24 17.0	
YSS				*e*S	**S**	**00 27 46.0**	**-0.3**
YSS				*e*SS		00 28 30.0	
YSS				smax			
	comp=E,900nm,10.0s						
YSS				MLR	MLR		
	comp=Z,900nm,16.0s,MS4.3						
NJ2	**Nanjing**	**23.62**	**297**	*e*P	**P**	**00 23 36.2**	**+1.2**
NJ2				AP		00 23 44.9	
NJ2				PP		00 24 08.4	
NJ2				S	**S**	**00 27 45.0**	**-3.1**
NJ2				AMB	AMB		
	comp=Z,50nm,0.8s,mb5.0						
NJ2				AMB	AMB		
	comp=Z,540nm,5.6s						
NJ2				LR	LR		
	comp=N,1μm,15.6s,MS4.9						
NJ2				LR	LR		
	comp=E,3μm,18.0s,MS4.9						
NJ2				LR	LR		
	comp=Z,3μm,16.4s,MS4.9						
MDJ	**Mudanjiang**	**24.14**	**335**	P	**P**	**00 23 40.0**	**+0.4**
MDJ				AP		00 23 48.5	
MDJ				XP	sP	00 23 52.5	+3.5
MDJ				S	**S**	**00 27 56.7**	**+0.5**
MDJ				SCP	ScP	00 30 56.3	-1.2
MDJ				PCS	PcS	00 31 00.2	+0.4
MDJ				AMB	AMB		
	comp=Z,61nm,2.1s,mb4.7						
MDJ				AMB	AMB		
	comp=Z,570nm,6.2s						
MDJ				LR	LR		
	comp=N,2μm,15.8s,MS4.7						
MDJ				LR	LR		
	comp=E,831nm,14.4s,MS4.7						
MDJ				LR	LR		
	comp=Z,1μm,17.7s,MS4.4						
MDJ	**Mudanjiang**	**24.14**	**335**	*e*P	**P**	**00 23 40.2**	**+0.6**
	comp=Z,146nm,1.6s,mb5.2						
DL2	**Dalian**	**24.35**	**315**	P	**P**	**00 23 42.3**	**+0.7**
DL2				S	**S**	**00 28 00.0**	**+0.2**
DL2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.2						
DL2				AMB	AMB		
	comp=Z,220nm,8.4s						
DL2				LR	LR		
	comp=N,500nm,12.9s,MS4.3						
DL2				LR	LR		
	comp=E,460nm,15.2s,MS4.3						
DL2				LR	LR		
	comp=Z,690nm,15.2s,MS4.3						
SNY	**Shenyang**	**24.92**	**322**	⇑P	**P**	**00 23 45.7**	**-1.1**
SNY				AP		00 23 55.8	
SNY				XP	sP	00 23 59.4	+3.2
SNY				AMB	AMB		
	comp=Z,64nm,2.1s,mb4.8						
SNY				AMB	AMB		
	comp=Z,345nm,5.7s						
SNY				LR	LR		
	comp=N,757nm,19.5s,MS4.5						
SNY				LR	LR		
	comp=E,1μm,16.5s,MS4.5						
SNY				LR	LR		
	comp=Z,1μm,19.2s,MS4.4						
CN2	**Changchun**	**25.32**	**328**	*e*P	**P**	**00 23 48.0**	**-2.4**
CN2				*e*XP	sP	00 24 02.3	+2.5
CN2				*e*S	**S**	**00 28 10.8**	**-4.5**
CN2				AMB	AMB		
	comp=Z,10.0nm,1.1s,mb4.3						
CN2				AMB	AMB		
	comp=Z,200nm,5.0s						
CN2				LR	LR		
	comp=N,2μm,18.0s,MS4.8						
CN2				LR	LR		
	comp=E,1μm,18.0s,MS4.8						
CN2				LR	LR		
	comp=Z,3μm,18.0s,MS4.8						
HABR	**Khabarovsk**	**25.97**	**347**	*e*P	**P**	**00 23 55.8**	**-0.4**
HABR				*e*		00 24 35.2	
HABR				*e*S	**S**	**00 28 25.9**	**+0.6**
HABR				*e*SS		00 29 27.1	
TIA	**Tai'an**	**26.30**	**305**	⇓P	**P**	**00 23 59.7**	**+0.4**
WHN	**Wuhan**	**27.09**	**292**	*e*P	**P**	**00 24 07.0**	**+0.4**
KLR	**Kul'dur**	**27.47**	**343**	*e*P	**P**	**00 24 05.8**	**-3.9**
KLR				pmax	pmax		
	comp=Z,40nm,1.6s,mb4.7						
KLR				MLR	MLR		
	comp=Z,4μm,14.0s,MS5.2						
BJI	**Beijing**	**28.57**	**312**	P	**P**	**00 24 19.8**	**+0.2**
BJI				AP	pP	00 24 28.5	+2.2
BJI				XP	sP	00 24 32.4	+3.3
BJI				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.5						
BJI				AMB	AMB		
	comp=Z,269nm,7.7s						
BJI				LR	LR		
	comp=N,884nm,17.0s,MS4.6						
BJI				LR	LR		
	comp=E,810nm,15.0s,MS4.6						
BJI				LR	LR		
	comp=Z,606nm,22.2s						
BJI	**Beijing**	**28.57**	**312**	P	**P**	**00 24 19.8**	**+0.2**
	comp=Z,10.0nm,0.9s,mb4.5						
BJI				pP	pP	00 24 28.5	+2.2
BJI				sP	sP	00 24 32.4	+3.3
BJI				S	**S**	**00 28 49.0**	**-18**
BJI				ScP	ScP	00 31 20.3	+10
BJI				PcS	PcS	00 31 23.9	+11
BJI				LR	LR		
	comp=Z,610nm,22.2s,MS4.2						
PET	**Petropavlovsk**	**31.69**	**17**	P	**P**	**00 24 47.3**	**+0.2**
PET	**Petropavlovsk**	**31.69**	**17**	*e*P	pP	00 24 57.1	+3.3
PET				*e*SS	SS	00 31 46.5	-25
PET				pmax	pmax		
	comp=Z,21nm,0.5s,mb5.2						
PET				MLR	MLR		
	comp=Z,400nm,17.0s,MS4.2						
QIZ	**Qiongzhong**	**31.85**	**269**	P	**P**	**00 24 49.5**	**+0.6**
QIZ				S	**S**	**00 29 55.2**	**-3.3**
QIZ				LR	LR		
	comp=E,651nm,16.4s						
QIZ				LR	LR		
	comp=Z,702nm,18.1s,MS4.4						
HHC	**Hu-ho-hao-te**	**32.10**	**311**	*e*P	**P**	**00 24 50.8**	**0.0**
HHC				AP	pP	00 25 00.7	+3.2
HHC				XP	sP	00 25 04.8	+4.5
HHC				PP	PP	00 25 57.2	-6.2
HHC				S	**S**	**00 30 03.1**	**+1.2**
HHC				SCP	ScP	00 31 20.1	-2.1
HHC				PCS	PcS	00 31 24.5	0.0
HHC				SS	SS	00 31 54.9	-25
HHC				AMB	AMB		
	comp=Z,13nm,0.3s,mb5.2						
HHC				AMB	AMB		
	comp=Z,216nm,10.2s						
HHC				LR	LR		
	comp=N,919nm,16.1s,MS4.7						
HHC				LR	LR		
	comp=E,684nm,15.7s,MS4.7						
HHC				LR	LR		
	comp=Z,908nm,16.9s,MS4.5						
XAN	**Xi'an**	**32.19**	**297**	P	**P**	**00 24 51.2**	**-0.5**
XAN				PP	PP	00 26 03.2	-1.3
XAN				S	**S**	**00 29 58.0**	**-5.5**
XAN				AMB	AMB		
	comp=Z,10.0nm,1.5s,mb4.4						
XAN				LR	LR		
	comp=N,311nm,13.1s,MS4.5						
XAN				LR	LR		
	comp=E,720nm,15.4s,MS4.5						
XAN				LR	LR		
	comp=Z,1μm,15.9s,MS4.6						
GYA	**Guiyang**	**33.69**	**283**	⇑*i*P	**P**	**00 25 05.7**	**+0.8**
GYA				AP	pP	00 25 14.9	+3.3
GYA				XP	sP	00 25 18.9	+4.5
GYA				PP	PP	00 26 19.7	-1.6
GYA				PCP	PcP	00 27 46.0	+1.4
GYA				S	**S**	**00 30 25.7**	**-1.2**
GYA				XS	sS	00 30 42.8	+4.8
GYA				SCP	ScP	00 31 26.9	-1.1
GYA				PCS	PcS	00 31 31.4	+0.9
GYA				SS	SS	00 32 31.3	-21
GYA				SCS	ScS	00 35 26.6	-2.9
GYA				AMB	AMB		
	comp=Z,20nm,1.0s,mb5.0						
GYA				AMB	AMB		
	comp=Z,120nm,5.2s						
GYA				LR	LR		
	comp=N,510nm,16.2s,MS4.5						
GYA				LR	LR		
	comp=E,590nm,17.4s,MS4.5						
GYA				LR	LR		
	comp=Z,630nm,18.5s,MS4.4						
CLNS	**Chul'man**	**36.13**	**342**	*e*P	**P**	**00 25 24.7**	**-0.9**
CLNS				pmax	pmax		
	comp=Z,11nm,0.7s,mb4.9						
CLNS				pmax	pmax		
	comp=N,4.0nm,0.9s						
CLNS				pmax	pmax		
	comp=E,7.0nm,1.1s						
CLNS				MLR	MLR		
	comp=N,900nm,15.0s,MS4.7						
CLNS				MLR	MLR		
	comp=Z,2μm,15.0s,MS4.9						
CLNS				MLR	MLR		
	comp=E,200nm,16.0s,MS4.7						
CD2	**Chengdu**	**36.21**	**291**	*e*P	**P**	**00 25 27.0**	**+0.4**
CD2				AP	pP	00 25 36.9	+3.5
CD2				XP	sP	00 25 40.8	+4.7
CD2				PP	PP	00 26 50.3	+1.2
CD2				S	**S**	**00 31 04.4**	**-1.3**
CD2				XS	sS	00 31 20.4	+3.6
CD2				SS	SS	00 33 29.1	-15
CD2				AMB	AMB		
	comp=Z,40nm,1.1s,mb5.3						
CD2				AMB	AMB		
	comp=Z,50nm,4.2s						
CD2				LR	LR		
	comp=N,1μm,13.2s,MS5.0						
CD2				LR	LR		
	comp=E,2μm,16.8s,MS5.0						
CD2				LR	LR		
	comp=Z,1μm,16.8s,MS4.7						
MA2	**Magadan**	**36.50**	**6**	*e*P	**P**	**00 25 27.4**	**-1.2**
	comp=Z,6.4nm,0.6s,mb4.7						
MA2	**Magadan**	**36.50**	**6**	*e*P	**P**	**00 25 27.4**	**-1.3**
MA2				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.7						
LZH	**Lanzhou**	**36.63**	**299**	*e*P	**P**	**00 25 31.6**	**+1.4**
LZH				AP	pP	00 25 40.6	+3.6
LZH				XP	sP	00 25 45.1	+5.4
LZH				PP	PP	00 26 56.5	+2.8
LZH				*e*S	**S**	**00 31 11.0**	**-1.0**
LZH				XS	sS	00 31 26.1	+2.9
LZH				SS	SS	00 33 39.0	-13
LZH				AMB	AMB		
	comp=Z,74nm,1.6s,mb5.3						
LZH				AMB	AMB		
	comp=Z,260nm,4.2s						
LZH				LR	LR		
	comp=E,1μm,15.8s						
LZH				LR	LR		
	comp=Z,1μm,17.3s,MS4.8						
LZH	**Lanzhou**	**36.63**	**299**	*e*P	**P**	**00 25 31.6**	**+1.4**
	comp=Z,74nm,1.6s,mb5.3						
LZH				pP	pP	00 25 40.6	+3.6
LZH				sP	sP	00 25 45.1	+5.4
LZH				PP	PP	00 26 56.5	+2.8
LZH				*e*S	**S**	**00 31 11.0**	**-1.0**
LZH				sS	sS	00 31 26.1	+2.9
LZH				SS	SS	00 33 39.0	-13
LZH				LR	LR		
	comp=Z,1μm,17.3s,MS4.8						
LZH	**Lanzhou**	**36.63**	**299**	*e*P	**P**	**00 25 31.6**	**+1.4**
LZH				*PP	pP	00 25 40.6	+3.6
LZH				*SP	sP	00 25 45.1	+5.4
LZH						00 26 56.5	
LZH				*e*S	**S**	**00 31 11.0**	**-1.0**
LZH				*SS	sS	00 31 26.1	+2.9
LZH				SS	SS	00 33 39.0	-13
LZH				pmax	pmax		
	comp=Z,74nm,1.6s,mb5.3						
LZH				MLR	MLR		
	comp=Z,1μm,17.3s,MS4.8						
CIT	**Chita**	**36.76**	**329**	*e*P	**P**	**00 25 31.5**	**+0.4**
CIT				*e*	pP	00 25 38.6	+0.8
CIT				*e*		00 27 54.6	
CIT				*e*		00 31 15.4	
CIT				pmax	pmax		
	comp=Z,87nm,2.5s,mb5.1						
KMI	**Kunming**	**37.32**	**281**	P	**P**	**00 25 37.6**	**+1.4**
KMI				AP	pP	00 25 47.4	+4.5
KMI				PP	PP	00 27 04.9	+3.5
KMI				S	**S**	**00 31 24.0**	**+1.3**
KMI				XS	sS	00 31 39.4	+5.5
KMI				SS	SS	00 33 52.5	-14
KMI				AMB	AMB		
	comp=Z,23nm,1.5s,mb4.8						
KMI				AMB	AMB		
	comp=Z,294nm,6.8s						
KMI				LR	LR		
	comp=N,303nm,14.3s,MS4.5						
KMI				LR	LR		
	comp=E,510nm,15.7s,MS4.5						
KMI				LR	LR		
	comp=Z,621nm,15.7s,MS4.5						
KMI	**Kunming**	**37.32**	**281**	P	**P**	**00 25 37.6**	**+1.4**
	comp=Z,23nm,1.5s,mb4.8						
KMI				pP	pP	00 25 47.4	+4.5
KMI				sP	sP	00 25 52.0	+6.3
KMI				PP	PP	00 27 04.9	+3.5
KMI				PPP		00 27 26.0	
KMI				S	**S**	**00 31 24.0**	**+1.3**
KMI				sS	sS	00 31 39.4	+5.5
KMI				SS	SS	00 33 52.5	-14
KMI				SSS		00 34 27.1	
KMI				LR	LR		
	comp=Z,620nm,15.7s,MS4.5						
KMI	**Kunming**	**37.32**	**281**	P	**P**	**00 25 37.6**	**+1.4**
KMI				*PP	pP	00 25 47.4	+4.5
KMI				*SP	sP	00 25 52.0	+6.3
KMI						00 27 04.9	
KMI				PPP		00 27 26.0	
KMI				S	**S**	**00 31 24.0**	**+1.3**
KMI				*SS	sS	00 31 39.4	+5.5
KMI				SS	SS	00 33 52.5	-14
KMI				SSS		00 34 27.1	
KMI				pmax	pmax		
	comp=Z,23nm,1.5s,mb4.8						
KMI				MLR	MLR		
	comp=Z,620nm,15.7s,MS4.5						
ULN	**Ulaanbaatar**	**38.00**	**319**	*e*P	**P**	**00 25 41.9**	**+0.2**
ULN	**Ulaanbaatar**	**38.00**	**319**	*c i*P	**P**	**00 25 41.7**	**+0.1**
ULN	**Ulaanbaatar**	**38.00**	**319**	P	**P**	**00 25 42.4**	**+0.7**
	SNR=9.8						
ULN	**Ulaanbaatar**	**38.00**	**319**	P	**P**	**00 25 42.4**	**+0.7**
	SNR=9.8						
SONM	**Songino Array**	**38.39**	**319**	P	**P**	**00 25 44.9**	**0.0**
	comp=Z,5.0nm,0.8s,mb4.3,baz=125,slow=8.3,SNR=18						
YAK	**Yakutsk**	**39.80**	**350**	P	**P**	**00 25 56.3**	**-0.1**
YAK	**Yakutsk**	**39.80**	**350**	*i* P	**P**	**00 25 58.7**	**+2.2**
YAK				pmax	pmax		
	comp=Z,16nm,1.3s,mb4.6						
SEY	**Seymchan**	**39.96**	**6**	*i* P	**P**	**00 26 01.5**	**+3.7**
GTA	**Gaotai**	**40.33**	**304**	*e*P	**P**	**00 26 01.1**	**-0.2**
GTA				AP	pP	00 26 10.5	+2.4
GTA				XP	sP	00 26 15.0	+4.2
GTA				PP	PP	00 27 38.0	+3.8
GTA				PCP	PcP	00 28 04.4	-0.1
GTA				SCP	ScP	00 31 50.1	-2.4
GTA				PCS	PcS	00 31 54.1	-0.8
GTA				S	**S**	**00 32 07.6**	**-0.3**
GTA				XS	sS	00 32 23.2	+4.1
GTA				SS	SS	00 35 02.5	-4.3
GTA				AMB	AMB		
	comp=Z,14nm,2.0s,mb4.3						
GTA				AMB	AMB		
	comp=Z,200nm,5.7s						
GTA				LR	LR		
	comp=N,1μm,17.1s,MS4.8						
GTA				LR	LR		
	comp=E,627nm,19.4s,MS4.8						
GTA				LR	LR		
	comp=Z,863nm,19.0s,MS4.6						
BOD	**Bodaibo**	**40.50**	**336**	*e*P	**P**	**00 25 53.8**	**-8.5**
ZAK	**Zakamensk**	**41.34**	**321**	⇓*i*P	**P**	**00 26 09.2**	**-0.2**
ZAK				pmax	pmax		
	comp=Z,17nm,1.1s,mb4.6						
IRK	**Irkutsk**	**41.63**	**324**	⇑*i*P	**P**	**00 26 11.9**	**+0.2**
IRK				*e*S	**S**	**00 32 22.1**	**-4.7**
IRK				pmax	pmax		
	comp=Z,55nm,1.4s,mb5.0						
TLY	**Talaya**	**41.71**	**323**	*e*P	**P**	**00 26 12.9**	**+0.5**
TLY	**Talaya**	**41.71**	**323**	*c i*P	**P**	**00 26 12.8**	**+0.4**
TLY				*e*PPP		00 28 15.0	
TLY				*e*S	**S**	**00 32 29.5**	**+1.5**
TLY				pmax	pmax		
	comp=Z,40nm,1.9s,mb4.7						
TLY				MLR	MLR		
	comp=Z,1μm,18.0s,MS4.9						
TLY	**Talaya**	**41.71**	**323**	P	**P**	**00 26 13.5**	**+1.1**
	SNR=10						
CHTO	**Chiang Mai**	**41.91**	**273**	*e*P	**P**	**00 26 14.8**	**+0.3**
CHTO	**Chiang Mai**	**41.91**	**273**	P	**P**	**00 26 15.3**	**+0.8**
	SNR=6.7						
CHTO	**Chiang Mai**	**41.91**	**273**	P	**P**	**00 26 15.3**	**+0.8**
	SNR=6.7						
MOY	**Mondy**	**43.19**	**322**	*e*P	**P**	**00 26 24.8**	**+0.4**
MOY				pmax	pmax		
	comp=Z,36nm,2.0s,mb4.8						
CTA	**Charters Tower**	**43.28**	**177**	*e*P	**P**	**00 26 24.6**	**-0.8**
	comp=Z,14nm,1.2s,mb4.6						
CTA	**Charters Tower**	**43.28**	**177**	*e*P	**P**	**00 26 24.6**	**-0.8**
CTA				pmax	pmax		
	comp=Z,14nm,1.2s						
CTA	**Charters Tower**	**43.28**	**177**	P	**P**	**00 26 24.6**	**-0.9**
	comp=Z,25nm,1.2s,mb4.8,baz=8.0,slow=5.3,SNR=4.6						
CTAO	**Charters Tower**	**43.28**	**177**	*e*P	**P**	**00 26 24.6**	**-0.8**
	comp=Z,41nm,1.3s,mb5.0						
CTAO	**Charters Tower**	**43.28**	**177**	*e*P	**P**	**00 26 24.6**	**-0.8**
CTAO				pmax	pmax		
	comp=Z,41nm,1.3s,mb5.0						
WB2	**Warramunga Arr**	**44.03**	**193**	*e*P	**P**	**00 26 30.6**	**-0.9**
WB2	**Warramunga Arr**	**44.03**	**193**	*e*P	**P**	**00 26 30.3**	**-1.2**
WRA	**Warramunga Arr**	**44.03**	**193**	*i* P	**P**	**00 26 30.7**	**-0.8**
WRA				pmax	pmax		
	comp=Z,6.0nm,0.9s						
WRA	**Warramunga Arr**	**44.03**	**193**	P	**P**	**00 26 30.1**	**-1.4**
	comp=Z,6.2nm,0.9s,mb4.3,baz=13,slow=8.8,SNR=17						
FITZ	**Fitzroy Crossi**	**44.87**	**205**	*e*P	**P**	**00 26 38.5**	**+0.3**
	comp=Z,5.4nm,0.6s,mb4.5						

BILL Bilibino 46.77 11 P **P 00 26 52.6 0.0**
BILL Bilibino 46.77 11⇑ *e*P **P 00 26 52.0 -0.7**
BILL pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
LSA Lhasa 47.14 289 P **P 00 26 59.8 +3.7**
LSA S **S 00 33 38.9 -8.6**
LSA AMB AMB
comp=Z,20nm,1.0s,mb5.0
LSA LR LR
comp=N,200nm,17.0s,MS4.6
LSA LR LR
comp=E,470nm,16.0s,MS4.6
LSA LR LR
comp=Z,530nm,17.0s,MS4.6
LSA Lhasa 47.14 289 *e*P **P 00 26 58.3 +2.2**
comp=Z,34nm,1.0s,mb5.2
LSA Lhasa 47.14 289 *e*P **P 00 26 58.3 +2.2**
LSA pmax pmax
comp=Z,34nm,1.0s,mb5.2
ASAR Alice Springs 47.74 192 P **P 00 26 60.0 -0.7**
comp=Z,2.1nm,0.6s,mb4.3,baz=13,slow=9.5,SNR=14
TIXI Tiksi 49.03 354 *e*P **P 00 27 10.3 +0.1**
comp=Z,32nm,1.7s,mb5.1
TIXI Tiksi 49.03 354 *e*P **P 00 27 10.3 +0.2**
TIXI pmax pmax
comp=Z,32nm,1.7s,mb5.1
WMQ Urumqi 49.92 308⇑ *i*P **P 00 27 18.5 +1.1**
WMQ AP pP 00 27 29.0 +4.7
WMQ PCP PcP 00 28 38.0 +0.5
WMQ S **S 00 34 26.0 -0.4**
WMQ XS sS 00 34 42.0 +4.2
WMQ SS SS 00 37 55.0 -4.2
WMQ AMB AMB
comp=Z,42nm,1.4s,mb5.3
WMQ AMB AMB
comp=Z,306nm,4.4s
WMQ LR LR
comp=N,925nm,16.5s,MS5.0
WMQ LR LR
comp=E,932nm,16.5s,MS5.0
WMQ LR LR
comp=Z,600nm,17.8s,MS4.7
MBWA Marble Bar 50.08 210 *e*P **P 00 27 17.6 -1.1**
comp=Z,10nm,1.0s,mb4.8
TNA Tin City 52.19 23 *e*P **P 00 27 34.7 +0.7**
comp=Z,16nm,1.4s,mb4.8
ZAA0 Zalesovo Array 53.22 321 *e*P **P 00 27 41.4 -0.5**
ZAA0 *e* 00 27 52.5
ZALV Zalesovo Beam 53.22 321 P **P 00 27 41.5 -0.4**
ZALV Zalesovo Beam 53.22 321 P **P 00 27 41.5 -0.4**
comp=Z,5.8nm,0.6s,mb4.7,baz=102,slow=7.4,SNR=28
ZAL Zalesovo 53.23 321 P **P 00 27 41.5 -0.4**
MK31 Makanchi Array 53.95 312 *e*P **P 00 27 47.5 +0.2**
MKAR Makanchi Array 53.95 312 P **P 00 27 47.7 +0.4**
comp=Z,2.2nm,0.5s,mb4.4,baz=88,slow=9.2,SNR=32
NVS Novosibirsk 54.29 322⇑ *i*P **P 00 27 49.4 -0.3**
NVS *e* 00 29 52.9
NVS *e*S **S 00 35 23.1 -2.9**
NVS pmax pmax
comp=N,19nm,2.0s
NVS pmax pmax
comp=E,45nm,2.0s
NVS pmax pmax
comp=Z,88nm,2.0s,mb5.3
NVS smax
comp=N,13nm,1.9s
NVS smax
comp=E,18nm,2.1s
STKA Stephens Creek 54.99 182 *e*P **P 00 27 53.8 -1.1**
comp=E,4.2nm,0.6s,mb4.7
STKA Stephens Creek 54.99 182 P **P 00 27 54.2 -0.7**
comp=E,1.7nm,0.7s,mb4.2,baz=359,slow=10.0,SNR=5.2
FORT Forrest 55.92 196 *e*P **P 00 28 05.1 +3.5**
comp=E,13nm,0.7s,mb5.1
TTA Tatalina 55.97 29 P **P 00 28 02.0 +0.3**
comp=E,10.0nm,1.2s,mb4.7
TTA Tatalina 55.97 29 P **P 00 28 02.0 +0.3**
TTA pmax pmax
comp=Z,10.0nm,1.2s,mb4.7
KURK Kurchatov 56.60 316⇑ *i*P **P 00 28 06.1 -0.3**
KURK pmax pmax
comp=Z,37nm,2.2s,mb5.0
KURK Kurchatov 56.60 316 *e*P **P 00 28 06.4 0.0**
KURK Kurchatov 56.60 316 P **P 00 28 06.8 +0.4**
SNR=19
IMA2 Indian Mountai 57.79 25 *e*P **P 00 28 14.5 0.0**
ULHL Ulahol 58.30 306 P **P 00 28 19.8 +1.3**
SNR=7.5
TKM2 Tokmak 2 58.73 307 *e*P **P 00 28 22.8 +1.4**
comp=Z,4.4nm,0.4s,mb4.8
TKM2 Tokmak 2 58.73 307 *e*P **P 00 28 22.8 +1.3**
TKM2 pmax pmax
comp=Z,4.0nm,0.4s,mb4.8
TKM2 Tokmak 2 58.73 307 P **P 00 28 23.1 +1.6**
SNR=9.0
PMR Palmer 58.84 31 *e*P **P 00 28 22.6 +0.6**
comp=Z,27nm,1.2s,mb5.2
PMR Palmer 58.84 31 *e*P **P 00 28 22.6 +0.7**
PMR pmax pmax
comp=Z,27nm,1.2s,mb5.2
KZA Kyzart 59.05 306 P **P 00 28 26.1 +2.4**
SNR=15
KBK Karagaybulak 59.22 307 P **P 00 28 26.2 +1.3**
SNR=11
SML Sawmill 59.25 31 *e*P **P 00 28 24.6 -0.1**
MCK McKinley 59.27 29 *e*P **P 00 28 24.4 -0.4**
comp=Z,19nm,0.9s,mb5.1
MCK McKinley 59.27 29 *e*P **P 00 28 24.4 -0.4**
MCK pmax pmax
comp=Z,19nm,0.9s,mb5.1
NDI New Delhi 59.33 290 *e*P **P 00 28 24.5 -1.4**
FRU Bishkek 59.45 307 *e*P **P 00 28 27.0 +0.5**
USP Ospenovka 59.50 308 P **P 00 28 28.0 +1.1**
SNR=5.3
UCH Uchtor 59.58 306 *e*P **P 00 28 29.1 +1.7**
comp=Z,13nm,1.0s,mb4.9
UCH Uchtor 59.58 306 P **P 00 28 29.5 +2.1**
SNR=12
COLA College 59.92 27 *e*P **P 00 28 29.1 -0.2**
EKS2 Erkin-Say 60.08 307 *e*P **P 00 28 30.0 -0.9**
AML Almayashu 60.19 306 *e*P **P 00 28 33.0 +1.4**
comp=Z,207nm,0.9s
AML Almayashu 60.19 306 P **P 00 28 33.5 +1.8**
SNR=8.0
HYB Hyderabad 60.95 278 *e*P **P 00 28 37.5 +0.4**
HYB Hyderabad 60.95 278 *i*P **P 00 28 37.5 +0.4**
CHKZ Chkalovo 61.58 320 *i*P **P 00 28 40.1 -0.7**
CHKZ pmax pmax
comp=Z,19nm,1.2s,mb5.1
BRVK Borovoye 61.79 319 *e*P **P 00 28 42.6 +0.3**
BRVK Borovoye 61.79 319 P **P 00 28 43.0 +0.7**
SNR=12
KK31 Karatay Array 62.42 308 *i*P **P 00 28 46.9 +0.2**
KK31 pmax pmax
comp=Z,7.0nm,0.7s,mb4.9
PALK Pallekele 62.42 266 *e*P **P 00 28 47.1 0.0**
comp=Z,8.9nm,1.0s,mb4.8
EGAK Eagle 62.75 28 *e*P **P 00 28 49.6 +1.1**
KBL Kabul 64.98 299 *e*P **P 00 29 04.2 +0.5**
comp=Z,16nm,0.8s,mb5.1
KBL *e* 00 29 15.5
INK Inuvik 65.82 24 *e*P **P 00 29 08.5 0.0**
INK Inuvik 65.82 24 P **P 00 29 08.1 -0.5**
comp=Z,1.5nm,0.6s,mb4.2,baz=283,slow=7.2,SNR=7.5
SVE Sverdlovsk 67.02 324⇓ *e*P **P 00 29 16.8 +0.4**
SVE pmax pmax
comp=Z,20nm,0.8s,mb5.2
SVE MLR MLR
comp=Z,666nm,17.0s,MS4.9
ARU Arti 68.21 323 *e*P **P 00 29 23.7 -0.2**
comp=Z,8.6nm,0.5s,mb5.0
ARU Arti 68.21 323 *e*P **P 00 29 23.1 -0.9**
ARU *e* 00 29 47.5
ARU *e* 00 31 52.2
ARU *e*PPP 00 33 29.5
ARU *e*S S 00 38 21.6 -1.4
ARU *e*SS SS 00 42 41.8 -3.7
ARU MLR MLR
comp=Z,630nm,17.0s,MS4.9
DLBC Dease Lake 68.44 34 *e*P **P 00 29 25.2 -0.2**
YKA Yellowknife Ar 74.73 28 P **P 00 30 02.8 -0.3**
comp=Z,1.5nm,0.6s,mb4.1,baz=292,slow=5.9,SNR=24
RES Resolute Bay 75.32 14 *e*P **P 00 30 06.0 -0.4**
comp=Z,511nm,1.4s
RES *e* 00 30 18.0
TMCR Tamitsa 75.77 334 *e*P **P 00 30 08.7 -0.4**
TMCR *e* 00 30 19.3
KEV Kevo 76.93 341 P **P 00 30 14.3 -1.3**
KEV *e*PcP PcP 00 30 26.6 0.0
YBH Yreka Blue Hor 77.34 50 *e*P **P 00 30 19.2 +0.8**
comp=Z,16nm,1.3s,mb4.8
YBH *e* 00 30 29.7
YBH Yreka Blue Hor 77.34 50 *e*P **P 00 30 19.3 +0.8**
YBH *e* 00 30 29.7
YBH pmax pmax
comp=Z,16nm,1.3s
ARCES ARCESS Array B 77.49 341 P **P 00 30 19.3 +0.6**
comp=Z,5.4nm,0.7s,mb4.6,baz=36,slow=4.8,SNR=11
NEW Newport 78.69 42 *e*P **P 00 30 25.8 -0.1**
comp=Z,8.7nm,0.8s,mb4.7
NEW *e* 00 30 36.5
NEW Newport 78.69 42 *e*P **P 00 30 25.8 0.0**
NEW *e* 00 30 36.5
NEW pmax pmax
comp=Z,9.0nm,0.8s
EDM Edmonton 78.94 37 *e*P **P 00 30 27.3 +0.2**
EDM *e* 00 30 37.6
EDM PP PP 00 33 25.6 +0.1
JOF Joensuu 79.02 334 *e*p **P 00 30 25.5 -1.8**
comp=Z,20nm,0.6s,mb5.2
OHCM Honcut 79.06 52 P **P 00 30 27.2 -0.8**
BMO Blue Mountains 79.88 46 *e*P **P 00 30 32.3 -0.1**
comp=Z,11nm,1.1s,mb4.7
BMO *e* 00 30 43.3
BMO Blue Mountains 79.88 46 *e*P **P 00 30 32.3 -0.1**
BMO *e* 00 30 43.3
BMO pmax pmax
comp=Z,11nm,1.1s,mb4.7
WVOR Wild Horse Val 79.92 48 *e*P **P 00 30 33.2 +0.5**
comp=Z,11nm,1.0s,mb4.8
WVOR *e*PcP PcP 00 30 40.1 0.0
WVOR *e* 00 30 43.7
WVOR Wild Horse Val 79.92 48 *e*P **P 00 30 33.2 +0.6**
WVOR *e* pP 00 30 40.1 +0.2
WVOR *e* 00 30 43.7
WVOR pmax pmax
comp=Z,11nm,1.0s,mb4.7
WALA Waterton Lakes 80.33 41 *e*P **P 00 30 34.2 -0.5**
comp=Z,16nm,1.1s,mb4.8
WALA *e* 00 30 46.2
CMB Columbia Colle 80.33 53 *e*P **P 00 30 34.9 -0.1**
CMB *e*PcP PcP 00 30 42.1 +0.1
CMB *e* 00 30 45.9
KAF Kangasniemi 81.41 335 *e*p **P 00 30 36.9 -3.3**
KIV Kislovodsk 81.61 314 *e*P **P 00 30 41.7 0.0**
comp=Z,5.7nm,0.7s,mb4.6
KIV Kislovodsk 81.61 314 *e*P **P 00 30 39.4 -2.3**
KIV *e* 00 40 55.8
KIV *e*SS SS 00 46 09.8 +0.4
KIV pmax pmax
comp=Z,12nm,1.1s,mb4.7
KIV MLR MLR
comp=Z,543nm,19.0s,MS4.9
KIV Kislovodsk 81.61 314 P **P 00 30 43.9 +2.2**
SNR=5.1
ONI Oni 81.67 313 P **P 00 30 41.6 -0.4**
NVAR Mina Array Bea 81.70 52 P **P 00 30 42.5 +0.3**
comp=Z,2.0nm,0.7s,mb4.2,baz=274,slow=3.3,SNR=12
FINES FINESS Array B 81.88 335 P **P 00 30 42.0 -0.7**
comp=Z,3.4nm,0.6s,mb4.4,baz=69,slow=5.3,SNR=21
MTUM Tungsten Hills 81.93 53 P **P 00 30 43.6 +0.1**
HLID Hailey 82.31 46 *e*P **P 00 30 45.7 +0.4**
comp=Z,4.1nm,0.9s,mb4.4
HLID *e* 00 30 56.3
ISA Isabella 82.66 54 *e*P **P 00 30 47.5 +0.1**
MCMT McKenzie Canyo 82.78 44 P **P 00 30 47.6 -0.2**
MCMT *e* 00 30 59.1
RBK Rabkut 82.81 286 P **P 00 30 48.8 +0.4**
SNR=6.0
RBK Rabkut 82.81 286 P **P 00 30 48.8 +0.4**
SNR=6.0
BOZ Bozeman (W) 83.20 43 *e*P **P 00 30 49.9 0.0**
comp=Z,6.4nm,1.3s,mb4.5
BOZ *e* 00 31 00.5
BOZ Bozeman (W) 83.20 43 *e*P **P 00 30 49.9 0.0**
BOZ *e* 00 31 00.5
BOZ pmax pmax
comp=Z,6.0nm,1.3s,mb4.5
EGMT Eagleton 83.27 40 *e*P **P 00 30 50.0 -0.2**
comp=Z,6.9nm,1.0s,mb4.6
EGMT *e* 00 31 00.9
ABTO Aybut 83.67 286 P **P 00 30 53.3 +0.5**
SNR=8.5
ABTO Aybut 83.67 286 P **P 00 30 53.3 +0.5**
SNR=8.5
TPNV Topopah Spring 83.79 53 *e*P **P 00 30 53.2 0.0**
TPNV *e*PcP PcP 00 30 57.5 +0.3
TPNV *e* 00 31 04.3
QRN Al-Qurain 83.86 299 *e*P **P 00 30 52.9 -0.7**
QRN AMb AMB 00 30 54.2
comp=Z,33nm,1.1s,mb5.4
KBD Kabd 83.87 299 *e*P **P 00 30 53.3 -0.4**
KBD AMb AMB 00 30 59.6
comp=Z,98nm,1.0s,mb5.9
MIB Mutribah 83.90 300 *e*P **P 00 30 53.5 -0.3**
MIB AMb AMB 00 30 55.0
comp=Z,40nm,1.0s,mb5.5
RDF Al-Radifah 84.08 299 *e*P **P 00 30 53.9 -0.9**
RDF AMb AMB 00 31 08.0
comp=Z,33nm,0.8s,mb5.5
FFC Flin Flon 84.13 32 *e*P **P 00 30 54.3 -0.2**
comp=Z,26nm,1.1s,mb5.3
FFC *e* 00 31 05.8
FFC Flin Flon 84.13 32 *e*P **P 00 30 54.3 -0.2**
FFC *e* 00 31 05.8
FFC pmax pmax
comp=Z,26nm,1.1s,mb5.3
NAY Al-Naaiem 84.20 299 *e*P **P 00 30 54.9 -0.5**
NAY AMb AMB 00 31 01.8
comp=Z,27nm,1.3s,mb5.2
RST Umm Al-Ruwaisa 84.30 300 *e*P **P 00 30 55.1 -0.8**
RST AMb AMB 00 31 01.4
comp=Z,43nm,1.2s,mb5.4
IMW Indian Meadow 84.42 44 *e*P **P 00 30 57.3 +1.1**
comp=Z,9.0nm,0.8s,mb5.0
IMW *e*PcP PcP 00 31 01.5 +1.7
IMW *e* 00 31 07.8
FLWY Flagg Ranch 84.49 44 *e*P **P 00 30 57.7 +1.1**
comp=Z,26nm,1.2s,mb5.2
FLWY *e* 00 31 08.0
SPUT South Promonto 84.59 47 P **P 00 30 57.8 +0.7**
SPUT *e* 00 31 08.0
TPAW Teton Pass 84.60 45 *e*P **P 00 30 58.1 +0.9**
comp=Z,12nm,1.2s,mb4.9
TPAW *e* 00 31 08.6
MOOW Moose Ponds 84.62 45 *e*P **P 00 30 57.8 +0.6**
comp=Z,7.2nm,1.2s,mb4.7
MOOW *e* 00 31 08.5
ANN Anapa 84.63 317 *e*P **P 00 31 00.1 +2.8**
ANN *e*S S 00 41 20.6 -2.7
ANN *e*SS SS 00 46 55.3 +1.3
ANN pmax pmax
comp=Z,54nm,1.8s,mb5.4
ANN MLR MLR
comp=Z,543nm,17.0s,MS5.0
DUG Dugway 84.83 48 *e*P **P 00 30 58.2 -0.2**
DUG *e* 00 31 09.3
RLMT Red Lodge 84.92 43 *e*P **P 00 30 59.6 +0.9**
comp=Z,12nm,0.8s,mb5.1
RLMT *e* 00 31 10.2
PFO Pinyon Flat Ob 85.02 56 *e*P **P 00 30 59.3 -0.1**
comp=Z,9.3nm,1.0s,mb4.9
PFO *e* 00 31 10.0
PFO Pinyon Flat Ob 85.02 56 *e*P **P 00 30 59.3 -0.1**
PFO *e* 00 31 10.0
PFO pmax pmax
comp=Z,9.0nm,1.0s,mb4.8
HWUT Hardware Ranch 85.05 47 *e*P **P 00 30 59.3 -0.1**
HWUT *e* 00 31 10.1
FCC Fort Churchill 85.30 26 *e*P **P 00 30 59.6 -0.7**
comp=Z,38nm,1.6s,mb5.3
FCC *e* 00 31 11.0
FCC Fort Churchill 85.30 26 *e*P **P 00 30 59.6 -0.7**
FCC *e* 00 31 11.0
FCC pmax pmax
comp=Z,37nm,1.6s,mb5.3
DAU Daniels Canyon 85.80 48 *e*P **P 00 31 03.7 +0.5**
DAU *e* 00 31 14.4
BW06 Boulder Array 85.84 45 P **P 00 31 03.0 -0.3**
BW06 *e* 00 31 14.4
PDAR Pinedale Array 85.84 45 P **P 00 31 03.0 -0.3**
comp=Z,0.8nm,0.6s,mb4.1,baz=298,slow=3.2,SNR=5.0
LAO LASA Array 86.01 40 *e*P **P 00 31 04.6 +0.5**
comp=Z,32nm,1.0s,mb5.5
LAO *e* 00 31 15.0
MSU Marysvale 86.02 50 P **P 00 31 04.4 +0.1**
AKASG Malin Array Be 86.43 325 *i*P **P 00 31 05.1 -1.0**
AKASG pmax pmax
comp=Z,1.0nm,0.2s
AKASG Malin Array Be 86.43 325 P **P 00 31 04.8 -1.3**
comp=Z,0.5nm,0.2s,mb4.3,baz=34,slow=4.7,SNR=6.9
SIM Simferopol' 86.63 318 *e*P **P 00 31 06.0 -1.2**
SIM *e*S S 00 41 46.0 +3.0
SIM pmax pmax
comp=Z,6.0nm,0.8s,mb4.9
SRU San Rafael 86.90 49 *e*P **P 00 31 09.2 +0.5**
comp=Z,6.8nm,0.8s,mb4.9
SRU *e* 00 31 19.8
SRU San Rafael 86.90 49 *e*P **P 00 31 09.2 +0.6**
SRU *e* 00 31 19.8
SRU pmax pmax
comp=Z,7.0nm,0.8s,mb4.9
MALT Malatya 86.97 311 *e*P **P 00 31 09.4 +0.4**
NB2 NORSAR Subarra 87.56 339 P **P 00 31 09.5 -1.9**
comp=Z,7.2nm,0.9s,mb4.9,baz=54,slow=4.8
NOA NORSAR Array B 87.56 339 P **P 00 31 09.9 -1.5**
comp=Z,4.4nm,0.9s,mb4.7,baz=47,slow=4.7,SNR=10
WUAZ Wupatki 87.95 52 *e*P **P 00 31 14.1 +0.3**
comp=Z,14nm,1.1s,mb5.1
WUAZ *e* 00 31 25.2
RSSD Black Hills 88.65 42 P **P 00 31 16.6 -0.3**
ULM Lac du Bonnet 89.76 34 P **P 00 31 21.1 -0.9**
comp=Z,1.7nm,0.7s,mb4.5,baz=245,slow=4.8,SNR=3.8
ISCO Idaho Springs 89.88 46 *e*P **P 00 31 22.8 0.0**
comp=Z,9.5nm,1.4s,mb4.9
ISCO Idaho Springs 89.88 46 *e*P **P 00 31 22.8 0.0**
ISCO pmax pmax
comp=Z,10.0nm,1.4s,mb5.0
SDCO Great Sand Dun 91.01 48 *e*P **P 00 31 28.6 +0.5**
comp=Z,3.6nm,1.0s,mb4.7
SDCO *e* 00 31 38.9
LAZ Ladron 91.54 51 P **P 00 31 31.2 +0.6**
ANMO Albuquerque 91.75 51 *e*P **P 00 31 31.8 +0.2**
comp=Z,6.3nm,1.0s,mb4.9
ANMO *e* 00 31 42.7
ANMO Albuquerque 91.75 51 *i*P **P 00 31 31.6 0.0**
MORC Moravsky Berou 92.94 328 *e*P **P 00 31 36.5 -0.2**
PSZ Piszkesteto 92.99 326 P **P 00 31 36.6 -0.4**
ECSD EROS,Sioux Fal 93.30 39 P **P 00 31 36.5 -2.1**
comp=Z,9.4nm,1.2s,mb5.1
TORD Torodi Ar. Bea 128.06 310 PKP PKPdf 00 37 29.9 -0.6
comp=Z,1.3nm,1.2s,baz=30,slow=1.7,SNR=5.4
SDV Santo Domingo 133.54 50 PKP PKPdf 00 37 41.2 +0.2
comp=Z,2.5nm,0.8s,baz=349,slow=5.2,SNR=3.0
PLCA Paso Flores 146.46 129 PKPbc PKPbc 00 38 04.7 -0.1
comp=Z,4.5nm,0.9s,baz=177,slow=7.2,SNR=5.9
LPAZ La Paz 149.25 83 *e*PKPdf PKPdf 00 38 09.5 +0.8
LPAZ PKPbc PKPbc 00 38 13.9 +0.9
LPAZ *e*PKPbc PKPbc 00 38 14.0 +1.0
LPAZ La Paz 149.25 83 PKPbc PKPbc 00 38 13.9 +0.9
comp=Z,5.5nm,0.8s,baz=241,slow=4.7,SNR=10
CFAA Coronel Fontan 150.56 113 PKPbc PKPbc 00 38 15.1 -0.8
comp=Z,0.2nm,0.6s,baz=263,slow=8.1,SNR=3.1

NEIC ***04*** *00:22:09.3, 38.16N×2024E, h12km, MD3.6(ATH), After ATH.*
ISCJB ***04*** *00:22:09.8±1.2, 3823N±004×2029E±007, h6km±5km, Error ellipse: s-maj=9.9km s-min=5.9km az=147.4*
ATH ***04*** *00:22:10.4, 38.19N×2034E, h13km±1km, MD3.6/7*
CSEM ***04*** *00:22:11.2±0.5, 3822N×2031E, h1km±3km, MD3.6, Error ellipse: s-maj=8.7km s-min=3.8km az=58.0*
THE ***04*** *00:22:12.9, 3838N×2039E, h3km, ML3.2*
SKO ***04*** *00:22:15.1, 3868N×2058E, h6km*
ISC 04 00:22:09.7±1.2, 3816N±005×2026E±007, h10km±5km, n21, σ1§11/30, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.26**	**86**	*e*PG	**Pg**	**00 22 15.2**	**+0.3**
VLS				*e*SG	**Sg**	**00 22 18.5**	**+0.1**
VLS	**Valsamata**	**0.26**	**86**	*e*Pg	**Pg**	**00 22 15.3**	**+0.4**
VLS				*e*Sg	**Sg**	**00 22 18.5**	**+0.1**
LKD	**Levkas**	**0.62**	**29**	*e*Pg	**Pg**	**00 22 19.6**	**-2.1**
LKD				*e*Sg	**Sg**	**00 22 26.0**	**-3.9**
RLS	**Riolos of Patr**	**0.96**	**96**	*e*PB	**Pg**	**00 22 27.7**	**-0.3**
IGT	**Igoumenitsa**	**1.37**	**2**	*e*Pg	**Pn**	**00 22 33.8**	**-1.0**
IGT				*e*Sg	**Sn**	**00 22 51.8**	**-1.3**
EVR	**Evrytania**	**1.43**	**58**	*e*Pb	**Pg**	**00 22 36.7**	**-0.4**
EVR				*e*Sb	**Sg**	**00 22 56.8**	**+1.2**
JAN	**Janina**	**1.56**	**17**	*e*PB	**Pb**	**00 22 38.8**	**+0.1**
KEK	**Kerkira**	**1.59**	**347**	*e*PB	**Pb**	**00 22 40.0**	**+0.8**
KEK	**Kerkira**	**1.59**	**347**	*e*Pb	**Pb**	**00 22 39.0**	**-0.2**
ITM	**Ithomi**	**1.65**	**126**	*e*PB	**Pb**	**00 22 40.9**	**+0.8**
SRN	**Sarande**	**1.73**	**353**	*i*Sn	**Sg**	**00 23 06.4**	**+1.2**
MEV	**Metsovon**	**1.79**	**25**	*e*Pg	**Pn**	**00 22 41.2**	**+0.6**
AGG	**Agios Georgios**	**1.83**	**61**	*e*Pb	**Pn**	**00 22 42.0**	**+0.7**
AGG				*e*Sb	**Sb**	**00 23 05.3**	**-1.1**
THL	**Klokotos Trika**	**1.96**	**44**	*e*PN	**Pn**	**00 22 44.3**	**+1.3**
LKR	**Lokris**	**2.21**	**76**	*e*PN	**Pb**	**00 22 48.6**	**-1.0**
VLI	**Veliai**	**2.57**	**123**	*e*PB	**Pb**	**00 22 53.6**	**-2.3**
NEO	**Neokhori**	**2.58**	**63**	*e*PN	**Pn**	**00 22 53.2**	**+1.7**
LIT	**Litokhoron**	**2.60**	**41**	*e*Pn	**Pn**	**00 22 53.3**	**+1.5**
LIT				*e*Sn	**Sn**	**00 23 23.6**	**+0.2**
LIT	**Litokhoron**	**2.60**	**41**	*e*Pn	**Pn**	**00 22 53.3**	**+1.5**
LIT				*e*Sn	**Sn**	**00 23 23.5**	**+0.1**
FNA	**Florina**	**2.76**	**18**	*e*Pn	**Pn**	**00 22 54.8**	**+0.9**
FNA				*e*Sn	**Sn**	**00 23 27.1**	**-0.2**
KRUS	**Krusevo**	**3.29**	**13**	*e*Pn	**Pn**	**00 22 59.5**	**-1.8**

IDC 04 00:26:21.7±4.5, 2054S×16857E, h0km, mb4.0/3, mb1 4.0/4, mb1mx3.9/13, mbtmp3.9/4, ML3.0/1, Error ellipse: s-maj=153.0km s-min=29.1km az=130.0, Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**2.50**	**232**	*e*P	Pn	00 27 03.3	-0.3
DZM				*e*S	Sn	00 27 35.8	+0.9
DZM	**Mont Dzumac**	**2.50**	**232**	Pn	Pn	00 27 03.2	-0.5
3.5nm,0.3s,baz=75,slow=13,SNR=7.7							
DZM				Sn	Sn	00 27 34.1	-0.8
11nm,0.3s,baz=86,slow=18,SNR=5.5							
STKA	**Stephens Creek**	**26.64**	**239**	P	P	00 32 02.6	+0.5
1.7nm,0.7s,baz=78,slow=8.9,SNR=2.7							
ASAR	**Alice Springs**	**32.22**	**258**	P	P	00 32 52.2	+0.4
2.4nm,0.8s,baz=84,slow=9.1,SNR=22							
SONM	**Songino Array**	**87.88**	**323**	P	P	00 39 13.1	+0.2
0.8nm,0.8s,baz=90,slow=3.2,SNR=3.1							
GERES	**GERESS Array B**	**145.32**	**330**	PKPbc	PKPbc	00 45 60.0	-1.2
1.4nm,0.9s,baz=22,slow=3.5,SNR=5.4							

IDC 04 00:35:06.1±4.4, 1489S×1315W, h0km, mb4.0/3, mb1 4.0/3, mb1mx3.6/18, mbtmp4.0/3, Error ellipse: s-maj=351.6km s-min=86.0km az=116.0, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DBIC	**Dimbokro**	**22.95**	**22**	P	P	00 40 11.8	-0.3
2.2nm,0.8s,baz=165,slow=14,SNR=3.2							
TORD	**Torodi Ar. Bea**	**31.50**	**29**	P	P	00 41 30.4	+0.5
1.6nm,0.9s,baz=212,slow=9.5,SNR=6.4							
AKASG	**Malin Array Be**	**75.10**	**26**	P	P	00 46 49.5	-0.3
0.8nm,0.6s,baz=223,slow=6.6,SNR=7.7							
FINES	**FINESS Array B**	**82.19**	**18**	P	P	00 47 29.0	+0.4
3.0nm,1.0s,baz=205,slow=6.2,SNR=4.3							

IDC ***04*** *00:35:17.5±0.4, 790S×15655E, h0km, mb4.8/23, mb1 4.9/26, mb1mx4.8/27, mbtmp4.8/26, ML3.9/2, Error ellipse: s-maj=15.4km s-min=11.2km az=82.0*
ISCJB ***04*** *00:35:18.3±0.2, 786S±003×15651E±004, h14km, mb5.0/74, MS5.0/11, Error ellipse: s-maj=5.7km s-min=4.7km az=153.8*
BJI ***04*** *00:35:19.6, 751S×15652E, h14km, mB5.3, mb5.2, Ms5.2, Msz5.1*
NEIC ***04*** *00:35:19.1±0.1, 787S×15656E, h10km, mb5.1/34, MS5.1/1, Error ellipse: s-maj=5.2km s-min=4.2km az=98.0*

MOS 04 00:35:21.9±0.9, 7.80S×156.38E, h33km, mb5.2/23, Error ellipse: s-maj=10.3km s-min=7.3km az=93.4

ISC 04 00:35:20.2±0.2, 7.87S±0.03×156.54E±0.04, h15km, h15km±1.1km: pP-P, n216, σ0.88/176, mb5.0/74, MS5.0/11, 13C-2D, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**3.71**	**115**	Pn	**Pn**	**00 36 16.0**	**-1.0**
	280nm,0.3s,baz=274,slow=2.3,SNR=31						
HNR				Sn	**Sn**	**00 37 02.4**	**+2.0**
	364nm,0.3s,baz=263,slow=21,SNR=7.3						
CTA	**Charters Tower**	**15.71**	**218**	*e*P	**Pn**	**00 39 01.9**	**+0.8**
	28nm,0.8s						
CTA	**Charters Tower**	**15.71**	**218**	*e*P	**Pn**	**00 39 01.9**	**+0.8**
CTA				pmax	pmax		
	comp=Z,29nm,0.8s						
CTA	**Charters Tower**	**15.71**	**218**	Pn	**Pn**	**00 39 01.1**	**+0.1**
	comp=Z,0.3nm,0.3s,baz=38,slow=12,SNR=4.7						
CTAO	**Charters Tower**	**15.71**	**218**	*e*Pn	**Pn**	**00 39 02.2**	**+1.1**
DZM	**Mont Dzumac**	**17.04**	**147**	P	**Pn**	**00 39 17.5**	**-0.6**
	comp=Z,0.5nm,0.3s,baz=7.6,slow=18,SNR=4.6						
EIDS	**Eidsvold**	**18.16**	**196**	*e*Pn	**Pn**	**00 39 30.5**	**-1.4**
	comp=Z,18nm,1.0s						
ARMA	**Armidale**	**22.90**	**191**	*e*P	**P**	**00 40 22.2**	**-1.3**
TLE	**Tual**	**23.74**	**274⇑**	*e*P	**P**	**00 40 34.0**	**+1.8**
TLE	**Tual**	**23.74**	**274⇑**	*e*P	**P**	**00 40 34.0**	**+1.8**
KAKA	**Kakadu**	**24.19**	**257**	*e*P	**P**	**00 40 36.9**	**+0.6**
	comp=Z,100nm,1.0s,mb5.2						
GUMO	**Guam**	**24.27**	**331**	P	**P**	**00 40 36.4**	**-0.5**
	comp=Z,117nm,0.7s,mb5.5,baz=76,slow=19,SNR=5.1						
WB2	**Warramunga Arr**	**24.62**	**239**	*e*P	**P**	**00 40 40.3**	**+0.1**
WB2	**Warramunga Arr**	**24.62**	**239**	*e*P	**P**	**00 40 40.2**	**0.0**
WRA	**Warramunga Arr**	**24.63**	**239**	*i* P	**P**	**00 40 40.4**	**+0.1**
WRA				pmax	pmax		
	comp=Z,17nm,0.7s						
WRA	**Warramunga Arr**	**24.63**	**239**	P	**P**	**00 40 40.4**	**+0.1**
	comp=Z,17nm,0.7s,mb4.7,baz=64,slow=9.3,SNR=45						
WRA				PcP	PcP	00 44 17.9	-0.1
	comp=Z,3.8nm,0.7s,baz=62,slow=2.3,SNR=4.7						
ASAR	**Alice Springs**	**26.79**	**232**	P	**P**	**00 40 58.6**	**-1.2**
	comp=Z,3.5nm,0.8s,mb4.0,baz=63,slow=8.2,SNR=14						
STKA	**Stephens Creek**	**27.64**	**208**	*e*P	**P**	**00 41 08.2**	**+0.8**
	comp=Z,12nm,0.8s,mb4.6						
STKA	**Stephens Creek**	**27.64**	**208**	P	**P**	**00 41 08.1**	**+0.7**
	comp=Z,14nm,0.8s,mb4.7,baz=9.4,slow=8.5,SNR=35						
FITZ	**Fitzroy Crossi**	**31.73**	**248**	*e*P	**P**	**00 41 43.4**	**-0.4**
	comp=Z,24nm,0.7s,mb5.1						
FITZ	**Fitzroy Crossi**	**31.73**	**248**	P	**P**	**00 41 43.3**	**-0.6**
	comp=Z,4.2nm,0.5s,mb4.5,baz=68,slow=8.3,SNR=20						
RAO	**Raoul Island**	**32.08**	**135**	P	**P**	**00 41 46.2**	**-0.6**
BATI	**Kupang**	**32.54**	**263**	P	**P**	**00 41 52.7**	**+1.7**
	comp=Z,13nm,0.3s,mb5.3,baz=160,slow=4.6,SNR=5.2						
FORT	**Forrest**	**35.04**	**226**	*e*P	**P**	**00 42 13.0**	**+0.4**
	comp=Z,26nm,0.6s,mb5.3						
URZ	**Urewera**	**35.50**	**152**	P	**P**	**00 42 17.6**	**+1.2**
	comp=Z,4.4nm,0.8s,mb4.4,baz=225,slow=2.8,SNR=3.3						
TAU	**Tasmania Unive**	**35.83**	**192**	P	**P**	**00 42 19.4**	**+0.2**
MBWA	**Marble Bar**	**37.89**	**246**	*e*P	**P**	**00 42 42.6**	**+5.6**
	comp=Z,21nm,0.8s,mb4.9						
RPZ	**Rata Peaks**	**37.90**	**163**	P	**P**	**00 42 37.0**	**+0.3**
	comp=Z,5.4nm,0.4s,mb4.6,baz=31,slow=0.7,SNR=2.7						
KKM	**Kota Kinabalu**	**42.53**	**288**	*e*P	**P**	**00 43 15.7**	**+0.1**
KLBR	**Kellerberrin**	**43.12**	**231**	*e*P	**P**	**00 43 19.0**	**-1.2**
	comp=Z,11nm,0.5s,mb4.8						
JOW	**Kunigami**	**44.06**	**323**	P	**P**	**00 43 28.8**	**+1.0**
JOW	**Kunigami**	**44.06**	**323**	P	**P**	**00 43 28.4**	**+0.6**
	comp=Z,136nm,0.7s,mb5.8,baz=160,slow=7.2,SNR=15						
NWAO	**Narrogin (SRO)**	**44.09**	**230**	*e*P	**P**	**00 43 27.9**	**0.0**
	comp=Z,4.9nm,0.7s,mb4.3						
NWAO	**Narrogin (SRO)**	**44.09**	**230**	*e*P	**P**	**00 43 27.9**	**0.0**
NWAO				pmax	pmax		
	comp=Z,5.0nm,0.7s						
NWAO	**Narrogin (SRO)**	**44.09**	**230**	P	**P**	**00 43 26.7**	**-1.2**
	comp=Z,6.7nm,0.7s,mb4.5,baz=56,slow=12,SNR=4.5						
JAM	**Amami Oshima**	**44.47**	**325**	P	**P**	**00 43 30.2**	**-0.8**
MUN	**Mundaring**	**44.48**	**232**	*e*P	**P**	**00 43 31.3**	**+0.2**
JOD2	**Odawara 2**	**45.96**	**340**	P	**P**	**00 43 42.1**	**-0.6**
JIE	**Ise**	**46.04**	**337**	P	**P**	**00 43 42.6**	**-0.8**
JSU	**Suzuyama**	**46.43**	**329**	P	**P**	**00 43 46.8**	**+0.3**
JMN	**Monobe**	**46.63**	**334**	P	**P**	**00 43 48.4**	**+0.4**
NACB	**Ninganchiao**	**46.66**	**314**	*e*P	**P**	**00 43 48.3**	**-0.2**
JRY	**Ryogami san**	**46.70**	**340**	P	**P**	**00 43 44.9**	**-3.7**
JGF	**Kuroka**	**46.87**	**338**	P	**P**	**00 43 40.4**	**-9.5**
KSM	**Kuching**	**47.03**	**279**	*e*P	**P**	**00 43 50.7**	**-0.9**
YHNB	**Yeheng**	**47.13**	**314**	*e*P	**P**	**00 43 53.2**	**+1.1**
JWT	**Wachi**	**47.33**	**336**	P	**P**	**00 43 53.0**	**-0.5**
MJAR	**Matsushiro Arr**	**47.41**	**340**	P	**P**	**00 43 53.4**	**-0.7**
	comp=Z,9.5nm,0.6s,mb4.9,baz=156,slow=8.5,SNR=17						
MAJO	**Matsushiro**	**47.41**	**340**	*e*P	**P**	**00 43 53.7**	**-0.4**
	comp=Z,19nm,0.6s,mb5.2						
MAJO	**Matsushiro**	**47.41**	**340**	*e*P	**P**	**00 43 53.7**	**-0.4**
MAJO				pmax	pmax		
	comp=Z,19nm,0.6s,mb5.2						
MAT	**Matsushiro**	**47.41**	**340**	P	**P**	**00 43 53.5**	**-0.6**
MAT	**Matsushiro**	**47.41**	**340**	P	**P**	**00 43 51.7**	**-2.4**
JNU	**Nakatsue**	**47.52**	**330**	P	**P**	**00 43 54.5**	**-0.5**
JNU	**Nakatsue**	**47.52**	**330**	P	**P**	**00 43 55.5**	**+0.5**
	comp=Z,34nm,0.7s,mb5.5,baz=55,slow=9.0,SNR=14						
JAD	**Aida**	**47.54**	**335**	P	**P**	**00 43 54.2**	**-0.9**
JHS	**Saijyo**	**48.04**	**334**	P	**P**	**00 43 59.7**	**+0.7**
JSD	**Sado**	**48.75**	**341**	P	**P**	**00 44 02.1**	**-2.3**
QZH	**Quanzhou**	**49.30**	**313**	*e*P	**P**	**00 44 08.8**	**-0.1**
KSRS	**Korea Array**	**52.43**	**331**	P	**P**	**00 44 32.5**	**+0.3**
	comp=Z,7.7nm,0.7s,mb4.8,baz=145,slow=8.4,SNR=19						
QIZ	**Qiongzhong**	**53.22**	**301**	P	**P**	**00 44 38.0**	**-0.4**
ASAJ	**Asahikawa**	**53.26**	**347**	P	**P**	**00 44 39.1**	**+0.9**
	comp=Z,11nm,0.5s,mb5.0,baz=236,slow=7.9,SNR=8.4						
NJ2	**Nanjing**	**53.56**	**320**	*e*P	**P**	**00 44 40.2**	**-0.5**
NJ2				AP	pP	00 44 45.4	-0.1
NJ2				XP	sP	00 44 47.6	+0.3
NJ2				PP	PP	00 46 42.4	+0.8
NJ2				AMB	AMB		
	comp=Z,40nm,0.5s,mb5.6						
NJ2				AMB	AMB		
	comp=Z,1μm,4.6s						
NJ2				LR	LR		
	comp=N,1μm,16.8s,MS5.2						
NJ2				LR	LR		
	comp=E,1μm,18.0s,MS5.2						
NJ2				LR	LR		
	comp=Z,2μm,12.0s						
PMOR	**Pomariorio Ree**	**54.80**	**103**	*e*P	**P**	**00 44 59.4**	**+9.3**
	comp=Z,19nm,1.0s,mb5.1						
VLA	**Vladivostok**	**55.48**	**338**	*i* P	**P**	**00 44 55.3**	**+0.9**
VLA				pmax	pmax		
	comp=Z,21nm,0.5s,mb5.4						
WHN	**Wuhan**	**55.63**	**315**	*e*P	**P**	**00 44 56.2**	**+0.4**
YSS	**Yuzh-Sakhalins**	**55.94**	**349**	*e*P	**P**	**00 44 58.1**	**+0.5**
YSS	**Yuzh-Sakhalins**	**55.94**	**349⇑**	*i*P	**P**	**00 44 57.8**	**+0.1**
YSS				*e*		00 45 06.0	
YSS				pmax	pmax		
	comp=Z,60nm,1.0s,mb5.6						
DL2	**Dalian**	**56.72**	**328**	P	**P**	**00 45 03.9**	**+0.5**
DL2				AMB	AMB		
	comp=Z,30nm,0.8s,mb5.4						
DL2				LR	LR		
	comp=N,1μm,23.6s,MS5.0						
DL2				LR	LR		
	comp=E,1μm,20.2s,MS5.0						
DL2				LR	LR		
	comp=Z,2μm,23.4s,MS5.2						
KULM	**Kulim**	**57.27**	**281**	*e*P	**P**	**00 45 07.5**	**-0.2**
TIA	**Tai'an**	**57.39**	**322**	⇑P	**P**	**00 45 08.0**	**-0.2**
MDJ	**Mudanjiang**	**57.62**	**337**	P	**P**	**00 45 10.1**	**+0.5**
MDJ				AP	pP	00 45 13.3	-1.1
MDJ				XP	sP	00 45 14.5	-1.7
MDJ				PP	PP	00 47 18.1	+0.4
MDJ				AMB	AMB		
	comp=Z,15nm,1.1s,mb4.9						
MDJ				AMB	AMB		
	comp=Z,326nm,5.3s						
MDJ				LR	LR		
	comp=N,1μm,36.3s						
MDJ				LR	LR		
	comp=E,895nm,29.1s						
MDJ				LR	LR		
	comp=Z,2μm,31.1s						
MDJ	**Mudanjiang**	**57.62**	**337**	*e*P	**P**	**00 45 09.8**	**+0.2**
	comp=Z,18nm,1.1s,mb5.0						
SNY	**Shenyang**	**57.94**	**331**	⇑P	**P**	**00 45 11.8**	**-0.1**
SNY				AMB	AMB		
	comp=Z,13nm,0.9s,mb5.0						
CN2	**Changchun**	**58.64**	**334**	*e*P	**P**	**00 45 17.0**	**+0.2**
CN2				*e*XP	sP	00 45 24.0	+0.6
CN2				AMB	AMB		
	comp=Z,20nm,1.2s,mb5.0						
CN2				AMB	AMB		
	comp=Z,200nm,5.0s						
CN2				LR	LR		
	comp=Z,2μm,21.0s,MS5.1						
GYA	**Guiyang**	**59.20**	**307⇑**	*i*P	**P**	**00 45 21.8**	**+0.8**
GYA				AP	pP	00 45 25.8	0.0
GYA				XP	sP	00 45 28.9	+1.2
GYA				PCP	PcP	00 46 10.9	+1.5
GYA				PP	PP	00 47 36.3	+4.3
GYA				AMB	AMB		
	comp=Z,30nm,1.1s,mb5.2						
GYA				AMB	AMB		
	comp=Z,120nm,8.6s						
GYA				LR	LR		
	comp=N,710nm,18.2s,MS5.0						
GYA				LR	LR		
	comp=E,690nm,19.4s,MS5.0						
GYA				LR	LR		
	comp=Z,930nm,18.5s,MS4.9						
HABR	**Khabarovsk**	**59.21**	**344**	*e*P	**P**	**00 45 19.0**	**-1.6**
HABR				*e*S	**S**	**00 53 28.8**	**+0.9**
HABR				*e*SS	SS	00 57 27.5	+4.8
BJT	**Baijiatuau**	**60.49**	**325**	*e*P	**P**	**00 45 29.3**	**-0.4**
	comp=Z,14nm,0.6s,mb5.2						
BJT	**Baijiatuau**	**60.49**	**325**	*e*P	**P**	**00 45 29.3**	**-0.4**
BJT				pmax	pmax		
	comp=Z,14nm,0.6s						
BJI	**Beijing**	**60.51**	**325**	P	**P**	**00 45 29.8**	**0.0**
BJI				AMB	AMB		
	comp=Z,18nm,0.6s,mb5.4						
BJI	**Beijing**	**60.51**	**325**	P	**P**	**00 45 29.8**	**0.0**
	comp=Z,18nm,0.6s,mb5.4						
NST	**Nakhon Sawan**	**60.56**	**293**	P	**P**	**00 45 30.0**	**-0.6**
XAN	**Xi'an**	**61.40**	**316**	P	**P**	**00 45 35.5**	**-0.5**
XAN				AP	pP	00 45 40.8	0.0
XAN				AMB	AMB		
	comp=Z,14nm,1.0s,mb5.0						
XAN				LR	LR		
	comp=N,429nm,20.5s,MS4.9						
XAN				LR	LR		
	comp=E,728nm,21.9s,MS4.9						
XAN				LR	LR		
	comp=Z,915nm,29.2s						
KMI	**Kunming**	**61.77**	**304**	P	**P**	**00 45 40.0**	**+1.3**
KMI				AP	pP	00 45 42.6	-0.9
KMI				XP	sP	00 45 44.0	-1.3
KMI				PP	PP	00 47 57.0	+2.2
KMI				AMB	AMB		
	comp=Z,25nm,1.1s,mb5.3						
KMI				AMB	AMB		
	comp=Z,247nm,7.3s						
KMI				LR	LR		
	comp=N,592nm,20.8s,MS4.8						
KMI				LR	LR		
	comp=E,350nm,19.6s,MS4.8						
KMI				LR	LR		
	comp=Z,727nm,26.6s						
KMI	**Kunming**	**61.77**	**304**	P	**P**	**00 45 40.0**	**+1.3**
	comp=Z,25nm,1.1s,mb5.3						
KMI				pP	pP	00 45 42.6	-0.9
KMI				sP	sP	00 45 44.0	-1.3
KMI				PP	PP	00 47 57.0	+2.2
KMI				S	**S**	**00 54 03.5**	**+1.9**
KMI				LR	LR		
	comp=Z,730nm,26.6s,MS4.7						
CHTO	**Chiang Mai**	**62.66**	**296**	*e*P	**P**	**00 45 45.3**	**+0.6**
CD2	**Chengdu**	**63.55**	**310**	*e*P	**P**	**00 45 50.6**	**+0.2**
CD2				AP	pP	00 45 55.2	0.0
CD2				XP	sP	00 45 57.8	+0.8
CD2				PP	PP	00 48 12.2	+1.8
CD2				AMB	AMB		
	comp=Z,60nm,0.6s,mb5.8						
CD2				AMB	AMB		
	comp=Z,80nm,5.8s						
CD2				LR	LR		
	comp=N,350nm,21.2s,MS4.7						
CD2				LR	LR		
	comp=E,460nm,22.4s,MS4.7						
CD2				LR	LR		
	comp=Z,250nm,18.6s,MS4.4						
HHC	**Hu-ho-hao-te**	**63.70**	**323**	*e*P	**P**	**00 45 52.2**	**+1.0**
HHC				AP	pP	00 45 56.9	+0.9
HHC				XP	sP	00 45 59.5	+1.6
HHC				AMB	AMB		
	comp=Z,40nm,1.0s,mb5.4						
HHC				AMB	AMB		
	comp=Z,287nm,11.4s						
HHC				LR	LR		
	comp=N,978nm,24.5s,MS5.1						
HHC				LR	LR		
	comp=E,1μm,19.8s,MS5.1						
HHC				LR	LR		
	comp=Z,3μm,23.5s,MS5.4						
BTO	**Baotou**	**64.48**	**322**	*e*P	**P**	**00 45 57.0**	**+0.7**
HIA	**Hailar**	**65.36**	**334**	*e*P	**P**	**00 46 02.4**	**+0.5**
	comp=Z,51nm,1.0s,mb5.5						
HIA	**Hailar**	**65.36**	**334**	*c i*P	**P**	**00 46 02.7**	**+0.8**
LZH	**Lanzhou**	**66.01**	**315**	*e*P	**P**	**00 46 07.6**	**+1.2**
LZH				AP	pP	00 46 12.2	+1.0
LZH				XP	sP	00 46 14.6	+1.6
LZH				PP	PP	00 48 35.5	+3.6
LZH				AMB	AMB		
	comp=Z,31nm,1.6s,mb5.1						
LZH				AMB	AMB		
	comp=Z,137nm,7.6s						
LZH				LR	LR		
	comp=E,897nm,16.3s						
LZH				LR	LR		
	comp=Z,1μm,18.5s,MS5.1						
LZH	**Lanzhou**	**66.01**	**315**	*e*P	**P**	**00 46 07.6**	**+1.2**
	comp=Z,31nm,1.6s,mb5.1						
LZH				pP	pP	00 46 12.2	+1.0
LZH				sP	sP	00 46 14.6	+1.6
LZH				PP	PP	00 48 35.5	+3.6
LZH				*e*S	S	00 54 53.7	-0.2
LZH				sS	sS	00 55 01.8	-0.1
LZH				PS		00 55 17.0	
LZH				*e*SS	SS	00 59 10.5	+0.9
LZH				LR	LR		
	comp=Z,1μm,18.5s,MS5.1						
LZH	**Lanzhou**	**66.01**	**315**	*e*P	**P**	**00 46 07.6**	**+1.2**
LZH				*SP	sP	00 46 14.6	+1.6
LZH						00 48 35.5	
LZH				*e*S	S	00 54 53.7	-0.2
LZH				PS		00 55 17.0	
LZH				*e*SS	SS	00 59 10.5	+0.9
LZH				pmax	pmax		
	comp=Z,31nm,1.6s,mb5.1						
LZH				MLR	MLR		
	comp=Z,1μm,18.5s,MS5.1						
CLNS	**Chul'man**	**69.52**	**342**	*c i*P	**P**	**00 46 29.3**	**+1.3**
CLNS				*e*PP	pP	00 46 34.5	+1.6
CLNS				*e*PS		00 55 59.0	
CLNS				pmax	pmax		
	comp=N,32nm,0.9s						
CLNS				pmax	pmax		
	comp=E,14nm,0.9s						
CLNS				pmax	pmax		
	comp=Z,78nm,0.9s,mb5.6						
CLNS				MLR	MLR		
	comp=Z,2μm,20.0s,MS5.3						
CLNS				MLR	MLR		
	comp=N,600nm,15.0s						
VNDA	**Vanda**	**69.67**	**179**	P	**P**	**00 46 28.5**	**-0.2**
VNDA	**Vanda**	**69.67**	**179**	P	**P**	**00 46 28.5**	**-0.2**
	comp=N,2.3nm,1.1s,mb4.0,baz=339,slow=5.3,SNR=7.1						
CIT	**Chita**	**70.07**	**333**	*e*P	**P**	**00 46 32.1**	**+0.6**
CIT				*e*		00 46 40.3	
CIT				*e*		00 46 51.1	
CIT				pmax	pmax		
	comp=Z,85nm,1.8s,mb5.4						
SBA	**Scott Base**	**70.15**	**178**	P	**P**	**00 46 32.7**	**+1.0**
GTA	**Gaotai**	**70.42**	**317**	*e*P	**P**	**00 46 34.7**	**+0.7**
GTA				AP	pP	00 46 38.4	-0.5
GTA				XP	sP	00 46 40.6	-0.1
GTA				PP	PP	00 49 10.4	+0.2
GTA				AMB	AMB		
	comp=Z,24nm,1.2s,mb5.0						
GTA				AMB	AMB		
	comp=Z,232nm,6.1s						
GTA				LR	LR		
	comp=N,1μm,19.0s						
GTA				LR	LR		
	comp=E,1μm,24.3s						
GTA				LR	LR		
	comp=Z,2μm,25.1s						
ULN	**Ulaanbaatar**	**70.56**	**327**	*e*P	**P**	**00 46 36.2**	**+1.5**
	comp=Z,82nm,0.9s,mb5.7						
ULN	**Ulaanbaatar**	**70.56**	**327**	*c i*P	**P**	**00 46 36.2**	**+1.6**
SEY	**Seymchan**	**70.67**	**358⇓**	*e*P	**P**	**00 46 34.8**	**-0.1**
SONM	**Songino Array**	**70.90**	**327**	P	**P**	**00 46 37.9**	**+1.2**
	comp=Z,74nm,0.8s,mb5.7,baz=137,slow=6.7,SNR=245						
YAK	**Yakutsk**	**72.74**	**347**	*e*P	**P**	**00 46 47.9**	**+0.5**
YAK	**Yakutsk**	**72.74**	**347**	*e*P	**P**	**00 46 46.4**	**-1.0**
YAK				pmax	pmax		
	comp=E,8.0nm,1.0s						
YAK				pmax	pmax		
	comp=Z,57nm,0.8s,mb5.5						
YAK				pmax	pmax		
	comp=N,12nm,0.9s						
LSA	**Lhasa**	**73.03**	**304**	*e*P	**P**	**00 46 50.8**	**+0.9**
	comp=N,9.5nm,0.7s,mb4.8						
LSA	**Lhasa**	**73.03**	**304**	*e*P	**P**	**00 46 50.8**	**+0.9**
LSA				pmax	pmax		
	comp=Z,10.0nm,0.7s,mb4.8						
BOD	**Bodaibo**	**73.99**	**338**	*e*P	**P**	**00 46 54.4**	**-0.5**
BOD				pmax	pmax		
	comp=Z,19nm,1.3s,mb4.9						
ZAK	**Zakamensk**	**74.05**	**328⇓**	*i*P	**P**	**00 46 55.3**	**-0.1**
ZAK				pmax	pmax		
	comp=Z,21nm,1.2s,mb4.9						
TLY	**Talaya**	**74.59**	**329**	P	**P**	**00 46 59.4**	**+0.8**
	comp=Z,133nm,1.1s,mb5.8,SNR=6.6						
TLY	**Talaya**	**74.59**	**329**	*e*P	**P**	**00 46 58.1**	**-0.4**
	comp=Z,13nm,0.8s,mb4.9						
TLY				*e*		00 47 11.3	
TLY	**Talaya**	**74.59**	**329**	*e*P	**P**	**00 46 58.1**	**-0.5**
TLY				*e*		00 47 11.4	
TLY				pmax	pmax		
	comp=Z,13nm,0.8s,mb4.9						
IRK	**Irkutsk**	**74.60**	**330⇑**	*i*P	**P**	**00 46 58.2**	**-0.4**
IRK				pmax	pmax		
	comp=Z,51nm,1.3s,mb5.3						
MOY	**Mondy**	**75.96**	**328**	*e*P	**P**	**00 47 06.9**	**+0.5**
MOY				pmax	pmax		
	comp=Z,41nm,1.5s,mb5.1						
BILL	**Bilibino**	**76.04**	**4**	*e*P	**P**	**00 47 06.2**	**-0.3**
	comp=Z,34nm,1.3s,mb5.1						
BILL				*e*PcP	PcP	00 47 19.2	+0.4
BILL	**Bilibino**	**76.04**	**4⇑**	*e*P	**P**	**00 47 06.2**	**-0.3**
BILL				pmax	pmax		
	comp=Z,20nm,1.7s,mb4.8						
PALK	**Pallekele**	**77.09**	**279**	*e*P	**P**	**00 47 13.8**	**+0.1**
	comp=Z,18nm,1.1s,mb4.9						
TNA	**Tin City**	**77.78**	**14**	*e*P	**P**	**00 47 16.4**	**+0.1**
SVW2	**Sparrevohn**	**78.23**	**22**	*e*P	**P**	**00 47 19.2**	**+0.2**
TTA	**Tatalina**	**79.31**	**20**	*e*P	**P**	**00 47 24.7**	**-0.2**
WMQ	**Urumqi**	**80.51**	**317**	P	**P**	**00 47 31.9**	**+0.1**
WMQ				XP	sP	00 47 39.0	+0.5
WMQ				AMB	AMB		
	comp=Z,15nm,1.4s,mb4.7						
WMQ				AMB	AMB		
	comp=Z,349nm,7.0s						
WMQ				LR	LR		
	comp=N,1μm,23.0s,MS5.2						
WMQ				LR	LR		
	comp=E,712nm,25.0s,MS5.2						
WMQ				LR	LR		
	comp=Z,839nm,29.0s,MS4.9						
PMR	**Palmer**	**80.98**	**23**	*e*P	**P**	**00 47 30.4**	**-3.5**
	comp=Z,11nm,0.9s,mb4.8						
PMR	**Palmer**	**80.98**	**23**	*e*P	**P**	**00 47 30.4**	**-3.5**
PMR				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.8						
HYB	**Hyderabad**	**81.00**	**289**	*e*P	**P**	**00 47 35.0**	**0.0**
HYB	**Hyderabad**	**81.00**	**289**	*i* P	**P**	**00 47 35.0**	**0.0**
SML	**Sawmill**	**81.41**	**23**	*e*P	**P**	**00 47 36.2**	**0.0**
TIXI	**Tiksi**	**81.44**	**351**	*e*P	**P**	**00 47 34.5**	**-1.7**
TIXI	**Tiksi**	**81.44**	**351**	*e*P	**P**	**00 47 35.3**	**-0.9**
TIXI				pmax	pmax		
	comp=Z,13nm,1.6s,mb4.6						
QSPA	**South Pole Qui**	**82.11**	**180**	P	**P**	**00 47 38.8**	**-0.9**
QSPA	**South Pole Qui**	**82.11**	**180**	P	**P**	**00 47 38.8**	**-0.9**
	comp=Z,4.2nm,0.9s,mb4.4,baz=359,slow=2.9,SNR=9.7						
IMA2	**Indian Mountai**	**82.14**	**18**	*e*P	**P**	**00 47 39.5**	**-0.5**
MCK	**McKinley**	**82.30**	**21**	*e*P	**P**	**00 47 39.9**	**-0.9**
COLA	**College**	**83.34**	**21**	*e*P	**P**	**00 47 44.2**	**-2.0**
	comp=Z,14nm,0.9s,mb5.0						
COLA	**College**	**83.34**	**21⇑**	*e*P	**P**	**00 47 44.8**	**-1.5**
MAW	**Mawson**	**84.18**	**203**	P	**P**	**00 47 49.8**	**-0.8**
	comp=Z,3.6nm,0.8s,mb4.6,baz=101,slow=8.6,SNR=5.8						
MK31	**Makanchi Array**	**85.07**	**318**	*e*P	**P**	**00 47 55.4**	**0.0**
MKAR	**Makanchi Array**	**85.07**	**318**	P	**P**	**00 47 55.4**	**0.0**
MKAR	**Makanchi Array**	**85.07**	**318**	P	**P**	**00 47 55.4**	**0.0**
	comp=Z,11nm,0.7s,mb5.1,baz=99,slow=6.4,SNR=96						
EGAK	**Eagle**	**85.73**	**22**	*e*P	**P**	**00 47 58.6**	**+0.2**
ZAA0	**Zalesovo Array**	**85.76**	**326**	*e*P	**P**	**00 47 57.4**	**-1.3**
ZALV	**Zalesovo Beam**	**85.76**	**326**	P	**P**	**00 47 57.2**	**-1.5**
ZALV	**Zalesovo Beam**	**85.76**	**326**	P	**P**	**00 47 57.2**	**-1.5**
	comp=Z,5.5nm,0.7s,mb4.9,baz=112,slow=5.5,SNR=23						
ZAL	**Zalesovo**	**85.77**	**326**	P	**P**	**00 47 57.2**	**-1.6**
SKAG	**Skagway**	**85.90**	**28**	*e*P	**P**	**00 47 58.5**	**-0.8**
	comp=Z,30nm,1.5s,mb5.3						
DAWY	**Dawson**	**86.08**	**23**	*e*P	**P**	**00 48 00.8**	**+0.7**
KSH	**Kashi**	**87.74**	**310**	*e*P	**P**	**00 48 10.2**	**+1.4**
KSH				*e*AP	pP	00 48 15.2	+1.4
KSH				*e*XP	sP	00 48 17.0	+1.5
KSH				PP	PP	00 51 39.2	+4.6
KSH				AMB	AMB		
	comp=Z,121nm,1.2s,mb6.0						
KSH				AMB	AMB		
	comp=Z,286nm,4.6s						
KSH				LR	LR		
	comp=N,745nm,4.9s						
KSH				LR	LR		
	comp=E,812nm,5.7s						
KSH				LR	LR		
	comp=Z

comp=Z,1.3nm,0.9s,mb4.5,baz=250,slow=3.0,SNR=7.9
VNA3 Neumayer Olymp 100.52 184 *e*PKiKP PKiKP 00 53 34.4 +1.2
VNA3 *e* 00 53 37.2
VNA3 *e* 00 53 41.3
VNA3 *e* 00 53 45.6
VNA3 *e* 00 53 51.3
VNA3 *e* 00 53 56.8
VNA3 *e* 00 54 02.2
VNA3 *e* 00 54 09.1
VNA3 *e* 00 54 13.9
VNA3 *e* 00 54 18.2
VNA2 Neumayer--Watz 100.63 185 *e*PKiKP PKiKP 00 53 35.3 +1.9
baz=176,slow=3.3
VNA2 *e* 00 53 38.5
VNA2 *e* 00 53 42.1
VNA2 *e* 00 53 45.8
VNA2 *e* 00 53 51.9
VNA2 *e* 00 53 57.4
VNA2 *e* 00 54 03.6
VNA2 *e* 00 54 09.8
VNA2 *e* 00 54 15.1
VNA2 *e* 00 54 18.2
ARU Arti 100.92 326 *e*Pdif Pdif 00 49 08.2 -0.7
ARU Arti 100.92 326 *e*P Pdif 00 49 08.2 -0.6
VNA1 Neumayer--Stat 100.98 185 *e*PKiKP PKiKP 00 53 36.3 +2.3
VNA1 *e* 00 53 39.3
VNA1 *e* 00 53 43.6
VNA1 *e* 00 53 47.1
VNA1 *e* 00 53 53.2
VNA1 *e* 00 53 57.8
VNA1 *e* 00 54 04.9
VNA1 *e* 00 54 11.2
VNA1 *e* 00 54 15.9
VNA1 *e* 00 54 19.9
SDCO Great Sand Dun 101.05 53 *e*Pdif Pdif 00 49 11.2 +1.8
KIV Kislovodsk 112.55 314 *e*PKIKP PKiKP 00 53 52.4 -3.8
KIV pmax pmax
comp=Z,3.0nm,0.9s
FINES FINESS Array B 115.36 336 PKP PKPdf 00 53 60.0 -1.0
comp=Z,1.4nm,0.9s,baz=36,slow=5.5,SNR=3.4
MALT Malatya 116.82 309 *e*PKPdif PKPdf 00 54 04.3 -0.3
AKASG Malin Array Be 119.14 325 PKP PKPdf 00 54 07.0 -1.6
comp=Z,0.9nm,0.5s,baz=64,slow=1.8,SNR=9.4
BOSA Boshof 120.66 230 PKP PKPdf 00 54 11.7 -0.6
comp=Z,3.3nm,1.1s,baz=72,slow=6.4,SNR=2.8
NB2 NORSAR Subarra121.02 341 PKPdf PKPdf 00 54 10.6 -1.3
comp=Z,0.7nm,0.6s,baz=39,slow=1.8
NOA NORSAR Array B121.02 341 PKP PKPdf 00 54 10.9 -1.0
comp=Z,0.7nm,0.8s,baz=45,slow=2.5,SNR=4.0
LBTB Lobatse 122.13 234 PKP PKPdf 00 54 13.0 -2.2
comp=Z,1.6nm,0.8s,baz=76,slow=4.2,SNR=3.3
KOLS Kolonicke sedl 123.94 325 *i*PKP PKPdf 00 54 18.1 +0.2
STHS Stebnicka Huta 124.26 326 *e*PKP PKPdf 00 54 18.7 +0.2
KECS Kecovo 125.18 326 *e*PKP PKPdf 00 54 20.7 +0.4
OKC Ostrava-Krasne 125.69 328 *e*PKPdif PKPdf 00 54 21.5 +0.3
VYHS Vyhne 126.09 326 *e*PKP PKPdf 00 54 21.5 -0.5
DPC Dobruska-Polom 126.31 329 *e*PKPdif PKPdf 00 54 23.1 +0.7
UPC Upice 126.37 330 *e*PKPdif PKPdf 00 54 22.4 -0.1
UPC *ex* x 00 54 33.2
MODS Modra-Piesok 127.01 327 *e*PKP PKPdf 00 54 24.3 +0.5
BRG Berggiesshubel 127.15 331 *i*PKIKP PKPdf 00 54 24.1 +0.1
BRG pmax pmax
comp=Z,4.0nm,0.7s
BRG Berggiesshubel 127.15 331 *e*P PKPdf 00 54 24.0 0.0
comp=Z,7.3nm,1.1s
CLL Collm 127.30 332 *i*PKP PKPdf 00 54 24.1 -0.2
CLL *e* 00 54 43.0
CLL Collm 127.30 332 *i*PKIKP PKPdf 00 54 24.1 -0.2
CLL pmax pmax
comp=Z,4.0nm,0.7s
CLL Collm 127.30 332 *i*PKPdif PKPdf 00 54 24.1 -0.2
comp=Z,5.0nm,0.7s
TREC Trest 127.39 329 *e*PKPdif PKPdf 00 54 24.3 -0.2
PRU Pruhonice 127.43 330 *e*PKPdif PKPdf 00 54 23.3 -1.3
CONA Conrad Observa 128.03 327⇑ *i*PKiKP PKiKP 00 54 26.2 -0.1
comp=Z,11nm,1.8s
NKC Novy Kostel 128.29 331 *e*PKPdif PKPdf 00 54 26.3 +0.1
KHC Kasperske Hory 128.47 330 *e*PKPdif PKPdf 00 54 26.5 -0.1
KHC *ex* x 00 54 35.6
GERES GERESS Array B 128.59 329 PKP PKPdf 00 54 26.7 -0.1
comp=Z,2.4nm,0.8s,baz=90,slow=2.7,SNR=8.5
LPAZ La Paz 129.69 119 *e*PKPdif PKPdf 00 54 30.8 +1.0
EKA Eskdalemuir Ar 129.98 345 PKP PKPdf 00 54 28.6 -0.7
comp=Z,3.2nm,1.1s,baz=17,slow=1.8,SNR=5.5
SDV Santo Domingo 133.34 85 PKPdif PKPdf 00 54 38.7 +1.9
ESDC Sonseca Array 143.83 334 PKP PKPdf 00 54 53.9 -1.4
comp=Z,1.1nm,0.8s,baz=42,slow=5.5,SNR=4.9
MTE Manteigas 144.63 339 *e*PKPdif PKPdf 00 54 57.2 +0.5
BDFB Brasilia 146.27 134 PKPbc PKPbc 00 55 00.3 -1.0
comp=Z,3.5nm,0.6s,baz=59,slow=0.7,SNR=8.8
MDT Midelt 149.64 327 PKP PKPdf 00 55 05.9 +0.6
comp=Z,5.1nm,0.9s,baz=338,slow=5.4,SNR=2.6
MDT PKPbc PKPbc 00 55 10.2 +0.3
comp=Z,5.8nm,0.9s,baz=120,slow=3.0,SNR=8.3
TOA0 Torodi Ar. Sit 154.73 284 *e*PKPdif PKPdf 00 55 06.8 -6.5
TORD Torodi Ar. Bea 154.73 284 PKP PKPdf 00 55 12.4 -0.9
comp=Z,1.3nm,0.9s,baz=84,slow=0.4,SNR=8.3
TORD PKPbc PKPbc 00 55 21.2 -0.7
comp=Z,2.9nm,0.8s,baz=39,slow=2.1,SNR=14
DBIC Dimbokro 161.51 268 PKPab PKPab 00 56 06.1 -0.1
comp=Z,7.0nm,0.8s,baz=91,slow=8.2,SNR=7.8

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*ISCJB **04** 00:37:53.8±0.5,3481N±009×13700E±009, h346km±3km, mb3.4/11, Error ellipse: s-maj=15.8km s-min=8.4km az=146.4*
*JMA **04** 00:37:53.4±0.2,3472N×13699E, h350km±2km, M3.5*
*NEIC **04** 00:37:55.0±1.1,3480N×13689E, h342km±5km, mb3.7/1, Error ellipse: s-maj=33.3km s-min=11.5km az=161.0*
*IDC **04** 00:37:55.0±2.0,3486N×13690E, h339km±7km, mb3.2/10, mb1 3.3/12, mb1mx3.3/23, mbtmp3.2/12, Error ellipse: s-maj=42.6km s-min=15.5km az=163.0*
ISC 04 00:37:54.5±0.6,348N±01×13701E±008, h341km±3km, n41, σ0°68/49, mb3.4/11, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JAA	**Atsumi**	**0.17**	**138**	P		**Pn**	**00 38 37.4**	**+0.1**
JAA				*e*S		**S**	**00 39 12.0**	**+0.5**
JIE	**Ise**	**0.44**	**214**	P		**Pn**	**00 38 37.8**	**+0.1**
JIE				*e*S		**S**	**00 39 11.6**	**-0.5**
JAO	**Obara**	**0.55**	**22**	P		**Pn**	**00 38 38.4**	**+0.7**
JAO				*e*S		**S**	**00 39 12.8**	**+0.5**
HMMJ	**Hamamatsu 2**	**0.60**	**81**	P		**Pn**	**00 38 38.3**	**+0.4**
JEG	**Eigenji**	**0.63**	**307**	*e*S		**S**	**00 39 12.4**	**-0.3**
JKN2	**Miekihoku**	**0.80**	**230**	P		**Pn**	**00 38 38.6**	**0.0**
JKN2				*e*S		**S**	**00 39 12.9**	**-0.8**
JNY	**Yasuok**	**0.92**	**49**	P		**Pn**	**00 38 39.4**	**+0.5**
JGM	**Miyama**	**0.97**	**346**	P		**Pn**	**00 38 39.6**	**+0.6**
JYN	**Shimob**	**1.46**	**59**	P		**Pn**	**00 38 41.6**	**+0.2**
JOD2	**Odawara 2**	**1.78**	**73**	P		**Pn**	**00 38 43.8**	**+0.4**
JRY	**Ryogami san**	**1.99**	**50**	P		**Pn**	**00 38 45.6**	**+0.8**
MAJO	**Matsushiro**	**2.03**	**28**	*e*Pn		**Pn**	**00 38 45.6**	**+0.6**
MAT	**Matsushiro**	**2.03**	**28**	P		**Pn**	**00 38 45.6**	**+0.5**
MAT				S		**S**	**00 39 25.8**	**+0.2**
MAT	**Matsushiro**	**2.03**	**28**	P		**Pn**	**00 38 45.6**	**+0.5**
MAT				*e*S		**S**	**00 39 25.5**	**-0.1**
MJAR	**Matsushiro Arr**	**2.03**	**29**	P		**Pn**	**00 38 45.7**	**+0.6**
MJAR				S		**S**	**00 39 25.6**	**0.0**
MJAR	**Matsushiro Arr**	**2.03**	**29**	P		**Pn**	**00 38 45.7**	**+0.6**
	26nm,0.3s,baz=204,slow=7.7,SNR=232							
MJAR				S		**S**	**00 39 25.6**	**0.0**
	baz=299,slow=45,SNR=2.0							
JHU	**Hanno**	**2.16**	**59**	P		**Pn**	**00 38 46.3**	**+0.3**
JAG	**Ashikaga**	**2.60**	**50**	P		**Pn**	**00 38 48.8**	**-0.7**
JAG				*e*S		**S**	**00 39 31.4**	**-2.3**
JYT	**Yasato**	**2.98**	**60**	P		**Pn**	**00 38 52.4**	**-0.6**
BSO1	**Boso 1**	**3.27**	**91**	P		**Pn**	**00 38 54.6**	**-1.1**
JHO	**Hitachi**	**3.44**	**56**	P		**Pn**	**00 38 56.5**	**-0.7**
JNU	**Nakatsue**	**5.35**	**254**	P		**Pn**	**00 39 17.2**	**-0.4**
	1.3nm,0.3s,baz=80,slow=12,SNR=10							
KSRS	**Korea Array**	**7.83**	**293**	P		**Pn**	**00 39 46.6**	**+0.3**
	1.9nm,0.3s,baz=107,slow=13,SNR=34							
CBIJ	**Chichi jima**	**8.84**	**148**	S		**S**	**00 41 27.6**	**-12**
	18nm,0.3s,baz=135,slow=24,SNR=6.3							
ASAJ	**Asahikawa**	**10.29**	**23**	S		**S**	**00 42 06.7**	**-5.0**
	0.8nm,0.3s,baz=187,slow=31,SNR=4.9							
SONM	**Songino Array**	**26.26**	**309**	P		**P**	**00 43 00.2**	**+0.7**
	0.9nm,0.4s,mb3.3,baz=117,slow=11,SNR=4.9							
KMI	**Kunming**	**31.08**	**261**	P		**P**	**00 43 37.1**	**-5.1**
	6.0nm,1.5s,mb3.6							
ZALV	**Zalesovo Beam**	**40.87**	**314**	PcP		PcP	00 46 56.4	-0.9
	0.4nm,0.3s,baz=90,slow=4.3,SNR=3.2							
MK31	**Makanchi Array**	**42.34**	**304**	*e*P		**P**	**00 45 15.7**	**-0.3**
MKAR	**Makanchi Array**	**42.34**	**304**	P		**P**	**00 45 16.1**	**+0.1**
	0.8nm,0.7s,mb2.9,baz=89,slow=10,SNR=8.1							
MKAR				PcP		PcP	00 47 02.1	-0.3
	0.3nm,0.7s,baz=59,slow=3.1,SNR=3.1							
AKTK	**Aktyubinsk**	**57.53**	**312**	P		**P**	**00 47 08.8**	**-0.3**
AKTO	**Aktyubinsk**	**57.53**	**312**	P		**P**	**00 47 08.8**	**-0.3**
	1.1nm,0.6s,mb3.4,baz=78,slow=14							
INK	**Inuvik**	**58.02**	**26**	P		**P**	**00 47 13.0**	**+0.9**
	0.4nm,0.5s,mb3.0,baz=251,slow=4.3,SNR=7.2							
ARCES	**ARCESS Array B**	**64.84**	**339**	P		**P**	**00 47 56.6**	**-0.7**
	8.1nm,1.0s,mb4.3,baz=52,slow=7.9,SNR=5.8							
YKA	**Yellowknife Ar**	**67.54**	**28**	P		**P**	**00 48 15.0**	**+0.5**
	0.1nm,0.4s,mb2.9,baz=304,slow=6.6,SNR=4.1							
FINES	**FINESS Array B**	**69.12**	**331**	P		**P**	**00 48 23.5**	**-0.7**
FINES	**FINESS Array B**	**69.12**	**331**	P		**P**	**00 48 23.5**	**-0.7**
	0.5nm,0.5s,mb3.5,baz=46,slow=8.2,SNR=4.1							
AKASG	**Malin Array Be**	**73.85**	**321**	P		**P**	**00 48 50.9**	**-1.5**
AKASG	**Malin Array Be**	**73.85**	**321**	P		**P**	**00 48 50.9**	**-1.5**
	1.1nm,0.7s,mb3.7,baz=48,slow=6.1,SNR=9.4							
NVAR	**Mina Array Bea**	**79.20**	**51**	P		**P**	**00 49 23.9**	**+1.4**
	0.5nm,0.7s,mb3.3,baz=297,slow=4.0,SNR=2.1							
GERES	**GERESS Array B**	**82.68**	**326**	P		**P**	**00 49 40.4**	**-0.1**
	0.7nm,0.6s,mb3.7,baz=32,slow=5.8,SNR=3.1							

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*ORF **04** 00:39:34.8, 1443S×15830E, h30km, mb6.2*
*CRAAG **04** 00:39:43.7, 704S×15602E, Mb6.0*
*BJI **04** 00:39:43.0, 700S×15624E, h12km, mB5.9, mb6.0, Ms5.5, Msz5.4*
*NEIC **04** 00:39:44.0±0.1, 7.14S×156.05E, h10km, mb5.9/64, MS5.7/158, MW6.0, Error ellipse: s-maj=4.2km s-min=3.6km az=77.0, Moment Tensor Solution. s40 Moment tensor: Scale 10^{18}Nm; M_{rr}1.13; $M_{\theta\theta}$-0.18; $M_{\phi\phi}$-0.96; $M_{r\theta}$-0.28; $M_{\theta\phi}$0.86; $M_{\phi r}$-0.16; Best double couple: $M_0$1.40000×10^{18} NP1:ϕ_s166.00000°, δ48.00000°, λ117.00000°. NP2:ϕ_s308.00000°, δ49.00000°, λ63.00000°. Principal axes: T 1.2500, Plg70.0000°, Azm148.0000°; N 0.2600, Plg20.0000°, Azm327.0000°; P -1.5200, Plg0.0000°, Azm57.0000°;*
*GCMT **04** 00:39:44.0±0.1, 730S×15607E, h53km, MW6.0/110, Moment Tensor Solution. s109,c220; s110,c298; Duration: 2≥3 Moment tensor: Scale 10^{18}Nm; M_{rr}0.96±.01; $M_{\theta\theta}$-0.63±.01; $M_{\phi\phi}$-0.32±.01; $M_{r\theta}$-0.17±.01; $M_{\theta\phi}$0.56±.01; $M_{\phi r}$-0.03±.01; Best double couple: $M_0$1.02600×10^{18} NP1:ϕ_s136.00000°, δ42.00000°, λ103.00000°. NP2:ϕ_s299.00000°, δ49.00000°, λ79.00000°. Principal axes: T 0.9830, Plg81.0000°, Azm149.0000°; N 0.0870, Plg8.0000°, Azm307.0000°; P -1.0690, Plg3.0000°, Azm37.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
*IGIL **04** 00:39:45.0, 7.12S×156.07E, h10km*
*ISCJB **04** 00:39:46.4±1.0, 7.18S±002×156.06E±002, h32km±7km, mb5.9/120, MS5.6/223, Error ellipse: s-maj=3.9km s-min=3.1km az=9.8*
*MOS **04** 00:39:46.6±1.3, 7.12S×156.05E, h33km, mb6.1/68, MS5.6/61, Error ellipse: s-maj=15.3km s-min=10.6km az=109.5*
*IDC **04** 00:39:50.1±1.1, 7.22S×156.03E, h51km±9km, mb5.7/28, mb1 5.7/31, mb1mx5.7/31, mbtmp5.7/31, MS5.4/24, Ms1 5.4/24, ms1mx5.3/28, Error ellipse: s-maj=9.0km s-min=7.6km az=70.0*
ISC 04 00:39:50.9±0.7, 719S±002×15608E±002, h57km±6km, h49km±5.6km; pP-P, n1329, σ0°76/715, mb5.9/120, MS5.6/223, 241C-112D, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.43**	**120**	*e*Pn		**Pn**	**00 40 56.0**	**+0.4**
HNR				*e*Sn		**Sn**	**00 41 43.6**	**-2.3**
HNR	**Honiara**	**4.43**	**120**	P		**Pn**	**00 40 55.2**	**-0.4**
HNR				S		**Sn**	**00 41 46.6**	**+0.7**
HNR				pmax		pmax		
	comp=Z,319nm,0.3s							
HNR				smax				
	comp=N,533nm,0.3s							
HNR				MLR		MLR		
	comp=Z,75μm,19.3s							
HNR	**Honiara**	**4.43**	**120**	P		**Pn**	**00 40 55.2**	**-0.3**
	comp=Z,319nm,0.3s,baz=282,slow=0.8,SNR=15							
HNR				S		**Sn**	**00 41 46.6**	**+0.7**
	comp=Z,533nm,0.3s,baz=98,slow=19,SNR=3.2							
HNR				LR		LR	00 42 38.2	
	comp=Z,75μm,19.3s,baz=352,slow=38							
CTA	**Charters Tower**	**15.98**	**216**	*e*P		**Pn**	**00 43 34.4**	**+2.3**
	comp=Z,61nm,0.6s							
CTA				*e*sP		sP	00 43 56.9	+2.7
CTA				*e*S		**S**	**00 46 42.8**	**+3.3**
CTA				*e*PCP		PcP	00 48 27.6	+0.8
CTA				*e*SCS		ScS	00 55 38.8	+3.3
CTA				*e*PKIKP		PKiKP	00 56 20.3	-0.7
CTA	**Charters Tower**	**15.98**	**216**	*e*P		**Pn**	**00 43 34.4**	**+2.3**
	comp=Z,61nm,0.6s							
CTA				*e*sP		sP	00 43 56.9	+2.7
CTA				*e*S		**S**	**00 46 42.8**	**+3.3**
CTA				*e*PcP		PcP	00 48 27.6	+0.8
CTA				*e*ScS		ScS	00 55 38.8	+3.3
CTA	**Charters Tower**	**15.98**	**216**	P		**Pn**	**00 43 31.8**	**-0.2**
	comp=Z,2.9nm,0.3s,baz=38,slow=14,SNR=24							
CTA				S		**S**	**00 46 35.9**	**-3.6**
	comp=Z,1.0nm,0.3s,baz=56,slow=16,SNR=1.7							
CTA				LR		LR	00 47 34.7	
	comp=Z,9μm,20.6s,baz=44,slow=29							
CTA				PcP		PcP	00 48 27.6	+0.8
	comp=Z,0.7nm,0.3s,baz=328,slow=4.4,SNR=4.3							
CTA				PKiKP		PKiKP	00 56 20.1	-0.9
	comp=Z,0.3nm,0.3s,baz=320,slow=3.9,SNR=4.6							
CTAO	**Charters Tower**	**15.98**	**216**	*e*Pn		**Pn**	**00 43 34.5**	**+2.4**
DZM	**Mont Dzumac**	**17.86**	**147**	*e*P		**Pn**	**00 43 55.3**	**-0.1**
DZM	**Mont Dzumac**	**17.86**	**147**	P		**Pn**	**00 43 55.2**	**-0.2**
	comp=Z,11nm,0.3s,baz=359,slow=14,SNR=30							
DZM				S		**S**	**00 47 20.5**	**+2.7**
	comp=Z,1.2nm,0.3s,baz=326,slow=18,SNR=2.2							
DZM				PcP		PcP	00 48 31.0	+1.3
	baz=41,slow=18,SNR=3.7							
EIDS	**Eidsvold**	**18.70**	**194**	*e*P		**Pn**	**00 44 06.6**	**+1.0**
	comp=Z,30nm,0.7s							
EIDS				*e*S		**S**	**00 47 35.6**	**+0.8**
FUNA	**Funafuti**	**22.94**	**95⇓**	*e*P		**P**	**00 44 47.8**	**-2.7**
	comp=Z,548nm,0.8s,mb6.0							
TLE	**Tual**	**23.25**	**272⇑**	*e*P		**P**	**00 44 55.0**	**+1.3**
TLE	**Tual**	**23.25**	**272⇑**	*e*P		**P**	**00 44 55.0**	**+1.3**
GUMO	**Guam**	**23.45**	**332**	*e*P		**P**	**00 44 56.4**	**+0.9**
	comp=Z,773nm,1.1s,mb6.0							
GUMO				LR		LR		
	comp=Z,6μm,20.0s,MS5.0							
GUMO	**Guam**	**23.45**	**332**	P		**P**	**00 44 56.2**	**+0.7**
	baz=178,slow=11							
ARMA	**Armidale**	**23.48**	**190**	*e*P		**P**	**00 44 56.0**	**+0.4**
ARMA				*e*PCP		PcP	00 48 41.5	+1.4
ARMA				*e*S		**S**	**00 49 09.1**	**+4.0**
ARMA				*e*SCP		ScP	00 52 16.2	+2.5
KAKA	**Kakadu**	**23.91**	**255**	*e*P		**P**	**00 44 59.4**	**-0.3**
	comp=Z,510nm,0.5s,mb6.2							
KAKA				*e*pP			00 45 08.3	
KAKA				*e*PCP		PcP	00 48 41.4	+0.1
WB2	**Warramunga Arr**	**24.59**	**237**	*e*P		**P**	**00 45 06.3**	**+0.4**
WB2				*e*pP			00 45 16.6	
WB2				*e*PCP		PcP	00 48 43.4	+0.7
WB2				*e*S		**S**	**00 49 23.5**	**+0.3**
WB2				*e*SCP		ScP	00 52 19.0	+2.1
WB2				*e*SCS		ScS	00 56 06.7	+1.7
WB2				*e*PKIKP		PKiKP	00 56 23.5	-1.4
WB2	**Warramunga Arr**	**24.59**	**237**	*e*P		**P**	**00 45 06.3**	**+0.4**
WB2				*e*pP			00 45 16.6	
WB2				*e*PcP		PcP	00 48 43.4	+0.7
WB2				*e*S		**S**	**00 49 23.5**	**+0.3**
WB2				*e*ScP		ScP	00 52 19.0	+2.1
WB2				*e*ScS		ScS	00 56 06.7	+1.7
WRA	**Warramunga Arr**	**24.60**	**237**	P		**P**	**00 45 06.2**	**+0.2**
WRA				PcP		PcP	00 48 42.9	+0.1
WRA				S		**S**	**00 49 22.4**	**-1.0**
WRA				ScP		ScP	00 52 17.9	+0.9
WRA				LR		LR	00 54 48.1	
WRA				ScS		ScS	00 56 06.4	+1.4
WRA	**Warramunga Arr**	**24.60**	**237**	P		**P**	**00 45 06.2**	**+0.2**
WRA							00 48 42.9	
WRA				S		**S**	**00 49 22.4**	**-1.0**
WRA							00 56 06.4	
WRA				pmax		pmax		
	comp=Z,435nm,0.7s							
WRA				smax				
	comp=N,12nm,1.1s							
WRA				MLR		MLR		
	comp=Z,20μm,18.1s							
WRA	**Warramunga Arr**	**24.60**	**237**	P		**P**	**00 45 06.2**	**+0.2**
	comp=Z,435nm,0.7s,mb6.1,baz=61,slow=9.5,SNR=125							
WRA				PcP		PcP	00 48 42.9	+0.1
	comp=Z,113nm,0.9s,baz=60,slow=1.9,SNR=17							
WRA				S		**S**	**00 49 22.4**	**-1.0**
	comp=Z,12nm,1.1s,baz=62,slow=14,SNR=2.8							
WRA				ScP		ScP	00 52 17.9	+0.9
	comp=Z,35nm,0.9s,baz=62,slow=3.2,SNR=12							
WRA				LR		LR	00 54 48.1	
	comp=Z,20μm,18.1s,MS5.7,baz=60,slow=37							
WRA				ScS		ScS	00 56 06.4	+1.4
	comp=Z,6.6nm,1.0s,baz=62,slow=5.1,SNR=6.1							
WRA				PKiKP		PKiKP	00 56 23.4	-1.5
	comp=Z,6.9nm,0.6s,baz=320,slow=1.2,SNR=14							
WRA				P3KP			01 19 02.0	
	comp=Z,1.2nm,0.7s,baz=195,slow=2.4,SNR=4.9							
ASAR	**Alice Springs**	**26.86**	**230**	P		**P**	**00 45 25.9**	**-0.5**
ASAR				PcP		PcP	00 48 48.6	+0.7
ASAR				S		**S**	**00 49 58.5**	**-0.6**
ASAR				ScP		ScP	00 52 23.4	0.0
ASAR	**Alice Springs**	**26.86**	**230**	P		**P**	**00 45 26.0**	**-0.4**
ASAR							00 48 48.6	
ASAR				S		**S**	**00 49 58.6**	**-0.5**
ASAR				pmax		pmax		
	comp=Z,31nm,0.7s							
ASAR				smax				
	comp=N,3.0nm,0.8s							
ASAR	**Alice Springs**	**26.86**	**230**	P		**P**	**00 45 25.9**	**-0.5**
	comp=N,31nm,0.7s,mb4.9,baz=57,slow=9.9,SNR=65							
ASAR				PcP		PcP	00 48 48.6	+0.7
	comp=N,35nm,0.7s,baz=78,slow=3.0,SNR=10							
ASAR				S		**S**	**00 49 58.5**	**-0.6**
	comp=N,3.1nm,0.8s,baz=47,slow=16,SNR=2.6							
ASAR				ScP		ScP	00 52 23.4	0.0
	comp=N,18nm,0.8s,baz=56,slow=3.4,SNR=9.2							
ASAR				PKiKP		PKiKP	00 56 24.5	-1.6
	comp=N,6.1nm,0.9s,baz=38,slow=1.1,SNR=8.4							
ASAR				P3KPbc			01 18 06.8	
	comp=N,0.6nm,0.9s,baz=231,slow=3.3,SNR=4.1							
ASAR				P3KP			01 18 59.7	
	comp=N,1.4nm,0.9s,baz=204,slow=0.9,SNR=5.6							
RIV	**Riverview**	**26.90**	**189**	*e*P		**P**	**00 45 27.4**	**+0.8**
STKA	**Stephens Creek**	**28.04**	**207**	*e*P		**P**	**00 45 36.2**	**-0.6**
	comp=N,41nm,0.8s,mb5.1							
STKA				*e*PCP		PcP	00 48 50.6	+0.1
STKA				*e*S		**S**	**00 50 16.7**	**-0.7**
STKA				*e*SCP		ScP	00 52 27.0	+0.2
STKA				*e*SCS		ScS	00 56 19.5	+0.1
STKA				*e*PKIKP		PKiKP	00 56 24.7	-1.9
STKA	**Stephens Creek**	**28.04**	**207**	*e*P		**P**	**00 45 36.2**	**-0.6**
	comp=N,41nm,0.8s,mb5.1							
STKA				*e*PcP		PcP	00 48 50.6	+0.1
STKA				*e*S		**S**	**00 50 16.7**	**-0.7**
STKA				*e*ScP		ScP	00 52 27.0	+0.2
STKA				*e*ScS		ScS	00 56 19.5	+0.1
STKA	**Stephens Creek**	**28.04**	**207**	P		**P**	**00 45 36.4**	**-0.4**
	comp=N,81nm,1.0s,mb5.3,baz=20,slow=8.1,SNR=25							
STKA				PcP		PcP	00 48 51.1	+0.6
	comp=N,94nm,1.0s,baz=41,slow=3.2,SNR=7.4							
STKA				S		**S**	**00 50 14.6**	**-2.9**
	comp=N,8.0nm,0.9s,baz=165,slow=19,SNR=1.2							
STKA				ScP		ScP	00 52 27.8	+1.0
	comp=N,34nm,0.8s,baz=15,slow=2.6,SNR=11							
STKA				PKiKP		PKiKP	00 56 24.7	-1.9
	comp=N,3.7nm,0.6s,baz=142,slow=4.4,SNR=8.2							
STKA				LR		LR	00 56 31.6	
	comp=N,21μm,20.1s,MS5.7,baz=34,slow=36							
STKA				P3KPbc			01 17 59.7	
	comp=N,2.3nm,0.7s,baz=266,slow=1.9,SNR=5.2							
STKA				P3KP			01 19 08.3	
	comp=N,4.3nm,0.9s,baz=296,slow=2.5,SNR=6.3							
CNB	**Canberra Magne**	**28.67**	**192**	*e*P		**P**	**00 45 43.1**	**+0.7**
	comp=N,111nm,0.8s,mb5.6							
CNB				*e*PCP		PcP	00 48 52.8	+0.8
CNB				*e*SCP		ScP	00 52 30.6	+1.9
FITZ	**Fitzroy Crossi**	**31.57**	**247**	*e*P		**P**	**00 46 07.8**	**-0.4**
	comp=N,579nm,0.6s,mb6.6							
FITZ				*e*pP		pP	00 46 17.2	-5.3
FITZ				*e*PCP		PcP	00 49 01.2	+1.3
FITZ				*e*S		**S**	**00 51 12.7**	**-0.5**
FITZ				*e*SCP		ScP	00 52 38.2	-0.3
FITZ	**Fitzroy Crossi**	**31.57**	**247**	P		**P**	**00 46 07.9**	**-0.3**
	comp=N,341nm,0.8s,mb6.3,baz=80,slow=8.5,SNR=176							
FITZ				PcP		PcP	00 49 00.4	+0.6
	comp=N,83nm,0.8s,baz=151,slow=3.0,SNR=7.0							
FITZ				S		**S**	**00 51 11.4**	**-1.8**
	comp=N,8.3nm,0.9s,baz=285,slow=18,SNR=2.7							
FITZ				LR		LR	00 59 10.3	
	comp=N,11μm,18.7s,MS5.6,baz=77,slow=37							
ADE	**Adelaide**	**31.93**	**208**	*e*P		**P**	**00 46 11.4**	**+0.2**
BATI	**Kupang**	**32.18**	**262**	P		**P**	**00 46 14.3**	**+0.7**
	comp=N,77nm,0.8s,mb5.6,baz=147,slow=1.7,SNR=12							
BATI				PcP		PcP	00 49 03.7	+2.1
	comp=N,122nm,0.9s,baz=11,slow=3.8,SNR=4.3							
BATI				S		**S**	**00 51 27.1**	**+4.4**
	comp=N,15nm,0.4s,baz=354,slow=19,SNR=2.4							
AFI	**Afiamalu**	**32.27**	**105**	PFAKE			00 46 30.0	+16
AFI				LR		LR		
	comp=Z,9μm,20.0s,MS5.5							
RAO	**Raoul Island**	**32.88**	**135**	*e*P		**

SNR=32
SNZO South Karori 37.80 157 *e*P **P 00 47 01.5 -0.2**
comp=Z,149nm,0.8s,mb5.8
SNZO LR LR
comp=Z,6μm,20.0s,MS5.4
PVCP Virac 37.83 303 *e*P **P 00 47 02.1 -0.2**
BFZ Birch Farm 37.90 155 *e*P **P 00 47 01.3 -1.3**
BFZ Birch Farm 37.90 155 P* **P 00 47 01.3 -1.3**
MTW Mount Morrison 37.99 156 P **P 00 47 02.6 -0.8**
MTW Mount Morrison 37.99 156 P* **P 00 47 01.6 -1.8**
MSWZ Moikau Station 38.11 156 *e*P **P 00 47 03.3 -1.0**
MSWZ Moikau Station 38.11 156 P* **P 00 47 03.3 -1.0**
LTZ Lake Taylor 38.22 161 *e*P **P 00 47 05.2 0.0**
LTZ Lake Taylor 38.22 161 P* **P 00 47 05.2 -0.1**
KHZ Kahutara 38.33 159 *e*P **P 00 47 04.3 -1.9**
KHZ Kahutara 38.33 159 P* **P 00 47 04.8 -1.4**
JCZ Jackson Bay 38.38 165 *e*P **P 00 47 07.3 +0.7**
JCZ Jackson Bay 38.38 165 P* **P 00 47 07.1 +0.5**
RPZ Rata Peaks 38.68 163 *e*P **P 00 47 09.0 -0.1**
RPZ Rata Peaks 38.68 163 P **P 00 47 08.7 -0.4**
comp=Z,299nm,0.7s,mb6.1,baz=224,slow=0.2,SNR=96
RPZ PcP PcP 00 49 20.7 +0.6
comp=Z,47nm,0.8s,baz=180,slow=1.0,SNR=2.8
RPZ Rata Peaks 38.68 163 P* **P 00 47 09.0 -0.1**
OTRP Odiongan 39.03 300 *e*P **P 00 47 12.3 -0.1**
LBZ Lake Benmore 39.05 164 *e*P **P 00 47 11.9 -0.2**
LBZ Lake Benmore 39.05 164 P* **P 00 47 11.4 -0.8**
MLZ Mavora Lakes 39.44 167 *e*P **P 00 47 15.1 -0.3**
MLZ Mavora Lakes 39.44 167 P* **P 00 47 15.1 -0.3**
MYLDM Lahad Datu 39.46 287 ⇓P **P 00 47 17.6 +1.5**
ODZ Otahua Downs 39.78 164 P* **P 00 47 17.8 -0.4**
TSM Tawau 39.80 286 ⇓P **P 00 47 19.6 +0.7**
POLP Polilio Island 40.25 303 *e*P **P 00 47 22.6 0.0**
TUZ Tuapeka 40.36 165 *e*P **P 00 47 22.6 -0.4**
TUZ Tuapeka 40.36 165 P* **P 00 47 22.6 -0.5**
BUSP Coron 40.45 298 *e*P **P 00 47 24.4 +0.1**
ENPP El Nido 40.80 296 *e*P **P 00 47 27.8 +0.7**
SDKM Sandakan 40.84 287 ⇓P **P 00 47 27.5 0.0**
BALP Baler 41.07 304 *e*P **P 00 47 29.1 -0.2**
LUBP Lubang 41.20 300 *e*P **P 00 47 29.4 -1.0**
BATP Bataraza 41.32 292 *e*P **P 00 47 32.6 +1.1**
CAUP Cauayan 41.50 306 *e*P **P 00 47 33.7 +0.9**
KDM Kudat 41.58 289 ⇓P **P 00 47 34.1 +0.5**
KKM Kota Kinabalu 41.89 287⇑*e*P **P 00 47 35.1 -1.0**
KKM *e*PcP PcP 00 49 25.6 -5.5
KKM *e*ScP ScP 00 53 14.3 -2.5
KKM Kota Kinabalu 41.89 287 ⇑P **P 00 47 36.3 +0.2**
BCPH Baguio City Da 42.22 304⇑*e*P **P 00 47 38.6 0.0**
APYP Conner 42.46 306 *e*P **P 00 47 40.1 -0.6**
SCZP Santa Cruz 42.47 303 *e*P **P 00 47 39.6 -1.1**
JHJ Hachijo jima 2 42.97 340 P **P 00 47 43.1 -1.4**
comp=Z,267nm,0.8s,mb6.0,baz=120,slow=9.8,SNR=3.8
JHJ LR LR 01 04 58.9
comp=Z,2μm,19.3s,MS5.1,baz=128,slow=35
KLBR Kellerberrin 43.19 231 *e*P **P 00 47 45.6 -0.8**
comp=Z,690nm,0.9s,mb6.4
KLBR *e*PCP PcP 00 49 34.7 -0.4
KLBR *e*SCP ScP 00 53 23.6 +1.9
JOW Kunigami 43.24 323 P **P 00 47 47.9 +1.1**
comp=Z,334nm,0.8s,mb6.1,baz=150,slow=8.9,SNR=27
JOW PcP PcP 00 49 35.9 +0.6
comp=Z,101nm,0.8s,baz=173,slow=4.5,SNR=4.9
JOW LR LR 01 03 21.4
comp=Z,4μm,21.7s,MS5.3,baz=282,slow=33
JOW Kunigami 43.24 323 S **P 00 47 47.0 +0.2**
JAM Amami Oshima 43.65 325 S **P 00 47 50.0 -0.1**
BTM Bintulu 44.13 282 ⇑P **P 00 47 55.9 +1.7**
NWAO Narrogin (SRO) 44.18 229 *e*P **P 00 47 53.9 -0.4**
comp=Z,206nm,0.9s,mb5.9
NWAO LR LR
comp=Z,11μm,20.0s,MS5.8
NWAO Narrogin (SRO) 44.18 229 P **P 00 47 54.0 -0.3**
NWAO pmax pmax
comp=Z,174nm,0.8s
NWAO MLR MLR
comp=Z,14μm,19.7s
NWAO Narrogin (SRO) 44.18 229 P **P 00 47 54.4 0.0**
SNR=16
NWAO Narrogin (SRO) 44.18 229 P **P 00 47 54.0 -0.3**
comp=Z,174nm,0.8s,mb5.9,baz=60,slow=7.3,SNR=82
NWAO LR LR 01 06 12.0
comp=Z,14μm,19.7s,MS5.9,baz=71,slow=36
MUN Mundaring 44.55 231 *e*P **P 00 47 56.6 -0.7**
MUN *e*PCP PcP 00 49 40.0 +0.3
MUN *e*SCP ScP 00 53 30.5 +3.2
MUN *e*S **S 00 54 29.6 +0.6**
MUN Mundaring 44.55 231 *e*P **P 00 47 56.6 -0.7**
MUN *e* 00 49 40.0
MUN *e*S **S 00 54 29.6 +0.6**
SBUM Sibu 44.80 281 ⇑P **P 00 48 00.4 +0.8**
RAR Rarotonga 44.84 113 P **P 00 47 59.5 -0.3**
RAR pmax pmax
comp=Z,64nm,0.8s
RAR Rarotonga 44.84 113 P **P 00 47 59.5 -0.3**
comp=Z,64nm,0.8s,mb5.5,baz=250,slow=7.2,SNR=26
RAR LR LR 01 03 30.2
comp=Z,3μm,21.1s,MS5.2,baz=250,slow=32
JOD2 Odawara 2 45.16 340 S **P 00 48 02.5 +0.5**
JIE Ise 45.23 337 S **P 00 48 02.8 +0.2**
JSU Suzuyama 45.61 329 S **P 00 48 06.2 +0.5**
JMN Monobe 45.82 334 S **P 00 48 08.4 +1.1**
NACB Ninganchiao 45.86 314⇑*i*P **P 00 48 07.8 0.0**
NACB *e*PP PP 00 49 52.9 -3.4
JRY Ryogami san 45.91 341 S **P 00 48 07.8 -0.1**
YHNB Yeheng 46.33 314 *e*P **P 00 48 10.8 -0.7**
YHNB *e*PcP PcP 00 49 45.3 -0.6
YHNB *e*PP PP 00 49 57.9 -3.2
TATO Taipei 46.44 315 *e*P **P 00 48 12.9 +0.6**
comp=Z,290nm,1.2s,mb6.1
TATO LR LR
comp=Z,6μm,20.0s,MS5.5
KSM Kuching 46.47 279⇑*i*P **P 00 48 12.6 -0.2**
KSM *e*PcP PcP 00 49 45.0 -1.8
KSM *e*PP PP 00 50 02.7 -0.1
KSM Kuching 46.47 279 ⇓P **P 00 48 12.8 0.0**
MJAR Matsushiro Arr 46.62 340 P **P 00 48 12.5 -1.0**
MJAR 00 49 47.0
MJAR pmax pmax
comp=Z,147nm,0.8s
MJAR Matsushiro Arr 46.62 340 P **P 00 48 12.5 -1.0**
comp=Z,147nm,0.8s,mb6.0,baz=160,slow=8.7,SNR=111
MJAR PcP PcP 00 49 47.0 +0.3
comp=Z,42nm,0.9s,baz=150,slow=3.7,SNR=6.5
MAJO Matsushiro 46.62 340 *e*P **P 00 48 12.9 -0.6**
comp=Z,195nm,0.7s,mb6.2
MAJO LR LR
comp=Z,2μm,22.0s,MS5.0
MAT Matsushiro 46.62 340 P **P 00 48 12.7 -0.8**
MAT S **S 00 54 46.0 -13**
MAT Matsushiro 46.62 340 S **P 00 48 12.7 -0.8**
JNU Nakatsue 46.70 331 P **P 00 48 14.6 +0.4**
comp=Z,892nm,0.8s,mb6.8,baz=114,slow=9.1,SNR=139
JNU PcP PcP 00 49 47.5 +0.5
comp=Z,69nm,0.9s,baz=33,slow=1.3,SNR=2.1
JNU LR LR 01 06 04.3
comp=Z,2μm,21.9s,MS5.0,baz=318,slow=34
JNU Nakatsue 46.70 331 S **P 00 48 14.6 +0.4**
JAD Aida 46.73 335 S **P 00 48 15.1 +0.7**
JSD Sado 47.96 341 S **P 00 48 24.0 +0.1**
QZH Quanzhou 48.50 312⇑*i*P **P 00 48 28.5 +0.2**
QZH S **S 00 55 25.9 +0.2**
QZH AMB AMB
comp=Z,560nm,0.9s,mb6.6
QZH AMB AMB
comp=Z,3μm,3.7s
QZH LR LR
comp=N,2μm,16.4s
QZH LR LR
comp=E,5μm,23.0s
QZH LR LR
comp=Z,6μm,31.8s
ERM Erimo 50.37 348⇑*e*P **P 00 48 43.0 +0.8**
SSE Sheshan 50.63 321 P **P 00 48 44.1 -0.4**
SSE XP sP 00 48 48.6 -17
SSE PCP PcP 00 50 00.9 -0.5
SSE S **S 00 56 00.4 +5.1**
SSE XS sS 00 56 05.8 -15
SSE SCS ScS 00 58 35.1 +4.6
SSE AMB AMB
comp=Z,210nm,1.2s,mb5.9
SSE AMB AMB
comp=Z,764nm,7.5s
SSE LR LR
comp=N,1μm,21.5s,MS5.2
SSE LR LR
comp=E,2μm,21.5s,MS5.2
SSE LR LR
comp=Z,3μm,20.2s,MS5.3
SSE Sheshan 50.63 321 P **P 00 48 44.1 -0.4**
comp=Z,210nm,1.2s,mb5.9
SSE sP sP 00 48 48.6 -17
SSE PcP PcP 00 50 00.9 -0.5
SSE S **S 00 56 00.4 +5.1**
SSE sS sS 00 56 05.8 -15
SSE ScS ScS 00 58 35.1 +4.6
SSE LR LR
comp=Z,3μm,20.2s,MS5.3
GZH Guangzhou 51.49 307 P **P 00 48 52.5 +1.5**
GZH S **S 00 56 14.1 +6.7**
GZH LR LR
comp=N,1μm,27.1s,MS5.2
GZH LR LR
comp=E,3μm,23.1s,MS5.2
GZH LR LR
comp=Z,5μm,24.0s,MS5.5
KSRS Korea Array 51.62 331 P **P 00 48 52.1 +0.4**
comp=Z,179nm,0.7s,mb6.1,baz=147,slow=7.4,SNR=198
KSRS PcP PcP 00 50 06.4 +1.6
comp=Z,18nm,0.8s,baz=142,slow=4.7,SNR=2.4
KSRS ScP ScP 00 53 59.1 +2.2
comp=Z,6.4nm,1.0s,baz=126,slow=3.4,SNR=5.2
KSRS LR LR 01 08 40.0
comp=Z,839nm,21.1s,MS4.7,baz=143,slow=34
INCN Inchon 52.26 330 *e*P **P 00 48 57.3 +0.8**
INCN LR LR
comp=Z,3μm,20.0s,MS5.3
INCN Inchon 52.26 330 P **P 00 48 57.6 +1.1**
SNR=14
INCN Inchon 52.26 330 P **P 00 48 57.6 +1.1**
SNR=14
QIZ Qiongzhong 52.48 301 ⇑P **P 00 48 58.9 +0.4**
QIZ XP sP 00 49 03.3 -17
QIZ S **S 00 56 22.1 +0.9**
QIZ XS sS 00 56 31.4 -15
QIZ SS SS 01 00 04.3 +4.2
QIZ AMB AMB
comp=Z,244nm,1.2s,mb6.0
QIZ LR LR
comp=N,2μm,23.1s,MS5.2
QIZ LR LR
comp=E,2μm,27.5s,MS5.2
QIZ LR LR
comp=Z,6μm,26.8s,MS5.5
QIZ Qiongzhong 52.48 301 *e*P **P 00 48 59.6 +1.1**
comp=Z,232nm,1.0s,mb6.1
QIZ LR LR
comp=Z,3μm,21.0s,MS5.3
ASAJ Asahikawa 52.50 348 P **P 00 48 59.3 +1.2**
ASAJ pmax pmax
comp=Z,88nm,0.8s
ASAJ MLR MLR
comp=Z,5μm,18.8s
ASAJ Asahikawa 52.50 348 P **P 00 48 59.3 +1.2**
comp=Z,88nm,0.8s,mb5.7,baz=237,slow=15,SNR=36
ASAJ LR LR 01 11 29.2
comp=Z,5μm,18.8s,MS5.5,baz=177,slow=36
NJ2 Nanjing 52.75 320 *e*P **P 00 49 00.5 +0.3**
NJ2 AP pP 00 49 04.9 -10
NJ2 XP sP 00 49 06.9 -15
NJ2 PP PP 00 51 00.9 +0.7
NJ2 S **S 00 56 27.0 +2.6**
NJ2 XS sS 00 56 35.0 -15
NJ2 AMB AMB
comp=Z,600nm,0.9s,mb6.5
NJ2 AMB AMB
comp=Z,1μm,11.0s
NJ2 LR LR
comp=N,640nm,26.8s
NJ2 LR LR
comp=E,530nm,18.0s
NJ2 LR LR
comp=Z,690nm,20.0s
MYKOM Kota Tinggi 52.87 278 ⇑P **P 00 49 01.3 -0.2**
KIP Kipapa 53.26 57 *e*P **P 00 49 04.8 +0.6**
comp=Z,266nm,1.3s,mb6.0
KIP LR LR
comp=Z,7μm,20.0s,MS5.7
KGM Kluang 53.44 278 ⇓P **P 00 49 05.8 +0.2**
PPT Papeete 53.91 106 *e*P **P 00 49 10.0 +1.0**
comp=Z,157nm,1.3s,mb5.8
PPT *e*S **S 00 56 37.2 -3.4**
comp=Z,3μm,28.0s
PPT *e*LQ 01 02 09.2
comp=Z,4μm,26.5s
PPT *e*LR LR 01 04 32.4
comp=Z,5μm,22.2s,baz=274
PPT Papeete 53.91 106 P **P 00 49 09.7 +0.6**
comp=Z,68nm,0.7s,mb5.7,baz=229,slow=4.8,SNR=9.3
PPT LR LR 01 07 06.3
comp=Z,3μm,20.6s,MS5.3,baz=277,slow=30
PAE Paea 53.91 107 *e*P **P 00 49 09.6 +0.5**
comp=Z,439nm,1.2s,mb6.3
PAE Paea 53.91 107 *e*P **P 00 49 09.6 +0.5**
PAE pmax pmax
comp=Z,439nm,1.2s,mb6.3
TVO Taravao 54.23 107 *e*P **P 00 49 12.3 +0.9**
comp=Z,280nm,0.7s,mb6.3
TVO Taravao 54.23 107 *e*P **P 00 49 12.3 +0.9**
TVO pmax pmax
comp=Z,280nm,0.7s,mb6.3
KTGM Kuala Trenggan 54.28 282 ⇓P **P 00 49 12.2 +0.4**
KHU Kahuku 54.35 60⇑*e*P **P 00 49 13.0 +0.8**
TBI Tubuai 54.61 113 *e*P **P 00 49 15.0 +0.9**
comp=Z,542nm,1.3s,mb6.4
TBI *e*S **S 00 56 49.2 -0.8**
comp=Z,2μm,29.5s
TBI *e*LQ 01 02 32.0
comp=Z,5μm,38.2s
TBI *e*LR LR 01 04 52.7
comp=Z,13μm,29.0s,baz=282
TBI Tubuai 54.61 113 *e*P **P 00 49 15.0 +0.9**
comp=Z,542nm,1.3s,mb6.4
TBI *e*S **S 00 56 49.2 -0.8**
TBI *e*LQ 01 02 32.0
POHA Pohakuloa 54.63 60 *e*P **P 00 49 13.8 -0.4**
comp=Z,249nm,0.9s,mb6.2
POHA LR LR
comp=Z,7μm,20.0s,MS5.7
VLA Vladivostok 54.68 338 *i* P **P 00 49 14.5 +0.4**
VLA Vladivostok 54.68 338*d*⇑P **P 00 49 14.4 +0.3**
VLA pmax pmax
comp=Z,185nm,1.4s,mb5.9
WHN Wuhan 54.83 315 ⇑P **P 00 49 16.1 +0.6**
WHN S **S 00 56 50.0 -2.6**
WHN AMB AMB
comp=Z,451nm,0.9s,mb6.5
WHN AMB AMB
comp=Z,2μm,10.6s
WHN LR LR
comp=Z,9μm,24.4s,MS5.8
YSS Yuzh-Sakhalins 55.19 349 *e*P **P 00 49 18.2 +0.5**
comp=Z,110nm,0.9s,mb5.9
YSS LR LR
comp=Z,3μm,20.0s,MS5.4
YSS Yuzh-Sakhalins 55.19 349*α*⇑*i*P **P 00 49 18.0 +0.3**
YSS *e*'SP sP 00 49 26.8 -13
YSS *e* 00 50 19.5
YSS *e*PPP 00 52 30.0
YSS *i* S **S 00 57 02.0 +5.2**
YSS *e*PS 00 57 12.0
YSS *e* 00 59 04.0
YSS *e*SSS 01 02 50.0
YSS pmax pmax
comp=E,60nm,1.0s
YSS pmax pmax
comp=Z,160nm,1.0s,mb6.0
YSS pmax pmax
comp=Z,900nm,6.0s
YSS MLR MLR
comp=Z,3μm,20.0s,MS5.3
YSS MLR MLR
comp=N,2μm,18.0s
PMOR Pomariorio Ree 55.40 103 *e*P **P 00 49 20.7 +0.8**
comp=N,969nm,1.0s,mb6.8
VAH Vaihoa 55.67 103 *e*P **P 00 49 22.3 +0.5**
comp=N,641nm,1.0s,mb6.6
DL2 Dalian 55.90 328⇑*i*P **P 00 49 23.3 +0.3**
DL2 XP sP 00 49 36.2 -8.5
DL2 PCP PcP 00 50 21.7 +0.6
DL2 S **S 00 57 11.2 +4.6**
DL2 AMB AMB
comp=Z,200nm,0.8s,mb6.2
DL2 AMB AMB
comp=Z,340nm,5.7s
DL2 LR LR
comp=N,740nm,17.4s,MS5.0
DL2 LR LR
comp=E,970nm,17.0s,MS5.0
DL2 LR LR
comp=Z,1μm,18.6s,MS5.0
TIA Tai'an 56.57 322 ⇑P **P 00 49 27.5 -0.3**
TIA AMB AMB
comp=Z,312nm,1.0s,mb6.3
KULM Kulim 56.68 281 *e*P **P 00 49 28.6 -0.4**
KULM *e*PcP PcP 00 50 25.7 +0.9
KULM *e*PP PP 00 51 36.0 +0.2
KULM Kulim 56.68 281 ⇑P **P 00 49 28.4 -0.7**
MDJ Mudanjiang 56.82 338 P **P 00 49 29.6 +0.2**
MDJ AP pP 00 49 32.9 -12
MDJ XP sP 00 49 34.1 -17
MDJ PP PP 00 51 36.1 -0.3
MDJ SCP ScP 00 54 24.7 +5.2
MDJ PCS PcS 00 54 25.8 +0.5
MDJ S **S 00 57 22.5 +4.0**
MDJ XS sS 00 57 29.2 -15
MDJ SCS ScS 00 59 18.9 +5.2
MDJ AMB AMB
comp=Z,53nm,1.2s,mb5.5
MDJ AMB AMB
comp=Z,784nm,5.9s
MDJ LR LR
comp=N,1μm,34.8s,MS4.9
MDJ LR LR
comp=E,895nm,30.0s,MS4.9
MDJ LR LR
comp=Z,2μm,29.5s,MS5.0
MDJ Mudanjiang 56.82 338 *e*P **P 00 49 29.4 0.0**
comp=Z,67nm,0.9s,mb5.7
MDJ *e*PcP PcP 00 50 23.8 -0.8
MDJ *e*PP PP 00 51 33.4 -3.0
MDJ LR LR
comp=Z,2μm,21.0s,MS5.2
SNG Songkhla 57.13 283 P **P 00 49 32.0 -0.2**
comp=Z,560nm,1.0s,mb6.5
SKR Severo-Kuril's 57.63 0 *e*P **P 00 49 34.9 -0.1**
SKR pmax pmax
comp=N,180nm,1.0s
SKR pmax pmax
comp=E,180nm,1.0s
SKR pmax pmax
comp=Z,220nm,1.0s,mb6.1
CN2 Changchun 57.83 334 *e*P **P 00 49 35.7 -0.8**
CN2 *e*XP sP 00 49 42.7 -16
CN2 *e*S **S 00 57 34.0 +2.2**
CN2 AMB AMB
comp=Z,80nm,1.3s,mb5.6
CN2 AMB AMB
comp=Z,200nm,6.0s
CN2 LR LR
comp=N,2μm,22.0s,MS5.2
CN2 LR LR
comp=E,1μm,22.0s,MS5.2
CN2 LR LR
comp=Z,2μm,23.0s,MS5.1
PSI Prapat 57.90 278 P **P 00 49 35.5 -2.1**
PSI 00 50 29.2
PSI pmax pmax
comp=Z,35nm,0.7s,mb5.5
PSI Prapat 57.90 278 P **P 00 49 35.5 -2.1**
comp=Z,35nm,0.7s,mb5.5,baz=145,slow=2.2,SNR=20
PSI PcP PcP 00 50 29.1 -0.4
comp=Z,40nm,0.9s,baz=137,slow=2.9,SNR=6.6
GYA Guiyang 58.43 307⇑*i*P **P 00 49 40.6 -0.5**
GYA AP pP 00 49 44.8 -12
GYA XP sP 00 49 47.9 -15
GYA PCP PcP 00 50 33.8 +2.4
GYA PP PP 00 51 55.0 +4.0
GYA SCP ScP 00 54 32.9 +5.8
GYA S **S 00 57 43.1 +2.8**
GYA SCS ScS 00 59 29.8 +3.5
GYA SS SS 01 01 38.9 +5.3
GYA AMB AMB
comp=Z,110nm,0.9s,mb5.9
GYA AMB AMB
comp=Z,830nm,8.8s
GYA LR LR
comp=N,1μm,21.9s,MS5.2
GYA LR LR
comp=E,1μm,21.3s,MS5.2
GYA LR LR
comp=Z,4μm,21.0s,MS5.5
HABR Khabarovsk 58.43 344⇑*i*P **P 00 49 40.6 0.0**
HABR *e*S **S 00 57 44.6 +5.1**
HABR *e*SS SS 01 01 34.9 +2.1
HABR pmax pmax
comp=Z,199nm,1.3s,mb6.0
NNT Nongplab 59.34 289 P **P 00 49 48.0 +0.3**
BJT Baijiatuau 59.68 325 *e*P **P 00 49 49.2 -0.3**
comp=Z,144nm,0.6s,mb6.2
BJT *e*PcP PcP 00 50 36.4 +0.3
BJT LR LR
comp=Z,4μm,21.0s,MS5.5
BJT Baijiatuau 59.68 325 *e*P **P 00 49 49.2 -0.3**
BJT *e* 00 50 36.4
BJT pmax pmax
comp=Z,144nm,0.6s
BJT MLR MLR
comp=Z,4μm,21.0s
BJI Beijing 59.69 325 P **P 00 49 49.3 -0.3**
BJI AP pP 00 49 52.4 -13
BJI XP sP 00 49 53.8 -18
BJI PP PP 00 52 00.6 -1.4
BJI S **S 00 57 54.0 -2.1**
BJI SS SS 01 01 57.1 +4.2
BJI AMB AMB
comp=Z,110nm,0.8s,mb5.9
BJI AMB AMB
comp=Z,1μm,3.7s
BJI LR LR
comp=N,2μm,20.8s,MS5.4
BJI LR LR
comp=E,2μm,22.7s,MS5.4
BJI LR LR
comp=Z,4μm,31.4s
BJI Beijing 59.69 325 P **P 00 49 49.3 -0.3**
comp=Z,110nm,0.8s,mb5.9
BJI pP pP 00 49 52.4 -13
BJI sP sP 00 49 53.8 -18
BJI PP PP 00 52 00.6 -1.4
BJI S **S 00 57 54.0 -2.1**
BJI SS SS 01 01 57.1 +4.2
BJI LR LR
comp=Z,4μm,31.4s,MS5.3
NST Nakhon Sawan 59.88 293 ⇓P **P 00 49 52.0 +0.7**
PET Petropavlovsk 60.02 2 *e*P **P 00 49 52.0 +0.5**
comp=Z,84nm,0.9s,mb5.8
PET LR LR
comp=Z,6μm,22.0s,MS5.7
PET Petropavlovsk 60.02 2 *e*P **P 00 49 51.5 0.0**
PET *e* 00 50 36.4
PET *e*S **S 00 58 02.1 +2.3**
PET *e*SS SS 01 02 01.9 +4.3
PET pmax pmax
comp=Z,115nm,0.7s,mb6.0
PET pmax pmax
comp=Z,1μm,15.7s
KLR Kul'dur 60.08 342⇓*i*P **P 00 49 48.0 -4.0**
KLR *e*S **S 00 57 53.5 -7.3**
KLR pmax pmax
comp=E,43nm,1.4s
KLR pmax pmax
comp=Z,110nm,1.4s,mb5.7
KLR pmax pmax
comp=N,800nm,5.0s
KLR pmax pmax
comp=Z,2μm,5.0s
DRV Dumont d'Urvil 60.41 187 P **P 00 49 53.0 -1.1**
DRV S **S 00 58 24.0 +19**
DRV SS SS 01 02 06.0 +2.9
DRV L 01 05 00.0
XAN Xi'an 60.59 316 P **P 00 49 52.7 -3.2**
XAN AMB AMB
comp=Z,114nm,1.1s,mb5.9
XAN AMB AMB

comp=Z,722nm,10.0s
XAN LR LR
comp=N,958nm,21.0s,MS5.3
XAN LR LR
comp=E,2μm,23.6s,MS5.3
XAN LR LR
comp=E,4μm,24.5s
KMI Kunming 61.02 304 P P 00 50 00.0 +1.1
KMI AP pP 00 50 04.5 -10
KMI XP sP 00 50 05.7 -15
KMI PP PP 00 52 15.3 +1.3
KMI S **S 00 58 14.1 +0.4**
KMI XS sS 00 58 23.2 -16
KMI SS SS 01 02 18.7 +4.4
KMI AMB AMB
comp=Z,138nm,1.2s,mb6.0
KMI AMB AMB
comp=Z,1μm,4.0s
KMI LR LR
comp=N,543nm,20.7s,MS5.4
KMI LR LR
comp=E,3μm,21.8s,MS5.4
KMI LR LR
comp=Z,4μm,24.1s,MS5.4
KMI Kunming 61.02 304 P **P 00 50 00.0 +1.1**
comp=Z,138nm,1.2s,mb6.0
KMI pP pP 00 50 04.5 -10
KMI sP sP 00 50 05.7 -15
KMI PP PP 00 52 15.3 +1.3
KMI PPP 00 53 46.6
KMI S **S 00 58 14.1 +0.4**
KMI sS sS 00 58 23.2 -16
KMI SS SS 01 02 18.7 +4.4
KMI SSS 01 04 59.2
KMI LR LR
comp=Z,4μm,24.1s,MS5.4
KMI Kunming 61.02 304 P **P 00 50 00.0 +1.1**
KMI *SP sP 00 50 05.7 -15
KMI 00 52 15.3
KMI PPP 00 53 46.6
KMI S **S 00 58 14.1 +0.4**
KMI *SS sS 00 58 23.2 -16
KMI SS SS 01 02 18.7 +4.4
KMI pmax pmax
comp=Z,138nm,1.2s,mb6.0
KMI MLR MLR
comp=Z,4μm,24.1s,MS5.4
BDT Bhumibol Dam 61.40 294 P **P 00 50 03.0 +1.4**
comp=Z,60nm,0.9s,mb5.7
SMY Shemya 61.63 12 PFAKE 00 50 10.0 +7.5
SMY LR LR
comp=Z,9μm,20.0s,MS5.9
CHTO Chiang Mai 61.95 296 *e*P **P 00 50 05.1 -0.2**
CHTO LR LR
comp=Z,1μm,22.0s,MS5.1
CHTO Chiang Mai 61.95 296 P **P 00 50 06.1 +0.8**
SNR=183
CHTO Chiang Mai 61.95 296 P **P 00 50 06.1 +0.8**
SNR=183
CD2 Chengdu 62.76 310 *e*P **P 00 50 10.7 +0.2**
CD2 AP pP 00 50 16.3 -10
CD2 XP sP 00 50 19.3 -13
CD2 PP PP 00 52 31.5 +2.2
CD2 PCS PcS 00 54 51.8 -0.4
CD2 S **S 00 58 38.7 +3.2**
CD2 XS sS 00 58 46.5 -15
CD2 SCS ScS 01 00 00.5 +2.0
CD2 SS SS 01 02 45.6 +4.2
CD2 AMB AMB
comp=Z,230nm,0.9s,mb6.3
CD2 AMB AMB
comp=Z,150nm,5.8s
CD2 LR LR
comp=N,3μm,25.2s,MS5.6
CD2 LR LR
comp=E,4μm,24.0s,MS5.6
CD2 LR LR
comp=Z,4μm,24.0s,MS5.5
HHC Hu-ho-hao-te 62.89 323⇑ *i*P **P 00 50 11.8 +0.6**
HHC AP pP 00 50 16.1 -11
HHC XP sP 00 50 19.0 -14
HHC PP PP 00 52 33.9 +3.7
HHC S **S 00 58 42.0 +5.3**
HHC XS sS 00 58 49.2 -14
HHC AMB AMB
comp=Z,228nm,0.9s,mb6.3
HHC AMB AMB
comp=Z,842nm,7.9s
HHC LR LR
comp=N,2μm,22.0s,MS5.3
HHC LR LR
comp=E,1μm,19.6s,MS5.3
HHC LR LR
comp=Z,3μm,23.1s,MS5.4
TAOE Nuku Hiva Isla 63.10 96 *e*S **S 00 58 37.0 -3.4**
comp=Z,55μm,26.4s
TAOE *e*LQ 01 05 56.7
comp=Z,108μm,27.6s
TAOE *e*LR LR 01 08 40.6
comp=Z,125μm,22.4s
ADK Adak 63.30 19 *e*P **P 00 50 14.2 +0.6**
ADK LR LR
comp=Z,13μm,22.0s,MS6.0
HIA Hailar 64.55 335⇑ *i*P **P 00 50 22.3 +0.3**
LZH Lanzhou 65.21 315 ⇑P **P 00 50 27.5 +1.0**
LZH AP pP 00 50 32.1 -10
LZH XP sP 00 50 34.5 -14
LZH PP PP 00 52 53.6 +2.9
LZH S S 00 59 09.2 +3.5
LZH XS sS 00 59 17.5 -14
LZH SS SS 01 03 23.5 +4.0
LZH AMB AMB
comp=Z,221nm,1.2s,mb6.1
LZH AMB AMB
comp=Z,1μm,6.8s
LZH LR LR
comp=E,3μm,14.2s
LZH LR LR
comp=Z,5μm,18.7s,MS5.8
LZH Lanzhou 65.21 315 ⇑P **P 00 50 27.5 +1.0**
comp=Z,221nm,1.2s,mb6.1
LZH pP pP 00 50 32.1 -10
LZH sP sP 00 50 34.5 -14
LZH PP PP 00 52 53.6 +2.9
LZH PPP 00 54 27.8
LZH S S 00 59 09.2 +3.5
LZH sS sS 00 59 17.5 -14
LZH PS 00 59 31.7
LZH SS SS 01 03 23.5 +4.0
LZH LR LR
comp=Z,5μm,18.7s,MS5.8
LZH Lanzhou 65.21 315 ⇑P **P 00 50 27.5 +1.0**
LZH *SP sP 00 50 34.5 -14
LZH 00 52 53.6
LZH PPP 00 54 27.8
LZH S S 00 59 09.2 +3.5
LZH PS 00 59 31.7
LZH SS SS 01 03 23.5 +4.0
LZH pmax pmax
comp=Z,221nm,1.2s,mb6.1
LZH MLR MLR
comp=Z,5μm,18.7s,MS5.8
MA2 Magadan 66.68 357 *e*P **P 00 50 34.5 -1.0**
comp=Z,125nm,0.7s,mb6.0
MA2 LR LR
comp=Z,3μm,21.0s,MS5.5
MA2 Magadan 66.68 357⇑ *e*P **P 00 50 35.1 -0.4**
MA2 pmax pmax
comp=Z,122nm,0.7s,mb6.0
MA2 MLR MLR
comp=Z,1μm,14.0s,MS5.3
CASY Casey 66.75 198 *e*P **P 00 50 35.5 -0.4**
RKT Rikitea 67.87 112 *e*LR LR 01 10 56.6
comp=Z,12μm,28.2s,baz=280
IMP Imphal 68.31 300 *i*P **P 00 50 45.0 -1.5**
UNV Unalaska Valle 68.48 23 *e*P **P 00 50 46.5 -0.4**
UNV LR LR
comp=Z,14μm,21.0s,MS6.2
NRGR Nerungri 68.64 342 *e*P **P 00 50 48.5 +0.7**
NRGR S S 00 59 53.1 +6.9
NRGR smax
comp=N,79nm,1.0s
CLNS Chul'man 68.73 342*c i*P **P 00 50 49.5 +1.1**
CLNS *e* 00 51 12.6
CLNS *e* 00 53 16.1
CLNS *e*PPP 00 54 58.0
CLNS *e*S S 00 59 49.5 +2.2
CLNS pmax pmax
comp=Z,107nm,0.9s,mb5.8
CLNS pmax pmax
comp=N,63nm,1.2s
CLNS pmax pmax
comp=E,14nm,0.7s
CLNS pmax pmax
comp=Z,25nm,1.0s,mb5.1
CLNS pmax pmax
comp=N,10.0nm,0.7s
CLNS pmax pmax
comp=E,16nm,1.2s
CLNS smax
comp=N,522nm,11.0s
CLNS smax
comp=Z,371nm,12.1s
CLNS smax
comp=E,344nm,11.2s
CIT Chita 69.26 333 *e*P **P 00 50 52.6 +0.8**
CIT *e* pP 00 51 11.8 +4.3
CIT *e*S S 00 59 53.1 -0.6
CIT *e* 01 00 50.5
CIT pmax pmax
comp=Z,312nm,3.0s
GTA Gaotai 69.62 317⇑ *i*P **P 00 50 55.0 +0.7**
GTA AP pP 00 50 59.3 -11
GTA XP sP 00 51 02.5 -14
GTA PP PP 00 53 31.5 +2.5
GTA S S 01 00 00.0 +1.5
GTA XS sS 01 00 09.2 -16
GTA SCS ScS 01 00 52.6 +1.3
GTA SS SS 01 04 28.7 +1.1
GTA AMB AMB
comp=Z,137nm,1.7s,mb5.6
GTA AMB AMB
comp=Z,1μm,8.0s
GTA LR LR
comp=N,1μm,21.8s,MS5.3
GTA LR LR
comp=E,2μm,25.2s,MS5.3
GTA LR LR
comp=Z,2μm,27.5s,MS5.3
ULN Ulaanbaatar 69.74 327⇑ *i*P **P 00 50 56.0 +1.1**
ULN *e*PcP PcP 00 51 14.2 -3.1
ULN PP PP 00 53 21.9 -8.0
ULN S S 00 59 54.0 -5.7
ULN LR LR
comp=Z,2μm,22.0s,MS5.2
ULN Ulaanbaatar 69.74 327⇑ *e*P **P 00 50 56.0 +1.1**
SEY Seymchan 69.97 358⇑ *e*P **P 00 50 55.9 -0.1**
SONM Songino Array 70.08 327 P **P 00 50 58.0 +1.0**
comp=Z,277nm,0.8s,mb6.2,baz=135,slow=6.5,SNR=409
SONM PKPPKP 01 18 59.7
comp=Z,43nm,1.1s,baz=295,slow=2.2,SNR=44
SHL Shillong 70.32 300 *e*P **P 00 50 56.4 -2.6**
SHL *e*x x 01 00 05.0
AGT Agartala 70.35 298 *i*P **P 00 50 58.0 -1.1**
AGT *i*x x 00 52 11.0
VNDA Vanda 70.36 179 P **P 00 50 58.5 +0.3**
comp=Z,54nm,0.8s,mb5.5,baz=338,slow=6.8,SNR=141
VNDA LR LR 01 16 15.6
comp=Z,4μm,21.2s,MS5.6,baz=358,slow=31
VNDA PKP2ab 01 18 56.8
comp=Z,1.1nm,0.9s,baz=213,slow=6.2,SNR=5.1
FALS False Pass 70.44 23 *e*P **P 00 50 58.5 -0.5**
SBA Scott Base 70.85 178 *e*P **P 00 51 02.7 +1.5**
SBA LR LR
comp=Z,3μm,19.0s,MS5.6
TURI Tura 71.65 300 *e*P **P 00 51 05.0 -2.0**
TURI *e*x x 00 51 31.0
YAK Yakutsk 71.98 347 *e*P **P 00 51 08.2 0.0**
YAK LR LR
comp=Z,2μm,20.0s,MS5.4
YAK Yakutsk 71.98 347 *i*P **P 00 51 08.2 +0.1**
YAK *e**PP pP 00 51 22.8 -1.1
YAK *e* pP 00 51 24.8 +0.9
YAK *e* 00 53 51.6
YAK *e*S S 01 00 28.8 +3.8
YAK *e* 01 01 10.4
YAK *e**SS sS 01 01 19.8 +28
YAK pmax pmax
comp=Z,279nm,1.0s,mb6.2
YAK pmax pmax
comp=E,48nm,1.5s
YAK pmax pmax
comp=N,109nm,1.6s
YAK pmax pmax
comp=E,281nm,5.9s
YAK pmax pmax
comp=Z,596nm,6.8s
YAK pmax pmax
comp=N,369nm,6.4s
LSA Lhasa 72.27 304 P **P 00 51 11.0 +0.4**
LSA AMB AMB
comp=Z,330nm,1.0s,mb6.2
LSA AMB AMB
comp=Z,440nm,16.0s
LSA LR LR
comp=N,630nm,24.0s,MS5.2
LSA LR LR
comp=E,2μm,24.0s,MS5.2
LSA LR LR
comp=Z,3μm,26.0s,MS5.4
LSA Lhasa 72.27 304 *e*P **P 00 51 11.8 +1.2**
comp=Z,434nm,1.1s,mb6.3
LSA LR LR
comp=Z,828nm,21.0s,MS5.0
LSA Lhasa 72.27 304 *e*P **P 00 51 11.8 +1.2**
LSA pmax pmax
comp=Z,434nm,1.1s,mb6.3
LSA MLR MLR
comp=Z,828nm,21.0s,MS5.0
PTCN Pitcairn Islan 72.36 114 PFAKE 00 51 20.0 +8.7
PTCN LR LR
comp=Z,5μm,22.0s,MS5.7
MIR Mirnyy 72.92 202⇑ *i*P **P 00 51 15.0 +1.2**
MIR pmax pmax
comp=Z,1μm,2.0s,mb6.4
BOD Boaibo 73.19 338⇓ *i*P **P 00 51 14.6 -0.9**
BOD pmax pmax
comp=Z,81nm,1.3s,mb5.5
ZAK Zakamensk 73.23 328⇓ *i*P **P 00 51 16.1 +0.3**
ZAK pmax pmax
comp=Z,107nm,1.0s,mb5.7
TLY Talaya 73.78 329 *e*P **P 00 51 18.8 -0.3**
TLY LR LR
comp=Z,1μm,20.0s,MS5.2
TLY Talaya 73.78 329*c i*P **P 00 51 19.2 +0.2**
TLY *e* pP 00 51 36.4 +1.6
TLY *e* 00 53 59.3
TLY *e*S S 01 00 43.8 -2.0
TLY *e* 01 01 24.2
TLY pmax pmax
comp=Z,114nm,1.1s,mb5.7
TLY MLR MLR
comp=Z,1μm,20.0s,MS5.2
TLY Talaya 73.78 329 P **P 00 51 19.9 +0.8**
SNR=39
TLY Talaya 73.78 329 P **P 00 51 19.9 +0.8**
SNR=39
IRK Irkutsk 73.79 330⇑ *i*P **P 00 51 18.9 -0.2**
IRK *e*S S 01 00 47.5 +1.6
IRK pmax pmax
comp=Z,238nm,2.0s,mb5.8
GAMB Gambell 74.83 14 *e*P **P 00 51 24.8 -0.2**
BOK Bokaro 75.04 297 *e*P **P 00 51 27.1 +0.1**
MOY Mondy 75.14 328 *e*P **P 00 51 27.7 +0.8**
MOY pmax pmax
comp=Z,276nm,4.1s
BILL Bilibino 75.39 4⇑ *e*P **P 00 51 28.2 +0.1**
BILL LR LR
comp=Z,3μm,22.0s,MS5.5
BILL Bilibino 75.39 4⇑ *i*P **P 00 51 28.2 +0.1**
BILL *i* pP 00 51 42.8 -1.1
BILL pmax pmax
comp=Z,267nm,1.0s,mb6.1
BILL MLR MLR
comp=Z,2μm,18.0s,MS5.4
JIRN Jiri 75.81 301 *e*P **P 00 51 32.1 +0.8**
comp=Z,590nm,0.7s,mb6.6
VIS Vishakhapatnam 75.95 290 *e*P **P 00 51 30.6 -1.6**
VIS *i*x x 01 01 07.7
PALK Pallekele 76.53 279 *e*P **P 00 51 36.2 +0.4**
comp=Z,178nm,1.2s,mb5.9
PALK LR LR
comp=Z,1μm,21.0s,MS5.2
PALK Pallekele 76.53 279 P **P 00 51 36.6 +0.9**
SNR=20
PALK Pallekele 76.53 279 P **P 00 51 36.6 +0.9**
SNR=20
KKN Kakani 76.62 301 *e*P **P 00 51 36.2 +0.3**
comp=Z,1μm,0.8s,mb6.8
KDAK Kodiak Island 76.87 25 *e*P **P 00 51 35.9 -0.8**
KDAK LR LR
comp=Z,967nm,21.0s,MS5.1
GKN Gorkha 77.22 301 *e*P **P 00 51 39.4 +0.1**
comp=Z,2μm,1.0s
TNA Tin City 77.23 15 *e*P **P 00 51 38.5 -0.1**
TNA LR LR
comp=Z,5μm,21.0s,MS5.8
SVW2 Sparrevohn 77.77 22 *e*P **P 00 51 41.6 0.0**
BLSP Bilaspur 78.00 294 *e*P **P 00 51 43.6 -0.2**
KOLN Koldanda 78.05 300 *e*P **P 00 51 44.0 +0.1**
comp=Z,1μm,0.9s,mb6.9
TTA Tatalina 78.83 20 *e*P **P 00 51 47.4 0.0**
SLKM Skilak Lake 79.47 24 *e*P **P 00 51 50.5 -0.5**
WMQ Urumqi 79.70 317⇑ *i*P **P 00 51 53.2 +0.6**
WMQ XP sP 00 52 01.0 -14
WMQ PP PP 00 54 56.0 +1.6
WMQ S S 01 01 54.0 +3.2
WMQ SS SS 01 07 05.0 +4.3
WMQ AMB AMB
comp=Z,172nm,1.7s,mb5.7
WMQ AMB AMB
comp=Z,2μm,4.2s
WMQ LR LR
comp=N,2μm,18.5s,MS5.7
WMQ LR LR
comp=E,3μm,23.1s,MS5.7
WMQ LR LR
comp=Z,2μm,29.0s
KOD Kodaikanal 80.16 282 *e*P **P 00 51 55.9 +0.2**
HYB Hyderabad 80.35 289 *e*P **P 00 51 56.0 -0.7**
comp=Z,90nm,1.0s,mb5.7
HYB *e*S S 01 01 56.0 -2.7
HYB Hyderabad 80.35 289 *e*P **P 00 51 56.0 -0.7**
HYB *e*S S 01 01 56.0 -2.7
HYB pmax pmax
comp=Z,90nm,1.0s,mb5.7
HYB Hyderabad 80.35 289 *i*P **P 00 51 56.0 -0.7**
comp=Z,90nm,1.0s,mb5.7
HYB *e*S S 01 01 56.0 -2.7
TRD Trivandrum 80.39 280 *e*P **P 00 51 57.3 +0.3**
PMR Palmer 80.53 23⇑ *e*P **P 00 51 55.8 -0.9**
PMR *e*PcP PcP 00 52 02.7 -0.7
PMR *e*PP PP 00 55 01.1 +0.3
PMR LR LR
comp=Z,2μm,21.0s,MS5.5
NGP Nagpur 80.60 293⇑ *e*P **P 00 51 55.5 -2.4**
NGP ⇓*e*x x 01 01 57.5
TIXI Tiksi 80.70 352 *e*P **P 00 51 56.0 -1.4**
comp=Z,41nm,0.7s,mb5.5
TIXI LR LR
comp=Z,2μm,19.0s,MS5.4
TIXI Tiksi 80.70 352*c i*P **P 00 51 56.4 -1.0**
TIXI *e*S S 01 01 59.5 -0.7
TIXI *e*SS SS 01 07 15.6 +1.1
TIXI pmax pmax
comp=Z,40nm,0.6s,mb5.5
TIXI MLR MLR
comp=Z,2μm,20.0s,MS5.4
SML Sawmill 80.97 23 *e*P **P 00 51 58.8 -0.2**
LGTI Lohaghat 81.31 301 *e*P **P 00 52 01.3 -0.3**
EYAK Cordova Ski Ar 81.34 25 *e*P **P 00 52 00.3 -0.7**
comp=Z,43nm,1.1s,mb5.3
EYAK *e*PP PP 00 55 06.5 -1.0
PTH Pithoragarh 81.36 301 *e*P **P 00 52 03.0 +1.1**
IMA2 Indian Mountai 81.64 18 *e*P **P 00 52 02.1 -0.4**
MCK McKinley 81.83 22 *e*P **P 00 52 02.4 -1.2**
comp=Z,143nm,1.0s,mb5.8
MCK LR LR
comp=Z,3μm,22.0s,MS5.6
AKL Akola 82.38 292 *e*P **P 00 52 07.0 -0.4**
LATR Latur 82.40 290 *e*P **P 00 52 05.3 -2.2**
BHPL Bhopal 82.49 295 *e*P **P 00 52 07.3 -0.6**
QSPA South Pole Qui 82.79 180 P **P 00 52 08.8 +0.4**
comp=Z,168nm,0.7s,mb6.2,baz=339,slow=1.0,SNR=533
QSPA PKKP PKKPbc 01 10 26.7 -8.6
comp=Z,7.2nm,0.9s,baz=220,slow=1.3,SNR=7.1
QSPA PKKPbc PKKPbc 01 10 31.3 -4.0
comp=Z,5.7nm,0.7s,baz=222,slow=0.7,SNR=11
QSPA LR LR 01 22 12.4
comp=Z,1μm,20.4s,MS5.3,baz=124,slow=31
COLA College 82.87 21 *e*P **P 00 52 07.3 -1.6**
comp=Z,57nm,0.7s,mb5.7
COLA ⇑*i*P 00 52 07.5
COLA LR LR
comp=Z,6μm,22.0s,MS5.9
COLA College 82.87 21 *e*P **P 00 52 07.3 -1.6**
COLA pmax pmax
comp=Z,57nm,0.7s,mb5.7
COLA MLR MLR
comp=Z,6μm,22.0s,MS5.9
MNGI Mangalore 83.14 284 *i*P **P 00 52 10.9 -0.6**
MNGI AMb AMB 00 52 13.0
comp=Z,116nm,0.8s,mb6.0
MNGI *i*S S 01 02 30.4 +2.8
DDI Dehra Dun 83.36 302 *e*P **P 00 52 12.0 -0.3**
DDI *e*x x 00 53 14.0
MENT Mentasta 83.39 24 *e*P **P 00 52 11.4 -0.3**
NDI New Delhi 83.74 300 *e*P **P 00 52 13.6 -0.7**
NDI *e*x x 01 02 26.0
MK31 Makanchi Array 84.26 318⇑ *i*P **P 00 52 16.6 +0.1**
MKAR Makanchi Array 84.26 318 P **P 00 52 16.8 +0.3**
MKAR PKKPbc PKKPbc 01 10 29.5 -1.6
MKAR P'P' 01 18 34.1
MKAR LR LR 01 30 56.8
MKAR Makanchi Array 84.26 318 P **P 00 52 16.8 +0.3**
comp=Z,565nm,0.8s,mb6.8,baz=103,slow=5.5,SNR=956
MKAR PKKPbc PKKPbc 01 10 29.5 -1.6
comp=Z,4.1nm,0.6s,baz=284,slow=2.6,SNR=19
MKAR PKPPKP 01 18 34.1
comp=Z,4.2nm,0.8s,baz=284,slow=1.9,SNR=16
MKAR LR LR 01 30 56.8
comp=Z,1μm,19.8s,MS5.2,baz=101,slow=36
SMLA Simla 84.28 302 *e*P **P 00 52 16.5 -0.5**
GOA Goa 84.50 286 *e*P **P 00 52 17.5 -0.8**
GOA AMb AMB 00 52 19.6
comp=Z,312nm,1.5s,mb6.2
SDNR Sundarnagar 84.52 303 *e*P **P 00 52 18.5 +0.3**
SIT Sitka 84.62 31 *e*P **P 00 52 17.6 -0.4**
comp=Z,74nm,1.4s,mb5.6
SIT LR LR
comp=Z,3μm,23.0s,MS5.6
SIT Sitka 84.62 31 *e*P **P 00 52 17.6 -0.4**
SIT pmax pmax
comp=Z,74nm,1.4s,mb5.6
SIT MLR MLR
comp=Z,3μm,23.0s,MS5.6
MAW Mawson 84.64 203 *e*P **P 00 52 18.1 +0.1**
comp=Z,271nm,0.8s,mb6.4
MAW Mawson 84.64 203 P **P 00 52 18.3 +0.3**
comp=Z,315nm,0.9s,mb6.5,baz=98,slow=6.1,SNR=233
MAW LR LR 01 28 00.6
comp=Z,2μm,18.3s,MS5.4,baz=82,slow=34
ZALV Zalesovo Beam 84.94 326 P **P 00 52 18.8 -0.9**
comp=Z,100nm,0.5s,mb6.2,baz=113,slow=5.3,SNR=292
ZALV PKKP PKKPbc 01 10 21.6 -8.3
comp=Z,2.7nm,0.8s,baz=316,slow=4.1,SNR=5.7
ZALV PKKPbc PKKPbc 01 10 27.5 -2.4
comp=Z,3.3nm,0.5s,baz=270,slow=1.5,SNR=12
ZALV PKPPKP 01 18 31.6
comp=Z,11nm,0.9s,baz=291,slow=4.1,SNR=8.2
ZALV LR LR 01 31 58.3
comp=Z,860nm,20.7s,MS5.1,baz=106,slow=37
ZAL Zalesovo 84.95 326 P **P 00 52 18.8 -1.0**
POO Poona 84.95 289 *e*P **P 00 52 19.8 -0.8**
BHK Bhakra 84.97 302 *e*P **P 00 52 18.0 -2.4**
CRAG Craig 85.20 33 *e*P **P 00 52 21.7 +0.7**
EGAK Eagle 85.28 22 *e*P **P 00 52 21.1 -0.1**
EGAK LR LR
comp=Z,4μm,21.0s,MS5.8
SKAG Skagway 85.52 28 *e*P **P 00 52 22.7 +0.2**
comp=Z,156nm,1.9s,mb5.9
SKAG LR LR
comp=Z,4μm,18.0s,MS5.8
DLH Dalhousie 85.56 303 *e*P **P 00 52 23.0 -0.4**

AJM	Ajmer	85.57	297	eP		P	00 52 22.5	-1.0
DAWY	Dawson	85.64	23	eP		P	00 52 23.4	+0.4
THN	Thein Dam	85.75	303	eP		P	00 52 22.9	-1.4
WRAK	Wrangell Islan	85.93	32	eP		P	00 52 24.5	-0.1
	comp=Z,117nm,1.3s,mb6.0							
WRAK				e		pP	00 52 44.2	+3.4
WRAK				LR		LR		
	comp=Z,3μm,22.0s,MS5.6							
NVS	Novosibirsk	86.11	326	⇑iP		P	00 52 24.8	-0.7
NVS				e		pP	00 52 42.2	+0.5
NVS				i S		S	01 02 41.5	-14
NVS				pmax		pmax		
	comp=Z,337nm,1.4s,mb6.4							
NVS				pmax		pmax		
	comp=N,108nm,1.6s							
NVS				pmax		pmax		
	comp=E,230nm,1.6s							
KSH	Kashi	86.96	310	⇑iP		P	00 52 32.0	+1.9
KSH				AP		pP	00 52 36.4	-10
KSH				XP		sP	00 52 38.3	-14
KSH				PP		PP	00 55 57.5	+3.6
KSH				SKS			01 02 55.8	
KSH				S		S	01 03 07.8	+3.4
KSH				XS		sS	01 03 16.3	-15
KSH				SS		SS	01 08 54.9	+6.6
KSH				LR		LR		
	comp=N,649nm,5.3s							
KSH				LR		LR		
	comp=E,1μm,8.9s							
KSH				LR		LR		
	comp=Z,4μm,21.4s,MS5.8							
BHV	Bhavnagar	87.04	292	eP		P	00 52 30.0	-0.9
O01C	Eel River Cons	87.08	49	⇑P		P	00 52 31.2	+0.5
	baz=87,SNR=7.9							
K01A	Sixes	87.16	46	⇓P		P	00 52 31.6	+0.6
	baz=87							
KCPM	Cahto Peak	87.16	50	eP		P	00 52 31.4	+0.4
M01C	Crescent City	87.21	47	⇑P		P	00 52 31.5	+0.3
	baz=87							
KIPM	Iron Peak	87.27	50	eP		P	00 52 32.1	+0.6
KIPM				ePP		PP	00 55 54.8	-1.6
KHMM	Horse Mountain	87.29	48	eP		P	00 52 33.1	+1.5
P01C	Double 8 Ranch	87.31	50	⇓P		P	00 52 32.3	+0.5
	baz=87							
ULHL	Ulaho!	87.32	313	P		P	00 52 32.6	+0.9
	SNR=18							
MCCM	Marconi Confer	87.40	51	PFAKE			00 52 40.0	+7.8
MCCM				LR		LR		
	comp=Z,2μm,20.0s,MS5.6							
HOPS	Hopland	87.41	50	PFAKE			00 52 40.0	+7.7
HOPS				LR		LR		
	comp=Z,3μm,22.0s,MS5.7							
N02C	Big Bar	87.60	49	⇓P		P	00 52 33.8	+0.6
	baz=88,SNR=5.8							
KURK	Kurchatov	87.65	322	eP		P	00 52 32.4	-0.7
KURK				LR		LR		
	comp=Z,897nm,19.0s,MS5.2							
KURK	Kurchatov	87.65	322	c iP		P	00 52 32.4	-0.7
KURK	Kurchatov	87.65	322	P		P	00 52 32.6	-0.5
	SNR=61							
KURK	Kurchatov	87.65	322	P		P	00 52 32.6	-0.5
	SNR=61							
NSHM	Saint Helena R	87.68	51	eP		P	00 52 33.1	-0.4
BNLO	Ben Lomond (Sa	87.76	52	⇓P		P	00 52 34.4	+0.4
	baz=88							
DLBC	Dease Lake	87.76	30	eP		P	00 52 33.8	+0.4
K02A	Glendale	87.86	47	⇑P		P	00 52 34.5	+0.2
	baz=88							
O02C	Red Bluff	87.86	49	P		P	00 52 35.2	+0.8
	baz=88,SNR=22							
I02A	Mapleton	87.87	45	⇑P		P	00 52 34.8	+0.5
	baz=88							
H02A	Toledo	87.89	45	⇑P		P	00 52 34.5	+0.1
	baz=88							
J02A	Umpqua	87.92	46	⇓P		P	00 52 34.9	+0.3
	baz=88,SNR=6.2							
TKM2	Tokmak 2	87.93	314	⇑iP		P	00 52 34.7	0.0
	comp=Z,237nm,0.8s,mb6.5							
TKM2				ePP		PP	00 55 53.2	-8.4
TKM2				LR		LR		
	comp=Z,883nm,20.0s,MS5.2							
TKM2	Tokmak 2	87.93	314	⇑iP		P	00 52 34.7	+0.1
TKM2				pmax		pmax		
	comp=Z,237nm,0.8s,mb6.5							
TKM2				MLR		MLR		
	comp=Z,883nm,20.0s,MS5.2							
TKM2	Tokmak 2	87.93	314	P		P	00 52 34.8	+0.2
	SNR=245							
KZA	Kyzart	88.01	313	P		P	00 52 36.3	+1.3
	SNR=218							
HAST	Hastings Reser	88.11	53	⇓P		P	00 52 36.2	+0.5
	baz=88							
WDC	Whiskeytown Da	88.12	49	eP		P	00 52 35.4	-0.3
	comp=Z,149nm,2.1s,mb5.8							
WDC				ePP		PP	00 56 02.3	-0.9
WDC				LR		LR		
	comp=Z,4μm,22.0s,MS5.8							
WDC	Whiskeytown Da	88.12	49	eP		P	00 52 35.4	-0.2
WDC				e			00 56 02.3	
WDC				pmax		pmax		
	comp=Z,149nm,2.1s,mb5.8							
WDC				MLR		MLR		
	comp=Z,4μm,22.0s,MS5.8							
Q03C	Winters	88.16	51	⇑P		P	00 52 36.7	+0.8
	baz=88							
C03A	Quillayute Air	88.21	41	⇑P		P	00 52 36.3	+0.5
	baz=88							
HUMO	Hull Mountain	88.21	47	PFAKE			00 52 50.0	+14
HUMO				LR		LR		
	comp=Z,5μm,20.0s,MS5.9							
YBH	Yreka Blue Hor	88.22	48	eP		P	00 52 36.4	+0.4
YBH				LR		LR		
	comp=Z,6μm,20.0s,MS6.0							
I03A	Eugene	88.25	45	⇑P		P	00 52 36.4	+0.2
	baz=88							
SAO	San Andreas Ge	88.26	53	PFAKE			00 52 50.0	+14
SAO				LR		LR		
	comp=Z,3μm,21.0s,MS5.7							
V03C	Hunter Liggett	88.30	54	⇑P		P	00 52 36.6	0.0
	baz=88							
KBK	Karagaybulak	88.34	313	P		P	00 52 36.9	+0.3
	SNR=178							
J03A	Ideyld Park	88.36	46	⇑P		P	00 52 36.7	+0.1
	baz=88,SNR=5.8							
COR	Corvallis	88.36	45	PFAKE			00 52 50.0	+13
COR				LR		LR		
	comp=Z,3μm,20.0s,MS5.8							
H03A	Soap Creek Ran	88.38	45	P		P	00 52 37.0	+0.3
	baz=88,SNR=10							
O03C	Acorn Hollow,	88.40	50	⇓P		P	00 52 36.9	0.0
	baz=88							
F03A	Seaside	88.45	43	⇑P		P	00 52 37.1	0.0
	baz=88							
S04C	Ingram Canyon,	88.49	52	⇑P		P	00 52 37.8	+0.4
	baz=89							
NLWA	Neilton Lookou	88.55	42	eP		P	00 52 38.2	+0.7
NLWA				epP		pP	00 52 51.0	-2.7
NLWA				LR		LR		
	comp=Z,5μm,21.0s,MS5.9							
CHMS	Chumysh	88.55	313	P		P	00 52 37.5	-0.1
	SNR=176							
D03A	Wishkah Elem.	88.56	42	⇓P		P	00 52 37.6	+0.1
	baz=89							
M03C	McCloud	88.56	48	⇑P		P	00 52 37.7	0.0
	baz=89,SNR=18							
UCH	Uchtor	88.58	313	⇑iP		P	00 52 38.7	+0.9
UCH				LR		LR		
	comp=Z,1μm,21.0s,MS5.4							
UCH	Uchtor	88.58	313	P		P	00 52 38.8	+1.1
	SNR=143							
E03A	Lebam	88.58	43	⇑P		P	00 52 37.3	-0.3
	baz=89,SNR=8.0							
FRU	Bishkek	88.62	313	⇑iP		P	00 52 37.5	-0.4
FRU				e			01 03 01.0	
FRU				pmax		pmax		
	comp=Z,360nm,1.5s,mb6.5							
AAK	Ala-Archa	88.67	313	P		P	00 52 38.3	+0.2
	SNR=202							
Q04C	Lincoln	88.69	51	⇓P		P	00 52 37.8	-0.5
	baz=89							
OHCM	Honcut	88.69	50	eP		P	00 52 38.7	+0.4
U04C	Hernandez Rese	88.72	53	⇑P		P	00 52 39.5	+1.0
	baz=89,SNR=6.2							
USP	Ospenovka	88.78	314	P		P	00 52 38.6	-0.1
	SNR=264							
I04A	Tendick Farm,	88.83	46	⇑P		P	00 52 38.1	-0.8
	baz=89,SNR=6.8							
M04C	Macdoel	88.87	48	⇓P		P	00 52 39.3	+0.2
	baz=89							
T05C	Eagle Field, D	88.90	53	⇑P		P	00 52 40.1	+0.8
	baz=89							
R04C	Big Horse Ranc	88.92	51	⇑P		P	00 52 39.1	-0.3
	baz=89							
B04A	Port Angeles	88.93	41	⇑P		P	00 52 38.9	-0.3
	baz=89							
J04A	Umpqua Nationa	88.94	46	⇑P		P	00 52 39.2	-0.2
	baz=89							
HATC	Hat Creek Radi	88.97	49	⇑P		P	00 52 39.6	0.0
	baz=89							
G04A	Mulino	89.06	44	⇑P		P	00 52 39.8	-0.1
	baz=89							
K04A	Chilquin	89.10	47	⇓P		P	00 52 39.5	-0.7
	baz=89							
AML	Almayashu	89.16	312	⇑iP		P	00 52 41.0	+0.6
AML				LR		LR		
	comp=Z,2μm,22.0s,MS5.5							
AML	Almayashu	89.16	312	P		P	00 52 41.4	+0.9
	SNR=213							
E04A	Onalaska	89.16	43	⇑P		P	00 52 40.0	-0.3
	baz=89							
H04A	Detroit Lake	89.16	45	⇓P		P	00 52 39.3	-1.1
	baz=89,SNR=6.1							
LAVA	Lava Cap Winer	89.16	51	⇓P		P	00 52 40.1	-0.4
	baz=89							
O04C	Chester	89.17	49	⇑P		P	00 52 40.4	-0.1
	baz=89							
EKS2	Erkin-Say	89.19	313	⇑iP		P	00 52 40.9	+0.3
EKS2				ePP		PP	00 55 57.3	-14
EKS2				LR		LR		
	comp=Z,1μm,20.0s,MS5.4							
EKS2	Erkin-Say	89.19	313	P		P	00 52 41.0	+0.4
	SNR=185							
D04A	Dobs Creek Ra	89.20	42	⇓P		P	00 52 40.0	-0.6
	baz=89							
C04A	Brinnon	89.21	42	⇓P		P	00 52 40.0	-0.6
	baz=89							
O05C	Quincy	89.23	50	⇑P		P	00 52 40.3	-0.5
	baz=89							
SNCC	San Nicolas Is	89.23	57	eP		P	00 52 41.4	+0.4
	comp=Z,87nm,1.3s,mb5.9							
SNCC				ePP		PP	00 56 11.7	-0.6
SNCC				LR		LR		
	comp=Z,5μm,19.0s,MS5.9							
F04A	Amboy	89.23	44	⇑P		P	00 52 39.5	-1.2
	baz=89							
U05C	Westside ANR,	89.24	53	⇑P		P	00 52 41.5	+0.5
	baz=89							
S05C	Merced	89.24	52	⇓P		P	00 52 40.6	-0.3
	baz=89							
GNW	Green Mountain	89.28	42	eP		P	00 52 40.7	-0.2
M05C	Lookout	89.30	48	⇓P		P	00 52 41.1	-0.1
	baz=89							
CMB	Columbia Colle	89.31	52	⇑eP		P	00 52 41.0	-0.3
	comp=Z,54nm,1.8s,mb5.6							
CMB				ePP		PP	00 56 09.6	-3.2
CMB				LR		LR		
	comp=Z,2μm,20.0s,MS5.5							
CMB	Columbia Colle	89.31	52	⇑eP		P	00 52 41.0	-0.3
CMB				e			00 56 09.6	
CMB				pmax		pmax		
	comp=Z,54nm,1.8s,mb5.6							
CMB				MLR		MLR		
	comp=Z,2μm,20.0s,MS5.5							
V05C	Boulder Hill,	89.34	54	⇑P		P	00 52 41.8	+0.4
	baz=89							
P05C	Yuba Gap, Truc	89.36	50	⇑P		P	00 52 41.8	+0.3
	baz=89,SNR=11							
ELFS	Eagle Lake Fie	89.49	49	⇓P		P	00 52 42.3	+0.2
	baz=90							
INK	Inuvik	89.52	21	eP		P	00 52 40.8	-0.8
INK	Inuvik	89.52	21	P		P	00 52 40.9	-0.7
	comp=Z,36nm,1.0s,mb5.7,baz=241,slow=6.1,SNR=52							
INK				PKKP		PKKPbc	01 10 09.7	-10
	comp=Z,2.8nm,0.7s,baz=82,slow=1.9,SNR=8.9							
INK				PKKPbc		PKKPbc	01 10 15.9	-3.4
	comp=Z,13nm,0.9s,baz=69,slow=4.2,SNR=17							
INK				PKPPKP			01 18 13.1	
	comp=Z,2.0nm,0.9s,baz=116,slow=3.1,SNR=5.8							
INK				LR		LR	01 33 19.9	
	comp=Z,3μm,18.5s,MS5.8,baz=236,slow=36							
BHJ	Bhuj	89.54	293	eP		P	00 52 41.9	-0.7
J05A	Fort Rock	89.58	46	P		P	00 52 42.6	+0.2
	baz=90,SNR=18							
A04A	Legoe Bay, Lum	89.58	41	⇓P		P	00 52 41.0	-1.3
	baz=90							
L05A	Lakeview	89.65	48	⇓P		P	00 52 43.1	+0.3
	baz=90							
R05C	Kirkwood Meado	89.66	51	⇑P		P	00 52 43.5	+0.6
	baz=90,SNR=10							
T06C	Millerton Lake	89.68	53	⇓P		P	00 52 42.9	-0.1
	baz=90,SNR=14							
I05A	Bend	89.71	46	⇓P		P	00 52 42.6	-0.4
	baz=90							
K05A	Summer Lake	89.73	47	P		P	00 52 43.4	+0.3
	baz=90,SNR=16							
D05A	Enumclaw	89.76	42	⇑P		P	00 52 43.0	-0.2
	baz=90							
M06C	Likely Place G	89.77	49	P		P	00 52 43.9	+0.5
	baz=90,SNR=7.6							
E05A	Randle	89.80	43	⇑P		P	00 52 42.5	-0.9
	baz=90							
H05A	Madras	89.83	45	⇑P		P	00 52 42.9	-0.7
	baz=90							
F05A	White Salmon	89.89	44	⇓P		P	00 52 43.3	-0.5
	baz=90							
B05A	Bryant	89.89	41	⇑P		P	00 52 42.9	-0.8
	baz=90							
CMW	Cultus Mountai	89.91	41	P		P	00 52 43.7	-0.2
FMW	Mount Fremont	89.93	43	P		P	00 52 43.9	-0.1
P06A	Stead Airport,	89.96	50	⇑P		P	00 52 44.6	+0.3
	baz=90							
MOD	Modoc	90.02	48	eP		P	00 52 44.7	+0.2
MOD				LR		LR		
	comp=Z,6μm,20.0s,MS6.0							
A05A	Maple Falls	90.04	41	⇑P		P	00 52 43.4	-1.0
	baz=90							
C05A	Tolt Reservoir	90.06	42	⇑P		P	00 52 43.5	-1.1
	baz=90							
O06A	Flanigan	90.09	50	P		P	00 52 45.2	+0.3
	baz=90,SNR=10							
R06C	Colville	90.12	51	⇑P		P	00 52 45.7	+0.7
	baz=90,SNR=7.4							
HELL	Mitchell Peak	90.17	53	⇓P		P	00 52 45.2	-0.1
	baz=90,SNR=11							
N06A	Buffalo Meadow	90.18	49	P		P	00 52 45.4	+0.1
	baz=90,SNR=21							
K06A	Valley Falls	90.21	47	⇓P		P	00 52 45.1	-0.2
	baz=90,SNR=11							
E06A	Yakima	90.33	43	⇑P		P	00 52 45.3	-0.5
	baz=90,SNR=11							
F06A	Goldendale	90.33	44	⇑P		P	00 52 45.5	-0.4
	baz=90							
G06A	Carlson Farm,	90.34	45	⇑P		P	00 52 45.0	-0.9
	baz=90							
B06A	Marblemount	90.34	41	⇑P		P	00 52 44.4	-1.4
	baz=90							
J06A	Christmas Vall	90.35	47	P		P	00 52 45.6	-0.4
	baz=90,SNR=13							
R07C	Lee Vining	90.36	52	⇓P		P	00 52 46.6	+0.4
	baz=90							
I06A	Prineville	90.42	46	P		P	00 52 46.4	+0.1
	baz=90,SNR=10							
A06A	Chilliwack	90.45	41	⇑P		P	00 52 45.1	-1.2
	baz=90							
ISA	Isabella	90.46	54	eP		P	00 52 46.9	+0.2
ISA				epP		pP	00 53 05.7	+2.7
ISA				LR		LR		
	comp=Z,4μm,22.0s,MS5.8							
H06A	Lindquist Farm	90.47	45	P		P	00 52 46.0	-0.5
	baz=90,SNR=14							
D06A	Cle Elum	90.53	43	⇓P		P	00 52 46.2	-0.6
	baz=91							
MWC	Mount Wilson	90.59	56	eP		P	00 52 46.3	-1.0
C06A	Tall Timber Ra	90.63	42	⇓P		P	00 52 46.2	-1.0
	baz=91							
MTUM	Tungsten Hills	90.63	53	eP		P	00 52 48.1	+0.6
EBG	Ellensburg	90.67	43	P		P	00 52 47.1	-0.3
Q07A	Schurz	90.68	51	⇑P		P	00 52 48.1	+0.4
	baz=91							
P07A	Fallon	90.71	50	⇓P		P	00 52 48.2	+0.4
	baz=91							
L07A	Adell	90.75	48	P		P	00 52 48.5	+0.6
	baz=91,SNR=16							
M07A	Soldier Meadow	90.78	49	P		P	00 52 48.5	+0.5
	baz=91,SNR=18							
RPN	Rapa Nui	90.82	117	eP		P	00 52 50.6	+2.0
RPN				LR		LR		
	comp=Z,3μm,20.0s,MS5.8							
N07B	Gerlach	90.83	49	P		P	00 52 48.8	+0.5
	baz=91,SNR=21							
K07A	Rock Creek Ran	90.92	47	P		P	00 52 48.8	+0.1
	baz=91,SNR=20							
F07A	Phinny Hill Vi	90.94	44	⇓P		P	00 52 48.0	-0.7
	baz=91							
I07A	Izee	90.95	46	P		P	00 52 48.6	-0.2
	baz=91,SNR=12							
S08C	White Mtn Res	90.96	52	P		P	00 52 49.9	+0.9
	baz=91,SNR=16							
J07A	Hines	90.98	47	⇓P		P	00 52 49.0	0.0
	baz=91							
NVAR	Mina Array Bea	90.99	52	PP		PP	00 56 25.9	-0.3
	comp=Z,2.7nm,1.0s,baz=253,slow=6.5,SNR=4.0							
NVAR				PKKPbc		PKKPbc	01 10 15.0	+0.7
	comp=Z,1.2nm,0.7s,baz=90,slow=4.4,SNR=6.4							
NVAR				PKPPKP			01 18 21.0	
	comp=Z,4.5nm,0.9s,baz=74,slow=3.2,SNR=15							
G07A	Ruggs Ranch, H	91.02	45	P		P	00 52 48.2	-0.8
	baz=91,SNR=12							
D07A	Quincy	91.12	43	⇑P		P	00 52 48.7	-0.7
	baz=91							
R08A	Mina	91.14	52	⇑P		P	00 52 50.1	+0.3
	baz=91							
C07A	Waterville	91.14	42	P		P	00 52 48.9	-0.7
	baz=91,SNR=8.2							
A07A	Ashnola River,	91.15	41	P		P	00 52 48.8	-0.8
	baz=91,SNR=8.4							
109C	Camp Elliot, M	91.19	57	⇓P		P	00 52 50.5	+0.4
	baz=91							
WTV	Waterville	91.21	42	P		P	00 52 49.1	-0.8
B07A	Winthrop	91.23	41	P		P	00 52 49.5	-0.4
	baz=91,SNR=8.8							
HAWA	Hanford	91.29	44	eP		P	00 52 49.9	-0.4
HAWA				LR		LR		
	comp=Z,4μm,20.0s,MS5.8							
WVOR	Wild Horse Val	91.33	48	⇑iP		P	00 52 50.8	+0.2
	comp=Z,41nm,1.3s,mb5.6							
WVOR				PP		PP	00 56 28.6	-0.1
WVOR				LR		LR		
	comp=Z,4μm,19.0s,MS5.9							
WVOR	Wild Horse Val	91.33	48	⇑iP		P	00 52 50.8	+0.2
WVOR							00 56 28.6	
WVOR				pmax		pmax		
	comp=Z,41nm,1.3s,mb5.6							
WVOR				MLR		MLR		
	comp=Z,4μm,19.0s,MS5.9							
Q08A	Gabbs	91.34	51	P		P	00 52 51.1	+0.4
	baz=91,SNR=12							
P08A	Dixie Valley	91.35	50	⇓P		P	00 52 51.3	+0.5
	baz=91							
M08A	Happy Creek Ra	91.37	49	⇓P		P	00 52 51.0	+0.2
	baz=91,SNR=12							
O08A	Rochester Mine	91.38	50	⇑P		P	00 52 50.9	+0.1
	baz=92							
N08A	GE Springer Mi	91.46	49	P		P	00 52 51.7	+0.5
	baz=92,SNR=18							
K08A	Mann Creek Ran	91.48	47	⇑P		P	00 52 51.3	0.0
	baz=92							
L08A	Fields	91.50	48	P		P	00 52 51.8	+0.3
	baz=92,SNR=24							
G08A	Pilot Rock	91.52	45	P		P	00 52 50.8	-0.6
	baz=92,SNR=14							
BAR	Barrett	91.52	57	eP		P	00 52 52.4	+0.7
I08A	Drewsey	91.59	46	⇓P		P	00 52 51.2	-0.6
	baz=92							
KBL	Kabul	91.59	304	⇑iP		P	00 52 50.7	-1.3
	comp=Z,156nm,0.9s,mb6.3							
KBL				ePP		PP	00 56 25.8	-5.3
H08A	Prairie City	91.61	45	⇓P		P	00 52 51.2	-0.6
	baz=92,SNR=6.6							
E08A	Dider Farm, El	91.63	44	⇑P		P	00 52 51.1	-0.8
	baz=92							
F08A	Pendleton	91.72	44	⇓P		P	00 52 51.6	-0.7
	baz=92							
B08A	Colville Reser	91.73	42	⇓P		P	00 52 51.2	-1.1
	baz=92,SNR=10							
S09A	Goldfield	91.74	52	⇑P		P	00 52 53.0	+0.4
	baz=92							
GSC	Goldstone	91.75	55	eP		P	00 52 53.1	+0.4
GSC				LR		LR		
	comp=Z,4μm,19.0s,MS5.9							
GSC	Goldstone	91.75	55	e		P	00 52 53.2	+0.5
D08A	Wollman Farm,	91.81	43	⇑P		P	00 52 51.7	-1.0
	baz=92							
PFO	Pinyon Flat Ob	91.82	57	eP		P	00 52 53.0	-0.1
	comp=Z,12nm,0.9s,mb5.2							
PFO				ePP		PP	00 56 34.4	+1.5
PFO				LR		LR		
	comp=Z,4μm,19.0s,MS5.9							
PFO	Pinyon Flat Ob	91.82	57	eP		P	00 52 53.0	-0.1
PFO				e			00 56 34.4	
PFO				pmax		pmax		
	comp=Z,12nm,0.9s,mb5.2							
PFO				MLR		MLR		
	comp=Z,4μm,19.0s,MS5.9							
PFO	Pinyon Flat Ob	91.82	57	PKPPKP			01 18 22.4	
	comp=Z,4.4nm,0.9s,baz=90,slow=3.9,SNR=7.6							
PFO				LR		LR	01 27 24.4	
	comp=Z,4μm,20.1s,MS5.8,baz=270,slow=31							
C08A	Higginbotham F	91.83	42	⇑P		P	00 52 51.4	-1.4
	baz=92							
A08A	Turner Farm, O	91.86	41	P		P	00 52 51.9	-1.0
	baz=92,SNR=11							
Q09A	Carvers	91.92	51	⇑P		P	00 52 54.0	+0.6
	baz=92							
R09A	Tonopah	91.93	52	P		P	00 52 53.8	+0.3
	baz=92,SNR=22							
N09A	Rock Creek Ran	91.93	49	⇑P		P	00 52 53.6	+0.2
	baz=92,SNR=6.1							
L09A	Wilkinson Ranc	91.98	48	⇑P		P	00 52 53.6	0.0
	baz=92,SNR=8.5							
K09A	Rome	92.03	47	P		P	00 52 53.7	-0.1
	baz=92,SNR=13							
P09A	Austin	92.05	51	⇓P		P	00 52 54.4	+0.4
	baz=92							
M09A	Marrel Ranch,	92.06	49	⇑P		P	00 52 54.7	+0.7
	baz=92,SNR=6.8							
O09A	Fish Creek Ran	92.09	50	P		P	00 52 55.0	+0.8
	baz=92,SNR=11							
J09A	Fry Pan Ranch,	92.10	47	⇓P		P	00 52 53.9	-0.3
	baz=92,SNR=9.8							
I09A	Lost Marbles R	92.19	46	⇑P		P	00 52 53.8	-0.7
	baz=92							
D09A	Jones Farm, Ri	92.22	43	⇑P		P	00 52 54.1	-0.5
	baz=92,SNR=7.5							
E09A	Wood Farm, Sta	92.26	44	⇑P		P	00 52 54.0	-0.8
	baz=92							
S10A	Tonopah Range,	92.26	52	P		P	00 52 55.6	+0.6
	baz=92,SNR=20							
U10A	Ash Meadows, A	92.28	54	⇑P		P	00 52 55.6	+0.4
	baz=92,SNR=9.4							
F09A	S2 Ranch, Elgi	92.31	44	⇓P		P	00 52 54.0	-1.1
	baz=92							
A09A	Danville	92.31	41	⇑P		P	00 52 54.1	-0.9
	baz=92,SNR=8.6							
H09A	Durkee	92.34	45	⇓P		P	00 52 54.7	-0.5
	baz=92							
C09

BMO MLR MLR
comp=Z,3µm,20.0s,MS5.8
O10A Cortez Mining, 92.63 50 ⇑P **P 00 52 56.7 0.0**
baz=93,SNR=9.0
K10A MacKenzie Ranc 92.67 47 P **P 00 52 56.7 0.0**
baz=93,SNR=12
N10A Dunphy 92.68 49 ⇓P **P 00 52 57.0 +0.2**
baz=93
M10A I.L. Ranch, Tu 92.75 49 P **P 00 52 57.9 +0.7**
baz=93,SNR=9.0
G10A Bishop Farm, J 92.80 45 P **P 00 52 56.7 -0.7**
baz=93,SNR=14
F10A Beach Ranch, E 92.82 44 P **P 00 52 56.3 -1.0**
baz=93,SNR=19
J10A Berg Farm, Mel 92.82 47 ⇓P **P 00 52 56.7 -0.8**
baz=93
L10A Juniper Basin 92.87 48 P **P 00 52 57.7 0.0**
baz=93,SNR=24
I10A Payette 92.88 46 ⇑P **P 00 52 57.4 -0.3**
baz=93
S11A Rachel 92.89 53 ⇑P **P 00 52 58.3 +0.3**
baz=93
D10A Wagner Farm, O 92.92 43 ⇓P **P 00 52 57.0 -0.8**
baz=93,SNR=10
V11A Goodsprings 92.93 54 ⇑P **P 00 52 58.5 +0.3**
baz=93,SNR=5.3
E10A Myers Farm, Un 92.96 44 ⇓P **P 00 52 57.3 -0.7**
baz=93
H10A Noah's Angus R 92.98 46 P **P 00 52 57.7 -0.5**
baz=93,SNR=15
A10A Northport 92.98 41 ⇑P **P 00 52 57.2 -0.9**
baz=93
U11A Corn Creek 93.04 54 ⇑P **P 00 52 59.3 +0.7**
baz=93
R11A Troy Canyon, C 93.10 52 P **P 00 52 59.3 +0.4**
baz=93,SNR=15
Q11A Duckwater 93.11 51 P **P 00 52 59.6 +0.7**
baz=93,SNR=25
LDFC Landfair 93.11 55 *e*P **P 00 53 00.4 +1.5**
B10A Chitwood Farm, 93.11 42 ⇑P **P 00 52 57.4 -1.3**
baz=93
BRVK Borovoye 93.17 323 ⇑*i*P **P 00 52 57.6 -1.2**
BRVK Borovoye 93.17 323 P **P 00 52 57.9 -0.9**
SNR=42
BRVK Borovoye 93.17 323 P **P 00 52 57.9 -0.9**
SNR=42
NEW Newport 93.18 42 *e*P **P 00 52 58.0 -1.0**
comp=Z,20nm,1.1s,mb5.5
NEW LR LR
comp=Z,5µm,20.0s,MS5.9
O11A Cowboy Ranch, 93.25 50 P **P 00 53 00.3 +0.8**
baz=93,SNR=19
T11A Corn Creek, Al 93.26 53 P **P 00 53 00.5 +0.8**
baz=93,SNR=5.3
N11A Elko Archery C 93.27 49 ⇑P **P 00 52 60.0 +0.4**
baz=93
K11A Parker Ranch, 93.28 47 P **P 00 52 59.7 +0.1**
baz=93,SNR=14
M11A Holland Ranch, 93.30 49 P **P 00 53 00.7 +0.9**
baz=93,SNR=9.5
W12A Cal Nev Ari 93.33 55 ⇓P **P 00 53 00.6 +0.6**
baz=93
V12A Nelson 93.39 55 P **P 00 53 00.9 +0.7**
baz=94,SNR=9.8
G11A Walters Elk Ra 93.41 45 ⇓P **P 00 52 58.7 -1.5**
baz=94,SNR=15
Y12C Blythe 93.44 57 ⇓P **P 00 53 01.1 +0.6**
baz=94,SNR=5.9
MFID Camas Ranch 93.50 47 P **P 00 53 00.5 -0.1**
baz=94,SNR=8.9
H11A Donnelly 93.51 46 ⇑P **P 00 52 60.0 -0.6**
baz=94
F11A Grangeville 93.55 44 ⇑P **P 00 52 59.8 -1.0**
baz=94
E11A Bogner Ranch, 93.57 44 P **P 00 52 59.2 -1.6**
baz=94,SNR=16
S12A Delamar Landin 93.60 53 P **P 00 53 02.3 +1.1**
baz=94,SNR=5.9
ELK Elko 93.64 50 PFAKE 00 53 10.0 +8.7
ELK LR LR
comp=Z,67nm,22.0s
B11A Sandpoint 93.70 42 ⇑P **P 00 53 00.7 -0.7**
baz=94
U12A Valley of Fire 93.72 54 P **P 00 53 02.6 +0.8**
baz=94,SNR=7.5
P12A McGill 93.75 51 P **P 00 53 02.6 +0.8**
baz=94,SNR=23
A11A Hall Mountain, 93.76 41 P **P 00 53 01.5 -0.1**
baz=94,SNR=16
Q12A Willow Creek R 93.77 51 ⇑P **P 00 53 02.6 +0.7**
baz=94,SNR=19
N12A Clover Valley, 93.80 49 P **P 00 53 02.7 +0.7**
baz=94,SNR=18
R12A Pony Springs, 93.86 52 P **P 00 53 03.2 +0.9**
baz=94,SNR=10
M12A Wells 93.95 49 P **P 00 53 03.2 +0.5**
baz=94,SNR=10
L12A House Creek Ra 93.95 48 ⇓P **P 00 53 03.0 +0.3**
baz=94,SNR=7.6
O12A Currie 93.96 50 ⇑P **P 00 53 02.8 0.0**
baz=94,SNR=20
J12A Stokes Ranch, 94.01 47 P **P 00 53 03.0 0.0**
baz=94,SNR=19
Y13A Salome 94.02 57 ⇑P **P 00 53 03.9 +0.7**
baz=94,SNR=6.4
K12A Draper Farm, C 94.09 48 ⇓P **P 00 53 03.4 0.0**
baz=94
X13A Yucca 94.10 56 ⇓P **P 00 53 03.3 -0.3**
baz=94,SNR=7.1
W13A Hualapai Mount 94.11 55 ⇓P **P 00 53 03.8 +0.2**
baz=94,SNR=12
F12A Elk City 94.16 45 ⇓P **P 00 53 03.6 0.0**
baz=94
U13A Pakoon Wash 94.18 54 ⇓P **P 00 53 04.1 +0.3**
baz=94
B12A Libby 94.22 42 ⇓P **P 00 53 02.8 -0.9**
baz=94
A12A Yaak River Ran 94.22 41 ⇑P **P 00 53 02.8 -0.9**
baz=94
D12A Red Ives Fores 94.23 43 P **P 00 53 03.5 -0.4**
baz=94,SNR=13
T13A Saint George 94.28 53 ⇑P **P 00 53 04.7 +0.4**
baz=94,SNR=13
H12A Diamond D Ranc 94.32 46 ⇓P **P 00 53 03.8 -0.5**
baz=94
S13A Holt Ranch, En 94.38 53 ⇓P **P 00 53 05.4 +0.7**
baz=94,SNR=6.1
N13A Wendover, West 94.43 50 ⇑P **P 00 53 05.0 +0.1**
baz=94
P13A Bates Ranch, G 94.44 51 P **P 00 53 05.6 +0.6**
baz=94,SNR=11
M13A Montello 94.51 49 P **P 00 53 05.7 +0.4**
baz=95,SNR=13
O13A Hicks Ranch, I 94.53 50 ⇑P **P 00 53 06.1 +0.7**
baz=95,SNR=12
HLID Hailey 94.54 47 *e*P **P 00 53 04.9 -0.5**
comp=Z,28nm,1.6s,mb5.4
HLID *e*PP PP 00 56 53.2 -0.7
HLID LR LR
comp=Z,4µm,21.0s,MS5.8
K13A Stover Farm, H 94.69 48 ⇓P **P 00 53 06.2 +0.1**
baz=95
J13A Cove Ranch, Pi 94.70 47 ⇓P **P 00 53 06.4 +0.3**
baz=95
Z14A Wintersburg 94.71 57 ⇓P **P 00 53 07.1 +0.7**
baz=95
Y14A Wickenburg 94.72 57 ⇓P **P 00 53 06.3 -0.1**
baz=95
ARUT Antelope Range 94.73 53 *e*P **P 00 53 07.4 +1.0**
L13A Double Diamond 94.74 48 ⇑P **P 00 53 06.3 0.0**
baz=95
H13A Challis 94.75 46 ⇓P **P 00 53 06.5 +0.2**
baz=95,SNR=14
CCUT Cedar City 94.77 53 *e*P **P 00 53 07.7 +1.1**
CCUT *e*PP PP 00 56 55.5 -0.3
W14A Seligman 94.77 55 ⇑P **P 00 53 07.6 +1.0**
baz=95
I13A Wildhorse Cree 94.79 46 P **P 00 53 06.5 0.0**
baz=95,SNR=11
V14A Boquillas Ranc 94.79 55 ⇑P **P 00 53 07.3 +0.6**
baz=95,SNR=5.8
U14A Mt Trumbull 94.81 54 P **P 00 53 07.8 +1.0**
baz=95,SNR=17
F13A Darby 94.81 45 ⇓P **P 00 53 05.8 -0.8**
baz=95,SNR=19
G13A Cobalt 94.81 45 ⇑P **P 00 53 05.9 -0.7**
baz=95
C13A Hot Springs 94.82 43 ⇓P **P 00 53 05.7 -0.9**
baz=95
D13A Huson 94.84 43 ⇑P **P 00 53 07.0 +0.4**
baz=95
X14A Yava 94.86 56 ⇑P **P 00 53 07.3 +0.2**
baz=95
S14A Cedar City 94.94 53 ⇓P **P 00 53 08.1 +0.8**
baz=95
T14A Hurricane 94.94 53 P **P 00 53 08.0 +0.7**
baz=95,SNR=7.8
B13A Whitefish 94.95 42 ⇓P **P 00 53 06.0 -1.1**
baz=95,SNR=11
A13A Flathead Natio 95.04 41 ⇓P **P 00 53 06.9 -0.6**
baz=95
R14A James Farms, M 95.10 52 ⇑P **P 00 53 08.6 +0.5**
baz=95
M14A Sheep Mountain 95.13 49 P **P 00 53 08.2 0.0**
baz=95,SNR=14
MSO Missoula 95.17 44 PFAKE 00 53 20.0 +12
MSO LR LR
comp=Z,2µm,20.0s,MS5.6
N14A Grayback Hills 95.20 50 ⇑P **P 00 53 08.3 -0.2**
baz=95,SNR=9.0
115A Sonoran Desert 95.25 58 ⇑P **P 00 53 09.5 +0.6**
baz=95
Y15A Casa Rosa Ranc 95.27 57 ⇓P **P 00 53 09.3 +0.3**
baz=95
BGU Big Grassy Mou 95.32 50 *e*P **P 00 53 09.0 0.0**
BGU *e*PP PP 00 56 58.9 -1.1
K14A Jones Ranch, D 95.35 48 ⇓P **P 00 53 08.6 -0.5**
baz=95
G14A Jackson 95.37 45 ⇓P **P 00 53 08.4 -0.7**
baz=95
WALA Waterton Lakes 95.38 41 *e*P **P 00 53 09.0 -0.1**
comp=Z,18nm,1.1s,mb5.4
C14A Swan Lake 95.38 43 ⇑P **P 00 53 09.5 +0.4**
baz=95
X15A Humboldt 95.40 56 ⇑P **P 00 53 09.3 -0.2**
baz=96,SNR=6.5
DUG Dugway 95.43 50 *e*P **P 00 53 09.6 +0.1**
comp=Z,43nm,1.8s,mb5.6
DUG *e*PP PP 00 56 56.8 -4.0
DUG LR LR
comp=Z,3µm,22.0s,MS5.7
DUG Dugway 95.43 50 *e*P **P 00 53 09.6 +0.1**
DUG *e* 00 56 56.8
DUG pmax pmax
comp=Z,43nm,1.8s,mb5.6
DUG MLR MLR
comp=Z,3µm,22.0s,MS5.7
W15A Williams 95.44 55 ⇑P **P 00 53 10.4 +0.7**
baz=96
E14A Clinton 95.44 44 ⇑P **P 00 53 09.7 +0.3**
baz=96
T15A Red Dirt Ranch 95.50 53 ⇓P **P 00 53 10.8 +0.8**
baz=96
HVU Hansel Valley 95.58 49 *e*P **P 00 53 10.9 +0.7**
116A Eloy 95.68 58 ⇑P **P 00 53 11.5 +0.6**
baz=96
N15A Stansbury Isla 95.70 50 ⇑P **P 00 53 10.4 -0.3**
baz=96
MSU Marysvale 95.78 52 *e*P **P 00 53 12.2 +1.0**
MSU *e*pP pP 00 53 29.3 +1.9
SPUT South Promonto 95.79 49 *e*P **P 00 53 11.7 +0.5**
M15A Larsen Ranch, 95.81 49 P **P 00 53 11.1 -0.1**
baz=96,SNR=6.4
NLU North Lily Min 95.97 51 *e*P **P 00 53 13.0 +1.0**
Y16A Circle Bar Ran 95.98 57 ⇓P **P 00 53 12.7 +0.5**
baz=96
Z16A Peralta Trail, 95.98 57 ⇑P **P 00 53 12.8 +0.6**
baz=96
DLMT Dillon 95.99 45 *e*P **P 00 53 11.7 -0.2**
YKA Yellowknife Ar 96.00 28 P **P 00 53 10.9 -0.7**
comp=Z,17nm,0.8s,mb5.5,baz=266,slow=4.6,SNR=104
YKA PKiKP PKiKP 00 57 48.7 -1.4
comp=Z,0.9nm,0.7s,baz=254,slow=1.2,SNR=7.4
YKA PKKPbc PKKPbc 01 09 57.8 -4.3
comp=Z,6.7nm,0.6s,baz=80,slow=2.6,SNR=6.3
YKA PKPPKP 01 17 50.9
comp=Z,0.5nm,0.8s,baz=31,slow=2.6,SNR=5.4
YKA LR LR 01 34 38.3
comp=Z,1µm,19.2s,MS5.5,baz=225,slow=34
YKW3 Yellowknife Ar 96.00 28 *e*P **P 00 53 10.9 -0.7**
E15A Deer Lodge 96.03 44 ⇑P **P 00 53 11.9 -0.2**
baz=96,SNR=8.1
EDM Edmonton 96.04 37 *e*P **P 00 53 11.0 -0.9**
G15A Dillon 96.05 45 ⇓P **P 00 53 11.9 -0.4**
baz=96
X16A Lo Mia Camp, P 96.05 56 ⇓P **P 00 53 13.1 +0.6**
baz=96
F15A Butte 96.09 45 ⇑P **P 00 53 12.2 -0.2**
baz=96
LRM Limekiln Ridge 96.12 45 *e*P **P 00 53 13.3 +0.8**
D15A Lincoln 96.16 43 ⇑P **P 00 53 12.2 -0.4**
baz=96
WUAZ Wupatki 96.19 55 *e*P **P 00 53 14.3 +1.2**
comp=Z,5.8nm,0.9s,mb5.0
WUAZ LR LR
comp=Z,4µm,20.0s,MS5.8
MPU Maple Canyon 96.31 51 *e*P **P 00 53 14.6 +1.1**
MPU LR LR
comp=Z,3µm,22.0s,MS5.7
TUC Tucson 96.43 58 PFAKE 00 53 30.0 +16
TUC LR LR
comp=Z,3µm,20.0s,MS5.8
HWUT Hardware Ranch 96.48 49 *e*P **P 00 53 14.1 -0.1**
comp=Z,2.7nm,0.7s,mb4.8
HWUT LR LR
comp=Z,3µm,22.0s,MS5.7
JLU Jordanelle 96.50 50 *e*P **P 00 53 14.7 +0.4**
TMUT Trail Mountain 96.59 51 *e*P **P 00 53 15.8 +1.0**
DAU Daniels Canyon 96.63 50 *e*P **P 00 53 16.4 +1.4**
BOZ Bozeman (W) 96.68 45 *e*P **P 00 53 14.5 -0.6**
comp=Z,5.4nm,1.0s,mb4.9
BOZ *e*PP PP 00 57 10.2 -0.2
BOZ LR LR
comp=Z,3µm,20.0s,MS5.7
BOZ Bozeman (W) 96.68 45 *e*P **P 00 53 14.5 -0.6**
BOZ *e* 00 57 10.2
BOZ pmax pmax
comp=Z,5.0nm,1.0s,mb4.9
BOZ MLR MLR
comp=Z,3µm,20.0s,MS5.7
AHID Auburn Hatcher 96.89 48 PFAKE 00 53 30.0 +14
AHID LR LR
comp=Z,3µm,20.0s,MS5.8
TPAW Teton Pass 97.04 47 *e*P **P 00 53 17.1 +0.4**
IMW Indian Meadow 97.08 47 *e*P **P 00 53 17.4 +0.4**
YMR Madison River 97.10 46 *e*P **P 00 53 17.4 +0.5**
comp=Z,15nm,1.0s,mb5.4
YMR LR LR
comp=Z,7µm,22.0s,MS6.1
REDW Red Top Meadow 97.11 47 *e*P **P 00 53 17.1 0.0**
comp=Z,21nm,1.4s,mb5.4
SRU San Rafael 97.11 52 *e*P **P 00 53 18.0 +0.8**
YFT Old Faithful 97.18 46 *e*P **P 00 53 19.0 +1.6**
MOOW Moose Ponds 97.21 47 *e*P **P 00 53 17.4 -0.1**
YNR Norris Junctio 97.30 46 *e*P **P 00 53 21.5 +3.6**
LKWY Lake 97.50 46 PFAKE 00 53 30.0 +11
LKWY LR LR
comp=Z,5µm,21.0s,MS5.9
319A Douglas 97.64 59 ⇑P **P 00 53 20.4 +0.6**
baz=98
BW06 Boulder Array 98.03 48 *e*P **P 00 53 20.5 -0.7**
comp=Z,5.6nm,0.8s,mb5.2
BW06 LR LR
comp=Z,4µm,20.0s,MS5.9
PDAR Pinedale Array 98.03 48 P **P 00 53 20.3 -0.9**
comp=Z,4.3nm,0.8s,mb5.0,baz=254,slow=2.5,SNR=25
PDAR PKKPbc PKKPbc 01 09 49.2 -6.6
comp=Z,2.1nm,0.9s,baz=64,slow=3.7,SNR=5.1
PDAR PKPPKP 01 18 05.9
comp=Z,3.3nm,1.0s,baz=161,slow=3.8,SNR=11
PDAR LR LR 01 33 50.7
comp=Z,3µm,19.5s,MS5.8,baz=296,slow=33
EGMT Eagleton 98.08 43 *e*P **P 00 53 20.5 -0.8**
comp=Z,55nm,2.3s,mb5.7
EGMT LR LR
comp=Z,3µm,21.0s,MS5.8
RLMT Red Lodge 98.32 45 PFAKE 00 53 30.0 +7.5
RLMT LR LR
comp=Z,3µm,20.0s,MS5.8
NVL N'lazarevskaya 98.60 191 P **P 00 53 23.0 -0.3**
NVL pmax pmax
comp=N,5.0nm,1.0s
NVL pmax pmax
comp=E,3.0nm,1.0s
NVL pmax pmax
comp=Z,23nm,1.0s,mb5.7
NVL MLR MLR
comp=N,3µm,20.5s,MS6.0
NVL MLR MLR
comp=E,3µm,20.5s,MS6.0
NVL MLR MLR
comp=Z,7µm,20.5s,MS6.1
MVCO Mesa Verde 98.61 54 *e*P **P 00 53 25.3 +1.4**
MVCO LR LR
comp=Z,4µm,22.0s,MS5.8
MAIT Maitri 98.61 191 *e*P **P 00 53 22.3 -1.0**
SVE Sverdlovsk 98.95 326⇑ *e*P **P 00 53 22.9 -2.1**
SVE pmax pmax
comp=Z,58nm,1.6s,mb5.9
SVE MLR MLR
comp=Z,2µm,24.0s,MS5.4
AB31 Akbulak array 99.40 319⇑ *e*P **P 00 53 24.9 -2.3**
LAZ Ladron 99.60 56 *e*Pdif Pdif 00 53 29.9 +2.0
SNAA Sanae 100.08 187 *e*PKiKP Pdif 00 53 29.7 -0.4
SNAA *e* 00 53 34.0
SNAA *e* 00 53 37.4
SNAA *e* 00 53 44.3
SNAA *e* 00 53 49.3
SNAA *e* 00 53 55.7
SNAA *e* 00 54 00.7
SNAA *e* 00 54 06.0
SNAA *e* 00 54 10.4
SNAA Sanae 100.08 187 *e*PKiKP PKiKP 00 57 56.8 -0.4
SNAA *e* 00 57 59.5
SNAA *e* 00 58 05.1
SNAA *e* 00 58 07.3
SNAA *e* 00 58 10.1
SNAA Sanae 100.08 187 P Pdif 00 53 28.7 -1.4
comp=Z,3.9nm,0.7s,baz=185,slow=3.9,SNR=29
SNAA PKKPbc PKKPbc 01 09 47.2 -3.6
comp=Z,1.2nm,0.8s,baz=92,slow=3.6,SNR=5.8
ARU Arti 100.11 326⇑ *i*P Pdif 00 53 28.0 -2.2
ARU Arti 100.11 326*c i*P Pdif 00 53 27.9 -2.4
ARU *e* 00 57 33.6
ARU *e*S SKSac 01 04 02.0 -2.0
ARU *e*SP SP 01 06 25.1 -3.8
ARU *e*PS PS 01 06 34.2 -2.4
ARU *e*SS SS 01 12 09.5 +14
ARU *e*SSS 01 15 44.1
ARU pmax pmax
comp=Z,64nm,1.3s
ARU MLR MLR
comp=Z,1µm,19.0s,MS5.5
ANMO Albuquerque 100.18 56 PFAKE 00 53 40.0 +9.4
ANMO LR LR
comp=Z,2µm,22.0s,MS5.6
ANMO Albuquerque 100.18 56 *i* P Pdif 00 53 32.8 +2.2
LAO LASA Array 100.46 44 *e*Pdif Pdif 00 53 31.8 -0.1
comp=Z,16nm,1.0s
LAO LR LR
comp=Z,2µm,19.0s,MS5.7
AKTK Aktyubinsk 100.64 320 P Pdif 00 53 30.8 -1.8
AKTK PKKPbc PKKPbc 01 09 44.1 -4.7
AKTK P'P' 01 18 03.9
AKTO Aktyubinsk 100.64 320 P Pdif 00 53 30.8 -1.8
comp=Z,21nm,0.9s,baz=115,slow=5.0
AKTO PKKPbc PKKPbc 01 09 44.1 -4.7
comp=Z,3.6nm,0.6s,baz=191,slow=1.6,SNR=12
AKTO PKPPKP 01 18 03.9
comp=Z,5.0nm,1.0s,baz=267,slow=2.2,SNR=12
ISCO Idaho Springs 100.93 51 *e*Pdif Pdif 00 53 35.0 +1.1
comp=Z,5.5nm,1.3s
ISCO LR LR
comp=Z,2µm,20.0s,MS5.6
ISCO Idaho Springs 100.93 51 *e*P Pdif 00 53 35.0 +1.1
ISCO pmax pmax
comp=Z,6.0nm,1.3s
ISCO MLR MLR
comp=Z,2µm,20.0s,MS5.6
MNTX Cornudas Mount 100.98 59 PFAKE 00 53 50.0 +16
MNTX LR LR
comp=Z,6µm,21.0s,MS6.1
SDCO Great Sand Dun 101.01 53 *e*Pdif Pdif 00 53 35.1 +0.9
comp=Z,3.9nm,1.4s
SDCO LR LR
comp=Z,3µm,21.0s,MS5.8
VNA3 Neumayer Olymp 101.16 185 *e*PKiKP PKiKP 00 57 59.0 -0.2
VNA3 *e* 00 58 02.1
VNA3 *e* 00 58 08.2
VNA3 *e* 00 58 10.9
VNA3 *e* 00 58 14.0
VNA3 *e* 00 58 21.3
VNA2 Neumayer--Watz 101.27 185 *e*PKiKP PKiKP 00 57 59.5 +0.1
baz=211,slow=0.8
VNA2 *e* 00 58 02.3
VNA2 *e* 00 58 08.0
VNA2 *e* 00 58 10.3
VNA2 *e* 00 58 13.9
VNA2 *e* 00 58 20.5
VNA1 Neumayer--Stat 101.61 185 *e*PKiKP PKiKP 00 58 01.2 +1.2
VNA1 *e* 00 58 04.4
VNA1 *e* 00 58 10.6
VNA1 *e* 00 58 13.2
VNA1 *e* 00 58 16.4
VNA1 *e* 00 58 23.3
DGMT Dagmar 101.79 42 PFAKE 00 53 50.0 +12
DGMT LR LR
comp=Z,4µm,22.0s,MS5.9
RES Resolute Bay 101.87 15 *e*P Pdif 00 53 36.5 -1.6
RSSD Black Hills 102.06 47 PFAKE 00 53 50.0 +11
RSSD LR LR
comp=Z,5µm,21.0s,MS6.0
LTX Lajitas 102.40 62 Pdif Pdif 00 53 41.5 +1.0
LTX LR LR
comp=Z,70nm,20.0s
TXAR Lajitas Array 102.40 62 Pdiff Pdif 00 53 45.7 +5.3
baz=258,slow=4.5
FFC Flin Flon 102.73 36 PFAKE 00 53 50.0 +8.1
FFC LR LR
comp=Z,5µm,20.0s,MS6.0
WHFO Wadi Hawf 103.85 287 P Pdif 00 53 46.5 -0.4
SNR=5.2
WHFO Wadi Hawf 103.85 287 Pdiff Pdif 00 53 46.5 -0.4
SNR=5.2
AMTX Amarillo 104.10 56 PFAKE 00 54 00.0 +12
AMTX LR LR
comp=Z,2µm,20.0s,MS5.7
ABTO Aybut 104.27 286 P Pdif 00 53 48.3 -0.5
SNR=5.7
ABTO Aybut 104.27 286 Pdiff Pdif 00 53 48.3 -0.5
SNR=5.7
OPO Ambohidratompo 105.39 249 Pdiff Pdif 00 53 54.4 +0.7
comp=Z,10nm,1.0s,baz=127,slow=5.1,SNR=5.2
OPO PKiKP PKiKP 00 58 08.9 +0.6
comp=Z,22nm,0.9s,baz=258,slow=1.0,SNR=15
CBKS Cedar Bluff 105.52 52 PFAKE 00 58 20.0 +12
CBKS LR LR
comp=Z,3µm,20.0s,MS5.8
JCT Junction City 105.76 60 *e*PKiKP PKiKP 00 58 07.5 -1.2
JCT LR LR
comp=Z,3µm,19.0s,MS5.9
KBS Kingsbay 106.11 353 *e*P PP 00 58 20.2 -0.1
KBS LR LR
comp=Z,1µm,23.0s,MS5.3
KBS Kingsbay 106.11 353 *e*PP PP 00 58 18.2 -2.2
KBS AMS AMS 01 37 58.3
comp=Z,1µm,23.0s,MS5.3
WMOK Wichita Mounta 106.49 56 *e*PKiKP PKiKP 00 58 08.7 -1.2
WMOK LR LR
comp=Z,2µm,20.0s,MS5.8
ULM Lac du Bonnet 107.01 40 Pdif Pdif 00 53 59.5 -1.4
ULM PKPdf PKiKP 00 58 08.6 -1.8
ULM PKKPbc PKKPbc 01 09 27.0 -2.6
ULM PKKPab PKKPab 01 09 40.3 -2.7
ULM Lac du Bonnet 107.01 40 Pdiff Pdif 00 53 59.5 -1.4
comp=Z,3.1nm,1.0s,baz=259,slow=5.2,SNR=3.4
ULM PKiKP PKiKP 00 58 08.6 -1.8
comp=Z,3.5nm,0.7s,baz=245,slow=3.2,SNR=6.2
ULM PKKPbc PKKPbc 01 09 27.0 -2.6
comp=Z,2.8nm,0.5s,baz=96,slow=3.1,SNR=9.5
ULM PKKPab PKKPab 01 09 40.3 -2.7
comp=Z,7.9nm,0.9s,baz=45,slow=6.0,SNR=6.8
AGMN Agassiz Refuge 107.33 42 PFAKE 00 58 20.0 +9.0
AGMN LR LR
comp=Z,3µm,21.0s,MS5.8
ECSD EROS,Sioux Fal 107.43 47 *e*PKiKP PKiKP 00 58 09.9 -1.5
ECSD *e*PP PP 00 58 28.6 -2.6
ECSD LR LR
comp=Z,3µm,21.0s,MS5.8

KVTX **Kingsville 107.48 63** PFAKE 00 58 20.0 +8.0
KVTX LR LR
comp=Z,3μm,21.0s,MS5.8
KSU1 **Kansas State U 107.93 51** PFAKE 00 58 20.0 +7.5
KSU1 LR LR
comp=Z,2μm,21.0s,MS5.8
LVZ **Lovozero 108.11 340** PFAKE 00 58 20.0 +8.1
LVZ LR LR
comp=Z,1μm,21.0s,MS5.4
MAK **Makhachkala 108.45 313** *i* P Pdif 00 54 06.7 -0.6
MAK *i* 00 58 37.7
MAK *e*PPP 01 01 05.5
MAK *e* 01 04 45.5
MAK *e*SS SS 01 13 59.5 +9.2
MAK MLR MLR
comp=Z,2μm,24.0s,MS5.6
HKT **Hockley 109.21 61** PFAKE 00 58 30.0 +15
HKT LR LR
comp=Z,3μm,19.0s,MS5.9
QRN **Al-Qurain 109.33 298** *e*P PKiKP 00 58 15.0 -0.4
QRN AMb AMB 00 58 16.4
comp=Z,84nm,0.9s
UMR **Umm Al-Rimmam 109.47 299** *e*P PKiKP 00 58 14.4 -1.2
KEV **Kevo 109.53 343** PFAKE 00 58 30.0 +15
KEV LR LR
comp=Z,2μm,20.0s,MS5.6
RDF **Al-Radifah 109.65 298** *e*P PKiKP 00 58 14.9 -1.0
RDF AMb AMB 00 58 17.0
comp=Z,91nm,0.9s
ARCES **ARCESS Array B 110.08 343** Pdiff Pdif 00 54 14.0 -0.6
comp=Z,4.1nm,0.9s,baz=46,slow=5.2,SNR=5.6
ARCES PKiKP PKiKP 00 58 15.4 -0.2
comp=Z,3.9nm,0.5s,baz=78,slow=1.2,SNR=40
ARCES PKKPbc PKKPbc 01 09 14.1 -6.3
comp=Z,13nm,0.9s,baz=207,slow=0.8,SNR=16
ARCES PKKPab PKKPab 01 09 28.0 -1.0
comp=Z,7.3nm,0.8s,baz=259,slow=1.2,SNR=5.6
RST **Umm Al-Ruwaisa 110.10 299** *e*P PKiKP 00 58 15.8 -1.1
NATX **Nacogdoches 110.11 59** PFAKE 00 58 30.0 +13
NATX LR LR
comp=Z,6μm,20.0s,MS6.1
EYMN **Ely 110.27 41** PFAKE 00 58 30.0 +13
EYMN LR LR
comp=Z,3μm,20.0s,MS5.9
MIAR **Mount Ida 110.79 56** PFAKE 00 58 30.0 +12
MIAR LR LR
comp=Z,4μm,22.0s,MS5.9
JOF **Joensuu 111.68 336** *e*pkp PKiKP 00 58 15.7 -3.1
MOS **Moscow 111.71 328** *e* PKiKP 00 58 16.7 -2.3
MOS *i* 00 59 00.4
MOS MLR MLR
comp=Z,1μm,21.0s,MS5.5
KIV **Kislovodsk 111.75 314** *e*Pdif Pdif 00 54 21.6 -0.4
KIV LR LR
comp=Z,745nm,21.0s,MS5.2
KIV **Kislovodsk 111.75 314** *e*P Pdif 00 54 21.5 -0.5
KIV *i* 00 58 18.0
KIV *e* 00 59 01.1
KIV *e*PPP 01 01 23.4
KIV *e* 01 05 00.7
KIV *e*SS SS 01 14 39.3 +4.9
KIV pmax pmax
comp=Z,12nm,0.9s
KIV MLR MLR
comp=Z,998nm,22.0s,MS5.4
TRO **Tromso 111.78 345** *e*PP PP 00 58 59.5 -2.2
TRO *i* 01 08 25.1
TRO AMS AMS 01 45 00.6
comp=Z,1μm,22.7s,MS5.5
JFWS **Jewell Farm 112.15 47** PFAKE 00 58 30.0 +10
JFWS LR LR
comp=Z,3μm,20.0s,MS5.8
CCM **Cathedral Cave 112.23 52** *e*PKiKP PKiKP 00 58 18.9 -1.7
CCM LR LR
comp=Z,3μm,20.0s,MS5.9
COWI **Conover 112.25 43** PFAKE 00 58 30.0 +10
COWI LR LR
comp=Z,2μm,21.0s,MS5.7
VRSR **Storozhevoye 112.27 323** *e*PKIKP PKiKP 00 58 19.1 -1.1
VRSR pmax pmax
comp=Z,2.0nm,0.8s
VRSR pmax pmax
comp=N,2.0nm,0.9s
VRSR pmax pmax
comp=E,3.0nm,1.0s
OBN **Obninsk 112.49 327** *e*Pdif Pdif 00 54 24.3 -1.0
OBN *i* PKP PKiKP 00 58 20.2 -0.4
OBN *e*PP PP 00 59 07.1 -0.1
OBN LR LR
comp=Z,1μm,20.0s,MS5.5
OBN **Obninsk 112.49 327** ⇓ *i*PKIKP PKiKP 00 58 20.2 -0.4
OBN *i* 00 59 07.8
OBN pmax pmax
comp=Z,9.0nm,0.6s
OBN MLR MLR
comp=Z,1μm,20.0s,MS5.5
ARTV **Artvin 112.83 312** ⇑ *i*P PKiKP 00 58 21.6 0.0
FVM **French Village 112.88 52** *e*PKiKP PKiKP 00 58 19.8 -2.1
FVM *e*PP PP 00 59 06.3 -4.4
HDIL **Hopedale 113.30 49** PFAKE 00 58 30.0 +7.4
HDIL LR LR
comp=Z,2μm,19.0s,MS5.8
SOC **Sochi 113.93 315** *i* PKIKP PKiKP 00 58 21.7 -2.0
SOC *e* 00 59 16.0
SOC *e* 01 05 07.9
SOC *e*PS PS 01 08 53.2 -2.7
SOC *e*SS SS 01 15 07.9 +4.6
SOC *e*SSS 01 19 17.5
SOC pmax pmax
comp=Z,32nm,0.6s
SOC MLR MLR
comp=Z,1μm,22.0s,MS5.5
KAF **Kangasniemi 114.09 337** *e*pkp PKiKP 00 58 20.5 -2.9
ATD **Arta Tunnel 114.10 279** PKPdf PKiKP 00 58 26.0 +1.2
ATD **Arta Tunnel 114.10 279** PKiKP PKiKP 00 58 26.0 +1.2
comp=Z,32nm,0.9s,baz=107,slow=2.1,SNR=6.0
EFI **East Falkland 114.46 157** PFAKE 00 58 40.0 +16
EFI LR LR
comp=Z,3μm,19.0s,MS5.9
FINES **FINESS Array B 114.55 336** ⇑ *i*PKIKP PKiKP 00 58 23.5 -0.8
FINES **FINESS Array B 114.55 336** Pdiff Pdif 00 54 35.5 +1.1
comp=Z,1.5nm,0.8s,baz=50,slow=6.0,SNR=4.3
FINES PKP PKiKP 00 58 23.5 -0.8
comp=Z,14nm,0.7s,baz=101,slow=8.0,SNR=31
FINES PKKPbc PKKPbc 01 09 02.9 -2.5
comp=Z,16nm,0.8s,baz=132,slow=2.8,SNR=30
ANN **Anapa 115.21 316** *i* PKIKP PKiKP 00 58 21.8 -4.3
ANN *e* 00 59 24.5
ANN *e*PPP 01 01 56.0
ANN *e* 01 05 09.7
ANN pmax pmax
comp=Z,41nm,1.6s
ANN MLR MLR
comp=Z,984nm,23.0s,MS5.3
PLAL **Pickwick Lake 115.22 55** PFAKE 00 58 40.0 +14
PLAL LR LR
comp=Z,2μm,22.0s,MS5.7
WVT **Waverly 115.23 53** PFAKE 00 58 40.0 +14
WVT LR LR
comp=Z,3μm,19.0s,MS5.9
GLMI **Grayling 115.65 44** PFAKE 00 58 40.0 +13
GLMI LR LR
comp=Z,2μm,20.0s,MS5.8
PLCA **Paso Flores 115.91 142** PKP PKPdf 00 58 27.6 0.0
comp=Z,38nm,1.0s,baz=223,slow=2.6,SNR=41
PLCA PKKPbc PKKPbc 01 08 59.5 -0.5
comp=Z,16nm,0.8s,baz=54,slow=4.0,SNR=29
PLCA SKKP 01 12 54.5
comp=Z,8.0nm,1.0s,baz=84,slow=7.2,SNR=4.9
MALT **Malatya 116.04 309** P PKPdf 00 58 28.0 +0.1
MALT **Malatya 116.04 309** ⇑ *i*P PKPdf 00 58 27.9 0.0
ATAB **Bozova 116.32 308** ⇑ *i*P PKPdf 00 58 28.1 -0.4
LRAL **Lakeview Retre 116.41 57** *e*PKPdf PKPdf 00 58 27.0 -1.8
LRAL LR LR
comp=Z,5μm,21.0s,MS6.1
TEIG **Tepich 116.48 71** PFAKE 00 58 40.0 +11
TEIG LR LR
comp=Z,3μm,21.0s,MS5.8
BRAL **Brewton 116.66 59** PFAKE 00 58 40.0 +11
BRAL LR LR
comp=Z,3μm,22.0s,MS5.8
GZT **Gaziantep 116.91 308** ⇑ *i*P PKPdf 00 58 29.4 -0.2
AAM **Ann Arbor 117.02 46** PFAKE 00 58 40.0 +10
AAM LR LR
comp=Z,3μm,20.0s,MS5.9

NSS **Namsos 117.37 343** AMS AMS 01 45 28.4
comp=Z,2μm,25.0s,MS5.5
SIM **Simferopol' 117.42 317** *i* PKIKP PKPdf 00 58 30.0 -0.3
SIM *e*SS SS 01 15 48.0 -0.8
SIM pmax pmax
comp=Z,19nm,0.9s
TGUH **Tegucigalpa,Un 117.51 78** PFAKE 00 58 40.0 +8.7
TGUH LR LR
comp=Z,1μm,20.0s,MS5.5
SFJD **Kangerlussuaq 117.56 11** PKP PKPdf 00 58 27.9 -2.1
SFJD PKKPbc PKKPbc 01 08 52.4 -2.6
SFJD LR LR
comp=Z,3μm,22.0s,MS5.8
SFJD **Kangerlussuaq 117.56 11** PKP PKPdf 00 58 27.9 -2.1
comp=Z,8.1nm,0.8s,baz=351,slow=2.7,SNR=4.9
SFJD PKKPbc PKKPbc 01 08 52.4 -2.6
comp=Z,8.1nm,0.8s,baz=133,slow=6.5,SNR=4.6
ANDN **Andirin 117.81 309** ⇑ *i*P PKPdf 00 58 30.8 -0.5
BOYT **Boyabat 117.92 313** ⇑ *i*P PKPdf 00 58 30.5 -0.9
CPCT **Cooper Cave 118.00 54** *e*PKPdf PKPdf 00 58 29.8 -2.0
ACSO **Alum Creek Sta 118.07 48** PFAKE 00 58 40.0 +8.3
ACSO LR LR
comp=Z,3μm,19.0s,MS5.9
COBT **Iskenderun 118.11 308** ⇑ *i*P PKPdf 00 58 31.4 -0.5
CTKT **Corum 118.22 312** ⇑ *i*P PKPdf 00 58 31.6 -0.5
AKASG **Malin Array Be 118.32 325** Pdif Pdif 00 54 50.1 -1.1
AKASG PKP PKPdf 00 58 30.8 -1.1
AKASG PP PP 00 59 46.5 -1.7
AKASG PKKPbc PKKPbc 01 08 49.8 -2.0
AKASG SKKPbc 01 12 41.8
AKASG **Malin Array Be 118.32 325** PKIKP PKPdf 00 58 30.8 -1.1
AKASG 00 59 46.5
AKASG pmax pmax
comp=Z,57nm,0.7s
AKASG **Malin Array Be 118.32 325** Pdiff Pdif 00 54 50.1 -1.1
comp=Z,3.0nm,0.9s,baz=52,slow=4.6,SNR=9.7
AKASG PKP PKPdf 00 58 30.8 -1.1
comp=Z,57nm,0.7s,baz=65,slow=1.9,SNR=173
AKASG PP PP 00 59 46.5 -1.7
comp=Z,8.9nm,0.9s,baz=56,slow=6.5,SNR=9.7
AKASG PKKPbc PKKPbc 01 08 49.8 -2.0
comp=Z,18nm,0.8s,baz=252,slow=4.1,SNR=58
AKASG SKKPbc 01 12 41.8
comp=Z,0.2nm,0.3s,baz=248,slow=3.5,SNR=4.8
AKBB **Malin Array Si 118.32 325** *e*PKPdf PKPdf 00 58 30.5 -1.4
AKBB *e*PP PP 00 59 46.8 -1.5
KIEV **Kiev 118.33 325** *e*PKPdf PKPdf 00 58 30.8 -1.1
KIEV *e*PP PP 00 59 46.9 -1.4
KIEV LR LR
comp=Z,2μm,21.0s,MS5.6
KMBO **Kilima Mbogo 118.42 265** ⇑ *i*PKIKP PKPdf 00 58 33.4 +0.2
KMBO **Kilima Mbogo 118.42 265** PKPdf PKPdf 00 58 33.6 +0.4
SNR=12
KMBO **Kilima Mbogo 118.42 265** PKP PKPdf 00 58 33.4 +0.1
comp=Z,27nm,0.9s,baz=74,slow=2.8,SNR=80
ASF **Jabal al Asfar 118.44 303** PKP PKPdf 00 58 32.5 -0.2
comp=Z,20nm,1.0s,baz=338,slow=1.0,SNR=9.9
ASF PKKPab PKKPab 01 08 54.3 +1.5
comp=Z,2.8nm,0.8s,baz=99,slow=2.9,SNR=4.5
TZTN **Tazewell 118.53 52** PFAKE 00 58 40.0 +7.2
TZTN LR LR
comp=Z,4μm,22.0s,MS6.0
AVNT **Avonos 118.66 310** ⇑ *i*P PKPdf 00 58 32.0 -0.9
CDAG **Cicekdag 118.80 311** ⇑ *i*P PKPdf 00 58 31.2 -2.0
BALT **Daday 118.98 314** ⇑ *i*P PKPdf 00 58 32.9 -0.5
BHL **Bhannes 119.14 305** *e*P PKPdf 00 58 33.6 -0.4
ELDT **Eldivan 119.26 313** ⇓ *i*P PKPdf 00 58 31.9 -2.1
GOGA **Godfrey 119.26 56** *e*PKPdf PKPdf 00 58 32.6 -1.6
GOGA LR LR
comp=Z,4μm,21.0s,MS6.0
SADO **Sadowa 119.37 42** PKKPbc PKKPbc 01 08 45.5 -2.3
baz=117,slow=4.5
MMAI **Mount Meron Ar 119.52 304** PKP PKPdf 00 58 33.9 -0.8
comp=Z,35nm,0.9s,baz=64,slow=3.4,SNR=17
MMAI PP PP 00 59 58.1 +0.8
comp=Z,16nm,1.1s,baz=32,slow=8.5,SNR=4.1
ERPA **Erie 119.68 45** PFAKE 00 58 50.0 +15
ERPA LR LR
comp=Z,3μm,22.0s,MS5.9
ANTO **Ankara 119.90 312** P PKPdf 00 58 35.0 -0.3
ANTO **Ankara 119.90 312** PKPdf PKPdf 00 58 35.1 -0.2
SNR=29
ANTO **Ankara 119.90 312** ⇑ *i*P PKPdf 00 58 34.8 -0.5
SUW **Suwalki 119.93 330** *e*PKP PKPdf 00 58 33.7 -1.2
SUW *e*PKiKP PKiKP 00 58 34.7 -0.3
SUW *e*PP PP 00 59 58.4 -0.8
SUW *e*SKSac SKSac 01 05 29.0 +2.2
SUW *e*SKSdf SKSdf 01 05 45.8 +3.8
SUW *e*SS SS 01 16 24.9 +4.5
SUW LMZ 01 48 52.5
comp=Z,2μm,24.4s
SUW **Suwalki 119.93 330** *e*PKP PKPdf 00 58 33.7 -1.2
SUW *e*PKPdf PKPdf 00 58 34.7 -0.2
SUW *e*PP PP 00 59 58.3 -0.9
SUW *e*SKSac SKSac 01 05 29.0 +2.2
SUW *e*SKSdf SKSdf 01 05 45.8 +3.7
SUW **Suwalki 119.93 330** *i* PKIKP PKPdf 00 58 34.7 -0.2
SUW *e* 00 59 58.3
SUW *e* 01 05 29.0
SUW *e* 01 05 45.8
HFS **Hagfors 120.07 339** PKP PKPdf 00 58 32.8 -2.1
comp=Z,13nm,0.7s,baz=129,slow=2.0,SNR=12
HFS PKKPab PKKPab 01 08 40.4 -4.6
comp=Z,8.0nm,0.7s,baz=144,slow=5.2,SNR=25
KIS **Kishinev 120.12 321** *e*PKIKP PKPdf 00 58 33.0 -2.5
KIS *e* 01 00 10.0
KIS **Kishinev 120.12 321** *e*PKP PKPdf 00 58 33.0 -2.5
KIS LRM 01 54 20.0
comp=Z,1μm,20.0s
NB2 **NORSAR Subarra 120.23 341** PKPdf PKPdf 00 58 33.6 -1.7
comp=Z,7.2nm,0.8s,baz=39,slow=1.9
NB2 **NORSAR Subarra 120.23 341** PKPdf PKPdf 00 58 33.6 -1.7
baz=39,slow=1.9
NOA **NORSAR Array B 120.23 341** PKP PKPdf 00 58 34.0 -1.2
comp=Z,15nm,0.8s,baz=46,slow=2.0,SNR=42
NOA PP PP 01 00 07.5 +6.6
comp=Z,2.5nm,0.8s,baz=54,slow=6.7,SNR=3.4
NOA PKKPbc PKKPbc 01 08 43.0 -2.1
comp=Z,16nm,0.9s,baz=42,slow=3.6,SNR=36
NAO01 **NORSAR Array S 120.49 341** *e*PKPdf PKPdf 00 58 35.0 -0.8
NAO01 *e*PP PP 01 00 02.0 -0.6
NAO01 LR LR
comp=Z,2μm,20.0s,MS5.8
EIL **Elat 120.51 300** PKP PKPdf 00 58 36.2 -0.6
comp=Z,57nm,0.9s,baz=354,slow=3.0,SNR=19
EIL PP PP 01 00 04.2 -0.1
comp=Z,23nm,1.1s,baz=77,slow=5.1,SNR=6.2
EIL PKKPbc PKKPbc 01 08 43.5 +0.3
comp=Z,4.3nm,0.7s,baz=354,slow=9.1,SNR=6.2
MCWV **Mont Chateau 120.54 48** PFAKE 00 58 50.0 +13
MCWV LR LR
comp=Z,4μm,21.0s,MS6.1
ELN **Prospectdale 120.54 51** *e*PKPdf PKPdf 00 58 34.9 -1.7
ELN *e*PP PP 01 00 00.9 -3.3
BOSA **Boshof 120.74 231** PKIKP PKPdf 00 58 37.1 -0.2
BOSA pmax pmax
comp=Z,41nm,0.7s
BOSA **Boshof 120.74 231** PKP PKPdf 00 58 37.0 -0.2
comp=Z,40nm,0.7s,baz=126,slow=2.1,SNR=90
CSS **Prodhromos 120.78 306** P PKPdf 00 58 35.2 -1.9
CSS **Prodhromos 120.78 306** *e*PKPdf PKPdf 00 58 36.6 -0.5
CSS *e*PP PP 01 00 05.7 -0.2
CSS **Prodhromos 120.78 306** *e*P PKPdf 00 58 36.2 -0.9
KDHN **Kadinhani 120.79 311** ⇑ *i*P PKPdf 00 58 35.8 -1.3
BLA **Blacksburg 120.80 51** *e*PKPdf PKPdf 00 58 35.8 -1.3
BLA *e*PP PP 01 00 03.9 -2.0
BLA LR LR
comp=Z,4μm,22.0s,MS6.0
IAS **Iasi 120.82 322** P PKPdf 00 58 36.3 -0.5
MAMC **Mammari 120.82 307** P PKPdf 00 58 36.2 -1.0
LHS **Liberty Hill 121.19 54** *e*PKIKP PKPdf 00 58 37.4 -0.5
SZAC **Souni-Zanaja 121.19 306** ⇓ P PKPdf 00 58 37.1 -0.8
CFR **Carcaliu 121.29 319** P PKPdf 00 58 39.1 +1.3
ALFC **Alevga 121.32 307** P PKPdf 00 58 37.2 -1.0
comp=Z,0.6nm,0.8s
TIRR **Tirgusor 121.40 318** P PKPdf 00 58 37.6 -0.4
TIRR **Tirgusor 121.40 318** ⇑ *i*P PKPdf 00 58 37.4 -0.6
ESKT **Eskisehir 121.44 312** *i* P PKPdf 00 58 37.3 -0.9
SCHQ **Schefferville 121.45 28** PKP PKPdf 00 58 36.5 -1.3
SCHQ PKKPbc PKKPbc 01 08 37.7 -2.6
SCHQ LR LR
comp=Z,4μm,20.0s,MS6.0
SCHQ **Schefferville 121.45 28** PKP PKPdf 00 58 36.5 -1.3
comp=Z,6.4nm,0.7s,baz=358,slow=2.0,SNR=13

SCHQ PKKPbc PKKPbc 01 08 37.7 -2.6
comp=Z,19nm,0.8s,baz=123,slow=4.0,SNR=22
COW **Cow Castle Cre 121.53 55** *e*PKPdf PKPdf 00 58 37.9 -0.7
PPCY **Paphos 121.59 307** P PKPdf 00 58 37.0 -1.7
BORA **Eskisehir 121.61 313** ⇑ *i*P PKPdf 00 58 37.8 -0.8
HARR **Harsova 121.62 319** P PKPdf 00 58 38.2 -0.2
SSPA **Standing Stone 121.66 46** *e*PKPdf PKPdf 00 58 37.1 -1.5
SSPA LR LR
comp=Z,2μm,19.0s,MS5.9
LVV **L'vov 121.68 326** *i* PKIKP PKPdf 00 58 37.9 -0.5
LVV MLR MLR
comp=N,1μm,22.0s,MS5.5
LVV MLR MLR
comp=E,600nm,22.0s,MS5.5
LVV MLR MLR
comp=Z,1μm,22.0s,MS5.5
KONO **Kongsberg 121.81 341** ⇓ *e*PKP PKPdf 00 58 37.7 -0.6
KONO LR LR
comp=Z,2μm,22.0s,MS5.7
KONO **Kongsberg 121.81 341** *e*PP PP 01 00 09.8 -1.8
KONO AMS AMS 01 51 22.4
comp=Z,2μm,23.0s,MS5.6
KONO **Kongsberg 121.81 341** ⇓ *i*PKIKP PKPdf 00 58 37.7 -0.6
VRI **Vrincioaia 121.91 320** P PKPdf 00 58 38.3 -0.6
VRI **Vrincioaia 121.91 320** ⇑ *i*P PKPdf 00 58 38.1 -0.8
DWPF **Disney 121.94 61** PFAKE 00 58 50.0 +10
DWPF LR LR
comp=Z,2μm,20.0s,MS5.8
PLOR **Plostina 121.96 320** PKIKP PKPdf 00 58 38.4 -0.7
WAR **Warsaw 122.00 329** *e*PKP PKPdf 00 58 38.8 -0.1
WAR *e*PKiKP PKiKP 00 58 40.1 +1.0
WAR LMZ 01 50 42.6
comp=Z,2μm,24.4s
WAR **Warsaw 122.00 329** *e*PKP PKPdf 00 58 38.8 -0.1
WAR *e*PKPdf PKPdf 00 58 40.1 +1.2
WAR LR LR
comp=Z,2μm,24.4s,MS5.6
NHSC **New Hope 122.02 55** PFAKE 00 58 50.0 +10
NHSC LR LR
comp=Z,3μm,22.0s,MS5.9
SUR **Sutherland 122.02 225** PKPdf PKPdf 00 58 41.1 +1.5
SNR=8.0
SUR **Sutherland 122.02 225** PKP PKPdf 00 58 39.5 -0.1
comp=Z,49nm,0.6s,baz=98,slow=2.6,SNR=55
MSNY **Massena 122.08 41** *e*PKPdf PKPdf 00 58 38.2 -1.1
LBTB **Lobatse 122.16 235** PKIKP PKPdf 00 58 39.8 -0.3
LBTB pmax pmax
comp=Z,106nm,0.8s
LBTB **Lobatse 122.16 235** PKP PKPdf 00 58 39.8 -0.3
comp=Z,106nm,0.8s,baz=148,slow=2.6,SNR=168
ISP **Isparta 122.20 310** *e*PKPdf PKPdf 00 58 38.3 -1.4
ISP *e*PP PP 01 00 14.1 -1.3
ISP **Isparta 122.20 310** *e*P PKPdf 00 58 37.4 -2.4
ISP **Isparta 122.20 310** PKIKP PKPdf 00 58 38.4 -1.4
ISP **Isparta 122.20 310** ⇑ *i*P PKPdf 00 58 37.8 -2.0
LCO **Las Campanas 122.36 131** *e*PKPdf PKPdf 00 58 40.1 -0.2
LCO LR LR
comp=Z,689nm,21.0s,MS5.3
LONY **Lake Ozonia 122.42 41** *e*PKPdf PKPdf 00 58 38.2 -1.7
LONY LR LR
comp=Z,6μm,22.0s,MS6.2
BINY **Binghamton 122.44 44** PFAKE 00 58 50.0 +10
BINY LR LR
comp=Z,3μm,21.0s,MS5.9
BORG **Borgarnes 122.51 359** PFAKE 00 58 50.0 +10
BORG LR LR
comp=Z,2μm,19.0s,MS5.7
KWP **Kalwaria 122.51 326** *e*PKP PKPdf 00 58 39.8 -0.2
KWP *e*PKiKP PKiKP 00 58 40.7 +0.5
KWP LMZ 01 50 41.1
comp=Z,2μm,23.3s
KWP **Kalwaria 122.51 326** *e*Pdif Pdif 00 55 09.9 0.0
KWP *e*PKPdf PKPdf 00 58 39.6 -0.3
KWP *e*PKP PKPdf 00 58 39.8 -0.2
KWP *e*PKPdf PKPdf 00 58 40.7 +0.7
KWP *e*PP PP 01 00 15.1 -1.8
KWP **Kalwaria 122.51 326** *e*P Pdif 00 55 09.9 0.0
KWP *e* 00 58 39.6
KWP *e* 01 00 15.1
KWP **Kalwaria 122.51 326** ⇑ *i*P PKPdf 00 58 39.7 -0.3
BER **Bergen 122.54 343** *e*PP PP 01 00 17.5 +1.0
BER AMS AMS 01 48 35.1
comp=Z,1μm,22.6s,MS5.5
MLR **Muntele Rosu 122.56 320** P PKPdf 00 58 39.9 -0.3
MLR **Muntele Rosu 122.56 320** PKIKP PKPdf 00 58 39.5 -0.7
MLR pmax pmax
comp=Z,37nm,0.9s
MLR pmax pmax
comp=Z,20nm,0.9s
MLR **Muntele Rosu 122.56 320** PKP PKPdf 00 58 39.5 -0.7
comp=Z,37nm,0.9s,baz=2.6,slow=2.4,SNR=46
MLR PKKPbc PKKPbc 01 08 34.6 -1.2
comp=Z,20nm,0.9s,baz=3.0,slow=3.0,SNR=34
MLR **Muntele Rosu 122.56 320** ⇑ *i*P PKPdf 00 58 39.5 -0.7
GDZ **Gediz 122.58 312** ⇓ *i*P PKPdf 00 58 38.4 -2.1
TRQA **Tornquist 122.71 145** *e*PKPdf PKPdf 00 58 39.9 -0.9
TRQA *e*PP PP 01 00 15.7 -2.5
TRQA LR LR
comp=Z,1μm,19.0s,MS5.5
CFAA **Coronel Fontan 122.75 135** PKP PKPdf 00 58 40.0 -1.0
CFAA PP PP 01 00 14.4 -4.4
CFAA PKKPbc PKKPbc 01 08 33.5 -1.3
CFAA **Coronel Fontan 122.75 135** PKP PKPdf 00 58 40.0 -1.0
comp=Z,11nm,0.9s,baz=250,slow=2.9,SNR=115
CFAA PP PP 01 00 14.4 -4.4
comp=Z,2.2nm,1.2s,baz=234,slow=6.6,SNR=7.7
CFAA PKKPbc PKKPbc 01 08 33.5 -1.3
comp=Z,0.6nm,0.6s,baz=34,slow=4.4,SNR=8.8
CBN **Corbin 122.82 49** PFAKE 00 58 50.0 +9.1
CBN LR LR
comp=Z,2μm,21.0s,MS5.8
URVA **University of 122.90 50** *e*PKPdf PKPdf 00 58 39.7 -1.5
NCB **Newcomb 122.93 41** *e*PKPdf PKPdf 00 58 39.9 -1.0
NCB LR LR
comp=Z,5μm,22.0s,MS6.2
FRNY **Flat Rock 122.97 40** *e*PKPdf PKPdf 00 58 39.4 -1.7
FRNY *e*PP PP 01 00 17.9 -2.4
MVL **Millersville 122.98 47** *e*PKPdf PKPdf 00 58 39.8 -1.4
MVL *e*PP PP 01 00 16.4 -4.1
BSD **Bornholm Skovb 123.08 335** *i* PKIKP PKPdf 00 58 39.2 -1.7
BSD pmax pmax
comp=Z,49nm,0.8s
BSD MLR MLR
comp=Z,1μm,22.0s,MS5.5
BSD **Bornholm Skovb 123.08 335** *i* P PKPdf 00 58 39.2 -1.7
comp=Z,49nm,0.8s
BSD *i* 01 00 14.1
BSD
comp=Z,1μm,22.0s
KOLS **Kolonicke sedl 123.12 325** *i* PKP PKPdf 00 58 41.3 +0.1
VOIR **123.15 321** P PKPdf 00 58 41.0 -0.3
VOIR **123.15 321** ⇑ *i*P PKPdf 00 58 40.3 -1.1
GKP **Gorka Klasztor 123.24 332** *e*PKP PKPdf 00 58 41.0 -0.2
GKP *e*PP PP 01 00 22.8 +1.2
GKP *e*SKSac SKSac 01 05 36.0 -2.0
GKP *e*SKS SKSdf 01 05 38.4 -10
GKP *e*SKSdf SKSdf 01 05 50.9 +2.6
GKP LMZ 01 53 17.5
comp=Z,2μm,23.5s
GKP **Gorka Klasztor 123.24 332** *e*PKP PKPdf 00 58 41.0 -0.3
GKP *e*PP PP 01 00 22.8 +1.2
GKP *e*SKSac SKSac 01 05 36.0 -2.0
GKP *e*SKS SKSdf 01 05 38.4 -10
GKP *e*SKSdf SKSdf 01 05 50.9 +2.5
GKP **Gorka Klasztor 123.24 332** *e*PKIKP PKPdf 00 58 41.0 -0.3
GKP *e* 01 00 22.8
GKP *e* 01 05 38.4
GKP *e* 01 05 50.9
MTUR **Matau 123.24 320** ⇑ *i*P PKPdf 00 58 41.2 -0.3
UZH **Uzhgorod 123.27 325** ⇓ *i*PKIKP PKPdf 00 58 40.0 -1.5
UZH *i* 00 58 47.2
UZH *e* 00 58 54.0
UZH *e* 01 00 19.0
UZH *e* 01 10 10.0
CNNC **Cliffs of the 123.31 52** *e*PKPdf PKPdf 00 58 40.5 -1.4
CNNC LR LR
comp=Z,4μm,22.0s,MS6.0
AKAS **Kas 123.37 309** ⇑ *i*P PKPdf 00 58 40.4 -1.6
TRPA **Tarpa 123.38 324** ⇑ *i*P PKPdf 00 58 41.0 -0.7
BTOK **Tokmak 123.41 313** ⇑ *e*P PKPdf 00 58 40.6 -1.4
JMB **Yambol 123.41 317** *e*P PKPdf 00 58 41.0 -1.0
STHS **Stebnicka Huta 123.44 326** *i* PKP PKPdf 00 58 42.3 +0.5
CRVS **Cervenica-Dubn 123.59 326** *i* PKP PKPdf 00 58 42.0 -0.1

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SART Tekirdag      123.68 315⇑i P     PKPdf  00 58 41.2 -1.3
COP  Copenhagen    123.71 336⇑i PKIKP PKPdf  00 58 41.9 -0.2
COP                           i              01 00 22.5
COP                            pmax   pmax
     comp=Z,44nm,0.9s
COP  Copenhagen    123.71 336⇑i P     PKPdf  00 58 41.9 -0.2
     comp=Z,44nm,0.9s
COP                           i              01 00 22.5
COP                           eS     Sdif   01 08 51.2 +34
ZIMR               123.73 319  P     PKPdf  00 58 42.1 -0.4
ZIMR               123.73 319⇓i P     PKPdf  00 58 42.3 -0.2
LSZ  Lusaka        123.75 246  PKIKP PKPdf  00 58 43.5 +0.2
LSZ                            pmax   pmax
     comp=Z,110nm,1.0s
LSZ  Lusaka        123.75 246  PKP   PKPdf  00 58 43.5 +0.1
     comp=Z,110nm,1.0s,baz=102,slow=1.5,SNR=117
OJC  Ojcow         123.78 328  ePKPdf PKPdf  00 58 41.9 -0.5
OJC                           ePP    PP     01 00 24.5 -0.8
OJC                           eSKKSac SKKSac 01 07 20.8 +1.4
OJC                            L              01 54 54.6
     comp=Z,1.9nm,22.8s
OJC  Ojcow         123.78 328  ePKIKP PKPdf  00 58 41.9 -0.5
OJC                           e              01 00 24.5
OJC                            MLR    MLR
     comp=Z,2μm,22.8s,MS5.7
AKHS Akhisar       123.87 312⇑i P     PKPdf  00 58 41.8 -1.2
NIE  Niedzica      123.95 327  i PKPdf PKPdf  00 58 43.1 +0.4
DRGR               123.95 323  P     PKPdf  00 58 42.6 -0.2
DRGR               123.95 323⇑i P     PKPdf  00 58 42.3 -0.5
NNA  Nana          124.03 110  PKP   PKPdf  00 58 44.0  0.0
NNA  Nana          124.03 110  PKP   PKPdf  00 58 44.0  0.0
     comp=Z,44nm,0.9s,baz=279,slow=3.4,SNR=13
LBNH Lisbon        124.30  40  PFAKE         00 58 50.0 +6.4
LBNH                           LR     LR
     comp=Z,8μm,22.0s,MS6.3
PAL  Palisades     124.34  45  ePKPdf PKPdf  00 58 42.7 -1.1
PAL  Palisades     124.34  45  PKIKP PKPdf  00 58 42.9 -0.9
KECS Kecovo        124.36 326  i PKP  PKPdf  00 58 43.2 -0.4
MUD  Monsted U'grnd 124.39 338 i PKIKP PKPdf  00 58 42.7 -0.7
MUD                           i              01 00 27.7
MUD                            pmax   pmax
     comp=Z,34nm,0.9s
MUD  Monsted U'grnd 124.39 338 i P    PKPdf  00 58 42.7 -0.7
     comp=Z,34nm,0.9s
MUD                           i              01 00 27.7
ALN  Alexandroupoli 124.40 315 ePKP   PKPdf  00 58 42.0 -1.9
KDAG Bornova       124.44 312⇑i P     PKPdf  00 58 42.6 -1.5
LRW  Lerwick       124.44 346  ePKP   PKPdf  00 58 42.8 -0.6
LRW                            AMb    AMB    00 58 43.8
     comp=Z,118nm,1.6s
ARG  Arkhangelos   124.52 309  ePKP   PKPdf  00 58 44.0 -0.3
AYVA Ayvalik       124.54 313⇑i P     PKPdf  00 58 43.0 -1.2
GZR  Gura Zlata    124.59 321  P     PKPdf  00 58 43.8 -0.4
GZR  Gura Zlata    124.59 321⇑i P     PKPdf  00 58 43.4 -0.7
RDO  Rodhopi       124.65 316  ePKP   PKPdf  00 58 43.1 -1.3
RAC  Raciborz      124.70 328  ePKPdf PKPdf  00 58 44.3 +0.1
RAC                            LR     LR
     comp=Z,2μm,21.9s,MS5.6
BDRM Kayabasi      124.76 310⇑i P     PKPdf  00 58 43.5 -1.3
PLD  Plovdiv       124.83 317  ePKP   PKPdf  00 58 43.4 -1.3
PRK  Paraskevi     124.86 313  ePKP   PKPdf  00 58 43.0 -1.8
OKC  Ostrava-Krasne 124.87 328 ePKPdf PKPdf  00 58 44.3 -0.2
OKC                            AMS    AMS    01 55 50.0
     comp=Z,1μm,16.8s,MS5.6
URLA Izmir         124.95 312⇑i P     PKPdf  00 58 43.9 -1.2
PSZ  Piszkesteto   125.00 325  P     PKPdf  00 58 44.6 -0.2
PSZ  Piszkesteto   125.00 325⇑i P     PKPdf  00 58 44.3 -0.5
PSZ  Piszkesteto   125.00 325⇑ePKP   PKPdf  00 58 44.5 -0.3
BZS  Buzias        125.19 322  P     PKPdf  00 58 45.0 -0.3
BZS  Buzias        125.19 322⇑i P     PKPdf  00 58 44.5 -0.8
KSP  Ksiaz         125.21 330  ePKP   PKPdf  00 58 45.1  0.0
KSP                           ePP    PP     01 00 35.0 +0.2
KSP                           eSKS   SKSdf  01 05 50.2 -2.0
KSP                            LMZ           01 53 44.2
     comp=Z,3μm,23.3s
KSP  Ksiaz         125.21 330⇑ePKP   PKPdf  00 58 44.9 -0.2
KSP                           ePP    PP     01 00 33.0 -1.8
KSP                           eSKS   SKSdf  01 05 43.0 -9.2
KSP                           eSP    SP     01 10 19.0 -10
KSP                           eSS    SS     01 17 24.0 -3.4
KSP                            LR     LR
     comp=Z,5μm,21.7s,MS6.1
KSP  Ksiaz         125.21 330⇑ePKIKP PKPdf  00 58 44.9 -0.2
KSP                           e              01 00 33.0
KSP                           e              01 05 43.0
KSP                           eSS    SS     01 17 24.0 -3.4
MORC Moravsky Berou 125.22 328 ePKPdf PKPdf  00 58 45.1 -0.1
MORC Moravsky Berou 125.22 328⇑i P     PKPdf  00 58 45.1 -0.1
VYHS Vyhne         125.27 326  i PKP  PKPdf  00 58 44.8 -0.5
HRV  Adam Dziewonsk 125.31  42 PFAKE         00 59 00.0 +14
HRV                            LR     LR
     comp=Z,4μm,22.0s,MS6.1
CHOS Chios island  125.33 312  ePKP   PKPdf  00 58 44.5 -1.2
RUE  Ruedersdorf   125.35 333  ePKPdf PKPdf  00 58 44.6 -0.7
RUE  Ruedersdorf   125.35 333  ePKPdf PKPdf  00 58 45.3  0.0
KOLL Kolacno       125.46 327  i PKP  PKPdf  00 58 45.5 -0.2
PKME Peaks-Kenny Pk 125.47  38 ePKPdf PKPdf  00 58 45.0 -0.8
PKME                           LR     LR
     comp=Z,7μm,20.0s,MS6.3
KARP Karpathos     125.47 309  ePKP   PKPdf  00 58 45.5 -0.6
DPC  Dobruska-Polom 125.50 329 ePKPdf PKPdf  00 58 45.6 -0.1
DPC                           ePP    PP     01 00 30.3 -6.5
DPC                            AMS    AMS    01 53 20.0
     comp=Z,2μm,23.0s,MS5.7
WES  Weston        125.53  42 PFAKE         00 59 00.0 +14
WES                            LR     LR
     comp=Z,3μm,22.0s,MS5.9
UPC  Upice         125.56 330  ePKP   PKPdf  00 58 45.8  0.0
UPC                           ePP    Sdif   01 08 24.0 -9.0
VTS  Vitosha       125.61 318  ePKP   PKPdf  00 58 45.5 -0.7
VTS  Vitosha       125.61 318  PKIKP PKPdf  00 58 45.9 -0.3
VTS  Vitosha       125.61 318⇓i P     PKPdf  00 58 45.8 -0.4
NVR  Nevrokopi     125.72 317  ePKP   PKPdf  00 58 45.0 -1.4
BUD  Budapest      125.73 325⇑ePKP   PKPdf  00 58 45.9 -0.3
VRAC Vranov        126.00 328  P     PKPdf  00 58 47.4 +0.7
VRAC Vranov        126.00 328  PKIKP PKPdf  00 58 46.2 -0.5
VRAC                           pmax   pmax
     comp=Z,32nm,0.9s
VRAC Vranov        126.00 328  PKP   PKPdf  00 58 46.2 -0.5
     comp=Z,32nm,0.9s,baz=99,slow=1.7,SNR=37
VRAC Vranov        126.00 328⇑i P     PKPdf  00 58 46.4 -0.3
SMOL Smolenice     126.03 327  i PKP  PKPdf  00 58 47.1 +0.3
SMOL Smolenice     126.03 327  i PKP  PKPdf  00 58 47.0 +0.2
MODS Modra-Piesok  126.19 327  i PKP  PKPdf  00 58 47.2 +0.1
APE  Apeiranthos   126.20 311  ePKP   PKPdf  00 58 45.4 -2.1
APE  Apeiranthos   126.20 311  PKIKP PKPdf  00 58 46.0 -1.5
APE  Apeiranthos   126.20 311  ePKP   PKPdf  00 58 45.0 -2.5
APE  Apeiranthos   126.20 311⇑i P     PKPdf  00 58 45.0 -2.5
PVCC Panska Ves    126.26 330  ePKPdf PKPdf  00 58 46.9 -0.2
PVCC                           AMS    AMS    01 51 30.0
     comp=Z,2μm,26.0s,MS5.7
SOH  Sokhos        126.29 316  ePKP   PKPdf  00 58 45.3 -2.2
BRG  Berggiesshubel 126.33 331 i PKP  PKPdf  00 58 47.2 -0.1
BRG                           e              01 00 43.5
BRG                           i              01 10 27.0
BRG                            SS     SS     01 17 49.0 +7.6
BRG                            LR     LR
     comp=Z,1μm,30.8s,MS5.3
BRG  Berggiesshubel 126.33 331 i PKIKP PKPdf  00 58 47.2 -0.1
BRG                           e              01 00 43.5
BRG                            SS     SS     01 17 49.0 +7.6
BRG                            pmax   pmax
     comp=Z,4.0nm,1.0s
BRG                            MLR    MLR
     comp=N,17μm,23.0s
BRG  Berggiesshubel 126.33 331 ePKPdf PKPdf  00 58 47.2 -0.1
BRG  Berggiesshubel 126.33 331 i PKP  PKPdf  00 58 47.2 -0.1
     comp=N,103nm,1.0s
BRG                           e              01 00 43.5
     comp=N,29nm,1.4s
BRG                           i              01 10 27.0
BRG                            SS     SS     01 17 49.0 +7.6
BRG
     comp=N,1μm,23.0s
BRG
     comp=E,984nm,29.2s
BRG
     comp=Z,2μm,30.8s
ZKR  Zakros        126.34 309  ePKP   PKPdf  00 58 46.7 -1.1
ZST  Bratislava    126.39 327  i PKP  PKPdf  00 58 47.8 +0.3
PLG  Polygyros     126.42 316  ePKP   PKPdf  00 58 47.2 -0.6
KNT  Kendrikon     126.45 317  ePKP   PKPdf  00 58 45.9 -1.9
ORE  Reay          126.46 347  ePKP   PKPdf  00 58 46.4 -0.9
CLL  Collm         126.49 332  i PKP  PKPdf  00 58 47.0 -0.6
CLL                           ePP    PP     01 00 46.0 +2.7
CLL                           eSKP           01 02 10.0
CLL                            LR     LR
     comp=Z,2μm,25.1s,MS5.6
CLL  Collm         126.49 332  i PKIKP PKPdf  00 58 47.0 -0.6
CLL                           e              01 00 46.0
CLL                            pmax   pmax
     comp=Z,3.0nm,0.9s
CLL                            MLR    MLR
     comp=Z,2μm,25.1s,MS5.6
CLL  Collm         126.49 332⇑i PKPdf PKPdf  00 58 47.2 -0.4
     comp=Z,100nm,0.8s
CLL                           ePP    PP     01 00 44.7 +1.4
CLL                           ePKSdf         01 02 16.1
CLL                           ePPP           01 03 34.8
CLL                           eSP    SP     01 10 32.8 -7.1
CLL                           ePPS           01 12 20.8
CLL                           eSS    SS     01 17 47.6 +4.3
CLL  Collm         126.49 332  i PKPdf PKPdf  00 58 47.0 -0.6
     comp=Z,122nm,0.9s
CLL                           ePP    PP     01 00 46.0 +2.7
CLL                           ex     x      01 02 10.0
CLL                           ePPP           01 03 42.0
CLL                           ePKKPdf PKKPdf 01 09 03.0 -2.2
CLL                           ex     x      01 09 21.0
CLL                           eSKSP          01 10 38.0
CLL                           ex     x      01 12 01.0
     comp=Z,13nm,1.5s
CLL                           i PKKSbc       01 12 10.2
     comp=Z,27nm,1.6s
CLL                           ePPS           01 12 23.0
CLL                           ex     x      01 15 34.0
CLL                           eSS    SS     01 17 54.0 +11
CLL                           ex     x      01 23 18.0
HORT Hortiatis     126.56 316  ePKP   PKPdf  00 58 46.1 -1.9
TREC Trest         126.58 329  ePKPdf PKPdf  00 58 47.5 -0.3
TREC                           AMS    AMS    01 58 30.0
     comp=Z,2μm,21.4s,MS5.7
FBE  Freiberg      126.58 331  ePKPdf PKPdf  00 58 47.8 +0.1
MLA1 Latheron      126.59 347⇓ePKP   PKPdf  00 58 47.0 -0.6
VAY  Valandovo     126.61 317  ePKP   PKPdf  00 58 46.0 -2.1
VAY  Valandovo     126.61 317  i PKP  PKPdf  00 58 46.0 -2.2
PRU  Pruhonice     126.62 330  ePKP   PKPdf  00 58 47.5 -0.3
PRU                           ePP    Sdif   01 08 19.7 -22
PRU                           e              01 12 08.4
PRU                            LR     LR
     comp=Z,2μm,18.9s,MS5.7
THE  Thessaloniki  126.64 316  ePKP   PKPdf  00 58 46.3 -1.9
PKSM Moragy        126.65 324  P     PKPdf  00 58 48.0  0.0
PKSM Moragy        126.65 324⇑i P     PKPdf  00 58 47.3 -0.7
STIP Stip          126.70 318  i PKP  PKPdf  00 58 46.6 -1.7
NPS  Neapolis      126.76 309  ePKP   PKPdf  00 58 48.5 -0.1
XRY  Khrisi        126.82 309  ePKP   PKPdf  00 58 48.5 -0.2
LAST Lasithi       126.90 309  ePKP   PKPdf  00 58 48.0 -0.9
NRDL Niedersach Rie 126.95 335 ePKPdf PKPdf  00 58 48.6 +0.2
DIVS Divibare      126.96 321  ePKP   PKPdf  00 58 48.2 -0.4
SOP  Sopron        126.99 327⇑ePKP   PKPdf  00 58 48.0 -0.6
NEO  Neokhori      127.02 315  ePKP   PKPdf  00 58 47.5 -1.4
SKO  Skopje        127.07 318  ePKP   PKPdf  00 58 48.6 -0.3
SKO  Skopje        127.07 318  i PKP  PKPdf  00 58 48.6 -0.4
MVH1 Achvaich      127.12 347⇓ePKP   PKPdf  00 58 47.8 -0.7
LIT  Litokhoron    127.19 316  ePKP   PKPdf  00 58 47.5 -1.8
MCD  Coleburn Disti 127.22 346⇓ePKP   PKPdf  00 58 47.9 -0.9
CONA Conrad Observa 127.22 327⇑i PKIKP PKIKP 00 58 48.5 -1.1
     comp=Z,180nm,2.1s,SNR=24
CLZ  Clausthal     127.31 334  ePKPdf PKPdf  00 58 49.4 +0.3
IDI  Anoyia        127.31 309  PKhKP         00 58 44.3
     comp=Z,2.4nm,0.4s,baz=154,slow=4.6,SNR=9.4
IDI                            PKP    PKPdf  00 58 49.7 +0.1
     comp=Z,87nm,0.9s,baz=158,slow=5.9,SNR=34
IDI                            PKKPab         01 08 17.2
     comp=Z,14nm,1.1s,baz=231,slow=12,SNR=5.8
TANN Tannenbergstha 127.34 331 ePKPdf PKPdf  00 58 49.2  0.0
MME1 Meikle Cairn  127.39 346⇓ePKP   PKPdf  00 58 48.1 -1.0
WERD Werda         127.40 332  ePKPdf PKPdf  00 58 49.3  0.0
WERD                           ePP    PP     01 00 51.0 +1.7
ARE  Arequipa      127.40 117  ePKP   PKPdf  00 58 50.0 -0.3
GUNZ Gunzen        127.44 332  ePKPdf PKPdf  00 58 49.6 +0.2
LKR  Lokris        127.44 314  ePKP   PKPdf  00 58 48.0 -1.8
SIVA Sivas         127.46 309  ePKP   PKPdf  00 58 49.3 -0.6
WERN Wernitzgruen  127.47 331  ePKPdf PKPdf  00 58 49.6 +0.1
KRUS Krusevo       127.47 318  i PKP  PKPdf  00 58 48.7 -1.0
NKC  Novy Kostel   127.47 331  ePKPdf PKPdf  00 58 49.1 -0.4
BIA  Bitola        127.58 317  ePKP   PKPdf  00 58 48.2 -1.7
BIA  Bitola        127.58 317  i PKP  PKPdf  00 58 48.2 -1.7
MOX  Moxa          127.58 332  ePKP   PKPdf  00 58 49.7  0.0
     comp=Z,72nm,1.5s
MOX                            PKKPab         01 08 14.7
     comp=Z,800nm,23.0s
MOX  Moxa          127.58 332  ePKPdf PKPdf  00 58 49.5 -0.2
KZN  Kozani        127.60 316  ePKP   PKPdf  00 58 48.0 -2.0
MDO  Dochfour      127.60 347⇓ePKP   PKPdf  00 58 48.8 -0.7
IVA  Berane        127.63 320⇑i PKP  PKPdf  00 58 48.5 -1.5
KHC  Kasperske Hory 127.65 330 ePKP   PKPdf  00 58 49.7 -0.1
KHC                           ePP    Sdif   01 08 15.2 -35
KHC                           e              01 11 53.2
KHC                            LR     LR
     comp=Z,2μm,24.4s,MS5.7
FNA  Florina       127.65 317  ePKP   PKPdf  00 58 49.7 -0.4
LTK  Loutraki      127.72 313  ePKP   PKPdf  00 58 49.7 -0.6
PLE  Pljevlja      127.72 321⇑i PKP  PKPdf  00 58 49.2 -1.0
PVY  Plav          127.72 320⇑i PKP  PKPdf  00 58 48.4 -1.8
DID  Didima        127.73 313  ePKP   PKPdf  00 58 49.4 -1.0
KAC  Achnashellach 127.75 347⇓ePKP   PKPdf  00 58 49.3 -0.5
THL  Klokotos Trika 127.76 315 ePKP   PKPdf  00 58 48.5 -1.9
AGG  Agios Georgios 127.77 315 ePKP   PKPdf  00 58 47.8 -2.6
GEC2 GERESS Array S 127.77 329 ePKPdf PKPdf  00 58 49.9 -0.2
GERES GERESS Array B 127.77 329 PKP   PKPdf  00 58 50.2 +0.1
     comp=Z,64nm,0.8s,baz=69,slow=1.5,SNR=109
GERES                          PKKPab         01 08 14.7
     comp=Z,1.6nm,0.8s,baz=201,slow=2.3,SNR=7.1
GERES                          PKKP           01 09 00.9
     comp=Z,3.3nm,0.9s,baz=214,slow=1.0,SNR=6.8
MANZ Manzenberg    127.80 331  ePKPdf PKPdf  00 58 50.2 +0.1
ARSA Arzberg       127.81 327⇑i P     PKPdf  00 58 49.3 -0.9
     comp=Z,170nm,2.5s,SNR=9.0
OHR  Ohrid         127.89 318  ePKP   PKPdf  00 58 49.0 -1.5
OHR  Ohrid         127.89 318  i PKP  PKPdf  00 58 49.1 -1.4
ROTZ Rotzenmuhle   127.90 331  ePKPdf PKPdf  00 58 50.2 -0.1
KPL  Plockton      127.98 348  P     PKPdf  00 58 49.9 -0.3
KPL                            AMb    AMB    00 58 51.6
     comp=Z,92nm,1.7s
KPL  Plockton      127.98 348  ePKP   PKPdf  00 58 49.9 -0.3
KPL                            AMb    AMB    00 58 51.6
     comp=Z,92nm,1.7s
KPL                            AMS    AMS    01 49 44.0
     comp=Z,851nm,23.0s,MS5.4
WET  Wettzell      127.99 330  ePKPdf PKPdf  00 58 50.5  0.0
KARN Karanos       128.01 310  ePKP   PKPdf  00 58 49.3 -1.7
IBBN Ibbenburen    128.07 336  ePKPdf PKPdf  00 58 50.6 +0.1
GVD  Gavdhos       128.08 309  ePKPdf PKPdf  00 58 50.6 -0.5
GVD  Gavdhos       128.08 309  ePKP   PKPdf  00 58 49.4 -1.7
KSK  Scoval        128.08 348⇓ePKP   PKPdf  00 58 50.4  0.0
UPM  Unac-Piva     128.09 321  ePKP   PKPdf  00 58 49.0 -1.9
MOA  Molln         128.11 328⇓i P     PKPdf  00 58 49.8 -1.0
     comp=Z,161nm,2.4s,SNR=10.0
EVR  Evrytania     128.18 315  ePKP   PKPdf  00 58 50.5 -0.7
UBBA Unterbreizbach 128.20 333 ePKPdf PKPdf  00 58 50.9 +0.1
NKY  Niksic        128.23 320⇑i PKP  PKPdf  00 58 49.3 -1.9
TTG  Podgorica     128.26 320⇑i PKP  PKPdf  00 58 49.3 -1.9
SISC Sisak         128.38 325  P     PKPdf  00 58 50.7 -0.7
SELA Sela          128.39 314  ePKP   PKPdf  00 58 52.5 +0.9
TIR  Tirane        128.40 318  ePKP   PKPdf  00 58 50.9 -0.6
PERS Pernice       128.40 326  i PKPdf PKPdf  00 58 50.5 -0.8
KAR1 Arisaig       128.40 347⇓ePKP   PKPdf  00 58 50.6 -0.4
VLX  Vlachokerasia 128.41 313  ePKP   PKPdf  00 58 52.3 +0.6
GRA1 Grafenberg Arr 128.42 332 ePKPdf PKPdf  00 58 51.2 -0.1
GRA1                          ePP    PP     01 00 54.2 -1.8
GRA1                          eSKKPbc        01 11 59.3
GRA1                          eSKKP          01 12 30.5
GRA1                           LR     LR
     comp=Z,1μm,21.5s,MS5.5
GRF  Grafenberg Arr 128.42 332 ePKIKP PKPdf  00 58 51.2 -0.1
GRF                           e              01 00 54.2
GRF                           e              01 12 30.5
GRF                            MLR    MLR
     comp=Z,1μm,21.5s,MS5.5
GRF  Grafenberg Arr 128.42 332 ePKIKP PKPdf  00 58 51.2 -0.1
GRF                           e              01 00 54.2
GRF                            S              01 12 30.5
GRF                            MLR    MLR
     comp=Z,1μm,21.5s,MS5.5
GRF  Grafenberg Arr 128.42 332 ePKPdf PKPdf  00 58 51.2 -0.1
GRF                           ePP    PP     01 00 54.2 -1.8
GRF                           eSKKPbc        01 11 59.3
GRF                           eSKKPdf        01 12 30.5
GRF                           eL             01 57 57.4
     comp=Z,1μm,21.5s
GRFO Grafenberg    128.42 332 ePKPdf PKPdf  00 58 50.3 -1.0
GRFO                           LR     LR
     comp=Z,1μm,22.0s,MS5.5
BRY  Bratogost     128.48 321⇑i PKP  PKPdf  00 58 49.4 -2.2
EBH  Black Hill    128.48 346⇓ePKP   PKPdf  00 58 50.7 -0.5
ULC  Ulcinj        128.50 319⇑i PKP  PKPdf  00 58 50.4 -1.3
JAN  Janina        128.52 316  ePKP   PKPdf  00 58 51.5 -0.3
BUM  Brajici-Budva 128.56 320⇑i PKP  PKPdf  00 58 49.6 -2.2
EDI  Edinburgh     128.69 345  P     PKPdf  00 58 50.9 -0.7
EDI                            AMb    AMB    00 58 52.8
     comp=Z,77nm,1.5s
EDI  Edinburgh     128.69 345  ePKP   PKPdf  00 58 50.9 -0.7
EDI                            AMb    AMB    00 58 52.8
     comp=Z,77nm,1.5s
EDI                            AMS    AMS    01 51 44.4
     comp=Z,934nm,22.7s,MS5.4
WTSB Winterswijk   128.71 336⇑ePKP   PKPdf  00 58 51.4 -0.4
     comp=Z,96nm,1.4s
EAB  Aberfoyle     128.73 346⇓ePKP   PKPdf  00 58 51.2 -0.5
HCY  Herceg Novi   128.74 320⇑i PKP  PKPdf  00 58 50.1 -2.0
RLS  Riolos of Patr 128.79 314 ePKP   PKPdf  00 58 51.5 -0.9
ITM  Ithomi        128.82 313  ePKP   PKPdf  00 58 51.0 -1.5
EAU  Auchinoon     128.82 345  ePKP   PKPdf  00 58 51.5 -0.4
IGT  Igoumenitsa   128.94 316  ePKP   PKPdf  00 58 51.4 -1.2
BOJS Bojanci       129.00 325  i PKPdf PKPdf  00 58 52.3 -0.3
STON Ston          129.02 321  P     PKPdf  00 58 51.2 -1.4
PYL  PYLOS         129.07 312  ePKP   PKPdf  00 58 52.9 -0.1
KBA  Koelnbreinsper 129.08 328⇑i P    PKPdf  00 58 51.4 -1.3
     comp=Z,77nm,1.5s,SNR=13
LJU  Ljubljana     129.08 326  i PKPdf PKPdf  00 58 52.2 -0.5
LKD  Levkas        129.08 315  ePKP   PKPdf  00 58 52.6 -0.3
EKA  Eskdalemuir Ar 129.21 345 PKIKP PKPdf  00 58 51.7 -0.9
EKA                            pmax   pmax
     comp=Z,18nm,1.0s
EKA  Eskdalemuir Ar 129.21 345 PKP   PKPdf  00 58 51.6 -1.0
     comp=Z,18nm,1.0s,baz=6.3,slow=2.5,SNR=20
KEK  Kerkira       129.22 317  ePKP   PKPdf  00 58 52.1 -1.0
ESK  Eskdalemuir   129.24 345  PFAKE         00 59 00.0 +7.3
ESK                            LR     LR
     comp=Z,1μm,20.0s,MS5.6
TNS  Taunus Mts    129.32 334  ePKPdf PKPdf  00 58 53.1 +0.1
JAVS Javornik      129.43 326  i PKPdf PKPdf  00 58 52.3 -1.0
FUR  Furstenfeldbru 129.43 330 ePKPdf PKPdf  00 58 53.1 -0.2
VOY  Vojsko        129.44 326  ePKPdf PKPdf  00 58 52.3 -1.1
VOY                           e              01 01 02.8
VOY  Vojsko        129.44 326  ePKPdf PKPdf  00 58 52.3 -1.1
VOY                           e              01 01 02.8
ABTA Abfaltersbach 129.73 328⇓i PKPdf PKPdf  00 58 52.7 -1.2
     comp=Z,136nm,1.8s,SNR=8.8
NVLJ Novalja       129.77 324  P     PKPdf  00 58 49.5 -4.5
ROSC El Rosal      129.83  90  ePKPdf PKPdf  00 58 55.0 -0.1
ROSC El Rosal      129.83  90  PKP   PKPdf  00 58 55.0 -0.1
     comp=Z,36nm,0.9s,baz=112,slow=3.5,SNR=21
WATA Walderalm     129.84 329⇑i P     PKPdf  00 58 53.3 -0.7
     comp=Z,49nm,1.3s,SNR=6.3
WTTA Wattenberg    129.85 329⇑i P     PKPdf  00 58 53.7 -0.4
     comp=Z,227nm,1.6s,SNR=16
ABH  Alteburg      129.96 334  PKP   PKPdf  00 58 47.5 -6.7
HGN  Heimansgroeve 129.98 336⇑ePKP   PKPdf  00 58 53.8 -0.4
     comp=Z,58nm,1.4s
HPK  Haverah Park  130.00 343  P     PKPdf  00 58 53.7 -0.5
HPK                            AMb    AMB    00 58 55.8
     comp=Z,90nm,1.6s
HPK  Haverah Park  130.00 343  ePKP   PKPdf  00 58 53.7 -0.5
HPK                            AMb    AMB    00 58 55.8
     comp=Z,90nm,1.6s
HPK                            AMS    AMS    01 49 21.7
     comp=Z,716nm,24.3s,MS5.3
STU  Stuttgart     130.02 332  ePKPdf PKPdf  00 58 54.5 +0.1
GAL1 Galloway      130.02 346  P     PKPdf  00 58 53.4 -0.8
GAL1                           AMb    AMB    00 58 55.5
     comp=Z,70nm,1.7s
GAL1 Galloway      130.02 346  ePKP   PKPdf  00 58 53.4 -0.8
GAL1                           AMb    AMB    00 58 55.5
     comp=Z,70nm,1.7s
GAL1                           AMS    AMS    01 50 44.7
     comp=Z,726nm,21.2s,MS5.3
MOTA Moosalm       130.07 329⇑i P     PKPdf  00 58 53.8 -0.8
     comp=Z,90nm,1.4s,SNR=12
MEM  Membach       130.07 335  PKPdf PKPdf  00 58 54.3 -0.1
SQTA Sankt Quirin  130.10 329⇑i P     PKPdf  00 58 54.2 -0.4
     comp=Z,96nm,1.5s,SNR=11
RETA Reutte        130.15 330⇑i PKPdf PKPdf  00 58 53.9 -0.7
     comp=Z,187nm,2.7s,SNR=10
RUP  Ruppelstein   130.31 334  PKP   PKPdf  00 58 47.7 -7.2
LPAZ La Paz        130.42 118  PKP           00 58 39.0
LPAZ                           e              00 58 56.3
LPAZ                           e              01 01 09.9
LPAZ                            MLR    MLR
     comp=Z,3μm,22.0s
LPAZ La Paz        130.42 118  PKhKP         00 58 39.0
     comp=Z,0.8nm,0.4s,baz=282,slow=4.5,SNR=4.2
LPAZ                           PKP    PKPdf  00 58 56.7 +0.7
     comp=Z,93nm,1.0s,baz=348,slow=1.7,SNR=82
LPAZ                           SKPbc  SKPbc  01 02 17.1 +2.3
     comp=Z,7.0nm,1.0s,baz=298,slow=0.7,SNR=4.2
LHO  Holmfirth     130.43 343  ePKP   PKPdf  00 58 55.3 +0.3
FETA Feichten      130.48 329⇑i PKIKP PKiKP  00 58 55.0 -1.1
     comp=Z,159nm,2.0s,SNR=7.8
BCLA Clavier       130.50 336  PKPdf PKPdf  00 58 54.8 -0.5
LANF Langenberg    130.51 333  PKP   PKPdf  00 58 47.5 -7.8
SPAK Spaichingen-Ko 130.68 331 PKP   PKPdf  00 58 48.0 -7.7
DAVA Damuels       130.72 330⇑i P     PKPdf  00 58 55.4 -0.4
     comp=Z,209nm,2.4s,SNR=9.7
WLF  Walferdange   130.73 335  ePKPdf PKPdf  00 58 55.6 -0.1
WLF  Walferdange   130.73 335  PKPdf PKPdf  00 58 56.4 +0.7
WLF  Walferdange   130.73 335  ePKPdf PKPdf  00 58 56.6 +0.9
BFO  Black Forest  130.74 332  ePKPdf PKPdf  00 58 55.5 -0.2
SNF  Seneffe       130.84 336  PKPdf PKPdf  00 58 56.3 +0.4
GIVF Givet         130.94 336  ePKIKP PKPdf  00 58 55.6 -0.5
     comp=Z,114nm,1.0s
CWF  Charnwood Fore 130.97 342 ePKP   PKPdf  00 58 56.1 +0.1
CWF                            AMb    AMB    00 58 57.7
     comp=Z,84nm,1.6s
DOU  Dourbes       131.04 336  PKPdf PKPdf  00 58 56.0 -0.3
DAVOX Davos/Dischmat 131.07 330 PKP  PKPdf  00 58 55.9 -0.5
     comp=Z,51nm,0.6s,baz=153,slow=4.0,SNR=53
DAVOX                          SKPbc  SKPbc  01 02 15.9 -0.4
     comp=Z,14nm,0.9s,baz=348,slow=3.6,SNR=7.1
CDF  Champ du Feu  131.16 333  ePKIKP PKPdf  00 58 55.0 -1.5
     comp=Z,96nm,1.2s
FELD Feldberg im Sc 131.21 332 PKP   PKPdf  00 58 47.3 -9.4
BAIF Baives        131.23 336  ePKIKP PKPdf  00 58 56.1 -0.5
     comp=Z,68nm,1.0s
ECH  Echery        131.36 333  PKP   PKPdf  00 58 46.9 -10
SBD1 Bryn Du       131.40 343⇓ePKP   PKPdf  00 58 56.6 -0.3
TSUM Tsumeb        131.43 237  PKP           00 58 43.1
TSUM                           PKP    PKPdf  00 58 57.7 -0.2
TSUM                           SKPbc  SKPbc  01 02 20.9 +2.4
TSUM Tsumeb        131.43 237  PKhKP         00 58 43.1
     comp=Z,8.2nm,0.9s,baz=51,slow=3.5,SNR=7.8
TSUM                           PKP    PKPdf  00 58 57.7 -0.2
     comp=Z,94nm,0.8s,baz=106,slow=2.1,SNR=55
TSUM                           SKPbc  SKPbc  01 02 20.9 +2.4
     comp=Z,44nm,1.2s,baz=134,slow=4.0,SNR=10
DMUB Kingscourt    131.43 347  ePKP   PKPdf  00 58 56.7 -0.2
TIP  Timpagrande   131.54 317  ePKPdf PKPdf  00 58 57.5 -0.1
HLM1 Long Mynd     131.63 343  ePKP   PKPdf  00 58 56.9 -0.4
MOF  Molkenrain    131.64 332  PKP   PKPdf  00 58 48.4 -9.1
SKP1 Kophill       131.68 341  ePKP   PKPdf  00 58 56.7 -0.8
HINF Hinteralfeld  131.79 332  ePKIKP PKPdf  00 58 57.3 -0.5
     comp=Z,132nm,1.1s
SSW  Stow on the Wo 131.80 342 ePKP   PKPdf  00 58 57.5 -0.1
THEF They Montfort 131.88 333  PKP   PKPdf  00 58 47.1 -11
HAU  Haudompre     131.88 333  ePKIKP PKPdf  00 58 57.5 -0.4
     comp=Z,136nm,0.9s
HAU                            eMLR   MLR
     comp=Z,2μm,22.5s,MS5.4
HAU  Haudompre     131.88 333  ePKIKP PKPdf  00 58 57.5 -0.4
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HAU MLR MLR
comp=Z,2μm,22.5s,MS5.7
DLF Lyons Farm 131.90 346 *e*P PKPdf 00 58 55.9 -1.9
AQU L'Aquila 131.94 323 P PKPdf 00 58 59.0 +0.8
AQU L'Aquila 131.94 323⇑*i*P PKPdf 00 58 57.5 -0.7
HAE Alders End 131.95 342 *e*P PKPdf 00 58 57.3 -0.6
DCN Croghan 132.03 347 *e*P PKPdf 00 58 57.7 -0.3
MEZF Maizieres J'vi 132.08 334 *e*PKIKP PKPdf 00 58 57.9 -0.4
comp=Z,214nm,1.0s
MCH1 Michaelchurch 132.12 343 *e*P PKPdf 00 58 58.4 +0.1
MCH1 AMb AMB 00 58 59.3
comp=Z,85nm,1.7s
HTR Trewern Hill 132.13 343 *e*P PKPdf 00 58 58.0 -0.3
LOMF Lomont 132.14 332 PKP PKPdf 00 58 48.2 -10
SWN1 Swindon 132.18 341 *e*P PKPdf 00 58 58.5 +0.1
SWN1 AMb AMB 00 58 59.9
comp=Z,178nm,0.9s
SDDR Presa de Saban 132.54 71 *e*PKPdf PKPdf 00 58 58.9 -1.1
SDDR LR LR
comp=Z,2μm,20.0s,MS5.8
SWK Warminster 132.64 342 *e*P PKPdf 00 58 58.9 -0.4
CABF La Chapelle 133.03 332 *e*PKIKP PKPdf 00 58 59.7 -0.4
LPL La Plagne 133.52 330 *e*PKIKP PKPdf 00 59 00.6 -0.5
comp=Z,129nm,0.8s
LPG La Plagne 133.52 330 *e*PKIKP PKPdf 00 59 00.5 -0.6
comp=Z,165nm,0.9s
LOR Lormes 133.54 334 *e*PKIKP PKPdf 00 59 00.5 -0.6
comp=Z,95nm,1.0s
LOR *e*MLR MLR
comp=Z,2μm,20.8s,MS5.4
LOR Lormes 133.54 334 *e*PKIKP PKPdf 00 59 00.5 -0.6
LOR MLR MLR
comp=Z,2μm,20.8s,MS5.7
SDV Santo Domingo 133.74 85 *e*PKPdf PKPdf 00 59 01.6 -0.8
SDV LR LR
comp=Z,354nm,20.0s,MS5.1
DYA Yadsworthy 133.78 342 *e*P PKPdf 00 59 01.5 +0.1
DYA AMS AMS 01 51 21.6
comp=Z,741nm,22.4s,MS5.3
SSF Saint Saulge 133.85 334 *e*PKIKP PKPdf 00 59 01.0 -0.7
comp=Z,141nm,1.0s
BNI Bardonecchia 133.88 330 *e*PKPdf PKPdf 00 59 01.9 +0.1
VAE Valguarnera 133.99 317 PKhKP 00 58 56.1
comp=Z,18nm,1.0s,baz=351,slow=5.9,SNR=3.8
VAE SKP 01 02 36.2
comp=Z,36nm,1.0s,baz=27,slow=6.8,SNR=3.6
SMF Signal de Mont 134.03 333 *e*PKIKP PKPdf 00 59 01.5 -0.5
comp=Z,143nm,1.1s
GDM Grand'Maison 134.04 331 PKP PKPdf 00 58 55.5 -6.6
MBDF Montbardon 134.06 330 *e*PKIKP PKPdf 00 59 01.8 -0.3
comp=Z,55nm,1.0s
HYF Humbligny 134.06 335 *e*PKIKP PKPdf 00 59 01.5 -0.6
FLN La Foliniere 134.07 339 *e*PKIKP PKPdf 00 59 01.4 -0.6
comp=Z,126nm,0.9s
FLN *e*MLR MLR
comp=Z,3μm,22.2s,MS5.6
FLN La Foliniere 134.07 339 *e*PKIKP PKPdf 00 59 01.4 -0.6
FLN MLR MLR
comp=Z,3μm,22.3s,MS5.9
LDF La Druitiere 134.08 338 *e*PKIKP PKPdf 00 59 01.5 -0.5
comp=Z,81nm,1.1s
AVF Avril sur Loir 134.13 334 *e*PKIKP PKPdf 00 59 01.7 -0.5
comp=Z,53nm,0.9s
SAOF Saorge 134.18 328 PKP PKPdf 00 58 51.5 -11
SURF Saint Ours 134.21 329 PKP PKPdf 00 58 56.2 -6.2
AUTN L'Aution 134.24 328 PKP PKPdf 00 58 56.4 -6.1
TOUF Mont Tournerai 134.32 329 PKP PKPdf 00 58 54.9 -7.7
SBF Sospel 134.32 328 *e*PKIKP PKPdf 00 59 02.0 -0.7
comp=Z,114nm,0.9s
LUCF Luceram 134.35 328 PKP PKPdf 00 58 52.4 -10
ORIF Oris-en-Rattie 134.37 330 *e*PKIKP PKPdf 00 59 02.1 -0.6
comp=Z,96nm,0.8s
ORIF *e*MLR MLR
comp=Z,2μm,22.0s,MS5.5
PGF Pioggiola 134.37 326 *e*PKIKP PKPdf 00 59 02.1 -0.7
comp=Z,258nm,0.8s
CRQ2 Rosemanowes 2 134.38 343 *e*P PKPdf 00 59 02.1 -0.5
CMA1 Manaccan 134.44 343 *e*P PKPdf 00 59 02.9 +0.2
CORF Corte 134.44 325 PKP PKPdf 00 58 53.4 -10
GRR Gorron 134.52 339 *e*PKIKP PKPdf 00 59 02.4 -0.5
comp=Z,142nm,1.1s
BGF Bois d'Agland 134.53 334 *e*PKIKP PKPdf 00 59 02.4 -0.6
comp=Z,147nm,1.0s
BBSR BB Station 134.59 51 PFAKE 00 59 10.0 +6.5
BBSR LR LR
comp=Z,1μm,20.0s,MS5.7
PLDF La Plantade 134.64 333 PKP PKPdf 00 58 52.5 -11
CALN Calern 134.69 329 PKP PKPdf 00 58 54.6 -8.7
AGO Saint Agoulin 134.80 333 PKP PKPdf 00 58 54.1 -9.4
FRF La Foret Royal 134.95 329 *e*PKIKP PKPdf 00 59 03.1 -0.7
comp=Z,94nm,0.8s
VIVF Saint-Julien-l 135.00 331 *e*PKIKP PKPdf 00 59 03.4 -0.5
comp=Z,141nm,1.0s
TCF Toulx Ste Croi 135.02 334 *e*PKIKP PKPdf 00 59 03.0 -0.9
comp=Z,188nm,1.0s
PYM Petit Puy Mans 135.09 333 PKP PKPdf 00 58 54.4 -10
LMR La Mourre 135.18 328 *e*PKIKP PKPdf 00 59 03.6 -0.7
comp=Z,134nm,0.9s
SMRF Simiane la Rot 135.20 330 *e*PKIKP PKPdf 00 59 03.5 -0.8
comp=Z,179nm,1.2s
SGMF Saint Gilles 135.24 340 *e*PKIKP PKPdf 00 59 03.7 -0.5
comp=Z,144nm,1.1s
LBL Lubilhac 135.38 333 PKP PKPdf 00 58 53.0 -12
ROSF Rostrenen 135.41 340 *e*PKIKP PKPdf 00 59 03.4 -1.1
MFF Saint Martin d 135.74 337 *e*PKIKP PKPdf 00 59 04.7 -0.5
comp=Z,142nm,1.1s
QUIF Quistinic 135.74 340 *e*PKIKP PKPdf 00 59 04.7 -0.5
LASF Ste Croix 135.97 331 *e*PKIKP PKPdf 00 59 04.6 -1.1
comp=Z,139nm,0.9s
RJF Les Rejaudoux 136.09 334 *e*PKIKP PKPdf 00 59 05.4 -0.5
RJF *e*MLR MLR
comp=Z,3μm,22.2s,MS5.6
RJF Les Rejaudoux 136.09 334 *e*PKIKP PKPdf 00 59 05.4 -0.5
RJF MLR MLR
comp=Z,3μm,22.3s,MS5.9
VSL Villasalto 136.09 322 *e*PKPdf PKPdf 00 59 05.7 -0.4
CAF Calviac 136.15 333 *e*PKIKP PKPdf 00 59 05.5 -0.5
LFF La Frestale 136.72 334 *e*PKIKP PKPdf 00 59 06.4 -0.7
MTLF Montolieu 137.30 332 *e*PKIKP PKPdf 00 59 07.2 -1.0
comp=Z,50nm,1.0s
SJG San Juan 137.49 71 PKPdf PKPdf 00 59 02.0 -7.3
SJG LR LR
comp=Z,937nm,20.0s,MS5.5
CPD Cerro la Pandu 137.72 71 *e*PKPdf PKPdf 00 59 08.0 -1.7
MTP Monte Pirata 138.05 71 PKPdf PKPdf 00 59 03.0 -7.3
KEST Kesra 138.36 318 PKhKP 00 58 59.6
comp=Z,3.7nm,0.6s,baz=327,slow=5.0,SNR=22
KEST PKP PKPdf 00 59 10.4 0.0
comp=Z,15nm,0.8s,baz=265,slow=4.2,SNR=14
EPF Esparros 138.40 333 *e*PKIKP PKPdf 00 59 09.5 -0.8
comp=Z,64nm,0.9s
LABF Labassere 138.51 333 PKP PKPdf 00 59 05.4 -5.1
VIEF Viey 138.66 333 PKP PKPdf 00 59 04.3 -6.4
REYF Montagne du Re 138.70 334 PKP PKPdf 00 59 03.7 -7.1
EMIR Miracle 138.72 331 PKP PKPdf 00 59 08.9 -2.0
EBIE Bielsa 138.76 333 PKP PKPdf 00 59 09.8 -1.1
ATE Arette 138.82 334 PKP PKPdf 00 59 04.4 -6.6
ETSF Etsaut 138.91 334 *e*PKIKP PKPdf 00 59 10.7 -0.5
comp=Z,82nm,0.7s
SJPF Ste Jean 139.03 334 *e*PKIKP PKPdf 00 59 10.7 -0.7
comp=Z,41nm,1.0s
CMAH Djebel Manchou 139.08 320 P PKPdf 00 59 10.0 -1.7
EPOB Poblet 139.36 331 PKP PKPdf 00 59 09.8 -2.2
CKFL Kef-Lekhel 139.66 321 P PKPdf 00 59 12.0 -0.8
ESAC San Caprasio 139.81 333 PKP PKPdf 00 59 05.4 -7.4
CASM Ain Smara 139.89 321 P PKPdf 00 59 11.0 -2.2
ECRI Cripan 139.98 335 PKP PKPdf 00 59 06.8 -6.3
ERTA Horta de San J 140.03 331 PKP PKPdf 00 59 06.8 -6.5
DFRA Djebel Bou Aff 140.09 321 P PKPdf 00 59 07.0 -6.6
EARI Arriondas 140.45 338 PKP PKPdf 00 59 06.5 -7.4
EMOS Mosqueruela 140.87 331 PKP PKPdf 00 59 08.7 -6.2
EPON Pontenova 141.10 340 PKP PKPdf 00 59 09.4 -5.8
ETOR Torete 141.25 333 PKP PKPdf 00 59 10.2 -5.3
ABA Alger-Bouzarea 141.63 324 P PKPdf 00 59 10.9 -5.4
AKET Djebel Ketaf 141.64 322 P PKPdf 00 59 13.7 -2.7
ECHE Chera 141.71 331 PKP PKPdf 00 59 12.5 -3.8
ADJB Djebel Djouab 141.83 323 P PKPdf 00 59 12.1 -4.6
STS Santiago 141.95 342 PKP PKPdf 00 59 11.6 -5.1
EMAZ Mazaricos 142.03 342 PKP PKPdf 00 59 11.1 -5.7
EBEN Beniarda 142.03 329 PKP PKPdf 00 59 14.0 -3.0
SCG Saint Claude 142.04 73 *e*P PKPdf 00 59 13.3 -4.3
EMHD Djebel Mahouad 142.09 323 P PKPdf 00 59 09.6 -7.6
ECAL Calabor 142.19 339 PKP PKPdf 00 59 12.2 -5.0
GUD Guadarrama 142.30 335 PKP PKPdf 00 59 13.6 -3.8
PBRG Braganca 142.31 339 *e*PKP PKPdf 00 59 13.0 -4.4
ELOB Lobios 142.71 340 PKP PKPdf 00 59 13.2 -4.8
ETOB Tobarra 142.73 331 PKP PKPdf 00 59 15.5 -2.8
PCAB Cabril 142.84 340 *e*PKP PKPdf 00 59 15.3 -3.0
EBNR Beni Rached 142.85 325 P PKPdf 00 59 12.9 -5.6
MVO Moncorvo 142.97 339 *e*PKP PKPdf 00 59 14.1 -4.5
MVO Moncorvo 142.97 339 *e*LQ 01 42 33.0
MVO *e*LR LR 01 49 43.0
comp=Z,1μm,22.0s
ESDC Sonseca Array 143.02 334 PKP PKPdf 00 59 15.0 -3.7
ESDC Sonseca Array 143.02 334 PKhKP 00 59 15.2
comp=Z,41nm,0.9s,baz=22,slow=2.9,SNR=88
ESDC PP PP 01 02 23.8 -4.0
comp=Z,10nm,1.0s,baz=26,slow=6.5,SNR=4.1
ESDC SKPbc SKPbc 01 03 05.6 +13
comp=Z,11nm,1.0s,baz=50,slow=4.0,SNR=6.3
ECHA Ech Chlef 143.05 325 P PKPdf 00 59 14.0 -4.9
PVRL Vila Real 143.12 339 *e*PKP PKPdf 00 59 15.6 -3.2
EVIA Vianos 143.20 331 PKP PKPdf 00 59 16.3 -2.7
EMUR La Murta 143.20 329 PKP PKPdf 00 59 16.6 -2.5
CART Cartagena 143.28 329 PKPdf PKPdf 00 59 15.8 -3.5
PAB San Pablo 143.29 334 *e*PKPdf PKPdf 00 59 15.6 -3.6
PAB LR LR
comp=Z,2μm,22.0s,MS5.7
EANR 'Ain N'Sour 143.34 325 P PKPdf 00 59 15.6 -3.8
ETRT Tiaret 143.62 324 P PKPdf 00 59 17.0 -2.9
PVIS Viseu 143.68 339 *e*PKP PKPdf 00 59 17.6 -2.2
MTE Manteigas 143.83 339 *e*PKP PKPdf 00 59 17.0 -3.1
MTE Manteigas 143.83 339 *e*LQ 01 42 34.9
MTE *e*LR LR 01 50 06.2
comp=Z,1μm,22.1s
MTE Manteigas 143.83 339 *e*PKPdf PKPdf 00 59 18.2 -1.9
EQES Quesada 144.13 331 PKP PKPdf 00 59 18.6 -2.1
EBAN Banos Encina 144.18 332 PKP PKPdf 00 59 18.6 -2.2
PCBR Castelo Branco 144.30 338 *e*PKP PKPdf 00 59 18.7 -2.2
ENIJ Nijar 144.36 329 PKP PKPdf 00 59 18.3 -2.9
USTO Oran 144.42 326 P PKPdf 00 59 20.0 -1.3
ODJA Bouhanifia 144.49 325 P PKPdf 00 59 21.0 -0.4
EADA Adamuz 144.53 333 PKP PKPdf 00 59 19.4 -2.0
EBER Berja 144.76 330 PKP PKPdf 00 59 18.8 -3.0
ECOG Cogollos-Vega 144.79 331 PKP PKPdf 00 59 19.7 -2.1
ELUQ Luque 144.89 332 PKP PKPdf 00 59 21.3 -0.8
ECAB El Cabril 144.98 334 PKP PKPdf 00 59 21.6 -0.6
EBAD Badajoz 145.06 337 PKP PKPdf 00 59 21.5 -0.8
ERON Agron 145.11 331 PKP PKPdf 00 59 20.4 -2.0
EGUA Guajares 145.14 331 PKP PKPdf 00 59 21.2 -1.3
ELOJ Sierra Loja 145.17 332 PKP PKPdf 00 59 21.3 -1.2
PESTR Estremoz 145.19 337 *e*PKP PKPdf 00 59 21.7 -0.8
PESTR Estremoz 145.19 337 *e*LR LR 01 50 41.6
comp=Z,1μm,23.3s
ALMR Almeirim 145.30 339 *e*P PKPbc 00 59 21.4 -1.1
CAM4 Nova Friburgo 145.42 149⇑*i*P PKPbc 00 59 23.5 +0.2
CAM4 *i* 00 59 28.1
CAM4 *i* 00 59 41.6
CAM4 *i* 00 59 50.3
PBAR Barrancos 145.57 336 *e*PKP PKPdf 00 59 22.8 -0.4
PBAR Barrancos 145.57 336 *e*LR LR 01 51 43.0
comp=Z,2μm,19.9s
EALB Alboran 145.58 329 PKP PKPdf 00 59 22.1 -1.2
EVO Evora 145.64 338⇑*i*PKIKP PKPdf 00 59 23.2 -0.1
comp=Z,538nm,1.1s
EVO *e*MLR MLR
comp=Z,2μm,22.5s,MS5.5
EVO Evora 145.64 338 *e*PKP PKPdf 00 59 22.9 -0.4
PMAFR Mafra 145.73 340 *e*PKP PKPdf 00 59 23.3 -0.1
PMAFR Mafra 145.73 340 *e*LR LR 01 51 58.5
comp=Z,2μm,20.4s
EMIN Mina Concepcio 145.77 335 PKP PKPdf 00 59 23.6 0.0
LIS Lisbon 145.89 339 *e*P PKPdf 00 59 22.4 -1.4
EMIJ Mijas 145.93 332 PKP PKPdf 00 59 22.3 -1.5
PBEJ Beja 146.03 337 *e*PKP PKPdf 00 59 23.8 -0.2
ESPR Espera 146.18 333 PKP PKPdf 00 59 24.3 0.0
EGRO El Granado 146.30 336 PKP PKPdf 00 59 23.8 -0.6
EJIF Jimena Fronter 146.35 333 PKP PKPdf 00 59 25.5 +0.9
PVAQ Vaqueiros 146.51 336 *e*PKP PKPdf 00 59 24.8 0.0
PVAQ Vaqueiros 146.51 336 *e*LR LR 01 52 02.3
comp=Z,1μm,22.1s
SFS San Fernando 146.67 333 *e*PKPab PKPab 00 59 28.0 +0.1
PBDV Barranco-do-Ve 146.73 336 *e*PKP PKPdf 00 59 25.1 -0.1
PBDV Barranco-do-Ve 146.73 336 *e*LR LR 01 52 13.8
comp=Z,2μm,20.3s
PTEO Sao Teotonio 146.78 338 *e*PKP PKPdf 00 59 25.3 +0.1
MORF Marmelete 146.96 337 *e*LR LR 01 52 42.9
comp=Z,1μm,21.8s
BDFB Brasilia 147.07 134 PKIKP PKPdf 00 59 26.4 +0.1
BDFB pmax pmax
comp=Z,527nm,0.8s
BDFB Brasilia 147.07 134 PKPbc PKPbc 00 59 26.4 -2.0
comp=Z,527nm,0.8s,baz=211,slow=1.8,SNR=259
PFVI Vila Bisbo 147.18 337 *e*PKP PKPdf 00 59 25.6 -0.3
PFVI Vila Bisbo 147.18 337 *e*LR LR 01 52 17.3
comp=Z,2μm,19.7s
CAM3 Guarapari 147.82 150⇑*i*P PKPdf 00 59 27.8 +0.3
CAM3 *i* 00 59 30.5
CAM3 *i* 00 59 33.8
MDT Midelt 148.82 327 PKP PKPdf 00 59 29.0 +0.3
comp=Z,280nm,0.9s,baz=46,slow=2.1,SNR=12
MDT PKPbc PKPbc 00 59 33.1 +0.4
comp=Z,240nm,0.8s,baz=62,slow=4.6,SNR=218
PMPS Porto Santo 153.31 346 *e*PKPbc PKPbc 00 59 42.7 -0.5
PMAR Madeira 153.77 347 *e*PKPbc PKPbc 00 59 44.1 -0.1
TOA0 Torodi Ar. Sit 154.12 285 *e*PKPdf PKPdf 00 59 35.9 -1.3
TOA0 *e*PKPbc PKPbc 00 59 45.1 -0.3
TORD Torodi Ar. Bea 154.12 285 PKP PKPdf 00 59 35.9 -1.3
TORD PKPbc PKPbc 00 59 44.2 -1.2
TORD PKPab PKPab 00 59 59.0 -0.2
TORD PP PP 01 03 29.6 -4.7
TORD Torodi Ar. Bea 154.12 285 PKP PKPdf 00 59 35.9 -1.3
comp=Z,27nm,0.9s,baz=43,slow=1.7,SNR=53
TORD PKPbc PKPbc 00 59 44.2 -1.2
comp=Z,138nm,0.8s,baz=85,slow=2.0,SNR=68
TORD PKPab PKPab 00 59 59.0 -0.2
comp=Z,66nm,0.8s,baz=80,slow=3.2,SNR=12
TORD PP PP 01 03 29.6 -4.8
comp=Z,12nm,1.0s,baz=90,slow=5.9,SNR=4.4
DBIC Dimbokro 161.07 270 *e*PKPdf PKPdf 00 59 45.0 -1.0
DBIC PKPab PKPab 01 00 28.7 -0.6
DBIC *e*PKPab PKPab 01 00 29.1 -0.2
DBIC PP PP 01 04 08.3 -4.4
DBIC LR LR
comp=Z,2μm,21.0s
DBIC Dimbokro 161.07 270 PKP PKPdf 00 59 45.0 -1.0
comp=Z,69nm,1.0s,baz=70,slow=1.0,SNR=37
DBIC PKPab PKPab 01 00 28.7 -0.6
comp=Z,126nm,0.8s,baz=74,slow=5.0,SNR=39
DBIC PP PP 01 04 08.3 -4.4
comp=Z,16nm,0.9s,baz=98,slow=11,SNR=4.0
LIC Lamto 161.21 268⇑*i*PKIKP PKPdf 00 59 45.1 -1.0
comp=Z,272nm,1.1s
LIC *e*MLR MLR
comp=Z,2μm,18.2s
LIC Lamto 161.21 268⇑*i*PKPdf PKPdf 00 59 45.1 -1.0
LIC LR LR
comp=Z,850nm,18.3s
ASCN Ascension 162.21 213 PFAKE 01 00 00.0 +13
ASCN LR LR
comp=Z,2μm,22.0s
RCBR Riachuelo 162.39 137 *e*PKPdf PKPdf 00 59 46.9 -0.5
RCBR LR LR
comp=Z,2μm,20.0s
BBTS Babate 169.62 316 PKP PKPdf 00 59 53.4 +0.4
comp=Z,50nm,0.8s,baz=89,slow=1.3,SNR=12
BBTS PKPab PKPab 01 01 06.8 +0.2
comp=Z,171nm,1.0s,baz=25,slow=1.4,SNR=18

*IDC **04** 01:03:07.1±1.2, 863S×15766E, h0km, mb3.9/5, mb1 4.1/6, mb1mx3.9/15, mbtmp3.9/6, ML4.4/1, MS3.6/1, Ms1 3.6/1, ms1mx3.5/21, Error ellipse: s-maj=35.9km s-min=24.4km az=156.0*
*NEIC **04** 01:03:09.0±0.7, 857S×15770E, h10km, mb4.5/3, Error ellipse: s-maj=22.2km s-min=14.1km az=150.0*
*ISCJB **04** 01:03:11.3±0.7, 85S±01×15749E±007, h33km, mb3.9/7, Error ellipse: s-maj=16.4km s-min=9.6km az=179.0*
ISC 04 01:03:13.1±0.7, 85S±01×15750E±007, h35km, n15, σ1§06/14, mb3.9/7, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.58**	**111**	Pn		**Pn**	**01 03 47.7**	**-4.7**
	96nm,0.3s,baz=258,slow=3.5,SNR=9.8							
HNR					Sn	**Sn**	**01 04 22.6**	**0.0**
	104nm,0.3s,baz=278,slow=16,SNR=5.9							
HNR					LR	LR	01 04 31.7	
	comp=Z,1μm,21.7s,baz=352,slow=35							
CTA	**Charters Tower**	**15.83**	**222**	Pn		**Pn**	**01 06 54.9**	**+1.5**
CTA	**Charters Tower**	**15.83**	**222**	Pn		**Pn**	**01 06 54.9**	**+1.5**
	0.2nm,0.3s,baz=48,slow=15,SNR=2.7							
WB2	**Warramunga Arr**	**25.11**	**241**	*e*P		**P**	**01 08 33.9**	**-0.9**
WRA	**Warramunga Arr**	**25.12**	**241**	P		**P**	**01 08 34.2**	**-0.7**
	2.4nm,0.5s,mb4.0,baz=67,slow=9.6,SNR=7.2							
ASAR	**Alice Springs**	**27.15**	**234**	P		**P**	**01 08 51.5**	**-1.7**
	0.3nm,0.5s,mb3.1,baz=61,slow=11,SNR=4.3							
STKA	**Stephens Creek**	**27.55**	**210**	*e*P		**P**	**01 08 58.0**	**+1.3**
	2.9nm,0.6s,mb4.1							
STKA	**Stephens Creek**	**27.55**	**210**	P		**P**	**01 08 57.1**	**+0.4**
	3.5nm,0.7s,mb4.1,baz=42,slow=15,SNR=11							
MCK	**McKinley**	**82.55**	**21**	*e*P		**P**	**01 15 32.5**	**+0.5**
	4.3nm,0.9s,mb4.5							
COLA	**College**	**83.61**	**21**	*e*P		**P**	**01 15 37.5**	**+0.1**
	1.4nm,0.4s,mb4.4							
MKAR	**Makanchi Array**	**86.18**	**318**	P		**P**	**01 15 52.4**	**+1.6**
MKAR	**Makanchi Array**	**86.18**	**318**	P		**P**	**01 15 52.4**	**+1.6**
	0.2nm,0.6s,mb3.5,baz=90,slow=5.8,SNR=2.2							
NVAR	**Mina Array Bea**	**90.72**	**51**	P		**P**	**01 16 11.4**	**-1.1**
	0.4nm,0.7s,mb3.9,baz=254,slow=9.1,SNR=3.9							
AMTX	**Amarillo**	**103.68**	**56**	Pdif		Pdif	01 17 10.0	-0.8
MORC	**Moravsky Berou**	**127.08**	**328**	Pdif		Pdif	01 18 55.8	+0.9

*CSEM **04** 01:06:05.6±0.2, 3825N×4370E, h20km, MD2.8, Error ellipse: s-maj=5.8km s-min=1.6km az=66.0*
*ISK **04** 01:06:06.0, 3826N×4370E, h20km, MD2.8*
ISC 04 01:06:04.7±3.0, 3832N±009×440E±03, h18km±8km, n9, σ0§52/13, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
TVAN	**Van**	**0.48**	**296**	*i* P		**Pg**	**01 06 14.9**	**+0.5**
TVAN	**Van**	**0.48**	**296**	*i* P		**Pg**	**01 06 14.9**	**+0.6**
TVAN				*i* S		**Sg**	**01 06 26.0**	**+5.2**
VANB	**Van**	**0.52**	**302**	PG		**Pg**	**01 06 15.1**	**0.0**
VANB				SG		**Sg**	**01 06 21.8**	**-0.4**
HKR	**Hakkari**	**0.76**	**193**	PG		**Pg**	**01 06 19.8**	**+0.2**
HKR				SG		**Sg**	**01 06 30.0**	**+0.3**
HAKT	**HAKKARI**	**0.79**	**195**	*i* P		**Pb**	**01 06 19.9**	**0.0**
HAKT	**HAKKARI**	**0.79**	**195**	*i* P		**Pb**	**01 06 19.9**	**0.0**
HAKT				*i* S		**Sb**	**01 06 30.4**	**+0.2**
CUKT	**Cukurca**	**1.11**	**195**	*e*PG		**Pg**	**01 06 25.5**	**-0.7**
SIRT	**Sirnak**	**1.45**	**236**	*e*PN		**Pn**	**01 06 29.1**	**-1.0**
BTMT	**Batman**	**1.95**	**267**	*e*PN		**Pn**	**01 06 37.7**	**+0.8**

*ATH **04** 01:16:30.4, 3826N×2030E, h13km±1km, MD3.9/14, ML4.0*
*ISCJB **04** 01:16:30.9±0.6, 3837N±002×2032E±003, h6km±3km, mb3.7/3, Error ellipse: s-maj=5.0km s-min=2.9km az=149.7*
*NEIC **04** 01:16:31.0, 3827N×2034E, h15km, ML4.0(ATH), ML3.6(PDG), After ATH.*
*PDG **04** 01:16:31.7±0.2, 3843N×2036E, h10km±1km, ML3.6/10, Error ellipse: s-maj=0.9km s-min=1.8km az=0.0*
*CSEM **04** 01:16:32.4±0.2, 3830N×2046E, h2km, ML4.0, Error ellipse: s-maj=4.7km s-min=2.1km az=51.0*
*THE **04** 01:16:33.5, 3846N×2032E, h3km, ML3.9*
*SKO **04** 01:16:34.5, 3851N×2022E, h0km*
*IDC **04** 01:16:40.4±3.3, 3835N×2046E, h92km±33km, mb3.4/3, mb1 3.3/5, mb1mx3.1/21, mbtmp3.2/5, MS4.5/1, Ms1 4.5/1, ms1mx3.0/35, Error ellipse: s-maj=27.9km s-min=19.5km az=103.0*
ISC 04 01:16:31.8±0.6, 3836N±002×2035E±003, h3km±3km, n64, σ1§13/96, mb3.7/3, 10C-3D, Greece

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.26**	**133**	⇑*i*PG		**Pg**	**01 16 36.1**	**-0.7**
VLS				*e*SG		**Sg**	**01 16 40.0**	**-0.2**
LKD	**Levkas**	**0.42**	**34**	*e*Pg		**Pg**	**01 16 39.6**	**-0.3**
LKD				*e*Sg		**Sg**	**01 16 46.1**	**+0.7**
RLS	**Riolos of Patr**	**0.93**	**108**	*e*PG		**Pg**	**01 16 47.9**	**-1.7**
RLS				*e*SB		**Sb**	**01 17 00.8**	**-2.5**
IGT	**Igoumenitsa**	**1.18**	**359**	*e*Pg		**Pg**	**01 16 53.7**	**-0.6**
IGT				*e*Sg		**Sg**	**01 17 09.0**	**-0.5**
EVR	**Evrytania**	**1.27**	**63**	*e*PN		**Pn**	**01 16 54.6**	**-1.8**
EVR				*e*SB		**Sb**	**01 17 15.3**	**+2.1**
EVR	**Evrytania**	**1.27**	**63**	*e*Pb		**Pb**	**01 16 54.1**	**-2.3**
JAN	**Janina**	**1.36**	**17**	*e*PB		**Pb**	**01 16 58.3**	**+0.5**
JAN				*e*SB		**Sb**	**01 17 17.7**	**+2.2**
KEK	**Kerkira**	**1.42**	**343**	*e*PB		**Pb**	**01 16 58.9**	**0.0**
KEK				*e*SB		**Sb**	**01 17 18.7**	**+1.3**
SRN	**Sarande**	**1.54**	**350**	*i* PN		**Pn**	**01 17 01.8**	**+0.4**
SRN				*i* SN		**Sg**	**01 17 26.2**	**+4.8**
MEV	**Metsovon**	**1.58**	**25**	*e*Pg		**Pn**	**01 17 01.8**	**+1.1**
AGG	**Agios Georgios**	**1.69**	**66**	*e*Pb		**Pb**	**01 17 02.4**	**-1.1**
AGG				*e*Sb		**Sg**	**01 17 26.7**	**+0.7**
ITM	**Ithomi**	**1.72**	**133**	*e*PG		**Pn**	**01 17 02.2**	**-0.3**
ITM				*e*SB		**Sb**	**01 17 23.5**	**-2.4**
THL	**Klokotos Trika**	**1.77**	**47**	*e*PG		**Pg**	**01 17 04.9**	**-0.9**
LKR	**Lokris**	**2.10**	**81**	*e*PN		**Pn**	**01 17 08.3**	**+0.5**
KZN	**Kozani**	**2.24**	**29**	*e*PB		**Pn**	**01 17 10.4**	**+0.7**
KBN	**Korca**	**2.29**	**8**	*i* PN		**Pg**	**01 17 16.1**	**+0.5**
KBN				*i* SN		**Sg**	**01 17 44.5**	**-0.8**
LIT	**Litokhoron**	**2.41**	**43**	*e*Pn		**Pn**	**01 17 13.7**	**+1.6**
LIT				*e*Sn		**Sn**	**01 17 43.3**	**+1.3**
NEO	**Neokhori**	**2.44**	**66**	*e*PN		**Pn**	**01 17 13.1**	**+0.6**
FNA	**Florina**	**2.55**	**18**	*e*Pn		**Pn**	**01 17 14.4**	**+0.4**
FNA				*e*Sn		**Sn**	**01 17 46.8**	**+1.2**
NAIG	**Nisos Aigina**	**2.55**	**103**	*e*PN		**Pn**	**01 17 14.5**	**+0.5**
VLI	**Veliai**	**2.63**	**128**	*e*PN		**Pn**	**01 17 15.6**	**+0.5**
ATH	**Athens Observa**	**2.68**	**97**	*e*PN		**Pn**	**01 17 15.0**	**-0.8**
BIA	**Bitola**	**2.76**	**16**	*e*Pn		**Pn**	**01 17 17.5**	**+0.5**
BIA				*e*Sn		**Sn**	**01 17 51.5**	**+0.7**
BIA	**Bitola**	**2.76**	**16**	*e*Pn		**Pn**	**01 17 18.8**	**+1.9**
OHR	**Ohrid**	**2.77**	**7**	*e*Pn		**Pn**	**01 17 17.2**	**+0.1**
OHR	**Ohrid**	**2.77**	**7**	*e*Pn		**Pn**	**01 17 18.9**	**+1.8**
PTL	**Penteli**	**2.79**	**95**	*e*PB		**Pn**	**01 17 17.8**	**+0.5**
AOS	**Alonnisos**	**2.88**	**73**	*e*Pn		**Pn**	**01 17 19.4**	**+0.9**
TIP	**Timpagrande**	**2.92**	**287**	P		**Pn**	**01 17 21.3**	**+2.2**
TIR	**Tirane**	**3.01**	**353**	*e*Pn		**Pn**	**01 17 21.1**	**+0.8**
TIR				*e*Sn		**Sn**	**01 17 56.7**	**-0.2**
TIR	**Tirane**	**3.01**	**353**	*i* PN		**Pn**	**01 17 21.4**	**+1.1**
TIR				*i* SN		**Sn**	**01 17 57.3**	**+0.4**
TIR	**Tirane**	**3.01**	**353**	P		**Pn**	**01 17 22.9**	**+2.6**
TIR				*e*Sn		**Sn**	**01 17 56.7**	**-0.2**
KRUS	**Krusevo**	**3.09**	**13**	*e*Pn		**Pn**	**01 17 22.4**	**+1.0**
KRUS				*e*Sn		**Sn**	**01 17 58.6**	**-0.2**
KRUS	**Krusevo**	**3.09**	**13**	*e*Pn		**Pn**	**01 17 22.3**	**+0.9**
KRUS				*e*Sn		**Sn**	**01 17 58.6**	**-0.2**
PLG	**Polygyros**	**3.13**	**49**	*e*PN		**Pn**	**01 17 23.1**	**+1.1**
TA1	**Taranto**	**3.14**	**312**	*e*Pn		**Pn**	**01 17 24.7**	**+2.6**
PE1	**Pezze di Greco**	**3.33**	**318**	*e*Pn		**Pn**	**01 17 26.5**	**+1.8**
SOH	**

0.5nm,0.3s,baz=246,slow=15,SNR=3.5
RDO Rodhopi 4.87 54 *e*PN **Pn 01 17 47.0 +1.1**
UPM Unac-Piva 4.96 348 ⇑*i*Pn **Pn 01 17 46.6 -0.5**
UPM *e*Sn **Sn 01 18 43.5 -1.5**
PLE Pljevlja 5.02 352 ⇓*i*Pn **Pn 01 17 47.6 -0.3**
PLE *e*Sn **Sn 01 18 45.2 -1.2**
MLR Muntele Rosu 8.26 29 P **Pn 01 18 37.6 +5.2**
0.1nm,0.3s,baz=270,slow=13,SNR=4.7
FINES FINESS Array B 23.39 7 P **P 01 21 39.8 -1.7**
1.4nm,0.8s,mb3.5,baz=172,slow=11,SNR=3.0
AKTO Aktyubinsk 29.18 53 LR LR 01 37 36.6
comp=Z,865nm,20.4s,baz=265,slow=43
TORD Torodi Ar. Bea 30.08 218 P **P 01 22 41.7 -0.8**
18nm,0.4s,baz=16,slow=8.1,SNR=3.7
MKAR Makanchi Array 45.33 59 P **P 01 24 48.5 -2.3**
0.4nm,0.5s,mb3.5,baz=272,slow=8.5,SNR=5.8
ZALV Zalesovo Beam 45.67 48 P **P 01 24 51.2 -2.2**
0.9nm,0.4s,mb4.0,baz=275,slow=8.6,SNR=5.1

IDC 04 01:17:18.0±4.7, 743S×15592E, h0km, mb3.8/4, mb1 3.9/4, mb1mx3.6/14, mbtmp3.8/4, Error ellipse: s-maj=138.5km s-min=38.2km az=116.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.33**	**237**	P	P	01 22 38.2	+0.5
0.7nm,0.5s,baz=64,slow=9.5,SNR=3.3							
SONM	**Songino Array**	**70.20**	**327**	P	P	01 28 33.3	+0.6
0.4nm,0.5s,baz=129,slow=3.9,SNR=2.9							
MKAR	**Makanchi Array**	**84.33**	**319**	P	P	01 29 52.3	+0.2
0.9nm,0.8s,baz=99,slow=5.1,SNR=8.0							
ZALV	**Zalesovo Beam**	**85.05**	**326**	P	P	01 29 54.7	-0.8
0.8nm,0.5s,baz=120,slow=6.3,SNR=2.7							

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*ISCJB **04** 01:24:46.5±4.7, 219S±0.1×178.0W±0.2, h312km±47km, mb3.9/11, Error ellipse: s-maj=25.1km s-min=15.8km az=171.2*
*NEIC **04** 01:24:46.1±5.1, 2176S×17789W, h299km±47km, mb4.2/4, Error ellipse: s-maj=25.8km s-min=16.7km az=206.0*
*IDC **04** 01:24:47.6±6.3, 2177S×17790W, h313km±57km, mb3.6/9, mb1 3.8/10, mb1mx3.6/17, mbtmp3.7/10, Error ellipse: s-maj=27.3km s-min=19.3km az=43.0*
ISC 04 01:24:52.0±4.2, 220S±01×1780W±02, h352km±43km, n30, σ0§97/17, mb3.8/11, 4D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**16.72 194**		P	**P**	**01 28 24.0**	**-1.0**
3.0nm,0.3s,baz=37,slow=3.2,SNR=15							
URZ				S	**S**	**01 31 20.6**	**-1.0**
0.5nm,0.3s,baz=211,slow=1.0,SNR=4.5							
RPZ	**Rata Peaks**	**23.46 200**		P	**P**	**01 29 32.0**	**+0.9**
17nm,0.6s,mb4.4,baz=34,slow=2.2,SNR=9.4							
ARMA	**Armidale**	**28.45 247**		*e*P	**P**	**01 30 17.4**	**+1.7**
CTA	**Charters Tower**	**33.40 267**		*e*P	**P**	**01 30 59.0**	**+0.1**
8.0nm,0.9s,mb4.0							
CTA	**Charters Tower**	**33.40 267**		P	**P**	**01 30 59.1**	**+0.3**
2.0nm,0.4s,mb3.7,baz=79,slow=7.5,SNR=5.0							
STKA	**Stephens Creek**	**37.17 246**		*e*P	**P**	**01 31 31.2**	**+0.6**
4.7nm,0.9s,mb3.7							
STKA	**Stephens Creek**	**37.17 246**		P	**P**	**01 31 31.2**	**+0.6**
6.6nm,0.8s,mb3.9,baz=92,slow=8.9,SNR=14							
ASAR	**Alice Springs**	**44.22 258**		P	**P**	**01 32 27.6**	**-0.1**
6.2nm,0.8s,mb3.8,baz=92,slow=8.0,SNR=54							
ASAR				PcP	PcP	01 34 04.5	-1.0
0.5nm,0.5s,baz=93,slow=4.6,SNR=4.2							
WB2	**Warramunga Arr**	**44.43 264**		*e*P	**P**	**01 32 28.6**	**-0.8**
WRA	**Warramunga Arr**	**44.44 264**		P	**P**	**01 32 28.6**	**-0.9**
1.2nm,0.4s,mb3.4,baz=96,slow=8.3,SNR=13							
FORT	**Forrest**	**48.73 248**		*e*P	**P**	**01 33 01.7**	**-0.6**
17nm,0.6s,mb4.4							
FITZ	**Fitzroy Crossi**	**52.87 264**		P	**P**	**01 33 33.2**	**+0.2**
1.1nm,0.8s,mb3.3,baz=51,slow=12,SNR=3.0							
VNDA	**Vanda**	**56.39 185**		P	**P**	**01 33 59.8**	**+2.6**
0.8nm,0.6s,mb3.2,baz=7.4,slow=8.5,SNR=6.0							
KLBR	**Kellerberrin**	**57.45 246**		*e*P	**P**	**01 34 04.8**	**-0.5**
5.2nm,0.6s,mb4.0							
MAW	**Mawson**	**80.14 200**		P	**P**	**01 36 23.9**	**+0.7**
3.5nm,0.7s,mb4.2,baz=126,slow=5.3,SNR=5.5							
NVAR	**Mina Array Bea**	**82.11 43**		P	**P**	**01 36 33.0**	**-0.9**
0.3nm,0.6s,mb3.3,baz=239,slow=6.2,SNR=3.2							
ARCES	**ARCESS Array B**	**130.43 349**		PKP	PKPdf	01 43 20.4	+0.2
8.0nm,1.1s,baz=61,slow=3.3,SNR=7.3							
AKASG	**Malin Array Be**	**144.36 330**		PKP	PKPdf	01 43 44.1	-2.1
6.1nm,0.5s,baz=42,slow=4.2,SNR=41							
KIEV	**Kiev**	**144.37 330**		*e*PKP	PKPdf	01 43 44.8	-1.5
MMAI	**Mount Meron Ar**	**148.57 298**		PKPbc	PKPbc	01 43 59.3	+1.2
1.6nm,0.6s,baz=95,slow=4.8,SNR=4.0							
CLL	**Collm**	**149.55 346**		⇓*i*P	PKPbc	01 44 00.6	+0.8
7.0nm,1.0s							
CLL				*e*		01 44 06.0	
CLL	**Collm**	**149.55 346**		⇓*i*P	PKPbc	01 44 00.6	+0.8
CLL				*e*		01 44 06.0	
CLL				pmax	pmax		
comp=Z,13nm,1.0s							
CLL	**Collm**	**149.55 346**		⇓*i*PKPbc	PKPbc	01 44 00.6	+0.8
comp=Z,7.0nm,1.0s							
CLL				*e*PKPab	PKPab	01 44 06.0	-0.1
DPC	**Dobruska-Polom**	**149.59 342**		*e*PKPbc	PKPbc	01 44 00.5	+0.6
BRG	**Berggiesshubel**	**149.74 345**		⇓*i*P	PKPbc	01 44 00.6	+0.3
BRG				*e*		01 44 06.0	
BRG				pmax	pmax		
comp=Z,13nm,1.0s							
PRU	**Pruhonice**	**150.41 344**		*e*PKPbc	PKPbc	01 44 02.5	+0.6
KHC	**Kasperske Hory**	**151.44 344**		*e*PKPbc	PKPbc	01 44 05.0	+0.7
GERES	**GERESS Array B**	**151.67 344**		PKPbc	PKPbc	01 44 03.7	-1.1
comp=Z,1.1nm,0.6s,baz=41,slow=8.9,SNR=5.6							
DAVOX	**Davos/Dischmat**	**154.50 347**		PKPbc	PKPbc	01 44 11.2	+0.2
comp=Z,1.4nm,0.5s,baz=243,slow=9.0,SNR=5.2							
TORD	**Torodi Ar. Bea**	**171.16 178**		PKPab	PKPab	01 45 40.9	+0.1
comp=Z,0.4nm,0.6s,baz=185,slow=3.7,SNR=9.1							

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*MOS **04** 01:31:59.9±2.3, 4357N×14945E, h39km, mb4.3/5, Error ellipse: s-maj=26.9km s-min=18.5km az=122.3*
*IDC **04** 01:31:59.3±10.0, 4428N×14920E, h0km, mb3.9/6, mb1 4.0/6, mb1mx3.7/20, mbtmp3.9/6, Error ellipse: s-maj=257.8km s-min=32.5km az=168.0*
*NEIC **04** 01:32:01.4±1.7, 4372N×14933E, h35km, mb4.6/2, Error ellipse: s-maj=45.7km s-min=16.0km az=154.0*
*JMA **04** 01:32:01.4±0.6, 4442N×14926E, h30km, M4.0*
*ISCJB **04** 01:32:02.5±1.4, 4350N±008×1493E±01, h70km±11km, mb3.8/7, Error ellipse: s-maj=15.7km s-min=10.3km az=143.6*
ISC 04 01:32:04.2±1.3, 4359N±009×1493E±01, h64km±12km, n34, σ0§82/41, mb4.0/7, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YUK	**Yuzh-Kuril'sk**	**2.51 281**		PN	**Pn**	**01 32 41.7**	**-0.8**
YUK				*e*S	**Sn**	**01 33 12.7**	**+0.7**
YUK				smax			
comp=N,380nm,0.5s							
YUK				smax			
comp=E,380nm,0.5s							
NEM2	**Nemuro 2**	**2.58 266**		P	**Pn**	**01 32 42.1**	**-1.4**
NEM2				*e*S	**Sn**	**01 33 12.3**	**-1.4**
JRA	**Rausu**	**3.03 278**		P	**Pn**	**01 32 48.3**	**-1.3**
JRA				*e*S	**Sn**	**01 33 24.4**	**-0.2**
JNK	**Nakash**	**3.31 271**		P	**Pn**	**01 32 52.4**	**-1.0**
JNK				*e*S	**Sn**	**01 33 31.6**	**+0.1**
JAK	**Akkeshi**	**3.39 261**		P	**Pn**	**01 32 54.6**	**0.0**
JAK				*e*S	**Sn**	**01 33 34.1**	**+0.5**
JTKR	**Abashiri--Toko**	**3.90 277**		P	**Pn**	**01 33 00.8**	**-0.8**
JAR	**Ashorobuto**	**4.02 268**		P	**Pn**	**01 33 03.6**	**+0.5**
JAR				*e*S	**Sn**	**01 33 49.2**	**+0.3**
JOB	**Onbets**	**4.03 262**		P	**Pn**	**01 33 03.8**	**+0.5**
JMP	**Maruseppu**	**4.30 278**		P	**Pn**	**01 33 06.7**	**-0.3**
JCH	**Churui**	**4.44 259**		P	**Pn**	**01 33 09.8**	**+0.9**
JCH				*e*S	**Sn**	**01 33 59.0**	**-0.2**
JKK2	**Kamakawa 2**	**4.74 276**		P	**Pn**	**01 33 13.9**	**+0.9**
JEM	**Erimo**	**4.77 253**		P	**Pn**	**01 33 16.4**	**+3.0**
JNBK	**Urakawa-nobuka**	**4.96 257**		P	**Pn**	**01 33 16.8**	**+0.7**
JBT2	**Biratori 2**	**5.12 263**		P	**Pn**	**01 33 19.0**	**+0.8**
JNB	**Noboribetsu**	**6.14 262**		P	**Pn**	**01 33 33.0**	**+0.9**
JKB	**Kayabe**	**6.30 257**		P	**Pn**	**01 33 35.0**	**+0.6**
JYM2	**Yakumo 2**	**6.71 260**		P	**Pn**	**01 33 40.8**	**+0.9**
JRG	**Rokugo**	**7.72 240**		*e*S	**Sn**	**01 35 18.9**	**-0.8**
JIO	**Ouri**	**7.88 232**		*e*S	**Sn**	**01 35 22.5**	**-1.3**
INK	**Inuvik**	**45.76 30**		P	**P**	**01 40 17.8**	**-0.8**
INK				pmax	pmax		
comp=Z,1.0nm,0.9s							
INK	**Inuvik**	**45.76 30**		P	**P**	**01 40 17.8**	**-0.9**
comp=Z,1.2nm,0.9s,mb3.8,baz=240,slow=5.2,SNR=4.5							
MK31	**Makanchi Array**	**46.02 298**		*e*P	**P**	**01 40 20.9**	**0.0**
MKAR	**Makanchi Array**	**46.02 298**		P	**P**	**01 40 21.8**	**+0.9**
MKAR				pmax	pmax		
comp=Z,2.0nm,0.8s							
MKAR	**Makanchi Array**	**46.02 298**		P	**P**	**01 40 21.8**	**+0.9**
comp=Z,1.5nm,0.8s,mb4.0,baz=76,slow=8.0,SNR=16							
CHTO	**Chiang Mai**	**48.73 256**		P	**P**	**01 40 43.0**	**+0.7**
comp=Z,2.8nm,0.6s,mb4.5							
CHTO				*e*	pP	01 41 00.5	+1.7
CHTO	**Chiang Mai**	**48.73 256**		P	**P**	**01 40 43.0**	**+0.7**
CHTO				*e*	pP	01 41 00.5	+1.7
CHTO				pmax	pmax		
comp=Z,3.0nm,0.6s,mb4.5							
YKA	**Yellowknife Ar**	**55.07 34**		P	**P**	**01 41 28.7**	**-0.2**
comp=Z,0.2nm,0.6s,mb3.4,baz=292,slow=6.6,SNR=3.2							
FINES	**FINESS Array B**	**65.71 334**		P	**P**	**01 42 40.8**	**-0.6**
FINES				pmax	pmax		
comp=Z,2.0nm,0.7s							
FINES	**FINESS Array B**	**65.71 334**		P	**P**	**01 42 40.8**	**-0.6**
comp=Z,1.9nm,0.7s,mb4.2,baz=42,slow=4.3,SNR=4.8							
NB2	**NORSAR Subarra**	**70.30 340**		P	**P**	**01 43 09.9**	**-0.3**
comp=Z,0.8nm,0.5s,mb3.9,baz=29,slow=6.5							
NOA	**NORSAR Array B**	**70.30 340**		P	**P**	**01 43 09.6**	**-0.6**
NOA				pmax	pmax		
comp=Z,3.0nm,0.9s							
NOA	**NORSAR Array B**	**70.30 340**		P	**P**	**01 43 09.6**	**-0.6**
comp=Z,2.7nm,0.9s,mb4.2,baz=31,slow=6.1,SNR=5.7							
AKASG	**Malin Array Be**	**72.61 325**		P	**P**	**01 43 24.6**	**+0.3**
AKASG				pmax	pmax		
comp=Z,1.0nm,0.5s							
AKASG	**Malin Array Be**	**72.61 325**		P	**P**	**01 43 24.6**	**+0.3**
comp=Z,0.6nm,0.5s,mb3.8,baz=37,slow=6.2,SNR=7.8							

IDC 04 01:33:24.6±1.3, 769S×15652E, h0km, mb4.0/4, mb1 4.2/5, mb1mx3.8/15, mbtmp4.1/5, ML4.4/1, Error ellipse: s-maj=38.3km s-min=33.4km az=11.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**3.81 117**		Pn	Pn	01 34 25.7	+1.2
26nm,0.3s,baz=239,slow=2.5,SNR=4.3							
HNR				Sn	Sn	01 35 15.3	+5.2
27nm,0.3s,baz=278,slow=15,SNR=5.0							
WRA	**Warramunga Arr**	**24.70 238**		P	P	01 38 47.4	-0.2
1.4nm,0.5s,baz=64,slow=9.4,SNR=6.3							
SONM	**Songino Array**	**70.73 327**		P	P	01 44 43.7	+1.2
3.5nm,0.8s,baz=141,slow=7.1,SNR=12							
MKAR	**Makanchi Array**	**84.92 318**		P	P	01 46 01.4	-0.2
0.7nm,0.8s,baz=102,slow=6.9,SNR=7.1							
YKA	**Yellowknife Ar**	**96.24 28**		P	P	01 46 53.1	-1.4
0.3nm,0.9s,baz=256,slow=5.0,SNR=3.5							

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*BJI **04** 01:53:59.7, 728S×15550E, h33km, mb4.7*
*IDC **04** 01:54:00.7±0.9, 688S×15478E, h0km, mb4.3/9, mb1 4.5/9, mb1mx4.3/14, mbtmp4.2/9, Error ellipse: s-maj=37.0km s-min=19.9km az=119.0*
*NEIC **04** 01:54:02.0±0.6, 692S×15477E, h10km, mb4.2/3, Error ellipse: s-maj=24.2km s-min=12.3km az=122.0*
*ISCJB **04** 01:54:04.3±0.8, 69S±0.1×1547E±02, h33km, mb4.2/11, Error ellipse: s-maj=27.6km s-min=13.2km az=29.9*
ISC 04 01:54:06.0±0.8, 70S±01×1547E±02, h35km, n21, σ1§09/18, mb4.2/11, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**15.43 211**		*e*P	**Pn**	**01 57 46.4**	**+5.3**
6.2nm,0.9s							
CTA	**Charters Tower**	**15.43 211**		Pn	**Pn**	**01 57 46.3**	**+5.2**
0.1nm,0.3s,baz=40,slow=12,SNR=6.7							
WB2	**Warramunga Arr**	**23.62 235**		*e*P	**P**	**01 59 12.8**	**-1.3**
WRA	**Warramunga Arr**	**23.63 235**		P	**P**	**01 59 14.1**	**-0.1**
10.0nm,0.9s,mb4.2,baz=60,slow=9.7,SNR=20							
ASAR	**Alice Springs**	**26.00 228**		P	**P**	**01 59 35.8**	**0.0**
2.0nm,0.8s,mb3.7,baz=59,slow=8.7,SNR=17							
ASAR				ScP	ScP	02 06 45.7	+4.9
0.8nm,0.8s,baz=56,slow=2.6,SNR=7.7							
STKA	**Stephens Creek**	**27.66 205**		*e*P	**P**	**01 59 51.9**	**+1.3**
4.5nm,1.0s,mb4.0							
STKA	**Stephens Creek**	**27.66 205**		P	**P**	**01 59 51.8**	**+1.2**
6.2nm,0.9s,mb4.2,baz=27,slow=13,SNR=8.7							
NWAO	**Narrogin (SRO)**	**43.33 228**		*e*P	**P**	**02 02 04.2**	**-0.6**
8.6nm,1.0s,mb4.4							
MJAR	**Matsushiro Arr**	**45.97 341**		P	**P**	**02 02 23.5**	**-2.2**
0.8nm,0.3s,mb4.1,baz=151,slow=9.3,SNR=2.7							
LZH	**Lanzhou**	**64.11 316**		*e*P	**P**	**02 04 35.6**	**-1.3**
GTA	**Gaotai**	**68.54 317**		*e*P	**P**	**02 05 07.3**	**+2.1**
GTA				AP	pP	02 05 11.5	-4.5
GTA				AMB	AMB		
comp=Z,7.0nm,0.8s,mb4.6							
SONM	**Songino Array**	**69.17 327**		P	**P**	**02 05 10.0**	**+1.2**
comp=Z,1.4nm,0.5s,mb4.1,baz=68,slow=3.9,SNR=4.1							
MK31	**Makanchi Array**	**83.21 319**		P	**P**	**02 06 29.7**	**+1.0**
MKAR	**Makanchi Array**	**83.21 319**		P	**P**	**02 06 29.4**	**+0.7**
MKAR	**Makanchi Array**	**83.21 319**		P	**P**	**02 06 29.4**	**+0.7**
comp=Z,1.2nm,0.7s,mb4.0,baz=104,slow=4.8,SNR=11							
NVAR	**Mina Array Bea**	**91.90 52**		P	**P**	**02 07 11.2**	**+0.2**
comp=Z,0.7nm,0.8s,mb4.0,baz=232,slow=5.3,SNR=6.3							
YKA	**Yellowknife Ar**	**96.42 28**		P	**P**	**02 07 31.0**	**-0.2**
comp=Z,2.0nm,0.9s,mb4.5,baz=270,slow=4.5,SNR=24							
PDAR	**Pinedale Array**	**98.86 48**		P	**P**	**02 07 41.8**	**-0.8**
comp=Z,0.2nm,0.7s,mb3.8,baz=243,slow=4.0,SNR=2.4							
BDFB	**Brasilia**	**148.19 135**		PKPbc	PKPbc	02 13 49.2	0.0
comp=Z,2.1nm,0.9s,baz=180,slow=5.1,SNR=3.4							
TORD	**Torodi Ar. Bea**	**152.77 285**		PKPbc	PKPbc	02 14 00.5	+0.2
TORD	**Torodi Ar. Bea**	**152.77 285**		PKPbc	PKPbc	02 14 00.5	+0.2
comp=Z,2.4nm,0.8s,baz=62,slow=2.3,SNR=14							

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*IDC **04** 01:54:44.9±0.9, 863S×15750E, h0km, mb4.2/6, mb1 4.4/7, mb1mx4.1/15, mbtmp4.2/7, ML4.5/1, MS3.8/2, Ms1 3.8/2, ms1mx3.2/27, Error ellipse: s-maj=32.6km s-min=20.8km az=166.0*
*NEIC **04** 01:54:46.3±0.7, 869S×15755E, h10km, mb4.0/2, Error ellipse: s-maj=25.0km s-min=13.4km az=165.0*
*ISCJB **04** 01:54:48.7±0.8, 87S±02×15739E±007, h33km, mb3.9/6, Error ellipse: s-maj=21.8km s-min=9.6km az=1.5*
ISC 04 01:54:50.4±0.8, 86S±02×15741E±007, h35km, n14, σ0§74/12, mb3.9/6, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.63 108**		Pn	**Pn**	**01 55 25.9**	**-4.6**
87nm,0.3s,baz=278,slow=2.7,SNR=9.3							
HNR				Sn	**Sn**	**01 56 01.2**	**0.0**
88nm,0.3s,baz=92,slow=18,SNR=13							
CTA	**Charters Tower**	**15.69 222**		*e*P	**Pn**	**01 58 33.7**	**+4.8**
4.4nm,0.7s							
CTA	**Charters Tower**	**15.69 222**		Pn	**Pn**	**01 58 33.2**	**+4.3**
0.1nm,0.3s,baz=41,slow=11,SNR=3.8							
CTA				LR	LR	02 03 31.5	
comp=Z,362nm,19.1s,baz=49,slow=33							
WB2	**Warramunga Arr**	**24.97 241**		*e*P	**P**	**02 00 09.9**	**-1.0**
WRA	**Warramunga Arr**	**24.98 241**		P	**P**	**02 00 10.5**	**-0.6**
3.4nm,0.7s,mb4.0,baz=66,slow=9.3,SNR=5.9							
WRA				PcP	PcP	02 03 45.2	-0.6
1.2nm,0.7s,baz=70,slow=2.5,SNR=4.1							
ASAR	**Alice Springs**	**27.01 234**		P	**P**	**02 00 30.1**	**+0.7**
1.5nm,0.8s,mb3.6,baz=62,slow=8.5,SNR=2.9							
ASAR				PcP	PcP	02 03 50.0	-0.4
0.5nm,0.7s,baz=62,slow=2.5,SNR=3.2							
STKA	**Stephens Creek**	**27.41 210**		*e*P	**P**	**02 00 33.4**	**+0.6**
4.4nm,0.7s,mb4.1							
STKA	**Stephens Creek**	**27.41 210**		P	**P**	**02 00 33.0**	**+0.3**
5.0nm,0.7s,mb4.2,baz=33,slow=13,SNR=6.0							
FITZ	**Fitzroy Crossi**	**32.26 250**		LR	LR	02 13 16.4	
comp=Z,155nm,21.1s,baz=256,slow=34							
MKAR	**Makanchi Array**	**86.20 318**		P	**P**	**02 07 29.0**	**+0.8**
0.6nm,0.6s,mb4.0,baz=92,slow=6.3,SNR=2.9							
NVAR	**Mina Array Bea**	**90.86 51**		P	**P**	**02 07 51.1**	**+0.5**
0.7nm,0.7s,mb4.1,baz=254,slow=6.5,SNR=4.9							
PDAR	**Pinedale Array**	**98.01 48**		P	**P**	**02 08 22.2**	**-1.0**
0.2nm,0.6s,mb3.9,baz=235,slow=4.3,SNR=2.7							
URVA	**University of**	**122.81 51**		PKPdf	PKPdf	02 13 40.1	-3.1
BDFB	**Brasilia**	**145.14 134**		PKPbc	PKPbc	02 14 25.7	+0.9
3.3nm,0.7s,baz=189,slow=9.4,SNR=5.8							

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*SKO **04** 01:56:21.7, 3836N×2026E, h0km*
*NEIC **04** 01:56:21.5, 3832N×2045E, h13km, ML3.9(ATH), After ATH.*
*ATH **04** 01:56:21.6, 3835N×2047E, h11km±1km, MD3.9/14, ML3.9*
*ISCJB **04** 01:56:22.3±0.5, 3835N±002×2046E±004, h10km, mb3.5/4, Error ellipse: s-maj=5.2km s-min=2.8km az=153.2*
*CSEM **04** 01:56:22.2±0.1, 3832N×2043E, h2km, ML3.9, Error ellipse: s-maj=2.8km s-min=1.8km az=50.0*
*THE **04** 01:56:23.9, 3847N×2050E, h1km, ML3.7*
*IDC **04** 01:56:28.4±5.5, 3843N×2054E, h71km±57km, mb3.5/3, mb1 3.4/4, mb1mx3.2/20, mbtmp3.4/4, ML2.5/1, Error ellipse: s-maj=37.4km s-min=25.0km az=131.0*
ISC 04 01:56:23.0±0.5, 3834N±002×2046E±004, h10km, n46, σ1§22/62, mb3.5/4, 1C, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.19 149**		⇑*i*PG	**Pg**	**01 56 25.9**	**-1.1**
VLS				*e*SG	**Sg**	**01 56 29.1**	**-0.7**
LKD	**Levkas**	**0.39 22**		*e*Pg	**Pg**	**01 56 28.7**	**-2.0**
LKD				*e*Sg	**Sg**	**01 56 32.8**	**-3.1**
RLS	**Riolos of Patr**	**0.84 109**		*e*PB	**Pb**	**01 56 37.7**	**-1.9**
RLS				*e*SB	**Sb**	**01 56 49.9**	**-1.1**
IGT	**Igoumenitsa**	**1.19 355**		*e*Pg	**Pg**	**01 56 43.0**	**-2.9**
IGT				*e*Sg	**Sg**	**01 57 00.2**	**-1.1**
EVR	**Evrytania**	**1.20 61**		*e*PN	**Pn**	**01 56 43.5**	**-2.3**
JAN	**Janina**	**1.35 13**		*e*Pb	**Pb**	**01 56 47.1**	**-1.2**
JAN				*e*Sb	**Sb**	**01 57 06.8**	**+1.2**
KEK	**Kerkira**	**1.46 340**		*e*PG	**Pn**	**01 56 48.6**	**-0.8**
KEK				*e*SB	**Sb**	**01 57 09.4**	**+0.5**
MEV	**Metsovon**	**1.56 22**		*e*Pg	**Pn**	**01 56 50.9**	**+0.1**
MEV	**Metsovon**	**1.56 22**		*e*Pg	**Pn**	**01 56 50.8**	**+0.1**
SRN	**Sarande**	**1.58 347**		*i* Pn	**Pn**	**01 56 50.7**	**-0.3**
SRN				*i* Sn	**Sg**	**01 57 16.9**	**+3.2**
AGG	**Agios Georgios**	**1.61 65**		*e*Pg	**Pn**	**01 56 51.3**	**-0.2**
AGG				*e*Sg	**Sg**	**01 57 13.3**	**-1.5**
ITM	**Ithomi**	**1.64 135**		*e*PB	**Pb**	**01 56 52.4**	**-0.9**
THL	**Klokotos Trika**	**1.72 44**		*e*PG	**Pn**	**01 56 53.1**	**+0.2**
LKR	**Lokris**	**2.01 80**		*e*PN	**Pn**	**01 56 58.0**	**+1.0**
LKR				*e*SN	**Sn**	**01 57 23.2**	**+1.0**
KZN	**Kozani**	**2.21 27**		*e*PN	**Pn**	**01 57 01.2**	**+1.6**
LIT	**Litokhoron**	**2.36 41**		*e*Pn	**Pn**	**01 57 01.9**	**+0.2**
LIT				*e*Sn	**Sn**	**01 57 31.0**	**+0.3**
NEO	**Neokhori**	**2.36 65**		*e*PN	**Pn**	**01 57 02.4**	**+0.7**
FNA	**Florina**	**2.54 16**		*e*Pn	**Pn**	**01 57 04.3**	**+0.2**
FNA				*e*Sn	**Sn**	**01 57 34.2**	**-0.9**
VLI	**Veliai**	**2.55 129**		*e*Pn	**Pn**	**01 57 05.9**	**+1.6**
VLI				P		01 57 09.3	
VLI	**Veliai**	**2.55 129**		P	**Pg**	**01 57 09.3**	**-2.5**
ATH	**Athens Observa**	**2.59 97**		*e*PB	**Pn**	**01 57 05.0**	**+0.1**
BIA	**Bitola**	**2.75 14**		*e*Pn	**Pn**	**01 57 07.3**	**+0.2**
BIA	**Bitola**	**2.75 14**		*e*Pn	**Pn**	**01 57 08.0**	**+0.9**
BIA				*e*Sn	**Sn**	**01 57 40.0**	**-0.5**
OHR	**Ohrid**	**2.78 5**		*e*Pn	**Pn**	**01 57 08.2**	**+0.8**
OHR				*e*Sn	**Sn**	**01 57 42.6**	**+1.6**
TIP	**Timpagrande**	**3.01 287**		P	**Pn**	**01 57 11.4**	**+0.7**
TIR	**Tirane**	**3.04 351**		*e*Pn	**Pn**	**01 57 10.3**	**-0.8**
TIR	**Tirane**	**3.04 351**		P	**Pn**	**01 57 12.4**	**+1.4**
PLG	**Polygyros**	**3.08 48**		*e*PN	**Pn**	**01 57 12.6**	**+1.0**
KRUS	**Krusevo**	**3.08 11**		*e*Pn	**Pn**	**01 57 12.0**	**+0.3**
KRUS	**Krusevo**	**3.08 11**		*e*Pn	**Pn**	**01 57 11.9**	**+0.2**
SOH	**Sokhos**	**3.33 41**		*e*Pn	**Pn**	**01 57 15.7**	**+0.6**
OUR	**Ouranopolis**	**3.38 53**		*e*Pn	**Pn**	**01 57 16.6**	**+0.9**
KNT	**Kendrikon**	**3.38 33**		*e*Pn	**Pn**	**01 57 15.7**	**-0.1**
STIP	**Stip**	**3.60 21**		*e*Pn	**Pn**	**01 57 19.1**	**+0.3**
STIP	**Stip**	**3.60 21**		*e*Pn	**Pn**	**01 57 18.8**	**0.0**
SG1	**Sgolgore (BA)**	**3.84 312**		*e*Pn	**Pn**	**01 57 22.0**	**-0.1**
VAM	**Vamos**	**4.19 133**		*e*PN	**Pn**	**01 57 28.3**	**+1.4**
APE	**Apeiranthos**	**4.22 106**		*e*Pn	**Pn**	**01 57 27.2**	**0.0**
CHOS	**Chios island**	**4.40 88**		*e*Pn	**Pn**	**01 57 30.7**	**+1.0**
CHOS				*e*Sn	**Sn**	**01 58 23.3**	**+2.

comp=E,1μm,0.8s

IDC 04 02:12:09.5±1.6,570S×15372E,h0km,mb3.9/4,mb1 4.1/4, mb1mx3.8/14,mbtmp3.9/4,MS4.3/2,Ms1 4.3/2, ms1mx3.1/31,Error ellipse: s-maj=90.1km s-min=29.9km az=124.0,New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.57**	**231**	P	P	02 17 23.3	+1.3
	0.5nm,0.5s,baz=58,slow=11,SNR=6.2						
ASAR	**Alice Springs**	**26.13**	**225**	P	P	02 17 45.0	-0.4
	0.4nm,0.6s,baz=57,slow=8.8,SNR=4.3						
STKA	**Stephens Creek**	**28.41**	**202**	P	P	02 18 05.7	-0.1
	1.4nm,0.9s,baz=49,slow=11,SNR=3.0						
CBIJ	**Chichi jima**	**34.46**	**342**	LR	LR	02 30 22.9	
	comp=Z,376nm,21.8s,baz=47,slow=32						
QSPA	**South Pole Qui**	**84.27**	**180**	LR	LR	02 58 01.3	
	comp=Z,170nm,18.4s,baz=340,slow=33						
YKA	**Yellowknife Ar**	**95.79**	**28**	P	P	02 25 37.4	0.0
	0.4nm,0.9s,baz=260,slow=5.0,SNR=5.1						
TORD	**Torodi Ar. Bea**	**151.45**	**287**	PKPbc	PKPbc	02 32 05.8	-0.7
	0.2nm,0.3s,baz=71,slow=1.7,SNR=10						

IDC 04 02:16:55.5±7.8,719S×12653E,h359km±71km,mb3.1/1, mb1 3.0/4,mb1mx2.8/14,mbtmp2.8/4,Error ellipse: s-maj=116.8km s-min=100.7km az=173.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Kupang**	**4.13**	**223**	P	Pn	02 18 06.2	-0.1
	32nm,0.3s,baz=75,slow=1.6,SNR=17						
BATI				S	S	02 19 00.1	-3.3
	8.6nm,0.3s,baz=260,slow=18,SNR=7.0						
FITZ	**Fitzroy Crossi**	**10.89**	**184**	P	Pn	02 19 24.9	+1.0
	0.1nm,0.3s,baz=352,slow=14,SNR=3.0						
WRA	**Warramunga Arr**	**14.77**	**150**	P	P	02 20 05.7	-1.6
	0.2nm,0.3s,baz=325,slow=12,SNR=2.7						
ASAR	**Alice Springs**	**17.85**	**157**	P	P	02 20 40.3	-0.1
	0.7nm,0.3s,baz=333,slow=11,SNR=24						
STKA	**Stephens Creek**	**28.30**	**152**	P	P	02 22 17.5	+0.1
	0.8nm,0.5s,baz=325,slow=12,SNR=3.4						

*CSEM **04** 02:28:12.0±0.6,2736N×5626E,h10km,ML3.6/4,Error ellipse: s-maj=21.1km s-min=2.3km az=55.0*
*ISCJB **04** 02:28:18.0±2.0,269N±02×555E±02,h10km,Error ellipse: s-maj=32.7km s-min=5.1km az=136.0*
*KISR **04** 02:28:18.8±1.0,2691N×5552E,h33km,ML3.3*
ISC 04 02:28:20.7±2.3,268N±02×555E±02,h10km,n9,σ0§82/13, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BANOM	**Banah**	**1.14**	**141**	P	Pb	02 28 38.1	-4.4
	SNR=491						
NAZ	**Nazwa, Dubai**	**1.83**	**176**	P	Pn	02 28 52.4	+0.2
HATD	**Hatta, Dubai**	**2.06**	**164**	P	Pn	02 28 54.0	-1.4
	SNR=28						
HATD				S	Sn	02 29 21.6	+0.4
ASHO	**Ashiyiah**	**2.19**	**167**	P	Pn	02 28 56.4	-0.7
	SNR=9.1						
ASHO	**Ashiyiah**	**2.19**	**167**	P	Pn	02 28 56.3	-0.8
	SNR=9.1						
ASUD	**Al Ashush, Dub**	**2.19**	**184**	P	Pn	02 28 58.4	+1.2
	SNR=26						
NAY	**Al-Naaiem**	**7.70**	**290**	*e*P	Pn	02 30 13.5	+0.7
NAY				*e*S	Sn	02 31 40.1	+0.1
NAY				AML	AML	02 31 40.3	
	comp=Z,1.3nm,0.3s						
MIB	**Mutribah**	**7.79**	**294**	*e*P	Pn	02 30 15.1	+1.0
MIB				*e*S	Sn	02 31 41.8	-0.6
MIB				AML	AML	02 31 46.0	
	comp=Z,5.8nm,0.5s						
RST	**Umm Al-Ruwaisa**	**7.97**	**292**	*e*P	Pn	02 30 17.1	+0.5
RST				*e*S	Sn	02 31 45.9	-1.0
RST				AML	AML	02 31 49.5	
	comp=Z,3.1nm,0.3s						

*BJI **04** 02:36:31.8,737S×15656E,h10km,mB4.7,mb4.6,Ms4.9, Msz4.7*
*IDC **04** 02:36:35.8±0.8,691S×15601E,h0km,mb4.3/9, mb1 4.3/10,mb1mx4.2/16,mbtmp4.2/10,Error ellipse: s-maj=37.1km s-min=18.4km az=105.0*
*NEIC **04** 02:36:37.6±0.4,692S×15594E,h10km,mb4.6/12,Error ellipse: s-maj=14.9km s-min=7.7km az=117.0*
*ISCJB **04** 02:36:44.6±5.1,70S±01×1557E±02,h70km±45km, mb4.3/21,Error ellipse: s-maj=25.3km s-min=16.6km az=5.6*
ISC 04 02:36:47.5±4.7,70S±01×1557E±02,h78km±42km,n49, σ0§85/35,mb4.3/21,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**15.89**	**214**	Pn	Pn	02 40 25.7	-0.8
	baz=37,slow=14,SNR=2.7						
CTAO	**Charters Tower**	**15.89**	**214**	*e*Pn	Pn	02 40 27.3	+0.8
KAKA	**Kakadu**	**23.58**	**254**	*e*P	P	02 41 51.4	+0.1
	11nm,0.5s,mb4.4						
ARMA	**Armidale**	**23.59**	**189**	*e*P	P	02 41 46.8	-4.4
WB2	**Warramunga Arr**	**24.36**	**236**	*e*P	P	02 41 59.2	+0.8
WRA	**Warramunga Arr**	**24.37**	**236**	P	P	02 41 58.7	+0.3
	2.3nm,0.4s,mb3.9,baz=60,slow=9.3,SNR=13						
WRA				PcP	PcP	02 45 36.6	+0.4
	0.7nm,0.6s,baz=61,slow=2.7,SNR=4.0						
ASAR	**Alice Springs**	**26.67**	**229**	P	P	02 42 19.4	+0.1
	1.2nm,0.3s,mb3.8,baz=59,slow=9.8,SNR=15						
ASAR				PcP	PcP	02 45 41.4	0.0
	0.5nm,0.4s,baz=62,slow=2.2,SNR=5.3						
STKA	**Stephens Creek**	**28.01**	**206**	*e*P	P	02 42 31.6	+0.4
	1.9nm,0.6s,mb3.8						
STKA	**Stephens Creek**	**28.01**	**206**	P	P	02 42 31.2	0.0
	2.6nm,0.8s,mb3.8,baz=38,slow=14,SNR=7.0						
FITZ	**Fitzroy Crossi**	**31.27**	**247**	*e*P	P	02 43 00.3	+0.1
	20nm,0.6s,mb5.0						
FORT	**Forrest**	**35.05**	**224**	*e*P	P	02 43 32.7	-0.2
	16nm,0.6s,mb5.0						
MBWA	**Marble Bar**	**37.48**	**244**	*e*P	P	02 43 53.8	-0.1
	9.4nm,0.6s,mb4.9						
KKM	**Kota Kinabalu**	**41.46**	**287**	*e*P	P	02 44 27.0	-0.1
KLBR	**Kellerberrin**	**42.99**	**230**	*e*P	P	02 44 38.2	-1.1
	6.0nm,0.6s,mb4.5						
KSM	**Kuching**	**46.06**	**279**	*e*P	P	02 45 03.6	-0.3
MJAR	**Matsushiro Arr**	**46.33**	**340**	P	P	02 45 04.2	-1.4
	0.9nm,0.3s,mb4.0,baz=177,slow=8.4,SNR=3.0						
NJ2	**Nanjing**	**52.37**	**320**	*e*P	P	02 45 53.0	+1.2
NJ2				AMB	AMB		
	comp=Z,20nm,0.6s,mb5.3						
KULM	**Kulim**	**56.26**	**281**	*e*P	P	02 46 19.6	-0.9
MDJ	**Mudanjiang**	**56.51**	**338**	P	P	02 46 23.1	+1.5
MDJ				AMB	AMB		
	comp=Z,3.0nm,1.3s,mb4.2						
MDJ				AMB	AMB		
	comp=Z,18nm,3.0s						
CHTO	**Chiang Mai**	**61.52**	**296**	*e*P	P	02 46 55.7	-1.1
	comp=Z,1.8nm,0.4s,mb4.5						
HIA	**Hailar**	**64.23**	**335**	*e*P	P	02 47 14.4	+0.2
ULN	**Ulaanbaatar**	**69.39**	**327**	*e*P	P	02 47 47.3	+0.3
	comp=Z,4.1nm,1.0s,mb4.2						
ULN				*e*PcP	PcP	02 48 09.7	-0.1
SONM	**Songino Array**	**69.72**	**327**	P	P	02 47 48.8	-0.2
	comp=Z,3.1nm,0.7s,mb4.2,baz=144,slow=6.6,SNR=11						
MCK	**McKinley**	**81.82**	**22**	*e*P	P	02 48 56.7	-1.0
	comp=Z,6.3nm,1.1s,mb4.4						
QSPA	**South Pole Qui**	**82.96**	**180**	*e*P	P	02 49 04.0	+0.6
	comp=Z,7.9nm,1.2s,mb4.4						
QSPA	**South Pole Qui**	**82.96**	**180**	P	P	02 49 03.4	0.0
	comp=Z,2.0nm,0.5s,mb4.2,baz=5.4,slow=0.6,SNR=23						
MK31	**Makanchi Array**	**83.87**	**319**	*e*P	P	02 49 09.2	+0.5
MKAR	**Makanchi Array**	**83.87**	**319**	P	P	02 49 08.3	-0.3
MKAR	**Makanchi Array**	**83.87**	**319**	P	P	02 49 08.3	-0.3
	comp=Z,1.4nm,0.6s,mb4.0,baz=102,slow=7.3,SNR=15						
ZALV	**Zalesovo Beam**	**84.58**	**326**	P	P	02 49 10.9	-1.1
	comp=Z,2.0nm,0.4s,mb4.4,baz=120,slow=5.7,SNR=10						
TKM2	**Tokmak 2**	**87.52**	**314**	*e*P	P	02 49 27.6	+0.8
	comp=Z,1.2nm,0.6s,mb4.1						
EKS2	**Erkin-Say**	**88.79**	**313**	*e*P	P	02 49 33.7	+0.8
	comp=Z,1.7nm,0.8s,mb4.1						
INK	**Inuvik**	**89.50**	**21**	*e*P	P	02 49 37.8	+2.2
YKA	**Yellowknife Ar**	**96.04**	**28**	P	P	02 50 04.4	-1.4
YKA	**Yellowknife Ar**	**96.04**	**28**	P	P	02 50 04.4	-1.4
	comp=Z,0.3nm,0.7s,mb3.8,baz=265,slow=4.8,SNR=5.3						
ARCES	**ARCESS Array B**	**109.81**	**343**	PKiKP	PKiKP	02 55 07.2	-1.9
	comp=Z,2.4nm,0.9s,baz=71,slow=1.0,SNR=7.4						
AKASG	**Malin Array Be**	**117.95**	**325**	PKP	PKPdf	02 55 23.4	-1.8
	comp=Z,0.8nm,0.5s,baz=48,slow=2.4,SNR=5.3						
HFS	**Hagfors**	**119.77**	**339**	PKP	PKPdf	02 55 26.3	-2.0
	comp=Z,1.5nm,0.8s,baz=140,slow=7.0,SNR=5.1						
NB2	**NORSAR Subarra**	**119.94**	**341**	PKPdf	PKPdf	02 55 27.6	-1.1
	comp=Z,0.9nm,0.6s,baz=38,slow=1.9						
NOA	**NORSAR Array B**	**119.94**	**341**	PKP	PKPdf	02 55 27.8	-0.9
	comp=Z,0.5nm,0.5s,baz=45,slow=1.9,SNR=3.5						
BOSA	**Boshof**	**120.54**	**231**	PKP	PKPdf	02 55 30.8	-0.1
BOSA	**Boshof**	**120.54**	**231**	PKP	PKPdf	02 55 30.8	-0.1
	comp=Z,1.0nm,0.7s,baz=41,slow=16,SNR=3.5						
CLL	**Collm**	**126.16**	**332**	*e*PKPdf	PKPdf	02 55 41.0	+0.1
GERES	**GERESS Array B**	**127.42**	**329**	PKP	PKPdf	02 55 42.3	-1.1
	comp=Z,1.2nm,0.6s,baz=64,slow=3.1,SNR=6.8						
EKA	**Eskdalemuir Ar**	**128.94**	**345**	PKP	PKPdf	02 55 45.7	-0.4
	comp=Z,0.6nm,0.5s,baz=30,slow=2.3,SNR=5.2						
MDT	**Midelt**	**148.47**	**327**	PKPbc	PKPbc	02 56 25.8	0.0
	comp=Z,3.8nm,0.9s,baz=350,slow=4.5,SNR=6.5						
TORD	**Torodi Ar. Bea**	**153.69**	**285**	PKP	PKPdf	02 56 29.8	-0.8
TORD				PKPbc	PKPbc	02 56 37.4	-1.1
TORD				PKPab	PKPab	02 56 51.2	-0.3
TORD	**Torodi Ar. Bea**	**153.69**	**285**	PKP	PKPdf	02 56 29.8	-0.8
	comp=Z,0.4nm,1.0s,baz=4.3,slow=5.8,SNR=2.9						
TORD				PKPbc	PKPbc	02 56 37.4	-1.1
	comp=Z,0.7nm,0.4s,baz=38,slow=1.6,SNR=42						
TORD				PKPab	PKPab	02 56 51.2	-0.3
	comp=Z,1.6nm,0.6s,baz=77,slow=4.2,SNR=15						
DBIC	**Dimbokro**	**160.67**	**270**	PKPab	PKPab	02 57 21.6	-0.1
	comp=Z,3.1nm,0.5s,baz=123,slow=2.0,SNR=16						

*NEIC **04** 02:39:25.7,3851N×2118E,h58km,MD3.4(ATH),After ATH.*
*ATH **04** 02:39:25.7,3851N×2118E,h58km±7km,MD3.4/6*
*CSEM **04** 02:39:28.8±0.1,3830N×2204E,h2km,MD3.4,Error ellipse: s-maj=3.1km s-min=2.8km az=114.0*
*THE **04** 02:39:29.7,3834N×2205E,h1km,ML3.3*
*ISCJB **04** 02:39:29.1±0.6,3836N±003×2203E±005,h2km,Error ellipse: s-maj=5.7km s-min=3.8km az=20.8*
*SKO **04** 02:39:38.5,3879N×2234E,h24km*
ISC 04 02:39:29.3±0.7,3835N±003×2207E±005,h0km±7km,n12, σ1§16/20,1C,Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RLS	**Riolos of Patr**	**0.56**	**239**	↑*i*P	Pg	02 39 39.1	-0.9
RLS				*e*S	Sg	02 39 46.8	-0.5
EVR	**Evrytania**	**0.60**	**340**	*e*P	Pg	02 39 40.6	-0.3
EVR				*e*S	Sg	02 39 49.8	+1.0
AGG	**Agios Georgios**	**0.70**	**17**	*e*Pg	Pg	02 39 42.6	-0.2
AGG				*e*Sg	Sg	02 39 53.8	+1.8
ITM	**Ithomi**	**1.17**	**186**	*e*P	Pg	02 39 51.4	-0.4
ITM				*e*S	Sg	02 40 09.9	+2.9
LKD	**Levkas**	**1.17**	**288**	*e*Pg	Pg	02 39 50.7	-1.1
LKD				*e*Sg	Sg	02 40 07.8	+0.8
NEO	**Neokhori**	**1.31**	**43**	*e*P	Pg	02 39 55.0	+0.5
MEV	**Metsovon**	**1.58**	**336**	*e*Pg	Pg	02 39 58.7	-0.9
AOS	**Alonnisos**	**1.63**	**59**	*e*Pb	Pb	02 39 58.6	-1.7
VLI	**Veliai**	**1.77**	**157**	*e*P	Pn	02 40 01.7	+0.6
LIT	**Litokhoron**	**1.78**	**10**	*e*Pb	Pb	02 40 00.8	-2.0
LIT				*e*Sb	Sb	02 40 24.6	-1.1
FNA	**Florina**	**2.49**	**348**	*e*Pn	Pn	02 40 11.7	+0.7
FNA				*e*Sn	Sn	02 40 42.4	+0.3
KRUS	**Krusevo**	**3.08**	**348**	*e*Pn	Pn	02 40 21.2	+2.0
KRUS				*e*Sn	Sn	02 40 52.4	-4.3

*IDC **04** 02:44:10.6±0.6,784S×15571E,h0km,mb4.5/14, mb1 4.6/15,mb1mx4.5/18,mbtmp4.5/15,ML3.5/1,MS3.8/7, Ms1 3.8/7,ms1mx3.5/27,Error ellipse: s-maj=26.8km s-min=16.1km az=106.0*
*ISCJB **04** 02:44:13.5±0.3,788S±006×15575E±006,h28km, mb4.7/42,MS4.2/15,Error ellipse: s-maj=9.3km s-min=7.7km az=37.6*
*BJI **04** 02:44:14.3,729S×15567E,h9km,mB5.1,mb4.9,Ms5.0, Msz4.5*
*NEIC **04** 02:44:14.9±2.6,792S×15575E,h28km±19km,mb4.8/19, Error ellipse: s-maj=9.0km s-min=6.4km az=154.0*
*MOS **04** 02:44:16.5±1.0,800S×15581E,h57km,mb5.3/8,Error ellipse: s-maj=11.3km s-min=8.4km az=99.0*
ISC 04 02:44:13.0±1.9,788S±007×15576E±006,h13km±12km, h14km±.9km:pP-P,n110,σ0§84/103,mb4.7/42,MS4.2/15, 5C-3D,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.41**	**111**	*e*Pn	Pn	02 45 20.4	+0.7
HNR	**Honiara**	**4.41**	**111**	LR	LR	02 46 56.3	
	comp=Z,328nm,21.6s,baz=352,slow=37						
CTA	**Charters Tower**	**15.23**	**216**	*e*P	Pn	02 47 55.6	+7.7
	14nm,0.9s						
CTA	**Charters Tower**	**15.23**	**216**	Pn	Pn	02 47 47.9	0.0
CTA				*e*P		02 47 55.6	
CTA	**Charters Tower**	**15.23**	**216**	Pn	Pn	02 47 47.9	0.0
	0.1nm,0.3s,baz=54,slow=16,SNR=3.6						
CTAO	**Charters Tower**	**15.23**	**216**	*e*Pn	Pn	02 47 47.4	-0.5
	22nm,0.9s						
CTAO				*e*P		02 47 55.1	
CTAO	**Charters Tower**	**15.23**	**216**	*e*P	Pn	02 47 47.4	-0.5
CTAO				pmax	pmax		
	comp=Z,22nm,0.9s						
KAKA	**Kakadu**	**23.44**	**256**	*e*P	P	02 49 22.4	0.0
	comp=Z,6.7nm,0.6s,mb4.2						
GUMO	**Guam**	**23.92**	**333**	LR	LR	02 57 19.0	
	comp=Z,153nm,21.0s,MS3.5,baz=126,slow=33						
WB2	**Warramunga Arr**	**23.95**	**238**	*e*P	P	02 49 27.4	+0.2
WRA	**Warramunga Arr**	**23.96**	**238**	P	P	02 49 27.1	-0.2
WRA						02 53 08.9	
WRA	**Warramunga Arr**	**23.96**	**238**	P	P	02 49 27.1	-0.2
	comp=Z,4.0nm,0.7s,mb4.0,baz=62,slow=9.4,SNR=11						
WRA				PcP	PcP	02 53 08.9	-0.7
	comp=Z,4.3nm,0.5s,baz=57,slow=1.5,SNR=18						
WRA				LR	LR	02 58 21.3	
	comp=Z,410nm,19.5s,MS3.9,baz=75,slow=36						
ASAR	**Alice Springs**	**26.18**	**231**	P	P	02 49 47.1	-0.2
	comp=Z,2.4nm,0.9s,mb3.7,baz=64,slow=8.8,SNR=14						
ASAR				PcP	PcP	02 53 14.8	+0.4
	comp=Z,0.6nm,0.7s,baz=94,slow=3.7,SNR=3.4						
STKA	**Stephens Creek**	**27.28**	**207**	*e*P	P	02 50 01.4	+4.2
	comp=Z,3.7nm,0.7s,mb4.0						
STKA	**Stephens Creek**	**27.28**	**207**	P	P	02 49 56.1	-1.1
	comp=Z,2.2nm,0.8s,mb3.7,baz=32,slow=14,SNR=3.0						
STKA				LR	LR	03 00 39.2	
	comp=Z,594nm,18.3s,MS4.2,baz=22,slow=36						
FITZ	**Fitzroy Crossi**	**31.01**	**248**	*e*P	P	02 50 30.0	-0.6
	comp=Z,3.7nm,0.6s,mb4.4						
FITZ	**Fitzroy Crossi**	**31.01**	**248**	LR	LR	03 02 53.5	
	comp=Z,159nm,19.2s,MS3.7,baz=159,slow=36						
CBIJ	**Chichi jima**	**37.18**	**340**	LR	LR	03 04 19.3	
	comp=Z,140nm,20.3s,MS3.7,baz=339,slow=33						
MBWA	**Marble Bar**	**37.19**	**245**	*e*P	P	02 51 23.4	-0.7
	comp=Z,6.2nm,0.9s,mb4.4						
KKM	**Kota Kinabalu**	**41.80**	**288**	*e*P	P	02 52 02.7	-0.1
MJAR	**Matsushiro Arr**	**47.16**	**341**	P	P	02 52 43.5	-1.7
	comp=Z,8.3nm,0.9s,mb4.7,baz=159,slow=7.2,SNR=15						
MAJO	**Matsushiro**	**47.16**	**341**	*e*P	P	02 52 44.4	-0.8
	comp=Z,13nm,0.8s,mb4.9						
MAJO	**Matsushiro**	**47.16**	**341**	*e*P	P	02 52 44.4	-0.8
MAJO				pmax	pmax		
	comp=Z,13nm,0.8s,mb4.9						
MAT	**Matsushiro**	**47.16**	**341**	P	P	02 52 44.2	-1.0
KSRS	**Korea Array**	**52.07**	**332**	P	P	02 53 21.1	-1.5
	comp=Z,5.9nm,0.8s,mb4.6,baz=151,slow=7.4,SNR=10						
KSRS				LR	LR	03 12 32.5	
	comp=Z,89nm,20.3s,MS3.8,baz=0.0,slow=33						
NJ2	**Nanjing**	**53.08**	**320**	*e*P	P	02 53 30.0	-0.2
NJ2				AMB	AMB		
	comp=Z,40nm,0.7s,mb5.5						
ASAJ	**Asahikawa**	**53.11**	**348**	P	P	02 53 29.9	-0.3
	comp=Z,16nm,0.8s,mb5.0,baz=228,slow=14,SNR=9.1						
YSS	**Yuzh-Sakhalins**	**55.81**	**349**	*e*P	P	02 53 49.7	0.0
	comp=Z,14nm,0.8s,mb5.0						
YSS	**Yuzh-Sakhalins**	**55.81**	**349**	↓*e*P	P	02 53 50.0	+0.3
YSS				pmax	pmax		
	comp=Z,28nm,1.2s,mb5.2						
MDJ	**Mudanjiang**	**57.34**	**338**	P	P	02 54 01.1	+0.4
MDJ				AP	pP	02 54 04.3	-0.7
MDJ				XP	sP	02 54 05.6	-1.0
MDJ				PP	PP	02 56 08.7	+0.5
MDJ				SCP	ScP	02 58 54.0	-0.5
MDJ				PCS	PcS	02 58 55.6	0.0
MDJ				AMB	AMB		
	comp=Z,16nm,1.7s,mb4.8						
MDJ				AMB	AMB		
	comp=Z,150nm,4.2s						
MDJ				LR	LR		
	comp=N,120nm,18.0s,MS4.3						
MDJ				LR	LR		
	comp=E,217nm,18.9s,MS4.3						
MDJ				LR	LR		
	comp=Z,316nm,19.8s,MS4.4						
CN2	**Changchun**	**58.31**	**335**	*e*P	P	02 54 07.4	-0.2
CN2				*e*XP	sP	02 54 14.4	+0.9
CN2				*e*S	S	03 02 08.1	-1.5
CN2				AMB	AMB		
	comp=Z,10.0nm,1.3s,mb4.7						
CN2				AMB	AMB		
	comp=Z,200nm,4.0s						
GYA	**Guiyang**	**58.59**	**307**	P	P	02 54 11.7	+1.8
GYA				AP	pP	02 54 15.8	+1.6
GYA				PCP	PcP	02 55 01.5	+1.4
GYA				PP	PP	02 56 23.7	+4.0
GYA				SCP	ScP	02 59 01.2	+0.7
GYA				S	S	03 02 14.6	+0.7
GYA				SCS	ScS	03 03 58.2	-1.7
GYA				SS	SS	03 06 08.8	+1.8
GYA				AMB	AMB		
	comp=Z,20nm,1.0s,mb5.1						
GYA				AMB	AMB		
	comp=Z,150nm,7.8s						
GYA				LR	LR		
	comp=N,460nm,19.2s,MS4.8						
GYA				LR	LR		
	comp=E,520nm,18.6s,MS4.8						
GYA				LR	LR		
	comp=Z,480nm,20.4s,MS4.6						
HABR	**Khabarovsk**	**59.00**	**344**	*e*P	P	02 54 11.5	-0.8
HABR				*e*S	S	03 02 17.4	-1.0
HABR				*e*SS	SS	03 06 09.3	-3.4
BJI	**Beijing**	**60.08**	**326**	P	P	02 54 19.1	-0.8
BJI				AP	pP	02 54 22.3	-1.9
BJI				S	S	03 02 32.7	+0.1
BJI				LR	LR		
	comp=N,200nm,15.7s,MS4.5						
BJI				LR	LR		
	comp=E,174nm,12.0s,MS4.5						
BJI				LR	LR		
	comp=Z,220nm,26.0s						
BJI	**Beijing**	**60.08**	**326**	P	P	02 54 19.1	-0.8
BJI				pP	pP	02 54 22.3	-1.9
BJI				sP	sP	02 54 23.6	-2.2
BJI				S	S	03 02 32.7	+0.1
BJI				LR	LR		
	comp=Z,220nm,26.0s,MS4.2						
KLR	**Kul'dur**	**60.64**	**342**	*e*P	P	02 54 17.7	-5.8
KLR				pmax	pmax		
	comp=Z,57nm,1.6s,mb5.5						
PET	**Petropavlovsk**	**60.72**	**2**	*i*P	P	02 54 24.0	0.0
PET				pmax	pmax		
	comp=Z,19nm,0.8s,mb5.3						
XAN	**Xi'an**	**60.87**	**316**	P	P	02 54 24.8	-0.6
XAN				AMB	AMB		
	comp=Z,4.0nm,1.3s,mb4.4						
KMI	**Kunming**	**61.14**	**304**	P	P	02 54 29.1	+1.6
KMI				AP	pP	02 54 33.2	+1.4
KMI				XP	sP	02 54 34.5	+1.1
KMI				PP	PP	02 56 47.2	+4.9
KMI				S	S	03 02 47.5	+0.7
KMI				SS	SS	03 06 48.2	+1.1
KMI				AMB	AMB		
	comp=Z,10.0nm,1.6s,mb4.7						
KMI				AMB	AMB		
	comp=Z,54nm,3.9s						
KMI				LR	LR		
	comp=N,163nm,18.7s,MS4.3						
KMI				LR	LR		
	comp=E,116nm,15.3s,MS4.3						
KMI				LR	LR		
	comp=Z,139nm,17.3s,MS4.2						
KMI	**Kunming**	**61.14**	**304**	P	P	02 54 29.1	+1.6
	comp=Z,10.0nm,1.6s,mb4.7						
KMI				pP	pP	02 54 33.2	+1.4
KMI				sP	sP	02 54 34.5	+1.1
KMI				PP	PP	02 56 47.2	+4.9
KMI				S	S	03 02 47.5	+0.7
KMI				SS	SS	03 06 48.2	+1.1
KMI				LR	LR		
	comp=Z,140nm,17.3s,MS4.2						
CHTO	**Chiang Mai**	**61.97**	**296**	*e*P	P	02 54 33.9	+0.7
CD2	**Chengdu**	**62.97**	**310**	*e*P	P	02 54 41.0	+1.4
CD2				AP	pP	02 54 45.8	+1.9
CD2				XP	sP	02 54 50.0	+4.5
CD2				PP	PP	02 57 01.1	+2.8
CD2				S	S	03 03 09.2	-0.5
CD2				XS	sS	03 03 17.0	+0.2
CD2				SS	SS	03 07 16.7	+1.2
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb5.0						
CD2				AMB	AMB		
	comp=Z,30nm,5.2s						
CD2				LR	LR		
	comp=N,210nm,16.4s,MS4.7						
CD2				LR	LR		
	comp=E,350nm,14.4s,MS4.7						
CD2				LR	LR		
	comp=Z,130nm,16.8s,MS4.2						
HHC	**Hu-ho-hao-te**	**63.25**	**324**	*e*P	P	02 54 42.2	+0.9
HHC				AP	pP	02 54 46.9	+1.3
HHC				XP	sP	02 54 49.3	+2.0
HHC				PP	PP	02 57 03.1	+2.5
HHC				SCP	ScP	02 59 19.0	-1.8
HHC				PCS	PcS	02 59 21.0	-1.0
HHC				S	S	03 03 15.8	+2.9
HHC				XS	sS	03 03 21.4	+1.4
HHC				SCS	ScS	03 04 32.9	-1.3
HHC				SS	SS	03 07 18.9	-0.7
HHC				AMB	AMB		
	comp=Z,12nm,0.3s,mb5.5						
HHC				AMB	AMB		
	comp=Z,278nm,5.3s			

comp=Z,22nm,0.8s,mb5.1
CLNS pmax pmax
comp=N,6.0nm,0.6s
CLNS pmax pmax
comp=E,3.0nm,0.9s
CLNS MLR MLR
comp=Z,300nm,19.0s,MS4.5
CLNS MLR MLR
comp=N,200nm,14.0s
CLNS MLR MLR
comp=E,300nm,21.0s
CIT Chita 69.74 334 *eP* **P 02 55 23.8 +1.3**
GTA Gaotai 69.90 317 *eP* **P 02 55 24.7 +0.8**
GTA AP pP 02 55 28.9 +0.7
GTA XP sP 02 55 32.2 +2.4
GTA PP PP 02 58 03.0 +4.3
GTA AMB AMB
comp=Z,6.0nm,1.6s,mb4.3
GTA AMB AMB
comp=Z,151nm,5.7s
GTA LR LR
comp=N,148nm,14.9s,MS4.4
GTA LR LR
comp=E,100nm,16.0s,MS4.4
GTA LR LR
comp=Z,175nm,18.7s,MS4.3
ULN Ulaanbaatar 70.16 327 *eP* **P 02 55 25.9 +0.7**
comp=Z,6.7nm,1.1s,mb4.5
ULN Ulaanbaatar 70.16 327⇑ *eP* **P 02 55 26.4 +1.2**
SONM Uongino Array 70.49 327 P **P 02 55 27.3 0.0**
comp=Z,3.1nm,1.0s,mb4.2,baz=140,slow=6.2,SNR=9.7
SEY Seymchan 70.65 358⇓ *eP* **P 02 55 28.1 +0.2**
YAK Yakutsk 72.58 347 *eP* **P 02 55 39.6 +0.1**
comp=Z,47nm,0.6s,mb5.6
YAK Yakutsk 72.58 347 *eP* **P 02 55 40.0 +0.4**
YAK pmax pmax
comp=Z,51nm,0.9s,mb5.5
YAK pmax pmax
comp=N,17nm,1.1s
YAK pmax pmax
comp=E,11nm,1.4s
ZAK Zakamensk 73.64 328 *eP* **P 02 55 46.1 0.0**
BOD Bodaibo 73.72 338 *eP* **P 02 55 46.0 -0.4**
TLY Talaya 74.21 329 *iP* **P 02 55 50.0 +0.6**
BILL Bilibino 76.10 4 *eP* **P 02 56 00.5 +0.5**
comp=E,58nm,1.0s,mb5.5
BILL Bilibino 76.10 4 *dP* **P 02 56 00.3 +0.3**
BILL pmax pmax
comp=Z,66nm,1.1s,mb5.5
HYB Hyderabad 80.28 289 *eP* **P 02 56 24.0 -0.2**
HYB Hyderabad 80.28 289 *iP* **P 02 56 24.0 -0.2**
HYB Hyderabad 80.28 289 *iP* **P 02 56 24.0 -0.2**
PMR Palmer 81.29 23 *eP* **P 02 56 28.5 -0.2**
comp=Z,172nm,3.0s
PMR Palmer 81.29 23 *eP* **P 02 56 28.5 -0.2**
PMR pmax pmax
comp=Z,172nm,3.0s
TIXI Tiksi 81.34 352 *eP* **P 02 56 28.3 -0.5**
comp=Z,11nm,1.2s,mb4.7
TIXI Tiksi 81.34 352 *eP* **P 02 56 28.1 -0.6**
TIXI pmax pmax
comp=Z,13nm,1.6s,mb4.6
SML Sawmill 81.73 23 *eP* **P 02 56 30.7 -0.2**
QSPA South Pole Qui 82.10 180 P **P 02 56 32.4 -0.3**
comp=Z,4.0nm,0.9s,mb4.3,baz=30,slow=2.9,SNR=8.6
IMA2 Indian Mountai 82.39 19 *eP* **P 02 56 34.4 0.0**
MCK McKinley 82.59 22 *eP* **P 02 56 35.0 -0.5**
COLA College 83.63 21 *eP* **P 02 56 39.5 -1.3**
comp=Z,6.0nm,0.8s,mb4.8
COLA College 83.63 21⇑ *eP* **P 02 56 40.2 -0.6**
MK31 Makanchi Array 84.57 319 *eP* **P 02 56 45.9 -0.1**
MKAR Makanchi Array 84.57 319 P **P 02 56 45.9 -0.1**
MKAR Makanchi Array 84.57 319 P **P 02 56 45.9 -0.1**
comp=Z,14nm,0.7s,mb5.2,baz=101,slow=6.3,SNR=80
ZAA0 Zalesovo Array 85.34 326 *eP* **P 02 56 48.3 -1.4**
ZALV Zalesovo Beam 85.34 326 P **P 02 56 48.1 -1.6**
comp=Z,7.3nm,0.7s,mb4.9,baz=111,slow=5.6,SNR=38
ZAL Zalesovo 85.34 326 P **P 02 56 48.1 -1.6**
EGAK Eagle 86.04 23 *eP* **P 02 56 53.7 +0.8**
comp=Z,7.9nm,1.0s,mb4.9
DAWY Dawson 86.40 24 *eP* **P 02 56 55.7 +1.0**
KURK Kurchatov 88.00 322 *eP* **P 02 57 01.6 -1.2**
comp=Z,4.5nm,1.2s,mb4.6
KURK Kurchatov 88.00 322⇑ *eP* **P 02 57 02.2 -0.6**
TKM2 Tokmak 2 88.17 314 *eP* **P 02 57 04.0 +0.2**
comp=Z,1.5nm,0.7s,mb4.3
TKM2 Tokmak 2 88.17 314 *eP* **P 02 57 04.0 +0.2**
TKM2 pmax pmax
comp=Z,1.0nm,0.7s,mb4.2
AML Almayashu 89.39 313 *eP* **P 02 57 10.4 +0.9**
comp=Z,6.9nm,0.8s,mb5.0
EKS2 Erkin-Say 89.43 313 *eP* **P 02 57 11.0 +1.2**
comp=Z,1.9nm,0.8s,mb4.5
INK Inuvik 90.28 21 *eP* **P 02 57 13.3 +0.2**
INK Inuvik 90.28 21 P **P 02 57 13.0 -0.1**
comp=Z,4.8nm,1.0s,mb4.8,baz=246,slow=4.1,SNR=11
NVAR Mina Array Bea 91.67 52 P **P 02 57 20.8 +0.5**
NVAR Mina Array Bea 91.67 52 P **P 02 57 20.8 +0.5**
comp=Z,0.6nm,0.7s,mb4.0,baz=256,slow=3.1,SNR=6.7
TPNV Topopah Spring 93.08 53 *eP* **P 02 57 28.1 +1.3**
YKA Yellowknife Ar 96.76 28 P **P 02 57 42.7 -0.3**
YKA Yellowknife Ar 96.76 28 P **P 02 57 42.7 -0.3**
comp=Z,3.0nm,0.9s,mb4.7,baz=267,slow=4.6,SNR=45
SRU San Rafael 97.79 52 *eP* **P 02 57 46.4 -1.9**
PDAR Pinedale Array 98.72 48 P **P 02 57 52.6 +0.2**
comp=Z,0.5nm,0.8s,mb4.1,baz=289,slow=5.5,SNR=3.5
AKASG Malin Array Be 118.70 324 PKP PKPdf 03 02 59.4 -1.5
comp=Z,1.1nm,0.7s,baz=68,slow=2.2,SNR=4.7
NB2 NORSAR Subarra 120.78 341 PKPdf PKPdf 03 03 03.9 -0.7
comp=Z,1.3nm,0.9s,baz=39,slow=1.9
NOA NORSAR Array B 120.78 341 PKP PKPdf 03 03 03.9 -0.7
comp=Z,1.4nm,0.8s,baz=45,slow=1.9,SNR=4.4
BRG Berggiesshubel 126.78 331 *e*PKIKP PKPdf 03 03 17.0 +0.6
CLL Collm 126.95 332 *e*PKPdf PKPdf 03 03 17.0 +0.3
comp=Z,4.0nm,0.9s
KHC Kasperske Hory 128.08 329⇑ *i*PKIKP PKPdf 03 03 20.7 +1.8
GERES GERESS Array B 128.20 329 PKP PKPdf 03 03 18.5 -0.6
comp=Z,1.4nm,0.8s,baz=336,slow=2.9,SNR=4.2
EKA Eskdalemuir Ar 129.79 344 PKP PKPdf 03 03 22.1 +0.1
comp=Z,1.1nm,0.7s,baz=17,slow=4.7,SNR=4.5
BDFB Brasilia 146.82 135 PKPbc PKPbc 03 03 55.4 -0.5
comp=Z,13nm,0.9s,baz=217,slow=3.2,SNR=16
MDT Midelt 149.23 326 PKPbc PKPbc 03 04 02.7 +0.8
comp=Z,3.7nm,0.8s,baz=10,slow=5.9,SNR=9.3
TORD Torodi Ar. Bea 153.98 284 PKPbc PKPbc 03 04 12.2 -1.2
comp=Z,1.6nm,0.8s,baz=45,slow=2.1,SNR=9.5
DBIC Dimbokro 160.74 268 PKPab PKPab 03 04 56.0 +0.1
comp=Z,5.6nm,0.9s,baz=95,slow=6.6,SNR=5.3

TIR ***04*** *02:55:13.5±2.7,4174N×2051E,h6km±15km,ML2.2*
CSEM ***04*** *02:55:14.3±0.1,4174N×2048E,h2km,ML3.2,Error ellipse: s-maj=1.4km s-min=0.9km az=40.0*
SKO ***04*** *02:55:14.2,4169N×2047E,h15km,M2.9,ML3.2*
BEO ***04*** *02:55:14.5±5.3,4171N×2044E,h0km,ML3.7/4*
ATH ***04*** *02:55:15.2,4175N×2061E,h7km±3km,MD3.9/9*
ISCJB ***04*** *02:55:15.2±0.2,4176N±001×2047E±002,h10km,mb3.7/2, Error ellipse: s-maj=2.4km s-min=1.4km az=136.9*
PDG ***04*** *02:55:15.0±0.4,4174N×2043E,h4km±1km,MD3.5/9, ML3.4/9,Error ellipse: s-maj=0.6km s-min=0.7km az=0.0*
THE ***04*** *02:55:15.9,4168N×2047E,h3km,ML3.9*
NEIC ***04*** *02:55:15.0,4174N×2043E,h4km,MD3.9(ATH), ML4.1(THE),ML3.4(PDG),After PDG.*
IDC ***04*** *02:55:21.2±3.5,4184N×2040E,h52km±44km,mb3.7/2, mb1 3.7/6,mb1mx3.4/22,mbtmp3.6/6,ML3.5/3,MS3.3/1, Ms1 3.3/1,ms1mx2.6/42,Error ellipse: s-maj=27.5km s-min=21.9km az=154.0*

ISC 04 02:55:16.4±0.2,4173N±001×2049E±002,h10km,n132,
σ1§28/206,mb3.7/2,41C-12D,Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKS	**Kukesi**	**0.35**	**351**	*i* PG	**Pg**	02 55 21.5	**-1.8**
KKS				*i* SG	**Sg**	02 55 27.6	**-0.4**
PUK	**Puka**	**0.54**	**305**	*i* PG	**Pg**	02 55 24.1	**-2.8**
PUK				*i* SG	**Sg**	02 55 34.6	**+0.6**
TIR	**Tirane**	**0.60**	**231**	*e*Pg	**Pg**	02 55 26.1	**-2.0**
TIR				*e*Sg	**Sg**	02 55 34.7	**-1.3**
TIR	**Tirane**	**0.60**	**231**	*i* Pg	**Pg**	02 55 26.2	**-1.9**
TIR				*i* Sg	**Sg**	02 55 37.0	**+1.0**
OHR	**Ohrid**	**0.66**	**159**	*e*Pg	**Pg**	02 55 26.6	**-2.7**
OHR				*e*Sg	**Sg**	02 55 36.2	**-1.6**
OHR	**Ohrid**	**0.66**	**159**	*i* Pg	**Pg**	02 55 26.5	**-2.7**
OHR				*e*Sg	**Sg**	02 55 37.3	**-0.6**
OHR	comp=N,1μm,0.5s						
OHR				*e*Lg		02 55 37.5	
OHR				*e*Lg		02 55 37.8	
OHR	**Ohrid**	**0.66**	**159**	*i* PG	**Pg**	02 55 26.6	**-2.6**
OHR				*i* SG	**Sg**	02 55 36.2	**-1.7**
OHR	**Ohrid**	**0.66**	**159**	*e*Pg	**Pg**	02 55 26.6	**-2.6**
OHR				*e*Sg	**Sg**	02 55 37.3	**-0.6**
KRUS	**Krusevo**	**0.68**	**122**	*i* Pg	**Pg**	02 55 28.1	**-1.4**
KRUS				*i* Sg	**Sg**	02 55 38.2	**-0.2**
KRUS	**Krusevo**	**0.68**	**122**	*i* Pg	**Pg**	02 55 28.1	**-1.4**
KRUS				*i* Sg	**Sg**	02 55 38.2	**-0.2**
SKO	**Skopje**	**0.75**	**71**	*i* Pg	**Pg**	02 55 29.6	**-1.3**
SKO				*i* Sg	**Sg**	02 55 41.1	**+0.4**
SKO	comp=N,1μm,0.4s						
SKO				*e*Lg		02 55 42.2	
SKO				*e*Lg		02 55 42.6	
SKO	**Skopje**	**0.75**	**71**	*i* Pg	**Pg**	02 55 29.6	**-1.4**
SKO				*i* Sg	**Sg**	02 55 41.1	**+0.3**
SDA	**Shkodra**	**0.80**	**294**	*i* PG	**Pg**	02 55 29.5	**-2.4**
SDA				*i* SG	**Sg**	02 55 42.7	**+0.3**
PVY	**Plav**	**0.94**	**336⇑**	*i*Pg	**Pg**	02 55 32.2	**-2.4**
PVY				*e*Sg	**Sg**	02 55 46.8	**-0.1**
PVY	**Plav**	**0.94**	**336**	*i* PG	**Pg**	02 55 32.1	**-2.5**
PVY				*i* SG	**Sg**	02 55 46.8	**-0.1**
BIA	**Bitola**	**0.95**	**138**	*i* Pg	**Pg**	02 55 31.4	**-3.3**
BIA				*i* Sg	**Sg**	02 55 45.0	**-2.0**
BIA	comp=N,373nm,0.7s						
BIA				*e*Lg		02 55 47.1	
BIA				*e*Lg		02 55 48.7	
BIA	**Bitola**	**0.95**	**138**	*e*Pg	**Pg**	02 55 31.9	**-2.8**
BIA				*e*Sg	**Sg**	02 55 47.1	**0.0**
ULC	**Ulcinj**	**0.95**	**285⇑**	*i*Pg	**Pg**	02 55 31.5	**-3.2**
ULC				*e*Sg	**Sg**	02 55 46.5	**-0.6**
ULC	**Ulcinj**	**0.95**	**285**	*i* PG	**Pg**	02 55 31.5	**-3.2**
ULC				*i* SG	**Sg**	02 55 46.5	**-0.6**
KBN	**Korca**	**1.13**	**168**	*i* PN	**Pn**	02 55 39.0	**+0.7**
KBN				*i* SN	**Sn**	02 55 54.6	**+0.8**
PDG	**Podgorica**	**1.15**	**308**	*i* PG	**Pg**	02 55 35.5	**-3.0**
PDG				*i* SG	**Sg**	02 55 53.2	**-0.2**
PDG	**Podgorica**	**1.15**	**308⇑**	*i*Pg	**Pg**	02 55 35.5	**-3.0**
PDG				*e*Sg	**Sg**	02 55 53.2	**-0.2**
TTG	**Podgorica**	**1.15**	**308⇑**	*i*Pg	**Pg**	02 55 35.5	**-3.0**
TTG				*e*Sg	**Sg**	02 55 53.2	**-0.2**
FNA	**Florina**	**1.16**	**144**	*e*Pg	**Pg**	02 55 36.0	**-2.7**
FNA				*e*Sg	**Sg**	02 55 54.2	**+0.4**
FNA	**Florina**	**1.16**	**144**	*i* PG	**Pg**	02 55 36.0	**-2.7**
FNA				*i* SG	**Sg**	02 55 54.2	**+0.4**
BEY	**Berane**	**1.22**	**339**	*i* PG	**Pg**	02 55 37.2	**-2.7**
BEY				*i* SG	**Sg**	02 55 56.1	**+0.4**
BEY	**Berane**	**1.22**	**339⇑**	*i*Pg	**Pg**	02 55 37.2	**-2.7**
BEY				*e*Sg	**Sg**	02 55 56.1	**+0.4**
IVA	**Berane**	**1.22**	**339⇑**	*i*Pg	**Pg**	02 55 37.2	**-2.7**
IVA				*e*Sg	**Sg**	02 55 56.1	**+0.4**
STIP	**Stip**	**1.27**	**91⇑**	*i*Pg	**Pg**	02 55 38.1	**-2.8**
STIP				*e*Sg	**Sg**	02 55 56.2	**-1.2**
STIP	comp=N,244nm,0.7s						
STIP				*e*Lg		02 55 59.2	
STIP				*e*Lg		02 55 59.4	
STIP	**Stip**	**1.27**	**91⇑**	*i*Pg	**Pg**	02 55 38.1	**-2.8**
STIP				*e*Sg	**Sg**	02 55 56.2	**-1.2**
BUM	**Brajici-Budva**	**1.31**	**296⇑**	*i*Pg	**Pg**	02 55 38.6	**-3.0**
BUM				*e*Sg	**Sg**	02 55 58.1	**-0.5**
BUM	**Brajici-Budva**	**1.31**	**296**	*i* PG	**Pg**	02 55 38.6	**-3.0**
BUM				*i* SG	**Sg**	02 55 58.1	**-0.5**
VLO	**Vlora**	**1.47**	**211**	*i* Pg	**Pg**	02 55 43.8	**-0.8**
BARS	**Barje**	**1.47**	**42⇑**	*i*PN	**Pn**	02 55 42.5	**-0.5**
NKY	**Niksic**	**1.54**	**315⇑**	*i*Pg	**Pn**	02 55 43.0	**-1.0**
NKY				*e*Sg	**Sg**	02 56 06.6	**+0.5**
NKY	**Niksic**	**1.54**	**315**	*i* PG	**Pn**	02 55 43.0	**-1.0**
NKY				*i* SG	**Sg**	02 56 06.6	**+0.5**
SJES	**Sjenica**	**1.59**	**346⇑**	*i*Pn	**Pn**	02 55 43.6	**-1.0**
VAY	**Valandovo**	**1.62**	**104**	*e*Pb	**Pn**	02 55 44.5	**-0.5**
VAY				*e*Sb	**Sb**	02 56 07.0	**+0.2**
VAY	**Valandovo**	**1.62**	**104**	*i* Pn	**Pn**	02 55 44.2	**-0.8**
VAY				*e*Sg	**Sg**	02 56 06.8	**-1.6**
VAY	comp=N,436nm,0.8s						
VAY				*e*Lg		02 56 07.7	
VAY				*e*Lg		02 56 07.9	
VAY	**Valandovo**	**1.62**	**104**	*i* Pn	**Pn**	02 55 44.1	**-0.9**
VAY				*e*Sg	**Sg**	02 56 06.8	**-1.7**
VAY	comp=N,436nm,0.8s						
GRG	**Griva**	**1.64**	**118**	*e*Pb	**Pb**	02 55 45.2	**-1.5**
GRG				*e*Sb	**Sb**	02 56 08.5	**+1.2**
HCY	**Herceg Novi**	**1.64**	**296⇑**	*i*Pn	**Pn**	02 55 44.4	**-0.9**
HCY				*e*Sn	**Sg**	02 56 09.3	**+0.1**
HCY	**Herceg Novi**	**1.64**	**296**	*i* PG	**Pn**	02 55 44.4	**-0.9**
HCY				*i* SG	**Sg**	02 56 09.3	**+0.1**
KZN	**Kozani**	**1.72**	**145⇑**	*i*PG	**Pg**	02 55 46.8	**-2.7**
KZN				*e*SB	**Sb**	02 56 10.6	**+0.7**
PLE	**Pljevlja**	**1.79**	**334⇓**	*i*Pn	**Pn**	02 55 47.3	**0.0**
PLE				*e*Sn	**Sg**	02 56 13.0	**-0.9**
BRY	**Bratogost**	**1.85**	**310⇑**	*i*Pn	**Pn**	02 55 48.7	**+0.5**
BRY				*e*Sn	**Sg**	02 56 14.2	**-1.8**
BRY	**Bratogost**	**1.85**	**310**	*i* PG	**Pn**	02 55 48.7	**+0.5**
BRY				*i* SG	**Sg**	02 56 14.2	**-1.8**
UPM	**Unac-Piva**	**1.88**	**322⇑**	*i*Pn	**Pn**	02 55 49.1	**+0.6**
UPM				*e*Sn	**Sg**	02 56 15.0	**-1.7**
SRN	**Sarande**	**1.89**	**191**	*i* PN	**Pn**	02 55 49.8	**+1.1**
KNT	**Kendrikon**	**1.90**	**107**	*e*Pb	**Pn**	02 55 48.8	**0.0**
MEV	**Metsovon**	**2.02**	**164**	*e*Pb	**Pn**	02 55 50.3	**-0.3**
KEK	**Kerkira**	**2.08**	**195**	*e*PN	**Pn**	02 55 53.4	**+2.0**
KEK				*e*SN	**Sn**	02 56 20.9	**+3.6**
JAN	**Janina**	**2.09**	**172**	*e*PG	**Pg**	02 55 53.8	**-2.7**
JAN				*e*SN	**Sn**	02 56 20.9	**+3.4**
GRUS	**Gruza**	**2.16**	**4**	*e*Pn	**Pn**	02 55 51.7	**-0.8**
IGT	**Igoumenitsa**	**2.20**	**183**	*e*Pn	**Pn**	02 55 54.2	**+1.2**
VTS	**Vitosha**	**2.20**	**66**	*e*Pn	**Pn**	02 55 53.8	**+0.8**
VTS	**Vitosha**	**2.20**	**66**	*i*P	**Pn**	02 55 53.7	**+0.7**
VTS	**Vitosha**	**2.20**	**66**	*e*Pn	**Pn**	02 55 53.8	**+0.8**
VTS				S	**Sn**	02 56 22.5	**+2.3**
SOH	**Sokhos**	**2.35**	**112**	*e*Pn	**Pn**	02 55 55.4	**+0.4**
STON	**Ston**	**2.36**	**300**	*e*Pn	**Pn**	02 55 55.4	**+0.3**
STON				Sn	**Sb**	02 56 28.9	**+0.7**
DIVS	**Divibare**	**2.39**	**351**	*e*Pn	**Pn**	02 55 55.4	**-0.3**
DIVS				*e*Sn	**Sn**	02 56 28.7	**+3.7**
DIVS	**Divibare**	**2.39**	**351⇑**	*i*Pn	**Pn**	02 55 55.3	**-0.3**
THL	**Klokotos Trika**	**2.46**	**151**	*e*PN	**Pn**	02 55 57.1	**+0.6**
THL				*e*SN	**Sn**	02 56 28.3	**+1.7**
PE1	**Pezze di Greco**	**2.49**	**249**	*e*Pn	**Pn**	02 55 56.5	**-0.4**
NVR	**Nevrokopi**	**2.56**	**97**	*e*PN	**Pn**	02 55 58.5	**+0.5**
PLG	**Polygyros**	**2.62**	**120**	*e*Pn	**Pn**	02 55 59.5	**+0.7**
PLG	**Polygyros**	**2.62**	**120**	*e*Pn	**Pn**	02 55 59.3	**+0.6**
SVIS	**Svilajnac**	**2.62**	**12⇑**	*i*Pn	**Pn**	02 55 58.8	**0.0**
TA1	**Taranto**	**2.76**	**242**	*e*Pn	**Pn**	02 55 58.7	**-1.9**
EVR	**Evrytania**	**2.99**	**160**	*e*Pb	**Pn**	02 56 05.5	**+1.7**
EVR				P	**Pb**	02 56 08.8	**-0.9**
EVR				*e*Sn	**Sn**	02 56 41.9	**+2.2**
SG1	**Sgolgore (BA)**	**3.00**	**254**	*e*Pn	**Pn**	02 56 03.8	**-0.2**
PAIG	**Paliouri**	**3.02**	**126**	*e*Pn	**Pn**	02 56 04.6	**+0.3**
AGG	**Agios Georgios**	**3.05**	**152**	*e*Pn	**Pn**	02 56 05.0	**+0.3**
AGG				*e*Sn	**Sn**	02 56 41.5	**+0.3**
AGG	**Agios Georgios**	**3.05**	**152**	*e*Pn	**Pn**	02 56 04.9	**+0.2**
AGG				*e*Sn	**Sn**	02 56 41.5	**+0.3**
NEO	**Neokhori**	**3.20**	**138**	*e*PN	**Pn**	02 56 06.7	**0.0**
NEO	**Neokhori**	**3.20**	**138**	*e*Pn	**Pn**	02 56 06.6	**-0.1**
FGSL	**Fruska Gora**	**3.46**	**352⇑**	*i*Pn	**Pn**	02 56 10.0	**-0.3**
TIP	**Timpagrande**	**3.82**	**229**	P	**Pn**	02 56 15.7	**+0.5**
RDO	**Rodhopi**	**3.84**	**97**	*e*PN	**Pn**	02 56 15.9	**+0.3**
BZS	**Buzias**	**3.97**	**12**	⇑P	**Pn**	02 56 16.6	**-0.7**
BZS	**Buzias**	**3.97**	**12**	⇑*i*P	**Pn**	02 56 16.6	**-0.7**
GZR	**Gura Zlata**	**4.02**	**24**	⇑P	**Pn**	02 56 18.5	**+0.5**
GZR	**Gura Zlata**	**4.02**	**24**	⇑*i*P	**Pn**	02 56 18.5	**+0.5**
PKSM	**Moragy**	**4.67**	**344**	⇓P	**Pn**	02 56 26.5	**-0.4**
PKSM	**Moragy**	**4.67**	**344**	⇓*i*P	**Pn**	02 56 26.5	**-0.5**
PKSM	**Moragy**	**4.67**	**344**	⇓P	**Pn**	02 56 26.5	**-0.5**
PKSM				*e*S	**Sn**	02 57 19.3	**-1.9**
VOIR		**4.97**	**40**	⇑P	**Pn**	02 56 32.1	**+1.0**
VOIR		**4.97**	**40⇑**	*i*P	**Pn**	02 56 32.1	**+1.0**
NVLJ	**Novalja**	**4.99**	**306**	*e*Pn	**Pn**	02 56 31.0	**-0.2**
NVLJ				Sn	**Sn**	02 57 33.4	**+4.4**
AQU	**L'Aquila**	**5.31**	**279**	⇓P	**Pn**	02 56 35.8	**0.0**
AQU	**L'Aquila**	**5.31**	**279**	⇓*i*P	**Pn**	02 56 35.8	**+0.1**
BOJS	**Bojanci**	**5.35**	**317**	*i* Pn	**Pn**	02 56 37.6	**+1.3**
BOJS				*i* Sn	**Sn**	02 57 41.3	**+3.3**
MLR	**Muntele Rosu**	**5.46**	**45**	⇑P	**Pn**	02 56 39.2	**+1.4**
MLR	**Muntele Rosu**	**5.46**	**45**	P	**Pn**	02 56 39.4	**+1.6**
	comp=N,2.0nm,0.3s,baz=163,slow=7.0,SNR=20						
MLR				S	**Sn**	02 57 41.9	**+1.2**
	comp=N,0.3nm,0.3s,baz=292,slow=22,SNR=6.6						
MLR	**Muntele Rosu**	**5.46**	**45**	⇑*i*P	**Pn**	02 56 39.2	**+1.4**
BUD	**Budapest**	**5.84**	**350⇓**	*e*Pn	**Pn**	02 56 48.8	**+5.7**
BUD				*e*Sn	**Sn**	02 57 50.1	**0.0**
BUD	**Budapest**	**5.84**	**350**	*e*S	**Sn**	02 57 50.1	**0.0**
APE	**Apeiranthos**	**6.08**	**138**	⇑P	**Pn**	02 56 47.4	**+1.2**
APE	**Apeiranthos**	**6.08**	**138⇑**	*i*P	**Pn**	02 56 47.4	**+1.1**
PSZ	**Piszkesteto**	**6.20**	**356**	⇑P	**Pn**	02 56 47.4	**-0.5**
PSZ	**Piszkesteto**	**6.20**	**356⇑**	*i*P	**Pn**	02 56 47.4	**-0.5**
PSZ	**Piszkesteto**	**6.20**	**356⇓**	*e*Pn	**Pn**	02 56 47.9	**0.0**
PSZ				*e*Sn	**Sn**	02 57 57.4	**-1.4**
JAVS	**Javornik**	**6.24**	**314**	*i* Pn	**Pn**	02 56 49.0	**+0.6**
JAVS				*i* Sn	**Sn**	02 58 02.9	**+3.3**
PERS	**Pernice**	**6.24**	**324**	*i* Pn	**Pn**	02 56 50.4	**+1.9**
PERS				*i* Sn	**Sn**	02 57 59.9	**+0.1**
OBKA	**Obir**	**6.41**	**320⇑**	*i*Sg	**Sg**	02 58 49.9	**+7.9**
	comp=N,14nm,0.8s						
OBKA	**Obir**	**6.41**	**320⇑**	*i*Pn	**Pn**	02 56 52.8	**+2.0**
OBKA				*i* Sn	**Sn**	02 58 05.9	**+2.0**
OBKA				*i* Sg	**Sg**	02 58 49.9	**+7.9**
OBKA	**Obir**	**6.41**	**320⇑**	*i*Pn	**Pn**	02 56 52.8	**+2.0**
OBKA				⇑*i*Sn	**Sn**	02 58 05.9	**+2.0**
OBKA	**Obir**	**6.41**	**320**	Sg	**Sg**	02 58 54.1	**+12**
	comp=N,14nm,0.8s						
TIRR	**Tirgusor**	**6.41**	**62⇑**	*i*P	**Pn**	02 56 51.4	**+0.6**
VOY	**Vojsko**	**6.42**	**314**	*e*Pn	**Pn**	02 56 51.3	**+0.4**
VOY				*e*Sn	**Sn**	02 58 07.4	**+3.3**
KECS	**Kecovo**	**6.75**	**0**	*i* PN	**Pn**	02 56 56.1	**+0.6**
KECS				*e*SN	**Sn**	02 58 09.2	**-3.2**
VYHS	**Vyhne**	**6.86**	**351**	*i* PN	**Pn**	02 56 57.5	**+0.5**
VYHS				*i* SN	**Sn**	02 58 11.8	**-3.3**
MODS	**Modra-Piesok**	**7.02**	**342**	*e*PN	**Pn**	02 56 59.8	**+0.6**
MODS				*i* SN	**Sn**	02 58 18.8	**-0.2**
CRVS	**Cervenica-Dubn**	**7.20**	**5**	*e*PN	**Pn**	02 57 01.9	**+0.2**
KOLS	**Kolonicke sedl**	**7.31**	**9**	*e*PN	**Pn**	02 57 05.6	**+2.4**
KBA	**Koelnbreinsper**	**7.39**	**319⇓**	*i*Pn	**Pn**	02 57 05.0	**+0.6**
MOA	**Molln**	**7.55**	**326⇑**	*i*Pn	**Pn**	02 57 08.2	**+1.8**
MOA				*i* Sn	**Sn**	02 58 34.1	**+2.2**
MOA	**Molln**	**7.55**	**326⇑**	*i*Pn	**Pn**	02 57 08.2	**+1.8**
MOA				⇑*i*Sn	**Sn**	02 58 34.1	**+2.2**
ABTA	**Abfaltersbach**	**7.61**	**314⇓**	*i*Pn	**Pn**	02 57 07.4	**+0.2**
	SNR=7.3						
ABTA				⇓*i*Sn	**Sn**	02 58 35.1	**+1.7**
STHS	**Stebnicka Huta**	**7.71**	**4**	*e*PN	**Pn**	02 57 09.7	**+1.1**
STHS				*e*SN	**Sn**	02 58 39.7	**+3.9**
VRAC	**Vranov**	**8.05**	**342**	LR	LR	03 00 25.1	
	comp=N,179nm,18.8s,baz=8.8,slow=38						
WTTA	**Wattenberg**	**8.40**	**314⇑**	*i*Pn	**Pn**	02 57 19.9	**+1.8**
WTTA				⇓*i*Sn	**Sn**	02 58 54.3	**+1.4**
GERES	**GERESS Array B**	**8.57**	**328**	P	**Pn**	02 57 21.6	**+1.2**
	comp=N,0.2nm,0.3s,baz=141,slow=15,SNR=6.9						
KHC	**Kasperske Hory**	**8.85**	**329**	*e*P	**Pn**	02 57 26.5	**+2.3**
DAVOX	**Davos/Dischmat**	**9.13**	**307**	P	**Pn**	02 57 28.2	**+0.1**
	baz=118,slow=18						
HFS	**Hagfors**	**18.90**	**349**	P	**Pn**	02 59 35.5	**-1.8**
	comp=N,0.2nm,0.3s,baz=152,slow=13,SNR=4.9						
HFS	**Hagfors**	**18.90**	**349**	P	**Pn**	02 59 35.5	**-1.9**
NOA	**NORSAR Array B**	**20.14**	**347**	P	**P**	02 59 49.1	**-1.3**
	comp=N,0.7nm,0.6s,baz=171,slow=12,SNR=3.5						
EKA	**Eskdalemuir Ar**	**20.61**	**319**	P	**P**	02 59 54.9	**-0.7**
	comp=N,4.2nm,0.7s,baz=114,slow=9.7,SNR=18						
EKA	**Eskdalemuir Ar**	**20.61**	**319**	P	**P**	02 59 54.8	**-0.7**
TORD	**Torodi Ar. Bea**	**32.84**	**215**	P	**P**	03 01 50.0	**-0.3**
	comp=N,0.4nm,0.6s,mb3.5,baz=21,slow=9.5,SNR=8.3						
DBIC	**Dimbokro**	**41.54**	**220**	P	**P**	03 03 04.2	**0.0**
	comp=N,1.7nm,0.7s,mb3.8,baz=3.1,slow=13,SNR=5.4						

NIED ***04*** *02:56:00,4430N×149.30E,h20km,Mw4.3 Best double couple: M0 3.10000×10^15

comp=E,350nm,17.0s
UGL MLR MLR
comp=Z,500nm,17.0s
OFUJ Ofunato 7.42 232 *e*S **Sn 02 59 25.3 -5.4**
JRG Rokugo 7.83 238 *e*S **Sn 02 59 37.4 -3.3**
JIO Ouri 8.04 230 *e*S **Sn 02 59 38.7 -7.1**
SKR Severo-Kuril's 8.24 32 *e*PN **Pn 02 58 15.5 -3.6**
SKR pmax pmax
comp=Z,30nm,0.5s
MJAR Matsushiro Arr 11.15 232 Pn **Pn 02 58 58.6 -0.3**
baz=33,slow=14,SNR=5.0
KLR Kul'dur 13.09 300 *e*PN **Pn 02 59 27.0 +1.6**
MDJ Mudanjiang 14.05 280 P **Pn 02 59 37.6 -0.8**
MDJ S **Sn 03 02 06.9 -5.7**
MDJ AMB AMB
comp=Z,8.0nm,1.1s
MDJ AMB AMB
comp=Z,29nm,4.7s
MDJ LR LR
comp=N,86nm,15.4s
MDJ LR LR
comp=E,161nm,20.6s
MDJ LR LR
comp=Z,290nm,16.8s
MDJ Mudanjiang 14.05 280 *e*P **Pn 02 59 38.2 -0.2**
comp=Z,11nm,1.0s
KSRS Korea Array 17.34 255 P **Pn 03 00 21.1 +0.4**
baz=56,slow=10,SNR=5.0
SEY Seymchan 19.13 4⇑ *e*P **Pn 03 00 37.7 -4.5**
HIA Hailar 20.84 295 *i*P **P 03 00 57.3 -2.3**
YAK Yakutsk 21.44 335 *e*P **P 03 01 02.2 -3.8**
YAK pmax pmax
comp=N,6.0nm,1.0s
YAK pmax pmax
comp=Z,21nm,0.8s,mb4.5
BOD Bodaibo 25.83 315 *e*P **P 03 01 44.2 -4.5**
BOD pmax pmax
comp=Z,4.0nm,1.2s,mb3.8
NJ2 Nanjing 26.52 254 AP pP 03 02 14.0 +6.4
NJ2 XP sP 03 02 15.9 +2.5
NJ2 PP 03 02 53.0
NJ2 S **S 03 06 42.0 +16**
NJ2 LR LR
comp=N,600nm,15.3s,MS4.3
NJ2 LR LR
comp=E,310nm,12.4s,MS4.3
ULN Ulaanbaatar 29.31 293 *d*i*P* **P 03 02 20.0 +0.1**
SONM Songino Array 29.75 293 P **P 03 02 23.2 -0.6**
SONM pmax pmax
comp=Z,3.0nm,0.8s
SONM Songino Array 29.75 293 P **P 03 02 23.2 -0.6**
comp=Z,3.0nm,0.8s,mb4.1,baz=80,slow=8.5,SNR=13
ZAK Zakamensk 31.45 298 *e*P **P 03 02 32.3 -6.6**
ZAK pmax pmax
comp=Z,1.0nm,1.1s,mb3.6
GTA Gaotai 36.70 280 *e*P **P 03 03 25.9 +1.5**
GTA AP pP 03 03 30.0 -7.1
GTA XP sP 03 03 33.3 -9.5
GTA AMB AMB
comp=Z,6.0nm,0.9s,mb4.4
IMA2 Indian Mountai 37.71 34 *e*P **P 03 03 32.4 -0.3**
COLA College 40.07 36 *e*P **P 03 03 51.4 -1.0**
comp=Z,3.4nm,0.7s,mb4.2
COLA College 40.07 36 *e*P **P 03 03 51.4 -1.0**
COLA pmax pmax
comp=Z,3.0nm,0.7s,mb4.1
ZALV Zalesovo Beam 42.05 307 P **P 03 04 06.8 -2.0**
ZALV PcP PcP 03 06 03.7 +0.9
ZALV Zalesovo Beam 42.05 307 P **P 03 04 06.8 -2.0**
comp=Z,1.0nm,0.5s,mb3.7,baz=91,slow=7.6,SNR=4.1
ZALV PcP PcP 03 06 03.7 +0.9
comp=Z,2.1nm,0.7s,baz=78,slow=2.6,SNR=9.1
ZAL Zalesovo 42.07 307 P **P 03 04 06.9 -2.1**
ZAL 03 06 03.7
EGAK Eagle 42.93 36 *e*P **P 03 04 15.4 -0.4**
comp=Z,4.2nm,1.0s,mb4.1
INK Inuvik 45.51 31 *e*P **P 03 04 36.8 +0.4**
INK Inuvik 45.51 31 P **P 03 04 36.1 -0.3**
comp=Z,3.4nm,0.9s,mb4.3,baz=292,slow=6.5,SNR=12
MK31 Makanchi Array 45.79 298 *e*P **P 03 04 38.9 0.0**
MKAR Makanchi Array 45.79 298 P **P 03 04 38.0 -0.9**
MKAR pmax pmax
comp=Z,6.0nm,0.8s
MKAR Makanchi Array 45.79 298 P **P 03 04 38.0 -0.9**
comp=Z,6.4nm,0.8s,mb4.6,baz=73,slow=9.0,SNR=16
KURK Kurchatov 46.64 304 *e*P **P 03 04 44.5 -0.9**
KURK Kurchatov 46.64 304 *i*P **P 03 04 45.9 +0.4**
ULHL Ulahol 51.64 295 P **P 03 05 25.0 +1.2**
SNR=10
TKM2 Tokmak 2 51.74 296 *e*P **P 03 05 25.5 +0.9**
comp=Z,7.7nm,1.0s,mb4.6
TKM2 Tokmak 2 51.74 296 *e*P **P 03 05 25.5 +0.9**
TKM2 pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
TKM2 Tokmak 2 51.74 296 P **P 03 05 25.8 +1.2**
SNR=6.0
USP Ospenovka 52.29 297 P **P 03 05 29.6 +0.9**
SNR=7.5
KBK Karagaybulak 52.29 296 P **P 03 05 29.9 +1.2**
SNR=7.2
KZA Kyzart 52.37 295 P **P 03 05 31.4 +2.2**
SNR=11
AAK Ala-Archa 52.59 296 P **P 03 05 31.7 +0.8**
SNR=5.1
UCH Uchtor 52.78 296 *e*P **P 03 05 34.9 +2.6**
comp=Z,3.5nm,0.9s,mb4.3
EKS2 Erkin-Say 53.04 297 *e*P **P 03 05 34.9 +0.7**
comp=Z,7.5nm,0.8s,mb4.7
EKS2 Erkin-Say 53.04 297 P **P 03 05 35.2 +0.9**
SNR=8.8
AML Almayashu 53.35 296 *e*P **P 03 05 37.9 +1.3**
AML Almayashu 53.35 296 P **P 03 05 38.2 +1.7**
SNR=6.2
RES Resolute Bay 54.38 17 *e*P **P 03 05 43.2 -0.3**
YKA Yellowknife Ar 54.84 34 P **P 03 05 46.0 -1.0**
YKA Yellowknife Ar 54.84 34 P **P 03 05 46.0 -1.0**
YKA pmax pmax
comp=Z,1.0nm,0.7s
YKA Yellowknife Ar 54.84 34 P **P 03 05 46.0 -1.0**
comp=Z,0.6nm,0.7s,mb3.7,baz=298,slow=7.1,SNR=9.5
ARU Arti 55.21 317 *d*i*P* **P 03 05 49.0 -0.8**
ARU *e* 03 07 48.4
ARU *e*S **S 03 13 29.1 -0.3**
ARU *e*SS SS 03 17 08.5 -4.8
ARU pmax pmax
comp=Z,8.0nm,1.7s,mb4.5
AKTK Aktyubinsk 58.52 311 P **P 03 06 13.2 -0.1**
AKTO Aktyubinsk 58.52 311 P **P 03 06 13.3 0.0**
AKTO pmax pmax
comp=Z,2.0nm,0.7s,mb4.3
AKTO Aktyubinsk 58.52 311 P **P 03 06 13.2 -0.1**
comp=Z,1.7nm,0.7s,mb4.2,baz=47,slow=7.2,SNR=6.5
ARCES ARCESS Array B 59.58 340 P **P 03 06 18.8 -1.6**
ARCES pmax pmax
comp=Z,5.0nm,1.0s
ARCES ARCESS Array B 59.58 340 P **P 03 06 18.8 -1.6**
comp=Z,4.6nm,1.0s,mb4.5,baz=26,slow=11,SNR=3.3
EDM Edmonton 60.28 43 *e*P **P 03 06 28.9 +3.5**
KAF Kangasniemi 64.80 334 *e*p **P 03 06 51.5 -3.9**
baz=40,slow=6.2
FINES FINESS Array B 65.37 334 *e*P **P 03 06 57.6 -1.5**
FINES FINESS Array B 65.37 334 P **P 03 06 57.6 -1.5**
comp=Z,7.0nm,0.8s,mb4.7,baz=51,slow=7.8,SNR=18
BOZ Bozeman (W) 65.69 49 *e*P **P 03 07 06.0 +4.5**
comp=Z,1.1nm,0.7s,mb4.0
BOZ Bozeman (W) 65.69 49 *e*P **P 03 07 06.0 +4.5**
BOZ pmax pmax
comp=Z,1.0nm,0.7s,mb4.0
NVAR Mina Array Bea 66.24 59 P **P 03 07 06.6 +1.5**
comp=Z,0.5nm,0.7s,mb3.6,baz=287,slow=7.4,SNR=2.8
IMW Indian Meadow 67.18 51 *e*P **P 03 07 18.7 +7.7**
comp=Z,4.7nm,1.1s,mb4.4
MOOW Moose Ponds 67.38 51 *e*P **P 03 07 19.3 +7.0**
comp=Z,3.5nm,1.1s,mb4.3
TPAW Teton Pass 67.43 51 *e*P **P 03 07 19.5 +6.9**
comp=Z,3.4nm,0.9s,mb4.4
VRSR Storozhevoye 67.53 320 *e*P **P 03 07 12.8 -0.3**
VRSR pmax pmax
comp=Z,3.0nm,0.8s,mb4.4
VRSR pmax pmax
comp=N,2.0nm,0.7s
VRSR pmax pmax
comp=E,2.0nm,0.7s
LOHW Long Hollow 67.55 51 *e*P **P 03 07 19.5 +6.2**
comp=E,2.4nm,1.0s,mb4.2
DUG Dugway 68.46 55 *e*P **P 03 07 25.8 +6.7**
comp=E,2.6nm,0.9s,mb4.3
DUG Dugway 68.46 55 *e*P **P 03 07 25.8 +6.7**
DUG pmax pmax
comp=Z,3.0nm,0.9s,mb4.3
BW06 Boulder Array 68.67 51 *e*P **P 03 07 25.5 +5.0**
comp=Z,1.9nm,0.9s,mb4.0
PDAR Pinedale Array 68.67 51 P **P 03 07 21.6 +1.2**
comp=Z,0.4nm,0.6s,mb3.5,baz=333,slow=0.2,SNR=3.0
NB2 NORSAR Subarra 69.95 340 P **P 03 07 26.8 -1.2**
comp=Z,3.1nm,0.5s,mb4.5,baz=30,slow=6.5
NOA NORSAR Array B 69.95 340 P **P 03 07 26.6 -1.4**
NOA pmax pmax
comp=Z,8.0nm,0.8s
NOA NORSAR Array B 69.95 340 P **P 03 07 26.6 -1.4**
comp=Z,7.6nm,0.8s,mb4.7,baz=32,slow=6.1,SNR=28
HFS Hagfors 70.08 338 P **P 03 07 27.2 -1.6**
HFS pmax pmax
comp=Z,4.0nm,0.5s
HFS Hagfors 70.08 338 P **P 03 07 27.2 -1.6**
comp=Z,4.1nm,0.5s,mb4.6,baz=51,slow=5.9,SNR=25
NAO01 NORSAR Array S 70.20 340 *e*P **P 03 07 29.3 -0.2**
ULM Lac du Bonnet 70.47 38 LR LR 03 40 11.3
comp=Z,166nm,21.1s,MS4.3,baz=349,slow=38
SRU San Rafael 70.50 54 *e*P **P 03 07 37.5 +5.8**
comp=Z,2.3nm,0.8s,mb4.2
SRU San Rafael 70.50 54 *e*P **P 03 07 37.6 +5.8**
SRU pmax pmax
comp=Z,2.0nm,0.8s,mb4.1
KIV Kislovodsk 70.72 313 *e*P **P 03 07 34.9 +1.9**
comp=Z,1.1nm,0.7s,mb4.9
KIV Kislovodsk 70.72 313⇓ *e*P **P 03 07 34.7 +1.7**
KIV pmax pmax
comp=Z,12nm,0.8s,mb4.9
AKASG Malin Array Be 72.29 325 P **P 03 07 41.8 -0.5**
AKASG pmax pmax
comp=Z,4.0nm,0.6s
AKASG Malin Array Be 72.29 325 P **P 03 07 41.8 -0.6**
comp=Z,3.5nm,0.6s,mb4.5,baz=37,slow=6.3,SNR=22
AKBB Malin Array Si 72.29 325 *e*P **P 03 07 41.6 -0.7**
KIEV Kiev 72.30 325 *e*P **P 03 07 41.6 -0.7**
comp=Z,1.9nm,0.5s,mb4.3
KIEV Kiev 72.30 325 *e*P **P 03 07 41.7 -0.7**
KIEV pmax pmax
comp=Z,2.0nm,0.5s,mb4.3
ANMO Albuquerque 75.71 55 *e*P **P 03 08 08.7 +6.1**
comp=Z,1.1nm,0.7s,mb3.9
ANMO Albuquerque 75.71 55 *e*P **P 03 08 08.7 +6.1**
ANMO pmax pmax
comp=Z,1.0nm,0.7s
OJC Ojcow 76.39 329 *e*P **P 03 08 06.4 +0.3**
KOLS Kolonicke sedl 76.49 327 *e*P **P 03 08 05.8 -0.9**
STHS Stebnicka Huta 76.50 328 *i*P **P 03 08 07.7 +0.9**
comp=Z,1.9nm,0.9s,mb4.0
STHS Stebnicka Huta 76.50 328 *i*P **P 03 08 07.7 +0.9**
STHS pmax pmax
comp=Z,2.0nm,0.9s,mb4.0
CRVS Cervenica-Dubn 76.83 328 *e*P **P 03 08 06.8 -1.9**
UPC Upice 77.50 332 *e*P **P 03 08 11.2 -1.2**
DPC Dobruska-Polom 77.52 331 *e*P **P 03 08 13.7 +1.2**
CLL Collm 77.82 334 *i*P **P 03 08 13.9 -0.3**
CLL pmax pmax
comp=Z,7.0nm,0.7s,mb4.7
CLL Collm 77.82 334 *i*P **P 03 08 13.9 -0.3**
comp=Z,5.0nm,0.7s,mb4.5
BRG Berggiesshubel 77.89 333 *i*P **P 03 08 13.9 -0.6**
BRG pmax pmax
comp=Z,7.0nm,0.7s,mb4.7
VYHS Vyhne 78.16 329 *e*P **P 03 08 16.0 -0.1**
comp=Z,11nm,2.2s,mb4.4
VYHS Vyhne 78.16 329 *e*P **P 03 08 16.0 -0.1**
VYHS pmax pmax
comp=Z,11nm,2.2s,mb4.4
EKA Eskdalemuir Ar 78.36 344 P **P 03 08 16.6 -0.5**
EKA pmax pmax
comp=Z,1.0nm,0.7s
EKA Eskdalemuir Ar 78.36 344 P **P 03 08 16.6 -0.5**
comp=Z,1.4nm,0.7s,mb4.0,baz=16,slow=4.9,SNR=5.7
PRU Pruhonice 78.44 332 *e*P **P 03 08 18.2 +0.6**
PRU smax
comp=N,15nm,0.4s
TREC Trest 78.70 331 *e*P **P 03 08 19.7 +0.6**
MODS Modra-Piesok 78.84 330 *i*P **P 03 08 20.6 +0.7**
KHC Kasperske Hory 79.50 332 *e*P **P 03 08 23.8 +0.4**
KHC *ex* x 03 08 37.0
GERES GERESS Array B 79.70 332 P **P 03 08 24.4 -0.2**
GERES pmax pmax
comp=Z,2.0nm,0.6s
GERES GERESS Array B 79.70 332 P **P 03 08 24.4 -0.1**
comp=Z,1.9nm,0.6s,mb4.2,baz=32,slow=6.1,SNR=9.3
GRF Grafenberg Arr 79.79 334 *e*P **P 03 08 25.5 +0.5**
comp=Z,6.0nm,1.0s,mb4.5
WMOK Wichita Mounta 80.29 51 *e*P **P 03 08 25.7 -2.3**
comp=Z,33nm,1.2s,mb5.1
WMOK Wichita Mounta 80.29 51 *e*P **P 03 08 25.7 -2.3**
WMOK pmax pmax
comp=Z,33nm,1.2s,mb5.1
KBA Koelnbreinsper 81.34 331⇓ *i*P **P 03 08 34.2 +0.8**
comp=Z,8.5nm,1.1s,mb4.6
KBA Koelnbreinsper 81.34 331⇓ *i*P **P 03 08 34.2 +0.8**
KBA pmax pmax
comp=Z,9.0nm,1.1s,mb4.6
WTTA Wattenberg 81.77 332⇑ *i*P **P 03 08 36.2 +0.6**
comp=Z,9.3nm,1.2s,mb4.6
WTTA Wattenberg 81.77 332⇑ *i*P **P 03 08 36.2 +0.6**
WTTA pmax pmax
comp=Z,9.0nm,1.2s,mb4.6
MOTA Moosalm 81.88 333⇓ *i*P **P 03 08 36.8 +0.6**
comp=Z,7.9nm,1.1s,mb4.6
MOTA Moosalm 81.88 333⇓ *i*P **P 03 08 36.8 +0.6**
MOTA pmax pmax
comp=Z,8.0nm,1.1s,mb4.6
MMAI Mount Meron Ar 82.52 309 P **P 03 08 40.9 +1.1**
comp=Z,1.2nm,0.6s,mb4.1,baz=42,slow=4.5,SNR=3.3
DAVOX Davos/Dischmat 82.77 333 P **P 03 08 41.5 +0.6**
comp=Z,2.8nm,0.8s,mb4.4,baz=220,slow=1.6,SNR=4.3
AQU L'Aquila 85.39 329 *e*P **P 03 08 50.3 -4.0**
comp=Z,32nm,1.2s,mb5.3
AQU L'Aquila 85.39 329 *e*P **P 03 08 50.3 -4.0**
AQU pmax pmax
comp=Z,32nm,1.2s,mb5.3

IDC 04 02:56:49.5±3.3, 2049S×16859E, h0km, mb3.8/3, mb1 4.0/4, mb1mx3.8/13, mbtmp3.8/4, ML3.0/1, Error ellipse: s-maj=81.9km s-min=42.0km az=129.0, Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**2.54**	**231**	*e*P		Pn	Pn	02 57 31.2	-0.8
DZM				*e*S			Sn	02 58 05.5	+1.8
DZM	**Mont Dzumac**	**2.54**	**231**	Pn		Pn	Pn	02 57 31.7	-0.4
	3.2nm,0.3s,baz=53,slow=21,SNR=19								
STKA	**Stephens Creek**	**26.67**	**239**	P			P	03 02 30.0	-0.3
	1.2nm,0.6s,baz=105,slow=12,SNR=2.9								
WRA	**Warramunga Arr**	**32.11**	**265**	P			P	03 03 18.9	+0.2
	0.5nm,0.6s,baz=90,slow=8.3,SNR=4.2								
ASAR	**Alice Springs**	**32.25**	**258**	P			P	03 03 20.2	+0.3
	1.7nm,0.8s,baz=83,slow=9.1,SNR=17								
GERES	**GERESS Array B**	**145.28**	**331**	PKPbc			PKPbc	03 16 28.2	-0.7
	0.2nm,0.3s,baz=60,slow=5.4,SNR=4.1								

BJI 04 02:59:01.9, 3695N×8080E, h24km, ML3.5, 3C-1D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**4.58**	**305**	*e*PG		Pn	Pn	03 00 26.1	+16
KSH				S			Sn	03 01 05.6	+3.5
KSH				Smax					
	comp=N,408nm,0.3s								
KSH				Smax					
	comp=E,444nm,0.6s								
TKM2	**Tokmak 2**	**7.18**	**328**	⇑Pn		Pn	Pn	03 01 05.1	+20
	comp=E,3.2nm,0.6s								
TKM2				⇑Lg				03 02 42.6	
	comp=E,6.4nm,0.6s								
MK31	**Makanchi Array**	**9.90**	**6**	⇓Pn		Pn	Pn	03 01 22.7	+0.1
	comp=E,0.4nm,0.3s,baz=190,slow=13,SNR=7.3								
MK31				⇑Lg				03 03 11.0	
	comp=E,1.3nm,0.5s,baz=180,slow=37,SNR=5.2								

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*NEIC **04** 03:00:46.4±1.7, 759S×12754E, h132km±18km, mb3.9/2, Error ellipse: s-maj=25.4km s-min=13.5km az=71.0*

*ISCJB **04** 03:00:50.9±1.5, 792S±009×12781E±009, h211km±16km, mb3.6/6, Error ellipse: s-maj=18.3km s-min=8.5km az=43.6*

*IDC **04** 03:00:52.0±5.1, 751S×12756E, h179km±45km, mb3.5/4, mb1 3.7/6, mb1mx3.5/14, mbtmp3.7/6, MS3.3/1, Ms1 3.3/1, ms1mx2.6/22, Error ellipse: s-maj=51.8km s-min=20.1km az=65.0*

ISC 04 03:00:51.0±1.3, 786S±009×12782E±009, h192km±13km, n19, σ0°76/22, mb3.6/6, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BATI	**Kupang**	**4.72**	**240**	P		P	**Pn**	**03 02 02.4**	**+0.7**
	21nm,0.3s,baz=123,slow=2.7,SNR=40								
BATI				S			**Sn**	**03 02 57.4**	**+0.3**
	34nm,0.3s,baz=62,slow=4.8,SNR=9.6								
BATI				LR		LR	LR	03 04 13.7	
	comp=Z,314nm,20.1s,baz=114,slow=43								
KAKA	**Kakadu**	**6.63**	**137**	*e*P			**Pn**	**03 02 26.3**	**0.0**
	37nm,0.6s								
FITZ	**Fitzroy Crossi**	**10.40**	**192**	*e*P			**Pn**	**03 03 14.9**	**-0.7**
	10nm,0.6s								
FITZ				*e*S			**Sn**	**03 05 06.4**	**-5.2**
FITZ	**Fitzroy Crossi**	**10.40**	**192**	P			**Pn**	**03 03 14.9**	**-0.6**
	1.6nm,0.3s,baz=29,slow=12,SNR=33								
FITZ				S			**Sn**	**03 05 09.3**	**-2.3**
	4.1nm,0.3s,baz=150,slow=21,SNR=7.9								
WRA	**Warramunga Arr**	**13.58**	**153**	P			**Pn**	**03 03 56.9**	**+0.9**
	1.2nm,0.3s,baz=323,slow=14,SNR=52								
WRA				S			**Sn**	**03 06 21.6**	**-5.8**
	3.6nm,0.3s,baz=330,slow=23,SNR=13								
WB2	**Warramunga Arr**	**13.58**	**153**	*e*P			**Pn**	**03 03 55.2**	**-0.9**
WB2				*e*S			**Sn**	**03 06 21.0**	**-6.6**
ASAR	**Alice Springs**	**16.77**	**160**	P			**Pn**	**03 04 38.5**	**+3.6**
	2.4nm,0.3s,baz=338,slow=12,SNR=70								
ASAR				S			**S**	**03 07 39.9**	**+0.6**
	0.9nm,0.3s,baz=346,slow=25,SNR=5.3								
SONM	**Songino Array**	**58.59**	**343**	P			**P**	**03 10 28.0**	**+0.4**
	0.5nm,0.5s,mb3.4,baz=142,slow=7.3,SNR=2.8								
MK31	**Makanchi Array**	**67.78**	**328**	*e*P			**P**	**03 11 27.9**	**-0.1**
MKAR	**Makanchi Array**	**67.78**	**328**	P			**P**	**03 11 27.7**	**-0.3**
MKAR				PcP		PcP	PcP	03 11 53.0	-0.3
MKAR	**Makanchi Array**	**67.78**	**328**	P			**P**	**03 11 27.7**	**-0.3**
	0.5nm,0.4s,mb3.5,baz=130,slow=7.7,SNR=6.5								
MKAR				PcP		PcP	PcP	03 11 53.0	-0.3
	0.6nm,0.7s,baz=135,slow=5.3,SNR=3.9								
ZALV	**Zalesovo Beam**	**71.41**	**335**	P			**P**	**03 11 49.4**	**-0.6**
	0.5nm,0.3s,mb3.6,baz=114,slow=6.5,SNR=3.8								
KURK	**Kurchatov**	**72.14**	**330**	*e*P			**P**	**03 11 54.0**	**-0.4**
	1.4nm,0.8s,mb3.6								
QSPA	**South Pole Qui**	**82.13**	**180**	*e*P			**P**	**03 12 53.7**	**+4.0**
	1.1nm,0.5s,mb3.7								
AKTK	**Aktyubinsk**	**83.43**	**323**	P			**P**	**03 12 57.0**	**+0.2**
AKTO	**Aktyubinsk**	**83.43**	**323**	P			**P**	**03 12 57.0**	**+0.2**
	1.3nm,0.7s,mb3.8,baz=90,slow=8.8,SNR=4.0								
TORD	**Torodi Ar. Bea**	**126.84**	**281**	PKP			PKPdf	03 19 34.6	+1.7
	0.4nm,0.6s,baz=111,slow=1.7,SNR=6.3								
LPAZ	**La Paz**	**151.28**	**147**	PKPbc			PKPbc	03 20 27.0	+4.3
LPAZ				PKPab			PKPab	03 20 36.8	+5.6
LPAZ	**La Paz**	**151.28**	**147**	PKPbc			PKPbc	03 20 27.0	+4.3
	0.5nm,0.5s,baz=68,slow=5.4,SNR=4.1								
LPAZ				PKPab			PKPab	03 20 36.8	+5.6
	1.3nm,0.6s,baz=259,slow=5.2,SNR=7.0								

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*IDC **04** 03:03:05.7±1.9, 785S×15577E, h0km, mb4.2/6, mb1 4.3/6, mb1mx4.1/14, mbtmp4.2/6, MS4.9/1, Ms1 4.9/1, ms1mx3.2/27, Error ellipse: s-maj=75.0km s-min=31.9km az=98.0*

*NEIC **04** 03:03:07.2±1.0, 783S×15575E, h10km, mb4.5/1, Error ellipse: s-maj=42.5km s-min=17.6km az=99.0*

*ISCJB **04** 03:03:09.2±1.3, 79S±02×1557E±04, h33km, mb4.2/7, Error ellipse: s-maj=52.5km s-min=21.5km az=9.5*

ISC 04 03:03:11.1±1.3, 79S±02×1557E±04, h35km, n12, σ0°70/11, mb4.2/7, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**27.30**	**207**	P			**P**	**03 08 52.3**	**-0.2**
	1.6nm,0.4s,mb4.0,baz=34,slow=10,SNR=3.6								
JHJ	**Hachijo jima 2**	**43.48**	**340**	LR		LR		03 25 31.7	
	comp=Z,1μm,21.4s,baz=94,slow=31								
MJAR	**Matsushiro Arr**	**47.12**	**341**	P			**P**	**03 11 39.5**	**-0.4**
	4.4nm,0.8s,mb4.5,baz=164,slow=7.6,SNR=9.9								
MAJO	**Matsushiro**	**47.13**	**341**	*e*P			**P**	**03 11 39.3**	**-0.6**
	1.7nm,0.4s,mb4.3								
SONM	**Songino Array**	**70.45**	**327**	P			**P**	**03 14 23.2**	**+1.4**
	1.1nm,0.8s,mb3.8,baz=135,slow=6.8,SNR=4.3								
BILL	**Bilibino**	**76.07**	**4**	*e*P			**P**	**03 14 54.6**	**+0.1**
MK31	**Makanchi Array**	**84.53**	**319**	*e*P			**P**	**03 15 41.2**	**+0.6**
MKAR	**Makanchi Array**	**84.53**	**319**	P			**P**	**03 15 41.2**	**+0.7**
	2.6nm,0.8s,mb4.4,baz=104,slow=5.8,SNR=19								
ZAA0	**Zalesovo Array**	**85.30**	**326**	*e*P			**P**	**03 15 43.4**	**-0.8**
ZALV	**Zalesovo Beam**	**85.30**	**326**	P			**P**	**03 15 43.2**	**-1.0**
ZALV	**Zalesovo Beam**	**85.30**	**326**	P			**P**	**03 15 43.2**	**-1.0**
	1.2nm,0.7s,mb4.2,baz=98,slow=6.1,SNR=5.5								
YKA	**Yellowknife Ar**	**96.74**	**28**	P			**P**	**03 16 37.9**	**+0.2**
	0.4nm,0.6s,mb4.0,baz=265,slow=4.5,SNR=7.7								

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*BJI **04** 03:05:28.7, 875S×15839E, h22km, mB5.0, mb4.8, Ms4.8, Msz4.5*

*IDC **04** 03:05:30.6±0.6, 859S×15754E, h0km, mb4.3/13, mb1 4.5/14, mb1mx4.5/16, mbtmp4.3/14, ML4.8/1, MS3.6/1, Ms1 3.6/1, ms1mx2.8/23, Error ellipse: s-maj=18.9km s-min=17.6km az=113.0*

*ISCJB **04** 03:05:32.1±0.3, 856S±006×15751E±004, h14km, mb4.6/46, MS4.5/6, Error ellipse: s-maj=8.0km s-min=6.3km az=11.7*

*MOS **04** 03:05:34.5±1.0, 854S×15761E, h33km, mb4.9/14, Error ellipse: s-maj=17.7km s-min=14.6km az=84.3*

*NEIC **04** 03:05:36.5±1.4, 861S×15758E, h36km±13km, mb4.7/19, Error ellipse: s-maj=9.6km s-min=6.7km az=154.0*

ISC 04 03:05:33.8±0.3, 859S±005×15755E±005, h14km, h14km±1.2km; pP-P, n85, σ1°01/87, mb4.6/46, MS4.5/6, 2C-3D, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.51**	**110**	Pn		**Pn**	**Pn**	**03 06 13.4**	**-0.7**
	203nm,0.3s,baz=260,slow=8.2,SNR=13								
HNR				Sn			**Sn**	**03 06 46.7**	**+2.3**
	390nm,0.3s,baz=90,slow=19,SNR=10								
CTA	**Charters Tower**	**15.81**	**223**	*e*P			**Pn**	**03 09 18.5**	**+2.4**
	8.4nm,1.3s								
CTA	**Charters Tower**	**15.81**	**223**	*e*P			**Pn**	**03 09 18.5**	**+2.4**
CTA				pmax		pmax	pmax		
	comp=Z,8.0nm,1.3s								
CTA	**Charters Tower**	**15.81**	**223**	Pn			**Pn**	**03 09 17.9**	**+1.8**
	comp=Z,0.2nm,0.3s,baz=64,slow=14,SNR=3.5								
CTA				LR		LR	LR	03 13 46.2	
	comp=Z,219nm,20.4s,baz=47,slow=31								
ARMA	**Armidale**	**22.41**	**194**	*e*P			**P**	**03 10 32.7**	**+0.7**
KAKA	**Kakadu**	**25.01**	**258**	*e*P			**P**	**03 10 56.8**	**-0.7**
	comp=Z,14nm,0.9s,mb4.5								
WB2	**Warramunga Arr**	**25.12**	**241**	*e*P			**P**	**03 10 57.9**	**-0.5**
WRA	**Warramunga Arr**	**25.13**	**241**	P			**P**	**03 10 58.0**	**-0.5**
	comp=Z,9.7nm,0.7s,mb4.4,baz=66,slow=9.3,SNR=12								
WRA				PcP		PcP	PcP	03 14 32.5	-0.2
	comp=Z,2.6nm,0.8s,baz=61,slow=2.3,SNR=7.6								
ASAR	**Alice Springs**	**27.15**	**234**	P			**P**	**03 11 15.4**	**-1.3**
	comp=Z,2.0nm,0.9s,mb3.6,baz=57,slow=9.6,SNR=4.4								
ASAR				PcP		PcP	PcP	03 14 36.8	-0.5
	comp=Z,1.8nm,0.8s,baz=80,slow=2.3,SNR=7.2								
STKA	**Stephens Creek**	**27.51**	**210**	*e*P			**P**	**03 11 21.6**	**+1.7**
	comp=Z,5.0nm,0.6s,mb4.3								
STKA	**Stephens Creek**	**27.51**	**210**	P			**P**	**03 11 19.8**	**-0.1**
	comp=Z,4.0nm,0.6s,mb4.2,baz=41,slow=13,SNR=7.7								
FORT	**Forrest**	**35.27**	**227**	*e*P			**P**	**03 12 35.3**	**+7.1**
	comp=Z,2.9nm,0.9s,mb4.2								
MBWA	**Marble Bar**	**38.52**	**247**	*e*P			**P**	**03 12 54.9**	**-1.1**
	comp=Z,19nm,1.3s,mb4.7								
KKM	**Kota Kinabalu**	**43.70**	**288**	*e*P			**P**	**03 13 40.4**	**+1.6**
MJAR	**Matsushiro Arr**	**48.43**	**339**	P			**P**	**03 14 14.1**	**-1.5**
	comp=Z,2.0nm,0.9s,mb4.1,baz=170,slow=9.1,SNR=4.4								
MAJO	**Matsushiro**	**48.43**	**339**	*e*P			**P**	**03 14 14.1**	**-1.5**
	comp=Z,7.9nm,0.8s,mb4.8								
MAJO	**Matsushiro**	**48.43**	**339**	*e*P			**P**	**03 14 14.1**	**-1.5**
MAJO				pmax		pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.8								
KSRS	**Korea Array**	**53.54**	**331**	P			**P**	**03

comp=Z,34nm,1.1s,mb5.2
NJ2 Nanjing 54.76 319 *e*P **P 03 15 04.4 +1.3**
NJ2 AMB AMB
comp=Z,50nm,1.0s,mb5.5
MDJ Mudanjiang 58.67 337 P **P 03 15 31.3 +0.7**
MDJ AP pP 03 15 34.0 -1.2
MDJ SCP ScP 03 20 21.2 +0.4
MDJ PCS PcS 03 20 22.5 +0.5
MDJ S **S 03 23 37.0 +2.3**
MDJ AMB AMB
comp=Z,5.0nm,1.6s,mb4.3
MDJ AMB AMB
comp=Z,70nm,5.5s
MDJ LR LR
comp=N,167nm,20.4s,MS4.2
MDJ LR LR
comp=E,78nm,15.4s,MS4.2
MDJ LR LR
comp=Z,207nm,19.8s,MS4.2
CN2 Changchun 59.72 334 *e*P **P 03 15 41.4 +3.5**
GYA Guiyang 60.43 307 P **P 03 15 44.8 +1.7**
GYA AP pP 03 15 49.0 +1.2
GYA XP sP 03 15 53.2 +3.7
GYA PCP PcP 03 16 29.9 +1.9
GYA PP PP 03 18 01.2 +4.6
GYA S **S 03 23 58.8 +0.7**
GYA SCS ScS 03 25 32.3 -1.7
GYA SS SS 03 27 58.0 +1.7
GYA AMB AMB
comp=Z,10.0nm,1.0s,mb4.8
GYA AMB AMB
comp=Z,120nm,7.6s
GYA LR LR
comp=N,430nm,21.2s,MS4.6
GYA LR LR
comp=E,170nm,19.6s,MS4.6
GYA LR LR
comp=Z,490nm,20.4s,MS4.6
BJI Beijing 61.66 325 P **P 03 15 51.5 +0.2**
BJI AMB AMB
comp=Z,6.0nm,0.5s,mb5.0
BJI Beijing 61.66 325 P **P 03 15 51.5 +0.2**
comp=Z,6.0nm,0.5s,mb5.0
XAN Xi'an 62.61 315 P **P 03 15 56.8 -0.9**
XAN AP pP 03 16 02.7 +0.3
XAN AMB AMB
comp=Z,5.0nm,1.2s,mb4.5
KMI Kunming 63.00 304 P **P 03 16 01.9 +1.4**
KMI AP pP 03 16 05.8 +0.6
KMI PP PP 03 18 23.1 +3.8
KMI S **S 03 24 32.0 +1.2**
KMI AMB AMB
comp=Z,13nm,1.2s,mb4.9
KMI AMB AMB
comp=Z,117nm,3.7s
KMI LR LR
comp=N,139nm,12.2s,MS4.4
KMI LR LR
comp=E,94nm,11.4s,MS4.4
KMI LR LR
comp=Z,134nm,17.9s
KMI Kunming 63.00 304 P **P 03 16 01.9 +1.4**
comp=Z,13nm,1.2s,mb4.9
KMI pP pP 03 16 05.8 +0.6
KMI sP sP 03 16 07.6 +0.7
KMI PP PP 03 18 23.1 +3.8
KMI PPP 03 19 55.7
KMI S **S 03 24 32.0 +1.2**
KMI SS SS 03 28 38.4 +1.7
KMI LR LR
comp=Z,130nm,17.9s,MS4.2
KMI Kunming 63.00 304 P **P 03 16 01.9 +1.4**
KMI *SP sP 03 16 07.6 +0.7
KMI 03 18 23.1
KMI PPP 03 19 55.7
KMI S **S 03 24 32.0 +1.2**
KMI SS SS 03 28 38.4 +1.7
KMI pmax pmax
comp=Z,13nm,1.2s,mb4.9
KMI MLR MLR
comp=Z,130nm,17.9s,MS4.2
CHTO Chiang Mai 63.87 296 *e*P **P 03 16 06.5 +0.1**
comp=Z,4.7nm,0.6s,mb4.7
CHTO Chiang Mai 63.87 296 *e*P **P 03 16 06.5 +0.1**
CHTO pmax pmax
comp=Z,5.0nm,0.6s,mb4.7
CD2 Chengdu 64.77 310 *e*P **P 03 16 13.8 +1.7**
CD2 AP pP 03 16 18.8 +2.0
CD2 XP sP 03 16 20.9 +2.4
CD2 PP PP 03 18 38.3 +3.5
CD2 S **S 03 24 52.6 0.0**
CD2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.9
CD2 AMB AMB
comp=Z,20nm,5.9s
CD2 LR LR
comp=N,350nm,18.4s
CD2 LR LR
comp=E,210nm,12.6s
CD2 LR LR
comp=Z,310nm,18.2s,MS4.5
HHC Hu-ho-hao-te 64.88 323 *e*P **P 03 16 13.8 +1.3**
HHC AP pP 03 16 18.1 +0.9
HHC XP sP 03 16 21.0 +2.0
HHC PP PP 03 18 38.2 +2.7
HHC SCP 03 20 45.0
HHC PCS 03 20 49.1
HHC S **S 03 24 57.0 +3.5**
HHC SCS ScS 03 26 05.8 -1.3
HHC SS SS 03 29 08.7 +3.3
HHC AMB AMB
comp=Z,16nm,0.3s,mb5.5
HHC AMB AMB
comp=Z,184nm,4.9s
HHC LR LR
comp=E,299nm,23.0s
LZH Lanzhou 67.22 315 ⇓P **P 03 16 29.0 +1.2**
LZH AP pP 03 16 33.5 +1.1
LZH XP sP 03 16 36.7 +2.5
LZH *e*PP PP 03 18 59.2 +3.1
LZH AMB AMB
comp=Z,21nm,1.3s,mb5.0
LZH AMB AMB
comp=Z,80nm,7.2s
LZH LR LR
comp=E,579nm,16.3s
LZH LR LR
comp=Z,897nm,18.5s,MS5.0
LZH Lanzhou 67.22 315 ⇓P **P 03 16 29.0 +1.2**
comp=Z,21nm,1.3s,mb5.0
LZH pP pP 03 16 33.5 +1.1
LZH sP sP 03 16 36.7 +2.5
LZH *e*PP PP 03 18 59.2 +3.1
LZH LR LR
comp=Z,900nm,18.5s,MS5.0
LZH Lanzhou 67.22 315 ⇓P **P 03 16 29.0 +1.2**
LZH *SP sP 03 16 36.7 +2.5
LZH *e* 03 18 59.2
LZH pmax pmax
comp=Z,21nm,1.3s,mb5.0
LZH MLR MLR
comp=Z,900nm,18.5s,MS5.0
VNDA Vanda 68.94 179 P **P 03 16 36.2 -1.7**
VNDA Vanda 68.94 179 P **P 03 16 36.2 -1.7**
comp=Z,1.4nm,0.9s,mb3.9,baz=348,slow=6.5,SNR=6.4
GTA Gaotai 71.63 316 *e*P **P 03 16 55.5 +0.6**
GTA AP pP 03 16 58.9 -0.8
GTA XP sP 03 17 02.1 +0.7
GTA PP PP 03 19 36.7 +2.5
GTA S S 03 26 13.7 -0.4
GTA SS SS 03 30 52.4 +2.4
GTA AMB AMB
comp=Z,6.0nm,1.6s,mb4.3
GTA AMB AMB
comp=Z,123nm,6.9s
GTA LR LR
comp=N,77nm,10.3s,MS4.4
GTA LR LR
comp=E,89nm,11.5s,MS4.4
GTA LR LR
comp=Z,69nm,8.8s
ULN Ulaanbaatar 71.71 327 *e*P **P 03 16 55.5 +0.3**
SONM Songino Array 72.05 327 P **P 03 16 56.4 -0.8**
comp=Z,1.6nm,0.8s,mb4.0,baz=112,slow=4.0,SNR=6.7
YAK Yakutsk 73.66 347 *e*P **P 03 17 07.3 +0.8**
YAK pmax pmax
comp=Z,10.0nm,0.5s,mb5.0
BOD Bodaibo 75.03 338 *e*P **P 03 17 13.6 -1.0**
BOD pmax pmax
comp=Z,4.0nm,1.5s,mb4.1
ZAK Zakamensk 75.18 327 *e*P **P 03 17 14.0 -1.6**
TLY Talaya 75.72 329 *e*P **P 03 17 18.4 -0.3**
TLY pmax pmax
comp=Z,2.0nm,0.8s,mb4.1
BILL Bilibino 76.69 3 *e*P **P 03 17 23.6 -0.2**
comp=Z,2.2nm,0.5s,mb4.3
BILL Bilibino 76.69 3 *e*P **P 03 17 23.6 -0.3**
BILL pmax pmax
comp=Z,2.0nm,0.5s,mb4.3
SVW2 Sparrevohn 78.53 21 *e*P **P 03 17 34.6 +0.3**
TTA Tatalina 79.64 20 *e*P **P 03 17 39.7 -0.6**
comp=Z,16nm,0.9s,mb5.0
TTA Tatalina 79.64 20 *e*P **P 03 17 39.7 -0.6**
TTA pmax pmax
comp=Z,16nm,0.9s,mb5.0
PMR Palmer 81.24 23 *e*P **P 03 17 48.2 -0.8**
comp=Z,14nm,0.8s,mb4.9
PMR Palmer 81.24 23 *e*P **P 03 17 48.2 -0.8**
PMR pmax pmax
comp=Z,14nm,0.8s,mb4.9
SML Sawmill 81.68 23 *e*P **P 03 17 51.2 0.0**
WMQ Urumqi 81.71 317 *e*P **P 03 17 50.6 -1.3**
WMQ AMB AMB
comp=Z,7.0nm,0.6s,mb4.8
TIXI Tiksi 82.30 351⇑ *i*P **P 03 17 54.1 -0.2**
TIXI pmax pmax
comp=Z,6.0nm,1.7s,mb4.2
IMA2 Indian Mountai 82.50 18 *e*P **P 03 17 55.4 -0.1**
MCK McKinley 82.60 21 *e*P **P 03 17 55.2 -0.8**
comp=Z,40nm,0.9s,mb5.4
COLA College 83.66 20 *e*P **P 03 18 00.0 -1.5**
comp=Z,16nm,0.8s,mb5.2
COLA College 83.66 20⇑ *i*P **P 03 17 59.9 -1.6**
MAW Mawson 83.91 203 P **P 03 18 01.6 -1.2**
comp=Z,6.1nm,0.9s,mb4.7,baz=65,slow=8.7,SNR=4.8
EGAK Eagle 86.02 22 *e*P **P 03 18 13.4 0.0**
comp=Z,7.2nm,0.8s,mb5.0
MK31 Makanchi Array 86.27 318 *e*P **P 03 18 14.4 -0.6**
MKAR Makanchi Array 86.27 318 P **P 03 18 14.2 -0.8**
comp=Z,1.5nm,0.6s,mb4.4,baz=98,slow=6.0,SNR=21
DAWY Dawson 86.34 23 *e*P **P 03 18 15.6 +0.6**
MWC Mount Wilson 90.17 56 *e*P **P 03 18 34.8 +0.8**
INK Inuvik 90.32 20 *e*P **P 03 18 33.1 -0.7**
INK Inuvik 90.32 20 P **P 03 18 32.5 -1.3**
comp=Z,1.1nm,0.9s,mb4.2,baz=257,slow=9.3,SNR=4.4
NVAR Mina Array Bea 90.72 51 P **P 03 18 36.5 0.0**
comp=Z,2.8nm,0.8s,mb4.6,baz=238,slow=4.5,SNR=23
WVOR Wild Horse Val 91.19 47 *e*P **P 03 18 38.7 +0.2**
comp=Z,1.5nm,0.8s,mb4.4
WVOR Wild Horse Val 91.19 47 *e*P **P 03 18 38.7 +0.2**
WVOR pmax pmax
comp=Z,1.0nm,0.8s,mb4.2
TPNV Topopah Spring 92.08 53 *e*P **P 03 18 43.6 +0.8**
comp=Z,5.5nm,0.9s,mb4.9
TPNV Topopah Spring 92.08 53 *e*P **P 03 18 43.6 +0.8**
TPNV pmax pmax
comp=Z,6.0nm,0.9s,mb4.9
HLID Hailey 94.43 47 *e*P **P 03 18 54.5 +1.1**
comp=Z,18nm,2.3s,mb5.1
DUG Dugway 95.19 50 *e*P **P 03 18 57.4 +0.3**
comp=Z,0.5nm,0.5s,mb4.2
YKA Yellowknife Ar 96.55 28 P **P 03 19 02.0 -0.6**
comp=Z,0.9nm,0.7s,mb4.3,baz=266,slow=4.7,SNR=16
BOZ Bozeman (W) 96.64 45 *e*P **P 03 19 03.5 +0.1**
comp=Z,1.0nm,0.9s,mb4.2
BOZ Bozeman (W) 96.64 45 *e*P **P 03 19 03.5 0.0**
BOZ pmax pmax
comp=Z,1.0nm,0.9s,mb4.2
TPAW Teton Pass 96.92 47 *e*P **P 03 19 04.8 0.0**
comp=Z,2.1nm,1.0s,mb4.5
PDAR Pinedale Array 97.88 48 P **P 03 19 08.7 -0.5**
comp=Z,0.8nm,0.9s,mb4.2,baz=264,slow=3.0,SNR=4.6
LPAZ La Paz 128.47 119 PKP PKPdf 03 24 40.2 -0.9
comp=Z,1.8nm,1.0s,baz=62,slow=2.7,SNR=5.8
SDV Santo Domingo 132.40 86 PKP PKPdf 03 24 47.7 -1.0
comp=Z,2.4nm,0.8s,baz=311,slow=11,SNR=3.7
SIV San Ignacio 134.62 122 PKP PKPdf 03 24 51.9 -0.9
comp=Z,0.5nm,0.6s,baz=216,slow=11,SNR=3.2
ESDC Sonseca Array 144.91 335 PKP PKPdf 03 25 09.1 -1.7
comp=Z,0.9nm,0.7s,baz=23,slow=3.6,SNR=4.8
BDFB Brasilia 145.06 133 PKPbc PKPbc 03 25 09.9 -1.2
comp=Z,5.3nm,0.8s,baz=236,slow=5.2,SNR=3.3
TORD Torodi Ar. Bea 155.87 283 PKP PKPdf 03 25 24.9 -3.6
comp=Z,0.5nm,0.9s,baz=20,slow=2.5,SNR=4.1
TORD PKPab PKPab 03 25 54.3 -1.0
comp=Z,0.9nm,0.9s,baz=77,slow=2.9,SNR=6.7

NEIC ***04*** *03:09:01.8, 1643N×99.18W, h29km, MD3.8(MEX), After MEX.*
MEX 04 03:09:01.8±0.9, 1643N×9918W, h29km±27km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	**Acapulco**	**0.83**	**302**	*i* P	Pn	03 09 14.7	-2.9
ACX				*i* S	Sb	03 09 25.7	-2.9
PNIG	**Pinotepa**	**1.01**	**92**	*i* P	Pn	03 09 18.4	-1.6
PNIG				*i* S	Sn	03 09 29.3	-4.0
MEIG	**Mezcala**	**1.55**	**344**	*i* P	Pn	03 09 26.1	-1.4
MEIG				*i* S	Sn	03 09 44.0	-2.6
UTMO	**Huajuapan**	**1.92**	**43**	*e*P	Pn	03 09 29.9	-2.6
UTMO				*i* S	Sn	03 09 53.4	-2.3
VHO	**Vista Hermosa**	**2.43**	**74**	*e*P	Pn	03 09 37.0	-2.6
VHO				*i* S	Sn	03 10 06.8	-1.5
PPM	**Popocatepetl**	**2.68**	**11**	*e*P	Pn	03 09 40.8	-2.2
PPM				*i* S	Sn	03 10 12.5	-2.0

ISCJB ***04*** *03:17:15.6±0.5, 776S±006×15573E±0.10, h10km, mb4.7/39, MS4.0/10, Error ellipse: s-maj=15.1km s-min=7.3km az=23.2*
IDC ***04*** *03:17:15.6±0.7, 775S×15570E, h0km, mb4.5/11, mb1 4.6/12, mb1mx4.6/15, mbtmp4.4/12, ML3.5/1, MS4.0/12, Ms1 4.0/12, ms1mx3.8/25, Error ellipse: s-maj=27.8km s-min=17.1km az=104.0*
BJI ***04*** *03:17:16.5, 739S×15599E, h8km, mB5.2, mb4.9, Ms5.0, Msz4.5*
NEIC ***04*** *03:17:17.9±0.3, 770S×15557E, h10km, mb4.7/22, Error ellipse: s-maj=11.0km s-min=7.3km az=121.0*
MOS ***04*** *03:17:20.2±1.3, 766S×15551E, h33km, mb5.0/14, Error ellipse: s-maj=12.1km s-min=9.0km az=99.9*
ISC 04 03:17:17.1±4.1, 779S±007×1558E±01, h9km±25km, n100, σ0:90/72, mb4.7/39, MS4.0/10, 4C-2D, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.46**	**112**	Pn	**Pn**	**03 18 31.1**	**+6.2**
	13nm,0.3s,baz=87,slow=4.6,SNR=2.6						
HNR				LR	LR	03 20 06.4	
	comp=Z,494nm,20.6s,baz=178,slow=38						
CTA	**Charters Tower**	**15.30**	**216**	*e*P	**Pn**	**03 20 53.8**	**+0.4**
	11nm,0.8s						
CTA	**Charters Tower**	**15.30**	**216**	*e*P	**Pn**	**03 20 53.8**	**+0.4**
CTA				pmax	pmax		
	comp=Z,11nm,0.8s						
CTA	**Charters Tower**	**15.30**	**216**	Pn	**Pn**	**03 20 53.8**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=28,slow=14,SNR=5.4						
CTA				LR	LR	03 26 06.7	
	comp=Z,588nm,19.2s,baz=30,slow=35						
CTAO	**Charters Tower**	**15.30**	**216**	*e*P	**Pn**	**03 20 53.3**	**-0.1**
	comp=Z,18nm,0.8s						
CTAO	**Charters Tower**	**15.30**	**216**	*e*P	**Pn**	**03 20 53.3**	**-0.1**
CTAO				pmax	pmax		
	comp=Z,18nm,0.8s						
KAKA	**Kakadu**	**23.45**	**256**	*e*P	**P**	**03 22 27.4**	**+0.2**
	comp=Z,10nm,0.7s,mb4.4						
GUMO	**Guam**	**23.83**	**333**	LR	LR	03 30 02.5	
	comp=Z,209nm,21.0s,MS3.6,baz=161,slow=32						
WB2	**Warramunga Arr**	**24.00**	**238**	*e*P	**P**	**03 22 31.4**	**-0.9**
WRA	**Warramunga Arr**	**24.01**	**238**	P	**P**	**03 22 32.3**	**-0.1**
	comp=Z,16nm,0.8s,mb4.5,baz=63,slow=9.9,SNR=25						
WRA				PcP	PcP	03 26 14.3	-0.2
	comp=Z,3.0nm,0.9s,baz=62,slow=2.3,SNR=6.4						
ASAR	**Alice Springs**	**26.23**	**231**	P	**P**	**03 22 52.0**	**-0.6**
	comp=Z,4.1nm,0.9s,mb4.0,baz=61,slow=8.6,SNR=23						
STKA	**Stephens Creek**	**27.36**	**207**	*e*P	**P**	**03 23 04.0**	**+1.4**
	comp=Z,7.1nm,0.9s,mb4.2						
STKA	**Stephens Creek**	**27.36**	**207**	P	**P**	**03 23 02.9**	**+0.3**
	comp=Z,8.2nm,0.9s,mb4.3,baz=18,slow=10,SNR=9.7						
STKA				LR	LR	03 33 46.2	
	comp=Z,785nm,20.3s,MS4.3,baz=187,slow=36						
FITZ	**Fitzroy Crossi**	**31.04**	**248**	*e*P	**P**	**03 23 35.1**	**-0.4**
	comp=Z,5.4nm,0.6s,mb4.5						
FORT	**Forrest**	**34.55**	**225**	*e*P	**P**	**03 24 05.2**	**-0.8**
	comp=Z,2.7nm,0.9s,mb4.2						
CBIJ	**Chichi jima**	**37.09**	**340**	LR	LR	03 36 16.5	
	comp=Z,134nm,20.2s,MS3.7,baz=37,slow=31						
MBWA	**Marble Bar**	**37.22**	**245**	*e*P	**P**	**03 24 28.5**	**-0.6**
	comp=Z,17nm,1.1s,mb4.8						
RPZ	**Rata Peaks**	**38.21**	**162**	LR	LR	03 37 44.3	
	comp=Z,367nm,19.4s,MS4.2,baz=205,slow=32						
KLBR	**Kellerberrin**	**42.56**	**231**	*e*P	**P**	**03 25 12.4**	**-1.1**
	comp=Z,13nm,0.9s,mb4.7						
MJAR	**Matsushiro Arr**	**47.07**	**341**	P	**P**	**03 25 48.1**	**-1.1**
	comp=Z,13nm,0.7s,mb5.0,baz=164,slow=7.8,SNR=44						
MAJO	**Matsushiro**	**47.07**	**341**	*e*P	**P**	**03 25 49.1**	**-0.2**
	comp=Z,30nm,0.6s,mb5.4						
MAJO	**Matsushiro**	**47.07**	**341**	*e*P	**P**	**03 25 49.1**	**-0.1**
MAJO				pmax	pmax		
	comp=Z,29nm,0.6s,mb5.4						
MAT	**Matsushiro**	**47.07**	**341**	P	**P**	**03 25 48.9**	**-0.3**
KSRS	**Korea Array**	**51.98**	**332**	P	**P**	**03 26 26.6**	**-0.2**
	comp=Z,4.7nm,0.7s,mb4.5,baz=146,slow=7.7,SNR=8.8						
KSRS				LR	LR	03 47 40.5	
	comp=Z,44nm,19.9s,MS3.5,baz=175,slow=35						
NJ2	**Nanjing**	**53.00**	**320**	*e*P	**P**	**03 26 34.8**	**+0.4**
NJ2				AMB	AMB		
	comp=Z,20nm,0.7s,mb5.2						
ASAJ	**Asahikawa**	**53.02**	**348**	LR	LR	03 46 25.8	
	comp=Z,171nm,20.8s,MS4.1,baz=0.9,slow=33						
YSS	**Yuzh-Sakhalins**	**55.71**	**349**⇑	*e*P	**P**	**03 26 53.2**	**-0.6**
YSS				pmax	pmax		
	comp=Z,14nm,1.4s,mb4.8						
MDJ	**Mudanjiang**	**57.25**	**338**	P	**P**	**03 27 05.9**	**+1.1**
MDJ				AP	pP	03 27 09.2	+1.5
MDJ				XP	sP	03 27 10.3	+1.5
MDJ				PP	PP	03 29 13.4	+1.3
MDJ				SCP	ScP	03 31 59.3	-0.1
MDJ				PCS	PcS	03 32 00.6	+0.6
MDJ				S	**S**	**03 35 00.5**	**-0.4**
MDJ				SCS	ScS	03 36 54.0	-0.5
MDJ				AMB	AMB		
	comp=Z,7.0nm,1.5s,mb4.5						
CN2	**Changchun**	**58.22**	**335**	*e*P	**P**	**03 27 12.3**	**+0.6**
CN2				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.8						
KLR	**Kul'dur**	**60.54**	**342**	*e*P	**P**	**03 27 24.2**	**-3.4**
KLR				pmax	pmax		
	comp=Z,56nm,1.8s,mb5.4						
PET	**Petropavlovsk**	**60.62**	**2**	*e*P	**P**	**03 27 28.6**	**+0.5**
	comp=Z,12nm,0.6s,mb5.2						
PET	**Petropavlovsk**	**60.62**	**2**	*e*P	**P**	**03 27 28.7**	**+0.6**
PET				pmax	pmax		
	comp=Z,12nm,0.6s,mb5.2						
KMI	**Kunming**	**61.08**	**304**	P	**P**	**03 27 34.1**	**+2.3**
KMI				AMB	AMB		
	comp=Z,10.0nm,1.8s,mb4.6						
KMI	**Kunming**	**61.08**	**304**	P	**P**	**03 27 34.1**	**+2.3**
	comp=Z,10.0nm,1.8s,mb4.6						
CHTO	**Chiang Mai**	**61.92**	**296**	*e*P	**P**	**03 27 38.7**	**+1.1**
	comp=Z,2.5nm,0.5s,mb4.6						
CHTO	**Chiang Mai**	**61.92**	**296**	*e*P	**P**	**03 27 38.7**	**+1.1**
CHTO				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.7						
CD2	**Chengdu**	**62.90**	**310**	*e*P	**P**	**03 27 46.2**	**+2.3**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb5.0						
HIA	**Hailar**	**64.95**	**335**	*e*P	**P**	**03 27 57.7**	**+0.7**
	comp=Z,5.4nm,0.6s,mb4.8						
HIA	**Hailar**	**64.95**	**335**	*e*P	**P**	**03 27 56.6**	**-0.5**
CLNS	**Chul'man**	**69.20**	**342**	*e*P	**P**	**03 28 22.6**	**-1.3**
CLNS				pmax	pmax		
	comp=Z,15nm,0.7s,mb5.0						
CLNS				pmax	pmax		
	comp=N,8.0nm,0.8s						
CLNS				pmax	pmax		
	comp=E,6.0nm,0.8s						
CIT	**Chita**	**69.65**	**334**	*e*P	**P**	**03 28 28.7**	**+1.9**
CIT				*e*		03 28 42.6	
VNDA	**Vanda**	**69.77**	**179**	P	**P**	**03 28 28.2**	**+1.0**
VNDA				LR	LR	03 52 59.9	
VNDA	**Vanda**	**69.77**	**179**	P	**P**	**03 28 28.2**	**+1.0**
	comp=E,0.7nm,0.9s,baz=275,slow=6.2,SNR=2.8						
VNDA				LR	LR	03 52 59.9	
	comp=E,176nm,19.6s,MS4.3,baz=311,slow=31						
ULN	**Ulaanbaatar**	**70.07**	**327**⇑	*e*P	**P**	**03 28 28.1**	**-1.4**
SONM	**Songino Array**	**70.40**	**327**	P	**P**	**03 28 32.4**	**+0.8**
	comp=E,3.5nm,0.9s,mb4.3,baz=142,slow=5.2,SNR=8.5						
SEY	**Seymchan**	**70.56**	**358**⇑	*e*P	**P**	**03 28 31.4**	**-0.7**
LSA	**Lhasa**	**72.34**	**304**	*e*P	**P**	**03 28 42.7**	**-0.9**
	comp=E,7.7nm,0.7s,mb4.7						
LSA	**Lhasa**	**72.34**	**304**	*e*P	**P**	**03 28 42.7**	**-0.9**
LSA				pmax	pmax		
	comp=Z,8.0nm,0.7s,mb4.8						
YAK	**Yakutsk**	**72.49**	**347**	*e*P	**P**	**03 28 44.8**	**+1.0**
	comp=Z,30nm,0.8s,mb5.3						
YAK	**Yakutsk**	**72.49**	**347**	*e*P	**P**	**03 28 44.7**	**+0.9**
YAK				pmax	pmax		
	comp=Z,39nm,1.2s,mb5.2						
YAK				pmax	pmax		
	comp=N,13nm,1.4s						
YAK				pmax	pmax		
	comp=E,8.0nm,1.5s						
ZAK	**Zakamensk**	**73.56**	**328**⇓	*e*P	**P**	**03 28 51.1**	**+0.7**
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.4s,mb4.0						
BOD	**Bodaibo**	**73.62**	**338**	*e*P	**P**	**03 28 50.3**	**-0.3**
BOD				pmax	pmax		
	comp=Z,7.0nm,1.6s,mb4.3						
BILL	**Bilibino**	**76.01**	**4**	*e*P	**P**	**03 29 04.4**	**+0.2**
	comp=Z,21nm,1.0s,mb5.0						
BILL	**Bilibino**	**76.01**	**4**	*d i*P	**P**	**03 29 04.8**	**+0.6**
BILL				*e*		03 29 13.4	
BILL				pmax	pmax		
	comp=Z,19nm,1.0s,mb5.0						
TIXI	**Tiksi**	**81.24**	**352**	*e*P	**P**	**03 29 32.8**	**-0.2**
TIXI				pmax	pmax		
	comp=Z,10.0nm,1.7s,mb4.5						
QSPA	**South Pole Qui**	**82.19**	**180**	*e*P	**P**	**03 29 38.8**	**+0.8**
	comp=Z,155nm,2.6s,mb5.5						
IMA2	**Indian Mountai**	**82.31**	**19**	*e*P	**P**	**03 29 38.9**	**+0.2**
MCK	**McKinley**	**82.51**	**22**	*e*P	**P**	**03 29 38.9**	**-0.9**
	comp=Z,7.3nm,0.8s,mb4.8						
MCK	**McKinley**	**82.51**	**22**	*e*P	**P**	**03 29 38.9**	**-0.9**
MCK				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.7						
COLA	**College**	**83.54**	**21**	*e*P	**P**	**03 29 43.8**	**-1.4**
	comp=Z,5.1nm,0.8s,mb4.7						
COLA	**College**	**83.54**	**21**	*e*P	**P**	**03 29 43.8**	**-1.4**
COLA				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.7						
MAW	**Mawson**	**83.96**	**203**	LR	LR	04 06 01.8	
	comp=Z,132nm,18.5s,MS4.3,baz=245,slow=35						
MK31	**Makanchi Array**	**84.49**	**319**	*e*P	**P**	**03 29 50.9**	**+0.5**
MKAR	**Makanchi Array**	**84.49**	**319**	P	**P**	**03 29 51.0**	**+0.5**
	comp=Z,8.6nm,0.8s,mb5.0,baz=103,slow=5.9,SNR=85						
ZAA0	**Zalesovo Array**	**85.25**	**326**	*e*P	**P**	**03 29 53.2**	**-0.8**
ZALV	**Zalesovo Beam**	**85.25**	**326**	P	**P**	**03 29 53.4**	**-0.7**
	comp=Z,3.6nm,0.7s,mb4.6,baz=106,slow=6.0,SNR=20						
ZAL	**Zalesovo**	**85.26**	**326**	P	**P**	**03 29 53.4**	**-0.7**
EGAK	**Eagle**	**85.95**	**23**	*e*P	**P**	**03 29 57.1**	**-0.2**
	comp=Z,3.8nm,0.9s,mb4.6						
KURK	**Kurchatov**	**87.91**	**322**	*e*P	**P**	**03 30 06.8**	**-0.4**
KURK	**Kurchatov**	**87.91**	**322**	*e*P	**P**	**03 30 06.1**	**-1.1**
TKM2	**Tokmak 2**	**88.10**	**314**	*e*P	**P**	**03 30 08.8**	**+0.5**
	comp=Z,1.8nm,0.8s,mb4.3						
TKM2	**Tokmak 2**	**88.10**	**314**	*e*P	**P**	**03 30 08.8**	**+0.5**
TKM2				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.4						
AML	**Almayashu**	**89.32**	**313**	*e*P	**P**	**03 30 15.2**	**+1.2**
	comp=Z,4.8nm,1.1s,mb4.7						
INK	**Inuvik**	**90.19**	**21**	*e*P	**P**	**03 30 17.1**	**-0.4**
	comp=Z,239nm,1.3s						
NVAR	**Mina Array Bea**	**91.62**	**52**	P	**P**	**03 30 25.9**	**+1.1**
	comp=Z,0.5nm,0.7s,mb4.0,baz=242,slow=4.3,SNR=5.2						
YKA	**Yellowknife Ar**	**96.68**	**28**	P	**P**	**03 30 47.1**	**-0.3**
	comp=Z,2.2nm,0.7s,mb4.7,baz=268,slow=4.6,SNR=35						
PDAR	**Pinedale Array**	**98.67**	**48**	LR	LR	04 10 41.2	
	comp=Z,82nm,20.6s,MS4.2,baz=127,slow=32						
SNAA	**Sanae**	**99.45**	**187**	LR	LR	04 11 55.2	
	comp=Z,77nm,20.7s,MS4.2,baz=122,slow=33						
ANN	**Anapa**	**115.42**	**316**	*i* PKIKP	PKPdf	03 35 59.9	+0.4
ANN				*e*		03 36 59.2	

ANN e 03 42 47.8
AKASG **Malin Array Be 118.62 324** *i* PKIKP PKPdf 03 36 08.0 +2.5
NB2 **NORSAR Subarra120.69 341** PKPdf PKPdf 03 36 08.8 -0.4
comp=Z,1.2nm,0.8s,baz=38,slow=1.8
NOA **NORSAR Array B120.69 341** PKP PKPdf 03 36 07.9 -1.3
comp=Z,1.1nm,0.8s,baz=44,slow=1.9,SNR=4.3
MORC **Moravsky Berou 125.55 328** *e*PKPdf PKPdf 03 36 19.2 +0.3
DPC **Dobruska-Polom 125.84 329** *e*PKPdf PKPdf 03 36 22.2 +2.8
BRG **Berggiesshubel 126.70 331** *e*PKIKP PKPdf 03 36 22.0 +1.0
BRG **Berggiesshubel 126.70 331** *e*P PKPdf 03 36 21.6 +0.6
comp=Z,6.5nm,1.2s
CLL **Collm 126.86 332** *e*PKPdf PKPdf 03 36 22.0 +0.7
KHC **Kasperske Hory 128.00 329**↑ *i*PKIKP PKPdf 03 36 25.0 +1.4
KHC **Kasperske Hory 128.00 329** *e*PKPdf PKPdf 03 36 24.3 +0.7
GERES **GERESS Array B 128.11 329** PKP PKPdf 03 36 23.5 -0.3
comp=Z,1.2nm,0.8s,baz=108,slow=3.0,SNR=5.8
LPAZ **La Paz 130.42 119** PKP PKPdf 03 36 32.3 +3.1
comp=Z,1.0nm,0.8s,baz=9.0,slow=6.2,SNR=3.8
TSUM **Tsumeb 130.82 236** *e*PKPdf PKPdf 03 36 30.9 +1.1
AQU **L'Aquila 132.21 322** *e*PKPdf PKPdf 03 36 32.8 +1.0
SDV **Santo Domingo 134.11 85** PKP PKPdf 03 36 36.2 +0.1
comp=Z,6.3nm,0.8s,baz=303,slow=1.2,SNR=6.8
BNI **Bardonecchia 134.22 329** *e*PKPdf PKPdf 03 36 36.9 +1.4
ESDC **Sonseca Array 143.41 333** PKP PKPdf 03 36 50.2 -2.3
comp=Z,0.6nm,0.7s,baz=98,slow=3.9,SNR=3.0
BDFB **Brasilia 146.89 135** PKPbc PKPbc 03 36 59.4 -1.6
comp=Z,13nm,1.0s,baz=208,slow=0.6,SNR=12
TOA0 **Torodi Ar. Sit 153.95 284** *e*PKPbc PKPbc 03 37 17.2 -0.9
TORD **Torodi Ar. Bea 153.95 284** PKPbc PKPbc 03 37 16.8 -1.3
comp=Z,1.4nm,0.9s,baz=73,slow=1.9,SNR=7.0
DBIC **Dimbokro 160.73 268** PKPab PKPab 03 38 00.3 -0.4
comp=Z,4.5nm,1.1s,baz=83,slow=8.1,SNR=3.1

*IDC **04** 03:25:22.8±0.7, 853S×15754E, h0km, mb4.2/10, mb1 4.3/12, mb1mx4.3/16, mbtmp4.1/12, ML3.8/2, Error ellipse: s-maj=24.8km s-min=19.2km az=133.0*
*NEIC **04** 03:25:24.7±0.4, 854S×15760E, h10km, mb4.6/6, Error ellipse: s-maj=13.4km s-min=9.3km az=131.0*
*ISCJB **04** 03:25:27.2±0.4, 850S±007×15740E±006, h33km, mb4.2/15, Error ellipse: s-maj=10.7km s-min=8.6km az=168.2*

ISC 04 03:25:29.1±0.4, 848S±007×15741E±006, h35km, n26, σ0§83/26, mb4.2/15, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**2.68**	**111**	Pn	**Pn**	**03 26 03.7**	**-6.1**
	42nm,0.3s,baz=212,slow=0.8,SNR=9.1						
HNR				Sn	**Sn**	**03 26 41.2**	**+0.2**
	181nm,0.3s,baz=270,slow=22,SNR=7.5						
CTA	**Charters Tower**	**15.80**	**222**	Pn	**Pn**	**03 29 07.6**	**-1.3**
	0.1nm,0.3s,baz=61,slow=19,SNR=3.0						
ARMA	**Armidale**	**22.48**	**193**	*e*P	**P**	**03 30 26.9**	**+1.5**
KAKA	**Kakadu**	**24.89**	**258**	*e*P	**P**	**03 30 50.6**	**+1.7**
	6.0nm,0.8s,mb4.2						
WB2	**Warramunga Arr**	**25.05**	**240**	*e*P	**P**	**03 30 50.9**	**+0.7**
WB2	**Warramunga Arr**	**25.05**	**240**	*e*P	**P**	**03 30 50.2**	**0.0**
WRA	**Warramunga Arr**	**25.06**	**240**	P	**P**	**03 30 49.1**	**-1.3**
	5.7nm,0.6s,mb4.3,baz=67,slow=9.4,SNR=22						
WRA				PcP	PcP	03 34 24.6	-0.1
	0.5nm,0.4s,baz=64,slow=2.2,SNR=5.4						
ASAR	**Alice Springs**	**27.10**	**233**	P	**P**	**03 31 08.1**	**-0.7**
	1.2nm,0.7s,mb3.5,baz=61,slow=9.6,SNR=8.0						
ASAR				PcP	PcP	03 34 28.7	-0.6
	0.8nm,0.6s,baz=86,slow=2.5,SNR=6.9						
STKA	**Stephens Creek**	**27.53**	**210**	*e*P	**P**	**03 31 14.4**	**+1.8**
	3.2nm,0.6s,mb4.1						
STKA	**Stephens Creek**	**27.53**	**210**	P	**P**	**03 31 12.7**	**+0.2**
	3.5nm,0.6s,mb4.2,baz=21,slow=12,SNR=8.9						
VNDA	**Vanda**	**69.05**	**179**	P	**P**	**03 36 29.8**	**-1.0**
	1.0nm,0.8s,mb3.8,baz=302,slow=4.7,SNR=5.4						
ULN	**Ulaanbaatar**	**71.54**	**327**	*e*P	**P**	**03 36 47.8**	**+1.4**
	1.6nm,0.4s,mb4.3						
SONM	**Songino Array**	**71.88**	**327**	P	**P**	**03 36 48.4**	**0.0**
	1.8nm,1.0s,mb3.9,baz=92,slow=4.9,SNR=5.3						
TTA	**Tatalina**	**79.58**	**20**	*e*P	**P**	**03 37 32.5**	**+0.3**
	14nm,1.2s,mb4.8						
SML	**Sawmill**	**81.64**	**23**	*e*P	**P**	**03 37 43.2**	**0.0**
IMA2	**Indian Mountai**	**82.45**	**18**	*e*P	**P**	**03 37 47.3**	**-0.1**
MCK	**McKinley**	**82.55**	**21**	*e*P	**P**	**03 37 47.2**	**-0.8**
	24nm,1.0s,mb5.2						
EGAK	**Eagle**	**85.97**	**22**	*e*P	**P**	**03 38 05.5**	**+0.1**
	8.4nm,1.2s,mb4.8						
MK31	**Makanchi Array**	**86.09**	**318**	*e*P	**P**	**03 38 06.9**	**+0.5**
MKAR	**Makanchi Array**	**86.09**	**318**	P	**P**	**03 38 06.1**	**-0.3**
	0.8nm,0.5s,mb4.2,baz=97,slow=5.7,SNR=10						
DAWY	**Dawson**	**86.30**	**23**	*e*P	**P**	**03 38 07.1**	**+0.1**
ZALV	**Zalesovo Beam**	**86.74**	**326**	P	**P**	**03 38 08.8**	**-0.6**
	0.3nm,0.3s,mb4.0,baz=72,slow=4.7,SNR=2.6						
NVAR	**Mina Array Bea**	**90.77**	**51**	P	**P**	**03 38 29.1**	**+0.3**
	1.9nm,0.9s,mb4.4,baz=239,slow=4.4,SNR=11						
YKA	**Yellowknife Ar**	**96.53**	**28**	P	**P**	**03 38 54.3**	**-0.4**
	0.6nm,0.8s,mb4.1,baz=267,slow=4.8,SNR=8.7						
PDAR	**Pinedale Array**	**97.91**	**48**	P	**P**	**03 39 00.6**	**-0.9**
	0.5nm,1.0s,mb4.0,baz=268,slow=6.3,SNR=3.1						
BDFB	**Brasilia**	**145.24**	**134**	PKPbc	PKPbc	03 45 01.4	-2.3
	3.3nm,0.8s,baz=192,slow=9.5,SNR=5.4						

*ISCJB **04** 03:27:10.8±0.5, 3937N±003×2061E±004, h5km±6km, Error ellipse: s-maj=5.6km s-min=4.2km az=159.5*
*CSEM **04** 03:27:11.0±0.1, 3936N×2061E, h4km±1km, ML3.4, Error ellipse: s-maj=3.1km s-min=2.1km az=21.0*
*THE **04** 03:27:11.2, 3936N×2058E, h3km, ML3.4*
*NEIC **04** 03:27:11.1, 3937N×2059E, h16km, MD3.3(ATH), After ATH.*
*ATH **04** 03:27:11.0, 3941N×2058E, h25km±2km, MD3.3/8*
*SKO **04** 03:27:12.1, 3937N×2057E, h0km*

ISC 04 03:27:11.3±0.5, 3936N±003×2059E±004, h9km±5km, n20, σ1§15/32, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IGT	**Igoumenitsa**	**0.26**	**311**	*e*Pg	**Pg**	**03 27 16.1**	**-0.5**
IGT				*e*Sg	**Sg**	**03 27 20.8**	**+0.6**
JAN	**Janina**	**0.36**	**34**	*e*PB	**Pg**	**03 27 17.8**	**-0.6**
JAN				*e*SB	**Sg**	**03 27 23.8**	**+0.7**
MEV	**Metsovon**	**0.65**	**49**	*e*Pg	**Pg**	**03 27 23.1**	**-0.8**
LKD	**Levkas**	**0.65**	**176**	*e*Pg	**Pg**	**03 27 23.4**	**-0.6**
LKD				*e*Sg	**Sg**	**03 27 33.4**	**+1.0**
SRN	**Sarande**	**0.69**	**319**	*i* Pg	**Pg**	**03 27 24.0**	**-0.7**
SRN				*i* Sg	**Sg**	**03 27 35.5**	**+1.8**
KEK	**Kerkira**	**0.71**	**300**	*e*PN	**Pn**	**03 27 24.7**	**-2.9**
KEK				*e*SN	**Sg**	**03 27 34.3**	**+0.1**
EVR	**Evrytania**	**1.04**	**115**	*e*PN	**Pn**	**03 27 31.7**	**-0.5**
EVR				*e*SN	**Sn**	**03 27 47.0**	**+0.1**
THL	**Klokotos Trika**	**1.12**	**79**	*e*PN	**Pn**	**03 27 32.0**	**-1.2**
VLS	**Valsamata**	**1.18**	**180**	*e*PB	**Pb**	**03 27 33.8**	**-0.1**
VLS	**Valsamata**	**1.18**	**180**	*e*Pn	**Pn**	**03 27 33.6**	**-0.5**
KZN	**Kozani**	**1.31**	**43**	*e*PN	**Pn**	**03 27 34.9**	**-1.0**
AGG	**Agios Georgios**	**1.39**	**103**	*e*Pg	**Pg**	**03 27 36.8**	**-1.3**
AGG				*e*Sg	**Sg**	**03 27 57.8**	**+1.6**
RLS	**Riolos of Patr**	**1.47**	**152**	*e*PN	**Pn**	**03 27 39.2**	**+1.2**
LIT	**Litokhoron**	**1.64**	**63**	*e*Pb	**Pb**	**03 27 41.2**	**-0.6**
LIT				*e*Sb	**Sb**	**03 28 03.8**	**+1.2**
BIA	**Bitola**	**1.75**	**18**	*e*Pn	**Pn**	**03 27 43.9**	**+2.0**
BIA				*e*Sg	**Sg**	**03 28 08.3**	**+0.7**
BIA	**Bitola**	**1.75**	**18**	*e*Pn	**Pn**	**03 27 43.9**	**+2.0**
BIA				*e*Sg	**Sg**	**03 28 08.2**	**+0.6**
NEO	**Neokhori**	**2.04**	**91**	*e*PB	**Pb**	**03 27 47.0**	**-1.6**
NEO	**Neokhori**	**2.04**	**91**	*e*Pn	**Pn**	**03 27 47.3**	**+1.4**
KRUS	**Krusevo**	**2.07**	**14**	*e*Pn	**Pn**	**03 27 48.0**	**+1.7**
KRUS				*e*Sg	**Sg**	**03 28 15.6**	**-2.3**
KRUS	**Krusevo**	**2.07**	**14**	*e*Pn	**Pn**	**03 27 48.0**	**+1.7**
KRUS				*e*Sg	**Sg**	**03 28 15.5**	**-2.3**

IDC 04 03:30:32.5±4.2, 2099S×16833E, h0km, mb3.7/2, mb1 4.0/3, mb1mx3.7/13, mbtmp3.7/3, ML3.4/1, Error ellipse: s-maj=140.2km s-min=32.9km az=139.0, Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**2.06**	**238**	*e*P	Pn	03 31 08.4	+0.1
DZM	**Mont Dzumac**	**2.06**	**238**	Pn	Pn	03 31 08.5	+0.1
	12nm,0.3s,baz=61,slow=19,SNR=184						
DZM				Sn	Sn	03 31 35.3	+0.6
	83nm,0.3s,baz=171,slow=22,SNR=11						
WRA	**Warramunga Arr**	**31.83**	**266**	P	P	03 36 58.7	-0.5
	0.3nm,0.3s,baz=102,slow=8.4,SNR=3.2						
ASAR	**Alice Springs**	**31.91**	**259**	P	P	03 37 00.4	+0.5
	2.2nm,0.8s,baz=82,slow=8.9,SNR=23						
GERES	**GERESS Array B 145.59 330**			PKPbc	PKPbc	03 50 12.1	-0.7
	0.3nm,0.3s,baz=20,slow=3.1,SNR=2.9						

*IDC **04** 03:38:08.0±4.0, 760S×15637E, h0km, mb3.9/6, mb1 4.0/6, mb1mx3.8/15, mbtmp3.9/6, Error ellipse: s-maj=128.3km s-min=28.2km az=116.0*

NEIC 04 03:38:09.3±2.0, 760S×15643E, h10km, mb4.1/1, Error ellipse: s-maj=66.6km s-min=13.0km az=118.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WB2	**Warramunga Arr**	**24.66**	**238**	*e*P	P	03 43 31.1	+0.6
WRA	**Warramunga Arr**	**24.67**	**238**	P	P	03 43 30.4	-0.1
	1.2nm,0.7s,baz=64,slow=9.4,SNR=5.9						
ASAR	**Alice Springs**	**26.87**	**231**	P	P	03 43 50.1	-0.2
	0.4nm,0.5s,baz=64,slow=8.9,SNR=7.2						
FITZ	**Fitzroy Crossi**	**31.73**	**248**	P	P	03 44 33.6	-0.1
	1.0nm,0.7s,baz=59,slow=12,SNR=3.4						
SONM	**Songino Array**	**70.62**	**327**	P	P	03 49 25.6	+0.7
	1.3nm,0.8s,baz=144,slow=6.0,SNR=6.5						
MK31	**Makanchi Array**	**84.80**	**318**	*e*P	P	03 50 44.5	+0.5
MKAR	**Makanchi Array**	**84.80**	**318**	P	P	03 50 44.0	+0.1
	2.0nm,0.7s,baz=103,slow=5.8,SNR=14						
ZAA0	**Zalesovo Array**	**85.48**	**326**	*e*P	P	03 50 46.9	-0.3
ZALV	**Zalesovo Beam**	**85.48**	**326**	P	P	03 50 47.0	-0.2
ZALV	**Zalesovo Beam**	**85.48**	**326**	P	P	03 50 47.0	-0.2
	1.6nm,0.8s,baz=113,slow=5.6,SNR=7.0						
AML	**Almayashu**	**89.69**	**312**	*e*P	P	03 51 07.8	0.0
	0.8nm,0.7s						
TORD	**Torodi Ar. Bea**	**154.56**	**285**	PKPbc	PKPbc	03 58 12.1	+0.7
	0.3nm,1.0s,baz=54,slow=1.3,SNR=4.7						

*IDC **04** 03:39:52.7±1.3, 781S×15581E, h0km, mb4.1/7, mb1 4.3/7, mb1mx4.0/15, mbtmp4.1/7, Error ellipse: s-maj=46.7km s-min=24.2km az=123.0*
*NEIC **04** 03:39:54.2±0.6, 784S×15587E, h10km, mb4.5/3, Error ellipse: s-maj=21.2km s-min=9.7km az=124.0*
*ISCJB **04** 03:39:57.3±1.3, 77S±02×1557E±03, h33km, mb4.1/10, Error ellipse: s-maj=42.3km s-min=13.3km az=31.7*

ISC 04 03:39:58.5±1.3, 78S±02×1558E±03, h35km, n16, σ0§41/14, mb4.1/10, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**15.31**	**216**	Pn	**Pn**	**03 43 36.7**	**+4.7**
	0.3nm,0.3s,baz=63,slow=11,SNR=4.1						
WB2	**Warramunga Arr**	**24.00**	**238**	*e*P	**P**	**03 45 10.7**	**+0.6**
WRA	**Warramunga Arr**	**24.01**	**238**	P	**P**	**03 45 09.8**	**-0.4**
	3.5nm,0.7s,mb3.9,baz=64,slow=9.5,SNR=8.7						
ASAR	**Alice Springs**	**26.24**	**231**	P	**P**	**03 45 30.3**	**-0.1**
	0.9nm,0.9s,mb3.3,baz=57,slow=9.7,SNR=5.0						
FITZ	**Fitzroy Crossi**	**31.04**	**248**	P	**P**	**03 46 12.9**	**-0.4**
	1.4nm,0.6s,mb3.9,baz=134,slow=19,SNR=4.1						
MJAR	**Matsushiro Arr**	**47.07**	**341**	P	**P**	**03 48 26.7**	**-0.2**
	1.9nm,0.6s,mb4.4,baz=161,slow=8.0,SNR=8.7						
MAJO	**Matsushiro**	**47.08**	**341**	*e*P	**P**	**03 48 26.7**	**-0.2**
	3.9nm,0.5s,mb4.6						
MAT	**Matsushiro**	**47.08**	**341**	P	**P**	**03 48 26.6**	**-0.3**
BILL	**Bilibino**	**76.01**	**4**	*e*P	**P**	**03 51 42.0**	**+0.4**
	1.3nm,0.3s,mb4.3						
MK31	**Makanchi Array**	**84.50**	**319**	*e*P	**P**	**03 52 28.6**	**+0.8**
MKAR	**Makanchi Array**	**84.50**	**319**	P	**P**	**03 52 28.2**	**+0.4**
	2.2nm,0.8s,mb4.3,baz=101,slow=6.3,SNR=12						
ZALV	**Zalesovo Beam**	**85.26**	**326**	P	**P**	**03 52 31.1**	**-0.4**
	0.4nm,0.4s,mb3.9,baz=125,slow=4.4,SNR=4.2						
EGAK	**Eagle**	**85.95**	**23**	*e*P	**P**	**03 52 34.6**	**-0.1**
	1.2nm,0.7s,mb4.2						
YKA	**Yellowknife Ar**	**96.68**	**28**	P	**P**	**03 53 24.5**	**-0.3**
	0.5nm,0.6s,mb4.1,baz=268,slow=4.5,SNR=8.8						
BDFB	**Brasilia**	**146.89**	**135**	PKPbc	PKPbc	03 59 37.5	-0.6
	2.7nm,0.9s,baz=177,slow=6.9,SNR=3.7						
TORD	**Torodi Ar. Bea**	**153.96**	**284**	PKPbc	PKPbc	03 59 54.9	-0.5
	0.3nm,0.9s,baz=96,slow=2.9,SNR=3.6						

*IDC **04** 03:52:58.8±0.9, 739S×15601E, h0km, mb4.4/12, mb1 4.5/12, mb1mx4.4/16, mbtmp4.4/12, MS3.8/2, Ms1 3.7/2, ms1mx3.1/28, Error ellipse: s-maj=32.1km s-min=17.9km az=110.0*
*NEIC **04** 03:53:02.2±0.5, 714S×15565E, h10km, mb4.6/14, Error ellipse: s-maj=14.4km s-min=11.2km az=128.0*
*BJI **04** 03:53:03.6, 666S×15550E, h11km, mB4.7, mb4.7, Ms4.9, Msz4.6*
*ISCJB **04** 03:53:04.0±0.3, 719S±006×15571E±005, h33km, mb4.4/30, Error ellipse: s-maj=8.7km s-min=7.4km az=34.2*
*MOS **04** 03:53:04.2±1.2, 708S×15568E, h33km, mb4.6/7, Error ellipse: s-maj=16.0km s-min=13.2km az=105.4*

ISC 04 03:53:06.1±0.3, 720S±006×15568E±006, h35km, n59, σ1§19/55, mb4.4/30, 4C, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**4.77**	**118**	*e*Pn	**Pn**	**03 54 16.8**	**+1.3**
HNR				*e*Sn	**Sn**	**03 55 10.4**	**+0.9**
HNR	**Honiara**	**4.77**	**118**	Pn	**Pn**	**03 54 15.8**	**+0.4**
	37nm,0.3s,baz=260,slow=1.2,SNR=5.9						
HNR				Sn	**Sn**	**03 55 10.0**	**+0.5**
	38nm,0.3s,baz=87,slow=15,SNR=6.9						
CTA	**Charters Tower**	**15.74**	**215**	LR	LR	04 01 33.5	
	comp=Z,326nm,20.9s,baz=50,slow=33						
CTAO	**Charters Tower**	**15.74**	**215**	*e*P	**Pn**	**03 56 47.9**	**+2.7**
	7.7nm,1.0s						
CTAO	**Charters Tower**	**15.74**	**215**	*e*P	**Pn**	**03 56 47.9**	**+2.7**
CTAO				pmax	pmax		
	comp=Z,8.0nm,1.0s						
KAKA	**Kakadu**	**23.53**	**255**	*e*P	**P**	**03 58 13.8**	**+0.3**
	comp=Z,27nm,1.0s,mb4.6						
WB2	**Warramunga Arr**	**24.26**	**236**	*e*P	**P**	**03 58 20.3**	**+0.2**
WRA	**Warramunga Arr**	**24.27**	**236**	P	**P**	**03 58 19.9**	**-0.2**
	comp=Z,12nm,0.8s,mb4.4,baz=62,slow=9.7,SNR=31						
ASAR	**Alice Springs**	**26.56**	**230**	P	**P**	**03 58 39.5**	**-1.4**
	comp=Z,0.8nm,0.5s,mb3.5,baz=58,slow=9.9,SNR=12						
STKA	**Stephens Creek**	**27.85**	**206**	*e*P	**P**	**03 58 51.5**	**-0.9**
	comp=Z,3.5nm,0.9s,mb4.0						
STKA	**Stephens Creek**	**27.85**	**206**	P	**P**	**03 58 51.6**	**-0.8**
	comp=Z,2.7nm,0.8s,mb3.9,baz=32,slow=9.4,SNR=5.2						
STKA				LR	LR	04 10 08.2	
	comp=Z,172nm,19.6s,baz=24,slow=37						
FITZ	**Fitzroy Crossi**	**31.20**	**247**	*e*P	**P**	**03 59 22.2**	**-0.1**
	comp=Z,7.1nm,0.6s,mb4.7						
FITZ	**Fitzroy Crossi**	**31.20**	**247**	P	**P**	**03 59 21.9**	**-0.4**
	comp=Z,5.2nm,0.7s,mb4.5,baz=102,slow=11,SNR=15						
FORT	**Forrest**	**34.91**	**224**	*e*P	**P**	**03 59 56.5**	**+1.9**
MBWA	**Marble Bar**	**37.40**	**244**	*e*P	**P**	**04 00 15.3**	**-0.7**
	comp=Z,5.7nm,0.8s,mb4.5						
KKM	**Kota Kinabalu**	**41.52**	**288**	*e*P	**P**	**04 00 51.0**	**+0.5**
KLBR	**Kellerberrin**	**42.88**	**230**	*e*P	**P**	**04 00 59.6**	**-1.7**
	comp=Z,12nm,0.7s,mb4.7						
MJAR	**Matsushiro Arr**	**46.50**	**341**	P	**P**	**04 01 29.7**	**-0.2**
	comp=Z,1.1nm,0.7s,mb3.9,baz=168,slow=6.2,SNR=3.1						
KSRS	**Korea Array**	**51.44**	**332**	P	**P**	**04 02 08.8**	**+1.0**
	comp=Z,2.6nm,0.7s,mb4.3,baz=144,slow=7.3,SNR=5.6						
NJ2	**Nanjing**	**52.51**	**320**	*e*P	**P**	**04 02 14.9**	**-1.0**
NJ2				AMB	AMB		
	comp=Z,30nm,0.8s,mb5.3						
MDJ	**Mudanjiang**	**56.68**	**338**	P	**P**	**04 02 45.9**	**-0.1**
MDJ				AMB	AMB		
	comp=Z,5.0nm,2.3s,mb4.1						
CD2	**Chengdu**	**62.47**	**310**	*e*P	**P**	**04 03 28.0**	**+1.9**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb5.0						
CD2				AMB	AMB		
	comp=Z,30nm,6.2s						
HIA	**Hailar**	**64.39**	**335**	*e*P	**P**	**04 03 40.2**	**+1.7**
GTA	**Gaotai**	**69.36**	**317**	*e*P	**P**	**04 04 12.7**	**+2.4**
GTA				AP	pP	04 04 17.0	-4.2
GTA				XP	sP	04 04 19.9	-5.3
GTA				AMB	AMB		
	comp=Z,3.0nm,1.2s,mb4.1						
ULN	**Ulaanbaatar**	**69.54**	**327**	*e*P	**P**	**04 04 12.6**	**+1.4**
	comp=Z,7.4nm,1.1s,mb4.5						
ULN	**Ulaanbaatar**	**69.54**	**327**↑	*e*P	**P**	**04 04 12.8**	**+1.5**
SONM	**Songino Array**	**69.88**	**327**	P	**P**	**04 04 14.6**	**+1.2**
	comp=Z,6.1nm,0.8s,mb4.6,baz=139,slow=7.1,SNR=28						
SEY	**Seymchan**	**69.97**	**358**	*e*P	**P**	**04 04 12.1**	**-1.5**
YAK	**Yakutsk**	**71.90**	**347**↑	*e*P	**P**	**04 04 26.0**	**+0.7**
YAK				pmax	pmax		
	comp=Z,13nm,1.2s,mb4.7						
ZAK	**Zakamensk**	**73.03**	**328**	*e*P	**P**	**04 04 32.7**	**+0.4**
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.4s,mb3.9						
BILL	**Bilibino**	**75.43**	**4**	*e*P	**P**	**04 04 44.7**	**-1.2**
	comp=Z,2.3nm,0.6s,mb4.3						
BILL	**Bilibino**	**75.43**	**4**	*e*P	**P**	**04 04 43.9**	**-2.0**
BILL				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.3						
TIXI	**Tiksi**	**80.65**	**352**↑	*e*P	**P**	**04 05 14.2**	**-0.7**
TIXI				pmax	pmax		
	comp=Z,2.0nm,1.3s,mb3.9						
MCK	**McKinley**	**81.99**	**22**	*e*P	**P**	**04 05 22.9**	**+0.8**
	comp=Z,3.6nm,0.9s,mb4.3						
MCK	**McKinley**	**81.99**	**22**	*e*P	**P**	**04 05 22.9**	**+0.8**
MCK				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.3						
QSPA	**South Pole Qui**	**82.78**	**180**	P	**P**	**04 05 23.1**	**-2.9**
	comp=Z,4.9nm,1.0s,mb4.5,baz=320,slow=0.9,SNR=8.7						
MK31	**Makanchi Array**	**84.01**	**319**	*e*P	**P**	**04 05 33.0**	**+0.1**
MKAR	**Makanchi Array**	**84.01**	**319**	P	**P**	**04 05 33.2**	**+0.3**
	comp=Z,16nm,0.7s,mb5.2,baz=102,slow=5.9,SNR=169						
ZAA0	**Zalesovo Array**	**84.73**	**326**	*e*P	**P**	**04 05 35.2**	**-1.2**
ZALV	**Zalesovo Beam**	**84.73**	**326**	P	**P**	**04 05 35.4**	**-1.0**
ZALV	**Zalesovo Beam**	**84.73**	**326**	P	**P**	**04 05 35.4**	**-1.0**
	comp=Z,9.4nm,0.5s,mb5.2,baz=115,slow=5.6,SNR=52						
ZAL	**Zalesovo**	**84.74**	**326**	P	**P**	**04 05 35.4**	**-1.0**
KURK	**Kurchatov**	**87.41**	**322**	*e*P	**P**	**04 05 48.9**	**-0.8**
	comp=Z,3.4nm,0.6s,mb4.8						
KURK	**Kurchatov**	**87.41**	**322**↑	*e*P	**P**	**04 05 47.6**	**-2.1**
TKM2	**Tokmak 2**	**87.65**	**314**	*e*P	**P**	**04 05 51.6**	**+0.6**
	comp=Z,2.3nm,0.6s,mb4.6						
TKM2	**Tokmak 2**	**87.65**	**314**	*e*P	**P**	**04 05 51.6**	**+0.5**
TKM2				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.5						
AML	**Almayashu**	**88.87**	**313**	*e*P	**P**	**04 05 58.3**	**+1.4**
	comp=Z,3.4nm,0.9s,mb4.7						
EKS2	**Erkin-Say**	**88.91**	**313**	*e*P	**P**	**04 05 57.9**	**+0.9**
	comp=Z,2.1nm,0.8s,mb4.5						
NVAR	**Mina Array Bea**	**91.31**	**52**	P	**P**	**04 06 07.7**	**-0.6**
NVAR	**Mina Array Bea**	**91.31**	**52**	P	**P**	**04 06 07.7**	**-0.6**
	comp=Z,0.1nm,0.3s,mb3.6,baz=242,slow=7.1,SNR=5.1						
BRVK	**Borovoye**	**92.94**	**323**	*e*P	**P**	**04 06 14.0**	**-1.5**
	comp=Z,1.8nm,0.5s,mb4.8						
BRVK	**Borovoye**	**92.94**	**323**	*e*P	**P**	**04 06 14.0**	**-1.5**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.8						
YKA	**Yellowknife Ar**	**96.20**	**28**	P	**P**	**04 06 28.3**	**-1.9**
YKA	**Yellowknife Ar**	**96.20**	**28**	P	**P**	**04 06 28.3**	**-1.9**
	comp=Z,0.3nm,0.7s,mb3.9,baz=264,slow=4.6,SNR=6.9						
GERES	**GERESS Array B 127.58 329**			PKP	PKPdf	04 12 06.8	-0.8
	comp=Z,0.3nm,0.4s,baz=305,slow=5.9,SNR=3.7						
ESDC	**Sonseca Array**	**142.86**	**334**	PKhKP		04 12 31.7	
	comp=Z,0.4nm,0.5s,baz=351,slow=4.8,SNR=5.0						
TOA0	**Torodi Ar. Sit**	**153.74**	**285**	*e*PKPdf	PKPdf	04 12 56.3	+1.7
TOA0				*e*PKPbc	PKPbc	04 13 04.5	+2.1
TORD	**Torodi Ar. Bea**	**153.74**	**285**	PKP	PKPdf	04 12 52.1	-2.5
	comp=Z,0.4nm,0.8s,baz=117,slow=1.9,SNR=4.0						
TORD				PKPbc	PKPbc	04 12 59.9	-2.6
	comp=Z,1.0nm,0.9s,baz=32,slow=2.3,SNR=7.2						
DBIC	**Dimbokro**	**160.68**	**270**	PKPab	PKPab	04 13 45.0	-0.4
	comp=Z,1.6nm,0.6s,baz=91,slow=11,SNR=4.9						

IDC 04 03:59:07.5±1.4, 735S×15575E, h0km, mb3.7/5, mb1 3.9/6, mb1mx3.8/15, mbtmp3.9/6, ML4.8/1, Error ellipse: s-maj=35.5km s-min=29.3km az=111.0, Bougainville - Solomon Islands region

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

15nm,1.2s,mb4.6
KLBR Kellerberrin 43.22 232 eP P 04 15 36.4 0.0
10nm,0.9s,mb4.5
KKM Kota Kinabalu 43.48 288 eP P 04 15 38.4 -0.4
KSM Kuching 47.90 280 eP P 04 16 13.5 -0.2
MJAR Matsushiro Arr 48.41 339 P P 04 16 16.9 -0.3
0.7nm,0.4s,mb4.1,baz=167,slow=5.8,SNR=2.9
KSRS Korea Array 53.48 331 P P 04 16 55.6 +0.2
2.0nm,0.6s,mb4.2,baz=148,slow=1.0,SNR=4.2
XAN Xi'an 62.48 316 P P 04 17 58.7 0.0
XAN AMB AMB
comp=Z,9.0nm,1.1s,mb4.8
KMI Kunming 62.83 304 P P 04 18 02.2 +1.0
KMI AMB AMB
comp=Z,12nm,0.9s,mb5.0
KMI Kunming 62.83 304 P P 04 18 02.2 +1.0
comp=Z,12nm,0.9s,mb5.0
LZH Lanzhou 67.09 315 eP P 04 18 29.7 +0.9
LZH AP pP 04 18 32.9 +2.6
LZH XP sP 04 18 35.8 +4.9
LZH AMB AMB
comp=Z,21nm,1.2s,mb5.0
LZH AMB AMB
comp=Z,88nm,4.1s
LZH Lanzhou 67.09 315 eP P 04 18 29.7 +0.9
comp=Z,21nm,1.2s,mb5.0
LZH pP pP 04 18 32.9 +2.6
LZH sP sP 04 18 35.8 +4.9
VNDA Vanda 68.87 179 P P 04 18 39.1 -0.2
comp=Z,1.7nm,0.9s,mb4.0,baz=334,slow=6.9,SNR=7.8
GTA Gaotai 71.51 316 eP P 04 18 57.9 +1.9
GTA AP pP 04 19 02.7 +5.1
GTA XP sP 04 19 05.4 +7.2
GTA AMB AMB
comp=Z,7.0nm,2.3s,mb4.2
ULN Ulaanbaatar 71.63 327 eP P 04 18 57.9 +1.4
comp=Z,4.1nm,1.1s,mb4.3
SONM Songino Array 71.96 327 P P 04 18 59.8 +1.2
comp=Z,2.2nm,1.0s,mb4.0,baz=139,slow=6.0,SNR=7.7
BILL Bilibino 76.78 3 eP P 04 19 26.1 -0.1
comp=Z,6.3nm,0.9s,mb4.5
QSPA South Pole Qui 81.33 180 P P 04 19 50.0 -1.1
comp=Z,3.6nm,0.9s,mb4.3,baz=333,slow=2.2,SNR=12
MCK McKinley 82.76 21 eP P 04 19 57.3 -1.4
comp=Z,11nm,1.0s,mb4.8
MK31 Makanchi Array 86.15 318 eP P 04 20 16.0 -0.3
MKAR Makanchi Array 86.15 318 P P 04 20 16.5 +0.1
comp=Z,2.3nm,0.7s,mb4.5,baz=98,slow=6.1,SNR=20
ZALV Zalesovo Beam 86.83 326 P P 04 20 18.2 -1.3
comp=Z,0.7nm,0.5s,mb4.1,baz=121,slow=5.5,SNR=3.6
NVAR Mina Array Bea 90.97 51 P P 04 20 39.0 -0.4
comp=Z,2.2nm,0.9s,mb4.5,baz=237,slow=4.4,SNR=12
EKS2 Erkin-Say 91.07 313 eP P 04 20 40.2 +0.4
comp=Z,1.3nm,0.7s,mb4.4
BRVK Borovoye 95.06 323 eP P 04 20 57.6 -0.3
comp=Z,1.3nm,0.6s,mb4.5
YKA Yellowknife Ar 96.73 28 P P 04 21 03.9 -1.4
YKA Yellowknife Ar 96.73 28 P P 04 21 03.9 -1.4
comp=Z,0.4nm,0.6s,mb4.0,baz=264,slow=4.6,SNR=7.8
BDFB Brasilia 145.19 134 PKPbc PKPbc 04 27 12.4 -1.0
comp=Z,3.7nm,0.7s,baz=245,slow=5.4,SNR=5.6
MDT Midelt 150.71 328 PKPbc PKPbc 04 27 28.5 +0.5
comp=Z,3.1nm,0.9s,baz=91,slow=3.3,SNR=6.1
TOA0 Torodi Ar. Sit 155.64 283 ePKPab PKPab 04 27 56.3 +0.1
TORD Torodi Ar. Bea 155.64 283 PKPab PKPab 04 27 57.2 +1.0
TORD Torodi Ar. Bea 155.64 283 PKPab PKPab 04 27 57.2 +1.0
comp=Z,1.4nm,1.1s,baz=79,slow=4.3,SNR=4.9

*ISCJB **04** 04:23:06.9±0.3, 11.11N±0.003×65.30W±0.002, h33km, Error ellipse: s-maj=4.5km s-min=2.3km az=166.9*
*FUNV **04** 04:23:06.4, 11.08N×65.29W, h5km, MW3.7*
*TRN **04** 04:23:09.0, 11.19N×64.94W, h3km, MD4.3*
*NEIC **04** 04:23:09.3, 11.18N×64.92W, h3km, MD4.3(TRN), After TRN.*

ISC 04 04:23:08.1±0.2, 1113N±0.003×6527W±0.002, h35km, n47, σ1°24/79, 3C-2D, Caribbean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBAV	Isla La Blanqu	0.97	44⇑	iP	Pn	04 23 25.4	+0.2
IBAV				eS	Sn	04 23 39.4	+1.6
ORCV	Isla La Orchil	1.13	307⇓	eP	Pn	04 23 26.9	-0.5
ORCV				eS	Sn	04 23 43.5	+1.7
PCRV	Puerto La Cruz	1.13	146⇓	iP	Pn	04 23 27.5	0.0
BIRV	Birongo	1.17	237	eP	Pn	04 23 27.3	-0.8
BIRV				eS	Sn	04 23 42.1	-0.7
FUNV	FUNVISIS	1.65	247	eP	Pn	04 23 35.1	+0.6
FUNV				eS	Sn	04 23 56.2	+1.7
LLAV	El Llanito	1.65	247	eP	Pn	04 23 35.1	+0.6
LLAV				eS	Sn	04 23 56.6	+2.2
FDCV	FORTIN DE LA C	1.75	251	eP	Pn	04 23 36.0	0.0
FDCV				eS	Sn	04 23 59.1	+2.0
OCUV	OCUMARITO	1.81	236	eP	Pn	04 23 37.9	+1.1
OCUV				eS	Sn	04 24 00.0	+1.6
BOTV	Botiquin	2.04	250	eS	Sn	04 24 06.2	+2.0
CRUV	Carupano	2.05	102	eP	Pn	04 23 41.4	+1.3
ITEV	Isla Los Testi	2.11	84⇑	iP	Pn	04 23 41.0	+0.1
MERV	Las Mercedes	2.12	209	eP	Pn	04 23 41.3	+0.2
MERV				eS	Sn	04 24 07.1	+0.9
PAUV	EL PAUJM	2.15	244	eP	Pn	04 23 42.2	+0.8
PRGV	PARIAGUAN	2.43	165	eP	Pn	04 23 45.1	-0.2
PRGV				eS	Sn	04 24 14.6	+0.8
GUNV	Guanoco	2.48	113	eP	Pn	04 23 46.9	+0.9
GUNV				eS	Sn	04 24 17.5	+2.4
TURV	Turiamo	2.61	255	eP	Pn	04 23 46.9	-0.9
TURV				eS	Sn	04 24 18.4	+0.1
ORIV	Oritupano	2.75	138	eP	Pn	04 23 50.4	+0.7
CAFV	EL CAFE	2.87	253	eP	Pn	04 23 51.5	+0.3
CAFV				eS	Sn	04 24 26.0	+1.4
GUIV	Guiria	3.03	99⇑	eP	Pn	04 23 54.5	+0.9
GUIV				eS	Sn	04 24 30.9	+2.2
BAUV	El Baul	3.48	232	eP	Pn	04 23 59.0	-0.8
BAUV				eS	Sn	04 24 38.7	-1.2
JACV	Jacura	3.49	270	eP	Pn	04 23 59.6	-0.3
JACV				eS	Sn	04 24 39.7	-0.4
GRW	Mount Saint Ca	3.68	73	eP	Pn	04 24 03.0	+0.5
GRW				eS	Sn	04 24 41.1	-3.7
GRW	Mount Saint Ca	3.68	73	eP	Pn	04 24 03.0	+0.5
GRW				eS	Sn	04 24 41.1	-3.7
TRN	Trinidad (W)	3.83	97	eP	Pn	04 24 06.5	+2.0
TRN				eS	Sn	04 24 45.9	-2.5
CAOV	Caicara del Or	3.92	195	eP	Pn	04 24 04.3	-1.5
CAOV				eS	Sn	04 24 48.3	-2.2
GURV	El Guri	3.98	147	eP	Pn	04 24 05.5	-1.1
TEPV	Terepaima	4.02	254	eP	Pn	04 24 07.4	+0.2
TEPV				eS	Sn	04 24 51.6	-1.6
FCV	Fort Charlotte	4.42	62	eP	Pn	04 24 13.0	+0.3
FCV				eS	Sn	04 25 01.6	-1.4
SVB	Belmont	4.47	61	eP	Pn	04 24 14.1	+0.7
SVB				eS	Sn	04 25 02.5	-1.7
SIQV	Siquisique	4.48	264	eP	Pn	04 24 13.2	-0.3
SIQV				eS	Sn	04 25 03.3	-1.2
SANV	Sanarito	4.50	249	eP	Pn	04 24 14.1	+0.4
SANV				eS	Sn	04 25 03.3	-1.5
SVV	Soufriere Volc	4.52	61	eP	Pn	04 24 15.3	+1.2
SVV				eS	Sn	04 25 03.2	-2.4
SSV	Crater Summit	4.55	61	eP	Pn	04 24 15.3	+0.8
SSV				eS	Sn	04 25 04.1	-2.0
RIOV	Rio Grande	4.57	131	eP	Pn	04 24 15.0	+0.3
RIOV				eS	Sn	04 25 05.0	-1.6
CURV	Curarigua	4.74	257	eP	Pn	04 24 16.9	-0.2
SLB	Belfond	4.93	57	eP	Pn	04 24 20.2	+0.6
SLB				eS	Sn	04 25 11.5	-4.0
DABV	Dabajuro	5.27	268	eP	Pn	04 24 23.9	-0.4
DABV				eS	Sn	04 25 21.5	-2.5
FDF	Fort de France	5.38	48	eP	Pn	04 24 26.5	+0.5
FDF	Fort de France	5.38	48	eP	Sn	04 25 23.6	-3.2
SDV	Santo Domingo	5.73	248	ePn	Pn	04 24 30.4	-0.3
	10nm,0.5s						
ELOV	Elorza	5.84	226	eP	Pn	04 24 31.0	-1.2
ELOV				eS	Sn	04 25 33.9	-4.0
PAYV	Puerto Ayacuch	6.14	203	eP	Pn	04 24 34.6	-1.7
SOCV	Socops	6.19	243	eP	Pn	04 24 36.0	-1.0
SOCV				eS	Sn	04 25 42.4	-4.2
VIGV	El Vigia	6.42	250	eP	Pn	04 24 39.5	-0.7
LUEV	Luepa	6.46	144	eP	Pn	04 24 40.2	-0.6
VIRV	Villa del Rosa	7.04	266	eP	Pn	04 24 47.5	-1.2
VIRV				eS	Sn	04 26 02.2	-5.2
ROSC	El Rosal	10.92	236	ePn	Pn	04 25 44.2	+2.3

*IDC **04** 04:23:23.0±2.0, 7.72S×155.88E, h0km, mb4.0/7, mb1 4.2/7, mb1mx4.0/14, mbtmp4.0/7, Error ellipse: s-maj=68.9km s-min=23.4km az=112.0*
*NEIC **04** 04:23:24.4±1.4, 7.80S×155.86E, h10km, mb3.7/1, Error ellipse: s-maj=51.2km s-min=14.9km az=112.0*
*ISCJB **04** 04:23:26.3±1.5, 7.9S±02×1559E±03, h33km, mb3.9/7, Error ellipse: s-maj=51.4km s-min=15.7km az=22.5*

ISC 04 04:23:28.2±1.5, 78S±02×1558E±03, h35km, n9, σ1°09/9, mb3.9/7, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTAO	Charters Tower	15.32	216	eP	Pn	04 26 59.7	-2.2
	3.3nm,0.8s						
WRA	Warramunga Arr	24.06	238	P	P	04 28 41.2	+0.9
	4.9nm,0.9s,mb3.9,baz=64,slow=9.7,SNR=8.7						
ASAR	Alice Springs	26.27	231	P	P	04 29 01.4	+1.0
	1.3nm,0.9s,mb3.4,baz=62,slow=9.1,SNR=6.9						
STKA	Stephens Creek	27.36	207	P	P	04 29 10.6	+0.4
STKA	Stephens Creek	27.36	207	P	P	04 29 10.6	+0.4
	2.3nm,0.9s,mb3.7,baz=10,slow=12,SNR=3.5						
MJAR	Matsushiro Arr	47.13	341	P	P	04 31 56.5	-0.5
	1.9nm,0.5s,mb4.2,baz=166,slow=8.7,SNR=4.8						
MKAR	Makanchi Array	84.57	319	P	P	04 35 58.9	+1.0
	1.7nm,0.8s,mb4.2,baz=101,slow=6.3,SNR=8.7						
ZALV	Zalesovo Beam	85.33	326	P	P	04 36 00.1	-1.4
	0.3nm,0.3s,mb3.9,baz=108,slow=7.7,SNR=2.7						
YKA	Yellowknife Ar	96.67	28	P	P	04 36 54.8	+0.3
	0.3nm,0.9s,mb3.7,baz=250,slow=4.4,SNR=4.3						

IDC 04 04:23:43.8±1.3, 8147S×10499E, h0km, mb3.5/3, mb1 3.9/5, mb1mx3.8/13, mbtmp3.7/5, ML4.3/2, Error ellipse: s-maj=29.7km s-min=20.4km az=119.0, Antarctica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QSPA	South Pole Qui	8.54	180	Pn	Pn	04 25 49.6	+1.3
	1.4nm,0.3s,baz=315,slow=5.9,SNR=54						
QSPA				Sn	Sn	04 27 23.2	-2.0
	0.3nm,0.3s,baz=312,slow=21,SNR=3.0						
QSPA				Lg		04 28 13.4	
	1.3nm,0.3s,baz=153,slow=23,SNR=5.7						
VNDA	Vanda	10.62	99	Pn	Pn	04 26 17.0	+0.1
	0.8nm,0.3s,baz=225,slow=12,SNR=50						
VNDA				Sn	Sn	04 28 14.3	-2.0
	1.0nm,0.3s,baz=158,slow=22,SNR=7.2						
VNDA				Lg		04 29 21.1	
	0.7nm,0.3s,baz=119,slow=17,SNR=5.7						
SNAA	Sanae	22.55	232	P	P	04 28 45.0	+0.2
	0.7nm,0.5s,baz=171,slow=14,SNR=9.0						
ASAR	Alice Springs	59.03	31	P	P	04 33 45.0	0.0
	0.5nm,0.6s,baz=189,slow=5.9,SNR=7.4						
WRA	Warramunga Arr	62.76	31	P	P	04 34 10.3	0.0
	0.5nm,0.5s,baz=192,slow=6.1,SNR=3.1						

IDC 04 04:29:59.3±5.2, 691S×15530E, h0km, mb3.9/3, mb1 3.9/3, mb1mx3.6/14, mbtmp3.9/3, Error ellipse: s-maj=158.1km s-min=40.4km az=119.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	24.11	235	P	P	04 35 17.1	+0.2
	0.6nm,0.7s,baz=62,slow=9.6,SNR=4.0						
MKAR	Makanchi Array	83.54	319	P	P	04 42 29.8	+0.6
	0.8nm,0.4s,baz=101,slow=6.3,SNR=8.5						
ZALV	Zalesovo Beam	84.28	326	P	P	04 42 32.2	-0.6
	0.3nm,0.3s,baz=112,slow=6.4,SNR=4.8						

*IDC **04** 04:32:08.6±1.2, 7.49S×156.10E, h0km, mb4.3/7, mb1 4.4/7, mb1mx4.2/14, mbtmp4.3/7, MS3.2/4, Ms1 3.2/4, ms1mx2.9/16, Error ellipse: s-maj=45.7km s-min=22.5km az=111.0*
*BJI **04** 04:32:10.8, 7.16S×155.94E, h7km, mB4.5, mb4.6, Ms4.8, Msz4.6*
*NEIC **04** 04:32:11.8±0.5, 7.40S×155.72E, h10km, mb4.5/10, Error ellipse: s-maj=14.2km s-min=11.4km az=132.0*
*ISCJB **04** 04:32:16.4±2.8, 76S±01×1559E±01, h63km±29km, mb4.5/18, Error ellipse: s-maj=24.4km s-min=13.2km az=43.5*

ISC 04 04:32:18.3±2.5, 76S±01×1559E±01, h66km±27km, n29, σ0°83/27, mb4.4/18, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	4.41	115	ePn	Pn	04 33 23.6	+0.8
HNR				eSn	Sn	04 34 20.6	+7.7
HNR	Honiara	4.41	115	Pn	Pn	04 33 21.0	-1.8
	22nm,0.3s,baz=270,slow=8.8,SNR=2.4						
HNR				Sn	Sn	04 34 18.9	+5.9
	17nm,0.3s,baz=287,slow=20,SNR=2.7						
HNR				LR	LR	04 34 43.3	
	comp=Z,280nm,20.4s,baz=177,slow=36						
KAKA	Kakadu	23.63	256	eP	P	04 37 24.2	+0.4
	15nm,0.9s,mb4.3						
WB2	Warramunga Arr	24.22	237	eP	P	04 37 29.5	+0.4
WRA	Warramunga Arr	24.23	237	P	P	04 37 30.0	+0.8
	15nm,0.9s,mb4.3,baz=63,slow=9.4,SNR=36						
WRA				LR	LR	04 46 26.9	
	comp=Z,47nm,19.0s,baz=155,slow=35						
ASAR	Alice Springs	26.47	230	P	P	04 37 49.2	-0.2
	1.5nm,0.7s,mb3.6,baz=58,slow=9.5,SNR=16						
STKA	Stephens Creek	27.60	207	P	P	04 37 59.5	0.0
	2.4nm,1.0s,mb3.7,baz=28,slow=14,SNR=3.5						
STKA				LR	LR	04 47 56.7	
	comp=Z,77nm,18.1s,baz=205,slow=34						
FITZ	Fitzroy Crossi	31.24	248	eP	P	04 38 32.0	+0.1
	5.5nm,0.9s,mb4.3						
FORT	Forrest	34.79	225	eP	P	04 39 02.3	-0.4
	12nm,0.7s,mb4.8						
MBWA	Marble Bar	37.42	245	eP	P	04 39 25.4	0.0
	8.5nm,1.0s,mb4.6						
KLBR	Kellerberrin	42.80	231	eP	P	04 40 09.5	-0.2
	78nm,1.9s,mb5.1						
KSRS	Korea Array	51.87	332	LR	LR	04 59 35.8	
	comp=Z,23nm,19.7s,baz=171,slow=32						
NJ2	Nanjing	52.93	320	eP	P	04 41 28.1	0.0
NJ2				AMB	AMB		
	comp=Z,20nm,0.6s,mb5.3						
KULM	Kulim	56.58	281	eP	P	04 41 53.5	-1.3
PET	Petropavlovsk	60.42	2	eP	P	04 42 21.6	+0.8
	comp=Z,15nm,0.7s,mb5.1						
CD2	Chengdu	62.87	310	eP	P	04 42 39.2	+1.5
CD2				AMB	AMB		
	comp=Z,20nm,6.2s						
ULN	Ulaanbaatar	69.97	327	eP	P	04 43 22.9	+0.2
	comp=Z,1.9nm,0.8s,mb4.0						
SONM	Songino Array	70.31	327	P	P	04 43 24.9	+0.1
	comp=Z,2.5nm,0.8s,mb4.1,baz=138,slow=6.7,SNR=9.9						
MCK	McKinley	82.27	22	eP	P	04 44 34.0	+1.8
	comp=Z,1.8nm,0.7s,mb4.0						
QSPA	South Pole Qui	82.39	180	eP	P	04 44 33.3	+0.6
	comp=Z,4.2nm,1.0s,mb4.2						
MK31	Makanchi Array	84.43	319	eP	P	04 44 43.5	-0.2
MKAR	Makanchi Array	84.43	319	P	P	04 44 43.6	-0.2
	comp=Z,8.4nm,0.8s,mb4.6,baz=101,slow=6.3,SNR=38						
ZALV	Zalesovo Beam	85.16	326	P	P	04 44 45.8	-1.5
	comp=Z,2.0nm,0.3s,mb4.5,baz=123,slow=7.2,SNR=9.1						
KURK	Kurchatov	87.84	322	eP	P	04 44 59.0	-1.4
	comp=Z,1.2nm,0.4s,mb4.3						
YKA	Yellowknife Ar	96.44	28	P	P	04 45 39.0	-0.9
YKA	Yellowknife Ar	96.44	28	P	P	04 45 39.0	-0.9
	comp=Z,0.2nm,0.6s,mb3.7,baz=268,slow=4.7,SNR=5.3						
BDFB	Brasilia	146.94	134	PKPbc	PKPbc	04 51 52.7	-1.7
	comp=Z,1.8nm,0.7s,baz=145,slow=2.4,SNR=3.0						
TOA0	Torodi Ar. Sit	154.03	284	ePKPbc	PKPbc	04 52 10.5	-1.1
TORD	Torodi Ar. Bea	154.03	284	PKP	PKPdf	04 52 05.0	+1.5
	comp=Z,0.3nm,0.7s,baz=72,slow=3.6,SNR=2.6						
TORD				PKPbc	PKPbc	04 52 11.1	-0.5
	comp=Z,0.7nm,0.8s,baz=50,slow=2.3,SNR=4.5						

MEX 04 04:33:54.4±0.7, 1640N×9918W, h14km±13km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	Acapulco	0.85	304	iP	Pg	04 34 07.9	-3.0
ACX				iS	Sg	04 34 18.5	-3.5
MEIG	Mezcala	1.58	345	iP	Pn	04 34 19.1	-2.8
MEIG				iS	Sn	04 34 36.3	-5.9
UTMO	Huajuapan	1.94	43	iP	Pn	04 34 23.5	-3.5
UTMO				iS	Sn	04 34 46.9	-4.3
VHO	Vista Hermosa	2.44	74	iP	Pn	04 34 29.9	-4.0
VHO				iS	Sn	04 35 00.9	-2.6
PPM	Popocatepetl	2.71	11	iP	Pn	04 34 35.7	-1.8
PPM				iS	Sn	04 35 06.0	-4.1

*IDC **04** 04:44:30.3±1.9, 7.52S×155.50E, h0km, mb3.9/7, mb1 4.0/7, mb1mx3.9/14, mbtmp3.9/7, Error ellipse: s-maj=68.0km s-min=23.8km az=111.0*
*NEIC **04** 04:44:32.1±1.1, 7.52S×155.42E, h10km, mb4.3/1, Error ellipse: s-maj=39.7km s-min=13.0km az=115.0*
*ISCJB **04** 04:44:33.9±1.3, 76S±02×1555E±03, h33km, mb3.8/8, Error ellipse: s-maj=46.3km s-min=15.0km az=26.5*

ISC 04 04:44:35.9±1.3, 75S±02×1554E±03, h35km, n12, σ0°78/12, mb3.8/8, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WB2	Warramunga Arr	23.84	237	eP	P	04 49 45.5	-0.6
WRA	Warramunga Arr	23.85	237	P	P	04 49 45.9	-0.3
	0.6nm,0.5s,mb3.2,baz=61,slow=9.4,SNR=3.0						
ASAR	Alice Springs	26.12	230	P	P	04 50 06.3	-0.5
	0.4nm,0.8s,mb3.0,baz=56,slow=9.3,SNR=5.0						
STKA	Stephens Creek	27.42	206	P	P	04 50 19.3	+0.9
STKA	Stephens Creek	27.42	206	P	P	04 50 19.3	+0.9
	1.0nm,0.6s,mb3.5,baz=12,slow=9.3,SNR=2.6						
MJAR	Matsushiro Arr	46.73	341	P	P	04 53 00.7	-0.9
	2.1nm,0.8s,mb4.2,baz=164,slow=7.8,SNR=3.9						
BILL	Bilibino	75.79	4	eP	P	04 56 18.2	+0.4
	2.3nm,0.8s,mb4.2						
MK31	Makanchi Array	84.08	319	eP	P	04 57 04.1	+0.9
MKAR	Makanchi Array	84.08	319	P	P	04 57 04.4	+1.3
	1.7nm,0.7s,mb4.3,baz=103,slow=5.8,SNR=14						
ZALV	Zalesovo Beam	84.86	326	P	P	04 57 06.9	0.0
	1.1nm,0.5s,mb4.2,baz=84,slow=4.0,SNR=5.8						
YKA	Yellowknife Ar	96.63	28	P	P	04 58 00.9	-1.1
YKA	Yellowknife Ar	96.63	28	P	P	04 58 00.9	-1.1
	0.2nm,0.6s,mb3.7,baz=268,slow=4.8,SNR=5.4						

IDC 04 04:47:40.0±4.5, 852S×15738E, h0km, mb3.9/3, mb1 4.0/4, mb1mx3.7/15, mbtmp4.0/4, ML4.1/1, MS3.3/1, Ms1 3.3/1, ms1mx2.4/15, Error ellipse: s-maj=104.5km s-min=24.3km az=2.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	2.69	110	Pn	Pn	04 48 25.2	+0.6
	37nm,0.3s,baz=280,slow=3.7,SNR=5.8						
HNR				Sn	Sn	04 48 57.8	-0.1
	67nm,0.3s,baz=102,slow=17,SNR=6.2						
WRA	Warramunga Arr	25.02	241	P	P	04 53 07.0	+1.0
	2.4nm,0.7s,baz=66,slow=9.2,SNR=12						
GUMO	Guam	25.23	330	LR	LR	05 02 08.6	
	comp=Z,69nm,19.2s,baz=304,slow=34						
ASAR	Alice Springs	27.06	233	P	P	04 53 23.6	-0.7
	0.6nm,0.9s,baz=58,slow=8.7,SNR=4.2						
STKA	Stephens Creek	27.49	210	P	P	04 53 27.6	-0.6
	2.0nm,0.8s,baz=27,slow=11,SNR=5.4						

IDC 04 04:53:27.1±4.0, 727S×15565E, h0km, mb3.9/5, mb1 4.0/5, mb1mx3.8/14, mbtmp3.9/5, Error ellipse: s-maj=120.2km s-min=29.3km az=113.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	24.20	237	P	P	04 58 46.5	+1.0
	1.5nm,0.5s,baz=62,slow=9.6,SNR=9.3						
ASAR	Alice Springs	26.48	230	P	P	04 59 05.8	-0.5
	0.2nm,0.4s,baz=57,slow=10,SNR=4.2						
SONM	Songino Array	69.92	327	P	P	05 04 41.0	+0.9
	0.7nm,0.7s,baz=117,slow=5.0,SNR=2.7						
MKAR	Makanchi Array	84.04	319	P	P	05 05 59.8	+0.2
	1.4nm,0.8s,baz=103,slow=6.0,SNR=9.3						
ZALV	Zalesovo Beam	84.77	326	P	P	05 06 01.9	-1.2
	1.1nm,0.4s,baz=114,slow=5.5,SNR=5.0						

*NIED **04** 05:12:00, 37.20N×136.50E, h8km, Mw3.5 Best double couple: M0 1.91000×10^14 NP1:φ=244.00000°, δ=88.00000°, λ=97.00000°. NP2:φ=349.00000°, δ=7.00000°, λ=15.00000°.*
*ISCJB **04** 05:12:48.7±1.6, 37.19N±0.006×136.5E±0.1, h6km±11km, Error ellipse: s-maj=16.2km s-min=10.6km az=169.6*
*JMA **04** 05:12:49.6±0.1, 37.16N×136.53E, h9km±1km, M3.5*
JMA Felt II J1.

ISC 04 05:12:49.2±1.6, 3718N±006×1365E±01, h8km±10km, n6, σ0°33/8, 3D, Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JJH	Hakui	0.34	138	⇓P	Pg	05 12 56.0	+0.1
JJH				S	Sg	05 13 00.6	+0.2
JSZ	Suzu	0.74	69	⇓P	Pg	05 13 03.3	-0.2
JHG	Hegura jima	0.75	27	P	Pg	05 13 03.9	+0.3
JTT	Ttatey	0.88	130	⇓P	Pg	05 13 05.9	-0.3
JKG	Kaga	0.91	188	P	Pg	05 13 06.8	+0.1
MAT	Matsushiro	1.51	114	P	Pn	05 13 16.3	-0.3
MAT				S	Sn	05 13 36.8	+0.3

KRSC 04 05:17:58.6±0.9, 5393N×16076E, h39km±29km, ML3.8, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KII	Karymskiy	0.78	278	eP	Pn	05 18 14.0	+0.9
KII				eS	Sn	05 18 25.3	+1.7
MKZ	Mys Kozlova	0.85	42	iP	Pn	05 18 14.8	+0.8
MKZ				eS	Sn	05 18 26.2	+1.0
SPN	Mys Shipunski	0.94	208	iP	Pn	05 18 15.8	+0.5
SPN				eS	Sn	05 18 28.6	+1.1
NLC	Nalytchevo	1.14	229	eP	Pn	05 18 18.4	+0.4
NLC				eS	Sn	05 18 32.8	+0.5
AVH	Avacha	1.38	242	iP	Pn	05 18 22.5	+1.2
AVH				eS	Sn	05 18 39.9	+1.7
TUMR	Tumrok	1.40	345	eP	Pn	05 18 22.5	+0.9
TUMR				eS	Sn	05 18 40.1	+1.2
PET	Petropavlovsk	1.55	235	iP	Pn	05 18 24.5	+0.8
PET				eS	Sn	05 18 43.1	+0.6
GNL	Ganaly	1.69	263	iP	Pn	05 18 26.3	+0.8
GNL				eS	Sn	05 18 46.6	+0.7
KMNR	Kamenistaya	1.85	351	eP	Pn	05 18 29.8	+2.0
KMNR				eS	Sn	05 18 52.9	+2.9
RUS	Russkaya	2.02	223	iP	Pn	05 18 30.3	+0.2
RUS				eS	Sn	05 18 53.7	-0.3
KPT	Kopyto	2.06	352	P	Pn	05 18 31.5

HNR Sn **Sn** **05 33 00.9 -0.3**
133nm,0.3s,baz=97,slow=21,SNR=12
WB2 Warramunga Arr 25.03 240 *eP* **P** **05 37 10.0 +0.2**
WB2 Warramunga Arr 25.03 240 *eP* **P** **05 37 10.3 +0.5**
WRA Warramunga Arr 25.04 240 P **P** **05 37 09.3 -0.6**
4.2nm,0.6s,mb4.2,baz=68,slow=9.6,SNR=20
WRA LR LR 05 46 44.1
comp=Z,57nm,18.6s,baz=170,slow=36
ASAR Alice Springs 27.08 233 P **P** **05 37 27.6 -0.8**
0.7nm,0.7s,mb3.3,baz=64,slow=8.8,SNR=8.9
STKA Stephens Creek 27.52 210 *eP* **P** **05 37 33.5 +1.3**
2.8nm,0.6s,mb4.1
STKA Stephens Creek 27.52 210 P **P** **05 37 33.1 +0.9**
3.9nm,0.7s,mb4.2,baz=45,slow=16,SNR=9.4
FITZ Fitzroy Crossi 32.30 250 *eP* **P** **05 38 19.8 +5.1**
1.9nm,0.6s,mb4.1
MCK McKinley 82.56 21 *eP* **P** **05 44 07.4 -0.3**
9.0nm,0.9s,mb4.8
COLA College 83.61 21 *eP* **P** **05 44 13.1 -0.1**
3.0nm,0.7s,mb4.5
NVAR Mina Array Bea 90.78 51 P **P** **05 44 49.8 +1.1**
1.2nm,0.9s,mb4.2,baz=229,slow=5.3,SNR=7.7
YKA Yellowknife Ar 96.53 28 P **P** **05 45 14.2 -0.3**
YKA Yellowknife Ar 96.53 28 P **P** **05 45 14.2 -0.3**
0.3nm,1.0s,mb3.7,baz=232,slow=5.3,SNR=4.0
BDFB Brasilia 145.25 134 PKPbc PKPbc 05 51 21.6 -1.9
1.6nm,0.9s,baz=197,slow=9.6,SNR=3.5

IDC 04 05:42:17.0±2.0, 845S×15615E, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.8/13, mbtmp3.7/4, MS3.3/2, Ms1 3.2/2, ms1mx2.7/28, Error ellipse: s-maj=86.1km s-min=29.1km az=132.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**15.02**	**219**	LR	LR	05 50 01.6	
	comp=Z,48nm,18.1s,baz=57,slow=31						
WRA	**Warramunga Arr**	**24.00**	**239**	P	P	05 47 33.5	-0.1
	2.6nm,0.9s,baz=64,slow=9.8,SNR=6.5						
ASAR	**Alice Springs**	**26.13**	**232**	P	P	05 47 53.7	+0.7
	2.0nm,1.1s,baz=64,slow=8.5,SNR=7.1						
STKA	**Stephens Creek**	**26.95**	**208**	LR	LR	05 58 39.3	
	comp=Z,102nm,18.3s,baz=24,slow=36						
MKAR	**Makanchi Array**	**85.24**	**319**	P	P	05 54 57.2	+1.6
	0.1nm,0.3s,baz=116,slow=8.3,SNR=2.8						
YKA	**Yellowknife Ar**	**97.08**	**28**	P	P	05 55 50.0	-0.8
	0.1nm,0.5s,baz=268,slow=4.5,SNR=6.2						
TORD	**Torodi Ar. Bea**	**154.48**	**283**	PKPbc	PKPbc	06 02 20.1	-0.7
	0.3nm,0.8s,baz=85,slow=3.5,SNR=2.8						
TORD				PKPab	PKPab	06 02 33.6	-1.5
	0.8nm,0.9s,baz=92,slow=2.4,SNR=3.9						

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*NIED **04** 05:58:00, 44.30N×149.20E, h23km, Mw4.0 Best double couple: M0=1.03000×10^15 NP1:φs=48.00000°, δ=66.00000°, λ=117.00000°. NP2:φs=177.00000°, δ=35.00000°, λ=44.00000°.*
*IDC **04** 05:58:01.2±2.8, 44.68N×149.18E, h0km, mb3.9/7, mb1 4.0/8, mb1mx3.8/21, mbtmp3.9/8, ML3.3/1, MS3.3/4, Ms1 3.3/4, ms1mx3.0/30, Error ellipse: s-maj=80.3km s-min=25.6km az=173.0*
*JMA **04** 05:58:02.8±0.5, 44.32N×149.17E, h30km, M4.1*
*ISCJB **04** 05:58:04.9±1.1, 437N±0.1×149.1E±0.1, h76km±9km, mb4.0/12, Error ellipse: s-maj=20.7km s-min=8.6km az=152.6*
*NEIC **04** 05:58:05.0±1.1, 44.31N×149.07E, h35km, mb4.4/5, Error ellipse: s-maj=28.5km s-min=11.3km az=155.0*
*MOS **04** 05:58:06.5±1.2, 43.76N×149.09E, h54km, mb4.0/7, Error ellipse: s-maj=17.1km s-min=15.0km az=128.1*
ISC 04 05:58:06.6±1.0, 438N±01×1491E±01, h72km±8km, n51, σ0=95/51, mb4.0/12, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NEM2	**Nemuro 2**	**2.44**	**262**	P	**Pn**	**05 58 42.5**	**-1.5**
JRA	**Rausu**	**2.85**	**275**	P	**Pn**	**05 58 49.0**	**-0.7**
JNK	**Nakash**	**3.15**	**269**	P	**Pn**	**05 58 52.7**	**-1.0**
JAK	**Akkeshi**	**3.26**	**258**	P	**Pn**	**05 58 54.5**	**-0.8**
JAK				*e*S	**Sn**	**05 59 32.4**	**-0.5**
JTKR	**Abashiri--Toko**	**3.73**	**275**	P	**Pn**	**05 59 01.2**	**-0.4**
JAR	**Ashorobuto**	**3.87**	**265**	P	**Pn**	**05 59 03.4**	**-0.1**
JMP	**Maruseppu**	**4.12**	**276**	P	**Pn**	**05 59 06.9**	**-0.1**
JCH	**Churui**	**4.31**	**257**	P	**Pn**	**05 59 09.5**	**-0.1**
JCH				*e*S	**Sn**	**05 59 58.8**	**+0.2**
JKK2	**Kamakawa 2**	**4.56**	**274**	P	**Pn**	**05 59 13.5**	**+0.5**
ERM	**Erimo**	**4.66**	**250**	*e*Pn	**Pn**	**05 59 15.8**	**+1.4**
JEM	**Erimo**	**4.66**	**250**	P	**Pn**	**05 59 16.4**	**+2.0**
ASAJ	**Asahikawa**	**4.68**	**277**	Pn	**Pn**	**05 59 15.6**	**+1.0**
	1.2nm,0.3s,baz=90,slow=22,SNR=3.7						
ASAJ				LR	LR	06 01 18.7	
	comp=Z,282nm,19.2s,baz=118,slow=42						
JNBK	**Urakawa-nobuka**	**4.84**	**255**	P	**Pn**	**05 59 17.2**	**+0.3**
JNBK				*e*S	**Sn**	**06 00 10.4**	**-1.2**
JBT2	**Biratori 2**	**4.98**	**261**	P	**Pn**	**05 59 18.6**	**-0.1**
YSS	**Yuzh-Sakhalins**	**5.47**	**308**	*e*PN	**Pn**	**05 59 29.0**	**+3.6**
JNB	**Noboribetsu**	**6.00**	**260**	P	**Pn**	**05 59 33.0**	**+0.3**
JNB				*e*S	**Sn**	**06 00 41.3**	**+1.3**
JKB	**Kayabe**	**6.18**	**255**	P	**Pn**	**05 59 35.2**	**+0.1**
JKB				*e*S	**Sn**	**06 00 43.4**	**-1.0**
JANG	**Nango**	**6.54**	**242**	*e*S	Sx	06 00 51.0	
JTH	**Tanohata**	**6.58**	**237**	P	**Pn**	**05 59 39.3**	**-1.3**
JTH				*e*S	Sx	06 00 50.6	
JYM2	**Yakumo 2**	**6.58**	**259**	P	**Pn**	**05 59 40.8**	**+0.3**
JTM	**Tenmabayashi**	**6.62**	**246**	P	**Pn**	**05 59 41.1**	**0.0**
JTM				*e*S	Sx	06 00 52.9	
JSR	**Shiriuchi**	**6.74**	**254**	P	**Pn**	**05 59 43.0**	**+0.2**
OFUJ	**Ofunato**	**7.25**	**232**	*e*S	Sx	06 01 07.3	
JRG	**Rokugo**	**7.66**	**238**	P	**Pn**	**05 59 55.9**	**+0.5**
JRG				*e*S	Sx	06 01 18.5	
JIO	**Ouri**	**7.86**	**230**	*e*S	Sx	06 01 21.3	
SKR	**Severo-Kuril's**	**8.44**	**32**	*e*PN	**Pn**	**06 00 06.5**	**+0.6**
KSRS	**Korea Array**	**17.21**	**256**	LR	LR	06 09 49.5	
	comp=Z,59nm,18.1s,baz=60,slow=40						
JNU	**Nakatsue**	**17.72**	**239**	LR	LR	06 10 26.2	
	comp=Z,54nm,18.0s,baz=21,slow=41						
SONM	**Songino Array**	**29.74**	**293**	P	**P**	**06 04 06.7**	**+0.8**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.6s						
SONM	**Songino Array**	**29.74**	**293**	P	**P**	**06 04 06.7**	**+0.8**
	comp=Z,0.7nm,0.6s,mb3.5,baz=90,slow=7.9,SNR=3.8						
INK	**Inuvik**	**45.71**	**30**	*e*P	**P**	**06 06 18.6**	**-1.3**
	comp=Z,31nm,0.8s,mb5.1						
MK31	**Makanchi Array**	**45.80**	**298**	*e*P	**P**	**06 06 21.6**	**+0.7**
MKAR	**Makanchi Array**	**45.80**	**298**	P	**P**	**06 06 21.8**	**+0.9**
MKAR				LR	LR	06 26 57.9	
MKAR	**Makanchi Array**	**45.80**	**298**	P	**P**	**06 06 21.8**	**+0.9**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
MKAR				MLR	MLR		
	comp=Z,67nm,19.9s						
MKAR	**Makanchi Array**	**45.80**	**298**	P	**P**	**06 06 21.8**	**+0.9**
	comp=Z,1.3nm,0.5s,mb4.0,baz=74,slow=9.0,SNR=11						
MKAR				LR	LR	06 26 57.9	
	comp=Z,67nm,19.9s,baz=176,slow=38						
KURK	**Kurchatov**	**46.67**	**305**	*e*P	**P**	**06 06 26.0**	**-1.7**
	comp=Z,1.0nm,0.6s,mb3.7						
KURK	**Kurchatov**	**46.67**	**305**	*e*P	**P**	**06 06 26.0**	**-1.6**
KURK				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.7						
TKM2	**Tokmak 2**	**51.75**	**296**	*e*P	**P**	**06 07 08.0**	**+1.5**
	comp=Z,2.7nm,0.8s,mb4.3						
TKM2	**Tokmak 2**	**51.75**	**296**	*e*P	**P**	**06 07 08.0**	**+1.5**
TKM2				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.4						
EKS2	**Erkin-Say**	**53.05**	**297**	*e*P	**P**	**06 07 17.6**	**+1.5**
	comp=Z,2.1nm,0.8s,mb4.2						
YKA	**Yellowknife Ar**	**55.04**	**34**	P	**P**	**06 07 29.8**	**-0.5**
	comp=Z,0.2nm,0.5s,mb3.4,baz=303,slow=7.3,SNR=3.1						
ARU	**Arti**	**55.29**	**317**	*e*P	**P**	**06 07 27.9**	**-4.2**
	comp=Z,5.8nm,0.8s,mb4.7						
ARU	**Arti**	**55.29**	**317**	*e*P	**P**	**06 07 27.9**	**-4.3**
ARU				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.7						
FINES	**FINESS Array B**	**65.50**	**334**	P	**P**	**06 08 40.5**	**-1.2**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.6s						
FINES	**FINESS Array B**	**65.50**	**334**	P	**P**	**06 08 40.5**	**-1.2**
	comp=Z,2.0nm,0.6s,mb4.2,baz=42,slow=6.3,SNR=9.9						
NB2	**NORSAR Subarra**	**70.10**	**340**	P	**P**	**06 09 10.0**	**-0.6**
	comp=Z,1.9nm,0.5s,mb4.2,baz=31,slow=6.5						
NOA	**NORSAR Array B**	**70.10**	**340**	P	**P**	**06 09 09.4**	**-1.2**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
NOA	**NORSAR Array B**	**70.10**	**340**	P	**P**	**06 09 09.4**	**-1.1**
	comp=Z,1.3nm,0.5s,mb4.0,baz=31,slow=6.2,SNR=8.2						
AKASG	**Malin Array Be**	**72.39**	**325**	P	**P**	**06 09 23.6**	**-1.0**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.5s						
AKASG	**Malin Array Be**	**72.39**	**325**	P	**P**	**06 09 23.6**	**-1.0**
	comp=Z,0.9nm,0.5s,mb3.9,baz=36,slow=6.0,SNR=4.2						
TXAR	**Lajitas Array**	**81.50**	**57**	P	**P**	**06 10 17.0**	**+0.8**
	comp=Z,0.2nm,0.5s,mb3.2,baz=296,slow=4.4,SNR=7.2						

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*IDC **04** 05:58:01.9±1.5, 944S×15533E, h0km, mb3.9/7, mb1 4.1/7, mb1mx4.0/13, mbtmp3.9/7, MS3.2/1, Ms1 3.2/1, ms1mx2.8/23, Error ellipse: s-maj=52.0km s-min=23.8km az=117.0*
*NEIC **04** 05:58:03.5±0.6, 936S×155.25E, h10km, mb4.4/7, Error ellipse: s-maj=25.2km s-min=9.9km az=122.0*
*ISCJB **04** 05:58:05.5±0.7, 94S±01×1552E±02, h33km, mb4.1/13, Error ellipse: s-maj=29.5km s-min=11.6km az=31.8*
ISC 04 05:58:07.4±0.7, 94S±01×1552E±02, h35km, n18, σ0=82/17, mb4.1/13, D'Entrecasteaux Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**4.69**	**91**	LR	LR	06 00 41.8	
	comp=Z,257nm,18.9s,baz=0.0,slow=35						
CTAO	**Charters Tower**	**13.70**	**218**	*e*P	**Pn**	**06 01 19.7**	**+0.5**
	9.2nm,1.1s						
WB2	**Warramunga Arr**	**22.70**	**240**	*e*P	**P**	**06 03 05.0**	**-1.1**
WRA	**Warramunga Arr**	**22.71**	**240**	P	**P**	**06 03 06.4**	**+0.1**
	4.6nm,1.1s,mb3.8,baz=62,slow=9.4,SNR=8.5						
ASAR	**Alice Springs**	**24.81**	**233**	P	**P**	**06 03 27.2**	**+0.9**
	1.4nm,0.7s,mb3.6,baz=64,slow=9.7,SNR=12						
STKA	**Stephens Creek**	**25.68**	**207**	*e*P	**P**	**06 03 34.0**	**-0.2**
	2.5nm,0.6s,mb3.9						
STKA	**Stephens Creek**	**25.68**	**207**	P	**P**	**06 03 33.6**	**-0.6**
	4.1nm,0.9s,mb3.9,baz=24,slow=11,SNR=6.9						
FORT	**Forrest**	**33.03**	**226**	*e*P	**P**	**06 04 39.6**	**+0.1**
	1.2nm,0.9s,mb3.8						
SONM	**Songino Array**	**71.45**	**328**	P	**P**	**06 09 25.9**	**+1.7**
	1.7nm,0.8s,mb4.0,baz=138,slow=6.0,SNR=7.0						
BILL	**Bilibino**	**77.64**	**4**	*e*P	**P**	**06 10 00.1**	**+0.3**
	3.1nm,0.9s,mb4.2						
QSPA	**South Pole Qui**	**80.60**	**180**	*e*P	**P**	**06 10 15.9**	**+0.1**
	4.9nm,0.9s,mb4.4						
MCK	**McKinley**	**84.19**	**22**	*e*P	**P**	**06 10 34.5**	**-0.2**
	3.7nm,0.7s,mb4.6						
COLA	**College**	**85.23**	**21**	*e*P	**P**	**06 10 39.3**	**-0.6**
	2.9nm,0.8s,mb4.5						
MKAR	**Makanchi Array**	**85.33**	**319**	P	**P**	**06 10 41.7**	**+0.9**
MKAR	**Makanchi Array**	**85.33**	**319**	P	**P**	**06 10 41.7**	**+0.9**
	0.4nm,0.4s,mb4.0,baz=104,slow=5.1,SNR=4.4						
ZALV	**Zalesovo Beam**	**86.27**	**326**	P	**P**	**06 10 44.3**	**-1.0**
	0.5nm,0.6s,mb3.9,baz=113,slow=3.9,SNR=4.0						
EKS2	**Erkin-Say**	**90.05**	**313**	*e*P	**P**	**06 11 02.1**	**-1.5**
	0.9nm,0.5s,mb4.4						
NVAR	**Mina Array Bea**	**93.04**	**52**	P	**P**	**06 11 18.1**	**+0.4**
	0.9nm,0.9s,mb4.2,baz=226,slow=4.7,SNR=5.8						

NEIC 04 06:00:11.8, 5454N×16164W, h1km, ML4.1(PMR), ML3.5(AEIC), After AEIC., Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SDPT	**Sand Point**	**1.05**	**39**	P	Pg	06 00 29.6	-2.3
SDPT				S	Sg	06 00 44.9	-0.7
FALS	**False Pass**	**1.08**	**288**	P	Pg	06 00 31.3	-1.1
FALS				S	Sg	06 00 47.4	+1.0
AKUT	**Akutan**	**2.45**	**262**	*e*P	Pn	06 00 50.4	-2.4
CHGN	**Chignik**	**2.55**	**45**	*e*P	Pn	06 00 52.6	-1.5
AKLV	**Akutan Long Va**	**2.56**	**263**	P	Pn	06 00 52.1	-2.1
AKLV				S	Sn	06 01 24.2	-1.6
UNV	**Unalaska Valle**	**2.94**	**258**	P	Pn	06 00 57.3	-2.2
SVW2	**Sparrevohn**	**7.33**	**24**	*e*P	Pn	06 01 57.5	-2.2

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*IDC **04** 06:09:40.3±0.5, 674S×154.95E, h0km, mb4.6/18, mb1 4.7/19, mb1mx4.7/20, mbtmp4.6/19, ML3.7/1, MS4.2/6, Ms1 4.2/6, ms1mx3.8/25, Error ellipse: s-maj=18.2km s-min=12.5km az=108.0*
*ISCJB **04** 06:09:41.0±0.2, 678S±004×15491E±003, h10km, mb4.8/60, MS4.5/13, Error ellipse: s-maj=6.4km s-min=4.8km az=168.0*
*NEIC **04** 06:09:42.2±0.2, 679S×154.96E, h10km, mb4.9/26, Error ellipse: s-maj=7.7km s-min=5.0km az=113.0*
*GCMT **04** 06:09:42.2±0.3, 7.12S×154.88E, h28km±1km, MW5.2/38, Moment Tensor Solution. s38,c55; s38,c56; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr5.00±.26; Mθθ-3.51±.20; Mφφ-1.49±.22; Mrθ3.40±.39; Mrφ3.08±.18; Mθφ-2.37±.39; Best double couple: M0=6.78400×10^16 NP1:φs307.00000°, δ26.00000°, λ91.00000°. NP2: φs125.00000°, δ64.00000°, λ89.00000°. Principal axes: T 6.4140, Plg71.0000°, Azm34.0000°; N 0.7410, Plg1.0000°, Azm126.0000°; P -7.1540, Plg19.0000°, Azm216.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*BJI **04** 06:09:44.8, 603S×154.97E, h14km, mB5.1, mb5.0, Ms5.1, Msz4.5*
*MOS **04** 06:09:45.0±0.9, 666S×154.78E, h33km, mb5.1/13, Error ellipse: s-maj=12.1km s-min=9.2km az=105.2*
ISC 04 06:09:42.6±1.6, 682S±005×15497E±003, h11km±9km, h15km±.9km: pP-P, n272, σ0=74/259, mb4.8/60, MS4.5/13, 56C-62D, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**5.57**	**118**	Pn	**Pn**	**06 11 13.0**	**+7.5**
	21nm,0.3s,baz=50,slow=0.9,SNR=2.7						
CTA	**Charters Tower**	**15.67**	**212**	*e*P	**Pn**	**06 13 29.8**	**+6.3**
	15nm,0.9s						
CTA	**Charters Tower**	**15.67**	**212**	*e*P	**Pn**	**06 13 29.8**	**+6.3**
CTA				pmax	pmax		
	comp=Z,15nm,0.9s						
CTA	**Charters Tower**	**15.67**	**212**	Pn	**Pn**	**06 13 23.4**	**-0.1**
	comp=Z,0.2nm,0.3s,baz=41,slow=14,SNR=3.5						
CTAO	**Charters Tower**	**15.67**	**212**	*e*P	**Pn**	**06 13 24.6**	**+1.1**
	comp=Z,298nm,2.3s						
CTAO	**Charters Tower**	**15.67**	**212**	*e*P	**Pn**	**06 13 24.6**	**+1.1**
CTAO				pmax	pmax		
	comp=Z,298nm,2.3s						
EIDS	**Eidsvold**	**18.82**	**191**	*e*P	**Pn**	**06 14 03.0**	**+0.1**
	comp=Z,16nm,1.3s						
GUMO	**Guam**	**22.62**	**334**	LR	LR	06 22 03.0	
	comp=Z,256nm,20.9s,MS3.6,baz=148,slow=33						
ARMA	**Armidale**	**23.69**	**187**	*e*P	**P**	**06 14 54.6**	**+0.1**
WB2	**Warramunga Arr**	**23.88**	**235**	*e*P	**P**	**06 14 56.6**	**+0.1**
WRA	**Warramunga Arr**	**23.89**	**235**	P	**P**	**06 14 55.8**	**-0.8**
WRA						06 18 39.8	
WRA				S	**S**	**06 19 11.6**	**-1.2**
WRA	**Warramunga Arr**	**23.89**	**235**	P	**P**	**06 14 55.8**	**-0.8**
	comp=Z,17nm,0.9s,mb4.5,baz=57,slow=9.4,SNR=17						
WRA				PcP	PcP	06 18 39.8	+0.3
	comp=Z,2.8nm,0.7s,baz=59,slow=2.4,SNR=6.5						
WRA				S	**S**	**06 19 11.6**	**-1.2**
	comp=Z,0.3nm,0.7s,baz=64,slow=2.7,SNR=4.1						
WRA				ScP	ScP	06 22 17.8	-0.2
	comp=Z,3.5nm,1.0s,baz=58,slow=2.8,SNR=8.7						
WRA				LR	LR	06 24 06.6	
	comp=Z,728nm,19.9s,MS4.2,baz=60,slow=36						
ASAR	**Alice Springs**	**26.27**	**228**	P	**P**	**06 15 17.9**	**-0.2**
ASAR						06 18 44.8	
ASAR				S	**S**	**06 19 53.8**	**+3.1**
ASAR	**Alice Springs**	**26.27**	**228**	P	**P**	**06 15 17.9**	**-0.2**
	comp=Z,7.3nm,0.8s,mb4.3,baz=60,slow=8.9,SNR=56						
ASAR				PcP	PcP	06 18 44.8	+0.1
	comp=Z,1.6nm,0.8s,baz=51,slow=3.7,SNR=4.2						
ASAR				S	**S**	**06 19 53.8**	**+3.1**
	comp=Z,0.8nm,0.9s,baz=59,slow=12,SNR=4.6						
ASAR				ScP	ScP	06 22 24.2	-0.4
	comp=Z,2.4nm,1.1s,baz=58,slow=2.6,SNR=6.5						
STKA	**Stephens Creek**	**27.88**	**205**	*e*P	**P**	**06 15 36.4**	**+3.8**
	comp=Z,5.9nm,0.6s,mb4.4						
STKA	**Stephens Creek**	**27.88**	**205**	P	**P**	**06 15 31.9**	**-0.6**
	comp=Z,8.1nm,0.8s,mb4.4,baz=24,slow=12,SNR=4.2						
STKA				ScP	ScP	06 22 28.6	-0.7
	comp=Z,4.0nm,0.9s,baz=49,slow=2.7,SNR=5.1						
STKA				LR	LR	06 26 36.6	
	comp=Z,1μm,19.5s,MS4.4,baz=20,slow=36						
FITZ	**Fitzroy Crossi**	**30.70**	**246**	*e*P	**P**	**06 15 57.5**	**-0.3**
	comp=Z,13nm,0.8s,mb4.8						
FITZ	**Fitzroy Crossi**	**30.70**	**246**	*e*P	**P**	**06 15 57.4**	**-0.4**
	comp=Z,12nm,0.7s,mb4.8						
FITZ	**Fitzroy Crossi**	**30.70**	**246**	P	**P**	**06 15 57.2**	**-0.6**
	comp=Z,5.7nm,0.7s,mb4.5,baz=78,slow=9.3,SNR=20						
FITZ				LR	LR	06 28 25.6	
	comp=Z,758nm,20.1s,MS4.3,baz=76,slow=37						
RAO	**Raoul Island**	**33.93**	**134**	LR	LR	06 27 33.8	
	comp=Z,374nm,18.3s,MS4.2,baz=328,slow=32						
FORT	**Forrest**	**34.70**	**223**	*e*P	**P**	**06 16 30.4**	**-2.2**
	comp=Z,20nm,0.8s,mb5.1						
FORT	**Forrest**	**34.70**	**223**	*e*P	**P**	**06 16 28.8**	**-3.8**
	comp=Z,0.7nm,0.6s,mb3.8						
MBWA	**Marble Bar**	**36.93**	**244**	*e*P	**P**	**06 16 49.7**	**-2.2**
	comp=Z,9.7nm,1.0s,mb4.6						
URZ	**Urewera**	**37.17**	**151**	P	**P**	**06 16 54.2**	**+0.4**
	comp=Z,6.5nm,0.9s,mb4.4,baz=324,slow=3.0,SNR=3.1						
RPZ	**Rata Peaks**	**39.37**	**162**	P	**P**	**06 17 13.2**	**+1.0**
	comp=Z,13nm,0.8s,mb4.7,baz=62,slow=8.4,SNR=4.3						
JHJ	**Hachijo jima 2**	**42.26**	**341**	LR	LR	06 34 04.1	
	comp=Z,254nm,18.2s,MS4.1,baz=87,slow=35						
KLBR	**Kellerberrin**	**42.58**	**230**	*e*P	**P**	**06 17 39.8**	**+1.0**
	comp=Z,32nm,1.3s,mb4.9						
MJAR	**Matsushiro Arr**	**45.90**	**341**	P	**P**	**06 18 05.5**	**+0.2**
	comp=Z,0.9nm,0.5s,mb4.0,baz=148,slow=8.7,SNR=3.6						
QZH	**Quanzhou**	**47.44**	**313**	P	**P**	**06 18 19.1**	**+1.6**
KSRS	**Korea Array**	**50.77**	**332**	P	**P**	**06 18 41.2**	**-1.6**
	comp=Z,3.9nm,0.9s,mb4.3,baz=153,slow=8.4,SNR=7.7						
QIZ	**Qiongzhong**	**51.34**	**301**	P	**P**	**06 18 48.4**	**+0.9**
QIZ				S	**S**	**06 26 06.2**	**-0.8**
QIZ				LR	LR		
	comp=Z,499nm,19.8s,MS4.5						
NJ2	**Nanjing**	**51.76**	**320**	*e*P	**P**	**06 18 50.3**	**-0.1**
NJ2				AP	pP	06 18 55.8	+1.8
NJ2				XP	sP	06 18 57.9	+2.6
NJ2				PP	PP	06 20 47.9	-0.4
NJ2				S	**S**	**06 26 10.0**	**-2.3**
NJ2				XS	sS	06 26 17.0	-1.2
NJ2				AMB	AMB		
	comp=Z,30nm,0.7s,mb5.3						
NJ2				AMB	AMB		
	comp=Z,1μm,5.0s						
ASAJ	**Asahikawa**	**51.91**	**349**	P	**P**	**06 18 51.4**	**+0.1**
	comp=Z,8.4nm,0.6s,mb4.8,baz=322,slow=31,SNR=3.7						
PPT	**Papeete**	**55.08**	**107**	*e*S	**S**	**06 26 55.5**	**-2.4**
	comp=Z,109nm,26.2s						
PPT				*e*LQ		06 32 50.2	
	comp=Z,501nm,30.5s						
PPT				*e*LR	LR	06 35 12.6	
	comp=Z,134nm,20.5s						
TBI	**Tubuai**	**55.77**	**114**	*e*LQ		06 33 14.1	
	comp=Z,688nm,30.8s						
TBI				*e*LR	LR	06 35 35.9	
	comp=Z,274nm,25.8s						
MDJ	**Mudanjiang**	**56.06**	**338**	P	**P**	**06 19 21.9**	**+0.3**
MDJ				AP	pP	06 19 25.1	-0.1
MDJ				XP	sP	06 19 26.4	-0.2
MDJ				SCP	ScP	06 24 18.7	-0.4
MDJ				PCS	PcS	06 24 20.0	0.0
MDJ				S	**S**	**06 27 12.1**	**+1.9**
MDJ				AMB	AMB		
	comp=Z,5.0nm,2.0s,mb4.2						
MDJ				AMB	AMB		
	comp=Z,96nm,4.9s						
MDJ				LR	LR		
	comp=N,233nm,17.7s,MS4.4						
MDJ				LR	LR		
	comp=E,146nm,15.6s,MS4.4						
MDJ				LR	LR		
	comp=Z,215nm,14.4s,MS4.4						
CN2	**Changchun**	**57.02**	**335**	*e*P	**P**	**06 19 30.9**	**+2.5**
GYA	**Guiyang**	**57.32**	**307**	↑/P	**P**	**06 19 31.5**	**+0.6**
GYA				AP	pP	06 19 35.6	+1.1
GYA				XP	sP	06 19 38.9	+3.0
GYA				PCP	PcP	06 20 26.5	+1.4
GYA				PP	PP	06 21 42.4	+4.0
GYA				SCP	ScP	06 24 25.2	+0.1
GYA				S	**S**	**06 27 28.3**	**+0.8**
GYA				SCS	ScS	06 29 19.0	-1.8
GYA				AMB	AMB		
	comp=Z,30nm,1.1s,mb5.2						
GYA				AMB	AMB		
	comp=Z,120nm,8.2s						
GYA				LR	LR		
	comp=N,690nm,20.2s,MS4.9						
GYA				LR	LR		
	comp=E,670nm,19.8s,MS4.9						
GYA				LR	LR		
	comp=Z,920nm,18.9s,MS4.9						
BJI	**Beijing**	**58.76**	**326**	P	**P**	**06 19 41.1**	**+0.4**
BJI				AMB	AMB		
	comp=Z,4.0nm,0.5s,mb4.7						
BJI	**Beijing**	**58.76**	**326**	P	**P**	**06 19 41.1**	**+0.4**
	comp=Z,4.0nm,0.5s,mb4.7						
KLR	**Kul'dur**	**59.39**	**343**	*e*P	**P**	**06 19 39.8**	**-5.1**
XAN	**Xi'an**	**59.56**	**316**	P	**P**	**06 19 47.0**	**+0.6**
XAN				AP	pP	06 19 53.2	+3.2
XAN				AMB	AMB		
	comp=Z,6.0nm,1.2s,mb4.5						
KMI	**Kunming**	**59.89**	**304**	P	**P**	**06 19 50.2**	**+1.3**
KMI				AP	pP	06 19 54.2	+1.7
KMI	

HIA	**Hailar**	63.75	335	*e*P		**P**	06 20 13.8 -0.6
	comp=Z,6.2nm,0.8s,mb4.7						
HIA	**Hailar**	63.75	335	*e*P		**P**	06 20 13.8 -0.6
HIA				pmax		pmax	
	comp=Z,6.0nm,0.8s						
LZH	**Lanzhou**	64.17	316	⇓P		**P**	06 20 18.5 +1.1
LZH				AP		pP	06 20 23.1 +2.0
LZH				XP		sP	06 20 25.6 +3.2
LZH				*e*PP		PP	06 22 42.3 +3.6
LZH				*e*S		**S**	06 28 54.5 -0.2
LZH				XS		sS	06 29 02.2 +1.5
LZH				AMB		AMB	
	comp=Z,29nm,1.5s,mb5.1						
LZH				AMB		AMB	
	comp=Z,112nm,6.5s						
LZH				LR		LR	
	comp=N,912nm,16.3s						
LZH				LR		LR	
	comp=Z,1μm,18.7s,MS5.2						
LZH	**Lanzhou**	64.17	316	⇓P		**P**	06 20 18.5 +1.1
	comp=Z,29nm,1.5s,mb5.1						
LZH				pP		pP	06 20 23.1 +2.0
LZH				sP		sP	06 20 25.6 +3.2
LZH				*e*PP		PP	06 22 42.3 +3.6
LZH				*e*S		**S**	06 28 54.5 -0.2
LZH				sS		sS	06 29 02.2 +1.5
LZH				*e*SS		SS	06 33 05.4 +1.1
LZH				LR		LR	
	comp=Z,1μm,18.7s,MS5.2						
LZH	**Lanzhou**	64.17	316	⇓P		**P**	06 20 18.5 +1.1
LZH				*SP		sP	06 20 25.6 +3.2
LZH				*e*			06 22 42.3
LZH				*e*S		**S**	06 28 54.5 -0.2
LZH				*SS		sS	06 29 02.2 +1.5
LZH				*e*SS		SS	06 33 05.4 +1.1
LZH				pmax		pmax	
	comp=Z,29nm,1.5s,mb5.1						
LZH				MLR		MLR	
	comp=Z,1μm,18.7s,MS5.2						
TAOE	**Nuku Hiva Isla**	64.24	97	*e*LR		LR	06 39 25.5
	comp=Z,6μm,22.1s						
MA2	**Magadan**	66.26	358	*e*P		**P**	06 20 30.0 -0.5
	comp=Z,9.6nm,0.7s,mb4.9						
MA2	**Magadan**	66.26	358	*e*P		**P**	06 20 30.0 -0.5
MA2				pmax		pmax	
	comp=Z,10.0nm,0.7s,mb5.0						
CIT	**Chita**	68.44	334	*e*P		**P**	06 20 44.4 -0.1
GTA	**Gaotai**	68.59	317	*e*P		**P**	06 20 46.2 +0.5
GTA				AP		pP	06 20 50.3 +0.9
GTA				XP		sP	06 20 53.2 +2.5
GTA				PP		PP	06 23 20.6 +3.3
GTA				S		S	06 29 50.7 +2.4
GTA				XS		sS	06 29 58.7 +4.4
GTA				SCS		ScS	06 30 39.4 -6.4
GTA				AMB		AMB	
	comp=Z,8.0nm,1.2s,mb4.5						
GTA				AMB		AMB	
	comp=Z,116nm,8.0s						
GTA				LR		LR	
	comp=N,560nm,9.9s						
GTA				LR		LR	
	comp=E,664nm,11.5s						
GTA				LR		LR	
	comp=Z,1μm,11.9s,MS5.3						
ULN	**Ulaanbaatar**	68.84	328	*e*P		**P**	06 20 47.4 +0.3
	comp=Z,7.6nm,1.0s,mb4.6						
ULN	**Ulaanbaatar**	68.84	328	*e*P		**P**	06 20 47.4 +0.3
ULN				pmax		pmax	
	comp=Z,8.0nm,1.0s,mb4.6						
RKT	**Rikitea**	69.03	112	*e*LR		LR	06 41 43.7
	comp=Z,436nm,23.5s						
SONM	**Songino Array**	69.17	327	P		**P**	06 20 49.4 +0.3
	comp=Z,5.0nm,0.9s,mb4.5,baz=132,slow=6.5,SNR=16						
SHL	**Shillong**	69.18	301	*i* P		**P**	06 20 50.0 +0.3
	comp=Z,9.0nm,1.0s,mb4.7						
SHL				*e*S		S	06 29 55.0 -0.8
SEY	**Seymchan**	69.58	359⇑	*e*P		**P**	06 20 48.9 -2.4
VNDA	**Vanda**	70.76	178	*e*P		**P**	06 20 58.9 +0.5
	comp=Z,6.2nm,1.2s,mb4.4						
VNDA	**Vanda**	70.76	178	*e*P		**P**	06 20 58.9 +0.5
VNDA				pmax		pmax	
	comp=Z,6.0nm,1.2s						
VNDA	**Vanda**	70.76	178	P		**P**	06 20 59.2 +0.8
	comp=Z,1.9nm,0.8s,mb4.1,baz=335,slow=5.7,SNR=8.6						
LSA	**Lhasa**	71.15	304	P		**P**	06 21 03.1 +1.4
LSA				AMB		AMB	
	comp=Z,20nm,1.0s,mb5.0						
LSA	**Lhasa**	71.15	304	*e*P		**P**	06 21 03.1 +1.4
	comp=Z,9.8nm,0.7s,mb4.8						
LSA	**Lhasa**	71.15	304	*e*P		**P**	06 21 03.1 +1.4
LSA				pmax		pmax	
	comp=Z,10.0nm,0.7s,mb4.8						
ZAK	**Zakamensk**	72.33	328	*e*P		**P**	06 21 07.2 -1.1
ZAK				pmax		pmax	
	comp=Z,6.0nm,1.1s,mb4.4						
BOD	**Bodaibo**	72.44	338	*e*P		**P**	06 21 05.8 -3.0
BOD				pmax		pmax	
	comp=Z,3.0nm,1.3s,mb4.1						
TLY	**Talaya**	72.90	329	*e*P		**P**	06 21 11.1 -0.6
	comp=Z,1.9nm,0.7s,mb4.1						
TLY	**Talaya**	72.90	329	*e*P		**P**	06 21 10.6 -1.0
TLY				pmax		pmax	
	comp=Z,4.0nm,1.7s,mb4.1						
BOK	**Bokaro**	73.89	297	*e*P		**P**	06 21 16.7 -1.4
BOK				AMb		AMB	06 21 20.6
	comp=Z,31nm,1.1s,mb5.2						
BOK				*i* x		x	06 21 28.4
JIRN	**Jiri**	74.67	301	*e*P		**P**	06 21 23.2 +0.6
	comp=Z,3.3nm,0.2s,mb4.8						
VIS	**Vishakhapatnam**	74.78	290	*ex*		x	06 22 41.3
VIS				AMb		AMB	06 22 49.1
	comp=Z,30nm,1.8s,mb4.9						
BILL	**Bilibino**	75.11	4	*e*P		**P**	06 21 24.1 -0.2
	comp=Z,15nm,0.9s,mb4.9						
BILL	**Bilibino**	75.11	4	*e*P		**P**	06 21 24.1 -0.1
BILL				pmax		pmax	
	comp=Z,15nm,0.9s,mb4.9						
PALK	**Pallekele**	75.38	279	*e*P		**P**	06 21 25.5 -1.5
	comp=Z,18nm,1.3s,mb4.8						
KKN	**Kakani**	75.48	301	*e*P		**P**	06 21 27.1 -0.2
	comp=Z,55nm,0.9s,mb5.5						
GKN	**Gorkha**	76.08	301	*e*P		**P**	06 21 30.6 -0.1
	comp=Z,146nm,1.1s,mb5.8						
BLSP	**Bilaspur**	76.84	295	*e*P		**P**	06 21 34.1 -1.1
BLSP				AMb		AMB	06 21 36.7
	comp=Z,27nm,1.0s,mb5.1						
KOLN	**Koldanda**	76.91	300	*e*P		**P**	06 21 35.0 -0.4
	comp=Z,81nm,1.1s,mb5.6						
SVW2	**Sparrevohn**	77.84	22	*e*P		**P**	06 21 40.4 +0.5
WMQ	**Urumqi**	78.68	317	*e*P		**P**	06 21 45.2 +0.3
TTA	**Tatalina**	78.87	21	*e*P		**P**	06 21 46.1 +0.6
KOD	**Kodaikanal**	79.00	282	*e*P		**P**	06 21 48.5 +1.2
KOD				AMb		AMB	06 21 50.3
	comp=Z,22nm,0.9s,mb5.1						
NGP	**Nagpur**	79.44	293	*e*P		**P**	06 21 48.1 -1.4
NGP				AMb		AMB	06 21 50.0
	comp=Z,37nm,1.5s,mb5.1						
SLKM	**Skilak Lake**	79.59	24	*e*P		**P**	06 21 49.3 -0.2
TIXI	**Tiksi**	80.18	352	*e*P		**P**	06 21 52.5 0.0
TIXI				pmax		pmax	
	comp=Z,3.0nm,2.0s,mb3.9						
PMR	**Palmer**	80.64	24	*e*P		**P**	06 21 54.5 -0.7
	comp=Z,14nm,0.8s,mb4.9						
PMR	**Palmer**	80.64	24	*e*P		**P**	06 21 54.5 -0.7
PMR				pmax		pmax	
	comp=Z,14nm,0.8s,mb4.9						
SML	**Sawmill**	81.08	24	*e*P		**P**	06 21 57.8 +0.3
AKL	**Akola**	81.22	292	*e*P		**P**	06 21 59.1 -0.1
BHPL	**Bhopal**	81.33	295	*e*P		**P**	06 21 59.8 +0.1
IMA2	**Indian Mountai**	81.64	19	*e*P		**P**	06 21 59.6 -0.8
MCK	**McKinley**	81.90	22	*e*P		**P**	06 22 01.2 -0.6
	comp=Z,23nm,1.0s,mb5.0						
MCK	**McKinley**	81.90	22	*e*P		**P**	06 22 01.2 -0.6
MCK				pmax		pmax	
	comp=Z,23nm,1.0s,mb5.1						
NDI	**New Delhi**	82.60	300	*e*P		**P**	06 22 05.4 -0.9
COLA	**College**	82.93	21	*e*P		**P**	06 22 05.8 -1.4
	comp=Z,14nm,1.2s,mb4.9						
COLA	**College**	82.93	21	*e*P		**P**	06 22 05.8 -1.4
COLA				pmax		pmax	
	comp=Z,14nm,1.2s,mb4.9						
SMLA	**Simla**	83.15	302	*e*P		**P**	06 22 08.2 -0.9
QSPA	**South Pole Qui**	83.16	180	*e*P		**P**	06 22 08.5 +0.3
	comp=Z,22nm,0.9s,mb5.2						
MK31	**Makanchi Array**	83.25	319	*e*P		**P**	06 22 09.4 +0.1
MKAR	**Makanchi Array**	83.25	319	P		**P**	06 22 08.8 -0.5
MKAR	**Makanchi Array**	83.25	319	P		**P**	06 22 08.8 -0.5
	comp=Z,6.0nm,0.8s,mb4.7,baz=100,slow=6.3,SNR=33						
POO	**Poona**	83.79	289	*e*P		**P**	06 22 12.3 -0.3
ZALV	**Zalesovo Beam**	84.02	326	P		**P**	06 22 10.7 -2.3
	comp=Z,2.7nm,0.7s,mb4.5,baz=102,slow=5.8,SNR=16						
ZAL	**Zalesovo**	84.03	326	P		**P**	06 22 10.7 -2.3
AJM	**Ajmer**	84.42	297	*e*P		**P**	06 22 15.0 -0.7
MAW	**Mawson**	84.55	203	P		**P**	06 22 15.5 0.0
	comp=Z,2.8nm,0.7s,mb4.5,baz=105,slow=12,SNR=2.7						
EGAK	**Eagle**	85.36	23	*e*P		**P**	06 22 20.0 +0.4
	comp=Z,8.0nm,0.8s,mb4.9						
SKAG	**Skagway**	85.73	29	*e*P		**P**	06 22 22.1 +0.6
DAWY	**Dawson**	85.75	24	*e*P		**P**	06 22 22.2 +0.7
KSH	**Kashi**	85.88	310	*e*P		**P**	06 22 25.2 +2.5
KSH				AP		pP	06 22 29.6 +3.1
KSH				XP		sP	06 22 32.1 +4.3
KSH				PP		PP	06 25 48.2 +5.7
KSH				SKS			06 32 48.4
KSH				S		S	06 32 58.6 +2.4
KSH				XS		sS	06 33 06.3 +3.9
KURK	**Kurchatov**	86.67	322	*e*P		**P**	06 22 24.8 -1.6
	comp=Z,1.3nm,0.6s,mb4.3						
KURK	**Kurchatov**	86.67	322	*e*P		**P**	06 22 24.8 -1.6
KURK				pmax		pmax	
	comp=Z,1.0nm,0.6s,mb4.2						
DLBC	**Dease Lake**	88.00	31	*e*P		**P**	06 22 33.0 +0.3
AML	**Almayashu**	88.09	313	*e*P		**P**	06 22 34.3 +0.9
	comp=Z,4.9nm,0.9s,mb4.7						
N02C	**Big Bar**	88.19	49	⇑P		**P**	06 22 33.4 -0.5
	baz=88						
L02A	**Cave Junction**	88.21	47	⇓P		**P**	06 22 34.0 0.0
	baz=88						
O02C	**Red Bluff**	88.46	49	⇑P		**P**	06 22 35.1 -0.1
	baz=88						
J02A	**Umpqua**	88.46	46	⇑P		**P**	06 22 35.2 0.0
	baz=88						
M02C	**Callahan**	88.62	48	⇓P		**P**	06 22 35.9 0.0
	baz=89						
J03A	**Ideyld Park**	88.90	46	⇓P		**P**	06 22 37.2 0.0
	baz=89						
H03A	**Soap Creek Ran**	88.90	45	⇑P		**P**	06 22 37.4 +0.2
	baz=89						
F03A	**Seaside**	88.95	44	⇑P		**P**	06 22 37.4 0.0
	baz=89						
V03C	**Hunter Liggett**	88.97	54	⇓P		**P**	06 22 37.9 +0.2
	baz=89						
E03A	**Lebam**	89.06	43	⇑P		**P**	06 22 38.3 +0.3
	baz=89						
M03C	**McCloud**	89.15	48	⇑P		**P**	06 22 38.5 +0.1
	baz=89						
U04C	**Hernandez Rese**	89.39	53	⇑P		**P**	06 22 39.3 -0.3
	baz=89						
J04A	**Umpqua Nationa**	89.49	46	⇓P		**P**	06 22 40.0 0.0
	baz=90						
INK	**Inuvik**	89.56	21	*e*P		**P**	06 22 39.2 -0.6
	comp=Z,390nm,1.2s,mb6.6						
INK	**Inuvik**	89.56	21	P		**P**	06 22 38.9 -0.9
	comp=Z,4.6nm,1.0s,mb4.8,baz=249,slow=4.5,SNR=12						
C04A	**Brinnon**	89.68	42	⇑P		**P**	06 22 40.6 -0.1
	baz=90						
H04A	**Detroit Lake**	89.68	45	⇑P		**P**	06 22 40.4 -0.5
	baz=90						
O04C	**Chester**	89.77	49	⇓P		**P**	06 22 41.0 -0.3
	baz=90						
LAVA	**Lava Cap Winer**	89.79	51	⇓P		**P**	06 22 41.0 -0.5
	baz=90						
J05A	**Fort Rock**	90.13	47	⇑P		**P**	06 22 42.9 0.0
	baz=90						
K05A	**Summer Lake**	90.29	47	⇓P		**P**	06 22 43.8 +0.1
	baz=90						
E05A	**Randle**	90.29	43	⇓P		**P**	06 22 43.3 -0.3
	baz=90						
R05C	**Kirkwood Meado**	90.30	51	⇓P		**P**	06 22 43.8 0.0
	baz=90						
T06C	**Millerton Lake**	90.34	53	⇑P		**P**	06 22 44.0 -0.1
	baz=90						
O06A	**Flanigan**	90.70	50	⇓P		**P**	06 22 45.6 -0.1
	baz=91						
R06C	**Coleville**	90.75	51	⇑P		**P**	06 22 46.2 +0.2
	baz=91						
K06A	**Valley Falls**	90.77	47	⇑P		**P**	06 22 45.8 -0.2
	baz=91						
N06A	**Buffalo Meadow**	90.78	49	⇑P		**P**	06 22 46.3 +0.3
	baz=91						
E06A	**Yakima**	90.82	43	⇓P		**P**	06 22 45.8 -0.3
	baz=91						
HELL	**Mitchell Peak**	90.84	53	⇑P		**P**	06 22 46.1 -0.4
	baz=91						
J06A	**Christmas Vall**	90.90	47	⇑P		**P**	06 22 46.4 -0.2
	baz=91						
I06A	**Prineville**	90.96	46	⇑P		**P**	06 22 47.1 +0.2
	baz=91						
H06A	**Lindquist Farm**	90.99	45	⇓P		**P**	06 22 46.5 -0.5
	baz=91						
R07C	**Lee Vining**	91.01	52	⇓P		**P**	06 22 48.0 +0.8
	baz=91						
MWC	**Mount Wilson**	91.30	56	*e*P		**P**	06 22 48.8 +0.1
L07A	**Adell**	91.32	48	⇓P		**P**	06 22 48.8 +0.3
	baz=91						
M07A	**Soldier Meadow**	91.36	49	⇑P		**P**	06 22 49.1 +0.4
	baz=91						
N07B	**Gerlach**	91.43	49	⇑P		**P**	06 22 49.2 +0.1
	baz=92						
K07A	**Rock Creek Ran**	91.48	47	⇓P		**P**	06 22 49.5 +0.2
	baz=92						
I07A	**Izee**	91.49	46	⇑P		**P**	06 22 49.0 -0.3
	baz=92						
H07A	**Lands Inn, Kim**	91.52	45	⇓P		**P**	06 22 49.4 0.0
	baz=92						
G07A	**Ruggs Ranch, H**	91.54	45	⇑P		**P**	06 22 49.0 -0.5
	baz=92						
A07A	**Ashnola River,**	91.60	41	⇓P		**P**	06 22 49.3 -0.4
	baz=92						
D07A	**Quincy**	91.60	43	⇓P		**P**	06 22 49.0 -0.7
	baz=92						
S08C	**White Mtn Res**	91.62	53	⇑P		**P**	06 22 50.3 +0.3
	baz=92						
NVAR	**Mina Array Bea**	91.63	52	P		**P**	06 22 50.3 +0.2
	comp=Z,4.2nm,0.8s,mb4.8,baz=247,slow=4.4,SNR=32						
M08A	**Happy Creek Ra**	91.96	49	⇑P		**P**	06 22 51.8 +0.2
	baz=92						
Q08A	**Gabbs**	91.98	51	⇓P		**P**	06 22 52.0 +0.3
	baz=92,SNR=8.6						
G08A	**Pilot Rock**	92.04	45	⇓P		**P**	06 22 51.4 -0.4
	baz=92						
N08A	**CE Springer Mi**	92.06	49	⇓P		**P**	06 22 52.5 +0.5
	baz=92						
L08A	**Fields**	92.08	48	⇑P		**P**	06 22 52.2 +0.1
	baz=92						
J08A	**Circle Bar Ran**	92.13	47	⇓P		**P**	06 22 51.7 -0.6
	baz=92						
H08A	**Prairie City**	92.14	46	⇓P		**P**	06 22 51.2 -1.0
	baz=92						
B08A	**Colville Reser**	92.19	42	⇑P		**P**	06 22 52.1 -0.3
	baz=92						
D08A	**Wollman Farm,**	92.29	43	⇓P		**P**	06 22 52.2 -0.7
	baz=92						
C08A	**Higginbotham F**	92.31	42	⇑P		**P**	06 22 52.4 -0.6
	baz=92						
A08A	**Turner Farm, O**	92.31	41	⇓P		**P**	06 22 52.5 -0.4
	baz=92						
S09A	**Goldfield**	92.39	52	⇓P		**P**	06 22 54.1 +0.5
	baz=92,SNR=14						
N09A	**Rock Creek Ran**	92.53	49	⇑P		**P**	06 22 54.3 +0.1
	baz=93						
Q09A	**Carvers**	92.56	51	⇑P		**P**	06 22 54.5 +0.2
	baz=93						
L09A	**Wilkinson Ranc**	92.56	48	⇓P		**P**	06 22 54.4 +0.1
	baz=93						
R09A	**Tonopah**	92.57	52	⇑P		**P**	06 22 55.1 +0.6
	baz=93,SNR=7.8						
K09A	**Rome**	92.60	47	⇓P		**P**	06 22 54.6 +0.1
	baz=93						
M09A	**Marrel Ranch,**	92.65	49	⇑P		**P**	06 22 54.9 +0.2
	baz=93						
J09A	**Fry Pan Ranch,**	92.65	47	⇑P		**P**	06 22 54.6 -0.1
	baz=93						
P09A	**Austin**	92.67	51	⇓P		**P**	06 22 54.8 -0.1
	baz=93						
O09A	**Fish Creek Ran**	92.70	50	⇑P		**P**	06 22 55.7 +0.7
	baz=93,SNR=8.5						
D09A	**Jones Farm, Ri**	92.71	43	⇓P		**P**	06 22 54.2 -0.6
	baz=93						
E09A	**Wood Farm, Sta**	92.75	44	⇓P		**P**	06 22 54.8 -0.3
	baz=93						
S10A	**Tonopah Range,**	92.91	52	⇑P		**P**	06 22 56.9 +0.9
	baz=93,SNR=10						
B09A	**Rice**	92.98	42	⇓P		**P**	06 22 55.5 -0.6
	baz=93						
TPNV	**Topopah Spring**	93.08	53	*e*P		**P**	06 22 56.9 +0.1
	comp=Z,33nm,1.9s,mb5.4						
TPNV	**Topopah Spring**	93.08	53	*e*P		**P**	06 22 56.9 +0.1
TPNV				pmax		pmax	
	comp=Z,33nm,1.9s,mb5.4						
Q10A	**Clear Creek Ra**	93.16	51	⇑P		**P**	06 22 57.4 +0.3
	baz=93,SNR=5.1						
P10A	**Eureka**	93.20	51	⇓P		**P**	06 22 57.4 +0.2
	baz=93						
K10A	**MacKenzie Ranc**	93.23	47	⇑P		**P**	06 22 57.0 -0.4
	baz=93						
F10A	**Beach Ranch, E**	93.33	44	⇓P		**P**	06 22 57.4 -0.3
	baz=93						
G10A	**Bishop Farm, J**	93.33	45	P		**P**	06 22 57.4 -0.4
	baz=93,SNR=7.2						
D10A	**Wagner Farm, O**	93.41	43	⇑P		**P**	06 22 57.6 -0.5
	baz=94						
L10A	**Juniper Basin**	93.45	48	⇑P		**P**	06 22 58.1 -0.3
	baz=94						
H10A	**Noah's Angus R**	93.51	46	⇓P		**P**	06 22 58.2 -0.5
	baz=94						
V11A	**Goodsprings**	93.62	55	⇓P		**P**	06 22 59.6 +0.3
	baz=94						
Q11A	**Duckwater**	93.74	51	⇑P		**P**	06 23 00.2 +0.4
	baz=94,SNR=11						
R11A	**Troy Canyon, C**	93.75	52	⇑P		**P**	06 23 00.1 +0.2
	baz=94						
LDFC	**Landfair**	93.81	55	*e*P		**P**	06 23 00.4 +0.2
O11A	**Cowboy Ranch,**	93.87	50	⇓P		**P**	06 23 00.9 +0.5
	baz=94,SNR=6.1						
M11A	**Holland Ranch,**	93.89	49	⇑P		**P**	06 23 00.6 +0.2
	baz=94						
T11A	**Corn Creek, Al**	93.93	53	⇓P		**P**	06 23 01.0 +0.3
	baz=94						
G11A	**Walters Elk Ra**	93.93	45	⇑P		**P**	06 23 00.2 -0.3
	baz=94						
H11A	**Donnelly**	94.05	46	⇑P		**P**	06 23 00.5 -0.6
	baz=94						
E11A	**Bogner Ranch,**	94.07	44	⇓P		**P**	06 23 00.5 -0.7
	baz=94						
V12A	**Nelson**	94.08	55	⇓P		**P**	06 23 01.5 0.0
	baz=94						
A11A	**Hall Mountain,**	94.22	41	⇓P		**P**	06 23 01.7 0.0
	baz=94						
P12A	**McGill**	94.38	51	⇓P		**P**	06 23 03.0 +0.2
	baz=94						
Q12A	**Willow Creek R**	94.40	51	⇓P		**P**	06 23 03.4 +0.6
	baz=94,SNR=6.4						
N12A	**Clover Valley,**	94.40	50	⇑P		**P**	06 23 03.3 +0.5
	baz=94,SNR=7.5						
R12A	**Pony Springs,**	94.51	52	P		**P**	06 23 04.4 +1.0
	baz=95,SNR=5.9						
L12A	**House Creek Ra**	94.53	48	⇑P		**P**	06 23 03.8 +0.4
	baz=95						
M12A	**Wells**	94.55	49	⇓P		**P**	06 23 03.7 +0.3
	baz=95						
J12A	**Stokes Ranch,**	94.57	47	⇑P		**P**	06 23 03.5 0.0
	baz=95						
O12A	**Currie**	94.57	50	⇓P		**P**	06 23 03.7 +0.1
	baz=95,SNR=5.1						
K12A	**Draper Farm, C**	94.66	48	⇓P		**P**	06 23 04.1 +0.2
	baz=95						
D12A	**Red Ives Fores**	94.72	43	⇑P		**P**	06 23 03.7 -0.4
	baz=95						
W13A	**Hualapai Mount**	94.81	55	⇓P		**P**	06 23 05.2 +0.3
	baz=95						
X13A	**Yucca**	94.81	56	⇓P		**P**	06 23 04.8 0.0
	baz=95						
U13A	**Pakoon Wash**	94.86	54	⇓P		**P**	06 23 05.1 +0.1
	baz=95						
T13A	**Saint George**	94.95	53	⇓P		**P**	06 23 06.1 +0.6
	baz=95						
S13A	**Holt Ranch, En**	95.03	53	P		**P**	06 23 07.2 +1.4
	baz=95,SNR=6.5						
P13A	**Bates Ranch, G**	95.06	51	⇓P		**P**	06 23 06.3 +0.5
	baz=95						
M13A	**Montello**	95.10	49	P		**P**	06 23 06.8 +0.8
	baz=95,SNR=6.2						
O13A	**Hicks Ranch, I**	95.15	50	⇑P		**P**	06 23 07.1 +0.8
	baz=95						
H13A	**Challis**	95.28	46	⇓P		**P**	06 23 06.5 -0.3
	baz=95						
F13A	**Darby**	95.32	45	⇓P		**P**	06 23 07.0 +0.1
	baz=95						
I13A	**Wildhorse Cree**	95.33	47	⇓P		**P**	06 23 07.1 +0.1
	baz=95						
B13A	**Whitefish**	95.42	42	⇑P		**P**	06 23 07.0 -0.3
	baz=96						
U14A	**Mt Trumbull**	95.49	54	⇓P		**P**	06 23 08.5 +0.6
	baz=96						
V14A	**Boquillas Ranc**	95.49	55	⇑P		**P**	06 23 08.2 +0.3
	baz=96						
T14A	**Hurricane**	95.61	53	⇑P		**P**	06 23 09.4 +1.0
	baz=96						
M14A	**Sheep Mountain**	95.73	49	⇓P		**P**	06 23 09.1 +0.2
	baz=96						
N14A	**Grayback Hills**	95.80	50	⇓P		**P**	06 23 09.3 +0.1
	baz=96						
YKW3	**Yellowknife Ar**	96.19	28	*e*P		**P**	06 23 10.9 +0.4
YKA	**Yellowknife Ar**	96.19	28	P		**P**	06 23 09.9 -0.5
YKA	**Yellowknife Ar**	96.19	28	P		**P**	06 23 09.9 -0.5
	comp=Z,9.0nm,0.8s,mb5.2,baz=268,slow=4.6,SNR=115						
M15A	**Larsen Ranch,**	96.40	49	⇑P		**P**	06 23 11.7 -0.2
	baz=96						
EDM	**Edmonton**	96.42	37	*e*P		**P**	06 23 11.6 -0.1
E15A	**Deer Lodge**	96.54	44	⇑P		**P**	06 23 13.0 +0.6
	baz=97						
G15A	**Dillon**	96.58	45	⇓P		**P**	06 23 12.8 +0.2
	baz=97						
WUAZ	**Wupatki**	96.89	55	*e*P		**P**	06 23 14.5 +0.2
BW06	**Boulder Array**	98.60	48	*e*P		**P**	06 23 21.2 -0.6
PDAR	**Pinedale Array**	98.60	48	P		**P**	06 23 20.4 -1.5
	comp=Z,1.8nm,0.9s,mb4.6,baz=253,slow=2.2,SNR=11						
PLCA	**Paso Flores**	116.88	143	P

NEIC ***04*** *06:10:53.4, 3835N×2201E, h16km, MD3.5(ATH), After ATH.*
ATH ***04*** *06:10:53.4, 3835N×2201E, h16km±1km, MD3.5/7*
SKO ***04*** *06:10:55.0, 3845N×2218E, h0km*
ISC 04 06:10:53.5±0.7, 3837N±003×2203E±004, h5km±6km, n19, σ1°09/27, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RLS	**Riolos of Patr**	**0.54**	**235**	*e*PN	**Pg**	**06 11 03.7**	**-0.2**
RLS				*e*SN	**Sg**	**06 11 11.5**	**+0.6**
EVR	**Evrytania**	**0.57**	**343**	*e*PN	**Pg**	**06 11 04.3**	**-0.3**
EVR				*e*SN	**Sg**	**06 11 13.4**	**+1.4**
AGG	**Agios Georgios**	**0.69**	**20**	*e*Pg	**Pg**	**06 11 06.0**	**-0.9**
AGG				*e*Sg	**Sg**	**06 11 16.8**	**+1.0**
LKR	**Lokris**	**0.81**	**69**	*e*PB	**Pb**	**06 11 08.8**	**-1.3**
LKR				*e*SN	**Sg**	**06 11 21.4**	**+1.8**
LKD	**Levkas**	**1.13**	**288**	*e*Pg	**Pg**	**06 11 14.4**	**-0.8**
LKD				*e*Sg	**Sg**	**06 11 30.8**	**+0.8**
VLS	**Valsamata**	**1.15**	**261**	*e*PN	**Pn**	**06 11 14.3**	**-1.9**
ITM	**Ithomi**	**1.19**	**184**	*e*PN	**Pn**	**06 11 16.0**	**-0.7**
THL	**Klokotos Trika**	**1.20**	**359**	*e*PN	**Pn**	**06 11 16.3**	**-0.6**
THL				*e*SN	**Sn**	**06 11 33.6**	**+0.1**
NEO	**Neokhori**	**1.32**	**44**	*e*PN	**Pn**	**06 11 18.7**	**+0.1**
ATH	**Athens Observa**	**1.39**	**106**	*e*PN	**Pn**	**06 11 19.3**	**-0.2**
MEV	**Metsovon**	**1.55**	**336**	*e*Pg	**Pg**	**06 11 21.8**	**-1.3**
AOS	**Alonnisos**	**1.65**	**60**	*e*Pb	**Pb**	**06 11 22.6**	**-1.9**
LIT	**Litokhoron**	**1.77**	**12**	*e*Pb	**Pb**	**06 11 24.3**	**-2.1**
LIT				*e*Sb	**Sb**	**06 11 48.7**	**-0.2**
VLI	**Veliai**	**1.80**	**156**	*e*PN	**Pn**	**06 11 25.7**	**+0.6**
VLI				*e*SN	**Sn**	**06 11 49.7**	**+1.4**
KEK	**Kerkira**	**2.20**	**308**	*e*PN	**Pn**	**06 11 32.0**	**+1.4**
PLG	**Polygyros**	**2.29**	**28**	*e*PN	**Pn**	**06 11 32.2**	**+0.4**
KNT	**Kendrikon**	**2.87**	**13**	*e*Pn	**Pn**	**06 11 40.3**	**+0.4**
KRUS	**Krusevo**	**3.06**	**349**	*e*Pn	**Pn**	**06 11 44.7**	**+2.3**
CHOS	**Chios island**	**3.16**	**88**	*e*Pn	**Pn**	**06 11 43.9**	**0.0**

IDC 04 06:17:38.2±2.0, 2057S×16867E, h0km, mb4.1/5, mb1 4.3/6, mb1mx4.0/15, mbtmp4.0/6, ML3.4/1, MS4.1/1, Ms1 4.1/1, ms1mx2.7/24, Error ellipse: s-maj=79.2km s-min=25.2km az=145.0, Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**2.56**	**234**	*e*P	Pn	06 18 20.6	-0.4
DZM				*e*S	Sn	06 18 51.7	-1.2
DZM	**Mont Dzumac**	**2.56**	**234**	Pn	Pn	06 18 20.4	-0.6
8.0nm,0.3s,baz=128,slow=23,SNR=31							
DZM				Sn	Sn	06 18 52.3	-0.6
46nm,0.3s,baz=250,slow=19,SNR=9.6							
RPZ	**Rata Peaks**	**23.17**	**176**	LR	LR	06 30 26.5	
comp=Z,484nm,19.5s,baz=329,slow=33							
STKA	**Stephens Creek**	**26.70**	**240**	P	P	06 23 19.9	+0.7
0.8nm,0.3s,baz=81,slow=7.2,SNR=3.2							
WRA	**Warramunga Arr**	**32.18**	**265**	P	P	06 24 07.5	-0.6
0.8nm,0.5s,baz=91,slow=8.6,SNR=13							
ASAR	**Alice Springs**	**32.31**	**258**	P	P	06 24 08.9	-0.2
3.2nm,0.8s,baz=90,slow=9.3,SNR=25							
FITZ	**Fitzroy Crossi**	**40.60**	**266**	P	P	06 25 20.5	+0.5
2.9nm,0.6s,baz=84,slow=11,SNR=13							
NVAR	**Mina Array Bea**	**90.07**	**49**	P	P	06 30 39.3	-0.8
0.4nm,0.7s,baz=228,slow=5.4,SNR=2.7							
GERES	**GERESS Array B**	**145.39**	**331**	PKPbc	PKPbc	06 37 18.6	+0.7
0.8nm,0.6s,baz=343,slow=3.1,SNR=3.5							

CSEM ***04*** *06:21:49.5, 3829N×2047E, h8km, MD3.5/5, After ATH*
NEIC ***04*** *06:21:49.5, 3829N×2047E, h8km, MD3.5(ATH), After ATH.*
ATH 04 06:21:49.6, 3828N×2048E, h9km±2km, MD3.5/5, 1D, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.13**	**140**	⇓*i*PG	Pg	06 21 52.7	+0.1
VLS				*e*SG	Sg	06 21 55.6	+1.0
LKD	**Levkas**	**0.45**	**17**	*e*P	Pg	06 21 56.5	-1.8
LKD				*e*S	Sg	06 22 01.1	-3.1
RLS	**Riolos of Patr**	**0.81**	**106**	*e*PG	Pg	06 22 04.7	-0.5
RLS				*e*SB	Sb	06 22 15.7	-1.1
EVR	**Evrytania**	**1.22**	**58**	*e*PB	Pb	06 22 13.2	+0.4
EVR				*e*SB	Sb	06 22 29.1	+0.4
KEK	**Kerkira**	**1.53**	**340**	*e*PG	Pg	06 22 18.0	-0.9
ITM	**Ithomi**	**1.59**	**133**	*e*PB	Pb	06 22 20.0	+0.9
ITM	**Ithomi**	**1.59**	**133**	*e*Pb	Pb	06 22 20.6	+1.5
MEV	**Metsovon**	**1.61**	**21**	*e*P	Pn	06 22 23.6	+5.4
AGG	**Agios Georgios**	**1.63**	**62**	*e*P	Pn	06 22 19.8	+1.4
THL	**Klokotos Trika**	**1.75**	**43**	*e*PG	Pg	06 22 22.0	-1.2
LKR	**Lokris**	**2.01**	**79**	*e*PG	Pg	06 22 26.6	-1.6
VLI	**Veliai**	**2.50**	**128**	*e*PN	Pn	06 22 32.5	+2.1

BJI ***04*** *06:27:16.4, 2322N×14380E, h31km, mB4.8, mb4.7*
ISCJB ***04*** *06:27:17.5±0.3, 2330N±005×14334E±008, h29km, mb4.4/43, Error ellipse: s-maj=10.2km s-min=6.3km az=166.5*
MOS ***04*** *06:27:18.1±1.1, 2331N×14338E, h33km, mb4.7/17, Error ellipse: s-maj=18.6km s-min=8.7km az=107.2*
NEIC ***04*** *06:27:19.1±0.3, 2328N×14342E, mb4.5/22, Error ellipse: s-maj=11.1km s-min=7.7km az=86.0*
IDC ***04*** *06:27:19.1±6.1, 2334N×14359E, h33km±46km, mb4.0/15, mb1 4.2/18, mb1mx4.2/23, mbtmp4.1/18, ML4.0/3, MS3.7/2, Ms1 3.7/2, ms1mx3.1/34, Error ellipse: s-maj=24.9km s-min=12.2km az=88.0*
ISC 04 06:27:19.5±0.3, 2331N±005×14339E±007, h30km, h30km±1.7km: pP-P, n88, σ1°15/82, mb4.4/43, 5C-2D, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**3.92**	**344**	Pn	**Pn**	**06 28 17.7**	**0.0**
21nm,0.3s,baz=274,slow=19,SNR=5.5							
CBIJ				Sn	**Sn**	**06 29 01.1**	**-1.5**
160nm,0.3s,baz=146,slow=21,SNR=17							
MJAR	**Matsushiro Arr**	**13.92**	**342**	Pn	**Pn**	**06 30 33.8**	**-1.0**
MJAR				LR	LR	06 35 22.9	
MJAR	**Matsushiro Arr**	**13.92**	**342**	Pn	**Pn**	**06 30 33.8**	**-1.0**
1.2nm,0.3s,baz=148,slow=11,SNR=8.4							
MJAR				LR	LR	06 35 22.9	
comp=Z,183nm,19.9s,baz=180,slow=35							
MAJO	**Matsushiro**	**13.92**	**342**	*e*Pn	**Pn**	**06 30 35.0**	**+0.2**
JOW	**Kunigami**	**14.14**	**287**	LR	LR	06 35 45.0	
comp=Z,466nm,18.7s,baz=312,slow=35							
KSRS	**Korea Array**	**19.37**	**320**	P	**Pn**	**06 31 43.8**	**-0.3**
0.3nm,0.3s,baz=134,slow=12,SNR=17							
NJ2	**Nanjing**	**23.37**	**297**	*e*P	**P**	**06 32 23.9**	**-1.9**
NJ2				AMB	AMB		
comp=Z,10.0nm,0.6s,mb4.4							
YSS	**Yuzh-Sakhalins**	**23.59**	**359**	⇑*e*P	**P**	**06 32 36.1**	**+8.4**
YSS				pmax	pmax		
comp=Z,12nm,1.1s,mb4.2							
HABR	**Khabarovsk**	**25.97**	**347**	*e*P	**P**	**06 32 54.2**	**+4.9**
HABR				*e*S	**S**	**06 37 22.2**	**+4.4**
KLR	**Kul'dur**	**27.45**	**343**	*e*P	**P**	**06 32 59.0**	**-3.6**
ULN	**Ulaanbaatar**	**37.85**	**319**	*e*P	**P**	**06 34 33.7**	**+0.2**
comp=Z,6.4nm,1.0s,mb4.3							
ULN				*e*pP	pP	06 34 43.9	+1.5
ULN	**Ulaanbaatar**	**37.85**	**319**	*e*P	**P**	**06 34 33.7**	**+0.2**
ULN				*e**PP	pP	06 34 43.9	+1.5
ULN				pmax	pmax		
comp=Z,6.0nm,1.0s,mb4.3							
SONM	**Songino Array**	**38.23**	**319**	P	**P**	**06 34 36.4**	**-0.3**
comp=Z,1.2nm,0.5s,mb3.9,baz=129,slow=9.1,SNR=6.8							
GTA	**Gaotai**	**40.11**	**304**	*e*P	**P**	**06 34 54.5**	**+2.0**
GTA				AP	pP	06 34 58.5	-3.0
GTA				AMB	AMB		
comp=Z,4.0nm,1.2s,mb4.0							
BOD	**Bodaibo**	**40.44**	**336**	*e*P	**P**	**06 34 55.1**	**+0.2**
BOD				pmax	pmax		
comp=Z,4.0nm,1.0s,mb4.1							
ZAK	**Zakamensk**	**41.20**	**321**	⇑*i*P	**P**	**06 35 02.4**	**+1.1**
ZAK				*e*		06 36 59.7	
ZAK				pmax	pmax		
comp=Z,6.0nm,1.1s,mb4.1							
TLY	**Talaya**	**41.58**	**323**	*e*P	**P**	**06 35 06.0**	**+1.6**
comp=Z,4.5nm,0.5s,mb4.3							
TLY	**Talaya**	**41.58**	**323**	⇓*i*P	**P**	**06 35 06.2**	**+1.8**
TLY				*e*		06 36 50.3	
TLY				pmax	pmax		
comp=Z,9.0nm,1.1s,mb4.3							
CTA	**Charters Tower**	**43.23**	**176**	*e*P	**P**	**06 35 17.1**	**-1.0**
comp=Z,5.5nm,0.6s,mb4.5							
CTA	**Charters Tower**	**43.23**	**176**	*e*P	**P**	**06 35 17.2**	**-1.0**
CTA				pmax	pmax		
comp=Z,6.0nm,0.6s							
CTA	**Charters Tower**	**43.23**	**176**	P	**P**	**06 35 17.2**	**-0.9**
comp=Z,5.4nm,0.6s,mb4.5,baz=7.9,slow=8.1,SNR=6.9							
WB2	**Warramunga Arr**	**43.89**	**192**	*e*P	**P**	**06 35 23.0**	**-0.4**
WB2	**Warramunga Arr**	**43.89**	**192**	*e*P	**P**	**06 35 22.4**	**-1.0**
WRA	**Warramunga Arr**	**43.89**	**192**	P	**P**	**06 35 23.1**	**-0.4**
comp=Z,3.8nm,0.6s,mb4.3,baz=17,slow=8.6,SNR=26							
FITZ	**Fitzroy Crossi**	**44.67**	**204**	*e*P	**P**	**06 35 30.1**	**+0.4**
comp=Z,5.6nm,0.9s,mb4.4							
FITZ	**Fitzroy Crossi**	**44.67**	**204**	*e*P	**P**	**06 35 29.4**	**-0.3**
comp=Z,3.6nm,0.6s,mb4.4							
FITZ	**Fitzroy Crossi**	**44.67**	**204**	P	**P**	**06 35 29.8**	**+0.1**
comp=Z,2.0nm,0.6s,mb4.1,baz=30,slow=11,SNR=9.6							
LSA	**Lhasa**	**46.86**	**289**	P	**P**	**06 35 51.0**	**+3.9**
LSA				AMB	AMB		
comp=Z,20nm,1.0s,mb5.0							
BILL	**Bilibino**	**46.90**	**12**	*e*P	pP	06 35 57.1	+1.2
BILL				pmax	pmax		
comp=Z,7.0nm,1.4s,mb4.4							
ASAR	**Alice Springs**	**47.60**	**192**	P	**P**	**06 35 52.1**	**-0.5**
comp=Z,1.9nm,0.6s,mb4.3,baz=12,slow=8.6,SNR=18							
TIXI	**Tiksi**	**49.07**	**354**	⇑*e*P	**P**	**06 36 09.6**	**+6.1**
MBWA	**Marble Bar**	**49.85**	**209**	*e*P	**P**	**06 36 09.2**	**-0.9**
comp=Z,3.3nm,0.8s,mb4.4							
ZALV	**Zalesovo Beam**	**53.08**	**321**	P	**P**	**06 36 34.0**	**+0.2**
comp=Z,5.0nm,0.7s,mb4.5,baz=104,slow=7.0,SNR=23							
ZAL	**Zalesovo**	**53.09**	**321**	P	**P**	**06 36 34.0**	**+0.1**
MK31	**Makanchi Array**	**53.76**	**312**	*e*P	**P**	**06 36 40.1**	**+1.1**
MKAR	**Makanchi Array**	**53.76**	**312**	⇑*e*P	**P**	**06 36 40.9**	**+1.9**
MKAR	**Makanchi Array**	**53.76**	**312**	P	**P**	**06 36 39.6**	**+0.6**
comp=Z,1.7nm,0.7s,mb4.1,baz=93,slow=10,SNR=13							
STKA	**Stephens Creek**	**54.91**	**182**	*e*P	**P**	**06 36 46.5**	**-0.9**
comp=Z,2.3nm,0.6s,mb4.4							
STKA	**Stephens Creek**	**54.91**	**182**	P	**P**	**06 36 46.4**	**-1.0**
comp=Z,2.2nm,0.6s,mb4.4,baz=348,slow=5.6,SNR=9.5							
FORT	**Forrest**	**55.76**	**196**	*e*P	**P**	**06 36 55.6**	**+2.1**
comp=Z,10nm,0.6s,mb5.0							
FORT	**Forrest**	**55.76**	**196**	*e*P	**P**	**06 36 54.3**	**+0.8**
comp=Z,1.6nm,0.6s,mb4.2							
KURK	**Kurchatov**	**56.44**	**316**	*e*P	**P**	**06 36 59.4**	**+1.1**
comp=Z,14nm,1.3s,mb4.8							
KURK	**Kurchatov**	**56.44**	**316**	*e*P	**P**	**06 36 59.4**	**+1.2**
KURK				pmax	pmax		
comp=Z,14nm,1.3s,mb4.8							
MCK	**McKinley**	**59.48**	**29**	*e*P	**P**	**06 37 19.0**	**-0.4**
comp=Z,11nm,1.1s,mb4.8							
MCK	**McKinley**	**59.48**	**29**	*e*P	**P**	**06 37 19.0**	**-0.4**
MCK				pmax	pmax		
comp=Z,11nm,1.1s,mb4.8							
EKS2	**Erkin-Say**	**59.87**	**307**	*e*P	**P**	**06 37 23.7**	**+1.2**
comp=Z,1.8nm,0.4s,mb4.5							
BRVK	**Borovoye**	**61.64**	**319**	*e*P	**P**	**06 37 34.8**	**+0.5**
comp=Z,12nm,0.8s,mb5.1							
BRVK	**Borovoye**	**61.64**	**319**	*e*P	**P**	**06 37 34.8**	**+0.5**
BRVK				pmax	pmax		
comp=Z,12nm,0.8s,mb5.1							
INK	**Inuvik**	**66.02**	**24**	*e*P	**P**	**06 38 02.3**	**-0.6**
comp=Z,133nm,0.9s							
INK	**Inuvik**	**66.02**	**24**	P	**P**	**06 38 01.8**	**-1.1**
comp=Z,1.9nm,0.9s,mb4.1,baz=271,slow=4.9,SNR=10							
ARU	**Arti**	**68.08**	**323**	*e*P	**P**	**06 38 16.0**	**-0.2**
comp=Z,11nm,1.0s,mb4.8							
ARU	**Arti**	**68.08**	**323**	*d i*P	**P**	**06 38 16.2**	**0.0**
ARU				*e*		06 38 37.7	
ARU				*e*		06 40 48.6	
ARU				*e*PPP		06 42 24.6	
ARU				*e*S	S	06 47 07.0	-6.7
ARU				pmax	pmax		
comp=Z,15nm,1.2s,mb4.9							
YKA	**Yellowknife Ar**	**74.94**	**28**	P	**P**	**06 38 55.8**	**-1.6**
comp=Z,1.5nm,0.5s,mb4.1,baz=293,slow=5.9,SNR=39							
RES	**Resolute Bay**	**75.47**	**14**	*e*P	**P**	**06 39 00.0**	**-0.2**
comp=Z,74nm,0.8s							
RES				*e*pP	pP	06 39 09.0	-0.8
ARCES	**ARCESS Array B**	**77.46**	**341**	P	**P**	**06 39 11.2**	**-0.4**
comp=Z,6.1nm,0.8s,mb4.6,baz=71,slow=7.8,SNR=7.9							
JOF	**Joensuu**	**78.95**	**334**	*e*p	**P**	**06 39 19.1**	**-0.8**
comp=Z,6.1nm,0.6s,mb4.7							
BMO	**Blue Mountains**	**80.16**	**45**	*e*P	**P**	**06 39 29.0**	**+2.1**
WALA	**Waterton Lakes**	**80.59**	**41**	*e*P	**P**	**06 39 29.7**	**+0.6**
comp=Z,4.6nm,0.9s,mb4.4							
WALA				*e*pP	pP	06 39 39.5	+0.7
CMB	**Columbia Colle**	**80.63**	**53**	*e*P	**P**	**06 39 29.7**	**+0.1**
comp=Z,3.1nm,0.7s,mb4.3							
CMB	**Columbia Colle**	**80.63**	**53**	*e*P	**P**	**06 39 29.7**	**+0.1**
CMB				pmax	pmax		
comp=Z,3.0nm,0.7s,mb4.3							
FINES	**FINESS Array B**	**81.81**	**334**	P	**P**	**06 39 34.5**	**-0.9**
comp=Z,0.7nm,0.4s,mb4.0,baz=73,slow=6.4,SNR=7.2							
NVAR	**Mina Array Bea**	**81.99**	**52**	P	**P**	**06 39 35.7**	**-1.1**
comp=Z,1.3nm,0.8s,mb3.9,baz=276,slow=3.8,SNR=9.3							
HLID	**Hailey**	**82.58**	**46**	*e*P	**P**	**06 39 40.5**	**+0.7**
comp=Z,2.9nm,1.1s,mb4.2							
HLID				*e*pP	pP	06 39 49.5	0.0
TPNV	**Topopah Spring**	**84.08**	**52**	*e*P	**P**	**06 39 47.3**	**-0.4**
comp=Z,2.6nm,0.8s,mb4.4							
TPNV				*e*pP	pP	06 39 56.2	-1.2
TPNV	**Topopah Spring**	**84.08**	**52**	*e*P	**P**	**06 39 47.3**	**-0.3**
TPNV				*e**PP	pP	06 39 56.2	-1.1
TPNV				pmax	pmax		
comp=Z,3.0nm,0.8s,mb4.5							
FFC	**Flin Flon**	**84.36**	**32**	*e*P	**P**	**06 39 47.8**	**-0.9**
comp=Z,11nm,1.1s,mb4.9							
FFC				*e*pP	pP	06 39 58.1	-0.2
FFC	**Flin Flon**	**84.36**	**32**	*e*P	**P**	**06 39 47.8**	**-0.9**
FFC				*e**PP	pP	06 39 58.1	-0.3
FFC				pmax	pmax		
comp=Z,11nm,1.1s,mb4.9							
DCID1	**Drake Creek**	**84.68**	**45**	*e*P	**P**	**06 39 52.8**	**+2.2**
DUG	**Dugway**	**85.12**	**48**	*e*P	**P**	**06 39 54.5**	**+1.7**
comp=Z,4.1nm,1.1s,mb4.5							
DUG				*e*pP	pP	06 40 02.5	-0.1
DUG	**Dugway**	**85.12**	**48**	*e*P	**P**	**06 39 54.5**	**+1.7**
DUG				*e**PP	pP	06 40 02.5	0.0
DUG				pmax	pmax		
comp=Z,4.0nm,1.1s,mb4.5							
RLMT	**Red Lodge**	**85.19**	**43**	*e*P	**P**	**06 39 53.0**	**-0.1**
comp=Z,3.4nm,0.6s,mb4.7							
RLMT				*e*pP	pP	06 40 03.6	+0.9
HWUT	**Hardware Ranch**	**85.33**	**47**	*e*P	**P**	**06 39 55.8**	**+2.0**
comp=Z,5.3nm,1.1s,mb4.6							
ARUT	**Antelope Range**	**85.75**	**51**	*e*P	**P**	**06 39 57.7**	**+1.8**
ARUT				*e*pP	pP	06 40 05.6	-0.1
PDAR	**Pinedale Array**	**86.12**	**45**	P	**P**	**06 39 55.7**	**-2.0**
comp=Z,0.5nm,0.6s,mb4.0,baz=232,slow=2.2,SNR=3.9							
AKASG	**Malin Array Be**	**86.31**	**324**	*i* P	**P**	**06 39 57.7**	**-0.8**
AKASG				pmax	pmax		
comp=Z,1.0nm,0.4s							
AKASG	**Malin Array Be**	**86.31**	**324**	P	**P**	**06 39 55.2**	**-3.2**
comp=Z,0.7nm,0.4s,mb4.2,baz=50,slow=4.9,SNR=4.3							
SRU	**San Rafael**	**87.19**	**48**	*e*P	**P**	**06 40 00.9**	**-2.1**
comp=Z,1.2nm,0.8s,mb4.2							
SRU	**San Rafael**	**87.19**	**48**	*e*P	**P**	**06 40 00.9**	**-2.1**
SRU				pmax	pmax		
comp=Z,1.0nm,0.8s,mb4.1							
NB2	**NORSAR Subarra**	**87.52**	**339**	P	**P**	**06 40 02.7**	**-1.4**
comp=Z,0.9nm,0.7s,mb4.1,baz=43,slow=4.8							
NOA	**NORSAR Array B**	**87.52**	**339**	P	**P**	**06 40 02.4**	**-1.7**
comp=Z,2.6nm,0.9s,mb4.5,baz=46,slow=4.7,SNR=4.8							
SDCO	**Great Sand Dun**	**91.29**	**48**	*e*P	**P**	**06 40 22.3**	**-0.1**
comp=Z,1.2nm,0.8s,mb4.3							
SDCO				*e*pP	pP	06 40 31.9	-0.3
ANMO	**Albuquerque**	**92.05**	**51**	⇑*e*P	**P**	**06 40 29.2**	**+3.3**
TORD	**Torodi Ar. Bea**	**127.87**	**310**	PKP	PKPdf	06 46 21.3	-1.8
TORD	**Torodi Ar. Bea**	**127.87**	**310**	PKP	PKPdf	06 46 21.3	-1.8
comp=Z,0.3nm,0.8s,baz=336,slow=2.1,SNR=5.2							
PLCA	**Paso Flores**	**146.65**	**129**	PKPbc	PKPbc	06 46 57.6	-0.8
comp=Z,2.6nm,0.6s,baz=237,slow=3.6,SNR=11							
LPAZ	**La Paz**	**149.57**	**83**	*e*PKPbc	PKPbc	06 47 06.6	-0.1
LPAZ	**La Paz**	**149.57**	**83**	PKPbc	PKPbc	06 47 07.2	+0.5
comp=Z,1.8nm,0.6s,baz=21,slow=5.6,SNR=8.7							
BDFB	**Brasilia**	**166.82**	**57**	PKPab	PKPab	06 48 22.6	-3.5
comp=Z,1.7nm,0.6s,baz=0.0,slow=2.0,SNR=3.6							

ISCJB ***04*** *06:34:32.4±0.7, 778S±002×15648E±002, h2km±4km, mb5.9/184, MS6.3/240, Error ellipse: s-maj=4.1km s-min=3.0km az=3.1*
BJI ***04*** *06:34:32.5, 763S×15693E, h16km, mB6.6, mb5.9, Ms6.2, Msz6.1*
IDC ***04*** *06:34:32.9±0.3, 782S×15634E, h0km, mb5.7/28, mb1 5.7/31, mb1mx5.7/31, mbtmp5.7/31, ML4.4/2, MS6.1/22, Ms1 6.1/22, ms1mx5.9/25, Error ellipse: s-maj=9.5km s-min=7.7km az=65.0*
CRAAG ***04*** *06:34:34.2, 773S×15606E, Mb6.2*
NEIC ***04*** *06:34:36.0±0.1, 776S×15649E, h17km, mb6.0/122, ME6.2, MS6.3/194, MW6.2, Error ellipse: s-maj=3.5km s-min=3.1km az=144.0 Broadband fault plane solution: P waves. NP1:ϕs160.00000°, δ70.00000°, λ90.00000°. NP2:ϕs340.00000°, δ20.00000°, λ90.00000°. Principal axes: T Plg65.0000°, Azm70.0000°; N Plg0.0000°, Azm0.0000°; P Plg25.0000°, Azm250.0000°; Moment Tensor Solution. s55 Moment tensor: Scale 10^18 Nm; Mrr2.42; Mθθ-0.21; Mφφ-2.21; Mrθ0.09; Mφθ0.58; Mφr-1.67; Best double couple: M0 2.90000×10^18 NP1:ϕs339.00000°, δ28.00000°, λ78.00000°. NP2:ϕs172.00000°, δ62.00000°, λ96.00000°. Principal axes: T 2.9600, Plg72.0000°, Azm96.0000°; N -0.0900, Plg5.0000°, Azm349.0000°; P -2.8700, Plg17.0000°, Azm257.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*
IGIL ***04*** *06:34:35.0, 778S×15650E, h10km*
GCMT ***04*** *06:34:38.1±0.1, 794S×15655E, h26km, MW6.4/112, Moment Tensor Solution. s112,c266; s110,c439; Duration: 3:9 Moment tensor: Scale 10^18Nm; Mrr3.61±.03; Mθθ-0.72±.02; Mφφ-2.89±.02; Mrθ0.69±.05; Mφφ2.17±.02; Mφr-3.08±.06; Best double couple: M0 5.04900×10^18 NP1:ϕs313.00000°, δ28.00000°, λ65.00000°. NP2:ϕs161.00000°, δ65.00000°, λ103.00000°. Principal axes: T 4.8430, Plg68.0000°, Azm95.0000°; N 0.4140, Plg11.0000°, Azm336.0000°; P -5.2560, Plg19.0000°, Azm242.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
MOS ***04*** *06:34:38.5±0.9, 743S×15646E, h33km, mb6.2/44, MS6.2/74 Error ellipse: s-maj=10.0km s-min=7.5km az=99.6*
ISC 04 06:34:36.7±0.8, 780S±002×15652E±002, h20km±4km, h16km±1.1km: pP-P, n1248, σ0°85/745, mb5.9/183, MS6.3/240, 151C-149D, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**3.76**	**116**	*e*Pn	**Pn**	**06 35 32.1**	**-1.5**
HNR				*e*Sn	**Sn**	**06 36 16.6**	**-0.8**
HNR	**Honiara**	**3.76**	**116**	Pn	**Pn**	**06 35 33.0**	**-0.6**
841nm,0.3s,baz=262,slow=1.0,SNR=53							
HNR				Sn	**Sn**	**06 36 23.3**	**+5.9**
958nm,0.3s,baz=273,slow=11,SNR=5.6							
HNR				LR	LR	06 36 59.0	
comp=Z,681μm,21.3s,baz=322,slow=37							
CTA	**Charters Tower**	**15.75**	**218**	⇓*i*P	**Pn**	**06 38 19.3**	**+1.8**
172nm,1.8s							
CTA				*e*sP	sP	06 38 31.1	+1.7
CTA				*e*S	**Sn**	**06 41 17.0**	**+5.3**
CTA	**Charters Tower**	**15.75**	**218**	⇓*i*P	**Pn**	**06 38 19.3**	**+1.8**
CTA				*e*S	**Sn**	**06 41 17.0**	**+5.3**
CTA				pmax	pmax		
comp=Z,172nm,1.8s							
CTA	**Charters Tower**	**15.75**	**218**	Pn	**Pn**	**06 38 16.5**	**-1.0**
comp=Z,1.0nm,0.3s,baz=45,slow=14,SNR=41							
CTA				Sn	**Sn**	**06 41 19.1**	**+7.4**
baz=5.2,slow=19,SNR=1.4							
CTA				LR	LR	06 42 06.4	
comp=Z,23μm,21.8s,baz=36,slow=29							
CTAO	**Charters Tower**	**15.75**	**218**	*e*P	**Pn**	**06 38 19.5**	**+1.9**
comp=Z,2μm,1.5s							
CTAO	**Charters Tower**	**15.75**	**218**	*e*P	**Pn**	**06 38 19.5**	**+2.0**
CTAO				pmax	pmax		
comp=Z,2μm,1.5s							
DZM	**Mont Dzumac**	**17.12**	**147**	⇑*i*P	**Pn**	**06 38 35.6**	**+0.7**
DZM	**Mont Dzumac**	**17.12**	**147**	P	**Pn**	**06 38 35.7**	**+0.8**
comp=Z,1.1nm,0.3s,baz=354,slow=12,SNR=31							
DZM				S	**Sn**	**06 41 50.1**	**+5.3**
comp=Z,0.5nm,0.3s,baz=342,slow=20,SNR=2.3							
EIDS	**Eidsvold**	**18.23**	**196**	*e*P	**Pn**	**06 38 48.9**	**+0.2**
comp=Z,2μm,2.1s							
FUNA	**Funafuti**	**22.46**	**93**	*e*P	**P**	**06 39 34.6**	**-0.3**
comp=Z,2μm,1.7s,mb6.3							
FUNA				LR	LR		
comp=Z,93μm,20.0s,MS6.2							
ARMA	**Armidale**	**22.97**	**191**	*e*P	**P**	**06 39 40.5**	**+0.5**
ARMA			

AFI	**Afiamalu**	**31.70**	**104**	*e*P	**P**	**06 40 58.6**	**-0.8**
AFI				pmax	pmax		
	comp=Z,177nm,1.0s,mb5.8						
AFI				MLR	MLR		
	comp=Z,40μm,22.0s,MS6.0						
FITZ	**Fitzroy Crossi**	**31.73**	**248**	⇓*i*P	**P**	**06 40 59.3**	**-0.4**
	comp=Z,134nm,0.6s,mb6.0						
FITZ				*e*S	**S**	**06 46 02.1**	**-6.7**
FITZ	**Fitzroy Crossi**	**31.73**	**248**	P	**P**	**06 40 58.5**	**-1.1**
	comp=Z,40nm,0.6s,mb5.4,baz=90,slow=8.6,SNR=34						
FITZ				S	**S**	**06 46 05.7**	**-3.1**
	comp=Z,14nm,0.9s,baz=72,slow=14,SNR=1.7						
FITZ				LR	LR	06 54 04.7	
	comp=Z,40μm,18.0s,MS6.1,baz=273,slow=37						
RAO	**Raoul Island**	**32.15**	**135**	*e*P	**P**	**06 41 02.9**	**-0.3**
	comp=Z,507nm,0.8s,mb6.4						
RAO				LR	LR		
	comp=Z,31μm,19.0s,MS6.0						
RAO	**Raoul Island**	**32.15**	**135**	*e*P	**P**	**06 41 02.9**	**-0.3**
RAO				pmax	pmax		
	comp=Z,507nm,0.8s,mb6.4						
RAO				MLR	MLR		
	comp=Z,31μm,19.0s,MS6.0						
RAO	**Raoul Island**	**32.15**	**135**	P	**P**	**06 41 02.9**	**-0.3**
	comp=Z,550nm,0.8s,mb6.4,baz=280,slow=19,SNR=5.1						
RAO				LR	LR	06 52 46.9	
	comp=Z,32μm,18.1s,MS6.0,baz=131,slow=34						
BATI	**Kupang**	**32.53**	**263**	P	**P**	**06 41 05.7**	**-1.0**
	comp=Z,122nm,0.9s,mb5.8,baz=100,slow=6.2,SNR=12						
BATI				S	**S**	**06 46 22.5**	**+1.3**
	comp=Z,20nm,0.6s,baz=182,slow=18,SNR=1.6						
DAV	**Davao City (W)**	**34.20**	**295**	PFAKE		06 41 30.0	+8.7
DAV				LR	LR		
	comp=Z,17μm,19.0s,MS5.8						
DAV	**Davao City (W)**	**34.20**	**295**	⇓*e*P	**P**	**06 41 26.0**	**+4.7**
BUKP	**Musuan**	**35.01**	**296**	*e*P	**P**	**06 41 28.5**	**+0.3**
BUKP	**Musuan**	**35.01**	**296**	*e*P	**S**	**06 47 00.7**	**+1.0**
FORT	**Forrest**	**35.08**	**226**	⇓*i*P	**P**	**06 41 27.7**	**-0.9**
	comp=Z,96nm,0.5s,mb6.0						
FORT				*e*S	**S**	**06 46 58.5**	**-1.8**
SCPH	**Surigao**	**35.49**	**299**	⇓*e*P	**P**	**06 41 34.7**	**+2.3**
URZ	**Urewera**	**35.58**	**152**	P	**P**	**06 41 32.6**	**-0.3**
	comp=Z,79nm,1.0s,mb5.6,baz=30,slow=5.0,SNR=28						
URZ				LR	LR	06 54 08.5	
	comp=Z,35μm,18.9s,MS6.1,baz=211,slow=33						
TAU	**Tasmania Unive**	**35.90**	**192**	*e*P	**P**	**06 41 35.0**	**-0.6**
	comp=Z,1μm,2.0s,mb6.5						
TAU				LR	LR		
	comp=Z,17μm,20.0s,MS5.8						
PUZ	**Puketiti**	**35.99**	**150**	PN	**P**	**06 41 35.0**	**-1.3**
MSLP	**Maasin**	**36.21**	**299**	*e*P	**P**	**06 41 38.8**	**+0.3**
MSLP	**Maasin**	**36.21**	**299**	*e*S	**S**	**06 47 15.3**	**-2.7**
PAGZ	**Pagadian**	**36.50**	**294**	*e*P	**P**	**06 41 41.9**	**+0.8**
PLP	**Palo**	**36.60**	**301**	*e*P	**P**	**06 41 41.2**	**-0.7**
THZ	**Tophouse**	**36.81**	**159**	PN	**P**	**06 41 42.3**	**-1.0**
TBP	**Tagbilaran**	**36.87**	**298**	*e*P	**P**	**06 41 44.7**	**+0.5**
TBP	**Tagbilaran**	**36.87**	**298**	*e*S	**S**	**06 47 25.8**	**-2.4**
MRZ	**Mangatainoka R**	**36.88**	**156**	PN	**P**	**06 41 42.6**	**-1.3**
PXZ	**Pawanui**	**36.90**	**154**	PN	**P**	**06 41 42.4**	**-1.7**
SNZO	**South Karori**	**37.08**	**157**	*e*P	**P**	**06 41 45.9**	**+0.2**
	comp=Z,338nm,1.4s,mb6.0						
SNZO				LR	LR		
	comp=Z,23μm,19.0s,MS6.0						
SNPH	**Sibulan**	**37.27**	**297**	*e*P	**P**	**06 41 48.5**	**+0.9**
LTZ	**Lake Taylor**	**37.51**	**161**	PN	**P**	**06 41 48.3**	**-0.9**
CNP	**Catarman**	**37.54**	**302**	*e*P	**P**	**06 41 51.2**	**+1.3**
CNP	**Catarman**	**37.54**	**302**	*e*P	**S**	**06 47 40.1**	**+1.7**
KHZ	**Kahutara**	**37.61**	**159**	PN	**P**	**06 41 48.8**	**-1.3**
MBWA	**Marble Bar**	**37.90**	**245**	*e*P	**P**	**06 41 52.5**	**-0.4**
	comp=Z,165nm,1.1s,mb5.7						
MBWA				LR	LR		
	comp=Z,47μm,19.0s,MS6.3						
MBWA	**Marble Bar**	**37.90**	**245**	P	**P**	**06 41 52.8**	**0.0**
	SNR=32						
RPZ	**Rata Peaks**	**37.98**	**163**	P	**P**	**06 41 53.1**	**-0.1**
	comp=Z,75nm,0.8s,mb5.5,baz=161,slow=2.3,SNR=17						
RPZ				S	**S**	**06 47 44.2**	**-0.1**
	comp=Z,4.6nm,0.8s,baz=35,slow=21,SNR=1.8						
RPZ				LR	LR	06 56 19.8	
	comp=Z,59μm,18.9s,MS6.4,baz=333,slow=34						
LBZ	**Lake Benmore**	**38.35**	**164**	PN	**P**	**06 41 56.2**	**-0.1**
GUIM	**Jordan**	**38.41**	**298**	*e*P	**P**	**06 41 57.4**	**+0.1**
PVCP	**Virac**	**38.52**	**303**	*e*P	**P**	**06 41 58.4**	**+0.2**
RCP	**Roxas**	**38.71**	**299**	⇑*e*P	**P**	**06 42 00.4**	**+0.7**
KALP	**Kalibo**	**39.11**	**299**	*e*P	**P**	**06 42 02.7**	**-0.5**
OTRP	**Odiongan**	**39.71**	**300**	*e*P	**P**	**06 42 08.3**	**+0.2**
CUYO	**Cuyo Island**	**39.89**	**297**	*e*P	**P**	**06 42 12.4**	**+2.8**
TSM	**Tawau**	**40.38**	**286**	⇓P	**P**	**06 42 14.2**	**+0.5**
BUSP	**Coron**	**41.12**	**298**	*e*P	**P**	**06 42 21.6**	**+1.8**
SDKM	**Sandakan**	**41.43**	**288**	⇓P	**P**	**06 42 22.8**	**+0.4**
ENPP	**El Nido**	**41.45**	**297**	*e*P	**P**	**06 42 25.0**	**+2.5**
TGY	**Tagaytay City**	**41.47**	**302**	⇑*e*P	**P**	**06 42 29.2**	**+6.5**
PPR	**Puerto Princes**	**41.48**	**294**	*e*P	**P**	**06 42 23.9**	**+1.1**
BALP	**Baler**	**41.77**	**304**	*e*P	**P**	**06 42 24.8**	**-0.3**
LUBP	**Lubang**	**41.88**	**301**	*e*P	**P**	**06 42 25.2**	**-0.8**
BATP	**Bataraza**	**41.95**	**292**	*e*P	**P**	**06 42 27.5**	**+0.8**
PCPH	**Palayan**	**42.07**	**304**	⇓*e*P	**P**	**06 42 26.8**	**-0.7**
KDM	**Kudat**	**42.19**	**289**	⇓P	**P**	**06 42 30.6**	**+2.0**
CAUP	**Cauayan**	**42.20**	**306**	*e*P	**P**	**06 42 30.1**	**+1.5**
NBP	**Mount Natib**	**42.22**	**302**	⇑*e*P	**P**	**06 42 31.2**	**+2.4**
KKM	**Kota Kinabalu**	**42.48**	**288**	*e*P	**P**	**06 42 30.6**	**-0.4**
KKM	**Kota Kinabalu**	**42.48**	**288**	⇓P	**P**	**06 42 31.7**	**+0.7**
BCPH	**Baguio City Da**	**42.91**	**304**	⇑*e*P	**P**	**06 42 34.5**	**+0.1**
KLBR	**Kellerberrin**	**43.15**	**231**	*e*P	**P**	**06 42 35.4**	**-0.8**
	comp=Z,200nm,1.0s,mb5.8						
KLBR				*es*P	sP	06 42 48.2	+3.5
KLBR				*e*S	**S**	**06 49 01.1**	**-0.7**
JOW	**Kunigami**	**43.99**	**322**	P	**P**	**06 42 42.2**	**-0.7**
	comp=Z,240nm,1.0s,mb5.9,baz=144,slow=8.9,SNR=16						
NWAO	**Narrogin (SRO)**	**44.11**	**230**	*e*P	**P**	**06 42 43.8**	**-0.1**
	comp=Z,177nm,1.2s,mb5.7						
NWAO				LR	LR		
	comp=Z,34μm,19.0s,MS6.3						
NWAO	**Narrogin (SRO)**	**44.11**	**230**	*e*P	**P**	**06 42 43.8**	**-0.1**
NWAO				pmax	pmax		
	comp=Z,177nm,1.2s						
NWAO				MLR	MLR		
	comp=Z,34μm,19.0s						
NWAO	**Narrogin (SRO)**	**44.11**	**230**	P	**P**	**06 42 44.3**	**+0.4**
	SNR=12						
NWAO	**Narrogin (SRO)**	**44.11**	**230**	P	**P**	**06 42 44.3**	**+0.4**
	SNR=12						
NWAO	**Narrogin (SRO)**	**44.11**	**230**	P	**P**	**06 42 42.9**	**-1.1**
	comp=Z,110nm,1.0s,mb5.6,baz=61,slow=8.2,SNR=30						
NWAO				S	**S**	**06 49 12.7**	**-3.2**
	comp=Z,9.1nm,1.0s,baz=338,slow=16,SNR=1.7						
NWAO				LR	LR	07 00 34.0	
	comp=Z,43μm,20.1s,MS6.4,baz=63,slow=36						
RAR	**Rarotonga**	**44.21**	**112**	P	**P**	**06 42 44.2**	**-0.7**
	comp=Z,43nm,0.9s,mb5.2,baz=256,slow=7.0,SNR=14						
RAR				LR	LR	06 57 58.3	
	comp=Z,25μm,21.6s,MS6.1,baz=285,slow=32						
MUN	**Mundaring**	**44.51**	**232**	⇓*i*P	**P**	**06 42 47.1**	**0.0**
MUN				*e*S	**S**	**06 49 17.1**	**-4.5**
BTM	**Bintulu**	**44.69**	**283**	⇑P	**P**	**06 42 50.5**	**+1.7**
SBUM	**Sibu**	**45.34**	**281**	⇓P	**P**	**06 42 55.7**	**+1.7**
NACB	**Ninganchiao**	**46.59**	**314**	*e*P	**P**	**06 43 03.8**	**+0.1**
	comp=Z,333nm,1.0s,mb6.2						
KSM	**Kuching**	**46.99**	**279**	*e*P	**P**	**06 43 06.8**	**-0.2**
KSM	**Kuching**	**46.99**	**279**	⇑P	**P**	**06 43 08.1**	**+1.1**
YHNB	**Yeheng**	**47.06**	**314**	*e*P	**P**	**06 43 07.7**	**+0.4**
	comp=Z,585nm,1.2s,mb6.4						
TATO	**Taipei**	**47.17**	**315**	*e*P	**P**	**06 43 08.9**	**+0.7**
	comp=Z,363nm,1.2s,mb6.2						
TATO				LR	LR		
	comp=Z,36μm,22.0s,MS6.3						
MJAR	**Matsushiro Arr**	**47.33**	**340**	P	**P**	**06 43 07.8**	**-1.4**
MJAR						06 44 39.5	
MJAR	**Matsushiro Arr**	**47.33**	**340**	P	**P**	**06 43 07.8**	**-1.4**
	comp=Z,42nm,0.9s,mb5.4,baz=168,slow=8.2,SNR=60						
MJAR				PcP	PcP	06 44 39.5	-0.5
	comp=Z,15nm,0.7s,baz=180,slow=4.1,SNR=4.6						
MJAR				LR	LR	07 00 19.5	
	comp=Z,9μm,20.4s,MS5.7,baz=185,slow=33						
MAJO	**Matsushiro**	**47.34**	**340**	*e*P	**P**	**06 43 07.9**	**-1.3**
	comp=Z,97nm,0.9s,mb5.7						
MAJO				LR	LR		
	comp=Z,9μm,20.0s,MS5.7						
MAJO	**Matsushiro**	**47.34**	**340**	*e*P	**P**	**06 43 09.2**	**0.0**
MAT	**Matsushiro**	**47.34**	**340**	P	**P**	**06 43 07.9**	**-1.3**
MAT				S	**S**	**06 50 02.3**	**+0.3**
JNU	**Nakatsue**	**47.44**	**330**	P	**P**	**06 43 09.8**	**-0.3**
	comp=Z,194nm,0.8s,mb6.1,baz=100,slow=6.1,SNR=25						
QZH	**Quanzhou**	**49.23**	**313**	⇑*i*P	**P**	**06 43 24.5**	**+0.4**
QZH				S	**S**	**06 50 24.1**	**-5.1**
QZH				AMB	AMB		
	comp=Z,420nm,0.9s,mb6.5						
QZH				AMB	AMB		
	comp=Z,11μm,4.5s						
QZH				LR	LR		
	comp=N,15μm,15.0s						
QZH				LR	LR		
	comp=E,27μm,25.0s						
QZH				LR	LR		
	comp=Z,22μm,20.8s						
XMIS	**Christmas Isla**	**50.25**	**263**	*e*P	**P**	**06 43 32.1**	**+0.1**
ERM	**Erimo**	**51.05**	**347**	*i*P	**P**	**06 43 37.1**	**-0.5**
ERM				LR	LR		
	comp=Z,13μm,19.0s,MS6.0						
ERM	**Erimo**	**51.05**	**347**	*d*iP	**P**	**06 43 37.0**	**-0.6**
HKC	**Hong Kong Obse**	**51.14**	**307**	⇑*i*P	**P**	**06 43 40.0**	**+1.4**
HKC				*i*S	**S**	**06 50 56.0**	**+0.1**
SSE	**Sheshan**	**51.37**	**321**	P	**P**	**06 43 39.9**	**-0.3**
SSE				S	**S**	**06 50 59.7**	**+0.8**
SSE				XS	sS	06 51 05.1	-4.0
SSE				SCS	ScS	06 53 30.3	+0.3
SSE				AMB	AMB		
	comp=Z,263nm,1.0s,mb6.1						
SSE				AMB	AMB		
	comp=Z,3μm,5.6s						
SSE				LR	LR		
	comp=N,5μm,24.5s,MS5.7						
SSE				LR	LR		
	comp=E,7μm,24.5s,MS5.7						
SSE				LR	LR		
	comp=Z,12μm,18.1s						
SSE	**Sheshan**	**51.37**	**321**	P	**P**	**06 43 39.9**	**-0.3**
	comp=Z,263nm,1.0s,mb6.1						
SSE				sP	sP	06 43 44.5	-4.3
SSE				S	**S**	**06 50 59.7**	**+0.8**
SSE				sS	sS	06 51 05.1	-4.0
SSE				ScS	ScS	06 53 30.3	+0.3
SSE				LR	LR		
	comp=Z,12μm,18.1s,MS6.0						
GZH	**Guangzhou**	**52.20**	**307**	P	**P**	**06 43 47.9**	**+1.4**
GZH				S	**S**	**06 51 12.8**	**+2.3**
GZH				LR	LR		
	comp=N,7μm,19.4s,MS6.1						
GZH				LR	LR		
	comp=E,15μm,20.9s,MS6.1						
GZH				LR	LR		
	comp=Z,24μm,20.3s,MS6.2						
KSRS	**Korea Array**	**52.35**	**331**	P	**P**	**06 43 47.5**	**+0.1**
	comp=Z,59nm,0.8s,mb5.6,baz=148,slow=7.3,SNR=53						
KSRS				PP	PP	06 45 44.3	-2.0
	comp=Z,17nm,1.1s,baz=152,slow=7.2,SNR=2.1						
KSRS				S	**S**	**06 51 11.6**	**-0.6**
	comp=Z,14nm,1.2s,baz=157,slow=15,SNR=8.3						
KSRS				LR	LR	07 02 27.5	
	comp=Z,9μm,21.5s,MS5.8,baz=137,slow=32						
INCN	**Inchon**	**53.00**	**330**	*e*P	**P**	**06 43 52.4**	**+0.1**
	comp=Z,681nm,1.1s,mb6.5						
INCN				LR	LR		
	comp=Z,11μm,20.0s,MS5.9						
INCN	**Inchon**	**53.00**	**330**	P	**P**	**06 43 53.5**	**+1.3**
	SNR=12						
INCN	**Inchon**	**53.00**	**330**	P	**P**	**06 43 53.5**	**+1.3**
	SNR=12						
QIZ	**Qiongzhong**	**53.16**	**301**	⇑P	**P**	**06 43 53.7**	**0.0**
QIZ				PP	PP	06 45 57.2	+3.3
QIZ				S	**S**	**06 51 25.2**	**+1.4**
QIZ				AMB	AMB		
	comp=Z,5μm,8.1s						
QIZ				LR	LR		
	comp=E,15μm,22.3s						
QIZ				LR	LR		
	comp=Z,32μm,22.5s,MS6.3						
QIZ	**Qiongzhong**	**53.16**	**301**	*e*P	**P**	**06 43 57.4**	**+3.7**
	comp=Z,66nm,0.9s,mb5.6						
QIZ				LR	LR		
	comp=Z,35μm,22.0s,MS6.4						
ASAJ	**Asahikawa**	**53.18**	**348**	P	**P**	**06 43 53.7**	**+0.3**
	comp=Z,22nm,0.8s,mb5.1,baz=246,slow=11,SNR=16						
KIP	**Kipapa**	**53.24**	**56**	*e*P	**P**	**06 43 53.7**	**-0.5**
	comp=Z,296nm,1.2s,mb6.1						
KIP				LR	LR		
	comp=Z,25μm,20.0s,MS6.2						
KIP	**Kipapa**	**53.24**	**56**	*e*P	**P**	**06 43 54.5**	**+0.3**
KIP				pmax	pmax		
	comp=Z,300nm,1.2s,mb6.1						
PPT	**Papeete**	**53.33**	**106**	*e*P	**P**	**06 43 55.1**	**+0.1**
	comp=Z,62nm,1.5s,mb5.3						
PPT				*e*S	**S**	**06 51 29.4**	**+3.2**
	comp=Z,18μm,30.2s						
PPT				*e*SS	SS	06 55 12.9	+6.6
	comp=Z,7μm,26.0s						
PPT				*e*LQ		06 57 24.5	
	comp=Z,28μm,24.8s						
PPT				*e*LR	LR	06 59 30.1	
	comp=Z,42μm,28.0s,baz=273						
PPT	**Papeete**	**53.33**	**106**	P	**P**	**06 43 55.9**	**+0.9**
	comp=Z,16nm,0.7s,mb5.1,baz=258,slow=9.3,SNR=3.2						
PPT				LR	LR	07 02 52.0	
	comp=Z,12μm,19.3s,MS6.0,baz=276,slow=32						
PAE	**Paea**	**53.33**	**106**	*e*P	**P**	**06 43 54.8**	**-0.2**
	comp=Z,64nm,1.0s,mb5.5						
PAE	**Paea**	**53.33**	**106**	*e*P	**P**	**06 43 54.8**	**-0.2**
PAE				pmax	pmax		
	comp=Z,64nm,1.0s,mb5.5						
MYKOM	**Kota Tinggi**	**53.38**	**278**	⇑P	**P**	**06 43 57.0**	**+1.5**
NJ2	**Nanjing**	**53.49**	**320**	*e*P	**P**	**06 43 57.0**	**+1.1**
NJ2				AP	pP	06 44 01.4	-0.8
NJ2				XP	sP	06 44 03.5	-1.0
NJ2				PP	PP	06 45 57.5	+0.8
NJ2				S	**S**	**06 51 27.0**	**-0.9**
NJ2				XS	sS	06 51 36.0	-2.1
NJ2				AMB	AMB		
	comp=Z,630nm,1.0s,mb6.5						
NJ2				AMB	AMB		
	comp=Z,10μm,4.8s						
NJ2				LR	LR		
	comp=N,20μm,25.8s						
NJ2				LR	LR		
	comp=E,7μm,15.4s						
NJ2				LR	LR		
	comp=Z,9μm,20.5s						
TVO	**Taravao**	**53.65**	**106**	*e*P	**P**	**06 43 57.4**	**0.0**
	comp=Z,104nm,1.0s,mb5.7						
TVO	**Taravao**	**53.65**	**106**	*e*P	**P**	**06 43 57.4**	**0.0**
TVO				pmax	pmax		
	comp=Z,104nm,1.0s,mb5.7						
KGM	**Kluang**	**53.95**	**278**	⇓P	**P**	**06 44 00.8**	**+1.2**
TBI	**Tubuai**	**53.98**	**113**	*e*PP	PP	06 45 56.5	-4.7
	comp=Z,2μm,27.2s						
TBI				*e*S	**S**	**06 51 38.1**	**+3.2**
	comp=Z,10μm,33.2s						
TBI				*e*LQ		06 57 38.8	
	comp=Z,107μm,29.2s						
TBI				*e*LR	LR	06 59 59.0	
	comp=Z,64μm,32.2s,baz=284						
TBI	**Tubuai**	**53.98**	**113**	*e*P	**P**	**06 43 59.5**	**-0.2**
	comp=Z,329nm,0.9s,mb6.3						
TBI				*e*PP	PP	06 45 56.5	-4.7
TBI				*e*S	**S**	**06 51 38.1**	**+3.2**
TBI				*e*LQ		06 57 38.8	
KHU	**Kahuku**	**54.27**	**60**	*e*P	**P**	**06 44 02.2**	**+0.3**
POHA	**Pohakuloa**	**54.56**	**59**	*e*P	**P**	**06 44 03.9**	**-0.1**
	comp=Z,354nm,1.0s,mb6.3						
POHA				LR	LR		
	comp=Z,35μm,20.0s,MS6.4						
KTGM	**Kuala Trenggan**	**54.82**	**282**	⇓P	**P**	**06 44 07.4**	**+1.4**
PMOR	**Pomariorio Ree**	**54.85**	**103**	*e*P	**P**	**06 44 06.3**	**+0.2**
	comp=Z,388nm,1.3s,mb6.3						
VAH	**Vaihoa**	**55.11**	**103**	*e*P	**P**	**06 44 07.9**	**-0.1**
	comp=Z,123nm,1.0s,mb5.9						
VLA	**Vladivostok**	**55.40**	**338**	*i*P	**P**	**06 44 09.2**	**-0.4**
VLA	**Vladivostok**	**55.40**	**338**	*d*iP	**P**	**06 44 09.1**	**-0.5**
VLA				pmax	pmax		
	comp=Z,322nm,1.3s,mb6.2						
WHN	**Wuhan**	**55.56**	**315**	⇑P	**P**	**06 44 10.0**	**-1.0**
WHN				PP	PP	06 46 12.7	-2.7
WHN				S	**S**	**06 51 54.1**	**-1.8**
WHN				AMB	AMB		
	comp=Z,470nm,1.3s,mb6.4						
WHN				AMB	AMB		
	comp=Z,7μm,8.9s						
WHN				LR	LR		
	comp=Z,38μm,21.3s,MS6.5						
YSS	**Yuzh-Sakhalins**	**55.87**	**349**	*e*P	**P**	**06 44 12.7**	**-0.1**
	comp=Z,141nm,1.0s,mb6.0						
YSS				LR	LR		
	comp=Z,10μm,19.0s,MS5.9						
YSS	**Yuzh-Sakhalins**	**55.87**	**349**	α*i*P	**P**	**06 44 12.5**	**-0.3**
YSS				*e*		06 45 11.0	
YSS				*e*		06 46 15.0	
YSS				*e*PPP		06 47 37.0	
YSS				*i*S	**S**	**06 52 00.0**	**+0.7**
YSS				*e*		06 54 00.0	
YSS				pmax	pmax		
	comp=N,70nm,1.0s						
YSS				pmax	pmax		
	comp=E,80nm,1.0s						
YSS				pmax	pmax		
	comp=Z,160nm,1.0s,mb6.0						
YSS				pmax	pmax		
	comp=N,2μm,8.0s						
YSS				pmax	pmax		
	comp=Z,3μm,8.0s						
YSS				smax			
	comp=E,5μm,16.0s						
YSS				smax			
	comp=N,3μm,14.0s						
YSS				MLR	MLR		
	comp=Z,7μm,20.0s,MS5.8						
YSS				MLR	MLR		
	comp=N,10μm,18.0s,MS6.0						
YSS				MLR	MLR		
	comp=E,7μm,18.0s,MS6.0						
DL2	**Dalian**	**56.64**	**328**	⇑*i*P	**P**	**06 44 18.4**	**-0.2**
DL2				PP	PP	06 46 25.4	+0.6
DL2				PCS	PcS	06 49 14.1	-1.3
DL2				S	**S**	**06 52 08.3**	**-1.6**
DL2				SCS	ScS	06 54 05.5	-1.5
DL2				SS	SS	06 55 54.4	-3.6
DL2				AMB	AMB		
	comp=Z,130nm,1.0s,mb5.9						
DL2				AMB	AMB		
	comp=Z,2μm,7.3s						
DL2				LR	LR		
	comp=N,2μm,17.1s,MS5.8						
DL2				LR	LR		
	comp=E,6μm,17.2s,MS5.8						
DL2				LR	LR		
	comp=Z,7μm,19.7s,MS5.7						
IPM	**Ipoh**	**56.69**	**281**	⇓P	**P**	**06 44 19.6**	**+0.2**
KULM	**Kulim**	**57.23**	**281**	*e*P	**P**	**06 44 22.3**	**-0.9**
KULM	**Kulim**	**57.23**	**281**	⇓P	**P**	**06 44 23.2**	**0.0**
TIA	**Tai'an**	**57.31**	**322**	⇑P	**P**	**06 44 22.4**	**-1.0**
TIA				S	**S**	**06 52 16.0**	**-2.9**
TIA				AMB	AMB		
	comp=Z,299nm,1.1s,mb6.2						
TIA				AMB	AMB		
	comp=Z,2μm,4.0s						
TIA				LR	LR		
	comp=N,3μm,15.0s,MS5.6						
TIA				LR	LR		
	comp=E,1μm,11.0s,MS5.6						
MDJ	**Mudanjiang**	**57.54**	**337**	P	**P**	**06 44 24.6**	**-0.2**
MDJ				AP	pP	06 44 27.8	-3.3
MDJ				XP	sP	06 44 29.0	-4.5
MDJ				PP	PP	06 46 32.1	-0.6
MDJ				SCP	ScP	06 49 17.8	+0.5
MDJ				PCS	PcS	06 49 19.0	-0.1
MDJ				S	**S**	**06 52 22.8**	**+1.2**
MDJ				XS	sS	06 52 28.5	-3.4
MDJ				SCS	ScS	06 54 14.1	+0.8
MDJ				SS	SS	06 56 14.3	+2.3
MDJ				AMB	AMB		
	comp=Z,55nm,2.1s,mb5.2						
MDJ				AMB	AMB		
	comp=Z,4μm,7.0s						
MDJ				LR	LR		
	comp=N,4μm,25.6s						
MDJ				LR	LR		
	comp=E,5μm,35.3s						
MDJ				LR	LR		
	comp=Z,6μm,33.2s						
MDJ	**Mudanjiang**	**57.54**	**337**	*e*P	**P**	**06 44 24.4**	**-0.4**
	comp=Z,386nm,1.6s,mb6.2						
MDJ				LR	LR		
	comp=Z,7μm,20.0s,MS5.8						
SNG	**Songkhla**	**57.69**	**284**	P	**P**	**06 44 27.0**	**+0.5**
	comp=Z,218nm,1.0s,mb6.1						
SNY	**Shenyang**	**57.86**	**331**	⇑P	**P**	**06 44 26.2**	**-0.9**
SNY				AP	pP	06 44 31.4	-2.0
SNY				XP	sP	06 44 33.8	-2.0
SNY				S	**S**	**06 52 21.1**	**-4.7**
SNY				AMB	AMB		
	comp=Z,163nm,2.5s,mb5.6						
SNY				AMB	AMB		
	comp=Z,5μm,4.0s						
SNY				LR	LR		
	comp=N,9μm,17.4s,MS5.9						
SNY				LR	LR		
	comp=E,4μm,18.3s,MS5.9						
SNY				LR	LR		
	comp=Z,3μm,17.3s,MS5.5						
SKR	**Severo-Kuril's**	**58.24**	**360**	*e*P	**P**	**06 44 28.0**	**-1.6**
SKR				*e*PPP		06 47 56.0	
SKR				*e*S	**S**	**06 52 34.0**	**+3.6**
SKR				*e*		06 54 08.0	
SKR				*e*SS	SS	06 56 20.0	-2.7
SKR				pmax	pmax		
	comp=Z,180nm,1.1s,mb6.0						
SKR				pmax	pmax		
	comp=Z,5μm,8.0s						
SKR				pmax	pmax		
	comp=E,2μm,6.0s						
SKR				smax			
	comp=N,8μm,16.0s						
SKR				smax			
	comp=E,17μm,16.0s						
SKR				MLR	MLR		
	comp=N,15μm,18.0s,MS6.4						
SKR				MLR	MLR		
	comp=E,21μm,18.0s,MS6.4						
SKR				MLR	MLR		
	comp=Z,26μm,18.0s,MS6.4						
KKTK	**Khon Kaen**	**58.29**	**295**	P	**P**	**06 44 30.0**	**-0.6**
	comp=Z,710nm,0.7s,mb6.8						
CN2	**Changchun**	**58.56**	**334**	*e*P	**P**	**06 44 32.3**	**+0.3**
CN2				*e*XP	sP	06 44 39.3	-1.3
CN2				*e*S	**S**	**06 52 34.2**	**-0.7**
CN2				AMB	AMB		
	comp=Z,70nm,1.3s,mb5.5						
CN2				LR	LR		
	comp=N,8μ

BJT	**Baijiatuau**	**60.42 325**	*e*P	**P**	**06 44 44.1 -0.8**	
BJT			pmax	pmax		
	comp=Z,1μm,2.0s					
BJT			MLR	MLR		
	comp=Z,18μm,20.0s					
BJI	**Beijing**	**60.43 325**	P	**P**	**06 44 44.4 -0.6**	
BJI			AP	pP	06 44 47.6 -3.7	
BJI			PCP	PcP	06 45 29.2 -0.5	
BJI			S	**S**	**06 52 59.7 +0.5**	
BJI			SS	SS	06 56 58.7 +1.2	
BJI			AMB	AMB		
	comp=Z,88nm,1.4s,mb5.6					
BJI			AMB	AMB		
	comp=Z,4μm,4.1s					
BJI			LR	LR		
	comp=N,16μm,20.2s,MS6.2					
BJI			LR	LR		
	comp=E,6μm,20.6s,MS6.2					
BJI			LR	LR		
	comp=Z,13μm,20.6s,MS6.1					
BJI	**Beijing**	**60.43 325**	P	**P**	**06 44 44.4 -0.6**	
	comp=Z,88nm,1.4s,mb5.6					
BJI			pP	pP	06 44 47.6 -3.7	
BJI			sP	sP	06 44 49.0 -4.6	
BJI			PcP	PcP	06 45 29.2 -0.5	
BJI			S	**S**	**06 52 59.7 +0.5**	
BJI			SS	SS	06 56 58.7 +1.2	
BJI			LR	LR		
	comp=Z,13μm,20.6s,MS6.1					
NST	**Nakhon Sawan**	**60.51 293**	P	**P**	**06 44 46.0 0.0**	
	comp=Z,133nm,0.7s,mb6.2					
PET	**Petropavlovsk**	**60.61 1**	*e*P	**P**	**06 44 45.0 -0.9**	
	comp=Z,151nm,1.2s,mb6.0					
PET			LR	LR		
	comp=Z,22μm,19.0s,MS6.3					
PET	**Petropavlovsk**	**60.61 1⇑**	*e*P	**P**	**06 44 44.7 -1.2**	
PET			pmax	pmax		
	comp=Z,120nm,1.5s,mb5.8					
KLR	**Kul'dur**	**60.79 342⇓**	*i*P	**P**	**06 44 43.0 -4.2**	
KLR			*e*S	**S**	**06 52 57.5 -5.9**	
KLR			*e*		06 54 29.5	
KLR			pmax	pmax		
	comp=N,560nm,2.8s					
KLR			pmax	pmax		
	comp=E,1μm,2.8s					
KLR			pmax	pmax		
	comp=Z,3μm,2.8s,mb6.9					
KLR			smax			
	comp=N,10μm,11.0s					
KLR			smax			
	comp=E,6μm,11.0s					
KLR			MLR	MLR		
	comp=Z,17μm,13.5s,MS6.4					
XAN	**Xi'an**	**61.33 316**	P	**P**	**06 44 51.1 -0.1**	
XAN			AP	pP	06 44 55.9 -1.6	
XAN			S	**S**	**06 53 06.6 -4.3**	
XAN			AMB	AMB		
	comp=Z,80nm,1.3s,mb5.7					
XAN			AMB	AMB		
	comp=Z,3μm,7.6s					
XAN			LR	LR		
	comp=N,7μm,21.5s,MS6.0					
XAN			LR	LR		
	comp=E,10μm,21.5s,MS6.0					
XAN			LR	LR		
	comp=Z,17μm,23.2s,MS6.1					
KMI	**Kunming**	**61.71 304**	P	**P**	**06 44 54.7 +0.7**	
KMI			AP	pP	06 44 58.2 -2.1	
KMI			XP	sP	06 44 59.8 -2.9	
KMI			PP	PP	06 47 14.4 +4.3	
KMI			S	**S**	**06 53 15.4 -0.7**	
KMI			AMB	AMB		
	comp=Z,57nm,1.0s,mb5.7					
KMI			AMB	AMB		
	comp=Z,5μm,6.6s					
KMI			LR	LR		
	comp=N,6μm,22.0s,MS6.1					
KMI			LR	LR		
	comp=E,12μm,22.0s,MS6.1					
KMI			LR	LR		
	comp=Z,19μm,22.0s,MS6.2					
KMI	**Kunming**	**61.71 304**	P	**P**	**06 44 54.7 +0.7**	
	comp=Z,57nm,1.0s,mb5.7					
KMI			pP	pP	06 44 58.2 -2.1	
KMI			sP	sP	06 44 59.8 -2.9	
KMI			PP	PP	06 47 14.4 +4.3	
KMI			S	**S**	**06 53 15.4 -0.7**	
KMI			sS	sS	06 53 23.5 -3.0	
KMI			SS	SS	06 57 13.9 -4.2	
KMI			SSS		06 59 57.3	
KMI			LR	LR		
	comp=Z,19μm,22.0s,MS6.2					
BDT	**Bhumibol Dam**	**62.04 294**	P	**P**	**06 44 57.5 +1.2**	
	comp=Z,16nm,0.9s,mb5.1					
SMY	**Shemya**	**62.13 12**	PFAKE		06 45 10.0 +14	
SMY			LR	LR		
	comp=Z,17μm,19.0s,MS6.2					
CM31	**Chiang Mai Arr**	**62.49 295**	PFAKE		06 45 10.0 +11	
CM31			LR	LR		
	comp=Z,3μm,20.0s,MS5.5					
CHTO	**Chiang Mai**	**62.60 296**	*e*P	**P**	**06 45 00.2 +0.1**	
	comp=Z,236nm,1.4s,mb6.1					
CHTO			*e*S	**S**	**06 53 28.4 +0.9**	
CHTO			LR	LR		
	comp=Z,8μm,19.0s,MS5.9					
CHTO	**Chiang Mai**	**62.60 296**	*e*P	**P**	**06 45 00.2 +0.1**	
CHTO			*e*S	**S**	**06 53 28.4 +0.8**	
CHTO			pmax	pmax		
	comp=Z,236nm,1.4s,mb6.1					
CHTO			MLR	MLR		
	comp=Z,8μm,19.0s,MS5.9					
CHTO	**Chiang Mai**	**62.60 296**	P	**P**	**06 45 01.5 +1.5**	
	SNR=68					
CHTO	**Chiang Mai**	**62.60 296**	P	**P**	**06 45 01.5 +1.5**	
	SNR=68					
TAOE	**Nuku Hiva Isla**	**62.61 96**	*e*S	**S**	**06 53 30.1 +2.2**	
	comp=Z,159μm,30.7s					
TAOE			*e*SS	SS	06 57 37.3 +4.8	
	comp=Z,227μm,30.3s					
TAOE			*e*LQ		07 01 15.9	
	comp=Z,389μm,24.9s					
TAOE			*e*LR	LR	07 03 59.9	
	comp=Z,652μm,22.6s,baz=270					
CD2	**Chengdu**	**63.48 310**	*e*P	**P**	**06 45 06.0 +0.3**	
CD2			AP	pP	06 45 11.8 -0.2	
CD2			XP	sP	06 45 13.5 -0.9	
CD2			PP	PP	06 47 27.8 +2.3	
CD2			PCS	PcS	06 49 44.8 -1.3	
CD2			S	**S**	**06 53 38.6 +0.5**	
CD2			XS	sS	06 53 46.2 -2.3	
CD2			SCS	ScS	06 54 55.8 -2.5	
CD2			SS	SS	06 57 46.5 +0.9	
CD2			AMB	AMB		
	comp=Z,330nm,1.2s,mb6.3					
CD2			AMB	AMB		
	comp=Z,6μm,6.7s					
CD2			LR	LR		
	comp=N,11μm,24.0s,MS6.2					
CD2			LR	LR		
	comp=E,17μm,26.4s,MS6.2					
CD2			LR	LR		
	comp=Z,17μm,24.0s,MS6.1					
HHC	**Hu-ho-hao-te**	**63.63 323⇑**	*i*P	**P**	**06 45 06.7 +0.2**	
HHC			AP	pP	06 45 10.9 -1.9	
HHC			XP	sP	06 45 14.4 -0.7	
HHC			PP	PP	06 47 26.7 0.0	
HHC			SCP		06 49 43.6	
HHC			PCS		06 49 46.7	
HHC			S	**S**	**06 53 43.1 +3.5**	
HHC			XS	sS	06 53 49.0 -1.0	
HHC			SCS	ScS	06 54 57.2 -1.8	
HHC			SS	SS	06 57 51.4 +3.8	
HHC			AMB	AMB		
	comp=Z,217nm,1.0s,mb6.1					
HHC			AMB	AMB		
	comp=Z,4μm,4.3s					
HHC			LR	LR		
	comp=N,5μm,17.2s,MS6.0					
HHC			LR	LR		
	comp=E,6μm,16.7s,MS6.0					
HHC			LR	LR		
	comp=Z,9μm,17.3s,MS6.0					
ADK	**Adak**	**63.74 18**	*e*P	**P**	**06 45 06.3 -0.7**	
	comp=Z,351nm,1.0s,mb6.3					
ADK			LR	LR		
	comp=Z,31μm,22.0s,MS6.4					
ADK	**Adak**	**63.74 18**	*e*P	**P**	**06 45 07.0 +0.1**	
BTO	**Baotou**	**64.41 322**	*e*P	**P**	**06 45 12.1 +0.5**	
BTO			S	**S**	**06 53 38.5 -11**	
HIA	**Hailar**	**65.28 334**	*e*P	**P**	**06 45 17.1 0.0**	
	comp=Z,2μm,2.3s,mb6.7					
HIA			LR	LR		
	comp=Z,12μm,19.0s,MS6.1					
HIA	**Hailar**	**65.28 334**	*c i*P	**P**	**06 45 16.7 -0.4**	
LZH	**Lanzhou**	**65.94 315**	⇑P	**P**	**06 45 22.5 +0.9**	
LZH			AP	pP	06 45 27.2 -0.8	
LZH			XP	sP	06 45 30.1 -0.2	
LZH			PCP	PcP	06 45 53.3 +0.9	
LZH			PP	PP	06 47 50.3 +3.2	
LZH			SCP		06 49 54.5	
LZH			PCS		06 49 56.4	
LZH			S	S	06 54 08.3 0.0	
LZH			XS	sS	06 54 16.2 -2.5	
LZH			SCS	ScS	06 55 14.6 -2.4	
LZH			SS	SS	06 58 24.8 +1.0	
LZH			AMB	AMB		
	comp=Z,445nm,1.4s,mb6.3					
LZH			AMB	AMB		
	comp=Z,4μm,8.9s					
LZH			LR	LR		
	comp=E,6μm,14.8s					
LZH			LR	LR		
	comp=Z,14μm,19.6s,MS6.2					
LZH	**Lanzhou**	**65.94 315**	⇑P	**P**	**06 45 22.5 +0.9**	
	comp=Z,445nm,1.4s,mb6.3					
LZH			pP	pP	06 45 27.2 -0.8	
LZH			sP	sP	06 45 30.1 -0.2	
LZH			PcP	PcP	06 45 53.3 +0.9	
LZH			PP	PP	06 47 50.3 +3.2	
LZH			PPP		06 49 25.4	
LZH			ScP		06 49 54.5	
LZH			PcS		06 49 56.4	
LZH			S	S	06 54 08.3 0.0	
LZH			sS	sS	06 54 16.2 -2.5	
LZH			PS		06 54 31.8	
LZH			ScS	ScS	06 55 14.6 -2.4	
LZH			SS	SS	06 58 24.8 +1.0	
LZH			LR	LR		
	comp=Z,14μm,19.6s,MS6.2					
LZH	**Lanzhou**	**65.94 315**	⇑P	**P**	**06 45 22.5 +0.9**	
LZH			*SP	sP	06 45 30.1 -0.2	
LZH					06 45 53.3	
LZH					06 47 50.3	
LZH			PPP		06 49 25.4	
LZH			S	S	06 54 08.3 0.0	
LZH			PS		06 54 31.8	
LZH					06 55 14.6	
LZH			SS	SS	06 58 24.8 +1.0	
LZH			pmax	pmax		
	comp=Z,445nm,1.4s,mb6.3					
LZH			MLR	MLR		
	comp=Z,14μm,19.6s,MS6.2					
CASY	**Casey**	**66.31 199**	*e*P	**P**	**06 45 22.9 -0.6**	
	comp=Z,429nm,2.0s,mb6.1					
CASY			LR	LR		
	comp=Z,16μm,19.0s,MS6.3					
RKT	**Rikitea**	**67.25 112**	*e*PP	PP	06 47 53.6 -5.0	
	comp=Z,2μm,27.0s					
RKT			*e*S	S	06 54 25.8 +1.1	
	comp=Z,10μm,40.5s					
RKT			*e*SS	SS	06 58 48.8 +4.4	
	comp=Z,8μm,32.5s					
RKT			*e*LQ		07 03 13.7	
	comp=Z,25μm,32.5s					
RKT			*e*LR	LR	07 06 07.1	
	comp=Z,35μm,22.2s,baz=281					
MA2	**Magadan**	**67.31 357**	*e*P	**P**	**06 45 28.3 -1.5**	
	comp=Z,142nm,1.1s,mb5.9					
MA2			LR	LR		
	comp=Z,8μm,19.0s,MS6.0					
MA2	**Magadan**	**67.31 357**	*i* P	**P**	**06 45 30.6 +0.7**	
MA2			*e*		06 45 48.5	
MA2			*e*		06 48 06.1	
MA2			*i* S	S	06 54 20.7 -3.2	
MA2			pmax	pmax		
	comp=Z,200nm,1.2s,mb6.0					
MA2			MLR	MLR		
	comp=Z,8μm,16.0s,MS6.0					
UNV	**Unalaska Valle**	**68.87 22**	*e*P	**P**	**06 45 38.8 -1.0**	
	comp=Z,140nm,1.0s,mb5.8					
UNV			LR	LR		
	comp=Z,33μm,19.0s,MS6.6					
IMP	**Imphal**	**68.99 300**	*e*P	**P**	**06 45 41.0 -0.2**	
NRGR	**Nerungri**	**69.34 342**	*e*P	**P**	**06 45 43.8 +1.1**	
NRGR			S	S	06 54 50.6 +2.3	
NRGR			smax			
	comp=N,30nm,0.5s					
AKUT	**Akutan**	**69.37 23**	*e*P	**P**	**06 45 43.1 +0.3**	
CLNS	**Chul'man**	**69.44 342**	*c i*P	**P**	**06 45 43.8 +0.5**	
CLNS			*e**PP	pP	06 45 50.7 +1.1	
CLNS			*e*		06 46 06.5	
CLNS			*e*		06 49 57.0	
CLNS			*e*S	S	06 54 40.9 -8.5	
CLNS			*e*PS		06 55 15.5	
CLNS			*e*		06 55 40.9	
CLNS			*e*SSS		07 02 12.6	
CLNS			pmax	pmax		
	comp=Z,382nm,1.1s,mb6.2					
CLNS			pmax	pmax		
	comp=N,284nm,1.4s					
CLNS			pmax	pmax		
	comp=E,49nm,1.0s					
CLNS			smax			
	comp=N,75nm,1.4s					
CLNS			smax			
	comp=Z,5.0nm,0.6s					
CLNS			smax			
	comp=E,30nm,1.5s					
VNDA	**Vanda**	**69.75 179**	*e*P	**P**	**06 45 44.9 -0.1**	
	comp=E,49nm,0.9s,mb5.4					
VNDA			LR	LR		
	comp=Z,11μm,19.0s,MS6.1					
VNDA	**Vanda**	**69.75 179**	*e*P	**P**	**06 45 44.9 -0.1**	
VNDA			pmax	pmax		
	comp=Z,49nm,0.9s					
VNDA			MLR	MLR		
	comp=Z,11μm,19.0s					
VNDA	**Vanda**	**69.75 179**	P	**P**	**06 45 45.0 0.0**	
	comp=Z,37nm,0.9s,mb5.3,baz=342,slow=6.5,SNR=129					
VNDA			LR	LR	07 11 50.3	
	comp=Z,13μm,18.1s,MS6.2,baz=97,slow=32					
VNDA			PKPPKP		07 13 49.5	
	comp=Z,2.2nm,1.1s,baz=183,slow=4.2,SNR=8.5					
CIT	**Chita**	**69.99 333**	*e*P	**P**	**06 45 47.5 +0.7**	
CIT			pmax	pmax		
	comp=Z,2μm,2.8s,mb6.5					
SBA	**Scott Base**	**70.23 178**	*e*P	**P**	**06 45 48.8 +0.8**	
	comp=Z,75nm,1.0s,mb5.6					
SBA			LR	LR		
	comp=Z,13μm,19.0s,MS6.2					
SBA	**Scott Base**	**70.23 178**	*e*P	**P**	**06 45 48.8 +0.9**	
SBA			pmax	pmax		
	comp=Z,75nm,1.0s,mb5.6					
SBA			MLR	MLR		
	comp=Z,13μm,19.0s,MS6.2					
GTA	**Gaotai**	**70.35 317**	P	**P**	**06 45 49.9 +0.6**	
GTA			AP	pP	06 45 54.6 -1.1	
GTA			XP	sP	06 45 57.6 -0.4	
GTA			PP	PP	06 48 28.7 +3.4	
GTA			S	S	06 55 00.9 +0.1	
GTA			XS	sS	06 55 08.1 -3.3	
GTA			SKS		06 55 44.8	
GTA			SCS	ScS	06 55 50.7 -0.6	
GTA			SS	SS	06 59 33.4 +1.4	
GTA			AMB	AMB		
	comp=Z,192nm,1.4s,mb5.8					
GTA			AMB	AMB		
	comp=Z,5μm,6.9s					
GTA			LR	LR		
	comp=N,5μm,20.3s,MS6.0					
GTA			LR	LR		
	comp=E,8μm,24.1s,MS6.0					
GTA			LR	LR		
	comp=Z,12μm,20.3s,MS6.1					
ULN	**Ulaanbaatar**	**70.49 327**	*e*P	**P**	**06 45 51.0 +1.1**	
	comp=Z,1μm,1.1s,mb6.7					
ULN			LR	LR		
	comp=Z,10μm,20.0s,MS6.1					
ULN	**Ulaanbaatar**	**70.49 327**	*e*P	**P**	**06 45 51.0 +1.1**	
ULN			pmax	pmax		
	comp=Z,1μm,1.1s,mb6.7					
ULN			MLR	MLR		
	comp=Z,10μm,20.0s,MS6.1					
ULN	**Ulaanbaatar**	**70.49 327**	P	**P**	**06 45 50.9 +1.0**	
ULN			S	S	06 55 04.2 +2.2	
ULN			SKSac	SKSac	06 55 49.2 -1.5	
SEY	**Seymchan**	**70.59 358⇑**	*e*P	**P**	**06 45 49.2 -1.0**	
FALS	**False Pass**	**70.82 23**	*e*P	**P**	**06 45 51.9 +0.1**	
	comp=Z,302nm,1.0s,mb6.2					
SONM	**Songino Array**	**70.82 327**	P	**P**	**06 45 52.0 +0.1**	
SONM			S	S	06 55 07.8 +1.9	
SONM			P'P'		07 13 50.5	
SONM			LR	LR	07 16 31.1	
SONM	**Songino Array**	**70.82 327**	P	**P**	**06 45 52.0 0.0**	
SONM			S	S	06 55 07.8 +1.8	
SONM	**Songino Array**	**70.82 327**	P	**P**	**06 45 52.0 +0.1**	
	comp=Z,727nm,0.9s,mb6.6,baz=137,slow=5.4,SNR=690					
SONM			S	S	06 55 07.8 +1.9	
	comp=Z,2.3nm,1.1s,baz=140,slow=9.2,SNR=3.3					
SONM			PKPPKP		07 13 50.5	
	comp=Z,3.3nm,1.1s,baz=197,slow=1.5,SNR=7.8					
SONM			LR	LR	07 16 31.1	
	comp=Z,13μm,21.3s,MS6.2,baz=128,slow=36					
SHL	**Shillong**	**71.00 300**	*i* P	**P**	**06 45 53.0 -0.5**	
SHL			*i* S	S	06 55 07.0 -1.9	
AGT	**Agartala**	**71.02 298**	*i* P	**P**	**06 45 55.0 +1.3**	
AGT			*i* x	x	06 46 18.0	
PTCN	**Pitcairn Islan**	**71.72 114**	PFAKE		06 46 10.0 +12	
PTCN			LR	LR		
	comp=Z,12μm,21.0s,MS6.2					
TURI	**Tura**	**72.32 300**	*e*P	**P**	**06 46 00.0 -1.5**	
TURI			*e*x	x	06 46 49.0	
SDPT	**Sand Point**	**72.35 24**	*e*P	**P**	**06 45 59.8 -1.2**	
	comp=Z,286nm,1.0s,mb6.2					
MIR	**Mirnyy**	**72.52 202⇓**	*i*P	**P**	**06 46 04.0 +2.1**	
MIR			*i*		06 46 25.0	
MIR			*i* S	S	06 55 28.0 +3.0	
MIR			pmax	pmax		
	comp=Z,300nm,1.0s,mb6.2					
YAK	**Yakutsk**	**72.66 347**	*e*P	**P**	**06 46 02.5 -0.2**	
	comp=Z,826nm,1.0s,mb6.6					
YAK			LR	LR		
	comp=Z,7μm,21.0s,MS5.9					
YAK	**Yakutsk**	**72.66 347**	*c i*P	**P**	**06 46 02.4 -0.3**	
YAK			*e*		06 46 15.0	
YAK			*e**PP	pP	06 46 24.2 +15	
YAK			*e*		06 48 39.5	
YAK			*e*PPP		06 50 31.3	
YAK			*e*S	S	06 55 22.4 -4.2	
YAK			*e**SS	sS	06 56 02.4 +25	
YAK			pmax	pmax		
	comp=Z,912nm,1.2s,mb6.6					
YAK			pmax	pmax		
	comp=E,116nm,1.3s					
YAK			pmax	pmax		
	comp=N,222nm,1.3s					
LSA	**Lhasa**	**72.97 304**	P	**P**	**06 46 05.0 -0.2**	
LSA			S	S	06 55 25.4 -6.0	
LSA			AMB	AMB		
	comp=Z,100nm,1.0s,mb5.7					
LSA			AMB	AMB		
	comp=Z,3μm,7.0s					
LSA			LR	LR		
	comp=N,4μm,22.0s,MS6.1					
LSA			LR	LR		
	comp=E,10μm,22.0s,MS6.1					
LSA			LR	LR		
	comp=Z,15μm,21.0s,MS6.2					
LSA	**Lhasa**	**72.97 304**	*e*P	**P**	**06 46 05.8 +0.6**	
	comp=Z,226nm,1.3s,mb5.9					
LSA			*e*S	S	06 55 32.2 +0.8	
LSA			LR	LR		
	comp=Z,17μm,22.0s,MS6.3					
LSA	**Lhasa**	**72.97 304**	*e*P	**P**	**06 46 05.8 +0.6**	
LSA			*e*S	S	06 55 32.2 +0.8	
LSA			pmax	pmax		
	comp=Z,226nm,1.3s,mb5.9					
LSA			MLR	MLR		
	comp=Z,17μm,22.0s,MS6.3					
CAL	**Calcutta**	**73.20 296**	*e*P	**P**	**06 46 08.8 +2.1**	
CAL			*e*S	S	06 55 37.3 +3.0	
CHGN	**Chignik**	**73.85 24**	*e*P	**P**	**06 46 09.3 -0.5**	
BOD	**Bodaibo**	**73.92 338⇓**	*i*P	**P**	**06 46 09.3 -0.9**	
BOD			pmax	pmax		
	comp=Z,247nm,1.2s,mb6.0					
ZAK	**Zakamensk**	**73.97 328**	*e*P	**P**	**06 46 10.8 +0.1**	
ZAK			*e*		06 55 43.4	
ZAK			pmax	pmax		
	comp=Z,329nm,1.1s,mb6.2					
TLY	**Talaya**	**74.52 329**	*e*P	**P**	**06 46 14.0 +0.2**	
	comp=Z,414nm,1.0s,mb6.3					
TLY			LR	LR		
	comp=Z,6μm,20.0s,MS5.9					
TLY	**Talaya**	**74.52 329**	*c i*P	**P**	**06 46 14.0 +0.2**	
TLY			*e*		06 46 27.8	
TLY			*e*		06 48 57.6	
TLY			*e*PPP		06 50 47.0	
TLY			*e*S	S	06 55 45.6 -2.4	
TLY			*e*		06 56 20.0	
TLY			pmax	pmax		
	comp=Z,450nm,1.1s,mb6.3					
TLY	**Talaya**	**74.52 329**	P	**P**	**06 46 14.3 +0.5**	
	SNR=218					
TLY	**Talaya**	**74.52 329**	P	**P**	**06 46 14.3 +0.5**	
	SNR=218					
IRK	**Irkutsk**	**74.53 330⇑**	*i*P	**P**	**06 46 13.3 -0.6**	
IRK			*e*		06 50 45.4	
IRK			*e*		06 55 49.0	
IRK			pmax	pmax		
	comp=Z,873nm,2.6s,mb6.2					
SHBG	**Sahibganj**	**74.53 299**	*e*P	**P**	**06 46 15.0 +0.5**	
GAMB	**Gambell**	**75.32 14**	*e*P	**P**	**06 46 17.2 -1.0**	
	comp=Z,108nm,1.2s,mb5.7					
BOK	**Bokaro**	**75.70 297⇑**	*i*P	**P**	**06 46 21.4 +0.1**	
BOK			AMb	AMB	06 46 26.5	
	comp=Z,144nm,1.0s,mb5.9					
MOY	**Mondy**	**75.88 328**	*e*P	**P**	**06 46 22.2 +0.5**	
MOY			pmax	pmax		
	comp=Z,1μm,3.1s					
BILL	**Bilibino**	**75.97 4**	*e*P	**P**	**06 46 21.1 -0.7**	
	comp=Z,214nm,1.2s,mb6.0					
BILL			LR	LR		
	comp=Z,10μm,19.0s,MS6.2					
BILL	**Bilibino**	**75.97 4**	*c i*P	**P**	**06 46 20.6 -1.2**	
BILL			*i*		06 49 19.4	
BILL			*i* S	S	06 56 01.7 -1.8	
BILL			*i* PS		06 56 41.7	
BILL			*i* PPS		06 57 01.2	
BILL			*i* SS	SS	07 00 55.1 -1.4	
BILL			pmax	pmax		
	comp=Z,174nm,1.2s,mb5.9					
BILL			MLR	MLR		
	comp=Z,11μm,18.0s,MS6.2					
JIRN	**Jiri**	**76.49 301**	*e*P	**P**	**06 46 25.7 0.0**	
	comp=Z,12nm,0.6s,mb5.0					
VIS	**Vishakhapatnam**	**76.56 290⇑**	*i*P	**P**	**06 46 26.4 +0.1**	
VIS			AMb	AMB	06 46 31.8	
	comp=Z,77nm,0.9s,mb5.7					
VIS			*i* S	S	06 56 11.7 -0.3	
PALK	**Pallekele**	**77.06 279**	*e*P	**P**	**06 46 29.4 +0.2**	
	comp=Z,349nm,1.6s,mb6.0					
PALK			LR	LR		
	comp=Z,6μm,21.0s,MS5.9					
PALK	**Pallekele**	**77.06 279**	P	**P**	**06 46 30.6 +1.3**	
	SNR=30					
KDAK	**Kodiak Island**	**77.23 25**	*e*P	**P**	**06 46 29.6 +0.4**	
	comp=Z,117nm,1.0s,mb5.8					
KDAK			LR	LR		
	comp=Z,3μm,21.0s,MS5.6					
KKN	**Kakani**	**77.30 301**	*e*P	**P**	**06 46 30.0 -0.3**	
	comp=Z,320nm,1.1s,mb6.2					
TNA	**Tin City**	**77.71 14**	*e*P	**P**	**06 46 30.5 -1.2**	
	comp=Z,84nm,1.0s,mb5.6					
TNA			LR	LR		
	comp=Z,12μm,20.0s,MS6.2					
GKN	**Gorkha**	**77.90 301**	*e*P	**P**	**06 46 33.1 -0.5**	
	comp=Z,836nm,1.2s,mb6.5					
SVW2	**Sparrevohn**	**78.17 22**	*e*P	**P**	**06 46 33.8 -0.6**	
MDRS	**Chennai**	**78.53 285⇑**	*i*P	**P**	**06 46 36.5 -0.8**	
MDRS			*e*S	S	06 56 32.5 -0.9	
BLSP	**Bilaspur**	**78.65 294⇑**	*i*P	**P**	**06 46 37.4 -0.5**	
BLSP			AMb	AMB	06 46 41.0	
	comp=Z,125nm,1.2s,mb5.7					
KOLN	**Koldanda**	**78.73 300**	*e*P	**P**	**06 46 36.5 -1.7**	
	comp=Z,579nm,1.2s,mb6.4					

TTA	**Tatalina**	**79.25**	**20**	*e*P	**P**	**06 46 40.0**	**-0.2**
TTA	**Tatalina**	**79.25**	**20**	*e*P	**P**	**06 46 40.3**	**+0.1**
SLKM	**Skilak Lake**	**79.85**	**24**	*e*P	**P**	**06 46 42.7**	**-0.9**
SALM	**Salem**	**80.24**	**283**	*e*P	**P**	**06 46 47.0**	**+0.3**
WMQ	**Urumqi**	**80.44**	**317⇑**	*i*P	**P**	**06 46 47.0**	**-0.1**
WMQ				XP	sP	06 46 55.0	-0.9
WMQ				PP	PP	06 49 51.5	+1.0
WMQ				S	S	06 56 51.6	-0.9
WMQ				SS	SS	07 02 07.0	+2.2
WMQ				AMB	AMB		
	comp=Z,286nm,1.3s,mb6.0						
WMQ				AMB	AMB		
	comp=Z,9μm,3.9s						
WMQ				LR	LR		
	comp=N,7μm,18.4s,MS6.1						
WMQ				LR	LR		
	comp=E,7μm,20.8s,MS6.1						
WMQ				LR	LR		
	comp=Z,8μm,23.2s,MS6.0						
KOD	**Kodaikanal**	**80.71**	**282**	*e*P	**P**	**06 46 50.0**	**+0.8**
KOD				AMb	AMB	06 46 59.9	
	comp=Z,188nm,1.7s,mb5.7						
JBP	**Jabalpur**	**80.81**	**295⇑**	*e*P	**P**	**06 46 49.6**	**0.0**
JBP				*ex*	x	06 46 59.4	
	comp=Z,165nm,1.6s						
JBP				*i* S	S	06 56 56.1	-1.1
TRD	**Trivandrum**	**80.92**	**280⇑**	*i*P	**P**	**06 46 50.2**	**-0.2**
TRD				AMb	AMB	06 47 00.1	
	comp=Z,186nm,1.5s,mb5.8						
TRD	**Trivandrum**	**80.92**	**280⇓**	*e*P	S	06 56 57.0	-1.7
PMR	**Palmer**	**80.92**	**23**	*e*P	**P**	**06 46 48.2**	**-1.1**
	comp=Z,142nm,0.9s,mb5.9						
PMR				LR	LR		
	comp=Z,10μm,21.0s,MS6.2						
PMR	**Palmer**	**80.92**	**23**	*e*P	**P**	**06 46 48.2**	**-1.1**
PMR				pmax	pmax		
	comp=Z,142nm,0.9s,mb5.9						
PMR				MLR	MLR		
	comp=Z,10μm,21.0s,MS6.2						
HYB	**Hyderabad**	**80.95**	**289**	*e*P	**P**	**06 46 49.5**	**-1.0**
	comp=Z,150nm,1.0s,mb5.9						
HYB				*e*S	S	06 56 56.0	-2.9
HYB	**Hyderabad**	**80.95**	**289**	*e*P	**P**	**06 46 49.5**	**-1.0**
HYB				*e*S	S	06 56 56.0	-2.9
HYB				pmax	pmax		
	comp=Z,150nm,1.0s,mb5.9						
HYB	**Hyderabad**	**80.95**	**289⇑**	*i*P	**P**	**06 46 50.0**	**-0.5**
	comp=Z,150nm,1.0s,mb5.9						
HYB				*e*S	S	06 56 58.0	-0.9
HYB				LR	LR	07 07 00.0	
	comp=Z,7.1nm,20.0s						
NGP	**Nagpur**	**81.23**	**293**	*e*P	**P**	**06 46 50.0**	**-2.0**
NGP				AMb	AMB	06 46 52.3	
	comp=Z,112nm,0.8s,mb5.8						
NGP				*ex*	x	06 56 58.1	
TIXI	**Tiksi**	**81.36**	**351**	*e*P	**P**	**06 46 50.9**	**-0.6**
	comp=Z,244nm,1.5s,mb5.9						
TIXI				LR	LR		
	comp=Z,8μm,20.0s,MS6.1						
TIXI	**Tiksi**	**81.36**	**351**	*c i*P	**P**	**06 46 50.1**	**-1.4**
TIXI				*i* S	S	06 56 57.7	-3.4
TIXI				*e*		06 57 48.0	
TIXI				*e*SS	SS	07 02 13.9	-3.6
TIXI				pmax	pmax		
	comp=N,70nm,1.7s						
TIXI				pmax	pmax		
	comp=Z,186nm,1.6s,mb5.8						
TIXI				pmax	pmax		
	comp=E,59nm,1.6s						
TIXI				pmax	pmax		
	comp=Z,2μm,8.4s						
TIXI				MLR	MLR		
	comp=Z,8μm,19.0s,MS6.1						
TIXI				MLR	MLR		
	comp=N,6μm,20.0s,MS6.1						
TIXI				MLR	MLR		
	comp=E,6μm,22.0s,MS6.1						
EYAK	**Cordova Ski Ar**	**81.71**	**25**	*e*P	**P**	**06 46 53.0**	**-0.5**
	comp=E,128nm,1.2s,mb5.7						
LGTI	**Lohaghat**	**82.00**	**301**	*e*P	**P**	**06 46 55.5**	**-0.3**
IMA2	**Indian Mountai**	**82.07**	**18**	*e*P	**P**	**06 46 54.4**	**-0.9**
QSPA	**South Pole Qui**	**82.19**	**180**	*e*P	**P**	**06 46 55.9**	**+0.1**
	comp=E,191nm,1.0s,mb6.0						
QSPA				LR	LR		
	comp=Z,8μm,19.0s,MS6.1						
QSPA	**South Pole Qui**	**82.19**	**180**	P	**P**	**06 46 55.7**	**-0.1**
	comp=Z,119nm,0.9s,mb5.8,baz=359,slow=1.8,SNR=152						
QSPA				LR	LR	07 20 56.0	
	comp=Z,8μm,18.3s,MS6.1,baz=229,slow=34						
MCK	**McKinley**	**82.24**	**21**	*e*P	**P**	**06 46 54.7**	**-1.6**
	comp=Z,445nm,1.0s,mb6.3						
MCK				LR	LR		
	comp=Z,8μm,20.0s,MS6.1						
MCK	**McKinley**	**82.24**	**21**	*e*P	**P**	**06 46 56.2**	**-0.1**
MCK				pmax	pmax		
	comp=Z,220nm,1.0s,mb6.0						
LATR	**Latur**	**83.01**	**290**	*e*P	**P**	**06 46 59.1**	**-2.1**
LATR				AMb	AMB	06 47 10.3	
	comp=Z,186nm,1.5s,mb5.9						
AKL	**Akola**	**83.01**	**292**	*i* P	**P**	**06 46 60.0**	**-1.3**
AKL				*e*P		06 47 00.3	
AKL				⇓*i*P		06 47 00.3	
AKL				*ex*	x	06 47 13.5	
	comp=Z,240nm,1.6s						
AKL				*ex*	x	06 47 13.7	
	comp=Z,234nm,1.8s						
AKL				*i* x	x	06 57 16.0	
BHPL	**Bhopal**	**83.13**	**295⇑**	*i*P	**P**	**06 47 00.8**	**-1.0**
BHPL				AMb	AMB	06 47 03.3	
	comp=Z,78nm,0.8s,mb5.8						
COLA	**College**	**83.28**	**21**	*e*P	**P**	**06 46 59.9**	**-1.8**
	comp=Z,177nm,1.0s,mb6.0						
COLA				LR	LR		
	comp=Z,11μm,21.0s,MS6.2						
COLA	**College**	**83.28**	**21**	*e*P	**P**	**06 46 59.9**	**-1.8**
COLA				pmax	pmax		
	comp=Z,177nm,1.0s,mb6.0						
COLA				MLR	MLR		
	comp=Z,11μm,21.0s,MS6.2						
MNGI	**Mangalore**	**83.71**	**284**	*i* P	**P**	**06 47 04.5**	**-0.5**
MNGI				AMb	AMB	06 47 16.8	
	comp=Z,178nm,1.7s,mb5.9						
MNGI				*i* S	S	06 57 26.1	-1.2
MENT	**Mentasta**	**83.78**	**23**	*e*P	**P**	**06 47 04.2**	**0.0**
DDI	**Dehra Dun**	**84.05**	**302**	*ex*	x	06 47 16.5	
DDI				*e*S	S	06 57 28.8	-1.4
MAW	**Mawson**	**84.24**	**203**	P	**P**	**06 47 06.5**	**-0.1**
	comp=Z,39nm,0.9s,mb5.5,baz=85,slow=6.8,SNR=25						
MAW				LR	LR	07 20 03.3	
	comp=Z,5μm,20.9s,MS5.8,baz=86,slow=32						
NDI	**New Delhi**	**84.42**	**300**	*e*P	**P**	**06 47 07.6**	**-0.7**
NDI				AMb	AMB	06 47 12.2	
	comp=Z,275nm,0.9s,mb6.4						
NDI				*e*S	S	06 57 28.0	-5.9
SIT	**Sitka**	**84.92**	**31**	*e*P	**P**	**06 47 10.2**	**0.0**
	comp=Z,169nm,1.3s,mb6.0						
SIT				LR	LR		
	comp=Z,21μm,19.0s,MS6.5						
SIT	**Sitka**	**84.92**	**31**	*e*P	**P**	**06 47 10.6**	**+0.4**
SIT				pmax	pmax		
	comp=Z,140nm,1.1s,mb6.0						
SMLA	**Simla**	**84.97**	**302**	*e*P	**P**	**06 47 10.2**	**-0.8**
SMLA				AMb	AMB	06 47 18.6	
	comp=Z,263nm,1.2s,mb6.2						
MK31	**Makanchi Array**	**85.00**	**318**	*e*P	**P**	**06 47 10.5**	**-0.3**
MKAR	**Makanchi Array**	**85.00**	**318⇑**	*e*P	**P**	**06 47 10.3**	**-0.5**
MKAR	**Makanchi Array**	**85.00**	**318**	P	**P**	**06 47 10.3**	**-0.5**
	comp=Z,222nm,1.1s,mb6.2,baz=100,slow=4.6,SNR=241						
MKAR				S	S	06 57 30.3	-8.7
	comp=Z,6.9nm,1.2s,baz=79,slow=6.4,SNR=6.2						
MKAR				PKKPbc	PKKPbc	07 05 17.6	-2.5
	comp=Z,3.1nm,1.0s,baz=291,slow=3.4,SNR=9.3						
MKAR				PKPPKP		07 13 19.6	
	comp=Z,2.2nm,1.0s,baz=277,slow=2.5,SNR=3.1						
MKAR				LR	LR	07 27 34.5	
	comp=Z,5μm,18.8s,MS6.0,baz=111,slow=38						
KAD	**Karad**	**85.04**	**288⇑**	*i*P	**P**	**06 47 10.7**	**-1.0**
KAD				AMb	AMB	06 47 13.3	
	comp=Z,234nm,0.9s,mb6.3						
GOA	**Goa**	**85.08**	**286**	*e*P	**P**	**06 47 12.2**	**+0.4**
GOA				AMb	AMB	06 47 21.8	
	comp=Z,146nm,2.2s,mb5.7						
SDNR	**Sundarnagar**	**85.21**	**303**	*e*P	**P**	**06 47 11.5**	**-0.7**
CRAG	**Craig**	**85.48**	**33**	*e*P	**P**	**06 47 12.5**	**-0.5**
	comp=Z,310nm,2.0s,mb6.1						
POO	**Poona**	**85.56**	**289**	*ex*	x	06 38 04.0	
POO				*i* PCP	PcP	06 47 16.0	-1.2
POO				*e*PPP		06 52 20.0	
POO				*i* S	S	06 57 36.0	-10
BHK	**Bhakra**	**85.66**	**302**	*e*P	**P**	**06 47 12.8**	**-1.7**
EGAK	**Eagle**	**85.67**	**22**	*e*P	**P**	**06 47 13.3**	**-0.5**
	comp=Z,108nm,1.2s,mb6.0						
EGAK				LR	LR		
	comp=Z,11μm,20.0s,MS6.2						
ZALV	**Zalesovo Beam**	**85.68**	**326**	P	**P**	**06 47 12.4**	**-1.7**
	comp=Z,154nm,1.0s,mb6.2,baz=109,slow=5.1,SNR=163						
ZALV				PP	PP	06 50 33.1	-0.1
	comp=Z,7.7nm,1.0s,baz=107,slow=7.7,SNR=2.6						
ZALV				S	S	06 57 36.8	-8.6
	comp=Z,1.4nm,0.6s,baz=108,slow=4.8,SNR=5.0						
ZALV				PKKPbc	PKKPbc	07 05 14.5	-4.4
	comp=Z,2.3nm,0.8s,baz=297,slow=4.8,SNR=5.3						
ZALV				PKPPKP		07 13 19.2	
	comp=Z,1.9nm,0.8s,baz=283,slow=2.6,SNR=6.8						
ZAL	**Zalesovo**	**85.69**	**326**	P	**P**	**06 47 12.4**	**-1.7**
ZAL						06 50 33.2	
ZAL				S	S	06 57 36.8	-8.7
SKAG	**Skagway**	**85.85**	**28**	*e*P	**P**	**06 47 14.3**	**-0.4**
	comp=Z,284nm,1.5s,mb6.3						
DAWY	**Dawson**	**86.02**	**23**	*e*P	**P**	**06 47 15.3**	**-0.2**
WRAK	**Wrangell Islan**	**86.22**	**32**	*e*P	**P**	**06 47 17.0**	**+0.4**
	comp=Z,227nm,1.5s,mb6.2						
WRAK				LR	LR		
	comp=Z,13μm,20.0s,MS6.3						
AJM	**Ajmer**	**86.23**	**297⇑**	*i*P	**P**	**06 47 15.9**	**-1.4**
AJM				AMb	AMB	06 47 18.7	
	comp=Z,251nm,1.3s,mb6.3						
DLH	**Dalhousie**	**86.26**	**303**	*ex*	x	06 47 20.0	
THN	**Thein Dam**	**86.44**	**303**	*e*P	**P**	**06 47 16.7**	**-1.6**
THN	**Thein Dam**	**86.44**	**303**	*e*P	S	06 57 53.6	-0.2
BOM	**Bombay**	**86.59**	**289**	*i* P	**P**	**06 47 18.3**	**-1.1**
BOM				*ex*	x	06 47 22.3	
	comp=Z,119nm,1.4s						
BOM				*ex*	x	06 53 53.6	
NVS	**Novosibirsk**	**86.85**	**326⇑**	*i*P	**P**	**06 47 18.2**	**-1.6**
NVS				*i* S	S	06 57 40.2	-17
NVS				pmax	pmax		
	comp=Z,1μm,2.6s,mb6.6						
NVS				pmax	pmax		
	comp=N,516nm,2.8s						
NVS				pmax	pmax		
	comp=E,770nm,2.8s						
KCPM	**Cahto Peak**	**87.23**	**50**	*e*P	**P**	**06 47 22.3**	**+0.3**
BBB	**Bella Bella**	**87.25**	**37**	LR	LR	07 19 08.5	
	comp=E,25μm,21.1s,MS6.6,baz=263,slow=31						
K01A	**Sixes**	**87.27**	**46**	⇑P	**P**	**06 47 22.2**	**+0.1**
	baz=87						
M01C	**Crescent City**	**87.30**	**47**	⇓P	**P**	**06 47 22.7**	**+0.4**
	baz=87						
KBO	**Bosley Butte**	**87.31**	**47**	*e*P	**P**	**06 47 22.2**	**-0.1**
KIPM	**Iron Peak**	**87.33**	**49**	*e*P	**P**	**06 47 23.9**	**+1.4**
P01C	**Double 8 Ranch**	**87.37**	**50**	P	**P**	**06 47 23.0**	**+0.4**
	baz=87,SNR=8.8						
KHMM	**Horse Mountain**	**87.37**	**48**	*e*P	**P**	**06 47 22.5**	**-0.2**
KRMB	**Red Mountain**	**87.39**	**48**	*e*P	**P**	**06 47 22.3**	**-0.4**
MCCM	**Marconi Confer**	**87.44**	**51**	PFAKE		06 47 30.0	+6.9
MCCM				LR	LR		
	comp=Z,13μm,20.0s,MS6.3						
HOPS	**Hopland**	**87.47**	**50**	*e*P	**P**	**06 47 22.9**	**-0.2**
	comp=Z,76nm,1.4s,mb5.7						
HOPS				LR	LR		
	comp=Z,10μm,20.0s,MS6.2						
BHV	**Bhavnagar**	**87.67**	**292**	*e*P	**P**	**06 47 24.5**	**0.0**
KSH	**Kashi**	**87.68**	**310**	P	**P**	**06 47 25.5**	**+1.3**
KSH				AP	pP	06 47 30.3	-0.4
KSH				XP	sP	06 47 32.5	-0.5
KSH				PP	PP	06 50 54.8	+5.0
KSH				SKS		06 57 51.1	
KSH				S	S	06 58 06.2	+0.8
KSH				XS	sS	06 58 14.8	-1.4
KSH				SS	SS	07 03 58.1	+6.0
KSH				AMB	AMB		
	comp=Z,527nm,1.1s,mb6.7						
KSH				LR	LR		
	comp=N,14μm,16.8s,MS6.6						
KSH				LR	LR		
	comp=E,20μm,19.6s,MS6.6						
KSH				LR	LR		
	comp=Z,15μm,22.4s,MS6.4						
N02C	**Big Bar**	**87.68**	**48**	P	**P**	**06 47 24.6**	**+0.5**
	baz=88,SNR=13						
NSHM	**Saint Helena R**	**87.73**	**51**	*e*P	**P**	**06 47 24.5**	**0.0**
L02A	**Cave Junction**	**87.75**	**47**	⇑P	**P**	**06 47 24.9**	**+0.5**
	baz=88						
AAA	**Alma-Ata**	**87.77**	**314**	*i* P	**P**	**06 47 25.0**	**+0.5**
AAA	**Alma-Ata**	**87.77**	**314**	*i* P	**P**	**06 47 25.2**	**+0.7**
AAA				*i* S	S	06 57 49.4	-17
AAA				pmax	pmax		
	comp=Z,7μm,6.9s						
AAA				MLR	MLR		
	comp=Z,8μm,19.2s,MS6.1						
BNLO	**Ben Lomond (Sa**	**87.78**	**52**	⇓P	**P**	**06 47 25.1**	**+0.4**
	baz=88						
O02C	**Red Bluff**	**87.93**	**49**	P	**P**	**06 47 26.1**	**+0.7**
	baz=88,SNR=28						
K02A	**Glendale**	**87.96**	**47**	P	**P**	**06 47 25.5**	**0.0**
	baz=88,SNR=12						
I02A	**Mapleton**	**87.99**	**45**	⇓P	**P**	**06 47 25.5**	**-0.1**
	baz=88,SNR=8.4						
H02A	**Toledo**	**88.02**	**45**	⇑P	**P**	**06 47 25.9**	**+0.2**
	baz=88						
J02A	**Umpqua**	**88.03**	**46**	⇑P	**P**	**06 47 25.5**	**-0.2**
	baz=88,SNR=6.8						
ULHL	**Ulahol**	**88.05**	**313**	P	**P**	**06 47 25.9**	**+0.1**
	SNR=44						
DLBC	**Dease Lake**	**88.06**	**30**	*e*P	**P**	**06 47 25.7**	**+0.1**
HAST	**Hastings Reser**	**88.13**	**53**	⇑P	**P**	**06 47 27.1**	**+0.7**
	baz=88,SNR=9.7						
M02C	**Callahan**	**88.13**	**48**	P	**P**	**06 47 27.0**	**+0.7**
	baz=88,SNR=29						
WDC	**Whiskeytown Da**	**88.19**	**49**	*e*P	**P**	**06 47 26.5**	**-0.1**
	comp=Z,74nm,1.4s,mb5.7						
WDC				LR	LR		
	comp=Z,13μm,20.0s,MS6.3						
WDC	**Whiskeytown Da**	**88.19**	**49**	*e*P	**P**	**06 47 26.5**	**-0.1**
WDC				pmax	pmax		
	comp=Z,74nm,1.4s,mb5.7						
WDC				MLR	MLR		
	comp=Z,13μm,20.0s,MS6.3						
Q03C	**Winters**	**88.20**	**51**	⇓P	**P**	**06 47 27.6**	**+0.9**
	baz=88						
SAO	**San Andreas Ge**	**88.28**	**53**	*e*P	**P**	**06 47 27.4**	**+0.3**
	comp=Z,34nm,1.1s,mb5.5						
SAO				LR	LR		
	comp=Z,16μm,20.0s,MS6.4						
SAO	**San Andreas Ge**	**88.28**	**53**	*e*P	**P**	**06 47 27.4**	**+0.3**
SAO				pmax	pmax		
	comp=Z,34nm,1.1s,mb5.5						
SAO				MLR	MLR		
	comp=Z,16μm,20.0s,MS6.4						
YBH	**Yreka Blue Hor**	**88.31**	**48**	*e*P	**P**	**06 47 26.9**	**-0.2**
	comp=Z,528nm,2.8s,mb6.3						
YBH				LR	LR		
	comp=Z,18μm,20.0s,MS6.5						
HUMO	**Hull Mountain**	**88.31**	**47**	PFAKE		06 47 40.0	+13
HUMO				LR	LR		
	comp=Z,23μm,20.0s,MS6.6						
V03C	**Hunter Liggett**	**88.31**	**53**	⇑P	**P**	**06 47 28.5**	**+1.2**
	baz=88,SNR=10						
I03A	**Eugene**	**88.37**	**45**	⇑P	**P**	**06 47 27.3**	**-0.1**
	baz=88						
C03A	**Quillayute Air**	**88.38**	**41**	⇑P	**P**	**06 47 27.6**	**+0.3**
	baz=88						
KURK	**Kurchatov**	**88.39**	**322**	*e*P	**P**	**06 47 25.8**	**-1.5**
	comp=Z,158nm,1.3s,mb6.1						
KURK				LR	LR		
	comp=Z,7μm,20.0s,MS6.1						
KURK	**Kurchatov**	**88.39**	**322**	P	**P**	**06 47 26.1**	**-1.1**
	SNR=117						
KURK	**Kurchatov**	**88.39**	**322**	P	**P**	**06 47 26.1**	**-1.1**
	SNR=117						
O03C	**Acorn Hollow,**	**88.46**	**49**	⇑P	**P**	**06 47 27.4**	**-0.4**
	baz=88						
J03A	**Ideyld Park**	**88.46**	**46**	⇓P	**P**	**06 47 28.1**	**+0.3**
	baz=88,SNR=7.5						
COR	**Corvallis**	**88.48**	**45**	*e*P	**P**	**06 47 27.4**	**-0.5**
COR				LR	LR		
	comp=Z,14μm,19.0s,MS6.4						
H03A	**Soap Creek Ran**	**88.51**	**45**	⇓P	**P**	**06 47 27.8**	**-0.2**
	baz=89,SNR=11						
S04C	**Ingram Canyon,**	**88.52**	**52**	⇓P	**P**	**06 47 28.6**	**+0.4**
	baz=89,SNR=8.8						
F03A	**Seaside**	**88.60**	**43**	⇑P	**P**	**06 47 27.9**	**-0.5**
	baz=89						
M03C	**McCloud**	**88.65**	**48**	P	**P**	**06 47 29.1**	**+0.3**
	baz=89,SNR=24						
G03A	**Yamhill**	**88.65**	**44**	⇑P	**P**	**06 47 28.2**	**-0.4**
	baz=89						
TKM2	**Tokmak 2**	**88.66**	**313**	*e*P	**P**	**06 47 28.2**	**-0.5**
	comp=Z,102nm,1.3s,mb6.0						
TKM2				LR	LR		
	comp=Z,7μm,20.0s,MS6.0						
TKM2	**Tokmak 2**	**88.66**	**313**	*e*P	**P**	**06 47 28.2**	**-0.5**
TKM2				pmax	pmax		
	comp=Z,102nm,1.3s,mb6.0						
TKM2				MLR	MLR		
	comp=Z,7μm,20.0s,MS6.0						
TKM2	**Tokmak 2**	**88.66**	**313**	P	**P**	**06 47 28.2**	**-0.5**
	SNR=25						
NLWA	**Neilton Lookou**	**88.71**	**42**	*e*P	**P**	**06 47 29.5**	**+0.6**
	comp=Z,44nm,1.2s,mb5.7						
NLWA				LR	LR		
	comp=Z,11μm,22.0s,MS6.2						
D03A	**Wishkah Elem.**	**88.72**	**42**	⇓P	**P**	**06 47 29.0**	**+0.1**
	baz=89						
E03A	**Lebam**	**88.73**	**43**	⇓P	**P**	**06 47 28.6**	**-0.4**
	baz=89,SNR=7.3						
Q04C	**Lincoln**	**88.73**	**51**	⇓P	**P**	**06 47 29.3**	**+0.1**
	baz=89						
U04C	**Hernandez Rese**	**88.73**	**53**	P	**P**	**06 47 30.6**	**+1.3**
	baz=89,SNR=12						
KZA	**Kyzart**	**88.74**	**313**	P	**P**	**06 47 29.8**	**+0.7**
	SNR=73						
OHCM	**Honcut**	**88.75**	**50**	*e*P	**P**	**06 47 29.3**	**0.0**
T05C	**Eagle Field, D**	**88.92**	**53**	⇓P	**P**	**06 47 30.8**	**+0.7**
	baz=89						
I04A	**Tendick Farm,**	**88.94**	**46**	⇓P	**P**	**06 47 29.6**	**-0.5**
	baz=89,SNR=10						
M04C	**Macdoel**	**88.95**	**48**	⇑P	**P**	**06 47 30.1**	**0.0**
	baz=89,SNR=22						
R04C	**Big Horse Ranc**	**88.96**	**51**	⇑P	**P**	**06 47 30.2**	**-0.1**
	baz=89						
HATC	**Hat Creek Radi**	**89.05**	**49**	⇑P	**P**	**06 47 30.7**	**+0.1**
	baz=89,SNR=8.0						
J04A	**Umpqua Nationa**	**89.05**	**46**	⇓P	**P**	**06 47 30.7**	**+0.1**
	baz=89,SNR=15						
KBK	**Karagaybulak**	**89.07**	**313**	P	**P**	**06 47 30.8**	**+0.1**
	SNR=16						
LTIM	**Timbered Crate**	**89.09**	**48**	P	**P**	**06 47 31.0**	**+0.1**
B04A	**Port Angeles**	**89.10**	**41**	⇑P	**P**	**06 47 30.3**	**-0.3**
	baz=89						
G04A	**Mulino**	**89.19**	**44**	⇑P	**P**	**06 47 30.6**	**-0.6**
	baz=89						
K04A	**Chilquin**	**89.20**	**47**	⇓P	**P**	**06 47 31.4**	**+0.1**
	baz=89						
LAVA	**Lava Cap Winer**	**89.21**	**51**	⇓P	**P**	**06 47 31.5**	**+0.1**
	baz=89,SNR=11						
SNCC	**San Nicolas Is**	**89.21**	**56**	*e*P	**P**	**06 47 33.4**	**+1.8**
	comp=Z,129nm,1.0s,mb6.2						
SNCC				LR	LR		
	comp=Z,13μm,21.0s,MS6.3						
O04C	**Chester**	**89.23**	**49**	P	**P**	**06 47 32.0**	**+0.5**
	baz=89,SNR=12						
U05C	**Westside ANR,**	**89.26**	**53**	⇑P	**P**	**06 47 32.4**	**+0.7**
	baz=89,SNR=5.6						
PGC	**Sidney**	**89.26**	**41**	*e*P	**P**	**06 47 31.5**	**+0.1**
	comp=Z,118nm,1.3s,mb6.1						
S05C	**Merced**	**89.27**	**52**	⇓P	**P**	**06 47 31.7**	**0.0**
	baz=89,SNR=7.3						
CHMS	**Chumysh**	**89.28**	**313**	P	**P**	**06 47 30.9**	**-0.7**
	SNR=17						
H04A	**Detroit Lake**	**89.28**	**45**	⇓P	**P**	**06 47 30.8**	**-0.8**
	baz=89,SNR=8.4						
O05C	**Quincy**	**89.29**	**50**	⇓P	**P**	**06 47 32.0**	**+0.2**
	baz=89						
UCH	**Uchtor**	**89.30**	**313**	*e*P	**P**	**06 47 32.0**	**+0.2**
	comp=Z,2μm,2.9s,mb6.9						
UCH				LR	LR		
	comp=Z,8μm,20.0s,MS6.1						
UCH	**Uchtor**	**89.30**	**313**	P	**P**	**06 47 32.1**	**+0.3**
	SNR=45						
E04A	**Onalaska**	**89.31**	**43**	⇑P	**P**	**06 47 31.2**	**-0.5**
	baz=89						
FRU	**Bishkek**	**89.34**	**313⇑**	*e*P	**P**	**06 47 31.0**	**-1.0**
FRU				*i*		06 57 58.0	
FRU				*i* S	S	06 58 21.0	0.0
FRU				pmax	pmax		
	comp=Z,180nm,3.1s						
FRU				MLR	MLR		
	comp=E,6μm,19.0s						
FRU				MLR	MLR		
	comp=Z,7μm,19.0s,MS6.1						
V05C	**Boulder Hill,**	**89.35**	**54**	⇑P	**P**	**06 47 33.3**	**+1.2**
	baz=89						
CMB	**Columbia Colle**	**89.35**	**52**	*e*P	**P**	**06 47 31.9**	**-0.2**
	comp=Z,53nm,1.5s,mb5.7						
CMB				LR	LR		
	comp=Z,15μm,21.0s,MS6.4						
CMB	**Columbia Colle**	**89.35**	**52**	*e*P	**P**	**06 47 31.9**	**-0.2**
CMB				pmax	pmax		
	comp=Z,53nm,1.5s,mb5.7						
CMB				MLR	MLR		
	comp=Z,15μm,21.0s,MS6.4						
D04A	**Dobbs Creek Ra**	**89.36**	**42**	⇓P	**P**	**06 47 31.2**	**-0.7**
	baz=89						
C04A	**Brinnon**	**89.38**	**42**	⇓P	**P**	**06 47 31.2**	**-0.7**
	baz=90						
F04A	**Amboy**	**89.38**	**44**	⇓P	**P**	**06 47 31.4**	**-0.7**
	baz=90						
M05C	**Lookout**	**89.38**	**48**	⇓P	**P**	**06 47 32.3**	**+0.1**
	baz=90,SNR=9.0						
AAK	**Ala-Archa**	**89.39**	**313**	P	**P**	**06 47 31.9**	**-0.4**
	SNR=22						
P05C	**Yuba Gap, Truc**	**89.41**	**50**	P	**P**	**06 47 33.2**	**+0.8**
	baz=90,SNR=17						
GNW	**Green Mountain**	**89.44**	**42**	*e*P	**P**	**06 47 32.1**	**-0.2**
USP	**Ospenovka**	**89.51**	**314**	P	**P**	**06 47 32.1**	**-0.7**
	SNR=20						
ELFS	**Eagle Lake Fie**	**89.56**	**49**	⇓P	**P**	**06 47 33.6**	**+0.5**
	baz=90						
J05A	**Fort Rock**	**89.68**	**46**	P	**P**	**06 47 33.9**	**+0.3**
	baz=90,SNR=40						
T06C	**Millerton Lake**	**89.70**	**53**	P	**P**	**06 47 34.0**	**+0.2**
	baz=90,SNR=24			

MOD Modoc 90.11 48 *eP* **P 06 47 35.3 -0.2**
comp=Z,55nm,1.2s,mb5.8
MOD LR LR
comp=Z,15µm,20.0s,MS6.4
O06A Flanigan 90.15 50 P **P 06 47 36.2 +0.4**
baz=90,SNR=24
R06C Coleville 90.16 51 ⇑P **P 06 47 36.7 +0.8**
baz=90,SNR=17
RPN Rapa Nui 90.16 117 P **P 06 47 38.0 +1.7**
RPN LR LR
comp=Z,8µm,20.0s,MS6.2
RPN Rapa Nui 90.16 117 P **P 06 47 37.9 +1.7**
comp=Z,58nm,0.9s,mb5.9,baz=210,slow=3.0,SNR=4.0
BHJ Bhuj 90.17 293 ⇑*i*P **P 06 47 35.7 -0.6**
BHJ AMb AMB 06 47 38.5
comp=Z,164nm,1.2s,mb6.2
HELL Mitchell Peak 90.19 53 P **P 06 47 36.1 +0.1**
baz=90,SNR=38
A05A Maple Falls 90.22 41 ⇓P **P 06 47 34.5 -1.3**
baz=90
C05A Tolt Reservoir 90.22 42 ⇑P **P 06 47 35.2 -0.8**
baz=90
N06A Buffalo Meadow 90.25 49 P **P 06 47 36.6 +0.4**
baz=90,SNR=26
MBW Mount Baker 90.30 41 P **P 06 47 36.5 +0.2**
K06A Valley Falls 90.30 47 P **P 06 47 36.5 0.0**
baz=90,SNR=29
R07C Lee Vining 90.40 52 ⇑P **P 06 47 37.8 +0.8**
baz=90,SNR=25
J06A Christmas Vall 90.45 47 P **P 06 47 36.8 -0.4**
baz=90,SNR=28
ISA Isabella 90.46 54 *eP* **P 06 47 37.1 -0.3**
comp=Z,46nm,1.2s,mb5.7
ISA LR LR
comp=Z,20µm,20.0s,MS6.5
F06A Goldendale 90.47 44 ⇑P **P 06 47 36.6 -0.6**
baz=90
G06A Carlson Farm, 90.47 45 ⇑P **P 06 47 36.7 -0.5**
baz=90,SNR=5.3
E06A Yakima 90.47 43 ⇑P **P 06 47 36.7 -0.4**
baz=90,SNR=10
B06A Marblemount 90.51 41 ⇓P **P 06 47 36.3 -1.0**
baz=91
I06A Prineville 90.53 46 P **P 06 47 37.4 -0.1**
baz=91,SNR=20
MWC Mount Wilson 90.57 56 *eP* **P 06 47 37.8 -0.1**
H06A Lindquist Farm 90.59 45 ⇓P **P 06 47 37.0 -0.7**
baz=91,SNR=13
A06A Chilliwack 90.63 41 ⇑P **P 06 47 36.7 -1.1**
baz=91
MTUM Tungsten Hills 90.66 53 *eP* **P 06 47 38.1 -0.1**
D06A Cle Elum 90.69 43 ⇑P **P 06 47 37.6 -0.5**
baz=91
Q07A Schurz 90.72 51 ⇑P **P 06 47 39.1 +0.6**
baz=91
P07A Fallon 90.76 50 ⇑P **P 06 47 39.3 +0.6**
baz=91
C06A Tall Timber Ra 90.79 42 ⇓P **P 06 47 37.4 -1.1**
baz=91
L07A Adell 90.83 48 P **P 06 47 39.6 +0.7**
baz=91,SNR=51
M07A Soldier Meadow 90.85 48 P **P 06 47 39.7 +0.6**
baz=91,SNR=48
N07B Gerlach 90.90 49 P **P 06 47 39.9 +0.6**
baz=91,SNR=43
S08C White Mtn Res 90.99 52 P **P 06 47 40.7 +0.9**
baz=91,SNR=29
K07A Rock Creek Ran 91.01 47 P **P 06 47 39.9 +0.1**
baz=91,SNR=36
NVAR Mina Array Bea 91.03 52 P **P 06 47 40.5 +0.5**
NVAR PKKPbc PKKPbc 07 05 03.9 -1.1
NVAR P'P' 07 13 03.5
NVAR Mina Array Bea 91.03 52 P **P 06 47 40.5 +0.5**
comp=Z,35nm,1.1s,mb5.6,baz=247,slow=3.9,SNR=83
NVAR PKKPbc PKKPbc 07 05 03.9 -1.1
comp=Z,0.7nm,0.8s,baz=58,slow=2.2,SNR=3.9
NVAR PKPPKP 07 13 03.5
comp=Z,0.8nm,0.9s,baz=245,slow=3.8,SNR=4.9
I07A Izee 91.06 46 ⇑P **P 06 47 39.4 -0.5**
baz=91,SNR=27
F07A Phinny Hill Vi 91.08 44 ⇑P **P 06 47 39.4 -0.6**
baz=91
J07A Hines 91.08 47 ⇓P **P 06 47 40.1 +0.1**
baz=91,SNR=11
H07A Lands Inn, Kim 91.11 45 ⇑P **P 06 47 39.5 -0.6**
baz=91
G07A Ruggs Ranch, H 91.15 45 P **P 06 47 39.6 -0.7**
baz=91,SNR=14
109C Camp Elliot, M 91.16 57 P **P 06 47 41.1 +0.4**
baz=91
R08A Mina 91.17 52 ⇑P **P 06 47 41.2 +0.6**
baz=91
E07A Sunnyside 91.24 43 ⇑P **P 06 47 40.1 -0.6**
baz=91
D07A Quincy 91.27 43 ⇑P **P 06 47 39.5 -1.3**
baz=91,SNR=7.2
C07A Waterville 91.30 42 ⇑P **P 06 47 39.7 -1.3**
baz=91,SNR=6.9
MDW Midway 91.31 43 P **P 06 47 41.6 +0.6**
A07A Ashnola River, 91.33 41 ⇓P **P 06 47 40.3 -0.8**
baz=91,SNR=8.1
WTV Waterville 91.37 42 P **P 06 47 41.5 +0.2**
Q08A Gabbs 91.39 51 P **P 06 47 42.0 +0.5**
baz=92,SNR=43
B07A Winthrop 91.39 41 ⇓P **P 06 47 40.4 -1.0**
baz=92,SNR=9.9
P08A Dixie Valley 91.40 50 ⇑P **P 06 47 42.4 +0.7**
baz=92,SNR=9.5
WVOR Wild Horse Val 91.42 48 *eP* **P 06 47 41.6 0.0**
comp=Z,107nm,1.4s,mb6.0
WVOR LR LR
comp=Z,15µm,20.0s,MS6.4
WVOR Wild Horse Val 91.42 48 *eP* **P 06 47 41.6 0.0**
WVOR pmax pmax
comp=Z,107nm,1.4s,mb6.0
WVOR MLR MLR
comp=Z,15µm,20.0s,MS6.4
HAWA Hanford 91.43 44 PFAKE 06 47 50.0 +8.4
HAWA LR LR
comp=Z,16µm,20.0s,MS6.5
O08A Rochester Mine 91.44 50 ⇑P **P 06 47 42.5 +0.7**
baz=92
M08A Happy Creek Ra 91.45 49 P **P 06 47 42.5 +0.7**
baz=92,SNR=36
BAR Barrett 91.49 57 *eP* **P 06 47 41.9 -0.3**
N08A GE Springer Mi 91.53 49 P **P 06 47 42.8 +0.6**
baz=92,SNR=48
K08A Mann Creek Ran 91.57 47 ⇑P **P 06 47 42.5 +0.2**
baz=92,SNR=11
L08A Fields 91.59 48 P **P 06 47 42.8 +0.3**
baz=92,SNR=50
G08A Pilot Rock 91.64 45 ⇓P **P 06 47 42.0 -0.6**
baz=92,SNR=23
J08A Circle Bar Ran 91.68 47 ⇓P **P 06 47 43.0 +0.2**
baz=92
I08A Drewsey 91.70 46 ⇑P **P 06 47 42.4 -0.5**
baz=92,SNR=6.2
H08A Prairie City 91.72 45 ⇓P **P 06 47 42.6 -0.4**
baz=92,SNR=13
GSC Goldstone 91.75 55 *eP* **P 06 47 43.8 +0.5**
comp=Z,42nm,1.0s,mb5.7
GSC LR LR
comp=Z,30µm,19.0s,MS6.8
GSC Goldstone 91.75 55 *eP* **P 06 47 43.8 +0.4**
GSC pmax pmax
comp=Z,41nm,1.0s,mb5.7
GSC MLR MLR
comp=Z,29µm,19.0s,MS6.8
S09A Goldfield 91.77 52 P **P 06 47 44.0 +0.6**
baz=92,SNR=46
E08A Dider Farm, El 91.77 43 ⇓P **P 06 47 42.5 -0.7**
baz=92
PFO Pinyon Flat Ob 91.80 56 *eP* **P 06 47 43.4 -0.2**
comp=Z,76nm,1.3s,mb5.9
PFO LR LR
comp=Z,16µm,20.0s,MS6.5
B08A Colville Reser 91.89 42 ⇑P **P 06 47 42.5 -1.2**
baz=92,SNR=12
D08A Wollman Farm, 91.96 43 ⇑P **P 06 47 43.1 -1.0**
baz=92,SNR=7.4
Q09A Carvers 91.96 51 ⇓P **P 06 47 44.8 +0.6**
baz=92,SNR=12
R09A Tonopah 91.96 52 ⇓P **P 06 47 44.9 +0.7**
baz=92,SNR=55
C08A Higginbotham F 91.99 42 ⇓P **P 06 47 42.9 -1.3**
baz=92
N09A Rock Creek Ran 92.00 49 P **P 06 47 45.1 +0.7**
baz=92,SNR=25
A08A Turner Farm, O 92.03 41 ⇑P **P 06 47 43.4 -0.9**
baz=92,SNR=9.9
SYO Syowa Base 92.06 199 ⇓*eP* **P 06 47 41.8 -2.3**
SYO Syowa Base 92.06 199 ⇓*i*P **P 06 47 49.0 +4.9**
L09A Wilkinson Ranc 92.06 48 P **P 06 47 45.1 +0.5**
baz=92,SNR=30
P09A Austin 92.10 51 ⇓P **P 06 47 45.3 +0.4**
baz=92,SNR=7.1
K09A Rome 92.12 47 ⇓P **P 06 47 45.1 +0.2**
baz=92,SNR=34
M09A Marrel Ranch, 92.14 49 ⇑P **P 06 47 45.6 +0.6**
baz=92,SNR=31
O09A Fish Creek Ran 92.15 50 P **P 06 47 45.9 +0.8**
baz=92,SNR=31
J09A Fry Pan Ranch, 92.20 47 P **P 06 47 45.1 -0.1**
baz=92,SNR=42
S10A Tonopah Range, 92.29 52 P **P 06 47 46.5 +0.7**
baz=92,SNR=78
KBL Kabul 92.29 304 *eP* **P 06 47 44.3 -1.5**
comp=Z,71nm,1.3s,mb5.8
U10A Ash Meadows, A 92.29 54 P **P 06 47 46.9 +1.0**
baz=92,SNR=27
I09A Lost Marbles R 92.30 46 ⇑P **P 06 47 45.3 -0.4**
baz=92,SNR=6.6
KK31 Karatay Array 92.36 313 *i* P **P 06 47 45.0 -1.0**
D09A Jones Farm, Ri 92.37 43 ⇓P **P 06 47 45.0 -1.0**
baz=92
E09A Wood Farm, Sta 92.40 44 ⇑P **P 06 47 45.2 -0.9**
baz=92,SNR=7.8
TPNV Topopah Spring 92.43 53 *eP* **P 06 47 46.5 +0.1**
comp=Z,93nm,1.1s,mb6.0
TPNV LR LR
comp=Z,14µm,19.0s,MS6.4
TPNV Topopah Spring 92.43 53 *eP* **P 06 47 46.5 0.0**
TPNV pmax pmax
comp=Z,93nm,1.1s,mb6.0
TPNV MLR MLR
comp=Z,14µm,19.0s,MS6.4
F09A S2 Ranch, Elgi 92.44 44 ⇓P **P 06 47 45.8 -0.5**
baz=92
H09A Durkee 92.46 45 ⇑P **P 06 47 46.1 -0.3**
baz=92
A09A Danville 92.48 41 ⇓P **P 06 47 45.5 -0.9**
baz=92,SNR=7.0
C09A Chrisman Ranch 92.51 42 ⇓P **P 06 47 45.5 -1.1**
baz=93
Q10A Clear Creek Ra 92.56 51 ⇑P **P 06 47 47.5 +0.4**
baz=93,SNR=16
R10A Warm Springs 92.57 52 ⇑P **P 06 47 47.8 +0.8**
baz=93,SNR=20
P10A Eureka 92.62 51 ⇑P **P 06 47 47.9 +0.6**
baz=93,SNR=12
B09A Rice 92.68 42 P **P 06 47 46.3 -1.0**
baz=93,SNR=8.7
O10A Cortez Mining, 92.69 50 ⇑P **P 06 47 48.2 +0.6**
baz=93,SNR=20
BMO Blue Mountains 92.74 45 *eP* **P 06 47 46.4 -1.3**
comp=Z,81nm,1.6s,mb5.9
BMO LR LR
comp=Z,13µm,21.0s,MS6.4
BMO Blue Mountains 92.74 45 *eP* **P 06 47 46.4 -1.3**
BMO pmax pmax
comp=Z,81nm,1.6s,mb5.9
BMO MLR MLR
comp=Z,13µm,21.0s,MS6.4
N10A Dunphy 92.74 49 ⇑P **P 06 47 48.6 +0.8**
baz=93
K10A MacKenzie Ranc 92.76 47 P **P 06 47 47.7 -0.1**
baz=93,SNR=38
M10A I.L. Ranch, Tu 92.83 49 ⇓P **P 06 47 48.5 +0.4**
baz=93,SNR=20
S11A Rachel 92.92 53 ⇓P **P 06 47 48.9 +0.2**
baz=93,SNR=15
J10A Berg Farm, Mel 92.92 47 ⇓P **P 06 47 48.1 -0.5**
baz=93,SNR=7.2
G10A Bishop Farm, J 92.93 45 P **P 06 47 47.8 -0.8**
baz=93,SNR=29
V11A Goodsprings 92.94 54 ⇓P **P 06 47 49.4 +0.6**
baz=93,SNR=18
F10A Beach Ranch, E 92.95 44 ⇓P **P 06 47 47.2 -1.4**
baz=93,SNR=18
L10A Juniper Basin 92.95 48 P **P 06 47 49.1 +0.3**
baz=93,SNR=49
I10A Payette 92.99 46 ⇑P **P 06 47 48.5 -0.3**
baz=93,SNR=6.1
U11A Corn Creek 93.05 54 ⇑P **P 06 47 50.4 +1.1**
baz=93,SNR=10
D10A Wagner Farm, O 93.07 43 ⇓P **P 06 47 47.7 -1.5**
baz=93,SNR=13
H10A Noah's Angus R 93.09 46 P **P 06 47 48.5 -0.9**
baz=93,SNR=17
LDFC Landfair 93.10 55 *eP* **P 06 47 49.5 -0.1**
E10A Myers Farm, Un 93.10 44 ⇑P **P 06 47 48.3 -1.0**
baz=93
R11A Troy Canyon, C 93.14 52 P **P 06 47 50.2 +0.6**
baz=93,SNR=49
Q11A Duckwater 93.15 51 P **P 06 47 50.4 +0.7**
baz=93,SNR=64
A10A Northport 93.15 41 ⇑P **P 06 47 48.8 -0.7**
baz=93
C10A Spilker Farm, 93.15 42 ⇓P **P 06 47 48.2 -1.3**
baz=93
B10A Chitwood Farm, 93.28 42 ⇓P **P 06 47 49.0 -1.1**
baz=93
T11A Corn Creek, Al 93.28 53 P **P 06 47 51.1 +0.7**
baz=93,SNR=53
O11A Cowboy Ranch, 93.31 50 P **P 06 47 51.2 +0.8**
baz=93,SNR=35
W12A Cal Nev Ari 93.32 55 ⇑P **P 06 47 51.2 +0.5**
baz=93
N11A Elko Archery C 93.34 49 ⇑P **P 06 47 51.2 +0.7**
baz=93,SNR=7.2
NEW Newport 93.34 42 *eP* **P 06 47 50.2 -0.1**
comp=Z,75nm,1.8s,mb5.8
NEW LR LR
comp=Z,14µm,19.0s,MS6.4
K11A Parker Ranch, 93.37 47 P **P 06 47 50.8 +0.2**
baz=93,SNR=42
M11A Holland Ranch, 93.37 49 P **P 06 47 51.7 +1.0**
baz=93,SNR=37
V12A Nelson 93.39 55 P **P 06 47 51.6 +0.7**
baz=93,SNR=23
Y12C Blythe 93.41 57 ⇓P **P 06 47 51.6 +0.5**
baz=94,SNR=9.2
G11A Walters Elk Ra 93.54 45 ⇑P **P 06 47 49.9 -1.4**
baz=94
MFID Camas Ranch 93.60 47 P **P 06 47 51.4 -0.3**
baz=94,SNR=19
T12A Moapa 93.62 54 ⇓P **P 06 47 52.4 +0.4**
baz=94,SNR=5.3
S12A Delamar Landin 93.62 53 ⇑P **P 06 47 52.7 +0.7**
baz=94,SNR=29
H11A Donnelly 93.63 46 ⇑P **P 06 47 50.8 -0.9**
baz=94,SNR=15
F11A Grangeville 93.68 44 ⇑P **P 06 47 49.8 -2.2**
baz=94,SNR=6.7
E11A Bogner Ranch, 93.70 44 ⇑P **P 06 47 50.4 -1.7**
baz=94,SNR=14
U12A Valley of Fire 93.72 54 ⇑P **P 06 47 53.0 +0.6**
baz=94,SNR=9.9
CHKZ Chkalovo 93.79 324 *i* P **P 06 47 50.3 -2.0**
P12A McGill 93.80 51 ⇓P **P 06 47 53.1 +0.4**
baz=94,SNR=16
Q12A Willow Creek R 93.81 51 ⇓P **P 06 47 53.5 +0.8**
baz=94,SNR=33
B11A Sandpoint 93.86 42 ⇓P **P 06 47 52.2 -0.6**
baz=94
N12A Clover Valley, 93.86 49 ⇓P **P 06 47 53.3 +0.3**
baz=94,SNR=57
R12A Pony Springs, 93.90 52 P **P 06 47 54.0 +0.8**
baz=94,SNR=26
BRVK Borovoye 93.91 323 *eP* **P 06 47 51.3 -1.6**
comp=Z,88nm,1.0s,mb6.2
BRVK LR LR
comp=Z,7µm,19.0s,MS6.1
BRVK Borovoye 93.91 323 P **P 06 47 51.4 -1.5**
SNR=48
BRVK Borovoye 93.91 323 P **P 06 47 51.4 -1.5**
SNR=48
A11A Hall Mountain, 93.93 41 ⇑P **P 06 47 52.7 -0.4**
baz=94,SNR=13
Y13A Salome 94.00 57 ⇑P **P 06 47 54.7 +1.0**
baz=94,SNR=6.6
O12A Currie 94.02 50 P **P 06 47 54.2 +0.5**
baz=94,SNR=56
M12A Wells 94.03 49 P **P 06 47 54.2 +0.5**
baz=94,SNR=44
L12A House Creek Ra 94.04 48 P **P 06 47 54.4 +0.7**
baz=94,SNR=37
X13A Yucca 94.08 56 P **P 06 47 54.9 +0.7**
baz=94,SNR=16
W13A Hualapai Mount 94.10 55 ⇓P **P 06 47 55.1 +0.9**
baz=94,SNR=21
J12A Stokes Ranch, 94.11 47 P **P 06 47 54.2 +0.1**
baz=94,SNR=41
K12A Draper Farm, C 94.18 48 ⇑P **P 06 47 54.3 0.0**
baz=94,SNR=28
U13A Pakoon Wash 94.18 54 P **P 06 47 55.5 +0.9**
baz=94,SNR=30
F12A Elk City 94.29 45 ⇑P **P 06 47 54.0 -0.8**
baz=94,SNR=9.8
T13A Saint George 94.30 53 P **P 06 47 56.1 +1.1**
baz=94,SNR=35
D12A Red Ives Fores 94.37 43 ⇑P **P 06 47 54.2 -0.9**
baz=94
B12A Libby 94.38 42 ⇓P **P 06 47 54.4 -0.8**
baz=94
A12A Yaak River Ran 94.39 41 ⇑P **P 06 47 54.3 -0.9**
baz=94
S13A Holt Ranch, En 94.40 53 P **P 06 47 56.5 +1.0**
baz=94,SNR=37
H12A Diamond D Ranc 94.43 46 ⇑P **P 06 47 55.4 -0.1**
baz=94,SNR=6.9
P13A Bates Ranch, G 94.48 51 P **P 06 47 56.6 +0.7**
baz=94,SNR=30
N13A Wendover, West 94.49 50 ⇓P **P 06 47 55.9 0.0**
baz=95,SNR=9.0
M13A Montello 94.58 49 P **P 06 47 56.8 +0.5**
baz=95,SNR=55
O13A Hicks Ranch, I 94.58 50 ⇓P **P 06 47 57.2 +0.9**
baz=95,SNR=23
HLID Hailey 94.64 47 *eP* **P 06 47 56.4 0.0**
comp=Z,105nm,2.0s,mb5.9
HLID LR LR
comp=Z,18µm,20.0s,MS6.5
Z14A Wintersburg 94.68 57 ⇑P **P 06 47 57.8 +0.9**
baz=95
Y14A Wickenburg 94.69 57 ⇓P **P 06 47 57.4 +0.5**
baz=95,SNR=6.5
ARUT Antelope Range 94.75 53 *eP* **P 06 47 57.6 +0.4**
W14A Seligman 94.76 55 ⇓P **P 06 47 58.5 +1.2**
baz=95,SNR=12
K13A Stover Farm, H 94.78 48 ⇓P **P 06 47 57.6 +0.4**
baz=95,SNR=12
CCUT Cedar City 94.79 53 *eP* **P 06 47 57.8 +0.5**
V14A Boquillas Ranc 94.79 55 ⇑P **P 06 47 58.4 +1.0**
baz=95,SNR=20
J13A Cove Ranch, Pi 94.79 47 ⇑P **P 06 47 57.1 0.0**
baz=95,SNR=17
U14A Mt Trumbull 94.81 54 P **P 06 47 58.6 +1.2**
baz=95,SNR=53
L13A Double Diamond 94.82 48 ⇓P **P 06 47 58.0 +0.7**
baz=95,SNR=6.4
X14A Yava 94.84 56 P **P 06 47 58.9 +1.3**
baz=95,SNR=14
BSMT Bassoo Peak 94.84 43 *eP* **P 06 47 57.2 -0.1**
H13A Challis 94.86 46 ⇓P **P 06 47 57.3 -0.1**
baz=95,SNR=19
I13A Wildhorse Cree 94.89 46 ⇑P **P 06 47 57.8 +0.2**
baz=95,SNR=8.3
G13A Cobalt 94.93 45 ⇑P **P 06 47 57.1 -0.6**
baz=95,SNR=9.4
F13A Darby 94.93 45 ⇑P **P 06 47 56.5 -1.2**
baz=95,SNR=16
T14A Hurricane 94.96 53 P **P 06 47 59.0 +1.0**
baz=95,SNR=25
S14A Cedar City 94.96 53 P **P 06 47 59.0 +1.0**
baz=95,SNR=8.9
C13A Hot Springs 94.97 43 ⇓P **P 06 47 56.4 -1.4**
baz=95
D13A Huson 94.98 43 ⇓P **P 06 47 56.8 -1.2**
baz=95
E13A Victor 95.10 44 ⇓P **P 06 47 57.1 -1.5**
baz=95
B13A Whitefish 95.11 42 ⇓P **P 06 47 57.3 -1.2**
baz=95,SNR=9.4
R14A James Farms, M 95.13 52 ⇓P **P 06 47 59.4 +0.6**
baz=95
A13A Flathead Natio 95.20 41 ⇓P **P 06 47 58.4 -0.5**
baz=95
M14A Sheep Mountain 95.21 49 P **P 06 47 59.3 +0.2**
baz=95,SNR=34
115A Sonoran Desert 95.21 58 ⇓P **P 06 48 00.1 +0.8**
baz=95
Y15A Casa Rosa Ranc 95.25 57 ⇓P **P 06 48 00.3 +0.8**
baz=95,SNR=7.5
N14A Grayback Hills 95.26 50 P **P 06 47 59.7 +0.3**
baz=95,SNR=28
MSO Missoula 95.31 44 *eP* **P 06 47 59.9 +0.5**
comp=Z,16nm,2.1s,mb5.1
MSO LR LR
comp=Z,8µm,20.0s,MS6.2
X15A Humboldt 95.38 56 ⇓P **P 06 48 01.2 +1.1**
baz=95,SNR=15
BGU Big Grassy Mou 95.39 50 *eP* **P 06 48 00.0 +0.1**
W15A Williams 95.42 55 ⇑P **P 06 48 01.5 +1.2**
baz=96
K14A Jones Ranch, D 95.44 48 P **P 06 48 00.6 +0.4**
baz=96,SNR=15
DUG Dugway 95.48 50 *eP* **P 06 48 00.2 -0.2**
comp=Z,106nm,1.9s,mb5.9
DUG LR LR
comp=Z,9µm,19.0s,MS6.3
G14A Jackson 95.49 45 ⇓P **P 06 47 59.7 -0.6**
baz=96
T15A Red Dirt Ranch 95.51 54 P **P 06 48 01.4 +0.8**
baz=96,SNR=21
C14A Swan Lake 95.53 43 ⇓P **P 06 47 59.2 -1.2**
baz=96
WALA Waterton Lakes 95.55 41 *eP* **P 06 48 00.5 0.0**
comp=Z,60nm,1.8s,mb5.7
E14A Clinton 95.58 44 ⇓P **P 06 47 59.5 -1.2**
baz=96
F14A Wisdom 95.61 45 ⇑P **P 06 47 60.0 -0.9**
baz=96
D14A Greenough 95.63 43 ⇓P **P 06 47 58.6 -2.3**
baz=96
116A Eloy 95.63 58 ⇓P **P 06 48 02.3 +1.0**
baz=96
HVU Hansel Valley 95.66 49 *eP* **P 06 48 01.0 -0.2**
comp=Z,325nm,2.2s,mb6.4
N15A Stansbury Isla 95.77 50 ⇑P **P 06 48 01.8 +0.1**
baz=96,SNR=11
216A Three Points, 95.79 59 ⇓P **P 06 48 03.1 +1.1**
baz=96
CHMT Chamberlain Mo 95.79 44 *eP* **P 06 48 01.7 +0.1**
MSU Marysvale 95.81 52 *eP* **P 06 48 02.0 0.0**
SPUT South Promonto 95.86 49 *eP* **P 06 48 02.0 -0.1**
M15A Larsen Ranch, 95.88 49 P **P 06 48 02.1 -0.1**
baz=96,SNR=15
MCMT McKenzie Canyo 95.88 46 *eP* **P 06 48 02.9 +0.8**
Z16A Peralta Trail, 95.94 57 ⇓P **P 06 48 03.2 +0.5**
baz=96
Y16A Circle Bar Ran 95.95 57 ⇓P **P 06 48 03.6 +0.9**
baz=96,SNR=8.1
NLU North Lily Min 96.02 51 *eP* **P 06 48 03.9 +1.1**
X16A Lo Mia Camp, P 96.03 56 ⇓P **P 06 48 04.0 +0.9**
baz=96,SNR=6.1
NOQ North Oquirrh 96.05 50 *eP* **P 06 48 03.0 0.0**
comp=Z,26nm,1.1s,mb5.6
DLMT Dillon 96.11 45 *eP* **P 06 48 03.2 +0.1**
comp=Z,164nm,2.6s,mb6.0
E15A Deer Lodge 96.17 44 ⇑P **P 06 48 02.5 -0.9**
baz=96
G15A Dillon 96.17 45 ⇑P **P 06 48 03.1 -0.3**
baz=96,SNR=5.9
WUAZ Wupatki 96.18 55 *eP* **P 06 48 03.8 0.0**
comp=Z,18nm,1.2s,mb5.4
WUAZ LR LR
comp=Z,19µm,19.0s,MS6.6
T16A Glen Canyon Da 96.21 54 ⇓P **P 06 48 04.4 +0.6**
baz=96
F15A Butte 96.22 45 ⇓P **P 06 48 02.6 -1.0**
baz=96
LRM Limekiln Ridge 96.25 45 *eP* **P 06 48 03.6 -0.2**
EDM Edmonton 96.26 37 *eP* **P 06 48 03.1 -0.5**
D15A Lincoln 96.30 43 ⇑P **P 06 48 02.8 -1.1**
baz=96
217A Green Valley 96.31 59 ⇓P **P 06 48 05.6 +1.2**
baz=96
CTU Camp Tracy 96.33 50 *eP* **P 06 48 04.2 -0.1**
comp=Z,21nm,1.2s,mb5.5
YKA Yellowknife Ar 96.33 28 P **P 06 48 02.7 -1.0**
YKA Yellowknife Ar 96.33 28 P **P 06 48 02.7 -1.0**
comp=Z,35nm,1.1s,mb5.7,baz=265,slow=4.5,SNR=125
YKA PKiKP PKiKP 06 52 42.9 +1.3

comp=Z,2.5nm,1.0s,baz=265,slow=8.0,SNR=3.4
YKA PKKPbc PKKPbc 07 04 45.0 -7.0
comp=Z,4.4nm,0.8s,baz=83,slow=2.8,SNR=18
YKA PKPPKP 07 12 57.3
comp=Z,0.1nm,0.3s,baz=171,slow=33,SNR=3.3
YKA LR LR 07 28 35.5
comp=Z,6μm,19.7s,MS6.0,baz=190,slow=34
YKW3 Yellowknife Ar 96.33 28 *e*P **P 06 48 03.6 -0.1**
MPU Maple Canyon 96.37 51 *e*P **P 06 48 04.3 -0.1**
comp=Z,118nm,1.9s,mb6.0
MPU LR LR
comp=Z,12μm,20.0s,MS6.4
TUC Tucson 96.39 58 *e*P **P 06 48 06.5 +1.8**
comp=Z,5.3nm,1.0s,mb4.9
TUC LR LR
comp=Z,24μm,21.0s,MS6.6
TUC Tucson 96.39 58 *e*P **P 06 48 06.5 +1.8**
TUC pmax pmax
comp=Z,5.0nm,1.0s,mb4.9
TUC MLR MLR
comp=Z,24μm,21.0s,MS6.6
HWUT Hardware Ranch 96.55 49 *e*P **P 06 48 05.2 0.0**
comp=Z,25nm,1.5s,mb5.4
HWUT LR LR
comp=Z,8μm,20.0s,MS6.2
JLU Jordanelle 96.55 50 *e*P **P 06 48 05.4 +0.1**
TMUT Trail Mountain 96.63 51 *e*P **P 06 48 06.9 +1.2**
DAU Daniels Canyon 96.69 50 *e*P **P 06 48 06.7 +0.8**
BOZ Bozeman (W) 96.81 45 *e*P **P 06 48 06.5 +0.2**
comp=Z,4.1nm,0.9s,mb4.9
BOZ LR LR
comp=Z,11μm,20.0s,MS6.3
QLMT Earthquake Lak 96.89 46 *e*P **P 06 48 08.0 +1.3**
DCID1 Drake Creek 96.98 47 *e*P **P 06 48 08.6 +1.4**
comp=Z,21nm,1.0s,mb5.5
218A Dragoon 96.98 59 ⇓P **P 06 48 08.6 +1.2**
baz=97
AHID Auburn Hatcher 96.98 48 PFAKE 06 48 20.0 +13
AHID LR LR
comp=Z,9μm,20.0s,MS6.3
318A Bisbee 96.98 59 ⇓P **P 06 48 08.7 +1.3**
baz=97
Z18A Geronimo 97.08 58 ⇑P **P 06 48 08.9 +1.1**
baz=97
TPAW Teton Pass 97.14 47 *e*P **P 06 48 07.6 -0.3**
comp=Z,45nm,1.6s,mb5.7
SRU San Rafael 97.15 52 *e*P **P 06 48 08.7 +0.6**
comp=Z,16nm,1.4s,mb5.3
SRU San Rafael 97.15 52 *e*P **P 06 48 07.4 -0.6**
SRU San Rafael 97.15 52 *e*P **P 06 48 08.7 +0.7**
SRU pmax pmax
comp=Z,16nm,1.4s,mb5.3
IMW Indian Meadow 97.18 47 *e*P **P 06 48 07.6 -0.4**
comp=Z,9.7nm,1.0s,mb5.2
REDW Red Top Meadow 97.20 47 *e*P **P 06 48 07.5 -0.7**
comp=Z,43nm,1.4s,mb5.7
YMR Madison River 97.21 46 *e*P **P 06 48 08.2 +0.1**
comp=Z,46nm,1.4s,mb5.7
YMR LR LR
comp=Z,19μm,22.0s,MS6.5
SNOW Snow King Moun 97.28 47 *e*P **P 06 48 07.8 -0.7**
comp=Z,46nm,1.5s,mb5.7
YFT Old Faithful 97.29 46 *e*P **P 06 48 10.1 +1.6**
MOOW Moose Ponds 97.31 47 *e*P **P 06 48 08.0 -0.6**
comp=Z,37nm,1.5s,mb5.6
FLWY Flagg Ranch 97.36 47 *e*P **P 06 48 08.1 -0.8**
comp=Z,38nm,1.6s,mb5.6
LOHW Long Hollow 97.40 47 *e*P **P 06 48 08.4 -0.6**
YNR Norris Junctio 97.42 46 *e*P **P 06 48 11.0 +1.9**
319A Douglas 97.58 59 ⇑P **P 06 48 11.8 +1.6**
baz=98
LKWY Lake 97.61 46 *e*P **P 06 48 11.2 +1.3**
comp=Z,18nm,1.4s,mb5.4
LKWY LR LR
comp=Z,19μm,19.0s,MS6.6
LKWY Lake 97.61 46 *e*P **P 06 48 11.2 +1.3**
LKWY pmax pmax
comp=Z,18nm,1.4s,mb5.4
LKWY MLR MLR
comp=Z,19μm,19.0s,MS6.6
119A Ashpeak Ranch, 97.67 58 ⇓P **P 06 48 11.4 +0.9**
baz=98
BW06 Boulder Array 98.11 48 *e*P **P 06 48 11.3 -0.9**
BW06 LR LR
comp=Z,13μm,20.0s,MS6.4
PDAR Pinedale Array 98.11 48 P **P 06 48 11.5 -0.8**
comp=Z,6.1nm,0.9s,mb5.1,baz=226,slow=2.0,SNR=38
PDAR PKKPbc PKKPbc 07 04 47.7 +1.3
comp=Z,0.7nm,1.0s,baz=92,slow=3.7,SNR=3.4
PDAR PKPPKP 07 12 56.8
comp=Z,1.2nm,1.0s,baz=294,slow=4.4,SNR=3.8
PDAR LR LR 07 28 27.9
comp=Z,11μm,19.7s,MS6.3,baz=275,slow=33
EGMT Eagleton 98.23 43 PFAKE 06 48 20.0 +7.3
EGMT LR LR
comp=Z,6μm,20.0s,MS6.1
RLMT Red Lodge 98.44 46 *e*P **P 06 48 15.5 +1.8**
RLMT LR LR
comp=Z,12μm,21.0s,MS6.4
MVCO Mesa Verde 98.62 54 *e*P **P 06 48 16.9 +2.3**
comp=Z,6.1nm,1.0s,mb5.1
MVCO LR LR
comp=Z,22μm,20.0s,MS6.7
SNAA Sanae 99.53 186 *e*PKPdf **P 06 48 17.8 -0.2**
SNAA *e* 06 48 20.3
SNAA *e* pP 06 48 24.1 -0.5
SNAA *e* 06 48 33.6
SNAA *e* 06 48 35.0
SNAA *e* 06 48 44.6
SNAA Sanae 99.53 186⇑ *e*P **P 06 48 18.3 +0.3**
SVE Sverdlovsk 99.69 326⇑ *e*P Pdif 06 48 17.7 -1.4
SVE *e*S SKSac 06 58 55.8 -0.7
SVE *e* 07 01 16.4
SVE pmax pmax
comp=Z,96nm,2.3s,mb5.8
SVE MLR MLR
comp=Z,11μm,20.0s,MS6.3
Y22C IRIS PASSCAL I 99.74 57 ⇓P Pdif 06 48 21.0 +1.7
baz=100
RWWY Rawlins 99.81 49 *e*Pdif Pdif 06 48 20.7 +1.1
comp=Z,35nm,1.2s
BNM Barren Site 99.98 57 *e*Pdif Pdif 06 48 23.8 +3.4
AB31 Akbulak array 100.14 319 *i* P Pdif 06 48 18.0 -3.1
ANMO Albuquerque 100.16 56 *e*Pdif Pdif 06 48 23.2 +2.0
ANMO LR LR
comp=Z,10μm,20.0s,MS6.3
ANMO Albuquerque 100.16 56*c i*P Pdif 06 48 22.1 +1.0
VNA3 Neumayer Olymp 100.59 185 *e*PKPdf Pdif 06 48 21.8 -1.3
VNA3 *e* 06 48 24.7
VNA3 *e* 06 48 27.4
VNA3 *e* 06 48 36.0
VNA3 *e* 06 48 38.7
VNA3 *e* 06 48 49.0
VNA3 *e* 06 52 48.4
VNA3 *e* 06 52 52.4
VNA3 *e* 06 52 54.9
VNA3 *e* 06 52 59.4
LAO LASA Array 100.60 44 PFAKE 06 48 30.0 +6.9
LAO LR LR
comp=Z,10μm,20.0s,MS6.3
VNA2 Neumayer--Watz 100.70 185 *e*PKPdf Pdif 06 48 21.2 -2.4
VNA2 *e* 06 48 24.7
VNA2 *e* 06 48 28.2
VNA2 *e* 06 48 34.7
VNA2 *e* 06 48 38.2
VNA2 *e* 06 48 48.2
VNA2 *e* 06 52 49.3
VNA2 *e* 06 52 51.6
VNA2 *e* 06 52 54.0
VNA2 *e* 06 52 59.0
ARU Arti 100.85 326 *e*Pdif Pdif 06 48 22.9 -1.3
comp=Z,30nm,1.0s
ARU LR LR
comp=Z,7μm,19.0s,MS6.2
ARU Arti 100.85 326 P Pdif 06 48 21.2 -3.0
ARU 06 52 28.0
ARU PPP 06 54 42.5
ARU S SKSac 06 58 59.3 -2.8
ARU PS PS 07 01 30.0 -3.9
ARU MLR MLR
comp=Z,7μm,19.0s,MS6.2
MNTX Cornudas Mount 100.92 59 *e*Pdif Pdif 06 48 25.6 +1.1
MNTX LR LR
comp=Z,31μm,19.0s,MS6.8
ISCO Idaho Springs 100.98 51 *e*Pdif Pdif 06 48 26.6 +1.8
ISCO *e*PP PP 06 52 37.5 +4.0
ISCO LR LR
comp=Z,10μm,19.0s,MS6.4
SDCO Great Sand Dun 101.02 53 *e*Pdif Pdif 06 48 24.9 -0.1
comp=Z,10nm,1.7s
SDCO LR LR
comp=Z,20μm,20.0s,MS6.6
VAN Vannovskaya 101.36 307 *e*P Pdif 06 48 25.0 -1.5
PMSA Palmer Station 101.59 163 PFAKE 06 48 40.0 +13
PMSA LR LR
comp=Z,7μm,21.0s,MS6.2
DGMT Dagmar 101.95 42 PFAKE 06 48 40.0 +11
DGMT LR LR
comp=Z,7μm,20.0s,MS6.2
RSSD Black Hills 102.16 47 *e*Pdif Pdif 06 48 30.7 +0.7
RSSD LR LR
comp=Z,14μm,21.0s,MS6.4
TXAR Lajitas Array 102.31 62 P Pdif 06 48 32.9 +2.2
TXAR PP PP 06 52 41.7 -2.2
TXAR Lajitas Array 102.31 62 P Pdif 06 48 32.9 +2.2
comp=Z,1.0nm,0.8s,baz=268,slow=4.5,SNR=7.2
TXAR PP PP 06 52 41.7 -2.2
comp=Z,1.3nm,0.9s,baz=228,slow=10,SNR=3.9
TXAR PKiKP PKiKP 06 52 55.0 +1.8
comp=Z,4.4nm,1.1s,baz=243,slow=4.0,SNR=5.8
TXAR PKKPbc PKKPbc 07 04 31.9 -2.0
comp=Z,1.9nm,0.9s,baz=100,slow=3.0,SNR=8.6
TXAR PKPPKP 07 12 52.5
comp=Z,0.7nm,1.0s,baz=144,slow=4.7,SNR=4.1
RES Resolute Bay 102.35 15 *e*Pdif Pdif 06 48 29.5 -1.4
RES Resolute Bay 102.35 15 *e*P Pdif 06 48 30.3 -0.6
FFC Flin Flon 102.97 36 PFAKE 06 48 40.0 +6.4
FFC LR LR
comp=Z,20μm,20.0s,MS6.6
AMTX Amarillo 104.08 56 PFAKE 06 48 50.0 +11
AMTX LR LR
comp=Z,14μm,19.0s,MS6.5
CBKS Cedar Bluff 105.55 52 *e*PKPdf PKiKP 06 52 59.1 +0.2
CBKS LR LR
comp=Z,16μm,19.0s,MS6.6
OPO Ambohidratompo105.57 248 PKiKP PKiKP 06 52 59.5 0.0
comp=Z,4.8nm,0.9s,baz=115,slow=1.5,SNR=6.0
JCT Junction City 105.69 61 PFAKE 06 53 10.0 +11
JCT LR LR
comp=Z,24μm,19.0s,MS6.8
WMOK Wichita Mounta 106.47 56 PFAKE 06 53 10.0 +9.3
WMOK LR LR
comp=Z,11μm,20.0s,MS6.4
KBS Kingsbay 106.76 353 *e*P Pdif 06 48 50.4 -0.1
KBS *e* 06 53 16.0
KBS *i* 07 02 34.9
KBS Kingsbay 106.76 353 *e*PP PP 06 53 15.5 +0.1
KBS *i* 07 02 34.9
KBS AMS AMS 07 34 21.4
comp=Z,3μm,21.4s,MS5.8
ULM Lac du Bonnet 107.20 40 PKPdf PKiKP 06 53 00.9 -0.6
ULM LR LR
comp=Z,14μm,20.0s,MS6.5
ULM Lac du Bonnet 107.20 40 PKiKP PKiKP 06 53 00.9 -0.6
comp=Z,2.2nm,0.7s,baz=30,slow=7.8,SNR=3.7
KVTX Kingsville 107.36 64 PFAKE 06 53 10.0 +7.4
KVTX LR LR
comp=Z,13μm,19.0s,MS6.5
AGMN Agassiz Refuge 107.50 42 PFAKE 06 53 10.0 +7.8
AGMN LR LR
comp=Z,14μm,19.0s,MS6.5
ECSD EROS,Sioux Fal 107.53 47 PFAKE 06 53 10.0 +7.6
ECSD LR LR
comp=Z,15μm,21.0s,MS6.5
KSU1 Kansas State U 107.97 52 *e*PKPdf PKiKP 06 53 03.1 -0.2
KSU1 LR LR
comp=Z,12μm,19.0s,MS6.5
LVZ Lovozero 108.83 340 PFAKE 06 53 10.0 +5.9
LVZ LR LR
comp=Z,3μm,21.0s,MS5.9
BJO Bjornoya 109.00 349 *e*PP PP 06 53 32.3 +0.4
BJO *i* 07 02 58.5
BJO *e*SS SS 07 08 49.5 +0.2
BJO AMS AMS 07 45 21.9
comp=Z,5μm,19.7s,MS6.1
HKT Hockley 109.13 61 PFAKE 06 53 20.0 +14
HKT LR LR
comp=Z,33μm,19.0s,MS6.9
TMCR Tamitsa 109.16 336 *e*P Pdif 06 48 59.0 -2.2
TMCR *e* 06 53 31.0
MAK Makhachkala 109.17 313 *e*P Pdif 06 49 00.1 -1.1
MAK *i* 06 53 36.0
MAK *e*PPP 06 55 50.0
MAK *e*PS PS 07 03 01.6 +0.4
MAK MLR MLR
comp=Z,9μm,22.0s,MS6.3
NATX Nacogdoches 110.06 59 PFAKE 06 53 20.0 +12
NATX LR LR
comp=Z,19μm,19.0s,MS6.7
KEV Kevo 110.23 343 PFAKE 06 53 20.0 +13
KEV LR LR
comp=Z,6μm,22.0s,MS6.1
EYMN Ely 110.44 42 PFAKE 06 53 20.0 +12
EYMN LR LR
comp=Z,14μm,20.0s,MS6.5
MIAR Mount Ida 110.77 56 PFAKE 06 53 20.0 +11
MIAR LR LR
comp=Z,19μm,20.0s,MS6.7
ARCES ARCESS Array B 110.78 344 PKiKP PKiKP 06 53 05.8 -2.0
comp=Z,7.6nm,1.0s,baz=36,slow=2.3,SNR=6.6
ARCES PKKPbc PKKPbc 07 04 05.2 -3.6
comp=Z,4.1nm,0.9s,baz=344,slow=4.0,SNR=4.5
MTA Mtatsminda 111.34 312 P Pdif 06 49 11.2 +0.3
ONI Oni 112.18 313 P Pdif 06 49 13.6 -1.0
JFWS Jewell Farm 112.25 47 PFAKE 06 53 20.0 +8.7
JFWS LR LR
comp=Z,11μm,22.0s,MS6.4
CCM Cathedral Cave 112.26 52 PFAKE 06 53 20.0 +8.5
CCM LR LR
comp=Z,12μm,19.0s,MS6.5
COWI Conover 112.40 43 PFAKE 06 53 20.0 +8.5
COWI LR LR
comp=Z,10μm,20.0s,MS6.4
JOF Joensuu 112.41 336 *e*pkp PKiKP 06 53 10.4 -0.6
KIV Kislovodsk 112.48 314 PFAKE 06 53 20.0 +8.3
KIV LR LR
comp=Z,5μm,22.0s,MS6.0
KIV Kislovodsk 112.48 314 *e*P Pdif 06 49 11.8 -4.1
KIV *e* 06 59 49.7
KIV *e*PS PS 07 03 21.7 -11
KIV *e*SS SS 07 09 33.8 -3.8
KIV pmax pmax
comp=Z,11nm,1.1s
KIV MLR MLR
comp=Z,4μm,21.0s,MS6.0
TRO Tromso 112.48 345 *e*PP PP 06 53 56.1 -0.8
TRO *e*SKS SKSac 06 59 49.6 -3.3
TRO *i* 07 03 17.9
TRO *e*SS SS 07 09 34.5 -1.4
TRO AMS AMS 07 43 40.2
comp=Z,4μm,20.7s,MS6.0
DIGO Kars 112.60 310 *i* P PP 06 53 56.2 -2.7
HAKT HAKKARI 112.77 307 *i* P PP 06 54 03.5 +3.2
TUTA Tutak 113.19 309 *e*P PP 06 53 58.3 -4.9
OBN Obninsk 113.23 327 *e*PKP PKiKP 06 53 11.8 -1.0
OBN LR LR
comp=Z,6μm,19.0s,MS6.2
OBN Obninsk 113.23 327 *i* PKIKP PKiKP 06 53 10.3 -2.5
OBN *i* 06 54 01.4
OBN *i* PS PS 07 03 32.4 -6.4
OBN *i* PPS 07 04 50.6
OBN *i* SS SS 07 09 49.7 +2.9
OBN pmax pmax
comp=Z,8.0nm,0.6s
HDIL Hopedale 113.37 49 PFAKE 06 53 20.0 +6.5
HDIL LR LR
comp=Z,7μm,19.0s,MS6.3
MSL Mosul 113.43 306 *ex* x 06 53 18.0
MSL *ex* x 06 53 18.0
MSL *ex* x 06 54 07.0
MSL *ex* x 06 54 27.5
MSL *ex* x 07 01 46.0
MSL *ex* x 07 03 35.0
ARTV Artvin 113.55 312 *i* P PKiKP 06 53 14.7 +0.8
EFI East Falkland 113.74 157 PFAKE 06 53 20.0 +6.0
EFI LR LR
comp=Z,5μm,19.0s,MS6.2
ERZM Erzurum 114.21 310 *e*P PKiKP 06 53 17.3 +2.1
SOC Sochi 114.66 314*de*P Pdif 06 49 24.1 -1.5
SOC *i* 06 53 16.8
SOC *i* 06 54 10.7
SOC *e*PPP 06 56 44.9
SOC *e* 07 00 00.6
SOC *e*PS PS 07 03 48.9 -3.5
SOC *e*SS SS 07 10 07.1 +0.7
SOC *e*SSS 07 14 19.4
SOC pmax pmax
comp=Z,51nm,1.0s
SOC MLR MLR
comp=Z,7μm,18.0s,MS6.3
KAF Kangasniemi 114.82 337 *e*pkp PKiKP 06 53 11.9 -3.7
PLCA Paso Flores 115.17 142 PKP PKiKP 06 53 16.9 -0.2
PLCA PKKPbc PKKPbc 07 03 51.6 -1.7
PLCA SKKP 07 07 50.0
PLCA LR LR
comp=Z,6μm,21.0s,MS6.2
PLCA Paso Flores 115.17 142 PKP PKiKP 06 53 16.9 -0.2
comp=Z,9.8nm,0.9s,baz=158,slow=3.7,SNR=10.0
PLCA PKKPbc PKKPbc 07 03 51.6 -1.7
comp=Z,18nm,1.2s,baz=76,slow=4.8,SNR=6.0
PLCA SKKP 07 07 50.0
comp=Z,6.5nm,1.1s,baz=42,slow=8.1,SNR=4.3
PLAL Pickwick Lake 115.22 55 PFAKE 06 53 30.0 +13
PLAL LR LR
comp=Z,11μm,20.0s,MS6.5
WVT Waverly 115.24 54 PFAKE 06 53 30.0 +13
WVT LR LR
comp=Z,13μm,20.0s,MS6.5
FINES FINESS Array B 115.28 336 PKP PKiKP 06 53 15.3 -1.2
FINES PP PP 06 54 17.9 +0.9
FINES PKKPbc PKKPbc 07 03 52.0 -1.5
FINES FINESS Array B 115.28 336 PKP PKiKP 06 53 15.3 -1.2
comp=Z,5.4nm,0.9s,baz=104,slow=8.0,SNR=8.7
FINES PP PP 06 54 17.9 +0.9
comp=Z,5.4nm,0.9s,baz=36,slow=10,SNR=5.1
FINES PKKPbc PKKPbc 07 03 52.0 -1.5
comp=Z,2.2nm,0.9s,baz=243,slow=6.1,SNR=3.8
GLMI Grayling 115.79 44 PFAKE 06 53 30.0 +12
GLMI LR LR
comp=Z,8μm,21.0s,MS6.3
ANN Anapa 115.95 316 *i* PKIKP PKPdf 06 53 17.2 -1.2
ANN *e* 06 54 20.3
ANN *e* 07 00 06.6
ANN *e*SS SS 07 10 22.8 -0.4
ANN *e*SSS 07 14 43.5
ANN pmax pmax
comp=Z,63nm,1.4s
JMIC Jan Mayen 116.17 355 *e*PP PP 06 54 22.4 -0.5
TEIG Tepich 116.27 71 PFAKE 06 53 30.0 +10
TEIG LR LR
comp=Z,14μm,21.0s,MS6.5
LRAL Lakeview Retre 116.38 57 PFAKE 06 53 30.0 +10
LRAL LR LR
comp=Z,29μm,19.0s,MS6.9
BRAL Brewton 116.60 59 PFAKE 06 53 30.0 +10
BRAL LR LR
comp=Z,16μm,21.0s,MS6.6
URFA Urfa 116.62 308 *e*P PKPdf 06 53 21.0 +1.1
MALT Malatya 116.76 309 *e*P PKPdf 06 53 18.6 -1.6
MALT Malatya 116.76 309 *e*PKIKP PKPdf 06 53 20.3 +0.2
MALT *e* 06 54 29.8
MALT Malatya 116.76 309⇓ *i*P PKPdf 06 53 20.9 +0.8
AAM Ann Arbor 117.13 46 PFAKE 06 53 30.0 +9.3
AAM LR LR
comp=Z,11μm,20.0s,MS6.5
TGUH Tegucigalpa,Un 117.21 78 PFAKE 06 53 30.0 +8.4
TGUH LR LR
comp=Z,7μm,19.0s,MS6.3
GZT Gaziantep 117.62 308 *i* P PKPdf 06 53 22.1 +0.3
KVT Kavak 117.91 312 *e*P PKPdf 06 53 23.1 +0.9
CPCT Cooper Cave 118.01 54 *e*PKPdf PKPdf 06 53 22.6 0.0
SFJD Kangerlussuaq 118.06 12 PFAKE 06 53 30.0 +8.2
SFJD LR LR
comp=Z,6μm,19.0s,MS6.2
NSS Namsos 118.07 343 *e*PP PP 06 54 34.1 -2.2
NSS AMS AMS 07 43 45.5
comp=Z,4μm,20.2s,MS6.0
MNK Minsk 118.08 329 *e*PKIKP PKPdf 06 53 21.0 -1.2
KMRS Kahramanmaras 118.11 308 *e*P PKPdf 06 53 14.5 -8.2
ACSO Alum Creek Sta 118.15 48 PFAKE 06 53 30.0 +7.3
ACSO LR LR
comp=Z,14μm,20.0s,MS6.6
SIM Simferopol' 118.16 317 *e*P Pdif 06 49 47.0 +5.8
SIM *i* 06 53 23.0
SIM *e* 06 54 39.0
SIM *e* 07 00 11.0
SIM *e*PS PS 07 04 17.0 -7.1
SIM *e*SS SS 07 10 48.0 -3.9
SIM pmax pmax
comp=Z,660nm,17.1s
SIM MLR MLR
comp=Z,4μm,19.0s,MS6.1
ANDN Andirin 118.52 309 *i* P PKPdf 06 53 23.8 +0.2
TZTN Tazewell 118.56 53 PFAKE 06 53 30.0 +6.3
TZTN LR LR
comp=Z,19μm,20.0s,MS6.7
BNN Bunyan 118.61 310 *e*P PKPdf 06 53 23.9 +0.2
BOYT Boyabat 118.65 313 *i* P PKPdf 06 53 24.6 +0.9
KMBO Kilima Mbogo 118.79 264 *e*PKPdf PKPdf 06 53 25.1 +0.3
KMBO Kilima Mbogo 118.79 264 PKP PKPdf 06 53 25.0 +0.2
comp=Z,10nm,0.9s,baz=26,slow=3.8,SNR=12
KMBO PP PP 06 54 40.5 -2.8
comp=Z,0.6nm,0.4s,baz=101,slow=11,SNR=2.1
KMBO SKP 06 57 03.4
comp=Z,1.7nm,0.5s,baz=93,slow=6.8,SNR=4.6
KMBO Kilima Mbogo 118.79 264 PKPdf PKPdf 06 53 24.9 +0.1
KMBO PP PP 06 54 47.8 +4.6
KOZT Kozan 118.94 309 *e*P PKPdf 06 53 25.6 +1.2
CTKT Corum 118.95 312 *i* P PKPdf 06 53 23.9 -0.4
AKASG Malin Array Be 119.06 325 PKP PKPdf 06 53 22.8 -1.4
AKASG PP PP 06 54 39.4 -4.3
AKASG PKKPbc PKKPbc 07 03 36.4 -3.3
AKASG Malin Array Be 119.06 325 PKIKP PKPdf 06 53 22.8 -1.4
AKASG 06 54 39.4
AKASG Malin Array Be 119.06 325 PKP PKPdf 06 53 22.8 -1.4
comp=Z,11nm,0.7s,baz=65,slow=2.2,SNR=45
AKASG PP PP 06 54 39.4 -4.3
comp=Z,11nm,1.0s,baz=56,slow=6.7,SNR=10
AKASG PKKPbc PKKPbc 07 03 36.4 -3.3
comp=Z,0.5nm,0.3s,baz=252,slow=4.5,SNR=9.5
AKBB Malin Array Si 119.06 325 *e*PKPdf PKPdf 06 53 23.8 -0.3
AKBB *e*PP PP 06 54 43.2 -0.5
KIEV Kiev 119.08 325 *e*PKPdf PKPdf 06 53 23.3 -0.8
KIEV *e*PP PP 06 54 43.2 -0.5
KIEV LR LR
comp=Z,6μm,20.0s,MS6.2
CORM Corum 119.18 312 *e*P PKPdf 06 53 25.2 +0.5
GOGA Godfrey 119.24 56 PFAKE 06 53 30.0 +4.9
GOGA LR LR
comp=Z,18μm,20.0s,MS6.7
AVNT Avonos 119.38 310 *i* P PKPdf 06 53 23.6 -1.6
CDAG Cicekdag 119.52 311 *i* P PKPdf 06 53 24.0 -1.4
HWQ Hawqa 119.53 305 *e*P PKPdf 06 53 26.2 +0.6
BALT Daday 119.71 314 *i* P PKPdf 06 53 25.3 -0.4
ERPA Erie 119.79 46 PFAKE 06 53 40.0 +14
ERPA LR LR
comp=Z,10μm,22.0s,MS6.4
CANT Cankiri 119.81 313 *e*P PKPdf 06 53 24.9 -1.0
BHL Bhannes 119.84 305 *e*P PKPdf 06 53 26.7 +0.5
ELDT Eldivan 119.98 312 *i* P PKPdf 06 53 26.5 +0.2
SAFT Safranbolu 120.30 313 *e*P PKPdf 06 53 27.8 +0.9
MCWV Mont Chateau 120.62 48 PFAKE 06 53 40.0 +12
MCWV LR LR
comp=Z,12μm,20.0s,MS6.5
ANTO Ankara 120.62 312 *e*PKPdf PKPdf 06 53 27.4 -0.2
ANTO LR LR
comp=Z,3μm,22.0s,MS6.0
LOD Lodumlu 120.64 312 *e*P PKPdf 06 53 25.5 -2.0
SUW Suwalki 120.67 330 *e*PKP PKPdf 06 53 27.7 +0.6
SUW *e*PP PP 06 54 52.0 -2.5
SUW *e*SP SP 07 04 36.5 -6.2
SUW LMZ 07 49 34.0
comp=Z,9μm,21.0s
SUW Suwalki 120.67 330 *e*PKIKP PKPdf 06 53 27.7 +0.5
SUW *e* 06 54 52.0
SUW *e*SP SP 07 04 36.5 -6.2
BOSA Boshof 120.69 230 PKP PKPdf 06 53 28.1 +0.1
BOSA PP PP 06 54 51.7 -3.7
BOSA LR LR
comp=Z,1μm,20.0s,MS5.5
BOSA Boshof 120.69 230 PKP PKPdf 06 53 28.1 +0.1
comp=Z,10.0nm,0.7s,baz=121,slow=2.4,SNR=17

BOSA PP PP 06 54 51.7 -3.7
comp=Z,4.6nm,0.9s,baz=121,slow=5.8,SNR=2.0
BLA Blacksburg 120.85 51 ePKPd PKPdf 06 53 28.3 +0.3
BLA LR LR
comp=Z,13μm,20.0s,MS6.6
KIS Kishinev 120.86 321 ePKIKP PKPdf 06 53 24.0 -3.7
KIS e 06 54 57.0
KIS Kishinev 120.86 321 ePP PP 06 54 57.0 +0.8
KIS eSKS SKSdf 07 01 03.0 +24
KIS eSKKS SKKSac 07 01 50.0 -5.2
KIS Kishinev 120.86 321 ePS PS 07 05 00.0 +12
KIS LRM 07 48 42.0
comp=Z,2μm,17.0s
NB2 NORSAR Subarra120.94 341 PKPdf PKPdf 06 53 26.6 -0.9
comp=Z,7.5nm,1.1s,baz=39,slow=1.9
NB2 NORSAR Subarra120.94 341 PKPdf PKPdf 06 53 26.6 -0.9
baz=39,slow=1.9
NOA NORSAR Array B120.94 341 PKIKP PKPdf 06 53 26.3 -1.2
NOA 06 54 56.9
NOA NORSAR Array B120.94 341 PKP PKPdf 06 53 26.3 -1.2
comp=Z,14nm,1.1s,baz=44,slow=2.0,SNR=10
NOA PP PP 06 54 56.9 +0.8
comp=Z,7.0nm,1.1s,baz=44,slow=6.8,SNR=2.9
NOA PKKPbc PKKPbc 07 03 30.3 -2.7
comp=Z,4.3nm,1.0s,baz=217,slow=4.2,SNR=4.9
NAO01 NORSAR Array S121.20 341 ePKPdf PKPdf 06 53 26.8 -1.1
NAO01 LR LR
comp=Z,10μm,21.0s,MS6.4
LFK Lefkose 121.25 307 eP PKPdf 06 53 27.4 -1.5
ERMK Ermenek 121.41 308 eP PKPdf 06 53 37.6 +8.4
CSS Prodhromos 121.49 306 eP PKPdf 06 53 27.5 -1.8
CSS Prodhromos 121.49 306 ePKPdf PKPdf 06 53 28.7 -0.6
KONT Konya--Tatoy 121.49 310 eP PKPdf 06 53 27.5 -1.8
KDHN Kadinhani 121.51 311 iP PKPdf 06 53 28.5 -0.8
LCO Las Campanas 121.64 131 ePKPdf PKPdf 06 53 29.6 -0.2
LCO LR LR
comp=Z,6μm,20.0s,MS6.3
HENT Hendek 121.71 314 iP PKPdf 06 53 28.3 -1.3
SSPA Standing Stone 121.76 47 PFAKE 06 53 40.0 +10
SSPA LR LR
comp=Z,16μm,19.0s,MS6.7
SCHQ Schefferville 121.79 28 PKP PKPdf 06 53 28.6 -0.7
SCHQ PP PP 06 54 58.0 -4.2
SCHQ PKKPbc PKKPbc 07 03 26.0 -3.7
SCHQ LR LR
comp=Z,12μm,20.0s,MS6.5
SCHQ Schefferville 121.79 28 PKP PKPdf 06 53 28.6 -0.7
comp=Z,8.7nm,1.2s,baz=70,slow=5.6,SNR=4.5
SCHQ PP PP 06 54 58.0 -4.2
comp=Z,15nm,1.2s,baz=2.8,slow=4.0,SNR=4.7
SCHQ PKKPbc PKKPbc 07 03 26.0 -3.7
comp=Z,5.5nm,0.8s,baz=64,slow=3.6,SNR=3.9
LEF Lefka 121.80 307 eP PKPdf 06 53 28.6 -1.3
DWPF Disney 121.85 62 PFAKE 06 53 40.0 +10
DWPF LR LR
comp=Z,15μm,20.0s,MS6.6
SUR Sutherland 121.89 224 ePKPdf PKPdf 06 53 30.8 +0.5
SUR LR LR
comp=Z,21μm,21.0s,MS6.8
TRQA Tornquist 121.97 145 ePKPdf PKPdf 06 53 29.1 -1.1
TRQA LR LR
comp=Z,8μm,19.0s,MS6.4
NHSC New Hope 122.00 56 PFAKE 06 53 40.0 +10
NHSC LR LR
comp=Z,19μm,20.0s,MS6.8
TIRR Tirgusor 122.14 318 ⇓P PKPdf 06 53 30.9 +0.6
TIRR Tirgusor 122.14 318 ⇓iP PKPdf 06 53 30.9 +0.6
HARR Harsova 122.36 319 ⇑P PKPdf 06 53 31.9 +1.2
HARR Harsova 122.36 319 PKIKP PKPdf 06 53 31.8 +1.1
HARR Harsova 122.36 319 ⇑iP PKPdf 06 53 31.9 +1.2
LVV L'vov 122.42 326 ePKIKP PKPdf 06 53 30.3 -0.4
LVV e 06 55 08.9
LVV MLR MLR
comp=N,2μm,22.0s,MS5.8
LVV MLR MLR
comp=E,2μm,22.0s,MS5.8
LVV MLR MLR
comp=Z,3μm,22.0s,MS5.8
KONO Kongsberg 122.53 341 PFAKE 06 53 40.0 +9.4
KONO LR LR
comp=Z,6μm,20.0s,MS6.2
KONO Kongsberg 122.53 341 ePP PP 06 55 05.5 -1.3
KONO i 07 04 55.7
KONO eSS SS 07 11 45.6 -0.9
KONO AMS AMS 07 54 01.7
comp=Z,5μm,18.9s,MS6.2
BINY Binghamton 122.57 44 PFAKE 06 53 40.0 +8.8
BINY LR LR
comp=Z,13μm,20.0s,MS6.6
PSN Preselentsi 122.59 318 P PKPdf 06 53 30.5 -0.7
LONY Lake Ozonia 122.59 41 PFAKE 06 53 40.0 +8.8
LONY LR LR
comp=Z,13μm,21.0s,MS6.5
VRI Vrincioaia 122.65 320 ⇓P PKPdf 06 53 31.0 -0.3
VRI Vrincioaia 122.65 320 ⇓iP PKPdf 06 53 31.0 -0.2
SHUT Suhut-Afyon 122.68 311 eP PKPdf 06 53 31.1 -0.4
PLOR Plostina 122.70 320 PKIKP PKPdf 06 53 31.8 +0.5
WAR Warsaw 122.74 329 ePP PP 06 55 09.2 +0.6
WAR ePPP 06 57 49.9
WAR LMZ 07 50 09.3
comp=Z,5μm,21.8s
ALT Altintas 122.85 312 eP PKPdf 06 53 29.6 -2.2
CBN Corbin 122.89 49 PFAKE 06 53 40.0 +8.1
CBN LR LR
comp=Z,16μm,19.0s,MS6.7
YLV Yalova 122.89 314 eP PKPdf 06 53 31.5 -0.3
ISP Isparta 122.92 310 eP PKPdf 06 53 28.3 -3.7
ISK Istanbul-Kandi 122.95 314 eP PKPdf 06 53 30.1 -1.9
GEMT Gemlik 123.07 314 eP PKPdf 06 53 31.4 -0.8
NCB Newcomb 123.09 42 PFAKE 06 53 40.0 +7.9
NCB LR LR
comp=Z,14μm,19.0s,MS6.7
BORG Borgarnes 123.12 359 PFAKE 06 53 40.0 +8.4
BORG LR LR
comp=Z,5μm,20.0s,MS6.2
BER Bergen 123.24 343 e PKPdf 06 53 35.2 +3.3
BER ePP PP 06 55 08.9 -2.7
BER i 07 05 04.3
BER eSS SS 07 11 56.2 +0.7
BER AMS AMS 07 50 47.0
comp=Z,5μm,20.6s,MS6.1
KWP Kalwaria 123.26 326 ePKP PKPdf 06 53 33.2 +0.9
KWP ePP PP 06 55 08.5 -3.8
KWP eSP SP 07 05 08.9 +3.0
KWP LMZ 07 54 33.8
comp=Z,6μm,20.1s
KWP Kalwaria 123.26 326 ePKIKP PKPdf 06 53 33.2 +0.9
KWP e 06 55 08.5
KWP eSP SP 07 05 08.9 +3.0
KWP Kalwaria 123.26 326 ⇓iP PKPdf 06 53 33.0 +0.7
MLR Muntele Rosu 123.31 320 ⇓P PKPdf 06 53 32.9 +0.4
MLR Muntele Rosu 123.31 320 ⇓iP PKPdf 06 53 32.9 +0.4
CNNC Cliffs of the 123.33 53 PFAKE 06 53 40.0 +7.1
CNNC LR LR
comp=Z,11μm,20.0s,MS6.5
NNA Nana 123.42 110 ePKPdf PKPdf 06 53 33.4 -0.3
NNA LR LR
comp=Z,4μm,20.0s,MS6.0
ELL Elmali 123.70 309 eP PKPdf 06 53 33.0 -0.5
BSD Bornholm Skovb 123.81 335 ePKIKP PKPdf 06 53 33.6 +0.4
BSD MLR MLR
comp=Z,5μm,19.0s,MS6.2
BSD Bornholm Skovb 123.81 335 iP PKPdf 06 53 33.6 +0.4
BSD i 06 55 00.9
BSD
comp=Z,5μm,19.0s
GOLH Golhisar 123.82 310 iP PKPdf 06 53 32.8 -1.0
KOLS Kolonicke sedl 123.86 325 ePKP PKPdf 06 53 33.5 +0.1
KOLS Kolonicke sedl 123.86 325 ePKP PKPdf 06 53 33.4 -0.1
VOIR 123.89 321 ⇓P PKPdf 06 53 33.9 +0.3
VOIR 123.89 321 ⇓iP PKPdf 06 53 33.9 +0.3
LSZ Lusaka 123.90 246 ePKPdf PKPdf 06 53 34.4 -0.1
LSZ LR LR
comp=Z,6μm,21.0s,MS6.2
GKP Gorka Klasztor 123.97 332 ePKP PKPdf 06 53 34.0 +0.5
GKP LMZ 07 51 48.1
comp=Z,7μm,20.5s
GKP Gorka Klasztor 123.97 332 ePKP PKPdf 06 53 34.0 +0.5
GKP LR LR
comp=Z,7μm,20.5s,MS6.3
UZH Uzhgorod 124.01 325 iPKIKP PKPdf 06 53 33.0 -0.7
UZH i 06 55 14.0
UZH e 07 00 32.0
UZH e 07 05 06.0
UZH i 07 06 35.0
UZH eSS SS 07 12 00.0 -6.2
AKAS Kas 124.09 309 iP PKPdf 06 53 33.7 -0.6
KULA Kula-Manisa 124.10 312 eP PKPdf 06 53 32.8 -1.5
TRPA Tarpa 124.12 324 ⇑iP PKPdf 06 53 34.0 0.0
STHS Stebnicka Huta 124.18 326 ePKP PKPdf 06 53 35.1 +1.1
BCIP Isla Barro Col 124.29 84 PFAKE 06 53 50.0 +15
BCIP LR LR
comp=Z,7μm,20.0s,MS6.3
CRVS Cervenica-Dubn 124.33 326 ePKP PKPdf 06 53 33.7 -0.7
FETY Fethiye 124.37 309 eP PKPdf 06 53 33.7 -1.1
SART Tekirdag 124.41 315 iP PKPdf 06 53 33.4 -1.4
RKY Sarkoy-Tekirda 124.41 315 eP PKPdf 06 53 33.1 -1.7
COP Copenhagen 124.44 336 iPKIKP PKPdf 06 53 33.6 -0.7
COP i 07 00 40.5
COP i 07 12 12.5
COP MLR MLR
comp=Z,2μm,22.0s,MS5.8
COP Copenhagen 124.44 336 iP PKPdf 06 53 33.6 -0.7
COP i 06 55 12.7
COP i 07 00 40.5
COP i 07 10 41.8
COP i 07 12 12.5
COP
comp=Z,2μm,22.0s
LBNH Lisbon 124.48 41 PFAKE 06 53 40.0 +5.2
LBNH LR LR
comp=Z,19μm,20.0s,MS6.8
OJC Ojcow 124.52 328 ePKPdf PKPdf 06 53 34.6 -0.1
OJC ePP PP 06 55 22.8 +2.1
OJC eSP SP 07 05 18.0 +1.1
OJC eSS SS 07 12 16.6 +4.1
OJC L 07 53 35.2
comp=Z,6.8nm,20.0s
OJC Ojcow 124.52 328 ePKIKP PKPdf 06 53 34.6 -0.1
OJC e 06 55 22.8
OJC eSP SP 07 05 18.0 +1.1
AKHS Akhisar 124.60 312 iP PKPdf 06 53 31.8 -3.4
PVL Pavlikeni 124.68 318 P PKPdf 06 53 35.1 -0.1
DRGR 124.69 323 ⇑P PKPdf 06 53 34.5 -0.6
DRGR 124.69 323 PKIKP PKPdf 06 53 35.3 +0.2
DRGR 124.69 323 ⇑iP PKPdf 06 53 34.5 -0.6
DIM Dimitrovgrad 125.02 317 P PKPdf 06 53 36.3 +0.4
KECS Kecovo 125.11 326 ePKP PKPdf 06 53 35.3 -0.5
KECS ePP PP 06 55 15.9 -8.8
MUD Monsted U'grnd 125.11 339 iP PKPdf 06 53 39.6 +4.0
MUD i 06 55 19.6
MUD
comp=Z,5μm,20.0s
ENEZ Enez 125.12 315 eP PKPdf 06 53 33.5 -2.7
KDAG Bornova 125.17 312 iP PKPdf 06 53 36.3 0.0
GZR Gura Zlata 125.33 321 ⇑P PKPdf 06 53 36.3 0.0
GZR Gura Zlata 125.33 321 PKIKP PKPdf 06 53 36.7 +0.3
GZR Gura Zlata 125.33 321 ⇑iP PKPdf 06 53 36.3 -0.1
HRV Adam Dziewonsk125.47 42 PFAKE 06 53 50.0 +13
HRV LR LR
comp=Z,18μm,19.0s,MS6.8
BDRM Kayabasi 125.48 310 iP PKPdf 06 53 36.8 -0.2
DAT Datca 125.49 310 eP PKPdf 06 53 36.0 -0.9
BODT Bodrum 125.58 310 eP PKPdf 06 53 35.0 -2.1
OKC Ostrava-Krasne 125.61 328 ePKP PKPdf 06 53 37.4 +0.6
OKC e 07 05 20.4
OKC e 07 12 24.5
OKC Ostrava-Krasne 125.61 328 ePKPdf PKPdf 06 53 37.4 +0.6
OKC eSP SP 07 05 20.4 -6.1
OKC eSS SS 07 12 24.5 -1.7
OKC AMS AMS 07 53 30.0
comp=Z,6μm,19.3s,MS6.3
URLA Izmir 125.67 312 iP PKPdf 06 53 35.6 -1.6
PKME Peaks-Kenny Pk 125.68 39 PFAKE 06 53 50.0 +13
PKME LR LR
comp=Z,22μm,19.0s,MS6.8
WES Weston 125.68 43 PFAKE 06 53 50.0 +13
WES LR LR
comp=Z,13μm,19.0s,MS6.6
PGB Panagyurishte 125.73 318 P PKPdf 06 53 35.0 -2.2
PSZ Piszkesteto 125.74 325 ePKPdf PKPdf 06 53 36.6 -0.5
PSZ Piszkesteto 125.74 325 ⇓iP PKPdf 06 53 37.9 +0.8
PSZ Piszkesteto 125.74 325 ⇓ePKP PKPdf 06 53 37.8 +0.7
BZS Buzias 125.94 322 ⇓P PKPdf 06 53 37.8 +0.3
BZS Buzias 125.94 322 PKIKP PKPdf 06 53 37.2 -0.3
BZS Buzias 125.94 322 ⇓iP PKPdf 06 53 37.8 +0.3
KSP Ksiaz 125.95 330 ePKP PKPdf 06 53 38.3 +0.9
KSP ePP PP 06 55 34.4 +4.3
KSP LMZ 07 51 58.5
comp=Z,14μm,20.6s
KSP Ksiaz 125.95 330 ePKP PKPdf 06 53 37.3 -0.1
KSP ePP PP 06 55 26.0 -4.1
KSP eSKS SKSdf 07 00 42.0 -6.2
KSP eSP SP 07 05 26.0 -3.4
KSP eSS SS 07 12 27.0 -3.3
KSP LR LR
comp=Z,16μm,20.6s,MS6.7
KSP Ksiaz 125.95 330 ePKIKP PKPdf 06 53 37.3 -0.1
KSP e 06 55 26.0
KSP e 07 00 42.0
KSP eSP SP 07 05 26.0 -3.4
KSP eSS SS 07 12 27.0 -3.3
MORC Moravsky Berou 125.96 328 ePKPdf PKPdf 06 53 37.5 0.0
MORC ePP PP 06 55 30.9 +0.6
MORC Moravsky Berou 125.96 328 ⇓iP PKPdf 06 53 38.2 +0.8
VYHS Vyhne 126.01 326 ePKP PKPdf 06 53 37.7 +0.1
VYHS ePP PP 06 55 28.9 -1.8
VYHS LR LR
comp=Z,4μm,19.3s,MS6.1
VYHS Vyhne 126.01 326 ePKP PKPdf 06 53 37.7 +0.1
VYHS ePP PP 06 55 28.9 -1.8
RUE Ruedersdorf 126.08 333 ePKPdf PKPdf 06 53 37.8 +0.2
RUE ePP PP 06 55 29.9 -1.0
RUE Ruedersdorf 126.08 333 ePKPdf PKPdf 06 53 38.1 +0.5
KOLL Kolacno 126.20 327 ePKP PKPdf 06 53 38.2 +0.3
DPC Dobruska-Polom 126.24 329 ePKPdf PKPdf 06 53 37.6 -0.4
DPC ex x 06 55 16.7
DPC ex x 07 05 24.6
DPC eSS SS 07 12 33.0 -0.9
DPC AMS AMS 07 51 40.0
comp=Z,6μm,20.3s,MS6.3
UPC Upice 126.30 330 ePKPdf PKPdf 06 53 39.1 +1.0
UPC ex x 06 55 20.0
VTS Vitosha 126.35 318 ⇓P PKPdf 06 53 39.0 +0.5
VTS Vitosha 126.35 318 PKIKP PKPdf 06 53 38.6 +0.2
VTS Vitosha 126.35 318 ⇓iP PKPdf 06 53 39.0 +0.6
VTS Vitosha 126.35 318 P PKPdf 06 53 37.2 -1.2
BUD Budapest 126.47 325 ⇓ePKP PKPdf 06 53 38.6 +0.1
VRAC Vranov 126.74 328 ⇓P PKPdf 06 53 39.9 +0.9
VRAC Vranov 126.74 328 PKIKP PKPdf 06 53 39.3 +0.4
VRAC Vranov 126.74 328 ⇓iP PKPdf 06 53 39.9 +1.0
ARE Arequipa 126.74 117 eP PKPdf 06 53 40.0 +0.1
KKB Krupnik 126.76 317 P PKPdf 06 53 37.7 -1.5
APE Apeiranthos 126.92 311 PKIKP PKPdf 06 53 39.2 -0.5
MODS Modra-Piesok 126.93 327 ePKP PKPdf 06 53 39.9 +0.6
MODS ePP PP 06 55 36.4 -0.4
PVCC Panska Ves 126.99 330 ePKPdf PKPdf 06 53 40.3 +0.9
PVCC ex x 06 55 38.0
PVCC eSS SS 07 12 47.2 +3.9
BRG Berggiesshubel 127.07 331 P Pdif 06 50 23.0 +2.2
BRG iPKP PKPdf 06 53 39.9 +0.4
BRG i 06 55 36.0
BRG i 06 56 50.0
BRG i 07 05 33.0
BRG SS SS 07 12 41.0 -3.3
BRG LR LR
comp=Z,4μm,18.3s,MS6.1
BRG Berggiesshubel 127.07 331 iPKIKP PKPdf 06 53 39.9 +0.4
BRG i 06 55 36.0
BRG i 07 05 33.0
BRG SS SS 07 12 41.0 -3.3
BRG pmax pmax
comp=Z,4.0nm,1.3s
BRG MLR MLR
comp=N,41μm,18.7s,MS7.1
BRG MLR MLR
comp=E,3μm,19.3s,MS7.1
BRG MLR MLR
comp=Z,2μm,18.3s,MS5.8
BRG Berggiesshubel 127.07 331 ePKPdf PKPdf 06 53 40.0 +0.5
BRG Berggiesshubel 127.07 331 iPKP PKPdf 06 53 39.9 +0.4
comp=Z,69nm,1.3s
BRG i 06 55 36.0
BRG i 06 56 50.0
BRG i 07 05 33.0
BRG SS SS 07 12 41.0 -3.3
BRG
comp=N,5μm,18.7s
BRG
comp=E,3μm,19.3s
BRG
comp=Z,7μm,18.3s
ZST Bratislava 127.13 327 ePKP PKPdf 06 53 40.0 +0.3
ZST ePP PP 06 55 38.1 0.0
ZST LR LR
comp=Z,4μm,19.8s,MS6.1
ZST Bratislava 127.13 327 ePKP PKPdf 06 53 40.0 +0.3
ZST ePP PP 06 55 38.1 0.0
CLL Collm 127.23 332 iPKP PKPdf 06 53 39.9 +0.1
CLL i 06 53 43.9
CLL i 06 53 46.3
CLL ePP PP 06 55 43.0 +4.5
CLL eSKP 06 56 55.0
CLL LR LR
comp=Z,7μm,19.3s,MS6.3
CLL Collm 127.23 332 iPKIKP PKPdf 06 53 39.9 +0.1
CLL i 06 53 46.3
CLL e 06 55 43.0
CLL pmax pmax
comp=Z,5.0nm,1.1s
CLL MLR MLR
comp=Z,7μm,19.3s,MS6.3
CLL Collm 127.23 332 ePKPdf PKPdf 06 53 40.0 +0.2
CLL Collm 127.23 332 iPKPdf PKPdf 06 53 39.9 +0.1
comp=Z,41nm,1.1s
CLL i (pPKPdf) 06 53 43.9
CLL i sPKPdf 06 53 46.3
CLL ePP PP 06 55 40.0 +1.5
comp=Z,521nm,2.9s
CLL ePPIp 06 55 43.0
comp=Z,900nm,19.6s
CLL ex x 06 56 55.0
comp=Z,1μm,18.3s
CLL eSKSac SKSac 07 00 46.0 +0.8
CLL eSKKSac SKKSac 07 02 36.0 +0.3
CLL eSdif Sdif 07 03 37.0 -4.2
CLL ePS PS 07 05 36.0 -8.1
CLL ePPS 07 07 15.0
CLL ex x 07 08 21.0
CLL ePPPrev 07 10 27.0
CLL eSS SS 07 12 46.0 -0.1
CLL eSKSSKSac 07 15 28.0
CLL eSSS 07 17 32.0
CLL eSSSS 07 20 48.0
CLL Lm 07 56 00.0
comp=N,4μm,19.4s
CLL Lm 07 56 00.0
comp=E,4μm,19.6s
CLL Lm 07 56 00.0
comp=Z,7μm,19.3s
TREC Trest 127.32 329 ePKPdf PKPdf 06 53 40.8 +0.7
TREC AMS AMS 07 50 20.0
comp=Z,6μm,20.8s,MS6.2
FBE Freiberg 127.32 331 ePKPdf PKPdf 06 53 40.6 +0.6
VAY Valandovo 127.34 317 ePKP PKPdf 06 53 34.3 -6.0
PRU Pruhonice 127.36 330 ePKIKP PKPdf 06 53 40.5 +0.4
PRU e 06 55 35.5
PRU e 07 12 40.9
PRU MLR MLR
comp=Z,7μm,19.3s,MS6.4
PRU Pruhonice 127.36 330 ePKPdf PKPdf 06 53 40.5 +0.4
PRU ePP PP 06 55 35.5 -4.0
PRU ex x 07 05 26.5
PRU eSS SS 07 12 40.9 -7.0
PRU AMS AMS 07 52 40.0
comp=Z,7μm,19.3s,MS6.4
PRA Prague 127.36 330 PKPdf PKPdf 06 53 40.0 -0.1
PKSM Moragy 127.39 324 ⇓P PKPdf 06 53 40.6 +0.3
PKSM Moragy 127.39 324 ⇓iP PKPdf 06 53 40.6 +0.3
NRDL Niedersach Rie 127.68 335 ePKPdf PKPdf 06 53 41.3 +0.6
SOP Sopron 127.73 327 ⇓ePKP PKPdf 06 53 40.9 0.0
SKO Skopje 127.80 318 ePKP PKPdf 06 53 39.7 -1.5
CONA Conrad Observa 127.96 327 ⇑iPKIKP PKiKP 06 53 40.7 -1.2
comp=Z,688nm,4.2s,SNR=14
CLZ Clausthal 128.04 334 ePKPdf PKPdf 06 53 42.1 +0.8
TANN Tannenbergstha 128.08 332 ePKPdf PKPdf 06 53 42.0 +0.5
WERD Werda 128.13 332 ePKPdf PKPdf 06 53 42.0 +0.4
GUNZ Gunzen 128.18 332 ePKPdf PKPdf 06 53 42.3 +0.6
WERN Wernitzgruen 128.21 331 ePKPdf PKPdf 06 53 42.4 +0.7
KRUS Krusevo 128.21 318 iPKP PKPdf 06 53 40.6 -1.4
NKC Novy Kostel 128.21 331 ePKP PKPdf 06 53 42.2 +0.5
NKC e 07 05 36.1
NKC e 07 12 56.5
NKC Novy Kostel 128.21 331 ePKPdf PKPdf 06 53 42.2 +0.5
NKC ex x 07 05 36.1
NKC eSS SS 07 12 56.5 -1.9
NKC AMS AMS 07 56 10.0
comp=Z,5μm,17.9s,MS6.3
MOX Moxa 128.32 332 ePKP PKPdf 06 53 43.1 +1.2
comp=Z,70nm,1.7s
MOX e 06 55 25.0
MOX
comp=Z,5μm,20.0s
MOX Moxa 128.32 332 ePKPdf PKPdf 06 53 42.3 +0.4
KHC Kasperske Hory 128.39 330 ePKIKP PKPdf 06 53 42.1 0.0
KHC e 06 55 45.6
KHC e 07 05 45.8
KHC e 07 12 52.9
KHC MLR MLR
comp=Z,8μm,18.5s,MS6.4
KHC Kasperske Hory 128.39 330 ePKPdf PKPdf 06 53 42.1 0.0
KHC ePP PP 06 55 45.6 -0.7
KHC ex x 06 55 53.0
KHC eSP SP 07 05 45.8 -5.0
KHC eSS SS 07 12 52.9 -7.8
KHC AMS AMS 07 53 00.0
comp=Z,8μm,18.5s,MS6.4
GEC2 GERESS Array S 128.51 329 ePKPdf PKPdf 06 53 42.7 +0.4
GERES GERESS Array B 128.51 329 PKIKP PKPdf 06 53 41.8 -0.5
GERES 06 55 45.4
GERES GERESS Array B 128.51 329 PKP PKPdf 06 53 41.8 -0.5
comp=Z,16nm,0.9s,baz=66,slow=1.6,SNR=39
GERES PP PP 06 55 45.4 -1.7
comp=Z,5.7nm,1.0s,baz=63,slow=6.1,SNR=3.6
GERES PKKP 07 03 50.4
comp=Z,1.1nm,0.6s,baz=222,slow=1.8,SNR=4.6
MANZ Manzenberg 128.54 331 ePKPdf PKPdf 06 53 42.9 +0.5
OHR Ohrid 128.63 318 iPKP PKPdf 06 53 40.9 -1.9
ROTZ Rotzenmuhle 128.64 331 ePKPdf PKPdf 06 53 43.0 +0.4
WET Wettzell 128.73 330 ePKPdf PKPdf 06 53 43.3 +0.6
IBBN Ibbenburen 128.80 336 ePKPdf PKPdf 06 53 43.4 +0.6
MOA Molln 128.85 328 ⇑iP PKPdf 06 53 42.5 -0.5
comp=Z,660nm,4.1s,SNR=6.6
UBBA Unterbreizbach 128.93 333 ePKPdf PKPdf 06 53 43.5 +0.4
GRA1 Grafenberg Arr 129.16 332 ePKPdf PKPdf 06 53 44.0 +0.4
GRA1 ePP PP 06 55 52.8 +1.5
GRA1 eSKKPbc 07 06 52.6
GRA1 eSS SS 07 13 09.3 -0.8
GRA1 LR LR
comp=Z,4μm,20.9s,MS6.1
GRF Grafenberg Arr 129.16 332 ePKIKP PKPdf 06 53 44.0 +0.4
GRF e 06 55 52.8
GRF eSS SS 07 13 09.3 -0.8
GRF MLR MLR
comp=Z,4μm,20.9s,MS6.1
GRF Grafenberg Arr 129.16 332 ePKIKP PKPdf 06 53 44.0 +0.4
GRF e 06 55 52.8
GRF eSS SS 07 13 09.3 -0.8
GRF MLR MLR
comp=Z,4μm,20.9s,MS6.1
GRF Grafenberg Arr 129.16 332 ePKPdf PKPdf 06 53 44.0 +0.4
GRF ePP PP 06 55 52.8 +1.5
GRF eSKKPbc 07 06 52.6
GRF eSS SS 07 13 09.3 -0.8
GRF eL 07 52 46.7
comp=Z,4μm,20.9s
GRFO Grafenberg 129.16 332 PFAKE 06 53 50.0 +6.4
GRFO LR LR
comp=Z,4μm,21.0s,MS6.1
ROSC El Rosal 129.40 90 ePKPdf PKPdf 06 53 45.4 +0.3
ROSC El Rosal 129.40 90 PKP PKPdf 06 53 45.5 +0.4
comp=Z,24nm,0.9s,baz=100,slow=13,SNR=16
WTSB Winterswijk 129.44 336 ePKiKP PKiKP 06 53 44.6 -0.2
comp=Z,68nm,1.2s
BOJS Bojanci 129.74 325 iPKPdf PKPdf 06 53 45.8 +1.0
BOJS i 06 55 39.9
BOJS ePP PP 06 55 54.3 -1.0

BOJS e 06 57 05.4
LPAZ La Paz 129.75 119 ePKPdf PKPdf 06 53 46.3 +0.7
LPAZ LR LR
comp=Z,5μm,20.0s,MS6.2
LPAZ La Paz 129.75 119 PKP PKPdf 06 53 46.2 +0.5
comp=Z,56nm,0.9s,baz=344,slow=2.0,SNR=24
KBA Koelnbreinsper 129.82 328⇓iP PKPdf 06 53 44.0 -0.9
comp=Z,341nm,3.8s,SNR=7.3
ESK Eskdalemuir 129.93 345 PFAKE 06 53 50.0 +5.2
ESK LR LR
comp=Z,4μm,19.0s,MS6.1
TNS Taunus Mts 130.05 334 ePKPdf PKPdf 06 53 45.9 +0.7
FUR Furstenfeldbru 130.17 330 ePKPdf PKPdf 06 53 45.8 +0.3
VOY Vojsko 130.18 326 ePKPdf PKPdf 06 53 44.2 -1.4
VOY e 06 53 46.4
VOY ePP PP 06 55 55.0 -3.1
VOY e 06 57 09.9
PTCC Patocco-Chiusa 130.25 327 PKP PKPdf 06 53 45.0 -0.7
ABTA Abfaltersbach 130.47 328⇑iPKPdf PKPdf 06 53 44.9 -1.2
comp=Z,239nm,2.7s,SNR=7.9
WTTA Wattenberg 130.59 329⇑iP PKPdf 06 53 45.8 -0.6
comp=Z,703nm,2.7s,SNR=11
HGN Heimansgroeve 130.71 336 ePdif Pdif 06 50 34.6 -2.4
HGN Heimansgroeve 130.71 336 ePKiKP PKiKP 06 53 45.8 -1.5
comp=Z,57nm,2.9s
HGN Heimansgroeve 130.71 336 ePP PP 06 56 06.2 +5.0
HGN Heimansgroeve 130.71 336 i PKS 06 57 13.9
HGN Heimansgroeve 130.71 336 eSS SS 07 13 33.9 +5.0
STU Stuttgart 130.75 332 ePKPdf PKPdf 06 53 47.1 +0.5
MEM Membach 130.80 336 PKPdf PKPdf 06 53 45.8 -0.9
RETA Reutte 130.88 330⇓iPKPdf PKPdf 06 53 46.1 -0.8
comp=Z,911nm,5.5s
FETA Feichten 131.22 329⇑iPKPdf PKPdf 06 53 46.9 -0.7
comp=Z,784nm,4.3s
BCLA Clavier 131.23 336 PKPdf PKPdf 06 53 48.8 +1.3
UCC Uccle 131.31 337 PKPdf PKPdf 06 53 46.9 -0.7
CTI Castel Tesino 131.38 328 PKP PKPdf 06 53 48.2 +0.3
TSUM Tsumeb 131.45 236 ePKPdf PKPdf 06 53 48.4 -0.4
TSUM eSKPbc SKPbc 06 57 16.0 +2.9
TSUM LR LR
comp=Z,8μm,20.0s,MS6.4
WLF Walferdange 131.46 335 ePKPdf PKPdf 06 53 46.9 -1.0
WLF eSKPbc SKPbc 06 57 13.1 +0.8
WLF Walferdange 131.46 335 ePKPdf PKPdf 06 53 49.1 +1.2
DAVA Damuels 131.46 330⇑iP PKPdf 06 53 47.6 -0.4
comp=Z,837nm,4.6s
BFO Black Forest 131.47 332 ePKPdf PKPdf 06 53 48.2 +0.2
BFO LR LR
comp=Z,5μm,19.0s,MS6.2
SNF Seneffe 131.57 337 PKPdf PKPdf 06 53 49.1 +1.0
GIVF Givet 131.67 336 ePKIKP PKPdf 06 53 43.6 -4.7
BRMO Bormio 131.76 329 PKP PKPdf 06 53 48.1 -0.5
DOU Dourbes 131.77 336 PKPdf PKPdf 06 53 48.7 +0.2
CDF Champ du Feu 131.90 333 ePKIKP PKPdf 06 53 44.0 -4.8
BAIF Baives 131.95 336 ePKIKP PKPdf 06 53 44.0 -4.8
MABI Malga Bissina 131.97 328 PKP PKPdf 06 53 48.2 -0.8
ORI Oriolo Calabro 132.03 318 PKP PKPdf 06 53 51.9 +2.6
SBD1 Bryn Du 132.10 344 P PKPdf 06 53 48.8 -0.2
CING Cingoli 132.20 324 PKP PKPdf 06 53 49.8 +0.3
TIP Timpagrande 132.27 317 ePKPdf PKPdf 06 53 49.8 0.0
TUE Stuetta 132.29 330 PKP PKPdf 06 53 49.2 -0.4
SDDR Presa de Saban 132.33 71 PFAKE 06 54 00.0 +10
SDDR LR LR
comp=Z,12μm,20.0s,MS6.6
PIEI Pieia 132.48 325 PKP PKPdf 06 53 49.8 -0.3
HINF Hinteralfeld 132.53 332 ePKIKP PKPdf 06 53 45.1 -4.9
comp=Z,147nm,1.6s
MIDA Miranda 132.57 321 PKP PKPdf 06 53 50.8 +0.5
DLF Lyons Farm 132.59 346 eP PKPdf 06 53 47.3 -2.6
HAU Haudompre 132.62 333 ePKIKP PKPdf 06 53 45.0 -5.2
HAU eMLR MLR
comp=Z,9μm,21.5s,MS6.2
HAU Haudompre 132.62 333 ePKIKP PKPdf 06 53 45.0 -5.2
HAU MLR MLR
comp=Z,9μm,21.5s,MS6.5
BADI Badiali 132.66 325 PKP PKPdf 06 53 50.8 +0.4
AQU L'Aquila 132.68 323 ePKPdf PKPdf 06 53 50.2 -0.2
DCN Croghan 132.72 347 eP PKPdf 06 53 50.4 +0.2
MEZF Maizieres J'vi 132.81 334 ePKIKP PKPdf 06 53 45.3 -5.2
FNVD Fontana Vidola 132.88 326 PKP PKPdf 06 53 50.6 -0.2
MTCE Montecelio 133.27 323 PKP PKPdf 06 53 50.5 -1.1
VLC Villacollemand 133.29 327 PKP PKPdf 06 53 51.0 -0.6
SOI Samo 133.30 316 PKP PKPdf 06 53 52.1 +0.3
SDV Santo Domingo 133.36 85 PFAKE 06 54 00.0 +7.4
SDV LR LR
comp=Z,2μm,19.0s,MS5.9
BOB Bobbio (Coli) 133.39 328 PKP PKPdf 06 53 51.3 -0.4
ORO Oropa 133.56 330 PKP PKPdf 06 53 51.6 -0.4
CABF La Chapelle 133.77 332 ePKIKP PKPdf 06 53 47.1 -5.3
comp=Z,96nm,1.2s
TRIS Tristan da Cun 134.16 192 PFAKE 06 54 00.0 +6.5
TRIS LR LR
comp=Z,5μm,19.0s,MS6.3
LPL La Plagne 134.25 330 ePKIKP PKPdf 06 53 48.8 -4.5
comp=Z,54nm,1.1s
LPG La Plagne 134.26 330 ePKIKP PKPdf 06 53 48.9 -4.4
comp=Z,43nm,1.0s
QLNO Quiliano 134.27 328 PKP PKPdf 06 53 52.1 -1.3
LOR Lormes 134.27 334 ePKIKP PKPdf 06 53 48.4 -4.9
LOR eMLR MLR
comp=Z,6μm,20.5s,MS6.0
LOR Lormes 134.27 334 ePKIKP PKPdf 06 53 48.4 -4.9
LOR MLR MLR
comp=Z,6μm,20.5s,MS6.3
FIN Finale Ligure 134.42 328 PKP PKPdf 06 53 53.3 -0.4
SSF Saint Saulge 134.59 334 ePKIKP PKPdf 06 53 48.9 -5.0
BNI Bardonecchia 134.61 330 ePKPdf PKPdf 06 53 54.6 +0.6
BBSR BB Station 134.63 52 PFAKE 06 54 00.0 +5.5
BBSR LR LR
comp=Z,8μm,21.0s,MS6.4
SMF Signal de Mont 134.76 334 ePKIKP PKPdf 06 53 48.9 -5.3
FLN La Foliniere 134.79 339 ePKIKP PKPdf 06 53 49.3 -4.9
comp=Z,124nm,1.4s
FLN eMLR MLR
comp=Z,7μm,19.5s,MS6.1
FLN La Foliniere 134.79 339 ePKIKP PKPdf 06 53 49.3 -4.9
FLN MLR MLR
comp=Z,7μm,19.5s,MS6.4
MBDF Montbardon 134.80 330 ePKIKP PKPdf 06 53 49.2 -5.2
comp=Z,47nm,1.0s
LDF La Druitiere 134.80 338 ePKIKP PKPdf 06 53 49.4 -4.9
AVF Avril sur Loir 134.86 334 ePKIKP PKPdf 06 53 49.5 -4.9
comp=Z,56nm,1.4s
SURF Saint Ours 134.95 329 PKP PKPdf 06 53 48.7 -6.0
SBF Sospel 135.07 328 ePKIKP PKPdf 06 53 49.8 -5.1
ORIF Oris-en-Rattie 135.10 330 ePKIKP PKPdf 06 53 49.8 -5.1
comp=Z,68nm,1.2s
ORIF eMLR MLR
comp=Z,9μm,20.2s,MS6.2
PGF Pioggiola 135.11 326 ePKIKP PKPdf 06 53 50.1 -4.9
comp=Z,180nm,1.2s
GRR Gorron 135.24 339 ePKIKP PKPdf 06 53 50.2 -4.9
BGF Bois d'Agland 135.26 334 ePKIKP PKPdf 06 53 50.0 -5.2
PLDF La Plantade 135.38 333 PKP PKPdf 06 53 50.4 -5.0
FRF La Foret Royal 135.69 329 ePKIKP PKPdf 06 53 50.7 -5.4
VIVF Saint-Julien-l 135.73 331 ePKIKP PKPdf 06 53 51.0 -5.1
comp=Z,130nm,1.4s
TCF Toulx Ste Croi 135.75 334 ePKIKP PKPdf 06 53 50.8 -5.3
comp=Z,61nm,1.1s
PYM Petit Puy Mans 135.82 333 PKP PKPdf 06 53 52.8 -3.4
LMR La Mourre 135.92 328 ePKIKP PKPdf 06 53 51.1 -5.4
comp=Z,85nm,1.2s
SMRF Simiane la Rot 135.94 330 ePKIKP PKPdf 06 53 51.5 -5.0
comp=Z,108nm,1.2s
SGMF Saint Gilles 135.95 340 ePKIKP PKPdf 06 53 51.6 -4.8
comp=Z,105nm,1.2s
LBL Lubilhac 136.11 333 PKP PKPdf 06 53 52.7 -4.1
ROSF Rostrenen 136.12 341 ePKIKP PKPdf 06 53 51.0 -5.7
QUIF Quistinic 136.45 340 ePKIKP PKPdf 06 53 52.4 -4.9
MFF Saint Martin d 136.46 337 ePKIKP PKPdf 06 53 52.3 -5.1
comp=Z,52nm,1.1s
LASF Ste Croix 136.70 331 ePKIKP PKPdf 06 53 53.1 -4.8
comp=Z,101nm,1.2s
CAF Calviac 136.88 333 ePKIKP PKPdf 06 53 52.8 -5.4
SJG San Juan 137.27 72 ePKPdf PKPdf 06 53 59.3 -0.4
SJG LR LR
comp=Z,6μm,19.0s,MS6.3
LFF La Frestale 137.45 334 ePKIKP PKPdf 06 53 54.1 -5.2
MTLF Montolieu 138.04 332 ePKIKP PKPdf 06 53 54.9 -5.5
comp=Z,88nm,1.5s
KEST Kesra 139.09 318 PKP PKPdf 06 54 00.2 -2.4
comp=Z,7.1nm,1.0s,baz=290,slow=5.2,SNR=6.0
KEST SKPbc SKPbc 06 57 38.5 +1.6
comp=Z,16nm,1.1s,baz=329,slow=2.1,SNR=6.4

EPF Esparros 139.14 333 ePKIKP PKPdf 06 53 57.2 -5.3
comp=Z,174nm,1.5s
EBIE Bielsa 139.50 333 PKP PKPdf 06 53 59.6 -3.5
ETSF Etsaut 139.64 334 ePKIKP PKPdf 06 53 58.1 -5.3
comp=Z,189nm,1.6s
SJPF Ste Jean 139.76 335 ePKIKP PKPdf 06 53 58.2 -5.4
EPOB Poblet 140.10 331 PKP PKPdf 06 53 59.5 -4.7
ESAC San Caprasio 140.54 333 PKP PKPdf 06 54 02.5 -2.5
ELAN Lanestosa 140.56 337 PKP PKPdf 06 54 04.1 -0.9
ECRI Cripan 140.71 335 PKP PKPdf 06 54 02.3 -3.0
ERTA Horta de San J 140.76 331 PKP PKPdf 06 54 03.8 -1.7
EARI Arrioondas 141.17 339 PKP PKPdf 06 54 01.3 -4.9
EMOS Mosqueruela 141.61 331 PKP PKPdf 06 54 03.9 -3.1
EIBI Ibiza 141.72 328 PKP PKPdf 06 54 04.7 -2.5
EPON Pontenova 141.82 341 PKP PKPdf 06 54 03.0 -4.3
ETOR Torete 141.98 333 PKP PKPdf 06 54 04.3 -3.4
GRGR Grenville 142.18 80 PFAKE 06 54 20.0 +11
GRGR LR LR
comp=Z,7μm,21.0s,MS6.4
ATAF Djebel Tarf 142.26 322 P PKPdf 06 54 04.4 -3.9
ABA Alger-Bouzarea 142.37 324 P PKPdf 06 54 03.0 -5.5
AKET Djebel Ketaf 142.38 322 P PKPdf 06 54 05.3 -3.2
ECHE Chera 142.45 331 PKP PKPdf 06 54 04.4 -4.1
FDF Fort de France 142.46 76 eP PKPdf 06 54 03.7 -5.6
ADJB Djebel Djouab 142.57 323 P PKPdf 06 54 06.3 -2.6
STS Santiago 142.66 342 PKP PKPdf 06 54 04.5 -4.3
EMAZ Mazaricos 142.73 342 PKP PKPdf 06 54 02.7 -6.3
EBEN Beniarda 142.77 329 PKP PKPdf 06 54 05.8 -3.4
EMHD Djebel Mahouad 142.83 323 P PKPdf 06 54 04.6 -4.7
ECAL Calabor 142.91 339 PKP PKPdf 06 54 05.3 -4.0
PBRG Braganca 143.03 339 ePKIKP PKPdf 06 54 05.1 -4.4
PBRG Braganca 143.03 339 ePP PP 06 57 20.4 +2.3
GUD Guadarrama 143.03 335 PKP PKPdf 06 54 04.8 -4.7
ELOB Lobios 143.42 341 PKP PKPdf 06 54 05.1 -5.1
ETOB Tobarra 143.47 331 PKP PKPdf 06 54 05.3 -5.0
PCAB Cabril 143.55 340 ePKIKP PKPdf 06 54 06.7 -3.7
PCAB Cabril 143.55 340 ePP PP 06 57 22.0 +0.7
EBNR Beni Rached 143.60 325 P PKPdf 06 54 06.7 -4.0
MVO Moncorvo 143.69 339 ePKIKP PKPdf 06 54 06.0 -4.7
MVO Moncorvo 143.69 339 ePP PP 06 57 23.6 +1.4
MVO Moncorvo 143.69 339 eSS SS 07 16 15.1 +12
MVO Moncorvo 143.69 339 eLQ 07 37 00.2
MVO Moncorvo 143.69 339 eLR LR 07 47 05.6
comp=Z,5μm,18.0s
ESBB Sonseca Array 143.75 334 PKP PKPdf 06 54 06.4 -4.5
ESDC Sonseca Array 143.75 334 PKP PKPdf 06 54 08.4 -2.4
ESDC Sonseca Array 143.75 334 PKP PKPdf 06 54 07.6 -3.2
comp=Z,13nm,1.0s,baz=22,slow=3.2,SNR=32
ESDC PP PP 06 57 18.5 -4.1
comp=Z,16nm,1.1s,baz=27,slow=7.3,SNR=7.8
ECHA Ech Chlef 143.79 325 P PKPdf 06 54 08.0 -3.0
PVRL Vila Real 143.84 340 ePKIKP PKPdf 06 54 07.2 -3.7
EVIA Vianos 143.93 332 PKP PKPdf 06 54 08.7 -2.5
EMUR La Murta 143.94 329 PKP PKPdf 06 54 06.7 -4.5
CART Cartagena 144.02 329 ePKPdf PKPdf 06 54 09.9 -1.5
PAB San Pablo 144.03 334 ePKPdf PKPdf 06 54 09.6 -1.7
PAB LR LR
comp=Z,5μm,20.0s,MS6.2
EANR 'Ain N'Sour 144.08 325 P PKPdf 06 54 09.2 -2.3
BBGH Gun Hill 144.16 78 PFAKE 06 54 20.0 +7.8
BBGH LR LR
comp=Z,10μm,20.0s,MS6.6
ETRT Tiaret 144.36 324 P PKPdf 06 54 11.0 -1.0
PVIS Viseu 144.39 339 ePKPdf PKPdf 06 54 09.4 -2.5
MTE Manteigas 144.55 339 ePKIKP PKPdf 06 54 10.1 -2.1
MTE Manteigas 144.55 339 eSS SS 07 16 26.3 +13
MTE Manteigas 144.55 339 eLQ 07 36 52.7
MTE Manteigas 144.55 339 eLR LR 07 48 49.3
comp=Z,5μm,20.0s
MTE Manteigas 144.55 339 ePKPdf PKPdf 06 54 10.4 -1.9
CAM4 Nova Friburgo 144.68 148⇓iP PKPdf 06 54 13.0 0.0
CAM4 i 06 54 17.9
CAM4 i 06 54 20.0
CAM4 i 06 54 20.0
CAM4 i 06 54 30.7
CAM4 i 06 54 47.6
EQES Quesada 144.87 331 PKP PKPdf 06 54 11.4 -1.4
EBAN Banos Encina 144.91 332 PKP PKPdf 06 54 10.8 -2.1
PCBR Castelo Branco 145.02 338 ePKIKP PKPdf 06 54 11.6 -1.4
PCBR Castelo Branco 145.02 338 ePP PP 06 57 34.4 +4.3
ENIJ Nijar 145.10 329 PKP PKPdf 06 54 12.6 -0.6
EADA Adamuz 145.27 333 PKP PKPdf 06 54 10.7 -2.9
EBER Berja 145.50 330 PKP PKPdf 06 54 11.2 -2.8
ECOG Cogollos-Vega 145.53 331 PKP PKPdf 06 54 12.8 -1.2
ELUQ Luque 145.62 332 PKP PKPdf 06 54 13.5 -0.6
ECAB El Cabril 145.71 334 PKP PKPdf 06 54 14.4 +0.1
EBAD Badajoz 145.79 337 PKP PKPdf 06 54 14.2 -0.2
ERON Agron 145.85 331 PKP PKPdf 06 54 14.0 -0.6
EGUA Guajares 145.88 331 PKP PKPdf 06 54 14.0 -0.6
ELOJ Sierra Loja 145.91 332 PKP PKPdf 06 54 13.4 -1.3
PESTR Estremoz 145.91 338 ePKIKP PKPdf 06 54 14.4 -0.2
PESTR Estremoz 145.91 338 eLQ 07 36 31.0
PESTR eLR LR 07 46 00.5
comp=Z,4μm,20.0s
PBAR Barrancos 146.30 336 ePKIKP PKPdf 06 54 15.0 -0.3
PBAR Barrancos 146.30 336 ePP PP 06 57 41.3 +3.5
PBAR Barrancos 146.30 336 eSS SS 07 16 33.0 0.0
PBAR Barrancos 146.30 336 eLQ 07 35 09.4
PBAR Barrancos 146.30 336 eLR LR 07 47 44.0
comp=Z,6μm,20.0s
EALB Alboran 146.32 329 PKP PKPdf 06 54 14.7 -0.7
BDFB Brasilia 146.34 134 PKPbc PKPbc 06 54 15.7 -1.5
comp=Z,69nm,0.8s,baz=222,slow=5.3,SNR=63
EVO Evora 146.37 338 ePKIKP PKPdf 06 54 16.5 +1.1
comp=Z,930nm,1.7s
EVO eMLR MLR
comp=Z,8μm,20.5s,MS6.2
EVO Evora 146.37 338 ePKP PKPdf 06 54 14.9 -0.5
PMAFR Mafra 146.44 340 ePKP PKPdf 06 54 15.5 0.0
PMAFR Mafra 146.44 340 eSS SS 07 16 53.1 +19
PMAFR Mafra 146.44 340 eLQ 07 36 38.9
PMAFR Mafra 146.44 340 eLR LR 07 47 54.5
comp=Z,6μm,20.0s
EMIN Mina Concepcio 146.50 335 PKP PKPdf 06 54 15.4 -0.2
LIS Lisbon 146.61 339 eP PKPdf 06 54 17.7 +1.9
EMIJ Mijas 146.67 332 PKP PKPdf 06 54 14.6 -1.3
PBEJ Beja 146.75 337 ePKP PKPdf 06 54 17.0 +0.9
ESPR Espera 146.91 334 PKP PKPdf 06 54 17.7 +1.3
EGRO El Granado 147.03 336 PKP PKPdf 06 54 17.5 +0.9
CAM3 Guarapari 147.08 150⇓iP PKPdf 06 54 18.5 +1.4
CAM3 i 06 54 24.2
CAM3 i 06 54 27.4
CAM3 i 06 54 31.6
CAM3 i 06 54 38.6
CAM3 i 06 55 14.5
EJIF Jimena Fronter 147.08 333 PKP PKPdf 06 54 16.8 +0.1
PVAQ Vaqueiros 147.24 336 ePKP PKPdf 06 54 16.5 -0.4
PVAQ Vaqueiros 147.24 336 ePP PP 06 57 45.1 +1.8
PVAQ Vaqueiros 147.24 336 eLQ 07 36 12.6
PVAQ Vaqueiros 147.24 336 eLR LR 07 50 47.8
comp=Z,4μm,18.0s
SFS San Fernando 147.40 334 ePKPab PKPab 06 54 20.9 -0.6
PBDV Barranco-do-Ve 147.46 337 ePKP PKPdf 06 54 17.4 +0.1
PBDV Barranco-do-Ve 147.46 337 ePP PP 06 57 46.8 +2.2
PBDV Barranco-do-Ve 147.46 337 eLQ 07 36 00.7
PBDV Barranco-do-Ve 147.46 337 eLR LR 07 47 21.8
comp=Z,5μm,18.0s
PTEO Sao Teotonio 147.50 338 ePKP PKPdf 06 54 18.4 +1.1
MORF Marmelete 147.68 338 ePKP PKPdf 06 54 17.9 +0.3
MORF Marmelete 147.68 338 ePP PP 06 57 46.9 +1.0
MORF Marmelete 147.68 338 eLR LR 07 48 32.5
comp=Z,5μm,20.0s
PFVI Vila Bisbo 147.90 338 ePKP PKPdf 06 54 18.0 0.0
PFVI Vila Bisbo 147.90 338 ePP PP 06 57 47.3 +0.1
PFVI Vila Bisbo 147.90 338 eLR LR 07 48 09.0
comp=Z,8μm,18.0s
PMPS Porto Santo 154.00 346 ePKP PKPdf 06 54 28.2 +0.7
PMAR Madeira 154.46 347 ePKP PKPdf 06 54 27.2 -1.0
TOA0 Torodi Ar. Sit 154.69 284 ePKPdf PKPdf 06 54 27.8 -1.1
TOA0 ePKPbc PKPbc 06 54 37.5 +0.1
TORD Torodi Ar. Bea 154.69 284 PKP PKPdf 06 54 26.5 -2.4
TORD PKPbc PKPbc 06 54 37.3 -0.2
TORD Torodi Ar. Bea 154.69 284 PKP PKPdf 06 54 26.5 -2.4
comp=Z,6.3nm,0.7s,baz=19,slow=1.3,SNR=35
TORD PKPbc PKPbc 06 54 37.3 -0.2
comp=Z,41nm,1.0s,baz=54,slow=1.2,SNR=31
CFTV Fuerteventura 157.65 338 PKP PKPdf 06 54 32.0 -0.5
EOSO Osorio 158.48 341 PKP PKPdf 06 54 32.4 -1.1
EHIG Higuera 158.66 346 PKP PKPdf 06 54 34.2 +0.5
CCAN Las Canadas 158.67 343 PKP PKPdf 06 54 36.7 +3.0
EGOM La Gomera 158.90 344 PKP PKPdf 06 54 33.8 -0.3

DBIC Dimbokro 161.49 268 ePKPdf PKPdf 06 54 36.9 -0.4
DBIC ePKPab PKPab 06 55 21.8 0.0
DBIC ePP PP 06 59 05.5 0.0
DBIC LR LR
comp=Z,8μm,20.0s
DBIC Dimbokro 161.49 268 PKP PKPdf 06 54 35.5 -1.8
comp=Z,31nm,1.0s,baz=102,slow=0.4,SNR=22
DBIC PKPab PKPab 06 55 21.3 -0.5
comp=Z,72nm,1.0s,baz=86,slow=4.7,SNR=14
DBIC PP PP 06 59 10.0 +4.5
comp=Z,16nm,1.2s,baz=15,slow=4.8,SNR=4.2
LIC Lamto 161.62 266⇑iPKIKP PKPdf 06 54 36.4 -1.0
comp=Z,156nm,1.2s
LIC eMLR MLR
comp=Z,8μm,21.5s
LIC Lamto 161.62 266⇑iPKPdf PKPdf 06 54 36.4 -1.0
LIC LR LR
comp=Z,4μm,21.5s
RCBR Riachuelo 161.66 137 PFAKE 06 54 50.0 +13
RCBR LR LR
comp=Z,7μm,21.0s
ASCN Ascension 161.92 210 PFAKE 06 54 50.0 +12
ASCN LR LR
comp=Z,6μm,20.0s

MAN 04 06:49:10, 1831N×12076E, h3km, mb4.0, ML2.8, MS2.5, 1D, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PIP	**Pasuquin**	**0.13**	**277**	⇓iP		Pg	06 49 13.7	+1.1
PIP				eS		Sg	06 49 18.9	+4.5
APYP	**Conner**	**0.64**	**134**	eP		Pg	06 49 23.1	+0.8
APYP				eS		Sg	06 49 35.3	+4.7
ABRA	**Dolores**	**0.66**	**184**	eP		Pg	06 49 22.1	-0.5
ABRA				eS		Sg	06 49 32.3	+1.1
CVP	**Callao Caves**	**1.18**	**121**	eP		Pg	06 49 32.3	-0.3
SGCP	**Mt. Cagua**	**1.23**	**93**	eP		Pg	06 49 33.0	-0.5
BALP	**Baler**	**2.67**	**163**	eP		Pn	06 49 54.2	+0.3
BALP				eS		Sn	06 50 28.6	+1.8

IDC 04 06:51:02.0±3.7, 704S×15534E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.6/14, mbtmp3.7/3, Error ellipse: s-maj=107.6km s-min=36.5km az=116.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.08**	**236**	P		P	06 56 19.9	+0.6
	1.6nm,0.6s,baz=60,slow=9.1,SNR=15							
ASAR	**Alice Springs**	**26.41**	**229**	P		P	06 56 39.2	-1.2
	0.5nm,0.5s,baz=59,slow=9.9,SNR=8.2							
MKAR	**Makanchi Array**	**83.66**	**319**	P		P	07 03 33.3	+0.7
	0.3nm,0.3s,baz=87,slow=7.7,SNR=3.2							

MAN 04 06:54:52, 944N×12652E, h21km, mb4.3, ML3.2, MS3.0, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**1.07**	**288**	⇑eP		Pn	06 55 11.4	-0.4
SCPH							06 55 26.6	
MSLP	**Maasin**	**1.77**	**293**	eP		Pn	06 55 24.6	+3.2
BUKP	**Musuan**	**2.12**	**223**	eP		Pn	06 55 27.1	+0.8
BUKP				eS		Sn	06 55 53.5	+1.6
TBP	**Tagbilaran**	**2.63**	**276**	eP		Pn	06 55 34.7	+1.4
TBP				eS		Sn	06 56 06.9	+2.3
CNP	**Catarman**	**3.55**	**329**	eP		Pn	06 55 47.7	+1.8

MAN 04 06:58:20, 1662N×12207E, h19km, mb4.2, ML3.0, MS2.8, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CAUP	**Cauayan**	**0.40**	**324**	eP		Pg	06 58 28.8	+0.4
BALP	**Baler**	**0.99**	**209**	eP		Pb	06 58 38.5	-0.1
BALP				eS		Sb	06 58 53.1	+1.8
CVP	**Callao Caves**	**1.11**	**348**	eP		Pn	06 58 39.2	-1.3
CVP				eS		Sb	06 58 53.6	-1.0
APYP	**Conner**	**1.47**	**328**	eP		Pn	06 58 47.7	+2.2
APYP				eS		Sn	06 59 05.5	+1.2

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*IDC **04** 06:59:52.1±0.9, 769S×15629E, h0km, mb4.2/8, mb1 4.3/9, mb1mx4.2/16, mbtmp4.3/9, ML4.7/1, Error ellipse: s-maj=25.8km s-min=22.4km az=85.0*
*ISCJB **04** 06:59:55.9±0.7, 77S±01×15632E±008, h33km, mb4.1/9, Error ellipse: s-maj=19.0km s-min=9.7km az=19.9*

ISC 04 06:59:57.8±0.7, 77S±01×15628E±008, h35km, n11, σ1§05/12, mb4.1/9, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.03**	**116**	Pn		**Pn**	**07 00 53.4**	**-3.6**
	44nm,0.3s,baz=262,slow=3.8,SNR=5.1							
HNR				Sn		**Sn**	**07 01 43.1**	**+0.1**
	66nm,0.3s,baz=89,slow=21,SNR=4.4							
KAKA	**Kakadu**	**23.98**	**256**	eP		**P**	**07 05 10.4**	**+1.1**
	12nm,0.7s,mb4.5							
WRA	**Warramunga Arr**	**24.51**	**238**	P		**P**	**07 05 13.9**	**-0.1**
	6.3nm,0.7s,mb4.3,baz=63,slow=9.5,SNR=20							
ASAR	**Alice Springs**	**26.70**	**231**	P		**P**	**07 05 31.7**	**-2.3**
	0.5nm,0.7s,mb3.1,baz=55,slow=8.0,SNR=3.1							
STKA	**Stephens Creek**	**27.69**	**208**	eP		**P**	**07 05 44.6**	**+1.9**
	3.7nm,1.1s,mb3.9							
STKA	**Stephens Creek**	**27.69**	**208**	P		**P**	**07 05 42.9**	**+0.2**
	4.0nm,1.0s,mb4.0,baz=24,slow=12,SNR=5.3							
SONM	**Songino Array**	**70.59**	**327**	P		**P**	**07 11 09.6**	**+0.2**
	6.6nm,0.9s,mb4.6,baz=139,slow=6.4,SNR=15							
QSPA	**South Pole Qui**	**82.31**	**180**	P		**P**	**07 12 15.9**	**+0.6**
	2.1nm,0.9s,mb4.1,baz=39,slow=2.4,SNR=7.7							
MKAR	**Makanchi Array**	**84.75**	**318**	P		**P**	**07 12 28.1**	**-0.3**
	2.3nm,0.8s,mb4.3,baz=104,slow=5.9,SNR=15							
ZALV	**Zalesovo Beam**	**85.45**	**326**	P		**P**	**07 12 30.8**	**-1.0**
	1.4nm,0.7s,mb4.2,baz=99,slow=8.9,SNR=2.9							
YKA	**Yellowknife Ar**	**96.34**	**28**	P		**P**	**07 13 23.5**	**+0.9**
	0.8nm,1.1s,mb4.1,baz=263,slow=3.7,SNR=6.0							

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*BJI **04** 07:05:41.6, 2336N×14383E, h30km, mB5.0, mb4.9, Ms4.9, Msz5.0*
*ISCJB **04** 07:05:42.6±0.2, 2329N±004×14355E±004, h32km, mb4.7/84, MS4.9/7, Error ellipse: s-maj=6.3km s-min=5.1km az=24.5*
*IDC **04** 07:05:42.2±3.3, 2332N×14358E, h22km±20km, mb4.3/20, mb1 4.4/24, mb1mx4.4/28, mbtmp4.3/24, ML4.1/4, Error ellipse: s-maj=20.0km s-min=11.1km az=80.0*
*MOS **04** 07:05:43.6±1.2, 2353N×14358E, h33km, mb4.9/33, Error ellipse: s-maj=10.8km s-min=6.7km az=109.4*
*NEIC **04** 07:05:44.0±0.2, 2328N×14359E, mb4.8/46, MS4.9/1, Error ellipse: s-maj=7.4km s-min=7.2km az=53.0*

ISC 04 07:05:44.7±0.2, 2334N±004×14360E±004, h34km, h34km±.6km: pP-P, n181, σ1§16/183, mb4.7/84, MS4.9/7, 3C-3D, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**3.95**	**341**	Pn		**Pn**	**07 06 40.6**	**-2.3**
	30nm,0.3s,baz=308,slow=12,SNR=8.0							
CBIJ				Sn		**Sn**	**07 07 25.6**	**-2.5**
	284nm,0.3s,baz=301,slow=23,SNR=18							
MJAR	**Matsushiro Arr**	**13.96**	**342**	Pn		**Pn**	**07 08 56.5**	**-3.5**
	1.1nm,0.3s,baz=140,slow=11,SNR=12							
MJAR				Sn		**Sn**	**07 11 27.4**	**-6.3**
	0.4nm,0.3s,baz=166,slow=17,SNR=4.1							
MAJO	**Matsushiro**	**13.96**	**342**	ePn		**Pn**	**07 08 57.6**	**-2.4**
	23nm,0.8s							
MAJO	**Matsushiro**	**13.96**	**342**	eP		**Pn**	**07 08 57.6**	**-2.5**
MAJO				pmax		pmax		
	comp=Z,23nm,0.8s							
MAT	**Matsushiro**	**13.96**	**342**	P		**Pn**	**07 08 59.0**	**-1.1**
MAT				S		**Sn**	**07 11 27.8**	**-6.0**
JNU	**Nakatsue**	**14.84**	**314**	Pn		**Pn**	**07 09 12.7**	**+0.6**
	comp=Z,0.3nm,0.3s,baz=193,slow=33,SNR=2.2							
KSRS	**Korea Array**	**19.47**	**320**	P		**Pn**	**07 10 07.7**	**-2.3**
	comp=Z,0.6nm,0.3s,baz=133,slow=12,SNR=20							
KS15	**Wonju Array Si**	**19.49**	**320**	eP		**Pn**	**07 10 09.6**	**-0.5**
ASAJ	**Asahikawa**	**20.74**	**358**	P		**P**	**07 10 23.1**	**+0.7**
	comp=Z,2.9nm,

VLA Vladivostok 21.98 337 *e*P **P 07 10 36.3 +0.6**
VLA pmax pmax
comp=Z,59nm,1.7s,mb4.7
NJ2 Nanjing 23.52 297 *e*P **P 07 10 51.9 -0.1**
NJ2 AMB AMB
comp=Z,40nm,0.7s,mb5.0
YSS Yuzh-Sakhalins 23.57 359 *e*P **P 07 10 52.0 -0.2**
YSS *e* 07 11 03.0
YSS *e* 07 11 28.0
MDJ Mudanjiang 24.12 335 P **P 07 10 57.6 +0.3**
MDJ AP 07 11 06.2
MDJ XP sP 07 11 10.0 -1.1
MDJ S **S 07 15 14.5 +1.7**
MDJ XS sS 07 15 29.5 +0.7
MDJ SCP ScP 07 18 13.4 -0.4
MDJ PCS PcS 07 18 17.3 0.0
MDJ AMB AMB
comp=Z,39nm,1.3s,mb4.7
MDJ AMB AMB
comp=Z,591nm,9.4s
MDJ LR LR
comp=N,1µm,16.8s,MS4.9
MDJ LR LR
comp=E,3µm,14.9s,MS4.9
MDJ LR LR
comp=Z,4µm,17.7s,MS5.0
MDJ Mudanjiang 24.12 335 *e*P **P 07 10 57.6 +0.3**
comp=Z,58nm,1.4s,mb4.8
SNY Shenyang 24.88 323 ⇓P **P 07 11 04.3 +0.1**
SNY AMB AMB
comp=Z,30nm,0.8s,mb4.9
CN2 Changchun 25.30 328 *e*P **P 07 11 08.5 +0.5**
CN2 *e*XP sP 07 11 21.8 0.0
CN2 *e*S **S 07 15 30.4 -1.2**
CN2 AMB AMB
comp=Z,20nm,1.1s,mb4.6
CN2 AMB AMB
comp=Z,200nm,5.0s
TIA Tai'an 26.22 305 ⇓P **P 07 11 16.2 -0.3**
WHN Wuhan 26.99 292 P **P 07 11 29.0 +5.5**
KLR Kul'dur 27.48 343 *e*P **P 07 11 23.7 -3.9**
BJI Beiping 28.50 312 P **P 07 11 37.4 +0.5**
HHC Hu-ho-hao-te 32.03 311 *e*P **P 07 12 08.4 +0.4**
HHC AP pP 07 12 17.5 -0.3
HHC XP sP 07 12 22.0 0.0
HHC PP PP 07 13 15.0 -5.7
HHC PCP PcP 07 14 59.2 +2.0
HHC S **S 07 17 21.9 +4.3**
HHC XS sS 07 17 32.9 -0.9
HHC SCP ScP 07 18 39.0 +0.7
HHC AMB AMB
comp=Z,25nm,0.3s,mb5.5
HHC AMB AMB
comp=Z,5µm,17.2s
HHC LR LR
comp=N,2µm,16.7s,MS5.1
HHC LR LR
comp=E,3µm,15.7s,MS5.1
HHC LR LR
comp=Z,3µm,16.9s,MS5.0
GYA Guiyang 33.57 283⇑ *i*P **P 07 12 22.7 +1.0**
GYA AP pP 07 12 31.9 +0.4
GYA XP sP 07 12 35.7 +0.1
GYA PP PP 07 13 35.9 -2.1
GYA PCP PcP 07 15 03.4 +1.6
GYA S **S 07 17 42.2 +0.2**
GYA XS sS 07 17 57.3 -0.9
GYA SCP ScP 07 18 44.6 +0.7
GYA PCS PcS 07 18 48.2 +0.5
GYA SS SS 07 19 46.7 -21
GYA SCS ScS 07 22 44.0 -1.3
GYA AMB AMB
comp=Z,20nm,0.8s,mb5.1
GYA AMB AMB
comp=Z,120nm,4.8s
GYA LR LR
comp=N,430nm,20.2s,MS4.5
GYA LR LR
comp=E,670nm,18.6s,MS4.5
GYA LR LR
comp=Z,490nm,21.4s,MS4.2
CD2 Chengdu 36.10 291 *e*P **P 07 12 44.2 +0.7**
CD2 AP pP 07 12 53.9 +0.5
CD2 XP sP 07 12 59.8 +2.3
CD2 PP PP 07 14 07.2 +1.3
CD2 S **S 07 18 20.8 -0.1**
CD2 XS sS 07 18 37.4 +0.2
CD2 SS SS 07 20 45.7 -13
CD2 AMB AMB
comp=Z,30nm,0.8s,mb5.3
CD2 AMB AMB
comp=Z,60nm,5.2s
CD2 LR LR
comp=N,4µm,15.6s,MS5.4
CD2 LR LR
comp=E,4µm,18.0s,MS5.4
CD2 LR LR
comp=Z,5µm,18.0s,MS5.3
LZH Lanzhou 36.55 300 *e*P **P 07 12 48.1 +0.9**
LZH AP pP 07 12 57.5 +0.4
LZH XP sP 07 13 01.6 +0.4
LZH PP PP 07 14 13.3 +2.6
LZH AMB AMB
comp=Z,23nm,1.4s,mb4.8
LZH AMB AMB
comp=Z,63nm,5.1s
LZH LR LR
comp=E,635nm,13.4s
LZH LR LR
comp=Z,907nm,17.8s,MS4.6
LZH Lanzhou 36.55 300 *e*P **P 07 12 48.1 +0.9**
comp=Z,23nm,1.4s,mb4.8
LZH pP pP 07 12 57.5 +0.4
LZH sP sP 07 13 01.6 +0.4
LZH PP PP 07 14 13.3 +2.6
LZH LR LR
comp=Z,910nm,17.8s,MS4.6
LZH Lanzhou 36.55 300 *e*P **P 07 12 48.1 +0.9**
LZH *PP pP 07 12 57.5 +0.4
LZH *SP sP 07 13 01.6 +0.4
LZH 07 14 13.3
LZH pmax pmax
comp=Z,23nm,1.4s,mb4.8
LZH MLR MLR
comp=Z,910nm,17.8s,MS4.6
KMI Kunming 37.20 281 P **P 07 12 54.4 +1.4**
KMI AP pP 07 13 02.8 0.0
KMI XP sP 07 13 06.9 0.0
KMI AMB AMB
comp=Z,10.0nm,1.3s,mb4.5
KMI LR LR
comp=N,1µm,21.9s,MS4.8
KMI LR LR
comp=E,1µm,19.9s,MS4.8
KMI LR LR
comp=Z,2µm,19.9s,MS5.0
KMI Kunming 37.20 281 P **P 07 12 54.4 +1.4**
comp=Z,10.0nm,1.3s,mb4.5
KMI pP pP 07 13 02.8 0.0
KMI sP sP 07 13 06.9 0.0
KMI LR LR
comp=Z,2µm,19.9s,MS5.0
ULN Ulaanbaatar 37.96 319 *e*P **P 07 12 59.2 +0.2**
comp=Z,13nm,1.1s,mb4.6
ULN *e*pP pP 07 13 08.4 -0.5
ULN Ulaanbaatar 37.96 319 *e*P **P 07 12 59.2 +0.2**
ULN *e**PP pP 07 13 08.4 -0.5
ULN pmax pmax
comp=Z,13nm,1.1s,mb4.6
SONM Songino Array 38.34 319 P **P 07 13 02.3 0.0**
comp=Z,3.3nm,0.8s,mb4.1,baz=122,slow=7.8,SNR=12
SONM ScP ScP 07 19 02.7 +1.7
comp=Z,0.4nm,0.6s,baz=74,slow=5.2,SNR=3.4
YAK Yakutsk 39.82 350 *e*P **P 07 13 15.1 +0.7**
YAK pmax pmax
comp=Z,14nm,1.0s,mb4.7
SEY Seymchan 40.02 6 *e*P **P 07 13 15.2 -0.8**
BOD Bodaibo 40.49 336 *e*P **P 07 13 19.5 -0.5**
BOD pmax pmax
comp=Z,10.0nm,1.4s,mb4.3
ZAK Zakamensk 41.30 321 *e*P **P 07 13 26.3 -0.5**
ZAK pmax pmax
comp=Z,10.0nm,1.1s,mb4.4
TLY Talaya 41.67 323 *e*P **P 07 13 30.7 +0.9**
comp=Z,6.7nm,0.6s,mb4.5
TLY *e*pP pP 07 13 42.5 +2.7
TLY Talaya 41.67 323 *e*P **P 07 13 29.9 0.0**
TLY *e* 07 15 11.3
TLY pmax pmax
comp=Z,20nm,1.7s,mb4.5
CHTO Chiang Mai 41.79 273 *e*P **P 07 13 31.8 +0.6**
MOY Mondy 43.15 322 *e*P **P 07 13 37.9 -4.0**
CTA Charters Tower 43.24 176 *e*P **P 07 13 41.8 -1.1**
comp=Z,8.6nm,0.9s,mb4.5
CTA Charters Tower 43.24 176 *e*P **P 07 13 41.8 -1.1**
CTA pmax pmax
comp=Z,9.0nm,0.9s
CTA Charters Tower 43.24 176 P **P 07 13 41.8 -1.1**
comp=Z,8.3nm,0.7s,mb4.6,baz=347,slow=9.3,SNR=9.2
CTAO Charters Tower 43.24 176 *e*P **P 07 13 41.7 -1.2**
comp=Z,16nm,0.8s,mb4.8
CTAO Charters Tower 43.24 176 *e*P **P 07 13 41.7 -1.2**
CTAO pmax pmax
comp=Z,16nm,0.8s,mb4.8
WB2 Warramunga Arr 43.95 193 *e*P **P 07 13 47.2 -1.4**
WRA Warramunga Arr 43.96 193 P **P 07 13 46.4 -2.2**
WRA 07 15 33.9
WRA Warramunga Arr 43.96 193 P **P 07 13 46.4 -2.2**
comp=Z,5.7nm,0.8s,mb4.4,baz=17,slow=9.5,SNR=57
WRA PcP PcP 07 15 33.9 -0.3
comp=Z,3.2nm,0.9s,baz=7.8,slow=3.8,SNR=4.2
WRA ScP ScP 07 19 22.5 -0.9
comp=Z,2.0nm,1.1s,baz=3.5,slow=4.0,SNR=4.6
FITZ Fitzroy Crossi 44.77 205 *e*P **P 07 13 54.2 -1.0**
comp=Z,9.9nm,1.4s,mb4.5
FITZ Fitzroy Crossi 44.77 205 *e*P **P 07 13 53.6 -1.6**
comp=Z,9.0nm,0.8s,mb4.7
FITZ Fitzroy Crossi 44.77 205 P **P 07 13 53.7 -1.5**
comp=Z,3.1nm,0.7s,mb4.2,baz=28,slow=15,SNR=7.0
BILL Bilibino 46.84 11 *e*P **P 07 14 11.5 +0.5**
BILL pmax pmax
comp=Z,15nm,2.0s,mb4.6
LSA Lhasa 47.03 289 *e*P **P 07 14 15.6 +2.6**
comp=Z,17nm,0.8s,mb5.0
LSA Lhasa 47.03 289 *e*P **P 07 14 15.6 +2.5**
LSA pmax pmax
comp=Z,17nm,0.8s,mb5.0
ASAR Alice Springs 47.66 192 P **P 07 14 18.1 +0.3**
comp=Z,2.9nm,0.6s,mb4.5,baz=17,slow=9.2,SNR=25
TIXI Tiksi 49.06 354 *e*P **P 07 14 29.1 +1.0**
TIXI pmax pmax
comp=Z,5.0nm,1.3s,mb4.4
WMQ Urumqi 49.85 308⇑ *i*P **P 07 14 35.6 +1.0**
WMQ AP pP 07 14 45.5 +0.8
WMQ XP sP 07 14 49.5 +0.8
WMQ PCP PcP 07 15 55.5 +0.7
WMQ *e*S **S 07 21 41.5 -0.6**
WMQ AMB AMB
comp=Z,36nm,1.0s,mb5.4
WMQ AMB AMB
comp=Z,477nm,8.8s
WMQ LR LR
comp=N,2µm,17.8s
WMQ LR LR
comp=E,2µm,25.3s
WMQ LR LR
comp=Z,2µm,17.8s,MS5.2
MBWA Marble Bar 49.97 210 *e*P **P 07 14 34.4 -1.2**
comp=Z,11nm,1.1s,mb4.8
DZM Mont Dzumac 50.32 152 P **P 07 14 37.7 -0.6**
comp=Z,8.8nm,0.7s,mb4.9,baz=312,slow=9.8,SNR=3.5
KKN Kakani 52.38 288 *e*P **P 07 14 54.5 +0.7**
GKN Gorkha 52.91 288 *e*P **P 07 14 58.5 +0.8**
comp=Z,43nm,0.9s,mb5.4
ZALV Zalesovo Beam 53.17 321 P **P 07 14 58.9 -0.3**
ZALV Zalesovo Beam 53.17 321 P **P 07 14 58.9 -0.3**
comp=Z,7.5nm,0.6s,mb4.8,baz=104,slow=7.6,SNR=13
ZAL Zalesovo 53.19 321 P **P 07 14 58.9 -0.4**
DANN Dangsing 53.62 289 *e*P **P 07 15 04.6 +1.7**
comp=Z,1.3nm,0.6s,mb4.0
KOLN Koldanda 53.85 288 *e*P **P 07 15 05.3 +0.6**
comp=Z,33nm,0.9s,mb5.3
MK31 Makanchi Array 53.88 312 *e*P **P 07 15 04.9 +0.3**
MKAR Makanchi Array 53.88 312 P **P 07 15 04.9 +0.3**
comp=Z,2.8nm,0.6s,mb4.4,baz=90,slow=8.8,SNR=18
STKA Stephens Creek 54.94 182 *e*P **P 07 15 10.4 -1.9**
comp=Z,3.0nm,0.6s,mb4.5
STKA Stephens Creek 54.94 182 *e*P **P 07 15 10.1 -2.2**
comp=Z,4.1nm,0.7s,mb4.6
STKA Stephens Creek 54.94 182 P **P 07 15 10.6 -1.7**
comp=Z,1.5nm,0.5s,mb4.3,baz=349,slow=6.0,SNR=7.3
FORT Forrest 55.84 196 *e*P **P 07 15 18.4 -0.4**
comp=Z,6.5nm,1.0s,mb4.6
FORT Forrest 55.84 196 *e*P **P 07 15 18.6 -0.1**
comp=Z,1.5nm,0.7s,mb4.1
KURK Kurchatov 56.55 316 *e*P **P 07 15 23.2 -0.5**
comp=Z,14nm,0.9s,mb5.0
KURK Kurchatov 56.55 316 *e*P **P 07 15 23.3 -0.4**
ULHL Ulahol 58.22 306 P **P 07 15 37.3 +1.7**
SNR=6.3
TKM2 Tokmak 2 58.65 307 P **P 07 15 40.1 +1.4**
SNR=7.1
PMR Palmer 58.95 31 *e*P **P 07 15 38.4 -2.0**
comp=Z,11nm,1.0s,mb4.8
PMR *e*pP pP 07 15 49.1 -1.6
PMR Palmer 58.95 31 *e*P **P 07 15 38.4 -2.0**
PMR *e**PP pP 07 15 49.1 -1.6
PMR pmax pmax
comp=Z,11nm,1.0s,mb4.8
KBK Karagaybulak 59.15 307 P **P 07 15 43.6 +1.5**
SNR=5.2
SML Sawmill 59.36 31 *e*P **P 07 15 41.5 -1.6**
MCK McKinley 59.37 29 *e*P **P 07 15 41.4 -1.8**
comp=Z,20nm,1.3s,mb5.0
MCK McKinley 59.37 29 *e*P **P 07 15 41.4 -1.8**
MCK pmax pmax
comp=Z,20nm,1.3s,mb5.0
UCH Uchtor 59.50 306 *e*P **P 07 15 46.2 +1.6**
comp=Z,5.5nm,0.7s,mb4.7
UCH Uchtor 59.50 306 P **P 07 15 46.7 +2.1**
SNR=7.5
KLBR Kellerberrin 59.96 205 *e*P **P 07 15 46.1 -1.6**
comp=Z,671nm,4.4s
COLA College 60.02 27 *e*P **P 07 15 52.2 +4.5**
comp=Z,3.5nm,0.8s,mb4.4
COLA College 60.02 27 *e*P **P 07 15 52.2 +4.5**
COLA pmax pmax
comp=Z,4.0nm,0.8s,mb4.5
AML Almayashu 60.12 306 *e*P **P 07 15 49.9 +1.1**
comp=Z,5.6nm,0.7s,mb4.7
AML Almayashu 60.12 306 P **P 07 15 50.7 +1.9**
SNR=9.2
CHKZ Chkalovo 61.53 320 *i*P **P 07 15 57.7 -0.5**
CHKZ pmax pmax
comp=Z,9.0nm,0.7s,mb5.0
BRVK Borovoye 61.75 319 *e*P **P 07 15 59.7 0.0**
comp=Z,18nm,0.7s,mb5.3
BRVK Borovoye 61.75 319 *e*P **P 07 15 59.7 0.0**
BRVK pmax pmax
comp=Z,18nm,0.7s,mb5.3
KK31 Karatay Array 62.35 308 *i*P **P 07 16 04.0 +0.1**
KK31 pmax pmax
comp=Z,3.0nm,0.4s,mb4.8
DAWY Dawson 63.60 29 *e*P **P 07 16 14.0 +2.2**
KBL Kabul 64.89 299 *e*P **P 07 16 21.6 +0.8**
comp=Z,12nm,0.7s,mb5.0
INK Inuvik 65.92 24 P **P 07 16 26.4 -0.5**
comp=Z,3.8nm,0.9s,mb4.4,baz=274,slow=5.6,SNR=7.5
ARU Arti 68.18 323 *e*P **P 07 16 38.4 -3.0**
ARU *e*pP pP 07 16 50.2 -1.7
ARU Arti 68.18 323 *d i*P **P 07 16 40.6 -0.8**
ARU *e* 07 19 07.7
ARU *e*S S 07 25 39.2 +0.1
ARU SS SS 07 29 55.3 -6.4
ARU pmax pmax
comp=Z,36nm,2.5s,mb5.0
DLBC Dease Lake 68.56 34 *e*P **P 07 16 42.1 -1.6**
AKTK Aktyubinsk 69.63 317 P **P 07 16 49.8 -0.7**
AKTO Aktyubinsk 69.63 317 P **P 07 16 49.8 -0.7**
comp=Z,1.6nm,0.7s,mb4.0,baz=88,slow=8.3,SNR=6.1
YKW3 Yellowknife Ar 74.80 28 *e*P **P 07 17 22.9 +1.7**
YKW3 *e*pP pP 07 17 32.7 +0.9
YKA Yellowknife Ar 74.83 28 P **P 07 17 20.4 -1.0**
YKA Yellowknife Ar 74.83 28 *i*P **P 07 17 20.3 -1.1**
YKA pmax pmax
comp=Z,1.0nm,0.5s
YKA Yellowknife Ar 74.83 28 P **P 07 17 20.4 -0.9**
comp=Z,1.2nm,0.5s,mb4.1,baz=293,slow=5.8,SNR=41
RES Resolute Bay 75.40 14 *e*P **P 07 17 25.0 +0.6**
comp=Z,195nm,1.0s
RES *e*pP pP 07 17 35.0 -0.1
GNW Green Mountain 75.46 44 *e*P **P 07 17 26.7 +1.4**
KHMM Horse Mountain 77.04 51 *e*P **P 07 17 35.4 +1.0**
YBH Yreka Blue Hor 77.47 50 *e*P **P 07 17 37.9 +1.1**
YBH *e*pP pP 07 17 47.6 +0.1
ARCES ARCESS Array B 77.49 341 P **P 07 17 35.6 -0.8**
comp=Z,12nm,0.9s,mb4.8,baz=67,slow=7.1,SNR=16
NEW Newport 78.81 42 *e*P **P 07 17 42.4 -1.7**
comp=Z,5.9nm,0.8s,mb4.6
NEW *e*pP pP 07 17 53.8 -0.9
NEW Newport 78.81 42 *e*P **P 07 17 42.4 -1.7**
NEW *e**PP pP 07 17 53.8 -1.0
NEW pmax pmax
comp=Z,6.0nm,0.8s
JOF Joensuu 79.00 334 *e*p **P 07 17 43.3 -1.6**
comp=Z,11nm,0.5s,mb5.0
EDM Edmonton 79.05 37 *e*P **P 07 17 45.0 -0.4**
EDM *e*pP pP 07 17 55.1 -0.9
BMO Blue Mountains 80.01 45 *e*P **P 07 17 49.8 -0.9**
comp=Z,11nm,1.3s,mb4.6
BMO *e*pP pP 07 18 00.6 -0.8
OBN Obninsk 80.34 326 *e*P **P 07 17 53.3 +1.0**
OBN pmax pmax
comp=Z,5.0nm,1.0s,mb4.4
WALA Waterton Lakes 80.45 41 *e*P **P 07 17 53.4 +0.4**
comp=Z,8.5nm,1.0s,mb4.6
CMB Columbia Colle 80.47 53 *e*P **P 07 17 52.4 -0.9**
comp=Z,5.5nm,0.7s,mb4.6
CMB *e*pP pP 07 18 03.6 -0.4
CMB Columbia Colle 80.47 53 *e*P **P 07 17 52.4 -0.9**
CMB *e**PP pP 07 18 03.6 -0.4
CMB pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
VRSR Storozhevoye 80.65 322 *e*P **P 07 17 53.7 -0.3**
VRSR pmax pmax
comp=E,4.0nm,0.8s
VRSR pmax pmax
comp=Z,1.0nm,0.8s,mb3.8
VRSR pmax pmax
comp=N,1.0nm,0.9s
KAF Kangasniemi 81.40 335 *e*p **P 07 17 54.2 -3.6**
comp=N,4.0nm,0.6s,mb4.5
KAF Kangasniemi 81.40 335 *e*P **P 07 17 54.2 -3.6**
KAF pmax pmax
comp=Z,4.0nm,0.6s,mb4.5
KIV Kislovodsk 81.56 314 *e*P **P 07 17 56.9 -2.1**
KIV pmax pmax
comp=Z,9.0nm,1.3s,mb4.5
NVAR Mina Array Bea 81.83 52 P **P 07 18 00.1 -0.5**
comp=Z,2.3nm,0.9s,mb4.1,baz=273,slow=3.5,SNR=11
FINES FINESS Array B 81.87 335 P **P 07 17 58.7 -1.6**
FINES FINESS Array B 81.87 335 *i*P **P 07 17 59.7 -0.6**
FINES pmax pmax
comp=Z,3.0nm,0.6s
FINES FINESS Array B 81.87 335 P **P 07 17 58.7 -1.6**
comp=Z,2.6nm,0.6s,mb4.3,baz=75,slow=6.1,SNR=9.4
HLID Hailey 82.43 46 *e*P **P 07 18 03.1 -0.5**
comp=Z,5.0nm,1.1s,mb4.4
HLID *e*pP pP 07 18 13.5 -0.8
LRM Limekiln Ridge 82.72 43 *e*P **P 07 18 06.1 +1.0**
LRM *e*pP pP 07 18 15.8 0.0
ISA Isabella 82.80 54 *e*P **P 07 18 05.0 -0.7**
comp=Z,7.3nm,1.3s,mb4.5
ISA Isabella 82.80 54 *e*P **P 07 18 05.0 -0.7**
ISA pmax pmax
comp=Z,7.0nm,1.3s,mb4.5
MCMT McKenzie Canyo 82.91 44 *e*P **P 07 18 07.7 +1.6**
BOZ Bozeman (W) 83.32 43 *e*P **P 07 18 08.0 -0.2**
comp=Z,1.6nm,0.6s,mb4.2
BOZ Bozeman (W) 83.32 43 *e*P **P 07 18 08.0 -0.2**
BOZ pmax pmax
comp=Z,2.0nm,0.6s,mb4.3
QLMT Earthquake Lak 83.81 44 *e*P **P 07 18 11.1 +0.4**
TPNV Topopah Spring 83.92 52 *e*P **P 07 18 11.1 -0.3**
comp=Z,5.1nm,0.9s,mb4.7
TPNV *e*pP pP 07 18 20.9 -1.3
TPNV Topopah Spring 83.92 52 *e*P **P 07 18 11.1 -0.3**
TPNV *e**PP pP 07 18 20.9 -1.3
TPNV pmax pmax
comp=Z,5.0nm,0.9s,mb4.6
GSC Goldstone 84.19 54 *e*P **P 07 18 12.9 +0.1**
FFC Flin Flon 84.24 32 *e*P **P 07 18 11.8 -0.9**
comp=Z,19nm,1.1s,mb5.1
FFC *e*pP pP 07 18 22.6 -0.8
FFC Flin Flon 84.24 32 *e*P **P 07 18 11.8 -0.9**
FFC *e**PP pP 07 18 22.6 -0.8
FFC pmax pmax
comp=Z,19nm,1.1s,mb5.1
YNR Norris Junctio 84.34 44 *e*P **P 07 18 15.8 +2.4**
YNR *e*pP pP 07 18 25.9 +1.7
GCMT Greycliff 84.48 42 *e*P **P 07 18 15.3 +1.2**
IMW Indian Meadow 84.55 44 *e*P **P 07 18 15.2 +0.7**
comp=Z,4.3nm,0.8s,mb4.6
IMW *e*pP pP 07 18 25.5 +0.3
LKWY Lake 84.58 44 *e*P **P 07 18 17.1 +2.5**
comp=Z,4.3nm,0.7s,mb4.7
LKWY *e*pP pP 07 18 27.6 +2.2
LKWY Lake 84.58 44 *e*P **P 07 18 17.1 +2.4**
LKWY *e**PP pP 07 18 27.6 +2.2
LKWY pmax pmax
comp=Z,4.0nm,0.7s,mb4.7
FLWY Flagg Ranch 84.62 44 *e*P **P 07 18 15.8 +0.9**
comp=Z,12nm,1.0s,mb5.0
FLWY *e*pP pP 07 18 26.7 +1.1
SPUT South Promonto 84.72 47 *e*P **P 07 18 17.9 +2.5**
SPUT *e*pP pP 07 18 26.3 +0.2
TPAW Teton Pass 84.72 45 *e*P **P 07 18 12.6 -2.8**
comp=Z,7.0nm,1.1s,mb4.7
MOOW Moose Ponds 84.74 44 *e*P **P 07 18 15.5 +0.1**
comp=Z,4.5nm,1.1s,mb4.5
LOHW Long Hollow 84.89 45 *e*P **P 07 18 16.7 +0.4**
comp=Z,6.0nm,1.2s,mb4.6
DUG Dugway 84.96 48 *e*P **P 07 18 16.0 -0.6**
comp=Z,8.6nm,1.1s,mb4.8
DUG Dugway 84.96 48 *e*P **P 07 18 16.0 -0.6**
DUG pmax pmax
comp=Z,9.0nm,1.1s,mb4.8
RLMT Red Lodge 85.04 43 *e*P **P 07 18 17.7 +0.8**
comp=Z,7.8nm,0.7s,mb5.0
RLMT *e*pP pP 07 18 26.2 -1.5
HWUT Hardware Ranch 85.18 47 *e*P **P 07 18 17.7 0.0**
comp=Z,7.2nm,1.0s,mb4.8
HWUT *e*pP pP 07 18 27.7 -0.7
FCC Fort Churchill 85.40 26 *e*P **P 07 18 19.0 +0.5**
comp=Z,8.0nm,1.1s,mb4.8
FCC *e*pP pP 07 18 27.9 -1.3
FCC Fort Churchill 85.40 26 *e*P **P 07 18 19.0 +0.5**
FCC *e**PP pP 07 18 27.9 -1.3
FCC pmax pmax
comp=Z,8.0nm,1.1s,mb4.8
LDFC Landfair 85.54 54 *e*P **P 07 18 20.4 +0.7**
ARUT Antelope Range 85.58 51 *e*P **P 07 18 20.4 +0.6**
ARUT *e*pP pP 07 18 31.4 +0.8
JLU Jordanelle 85.71 48 *e*P **P 07 18 19.7 -0.7**
MPU Maple Canyon 85.85 48 *e*P **P 07 18 22.0 +0.9**
comp=Z,5.2nm,1.0s,mb4.7
DAU Daniels Canyon 85.93 48 *e*P **P 07 18 22.1 +0.6**
BW06 Boulder Array 85.96 45 *e*P **P 07 18 23.6 +2.0**
PDAR Pinedale Array 85.96 45 P **P 07 18 22.8 +1.2**
comp=Z,0.9nm,0.8s,mb4.1,baz=256,slow=2.4,SNR=6.7
LAO LASA Array 86.13 40 *e*P **P 07 18 21.8 -0.5**
comp=Z,32nm,1.3s,mb5.4
LAO *e*pP pP 07 18 32.9 -0.2
MSU Marysvale 86.15 50 *e*P **P 07 18 25.0 +2.4**
AKASG Malin Array Be 86.40 325 P **P 07 18 21.7 -1.9**
comp=Z,1.5nm,0.5s,mb4.4,baz=50,slow=4.4,SNR=8.6
NOA NORSAR Array B 87.56 339 P **P 07 18 26.6 -2.4**
comp=Z,0.8nm,0.8s,mb4.0,baz=51,slow=4.2,SNR=7.5
WUAZ Wupatki 88.09 52 *e*P **P 07 18 30.2 -1.8**
comp=Z,10nm,1.1s,mb5.0
SDCO Great Sand Dun 91.14 48 *e*P **P 07 18 46.7 +0.5**
comp=Z,3.5nm,1.1s,mb4.6
SDCO *e*pP pP 07 18 55.9 -1.2
ANMO Albuquerque 91.88 51 *e*P **P 07 18 50.2 +0.4**
comp=Z,6.6nm,1.1s,mb4.9
ANMO *e*pP pP 07 19 00.5 -0.1
ANMO Albuquerque 91.88 51⇑ *e*P **P 07 18 50.5 +0.7**
MNTX Cornudas Mount 94.30 53 *e*P **P 07 19 01.6 +0.6**
comp=Z,4.0nm,1.0s,mb4.8
MNTX *e*pP pP 07 19 11.3 -0.6
TXAR Lajitas Array 96.79 54 P **P 07 19 11.5 -0.9**
TXAR Lajitas Array 96.79 54 P **P 07 19 11.5 -0.9**
comp=Z,0.6nm,1.0s,mb4.0,baz=354,slow=7.3,SNR=2.9
TORD Torodi Ar. Bea 127.99 310 PKP PKPdf 07 24 46.2 -1.7
comp=Z,0.3nm,0.6s,baz=10,slow=1.2,SNR=5.3

SDV	**Santo Domingo**	**133.67**	**50**	PKP	PKPdf	07 24 58.0	-0.7
	comp=Z,2.3nm,0.7s,baz=32,slow=8.1,SNR=4.0						
PLCA	**Paso Flores**	**146.52**	**129**	PKPbc	PKPbc	07 25 21.6	-1.0
PLCA				*e*PKPdf	PKPdf	07 25 21.9	+0.8
PLCA	**Paso Flores**	**146.52**	**129**	PKPbc	PKPbc	07 25 21.6	-1.0
	comp=Z,3.8nm,0.6s,baz=228,slow=4.0,SNR=12						
LPAZ	**La Paz**	**149.38**	**83**	*e*PKPdf	PKPdf	07 25 27.0	+0.5
LPAZ				PKPbc	PKPbc	07 25 31.0	+0.1
LPAZ				*e*PKPbc	PKPbc	07 25 31.4	+0.5
LPAZ	**La Paz**	**149.38**	**83**	PKPbc	PKPbc	07 25 31.0	+0.1
	comp=Z,2.8nm,0.6s,baz=325,slow=2.2,SNR=13						
CFAA	**Coronel Fontan**	**150.66**	**113**	PKPbc	PKPbc	07 25 33.0	-0.6
	comp=Z,0.1nm,0.5s,baz=258,slow=9.3,SNR=2.9						

*IDC **04** 07:21:26.8±1.1,3606N×14166E,h0km,mb3.7/7,*
mb1 3.8/9,mb1mx3.7/22,mbtmp3.7/9,ML3.8/2,MS3.9/1,
Ms1 3.9/1,ms1mx3.2/45,Error ellipse: s-maj=30.7km
s-min=20.0km az=77.0
*ISCJB **04** 07:21:28.9±1.2,3599N±003×14174E±006,h29km±8km,*
mb3.6/7,Error ellipse: s-maj=8.4km s-min=5.6km az=5.0
*JMA **04** 07:21:28.4±0.3,3602N×14176E,h32km±4km,M3.9*

ISC 04 07:21:29.1±1.7,3600N±003×14164E±006,h14km±11km,
n22,σ0°80/31,mb3.6/7,1C-1D,Near east coast of
eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.70**	**245**	⇓P	**Pb**	**07 21 43.3**	**+0.1**
CHOJ				S	**Sb**	**07 21 53.9**	**+1.2**
JHO	**Hitachi**	**1.06**	**305**	P	**Pb**	**07 21 48.8**	**-0.4**
JYT	**Yasato**	**1.20**	**281**	P	**Pn**	**07 21 50.4**	**-1.0**
ONAJ	**Iwakimizuishiy**	**1.29**	**328**	⇑P	**Pn**	**07 21 51.7**	**-1.1**
BSO1	**Boso 1**	**1.45**	**202**	*e*S	**Sn**	**07 22 14.9**	**+1.2**
JFK	**Kawauchi**	**1.50**	**336**	P	**Pn**	**07 21 54.8**	**-0.8**
BSO3	**Boso 3**	**1.51**	**218**	P	**Pn**	**07 21 55.6**	**-0.2**
JAG	**Ashikaga**	**1.82**	**284**	P	**Pn**	**07 21 59.2**	**-0.8**
JAG				*e*S	**Sn**	**07 22 22.4**	**-0.5**
JFT	**Otama**	**1.84**	**326**	P	**Pn**	**07 22 00.6**	**+0.3**
JFT				*e*S	**Sn**	**07 22 24.4**	**+1.0**
JMM	**Marumori**	**1.98**	**340**	P	**Pn**	**07 22 02.3**	**+0.1**
JMM				*e*S	**Sn**	**07 22 27.5**	**+0.6**
JKT	**Katashina**	**2.08**	**292**	P	**Pn**	**07 22 03.6**	**+0.1**
JKT				*e*S	**Sn**	**07 22 30.0**	**+0.8**
MJAR	**Matsushiro Arr**	**2.83**	**282**	Pn	**Pn**	**07 22 14.2**	**+0.3**
	10nm,0.3s,baz=90,slow=9.1,SNR=46						
MJAR				Sn	**Sn**	**07 22 51.4**	**+3.6**
	8.4nm,0.3s,baz=89,slow=10,SNR=5.0						
MJAR				LR	LR	07 23 00.1	
	comp=Z,2μm,20.3s,baz=135,slow=33						
MAT	**Matsushiro**	**2.83**	**282**	P	**Pn**	**07 22 15.1**	**+1.2**
MAT				S	**Sn**	**07 22 46.5**	**-1.3**
JHJ	**Hachijo jima 2**	**3.26**	**209**	Pn	**Pn**	**07 22 20.4**	**+0.6**
	39nm,0.3s,baz=283,slow=13,SNR=11						
JHJ				Sn	**Sn**	**07 22 56.8**	**-1.6**
	39nm,0.3s,baz=254,slow=23,SNR=10.0						
ASAJ	**Asahikawa**	**8.14**	**5**	Pn	**Pn**	**07 23 28.1**	**+1.3**
	0.8nm,0.3s,baz=224,slow=10,SNR=2.8						
ASAJ				Sn	**Sn**	**07 24 58.4**	**-0.1**
	0.4nm,0.3s,baz=247,slow=34,SNR=2.4						
SONM	**Songino Array**	**28.52**	**305**	P	**P**	**07 27 23.9**	**-0.2**
	0.7nm,0.6s,mb3.6,baz=104,slow=8.8,SNR=3.6						
ZALV	**Zalesovo Beam**	**42.75**	**313**	P	**P**	**07 29 25.1**	**-0.6**
	1.1nm,0.4s,mb3.9,baz=88,slow=7.4,SNR=7.1						
MKAR	**Makanchi Array**	**44.83**	**303**	P	**P**	**07 29 41.9**	**-0.7**
	1.8nm,0.8s,mb4.0,baz=87,slow=8.7,SNR=15						
WRA	**Warramunga Arr**	**56.06**	**188**	P	**P**	**07 31 07.5**	**-0.1**
	0.7nm,0.7s,mb3.8,baz=5.6,slow=7.2,SNR=5.4						
ASAR	**Alice Springs**	**59.79**	**188**	P	**P**	**07 31 34.3**	**+0.5**
	0.1nm,0.4s,mb3.2,baz=0.8,slow=6.5,SNR=3.5						
YKA	**Yellowknife Ar**	**64.61**	**30**	P	**P**	**07 32 05.9**	**+0.3**
	0.4nm,1.0s,mb3.4,baz=287,slow=5.8,SNR=4.9						
AKASG	**Malin Array Be**	**75.23**	**323**	P	**P**	**07 33 10.6**	**-0.6**
	0.2nm,0.3s,mb3.5,baz=48,slow=5.4,SNR=4.8						

IDC 04 07:25:11.3±3.4,677S×15513E,h0km,mb3.9/5,mb1 4.0/5,
mb1mx3.8/14,mbtmp3.9/5,Error ellipse:
s-maj=103.9km s-min=28.1km az=114.0,Bougainville -
Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.06**	**235**	P	P	07 30 29.2	+0.8
	2.7nm,0.6s,baz=60,slow=9.5,SNR=34						
ASAR	**Alice Springs**	**26.43**	**228**	P	P	07 30 49.2	-0.7
	0.2nm,0.6s,baz=58,slow=8.5,SNR=4.4						
SONM	**Songino Array**	**69.22**	**327**	P	P	07 36 21.4	+1.5
	0.5nm,0.6s,baz=133,slow=6.3,SNR=2.5						
MKAR	**Makanchi Array**	**83.33**	**319**	P	P	07 37 40.7	+0.5
	2.0nm,0.7s,baz=100,slow=6.2,SNR=25						
ZALV	**Zalesovo Beam**	**84.07**	**326**	P	P	07 37 42.5	-1.3
	0.5nm,0.3s,baz=100,slow=6.1,SNR=13						

*ATH **04** 07:37:24.5,3669N×2829E,h40km±3km,MD3.0/3*
*CSEM **04** 07:37:25.4±0.1,3669N×2800E,h6km±1km,MD3.0,Error*
ellipse: s-maj=2.9km s-min=2.4km az=49.0
*ISCJB **04** 07:37:26.3±1.1,3671N±005×2803E±007,h9km±10km,*
Error ellipse: s-maj=10.2km s-min=7.3km az=163.8

ISC 04 07:37:26.7±1.1,3670N±005×2801E±008,h13km±9km,n6,
σ0°59/9,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARG	**Arkhangelos**	**0.50**	**169**	*e*P	**Pg**	**07 37 35.8**	**-0.7**
ARG				*e*S	**Sg**	**07 37 44.2**	**+1.1**
BDRM	**Kayabasi**	**0.58**	**309**	*i* P	**Pg**	**07 37 37.9**	**-0.2**
KARP	**Karpathos**	**1.34**	**211**	*e*P	**Pn**	**07 37 50.8**	**-0.4**
KARP				*e*S	**Sb**	**07 38 08.6**	**-0.3**
GOLH	**Golhisar**	**1.35**	**66**	*i* P	**Pn**	**07 37 51.2**	**-0.1**
AKAS	**Kas**	**1.37**	**110**	*i* P	**Pn**	**07 37 51.5**	**0.0**
SMG	**Samos**	**1.37**	**317**	*e*P	**Pn**	**07 37 51.1**	**-0.5**
SMG				*e*S	**Sn**	**07 38 10.6**	**+1.0**

*ISCJB **04** 07:39:57.8±0.8,2161S±005×68.10W±007,h124km±8km,*
mb4.3/26,Error ellipse: s-maj=10.5km s-min=7.8km
az=4.5
*NEIC **04** 07:39:59.2±0.6,2163S×68.11W,h122km±6km,mb4.5/21,*
MD4.2(GUC),Error ellipse: s-maj=9.9km s-min=6.4km
az=89.0
*IDC **04** 07:40:01.1±2.4,2148S×68.11W,h136km±21km,mb3.8/8,*
mb1 4.0/12,mb1mx3.9/17,mbtmp3.8/12,Error ellipse:
s-maj=18.9km s-min=15.0km az=52.0

ISC 04 07:39:58.2±0.6,2156S±004×6807W±006,h109km±6km,
n63,σ1°07/66,mb4.3/26,1C-3D,Chile-Bolivia border
region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEN1	**Los Morros**	**2.68**	**227**	⇓*e*P	**Pn**	**07 40 45.4**	**+5.4**
CEN1				*i* S	**Sn**	**07 41 18.6**	**+6.5**
ANCH	**Antofagasta**	**3.02**	**225**	⇓*i*P	**Pn**	**07 40 47.1**	**+2.6**
ANCH				*i* S	**Sn**	**07 41 21.1**	**+0.9**
ANCH	**Antofagasta**	**3.02**	**225**	⇑*e*P	**Pn**	**07 40 46.8**	**+2.4**
ANCH				*i* S	**Sn**	**07 41 20.5**	**+0.3**
ANCH				AML	AML	07 41 23.0	
	comp=N,1μm,0.1s						
CPN1	**Cerro Paranal**	**3.73**	**215**	*e*P	**Pn**	**07 40 56.2**	**+2.2**
CPN1				*i* S	**Sn**	**07 41 37.4**	**+0.3**
CPN1				AML	AML	07 41 40.0	
	comp=N,451nm,0.3s						
LPAZ	**La Paz**	**5.25**	**359**	*e*Pn	**Pn**	**07 41 19.6**	**+5.2**
	comp=N,35nm,0.4s						
LPAZ	**La Paz**	**5.25**	**359**	P	**Pn**	**07 41 19.1**	**+4.7**
	comp=N,13nm,0.3s,baz=169,slow=8.0,SNR=178						
ARE	**Arequipa**	**6.02**	**327**	*e*P	**Pn**	**07 41 26.0**	**+1.2**
ARE				*e*S	**Sn**	**07 42 31.0**	**-1.4**
CDCH	**Caldera**	**6.04**	**204**	⇓*i*P	**Pn**	**07 41 23.9**	**-1.2**
CDCH				*i* S	**Sn**	**07 42 25.6**	**-7.2**
CPCH	**Copiapo**	**6.13**	**199**	*i* P	**Pn**	**07 41 25.7**	**-0.7**
CPCH				*i* S	**Sn**	**07 42 30.8**	**-4.4**
LCO	**Las Campanas**	**7.79**	**197**	*e*Pn	**Pn**	**07 41 47.6**	**-1.3**
	comp=N,14nm,0.6s						
LCO				*e*Sn	**Sn**	**07 43 12.1**	**-3.3**
SIV	**San Ignacio**	**8.63**	**51**	P	**Pn**	**07 42 02.0**	**+1.6**
	comp=N,18nm,0.3s,baz=248,slow=12,SNR=299						
SIV				S	**Sn**	**07 43 34.1**	**-2.0**
	comp=N,3.9nm,0.3s,baz=320,slow=23,SNR=8.3						
CFAA	**Coronel Fontan**	**10.01**	**181**	P	**Pn**	**07 42 17.6**	**-1.3**
	comp=N,0.2nm,0.3s,baz=356,slow=14,SNR=16						
CFAA				S	**Sn**	**07 44 04.2**	**-5.0**
	comp=N,0.2nm,0.3s,baz=240,slow=17,SNR=5.3						
TRQA	**Tornquist**	**17.26**	**164**	*e*P	**Pn**	**07 43 50.8**	**-1.6**
	comp=N,46nm,1.1s						
PLCA	**Paso Flores**	**19.23**	**186**	*e*P	**P**	**07 44 14.9**	**+1.2**
	comp=N,2.1nm,0.6s						
PLCA	**Paso Flores**	**19.23**	**186**	P	**P**	**07 44 14.6**	**+0.9**
	comp=N,0.2nm,0.3s,baz=4.4,slow=12,SNR=15						
BDFB	**Brasilia**	**19.89**	**76**	P	**P**	**07 44 21.9**	**+0.8**
	comp=N,2.3nm,0.3s,baz=247,slow=14,SNR=18						
RCBR	**Riachuelo**	**34.83**	**68**	*e*P	**P**	**07 46 39.8**	**+0.8**
	comp=N,32nm,0.9s,mb5.1						
SJG	**San Juan**	**39.47**	**3**	*e*P	**P**	**07 47 18.0**	**0.0**
	comp=N,16nm,0.9s,mb4.9						
SWET	**Sewanee**	**58.95**	**343**	*e*P	**P**	**07 49 45.6**	**-0.5**
ELN	**Prospectdale**	**59.68**	**348**	*e*P	**P**	**07 49 51.6**	**+0.5**
WVT	**Waverly**	**60.35**	**342**	*e*P	**P**	**07 49 54.0**	**-1.7**
	comp=N,8.3nm,0.7s,mb4.9						
MIAR	**Mount Ida**	**60.84**	**336**	*e*P	**P**	**07 49 58.2**	**-0.9**
	comp=N,2.8nm,0.6s,mb4.5						
TXAR	**Lajitas Array**	**61.13**	**325**	P	**P**	**07 50 00.2**	**-0.9**
	comp=N,0.6nm,0.6s,mb3.8,baz=149,slow=9.0,SNR=10						
SIUC	**Southern Illin**	**62.23**	**341**	*e*P	**P**	**07 50 07.1**	**-1.2**
	comp=N,14nm,0.7s,mb5.1						
CCM	**Cathedral Cave**	**63.17**	**340**	*e*P	**P**	**07 50 13.2**	**-1.4**
ANMO	**Albuquerque**	**66.98**	**326**	*e*P	**P**	**07 50 39.8**	**+0.5**
	comp=N,2.2nm,0.7s,mb4.1						
DBIC	**Dimbokro**	**68.00**	**73**	*e*P	**P**	**07 50 46.5**	**+0.3**
	comp=N,5.4nm,0.6s,mb4.5						
DBIC	**Dimbokro**	**68.00**	**73**	P	**P**	**07 50 46.4**	**+0.2**
	comp=N,6.9nm,0.6s,mb4.7,baz=218,slow=7.4,SNR=20						
QSPA	**South Pole Qui**	**68.63**	**180**	*e*P	**P**	**07 50 50.1**	**+1.1**
	comp=N,6.9nm,0.9s,mb4.5						
SDCO	**Great Sand Dun**	**68.70**	**329**	*e*P	**P**	**07 50 50.0**	**0.0**
	comp=N,5.3nm,1.3s,mb4.2						
SRU	**San Rafael**	**72.25**	**327**	*e*P	**P**	**07 51 11.8**	**+0.2**
	comp=N,3.1nm,0.6s,mb4.3						
CCUT	**Cedar City**	**72.62**	**324**	*e*P	**P**	**07 51 15.2**	**+1.3**
CCUT				*e*pP	pP	07 51 52.7	+11
JLU	**Jordanelle**	**73.84**	**327**	*e*P	**P**	**07 51 22.3**	**+1.4**
ISA	**Isabella**	**74.27**	**319**	*e*P	**P**	**07 51 24.7**	**+1.2**
	comp=N,3.1nm,0.6s,mb4.2						
PDAR	**Pinedale Array**	**74.56**	**330**	P	**P**	**07 51 24.7**	**-0.3**
	comp=N,0.5nm,0.7s,mb3.4,baz=131,slow=8.6,SNR=5.1						
HWUT	**Hardware Ranch**	**74.65**	**328**	*e*P	**P**	**07 51 25.7**	**+0.1**
	comp=N,1.8nm,0.7s,mb3.9						
ULM	**Lac du Bonnet**	**75.61**	**342**	P	**P**	**07 51 30.1**	**-0.8**
	comp=N,6.0nm,0.6s,mb4.5,baz=155,slow=6.3,SNR=18						
TPAW	**Teton Pass**	**75.77**	**329**	*e*P	**P**	**07 51 31.8**	**-0.1**
NVAR	**Mina Array Bea**	**76.03**	**322**	P	**P**	**07 51 33.0**	**-0.6**
NVAR	**Mina Array Bea**	**76.03**	**322**	P	**P**	**07 51 33.0**	**-0.6**
	comp=N,0.6nm,0.6s,mb3.5,baz=144,slow=7.1,SNR=10.0						
SCHQ	**Schefferville**	**76.09**	**1**	P	**P**	**07 51 32.4**	**-1.1**
	comp=N,3.9nm,1.0s,mb4.1,baz=219,slow=7.1,SNR=7.4						
RLMT	**Red Lodge**	**76.24**	**331**	*e*P	**P**	**07 51 35.6**	**+1.0**
TORD	**Torodi Ar. Bea**	**76.64**	**70**	P	**P**	**07 51 37.4**	**-0.1**
TORD	**Torodi Ar. Bea**	**76.64**	**70**	P	**P**	**07 51 37.4**	**-0.1**
	comp=N,6.2nm,0.5s,mb4.6,baz=257,slow=5.4,SNR=134						
VNDA	**Vanda**	**76.93**	**190**	P	**P**	**07 51 39.7**	**+1.5**
VNDA	**Vanda**	**76.93**	**190**	P	**P**	**07 51 39.7**	**+1.6**
	comp=N,0.8nm,0.7s,mb3.5,baz=89,slow=1.0,SNR=4.9						
HLID	**Hailey**	**77.51**	**327**	*e*P	**P**	**07 51 43.2**	**+1.4**
	comp=N,3.6nm,0.9s,mb4.1						
MCMT	**McKenzie Canyo**	**77.67**	**329**	*e*P	**P**	**07 51 42.2**	**-0.4**
TSUM	**Tsumeb**	**79.27**	**106**	*e*P	**P**	**07 51 53.5**	**+1.4**
	comp=N,3.7nm,0.8s,mb4.3						
BMO	**Blue Mountains**	**79.89**	**327**	*e*P	**P**	**07 51 54.8**	**+0.1**
	comp=N,37nm,2.5s,mb4.8						
WALA	**Waterton Lakes**	**81.29**	**331**	*e*P	**P**	**07 52 02.1**	**0.0**
	comp=N,3.9nm,0.8s,mb4.3						
BOSA	**Boshof**	**82.73**	**118**	P	**P**	**07 52 10.3**	**0.0**
BOSA	**Boshof**	**82.73**	**118**	P	**P**	**07 52 10.3**	**0.0**
	comp=N,1.1nm,0.5s,mb3.9,baz=210,slow=4.0,SNR=3.3						
FCC	**Fort Churchill**	**82.87**	**347**	*e*P	**P**	**07 52 09.5**	**-0.6**
	comp=N,3.4nm,0.7s,mb4.3						
YKA	**Yellowknife Ar**	**91.50**	**340**	P	**P**	**07 52 51.6**	**-0.3**
	comp=N,7.2nm,0.5s,mb5.2,baz=134,slow=4.5,SNR=254						
YKW3	**Yellowknife Ar**	**91.56**	**340**	*e*P	**P**	**07 52 51.1**	**-1.1**
ASAR	**Alice Springs**	**130.22**	**207**	PKP	PKPdf	07 58 55.5	-0.8
	comp=N,1.0nm,0.4s,baz=129,slow=1.8,SNR=16						
WRA	**Warramunga Arr**	**133.29**	**210**	PKP	PKPdf	07 59 01.5	-0.6
	comp=N,1.9nm,0.7s,baz=158,slow=1.8,SNR=28						
ZALV	**Zalesovo Beam**	**141.67**	**26**	PKP	PKPdf	07 59 13.2	-3.2
	comp=N,2.6nm,0.6s,baz=292,slow=2.9,SNR=11						
MKAR	**Makanchi Array**	**145.22**	**37**	PKPbc	PKPbc	07 59 22.7	-0.1
MKAR				pPKPbc		08 00 00.6	
MKAR	**Makanchi Array**	**145.22**	**37**	PKPbc	PKPbc	07 59 22.7	-0.1
	comp=N,5.1nm,0.8s,baz=317,slow=4.0,SNR=45						
MKAR				pPKPbc		08 00 00.6	
	comp=N,1.1nm,0.8s,baz=319,slow=3.4,SNR=2.3						
MJAR	**Matsushiro Arr**	**152.72**	**309**	PKPbc	PKPbc	07 59 41.6	-0.9
	comp=N,0.9nm,0.3s,baz=124,slow=2.1,SNR=4.6						
SONM	**Songino Array**	**153.41**	**8**	PKPbc	PKPbc	07 59 43.2	-0.4
	comp=N,0.9nm,0.4s,baz=275,slow=1.3,SNR=6.8						
SONM				PKPab	PKPab	07 59 56.4	+0.3
	comp=N,0.8nm,0.5s,baz=312,slow=5.1,SNR=3.6						

IDC 04 07:55:30.6±0.9,862S×15760E,h0km,mb3.9/7,mb1 4.1/8,
mb1mx3.9/15,mbtmp3.8/8,ML4.3/1,MS3.8/2,Ms1 3.8/2,
ms1mx3.5/22,Error ellipse: s-maj=31.3km
s-min=19.9km az=160.0,Bougainville - Solomon
Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.46**	**109**	Pn	Pn	07 56 11.1	-0.9
	61nm,0.3s,baz=266,slow=6.2,SNR=8.4						
HNR				LR	LR	07 56 36.1	
	comp=Z,576nm,21.0s,baz=357,slow=27						
HNR				Sn	Sn	07 56 45.4	+2.6
	85nm,0.3s,baz=87,slow=20,SNR=11						
WRA	**Warramunga Arr**	**25.15**	**241**	P	P	08 00 57.4	-0.4
	3.3nm,0.9s,baz=68,slow=9.6,SNR=20						
ASAR	**Alice Springs**	**27.17**	**234**	P	P	08 01 15.2	-0.7
	0.7nm,1.0s,baz=66,slow=9.4,SNR=5.0						
STKA	**Stephens Creek**	**27.51**	**211**	P	P	08 01 20.4	+1.4
	1.2nm,0.8s,baz=48,slow=10,SNR=3.6						
KSRS	**Korea Array**	**53.59**	**331**	LR	LR	08 27 30.9	
	comp=Z,245nm,18.3s,baz=345,slow=36						
MKAR	**Makanchi Array**	**86.32**	**318**	P	P	08 08 15.3	+0.7
	0.2nm,0.4s,baz=118,slow=4.3,SNR=3.8						
NVAR	**Mina Array Bea**	**90.70**	**51**	P	P	08 08 35.8	+0.1
	0.8nm,0.8s,baz=244,slow=4.6,SNR=7.5						
YKA	**Yellowknife Ar**	**96.56**	**28**	P	P	08 09 01.8	-0.2
	0.1nm,0.6s,baz=260,slow=5.5,SNR=3.1						
PDAR	**Pinedale Array**	**97.87**	**48**	P	P	08 09 08.5	+0.1
	0.2nm,0.4s,baz=172,slow=3.0,SNR=3.5						

IDC 04 08:00:12.9±2.5,5229N×3563E,h0km,mb3.3/1,mb1 3.7/5,
mb1mx3.5/23,mbtmp3.6/5,ML3.2/5,Error ellipse:
s-maj=31.2km s-min=12.5km az=122.0,Baltic States -
Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKASG	**Malin Array Be**	**4.31**	**251**	Pn	Pn	08 01 17.8	-1.8
	1.2nm,0.3s,baz=61,slow=15,SNR=3.2						
AKASG				Pg	Pg	08 01 29.0	-6.4
	2.5nm,0.3s,baz=62,slow=15,SNR=6.3						
AKASG				Sn	Sn	08 02 06.8	-3.6
	4.1nm,0.3s,baz=62,slow=22,SNR=11						
AKASG				Lg		08 02 23.1	
	5.4nm,0.3s,baz=69,slow=29,SNR=4.8						
FINES	**FINESS Array B**	**10.54**	**334**	Pn	Pn	08 02 41.0	-4.0
	0.1nm,0.3s,baz=148,slow=12,SNR=6.3						
FINES				Sn	Sn	08 04 32.4	-11
	0.3nm,0.3s,baz=141,slow=25,SNR=4.7						
HFS	**Hagfors**	**14.45**	**311**	Pn	Pn	08 03 30.0	-8.4
	0.1nm,0.3s,baz=147,slow=8.1,SNR=3.0						
NOA	**NORSAR Array B**	**15.94**	**313**	Pn	Pn	08 03 50.3	-7.9
	0.1nm,0.3s,baz=113,slow=13,SNR=2.4						
ARCES	**ARCESS Array B**	**17.94**	**348**	Pn	Pn	08 04 19.3	-4.0
	0.3nm,0.3s,baz=156,slow=12,SNR=8.8						
YKA	**Yellowknife Ar**	**63.17**	**345**	P	P	08 10 40.3	-1.6
	0.2nm,0.4s,baz=12,slow=6.9,SNR=4.6						

*BJI **04** 08:00:45.6,2335N×14373E,h30km,mB5.2,mb4.9,Ms4.8,*
Msz4.7
*IDC **04** 08:00:45.8±3.2,2330N×14360E,h21km±20km,mb4.4/21,*
mb1 4.5/25,mb1mx4.5/28,mbtmp4.4/25,ML4.0/4,MS4.3/3,
Ms1 4.3/3,ms1mx4.0/31,Error ellipse: s-maj=20.1km
s-min=11.0km az=76.0

*ISCJB **04** 08:00:46.4±0.2,2329N±004×14357E±003,h32km,*
mb4.8/105,MS4.7/9,Error ellipse: s-maj=5.3km
s-min=3.3km az=16.3
*MOS **04** 08:00:47.3±1.2,2347N×14353E,h33km,mb5.1/43,Error*
ellipse: s-maj=9.9km s-min=5.9km az=108.8
*NEIC **04** 08:00:47.9±0.2,2324N×14356E,mb5.0/57,Error ellipse:*
s-maj=6.0km s-min=5.8km az=186.0

ISC 04 08:00:48.4±0.2,2329N±004×14361E±003,h34km,
h34km±.5km:pP-P,n440,σ0°77/451,mb4.8/105,MS4.7/9,
109C-111D,Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**4.00**	**341**	Pn	**Pn**	**08 01 46.9**	**-0.4**
	23nm,0.3s,baz=258,slow=19,SNR=5.5						
CBIJ				Sn	**Sn**	**08 02 31.2**	**-1.8**
	55nm,0.3s,baz=218,slow=19,SNR=9.1						
GUMO	**Guam**	**9.72**	**173**	LR	LR	08 06 09.7	
	comp=Z,1μm,18.2s,baz=7.4,slow=33						
MJAR	**Matsushiro Arr**	**14.01**	**342**	Pn	**Pn**	**08 04 00.6**	**-3.8**
MJAR	**Matsushiro Arr**	**14.01**	**342**	Pn	**Pn**	**08 04 00.6**	**-3.8**
	1.1nm,0.3s,baz=157,slow=11,SNR=9.7						
MAJO	**Matsushiro**	**14.01**	**342**	*e*Pn	**Pn**	**08 04 03.4**	**-1.1**
MAT	**Matsushiro**	**14.01**	**342**	P	**Pn**	**08 04 03.9**	**-0.5**
MAT				S	**Sn**	**08 06 40.0**	**+1.3**
JNU	**Nakatsue**	**14.88**	**314**	Pn	**Pn**	**08 04 15.6**	**-0.7**
	0.2nm,0.3s,baz=209,slow=13,SNR=2.8						
JNU				LR	LR	08 10 12.6	
	comp=Z,598nm,18.0s,baz=357,slow=38						
KSRS	**Korea Array**	**19.52**	**320**	P	**Pn**	**08 05 12.4**	**-1.7**
	0.8nm,0.3s,baz=134,slow=11,SNR=30						
KSRS				LR	LR	08 12 28.3	
	comp=Z,1μm,18.2s,baz=135,slow=36						
KS15	**Wonju Array Si**	**19.53**	**320**	*e*P	**Pn**	**08 05 12.2**	**-2.1**
ASAJ	**Asahikawa**	**20.79**	**358**	P	**P**	**08 05 28.0**	**+1.5**
	7.8nm,0.8s,baz=185,slow=7.4,SNR=5.2						
VLA	**Vladivostok**	**22.03**	**337**	*e*P	**P**	**08 05 39.4**	**-0.4**
VLA				pmax	pmax		
	comp=Z,119nm,1.7s,mb5.0						
NJ2	**Nanjing**	**23.56**	**297**	*e*P	**P**	**08 05 56.6**	**+0.7**
NJ2				AP		08 06 05.4	
NJ2				XP	sP	08 06 09.1	-0.5
NJ2				PP		08 06 29.3	
NJ2				S	**S**	**08 10 06.0**	**-1.6**
NJ2				AMB	AMB		
	comp=Z,50nm,1.0s,mb4.9						
NJ2				AMB	AMB		
	comp=Z,1μm,4.2s						
NJ2				LR	LR		
	comp=N,1μm,13.8s,MS4.8						
NJ2				LR	LR		
	comp=E,2μm,13.4s,MS4.8						
NJ2				LR	LR		
	comp=Z,6μm,13.4s,MS5.2						
YSS	**Yuzh-Sakhalins**	**23.62**	**359**	*e*P	**P**	**08 05 56.5**	**+0.2**
	comp=Z,31nm,1.1s,mb4.6						
YSS				*e*		08 06 06.2	
YSS	**Yuzh-Sakhalins**	**23.62**	**359**	⇑*e*P	**P**	**08 05 56.4**	**+0.1**
YSS				pmax	pmax		
	comp=Z,12nm,1.2s,mb4.2						
MDJ	**Mudanjiang**	**24.18**	**335**	P	**P**	**08 06 02.0**	**+0.6**
MDJ				AP		08 06 10.7	
MDJ				XP	sP	08 06 14.5	-0.8
MDJ				S	**S**	**08 10 18.9**	**+1.6**
MDJ				SCP	ScP	08 13 18.4	+0.8
MDJ				PCS	PcS	08 13 22.1	+1.0
MDJ				AMB	AMB		
	comp=Z,71nm,1.6s,mb4.8						
MDJ				AMB	AMB		
	comp=Z,460nm,5.0s						
MDJ				LR	LR		
	comp=N,436nm,17.8s,MS4.3						
MDJ				LR	LR		
	comp=E,722nm,17.0s,MS4.3						
MDJ				LR	LR		
	comp=Z,832nm,16.6s,MS4.3						
MDJ	**Mudanjiang**	**24.18**	**335**	*e*P	**P**	**08 06 01.8**	**+0.4**
	comp=Z,250nm,1.7s,mb5.4						
SNY	**Shenyang**

CLNS Chul'man 36.19 343 *e*P **P** **08 07 45.7 -1.8**
CLNS pmax pmax
comp=Z,12nm,1.0s,mb4.8
CLNS pmax pmax
comp=N,6.0nm,0.6s
LZH Lanzhou 36.58 300 ⇓P **P** **08 07 52.5 +1.4**
LZH AP pP 08 08 02.3 +1.2
LZH XP sP 08 08 04.2 -1.0
LZH PP PP 08 09 17.6 +2.9
LZH *e*S **S** **08 13 31.5 -0.1**
LZH XS sS 08 13 47.8 -0.2
LZH SS SS 08 15 58.7 -13
LZH AMB AMB
comp=Z,26nm,1.4s,mb4.9
LZH AMB AMB
comp=Z,124nm,5.5s
LZH LR LR
comp=E,917nm,13.4s
LZH LR LR
comp=Z,1μm,17.5s,MS4.8
LZH Lanzhou 36.58 300 ⇓P **P** **08 07 52.5 +1.4**
comp=Z,26nm,1.4s,mb4.9
LZH pP pP 08 08 02.3 +1.2
LZH sP sP 08 08 04.2 -1.0
LZH PP PP 08 09 17.6 +2.9
LZH *e*S **S** **08 13 31.5 -0.1**
LZH sS sS 08 13 47.8 -0.2
LZH SS SS 08 15 58.7 -13
LZH LR LR
comp=Z,1μm,17.5s,MS4.8
LZH Lanzhou 36.58 300 ⇓P **P** **08 07 52.5 +1.4**
LZH *PP pP 08 08 02.3 +1.2
LZH *SP sP 08 08 04.2 -1.0
LZH 08 09 17.6
LZH *e*S **S** **08 13 31.5 -0.1**
LZH *SS sS 08 13 47.8 -0.2
LZH SS SS 08 15 58.7 -13
LZH pmax pmax
comp=Z,26nm,1.4s,mb4.9
LZH MLR MLR
comp=Z,1μm,17.5s,MS4.8
CIT Chita 36.79 329 *e*P **P** **08 07 52.6 -0.1**
CIT *e* pP 08 08 03.9 +1.3
KMI Kunming 37.22 281 P **P** **08 07 58.5 +1.7**
KMI AP pP 08 08 07.7 +1.0
KMI XP sP 08 08 11.1 +0.3
KMI PP PP 08 09 26.9 +4.9
KMI S **S** **08 13 42.1 +0.4**
KMI AMB AMB
comp=Z,18nm,1.4s,mb4.7
KMI AMB AMB
comp=Z,901nm,12.9s
KMI LR LR
comp=N,557nm,16.0s,MS4.6
KMI LR LR
comp=E,587nm,18.9s,MS4.6
KMI LR LR
comp=Z,885nm,17.5s,MS4.6
KMI Kunming 37.22 281 P **P** **08 07 58.5 +1.7**
comp=Z,18nm,1.4s,mb4.7
KMI pP pP 08 08 07.7 +1.0
KMI sP sP 08 08 11.1 +0.3
KMI PP PP 08 09 26.9 +4.9
KMI PPP 08 09 46.4
KMI S **S** **08 13 42.1 +0.4**
KMI LR LR
comp=Z,890nm,17.5s,MS4.6
KMI Kunming 37.22 281 P **P** **08 07 58.5 +1.7**
KMI *PP pP 08 08 07.7 +1.0
KMI *SP sP 08 08 11.1 +0.3
KMI 08 09 26.9
KMI PPP 08 09 46.4
KMI S **S** **08 13 42.1 +0.4**
KMI pmax pmax
comp=Z,18nm,1.4s,mb4.7
KMI MLR MLR
comp=Z,890nm,17.5s,MS4.6
ULN Ulaanbaatar 38.00 319 *e*P **P** **08 08 02.9 -0.2**
comp=Z,37nm,1.4s,mb4.9
ULN Ulaanbaatar 38.00 319*c i*P **P** **08 08 02.5 -0.5**
ULN Ulaanbaatar 38.00 319 P **P** **08 08 03.5 +0.4**
SNR=11
SONM Songino Array 38.38 319 P **P** **08 08 06.4 +0.1**
comp=Z,4.3nm,0.8s,mb4.2,baz=124,slow=8.3,SNR=23
YAK Yakutsk 39.88 350 *e*P **P** **08 08 18.3 -0.2**
YAK pmax pmax
comp=Z,23nm,1.3s,mb4.8
YAK pmax pmax
comp=N,13nm,1.5s
YAK pmax pmax
comp=E,6.0nm,1.4s
SEY Seymchan 40.07 6⇑ *e*P **P** **08 08 20.2 +0.1**
GTA Gaotai 40.29 304 *e*P **P** **08 08 22.1 -0.2**
GTA AP pP 08 08 31.3 -1.0
GTA XP sP 08 08 35.9 -0.5
GTA PP PP 08 09 58.2 +2.9
GTA PCP PcP 08 10 26.6 +1.1
GTA SCP ScP 08 14 07.1 -5.2
GTA PCS PcS 08 14 18.7 +2.7
GTA S **S** **08 14 26.7 -0.9**
GTA XS sS 08 14 43.9 -0.2
GTA SS SS 08 17 22.4 -4.4
GTA SCS ScS 08 18 20.5 -5.6
GTA AMB AMB
comp=Z,12nm,1.8s,mb4.3
GTA AMB AMB
comp=Z,991nm,8.8s
GTA LR LR
comp=N,522nm,17.2s,MS4.6
GTA LR LR
comp=E,493nm,17.6s,MS4.6
GTA LR LR
comp=Z,928nm,16.8s,MS4.7
BOD Bodaibo 40.54 336 *e*P **P** **08 08 23.8 -0.3**
BOD pmax pmax
comp=Z,11nm,1.4s,mb4.3
ZAK Zakamensk 41.34 321 ⇓*i*P **P** **08 08 30.3 -0.5**
ZAK *e* 08 18 30.0
ZAK pmax pmax
comp=Z,17nm,1.2s,mb4.5
IRK Irkutsk 41.64 324 *e*P **P** **08 08 32.6 -0.6**
IRK *e* 08 10 09.5
IRK *e* 08 14 50.9
IRK pmax pmax
comp=Z,48nm,1.7s,mb4.8
TLY Talaya 41.72 323 P **P** **08 08 34.1 +0.2**
comp=Z,90nm,1.4s,mb5.2,SNR=8.2
TLY Talaya 41.72 323 *e*P **P** **08 08 34.3 +0.4**
comp=Z,30nm,1.3s,mb4.8
TLY Talaya 41.72 323 *e*P **P** **08 08 34.1 +0.2**
TLY pmax pmax
comp=Z,32nm,1.5s,mb4.7
TLY Talaya 41.72 323 P **P** **08 08 34.6 +0.8**
SNR=14
CHTO Chiang Mai 41.80 273 *e*P **P** **08 08 35.8 +0.8**
comp=Z,11nm,1.0s,mb4.5
CHTO Chiang Mai 41.80 273 *e*P **P** **08 08 35.8 +0.8**
CHTO pmax pmax
comp=Z,11nm,1.0s,mb4.4
CTA Charters Tower 43.19 176 *e*P **P** **08 08 45.9 -0.2**
comp=Z,16nm,0.9s,mb4.8
CTA Charters Tower 43.19 176 *e*P **P** **08 08 45.9 -0.2**
CTA pmax pmax
comp=Z,16nm,0.9s
CTA Charters Tower 43.19 176 P **P** **08 08 45.1 -1.0**
comp=Z,11nm,0.7s,mb4.7,baz=4.3,slow=4.9,SNR=8.6
CTAO Charters Tower 43.19 176 *e*P **P** **08 08 45.6 -0.5**
comp=Z,24nm,0.9s,mb4.9
CTAO *e*pP pP 08 08 56.4 +0.2
CTAO Charters Tower 43.19 176 *e*P **P** **08 08 45.6 -0.5**
CTAO *e**PP pP 08 08 56.4 +0.2
CTAO pmax pmax
comp=Z,24nm,0.9s,mb4.9
MOY Mondy 43.20 322 *e*P **P** **08 08 46.3 +0.4**
MOY pmax pmax
comp=Z,42nm,2.1s,mb4.8
WB2 Warramunga Arr 43.91 193 *e*P **P** **08 08 50.8 -1.1**
WRA Warramunga Arr 43.91 193 P **P** **08 08 51.1 -0.8**
comp=Z,17nm,1.1s,mb4.7,baz=14,slow=8.7,SNR=47
WRA ScP ScP 08 14 27.7 +0.8
comp=Z,2.5nm,1.1s,baz=11,slow=4.2,SNR=5.4
FITZ Fitzroy Crossi 44.73 205 *e*P **P** **08 08 58.2 -0.3**
comp=Z,10.0nm,0.8s,mb4.7
FITZ Fitzroy Crossi 44.73 205 *e*P **P** **08 08 57.8 -0.7**
comp=Z,20nm,1.0s,mb4.9
FITZ *e*pP pP 08 09 09.9 +1.3
BILL Bilibino 46.89 11 *e*P **P** **08 09 15.9 +1.0**
comp=Z,20nm,1.1s,mb5.0
BILL *e*pP pP 08 09 25.2 +0.1
BILL Bilibino 46.89 11 *e*P **P** **08 09 15.8 +0.8**
BILL *i* pP 08 09 25.3 +0.2
BILL pmax pmax
comp=Z,5.0nm,1.0s,mb4.4
LSA Lhasa 47.06 290 P **P** **08 09 19.8 +2.9**
LSA AMB AMB
comp=Z,30nm,0.8s,mb5.3
LSA Lhasa 47.06 290 *e*P **P** **08 09 19.6 +2.7**
comp=Z,66nm,1.4s,mb5.4
ASAR Alice Springs 47.62 192 P **P** **08 09 20.4 -0.7**
ASAR 08 10 50.5
ASAR Alice Springs 47.62 192 P **P** **08 09 20.4 -0.8**
comp=Z,1.7nm,0.6s,mb4.2,baz=17,slow=11,SNR=25
ASAR PcP PcP 08 10 50.5 -0.1
comp=Z,1.2nm,0.8s,baz=12,slow=5.1,SNR=4.8
ASAR ScP ScP 08 14 42.7 +0.5
comp=Z,0.8nm,1.1s,baz=38,slow=4.7,SNR=3.7
TIXI Tiksi 49.12 354⇑ *e*P **P** **08 09 31.3 -0.8**
TIXI pmax pmax
comp=Z,13nm,1.9s,mb4.6
WMQ Urumqi 49.89 308⇑ *i*P **P** **08 09 39.0 +0.5**
WMQ AP pP 08 09 49.0 +0.3
WMQ XP sP 08 09 53.0 +0.3
WMQ PCP PcP 08 10 59.0 +0.4
WMQ *e*S **S** **08 16 45.0 -1.3**
WMQ AMB AMB
comp=Z,7.0nm,1.2s,mb4.6
WMQ LR LR
comp=N,1μm,16.8s,MS5.0
WMQ LR LR
comp=E,1μm,21.0s,MS5.0
WMQ LR LR
comp=Z,872nm,16.0s,MS4.9
MBWA Marble Bar 49.93 210 *e*P **P** **08 09 39.0 0.0**
comp=Z,13nm,1.1s,mb4.9
DZM Mont Dzumac 50.27 152 P **P** **08 09 41.1 -0.4**
comp=Z,12nm,0.7s,mb5.0,baz=26,slow=8.1,SNR=6.7
KKN Kakani 52.41 288 *e*P **P** **08 09 58.7 +1.1**
GKN Gorkha 52.94 288 *e*P **P** **08 10 02.8 +1.2**
comp=Z,156nm,1.4s,mb5.7
ZALV Zalesovo Beam 53.22 321 P **P** **08 10 02.7 -0.5**
comp=Z,6.5nm,0.6s,mb4.7,baz=106,slow=7.5,SNR=26
ZAL Zalesovo 53.23 321 P **P** **08 10 02.7 -0.6**
DANN Dangsing 53.65 289 *e*P **P** **08 10 08.8 +2.0**
KOLN Koldanda 53.88 288 *e*P **P** **08 10 09.8 +1.3**
comp=Z,54nm,1.1s,mb5.4
MK31 Makanchi Array 53.92 312 *e*P **P** **08 10 08.9 +0.4**
MKAR Makanchi Array 53.92 312 P **P** **08 10 08.8 +0.3**
MKAR Makanchi Array 53.92 312 *i* P **P** **08 10 08.8 +0.3**
MKAR pmax pmax
comp=Z,4.0nm,0.7s
MKAR Makanchi Array 53.92 312 P **P** **08 10 08.8 +0.3**
comp=Z,3.6nm,0.7s,mb4.4,baz=91,slow=9.7,SNR=35
STKA Stephens Creek 54.89 182 *e*P **P** **08 10 14.5 -1.0**
comp=Z,4.1nm,0.7s,mb4.6
STKA Stephens Creek 54.89 182 *e*P **P** **08 10 14.1 -1.4**
comp=Z,17nm,1.3s,mb4.9
STKA Stephens Creek 54.89 182 P **P** **08 10 14.5 -1.0**
comp=Z,4.5nm,0.7s,mb4.6,baz=339,slow=8.1,SNR=7.8
FORT Forrest 55.79 196 *e*P **P** **08 10 21.0 -1.1**
comp=Z,14nm,0.7s,mb5.1
FORT Forrest 55.79 196 *e*P **P** **08 10 20.6 -1.4**
comp=Z,3.7nm,0.9s,mb4.4
FORT *e*pP pP 08 10 30.7 -1.7
SVW2 Sparrevohn 55.84 31 *e*P **P** **08 10 22.9 +0.8**
SVW2 *e*pP pP 08 10 32.4 -0.1
KURK Kurchatov 56.59 316 P **P** **08 10 27.2 -0.4**
comp=Z,102nm,0.8s,mb5.9,SNR=15
KURK Kurchatov 56.59 316 *e*P **P** **08 10 27.5 -0.1**
comp=Z,42nm,1.3s,mb5.3
KURK Kurchatov 56.59 316 *e*P **P** **08 10 27.5 -0.1**
KURK pmax pmax
comp=Z,42nm,1.3s,mb5.3
KURK Kurchatov 56.59 316 P **P** **08 10 27.9 +0.2**
SNR=14
IMA2 Indian Mountai 57.93 25 *e*P **P** **08 10 37.5 +0.7**
ULHL Ulahol 58.26 306 P **P** **08 10 44.0 +4.4**
SNR=12
TKM2 Tokmak 2 58.69 307 P **P** **08 10 44.0 +1.4**
SNR=6.8
PMR Palmer 58.99 31 *e*P **P** **08 10 45.1 +0.8**
PMR *e*pP pP 08 10 52.6 -2.1
KBK Karagaybulak 59.19 307 P **P** **08 10 47.2 +1.2**
SNR=7.7
SML Sawmill 59.39 31 *e*P **P** **08 10 45.4 -1.7**
SML *e*pP pP 08 10 56.5 -1.0
MCK McKinley 59.41 29 *e*P **P** **08 10 45.9 -1.3**
comp=Z,22nm,0.9s,mb5.2
MCK McKinley 59.41 29 *e*P **P** **08 10 45.9 -1.3**
MCK pmax pmax
comp=Z,22nm,0.9s,mb5.2
FRU Bishkek 59.42 307 *e*P **P** **08 10 48.0 +0.4**
UCH Uchtor 59.54 306 *e*P **P** **08 10 50.2 +1.7**
comp=Z,21nm,1.3s,mb5.0
UCH Uchtor 59.54 306 P **P** **08 10 50.5 +2.1**
SNR=12
COLA College 60.06 27 *e*P **P** **08 10 54.4 +2.8**
comp=Z,8.8nm,0.8s,mb4.8
COLA *e*pP pP 08 11 02.6 +0.6
COLA College 60.06 27 *e*P **P** **08 10 54.4 +2.8**
COLA *e**PP pP 08 11 02.6 +0.6
COLA pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
AML Almayashu 60.16 306 *e*P **P** **08 10 53.7 +1.0**
comp=Z,15nm,1.1s,mb4.9
AML Almayashu 60.16 306 P **P** **08 10 54.5 +1.8**
SNR=11
HYB Hyderabad 60.84 278 *e*P **P** **08 10 58.5 +0.7**
HYB Hyderabad 60.84 278 *i* P **P** **08 10 58.5 +0.7**
CHKZ Chkalovo 61.58 320 *i* P **P** **08 11 01.4 -0.7**
CHKZ pmax pmax
comp=Z,24nm,1.5s,mb5.1
BRVK Borovoye 61.79 319 P **P** **08 11 03.3 -0.3**
comp=Z,159nm,0.9s,SNR=16
BRVK Borovoye 61.79 319 *e*P **P** **08 11 03.8 +0.3**
comp=Z,22nm,0.8s,mb5.3
BRVK Borovoye 61.79 319 *e*P **P** **08 11 03.8 +0.2**
BRVK pmax pmax
comp=Z,22nm,0.8s,mb5.3
BRVK Borovoye 61.79 319 P **P** **08 11 04.1 +0.5**
SNR=13
KK31 Karatay Array 62.39 308 *i* P **P** **08 11 08.1 +0.3**
KK31 pmax pmax
comp=Z,7.0nm,0.7s,mb4.9
EGAK Eagle 62.90 28 *e*P **P** **08 11 12.3 +1.6**
comp=Z,13nm,1.1s,mb5.0
EGAK *e*pP pP 08 11 19.9 -1.3
DAWY Dawson 63.64 29 *e*P **P** **08 11 14.9 -0.8**
DAWY *e*pP pP 08 11 25.2 -1.0
KBL Kabul 64.92 299 *e*P **P** **08 11 25.9 +1.2**
comp=Z,14nm,0.7s,mb5.1
INK Inuvik 65.96 24 *e*P **P** **08 11 31.7 +1.0**
comp=Z,299nm,0.8s
INK Inuvik 65.96 24 P **P** **08 11 29.9 -0.9**
comp=Z,8.2nm,1.0s,mb4.7,baz=272,slow=6.5,SNR=12
SVE Sverdlovsk 67.03 324 *e*P **P** **08 11 37.9 +0.1**
SVE pmax pmax
comp=Z,29nm,1.2s,mb5.2
ARU Arti 68.22 323 *e*P **P** **08 11 45.0 -0.3**
comp=Z,31nm,1.1s,mb5.2
ARU Arti 68.22 323*c i*P **P** **08 11 44.8 -0.5**
ARU *e* 08 12 08.2
ARU *e*PPP 08 15 52.1
ARU *e*S S 08 20 43.9 +0.6
ARU SS SS 08 25 00.8 -5.2
ARU pmax pmax
comp=Z,33nm,1.2s,mb5.2
DLBC Dease Lake 68.59 34 *e*P **P** **08 11 48.4 +0.8**
DLBC *e*pP pP 08 11 58.2 +0.1
AKTK Aktyubinsk 69.67 317 P **P** **08 11 53.0 -1.5**
AKTO Aktyubinsk 69.67 317 P **P** **08 11 53.0 -1.5**
comp=Z,1.2nm,0.6s,mb4.0,baz=94,slow=8.8,SNR=6.4
RPZ Rata Peaks 71.28 159 P **P** **08 12 02.8 -1.3**
comp=Z,18nm,1.0s,mb5.0,baz=348,slow=9.3,SNR=3.9
YKW3 Yellowknife Ar 74.84 28 *e*P **P** **08 12 26.1 +1.0**
YKA Yellowknife Ar 74.87 28 P **P** **08 12 24.1 -1.1**
comp=Z,4.3nm,0.9s,mb4.4,baz=294,slow=5.5,SNR=35
B04A Port Angeles 74.90 44⇑P **P** **08 12 26.7 +0.9**
baz=75
D03A Wishkah Elem. 75.02 45 ⇓P **P** **08 12 27.6 +1.2**
baz=75
E03A Lebam 75.34 45 ⇑P **P** **08 12 29.3 +1.0**
baz=75
C04A Brinnon 75.35 44 ⇓P **P** **08 12 29.4 +1.1**
baz=75
RES Resolute Bay 75.44 14 *e*P **P** **08 12 26.9 -1.5**
comp=Z,368nm,1.0s
RES *e*pP pP 08 12 39.4 +0.4
GNW Green Mountain 75.49 44 *e*P **P** **08 12 29.9 +0.8**
A05A Maple Falls 75.50 43 ⇓P **P** **08 12 30.1 +0.9**
baz=75
F03A Seaside 75.53 46 ⇑P **P** **08 12 30.3 +0.9**
baz=75
TMCR Tamitsa 75.81 334 *e*P **P** **08 12 23.0 -7.6**
TMCR pmax pmax
comp=Z,27nm,1.3s,mb5.0
A06A Chilliwack 75.85 42 ⇓P **P** **08 12 32.9 +1.8**
baz=76
E04A Onalaska 75.87 45 ⇑P **P** **08 12 32.2 +0.9**
baz=76
K01A Sixes 75.91 49 ⇑P **P** **08 12 32.7 +1.1**
baz=76
G03A Yamhill 75.92 47 ⇓P **P** **08 12 32.5 +0.9**
baz=76
I02A Mapleton 75.97 48 ⇓P **P** **08 12 32.8 +0.9**
baz=76
H03A Soap Creek Ran 76.11 47 ⇑P **P** **08 12 33.0 +0.3**
baz=76
D05A Enumclaw 76.15 44 ⇓P **P** **08 12 33.8 +0.9**
baz=76
F04A Amboy 76.28 46 ⇑P **P** **08 12 34.5 +0.8**
baz=76
J02A Umpqua 76.35 49 ⇑P **P** **08 12 34.5 +0.4**
baz=76
I03A Eugene 76.35 48 ⇑P **P** **08 12 34.5 +0.4**
baz=76
LON Longmire 76.41 45 *e*P **P** **08 12 35.1 +0.7**
G04A Mulino 76.49 47 ⇑P **P** **08 12 35.4 +0.5**
baz=76
E05A Randle 76.51 45 ⇑P **P** **08 12 35.3 +0.4**
baz=76
A07A Ashnola River, 76.54 42 ⇓P **P** **08 12 35.0 -0.1**
baz=76,SNR=5.3
K02A Glendale 76.60 49 ⇓P **P** **08 12 35.6 0.0**
baz=76
L02A Cave Junction 76.73 50 ⇑P **P** **08 12 36.0 -0.2**
baz=77
J03A Ideyld Park 76.77 48 ⇑P **P** **08 12 36.5 0.0**
baz=77
H04A Detroit Lake 76.86 47 ⇑P **P** **08 12 37.2 +0.3**
baz=77
D06A Cle Elum 76.89 44 ⇑P **P** **08 12 37.5 +0.4**
baz=77
B07A Winthrop 76.91 43 ⇓P **P** **08 12 37.7 +0.5**
baz=77
F05A White Salmon 76.93 46 ⇑P **P** **08 12 37.6 +0.3**
baz=77
I04A Tendick Farm, 77.00 48 ⇑P **P** **08 12 37.2 -0.6**
baz=77
E06A Yakima 77.02 45 ⇑P **P** **08 12 37.9 0.0**
baz=77
HBO Huckleberry Mo 77.05 48 P **P** **08 12 41.3 +3.2**
KHMM Horse Mountain 77.06 51 *e*P **P** **08 12 38.8 +0.6**
VFP Flag Point 77.12 46 P **P** **08 12 41.8 +3.4**
EBG Ellensburg 77.16 44 P **P** **08 12 42.1 +3.5**
C07A Waterville 77.21 44 ⇓P **P** **08 12 39.0 +0.2**
baz=77
A08A Turner Farm, O 77.26 42 ⇓P **P** **08 12 39.1 -0.1**
baz=77
N02C Big Bar 77.38 51 ⇓P **P** **08 12 40.1 +0.1**
baz=77
B08A Colville Reser 77.44 43 ⇑P **P** **08 12 40.2 0.0**
baz=77
D07A Quincy 77.44 44 ⇓P **P** **08 12 40.3 +0.2**
baz=77
YBH Yreka Blue Hor 77.50 50 *e*P **P** **08 12 41.3 +0.7**
comp=Z,9.6nm,0.8s,mb4.8
YBH Yreka Blue Hor 77.50 50 *e*P **P** **08 12 41.3 +0.7**
YBH pmax pmax
comp=Z,10.0nm,0.8s
M02C Callahan 77.51 50 ⇑P **P** **08 12 41.2 +0.5**
baz=77
H05A Madras 77.51 47 ⇓P **P** **08 12 40.4 -0.2**
baz=77
ARCES ARCESS Array B 77.55 341 P **P** **08 12 40.2 -0.1**
comp=Z,9.8nm,0.8s,mb4.8,baz=75,slow=7.6,SNR=14
KCPM Cahto Peak 77.57 52 *e*P **P** **08 12 41.6 +0.5**
KCPM *e*pP pP 08 12 51.7 -0.1
I05A Bend 77.65 47 ⇓P **P** **08 12 41.7 +0.3**
baz=78
A09A Danville 77.68 42 ⇓P **P** **08 12 41.9 +0.4**
baz=78
G06A Carlson Farm, 77.70 46 ⇓P **P** **08 12 41.8 +0.1**
baz=78
E07A Sunnyside 77.74 45 ⇑P **P** **08 12 41.9 0.0**
baz=78
C08A Higginbotham F 77.82 43 ⇑P **P** **08 12 41.4 -0.8**
baz=78,SNR=5.2
P01C Double 8 Ranch 77.82 52 ⇓P **P** **08 12 42.4 0.0**
baz=78
HOQ Hoqain 77.83 291 P **P** **08 12 43.8 +1.0**
SNR=6.8
F07A Phinny Hill Vi 77.93 45 ⇑P **P** **08 12 43.4 +0.5**
baz=78
VIPM Ingram Point 77.97 47 P **P** **08 12 43.1 -0.1**
O02C Red Bluff 77.97 51 ⇑P **P** **08 12 43.5 +0.2**
baz=78
J05A Fort Rock 77.98 48 ⇓P **P** **08 12 43.6 +0.4**
baz=78
M03C McCloud 78.07 50 ⇑P **P** **08 12 44.0 +0.2**
baz=78
H06A Lindquist Farm 78.08 46 ⇑P **P** **08 12 43.9 +0.1**
baz=78
M04C Macdoel 78.09 50 ⇑P **P** **08 12 44.3 +0.4**
baz=78
B09A Rice 78.15 42 ⇓P **P** **08 12 44.1 0.0**
baz=78
D08A Wollman Farm, 78.16 44 ⇑P **P** **08 12 44.5 +0.3**
baz=78
E08A Dider Farm, El 78.28 44 ⇓P **P** **08 12 44.9 0.0**
baz=78
C09A Chrisman Ranch 78.30 43 ⇓P **P** **08 12 45.0 0.0**
baz=78
A10A Northport 78.30 42 ⇑P **P** **08 12 45.2 +0.3**
baz=78
G07A Ruggs Ranch, H 78.33 46 ⇑P **P** **08 12 44.9 -0.2**
baz=78
K05A Summer Lake 78.41 48 ⇑P **P** **08 12 45.5 -0.1**
baz=78
I06A Prineville 78.44 47 ⇓P **P** **08 12 45.7 -0.1**
baz=78
D09A Jones Farm, Ri 78.55 44 ⇓P **P** **08 12 46.3 0.0**
baz=78
O03C Acorn Hollow, 78.58 51 ⇑P **P** **08 12 46.6 0.0**
baz=78
H07A Lands Inn, Kim 78.64 46 ⇑P **P** **08 12 46.6 -0.3**
baz=78
HATC Hat Creek Radi 78.70 50 ⇑P **P** **08 12 46.7 -0.5**
baz=79
L05A Lakeview 78.70 49 ⇑P **P** **08 12 47.0 -0.3**
baz=79
M05C Lookout 78.73 50 ⇑P **P** **08 12 47.0 -0.4**
baz=79
J06A Christmas Vall 78.73 48 ⇑P **P** **08 12 47.3 -0.1**
baz=79
G08A Pilot Rock 78.78 46 ⇑P **P** **08 12 47.3 -0.4**
baz=79
K06A Valley Falls 78.83 48 ⇓P **P** **08 12 48.2 +0.2**
baz=79
NEW Newport 78.84 42 *e*P **P** **08 12 48.8 +0.9**
comp=Z,16nm,0.8s,mb5.0
NEW *e*pP pP 08 12 58.3 -0.3
NEW Newport 78.84 42 *e*P **P** **08 12 48.8 +0.9**
NEW *e**PP pP 08 12 58.3 -0.3
NEW pmax pmax
comp=Z,16nm,0.8s
E09A Wood Farm, Sta 78.86 44 ⇑P **P** **08 12 48.2 +0.1**
baz=79
I07A Izee 78.87 47 ⇓P **P** **08 12 48.4 +0.2**
baz=79
C10A Spilker Farm, 78.90 43 ⇓P **P** **08 12 48.5 +0.3**
baz=79
A11A Hall Mountain, 79.04 41 ⇓P **P** **08 12 49.3 +0.3**
baz=79
JOF Joensuu 79.06 334 *e*pkp **P** **08 12 47.4 -1.4**
Q03C Winters 79.08 53 ⇓P **P** **08 12 49.9 +0.4**
baz=79
EDM Edmonton 79.08 37 *e*P **P** **08 12 49.9 +0.7**

EDM *e*pP pP 08 12 59.5 -0.4
O04C Chester 79.14 51 ⇓P P 08 12 49.9 +0.2
baz=79
D10A Wagner Farm, O 79.21 43 ⇓P P 08 12 50.2 +0.2
baz=79
OHCM Honcut 79.21 52 *e*P P 08 12 50.5 +0.3
B11A Sandpoint 79.24 42 ⇑P P 08 12 50.8 +0.8
baz=79
M06C Likely Place G 79.25 50 ⇑P P 08 12 50.8 +0.5
baz=79
J07A Hines 79.26 47 ⇑P P 08 12 50.8 +0.5
baz=79
H08A Prairie City 79.26 46 ⇑P P 08 12 50.4 +0.1
baz=79
E10A Myers Farm, Un 79.53 44 ⇓P P 08 12 51.8 +0.1
baz=79
K07A Rock Creek Ran 79.56 48 ⇑P P 08 12 51.9 0.0
baz=79
I08A Drewsey 79.56 47 ⇑P P 08 12 52.3 +0.3
baz=79
F10A Beach Ranch, E 79.65 44 ⇓P P 08 12 52.1 -0.3
baz=80
L07A Adell 79.74 49 ⇓P P 08 12 52.4 -0.5
baz=80
J08A Circle Bar Ran 79.83 47 ⇓P P 08 12 52.8 -0.7
baz=80
P05C Yuba Gap, Truc 79.86 52 ⇓P P 08 12 53.0 -0.7
baz=80
N06A Buffalo Meadow 79.87 50 ⇑P P 08 12 53.1 -0.6
baz=80
LAVA Lava Cap Winer 79.96 52 ⇓P P 08 12 53.8 -0.4
baz=80
G10A Bishop Farm, J 79.99 45 ⇓P P 08 12 53.9 -0.3
baz=80
S04C Ingram Canyon, 79.99 54 ⇓P P 08 12 53.8 -0.6
baz=80
BMO Blue Mountains 80.03 45 *e*P P 08 12 54.5 0.0
comp=Z,10nm,0.8s,mb4.8
BMO *e*pP pP 08 13 04.7 -0.5
K08A Mann Creek Ran 80.06 48 ⇑P P 08 12 54.0 -0.7
baz=80
I09A Lost Marbles R 80.09 46 ⇓P P 08 12 54.5 -0.3
baz=80
O06A Flanigan 80.09 51 ⇓P P 08 12 54.7 -0.2
baz=80
M07A Soldier Meadow 80.10 49 ⇓P P 08 12 54.7 -0.2
baz=80
E11A Bogner Ranch, 80.16 44 ⇓P P 08 12 54.6 -0.5
baz=80
A13A Flathead Natio 80.23 41 ⇓P P 08 12 55.4 0.0
baz=80
HAST Hastings Reser 80.23 55 ⇓P P 08 12 55.7 -0.1
baz=80
J09A Fry Pan Ranch, 80.32 47 ⇓P P 08 12 55.9 -0.2
baz=80
L08A Fields 80.36 48 ⇓P P 08 12 55.8 -0.6
baz=80
F11A Grangeville 80.38 44 ⇑P P 08 12 56.1 -0.2
baz=80
OBN Obninsk 80.39 326 *e*P P 08 12 53.2 -3.0
OBN pmax pmax
comp=Z,9.0nm,1.2s,mb4.6
D12A Red Ives Fores 80.42 43 ⇑P P 08 12 56.6 +0.1
baz=80
B13A Whitefish 80.43 41 ⇑P P 08 12 56.1 -0.4
baz=80
BSMT Bassoo Peak 80.44 42 *e*P P 08 12 57.6 +1.0
R05C Kirkwood Meado 80.47 52 ⇑P P 08 12 56.7 -0.2
baz=80
N07B Gerlach 80.47 50 ⇑P P 08 12 56.8 -0.1
baz=80
WALA Waterton Lakes 80.48 41 *e*P P 08 12 57.3 +0.5
comp=Z,14nm,0.8s,mb5.0
WALA *e*pP pP 08 13 07.6 +0.1
CMB Columbia Colle 80.49 53 *e*P P 08 12 57.5 +0.5
comp=Z,14nm,0.7s,mb5.0
CMB *e*pP pP 08 13 07.5 -0.3
CMB Columbia Colle 80.49 53 *e*P P 08 12 57.5 +0.4
CMB *e**PP pP 08 13 07.5 -0.3
CMB pmax pmax
comp=Z,14nm,0.7s,mb5.0
G11A Walters Elk Ra 80.50 45 ⇓P P 08 12 56.3 -0.7
baz=80
H10A Noah's Angus R 80.50 46 ⇑P P 08 12 56.4 -0.7
baz=80
K09A Rome 80.59 48 ⇑P P 08 12 57.3 -0.2
baz=80
M08A Happy Creek Ra 80.62 49 ⇓P P 08 12 57.7 -0.1
baz=80
C13A Hot Springs 80.65 42 ⇑P P 08 12 57.6 -0.2
baz=80
VRSR Storozhevoye 80.70 322 *e*P P 08 12 58.2 +0.3
VRSR pmax pmax
comp=Z,3.0nm,1.0s,mb4.2
VRSR pmax pmax
comp=N,2.0nm,0.9s
VRSR pmax pmax
comp=E,3.0nm,0.9s
S05C Merced 80.79 53 ⇓P P 08 12 58.7 0.0
baz=81
L09A Wilkinson Ranc 80.89 48 ⇓P P 08 12 59.1 -0.1
baz=81
H11A Donnelly 80.94 45 ⇑P P 08 12 58.8 -0.6
baz=81
D13A Huson 80.96 43 ⇓P P 08 12 59.5 +0.1
baz=81
R06C Coleville 80.99 52 ⇓P P 08 12 59.5 -0.2
baz=81
F12A Elk City 81.00 44 ⇓P P 08 12 59.9 +0.2
baz=81
N08A GE Springer Mi 81.05 50 ⇓P P 08 12 59.6 -0.5
baz=81
C14A Swan Lake 81.12 42 ⇓P P 08 12 59.8 -0.4
baz=81
K10A MacKenzie Ranc 81.14 47 ⇓P P 08 12 59.5 -0.9
baz=81
U05C Westside ANR, 81.33 54 ⇑P P 08 13 00.5 -1.1
baz=81
T06C Millerton Lake 81.38 54 ⇓P P 08 13 01.2 -0.6
baz=81
E13A Victor 81.40 43 ⇑P P 08 13 01.1 -0.7
baz=81
R07C Lee Vining 81.45 52 ⇑P P 08 13 01.8 -0.3
baz=81
KAF Kangasniemi 81.45 335 *e*pkp P 08 12 57.9 -3.8
N09A Rock Creek Ran 81.45 49 ⇓P P 08 13 02.2 0.0
baz=81
P08A Dixie Valley 81.52 51 ⇓P P 08 13 01.9 -0.6
baz=81
PTRM Twissleman Ran 81.52 55 *e*P P 08 13 03.1 +0.5
PTRM *e*pP pP 08 13 13.4 0.0
PTRM *e*sP sP 08 13 18.1 +0.8
D14A Greenough 81.56 42 ⇑P P 08 13 01.6 -0.9
baz=81
F13A Darby 81.58 44 ⇓P P 08 13 02.2 -0.6
baz=81
MFID Camas Ranch 81.58 46 P P 08 13 02.6 -0.2
baz=81,SNR=11
KIV Kislovodsk 81.60 314 *e*P P 08 13 02.6 -0.3
KIV pmax pmax
comp=Z,29nm,1.7s,mb4.9
L10A Juniper Basin 81.69 48 ⇑P P 08 13 02.7 -0.7
baz=82
K11A Parker Ranch, 81.71 47 ⇑P P 08 13 03.1 -0.3
baz=82
H12A Diamond D Ranc 81.76 45 ⇓P P 08 13 03.6 -0.1
baz=82
CHMT Chamberlain Mo 81.78 42 *e*P P 08 13 05.0 +1.2
E14A Clinton 81.85 43 ⇑P P 08 13 03.9 -0.2
baz=82
NVAR Mina Array Bea 81.85 52 P P 08 13 04.4 +0.1
comp=Z,2.4nm,0.7s,mb4.2,baz=269,slow=3.6,SNR=17
M10A I.L. Ranch, Tu 81.87 48 ⇓P P 08 13 04.2 -0.1
baz=82
FINES FINESS Array B 81.92 335 P P 08 13 03.0 -1.2
FINES FINESS Array B 81.92 335 P P 08 13 03.0 -1.2
comp=Z,2.5nm,0.5s,mb4.4,baz=72,slow=5.9,SNR=17
G13A Cobalt 81.93 44 ⇓P P 08 13 03.7 -0.9
baz=82
Q08A Gabbs 81.95 51 ⇓P P 08 13 04.6 -0.2
baz=82
O09A Fish Creek Ran 81.96 50 ⇓P P 08 13 04.9 0.0
baz=82
HELL Mitchell Peak 82.01 54 ⇓P P 08 13 04.2 -1.0
baz=82
MTUM Tungsten Hills 82.08 53 *e*P P 08 13 05.9 +0.3
MTUM *e*pP pP 08 13 15.2 -1.1

J12A Stokes Ranch, 82.14 46 ⇓P P 08 13 06.0 +0.3
baz=82
H13A Challis 82.14 45 ⇑P P 08 13 05.9 +0.2
baz=82
F14A Wisdom 82.18 43 ⇓P P 08 13 05.7 -0.2
baz=82
D15A Lincoln 82.18 42 ⇓P P 08 13 05.8 -0.1
baz=82
S08C White Mtn Res 82.31 53 ⇓P P 08 13 06.5 -0.2
baz=82
G14A Jackson 82.37 44 ⇓P P 08 13 06.9 0.0
baz=82
E15A Deer Lodge 82.37 43 ⇑P P 08 13 06.3 -0.6
baz=82
M11A Holland Ranch, 82.42 48 ⇑P P 08 13 07.2 0.0
baz=82
HLID Hailey 82.46 46 *e*P P 08 13 07.3 -0.1
comp=Z,6.2nm,0.8s,mb4.6
HLID *e*pP pP 08 13 17.6 -0.6
I13A Wildhorse Cree 82.50 45 ⇑P P 08 13 07.8 +0.2
baz=82
K12A Draper Farm, C 82.52 47 ⇓P P 08 13 07.5 -0.2
baz=82
L12A House Creek Ra 82.65 47 ⇓P P 08 13 07.8 -0.6
baz=82
J13A Cove Ranch, Pi 82.69 46 ⇓P P 08 13 08.2 -0.3
baz=82
P10A Eureka 82.69 50 ⇑P P 08 13 08.7 0.0
baz=83
N11A Elko Archery C 82.71 49 ⇑P P 08 13 08.5 -0.2
baz=83
F15A Butte 82.72 43 ⇓P P 08 13 09.1 +0.4
baz=83
RBK Rabkut 82.73 286 P P 08 13 09.8 +0.6
SNR=6.1
LRM Limekiln Ridge 82.75 43 *e*P P 08 13 09.3 +0.4
R09A Tonopah 82.82 52 ⇓P P 08 13 09.0 -0.4
baz=83
ISA Isabella 82.82 54 *e*P P 08 13 11.0 +1.6
comp=Z,7.1nm,1.0s,mb4.7
ISA Isabella 82.82 54 *e*P P 08 13 11.0 +1.6
ISA pmax pmax
comp=Z,7.0nm,1.0s,mb4.7
S09A Goldfield 82.91 52 ⇓P P 08 13 09.8 -0.1
baz=83
MCMT McKenzie Canyo 82.94 44 *e*P P 08 13 10.3 +0.4
G15A Dillon 83.02 44 ⇑P P 08 13 09.7 -0.6
baz=83
M12A Wells 83.02 48 ⇑P P 08 13 10.3 -0.1
baz=83
O11A Cowboy Ranch, 83.05 49 ⇑P P 08 13 10.3 -0.2
baz=83
Q10A Clear Creek Ra 83.06 51 ⇓P P 08 13 10.5 -0.1
baz=83
K13A Stover Farm, H 83.06 47 ⇓P P 08 13 10.6 0.0
baz=83
N12A Clover Valley, 83.17 49 ⇑P P 08 13 11.3 +0.1
baz=83
S10A Tonopah Range, 83.29 52 ⇑P P 08 13 11.1 -0.8
baz=83
BOZ Bozeman (W) 83.35 43 *e*P P 08 13 12.3 +0.4
comp=Z,5.4nm,0.7s,mb4.7
BOZ *e*pP pP 08 13 21.8 -1.0
BOZ Bozeman (W) 83.35 43 *e*P P 08 13 12.3 +0.3
BOZ *e**PP pP 08 13 21.8 -0.9
BOZ pmax pmax
comp=Z,5.0nm,0.7s,mb4.7
R10A Warm Springs 83.35 51 ⇑P P 08 13 11.0 -1.1
baz=83
L13A Double Diamond 83.40 47 ⇑P P 08 13 12.0 -0.2
baz=83
M13A Montello 83.56 48 ⇓P P 08 13 12.5 -0.6
baz=83
Q11A Duckwater 83.58 51 ⇑P P 08 13 13.0 -0.3
baz=84
ABTO Aybut 83.58 286 P P 08 13 14.4 +0.8
SNR=6.0
O12A Currie 83.62 49 ⇑P P 08 13 13.1 -0.4
baz=84
K14A Jones Ranch, D 83.71 46 ⇓P P 08 13 14.0 +0.1
baz=84
R11A Troy Canyon, C 83.84 51 ⇓P P 08 13 15.0 +0.4
baz=84
QLMT Earthquake Lak 83.84 44 *e*P P 08 13 15.1 +0.6
QLMT *e*pP pP 08 13 25.2 -0.1
P12A McGill 83.84 50 ⇑P P 08 13 14.5 -0.1
baz=84
TPNV Topopah Spring 83.94 52 *e*P P 08 13 14.8 -0.4
comp=Z,8.6nm,0.7s,mb5.0
TPNV *e*pP pP 08 13 25.1 -0.9
TPNV Topopah Spring 83.94 52 *e*P P 08 13 14.8 -0.4
TPNV *e**PP pP 08 13 25.1 -0.9
TPNV pmax pmax
comp=Z,9.0nm,0.7s,mb5.0
S11A Rachel 84.02 52 ⇑P P 08 13 15.1 -0.4
baz=84
M14A Sheep Mountain 84.05 47 ⇑P P 08 13 14.8 -0.9
baz=84,SNR=7.1
Q12A Willow Creek R 84.08 50 ⇓P P 08 13 15.8 0.0
baz=84
U10A Ash Meadows, A 84.10 53 ⇓P P 08 13 15.3 -0.6
baz=84
GSC Goldstone 84.21 54 *e*P P 08 13 15.9 -0.6
comp=Z,15nm,0.9s,mb5.1
GSC *e*pP pP 08 13 26.7 -0.6
GSC Goldstone 84.21 54 *e*P P 08 13 15.9 -0.7
GSC *e**PP pP 08 13 26.7 -0.7
GSC pmax pmax
comp=Z,15nm,0.9s,mb5.1
YMR Madison River 84.21 44 *e*P P 08 13 17.1 +0.7
comp=Z,16nm,0.7s,mb5.3
YMR *e*pP pP 08 13 28.0 +0.8
O13A Hicks Ranch, I 84.21 49 ⇓P P 08 13 16.7 +0.2
baz=84
FFC Flin Flon 84.28 32 P P 08 13 17.9 +1.4
comp=Z,159nm,0.7s,SNR=5.4
FFC Flin Flon 84.28 32 *e*P P 08 13 16.1 -0.3
comp=Z,21nm,0.8s,mb5.3
FFC *e*pP pP 08 13 26.9 -0.3
FFC Flin Flon 84.28 32 *e*P P 08 13 16.2 -0.3
FFC *e**PP pP 08 13 27.0 -0.3
FFC pmax pmax
comp=Z,21nm,0.8s,mb5.3
HVU Hansel Valley 84.32 47 *e*P P 08 13 17.5 +0.5
comp=Z,5.2nm,1.2s,mb4.5
HVU Hansel Valley 84.32 47 *e*P P 08 13 17.5 +0.5
HVU pmax pmax
comp=Z,5.0nm,1.2s,mb4.5
YNR Norris Junctio 84.37 44 *e*P P 08 13 19.8 +2.6
N14A Grayback Hills 84.44 48 ⇓P P 08 13 17.3 -0.4
baz=84
P13A Bates Ranch, G 84.48 49 ⇑P P 08 13 17.5 -0.4
baz=84
GCMT Greycliff 84.51 42 *e*P P 08 13 18.8 +1.0
GCMT *e*pP pP 08 13 28.6 0.0
R12A Pony Springs, 84.54 51 ⇑P P 08 13 18.0 -0.2
baz=84
DCID1 Drake Creek 84.56 45 *e*P P 08 13 18.8 +0.6
T11A Corn Creek, Al 84.56 52 ⇓P P 08 13 17.9 -0.4
baz=84
IMW Indian Meadow 84.58 44 *e*P P 08 13 18.9 +0.7
comp=Z,14nm,0.8s,mb5.2
IMW *e*pP pP 08 13 29.4 +0.3
LKWY Lake 84.61 44 *e*P P 08 13 20.9 +2.4
comp=Z,10.0nm,0.8s,mb5.0
LKWY *e*pP pP 08 13 30.5 +1.3
LKWY Lake 84.61 44 *e*P P 08 13 20.9 +2.5
LKWY *e**PP pP 08 13 30.5 +1.3
LKWY pmax pmax
comp=Z,10.0nm,0.8s,mb5.0
ANN Anapa 84.62 317 *e*P P 08 13 20.1 +1.6
ANN *e*S S 08 23 40.9 -2.5
ANN pmax pmax
comp=Z,78nm,1.6s,mb5.6
FLWY Flagg Ranch 84.65 44 *e*P P 08 13 19.4 +0.8
FLWY *e*pP pP 08 13 30.0 +0.6
M15A Larsen Ranch, 84.68 47 ⇓P P 08 13 18.5 -0.3
baz=84
S12A Delamar Landin 84.68 51 ⇓P P 08 13 18.5 -0.4
baz=84
SPUT South Promonto 84.74 47 *e*P P 08 13 19.5 +0.4
TPAW Teton Pass 84.75 45 *e*P P 08 13 20.0 +0.8
comp=Z,8.8nm,0.9s,mb4.9
MOOW Moose Ponds 84.77 44 *e*P P 08 13 19.8 +0.5
comp=Z,6.5nm,1.0s,mb4.7
MOOW *e*pP pP 08 13 30.0 -0.1

REDW Red Top Meadow 84.88 45 *e*P P 08 13 22.1 +2.3
comp=Z,11nm,1.4s,mb4.8
N15A Stansbury Isla 84.88 48 ⇓P P 08 13 20.1 +0.2
baz=85
LOHW Long Hollow 84.92 45 *e*P P 08 13 20.6 +0.6
comp=Z,6.2nm,0.9s,mb4.7
DUG Dugway 84.99 48 *e*P P 08 13 18.9 -1.5
comp=Z,7.7nm,0.8s,mb4.9
DUG Dugway 84.99 48 *e*P P 08 13 18.9 -1.5
DUG pmax pmax
comp=Z,8.0nm,0.8s,mb4.9
V11A Goodsprings 85.00 53 ⇓P P 08 13 20.8 +0.2
baz=85
RLMT Red Lodge 85.07 43 *e*P P 08 13 21.1 +0.4
comp=Z,26nm,0.8s,mb5.4
RLMT *e*pP pP 08 13 31.4 -0.1
HWUT Hardware Ranch 85.20 47 *e*P P 08 13 22.0 +0.6
comp=Z,11nm,0.9s,mb5.0
HWUT *e*pP pP 08 13 32.0 -0.2
BAR Barrett 85.39 57 *e*P P 08 13 22.9 +0.3
S13A Holt Ranch, En 85.40 51 ⇓P P 08 13 22.0 -0.5
baz=85
FCC Fort Churchill 85.44 26 *e*P P 08 13 20.6 -1.6
comp=Z,14nm,1.3s,mb4.9
FCC *e*pP pP 08 13 31.9 -1.2
FCC Fort Churchill 85.44 26 *e*P P 08 13 20.7 -1.6
FCC *e**PP pP 08 13 31.9 -1.2
FCC pmax pmax
comp=Z,14nm,1.3s,mb4.9
V12A Nelson 85.48 53 ⇑P P 08 13 22.6 -0.3
baz=85
CTU Camp Tracy 85.49 48 *e*P P 08 13 21.1 -1.8
comp=Z,11nm,0.9s,mb5.0
CTU *e*pP pP 08 13 33.1 -0.6
LDFC Landfair 85.56 54 *e*P P 08 13 23.8 +0.4
ARUT Antelope Range 85.61 51 *e*P P 08 13 24.1 +0.5
T13A Saint George 85.61 52 ⇑P P 08 13 23.3 -0.3
baz=86
JLU Jordanelle 85.74 48 *e*P P 08 13 24.2 0.0
JLU *e*pP pP 08 13 34.3 -0.6
U13A Pakoon Wash 85.83 52 ⇓P P 08 13 24.0 -0.7
baz=86
DAU Daniels Canyon 85.95 48 *e*P P 08 13 25.5 +0.3
DAU *e*pP pP 08 13 35.8 -0.2
BW06 Boulder Array 85.99 45 *e*P P 08 13 25.5 +0.1
comp=Z,1.9nm,0.7s,mb4.4
BW06 *e*pP pP 08 13 35.0 -1.2
PDAR Pinedale Array 85.99 45 P P 08 13 25.1 -0.3
comp=Z,1.3nm,0.8s,mb4.2,baz=195,slow=2.9,SNR=11
LAO LASA Array 86.16 40 *e*P P 08 13 26.5 +0.4
comp=Z,19nm,0.8s,mb5.4
MSU Marysvale 86.18 50 *e*P P 08 13 26.4 0.0
MSU *e*pP pP 08 13 37.1 0.0
U14A Mt Trumbull 86.40 52 ⇓P P 08 13 26.4 -1.1
baz=86,SNR=5.2
AKASG Malin Array Be 86.45 325 P P 08 13 25.4 -2.1
comp=Z,1.2nm,0.5s,mb4.4,baz=52,slow=5.1,SNR=6.1
AKASG PP PP 08 16 46.2 -2.3
comp=Z,0.9nm,0.4s,baz=40,slow=7.8,SNR=5.7
W13A Hualapai Mount 86.46 53 ⇑P P 08 13 27.4 -0.4
baz=86
Y12C Blythe 86.57 55 ⇓P P 08 13 27.7 -0.7
baz=86
T15A Red Dirt Ranch 86.70 51 ⇑P P 08 13 28.9 -0.1
baz=87,SNR=5.2
X13A Yucca 86.72 54 ⇑P P 08 13 28.9 -0.2
baz=87,SNR=7.3
V14A Boquillas Ranc 86.80 53 ⇓P P 08 13 28.9 -0.6
baz=87,SNR=5.6
W14A Seligman 87.00 53 ⇓P P 08 13 30.0 -0.5
baz=87
Y13A Salome 87.06 54 ⇑P P 08 13 30.6 -0.2
baz=87
T16A Glen Canyon Da 87.34 51 ⇓P P 08 13 31.4 -0.7
baz=87
HFS Hagfors 87.42 337 P P 08 13 30.0 -2.0
comp=Z,1.0nm,0.4s,mb4.4,baz=87,slow=5.9,SNR=7.3
X14A Yava 87.47 54 ⇑P P 08 13 33.2 +0.4
baz=87
NOA NORSAR Array B 87.61 339 P P 08 13 31.2 -1.6
comp=Z,1.8nm,1.1s,mb4.2,baz=51,slow=4.2,SNR=8.9
W15A Williams 87.61 53 ⇑P P 08 13 33.7 +0.3
baz=88
Y14A Wickenburg 87.62 54 P P 08 13 33.0 -0.4
baz=88,SNR=13
Z14A Wintersburg 87.92 55 ⇑P P 08 13 34.8 -0.1
baz=88
X15A Humboldt 87.95 53 ⇑P P 08 13 34.7 -0.4
baz=88,SNR=5.6
WUAZ Wupatki 88.11 52 *e*P P 08 13 35.7 -0.1
comp=Z,9.2nm,0.9s,mb5.0
WUAZ *e*pP pP 08 13 46.1 -0.5
Y15A Casa Rosa Ranc 88.11 54 ⇑P P 08 13 36.0 +0.1
baz=88
X16A Lo Mia Camp, P 88.56 53 ⇓P P 08 13 37.3 -0.6
baz=88,SNR=5.7
115A Sonoran Desert 88.76 55 ⇑P P 08 13 38.8 -0.1
baz=89
Y16A Circle Bar Ran 88.78 54 ⇓P P 08 13 38.5 -0.5
baz=89,SNR=5.5
Z16A Peralta Trail, 89.07 54 ⇓P P 08 13 39.6 -0.7
baz=89
116A Eloy 89.22 55 ⇓P P 08 13 40.3 -0.8
baz=89
216A Three Points, 89.66 55 ⇑P P 08 13 42.5 -0.6
baz=90
ULM Lac du Bonnet 89.91 34 P P 08 13 44.2 +0.3
ULM Lac du Bonnet 89.91 34 P P 08 13 44.2 +0.3
comp=Z,2.6nm,0.9s,mb4.5,baz=349,slow=5.2,SNR=3.6
ISCO Idaho Springs 90.04 46 *e*P P 08 13 46.8 +2.0
comp=Z,3.6nm,1.2s,mb4.6
ISCO *e*pP pP 08 13 55.7 +0.1
ISCO Idaho Springs 90.04 46 *e*P P 08 13 46.8 +2.0
ISCO *e**PP pP 08 13 55.7 +0.1
ISCO pmax pmax
comp=Z,4.0nm,1.2s,mb4.6
Z18A Geronimo 90.22 54 ⇑P P 08 13 45.2 -0.5
baz=90
217A Green Valley 90.25 55 ⇓P P 08 13 45.6 -0.3
baz=90
218A Dragoon 90.73 55 ⇑P P 08 13 47.9 -0.3
baz=91
119A Ashpeak Ranch, 90.91 54 ⇑P P 08 13 48.8 -0.2
baz=91
318A Bisbee 91.02 55 ⇑P P 08 13 49.5 0.0
baz=91
SDCO Great Sand Dun 91.16 48 *e*P P 08 13 50.3 +0.3
comp=Z,4.4nm,0.9s,mb4.8
SDCO *e*pP pP 08 14 00.5 -0.4
319A Douglas 91.59 55 ⇑P P 08 13 52.7 +0.6
baz=92
ANMO Albuquerque 91.91 51 *e*P P 08 13 53.8 +0.2
comp=Z,5.5nm,0.9s,mb4.9
ANMO Albuquerque 91.91 51 *e*P P 08 13 53.8 +0.3
ANMO pmax pmax
comp=Z,5.0nm,0.9s
MORC Moravsky Berou 92.96 328 *e*P P 08 13 57.1 -1.0
comp=Z,7.1nm,0.7s,mb5.2
MORC Moravsky Berou 92.96 328 *e*P P 08 13 57.1 -1.0
MORC pmax pmax
comp=Z,7.0nm,0.7s,mb5.2
ECSD EROS,Sioux Fal 93.45 39 *e*P P 08 13 59.7 -0.8
comp=Z,7.7nm,1.0s,mb5.1
TXAR Lajitas Array 96.81 54 P P 08 14 16.4 +0.3
comp=Z,1.0nm,1.1s,mb4.2,baz=320,slow=5.1,SNR=4.7
DOU Dourbes 98.41 335 P P 08 14 22.1 -0.7
comp=Z,6.6nm,1.5s,mb4.9
TORD Torodi Ar. Bea 126.03 310 PKP PKPdf 08 19 50.8 -0.8
comp=Z,0.9nm,1.1s,baz=26,slow=2.2,SNR=4.4
PLCA Paso Flores 146.48 129 PKPbc PKPbc 08 20 26.2 +0.1
comp=Z,6.1nm,0.7s,baz=242,slow=6.6,SNR=13
LPAZ La Paz 149.38 83 *e*PKPdf PKPdf 08 20 31.0 +0.9
LPAZ *e*PKPbc PKPbc 08 20 35.1 +0.6
LPAZ La Paz 149.38 83 PKPbc PKPbc 08 20 34.6 +0.1
comp=Z,6.5nm,0.8s,baz=304,slow=2.2,SNR=19

IDC 04 08:31:56.0±2.6, 804S×15602E, h0km, mb3.7/6, mb1 3.8/6, mb1mx3.7/14, mbtmp3.7/6, Error ellipse: s-maj=88.7km s-min=29.7km az=122.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.10**	**238**	P	P	08 37 13.5	0.0
	0.7nm,0.8s,baz=60,slow=9.4,SNR=4.7						
ASAR	**Alice Springs**	**26.28**	**231**	P	P	08 37 33.6	+0.3

0.3nm,0.9s,baz=55,slow=8.4,SNR=4.3
SONM Songino Array 70.76 327 P P 08 43 14.5 +0.5
0.3nm,0.5s,baz=129,slow=6.5,SNR=2.3
MKAR Makanchi Array 84.85 319 P P 08 44 31.9 -0.7
0.6nm,0.7s,baz=100,slow=5.5,SNR=4.9
ZALV Zalesovo Beam 85.61 326 P P 08 44 36.8 +0.6
1.0nm,0.6s,baz=120,slow=8.7,SNR=4.3
YKA Yellowknife Ar 96.78 28 P P 08 45 28.1 -0.2
0.2nm,0.7s,baz=267,slow=4.0,SNR=4.1

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*NEIC **04** 08:35:51.2±0.4, 7.13S×15630E, h10km, mb4.8/11, Error ellipse: s-maj=12.3km s-min=10.5km az=112.0*
*IDC **04** 08:35:55.3±0.7, 724S×15637E, h37km±3km, mb4.3/14, mb1 4.4/15, mb1mx4.3/18, mbtmp4.3/15, ML3.6/1, MS3.5/1, Ms1 3.5/1, ms1mx3.0/27, Error ellipse: s-maj=22.3km s-min=12.9km az=104.0*
*ISCJB **04** 08:35:56.1±2.1, 730S±008×15626E±007, h54km±20km, mb4.6/22, Error ellipse: s-maj=14.8km s-min=11.5km az=150.0*
ISC 04 08:35:58.1±1.9, 730S±009×15626E±008, h57km±19km, h39km±3.5km: pP-P, n56, σ0§68/43, mb4.6/22, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**4.22**	**120**	Pn	**Pn**	**08 36 59.3**	**-0.6**
	58nm,0.3s,baz=265,slow=2.8,SNR=9.4						
HNR				Sn	**Sn**	**08 37 48.7**	**+0.7**
	69nm,0.3s,baz=276,slow=18,SNR=4.6						
HNR				LR	LR	08 38 02.9	
	comp=Z,608nm,19.1s,baz=357,slow=31						
CTA	**Charters Tower**	**15.99**	**216**	Pn	**Pn**	**08 39 39.5**	**0.0**
CTA	**Charters Tower**	**15.99**	**216**	Pn	**Pn**	**08 39 39.5**	**0.0**
	0.2nm,0.3s,baz=58,slow=15,SNR=3.2						
KAKA	**Kakadu**	**24.06**	**255**	*e*P	**P**	**08 41 07.8**	**-0.4**
	52nm,0.6s,mb5.1						
KAKA	**Kakadu**	**24.06**	**255**	*e*P	**P**	**08 41 07.7**	**-0.5**
	105nm,0.6s,mb5.4						
WB2	**Warramunga Arr**	**24.68**	**237**	*e*P	**P**	**08 41 14.4**	**+0.5**
WRA	**Warramunga Arr**	**24.69**	**237**	P	**P**	**08 41 15.0**	**+1.0**
	7.7nm,0.6s,mb4.4,baz=63,slow=9.3,SNR=24						
WRA				pP		08 41 24.5	
	16nm,0.7s,baz=63,slow=9.2,SNR=11						
WRA				PcP	PcP	08 44 49.9	-0.2
	0.6nm,0.3s,baz=61,slow=2.9,SNR=7.9						
ASAR	**Alice Springs**	**26.93**	**230**	P	**P**	**08 41 34.1**	**-0.1**
	2.4nm,0.5s,mb4.0,baz=61,slow=9.3,SNR=65						
ASAR				pP	pP	08 41 44.4	-4.1
	2.5nm,0.4s,baz=59,slow=9.5,SNR=12						
ASAR				PcP	PcP	08 44 54.9	-0.3
	0.9nm,0.6s,baz=64,slow=2.5,SNR=6.4						
STKA	**Stephens Creek**	**28.02**	**207**	*e*P	**P**	**08 41 47.4**	**+3.6**
	2.9nm,1.1s,mb3.8						
STKA	**Stephens Creek**	**28.02**	**207**	*e*P	**P**	**08 41 46.9**	**+3.1**
	2.0nm,0.5s,mb4.0						
STKA	**Stephens Creek**	**28.02**	**207**	P	**P**	**08 41 45.1**	**+1.2**
	2.3nm,0.5s,mb4.0,baz=16,slow=11,SNR=8.9						
STKA				PcP	PcP	08 44 57.0	-0.6
	4.3nm,0.7s,baz=35,slow=3.7,SNR=8.4						
FITZ	**Fitzroy Crossi**	**31.69**	**247**	*e*P	**P**	**08 42 16.2**	**-0.3**
	7.6nm,0.6s,mb4.7						
FITZ	**Fitzroy Crossi**	**31.69**	**247**	*e*P	**P**	**08 42 15.6**	**-0.9**
	8.5nm,0.6s,mb4.8						
FITZ	**Fitzroy Crossi**	**31.69**	**247**	P	**P**	**08 42 16.2**	**-0.3**
	3.4nm,0.7s,mb4.3,baz=86,slow=11,SNR=15						
FORT	**Forrest**	**35.25**	**225**	*e*P	**P**	**08 42 46.8**	**-0.5**
	12nm,0.6s,mb5.0						
FORT				*e*	pP	08 42 57.7	-4.1
FORT	**Forrest**	**35.25**	**225**	*e*P	**P**	**08 42 46.9**	**-0.4**
	3.0nm,0.7s,mb4.3						
MBWA	**Marble Bar**	**37.88**	**245**	*e*P	**P**	**08 43 09.5**	**-0.4**
	5.0nm,0.8s,mb4.3						
RPZ	**Rata Peaks**	**38.52**	**163**	P	**P**	**08 43 14.6**	**-0.3**
	13nm,0.8s,mb4.7,baz=318,slow=4.2,SNR=6.0						
KLBR	**Kellerberrin**	**43.26**	**231**	*e*P	**P**	**08 43 53.5**	**-0.7**
	13nm,0.5s,mb4.9						
NWAO	**Narrogin (SRO)**	**44.24**	**229**	P	**P**	**08 44 01.8**	**-0.2**
	5.7nm,0.7s,mb4.4,baz=57,slow=7.4,SNR=4.1						
MUN	**Mundaring**	**44.62**	**231**	*e*P	**P**	**08 44 05.1**	**+0.1**
MJAR	**Matsushiro Arr**	**46.78**	**340**	P	**P**	**08 44 20.5**	**-1.4**
	1.5nm,0.7s,mb4.0,baz=165,slow=7.9,SNR=3.7						
KSRS	**Korea Array**	**51.80**	**331**	P	**P**	**08 45 00.6**	**+0.4**
	1.2nm,0.6s,mb4.0,baz=143,slow=6.9,SNR=4.9						
CHTO	**Chiang Mai**	**62.16**	**296**	*e*P	**P**	**08 46 14.3**	**+0.4**
	11nm,1.1s,mb4.9						
VNDA	**Vanda**	**70.25**	**179**	*e*P	**P**	**08 47 03.7**	**-1.1**
	2.9nm,0.8s,mb4.3						
VNDA	**Vanda**	**70.25**	**179**	P	**P**	**08 47 04.7**	**0.0**
	2.5nm,0.7s,mb4.2,baz=335,slow=6.1,SNR=12						
SONM	**Songino Array**	**70.27**	**327**	P	**P**	**08 47 06.1**	**+0.8**
SONM				pP	pP	08 47 15.8	-5.4
SONM				sP	sP	08 47 21.4	-6.2
SONM	**Songino Array**	**70.27**	**327**	P	**P**	**08 47 06.1**	**+0.8**
	3.7nm,0.9s,mb4.3,baz=145,slow=6.9,SNR=13						
SONM				pP	pP	08 47 15.8	-5.4
	2.1nm,0.8s,baz=138,slow=6.3,SNR=5.5						
SONM				sP	sP	08 47 21.4	-6.2
	4.1nm,0.9s,baz=138,slow=6.8,SNR=6.8						
QSPA	**South Pole Qui**	**82.68**	**180**	*e*P	**P**	**08 48 14.7**	**-0.3**
	3.3nm,0.5s,mb4.6						
MK31	**Makanchi Array**	**84.46**	**318**	*e*P	**P**	**08 48 24.8**	**+0.1**
MKAR	**Makanchi Array**	**84.46**	**318**	P	**P**	**08 48 24.8**	**+0.1**
	29nm,0.8s,mb5.5,baz=101,slow=6.3,SNR=167						
MKAR				sP	sP	08 48 40.9	-6.4
	11nm,0.8s,baz=101,slow=6.3,SNR=8.0						
MAW	**Mawson**	**84.60**	**203**	P	**P**	**08 48 24.9**	**-0.1**
	4.1nm,0.9s,mb4.6,baz=98,slow=5.0,SNR=3.1						
ZALV	**Zalesovo Beam**	**85.13**	**326**	P	**P**	**08 48 26.9**	**-1.0**
	3.8nm,0.5s,mb4.8,baz=118,slow=5.3,SNR=13						
ZALV				sP	sP	08 48 42.8	-7.7
	4.7nm,0.6s,baz=110,slow=5.3,SNR=8.1						
ULHL	**Ulahol**	**87.53**	**313**	P	**P**	**08 48 40.2**	**+0.3**
	SNR=8.0						
TKM2	**Tokmak 2**	**88.13**	**314**	*e*P	**P**	**08 48 42.5**	**-0.3**
	7.6nm,0.8s,mb5.0						
TKM2	**Tokmak 2**	**88.13**	**314**	P	**P**	**08 48 43.2**	**+0.4**
	SNR=7.8						
KZA	**Kyzart**	**88.22**	**313**	P	**P**	**08 48 44.6**	**+1.4**
	SNR=5.2						
AAK	**Ala-Archa**	**88.87**	**313**	P	**P**	**08 48 46.5**	**+0.2**
	SNR=6.1						
AML	**Almayashu**	**89.36**	**312**	*e*P	**P**	**08 48 49.3**	**+0.7**
	4.9nm,0.7s,mb5.0						
AML	**Almayashu**	**89.36**	**312**	P	**P**	**08 48 49.7**	**+1.1**
	SNR=6.3						
INK	**Inuvik**	**89.56**	**20**	PKKPbc	PKKPbc	09 06 21.8	-4.5
	0.9nm,0.9s,baz=193,slow=1.3,SNR=4.3						
YKA	**Yellowknife Ar**	**96.02**	**28**	P	**P**	**08 49 18.0**	**-0.8**
YKA				pP	pP	08 49 30.9	-4.3
YKA				PKKPbc	PKKPbc	09 06 05.0	-4.3
YKA	**Yellowknife Ar**	**96.02**	**28**	P	**P**	**08 49 18.0**	**-0.8**
	0.7nm,0.6s,mb4.2,baz=266,slow=4.8,SNR=13						
YKA				pP	pP	08 49 30.9	-4.4
	0.5nm,0.8s,baz=266,slow=4.5,SNR=4.7						
YKA				PKKPbc	PKKPbc	09 06 05.0	-4.3
	0.4nm,0.6s,baz=82,slow=2.7,SNR=9.5						
AKASG	**Malin Array Be**	**118.51**	**325**	PKP	PKPdf	08 54 38.1	-1.3
	0.7nm,0.6s,baz=120,slow=1.6,SNR=4.2						
NOA	**NORSAR Array B**	**120.39**	**341**	PKP	PKPdf	08 54 42.6	-0.1
	1.6nm,0.8s,baz=68,slow=4.7,SNR=3.4						
BOSA	**Boshof**	**120.81**	**231**	PKP	PKPdf	08 54 44.0	-0.6
	1.4nm,0.6s,baz=120,slow=1.8,SNR=3.0						
SCHQ	**Schefferville**	**121.47**	**28**	PKP	PKPdf	08 54 43.6	-1.4
	2.6nm,1.1s,baz=0.0,slow=6.1,SNR=2.8						
MATP	**Matopo**	**121.73**	**241**	PKP	PKPdf	08 54 45.8	-0.7
	1.1nm,0.4s,baz=138,slow=0.2,SNR=5.0						
SUR	**Sutherland**	**122.07**	**224**	PKP	PKPdf	08 54 48.3	+1.5
	1.7nm,0.6s,baz=146,slow=7.7,SNR=3.4						
LBTB	**Lobatse**	**122.24**	**234**	PKP	PKPdf	08 54 46.8	-0.7
	1.8nm,0.8s,baz=120,slow=1.8,SNR=3.8						
LSZ	**Lusaka**	**123.87**	**246**	PKP	PKPdf	08 54 50.1	-0.6
	1.0nm,0.3s,baz=126,slow=3.6,SNR=3.0						
GERES	**GERESS Array B**	**127.95**	**329**	PKP	PKPdf	08 54 57.2	-0.4
	1.0nm,0.6s,baz=46,slow=5.8,SNR=4.7						
LPAZ	**La Paz**	**130.21**	**118**	PKP	PKPdf	08 55 02.3	-0.5
	0.7nm,0.4s,baz=242,slow=1.9,SNR=5.0						
TOA0	**Torodi Ar. Sit**	**154.32**	**285**	*e*PKPbc	PKPbc	08 55 51.6	-1.4
TORD	**Torodi Ar. Bea**	**154.32**	**285**	PKP	PKPdf	08 55 42.6	-2.1
	0.8nm,0.7s,baz=72,slow=1.9,SNR=5.7						
TORD				PKPbc	PKPbc	08 55 51.8	-1.2
	3.6nm,0.7s,baz=65,slow=2.2,SNR=20						
TORD				PKPab	PKPab	08 56 06.7	-0.5
	1.5nm,0.7s,baz=81,slow=3.7,SNR=4.9						
DBIC	**Dimbokro**	**161.25**	**269**	PKPab	PKPab	08 56 37.0	-0.2
	3.2nm,0.6s,baz=108,slow=4.0,SNR=10.0						

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*IDC **04** 08:41:21.3±0.7, 122N×12641E, h0km, mb4.4/11, mb1 4.5/13, mb1mx4.4/20, mbtmp4.5/13, ML4.5/2, MS3.8/1, Ms1 3.8/1, ms1mx3.4/32, Error ellipse: s-maj=37.8km s-min=12.8km az=75.0*
*NEIC **04** 08:41:22.4±0.4, 121N×12649E, h10km, mb4.5/9, Error ellipse: s-maj=20.0km s-min=6.6km az=74.0*
*ISCJB **04** 08:41:24.0±0.4, 120N±006×1264E±0.1, h33km, mb4.5/17, Error ellipse: s-maj=20.8km s-min=7.2km az=168.6*
ISC 04 08:41:26.2±0.4, 118N±006×1265E±01, h35km, n30, σ0§84/32, mb4.5/17, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BATI	**Kupang**	**11.65**	**194**	Pn	**Pn**	**08 44 10.2**	**+0.2**
	6.5nm,0.3s,baz=294,slow=10.0,SNR=4.2						
KAKA	**Kakadu**	**15.02**	**157**	*e*P	**Pn**	**08 45 02.9**	**+7.0**
	35nm,0.7s						
KAKA	**Kakadu**	**15.02**	**157**	*e*Pn	**Pn**	**08 44 54.0**	**-1.9**
KAKA				*e*P		08 45 03.0	
FITZ	**Fitzroy Crossi**	**19.17**	**182**	*e*P	**Pn**	**08 45 47.1**	**-0.9**
	9.2nm,0.8s						
FITZ				LR	LR	08 52 59.4	
FITZ	**Fitzroy Crossi**	**19.17**	**182**	P	**Pn**	**08 45 47.3**	**-0.7**
	0.7nm,0.3s,baz=11,slow=14,SNR=15						
FITZ				LR	LR	08 52 59.4	
	comp=Z,291nm,18.3s,baz=69,slow=36						
WRA	**Warramunga Arr**	**22.36**	**160**	P	**P**	**08 46 21.6**	**+0.3**
	11nm,0.3s,mb4.8,baz=339,slow=11,SNR=250						
WRA				S	**S**	**08 50 24.4**	**-1.0**
	3.0nm,1.0s,baz=341,slow=20,SNR=8.2						
WB2	**Warramunga Arr**	**22.36**	**160**	*e*P	**P**	**08 46 21.7**	**+0.4**
MBWA	**Marble Bar**	**23.16**	**196**	*e*P	**P**	**08 46 29.2**	**-0.5**
	5.0nm,0.6s,mb4.1						
QIS	**Mount Isa**	**25.14**	**150**	*e*P	**P**	**08 46 46.2**	**-2.0**
	4.8nm,0.4s,mb4.4						
ASAR	**Alice Springs**	**25.73**	**164**	P	**P**	**08 46 54.3**	**+0.8**
	4.4nm,0.4s,mb4.3,baz=339,slow=8.9,SNR=78						
ASAR				S	**S**	**08 51 19.4**	**-0.8**
	0.8nm,1.0s,baz=347,slow=20,SNR=3.1						
FORT	**Forrest**	**31.81**	**177**	*e*P	**P**	**08 47 49.2**	**+1.6**
	16nm,0.7s,mb5.0						
FORT	**Forrest**	**31.81**	**177**	*e*P	**P**	**08 47 46.7**	**-0.9**
	2.4nm,0.7s,mb4.1						
KLBR	**Kellerberrin**	**33.62**	**194**	*e*P	**P**	**08 48 04.1**	**+0.7**
	8.7nm,0.7s,mb4.8						
MUN	**Mundaring**	**34.38**	**196**	*e*P	**P**	**08 48 10.9**	**+0.9**
STKA	**Stephens Creek**	**35.86**	**158**	*e*P	**P**	**08 48 23.8**	**+1.0**
	2.6nm,0.2s,mb4.8						
STKA	**Stephens Creek**	**35.86**	**158**	*e*P	**P**	**08 48 23.4**	**+0.6**
	4.9nm,0.5s,mb4.7						
STKA	**Stephens Creek**	**35.86**	**158**	P	**P**	**08 48 23.8**	**+1.0**
	3.7nm,0.3s,mb4.8,baz=330,slow=8.6,SNR=72						
MJAR	**Matsushiro Arr**	**36.83**	**16**	P	**P**	**08 48 31.2**	**+0.2**
	1.4nm,0.4s,mb4.1,baz=181,slow=9.6,SNR=7.7						
ASAJ	**Asahikawa**	**45.09**	**16**	P	**P**	**08 49 39.0**	**+0.1**
	2.3nm,0.4s,mb4.3,baz=161,slow=14,SNR=6.1						
SONM	**Songino Array**	**49.63**	**342**	P	**P**	**08 50 15.4**	**+1.3**
	0.9nm,0.6s,mb4.0,baz=157,slow=6.3,SNR=3.9						
MK31	**Makanchi Array**	**59.51**	**326**	*e*P	**P**	**08 51 24.9**	**-1.0**
MKAR	**Makanchi Array**	**59.51**	**326**	P	**P**	**08 51 26.3**	**+0.4**
	2.4nm,0.4s,mb4.5,baz=117,slow=7.9,SNR=17						
URZ	**Urewera**	**60.88**	**136**	P	**P**	**08 51 36.1**	**+0.7**
	23nm,1.1s,mb5.2,baz=35,slow=5.0,SNR=6.7						
ZALV	**Zalesovo Beam**	**62.74**	**334**	P	**P**	**08 51 47.1**	**-0.5**
	1.6nm,0.4s,mb4.5,baz=132,slow=7.0,SNR=9.4						
KURK	**Kurchatov**	**63.75**	**328**	*e*P	**P**	**08 51 53.5**	**-0.9**
	5.0nm,0.4s,mb4.9						
AKTK	**Aktyubinsk**	**75.49**	**322**	P	**P**	**08 53 06.5**	**-0.3**
AKTO	**Aktyubinsk**	**75.49**	**322**	P	**P**	**08 53 06.5**	**-0.3**
	2.1nm,0.5s,mb4.3,baz=112,slow=12,SNR=6.6						
ARU	**Arti**	**76.95**	**328**	*e*P	**P**	**08 53 14.6**	**-0.4**
	10nm,0.6s,mb4.9						
VNDA	**Vanda**	**80.94**	**173**	*e*P	**P**	**08 53 37.5**	**+1.0**
	3.3nm,1.0s,mb4.2						
VNDA	**Vanda**	**80.94**	**173**	P	**P**	**08 53 37.5**	**+1.0**
	1.7nm,0.8s,mb4.0,baz=321,slow=5.2,SNR=5.8						

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*IDC **04** 08:41:37.2±0.8, 1205N×124.12E, h0km, mb4.0/11, mb1 4.1/11, mb1mx4.0/19, mbtmp4.0/11, Error ellipse: s-maj=51.2km s-min=18.2km az=71.0*
*ISCJB **04** 08:41:38.9±0.8, 1210N±003×12393E±003, h14km±5km, mb4.0/14, Error ellipse: s-maj=4.6km s-min=4.0km az=146.2*
*MAN **04** 08:41:38, 1207N×12392E, h7km, mb5.0, ML3.9, MS4.0*
MAN INTENSITY II - DIMASALANG, MASBATE MASBATE; MAN INTENSITY I - MASBATE CITY.
*NEIC **04** 08:41:42.3±0.7, 1209N×12430E, h35km, mb4.6/3, Error ellipse: s-maj=40.0km s-min=13.5km az=64.0*
NEIC Felt [II PIVS] at Dimasalang and [I PIVS] at Masbate, Masbate.
ISC 04 08:41:39.1±0.8, 1208N±003×12394E±003, h10km±5km, n38, σ0§98/51, mb4.0/14, 1C-6D, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MMPH	**Masbate**	**0.41**	**312**	⇓*e*P	**Pg**	**08 41 47.0**	**-0.3**
MMPH				*i* S	**Sg**	**08 41 53.2**	**+0.4**
CNP	**Catarman**	**0.83**	**59**	*e*P	**Pg**	**08 41 54.5**	**-0.6**
CNP				*e*S	**Sg**	**08 42 07.1**	**+1.2**
OCLP	**Ormoc**	**1.22**	**147**	*e*P	**Pn**	**08 42 01.1**	**-1.1**
OCLP				*e*S	**Sb**	**08 42 19.2**	**+1.1**
RCP	**Roxas**	**1.28**	**246**	⇓*e*P	**Pn**	**08 42 01.9**	**-1.2**
RCP				*e*S	**Sb**	**08 42 19.9**	**+0.1**
PLP	**Palo**	**1.37**	**132**	*e*P	**Pn**	**08 42 02.9**	**-1.4**
PLP				*i* S	**Sb**	**08 42 23.0**	**+0.6**
PVCP	**Virac**	**1.52**	**8**	*e*P	**Pn**	**08 42 05.6**	**-0.8**
PVCP				*e*S	**Sn**	**08 42 26.8**	**+0.6**
KALP	**Kalibo**	**1.62**	**256**	⇓*e*P	**Pn**	**08 42 08.3**	**+0.6**
LLP	**Lapu-Lapu**	**1.75**	**179**	⇓*i*P	**Pn**	**08 42 08.8**	**-0.8**
LLP				*e*S	**Sn**	**08 42 34.4**	**+2.4**
OTRP	**Odiongan**	**1.90**	**279**	*e*P	**Pn**	**08 42 10.9**	**-0.6**
GUIM	**Jordan**	**1.96**	**223**	*e*P	**Pn**	**08 42 11.7**	**-0.7**
GUIM				*e*S	**Sn**	**08 42 37.8**	**+0.7**
MSLP	**Maasin**	**2.14**	**155**	*e*P	**Pn**	**08 42 14.7**	**-0.1**
MSLP				*e*S	**Sn**	**08 42 48.4**	**+6.9**
GQP	**Guinayangan**	**2.32**	**321**	⇓*e*P	**Pn**	**08 42 17.9**	**+0.5**
GQP				*e*S	**Sn**	**08 42 54.4**	**+8.4**
TBP	**Tagbilaran**	**2.38**	**182**	*e*P	**Pn**	**08 42 17.4**	**-0.8**
TBP				*e*S	**Sn**	**08 42 47.8**	**+0.4**
BOAC	**Boac**	**2.46**	**304**	*e*P	**Pn**	**08 42 19.1**	**-0.2**
BOAC				*e*S	**Sn**	**08 42 48.7**	**-0.7**
SCPH	**Surigao**	**2.75**	**146**	⇑*e*P	**Pn**	**08 42 23.8**	**+0.6**
SNPH	**Sibulan**	**2.81**	**194**	⇓*i*P	**Pn**	**08 42 22.0**	**-2.1**
CUYO	**Cuyo Island**	**3.12**	**247**	*e*P	**Pn**	**08 42 28.9**	**+0.6**
CUYO				*e*S	**Sn**	**08 43 05.5**	**0.0**
BUSP	**Coron**	**3.66**	**269**	*e*P	**Pn**	**08 42 36.7**	**+0.9**
LUBP	**Lubang**	**3.96**	**295**	*e*P	**Pn**	**08 42 41.0**	**+1.1**
BUKP	**Musuan**	**4.32**	**165**	*e*P	**Pn**	**08 42 46.2**	**+1.2**
ENPP	**El Nido**	**4.51**	**259**	*e*P	**Pn**	**08 42 48.1**	**+0.6**
KMI	**Kunming**	**23.87**	**306**	P	**P**	**08 46 57.4**	**+4.5**
	14nm,1.4s,mb4.2						
KSRS	**Korea Array**	**25.52**	**7**	P	**P**	**08 47 07.8**	**0.0**
	3.1nm,0.8s,mb3.9,baz=189,slow=10,SNR=4.5						
WRA	**Warramunga Arr**	**33.43**	**162**	P	**P**	**08 48 16.0**	**-2.2**
	1.5nm,0.8s,mb4.0,baz=342,slow=9.7,SNR=2.5						
ASAR	**Alice Springs**	**36.84**	**165**	P	**P**	**08 48 47.3**	**-0.4**
	1.7nm,0.5s,mb4.1,baz=345,slow=6.8,SNR=4.3						
STKA	**Stephens Creek**	**46.87**	**159**	*e*P	**P**	**08 50 08.7**	**-0.8**
	9.7nm,1.0s,mb4.7						
STKA	**Stephens Creek**	**46.87**	**159**	P	**P**	**08 50 08.9**	**-0.7**
	2.2nm,0.5s,mb4.4,baz=310,slow=7.3,SNR=3.3						
MKAR	**Makanchi Array**	**49.21**	**323**	P	**P**	**08 50 29.7**	**+2.1**
	1.0nm,0.7s,mb4.0,baz=118,slow=7.5,SNR=4.2						
ZALV	**Zalesovo Beam**	**51.95**	**332**	P	**P**	**08 50 47.7**	**-0.4**
	0.6nm,0.6s,mb3.7,baz=116,slow=6.6,SNR=2.4						
KURK	**Kurchatov**	**53.29**	**326**	*e*P	**P**	**08 50 58.4**	**+0.3**
	5.9nm,0.9s,mb4.5						
AKTK	**Aktyubinsk**	**65.47**	**320**	P	**P**	**08 52 21.7**	**-0.7**
AKTO	**Aktyubinsk**	**65.47**	**320**	P	**P**	**08 52 21.7**	**-0.7**
	1.1nm,0.6s,mb4.0,baz=48,slow=7.7,SNR=4.5						
ARCES	**ARCESS Array B**	**81.71**	**339**	P	**P**	**08 54 01.1**	**+3.6**
	2.9nm,0.7s,mb4.3,baz=79,slow=6.3,SNR=7.1						
FINES	**FINESS Array B**	**83.22**	**331**	P	**P**	**08 54 05.1**	**-0.4**
	1.5nm,0.7s,mb4.1,baz=63,slow=3.4,SNR=4.1						
INK	**Inuvik**	**83.45**	**21**	P	**P**	**08 54 06.6**	**0.0**
INK	**Inuvik**	**83.45**	**21**	P	**P**	**08 54 06.6**	**0.0**
	0.5nm,0.7s,mb3.7,baz=286,slow=2.0,SNR=4.2						
AKASG	**Malin Array Be**	**83.72**	**320**	P	**P**	**08 54 10.4**	**+2.1**
	0.3nm,0.3s,mb3.9,baz=68,slow=4.4,SNR=5.6						
YKA	**Yellowknife Ar**	**93.03**	**23**	P	**P**	**08 54 51.5**	**-1.2**
	0.1nm,0.6s,mb3.4,baz=302,slow=5.0,SNR=3.1						

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*ISCJB **04** 08:42:11.0±0.8, 3632N±003×3691E±006, h10km, Error ellipse: s-maj=7.4km s-min=3.7km az=19.0*
*NSSC **04** 08:42:10.9, 3636N×3681E, h15km±1km*
*DDA **04** 08:42:10.1, 3623N×3697E, h6km±1km, Md2.6*
*CSEM **04** 08:42:11.9±0.1, 3627N×3670E, h12km, Mc1.8, Error ellipse: s-maj=3.5km s-min=1.1km az=95.0*
ISC 04 08:42:10.7±0.8, 3631N±003×3694E±006, h10km, n12, σ0§88/23, 6D, Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DRWC	**Darouich**	**0.38**	**324**	⇑P	**Pg**	**08 42 17.3**	**-0.9**
DRWC				⇓S	**Sg**	**08 42 22.0**	**-1.2**
BTCH	**Batrach**	**0.48**	**235**	⇓P	**Pg**	**08 42 19.3**	**-0.7**
BTCH				⇓S	**Sg**	**08 42 26.5**	**+0.2**
BTCH	**Batrach**	**0.48**	**235**	⇓*i*P	**Pg**	**08 42 19.3**	**-0.7**
COBT	**Iskenderun**	**0.59**	**291**	*i* P	**Pg**	**08 42 21.9**	**-0.2**
COBT				*i* S	**Sg**	**08 42 31.2**	**+1.3**
ARNB	**Al Arnab**	**0.91**	**240**	⇑P	**Pg**	**08 42 26.8**	**-1.4**
ARNB				⇑S	**Sg**	**08 42 39.5**	**-0.4**
ARNB	**Al Arnab**	**0.91**	**240**	⇑*i*P	**Pg**	**08 42 26.8**	**-1.4**
ARNB				⇑*i*S	**Sg**	**08 42 39.5**	**-0.5**
WRDH	**Warideh**	**0.91**	**208**	⇓P	**Pg**	**08 42 28.2**	**0.0**
WRDH				⇑S	**Sg**	**08 42 41.3**	**+1.2**
WRDH	**Warideh**	**0.91**	**208**	⇓*i*P	**Pg**	**08 42 28.2**	**-0.1**
WRDH				⇑*i*S	**Sg**	**08 42 41.3**	**+1.2**
SLNF	**Slenfeh**	**0.92**	**219**	⇑P	**Pg**	**08 42 28.0**	**-0.5**
SLNF				⇑S	**Sg**	**08 42 41.2**	**+0.7**
SLNF	**Slenfeh**	**0.92**	**219**	⇑*i*P	**Pg**	**08 42 28.0**	**-0.5**
SLNF				⇑*i*S	**Sg**	**08 42 41.2**	**+0.7**
GZT	**Gaziantep**	**1.15**	**26**	*i* P	**Pb**	**08 42 31.9**	**-0.8**
GZT				*i* S	**Sb**	**08 42 48.4**	**+0.7**
ANDN	**Andirin**	**1.35**	**339**	*e*P	**Pn**	**08 42 36.8**	**+1.2**
ANDN				*e*S	**Sb**	**08 42 54.5**	**+1.1**

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*IDC **04** 08:46:11.7±1.2, 7.18S×15555E, h0km, mb4.2/7, mb1 4.3/8, mb1mx4.1/17, mbtmp4.3/8, ML4.2/1, Error ellipse: s-maj=32.1km s-min=21.3km az=109.0*
*ISCJB **04** 08:46:16.1±0.8, 7.1S±01×15534E±008, h33km, mb4.1/7, Error ellipse: s-maj=15.3km s-min=11.2km az=18.8*
ISC 04 08:46:18.1±1.6, 71S±01×1554E±03, h35km, n11, σ0§93/12, mb4.1/7, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**5.11**	**117**	Pn	**Pn**	**08 47 25.8**	**-6.4**
	9.9nm,0.3s,baz=233,slow=5.1,SNR=2.5						
HNR				Sn	**Sn**	**08 48 31.9**	**+1.9**
	17nm,0.3s,baz=267,slow=20,SNR=4.5						
CTA	**Charters Tower**	**15.65**	**213**	Pn	**Pn**	**08 49 57.4**	**+1.3**
	0.3nm,0.3s,baz=37,slow=13,SNR=4.4						
WB2	**Warramunga Arr**	**24.05**	**236**	*e*P	**P**	**08 51 30.3**	**+0.1**
WRA	**Warramunga Arr**	**24.06**	**236**	P	**P**	**08 51 30.5**	**+0.2**
	3.1nm,0.5s,mb4.0,baz=61,slow=9.5,SNR=26						
ASAR	**Alice Springs**	**26.38**	**229**	P	**P**	**08 51 50.1**	**-1.2**
	1.6nm,0.4s,m

EGAK	**Eagle**	15.70	37	*e*Pn	Pn	08 55 39.0	-2.9
	comp=Z,3.9nm,0.6s						
DAWY	**Dawson**	15.99	41	*e*Pn	Pn	08 55 41.4	-4.4
SIT	**Sitka**	16.26	67	*e*Pn	Pn	08 55 39.5	-10
SKAG	**Skagway**	16.41	59	*e*Pn	Pn	08 55 43.5	-7.5
	comp=Z,9.7nm,1.0s						
DLBC	**Dease Lake**	19.09	63	P	Pn	08 56 26.9	+2.6
	baz=257,slow=14						
BILL	**Bilibino**	20.09	327	*e*P	P	08 56 37.0	+2.6
	comp=Z,10nm,1.0s						
BILL	**Bilibino**	20.09	327	*e*P	P	08 56 36.7	+2.3
BILL				pmax	pmax		
	comp=Z,7.0nm,0.9s						
INK	**Inuvik**	20.18	33	*e*P	P	08 56 32.5	-2.8
INK	**Inuvik**	20.18	33	P	P	08 56 36.9	+1.5
	comp=Z,1.4nm,0.5s,baz=238,slow=17,SNR=15						
SEY	**Seymchan**	24.34	309	*e*P	P	08 57 18.5	-0.2
YKA	**Yellowknife Ar**	26.59	51	P	P	08 57 42.9	+3.9
	comp=Z,1.0nm,0.7s,mb3.5,baz=273,slow=9.1,SNR=21						
TIXI	**Tiksi**	33.31	328	*e*P	P	08 58 39.3	+0.8
	comp=Z,2.0nm,0.6s,mb4.2						
TIXI	**Tiksi**	33.31	328	*i* P	P	08 58 39.4	+0.9
TIXI				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.2						
YSS	**Yuzh-Sakhalins**	34.19	281	*e*P	P	08 58 47.7	+1.3
YSS				pmax	pmax		
	comp=Z,3.0nm,1.3s,mb4.1						
ASAJ	**Asahikawa**	35.85	277	P	P	08 58 59.0	-1.7
	comp=Z,4.7nm,0.8s,mb4.5,baz=83,slow=8.1,SNR=3.6						
PDAR	**Pinedale Array**	36.72	85	P	P	08 59 08.8	+0.7
	comp=Z,0.5nm,0.7s,mb3.5,baz=298,slow=3.2,SNR=5.2						
BOD	**Bodaibo**	43.76	310	*e*P	P	09 00 04.5	-1.8
BOD				pmax	pmax		
	comp=Z,3.0nm,1.7s,mb3.8						
KSRS	**Korea Array**	48.67	280	P	P	09 00 44.9	-0.4
	comp=Z,2.8nm,0.8s,mb4.3,baz=50,slow=6.5,SNR=7.4						
TXAR	**Lajitas Array**	49.29	95	P	P	09 00 50.6	+0.5
	comp=Z,0.7nm,0.5s,mb3.9,baz=306,slow=5.6,SNR=13						
TLY	**Talaya**	52.24	308	*e*P	P	09 01 10.4	-1.6
	comp=Z,5.5nm,0.9s,mb4.5						
TLY	**Talaya**	52.24	308	*e*P	P	09 01 12.7	+0.7
TLY				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.6						
ULN	**Ulaanbaatar**	53.14	303	*e*P	P	09 01 17.2	-1.6
	comp=Z,8.0nm,0.8s,mb4.7						
ULN	**Ulaanbaatar**	53.14	303	*d i*P	P	09 01 19.1	+0.3
ZAK	**Zakamensk**	53.28	307	*e*P	P	09 01 19.8	+0.1
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.8s,mb3.4						
SONM	**Songino Array**	53.49	303	P	P	09 01 22.0	+0.7
	comp=Z,3.3nm,0.7s,mb4.4,baz=44,slow=7.0,SNR=17						
NJ2	**Nanjing**	57.76	281	*e*P	P	09 01 53.2	+1.0
NJ2				AMB	AMB		
	comp=Z,20nm,0.7s,mb5.3						
ZALV	**Zalesovo Beam**	58.62	320	P	P	09 01 58.1	+0.2
	comp=Z,1.3nm,0.5s,mb4.3,baz=40,slow=8.2,SNR=8.4						
ZAL	**Zalesovo**	58.63	320	P	P	09 01 58.1	+0.1
GTA	**Gaotai**	62.85	300	*e*P	P	09 02 26.3	-0.6
GTA				AMB	AMB		
	comp=Z,5.0nm,1.0s,mb4.6						
LZH	**Lanzhou**	63.22	295	*e*P	P	09 02 28.6	-0.8
LZH				AP	pP	09 02 43.1	+13
LZH				XP	sP	09 02 46.5	+16
LZH				AMB	AMB		
	comp=Z,15nm,1.4s,mb4.9						
LZH				AMB	AMB		
	comp=Z,68nm,4.3s						
LZH	**Lanzhou**	63.22	295	*e*P	P	09 02 28.6	-0.8
	comp=Z,15nm,1.4s,mb4.9						
LZH				pP	pP	09 02 43.1	+13
LZH				sP	sP	09 02 46.5	+16
KURK	**Kurchatov**	63.51	321	*e*P	P	09 02 29.7	-1.4
	comp=Z,6.8nm,1.1s,mb4.6						
KURK	**Kurchatov**	63.51	321	*e*P	P	09 02 29.7	-1.4
KURK				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.6						
FINES	**FINESS Array B**	64.79	355	P	P	09 02 40.5	+1.1
	comp=Z,4.0nm,1.0s,mb4.4,baz=3.8,slow=12,SNR=4.5						
ARU	**Arti**	64.80	336	*d i*P	P	09 02 37.9	-1.6
ARU				*e*		09 03 06.5	
ARU				*e*S	S	09 11 20.2	-0.3
ARU				*e*SS	SS	09 15 33.9	+3.4
ARU				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.7						
MKAR	**Makanchi Array**	65.24	316	P	P	09 02 42.5	0.0
	comp=Z,1.2nm,0.6s,mb4.1,baz=45,slow=6.3,SNR=10						
NB2	**NORSAR Subarra**	65.37	3	P	P	09 02 44.6	+1.5
	comp=Z,1.3nm,0.8s,mb4.0,baz=355,slow=6.5						
NOA	**NORSAR Array B**	65.37	3	P	P	09 02 44.5	+1.4
	comp=Z,1.3nm,0.8s,mb4.0,baz=358,slow=6.5,SNR=4.2						
AKTK	**Aktyubinsk**	70.37	333	P	P	09 03 16.6	+1.8
AKTO	**Aktyubinsk**	70.37	333	P	P	09 03 16.6	+1.8
	comp=Z,5.5nm,0.7s,mb4.6,baz=24,slow=5.0,SNR=19						
EKS2	**Erkin-Say**	72.06	319	*e*P	P	09 03 23.3	-1.9
	comp=Z,2.1nm,0.7s,mb4.2						
AML	**Almayashu**	72.54	319	*e*P	P	09 03 26.2	-1.8
AKASG	**Malin Array Be**	75.26	352	P	P	09 03 44.5	+0.7
	comp=Z,1.1nm,0.5s,mb4.1,baz=5.7,slow=5.7,SNR=5.2						
GERES	**GERESS Array B**	77.64	2	P	P	09 03 59.1	+1.8
	comp=Z,0.4nm,0.3s,mb3.9,baz=29,slow=4.5,SNR=3.2						
ANTO	**Ankara**	85.58	347	*e*P	P	09 04 35.7	-3.8
	comp=Z,9.6nm,0.8s,mb5.1						
ANTO	**Ankara**	85.58	347	*e*P	P	09 04 35.7	-3.8
ANTO				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb5.1						

IDC 04 08:52:42.8±5.7, 685S×15537E, h0km, mb3.4/4, mb1 3.5/4, mb1mx3.4/14, mbtmp3.4/4, Error ellipse: s-maj=171.1km s-min=34.7km az=111.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	24.21	235	P	P	08 58 02.4	+1.0
	0.2nm,0.4s,baz=62,slow=9.4,SNR=3.6						
ASAR	**Alice Springs**	26.55	229	P	P	08 58 21.8	-0.8
	0.1nm,0.4s,baz=60,slow=9.9,SNR=3.8						
SONM	**Songino Array**	69.41	327	P	P	09 03 52.1	-0.5
	0.7nm,0.9s,baz=108,slow=4.7,SNR=2.7						
MKAR	**Makanchi Array**	83.54	319	P	P	09 05 13.6	+0.8
	0.5nm,0.5s,baz=96,slow=6.9,SNR=4.6						

*IDC **04** 08:55:24.6±5.0, 665S×15494E, h18km±29km, mb3.9/11, mb1 4.1/11, mb1mx4.0/16, mbtmp3.9/11, MS3.5/1, Ms1 3.5/1, ms1mx3.3/26, Error ellipse: s-maj=37.6km s-min=18.5km az=124.0*

*ISCJB **04** 08:55:25.3±0.8, 67S±02×1549E±02, h33km, mb3.9/11, Error ellipse: s-maj=33.0km s-min=14.4km az=38.6*

ISC 04 08:55:27.1±0.8, 67S±02×1550E±02, h35km, n15, σ0§53/11, mb3.9/11, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	5.66	119	LR	LR	08 58 55.6	
	comp=Z,428nm,18.8s,baz=0.8,slow=37						
WRA	**Warramunga Arr**	23.95	235	P	P	09 00 38.2	-0.1
	2.0nm,0.6s,mb3.7,baz=59,slow=9.8,SNR=16						
WRA				PcP	PcP	09 04 19.9	-0.3
	0.5nm,0.5s,baz=61,slow=2.6,SNR=7.4						
ASAR	**Alice Springs**	26.34	228	P	P	09 00 59.4	-0.6
	1.2nm,0.7s,mb3.5,baz=62,slow=8.9,SNR=17						
ASAR				PcP	PcP	09 04 26.2	+0.7
	0.1nm,0.6s,baz=76,slow=2.9,SNR=2.7						
ASAR				ScP	ScP	09 08 04.6	+1.7
	0.2nm,0.8s,baz=37,slow=2.3,SNR=4.3						
STKA	**Stephens Creek**	28.00	205	P	P	09 01 15.4	+0.7
	2.5nm,0.6s,mb4.0,baz=27,slow=13,SNR=15						
FITZ	**Fitzroy Crossi**	30.74	246	P	P	09 01 39.1	-0.1
	1.0nm,0.6s,mb3.8,baz=82,slow=7.1,SNR=3.1						
SONM	**Songino Array**	69.05	327	P	P	09 06 30.2	+1.0
	0.7nm,0.6s,mb3.7,baz=135,slow=5.3,SNR=4.6						
MKAR	**Makanchi Array**	83.14	319	P	P	09 07 49.8	+0.4
	0.8nm,0.8s,mb3.8,baz=98,slow=5.0,SNR=8.2						
ZALV	**Zalesovo Beam**	83.89	326	P	P	09 07 52.2	-1.0
	0.3nm,0.3s,mb3.9,baz=100,slow=5.1,SNR=2.4						
INK	**Inuvik**	89.45	21	P	P	09 08 19.8	-0.2
	0.4nm,0.6s,mb4.0,baz=241,slow=4.6,SNR=6.2						
NVAR	**Mina Array Bea**	91.57	52	P	P	09 08 30.6	+0.1
	0.6nm,0.8s,mb4.0,baz=242,slow=3.7,SNR=5.8						
YKA	**Yellowknife Ar**	96.08	28	P	P	09 08 50.9	+0.2
	0.9nm,0.8s,mb4.2,baz=266,slow=4.5,SNR=14						
PDAR	**Pinedale Array**	98.53	48	P	P	09 09 01.8	-0.4
	0.4nm,0.9s,mb4.0,baz=243,slow=1.0,SNR=3.5						
PLCA	**Paso Flores**	117.00	143	PKP	PKPdf	09 14 09.0	+0.4
	1.1nm,0.8s,baz=198,slow=3.1,SNR=2.9						
MMAI	**Mount Meron Ar**	118.31	304	PKP	PKPdf	09 14 11.9	+0.6
	1.0nm,0.3s,baz=38,slow=6.2,SNR=4.1						
TORD	**Torodi Ar. Bea**	152.90	286	PKP	PKPdf	09 15 13.7	-0.7
	0.2nm,0.6s,baz=343,slow=3.0,SNR=2.5						
TORD				PKPbc	PKPbc	09 15 21.1	-0.5
	1.4nm,0.8s,baz=52,slow=2.0,SNR=10.0						

IDC 04 09:11:00.9±2.2, 788S×15579E, h0km, mb4.0/9, mb1 4.1/9, mb1mx4.0/14, mbtmp4.0/9, Error ellipse: s-maj=66.6km s-min=21.9km az=119.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	23.99	238	P	P	09 16 17.4	0.0
	1.2nm,0.5s,baz=61,slow=9.6,SNR=16						
ASAR	**Alice Springs**	26.21	231	P	P	09 16 38.1	+0.6
	0.5nm,0.8s,baz=62,slow=9.3,SNR=5.8						
STKA	**Stephens Creek**	27.30	207	P	P	09 16 50.1	+2.9
	0.9nm,0.5s,baz=27,slow=9.7,SNR=5.3						
FITZ	**Fitzroy Crossi**	31.04	248	P	P	09 17 20.3	-0.4
	0.7nm,0.6s,baz=73,slow=17,SNR=3.8						
MJAR	**Matsushiro Arr**	47.16	341	P	P	09 19 34.7	-0.5
	1.3nm,0.5s,baz=165,slow=7.5,SNR=8.0						
KSRS	**Korea Array**	52.08	332	P	P	09 20 12.9	+0.2
	0.6nm,0.4s,baz=150,slow=8.8,SNR=3.6						
SONM	**Songino Array**	70.50	327	P	P	09 22 19.0	+1.6
	0.6nm,0.6s,baz=135,slow=5.3,SNR=4.2						
MKAR	**Makanchi Array**	84.58	319	P	P	09 23 36.2	+0.1
	2.0nm,0.6s,baz=98,slow=6.4,SNR=10						
ZALV	**Zalesovo Beam**	85.35	326	P	P	09 23 38.5	-1.3
	1.5nm,0.6s,baz=112,slow=6.0,SNR=8.0						
YKA	**Yellowknife Ar**	96.74	28	P	P	09 24 33.0	0.0
	0.3nm,0.5s,baz=264,slow=4.5,SNR=8.9						

IDC 04 09:15:02.9±4.3, 753S×15542E, h0km, mb3.4/3, mb1 3.5/3, mb1mx3.4/14, mbtmp3.4/3, Error ellipse: s-maj=129.4km s-min=38.7km az=117.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	23.87	237	P	P	09 20 18.9	+0.5
	0.4nm,0.7s,baz=62,slow=9.6,SNR=4.6						
ASAR	**Alice Springs**	26.15	230	P	P	09 20 38.5	-0.6
	0.9nm,1.1s,baz=63,slow=8.0,SNR=4.3						
MKAR	**Makanchi Array**	84.08	319	P	P	09 27 35.9	+0.2
	0.3nm,0.3s,baz=104,slow=6.1,SNR=2.8						

*IDC **04** 09:16:08.9±0.8, 779S×15563E, h0km, mb4.3/12, mb1 4.4/12, mb1mx4.3/16, mbtmp4.2/12, Error ellipse: s-maj=31.2km s-min=18.7km az=115.0*

*NEIC **04** 09:16:10.1±0.6, 773S×15572E, h10km, mb5.0/2, Error ellipse: s-maj=23.6km s-min=12.3km az=116.0*

*MOS **04** 09:16:12.4±1.8, 753S×15564E, h33km, mb5.0/6, Error ellipse: s-maj=19.5km s-min=11.6km az=88.2*

*ISCJB **04** 09:16:14.8±5.1, 76S±01×1556E±02, h50km±45km, mb4.3/19, Error ellipse: s-maj=30.6km s-min=18.5km az=6.9*

*BJI **04** 09:16:15.1, 676S×15539E, h10km, mb4.7*

ISC 04 09:16:18.6±4.5, 77S±01×1557E±02, h74km±42km, n41, σ1§16/37, mb4.2/19, 6C-1D, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	15.30	216	Pn	Pn	09 19 51.6	+1.2
	0.2nm,0.3s,baz=38,slow=13,SNR=6.3						
WRA	**Warramunga Arr**	23.96	237	P	P	09 21 24.9	-1.3
	1.2nm,0.5s,mb3.5,baz=61,slow=9.2,SNR=11						
ASAR	**Alice Springs**	26.20	230	P	P	09 21 44.1	-2.5
	1.0nm,1.0s,mb3.2,baz=63,slow=10,SNR=6.3						
STKA	**Stephens Creek**	27.37	207	P	P	09 21 57.0	0.0
STKA	**Stephens Creek**	27.37	207	P	P	09 21 57.0	0.0
	1.7nm,0.6s,mb3.7,baz=38,slow=11,SNR=3.1						
MJAR	**Matsushiro Arr**	46.97	341	P	P	09 24 41.8	-0.5
	6.2nm,0.8s,mb4.4,baz=161,slow=7.6,SNR=15						
MAJO	**Matsushiro**	46.97	341	*e*P	P	09 24 41.8	-0.5
	9.7nm,0.8s,mb4.6						
MAJO	**Matsushiro**	46.97	341	*e*P	P	09 24 41.8	-0.5
MAJO				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.6						
MAT	**Matsushiro**	46.97	341	P	P	09 24 41.9	-0.4
KSRS	**Korea Array**	51.88	332	P	P	09 25 20.0	+0.4
	comp=Z,2.6nm,0.8s,mb4.3,baz=144,slow=7.5,SNR=8.8						
NJ2	**Nanjing**	52.88	320	*e*P	P	09 25 28.3	+1.1
NJ2				AMB	AMB		
	comp=Z,30nm,0.5s						
ASAJ	**Asahikawa**	52.92	348	P	P	09 25 28.1	+0.9
	comp=Z,8.2nm,1.0s,mb4.7,baz=222,slow=14,SNR=4.9						
YSS	**Yuzh-Sakhalins**	55.62	349⇑	*e*P	P	09 25 45.4	-1.4
YSS				pmax	pmax		
	comp=Z,10.0nm,1.3s,mb4.7						
KLR	**Kul'dur**	60.45	342	*e*P	P	09 26 16.6	-3.8
PET	**Petropavlovsk**	60.56	2	*e*P	P	09 26 18.7	-2.4
PET				pmax	pmax		
	comp=Z,13nm,1.3s,mb4.8						
ULN	**Ulaanbaatar**	69.96	327⇑	*e*P	P	09 27 23.9	+1.9
SONM	**Songino Array**	70.29	327	P	P	09 27 25.3	+1.2
	comp=Z,1.5nm,0.8s,mb3.9,baz=148,slow=7.7,SNR=8.1						
SEY	**Seymchan**	70.49	358⇑	*e*P	P	09 27 23.4	-1.6
YAK	**Yakutsk**	72.40	347⇑	*e*P	P	09 27 36.1	-0.4
YAK				pmax	pmax		
	comp=Z,27nm,1.2s,mb5.0						
ZAK	**Zakamensk**	73.44	328	*e*P	P	09 27 38.9	-4.0
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.2s,mb3.5						
TLY	**Talaya**	74.01	329	*e*P	P	09 27 47.3	+1.1
BILL	**Bilibino**	75.95	4	*e*P	P	09 27 57.5	+0.5
	comp=Z,17nm,0.9s,mb4.8						
BILL	**Bilibino**	75.95	4	*d i*P	P	09 27 57.5	+0.5
BILL				pmax	pmax		
	comp=Z,15nm,1.0s,mb4.7						
TIXI	**Tiksi**	81.16	352	*e*P	P	09 28 25.4	-0.3
TIXI	**Tiksi**	81.16	352⇑	*e*P	P	09 28 24.3	-1.3
TIXI				pmax	pmax		
	comp=Z,1.0nm,0.8s,mb3.7						
COLA	**College**	83.52	21	*e*P	P	09 28 36.1	-2.0
MK31	**Makanchi Array**	84.37	319	*e*P	P	09 28 43.7	+0.9
MKAR	**Makanchi Array**	84.37	319	*i* P	P	09 28 43.5	+0.7
MKAR				pmax	pmax		
	comp=Z,7.0nm,0.7s						
MKAR	**Makanchi Array**	84.37	319	P	P	09 28 43.6	+0.8
	comp=Z,7.2nm,0.7s,mb4.6,baz=101,slow=6.3,SNR=42						
ZALV	**Zalesovo Beam**	85.14	326	P	P	09 28 46.3	-0.2
	comp=Z,3.6nm,0.7s,mb4.4,baz=109,slow=5.8,SNR=18						
ZAL	**Zalesovo**	85.14	326	P	P	09 28 46.3	-0.2
KURK	**Kurchatov**	87.80	322⇑	*e*P	P	09 29 03.4	+3.8
DLBC	**Dease Lake**	88.43	30	P	P	09 29 03.6	+1.3
	baz=211,slow=5.9						
INK	**Inuvik**	90.16	21	P	P	09 29 10.4	+0.1
	comp=Z,1.3nm,0.8s,mb4.1,baz=238,slow=4.0,SNR=9.7						
NVAR	**Mina Array Bea**	91.66	52	P	P	09 29 19.4	+1.4
	comp=Z,0.2nm,0.7s,mb3.5,baz=236,slow=3.5,SNR=3.8						
YKA	**Yellowknife Ar**	96.67	28	P	P	09 29 40.5	+0.1
YKA	**Yellowknife Ar**	96.67	28	P	P	09 29 40.5	+0.1
	comp=Z,0.9nm,0.7s,mb4.3,baz=267,slow=4.6,SNR=19						
MCWV	**Mont Chateau**	121.21	48	*e*PKPdf	PKPdf	09 35 02.6	-0.9
BDFB	**Brasilia**	147.01	135	PKPbc	PKPbc	09 35 53.7	-0.3
	comp=Z,3.1nm,0.6s,baz=177,slow=2.2,SNR=4.2						
TORD	**Torodi Ar. Bea**	153.83	284	PKP	PKPdf	09 36 03.2	+0.7
TORD				PKPbc	PKPbc	09 36 10.3	-0.2
TORD				PKPab	PKPab	09 36 23.0	-0.8
TORD	**Torodi Ar. Bea**	153.83	284	PKP	PKPdf	09 36 03.2	+0.7
	comp=Z,0.8nm,1.1s,baz=106,slow=3.1,SNR=3.1						
TORD				PKPbc	PKPbc	09 36 10.3	-0.1
	comp=Z,0.8nm,0.8s,baz=38,slow=2.9,SNR=5.0						
TORD				PKPab	PKPab	09 36 23.0	-0.8
	comp=Z,0.9nm,0.9s,baz=131,slow=4.1,SNR=3.6						

IDC 04 09:24:10.0±2.3, 942S×15673E, h0km, mb3.7/5, mb1 3.9/6, mb1mx3.7/15, mbtmp3.8/6, Error ellipse: s-maj=63.6km s-min=27.4km az=114.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	14.65	222	Pn	Pn	09 27 39.7	+1.1
	0.2nm,0.3s,baz=45,slow=19,SNR=2.6						
DZM	**Mont Dzumac**	15.66	145	Pn	Pn	09 27 54.6	+2.5
	0.6nm,0.3s,baz=111,slow=9.8,SNR=5.5						
WRA	**Warramunga Arr**	24.02	242	P	P	09 29 26.7	-0.1
	0.7nm,0.4s,baz=70,slow=9.8,SNR=8.5						
ASAR	**Alice Springs**	26.00	234	P	P	09 29 44.9	+0.1
	1.6nm,0.9s,baz=60,slow=9.9,SNR=11						
STKA	**Stephens Creek**	26.39	210	P	P	09 29 48.0	-0.1
	0.6nm,0.4s,baz=52,slow=16,SNR=4.8						
SONM	**Songino Array**	72.29	327	P	P	09 35 38.3	+1.0
	0.3nm,0.5s,baz=132,slow=6.0,SNR=2.8						
MKAR	**Makanchi Array**	86.35	318	P	P	09 36 53.3	-0.7
	0.4nm,0.6s,baz=101,slow=4.1,SNR=3.3						

*ISCJB **04** 09:24:36.9±1.5, 3228N±008×1410E±01, h61km±14km, mb3.6/4, Error ellipse: s-maj=17.3km s-min=12.6km az=176.8*

*JMA **04** 09:24:37.1±0.3, 3230N×14101E, h50km, M3.6*

*IDC **04** 09:24:37.5±3.4, 3208N×14075E, h59km±32km, mb3.4/4, mb1 3.6/5, mb1mx3.3/21, mbtmp3.4/5, ML3.5/1, Error ellipse: s-maj=39.8km s-min=22.0km az=90.0*

ISC 04 09:24:37.6±1.5, 3222N±008×1410E±01, h55km±15km, n17, σ1§31/27, mb3.6/4, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	1.31	313	P	**Pn**	09 24 59.4	-0.2
JHJ2				S	**Sn**	09 25 15.1	-1.0
JHJ	**Hachijo jima 2**	1.34	312	P	**Pn**	09 24 59.5	-0.5
	73nm,0.3s,baz=3.8,slow=15,SNR=58						
JHJ				S	**Sn**	09 25 15.8	-0.9
	150nm,0.3s,baz=68,slow=23,SNR=17						
BSO3	**Boso 3**	2.60	352	P	**Pn**	09 25 17.1	-0.1
BSO3				S	**Sn**	09 25 47.3	-0.3
BSO4	**Boso 4**	2.81	350	*e*S	**Sn**	09 25 51.0	-1.7
JOD2	**Odawara 2**	3.41	333	P	**Pn**	09 25 28.5	+0.2
JOD2				S	**Sn**	09 26 06.8	-0.7
JYN	**Shimob**	3.84	329	P	**Pn**	09 25 35.9	+1.8
JRY	**Ryogami san**	4.16	336	P	**Pn**	09 25 40.4	+2.0
JRY				*e*S	**Sn**	09 26 24.2	-1.5
JAG	**Ashikaga**	4.38	344	P	**Pn**	09 25 42.5	+1.0
MJAR	**Matsushiro Arr**	4.88	333	P	**Pn**	09 25 50.2	+1.9
	1.9nm,0.3s,baz=160,slow=13,SNR=18						
MJAR				S	**Sn**	09 26 45.2	+1.8
	1.0nm,0.3s,baz=300,slow=23,SNR=6.9						
MAT	**Matsushiro**	4.88	333	P	**Pn**	09 25 50.8	+2.5
MAT				S	**Sn**	09 26 46.6	+3.2
MAT	**Matsushiro**	4.88	333	P	**Pn**	09 25 51.1	+2.8
MAT				*e*S	**Sn**	09 26 46.0	+2.6
JMM	**Marumori**	5.63	359	P	**Pn**	09 25 57.4	-1.3
JMM				S	**Sn**	09 26 57.3	-4.8
JMK	**Ichinoseki**	6.72	2	P	**Pn**	09 26 11.9	-1.7
JMK				S	**Sn**	09 27 22.2	-6.5
MKAR	**Makanchi Array**	46.50	306	P	**P**	09 32 58.8	-0.5
	0.4nm,0.4s,mb3.7,baz=88,slow=11,SNR=3.3						
WRA	**Warramunga Arr**	52.25	188	P	**P**	09 33 41.5	-1.7
	0.2nm,0.7s,mb3.1,baz=3.4,slow=7.5,SNR=3.7						
INK	**Inuvik**	58.86	26	P	**P**	09 34 30.6	+0.5
	0.7nm,0.4s,mb4.0,baz=288,slow=5.0,SNR=14						
TXAR	**Lajitas Array**	93.36	52	P	**P**	09 37 47.3	+0.4
	0.2nm,0.6s,mb3.7,baz=326,slow=4.7,SNR=4.5						

WEL 04 09:27:04.6±0.3, 4549S×16681E, h12km, ML3.6/8, 3D, Error ellipse: s-maj=2.3km s-min=1.4km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	0.24	88	⇓P*	Pg	09 27 09.8	0.0
DCZ				S*	Sg	09 27 14.0	+0.9
WHZ	**Wether Hill Ro**	0.90	117	⇓P*	Pb	09 27 20.8	-1.2
WHZ				S*	Sb	09 27 33.6	-0.4
MLZ	**Mavora Lakes**	0.97	82	⇓P*	Pb	09 27 20.9	-2.4
MLZ				S*	Sb	09 27 34.1	-2.0
MSZ	**Milford Sound**	1.14	45	P*	Pb	09 27 22.0	-4.2
MSZ				S*	Sb	09 27 40.8	-0.1
APZ	**The Paps**	1.58	149	PN	Pn	09 27 32.1	-0.3
WKZ	**Wanaka**	1.70	68	PN	Pn	09 27 33.6	-0.4
EAZ	**Earnscleugh**	1.78	83	PN	Pn	09 27 34.7	-0.5
SYZ	**Scrubby Hill**	1.94	124	PN	Pn	09 27 36.8	-0.4
JCZ	**Jackson Bay**	1.98	45	PN	Pn	09 27 37.4	-0.5
TUZ	**Tuapeka**	2.03	104	PN	Pn	09 27 38.7	+0.1
LBZ	**Lake Benmore**	2.64	67	PN	Pn	09 27 47.0	+0.1
HHSZ	**Highcliff Hill**	2.69	100	PN	Pn	09 27 49.1	+1.5
ODZ	**Otahua Downs**	2.75	82	PN	Pn	09 27 46.7	-1.8
RPZ	**Rata Peaks**	3.51	61	PN	Pn	09

MKAR Makanchi Array 83.35 319 P P 09 48 05.7 -0.1
0.4nm,0.7s,baz=95,slow=5.1,SNR=4.9
YKA Yellowknife Ar 96.09 28 P P 09 49 06.7 +0.8
0.3nm,0.6s,baz=267,slow=4.7,SNR=7.7
TORD Torodi Ar. Bea 153.12 286 PKP PKPdf 09 55 30.1 0.0
0.2nm,0.8s,baz=34,slow=1.5,SNR=2.5
TORD PKPbc PKPbc 09 55 36.6 -0.8
0.3nm,0.5s,baz=40,slow=1.7,SNR=9.4
DBIC Dimbokro 160.14 271 PKPab PKPab 09 56 17.4 -1.8
5.3nm,1.0s,baz=143,slow=5.1,SNR=3.6

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*ISCJB **04** 09:35:56.6±1.4, 682S±004×15495E±004, h12km±8km, mb5.0/76, MS4.9/30, Error ellipse: s-maj=6.4km s-min=5.8km az=149.2*
*GCMT **04** 09:35:57.7±0.2, 7.12S×154.94E, h28km, MW5.6/98, Moment Tensor Solution. s84,c134; s98,c167; Duration: 1s5 Moment tensor: Scale 10^17Nm; Mrr2.26±.06; Mθθ-1.50±.04; Mφφ-0.76±.04; Mrθ1.35±.07; Mrφ1.23±.03; Mθr-1.13±.08; Best double couple: M0=2.92600×10^17 NP1:φs304.00000°, δ27.00000°, λ86.00000°. NP2:φs129.00000°, δ64.00000°, λ92.00000°. Principal axes: T 2.8500, Plg71.0000°, Azm43.0000°; N 0.1510, Plg2.0000°, Azm308.0000°; P -3.0020, Plg18.0000°, Azm217.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*BJI **04** 09:35:57.1, 644S×155.20E, h9km, mB5.2, mb4.9, Ms5.0, Msz4.9*
*NEIC **04** 09:35:57.7±0.2, 682S×155.00E, h10km, mb5.1/38, Error ellipse: s-maj=6.3km s-min=4.2km az=109.0*
*MOS **04** 09:36:00.3±1.1, 669S×154.81E, h33km, mb5.2/21, Error ellipse: s-maj=10.7km s-min=7.3km az=94.7*
*IDC **04** 09:36:02.7±2.8, 691S×154.88E, h47km±26km, mb4.5/17, mb1 4.6/20, mb1mx4.6/21, mbtmp4.5/20, ML4.4/3, MS4.9/18, Ms1 4.9/18, ms1mx4.8/23, Error ellipse: s-maj=17.4km s-min=13.5km az=79.0*
ISC 04 09:35:57.2±1.5, 681S±003×15499E±004, h6km±9km, h13km±1.7km; pP-P, n187, σ1°01/169, mb5.0/76, MS4.9/30, 6C-5D, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.56**	**118**	eP	n		**Pn**	**09 37 28.5**	**+8.0**
	1μm,1.1s								
HNR				e	S	n	Sb	09 38 41.5	-0.2
HNR	**Honiara**	**5.56**	**118**	eP			**Pn**	**09 37 28.5**	**+8.0**
HNR				e				09 38 41.6	
HNR					pmax		pmax		
	comp=Z,1μm,1.1s								
HNR	**Honiara**	**5.56**	**118**	P			**Pn**	**09 37 23.9**	**+3.4**
	comp=Z,12nm,0.3s,baz=263,slow=8.1,SNR=2.9								
HNR					S		Sn	09 38 34.6	+10
	comp=Z,44nm,0.3s,baz=280,slow=23,SNR=4.3								
CTA	**Charters Tower**	**15.68**	**212**	eP			**Pn**	**09 39 39.8**	**+0.9**
	comp=Z,32nm,0.8s								
CTA				e	S		Sn	09 42 53.6	+20
CTA	**Charters Tower**	**15.68**	**212**	eP			**Pn**	**09 39 39.8**	**+0.9**
CTA					pmax		pmax		
	comp=Z,32nm,0.8s								
CTA	**Charters Tower**	**15.68**	**212**	P			**Pn**	**09 39 39.6**	**+0.7**
	comp=Z,0.8nm,0.3s,baz=32,slow=12,SNR=9.1								
CTAO	**Charters Tower**	**15.68**	**212**	eP			**Pn**	**09 39 39.5**	**+0.6**
	comp=Z,442nm,1.9s								
CTAO	**Charters Tower**	**15.68**	**212**	eP			**Pn**	**09 39 39.6**	**+0.7**
CTAO					pmax		pmax		
	comp=Z,442nm,1.9s								
DZM	**Mont Dzumac**	**18.77**	**145**	P			**Pn**	**09 40 18.3**	**+0.6**
	comp=Z,1.3nm,0.3s,baz=320,slow=12,SNR=10								
EIDS	**Eidsvold**	**18.83**	**191**	eP			**Pn**	**09 40 18.7**	**+0.4**
	comp=Z,27nm,1.1s								
KAKA	**Kakadu**	**22.97**	**253**	eP			**P**	**09 41 02.0**	**-0.7**
	comp=Z,120nm,1.0s,mb5.3								
ARMA	**Armidale**	**23.69**	**187**	eP			**P**	**09 41 10.4**	**+0.4**
ARMA				eS			**S**	**09 45 25.8**	**+0.6**
WRAB	**Tennant Creek**	**23.90**	**235**	P			**P**	**09 41 11.2**	**-0.8**
	comp=Z,379nm,1.4s,mb5.6,SNR=14								
WB2	**Warramunga Arr**	**23.90**	**235**	⇓iP			**P**	**09 41 11.7**	**-0.3**
WB2				eS			**S**	**09 45 20.5**	**-8.4**
WRA	**Warramunga Arr**	**23.91**	**235**	P			**P**	**09 41 11.5**	**-0.6**
	comp=Z,16nm,0.6s,mb4.6,baz=58,slow=9.6,SNR=48								
WRA					PcP		PcP	09 44 54.9	-0.1
	comp=Z,3.7nm,0.5s,baz=60,slow=2.4,SNR=7.4								
ASAR	**Alice Springs**	**26.29**	**228**	P			**P**	**09 41 33.0**	**-0.7**
	comp=Z,14nm,0.8s,mb4.6,baz=60,slow=8.7,SNR=61								
RIV	**Riverview**	**27.12**	**187**	eP			**P**	**09 41 40.9**	**-0.2**
STKA	**Stephens Creek**	**27.90**	**205**	eP			**P**	**09 41 45.6**	**-2.5**
	comp=Z,26nm,0.8s,mb4.9								
STKA				eS			**S**	**09 46 34.5**	**+2.4**
STKA	**Stephens Creek**	**27.90**	**205**	eP			**P**	**09 41 47.2**	**-0.9**
	comp=Z,42nm,0.9s,mb5.1								
STKA				eS			**S**	**09 46 34.5**	**+2.4**
STKA	**Stephens Creek**	**27.90**	**205**	P			**P**	**09 41 45.9**	**-2.2**
	comp=Z,6.7nm,0.7s,mb4.4,baz=15,slow=10,SNR=10								
STKA					LR		LR	09 53 02.2	
	comp=Z,6μm,19.1s,MS5.2,baz=21,slow=37								
CNB	**Canberra Magne**	**28.83**	**190**	eP			**P**	**09 41 56.6**	**+0.2**
	comp=Z,42nm,1.6s,mb4.9								
FITZ	**Fitzroy Crossi**	**30.72**	**246**	⇓iP			**P**	**09 42 12.7**	**-0.6**
	comp=Z,15nm,0.5s,mb5.1								
FITZ				eS			**S**	**09 47 12.7**	**-4.2**
FITZ	**Fitzroy Crossi**	**30.72**	**246**	P			**P**	**09 42 11.1**	**-2.2**
	comp=Z,6.8nm,0.7s,mb4.6,baz=114,slow=8.0,SNR=11								
FITZ					LR		LR	09 55 11.6	
	comp=Z,3μm,18.1s,MS5.0,baz=80,slow=38								
RAO	**Raoul Island**	**33.92**	**134**	LR			LR	09 53 36.3	
	comp=Z,2μm,19.8s,MS4.7,baz=193,slow=31								
FORT	**Forrest**	**34.72**	**223**	eP			**P**	**09 42 47.3**	**-0.9**
	comp=Z,28nm,0.8s,mb5.2								
TAU	**Tasmania Unive**	**36.58**	**189**	eP			**P**	**09 43 05.5**	**+1.5**
MBWA	**Marble Bar**	**36.95**	**244**	eP			**P**	**09 43 06.5**	**-0.9**
	comp=Z,33nm,1.1s,mb5.1								
URZ	**Urewera**	**37.17**	**151**	P			**P**	**09 43 08.5**	**-0.6**
URZ					LR		LR	09 57 27.2	
URZ	**Urewera**	**37.17**	**151**	P			**P**	**09 43 08.5**	**-0.6**
	comp=Z,5.8nm,0.9s,mb4.4,baz=214,slow=7.3,SNR=2.2								
URZ					LR		LR	09 57 27.3	
	comp=Z,996nm,18.0s,MS4.7,baz=38,slow=35								
RPZ	**Rata Peaks**	**39.37**	**162**	P			**P**	**09 43 26.9**	**-0.7**
	comp=Z,9.4nm,0.8s,mb4.6,baz=263,slow=6.4,SNR=4.2								
RPZ					LR		LR	09 58 09.5	
	comp=Z,2μm,18.4s,MS5.1,baz=326,slow=34								
KLBR	**Kellerberrin**	**42.60**	**230**	eP			**P**	**09 43 53.4**	**-1.0**
	comp=Z,95nm,1.7s,mb5.2								
MUN	**Mundaring**	**43.95**	**230**	eP			**P**	**09 44 01.3**	**-4.0**
MUN				eS			**S**	**09 50 38.8**	**+1.3**
JNU	**Nakatsue**	**45.85**	**331**	P			**P**	**09 44 21.0**	**+0.7**
	comp=Z,7.4nm,0.8s,mb4.7,baz=92,slow=11,SNR=2.8								
JNU					LR		LR	10 02 08.4	
	comp=Z,500nm,19.3s,MS4.5,baz=137,slow=34								
MJAR	**Matsushiro Arr**	**45.91**	**341**	P			**P**	**09 44 22.5**	**+1.8**
	comp=Z,2.6nm,0.6s,mb4.3,baz=171,slow=8.2,SNR=7.7								
MJAR					LR		LR	10 00 38.9	
	comp=Z,592nm,21.8s,MS4.5,baz=190,slow=32								
MAT	**Matsushiro**	**45.91**	**341**	P			**P**	**09 44 23.0**	**+2.3**
MAT					S		S	09 51 26.0	+20
KSRS	**Korea Array**	**50.77**	**332**	P			**P**	**09 44 57.7**	**-0.6**
	comp=Z,3.6nm,0.8s,mb4.3,baz=148,slow=8.1,SNR=10								
QIZ	**Qiongzhong**	**51.36**	**301**	P			**P**	**09 45 01.9**	**-1.1**
QIZ					PP		PP	09 47 03.3	+3.1
QIZ					S		**S**	**09 52 22.3**	**-0.9**
QIZ					AMB		AMB		
	comp=Z,37nm,1.9s,mb5.0								
QIZ					AMB		AMB		
	comp=Z,524nm,3.1s								
QIZ					LR		LR		
	comp=E,1μm,19.6s								
QIZ					LR		LR		
	comp=Z,2μm,21.1s,MS5.0								
NJ2	**Nanjing**	**51.77**	**320**	eP			**P**	**09 45 07.6**	**+1.7**
NJ2					AMB		AMB		
	comp=Z,30nm,0.7s,mb5.3								
ASAJ	**Asahikawa**	**51.91**	**349**	LR			LR	10 06 14.5	
	comp=Z,959nm,19.0s,MS4.8,baz=291,slow=35								
YSS	**Yuzh-Sakhalins**	**54.62**	**350**	eP			**P**	**09 45 26.4**	**-0.2**
	comp=Z,13nm,0.9s,mb5.0								
YSS	**Yuzh-Sakhalins**	**54.62**	**350**	⇑eP			**P**	**09 45 25.0**	**-1.6**
YSS					pmax		pmax		
	comp=Z,3.0nm,0.8s,mb4.4								
PPT	**Papeete**	**55.06**	**107**	eS			**S**	**09 53 09.6**	**-4.1**
	comp=Z,1μm,25.5s								
PPT				eLQ				09 59 12.8	
	comp=Z,3μm,28.2s								
PPT				eLR			LR	10 01 31.1	
	comp=Z,811nm,21.5s,baz=272								
PPT	**Papeete**	**55.06**	**107**	LR			LR	10 04 45.8	
	comp=Z,893nm,19.5s,MS4.8,baz=87,slow=31								
KULM	**Kulim**	**55.55**	**281**	eP			**P**	**09 45 33.5**	**-0.4**
TBI	**Tubuai**	**55.76**	**114**	eS			**S**	**09 53 19.5**	**-3.4**
	comp=Z,601nm,30.5s								
TBI				eLQ				09 59 29.6	
	comp=Z,4μm,30.5s								
TBI				eLR			LR	10 01 50.4	
	comp=Z,2μm,31.8s								
MDJ	**Mudanjiang**	**56.07**	**338**	P			**P**	**09 45 37.7**	**+0.6**
MDJ					AP		pP	09 45 41.0	+2.1
MDJ					XP		sP	09 45 42.1	+2.5
MDJ					PP		PP	09 47 42.7	+0.5
MDJ					SCP		ScP	09 50 34.7	-0.5
MDJ					PCS		PcS	09 50 35.9	+0.4
MDJ					S		**S**	**09 53 26.7**	**+0.5**
MDJ					SCS		ScS	09 55 26.5	-0.5
MDJ					AMB		AMB		
	comp=Z,6.0nm,0.9s,mb4.6								
MDJ					LR		LR		
	comp=N,457nm,24.9s								
MDJ					LR		LR		
	comp=E,583nm,40.5s								
MDJ					LR		LR		
	comp=Z,370nm,25.4s,MS4.4								
CN2	**Changchun**	**57.02**	**335**	eP			**P**	**09 45 45.5**	**+1.6**
CN2				eXP			sP	09 45 52.5	+6.0
CN2				eS			**S**	**09 53 37.6**	**-1.3**
CN2					AMB		AMB		
	comp=Z,10.0nm,0.6s,mb5.0								
CN2					AMB		AMB		
	comp=Z,200nm,4.0s								
CN2					LR		LR		
	comp=N,400nm,17.0s,MS4.8								
CN2					LR		LR		
	comp=E,500nm,17.0s,MS4.8								
GYA	**Guiyang**	**57.34**	**307**	⇑iP			**P**	**09 45 47.6**	**+1.1**
GYA					AP		pP	09 45 50.8	+2.5
GYA					XP		sP	09 45 54.4	+5.4
GYA					PCP		PcP	09 46 42.5	+1.9
GYA					PP		PP	09 47 57.7	+3.8
GYA					AMB		AMB		
	comp=Z,30nm,0.9s,mb5.3								
GYA					AMB		AMB		
	comp=Z,320nm,7.5s								
GYA					LR		LR		
	comp=N,790nm,21.2s,MS4.9								
GYA					LR		LR		
	comp=E,670nm,22.6s,MS4.9								
GYA					LR		LR		
	comp=Z,520nm,21.8s,MS4.6								
BJI	**Beijing**	**58.76**	**326**	P			**P**	**09 45 56.3**	**+0.1**
BJI					S		**S**	**09 54 02.1**	**+0.2**
BJI					SS		SS	09 57 56.5	+1.2
BJI					AMB		AMB		
	comp=Z,9.0nm,0.5s,mb5.1								
BJI					AMB		AMB		
	comp=Z,440nm,7.5s								
BJI					LR		LR		
	comp=N,561nm,18.2s,MS4.9								
BJI					LR		LR		
	comp=E,615nm,18.7s,MS4.9								
BJI					LR		LR		
	comp=Z,656nm,19.1s,MS4.8								
BJI	**Beijing**	**58.76**	**326**	P			**P**	**09 45 56.3**	**+0.1**
	comp=Z,9.0nm,0.5s,mb5.1								
BJI					S		**S**	**09 54 02.1**	**+0.2**
BJI					SS		SS	09 57 56.5	+1.2
BJI					LR		LR		
	comp=Z,660nm,19.1s,MS4.8								
KLR	**Kul'dur**	**59.39**	**343**	eP			**P**	**09 45 56.0**	**-4.4**
XAN	**Xi'an**	**59.57**	**316**	P			**P**	**09 46 02.4**	**+0.5**
XAN					AP		pP	09 46 08.0	+4.2
XAN					AMB		AMB		
	comp=Z,9.0nm,0.8s,mb4.8								
XAN					LR		LR		
	comp=N,488nm,20.4s,MS4.8								
XAN					LR		LR		
	comp=E,485nm,21.2s,MS4.8								
XAN					LR		LR		
	comp=Z,892nm,19.3s,MS4.9								
PET	**Petropavlovsk**	**59.69**	**3**	eP			**P**	**09 46 02.4**	**+0.1**
PET					pmax		pmax		
	comp=Z,7.0nm,0.8s,mb4.7								
KMI	**Kunming**	**59.91**	**304**	P			**P**	**09 46 06.0**	**+1.6**
KMI					AP		pP	09 46 10.0	+3.7
KMI					XP		sP	09 46 12.3	+5.3
KMI					PP		PP	09 48 21.6	+4.9
KMI					AMB		AMB		
	comp=Z,36nm,1.0s,mb5.4								
KMI					AMB		AMB		
	comp=Z,182nm,3.5s								
KMI					LR		LR		
	comp=N,602nm,15.7s,MS4.9								
KMI					LR		LR		
	comp=E,526nm,20.5s,MS4.9								
KMI					LR		LR		
	comp=Z,754nm,22.3s,MS4.8								
KMI	**Kunming**	**59.91**	**304**	P			**P**	**09 46 06.0**	**+1.6**
	comp=Z,36nm,1.0s,mb5.4								
KMI					pP		pP	09 46 10.0	+3.7
KMI					sP		sP	09 46 12.3	+5.3
KMI					PP		PP	09 48 21.6	+4.9
KMI					PPP			09 49 47.5	
KMI					S		**S**	**09 54 18.9**	**+1.7**
KMI					SS		SS	09 58 15.8	+2.0
KMI					LR		LR		
	comp=Z,750nm,22.3s,MS4.8								
KMI	**Kunming**	**59.91**	**304**	P			**P**	**09 46 06.0**	**+1.6**
KMI					*SP		sP	09 46 12.3	+5.3
KMI								09 48 21.6	
KMI					PPP			09 49 47.5	
KMI					S		**S**	**09 54 18.9**	**+1.7**
KMI					pmax		pmax		
	comp=Z,36nm,1.0s,mb5.4								
KMI					MLR		MLR		
	comp=Z,750nm,22.3s,MS4.8								
CM31	**Chiang Mai Arr**	**60.70**	**295**	eP			**P**	**09 46 12.1**	**+2.1**
	comp=Z,32nm,0.8s,mb5.5								
CHTO	**Chiang Mai**	**60.81**	**296**	eP			**P**	**09 46 11.5**	**+0.8**
	comp=Z,13nm,0.7s,mb5.2								
CHTO	**Chiang Mai**	**60.81**	**296**	eP			**P**	**09 46 11.5**	**+0.8**
CHTO					pmax		pmax		
	comp=Z,13nm,0.7s,mb5.2								
CD2	**Chengdu**	**61.69**	**310**	eP			**P**	**09 46 18.3**	**+1.8**
CD2					AP		pP	09 46 22.9	+4.6
CD2					XP		sP	09 46 25.9	+6.9
CD2					PP		PP	09 48 36.6	+4.2
CD2					AMB		AMB		
	comp=Z,70nm,0.5s,mb6.0								
CD2					AMB		AMB		
	comp=Z,140nm,5.8s								
CD2					LR		LR		
	comp=N,740nm,20.4s,MS5.1								
CD2					LR		LR		
	comp=E,1μm,18.0s,MS5.1								
CD2					LR		LR		
	comp=Z,1μm,18.0s,MS5.2								
HHC	**Hu-ho-hao-te**	**61.94**	**324**	eP			**P**	**09 46 20.1**	**+2.1**
HHC					AP		pP	09 46 25.0	+5.2
HHC					XP		sP	09 46 27.5	+7.0
HHC					PP		PP	09 48 39.0	+4.6
HHC					PCS		PcS	09 51 03.6	+1.9
HHC					S		**S**	**09 54 39.9**	**-2.7**
HHC					XS		sS	09 54 51.7	+6.0
HHC					SCS		ScS	09 56 09.1	-1.5
HHC					SS		SS	09 58 44.4	-0.8
HHC					AMB		AMB		
	comp=Z,14nm,0.4s,mb5.4								
HHC					AMB		AMB		
	comp=Z,323nm,8.8s								
HHC					LR		LR		
	comp=N,408nm,19.6s,MS4.8								
HHC					LR		LR		
	comp=E,457nm,20.1s,MS4.8								
HHC					LR		LR		
	comp=Z,604nm,20.8s,MS4.7								
HIA	**Hailar**	**63.75**	**335**	eP			**P**	**09 46 29.6**	**-0.2**
	comp=Z,8.5nm,0.6s,mb5.0								
HIA	**Hailar**	**63.75**	**335**	eP			**P**	**09 46 29.6**	**-0.2**
HIA					pmax		pmax		
	comp=Z,8.0nm,0.6s								
LZH	**Lanzhou**	**64.18**	**316**	eP			**P**	**09 46 34.0**	**+1.1**
LZH					AP		pP	09 46 38.5	+3.7
LZH					XP		sP	09 46 41.2	+5.7
LZH					AMB		AMB		
	comp=Z,19nm,1.3s,mb5.0								
LZH					AMB		AMB		
	comp=Z,89nm,4.4s								
LZH	**Lanzhou**	**64.18**	**316**	eP			**P**	**09 46 34.0**	**+1.1**
	comp=Z,19nm,1.3s,mb5.0								
LZH					pP		pP	09 46 38.5	+3.7
LZH					sP		sP	09 46 41.2	+5.7
TAOE	**Nuku Hiva Isla**	**64.22**	**97**	eS			**S**	**09 55 06.3**	**-5.9**
	comp=Z,9μm,25.3s								
TAOE				eSS			SS	09 59 15.6	-6.2
	comp=Z,9μm,34.3s								
TAOE				eLQ				10 03 00.6	
	comp=Z,20μm,32.1s								
TAOE				eLR			LR	10 05 40.7	
	comp=Z,31μm,21.9s,baz=271								
MA2	**Magadan**	**66.26**	**358**	eP			**P**	**09 46 45.3**	**-0.6**
	comp=Z,16nm,0.6s,mb5.2								
MA2	**Magadan**	**66.26**	**358**	eP			**P**	**09 46 45.3**	**-0.6**
MA2					pmax		pmax		
	comp=Z,16nm,0.6s,mb5.2								
CLNS	**Chul'man**	**68.05**	**343**	eP			**P**	**09 46 56.5**	**-0.9**
CLNS					pmax		pmax		
	comp=Z,11nm,0.9s,mb4.9								
CLNS					pmax		pmax		
	comp=N,9.0nm,0.8s								
CIT	**Chita**	**68.44**	**334**	eP			**P**	**09 46 59.6**	**-0.3**
CIT				e				09 51 17.2	
CIT				e				09 56 59.0	
UNV	**Unalaska Valle**	**68.56**	**23**	eP			**P**	**09 46 59.4**	**-1.2**
	comp=N,27nm,0.8s,mb5.2								
GTA	**Gaotai**	**68.60**	**317**	eP			**P**	**09 47 02.1**	**+0.9**
GTA					AP		pP	09 47 05.8	+2.7
GTA					XP		sP	09 47 08.4	+4.6
GTA					PP		PP	09 49 37.4	+4.6
GTA					AMB		AMB		
	comp=Z,3.0nm,0.9s,mb4.2								
GTA					AMB		AMB		
	comp=Z,210nm,7.7s								
GTA					LR		LR		
	comp=N,392nm,18.0s,MS4.8								
GTA					LR		LR		
	comp=E,364nm,19.5s,MS4.8								
GTA					LR		LR		
	comp=Z,462nm,18.0s,MS4.8								
ULN	**Ulaanbaatar**	**68.84**	**328**	eP			**P**	**09 47 01.6**	**-0.9**
	comp=Z,17nm,1.2s,mb4.8								
ULN	**Ulaanbaatar**	**68.84**	**328**	eP			**P**	**09 47 00.8**	**-1.7**
RKT	**Rikitea**	**69.02**	**112**	eLR			LR	10 08 00.7	
	comp=Z,2μm,23.5s,baz=283								
SONM	**Songino Array**	**69.18**	**327**	P			**P**	**09 47 04.9**	**+0.3**
	comp=Z,6.4nm,0.7s,mb4.6,baz=140,slow=6.7,SNR=25								
SONM					LR		LR	10 19 19.4	
	comp=Z,716nm,18.5s,MS4.9,baz=108,slow=38								
SEY	**Seymchan**	**69.57**	**359**	eP			**P**	**09 47 05.2**	**-1.5**
VNDA	**Vanda**	**70.76**	**178**	eP			**P**	**09 47 14.3**	**+0.4**
	comp=Z,22nm,1.5s,mb4.9								
VNDA	**Vanda**	**70.76**	**178**	eP			**P**	**09 47 14.3**	**+0.4**
VNDA					pmax		pmax		
	comp=Z,22nm,1.5s								
VNDA	**Vanda**	**70.76**	**178**	P			**P**	**09 47 13.8**	**-0.2**
	comp=Z,1.9nm,0.6s,mb4.2,baz=327,slow=6.7,SNR=10.0								
VNDA					LR		LR	10 15 55.8	
	comp=Z,689nm,18.6s,MS4.9,baz=2.6,slow=34								
LSA	**Lhasa**	**71.16**	**304**	eP			**P**	**09 47 18.4**	**+1.2**
	comp=Z,22nm,0.7s,mb5.2								
LSA	**Lhasa**	**71.16**	**304**	eP			**P**	**09 47 18.4**	**+1.2**
LSA					pmax		pmax		
	comp=Z,22nm,0.7s,mb5.2								
SBA	**Scott Base**	**71.27**	**177**	eP			**P**	**09 47 18.8**	**+1.7**
	comp=Z,32nm,1.5s,mb5.0								
SBA	**Scott Base**	**71.27**	**177**	eP			**P**	**09 47 18.8**	**+1.8**
SBA					pmax		pmax		
	comp=Z,32nm,1.5s,mb5.0								
YAK	**Yakutsk**	**71.38**	**348**	⇑eP			**P**	**09 47 16.6**	**-1.2**
YAK					pmax		pmax		
	comp=Z,18nm,1.3s,mb4.8								
ZAK	**Zakamensk**	**72.33**	**328**	eP			**P**	**09 47 23.5**	**-0.3**
ZAK					pmax		pmax		
	comp=Z,6.0nm,1.2s,mb4.4								
BOD	**Bodaibo**	**72.44**	**338**	eP			**P**	**09 47 22.6**	**-1.7**
BOD					pmax		pmax		
	comp=Z,5.0nm,1.5s,mb4.2								
TLY	**Talaya**	**72.90**	**329**	eP			**P**	**09 47 27.1**	**0.0**
	comp=Z,6.6nm,1.0s,mb4.5								
TLY	**Talaya**	**72.90**	**329**	eP			**P**	**09 47 27.6**	**+0.5**
TLY				eSS			SS	10 01 31.6	-2.9
TLY				e				10 04 39.8	
TLY					pmax		pmax		
	comp=Z,6.0nm,1.0s,mb4.5								
TLY					MLR		MLR		
	comp=Z,415nm,18.0s,MS4.8								
IRK	**Irkutsk**	**72.92**	**330**	eP			**P**	**09 47 27.8**	**+0.6**
IRK					pmax		pmax		
	comp=Z,18nm,0.7s,mb5.1								
BOK	**Bokaro**	**73.91**	**297**	eP			**P**	**09 47 33.8**	**+0.1**
BOK					AMb		AMB	09 47 43.8	
	comp=Z,37nm,1.4s,mb5.1								
MOY	**Mondy**	**74.25**	**328**	eP			**P**	**09 47 35.4**	**+0.3**
VIS	**Vishakhapatnam**	**74.80**	**290**	eP			**P**	**09 47 39.5**	**+0.6**
VIS					AMb		AMB	09 47 42.4	
	comp=Z,26nm,0.9s,mb5.2								
BILL	**Bilibino**	**75.10**	**4**	eP			**P**	**09 47 39.6**	**0.0**
	comp=Z,16nm,0.8s,mb5.0								
BILL	**Bilibino**	**75.10**	**4**	eP			**P**	**09 47 39.6**	**-0.1**
BILL					pmax		pmax		
	comp=Z,22nm,1.0s,mb5.0								
SVW2	**Sparrevohn**	**77.83**	**22**	eP			**P**	**09 47 57.0**	**+1.7**
WMQ	**Urumqi**	**78.69**	**317**	eP			**P**	**09 48 03.4**	**+3.0**
WMQ					XP		sP	09 48 08.0	+5.0
WMQ				eS			S	09 58 03.0	+4.8
WMQ					AMB		AMB		
	comp=Z,7.0nm,0.7s,mb4.7								
WMQ					AMB		AMB		
	comp=Z,151nm,5.8s								
WMQ					LR		LR		
	comp=N,412nm,22.4s,MS4.8								
WMQ					LR		LR		
	comp=E,308nm,21.6s,MS4.8								
WMQ					LR		LR		
	comp=Z,371nm,23.0s,MS4.7								
TTA	**Tatalina**	**78.86**	**21**	eP			**P**	**09 48 01.5**	**+0.6**
KOD	**Kodaikanal**	**79.02**	**282**	ex			x

SMLA AMb AMB 09 48 26.6
comp=Z,38nm,1.1s,mb5.3
QSPA South Pole Qui 83.16 180 *eP* **P 09 48 24.0 +0.3**
comp=Z,22nm,0.6s,mb5.4
MK31 Makanchi Array 83.26 319 *eP* **P 09 48 24.6 -0.2**
MKAR Makanchi Array 83.26 319 P **P 09 48 24.4 -0.3**
comp=Z,8.1nm,0.7s,mb4.8,baz=101,slow=5.6,SNR=54
MKAR LR LR 10 26 39.5
comp=Z,469nm,19.3s,MS4.9,baz=113,slow=36
KAD Karad 83.29 288 *eP* **P 09 48 24.1 -1.4**
KAD AMb AMB 09 48 34.2
comp=Z,37nm,1.2s,mb5.3
MENT Mentasta 83.49 24 *eP* **P 09 48 25.5 -0.1**
POO Poona 83.80 289 *eP* **P 09 48 28.0 -0.2**
ZALV Zalesovo Beam 84.02 326 P **P 09 48 26.9 -1.6**
comp=Z,4.7nm,0.7s,mb4.8,baz=112,slow=5.8,SNR=18
ZAL Zalesovo 84.03 326 P **P 09 48 26.9 -1.6**
AJM Ajmer 84.43 297 *eP* **P 09 48 31.1 -0.2**
MAW Mawson 84.56 203 P **P 09 48 30.1 -0.9**
comp=Z,6.7nm,0.6s,mb5.0,baz=107,slow=5.2,SNR=13
MAW LR LR 10 24 06.3
comp=Z,932nm,19.3s,MS5.2,baz=75,slow=34
NVS Novosibirsk 85.19 327 *eP* **P 09 48 34.3 -0.1**
NVS pmax pmax
comp=Z,17nm,2.2s,mb4.8
NVS pmax pmax
comp=E,7.0nm,1.8s
EGAK Eagle 85.35 23 *eP* **P 09 48 35.1 +0.1**
comp=E,16nm,0.7s,mb5.3
SKAG Skagway 85.71 29 *eP* **P 09 48 37.0 +0.1**
DAWY Dawson 85.73 24 *eP* **P 09 48 36.9 0.0**
KURK Kurchatov 86.68 322 *eP* **P 09 48 41.4 -0.5**
comp=E,2.3nm,0.5s,mb4.7
KURK Kurchatov 86.68 322⇑ *eP* **P 09 48 40.2 -1.7**
TKM2 Tokmak 2 86.88 314 *eP* **P 09 48 42.6 -0.4**
comp=E,2.5nm,0.6s,mb4.6
TKM2 Tokmak 2 86.88 314 *eP* **P 09 48 42.6 -0.5**
TKM2 pmax pmax
comp=Z,3.0nm,0.6s,mb4.7
UCH Uchtor 87.52 313 *eP* **P 09 48 46.9 +0.7**
comp=Z,14nm,1.4s,mb5.0
DLBC Dease Lake 87.99 31 *eP* **P 09 48 48.0 0.0**
AML Almayashu 88.10 313 *eP* **P 09 48 50.7 +1.8**
comp=Z,7.8nm,0.9s,mb4.9
INK Inuvik 89.55 21 *eP* **P 09 48 54.2 -1.0**
comp=Z,280nm,0.7s
INK Inuvik 89.55 21 LR LR 10 26 58.3
comp=Z,1μm,20.6s,MS5.3,baz=251,slow=34
GNW Green Mountain 89.73 42 *eP* **P 09 48 56.5 +0.1**
MTUM Tungsten Hills 91.27 53 *eP* **P 09 49 05.7 +1.8**
MWC Mount Wilson 91.28 56 *eP* **P 09 49 04.0 0.0**
NVAR Mina Array Bea 91.61 52 P **P 09 49 06.0 +0.6**
comp=Z,5.0nm,0.9s,mb4.9,baz=253,slow=4.1,SNR=26
GSC Goldstone 92.43 55 *eP* **P 09 49 09.7 +0.4**
comp=Z,2.8nm,0.8s,mb4.6
GSC Goldstone 92.43 55 *eP* **P 09 49 09.7 +0.4**
GSC pmax pmax
comp=Z,3.0nm,0.8s,mb4.7
SYO Syowa Base 92.50 199‖ *eP* **P 09 49 11.0 +2.0**
SYO Syowa Base 92.50 199‖ *ep*P pP 09 49 13.6 +2.7
PFO Pinyon Flat Ob 92.53 57 *eP* **P 09 49 09.7 -0.1**
comp=Z,4.0nm,0.9s,mb4.8
PFO Pinyon Flat Ob 92.53 57 *eP* **P 09 49 09.7 -0.1**
PFO pmax pmax
comp=Z,4.0nm,0.9s,mb4.8
PFO Pinyon Flat Ob 92.53 57 LR LR 10 28 29.7
comp=Z,1μm,18.2s,MS5.4,baz=302,slow=34
TPNV Topopah Spring 93.06 53 *eP* **P 09 49 12.5 +0.3**
comp=Z,19nm,1.6s,mb5.3
TPNV Topopah Spring 93.06 53 *eP* **P 09 49 12.5 +0.3**
TPNV pmax pmax
comp=Z,19nm,1.6s,mb5.3
LDFC Landfair 93.79 55 *eP* **P 09 49 15.6 0.0**
YKW3 Yellowknife Ar 96.18 28 *eP* **P 09 49 26.2 +0.3**
YKA Yellowknife Ar 96.18 28 P **P 09 49 25.5 -0.4**
comp=Z,8.7nm,0.8s,mb5.2,baz=268,slow=4.6,SNR=67
YKA LR LR 10 35 31.1
comp=Z,341nm,18.1s,MS4.9,baz=285,slow=37
EDM Edmonton 96.40 37 *eP* **P 09 49 27.2 +0.1**
MSU Marysvale 96.41 52 *eP* **P 09 49 27.3 -0.2**
LPIG La Paz 97.03 67 LR LR 10 26 39.2
comp=Z,2μm,18.9s,MS5.6,baz=184,slow=31
PDAR Pinedale Array 98.58 48 P **P 09 49 36.5 -0.7**
comp=Z,1.7nm,0.8s,mb4.6,baz=241,slow=2.2,SNR=12
PDAR LR LR 10 31 20.7
comp=Z,476nm,18.5s,MS5.0,baz=86,slow=34
TXAR Lajitas Array 103.18 62 Pdiff Pdif 09 50 00.9 +3.5
comp=Z,0.4nm,1.0s,baz=273,slow=3.4,SNR=3.3
PLCA Paso Flores 116.87 143 PKP PKPdf 09 54 42.1 -1.1
comp=Z,0.9nm,0.6s,baz=215,slow=2.7,SNR=5.7
AKASG Malin Array Be 117.39 324 PKP PKPdf 09 54 42.6 -1.2
comp=Z,2.4nm,0.7s,baz=62,slow=2.1,SNR=12
NB2 NORSAR Subarra119.52 341 PKPdf PKPdf 09 54 47.0 -0.6
comp=Z,0.7nm,0.7s,baz=39,slow=1.9
NOA NORSAR Array B119.52 341 PKP PKPdf 09 54 46.9 -0.7
comp=Z,2.0nm,0.9s,baz=50,slow=2.0,SNR=4.7
BOSA Boshof 120.13 231 PKP PKPdf 09 54 49.1 -0.7
comp=Z,1.3nm,0.3s,baz=157,slow=1.3,SNR=5.2
SCHQ Schefferville 121.62 27 PKP PKPdf 09 54 50.1 -1.8
comp=Z,2.8nm,0.6s,baz=335,slow=2.6,SNR=8.8
KOLS Kolonicke sedl 122.19 325 *e*PKP PKPdf 09 54 53.6 +0.5
DPC Dobruska-Polom 124.62 329 *e*PKP PKPdf 09 54 57.6 -0.1
MODS Modra-Piesok 125.28 327 *e*PKP PKPdf 09 54 59.9 +0.8
MODS Modra-Piesok 125.28 327 *e*PKP PKPdf 09 54 59.9 +0.8
CLL Collm 125.65 332 *e*PKPdf PKPdf 09 55 01.0 +1.3
KHC Kasperske Hory 126.77 329⇑ *i*PKIKP PKPdf 09 55 02.9 +1.0
KHC Kasperske Hory 126.77 329 *e*PKPdf PKPdf 09 55 02.7 +0.8
GERES GERESS Array B 126.89 329 PKP PKPdf 09 55 01.9 -0.2
comp=Z,4.0nm,0.8s,baz=48,slow=2.0,SNR=13
KBA Koelnbreinsper 128.19 327⇑ *i*P PKPdf 09 55 04.2 -0.5
comp=Z,10nm,1.4s
LPAZ La Paz 131.55 119 *e*PKPdf PKPdf 09 55 12.8 +0.9
LPAZ La Paz 131.55 119 PKP PKPdf 09 55 12.9 +1.0
comp=Z,2.6nm,0.6s,baz=262,slow=3.8,SNR=13
SDV Santo Domingo 134.78 84 *e*PKPdf PKPdf 09 55 18.4 +0.3
CAM4 Nova Friburgo 146.30 150 (P) PKPdf 09 55 40.8 +2.1
CAM4 *i* 09 55 47.0
CAM4 *i* 09 55 55.0
CAM4 *i* 09 57 06.4
BDFB Brasilia 148.12 135 PKPbc PKPbc 09 55 43.0 -2.0
comp=Z,14nm,0.7s,baz=213,slow=3.0,SNR=18
TOA0 Torodi Ar. Sit 152.97 286 *e*PKPdf PKPdf 09 55 49.5 +0.1
TOA0 *e*PKPbc PKPbc 09 55 56.9 +0.2
TOA0 *e*PKPab PKPab 09 56 07.8 -0.1
TORD Torodi Ar. Bea 152.97 286 PKP PKPdf 09 55 49.4 0.0
TORD PKPbc PKPbc 09 55 55.4 -1.2
TORD Torodi Ar. Bea 152.97 286 PKP PKPdf 09 55 49.4 0.0
comp=Z,0.8nm,0.7s,baz=21,slow=1.5,SNR=5.1
TORD PKPbc PKPbc 09 55 55.4 -1.2
comp=Z,10nm,0.6s,baz=68,slow=1.6,SNR=56
DBIC Dimbokro 159.98 271 PKPab PKPab 09 56 37.4 -0.7
comp=Z,2.7nm,0.7s,baz=66,slow=5.8,SNR=3.6

BJI ***04*** *09:40:23.6, 678S×15550E, h22km, mB5.1, mb4.9, Ms4.9, Msz4.7*
IDC ***04*** *09:40:23.6±0.5, 675S×15496E, h0km, mb4.7/16, mb1 4.8/17, mb1mx4.8/18, mbtmp4.7/17, ML4.4/1, Error ellipse: s-maj=20.1km s-min=13.8km az=81.0*
NEIC ***04*** *09:40:25.3±0.2, 679S×15498E, h10km, mb5.0/16, Error ellipse: s-maj=8.5km s-min=5.8km az=112.0*
MOS ***04*** *09:40:28.4±1.1, 658S×15486E, h33km, mb4.9/10, Error ellipse: s-maj=11.8km s-min=9.5km az=92.7*
ISCJB ***04*** *09:40:32.7±2.1, 690S±006×15491E±006, h81km±19km, mb4.7/39, Error ellipse: s-maj=11.1km s-min=9.3km az=148.6*
ISC 04 09:40:34.3±1.9, 692S±006×15495E±006, h82km±18km, n119, σ1$02/93, mb4.7/39, 4C-1D, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.54**	**117**	Pn		**Pn**	**09 41 56.1**	**+1.8**
	18nm,0.3s,baz=285,slow=3.2,SNR=2.5							
CTA	**Charters Tower**	**15.57**	**212**	*e*P		**Pn**	**09 44 12.6**	**+3.4**
	24nm,0.8s							
CTA	**Charters Tower**	**15.57**	**212**	*e*P		**Pn**	**09 44 12.6**	**+3.4**
CTA				pmax		pmax		
	comp=Z,24nm,0.8s							
CTA	**Charters Tower**	**15.57**	**212**	Pn		**Pn**	**09 44 12.1**	**+3.0**
	comp=Z,0.3nm,0.3s,baz=24,slow=12,SNR=3.7							
CTAO	**Charters Tower**	**15.57**	**212**	*e*P		**Pn**	**09 44 08.0**	**-1.2**
	comp=Z,36nm,0.8s							
CTAO	**Charters Tower**	**15.57**	**212**	*e*P		**Pn**	**09 44 08.0**	**-1.2**
CTAO				pmax		pmax		
	comp=Z,36nm,0.8s							
DZM	**Mont Dzumac**	**18.71**	**145**	P		**Pn**	**09 44 47.1**	**-0.6**
	comp=Z,1.0nm,0.3s,baz=343,slow=9.0,SNR=5.9							
EIDS	**Eidsvold**	**18.71**	**191**	*e*P		**Pn**	**09 44 46.8**	**-0.9**
	comp=Z,9.1nm,1.1s							
KAKA	**Kakadu**	**22.90**	**254**	*e*P		**P**	**09 45 30.4**	**-1.1**
	comp=Z,33nm,0.6s,mb4.8							
KAKA	**Kakadu**	**22.90**	**254**	*e*P		**P**	**09 45 30.5**	**-1.0**
ARMA	**Armidale**	**23.58**	**187**	*e*P		**P**	**09 45 43.1**	**+5.5**
ARMA	**Armidale**	**23.58**	**187**	*e*P		**P**	**09 45 42.3**	**+4.7**
	comp=Z,2.6nm,1.5s							
WB2	**Warramunga Arr**	**23.81**	**235**	*e*P		**P**	**09 45 40.6**	**+0.8**
WRA	**Warramunga Arr**	**23.82**	**235**	P		**P**	**09 45 39.5**	**-0.4**
	comp=Z,16nm,0.7s,mb4.5,baz=59,slow=10.0,SNR=5.4							
WRA				PcP		PcP	09 49 22.8	+1.4
	comp=Z,3.7nm,0.6s,baz=57,slow=2.4,SNR=9.0							
ASAR	**Alice Springs**	**26.18**	**228**	P		**P**	**09 46 01.3**	**-0.1**
	comp=Z,7.1nm,0.7s,mb4.2,baz=60,slow=8.6,SNR=12							
STKA	**Stephens Creek**	**27.78**	**205**	*e*P		**P**	**09 46 15.3**	**-0.3**
	comp=Z,17nm,0.7s,mb4.7							
STKA	**Stephens Creek**	**27.78**	**205**	*e*P		**P**	**09 46 15.0**	**-0.6**
	comp=Z,27nm,0.8s,mb4.8							
STKA	**Stephens Creek**	**27.78**	**205**	P		**P**	**09 46 15.4**	**-0.2**
	comp=Z,20nm,0.8s,mb4.7,baz=25,slow=12,SNR=6.2							
FITZ	**Fitzroy Crossi**	**30.64**	**246**	*e*P		**P**	**09 46 41.8**	**+0.7**
	comp=Z,16nm,0.6s,mb4.9							
FITZ	**Fitzroy Crossi**	**30.64**	**246**	*e*P		**P**	**09 46 40.0**	**-1.1**
	comp=Z,17nm,0.6s,mb5.0							
FITZ	**Fitzroy Crossi**	**30.64**	**246**	P		**P**	**09 46 41.8**	**+0.7**
	comp=Z,4.2nm,0.5s,mb4.4,baz=124,slow=8.9,SNR=8.0							
FORT	**Forrest**	**34.61**	**223**	*e*P		**P**	**09 47 15.5**	**-0.1**
	comp=Z,23nm,0.8s,mb5.1							
FORT	**Forrest**	**34.61**	**223**	*e*P		**P**	**09 47 15.0**	**-0.6**
	comp=Z,5.7nm,1.0s,mb4.4							
MBWA	**Marble Bar**	**36.86**	**244**	*e*P		**P**	**09 47 33.6**	**-1.5**
	comp=Z,12nm,0.8s,mb4.9							
URZ	**Urewera**	**37.10**	**150**	P		**P**	**09 47 37.3**	**+0.5**
	comp=Z,17nm,1.1s,mb4.9,baz=277,slow=8.1,SNR=2.8							
RPZ	**Rata Peaks**	**39.28**	**161**	P		**P**	**09 47 54.8**	**-0.2**
	comp=Z,9.9nm,0.8s,mb4.7,baz=326,slow=3.6,SNR=4.8							
KLBR	**Kellerberrin**	**42.49**	**230**	*e*P		**P**	**09 48 19.7**	**-2.0**
	comp=Z,36nm,1.3s,mb4.9							
MJAR	**Matsushiro Arr**	**45.99**	**341**	P		**P**	**09 48 46.2**	**-3.3**
	comp=Z,0.8nm,0.5s,mb3.7,baz=150,slow=8.5,SNR=3.6							
QZH	**Quanzhou**	**47.49**	**313**	*i*P		**P**	**09 49 02.8**	**+1.4**
KSRS	**Korea Array**	**50.85**	**332**	P		**P**	**09 49 24.6**	**-2.1**
	comp=Z,4.3nm,0.9s,mb4.5,baz=146,slow=8.9,SNR=9.3							
WHN	**Wuhan**	**53.85**	**316**	P		**P**	**09 49 50.1**	**+0.9**
KULM	**Kulim**	**55.53**	**281**	*e*P		**P**	**09 50 01.1**	**-0.5**
GYA	**Guiyang**	**57.37**	**307⇑**	*i*P		**P**	**09 50 12.7**	**-1.7**
GYA				AMB		AMB		
	comp=Z,30nm,0.8s,mb5.4							
KLR	**Kul'dur**	**59.48**	**343**	*e*P		**P**	**09 50 23.0**	**-5.7**
XAN	**Xi'an**	**59.62**	**316**	P		**P**	**09 50 29.4**	**-0.5**
XAN				AP		pP	09 50 33.7	-17
XAN				AMB		AMB		
	comp=Z,7.0nm,0.9s,mb4.7							
KMI	**Kunming**	**59.93**	**304**	P		**P**	**09 50 34.2**	**+1.9**
KMI				AP		pP	09 50 38.0	-15
KMI				AMB		AMB		
	comp=Z,181nm,4.0s							
KMI				LR		LR		
	comp=N,325nm,20.2s							
KMI				LR		LR		
	comp=E,263nm,19.6s							
KMI				LR		LR		
	comp=Z,389nm,20.9s							
KMI	**Kunming**	**59.93**	**304**	P		**P**	**09 50 34.2**	**+1.9**
	comp=Z,0.2nm,4.0s							
KMI				pP		pP	09 50 38.0	-15
KMI				sP		sP	09 50 39.2	-23
KMI				LR		LR		
	comp=Z,390nm,20.9s							
CHTO	**Chiang Mai**	**60.82**	**296**	*e*P		**P**	**09 50 39.8**	**+1.3**
	comp=Z,27nm,1.1s,mb5.2							
CHTO	**Chiang Mai**	**60.82**	**296**	*e*P		**P**	**09 50 39.8**	**+1.3**
CHTO				pmax		pmax		
	comp=Z,27nm,1.1s,mb5.2							
CD2	**Chengdu**	**61.73**	**310**	*i*P		**P**	**09 50 45.4**	**+1.1**
HIA	**Hailar**	**63.83**	**335**	*e*P		**P**	**09 50 57.5**	**-0.4**
	comp=Z,5.1nm,0.4s,mb4.7							
HIA	**Hailar**	**63.83**	**335**	*e*P		**P**	**09 50 57.5**	**-0.4**
HIA				pmax		pmax		
	comp=Z,5.0nm,0.4s							
LZH	**Lanzhou**	**64.23**	**316**	*e*P		**P**	**09 51 02.5**	**+1.7**
LZH				AP		pP	09 51 07.4	-14
LZH				XP		sP	09 51 09.6	-21
LZH				AMB		AMB		
	comp=Z,20nm,1.4s,mb4.8							
LZH				AMB		AMB		
	comp=Z,108nm,5.1s							
LZH	**Lanzhou**	**64.23**	**316**	*e*P		**P**	**09 51 02.5**	**+1.7**
	comp=Z,20nm,1.4s,mb4.8							
LZH				pP		pP	09 51 07.4	-14
LZH				sP		sP	09 51 09.6	-21
MA2	**Magadan**	**66.36**	**358**	*e*P		**P**	**09 51 18.0**	**+3.9**
MA2				pmax		pmax		
	comp=Z,30nm,0.8s,mb5.2							
GTA	**Gaotai**	**68.65**	**317**	*e*P		**P**	**09 51 30.1**	**+1.1**
GTA				AP		pP	09 51 35.0	-15
GTA				XP		sP	09 51 38.7	-21
GTA				AMB		AMB		
	comp=Z,10.0nm,0.9s,mb4.7							
ULN	**Ulaanbaatar**	**68.91**	**328**	*e*P		**P**	**09 51 30.6**	**+0.2**
SONM	**Songino Array**	**69.25**	**327**	P		**P**	**09 51 32.7**	**+0.2**
SONM				*i*e			10 19 43.8	
SONM	**Songino Array**	**69.25**	**327**	P		**P**	**09 51 32.7**	**+0.2**
	comp=Z,6.1nm,0.9s,mb4.5,baz=134,slow=6.4,SNR=19							
SONM				PKP2bc			10 19 43.8	
	comp=Z,0.6nm,0.9s,baz=270,slow=1.5,SNR=5.5							
VNDA	**Vanda**	**70.66**	**178**	*e*P		**P**	**09 51 41.3**	**+0.6**
	comp=Z,5.9nm,1.0s,mb4.4							
VNDA	**Vanda**	**70.66**	**178**	*e*P		**P**	**09 51 41.3**	**+0.6**
VNDA				pmax		pmax		
	comp=Z,6.0nm,1.0s							
VNDA	**Vanda**	**70.66**	**178**	P		**P**	**09 51 41.0**	**+0.3**
	comp=Z,2.6nm,0.8s,mb4.1,baz=342,slow=6.4,SNR=10							
LSA	**Lhasa**	**71.19**	**304**	*e*P		**P**	**09 51 46.9**	**+2.1**
	comp=Z,51nm,1.3s,mb5.2							
LSA	**Lhasa**	**71.19**	**304**	*e*P		**P**	**09 51 46.9**	**+2.1**
LSA				pmax		pmax		
	comp=Z,51nm,1.3s,mb5.2							
ZAK	**Zakamensk**	**72.40**	**328⇑**	*e*P		**P**	**09 51 51.5**	**-0.1**
ZAK				pmax		pmax		
	comp=Z,6.0nm,1.2s,mb4.3							
BOD	**Bodaibo**	**72.53**	**338**	*e*P		**P**	**09 51 50.8**	**-1.3**
BOD				pmax		pmax		
	comp=Z,5.0nm,1.5s,mb4.1							
JIRN	**Jiri**	**74.70**	**301**	*e*P		**P**	**09 52 06.6**	**+1.0**
	comp=Z,4.1nm,0.3s,mb4.6							
BILL	**Bilibino**	**75.21**	**4**	*e*P		**P**	**09 52 07.2**	**-0.4**
BILL	**Bilibino**	**75.21**	**4**	*e*P		**P**	**09 52 07.2**	**-0.4**
KKN	**Kakani**	**75.51**	**301**	*e*P		**P**	**09 52 11.0**	**+0.8**
	comp=Z,67nm,0.8s,mb5.5							
GKN	**Gorkha**	**76.12**	**301**	*e*P		**P**	**09 52 14.2**	**+0.5**
	comp=Z,148nm,1.0s,mb5.7							
KOLN	**Koldanda**	**76.94**	**300**	*e*P		**P**	**09 52 18.8**	**+0.5**
	comp=Z,89nm,1.1s,mb5.4							
SVW2	**Sparrevohn**	**77.95**	**22**	*e*P		**P**	**09 52 23.5**	**+0.3**
TTA	**Tatalina**	**78.97**	**21**	*e*P		**P**	**09 52 28.5**	**-0.3**
HYB	**Hyderabad**	**79.20**	**289**	*e*P		**P**	**09 52 31.5**	**+0.5**
HYB	**Hyderabad**	**79.20**	**289**	*i*P		**P**	**09 52 31.5**	**+0.5**
SLKM	**Skilak Lake**	**79.69**	**24**	*e*P		**P**	**09 52 32.0**	**-0.7**
TIXI	**Tiksi**	**80.27**	**352**	*e*P		**P**	**09 52 35.4**	**-0.3**
TIXI	**Tiksi**	**80.27**	**352**	*e*P		**P**	**09 52 35.0**	**-0.7**
TIXI				*e*		pP	09 52 51.6	-5.9
TIXI				pmax		pmax		
	comp=Z,8.0nm,1.5s,mb4.3							
PMR	**Palmer**	**80.74**	**24**	*e*P		**P**	**09 52 37.2**	**-1.1**
	comp=Z,16nm,0.7s,mb5.0							
PMR	**Palmer**	**80.74**	**24**	*e*P		**P**	**09 52 37.2**	**-1.2**
PMR				pmax		pmax		
	comp=Z,16nm,0.7s,mb5.0							
SML	**Sawmill**	**81.18**	**24**	*e*P		**P**	**09 52 39.9**	**-0.8**
IMA2	**Indian Mountai**	**81.75**	**19**	*e*P		**P**	**09 52 43.9**	**+0.3**
MCK	**McKinley**	**82.01**	**22**	*e*P		**P**	**09 52 43.5**	**-1.5**
COLA	**College**	**83.03**	**21**	*e*P		**P**	**09 52 48.9**	**-1.4**
QSPA	**South Pole Qui**	**83.05**	**180**	*e*P		**P**	**09 52 51.7**	**+1.4**
	comp=Z,21nm,0.7s,mb5.1							
MK31	**Makanchi Array**	**83.31**	**319**	*e*P		**P**	**09 52 52.0**	**-0.2**
MKAR	**Makanchi Array**	**83.31**	**319**	P		**P**	**09 52 52.4**	**+0.2**
MKAR	**Makanchi Array**	**83.31**	**319**	P		**P**	**09 52 52.4**	**+0.2**
	comp=Z,6.4nm,0.7s,mb4.5,baz=101,slow=6.1,SNR=22							
MENT	**Mentasta**	**83.61**	**24**	*e*P		**P**	**09 52 53.4**	**+0.1**
ZALV	**Zalesovo Beam**	**84.09**	**326**	P		**P**	**09 52 54.9**	**-1.1**
	comp=Z,2.9nm,0.7s,mb4.2,baz=111,slow=5.8,SNR=9.7							
ZAL	**Zalesovo**	**84.10**	**326**	P		**P**	**09 52 54.9**	**-1.1**
MAW	**Mawson**	**84.45**	**203**	P		**P**	**09 52 58.6**	**+1.0**
	comp=Z,7.7nm,0.6s,mb4.7,baz=96,slow=6.1,SNR=14							
EGAK	**Eagle**	**85.47**	**23**	*e*P		**P**	**09 53 02.7**	**+0.1**
	comp=Z,14nm,0.8s,mb4.9							
SKAG	**Skagway**	**85.83**	**29**	*e*P		**P**	**09 53 05.7**	**+1.2**
DAWY	**Dawson**	**85.85**	**24**	*e*P		**P**	**09 53 05.0**	**+0.5**
AML	**Almayashu**	**88.15**	**313**	*e*P		**P**	**09 53 17.1**	**+0.9**
	comp=Z,4.2nm,0.8s,mb4.5							
INK	**Inuvik**	**89.67**	**21**	*e*P		**P**	**09 53 22.2**	**-0.5**
	comp=Z,422nm,1.1s							
NVAR	**Mina Array Bea**	**91.71**	**52**	P		**P**	**09 53 34.3**	**+1.3**
	comp=Z,3.8nm,0.8s,mb4.7,baz=251,slow=5.6,SNR=20							
YKA	**Yellowknife Ar**	**96.29**	**28**	P		**P**	**09 53 53.5**	**+0.1**
YKA				PKKPbc		PKKPbc	10 10 38.9	-3.0
YKA	**Yellowknife Ar**	**96.29**	**28**	P		**P**	**09 53 53.5**	**+0.1**
	comp=Z,7.6nm,0.8s,mb5.2,baz=267,slow=4.6,SNR=48							
YKA				PKKPbc		PKKPbc	10 10 38.8	-3.0
	comp=Z,0.2nm,0.6s,baz=87,slow=2.6,SNR=5.8							
EDM	**Edmonton**	**96.51**	**37**	*e*P		**P**	**09 53 54.3**	**-0.3**
PDAR	**Pinedale Array**	**98.69**	**48**	P		**P**	**09 54 04.0**	**-0.6**
	comp=Z,1.6nm,0.9s,mb4.6,baz=247,slow=3.1,SNR=3.9							
PLCA	**Paso Flores**	**116.81**	**143**	PKP		PKPdf	09 59 09.2	-0.5
	comp=Z,1.7nm,1.0s,baz=235,slow=1.8,SNR=4.7							
AKASG	**Malin Array Be**	**117.45**	**324**	PKP		PKPdf	09 59 09.8	-0.8
AKASG				PKKPbc		PKKPbc	10 09 32.5	-2.9
AKASG	**Malin Array Be**	**117.45**	**324**	PKP		PKPdf	09 59 09.8	-0.8
	comp=Z,1.8nm,0.6s,baz=59,slow=2.3,SNR=8.5							
AKASG				PKKPbc		PKKPbc	10 09 32.5	-2.9
	comp=Z,0.1nm,0.2s,baz=260,slow=3.4,SNR=4.1							
NOA	**NORSAR Array B119.61 341**			PKP		PKPdf	09 59 14.4	0.0
	comp=Z,1.9nm,0.9s,baz=41,slow=1.9,SNR=4.9							
BOSA	**Boshof**	**120.03**	**231**	PKP		PKPdf	09 59 17.0	+0.8
BOSA	**Boshof**	**120.03**	**231**	PKP		PKPdf	09 59 17.0	+0.8
	comp=Z,2.9nm,0.8s,baz=59,slow=3.2,SNR=4.3							
SCHQ	**Schefferville**	**121.73**	**27**	PKP		PKPdf	09 59 18.4	-0.3
	comp=Z,2.4nm,0.8s,baz=326,slow=3.6,SNR=4.5							
KOLS	**Kolonicke sedl**	**122.26**	**325**	*e*PKP		PKPdf	09 59 21.1	+1.2
CRVS	**Cervenica-Dubn**	**122.73**	**325**	*e*PKP		PKPdf	09 59 21.3	+0.5
KECS	**Kecovo**	**123.50**	**325**	*e*PKP		PKPdf	09 59 21.9	-0.4
MODS	**Modra-Piesok**	**125.35**	**327**	*e*PKP		PKPdf	09 59 26.7	+0.9
MODS	**Modra-Piesok**	**125.35**	**327**	*e*		PKPdf	09 59 26.6	+0.8
BRG	**Berggiesshubel**	**125.55**	**331**	*e*PKIKP		PKPdf	09 59 26.0	-0.1
BRG				pmax		pmax		
	comp=Z,3.0nm,1.0s							
BRG	**Berggiesshubel**	**125.55**	**331**	*e*(P)		PKPdf	09 59 26.8	+0.7
	comp=Z,4.2nm,1.0s							
CLL	**Collm**	**125.72**	**332**	*e*PKIKP		PKPdf	09 59 26.0	-0.4
CLL				pmax		pmax		
	comp=Z,3.0nm,1.0s							
CLL	**Collm**	**125.72**	**332**	*e*PKPdf		PKPdf	09 59 26.0	-0.4
	comp=Z,6.0nm,1.0s							
KHC	**Kasperske Hory**	**126.85**	**329**	*e*PKP		PKPdf	09 59 29.5	+0.8
KHC				*ex*		x	09 59 51.0	
GERES	**GERESS Array B 126.96 329**			PKP		PKPdf	09 59 30.0	+1.1
	comp=Z,2.5nm,0.7s,baz=48,slow=1.5,SNR=11							
GRA1	**Grafenberg Arr**	**127.65**	**331**	*e*PKPdf		PKPdf	09 59 31.3	+1.1
GRF	**Grafenberg Arr**	**127.65**	**331**	*e*PKP		PKPdf	09 59 31.3	+1.1
LPAZ	**La Paz**	**131.54**	**119**	PKP		PKPdf	09 59 40.6	+2.1
	comp=Z,2.0nm,0.6s,baz=252,slow=3.2,SNR=6.3							
BDFB	**Brasilia**	**148.07**	**135**	PKPbc		PKPbc	10 00 12.2	+0.7
	comp=Z,13nm,0.7s,baz=221,slow=3.1,SNR=11							
TOA0	**Torodi Ar. Sit**	**152.96**	**285**	*e*PKPbc		PKPbc	10 00 23.2	0.0
TORD	**Torodi Ar. Bea**	**152.96**	**285**	PKP		PKPdf	10 00 15.9	0.0
TORD				PKPbc		PKPbc	10 00 23.5	+0.3
TORD				PKPab		PKPab	10 00 36.1	+1.3
TORD	**Torodi Ar. Bea**	**152.96**	**285**	PKP		PKPdf	10 00 15.9	0.0
	comp=Z,1.1nm,0.9s,baz=69,slow=0.8,SNR=3.6							
TORD				PKPbc		PKPbc	10 00 23.5	+0.3
	comp=Z,10nm,0.8s,baz=72,slow=1.8,SNR=26							
TORD				PKPab		PKPab	10 00 36.1	+1.3
	comp=Z,3.9nm,0.8s,baz=89,slow=2.2,SNR=4.2							
DBIC	**Dimbokro**	**159.94**	**270**	PKPab		PKPab	10 01 05.0	+0.1
	comp=Z,3.1nm,0.8s,baz=64,slow=8.6,SNR=3.9							

**MEX 04 09:41:59.2±0.7, 1518N×9101W, h20km±999km, MD3.8, Mexico-Guat

WRA Warramunga Arr 23.82 235 P P 09 51 26.4 -0.6
WRA 09 55 10.3
WRA Warramunga Arr 23.82 235 P P 09 51 26.4 -0.6
comp=Z,57nm,0.9s,mb5.0,baz=61,slow=9.8,SNR=79
WRA PcP PcP 09 55 10.3 -0.1
comp=Z,2.2nm,0.6s,baz=66,slow=2.6,SNR=5.2
WRA ScP ScP 09 58 49.2 +1.0
comp=Z,4.3nm,1.1s,baz=59,slow=3.1,SNR=7.8
WRA LR LR 10 00 25.8
comp=Z,3μm,18.7s,MS4.8,baz=55,slow=36
ASAR Alice Springs 26.21 228 P P 09 51 48.0 -0.8
comp=Z,31nm,0.9s,mb4.8,baz=61,slow=8.7,SNR=70
ASAR ScP ScP 09 58 56.0 +1.2
comp=Z,2.2nm,1.0s,baz=53,slow=3.9,SNR=4.7
RIV Riverview 27.11 187 eP P 09 51 56.9 +0.1
STKA Stephens Creek 27.86 205 eP P 09 52 01.7 -1.7
comp=Z,48nm,0.9s,mb5.1
STKA Stephens Creek 27.86 205 P P 09 52 02.1 -1.4
comp=Z,18nm,0.8s,mb4.7,baz=29,slow=12,SNR=12
STKA ScP ScP 09 58 59.4 -0.2
comp=Z,12nm,1.0s,baz=22,slow=3.5,SNR=9.8
STKA LR LR 10 02 32.8
comp=Z,4μm,20.9s,MS5.0,baz=20,slow=35
CNB Canberra Magne 28.82 189 eP P 09 52 12.3 +0.3
comp=Z,19nm,1.0s,mb4.8
FITZ Fitzroy Crossi 30.62 246 eP P 09 52 27.3 -0.8
comp=Z,24nm,0.6s,mb5.2
FITZ Fitzroy Crossi 30.62 246 eP P 09 52 27.2 -0.9
comp=Z,24nm,0.6s,mb5.2
FITZ LR LR 10 04 45.3
FITZ Fitzroy Crossi 30.62 246 P P 09 52 27.5 -0.6
comp=Z,14nm,0.9s,mb4.8,baz=80,slow=9.1,SNR=12
FITZ LR LR 10 04 45.3
comp=Z,3μm,20.0s,MS4.9,baz=77,slow=36
FORT Forrest 34.64 223 eP P 09 53 01.7 -1.5
comp=Z,42nm,1.0s,mb5.3
FORT Forrest 34.64 223 eP P 09 53 00.9 -2.3
comp=Z,12nm,1.1s,mb4.7
TAU Tasmania Unive 36.57 189 eP P 09 53 20.0 +0.3
comp=Z,97nm,1.5s,mb5.4
TAU Tasmania Unive 36.57 189 eP P 09 53 20.0 +0.4
TAU pmax pmax
comp=Z,97nm,1.5s,mb5.4
MBWA Marble Bar 36.85 244 eP P 09 53 21.4 -0.9
comp=Z,22nm,0.9s,mb5.0
URZ Urewera 37.24 150 P P 09 53 28.0 +2.6
comp=Z,25nm,1.0s,mb5.0,baz=35,slow=2.3,SNR=4.0
RPZ Rata Peaks 39.42 161 P P 09 53 44.5 +0.8
comp=Z,18nm,0.8s,mb4.9,baz=14,slow=4.2,SNR=7.3
RPZ LR LR 10 07 52.8
comp=Z,1μm,20.2s,MS4.8,baz=326,slow=33
KKM Kota Kinabalu 40.63 287 eP P 09 53 56.9 +2.8
KLBR Kellerberrin 42.51 230 eP P 09 54 09.2 -0.2
comp=Z,14nm,0.7s,mb4.8
NWAO Narrogin (SRO) 43.53 228 eP P 09 54 15.6 -2.0
NWAO PP PP 09 56 05.5 +6.6
NWAO Narrogin (SRO) 43.53 228 P P 09 54 18.9 +1.3
comp=Z,6.6nm,0.8s,mb4.4,baz=63,slow=6.8,SNR=2.6
NWAO PP PP 09 56 05.5 +6.6
comp=Z,16nm,0.9s,baz=42,slow=11,SNR=3.5
MUN Mundaring 43.86 230 eP P 09 54 20.6 +0.3
NACB Ninganchiao 44.73 315 eP P 09 54 30.9 +3.6
KSM Kuching 45.22 279 eP P 09 54 37.6 +6.1
JNU Nakatsue 45.78 332 P P 09 54 39.2 +3.7
comp=Z,18nm,0.9s,mb5.0,baz=90,slow=6.9,SNR=6.0
MJAR Matsushiro Arr 45.86 341 P P 09 54 39.4 +3.4
comp=Z,2.4nm,0.7s,mb4.2,baz=165,slow=8.8,SNR=6.4
MJAR LR LR 10 09 57.7
comp=Z,660nm,21.1s,MS4.5,baz=210,slow=31
MAT Matsushiro 45.86 341 P P 09 54 41.0 +5.0
RAR Rarotonga 46.10 113 LR LR 10 09 52.3
comp=Z,668nm,19.2s,MS4.6,baz=279,slow=31
KSRS Korea Array 50.71 332 P P 09 55 12.6 -0.9
comp=Z,3.0nm,1.0s,mb4.2,baz=150,slow=8.6,SNR=5.6
ASAJ Asahikawa 51.88 349 P P 09 55 25.6 +3.5
comp=Z,9.1nm,0.8s,mb4.8,baz=227,slow=16,SNR=7.4
ASAJ LR LR 10 16 38.7
comp=Z,653nm,18.4s,MS4.7,baz=305,slow=35
YSS Yuzh-Sakhalins 54.59 350 eP P 09 55 42.1 +0.1
comp=Z,64nm,1.7s,mb5.4
YSS Yuzh-Sakhalins 54.59 350 eP P 09 55 39.3 -2.7
YSS pmax pmax
comp=Z,3.0nm,1.0s,mb4.3
PPT Papeete 55.17 107 eLQ 10 09 35.9
comp=Z,2μm,30.5s
PPT eLR LR 10 11 57.2
comp=Z,566nm,20.5s
PPT Papeete 55.17 107 LR LR 10 14 30.2
comp=Z,813nm,18.1s,MS4.8,baz=267,slow=31
KULM Kulim 55.43 281 eP P 09 55 54.1 +5.4
TBI Tubuai 55.87 114 eLQ 10 09 56.3
comp=Z,3μm,30.5s
TBI eLR LR 10 12 18.1
BJI Beijing 58.69 326 P P 09 56 06.8 -4.5
KLR Kul'dur 59.34 343 eP P 09 56 12.0 -3.7
XAN Xi'an 59.48 316 P P 09 56 17.4 +0.4
XAN AP pP 09 56 22.5 +0.1
XAN S **S 10 04 27.9 +2.0**
XAN AMB AMB
comp=Z,8.0nm,1.1s,mb4.7
XAN LR LR
comp=N,324nm,19.9s,MS4.8
XAN LR LR
comp=E,552nm,18.0s,MS4.8
XAN LR LR
comp=Z,920nm,18.3s,MS5.0
PET Petropavlovsk 59.68 3⇑eP P 09 56 15.4 -2.5
PET pmax pmax
comp=Z,15nm,1.4s,mb4.8
KMI Kunming 59.80 304 P P 09 56 15.3 -4.1
KMI AP pP 09 56 21.2 -3.6
KMI PP PP 09 58 28.5 -3.0
KMI S **S 10 04 21.9 -8.5**
KMI AMB AMB
comp=Z,11nm,1.0s,mb4.8
KMI AMB AMB
comp=Z,136nm,5.0s
KMI LR LR
comp=N,587nm,16.7s,MS4.8
KMI LR LR
comp=E,434nm,21.4s,MS4.8
KMI LR LR
comp=Z,712nm,17.4s,MS4.9
KMI Kunming 59.80 304 P P 09 56 15.3 -4.1
comp=Z,11nm,1.0s,mb4.8
KMI pP pP 09 56 21.2 -3.6
KMI sP sP 09 56 22.7 -4.1
KMI PP PP 09 58 28.5 -3.0
KMI PPP 09 59 49.9
KMI S **S 10 04 21.9 -8.5**
KMI LR LR
comp=Z,710nm,17.4s,MS4.9
CHTO Chiang Mai 60.70 296 eP P 09 56 28.5 +2.9
comp=Z,56nm,1.4s,mb5.5
CHTO Chiang Mai 60.70 296 eP P 09 56 28.5 +2.9
CHTO pmax pmax
comp=Z,56nm,1.4s,mb5.5
CD2 Chengdu 61.59 310 eP P 09 56 30.6 -0.8
CD2 AP pP 09 56 35.2 -1.7
CD2 XP sP 09 56 38.0 -0.9
CD2 PP PP 09 58 43.5 -3.8
CD2 PCS PcS 10 01 13.8 -2.3
CD2 S **S 10 04 45.8 -7.3**
CD2 SCS ScS 10 06 17.5 -5.2
CD2 SS SS 10 08 47.5 -7.2
CD2 AMB AMB
comp=Z,60nm,0.9s,mb5.7
CD2 AMB AMB
comp=Z,160nm,4.6s
CD2 LR LR
comp=N,530nm,16.8s,MS5.2
CD2 LR LR
comp=E,1μm,16.8s,MS5.2
CD2 LR LR
comp=Z,910nm,15.6s,MS5.0
HIA Hailar 63.69 335 eP P 09 56 45.3 +0.2
comp=Z,19nm,1.0s,mb5.1
HIA Hailar 63.69 335 eP P 09 56 43.3 -1.8
LZH Lanzhou 64.09 316 eP P 09 56 48.5 +0.5
LZH AP pP 09 56 53.2 -0.2
LZH XP sP 09 56 55.6 +0.1
LZH PP PP 09 59 09.5 +0.3
LZH eS **S 10 05 20.1 -4.1**
LZH XS sS 10 05 27.5 -5.6
LZH SS SS 10 09 28.4 -5.2
LZH AMB AMB
comp=Z,34nm,1.4s,mb5.2
LZH AMB AMB
comp=Z,129nm,6.8s
LZH LR LR
comp=N,901nm,16.5s
LZH LR LR
comp=Z,2μm,19.2s,MS5.2
LZH Lanzhou 64.09 316 eP P 09 56 48.5 +0.5
comp=Z,34nm,1.4s,mb5.2
LZH pP pP 09 56 53.2 -0.2
LZH sP sP 09 56 55.6 +0.1
LZH PP PP 09 59 09.5 +0.3
LZH eS **S 10 05 20.1 -4.1**
LZH SS SS 10 09 28.4 -5.2
LZH LR LR
comp=Z,2μm,19.2s,MS5.2
LZH Lanzhou 64.09 316 eP P 09 56 48.5 +0.5
LZH *SP sP 09 56 55.6 +0.1
LZH 09 59 09.5
LZH eS **S 10 05 20.1 -4.1**
LZH SS SS 10 09 28.4 -5.2
LZH pmax pmax
comp=Z,34nm,1.4s,mb5.2
LZH MLR MLR
comp=Z,2μm,19.2s,MS5.2
TAOE Nuku Hiva Isla 64.34 97 eLR LR 10 16 11.3
comp=Z,26μm,22.1s,baz=271
MA2 Magadan 66.24 358 eP P 09 57 05.4 +3.9
comp=Z,10nm,0.6s,mb5.0
MA2 Magadan 66.24 358 eP P 09 57 06.9 +5.5
MA2 pmax pmax
comp=Z,20nm,0.8s,mb5.2
CASY Casey 66.74 198 eP P 09 57 09.2 +4.6
comp=Z,32nm,1.3s,mb5.2
GTA Gaotai 68.51 317 eP P 09 57 18.0 +1.7
GTA AP pP 09 57 23.0 +1.2
GTA XP sP 09 57 26.3 +2.5
GTA S S 10 06 20.8 +3.0
GTA XS sS 10 06 27.3 +0.5
GTA SS SS 10 10 37.0 -5.2
GTA AMB AMB
comp=Z,11nm,2.2s,mb4.4
GTA AMB AMB
comp=Z,146nm,6.5s
GTA LR LR
comp=N,291nm,18.0s,MS4.7
GTA LR LR
comp=E,303nm,19.1s,MS4.7
GTA LR LR
comp=Z,654nm,18.7s,MS4.9
ULN Ulaanbaatar 68.77 328 eP P 09 57 19.2 +1.5
comp=Z,12nm,1.0s,mb4.8
ULN Ulaanbaatar 68.77 328 i P P 09 57 14.2 -3.5
SHL Shillong 69.09 301 eP P 09 57 20.0 -0.2
SHL eS S 10 06 26.0 +0.8
SONM Songino Array 69.11 327 P P 09 57 19.2 -0.5
SONM ⇑e 10 25 32.6
SONM Songino Array 69.11 327 P P 09 57 19.2 -0.5
comp=Z,2.8nm,0.6s,mb4.4,baz=134,slow=6.4,SNR=22
SONM PKP2bc 10 25 32.6
comp=Z,0.7nm,0.8s,baz=283,slow=2.5,SNR=3.6
RKT Rikitea 69.13 112 eLR LR 10 18 27.8
comp=Z,2μm,24.0s
SEY Seymchan 69.56 359⇑eP P 09 57 21.0 -1.3
VNDA Vanda 70.78 178 eP P 09 57 29.3 -0.3
comp=Z,8.7nm,1.0s,mb4.6
VNDA Vanda 70.78 178 eP P 09 57 29.3 -0.3
VNDA pmax pmax
comp=Z,9.0nm,1.0s
VNDA Vanda 70.78 178 P P 09 57 29.2 -0.4
comp=Z,4.3nm,0.8s,mb4.4,baz=326,slow=6.9,SNR=7.2
LSA Lhasa 71.06 304 P P 09 57 33.0 +0.8
LSA Lhasa 71.06 304 eP P 09 57 34.7 +2.5
comp=Z,87nm,1.3s,mb5.5
LSA Lhasa 71.06 304 eP P 09 57 34.7 +2.5
LSA pmax pmax
comp=Z,87nm,1.3s,mb5.5
SBA Scott Base 71.29 177 eP P 09 57 38.9 +6.2
comp=Z,190nm,2.5s,mb5.6
SBA Scott Base 71.29 177 eP P 09 57 38.9 +6.2
SBA pmax pmax
comp=Z,190nm,2.5s,mb5.6
ZAK Zakamensk 72.26 328 eP P 09 57 38.7 -0.3
ZAK pmax pmax
comp=Z,7.0nm,1.2s,mb4.5
BOD Bodaibo 72.39 338 eP P 09 57 38.0 -1.6
BOD pmax pmax
comp=Z,7.0nm,1.6s,mb4.3
TLY Talaya 72.83 329 eP P 09 57 43.2 +0.9
TLY pmax pmax
comp=Z,7.0nm,1.1s,mb4.5
IRK Irkutsk 72.85 330⇓i P P 09 57 42.6 +0.2
IRK e 09 57 50.7
IRK pmax pmax
comp=Z,26nm,0.8s,mb5.2
BOK Bokaro 73.80 297 eP P 09 57 48.7 +0.1
BOK AMb AMB 09 58 05.5
comp=Z,48nm,1.3s,mb5.3
MOY Mondy 74.18 328 eP P 09 57 51.1 +0.8
JIRN Jiri 74.58 301 eP P 09 57 55.5 +2.4
VIS Vishakhapatnam 74.68 290 eP P 09 57 55.9 +2.0
VIS AMb AMB 09 58 19.0
comp=Z,46nm,2.0s,mb5.1
BILL Bilibino 75.10 4 eP P 09 57 54.8 -0.4
comp=Z,44nm,1.1s,mb5.3
BILL Bilibino 75.10 4 eP P 09 57 55.0 -0.3
BILL pmax pmax
comp=Z,28nm,1.3s,mb5.0
BILL MLR MLR
comp=Z,600nm,18.0s,MS4.9
PALK Pallekele 75.28 279 eP P 09 57 48.5 -9.0
KKN Kakani 75.39 301 eP P 09 57 58.7 +0.9
comp=Z,118nm,0.9s,mb5.8
GKN Gorkha 75.99 301 eP P 09 58 00.4 -0.9
comp=Z,290nm,1.2s,mb6.1
BLSP Bilaspur 76.75 295 eP P 09 58 06.4 +0.8
BLSP AMb AMB 09 58 08.6
comp=Z,33nm,1.4s,mb5.1
KOLN Koldanda 76.82 300 eP P 09 58 05.8 -0.1
comp=Z,131nm,1.1s,mb5.8
SVW2 Sparrevohn 77.87 22 eP P 09 58 10.7 -0.3
WMQ Urumqi 78.60 317 eP P 09 58 13.0 -2.5
WMQ XP sP 09 58 20.0 -3.1
WMQ eS S 10 08 04.0 -7.7
WMQ AMB AMB
comp=Z,16nm,0.6s,mb5.1
WMQ AMB AMB
comp=Z,279nm,5.0s
WMQ LR LR
comp=N,796nm,21.8s,MS5.1
WMQ LR LR
comp=E,460nm,21.8s,MS5.1
WMQ LR LR
comp=Z,778nm,20.7s,MS5.0
TTA Tatalina 78.89 21 eP P 09 58 17.1 +0.4
HYB Hyderabad 79.09 289 eP P 09 58 20.5 +1.7
HYB Hyderabad 79.09 289 i P P 09 58 20.0 +1.2
SLKM Skilak Lake 79.62 24 eP P 09 58 20.1 -0.7
LGTI Lohaghat 80.09 301 eP P 09 58 25.5 +1.5
TIXI Tiksi 80.15 352 eP P 09 58 19.4 -4.0
TIXI Tiksi 80.15 352 eP P 09 58 23.3 -0.1
TIXI pmax pmax
comp=Z,9.0nm,1.6s,mb4.5
PMR Palmer 80.66 24 eP P 09 58 25.8 -0.5
comp=Z,16nm,0.9s,mb4.9
PMR Palmer 80.66 24 eP P 09 58 25.8 -0.5
PMR pmax pmax
comp=Z,16nm,0.9s,mb5.0
SML Sawmill 81.10 24 eP P 09 58 27.7 -0.9
BHPL Bhopal 81.23 295 eP P 09 58 30.1 -0.1
BHPL AMb AMB 09 58 32.6
comp=Z,27nm,1.2s,mb5.1
MCK McKinley 81.92 22 eP P 09 58 32.0 -1.0
comp=Z,40nm,0.9s,mb5.3
DDI Dehra Dun 82.14 302 eP P 09 58 35.0 +0.1
COLA College 82.95 21 eP P 09 58 36.8 -1.5
comp=Z,20nm,0.9s,mb5.1
COLA College 82.95 21 eP P 09 58 36.8 -1.5
COLA pmax pmax
comp=Z,20nm,0.9s,mb5.2
QSPA South Pole Qui 83.17 180 eP P 09 58 38.8 -0.5
MKAR Makanchi Array 83.18 319 i P P 09 58 40.0 +0.1
MKAR pmax pmax
comp=Z,2.0nm,0.7s
MKAR Makanchi Array 83.18 319 P P 09 58 39.2 -0.7
comp=Z,2.1nm,0.7s,mb4.3,baz=107,slow=6.5,SNR=9.2
KAD Karad 83.18 288 eP P 09 58 40.1 -0.5
KAD AMb AMB 09 58 54.4
comp=Z,45nm,1.1s,mb5.4
MENT Mentasta 83.53 24 eP P 09 58 40.3 -1.1
ZALV Zalesovo Beam 83.95 326 P P 09 58 42.1 -1.6
comp=Z,1.1nm,0.5s,mb4.3,baz=125,slow=9.0,SNR=2.4
ZAL Zalesovo 83.96 326 P P 09 58 42.1 -1.7
AJM Ajmer 84.32 297 eP P 09 58 46.1 -0.2
AJM AMb AMB 09 59 01.3
comp=Z,117nm,1.5s,mb5.8
MAW Mawson 84.53 203 P P 09 58 46.5 +0.1
comp=Z,7.4nm,0.8s,mb4.9,baz=54,slow=7.9,SNR=7.4
EGAK Eagle 85.39 23 eP P 09 58 49.5 -1.2
SKAG Skagway 85.76 29 eP P 09 58 53.7 +1.0
comp=Z,45nm,1.5s,mb5.5
DAWY Dawson 85.77 24 eP P 09 58 51.5 -1.1
KSH Kashi 85.79 310 P P 09 58 56.8 +3.5
KSH eAP pP 09 59 01.3 +2.4
KSH eXP sP 09 59 03.8 +2.9
KSH eSKS 10 09 19.4
KSH eS S 10 09 30.4 +4.6
KSH eXS sS 10 09 38.8 +3.8
KSH AMB AMB
comp=Z,140nm,1.2s,mb6.1
KSH AMB AMB
comp=Z,1μm,6.7s
KSH LR LR
comp=N,873nm,5.0s
KSH LR LR
comp=E,698nm,7.1s
KSH LR LR
comp=Z,787nm,12.4s,MS5.3
KURK Kurchatov 86.60 322 eP P 09 59 05.8 +8.7
comp=Z,10nm,0.8s,mb5.1
KURK Kurchatov 86.60 322 eP P 09 58 52.3 -4.8
TKM2 Tokmak 2 86.79 314 eP P 09 58 54.8 -3.4
comp=Z,4.3nm,0.8s,mb4.7
TKM2 Tokmak 2 86.79 314 eP P 09 58 54.8 -3.4
TKM2 pmax pmax
comp=Z,4.0nm,0.8s,mb4.7
UCH Uchtor 87.43 313 eP P 09 59 02.9 +1.6
comp=Z,20nm,1.6s,mb5.1
KHMM Horse Mountain 87.94 49 eP P 09 59 04.4 +0.6
P01C Double 8 Ranch 87.98 50 ⇓P P 09 59 04.0 0.0
baz=88
AML Almayashu 88.01 313 eP P 09 59 05.0 +1.0
comp=Z,9.0nm,0.9s,mb5.0
DLBC Dease Lake 88.04 31 eP P 09 59 03.2 -0.6
O02C Red Bluff 88.52 49 ⇓P P 09 59 07.1 +0.6
baz=89
M02C Callahan 88.69 48 ⇑P P 09 59 08.2 +0.9
baz=89
YBH Yreka Blue Hor 88.85 48 eP P 09 59 08.7 +0.6
comp=Z,40nm,2.5s,mb5.3
YBH Yreka Blue Hor 88.85 48 eP P 09 59 08.7 +0.6
YBH pmax pmax
comp=Z,40nm,2.5s
E03A Lebam 89.12 43 ⇓P P 09 59 09.1 -0.2
baz=89
U04C Hernandez Rese 89.46 53 ⇑P P 09 59 12.2 +1.1
baz=90
J04A Umpqua Nationa 89.55 47 ⇓P P 09 59 12.4 +1.1
baz=90
INK Inuvik 89.58 21 eP P 09 59 09.8 -1.1
GNW Green Mountain 89.80 42 eP P 09 59 12.7 +0.3
O04C Chester 89.83 50 ⇓P P 09 59 13.0 +0.3
baz=90
LAVA Lava Cap Winer 89.86 51 ⇓P P 09 59 13.2 +0.3
baz=90
O05C Quincy 89.90 50 ⇑P P 09 59 13.2 +0.2
baz=90
P05C Yuba Gap, Truc 90.04 51 ⇑P P 09 59 13.9 +0.2
baz=90
J05A Fort Rock 90.19 47 ⇑P P 09 59 14.5 +0.2
baz=90
L05A Lakeview 90.29 48 ⇓P P 09 59 15.5 +0.7
baz=90
I05A Bend 90.30 46 ⇑P P 09 59 14.7 -0.1
baz=90
E05A Randle 90.35 43 ⇓P P 09 59 14.8 -0.2
baz=90
K05A Summer Lake 90.35 47 ⇑P P 09 59 15.1 +0.1
baz=91
R05C Kirkwood Meado 90.36 51 ⇓P P 09 59 15.2 -0.1
baz=91
T06C Millerton Lake 90.41 53 ⇑P P 09 59 15.2 -0.3
baz=91
H05A Madras 90.41 45 ⇑P P 09 59 15.0 -0.2
baz=91
M06C Likely Place G 90.42 49 ⇓P P 09 59 15.3 -0.1
baz=91
O06A Flanigan 90.76 50 ⇓P P 09 59 16.4 -0.6
baz=91
R06C Coleville 90.82 51 ⇑P P 09 59 17.5 +0.2
baz=91
K06A Valley Falls 90.83 47 ⇓P P 09 59 16.7 -0.6
baz=91
N06A Buffalo Meadow 90.84 49 ⇓P P 09 59 16.9 -0.5
baz=91
E06A Yakima 90.88 43 ⇑P P 09 59 16.6 -0.8
baz=91
F06A Goldendale 90.89 44 ⇓P P 09 59 17.0 -0.5
baz=91
HELL Mitchell Peak 90.91 53 P P 09 59 18.4 +0.6
baz=91,SNR=8.6
J06A Christmas Vall 90.96 47 ⇑P P 09 59 17.6 -0.3
baz=91
I06A Prineville 91.02 46 ⇓P P 09 59 17.4 -0.7
baz=91
H06A Lindquist Farm 91.05 45 ⇑P P 09 59 17.9 -0.4
baz=91
R07C Lee Vining 91.08 52 ⇑P P 09 59 18.7 +0.2
baz=91
ISA Isabella 91.21 54 eP P 09 59 20.5 +1.2
MTUM Tungsten Hills 91.36 53 eP P 09 59 21.0 +1.1
MWC Mount Wilson 91.37 56 eP P 09 59 21.0 +1.0
L07A Adell 91.38 48 ⇑P P 09 59 19.2 -0.7
baz=92
M07A Soldier Meadow 91.42 49 ⇓P P 09 59 20.2 +0.1
baz=92
O07A Toulon 91.48 50 P P 09 59 19.1 -1.3
baz=92
N07B Gerlach 91.49 49 ⇓P P 09 59 19.5 -0.9
baz=92
F07A Phinny Hill Vi 91.50 44 ⇓P P 09 59 19.7 -0.7
baz=92
K07A Rock Creek Ran 91.54 47 ⇑P P 09 59 19.8 -0.8
baz=92
I07A Izee 91.55 46 ⇓P P 09 59 19.7 -0.9
baz=92
H07A Lands Inn, Kim 91.57 45 ⇓P P 09 59 19.8 -0.9
baz=92
G07A Ruggs Ranch, H 91.59 45 ⇓P P 09 59 19.9 -0.9
baz=92
C07A Waterville 91.67 42 ⇓P P 09 59 20.1 -1.0
baz=92
S08C White Mtn Res 91.69 53 P P 09 59 22.7 +1.3
baz=92,SNR=8.3
NVAR Mina Array Bea 91.70 52 P P 09 59 21.6 +0.1
comp=Z,3.1nm,0.9s,mb4.6,baz=247,slow=4.0,SNR=22
B07A Winthrop 91.74 42 ⇓P P 09 59 21.7 +0.3
baz=92
R08A Mina 91.84 52 P P 09 59 23.1 +1.0
baz=92,SNR=7.2
109C Camp Elliot, M 92.00 57 ⇓P P 09 59 24.0 +1.1
baz=92
M08A Happy Creek Ra 92.02 49 ⇑P P 09 59 23.3 +0.4
baz=92
Q08A Gabbs 92.04 51 P P 09 59 23.9 +0.9
baz=92,SNR=8.8
G08A Pilot Rock 92.09 45 ⇓P P 09 59 22.9 -0.2
baz=92
N08A GE Springer Mi 92.12 49 ⇑P P 09 59 23.4 +0.1
baz=92
L08A Fields 92.14 48 ⇑P P 09 59 23.1 -0.3
baz=92
E08A Dider Farm, El 92.18 44 ⇓P P 09 59 23.5 0.0
baz=92
J08A Circle Bar Ran 92.19 47 ⇑P P 09 59 23.6 0.0
baz=92
H08A Prairie City 92.20 46 ⇑P P 09 59 23.3 -0.3
baz=92
B08A Colville Reser 92.24 42 ⇑P P 09 59 23.3 -0.4
baz=92
D08A Wollman Farm, 92.35 43 ⇓P P 09 59 24.0 -0.2

baz=92
C08A Higginbotham F 92.36 42 ⇓P **P 09 59 23.7 -0.5**
baz=92
A08A Turner Farm, O 92.36 41 ⇓P **P 09 59 23.7 -0.6**
baz=92
S09A Goldfield 92.46 52 P **P 09 59 26.1 +1.1**
baz=93,SNR=9.6
SYO Syowa Base 92.47 199⇓*es*P **P 09 59 29.0 +4.6**
GSC Goldstone 92.52 55 *e*P **P 09 59 25.2 -0.1**
PFO Pinyon Flat Ob 92.62 57 *e*P **P 09 59 26.8 +1.0**
comp=Z,18nm,1.7s,mb5.2
PFO Pinyon Flat Ob 92.62 57 *e*P **P 09 59 26.8 +1.0**
PFO pmax pmax
comp=Z,18nm,1.7s,mb5.2
L09A Wilkinson Ranc 92.62 48 ⇓P **P 09 59 25.6 0.0**
baz=93
Q09A Carvers 92.62 51 ⇑P **P 09 59 26.1 +0.4**
baz=93
R09A Tonopah 92.64 52 P **P 09 59 25.9 +0.1**
baz=93,SNR=14
K09A Rome 92.66 47 ⇓P **P 09 59 25.9 +0.1**
baz=93
J09A Fry Pan Ranch, 92.71 47 ⇓P **P 09 59 25.9 -0.1**
baz=93
M09A Marrel Ranch, 92.71 49 ⇓P **P 09 59 26.4 +0.3**
baz=93
P09A Austin 92.73 51 ⇓P **P 09 59 25.8 -0.4**
baz=93
O09A Fish Creek Ran 92.77 50 P **P 09 59 26.6 +0.3**
baz=93,SNR=7.7
E09A Wood Farm, Sta 92.81 44 ⇓P **P 09 59 25.9 -0.5**
baz=93
A09A Danville 92.81 41 ⇑P **P 09 59 25.8 -0.6**
baz=93
S10A Tonopah Range, 92.98 52 P **P 09 59 27.8 +0.4**
baz=93,SNR=17
U10A Ash Meadows, A 93.03 54 ⇓P **P 09 59 28.2 +0.6**
baz=93,SNR=7.1
B09A Rice 93.03 42 ⇓P **P 09 59 27.3 -0.1**
baz=93
TPNV Topopah Spring 93.15 53 *e*P **P 09 59 28.2 +0.1**
BMO Blue Mountains 93.20 45 *e*P **P 09 59 28.6 +0.4**
comp=Z,16nm,1.8s,mb5.2
BMO Blue Mountains 93.20 45 *e*P **P 09 59 28.6 +0.4**
BMO pmax pmax
comp=Z,16nm,1.8s,mb5.2
Q10A Clear Creek Ra 93.23 51 ⇓P **P 09 59 28.6 +0.1**
baz=94
R10A Warm Springs 93.25 52 ⇓P **P 09 59 29.2 +0.6**
baz=94,SNR=5.0
P10A Eureka 93.26 51 ⇑P **P 09 59 29.2 +0.6**
baz=94
K10A MacKenzie Ranc 93.29 47 ⇓P **P 09 59 29.1 +0.4**
baz=94
O10A Cortez Mining, 93.31 50 ⇑P **P 09 59 28.6 -0.2**
baz=94
F10A Beach Ranch, E 93.38 44 ⇓P **P 09 59 28.4 -0.6**
baz=94
G10A Bishop Farm, J 93.38 45 P **P 09 59 28.5 -0.6**
baz=94,SNR=6.0
D10A Wagner Farm, O 93.47 43 ⇓P **P 09 59 29.1 -0.3**
baz=94
L10A Juniper Basin 93.51 48 ⇓P **P 09 59 28.6 -1.1**
baz=94
H10A Noah's Angus R 93.57 46 ⇓P **P 09 59 28.9 -1.1**
baz=94
S11A Rachel 93.62 53 ⇓P **P 09 59 30.4 +0.1**
baz=94
NEW Newport 93.70 42 *e*P **P 09 59 30.6 +0.2**
Q11A Duckwater 93.81 51 P **P 09 59 31.9 +0.7**
baz=94,SNR=13
R11A Troy Canyon, C 93.81 52 P **P 09 59 32.2 +1.0**
baz=94,SNR=13
LDFC Landfair 93.88 55 *e*P **P 09 59 32.6 +1.1**
K11A Parker Ranch, 93.91 48 ⇑P **P 09 59 31.0 -0.5**
baz=94
O11A Cowboy Ranch, 93.93 50 ⇑P **P 09 59 31.7 0.0**
baz=94,SNR=9.1
M11A Holland Ranch, 93.95 49 ⇓P **P 09 59 32.2 +0.4**
baz=94
G11A Walters Elk Ra 93.99 45 ⇑P **P 09 59 31.7 -0.1**
baz=94
T11A Corn Creek, Al 94.00 53 ⇑P **P 09 59 32.1 0.0**
baz=94,SNR=14
H11A Donnelly 94.11 46 ⇑P **P 09 59 31.8 -0.6**
baz=94
MFID Camas Ranch 94.12 47 ⇑P **P 09 59 32.4 -0.1**
baz=94
E11A Bogner Ranch, 94.12 44 ⇓P **P 09 59 31.8 -0.7**
baz=94
V12A Nelson 94.15 55 ⇑P **P 09 59 33.5 +0.7**
baz=94
B11A Sandpoint 94.22 42 ⇓P **P 09 59 32.2 -0.6**
baz=94
A11A Hall Mountain, 94.27 41 ⇓P **P 09 59 33.0 0.0**
baz=94,SNR=6.7
P12A McGill 94.44 51 ⇑P **P 09 59 34.4 +0.3**
baz=95,SNR=7.2
U12A Valley of Fire 94.47 54 ⇓P **P 09 59 34.4 +0.1**
baz=95
N12A Clover Valley, 94.47 50 ⇓P **P 09 59 34.1 0.0**
baz=95,SNR=8.4
Q12A Willow Creek R 94.47 51 ⇓P **P 09 59 34.6 +0.4**
baz=95
R12A Pony Springs, 94.58 52 P **P 09 59 35.6 +0.9**
baz=95,SNR=15
L12A House Creek Ra 94.60 48 ⇓P **P 09 59 34.9 +0.2**
baz=95
M12A Wells 94.61 49 P **P 09 59 35.2 +0.4**
baz=95,SNR=5.1
J12A Stokes Ranch, 94.63 47 P **P 09 59 34.8 0.0**
baz=95,SNR=5.3
O12A Currie 94.64 50 P **P 09 59 34.9 0.0**
baz=95,SNR=6.8
K12A Draper Farm, C 94.72 48 ⇓P **P 09 59 35.1 -0.2**
baz=95
W13A Hualapai Mount 94.88 55 ⇑P **P 09 59 36.8 +0.6**
baz=95
X13A Yucca 94.88 56 ⇑P **P 09 59 36.5 +0.3**
baz=95
U13A Pakoon Wash 94.92 54 ⇑P **P 09 59 37.0 +0.6**
baz=95
T13A Saint George 95.02 53 ⇓P **P 09 59 37.5 +0.7**
baz=95,SNR=6.2
N13A Wendover, West 95.10 50 ⇓P **P 09 59 37.3 +0.2**
baz=95
S13A Holt Ranch, En 95.10 53 ⇑P **P 09 59 38.0 +0.8**
baz=95,SNR=11
P13A Bates Ranch, G 95.13 51 ⇑P **P 09 59 37.7 +0.5**
baz=95,SNR=7.7
M13A Montello 95.17 49 P **P 09 59 37.6 +0.3**
baz=95,SNR=6.5
O13A Hicks Ranch, I 95.21 50 ⇑P **P 09 59 38.2 +0.6**
baz=96
F13A Darby 95.38 45 ⇓P **P 09 59 37.8 -0.4**
baz=96
G13A Cobalt 95.40 45 ⇓P **P 09 59 38.3 0.0**
baz=96
W14A Seligman 95.54 55 ⇑P **P 09 59 40.1 +0.9**
baz=96
U14A Mt Trumbull 95.56 54 ⇑P **P 09 59 40.2 +1.0**
baz=96
V14A Boquillas Ranc 95.56 55 ⇓P **P 09 59 40.1 +0.9**
baz=96
T14A Hurricane 95.68 53 ⇑P **P 09 59 40.2 +0.4**
baz=96
M14A Sheep Mountain 95.79 49 ⇓P **P 09 59 40.1 -0.1**
baz=96
N14A Grayback Hills 95.87 50 ⇓P **P 09 59 40.4 -0.2**
baz=96
Y15A Casa Rosa Ranc 96.07 57 ⇓P **P 09 59 42.4 +0.8**
baz=96
X15A Humboldt 96.19 56 ⇓P **P 09 59 42.9 +0.7**
baz=96
YKW3 Yellowknife Ar 96.22 28 *e*P **P 09 59 41.0 -0.7**
YKA Yellowknife Ar 96.22 28 P **P 09 59 40.8 -0.9**
YKA Yellowknife Ar 96.22 28 P **P 09 59 40.8 -0.9**
comp=Z,20nm,1.1s,mb5.5,baz=267,slow=4.6,SNR=56
T15A Red Dirt Ranch 96.24 54 ⇓P **P 09 59 42.6 +0.3**
baz=96
EDM Edmonton 96.46 37 *e*P **P 09 59 41.8 -1.2**
M15A Larsen Ranch, 96.46 49 ⇓P **P 09 59 42.9 -0.4**
baz=97
G15A Dillon 96.64 45 ⇑P **P 09 59 43.9 0.0**
baz=97
Y16A Circle Bar Ran 96.77 57 ⇓P **P 09 59 45.8 +1.0**
baz=97
HWUT Hardware Ranch 97.13 49 *e*P **P 09 59 47.0 +0.7**

comp=Z,23nm,2.1s,mb5.2
PDAR Pinedale Array 98.66 48 P **P 09 59 51.6 -1.5**
comp=Z,1.7nm,1.0s,mb4.5,baz=256,slow=3.1,SNR=8.4
PLCA Paso Flores 116.95 143 PKP PKPdf 10 05 00.1 +1.2
comp=Z,0.7nm,0.7s,baz=214,slow=2.3,SNR=2.5
AKASG Malin Array Be 117.31 324 PKP PKPdf 10 05 00.3 +1.1
AKASG Malin Array Be 117.31 324 PKP PKPdf 10 05 00.3 +1.1
comp=Z,0.3nm,0.3s,baz=63,slow=1.8,SNR=4.1
NB2 NORSAR Subarra119.48 341 PKPdf PKPdf 10 05 02.0 -1.1
comp=Z,5.2nm,1.1s,baz=49,slow=1.9
NOA NORSAR Array B119.48 341 PKP PKPdf 10 05 02.5 -0.5
comp=Z,0.8nm,0.8s,baz=39,slow=2.1,SNR=3.0
MATP Matopo 120.76 242 PKP PKPdf 10 05 06.3 -0.5
comp=Z,1.5nm,0.5s,baz=198,slow=3.4
KOLS Kolonicke sedl 122.12 325 *e*PKP PKPdf 10 05 06.9 -1.6
CFAA Coronel Fontan 123.87 135 PKP PKPdf 10 05 10.3 -2.1
comp=Z,0.2nm,0.6s,baz=207,slow=2.3,SNR=3.1
DPC Dobruska-Polom 124.55 329 *e*PKPdf PKPdf 10 05 14.6 +1.5
MODS Modra-Piesok 125.21 327 *e*PKP PKPdf 10 05 13.1 -1.4
MODS Modra-Piesok 125.21 327 *e*PKP PKPdf 10 05 13.0 -1.5
PVCC Panska Ves 125.33 330 *e*PKPdf PKPdf 10 05 16.5 +1.9
BRG Berggiesshubel 125.41 331 *e*PKIKP PKPdf 10 05 15.5 +0.7
BRG pmax pmax
comp=Z,3.0nm,1.0s
BRG Berggiesshubel 125.41 331 *e*PKP PKPdf 10 05 15.5 +0.7
comp=Z,7.8nm,1.0s
CLL Collm 125.58 332 *e*PKPdf PKPdf 10 05 15.0 -0.1
comp=Z,14nm,1.5s
CLL *e*(sPKPdf) 10 05 29.0
TREC Trest 125.62 328 *e*PKPdf PKPdf 10 05 15.5 +0.3
KHC Kasperske Hory 126.70 329⇑*i*PKIKP PKPdf 10 05 16.8 -0.5
KHC Kasperske Hory 126.70 329 *e*PKPdf PKPdf 10 05 18.2 +0.9
KHC *ep*PKP pPKPdf 10 05 23.1 0.0
GEC2 GERESS Array S 126.82 329 *e*PKPdf PKPdf 10 05 16.5 -1.1
GERES GERESS Array B 126.82 329 PKP PKPdf 10 05 17.2 -0.3
comp=Z,2.5nm,0.9s,baz=50,slow=1.5,SNR=6.5
GRA1 Grafenberg Arr 127.51 331 *e*PKPdf PKPdf 10 05 19.2 +0.4
GRF Grafenberg Arr 127.51 331 *e*PKPdf PKPdf 10 05 19.2 +0.4
KBA Koelnbreinsper 128.11 327⇑*i*P PKPdf 10 05 18.5 -1.6
comp=Z,8.7nm,1.6s
DAVOX Davos/Dischmat 130.12 329 PKP PKPdf 10 05 22.9 -0.9
comp=Z,3.4nm,0.8s,baz=90,slow=1.1,SNR=3.2
TSUM Tsumeb 130.62 238 PKP PKPdf 10 05 24.9 -0.7
TSUM SKPbc SKPbc 10 08 50.0 +1.2
TSUM Tsumeb 130.62 238 PKP PKPdf 10 05 24.9 -0.7
comp=Z,0.9nm,0.6s,baz=0.0,slow=0.0,SNR=3.6
TSUM SKPbc SKPbc 10 08 50.0 +1.2
comp=Z,6.0nm,1.0s,baz=123,slow=3.4,SNR=5.5
HAU Haudompre 130.99 332 *e*PKIKP PKPdf 10 05 29.3 +3.8
comp=Z,4.9nm,0.5s
LPAZ La Paz 131.66 119 PKP PKPdf 10 05 25.8 -1.9
LPAZ *e*PKPdf PKPdf 10 05 29.0 +1.3
LPAZ SKPbc SKPbc 10 08 53.5 +0.8
LPAZ La Paz 131.66 119 PKP PKPdf 10 05 25.8 -1.9
comp=Z,3.9nm,1.1s,baz=272,slow=2.0,SNR=9.3
LPAZ SKPbc SKPbc 10 08 53.5 +0.8
comp=Z,3.9nm,0.9s,baz=315,slow=1.4,SNR=8.8
LPG La Plagne 132.59 330 *e*PKIKP PKPdf 10 05 32.9 +4.3
comp=Z,2.2nm,0.3s
SSF Saint Saulge 132.98 333 *e*PKIKP PKPdf 10 05 33.1 +3.8
comp=Z,16nm,0.9s
SDV Santo Domingo 134.90 84 *e*PKPdf PKPdf 10 05 33.4 -0.4
SIV San Ignacio 137.82 123 PKP PKPdf 10 05 39.7 +0.5
SIV SKPbc SKPbc 10 09 11.9 -0.7
SIV San Ignacio 137.82 123 PKhKP 10 05 26.5
comp=Z,1.8nm,1.1s,baz=243,slow=1.0,SNR=5.0
SIV PKP PKPdf 10 05 39.7 +0.5
comp=Z,3.5nm,1.0s,baz=283,slow=3.4,SNR=7.0
SIV SKPbc SKPbc 10 09 11.9 -0.7
comp=Z,4.1nm,1.1s,baz=205,slow=1.4,SNR=4.6
ETSF Etsaut 138.03 333 *e*PKIKP PKPdf 10 05 42.6 +3.8
comp=Z,12nm,0.8s
CAM4 Nova Friburgo 146.37 150 (P) PKPbc 10 05 59.2 +3.8
CAM4 *i* 10 06 07.8
MDT Midelt 147.85 326 PKPbc PKPbc 10 05 59.8 +0.5
comp=Z,16nm,1.2s,baz=20,slow=4.3,SNR=8.4
BDFB Brasilia 148.21 135 PKPbc PKPbc 10 06 00.4 -0.3
comp=Z,15nm,1.0s,baz=37,slow=2.7,SNR=11
CAM3 Guarapari 148.74 151 (P) PKPbc 10 06 07.0 +5.0
CAM3 *i* 10 06 11.2
CAM3 *i* 10 06 15.0
TOA0 Torodi Ar. Sit 152.85 286 *e*PKPdf PKPdf 10 06 03.5 -1.2
TOA0 *e*PKPbc PKPbc 10 06 10.0 -1.9
TOA0 *e*PKPab PKPab 10 06 18.3 -4.6
TORD Torodi Ar. Bea 152.85 286 PKP PKPdf 10 06 03.5 -1.2
comp=Z,0.6nm,0.7s,baz=102,slow=1.0,SNR=3.7
TORD PKPbc PKPbc 10 06 09.7 -2.3
comp=Z,7.3nm,0.9s,baz=37,slow=1.5,SNR=19
TORD PP PP 10 09 57.3 +1.2
comp=Z,2.2nm,1.2s,baz=113,slow=3.4,SNR=4.8
DBIC Dimbokro 159.86 271 PKP PKPdf 10 06 14.3 +0.4
comp=Z,0.8nm,0.4s,baz=45,slow=1.4,SNR=7.1
DBIC PKPab PKPab 10 06 53.4 +0.3
comp=Z,3.2nm,0.6s,baz=120,slow=3.4,SNR=3.3

*CSEM **04** 09:56:26.4±0.2, 3950N×2960E, h10km, MD2.6, Error ellipse: s-maj=7.8km s-min=3.8km az=70.0*
*ISCJB **04** 09:56:27.1±0.7, 3950N±004×2959E±007, h7km±7km, Error ellipse: s-maj=10.3km s-min=5.0km az=156.8*
*ISK **04** 09:56:27.0, 3951N×2964E, h18km, MD2.9*
*DDA **04** 09:56:28.4, 3964N×2965E, h7km±13km, Md2.6*
ISC 04 09:56:27.8±0.7, 3950N±004×2958E±007, h12km±7km, n10, σ1§12/16, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
GDZ	**Gediz**	**0.41**	**191**	*i* P		**Pg**	**09 56 37.8**	**+1.9**
GDZ				*i* S		**Sg**	**09 56 48.2**	**+6.7**
ALT	**Altintas**	**0.60**	**137**	PG		**Pg**	**09 56 38.3**	**-1.2**
ALT				SG		**Sg**	**09 56 47.9**	**+0.5**
IZI	**Iznik**	**0.84**	**354**	PG		**Pg**	**09 56 42.5**	**-1.6**
IZI				SG		**Sg**	**09 56 55.7**	**+0.5**
ESKT	**Eskisehir**	**0.98**	**88**	*i* P		**Pb**	**09 56 42.7**	**-3.9**
ESKT				*i* S		**Sg**	**09 56 59.9**	**+0.3**
SEYT	**Eskypehyr**	**0.98**	**88**	*i* S		**Sg**	**09 56 59.8**	**+0.3**
GEMT	**Gemlik**	**0.99**	**342**	PG		**Pg**	**09 56 46.1**	**-0.7**
GEMT				SG		**Sg**	**09 57 01.6**	**+2.0**
YLV	**Yalova**	**1.08**	**352**	*e*PG		**Pg**	**09 56 46.9**	**-1.7**
KHL	**Karahalli**	**1.17**	**182**	*e*PN		**Pn**	**09 56 49.2**	**-0.7**
KCT	**Karacabey**	**1.22**	**310**	*e*PN		**Pn**	**09 56 50.6**	**+0.1**
HENT	**Hendek**	**1.67**	**37**	*i* P		**Pn**	**09 56 56.8**	**+0.1**
HENT				*i* S		**Sn**	**09 57 18.8**	**+0.8**

IDC 04 09:57:19.1±24.0, 593S×15590E, h0km, mb4.2/4, mb1 4.3/4, mb1mx3.8/15, mbtmp4.2/4, Error ellipse: s-maj=417.5km s-min=77.4km az=46.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**25.16**	**234**	P		P	10 02 46.7	+0.4
	7.7nm,1.0s,baz=58,slow=9.2,SNR=18							
ASAR	**Alice Springs**	**27.54**	**228**	P		P	10 03 06.8	-1.0
	1.0nm,0.7s,baz=60,slow=9.2,SNR=9.6							
STKA	**Stephens Creek**	**29.07**	**206**	P		P	10 03 21.3	0.0
	2.8nm,0.9s,baz=38,slow=12,SNR=5.3							
FITZ	**Fitzroy Crossi**	**31.91**	**245**	P		P	10 03 47.1	+0.6
	1.4nm,0.5s,baz=80,slow=8.3,SNR=10							

IDC 04 10:07:45.4±3.5, 1784S×17442W, h319km±149km, mb3.8/4, mb1 4.0/4, mb1mx3.4/17, mbtmp3.8/4, Error ellipse: s-maj=255.0km s-min=36.2km az=64.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
URZ	**Urewera**	**21.66**	**198**	P		P	10 12 10.5	-0.1
	9.2nm,0.3s,baz=32,slow=9.2,SNR=32							
STKA	**Stephens Creek**	**42.01**	**242**	*e*P		P	10 15 06.4	+0.1
	3.3nm,1.0s							
STKA	**Stephens Creek**	**42.01**	**242**	P		P	10 15 06.5	+0.2
	4.1nm,0.7s,baz=90,slow=8.0,SNR=12							
WB2	**Warramunga Arr**	**48.37**	**259**	*e*P		P	10 15 55.6	-0.5
WRA	**Warramunga Arr**	**48.38**	**259**	P		P	10 15 55.6	-0.6
	0.9nm,0.3s,baz=96,slow=7.3,SNR=56							
ASAR	**Alice Springs**	**48.46**	**254**	P		P	10 15 57.1	+0.3
	11nm,0.6s,baz=89,slow=8.7,SNR=154							
ASAR				S		S	10 22 33.6	+0.6
	0.6nm,0.8s,baz=92,slow=13,SNR=6.3							

*NIED **04** 10:16:00, 4430N×149.10E, h17km, Mw4.4 Best double couple: M0:3.91000×10^15 NP1:φ0=38.00000°, δ=61.00000°, λ=93.00000°. NP2:φ0=212.00000°, δ=29.00000°, λ=85.00000°.*
*SKHL **04** 10:16:07.1±3.2, 4400N×14930E, h21km±4km, mb5.2/3, ms4.2/2*
*BJI **04** 10:16:07.8, 4422N×14923E, h13km, mB4.9, mb4.6, Ms4.5, Msz4.2*
*NEIC **04** 10:16:09.8±0.4, 4406N×14921E, mb4.7/20, Error ellipse: s-maj=10.2km s-min=6.2km az=155.0*
*ISCJB **04** 10:16:10.8±0.7, 4403N±004×149.11E±005, h33km±5km, mb4.5/54, MS4.2/7, Error ellipse: s-maj=7.6km s-min=5.1km az=142.7*
*SZGRF **04** 10:16:10.9, 4347N×14948E, h33km, mb4.5, East of Kuril Islands, Russia*
*JMA **04** 10:16:11.7±0.5, 4429N×149.13E, h30km, M4.4*
*MOS **04** 10:16:11.4±1.2, 44.18N×149.17E, h37km, mb4.8/33, Error ellipse: s-maj=10.0km s-min=6.2km az=111.7*
*IDC **04** 10:16:13.8±3.7, 44.10N×149.13E, h44km±34km, mb4.0/15, mb1 4.2/17, mb1mx4.1/23, mbtmp4.0/17, ML3.7/2, MS3.9/1, Ms1 3.9/1, ms1mx3.1/29, Error ellipse: s-maj=19.0km s-min=16.9km az=138.0*
ISC 04 10:16:12.5±1.0, 4409N±004×14911E±004, h30km±7km, h15km±.6km: pP-P, n174, σ1§21/200, mb4.5/54, MS4.2/7, 22C-7D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.45**	**323**⇑	*i*PN		**Pn**	**10 16 34.0**	**-2.6**
KUR				*e*S		**Sn**	**10 16 54.2**	**-0.3**
KUR				pmax		pmax		
	comp=N,170nm,0.6s							
KUR				pmax		pmax		
	comp=E,150nm,0.6s							
KUR				pmax		pmax		
	comp=Z,810nm,0.6s							
KUR				smax				
	comp=N,5μm,0.8s							
KUR				smax				
	comp=E,3μm,0.8s							
KUR				smax				
	comp=N,8μm,2.0s							
KUR	**Kuril'sk**	**1.45**	**323**	*i* P		**Pn**	**10 16 34.0**	**-2.6**
KUR				AMB		AMB	10 16 34.8	
	comp=N,170nm,0.6s							
KUR				AMB		AMB	10 16 34.8	
	comp=N,150nm,0.6s							
KUR				AMB		AMB	10 16 34.8	
	comp=N,810nm,0.6s							
KUR				*e*S		**Sn**	**10 16 54.2**	**-0.3**
KUR				A			10 16 59.2	
	comp=N,5μm,0.8s							
KUR				A			10 16 59.2	
	comp=N,3μm,0.8s							
KUR				A			10 17 12.8	
	comp=N,8μm,2.0s							
YUK	**Yuzh-Kuril'sk**	**2.34**	**270**⇓	*i*P		**Pn**	**10 16 48.5**	**-0.4**
YUK				AMB		AMB	10 16 54.4	
	comp=N,380nm,0.5s							
YUK				*e*S		**Sn**	**10 17 14.7**	**-1.9**
YUK				A			10 17 25.0	
	comp=N,1μm,0.5s							
YUK				A			10 17 29.0	
	comp=N,3μm,1.5s							
YUK				A			10 17 29.0	
	comp=N,5μm,1.5s							
YUK				AMS		AMS	10 18 36.0	
	comp=N,5μm,8.0s							
NEM2	**Nemuro 2**	**2.55**	**255**	P		**Pn**	**10 16 50.8**	**-0.9**
NEM2				*e*S		**Sn**	**10 17 19.9**	**-1.7**
JRA	**Rausu**	**2.88**	**268**	P		**Pn**	**10 16 57.1**	**+0.8**
JNK	**Nakash**	**3.22**	**263**	P		**Pn**	**10 17 01.2**	**+0.3**
JAK	**Akkeshi**	**3.39**	**253**	P		**Pn**	**10 17 02.8**	**-0.5**
JAK				*e*S		**Sn**	**10 17 40.4**	**-2.0**
JTKR	**Abashiri--Toko**	**3.75**	**270**	P		**Pn**	**10 17 09.5**	**+1.2**
JAR	**Ashorobuto**	**3.95**	**260**	P		**Pn**	**10 17 11.8**	**+0.8**
JOB	**Onbets**	**4.02**	**255**	P		**Pn**	**10 17 12.1**	**+0.2**
JMP	**Maruseppu**	**4.15**	**271**	P		**Pn**	**10 17 15.1**	**+1.4**
JCH	**Churui**	**4.44**	**253**	P		**Pn**	**10 17 17.9**	**+0.2**
JCH				*e*S		**Sn**	**10 18 07.0**	**-1.4**
JKK2	**Kamakawa 2**	**4.60**	**270**	P		**Pn**	**10 17 21.7**	**+1.9**
ASAJ	**Asahikawa**	**4.69**	**273**	P		**Pn**	**10 17 23.5**	**+2.4**
ASAJ	**Asahikawa**	**4.69**	**273**	PN		**Pn**	**10 17 23.2**	**+2.1**
ASAJ				pmax		pmax		
	comp=Z,3.0nm,0.3s							
ASAJ	**Asahikawa**	**4.69**	**273**	P		**Pn**	**10 17 23.2**	**+2.1**
	comp=Z,2.8nm,0.3s,baz=88,slow=15,SNR=32							
JFR	**Furan**	**4.82**	**261**	P		**Pn**	**10 17 24.6**	**+1.7**
ERM	**Erimo**	**4.83**	**247**	*e*Pn		**Pn**	**10 17 24.6**	**+1.6**
ERM				*e*Sn		**Sn**	**10 18 18.2**	**+0.3**
ERM	**Erimo**	**4.83**	**247**	*c i*PN		**Pn**	**10 17 24.4**	**+1.3**
JEM	**Erimo**	**4.83**	**247**	P		**Pn**	**10 17 24.6**	**+1.6**
JNBK	**Urakawa-nobuka**	**4.99**	**251**	P		**Pn**	**10 17 25.2**	**0.0**
JNBK				*e*S		**Sn**	**10 18 18.2**	**-3.6**
JAB	**Ashibetsu**	**5.02**	**266**	P		**Pn**	**10 17 28.3**	**+2.6**
JBT2	**Biratori 2**	**5.08**	**257**	P		**Pn**	**10 17 27.0**	**+0.4**
YSS	**Yuzh-Sakhalins**	**5.30**	**305**	*e*Pn		**Pn**	**10 17 31.1**	**+1.5**
YSS	**Yuzh-Sakhalins**	**5.30**	**305**	*e*PN		**Pn**	**10 17 31.0**	**+1.4**
YSS				*e*S		**Sn**	**10 18 38.5**	**+8.9**
YSS				pmax		pmax		
	comp=Z,490nm,0.7s							
YSS				MLR		MLR		
	comp=E,700nm,16.0s							
YSS				MLR		MLR		
	comp=Z,900nm,16.0s							
YSS				MLR		MLR		
	comp=N,900nm,14.0s							
YSS	**Yuzh-Sakhalins**	**5.30**	**305**	*e*P		**Pn**	**10 17 31.0**	**+1.4**
YSS				AMB		AMB	10 17 32.8	
	comp=N,490nm,0.7s							
YSS				*e*S		**Sn**	**10 18 38.5**	**+8.9**
YSS				AMS		AMS	10 20 50.0	
	comp=N,900nm,14.0s							
YSS				AMS		AMS	10 20 50.0	
	comp=N,900nm,16.0s							
YSS				AMS		AMS	10 20 50.0	
	comp=N,700nm,16.0s							
JEW	**Eniwo**	**5.71**	**260**	P		**Pn**	**10 17 37.3**	**+2.1**
JNB	**Noboribetsu**	**6.11**	**257**	P		**Pn**	**10 17 41.5**	**+0.9**
JNB				*e*S		**Sn**	**10 18 49.3**	**-0.2**
JKB	**Kayabe**	**6.32**	**252**	P		**Pn**	**10 17 43.6**	**+0.1**
JKB				*e*S		**Sn**	**10 18 51.8**	**-2.8**
JYM2	**Yakumo 2**	**6.70**	**256**	P		**Pn**	**10 17 49.2**	**+0.5**
JANG	**Nango**	**6.75**	**239**	P		**Pn**	**10 17 47.5**	**-1.9**
JANG				*e*S		**Sn**	**10 18 59.0**	**-6.2**
JSH	**Shimam**	**6.76**	**261**	P		**Pn**	**10 17 51.2**	**+1.6**
JTM	**Tenmabayashi**	**6.80**	**244**	P		**Pn**	**10 17 49.4**	**-0.7**
JTM				*e*S		**Sn**	**10 18 59.5**	**-7.0**
JTH	**Tanohata**	**6.80**	**235**	P		**Pn**	**10 17 47.5**	**-2.7**
JTH				*e*S		**Sn**	**10 18 57.8**	**-8.8**
JSR	**Shiriuchi**	**6.89**	**251**	P		**Pn**	**10 17 51.7**	**+0.4**
UGL	**Uglegorsk**	**6.96**	**318**	*e*P		**Pn**	**10 17 55.0**	**+2.8**
UGL				AMS		AMS	10 20 52.0	
	comp=N,900nm,17.0s							
UGL				AMS		AMS	10 20 52.0	
	comp=N,1μm,17.0s							
UGL				AMS		AMS	10 20 52.0	
	comp=N,500nm,14.0s							
JOSM	**Okushiri--Mats**	**7.33**	**257**	P		**Pn**	**10 17 58.1**	**+0.7**
OFUJ	**Ofunato**	**7.49**	**231**	P		**Pn**	**10 17 57.3**	**-2.3**
OFUJ				*e*S		**Sn**	**10 19 15.9**	**-7.6**
JRG	**Rokugo**	**7.88**	**236**	P		**Pn**	**10 18 03.9**	**-1.1**
JRG				*e*S		**Sn**	**10 19 26.7**	**-6.4**
JIO	**Ouri**	**8.11**	**229**	P		**Pn**	**10 18 06.2**	**-1.9**
JIO				*e*S		**Sn**	**10 19 29.5**	**-9.2**
SKR	**Severo-Kuril's**	**8.13**	**33**	*e*PN		**Pn**	**10 18 06.9**	**-1.4**
SKR				pmax		pmax		
	comp=N,60nm,0.5s							
SKR				pmax		pmax		
	comp=E,60nm,0.5s							
SKR				pmax		pmax		
	comp=Z,80nm,0.5s							
TEY	**Ternei**	**8.98**	**280**	*e*P		**Pn**	**10 18 20.0**	**0.0**
JFK	**Kawauchi**	**9.17**	**226**	*e*S		**Sn**	**10 19 55.0**	**-10**
PET	**Petropavlovsk**	**10.94**	**32**	*e*PN		**Pn**	**10 18 45.3**	**-1.5**
PET				pmax		pmax		
	comp=Z,7.0nm,0.8s							
MAT	**Matsushiro**	**11.22**	**232**	P		**Pn**	**10 18 49.2**	**-1.5**
MAT				S		**Sn**	**10 20 57.6**	**+2.6**
MJAR	**Matsushiro Arr**	**11.22**	**232**	P		**Pn**	**10 18 48.6**	**-2.1**
	comp=Z,0.3nm,0.3s,baz=25,slow=12,SNR=8.4							
KLR	**Kul'dur**	**12.98**	**299**	*e*PN		**Pn**	**10 19 15.4**	**+0.8**

MDJ Mudanjiang 13.98 279 P **Pn** **10 19 26.9 -1.4**
MDJ S **Sn** **10 22 00.8 -1.5**
MDJ SCP ScP 10 28 23.2 +4.0
MDJ PCS PcS 10 28 24.5 +1.8
MDJ AMB AMB
comp=Z,4.0nm,2.4s
MDJ AMB AMB
comp=Z,484nm,13.7s
MDJ LR LR
comp=N,244nm,17.8s
MDJ LR LR
comp=E,214nm,19.2s
MDJ LR LR
comp=Z,493nm,19.4s
CN2 Changchun 17.04 277 *e*P **Pn** **10 20 07.4 -0.9**
CN2 *e*XP sP 10 20 14.4 -7.4
CN2 *e*S **Sn** **10 23 13.1 -3.5**
CN2 AMB AMB
comp=Z,10.0nm,0.6s
CN2 AMB AMB
comp=Z,200nm,3.0s
ZEA Zeya 17.25 312 *e*P **Pn** **10 20 08.4 -2.4**
ZEA AMB AMB 10 20 10.0
comp=Z,23nm,1.0s
KSRS Korea Array 17.34 255 P **Pn** **10 20 11.4 -0.7**
comp=Z,0.2nm,0.3s,baz=61,slow=11,SNR=8.3
JNU Nakatsue 17.93 239 LR LR 10 28 25.0
comp=Z,372nm,18.9s,baz=22,slow=41
SEY Seymchan 18.97 5⇑ *e*P **Pn** **10 20 29.7 -2.2**
CLNS Chul'man 19.88 318 *e*P **Pn** **10 20 43.9 +1.2**
CLNS pmax pmax
comp=Z,10.0nm,0.7s
CLNS pmax pmax
comp=N,11nm,0.9s
CLNS pmax pmax
comp=E,9.0nm,0.9s
CLNS MLR MLR
comp=Z,500nm,15.0s
CLNS MLR MLR
comp=N,300nm,17.0s
CLNS MLR MLR
comp=E,200nm,12.0s
HIA Hailar 20.73 295 *e*P **P** **10 20 49.9 -0.4**
YAK Yakutsk 21.27 334 *e*P **P** **10 20 53.7 -2.3**
YAK pmax pmax
comp=Z,24nm,0.9s,mb4.5
YAK pmax pmax
comp=N,13nm,1.2s
YAK pmax pmax
comp=E,8.0nm,1.1s
BJI Beijing 24.69 272 P **P** **10 21 29.0 -1.6**
BJI AMB AMB
comp=Z,7.0nm,0.5s,mb4.5
BJI Beijing 24.69 272 P **P** **10 21 29.0 -1.6**
comp=Z,7.0nm,0.5s,mb4.5
BILL Biiibino 25.65 15 *e*P **P** **10 21 39.0 -0.1**
BOD Bodaibo 25.68 315 *e*P **P** **10 21 35.7 -3.8**
BOD pmax pmax
comp=Z,4.0nm,1.0s,mb3.9
NJ2 Nanjing 26.53 253 *e*P **P** **10 21 49.9 +2.6**
NJ2 AMB AMB
comp=Z,10.0nm,1.0s,mb4.3
HHC Hu-ho-hao-te 27.73 276 *e*P **P** **10 22 00.7 +2.7**
HHC AP pP 10 22 04.9 -2.0
HHC XP sP 10 22 08.1 -2.5
HHC PP 10 22 49.9
HHC PCP PcP 10 25 19.1 +5.0
HHC S **S** **10 26 42.1 +3.7**
HHC XS sS 10 26 46.3 -6.7
HHC SS 10 28 00.9
HHC SCP ScP 10 28 58.2 +5.8
HHC SCS ScS 10 32 48.7 +4.3
HHC AMB AMB
comp=Z,22nm,0.5s,mb5.0
HHC AMB AMB
comp=Z,171nm,9.0s
HHC LR LR
comp=N,170nm,13.1s,MS4.0
HHC LR LR
comp=E,273nm,15.7s,MS4.0
HHC LR LR
comp=Z,330nm,16.9s,MS4.0
TIXI Tiksi 29.33 347 *e*P **P** **10 22 12.7 +0.7**
SONM Songino Array 29.65 292 P **P** **10 22 15.4 +0.4**
SONM pmax pmax
comp=Z,4.0nm,0.8s
SONM Songino Array 29.65 292 P **P** **10 22 15.4 +0.4**
comp=Z,3.7nm,0.8s,mb4.2,baz=79,slow=9.0,SNR=4.9
TLY Talaya 30.99 300 *e*P **P** **10 22 19.4 -7.5**
comp=Z,3.2nm,0.7s,mb4.3
TLY Talaya 30.99 300 *e*P **P** **10 22 19.4 -7.5**
TLY pmax pmax
comp=Z,5.0nm,1.0s,mb4.3
LZH Lanzhou 35.17 273 ⇑P **P** **10 23 04.9 +1.4**
LZH AP pP 10 23 09.4 -3.1
LZH XP sP 10 23 12.0 -4.1
LZH PP PP 10 24 23.5 0.0
LZH AMB AMB
comp=Z,23nm,1.2s,mb5.0
LZH AMB AMB
comp=Z,55nm,5.5s
LZH LR LR
comp=E,653nm,12.7s
LZH LR LR
comp=Z,975nm,17.2s,MS4.6
LZH Lanzhou 35.17 273 ⇑P **P** **10 23 04.9 +1.4**
comp=Z,23nm,1.2s,mb5.0
LZH pP pP 10 23 09.4 -3.1
LZH sP sP 10 23 12.0 -4.1
LZH PP PP 10 24 23.5 0.0
LZH LR LR
comp=Z,980nm,17.2s,MS4.6
GTA Gaotai 36.63 280 *e*P **P** **10 23 17.1 +1.1**
GTA AP pP 10 23 21.9 -3.0
GTA XP sP 10 23 25.5 -3.1
GTA PP PP 10 24 40.0 +0.5
GTA PCP PcP 10 25 35.0 -3.5
GTA S **S** **10 28 55.7 -1.2**
GTA AMB AMB
comp=Z,6.0nm,1.0s,mb4.4
GTA AMB AMB
comp=Z,255nm,6.9s
GTA LR LR
comp=N,159nm,16.8s,MS4.0
GTA LR LR
comp=E,165nm,17.2s,MS4.0
GTA LR LR
comp=Z,216nm,15.7s,MS4.0
IMA2 Indian Mountai 37.60 34 *e*P **P** **10 23 24.1 +0.2**
CD2 Chengdu 37.85 265 ⇓*i*P **P** **10 23 26.8 +0.4**
CD2 XP sP 10 23 33.8 -5.2
CD2 PP PP 10 24 56.0 +3.0
CD2 S **S** **10 29 16.8 +1.3**
CD2 XS sS 10 29 24.2 -6.2
CD2 SS SS 10 31 51.9 -10
CD2 AMB AMB
comp=Z,30nm,0.6s,mb5.2
CD2 AMB AMB
comp=Z,50nm,5.2s
CD2 LR LR
comp=E,690nm,18.0s
CD2 LR LR
comp=Z,200nm,15.6s,MS4.0
GYA Guiyang 38.38 257 P **P** **10 23 33.5 +2.6**
GYA AP pP 10 23 37.8 -2.1
GYA XP sP 10 23 40.8 -2.7
GYA PP PP 10 25 04.5 +5.6
GYA PCP PcP 10 25 49.0 +5.0
GYA S **S** **10 29 27.9 +4.3**
GYA SCP ScP 10 29 34.8 +5.3
GYA SCS ScS 10 33 43.0 +3.3
GYA AMB AMB
comp=Z,10.0nm,1.0s,mb4.5
GYA AMB AMB
comp=Z,90nm,4.6s
GYA LR LR
comp=N,500nm,15.0s,MS4.6
GYA LR LR
comp=E,490nm,15.2s,MS4.6
GYA LR LR
comp=Z,540nm,16.7s,MS4.4
ZALV Zalesovo Beam 41.92 307 P **P** **10 23 58.8 -1.2**
comp=Z,0.8nm,0.4s,mb3.7,baz=90,slow=7.4,SNR=5.5
ZALV PcP PcP 10 25 54.8 -0.1
comp=Z,2.3nm,0.7s,baz=83,slow=3.7,SNR=7.5

ZAL Zalesovo 41.94 307 P **P** **10 23 58.8 -1.3**
ZAL 10 25 54.8
KMI Kunming 41.97 259 P **P** **10 24 02.0 +1.3**
KMI AP pP 10 24 05.8 -3.9
KMI XP sP 10 24 08.1 -5.3
KMI AMB AMB
comp=Z,7.0nm,0.8s,mb4.3
KMI LR LR
comp=N,247nm,16.8s,MS4.2
KMI LR LR
comp=E,154nm,15.6s,MS4.2
KMI LR LR
comp=Z,124nm,21.4s
KMI Kunming 41.97 259 P **P** **10 24 02.0 +1.3**
comp=Z,7.0nm,0.8s,mb4.3
KMI pP pP 10 24 05.8 -3.9
KMI sP sP 10 24 08.1 -5.3
KMI LR LR
comp=Z,120nm,21.4s,MS3.7
WMQ Urumqi 43.28 292 *e*P **P** **10 24 12.2 +1.1**
WMQ AP pP 10 24 16.5 -3.7
WMQ *e*S **S** **10 30 38.0 +1.7**
WMQ AMB AMB
comp=Z,20nm,1.0s,mb4.8
WMQ AMB AMB
comp=Z,187nm,5.4s
WMQ LR LR
comp=N,333nm,22.9s,MS4.4
WMQ LR LR
comp=E,393nm,20.8s,MS4.4
WMQ LR LR
comp=Z,528nm,18.6s,MS4.5
INK Inuvik 45.39 31 *e*P **P** **10 24 27.9 +0.3**
comp=Z,148nm,0.9s
INK Inuvik 45.39 31 P **P** **10 24 27.4 -0.3**
comp=Z,3.3nm,0.8s,mb4.2,baz=281,slow=7.5,SNR=19
MK31 Makanchi Array 45.68 298 *e*P **P** **10 24 30.5 +0.3**
MK31 Makanchi Array 45.68 298 *i*P **P** **10 24 29.8 -0.4**
MK31 pmax pmax
comp=Z,17nm,0.8s,mb5.0
MKAR Makanchi Array 45.68 298 P **P** **10 24 30.3 +0.1**
MKAR pmax pmax
comp=Z,9.0nm,0.8s
MKAR Makanchi Array 45.68 298 P **P** **10 24 30.3 +0.1**
comp=Z,9.4nm,0.8s,mb4.8,baz=74,slow=9.0,SNR=66
KURK Kurchatov 46.51 304 *e*P **P** **10 24 36.7 0.0**
comp=Z,5.0nm,0.7s,mb4.5
KURK Kurchatov 46.51 304⇑ *e*P **P** **10 24 35.6 -1.1**
CHKZ Chkalovo 50.00 310 *i*P **P** **10 25 01.7 -1.8**
CHKZ pmax pmax
comp=Z,6.0nm,1.8s,mb4.3
ZRNK Zerenda 51.18 310 *i*P **P** **10 25 12.3 -0.1**
ZRNK pmax pmax
comp=Z,2.0nm,0.7s,mb4.2
ULHL Ulahol 51.54 295 P **P** **10 25 16.3 +1.0**
SNR=14
TKM2 Tokmak 2 51.63 296 *e*P **P** **10 25 16.9 +0.8**
comp=Z,14nm,1.1s,mb4.8
TKM2 Tokmak 2 51.63 296 *e*P **P** **10 25 16.9 +0.9**
TKM2 pmax pmax
comp=Z,14nm,1.1s,mb4.8
TKM2 Tokmak 2 51.63 296 P **P** **10 25 17.0 +1.0**
SNR=8.4
USP Ospenovka 52.18 297 P **P** **10 25 20.8 +0.7**
SNR=9.4
KBK Karagaybulak 52.18 296 P **P** **10 25 21.2 +1.1**
SNR=7.0
KZA Kyzart 52.26 295 P **P** **10 25 22.3 +1.6**
SNR=16
AAK Ala-Archa 52.48 296 P **P** **10 25 22.9 +0.5**
SNR=8.1
UCH Uchtor 52.67 296 *e*P **P** **10 25 24.8 +1.0**
comp=Z,3.4nm,0.9s,mb4.3
EKS2 Erkin-Say 52.94 297 *e*P **P** **10 25 26.4 +0.7**
comp=Z,11nm,0.9s,mb4.8
EKS2 Erkin-Say 52.94 297 P **P** **10 25 26.5 +0.8**
SNR=5.3
AML Almayashu 53.25 296 *e*P **P** **10 25 29.3 +1.3**
comp=Z,10nm,1.0s,mb4.7
AML Almayashu 53.25 296 P **P** **10 25 29.5 +1.5**
SNR=9.2
RES Resolute Bay 54.23 17 *e*P **P** **10 25 33.9 -0.8**
YKA Yellowknife Ar 54.73 34 P **P** **10 25 38.0 -0.4**
YKA Yellowknife Ar 54.73 34 P **P** **10 25 38.0 -0.5**
YKA pmax pmax
comp=Z,1.0nm,0.7s
YKA Yellowknife Ar 54.73 34 P **P** **10 25 38.0 -0.4**
comp=Z,1.1nm,0.7s,mb4.0,baz=298,slow=6.8,SNR=21
KK31 Karatay Array 54.80 299 *i*P **P** **10 25 38.8 -0.5**
KK31 pmax pmax
comp=Z,5.0nm,0.5s,mb4.8
ARU Arti 55.06 317 *d*i*P* **P** **10 25 39.2 -1.8**
ARU *e* 10 26 36.8
ARU *e*S **S** **10 33 21.1 0.0**
ARU *e*SS SS 10 37 02.9 -1.5
ARU pmax pmax
comp=Z,5.0nm,1.0s,mb4.5
KBL Kabul 60.40 291 *e*P **P** **10 26 18.0 -0.8**
JOF Joensuu 62.44 333 *e*p **P** **10 26 30.4 -1.8**
comp=Z,8.4nm,0.6s,mb5.0
JOF Joensuu 62.44 333 *e*P **P** **10 26 30.4 -1.8**
JOF pmax pmax
comp=Z,8.0nm,0.6s,mb5.0
FFC Flin Flon 64.58 37 *e*P **P** **10 26 46.6 +0.2**
WRA Warramunga Arr 65.14 195 P **P** **10 26 49.7 -0.6**
WRA pmax pmax
comp=Z,1.0nm,0.7s
WRA Warramunga Arr 65.14 195 P **P** **10 26 49.7 -0.6**
comp=Z,0.9nm,0.7s,mb3.9,baz=15,slow=6.8,SNR=9.6
FINES FINESS Array B 65.21 334 *i*P **P** **10 26 49.5 -0.9**
FINES pmax pmax
comp=Z,6.0nm,0.6s
FINES FINESS Array B 65.21 334 P **P** **10 26 49.5 -0.8**
comp=Z,6.0nm,0.6s,mb4.8,baz=43,slow=7.8,SNR=26
BOZ Bozeman (W) 65.62 49 *e*P **P** **10 26 53.8 +0.5**
comp=Z,26nm,2.3s,mb4.8
BOZ Bozeman (W) 65.62 49 *e*P **P** **10 26 53.8 +0.5**
BOZ pmax pmax
comp=Z,26nm,2.3s,mb4.8
OBN Obninsk 65.87 324⇑ *e*P **P** **10 26 53.5 -1.3**
OBN pmax pmax
comp=Z,11nm,1.1s,mb4.8
NVAR Mina Array Bea 66.19 59 P **P** **10 26 57.4 +0.2**
comp=Z,0.5nm,0.6s,mb3.7,baz=296,slow=7.2,SNR=5.3
VRSR Storozhevoye 67.38 320 *e*P **P** **10 27 04.4 -0.1**
VRSR pmax pmax
comp=N,3.0nm,0.8s
VRSR pmax pmax
comp=Z,3.0nm,0.8s,mb4.4
VRSR pmax pmax
comp=E,2.0nm,0.9s
DUG Dugway 68.40 55 *e*P **P** **10 27 18.4 +7.3**
PDAR Pinedale Array 68.60 51 P **P** **10 27 11.3 -1.0**
comp=E,0.5nm,0.6s,mb3.6,baz=287,slow=1.9,SNR=5.1
ASAR Alice Springs 68.85 195 P **P** **10 27 14.1 +0.2**
comp=E,0.5nm,0.9s,mb3.5,baz=28,slow=7.4,SNR=5.2
GSC Goldstone 69.09 61 *e*P **P** **10 27 19.4 +3.9**
NB2 NORSAR Subarra 69.79 340 P **P** **10 27 18.2 -1.1**
comp=Z,17nm,1.0s,mb4.9,baz=30,slow=6.5
NOA NORSAR Array B 69.79 340 P **P** **10 27 18.5 -0.8**
NOA NORSAR Array B 69.79 340 P **P** **10 27 18.5 -0.8**
NOA pmax pmax
comp=Z,10.0nm,0.8s
NOA NORSAR Array B 69.79 340 P **P** **10 27 18.5 -0.8**
comp=Z,9.5nm,0.8s,mb4.8,baz=32,slow=6.1,SNR=26
SRU San Rafael 70.44 54 *e*P **P** **10 27 23.4 -0.3**
KIV Kislovodsk 70.58 313 P **P** **10 27 25.6 +1.1**
KIV Kislovodsk 70.58 313⇑ *e*P **P** **10 27 25.5 +1.0**
KIV pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
AKASG Malin Array Be 72.14 325 *i*P **P** **10 27 33.0 -0.7**
AKASG pmax pmax
comp=Z,4.0nm,0.5s
AKASG Malin Array Be 72.14 325 P **P** **10 27 33.0 -0.7**
comp=Z,3.6nm,0.5s,mb4.5,baz=38,slow=6.3,SNR=23
AKBB Malin Array Si 72.14 325 *e*P **P** **10 27 33.2 -0.5**
KIEV Kiev 72.15 325 *e*P **P** **10 27 33.3 -0.5**
comp=Z,16nm,1.1s,mb4.8
KIEV Kiev 72.15 325 *e*P **P** **10 27 33.3 -0.5**
KIEV pmax pmax
comp=Z,16nm,1.1s,mb4.9
ANMO Albuquerque 75.65 55 *e*P **P** **10 27 59.6 +5.0**
comp=Z,16nm,2.2s,mb4.5
STHS Stebnicka Huta 76.34 328 *e*P **P** **10 27 59.1 +0.8**
comp=Z,6.2nm,1.4s,mb4.3
STHS *e* 10 28 11.4

STHS Stebnicka Huta 76.34 328 *e*P **P** **10 27 59.1 +0.8**
STHS *e* 10 28 11.4
STHS pmax pmax
comp=Z,6.0nm,1.4s,mb4.3
TIRR Tirgusor 77.26 321⇑ *i*P **P** **10 28 03.7 +0.1**
DPC Dobruska-Polom 77.36 331 *e*P **P** **10 28 04.3 +0.3**
DPC *e*PCP PcP 10 28 17.8 +3.3
MORC Moravsky Berou 77.41 330 *e*P **P** **10 28 04.8 +0.5**
comp=Z,5.6nm,0.9s,mb4.5
MORC Moravsky Berou 77.41 330 *e*P **P** **10 28 04.8 +0.5**
MORC pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
MORC Moravsky Berou 77.41 330⇓ *i*P **P** **10 28 04.6 +0.3**
MLR Muntele Rosu 77.55 323 P **P** **10 28 06.8 +1.6**
MLR pmax pmax
comp=Z,1.0nm,0.5s
MLR Muntele Rosu 77.55 323 P **P** **10 28 06.8 +1.6**
comp=Z,1.4nm,0.5s,mb4.1,baz=156,slow=5.4,SNR=5.9
MLR Muntele Rosu 77.55 323⇓ *i*P **P** **10 28 07.1 +1.9**
CLL Collm 77.66 334⇑ *i*P **P** **10 28 05.2 -0.4**
CLL pmax pmax
comp=Z,6.0nm,0.7s,mb4.6
CLL Collm 77.66 334⇑ *i*P **P** **10 28 05.2 -0.4**
comp=Z,6.0nm,0.7s,mb4.6
BRG Berggiesshubel 77.72 333⇑ *i*P **P** **10 28 05.2 -0.8**
BRG pmax pmax
comp=Z,6.0nm,0.7s,mb4.6
VOIR 77.98 323⇑ *i*P **P** **10 28 08.1 +0.5**
VYHS Vyhne 78.00 329 *e*P **P** **10 28 04.0 -3.6**
PRU Pruhonice 78.28 332 *e*P **P** **10 28 09.8 +0.7**
MODS Modra-Piesok 78.68 330 *e*P **P** **10 28 11.9 +0.5**
GZR Gura Zlata 78.98 325⇓ *i*P **P** **10 28 13.0 -0.1**
KHC Kasperske Hory 79.34 332⇑ *e*P **P** **10 28 14.5 -0.4**
KHC Kasperske Hory 79.34 332 *e*P **P** **10 28 15.1 +0.2**
KHC *ex* x 10 28 29.3
GERES GERESS Array B 79.54 332 P **P** **10 28 16.0 -0.1**
GERES pmax pmax
comp=Z,2.0nm,0.6s
GERES GERESS Array B 79.54 332 P **P** **10 28 16.0 0.0**
comp=Z,2.1nm,0.6s,mb4.3,baz=37,slow=6.4,SNR=10
GRA1 Grafenberg Arr 79.63 334 *e*P **P** **10 28 17.2 +0.7**
comp=Z,5.0nm,0.7s,mb4.5
GRF Grafenberg Arr 79.63 334 *e*P **P** **10 28 17.2 +0.7**
GRF pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
GRF Grafenberg Arr 79.63 334 *e*P **P** **10 28 17.2 +0.7**
GRF pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
GRF Grafenberg Arr 79.63 334 *e*P **P** **10 28 17.2 +0.7**
comp=Z,5.0nm,0.7s,mb4.5
TXAR Lajitas Array 81.28 58 P **P** **10 28 25.6 -0.1**
TXAR pmax pmax
comp=Z,1.0nm,0.5s
TXAR Lajitas Array 81.28 58 P **P** **10 28 25.6 -0.1**
comp=Z,1.0nm,0.5s,mb4.0,baz=301,slow=4.0,SNR=13
WATA Walderalm 81.56 332⇑ *i*P **P** **10 28 27.1 +0.2**
comp=Z,7.1nm,1.0s,mb4.5
WATA Walderalm 81.56 332⇑ *i*P **P** **10 28 27.1 +0.2**
WATA pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
MOTA Moosalm 81.71 333⇑ *i*P **P** **10 28 28.5 +0.8**
comp=Z,12nm,1.1s,mb4.7
MOTA Moosalm 81.71 333⇑ *i*P **P** **10 28 28.5 +0.8**
comp=Z,12nm,1.1s,mb4.7
MOTA Moosalm 81.71 333⇑ *i*P **P** **10 28 28.5 +0.8**
MOTA pmax pmax
comp=Z,12nm,1.1s,mb4.7
ABTA Abfaltersbach 81.76 331⇓ *i*P **P** **10 28 27.3 -0.7**
comp=Z,10nm,1.4s,mb4.6
SQTA Sankt Quirin 81.79 333⇑ *i*P **P** **10 28 28.1 0.0**
comp=Z,4.0nm,1.0s,mb4.3
SQTA Sankt Quirin 81.79 333⇑ *i*P **P** **10 28 28.1 0.0**
SQTA pmax pmax
comp=Z,4.0nm,1.0s,mb4.3
DAVA Damuels 82.17 333⇑ *i*P **P** **10 28 31.2 +1.1**
comp=Z,11nm,1.1s,mb4.7

IDC 04 10:22:24.8±12.0, 678S×15478E, h58km±110km, mb3.6/7, mb1 3.8/7, mb1mx3.6/14, mbtmp3.6/7, Error ellipse: s-maj=50.3km s-min=36.2km az=104.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**15.60**	**211**	P	Pn	10 26 04.2	+3.1
0.1nm,0.3s,baz=34,slow=14,SNR=3.4							
WRA	**Warramunga Arr**	**23.76**	**235**	P	P	10 27 32.0	-0.1
2.1nm,0.7s,baz=58,slow=9.7,SNR=9.7							
WRA				PcP	PcP	10 31 14.9	+0.2
0.3nm,0.5s,baz=59,slow=2.4,SNR=5.4							
ASAR	**Alice Springs**	**26.15**	**228**	P	P	10 27 53.4	-0.4
1.1nm,0.7s,baz=59,slow=8.2,SNR=14							
STKA	**Stephens Creek**	**27.84**	**205**	P	P	10 28 09.6	+0.8
2.3nm,0.8s,baz=27,slow=8.4,SNR=3.9							
SONM	**Songino Array**	**69.04**	**327**	P	P	10 33 25.2	+0.8
0.5nm,0.7s,baz=147,slow=6.8,SNR=4.1							
MKAR	**Makanchi Array**	**83.10**	**319**	P	P	10 34 44.5	+0.1
0.6nm,0.8s,baz=108,slow=4.8,SNR=6.1							
INK	**Inuvik**	**89.60**	**21**	P	P	10 35 18.9	+3.2
0.7nm,0.5s,baz=252,slow=3.6,SNR=12							
NVAR	**Mina Array Bea**	**91.76**	**52**	P	P	10 35 26.8	+0.3
0.1nm,0.4s,baz=246,slow=6.5,SNR=3.7							
YKA	**Yellowknife Ar**	**96.25**	**28**	P	P	10 35 45.9	-0.6
0.8nm,0.8s,baz=270,slow=4.6,SNR=13							
TORD	**Torodi Ar. Bea**	**152.76**	**286**	PKPbc	PKPbc	10 42 15.8	-0.5
0.7nm,0.5s,baz=70,slow=1.5,SNR=9.5							

IDC 04 10:35:06.0±7.4, 2054S×16834E, h0km, mb3.9/4, mb1 4.0/5, mb1mx3.8/15, mbtmp3.9/5, Error ellipse: s-maj=143.7km s-min=45.2km az=112.0, Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**2.33**	**229**	Pn	Pn	10 35 45.6	0.0
2.5nm,0.3s,baz=11,slow=9.4,SNR=23							
DZM				Sn	Sn	10 36 16.0	+1.0
17nm,0.3s,baz=132,slow=19,SNR=9.0							
STKA	**Stephens Creek**	**26.45**	**239**	P	P	10 40 43.8	-0.9
1.1nm,0.8s,baz=67,slow=15,SNR=2.6							
WRA	**Warramunga Arr**	**31.88**	**265**	P	P	10 41 32.5	-0.6
0.8nm,0.8s,baz=92,slow=8.4,SNR=9.2							
ASAR	**Alice Springs**	**32.01**	**258**	P	P	10 41 34.5	+0.3
1.9nm,0.8s,baz=84,slow=9.4,SNR=26							
FITZ	**Fitzroy Crossi**	**40.29**	**266**	P	P	10 42 46.4	+1.2
2.8nm,0.7s,baz=109,slow=7.3,SNR=7.6							

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*BJI **04** 10:42:50.3, 766S×15595E, h8km, mB5.6, mb4.8*
*IDC **04** 10:42:51.0±0.9, 781S×15580E, h0km, mb4.5/10, mb1 4.6/11, mb1mx4.5/15, mbtmp4.5/11, ML3.5/1, MS3.6/4, Ms1 3.6/4, ms1mx3.3/29, Error ellipse: s-maj=32.6km s-min=18.3km az=109.0*
*NEIC **04** 10:42:52.2±0.5, 788S×15590E, h10km, mb4.7/10, Error ellipse: s-maj=18.1km s-min=8.5km az=116.0*
*ISCJB **04** 10:42:54.2±0.7, 779S±009×1558E±02, h33km, mb4.5/24, MS3.4/2, Error ellipse: s-maj=23.3km s-min=9.5km az=24.8*
*MOS **04** 10:42:55.0±1.0, 767S×15564E, h33km, mb5.1/8, Error ellipse: s-maj=17.7km s-min=11.0km az=93.9*
ISC 04 10:42:55.9±0.7, 785S±009×1559E±02, h35km, n49, σ0 95/43, mb4.5/24, MS3.4/2, 2C-2D, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.33**	**112**	LR	LR	10 45 35.4	
comp=Z,393nm,21.4s,baz=356,slow=37							
CTA	**Charters Tower**	**15.32**	**216**	Pn	**Pn**	**10 46 29.9**	**+0.3**
0.1nm,0.3s,baz=33,slow=11,SNR=4.8							
CTA				LR	LR	10 51 29.9	
comp=Z,364nm,19.2s,baz=46,slow=34							
GUMO	**Guam**	**23.93**	**333**	LR	LR	10 54 34.6	
comp=Z,85nm,20.2s,MS3.2,baz=125,slow=30							
WB2	**Warramunga Arr**	**24.06**	**238**	*e*P	**P**	**10 48 07.5**	**-0.6**
WRA	**Warramunga Arr**	**24.07**	**238**	P	**P**	**10 48 07.7**	**-0.5**
9.4nm,0.8s,mb4.2,baz=61,slow=9.6,SNR=18							
WRA				LR	LR	10 56 41.1	
comp=Z,180nm,18.9s,MS3.6,baz=80,slow=34							
ASAR	**Alice Springs**	**26.28**	**231**	P	**P**	**10 48 27.4**	**-0.8**
2.2nm,0.9s,mb3.7,baz=67,slow=8.3,SNR=13							
STKA	**Stephens Creek**	**27.35**	**207**	*e*P	**P**	**10 48 36.3**	**-1.5**

4.6nm,1.0s,mb4.0
STKA Stephens Creek 27.35 207 P **P 10 48 38.7 +0.9**
3.4nm,0.8s,mb3.9,baz=26,slow=11,SNR=6.2
MJAR Matsushiro Arr 47.16 341 P **P 10 51 24.3 -0.7**
12nm,0.7s,mb4.9,baz=161,slow=7.3,SNR=36
MAJO Matsushiro 47.17 341 *e*P **P 10 51 24.5 -0.5**
25nm,0.8s,mb5.2
MAJO Matsushiro 47.17 341 *e*P **P 10 51 24.5 -0.6**
MAJO pmax pmax
comp=Z,25nm,0.8s,mb5.2
MAT Matsushiro 47.17 341 P **P 10 51 24.2 -0.9**
KSRS Korea Array 52.09 332 P **P 10 52 02.6 +0.1**
comp=Z,4.3nm,0.9s,mb4.4,baz=147,slow=7.9,SNR=11
YSS Yuzh-Sakhalins 55.79 349 *e*P **P 10 52 30.2 +0.8**
comp=Z,6.3nm,0.7s,mb4.8
YSS Yuzh-Sakhalins 55.79 349 *e*P **P 10 52 29.7 +0.3**
YSS pmax pmax
comp=Z,20nm,0.9s,mb5.2
CN2 Changchun 58.33 334 *e*P **P 10 52 48.1 +0.7**
CN2 AMB AMB
comp=Z,12nm,1.0s,mb4.9
HABR Khabarovsk 59.00 344 *e*P **P 10 52 50.9 -1.1**
KLR Kul'dur 60.63 342 *e*P **P 10 53 00.0 -3.2**
KMI Kunming 61.20 304 P **P 10 53 08.1 +0.5**
KMI AP pP 10 53 18.6 +0.3
KMI AMB AMB
comp=Z,13nm,1.0s,mb5.0
KMI Kunming 61.20 304 P **P 10 53 08.1 +0.5**
comp=Z,13nm,1.0s,mb5.0
KMI pP pP 10 53 18.6 +0.3
HIA Hailar 65.06 335 *e*P **P 10 53 31.4 -1.3**
CIT Chita 69.75 334 *e*P **P 10 54 03.4 +1.1**
ULN Ulaanbaatar 70.18 327 *e*P **P 10 54 05.7 +0.6**
comp=Z,4.8nm,1.1s,mb4.3
ULN Ulaanbaatar 70.18 327⇑ *e*P **P 10 54 03.7 -1.4**
SONM Songino Array 70.52 327 P **P 10 54 08.7 +1.6**
comp=Z,3.1nm,0.9s,mb4.2,baz=133,slow=5.2,SNR=14
SEY Seymchan 70.62 358⇑ *e*P **P 10 54 06.3 -1.1**
LSA Lhasa 72.46 304 *e*P **P 10 54 20.0 +0.7**
YAK Yakutsk 72.57 347 *e*P **P 10 54 20.1 +0.9**
YAK pmax pmax
comp=Z,30nm,0.9s,mb5.2
YAK pmax pmax
comp=N,9.0nm,1.1s
YAK pmax pmax
comp=E,9.0nm,1.5s
ZAK Zakamensk 73.67 328⇓ *i*P **P 10 54 26.2 +0.3**
ZAK pmax pmax
comp=Z,2.0nm,1.1s,mb4.0
BOD Bodaibo 73.72 338 *e*P **P 10 54 25.8 -0.3**
BOD pmax pmax
comp=Z,4.0nm,1.2s,mb4.2
BILL Bilibino 76.06 4 *e*P **P 10 54 40.0 +0.6**
comp=Z,23nm,1.0s,mb5.0
BILL Bilibino 76.06 4⇓ *i*P **P 10 54 39.7 +0.3**
BILL pmax pmax
comp=Z,31nm,1.2s,mb5.1
BILL MLR MLR
comp=Z,2μm,15.0s
TIXI Tiksi 81.32 352 *e*P **P 10 55 07.4 -0.8**
TIXI pmax pmax
comp=Z,5.0nm,1.5s,mb4.2
MCK McKinley 82.53 22 *e*P **P 10 55 14.3 -0.5**
comp=Z,5.7nm,0.8s,mb4.7
MCK McKinley 82.53 22 *e*P **P 10 55 14.3 -0.4**
MCK pmax pmax
comp=Z,6.0nm,0.8s,mb4.7
COLA College 83.56 21 *e*P **P 10 55 19.4 -0.7**
comp=Z,3.2nm,0.8s,mb4.5
COLA College 83.56 21 *e*P **P 10 55 19.4 -0.7**
COLA pmax pmax
comp=Z,3.0nm,0.8s,mb4.5
MK31 Makanchi Array 84.61 319 *e*P **P 10 55 26.3 +0.5**
MKAR Makanchi Array 84.61 319 P **P 10 55 26.1 +0.3**
comp=Z,9.3nm,0.8s,mb5.0,baz=101,slow=6.3,SNR=47
ZALV Zalesovo Beam 85.36 326 P **P 10 55 28.8 -0.7**
comp=Z,4.2nm,0.7s,mb4.7,baz=109,slow=5.5,SNR=19
ZAL Zalesovo 85.37 326 P **P 10 55 28.8 -0.7**
UCH Uchtor 88.86 313 *e*P **P 10 55 49.0 +2.3**
comp=Z,2.6nm,1.1s,mb4.5
AML Almayashu 89.44 313 *e*P **P 10 55 51.6 +2.2**
comp=Z,4.4nm,1.0s,mb4.7
NVAR Mina Array Bea 91.57 52 P **P 10 56 00.7 +1.2**
comp=Z,0.7nm,0.8s,mb4.0,baz=253,slow=3.6,SNR=5.9
YKA Yellowknife Ar 96.69 28 P **P 10 56 22.3 0.0**
comp=Z,2.2nm,0.9s,mb4.6,baz=266,slow=4.5,SNR=24
ANN Anapa 115.54 316 *i* PKIKP PKPdf 11 01 34.9 +0.4
ANN *e* 11 08 22.9
ANN *e*SS SS 11 18 33.7 +0.2
CLL Collm 126.97 332 *e*PKPdf PKPdf 11 01 57.0 +0.8
BDFB Brasilia 146.77 135 PKPbc PKPbc 11 02 35.6 +0.3
comp=Z,9.1nm,0.9s,baz=143,slow=3.0,SNR=10
TORD Torodi Ar. Bea 154.07 284 PKP PKPdf 11 02 46.5 +1.6
comp=Z,1.1nm,1.1s,baz=114,slow=1.7,SNR=4.0
TORD PKPbc PKPbc 11 02 52.1 -0.9
comp=Z,1.6nm,0.9s,baz=45,slow=2.7,SNR=7.5

IDC 04 10:46:58.1±1.4,736S×15598E,h0km,mb4.0/4,mb1 4.1/5, mb1mx3.8/15,mbtmp4.0/5,ML4.3/1, Error ellipse: s-maj=41.6km s-min=34.7km az=37.0,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.44**	**118**	Pn	Pn	10 48 06.9	+0.1
	16nm,0.3s,baz=270,slow=7.1,SNR=3.2						
HNR				Sn	Sn	10 48 44.3	-15
	38nm,0.3s,baz=270,slow=20,SNR=3.9						
WRA	**Warramunga Arr**	**24.43**	**237**	P	P	10 52 19.2	+0.6
	2.9nm,0.9s,baz=64,slow=9.5,SNR=5.4						
SONM	**Songino Array**	**70.17**	**327**	P	P	10 58 13.8	+1.2
	0.6nm,0.7s,baz=130,slow=5.8,SNR=4.3						
MKAR	**Makanchi Array**	**84.32**	**318**	P	P	10 59 31.8	-0.3
	1.2nm,0.6s,baz=100,slow=5.5,SNR=7.4						
ZALV	**Zalesovo Beam**	**85.02**	**326**	P	P	10 59 34.5	-1.0
	0.3nm,0.3s,baz=90,slow=4.4,SNR=3.7						

IDC 04 10:53:35.7±1.5,837S×15681E,h0km,mb3.6/3,mb1 3.7/4, mb1mx3.5/14,mbtmp3.7/4,ML4.0/1,Error ellipse: s-maj=42.3km s-min=33.1km az=13.0,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**3.28**	**109**	Pn	Pn	10 54 27.9	-0.5
	16nm,0.3s,baz=261,slow=5.1,SNR=3.1						
HNR				Sn	Sn	10 55 05.3	-2.8
	22nm,0.3s,baz=254,slow=8.3,SNR=3.5						
WRA	**Warramunga Arr**	**24.60**	**240**	P	P	10 58 57.9	+0.1
	0.6nm,0.7s,baz=64,slow=9.5,SNR=3.4						
SONM	**Songino Array**	**71.46**	**327**	P	P	11 04 58.8	+0.8
	0.3nm,0.7s,baz=124,slow=7.2,SNR=3.4						
MKAR	**Makanchi Array**	**85.61**	**318**	P	P	11 06 15.8	-0.4
	0.6nm,0.6s,baz=101,slow=5.2,SNR=4.9						

SZGRF ***04*** *11:00:22.5,2161S×17028E,h33km,mb6.4,Southeast of Loyalty Islands*
CRAAG ***04*** *11:00:25.8,2083S×16885E,Mw6.3*
IDC ***04*** *11:00:25.7±0.4,2074S×16880E,h0km,mb5.4/25, mb1 5.4/28,mb1mx5.4/28,mbtmp5.4/28,ML4.8/3,MS6.2/1, Ms1 6.2/1,ms1mx4.5/15,Error ellipse: s-maj=12.8km s-min=11.7km az=87.0*
ISCJB ***04*** *11:00:26.5±0.1,2070S±002×16891E±002,h16km, mb5.7/118,MS6.2/45,Error ellipse: s-maj=3.5km s-min=2.8km az=160.0*
NEIC ***04*** *11:00:27.9±0.1,2072S×16883E,h13km,mb5.9/63,ME6.3, MS6.4/14,MW6.1,Error ellipse: s-maj=5.3km s-min=4.9km az=142.0 Broadband fault plane solution: P waves. NP1:φs175.00000°,δ80.00000°,λ-90.00000°. NP2: φs355.00000°,δ10.00000°,λ-90.00000°. Principal axes: T Plg35.0000°, Azm265.0000°; N Plg0.0000°, Azm0.0000°; P Plg55.0000°, Azm85.0000°; Moment Tensor Solution. s50 Moment tensor: Scale 1018 Nm; Mrr-1.03; Mθθ-0.11; Mφφ1.15; Mrθ0.71; Mφθ-0.13; Mφr1.10; Best double couple: M0 1.70000×1018 NP1:φs333.00000°, δ27.00000°,λ-135.00000°. NP2:φs201.00000°, δ71.00000°,λ-70.00000°. Principal axes: T 1.6200, Plg24.0000°, Azm276.0000°; N 0.1700, Plg19.0000°, Azm15.0000°; P -1.7900, Plg59.0000°, Azm139.0000°;*

2007 APR

Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.
GCMT ***04*** *11:00:27.4±0.1,2071S×16868E,h20km,MW6.2/93, Moment Tensor Solution. s90,c151; s93,c259; Duration: 3s1 Moment tensor: Scale 1018Nm; Mrr-2.33±.03; Mθθ0.33±.03; Mφφ2.01±.03; Mrθ-0.12±.05; Mφθ-0.42±.03; Mφr1.13±.06; Best double couple: M0 2.49400×1018 NP1:φs344.00000°,δ32.00000°, λ-95.00000°. NP2:φs170.00000°,δ59.00000°, λ-87.00000°. Principal axes: T 2.3810, Plg13.0000°, Azm258.0000°; N 0.2330, Plg2.0000°, Azm348.0000°; P -2.6070, Plg76.0000°, Azm88.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
BJI ***04*** *11:00:27.4,2070S×16880E,h10km,mB6.6,mb5.7,Ms6.3, Msz6.0*
MOS ***04*** *11:00:29.3±3.0,2074S×16880E,h33km,mb6.0/41, MS6.2/24,Error ellipse: s-maj=47.4km s-min=14.6km az=119.7*
LDG ***04*** *11:00:32.0±0.1,2005S×16752E,h10km,Mb6.0/4, Ms6.2/10,Error ellipse: s-maj=8.4km s-min=2.7km az=108.0*

ISC 04 11:00:28.2±0.1,2069S±002×16897E±002,h17km, h17km±1.0km:pP-P,n1207,s0894/660,mb5.7/117,MS6.2/45, 204C-174D,Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**2.73**	**239⇑**	*i*P	**Pn**	**11 01 06.7**	**-4.5**
DZM	**Mont Dzumac**	**2.73**	**239**	Pn	**Pn**	**11 01 06.6**	**-4.7**
	73nm,0.3s,baz=222,slow=23,SNR=235						
DZM				Sn	**Sn**	**11 01 42.1**	**-1.8**
	581nm,0.3s,baz=118,slow=21,SNR=11						
HNR	**Honiara**	**14.18**	**321**	*e*Pn	**Pn**	**11 03 46.9**	**-1.5**
	3μm,1.3s						
HNR	**Honiara**	**14.18**	**321**	Pn	**Pn**	**11 03 47.5**	**-0.9**
	15nm,0.3s,baz=72,slow=5.9,SNR=6.9						
RAO	**Raoul Island**	**14.62**	**128**	Pn	**Pn**	**11 03 57.8**	**+3.5**
RAO	**Raoul Island**	**14.62**	**128**	Pn	**Pn**	**11 03 57.8**	**+3.5**
	20nm,0.3s,baz=281,slow=23,SNR=1.6						
OUZ	**Omahuta**	**15.04**	**165**	*e*P	**Pn**	**11 04 04.0**	**+4.0**
OUZ	**Omahuta**	**15.04**	**165**	*e*PN	**Pn**	**11 04 04.0**	**+4.0**
FUNA	**Funafuti**	**15.62**	**41**	*e*P	**Pn**	**11 04 12.9**	**+5.2**
	29μm,3.1s						
KUZ	**Kuaotunu**	**17.05**	**161**	*e*P	**Pn**	**11 04 25.5**	**-0.4**
KUZ	**Kuaotunu**	**17.05**	**161**	*e*PN	**Pn**	**11 04 26.5**	**+0.6**
EIDS	**Eidsvold**	**17.11**	**251**	*e*P	**Pn**	**11 04 25.9**	**-0.8**
	290nm,1.6s						
ARMA	**Armidale**	**18.38**	**235⇑**	*i*P	**Pn**	**11 04 41.4**	**-1.0**
ARMA				*e*S	**Sn**	**11 08 15.4**	**+8.0**
HIZ	**Hauiti**	**18.48**	**165**	*e*P	**Pn**	**11 04 46.0**	**+2.5**
HIZ	**Hauiti**	**18.48**	**165**	*e*PN	**Pn**	**11 04 45.0**	**+1.5**
URZ	**Urewera**	**18.87**	**160**	*e*P	**Pn**	**11 04 49.2**	**+0.9**
URZ	**Urewera**	**18.87**	**160**	P	**Pn**	**11 04 49.2**	**+0.9**
	3.0nm,0.3s,baz=33,slow=2.6,SNR=21						
URZ	**Urewera**	**18.87**	**160**	*e*PN	**Pn**	**11 04 48.2**	**-0.2**
MWZ	**Matawai**	**19.08**	**159**	*e*P	**Pn**	**11 04 54.6**	**+3.8**
MWZ	**Matawai**	**19.08**	**159**	*e*PN	**Pn**	**11 04 53.6**	**+2.8**
PUZ	**Puketiti**	**19.10**	**157**	*e*P	**Pn**	**11 04 51.6**	**+0.6**
PUZ	**Puketiti**	**19.10**	**157**	*e*PN	**Pn**	**11 04 51.1**	**+0.1**
FWVZ	**Far West T-bar**	**19.35**	**164**	*e*PN	**Pn**	**11 04 57.0**	**+2.9**
BKZ	**Black Stump Fm**	**19.52**	**162**	*e*P	**Pn**	**11 04 55.7**	**-0.4**
BKZ	**Black Stump Fm**	**19.52**	**162**	*e*PN	**Pn**	**11 04 55.7**	**-0.4**
AFI	**Afiamalu**	**19.57**	**73**	*e*P	**Pn**	**11 04 56.0**	**-0.8**
	1μm,1.2s						
TSZ	**Takapari Road**	**20.21**	**164**	*e*P	**P**	**11 05 04.5**	**+2.2**
TSZ	**Takapari Road**	**20.21**	**164**	*e*PN	**P**	**11 05 04.5**	**+2.2**
QRZ	**Quartz Range**	**20.30**	**172**	*e*P	**P**	**11 05 06.6**	**+3.3**
QRZ	**Quartz Range**	**20.30**	**172**	*e*PN	**P**	**11 05 06.6**	**+3.3**
RIV	**Riverview**	**20.50**	**227**	*e*P	**P**	**11 05 05.7**	**+0.2**
MRZ	**Mangatainoka R**	**20.69**	**166**	*e*P	**P**	**11 05 07.0**	**-0.5**
MRZ	**Mangatainoka R**	**20.69**	**166**	PN	**P**	**11 05 07.0**	**-0.5**
NNZ	**Nelson**	**20.80**	**171**	*e*P	**P**	**11 05 08.3**	**-0.4**
NNZ	**Nelson**	**20.80**	**171**	*e*PN	**P**	**11 05 08.3**	**-0.4**
BFZ	**Birch Farm**	**20.87**	**164**	*e*P	**P**	**11 05 08.4**	**-1.1**
BFZ	**Birch Farm**	**20.87**	**164**	*e*PN	**P**	**11 05 08.4**	**-1.1**
SNZO	**South Karori**	**21.12**	**168**	*e*P	**P**	**11 05 13.1**	**+0.9**
	908nm,1.3s,mb5.9						
DSZ	**Denniston Nort**	**21.13**	**174**	*e*P	**P**	**11 05 11.8**	**-0.4**
DSZ	**Denniston Nort**	**21.13**	**174**	*e*PN	**P**	**11 05 14.3**	**+2.1**
THZ	**Tophouse**	**21.27**	**172**	*e*P	**P**	**11 05 13.6**	**-0.2**
THZ	**Tophouse**	**21.27**	**172**	*e*PN	**P**	**11 05 13.6**	**-0.2**
CTA	**Charters Tower**	**21.30**	**268⇑**	*i*P	**P**	**11 05 13.9**	**-0.4**
	328nm,1.1s,mb5.6						
CTA				*e*S	**S**	**11 09 12.3**	**+1.8**
CTA	**Charters Tower**	**21.30**	**268⇑**	*i*P	**P**	**11 05 13.9**	**-0.4**
CTA				*e*S	**S**	**11 09 12.3**	**+1.8**
CTA				pmax	pmax		
	comp=Z,328nm,1.1s						
CTA	**Charters Tower**	**21.30**	**268**	P	**P**	**11 05 14.2**	**-0.1**
	comp=Z,170nm,1.1s,mb5.3,baz=86,slow=12,SNR=28						
CTAO	**Charters Tower**	**21.30**	**268**	*e*P	**P**	**11 05 14.2**	**-0.1**
KHZ	**Kahutara**	**22.00**	**171**	*e*P	**P**	**11 05 21.3**	**-0.3**
KHZ	**Kahutara**	**22.00**	**171**	*e*PN	**P**	**11 05 21.3**	**-0.3**
LTZ	**Lake Taylor**	**22.20**	**174**	*e*P	**P**	**11 05 24.5**	**+0.8**
LTZ	**Lake Taylor**	**22.20**	**174**	*e*PN	**P**	**11 05 24.5**	**+0.8**
CNB	**Canberra Magne**	**22.57**	**226**	*e*P	**P**	**11 05 26.8**	**-0.9**
	comp=Z,1μm,1.5s,mb6.2						
RPZ	**Rata Peaks**	**23.03**	**176**	*e*P	**P**	**11 05 32.8**	**+0.3**
RPZ	**Rata Peaks**	**23.03**	**176**	P	**P**	**11 05 33.4**	**+0.9**
	comp=Z,92nm,1.2s,mb5.1,baz=350,slow=7.3,SNR=14						
RPZ	**Rata Peaks**	**23.03**	**176**	*e*PN	**P**	**11 05 33.1**	**+0.6**
JCZ	**Jackson Bay**	**23.32**	**180**	*e*P	**P**	**11 05 37.1**	**+1.6**
JCZ	**Jackson Bay**	**23.32**	**180**	*e*PN	**P**	**11 05 36.9**	**+1.4**
MLZ	**Mavora Lakes**	**24.60**	**181**	*e*P	**P**	**11 05 49.4**	**+1.9**
MLZ	**Mavora Lakes**	**24.60**	**181**	*e*PN	**P**	**11 05 48.8**	**+1.3**
TUZ	**Tuapeka**	**25.20**	**179**	*e*P	**P**	**11 05 49.7**	**-3.3**
TUZ	**Tuapeka**	**25.20**	**179**	*e*PN	**P**	**11 05 52.8**	**-0.2**
SYZ	**Scrubby Hill**	**25.78**	**180**	*e*PN	**P**	**11 06 00.6**	**+2.4**
STKA	**Stephens Creek**	**26.88**	**240⇑**	*i*P	**P**	**11 06 07.3**	**-1.0**
	comp=Z,96nm,0.9s,mb5.3						
STKA				*e*S	**S**	**11 10 45.6**	**+1.2**
STKA	**Stephens Creek**	**26.88**	**240**	P	**P**	**11 06 07.3**	**-1.1**
	comp=Z,122nm,0.9s,mb5.4,baz=75,slow=9.0,SNR=68						
TAU	**Tasmania Unive**	**28.64**	**214**	*e*P	**P**	**11 06 24.7**	**+0.8**
	comp=Z,198nm,1.4s,mb5.7						
TAU	**Tasmania Unive**	**28.64**	**214**	*e*P	**P**	**11 06 24.7**	**+0.8**
TAU				pmax	pmax		
	comp=Z,200nm,1.4s,mb5.7						
WB2	**Warramunga Arr**	**32.44**	**265**	*e*P	**P**	**11 06 55.3**	**-2.5**
WB2				*e*S	**S**	**11 12 08.1**	**-3.8**
WRA	**Warramunga Arr**	**32.45**	**265**	P	**P**	**11 06 55.1**	**-2.8**
WRA				*e*		11 38 24.6	
WRA	**Warramunga Arr**	**32.45**	**265**	P	**P**	**11 06 55.1**	**-2.8**
	comp=Z,19nm,0.6s,mb5.1,baz=94,slow=8.8,SNR=67						
WRA				P3KPbc		11 38 24.6	
	comp=Z,2.8nm,1.1s,baz=291,slow=3.0,SNR=8.3						
ASAR	**Alice Springs**	**32.56**	**258**	P	**P**	**11 06 56.6**	**-2.2**
ASAR				*e*		11 38 22.2	
ASAR	**Alice Springs**	**32.56**	**258**	P	**P**	**11 06 56.6**	**-2.2**
	comp=Z,86nm,0.9s,mb5.7,baz=84,slow=8.7,SNR=210						
ASAR				P3KPbc		11 38 22.2	
	comp=Z,4.9nm,1.0s,baz=272,slow=3.8,SNR=18						
JAY	**Jayapura**	**32.95**	**300**	P	**P**	**11 07 02.9**	**+0.6**
KAKA	**Kakadu**	**35.81**	**277**	*e*P	**P**	**11 07 25.1**	**-2.0**
	comp=Z,162nm,1.2s,mb5.8						
BAKI	**Biak**	**37.48**	**297**	P	**P**	**11 07 41.2**	**-0.2**
FORT	**Forrest**	**38.02**	**246**	*e*P	**P**	**11 07 43.9**	**-1.8**
	comp=Z,103nm,0.8s,mb5.6						
KNA	**Kununurra**	**38.43**	**271**	P	**P**	**11 07 47.0**	**-2.4**
TBI	**Tubuai**	**38.54**	**102**	*e*P	**P**	**11 07 51.1**	**+0.9**
	comp=Z,468nm,1.3s,mb6.1						
TBI				*e*S	**S**	**11 13 48.0**	**+2.5**
	comp=Z,12μm,28.0s						
TBI				*e*LQ		11 16 42.4	
	comp=Z,54μm,30.5s						
TBI				*e*LR	LR	11 18 21.2	
	comp=Z,40μm,28.2s						
TBI	**Tubuai**	**38.54**	**102**	*e*P	**P**	**11 07 51.1**	**+0.9**
	comp=Z,468nm,1.3s,mb6.1						
TBI				*e*S	**S**	**11 13 48.0**	**+2.5**
TBI				*e*LQ		11 16 42.4	
PAE	**Paea**	**39.19**	**93**	*e*P	**P**	**11 07 56.2**	**+0.5**
	comp=Z,100nm,1.4s,mb5.3						
PAE	**Paea**	**39.19**	**93**	*e*P	**P**	**11 07 56.2**	**+0.5**
PAE				pmax	pmax		
	comp=Z,101nm,1.4s,mb5.4						
PPT	**Papeete**	**39.21**	**93**	*e*P	**P**	**11 07 56.9**	**+1.0**
	comp=Z,63nm,1.4s,mb5.2						
PPT				*e*S	**S**	**11 13 57.5**	**+1.7**
	comp=Z,13μm,23.3s						
PPT				*e*LQ		11 17 01.3	
	comp=Z,54μm,27.0s						
PPT				*e*LR	LR	11 18 39.0	
	comp=Z,72μm,27.8s						
PPT	**Papeete**	**39.21**	**93**	P	**P**	**11 07 56.0**	**+0.1**
	comp=Z,18nm,0.8s,mb4.8,baz=195,slow=11,SNR=4.2						
TVO	**Taravao**	**39.48**	**93**	*e*P	**P**	**11 07 58.9**	**+0.8**
	comp=Z,79nm,1.0s,mb5.4						
TVO	**Taravao**	**39.48**	**93**	*e*P	**P**	**11 07 58.9**	**+0.8**
TVO				pmax	pmax		
	comp=Z,79nm,1.0s,mb5.4						
FITZ	**Fitzroy Crossi**	**40.87**	**266⇑**	*i*P	**P**	**11 08 08.1**	**-1.5**
	comp=Z,220nm,0.8s,mb5.8						
FITZ				*e*S	**S**	**11 14 20.9**	**+0.3**
FITZ	**Fitzroy Crossi**	**40.87**	**266**	P	**P**	**11 08 08.2**	**-1.5**
	comp=Z,126nm,1.0s,mb5.5,baz=98,slow=9.4,SNR=91						
PMOR	**Pomariorio Ree**	**41.36**	**89**	*e*P	**P**	**11 08 14.6**	**+0.9**
	comp=Z,95nm,1.2s,mb5.3						
GUMO	**Guam**	**41.49**	**323**	*e*P	**P**	**11 08 17.3**	**+2.6**
GUMO	**Guam**	**41.49**	**323**	*e*P	**P**	**11 08 17.3**	**+2.6**
GUMO				*e**PP	pP	11 08 29.5	+10
GUMO	**Guam**	**41.49**	**323**	P	**P**	**11 08 14.5**	**-0.2**
	comp=Z,58nm,0.8s,mb5.3,baz=2.9,slow=18,SNR=4.9						
VAH	**Vaihoa**	**41.55**	**90**	*e*P	**P**	**11 08 15.9**	**+0.6**
	comp=Z,55nm,0.9s,mb5.2						
BATI	**Kupang**	**44.76**	**276**	P	**P**	**11 08 40.3**	**-1.0**
	comp=Z,263nm,1.1s,mb6.0,baz=147,slow=0.5,SNR=26						
BATI				LR	LR	11 25 06.5	
	comp=Z,26μm,19.7s,MS6.2,baz=281,slow=33						
MBWA	**Marble Bar**	**45.84**	**260**	*e*P	**P**	**11 08 48.9**	**-0.9**
KLBR	**Kellerberrin**	**46.88**	**246**	*e*P	**P**	**11 08 55.1**	**-2.7**
	comp=Z,302nm,1.1s,mb6.1						
NWAO	**Narrogin (SRO)**	**47.34**	**244**	*e*P	**P**	**11 08 59.8**	**-1.7**
	comp=Z,141nm,0.9s,mb5.9						
NWAO	**Narrogin (SRO)**	**47.34**	**244**	*e*P	**P**	**11 08 59.8**	**-1.6**
NWAO				pmax	pmax		
	comp=Z,140nm,0.9s						
NWAO	**Narrogin (SRO)**	**47.34**	**244**	P	**P**	**11 08 59.8**	**-1.6**
	comp=Z,94nm,0.9s,mb5.7,baz=86,slow=7.7,SNR=28						
MUN	**Mundaring**	**48.19**	**245**	*e*P	**P**	**11 09 04.4**	**-3.7**
MUN				*e*S	**S**	**11 16 07.8**	**+1.0**
DRV	**Dumont d'Urvil**	**49.57**	**195**	P	**P**	**11 09 19.0**	**+0.9**
DRV	**Dumont d'Urvil**	**49.57**	**195**	PP	PP	11 11 19.0	+6.7
DRV				S	**S**	**11 16 31.0**	**+5.9**
DRV				R		11 24 00.0	
KAPI	**Kappang**	**50.23**	**281**	P	**P**	**11 09 22.3**	**-1.5**
TAOE	**Nuku Hiva Isla**	**50.40**	**84**	*e*P	**P**	**11 09 26.5**	**+1.4**
	comp=Z,14μm,1.2s						
TAOE				*e*S	**S**	**11 16 39.6**	**+1.5**
	comp=Z,376μm,25.1s						
TAOE				*e*LR	LR	11 23 51.7	
	comp=Z,1222μm,27.3s						
TAOE	**Nuku Hiva Isla**	**50.40**	**84**	*e*P	**P**	**11 09 26.5**	**+1.4**
	comp=Z,14μm,1.2s						
TAOE				*e*S	**S**	**11 16 39.6**	**+1.5**
DAV	**Davao City (W)**	**50.78**	**298**	P	**P**	**11 09 30.5**	**+2.5**
	SNR=6.9						
DAV	**Davao City (W)**	**50.78**	**298⇑**	*e*P	**P**	**11 09 30.0**	**+2.0**
BUKP	**Musuan**	**51.65**	**299**	*e*P	**P**	**11 09 35.0**	**+0.5**
RKT	**Rikitea**	**51.80**	**104**	*e*S	**S**	**11 16 57.8**	**+0.5**
	comp=Z,13μm,27.8s						
RKT				*e*LR	LR	11 24 28.4	
	comp=Z,18μm,29.5s						
PCI	**Palu**	**51.83**	**286**	P	**P**	**11 09 37.0**	**+1.1**
PAGZ	**Pagadian**	**53.02**	**298**	*e*P	**P**	**11 09 37.6**	**-7.1**
MSLP	**Maasin**	**53.09**	**301**	*e*P	**P**	**11 09 46.6**	**+1.4**
CBIJ	**Chichi jima**	**54.13**	**330**	P	**P**	**11 09 53.2**	**+0.7**
	comp=Z,287nm,0.9s,mb6.2,baz=260,slow=22,SNR=6.9						
KMMI	**Kalianget**	**54.84**	**276**	P	**P**	**11 09 58.0**	**-0.1**
GUIM	**Jordan**	**55.21**	**300**	*e*P	**P**	**11 09 58.7**	**-1.9**
RCP	**Roxas**	**55.61**	**301⇓**	*e*P	**P**	**11 10 03.7**	**+0.2**
PVCP	**Virac**	**55.68**	**304**	*e*P	**P**	**11 10 05.6**	**+1.6**
TSM	**Tawau**	**55.93**	**290**	⇓P	**P**	**11 10 04.9**	**-1.0**
KALP	**Kalibo**	**56.00**	**301**	*e*P	**P**	**11 10 09.7**	**+3.4**
CUYO	**Cuyo Island**	**56.61**	**299**	*e*P	**P**	**11 10 12.2**	**+1.5**
VNDA	**Vanda**	**56.98**	**182**	P	**P**	**11 10 12.0**	**-0.4**
	comp=Z,10nm,1.1s,mb4.8,baz=357,slow=6.7,SNR=17						
VNDA				PKPPKP		11 40 14.9	
	comp=Z,1.7nm,1.1s,baz=236,slow=5.7,SNR=3.5						
SDKM	**Sandakan**	**57.16**	**291**	⇑P	**P**	**11 10 15.7**	**+1.0**
SBA	**Scott Base**	**57.22**	**181**	*e*P	**P**	**11 10 14.0**	**-0.1**
PPR	**Puerto Princes**	**57.93**	**297⇑**	*i*P	**P**	**11 10 21.2**	**+1.2**
KDM	**Kudat**	**58.09**	**293**	⇓P	**P**	**11 10 21.8**	**+0.6**
BATP	**Bataraza**	**58.20**	**295**	*e*P	**P**	**11 10 21.6**	**-0.3**
KKM	**Kota Kinabalu**	**58.21**	**291**	P	**P**	**11 10 21.8**	**-0.2**
KKM	**Kota Kinabalu**	**58.21**	**291**	⇓P	**P**	**11 10 22.7**	**+0.6**
TGY	**Tagaytay City**	**58.51**	**302⇓**	*e*P	**P**	**11 10 30.2**	**+6.2**
CASY	**Casey**	**58.70**	**204**	*e*P	**P**	**11 10 22.4**	**-2.2**
CASY				*e*S	**S**	**11 18 26.6**	**-1.8**
LUBP	**Lubang**	**58.84**	**301**	*e*P	**P**	**11 10 25.0**	**-1.4**
NBP	**Mount Natib**	**59.28**	**302⇑**	*e*P	**P**	**11 10 29.4**	**0.0**
CAUP	**Cauayan**	**59.49**	**305**	*e*P	**P**	**11 10 33.1**	**+2.3**
BTM	**Bintulu**	**59.68**	**287**	⇓P	**P**	**11 10 32.5**	**+0.2**
BCPH	**Baguio City Da**	**60.11**	**304⇑**	*e*P	**P**	**11 10 35.7**	**+0.6**
SBUM	**Sibu**	**60.13**	**286**	⇓P	**P**	**11 10 38.0**	**+2.6**
LEM	**Lembang**	**60.84**	**274**	P	**P**	**11 10 39.6**	**-0.7**
KSM	**Kuching**	**61.46

GZH			LR	LR	
	comp=N,6μm,18.5s,MS6.0				
GZH			LR	LR	
	comp=E,7μm,20.1s,MS6.0				
GZH			LR	LR	
	comp=Z,9μm,20.4s,MS6.0				
KSRS	**Korea Array**	**69.56 326**	P	**P**	**11 11 36.0 -0.2**
	comp=Z,30nm,1.0s,mb5.2,baz=147,slow=6.1,SNR=32				
KSRS			PKPPKP		11 39 40.4
	comp=Z,3.2nm,1.0s,baz=314,slow=3.0,SNR=7.7				
KTGM	**Kuala Trenggan**	**69.56 284**	⇓P	**P**	**11 11 37.6 +0.7**
QIZ	**Qiongzhong**	**70.08 300**	P	**P**	**11 11 41.3 +1.4**
QIZ			AMB	AMB	
	comp=Z,2μm,6.5s				
QIZ			LR	LR	
	comp=N,6μm,21.0s				
INCN	**Inchon**	**70.26 325**	*e*P	**P**	**11 11 41.8 +1.2**
INCN	**Inchon**	**70.26 325**	P	**P**	**11 11 41.7 +1.1**
	SNR=15				
INCN	**Inchon**	**70.26 325**	P	**P**	**11 11 41.7 +1.1**
	SNR=15				
NJ2	**Nanjing**	**71.08 316**	*e*P	**P**	**11 11 46.1 +0.4**
NJ2			AP	pP	11 11 51.4 +0.3
NJ2			XP	sP	11 11 53.8 +0.7
NJ2			AMB	AMB	
	comp=Z,160nm,1.1s,mb5.9				
NJ2			AMB	AMB	
	comp=Z,4μm,5.8s				
NJ2			LR	LR	
	comp=N,16μm,19.2s,MS6.4				
NJ2			LR	LR	
	comp=E,14μm,19.1s,MS6.4				
YSS	**Yuzh-Sakhalins**	**71.36 341**	*e*P	**P**	**11 11 47.8 +0.7**
YSS	**Yuzh-Sakhalins**	**71.36 341** κ*e*P		**P**	**11 11 48.0 +0.9**
YSS			*e*		11 11 57.2
YSS			*e*S	S	11 21 07.0 +2.7
YSS			pmax	pmax	
	comp=Z,230nm,1.1s,mb6.0				
YSS			pmax	pmax	
	comp=N,90nm,1.3s				
YSS			pmax	pmax	
	comp=E,110nm,1.3s				
YSS			pmax	pmax	
	comp=N,2μm,8.0s				
YSS			pmax	pmax	
	comp=Z,4μm,8.0s				
YSS			smax		
	comp=E,15μm,9.0s				
YSS			smax		
	comp=N,11μm,13.0s				
YSS			MLR	MLR	
	comp=N,11μm,18.0s,MS6.4				
YSS			MLR	MLR	
	comp=E,15μm,18.0s,MS6.4				
YSS			MLR	MLR	
	comp=Z,12μm,18.0s,MS6.2				
KULM	**Kulim**	**71.80 283**	*e*P	**P**	**11 11 49.0 -1.5**
KULM	**Kulim**	**71.80 283**	⇓P	**P**	**11 11 50.7 +0.2**
SKR	**Severo-Kuril's**	**71.96 351**	*e*P	**P**	**11 11 49.5 -1.1**
SKR			*e*		11 12 10.0
SKR			*e*		11 14 38.0
SKR			*e*PPP		11 16 14.0
SKR			*e*S	S	11 21 16.0 +5.0
SKR			*e*PS		11 21 54.0
SKR			*e*SS	SS	11 25 52.0 +3.6
SKR			pmax	pmax	
	comp=E,220nm,1.0s				
SKR			pmax	pmax	
	comp=Z,220nm,1.0s,mb6.0				
SKR			pmax	pmax	
	comp=N,2μm,6.0s				
SKR			pmax	pmax	
	comp=Z,5μm,6.0s				
SKR			pmax	pmax	
	comp=E,4μm,4.0s				
SKR			smax		
	comp=N,8μm,12.0s				
SKR			smax		
	comp=E,19μm,12.0s				
SKR			MLR	MLR	
	comp=E,7μm,16.0s,MS6.2				
SKR			MLR	MLR	
	comp=Z,11μm,16.0s,MS6.2				
SKR			MLR	MLR	
	comp=N,6μm,14.0s,MS6.2				
VLA	**Vladivostok**	**72.08 332**	*d i*P	**P**	**11 11 51.9 +0.4**
VLA			pmax	pmax	
	comp=Z,417nm,2.5s,mb5.9				
SNG	**Songkhla**	**72.59 285**	P	**P**	**11 11 56.0 +0.7**
	comp=Z,120nm,1.0s,mb5.8				
GSI	**Gunungsitoli**	**73.10 278**	P	**P**	**11 11 59.0 +0.7**
WHN	**Wuhan**	**73.14 313**	⇑P	**P**	**11 11 57.3 -0.8**
WHN			AMB	AMB	
	comp=Z,638nm,2.2s,mb6.2				
WHN			AMB	AMB	
	comp=Z,6μm,5.6s				
WHN			LR	LR	
	comp=Z,12μm,17.7s,MS6.2				
ADK	**Adak**	**73.34 9**	*e*P	**P**	**11 11 57.9 -0.9**
	comp=Z,178nm,1.2s,mb5.9				
ADK	**Adak**	**73.34 9**	*e*P	**P**	**11 11 57.9 -0.9**
ADK			pmax	pmax	
	comp=Z,178nm,1.2s,mb5.9				
RPN	**Rapa Nui**	**73.75 113**	*e*P	**P**	**11 12 04.7 +2.8**
	comp=Z,311nm,1.3s,mb6.1				
PET	**Petropavlovsk**	**73.95 354**	*e*P	**P**	**11 12 02.6 +0.3**
	comp=Z,370nm,1.6s,mb6.1				
PET	**Petropavlovsk**	**73.95 354**	*e*P	**P**	**11 12 02.1 -0.2**
PET			*e*		11 12 16.5
PET			*e*S	S	11 21 36.7 +3.2
PET			pmax	pmax	
	comp=Z,131nm,1.4s,mb5.7				
PET			smax		
	comp=E,12μm,11.1s				
PET			MLR	MLR	
	comp=Z,8μm,20.0s,MS6.0				
DL2	**Dalian**	**74.02 323**	⇑*i*P	**P**	**11 12 04.0 +0.9**
DL2			AMB	AMB	
	comp=Z,180nm,1.1s,mb5.9				
DL2			AMB	AMB	
	comp=Z,2μm,6.4s				
DL2			LR	LR	
	comp=N,3μm,17.2s,MS5.7				
DL2			LR	LR	
	comp=E,2μm,17.0s,MS5.7				
DL2			LR	LR	
	comp=Z,4μm,17.1s,MS5.8				
MDJ	**Mudanjiang**	**74.28 332**	P	**P**	**11 12 05.3 +0.9**
MDJ			AP	pP	11 12 08.7 -1.2
MDJ			AMB	AMB	
	comp=Z,40nm,1.8s,mb5.0				
MDJ			AMB	AMB	
	comp=Z,2μm,6.3s				
MDJ			LR	LR	
	comp=N,6μm,22.5s,MS6.0				
MDJ			LR	LR	
	comp=E,7μm,22.5s,MS6.0				
MDJ			LR	LR	
	comp=Z,6μm,24.8s,MS5.8				
MDJ	**Mudanjiang**	**74.28 332**	*e*P	**P**	**11 12 05.2 +0.8**
	comp=Z,476nm,1.6s,mb6.2				
KKTK	**Khon Kaen**	**74.61 294**	P	**P**	**11 12 08.0 +1.0**
	comp=Z,556nm,0.5s,mb6.8				
TIA	**Tai'an**	**74.86 319**	*e*P	**P**	**11 12 07.7 -0.3**
TIA			S	S	11 21 46.5 +2.0
TIA			AMB	AMB	
	comp=Z,256nm,2.0s,mb5.8				
TIA			LR	LR	
	comp=N,2μm,13.0s				
SNY	**Shenyang**	**75.05 327**	⇑P	**P**	**11 12 09.2 +0.2**
SNY			AP	pP	11 12 14.6 +0.2
SNY			XP	sP	11 12 16.5 +0.1
SNY			S	S	11 21 50.5 +4.2
SNY			XS	sS	11 21 54.9 -0.4
SNY			SS	SS	11 26 36.0 +0.1
SNY			AMB	AMB	
	comp=Z,62nm,2.0s,mb5.2				
SNY			AMB	AMB	
	comp=Z,5μm,6.9s				
SNY			LR	LR	
	comp=N,6μm,18.9s,MS6.0				
SNY			LR	LR	
	comp=E,4μm,18.9s,MS6.0				
SNY			LR	LR	
	comp=Z,6μm,15.7s,MS6.0				
HABR	**Khabarovsk**	**75.23 337**	⇓*i*P	**P**	**11 12 10.7 +0.8**
HABR			*e*		11 14 57.1
HABR			*e*S	S	11 21 51.1 +3.0
HABR			*e*SS	SS	11 26 35.9 -2.6
HABR			pmax	pmax	
	comp=Z,281nm,1.9s,mb5.9				
NNT	**Nongplab**	**75.64 290**	P	**P**	**11 12 14.3 +1.3**
GYA	**Guiyang**	**76.44 305**	⇑*i*P	**P**	**11 12 16.8 -0.5**
GYA			AP	pP	11 12 20.9 -1.9
GYA			XP	sP	11 12 24.0 -0.8
GYA			PCP	PcP	11 12 31.3 +2.3
GYA			AMB	AMB	
	comp=Z,160nm,1.0s,mb5.9				
GYA			AMB	AMB	
	comp=Z,1μm,6.9s				
GYA			LR	LR	
	comp=N,4μm,20.4s,MS5.8				
GYA			LR	LR	
	comp=E,2μm,20.1s,MS5.8				
GYA			LR	LR	
	comp=Z,4μm,20.4s,MS5.8				
NST	**Nakhon Sawan**	**76.62 293**	P	**P**	**11 12 20.0 +1.4**
	comp=Z,67nm,1.2s,mb5.4				
MAW	**Mawson**	**77.00 202**	P	**P**	**11 12 19.5 -0.3**
	comp=Z,33nm,0.9s,mb5.3,baz=113,slow=6.9,SNR=18				
KLR	**Kul'dur**	**77.08 336**	*e*P	**P**	**11 12 16.6 -3.8**
KLR			*e*S	S	11 22 08.5 +0.1
KLR			pmax	pmax	
	comp=N,140nm,2.0s				
KLR			pmax	pmax	
	comp=E,340nm,2.0s				
KLR			pmax	pmax	
	comp=Z,1μm,2.0s,mb6.4				
KLR			pmax	pmax	
	comp=N,2μm,8.0s				
KLR			pmax	pmax	
	comp=Z,7μm,8.0s				
KLR			smax		
	comp=N,12μm,11.0s				
KLR			smax		
	comp=E,5μm,11.0s				
UNV	**Unalaska Valle**	**77.19 15**	*e*P	**P**	**11 12 20.0 -0.9**
BJT	**Baijiatuau**	**77.89 321**	*e*P	**P**	**11 12 25.5 +0.3**
	comp=E,153nm,1.1s,mb5.8				
BJT	**Baijiatuau**	**77.89 321**	*e*P	**P**	**11 12 25.5 +0.3**
BJT			pmax	pmax	
	comp=Z,153nm,1.1s				
BJI	**Beijing**	**77.90 321**	P	**P**	**11 12 25.3 +0.1**
BJI			S	S	11 22 23.5 +5.8
BJI			AMB	AMB	
	comp=Z,87nm,1.2s,mb5.6				
BJI			AMB	AMB	
	comp=Z,5μm,6.0s				
BJI			LR	LR	
	comp=N,4μm,20.8s,MS6.0				
BJI			LR	LR	
	comp=E,7μm,19.0s,MS6.0				
BJI			LR	LR	
	comp=Z,10μm,27.3s				
BJI	**Beijing**	**77.90 321**	P	**P**	**11 12 25.3 +0.1**
	comp=Z,87nm,1.2s,mb5.6				
BJI			PP	PP	11 15 33.6 +12
BJI			S	S	11 22 23.5 +5.8
BJI			LR	LR	
	comp=Z,10μm,27.3s,MS6.0				
BDT	**Bhumibol Dam**	**78.29 294**	P	**P**	**11 12 29.0 +1.2**
	comp=Z,22nm,0.9s,mb5.1				
KMI	**Kunming**	**78.83 302**	P	**P**	**11 12 32.1 +1.4**
KMI			AP	pP	11 12 36.6 +0.5
KMI			XP	sP	11 12 39.1 +1.0
KMI			AMB	AMB	
	comp=Z,122nm,1.6s,mb5.6				
KMI			AMB	AMB	
	comp=Z,714nm,3.1s				
KMI			LR	LR	
	comp=N,4μm,16.7s,MS6.0				
KMI			LR	LR	
	comp=E,5μm,17.9s,MS6.0				
KMI			LR	LR	
	comp=Z,8μm,17.9s,MS6.1				
KMI	**Kunming**	**78.83 302**	P	**P**	**11 12 32.1 +1.4**
	comp=Z,122nm,1.6s,mb5.6				
KMI			pP	pP	11 12 36.6 +0.5
KMI			sP	sP	11 12 39.1 +1.0
KMI			PP	PP	11 15 31.0 +1.5
KMI			PPP		11 17 21.3
KMI			S	S	11 22 32.9 +4.6
KMI			sS	sS	11 22 40.8 +3.5
KMI			SS	SS	11 27 38.9 +5.3
KMI			SSS		11 31 05.2
KMI			LR	LR	
	comp=Z,8μm,17.9s,MS6.1				
KMI	**Kunming**	**78.83 302**	P	**P**	**11 12 32.1 +1.4**
KMI			*SP	sP	11 12 39.1 +1.0
KMI					11 15 31.0
KMI			PPP		11 17 21.3
KMI			S	S	11 22 32.9 +4.6
KMI			*SS	sS	11 22 40.8 +3.5
KMI			pmax	pmax	
	comp=Z,122nm,1.6s,mb5.6				
KMI			MLR	MLR	
	comp=Z,8μm,17.9s,MS6.1				
XAN	**Xi'an**	**78.90 313**	P	**P**	**11 12 31.0 +0.1**
XAN			AP	pP	11 12 43.3 +6.9
XAN			S	S	11 22 27.7 -1.0
XAN			AMB	AMB	
	comp=Z,20nm,1.5s,mb4.8				
XAN			AMB	AMB	
	comp=Z,3μm,7.8s				
XAN			LR	LR	
	comp=N,3μm,18.3s,MS6.1				
XAN			LR	LR	
	comp=E,7μm,17.9s,MS6.1				
XAN			LR	LR	
	comp=Z,11μm,17.0s,MS6.3				
CHTO	**Chiang Mai**	**79.03 295**	*e*P	**P**	**11 12 32.6 +0.7**
CHTO	**Chiang Mai**	**79.03 295**	P	**P**	**11 12 33.2 +1.3**
	SNR=70				
CD2	**Chengdu**	**80.92 308**	⇓*i*P	**P**	**11 12 43.0 +1.1**
CD2			AP	pP	11 12 47.7 +0.3
CD2			XP	sP	11 12 50.5 +1.2
CD2			AMB	AMB	
	comp=Z,120nm,1.7s,mb5.5				
CD2			AMB	AMB	
	comp=Z,4μm,6.4s				
CD2			LR	LR	
	comp=N,9μm,22.8s,MS6.2				
CD2			LR	LR	
	comp=E,8μm,19.2s,MS6.2				
CD2			LR	LR	
	comp=Z,6μm,20.4s,MS6.0				
HHC	**Hu-ho-hao-te**	**81.16 320**	*e*P	**P**	**11 12 44.1 +1.2**
HHC			AP	pP	11 12 48.9 +0.5
HHC			XP	sP	11 12 51.3 +0.9
HHC			AMB	AMB	
	comp=Z,97nm,1.1s,mb5.7				
HHC			AMB	AMB	
	comp=Z,4μm,5.7s				
HHC			LR	LR	
	comp=N,5μm,20.6s,MS6.1				
HHC			LR	LR	
	comp=E,7μm,19.6s,MS6.1				
HHC			LR	LR	
	comp=Z,8μm,27.5s				
MA2	**Magadan**	**81.35 351**	*e*P	**P**	**11 12 43.5 0.0**
	comp=Z,75nm,1.4s,mb5.4				
MA2	**Magadan**	**81.35 351** *c i*P		**P**	**11 12 44.9 +1.4**
MA2			*e*S	ScS	11 23 45.0 +34
MA2			pmax	pmax	
	comp=Z,90nm,1.4s,mb5.5				
PBA	**Port Blair**	**81.50 286**	*e*P	**P**	**11 12 55.1 +10**
PBA			*e*x	x	11 13 20.5
	comp=Z,212nm,1.5s				
PBA			*e*S	S	11 23 09.7 +13
BTO	**Baotou**	**81.95 319**	*e*P	**P**	**11 12 49.1 +2.0**
BTO			S	S	11 22 57.8 -2.7
HIA	**Hailar**	**82.23 330**	*e*P	**P**	**11 12 48.3 -0.1**
	comp=Z,131nm,1.4s,mb5.7				
HIA	**Hailar**	**82.23 330**	*e*P	**P**	**11 12 48.3 -0.1**
HIA			pmax	pmax	
	comp=Z,131nm,1.4s				
SYO	**Syowa Base**	**83.48 196**	⇑*e*P	**P**	**11 12 51.8 -2.9**
SYO	**Syowa Base**	**83.48 196**	⇓*e*P	**P**	**11 12 53.6 -1.1**
LZH	**Lanzhou**	**83.51 312**	⇑P	**P**	**11 12 56.5 +1.1**
LZH			AP	pP	11 13 01.4 +0.6
LZH			XP	sP	11 13 03.6 +0.8
LZH			AMB	AMB	
	comp=Z,299nm,1.3s,mb6.3				
LZH			AMB	AMB	
	comp=Z,2μm,6.7s				
LZH			LR	LR	
	comp=E,7μm,15.9s				
LZH			LR	LR	
	comp=Z,10μm,17.2s,MS6.2				
LZH	**Lanzhou**	**83.51 312**	⇑P	**P**	**11 12 56.5 +1.1**
	comp=Z,299nm,1.3s,mb6.3				
LZH			pP	pP	11 13 01.4 +0.6
LZH			sP	sP	11 13 03.6 +0.8
LZH			PP	PP	11 16 11.2 +3.2
LZH			PPP		11 18 05.4
LZH			SKS		11 23 15.0
LZH			S	S	11 23 17.2 +0.7
LZH			sS	sS	11 23 25.0 -0.6
LZH			PS		11 24 11.5
LZH			SS	SS	11 28 46.7 +3.5
LZH			LR	LR	
	comp=Z,10μm,17.2s,MS6.2				
LZH	**Lanzhou**	**83.51 312**	⇑P	**P**	**11 12 56.5 +1.1**
LZH			*SP	sP	11 13 03.6 +0.8
LZH					11 16 11.2
LZH			PPP		11 18 05.4
LZH					11 23 15.0
LZH			S	S	11 23 17.2 +0.7
LZH			PS		11 24 11.5
LZH			SS	SS	11 28 46.7 +3.5
LZH			pmax	pmax	
	comp=Z,299nm,1.3s,mb6.3				
LZH			MLR	MLR	
	comp=Z,10μm,17.2s,MS6.2				
SEY	**Seymchan**	**84.37 352**	⇑*e*P	**P**	**11 12 58.7 -0.4**
KDAK	**Kodiak Island**	**84.48 20**	*e*P	**P**	**11 13 02.1 +2.3**
GAMB	**Gambell**	**85.54 8**	*e*P	**P**	**11 13 04.7 -0.2**
NRGR	**Nerungri**	**85.55 337**	*i*P	**P**	**11 13 07.4 +2.2**
NRGR			S	S	11 23 35.8 -0.2
NRGR			smax		
	comp=N,86nm,1.0s				
CLNS	**Chul'man**	**85.63 337**	*e*P	**P**	**11 13 06.7 +1.2**
CLNS			*e*PP	pP	11 13 14.9 +3.9
CLNS			*e*S	S	11 23 32.2 -4.5
CLNS			*e*		11 24 33.2
CLNS			pmax	pmax	
	comp=Z,76nm,1.0s,mb5.9				
CLNS			pmax	pmax	
	comp=N,70nm,1.3s				
CLNS			pmax	pmax	
	comp=E,11nm,0.8s				
CLNS			smax		
	comp=N,20nm,1.4s				
CLNS			smax		
	comp=Z,4.0nm,0.6s				
CLNS			smax		
	comp=E,21nm,1.9s				
CLNS			MLR	MLR	
	comp=N,6μm,18.0s,MS6.1				
CLNS			MLR	MLR	
	comp=Z,10μm,18.0s,MS6.3				
CLNS			MLR	MLR	
	comp=E,4μm,16.0s,MS6.1				
PMSA	**Palmer Station**	**85.64 160**	*e*P	**P**	**11 13 04.5 -1.2**
	comp=E,257nm,1.3s,mb6.3				
IMP	**Imphal**	**85.80 298**	*e*P	**P**	**11 13 07.0 -0.2**
IMP			*e*x	x	11 15 09.0
SVW2	**Sparrevohn**	**86.36 16**	*e*P	**P**	**11 13 09.6 +0.6**
BNLO	**Ben Lomond (Sa**	**86.63 48**	⇑P	**P**	**11 13 10.5 -0.5**
	baz=87				
MCCM	**Marconi Confer**	**86.63 47**	*e*P	**P**	**11 13 13.1 +2.1**
SAC	**San Andreas**	**86.68 48**	*e*P	**P**	**11 13 13.3 +2.1**
HAST	**Hastings Reser**	**86.71 49**	⇓P	**P**	**11 13 11.4 0.0**
	baz=87				
SNCC	**San Nicolas Is**	**86.72 53**	*e*P	**P**	**11 13 14.0 +2.5**
	comp=E,222nm,1.5s,mb6.2				
V03C	**Hunter Liggett**	**86.76 50**	⇑P	**P**	**11 13 12.0 +0.3**
	baz=87				
HOPS	**Hopland**	**86.92 46**	*e*P	**P**	**11 13 13.6 +1.2**
	comp=E,136nm,1.3s,mb6.0				
KCPM	**Cahto Peak**	**86.92 46**	*e*P	**P**	**11 13 13.1 +0.7**
SAO	**San Andreas Ge**	**86.96 49**	*e*P	**P**	**11 13 13.7 +1.1**
	comp=E,43nm,1.0s,mb5.6				
SAO	**San Andreas Ge**	**86.96 49**	P	**P**	**11 13 13.8 +1.2**
SAO			pmax	pmax	
	comp=Z,43nm,1.0s,mb5.6				
P01C	**Double 8 Ranch**	**86.98 46**	⇑P	**P**	**11 13 12.6 -0.1**
	baz=87				
NSHM	**Saint Helena R**	**87.00 47**	*e*P	**P**	**11 13 13.5 +0.8**
CIT	**Chita**	**87.01 329**	*e*P	**P**	**11 13 11.7 -0.7**
CIT			*e*		11 13 25.9
CIT			*e*S	S	11 23 40.4 -10
CIT			pmax	pmax	
	comp=Z,499nm,2.9s,mb6.2				
KIPM	**Iron Peak**	**87.05 45**	*e*P	**P**	**11 13 13.1 +0.2**
U04C	**Hernandez Rese**	**87.24 50**	⇓P	**P**	**11 13 14.1 +0.1**
	baz=87				
PTRM	**Twissleman Ran**	**87.32 50**	*e*P	**P**	**11 13 14.6 +0.2**
NVL	**N'lazarevskaya**	**87.39 187**	*e*P	**P**	**11 13 14.4 +0.2**
NVL			*e*S	S	11 23 42.3 -12
NVL			pmax	pmax	
	comp=N,41nm,1.5s				
NVL			pmax	pmax	
	comp=E,21nm,1.5s				
NVL			pmax	pmax	
	comp=Z,129nm,1.5s,mb5.9				
NVL			MLR	MLR	
	comp=N,13μm,16.7s,MS6.5				
NVL			MLR	MLR	
	comp=E,6μm,16.7s,MS6.5				
NVL			MLR	MLR	
	comp=Z,18μm,16.7s,MS6.5				
MAIT	**Maitri**	**87.40 187**	*e*P	**P**	**11 13 11.9 -2.3**
SLKM	**Skilak Lake**	**87.40 19**	*e*P	**P**	**11 13 15.6 +1.5**
S04C	**Ingram Canyon,**	**87.40 48**	⇓P	**P**	**11 13 14.5 -0.2**
	baz=88				
KHMM	**Horse Mountain**	**87.42 44**	*e*P	**P**	**11 13 15.4 +0.6**
Q03C	**Winters**	**87.47 47**	⇓P	**P**	**11 13 15.3 +0.3**
	baz=88				
T05C	**Eagle Field, D**	**87.57 49**	⇑P	**P**	**11 13 15.6 0.0**
	baz=88				
KRMB	**Red Mountain**	**87.63 44**	*e*P	**P**	**11 13 16.6 +0.8**
V05C	**Boulder Hill,**	**87.64 50**	⇓P	**P**	**11 13 16.1 +0.2**
	baz=88				
M01C	**Crescent City**	**87.66 43**	⇓P	**P**	**11 13 15.9 0.0**
	baz=88				
AGT	**Agartala**	**87.66 296**	*i* P	**P**	**11 13 16.0 -0.3**
AGT			*i* x	x	11 13 49.0
N02C	**Big Bar**	**87.67 45**	⇓P	**P**	**11 13 15.9 0.0**
	baz=88				
O02C	**Red Bluff**	**87.69 45**	⇑P	**P**	**11 13 16.2 +0.2**
	baz=88				
U05C	**Westside ANR,**	**87.70 50**	⇑P	**P**	**11 13 15.9 -0.3**
	baz=88				
SNAA	**Sanae**	**87.71 183**	*e*P	**P**	**11 13 14.2 -1.5**
SNAA			*e*		11 13 16.1
SNAA			*e*	pP	11 13 19.1 -2.1
SNAA			*e*		11 13 24.9
SNAA			*e*		11 13 29.8
SNAA			*e*		11 13 32.9
SNAA			*e*		11 13 39.2
SNAA			*e*		11 13 44.5
SNAA			*e*		11 13 49.9
SNAA			*e*		11 13 54.8
SNAA	**Sanae**	**87.71 183** *c i*P		**P**	**11 13 16.1 +0.4**
TNA	**Tin City**	**87.77 9**	*e*P	**P**	**11 13 16.5 +0.7**
	comp=Z,226nm,2.1s,mb6.0				
KBO	**Bosley Butte**	**87.77 43**	*e*P	**P**	**11 13 17.7 +1.3**
TTA	**Tatalina**	**87.79 15**	*e*P	**P**	**11 13 18.1 +2.1**
TTA	**Tatalina**	**87.79 15**	*e*P	**P**	**11 13 18.1 +2.1**
TTA					11 13 27.4
SHL	**Shillong**	**87.81 298**	*i* P	**P**	**11 13 17.8 +0.8**
SHL			*e*x	x	11 15 19.5
ULN	**Ulaanbaatar**	**87.87 324**	*e*P	**P**	**11 13 17.0 +0.2**
	comp=Z,171nm,1.2s,mb6.2				
ULN	**Ulaanbaatar**	**87.87 324**	⇑*e*P	**P**	**11 13 17.4 +0.7**
ULN	**Ulaanbaatar**	**87.87 324**	P	**P**	**11 13 17.4 +0.7**
	SNR=101				
K01A	**Sixes**	**87.92 43**	⇑P	**P**	**11 13 17.2 +0.1**
	baz=88				
GTA	**Gaotai**	**87.94 314**	*e*P	**P**	**11 13 17.2 -0.1**
GTA			AP	pP	11 13 21.9 -0.9
GTA			XP	sP	11 13 24.8 +0.1
GTA			PP	PP	11 16 47.4 +3.5
GTA			SKS		11 23 42.3

GTA S S 11 24 01.4 +1.5
GTA XS sS 11 24 08.3 -0.7
GTA SS SS 11 29 51.5 +3.3
GTA AMB AMB
comp=Z,18nm,1.4s,mb5.1
GTA AMB AMB
comp=Z,3µm,6.9s
GTA LR LR
comp=N,4µm,19.9s,MS6.0
GTA LR LR
comp=E,5µm,20.3s,MS6.0
GTA LR LR
comp=Z,7µm,21.4s,MS6.0
Q04C Lincoln 88.00 47 ⇑P **P 11 13 17.2 -0.3**
baz=88
S05C Merced 88.03 49 ⇓P **P 11 13 17.2 -0.5**
baz=88
R04C Big Horse Ranc 88.03 48 ⇑P **P 11 13 17.3 -0.4**
baz=88
KEBM Edson Butte 88.04 42 *e*P **P 11 13 19.5 +1.9**
WDC Whiskeytown Da 88.06 45 *e*P **P 11 13 17.6 -0.2**
comp=Z,118nm,1.4s,mb5.9
WDC Whiskeytown Da 88.06 45 P **P 11 13 17.7 -0.1**
WDC pmax pmax
comp=Z,120nm,1.3s,mb6.0
O03C Acorn Hollow, 88.11 46 ⇓P **P 11 13 17.8 -0.3**
baz=88
L02A Cave Junction 88.14 43 ⇓P **P 11 13 18.1 0.0**
baz=88
OHCM Honcut 88.17 47 *e*P **P 11 13 18.6 +0.2**
YAK Yakutsk 88.17 343 *e*P **P 11 13 18.3 +0.5**
YAK Yakutsk 88.17 343 *i* P **P 11 13 18.1 +0.3**
YAK *e**PP pP 11 13 24.0 +0.7
YAK *e*PPP 11 18 40.0
YAK *e*S S 11 23 46.5 -15
YAK *e**SS sS 11 23 51.9 -18
YAK *e*SS SS 11 29 53.0 +2.4
YAK pmax pmax
comp=Z,128nm,1.4s,mb6.0
YAK pmax pmax
comp=E,43nm,1.6s
YAK pmax pmax
comp=N,68nm,1.7s
SONM Songino Array 88.22 323 P **P 11 13 18.4 0.0**
comp=N,32nm,1.0s,mb5.5,baz=140,slow=2.5,SNR=62
SONM PKKPbc PKKPbc 11 30 58.7 -5.6
comp=N,0.9nm,0.9s,baz=268,slow=4.5,SNR=3.6
SONM PKPPKP 11 39 13.7
comp=N,1.9nm,1.1s,baz=264,slow=1.5,SNR=6.8
MWC Mount Wilson 88.25 52 *e*P **P 11 13 18.9 0.0**
M02C Callahan 88.25 44 ⇓P **P 11 13 19.0 +0.3**
baz=88
CMB Columbia Colle 88.31 48 *e*P **P 11 13 18.9 -0.2**
comp=N,57nm,1.2s,mb5.7
VNA3 Neumayer Olymp 88.31 180 *e*P **P 11 13 17.0 -1.6**
VNA3 *e* 11 13 18.7
VNA3 *e* pP 11 13 21.1 -3.0
VNA3 *e* pP 11 13 22.8 -1.3
VNA3 *e* 11 13 27.3
VNA3 *e* 11 13 33.8
VNA3 *e* 11 13 36.4
VNA3 *e* 11 13 42.1
VNA3 *e* 11 13 46.7
VNA3 *e* 11 13 53.1
VNA3 *e* 11 13 58.6
T06C Millerton Lake 88.31 49 ⇓P **P 11 13 18.6 -0.5**
baz=88
109C Camp Elliot, M 88.38 54 ⇑P **P 11 13 19.0 -0.5**
baz=88
LAVA Lava Cap Winer 88.40 47 ⇑P **P 11 13 19.3 -0.2**
baz=88
BILL Bilibino 88.49 359*d i*P **P 11 13 18.2 -1.0**
BILL pmax pmax
comp=Z,187nm,1.6s,mb6.1
YBH Yreka Blue Hor 88.51 44 *e*P **P 11 13 20.3 +0.4**
comp=Z,132nm,1.5s,mb6.0
YBH Yreka Blue Hor 88.51 44 *e*P **P 11 13 20.3 +0.4**
YBH pmax pmax
comp=Z,130nm,1.5s
K02A Glendale 88.52 43 ⇓P **P 11 13 19.9 0.0**
baz=89
PMR Palmer 88.58 19 *e*P **P 11 13 22.4 +2.7**
comp=Z,30nm,1.1s,mb5.5
PMR Palmer 88.58 19 *e*P **P 11 13 22.5 +2.8**
PMR pP 11 13 28.1 +2.8
PMR pmax pmax
comp=Z,30nm,1.1s,mb5.5
ISA Isabella 88.58 51 *e*P **P 11 13 20.1 -0.4**
ISA Isabella 88.58 51 *e*P **P 11 13 20.7 +0.3**
VNA2 Neumayer--Watz 88.60 181 *e*P **P 11 13 18.7 -1.2**
baz=181,slow=2.9
VNA2 *e* 11 13 20.6
VNA2 *e* pP 11 13 22.5 -3.0
VNA2 *e* pP 11 13 24.3 -1.2
VNA2 *e* 11 13 28.8
VNA2 *e* 11 13 34.0
VNA2 *e* 11 13 37.2
VNA2 *e* 11 13 43.3
VNA2 *e* 11 13 48.5
VNA2 *e* 11 13 54.7
VNA2 *e* 11 14 00.1
BAR Barrett 88.62 54 *e*P **P 11 13 21.5 +0.8**
HELL Mitchell Peak 88.65 50 ⇓P **P 11 13 20.1 -0.6**
baz=89
M03C McCloud 88.67 45 ⇓P **P 11 13 20.6 -0.1**
baz=89
P05C Yuba Gap, Truc 88.75 47 ⇑P **P 11 13 21.2 +0.1**
baz=89
J02A Umpqua 88.77 42 ⇑P **P 11 13 21.2 +0.1**
baz=89
R05C Kirkwood Meado 88.83 48 ⇑P **P 11 13 21.4 -0.1**
baz=89
O05C Quincy 88.85 46 ⇑P **P 11 13 21.5 -0.1**
baz=89
VNA1 Neumayer--Stat 88.89 181 *e*P **P 11 13 20.4 -0.9**
VNA1 *e* 11 13 23.2
VNA1 *e* pP 11 13 25.6 -1.2
VNA1 *e* 11 13 32.0
VNA1 *e* 11 13 36.4
VNA1 *e* 11 13 39.3
VNA1 *e* 11 13 45.8
VNA1 *e* 11 13 50.1
VNA1 *e* 11 13 56.6
VNA1 *e* 11 14 01.7
HATC Hat Creek Radi 88.89 45 ⇓P **P 11 13 21.8 +0.1**
baz=89
O04C Chester 88.91 46 ⇑P **P 11 13 21.7 -0.1**
baz=89
I02A Mapleton 88.93 42 ⇑P **P 11 13 21.9 +0.1**
baz=89
SML Sawmill 88.99 19 *e*P **P 11 13 25.5 +3.9**
LTIM Timbered Crate 89.04 45 P **P 11 13 22.5 0.0**
M04C Macdoel 89.11 44 ⇓P **P 11 13 22.8 +0.1**
baz=89
J03A Ideyld Park 89.16 43 ⇑P **P 11 13 23.0 +0.1**
baz=89
H02A Toledo 89.17 41 ⇓P **P 11 13 23.0 +0.1**
baz=89
PFO Pinyon Flat Ob 89.18 54 *e*P **P 11 13 23.4 +0.1**
comp=Z,197nm,1.9s,mb6.1
PFO Pinyon Flat Ob 89.18 54 *e*P **P 11 13 23.4 +0.1**
PFO pmax pmax
comp=Z,200nm,1.9s,mb6.1
R06C Coleville 89.19 48 ⇑P **P 11 13 23.1 -0.1**
baz=89
I03A Eugene 89.26 42 ⇓P **P 11 13 23.3 -0.1**
baz=89
R07C Lee Vining 89.27 49 ⇓P **P 11 13 23.6 0.0**
baz=89
MTUM Tungsten Hills 89.28 49 *e*P **P 11 13 24.0 +0.3**
ELFS Eagle Lake Fie 89.29 46 ⇑P **P 11 13 23.2 -0.4**
baz=89
M05C Lookout 89.36 45 ⇑P **P 11 13 23.6 -0.3**
baz=90
P06A Stead Airport, 89.41 47 ⇓P **P 11 13 23.4 -0.8**
baz=90
COR Corvallis 89.55 41 *e*P **P 11 13 25.0 +0.3**
K04A Chilquin 89.58 44 ⇓P **P 11 13 24.8 -0.1**
baz=90
H03A Soap Creek Ran 89.60 41 ⇑P **P 11 13 25.1 +0.1**
baz=90
S08C White Mtn Res 89.62 49 ⇑P **P 11 13 25.5 +0.2**
baz=90
J04A Umpqua Nationa 89.64 43 ⇓P **P 11 13 25.2 0.0**
baz=90

GSC Goldstone 89.65 52 *e*P **P 11 13 25.6 +0.2**
O06A Flanigan 89.68 47 ⇓P **P 11 13 25.3 -0.1**
baz=90
I04A Tendick Farm, 89.72 42 ⇑P **P 11 13 25.2 -0.3**
baz=90
M06C Likely Place G 89.73 45 ⇓P **P 11 13 25.5 -0.1**
baz=90
HBO Huckleberry Mo 89.80 42 P **P 11 13 26.0 +0.1**
Q07A Schurz 89.82 48 ⇓P **P 11 13 26.0 -0.1**
baz=90
L05A Lakeview 89.89 44 ⇓P **P 11 13 26.7 +0.3**
baz=90
IRO Indian Ridge 89.92 42 P **P 11 13 26.2 -0.3**
G03A Yamhill 89.93 41 ⇓P **P 11 13 26.3 -0.1**
baz=90
NVAR Mina Array Bea 89.95 49 P **P 11 13 26.7 0.0**
comp=Z,18nm,1.0s,mb5.3,baz=213,slow=5.9,SNR=44
NVAR PKPPKP 11 39 10.7
comp=Z,0.9nm,1.0s,baz=97,slow=4.3,SNR=3.9
N06A Buffalo Meadow 89.95 46 ⇓P **P 11 13 26.4 -0.3**
baz=90
P07A Fallon 90.04 47 ⇓P **P 11 13 27.1 -0.1**
baz=90
R08A Mina 90.05 49 ⇑P **P 11 13 27.0 -0.2**
baz=90
F03A Seaside 90.07 40 ⇓P **P 11 13 27.1 0.0**
baz=90
LSA Lhasa 90.07 302 P **P 11 13 28.7 +1.2**
LSA AMB AMB
comp=Z,40nm,1.0s,mb5.7
LSA AMB AMB
comp=Z,1µm,10.0s
LSA LR LR
comp=N,2µm,16.0s,MS5.8
LSA LR LR
comp=E,2µm,13.0s,MS5.8
LSA LR LR
comp=Z,1µm,14.0s,MS5.4
LSA Lhasa 90.07 302 *e*P **P 11 13 30.4 +2.9**
comp=Z,87nm,1.2s,mb6.0
LSA Lhasa 90.07 302 *e*P **P 11 13 30.4 +2.9**
LSA pmax pmax
comp=Z,87nm,1.2s,mb6.0
MOD Modoc 90.17 45 *e*P **P 11 13 27.6 -0.1**
comp=Z,80nm,1.3s,mb5.9
K05A Summer Lake 90.17 44 ⇑P **P 11 13 27.8 +0.1**
baz=90
SSOR Sweet Springs 90.21 41 P **P 11 13 27.8 0.0**
J05A Fort Rock 90.22 43 ⇓P **P 11 13 28.1 +0.2**
baz=90
LPIG La Paz 90.27 64 P **P 11 13 30.1 +1.6**
comp=Z,49nm,1.1s,mb5.7,baz=180,slow=5.1,SNR=4.4
H04A Detroit Lake 90.29 42 ⇑P **P 11 13 27.8 -0.4**
baz=90
MCK McKinley 90.31 17 *e*P **P 11 13 28.0 +0.2**
G04A Mulino 90.37 41 ⇑P **P 11 13 28.2 -0.3**
baz=90
E03A Lebam 90.37 40 ⇓P **P 11 13 28.6 +0.1**
baz=90
S09A Goldfield 90.40 50 ⇓P **P 11 13 28.5 -0.3**
baz=90
Q08A Gabbs 90.40 48 ⇑P **P 11 13 28.7 -0.1**
baz=90
U10A Ash Meadows, A 90.48 51 ⇑P **P 11 13 29.1 -0.1**
baz=91
C03A Quillayute Air 90.50 38 ⇓P **P 11 13 29.6 +0.6**
baz=91
BOD Bodaibo 90.52 334 *e*P **P 11 13 27.4 -1.5**
BOD pmax pmax
comp=Z,94nm,2.2s,mb5.7
D03A Wishkah Elem. 90.54 39 ⇑P **P 11 13 29.6 +0.3**
baz=91
N07B Gerlach 90.55 46 ⇓P **P 11 13 29.5 +0.1**
baz=91
OOW Octopus West 90.61 38 P **P 11 13 30.4 +0.8**
I05A Bend 90.62 42 ⇑P **P 11 13 29.7 0.0**
baz=91
NLWA Neilton Lookou 90.62 39 *e*P **P 11 13 30.1 +0.5**
K06A Valley Falls 90.62 44 ⇑P **P 11 13 29.7 -0.1**
baz=91
P08A Dixie Valley 90.67 48 ⇑P **P 11 13 30.3 +0.2**
baz=91
M07A Soldier Meadow 90.69 46 ⇓P **P 11 13 30.2 +0.1**
baz=91
OTR Olympics--Tyee 90.69 38 P **P 11 13 30.6 +0.6**
Y12C Blythe 90.70 54 ⇑P **P 11 13 30.1 -0.2**
baz=91
R09A Tonopah 90.73 49 ⇑P **P 11 13 30.2 -0.2**
baz=91
F04A Amboy 90.76 41 ⇑P **P 11 13 30.0 -0.3**
baz=91
TPNV Topopah Spring 90.76 51 *e*P **P 11 13 30.9 +0.3**
comp=Z,98nm,1.3s,mb6.0
TPNV Topopah Spring 90.76 51 *e*P **P 11 13 30.9 +0.3**
TPNV pmax pmax
comp=Z,98nm,1.3s,mb6.0
LDFC Landfair 90.81 53 *e*P **P 11 13 31.5 +0.6**
L07A Adell 90.86 45 ⇑P **P 11 13 31.1 +0.2**
baz=91
H05A Madras 90.87 42 ⇑P **P 11 13 30.7 -0.2**
baz=91
O08A Rochester Mine 90.88 47 ⇓P **P 11 13 30.8 -0.3**
baz=91
V11A Goodsprings 90.89 52 ⇑P **P 11 13 30.9 -0.3**
baz=91
J06A Christmas Vall 90.90 44 ⇑P **P 11 13 30.3 -0.8**
baz=91
E04A Onalaska 90.90 40 ⇑P **P 11 13 30.8 -0.2**
baz=91
Q09A Carvers 90.91 49 ⇓P **P 11 13 30.9 -0.3**
baz=91
PALK Pallekele 90.92 277 *e*P **P 11 13 34.1 +2.2**
comp=Z,254nm,2.3s,mb6.1
PALK Pallekele 90.92 277 P **P 11 13 34.6 +2.7**
SNR=5.6
HOOD Mount Hood Mea 90.93 41 *e*P **P 11 13 32.7 +1.5**
OSD Olympics--Snow 90.93 38 P **P 11 13 31.7 +0.6**
S10A Tonopah Range, 90.93 50 ⇓P **P 11 13 31.0 -0.3**
baz=91
IMA2 Indian Mountai 90.98 14 *e*P **P 11 13 31.1 +0.3**
W12A Cal Nev Ari 91.08 53 ⇓P **P 11 13 31.2 -0.9**
baz=91
D04A Dobbs Creek Ra 91.11 39 ⇑P **P 11 13 30.9 -1.0**
baz=91
N08A GE Springer Mi 91.11 47 ⇑P **P 11 13 31.8 -0.3**
baz=91
B04A Port Angeles 91.17 38 ⇓P **P 11 13 32.0 -0.2**
baz=91
U11A Corn Creek 91.17 51 ⇓P **P 11 13 32.1 -0.4**
baz=91
I06A Prineville 91.19 43 ⇑P **P 11 13 32.1 -0.3**
baz=91
K07A Rock Creek Ran 91.23 44 ⇑P **P 11 13 32.7 +0.1**
baz=91
WRAK Wrangell Islan 91.24 28 *e*P **P 11 13 33.5 +1.2**
comp=Z,61nm,1.0s,mb5.9
M08A Happy Creek Ra 91.25 46 ⇑P **P 11 13 32.7 0.0**
baz=91
Y13A Salome 91.25 54 ⇓P **P 11 13 32.6 -0.3**
baz=91
P09A Austin 91.25 48 ⇑P **P 11 13 32.3 -0.5**
baz=91
V12A Nelson 91.27 52 ⇑P **P 11 13 32.7 -0.3**
baz=91
R10A Warm Springs 91.30 49 ⇑P **P 11 13 32.9 -0.1**
baz=91
C04A Brinnon 91.31 39 ⇑P **P 11 13 32.5 -0.4**
baz=91
GNW Green Mountain 91.32 39 *e*P **P 11 13 33.1 +0.2**
F05A White Salmon 91.32 41 ⇑P **P 11 13 32.3 -0.6**
baz=91
ZAK Zakamensk 91.32 324 *e*P **P 11 13 32.7 -0.1**
ZAK pmax pmax
comp=Z,48nm,1.4s,mb5.6
S11A Rachel 91.42 50 ⇑P **P 11 13 33.6 0.0**
baz=92
Q10A Clear Creek Ra 91.46 49 ⇑P **P 11 13 33.5 -0.3**
baz=92
E05A Randle 91.46 40 ⇑P **P 11 13 32.9 -0.7**
baz=92
H06A Lindquist Farm 91.48 42 ⇓P **P 11 13 33.1 -0.5**
baz=92
O09A Fish Creek Ran 91.49 47 ⇓P **P 11 13 33.2 -0.7**
baz=92
PGC Sidney 91.49 38 *e*P **P 11 13 34.4 +0.7**
COLA College 91.50 17 *i* P **P 11 13 31.8 -1.5**
COLA College 91.50 17*d i*P **P 11 13 31.7 -1.6**

J07A Hines 91.50 44 ⇑P **P 11 13 33.4 -0.5**
baz=92
WVOR Wild Horse Val 91.52 45 *e*P **P 11 13 33.4 -0.6**
comp=Z,89nm,1.3s,mb5.9
WVOR Wild Horse Val 91.52 45 P **P 11 13 33.6 -0.3**
WVOR pmax pmax
comp=Z,89nm,1.3s,mb5.9
G06A Carlson Farm, 91.52 42 ⇑P **P 11 13 33.4 -0.5**
baz=92
LON Longmire 91.53 40 *e*P **P 11 13 33.5 -0.4**
N09A Rock Creek Ran 91.56 47 ⇑P **P 11 13 33.8 -0.4**
baz=92
X13A Yucca 91.57 54 ⇑P **P 11 13 33.7 -0.7**
baz=92
L08A Fields 91.60 45 ⇑P **P 11 13 34.2 -0.1**
baz=92
D05A Enumclaw 91.63 40 ⇑P **P 11 13 34.0 -0.4**
baz=92
T11A Corn Creek, Al 91.63 51 ⇑P **P 11 13 34.3 -0.4**
baz=92
F06A Goldendale 91.68 41 ⇑P **P 11 13 34.5 -0.1**
baz=92
FMW Mount Fremont 91.69 40 P **P 11 13 34.8 +0.1**
I07A Izee 91.70 43 ⇓P **P 11 13 34.5 -0.3**
baz=92
W13A Hualapai Mount 91.73 53 ⇓P **P 11 13 34.6 -0.5**
baz=92
Z14A Wintersburg 91.75 55 ⇓P **P 11 13 34.8 -0.5**
baz=92
K08A Mann Creek Ran 91.75 45 ⇓P **P 11 13 34.2 -0.8**
baz=92
P10A Eureka 91.75 48 ⇓P **P 11 13 34.9 -0.2**
baz=92
IRK Irkutsk 91.77 326 *e*P **P 11 13 34.2 -0.7**
IRK *e*S S 11 24 36.7 +1.8
IRK *e* 11 25 55.2
IRK *e* 11 26 22.8
IRK pmax pmax
comp=Z,211nm,3.0s
T12A Moapa 91.79 51 ⇑P **P 11 13 35.0 -0.4**
baz=92
U12A Valley of Fire 91.79 52 ⇓P **P 11 13 34.9 -0.5**
baz=92
TLY Talaya 91.81 326 *e*P **P 11 13 37.9 +2.9**
TLY Talaya 91.81 326 *e*P **P 11 13 35.4 +0.4**
TLY *e*S S 11 24 35.0 -0.2
TLY *e*PS PS 11 25 48.9 +1.8
TLY pmax pmax
comp=Z,96nm,1.3s,mb6.0
TLY Talaya 91.81 326 P **P 11 13 35.1 0.0**
SNR=22
R11A Troy Canyon, C 91.83 50 ⇓P **P 11 13 34.9 -0.6**
baz=92
M09A Marrel Ranch, 91.86 46 ⇓P **P 11 13 35.4 -0.1**
baz=92
MCW Mount Constitu 91.86 38 P **P 11 13 35.8 +0.4**
SKAG Skagway 91.86 25 *e*P **P 11 13 34.5 -0.6**
E06A Yakima 91.93 40 ⇓P **P 11 13 35.3 -0.4**
baz=92
Y14A Wickenburg 91.93 54 ⇓P **P 11 13 35.5 -0.6**
baz=92
A04A Legoe Bay, Lum 91.96 38 ⇓P **P 11 13 35.7 -0.2**
baz=92
L09A Wilkinson Ranc 91.98 46 ⇓P **P 11 13 35.9 -0.2**
baz=92
Q11A Duckwater 92.00 49 ⇓P **P 11 13 35.8 -0.4**
baz=92
O10A Cortez Mining, 92.02 48 ⇓P **P 11 13 35.8 -0.5**
baz=92
115A Sonoran Desert 92.04 56 ⇑P **P 11 13 36.1 -0.5**
baz=92
J08A Circle Bar Ran 92.04 44 ⇓P **P 11 13 35.6 -0.7**
baz=92
C05A Tolt Reservoir 92.05 39 ⇑P **P 11 13 35.6 -0.7**
baz=92
S12A Delamar Landin 92.05 51 ⇑P **P 11 13 36.5 -0.1**
baz=92
B05A Bryant 92.09 39 ⇓P **P 11 13 36.2 -0.3**
baz=92
G07A Ruggs Ranch, H 92.14 42 ⇑P **P 11 13 36.0 -0.8**
baz=92
N10A Dunphy 92.20 47 ⇓P **P 11 13 36.7 -0.5**
baz=92
VIS Vishakhapatnam 92.20 288 *i* P **P 11 13 38.1 +0.4**
VIS *ex* x 11 13 45.5
comp=Z,68nm,1.5s
VIS *i* x x 11 24 13.5
U13A Pakoon Wash 92.21 52 ⇓P **P 11 13 36.9 -0.4**
baz=92
I08A Drewsey 92.22 44 ⇑P **P 11 13 36.9 -0.3**
baz=92
X14A Yava 92.23 54 ⇓P **P 11 13 37.5 +0.1**
baz=92
K09A Rome 92.24 45 ⇓P **P 11 13 37.0 -0.3**
baz=92
F07A Phinny Hill Vi 92.27 41 ⇓P **P 11 13 37.0 -0.3**
baz=92
D06A Cle Elum 92.32 40 ⇑P **P 11 13 37.3 -0.2**
baz=92
216A Three Points, 92.36 57 ⇑P **P 11 13 37.7 -0.4**
baz=92
W14A Seligman 92.38 53 ⇓P **P 11 13 37.7 -0.4**
baz=92
116A Eloy 92.39 56 ⇓P **P 11 13 37.5 -0.7**
baz=92
H08A Prairie City 92.43 43 ⇑P **P 11 13 37.4 -0.7**
baz=92
Y15A Casa Rosa Ranc 92.45 55 ⇓P **P 11 13 38.1 -0.4**
baz=93
A05A Maple Falls 92.45 38 ⇓P **P 11 13 37.2 -0.9**
baz=93
T13A Saint George 92.50 51 ⇑P **P 11 13 37.9 -0.7**
baz=93
J09A Fry Pan Ranch, 92.50 44 ⇑P **P 11 13 37.7 -0.8**
baz=93
M10A I.L. Ranch, Tu 92.52 46 ⇓P **P 11 13 38.0 -0.6**
baz=93
R12A Pony Springs, 92.53 50 ⇓P **P 11 13 38.2 -0.5**
baz=93
V14A Boquillas Ranc 92.53 53 ⇑P **P 11 13 38.3 -0.5**
baz=93
O11A Cowboy Ranch, 92.53 48 ⇓P **P 11 13 38.1 -0.6**
baz=93
B06A Marblemount 92.57 39 ⇓P **P 11 13 38.0 -0.7**
baz=93
G08A Pilot Rock 92.60 42 ⇓P **P 11 13 38.2 -0.7**
baz=93
E07A Sunnyside 92.62 41 ⇑P **P 11 13 38.6 -0.3**
baz=93
C06A Tall Timber Ra 92.63 39 ⇑P **P 11 13 38.1 -0.9**
baz=93
Q12A Willow Creek R 92.66 49 ⇑P **P 11 13 39.0 -0.3**
baz=93
X15A Humboldt 92.73 54 ⇑P **P 11 13 39.0 -0.8**
baz=93
HAWA Hanford 92.74 41 *e*P **P 11 13 39.5 0.0**
comp=Z,93nm,1.5s,mb6.0
S13A Holt Ranch, En 92.76 51 ⇓P **P 11 13 39.6 -0.2**
baz=93
N11A Elko Archery C 92.77 47 ⇑P **P 11 13 38.6 -1.2**
baz=93
217A Green Valley 92.78 57 ⇑P **P 11 13 39.2 -0.8**
baz=93
P12A McGill 92.78 49 ⇓P **P 11 13 39.6 -0.3**
baz=93
I09A Lost Marbles R 92.79 44 ⇓P **P 11 13 39.1 -0.7**
baz=93
U14A Mt Trumbull 92.79 52 ⇓P **P 11 13 39.3 -0.7**
baz=93
L10A Juniper Basin 92.80 46 ⇓P **P 11 13 39.4 -0.5**
baz=93
K10A MacKenzie Ranc 92.84 45 ⇓P **P 11 13 39.3 -0.7**
baz=93
D07A Quincy 92.84 40 ⇑P **P 11 13 39.5 -0.4**
baz=93
A06A Chilliwack 92.85 38 ⇑P **P 11 13 39.0 -0.9**
baz=93
Z16A Peralta Trail, 92.91 56 ⇑P **P 11 13 39.9 -0.7**
baz=93
W15A Williams 92.98 54 ⇑P **P 11 13 40.4 -0.5**
baz=93
M11A Holland Ranch, 92.99 47 ⇓P **P 11 13 40.4 -0.4**
baz=93
C07A Waterville 93.02 40 ⇓P **P 11 13 40.7 0.0**
baz=93
Y16A Circle Bar Ran 93.07 55 ⇑P **P 11 13 41.0 -0.4**
baz=93
E08A Dider Farm, El 93.08 41 ⇓P **P 11 13 40.2 -0.9**

baz=93
CCUT Cedar City 93.11 51 *e*P **P 11 13 41.9 +0.4**
T14A Hurricane 93.12 52 ⇓P **P 11 13 40.2 -1.3**
baz=93
H09A Durkee 93.14 43 ⇓P **P 11 13 40.3 -1.1**
baz=93
ARUT Antelope Range 93.15 51 P **P 11 13 37.9 -3.7**
J10A Berg Farm, Mel 93.19 45 ⇑P **P 11 13 40.5 -1.1**
baz=93
MOY Mondy 93.22 325 *e*P **P 11 13 41.5 -0.1**
MOY pmax pmax
comp=Z,363nm,2.7s,mb6.3
O12A Currie 93.23 48 ⇑P **P 11 13 40.5 -1.4**
baz=93
N12A Clover Valley, 93.26 47 ⇑P **P 11 13 41.1 -1.0**
baz=93
318A Bisbee 93.31 58 ⇓P **P 11 13 41.7 -0.8**
baz=93
X16A Lo Mia Camp, P 93.31 55 ⇓P **P 11 13 42.3 -0.2**
baz=93
JIRN Jiri 93.31 298 *e*P **P 11 13 47.8 +5.2**
S14A Cedar City 93.33 51 ⇑P **P 11 13 42.2 -0.3**
baz=93
B07A Winthrop 93.34 39 ⇑P **P 11 13 41.5 -0.7**
baz=94
MDRS Chennai 93.36 283 ⇓*i*P **P 11 13 46.5 +3.4**
MDRS *e*S SKSac 11 24 19.8 +2.5
EGAK Eagle 93.37 19 *e*P **P 11 13 40.9 -1.1**
K11A Parker Ranch, 93.39 45 ⇑P **P 11 13 41.9 -0.7**
baz=94
P13A Bates Ranch, G 93.41 49 ⇑P **P 11 13 42.2 -0.5**
baz=94
D08A Wollman Farm, 93.42 41 ⇓P **P 11 13 42.0 -0.7**
baz=94
DAWY Dawson 93.44 20 *e*P **P 11 13 41.2 -1.0**
DLBC Dease Lake 93.44 27 *e*P **P 11 13 42.2 -0.2**
F09A S2 Ranch, Elgi 93.44 42 ⇑P **P 11 13 42.4 -0.4**
baz=94
I10A Payette 93.45 44 ⇓P **P 11 13 42.4 -0.4**
baz=94
BMO Blue Mountains 93.45 43 *e*P **P 11 13 42.2 -0.7**
A07A Ashnola River, 93.46 38 ⇑P **P 11 13 42.1 -0.6**
baz=94
218A Dragoon 93.46 57 ⇑P **P 11 13 42.2 -1.0**
baz=94
M12A Wells 93.58 47 ⇑P **P 11 13 42.6 -0.9**
baz=94
T15A Red Dirt Ranch 93.61 52 ⇓P **P 11 13 42.8 -1.0**
baz=94
E09A Wood Farm, Sta 93.65 41 ⇑P **P 11 13 42.8 -0.9**
baz=94
R14A James Farms, M 93.65 50 ⇓P **P 11 13 43.5 -0.4**
baz=94
C08A Higginbotham F 93.67 40 ⇓P **P 11 13 44.0 +0.3**
baz=94
H10A Noah's Angus R 93.70 44 ⇑P **P 11 13 42.8 -1.1**
baz=94
O13A Hicks Ranch, I 93.70 48 ⇓P **P 11 13 43.4 -0.7**
baz=94
B08A Colville Reser 93.76 39 ⇓P **P 11 13 43.4 -0.7**
baz=94
G10A Bishop Farm, J 93.76 43 ⇓P **P 11 13 43.1 -1.1**
baz=94
WUAZ Wupatki 93.78 54 *e*P **P 11 13 45.0 +0.4**
comp=Z,42nm,1.1s,mb5.8
D09A Jones Farm, Ri 93.80 41 ⇑P **P 11 13 42.9 -1.5**
baz=94
MFID Camas Ranch 93.80 45 ⇓P **P 11 13 44.0 -0.5**
baz=94
L12A House Creek Ra 93.81 46 ⇑P **P 11 13 43.9 -0.7**
baz=94
N13A Wendover, West 93.84 48 ⇑P **P 11 13 44.0 -0.7**
baz=94
319A Douglas 93.84 58 ⇑P **P 11 13 44.2 -0.8**
baz=94
Z18A Geronimo 93.89 56 ⇓P **P 11 13 44.7 -0.4**
baz=94
F10A Beach Ranch, E 93.99 42 ⇑P **P 11 13 45.0 -0.3**
baz=94
A08A Turner Farm, O 94.07 39 ⇓P **P 11 13 44.7 -0.8**
baz=94
M13A Montello 94.07 47 ⇓P **P 11 13 44.8 -1.0**
baz=94
K12A Draper Farm, C 94.09 46 ⇑P **P 11 13 45.7 -0.1**
baz=94
KKN Kakani 94.11 298 *e*P **P 11 13 47.8 +1.5**
comp=Z,88nm,0.8s,mb6.2
C09A Chrisman Ranch 94.14 40 ⇑P **P 11 13 45.9 -0.1**
baz=94
J12A Stokes Ranch, 94.22 45 ⇑P **P 11 13 45.8 -0.6**
baz=94
H11A Donnelly 94.22 44 ⇑P **P 11 13 45.7 -0.6**
baz=94
T16A Glen Canyon Da 94.25 52 ⇑P **P 11 13 45.9 -0.8**
baz=94
E10A Myers Farm, Un 94.28 42 ⇓P **P 11 13 45.4 -1.2**
baz=94
119A Ashpeak Ranch, 94.34 57 ⇑P **P 11 13 46.5 -0.8**
baz=94
MSU Marysvale 94.35 51 *e*P **P 11 13 48.6 +1.5**
G11A Walters Elk Ra 94.35 43 ⇑P **P 11 13 46.6 -0.3**
baz=94
D10A Wagner Farm, O 94.43 41 ⇓P **P 11 13 47.3 0.0**
baz=94
A09A Danville 94.48 39 ⇓P **P 11 13 46.8 -0.7**
baz=95
B09A Rice 94.50 40 ⇓P **P 11 13 47.5 -0.1**
baz=95
L13A Double Diamond 94.52 47 ⇑P **P 11 13 46.9 -0.9**
baz=95
N14A Grayback Hills 94.55 48 ⇑P **P 11 13 46.8 -1.2**
baz=95
DUG Dugway 94.55 49 *e*P **P 11 13 48.7 +0.7**
F11A Grangeville 94.63 43 ⇑P **P 11 13 47.7 -0.5**
baz=95
K13A Stover Farm, H 94.65 46 ⇓P **P 11 13 48.0 -0.4**
baz=95
BGU Big Grassy Mou 94.69 48 *e*P **P 11 13 49.0 +0.4**
M14A Sheep Mountain 94.69 47 ⇓P **P 11 13 48.2 -0.4**
baz=95
GKN Gorkha 94.72 298 *e*P **P 11 13 48.3 -0.8**
comp=Z,167nm,1.3s,mb6.3
C10A Spilker Farm, 94.74 40 ⇑P **P 11 13 48.3 -0.4**
baz=95
E11A Bogner Ranch, 94.79 42 ⇓P **P 11 13 48.7 -0.2**
baz=95
BLSP Bilaspur 94.80 292 *e*P **P 11 13 49.0 -0.6**
BLSP AMb AMB 11 13 55.0
comp=Z,85nm,1.6s,mb5.9
HLID Hailey 94.80 45 *e*P **P 11 13 49.0 -0.1**
J13A Cove Ranch, Pi 94.89 45 ⇑P **P 11 13 49.1 -0.4**
baz=95
H12A Diamond D Ranc 94.91 44 ⇑P **P 11 13 48.8 -0.8**
baz=95
KOD Kodaikanal 94.94 279 *e*P **P 11 13 50.4 0.0**
KOD AMb AMB 11 14 10.5
comp=Z,55nm,3.0s
NLU North Lily Min 94.98 49 P **P 11 13 50.9 +1.0**
B10A Chitwood Farm, 95.00 40 ⇑P **P 11 13 49.3 -0.5**
baz=95
N15A Stansbury Isla 95.03 48 ⇓P **P 11 13 49.9 -0.3**
baz=95
NEW Newport 95.04 40 *e*P **P 11 13 53.0 +3.0**
A10A Northport 95.09 39 ⇑P **P 11 13 49.9 -0.4**
baz=95
I13A Wildhorse Cree 95.14 45 ⇓P **P 11 13 50.4 -0.2**
baz=95
F12A Elk City 95.15 43 ⇓P **P 11 13 49.0 -1.6**
baz=95
K14A Jones Ranch, D 95.22 47 ⇑P **P 11 13 49.9 -1.1**
baz=95
SPUT South Promonto 95.24 48 *e*P **P 11 13 51.8 +0.7**
M15A Larsen Ranch, 95.30 48 ⇓P **P 11 13 50.4 -1.0**
baz=95
H13A Challis 95.31 44 ⇑P **P 11 13 50.4 -1.0**
baz=95
MPU Maple Canyon 95.31 49 *e*P **P 11 13 54.2 +2.7**
TMUT Trail Mountain 95.35 50 *e*P **P 11 13 54.9 +3.2**
CTU Camp Tracy 95.49 49 *e*P **P 11 13 54.4 +2.1**
KOLN Koldanda 95.50 297 *e*P **P 11 13 51.9 -0.7**
comp=Z,69nm,0.9s,mb6.1
G13A Cobalt 95.53 44 ⇓P **P 11 13 51.9 -0.5**
baz=96
B11A Sandpoint 95.57 40 ⇑P **P 11 13 51.8 -0.6**
baz=96
JLU Jordanelle 95.67 49 *e*P **P 11 13 53.7 +0.6**
DAU Daniels Canyon 95.73 49 *e*P **P 11 13 55.9 +2.5**
DAU Daniels Canyon 95.73 49 *e*P **P 11 13 54.5 +1.1**
F13A Darby 95.75 43 ⇓P **P 11 13 52.1 -1.3**
baz=96
SRU San Rafael 95.77 50 *e*P **P 11 13 56.0 +2.4**
A11A Hall Mountain, 95.79 40 ⇑P **P 11 13 53.2 -0.2**
baz=96
HWUT Hardware Ranch 95.97 48 *e*P **P 11 13 54.8 +0.3**
B12A Libby 96.06 40 ⇑P **P 11 13 54.9 +0.3**
baz=96
G14A Jackson 96.10 44 ⇓P **P 11 13 55.1 +0.2**
baz=96
TIXI Tiksi 96.10 348 *e*P **P 11 13 52.9 -1.5**
TIXI Tiksi 96.10 348 *e*P **P 11 13 52.4 -2.0**
TIXI *e* 11 17 43.4
TIXI *i*S SKSac 11 24 29.2 -0.4
TIXI *e* 11 25 13.4
TIXI *e*SS SS 11 31 40.4 -3.8
TIXI pmax pmax
comp=Z,20nm,1.1s,mb5.5
TIXI MLR MLR
comp=Z,6µm,18.0s,MS6.1
E13A Victor 96.10 43 ⇑P **P 11 13 54.1 -0.8**
baz=96
D13A Huson 96.19 42 ⇓P **P 11 13 54.4 -0.9**
baz=96
A12A Yaak River Ran 96.21 40 ⇑P **P 11 13 55.6 +0.3**
baz=96
BSMT Bassoo Peak 96.30 41 *e*P **P 11 13 56.8 +1.0**
MCMT McKenzie Canyo 96.33 44 *e*P **P 11 13 57.0 +1.0**
C13A Hot Springs 96.36 41 ⇓P **P 11 13 56.5 +0.4**
baz=96
HYB Hyderabad 96.37 286 *e*P **P 11 13 58.0 +1.2**
HYB Hyderabad 96.37 286 *i*P **P 11 13 58.0 +1.2**
F14A Wisdom 96.38 43 ⇑P **P 11 13 56.3 +0.1**
baz=96
MSO Missoula 96.41 42 *e*P **P 11 14 03.1 +6.7**
ZAIG Zacatecas 96.43 68 *i*P **P 11 13 49.6 -7.4**
E14A Clinton 96.54 43 ⇓P **P 11 13 56.1 -0.8**
baz=97
LAZ Ladron 96.61 56 *e*P **P 11 14 00.2 +2.7**
Y22C IRIS PASSCAL I 96.67 56 ⇓P **P 11 13 57.3 -0.5**
baz=97
G15A Dillon 96.70 44 ⇓P **P 11 13 57.8 +0.2**
baz=97
B13A Whitefish 96.70 41 ⇓P **P 11 13 57.1 -0.5**
baz=97
DLMT Dillon 96.70 44 *e*P **P 11 13 58.1 +0.4**
comp=Z,14nm,1.0s,mb5.3
D14A Greenough 96.79 42 ⇓P **P 11 13 57.8 -0.2**
baz=97
CHMT Chamberlain Mo 96.88 42 *e*P **P 11 13 59.5 +1.0**
C14A Swan Lake 96.91 42 ⇑P **P 11 13 58.5 0.0**
baz=97
BNM Barren Site 96.92 56 *e*P **P 11 14 00.6 +1.6**
F15A Butte 96.95 44 ⇑P **P 11 13 57.6 -1.3**
baz=97
A13A Flathead Natio 96.96 40 ⇑P **P 11 13 59.2 +0.4**
baz=97
LRM Limekiln Ridge 96.97 44 *e*P **P 11 14 00.6 +1.7**
MNTX Cornudas Mount 97.07 59 *e*P **P 11 14 00.1 +0.4**
E15A Deer Lodge 97.08 43 ⇑P **P 11 13 59.0 -0.3**
baz=97
TPAW Teton Pass 97.09 46 *e*P **P 11 14 01.0 +1.5**
comp=Z,16nm,1.4s,mb5.3
REDW Red Top Meadow 97.11 46 *e*P **P 11 13 59.8 +0.2**
comp=Z,20nm,1.3s,mb5.4
NGP Nagpur 97.17 290 *e*P **P 11 13 60.0 -0.4**
NGP AMb AMB 11 14 03.5
comp=Z,29nm,1.2s,mb5.6
NGP *e*S SKSac 11 24 35.7 -1.6
SNOW Snow King Moun 97.22 46 *e*P **P 11 14 02.6 +2.6**
comp=Z,33nm,1.5s,mb5.5
IMW Indian Meadow 97.25 46 *e*P **P 11 14 02.6 +2.4**
comp=Z,16nm,1.2s,mb5.3
QLMT Earthquake Lak 97.27 45 *e*P **P 11 14 02.9 +2.6**
WALA Waterton Lakes 97.31 40 *e*P **P 11 14 02.5 +2.2**
ANMO Albuquerque 97.33 56 *e*P **P 11 14 01.1 +0.3**
comp=Z,78nm,2.8s,mb5.6
MOOW Moose Ponds 97.33 46 *e*P **P 11 14 02.8 +2.2**
LOHW Long Hollow 97.37 46 *e*P **P 11 14 02.9 +2.1**
comp=Z,81nm,3.0s
D15A Lincoln 97.39 43 ⇑P **P 11 14 00.9 +0.2**
baz=98
BOZ Bozeman (W) 97.44 44 *e*P **P 11 14 01.3 +0.3**
FLWY Flagg Ranch 97.48 46 *e*P **P 11 14 03.7 +2.5**
comp=Z,19nm,1.3s,mb5.4
PLCA Paso Flores 97.62 139 P **P 11 14 03.0 +0.8**
PLCA *e*P 11 14 04.2
PLCA Paso Flores 97.62 139 P **P 11 14 03.0 +0.8**
comp=Z,3.8nm,1.0s,mb4.9,baz=231,slow=5.4,SNR=4.9
TXAR Lajitas Array 97.68 62 P **P 11 14 04.0 +1.5**
comp=Z,3.4nm,1.0s,mb4.8,baz=238,slow=4.3,SNR=19
TXAR PKKPbc PKKPbc 11 30 40.1 +1.5
comp=Z,1.1nm,0.9s,baz=109,slow=3.0,SNR=5.0
BW06 Boulder Array 97.78 47 *e*P **P 11 14 02.4 -0.2**
PDAR Pinedale Array 97.78 47 P **P 11 14 02.7 +0.1**
comp=Z,6.0nm,1.1s,mb5.0,baz=204,slow=3.3,SNR=14
PDAR PKKPbc PKKPbc 11 30 51.1 +12
comp=Z,0.7nm,0.8s,baz=80,slow=5.0,SNR=2.8
LKWY Lake 97.86 45 *e*P **P 11 14 06.5 +3.6**
INK Inuvik 98.00 18 *e*P **P 11 14 01.3 -1.6**
WMQ Urumqi 98.02 314 ⇑*i*P **P 11 14 03.9 +0.2**
WMQ XP sP 11 14 11.5 +0.3
WMQ AMB AMB
comp=Z,56nm,1.8s,mb5.8
WMQ AMB AMB
comp=Z,824nm,6.7s
WMQ LR LR
comp=N,5µm,19.9s,MS6.2
WMQ LR LR
comp=E,5µm,17.9s,MS6.2
WMQ LR LR
comp=Z,5µm,22.2s,MS5.9
MNGI Mangalore 98.29 281 *i*P **P 11 14 05.6 0.0**
MNGI AMb AMB 11 14 11.2
comp=Z,44nm,0.9s,mb6.0
MNGI *i*x x 11 24 46.3
LATR Latur 98.49 286 *e*P **P 11 14 05.8 -0.6**
LATR AMb AMB 11 14 12.9
comp=Z,32nm,2.5s,mb5.4
RLMT Red Lodge 98.81 45 *e*P **P 11 14 09.3 +2.1**
AKL Akola 98.82 289 *e*P **P 11 14 07.7 -0.1**
AKL AMb AMB 11 14 14.7
comp=Z,30nm,1.9s,mb5.5
LGTI Lohaghat 98.84 298 *e*P **P 11 14 08.5 +0.8**
SDCO Great Sand Dun 98.99 53 *e*P **P 11 14 09.8 +1.7**
RWWY Rawlins 99.05 49 *e*P **P 11 14 12.0 +3.6**
comp=Z,27nm,1.4s,mb5.6
EDM Edmonton 99.24 37 *e*P **P 11 14 11.6 +2.7**
BHPL Bhopal 99.27 291 *e*P **P 11 14 09.2 -0.6**
BHPL AMb AMB 11 14 14.9
comp=Z,18nm,1.3s,mb5.5
GOA Goa 100.03 283 *e*x Pdif 11 14 16.1 +3.4
GOA AMb AMB 11 14 23.1
comp=Z,40nm,1.6s
DDI Dehra Dun 100.92 298 *e*P Pdif 11 14 16.8 +0.2
DDI *e*x x 11 18 21.0
POO Poona 100.97 286 *e*P Pdif 11 14 17.0 +0.2
POO *e*S SKSac 11 24 56.0 -0.4
NDI New Delhi 101.12 296 *e*P Pdif 11 14 17.8 +0.3
NDI *e*PKP Pdif 11 14 18.0 +0.5
NDI AMb AMB 11 14 26.1
comp=Z,30nm,1.6s
SMLA Simla 101.89 299 *e*P Pdif 11 14 20.9 0.0
SMLA AMb AMB 11 14 29.7
comp=Z,59nm,2.3s
YKA Yellowknife Ar 102.07 27 P Pdif 11 14 22.0 +0.3
YKA PKKP PKKPbc 11 30 33.5 +6.2
YKA Yellowknife Ar 102.07 27 P Pdif 11 14 22.0 +0.3
comp=Z,2.4nm,0.9s,baz=256,slow=4.6,SNR=21
YKA PKKP PKKPbc 11 30 33.5 +6.2
comp=Z,0.2nm,0.7s,baz=69,slow=3.8,SNR=3.8
YKW3 Yellowknife Ar 102.09 27 *e*Pdif Pdif 11 14 24.6 +2.8
MK31 Makanchi Array 102.59 315 *e*Pdif Pdif 11 14 23.6 -0.4
MKAR Makanchi Array 102.59 315 P Pdif 11 14 23.7 -0.3
MKAR 11 18 38.3
MKAR Makanchi Array 102.59 315 P Pdif 11 14 23.6 -0.4
comp=Z,5.7nm,0.9s,baz=98,slow=6.2,SNR=27
MKAR PP PP 11 18 38.3 +0.8
comp=Z,7.9nm,1.1s,baz=97,slow=9.2,SNR=5.5
MKAR PKKPab 11 30 45.5
comp=Z,0.6nm,0.6s,baz=259,slow=2.9,SNR=3.7
ZALV Zalesovo Beam 103.11 323 Pdif Pdif 11 14 25.4 -0.9
ZALV PP PP 11 18 44.8 +3.5
ZALV PKKPbc PKKPbc 11 30 25.8 +1.9
ZALV Zalesovo Beam 103.11 323 Pdiff Pdif 11 14 25.4 -0.9
comp=Z,4.9nm,1.0s,baz=108,slow=4.8,SNR=11
ZALV PP PP 11 18 44.8 +3.5
comp=Z,0.9nm,0.5s,baz=112,slow=3.5,SNR=3.6
ZALV PKKPbc PKKPbc 11 30 25.8 +1.9
comp=Z,0.5nm,0.5s,baz=336,slow=3.3,SNR=3.7
ZAL Zalesovo 103.12 323 P Pdif 11 14 25.4 -1.0
ZAL 11 18 44.8
NVS Novosibirsk 104.25 323 *i*P Pdif 11 14 31.1 -0.3
NVS *i* 11 18 49.3
NVS *i*S Sdif 11 25 58.2 -24
NVS pmax pmax
comp=N,21nm,2.1s
NVS pmax pmax
comp=E,15nm,2.1s
NVS pmax pmax
comp=Z,80nm,2.1s
KURK Kurchatov 105.95 319 *e*Pdif Pdif 11 14 44.2 +5.2
UCH Uchtor 106.81 309 *e*Pdif Pdif 11 14 45.7 +2.9
comp=Z,9.5nm,1.3s
FRU Bishkek 106.87 310 *e*P Pdif 11 14 45.0 +2.0
FRU *e* 11 19 07.0
FRU pmax pmax
comp=Z,70nm,2.2s
AML Almayashu 107.39 309 *e*Pdif Pdif 11 14 47.9 +2.5
comp=Z,7.9nm,1.1s
ULM Lac du Bonnet 108.86 43 PKPdf PKiKP 11 18 55.0 -1.5
ULM Lac du Bonnet 108.86 43 PKiKP PKiKP 11 18 55.0 -1.5
comp=Z,3.7nm,1.0s,baz=172,slow=6.2,SNR=3.3
OPO Ambohidratompo110.89 240 PP PP 11 19 38.1 -0.6
comp=Z,4.8nm,1.0s,baz=258,slow=6.5,SNR=3.7
RES Resolute Bay 111.42 16 *e*Pdif Pdif 11 15 05.3 +2.1
RES *e*PKPdf PKiKP 11 19 00.1 -0.5
BRVK Borovoye 111.43 320 ⇑*e*PKP PKiKP 11 19 00.4 -0.9
LPAZ La Paz 112.99 119 PKKPbc PKKPbc 11 29 52.8 +1.1
comp=Z,1.5nm,0.9s,baz=32,slow=5.5,SNR=4.2
SMDO Samad 116.41 286 PKPdf PKPdf 11 19 11.2 -0.5
SNR=7.6
BSY Bisya 117.10 286 PKPdf PKPdf 11 19 13.7 +0.6
SNR=7.3
ARU Arti 118.26 324 ⇑*e*PKP PKPdf 11 19 14.3 +0.1
ARU *e*PKPdf PKPdf 11 19 15.8 +1.5
ARU Arti 118.26 324 *i*PKIKP PKPdf 11 19 14.2 -0.1
ARU SP SP 11 30 13.2 -0.4
ARU PS PS 11 30 17.6 +1.1
BLA Blacksburg 118.33 58 *e*PKPdf PKPdf 11 19 15.8 +0.8
BLA Blacksburg 118.33 58 PKIKP PKPdf 11 19 15.9 +0.9
HATD Hatta, Dubai 118.48 288 PKPdf PKPdf 11 19 17.1 +1.4
SNR=5.3
ASHO Ashiyiah 118.52 288 PKPdf PKPdf 11 19 16.3 +0.5
SNR=6.0
RBK Rabkut 118.64 279 PKPdf PKPdf 11 19 16.3 +0.1
SNR=13
RBK Rabkut 118.64 279 P PKPdf 11 19 16.3 +0.1
SNR=13
WHFO Wadi Hawf 119.14 279 PKPdf PKPdf 11 19 16.8 -0.3
SNR=7.0
WHFO Wadi Hawf 119.14 279 P PKPdf 11 19 16.8 -0.3
SNR=7.0
ABTO Aybut 119.44 279 PKPdf PKPdf 11 19 18.8 +1.1
SNR=7.6
BOSA Boshof 119.75 217 PKP PKPdf 11 19 18.9 +0.8
BOSA PKKPbc PKKPbc 11 29 25.5 -2.8
BOSA Boshof 119.75 217 PKP PKPdf 11 19 18.9 +0.8
comp=Z,9.6nm,1.0s,baz=127,slow=2.1,SNR=8.6
BOSA PKKPbc PKKPbc 11 29 25.5 -2.8
comp=Z,3.7nm,0.9s,baz=282,slow=5.3,SNR=3.6
KBS Kingsbay 120.75 355 *e*PP PP 11 20 45.7 -1.0
SDV Santo Domingo 121.47 92 *e*PKPdf PKPdf 11 19 21.2 -0.5
LBTB Lobatse 122.28 220 *e*PKPdf PKPdf 11 19 22.2 -0.8
LONY Lake Ozonia 122.93 50 *e*PKPdf PKPdf 11 19 22.6 -1.1
NCB Newcomb 123.22 50 *e*PKPdf PKPdf 11 19 24.7 +0.5
SDDR Presa de Saban 123.58 80 *e*PKPdf PKPdf 11 19 26.2 +0.6
DAG Danmarks Havn 123.75 2 ⇓*i*PKIKP PKPdf 11 19 24.2 -0.1
DAG pmax pmax
comp=Z,6.0nm,0.9s
DAG MLR MLR
comp=N,5µm,20.0s
DAG MLR MLR
comp=Z,7µm,20.0s,MS6.3
DAG Danmarks Havn 123.75 2 ⇓*i*P PKPdf 11 19 24.2 -0.1
comp=Z,5.9nm,0.9s
DAG
comp=Z,7µm,20.0s
BJO Bjornoya 123.77 351 *e*PP PP 11 21 08.9 +1.7
BJO AMS AMS 12 16 50.9
comp=Z,5µm,20.5s,MS6.2
APA Apatity 125.52 341 ⇑*i*PKIKP PKPdf 11 19 28.0 +0.1
APA *i* 11 21 30.0
APA pmax pmax
comp=Z,36nm,1.2s
TMCR Tamitsa 125.77 336 *e*PKIKP PKPdf 11 19 24.6 -3.9
SCHQ Schefferville 126.22 36 PKP PKPdf 11 19 30.3 +0.7
comp=Z,12nm,1.0s,baz=310,slow=2.8,SNR=7.3
ARCES ARCESS Array B 126.40 345 PKhKP 11 19 26.4
comp=Z,14nm,1.0s,baz=20,slow=0.6,SNR=10
PKME Peaks-Kenny Pk 126.62 48 *e*PKPdf PKPdf 11 19 31.0 +0.4
LSZ Lusaka 127.45 230 *e*PKPdf PKPdf 11 19 34.5 +1.3
KMBO Kilima Mbogo 128.03 251 PKP PKPdf 11 19 35.2 +0.8
KMBO Kilima Mbogo 128.03 251 PKPdf PKPdf 11 19 35.9 +1.6
SNR=15
KMBO Kilima Mbogo 128.03 251 PKP PKPdf 11 19 35.2 +0.8
comp=Z,19nm,1.1s,baz=24,slow=2.5,SNR=23
SJG San Juan 128.15 83 *e*PKPdf PKPdf 11 19 33.9 -0.5
DGRG David-gareji 128.40 307 P PKPdf 11 19 35.0 +0.8
DGRG S SKPdf 11 22 57.8 -11
MTP Monte Pirata 128.70 83 *e*PKPdf PKPdf 11 19 33.3 -2.1
BDFB Brasilia 128.79 132 PKP PKPdf 11 19 36.9 +1.2
comp=Z,7.6nm,0.9s,baz=54,slow=2.5,SNR=7.0
MTA Mtatsminda 128.80 307 P PKPdf 11 19 36.8 +1.9
MTA S SKPdf 11 23 02.1 -7.7
JOF Joensuu 128.98 337 *e*pkp PKPdf 11 19 34.7 +0.1
ONI Oni 129.69 309 P PKPdf 11 19 38.6 +2.0
ONI S SKPdf 11 23 03.2 -8.2
CLDR Caldiran 129.72 304 *e*P PKPdf 11 19 37.9 +1.1
MOS Moscow 129.75 326 *e*PKIKP PKPdf 11 19 37.9 +1.6
MOS *e* 11 21 51.1
MOS *e* 11 26 47.5
MOS *e*SS SS 11 39 32.3 +22
KIV Kislovodsk 130.02 311 ⇑*e*PKP PKPdf 11 19 37.6 +0.4
KIV Kislovodsk 130.02 311 *i*PKIKP PKPdf 11 19 38.3 +1.1
KIV *e* 11 21 51.8
KIV *e*PPP 11 24 39.3
KIV *e*SP SP 11 32 00.7 +2.5
KIV *e*SS SS 11 39 18.5 +4.0
KIV *e*SSS 11 44 01.8
KIV pmax pmax
comp=Z,22nm,1.2s
CUKT Cukurca 130.10 302 *e*P PKPdf 11 19 37.7 +0.1
VANB Van 130.17 303 *e*P PKPdf 11 19 40.2 +2.5
KARS Kars 130.20 306 *e*P PKPdf 11 19 39.7 +2.0
AGRB Hanur-Agry 130.39 305 *e*P PKPdf 11 19 40.4 +2.4
OBN Obninsk 130.56 326 ⇑*e*PKP PKPdf 11 19 37.6 -0.3
OBN Obninsk 130.56 326 ⇓*i*PKIKP PKPdf 11 19 37.6 -0.3
OBN *e* 11 19 49.2
OBN pmax pmax
comp=Z,30nm,1.0s
MSL Mosul 130.57 300 *e*x x 11 19 39.0
MSL *e*x x 11 21 43.5
MSL *e*x x 11 23 03.0
MSL *e*x x 11 23 08.5
MSL *e*x x 11 24 33.0
MSL *e*x x 11 26 22.5
BCA Borcka 131.19 307 *e*P PKPdf 11 19 38.7 -0.8
TSUM Tsumeb 131.45 217 *e*PKPdf PKPdf 11 19 42.9 +2.2
EZM Erzurum 131.60 305 *e*P PKPdf 11 19 42.7 +2.4
FINES FINESS Array B 131.82 337 PKP PKPdf 11 19 40.2 +0.1
FINES SKPbc SKPbc 11 23 06.2 +0.9
FINES FINESS Array B 131.82 337 PKP PKPdf 11 19 40.2 +0.1
comp=Z,1.3nm,0.5s,baz=56,slow=3.4,SNR=6.9
FINES SKPbc SKPbc 11 23 06.2 +0.9
comp=Z,3.9nm,0.9s,baz=94,slow=4.2,SNR=2.8
SOC Sochi 132.21 311 *d*PKIKP PKPdf 11 19 47.4 +6.0
SOC *i* 11 22 08.9
SOC *e* 11 26 51.0
SOC *e*PS PS 11 32 22.2 +2.3
SOC *e*SS SS 11 39 45.2 +4.0
SOC *e*SSS 11 44 35.6
SOC pmax pmax
comp=Z,53nm,1.0s
KTUT Trabzon 132.65 307 *e*P PKPdf 11 19 44.4 +2.1
ANN Anapa 133.53 313 *i*PKIKP PKPdf 11 19 45.0 +1.2
ANN *e* 11 22 10.6
ANN *e*SSS 11 44 47.3

ANN pmax pmax
comp=Z,444nm,6.8s
NSS Namsos 133.58 347 *e*PP PP 11 22 08.3 -3.2
NSS AMS AMS 12 18 33.4
comp=Z,5µm,20.8s,MS6.2
URFA Urfa 133.88 302 *e*P PKPdf 11 19 45.9 +1.2
MBAR Mbarara 134.00 248 *i* PKP PKPdf 11 19 45.0 -0.7
MALT Malatya 134.08 304 *e*P PKPdf 11 19 47.4 +2.4
MALT Malatya 134.08 304 PKIKP PKPdf 11 19 47.1 +2.1
MALT Malatya 134.08 304⇑*i*P PKPdf 11 19 46.3 +1.3
GAZ Gaziantep 135.19 302 *e*P PKPdf 11 19 47.6 +0.4
MNK Minsk 135.28 329 *e*PKIKP PKPdf 11 19 47.0 +0.2
MNK *e* 11 26 44.0
KMRS Kahramanmaras 135.39 303 *e*P PKPdf 11 19 47.7 +0.2
KVT Kavak 135.39 308 *e*P PKPdf 11 19 49.7 +2.3
SIM Simferopol' 135.75 314 *e*PKIKP PKPdf 11 19 50.0 +2.1
SIM *e* 11 26 54.0
SIM *e*PS PS 11 32 52.0 +2.0
SIM pmax pmax
comp=Z,80nm,5.7s
DIKM Dikmen 135.84 309 *e*P PKPdf 11 19 48.9 +0.7
BNN Bunyan 135.99 305 *e*P PKPdf 11 19 48.8 +0.2
KOZT Kozan 136.23 303 *e*P PKPdf 11 19 51.6 +2.5
MOL Molde 136.25 348 *e*PP PP 11 22 19.6 -8.7
CEYT Ceyhan 136.37 302 *e*P PKPdf 11 19 52.1 +2.7
AKASG Malin Array Be 136.51 323 PKP PKPdf 11 19 50.9 +1.7
comp=Z,7.5nm,0.8s,baz=52,slow=3.3,SNR=24
AKBB Malin Array Si 136.51 323 *e*PKPdf PKPdf 11 19 50.6 +1.4
KIEV Kiev 136.52 323 *e*PKPdf PKPdf 11 19 50.6 +1.4
HWQ Hawqa 136.54 298 *e*P PKPdf 11 19 49.4 -0.4
CORM Corum 136.64 307 *e*P PKPdf 11 19 52.5 +2.7
BZK Bozkurt 136.68 310 *e*P PKPdf 11 19 50.3 +0.5
NB2 NORSAR Subarra 136.77 344 PKPdf PKPdf 11 19 41.5 -7.8
comp=Z,23nm,1.7s,baz=39,slow=1.9
NB2 NORSAR Subarra 136.77 344 PKPdf PKPdf 11 19 41.5 -7.8
baz=39,slow=1.9
NOA NORSAR Array B 136.77 344 PKP PKPdf 11 19 51.5 +2.1
NOA NORSAR Array B 136.77 344 PKP PKPdf 11 19 51.5 +2.1
comp=Z,6.2nm,1.1s,baz=35,slow=2.1,SNR=7.2
BHL Bhannes 136.82 298 *e*P PKPdf 11 19 50.6 +0.3
HFS Hagfors 136.87 342 PKhKP 11 19 40.9
comp=Z,1.5nm,0.5s,baz=15,slow=6.2,SNR=5.1
KARA Karaisali 136.88 303 *e*P PKPdf 11 19 49.3 -1.0
CANT Cankiri 137.29 308 *e*P PKPdf 11 19 53.5 +2.5
MERS Mersin 137.36 302 *e*P PKPdf 11 19 52.7 +1.5
KAMT Kaman 137.51 306 *e*P PKPdf 11 19 54.2 +2.8
EREN Erenkoy 137.84 300 *e*P PKPdf 11 19 56.1 +4.0
ANTO Ankara 138.09 307 ⇑P PKPdf 11 19 52.5 0.0
ANTO P 11 19 56.7
ANTO Ankara 138.09 307 P PKPdf 11 19 56.7 +4.3
SNR=14
ANTO Ankara 138.09 307⇑*i*P PKPdf 11 19 52.5 0.0
LOD Lodumlu 138.10 307 *e*P PKPdf 11 19 53.8 +1.3
IKL Isikli 138.13 302 *e*P PKPdf 11 19 52.9 +0.2
KONO Kongsberg 138.38 344⇑*e*PKP PKPdf 11 19 51.5 -0.9
KONO Kongsberg 138.38 344 *e*SS SS 11 40 56.8 +3.5
KONO Kongsberg 138.38 344⇑*i*PKIKP PKPdf 11 19 51.5 -0.9
LFK Lefkose 138.40 300 *e*P PKPdf 11 19 54.7 +1.5
KIS Kishinev 138.43 319 *e*PKP PKPdf 11 19 55.0 +2.2
KIS Kishinev 138.43 319 *e*PP PP 11 22 22.0 -21
KIS *e*SKS SKSdf 11 27 02.0 -0.7
KIS *e*SKKS SKKSac 11 29 40.0 +3.6
KIS LRM 12 27 40.0
comp=Z,8µm,20.0s
MRKH Merkhyat 138.56 271⇑*e* 11 23 37.4
baz=103,slow=1.9
CSS Prodhromos 138.60 300 *e*PKPdf PKPdf 11 19 55.6 +2.1
BER Bergen 138.68 348 *e*PP PP 11 22 42.6 -0.9
BER *e*SS SS 11 40 59.0 +2.2
KONT Konya--Tatoy 138.85 304 *e*P PKPdf 11 19 49.1 -4.8
LEF Lefka 138.94 300 *e*P PKPdf 11 19 54.3 +0.1
TIRR Tirgusor 139.72 315 ⇓P PKPdf 11 19 56.7 +1.4
TIRR Tirgusor 139.72 315⇓*i*P PKPdf 11 19 56.7 +1.4
LVV L'vov 139.82 325 *e*PKIKP PKPdf 11 19 56.3 +1.0
LVV *e* 11 22 54.7
LVV *e*PPP 11 26 00.5
HARR Harsova 139.95 316 ⇓P PKPdf 11 19 53.4 -2.3
HARR P 11 19 58.0
HARR Harsova 139.95 316⇓*i*P PKPdf 11 19 53.4 -2.3
SHUT Suhut-Afyon 140.10 306 *e*P PKPdf 11 19 54.4 -1.8
ADVT Abdulvahap 140.19 309 *e*P PKPdf 11 19 54.9 -1.4
VRI Vrincioaia 140.22 318⇓*i*P PKPdf 11 19 54.8 -1.4
ISP Isparta 140.30 305 *e*P PKPdf 11 19 48.9 -7.7
ISP Isparta 140.30 305 *e*P PKPdf 11 19 53.2 -3.3
ALT Altintas 140.30 307 *e*P PKPdf 11 19 56.8 +0.3
YLV Yalova 140.42 309 *e*P PKPdf 11 19 54.6 -2.1
BSD Bornholm Skovb 140.46 337 *i* P PKPdf 11 19 54.7 -1.6
BSD *e* 11 25 06.9
ISK Istanbul-Kandi 140.49 310 *e*P PKPdf 11 19 55.2 -1.5
GEMT Gemlik 140.59 309 *e*P PKPdf 11 19 52.1 -4.9
KWP Kalwaria 140.64 325 ⇓P PKPdf 11 19 55.2 -1.6
KWP Kalwaria 140.64 325⇓*i*P PKPdf 11 19 55.2 -1.6
MLR Muntele Rosu 140.88 318⇑*i*P PKPdf 11 19 56.4 -1.0
ELL Elmali 141.02 303 *e*P PKPdf 11 19 57.4 -0.5
KOLS Kolonicke sedl 141.27 325 *e*PKP PKPdf 11 20 00.0 +2.1
KOLS *e* 11 21 49.7
KOLS Kolonicke sedl 141.27 325 *e*PKP PKPdf 11 20 00.0 +2.1
KOLS *e* 11 21 49.7
UZH Uzhgorod 141.43 324 *i* PKIKP PKPdf 11 19 54.0 -4.2
UZH *e* 11 20 07.4
UZH *i* 11 23 06.0
UZH *e*SS SS 11 41 27.0 -3.1
VOIR 141.46 318 ⇓P PKPdf 11 19 57.9 -0.5
VOIR P 11 20 00.9
VOIR 141.46 318⇓*i*P PKPdf 11 19 57.9 -0.5
KULA Kula-Manisa 141.54 306 *e*P PKPdf 11 19 54.1 -4.7
FETY Fethiye 141.69 303 *e*P PKPdf 11 19 57.4 -1.7
CRVS Cervenica-Dubn 141.72 325 *e*PKP PKPdf 11 19 55.6 -3.2
OJC Ojcow 141.78 328 *e*PKPdf PKPdf 11 19 59.1 +0.3
BALB Balikesir 141.79 308 *e*P PKPdf 11 19 58.5 -0.7
MFT Murefte 141.85 310 *e*P PKPdf 11 19 55.5 -3.7
RKY Sarkoy-Tekirda 141.96 310 *e*P PKPdf 11 19 56.0 -3.4
DRGR 142.20 321 P PKPdf 11 19 56.7 -3.0
DRGR 142.20 321⇓*i*P PKPdf 11 19 55.7 -4.0
PVL Pavlikeni 142.27 315 P PKPdf 11 19 56.5 -3.4
MVH1 Achvaich 142.48 354 *e*P PKPdf 11 20 02.6 +2.8
KECS Kecovo 142.49 325 *e*PKP PKPdf 11 19 57.6 -2.6
ARG Arkhangelos 142.54 303 *e*P PKPdf 11 20 04.5 +3.9
MLSB Milas 142.54 305 *e*P PKPdf 11 19 54.5 -6.1
ENEZ Enez 142.67 311 *e*P PKPdf 11 19 53.9 -6.8
ALN Alexandroupoli 142.69 311 *e*P PKPdf 11 19 55.4 -5.3
DAT Datca 142.84 304 *e*P PKPdf 11 19 57.7 -3.5
OKC Ostrava-Krasne 142.84 328 *e*PKP PKPdf 11 20 03.0 +2.3
OKC AMS AMS 12 26 40.0
comp=Z,8µm,20.1s,MS6.5
EZN Ezine 142.87 309 *e*P PKPdf 11 19 55.0 -6.1
GZR Gura Zlata 142.88 319 P PKPdf 11 19 57.5 -3.5
GZR Gura Zlata 142.88 319⇓*i*P PKPdf 11 19 58.6 -2.3
RDO Rodhopi 142.95 312 *e*P PKPdf 11 19 57.0 -4.2
BODT Bodrum 142.96 305 *e*P PKPdf 11 19 57.3 -4.0
MDO Dochfour 142.97 354 *e*P PKPdf 11 19 57.6 -3.1
KAC Achnashellach 143.00 355 *e*P PKPdf 11 19 57.6 -3.1
KSP Ksiaz 143.04 331 *e*PKP PKPdf 11 19 58.0 -3.1
KSP *e* 11 29 09.2
KSP Ksiaz 143.04 331 *e*PKPdf PKPdf 11 19 59.4 -1.6
KSP *e*SS SS 11 41 53.0 +4.7
KSP Ksiaz 143.04 331 *e*PKIKP PKPdf 11 19 56.9 -4.1
GADA Gvkgeada 143.05 310 *e*P PKPdf 11 19 57.1 -4.3
PRK Paraskevi 143.10 308 *e*P PKPdf 11 19 59.5 -2.0
SMG Samos 143.15 306 *e*P PKPdf 11 19 59.2 -2.5
PSZ Piszkesteto 143.15 325 P PKPdf 11 19 58.8 -2.5
PSZ Piszkesteto 143.15 325⇓*i*P PKPdf 11 19 59.5 -1.8
PSZ Piszkesteto 143.15 325⇓*e*PKP pPKPdf 11 20 04.6 -2.4
PLD Plovdiv 143.15 314 *e*P PKPdf 11 19 58.9 -2.7
PLD Plovdiv 143.15 314 P PKPdf 11 19 59.0 -2.5
MORC Moravsky Berou 143.18 329 P PKPdf 11 20 01.3 -0.1
MORC Moravsky Berou 143.18 329⇑*i*P PKPdf 11 20 03.2 +1.9
KPL Plockton 143.19 355 *e*P PKPdf 11 19 58.1 -3.0
KPL AMb AMB 11 20 07.0
comp=Z,116nm,2.0s
RZN Rozhen 143.31 313 P PKPdf 11 19 59.5 -2.3
PGB Panagyurishte 143.32 315 P PKPdf 11 20 00.0 -1.8
VYHS Vyhne 143.36 326 *e*PKP PKPdf 11 20 00.0 -1.7
VYHS LR LR
comp=Z,7µm,21.0s,MS6.4
DPC Dobruska-Polom 143.37 330 *e*PKIKP PKPdf 11 19 58.4 -3.2
DPC *e* 11 41 52.3
DPC MLR MLR
comp=Z,8µm,21.8s,MS6.5
DPC Dobruska-Polom 143.37 330 *e*PKP PKPdf 11 19 58.4 -3.2
DPC *e*SS SS 11 41 52.3 +0.2
DPC *ex* x 11 44 05.2
DPC AMS AMS 12 25 40.0
comp=Z,8µm,21.8s,MS6.5
UPC Upice 143.40 331 *e*PKP PKPdf 11 19 59.1 -2.6
KARP Karpathos 143.46 302 *e*P PKPdf 11 19 59.4 -2.9
BZS Buzias 143.47 321 P PKPdf 11 20 01.4 -0.5
KOLL Kolacno 143.53 327 *e*PKP PKPdf 11 20 02.0 0.0
CHOS Chios island 143.53 307 *e*P PKPdf 11 19 60.0 -2.4
LIA Limnos Island 143.66 310 *e*P PKPdf 11 19 55.2 -7.3
BUD Budapest 143.88 325⇓*e*PKP PKPdf 11 20 01.1 -1.5
VTS Vitosha 143.94 315 *e*P PKPdf 11 20 00.9 -2.0
VTS Vitosha 143.94 315 ⇓*i*P PKPdf 11 20 01.4 -1.5
VTS Vitosha 143.94 315 P PKPdf 11 20 01.8 -1.1
VRAC Vranov 143.95 329 P PKPdf 11 20 01.1 -1.6
VRAC Vranov 143.95 329 PKP PKPdf 11 20 00.4 -2.3
comp=Z,23nm,1.0s,baz=83,slow=4.2,SNR=10
VRAC Vranov 143.95 329⇑*i*P PKPdf 11 20 03.3 +0.6
MMB Musomiste 144.03 313 P PKPdf 11 20 02.0 -1.1
PVCC Panska Ves 144.03 332 *e*PKP PKPdf 11 20 00.4 -2.4
PVCC AMS AMS 12 29 50.0
comp=Z,7µm,18.9s,MS6.5
BRG Berggiesshubel 144.05 333 *i* PKP PKPdf 11 20 00.4 -2.5
BRG *i* 11 20 02.6
BRG *i* 11 20 06.9
BRG *i* SS 11 42 11.0 +11
BRG LR LR
comp=Z,8µm,17.6s,MS6.5
BRG Berggiesshubel 144.05 333 *i* PKIKP PKPdf 11 20 00.4 -2.4
BRG *i* 11 20 06.9
BRG pmax pmax
comp=Z,5.0nm,1.5s
BRG MLR MLR
comp=N,11µm,17.9s,MS6.7
BRG MLR MLR
comp=E,3µm,18.2s,MS6.7
BRG MLR MLR
comp=Z,1µm,17.6s,MS5.8
BRG Berggiesshubel 144.05 333 *e*PKPbc PKPdf 11 19 59.2 -3.6
BRG Berggiesshubel 144.05 333 *i* PKP PKPdf 11 20 00.4 -2.5
comp=Z,46nm,1.5s
BRG *i* 11 20 02.6
comp=Z,152nm,1.3s
BRG *i* 11 20 06.9
comp=Z,202nm,1.2s
BRG *i* SS 11 42 11.0 +11
BRG
comp=N,5µm,17.9s
BRG
comp=E,2µm,18.2s
BRG
comp=Z,12µm,17.6s
EBH Black Hill 144.05 353 *e*P PKPdf 11 20 00.2 -2.4
RCBR Riachuelo 144.07 135 *e*PKPdf PKPdf 11 20 02.5 -1.5
CLL Collm 144.12 334 *e*PKP PKPdf 11 20 00.0 -2.9
CLL ⇑*i*PKP PKPdf 11 20 02.6 -0.3
CLL *i* 11 20 10.6
CLL LR LR
comp=Z,8µm,19.4s,MS6.5
CLL Collm 144.12 334⇑*e*PKIKP PKPdf 11 20 00.0 -2.9
CLL *i* 11 20 10.6
CLL pmax pmax
comp=Z,6.0nm,1.2s
CLL MLR MLR
comp=Z,8µm,19.4s,MS6.5
CLL Collm 144.12 334 *e*PKPpre 11 19 59.6
CLL ⇑*i*PKPdf PKPdf 11 20 02.7 -0.2
comp=Z,130nm,1.2s
CLL *e*PP PP 11 23 21.0 +4.1
CLL *e*PKS 11 23 46.3
CLL *e*SKKSac SKKSac 11 30 12.2 +3.0
CLL *e*PSKS 11 33 31.8
CLL *e*SS SS 11 42 12.9 +12
CLL Collm 144.12 334 *e*PKPpre 11 20 00.0
CLL ⇑*i*PKPdf PKPdf 11 20 02.6 -0.3
comp=Z,129nm,1.2s
CLL *i* pPKiKP 11 20 10.6
comp=Z,264nm,1.4s
CLL *e*PP PP 11 23 18.0 +1.1
CLL *e*PKSab 11 24 28.0
CLL *e*SKKSac SKKSac 11 30 16.0 +6.8
CLL *e*PSKS 11 33 25.0
CLL *e*SS SS 11 42 19.0 +18
CLL *e*SSS 11 47 06.0
EAB Aberfoyle 144.20 354 *e*P PKPdf 11 20 01.3 -1.6
MODS Modra-Piesok 144.23 327 *e*PKP PKPdf 11 20 01.7 -1.5
MODS *e* 11 21 53.9
MODS Modra-Piesok 144.23 327 *e*PKP PKPdf 11 20 01.7 -1.5
MODS *e* 11 21 53.9
FBE Freiberg 144.26 333 *e*PKPbc PKPdf 11 20 00.1 -3.1
ESY Stoneypath 144.26 352 *e*P PKPdf 11 19 59.8 -3.2
NRDL Niedersach Rie 144.28 338 *e*PKPbc PKPdf 11 20 00.0 -3.2
ZKR Zakros 144.31 302 *e*P PKPdf 11 20 01.9 -1.9
APE Apeiranthos 144.33 305 *e*P PKPdf 11 20 01.5 -2.3
APE Apeiranthos 144.33 305 *e*P PKPdf 11 20 01.8 -2.0
KKB Krupnik 144.35 314 P PKPdf 11 20 02.3 -1.3
OUR Ouranopolis 144.36 311 *e*P PKPdf 11 20 01.3 -2.4
PRA Prague 144.42 332 PKP PKPdf 11 20 02.0 -1.5
PRU Pruhonice 144.43 331 *e*PKP PKPdf 11 20 01.9 -1.6
PRU *e*SS SS 11 42 12.6 +8.3
PRU *ex* x 11 44 22.3
PRU AMS AMS 12 26 20.0
comp=Z,6µm,22.3s,MS6.3
ZST Bratislava 144.44 327 *e*PKP PKPdf 11 20 03.0 -0.6
ZST LR LR
comp=Z,6µm,20.3s,MS6.4
EBL Broad Law 144.46 352 *e*P PKPdf 11 20 00.5 -2.9
TREC Trest 144.49 330 *e*PKP PKPdf 11 20 01.8 -1.8
TREC *e*SS SS 11 42 09.7 +4.6
TREC AMS AMS 12 27 10.0
comp=Z,10µm,20.5s,MS6.6
PGBU Glenifferbraes 144.59 354 *e*P PKPdf 11 20 01.5 -2.1
PGBU AMb AMB 11 20 13.2
comp=Z,552nm,1.4s
SOH Sokhos 144.60 312 *e*P PKPdf 11 20 02.0 -2.1
XSO Sourhope Farm 144.63 351⇑*e*P PKPdf 11 20 03.4 -0.3
CLZ Clausthal 144.72 337 *e*PKPbc PKPdf 11 20 01.8 -2.1
PLG Polygyros 144.72 312 *e*P PKPdf 11 20 02.3 -2.1
PLG Polygyros 144.72 312 *e*P PKPdf 11 20 04.1 -0.2
PAIG Paliouri 144.73 311 *e*P PKPdf 11 20 02.3 -2.1
NPS Neapolis 144.75 302 *e*P PKPdf 11 20 03.7 -0.9
KNT Kendrikon 144.77 313 *e*P PKPdf 11 20 02.6 -1.8
PKSM Moragy 144.85 323⇓*e*P PKPdf 11 20 04.6 +0.2
PKSM Moragy 144.85 323 PKIKP PKPdf 11 20 03.2 -1.2
PKSM Moragy 144.85 323⇑*i*P PKPdf 11 20 04.2 -0.2
AOS Alonnisos 144.87 309 *e*P PKPdf 11 20 01.9 -2.8
HORT Hortiatis 144.87 312 *e*P PKPdf 11 20 02.4 -2.2
LAST Lasithi 144.88 302 *e*P PKPdf 11 20 03.3 -1.5
EKA Eskdalemuir Ar 144.91 352 PKP PKPdf 11 20 01.6 -2.5
comp=Z,74nm,0.9s,baz=349,slow=2.8,SNR=57
ESK Eskdalemuir 144.93 352 *e*P PKPdf 11 20 02.3 -1.9
ESK AMb AMB 11 20 06.1
comp=Z,255nm,1.5s
VAY Valandovo 144.93 313 *e*P PKPdf 11 20 02.6 -2.1
VAY Valandovo 144.93 313 *e*PKP PKPdf 11 20 02.0 -2.7
THE Thessaloniki 144.95 312 *e*P PKPdf 11 20 02.9 -1.8
TANN Tannenbergstha 145.02 334 *e*PKPbc PKPbc 11 20 02.8 -1.0
STIP Stip 145.02 314 *e*PKP PKPdf 11 20 04.0 -0.9
ECK Cauldkaine Hil 145.05 352 *e*P PKPbc 11 20 02.3 -1.5
SOP Sopron 145.05 327⇓*e*PKP PKPdf 11 20 05.3 +0.6
WERD Werda 145.06 334 *e*PKPbc PKPbc 11 20 02.8 -1.2
GUNZ Gunzen 145.11 334 *e*PKPbc PKPbc 11 20 03.2 -1.0
WERN Wernitzgruen 145.15 334 *e*PKPbc PKPbc 11 20 03.4 -0.9
NKC Novy Kostel 145.16 333 *e*PKP PKPdf 11 20 04.2 -0.6
NKC *e* 11 42 28.2
NKC Novy Kostel 145.16 333 *e*PKP PKPdf 11 20 04.2 -0.6
NKC *ex* x 11 42 28.2
NKC AMS AMS 12 28 40.0
comp=Z,9µm,19.1s,MS6.5
MOX Moxa 145.19 335 *e*PKP PKPdf 11 20 04.3 -0.5
comp=Z,833nm,2.1s
MOX
comp=Z,4µm,21.0s
MOX Moxa 145.19 335 *e*PKPbc PKPbc 11 20 03.1 -1.3
IBBN Ibbenburen 145.24 340 *e*PKPbc PKPbc 11 20 03.0 -1.5
XAL Allendale 145.24 351⇑*e*P PKPbc 11 20 03.1 -1.3
CONA Conrad Observa 145.24 328⇓*i*PKPab PKPab 11 20 04.1 -0.6
comp=Z,228nm,1.2s,SNR=70
DIVS Divibare 145.25 319 *e*P PKPbc 11 20 05.7 +0.9
NEO Neokhori 145.29 310 *e*P PKPbc 11 20 03.9 -1.2
SKO Skopje 145.39 315 *e*PKP PKPdf 11 20 04.4 -1.1
ATH Athens Observa 145.41 307 *e*P PKPbc 11 20 04.5 -1.1
SIVA Sivas 145.45 302 *e*P PKPdf 11 20 05.7 -0.1
KHC Kasperske Hory 145.49 331 *e*PKIKP PKPdf 11 20 04.2 -1.2
KHC *e* 11 20 12.0
KHC MLR MLR
comp=Z,9µm,19.4s,MS6.5
KHC Kasperske Hory 145.49 331 *e*PKP PKPdf 11 20 04.2 -1.2
KHC *e*pPKP pPKPdf 11 20 12.0 +1.0
KHC *ex* x 11 20 25.5
KHC *e*SS SS 11 42 25.5 +9.1
KHC AMS AMS 12 31 20.0
comp=Z,9µm,19.4s,MS6.5
MANZ Manzenberg 145.49 333 *e*PKPbc PKPbc 11 20 04.5 -0.9
LIT Litokhoron 145.50 312 *e*P PKPdf 11 20 04.9 -0.8
GAL1 Galloway 145.54 354 *e*P PKPdf 11 20 04.3 -1.0
GAL1 AMb AMB 11 20 16.4
comp=Z,1µm,1.3s
ROTZ Rotzenmuhle 145.62 333 *e*PKPbc PKPbc 11 20 05.0 -0.8
CKE Keswick 145.63 352⇑*e*P PKPdf 11 20 04.8 -0.6
GEC2 GERESS Array S 145.64 331 *e*PKPbc PKPbc 11 20 04.8 -1.1
GERES GERESS Array B 145.64 331 PKPbc PKPbc 11 20 05.4 -0.5
comp=Z,95nm,1.0s,baz=54,slow=2.3,SNR=66
UBBA Unterbreizbach 145.68 336 *e*PKPbc PKPbc 11 20 04.8 -1.2
LKR Lokris 145.69 309 *e*P PKPdf 11 20 05.2 -0.9
WET Wettzell 145.79 332 *e*PKPbc PKPbc 11 20 05.5 -0.9
WTSB Winterswijk 145.83 340⇓*e*PKP PKPdf 11 20 07.1 +1.2
comp=Z,325nm,1.6s
ARSA Arzberg 145.86 327⇑*i*P PKPdf 11 20 06.3 +0.2
comp=Z,126nm,1.1s,SNR=24
ARSA Arzberg 145.86 327⇑*i*P PKPdf 11 20 06.3 +0.2
BIA Bitola 145.91 314 *e*P PKPdf 11 20 07.5 +1.2
BIA Bitola 145.91 314 *e*PKP PKPdf 11 20 05.9 -0.5
KZN Kozani 145.91 312 *e*P PKPdf 11 20 07.0 +0.6
HPK Haverah Park 146.02 350 *e*P PKPdf 11 20 06.8 +0.7
HPK AMb AMB 11 20 11.1
comp=Z,994nm,1.5s
AGG Agios Georgios 146.04 310 *e*P PKPdf 11 20 05.6 -1.1
PVY Plav 146.04 317 ⇑P PKPdf 11 20 07.7 +1.2
THL Klokotos Trika 146.05 311 *e*P PKPdf 11 20 06.6 0.0
KARN Karanos 146.05 303 *e*P PKPdf 11 20 09.1 +2.3
GVD Gavdhos 146.07 302 *e*PKPdf PKPdf 11 20 07.2 +0.4
MOA Molln 146.08 329⇑*i*P PKPdf 11 20 06.5 +0.1
comp=Z,256nm,1.2s,SNR=27
MOA Molln 146.08 329⇑*i*P PKPdf 11 20 06.5 +0.1
GIM North Isle of 146.08 353⇑*e*P PKPdf 11 20 06.7 +0.5
GRA1 Grafenberg Arr 146.09 334 *e*PKPbc PKPbc 11 20 06.5 -0.7
GRA1 *e*SS SS 11 42 37.7 +15
GRA1 LR LR
comp=Z,6µm,20.6s,MS6.4
GRF Grafenberg Arr 146.09 334 *e*PKPbc PKPbc 11 20 06.5 -0.7
GRF *e*SS SS 11 42 37.7 +15
GRF *e*L 12 29 40.2
comp=Z,7µm,20.6s
GRFO Grafenberg 146.09 334 *e*PKPbc PKPbc 11 20 06.6 -0.6
OHR Ohrid 146.22 314 *e*P PKPdf 11 20 06.5 -0.4
OHR Ohrid 146.22 314 *e*PKP PKPdf 11 20 07.4 +0.5
VLI Veliai 146.41 306 *e*P PKPdf 11 20 06.8 -0.6
EVR Evrytania 146.45 310 *e*P PKPdf 11 20 08.6 +1.2
LHO Holmfirth 146.46 350 *e*P PKPdf 11 20 07.3 +0.4
ABA1 Baconsthorpe 146.51 347 *e*P PKPdf 11 20 08.5 +1.5
SISC Sisak 146.56 324 P PKPdf 11 20 08.4 +1.1
DMUB Kingscourt 146.70 356 *e*P PKPdf 11 20 10.2 +2.9
TIR Tirane 146.73 315 *e*P PKPdf 11 20 09.2 +1.5
TNS Taunus Mts 146.74 337 *e*PKPbc PKPbc 11 20 08.1 -1.1
AEU East Anglia Un 146.74 346 *e*P PKPdf 11 20 11.0 +3.6
JAN Janina 146.83 312 *e*P PKPdf 11 20 09.8 +1.8
KWE Weaver Farm 146.96 350 *e*P PKPdf 11 20 08.6 +0.9
ITM Ithomi 147.02 307 *e*P PKPdf 11 20 04.2 -4.2
RLS Riolos of Patr 147.03 309 *e*P PKPdf 11 20 11.6 +3.2
KBA Koelnbreinsper 147.06 329⇑*i*P PKPdf 11 20 09.7 +1.6
comp=Z,94nm,1.2s,SNR=19
KBA Koelnbreinsper 147.06 329⇑*i*P PKPdf 11 20 09.7 +1.6
CWF Charnwood Fore 147.14 349 *e*P PKPdf 11 20 09.7 +1.6
CWF AMb AMB 11 20 15.1
comp=Z,305nm,1.4s
HGN Heimansgroeve 147.15 340 *e*PKP PKPdf 11 20 07.8 -0.3
comp=Z,313nm,2.5s
BOJS Bojanci 147.15 325 *i* PKPdf PKPdf 11 20 10.9 +2.6
BOJS *e*PKPbc PKPbc 11 20 17.8 +7.3
LJU Ljubljana 147.18 326 *e*PKPdf PKPdf 11 20 09.2 +0.8
LJU *e*PKPbc PKPbc 11 20 17.4 +6.8
BEBN Eben Emael 147.20 340 PKP PKPdf 11 20 11.5 +3.3
FUR Furstenfeldbru 147.23 332 *e*PKPbc PKPbc 11 20 09.5 -1.1
MEM Membach 147.26 340 PKP PKPdf 11 20 10.1 +1.8
DLF Lyons Farm 147.27 355 *e*P PKPdf 11 20 11.6 +3.4
DCN Croghan 147.28 356 *e*P PKPdf 11 20 11.5 +3.2
SBD1 Bryn Du 147.29 351 P PKPdf 11 20 10.7 +2.4
SBD1 Bryn Du 147.29 351 *e*P PKPdf 11 20 10.0 +1.8
SBD1 ⇑*e*P 11 20 10.7
DSB Dublin 147.31 355 *e*PKPbc PKPbc 11 20 11.5 +0.9
STON Ston 147.32 319 P PKPdf 11 20 11.5 +2.9
ABH Alteburg 147.35 338 PKP PKPdf 11 20 10.0 +1.5
VOY Vojsko 147.51 327 *e*PKPdf PKPdf 11 20 09.8 +0.9
VOY *e* 11 20 12.2
JAVS Javornik 147.52 327 *e*PKPdf PKPdf 11 20 10.6 +1.7
JAVS *e*PKPbc PKPbc 11 20 18.1 +6.6
KEK Kerkira 147.53 313 *e*P PKPdf 11 20 12.0 +2.9
UCC Uccle 147.60 342 PKP PKPdf 11 20 13.2 +4.3
HLM1 Long Mynd 147.61 351⇑*e*P PKPdf 11 20 10.4 +1.6
KTD Kalmit 147.62 336 PKP PKPdf 11 20 12.2 +3.2
VLS Valsamata 147.62 309 *e*P PKPdf 11 20 12.2 +2.9
STU Stuttgart 147.63 335 *e*PKPbc PKPbc 11 20 10.5 -1.2
BCLA Clavier 147.65 340 PKP PKPdf 11 20 13.0 +4.0
RUP Ruppelstein 147.67 338 PKP PKPdf 11 20 10.5 +1.5
ABTA Abfaltersbach 147.70 329⇑*i*PKPdf PKPdf 11 20 08.9 -0.2
comp=Z,66nm,1.0s,SNR=15
WATA Walderalm 147.71 331⇑*i*P PKPdf 11 20 10.4 +1.2
comp=Z,264nm,1.6s
WATA Walderalm 147.71 331⇑*i*P PKPdf 11 20 10.4 +1.2
TRI Trieste 147.80 327 PKP PKPdf 11 20 09.3 -0.1
SNF Seneffe 147.88 342 PKP PKPdf 11 20 13.7 +4.3
MOTA Moosalm 147.92 331⇓*i*P PKPdf 11 20 11.4 +1.8
comp=Z,196nm,1.2s,SNR=23
MOTA Moosalm 147.92 331⇓*i*P PKPdf 11 20 11.3 +1.8
NVLJ Novalja 147.96 324 P PKPdf 11 20 13.6 +3.9
RETA Reutte 147.97 332⇓*i*PKPbc PKPbc 11 20 11.2 -1.4
comp=Z,90nm,1.2s,SNR=12
SQTA Sankt Quirin 147.97 331⇑*i*P PKPdf 11 20 11.0 +1.4
comp=Z,110nm,1.1s,SNR=18
SQTA Sankt Quirin 147.97 331⇑*i*P PKPdf 11 20 11.0 +1.4
SSW Stow on the Wo 147.97 349 *e*P PKPbc 11 20 13.7 +1.1
LANF Langenberg 148.00 336 PKP PKPdf 11 20 10.2 +0.6
SKP1 Kophill 148.02 348⇑*e*P PKPdf 11 20 12.2 +2.6
WLF Walferdange 148.02 339 *e*PKPbc PKPbc 11 20 12.8 +0.1
WLF Walferdange 148.02 339 PKP PKPbc 11 20 13.0 +0.3
WLF Walferdange 148.02 339 *e*PKPbc PKPbc 11 20 11.8 -0.9
HAE Alders End 148.02 350⇑*e*P PKPbc 11 20 13.8 +1.1
GIVF Givet 148.07 341 *e*PKIKP PKPdf 11 20 12.5 +2.8
comp=Z,382nm,1.2s
HTR Trewern Hill 148.09 351⇑*e*P PKPbc 11 20 13.9 +1.1
MCH1 Michaelchurch 148.13 351⇑*e*P PKPdf 11 20 11.6 +1.8
MCH1 *e*P 11 20 11.6
MCH1 AMb AMB 11 20 23.3
comp=Z,386nm,1.3s
DOU Dourbes 148.15 341 PKP PKPdf 11 20 12.6 +2.8
BAIF Baives 148.30 341 *e*PKIKP PKPbc 11 20 13.2 -0.2
comp=Z,292nm,1.2s
BFO Black Forest 148.33 335 *e*PKPbc PKPbc 11 20 12.0 -1.6
SPAK Spaichingen-Ko 148.33 334 PKP PKPdf 11 20 12.4 +2.2
FETA Feichten 148.33 331⇑*i*PKPbc PKPbc 11 20 11.6 -2.0
comp=Z,205nm,1.1s,SNR=33
SWN1 Swindon 148.40 349 *e*P PKPdf 11 20 11.9 +1.8
SWN1 *e*P 11 20 11.9
SWN1 AMb AMB 11 20 21.4
comp=Z,756nm,1.8s
HGH Gray Hill 148.45 350⇑*e*P PKPdf 11 20 14.3 +4.1
DAVA Damuels 148.51 332⇑*i*P PKPdf 11 20 12.0 +1.5
comp=Z,194nm,1.6s,SNR=9.3
DAVA Damuels 148.51 332⇑*i*P PKPdf 11 20 12.0 +1.5
DAVA Damuels 148.51 332⇑*i*PKPdf pPKPdf 11 20 12.0 -4.1
comp=Z,194nm,1.6s,SNR=9.3
CDF Champ du Feu 148.67 336 *e*PKIKP PKPbc 11 20 14.1 -0.3
comp=Z,143nm,1.2s
SLE Schleitheim 148.72 334 ⇓P PKPdf 11 20 13.5 +2.7
WILA Wila 148.82 333 ⇓P PKPdf 11 20 13.6 +2.6
FELD Feldberg im Sc 148.82 335 PKP PKPdf 11 20 10.9 -0.1
SWK Warminster 148.83 349 *e*P PKPbc 11 20 14.9 +0.1
ECH Echery 148.88 336 PKP PKPdf 11 20 13.1 +2.0
DAVOX Davos/Dischmat 148.90 332 PKPbc PKPbc 11 20 14.6 -0.4
comp=Z,54nm,0.8s,baz=168,slow=1.5,SNR=26
BRMO Bormio 148.90 331 PKP PKPdf 11 20 13.9 +2.7
MOF Molkenrain 149.19 336 PKP PKPdf 11 20 11.3 -0.3
THEF They Montfort 149.30 337 PKP PKPdf 11 20 14.8 +3.1
HINF Hinteralfeld 149.32 336 *e*PKIKP PKPbc 11 20 15.4 -0.7

comp=Z,123nm,1.3s
HTL Hartland 149.32 352 eP PKPbc 11 20 15.7 -0.4
HTL AMb AMB 11 20 23.3
comp=Z,253nm,1.3s
HAU Haudompre 149.35 337 ePKIKP PKPbc 11 20 15.6 -0.6
comp=Z,180nm,1.2s
HAU eMLR MLR
comp=Z,8μm,21.8s,MS6.2
HAU Haudompre 149.35 337 ePKP2 PKPbc 11 20 15.6 -0.6
HAU MLR MLR
comp=Z,8μm,21.8s,MS6.5
TUE Stuetta 149.37 332 PKP PKPdf 11 20 12.4 +0.5
MEZF Maizieres J'vi 149.39 339 ePKIKP PKPbc 11 20 15.7 -0.6
comp=Z,280nm,1.1s
CING Cingoli 149.65 324 PKP PKPbc 11 20 17.5 +0.4
LOMF Lomont 149.72 336 PKP PKPdf 11 20 15.2 +2.8
TIP Timpagrande 149.86 314 ePKPdf PKPdf 11 20 13.3 +0.3
TIP ePKPbc PKPbc 11 20 18.4 +0.7
CSA1 St Austell 150.00 352⇑ eP PKPbc 11 20 18.5 +0.8
MURB Monte Urbino 150.09 324 PKP PKPdf 11 20 15.2 +2.0
MIDA Miranda 150.12 320 PKP PKPbc 11 20 18.2 -0.1
AQU L'Aquila 150.19 322 ⇓P PKPbc 11 20 18.6 +0.2
AQU L'Aquila 150.19 322 ⇓P PKPbc 11 20 18.6 +0.2
CCA1 Carnmenellis 150.21 352⇑ eP PKPbc 11 20 19.2 +1.0
FNVD Fontana Vidola 150.22 327 PKP PKPdf 11 20 15.2 +1.9
CRQ2 Rosemanowes 2 150.22 352⇑ eP PKPbc 11 20 18.6 +0.3
CPZ Penzance 150.28 353⇑ eP PKPbc 11 20 17.8 -0.6
CABF La Chapelle 150.61 336 ePKIKP PKPbc 11 20 17.4 -1.9
comp=Z,198nm,1.3s
CERT Cerreto 150.68 322 PKP PKPbc 11 20 18.5 -1.1
FLN La Foliniere 150.74 346 ePKIKP PKPbc 11 20 17.5 -2.0
comp=Z,263nm,1.2s
FLN eMLR MLR
comp=Z,9μm,20.2s,MS6.2
FLN La Foliniere 150.74 346 ePKIKP PKPbc 11 20 17.5 -2.0
FLN MLR MLR
comp=Z,9μm,20.3s,MS6.5
LDF La Druitiere 150.81 345 ePKIKP PKPbc 11 20 17.4 -2.3
comp=Z,213nm,1.4s
LOR Lormes 150.86 339 ePKIKP PKPbc 11 20 17.7 -2.2
comp=Z,120nm,1.1s
LOR eMLR MLR
comp=Z,6μm,20.5s,MS6.1
LOR Lormes 150.86 339 ePKIKP PKPbc 11 20 17.7 -2.2
LOR MLR MLR
comp=Z,6μm,20.5s,MS6.4
SSF Saint Saulge 151.16 339 ePKIKP PKPbc 11 20 18.1 -2.5
comp=Z,119nm,1.1s
TOLF Tolfa 151.17 323 PKP PKPbc 11 20 20.1 -0.7
GRR Gorron 151.18 346 ePKIKP PKPbc 11 20 18.0 -2.6
LPL La Plagne 151.25 334 ePKIKP PKPbc 11 20 18.5 -2.3
LPG La Plagne 151.25 333 ePKIKP PKPbc 11 20 18.7 -2.1
comp=Z,92nm,1.1s
ASCN Ascension 151.37 173 ePKPdf PKPdf 11 20 14.9 -1.2
ASCN ePKPbc PKPbc 11 20 23.2 +1.1
ASCN ePKPab PKPab 11 20 30.6 +0.6
SMF Signal de Mont 151.41 338 ePKIKP PKPdf 11 20 18.6 +3.5
comp=Z,51nm,1.1s
AVF Avril sur Loir 151.45 339 ePKIKP PKPdf 11 20 18.2 +3.1
BNI Bardonecchia 151.64 333 ePKPdf PKPdf 11 20 16.1 +0.6
BNI ePKPbc PKPbc 11 20 22.2 +0.5
SGMF Saint Gilles 151.67 348 ePKIKP PKPdf 11 20 18.5 +3.1
comp=Z,143nm,1.1s
ROSF Rostrenen 151.72 349 ePKIKP PKPdf 11 20 18.9 +3.4
comp=Z,117nm,1.2s
BGF Bois d'Agland 151.82 339 ePKIKP PKPdf 11 20 19.0 +3.3
comp=Z,19nm,0.6s
MBDF Montbardon 151.86 332 ePKIKP PKPdf 11 20 18.8 +3.0
comp=Z,77nm,1.3s
STV Sta Anna Valdi 152.00 331 PKP PKPdf 11 20 17.6 +1.6
SURF Saint Ours 152.04 332 PKP PKPdf 11 20 13.1 -3.0
PLDF La Plantade 152.07 338 PKP PKPbc 11 20 24.6 +1.9
ORIF Oris-en-Rattie 152.08 334 ePKIKP PKPdf 11 20 19.3 +3.1
comp=Z,74nm,1.1s
ORIF eMLR MLR
comp=Z,11μm,20.0s,MS6.3
QUIF Quistinic 152.10 349 ePKIKP PKPdf 11 20 19.3 +3.2
comp=Z,91nm,1.2s
AUTN L'Aution 152.14 331 PKP PKPdf 11 20 18.5 +2.2
AGO Saint Agoulin 152.16 339 PKP PKPbc 11 20 23.8 +0.9
TOUF Mont Tournerai 152.21 331 PKP PKPdf 11 20 19.3 +2.9
SBF Sospel 152.24 331 ePKIKP PKPdf 11 20 19.9 +3.5
TCF Toulx Ste Croi 152.26 340 ePKIKP PKPdf 11 20 19.6 +3.2
comp=Z,166nm,1.3s
VAE Valguarnera 152.31 313 PKPbc PKPbc 11 20 26.5 +3.0
comp=Z,13nm,0.7s,baz=233,slow=20,SNR=2.4
VAE PKPab PKPab 11 20 34.2 +0.8
comp=Z,67nm,1.1s,baz=13,slow=8.7,SNR=5.2
COLF Collangettes 152.43 337 PKP PKPbc 11 20 25.1 +1.6
PGF Pioggiola 152.46 327 ePKIKP PKPdf 11 20 19.9 +3.1
comp=Z,222nm,1.1s
PYM Petit Puy Mans 152.47 338 PKP PKPbc 11 20 24.1 +0.5
CORF Corte 152.56 326 PKP PKPbc 11 20 25.3 +1.4
OG26 St.-Nazaire-De 152.60 334 PKP PKPbc 11 20 23.5 -0.4
VIVF Saint-Julien-l 152.62 335 ePKIKP PKPdf 11 20 20.0 +3.0
comp=Z,89nm,1.2s
MFF Saint Martin d 152.67 344 ePKIKP PKPdf 11 20 20.1 +3.1
FRF La Foret Royal 152.84 331 ePKIKP PKPdf 11 20 20.5 +3.2
LBL Lubilhac 152.84 338 PKP PKPbc 11 20 24.5 +0.1
FRNF Fournols 152.94 339 PKP PKPbc 11 20 26.3 +1.6
SMRF Simiane la Rot 152.98 333 ePKIKP PKPdf 11 20 20.6 +3.1
comp=Z,85nm,1.1s
OSPF L'Ospedale 152.99 325 PKP PKPdf 11 20 20.9 +3.3
LMR La Mourre 153.07 331 ePKIKP PKPdf 11 20 20.7 +3.0
RJF Les Rejaudoux 153.36 340 ePKIKP PKPdf 11 20 21.0 +3.0
RJF eMLR MLR
comp=Z,9μm,20.2s,MS6.3
RJF Les Rejaudoux 153.36 340 ePKIKP PKPdf 11 20 21.0 +3.0
RJF MLR MLR
comp=Z,9μm,20.3s,MS6.6
CAF Calviac 153.51 339 ePKIKP PKPdf 11 20 21.1 +2.8
LASF Ste Croix 153.59 335 ePKIKP PKPdf 11 20 21.3 +2.9
comp=Z,64nm,1.2s
LFF La Frestale 153.93 341 ePKIKP PKPdf 11 20 21.8 +3.0
MTLF Montolieu 154.84 337 ePKIKP PKPdf 11 20 22.9 +2.7
EPF Esparros 155.77 339 ePKIKP PKPdf 11 20 24.5 +3.1
ETSF Etsaut 156.18 341 ePKIKP PKPdf 11 20 24.9 +2.9
SJPF Ste Jean 156.18 342 ePKIKP PKPdf 11 20 25.1 +3.1
KEST Kesra 156.68 314 PKP PKPdf 11 20 23.7 +0.8
comp=Z,1.2nm,0.9s,baz=7.8,slow=18,SNR=2.2
KEST PKPab PKPab 11 20 53.6 +1.5
comp=Z,14nm,1.0s,baz=156,slow=3.6,SNR=5.7
CMAH Djebel Manchou 157.39 319 P PKPab 11 21 03.0 +7.9
CASM Ain Smara 158.20 319 P PKPab 11 21 03.0 +4.4
CTEI Djebel Teioual 158.38 319 P PKPab 11 21 03.0 +3.6
DFRA Djebel Bou Aff 158.38 321 P PKPab 11 21 08.0 +8.6
ETOR Torete 158.53 341 PKP PKPdf 11 20 25.7 +0.7
PBRG Braganca 158.64 351 ePKPdf PKPdf 11 20 28.0 +2.9
PBRG Braganca 158.64 351 ePKPab PKPab 11 21 01.9 +1.7
SET Setif 158.90 321 P PKPab 11 21 03.0 +1.4
CMER Merouana 158.98 319 P PKPab 11 21 04.0 +2.0
PVRL Vila Real 159.29 353 ePKPdf PKPdf 11 20 26.7 +0.8
PVRL Vila Real 159.29 353 ePKPab PKPab 11 21 05.0 +1.9
PVRL Vila Real 159.29 353 ePP PP 11 24 45.7 +2.5
MVO Moncorvo 159.31 351 ePKPdf PKPdf 11 20 25.6 -0.3
MVO Moncorvo 159.31 351 ePKPab PKPab 11 21 04.7 +1.5
MVO Moncorvo 159.31 351 ePP PP 11 24 45.6 +2.3
MVO Moncorvo 159.31 351 eSS SS 11 44 52.2 +4.7
MVO Moncorvo 159.31 351 eLQ 12 10 13.1
MVO Moncorvo 159.31 351 eLR LR 12 26 33.1
comp=Z,7μm,18.0s
ABA Alger-Bouzarea 159.80 326 P PKPdf 11 20 31.0 +4.4
PVIS Viseu 159.86 353 ePKPdf PKPdf 11 20 33.8 +7.2
PVIS Viseu 159.86 353 ePKPab PKPab 11 21 05.6 0.0
PVIS Viseu 159.86 353 ePP PP 11 24 49.5 +3.2
AKET Djebel Ketaf 159.88 323 P PKPdf 11 20 29.4 +2.6
ADJB Djebel Djouab 160.06 324 P PKPdf 11 20 28.6 +1.7
MTE Manteigas 160.13 352 ePKPdf PKPdf 11 20 26.3 -0.6
MTE Manteigas 160.13 352 ePKPab PKPab 11 21 07.5 +0.8
MTE Manteigas 160.13 352 ePP PP 11 24 50.9 +3.2
MTE Manteigas 160.13 352 eSS SS 11 44 59.7 +3.6
MTE Manteigas 160.13 352 eLQ 12 10 23.0
MTE Manteigas 160.13 352 eLR LR 12 29 07.5
comp=Z,7μm,20.0s
EMHD Djebel Mahouad 160.29 325 P PKPab 11 21 12.0 +4.3
PCBR Castelo Branco 160.67 352 ePKPdf PKPdf 11 20 33.5 +6.0
PCBR Castelo Branco 160.67 352 ePKPab PKPab 11 21 11.0 +1.9
PCBR Castelo Branco 160.67 352 ePP PP 11 24 52.6 +1.9
EBNR Beni Rached 160.97 327 P PKPab 11 21 14.2 +3.6
ECHA Ech Chlef 161.16 327 P PKPab 11 21 15.3 +3.9
EANR 'Ain N'Sour 161.45 328 P PKPab 11 21 16.5 +3.8
PESTR Estremoz 161.64 351 ePKPdf PKPdf 11 20 29.1 +0.5
PESTR Estremoz 161.64 351 ePKPab PKPab 11 21 14.3 +0.9
PESTR Estremoz 161.64 351 ePP PP 11 24 57.2 +1.3
PESTR Estremoz 161.64 351 eSS SS 11 45 13.4 +1.4
PESTR Estremoz 161.64 351 eLQ 12 11 12.8
PESTR Estremoz 161.64 351 eLR LR 12 25 44.0
comp=Z,8μm,20.0s
EBAD Badajoz 161.67 350 PKP PKPdf 11 20 31.5 +2.9
PMAFR Mafra 161.74 356 ePKPdf PKPdf 11 20 32.9 +4.2
PMAFR Mafra 161.74 356 ePKPab PKPab 11 21 15.0 +1.2
PMAFR Mafra 161.74 356 eLQ 12 10 52.9
PMAFR Mafra 161.74 356 eLR LR 12 26 34.3
comp=Z,9μm,18.0s
ETRT Tiaret 161.78 326 P PKPab 11 21 20.2 +6.0
EVO Evora 162.03 352 ePKIKP PKPdf 11 20 32.2 +3.2
comp=Z,61nm,1.4s
EVO eMLR MLR
comp=Z,12μm,21.0s
EVO Evora 162.03 352 ePKPdf PKPdf 11 20 30.2 +1.2
EVO Evora 162.03 352 ePKPab PKPab 11 21 16.2 +1.1
EVO Evora 162.03 352 ePP PP 11 25 01.9 +4.0
PBAR Barrancos 162.24 350 ePKPdf PKPdf 11 20 28.7 -0.5
PBAR Barrancos 162.24 350 ePKPab PKPab 11 21 16.1 +0.1
PBAR Barrancos 162.24 350 ePP PP 11 25 02.5 +3.4
PBAR Barrancos 162.24 350 eSS SS 11 45 18.2 0.0
PBAR Barrancos 162.24 350 eLQ 12 11 22.8
PBAR Barrancos 162.24 350 eLR LR 12 25 07.2
comp=Z,11μm,18.0s
PBEJ Beja 162.51 352 ePKPdf PKPdf 11 20 30.6 +1.1
PBEJ Beja 162.51 352 ePKPab PKPab 11 21 17.5 +0.3
PBEJ Beja 162.51 352 ePP PP 11 25 03.0 +2.5
EMIN Mina Concepcio 162.57 348 PKP PKPdf 11 20 28.4 -1.2
PTEO Sao Teotonio 163.09 354 ePKPdf PKPdf 11 20 30.8 +0.7
PTEO Sao Teotonio 163.09 354 ePKPab PKPab 11 21 20.6 +0.9
PTEO Sao Teotonio 163.09 354 ePP PP 11 25 06.5 +3.0
PVAQ Vaqueiros 163.10 351 ePKPdf PKPdf 11 20 30.4 +0.3
PVAQ Vaqueiros 163.10 351 ePKPab PKPab 11 21 21.2 +1.4
PVAQ Vaqueiros 163.10 351 ePP PP 11 25 07.7 +4.1
PVAQ Vaqueiros 163.10 351 eSS SS 11 45 28.6 +1.4
PVAQ Vaqueiros 163.10 351 eLQ 12 11 32.7
PVAQ Vaqueiros 163.10 351 eLR LR 12 27 33.3
comp=Z,11μm,22.0s
ESPR Espera 163.26 345 PKP PKPdf 11 20 28.3 -1.9
PBDV Barranco-do-Ve 163.29 351 ePKPdf PKPdf 11 20 29.3 -1.0
PBDV Barranco-do-Ve 163.29 351 ePKPab PKPab 11 21 22.3 +1.7
PBDV Barranco-do-Ve 163.29 351 ePP PP 11 25 08.8 +4.2
PBDV Barranco-do-Ve 163.29 351 eSS SS 11 45 30.6 +1.5
PBDV Barranco-do-Ve 163.29 351 eLQ 12 11 42.7
PBDV Barranco-do-Ve 163.29 351 eLR LR 12 25 20.7
comp=Z,12μm,18.0s
MORF Marmelete 163.31 353 ePKPdf PKPdf 11 20 32.9 +2.6
MORF Marmelete 163.31 353 ePKPab PKPab 11 21 21.8 +1.1
MORF Marmelete 163.31 353 ePP PP 11 25 08.8 +4.1
MORF Marmelete 163.31 353 eSS SS 11 46 08.6 +39
MORF Marmelete 163.31 353 eLR LR 12 27 19.4
comp=Z,9μm,20.0s
PFVI Vila Bisbo 163.50 354 ePKPdf PKPdf 11 20 34.8 +4.3
PFVI Vila Bisbo 163.50 354 ePKPab PKPab 11 21 23.2 +1.6
PFVI Vila Bisbo 163.50 354 eSS SS 11 45 50.1 +19
PFVI Vila Bisbo 163.50 354 eLQ 12 11 32.7
PFVI Vila Bisbo 163.50 354 eLR LR 12 27 00.9
comp=Z,9μm,20.0s
DBIC Dimbokro 164.83 204 PKP PKPdf 11 20 32.0 -0.4
comp=Z,12nm,1.1s,baz=16,slow=0.9,SNR=6.8
DBIC PKPab PKPab 11 21 27.6 -0.4
comp=Z,16nm,0.9s,baz=157,slow=4.3,SNR=6.7
TOA0 Torodi Ar. St 165.71 240 ePKPdf PKPdf 11 20 32.5 -0.5
TORD Torodi Ar. Bea 165.71 240 PKP PKPdf 11 20 32.0 -1.0
TORD PKPab PKPab 11 21 32.5 +0.4
TORD Torodi Ar. Bea 165.71 240 PKP PKPdf 11 20 32.0 -1.0
comp=Z,12nm,1.2s,baz=4.8,slow=0.4,SNR=14
TORD PKPab PKPab 11 21 32.5 +0.4
comp=Z,6.9nm,1.1s,baz=118,slow=3.0,SNR=3.7
MDT Midelt 166.64 336 PKP PKPdf 11 20 33.5 +0.2
comp=Z,3.2nm,1.0s,baz=162,slow=8.7,SNR=3.2
MDT PKPab PKPab 11 21 37.5 +1.9
comp=Z,5.8nm,1.0s,baz=11,slow=3.2,SNR=3.6
PMPS Porto Santo 166.81 20 ePKPdf PKPdf 11 20 34.0 +0.6
PMAR Madeira 166.92 22 ePKPdf PKPdf 11 20 34.7 +1.2
BBTS Babate 172.03 138 PKP PKPdf 11 20 38.5 +1.5
comp=Z,35nm,1.0s,baz=279,slow=0.8,SNR=4.5

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*ISCJB **04** 11:02:27.5±1.4,2066S±003×16902E±003,h7km±8km, mb5.6/74,MS6.2/21,Error ellipse: s-maj=5.7km s-min=4.7km az=150.3*
*BJI **04** 11:02:27.3,2080S×16948E,h18km,mB6.3,mb5.6,Ms6.3, Msz6.1*
*IDC **04** 11:02:27.9±0.5,2077S×16885E,h0km,mb5.4/22, mb1 5.5/22,mb1mx5.5/22,mbtmp5.4/22,MS6.3/6, Ms1 6.3/6,ms1mx5.8/16,Error ellipse: s-maj=16.7km s-min=14.5km az=171.0*
*GCMT **04** 11:02:29.6±0.1,2079S×16884E,h21km,MW6.5/113, Moment Tensor Solution. s112,c265; s113,c478; Duration: 4±2 Moment tensor: Scale 10^{18}Nm; M_{rr}5.23±.03; $M_{\theta\theta}$-0.93±.02; $M_{\phi\phi}$-4.30±.03; $M_{r\theta}$1.58±.06; $M_{\theta\phi}$2.30±.02; $M_{\phi r}$-2.80±.06; Best double couple: $M_0$6.24000×10^{18} NP1:ϕ_s335.00000°,δ30.00000°, λ92.00000°. NP2:ϕ_s152.00000°,δ61.00000°,λ89.00000°. Principal axes: T 6.1240, Plg74.0000°, Azm58.0000°; N 0.2320, Plg1.0000°, Azm152.0000°; P -6.3570, Plg15.0000°, Azm243.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
*NEIC **04** 11:02:29.6±0.2,2069S×16906E,h10km,mb5.8/48, MS6.2/3,MW6.2 Error ellipse: s-maj=8.4km s-min=6.2km az=160.0,Moment Tensor Solution. s32 Moment tensor: Scale 10^{18}Nm; M_{rr}1.63; $M_{\theta\theta}$-0.12; $M_{\phi\phi}$-1.51; $M_{r\theta}$0.82; $M_{\theta\phi}$0.61; $M_{\phi r}$-2.20; Best double couple: $M_0$2.90000×10^{18} NP1:ϕ_s339.00000°,δ18.00000°,λ90.00000°. NP2: ϕ_s159.00000°,δ72.00000°,λ90.00000°. Principal axes: T 2.8400, Plg63.0000°, Azm70.0000°; N 0.1100, Plg0.0000°, Azm339.0000°; P -2.9400, Plg27.0000°, Azm249.0000°;*
*SZGRF **04** 11:02:31.4,2169S×17059E,h33km,Southeast of Loyalty Islands*
*MOS **04** 11:02:31.3±1.4,2075S×16900E,h33km,mb5.6/43,Error ellipse: s-maj=8.9km s-min=8.2km az=95.9*
*LDG **04** 11:02:32.5±0.2,2019S×16799E,h10km,Mb6.0/3,Error ellipse: s-maj=18.5km s-min=6.0km az=120.0*

ISC 04 11:02:30.4±1.5,2066S±003×16904E±003,h14km±9km, h14km±1.2km:pP-P,n461,σ1§25/239,mb5.6/74,MS6.2/21, 20C-7D,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**2.80**	**239**	Pn	**Pn**	**11 03 13.7**	**-0.9**
200nm,0.3s,baz=74,slow=18,SNR=8.4							
DZM				Sn	**Sn**	**11 03 43.3**	**-4.9**
732nm,0.3s,baz=288,slow=20,SNR=5.0							
HNR	**Honiara**	**14.19**	**321**	Pn	**Pn**	**11 05 53.8**	**+2.8**
HNR	**Honiara**	**14.19**	**321**	P	**Pn**	**11 05 52.8**	**+1.8**
RAO	**Raoul Island**	**14.59**	**128**	LR	LR	11 10 20.1	
comp=Z,102μm,18.9s,baz=112,slow=32							
OUZ	**Omahuta**	**15.05**	**165**	ePN	**Pn**	**11 06 04.5**	**+1.9**
OUZ	**Omahuta**	**15.05**	**165**	S	**Pn**	**11 06 08.3**	**+5.7**
FUNA	**Funafuti**	**15.55**	**41**	eP	**Pn**	**11 06 15.4**	**+6.2**
636nm,1.2s							
WCZ	**Waipu Caves**	**15.92**	**164**	ePN	**Pn**	**11 06 18.6**	**+4.7**
KUZ	**Kuaotunu**	**17.06**	**161**	ePN	**Pn**	**11 06 29.2**	**+0.8**
EIDS	**Eidsvold**	**17.18**	**251**	eP	**Pn**	**11 06 30.4**	**+0.4**
307nm,1.5s							
ARMA	**Armidale**	**18.45**	**235**	eP	**Pn**	**11 06 48.5**	**+2.8**
ARMA	**Armidale**	**18.45**	**235**	eP	**Pn**	**11 06 44.0**	**-1.7**
25nm,1.7s							
ARMA				eP		11 06 48.5	
HIZ	**Hauiti**	**18.49**	**165**	eP*	**Pn**	**11 06 47.7**	**+1.6**
URZ	**Urewera**	**18.88**	**160**	P	**Pn**	**11 06 52.5**	**+1.6**
2.1nm,0.3s,baz=32,slow=5.7,SNR=3.2							
URZ	**Urewera**	**18.88**	**160**	eP*	**Pn**	**11 06 51.6**	**+0.8**
MWZ	**Matawai**	**19.09**	**159**	eP*	**Pn**	**11 06 56.2**	**+2.9**
PUZ	**Puketiti**	**19.11**	**157**	eP*	**Pn**	**11 06 54.1**	**+0.5**
PUZ	**Puketiti**	**19.11**	**157**	S	**Pn**	**11 06 53.9**	**+0.4**
AFI	**Afiamalu**	**19.50**	**73**	eP	**Pn**	**11 06 57.1**	**-1.3**
634nm,1.1s							
AFI	**Afiamalu**	**19.50**	**73**	eP	**Pn**	**11 06 57.1**	**-1.3**
				pmax	pmax		
comp=Z,634nm,1.1s							
BKZ	**Black Stump Fm**	**19.53**	**162**	eP*	**Pn**	**11 06 58.7**	**0.0**
BKZ	**Black Stump Fm**	**19.53**	**162**	S	**Pn**	**11 07 00.8**	**+2.2**
KNZ	**Kokohu**	**19.76**	**160**	eP*	**Pn**	**11 07 00.5**	**-0.8**
TSZ	**Takapari Road**	**20.23**	**164**	eP*	**P**	**11 07 05.1**	**+0.1**
TSZ	**Takapari Road**	**20.23**	**164**	S	**P**	**11 07 05.1**	**+0.2**
QRZ	**Quartz Range**	**20.33**	**172**	eP*	**P**	**11 07 07.6**	**+1.6**
PXZ	**Pawanui**	**20.44**	**163**	eP*	**P**	**11 07 06.2**	**-1.0**
RIV	**Riverview**	**20.57**	**227**	eP	**P**	**11 07 09.7**	**+1.0**
MRZ	**Mangatainoka R**	**20.71**	**166**	eP*	**P**	**11 07 08.3**	**-1.8**
MRZ	**Mangatainoka R**	**20.71**	**166**	S	**P**	**11 07 09.5**	**-0.6**
NNZ	**Nelson**	**20.83**	**171**	eP*	**P**	**11 07 12.4**	**+1.0**
BFZ	**Birch Farm**	**20.89**	**164**	eP*	**P**	**11 07 10.6**	**-1.5**
CAW	**Cannon Point**	**21.02**	**167**	eP*	**P**	**11 07 11.2**	**-2.3**
SNZO	**South Karori**	**21.14**	**168**	eP	**P**	**11 07 13.1**	**-1.8**
THZ	**Tophouse**	**21.30**	**172**	eP*	**P**	**11 07 16.4**	**-0.1**
MSWZ	**Moikau Station**	**21.36**	**167**	eP*	**P**	**11 07 19.0**	**+1.9**
CTA	**Charters Tower**	**21.37**	**268**	eP	**P**	**11 07 19.8**	**+2.4**
comp=Z,326nm,1.1s,mb5.6							
CTA				eS	**S**	**11 11 15.0**	**+0.6**
CTA	**Charters Tower**	**21.37**	**268**	eP	**P**	**11 07 19.8**	**+2.4**
CTA				eS	**S**	**11 11 15.0**	**+0.6**
CTA				pmax	pmax		
comp=Z,326nm,1.1s							
CTA	**Charters Tower**	**21.37**	**268**	P	**P**	**11 07 18.6**	**+1.2**
comp=Z,306nm,1.0s,mb5.6,baz=80,slow=10,SNR=7.8							
CTAO	**Charters Tower**	**21.37**	**268**	eP	**P**	**11 07 19.4**	**+1.9**
comp=Z,690nm,1.2s,mb5.9							
CTAO	**Charters Tower**	**21.37**	**268**	eP	**P**	**11 07 19.4**	**+2.0**
CTAO				pmax	pmax		
comp=Z,690nm,1.2s,mb5.9							
KHZ	**Kahutara**	**22.03**	**171**	eP*	**P**	**11 07 24.3**	**0.0**
LTZ	**Lake Taylor**	**22.23**	**174**	eP*	**P**	**11 07 26.1**	**-0.3**
WVZ	**Waitaha Valley**	**22.40**	**177**	eP*	**P**	**11 07 29.1**	**+0.8**
CNB	**Canberra Magne**	**22.64**	**226**	eP	**P**	**11 07 32.4**	**+1.5**
comp=Z,2μm,1.4s,mb6.3							
FOZ	**Fox Glacier**	**22.85**	**179**	eP*	**P**	**11 07 34.0**	**+1.0**
JCZ	**Jackson Bay**	**23.35**	**181**	eP*	**P**	**11 07 39.2**	**+0.8**
JCZ	**Jackson Bay**	**23.35**	**181**	S	**P**	**11 07 40.3**	**+2.0**
LBZ	**Lake Benmore**	**23.68**	**178**	eP*	**P**	**11 07 42.8**	**+1.2**
MLZ	**Mavora Lakes**	**24.64**	**181**	eP*	**P**	**11 07 51.6**	**+1.3**
WHZ	**Wether Hill Ro**	**25.19**	**182**	eP*	**P**	**11 07 56.4**	**+1.1**
TUZ	**Tuapeka**	**25.24**	**179**	eP*	**P**	**11 07 56.0**	**+0.3**
SYZ	**Scrubby Hill**	**25.82**	**180**	eP*	**P**	**11 08 00.3**	**-0.7**
STKA	**Stephens Creek**	**26.95**	**240**	eP	**P**	**11 08 10.9**	**-0.5**
comp=Z,145nm,1.0s,mb5.5							
STKA				eS	**S**	**11 12 55.6**	**+7.4**
STKA	**Stephens Creek**	**26.95**	**240**	P	**P**	**11 08 09.8**	**-1.6**
comp=Z,134nm,0.9s,mb5.5,baz=69,slow=8.8,SNR=6.4							
STKA				LR	LR	11 17 56.1	
comp=Z,157μm,19.0s,MS6.6,baz=43,slow=35							
TAU	**Tasmania Unive**	**28.71**	**214**	eP	**P**	**11 08 26.4**	**-0.5**
comp=Z,189nm,1.4s,mb5.6							
TAU	**Tasmania Unive**	**28.71**	**214**	eP	**P**	**11 08 26.5**	**-0.5**
TAU				pmax	pmax		
comp=Z,190nm,1.3s,mb5.7							
RAR	**Rarotonga**	**29.11**	**97**	LR	LR	11 17 22.3	
comp=Z,29μm,20.6s,MS5.9,baz=255,slow=30							
WB2	**Warramunga Arr**	**32.51**	**265**	eP	**P**	**11 08 57.8**	**-3.0**
WB2				eS	**S**	**11 14 11.6**	**-4.0**
WRA	**Warramunga Arr**	**32.52**	**265**	P	**P**	**11 08 58.6**	**-2.3**
WRA				LR	LR	11 21 24.1	
WRA				e		11 40 26.2	
WRA	**Warramunga Arr**	**32.52**	**265**	P	**P**	**11 08 58.6**	**-2.4**
comp=Z,37nm,0.7s,mb5.5,baz=90,slow=8.5,SNR=15							
WRA				LR	LR	11 21 24.1	
comp=Z,144μm,18.0s,MS6.7,baz=90,slow=35							
WRA				P3KPbc		11 40 26.2	
comp=Z,3.0nm,0.8s,baz=291,slow=3.1,SNR=8.7							
ASAR	**Alice Springs**	**32.63**	**258**	P	**P**	**11 08 59.0**	**-2.8**
ASAR				e		11 40 24.4	
ASAR	**Alice Springs**	**32.63**	**258**	P	**P**	**11 08 59.0**	**-2.8**
comp=Z,76nm,0.7s,mb5.8,baz=96,slow=9.6,SNR=13							
ASAR				P3KPbc		11 40 24.4	
comp=Z,5.5nm,0.8s,baz=273,slow=3.4,SNR=16							
KAKA	**Kakadu**	**35.87**	**277**	eP	**P**	**11 09 28.6**	**-1.5**
comp=Z,164nm,1.2s,mb5.8							
FORT	**Forrest**	**38.09**	**246**	eP	**P**	**11 09 48.3**	**-0.5**
comp=Z,101nm,0.7s,mb5.7							
TBI	**Tubuai**	**38.48**	**102**	eP	**P**	**11 09 52.5**	**+0.3**
comp=Z,210nm,1.0s,mb5.8							
TBI				eS	**S**	**11 15 49.6**	**+2.3**
comp=Z,21μm,28.0s							
TBI				eLR	LR	11 20 33.1	
comp=Z,36μm,28.2s							
TBI	**Tubuai**	**38.48**	**102**	eP	**P**	**11 09 52.5**	**+0.3**
comp=Z,210nm,1.0s,mb5.8							
TBI				eS	**S**	**11 15 49.6**	**+2.3**
PAE	**Paea**	**39.13**	**93**	eP	**P**	**11 09 56.7**	**-1.0**
comp=Z,69nm,1.1s,mb5.3							
PAE	**Paea**	**39.13**	**93**	eP	**P**	**11 09 56.7**	**-1.0**
PAE				pmax	pmax		
comp=Z,69nm,1.1s,mb5.3							
PPT	**Papeete**	**39.15**	**93**	eP	**P**	**11 09 57.0**	**-0.8**
comp=Z,49nm,1.0s,mb5.2							
PPT				eS	**S**	**11 15 57.9**	**+0.4**
comp=Z,29μm,24.8s							
PPT				eLR	LR	11 20 53.4	
comp=Z,88μm,27.2s							
PPT	**Papeete**	**39.15**	**93**	P	**P**	**11 09 57.7**	**-0.2**
comp=Z,20nm,0.8s,mb4.9,baz=206,slow=12,SNR=2.6							
PPT				LR	LR	11 21 59.0	
comp=Z,19μm,20.3s,MS5.9,baz=259,slow=30							
TVO	**Taravao**	**39.41**	**93**	eP	**P**	**11 09 59.4**	**-0.6**
comp=Z,102nm,0.8s,mb5.6							
TVO	**Taravao**	**39.41**	**93**	eP	**P**	**11 09 59.4**	**-0.6**
TVO				pmax	pmax		
comp=Z,102nm,0.8s,mb5.6							
FITZ	**Fitzroy Crossi**	**40.93**	**266**	eP	**P**	**11 10 11.5**	**-1.1**
comp=Z,393nm,0.9s,mb6.0							
FITZ				eS	**S**	**11 16 26.2**	**+2.0**
FITZ	**Fitzroy Crossi**	**40.93**	**266**	P	**P**	**11 10 10.2**	**-2.4**
comp=Z,182nm,0.8s,mb5.8,baz=130,slow=10,SNR=17							
PMOR	**Pomariorio Ree**	**41.29**	**89**	eP	**P**	**11 10 14.4**	**-1.2**
comp=Z,123nm,1.1s,mb5.4							
VAH	**Vaihoa**	**41.48**	**90**	eP	**P**	**11 10 15.7**	**-1.5**
comp=Z,96nm,0.9s,mb5.4							
GUMO	**Guam**	**41.50**	**323**	eP	**P**	**11 10 19.4**	**+2.1**
comp=Z,441nm,1.3s,mb5.9							
GUMO	**Guam**	**41.50**	**323**	eP	**P**	**11 10 19.4**	**+2.1**
GUMO				pmax	pmax		
comp=Z,440nm,1.3s,mb5.9	

comp=Z,142nm,1.2s,mb5.9
SBA Scott Base 57.25 181 P **P 11 12 16.7 -0.1**
SBA pmax pmax
comp=Z,140nm,1.1s,mb5.9
BATP Bataraza 58.25 295 *e*S **P 11 12 29.2 +4.4**
KKM Kota Kinabalu 58.26 291 *e*P **P 11 12 24.2 -0.7**
CASY Casey 58.76 204 *e*P **P 11 12 25.6 -1.9**
CASY *e*S **S 11 20 21.7 -10**
NBP Mount Natib 59.32 302⇑*i*P **P 11 12 34.1 +2.0**
CAUP Cauayan 59.52 305 *e*S **P 11 12 41.0 +7.5**
KSM Kuching 61.51 284 *e*P **P 11 12 46.3 -1.0**
JOW Kunigami 61.55 318 P **P 11 12 49.9 +2.7**
comp=Z,63nm,1.0s,mb5.7,baz=148,slow=8.4,SNR=3.9
MJAR Matsushiro Arr 63.91 333 P **P 11 13 01.9 -0.8**
comp=Z,35nm,1.0s,mb5.4,baz=170,slow=6.4,SNR=4.3
MJAR PKPPKP 11 42 08.6
comp=Z,0.7nm,0.3s,baz=219,slow=6.8,SNR=6.6
MAJO Matsushiro 63.91 333 *e*P **P 11 13 02.2 -0.5**
comp=Z,54nm,0.8s,mb5.6
MAJO Matsushiro 63.91 333 *e*P **P 11 13 02.2 -0.5**
MAJO pmax pmax
comp=Z,54nm,0.8s,mb5.6
NACB Ninganchiao 64.17 312 *e*P **P 11 13 03.3 -1.4**
YHNB Yeheng 64.64 312 *e*P **P 11 13 06.9 -0.9**
JNU Nakatsue 64.71 325 P **P 11 13 08.0 0.0**
comp=Z,85nm,0.9s,mb5.8,baz=95,slow=7.2,SNR=8.7
MIR Mirnyy 65.68 205 *e*P **P 11 13 12.0 -1.9**
ASAJ Asahikawa 68.86 340 P **P 11 13 35.1 +0.9**
ASAJ pmax pmax
comp=Z,95nm,1.0s
ASAJ Asahikawa 68.86 340 P **P 11 13 35.1 +0.9**
comp=Z,95nm,1.0s,mb5.7,baz=216,slow=8.6,SNR=8.6
QSPA South Pole Qui 69.41 180 *e*P **P 11 13 38.3 +1.1**
comp=Z,109nm,0.9s,mb5.8
QSPA South Pole Qui 69.41 180 P **P 11 13 37.0 -0.3**
comp=Z,82nm,1.1s,mb5.6,baz=57,slow=5.5,SNR=3.8
KSRS Korea Array 69.57 326 P **P 11 13 40.0 +1.2**
comp=Z,22nm,0.9s,mb5.1,baz=145,slow=6.9,SNR=6.4
KSRS PKPPKP 11 41 53.0
comp=Z,1.0nm,0.8s,baz=318,slow=3.5,SNR=4.1
QIZ Qiongzhong 70.12 300 P **P 11 13 42.0 -0.6**
QIZ PP PP 11 16 16.5 -1.6
QIZ S S 11 22 54.5 +0.9
QIZ AMB AMB
comp=Z,79nm,1.9s,mb5.3
QIZ LR LR
comp=N,5μm,19.4s
QIZ LR LR
comp=Z,7μm,19.2s,MS5.9
QIZ Qiongzhong 70.12 300 *e*P **P 11 13 42.0 -0.6**
comp=Z,221nm,1.4s,mb5.9
INCN Inchon 70.27 325 *e*P **P 11 13 44.1 +1.0**
comp=Z,114nm,0.9s,mb5.8
NJ2 Nanjing 71.09 316 *e*P **P 11 13 48.3 0.0**
NJ2 AP pP 11 13 52.9 -0.1
NJ2 XP sP 11 13 56.1 +1.3
NJ2 PP PP 11 16 29.0 +2.7
NJ2 S S 11 23 03.0 -1.5
NJ2 AMB AMB
comp=Z,50nm,1.0s,mb5.4
NJ2 AMB AMB
comp=Z,6μm,5.8s
NJ2 LR LR
comp=N,16μm,19.2s,MS6.4
NJ2 LR LR
comp=E,14μm,19.1s,MS6.4
YSS Yuzh-Sakhalins 71.35 341 *e*P **P 11 13 49.8 +0.4**
comp=E,173nm,0.9s,mb6.0
YSS Yuzh-Sakhalins 71.35 341⇓*e*P **P 11 13 50.0 +0.5**
YSS *e*S S 11 23 10.0 +3.2
YSS pmax pmax
comp=N,60nm,1.0s
YSS pmax pmax
comp=Z,190nm,1.0s,mb6.0
YSS smax
comp=N,8μm,14.0s
YSS smax
comp=E,13μm,14.0s
KULM Kulim 71.86 283 *e*P **P 11 13 52.5 -0.8**
SKR Severo-Kuril's 71.93 351 *e*P **P 11 13 51.7 -1.2**
SKR pmax pmax
comp=E,180nm,1.0s
SKR pmax pmax
comp=Z,220nm,1.0s,mb6.0
VLA Vladivostok 72.08 332 *c i*P **P 11 13 57.4 +3.5**
VLA pmax pmax
comp=Z,287nm,2.5s,mb5.8
WHN Wuhan 73.16 313⇓P **P 11 14 03.0 +2.3**
WHN S S 11 23 35.9 +7.6
WHN LR LR
comp=Z,12μm,18.3s,MS6.2
ADK Adak 73.30 9 *e*P **P 11 14 01.4 +0.4**
comp=Z,81nm,1.0s,mb5.6
ADK Adak 73.30 9 *e*P **P 11 14 01.4 +0.4**
ADK pmax pmax
comp=Z,81nm,1.0s,mb5.6
RPN Rapa Nui 73.70 113 P **P 11 14 04.9 +0.7**
comp=Z,24nm,0.5s,mb5.4,baz=246,slow=3.1,SNR=3.7
PET Petropavlovsk 73.92 353 *e*P **P 11 14 03.4 -1.2**
comp=Z,22nm,0.5s,mb5.3
PET Petropavlovsk 73.92 353 *e*P **P 11 14 03.5 -1.1**
PET pmax pmax
comp=Z,140nm,1.7s,mb5.6
DL2 Dalian 74.03 323 P **P 11 14 05.4 -0.2**
DL2 S S 11 23 39.6 +1.8
DL2 AMB AMB
comp=Z,90nm,0.8s,mb5.8
DL2 AMB AMB
comp=Z,2μm,8.3s
DL2 LR LR
comp=N,2μm,17.9s,MS5.7
DL2 LR LR
comp=E,3μm,18.1s,MS5.7
DL2 LR LR
comp=Z,4μm,16.5s,MS5.8
MDJ Mudanjiang 74.28 332 P **P 11 14 08.2 +1.3**
MDJ AP pP 11 14 11.3 -0.3
MDJ PP PP 11 16 54.5 +1.3
MDJ XS sS 11 23 49.9 +1.8
MDJ AMB AMB
comp=Z,42nm,1.9s,mb5.0
MDJ AMB AMB
comp=Z,3μm,9.4s
MDJ LR LR
comp=N,6μm,19.9s,MS6.0
MDJ LR LR
comp=E,5μm,20.7s,MS6.0
MDJ LR LR
comp=Z,8μm,19.0s,MS6.0
MDJ Mudanjiang 74.28 332 *e*P **P 11 14 08.2 +1.3**
comp=Z,97nm,1.0s,mb5.7
HABR Khabarovsk 75.23 337 *e*P **P 11 14 12.6 +0.3**
HABR *e* 11 17 02.4
HABR *e*S S 11 23 54.4 +3.7
HABR *e*SS SS 11 28 43.6 +2.6
HABR pmax pmax
comp=Z,234nm,1.9s,mb5.8
CN2 Changchun 75.57 329 *e*P **P 11 14 14.6 +0.2**
CN2 AMB AMB
comp=Z,40nm,1.0s,mb5.3
GYA Guiyang 76.47 305⇑*i*P **P 11 14 21.6 +1.6**
GYA AP pP 11 14 25.4 +0.7
GYA XP sP 11 14 28.9 +2.4
GYA PCP PcP 11 14 33.7 +2.1
GYA PP PP 11 17 15.9 +3.7
GYA S S 11 24 07.6 +2.1
GYA SKS 11 24 28.4
GYA SCS ScS 11 24 34.9 -0.7
GYA SS SS 11 29 05.0 +4.2
GYA AMB AMB
comp=Z,180nm,1.0s,mb6.0
GYA AMB AMB
comp=Z,2μm,6.6s
GYA LR LR
comp=N,14μm,19.8s,MS6.4
GYA LR LR
comp=E,12μm,20.6s,MS6.4
GYA LR LR
comp=Z,14μm,20.4s,MS6.3
MAW Mawson 77.06 202 P **P 11 14 22.1 -0.5**
MAW pmax pmax
comp=Z,25nm,0.9s
MAW Mawson 77.06 202 P **P 11 14 22.1 -0.5**
comp=Z,25nm,0.9s,mb5.2,baz=105,slow=8.5,SNR=4.7
UNV Unalaska Valle 77.14 15 *e*P **P 11 14 20.1 -2.9**
comp=Z,77nm,0.8s,mb5.7

BJT Baijiatuau 77.91 321 *e*P **P 11 14 27.8 +0.1**
KMI Kunming 78.86 302 P **P 11 14 34.5 +1.2**
KMI AP pP 11 14 38.2 +0.1
KMI XP sP 11 14 41.3 +1.4
KMI PP PP 11 17 35.4 +3.2
KMI S S 11 24 36.1 +4.8
KMI AMB AMB
comp=Z,44nm,1.7s,mb5.1
KMI AMB AMB
comp=Z,708nm,3.6s
KMI LR LR
comp=N,2μm,15.8s,MS6.0
KMI LR LR
comp=E,6μm,18.2s,MS6.0
KMI LR LR
comp=Z,5μm,19.9s,MS5.9
KMI Kunming 78.86 302 P **P 11 14 34.5 +1.2**
comp=Z,44nm,1.7s,mb5.1
KMI pP pP 11 14 38.2 +0.1
KMI sP sP 11 14 41.3 +1.4
KMI PP PP 11 17 35.4 +3.2
KMI S S 11 24 36.1 +4.8
KMI SSS 11 33 08.8
KMI LR LR
comp=Z,5μm,19.9s,MS5.9
CHTO Chiang Mai 79.07 295 *e*P **P 11 14 34.0 -0.6**
CHTO Chiang Mai 79.07 295 *e*P **P 11 14 34.5 -0.1**
CD2 Chengdu 80.95 308⇑*i*P **P 11 14 45.6 +1.1**
CD2 AP pP 11 14 50.2 +0.9
CD2 XP sP 11 14 52.8 +1.8
CD2 PP PP 11 17 52.0 +2.5
CD2 S S 11 24 53.0 -0.1
CD2 SS SS 11 30 10.6 +2.7
CD2 AMB AMB
comp=Z,100nm,1.0s,mb5.7
CD2 AMB AMB
comp=Z,3μm,7.2s
CD2 LR LR
comp=N,7μm,15.6s
CD2 LR LR
comp=E,5μm,22.8s
CD2 LR LR
comp=Z,6μm,19.2s,MS6.0
HHC Hu-ho-hao-te 81.17 320 *e*P **P 11 14 46.3 +0.8**
HHC AP pP 11 14 51.0 +0.7
HHC XP sP 11 14 53.8 +1.8
HHC PP PP 11 17 49.2 -1.9
HHC S S 11 24 56.2 +1.2
HHC SKS 11 25 00.3
HHC XS sS 11 25 05.6 +2.7
HHC SS SS 11 30 11.8 +0.9
HHC AMB AMB
comp=Z,55nm,1.4s,mb5.3
HHC AMB AMB
comp=Z,4μm,11.4s
HHC LR LR
comp=N,6μm,16.7s,MS6.2
HHC LR LR
comp=E,7μm,18.4s,MS6.2
HHC LR LR
comp=Z,9μm,18.6s,MS6.2
MA2 Magadan 81.33 351 *e*P **P 11 14 43.1 -2.7**
HIA Hailar 82.24 330 P **P 11 14 52.7 +1.8**
comp=Z,31nm,1.0s,mb5.2
HIA Hailar 82.24 330 P **P 11 14 52.7 +1.8**
HIA pmax pmax
comp=Z,31nm,1.0s
LZH Lanzhou 83.53 312⇑P **P 11 14 59.0 +1.1**
LZH AP pP 11 15 03.8 +1.0
LZH XP sP 11 15 06.1 +1.6
LZH PP PP 11 18 14.2 +3.5
LZH SKS 11 25 17.6
LZH S S 11 25 20.7 +1.2
LZH SS SS 11 30 50.2 +4.0
LZH AMB AMB
comp=Z,305nm,1.3s,mb6.3
LZH AMB AMB
comp=Z,2μm,6.7s
LZH LR LR
comp=E,8μm,16.3s
LZH LR LR
comp=Z,10μm,18.5s,MS6.2
LZH Lanzhou 83.53 312⇑P **P 11 14 59.0 +1.1**
comp=Z,305nm,1.3s,mb6.3
LZH pP pP 11 15 03.8 +1.0
LZH sP sP 11 15 06.1 +1.6
LZH PP PP 11 18 14.2 +3.5
LZH PPP 11 20 09.3
LZH SKS 11 25 17.6
LZH S S 11 25 20.7 +1.2
LZH sS sS 11 25 28.5 +1.1
LZH PS 11 26 16.0
LZH SS SS 11 30 50.2 +4.0
LZH LR LR
comp=Z,10μm,18.5s,MS6.2
LZH Lanzhou 83.53 312⇑P **P 11 14 59.0 +1.1**
LZH *SP sP 11 15 06.1 +1.6
LZH 11 18 14.2
LZH PPP 11 20 09.3
LZH 11 25 17.6
LZH S S 11 25 20.7 +1.2
LZH PS 11 26 16.0
LZH SS SS 11 30 50.2 +4.0
LZH pmax pmax
comp=Z,305nm,1.3s,mb6.3
LZH MLR MLR
comp=Z,10μm,18.5s,MS6.2
SEY Seymchan 84.34 352 *e*P **P 11 15 02.8 +1.4**
SEY Seymchan 84.34 352 *de*P **P 11 15 02.7 +1.3**
KDAK Kodiak Island 84.42 20 *e*P **P 11 15 02.5 +0.6**
comp=Z,66nm,0.9s,mb5.8
GAMB Gambell 85.49 8 *e*P **P 11 15 07.1 -0.1**
PMSA Palmer Station 85.65 160 P **P 11 15 09.5 +1.3**
comp=Z,144nm,1.0s,mb6.2
MCCM Marconi Confer 86.56 47 *e*P **P 11 15 12.0 -1.1**
comp=Z,87nm,0.9s,mb6.0
SNCC San Nicolas Is 86.65 53 *e*P **P 11 15 13.8 +0.2**
HOPS Hopland 86.85 46 *e*P **P 11 15 16.4 +1.9**
KCPM Cahto Peak 86.85 46 *e*P **P 11 15 14.4 -0.1**
SAO San Andreas Ge 86.89 49 *e*P **P 11 15 13.6 -1.2**
comp=Z,34nm,0.9s,mb5.6
SAO San Andreas Ge 86.89 49 *e*P **P 11 15 13.6 -1.1**
SAO pmax pmax
comp=Z,34nm,0.9s,mb5.6
NSHM Saint Helena R 86.93 47 *e*P **P 11 15 12.4 -2.5**
KIPM Iron Peak 86.98 45 *e*P **P 11 15 14.6 -0.5**
CIT Chita 87.01 329 *e*P **P 11 15 15.6 +0.7**
PTRM Twissleman Ran 87.25 50 *e*P **P 11 15 17.9 +1.4**
MAIT Maitri 87.44 187 *e*P **P 11 15 12.8 -4.1**
KRMB Red Mountain 87.56 44 *e*P **P 11 15 17.5 -0.3**
KBO Bosley Butte 87.70 43 *e*P **P 11 15 18.9 +0.4**
TNA Tin City 87.73 9 *e*P **P 11 15 17.9 -0.2**
SNAA Sanae 87.75 183 *e*P **P 11 15 16.6 -1.8**
SNAA *e* pP 11 15 19.2 -4.0
SNAA *e* pP 11 15 22.0 -1.2
SNAA *e* 11 15 25.3
SNAA *e* 11 15 28.0
SNAA *e* 11 15 31.1
SNAA *e* 11 15 34.8
SNAA *e* 11 15 40.6
SNAA Sanae 87.75 183 *d i*P **P 11 15 18.2 -0.2**
ULN Ulaanbaatar 87.88 323 *e*P **P 11 15 18.8 -0.5**
ULN *e*P pP 11 15 22.4 -1.7
WDC Whiskeytown Da 87.99 45 *e*P **P 11 15 19.3 -0.6**
OHCM Honcut 88.09 47 *e*P **P 11 15 20.7 +0.2**
YAK Yakutsk 88.16 343 *e*P **P 11 15 19.7 -0.5**
comp=Z,159nm,1.0s,mb6.2
YAK Yakutsk 88.16 343 *e*P **P 11 15 20.1 -0.1**
YAK pmax pmax
comp=Z,432nm,2.5s,mb6.2
SONM Songino Array 88.23 323 P **P 11 15 20.5 -0.4**
comp=Z,20nm,0.9s,mb5.3,baz=152,slow=6.4,SNR=6.8
SONM PKPPKP 11 41 16.2
comp=Z,0.9nm,0.9s,baz=187,slow=1.4,SNR=3.6
CMB Columbia Colle 88.24 48 *e*P **P 11 15 20.1 -1.1**
comp=Z,22nm,0.7s,mb5.5
CMB Columbia Colle 88.24 48 *e*P **P 11 15 20.1 -1.1**
CMB pmax pmax
comp=Z,22nm,0.7s,mb5.5
VNA3 Neumayer Olymp 88.34 180 *e*P **P 11 15 19.6 -1.6**
VNA3 *e* pP 11 15 22.6 -3.4
VNA3 *e* pP 11 15 25.9 -0.1
VNA3 *e* 11 15 28.5

VNA3 *e* 11 15 33.2
VNA3 *e* 11 15 38.2
VNA3 *e* 11 15 43.1
BILL Bilibino 88.46 359 *e*P **P 11 15 19.8 -1.7**
comp=Z,57nm,1.1s,mb5.7
BILL Bilibino 88.46 359 *e*P **P 11 15 19.6 -1.9**
BILL *i* 11 15 36.3
BILL pmax pmax
comp=Z,37nm,1.2s,mb5.5
BILL MLR MLR
comp=Z,7μm,21.0s,MS6.0
ISA Isabella 88.51 51 *e*P **P 11 15 22.7 +0.2**
comp=Z,72nm,1.1s,mb5.9
ISA Isabella 88.51 51 *e*P **P 11 15 23.6 +1.1**
PMR Palmer 88.53 19 *e*P **P 11 15 22.0 +0.1**
comp=Z,18nm,0.9s,mb5.4
PMR Palmer 88.53 19 *e*P **P 11 15 22.0 0.0**
PMR pmax pmax
comp=Z,19nm,0.9s,mb5.4
VNA2 Neumayer--Watz 88.63 181 *e*P **P 11 15 21.3 -1.3**
VNA2 *e* pP 11 15 23.9 -3.5
VNA2 *e* pP 11 15 26.8 -0.6
VNA2 *e* 11 15 30.2
VNA2 *e* 11 15 34.6
VNA2 *e* 11 15 37.7
VNA2 *e* 11 15 39.8
VNA2 *e* 11 15 44.3
VNA1 Neumayer--Stat 88.92 181 *e*P **P 11 15 23.1 -0.8**
VNA1 *e* 11 15 25.4
VNA1 *e* pP 11 15 27.4 -1.4
VNA1 *e* 11 15 30.6
VNA1 *e* 11 15 33.8
VNA1 *e* 11 15 36.8
VNA1 *e* 11 15 40.0
VNA1 *e* 11 15 46.2
SML Sawmill 88.93 19 *e*P **P 11 15 24.4 +0.5**
PFO Pinyon Flat Ob 89.11 54 *e*P **P 11 15 26.3 +0.9**
PFO Pinyon Flat Ob 89.11 54 P **P 11 15 27.7 +2.3**
PFO pmax pmax
comp=Z,13nm,0.9s,mb5.3
PFO Pinyon Flat Ob 89.11 54 P **P 11 15 27.7 +2.3**
comp=Z,13nm,0.9s,mb5.3,baz=266,slow=4.7,SNR=7.6
MTUM Tungsten Hills 89.21 49 *e*P **P 11 15 25.3 -0.4**
COR Corvallis 89.48 41 *e*P **P 11 15 26.8 -0.1**
GSC Goldstone 89.58 52 *e*P **P 11 15 28.8 +1.3**
NVAR Mina Array Bea 89.87 49 P **P 11 15 28.8 -0.1**
comp=Z,20nm,0.9s,mb5.4,baz=213,slow=6.2,SNR=7.1
NVAR PKPPKP 11 41 17.6
comp=Z,0.5nm,0.9s,baz=84,slow=3.7,SNR=4.3
MOD Modoc 90.10 45 *e*P **P 11 15 28.9 -1.0**
LSA Lhasa 90.11 302 *e*P **P 11 15 30.6 +0.4**
comp=Z,53nm,0.9s,mb5.9
LSA Lhasa 90.11 302 *e*P **P 11 15 29.3 -0.9**
LSA pmax pmax
comp=Z,53nm,0.9s,mb5.9
MCK McKinley 90.26 17 *e*P **P 11 15 30.1 +0.1**
comp=Z,17nm,0.8s,mb5.4
MCK McKinley 90.26 17 *e*P **P 11 15 31.7 +1.7**
MCK pmax pmax
comp=Z,8.0nm,0.8s,mb5.1
BOD Bodaibo 90.52 334 *e*P **P 11 15 30.8 -0.6**
NLWA Neilton Lookou 90.55 39 *e*P **P 11 15 31.2 -0.6**
TPNV Topopah Spring 90.69 51 *e*P **P 11 15 32.3 -0.4**
WRAK Wrangell Islan 91.17 28 *e*P **P 11 15 33.7 -0.8**
ZAK Zakamensk 91.33 324 *e*P **P 11 15 35.5 +0.2**
ZAK pmax pmax
comp=Z,34nm,1.4s,mb5.5
COLA College 91.44 17 *e*P **P 11 15 36.5 +1.0**
COLA College 91.44 17 *e*P **P 11 15 37.2 +1.7**
WVOR Wild Horse Val 91.45 45 *e*P **P 11 15 35.4 -0.7**
TLY Talaya 91.81 326 *i* P **P 11 15 41.3 +3.8**
TLY Talaya 91.81 326 *e*P **P 11 15 39.9 +2.4**
TLY pmax pmax
comp=Z,39nm,1.1s,mb5.7
NEW Newport 94.97 40 *e*P **P 11 15 53.5 +1.3**
HWUT Hardware Ranch 95.90 48 *e*P **P 11 15 56.9 +0.3**
comp=Z,5.9nm,0.7s,mb5.1
TIXI Tiksi 96.08 348 *e*P **P 11 15 54.8 -1.9**
TIXI pmax pmax
comp=Z,7.0nm,1.3s,mb4.9
ANMO Albuquerque 97.25 56 *e*P **P 11 16 03.0 0.0**
PLCA Paso Flores 97.60 139 *e*P **P 11 16 04.2 -0.3**
comp=Z,21nm,1.5s,mb5.4
PLCA *e*P 11 16 06.0
PLCA Paso Flores 97.60 139 *e*P **P 11 16 06.0 +1.5**
PLCA pmax pmax
comp=Z,21nm,1.5s
PLCA Paso Flores 97.60 139 P **P 11 16 05.5 +1.0**
comp=Z,3.8nm,0.9s,mb5.0,baz=212,slow=7.7,SNR=5.0
TXAR Lajitas Array 97.60 62 P **P 11 16 07.0 +2.3**
comp=Z,3.9nm,0.9s,mb4.9,baz=203,slow=4.8,SNR=5.7
TXAR PKKPbc PKKPbc 11 32 43.2 +1.8
comp=Z,1.2nm,0.9s,baz=95,slow=2.8,SNR=4.7
PDAR Pinedale Array 97.71 47 P **P 11 16 07.2 +2.4**
comp=Z,1.5nm,0.7s,mb4.6,baz=240,slow=3.5,SNR=3.5
PDAR PP PP 11 20 05.3 +2.2
comp=Z,1.5nm,0.9s,baz=245,slow=3.1,SNR=4.1
PDAR PKKPbc PKKPbc 11 32 41.5 -0.1
comp=Z,1.2nm,0.8s,baz=87,slow=6.1,SNR=5.4
INK Inuvik 97.94 18 *e*P **P 11 16 04.0 -1.2**
comp=Z,836nm,1.3s
WMQ Urumqi 98.04 314 P **P 11 16 06.6 +0.3**
WMQ SKS 11 26 43.0
WMQ *e*S S 11 27 31.0 -1.7
WMQ AMB AMB
comp=Z,30nm,1.3s,mb5.7
WMQ AMB AMB
comp=Z,484nm,4.4s
WMQ LR LR
comp=N,5μm,21.0s,MS6.2
WMQ LR LR
comp=E,5μm,18.4s,MS6.2
WMQ LR LR
comp=Z,5μm,23.8s
SDCO Great Sand Dun 98.92 53 *e*P **P 11 16 12.9 +2.5**
comp=Z,1.9nm,0.9s,mb4.6
RSSD Black Hills 101.95 47 *e*Pdif Pdif 11 16 24.1 +0.4
comp=Z,4.0nm,0.8s
RSSD Black Hills 101.95 47 *e*P Pdif 11 16 24.1 +0.5
RSSD pmax pmax
comp=Z,4.0nm,0.8s
YKA Yellowknife Ar 102.01 27 P Pdif 11 16 24.2 +0.4
comp=Z,2.0nm,0.8s,baz=257,slow=4.9,SNR=5.8
YKA PKiKP PKiKP 11 20 44.4 -1.6
comp=Z,0.3nm,0.3s,baz=253,slow=1.4,SNR=8.1
YKA PKKPbc PKKPbc 11 32 29.3 -0.7
comp=Z,0.5nm,0.8s,baz=59,slow=2.9,SNR=4.0
MK31 Makanchi Array 102.61 315 *e*Pdif Pdif 11 16 27.4 +0.8
MKAR Makanchi Array 102.61 315 P Pdif 11 16 26.4 -0.1
MKAR PP PP 11 20 43.0 +2.8
MKAR Makanchi Array 102.61 315 P Pdif 11 16 26.5 -0.1
MKAR 11 20 43.0
MKAR pmax pmax
comp=Z,1.0nm,0.6s
MKAR Makanchi Array 102.61 315 P Pdif 11 16 26.4 -0.1
comp=Z,1.4nm,0.6s,baz=108,slow=5.2,SNR=4.1
MKAR PP PP 11 20 43.0 +2.8
comp=Z,2.1nm,0.9s,baz=117,slow=5.5,SNR=2.8
ZALV Zalesovo Beam 103.13 323 Pdiff Pdif 11 16 27.1 -1.7
comp=Z,1.5nm,0.8s,baz=84,slow=7.4,SNR=2.9
ZALV PP PP 11 20 45.5 +1.7
comp=Z,1.3nm,0.6s,baz=90,slow=7.2,SNR=2.3
ZAL Zalesovo 103.14 323 P Pdif 11 16 27.1 -1.8
ZAL 11 20 45.5
ULM Lac du Bonnet 108.79 42 *e*PKPdf PKiKP 11 20 57.6 -1.3
ULM Lac du Bonnet 108.79 42 PKiKP PKiKP 11 20 57.4 -1.5
comp=Z,2.5nm,0.5s,baz=326,slow=4.2,SNR=3.7
FCC Fort Churchill 110.96 34 *e*PKPdf PKiKP 11 21 00.2 -2.5
LPAZ La Paz 112.95 119 PKKPbc PKKPbc 11 32 06.4 +12
comp=Z,3.6nm,0.8s,baz=114,slow=3.2,SNR=7.3
BOSA Boshof 119.82 217 PKP PKPdf 11 21 21.4 +0.7
BOSA PKKPbc PKKPbc 11 31 29.4 -1.1
BOSA Boshof 119.82 217 PKP PKPdf 11 21 21.4 +0.7
comp=Z,3.6nm,0.9s,baz=70,slow=3.1,SNR=3.2
BOSA PKKPbc PKKPbc 11 31 29.4 -1.1
comp=Z,3.7nm,0.8s,baz=63,slow=3.9,SNR=5.6
SDV Santo Domingo 121.41 92 *e*PKPdf PKPdf 11 21 21.5 -2.6
LONY Lake Ozonia 122.86 50 *e*PKPdf PKPdf 11 21 23.8 -2.2
NCB Newcomb 123.15 50 *e*PKPdf PKPdf 11 21 23.7 -2.8
ACCN Adirondack Com 123.58 51 *e*PKPdf PKPdf 11 21 27.3 -0.1
BJO1 Bjornoya 123.77 351 *e*P 11 21 10.4
BJO1 LR LR
comp=Z,5μm,20.5s,MS6.2
LBNH Lisbon 124.78 50 *e*PKPdf PKPdf 11 21 27.6 -2.0

BRYW Bryant College 125.22 53 *e*PKPdf PKPdf 11 21 26.7 -3.9
TMCR Tamitsa 125.77 336 *e*PKIKP PKPdf 11 21 29.5 -1.4
SCHQ Schefferville 126.16 36 *e*PKPdf PKPdf 11 21 31.5 -0.5
SCHQ Schefferville 126.16 36 PKP PKPdf 11 21 32.7 +0.7
comp=Z,14nm,0.9s,baz=318,slow=3.5,SNR=7.6
ARCES ARCESS Array B 126.38 345 PKIKP PKPdf 11 21 30.5 -1.5
ARCES pmax pmax
comp=Z,7.0nm,0.7s
ARCES ARCESS Array B 126.38 345 PKP PKPdf 11 21 30.5 -1.5
comp=Z,6.9nm,0.7s,baz=297,slow=0.3,SNR=6.8
PKME Peaks-Kenny Pk 126.55 48 *e*PKPdf PKPdf 11 21 30.7 -2.3
MAK Makhachkala 126.70 309 *i* PKIKP PKPdf 11 21 30.2 -3.2
MAK *e*SS SS 11 40 39.7 +3.5
MAK pmax pmax
comp=Z,252nm,1.5s
SFJD Kangerlussuaq 127.29 18 *e*PKIKP PKPdf 11 21 36.1 +2.3
SFJD pmax pmax
comp=Z,18nm,0.9s
SFJD MLR MLR
comp=Z,12μm,20.0s,MS6.6
SFJD Kangerlussuaq 127.29 18 *i* P PKPdf 11 21 36.1 +2.3
comp=Z,18nm,0.9s
SFJD *e* 11 23 17.8
SFJD *i* 11 24 50.0
SFJD *i* S 11 39 22.6
SFJD *i* 11 41 34.4
SFJD
comp=Z,12μm,20.0s
SJG San Juan 128.08 83 *e*PKPdf PKPdf 11 21 33.7 -3.1
KMBO Kilima Mbogo 128.10 251 *e*PKPdf PKPdf 11 21 36.4 -0.6
KMBO Kilima Mbogo 128.10 251 PKIKP PKPdf 11 21 37.4 +0.4
KMBO pmax pmax
comp=Z,7.0nm,0.9s
KMBO Kilima Mbogo 128.10 251 PKP PKPdf 11 21 37.4 +0.4
comp=Z,6.6nm,0.9s,baz=56,slow=3.2,SNR=6.1
BDFB Brasilia 128.76 132 PKIKP PKPdf 11 21 42.4 +4.2
BDFB pmax pmax
comp=Z,9.0nm,1.0s
BDFB Brasilia 128.76 132 PKP PKPdf 11 21 42.4 +4.2
comp=Z,9.0nm,1.0s,baz=247,slow=1.6,SNR=5.5
JOF Joensuu 128.97 337 *e*pkp PKPdf 11 21 30.6 -6.5
BHD Baghdad 129.62 297 *ex* x 11 21 46.0
KIV Kislovodsk 130.05 311 *e*PKIKP PKPdf 11 21 49.1 +9.4
OBN Obninsk 130.57 326 *e*PKP PKPdf 11 21 42.7 +2.4
OBN LR LR
comp=Z,7μm,20.0s,MS6.3
OBN Obninsk 130.57 326 ⇓*i*PKIKP PKPdf 11 21 49.3 +9.0
OBN pmax pmax
comp=Z,45nm,1.6s
MSL Mosul 130.60 301 *ex* x 11 22 16.0
TSUM Tsumeb 131.51 217 *e*PKPdf PKPdf 11 21 44.3 +1.0
FINES FINESS Array B 131.82 337 PKhKP 11 21 35.1
comp=Z,1.2nm,0.5s,baz=27,slow=3.3,SNR=4.1
FINES SKPbc SKPbc 11 25 07.7 -0.2
comp=Z,6.4nm,0.8s,baz=65,slow=3.5,SNR=3.3
SOC Sochi 132.23 311 *i* PKIKP PKPdf 11 21 48.7 +4.8
SOC *e* 11 24 10.8
SOC *e*PS PS 11 34 20.1 -2.5
SOC *e*SS SS 11 41 49.0 +4.8
SOC *e*SSS 11 46 37.0
SOC pmax pmax
comp=Z,50nm,1.0s
ANN Anapa 133.55 313 *i* PKIKP PKPdf 11 21 46.4 +0.1
ANN *e* 11 24 23.4
ANN pmax pmax
comp=Z,502nm,6.1s
MBAR Mbarara 134.07 248 *e*PKP PKPdf 11 21 47.1 -1.2
MBAR Mbarara 134.07 248 *i* PKIKP PKPdf 11 21 47.1 -1.2
MALT Malatya 134.11 304 *e*PKPdf PKPdf 11 21 47.7 +0.1
SIM Simferopol' 135.77 314 *e*PKIKP PKPdf 11 21 55.0 +4.5
MOL Molde 136.23 348 *e*P 11 21 37.6
AKASG Malin Array Be 136.52 323 PKP PKPdf 11 21 53.2 +1.5
AKASG SKPbc SKPbc 11 25 25.3 +1.6
AKASG Malin Array Be 136.52 323 PKP PKPdf 11 21 53.2 +1.5
comp=Z,5.1nm,0.8s,baz=51,slow=2.7,SNR=4.5
AKASG SKPbc SKPbc 11 25 25.3 +1.6
comp=Z,4.0nm,0.8s,baz=44,slow=4.0,SNR=4.3
NB2 NORSAR Subarra136.75 344 PKPdf 11 21 40.7
comp=Z,1.8nm,0.8s,baz=39,slow=1.9
NOA NORSAR Array B 136.75 344 PKhKP 11 21 47.3
comp=Z,3.5nm,0.8s,baz=262,slow=3.1,SNR=6.6
NOA SKPbc SKPbc 11 25 24.9 +0.8
comp=Z,2.9nm,0.9s,baz=17,slow=4.2,SNR=3.5
HFS Hagfors 136.85 342 PKhKP 11 21 43.8
comp=Z,5.3nm,0.6s,baz=83,slow=6.4,SNR=4.4
HFS SKPbc SKPbc 11 25 25.4 +1.0
comp=Z,4.4nm,0.8s,baz=29,slow=3.3,SNR=3.2
SLAT Slait 138.37 271 *i* Pp PP 11 24 44.9 -1.2
SLAT *i* Ss SS 11 42 59.3 -0.1
KOLS Kolonicke sedl 141.28 325 *e*PKP PKPdf 11 22 01.9 +1.5
KOLS Kolonicke sedl 141.28 325 *e* PKPdf 11 22 01.9 +1.5
CRVS Cervenica-Dubn 141.73 325 *e*PKP PKPdf 11 22 02.6 +1.3
CRVS Cervenica-Dubn 141.73 325 *e* PKPdf 11 22 02.6 +1.3
KECS Kecovo 142.50 325 *e*PKP PKPdf 11 21 57.9 -4.7
KECS Kecovo 142.50 325 *e* PKPdf 11 21 57.9 -4.7
KSP Ksiaz 143.04 331 *e*PKP PKPdf 11 22 02.2 -1.3
KSP *e*PP PP 11 25 14.0 +1.0
KSP *e*PPS 11 37 50.0
KSP LR LR
comp=Z,18μm,25.1s,MS6.7
KSP Ksiaz 143.04 331 *e*PKIKP PKPdf 11 22 02.2 -1.3
KSP *e* 11 25 14.0
KSP *e*PPS 11 37 50.0
VYHS Vyhne 143.36 326 *e*PKP PKPdf 11 21 58.1 -6.1
VYHS Vyhne 143.36 326 *e* PKPdf 11 21 58.1 -6.1
DPC Dobruska-Polom 143.37 331 *ex* PKPdf 11 22 03.6 -0.5
UPC Upice 143.40 331 *e* PKPdf 11 22 04.0 -0.2
KOLL Kolacno 143.53 327 *e*PKP PKPdf 11 22 05.4 +0.9
KOLL Kolacno 143.53 327 *e* PKPdf 11 22 05.4 +0.9
HLG Helgoland 143.58 341 *e*PKPbc PKPdf 11 22 03.1 -1.3
VRAC Vranov 143.96 329 PKIKP PKPdf 11 22 02.8 -2.4
VRAC pmax pmax
comp=Z,25nm,1.0s
VRAC Vranov 143.96 329 PKP PKPdf 11 22 02.8 -2.4
comp=Z,25nm,1.0s,baz=28,slow=1.9,SNR=4.9
PVCC Panska Ves 144.03 332 *ex* PKPdf 11 22 05.8 +0.5
RCBR Riachuelo 144.04 134 *e*PKPdf PKPdf 11 22 03.4 -3.1
BRG Berggiesshubel 144.05 333 *i* PKIKP PKPdf 11 22 05.2 -0.1
BRG pmax pmax
comp=Z,129nm,0.9s
BRG Berggiesshubel 144.05 333 *e*PKPbc PKPdf 11 22 05.2 -0.1
BRG *i* 11 22 30.0
comp=Z,126nm,1.3s
BRG *i* 11 38 23.6
comp=Z,18nm,1.8s
BRG *i* 11 44 15.0
BRG Berggiesshubel 144.05 333 *i* PKPdf 11 22 02.0 -3.3
BRG *i* 11 22 30.0
BRG *i* 11 38 23.6
BRG *i* 11 44 15.0
BRG Berggiesshubel 144.05 333 *i* PKPdf 11 22 02.0 -3.3
CLL Collm 144.11 334 *i* PKIKP PKPdf 11 22 05.2 -0.2
CLL pmax pmax
comp=Z,129nm,0.9s
CLL Collm 144.11 334 *e*PKPbc PKPdf 11 22 05.1 -0.3
CLL Collm 144.11 334 *i* PKPdf PKPdf 11 22 05.2 -0.2
comp=Z,93nm,0.9s
CLL *e*PKPlp 11 22 06.0
comp=Z,4μm,19.8s
CLL *e*PP PP 11 25 19.0 -0.3
CLL *e*(PPP) 11 28 00.0
CLL *e*PPS 11 37 46.0
CLL *ex* x 11 39 23.0
CLL LmV 11 41 00.0
comp=N,4μm,18.4s
CLL LmV 11 41 00.0
comp=E,1μm,20.9s
CLL LmV 11 41 00.0
comp=Z,6μm,18.7s
CLL *e*SS SS 11 44 06.0 +2.8
CLL *e*PSPS 11 45 06.0
CLL *e*SSS 11 49 22.0
EAB Aberfoyle 144.18 354 *e*P PKPdf 11 22 02.1 -3.3
MODS Modra-Piesok 144.24 327 *e*PKP PKPdf 11 22 08.9 +3.2
MODS Modra-Piesok 144.24 327 *e* PKPdf 11 22 08.9 +3.2
FBE Freiberg 144.26 334 *e*PKPbc PKPdf 11 22 06.1 +0.4
NRDL Niedersach Rie 144.27 338 *e*PKPbc PKPdf 11 22 05.8 +0.2
EAU Auchinoon 144.41 353 *e*P PKPdf 11 22 03.0 -2.8
PRU Pruhonice 144.43 331 *ex* PKPdf 11 22 06.4 +0.4
EBL Broad Law 144.44 352 *e*P PKPdf 11 22 04.0 -1.8
ZST Bratislava 144.44 327 *e*PKP PKPdf 11 22 06.9 +0.8
ZST Bratislava 144.44 327 *e* PKPdf 11 22 06.9 +0.8
TREC Trest 144.49 330 *ex* PKPdf 11 22 05.8 -0.3

PGBU Glenifferbraes 144.56 354 *e*P PKPdf 11 22 01.3 -4.7
PGBU AMb AMB 11 22 09.4
comp=Z,393nm,1.3s
CLZ Clausthal 144.71 337 *e*PKPbc PKPdf 11 22 07.6 +1.2
EKA Eskdalemuir Ar 144.88 352 PKIKP PKPdf 11 22 03.9 -2.7
EKA pmax pmax
comp=Z,112nm,1.0s
EKA Eskdalemuir Ar 144.88 352 PKP PKPdf 11 22 03.9 -2.7
comp=Z,112nm,1.0s,baz=358,slow=2.6,SNR=24
ESK Eskdalemuir 144.90 352 *e*P PKPdf 11 22 03.8 -2.8
ESK AMb AMB 11 22 09.6
comp=Z,235nm,1.8s
TANN Tannenbergstha 145.01 334 *e*PKPbc PKPbc 11 22 08.7 +2.4
ECK Cauldkaine Hil 145.03 352 *e*P PKPbc 11 22 04.1 -2.1
WERD Werda 145.05 334 *e*PKPbc PKPbc 11 22 08.8 +2.4
GUNZ Gunzen 145.11 334 *e*PKPbc PKPbc 11 22 09.2 +2.6
GMK Mull of Kintyr 145.13 355 *e*P PKPbc 11 22 04.9 -1.6
WERN Wernitzgruen 145.15 334 *e*PKPbc PKPbc 11 22 09.4 +2.6
NKC Novy Kostel 145.16 333 *e*PP PKPbc 11 22 05.5 -1.3
NKC Novy Kostel 145.16 333 *ex* PKPbc 11 22 05.5 -1.3
MOX Moxa 145.18 335 *e*PKPbc PKPbc 11 22 09.1 +2.2
MOX Moxa 145.18 335 *e* PKPdf 11 22 06.1 -1.2
XAL Allendale 145.21 351 *e*P PKPbc 11 22 05.1 -1.7
IBBN Ibbenburen 145.22 340 *e*PKPbc PKPbc 11 22 08.9 +2.0
CONA Conrad Observa 145.25 328⇑*i*PKPdf PKPdf 11 22 07.2 -0.2
comp=Z,4μm,3.6s
GCL Cushendall 145.44 355 *e*P PKPbc 11 22 06.0 -1.6
KHC Kasperske Hory 145.49 331 *e*PKP PKPdf 11 22 06.4 -1.4
KHC *ex* x 11 44 25.2
KHC Kasperske Hory 145.49 331 *ex* PKPdf 11 22 07.0 -0.8
MANZ Manzenberg 145.49 333 *e*PKPbc PKPbc 11 22 10.4 +2.5
GAL1 Galloway 145.52 354 *e*P PKPdf 11 22 06.0 -1.8
GAL1 AMb AMB 11 22 12.5
comp=Z,751nm,1.4s
CKE Keswick 145.60 352 *e*P PKPdf 11 22 07.2 -0.7
ROTZ Rotzenmuhle 145.61 333 *e*PKPbc PKPbc 11 22 10.9 +2.6
GEC2 GERESS Array S 145.64 331 *e*PKPbc PKPbc 11 22 10.7 +2.3
GERES GERESS Array B 145.64 331 PKP2 PKPab 11 22 07.7 -1.0
GERES pmax pmax
comp=Z,52nm,0.7s
GERES GERESS Array B 145.64 331 PKPbc PKPbc 11 22 07.7 -0.7
comp=Z,52nm,0.7s,baz=24,slow=3.7,SNR=8.5
UBBA Unterbreizbach 145.67 336 *e*PKPbc PKPbc 11 22 10.7 +2.3
WET Wettzell 145.79 332 *e*PKPbc PKPbc 11 22 11.5 +2.7
WTSB Winterswijk 145.82 340 pPKP PKPbc 11 22 08.1 -0.8
ARSA Arzberg 145.87 327⇑*i* PKPbc 11 22 11.9 +2.7
comp=Z,3μm,3.9s
ARSA Arzberg 145.87 327⇑*i*pPKPbc PKPbc 11 22 11.9 +2.7
comp=Z,3μm,3.9s
ARSA Arzberg 145.87 327 *i* PKPbc 11 22 11.9 +2.8
HPK Haverah Park 146.00 350 *e*P PKPdf 11 22 07.3 -1.2
HPK AMb AMB 11 22 14.7
comp=Z,794nm,1.5s
GIM North Isle of 146.06 353 *e*P PKPdf 11 22 07.2 -1.4
MOA Molln 146.08 329⇑*i* PKPab 11 22 14.4 +4.0
comp=Z,8μm,6.8s
MOA Molln 146.08 329⇑*i*pPKPab PKPbc 11 22 14.4 +4.6
comp=Z,8μm,6.8s
MOA Molln 146.08 329 *i* PKPab 11 22 14.4 +4.0
GRF Grafenberg Arr 146.08 334 *e*PKPbc PKPbc 11 22 13.0 +3.3
GMM Mts of Mourne 146.26 355 *e*P PKPdf 11 22 08.6 -0.4
LHO Holmfirth 146.43 350 *e*P PKPdf 11 22 08.9 -0.4
KBI1 Birley Grange 146.66 350 *e*P PKPdf 11 22 10.0 +0.3
DMUB Kingscourt 146.67 356 *e*P PKPdf 11 22 10.1 +0.4
TNS Taunus Mts 146.74 337 *e*PKPbc PKPbc 11 22 14.9 +3.3
KWE Weaver Farm 146.94 350 *e*P PKPdf 11 22 10.4 +0.2
KBA Koelnbreinsper 147.07 329⇓*i* PKPbc 11 22 13.8 +1.2
comp=Z,2μm,4.4s
KBA Koelnbreinsper 147.07 329 *i* PKPbc 11 22 13.8 +1.2
CWF Charnwood Fore 147.12 349 *e*P PKPdf 11 22 11.0 +0.6
CWF AMb AMB 11 22 18.6
comp=Z,293nm,1.9s
HGN Heimansgroeve 147.14 340 pPKP PKPbc 11 22 13.2 +0.5
BOJS Bojanci 147.16 325 *e* PKPbc 11 22 17.4 +4.4
LJU Ljubljana 147.19 326 *i* PKPbc 11 22 13.9 +0.8
BEBN Eben Emael 147.19 340 PKP PKPbc 11 22 14.3 +1.4
FUR Furstenfeldbru 147.23 332 *e*PKPbc PKPbc 11 22 15.2 +2.1
DLF Lyons Farm 147.24 355 *e*P PKPdf 11 22 12.1 +1.4
MEM Membach 147.25 340 PKP PKPdf 11 22 10.9 +0.1
DCN Croghan 147.25 356 *e*P PKPdf 11 22 11.1 +0.4
SBD1 Bryn Du 147.26 351 *e*P PKPdf 11 22 11.3 +0.5
DSB Dublin 147.28 355 *e*PKPbc PKPbc 11 22 12.9 -0.2
VOY Vojsko 147.52 327 *e* PKPbc 11 22 17.3 +3.3
JAVS Javornik 147.53 327 *e* PKPbc 11 22 15.6 +1.6
HLM1 Long Mynd 147.59 351 *e*P PKPdf 11 22 12.5 +1.3
UCC Uccle 147.59 342 PKP PKPbc 11 22 15.7 +1.7
STU Stuttgart 147.63 335 *e*PKPbc PKPbc 11 22 16.3 +2.1
BCLA Clavier 147.63 340 PKP PKPbc 11 22 15.8 +1.7
ABTA Abfaltersbach 147.71 329⇑*i*PKPbc PKPbc 11 22 12.8 -1.7
comp=Z,885nm,3.4s
WATA Walderalm 147.72 331⇑*i* PKPbc 11 22 14.6 +0.2
comp=Z,42nm,1.0s
WATA Walderalm 147.72 331⇑*i*pPKPdf PKPbc 11 22 14.6 +0.2
comp=Z,42nm,1.0s
WATA Walderalm 147.72 331 *i* PKPbc 11 22 14.7 +0.2
SNF Seneffe 147.87 342 PKP PKPdf 11 22 13.9 +2.1
MOTA Moosalm 147.92 331⇑*i* PKPdf 11 22 13.9 +1.9
comp=Z,116nm,1.2s
MOTA Moosalm 147.92 331 *i* PKPdf 11 22 13.9 +1.9
SSW Stow on the Wo 147.95 349 *e*P PKPdf 11 22 13.6 +1.7
RETA Reutte 147.97 332⇑*i*pPKiKP PKPab 11 22 20.0 +2.3
comp=Z,4μm,5.8s
SQTA Sankt Quirin 147.97 331⇓*i* PKPbc 11 22 14.4 -0.7
comp=Z,68nm,0.9s
SQTA Sankt Quirin 147.97 331 *i* PKPdf 11 22 14.4 +2.4
SKP1 Kophill 148.00 348 *e*P PKPdf 11 22 13.1 +1.2
HAE Alders End 148.00 350 *e*P PKPdf 11 22 13.2 +1.2
WLF Walferdange 148.01 339 *e*PKPbc PKPbc 11 22 14.6 -0.6
WLF Walferdange 148.01 339 PKP PKPbc 11 22 15.0 -0.2
WLF Walferdange 148.01 339 *e*PKPbc PKPbc 11 22 17.7 +2.5
GIVF Givet 148.06 341 *e*PKIKP PKPdf 11 22 13.7 +1.6
comp=Z,241nm,1.0s
HTR Trewern Hill 148.07 351 *e*P PKPdf 11 22 13.9 +1.8
MCH1 Michaelchurch 148.11 351 *e*P PKPdf 11 22 13.3 +1.2
MCH1 *e*P 11 22 13.3
MCH1 AMb AMB 11 22 22.1
comp=Z,334nm,1.2s
DOU Dourbes 148.14 341 PKP PKPdf 11 22 14.1 +1.9
BAIF Baives 148.29 341 *e*PKIKP PKPdf 11 22 14.5 +2.0
comp=Z,178nm,0.9s
BFO Black Forest 148.32 335 *e*PKPbc PKPbc 11 22 19.3 +3.3
BFO Black Forest 148.32 335 *e*PKPbc PKPbc 11 22 19.3 +3.3
FETA Feichten 148.33 331⇑*i*PKPbc PKPbc 11 22 16.2 0.0
comp=Z,2μm,3.8s
SWN1 Swindon 148.38 349 *e*P PKPdf 11 22 11.5 -1.1
SWN1 *e*P 11 22 11.5
SWN1 AMb AMB 11 22 24.3
comp=Z,408nm,1.1s
HGH Gray Hill 148.43 350 *e*P PKPdf 11 22 15.1 +2.4
WOL Wolverton 148.46 348 *e*P PKPdf 11 22 14.3 +1.5
WOL AMb AMB 11 22 23.5
comp=Z,463nm,1.9s
DAVA Damuels 148.51 332⇑*i* PKPbc 11 22 15.8 -0.8
comp=Z,3μm,5.5s
DAVA Damuels 148.51 332⇑*i*pPKPdf PKPbc 11 22 15.8 -0.8
comp=Z,3μm,5.5s
DAVA Damuels 148.51 332 *i* PKPdf 11 22 15.8 +2.8
CDF Champ du Feu 148.66 336 *e*PKIKP PKPdf 11 22 15.1 +1.9
comp=Z,202nm,1.1s
SWK Warminster 148.81 349 *e*P PKPdf 11 22 15.4 +2.1
DAVOX Davos/Dischmat 148.90 332 PKPbc PKPbc 11 22 17.1 -0.4
comp=Z,77nm,0.9s,baz=75,slow=1.3,SNR=6.2
HINF Hinteralfeld 149.31 336 *e*PKIKP PKPdf 11 22 16.4 +2.1
HAU Haudompre 149.35 337 *e*PKIKP PKPdf 11 22 16.3 +2.0
comp=Z,204nm,1.1s
MEZF Maizieres J'vi 149.38 339 *e*PKIKP PKPdf 11 22 16.2 +1.9
TIP Timpagrande 149.88 314 *e*PKPbc PKPbc 11 22 20.4 +0.1
CSA1 St Austell 149.98 352 *e*P PKPbc 11 22 18.2 -1.9
CCA1 Carnmenellis 150.18 353 *e*P PKPbc 11 22 18.6 -2.0
CRO2 Rosemanowes 2 150.20 352 *e*P PKPdf 11 22 15.3 -0.3
AQU L'Aquila 150.20 322 *e*PKPbc PKPbc 11 22 22.8 +1.8
CPZ Penzance 150.25 353 *e*P PKPbc 11 22 18.7 -2.1
CMA1 Manaccan 150.27 352 *e*P PKPbc 11 22 18.9 -2.0
CABF La Chapelle 150.61 336 *e*PKIKP PKPdf 11 22 18.3 +2.0
comp=Z,127nm,0.9s
FLN La Foliniere 150.72 346 *e*PKIKP PKPdf 11 22 18.3 +1.9
comp=Z,92nm,0.7s
LDF La Druitiere 150.80 345 *e*PKIKP PKPdf 11 22 18.6 +2.0
comp=Z,94nm,1.0s
LOR Lormes 150.85 339 *e*PKIKP PKPdf 11 22 18.8 +2.1
comp=Z,96nm,0.8s
SSF Saint Saulge 151.15 339 *e*PKIKP PKPdf 11 22 19.1 +1.9
comp=Z,129nm,1.1s

GRR Gorron 151.16 346 *e*PKIKP PKPdf 11 22 19.1 +2.0
comp=Z,81nm,0.7s
LPL La Plagne 151.24 334 *e*PKIKP PKPdf 11 22 19.4 +2.0
comp=Z,79nm,0.9s
LPG La Plagne 151.25 334 *e*PKIKP PKPdf 11 22 19.5 +2.1
comp=Z,139nm,1.1s
SMF Signal de Mont 151.40 338 *e*PKIKP PKPdf 11 22 19.5 +1.9
comp=Z,176nm,1.4s
AVF Avril sur Loir 151.44 339 *e*PKIKP PKPdf 11 22 19.4 +1.8
comp=Z,68nm,1.0s
SGMF Saint Gilles 151.65 348 *e*PKIKP PKPdf 11 22 19.8 +1.9
comp=Z,129nm,0.9s
ROSF Rostrenen 151.70 349 *e*PKIKP PKPdf 11 22 19.9 +2.0
comp=Z,34nm,0.5s
BGF Bois d'Agland 151.81 340 *e*PKIKP PKPdf 11 22 20.1 +1.9
comp=Z,71nm,0.9s
MBDF Montbardon 151.86 333 *e*PKIKP PKPdf 11 22 20.1 +1.8
comp=Z,65nm,1.1s
ORIF Oris-en-Rattie 152.08 334 *e*PKIKP PKPdf 11 22 20.5 +1.9
comp=Z,124nm,1.0s
QUIF Quistinic 152.08 349 *e*PKIKP PKPdf 11 22 20.6 +2.1
SBF Sospel 152.24 331 *e*PKIKP PKPdf 11 22 20.6 +1.7
TCF Toulx Ste Croi 152.25 340 *e*PKIKP PKPdf 11 22 20.7 +1.9
comp=Z,102nm,1.0s
PGF Pioggiola 152.47 327 *e*PKIKP PKPdf 11 22 21.0 +1.7
comp=Z,129nm,0.8s
MFF Saint Martin d 152.65 344 *e*PKIKP PKPdf 11 22 21.1 +1.7
comp=Z,78nm,1.0s
FRF La Foret Royal 152.84 331 *e*PKIKP PKPdf 11 22 21.3 +1.5
SMRF Simiane la Rot 152.97 333 *e*PKIKP PKPdf 11 22 21.7 +1.7
LMR La Mourre 153.08 331 *e*PKIKP PKPdf 11 22 21.8 +1.6
RJF Les Rejaudoux 153.35 340 *e*PKIKP PKPdf 11 22 22.4 +1.9
CAF Calviac 153.50 339 *e*PKIKP PKPdf 11 22 22.6 +1.9
LFF La Frestale 153.92 341 *e*PKIKP PKPdf 11 22 23.0 +1.7
KEST Kesra 156.71 314 PKPab PKPab 11 22 56.1 +1.4
comp=Z,7.9nm,1.0s,baz=346,slow=4.0,SNR=4.2
EVO Evora 162.00 352 *e*PKIKP PKPdf 11 22 32.4 +1.0
DBIC Dimbokro 164.89 204 PKPab PKPab 11 23 30.0 -0.7
comp=Z,29nm,1.1s,baz=145,slow=4.2,SNR=5.6
TORD Torodi Ar. Bea 165.78 240 PKP PKPdf 11 22 36.8 +1.2
comp=Z,6.2nm,1.1s,baz=140,slow=1.3,SNR=2.4
BBTS Babate 172.02 137 PKP PKPdf 11 22 42.3 +2.8
comp=Z,34nm,1.0s,baz=66,slow=2.7,SNR=4.1

GII ***04*** *11:03:03.8±2.9, 2989N×3636E, h0km*
SGS ***04*** *11:04:03.7, 30.16N×3625E, h5km*
CSEM ***04*** *11:04:03.7, 30.16N×3625E, h5km, ML2.8, After SNSN*
ISC 04 11:04:02.2±1.3, 2987N±006×3645E±008, h0km, n11,
σ0§75/15, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HRFI	**Mount Harif**	**1.24**	**278**	Pg	**Pg**	**11 04 25.6**	**-0.4**
HRFI				Sg	**Sg**	**11 04 42.7**	**+0.6**
ZFRI	**Zfri**	**1.30**	**302**	Pg	**Pg**	**11 04 27.6**	**+0.5**
ZFRI				Sg	**Sg**	**11 04 44.5**	**+0.5**
EIL	**Elat**	**1.32**	**262**	Pg	**Pg**	**11 04 27.1**	**-0.5**
EIL				Sg	**Sg**	**11 04 44.7**	**0.0**
HQLS		**1.34**	**245**	P	**Pg**	**11 04 27.2**	**-0.7**
HQLS				S	**Sg**	**11 04 44.7**	**-0.5**
MBH	**Mount Berech**	**1.34**	**267**	Pg	**Pg**	**11 04 28.6**	**+0.7**
PRNI	**Paran**	**1.34**	**291**	Pg	**Pg**	**11 04 27.6**	**-0.4**
JLOS		**1.41**	**217**	P	**Pn**	**11 04 30.3**	**+1.2**
KRMI	**Paran Flat**	**1.52**	**280**	Pn	**Pn**	**11 04 30.6**	**0.0**
YTIR	**Yattir**	**1.89**	**323**	Pn	**Pn**	**11 04 36.0**	**+0.4**
KZIT	**Kziot**	**2.06**	**301**	Pn	**Pn**	**11 04 35.8**	**-2.2**
RSHS		**2.13**	**223**	P	**Pn**	**11 04 39.5**	**+0.4**

ISCJB ***04*** *11:26:30.3±0.7, 4389N±005×988E±008, h8km±10km, Error ellipse: s-maj=9.6km s-min=8.1km az=144.5*
CSEM ***04*** *11:26:31.5±0.1, 4391N×1004E, h10km, ML2.4/2, Error ellipse: s-maj=2.7km s-min=1.9km az=148.0*
NEIC ***04*** *11:26:31.7, 4388N×1004E, h10km, ML2.6(LDG), After LDG.*
ROM ***04*** *11:26:31.1±0.3, 4389N×992E, h10km, Md2.2/8, Ml1.9/2, Error ellipse: s-maj=6.5km s-min=4.8km az=156.0*
LDG ***04*** *11:26:31.7±0.5, 4388N×1004E, h10km, Ml2.6/2, Error ellipse: s-maj=11.1km s-min=4.3km az=72.0*
ISC 04 11:26:31.1±0.7, 4388N±005×990E±007, h9km±10km, n22,
σ0§68/26, Corsica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAIM		**0.43**	**85**	Pg	**Pg**	**11 26 39.2**	**-0.3**
GROG	**Isola di Gorgo** 80nm,0.3s	**0.45**	**180**	Pg	**Pg**	**11 26 40.4**	**+0.6**
BDI	**Bagni Di Lucca** 61nm,0.5s	**0.54**	**70**	Pg	**Pg**	**11 26 40.9**	**-0.6**
ERBM	**Eremo** 16nm,0.1s	**0.66**	**34**	Pg	**Pg**	**11 26 43.9**	**+0.2**
PZZT	**Monte Pizzetto**	**0.74**	**70**	Pg	**Pg**	**11 26 44.9**	**-0.4**
SEI	**Scarperia** 38nm,0.2s	**1.07**	**80**	Pg	**Pg**	**11 26 51.5**	**-0.1**
GRFL	**Gerfalco** 9.0nm,0.6s	**1.07**	**133**	Pg	**Pg**	**11 26 52.9**	**+1.3**
VMG	**Vicchio** 18nm,0.5s	**1.19**	**85**	Pg	**Pg**	**11 26 53.8**	**-0.2**
FIN	**Finale Ligure**	**1.26**	**286**	Pg	**Pg**	**11 26 54.5**	**-0.8**
PGF	**Pioggiola**	**1.48**	**207**	*e*Pn	**Pn**	**11 26 57.5**	**-0.4**
PGF	15nm,0.6s			*e*Sn	**Sn**	**11 27 16.7**	**-0.7**
PGF	**Pioggiola**	**1.48**	**207**	*e*Pn	**Pn**	**11 26 57.5**	**-0.4**
PGF	7.6nm,0.6s			*e*Sn	**Sn**	**11 27 16.7**	**-0.7**
SBF	**Sospel**	**1.78**	**270**	*e*Pn	**Pn**	**11 27 01.9**	**-0.1**
SBF	13nm,0.5s			*e*Sn	**Sn**	**11 27 24.7**	**-0.1**
SBF	**Sospel**	**1.78**	**270**	*e*Pn	**Pn**	**11 27 01.9**	**-0.1**
SBF	6.4nm,0.5s			*e*Sn	**Sn**	**11 27 24.7**	**-0.1**
FRF	**La Foret Royal**	**2.38**	**263**	*e*Pn	**Pn**	**11 27 10.3**	**+0.1**
MBDF	**Montbardon**	**2.40**	**292**	*e*Pn	**Pn**	**11 27 10.0**	**-0.5**
LMR	**La Mourre**	**2.52**	**259**	*e*Pn	**Pn**	**11 27 11.5**	**-0.7**
LPG	**La Plagne**	**2.77**	**307**	*e*Pn	**Pn**	**11 27 16.7**	**+1.1**
ORIF	**Oris-en-Rattie**	**3.06**	**291**	*e*P	**Pn**	**11 27 22.3**	**+2.7**
SMRF	**Simiane la Rot**	**3.12**	**273**	*e*Pn	**Pn**	**11 27 20.6**	**+0.1**
VIVF	**Saint-Julien-l**	**3.87**	**286**	*e*Pn	**Pn**	**11 27 30.7**	**-0.1**
LASF	**Ste Croix**	**4.36**	**275**	*e*Pn	**Pn**	**11 27 37.7**	**+0.2**
MTLF	**Montolieu**	**5.60**	**267**	*e*Pn	**Pn**	**11 27 54.3**	**-0.2**

ISCJB ***04*** *11:26:59.2±0.6, 3396N±003×118.13W±003, h10km, Error ellipse: s-maj=5.3km s-min=3.0km az=26.0*
NEIC ***04*** *11:27:03.4, 34.19N×117.95W, h12km, ML3.4(PAS), After PAS.*
NEIC Felt [IV] at Arcadia; [III] at Alhambra, Azusa, Baldwin Park, Downey, Duarte, El Monte, Glendale, Los Angeles, Monrovia, Montebello, Monterey Park, Pasadena, Pico Rivera, Pomona, Rosemead, San Gabriel, Sierra Madre, South El Monte, South Pasadena, Temple City, West Covina and Whittier; [II] at Altadena, Burbank, Chino Hills, Covina, Glendora, La Canada Flintridge, La Crescenta, Lynwood, Montrose, San Marino, Sherman Oaks, South Gate and Tujunga. Also felt at Acton, Anaheim, Bellflower, Cerritos, Cypress, Fullerton, Hacienda Heights, Irvine, La Palma, Laguna Beach, Lakewood, Long Beach, Maywood, North Hollywood, Norwalk, Palmdale, Panorama City, Rancho Cucamonga, Riverside, San Dimas, Studio City, Sunland, Walnut and Winnetka.
ISC 04 11:27:01.7±0.5, 3406N±003×11806W±003, h10km, n41,
σ1§17/69, 17C-31D, Southern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PFO	**Pinyon Flat Ob**	**1.41**	**108**	*e*Pn	**Pn**	**11 27 27.0**	**-0.4**
PFO				*e*Sg	**Sg**	**11 27 47.1**	**0.0**
109C	**Camp Elliot, M** baz=1.5,SNR=28	**1.41**	**145**	⇓P	**Pn**	**11 27 28.4**	**+1.0**
109C				⇓S	**Sn**	**11 27 47.3**	**+1.2**
SNCC	**San Nicolas Is**	**1.46**	**237**	*e*Pn	**Pn**	**11 27 32.2**	**+4.1**
SNCC				*e*Sg	**Sg**	**11 27 54.7**	**+6.0**
GSC	**Goldstone**	**1.62**	**39**	*e*Pn	**Pn**	**11 27 28.7**	**-1.6**
GSC				*e*Pg	**Pg**	**11 27 31.2**	**-1.5**
GSC				*e*Sg	**Sg**	**11 27 51.5**	**-2.3**
ISA	**Isabella**	**1.64**	**348**	*e*Pn	**Pn**	**11 27 30.3**	**-0.3**
ISA				*e*Pg	**Pg**	**11

PTRM *e*Sg **Sg** **11 28 18.7 +0.5**
HELL **Mitchell Peak** **2.73 344** ⇑P **Pn** **11 27 45.9 +0.3**
baz=2.6,SNR=19
HELL ⇓Sb **Sb** **11 28 25.0 +0.7**
baz=2.6
U10A **Ash Meadows, A** **2.75 31** ⇓P **Pn** **11 27 45.3 -0.6**
baz=2.6,SNR=8.5
U10A ⇓Sb **Sb** **11 28 24.7 0.0**
baz=2.6
V11A **Goodsprings** **2.80 50** ⇓P **Pn** **11 27 45.6 -0.9**
baz=2.6
V11A ⇓Sb **Sb** **11 28 26.0 -0.1**
baz=2.6
W12A **Cal Nev Ari** **2.91 64** ⇓P **Pn** **11 27 47.1 -1.0**
baz=2.8
Y12C **Blythe** **2.96 95** ⇑P **Pn** **11 27 48.1 -0.6**
baz=2.9
Y12C ⇓Sb **Sb** **11 28 32.3 +1.6**
baz=2.9
V12A **Nelson** **3.12 57** ⇓P **Pn** **11 27 49.9 -1.1**
baz=3.0,SNR=14
V12A ⇓Sb **Sb** **11 28 36.3 +0.8**
baz=3.0
U11A **Corn Creek** **3.22 42** ⇑Sb **Sb** **11 28 39.6 +1.3**
baz=3.1
TPNV **Topopah Spring** **3.25 27** *e*Pn **Pn** **11 27 53.0 +0.4**
TPNV *e*Pg **Pg** **11 28 02.6 -1.2**
TPNV *e*Sg **Sg** **11 28 43.2 -2.7**
V03C **Hunter Liggett** **3.26 308** ⇓P **Pn** **11 27 53.6 +0.8**
baz=3.3,SNR=27
V03C ⇓S **Sn** **11 28 32.1 +0.4**
baz=3.3
Y13A **Salome** **3.53 93** ⇓P **Pn** **11 27 55.8 -0.8**
baz=3.4,SNR=13
Y13A ⇑Sb **Sb** **11 28 48.5 +1.4**
baz=3.4
X13A **Yucca** **3.54 80** ⇓P **Pn** **11 27 56.2 -0.5**
baz=3.4,SNR=57
W13A **Hualapai Mount** **3.60 72** ⇑P **Pn** **11 27 56.8 -0.8**
baz=3.5,SNR=48
W13A ⇑Sb **Sb** **11 28 51.0 +1.8**
baz=3.5
HAST **Hastings Reser** **3.68 310** ⇑P **Pn** **11 27 58.9 +0.2**
baz=3.7,SNR=10
HAST ⇓S **Sn** **11 28 41.7 -0.4**
baz=3.7
U12A **Valley of Fire** **3.73 50** ⇑P **Pn** **11 27 58.5 -0.8**
baz=3.6
S05C **Merced** **3.77 331** ⇓Sb **Sb** **11 28 56.9 +3.0**
baz=3.7
S10A **Tonopah Range,** **4.04 17** ⇓Sb **Sb** **11 29 04.8 +3.0**
baz=3.9
S11A **Rachel** **4.05 27** ⇑Sb **Sb** **11 29 04.2 +2.2**
baz=3.9
U13A **Pakoon Wash** **4.10 54** ⇓P **Pn** **11 28 03.7 -0.7**
baz=3.9
U13A ⇓Sb **Sb** **11 29 06.5 +3.0**
baz=3.9
R07C **Lee Vining** **4.10 349** ⇓Sb **Sb** **11 29 06.9 +3.3**
baz=4.0
Y14A **Wickenburg** **4.21 90** ⇑P **Pn** **11 28 05.8 -0.1**
baz=4.1
W14A **Seligman** **4.27 73** ⇓P **Pn** **11 28 05.9 -0.8**
baz=4.1,SNR=9.6
W14A ⇑Sb **Sb** **11 29 12.1 +3.8**
baz=4.1
X14A **Yava** **4.30 83** P **Pn** **11 28 06.5 -0.7**
baz=4.2,SNR=19
X14A ⇓Sb **Sb** **11 29 13.7 +4.3**
baz=4.2
V14A **Boquillas Ranc** **4.37 67** ⇓P **Pn** **11 28 07.5 -0.6**
baz=4.2,SNR=15
V14A ⇓Sb **Sb** **11 29 15.2 +3.9**
baz=4.2
T13A **Saint George** **4.50 48** ⇓Sb **Sb** **11 29 17.8 +2.8**
baz=4.3
R06C **Coleville** **4.60 346** ⇓Sb **Sb** **11 29 22.8 +5.0**
baz=4.5
U14A **Mt Trumbull** **4.64 58** ⇑P **Pn** **11 28 11.4 -0.4**
baz=4.5,SNR=6.0
R11A **Troy Canyon, C** **4.73 24** ⇓Sb **Sb** **11 29 25.6 +3.9**
baz=4.6
Y15A **Casa Rosa Ranc** **4.76 90** ⇑P **Pn** **11 28 12.7 -0.8**
baz=4.7,SNR=27
Y15A ⇑Sb **Sb** **11 29 27.7 +5.2**
baz=4.7
X15A **Humboldt** **4.84 83** ⇑P **Pn** **11 28 14.3 -0.3**
baz=4.7
S13A **Holt Ranch, En** **4.90 43** ⇓P **Pn** **11 28 15.7 +0.3**
baz=4.7
S13A ⇑Sb **Sb** **11 29 29.6 +2.9**
baz=4.7
ARUT **Antelope Range** **5.29 44** *e*Pn **Pn** **11 28 21.8 +1.1**
ARUT *e*Pg **Pg** **11 28 37.3 -5.6**
ARUT *e*Sg **Sg** **11 29 45.7 -5.7**
Y16A **Circle Bar Ran** **5.48 90** ⇑P **Pn** **11 28 23.3 0.0**
baz=5.4
T15A **Red Dirt Ranch** **5.50 56** ⇓P **Pn** **11 28 23.5 0.0**
baz=5.3,SNR=5.6
X16A **Lo Mia Camp, P** **5.50 84** ⇓P **Pn** **11 28 23.7 +0.1**
baz=5.4,SNR=8.2
WUAZ **Wupatki** **5.70 73** Pn **Pn** **11 28 25.4 -0.9**
WUAZ *e*Sg **Sg** **11 29 59.2 -5.4**

IDC 04 11:29:05.2±4.2,2032S×16837E,h0km,mb3.8/2, mb1 4.0/3,mb1mx3.7/14,mbtmp3.7/3,ML3.4/1,Error ellipse: s-maj=111.4km s-min=35.1km az=126.0, Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**2.50**	**226**	Pn	Pn	11 29 46.5	-0.6
	7.8nm,0.3s,baz=96,slow=23,SNR=9.3						
DZM				Sn	Sn	11 30 18.3	-0.2
	19nm,0.3s,baz=285,slow=23,SNR=5.8						
WRA	**Warramunga Arr**	**31.93**	**265**	P	P	11 35 33.0	+0.2
	0.3nm,0.8s,baz=92,slow=8.4,SNR=4.5						
ASAR	**Alice Springs**	**32.09**	**258**	P	P	11 35 34.6	+0.5
	2.4nm,0.8s,baz=83,slow=9.4,SNR=23						
VNA3	**Neumayer Olymp**	**88.67**	**181**	*e*	P	11 41 54.8	-5.2
VNA3				*e*		11 41 57.8	
VNA2	**Neumayer--Watz**	**88.95**	**181**	*e*	P	11 41 56.5	-4.8
	baz=209,slow=2.2						
VNA2				*e*		11 41 59.8	
VNA1	**Neumayer--Stat**	**89.24**	**181**	*e*	P	11 41 55.9	-6.8
VNA1				*e*		11 41 58.3	
GERES	**GERESS Array B**	**145.04**	**330**	PKPbc	PKPbc	11 48 42.8	-1.0
	0.2nm,0.3s,baz=351,slow=5.3,SNR=3.5						

IDC 04 11:47:52.6±9.4,2022S×16872E,h0km,mb3.9/4, mb1 4.1/5,mb1mx3.8/15,mbtmp3.9/5,ML3.6/1,Error ellipse: s-maj=156.1km s-min=62.1km az=88.0,Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**2.81**	**229**	Pn	Pn	11 48 38.1	-0.7
	8.9nm,0.3s,baz=52,slow=17,SNR=6.0						
STKA	**Stephens Creek**	**26.92**	**239**	P	P	11 53 35.1	-0.4
	1.6nm,0.6s,baz=60,slow=11,SNR=4.8						
WRA	**Warramunga Arr**	**32.26**	**264**	P	P	11 54 23.1	0.0
	0.4nm,0.4s,baz=91,slow=8.5,SNR=10						
ASAR	**Alice Springs**	**32.43**	**257**	P	P	11 54 24.9	+0.4
	1.9nm,0.7s,baz=86,slow=9.3,SNR=18						
FITZ	**Fitzroy Crossi**	**40.67**	**265**	P	P	11 55 35.3	+0.4
	1.4nm,0.6s,baz=102,slow=9.3,SNR=4.0						

IDC 04 11:49:16.4±3.8,699S×15509E,h0km,mb4.1/4,mb1 4.2/4, mb1mx3.8/14,mbtmp4.1/4,Error ellipse: s-maj=109.4km s-min=33.9km az=118.0,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.89**	**235**	P	P	11 54 32.4	+0.4
	0.9nm,0.6s,baz=61,slow=9.8,SNR=12						
SONM	**Songino Array**	**69.38**	**327**	P	P	12 00 27.5	+1.5
	1.5nm,0.8s,baz=136,slow=6.9,SNR=14						
MKAR	**Makanchi Array**	**83.46**	**319**	P	P	12 01 46.0	0.0
	2.0nm,0.5s,baz=101,slow=6.4,SNR=22						
ZALV	**Zalesovo Beam**	**84.22**	**326**	P	P	12 01 48.1	-1.6
	1.2nm,0.3s,baz=120,slow=5.0,SNR=10.0						

*NEIC **04** 11:53:15.8±1.4,2090S×16908E,h35km,mb3.9/3,Error ellipse: s-maj=60.4km s-min=17.7km az=150.0*
*IDC **04** 11:53:17.0±6.0,2080S×16889E,h40km±51km,mb3.8/7, mb1 4.0/8,mb1mx3.9/16,mbtmp3.8/8,ML3.1/1,Error ellipse: s-maj=76.2km s-min=33.5km az=159.0*
*ISCJB **04** 11:53:17.0±3.5,208S±02×1688E±02,h54km±27km, mb3.9/7,Error ellipse: s-maj=35.3km s-min=26.0km az=162.2*

ISC 04 11:53:17.3±3.6,209S±02×1689E±02,h45km±28km,n16, σ0°58/15,mb3.9/7,Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**2.58**	**242**	Pn	Pn	**11 53 56.8**	**+0.2**
	3.8nm,0.3s,baz=77,slow=17,SNR=12						
DZM				Sn	Sn	**11 54 26.5**	**-0.4**
	52nm,0.3s,baz=353,slow=23,SNR=14						
CTA	**Charters Tower**	**21.23**	**268**	*e*P	P	**11 58 03.3**	**+3.7**
	4.9nm,0.9s,mb3.8						
CTA	**Charters Tower**	**21.23**	**268**	P	P	**11 58 00.6**	**+1.0**
	6.1nm,0.9s,mb3.9,baz=89,slow=18,SNR=3.7						
STKA	**Stephens Creek**	**26.74**	**240**	*e*P	P	**11 58 54.0**	**+1.2**
	4.3nm,1.9s,mb3.6						
STKA	**Stephens Creek**	**26.74**	**240**	P	P	**11 58 53.4**	**+0.6**
	3.2nm,1.0s,mb3.8,baz=81,slow=7.7,SNR=3.4						
WRA	**Warramunga Arr**	**32.37**	**265**	P	P	**11 59 41.9**	**-1.0**
	0.7nm,0.5s,mb3.7,baz=92,slow=8.5,SNR=21						
WRA				PcP	PcP	12 02 30.0	+0.2
	0.5nm,0.8s,baz=89,slow=2.2,SNR=5.0						
ASAR	**Alice Springs**	**32.46**	**258**	P	P	**11 59 43.4**	**-0.3**
	2.2nm,0.6s,mb4.2,baz=86,slow=9.2,SNR=54						
FITZ	**Fitzroy Crossi**	**40.79**	**266**	*e*P	P	**12 00 54.9**	**+0.3**
	6.0nm,1.0s,mb4.2						
FITZ	**Fitzroy Crossi**	**40.79**	**266**	P	P	**12 00 55.1**	**+0.5**
	4.1nm,0.6s,mb4.2,baz=137,slow=9.1,SNR=20						
VNA3	**Neumayer Olymp**	**88.13**	**180**	*e*	P	**12 06 03.0**	**+0.1**
VNA3				*e*		12 06 05.4	
SONM	**Songino Array**	**88.33**	**323**	P	P	**12 06 03.9**	**-0.2**
	0.6nm,0.8s,mb3.9,baz=145,slow=6.0,SNR=5.3						
VNA2	**Neumayer--Watz**	**88.42**	**181**	*e*	P	**12 06 04.0**	**-0.3**
	baz=182,slow=4.8						
VNA2				*e*		12 06 06.7	
VNA1	**Neumayer--Stat**	**88.71**	**181**	*e*	P	**12 06 12.2**	**+6.5**
VNA1				*e*		12 06 14.8	
NVAR	**Mina Array Bea**	**90.11**	**49**	P	P	**12 06 12.6**	**-0.1**
	0.4nm,0.7s,mb3.9,baz=216,slow=9.0,SNR=5.0						
KHC	**Kasprske Hory**	**145.61**	**331**	*e*PKP	PKPdf	12 12 51.0	+0.4
GERES	**GERESS Array B**	**145.76**	**330**	PKPbc	PKPbc	12 12 51.3	0.0
	2.1nm,0.7s,baz=64,slow=9.1,SNR=13						

IDC 04 11:56:57.8±1.2,2190N×14319E,h0km,mb3.5/6, mb1 3.7/6,mb1mx3.5/20,mbtmp3.5/6,Error ellipse: s-maj=48.9km s-min=22.3km az=84.0,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**39.19**	**320**	P	P	12 04 27.8	+0.4
	0.5nm,0.5s,baz=123,slow=6.8,SNR=4.6						
WRA	**Warramunga Arr**	**42.47**	**192**	P	P	12 04 54.3	-0.5
	0.5nm,0.9s,baz=14,slow=8.8,SNR=2.8						
ASAR	**Alice Springs**	**46.18**	**192**	P	P	12 05 24.8	+0.4
	0.3nm,0.6s,baz=20,slow=9.6,SNR=6.9						
ZALV	**Zalesovo Beam**	**54.06**	**322**	P	P	12 06 23.4	-0.6
	0.3nm,0.2s,baz=101,slow=7.7,SNR=3.5						
MKAR	**Makanchi Array**	**54.57**	**313**	P	P	12 06 28.0	+0.2
	0.3nm,0.6s,baz=96,slow=8.4,SNR=3.6						
YKA	**Yellowknife Ar**	**76.28**	**28**	P	P	12 08 48.2	+0.1
	0.3nm,0.5s,baz=294,slow=5.9,SNR=6.3						

*IDC **04** 12:04:31.4±0.8,665S×15472E,h0km,mb4.0/8,mb1 4.2/9, mb1mx4.0/16,mbtmp4.0/9,ML4.2/1,Error ellipse: s-maj=29.5km s-min=20.4km az=131.0*
*NEIC **04** 12:04:33.0±0.6,669S×15470E,h10km,mb4.1/2,Error ellipse: s-maj=18.1km s-min=13.9km az=163.0*
*ISCJB **04** 12:04:35.3±5.0,68S±02×1547E±02,h33km±50km, mb3.9/8,Error ellipse: s-maj=46.2km s-min=17.5km az=145.4*

ISC 04 12:04:37.9±4.2,68S±02×1547E±02,h43km±44km,n14, σ0°55/12,mb3.9/8,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.79**	**117**	Pn	Pn	**12 06 01.4**	**0.0**
	6.7nm,0.3s,baz=270,slow=8.5,SNR=3.6						
WB2	**Warramunga Arr**	**23.72**	**235**	*e*P	P	**12 09 46.2**	**0.0**
WRA	**Warramunga Arr**	**23.73**	**235**	P	P	**12 09 46.0**	**-0.3**
	2.7nm,0.6s,mb3.9,baz=58,slow=9.6,SNR=30						
WRA				PcP	PcP	12 13 29.9	+0.3
	0.7nm,0.4s,baz=58,slow=2.6,SNR=15						
ASAR	**Alice Springs**	**26.12**	**228**	P	P	**12 10 07.7**	**-0.4**
	1.2nm,0.6s,mb3.6,baz=60,slow=9.3,SNR=20						
STKA	**Stephens Creek**	**27.82**	**204**	*e*P	P	**12 10 22.4**	**-0.8**
	3.3nm,1.0s,mb3.9						
STKA	**Stephens Creek**	**27.82**	**204**	P	P	**12 10 24.6**	**+1.4**
	3.5nm,0.9s,mb4.0,baz=33,slow=11,SNR=12						
FITZ	**Fitzroy Crossi**	**30.50**	**246**	*e*P	P	**12 10 47.9**	**+0.7**
	2.2nm,0.6s,mb4.2						
FITZ	**Fitzroy Crossi**	**30.50**	**246**	P	P	**12 10 47.2**	**0.0**
	0.7nm,0.5s,mb3.8,baz=61,slow=20,SNR=5.2						
SONM	**Songino Array**	**69.02**	**327**	P	P	**12 15 38.7**	**-0.3**
	0.5nm,0.4s,mb3.8,baz=137,slow=6.1,SNR=4.5						
MKAR	**Makanchi Array**	**83.08**	**319**	P	P	**12 16 59.9**	**+0.8**
	0.5nm,0.6s,mb3.7,baz=101,slow=6.4,SNR=4.5						
NVAR	**Mina Array Bea**	**91.79**	**52**	P	P	**12 17 41.8**	**+0.3**
	0.2nm,0.5s,mb3.7,baz=250,slow=3.7,SNR=4.5						
YKA	**Yellowknife Ar**	**96.27**	**28**	P	P	**12 18 00.8**	**-0.7**
	0.7nm,0.5s,mb4.4,baz=267,slow=4.6,SNR=24						
BDFB	**Brasilia**	**148.31**	**135**	PKPbc	PKPbc	12 24 19.3	-1.2
	1.3nm,0.4s,baz=146,slow=3.6,SNR=2.7						
TORD	**Torodi Ar. Bea**	**152.72**	**286**	PKPbc	PKPbc	12 24 29.6	-1.6
	0.7nm,0.4s,baz=47,slow=1.5,SNR=20						

*ISCJB **04** 12:16:22.7±1.9,184S±01×17790W±009,h570km±25km, mb3.8/14,Error ellipse: s-maj=16.5km s-min=12.9km az=173.0*
*NEIC **04** 12:16:22.5±2.4,1832S×17779W,h556km±29km,mb4.0/6, Error ellipse: s-maj=17.3km s-min=11.0km az=174.0*
*IDC **04** 12:16:25.3±2.1,1842S×17784W,h589km±26km,mb3.3/11, mb1 3.5/12,mb1mx3.4/19,mbtmp3.3/12,Error ellipse: s-maj=16.3km s-min=11.3km az=154.0*

ISC 04 12:16:24.1±2.2,184S±01×17783W±009,h574km±27km, n33,σ0°63/29,mb3.8/14,2D,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAR	**Rarotonga**	**17.22**	**102**	P	P	**12 19 52.6**	**-1.3**
	0.8nm,0.3s,baz=290,slow=4.1,SNR=3.5						
URZ	**Urewera**	**20.26**	**192**	P	P	**12 20 20.5**	**-0.8**
	9.0nm,1.0s,baz=31,slow=7.7,SNR=9.9						
STKA	**Stephens Creek**	**38.87**	**242**	*e*P	P	**12 23 02.7**	**+1.5**
	2.9nm,1.1s,mb3.7						
STKA	**Stephens Creek**	**38.87**	**242**	P	P	**12 23 01.4**	**+0.2**
	1.3nm,0.5s,mb3.8,baz=63,slow=6.5,SNR=4.4						
WB2	**Warramunga Arr**	**45.07**	**260**	*e*P	P	**12 23 50.0**	**0.0**
WRA	**Warramunga Arr**	**45.08**	**260**	P	P	**12 23 50.2**	**+0.1**
	3.3nm,0.4s,mb4.2,baz=98,slow=6.8,SNR=74						
WRA				PcP	PcP	12 25 18.3	-0.1
	0.9nm,0.4s,baz=93,slow=3.3,SNR=5.9						
WRA				S	S	**12 29 46.7**	**-1.5**
	1.3nm,0.9s,baz=101,slow=12,SNR=5.3						
ASAR	**Alice Springs**	**45.18**	**255**	P	P	**12 23 51.4**	**+0.6**
	6.8nm,0.5s,mb4.4,baz=95,slow=7.3,SNR=95						
ASAR				PcP	PcP	12 25 18.5	-0.3
	1.4nm,0.4s,baz=104,slow=3.7,SNR=9.3						
ASAR				S	S	**12 29 48.6**	**-0.9**
	3.4nm,0.8s,baz=91,slow=14,SNR=9.2						
KAKA	**Kakadu**	**48.12**	**269**	*e*P	P	**12 24 13.3**	**+0.2**
	7.2nm,0.8s,mb4.2						
FORT	**Forrest**	**50.29**	**245**	*e*P	P	**12 24 28.7**	**-0.1**
	8.0nm,0.7s,mb4.3						
FITZ	**Fitzroy Crossi**	**53.49**	**261**	*e*P	P	**12 24 52.3**	**+0.3**
	1.9nm,0.3s,mb3.9						
FITZ	**Fitzroy Crossi**	**53.49**	**261**	P	P	**12 24 52.3**	**+0.3**
	1.1nm,0.3s,mb3.6,baz=82,slow=6.6,SNR=12						
MBWA	**Marble Bar**	**58.48**	**256**	*e*P	P	**12 25 26.2**	**-0.2**
KLBR	**Kellerberrin**	**59.10**	**244**	*e*P	P	**12 25 29.9**	**-0.4**
	4.5nm,0.5s,mb3.9						
VNDA	**Vanda**	**59.99**	**185**	P	P	**12 25 36.5**	**+1.1**
	0.5nm,0.6s,mb3.0,baz=342,slow=6.2,SNR=7.0						
MJAR	**Matsushiro Arr**	**68.63**	**323**	P	P	**12 26 29.9**	**-0.7**
MJAR	**Matsushiro Arr**	**68.63**	**323**	P	P	**12 26 29.9**	**-0.7**
	4.4nm,0.5s,mb4.1,baz=155,slow=6.0,SNR=18						
MAJO	**Matsushiro**	**68.64**	**323**	*e*P	P	**12 26 30.2**	**-0.4**
QSPA	**South Pole Qui**	**71.65**	**180**	*e*P	P	**12 26 48.7**	**+0.9**
	4.6nm,0.9s,mb4.0						
ASAJ	**Asahikawa**	**71.98**	**331**	P	P	**12 26 50.7**	**+0.5**
	2.8nm,0.6s,mb4.0,baz=324,slow=32,SNR=6.6						
KSRS	**Korea Array**	**75.44**	**318**	P	P	**12 27 10.4**	**+0.4**
	0.4nm,0.5s,mb3.2,baz=120,slow=6.3,SNR=4.4						
NVAR	**Mina Array Bea**	**79.41**	**44**	P	P	**12 27 31.4**	**0.0**
NVAR	**Mina Array Bea**	**79.41**	**44**	P	P	**12 27 31.4**	**0.0**
	0.7nm,0.7s,mb3.1,baz=212,slow=6.6,SNR=8.2						
TXAR	**Lajitas Array**	**85.80**	**57**	P	P	**12 28 04.5**	**+0.7**
	1.1nm,0.7s,mb3.6,baz=217,slow=6.2,SNR=12						
SNAA	**Sanae**	**90.08**	**178**	*e*	P	**12 28 22.7**	**-0.3**
SNAA				*e*		12 28 24.7	
SNAA				*e*		12 28 28.5	
VNA3	**Neumayer Olymp**	**90.21**	**176**	*e*	P	**12 28 23.5**	**-0.1**
VNA3				*e*		12 28 25.9	
VNA3				*e*		12 28 28.9	
VNA2	**Neumayer--Watz**	**90.65**	**177**	*e*	P	**12 28 25.9**	**+0.3**
	baz=201,slow=4.5						
VNA2				*e*		12 28 28.0	
VNA2				*e*		12 28 31.0	
VNA1	**Neumayer--Stat**	**90.88**	**177**	*e*	P	**12 28 26.3**	**-0.4**
VNA1				*e*		12 28 27.8	
VNA1				*e*		12 28 31.0	
ARCES	**ARCESS Array B**	**126.90**	**350**	PKP	PKPdf	12 34 20.7	-1.9
	7.2nm,1.1s,baz=321,slow=1.6,SNR=6.8						
AKASG	**Malin Array Be**	**141.26**	**332**	PKhKP		12 34 42.9	
	0.7nm,0.4s,baz=43,slow=4.7,SNR=5.1						
CLL	**Collm**	**146.07**	**348**	*i*P	PKPdf	12 34 59.5	+1.3
CLL	**Collm**	**146.07**	**348**	*i*PKPbc	PKPbc	12 34 59.5	-0.8
	comp=Z,8.0nm,0.8s						
GERES	**GERESS Array B**	**148.24**	**345**	PKPbc	PKPbc	12 35 05.6	-0.4
	comp=Z,1.7nm,0.6s,baz=29,slow=3.0,SNR=6.9						
TORD	**Torodi Ar. Bea**	**174.75**	**175**	PKPab	PKPab	12 37 06.9	-0.5
	comp=Z,0.3nm,0.6s,baz=194,slow=3.3,SNR=3.1						

IDC 04 12:16:36.4±2.2,683S×15503E,h0km,mb3.8/5,mb1 4.0/5, mb1mx3.8/14,mbtmp3.8/5,MS4.3/1,Ms1 4.3/1, ms1mx3.5/20,Error ellipse: s-maj=78.8km s-min=26.7km az=120.0,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WB2	**Warramunga Arr**	**23.93**	**235**	*e*P	P	12 21 52.7	+0.4
WRA	**Warramunga Arr**	**23.94**	**235**	P	P	12 21 52.8	+0.4
	1.7nm,0.5s,baz=58,slow=9.5,SNR=20						
WRA				LR	LR	12 29 28.9	
	comp=Z,670nm,19.7s,baz=335,slow=32						
ASAR	**Alice Springs**	**26.31**	**228**	P	P	12 22 14.1	+0.1
	1.2nm,0.6s,baz=61,slow=8.7,SNR=23						
SONM	**Songino Array**	**69.22**	**327**	P	P	12 27 45.9	+0.9
	0.5nm,0.9s,baz=130,slow=6.3,SNR=2.6						
MKAR	**Makanchi Array**	**83.31**	**319**	P	P	12 29 04.4	-0.8
	0.2nm,0.3s,baz=99,slow=4.5,SNR=3.0						
YKA	**Yellowknife Ar**	**96.18**	**28**	P	P	12 30 06.4	+0.4
	0.4nm,0.9s,baz=267,slow=3.9,SNR=5.5						
TORD	**Torodi Ar. Bea**	**153.02**	**286**	PKPbc	PKPbc	12 36 36.0	-0.9
	0.3nm,0.5s,baz=63,slow=2.2,SNR=3.8						

*IDC **04** 12:17:32.6±0.9,5178N×17932W,h0km,mb3.5/8, mb1 3.9/8,mb1mx3.7/22,mbtmp3.5/8,Error ellipse: s-maj=38.8km s-min=19.8km az=170.0*
*ISCJB **04** 12:17:44.1±0.6,519N±02×179.15W±009,h105km±6km, mb3.4/8,Error ellipse: s-maj=27.6km s-min=6.7km az=168.0*
*NEIC **04** 12:17:46.7,5172N×17908W,h96km,MG3.4(AEIC),After AEIC.*

ISC 04 12:17:45.3±0.5,519N±02×17915W±008,h101km±6km,n14, σ0°75/17,mb3.4/8,Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMKA	**Amchitka**	**1.08**	**245**	P	**Pn**	**12 18 06.7**	**+0.1**
AMKA				S	**Sn**	**12 18 22.6**	**0.0**
ADK	**Adak**	**1.53**	**88**	P	**Pn**	**12 18 11.8**	**-0.1**
ADK				S	**Sn**	**12 18 31.3**	**-0.7**
ATKA	**Atka Island**	**3.08**	**81**	P	**Pn**	**12 18 32.5**	**+0.5**
ATKA				S	**Sn**	**12 19 07.1**	**-1.0**
SMY	**Shemya**	**4.24**	**285**	P	**Pn**	**12 18 48.1**	**+0.4**
UNV	**Unalaska Valle**	**7.91**	**70**	P	**Pn**	**12 19 37.8**	**+0.3**
AKLV	**Akutan Long Va**	**8.29**	**69**	P	**Pn**	**12 19 43.7**	**+1.2**
YKA	**Yellowknife Ar**	**35.07**	**47**	P	P	**12 24 27.6**	**-0.4**
	0.1nm,0.3s,mb3.1,baz=279,slow=9.4,SNR=4.9						
NVAR	**Mina Array Bea**	**43.71**	**83**	P	P	**12 25 41.4**	**+1.3**
	0.4nm,0.6s,mb3.3,baz=292,slow=7.9,SNR=5.7						
SONM	**Songino Array**	**46.25**	**296**	P	P	**12 26 00.2**	**+0.2**
	0.3nm,0.5s,mb3.3,baz=64,slow=9.0,SNR=3.1						
PDAR	**Pinedale Array**	**46.37**	**72**	P	P	**12 26 01.1**	**0.0**
	0.6nm,0.5s,mb3.6,baz=316,slow=3.5,SNR=6.3						
TXAR	**Lajitas Array**	**58.80**	**81**	P	P	**12 27 33.1**	**+0.3**
	0.4nm,0.6s,mb3.6,baz=283,slow=5.1,SNR=5.9						
MKAR	**Makanchi Array**	**59.58**	**308**	P	P	**12 27 35.8**	**-2.1**
	0.2nm,0.5s,mb3.4,baz=38,slow=9.9,SNR=2.9						
WRA	**Warramunga Arr**	**82.20**	**224**	P	P	**12 29 54.3**	**-0.7**
	0.4nm,0.4s,mb3.6,baz=32,slow=6.0,SNR=7.8						
ASAR	**Alice Springs**	**85.69**	**222**	P	P	**12 30 12.8**	**+0.2**
	0.4nm,0.7s,mb3.5,baz=20,slow=5.9,SNR=4.4						

IDC 04 12:18:31.1±3.1,790S×15668E,h0km,mb3.9/3,mb1 3.9/4, mb1mx3.7/15,mbtmp3.9/4,ML4.1/1,Error ellipse: s-maj=161.5km s-min=27.1km az=31.0,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**3.57**	**116**	Pn	Pn	12 19 28.1	+0.4
	15nm,0.3s,baz=264,slow=9.2,SNR=6.9						
HNR				Sn	Sn	12 20 11.8	+1.2
	26nm,0.3s,baz=278,slow=12,SNR=3.6						
SONM	**Songino Array**	**71.00**	**327**	P	P	12 29 51.6	+1.0
	1.4nm,0.7s,baz=144,slow=6.8,SNR=10.0						
MKAR	**Makanchi Array**	**85.19**	**318**	P	P	12 31 08.7	-0.6
	0.3nm,0.4s,baz=98,slow=5.0,SNR=2.3						
YKA	**Yellowknife Ar**	**96.35**	**28**	P	P	12 32 00.7	-0.7
	0.2nm,0.7s,baz=277,slow=5.6,SNR=3.8						

*NEIC **04** 12:24:47.4,3272S×7178W,h26km,ML2.9(GUC),After GUC.*

GUC 04 12:24:47.4±0.8,3272S×7178W,h26km±5km,MD3.7, ML2.9,2C-3D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PACH	**Papudo**	**0.34**	**58**	*i*P	Pb	12 24 55.4

*TEH **04** 12:41:05.9, 3306N×4861E, h21km, ML3.7*
*ISCJB **04** 12:41:33.6±0.4, 3344N±003×4897E±005, h10km, Error ellipse: s-maj=6.8km s-min=3.3km az=34.0*
*THR **04** 12:41:33.9±2.2, 3373N×4893E, h14km±14km, ML3.9*
*SGS **04** 12:41:35.6, 3352N×4912E, h28km*
*KISR **04** 12:41:36.6±1.0, 3316N×4948E, h32km±762km, ML3.0*
*CSEM **04** 12:41:36.7±0.1, 3322N×4943E, h20km, ML3.7, Error ellipse: s-maj=4.3km s-min=2.1km az=136.0*

ISC 04 12:41:34.9±0.5, 3349N±004×4896E±006, h10km, n40, σ1§18/56, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAO	**Ashtian**	**1.38**	**40**	*e*Pg	**Pn**	**12 41 55.9**	**-4.2**
ASAO				*e*Sg	**Sn**	**12 42 12.9**	**-5.5**
ASAO				AML	AML	12 42 16.4	
	comp=N,795nm,0.5s						
ASAO				AML	AML	12 42 17.2	
	comp=E,810nm,0.5s						
IKOM	**Komasi**	**1.39**	**300**	*e*Sn	**Sn**	**12 42 13.8**	**-4.9**
IKOM				*e*		12 42 21.9	
	comp=Z,12μm,0.3s						
SHGR	**Shooshtar-Gavs**	**1.39**	**186**	*e*Pg	**Pg**	**12 42 02.8**	**+1.3**
SHGR				*e*Sg	**Sg**	**12 42 25.6**	**+6.2**
SHGR				AML	AML	12 42 29.1	
	comp=N,707nm,0.4s						
SHGR				AML	AML	12 42 29.8	
	comp=E,1μm,0.6s						
IPIR	**Pirpir**	**1.81**	**116**	*e*Pn	**Pn**	**12 42 02.1**	**-4.0**
IPIR				*e*		12 42 41.1	
	comp=Z,4μm,0.2s						
IVIS	**Veis**	**2.03**	**301**	*e*Pn	**Pn**	**12 42 07.9**	**-1.3**
IVIS				*e*		12 42 09.1	
	comp=Z,6μm,0.2s						
IRAZ	**Razeghan**	**2.07**	**22**	*e*	**Sg**	**12 42 51.9**	**+10**
	comp=Z,4μm,0.3s						
SNGE	**Sanandaj**	**2.08**	**321**	*e*Pg	**Pn**	**12 42 08.2**	**-1.7**
IGHG	**Ghaleghazi**	**2.16**	**293**	*e*	**Sg**	**12 42 58.9**	**+15**
	comp=Z,7μm,0.5s						
GHVR	**GHOM**	**2.18**	**62**	*e*Pg	**Pn**	**12 42 11.1**	**-0.1**
GHVR				AML	AML	12 42 44.6	
	comp=E,3μm,0.5s						
GHVR				AML	AML	12 42 45.7	
	comp=N,3μm,0.6s						
IKLH	**Kolahrood**	**2.20**	**94**	*e*	**Sg**	**12 42 50.0**	**+4.5**
	comp=Z,2μm,0.2s						
IMHD	**Mahdasht**	**2.60**	**32**	*e*Pn	**Pn**	**12 42 17.5**	**+0.5**
IMHD				*e*		12 42 54.1	
	comp=Z,2μm,0.2s						
ISFB	**Sefidab**	**2.86**	**72**	*e*Pn	**Pn**	**12 42 21.6**	**+1.1**
ISFB				*e*		12 43 04.1	
	comp=Z,1μm,0.2s						
IZEF	**Zefreh**	**2.88**	**101**	*e*Pn	**Pn**	**12 42 18.4**	**-2.5**
IZEF				*e*Sn	**Sn**	**12 42 54.2**	**-1.5**
IZEF				*e*		12 43 08.1	
	comp=Z,776nm,0.2s						
IGAR	**Gharneh**	**2.99**	**114**	*e*Pn	**Pn**	**12 42 16.1**	**-6.3**
IGAR				*e*Sn	**Sn**	**12 42 49.8**	**-8.5**
IGAR				*e*		12 43 08.2	
	comp=Z,1μm,0.2s						
CHTH	**Charan**	**3.00**	**36**	*e*Pn	**Pn**	**12 42 21.8**	**-0.7**
IAFJ	**Afjeh**	**3.27**	**43**	*e*	**Sg**	**12 43 28.0**	**+8.0**
	comp=Z,1μm,0.2s						
DAMV	**Damavand**	**3.27**	**48**	*e*Pn	**Pn**	**12 42 26.4**	**+0.1**
IDMV	**Damavand**	**3.28**	**50**	*e*Pn	**Pn**	**12 42 27.0**	**+0.6**
IDMV				*e*Sn	**Sn**	**12 43 09.5**	**+4.1**
IDMV				*e*		12 43 33.6	
	comp=Z,1μm,0.4s						
NASN	**Na'in**	**3.30**	**101**	*e*Pn	**Pn**	**12 42 28.6**	**+1.9**
IFIR	**Firoozkooh**	**3.79**	**54**	*e*Pn	**Pn**	**12 42 34.0**	**+0.6**
IFIR				*e*		12 43 36.1	
	comp=Z,707nm,0.1s						
BHD	**Baghdad**	**3.84**	**268**	*e*x	x	12 42 40.0	
BHD				*e*x	x	12 43 24.0	
MIB	**Mutribah**	**3.93**	**201**	*e*P	**Pn**	**12 42 37.3**	**+2.0**
MIB				*e*S	**Sn**	**12 43 21.6**	**+0.2**
MIB				AML	AML	12 43 25.8	
	comp=Z,16nm,0.4s						
MIB	**Mutribah**	**3.93**	**201**	*e*P	**Pn**	**12 42 37.3**	**+2.0**
MIB				*e*S	**Sn**	**12 43 21.6**	**+0.2**
	comp=Z,16nm,0.4s						
UMR	**Umm Al-Rimmam**	**4.07**	**195**	*e*P	**Pn**	**12 42 37.9**	**+0.7**
UMR				*e*S	**Sn**	**12 43 24.1**	**-0.7**
UMR				AML	AML	12 43 26.2	
	comp=Z,26nm,0.3s						
UMR	**Umm Al-Rimmam**	**4.07**	**195**	*e*P	**Pn**	**12 42 37.9**	**+0.7**
UMR				*e*S	**Sn**	**12 43 24.1**	**-0.8**
	comp=Z,26nm,0.3s						
RST	**Umm Al-Ruwaisa**	**4.32**	**203**	*e*P	**Pn**	**12 42 42.1**	**+1.4**
RST				*e*S	**Sn**	**12 43 32.1**	**+1.1**
KBD	**Kabd**	**4.44**	**194**	*e*P	**Pn**	**12 42 43.1**	**+0.8**
KBD				*e*S	**Sn**	**12 43 33.3**	**-0.7**
KBD				AML	AML	12 43 37.8	
	comp=Z,51nm,0.3s						
KBD	**Kabd**	**4.44**	**194**	*e*P	**Pn**	**12 42 43.1**	**+0.8**
KBD				*e*S	**Sn**	**12 43 33.3**	**-0.6**
NAY	**Al-Naaiem**	**4.48**	**200**	*e*P	**Pn**	**12 42 44.0**	**+1.2**
NAY				*e*S	**Sn**	**12 43 35.1**	**+0.1**
NAY				AML	AML	12 43 36.1	
	comp=Z,6.2nm,0.6s						
NAY	**Al-Naaiem**	**4.48**	**200**	*e*P	**Pn**	**12 42 44.0**	**+1.2**
NAY				*e*S	**Sn**	**12 43 35.1**	**+0.2**
RDF	**Al-Radifah**	**4.71**	**195**	*e*P	**Pn**	**12 42 46.9**	**+0.9**
RDF				*e*S	**Sn**	**12 43 39.3**	**-1.4**
RDF				AML	AML	12 43 41.5	
	comp=Z,20nm,0.4s						
RDF	**Al-Radifah**	**4.71**	**195**	*e*P	**Pn**	**12 42 46.9**	**+0.9**
RDF				*e*S	**Sn**	**12 43 39.3**	**-1.4**
QRN	**Al-Qurain**	**4.81**	**191**	*e*P	**Pn**	**12 42 48.1**	**+0.7**
QRN				*e*S	**Sn**	**12 43 41.1**	**-2.2**
QRN				AML	AML	12 43 42.2	
	comp=Z,12nm,0.3s						
KFJS		**5.36**	**190**	P	**Pn**	**12 42 55.2**	**+0.3**
ASYS		**7.17**	**215**	S	**Sn**	**12 44 36.7**	**-4.7**
ASYS		**7.17**	**215**	P	**Pn**	**12 43 19.1**	**-0.8**
HRDDS		**10.53**	**177**	S	**Sn**	**12 45 57.9**	**-6.1**
HRDDS		**10.53**	**177**	P	**Pn**	**12 44 04.8**	**-1.2**
LYLS		**11.51**	**188**	S	**Sn**	**12 46 22.0**	**-5.9**
LYLS		**11.51**	**188**	P	**Pn**	**12 44 17.8**	**-1.6**

IDC 04 12:43:51.9±1.3, 2129S×16967E, h0km, mb3.9/5, mb1 4.0/6, mb1mx3.8/15, mbtmp3.8/6, ML3.3/1, Error ellipse: s-maj=38.1km s-min=27.6km az=165.0, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.10**	**255**	Pn	Pn	12 44 42.9	+0.9
	4.1nm,0.3s,baz=84,slow=18,SNR=9.1						
DZM				Sn	Sn	12 45 19.6	-0.1
	2.8nm,0.3s,baz=95,slow=22,SNR=3.6						
STKA	**Stephens Creek**	**27.15**	**241**	P	P	12 49 37.2	+0.3
	1.2nm,0.7s,baz=64,slow=7.8,SNR=3.9						
WRA	**Warramunga Arr**	**33.05**	**266**	P	P	12 50 29.0	-0.4
	2.0nm,1.1s,baz=94,slow=8.1,SNR=9.2						
ASAR	**Alice Springs**	**33.08**	**259**	P	P	12 50 29.4	-0.2
	2.2nm,0.8s,baz=79,slow=8.8,SNR=7.1						
QSPA	**South Pole Qui**	**68.77**	**180**	P	P	12 54 57.8	+0.6
	2.8nm,1.1s,baz=210,slow=2.0,SNR=3.3						
SONM	**Songino Array**	**89.09**	**323**	P	P	12 56 50.0	+1.1
	0.4nm,0.7s,baz=123,slow=5.3,SNR=3.4						
ARCES	**ARCESS Array B**	**127.15**	**345**	PKP	PKPdf	13 02 55.8	-1.6
	7.4nm,1.1s,baz=78,slow=2.2,SNR=4.0						
GERES	**GERESS Array B**	**146.48**	**331**	PKPbc	PKPbc	13 03 34.7	-0.2
	1.4nm,0.7s,baz=62,slow=3.6,SNR=6.5						

*ISCJB **04** 12:49:51.4±5.2, 2105S×1688E±0.1, h12km±32km, mb4.1/9, Error ellipse: s-maj=25.4km s-min=12.7km az=154.5*
*IDC **04** 12:49:51.1±0.9, 2108S×1688E, h0km, mb4.2/9, mb1 4.3/10, mb1mx4.2/17, mbtmp4.2/10, ML4.0/1, Error ellipse: s-maj=28.9km s-min=19.4km az=148.0*
*NEIC **04** 12:49:52.6±0.6, 2106S×1688E, h10km, Error ellipse: s-maj=19.2km s-min=12.9km az=147.0*

ISC 04 12:49:52.7±6.3, 211S±01×1688E±01, h10km±39km, h10km±1.8km: pP-P, n17, σ0§55/16, mb4.1/9, Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**2.43**	**245**	Pn	**Pn**	**12 50 32.5**	**0.0**
	32nm,0.3s,baz=65,slow=15,SNR=95						
DZM				Sn	**Sn**	**12 51 02.4**	**+0.1**
	130nm,0.3s,baz=79,slow=23,SNR=11						
STKA	**Stephens Creek**	**26.58**	**240**	P	**P**	**12 55 32.3**	**+1.2**
	3.2nm,0.9s,mb3.9,baz=92,slow=10,SNR=6.2						
WRA	**Warramunga Arr**	**32.28**	**266**	P	**P**	**12 56 21.0**	**-1.0**
	0.7nm,0.5s,mb3.8,baz=92,slow=8.5,SNR=23						
ASAR	**Alice Springs**	**32.35**	**259**	P	**P**	**12 56 22.1**	**-0.4**
	2.1nm,0.7s,mb4.1,baz=90,slow=9.2,SNR=24						
FITZ	**Fitzroy Crossi**	**40.70**	**266**	P	**P**	**12 57 34.0**	**+0.1**
	2.9nm,0.6s,mb4.1,baz=114,slow=9.5,SNR=9.9						
MJAR	**Matsushiro Arr**	**64.18**	**333**	P	**P**	**13 00 27.4**	**-0.2**
	1.0nm,0.5s,mb4.1,baz=104,slow=2.0,SNR=5.0						
QSPA	**South Pole Qui**	**69.00**	**180**	P	**P**	**13 00 58.3**	**+0.5**
QSPA	**South Pole Qui**	**69.00**	**180**	P	**P**	**13 00 58.3**	**+0.5**
	3.7nm,1.0s,mb4.3,baz=344,slow=1.9,SNR=6.0						
SNAA	**Sanae**	**87.33**	**183**	*e*	**P**	**13 02 39.3**	**-0.2**
SNAA				*e*	pP	13 02 42.3	-0.4
SNAA				*e*		13 02 44.6	
SNAA	**Sanae**	**87.33**	**183**	P	**P**	**13 02 38.8**	**-0.7**
	0.7nm,0.8s,mb3.9,baz=203,slow=11,SNR=3.7						
VNA3	**Neumayer Olymp**	**87.94**	**180**	*e*	**P**	**13 02 41.9**	**-0.5**
VNA3				*e*	pP	13 02 44.7	-0.9
VNA3				*e*		13 02 46.8	
VNA3				*e*		13 02 56.2	
VNA2	**Neumayer--Watz**	**88.22**	**181**	*e*	**P**	**13 02 43.6**	**-0.2**
	baz=185,slow=5.2						
VNA2				*e*	pP	13 02 46.3	-0.7
VNA2				*e*	pP	13 02 48.2	+1.2
VNA2				*e*		13 02 56.4	
SONM	**Songino Array**	**88.44**	**323**	P	**P**	**13 02 45.7**	**+0.7**
	2.5nm,0.9s,mb4.5,baz=142,slow=4.9,SNR=12						
NVAR	**Mina Array Bea**	**90.30**	**49**	P	**P**	**13 02 54.2**	**+0.2**
NVAR	**Mina Array Bea**	**90.30**	**49**	P	**P**	**13 02 54.2**	**+0.2**
	1.3nm,0.8s,mb4.3,baz=213,slow=6.0,SNR=12						
YKA	**Yellowknife Ar**	**102.46**	**28**	P	Pdif	13 03 48.9	-0.2
	0.3nm,0.6s,baz=258,slow=4.8,SNR=5.4						
GERES	**GERESS Array B**	**145.89**	**330**	PKPbc	PKPbc	13 09 32.1	-0.2
	1.8nm,0.7s,baz=357,slow=2.7,SNR=10						

IDC 04 12:51:54.2±3.0, 781S×15578E, h0km, mb4.0/4, mb1 4.1/4, mb1mx3.8/14, mbtmp3.9/4, Error ellipse: s-maj=108.9km s-min=36.9km az=130.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.02**	**238**	P	P	12 57 11.1	+0.1
	2.5nm,0.7s,baz=63,slow=10.0,SNR=11						
MKAR	**Makanchi Array**	**84.52**	**319**	P	P	13 04 29.8	+0.6
	0.8nm,0.7s,baz=101,slow=6.5,SNR=6.6						
ZALV	**Zalesovo Beam**	**85.28**	**326**	P	P	13 04 32.4	-0.4
	0.5nm,0.5s,baz=120,slow=8.6,SNR=2.9						
YKA	**Yellowknife Ar**	**96.69**	**28**	P	P	13 05 26.0	-0.2
	0.1nm,0.5s,baz=265,slow=4.5,SNR=4.4						

*ISCJB **04** 12:53:50.1±4.2, 596S±02×283W±02, h247km±45km, mb4.0/10, Error ellipse: s-maj=25.5km s-min=16.4km az=7.5*
*NEIC **04** 12:53:53.7±2.3, 5960S×2832W, h274km±23km, Error ellipse: s-maj=13.1km s-min=9.6km az=190.0*
*IDC **04** 12:53:53.2±3.6, 5958S×2831W, h266km±36km, mb3.6/9, mb1 3.7/9, mb1mx3.5/18, mbtmp3.6/9, Error ellipse: s-maj=16.1km s-min=13.3km az=176.0*

ISC 04 12:53:51.1±4.2, 596S±02×283W±02, h243km±45km, n17, σ0§72/11, mb4.0/10, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNAA	**Sanae**	**15.83**	**150**	P	**Pn**	**12 57 20.5**	**-0.5**
	0.0nm,0.3s,baz=298,slow=15,SNR=3.1						
SNAA				PcP	PcP	13 02 02.5	-0.1
	0.1nm,0.3s,baz=270,slow=10,SNR=5.2						
USHA	**Ushuaia**	**22.00**	**265**	P	**P**	**12 58 25.6**	**+0.3**
	9.2nm,0.6s,mb4.5,baz=91,slow=12,SNR=7.0						
QSPA	**South Pole Qui**	**30.64**	**180**	P	**P**	**12 59 43.4**	**+1.2**
	0.8nm,0.6s,mb3.5,baz=168,slow=4.3,SNR=13						
QSPA				PcP	PcP	13 02 33.3	-0.2
	0.5nm,0.6s,baz=122,slow=9.5,SNR=3.0						
PLCA	**Paso Flores**	**32.26**	**287**	P	**P**	**12 59 55.8**	**-1.0**
	1.7nm,0.8s,mb3.6,baz=190,slow=7.3,SNR=5.2						
SUR	**Sutherland**	**42.21**	**72**	P	**P**	**13 01 21.2**	**+1.1**
	1.7nm,0.4s,mb3.8,baz=174,slow=7.9,SNR=4.9						
BOSA	**Boshof**	**47.47**	**74**	P	**P**	**13 02 01.1**	**-0.3**
	2.4nm,0.5s,mb3.8,baz=217,slow=10,SNR=6.5						
LBTB	**Lobatse**	**50.65**	**71**	P	**P**	**13 02 25.2**	**-0.3**
	3.7nm,0.5s,mb4.1,baz=192,slow=5.8,SNR=10						
LPAZ	**La Paz**	**52.05**	**309**	P	**P**	**13 02 36.7**	**+0.7**
	1.0nm,0.4s,mb3.6,baz=113,slow=7.4,SNR=9.7						
DBIC	**Dimbokro**	**68.64**	**25**	P	**P**	**13 04 27.6**	**-0.3**
	4.7nm,0.5s,mb4.4,baz=191,slow=6.7,SNR=9.4						
TORD	**Torodi Ar. Bea**	**76.43**	**30**	P	**P**	**13 05 13.9**	**+0.2**
	11nm,0.5s,mb4.8,baz=198,slow=6.3,SNR=129						
ASAR	**Alice Springs**	**95.76**	**164**	P	**P**	**13 06 48.4**	**-1.0**
	0.5nm,0.8s,mb3.8,baz=181,slow=3.8,SNR=8.2						
FINES	**FINESS Array B**	**127.78**	**30**	PKP	PKPdf	13 12 25.0	-0.9
FINES	**FINESS Array B**	**127.78**	**30**	PKP	PKPdf	13 12 25.0	-0.9
	0.9nm,0.6s,baz=132,slow=2.8,SNR=5.0						
ARCES	**ARCESS Array B**	**134.45**	**23**	PKP	PKPdf	13 12 37.4	-1.0
	5.7nm,1.0s,baz=210,slow=3.0,SNR=10						
YKA	**Yellowknife Ar**	**138.37**	**316**	PKP	PKPdf	13 12 44.6	-1.1
	0.3nm,0.3s,baz=138,slow=2.0,SNR=9.6						
ZALV	**Zalesovo Beam**	**144.33**	**69**	PKP	PKPdf	13 12 54.5	-2.2
	4.2nm,0.6s,baz=260,slow=3.6,SNR=18						
SONM	**Songino Array**	**151.30**	**94**	PKPbc	PKPbc	13 13 13.9	-0.6
	1.4nm,0.4s,baz=215,slow=3.3,SNR=11						
SONM				PKPab	PKPab	13 13 23.0	-0.8
	0.2nm,0.4s,baz=216,slow=5.3,SNR=3.5						

IDC 04 13:04:58.4±1.2, 681S×15481E, h0km, mb3.7/7, mb1 3.9/7, mb1mx3.8/14, mbtmp3.7/7, Error ellipse: s-maj=48.5km s-min=22.1km az=118.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.77**	**235**	P	P	13 10 13.4	+0.5
	2.0nm,0.8s,baz=58,slow=9.7,SNR=20						
ASAR	**Alice Springs**	**26.15**	**228**	P	P	13 10 33.9	-0.7
	0.4nm,0.6s,baz=60,slow=9.0,SNR=9.9						
STKA	**Stephens Creek**	**27.82**	**205**	P	P	13 10 50.0	+0.5
	1.2nm,0.9s,baz=58,slow=12,SNR=2.3						
SONM	**Songino Array**	**69.08**	**327**	P	P	13 16 06.6	+0.4
	0.5nm,0.9s,baz=106,slow=5.1,SNR=2.4						
MKAR	**Makanchi Array**	**83.14**	**319**	P	P	13 17 26.7	+0.4
	0.3nm,0.7s,baz=98,slow=6.6,SNR=3.1						
NVAR	**Mina Array Bea**	**91.75**	**52**	P	P	13 18 09.0	+0.6
	0.3nm,0.8s,baz=263,slow=4.5,SNR=3.8						
YKA	**Yellowknife Ar**	**96.26**	**28**	P	P	13 18 27.9	-0.5
	0.4nm,0.6s,baz=268,slow=4.8,SNR=6.9						
TORD	**Torodi Ar. Bea**	**152.80**	**285**	PKPbc	PKPbc	13 24 57.9	-0.6
	0.5nm,0.7s,baz=94,slow=1.9,SNR=3.8						

*SZGRF **04** 13:05:32.4, 2370S×1694OE, h33km, Southeast of Loyalty Islands*
*IDC **04** 13:05:35.3±0.9, 2066S×16887E, h0km, mb4.3/11, mb1 4.5/13, mb1mx4.4/17, mbtmp4.3/13, ML4.0/2, MS4.2/3, Ms1 4.2/3, ms1mx3.9/28, Error ellipse: s-maj=23.2km s-min=20.0km az=113.0*
*BJI **04** 13:05:35.5, 2059S×16886E, h11km, mB5.1, mb4.6*
*NEIC **04** 13:05:36.8±0.5, 2064S×16888E, h10km, mb4.9/9, Error ellipse: s-maj=13.9km s-min=10.7km az=138.0*
*ISCJB **04** 13:05:38.6±0.4, 2071S±007×16882E±007, h33km, mb4.5/25, MS4.7/2, Error ellipse: s-maj=10.9km s-min=7.9km az=43.8*
*MOS **04** 13:05:38.6±1.7, 2069S×16885E, h33km, mb4.7/8, Error ellipse: s-maj=16.1km s-min=14.4km az=28.0*

ISC 04 13:05:40.5±0.4, 2073S±007×16884E±007, h35km, (h21km±5.2km: pP-P), n66, σ1§12/50, mb4.5/25, MS4.7/2, 1C, Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**2.60**	**239**	Pn	**Pn**	**13 06 18.0**	**-2.1**
	35nm,0.3s,baz=90,slow=15,SNR=20						
DZM				Sn	**Sn**	**13 06 49.8**	**-0.7**
	78nm,0.3s,baz=51,slow=18,SNR=7.5						
HNR	**Honiara**	**14.13**	**321**	LR	LR	13 12 53.1	
	comp=Z,671nm,19.1s,baz=176,slow=31						
URZ	**Urewera**	**18.88**	**160**	P	**Pn**	**13 09 59.4**	**+0.8**
	0.3nm,0.3s,baz=27,slow=3.7,SNR=5.6						
URZ				LR	LR	13 15 14.1	
	comp=Z,521nm,18.4s,baz=24,slow=31						
CTA	**Charters Tower**	**21.18**	**268**	P	**P**	**13 10 24.4**	**+1.4**
CTA	**Charters Tower**	**21.18**	**268**	P	**P**	**13 10 24.4**	**+1.4**
	6.3nm,1.0s,mb3.9,baz=233,slow=13,SNR=3.4						
CTAO	**Charters Tower**	**21.18**	**268**	*e*P	**P**	**13 10 23.2**	**+0.2**
	45nm,1.1s,mb4.7						
CTAO	**Charters Tower**	**21.18**	**268**	*e*P	**P**	**13 10 23.2**	**+0.2**
CTAO				pmax	pmax		
	comp=Z,45nm,1.1s,mb4.7						
CNB	**Canberra Magne**	**22.45**	**226**	*e*P	**P**	**13 10 39.8**	**+3.3**
	comp=Z,50nm,1.0s,mb4.9						
RPZ	**Rata Peaks**	**23.00**	**176**	LR	LR	13 18 48.7	
	comp=Z,830nm,18.4s,MS4.2,baz=277,slow=34						
STKA	**Stephens Creek**	**26.76**	**240**	*e*P	**P**	**13 11 18.1**	**+1.1**
	comp=Z,8.1nm,0.9s,mb4.2						
STKA				*e*P		13 11 18.7	
STKA	**Stephens Creek**	**26.76**	**240**	P	**P**	**13 11 17.9**	**+0.9**
	comp=Z,8.4nm,0.8s,mb4.3,baz=68,slow=8.9,SNR=16						
WB2	**Warramunga Arr**	**32.31**	**265**	*e*P	**P**	**13 12 05.7**	**-0.8**
WRA	**Warramunga Arr**	**32.33**	**265**	P	**P**	**13 12 05.6**	**-1.0**
	comp=Z,4.2nm,0.8s,mb4.3,baz=91,slow=8.6,SNR=15						
ASAR	**Alice Springs**	**32.43**	**258**	P	**P**	**13 12 07.2**	**-0.3**
	comp=Z,5.0nm,0.7s,mb4.5,baz=83,slow=8.8,SNR=38						
ASAR				PcP	PcP	13 14 54.0	-0.4
	comp=Z,2.4nm,0.9s,baz=101,slow=3.7,SNR=4.7						
FITZ	**Fitzroy Crossi**	**40.74**	**266**	*e*P	**P**	**13 13 19.0**	**+0.7**
	comp=Z,18nm,0.9s,mb4.7						
FITZ	**Fitzroy Crossi**	**40.74**	**266**	*e*P	**P**	**13 13 18.6**	**+0.2**
FITZ				*e*P		13 13 19.0	
FITZ	**Fitzroy Crossi**	**40.74**	**266**	P	**P**	**13 13 18.9**	**+0.5**
	comp=Z,8.1nm,0.8s,mb4.4,baz=106,slow=10.0,SNR=13						
MBWA	**Marble Bar**	**45.72**	**260**	*e*P	**P**	**13 13 59.1**	**+0.6**
	comp=Z,18nm,1.0s,mb5.0						
KLBR	**Kellerberrin**	**46.75**	**246**	*e*P	**P**	**13 14 06.1**	**-0.4**
	comp=Z,19nm,1.0s,mb5.0						
NWAO	**Narrogin (SRO)**	**47.21**	**244**	*e*P	**P**	**13 14 10.0**	**-0.1**
VNDA	**Vanda**	**56.94**	**182**	P	**P**	**13 15 21.7**	**-0.1**
VNDA				*e*P		13 15 22.0	
VNDA	**Vanda**	**56.94**	**182**	P	**P**	**13 15 21.7**	**-0.1**
	comp=Z,1.4nm,0.9s,mb4.0,baz=14,slow=6.8,SNR=4.6						
MJAR	**Matsushiro Arr**	**63.89**	**333**	P	**P**	**13 16 09.0**	**-0.7**
	comp=Z,1.1nm,0.7s,mb4.0,baz=124,slow=6.6,SNR=3.6						
QSPA	**South Pole Qui**	**69.33**	**180**	*e*P	**P**	**13 16 44.6**	**+0.7**
	comp=Z,18nm,1.1s,mb4.9						
KSRS	**Korea Array**	**69.52**	**326**	P	**P**	**13 16 46.6**	**+1.0**
	comp=Z,1.4nm,0.9s,mb3.9,baz=148,slow=7.2,SNR=3.4						
NJ2	**Nanjing**	**71.02**	**317**	*e*P	**P**	**13 16 56.1**	**+1.2**
NJ2				AMB	AMB		
	comp=Z,20nm,0.6s,mb5.2						
YSS	**Yuzh-Sakhalins**	**71.36**	**341**	*e*P	**P**	**13 16 58.1**	**+1.5**
	comp=Z,10nm,0.8s,mb4.8						
YSS	**Yuzh-Sakhalins**	**71.36**	**341⇑**	*e*P	**P**	**13 16 57.5**	**+0.9**
YSS				pmax	pmax		
	comp=Z,20nm,1.0s,mb5.0						
YSS				MLR	MLR		
	comp=N,500nm,18.0s,MS5.1						
YSS				MLR	MLR		
	comp=E,700nm,18.0s,MS5.1						
YSS				MLR	MLR		
	comp=Z,1μm,18.0s,MS5.2						
HABR	**Khabarovsk**	**75.22**	**337**	*e*P	**P**	**13 17 18.9**	**-0.5**
MAW	**Mawson**	**76.92**	**202**	P	**P**	**13 17 30.0**	**+1.1**
	comp=Z,8.4nm,0.9s,mb4.7,baz=104,slow=4.5,SNR=6.2						
CHTO	**Chiang Mai**	**78.93**	**295**	*e*P	**P**	**13 17 42.9**	**+2.0**
	comp=Z,9.3nm,1.1s,mb4.6						
CHTO	**Chiang Mai**	**78.93**	**295**	*e*P	**P**	**13 17 42.9**	**+2.0**
CHTO				pmax	pmax		
	comp=Z,9.0nm,1.1s,mb4.6						
LZH	**Lanzhou**	**83.44**	**312**	*e*P	**P**	**13 18 07.2**	**+2.7**
LZH				AP	pP	13 18 11.5	-4.1
LZH				XP	sP	13 18 13.4	-6.2
LZH				AMB	AMB		
	comp=Z,15nm,1.3s,mb4.9						
LZH				AMB	AMB		
	comp=Z,68nm,4.1s						
LZH	**Lanzhou**	**83.44**	**312**	*e*P	**P**	**13 18 07.2**	**+2.7**
	comp=Z,15nm,1.3s,mb4.9						
LZH				pP	pP	13 18 11.5	-4.1
LZH				sP	sP	13 18 13.4	-6.2
SEY	**Seymchan**	**84.39**	**353**	*e*P	**P**	**13 18 06.7**	**-2.0**
SNAA	**Sanae**	**87.67**	**183**	*e*P	**P**	**13 18 24.8**	**-0.2**
SNAA				*e*	pP	13 18 32.9	-3.2
SNAA				*e*		13 18 53.6	
SNAA	**Sanae**	**87.67**	**183**	*e*P	**P**	**13 18 22.9**	**-2.1**
ULN	**Ulaanbaatar**	**87.83**	**324**	*e*P	**P**	**13 18 25.0**	**-1.0**
GTA	**Gaotai**	**87.87**	**314**	*e*P	**P**	**13 18 27.8**	**+1.4**
GTA				AP	pP	13 18 31.8	-5.8
GTA				XP	sP	13 18 35.2	-6.4
GTA				AMB	AMB		
	comp=Z,5.0nm,1.2s,mb4.6						
YAK	**Yakutsk**	**88

QRN AMb AMB 13 10 10.4
comp=Z,117nm,1.0s
RDF Al-Radifah 16.63 332 *e*P **Pn 13 10 01.9 -5.2**
RDF AMb AMB 13 10 09.8
comp=Z,117nm,0.9s
RDF Al-Radifah 16.63 332 *e*P **Pn 13 10 02.4 -4.7**
RDF AMb AMB 13 10 09.4
comp=Z,115nm,0.9s
KBD Kabd 16.78 333 *e*P **Pn 13 10 04.2 -4.7**
KBD AMb AMB 13 10 20.8
comp=Z,304nm,0.9s
NAY Al-Naaiem 17.05 332 *e*P **Pn 13 10 04.3 -8.0**
NAY AMb AMB 13 10 13.3
comp=Z,9.0nm,1.1s
NAY Al-Naaiem 17.05 332 *e*P **Pn 13 10 06.0 -6.3**
NAY AMb AMB 13 10 23.6
comp=Z,15nm,1.4s
RST Umm Al-Ruwaisa 17.38 332 *e*P **Pn 13 10 08.9 -7.5**
RST AMb AMB 13 10 17.2
comp=Z,27nm,0.7s
HYB Hyderabad 21.51 79 *i*P **P 13 11 04.0 +0.9**
KBL Kabul 23.09 27 *e*P **P 13 11 20.5 +0.8**
comp=Z,17nm,1.0s,mb4.4
KBL Kabul 23.09 27 *e*P **P 13 11 20.5 +0.8**
comp=Z,17nm,1.0s,mb4.4
KMBO Kilima Mbogo 24.43 232 P **P 13 11 33.1 +0.3**
comp=Z,1.4nm,0.7s,mb3.5,baz=38,slow=16,SNR=6.9
EIL Elat 24.97 311 P **P 13 11 38.0 +0.4**
EIL Elat 24.97 311 P **P 13 11 38.0 +0.4**
comp=Z,3.4nm,0.6s,mb4.0,baz=75,slow=7.0,SNR=4.3
ASF Jabal al Asfar 25.11 318 P **P 13 11 39.4 +0.5**
comp=Z,3.9nm,0.8s,mb4.0,baz=6.9,slow=2.8,SNR=5.0
MMAI Mount Meron Ar 26.62 318 P **P 13 11 53.9 +1.4**
comp=Z,0.7nm,0.3s,mb3.6,baz=100,slow=19,SNR=6.1
MALT Malatya 28.66 330 *e*P **P 13 12 12.6 +1.9**
comp=Z,9.5nm,1.0s,mb4.5
MALT Malatya 28.66 330 *i*P **P 13 12 13.1 +2.4**
MALT Malatya 28.66 330 *e*P **P 13 12 12.6 +1.9**
comp=Z,9.5nm,1.0s,mb4.5
UCH Uchtor 31.86 26 *e*P **P 13 12 40.8 +1.8**
UCH Uchtor 31.86 26 *e*P **P 13 12 40.8 +1.9**
EKS2 Erkin-Say 31.91 25 *e*P **P 13 12 42.0 +2.6**
comp=Z,4.8nm,0.8s,mb4.4
EKS2 Erkin-Say 31.91 25 *e*P **P 13 12 42.0 +2.6**
comp=Z,4.8nm,0.8s,mb4.4
AKTK Aktyubinsk 35.98 2 P **P 13 13 14.4 -0.2**
AKTK PcP PcP 13 15 39.5 -1.7
AKTK Aktyubinsk 35.98 2 P **P 13 13 14.4 -0.2**
AKTK Aktyubinsk 35.98 2 PcP PcP 13 15 39.5 -1.7
AKTO Aktyubinsk 35.98 2 P **P 13 13 14.4 -0.2**
comp=Z,2.6nm,0.8s,mb4.2,baz=201,slow=9.1,SNR=6.4
AKTO PcP PcP 13 15 39.5 -1.7
comp=Z,1.4nm,0.6s,baz=175,slow=4.3,SNR=4.7
TIRR Tirgusor 38.27 327 ⇑*i*P **P 13 13 33.7 -0.5**
MK31 Makanchi Array 38.89 29 *e*P **P 13 13 39.8 +0.5**
MK31 Makanchi Array 38.89 29 *e*P **P 13 13 39.8 +0.5**
MKAR Makanchi Array 38.89 29 P **P 13 13 39.5 +0.1**
MKAR Makanchi Array 38.89 29 P **P 13 13 39.5 +0.1**
comp=Z,2.1nm,0.8s,mb3.9,baz=210,slow=7.0,SNR=14
PLOR Plostina 40.13 327 ⇑*i*P **P 13 13 50.9 +1.2**
MLR Muntele Rosu 40.27 327 ⇓*i*P **P 13 13 53.9 +3.0**
AKASG Malin Array Be 42.38 334 P **P 13 14 06.3 -1.9**
comp=Z,0.4nm,0.3s,mb3.5,baz=138,slow=7.5,SNR=12
ZALV Zalesovo Beam 45.34 23 P **P 13 14 31.1 -0.8**
comp=Z,6.0nm,0.8s,mb4.5,baz=226,slow=7.6,SNR=18
GYA Guiyang 48.34 67 ⇑*i*P **P 13 14 55.6 -0.2**
GYA AMB AMB
comp=Z,20nm,1.0s,mb5.1
LBTB Lobatse 49.35 218 P **P 13 15 04.6 +1.1**
comp=Z,10nm,1.0s,mb4.8,baz=54,slow=4.9,SNR=7.2
FINES FINESS Array B 51.80 342 P **P 13 15 19.7 -1.8**
FINES FINESS Array B 51.80 342 P **P 13 15 19.7 -1.8**
comp=Z,1.6nm,0.8s,mb4.0,baz=140,slow=9.2,SNR=3.8
BOSA Boshof 52.30 215 P **P 13 15 25.9 +0.3**
comp=Z,1.8nm,0.6s,mb4.2,baz=348,slow=7.6,SNR=4.0
SONM Songino Array 52.98 40 P **P 13 15 30.9 +0.4**
comp=Z,1.2nm,0.7s,mb3.9,baz=240,slow=7.7,SNR=7.8
TORD Torodi Ar. Bea 53.05 276 P **P 13 15 30.8 -0.7**
comp=Z,0.4nm,0.8s,mb3.4,baz=90,slow=2.9,SNR=3.3
ARCES ARCESS Array B 58.43 348 P **P 13 16 07.1 -2.1**
comp=Z,4.4nm,0.9s,mb4.5,baz=144,slow=6.6,SNR=5.2
CN2 Changchun 65.09 48 *e*P **P 13 16 54.4 -0.2**
CN2 AMB AMB
comp=Z,10.0nm,1.4s,mb4.7
KSRS Korea Array 66.80 55 P **P 13 17 04.5 -1.3**
comp=Z,2.3nm,0.8s,mb4.3,baz=278,slow=7.2,SNR=7.3
WRA Warramunga Arr 83.87 112 P **P 13 18 43.0 -1.2**
comp=Z,0.9nm,0.5s,mb4.1,baz=299,slow=4.3,SNR=16
ASAR Alice Springs 84.62 116 P **P 13 18 46.9 -1.1**
comp=Z,1.5nm,0.9s,mb4.1,baz=292,slow=5.2,SNR=17
ASAR Alice Springs 84.62 116 P **P 13 18 46.8 -1.2**
PDAR Pinedale Array 121.69 348 PKP PKPdf 13 25 07.2 -1.0
comp=Z,0.4nm,0.6s,baz=115,slow=2.0,SNR=3.9
NVAR Mina Array Bea 127.23 355 PKP PKPdf 13 25 19.6 +0.6
comp=Z,0.7nm,0.7s,baz=72,slow=2.6,SNR=6.5
NVAR Mina Array Bea 127.23 355 PKP PKPdf 13 25 19.5 +0.6

IDC 04 13:14:01.6±2.4,794S×15581E,h0km,mb3.9/7,mb1 4.1/7, mb1mx3.9/14,mbtmp3.9/7,Error ellipse: s-maj=76.0km s-min=26.2km az=119.0,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.97**	**238**	P	P	13 19 18.2	+0.2
	1.5nm,0.7s,baz=60,slow=9.5,SNR=11						
ASAR	**Alice Springs**	**26.18**	**231**	P	P	13 19 37.9	-0.2
	0.9nm,1.1s,baz=61,slow=10,SNR=3.9						
MJAR	**Matsushiro Arr**	**47.23**	**341**	P	P	13 22 35.6	-0.9
	2.0nm,0.7s,baz=161,slow=7.9,SNR=8.0						
SONM	**Songino Array**	**70.56**	**327**	P	P	13 25 20.3	+1.9
	0.6nm,0.8s,baz=146,slow=5.3,SNR=4.2						
MKAR	**Makanchi Array**	**84.64**	**319**	P	P	13 26 37.1	0.0
	1.9nm,0.7s,baz=101,slow=6.3,SNR=11						
ZALV	**Zalesovo Beam**	**85.40**	**326**	P	P	13 26 39.8	-1.1
	0.5nm,0.5s,baz=120,slow=6.3,SNR=4.3						
YKA	**Yellowknife Ar**	**96.79**	**28**	P	P	13 27 34.1	+0.1
	0.4nm,0.7s,baz=270,slow=4.6,SNR=7.2						

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*ISCJB **04** 13:17:51.1±0.5,2448N±009×122.14E±004,h73km±5km, mb3.4/5,Error ellipse: s-maj=14.5km s-min=5.2km az=10.5*
*NEIC **04** 13:17:51.6±0.7,2450N×122.17E,h64km±8km, MG3.5(JMA),Error ellipse: s-maj=13.6km s-min=13.1km az=225.0*
*JMA **04** 13:17:51.8±0.2,2460N×122.19E,h67km,M3.5*
*IDC **04** 13:17:53.9±5.4,2460N×122.34E,h83km±53km,mb3.2/5, mb1 3.4/6,mb1mx3.3/19,mbtmp3.3/6,ML3.2/1,Error ellipse: s-maj=39.2km s-min=20.0km az=70.0*

ISC 04 13:17:52.0±0.5,2451N±008×12215E±004,h66km±5km, n19,σ0§84/28,mb3.4/5,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NACB	**Ninganchiao**	**0.61**	**237**	*e*P	**Pn**	13 18 03.9	-1.7
YHNB	**Yeheng**	**0.72**	**283**	*e*P	**Pn**	13 18 07.0	0.0
TATO	**Taipei**	**0.76**	**308**	*e*P	**Pn**	13 18 07.9	+0.4
TATO				*e*S	**Sn**	13 18 19.6	+0.8
YOJ	**Yonaguni jima**	**0.78**	**93**	P	**Pn**	13 18 07.3	-0.4
YOJ				*e*S	**Sn**	13 18 18.8	-0.4
IRIF	**Iriomote-Funau**	**1.45**	**96**	P	**Pn**	13 18 15.8	-0.4
IRIF				S	**Sn**	13 18 33.7	-0.7
HATJ	**Hateruma jima**	**1.57**	**106**	P	**Pn**	13 18 18.3	+0.4
HATJ				*e*S	**Sn**	13 18 37.9	+0.5
JKRS	**Kuro-shima**	**1.71**	**99**	P	**Pn**	13 18 19.9	+0.2
JKRS				*e*S	**Sn**	13 18 41.0	+0.3
JIJ	**Ishigaki jima**	**1.82**	**94**	P	**Pn**	13 18 20.7	-0.5
JIJ				*e*S	**Sn**	13 18 42.1	-1.2
JTJ	**Tarama**	**2.33**	**86**	P	**Pn**	13 18 28.8	+0.8
JTJ				*e*S	**Sn**	13 18 56.1	+0.6
JMJ	**Miyako jima 2**	**2.88**	**83**	*e*S	**Sn**	13 19 09.6	+0.7
JOGS	**Gusukube**	**2.97**	**84**	P	**Pn**	13 18 38.4	+1.6
JOGS				*e*S	**Sn**	13 19 12.6	+1.3
JOW	**Kunigami**	**5.99**	**66**	P	**Pn**	13 19 17.6	-0.5
	1.4nm,0.3s,baz=270,slow=19,SNR=6.4						
JOW				S	**Sn**	13 20 23.1	-2.2
	1.0nm,0.3s,baz=108,slow=28,SNR=1.7						
KSRS	**Korea Array**	**13.82**	**20**	P	**Pn**	13 21 12.4	+7.7
	0.3nm,0.3s,baz=194,slow=11,SNR=6.8						
SONM	**Songino Array**	**26.43**	**336**	P	**P**	13 23 23.2	+0.8
	3.1nm,1.1s,mb3.6,baz=156,slow=11,SNR=7.1						
ZALV	**Zalesovo Beam**	**40.46**	**326**	P	**P**	13 25 23.4	-0.5
	0.3nm,0.4s,mb3.5,baz=123,slow=8.1,SNR=2.9						
WRA	**Warramunga Arr**	**45.75**	**164**	P	**P**	13 26 07.1	+0.3
	0.6nm,0.6s,mb3.5,baz=346,slow=8.8,SNR=8.3						
ASAR	**Alice Springs**	**49.22**	**166**	P	**P**	13 26 34.5	+0.7
	0.3nm,0.7s,mb3.3,baz=354,slow=7.6,SNR=3.1						
YKA	**Yellowknife Ar**	**82.33**	**23**	P	**P**	13 30 05.4	-0.8
	0.2nm,0.5s,mb3.2,baz=308,slow=5.2,SNR=5.1						
DCID1	**Drake Creek**	**96.42**	**36**	*e*P	**P**	13 31 13.2	-0.7

MAN 04 13:22:55,1871N×12141E,h69km,mb4.5,ML3.3,MS3.2, 1C,Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGCP	**Mt. Cagua**	**0.76**	**128**	*e*P	Pn	13 23 11.9	+1.3
PIP	**Pasuquin**	**0.84**	**243**	⇑*i*P	Sn	13 23 25.5	+1.8
PIP				*e*S	Sn	13 23 27.5	+3.8
APYP	**Conner**	**0.86**	**191**	*e*P	Pn	13 23 12.7	+1.0
APYP				*e*S	Sn	13 23 26.8	+2.8
CVP	**Callao Caves**	**1.07**	**159**	*e*P	Pn	13 23 15.7	+1.3
CVP				*e*S	Sn	13 23 31.2	+2.4
ABRA	**Dolores**	**1.25**	**212**	*e*P	Pn	13 23 16.8	+0.2
ABRA				*e*S	Sn	13 23 34.5	+1.7
CAUP	**Cauayan**	**1.80**	**167**	*e*P	Pn	13 23 26.6	+2.6
CAUP				*e*S	Sn	13 23 50.5	+4.6
BALP	**Baler**	**2.96**	**177**	*e*P	Pn	13 23 41.8	+2.2
BALP				*e*S	Sn	13 24 14.7	+0.8

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*NEIC **04** 13:23:25.8±0.6,028N×12328E,h10km,mb4.3/5,Error ellipse: s-maj=43.5km s-min=11.6km az=71.0*
*IDC **04** 13:23:42.3±1.8,001N×123.13E,h154km±15km,mb3.7/9, mb1 3.8/11,mb1mx3.7/19,mbtmp3.7/11,Error ellipse: s-maj=36.6km s-min=10.9km az=73.0*
*ISCJB **04** 13:23:43.1±2.6,00N±01×1232E±02,h181km±26km, mb4.0/11,Error ellipse: s-maj=35.1km s-min=14.9km az=163.0*

ISC 04 13:23:44.5±2.5,00N±01×1233E±02,h177km±25km,n20, σ0§73/18,mb4.0/11,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Kupang**	**10.16**	**178**	P	**Pn**	13 26 06.4	+0.3
	1.4nm,0.3s,baz=256,slow=6.9,SNR=3.9						
KAKA	**Kakadu**	**15.58**	**145**	*e*P	**Pn**	13 27 15.2	+0.3
	10nm,0.6s						
FITZ	**Fitzroy Crossi**	**18.15**	**173**	*e*P	**P**	13 27 42.5	-1.1
	10nm,0.8s						
FITZ	**Fitzroy Crossi**	**18.15**	**173**	P	**P**	13 27 42.5	-1.1
	1.0nm,0.3s,baz=0.4,slow=8.6,SNR=26						
WRA	**Warramunga Arr**	**22.61**	**152**	P	**P**	13 28 29.7	-0.6
	4.2nm,0.5s,mb4.1,baz=330,slow=10,SNR=67						
WRA				ScP	ScP	13 35 41.8	+3.2
	1.2nm,0.6s,baz=323,slow=2.6,SNR=16						
WB2	**Warramunga Arr**	**22.61**	**152**	*e*P	**P**	13 28 30.0	-0.4
ASAR	**Alice Springs**	**25.71**	**157**	P	**P**	13 28 58.6	+0.1
	1.0nm,0.4s,mb3.8,baz=329,slow=8.5,SNR=32						
ASAR				PcP	PcP	13 32 24.9	+0.9
	0.8nm,0.3s,baz=343,slow=2.2,SNR=12						
ASAR				ScP	ScP	13 35 51.1	+4.1
	0.9nm,0.6s,baz=344,slow=2.8,SNR=15						
STKA	**Stephens Creek**	**36.15**	**153**	*e*P	**P**	13 30 30.6	+0.7
	1.4nm,0.6s,mb3.8						
STKA	**Stephens Creek**	**36.15**	**153**	P	**P**	13 30 30.3	+0.4
	1.3nm,0.4s,mb3.9,baz=333,slow=9.6,SNR=12						
ASAJ	**Asahikawa**	**47.17**	**19**	P	**P**	13 32 00.1	+1.0
	4.4nm,0.5s,mb4.3,baz=228,slow=7.7,SNR=10						
SONM	**Songino Array**	**49.84**	**345**	P	**P**	13 32 20.3	+0.8
	2.0nm,0.5s,mb4.0,baz=161,slow=10.0,SNR=21						
SONM				PcP	PcP	13 33 37.5	+0.1
	0.9nm,0.4s,baz=163,slow=4.5,SNR=8.2						
SONM				ScP	ScP	13 37 18.6	+2.2
	0.4nm,0.7s,baz=144,slow=2.7,SNR=3.0						
MKAR	**Makanchi Array**	**58.74**	**328**	P	**P**	13 33 23.6	-0.1
	2.0nm,0.5s,mb4.2,baz=115,slow=9.2,SNR=17						
MKAR				pP	pP	13 33 58.9	-5.6
	0.6nm,0.6s,baz=128,slow=7.9,SNR=2.5						
MKAR				PcP	PcP	13 34 10.6	-0.9
	0.7nm,0.5s,baz=133,slow=5.9,SNR=4.2						
MKAR				ScP	ScP	13 37 56.2	+0.8
	0.5nm,0.8s,baz=113,slow=4.9,SNR=3.6						
ZALV	**Zalesovo Beam**	**62.41**	**336**	P	**P**	13 33 47.0	-1.4
	0.6nm,0.4s,mb3.8,baz=119,slow=5.2,SNR=5.0						
KURK	**Kurchatov**	**63.09**	**330**	*e*P	**P**	13 33 52.9	-0.1
	4.3nm,0.6s,mb4.5						
TIXI	**Tiksi**	**71.61**	**2**	*e*P	**P**	13 34 45.8	-0.4
	4.2nm,0.4s,mb4.5						
MAW	**Mawson**	**79.09**	**200**	P	**P**	13 35 30.4	+1.6
	1.5nm,0.6s,mb3.8,baz=41,slow=17,SNR=4.6						
VNDA	**Vanda**	**80.22**	**172**	P	**P**	13 35 34.9	+0.1
	0.8nm,0.7s,mb3.5,baz=333,slow=6.8,SNR=6.1						
MCK	**McKinley**	**89.02**	**26**	*e*P	**P**	13 36 18.4	-0.6
TORD	**Torodi Ar. Bea**	**120.65**	**285**	PKP	PKPdf	13 42 15.8	-0.5
TORD	**Torodi Ar. Bea**	**120.65**	**285**	PKP	PKPdf	13 42 15.8	-0.5
	1.2nm,0.6s,baz=78,slow=1.6,SNR=13						

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*ISCJB **04** 13:28:54.5±0.7,3217N±004×13864E±004,h10km, mb3.3/4,Error ellipse: s-maj=5.8km s-min=4.9km az=176.6*
*JMA **04** 13:28:54.6±0.4,3213N×13874E,h18km,M4.0*
*IDC **04** 13:28:55.1±1.1,3219N×13903E,h0km,mb3.3/4, mb1 3.5/5,mb1mx3.3/20,mbtmp3.3/5,ML3.2/1,MS3.1/1, Ms1 3.1/1,ms1mx2.7/18,Error ellipse: s-maj=26.5km s-min=16.1km az=105.0*

ISC 04 13:28:55.6±1.9,3220N±005×13868E±005,h8km±13km, n21,σ1§20/34,mb3.3/4,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ	**Hachijo jima 2**	**1.31**	**45**	Pn	**Pn**	13 29 18.5	-1.7
	178nm,0.3s,baz=209,slow=11,SNR=34						
JHJ				Sn	**Sn**	13 29 35.8	-2.0
	228nm,0.3s,baz=108,slow=21,SNR=12						
JHJ2	**Mitsune**	**1.32**	**46**	P	**Pn**	13 29 18.5	-1.9
JHJ2				S	**Sb**	13 29 36.3	-1.5
TK01	**Tokai 1**	**1.81**	**330**	S	**Sn**	13 29 50.4	+0.1
TK02	**Tokai 2**	**1.91**	**336**	P	**Pn**	13 29 27.7	-0.7
TK02				S	**Sn**	13 29 53.6	+0.9
TK03	**Tokai 3**	**2.05**	**343**	P	**Pn**	13 29 30.4	0.0
TK03				S	**Sn**	13 29 57.1	+0.9
TK04	**Tokai 4**	**2.29**	**343**	P	**Pn**	13 29 33.3	-0.3
TK04				S	**Sn**	13 30 02.6	+0.7
JIE	**Ise**	**2.74**	**323**	P	**Pn**	13 29 39.2	-0.7
JIE				S	**Sn**	13 30 11.8	-1.5
JWZ	**Kozaga**	**2.83**	**299**	P	**Pn**	13 29 40.3	-0.8
JWZ				*e*S	**Sn**	13 30 12.7	-2.7
JWY	**Kouya**	**3.28**	**309**	P	**Pn**	13 29 47.4	+0.1
JWY				S	**Sn**	13 30 25.1	-1.4
JYN	**Shimob**	**3.29**	**358**	P	**Pn**	13 29 47.8	+0.3
JYN				S	**Sn**	13 30 27.7	+0.9
JRY	**Ryogami san**	**3.82**	**3**	P	**Pn**	13 29 57.0	+2.4
JRY				*e*S	**Sn**	13 30 42.5	+2.8
JGM	**Miyama**	**3.86**	**336**	*e*S	**Sn**	13 30 39.6	-1.1
JAI	**Aioi**	**3.90**	**295**	P	**Pn**	13 29 56.0	+0.3
JAI				*e*S	**Sn**	13 30 40.9	-0.7
JWT	**Wachi**	**4.12**	**319**	P	**Pn**	13 29 59.8	+1.0
JWT				*e*S	**Sn**	13 30 46.4	-0.7
MJAR	**Matsushiro Arr**	**4.35**	**355**	Pn	**Pn**	13 30 02.4	+0.4
	1.2nm,0.3s,baz=177,slow=13,SNR=11						
MJAR				Sn	**Sn**	13 30 54.1	+1.2
	2.6nm,0.3s,baz=217,slow=34,SNR=8.0						
MAT	**Matsushiro**	**4.35**	**355**	P	**Pn**	13 30 04.0	+2.0
MAT				S	**Sn**	13 30 53.6	+0.7
JNU	**Nakatsue**	**6.64**	**280**	LR	LR	13 32 30.0	
	comp=Z,142nm,20.8s,baz=326,slow=31						
SONM	**Songino Array**	**28.98**	**312**	P	**P**	13 35 00.2	+4.7
	0.3nm,0.7s,mb3.1,baz=125,slow=9.0,SNR=2.9						
MKAR	**Makanchi Array**	**44.95**	**306**	P	**P**	13 37 12.5	+1.5
	0.4nm,0.7s,mb3.4,baz=87,slow=8.9,SNR=3.9						
WRA	**Warramunga Arr**	**52.01**	**185**	P	**P**	13 38 06.2	+0.7
	0.5nm,0.9s,mb3.4,baz=2.0,slow=7.9,SNR=4.5						
ASAR	**Alice Springs**	**55.73**	**185**	P	**P**	13 38 33.9	+1.2
	0.1nm,0.5s,mb3.1,baz=356,slow=7.0,SNR=4.1						

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*ISCJB **04** 13:30:09.8±0.7,691N±006×7298W±008,h176km±8km, mb3.1/1,Error ellipse: s-maj=14.4km s-min=7.0km az=36.6*
*FUNV **04** 13:30:09.6,672N×73.13W,h170km,MW3.0*
*IDC **04** 13:30:10.7±0.9,680N×7291W,h168km±18km,mb2.8/1, mb1 3.2/3,mb1mx2.9/20,mbtmp3.1/3,MS3.5/1,Ms1 3.5/1, ms1mx3.3/9,Error ellipse: s-maj=81.4km s-min=7.7km az=132.0*

ISC 04 13:30:10.8±0.7,690N±006×7297W±008,h170km±8km,n16, σ0§84/22,mb3.1/1,1C,Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**1.16**	**34**	*e*P	**Pn**	13 30 39.5	+0.7
CAPV				*e*S	**Sn**	13 31 00.5	+0.1
ROSC	**El Rosal**	**2.44**	**214**	P	**Pn**	13 30 51.1	-1.2
	16nm,0.3s,baz=293,slow=16,SNR=18						
ROSC				S	**Sn**	13 31 24.5	+0.1
	34nm,0.3s,baz=93,slow=15,SNR=12						
ROSC				LR	LR	13 32 01.2	
	comp=Z,932nm,18.4s,baz=8.9,slow=46						
SOCV	**Socops**	**2.51**	**57**	*e*P	**Pn**	13 30 54.2	+1.2
SOCV				*e*S	**Sn**	13 31 26.5	+0.8
SDV	**Santo Domingo**	**3.04**	**49**	P	**Pn**	13 31 01.0	+1.4
	10nm,0.3s,baz=261,slow=11,SNR=78						
SDV				S	**Sn**	13 31 37.8	+0.4
	9.6nm,0.3s,baz=73,slow=18,SNR=34						
ELOV	**Elorza**	**3.47**	**88**	*e*P	**Pn**	13 31 04.6	-0.3
VIRV	**Villa del Rosa**	**3.62**	**9**	*e*P	**Pn**	13 31 06.3	-0.5
VIRV				*e*S	**Sn**	13 31 49.7	-0.8
QARV	**Quebrada Arrib**	**4.08**	**36**	*e*P	**Pn**	13 31 13.8	+1.1
QARV				*e*S	**Sn**	13 32 00.3	-0.7
SANV	**Sanarito**	**4.27**	**53**	*e*P	**Pn**	13 31 15.1	-0.1
CURV	**Curarigua**	**4.29**	**44**	*e*P	**Pn**	13 31 16.1	+0.7
CURV				*e*S	**Sn**	13 32 04.3	-1.6
SIQV	**Siquisique**	**4.86**	**40**	*e*P	**Pn**	13 31 23.2	+0.4
BAUV	**El Baul**	**5.29**	**67**	⇑*i*P	**Pn**	13 31 27.4	-1.1
IMOV	**Isla Los Monje**	**5.79**	**20**	*e*P	**Pn**	13 31 34.5	-0.5
TURV	**Turiamo**	**6.18**	**55**	*e*P	**Pn**	13 31 40.1	0.0
CAOV	**Caicara del Or**	**6.61**	**86**	*e*P	**Pn**	13 31 44.6	-1.2
YKA	**Yellowknife Ar**	**63.24**	**340**	P	**P**	13 40 21.7	+0.9
	0.2nm,0.6s,mb3.1,baz=131,slow=7.3,SNR=4.1						
WRA	**Warramunga Arr**	**150.50**	**241**	PKPbc	PKPbc	13 49 43.1	-0.2
	0.4nm,1.0s,baz=108,slow=2.6,SNR=2.3						

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*IDC **04** 13:35:01.5±1.2,2085S×16894E,h0km,mb4.3/11, mb1 4.5/12,mb1mx4.4/18,mbtmp4.3/12,ML3.5/1,Error ellipse: s-maj=35.6km s-min=20.3km az=140.0*
*ISCJB **04** 13:35:02.0±4.9,208S±01×16885E±010,h11km±30km, mb4.4/15,Error ellipse: s-maj=22.7km s-min=10.7km az=145.0*
*BJI **04** 13:35:02.9,2080S×16890E,h10km,mB5.2,mb4.9*
*NEIC **04** 13:35:02.9±0.5,2084S×16892E,h10km,mb4.7/3,Error ellipse: s-maj=22.6km s-min=9.6km az=149.0*

ISC 04 13:35:03.9±5.9,209S±01×16890E±010,h14km±35km, h10km±2.0km:pP-P,n42,σ0§79/23,mb4.4/15,Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**2.56**	**243**	Pn	**Pn**	13 35 44.3	-0.7
	9.5nm,0.3s,baz=77,slow=20,SNR=27						
DZM				Sn	**Sn**	13 36 15.5	-0.5
	31nm,0.3s,baz=59,slow=16,SNR=7.4						
CTA	**Charters Tower**	**21.23**	**268**	P	**P**	13 39 50.5	+0.9
	8.4nm,0.9s,mb4.1,baz=88,slow=13,SNR=5.1						
STKA	**Stephens Creek**	**26.71**	**240**	*e*P	**P**	13 40 44.7	+1.8
	2.9nm,0.7s,mb3.9						
STKA	**Stephens Creek**	**26.71**	**240**	P	**P**	13 40 44.3	+1.4
	4.6nm,0.9s,mb4.0,baz=61,slow=7.7,SNR=8.7						
WB2	**Warramunga Arr**	**32.35**	**265**	*e*P	**P**	13 41 32.2	-0.9
WRA	**Warramunga Arr**	**32.36**	**265**	P	**P**	13 41 32.3	-0.9
	1.5nm,0.4s,mb4.1,baz=92,slow=8.5,SNR=60						
ASAR	**Alice Springs**	**32.45**	**259**	P	**P**	13 41 33.8	-0.1
	5.2nm,0.7s,mb4.5,baz=94,slow=9.7,SNR=87						
FITZ	**Fitzroy Crossi**	**40.78**	**266**	P	**P**	13 42 45.2	+0.2
	9.1nm,0.7s,mb4.5,baz=129,slow=9.6,SNR=27						
MBWA	**Marble Bar**	**45.74**	**260**	*e*P	**P**	13 43 25.2	+0.1
	8.5nm,0.9s,mb4.7						
NWAO	**Narrogin (SRO)**	**47.18**	**244**	P	**P**	13 43 36.6	+0.3
	9.2nm,1.0s,mb4.7,baz=84,slow=10,SNR=2.5						
MJAR	**Matsushiro Arr**	**64.08**	**333**	P	**P**	13 45 36.2	-1.2
	3.4nm,0.9s,mb4.4,baz=167,slow=6.4,SNR=5.4						
KSRS	**Korea Array**	**69.70**	**326**	P	**P**	13 46 13.6	+0.3
	2.8nm,0.9s,mb4.2,baz=149,slow=6.6,SNR=5.7						
NJ2	**Nanjing**	**71.19**	**317**	*e*P	**P**	13 46 24.6	+2.1
NJ2				AMB	AMB		
	comp=Z,20nm,0.8s,mb5.1						
SNAA	**Sanae**	**87.49**	**183**	*e*P	**P**	13 47 50.7	-0.1
SNAA				*e*	pP	13 47 53.0	-2.4
SNAA				*e*		13 48 15.1	
SNAA	**Sanae**	**87.49**	**183**	P	**P**	13 47 50.6	-0.1
	comp=Z,1.1nm,0.8s,mb4.1,baz=195,slow=9.9,SNR=4.8						
GTA	**Gaotai**	**88.04**	**314**	*e*P	**P**	13 47 54.5	+0.7
GTA				AP	pP	13 47 59.0	+0.5
GTA				XP	sP	13 48 02.5	+2.3
GTA				AMB	AMB		
	comp=Z,5.0nm,1.0s,mb4.7						
VNA3	**Neumayer Olymp**	**88.09**	**180**	*e*P	**P**	13 47 53.7	+0.1
VNA3				*e*		13 47 55.9	
VNA3				*e*		13 48 05.1	
VNA3				*e*		13 48 09.4	
VNA3				*e*		13 48 19.0	
SONM	**Songino Array**	**88.36**	**323**	P	**P**	13 47 55.3

DZM Sn **Sn** **13 37 37.7 -0.6**
63nm,0.3s,baz=296,slow=22,SNR=4.2
CTA Charters Tower 21.17 268 P **P** **13 41 14.2 +3.5**
10nm,0.8s,mb4.2,baz=105,slow=13,SNR=5.0
STKA Stephens Creek 26.73 240 *eP* **P** **13 42 05.5 +0.6**
7.1nm,0.6s,mb4.4
STKA Stephens Creek 26.73 240 P **P** **13 42 05.3 +0.4**
9.5nm,0.7s,mb4.5,baz=74,slow=9.0,SNR=13
STKA LR LR 13 51 26.0
comp=Z,1μm,20.6s,MS4.5,baz=245,slow=34
WB2 Warramunga Arr 32.30 265 *eP* **P** **13 42 53.3 -1.3**
WRA Warramunga Arr 32.31 265 P **P** **13 42 53.3 -1.4**
2.3nm,0.6s,mb4.2,baz=92,slow=8.5,SNR=7.8
ASAR Alice Springs 32.41 258 P **P** **13 42 56.0 +0.5**
8.1nm,0.8s,mb4.6,baz=90,slow=8.4,SNR=13
FITZ Fitzroy Crossi 40.73 266 *eP* **P** **13 44 06.6 +0.1**
20nm,0.7s,mb4.9
FITZ Fitzroy Crossi 40.73 266 P **P** **13 44 08.0 +1.5**
12nm,0.7s,mb4.6,baz=133,slow=8.2,SNR=14
KLBR Kellerberrin 46.72 246 *eP* **P** **13 44 55.2 +0.6**
24nm,1.0s,mb5.1
NWAO Narrogin (SRO) 47.19 244 P **P** **13 44 58.4 +0.1**
9.7nm,1.0s,mb4.7,baz=102,slow=7.6,SNR=3.1
MJAR Matsushiro Arr 63.93 333 P **P** **13 46 57.7 -0.7**
MJAR Matsushiro Arr 63.93 333 P **P** **13 46 57.7 -0.7**
2.8nm,0.9s,mb4.3,baz=171,slow=6.1,SNR=5.2
KSRS Korea Array 69.55 326 P **P** **13 47 34.8 +0.5**
3.8nm,1.1s,mb4.2,baz=144,slow=5.3,SNR=5.6
YSS Yuzh-Sakhalins 71.40 341‖ *eP* **P** **13 47 46.2 +0.9**
YSS pmax pmax
comp=Z,30nm,1.0s,mb5.2
LZH Lanzhou 83.47 312 *eP* **P** **13 48 44.8 -8.4**
comp=Z,16nm,1.4s,mb4.9
LZH pP pP 13 48 49.3 -7.2
LZH sP sP 13 48 52.0 -5.7
LZH Lanzhou 83.47 312 *eP* **P** **13 48 44.8 -8.4**
LZH *SP sP 13 48 52.0 -5.7
LZH pmax pmax
comp=Z,16nm,1.4s,mb4.9
SNAA Sanae 87.62 183 P **P** **13 49 13.6 +0.2**
comp=Z,1.4nm,1.1s,mb4.1,baz=335,slow=7.3,SNR=3.6
GTA Gaotai 87.90 314 *eP* **P** **13 49 16.0 +0.9**
GTA AP pP 13 49 20.5 +2.0
GTA XP sP 13 49 23.8 +4.1
GTA AMB AMB
comp=Z,5.0nm,1.0s,mb4.7
SONM Songino Array 88.21 323 P **P** **13 49 16.2 -0.1**
comp=Z,2.1nm,0.9s,mb4.3,baz=134,slow=3.9,SNR=5.7
BILL Bilibino 88.57 359 *eP* **P** **13 49 16.8 -0.8**
BILL pmax pmax
comp=Z,10.0nm,1.3s,mb5.0
NVAR Mina Array Bea 90.10 49 P **P** **13 49 24.7 -0.8**
NVAR Mina Array Bea 90.10 49 P **P** **13 49 24.7 -0.8**
comp=Z,1.8nm,1.0s,mb4.3,baz=213,slow=5.4,SNR=5.5
ZAK Zakamensk 91.31 324 *eP* **P** **13 49 30.7 -0.1**
ZAK pmax pmax
comp=Z,3.0nm,1.4s,mb4.4
TXAR Lajitas Array 97.83 62 LR LR 14 26 28.4
comp=Z,264nm,18.1s,MS4.8,baz=85,slow=31
MKAR Makanchi Array 102.55 315 P Pdif 13 50 21.6 -0.3
comp=Z,0.3nm,0.7s,baz=116,slow=5.5,SNR=3.6
BRG Berggiesshubel 144.06 333‖ *i*PKIKP PKPdf 13 55 58.7 -2.2
BRG *i* 13 56 07.7
BRG pmax pmax
comp=Z,5.0nm,1.2s
CLL Collm 144.13 334 *e*pPKPbc PKPdf 13 55 58.5 -2.5
CLL Collm 144.13 334‖ *i*PKPdf PKPdf 13 55 58.7 -2.3
comp=Z,10.0nm,1.2s
CLL *e*(pPKPdf) 13 56 02.0
CLL *i* x x 13 56 07.7
MODS Modra-Piesok 144.23 327 *e*PKP PKPdf 13 56 00.0 -1.3
FBE Freiberg 144.27 333 *e*pPKPbc PKPdf 13 55 59.5 -1.8
PRU Pruhonice 144.44 331 *e*PKP PKPdf 13 56 04.9 +3.3
TREC Trest 144.49 330 *e*PKP PKPdf 13 56 00.9 -0.8
TANN Tannenbergstha 145.03 333 *e*pPKPbc PKPdf 13 56 02.5 -0.1
WERD Werda 145.07 334 *e*pPKPbc PKPdf 13 56 01.4 -1.3
GUNZ Gunzen 145.12 333 *e*pPKPbc PKPdf 13 56 02.0 -0.8
WERN Wernitzgruen 145.16 333 *e*pPKPbc PKPdf 13 56 02.2 -0.7
NKC Novy Kostel 145.17 333 *e*PKP PKPdf 13 56 02.4 -0.5
MOX Moxa 145.20 334 *e*pPKPbc PKPdf 13 56 02.3 -0.6
KHC Kasperske Hory 145.49 331 *e*PKP PKPdf 13 56 03.8 +0.3
KHC *e*x x 13 56 11.5
MANZ Manzenberg 145.50 333 *e*pPKPbc PKPdf 13 56 03.6 +0.2
GEC2 GERESS Array S 145.64 331 *e*pPKPbc PKPdf 13 56 03.8 +0.1
GERES GERESS Array B 145.64 331 PKPbc PKPbc 13 56 03.4 -0.6
comp=Z,4.7nm,0.8s,baz=60,slow=3.2,SNR=8.5
GRF Grafenberg Arr 146.10 334 *e*pPKPbc PKPdf 13 56 05.0 +0.5
TORD Torodi Ar. Bea 165.55 240 PKPab PKPab 13 57 29.7 +0.3
comp=Z,0.9nm,1.0s,baz=96,slow=1.4,SNR=3.7

*IDC **04** 13:51:07.3±1.4, 756S×15638E, h0km, mb3.8/6, mb1 3.9/7, mb1mx3.8/16, mbtmp3.9/7, ML4.2/1, Error ellipse: s-maj=34.6km s-min=27.5km az=120.0*
*NEIC **04** 13:51:08.2±0.7, 757S×15649E, h10km, Error ellipse: s-maj=23.4km s-min=16.5km az=0.0*
*ISCJB **04** 13:51:10.1±0.7, 77S±01×15650E±008, h33km, mb3.7/6, Error ellipse: s-maj=20.5km s-min=9.3km az=19.2*
ISC 04 13:51:12.3±0.7, 77S±01×15649E±008, h35km, n10, σ0°61/10, mb3.7/6, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**3.82**	**117**			Pn	**Pn**	**13 52 08.7**	**0.0**
	16nm,0.3s,baz=120,slow=4.5,SNR=4.8								
HNR				Sn		Sn	**Sn**	**13 52 52.0**	**-0.3**
	18nm,0.3s,baz=265,slow=19,SNR=5.7								
WRA	**Warramunga Arr**	**24.65**	**238**			P	**P**	**13 56 30.3**	**+0.3**
	2.1nm,0.7s,mb3.8,baz=62,slow=9.9,SNR=22								
ASAR	**Alice Springs**	**26.83**	**231**			P	**P**	**13 56 50.0**	**+0.4**
	0.3nm,0.7s,mb3.0,baz=57,slow=9.0,SNR=5.4								
FITZ	**Fitzroy Crossi**	**31.73**	**248**			P	**P**	**13 57 32.7**	**-0.5**
	1.3nm,0.8s,mb3.8,baz=73,slow=9.7,SNR=3.3								
SONM	**Songino Array**	**70.75**	**327**			P	**P**	**14 02 25.3**	**+0.3**
	0.7nm,0.5s,mb3.8,baz=141,slow=6.8,SNR=5.4								
MKAR	**Makanchi Array**	**84.93**	**318**			P	**P**	**14 03 43.2**	**-0.7**
MKAR	**Makanchi Array**	**84.93**	**318**			P	**P**	**14 03 43.2**	**-0.7**
	1.1nm,0.9s,mb4.0,baz=102,slow=5.4,SNR=8.7								
ZALV	**Zalesovo Beam**	**85.61**	**326**			P	**P**	**14 03 46.2**	**-0.9**
	0.4nm,0.4s,mb4.0,baz=126,slow=3.9,SNR=2.6								
MVCO	**Mesa Verde**	**98.61**	**54**	*e*Pn			**P**	**14 04 49.2**	**+1.2**
	7.1nm,0.6s								
BNM	**Barren Site**	**99.97**	**57**	*e*P			Pdif	14 04 51.1	-2.6

IDC 04 13:51:59.4±3.5, 1161S×16668E, h0km, mb4.0/5, mb1 4.1/5, mb1mx3.8/16, mbtmp3.9/5, Error ellipse: s-maj=107.8km s-min=36.4km az=126.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**32.15**	**251**			P	P	13 58 28.9	-0.1
	1.5nm,1.0s,baz=81,slow=9.1,SNR=8.1								
ASAR	**Alice Springs**	**33.36**	**244**			P	P	13 58 39.8	+0.2
	1.6nm,0.7s,baz=75,slow=9.4,SNR=12								
ASAR				PcP		PcP	PcP	14 01 21.3	-0.3
	0.3nm,0.8s,baz=77,slow=2.3,SNR=4.1								
FITZ	**Fitzroy Crossi**	**40.12**	**256**			P	P	13 59 37.2	0.0
	1.4nm,0.6s,baz=107,slow=5.5,SNR=5.2								
SONM	**Songino Array**	**79.66**	**324**			P	P	14 04 09.0	+0.3
	0.3nm,0.6s,baz=134,slow=4.2,SNR=2.2								
MKAR	**Makanchi Array**	**94.55**	**317**			P	P	14 05 22.0	+0.1
	0.9nm,0.8s,baz=96,slow=5.6,SNR=4.9								

*CSEM **04** 14:10:04.7, 3834N×2052E, h22km, MD3.5/6, After ATH*
*NEIC **04** 14:10:04.7, 3834N×2052E, h22km, MD3.5(ATH), After ATH.*
ATH 04 14:10:04.4, 3833N×2046E, h21km±2km, MD3.5/6, 1C, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.18**	**146**‖	*i*PB		Pb	Pb	14 10 09.6	+0.2
VLS				*e*SB		Sb	Sb	14 10 14.2	+1.4
RLS	**Riolos of Patr**	**0.84**	**109**	*e*PN		Pn	Pn	14 10 20.3	-0.7
RLS				*e*SN		Sn	Sn	14 10 33.5	+0.9
RLS	**Riolos of Patr**	**0.84**	**109**	*e*Pn		Pn	Pn	14 10 21.0	0.0
EVR	**Evrytania**	**1.21**	**61**	*e*PN		Pn	Pn	14 10 26.7	+0.7
EVR	**Evrytania**	**1.21**	**61**	*e*Pb		Pb	Pb	14 10 25.1	-1.5
JAN	**Janina**	**1.36**	**13**	*e*PN		Pn	Pn	14 10 29.3	+1.2
JAN				*e*SN		Sn	Sn	14 10 49.0	+3.5

KEK	**Kerkira**	**1.47**	**340**	*e*PN		Pn		14 10 32.2	+2.5
ITM	**Ithomi**	**1.63**	**134**	*e*PN		Pn		14 10 34.2	+2.3
VLI	**Veliai**	**2.54**	**128**	*e*PN		Pn		14 10 46.4	+2.0

*IDC **04** 14:31:53.4±2.0, 677S×15485E, h0km, mb3.9/6, mb1 4.1/6, mb1mx3.9/15, mbtmp3.9/6, Error ellipse: s-maj=78.9km s-min=25.6km az=125.0*
*NEIC **04** 14:31:54.7±0.8, 683S×15493E, h10km, Error ellipse: s-maj=27.2km s-min=15.2km az=119.0*
*ISCJB **04** 14:31:56.8±1.1, 69S±02×1549E±02, h33km, mb3.7/6, Error ellipse: s-maj=37.3km s-min=20.6km az=30.3*
ISC 04 14:31:58.7±1.1, 69S±02×1549E±02, h35km, n10, σ0°19/9, mb3.7/6, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.81**	**235**			P	**P**	**14 37 08.7**	**+0.2**
	3.7nm,0.8s,mb3.9,baz=58,slow=9.9,SNR=22								
ASAR	**Alice Springs**	**26.18**	**228**			P	**P**	**14 37 30.3**	**+0.2**
	1.9nm,0.8s,mb3.7,baz=59,slow=8.6,SNR=21								
FITZ	**Fitzroy Crossi**	**30.61**	**246**			P	**P**	**14 38 09.5**	**-0.2**
	1.6nm,0.8s,mb3.9,baz=78,slow=9.3,SNR=3.5								
SONM	**Songino Array**	**69.17**	**327**			P	**P**	**14 43 01.4**	**-0.2**
	0.3nm,0.9s,mb3.2,baz=125,slow=2.3,SNR=2.2								
SBA	**Scott Base**	**71.22**	**177**			P	**P**	**14 43 13.5**	**-0.2**
MKAR	**Makanchi Array**	**83.24**	**319**			P	**P**	**14 44 21.7**	**+0.1**
MKAR	**Makanchi Array**	**83.24**	**319**			P	**P**	**14 44 21.7**	**+0.1**
	0.3nm,0.5s,mb3.6,baz=98,slow=4.4,SNR=3.1								
YKA	**Yellowknife Ar**	**96.27**	**28**			P	**P**	**14 45 23.3**	**+0.2**
YKA	**Yellowknife Ar**	**96.27**	**28**			P	**P**	**14 45 23.3**	**+0.2**
	0.7nm,0.8s,mb4.1,baz=269,slow=4.6,SNR=9.7								
TORD	**Torodi Ar. Bea**	**152.89**	**285**	PKPbc		PKPbc	PKPbc	14 51 53.0	-0.2
	0.6nm,0.9s,baz=107,slow=1.5,SNR=3.2								

IDC 04 14:37:52.8±3.9, 746S×15583E, h0km, mb3.8/5, mb1 3.9/5, mb1mx3.7/14, mbtmp3.8/5, Error ellipse: s-maj=116.5km s-min=28.2km az=113.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.25**	**237**			P	P	14 43 12.8	+1.0
	2.8nm,0.6s,baz=64,slow=9.6,SNR=38								
ASAR	**Alice Springs**	**26.50**	**230**			P	P	14 43 31.9	-0.3
	0.3nm,0.5s,baz=60,slow=9.7,SNR=10								
SONM	**Songino Array**	**70.17**	**327**			P	P	14 49 08.0	+0.7
	0.6nm,0.7s,baz=130,slow=5.7,SNR=5.1								
MKAR	**Makanchi Array**	**84.30**	**319**			P	P	14 50 26.9	+0.2
	0.4nm,0.5s,baz=107,slow=4.8,SNR=3.3								
ZALV	**Zalesovo Beam**	**85.02**	**326**			P	P	14 50 28.8	-1.4
	0.5nm,0.6s,baz=112,slow=7.0,SNR=3.7								

*IDC **04** 14:37:55.8±4.8, 2043S×16853E, h0km, mb4.0/5, mb1 4.1/6, mb1mx4.0/15, mbtmp3.9/6, Error ellipse: s-maj=118.8km s-min=36.9km az=122.0*
*ISCJB **04** 14:37:58.1±4.3, 208S±02×1687E±02, h34km±31km, mb3.8/5, Error ellipse: s-maj=37.3km s-min=30.8km az=161.9*
ISC 04 14:37:58.8±7.1, 208S±02×1688E±02, h29km±48km, n8, σ0°42/9, mb3.8/5, Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**2.49**	**240**			Pn	**Pn**	**14 38 37.0**	**-0.3**
	3.2nm,0.3s,baz=340,slow=18,SNR=21								
DZM				Sn		Sn	**Sn**	**14 39 06.5**	**-0.2**
	15nm,0.3s,baz=311,slow=23,SNR=5.1								
STKA	**Stephens Creek**	**26.64**	**240**			P	**P**	**14 43 35.9**	**+0.9**
	2.1nm,0.6s,mb3.8,baz=68,slow=11,SNR=5.9								
WRA	**Warramunga Arr**	**32.25**	**265**			P	**P**	**14 44 24.7**	**-0.3**
	0.7nm,0.8s,mb3.5,baz=91,slow=8.6,SNR=6.9								
ASAR	**Alice Springs**	**32.34**	**258**			P	**P**	**14 44 26.1**	**+0.3**
	2.7nm,0.7s,mb4.2,baz=83,slow=9.2,SNR=33								
FITZ	**Fitzroy Crossi**	**40.67**	**266**			P	**P**	**14 45 37.3**	**+0.5**
	2.2nm,0.8s,mb3.9,baz=115,slow=14,SNR=6.5								
VNA3	**Neumayer Olymp**	**88.15**	**181**			*e*	**P**	**14 50 46.3**	**-0.2**
VNA3						*e*	pP	14 50 54.6	-1.2
VNA3						*e*		14 51 08.7	
SONM	**Songino Array**	**88.23**	**323**			P	**P**	**14 50 46.6**	**-0.5**
	0.3nm,0.7s,mb3.7,baz=140,slow=5.5,SNR=2.6								
VNA2	**Neumayer--Watz**	**88.44**	**181**			*e*	**P**	**14 50 47.8**	**-0.1**
	baz=177,slow=4.4								
VNA2						*e*	pP	14 50 57.0	-0.2
VNA2						*e*		14 51 10.6	

KRSC 04 14:38:31.7±0.1, 5546N×16278E, h39km±39km, ML3.7, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**0.75**	**2**	*i*P		Pn		14 38 45.7	-0.1
KBTR				*i*S		Sn		14 38 55.6	-0.3
MKZ	**Mys Kozlova**	**1.09**	**214**	*e*P		Pn		14 38 51.3	+0.9
MKZ				*i*S		Sn		14 39 05.6	+1.4
KLY	**Klyuchi**	**1.47**	**306**	*i*P		Pn		14 38 55.4	-0.3
KLY				*i*S		Sn		14 39 12.0	-1.7
KMNR	**Kamenistaya**	**1.47**	**283**	*e*P		Pn		14 38 58.2	+2.5
KMNR				*i*S		Sn		14 39 16.8	+3.1
SRKR	**Sorokina**	**1.50**	**324**	*e*P		Pn		14 38 57.2	+1.2
SRKR				*i*S		Sn		14 39 15.3	+0.9
TUMR	**Tumrok**	**1.51**	**264**	*e*P		Pn		14 38 58.7	+2.5
TUMR				*i*S		Sn		14 39 18.0	+3.3
KOZ	**Kozyrevsk**	**1.75**	**291**	*e*P		Pn		14 39 02.3	+2.8
KOZ				*i*S		Sn		14 39 25.4	+4.9
SRDR	**Sredinnyy**	**1.93**	**298**	*e*P		Pn		14 39 04.7	+2.8
SRDR				*i*S		Sn		14 39 27.9	+3.0
SPN	**Mys Shipunski**	**2.87**	**215**	*e*P		Pn		14 39 15.9	+1.1
SPN				*i*S		Sn		14 39 48.1	+0.1
NLC	**Nalytchevo**	**3.05**	**223**	*e*P		Pn		14 39 19.1	+1.8
NLC				*i*S		Sn		14 39 55.0	+2.4
AVH	**Avacha**	**3.23**	**229**	*e*P		Pn		14 39 22.8	+3.0
AVH				*i*S		Sn		14 40 00.5	+3.5
GNL	**Ganaly**	**3.33**	**240**	*e*P		Pn		14 39 24.2	+3.1
GNL				*e*S		Sn		14 40 03.2	+3.9
PET	**Petropavlovsk**	**3.44**	**226**	P		Pn		14 39 25.0	+2.3
PET				*i*S		Sn		14 40 04.7	+2.6
RUS	**Russkaya**	**3.94**	**221**	*e*P		Pn		14 39 31.2	+1.6
MIPR	**Malaya Ipel'ka**	**4.78**	**231**	P		Pn		14 39 45.4	+4.3

*IDC **04** 14:41:15.1±1.5, 664S×15471E, h0km, mb3.9/5, mb1 4.1/5, mb1mx3.8/15, mbtmp3.9/5, MS2.9/1, Ms1 2.9/1, ms1mx2.7/25, Error ellipse: s-maj=76.7km s-min=28.4km az=131.0*
NEIC 04 14:41:16.5±1.1, 683S×15490E, h10km, Error ellipse: s-maj=41.1km s-min=18.7km az=120.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.83**	**235**			P	P	14 46 30.1	+0.1
	2.4nm,0.6s,baz=59,slow=9.7,SNR=21								
WRA				PcP		PcP	PcP	14 50 13.7	+0.4
	0.2nm,0.4s,baz=55,slow=2.3,SNR=4.9								
ASAR	**Alice Springs**	**26.21**	**228**			P	P	14 46 51.0	-0.6
	0.7nm,0.6s,baz=60,slow=9.2,SNR=6.4								
STKA	**Stephens Creek**	**27.84**	**205**			P	P	14 47 07.2	+1.0
	1.8nm,0.9s,baz=12,slow=14,SNR=3.3								
FITZ	**Fitzroy Crossi**	**30.63**	**246**			P	P	14 47 31.2	0.0
	0.7nm,0.6s,baz=101,slow=8.3,SNR=3.3								
PPT	**Papeete**	**55.14**	**107**	LR		LR	LR	15 11 22.9	
	comp=Z,11nm,20.1s,baz=241,slow=33								
YKA	**Yellowknife Ar**	**96.24**	**28**			P	P	14 54 44.8	+0.1
	0.1nm,0.5s,baz=270,slow=4.3,SNR=5.2								
TORD	**Torodi Ar. Bea**	**152.89**	**285**	PKPbc		PKPbc	PKPbc	15 01 14.2	-0.8
	0.4nm,0.9s,baz=56,slow=1.8,SNR=6.1								

IDC 04 14:44:06.1±2.6, 801S×15602E, h0km, mb3.8/6, mb1 3.9/6, mb1mx3.8/14, mbtmp3.8/6, MS2.9/1, Ms1 2.9/1, ms1mx2.7/26, Error ellipse: s-maj=81.3km s-min=26.3km az=118.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.13**	**110**			LR	LR	14 46 04.2	
	comp=Z,135nm,18.5s,baz=182,slow=29								
WRA	**Warramunga Arr**	**24.11**	**238**			P	P	14 49 23.6	-0.1
	1.0nm,0.8s,baz=61,slow=10.0,SNR=3.5								
ASAR	**Alice Springs**	**26.30**	**231**			P	P	14 49 43.6	0.0
	0.3nm,0.9s,baz=66,slow=9.2,SNR=3.3								
MJAR	**Matsushiro Arr**	**47.37**	**340**			P	P	14 52 40.0	-2.0
	1.8nm,0.7s,baz=165,slow=7.4,SNR=4.9								
SONM	**Songino Array**	**70.73**	**327**			P	P	14 55 26.1	+2.1
	0.6nm,0.6s,baz=130,slow=5.8,SNR=3.6								
MKAR	**Makanchi Array**	**84.83**	**319**			P	P	14 56 42.1	-0.5
	1.6nm,0.8s,baz=101,slow=6.3,SNR=5.0								
YKA	**Yellowknife Ar**	**96.75**	**28**			P	P	14 57 38.2	-0.2
	0.1nm,0.3s,baz=263,slow=4.3,SNR=4.1								

*IDC **04** 14:45:06.0±1.1, 250N×9573E, h0km, mb4.1/9, mb1 4.1/10, mb1mx4.0/21, mbtmp4.0/10, ML3.3/1, MS3.3/1, Ms1 3.3/1, ms1mx3.0/32, Error ellipse: s-maj=44.5km s-min=16.8km az=49.0*
*BJI **04** 14:45:08.3, 285N×9566E, h18km, mB5.1, mb4.4*
*NEIC **04** 14:45:10.8±0.6, 262N×9585E, h30km, mb4.2/5, Error ellipse: s-maj=14.4km s-min=8.3km az=223.0*
*ISCJB **04** 14:45:13.9±3.1, 28N±01×96.1E±02, h70km±25km, mb4.3/20, Error ellipse: s-maj=35.6km s-min=12.7km az=146.0*
ISC 04 14:45:15.2±3.0, 27N±01×961E±02, h63km±24km, h13km±6.3km: pP-P, n28, σ0°66/28, mb4.3/20, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.82**	**89**			Pn	**Pn**	**14 45 58.1**	**+0.3**
	3.8nm,0.3s,baz=284,slow=6.7,SNR=15								
PSI				LR		LR	LR	14 47 31.3	
	comp=Z,421nm,19.1s,baz=189,slow=45								
KULM	**Kulim**	**5.19**	**61**	*e*P			**Pn**	**14 46 30.5**	**+0.1**
CHTO	**Chiang Mai**	**16.21**	**10**	*e*P			**Pn**	**14 48 57.4**	**-1.7**
	3.6nm,1.0s								
JIRN	**Jiri**	**26.53**	**340**	*e*P			**P**	**14 50 48.1**	**+1.0**
	62nm,0.8s,mb5.2								
KKN	**Kakani**	**26.97**	**338**	*e*P			**P**	**14 50 51.4**	**+0.3**
	37nm,0.8s,mb5.0								
GKN	**Gorkha**	**27.40**	**338**	*e*P			**P**	**14 50 55.5**	**+0.6**
	42nm,0.9s,mb5.0								
KOLN	**Koldanda**	**27.61**	**336**	*e*P			**P**	**14 50 57.2**	**+0.4**
	22nm,0.7s,mb4.9								
XAN	**Xi'an**	**33.36**	**20**			P	**P**	**14 51 47.4**	**0.0**
XAN						AP	pP	14 51 53.5	-9.5
XAN						AMB	AMB		
	comp=Z,7.0nm,1.1s,mb4.5								
LZH	**Lanzhou**	**33.94**	**11**	*e*P			**P**	**14 51 52.3**	**-0.2**
LZH						AP	pP	14 51 57.5	-11
LZH						XP	sP	14 52 00.4	-15
LZH						AMB	AMB		
	comp=Z,15nm,1.3s,mb4.8								
LZH						AMB	AMB		
	comp=Z,69nm,4.1s								
LZH	**Lanzhou**	**33.94**	**11**	*e*P			**P**	**14 51 52.3**	**-0.2**
	comp=Z,15nm,1.3s,mb4.8								
LZH						pP	pP	14 51 57.5	-11
LZH						sP	sP	14 52 00.4	-15
GTA	**Gaotai**	**36.65**	**5**	*e*P			**P**	**14 52 15.2**	**-0.5**
GTA						AP	pP	14 52 19.8	-12
GTA						XP	sP	14 52 23.0	-16
GTA						AMB	AMB		
	comp=Z,9.0nm,1.2s,mb4.5								
WRA	**Warramunga Arr**	**43.78**	**123**			P	**P**	**14 53 15.2**	**+0.2**
	comp=Z,1.7nm,1.0s,mb3.7,baz=299,slow=9.1,SNR=6.4								
UCH	**Uchtor**	**43.81**	**337**	*e*P			**P**	**14 53 15.9**	**+1.0**
	comp=Z,5.0nm,1.1s,mb4.2								
ASAR	**Alice Springs**	**45.20**	**128**			P	**P**	**14 53 26.2**	**-0.1**
	comp=Z,0.5nm,0.7s,mb3.5,baz=296,slow=8.1,SNR=8.2								
MKAR	**Makanchi Array**	**45.49**	**347**			P	**P**	**14 53 28.5**	**+0.3**
MKAR	**Makanchi Array**	**45.49**	**347**			P	**P**	**14 53 28.5**	**+0.3**
	comp=Z,3.6nm,0.7s,mb4.3,baz=166,slow=7.7,SNR=16								
SONM	**Songino Array**	**45.79**	**10**			P	**P**	**14 53 31.4**	**+0.8**
	comp=Z,2.9nm,0.7s,mb4.3,baz=188,slow=8.9,SNR=18								
ULN	**Ulaanbaatar**	**45.93**	**10**	*e*P			**P**	**14 53 32.6**	**+0.9**
KURK	**Kurchatov**	**50.03**	**346**	*e*P			**P**	**14 54 03.4**	**+0.1**
	comp=Z,1.8nm,0.7s,mb4.2								
ZALV	**Zalesovo Beam**	**51.88**	**352**			P	**P**	**14 54 17.3**	**+0.2**
	comp=Z,4.9nm,0.7s,mb4.5,baz=181,slow=6.1,SNR=27								
BRVK	**Borovoye**	**54.51**	**341**	*e*P			**P**	**14 54 36.2**	**-0.2**
	comp=Z,3.2nm,1.0s,mb4.3								
STKA	**Stephens Creek**	**55.20**	**132**			P	**P**	**14 54 41.6**	**-0.2**
	comp=Z,2.0nm,0.8s,mb4.2,baz=316,slow=14,SNR=3.9								
AKTK	**Aktyubinsk**	**57.36**	**332**			P	**P**	**14 54 56.2**	**-0.7**
AKTO	**Aktyubinsk**	**57.36**	**332**			P	**P**	**14 54 56.2**	**-0.7**
	comp=Z,1.0nm,0.6s,mb4.0,baz=127,slow=5.6,SNR=6.4								
TIXI	**Tiksi**	**71.87**	**10**	*e*P			**P**	**14 56 30.5**	**-0.6**
	comp=Z,3.9nm,1.2s,mb4.2								
AKASG	**Malin Array Be**	**73.38**	**322**			P	**P**	**14 56 38.9**	**-1.5**
AKASG	**Malin Array Be**	**73.38**	**322**			P	**P**	**14 56 38.9**	**-1.5**
	comp=Z,0.8nm,0.7s,mb3.8,baz=93,slow=4.8,SNR=4.4								
GERES	**GERESS Array B**	**82.94**	**319**			P	**P**	**14 57 33.4**	**0.0**
	comp=Z,0.9nm,0.6s,mb4.0,baz=121,slow=3.8,SNR=4.6								

*ISCJB **04** 14:48:34.9±6.6, 209S±02×1686E±02, h23km±44km, mb3.7/4, Error ellipse: s-maj=35.0km s-min=17.6km az=147.9*
*IDC **04** 14:48:38.8±2.2, 2090S×16849E, h36km±7km, mb3.6/4, mb1 3.8/5, mb1mx3.6/14, mbtmp3.5/5, ML3.0/1, Error ellipse: s-

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.78**	**234**	P	P	15 17 03.7	+0.2
	1.2nm,0.7s,baz=58,slow=9.8,SNR=12						
ASAR	**Alice Springs**	**26.22**	**227**	P	P	15 17 25.5	-0.2
	0.6nm,0.6s,baz=63,slow=8.5,SNR=12						
TORD	**Torodi Ar. Bea**	**152.41**	**286**	PKPbc	PKPbc	15 31 48.1	0.0
	0.2nm,0.4s,baz=98,slow=2.4,SNR=5.9						

*ATH **04** 15:20:14.9, 3655N×2879E, h29km±3km, MD3.4/6*
*NEIC **04** 15:20:14.9, 3655N×2879E, h29km, MD3.4(ATH), After ATH.*
*ISK **04** 15:20:15.0, 3652N×2881E, h20km, MD3.1, ML3.1*
*CSEM **04** 15:20:15.4±0.1, 3657N×2885E, h20km, MD3.1, Error ellipse: s-maj=2.4km s-min=1.5km az=179.0*
*ISCJB **04** 15:20:16.1±0.5, 3651N±004×2881E±003, h28km±5km, Error ellipse: s-maj=6.6km s-min=4.4km az=13.6*
*DDA **04** 15:20:16.4, 3651N×2877E, h7km±6km, Md3.3*
ISC 04 15:20:15.8±0.6, 3651N±004×2881E±003, h19km±4km, n27, σ0°94/38, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FETY	**Fethiye**	**0.26**	**60**	*i* PG	**Pg**	**15 20 21.2**	**-0.5**
FETY				*i* SG	**Sg**	**15 20 26.2**	**+0.4**
ARG	**Arkhangelos**	**0.62**	**243**	*e*PN	**Pn**	**15 20 27.9**	**-1.6**
ARG				*e*SN	**Sg**	**15 20 37.5**	**+1.0**
AKAS	**Kas**	**0.70**	**113**	*i* P	**Pb**	**15 20 29.0**	**-0.3**
AKAS				*i* S	**Sb**	**15 20 41.4**	**+2.9**
KSL	**Kastellorizon**	**0.72**	**119**	*e*PN	**Pn**	**15 20 29.5**	**-1.4**
KSL				*e*SN	**Sn**	**15 20 41.5**	**+0.1**
YER	**Yerkesik**	**0.76**	**326**	*i* PG	**Pg**	**15 20 30.2**	**-0.5**
YER				*i* SG	**Sg**	**15 20 40.9**	**+0.1**
ELL	**Elmali**	**0.92**	**74**	PG	**Pg**	**15 20 32.7**	**-1.0**
ELL				SG	**Sg**	**15 20 46.7**	**+0.8**
GOLH	**Golhisar**	**0.95**	**39**	*i* P	**Pb**	**15 20 32.9**	**-0.8**
GOLH				*i* S	**Sb**	**15 20 47.7**	**+1.9**
GOLH	**Golhisar**	**0.95**	**39**	*i* P	**Pb**	**15 20 32.8**	**-0.8**
GOLH				*i* S	**Sb**	**15 20 47.7**	**+1.9**
DAT	**Datca**	**1.01**	**283**	PG	**Pg**	**15 20 35.1**	**-0.4**
MLSB	**Milas**	**1.14**	**314**	*e*PN	**Pn**	**15 20 37.0**	**+0.3**
BDRM	**Kayabasi**	**1.23**	**297**	*i* P	**Pn**	**15 20 37.6**	**-0.3**
BDRM				*i* S	**Sb**	**15 20 54.8**	**+1.0**
DENT	**Denizli**	**1.26**	**8**	*e*PN	**Pn**	**15 20 38.3**	**-0.1**
BODT	**Bodrum**	**1.32**	**295**	*e*PN	**Pn**	**15 20 38.6**	**-0.6**
KARP	**Karpathos**	**1.64**	**235**	*e*PN	**Pn**	**15 20 44.0**	**+0.4**
BCK	**Bucak**	**1.72**	**56**	*e*PN	**Pn**	**15 20 43.6**	**-1.0**
ISP	**Isparta**	**1.91**	**45**	*e*PN	**Pn**	**15 20 47.0**	**-0.2**
ISP	**Isparta**	**1.91**	**45**	*e*Pn	**Pn**	**15 20 47.0**	**-0.3**
SMG	**Samos**	**1.98**	**308**	*e*PN	**Pn**	**15 20 47.9**	**-0.4**
SMG				*e*SN	**Sn**	**15 21 12.2**	**-0.3**
KULA	**Kula-Manisa**	**2.01**	**357**	*e*PN	**Pn**	**15 20 47.7**	**-1.0**
SHUT	**Suhut-Afyon**	**2.47**	**34**	*e*PN	**Pn**	**15 20 54.8**	**-0.2**
URLA	**Izmir**	**2.56**	**317**	*i* P	**Pn**	**15 20 49.4**	**-6.8**
URLA				*i* S	**Sn**	**15 21 18.5**	**-8.2**
APE	**Apeiranthos**	**2.69**	**283**	*e*PN	**Pn**	**15 20 58.8**	**+0.8**
NPS	**Neapolis**	**2.88**	**245**	*e*PN	**Pn**	**15 21 00.2**	**-0.4**
LAST	**Lasithi**	**3.02**	**245**	P	**Pn**	**15 21 06.1**	**+3.6**
KIZT	**Kizilcal**	**3.40**	**45**	*e*PN	**Pn**	**15 21 07.9**	**+0.1**
LIA	**Limnos Island**	**4.43**	**321**	P	**Pn**	**15 21 28.8**	**+6.9**
NEO	**Neokhori**	**5.23**	**304**	P	**Pn**	**15 21 35.3**	**+2.4**

*IDC **04** 15:22:32.9±3.7, 2051S×16855E, h0km, mb4.0/4, mb1 4.2/5, mb1mx3.9/15, mbtmp4.0/5, ML3.2/1, Error ellipse: s-maj=101.3km s-min=33.6km az=130.0*
NEIC 04 15:22:33.3±2.5, 2061S×16870E, h10km, mb4.1/2, Error ellipse: s-maj=69.1km s-min=24.5km az=130.0, Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**2.56**	**235**	*e*P	Pn	15 23 14.3	-0.6
DZM				*e*S	Sn	15 23 45.8	-0.3
DZM	**Mont Dzumac**	**2.56**	**235**	Pn	Pn	15 23 14.3	-0.6
	5.4nm,0.3s,baz=62,slow=19,SNR=21						
DZM				Sn	Sn	15 23 46.1	0.0
	21nm,0.3s,baz=256,slow=22,SNR=9.0						
STKA	**Stephens Creek**	**26.71**	**240**	*e*P	P	15 28 13.9	+1.0
	1.6nm,0.6s						
STKA	**Stephens Creek**	**26.71**	**240**	P	P	15 28 13.4	+0.5
	1.8nm,0.7s,baz=100,slow=6.1,SNR=5.0						
WB2	**Warramunga Arr**	**32.20**	**265**	*e*P	P	15 29 01.6	-0.2
WRA	**Warramunga Arr**	**32.21**	**265**	P	P	15 29 01.3	-0.6
	1.0nm,0.9s,baz=91,slow=8.5,SNR=9.2						
ASAR	**Alice Springs**	**32.33**	**258**	P	P	15 29 03.1	+0.2
	2.2nm,0.8s,baz=90,slow=9.0,SNR=29						
FITZ	**Fitzroy Crossi**	**40.62**	**266**	*e*P	P	15 30 14.8	+1.0
	3.6nm,0.6s						
FITZ	**Fitzroy Crossi**	**40.62**	**266**	P	P	15 30 14.7	+0.9
	2.3nm,0.8s,baz=94,slow=4.7,SNR=5.8						
CLL	**Collm**	**143.93**	**334**	*e*PKPdf	PKPdf	15 42 09.0	+0.2
GERES	**GERESS Array B**	**145.44**	**331**	PKPbc	PKPbc	15 42 11.2	-0.3
	1.4nm,0.8s,baz=23,slow=1.7,SNR=5.4						

*ISCJB **04** 15:30:28.8±1.4, 199S±02×1777W±02, h500km, mb3.6/8, Error ellipse: s-maj=31.6km s-min=17.5km az=44.8*
*NEIC **04** 15:30:30.2±1.3, 1998S×17770W, h500km, mb3.6/4, Error ellipse: s-maj=29.5km s-min=16.0km az=52.0*
*IDC **04** 15:30:31.5±9.9, 2000S×17775W, h515km±106km, mb3.2/8, mb1 3.3/9, mb1mx3.2/18, mbtmp3.2/9, Error ellipse: s-maj=56.8km s-min=19.2km az=53.0*
ISC 04 15:30:30.1±1.4, 200S±02×1777W±02, h500km, n17, σ0°58/17, mb3.6/8, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**18.77**	**193**	P	**P**	**15 34 17.7**	**+0.3**
	0.6nm,0.3s,baz=30,slow=17,SNR=5.7						
CTA	**Charters Tower**	**33.82**	**263**	P	**P**	**15 36 31.2**	**+1.0**
	3.5nm,0.4s,mb4.1,baz=85,slow=11,SNR=4.7						
CTAO	**Charters Tower**	**33.82**	**263**	*e*P	**P**	**15 36 30.9**	**+0.7**
	3.4nm,0.4s,mb4.1						
STKA	**Stephens Creek**	**38.27**	**244**	P	**P**	**15 37 05.7**	**-1.3**
STKA	**Stephens Creek**	**38.27**	**244**	P	**P**	**15 37 05.7**	**-1.3**
	1.1nm,0.7s,mb3.4,baz=74,slow=5.2,SNR=3.4						
ASAR	**Alice Springs**	**44.91**	**256**	P	**P**	**15 38 00.2**	**+0.4**
	3.1nm,0.8s,mb3.8,baz=91,slow=7.7,SNR=54						
WB2	**Warramunga Arr**	**44.94**	**261**	*e*P	**P**	**15 38 00.0**	**-0.1**
WRA	**Warramunga Arr**	**44.95**	**261**	P	**P**	**15 38 00.1**	**0.0**
	1.3nm,0.3s,mb3.8,baz=97,slow=7.6,SNR=97						
FITZ	**Fitzroy Crossi**	**53.37**	**262**	*e*P	**P**	**15 39 03.1**	**+0.5**
	4.2nm,1.5s,mb3.5						
FITZ	**Fitzroy Crossi**	**53.37**	**262**	P	**P**	**15 39 01.9**	**-0.7**
	1.0nm,0.6s,mb3.3,baz=90,slow=7.1,SNR=3.9						
VNDA	**Vanda**	**58.46**	**185**	*e*P	**P**	**15 39 36.7**	**-0.3**
	0.5nm,0.5s,mb3.1						
VNDA	**Vanda**	**58.46**	**185**	P	**P**	**15 39 36.7**	**-0.2**
	0.4nm,0.4s,mb3.1,baz=18,slow=4.1,SNR=6.2						
MJAR	**Matsushiro Arr**	**69.95**	**323**	P	**P**	**15 40 50.6**	**0.0**
	1.3nm,0.5s,mb3.7,baz=164,slow=5.4,SNR=4.1						
QSPA	**South Pole Qui**	**70.09**	**180**	*e*P	**P**	**15 40 51.8**	**+0.9**
	1.3nm,0.6s,mb3.6						
QSPA	**South Pole Qui**	**70.09**	**180**	P	**P**	**15 40 51.6**	**+0.8**
	1.1nm,0.6s,mb3.5,baz=154,slow=2.0,SNR=9.8						
VNA3	**Neumayer Olymp**	**88.65**	**176**	*e*	**P**	**15 42 28.5**	**-0.6**
VNA3				*e*		15 42 30.5	
VNA2	**Neumayer--Watz**	**89.09**	**177**	*e*	**P**	**15 42 31.0**	**-0.1**
	baz=230,slow=3.4						
VNA2				*e*		15 42 33.2	

*NEIC **04** 15:30:41.1, 1824N×6816W, h82km±2km, MD3.6(RSPR), After RSPR.*
RSPR 04 15:30:41.1, 1824N×6816W, h82km±2km, MD3.6/11, MD3.6/11, 4C-6D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IMO	**Isla Mona**	**0.27**	**119**	*e*P	Pn	15 30 52.8	-0.6
IMO				*e*S	Sn	15 31 02.6	+0.1
AGPR	**Aguadilla, PR**	**1.02**	**77**	*e*P	Pn	15 31 00.7	+0.2
AGPR				*e*S	Sn	15 31 15.1	+0.2
LSP	**Las Mesas**	**1.02**	**93**	*e*P	Pn	15 30 59.9	-0.6
LSP				*e*S	Sn	15 31 13.7	-1.3
GBPR	**Guanica, Bosqu**	**1.24**	**102**	*e*S	Sn	15 31 18.8	-1.0
GBPR	**Guanica, Bosqu**	**1.24**	**102**	*e*P	Pn	15 31 02.7	-0.5
LRS	**Lares**	**1.25**	**87**	*e*P	Pn	15 31 02.9	-0.4
LRS				*e*S	Sn	15 31 19.4	-0.5
SMN1	**Samana, DR**	**1.42**	**312**	*e*P	Pn	15 31 23.2	-0.6
SMN1	**Samana, DR**	**1.42**	**312**	*e*P	Pn	15 31 05.5	0.0
OBIP	**Obispado Ponce**	**1.49**	**97**	*e*P	Pn	15 31 05.9	-0.4
OBIP				*e*S	Sn	15 31 24.2	-1.1
CELP	**Cerrillos**	**1.51**	**96**	*e*P	Pn	15 31 06.1	-0.4
CELP				*e*S	Sn	15 31 24.8	-1.0
SJG	**San Juan**	**1.91**	**94**	*e*P	Pn	15 31 11.1	-0.7
SJG				*e*S	Sn	15 31 34.5	-0.8
SJG	**San Juan**	**1.91**	**94**	*e*P	Pn	15 31 11.4	-0.4
SJG				*e*S	Sn	15 31 34.8	-0.5
SDDR	**Presa de Saban**	**3.06**	**284**	*e*Pn	Pn	15 31 29.7	+2.4
SDDR				*e*Sn	Sn	15 32 07.1	+4.2

*CSEM **04** 15:33:28.1±0.1, 3987N×2993E, h2km, ML3.3, Error ellipse: s-maj=1.8km s-min=1.1km az=44.0*
*ISCJB **04** 15:33:29.0±0.6, 3986N±004×2995E±004, h7km±8km, Error ellipse: s-maj=8.3km s-min=4.3km az=32.6*
*ISK **04** 15:33:29.0, 3987N×2995E, h9km, MD2.9*
*DDA **04** 15:33:30.7, 3979N×2999E, h7km±3km, Md3.0, Ml3.3*
ISC 04 15:33:29.5±0.5, 3986N±003×2993E±005, h6km±8km, n13, σ0°59/19, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BORA	**Eskisehir**	**0.40**	**87**	*i* P	**Pg**	**15 33 37.0**	**-0.3**
BORA				*i* S	**Sg**	**15 33 43.2**	**+0.8**
IZI	**Iznik**	**0.59**	**323**	*i* PG	**Pg**	**15 33 41.2**	**+0.3**
IZI				*i* SG	**Sg**	**15 33 49.3**	**+0.7**
GULT	**Gulveren**	**0.72**	**38**	*i* PG	**Pg**	**15 33 43.2**	**-0.2**
ESKT	**Eskisehir**	**0.79**	**115**	*i* PG	**Pg**	**15 33 44.4**	**-0.2**
ESKT				*i* SG	**Sg**	**15 33 55.8**	**+1.0**
ESKT	**Eskisehir**	**0.79**	**115**	*i* P	**Pg**	**15 33 43.8**	**-0.8**
ESKT				*i* S	**Sg**	**15 33 54.5**	**-0.2**
SEYT	**Eskypehyr**	**0.79**	**115**	*i* P	**Pg**	**15 33 43.8**	**-0.8**
ALT	**Altintas**	**0.82**	**170**	PG	**Pg**	**15 33 45.0**	**-0.2**
YLV	**Yalova**	**0.82**	**329**	*i* PG	**Pg**	**15 33 45.0**	**-0.3**
GDZ	**Gediz**	**0.85**	**205**	*i* P	**Pg**	**15 33 44.9**	**-0.9**
GDZ				*i* S	**Sg**	**15 33 57.2**	**+0.5**
HRT	**Hereke**	**0.98**	**348**	PG	**Pg**	**15 33 47.7**	**-0.6**
KCT	**Karacabey**	**1.28**	**289**	*e*PN	**Pn**	**15 33 53.8**	**0.0**
ISK	**Istanbul-Kandi**	**1.38**	**331**	*e*PN	**Pn**	**15 33 54.7**	**-0.5**
BTOK	**Tokmak**	**1.47**	**267**	*i* P	**Pn**	**15 33 57.8**	**+1.3**
BTOK				*i* S	**Sn**	**15 34 15.7**	**-0.3**

*SZGRF **04** 15:38:15.1, 2625S×16850E, h39km, New Caledonia region*
*NEIC **04** 15:38:24.2±1.4, 2084S×16842E, h10km, mb4.5/1, Error ellipse: s-maj=50.7km s-min=13.6km az=137.0*
*IDC **04** 15:38:29.4±2.4, 2076S×16821E, h36km±5km, mb4.0/5, mb1 4.1/6, mb1mx3.9/15, mbtmp3.9/6, ML3.4/1, MS3.7/5, Ms1 3.7/5, ms1mx3.2/27, Error ellipse: s-maj=76.0km s-min=21.1km az=135.0*
ISC 04 15:38:27.5±2.6, 210S±04×1686E±04, h38km, h38km±5km: pP-P, n27, σ0°79/9, mb4.1/6, MS3.6/4, Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**2.22**	**242**	Pn	**Pn**	**15 39 00.2**	**-1.6**
	11nm,0.3s,baz=96,slow=21,SNR=9.3						
DZM				Sn	**Sn**	**15 39 28.7**	**+0.6**
	26nm,0.3s,baz=165,slow=23,SNR=6.5						
RAO	**Raoul Island**	**14.72**	**126**	LR	LR	15 46 51.6	
	comp=Z,147nm,18.4s,baz=55,slow=33						
CTA	**Charters Tower**	**20.91**	**269**	LR	LR	15 50 37.2	
	comp=Z,145nm,18.7s,MS3.4,baz=58,slow=35						
STKA	**Stephens Creek**	**26.38**	**240**	*e*P	**P**	**15 44 01.6**	**+1.3**
STKA				LR	LR	15 53 57.6	
STKA	**Stephens Creek**	**26.38**	**240**	P	**P**	**15 44 00.8**	**+0.6**
	2.6nm,0.8s,mb3.8,baz=62,slow=9.2,SNR=5.3						
STKA				LR	LR	15 53 57.6	
	comp=Z,187nm,18.4s,MS3.7,baz=20,slow=35						
WRA	**Warramunga Arr**	**32.04**	**266**	P	**P**	**15 44 49.9**	**-0.8**
	1.6nm,0.9s,mb3.8,baz=92,slow=9.0,SNR=8.3						
WRA				pP	pP	15 45 00.0	-1.4
	0.4nm,0.5s,baz=85,slow=5.6,SNR=4.0						
WRA				LR	LR	15 57 22.6	
	comp=Z,127nm,19.4s,MS3.6,baz=85,slow=36						
ASAR	**Alice Springs**	**32.11**	**259**	P	**P**	**15 44 51.1**	**-0.2**
	5.0nm,0.8s,mb4.4,baz=82,slow=8.9,SNR=45						
ASAR				pP	pP	15 45 01.6	-0.4
	2.2nm,0.5s,baz=90,slow=8.8,SNR=8.2						
PPT	**Papeete**	**39.58**	**92**	*e*LR	LR	15 57 04.7	
	186nm,31.5s						
PPT	**Papeete**	**39.58**	**92**	LR	LR	16 00 06.6	
	comp=Z,183nm,19.1s,MS3.9,baz=224,slow=32						
FITZ	**Fitzroy Crossi**	**40.46**	**266**	P	**P**	**15 46 03.3**	**+0.6**
	3.4nm,0.9s,mb4.1,baz=133,slow=12,SNR=5.3						
FITZ				pP	pP	15 46 13.5	-0.1
	1.3nm,0.6s,baz=111,slow=8.2,SNR=2.4						
ULN	**Ulaanbaatar**	**87.92**	**324**	*e*P	**P**	**15 51 13.0**	**0.0**
	2.6nm,0.9s,mb4.5						
ULN				*e*	pP	15 51 24.6	-0.3
SONM	**Songino Array**	**88.27**	**323**	P	**P**	**15 51 15.0**	**+0.3**
	1.4nm,0.8s,mb4.2,baz=140,slow=5.4,SNR=11						
SONM				pP	pP	15 51 26.3	-0.3
	1.7nm,1.0s,baz=128,slow=3.4,SNR=7.2						
BRG	**Berggiesshubel**	**144.18**	**332**	*e*pPKPbc		15 58 08.8	
FBE	**Freiberg**	**144.39**	**333**	*e*PKPbc	PKPdf	15 57 58.2	-1.2
FBE				*e*pPKPbc		15 58 11.5	
TANN	**Tannenbergstha**	**145.15**	**333**	*e*PKPbc	PKPbc	15 58 00.8	+0.5
TANN				*e*pPKPbc	pPKPbc	15 58 12.3	-0.1
WERD	**Werda**	**145.19**	**333**	*e*PKPbc	PKPbc	15 58 00.5	+0.1
WERD				*e*pPKPbc	pPKPbc	15 58 12.5	0.0
GUNZ	**Gunzen**	**145.24**	**333**	*e*PKPbc	PKPbc	15 58 01.3	+0.7
GUNZ				*e*pPKPbc	pPKPbc	15 58 12.7	0.0
WERN	**Wernitzgruen**	**145.28**	**333**	*e*PKPbc	PKPbc	15 58 01.0	+0.3
WERN				*e*pPKPbc	pPKPbc	15 58 12.8	0.0
NKC	**Novy Kostel**	**145.29**	**333**	*e*PKP	PKPdf	15 58 01.4	+0.4
NKC				*ex*	x	15 58 12.5	
MOX	**Moxa**	**145.33**	**334**	*e*PKPbc	PKPbc	15 58 01.0	+0.1
MOX				*e*pPKPbc	pPKPbc	15 58 12.7	-0.3
KHC	**Kasperske Hory**	**145.60**	**331**	*e*PKP	PKPdf	15 58 02.0	+0.5
KHC				*ex*	x	15 58 13.7	
MANZ	**Manzenberg**	**145.62**	**333**	*e*PKPbc	PKPbc	15 58 02.3	+0.5
MANZ				*e*pPKPbc	pPKPbc	15 58 13.8	-0.1
ROTZ	**Rotzenmuhle**	**145.74**	**332**	*e*PKPbc	PKPbc	15 58 02.6	+0.4
ROTZ				*e*pPKPbc	pPKPbc	15 58 14.2	-0.1
GEC2	**GERESS Array S**	**145.74**	**330**	*e*PKPbc	PKPbc	15 58 01.9	-0.3
GEC2				*e*pPKPbc	pPKPbc	15 58 14.1	-0.3
GERES	**GERESS Array B**	**145.74**	**330**	PKPbc	PKPbc	15 58 02.5	+0.3
	3.0nm,0.8s,baz=46,slow=3.9,SNR=13						
GERES				pPKPbc	pPKPbc	15 58 14.1	-0.3
	5.2nm,0.9s,baz=46,slow=3.9,SNR=12						
GRA1	**Grafenberg Arr**	**146.22**	**333**	*e*PKPbc	PKPbc	15 58 04.0	+0.4
GRA1				*e*pPKPbc	pPKPbc	15 58 15.6	-0.2
GRF	**Grafenberg Arr**	**146.22**	**333**	*e*PKPbc	PKPbc	15 58 04.0	+0.4
GRF				*e*pPKPbc	pPKPbc	15 58 15.6	-0.2

*TIF **04** 15:46:32.0, 4469N×3904E, h15km±2km*
MOS 04 15:46:30.1±1.6, 4469N×3861E, h21km, mb3.9/1, 1C-1D, Error ellipse: s-maj=36.9km s-min=12.7km az=23.3, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANN	**Anapa**	**0.85**	**278**	*c i*PG	Pb	15 46 55.8	+10
ANN				pmax	pmax		
	comp=Z,144nm,0.4s						
SOC	**Sochi**	**1.36**	**144**	*d i*PG	Pn	15 46 54.9	+1.0
SOC				pmax	pmax		
	comp=Z,15nm,0.2s						
KIV	**Kislovodsk**	**3.02**	**103**	*e*PN	Pn	15 47 17.4	+0.8
KIV0	**Kislovodsk Arr**	**3.02**	**103**	PN	Pn	15 47 16.8	+0.1
SHAR	**Shatzhatmas**	**3.07**	**107**	*e*PN	Pn	15 47 20.8	+3.5
BEYR	**Belyy Ugol+**	**3.09**	**101**	PN	Pn	15 47 18.3	+0.7
BEYR				S	Sn	15 47 54.0	+0.1
GOF	**Gofitskoye**	**3.17**	**82**	*e*PN	Pn	15 47 35.0	+16
GOF				*i* S	Sn	15 48 22.0	+26
GOF				smax			
	comp=N,90nm,0.7s						
PYA	**Pyatigorsk**	**3.26**	**100**	*e*PN	Pn	15 47 24.3	+4.4
KUBR	**Kubataba**	**3.56**	**103**	*e*PN	Pn	15 47 28.2	+4.1

*ISCJB **04** 15:49:13.4±6.5, 210S±02×1686E±02, h26km±44km, mb4.1/5, MS3.6/3, Error ellipse: s-maj=38.4km s-min=17.6km az=148.7*
*IDC **04** 15:49:16.4±1.6, 21.14S×16860E, h37km±6km, mb3.9/5, mb1 4.1/6, mb1mx3.9/14, mbtmp3.9/6, ML3.4/1, MS3.7/3, Ms1 3.6/3, ms1mx3.1/23, Error ellipse: s-maj=69.2km s-min=19.8km az=149.0*
ISC 04 15:49:13.6±6.4, 211S±02×1686E±01, h18km±39km, n15, σ0°43/11, mb4.1/5, MS3.6/3, Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**2.24**	**243**	*e*P	**Pn**	**15 49 50.0**	**+0.1**
DZM				*e*S	**Sn**	**15 50 16.1**	**-1.0**
DZM	**Mont Dzumac**	**2.24**	**243**	Pn	**Pn**	**15 49 49.8**	**-0.1**
	11nm,0.3s,baz=77,slow=19,SNR=47						
DZM				Sn	**Sn**	**15 50 18.1**	**+1.0**
	63nm,0.3s,baz=128,slow=19,SNR=20						
CTA	**Charters Tower**	**20.94**	**269**	LR	LR	16 01 05.2	
	comp=Z,178nm,18.7s,MS3.5,baz=315,slow=34						
STKA	**Stephens Creek**	**26.39**	**240**	P	**P**	**15 54 49.6**	**+0.4**
	2.0nm,0.6s,mb3.8,baz=66,slow=9.6,SNR=7.7						
STKA				LR	LR	16 03 32.6	
	comp=Z,127nm,19.0s,MS3.5,baz=20,slow=32						
WRA	**Warramunga Arr**	**32.07**	**266**	P	**P**	**15 55 39.2**	**-0.6**
	1.8nm,1.0s,mb3.9,baz=95,slow=8.4,SNR=7.1						
ASAR	**Alice Springs**	**32.14**	**259**	P	**P**	**15 55 40.5**	**+0.2**
	5.5nm,0.8s,mb4.4,baz=84,slow=9.3,SNR=60						
BATI	**Kupang**	**44.46**	**277**	LR	LR	16 13 53.2	
	comp=Z,94nm,19.2s,MS3.7,baz=134,slow=33						
VNA3	**Neumayer Olymp**	**87.93**	**181**	*e*	**P**	**16 02 01.8**	**-0.2**
VNA2	**Neumayer--Watz**	**88.22**	**181**	*e*	**P**	**16 02 03.5**	**+0.1**
SONM	**Songino Array**	**88.31**	**323**	P	**P**	**16 02 04.4**	**+0.3**
	1.7nm,0.8s,mb4.3,baz=145,slow=5.1,SNR=12						
SONM				pP	pP	16 02 15.6	+5.7
	2.2nm,1.0s,baz=135,slow=4.8,SNR=8.2						
NVAR	**Mina Array Bea**	**90.45**	**49**	P	**P**	**16 02 14.2**	**-0.1**
	0.4nm,0.6s,mb3.9,baz=215,slow=7.0,SNR=4.3						
NVAR				pP	pP	16 02 25.8	+5.6
	1.0nm,0.8s,baz=217,slow=6.2,SNR=5.4						
STHS	**Stebnicka Huta**	**141.65**	**325**	*e*	PKPdf	16 08 41.6	-2.2
NKC	**Novy Kostel**	**145.33**	**333**	*e*P	PKPbc	16 08 50.4	+0.3
NKC				*ex*	x	16 09 01.9	
KHC	**Kasperske Hory**	**145.64**	**331**	*e*P	PKPdf	16 08 51.8	+0.9
KHC				*ex*	x	16 09 03.0	
GERES	**GERESS Array B**	**145.79**	**330**	PKPbc	PKPbc	16 08 51.8	+0.2
	3.3nm,0.8s,baz=56,slow=3.4,SNR=14						
GERES				pPKPbc	pPKPbc	16 09 03.3	+5.8
	5.8nm,0.8s,baz=36,slow=3.7,SNR=13						

IDC 04 16:02:21.6±2.9, 2038S×16843E, h0km, mb3.8/4, mb1 3.9/5, mb1mx3.8/14, mbtmp3.8/5, ML3.0/1, MS3.1/1, Ms1 3.1/1, ms1mx2.5/24, Error ellipse: s-maj=78.1km s-min=28.5km az=126.0, Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**2.50**	**227**	Pn	Pn	16 03 02.4	-1.2
	3.2nm,0.3s,baz=53,slow=19,SNR=15						
DZM				Sn	Sn	16 03 34.4	-0.5
	20nm,0.3s,baz=152,slow=22,SNR=6.1						
CTA	**Charters Tower**	**20.81**	**267**	LR	LR	16 14 23.9	
	comp=Z,62nm,21.2s,baz=312,slow=35						
STKA	**Stephens Creek**	**26.60**	**239**	P	P	16 08 02.5	+0.8
	1.4nm,0.6s,baz=69,slow=8.2,SNR=6.5						
WRA	**Warramunga Arr**	**31.98**	**265**	P	P	16 08 49.8	+0.1
	0.3nm,0.4s,baz=91,slow=8.4,SNR=17						
ASAR	**Alice Springs**	**32.13**	**258**	P	P	16 08 51.1	+0.2
	2.0nm,0.7s,baz=84,slow=9.2,SNR=37						
SONM	**Songino Array**	**87.68**	**323**	P	P	16 15 12.2	+0.3
	0.6nm,1.0s,baz=132,slow=6.2,SNR=3.7						
GERES	**GERESS Array B**	**145.12**	**330**	PKPbc	PKPbc	16 21 59.4	-1.0
	0.9nm,0.8s,baz=77,slow=2.9,SNR=4.5						

IDC 04 16:13:11.3±5.2, 2026S×16862E, h0km, mb3.8/4, mb1 3.9/5, mb1mx3.7/14, mbtmp3.7/5, ML3.1/1, MS3.4/1, Ms1 3.3/1, ms1mx2.7/22, Error ellipse: s-maj=132.4km s-min=33.7km az=122.0, Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**2.71**	**228**	Pn	Pn	16 13 55.7	-0.4
	3.4nm,0.3s,baz=59,slow=17,SNR=13						
DZM				Sn	Sn	16 14 28.8	-0.9
	11nm,0.3s,baz=296,slow=23,SNR=13						
STKA	**Stephens Creek**	**26.81**	**239**	P	P	16 18 54.0	+0.7
	1.4nm,0.8s,baz=86,slow=13,SN

HNR Honiara 14.14 321 LR LR 16 46 48.8
comp=Z,186nm,18.9s,baz=180,slow=35
RAO Raoul Island 14.69 128 LR LR 16 45 39.8
comp=Z,108nm,19.2s,baz=351,slow=28
URZ Urewera 18.87 160 P **Pn 16 43 04.9 +1.3**
0.9nm,0.3s,baz=33,slow=6.7,SNR=8.2
URZ LR LR 16 48 48.9
comp=Z,380nm,18.9s,baz=210,slow=32
CTA Charters Tower 21.18 268 *e*P **P 16 43 30.2 +1.9**
12nm,0.9s,mb4.2
CTA Charters Tower 21.18 268 *e*P **P 16 43 30.2 +1.9**
CTA pmax pmax
comp=Z,12nm,0.9s
CTA Charters Tower 21.18 268 P **P 16 43 29.1 +0.8**
comp=Z,17nm,0.9s,mb4.4,baz=94,slow=12,SNR=8.7
CTA LR LR 16 50 55.4
comp=Z,164nm,18.6s,MS3.5,baz=349,slow=35
CTAO Charters Tower 21.18 268 *e*P **P 16 43 29.1 +0.8**
comp=Z,28nm,1.1s,mb4.5
CTAO Charters Tower 21.18 268 *e*P **P 16 43 29.1 +0.8**
CTAO pmax pmax
comp=Z,27nm,1.1s,mb4.5
CNB Canberra Magne 22.44 226 *e*P **P 16 43 45.0 +3.2**
comp=Z,31nm,1.0s,mb4.7
RPZ Rata Peaks 22.99 176 LR LR 16 51 58.3
comp=Z,338nm,18.8s,MS3.8,baz=200,slow=35
STKA Stephens Creek 26.75 240 ||*i*P **P 16 44 23.5 +1.0**
comp=Z,10nm,0.6s,mb4.5
STKA Stephens Creek 26.75 240 P **P 16 44 23.6 +1.1**
comp=Z,11nm,0.6s,mb4.6,baz=76,slow=9.5,SNR=48
STKA LR LR 16 54 27.0
comp=Z,258nm,19.2s,MS3.8,baz=207,slow=35
WB2 Warramunga Arr 32.31 265 *e*P **P 16 45 10.8 -1.3**
WRA Warramunga Arr 32.32 265 P **P 16 45 11.1 -1.1**
comp=Z,2.4nm,0.5s,mb4.3,baz=91,slow=8.5,SNR=96
WRA PcP PcP 16 47 59.8 -0.4
comp=Z,1.0nm,0.7s,baz=91,slow=3.0,SNR=6.6
ASAR Alice Springs 32.43 258 P **P 16 45 12.6 -0.4**
comp=Z,13nm,0.7s,mb4.9,baz=83,slow=9.3,SNR=205
FORT Forrest 37.89 246 *e*P **P 16 46 00.0 0.0**
comp=Z,23nm,0.7s,mb5.0
PPT Papeete 39.34 93 *e*LR LR 16 56 58.9
comp=Z,82nm,22.8s
FITZ Fitzroy Crossi 40.74 266 *e*P **P 16 46 24.2 +0.2**
comp=Z,24nm,0.6s,mb5.0
MBWA Marble Bar 45.71 260 *e*P **P 16 47 04.1 -0.1**
comp=Z,11nm,0.6s,mb5.0
KLBR Kellerberrin 46.74 246 *e*P **P 16 47 11.2 -1.0**
comp=Z,16nm,0.6s,mb5.1
NWAO Narrogin (SRO) 47.21 244 *e*P **P 16 47 14.7 -1.1**
NWAO Narrogin (SRO) 47.21 244 LR LR 17 08 37.6
comp=Z,278nm,18.6s,MS4.2,baz=108,slow=38
MUN Mundaring 48.06 245 *e*P **P 16 47 22.2 -0.2**
VNDA Vanda 56.93 182 P **P 16 48 27.4 -0.1**
comp=Z,0.9nm,0.8s,mb3.8,baz=341,slow=8.5,SNR=4.2
VNDA LR LR 17 07 38.3
comp=Z,84nm,19.0s,MS3.9,baz=82,slow=30
SBA Scott Base 57.17 181 *e*P **P 16 48 30.3 +1.1**
MJAR Matsushiro Art 63.90 333 P **P 16 49 14.8 -0.8**
comp=Z,4.3nm,1.0s,mb4.4,baz=168,slow=7.3,SNR=5.7
MAJO Matsushiro 63.90 333 *e*P **P 16 49 14.4 -1.2**
ASAJ Asahikawa 68.87 340 LR LR 17 16 56.8
comp=Z,51nm,18.3s,MS3.8,baz=359,slow=33
KSRS Korea Array 69.53 326 P **P 16 49 52.0 +0.5**
comp=Z,3.2nm,0.9s,mb4.2,baz=146,slow=6.8,SNR=9.0
NJ2 Nanjing 71.03 317 *e*P **P 16 50 01.8 +1.0**
NJ2 AMB AMB
comp=Z,20nm,0.7s,mb5.2
YSS Yuzh-Sakhalins 71.37 341 *e*P **P 16 50 03.9 +1.3**
comp=Z,20nm,1.1s,mb5.0
YSS Yuzh-Sakhalins 71.37 341 ||*i*P **P 16 50 04.0 +1.5**
YSS pmax pmax
comp=Z,40nm,1.2s,mb5.2
PET Petropavlovsk 73.98 354 *e*P **P 16 50 12.7 -5.2**
PET *e* 16 53 11.3
PET *e*S S 16 59 49.8 +0.1
PET MLR MLR
comp=Z,100nm,20.0s,MS4.1
MDJ Mudanjiang 74.26 332 P **P 16 50 20.4 +0.6**
MDJ AMB AMB
comp=Z,8.0nm,1.4s,mb4.5
CN2 Changchun 75.54 329 *e*P **P 16 50 27.5 +0.3**
CN2 *e*XP sP 16 50 34.5 +1.6
CN2 AMB AMB
comp=Z,10.0nm,0.9s,mb4.8
CN2 AMB AMB
comp=Z,200nm,5.0s
GYA Guiyang 76.37 305 P **P 16 50 33.4 +1.1**
GYA AP pP 16 50 37.9 +1.4
GYA XP sP 16 50 42.5 +4.4
GYA PCP PcP 16 50 46.0 +1.9
GYA PP PP 16 53 27.5 +3.3
GYA S S 17 00 18.4 +1.0
GYA SKS 17 00 40.4
GYA SCS ScS 17 00 46.5 -1.4
GYA SS SS 17 05 15.5 +3.2
GYA AMB AMB
comp=Z,20nm,1.0s,mb5.0
GYA AMB AMB
comp=Z,110nm,6.4s
GYA LR LR
comp=N,710nm,20.4s,MS5.1
GYA LR LR
comp=E,570nm,20.1s,MS5.1
GYA LR LR
comp=Z,450nm,20.4s,MS4.8
MAW Mawson 76.91 202 P **P 16 50 35.0 +0.2**
comp=Z,2.8nm,0.6s,mb4.3,baz=78,slow=8.2,SNR=3.9
KLR Kul'dur 77.08 336 *e*P **P 16 50 32.8 -3.0**
BJI Beijing 77.86 321 P **P 16 50 40.8 +0.4**
BJI AMB AMB
comp=Z,11nm,0.7s,mb4.9
BJI Beijing 77.86 321 P **P 16 50 40.8 +0.4**
comp=Z,11nm,0.7s,mb4.9
KMI Kunming 78.75 302 P **P 16 50 44.9 -0.8**
comp=Z,9.0nm,1.4s,mb4.5
KMI pP pP 16 50 50.8 +0.9
KMI sP sP 16 50 53.9 +2.5
KMI PP PP 16 53 47.3 +3.1
KMI S S 17 00 45.0 +1.7
KMI LR LR
comp=Z,30nm,34.4s,MS3.4
XAN Xi'an 78.84 313 P **P 16 50 46.4 +0.4**
CD2 Chengdu 80.85 308 *e*P **P 16 50 58.1 +1.2**
CD2 AP pP 16 51 02.9 +1.7
CD2 XP sP 16 51 05.8 +3.1
CD2 S S 17 01 05.4 +0.1
CD2 XS sS 17 01 13.3 +1.1
CD2 SS SS 17 06 23.1 +3.5
CD2 AMB AMB
comp=Z,20nm,1.1s,mb5.0
CD2 AMB AMB
comp=Z,30nm,5.8s
CD2 LR LR
comp=N,130nm,12.0s,MS4.7
CD2 LR LR
comp=E,160nm,13.2s,MS4.7
CD2 LR LR
comp=Z,140nm,13.0s,MS4.5
HHC Hu-ho-hao-te 81.11 320 *e*P **P 16 50 59.0 +0.9**
HHC AP pP 16 51 03.1 +0.8
HHC XP sP 16 51 06.4 +2.6
HHC PP PP 16 54 07.2 +3.6
HHC S S 17 01 08.1 +0.5
HHC SKS 17 01 10.4
HHC SS SS 17 06 23.6 +0.5
HHC AMB AMB
comp=Z,131nm,6.5s
HHC LR LR
comp=N,209nm,10.6s,MS4.9
HHC LR LR
comp=E,236nm,13.9s,MS4.9
HHC LR LR
comp=Z,100nm,5.5s
SYO Syowa Base 83.40 196 ||*e*X 16 51 17.5
LZH Lanzhou 83.45 312 *e*P **P 16 51 11.8 +1.3**
LZH AP pP 16 51 16.5 +1.8
LZH XP sP 16 51 19.0 +2.8
LZH PP PP 16 54 26.5 +3.5
LZH *e*S S 17 01 32.0 +0.2
LZH XS sS 17 01 40.2 +1.4
LZH *e*SS SS 17 07 02.1 +4.0
LZH AMB AMB
comp=Z,24nm,1.5s,mb5.0
LZH AMB AMB
comp=Z,102nm,6.9s
LZH LR LR
comp=E,457nm,16.3s
LZH LR LR
comp=Z,779nm,19.6s,MS5.1
LZH Lanzhou 83.45 312 *e*P **P 16 51 11.8 +1.3**
comp=Z,24nm,1.5s,mb5.0
LZH pP pP 16 51 16.5 +1.8
LZH sP sP 16 51 19.0 +2.8
LZH PP PP 16 54 26.5 +3.5
LZH SKS 17 01 20.3
LZH *e*S S 17 01 32.0 +0.2
LZH sS sS 17 01 40.2 +1.4
LZH *e*SS SS 17 07 02.1 +4.0
LZH LR LR
comp=Z,780nm,19.6s,MS5.1
LZH Lanzhou 83.45 312 *e*P **P 16 51 11.8 +1.3**
LZH *SP sP 16 51 19.0 +2.8
LZH 16 54 26.5
LZH 17 01 20.3
LZH *e*S S 17 01 32.0 +0.2
LZH *e*SS SS 17 07 02.1 +4.0
LZH pmax pmax
comp=Z,24nm,1.5s,mb5.0
LZH MLR MLR
comp=Z,780nm,19.6s,MS5.1
CLNS Chul'man 85.62 338 *e*P **P 16 51 17.0 -3.9**
CLNS pmax pmax
comp=Z,16nm,1.0s,mb5.2
CLNS pmax pmax
comp=N,11nm,1.7s
CLNS pmax pmax
comp=E,7.0nm,0.8s
SNAA Sanae 87.66 183 *e*P **P 16 51 29.7 -1.2**
SNAA *e* 16 51 31.5
SNAA *e* pP 16 51 35.3 +0.2
SNAA *e* 16 51 39.4
SNAA *e* 16 51 45.5
ULN Ulaanbaatar 87.84 324 *e*P **P 16 51 32.4 +0.4**
comp=E,26nm,1.6s,mb5.2
ULN Ulaanbaatar 87.84 324 *e*P **P 16 51 32.4 +0.4**
ULN pmax pmax
comp=Z,27nm,1.6s,mb5.2
GTA Gaotai 87.88 314 *e*P **P 16 51 32.8 +0.4**
GTA AP pP 16 51 37.1 +0.4
GTA XP sP 16 51 39.7 +1.5
GTA PP PP 16 55 02.7 +3.9
GTA SKS 17 01 58.5
GTA S S 17 02 15.7 +0.5
GTA XS sS 17 02 23.3 +1.1
GTA AMB AMB
comp=Z,7.0nm,1.2s,mb4.8
GTA AMB AMB
comp=Z,83nm,5.7s
GTA LR LR
comp=N,109nm,8.8s
GTA LR LR
comp=E,154nm,6.5s
GTA LR LR
comp=Z,193nm,10.7s,MS4.8
WDC Whiskeytown Da 88.18 45 *e*P **P 16 51 33.6 -0.2**
YAK Yakutsk 88.18 343 *e*P **P 16 51 32.9 -0.4**
SONM Songino Array 88.19 323 P **P 16 51 34.0 +0.3**
comp=Z,3.0nm,0.9s,mb4.5,baz=134,slow=5.6,SNR=21
VNA3 Neumayer Olymp 88.26 180 *e*P **P 16 51 32.8 -1.0**
VNA3 *e* 16 51 34.4
VNA3 *e* 16 51 39.0
VNA3 *e* 16 51 42.0
VNA3 *e* 16 51 45.9
VNA3 *e* 16 51 52.5
VNA3 *e* 16 52 06.4
BILL Bilibino 88.53 359 *e*P **P 16 51 33.6 -1.2**
comp=Z,14nm,1.2s,mb5.2
BILL Bilibino 88.53 359 ||*e*P **P 16 51 33.5 -1.3**
BILL pmax pmax
comp=Z,12nm,1.1s,mb5.1
VNA2 Neumayer--Watz 88.55 181 *e*P **P 16 51 34.4 -0.7**
baz=183,slow=4.4
VNA2 *e* 16 51 35.9
VNA2 *e* pP 16 51 39.7 +0.3
VNA2 *e* 16 51 43.6
VNA2 *e* 16 51 47.6
VNA2 *e* 16 51 54.7
VNA2 *e* 16 52 08.2
NVAR Mina Array Bea 90.07 49 P **P 16 51 42.7 0.0**
NVAR Mina Array Bea 90.07 49 P **P 16 51 42.7 0.0**
comp=Z,1.5nm,0.8s,mb4.4,baz=212,slow=6.0,SNR=12
BOD Bodaibo 90.51 334 *e*P **P 16 51 43.2 -1.1**
BOD pmax pmax
comp=Z,4.0nm,1.1s,mb4.7
TPNV Topopah Spring 90.89 51 *e*P **P 16 51 45.9 -0.7**
ZAK Zakamensk 91.29 324 ||*i*P **P 16 51 48.1 0.0**
ZAK pmax pmax
comp=Z,3.0nm,1.4s,mb4.4
TLY Talaya 91.78 326 *e*P **P 16 51 50.8 +0.5**
TLY pmax pmax
comp=Z,3.0nm,0.9s,mb4.6
TUC Tucson 93.14 57 *e*P **P 16 51 57.5 +0.4**
TXAR Lajitas Array 97.81 62 LR LR 17 30 15.9
comp=Z,106nm,21.0s,MS4.3,baz=180,slow=32
MKAR Makanchi Array 102.54 315 P Pdif 16 52 38.8 -0.4
comp=Z,0.5nm,0.8s,baz=105,slow=6.2,SNR=3.7
KMBO Kilima Mbogo 127.90 251 *e*PKPdf PKPdf 16 57 50.9 +1.3
STHS Stebnicka Huta 141.50 326 *e*PKP PKPdf 16 58 07.4 -6.4
STHS *e* 16 58 13.8
STHS Stebnicka Huta 141.50 326 *e*PKP PKPdf 16 58 13.8 0.0
STHS Stebnicka Huta 141.50 326 *e* PKPdf 16 58 07.3 -6.5
PVCC Panska Ves 144.01 332 *e*PKP PKPdf 16 58 15.9 -2.3
BRG Berggiesshubel 144.03 333 *e*PKIKP PKPdf 16 58 16.0 -2.2
BRG pmax pmax
comp=Z,2.0nm,1.2s
BRG Berggiesshubel 144.03 333 *e*PKPbc PKPdf 16 58 16.2 -2.0
BRG Berggiesshubel 144.03 333 *e*PKP PKPdf 16 58 16.0 -2.3
comp=Z,13nm,1.2s
CLL Collm 144.10 334 *e*PKIKP PKPdf 16 58 16.0 -2.3
CLL pmax pmax
comp=Z,10.0nm,0.9s
CLL Collm 144.10 334 *e*PKPdf PKPdf 16 58 16.0 -2.3
comp=Z,7.0nm,0.9s
MODS Modra-Piesok 144.21 327 *e*PKP PKPdf 16 58 13.9 -4.7
MODS *e* 16 58 17.9
MODS Modra-Piesok 144.21 327 *e*PKP PKPdf 16 58 17.9 -0.7
MODS Modra-Piesok 144.21 327 *e* PKPdf 16 58 13.9 -4.7
FBE Freiberg 144.25 333 *e*PKPbc PKPdf 16 58 17.0 -1.6
PRU Pruhonice 144.41 331 *e*PKP PKPdf 16 58 17.2 -1.7
CLZ Clausthal 144.71 337 *e*PKPbc PKPdf 16 58 18.0 -1.4
TANN Tannenbergstha 145.00 333 *e*PKPbc PKPbc 16 58 19.3 +0.1
WERD Werda 145.04 334 *e*PKPbc PKPbc 16 58 19.8 +0.4
GUNZ Gunzen 145.10 334 *e*PKPbc PKPbc 16 58 19.5 -0.1
WERN Wernitzgruen 145.14 333 *e*PKPbc PKPbc 16 58 20.2 +0.5
NKC Novy Kostel 145.15 333 *e*PKP PKPdf 16 58 19.8 -0.4
MOX Moxa 145.18 334 *e*PKP PKPdf 16 58 19.8 -0.4
comp=Z,15nm,1.2s
MOX Moxa 145.18 334 *e*PKIKP PKPdf 16 58 19.8 -0.4
MOX pmax pmax
comp=Z,19nm,1.2s
MOX Moxa 145.18 334 *e*PKPbc PKPbc 16 58 19.4 -0.4
CONA Conrad Observa 145.21 328 ||*i*PKPdf PKPdf 16 58 20.8 +0.4
comp=Z,29nm,1.5s
IBBN Ibbenburen 145.24 340 *e*PKPbc PKPbc 16 58 19.7 -0.2
KHC Kasperske Hory 145.47 331 *e*PKP PKPdf 16 58 21.1 +0.3
MANZ Manzenberg 145.48 333 *e*PKPbc PKPbc 16 58 20.8 0.0
ROTZ Rotzenmuhle 145.60 333 *e*PKPbc PKPbc 16 58 21.1 -0.1
GEC2 GERESS Array S 145.62 331 *e*PKPbc PKPbc 16 58 20.9 -0.4
GERES GERESS Array B 145.62 331 PKPbc PKPbc 16 58 21.5 +0.3
comp=Z,7.6nm,0.9s,baz=54,slow=3.4,SNR=34
UBBA Unterbreizbach 145.67 336 *e*PKPbc PKPbc 16 58 21.5 +0.1
WET Wettzell 145.77 332 *e*PKPbc PKPbc 16 58 21.7 -0.1
MOA Molln 146.05 329 ||*i*P PKPdf 16 58 22.6 +0.8
comp=Z,12nm,1.2s
GRA1 Grafenberg Arr 146.07 334 *e*PKPbc PKPbc 16 58 22.1 -0.6
GRF Grafenberg Arr 146.07 334 *e*PKPbc PKPbc 16 58 22.1 -0.6
DMUB Kingscourt 146.74 355 *e*P PKPdf 16 58 24.1 +1.3
TNS Taunus Mts 146.74 337 *e*PKPbc PKPbc 16 58 24.7 +0.1
BSPOS Bojanci 147.12 325 *i* PKPbc PKPbc 16 58 33.3 +7.5
FUR Furstenfeldbru 147.21 332 *e*PKPbc PKPbc 16 58 26.5 +0.5
DLF Lyons Farm 147.31 355 *e*P PKPdf 16 58 26.4 +2.6
DCN Croghan 147.31 356 *e*P PKPdf 16 58 26.5 +2.7
JAVS Javornik 147.49 326 *i* PKPbc PKPbc 16 58 32.8 +6.0
STU Stuttgart 147.62 335 *e*PKPbc PKPbc 16 58 27.2 +0.1
WLF Walferdange 148.02 339 *e*PKPbc PKPbc 16 58 28.1 -0.1

BJI ***04*** *16:55:54.6, 720S×15630E, h10km, mb4.9*
NEIC ***04*** *16:55:54.6±0.4, 721S×15627E, h10km, mb4.8/8, Error ellipse: s-maj=10.3km s-min=9.3km az=102.0*
ISCJB ***04*** *16:55:59.8±2.2, 738S±009×15624E±008, h57km±21km, mb4.6/24, MS3.6/5, Error ellipse: s-maj=15.0km s-min=12.4km az=147.2*
IDC ***04*** *16:56:01.6±3.4, 738S×15631E, h62km±30km, mb4.2/11, mb1 4.3/12, mb1mx4.1/17, mbtmp4.2/12, ML4.1/1, MS3.6/7, Ms1 3.6/7, ms1mx3.3/29, Error ellipse: s-maj=21.9km s-min=16.3km az=86.0*

ISC 04 16:56:01.4±2.0, 736S±009×15624E±008, h57km±20km, n48, σ0§68/40, mb4.6/24, MS3.6/5, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.21 119**		*e*Pn	**Pn**	**16 57 01.9**	**-1.1**
HNR				S	**Sn**	**16 57 52.0**	**+1.1**
HNR				LR	LR	16 58 17.3	
HNR	**Honiara**	**4.21 119**		P	**Pn**	**16 57 01.9**	**-1.2**
	10nm,0.3s,baz=271,slow=5.5,SNR=6.2						
HNR				S	**Sn**	**16 57 52.0**	**+1.1**
	35nm,0.3s,baz=266,slow=22,SNR=6.2						
HNR				LR	LR	16 58 17.3	
	comp=Z,149nm,19.1s,baz=4.6,slow=33						
CTA	**Charters Tower**	**15.93 216**		P	**Pn**	**16 59 46.3**	**+4.4**
	0.2nm,0.3s,baz=27,slow=4.5,SNR=2.7						
CTA				LR	LR	17 04 38.0	
	comp=Z,190nm,19.8s,baz=58,slow=32						
CTAO	**Charters Tower**	**15.93 216**		Pn	**Pn**	**16 59 41.5**	**-0.4**
GUMO	**Guam**	**23.68 331**		LR	LR	17 08 19.1	
	comp=Z,124nm,20.9s,MS3.4,baz=143,slow=31						
KAKA	**Kakadu**	**24.02 255**		*e*P	**P**	**17 01 11.3**	**+0.1**
	55nm,0.6s,mb5.2						
KAKA	**Kakadu**	**24.02 255**		*e*P	**P**	**17 01 11.1**	**-0.1**
WB2	**Warramunga Arr**	**24.63 237**		*e*P	**P**	**17 01 17.3**	**+0.6**
WB2	**Warramunga Arr**	**24.63 237**		*e*P	**P**	**17 01 17.1**	**+0.4**
WRA	**Warramunga Arr**	**24.64 237**		P	**P**	**17 01 17.1**	**+0.3**
	9.9nm,0.7s,mb4.4,baz=63,slow=9.6,SNR=35						
WRA				PcP	PcP	17 04 53.0	-0.3
	1.2nm,0.5s,baz=66,slow=2.9,SNR=6.9						
WRA				LR	LR	17 10 41.6	
	comp=Z,160nm,18.2s,MS3.6,baz=80,slow=36						
ASAR	**Alice Springs**	**26.87 230**		P	**P**	**17 01 36.6**	**-0.3**
	1.2nm,0.9s,mb3.4,baz=97,slow=8.8,SNR=5.2						
ASAR				PcP	PcP	17 04 58.4	0.0
	0.7nm,0.6s,baz=67,slow=2.6,SNR=5.7						
STKA	**Stephens Creek**	**27.95 207**		*e*P	**P**	**17 01 46.4**	**-0.1**
	1.6nm,0.5s,mb3.9						
STKA	**Stephens Creek**	**27.95 207**		*e*P	**P**	**17 01 46.2**	**-0.3**
STKA	**Stephens Creek**	**27.95 207**		P	**P**	**17 01 46.3**	**-0.2**
	1.7nm,0.5s,mb3.9,baz=49,slow=12,SNR=8.5						
STKA				PcP	PcP	17 05 00.4	-0.4
	3.0nm,0.7s,baz=102,slow=4.4,SNR=6.3						
STKA				LR	LR	17 12 27.7	
	comp=Z,276nm,18.5s,MS3.9,baz=27,slow=35						
FITZ	**Fitzroy Crossi**	**31.64 247**		*e*P	**P**	**17 02 19.3**	**-0.1**
	11nm,0.8s,mb4.7						
RPZ	**Rata Peaks**	**38.47 163**		P	**P**	**17 03 16.8**	**-1.0**
	9.6nm,0.6s,mb4.7,baz=85,slow=0.7,SNR=8.0						
JHJ	**Hachijo jima 2**	**43.19 340**		LR	LR	17 20 28.8	
	comp=Z,75nm,19.7s,MS3.6,baz=177,slow=34						
KLBR	**Kellerberrin**	**43.20 231**		*e*P	**P**	**17 03 56.5**	**-0.5**
	15nm,0.5s,mb5.0						
NWAO	**Narrogin (SRO)**	**44.18 229**		P	**P**	**17 04 05.0**	**+0.2**
	7.3nm,0.7s,mb4.5,baz=64,slow=7.8,SNR=6.4						
MUN	**Mundaring**	**44.56 231**		*e*P	**P**	**17 04 07.9**	**0.0**
JNU	**Nakatsue**	**46.93 331**		LR	LR	17 23 52.7	
	comp=Z,61nm,18.1s,MS3.6,baz=48,slow=36						
KSRS	**Korea Array**	**51.84 331**		P	**P**	**17 05 05.1**	**+1.2**
	2.0nm,0.6s,mb4.3,baz=148,slow=7.2,SNR=13						
GTA	**Gaotai**	**69.85 317**		*e*P	**P**	**17 07 08.1**	**+1.9**
GTA				AP	pP	17 07 12.4	-10
GTA				XP	sP	17 07 16.0	-12
GTA				AMB	AMB		
	comp=Z,4.0nm,0.8s,mb4.4						
ULN	**Ulaanbaatar**	**69.98 327**		*e*P	**P**	**17 07 07.2**	**+0.4**
	comp=Z,5.1nm,1.1s,mb4.4						
VNDA	**Vanda**	**70.18 179**		P	**P**	**17 07 08.0**	**+0.3**
	comp=Z,2.9nm,0.9s,mb4.2						
VNDA	**Vanda**	**70.18 179**		P	**P**	**17 07 07.8**	**+0.2**
	comp=Z,3.0nm,0.9s,mb4.2,baz=330,slow=8.1,SNR=16						
SONM	**Songino Array**	**70.31 327**		P	**P**	**17 07 09.2**	**+0.3**
	comp=Z,1.2nm,0.5s,mb4.1,baz=150,slow=7.3,SNR=22						
SBA	**Scott Base**	**70.67 178**		*e*P	**P**	**17 07 11.7**	**+1.1**
	comp=Z,3.2nm,0.9s,mb4.2						
JIRN	**Jiri**	**76.03 301**		*e*P	**P**	**17 07 43.5**	**+0.4**
	comp=Z,10nm,0.4s,mb5.1						
KKN	**Kakani**	**76.84 301**		*e*P	**P**	**17 07 47.8**	**+0.1**
	comp=Z,12nm,0.4s,mb5.2						
GKN	**Gorkha**	**77.44 301**		*e*P	**P**	**17 07 50.9**	**-0.2**
	comp=Z,26nm,0.6s,mb5.3						
KOLN	**Koldanda**	**78.27 300**		*e*P	**P**	**17 07 55.4**	**-0.2**
	comp=Z,19nm,0.8s,mb5.1						
QSPA	**South Pole Qui**	**82.61 180**		*e*P	**P**	**17 08 18.1**	**+0.2**
	comp=Z,5.7nm,0.6s,mb4.8						
MK31	**Makanchi Array**	**84.49 318**		*e*P	**P**	**17 08 28.0**	**-0.2**
MKAR	**Makanchi Array**	**84.49 318**		P	**P**	**17 08 28.2**	**0.0**
	comp=Z,22nm,0.7s,mb5.4,baz=102,slow=6.0,SNR=260						
ZALV	**Zalesovo Beam**	**85.17 326**		P	**P**	**17 08 30.6**	**-0.8**
	comp=Z,4.0nm,0.4s,mb4.9,baz=114,slow=5.3,SNR=23						
KURK	**Kurchatov**	**87.88 322**		*e*P	**P**	**17 08 43.9**	**-0.9**
	comp=Z,1.8nm,0.3s,mb4.8						
TKM2	**Tokmak 2**	**88.16 314**		*e*P	**P**	**17 08 46.0**	**-0.2**
	comp=Z,5.7nm,1.0s,mb4.8						
BRVK	**Borovoye**	**93.40 323**		*e*P	**P**	**17 09 09.1**	**-1.2**
YKA	**Yellowknife Ar**	**96.08 28**		P	**P**	**17 09 21.7**	**-0.8**
YKA	**Yellowknife Ar**	**96.08 28**		P	**P**	**17 09 21.7**	**-0.8**
	comp=Z,0.4nm,0.5s,mb4.1,baz=265,slow=4.7,SNR=6.6						
AKASG	**Malin Array Be**	**118.55 325**		PKP	PKPdf	17 14 40.9	-1.9
AKASG	**Malin Array Be**	**118.55 325**		PKP	PKPdf	17 14 40.9	-1.9
	comp=Z,0.4nm,0.4s,baz=49,slow=2.3,SNR=6.0						
GERES	**GERESS Array B**	**128.00 329**		PKP	PKPdf	17 15 00.0	-1.0
	comp=Z,1.0nm,0.7s,baz=63,slow=0.2,SNR=6.8						
LPAZ	**La Paz**	**130.20 118**		PKP	PKPdf	17 15 06.3	+0.2
	comp=Z,0.6nm,0.5s,baz=270,slow=3.0,SNR=3.6						
BDFB	**Brasilia**	**146.84 134**		PKPbc	PKPbc	17 15 37.8	-0.5
	comp=Z,5.1nm,0.9s,baz=343,slow=1.0,SNR=5.2						
TORD	**Torodi Ar. Bea**	**154.31 285**		PKP	PKPdf	17 15 46.5	-1.6
	comp=Z,12nm,0.3s,baz=113,slow=3.3,SNR=3.3						
TORD				PKPbc	PKPbc	17 15 55.4	-0.9
	comp=Z,3.2nm,0.7s,baz=67,slow=2.3,SNR=15						
DBIC	**Dimbokro**	**161.22 269**		PKPab	PKPab	17 16 40.0	-0.5
	comp=Z,3.4nm,0.5s,baz=89,slow=3.1,SNR=10						

IDC 04 17:08:20.6±3.6, 717S×15540E, h0km, mb3.6/4, mb1 3.7/4, mb1mx3.6/14, mbtmp3.6/4, Error ellipse: s-maj=103.8km s-min=29.8km az=114.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.05 236**		P	P	17 13 38.6	+0.9
	0.9nm,0.8s,baz=63,slow=9.6,SNR=9.4						
ASAR	**Alice Springs**	**26.36 229**		P	P	17 13 58.3	-0.4
	0.3nm,0.9s,baz=58,slow=9.8,SNR=4.4						
SONM	**Songino Array**	**69.70 327**		P	P	17 19 32.7	+0.5
	0.5nm,0.4s,baz=145,slow=6.1,SNR=7.5						
MKAR	**Makanchi Array**	**83.80 319**		P	P	17 20 51.6	-0.4
	0.8nm,0.7s,baz=98,slow=6.2,SNR=11						

IDC ***04*** *17:35:48.1±1.2, 677S×15467E, h0km, mb3.9/6, mb1 4.1/6, mb1mx3.9/14, mbtmp3.8/6, MS3.2/2, Ms1 3.2/2, ms1mx2.8/20, Error ellipse: s-maj=52.5km s-min=24.3km az=129.0*
NEIC ***04*** *17:35:51.0±1.1, 642S×15428E, h10km, Error ellipse: s-maj=44.1km s-min=23.0km az=125.0*
ISCJB ***04*** *17:35:52.0±1.1, 69S±02×1548E±02, h33km, mb4.2/10, MS4.0/2, Error ellipse: s-maj=36.8km s-min=17.1km az=37.8*

ISC 04 17:35:53.5±1.1, 70S±02×1548E±02, h35km, n17, σ0§83/13, mb4.2/10, MS4.0/2, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.65 116**		LR	LR	17 39 20.1	
	comp=Z,129nm,21.3s,baz=174,slow=36						
WB2	**Warramunga Arr**	**23.67 235**		*e*P	**P**	**17 41 02.0**	**-0.1**
WB2	**Warramunga Arr**	**23.67 235**		*e*P	**P**	**17 41 01.8**	**-0.3**
WRA	**Warramunga Arr**	**23.68 235**		P	**P**	**17 41 02.1**	**-0.1**
	3.1nm,0.8s,mb3.8,baz=57,slow=9.3,SNR=14						

WRA PcP PcP 17 44 46.4 +0.3
0.3nm,0.5s,baz=53,slow=2.4,SNR=5.2
ASAR Alice Springs 26.05 228 P **P 17 41 23.6 -0.1**
1.3nm,0.7s,mb3.5,baz=61,slow=8.6,SNR=15
STKA Stephens Creek 27.68 205 LR LR 17 52 57.1
comp=Z,82nm,19.2s,MS3.3,baz=25,slow=37
RAO Raoul Island 33.94 134 LR LR 17 53 27.8
comp=Z,2μm,19.5s,MS4.7,baz=276,slow=31
SONM Songino Array 69.22 327 P **P 17 46 56.3 -0.4**
0.4nm,0.9s,mb3.3,baz=134,slow=6.2,SNR=2.9
SBA Scott Base 71.13 177 *eP* **P 17 47 15.4 +7.4**
JIRN Jiri 74.61 301 *eP* **P 17 47 30.3 +0.8**
8.1nm,0.8s,mb4.7
KKN Kakani 75.42 301 *eP* **P 17 47 35.1 +0.9**
7.2nm,0.7s,mb4.7
GKN Gorkha 76.02 301 *eP* **P 17 47 38.1 +0.5**
17nm,0.9s,mb5.0
KOLN Koldanda 76.84 301 *eP* **P 17 47 42.5 +0.2**
10nm,1.0s,mb4.7
MKAR Makanchi Array 83.26 319 P **P 17 48 14.2 -2.3**
0.5nm,0.6s,mb3.7,baz=96,slow=7.4,SNR=3.7
NVAR Mina Array Bea 91.85 52 P **P 17 48 59.2 +0.9**
0.5nm,0.8s,mb3.9,baz=249,slow=7.6,SNR=3.9
YKA Yellowknife Ar 96.40 28 P **P 17 49 17.8 -0.8**
1.0nm,0.9s,mb4.2,baz=264,slow=4.4,SNR=9.4
TORD Torodi Ar. Bea 152.83 285 PKPbc PKPbc 17 55 47.0 -0.9
1.1nm,0.8s,baz=76,slow=1.5,SNR=6.7
TORD PKPab PKPab 17 55 58.5 -0.5
2.2nm,0.8s,baz=89,slow=1.0,SNR=9.2

MAN 04 17:37:49,1561N×11990E,h27km,mb3.7,ML2.4,MS2.0, 1D,Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCZP	**Santa Cruz**	**0.17**	**4**	*eP*	Pb	17 37 56.2	+1.7
SCZP				*eS*	Sb	17 38 02.3	+4.1
BOLP	**Bolinao**	**0.77**	**1**	*eP*	Pb	17 38 03.5	-0.3
BOLP				*eS*	Sb	17 38 15.7	+1.9
PCPH	**Palayan**	**1.16**	**92**	↓*eP*	Pn	17 38 08.1	-1.3
BALP	**Baler**	**1.62**	**85**	*eP*	Pn	17 38 16.8	+1.0
LUBP	**Lubang**	**1.90**	**170**	*eP*	Pn	17 38 20.3	+0.7

SZGRF ***04*** *17:40:57.6,25.10S×177.10W,h33km, South of Fiji Islands*
ISCJB ***04*** *17:42:11.3±1.9,224S±0.1×179.7W±0.1,h636km±26km, mb3.9/14,Error ellipse: s-maj=17.8km s-min=15.3km az=178.4*
NEIC ***04*** *17:42:11.3±3.1,2220S×17956W,h627km±35km,mb4.1/7, Error ellipse: s-maj=23.4km s-min=17.2km az=210.0*
IDC ***04*** *17:42:13.0±2.3,2208S×179.71W,h640km±27km,mb3.3/11, mb1 3.5/11,mb1mx3.3/19,mbtmp3.3/11,Error ellipse: s-maj=20.2km s-min=13.4km az=169.0*

ISC 04 17:42:12.4±2.1,222S±02×179.7W±01,h630km±27km,n47, σ0.93/29,mb4.0/14,3D,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**16.24**	**189**	P	**P**	**17 45 27.4**	**-3.1**
0.9nm,0.3s,baz=25,slow=17,SNR=8.2							
URZ				S	**S**	**17 48 04.8**	**-6.8**
0.7nm,0.3s,baz=210,slow=20,SNR=7.5							
EIDS	**Eidsvold**	**26.91**	**257**	*eP*	**P**	**17 47 06.1**	**+0.1**
ARMA	**Armidale**	**26.93**	**246**	*eP*	**P**	**17 47 07.8**	**+1.7**
CTA	**Charters Tower**	**31.80**	**267**	*eP*	**P**	**17 47 48.3**	**+0.2**
7.3nm,1.1s,mb4.2							
CTA	**Charters Tower**	**31.80**	**267**	P	**P**	**17 47 47.6**	**-0.5**
2.9nm,0.4s,mb4.3,baz=96,slow=9.3,SNR=11							
CTAO	**Charters Tower**	**31.80**	**267**	*eP*	**P**	**17 47 48.2**	**+0.2**
2.8nm,0.4s,mb4.2							
STKA	**Stephens Creek**	**35.65**	**246**	*eP*	**P**	**17 48 20.6**	**+0.6**
2.6nm,0.6s,mb3.9							
STKA	**Stephens Creek**	**35.65**	**246**	P	**P**	**17 48 19.6**	**-0.4**
3.1nm,0.5s,mb4.1,baz=97,slow=9.1,SNR=12							
ASAR	**Alice Springs**	**42.63**	**259**	P	**P**	**17 49 16.0**	**+0.2**
8.9nm,0.8s,mb4.3,baz=94,slow=8.2,SNR=117							
ASAR				PcP	PcP	17 50 53.2	+0.4
1.5nm,0.6s,baz=110,slow=3.7,SNR=7.7							
ASAR				S	**S**	**17 54 55.8**	**+0.6**
0.9nm,0.8s,baz=94,slow=14,SNR=10.0							
WB2	**Warramunga Arr**	**42.83**	**264**	↓*iP*	**P**	**17 49 17.0**	**-0.5**
WB2				*eS*	**S**	**17 54 57.1**	**-1.1**
WRA	**Warramunga Arr**	**42.84**	**264**	P	**P**	**17 49 17.1**	**-0.5**
3.4nm,0.3s,mb4.4,baz=95,slow=8.2,SNR=338							
WRA				PcP	PcP	17 50 53.3	-0.3
1.0nm,0.9s,baz=96,slow=4.8,SNR=4.6							
WRA				S	**S**	**17 54 57.3**	**-1.0**
0.9nm,0.9s,baz=99,slow=13,SNR=4.9							
KAKA	**Kakadu**	**46.48**	**273**	↓*iP*	**P**	**17 49 44.8**	**-0.5**
9.0nm,0.4s,mb4.7							
KAKA	**Kakadu**	**46.48**	**273**	*eP*	**P**	**17 49 44.7**	**-0.7**
FORT	**Forrest**	**47.19**	**248**	*eP*	**P**	**17 49 50.3**	**-0.2**
12nm,0.7s,mb4.5							
FITZ	**Fitzroy Crossi**	**51.27**	**264**	*eP*	**P**	**17 50 20.7**	**+0.2**
4.1nm,0.6s,mb4.0							
FITZ	**Fitzroy Crossi**	**51.27**	**264**	P	**P**	**17 50 20.7**	**+0.3**
1.6nm,0.4s,mb3.8,baz=52,slow=8.0,SNR=14							
BATI	**Kupang**	**55.42**	**273**	P	**P**	**17 50 51.4**	**+1.6**
5.2nm,0.3s,mb4.3,baz=298,slow=13,SNR=5.3							
KLBR	**Kellerberrin**	**55.92**	**246**	*eP*	**P**	**17 50 52.9**	**-0.1**
2.7nm,0.3s,mb4.0							
NWAO	**Narrogin (SRO)**	**56.21**	**244**	P	**P**	**17 50 55.0**	**0.0**
1.8nm,0.4s,mb3.6,baz=119,slow=10,SNR=5.3							
MUN	**Mundaring**	**57.19**	**245**	*eP*	**P**	**17 51 02.0**	**+0.4**
QSPA	**South Pole Qui**	**67.87**	**180**	*eP*	**P**	**17 52 10.2**	**+1.0**
1.5nm,0.6s,mb3.6							
QSPA	**South Pole Qui**	**67.87**	**180**	P	**P**	**17 52 10.3**	**+1.1**
2.3nm,0.8s,mb3.7,baz=70,slow=2.6,SNR=13							
MJAR	**Matsushiro Arr**	**70.68**	**325**	P	**P**	**17 52 25.5**	**-1.0**
2.6nm,0.8s,mb3.8,baz=168,slow=7.1,SNR=5.1							
TXAR	**Lajitas Array**	**89.29**	**58**	P	**P**	**17 54 03.2**	**-0.1**
0.4nm,0.8s,mb3.3,baz=210,slow=4.3,SNR=3.6							
PDAR	**Pinedale Array**	**91.27**	**44**	P	**P**	**17 54 12.5**	**+0.3**
0.2nm,0.7s,mb3.2,baz=259,slow=7.2,SNR=2.5							
MKAR	**Makanchi Array**	**111.22**	**313**	PKiKP	PKiKP	17 59 34.6	-1.3
0.4nm,0.5s,baz=125,slow=0.6,SNR=5.2							
ARCES	**ARCESS Array B**	**130.29**	**349**	PKP	PKPdf	18 00 09.5	-2.3
1.2nm,0.6s,baz=38,slow=1.6,SNR=7.4							
FINES	**FINESS Array B**	**136.94**	**342**	PKP	PKPdf	18 00 23.0	-1.4
0.8nm,0.5s,baz=243,slow=0.4,SNR=4.0							
AKASG	**Malin Array Be**	**143.70**	**329**	PKP	PKPdf	18 00 34.8	-2.1
3.7nm,0.5s,baz=42,slow=4.0,SNR=36							
KOLS	**Kolonicke sedl**	**148.13**	**332**	*e*PKP	PKPbc	18 00 48.2	-0.4
STHS	**Stebnicka Huta**	**148.20**	**334**	*e*PKP	PKPbc	18 00 48.9	+0.2
STHS				*e*		18 00 53.0	
CRVS	**Cervenica-Dubn**	**148.51**	**333**	*e*PKP	PKPbc	18 00 49.0	-0.5
KSP	**Ksiaz**	**148.81**	**340**	*e*P	PKPbc	18 00 50.1	-0.1
CLL	**Collm**	**149.32**	**344**	*e*PKPbc	PKPbc	18 00 50.9	-0.5
CLL	**Collm**	**149.32**	**344**	↓*i*PKPbc	PKPbc	18 00 50.9	-0.5
comp=Z,10.0nm,0.8s							
CLL				*i* PKPab	PKPab	18 00 58.1	-0.7
comp=Z,3.0nm,0.7s							
BRG	**Berggiesshubel**	**149.47**	**343**	*e*PKPbc	PKPbc	18 00 51.5	-0.3
BRG	**Berggiesshubel**	**149.47**	**343**	*i* PKP	PKPbc	18 00 51.5	-0.3
comp=Z,8.3nm,0.7s							
FBE	**Freiberg**	**149.58**	**344**	*e*PKPbc	PKPbc	18 00 52.2	+0.2
MOX	**Moxa**	**150.27**	**345**	*e*PKPbc	PKPbc	18 00 52.9	-0.7
TANN	**Tannenbergstha**	**150.28**	**344**	*e*PKPbc	PKPbc	18 00 53.4	-0.3
WERD	**Werda**	**150.29**	**344**	*e*PKPbc	PKPbc	18 00 53.4	-0.3
GUNZ	**Gunzen**	**150.36**	**344**	*e*PKPbc	PKPbc	18 00 53.7	-0.2
WERN	**Wernitzgruen**	**150.42**	**344**	*e*PKPbc	PKPbc	18 00 53.8	-0.2
MANZ	**Manzenberg**	**150.76**	**344**	*e*PKPbc	PKPbc	18 00 54.5	-0.3
GEC2	**GERESS Array S**	**151.36**	**341**	*e*PKPbc	PKPbc	18 00 55.7	-0.5
GERES	**GERESS Array B**	**151.36**	**341**	PKPbc	PKPbc	18 00 55.9	-0.3
comp=Z,1.0nm,0.5s,baz=5.7,slow=1.3,SNR=9.6							
GERES				PKPab	PKPab	18 01 05.1	-2.4
comp=Z,0.5nm,0.6s,baz=267,slow=2.4,SNR=3.8							
TORD	**Torodi Ar. Bea**	**170.90**	**188**	PKPab	PKPab	18 02 33.4	-0.2
comp=Z,0.4nm,0.7s,baz=184,slow=5.8,SNR=3.2							

NEIC ***04*** *17:48:16.4,3499S×7168W,h61km,MD4.0(GUC),After GUC.*
NEIC Felt [IV] at Curico, Iloca, Licanten and Romeral; [II] at Talca.

GUC 04 17:48:17.8±0.8,3498S×7152W,h65km±5km,MD4.0, ML3.9,12C-8D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**0.24**	**95**	↓*iP*	Pn	17 48 27.7	-0.2
NICH				*i* S	Sn	17 48 35.6	+0.2
SFDO	**San Fernando**	**0.56**	**48**	↑*iP*	Pn	17 48 30.4	-0.3
SFDO	**San Fernando**	**0.56**	**48**	↑*iP*	Pn	17 48 30.5	-0.2
LNV	**Longovilo**	**1.03**	**5**	*eP*	Pn	17 48 35.0	-1.4
CICH	**Cipreses**	**1.12**	**54**	↑*iP*	Pn	17 48 38.3	+0.7
CICH				*i* S	Sn	17 48 54.5	+2.2
CACH	**El Canelo**	**1.15**	**41**	↓*iP*	Pn	17 48 38.3	+0.4
CACH				*i* S	Sn	17 48 55.2	+2.2
CACH	**El Canelo**	**1.15**	**41**	↓*iP*	Pn	17 48 38.3	+0.4
CACH				*i* S	Sn	17 48 54.5	+1.5
CHCH	**Chadas Angostu**	**1.27**	**35**	↑*iP*	Pn	17 48 39.6	+0.1
CHCH				*i* S	Sn	17 48 57.4	+1.6
CHCH	**Chadas Angostu**	**1.27**	**35**	↑*iP*	Pn	17 48 39.6	+0.1
CHCH				*i* S	Sn	17 48 56.7	+0.9
TACH	**Talagante**	**1.41**	**20**	↑*iP*	Pn	17 48 40.9	-0.5
TACH				*i* S	Sn	17 48 59.7	+0.6
TACH	**Talagante**	**1.41**	**20**	↑*iP*	Pn	17 48 40.9	-0.5
TACH				*i* S	Sn	17 49 00.1	+1.0
COCH	**Cobquecura**	**1.54**	**222**	↓*eP*	Pn	17 48 43.3	+0.1
COCH				*i* S	Sn	17 49 03.4	+1.0
LMEL	**Las Melosas**	**1.57**	**44**	*eP*	Pn	17 48 44.4	+0.8
LMEL				*i* S	Sn	17 49 05.4	+2.5
LMEL	**Las Melosas**	**1.57**	**44**	↓*eP*	Pn	17 48 44.4	+0.9
LMEL				*i* S	Sn	17 49 04.8	+1.9
LMEL				AML	AML	17 49 09.2	
comp=N,2μm,0.1s							
ANTU	**Antumapu**	**1.59**	**28**	↑*iP*	Pn	17 48 44.1	+0.3
ANTU				*i* S	Sn	17 49 04.8	+1.4
ANTU	**Antumapu**	**1.59**	**28**	↑*iP*	Pn	17 48 44.1	+0.3
ANTU				*i* S	Sn	17 49 04.7	+1.3
ANTU				AML	AML	17 49 07.2	
comp=N,3μm,0.6s							
PCH	**Pirque**	**1.59**	**32**	↑*iP*	Pn	17 48 44.1	+0.2
PCH				*i* S	Sn	17 49 05.2	+1.7
PCH	**Pirque**	**1.59**	**32**	↑*iP*	Pn	17 48 44.1	+0.2
PCH				*i* S	Sn	17 49 04.7	+1.2
SJCH	**San Jose de Ma**	**1.65**	**36**	↓*iP*	Pn	17 48 45.0	+0.4
SJCH				*i* S	Sn	17 49 06.2	+1.4
CCHI	**Chillan**	**1.68**	**196**	*eP*	Pn	17 48 45.7	+0.7
CCHI				*i* S	Sn	17 49 08.6	+3.1
CCHI				AML	AML	17 49 16.1	
comp=N,1μm,0.4s							
STL	**Santa Lucia**	**1.71**	**25**	*eP*	Pn	17 48 46.0	+0.6
STL				*i* S	Sn	17 49 07.3	+1.1
FSR	**Penalolen**	**1.71**	**29**	*i* P	Pn	17 48 45.6	+0.2
FSR				*i* S	Sn	17 49 08.0	+1.7
FSR	**Penalolen**	**1.71**	**29**	↑*iP*	Pn	17 48 45.8	+0.4
FSR				*i* S	Sn	17 49 07.6	+1.3
YECH	**El Yeso**	**1.77**	**42**	↓*eP*	Pn	17 48 47.7	+1.4
YECH				*i* S	Sn	17 49 12.2	+4.5
YECH				AML	AML	17 49 20.1	
comp=N,1μm,0.4s							
CLCH	**Cerro Calan**	**1.78**	**27**	*eP*	Pn	17 48 46.6	+0.3
CLCH				*i* S	Sn	17 49 09.2	+1.2
CLCH				AML	AML	17 49 14.0	
comp=N,2μm,0.1s							
PEL	**Peldehue**	**1.96**	**21**	↓*eP*	Pn	17 48 49.1	+0.3
PEL				*i* S	Sn	17 49 13.5	+1.2
PEL				AML	AML	17 49 17.9	
comp=N,2μm,0.3s							

IDC ***04*** *17:54:12.4±3.2,721S×15552E,h0km,mb3.8/7,mb1 3.9/7, mb1mx3.8/15,mbtmp3.8/7,MS3.1/1,Ms1 3.1/1, ms1mx2.7/18,Error ellipse: s-maj=94.9km s-min=24.7km az=108.0*
NEIC ***04*** *17:54:13.7±1.5,722S×15558E,h10km,Error ellipse: s-maj=40.4km s-min=16.1km az=110.0*
ISCJB ***04*** *17:54:15.0±2.0,73S±02×1557E±04,h33km,mb3.7/7, Error ellipse: s-maj=54.3km s-min=20.2km az=20.1*

ISC 04 17:54:17.7±2.1,73S±02×1555E±04,h35km,n11,σ0.54/10, mb3.7/7,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.86**	**117**	LR	LR	17 57 19.0	
comp=Z,207nm,19.5s,baz=187,slow=38							
KAKA	**Kakadu**	**23.38**	**255**	*eP*	**P**	**17 59 24.1**	**+0.4**
WRA	**Warramunga Arr**	**24.12**	**236**	P	**P**	**17 59 30.7**	**+0.3**
1.8nm,0.8s,mb3.6,baz=61,slow=9.6,SNR=14							
ASAR	**Alice Springs**	**26.41**	**229**	P	**P**	**17 59 50.4**	**-0.8**
0.3nm,0.8s,mb2.9,baz=57,slow=9.9,SNR=8.6							
STKA	**Stephens Creek**	**27.74**	**206**	P	**P**	**18 00 03.4**	**+0.4**
STKA	**Stephens Creek**	**27.74**	**206**	P	**P**	**18 00 03.4**	**+0.4**
1.1nm,0.6s,mb3.6,baz=38,slow=11,SNR=3.6							
FITZ	**Fitzroy Crossi**	**31.05**	**247**	P	**P**	**18 00 32.2**	**-0.3**
2.8nm,0.7s,mb4.2,baz=125,slow=6.3,SNR=5.7							
SONM	**Songino Array**	**69.85**	**327**	P	**P**	**18 05 25.3**	**+0.5**
0.6nm,0.5s,mb3.8,baz=154,slow=6.4,SNR=6.0							
MKAR	**Makanchi Array**	**83.96**	**319**	P	**P**	**18 06 44.6**	**+0.3**
0.8nm,0.7s,mb4.0,baz=91,slow=5.6,SNR=8.6							
ZALV	**Zalesovo Beam**	**84.70**	**326**	P	**P**	**18 06 47.0**	**-0.9**
ZALV	**Zalesovo Beam**	**84.70**	**326**	P	**P**	**18 06 47.0**	**-0.9**
0.6nm,0.5s,mb4.0,baz=122,slow=5.0,SNR=4.0							

ISCJB ***04*** *18:02:11.9±0.4,4372N±004×105.18W±005,h0km,mb3.9/4, Error ellipse: s-maj=6.0km s-min=5.3km az=171.9*
IDC ***04*** *18:02:11.4±2.2,4349N×10532W,h0km,mb3.8/4, mb1 3.9/7,mb1mx3.7/22,mbtmp3.7/7,ML3.7/2,MS2.8/1, Ms1 2.8/1,ms1mx2.1/38,Error ellipse: s-maj=53.1km s-min=7.8km az=152.0*
NEIC ***04*** *18:02:13.6±0.3,4371N×10523W,h0km,ML3.2,Error ellipse: s-maj=4.9km s-min=4.2km az=178.0,Suspected Mining explosion.*
NEIC 70 km [40 miles] SSE of Gillette.

ISC 04 18:02:13.4±0.4,4374N±004×10519W±005,h0km,n40, σ0.92/41,mb3.9/4,Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**0.92**	**65**	*eP*	**Pg**	**18 02 32.6**	**+1.6**
PHWY	**Pilot Hill**	**2.44**	**185**	*eP*	**Pn**	**18 02 54.4**	**-0.1**
RWWY	**Rawlins**	**2.53**	**217**	*eP*	**Pn**	**18 02 56.3**	**+0.6**
LAO	**LASA Array**	**3.04**	**346**	*eP*	**Pn**	**18 03 03.9**	**+1.2**
RLMT	**Red Lodge**	**3.23**	**297**	*eP*	**Pn**	**18 03 05.0**	**-0.3**
BW06	**Boulder Array**	**3.33**	**255**	*eP*	**Pn**	**18 03 06.1**	**-0.7**
PDAR	**Pinedale Array**	**3.33**	**255**	Pn	**Pn**	**18 03 06.3**	**-0.5**
PDAR				Lg		18 03 50.2	
PDAR	**Pinedale Array**	**3.33**	**255**	Pn	**Pn**	**18 03 06.3**	**-0.5**
5.9nm,0.3s,baz=69,slow=15,SNR=76							
PDAR				Lg		18 03 50.2	
19nm,0.3s,baz=67,slow=30,SNR=13							
GCMT	**Greycliff**	**3.79**	**304**	*eP*	**Pn**	**18 03 13.3**	**+0.2**
LKWY	**Lake**	**3.84**	**284**	*eP*	**Pn**	**18 03 11.6**	**-2.2**
LOHW	**Long Hollow**	**3.93**	**270**	*eP*	**Pn**	**18 03 16.4**	**+1.5**
ISCO	**Idaho Springs**	**3.95**	**185**	*eP*	**Pn**	**18 03 15.9**	**+0.7**
FLWY	**Flagg Ranch**	**4.00**	**277**	*eP*	**Pn**	**18 03 15.4**	**-0.4**
MOOW	**Moose Ponds**	**4.03**	**272**	*eP*	**Pn**	**18 03 16.7**	**+0.4**
SNOW	**Snow King Moun**	**4.05**	**268**	*eP*	**Pn**	**18 03 16.1**	**-0.5**
YNR	**Norris Junctio**	**4.07**	**286**	P	**Pn**	**18 03 19.9**	**+3.1**
YFT	**Old Faithful**	**4.13**	**282**	*e*Pn	**Pn**	**18 03 18.7**	**+1.0**
REDW	**Red Top Meadow**	**4.13**	**267**	*eP*	**Pn**	**18 03 17.1**	**-0.7**
IMW	**Indian Meadow**	**4.16**	**274**	*eP*	**Pn**	**18 03 18.2**	**0.0**
TPAW	**Teton Pass**	**4.19**	**269**	*eP*	**Pn**	**18 03 18.5**	**-0.1**
YMR	**Madison River**	**4.26**	**285**	*e*Pn	**Pn**	**18 03 21.0**	**+1.5**
DCID1	**Drake Creek**	**4.35**	**270**	*eP*	**Pn**	**18 03 21.6**	**+0.8**
AHID	**Auburn Hatcher**	**4.42**	**259**	*e*Pb	**Pb**	**18 03 31.9**	**0.0**
QLMT	**Earthquake Lak**	**4.61**	**286**	*e*Pb	**Pb**	**18 03 35.8**	**+0.6**
DGMT	**Dagmar**	**4.79**	**8**	*e*Pn	**Pn**	**18 03 27.9**	**+1.2**
BOZ	**Bozeman (W)**	**4.97**	**295**	*eP*	**Pn**	**18 03 28.4**	**-0.9**
HWUT	**Hardware Ranch**	**5.16**	**248**	*e*Pn	**Pn**	**18 03 31.0**	**-0.9**
12nm,0.4s							
HRY	**Holter Researc**	**5.55**	**305**	*e*Pn	**Pn**	**18 03 37.2**	**-0.1**
SDCO	**Great Sand Dun**	**5.99**	**182**	*e*Pn	**Pn**	**18 03 43.4**	**+0.2**
2.3nm,0.6s							
SRU	**San Rafael**	**6.12**	**223**	*e*Pn	**Pn**	**18 03 43.7**	**-1.3**
12nm,0.4s							
ECSD	**EROS,Sioux Fal**	**6.21**	**87**	*e*Pn	**Pn**	**18 03 47.2**	**+0.9**
6.3nm,0.4s							
TMUT	**Trail Mountain**	**6.33**	**228**	*e*Pn	**Pn**	**18 03 47.8**	**-0.1**
CBKS	**Cedar Bluff**	**6.41**	**138**	Pn	**Pn**	**18 03 48.9**	**-0.1**
13nm,0.4s							
CHMT	**Chamberlain Mo**	**6.51**	**302**	*e*Pn	**Pn**	**18 03 50.4**	**0.0**
ULM	**Lac du Bonnet**	**9.10**	**41**	Pn	**Pn**	**18 04 25.0**	**-1.0**
2.6nm,0.3s,baz=232,slow=11,SNR=19							
ULM				Sn	**Sn**	**18 06 07.0**	**-2.0**
0.4nm,0.3s,baz=186,slow=0.4,SNR=5.5							
ULM				Lg		18 06 58.5	
0.3nm,0.3s,baz=319,slow=20,SNR=2.6							
YKA	**Yellowknife Ar**	**19.58**	**347**	P	**Pn**	**18 06 43.9**	**0.0**
0.1nm,0.3s,baz=154,slow=11,SNR=4.9							
YKA				LR	LR	18 13 50.9	
comp=Z,31nm,21.1s,baz=155,slow=35							
ARCES	**ARCESS Array B**	**61.40**	**18**	P	**P**	**18 12 29.4**	**-1.3**
5.7nm,1.1s,mb4.6,baz=322,slow=8.0,SNR=5.7							
ZALV	**Zalesovo Beam**	**82.32**	**354**	P	**P**	**18 14 35.4**	**-1.2**
0.4nm,0.6s,mb3.7,baz=10,slow=10,SNR=1.9							
SONM	**Songino Array**	**84.66**	**339**	P	**P**	**18 14 49.1**	**+0.4**
0.2nm,0.5s,mb3.6,baz=14,slow=3.8,SNR=2.1							
MKAR	**Makanchi Array**	**89.61**	**355**	P	**P**	**18 15 12.7**	**0.0**
0.3nm,0.8s,mb3.6,baz=15,slow=3.6,SNR=2.8							

ISCJB ***04*** *18:03:25.9±0.3,4830N±002×662E±002,h15km±3km, Error ellipse: s-maj=3.2km s-min=2.6km az=171.1*
CSEM ***04*** *18:03:27.7±0.1,4834N×665E,h8km,ML2.6/11*
STR ***04*** *18:03:27.7±0.3,4832N×666E,h10km,Ml2.3,Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
NEIC ***04*** *18:03:27.9,4833N×663E,h10km,ML2.6(LDG), ML2.3(STR),After LDG.*
LDG ***04*** *18:03:27.9±0.1,4833N×663E,h10km,Md2.7/4,Ml2.6/15, Error ellipse: s-maj=1.4km s-min=1.1km az=154.0*
BGR ***04*** *18:03:28.1±0.4,4835N×670E,h10km,ML2.0/3,Error ellipse: s-maj=4.4km s-min=4.4km az=58.0*

ISC 04 18:03:26.8±0.3,4833N±002×664E±002,h17km±3km,n64, σ0.99/123,France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ECH	**Echery**	**0.36**	**108**	*e*Pg	**Pg**	**18 03 35.0**	**+0.7**
SNR=20							
ECH	**Echery**	**0.36**	**108**	Pg	**Pg**	**18 03 35.0**	**+0.7**
ECH				Sg	**Sg**	**18 03 39.7**	**+0.3**
HAU	**Haudompre**	**0.38**	**211**	*e*Pg	**Pg**	**18 03 35.6**	**+1.0**
SNR=1.0							
HAU				*e*Sg	**Sg**	**18 03 40.3**	**+0.5**
52nm,0.3s							
HAU	**Haudompre**	**0.38**	**211**	*e*Pg	**Pg**	**18 03 35.6**	**+1.0**
SNR=1.0							
HAU				*e*Sg	**Sg**	**18 03 40.3**	**+0.5**
26nm,0.3s							
CDF	**Champ du Feu**	**0.43**	**79**	*e*Pg	**Pg**	**18 03 36.1**	**+0.6**
SNR=1.0							
CDF				*e*Sg	**Sg**	**18 03 41.7**	**+0.3**
29nm,0.2s							
CDF				*e*Sn	**Sg**	**18 03 44.7**	**+3.3**
29nm,0.2s,SNR=1.0							
CDF	**Champ du Feu**	**0.43**	**79**	*e*Pg	**Pg**	**18 03 36.1**	**+0.6**
SNR=1.0							
CDF				*e*Sg	**Sg**	**18 03 41.7**	**+0.3**
15nm,0.2s							
CDF				*e*Sn	**Sg**	**18 03 44.7**	**+3.3**
14nm,0.2s,SNR=1.0							
THEF	**They Montfort**	**0.45**	**257**	*e*Pg	**Pg**	**18 03 36.7**	**+0.8**
SNR=11							
THEF	**They Montfort**	**0.45**	**257**	Pg	**Pg**	**18 03 36.7**	**+0.8**
THEF				Sg	**Sg**	**18 03 42.8**	**+0.8**
HINF	**Hinteralfeld**	**0.53**	**164**	*e*Pg	**Pg**	**18 03 38.2**	**+0.8**
SNR=1.0							
HINF				*e*Sg	**Sg**	**18 03 45.0**	**+0.5**
73nm,0.3s							
HINF	**Hinteralfeld**	**0.53**	**164**	*e*Pg	**Pg**	**18 03 38.2**	**+0.8**
SNR=1.0							
HINF				*e*Sg	**Sg**	**18 03 45.0**	**+0.5**
36nm,0.3s							
MOF	**Molkenrain**	**0.58**	**145**	Pg	**Pg**	**18 03 39.0**	**+0.7**
RFYF	**Reffroy**	**0.83**	**291**	*e*Pg	**Pg**	**18 03 43.8**	**+0.8**
RFYF				*e*Sn	**Sn**	**18 03 56.1**	**+0.5**
37nm,0.2s							
RFYF	**Reffroy**	**0.83**	**291**	*e*Pg	**Pg**	**18 03 43.8**	**+0.8**
RFYF				*e*Sn	**Sn**	**18 03 56.1**	**+0.5**
19nm,0.2s							
LOMF	**Lomont**	**0.99**	**173**	*e*Pg	**Pg**	**18 03 47.1**	**+1.2**
SNR=9.7							
LOMF	**Lomont**	**0.99**	**173**	Pg	**Pg**	**18 03 47.1**	**+1.2**
LOMF				Sg	**Sg**	**18 03 59.7**	**+0.8**
LANF	**Langenberg**	**1.01**	**49**	*e*Pg	**Pg**	**18 03 46.4**	**+0.1**
SNR=2.7							
FELD	**Feldberg im Sc**	**1.02**	**116**	*e*Pg	**Pg**	**18 03 47.2**	**+0.7**
SNR=4.4							
FELD	**Feldberg im Sc**	**1.02**	**116**	Pg	**Pg**	**18 03

AVF eSg Sg 18 04 53.5 -0.3
AVF Avril sur Loir 2.71 237 ePg Pg 18 04 18.3 -0.4
AVF eSg Sg 18 04 53.5 -0.3
1.5nm,0.2s,SNR=1.0
LPL La Plagne 2.82 179 ePg Pg 18 04 20.7 0.0
LPL eSg Sg 18 04 56.8 -0.4
2.4nm,0.3s
LPL La Plagne 2.82 179 ePg Pg 18 04 20.7 0.0
LPL eSg Sg 18 04 56.8 -0.4
1.2nm,0.3s
LPG La Plagne 2.83 178 ePg Pg 18 04 20.4 -0.7
SNR=1.0
LPG eSg Sg 18 04 57.6 -0.2
1.9nm,0.3s
LPG La Plagne 2.83 178 ePg Pg 18 04 20.4 -0.7
SNR=1.0
LPG eSg Sg 18 04 57.6 -0.2
0.9nm,0.3s
HYF Humbligny 2.90 250 ePn Pn 18 04 15.2 +3.1
BGF Bois d'Agland 3.13 237 ePg Pg 18 04 25.7 -1.0
BGF eSg Sg 18 05 04.5 -2.7
10nm,0.3s
BGF Bois d'Agland 3.13 237 ePg Pg 18 04 25.7 -1.0
BGF eSg Sg 18 05 04.5 -2.7
5.1nm,0.3s
GRF Grafenberg Arr 3.31 64 eSg Sg 18 05 11.9 -1.1
SNR=2.9
ORIF Oris-en-Rattie 3.45 189 ePg Pg 18 04 31.7 -1.2
ORIF eSg Sg 18 05 16.2 -1.4
1.6nm,0.3s
ORIF Oris-en-Rattie 3.45 189 ePg Pg 18 04 31.7 -1.2
ORIF eSg Sg 18 05 16.2 -1.4
0.8nm,0.3s
MBDF Montbardon 3.61 179 ePg Pg 18 04 36.4 +0.6
VIVF Saint-Julien-I 3.73 202 ePg Pg 18 04 36.7 -1.5
VIVF eSg Sg 18 05 23.8 -2.7
1.7nm,0.2s
VIVF Saint-Julien-I 3.73 202 ePn Pn 18 04 23.5 0.0
VIVF ePg Pg 18 04 36.7 -1.5
VIVF eSg Sg 18 05 23.8 -2.7
VIVF Saint-Julien-I 3.73 202 ePg Pg 18 04 36.7 -1.5
VIVF eSg Sg 18 05 23.8 -2.7
0.9nm,0.2s
MOX Moxa 3.98 53 eSg Sg 18 05 33.9 -0.7
SNR=1.3
WET Wettzell 4.21 77 eSn Sn 18 05 18.0 -0.8
SNR=2.1
MFF Saint Martin d 4.92 252 ePn Pn 18 04 38.7 -1.1

MAN 04 18:06:34,959N×12558E,h40km,mb4.5,ML3.3,MS3.2, 1C-1D,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**0.21**	**335⇓**	*eP*	Pn	18 06 42.7	+1.3
SCPH						18 06 49.0	
MSLP	**Maasin**	**0.90**	**308**	*eP*	Pn	18 06 51.9	+1.8
MSLP				*eS*	Sn	18 07 05.5	+3.6
CGP	**Cagayan de Oro**	**1.42**	**218⇑**	*iP*	Pn	18 06 57.5	+0.1
CGP				*i S*	Sn	18 07 13.7	-1.2
BUKP	**Musuan**	**1.77**	**197**	*eP*	Pn	18 07 03.2	+1.1
PAGZ	**Pagadian**	**2.77**	**232**	*eP*	Pn	18 07 17.1	+1.1
PAGZ				*eS*	Sn	18 07 49.8	+1.5

SZGRF ***04*** *18:07:00.1,1989S×17066E,h33km, Vanuatu Islands*
MOS ***04*** *18:07:28.6±1.1,1858S×16927E,h246km,mb4.7/8, Error ellipse: s-maj=15.9km s-min=12.2km az=128.8*
IDC ***04*** *18:07:29.4±1.8,1858S×16922E,h240km±15km,mb3.9/14, mb1 4.0/16,mb1mx4.0/20,mbtmp3.9/16, Error ellipse: s-maj=16.2km s-min=13.9km az=62.0*
NEIC ***04*** *18:07:29.6±1.4,1860S×16924E,h243km±12km,mb4.4/8, Error ellipse: s-maj=13.2km s-min=10.9km az=76.0*
ISCJB ***04*** *18:07:29.6±1.2,1861S±007×169.15E±008,h254km±11km, mb4.3/31, Error ellipse: s-maj=12.9km s-min=10.5km az=9.2*
BJI ***04*** *18:07:29.6,1788S×16879E,h215km,mB4.7,mb4.7*
LDG ***04*** *18:07:32.3±0.4,1876S×16861E,h260km,Mb4.5/2, Error ellipse: s-maj=37.1km s-min=6.7km az=109.0*

ISC 04 18:07:30.3±1.3,1861S±006×16919E±009,h248km±11km, n84,σ0§96/56,mb4.3/31,6C-2D,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.30**	**216**	P	**Pn**	**18 08 36.6**	**-0.9**
	11nm,0.3s,baz=54,slow=18,SNR=48						
DZM				S	**S**	**18 09 24.7**	**-6.3**
	20nm,0.3s,baz=81,slow=20,SNR=3.2						
HNR	**Honiara**	**12.79**	**314**	P	**Pn**	**18 10 23.3**	**-0.5**
	10nm,0.3s,baz=245,slow=3.9,SNR=6.0						
ARMA	**Armidale**	**19.80**	**230**	*eP*	**P**	**18 11 43.3**	**+0.9**
URZ	**Urewera**	**20.76**	**162**	P	**P**	**18 11 53.0**	**+0.7**
	4.7nm,0.5s,baz=26,slow=6.1,SNR=7.4						
CTA	**Charters Tower**	**21.69**	**262**	P	**P**	**18 12 02.8**	**+1.1**
	5.5nm,0.6s,mb4.3,baz=108,slow=11,SNR=10						
CTAO	**Charters Tower**	**21.69**	**262**	*eP*	**P**	**18 12 03.4**	**+1.7**
STKA	**Stephens Creek**	**28.14**	**237**	*eP*	**P**	**18 13 00.5**	**+0.8**
	4.5nm,0.7s,mb4.2						
STKA	**Stephens Creek**	**28.14**	**237**	P	**P**	**18 13 00.2**	**+0.5**
	6.1nm,0.7s,mb4.3,baz=65,slow=7.2,SNR=17						
WB2	**Warramunga Arr**	**32.88**	**262**	*eP*	**P**	**18 13 40.7**	**-0.7**
WRA	**Warramunga Arr**	**32.89**	**262**	P	**P**	**18 13 40.0**	**-1.5**
WRA				S	**S**	**18 18 38.5**	**-2.1**
WRA	**Warramunga Arr**	**32.89**	**262**	P	**P**	**18 13 40.0**	**-1.5**
	1.0nm,0.3s,mb3.8,baz=84,slow=5.9,SNR=75						
WRA				S	**S**	**18 18 38.5**	**-2.1**
	3.9nm,0.9s,baz=88,slow=16,SNR=20						
WRA				ScP	ScP	18 19 42.7	+2.5
	0.9nm,0.9s,baz=85,slow=3.5,SNR=6.5						
ASAR	**Alice Springs**	**33.24**	**255**	P	**P**	**18 13 44.2**	**-0.2**
	6.0nm,0.3s,mb4.6,baz=81,slow=8.6,SNR=274						
ASAR				S	**S**	**18 18 43.7**	**-2.2**
	0.5nm,0.6s,baz=89,slow=16,SNR=5.3						
FITZ	**Fitzroy Crossi**	**41.26**	**264**	*eP*	**P**	**18 14 52.6**	**+0.9**
	12nm,1.1s,mb4.2						
FITZ	**Fitzroy Crossi**	**41.26**	**264**	P	**P**	**18 14 51.9**	**+0.1**
	6.5nm,0.6s,mb4.3,baz=110,slow=7.4,SNR=28						
BATI	**Kupang**	**44.78**	**274**	P	**P**	**18 15 21.2**	**+1.3**
	18nm,0.7s,mb4.5,baz=258,slow=6.4,SNR=5.6						
MBWA	**Marble Bar**	**46.44**	**258**	*eP*	**P**	**18 15 33.1**	**+0.4**
	4.0nm,0.4s,mb4.1						
KLBR	**Kellerberrin**	**47.94**	**244**	*eP*	**P**	**18 15 43.7**	**-0.5**
	48nm,1.8s,mb4.5						
VNDA	**Vanda**	**59.05**	**182**	P	**P**	**18 17 03.2**	**-0.7**
	0.5nm,0.8s,mb3.2,baz=359,slow=6.4,SNR=3.0						
MJAR	**Matsushiro Arr**	**62.18**	**332**	P	**P**	**18 17 24.9**	**-0.6**
	7.2nm,0.9s,mb4.3,baz=166,slow=7.0,SNR=10						
MAT	**Matsushiro**	**62.18**	**332**	P	**P**	**18 17 25.5**	**0.0**
KSRS	**Korea Array**	**67.97**	**326**	P	**P**	**18 18 02.3**	**-0.3**
	1.5nm,1.1s,mb3.5,baz=160,slow=11,SNR=4.7						
YSS	**Yuzh-Sakhalins**	**69.48**	**341**	*eP*	**P**	**18 18 13.4**	**+1.7**
	14nm,0.9s,mb4.6						
YSS	**Yuzh-Sakhalins**	**69.48**	**341⇑**	*eP*	**P**	**18 18 11.3**	**-0.4**
YSS				pmax	pmax		
	comp=Z,12nm,1.1s,mb4.4						
NJ2	**Nanjing**	**69.73**	**316**	*eP*	**P**	**18 18 12.5**	**-1.1**
NJ2				AMB	AMB		
	comp=Z,20nm,0.6s,mb4.9						
QSPA	**South Pole Qui**	**71.44**	**180**	*eP*	**P**	**18 18 23.4**	**+0.3**
	comp=Z,7.1nm,1.0s,mb4.2						
HABR	**Khabarovsk**	**73.41**	**337**	*eP*	**P**	**18 18 34.2**	**-0.9**
HABR				*e*		18 21 21.6	
HABR				*eS*	S	18 28 10.1	+27
CN2	**Changchun**	**73.90**	**329**	*eP*	**P**	**18 18 39.0**	**+0.9**
CN2				AMB	AMB		
	comp=Z,20nm,1.0s,mb4.7						
KLR	**Kul'dur**	**75.28**	**336**	*eP*	**P**	**18 18 43.0**	**-2.9**
XAN	**Xi'an**	**77.66**	**312**	P	**P**	**18 19 00.6**	**+1.1**
XAN				AMB	AMB		
	comp=Z,9.0nm,0.8s,mb4.5						
KMI	**Kunming**	**77.91**	**302**	P	**P**	**18 19 02.4**	**+1.3**
KMI				AMB	AMB		
	comp=Z,18nm,0.9s,mb4.7						
CHTO	**Chiang Mai**	**78.35**	**294**	*eP*	**P**	**18 19 05.0**	**+1.3**
	comp=Z,12nm,1.1s,mb4.5						
CHTO	**Chiang Mai**	**78.35**	**294**	*eP*	**P**	**18 19 05.0**	**+1.3**
CHTO				pmax	pmax		
	comp=Z,12nm,1.1s,mb4.4						
MAW	**Mawson**	**78.99**	**202**	P	**P**	**18 19 07.1**	**+0.8**
	comp=Z,2.4nm,0.7s,mb4.0,baz=66,slow=4.7,SNR=4.3						
LZH	**Lanzhou**	**82.28**	**312**	*eP*	**P**	**18 19 25.7**	**+1.5**
LZH				AMB	AMB		
	comp=Z,15nm,1.3s,mb4.5						
LZH				AMB	AMB		
	comp=Z,68nm,4.1s						
SEY	**Seymchan**	**82.35**	**352⇑**	*eP*	**P**	**18 19 23.5**	**-0.4**
CLNS	**Chul'man**	**83.80**	**337**	*eP*	**P**	**18 19 29.0**	**-2.4**
CLNS				pmax	pmax		
	comp=Z,13nm,0.7s,mb4.8						
CLNS				pmax	pmax		
	comp=N,9.0nm,1.2s						
YAK	**Yakutsk**	**86.26**	**343**	*eP*	**P**	**18 19 44.0**	**+0.5**
YAK				pmax	pmax		
	comp=Z,15nm,1.2s,mb4.6						
YAK				pmax	pmax		
	comp=N,4.0nm,1.4s						
ULN	**Ulaanbaatar**	**86.34**	**323⇑**	*eP*	**P**	**18 19 44.9**	**+0.7**
BILL	**Bilibino**	**86.43**	**359**	*eP*	**P**	**18 19 44.6**	**+0.4**
	comp=N,16nm,0.9s,mb4.8						
BILL	**Bilibino**	**86.43**	**359**	*d iP*	**P**	**18 19 44.8**	**+0.6**
BILL				pmax	pmax		
	comp=Z,17nm,1.0s,mb4.7						
GTA	**Gaotai**	**86.67**	**313**	*eP*	**P**	**18 19 46.6**	**+0.6**
GTA				AMB	AMB		
	comp=Z,6.0nm,1.4s,mb4.1						
SONM	**Songino Array**	**86.69**	**323**	P	**P**	**18 19 46.6**	**+0.6**
	comp=Z,6.4nm,0.8s,mb4.4,baz=150,slow=5.9,SNR=52						
BOD	**Bodaibo**	**88.75**	**334**	*eP*	**P**	**18 19 55.3**	**-0.2**
BOD				pmax	pmax		
	comp=Z,5.0nm,1.2s,mb4.2						
COLA	**College**	**89.46**	**17**	*eP*	**P**	**18 19 57.4**	**-1.2**
ZAK	**Zakamensk**	**89.77**	**324**	*eP*	**P**	**18 20 00.8**	**+0.4**
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.5s,mb3.9						
SNAA	**Sanae**	**89.78**	**183**	*eP*	**P**	**18 19 59.0**	**-1.2**
SNAA				*e*		18 20 01.4	
TLY	**Talaya**	**90.22**	**325**	*eP*	**P**	**18 20 02.6**	**+0.2**
TLY				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.3						
VNA3	**Neumayer Olymp**	**90.37**	**180**	*eP*	**P**	**18 20 02.1**	**-0.9**
VNA3				*e*		18 20 04.2	
VNA2	**Neumayer--Watz**	**90.67**	**181**	*eP*	**P**	**18 20 04.2**	**-0.1**
	baz=195,slow=3.6						
VNA2				*e*		18 20 05.9	
TIXI	**Tiksi**	**94.12**	**348⇑**	*eP*	**P**	**18 20 19.4**	**-0.6**
TIXI				pmax	pmax		
	comp=Z,1.0nm,1.3s,mb3.7						
INK	**Inuvik**	**95.97**	**18**	P	**P**	**18 20 28.0**	**-0.5**
	comp=Z,1.3nm,0.8s,mb4.2,baz=238,slow=6.8,SNR=5.0						
TXAR	**Lajitas Array**	**96.51**	**61**	P	**P**	**18 20 32.5**	**+0.7**
	comp=Z,0.2nm,0.7s,mb3.5,baz=233,slow=4.3,SNR=4.1						
YKA	**Yellowknife Ar**	**100.14**	**27**	P	Pdif	18 20 47.6	-0.1
	comp=Z,1.0nm,0.7s,baz=255,slow=4.6,SNR=18						
MKAR	**Makanchi Array**	**101.26**	**316**	P	Pdif	18 20 54.4	+1.6
	comp=Z,0.9nm,0.7s,baz=94,slow=6.3,SNR=12						
ZALV	**Zalesovo Beam**	**101.59**	**323**	P	Pdif	18 20 54.0	-0.2
ZALV	**Zalesovo Beam**	**101.59**	**323**	P	Pdif	18 20 54.0	-0.2
	comp=Z,0.3nm,0.5s,baz=96,slow=1.5,SNR=3.9						
ZAL	**Zalesovo**	**101.60**	**323**	P	Pdif	18 20 54.0	-0.2
ARCES	**ARCESS Array B**	**124.45**	**345**	PKP	PKPdf	18 25 57.6	-1.5
	comp=Z,3.2nm,0.8s,baz=0.0,slow=2.5,SNR=8.3						
AKASG	**Malin Array Be**	**134.96**	**325**	SKPbc	SKPbc	18 29 26.4	-0.1
	comp=Z,0.2nm,0.3s,baz=45,slow=3.7,SNR=6.3						
WERD	**Werda**	**143.28**	**335**	*e*PKPbc	PKPdf	18 26 32.6	-2.2
GUNZ	**Gunzen**	**143.34**	**335**	*e*PKPbc	PKPdf	18 26 32.8	-2.1
NKC	**Novy Kostel**	**143.39**	**335**	*e*PKP	PKPdf	18 26 33.2	-1.8
MANZ	**Manzenberg**	**143.72**	**335**	*e*PKPbc	PKPdf	18 26 34.1	-1.4
KHC	**Kasperske Hory**	**143.76**	**333**	*e*PKP	PKPdf	18 26 34.3	-1.3
ROTZ	**Rotzenmuhle**	**143.85**	**335**	*e*PKPbc	PKPdf	18 26 34.5	-1.3
GERES	**GERESS Array B**	**143.92**	**332**	PKP	PKPdf	18 26 34.1	-1.8
	comp=Z,2.9nm,0.9s,baz=20,slow=4.3,SNR=14						
GERES				SKPbc	SKPbc	18 29 50.8	-0.2
	comp=Z,1.0nm,0.8s,baz=88,slow=3.2,SNR=5.2						
GRA1	**Grafenberg Arr**	**144.31**	**335**	*e*PKPbc	PKPdf	18 26 36.0	-0.6
GRF	**Grafenberg Arr**	**144.31**	**335**	*e*PKPbc	PKPdf	18 26 36.0	-0.6
MOA	**Molln**	**144.40**	**331⇑**	*iP*	PKPdf	18 26 36.6	-0.2
	comp=Z,14nm,0.9s						
WLF	**Walferdange**	**146.16**	**340**	*e*PKPbc	PKPbc	18 26 42.2	+1.0
BAIF	**Baives**	**146.40**	**342**	*e*PKP1	PKPbc	18 26 42.2	+0.3
	comp=Z,6.9nm,0.6s						
FETA	**Feichten**	**146.61**	**333⇑**	*i*PKPab	PKPab	18 26 43.2	-1.0
	comp=Z,9.2nm,1.1s						
DAVA	**Damuels**	**146.76**	**334⇓**	*iP*	PKPdf	18 26 43.8	+2.9
	comp=Z,11nm,1.4s						
CDF	**Champ du Feu**	**146.85**	**338**	*e*PKP1	PKPbc	18 26 43.4	+0.2
CABF	**La Chapelle**	**148.80**	**337**	*e*PKP1	PKPbc	18 26 49.0	+0.6
LOR	**Lormes**	**149.00**	**340**	*e*PKP1	PKPbc	18 26 49.0	+0.2
	comp=Z,15nm,0.8s						
SSF	**Saint Saulge**	**149.29**	**341**	*e*PKP1	PKPbc	18 26 49.8	+0.2
LPL	**La Plagne**	**149.47**	**335**	*e*PKP1	PKPbc	18 26 50.8	+0.7
LPG	**La Plagne**	**149.48**	**335**	*e*PKP1	PKPbc	18 26 50.9	+0.8
SMF	**Signal de Mont**	**149.55**	**340**	*e*PKP1	PKPbc	18 26 49.5	-0.7
AVF	**Avril sur Loir**	**149.58**	**341**	*e*PKP1	PKPbc	18 26 49.5	-0.8
	comp=Z,4.4nm,0.8s						
BGF	**Bois d'Agland**	**149.94**	**341**	*e*PKP1	PKPbc	18 26 51.3	+0.1
	comp=Z,11nm,0.8s						
ORIF	**Oris-en-Rattie**	**150.30**	**336**	*e*PKP1	PKPbc	18 26 52.3	+0.2
	comp=Z,9.1nm,0.8s						
TCF	**Toulx Ste Croi**	**150.38**	**342**	*e*PKP1	PKPbc	18 26 52.3	+0.1

THE ***04*** *18:12:50.9,3820N×2008E,h18km,ML3.8*
ISCJB ***04*** *18:12:51.5±0.9,3820N±005×2026E±006,h16km, Error ellipse: s-maj=8.3km s-min=5.3km az=142.6*
NEIC ***04*** *18:12:51.4,3829N×2030E,h16km,ML3.0(ATH),After ATH.*
ATH ***04*** *18:12:51.3,3828N×2029E,h16km±1km,MD3.5/7*
CSEM ***04*** *18:12:52.8±0.2,3834N×2035E,h2km,MD3.5, Error ellipse: s-maj=5.8km s-min=2.4km az=68.0*

ISC 04 18:12:51.4±1.1,3829N±004×2030E±007,h0km±7km,n17, σ1§19/26,1C,Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.26**	**116⇑**	*iP*B	**Pg**	**18 12 57.2**	**+0.9**
VLS				*e*SB	**Sg**	**18 13 01.5**	**+1.8**
IGT	**Igoumenitsa**	**1.24**	**1**	*e*Pg	**Pg**	**18 13 13.4**	**-1.7**
IGT				*e*Sg	**Sg**	**18 13 32.4**	**+1.2**
EVR	**Evrytania**	**1.34**	**62**	*e*PN	**Pn**	**18 13 15.9**	**-1.4**
EVR				*e*SN	**Sn**	**18 13 35.4**	**-0.4**
EVR	**Evrytania**	**1.34**	**62**	*e*Pb	**Pb**	**18 13 14.9**	**-2.4**
EVR				*e*Sn	**Sn**	**18 13 35.4**	**-0.4**
JAN	**Janina**	**1.43**	**17**	*e*PN	**Pn**	**18 13 18.9**	**+0.4**
JAN				*e*SN	**Sn**	**18 13 37.9**	**-0.1**
KEK	**Kerkira**	**1.47**	**345**	*e*PN	**Pn**	**18 13 18.8**	**-0.3**
SRN	**Sarande**	**1.60**	**352**	*i* Pn	**Pn**	**18 13 20.0**	**-0.9**
SRN				*i* Sn	**Sn**	**18 13 43.4**	**+1.1**
ITM	**Ithomi**	**1.71**	**130**	*e*PN	**Pn**	**18 13 23.7**	**+1.4**
AGG	**Agios Georgios**	**1.75**	**65**	*e*Pb	**Pb**	**18 13 22.3**	**-2.1**
AGG				*e*Sb	**Sb**	**18 13 46.9**	**0.0**
THL	**Klokotos Trika**	**1.85**	**46**	*e*PN	**Pn**	**18 13 24.8**	**+0.5**
THL				*e*SN	**Sn**	**18 13 48.6**	**+0.3**
LKR	**Lokris**	**2.15**	**80**	*e*PN	**Pn**	**18 13 28.9**	**+0.4**
LIT	**Litokhoron**	**2.48**	**43**	*e*Pn	**Pn**	**18 13 33.5**	**+0.4**
LIT				*e*Sn	**Sn**	**18 14 04.9**	**+0.9**
NEO	**Neokhori**	**2.50**	**65**	*e*PB	**Pb**	**18 13 34.0**	**-3.1**
VLI	**Veliai**	**2.62**	**126**	*e*PN	**Pn**	**18 13 34.7**	**-0.2**
TIP	**Timpagrande**	**2.90**	**289**	P	**Pn**	**18 13 43.3**	**+4.5**
TIR	**Tirane**	**3.07**	**354**	P	**Pn**	**18 13 42.7**	**+1.6**
KARN	**Karanos**	**4.09**	**134**	*e*Pn	**Pn**	**18 13 53.6**	**-1.6**

IDC ***04*** *18:25:26.5±1.1,881S×15764E,h0km,mb3.9/6,mb1 4.0/7, mb1mx3.9/15,mbtmp3.9/7,ML4.2/1,MS3.4/2,Ms1 3.4/2, ms1mx3.0/27, Error ellipse: s-maj=30.4km s-min=24.0km az=139.0*
NEIC ***04*** *18:25:27.9±0.7,890S×15769E,h10km,mb4.3/1, Error ellipse: s-maj=24.3km s-min=14.1km az=171.0*
ISCJB ***04*** *18:25:31.0±0.8,88S±01×15745E±007,h33km,mb3.6/6, Error ellipse: s-maj=20.6km s-min=9.9km az=4.7*

ISC 04 18:25:32.8±0.8,88S±01×15746E±007,h35km,n11, σ0§78/12,mb3.6/6,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.54**	**106**	Pn	**Pn**	**18 26 05.5**	**-6.1**
	56nm,0.3s,baz=73,slow=3.1,SNR=14						
HNR				Sn	**Sn**	**18 26 41.2**	**-0.2**
	390nm,0.3s,baz=84,slow=16,SNR=7.6						
CTA	**Charters Tower**	**15.64**	**223**	Pn	**Pn**	**18 29 16.0**	**+5.3**
	0.4nm,0.3s,baz=58,slow=13,SNR=4.3						
CTA				LR	LR	18 34 08.8	
	comp=Z,137nm,20.4s,baz=303,slow=33						
WB2	**Warramunga Arr**	**24.97**	**241**	*eP*	**P**	**18 30 53.8**	**+0.6**
WRA	**Warramunga Arr**	**24.98**	**241**	P	**P**	**18 30 53.2**	**-0.2**
	3.6nm,0.8s,mb3.9,baz=67,slow=9.3,SNR=19						
WRA				LR	LR	18 40 20.7	
	comp=Z,81nm,18.1s,baz=65,slow=36						
ASAR	**Alice Springs**	**26.99**	**234**	P	**P**	**18 31 10.3**	**-1.2**
	0.9nm,0.9s,mb3.3,baz=68,slow=8.5,SNR=5.1						
STKA	**Stephens Creek**	**27.33**	**210**	*eP*	**P**	**18 31 17.2**	**+2.7**
	5.3nm,0.8s,mb4.1						
STKA	**Stephens Creek**	**27.33**	**210**	P	**P**	**18 31 14.5**	**0.0**
	2.7nm,0.8s,mb3.9,baz=27,slow=14,SNR=6.7						
SONM	**Songino Array**	**72.13**	**327**	P	**P**	**18 36 54.0**	**+0.3**
	0.4nm,0.8s,mb3.4,baz=111,slow=6.3,SNR=3.3						
MKAR	**Makanchi Array**	**86.33**	**318**	P	**P**	**18 38 10.5**	**-0.7**
MKAR	**Makanchi Array**	**86.33**	**318**	P	**P**	**18 38 10.5**	**-0.7**
	0.2nm,0.6s,mb3.5,baz=98,slow=4.4,SNR=2.8						
YKA	**Yellowknife Ar**	**96.73**	**28**	P	**P**	**18 38 59.9**	**+0.5**
	0.2nm,0.6s,mb3.8,baz=260,slow=4.4,SNR=3.6						

CSEM ***04*** *18:37:24.7±0.1,3505N×2955E,h25km,Mw3.1, Error ellipse: s-maj=2.2km s-min=1.9km az=130.0*
NEIC ***04*** *18:37:24.8±0.3,3525N×2962E,h10km,ML3.7(ATH), Error ellipse: s-maj=11.5km s-min=3.3km az=193.0*
ISCJB ***04*** *18:37:25.2±0.3,3515N±002×2961E±003,h33km, Error ellipse: s-maj=3.7km s-min=3.0km az=137.1*
NIC ***04*** *18:37:29.4±0.2,3547N×2991E,h35km,ML3.6,MW3.1*
DDA ***04*** *18:37:30.2,3549N×2964E,h34km±2km,Md3.5*
ATH ***04*** *18:37:31.6,3585N×2891E,h9km±5km,MD3.4/4*
GII ***04*** *18:37:32.5±0.0,3497N×3012E,h15km±1km,ML2.9/3*
HLW ***04*** *18:37:39.8,34.12N×2971E,h33km,Mb3.8*
NSSC ***04*** *18:37:48.6,3527N×3186E,h18km±47km*

ISC 04 18:37:27.3±0.3,3519N±003×2963E±003,h36km±39km, n88,σ1§11/119,9C-7D,Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSL	**Kastellorizon**	**0.96**	**358**	*e*PB	**Pn**	**18 37 43.5**	**-0.8**
AKAS	**Kas**	**1.05**	**359**	*i* P	**Pn**	**18 37 43.8**	**-1.7**
AKAS				*i* S	**Sn**	**18 38 02.4**	**+3.5**
ARG	**Arkhangelos**	**1.60**	**310**	*e*PG	**Pn**	**18 37 45.5**	**-7.6**
GOLH	**Golhisar**	**2.05**	**358**	*i* P	**Pn**	**18 37 59.0**	**-0.2**
GOLH				*i* S	**Sn**	**18 38 22.2**	**-1.4**
KARP	**Karpathos**	**2.05**	**281⇓**	*i*PB	**Pn**	**18 37 59.3**	**0.0**
AKMC	**Akamas**	**2.22**	**93**	P	**Pn**	**18 38 01.7**	**+0.1**
PPCY	**Paphos**	**2.25**	**97**	P	**Pn**	**18 38 01.8**	**-0.1**
BCK	**Bucak**	**2.40**	**18**	*e*PN	**Pn**	**18 38 03.2**	**-0.9**
ALFC	**Alevga**	**2.43**	**90**	P	**Pn**	**18 38 04.1**	**-0.4**
	19nm,0.1s						
ALFC				S	**Sn**	**18 38 30.9**	**-2.1**
BDRM	**Kayabasi**	**2.58**	**317**	*i* P	**Pn**	**18 38 05.4**	**-1.2**
BDRM				*i* S	**Sn**	**18 38 34.7**	**-2.0**
LEF	**Lefka**	**2.67**	**90**	*e*PN	**Pn**	**18 38 06.8**	**-1.0**
SZAC	**Souni-Zanaja**	**2.70**	**98**	P	**Pn**	**18 38 08.5**	**+0.3**
	6.7nm,0.2s						
SZAC				S	**Sn**	**18 38 39.3**	**-0.4**
ZKR	**Zakros**	**2.80**	**270**	P	**Pn**	**18 38 10.6**	**+1.0**
MAMC	**Mammari**	**2.94**	**89**	P	**Pn**	**18 38 12.2**	**+0.7**
ERMK	**Ermenek**	**3.03**	**60**	*i* P	**Pn**	**18 38 14.2**	**+1.5**
ERMK				*i* S	**Sn**	**18 38 36.4**	**-11**
ERMK	**Ermenek**	**3.03**	**60**	*i* P	**Pn**	**18 38 14.2**	**+1.4**
ERMK				*i* S	**Sn**	**18 38 36.4**	**-11**
CSS	**Prodhromos**	**3.04**	**93**	P	**Pn**	**18 38 13.2**	**+0.3**
	2.8nm,0.2s						
CSS				S	**Sn**	**18 38 46.9**	**-1.1**
CSS	**Prodhromos**	**3.04**	**93**	*e*PN	**Pn**	**18 38 13.0**	**+0.1**
LFK	**Lefkose**	**3.19**	**87**	*e*PN	**Pn**	**18 38 16.5**	**+1.5**
NPS	**Neapolis**	**3.29**	**272**	*e*PN	**Pn**	**18 38 17.4**	**+1.0**
SHUT	**Suhut-Afyon**	**3.44**	**12**	*e*PN	**Pn**	**18 38 17.5**	**-0.9**
IKL	**Isikli**	**3.46**	**71**	*e*PN	**Pn**	**18 38 20.0**	**+1.3**
KONT	**Konya--Tatoy**	**3.52**	**38**	*e*PN	**Pn**	**18 38 20.6**	**+1.0**
PHNC	**Paralimni**	**3.61**	**92**	P	**Pn**	**18 38 22.1**	**+1.4**
EREN	**Erenkoy**	**3.72**	**83**	*e*PN	**Pn**	**18 38 24.3**	**+2.1**
APE	**Apeiranthos**	**3.82**	**301**	*e*PB	**Pn**	**18 38 22.4**	**-1.1**
KDHN	**Kadinhani**	**3.88**	**30**	*i* P	**Pn**	**18 38 24.1**	**-0.3**
KDHN				*i* S	**Sn**	**18 39 07.5**	**-1.2**
IDI	**Anoyia**	**3.88**	**273**	P	**Pn**	**18 38 24.6**	**+0.1**
KIZT	**Kizilcal**	**4.10**	**25**	*e*PN	**Pn**	**18 38 27.7**	**+0.3**
MERS	**Mersin**	**4.30**	**66**	*e*PN	**Pn**	**18 38 31.2**	**+1.0**
VAM	**Vamos**	**4.45**	**274**	*e*PN	**Pn**	**18 38 32.3**	**0.0**
HMAT	**Matruh**	**4.60**	**208⇑**	*e*P	**Pn**	**18 38 35.0**	**+0.6**
HMAT				S	**Sn**	**18 39 15.1**	**-12**
KARA	**Karaisali**	**4.85**	**63**	*e*PN	**Pn**	**18 38 40.5**	**+2.7**
HNTI	**Hanita**	**5.05**	**113**	Pn

ISCJB ***04*** *18:46:11.8±0.8, 4365N±005×4621E±005, h10km, Error ellipse: s-maj=8.1km s-min=3.3km az=31.5*
TIF ***04*** *18:46:13.5, 4342N×4594E, h30km±3km*
MOS ***04*** *18:46:14.9±1.4, 4348N×4611E, h23km, mb3.9/1, Error ellipse: s-maj=12.7km s-min=8.3km az=12.5*
CSEM ***04*** *18:46:14.9, 4348N×4611E, h23km, mb3.9, After OBN*
ISC 04 18:46:12.4±0.8, 4367N±005×4623E±005, h10km, n26, σ1§34/41, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
DBC	**Dubki**	**0.78**	**146**	*i* Pg		**Pg**	**Pg**	**18 46 28.8**	**+1.4**
DBC				*i* S		**Sg**	**Sg**	**18 46 41.2**	**+3.7**
DBC				pmax		pmax			
	comp=Z,42nm,0.1s								
DBC	**Dubki**	**0.78**	**146**	*i* Pg		**Pg**	**Pg**	**18 46 28.8**	**+1.4**
	comp=Z,42nm,0.1s								
DBC				*i* Sg		**Sg**	**Sg**	**18 46 41.2**	**+3.7**
KRNR	**Karanay**	**0.97**	**149**	*e*Pg		**Pg**	**Pg**	**18 46 30.4**	**-0.7**
KRNR				*i* S		**Sg**	**Sg**	**18 46 44.2**	**+0.5**
UNCR	**Uncukul**	**1.04**	**156**	Pg		**Pg**	**Pg**	**18 46 31.7**	**-0.6**
UNCR				*e*Sg		**Sg**	**Sg**	**18 46 44.7**	**-1.0**
TRKR	**Terskaya**	**1.09**	**274**	*i* Pg		**Pg**	**Pg**	**18 46 36.9**	**+3.7**
TRKR				*i* Sg		**Sg**	**Sg**	**18 46 53.8**	**+6.4**
XNZR	**Khunzakh**	**1.18**	**163**	*e*Pg		**Pg**	**Pg**	**18 46 36.0**	**+1.1**
XNZR				*e*Sg		**Sg**	**Sg**	**18 46 51.5**	**+1.3**
SNJR	**Sundja**	**1.19**	**241**	*e*Pg		**Pg**	**Pg**	**18 46 35.2**	**0.0**
SNJR				*e*Sg		**Sg**	**Sg**	**18 46 51.9**	**+1.2**
BTKR	**Batakoyurt**	**1.26**	**257**	*e*Pg		**Pg**	**Pg**	**18 46 37.2**	**+0.6**
BTKR				*e*Sg		**Sg**	**Sg**	**18 46 54.8**	**+1.9**
PRTR	**Priterechnaya**	**1.41**	**274**	*i* Pg		**Pg**	**Pg**	**18 46 40.5**	**+1.0**
PRTR				*i* Sg		**Sg**	**Sg**	**18 47 00.1**	**+2.3**
KMSR	**Komsomolskaya**	**1.44**	**259**	*e*Pg		**Pg**	**Pg**	**18 46 39.4**	**-0.5**
KMSR				*e*Sg		**Sg**	**Sg**	**18 46 58.8**	**+0.2**
ARNR	**Ardon**	**1.50**	**252**	*e*Pg		**Pn**	**Pn**	**18 46 39.0**	**-0.2**
ARNR				*e*Sg		**Sg**	**Sg**	**18 46 57.6**	**-2.9**
LACR	**Lac**	**1.64**	**240**	*e*Pg		**Pn**	**Pn**	**18 46 39.3**	**-1.9**
ZEI	**Tsey**	**1.92**	**243**	*i* Pn		**Pn**	**Pn**	**18 46 42.7**	**-2.4**
KUBR	**Kubataba**	**2.05**	**275**	PN		**Pn**	**Pn**	**18 46 47.4**	**+0.6**
KUBR				pmax		pmax			
	comp=Z,4.0nm,0.1s								
KUBR	**Kubataba**	**2.05**	**275**	Pn		**Pn**	**Pn**	**18 46 47.4**	**+0.6**
	comp=Z,4.0nm,0.1s								
DIGR	**Digorskoe uzhe**	**2.08**	**249**	*e*Pn		**Pn**	**Pn**	**18 46 45.3**	**-1.9**
TBLG	**Delisi**	**2.22**	**210**	P		**Sn**	**Sn**	**18 47 10.4**	**-6.3**
TBLG				S		**Sn**	**Sn**	**18 47 13.4**	**-3.3**
MTA	**Mtatsminda**	**2.24**	**209**	P		**Sn**	**Sn**	**18 47 10.6**	**-6.4**
MTA				S		**Sn**	**Sn**	**18 47 13.6**	**-3.5**
DGRG	**David-gareji**	**2.30**	**196**	P		**Sn**	**Sn**	**18 47 13.3**	**-5.4**
PYA	**Pyatigorsk**	**2.32**	**280**	PN		**Pn**	**Pn**	**18 46 49.9**	**-0.7**
BEYR	**Belyy Ugol+**	**2.49**	**279**	PN		**Pn**	**Pn**	**18 46 53.1**	**+0.2**
BEYR				pmax		pmax			
	comp=Z,187nm,0.1s								
BEYR	**Belyy Ugol+**	**2.49**	**279**	Pn		**Pn**	**Pn**	**18 46 53.1**	**+0.2**
	comp=Z,187nm,0.1s								
KIV	**Kislovodsk**	**2.58**	**278**	PN		**Pn**	**Pn**	**18 46 54.2**	**+0.1**
KIV				pmax		pmax			
	comp=Z,4.0nm,0.2s								
KIV	**Kislovodsk**	**2.58**	**278**	Pn		**Pn**	**Pn**	**18 46 54.2**	**+0.1**
	comp=Z,4.0nm,0.2s								
GOF	**Gofitskoye**	**2.68**	**302**	*e*PN		**Pg**	**Pg**	**18 47 05.0**	**+1.3**
GOF				*i* S		**Sg**	**Sg**	**18 47 36.0**	**-2.5**
GOF				smax					
	comp=N,50nm,0.8s								
GOF	**Gofitskoye**	**2.68**	**302**	*e*Pn		**Pg**	**Pg**	**18 47 05.0**	**+1.3**
	comp=N,50nm,0.8s								
GOF				*i* Sn		**Sg**	**Sg**	**18 47 36.0**	**-2.5**

NIED ***04*** *18:53:00, 3100N×14180E, h5km, Mw5.0 Best double couple: M0 3.15000×1016 NP1:φs45.00000°, δ74.00000°, λ99.00000°. NP2:φs194.00000°, δ18.00000°, λ60.00000°.*
IDC ***04*** *18:53:36.7±0.4, 3097N×14169E, h0km, mb4.7/23, mb1 4.8/27, mb1mx4.8/31, mbtmp4.7/27, ML4.5/4, MS4.4/21, Ms1 4.4/21, ms1mx4.2/37, Error ellipse: s-maj=17.5km s-min=10.1km az=81.0*
ISCJB ***04*** *18:53:37.8±0.9, 3090N±002×14165E±004, h17km±6km, mb5.0/144, MS4.6/43, Error ellipse: s-maj=5.2km s-min=3.6km az=159.5*
BJI ***04*** *18:53:38.5, 3089N×14190E, h43km, mB5.0, mb4.9, Ms4.7, Msz4.6*
JMA ***04*** *18:53:39.3±0.1, 3097N×14184E, h39km, M4.9*
MOS ***04*** *18:53:40.2±0.9, 3092N×14163E, h33km, mb5.3/62, MS4.6/19, Error ellipse: s-maj=11.4km s-min=4.3km az=113.8*
NEIC ***04*** *18:53:41.5±0.1, 3091N×14165E, mb5.1/78, MS4.7/3, MW4.9(NIED), Error ellipse: s-maj=4.2km s-min=3.6km az=80.0*
GCMT ***04*** *18:53:41.5±0.4, 3091N×14173E, h25km, MW5.0/65, Moment Tensor Solution. s32,c44; s65,c114; Duration: 0 Moment tensor: Scale 1016Nm; Mrr3.16±.19; Mθθ0.06±.11; Mφφ-3.22±.13; Mrθ1.88±.25; Mφθ-1.13±.07; Mφr1.46±.24; Best double couple: M0 4.13800×1016 NP1:φs178.00000°, δ33.00000°, λ56.00000°. NP2: φs36.00000°, δ63.00000°, λ110.00000°. Principal axes: T 4.1500, Plg66.0000°, Azm343.0000°; N -0.0220, Plg17.0000°, Azm207.0000°; P -4.1260, Plg16.0000°, Azm112.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
SZGRF ***04*** *18:53:44.9, 3107N×14101E, h33km, mb5.2, Southeast of Honshu, Japan*
ISC 04 18:53:40.3±0.9, 3090N±002×14167E±003, h23km±6km, h31km±1.4km: pP-P, n378, σ0§89/400, mb5.0/144, MS4.6/43, 25C-16D, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**2.71**	**325**	P		**Pn**	**Pn**	**18 54 22.2**	**-0.2**
JHJ2				*e*S		**Sn**	**Sn**	**18 54 53.9**	**-0.6**
JHJ	**Hachijo jima 2**	**2.73**	**325**	Pn		**Pn**	**Pn**	**18 54 22.6**	**-0.2**
	54nm,0.3s,baz=81,slow=23,SNR=14								
JHJ				Sn		**Sn**	**Sn**	**18 54 53.4**	**-1.7**
	229nm,0.3s,baz=192,slow=18,SNR=7.2								
JHJ				LR		LR	LR	18 55 20.4	
	comp=Z,6μm,18.8s,baz=195,slow=39								
BSO1	**Boso 1**	**3.79**	**351**	P		**Pn**	**Pn**	**18 54 36.4**	**-0.8**
CBIJ	**Chichi jima**	**3.81**	**173**	P		**Pn**	**Pn**	**18 54 38.3**	**+0.7**
CBIJ				*e*S		**Sn**	**Sn**	**18 55 18.0**	**-3.7**
CBIJ	**Chichi jima**	**3.81**	**173**	Pn		**Pn**	**Pn**	**18 54 37.9**	**+0.3**
	90nm,0.3s,baz=327,slow=4.9,SNR=12								
CBIJ				Sn		**Sn**	**Sn**	**18 55 17.8**	**-3.9**
	65nm,0.3s,baz=322,slow=23,SNR=3.7								
CBIJ				LR		LR	LR	18 55 57.4	
	comp=Z,3μm,19.6s,baz=359,slow=36								
JKO	**Kozu shima**	**3.92**	**328**	P		**Pn**	**Pn**	**18 54 39.3**	**+0.3**
JKO				*e*S		**Sn**	**Sn**	**18 55 24.7**	**+0.5**
BSO3	**Boso 3**	**4.01**	**346**	P		**Pn**	**Pn**	**18 54 40.8**	**+0.5**
BSO4	**Boso 4**	**4.23**	**345**	P		**Pn**	**Pn**	**18 54 43.6**	**+0.3**
JOD2	**Odawara 2**	**4.86**	**334**	P		**Pn**	**Pn**	**18 54 51.6**	**-0.4**
JOD2				*e*S		**Sn**	**Sn**	**18 55 49.2**	**+1.6**
JHU	**Hanno**	**5.33**	**339**	P		**Pn**	**Pn**	**18 54 59.6**	**+1.2**
JIE	**Ise**	**5.45**	**311**	P		**Pn**	**Pn**	**18 55 01.8**	**+1.8**
JYT	**Yasato**	**5.46**	**347**	P		**Pn**	**Pn**	**18 54 59.4**	**-0.7**
JYT				*e*S		**Sn**	**Sn**	**18 56 02.4**	**+0.2**
JNY	**Yasuok**	**5.48**	**325**	P		**Pn**	**Pn**	**18 55 01.9**	**+1.5**
JRY	**Ryogami san**	**5.61**	**336**	P		**Pn**	**Pn**	**18 55 02.5**	**+0.3**
JRY				S		**Sn**	**Sn**	**18 56 07.8**	**+2.0**
JHO	**Hitachi**	**5.77**	**351**	P		**Pn**	**Pn**	**18 55 03.2**	**-1.3**
JAG	**Ashikaga**	**5.81**	**342**	P		**Pn**	**Pn**	**18 55 04.7**	**-0.3**
MJAR	**Matsushiro Arr**	**6.33**	**334**	Pn		**Pn**	**Pn**	**18 55 12.6**	**+0.6**
	8.6nm,0.3s,baz=154,slow=11,SNR=221								
MJAR				Sn		**Sn**	**Sn**	**18 56 26.0**	**+2.4**
	baz=194,slow=24,SNR=2.3								
MJAR				LR		LR	LR	18 57 42.8	
	comp=Z,3μm,18.8s,baz=160,slow=39								
MAJO	**Matsushiro**	**6.33**	**334**	*e*Pn		**Pn**	**Pn**	**18 55 12.3**	**+0.3**
	135nm,0.7s								
MAJO	**Matsushiro**	**6.33**	**334**	*e*P		**Pn**	**Pn**	**18 55 12.4**	**+0.3**
MAJO				pmax		pmax			
	comp=Z,135nm,0.7s								
MAT	**Matsushiro**	**6.33**	**334**	P		**Pn**	**Pn**	**18 55 12.8**	**+0.7**
MAT				S		**Sn**	**Sn**	**18 56 23.5**	**-0.1**
JNU	**Nakatsue**	**9.43**	**286**	Pn		**Pn**	**Pn**	**18 55 59.5**	**+4.9**
	comp=Z,0.7nm,0.3s,baz=61,slow=18,SNR=9.5								
JNU				LR		LR	LR	18 59 33.5	
	comp=Z,3μm,18.5s,baz=96,slow=38								
ERM	**Erimo**	**11.16**	**6**	*e*Pn		**Pn**	**Pn**	**18 56 11.8**	**-6.5**
	comp=Z,46nm,0.8s								
ERM	**Erimo**	**11.16**	**6**	*e*P		**Pn**	**Pn**	**18 56 13.7**	**-4.6**
JOW	**Kunigami**	**12.42**	**254**	LR		LR	LR	19 01 08.7	
	comp=Z,2μm,19.4s,baz=105,slow=36								
KSRS	**Korea Array**	**13.12**	**304**	Pn		**Pn**	**Pn**	**18 56 48.4**	**+3.2**
	comp=Z,0.6nm,0.3s,baz=115,slow=13,SNR=21								
KSRS				LR		LR	LR	19 01 51.5	
	comp=Z,2μm,18.4s,baz=111,slow=38								
ASAJ	**Asahikawa**	**13.21**	**3**	P		**Pn**	**Pn**	**18 56 43.2**	**-3.2**
ASAJ								18 59 05.0	
ASAJ				pmax		pmax			
	comp=Z,4.0nm,0.3s								
ASAJ				smax					
	comp=N,1.0nm,0.3s								
ASAJ	**Asahikawa**	**13.21**	**3**	Pn		**Pn**	**Pn**	**18 56 43.2**	**-3.2**
	comp=N,3.7nm,0.3s,baz=214,slow=12,SNR=23								
ASAJ				Sn		**Sn**	**Sn**	**18 59 05.0**	**-7.6**
	comp=N,0.7nm,0.3s,baz=280,slow=34,SNR=3.4								
ASAJ				LR		LR	LR	19 01 59.4	
	comp=N,1μm,19.9s,baz=185,slow=38								
INCN	**Inchon**	**14.07**	**302**	*e*Pn		**Pn**	**Pn**	**18 56 58.4**	**+0.3**
	comp=N,91nm,1.0s								
VLA	**Vladivostok**	**14.47**	**330**	*e*P		**Pn**	**Pn**	**18 57 01.7**	**-1.9**
VLA				pmax		pmax			
	comp=Z,11nm,1.0s								
YSS	**Yuzh-Sakhalins**	**16.05**	**3**	*e*Pn		**Pn**	**Pn**	**18 57 21.0**	**-3.4**
	comp=Z,87nm,1.0s								
YSS	**Yuzh-Sakhalins**	**16.05**	**3⇓**	*e*P		**Pn**	**Pn**	**18 57 21.3**	**-3.1**
YSS				pmax		pmax			
	comp=N,70nm,1.0s								
YSS				pmax		pmax			
	comp=Z,70nm,1.0s								
YSS				MLR		MLR			
	comp=N,1μm,18.0s								
YSS				MLR		MLR			
	comp=Z,1μm,18.0s								
MDJ	**Mudanjiang**	**16.67**	**329**	P		**Pn**	**Pn**	**18 57 30.3**	**-2.0**
MDJ				AP		pP	pP	18 57 38.6	-2.3
MDJ				XP		sP	sP	18 57 41.4	-2.6
MDJ				S		**Sn**	**Sn**	**19 00 33.2**	**-3.4**
MDJ				XS		sS	sS	19 00 54.1	-3.6
MDJ				PCS		PcS	PcS	19 05 57.4	+0.7
MDJ				AMB		AMB	AMB		
	comp=Z,31nm,1.1s								
MDJ				AMB		AMB	AMB		
	comp=Z,54nm,3.7s								
MDJ				LR		LR	LR		
	comp=N,717nm,20.5s								
MDJ				LR		LR	LR		
	comp=E,946nm,18.1s								
MDJ				LR		LR	LR		
	comp=Z,2μm,19.0s								
GUMO	**Guam**	**17.48**	**170**	P		**Pn**	**Pn**	**18 57 42.5**	**0.0**
	comp=Z,2.8nm,0.3s,baz=192,slow=6.5,SNR=5.5								
GUMO				LR		LR	LR	19 02 41.7	
	comp=Z,620nm,18.8s,baz=355,slow=31								
SSE	**Sheshan**	**17.57**	**276**	P		**Pn**	**Pn**	**18 57 42.9**	**-0.7**
SSE				AP		pP	pP	18 57 51.3	+0.3
SSE				S		**Sn**	**Sn**	**19 00 58.3**	**-0.3**
SSE				XS		sS	sS	19 01 13.7	-2.5
SSE				AMB		AMB	AMB		
	comp=Z,33nm,0.7s								
SSE				AMB		AMB	AMB		
	comp=Z,306nm,11.5s								
SSE				LR		LR	LR		
	comp=N,504nm,15.0s								
SSE				LR		LR	LR		
	comp=E,1μm,15.0s								
SSE				LR		LR	LR		
	comp=Z,2μm,15.7s								
SSE	**Sheshan**	**17.57**	**276**	P		**Pn**	**Pn**	**18 57 42.9**	**-0.7**
	comp=Z,33nm,0.7s								
SSE				pP		pP	pP	18 57 51.3	+0.3
SSE				S		**Sn**	**Sn**	**19 00 58.3**	**-0.3**
SSE				sS		sS	sS	19 01 13.7	-2.5
UGL	**Uglegorsk**	**18.16**	**1**	*e*P		**Pn**	**Pn**	**18 57 49.0**	**-1.7**
UGL				*e*S		**Sn**	**Sn**	**19 01 18.0**	**+5.3**
UGL				pmax		pmax			
	comp=Z,450nm,4.0s								
UGL				pmax		pmax			
	comp=Z,82nm,0.9s								
UGL				smax					
	comp=E,550nm,6.0s								
UGL				MLR		MLR			
	comp=Z,900nm,18.0s								
UGL				MLR		MLR			
	comp=E,400nm,14.0s								
SNY	**Shenyang**	**18.17**	**312**	⇑P		**Pn**	**Pn**	**18 57 51.4**	**+0.5**
SNY				AMB		AMB			
	comp=Z,25nm,0.7s								
SNY				AMB		AMB			
	comp=Z,2μm,5.0s								
SNY				LR		LR			
	comp=N,1μm,14.4s								
SNY				LR		LR			
	comp=E,1μm,15.3s								
SNY				LR		LR			
	comp=Z,1μm,13.5s								
CN2	**Changchun**	**18.19**	**320**	*e*P		**Pn**	**Pn**	**18 57 49.2**	**-1.9**
CN2				*e*S		**Sn**	**Sn**	**19 01 08.6**	**-4.8**
CN2				AMB		AMB	AMB		
	comp=Z,10.0nm,1.1s								
CN2				AMB		AMB	AMB		
	comp=Z,200nm,5.0s								
CN2				LR		LR	LR		
	comp=N,1μm,13.0s								
CN2				LR		LR	LR		
	comp=E,2μm,13.0s								
CN2				LR		LR	LR		
	comp=Z,2μm,15.0s								
DL2	**Dalian**	**18.26**	**301**	P		**Pn**	**Pn**	**18 57 53.5**	**+1.5**
DL2				S		**Sn**	**Sn**	**19 01 18.2**	**+3.0**
DL2				AMB		AMB	AMB		
	comp=Z,20nm,0.9s								
DL2				AMB		AMB	AMB		
	comp=Z,140nm,7.7s								
DL2				LR		LR	LR		
	comp=N,660nm,14.9s								
DL2				LR		LR	LR		
	comp=E,600nm,15.0s								
DL2				LR		LR	LR		
	comp=Z,1μm,16.3s								
HABR	**Khabarovsk**	**18.26**	**346**	⇓*i*P		**Pn**	**Pn**	**18 57 48.3**	**-3.7**
HABR				*e*S		**Sn**	**Sn**	**19 01 05.9**	**-9.3**
HABR				pmax		pmax			
	comp=Z,86nm,1.4s								
TATO	**Taipei**	**18.78**	**257**	*e*P		**Pn**	**Pn**	**18 57 59.2**	**+0.8**
	comp=Z,65nm,0.7s								
YHNB	**Yeheng**	**18.99**	**256**	*e*P		**Pn**	**Pn**	**18 58 00.6**	**-0.5**
NACB	**Ninganchiao**	**19.01**	**254**	*e*P		**Pn**	**Pn**	**18 58 00.4**	**-0.9**
NJ2	**Nanjing**	**19.50**	**279**	*e*P		**Pn**	**Pn**	**18 58 08.8**	**+1.7**
NJ2				AMB		AMB	AMB		
	comp=Z,120nm,1.1s								
KLR	**Kul'dur**	**19.79**	**341**	*e*P		**Pn**	**Pn**	**18 58 03.8**	**-6.6**
QZH	**Quanzhou**	**21.22**	**259**	P		**P**	**P**	**18 58 25.1**	**+0.6**
QZH				S		**S**	**S**	**19 02 18.9**	**-0.5**
QZH				LR		LR	LR		
	comp=N,2μm,13.6s,MS4.7								
QZH				LR		LR	LR		
	comp=E,700nm,10.9s,MS4.7								
QZH				LR		LR	LR		
	comp=Z,1μm,16.0s								
WHN	**Wuhan**	**23.48**	**276**	*e*P		**P**	**P**	**18 58 46.5**	**-1.9**
WHN				LR		LR	LR		
	comp=Z,3μm,15.8s,MS4.8								
PET	**Petropavlovsk**	**25.33**	**24**	*e*P		**P**	**P**	**18 59 11.0**	**+5.9**
PET				*e*S		**S**	**S**	**19 03 35.1**	**+5.3**
PET				pmax		pmax			
	comp=Z,17nm,1.2s,mb4.5								
PET				MLR		MLR			
	comp=Z,200nm,19.0s,MS3.6								
HHC	**Hu-ho-hao-te**	**26.23**	**301**	*e*P		**P**	**P**	**18 59 12.7**	**-0.7**
HHC				AP		pP	pP	18 59 20.0	-0.4
HHC				PP				18 59 55.9	
HHC				PCP		PcP	PcP	19 02 39.7	0.0
HHC				S		**S**	**S**	**19 03 46.3**	**+2.0**
HHC				SS				19 04 51.0	
HHC				SCP		ScP	ScP	19 06 16.2	-1.8
HHC				PCS		PcS	PcS	19 06 21.8	+1.2
HHC				SCS		ScS	ScS	19 10 04.1	-3.8
HHC				AMB		AMB	AMB		
	comp=Z,29nm,0.7s,mb4.9								
HHC				AMB		AMB	AMB		
	comp=Z,236nm,5.9s								
HHC				LR		LR	LR		
	comp=N,669nm,16.2s,MS4.8								
HHC				LR		LR	LR		
	comp=E,2μm,16.5s,MS4.8								
HHC				LR		LR	LR		
	comp=Z,2μm,17.4s,MS4.8								
BTO	**Baotou**	**27.33**	**300**	*e*P		**P**	**P**	**18 59 22.5**	**-0.8**
XAN	**Xi'an**	**27.75**	**285**	P		**P**	**P**	**18 59 25.2**	**-1.9**
XAN				AP		pP	pP	18 59 35.2	+1.1
XAN				AMB		AMB	AMB		
	comp=Z,19nm,1.1s,mb4.6								
XAN				AMB		AMB	AMB		
	comp=Z,34nm,5.2s								
XAN				LR		LR	LR		
	comp=N,351nm,13.7s,MS4.4								
XAN				LR		LR	LR		
	comp=E,545nm,14.6s,MS4.4								
XAN				LR		LR	LR		
	comp=Z,658nm,15.3s,MS4.3								
NRGR	**Nerungri**	**28.35**	**340**	*e*P		**P**	**P**	**18 59 33.3**	**+1.1**
NRGR				S		**S**	**S**	**19 04 10.0**	**-7.4**
NRGR				smax					
	comp=E,45nm,0.6s								
CLNS	**Chul'man**	**28.45**	**341**	*e*P		**P**	**P**	**18 59 32.0**	**-1.1**
CLNS				*e**PP		pP	pP	18 59 38.4	-1.8
CLNS				*e*				19 00 28.8	
CLNS				*e*PPP				19 00 37.6	
CLNS				*e*SS				19 06 03.8	
CLNS				pmax		pmax	pmax		
	comp=Z,34nm,1.0s,mb4.9								
CLNS				pmax		pmax	pmax		
	comp=N,35nm,1.1s								
CLNS				pmax		pmax	pmax		
	comp=E,8.0nm,1.1s								
CLNS				MLR		MLR	MLR		
	comp=Z,800nm,17.0s,MS4.4								
CLNS				MLR		MLR	MLR		
	comp=N,500nm,16.0s,MS4.3								
CLNS				MLR		MLR	MLR		
	comp=E,300nm,14.0s,MS4.3								
MA2	**Magadan**	**29.33**	**9**	*e*P		**P**	**P**	**18 59 44.8**	**+3.9**
MA2				*e*S		**S**	**S**	**19 04 34.0**	**+1.3**
MA2				pmax		pmax	pmax		
	comp=Z,20nm,1.0s,mb4.8								
MA2				MLR		MLR	MLR		
	comp=Z,1μm,18.3s,MS4.5								
CIT	**Chita**	**29.52**	**324**	*e*P		**P**	**P**	**18 59 43.2**	**+0.6**
CIT				*e*				18 59 56.9	
CIT				*e*				19 04 36.2	
CIT				pmax		pmax	pmax		
	comp=Z,95nm,2.3s,mb5.1								
GYA	**Guiyang**	**30.95**	**271**	P		**P**	**P**	**18 59 56.7**	**+1.1**
GYA				AP		pP	pP	19 00 05.8	+3.1
GYA				XP		sP	sP	19 00 09.4	+3.8
GYA				PP		PP	PP	19 00 59.5	-6.2
GYA				PCP		PcP	PcP	19 02 53.6	+1.9
GYA				S		**S**	**S**	**19 04 58.6**	**-0.3**
GYA				XS		sS	sS	19 05 12.8	+2.3
GYA				PCS		PcS	PcS	19 06 36.4	+0.6
GYA				SS		SS	SS	19 06 43.0	-28
GYA				SCS		ScS	ScS	19 10 28.4	-1.7
GYA				AMB		AMB	AMB		
	comp=Z,20nm,0.8s,mb5.0								
GYA				AMB		AMB	AMB		
	comp=Z,230nm,6.3s								
GYA				LR		LR	LR		
	comp=N,1μm,15.8s,MS4.7								
GYA				LR		LR	LR		
	comp=E,600nm,15.6s,MS4.7								
GYA				LR		LR	LR		
	comp=Z,1μm,16.9s,MS4.7								
QIZ	**Qiongzhong**	**31.07**	**255**	P		**P**	**P**	**18 59 58.0**	**+1.2**
QIZ				S		**S**	**S**	**19 05 03.4**	**+2.5**
QIZ				LR		LR	LR		
	comp=E,565nm,18.1s								
QIZ				LR		LR	LR		
	comp=Z,557nm,18.0s,MS4.3								
ULN	**Ulaanbaatar**	**31.34**	**313**	*e*P		**P**	**P**	**18 59 58.9**	**+0.1**
	comp=Z,20nm,0.9s,mb5.0								
ULN	**Ulaanbaatar**	**31.34**	**313⇑**	*e*P		**P**	**P**	**18 59 59.4**	**+0.6**
SONM	**Songino Array**	**31.75**	**312**	P		**P**	**P**	**19 00 02.4**	**0.0**
SONM				pmax		pmax	pmax		
	comp=Z,15nm,0.9s								
SONM				MLR		MLR	MLR		
	comp=Z,698nm,19.1s								
SONM	**Songino Array**	**31.75**	**312**	P		**P**	**P**	**19 00 02.4**	**0.0**
	comp=Z,15nm,0.8s,mb4.8,baz=119,slow=7.3,SNR=93								
SONM				LR		LR	LR	19 13 21.5	
	comp=Z,698nm,19.1s,MS4.4,baz=20,slow=37								
LZH	**Lanzhou**	**31.83**	**290**	*e*P		**P**	**P**	**19 00 01.5**	**-1.8**
LZH				AP		pP	pP	19 00 11.0	+0.7
LZH				XP		sP	sP	19 00 14.9	+1.7
LZH				PP		PP	PP	19 01 07.6	-7.7
LZH				*e*S		**S**	**S**	**19 05 08.7**	**-3.8**
LZH				AMB		AMB	AMB		
	comp=Z,23nm,1.3s,mb4.8								
LZH				AMB		AMB	AMB		
	comp=Z,97nm,4.5s								
LZH				LR		LR	LR		
	comp=E,823nm,13.0s								
LZH				LR		LR	LR		
	comp=Z,1μm,17.5s,MS4.7								
LZH	**Lanzhou**	**31.83**	**290**	*e*P		**P**	**P**	**19 00 01.5**	**-1.8**
	comp=Z,23nm,1.3s,mb4.8								
LZH				pP		pP	pP	19 00 11.0	+0.7
LZH				sP		sP	sP	19 00 14.9	+1.7
LZH				PP		PP	PP	19 01 07.6	-7.7
LZH				*e*S		**S**	**S**	**19 05 08.7**	**-3.8**
LZH				sS		sS	sS	19 05 24.3	+0.2
LZH				*e*SS		SS	SS	19 07 00.2	-29
LZH				LR		LR	LR		
	comp=Z,1μm,17.5s,MS4.7								
LZH	**Lanzhou**	**31.83**	**290**	*e*P		**P**	**P**	**19 00 01.5**	**-1.8**
LZH				*PP		pP	pP	19 00 11.0	+0.7
LZH				*SP		sP	sP	19 00 14.9	+1.7

comp=Z,85nm,1.7s,mb5.4
KMI Kunming 34.73 270 P P 19 00 29.1 +0.4
KMI AP pP 19 00 38.3 +2.6
KMI XP sP 19 00 41.8 +3.2
KMI PP PP 19 01 46.3 -1.2
KMI S **S 19 05 56.3 -1.3**
KMI XS sS 19 06 12.5 +3.3
KMI SS SS 19 08 09.5 -19
KMI AMB AMB
comp=Z,10.0nm,0.8s,mb4.8
KMI AMB AMB
comp=Z,90nm,3.1s
KMI LR LR
comp=N,428nm,16.7s,MS4.4
KMI LR LR
comp=E,272nm,13.9s,MS4.4
KMI LR LR
comp=Z,402nm,13.5s,MS4.3
KMI Kunming 34.73 270 P P 19 00 29.1 +0.4
comp=Z,10.0nm,0.8s,mb4.8
KMI pP pP 19 00 38.3 +2.6
KMI sP sP 19 00 41.8 +3.2
KMI PP PP 19 01 46.3 -1.2
KMI PPP 19 02 05.6
KMI S **S 19 05 56.3 -1.3**
KMI sS sS 19 06 12.5 +3.3
KMI SS SS 19 08 09.5 -19
KMI SSS 19 08 36.9
KMI LR LR
comp=Z,400nm,13.5s,MS4.3
KMI Kunming 34.73 270 P P 19 00 29.1 +0.4
KMI *PP pP 19 00 38.3 +2.6
KMI *SP sP 19 00 41.8 +3.2
KMI 19 01 46.3
KMI PPP 19 02 05.6
KMI S **S 19 05 56.3 -1.3**
KMI *SS sS 19 06 12.5 +3.3
KMI SS SS 19 08 09.5 -19
KMI SSS 19 08 36.9
KMI pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
KMI MLR MLR
comp=Z,400nm,13.5s,MS4.3
TLY Talaya 34.77 318 *eP* **P 19 00 29.7 +1.0**
comp=Z,64nm,1.2s,mb5.4
TLY Talaya 34.77 318 *eP* **P 19 00 29.7 +1.0**
TLY *eSS* SS 19 08 09.5 -19
TLY pmax pmax
comp=Z,82nm,1.6s,mb5.4
TLY MLR MLR
comp=Z,1µm,16.0s,MS4.7
GTA Gaotai 35.01 296 *eP* **P 19 00 29.8 -1.1**
GTA PP PP 19 01 52.3 +1.9
GTA S **S 19 05 56.6 -5.0**
GTA AMB AMB
comp=Z,24nm,1.4s,mb4.9
GTA AMB AMB
comp=Z,174nm,6.5s
GTA LR LR
comp=N,782nm,15.7s,MS4.9
GTA LR LR
comp=E,2µm,15.7s,MS4.9
GTA LR LR
comp=Z,2µm,15.7s,MS4.9
MOY Mondy 36.32 317 *eP* **P 19 00 42.5 +0.5**
MOY pmax pmax
comp=Z,93nm,1.8s,mb5.4
BILL Bilibino 39.88 14 *eP* **P 19 01 10.6 -1.1**
comp=Z,13nm,1.1s,mb4.6
BILL Bilibino 39.88 14 *eP* **P 19 01 11.2 -0.6**
BILL pmax pmax
comp=Z,4.0nm,1.0s,mb4.1
BILL MLR MLR
comp=Z,300nm,17.0s,MS4.2
CHTO Chiang Mai 40.37 263 *eP* **P 19 01 14.9 -1.6**
comp=Z,8.7nm,0.7s,mb4.6
CHTO Chiang Mai 40.37 263 *eP* **P 19 01 14.9 -1.6**
CHTO pmax pmax
comp=Z,9.0nm,0.7s,mb4.6
TIXI Tiksi 41.40 354 *eP* **P 19 01 23.4 -0.8**
comp=Z,9.5nm,0.8s,mb4.5
TIXI Tiksi 41.40 354 *eP* **P 19 01 23.5 -0.8**
TIXI *e* 19 01 34.9
TIXI pmax pmax
comp=Z,9.0nm,0.9s,mb4.4
TIXI MLR MLR
comp=Z,325nm,15.0s,MS4.3
WMQ Urumqi 44.07 303 P **P 19 01 47.2 +0.8**
WMQ AP pP 19 01 55.5 +1.9
WMQ XP sP 19 02 00.0 +3.6
WMQ AMB AMB
comp=Z,22nm,1.1s,mb4.8
WMQ AMB AMB
comp=Z,283nm,5.4s
WMQ LR LR
comp=N,739nm,11.0s,MS5.0
WMQ LR LR
comp=E,684nm,13.0s,MS5.0
WMQ LR LR
comp=Z,756nm,20.6s
KAKA Kakadu 44.26 193 *eP* **P 19 01 48.1 +0.1**
comp=Z,6.8nm,0.6s,mb4.5
BATI Kupang 44.38 206 P **P 19 01 51.3 +2.3**
comp=Z,10nm,0.5s,mb4.8,baz=292,slow=1.4,SNR=5.9
BATI LR LR 19 18 42.2
comp=Z,213nm,18.9s,MS4.1,baz=149,slow=34
ZALV Zalesovo Beam 46.37 317 P **P 19 02 04.3 -0.2**
comp=Z,13nm,0.6s,mb5.0,baz=102,slow=7.9,SNR=54
ZALV PcP PcP 19 03 38.6 -0.6
comp=Z,3.4nm,0.7s,baz=97,slow=4.2,SNR=3.3
ZAL Zalesovo 46.38 317 P **P 19 02 04.3 -0.3**
ZAL 19 03 38.6
NVS Novosibirsk 47.39 318 *i* P **P 19 02 12.4 0.0**
NVS *eS* **S 19 09 05.6 +0.7**
NVS pmax pmax
comp=N,10.0nm,0.9s
NVS pmax pmax
comp=Z,46nm,0.9s,mb5.4
NVS pmax pmax
comp=E,77nm,1.5s
NVS smax
comp=N,12nm,1.7s
NVS smax
comp=E,14nm,2.0s
MK31 Makanchi Array 47.77 307 *eP* **P 19 02 14.6 -0.9**
MKAR Makanchi Array 47.77 307 P **P 19 02 15.5 0.0**
MKAR PcP PcP 19 03 46.0 +1.7
MKAR ScP ScP 19 07 39.5 +2.3
MKAR LR LR 19 23 20.1
MKAR Makanchi Array 47.77 307 *i* P **P 19 02 15.5 0.0**
MKAR pmax pmax
comp=Z,11nm,0.9s
MKAR Makanchi Array 47.77 307 P **P 19 02 15.5 0.0**
comp=Z,11nm,0.9s,mb4.9,baz=90,slow=9.7,SNR=53
MKAR PcP PcP 19 03 46.0 +1.7
comp=Z,1.5nm,0.7s,baz=86,slow=5.9,SNR=2.1
MKAR ScP ScP 19 07 39.5 +2.3
comp=Z,0.9nm,0.8s,baz=111,slow=3.7,SNR=2.7
MKAR LR LR 19 23 20.1
comp=Z,404nm,18.5s,MS4.4,baz=94,slow=37
BOK Bokaro 49.63 276 *eP* **P 19 02 29.6 -0.5**
BOK AMb AMB 19 02 31.3
comp=Z,26nm,0.8s,mb5.3
KURK Kurchatov 50.05 312 *eP* **P 19 02 32.4 -0.6**
comp=Z,80nm,1.1s,mb5.7
CTA Charters Tower 50.88 174 *eP* **P 19 02 39.3 -0.1**
comp=Z,3.6nm,0.6s,mb4.5
CTA Charters Tower 50.88 174 P **P 19 02 39.6 +0.2**
CTA pmax pmax
comp=Z,6.0nm,0.7s
CTA Charters Tower 50.88 174 P **P 19 02 39.6 +0.2**
comp=Z,5.5nm,0.7s,mb4.6,baz=345,slow=11,SNR=5.7
CTAO Charters Tower 50.88 174 *eP* **P 19 02 39.2 -0.2**
WB2 Warramunga Arr 51.03 189 *eP* **P 19 02 39.3 -1.3**
WRA Warramunga Arr 51.04 189 *i* P **P 19 02 40.0 -0.6**
WRA pmax pmax
comp=Z,10.0nm,0.5s
WRA Warramunga Arr 51.04 189 P **P 19 02 40.0 -0.6**
comp=Z,9.5nm,0.5s,mb5.0,baz=5.3,slow=7.6,SNR=194
WRA ScP ScP 19 07 54.6 +3.3
comp=Z,1.6nm,0.8s,baz=0.2,slow=4.5,SNR=6.0
FITZ Fitzroy Crossi 51.10 200 *eP* **P 19 02 41.1 0.0**
comp=Z,9.7nm,0.9s,mb4.7
IMA2 Indian Mountai 51.92 28 *eP* **P 19 02 47.1 +0.3**
ULHL Ulahol 52.58 302 P **P 19 02 52.6 +0.5**
SNR=12
TKM2 Tokmak 2 52.93 303 *eP* **P 19 02 54.8 +0.2**
comp=Z,5.7nm,0.5s,mb4.8
TKM2 Tokmak 2 52.93 303 *eP* **P 19 02 54.8 +0.2**
TKM2 pmax pmax
comp=Z,6.0nm,0.5s,mb4.8
TKM2 Tokmak 2 52.93 303 P **P 19 02 56.1 +1.5**
SNR=11
KZA Kyzart 53.34 302 P **P 19 02 59.4 +1.8**
SNR=24
KBK Karagaybulak 53.45 302 P **P 19 02 59.8 +1.3**
SNR=22
BLSP Bilaspur 53.46 276 *eP* **P 19 02 57.7 -1.1**
BLSP AMb AMB 19 02 60.0
comp=Z,19nm,0.8s,mb5.1
FRU Bishkek 53.66 303 *eP* **P 19 03 00.0 +0.1**
USP Ospenovka 53.66 303 P **P 19 03 00.7 +0.7**
SNR=10.0
AAK Ala-Archa 53.78 303 P **P 19 03 01.8 +0.9**
SNR=14
UCH Uchtor 53.85 302 *eP* **P 19 03 02.9 +1.5**
comp=Z,6.1nm,0.8s,mb4.6
UCH Uchtor 53.85 302 P **P 19 03 02.9 +1.6**
SNR=12
COLA College 54.22 30 *eP* **P 19 03 04.4 +0.7**
EKS2 Erkin-Say 54.30 303 *eP* **P 19 03 05.0 +0.4**
comp=Z,5.0nm,0.8s,mb4.5
EKS2 Erkin-Say 54.30 303 P **P 19 03 05.5 +0.9**
SNR=11
AML Almayashu 54.46 302 *eP* **P 19 03 07.1 +1.3**
comp=Z,15nm,0.7s,mb5.0
AML Almayashu 54.46 302 P **P 19 03 07.0 +1.2**
SNR=22
SMLA Simla 54.54 288 *eP* **P 19 03 06.0 -0.6**
SMLA AMb AMB 19 03 06.9
comp=Z,56nm,0.5s,mb5.8
SDNR Sundarnagar 54.59 289 *eP* **P 19 03 07.1 +0.2**
ASAR Alice Springs 54.76 189 P **P 19 03 07.5 -0.5**
comp=Z,4.0nm,0.8s,mb4.5,baz=360,slow=5.4,SNR=79
ASAR ScP ScP 19 08 12.6 +5.2
comp=Z,0.5nm,0.9s,baz=5.3,slow=4.0,SNR=3.4
BRVK Borovoye 55.04 316 *eP* **P 19 03 09.4 -0.5**
comp=Z,24nm,0.9s,mb5.2
BRVK Borovoye 55.04 316 *eP* **P 19 03 09.4 -0.5**
BRVK pmax pmax
comp=Z,24nm,0.9s,mb5.2
NDI New Delhi 55.27 285 *eP* **P 19 03 10.7 -1.2**
NDI AMb AMB 19 03 13.2
comp=Z,58nm,0.8s,mb5.7
THN Thein Dam 55.33 290 *eP* **P 19 03 11.1 -1.2**
MBWA Marble Bar 55.88 205 *eP* **P 19 03 15.3 -0.8**
comp=Z,14nm,1.1s,mb4.9
NGP Nagpur 56.48 276 AMb AMB 19 03 18.9
comp=Z,22nm,0.8s,mb5.2
NGP *eP* 19 03 19.9
EGAK Eagle 57.08 30 *eP* **P 19 03 24.0 -0.2**
comp=Z,10nm,1.1s,mb4.8
DZM Mont Dzumac 57.78 153 P **P 19 03 31.3 +1.6**
comp=Z,32nm,0.9s,mb5.3,baz=32,slow=9.1,SNR=9.8
AKL Akola 58.40 277 *eP* **P 19 03 33.9 -0.3**
AKL AMb AMB 19 03 34.9
comp=Z,32nm,0.9s,mb5.4
HYB Hyderabad 58.46 272 *eP* **P 19 03 33.5 -1.2**
HYB Hyderabad 58.46 272 *i* P **P 19 03 33.5 -1.2**
LATR Latur 59.74 274 AMb AMB 19 03 41.6
comp=Z,37nm,0.8s,mb5.4
LATR *eP* 19 03 42.5
INK Inuvik 59.78 25 *eP* **P 19 03 42.6 -0.5**
comp=Z,392nm,1.0s,mb6.4
INK Inuvik 59.78 25 P **P 19 03 42.2 -0.9**
comp=Z,2.6nm,0.5s,mb4.5,baz=301,slow=6.7,SNR=14
SVE Sverdlovsk 59.97 321⇓ *eP* **P 19 03 45.0 +0.5**
SVE *e* 19 05 55.2
SVE *eS* **S 19 11 48.1 -7.2**
SVE pmax pmax
comp=Z,71nm,1.0s,mb5.7
SVE MLR MLR
comp=Z,467nm,7.0s
KBL Kabul 59.98 295 *eP* **P 19 03 45.0 0.0**
comp=Z,32nm,1.0s,mb5.3
ARU Arti 61.17 321 *eP* **P 19 03 52.8 +0.1**
comp=Z,64nm,0.8s,mb5.8
ARU Arti 61.17 321 *eP* **P 19 03 52.9 +0.2**
ARU *e* 19 04 31.4
ARU *e* 19 06 03.5
ARU *eS* **S 19 12 07.6 -3.1**
ARU *eSS* SS 19 16 03.2 -7.1
ARMA Armidale 61.71 170 *eP* **P 19 03 57.7 +1.2**
POO Poona 62.02 276 *eP* **P 19 03 57.5 -1.5**
POO *eP* 19 03 58.5
POO AMb AMB 19 03 59.6
comp=Z,42nm,0.6s,mb5.7
KAD Karad 62.26 274 *eP* **P 19 03 59.3 -1.3**
KAD AMb AMB 19 04 01.2
comp=Z,36nm,0.9s,mb5.5
STKA Stephens Creek 62.43 180⇓ *iP* **P 19 04 01.2 -0.1**
comp=Z,4.4nm,0.6s,mb4.8
STKA Stephens Creek 62.43 180 P **P 19 04 01.1 -0.2**
comp=Z,9.6nm,1.0s,mb4.9,baz=303,slow=6.4,SNR=11
STKA LR LR 19 32 15.1
comp=Z,260nm,20.0s,MS4.4,baz=23,slow=37
FORT Forrest 62.69 193 *eP* **P 19 04 03.0 -0.1**
comp=Z,16nm,0.5s,mb5.4
KOD Kodaikanal 62.72 266 *ex* x 19 03 46.3
KOD AMb AMB 19 03 55.2
comp=Z,27nm,1.5s,mb5.2
AKTO Aktyubinsk 63.03 315 LR LR 19 32 16.5
comp=Z,365nm,18.9s,MS4.6,baz=76,slow=37
KLBR Kellerberrin 66.16 202 *eP* **P 19 04 26.8 +1.0**
comp=Z,16nm,1.2s,mb4.9
NWAO Narrogin (SRO) 67.56 202 P **P 19 04 35.4 +0.7**
NWAO pmax pmax
comp=Z,6.0nm,0.7s
NWAO Narrogin (SRO) 67.56 202 P **P 19 04 35.4 +0.7**
comp=Z,6.2nm,0.7s,mb4.7,baz=82,slow=15,SNR=2.8
TMCR Tamitsa 68.25 333 *eP* **P 19 04 39.3 +0.5**
TMCR *e*SP sP 19 04 54.2 +5.1
TMCR pmax pmax
comp=Z,32nm,1.1s,mb5.3
RES Resolute Bay 68.48 14 *eP* **P 19 04 39.4 -0.7**
comp=Z,250nm,0.8s,mb6.3
YKA Yellowknife Ar 69.03 29 P **P 19 04 43.1 -0.5**
comp=Z,1.3nm,0.6s,mb4.0,baz=296,slow=6.4,SNR=19
ARCES ARCESS Array B 69.82 340 P **P 19 04 48.1 -0.3**
ARCES pmax pmax
comp=Z,7.0nm,0.9s
ARCES MLR MLR
comp=Z,453nm,18.1s
ARCES ARCESS Array B 69.82 340 P **P 19 04 48.1 -0.3**
comp=Z,7.3nm,0.9s,mb4.6,baz=54,slow=9.1,SNR=6.9
ARCES LR LR 19 40 08.4
comp=Z,453nm,18.1s,MS4.8,baz=335,slow=40
JOF Joensuu 71.49 333 *ep* **P 19 04 58.1 -0.6**
comp=Z,5.1nm,0.5s,mb4.7
JOF Joensuu 71.49 333 *eP* **P 19 04 58.1 -0.6**
JOF pmax pmax
comp=Z,5.0nm,0.5s,mb4.7
DAG Danmarks Havn 71.89 355⇓ *eP* **P 19 05 00.6 -0.3**
DAG pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
DAG Danmarks Havn 71.89 355⇓ *iP* **P 19 05 00.6 -0.3**
comp=Z,6.0nm,0.8s,mb4.6
MOS Moscow 72.34 325 *eP* **P 19 05 02.8 -1.1**
MOS pmax pmax
comp=Z,75nm,1.1s,mb5.5
MOS MLR MLR
comp=Z,1µm,20.0s,MS5.1
VRHR Novokhopersk 72.42 319 *eP* **P 19 05 03.7 -0.8**
VRHR pmax pmax
comp=Z,20nm,0.5s,mb5.3
VRHR pmax pmax
comp=N,20nm,0.7s
VRHR pmax pmax
comp=E,10.0nm,0.8s
OBN Obninsk 73.17 325 *eP* **P 19 05 08.3 -0.5**
comp=E,50nm,1.0s,mb5.4
OBN Obninsk 73.17 325⇑ *eP* **P 19 05 07.9 -0.9**
OBN pmax pmax
comp=Z,42nm,1.2s,mb5.2
OBN MLR MLR
comp=Z,700nm,19.0s,MS5.0
VRSR Storozhevoye 73.72 320 *eP* **P 19 05 12.3 +0.2**
VRSR pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
VRSR pmax pmax
comp=N,8.0nm,0.9s
VRSR pmax pmax
comp=E,10.0nm,0.9s
KAF Kangasniemi 73.87 334 *ep* **P 19 05 12.0 -0.8**
comp=E,7.4nm,0.7s,mb4.7,baz=52,slow=5.5
KAF Kangasniemi 73.87 334 *eP* **P 19 05 12.0 -0.8**
KAF pmax pmax
comp=Z,7.0nm,0.7s,mb4.7
FINES FINESS Array B 74.36 333 *i* P **P 19 05 16.0 +0.3**
FINES pmax pmax
comp=Z,10.0nm,0.9s
FINES FINESS Array B 74.36 333 P **P 19 05 15.7 0.0**
comp=Z,10.0nm,0.9s,mb4.8,baz=76,slow=5.8,SNR=20
GOF Gofitskoye 74.40 313⇓ *iP* **P 19 05 24.0 +7.8**
GOF pmax pmax
comp=Z,40nm,1.3s,mb5.2
NEW Newport 74.42 43 *eP* **P 19 05 17.0 +0.7**
comp=Z,7.7nm,0.9s,mb4.6
NEW Newport 74.42 43 *eP* **P 19 05 17.0 +0.7**
NEW pmax pmax
comp=Z,8.0nm,0.9s
NEW Newport 74.42 43 P **P 19 05 16.4 +0.1**
comp=Z,3.6nm,0.7s,mb4.4,baz=13,slow=8.6,SNR=2.4
KIV Kislovodsk 75.14 312 *eP* **P 19 05 21.4 +0.8**
comp=Z,18nm,0.6s,mb5.2
KIV Kislovodsk 75.14 312 *eP* **P 19 05 21.7 +1.1**
KIV pmax pmax
comp=Z,33nm,1.0s,mb5.2
KIV MLR MLR
comp=Z,305nm,17.0s,MS4.7
KIV Kislovodsk 75.14 312⇑ *iP* **P 19 05 21.5 +0.9**
ONI Oni 75.31 311 P **P 19 05 22.9 +1.3**
WALA Waterton Lakes 75.87 41 *eP* **P 19 05 25.2 +0.5**
comp=Z,4.0nm,0.6s,mb4.5
BMO Blue Mountains 75.98 46 *eP* **P 19 05 24.4 -0.9**
comp=Z,4.3nm,0.8s,mb4.4
RAR Rarotonga 76.43 125 LR LR 19 32 23.6
comp=Z,271nm,19.7s,MS4.6,baz=296,slow=30
CHMT Chamberlain Mo 77.36 43 *eP* **P 19 05 31.8 -1.4**
MNK Minsk 77.74 327⇓ *eP* **P 19 05 35.0 -0.1**
MNK pmax pmax
comp=Z,110nm,1.5s,mb5.6
ANN Anapa 77.98 315 *eP* **P 19 05 35.8 -0.8**
ANN *eS* S 19 15 25.6 -3.2
ANN *e*SS SS 19 20 26.1 -3.1
ANN pmax pmax
comp=Z,84nm,1.8s,mb5.4
HLID Hailey 78.43 46 *eP* **P 19 05 39.1 0.0**
comp=Z,3.3nm,0.9s,mb4.3
UMR Umm Al-Rimmam 78.52 298 *eP* **P 19 05 40.0 +0.1**
UMR AMb AMB 19 05 45.5
comp=Z,32nm,0.5s,mb5.5
NVAR Mina Array Bea 78.53 52 P **P 19 05 40.5 +0.7**
comp=Z,2.7nm,0.6s,mb4.4,baz=285,slow=7.3,SNR=24
DLMT Dillon 78.58 44 *eP* **P 19 05 40.7 +0.8**
comp=Z,5.2nm,0.7s,mb4.6
MIB Mutribah 78.69 298 *eP* **P 19 05 40.7 -0.1**
MIB AMb AMB 19 05 43.2
comp=Z,52nm,0.8s,mb5.5
KBD Kabd 78.72 297 *eP* **P 19 05 40.9 -0.1**
KBD AMb AMB 19 05 42.3
comp=Z,111nm,0.9s,mb5.8
QRN Al-Qurain 78.75 297 *eP* **P 19 05 41.2 0.0**
QRN AMb AMB 19 05 42.9
comp=Z,25nm,0.6s,mb5.3
FFC Flin Flon 78.76 32 *eP* **P 19 05 40.0 -0.7**
comp=Z,9.0nm,0.9s,mb4.7
FFC Flin Flon 78.76 32 *eP* **P 19 05 40.1 -0.6**
FFC pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
RDF Al-Radifah 78.95 297 *eP* **P 19 05 42.6 +0.3**
RDF AMb AMB 19 05 44.1
comp=Z,62nm,1.0s,mb5.5
RPZ Rata Peaks 78.97 159 P **P 19 05 43.1 +1.3**
comp=Z,13nm,0.8s,mb4.9,baz=83,slow=2.0,SNR=4.2
BOZ Bozeman (W) 78.99 43 *eP* **P 19 05 42.5 +0.3**
comp=Z,3.3nm,0.8s,mb4.3
BOZ Bozeman (W) 78.99 43 *eP* **P 19 05 42.5 +0.3**
BOZ pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
NAY Al-Naaiem 79.03 297 *eP* **P 19 05 42.7 0.0**
NAY AMb AMB 19 05 45.1
comp=Z,43nm,1.1s,mb5.3
AKASG Malin Array Be 79.30 323 *i* P **P 19 05 43.7 -0.1**
AKASG pmax pmax
comp=Z,18nm,0.6s
AKASG Malin Array Be 79.30 323 P **P 19 05 43.8 0.0**
comp=Z,18nm,0.6s,mb5.2,baz=48,slow=5.7,SNR=148
AKASG LR LR 19 43 19.2
comp=Z,728nm,19.5s,MS5.0,baz=50,slow=38
AKBB Malin Array Si 79.30 323 *eP* **P 19 05 43.5 -0.3**
KIEV Kiev 79.32 323 *eP* **P 19 05 43.8 -0.1**
comp=Z,28nm,0.8s,mb5.2
KIEV Kiev 79.32 323 *eP* **P 19 05 43.8 -0.1**
KIEV pmax pmax
comp=Z,28nm,0.8s,mb5.2
QLMT Earthquake Lak 79.56 44 *eP* **P 19 05 46.9 +1.6**
SIM Simferopol' 79.89 317 *eP* **P 19 05 47.0 -0.1**
SIM pmax pmax
comp=Z,15nm,0.8s,mb5.0
SIM MLR MLR
comp=Z,320nm,17.4s,MS4.7
NOA NORSAR Array B 79.93 338 P **P 19 05 47.0 0.0**
NOA LR LR 19 44 04.0
NOA NORSAR Array B 79.93 338 P **P 19 05 47.0 0.0**
NOA pmax pmax
comp=Z,10.0nm,0.8s
NOA MLR MLR
comp=Z,269nm,18.9s
NOA NORSAR Array B 79.93 338 P **P 19 05 47.0 0.0**
comp=Z,9.6nm,0.8s,mb4.8,baz=41,slow=5.3,SNR=29
NOA LR LR 19 44 04.1
comp=Z,269nm,18.9s,MS4.6,baz=30,slow=38
SUW Suwalki 80.19 328 *eP* **P 19 05 49.2 +0.7**
IMW Indian Meadow 80.37 44 *eP* **P 19 05 50.9 +1.2**
comp=Z,7.2nm,0.8s,mb4.7
FLWY Flagg Ranch 80.41 44 *eP* **P 19 05 50.9 +0.9**
comp=Z,7.8nm,0.9s,mb4.6
RLMT Red Lodge 80.67 43 *eP* **P 19 05 52.0 +0.7**
comp=Z,28nm,1.8s,mb4.9
TPNV Topopah Spring 80.69 53 *eP* **P 19 05 51.8 +0.2**
comp=Z,8.6nm,0.8s,mb4.7
TPNV Topopah Spring 80.69 53 *eP* **P 19 05 51.8 +0.2**
TPNV pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
MALT Malatya 80.76 309 *eP* **P 19 05 52.1 +0.2**
comp=Z,11nm,1.1s,mb4.7
MALT Malatya 80.76 309 *eP* **P 19 05 52.1 +0.2**
MALT pmax pmax
comp=Z,11nm,1.1s,mb4.7
MALT Malatya 80.76 309⇓ P **P 19 05 53.5 +1.6**
MALT Malatya 80.76 309⇓ *iP* **P 19 05 53.5 +1.6**
DUG Dugway 81.24 48 P **P 19 05 52.9 -1.5**
comp=Z,7.2nm,0.4s,mb5.0
DUG Dugway 81.24 48 P **P 19 05 52.9 -1.5**
DUG pmax pmax
comp=Z,7.0nm,0.4s,mb4.9
PPT Papeete 81.73 116 LR LR 19 35 02.5
comp=Z,144nm,19.7s,MS4.3,baz=338,slow=30
BW06 Boulder Array 81.83 45 *eP* **P 19 05 58.1 +0.6**
comp=Z,4.0nm,1.0s,mb4.3
PDAR Pinedale Array 81.83 45 P **P 19 05 57.8 +0.3**
comp=Z,1.4nm,0.7s,mb4.0,baz=265,slow=3.8,SNR=11
PDAR LR LR 19 36 02.6
comp=Z,66nm,21.7s,MS4.0,baz=171,slow=31
SFJD Kangerlussuaq 81.97 5 P **P 19 05 57.6 -0.1**
SFJD pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
SFJD Kangerlussuaq 81.97 5 P **P 19 05 57.6 -0.1**
comp=Z,5.7nm,0.8s,mb4.5,baz=322,slow=11,SNR=2.6
KWP Kalwaria 83.25 325 *eP* **P 19 06 06.2 +1.4**
KWP Kalwaria 83.25 325 *eP* **P 19 06 06.2 +1.4**
KWP Kalwaria 83.25 325⇑ *iP* **P 19 06 05.8 +1.0**
GKP Gorka Klasztor 83.31 330 *eP* **P 19 06 05.4 +0.4**
TIRR Tirgusor 83.48 319⇓ P **P 19 06 06.5 +0.5**
TIRR Tirgusor 83.48 319⇓ *iP* **P 19 06 06.5 +0.4**
VRI Vrincioaia 83.56 320⇓ P **P 19 06 08.0 +1.6**
VRI Vrincioaia 83.56 320⇓ *iP* **P 19 06 08.0 +1.6**
KOLS Kolonicke sedl 83.92 325 *eP* **P 19 06 08.5 +0.3**
KOLS *e*PCP PcP 19 06 15.5 +3.3
STHS Stebnicka Huta 84.11 326 *eP* **P 19 06 10.1 +0.9**
comp=Z,11nm,1.0s,mb4.9
STHS Stebnicka Huta 84.11 326 *eP* **P 19 06 10.1 +0.9**
STHS pmax pmax
comp=Z,11nm,1.0s,mb4.9
UZH Uzhgorod 84.11 324 *eP* **P 19 06 08.0 -1.2**
MLR Muntele Rosu 84.22 320⇑ P **P 19 06 10.1 +0.3**

MLR	**Muntele Rosu**	**84.22**	**320**	⇑*i*P	**P**	**19 06 10.1**	**+0.3**
OJC	**Ojcow**	**84.26**	**327**	*e*P	**P**	**19 06 10.5**	**+0.6**
CRVS	**Cervenica-Dubn**	**84.35**	**325**	*e*P	**P**	**19 06 11.0**	**+0.6**
NIE	**Niedzica**	**84.56**	**326**	*e*P	**P**	**19 06 12.8**	**+1.3**
KECS	**Kecovo**	**85.11**	**325**	*e*P	**P**	**19 06 14.7**	**+0.5**
	comp=Z,4.9nm,1.0s,mb4.6						
KECS	**Kecovo**	**85.11**	**325**	*e*P	**P**	**19 06 14.7**	**+0.5**
KECS				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.6						
OKC	**Ostrava-Krasne**	**85.30**	**327**	*e*PCP	PcP	19 06 15.5	-2.7
RUE	**Ruedersdorf**	**85.33**	**331**	*e*P	**P**	**19 06 15.7**	**+0.4**
	comp=Z,55nm,1.3s,mb5.5						
KSP	**Ksiaz**	**85.44**	**329**	*e*P	**P**	**19 06 16.5**	**+0.7**
KSP	**Ksiaz**	**85.44**	**329**	*e*P	**P**	**19 06 16.2**	**+0.4**
MORC	**Moravsky Berou**	**85.62**	**327**	*e*P	**P**	**19 06 16.7**	**0.0**
	comp=Z,28nm,1.5s,mb5.3						
MORC	**Moravsky Berou**	**85.62**	**327**	⇑*i*P	**P**	**19 06 17.2**	**+0.4**
DPC	**Dobruska-Polom**	**85.77**	**328**	*e*P	**P**	**19 06 18.3**	**+0.8**
DPC				AMS	AMS	19 47 50.0	
PSZ	**Piszkesteto**	**85.78**	**325**	⇑P	**P**	**19 06 18.5**	**+0.9**
PSZ	**Piszkesteto**	**85.78**	**325**	⇑*i*P	**P**	**19 06 18.5**	**+0.9**
UPC	**Upice**	**85.80**	**329**	*e*P	**P**	**19 06 18.2**	**+0.6**
VYHS	**Vyhne**	**85.90**	**326**	*e*P	**P**	**19 06 18.7**	**+0.5**
	comp=Z,15nm,1.1s,mb5.1						
VYHS				*e*		19 06 22.9	
VYHS	**Vyhne**	**85.90**	**326**	*e*P	**P**	**19 06 18.7**	**+0.5**
VYHS				pmax	pmax		
	comp=Z,15nm,1.1s,mb5.1						
VRAC	**Vranov**	**86.39**	**328**	⇑P	**P**	**19 06 21.1**	**+0.6**
VRAC	**Vranov**	**86.39**	**328**	⇑*i*P	**P**	**19 06 21.1**	**+0.5**
PVCC	**Panska Ves**	**86.42**	**329**	*e*P	**P**	**19 06 21.6**	**+0.9**
BRG	**Berggiesshubel**	**86.44**	**330**	⇑*i*P	**P**	**19 06 20.8**	**0.0**
BRG				*i*	pP	19 06 29.2	+0.7
BRG				pmax	pmax		
	comp=Z,3.0nm,1.5s,mb4.3						
BRG				MLR	MLR		
	comp=Z,400nm,17.3s,MS4.9						
BRG	**Berggiesshubel**	**86.44**	**330**	*e*P	**P**	**19 06 20.6**	**-0.2**
	comp=Z,6.0nm,0.9s,mb4.8						
BRG	**Berggiesshubel**	**86.44**	**330**	*e*P	**P**	**19 06 20.4**	**-0.4**
	comp=Z,6.5nm,0.9s,mb4.8						
CLL	**Collm**	**86.53**	**331**	⇑*i*P	**P**	**19 06 20.8**	**-0.4**
	comp=Z,38nm,1.5s,mb5.4						
CLL				*i*	pP	19 06 29.2	+0.3
CLL				LR	LR		
	comp=Z,400nm,17.3s,MS4.9						
CLL	**Collm**	**86.53**	**331**	⇑*i*P	**P**	**19 06 20.8**	**-0.4**
CLL				*i*	pP	19 06 29.2	+0.3
CLL				pmax	pmax		
	comp=Z,3.0nm,1.5s,mb4.3						
CLL				MLR	MLR		
	comp=Z,400nm,17.3s,MS4.9						
CLL	**Collm**	**86.53**	**331**	*e*P	**P**	**19 06 20.8**	**-0.4**
	comp=Z,19nm,1.0s,mb5.3						
CLL	**Collm**	**86.53**	**331**	⇑*i*P	**P**	**19 06 20.8**	**-0.4**
	comp=Z,38nm,1.5s,mb5.4						
CLL				*i* pP	pP	19 06 29.2	+0.3
FBE	**Freiberg**	**86.66**	**330**	*e*P	**P**	**19 06 22.1**	**+0.2**
	comp=Z,202nm,2.7s,mb5.9						
MODS	**Modra-Piesok**	**86.73**	**327**	*e*P	**P**	**19 06 23.0**	**+0.7**
NRDL	**Niedersach Rie**	**86.81**	**333**	*e*P	**P**	**19 06 22.7**	**+0.1**
	comp=Z,15nm,1.2s,mb5.1						
PRU	**Pruhonice**	**86.83**	**329**	*e*P	**P**	**19 06 23.0**	**+0.3**
PRU				AMS	AMS	19 49 00.0	
	comp=Z,700nm,6.8s						
TREC	**Trest**	**86.91**	**328**	*e*P	**P**	**19 06 23.4**	**+0.3**
TREC				AMS	AMS	19 47 30.0	
	comp=Z,700nm,8.7s						
ZST	**Bratislava**	**86.94**	**327**	*e*P	**P**	**19 06 24.7**	**+1.4**
	comp=Z,5.6nm,0.9s,mb4.8						
ZST				LR	LR		
	comp=Z,400nm,16.9s,MS4.9						
CLZ	**Clausthal**	**87.21**	**332**	*e*P	**P**	**19 06 24.4**	**-0.1**
CLZ				pmax	pmax		
	comp=Z,24nm,1.2s,mb5.3						
CLZ	**Clausthal**	**87.21**	**332**	*e*P	**P**	**19 06 24.4**	**-0.1**
	comp=Z,24nm,1.2s,mb5.3						
WERD	**Werda**	**87.46**	**330**	*e*P	**P**	**19 06 25.2**	**-0.6**
	comp=Z,11nm,1.5s,mb4.9						
PKSM	**Moragy**	**87.58**	**324**	⇓P	**P**	**19 06 26.1**	**-0.3**
PKSM	**Moragy**	**87.58**	**324**	⇓*i*P	**P**	**19 06 26.1**	**-0.3**
IBBN	**Ibbenburen**	**87.87**	**334**	*e*P	**P**	**19 06 27.7**	**0.0**
	comp=Z,28nm,0.9s,mb5.5						
KHC	**Kasperske Hory**	**87.89**	**329**	*e*P	**P**	**19 06 28.1**	**+0.3**
KHC				*e*		19 06 39.0	
KHC	**Kasperske Hory**	**87.89**	**329**	*e*P	**P**	**19 06 28.1**	**+0.3**
KHC				*e*pP	pP	19 06 39.0	+3.5
KHC				AMS	AMS	19 50 20.0	
	comp=Z,800nm,7.8s						
ROTZ	**Rotzenmuhle**	**88.01**	**330**	*e*P	**P**	**19 06 28.5**	**+0.1**
	comp=Z,27nm,1.8s,mb5.2						
GERES	**GERESS Array B**	**88.04**	**329**	P	**P**	**19 06 28.3**	**-0.3**
GERES						19 09 54.9	
GERES				pmax	pmax		
	comp=Z,2.0nm,0.7s						
GERES				MLR	MLR		
	comp=Z,339nm,19.6s						
GERES	**GERESS Array B**	**88.04**	**329**	P	**P**	**19 06 28.3**	**-0.3**
	comp=Z,1.5nm,0.7s,mb4.3,baz=45,slow=5.8,SNR=8.5						
GERES				PP	PP	19 09 54.9	+0.4
	comp=Z,0.3nm,0.6s,baz=69,slow=7.4,SNR=4.2						
GERES				LR	LR	19 49 08.7	
	comp=Z,339nm,19.6s,MS4.8,baz=271,slow=38						
GRA1	**Grafenberg Arr**	**88.49**	**330**	*e*P	**P**	**19 06 31.0**	**+0.3**
	comp=Z,30nm,1.7s,mb5.2						
GRF	**Grafenberg Arr**	**88.49**	**330**	*e*P	**P**	**19 06 31.0**	**+0.3**
GRF				pmax	pmax		
	comp=Z,30nm,1.7s,mb5.2						
GRF	**Grafenberg Arr**	**88.49**	**330**	*e*P	**P**	**19 06 31.0**	**+0.3**
GRF				pmax	pmax		
	comp=Z,30nm,1.7s,mb5.2						
GRF	**Grafenberg Arr**	**88.49**	**330**	*e*P	**P**	**19 06 31.0**	**+0.3**
	comp=Z,30nm,1.7s,mb5.2						
MOTA	**Moosalm**	**90.32**	**329**	⇑*i*P	**P**	**19 06 39.1**	**-0.2**
	comp=Z,5.7nm,1.1s,mb4.8						
MOTA	**Moosalm**	**90.32**	**329**	*i*PcP	**P**	**19 06 39.1**	**-0.2**
	comp=Z,5.7nm,1.1s,mb4.8						
MOTA	**Moosalm**	**90.32**	**329**	⇑*i*P	**P**	**19 06 39.1**	**-0.2**
MOTA				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.8						
GIVF	**Givet**	**90.74**	**334**	*e*P	**P**	**19 06 40.9**	**-0.3**
BFO	**Black Forest**	**90.76**	**331**	*e*P	**P**	**19 06 41.2**	**-0.1**
BFO				pmax	pmax		
	comp=Z,16nm,1.1s,mb5.3						
BFO	**Black Forest**	**90.76**	**331**	*e*P	**P**	**19 06 41.2**	**-0.1**
	comp=Z,16nm,1.1s,mb5.3						
DAVA	**Damuels**	**90.90**	**329**	⇑*i*P	**P**	**19 06 42.0**	**0.0**
	comp=Z,20nm,1.0s,mb5.4						
DAVA	**Damuels**	**90.90**	**329**	⇑*i*PcP	**P**	**19 06 42.0**	**0.0**
	comp=Z,20nm,1.0s,mb5.4						
CDF	**Champ du Feu**	**91.13**	**332**	*e*P	**P**	**19 06 42.9**	**-0.1**
	comp=Z,20nm,1.1s,mb5.1						
CDF	**Champ du Feu**	**91.13**	**332**	*e*P	**P**	**19 06 42.9**	**-0.1**
	comp=Z,10nm,1.0s,mb5.1						
CDF	**Champ du Feu**	**91.13**	**332**	*e*P	**P**	**19 06 42.9**	**-0.1**
CDF				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb5.1						
SCHQ	**Schefferville**	**91.16**	**16**	LR	LR	19 47 15.0	
	comp=Z,114nm,21.2s,MS4.3,baz=357,slow=35						
HINF	**Hinteralfeld**	**91.77**	**331**	*e*P	**P**	**19 06 45.3**	**-0.7**
HAU	**Haudompre**	**91.83**	**332**	*e*P	**P**	**19 06 45.8**	**-0.5**
HAU				*e*MLR	MLR		
	comp=Z,236nm,17.5s,MS4.4						
HAU	**Haudompre**	**91.83**	**332**	*e*P	**P**	**19 06 45.8**	**-0.5**
HAU				MLR	MLR		
	comp=Z,240nm,17.5s,MS4.7						
MEZF	**Maizieres J'vi**	**91.95**	**333**	*e*P	**P**	**19 06 47.0**	**+0.2**
CABF	**La Chapelle**	**93.05**	**331**	*e*P	**P**	**19 06 50.9**	**-1.1**
	comp=Z,21nm,1.0s,mb5.2						
CABF	**La Chapelle**	**93.05**	**331**	*e*P	**P**	**19 06 50.9**	**-1.1**
	comp=Z,11nm,1.0s,mb5.2						
CABF	**La Chapelle**	**93.05**	**331**	*e*P	**P**	**19 06 50.9**	**-1.1**
CABF				pmax	pmax		
	comp=Z,11nm,1.0s,mb5.2						
LOR	**Lormes**	**93.42**	**333**	*e*P	**P**	**19 06 53.3**	**-0.3**
	comp=Z,36nm,1.2s,mb5.4						
LOR				*e*MLR	MLR		
	comp=Z,199nm,20.5s,MS4.3						
LOR	**Lormes**	**93.42**	**333**	*e*P	**P**	**19 06 53.3**	**-0.3**
	comp=Z,18nm,1.2s,mb5.4						
LOR				LR	LR		
	comp=Z,200nm,20.5s,MS4.6						
LOR	**Lormes**	**93.42**	**333**	*e*P	**P**	**19 06 53.3**	**-0.3**
LOR				pmax	pmax		
	comp=Z,18nm,1.2s,mb5.4						
LOR				MLR	MLR		
	comp=Z,200nm,20.5s,MS4.6						
LPL	**La Plagne**	**93.65**	**330**	*e*P	**P**	**19 06 54.7**	**0.0**
	comp=Z,42nm,1.1s,mb5.5						
LPL	**La Plagne**	**93.65**	**330**	*e*P	**P**	**19 06 54.7**	**0.0**
	comp=Z,21nm,1.1s,mb5.5						
LPL	**La Plagne**	**93.65**	**330**	*e*P	**P**	**19 06 54.7**	**0.0**
LPL				pmax	pmax		
	comp=Z,21nm,1.1s,mb5.5						
LPG	**La Plagne**	**93.65**	**330**	*e*P	**P**	**19 06 54.9**	**+0.1**
	comp=Z,29nm,1.0s,mb5.4						
LPG	**La Plagne**	**93.65**	**330**	*e*P	**P**	**19 06 54.9**	**+0.1**
	comp=Z,14nm,1.0s,mb5.4						
LPG	**La Plagne**	**93.65**	**330**	*e*P	**P**	**19 06 54.9**	**+0.1**
LPG				pmax	pmax		
	comp=Z,14nm,1.0s,mb5.3						
TXAR	**Lajitas Array**	**93.68**	**53**	P	**P**	**19 06 55.9**	**+0.7**
TXAR	**Lajitas Array**	**93.68**	**53**	P	**P**	**19 06 55.9**	**+0.7**
TXAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
TXAR	**Lajitas Array**	**93.68**	**53**	P	**P**	**19 06 55.9**	**+0.7**
	comp=Z,1.7nm,0.7s,mb4.6,baz=305,slow=3.0,SNR=16						
SSF	**Saint Saulge**	**93.73**	**333**	*e*P	**P**	**19 06 54.8**	**-0.3**
	comp=Z,18nm,0.9s,mb5.2						
SSF	**Saint Saulge**	**93.73**	**333**	*e*P	**P**	**19 06 54.8**	**-0.3**
	comp=Z,8.9nm,0.9s,mb5.2						
SSF	**Saint Saulge**	**93.73**	**333**	*e*P	**P**	**19 06 54.8**	**-0.3**
SSF				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb5.2						
FLN	**La Foliniere**	**93.79**	**336**	*e*P	**P**	**19 06 54.7**	**-0.6**
	comp=Z,90nm,1.4s,mb5.7						
FLN				*e*MLR	MLR		
	comp=Z,264nm,19.0s,MS4.4						
FLN	**La Foliniere**	**93.79**	**336**	*e*P	**P**	**19 06 54.7**	**-0.6**
	comp=Z,45nm,1.4s,mb5.7						
FLN				LR	LR		
	comp=Z,260nm,19.0s,MS4.7						
FLN	**La Foliniere**	**93.79**	**336**	*e*P	**P**	**19 06 54.7**	**-0.6**
FLN				pmax	pmax		
	comp=Z,45nm,1.4s,mb5.7						
FLN				MLR	MLR		
	comp=Z,260nm,19.0s,MS4.7						
LDF	**La Druitiere**	**93.80**	**336**	*e*P	**P**	**19 06 55.0**	**-0.4**
	comp=Z,64nm,1.4s,mb5.5						
LDF	**La Druitiere**	**93.80**	**336**	*e*P	**P**	**19 06 55.0**	**-0.4**
	comp=Z,32nm,1.4s,mb5.6						
LDF	**La Druitiere**	**93.80**	**336**	*e*P	**P**	**19 06 55.0**	**-0.4**
LDF				pmax	pmax		
	comp=Z,32nm,1.4s,mb5.6						
SMF	**Signal de Mont**	**93.93**	**332**	*e*P	**P**	**19 06 55.7**	**-0.3**
	comp=Z,37nm,1.2s,mb5.4						
SMF	**Signal de Mont**	**93.93**	**332**	*e*P	**P**	**19 06 55.7**	**-0.3**
	comp=Z,18nm,1.2s,mb5.4						
SMF	**Signal de Mont**	**93.93**	**332**	*e*P	**P**	**19 06 55.7**	**-0.3**
SMF				pmax	pmax		
	comp=Z,18nm,1.2s,mb5.4						
AVF	**Avril sur Loir**	**94.01**	**333**	*e*P	**P**	**19 06 56.2**	**-0.2**
	comp=Z,55nm,1.1s,mb5.6						
AVF	**Avril sur Loir**	**94.01**	**333**	*e*P	**P**	**19 06 56.2**	**-0.2**
	comp=Z,27nm,1.1s,mb5.6						
AVF	**Avril sur Loir**	**94.01**	**333**	*e*P	**P**	**19 06 56.2**	**-0.2**
AVF				pmax	pmax		
	comp=Z,27nm,1.1s,mb5.6						
GRR	**Gorron**	**94.24**	**336**	*e*P	**P**	**19 06 57.2**	**-0.2**
	comp=Z,59nm,1.1s,mb5.6						
GRR	**Gorron**	**94.24**	**336**	*e*P	**P**	**19 06 57.2**	**-0.2**
	comp=Z,30nm,1.1s,mb5.6						
GRR	**Gorron**	**94.24**	**336**	*e*P	**P**	**19 06 57.2**	**-0.2**
GRR				pmax	pmax		
	comp=Z,30nm,1.1s,mb5.6						
MBDF	**Montbardon**	**94.25**	**330**	*e*P	**P**	**19 06 56.3**	**-1.3**
	comp=Z,28nm,1.1s,mb5.3						
MBDF	**Montbardon**	**94.25**	**330**	*e*P	**P**	**19 06 56.3**	**-1.3**
	comp=Z,14nm,1.1s,mb5.3						
MBDF	**Montbardon**	**94.25**	**330**	*e*P	**P**	**19 06 56.3**	**-1.3**
MBDF				pmax	pmax		
	comp=Z,14nm,1.1s,mb5.3						
BGF	**Bois d'Agland**	**94.40**	**333**	*e*P	**P**	**19 06 58.0**	**-0.2**
ORIF	**Oris-en-Rattie**	**94.49**	**330**	*e*P	**P**	**19 06 58.3**	**-0.3**
	comp=Z,22nm,1.3s,mb5.1						
ORIF				*e*MLR	MLR		
	comp=Z,218nm,18.5s,MS4.3						
ORIF	**Oris-en-Rattie**	**94.49**	**330**	*e*P	**P**	**19 06 58.3**	**-0.3**
	comp=Z,11nm,1.3s,mb5.1						
ORIF	**Oris-en-Rattie**	**94.49**	**330**	*e*P	**P**	**19 06 58.3**	**-0.3**
ORIF				pmax	pmax		
	comp=Z,11nm,1.3s,mb5.1						
SBF	**Sospel**	**94.64**	**329**	*e*P	**P**	**19 06 58.2**	**-1.2**
TCF	**Toulx Ste Croi**	**94.87**	**333**	*e*P	**P**	**19 07 00.2**	**-0.1**
	comp=Z,21nm,1.1s,mb5.2						
TCF	**Toulx Ste Croi**	**94.87**	**333**	*e*P	**P**	**19 07 00.2**	**-0.1**
	comp=Z,10nm,1.1s,mb5.2						
TCF	**Toulx Ste Croi**	**94.87**	**333**	*e*P	**P**	**19 07 00.2**	**-0.1**
TCF				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb5.2						
PGF	**Pioggiola**	**94.95**	**327**	*e*P	**P**	**19 07 00.0**	**-0.8**
	comp=Z,29nm,1.0s,mb5.4						
PGF	**Pioggiola**	**94.95**	**327**	*e*P	**P**	**19 07 00.0**	**-0.8**
	comp=Z,14nm,1.0s,mb5.4						
PGF	**Pioggiola**	**94.95**	**327**	*e*P	**P**	**19 07 00.0**	**-0.8**
PGF				pmax	pmax		
	comp=Z,14nm,1.0s,mb5.3						
VIVF	**Saint-Julien-l**	**95.05**	**331**	*e*P	**P**	**19 07 00.9**	**-0.3**
	comp=Z,24nm,1.0s,mb5.3						
VIVF	**Saint-Julien-l**	**95.05**	**331**	*e*P	**P**	**19 07 00.9**	**-0.3**
	comp=Z,12nm,1.0s,mb5.3						
VIVF	**Saint-Julien-l**	**95.05**	**331**	*e*P	**P**	**19 07 00.9**	**-0.3**
VIVF				pmax	pmax		
	comp=Z,12nm,1.0s,mb5.3						
FRF	**La Foret Royal**	**95.23**	**329**	*e*P	**P**	**19 07 01.4**	**-0.7**
LMR	**La Mourre**	**95.47**	**329**	*e*P	**P**	**19 07 02.2**	**-1.0**
MFF	**Saint Martin d**	**95.50**	**335**	*e*P	**P**	**19 07 03.3**	**+0.1**
	comp=Z,38nm,1.2s,mb5.4						
MFF	**Saint Martin d**	**95.50**	**335**	*e*P	**P**	**19 07 03.3**	**+0.1**
	comp=Z,19nm,1.2s,mb5.4						
MFF	**Saint Martin d**	**95.50**	**335**	*e*P	**P**	**19 07 03.3**	**+0.1**
MFF				pmax	pmax		
	comp=Z,19nm,1.2s,mb5.4						
RJF	**Les Rejaudoux**	**95.96**	**333**	*e*P	**P**	**19 07 05.5**	**+0.2**
	comp=Z,29nm,1.1s,mb5.3						
RJF				*e*MLR	MLR		
	comp=Z,257nm,18.0s,MS4.4						
RJF	**Les Rejaudoux**	**95.96**	**333**	*e*P	**P**	**19 07 05.5**	**+0.2**
	comp=Z,15nm,1.1s,mb5.3						
RJF				LR	LR		
	comp=Z,260nm,18.0s,MS4.8						
RJF	**Les Rejaudoux**	**95.96**	**333**	*e*P	**P**	**19 07 05.5**	**+0.2**
RJF				pmax	pmax		
	comp=Z,15nm,1.1s,mb5.3						
RJF				MLR	MLR		
	comp=Z,260nm,18.0s,MS4.8						
LASF	**Ste Croix**	**96.02**	**331**	*e*P	**P**	**19 07 04.8**	**-0.8**
	comp=Z,21nm,1.2s,mb5.1						
CAF	**Calviac**	**96.06**	**332**	*e*P	**P**	**19 07 04.7**	**-1.1**
	comp=Z,57nm,1.4s,mb5.5						
CAF	**Calviac**	**96.06**	**332**	*e*P	**P**	**19 07 04.7**	**-1.1**
	comp=Z,28nm,1.4s,mb5.5						
CAF	**Calviac**	**96.06**	**332**	*e*P	**P**	**19 07 04.7**	**-1.1**
CAF				pmax	pmax		
	comp=Z,28nm,1.4s,mb5.5						
LFF	**La Frestale**	**96.56**	**333**	*e*P	**P**	**19 07 06.7**	**-1.4**
MTLF	**Montolieu**	**97.30**	**331**	*e*P	**P**	**19 07 11.4**	**-0.1**
SJPF	**Ste Jean**	**98.86**	**333**	*e*P	**P**	**19 07 18.3**	**-0.2**
	comp=Z,41nm,1.2s,mb5.5						
SJPF	**Ste Jean**	**98.86**	**333**	*e*P	**P**	**19 07 18.3**	**-0.2**
	comp=Z,21nm,1.2s,mb5.5						
SJPF	**Ste Jean**	**98.86**	**333**	*e*P	**P**	**19 07 18.3**	**-0.2**
SJPF				pmax	pmax		
	comp=Z,21nm,1.2s,mb5.5						
TORD	**Torodi Ar. Bea**	**121.72**	**313**	PKP	PKPdf	19 12 32.2	-0.8
TORD				PP	PP	19 13 55.8	-9.2
TORD	**Torodi Ar. Bea**	**121.72**	**313**	PKP	PKPdf	19 12 32.2	-0.7
	comp=Z,0.6nm,0.6s,baz=287,slow=1.0,SNR=4.7						
TORD				PP	PP	19 13 55.8	-9.2
	comp=Z,1.4nm,1.0s,baz=43,slow=5.8,SNR=3.8						
LPAZ	**La Paz**	**149.18**	**69**	*e*PKPbc	PKPbc	19 13 28.5	+1.1
LPAZ	**La Paz**	**149.18**	**69**	PKPbc	PKPbc	19 13 28.3	+1.0
	comp=Z,7.2nm,0.8s,baz=4.9,slow=3.2,SNR=13						
PLCA	**Paso Flores**	**152.22**	**120**	PKIKP	PKPdf	19 13 34.6	+7.4
PLCA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
PLCA	**Paso Flores**	**152.22**	**120**	PKPbc	PKPbc	19 13 34.5	+0.7
	comp=Z,2.3nm,0.8s,baz=208,slow=6.2,SNR=6.7						

IGQ 04 19:06:08.4, 007N×7841W, h12km±5km, Mb4.2, Ms4.0, 1C-5D, Error ellipse: s-maj=1.9km s-min=1.4km az=59.9,

Colombia-Ecuador border region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PINO	**Pino**	**0.30**	**221**	⇓P	Pg	19 06 15.0	+0.5
GGP	**Refugio Guagua**	**0.30**	**217**	⇓P	Pg	19 06 15.1	+0.5
TERV	**Terraza Guagua**	**0.31**	**219**	⇓P	Pg	19 06 15.2	+0.5
CAYR	**Refugio Cayamb**	**0.41**	**97**	P	Pg	19 06 18.0	+1.5
CAYR	**Refugio Cayamb**	**0.41**	**97**	S	Sg	19 06 22.1	0.0
CAYA	**Cayambe**	**0.42**	**89**	⇓P	Pg	19 06 18.1	+1.4
ANTI	**Antisana**	**0.57**	**154**	⇑P	Pg	19 06 20.6	+1.0
VC1	**Cotopaxi 1**	**0.70**	**179**	P	Pg	19 06 22.8	+0.7
TAMB	**Tambo**	**0.76**	**177**	⇓P	Pg	19 06 24.3	+1.1
MAG1	**Magdalena**	**1.37**	**264**	P	Pn	19 06 33.9	+0.5
IGUA	**Igualata**	**1.56**	**188**	P	Pn	19 06 38.6	+2.5
IGUA				P		14 40 45.8	

*IDC **04** 19:07:24.9±1.3, 4296N×8556E, h0km, mb3.8/4, mb1 3.9/6, mb1mx3.6/22, mbtmp3.7/6, ML3.4/2, Error ellipse: s-maj=95.2km s-min=16.0km az=57.0*
*NEIC **04** 19:07:26.1±0.8, 4262N×8490E, h10km, Error ellipse: s-maj=20.3km s-min=10.4km az=46.0*
*BJI **04** 19:07:28.1, 4295N×8530E, h12km, ML3.3*
*ISCJB **04** 19:07:29.8±1.7, 428N±0.1×8508E±008, h46km±17km, mb3.7/4, Error ellipse: s-maj=18.4km s-min=9.5km az=11.6*

ISC 04 19:07:31.3±1.5, 429N±01×853E±01, h45km±16km, n15, σ0°75/20, mb3.7/4, 3C-1D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WMQ	**Urumqi**	**1.96**	**62**	⇑*i*P	**Pn**	**19 08 02.2**	**+0.2**
WMQ				S	**Sn**	**19 08 30.4**	**+5.1**
WMQ				Smax			
	comp=N,229nm,0.4s						
WMQ				Smax			
	comp=E,318nm,0.4s						
MK31	**Makanchi Array**	**4.43**	**332**	Pn	**Pn**	**19 08 35.2**	**-0.7**
	comp=E,0.4nm,0.2s,baz=146,slow=15,SNR=99						
MK31				⇑Lg		19 09 42.6	
	comp=E,36nm,0.6s,baz=150,slow=29,SNR=5.9						
MK31	**Makanchi Array**	**4.43**	**332**	*e*P	**Pn**	**19 08 35.2**	**-0.7**
MKAR	**Makanchi Array**	**4.43**	**332**	Pn	**Pn**	**19 08 35.5**	**-0.5**
MKAR				Pg	**Pn**	**19 08 46.5**	**+10**
MKAR				Sn	**Sn**	**19 09 26.9**	**+0.7**
MKAR				Lg		19 09 42.7	
MKAR	**Makanchi Array**	**4.43**	**332**	Pn	**Pn**	**19 08 35.5**	**-0.5**
	comp=E,1.1nm,0.3s,baz=149,slow=14,SNR=34						
MKAR				Pg	**Pn**	**19 08 46.5**	**+10**
	comp=E,6.3nm,0.3s,baz=144,slow=17,SNR=50						
MKAR				Sn	**Sn**	**19 09 26.9**	**+0.7**
	comp=E,5.5nm,0.3s,baz=153,slow=17,SNR=5.3						
MKAR				Lg		19 09 42.7	
	comp=E,15nm,0.3s,baz=137,slow=30,SNR=9.3						
TKM2	**Tokmak 2**	**7.13**	**273**	⇑Pn	**Pn**	**19 09 13.4**	**+0.4**
	comp=E,1.4nm,0.3s						
TKM2				⇓Lg		19 11 14.3	
	comp=E,9.6nm,0.6s						
TKM2	**Tokmak 2**	**7.13**	**273**	*e*P	**Pn**	**19 09 13.3**	**+0.3**
	comp=E,3.7nm,0.3s						
ZALV	**Zalesovo Beam**	**11.05**	**358**	Pn	**Pn**	**19 10 02.7**	**-3.8**
	comp=E,0.5nm,0.3s,baz=177,slow=13,SNR=6.2						
ZALV				Sn	**Sn**	**19 12 01.1**	**-7.4**
	comp=E,1.1nm,0.3s,baz=180,slow=26,SNR=12						
SONM	**Songino Array**	**15.60**	**64**	Pn	**Pn**	**19 11 11.2**	**+3.4**
	comp=E,0.0nm,0.3s,baz=245,slow=12,SNR=2.7						
ARCES	**ARCESS Array B**	**40.09**	**332**	P	**P**	**19 15 02.1**	**+0.2**
	comp=E,10nm,1.1s,mb4.5,baz=83,slow=7.5,SNR=4.1						
NOA	**NORSAR Array B**	**46.32**	**320**	P	**P**	**19 15 52.1**	**-0.2**
	comp=E,1.0nm,0.9s,mb3.7,baz=77,slow=7.8,SNR=3.1						
NOA				pP	pP	19 15 57.3	-7.3
	comp=E,1.3nm,0.8s,baz=77,slow=7.8,SNR=2.3						
YKA	**Yellowknife Ar**	**73.73**	**9**	pP	pP	19 19 04.8	-8.3
	comp=E,0.2nm,0.5s,baz=336,slow=6.2,SNR=2.3						
WRA	**Warramunga Arr**	**77.10**	**133**	P	**P**	**19 19 19.8**	**-0.1**
	comp=E,0.2nm,0.6s,mb3.2,baz=337,slow=5.6,SNR=5.7						

MOA ⇑*i*Sg **Sg** **19 12 31.8 +0.3**
comp=Z,4.5nm,0.7s
STHS Stebnicka Huta 3.93 121 *e*PG **Pg** **19 11 43.0 +0.6**
STHS *e*SG **Sg** **19 12 37.8 +4.5**

ISCJB ***04*** *19:10:42.6±0.8, 86S±0.1×15759E±006, h10km, mb4.1/7, Error ellipse: s-maj=21.6km s-min=8.2km az=7.7*
IDC ***04*** *19:10:42.1±1.3, 851S×15756E, h0km, mb4.1/5, mb1 4.3/6, mb1mx4.0/16, mbtmp4.1/6, ML4.4/1, Error ellipse: s-maj=41.8km s-min=23.9km az=162.0*
NEIC ***04*** *19:10:43.6±0.8, 874S×15766E, h10km, mb4.5/3, Error ellipse: s-maj=30.6km s-min=14.0km az=168.0*
ISC 04 19:10:43.8±0.8, 86S±02×15763E±006, h10km, n10, σ1§22/11, mb4.1/7, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.43**	**110**	Pn	**Pn**	**19 11 22.6**	**-1.0**
	82nm,0.3s,baz=248,slow=2.7,SNR=14						
HNR				Sn	**Sb**	**19 11 58.1**	**+0.3**
	233nm,0.3s,baz=274,slow=22,SNR=5.0						
KAKA	**Kakadu**	**25.08**	**258**	*e*P	**P**	**19 16 09.9**	**+1.0**
	7.9nm,0.8s,mb4.3						
WB2	**Warramunga Arr**	**25.18**	**241**	*e*P	**P**	**19 16 10.4**	**+0.7**
WRA	**Warramunga Arr**	**25.19**	**241**	P	**P**	**19 16 10.0**	**+0.2**
	6.0nm,0.7s,mb4.2,baz=67,slow=9.6,SNR=52						
WRA				PcP	PcP	19 19 44.2	+0.5
	0.6nm,0.9s,baz=68,slow=2.5,SNR=4.8						
ASAR	**Alice Springs**	**27.20**	**234**	P	**P**	**19 16 26.1**	**-1.8**
	1.1nm,0.8s,mb3.4,baz=65,slow=9.4,SNR=9.3						
ASAR				PcP	PcP	19 19 49.3	+1.0
	0.2nm,0.6s,baz=62,slow=2.2,SNR=4.1						
STKA	**Stephens Creek**	**27.54**	**211**	*e*P	**P**	**19 16 33.8**	**+2.9**
	1.8nm,0.8s,mb3.8						
STKA	**Stephens Creek**	**27.54**	**211**	P	**P**	**19 16 32.8**	**+1.9**
	2.8nm,0.7s,mb4.0,baz=27,slow=11,SNR=9.7						
FITZ	**Fitzroy Crossi**	**32.48**	**250**	P	**P**	**19 17 12.5**	**-2.3**
	2.0nm,0.9s,mb4.0,baz=90,slow=2.0,SNR=2.6						
MCK	**McKinley**	**82.58**	**21**	*e*P	**P**	**19 23 07.5**	**+0.8**
	14nm,0.9s,mb5.0						
YKA	**Yellowknife Ar**	**96.53**	**28**	P	**P**	**19 24 13.1**	**-0.2**
	0.2nm,0.6s,mb3.7,baz=265,slow=4.6,SNR=5.9						

NIED ***04*** *19:14:00, 3630N×14190E, h23km, Mw4.5 Best double couple: M0 5.65000×1015 NP1:φs 44.00000°, δ72.00000°, λ108.00000°. NP2:φs 177.00000°, δ25.00000°, λ46.00000°.*
BJI ***04*** *19:14:37.2, 3636N×14203E, h14km, mB4.9, mb4.6, Ms4.5, Msz4.3*
ISCJB ***04*** *19:14:38.5±0.8, 3624N±003×14203E±004, h15km±5km, mb4.7/50, MS4.1/16, Error ellipse: s-maj=6.0km s-min=4.4km az=23.9*
NEIC ***04*** *19:14:39.9±0.3, 3628N×14192E, h10km, mb4.8/17, MW4.4(NIED), Error ellipse: s-maj=7.4km s-min=6.2km az=121.0*
NEIC Recorded [1 JMA] in Tochigi Prefecture.
JMA ***04*** *19:14:41.8±0.2, 3625N×14183E, h58km±5km, M4.7*
JMA Felt I J1.
IDC ***04*** *19:14:44.5±3.0, 3618N×14175E, h40km±26km, mb4.1/18, mb1 4.3/21, mb1mx4.2/27, mbtmp4.1/21, ML3.8/3, MS3.7/8, Ms1 3.7/8, ms1mx3.5/45, Error ellipse: s-maj=21.8km s-min=11.5km az=83.0*
MOS ***04*** *19:14:44.5±0.9, 3663N×14163E, h33km, mb4.8/26, Error ellipse: s-maj=10.7km s-min=6.6km az=114.0*
ISC 04 19:14:40.3±0.9, 3625N±003×14189E±004, h12km±5km, h19km±4.8km: pP-P, n138, σ0§90/160, mb4.7/50, MS4.1/16, 12C-3D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**1.00**	**237**	⇓P	**Pb**	**19 14 59.5**	**-0.1**
CHOJ				S	**Sg**	**19 15 12.8**	**+0.2**
JHO	**Hitachi**	**1.13**	**289**	P	**Pb**	**19 15 00.7**	**-1.0**
ONAJ	**Iwakimizuishiy**	**1.22**	**314**	P	**Pn**	**19 15 02.3**	**-0.9**
JYT	**Yasato**	**1.37**	**269**	P	**Pn**	**19 15 04.1**	**-1.2**
JFK	**Kawauchi**	**1.38**	**324**	P	**Pn**	**19 15 05.1**	**-0.2**
BSO1	**Boso 1**	**1.76**	**205**	P	**Pn**	**19 15 09.9**	**-0.7**
BSO1				*e*S	**Sn**	**19 15 32.6**	**-0.4**
JFT	**Otama**	**1.77**	**316**	P	**Pn**	**19 15 11.1**	**+0.3**
JMM	**Marumori**	**1.83**	**332**	⇑P	**Pn**	**19 15 11.6**	**0.0**
BSO3	**Boso 3**	**1.83**	**218**	P	**Pn**	**19 15 11.3**	**-0.3**
JAG	**Ashikaga**	**1.98**	**276**	⇑P	**Pn**	**19 15 13.0**	**-0.6**
JFY	**Yanaizu**	**2.10**	**304**	⇑P	**Pn**	**19 15 15.8**	**+0.6**
JKT	**Katashina**	**2.19**	**284**	⇑P	**Pn**	**19 15 17.0**	**+0.5**
JKT				*e*S	**Sn**	**19 15 43.4**	**-0.1**
JRY	**Ryogami san**	**2.43**	**265**	P	**Pn**	**19 15 19.4**	**-0.4**
JOD2	**Odawara 2**	**2.49**	**247**	P	**Pn**	**19 15 20.1**	**-0.5**
JNS	**Sasagawa**	**2.59**	**308**	P	**Pn**	**19 15 23.8**	**+1.9**
MJAR	**Matsushiro Arr**	**2.99**	**277**	P	**Pn**	**19 15 27.9**	**+0.5**
MJAR				pmax	pmax		
	comp=Z,46nm,0.3s						
MJAR	**Matsushiro Arr**	**2.99**	**277**	P	**Pn**	**19 15 27.9**	**+0.5**
	comp=Z,46nm,0.3s,baz=106,slow=8.7,SNR=438						
MAJO	**Matsushiro**	**2.99**	**277**	*e*Pn	**Pn**	**19 15 27.9**	**+0.4**
MAT	**Matsushiro**	**2.99**	**277**	P	**Pn**	**19 15 28.3**	**+0.8**
MAT				S	**Sn**	**19 16 07.1**	**+3.9**
JHJ	**Hachijo jima 2**	**3.58**	**210**	P	**Pn**	**19 15 35.5**	**-0.1**
	comp=Z,58nm,0.3s,baz=82,slow=18,SNR=31						
JHJ				S	**Sn**	**19 16 15.1**	**-2.7**
	comp=Z,226nm,0.3s,baz=316,slow=22,SNR=9.1						
ERM	**Erimo**	**5.84**	**9**	*e*P	**Pn**	**19 16 05.7**	**-0.9**
	comp=Z,48nm,0.8s						
ERM				*e*S	**Sn**	**19 17 13.8**	**+0.4**
ERM	**Erimo**	**5.84**	**9**	*c i*P	**Pn**	**19 16 05.7**	**-0.9**
ASAJ	**Asahikawa**	**7.87**	**4**	P	**Pn**	**19 16 33.9**	**-0.6**
ASAJ				S	**Sn**	**19 18 02.7**	**-0.8**
ASAJ				pmax	pmax		
	comp=Z,3.0nm,0.3s						
ASAJ				smax			
	comp=N,1.0nm,0.3s						
ASAJ	**Asahikawa**	**7.87**	**4**	P	**Pn**	**19 16 33.9**	**-0.7**
	comp=N,3.4nm,0.3s,baz=221,slow=12,SNR=22						
ASAJ				S	**Sn**	**19 18 02.6**	**-0.9**
	comp=N,0.9nm,0.3s,baz=61,slow=30,SNR=5.7						
ASAJ				LR	LR	19 20 43.2	
	comp=N,540nm,18.5s,baz=170,slow=45						
CBIJ	**Chichi jima**	**9.13**	**178**	P	**Pn**	**19 16 46.0**	**-5.9**
	comp=N,6.5nm,0.3s,baz=342,slow=20,SNR=2.3						
CBIJ				S	**Sn**	**19 18 25.6**	**-9.0**
	comp=N,21nm,0.3s,baz=285,slow=20,SNR=3.7						
JNU	**Nakatsue**	**9.59**	**254**	P	**Pn**	**19 16 59.8**	**+1.6**
	comp=N,0.4nm,0.3s,baz=63,slow=14,SNR=3.1						
JNU				LR	LR	19 20 44.7	
	comp=N,306nm,20.4s,baz=67,slow=38						
YSS	**Yuzh-Sakhalins**	**10.71**	**3**	*e*Pn	**Pn**	**19 17 10.8**	**-2.6**
	comp=N,26nm,0.8s						
YSS	**Yuzh-Sakhalins**	**10.71**	**3**	⇓*e*P	**Pn**	**19 17 13.0**	**-0.4**
YSS				*e*S	**Sn**	**19 19 11.3**	**-1.9**
YSS				pmax	pmax		
	comp=N,40nm,1.0s						
YSS				pmax	pmax		
	comp=Z,40nm,1.0s						
YSS				MLR	MLR		
	comp=Z,400nm,13.0s						
KSRS	**Korea Array**	**11.26**	**280**	P	**Pn**	**19 17 24.4**	**+3.5**
	comp=Z,0.4nm,0.3s,baz=93,slow=13,SNR=19						
KSRS				LR	LR	19 21 26.7	
	comp=Z,415nm,19.9s,baz=109,slow=36						
MDJ	**Mudanjiang**	**12.54**	**316**	P	**Pn**	**19 17 36.9**	**-1.6**
MDJ				S	**Sn**	**19 19 57.5**	**-0.6**
MDJ				SCP	ScP	19 26 49.1	-1.0
MDJ				PCS	PcS	19 26 50.4	-0.9
MDJ				SCS	ScS	19 30 25.4	-0.7
MDJ				AMB	AMB		
	comp=Z,3.0nm,1.8s						
MDJ				AMB	AMB		
	comp=Z,189nm,6.9s						
MDJ				LR	LR		
	comp=N,336nm,19.9s						
MDJ				LR	LR		
	comp=E,492nm,16.7s						
MDJ				LR	LR		
	comp=Z,710nm,22.0s						
HABR	**Khabarovsk**	**13.21**	**340**	⇑*i*P	**Pn**	**19 17 42.1**	**-5.5**
HABR				*e*S	**Sn**	**19 20 05.2**	**-9.1**
HABR				pmax	pmax		
	comp=Z,11nm,1.5s						
CN2	**Changchun**	**14.67**	**306**	*e*P	**Pn**	**19 18 09.7**	**+2.2**
CN2				*e*XP	sP	19 18 16.7	-1.9
CN2				*e*S	**Sn**	**19 20 54.5**	**+4.6**
CN2				AMB	AMB		
	comp=Z,10.0nm,1.0s						
CN2				AMB	AMB		
	comp=Z,200nm,3.0s						
CN2				LR	LR		
	comp=N,500nm,14.0s						
CN2				LR	LR		
	comp=E,400nm,14.0s						
CN2				LR	LR		
	comp=Z,700nm,15.0s						
JOW	**Kunigami**	**14.92**	**235**	LR	LR	19 24 22.5	
	comp=Z,178nm,18.5s,baz=354,slow=39						
KLR	**Kul'dur**	**14.94**	**333**	*e*P	**Pn**	**19 18 06.4**	**-4.7**
SNY	**Shenyang**	**15.27**	**297**	⇓P	**Pn**	**19 18 19.0**	**+3.4**
SNY				AMB	AMB		
	comp=Z,10.0nm,1.0s						
BJI	**Beijing**	**20.55**	**288**	P	**P**	**19 19 17.4**	**-1.3**
BJI				AMB	AMB		
	comp=Z,6.0nm,0.5s						
BJI	**Beijing**	**20.55**	**288**	P	**P**	**19 19 17.4**	**-1.3**
	comp=Z,6.0nm,0.5s						
GUMO	**Guam**	**22.73**	**172**	LR	LR	19 26 16.9	
	comp=Z,151nm,21.3s,MS3.4,baz=109,slow=30						
CLNS	**Chul'man**	**23.55**	**336**	*e*P	**P**	**19 19 48.8**	**-1.7**
CLNS				*e**PP		19 19 55.2	
CLNS				*e*		19 20 01.2	
CLNS				*e*S	S	19 23 41.7	-22
CLNS				*e*SS		19 24 35.7	
CLNS				*e*SSS		19 25 01.9	
CLNS				pmax	pmax		
	comp=Z,30nm,1.0s,mb4.7						
CLNS				pmax	pmax		
	comp=N,27nm,1.1s						
CLNS				pmax	pmax		
	comp=E,9.0nm,0.9s						
CLNS				MLR	MLR		
	comp=Z,400nm,13.0s,MS4.1						
CLNS				MLR	MLR		
	comp=N,200nm,14.0s,MS4.0						
CLNS				MLR	MLR		
	comp=E,300nm,15.0s,MS4.0						
WHN	**Wuhan**	**23.65**	**264**	P	**P**	**19 19 51.0**	**-0.6**
MA2	**Magadan**	**24.04**	**11**	*e*P	**P**	**19 19 56.0**	**+1.1**
MA2				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.2						
HHC	**Hu-ho-hao-te**	**24.09**	**290**	*e*P	**P**	**19 19 54.8**	**-0.8**
HHC				AP		19 20 01.9	
HHC				XP	sP	19 20 05.5	+4.8
HHC				PP		19 20 30.6	
HHC				PCP	PcP	19 23 38.2	+1.5
HHC				S	**S**	**19 24 10.4**	**-2.5**
HHC				XS	sS	19 24 20.8	+2.0
HHC				SS		19 25 00.7	
HHC				SCP	ScP	19 27 13.9	-1.1
HHC				PCS	PcS	19 27 17.7	+1.4
HHC				AMB	AMB		
	comp=Z,13nm,0.3s,mb4.8						
HHC				AMB	AMB		
	comp=Z,212nm,4.6s						
HHC				LR	LR		
	comp=N,219nm,13.9s,MS4.0						
HHC				LR	LR		
	comp=E,221nm,10.0s,MS4.0						
HHC				LR	LR		
	comp=Z,319nm,14.5s,MS3.9						
CIT	**Chita**	**25.51**	**317**	*e*P	**P**	**19 20 07.1**	**-1.3**
CIT				*e*		19 20 18.8	
CIT				*e*		19 20 41.2	
CIT				*e*		19 20 50.8	
CIT				pmax	pmax		
	comp=Z,29nm,1.7s,mb4.5						
YAK	**Yakutsk**	**26.91**	**347**	P	**P**	**19 20 20.2**	**-0.7**
	comp=Z,45nm,0.8s,mb5.0						
YAK	**Yakutsk**	**26.91**	**347**	*e*P	**P**	**19 20 21.2**	**+0.2**
YAK				*e*		19 21 02.1	
YAK				*e*PPP		19 21 11.1	
YAK				*e*		19 23 41.2	
YAK				*e*S	**S**	**19 24 58.0**	**+0.6**
YAK				*e*SS		19 26 06.0	
YAK				*e*SSS		19 26 19.6	
YAK				*e*		19 31 09.8	
YAK				pmax	pmax		
	comp=Z,59nm,1.0s,mb5.1						
YAK				pmax	pmax		
	comp=N,34nm,1.2s						
YAK				pmax	pmax		
	comp=E,15nm,1.4s						
XAN	**Xi'an**	**26.98**	**275**	P	**P**	**19 20 20.9**	**-1.0**
XAN				AP	pP	19 20 30.7	+5.2
XAN				S	**S**	**19 24 47.4**	**-12**
XAN				AMB	AMB		
	comp=Z,7.0nm,0.7s,mb4.3						
XAN				LR	LR		
	comp=N,83nm,10.7s,MS4.0						
XAN				LR	LR		
	comp=E,244nm,13.6s,MS4.0						
XAN				LR	LR		
	comp=Z,291nm,15.7s,MS3.9						
SEY	**Seymchan**	**27.48**	**10**	⇑*e*P	**P**	**19 20 27.1**	**+1.0**
ULN	**Ulaanbaatar**	**28.11**	**305**	*e*P	**P**	**19 20 31.0**	**-0.9**
	comp=Z,16nm,1.0s,mb4.6						
ULN	**Ulaanbaatar**	**28.11**	**305**	*e*P	**P**	**19 20 31.0**	**-0.9**
ULN				pmax	pmax		
	comp=Z,16nm,1.0s,mb4.6						
BOD	**Bodaibo**	**28.39**	**328**	*e*P	**P**	**19 20 34.3**	**0.0**
BOD				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.5						
SONM	**Songino Array**	**28.54**	**305**	P	**P**	**19 20 36.1**	**+0.4**
SONM				pmax	pmax		
	comp=Z,11nm,0.8s						
SONM				MLR	MLR		
	comp=Z,291nm,18.9s						
SONM	**Songino Array**	**28.54**	**305**	P	**P**	**19 20 36.1**	**+0.4**
	comp=Z,11nm,0.8s,mb4.6,baz=103,slow=8.2,SNR=66						
SONM				LR	LR	19 32 10.7	
	comp=Z,291nm,18.9s,MS3.9,baz=181,slow=37						
LZH	**Lanzhou**	**30.59**	**281**	*e*P	**P**	**19 20 54.8**	**+0.8**
LZH				PP	PP	19 21 55.0	-7.9
LZH				XS	sS	19 26 02.6	+1.0
LZH				*e*SS	SS	19 27 36.0	-30
LZH				AMB	AMB		
	comp=Z,21nm,1.2s,mb4.8						
LZH				AMB	AMB		
	comp=Z,93nm,4.5s						
LZH				LR	LR		
	comp=E,857nm,12.9s						
LZH				LR	LR		
	comp=Z,1μm,17.2s,MS4.7						
LZH	**Lanzhou**	**30.59**	**281**	*e*P	**P**	**19 20 54.8**	**+0.8**
	comp=Z,21nm,1.2s,mb4.8						
LZH				pP	pP	19 21 09.3	+12
LZH				sP	sP	19 21 11.9	+13
LZH				PP	PP	19 21 55.0	-7.9
LZH				*e*S	S	19 25 25.3	-30
LZH				sS	sS	19 26 02.6	+1.0
LZH				*e*SS	SS	19 27 36.0	-30
LZH				LR	LR		
	comp=Z,1μm,17.2s,MS4.7						
LZH	**Lanzhou**	**30.59**	**281**	*e*P	**P**	**19 20 54.8**	**+0.8**
LZH				***PP	pP	19 21 09.3	+12
LZH						19 21 55.0	
LZH				*e*SS	SS	19 27 36.0	-30
LZH				pmax	pmax		
	comp=Z,21nm,1.2s,mb4.8						
LZH				MLR	MLR		
	comp=Z,1μm,17.2s,MS4.7						
ZAK	**Zakamensk**	**31.06**	**309**	*e*P	**P**	**19 20 58.0**	**+0.1**
ZAK				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.3						
TLY	**Talaya**	**31.14**	**312**	*e*P	**P**	**19 20 58.0**	**-0.6**
	comp=Z,13nm,0.9s,mb4.8						
TLY	**Talaya**	**31.14**	**312**	*e*P	**P**	**19 20 59.3**	**+0.7**
TLY				*e*		19 21 08.7	
TLY				*e*S	**S**	**19 26 05.8**	**+1.9**
TLY				pmax	pmax		
	comp=Z,15nm,1.0s,mb4.8						
TLY				MLR	MLR		
	comp=Z,343nm,15.0s,MS4.1						
GYA	**Guiyang**	**31.48**	**262**	⇑*i*P	**P**	**19 21 02.2**	**+0.3**
GYA				AP	pP	19 21 06.8	+1.3
GYA				XP	sP	19 21 09.6	+2.6
GYA				PP	PP	19 22 08.0	-5.0
GYA				PCP	PcP	19 23 56.3	+1.4
GYA				S	**S**	**19 26 11.3**	**+1.5**
GYA				XS	sS	19 26 16.3	+0.5
GYA				SCP	ScP	19 27 38.4	+0.5
GYA				SS	SS	19 27 59.6	-25
GYA				SCS	ScS	19 31 34.8	-0.9
GYA				AMB	AMB		
	comp=Z,20nm,1.0s,mb4.9						
GYA				AMB	AMB		
	comp=Z,130nm,6.6s						
GYA				LR	LR		
	comp=N,1μm,16.8s,MS4.7						
GYA				LR	LR		
	comp=E,800nm,17.6s,MS4.7						
GYA				LR	LR		
	comp=Z,1μm,16.9s,MS4.6						
CD2	**Chengdu**	**32.07**	**272**	*e*P	**P**	**19 21 07.1**	**0.0**
CD2				AP	pP	19 21 11.7	+1.0
CD2				XP	sP	19 21 14.8	+2.7
CD2				PP	PP	19 22 13.3	-6.2
CD2				S	**S**	**19 26 17.6**	**-1.4**
CD2				XS	sS	19 26 25.1	+0.2
CD2				SS	SS	19 28 10.6	-26
CD2				AMB	AMB		
	comp=Z,20nm,0.6s,mb5.1						
CD2				AMB	AMB		
	comp=Z,50nm,5.8s						
CD2				LR	LR		
	comp=N,430nm,16.8s,MS4.4						
CD2				LR	LR		
	comp=E,480nm,13.2s,MS4.4						
CD2				LR	LR		
	comp=Z,430nm,13.2s,MS4.3						
MOY	**Mondy**	**32.74**	**311**	*e*P	**P**	**19 21 13.4**	**+0.7**
GTA	**Gaotai**	**33.17**	**288**	*e*P	**P**	**19 21 16.7**	**+0.1**
GTA				AP	pP	19 21 20.9	+0.7
GTA				XP	sP	19 21 23.8	+2.1
GTA				PP	PP	19 22 27.1	-4.4
GTA				PCP	PcP	19 24 00.6	+1.3
GTA				S	**S**	**19 26 36.2**	**+0.3**
GTA				XS	sS	19 26 43.3	+1.5
GTA				SCP	ScP	19 27 42.3	-1.1
GTA				SS	SS	19 28 36.0	-23
GTA				AMB	AMB		
	comp=Z,8.0nm,1.0s,mb4.6						
GTA				AMB	AMB		
	comp=Z,242nm,6.1s						
GTA				LR	LR		
	comp=N,236nm,13.8s,MS4.2						
GTA				LR	LR		
	comp=E,221nm,15.3s,MS4.2						
GTA				LR	LR		
	comp=Z,294nm,16.4s,MS4.1						
BILL	**Bilibino**	**34.67**	**16**	P	**P**	**19 21 29.0**	**-0.3**
BILL	**Bilibino**	**34.67**	**16**	*e*P	**P**	**19 21 28.9**	**-0.4**
BILL				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.0						
BILL				MLR	MLR		
	comp=Z,200nm,17.0s,MS3.9						
KMI	**Kunming**	**35.23**	**263**	P	**P**	**19 21 36.1**	**+1.4**
KMI				AP	pP	19 21 38.8	+0.5
KMI				XP	sP	19 21 40.0	+0.2
KMI				PP	PP	19 22 55.7	+1.1
KMI				S	**S**	**19 27 09.4**	**+1.3**
KMI				SS	SS	19 29 26.3	-15
KMI				AMB	AMB		
	comp=Z,6.0nm,1.3s,mb4.4						
KMI				AMB	AMB		
	comp=Z,130nm,4.3s						
KMI				LR	LR		
	comp=N,223nm,16.3s,MS4.1						
KMI				LR	LR		
	comp=E,168nm,16.3s,MS4.1						
KMI				LR	LR		
	comp=Z,133nm,13.5s,MS3.9						
KMI	**Kunming**	**35.23**	**263**	P	**P**	**19 21 36.1**	**+1.4**
	comp=Z,6.0nm,1.3s,mb4.4						
KMI				pP	pP	19 21 38.8	+0.5
KMI				sP	sP	19 21 40.0	+0.2
KMI				PP	PP	19 22 55.7	+1.1
KMI				PPP		19 23 13.6	
KMI				S	**S**	**19 27 09.4**	**+1.3**
KMI				SS	SS	19 29 26.3	-15
KMI				LR	LR		
	comp=Z,130nm,13.5s,MS3.9						
KMI	**Kunming**	**35.23**	**263**	P	**P**	**19 21 36.1**	**+1.4**
KMI						19 22 55.7	
KMI				PPP		19 23 13.6	
KMI				S	**S**	**19 27 09.4**	**+1.3**
KMI				SS	SS	19 29 26.3	-15
KMI				pmax	pmax		
	comp=Z,6.0nm,1.3s,mb4.4						
KMI				MLR	MLR		
	comp=Z,130nm,13.5s,MS3.9						
TIXI	**Tiksi**	**36.11**	**353**	*e*P	**P**	**19 21 41.9**	**+0.2**
	comp=Z,3.8nm,0.8s,mb4.4						
TIXI	**Tiksi**	**36.11**	**353**	*e*P	**P**	**19 21 41.6**	**0.0**
TIXI				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.4						
TIXI				MLR	MLR		
	comp=Z,254nm,15.0s,MS4.1						
WMQ	**Urumqi**	**41.54**	**298**	P	**P**	**19 22 28.4**	**+0.9**
WMQ				XP	sP	19 22 41.0	+8.4
WMQ				*e*S	**S**	**19 28 42.0**	**-1.0**
WMQ				AMB	AMB		
	comp=Z,19nm,0.8s,mb4.8						
WMQ				AMB	AMB		
	comp=Z,316nm,6.4s						
WMQ				LR	LR		
	comp=N,265nm,15.8s,MS4.4						
WMQ				LR	LR		
	comp=E,360nm,17.7s,MS4.4						
WMQ				LR	LR		
	comp=Z,300nm,19.0s,MS4.2						
ZALV	**Zalesovo Beam**	**42.73**	**313**	P	**P**	**19 22 37.5**	**+0.4**
ZALV				PcP	PcP	19 24 28.4	-0.1
ZALV				LR	LR	19 41 13.3	
ZALV	**Zalesovo Beam**	**42.73**	**313**	P	**P**	**19 22 37.5**	**+0.4**
	comp=Z,13nm,0.9s,mb4.7,baz=91,slow=6.7,SNR=44						
ZALV				PcP	PcP	19 24 28.4	-0.1
	comp=Z,1.5nm,0.6s,baz=70,slow=4.7,SNR=3.9						
ZALV				LR	LR	19 41 13.3	
	comp=Z,190nm,18.1s,MS4.0,baz=55,slow=37						
ZAL	**Zalesovo**	**42.74**	**313**	P	**P**	**19 22 37.5**	**+0.4**
ZAL						19 24 28.4	
NVS	**Novosibirsk**	**43.66**	**314**	*i* P	**P**	**19 22 44.3**	**-0.2**
NVS				pmax	pmax		
	comp=E,14nm,1.2s						
NVS				pmax	pmax		
	comp=Z,13nm,1.2s,mb4.5						
NVS				pmax	pmax		
	comp=N,2.0nm,1.0s						
MK31	**Makanchi Array**	**44.86**	**303**	*e*P	**P**	**19 22 54.1**	**-0.3**
MKAR	**Makanchi Array**	**44.86**	**303**	*i* P	**P**	**19 22 54.5**	**+0.2**
MKAR				pmax	pmax		
	comp=Z,8.0nm,0.8s						
MKAR	**Makanchi Array**	**44.86**	**303**	P	**P**	**19 22 54.4**	**+0.1**
	comp=Z,7.7nm,0.8s,mb4.6,baz=88,slow=9.3,SNR=37						
MKAR				LR	LR	19 41 56.5	
	comp=Z,133nm,21.6s,MS3.8,baz=259,slow=36						
KURK	**Kurchatov**	**46.72**	**309**	*e*P	**P**	**19 23 08.6**	**-0.3**
	comp=Z,23nm,0.8s,mb5.2						
IMA2	**Indian Mountai**	**47.16**	**30**	*e*P	**P**	**19 23 08.0**	**-4.2**
JIRN	**Jiri**	**47.48**	**276**	*e*P	**P**	**19 23 15.8**	**+0.6**
	comp=Z,55nm,0.9s,mb5.5						
JIRN	**Jiri**	**47.48**	**276**	*e*P	**P**	**19 23 15.6**	**+0.4**
	comp=Z,55nm,0.9s,mb5.5						
JIRN	**Jiri**	**47.48**	**276**	*e*P	**P**	**19 23 15.6**	**+0.4**
KKN	**Kakani**	**48.15**	**277**	*e*P	**P**	**19 23 20.6**	**+0.2**
	comp=Z,26nm,0.8s,mb5.3						
KKN	**Kakani**	**48.15**	**277**	*e*P	**P**	**19 23 20.7**	**+0.3**
	comp=Z,26nm,0.8s,mb5.3						
KKN	**Kakani**	**48.15**	**277**	*e*P	**P**	**19 23 20.7**	**+0.3**
GKN	**Gorkha**	**48.58**	**277**	*e*P	**P**	**19 23 24.0**	**+0.3**
	comp=Z,109nm,1.0s						
GKN	**Gorkha**	**48.58**	**277**	*e*P	**P**	**19 23 23.9**	**+0.2**
	comp=Z,109nm,1.0s						
GKN	**Gorkha**	**48.58**	**277**	*e*P	**P**	**19 23 23.9**	**+0.2**
BATI	**Kupang**	**49.30**	**204**	P	**P**	**19 23 29.5**	**+0.3**

TKM2 Tokmak 2 50.34 299 *eP* **P 19 23 38.1 +1.1**
comp=Z,8.0nm,0.6s,mb4.9
TKM2 Tokmak 2 50.34 299 *eP* **P 19 23 38.1 +1.2**
TKM2 pmax pmax
comp=Z,8.0nm,0.6s,mb4.9
BRVK Borovoye 51.44 313 *eP* **P 19 23 45.3 +0.2**
comp=Z,7.2nm,0.8s,mb4.7
BRVK Borovoye 51.44 313 *eP* **P 19 23 45.3 +0.3**
BRVK pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
EKS2 Erkin-Say 51.70 299 *eP* **P 19 23 46.4 -0.8**
comp=Z,4.0nm,0.8s,mb4.4
AML Almayashu 51.92 299 *eP* **P 19 23 50.1 +1.3**
comp=Z,17nm,0.9s,mb5.0
INK Inuvik 54.91 27 P **P 19 24 11.3 +1.0**
INK Inuvik 54.91 27 P **P 19 24 11.3 +1.0**
INK pmax pmax
comp=Z,2.0nm,0.5s
INK Inuvik 54.91 27 P **P 19 24 11.3 +1.0**
comp=Z,2.2nm,0.5s,mb4.5,baz=288,slow=6.7,SNR=8.4
SVE Sverdlovsk 55.99 319 *eP* **P 19 24 19.2 +0.9**
SVE pmax pmax
comp=Z,15nm,1.0s,mb5.0
FITZ Fitzroy Crossi 56.20 199 P **P 19 24 20.6 +0.5**
comp=Z,2.5nm,1.0s,mb4.2,baz=36,slow=8.7,SNR=2.6
WB2 Warramunga Arr 56.34 189 *eP* **P 19 24 19.6 -1.6**
WRA Warramunga Arr 56.34 189 P **P 19 24 20.2 -1.0**
WRA pmax pmax
comp=Z,2.0nm,0.6s
WRA Warramunga Arr 56.34 189 P **P 19 24 20.2 -1.0**
comp=Z,1.7nm,0.6s,mb4.3,baz=4.7,slow=7.2,SNR=12
ARU Arti 57.20 319 *eP* **P 19 24 26.8 -0.1**
comp=Z,13nm,1.1s,mb4.9
ARU Arti 57.20 319 *c iP* **P 19 24 27.2 +0.3**
ARU *e* 19 26 29.9
ARU *eS* **S 19 32 21.8 -0.3**
ARU *e*SS SS 19 36 06.3 -4.2
ARU pmax pmax
comp=Z,20nm,1.4s,mb5.0
KBL Kabul 58.06 292 P **P 19 24 32.6 -0.7**
comp=Z,4.1nm,0.8s,mb4.5
AKTK Aktyubinsk 59.48 312 P **P 19 24 42.4 -0.6**
AKTO Aktyubinsk 59.48 312 P **P 19 24 42.4 -0.6**
AKTO pmax pmax
comp=Z,4.0nm,0.8s,mb4.5
AKTO Aktyubinsk 59.48 312 P **P 19 24 42.4 -0.6**
comp=Z,4.1nm,0.8s,mb4.5,baz=93,slow=4.8,SNR=14
ASAR Alice Springs 60.07 188 P **P 19 24 47.0 -0.2**
ASAR pmax pmax
comp=Z,1.0nm,0.8s
ASAR Alice Springs 60.07 188 P **P 19 24 47.0 -0.2**
comp=Z,0.8nm,0.8s,mb3.8,baz=10,slow=7.3,SNR=7.9
YKA Yellowknife Ar 64.29 30 P **P 19 25 16.1 +1.0**
comp=Z,1.4nm,0.9s,mb4.0,baz=301,slow=6.6,SNR=14
ARCES ARCESS Array B 64.86 340 P **P 19 25 18.7 0.0**
ARCES pmax pmax
comp=Z,9.0nm,0.9s
ARCES ARCESS Array B 64.86 340 P **P 19 25 18.6 -0.1**
comp=Z,8.6nm,0.9s,mb4.8,baz=23,slow=4.1,SNR=8.5
STKA Stephens Creek 67.77 180 P **P 19 25 37.7 0.0**
comp=Z,2.2nm,0.8s,mb4.2,baz=338,slow=10,SNR=4.3
OBN Obninsk 68.95 324 *iP eP* **P 19 25 44.5 -0.5**
OBN pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
FINES FINESS Array B 69.68 333 *i* P **P 19 25 49.9 +0.5**
FINES pmax pmax
comp=Z,5.0nm,0.9s
FINES FINESS Array B 69.68 333 P **P 19 25 49.9 +0.5**
comp=Z,4.7nm,0.8s,mb4.4,baz=46,slow=5.5,SNR=8.7
KIV Kislovodsk 71.71 311 *eP* **P 19 26 03.1 +1.0**
comp=Z,14nm,1.1s,mb4.8
KIV Kislovodsk 71.71 311 *iP eP* **P 19 26 03.7 +1.6**
KIV pmax pmax
comp=Z,11nm,1.2s,mb4.7
NB2 NORSAR Subarra 75.06 338 P **P 19 26 22.0 +0.5**
comp=Z,2.9nm,0.7s,mb4.3,baz=40,slow=5.9
NOA NORSAR Array B 75.06 338 P **P 19 26 22.1 +0.6**
NOA pmax pmax
comp=Z,5.0nm,0.8s
NOA NORSAR Array B 75.06 338 P **P 19 26 22.1 +0.6**
comp=Z,5.4nm,0.8s,mb4.5,baz=39,slow=5.7,SNR=13
NVAR Mina Array Bea 75.15 53 P **P 19 26 23.7 +1.3**
comp=Z,0.2nm,0.3s,baz=270,slow=3.6,SNR=3.1
AKASG Malin Array Be 75.15 323 P **P 19 26 21.9 -0.3**
AKASG pmax pmax
comp=Z,2.0nm,0.4s
AKASG Malin Array Be 75.15 323 P **P 19 26 21.9 -0.3**
comp=Z,2.3nm,0.4s,mb4.5,baz=46,slow=5.8,SNR=34
RLMT Red Lodge 76.64 44 *eP* **P 19 26 30.6 -0.3**
comp=Z,26nm,0.9s,mb5.2
CLL Collm 81.97 330 *eP* **P 19 26 59.0 -0.8**
CLL *ep*P pP 19 27 10.0 +6.3
KHC Kasperske Hory 83.41 329 *eP* **P 19 27 08.0 +0.7**
GERES GERESS Array B 83.58 329 P **P 19 27 07.6 -0.6**
GERES pmax pmax
comp=Z,1.0nm,0.7s
GERES GERESS Array B 83.58 329 P **P 19 27 07.6 -0.6**
comp=Z,1.1nm,0.7s,mb4.1,baz=31,slow=5.4,SNR=8.8
ANMO Albuquerque 84.79 50 *iP eP* **P 19 27 17.8 +3.1**
TXAR Lajitas Array 90.29 53 P **P 19 27 41.3 0.0**
comp=Z,0.1nm,0.4s,baz=200,slow=23,SNR=2.8
LPAZ La Paz 146.74 61 PKPbc PKPbc 19 34 23.9 +1.4
comp=Z,1.2nm,0.5s,baz=308,slow=5.5,SNR=5.5

IDC 04 19:16:26.5±4.0, 745S×15549E, h0km, mb3.4/4, mb1 3.5/4, mb1mx3.4/14, mbtmp3.4/4, Error ellipse: s-maj=114.9km s-min=31.9km az=115.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.97**	**237**	P	P	19 21 43.7	+0.9
	0.6nm,0.9s,baz=62,slow=9.8,SNR=4.8						
ASAR	**Alice Springs**	**26.25**	**230**	P	P	19 22 03.3	-0.2
	0.2nm,0.5s,baz=60,slow=10,SNR=4.9						
SONM	**Songino Array**	**69.98**	**327**	P	P	19 27 40.2	+0.5
	0.8nm,1.1s,baz=143,slow=6.7,SNR=5.0						
MKAR	**Makanchi Array**	**84.07**	**319**	P	P	19 28 58.6	-0.5
	0.4nm,0.6s,baz=105,slow=6.0,SNR=4.3						

IDC 04 19:17:54.2±1.7, 681S×15498E, h0km, mb3.7/6, mb1 3.8/6, mb1mx3.7/14, mbtmp3.6/6, MS3.2/1, Ms1 3.2/1, ms1mx2.8/24, Error ellipse: s-maj=64.3km s-min=23.9km az=113.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.57**	**118**	LR	LR	19 21 06.9	
	comp=Z,247nm,20.4s,baz=358,slow=35						
WRA	**Warramunga Arr**	**23.91**	**235**	P	P	19 23 09.6	-0.4
	1.3nm,0.6s,baz=58,slow=9.6,SNR=14						
ASAR	**Alice Springs**	**26.29**	**228**	P	P	19 23 31.6	0.0
	0.5nm,0.6s,baz=62,slow=9.0,SNR=14						
STKA	**Stephens Creek**	**27.90**	**205**	P	P	19 23 47.0	+1.0
	1.9nm,0.9s,baz=60,slow=15,SNR=3.7						
SONM	**Songino Array**	**69.17**	**327**	P	P	19 29 03.4	+0.9
	0.3nm,0.8s,baz=132,slow=5.4,SNR=3.8						
MKAR	**Makanchi Array**	**83.25**	**319**	P	P	19 30 22.8	+0.1
	0.3nm,0.7s,baz=111,slow=8.2,SNR=3.5						
YKA	**Yellowknife Ar**	**96.18**	**28**	P	P	19 31 23.5	-0.3
	0.2nm,0.5s,baz=265,slow=4.8,SNR=5.5						
TORD	**Torodi Ar. Bea**	**152.96**	**286**	PKPbc	PKPbc	19 37 53.8	-0.9
	0.3nm,0.5s,baz=354,slow=4.1,SNR=4.4						

IDC 04 19:32:01.7±45.0, 1596S×17386W, h0km, mb4.1/3, mb1 4.3/3, mb1mx3.7/15, mbtmp4.1/3, Error ellipse: s-maj=863.3km s-min=177.6km az=79.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**43.38**	**240**	P	P	19 40 06.5	+0.4
	0.9nm,0.5s,baz=99,slow=8.4,SNR=4.7						
WRA	**Warramunga Arr**	**49.29**	**257**	P	P	19 40 52.1	-0.7
	0.5nm,0.5s,baz=96,slow=7.1,SNR=11						
ASAR	**Alice Springs**	**49.52**	**252**	P	P	19 40 54.6	+0.2
	5.7nm,0.6s,baz=88,slow=8.4,SNR=132						

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*IDC **04** 19:41:13.3±0.7, 676S×15470E, h0km, mb4.2/11, mb1 4.3/12, mb1mx4.2/17, mbtmp4.2/12, ML3.8/1, MS3.5/1, Ms1 3.4/1, ms1mx2.6/25, Error ellipse: s-maj=25.9km s-min=18.8km az=104.0*
*BJI **04** 19:41:15.3, 701S×15466E, h17km, mb4.4*
*NEIC **04** 19:41:15.2±0.6, 678S×15473E, h10km, mb4.1/3, Error ellipse: s-maj=15.6km s-min=13.4km az=94.0*
*ISCJB **04** 19:41:17.2±0.5, 687S±009×1548E±01, h33km, mb4.3/16, Error ellipse: s-maj=15.6km s-min=12.4km az=3.3*

ISC 04 19:41:21.1±5.1, 69S±01×1548E±01, h54km±47km, n29, σ0§74/25, mb4.3/16, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**15.51**	**211**	*eP*	**Pn**	**19 45 00.7**	**+4.3**
	8.2nm,0.9s						
CTA	**Charters Tower**	**15.51**	**211**	Pn	**Pn**	**19 44 59.9**	**+3.5**
	0.2nm,0.3s,baz=19,slow=2.6,SNR=3.0						
DZM	**Mont Dzumac**	**18.83**	**144**	P	**Pn**	**19 45 37.3**	**-0.3**
	0.3nm,0.3s,baz=23,slow=23,SNR=2.5						
WB2	**Warramunga Arr**	**23.69**	**235**	*eP*	**P**	**19 46 27.7**	**-0.3**
WRA	**Warramunga Arr**	**23.70**	**235**	P	**P**	**19 46 27.4**	**-0.8**
	8.5nm,0.9s,mb4.2,baz=58,slow=9.3,SNR=29						
WRA				PcP	PcP	19 50 12.1	+0.7
	0.5nm,0.5s,baz=63,slow=2.2,SNR=6.8						
ASAR	**Alice Springs**	**26.08**	**228**	P	**P**	**19 46 49.5**	**-0.3**
	3.4nm,0.8s,mb3.9,baz=62,slow=8.6,SNR=28						
ASAR				PcP	PcP	19 50 17.2	+0.7
	0.3nm,0.6s,baz=49,slow=3.4,SNR=4.5						
STKA	**Stephens Creek**	**27.74**	**205**	*eP*	**P**	**19 47 05.0**	**+0.4**
	1.7nm,0.6s,mb3.9						
STKA	**Stephens Creek**	**27.74**	**205**	P	**P**	**19 47 05.0**	**+0.5**
	3.8nm,0.9s,mb4.0,baz=44,slow=9.8,SNR=5.1						
STKA				LR	LR	19 57 30.7	
	comp=Z,92nm,18.5s,baz=207,slow=35						
FITZ	**Fitzroy Crossi**	**30.50**	**246**	*eP*	**P**	**19 47 28.9**	**-0.3**
	5.6nm,0.8s,mb4.3						
FITZ	**Fitzroy Crossi**	**30.50**	**246**	P	**P**	**19 47 28.7**	**-0.5**
	3.5nm,0.8s,mb4.2,baz=99,slow=6.8,SNR=4.0						
XAN	**Xi'an**	**59.48**	**316**	P	**P**	**19 51 23.0**	**+4.3**
XAN				AMB	AMB		
	comp=Z,3.0nm,0.6s,mb4.5						
SONM	**Songino Array**	**69.13**	**327**	P	**P**	**19 52 21.1**	**-0.5**
	comp=Z,0.9nm,1.0s,mb3.6,baz=138,slow=3.3,SNR=5.0						
VNDA	**Vanda**	**70.69**	**178**	P	**P**	**19 52 30.6**	**-0.2**
VNDA	**Vanda**	**70.69**	**178**	P	**P**	**19 52 31.5**	**+0.7**
	comp=Z,0.8nm,0.8s,mb3.7,baz=0.1,slow=9.9,SNR=3.8						
JIRN	**Jiri**	**74.54**	**301**	*eP*	**P**	**19 52 55.8**	**+1.3**
	comp=Z,16nm,0.8s,mb5.0						
KKN	**Kakani**	**75.35**	**301**	*eP*	**P**	**19 52 59.7**	**+0.5**
	comp=Z,14nm,0.7s,mb5.0						
GKN	**Gorkha**	**75.96**	**301**	*eP*	**P**	**19 53 03.5**	**+0.8**
	comp=Z,29nm,0.9s,mb5.2						
KOLN	**Koldanda**	**76.78**	**301**	*eP*	**P**	**19 53 07.1**	**-0.2**
	comp=Z,15nm,0.9s,mb4.9						
IMA2	**Indian Mountai**	**81.77**	**19**	P	**P**	**19 53 33.0**	**-0.7**
QSPA	**South Pole Qui**	**83.08**	**180**	P	**P**	**19 53 40.2**	**-0.2**
	comp=Z,3.0nm,0.9s,mb4.3,baz=72,slow=3.8,SNR=11						
MK31	**Makanchi Array**	**83.18**	**319**	*eP*	**P**	**19 53 42.1**	**+0.7**
MKAR	**Makanchi Array**	**83.18**	**319**	P	**P**	**19 53 41.3**	**-0.1**
	comp=Z,1.0nm,0.7s,mb3.9,baz=102,slow=4.8,SNR=8.8						
ZALV	**Zalesovo Beam**	**83.97**	**326**	P	**P**	**19 53 43.7**	**-1.7**
	comp=Z,0.4nm,0.4s,mb3.9,baz=110,slow=5.5,SNR=4.1						
NVAR	**Mina Array Bea**	**91.83**	**52**	P	**P**	**19 54 24.4**	**+0.9**
	comp=Z,0.5nm,0.7s,mb4.0,baz=246,slow=6.8,SNR=4.4						
YKA	**Yellowknife Ar**	**96.35**	**28**	P	**P**	**19 54 43.5**	**-0.2**
	comp=Z,1.3nm,0.8s,mb4.4,baz=266,slow=4.5,SNR=18						
AKASG	**Malin Array Be**	**117.33**	**324**	PKP	PKPdf	20 00 00.0	-0.5
	comp=Z,0.1nm,0.2s,baz=64,slow=1.6,SNR=5.0						
GERES	**GERESS Array B**	**126.85**	**329**	PKP	PKPdf	20 00 19.6	+0.7
	comp=Z,0.9nm,0.7s,baz=76,slow=0.6,SNR=6.9						
BDFB	**Brasilia**	**148.21**	**135**	PKPbc	PKPbc	20 01 02.0	0.0
	comp=Z,2.4nm,0.7s,baz=208,slow=12,SNR=3.0						
TORD	**Torodi Ar. Bea**	**152.78**	**285**	PKP	PKPdf	20 01 04.9	-1.0
	comp=Z,1.1nm,1.2s,baz=186,slow=4.3,SNR=4.0						
TORD				PKPbc	PKPbc	20 01 12.6	-0.4
	comp=Z,1.8nm,0.8s,baz=53,slow=2.2,SNR=11						
TORD				PKPab	PKPab	20 01 21.8	-2.3
	comp=Z,4.2nm,0.8s,baz=56,slow=1.9,SNR=12						

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*IDC **04** 19:49:07.0±0.9, 1585S×17297W, h0km, mb4.0/8, mb1 4.3/8, mb1mx4.0/19, mbtmp4.0/8, MS3.7/1, Ms1 3.7/1, ms1mx2.9/32, Error ellipse: s-maj=48.3km s-min=21.2km az=146.0*
*NEIC **04** 19:49:08.7±0.6, 1584S×17299W, h10km, mb4.3/1, Error ellipse: s-maj=29.6km s-min=11.9km az=148.0*
*ISCJB **04** 19:49:10.7±0.8, 158S±03×173.1W±02, h33km, mb4.0/8, Error ellipse: s-maj=42.1km s-min=17.0km az=148.0*

ISC 04 19:49:12.7±0.8, 158S±03×1731W±02, h35km, n13, σ0§35/12, mb4.0/8, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.25**	**33**	*eP*	**Pn**	**19 49 39.5**	**-8.0**
HNR	**Honiara**	**27.09**	**280**	LR	LR	20 04 46.9	
	comp=Z,139nm,18.1s,baz=356,slow=35						
STKA	**Stephens Creek**	**44.13**	**240**	*eP*	**P**	**19 57 17.6**	**-0.4**
	3.2nm,0.7s,mb4.2						
STKA	**Stephens Creek**	**44.13**	**240**	P	**P**	**19 57 17.8**	**-0.2**
	4.9nm,0.8s,mb4.3,baz=97,slow=7.7,SNR=11						
WB2	**Warramunga Arr**	**50.07**	**257**	*eP*	**P**	**19 58 04.6**	**+0.1**
WRA	**Warramunga Arr**	**50.08**	**257**	P	**P**	**19 58 04.5**	**-0.1**
	1.9nm,0.5s,mb4.3,baz=90,slow=6.8,SNR=57						
ASAR	**Alice Springs**	**50.31**	**252**	P	**P**	**19 58 05.8**	**-0.5**
	4.2nm,0.7s,mb4.6,baz=90,slow=7.1,SNR=45						
FITZ	**Fitzroy Crossi**	**58.46**	**258**	P	**P**	**19 59 06.2**	**+0.6**
	1.1nm,0.5s,mb4.1,baz=114,slow=20,SNR=4.7						
MBWA	**Marble Bar**	**63.57**	**254**	*eP*	**P**	**19 59 40.5**	**+0.2**
QSPA	**South Pole Qui**	**74.24**	**180**	P	**P**	**20 00 45.7**	**+0.1**
	0.9nm,0.8s,mb3.8,baz=126,slow=2.0,SNR=5.5						
NVAR	**Mina Array Bea**	**74.41**	**42**	P	**P**	**20 00 46.6**	**-0.6**
	0.4nm,0.5s,mb3.6,baz=227,slow=7.3,SNR=3.4						
PDAR	**Pinedale Array**	**82.34**	**42**	P	**P**	**20 01 31.4**	**+0.4**
	0.6nm,0.8s,mb3.6,baz=192,slow=2.9,SNR=5.7						
YKA	**Yellowknife Ar**	**90.34**	**23**	P	**P**	**20 02 09.8**	**+0.1**
	0.2nm,0.5s,mb3.7,baz=236,slow=5.4,SNR=4.0						

IDC 04 19:53:57.5±2.1, 692S×15506E, h0km, mb3.7/5, mb1 3.9/5, mb1mx3.8/13, mbtmp3.7/5, MS3.3/1, Ms1 3.3/1, ms1mx2.8/30, Error ellipse: s-maj=76.4km s-min=29.4km az=121.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**15.63**	**212**	LR	LR	20 02 27.2	
	comp=Z,100nm,18.7s,baz=146,slow=33						
WRA	**Warramunga Arr**	**23.91**	**235**	P	P	19 59 13.8	+0.6
	2.0nm,1.0s,baz=60,slow=9.7,SNR=5.8						
ASAR	**Alice Springs**	**26.27**	**228**	P	P	19 59 34.7	+0.1
	1.3nm,0.9s,baz=65,slow=8.9,SNR=2.8						
SONM	**Songino Array**	**69.31**	**327**	P	P	20 05 07.1	+0.5
	0.2nm,0.5s,baz=150,slow=6.5,SNR=2.5						
MKAR	**Makanchi Array**	**83.39**	**319**	P	P	20 06 26.6	-0.1
	0.2nm,0.6s,baz=95,slow=6.3,SNR=2.3						
YKA	**Yellowknife Ar**	**96.25**	**28**	P	P	20 07 27.9	+0.4
	0.8nm,0.9s,baz=267,slow=4.6,SNR=8.0						
TORD	**Torodi Ar. Bea**	**153.06**	**285**	PKPbc	PKPbc	20 13 57.2	-0.9
	1.1nm,1.0s,baz=49,slow=2.0,SNR=7.5						

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*IDC **04** 19:55:13.7±1.2, 634S×15682E, h0km, mb4.2/5, mb1 4.2/6, mb1mx3.9/15, mbtmp4.2/6, ML4.0/1, Error ellipse: s-maj=34.4km s-min=24.7km az=71.0*
*NEIC **04** 19:55:15.0±0.9, 637S×15695E, h10km, Error ellipse: s-maj=26.5km s-min=17.3km az=48.0*
*ISCJB **04** 19:55:16.8±0.9, 64S±01×1569E±01, h33km, mb4.0/5, Error ellipse: s-maj=25.4km s-min=14.9km az=135.3*

ISC 04 19:55:19.6±0.9, 63S±01×1567E±01, h35km, n8, σ0§83/9, mb4.0/5, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.45**	**134**	P	**Pn**	**19 56 20.2**	**-4.3**
	7.8nm,0.3s,baz=254,slow=7.4,SNR=3.2						
HNR				Sn	**Sn**	**19 57 15.3**	**+0.1**
	10nm,0.3s,baz=270,slow=20,SNR=3.0						
WRA	**Warramunga Arr**	**25.60**	**236**	P	**P**	**20 00 45.9**	**+0.2**
	1.0nm,0.4s,mb3.7,baz=60,slow=9.2,SNR=6.3						
ASAR	**Alice Springs**	**27.89**	**229**	P	**P**	**20 01 06.3**	**-0.1**
	0.5nm,0.3s,mb3.5,baz=59,slow=9.7,SNR=6.1						
SONM	**Songino Array**	**69.71**	**326**	P	**P**	**20 06 27.7**	**+1.8**
	1.5nm,0.7s,mb4.0,baz=136,slow=6.4,SNR=12						
MK31	**Makanchi Array**	**84.04**	**318**	*eP*	**P**	**20 07 46.4**	**-0.2**
MKAR	**Makanchi Array**	**84.04**	**318**	P	**P**	**20 07 46.2**	**-0.4**
MKAR	**Makanchi Array**	**84.04**	**318**	P	**P**	**20 07 46.2**	**-0.4**
	3.0nm,0.7s,mb4.6,baz=101,slow=6.2,SNR=26						
ZALV	**Zalesovo Beam**	**84.59**	**326**	P	**P**	**20 07 48.1**	**-1.1**
	1.2nm,0.5s,mb4.3,baz=114,slow=5.4,SNR=9.5						

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*BJI **04** 19:58:01.2, 1742S×6662E, h22km, mB5.5, mb5.0, Ms5.4, Msz5.0*
*IDC **04** 19:58:01.6±0.3, 1717S×6675E, h0km, mb4.8/42, mb1 4.9/43, mb1mx4.9/43, mbtmp4.9/43, ML5.5/1, MS5.2/30, Ms1 5.2/30, ms1mx5.1/40, Error ellipse: s-maj=9.2km s-min=6.7km az=3.0*
*ISCJB **04** 19:58:02.1±0.2, 1718S±003×6688E±003, h10km, mb5.1/164, MS5.3/104, Error ellipse: s-maj=4.9km s-min=4.0km az=175.9*
*SZGRF **04** 19:58:03.6, 1748S×6720E, h33km, mb5.3, Mid-Indian Ridge*
*NEIC **04** 19:58:03.8±0.2, 1723S×6679E, h10km, mb5.2/77, MS5.4/47, MW5.8, Error ellipse: s-maj=7.3km s-min=5.2km az=206.0, Moment Tensor Solution. s11 Moment tensor: Scale 10^{17}Nm; M_{rr}1.06; $M_{\theta\theta}$-6.87; $M_{\phi\phi}$5.80; $M_{r\theta}$-0.15; $M_{\theta\phi}$1.37; $M_{\phi r}$0.09; Best double couple: $M_0$6.50000×10^{17} NP1:ϕ_s51.00000°, δ89.00000°, λ0.00000°. NP2: ϕ_s141.00000°, δ90.00000°, λ-179.00000°. Principal axes: T 5.9500, Plg1.0000°, Azm276.0000°; N 1.0700, Plg89.0000°, Azm149.0000°; P -7.0200, Plg1.0000°, Azm6.0000°;*
*MOS **04** 19:58:03.3±1.0, 1683S×67.16E, h10km, mb5.3/89, MS5.1/39 Error ellipse: s-maj=15.3km s-min=5.3km az=115.7*
*GCMT **04** 19:58:03.8±0.1, 1712S×6650E, h18km, MW5.9/111, Moment Tensor Solution. s91,c175; s111,c340; Duration: 2s2 Moment tensor: Scale 10^{18}Nm; M_{rr}-0.07±.01; $M_{\theta\theta}$-0.79±.01; $M_{\phi\phi}$0.86±.01; $M_{r\theta}$-0.08±.02; $M_{\theta\phi}$0.31±.01; $M_{\phi r}$-0.06±.02; Best double couple: $M_0$0.88600×10^{18} NP1:ϕ_s145.00000°, δ83.00000°, λ-180.00000°. NP2:ϕ_s55.00000°, δ90.00000°, λ-7.00000°. Principal axes: T 0.9230, Plg4.0000°, Azm101.0000°; N -0.0730, Plg83.0000°, Azm231.0000°; P -0.8500, Plg5.0000°, Azm10.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

ISC 04 19:58:03.9±0.2, 1720S±003×6682E±003, h10km, (h15km±1.2km: pP-P), n535, σ1§20/475, mb5.1/164, MS5.3/104, 25C-11D, Mauritius - Reunion region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPO	**Ambohidratompo**	**18.73**	**263**	P	**Pn**	**20 02 19.6**	**-3.8**
	16nm,0.3s,baz=79,slow=2.1,SNR=59						
OPO				S	**Sn**	**20 05 52.4**	**-0.6**
	1.1nm,0.3s,baz=42,slow=21,SNR=2.5						
TRD	**Trivandrum**	**27.44**	**22**	*eP*	**P**	**20 03 50.7**	**+0.5**
TRD				AMb	AMB	20 04 14.7	
	comp=Z,69nm,1.5s,mb5.0						
MNGI	**Mangalore**	**30.98**	**15**	*i* P	**P**	**20 04 25.3**	**+3.8**
MNGI				*i* S	**S**	**20 09 29.8**	**+3.5**
KMBO	**Kilima Mbogo**	**33.18**	**296**	*eP*	**P**	**20 04 40.5**	**-0.5**
	comp=Z,103nm,1.6s,mb5.5						
KMBO	**Kilima Mbogo**	**33.18**	**296**	P	**P**	**20 04 39.7**	**-1.3**
KMBO				S	**S**	**20 09 59.1**	**-1.8**
KMBO				pmax	pmax		
	comp=Z,14nm,0.9s						
KMBO				MLR	MLR		
	comp=Z,12μm,20.7s						
KMBO	**Kilima Mbogo**	**33.18**	**296**	P	**P**	**20 04 39.7**	**-1.3**
	comp=Z,14nm,0.9s,mb4.9,baz=43,slow=22,SNR=23						
KMBO				S	**S**	**20 09 59.0**	**-1.9**
	comp=Z,0.3nm,0.6s,baz=226,slow=23,SNR=1.5						
KMBO				LR	LR	20 15 13.5	
	comp=Z,12μm,20.7s,MS5.6,baz=108,slow=31						
KAD	**Karad**	**35.05**	**12**	*eP*	**P**	**20 04 57.8**	**+0.7**
KAD				AMb	AMB	20 05 12.7	
	comp=Z,33nm,1.3s,mb5.1						
POO	**Poona**	**36.17**	**11**	*ex*	x	20 05 10.0	
HYB	**Hyderabad**	**36.29**	**19**	*eP*	**P**	**20 05 11.0**	**+3.2**
HYB				*eS*	**S**	**20 10 52.0**	**+3.4**
HYB	**Hyderabad**	**36.29**	**19**	*i* P	**P**	**20 05 11.0**	**+3.2**
HYB				*eS*	**S**	**20 10 52.0**	**+3.4**
MATP	**Matopo**	**36.36**	**259**	P	**P**	**20 05 06.7**	**-1.8**
MATP				S	**S**	**20 10 49.0**	**-0.9**
MATP				LR	LR	20 17 53.9	
MATP	**Matopo**	**36.36**	**259**	P	**P**	**20 05 06.7**	**-1.8**
	comp=Z,59nm,1.0s,mb5.5,baz=95,slow=8.6,SNR=47						
MATP				S	**S**	**20 10 49.0**	**-0.9**
	comp=Z,2.1nm,1.0s,baz=222,slow=19,SNR=2.2						
MATP				LR	LR	20 17 53.9	
	comp=Z,4μm,19.5s,MS5.2,baz=86,slow=33						
ATD	**Arta Tunnel**	**37.09**	**319**	P	**P**	**20 05 13.1**	**-1.6**
	comp=Z,20nm,0.9s,mb4.9,baz=121,slow=5.9,SNR=3.7						
ATD				S	**S**	**20 11 03.0**	**+1.9**
	comp=Z,3.2nm,0.3s,baz=67,slow=21,SNR=2.0						
ATD				LR	LR	20 18 49.1	
	comp=Z,5μm,18.4s,MS5.3,baz=130,slow=34						
LSZ	**Lusaka**	**37.10**	**267**	P	**P**	**20 05 14.1**	**-0.7**
LSZ				S	**S**	**20 11 00.4**	**-0.8**
LSZ				pmax	pmax		
	comp=Z,23nm,1.0s,mb5.0						
LSZ				MLR	MLR		
	comp=Z,5μm,19.1s,MS5.3						
LSZ	**Lusaka**	**37.10**	**267**	P	**P**	**20 05 14.1**	**-0.7**
	comp=Z,23nm,0.9s,mb5.0,baz=110,slow=8.1,SNR=31						
LSZ				S	**S**	**20 11 00.4**	**-0.8**
	comp=Z,0.4nm,0.4s,baz=107,slow=24,SNR=2.0						
LSZ				LR	LR	20 18 36.8	
	comp=Z,5μm,19.1s,MS5.3,baz=101,slow=33						
PSI	**Prapat**	**37.40**	**61**	P	**P**	**20 05 15.3**	**-2.1**
PSI				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.5						
PSI				MLR	MLR		
	comp=Z,5μm,21.0s,MS5.3						
PSI	**Prapat**	**37.40**	**61**	P	**P**	**20 05 15.2**	**-2.1**
	comp=Z,7.4nm,0.8s,mb4.5,baz=271,slow=6.9,SNR=5.9						
PSI				LR	LR	20 17 28.0	
	comp=Z,5μm,21.0s,MS5.3,baz=229,slow=31						
KSI	**Kapahiang**	**37.58**	**73**	P	**P**	**20 05 20.9**	**+2.0**
VIS	**

comp=Z,2.6nm,0.9s,baz=190,slow=14,SNR=2.0
BOK Bokaro 44.80 25 *e*P **P 20 06 18.6 +0.5**
BOK AMb AMB 20 06 34.8
comp=Z,29nm,1.6s,mb4.9
CVNA Calvinia 44.84 242 P **P 20 06 18.5 0.0**
TSUM Tsumeb 46.69 260 P **P 20 06 31.4 -1.9**
comp=Z,19nm,1.1s,mb5.0
TSUM Tsumeb 46.69 260 P **P 20 06 32.3 -0.9**
comp=Z,9.2nm,0.9s,mb4.7,baz=82,slow=7.2,SNR=7.7
TSUM S **S 20 13 24.4 +1.3**
comp=Z,0.6nm,0.6s,baz=332,slow=20,SNR=2.0
KSM Kuching 46.71 71 *e*P **P 20 06 33.4 -0.1**
NDI New Delhi 46.71 13 *e*P **P 20 06 33.0 -0.1**
NDI *e*x x 20 13 30.0
MUN Mundaring 46.87 118 *e*P **P 20 06 34.4 -0.1**
MUN *e*S **S 20 13 30.0 +4.6**
KMMI Kalianget 47.08 84 P **P 20 06 37.8 +1.5**
KOLN Koldanda 47.57 20 *e*P **P 20 06 40.2 +0.3**
comp=Z,118nm,1.3s,mb5.8
KOLN Koldanda 47.57 20 *e*P **P 20 06 40.3 +0.4**
comp=Z,118nm,1.3s,mb5.8
KOLN Koldanda 47.57 20 *e*P **P 20 06 40.3 +0.4**
CHTO Chiang Mai 47.74 43 *e*P **P 20 06 39.9 -1.5**
comp=Z,19nm,1.2s,mb5.0
CHTO LR LR
comp=Z,2μm,20.0s,MS5.0
CHTO Chiang Mai 47.74 43 *e*P **P 20 06 39.9 -1.4**
CHTO pmax pmax
comp=Z,19nm,1.2s,mb5.0
CHTO MLR MLR
comp=Z,2μm,20.0s,MS5.0
NWAO Narrogin (SRO) 47.84 119 *e*P **P 20 06 42.3 +0.3**
comp=Z,102nm,2.1s,mb5.5
NWAO Narrogin (SRO) 47.84 119 *e*P **P 20 06 42.3 +0.3**
NWAO pmax pmax
comp=Z,102nm,2.1s
NWAO Narrogin (SRO) 47.84 119 P **P 20 06 41.8 -0.2**
comp=Z,19nm,1.1s,mb5.0,baz=280,slow=7.2,SNR=4.5
NWAO S **S 20 13 41.9 +2.7**
comp=Z,8.9nm,1.1s,baz=120,slow=14,SNR=2.4
NWAO LR LR 20 22 38.2
comp=Z,4μm,19.3s,MS5.4,baz=285,slow=31
GKN Gorkha 48.14 21 *e*P **P 20 06 43.9 -0.4**
comp=Z,163nm,1.2s,mb5.9
GKN Gorkha 48.14 21 *e*P **P 20 06 45.0 +0.7**
comp=Z,103nm,1.1s,mb5.8
GKN Gorkha 48.14 21 *e*P **P 20 06 45.0 +0.7**
KKN Kakani 48.17 22 *e*P **P 20 06 45.2 +0.7**
comp=Z,117nm,1.1s,mb5.8
KKN Kakani 48.17 22 *e*P **P 20 06 45.3 +0.8**
comp=Z,117nm,1.1s,mb5.8
KKN Kakani 48.17 22 *e*P **P 20 06 45.3 +0.8**
JIRN Jiri 48.39 23 *e*P **P 20 06 47.0 +0.8**
comp=Z,61nm,0.9s,mb5.6
JIRN Jiri 48.39 23 *e*P **P 20 06 46.5 +0.3**
comp=Z,51nm,0.9s,mb5.6
JIRN Jiri 48.39 23 *e*P **P 20 06 46.5 +0.3**
SHL Shillong 49.01 30 *e*P **P 20 06 52.0 +0.9**
SHL *e*x x 20 14 04.0
QRN Al-Qurain 49.19 338 *e*P **P 20 06 50.0 -2.4**
QRN AMb AMB 20 06 57.4
comp=Z,115nm,1.0s,mb5.9
RDF Al-Radifah 49.49 338 *e*P **P 20 06 51.8 -2.9**
RDF AMb AMB 20 07 00.3
comp=Z,90nm,1.0s,mb5.7
KBD Kabd 49.67 338 *e*P **P 20 06 53.7 -2.3**
KBD AMb AMB 20 07 02.2
comp=Z,224nm,1.0s,mb6.2
NAY Al-Naaiem 49.90 337 *e*P **P 20 06 55.8 -2.0**
NAY AMb AMB 20 07 02.8
comp=Z,32nm,0.9s,mb5.3
MBWA Marble Bar 49.95 103 *e*P **P 20 06 58.9 +0.5**
comp=Z,66nm,0.9s,mb5.7
MBWA LR LR
comp=Z,3μm,21.0s,MS5.2
UMR Umm Al-Rimmam 50.00 338 *e*P **P 20 06 56.4 -2.2**
UMR AMb AMB 20 07 03.7
comp=Z,128nm,1.1s,mb5.9
RST Umm Al-Ruwaisa 50.21 337 *e*P **P 20 06 58.0 -2.2**
RST AMb AMB 20 07 05.1
comp=Z,140nm,0.9s,mb6.0
MIB Mutribah 50.36 338 *e*P **P 20 06 59.0 -2.3**
MIB AMb AMB 20 07 06.5
comp=Z,137nm,1.0s,mb5.9
MAW Mawson 50.44 182 P **P 20 07 01.1 -0.3**
MAW pmax pmax
comp=Z,21nm,0.9s
MAW MLR MLR
comp=Z,5μm,21.5s
MAW Mawson 50.44 182 P **P 20 07 01.1 -0.3**
comp=Z,21nm,0.9s,mb5.2,baz=5.9,slow=8.8,SNR=12
MAW LR LR 20 23 01.1
comp=Z,5μm,21.5s,MS5.5,baz=4.0,slow=30
KBL Kabul 51.49 2 *e*P **P 20 07 09.4 -0.3**
comp=Z,58nm,1.4s,mb5.3
KAPI Kappang 53.17 83 P **P 20 07 21.1 -1.5**
comp=Z,376nm,1.2s,mb6.2,SNR=13
SYO Syowa Base 54.52 192⇑ *e*P **P 20 07 30.0 -1.6**
KMI Kunming 54.72 41 P **P 20 07 37.9 +4.2**
KMI AP pP 20 07 43.1 +6.2
KMI XP sP 20 07 45.5 +7.4
KMI PP PP 20 09 42.0 +5.5
KMI S **S 20 15 15.5 +1.2**
KMI XS sS 20 15 24.0 +4.5
KMI SS SS 20 18 56.5 -1.2
KMI AMB AMB
comp=Z,10.0nm,2.0s,mb4.5
KMI AMB AMB
comp=Z,160nm,3.3s
KMI LR LR
comp=N,819nm,22.9s,MS5.1
KMI LR LR
comp=E,2μm,26.7s,MS5.1
KMI LR LR
comp=Z,2μm,28.6s,MS5.0
KMI Kunming 54.72 41 P **P 20 07 37.9 +4.2**
comp=Z,10.0nm,2.0s,mb4.5
KMI pP pP 20 07 43.1 +6.2
KMI sP sP 20 07 45.5 +7.4
KMI PP PP 20 09 42.0 +5.5
KMI PPP 20 10 50.2
KMI S **S 20 15 15.5 +1.2**
KMI sS sS 20 15 24.0 +4.5
KMI SS SS 20 18 56.5 -1.2
KMI SSS 20 20 57.5
KMI LR LR
comp=Z,2μm,28.6s,MS5.0
BATI Kupang 55.51 91 P **P 20 07 40.5 +0.9**
comp=Z,92nm,0.7s,mb5.9,baz=321,slow=2.5,SNR=13
BATI S **S 20 15 31.5 +6.2**
comp=Z,4.5nm,0.6s,baz=147,slow=22,SNR=2.0
QIZ Qiongzhong 55.54 52 P **P 20 07 38.1 -1.6**
QIZ S **S 20 15 26.7 +1.2**
QIZ SS SS 20 19 13.7 +2.9
QIZ AMB AMB
comp=Z,26nm,1.3s,mb5.1
QIZ AMB AMB
comp=Z,253nm,4.5s
QIZ LR LR
comp=N,2μm,24.4s
QIZ LR LR
comp=Z,1μm,31.5s
EIL Elat 55.82 326 P **P 20 07 41.2 -0.4**
EIL S **S 20 15 30.7 +1.8**
EIL LR LR 20 28 09.3
EIL Elat 55.82 326 P **P 20 07 41.2 -0.4**
comp=Z,6.4nm,0.9s,mb4.7,baz=110,slow=3.0,SNR=6.3
EIL S **S 20 15 30.7 +1.8**
comp=Z,1.1nm,0.4s,baz=193,slow=24,SNR=1.5
EIL LR LR 20 28 09.3
comp=Z,4μm,19.2s,MS5.5,baz=145,slow=32
FITZ Fitzroy Crossi 55.85 100 *e*P **P 20 07 42.6 +0.6**
comp=Z,63nm,1.0s,mb5.6
FITZ *e* 20 07 51.5
FITZ Fitzroy Crossi 55.85 100 P **P 20 07 41.9 -0.2**
comp=Z,34nm,0.9s,mb5.4,baz=249,slow=7.7,SNR=37
FITZ S **S 20 15 36.0 +6.3**
comp=Z,2.2nm,1.0s,baz=121,slow=21,SNR=1.9
FITZ LR LR 20 28 31.8
comp=Z,4μm,20.1s,MS5.5,baz=346,slow=33
ASF Jabal al Asfar 56.85 330 P **P 20 07 47.7 -1.1**
ASF S **S 20 15 45.1 +2.7**
ASF pmax pmax
comp=Z,3.0nm,0.8s
ASF MLR MLR
comp=Z,2μm,21.0s
ASF Jabal al Asfar 56.85 330 P **P 20 07 47.7 -1.2**
comp=Z,2.7nm,0.8s,mb4.3,baz=35,slow=12,SNR=4.6
ASF S **S 20 15 45.1 +2.7**
comp=Z,0.4nm,0.3s,baz=350,slow=21,SNR=1.8
ASF LR LR 20 29 13.0
comp=Z,2μm,21.0s,MS5.3,baz=199,slow=33
FORT Forrest 56.95 116 *e*P **P 20 07 50.5 +0.8**
comp=Z,41nm,1.0s,mb5.4
KSH Kashi 57.06 8 *e*P **P 20 07 50.5 +0.3**
KSH *e*AP pP 20 07 54.4 +1.0
KSH XP sP 20 07 57.4 +2.8
KSH PCP PcP 20 08 45.0 -0.1
KSH PP PP 20 09 58.6 +1.4
KSH SCP ScP 20 12 43.5 -1.5
KSH PCS PcS 20 12 44.9 -1.0
KSH S **S 20 15 41.2 -3.8**
KSH SCS ScS 20 17 35.1 -4.6
KSH SS SS 20 19 30.2 -4.0
KSH AMB AMB
comp=Z,177nm,1.6s,mb5.8
KSH AMB AMB
comp=Z,859nm,4.3s
KSH LR LR
comp=N,2μm,8.0s
KSH LR LR
comp=E,3μm,8.8s
KSH LR LR
comp=Z,5μm,22.0s,MS5.6
GYA Guiyang 58.16 43⇑ *i*P **P 20 07 57.7 -0.5**
GYA AP pP 20 08 01.9 +0.5
GYA XP sP 20 08 04.8 +2.2
GYA PCP PcP 20 08 51.1 +1.4
GYA PP PP 20 10 11.3 +4.1
GYA SCP ScP 20 12 50.0 -0.2
GYA S **S 20 16 03.6 +3.8**
GYA SCS ScS 20 17 46.4 -1.9
GYA SS SS 20 19 53.9 +2.1
GYA AMB AMB
comp=Z,120nm,1.0s,mb5.9
GYA AMB AMB
comp=Z,270nm,7.8s
GYA LR LR
comp=N,5μm,18.3s,MS5.9
GYA LR LR
comp=E,7μm,17.4s,MS5.9
GYA LR LR
comp=Z,5μm,19.5s,MS5.6
MMAI Mount Meron Ar 58.26 329 P **P 20 07 58.0 -0.8**
comp=Z,3.6nm,0.8s,mb4.5,baz=111,slow=7.9,SNR=3.9
MMAI LR LR 20 29 01.7
comp=Z,1μm,18.6s,MS5.1,baz=155,slow=32
HAKT HAKKARI 58.65 339 *i*P **P 20 08 02.5 +1.1**
AML Almayashu 59.37 6 *e*P **P 20 08 07.1 +0.8**
comp=Z,42nm,1.4s,mb5.3
AML LR LR
comp=Z,2μm,22.0s,MS5.1
AML Almayashu 59.37 6 P **P 20 08 08.0 +1.7**
SNR=6.7
KZA Kyzart 59.49 7 P **P 20 08 08.4 +1.3**
SNR=13
MARD Mardin 59.51 336 *i*P **P 20 08 09.5 +2.1**
UCH Uchtor 59.55 7 *e*P **P 20 08 05.9 -1.7**
comp=Z,14nm,1.1s,mb4.9
UCH LR LR
comp=Z,2μm,22.0s,MS5.2
CD2 Chengdu 59.58 37⇓ *i*P **P 20 08 07.4 -0.6**
CD2 AP pP 20 08 12.0 +0.8
CD2 XP sP 20 08 15.2 +2.8
CD2 S **S 20 16 16.6 -1.5**
CD2 SCS ScS 20 17 53.6 -5.0
CD2 SS SS 20 20 13.7 -0.3
CD2 AMB AMB
comp=Z,70nm,1.2s,mb5.6
CD2 AMB AMB
comp=Z,120nm,5.8s
CD2 LR LR
comp=N,1μm,21.6s,MS5.1
CD2 LR LR
comp=E,1μm,22.8s,MS5.1
CD2 LR LR
comp=Z,2μm,21.6s,MS5.1
ULHL Ulahol 59.78 8 P **P 20 08 09.5 +0.4**
SNR=13
EKS2 Erkin-Say 59.91 6 *e*P **P 20 08 09.4 -0.5**
comp=Z,29nm,1.1s,mb5.2
EKS2 Erkin-Say 59.91 6 P **P 20 08 09.8 -0.1**
SNR=9.3
AAK Ala-Archa 59.95 7 P **P 20 08 09.6 -0.7**
comp=Z,106nm,1.2s,mb5.7,SNR=6.8
AAK Ala-Archa 59.95 7 P **P 20 08 10.2 -0.1**
SNR=8.8
KBK Karagaybulak 60.02 7 P **P 20 08 10.2 -0.6**
SNR=8.3
FRU Bishkek 60.16 7 *e*P **P 20 08 13.0 +1.3**
FRU pmax pmax
comp=Z,50nm,1.9s,mb5.2
TKM2 Tokmak 2 60.36 7 *e*P **P 20 08 10.1 -3.0**
comp=Z,31nm,1.1s,mb5.2
TKM2 LR LR
comp=Z,1μm,22.0s,MS5.1
TKM2 Tokmak 2 60.36 7 *e*P **P 20 08 10.1 -3.0**
TKM2 pmax pmax
comp=Z,31nm,1.1s,mb5.2
TKM2 MLR MLR
comp=Z,1μm,22.0s,MS5.1
TKM2 Tokmak 2 60.36 7 P **P 20 08 12.0 -1.1**
SNR=8.9
DYDN Diyadin 60.44 340 *i*P **P 20 08 14.6 +0.9**
USP Ospenovka 60.58 6 P **P 20 08 15.8 +1.2**
SNR=10.0
COBT Iskenderun 60.73 332 *i*P **P 20 08 15.4 -0.4**
BNGL BINGOL 60.81 337 *i*P **P 20 08 19.5 +3.3**
CSS Prodhromos 60.85 329 *e*P **P 20 08 15.4 -1.2**
comp=Z,32nm,1.0s,mb5.4
GZT Gaziantep 60.86 334 *i*P **P 20 08 16.5 -0.1**
ELZG Elazig 61.24 335 *i*P **P 20 08 19.4 +0.2**
MALT Malatya 61.31 335 *e*P **P 20 08 19.6 -0.1**
comp=Z,16nm,1.0s,mb5.1
MALT Malatya 61.31 335 *e*P **P 20 08 19.6 -0.1**
MALT pmax pmax
comp=Z,16nm,1.0s,mb5.1
MALT Malatya 61.31 335⇓ *i*P **P 20 08 21.5 +1.8**
DIGO Kars 61.33 340 *i*P **P 20 08 23.3 +3.5**
ERZM Erzurum 61.57 338 *i*P **P 20 08 23.8 +2.4**
ANDN Andirin 61.57 333 *i*P **P 20 08 21.9 +0.4**
AAI Ambon 61.59 85 P **P 20 08 20.3 -1.9**
ARTV Artvin 62.51 339 *i*P **P 20 08 31.2 +3.5**
NVL N'lazarevskaya 62.67 198 *e*P **P 20 08 29.9 +1.5**
NVL pmax pmax
comp=N,15nm,1.2s
NVL pmax pmax
comp=Z,44nm,1.2s,mb5.5
MAIT Maitri 62.71 198 *e*P **P 20 08 27.9 -0.8**
ASAR Alice Springs 62.71 108 P **P 20 08 29.2 -0.3**
ASAR pmax pmax
comp=Z,29nm,0.9s
ASAR Alice Springs 62.71 108 P **P 20 08 29.2 -0.2**
comp=Z,29nm,0.9s,mb5.4,baz=269,slow=5.8,SNR=210
AVNT Avonos 63.22 332 *i*P **P 20 08 30.8 -1.7**
KAKA Kakadu 63.30 96 *e*P **P 20 08 33.7 +0.1**
comp=Z,101nm,1.0s,mb5.9
LZH Lanzhou 63.53 33 *e*P **P 20 08 34.2 -0.4**
LZH AP pP 20 08 38.9 +1.1
LZH XP sP 20 08 41.3 +2.3
LZH *e*S **S 20 17 07.3 -0.8**
LZH SS SS 20 21 16.8 +1.0
LZH AMB AMB
comp=Z,39nm,1.3s,mb5.3
LZH AMB AMB
comp=Z,102nm,6.7s
LZH LR LR
comp=E,879nm,16.3s
LZH LR LR
comp=Z,1μm,18.6s,MS5.0
LZH Lanzhou 63.53 33 *e*P **P 20 08 34.2 -0.4**
comp=Z,39nm,1.3s,mb5.3
LZH pP pP 20 08 38.9 +1.1
LZH sP sP 20 08 41.3 +2.3
LZH PP PP 20 10 46.5 -8.0
LZH *e*S **S 20 17 07.3 -0.8**
LZH sS sS 20 17 15.2 +1.8
LZH PS 20 17 28.0
LZH SS SS 20 21 16.8 +1.0
LZH LR LR
comp=Z,1μm,18.6s,MS5.0
LZH Lanzhou 63.53 33 *e*P **P 20 08 34.2 -0.4**
LZH *PP pP 20 08 38.9 +1.1
LZH *SP sP 20 08 41.3 +2.3
LZH *e*S **S 20 17 07.3 -0.8**
LZH PS 20 17 28.0
LZH SS SS 20 21 16.8 +1.0
LZH pmax pmax
comp=Z,39nm,1.3s,mb5.3
LZH MLR MLR
comp=Z,1μm,18.6s,MS5.0
GRSN GIRESUNGRSN 63.61 336 *i*P **P 20 08 31.9 -3.1**
WMQ Urumqi 63.66 17 P **P 20 08 35.9 +0.6**
WMQ XP sP 20 08 43.0 +3.3
WMQ PCP PcP 20 09 12.0 +0.5
WMQ PP PP 20 10 58.0 +2.4
WMQ S **S 20 17 09.0 -0.4**
WMQ SS SS 20 21 18.0 +0.4
WMQ AMB AMB
comp=Z,41nm,1.0s,mb5.4
WMQ AMB AMB
comp=Z,372nm,4.1s
WMQ LR LR
comp=N,2μm,17.2s,MS5.4
WMQ LR LR
comp=E,2μm,21.0s,MS5.4
WMQ LR LR
comp=Z,2μm,27.0s
WRA Warramunga Arr 63.68 104 P **P 20 08 36.2 +0.2**
WRA S **S 20 17 08.0 -2.7**
WRA pmax pmax
comp=Z,70nm,1.0s
WRA MLR MLR
comp=Z,3μm,18.1s
WRA Warramunga Arr 63.68 104 P **P 20 08 36.2 +0.2**
comp=Z,70nm,1.0s,mb5.7,baz=265,slow=6.6,SNR=250
WRA S **S 20 17 08.0 -2.7**
comp=Z,0.3nm,1.0s,baz=204,slow=32,SNR=2.7
WRA LR LR 20 36 02.5
comp=Z,3μm,18.1s,MS5.6,baz=270,slow=36
WB2 Warramunga Arr 63.69 104 *e*P **P 20 08 36.0 0.0**
WB2 *e* 20 08 47.7
WRAB Tennant Creek 63.69 104 P **P 20 08 36.0 0.0**
comp=Z,626nm,1.0s,SNR=37
CDAG Cicekdag 64.13 333 *i*P **P 20 08 36.8 -1.6**
GTA Gaotai 64.20 28 *e*P **P 20 08 38.4 -0.5**
GTA AP pP 20 08 42.8 +0.6
GTA XP sP 20 08 46.0 +2.6
GTA PP PP 20 11 02.8 +2.4
GTA S **S 20 17 17.1 +0.8**
GTA XS sS 20 17 24.3 +2.6
GTA SCS ScS 20 18 29.2 -3.9
GTA SS SS 20 21 29.9 +3.7
GTA AMB AMB
comp=Z,8.0nm,1.2s,mb4.6
GTA AMB AMB
comp=Z,113nm,6.5s
GTA LR LR
comp=N,1μm,21.4s,MS5.1
GTA LR LR
comp=E,1μm,22.9s,MS5.1
GTA LR LR
comp=Z,1μm,22.5s,MS5.0
KDHN Kadinhani 64.27 330 *i*P **P 20 08 40.5 +1.1**
KIV Kislovodsk 64.74 341 P **P 20 08 42.9 +0.6**
comp=Z,166nm,1.2s,mb5.9,SNR=5.3
KIV Kislovodsk 64.74 341 *e*P **P 20 08 41.4 -0.9**
comp=Z,43nm,1.2s,mb5.4
KIV LR LR
comp=Z,1μm,20.0s,MS5.1
KIV Kislovodsk 64.74 341 *e*P **P 20 08 42.5 +0.2**
KIV *e* 20 09 15.2
KIV *e*S **S 20 17 25.7 +2.9**
KIV pmax pmax
comp=Z,39nm,1.2s,mb5.3
KIV MLR MLR
comp=Z,1μm,16.0s,MS5.2
KIV Kislovodsk 64.74 341⇑ *i*P **P 20 08 43.7 +1.4**
CTKT Corum 64.77 333 *i*P **P 20 08 41.7 -1.0**
XAN Xi'an 64.84 38 P **P 20 08 41.5 -1.7**
XAN AP pP 20 08 47.1 +0.6
XAN S **S 20 17 23.0 -1.4**
XAN AMB AMB
comp=Z,18nm,1.4s,mb4.9
XAN AMB AMB
comp=Z,119nm,5.9s
XAN LR LR
comp=N,650nm,24.7s,MS5.0
XAN LR LR
comp=E,783nm,21.2s,MS5.0
XAN LR LR
comp=Z,728nm,27.8s
ANTO Ankara 65.03 332 PFAKE 20 09 00.0 +16
ANTO LR LR
comp=Z,2μm,20.0s,MS5.3
MK31 Makanchi Array 65.20 12 *e*P **P 20 08 43.7 -1.6**
MKAR Makanchi Array 65.20 12 P **P 20 08 44.2 -1.1**
MKAR LR LR 20 36 29.8
MKAR Makanchi Array 65.20 12 P **P 20 08 44.2 -1.1**
MKAR pmax pmax
comp=Z,9.0nm,1.0s
MKAR MLR MLR
comp=Z,1μm,20.9s
MKAR Makanchi Array 65.20 12 P **P 20 08 44.2 -1.1**
comp=Z,8.5nm,1.0s,mb4.7,baz=205,slow=7.9,SNR=25
MKAR LR LR 20 36 29.8
comp=Z,1μm,20.9s,MS5.0,baz=198,slow=35
ELDT Eldivan 65.25 332 *i*P **P 20 08 44.2 -1.6**
SOC Sochi 65.39 339 *e*P **P 20 08 42.0 -4.6**
SOC *e* 20 09 13.0
SOC *e* 20 11 07.3
SOC *e*PPP 20 12 40.5
SOC *e*S S 20 17 20.4 -10
SOC *e* 20 18 30.3
SOC *e*SSS 20 24 40.1
SOC pmax pmax
comp=Z,41nm,1.1s,mb5.4
SOC MLR MLR
comp=Z,1μm,20.0s,MS5.0
QZH Quanzhou 65.57 52 *e*P **P 20 08 49.7 +1.6**
QZH S S 20 17 36.2 +2.5
QZH LR LR
comp=N,8μm,24.4s,MS5.9
QZH LR LR
comp=E,7μm,24.8s,MS5.9
QZH LR LR
comp=Z,2μm,18.6s
IDI Anoyia 65.62 323 P **P 20 08 47.9 -0.4**
comp=Z,20nm,1.1s,mb5.1,baz=340,slow=18,SNR=2.4
GOF Gofitskoye 65.63 342⇓ *i*P **P 20 08 57.0 +8.9**
GOF pmax pmax
comp=Z,30nm,1.3s,mb5.2
ESKT Eskisehir 65.66 330 *i*P **P 20 08 48.1 -0.4**
WHN Wuhan 65.91 44 P **P 20 08 50.0 -0.2**
WHN S S 20 17 40.9 +3.2
WHN LR LR
comp=Z,2μm,21.8s,MS5.3
BALT Daday 66.12 333 *i*P **P 20 08 48.8 -2.6**
ANN Anapa 67.26 338 *e*P **P 20 09 03.7 +5.2**
ANN pmax pmax
comp=Z,48nm,0.9s,mb5.5
SNAA Sanae 67.42 199 *e*P **P 20 08 59.6 +0.3**
SNAA *e* pP 20 09 02.7 +0.2
SNAA *e* 20 09 05.0
SNAA *e* 20 09 12.2
SNAA *e* 20 09 28.1
SNAA Sanae 67.42 199⇑ *e*P **P 20 08 56.6 -2.7**
SNAA Sanae 67.42 199 P **P 20 08 59.1 -0.2**
comp=Z,4.0nm,0.9s,mb4.4,baz=67,slow=5.2,SNR=15
AKTK Aktyubinsk 67.78 354 P **P 20 09 00.6 -1.1**
AKTK LR LR 20 37 52.7
AKTO Aktyubinsk 67.78 354 P **P 20 09 00.6 -1.1**
AKTO pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
AKTO MLR MLR
comp=Z,780nm,19.5s,MS4.9
AKTO Aktyubinsk 67.78 354 P **P 20 09 00.6 -1.1**
comp=Z,10nm,0.9s,mb4.9,baz=213,slow=2.5,SNR=11
AKTO LR LR 20 37 52.7
comp=Z,780nm,19.5s,MS4.9,baz=61,slow=35
STKA Stephens Creek 68.41 118 *e*P **P 20 09 06.1 -0.1**
comp=Z,11nm,1.0s,mb4.8
STKA *e*S S 20 18 10.4 +2.3
STKA Stephens Creek 68.41 118 P **P 20 09 05.8 -0.5**
comp=Z,14nm,0.9s,mb5.0,baz=274,slow=6.2,SNR=18
STKA LR LR 20 35 36.7

comp=Z,3µm,20.0s,MS5.5,baz=254,slow=33
KURK Kurchatov 68.41 8 P **P 20 09 05.3 -0.4**
comp=Z,202nm,1.0s,mb6.1,SNR=14
SIM Simferopol' 68.64 336 *e*P **P 20 09 08.0 +0.8**
SIM *e*S S 20 18 14.0 +4.0
SIM pmax pmax
comp=Z,26nm,1.0s,mb5.1
SIM MLR MLR
comp=Z,810nm,20.6s,MS4.9
VNA2 Neumayer--Watz 68.71 200 *e*P **P 20 09 07.2 -0.2**
VNA2 *e* pP 20 09 10.2 -0.5
VNA2 *e* 20 09 12.4
VNA2 *e* 20 09 20.3
VNA2 *e* 20 09 26.8
VNA2 *e* 20 09 33.7
VNA1 Neumayer--Stat 68.95 200 *e*P **P 20 09 08.9 0.0**
VNA1 *e* pP 20 09 12.5 +0.3
VNA3 Neumayer Olymp 69.49 200 *e*P **P 20 09 12.6 +0.4**
VNA3 *e* pP 20 09 15.2 -0.3
VNA3 *e* pP 20 09 17.1 +1.6
VNA3 *e* 20 09 25.3
VNA3 *e* 20 09 31.7
VNA3 *e* 20 09 35.7
NJ2 Nanjing 69.87 45 *e*P **P 20 09 14.6 -0.6**
NJ2 AP pP 20 09 19.8 +1.3
NJ2 XP sP 20 09 22.1 +2.4
NJ2 PP PP 20 11 51.4 +1.4
NJ2 S S 20 18 23.0 -2.1
NJ2 AMB AMB
comp=Z,30nm,0.6s,mb5.4
NJ2 AMB AMB
comp=Z,190nm,8.0s
NJ2 LR LR
comp=N,6µm,18.7s,MS5.9
NJ2 LR LR
comp=E,2µm,17.5s,MS5.9
BRVK Borovoye 70.03 2 P **P 20 09 14.2 -1.4**
comp=E,147nm,0.8s,mb6.0,SNR=8.2
BRVK Borovoye 70.03 2 *e*P **P 20 09 13.6 -2.1**
comp=E,22nm,0.9s,mb5.1
BRVK LR LR
comp=Z,1µm,19.0s,MS5.2
BRVK Borovoye 70.03 2 *e*P **P 20 09 13.6 -2.0**
BRVK pmax pmax
comp=Z,22nm,0.9s,mb5.1
BRVK MLR MLR
comp=Z,1µm,19.0s,MS5.2
BTO Baotou 70.13 34 *e*P **P 20 09 16.5 0.0**
TIRR Tirgusor 70.65 332 ⇑P **P 20 09 20.5 +0.8**
TIRR Tirgusor 70.65 332 ⇑*i*P **P 20 09 20.5 +0.8**
SSE Sheshan 70.94 48 P **P 20 09 21.3 -0.4**
SSE S S 20 18 38.9 +1.3
SSE SS SS 20 23 13.6 +2.7
SSE AMB AMB
comp=Z,36nm,0.7s,mb5.4
SSE AMB AMB
comp=Z,139nm,8.4s
SSE LR LR
comp=N,1µm,25.8s,MS5.1
SSE LR LR
comp=E,751nm,25.8s,MS5.1
SSE LR LR
comp=Z,797nm,26.3s,MS4.8
SSE Sheshan 70.94 48 P **P 20 09 21.3 -0.4**
comp=Z,36nm,0.7s,mb5.4
SSE sP sP 20 09 25.8 -0.4
SSE S S 20 18 38.9 +1.3
SSE sS sS 20 18 44.5 +1.5
SSE SS SS 20 23 13.6 +2.7
SSE LR LR
comp=Z,800nm,26.3s,MS4.9
TOA0 Torodi Ar. Sit 71.02 291 *e*P **P 20 09 20.2 -2.4**
TORD Torodi Ar. Bea 71.02 291 P **P 20 09 19.9 -2.6**
comp=Z,4.3nm,1.1s,mb4.3,baz=124,slow=3.7,SNR=15
TORD LR LR 20 38 34.7
comp=Z,3µm,19.3s,MS5.6,baz=110,slow=34
HARR Harsova 71.05 332 P **P 20 09 21.8 -0.3**
HARR Harsova 71.05 332 ⇑*i*P **P 20 09 22.7 +0.6**
HHC Hu-ho-hao-te 71.12 34 *e*P **P 20 09 23.1 +0.5**
HHC AP pP 20 09 27.3 +1.4
HHC XP sP 20 09 30.3 +3.2
HHC PP PP 20 12 05.8 +5.2
HHC S S 20 18 42.1 +2.7
HHC SKS 20 19 22.5
HHC SCS ScS 20 19 25.2 -1.8
HHC SS SS 20 23 17.0 +3.6
HHC AMB AMB
comp=Z,21nm,0.4s,mb5.4
HHC AMB AMB
comp=Z,243nm,4.4s
HHC LR LR
comp=N,714nm,18.4s,MS5.1
HHC LR LR
comp=E,547nm,16.7s,MS5.1
HHC LR LR
comp=Z,1µm,28.4s
TIA Tai'an 71.29 41 *e*P **P 20 09 23.5 -0.2**
ZIMR 71.47 330 P **P 20 09 24.7 0.0**
VORD Divnogorie 72.04 342 *e*P **P 20 09 29.8 +1.9**
VORD pmax pmax
comp=Z,40nm,1.1s,mb5.3
VORD pmax pmax
comp=N,50nm,0.8s
VORD pmax pmax
comp=E,30nm,0.7s
VRSR Storozhevoye 72.29 342 *e*P **P 20 09 30.3 +0.9**
VRSR pmax pmax
comp=N,7.0nm,1.1s
VRSR pmax pmax
comp=Z,8.0nm,1.1s,mb4.6
VRSR pmax pmax
comp=E,6.0nm,0.9s
KIS Kishinev 72.46 334 *e*P **P 20 09 33.0 +2.5**
KIS Kishinev 72.46 334 *e*PUNK **P 20 09 33.0 +2.5**
VRI Vrincioaia 72.50 332 P **P 20 09 33.3 +2.6**
VRI Vrincioaia 72.50 332 ⇓*i*P **P 20 09 30.4 -0.4**
ZAL Zalesovo 72.51 11 P **P 20 09 29.3 -1.3**
PLOR Plostina 72.52 332 ⇓*i*P **P 20 09 30.2 -0.7**
ZALV Zalesovo Beam 72.53 11 P **P 20 09 29.3 -1.5**
ZALV LR LR 20 39 17.9
ZALV Zalesovo Beam 72.53 11 P **P 20 09 29.3 -1.4**
comp=E,5.3nm,0.5s,mb4.7,baz=209,slow=5.1,SNR=36
ZALV LR LR 20 39 17.9
comp=E,787nm,20.3s,MS5.0,baz=93,slow=34
MLR Muntele Rosu 72.57 331 P **P 20 09 32.7 +1.5**
MLR Muntele Rosu 72.57 331 P **P 20 09 30.6 -0.6**
MLR pmax pmax
comp=Z,6.0nm,0.3s
MLR Muntele Rosu 72.57 331 P **P 20 09 30.6 -0.7**
comp=Z,6.1nm,0.3s,mb5.0,baz=151,slow=12,SNR=20
MLR Muntele Rosu 72.57 331 ⇓*i*P **P 20 09 31.1 -0.1**
QSPA South Pole Qui 72.89 180 P **P 20 09 32.9 +0.2**
comp=Z,39nm,0.9s,mb5.3,baz=261,slow=2.5,SNR=66
VOIR 72.95 331 P **P 20 09 34.7 +1.3**
VOIR 72.95 331 ⇑*i*P **P 20 09 33.2 -0.2**
NVS Novosibirsk 73.10 10 *i* P **P 20 09 30.4 -3.7**
NVS *e*S S 20 18 56.6 -4.9
NVS pmax pmax
comp=Z,56nm,1.9s,mb5.2
NVS pmax pmax
comp=N,43nm,1.6s
NVS pmax pmax
comp=E,10.0nm,0.6s
NVS smax
comp=N,13nm,1.8s
NVS smax
comp=E,18nm,1.9s
BJI Beijing 73.16 37 P **P 20 09 34.2 -0.7**
BJI AP pP 20 09 37.4 -0.7
BJI S S 20 19 02.2 -0.6
BJI SS SS 20 23 43.6 -1.1
BJI AMB AMB
comp=Z,11nm,1.2s,mb4.7
BJI LR LR
comp=N,1µm,21.7s,MS5.2
BJI LR LR
comp=E,1µm,22.4s,MS5.2
BJI Beijing 73.16 37 P **P 20 09 34.2 -0.7**
comp=E,11nm,1.2s,mb4.7
BJI pP pP 20 09 37.4 -0.7
BJI sP sP 20 09 38.7 -0.6
BJI S S 20 19 02.2 -0.6
BJI SS SS 20 23 43.6 -1.1
BJI LR LR
comp=Z,740nm,45.9s,MS4.6
BJI Beijing 73.16 37 P **P 20 09 34.2 -0.7**
BJI *PP pP 20 09 37.4 -0.7
BJI *SP sP 20 09 38.7 -0.6
BJI S S 20 19 02.2 -0.6
BJI pmax pmax
comp=Z,11nm,1.2s,mb4.7
ARU Arti 73.67 355 *e*P **P 20 09 34.6 -2.9**
comp=Z,20nm,0.9s,mb5.0
ARU LR LR
comp=Z,1µm,21.0s,MS5.1
ARU Arti 73.67 355*c i*P **P 20 09 35.2 -2.3**
ARU *e* 20 09 48.0
ARU *e* 20 12 15.8
ARU *e*S S 20 19 04.1 -3.8
ARU *e*SS SS 20 23 46.5 -5.3
ARU pmax pmax
comp=Z,27nm,1.7s,mb4.9
SONM Songino Array 73.79 27 P **P 20 09 37.4 -0.9**
comp=Z,6.7nm,0.9s,mb4.6,baz=216,slow=5.7,SNR=31
SONM LR LR 20 40 40.9
comp=Z,1µm,21.0s,MS5.2,baz=216,slow=35
SVE Sverdlovsk 73.92 356⇑*e*P **P 20 09 37.9 -1.0**
SVE *e* 20 12 18.0
SVE *e*S S 20 19 03.7 -7.0
SVE pmax pmax
comp=Z,47nm,1.6s,mb5.2
SVE MLR MLR
comp=Z,856nm,17.0s,MS5.1
JOW Kunigami 73.97 55 LR LR 20 37 14.6
comp=Z,818nm,21.4s,MS5.0,baz=109,slow=32
GZR Gura Zlata 74.00 329 P **P 20 09 42.5 +2.9**
ULN Ulaanbaatar 74.09 27 *e*P **P 20 09 39.1 -1.0**
comp=Z,34nm,1.5s,mb5.0
ULN LR LR
comp=Z,893nm,20.0s,MS5.0
ULN Ulaanbaatar 74.09 27 *e*P **P 20 09 39.1 -1.0**
ULN pmax pmax
comp=Z,34nm,1.5s,mb5.1
ULN MLR MLR
comp=Z,893nm,20.0s,MS5.0
VNDA Vanda 74.42 167 *e*P **P 20 09 42.1 +0.4**
comp=Z,66nm,1.5s,mb5.3
VNDA Vanda 74.42 167 P **P 20 09 40.4 -1.3**
VNDA pmax pmax
comp=Z,11nm,1.2s
VNDA MLR MLR
comp=Z,3µm,21.3s
VNDA Vanda 74.42 167 P **P 20 09 40.4 -1.4**
comp=Z,11nm,1.2s,mb4.7,baz=315,slow=6.1,SNR=6.6
VNDA LR LR 20 38 18.8
comp=Z,3µm,21.3s,MS5.5,baz=260,slow=32
ZAK Zakamensk 74.55 23 *e*P **P 20 09 42.0 -0.7**
CTA Charters Tower 74.63 107 *e*P **P 20 09 44.3 +0.3**
comp=Z,27nm,1.1s,mb5.1
CTA *e*S S 20 19 21.0 +0.7
CTA Charters Tower 74.63 107 P **P 20 09 42.5 -1.5**
CTA pmax pmax
comp=Z,38nm,1.1s
CTA MLR MLR
comp=Z,6µm,20.3s
CTA Charters Tower 74.63 107 P **P 20 09 42.5 -1.5**
comp=Z,38nm,1.1s,mb5.2,baz=257,slow=6.9,SNR=11
CTA LR LR 20 40 05.1
comp=Z,6µm,20.3s,MS5.8,baz=243,slow=34
CTAO Charters Tower 74.63 107 *e*P **P 20 09 43.9 -0.1**
comp=Z,68nm,1.3s,mb5.4
CTAO LR LR
comp=Z,5µm,20.0s,MS5.8
CTAO Charters Tower 74.63 107 *e*P **P 20 09 43.9 -0.1**
CTAO pmax pmax
comp=Z,68nm,1.3s,mb5.4
CTAO MLR MLR
comp=Z,5µm,20.0s,MS5.8
DBIC Dimbokro 74.66 282 *e*P **P 20 09 43.2 -1.0**
comp=Z,181nm,2.0s,mb5.7
DBIC LR LR
comp=Z,3µm,20.0s,MS5.6
DBIC Dimbokro 74.66 282 P **P 20 09 42.7 -1.5**
DBIC pmax pmax
comp=Z,10.0nm,0.8s
DBIC MLR MLR
comp=Z,3µm,20.3s
DBIC Dimbokro 74.66 282 P **P 20 09 42.7 -1.5**
comp=Z,9.7nm,0.8s,mb4.8,baz=95,slow=8.5,SNR=9.7
DBIC LR LR 20 40 59.5
comp=Z,3µm,20.3s,MS5.6,baz=94,slow=35
LIC Lamto 74.67 282 *e*P **P 20 09 42.5 -1.8**
comp=Z,46nm,0.7s,mb5.2,baz=100
LIC *e*MLR MLR
comp=Z,1µm,18.2s,MS5.0
LIC Lamto 74.67 282 *e*P **P 20 09 42.5 -1.8**
comp=Z,23nm,0.7s,mb5.2
LIC LR LR
comp=Z,740nm,18.3s,MS5.0
BZS Buzias 74.73 329 ⇓P **P 20 09 42.8 -1.1**
BZS Buzias 74.73 329 ⇓*i*P **P 20 09 42.8 -1.1**
MOY Mondy 74.78 21 *e*P **P 20 09 46.2 +2.2**
MOY pmax pmax
comp=Z,39nm,4.2s
DRGR 75.05 330 P **P 20 09 47.5 +1.9**
DRGR 75.05 330⇑*i*P **P 20 09 45.8 +0.1**
AKASG Malin Array Be 75.24 336 P **P 20 09 44.7 -2.0**
AKASG PP PP 20 12 40.2 +4.7
AKASG LR LR 20 42 28.9
AKASG Malin Array Be 75.24 336 *i* P **P 20 09 45.0 -1.7**
AKASG pmax pmax
comp=Z,17nm,0.9s
AKASG Malin Array Be 75.24 336 P **P 20 09 44.7 -2.0**
comp=Z,17nm,0.9s,mb5.0,baz=144,slow=4.8,SNR=18
AKASG PP PP 20 12 40.2 +4.7
comp=Z,0.3nm,0.3s,baz=138,slow=7.9,SNR=4.2
AKASG LR LR 20 42 28.9
comp=Z,816nm,20.9s,MS5.0,baz=145,slow=36
AKBB Malin Array Si 75.24 336 *e*P **P 20 09 44.7 -2.0**
KIEV Kiev 75.24 336 *e*P **P 20 09 44.9 -1.8**
comp=Z,27nm,0.9s,mb5.2
KIEV LR LR
comp=Z,1µm,20.0s,MS5.2
KIEV Kiev 75.24 336 *e*P **P 20 09 44.9 -1.8**
KIEV pmax pmax
comp=Z,27nm,0.9s,mb5.2
KIEV MLR MLR
comp=Z,1µm,20.0s,MS5.2
SBA Scott Base 75.39 168 *e*P **P 20 09 48.4 +1.1**
comp=Z,63nm,1.4s,mb5.3
SBA LR LR
comp=Z,1µm,21.0s,MS5.3
SBA Scott Base 75.39 168 *e*P **P 20 09 48.4 +1.1**
SBA pmax pmax
comp=Z,63nm,1.4s,mb5.3
SBA MLR MLR
comp=Z,1µm,21.0s,MS5.3
KEST Kesra 75.68 315 P **P 20 09 48.1 -1.5**
comp=Z,1.9nm,1.1s,baz=11,slow=10,SNR=2.0
KEST LR LR 20 41 15.2
comp=Z,1µm,21.4s,MS5.2,baz=245,slow=34
TLY Talaya 75.74 23 *e*P **P 20 09 48.5 -1.0**
comp=Z,28nm,1.6s,mb4.9
TLY LR LR
comp=Z,2µm,22.0s,MS5.5
TLY Talaya 75.74 23 *e*P **P 20 09 50.5 +1.0**
TLY *e*S S 20 19 34.2 +3.1
TLY *e* 20 20 08.8
TLY pmax pmax
comp=Z,20nm,1.7s,mb4.8
DL2 Dalian 75.76 41 P **P 20 09 51.8 +1.8**
DL2 S S 20 19 35.7 +3.7
DL2 AMB AMB
comp=Z,10.0nm,0.9s,mb4.8
DL2 AMB AMB
comp=Z,140nm,7.3s
DL2 LR LR
comp=N,370nm,21.4s,MS4.8
DL2 LR LR
comp=E,320nm,21.4s,MS4.8
DL2 LR LR
comp=Z,510nm,22.9s,MS4.8
IRK Irkutsk 76.42 23 *e*P **P 20 09 55.4 +2.0**
IRK *e* 20 19 40.4
IRK pmax pmax
comp=Z,52nm,2.7s,mb5.0
OBN Obninsk 76.48 343 PFAKE 20 10 10.0 +16
OBN LR LR
comp=Z,1µm,20.0s,MS5.2
OBN Obninsk 76.48 343⇑*e*P **P 20 09 51.7 -2.0**
OBN *e* 20 12 46.4
OBN pmax pmax
comp=Z,40nm,1.3s,mb5.2
OBN MLR MLR
comp=Z,900nm,20.0s,MS5.1
UZH Uzhgorod 76.57 331 *e*P **P 20 09 53.6 -0.8**
UZH *i* 20 10 07.2
PKSM Moragy 76.64 328 P **P 20 09 56.2 +1.4**
PKSM Moragy 76.64 328⇑*i*P **P 20 09 53.7 -1.1**
LVV L'vov 76.67 333 *e*P **P 20 09 58.1 +3.2**
LVV *e* 20 10 12.3
MOS Moscow 76.73 344 *e*P **P 20 09 56.8 +1.7**
MOS *e*S S 20 19 37.6 -4.3
MOS pmax pmax
comp=Z,98nm,1.8s,mb5.4
KOLS Kolonicke sedl 76.80 332 *e*P **P 20 09 57.3 +1.6**
KWP Kalwaria 77.12 332 *e*P **P 20 09 58.0 +0.5**
comp=Z,43nm,1.0s,mb5.3
KWP Kalwaria 77.12 332 *e*P **P 20 09 58.0 +0.6**
KWP pmax pmax
comp=Z,43nm,1.0s,mb5.3
ARMA Armidale 77.13 118 *e*P **P 20 09 59.8 +1.7**
CRVS Cervenica-Dubn 77.15 331 *e*P **P 20 09 57.9 +0.3**
PSZ Piszkesteto 77.19 330 P **P 20 09 58.0 +0.1**
comp=Z,13nm,1.1s,mb4.8
PSZ Piszkesteto 77.19 330 P **P 20 09 58.0 +0.1**
PSZ pmax pmax
comp=Z,13nm,1.1s,mb4.8
PSZ Piszkesteto 77.19 330⇑*e*P **P 20 10 01.4 +3.5**
KECS Kecovo 77.31 330 *e*P **P 20 09 59.0 +0.5**
comp=Z,9.2nm,0.9s,mb4.7
KECS *e* 20 10 14.2
KECS Kecovo 77.31 330 *e*P **P 20 09 59.0 +0.5**
KECS *e* 20 10 14.2
KECS pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
BUD Budapest 77.31 329⇓*e*PcP PcP 20 10 07.4 -1.7
STHS Stebnicka Huta 77.62 331 *e*P **P 20 10 01.1 +0.9**
comp=Z,7.9nm,1.0s,mb4.6
STHS Stebnicka Huta 77.62 331 *e*P **P 20 10 01.1 +0.9**
STHS pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
NIE Niedzica 78.05 331 P **P 20 10 04.3 +1.7**
VYHS Vyhne 78.10 330 *e*P **P 20 10 02.8 -0.2**
comp=Z,14nm,1.4s,mb4.7
VYHS Vyhne 78.10 330 *e*P **P 20 10 02.8 -0.2**
VYHS pmax pmax
comp=Z,14nm,1.4s,mb4.7
KOLL Kolacno 78.37 330 *e*P **P 20 10 05.1 +0.7**
SNY Shenyang 78.68 40 ⇓P **P 20 10 10.5 +4.2**
SNY S S 20 20 03.3 -0.3
SNY AMB AMB
comp=Z,19nm,1.4s,mb4.8
SNY AMB AMB
comp=Z,313nm,4.2s
SNY LR LR
comp=N,849nm,19.8s,MS5.2
SNY LR LR
comp=E,931nm,21.6s,MS5.2
SNY LR LR
comp=Z,1µm,20.1s,MS5.2
SOP Sopron 78.68 328 *e*P **P 20 10 07.4 +1.2**
ZST Bratislava 78.75 329 *e*P **P 20 10 07.5 +1.0**
comp=Z,14nm,0.9s,mb4.9
ZST LR LR
comp=Z,300nm,19.8s,MS4.6
MNK Minsk 78.78 338 *e*P **P 20 10 05.0 -1.5**
MODS Modra-Piesok 78.78 329 *e*P **P 20 10 06.8 +0.1**
MODS *e*PCP PcP 20 10 21.8 +6.3
OJC Ojcow 78.85 331 *e*P **P 20 10 07.4 +0.4**
JAVC Velka Javorina 78.92 329 P **P 20 10 10.2 +2.8**
ARSA Arzberg 78.93 327⇓*i*P **P 20 10 06.8 -0.8**
comp=Z,34nm,1.1s,mb5.2
ARSA Arzberg 78.93 327 P **P 20 10 08.9 +1.4**
KSRS Korea Array 79.07 45 P **P 20 10 06.7 -1.9**
comp=Z,3.9nm,0.9s,mb4.3,baz=242,slow=6.0,SNR=13
KSRS LR LR 20 43 28.6
comp=Z,867nm,18.9s,MS5.1,baz=61,slow=34
CONA Conrad Observa 79.20 328⇑*i*P **P 20 10 09.5 +0.5**
comp=Z,44nm,1.3s,mb5.2,SNR=7.2
ASCN Ascension 79.31 265 PFAKE 20 10 20.0 +10
ASCN LR LR
comp=Z,2µm,19.0s,MS5.5
OKC Ostrava-Krasne 79.35 330 *e*P **P 20 10 09.6 -0.2**
OKC AMS AMS 20 37 10.0
MORC Moravsky Berou 79.60 330 *e*P **P 20 10 11.4 +0.3**
comp=Z,14nm,0.9s,mb4.9
MORC Moravsky Berou 79.60 330⇑*i*P **P 20 10 10.0 -1.2**
KRUC Moravsky 79.68 329 P **P 20 10 12.3 +0.7**
PGF Pioggiola 79.73 321 *e*P **P 20 10 13.0 +0.9**
comp=Z,143nm,1.6s,mb5.4
PGF Pioggiola 79.73 321 *e*P **P 20 10 13.0 +0.9**
comp=Z,72nm,1.5s,mb5.4
PGF Pioggiola 79.73 321 *e*P **P 20 10 13.0 +0.9**
PGF pmax pmax
comp=Z,72nm,1.5s,mb5.4
VRAC Vranov 79.74 329 P **P 20 10 10.4 -1.6**
VRAC pmax pmax
comp=Z,4.0nm,0.8s
VRAC Vranov 79.74 329 P **P 20 10 10.4 -1.6**
comp=Z,4.2nm,0.8s,mb4.4,baz=129,slow=7.6,SNR=4.3
VRAC Vranov 79.74 329⇑*i*P **P 20 10 11.9 -0.1**
KBA Koelnbreinsper 79.96 326⇑*i*P **P 20 10 14.0 +0.8**
comp=Z,20nm,1.2s,mb4.9
KBA Koelnbreinsper 79.96 326⇑*i*P **P 20 10 14.0 +0.8**
KBA pmax pmax
comp=Z,21nm,1.2s,mb4.9
MOA Molln 79.97 327⇑*i*P **P 20 10 13.5 +0.3**
comp=Z,33nm,1.2s,mb5.1,SNR=8.6
MOA Molln 79.97 327 P **P 20 10 14.0 +0.8**
CIT Chita 79.99 27 *e*P **P 20 10 12.6 -0.6**
CIT *e* 20 10 26.6
CIT *e* 20 13 13.0
CIT pmax pmax
comp=Z,78nm,2.8s,mb5.1
TREC Trest 80.28 329 *e*P **P 20 10 15.2 +0.4**
TREC *e*S S 20 20 23.1 +2.9
TREC AMS AMS 20 35 40.0
comp=Z,1µm,19.8s,MS5.2
DPC Dobruska-Polom 80.57 330 *e*P **P 20 10 17.1 +0.7**
DPC *e*S S 20 20 26.5 +3.3
DPC AMS AMS 20 37 30.0
comp=Z,1µm,21.4s,MS5.1
UPC Upice 80.82 330 *e*P **P 20 10 18.9 +1.2**
GERES GERESS Array B 80.89 328 P **P 20 10 17.1 -1.0**
comp=Z,1.0nm,0.7s,baz=108,slow=4.3,SNR=7.5
KSP Ksiaz 80.91 330 *e*P **P 20 10 19.8 +1.6**
KSP *e*S S 20 20 28.5 +1.7
KSP *e* 20 31 43.0
KSP Ksiaz 80.91 330 *e*P **P 20 10 19.8 +1.6**
KSP *e*S S 20 20 28.5 +1.7
CN2 Changchun 80.93 39 *e*P **P 20 10 17.0 -1.5**
CN2 *e*XP sP 20 10 24.0 +1.0
CN2 *e*S S 20 20 25.3 -2.0
CN2 AMB AMB
comp=Z,10.0nm,1.0s,mb4.7
CN2 AMB AMB
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,700nm,23.0s,MS5.0
CN2 LR LR
comp=E,500nm,23.0s,MS5.0
CN2 LR LR
comp=Z,800nm,23.0s,MS5.0
KHC Kasperske Hory 81.13 328 *e*P **P 20 10 19.1 -0.3**
KHC *e* 20 10 26.0
KHC *e*S S 20 20 30.6 +1.4
KHC Kasperske Hory 81.13 328 *e*P **P 20 10 19.1 -0.3**
KHC *e*pP pP 20 10 26.0 +3.3
KHC *e*S S 20 20 30.6 +1.4
KHC AMS AMS 20 38 10.0
comp=Z,900nm,25.5s,MS5.0
PRU Pruhonice 81.20 329 *e*P **P 20 10 20.7 +1.0**
PRU *e*S S 20 20 30.4 +0.6
PRU Pruhonice 81.20 329 *e*P **P 20 10 20.7 +1.0**
PRU *e*S S 20 20 30.4 +0.6
PRU AMS AMS 20 35 20.0
SQTA Sankt Quirin 81.20 325⇑*i*P **P 20 10 20.4 +0.6**
comp=Z,28nm,1.7s,mb4.9
SQTA Sankt Quirin 81.20 325⇑*i*P **P 20 10 20.4 +0.6**
SQTA pmax pmax
comp=Z,28nm,1.7s,mb4.9
MOTA Moosalm 81.33 325⇑*i*P **P 20 10 21.0 +0.5**
comp=Z,13nm,1.1s,mb4.8

MOTA Moosalm 81.33 325 ⇑ *i*P **P 20 10 21.0 +0.5**
MOTA pmax pmax
comp=Z,13nm,1.1s,mb4.8
FETA Feichten 81.34 325 *i* P **P 20 10 21.4 +0.8**
comp=Z,20nm,1.1s,mb5.0,SNR=6.0
SBF Sospel 81.42 321 *e*P **P 20 10 21.9 +0.8**
comp=Z,183nm,1.5s,mb5.5
SBF Sospel 81.42 321 *e*P **P 20 10 21.9 +0.8**
comp=Z,91nm,1.5s,mb5.5
SBF Sospel 81.42 321 *e*P **P 20 10 21.9 +0.8**
SBF pmax pmax
comp=Z,91nm,1.5s,mb5.5
PVCC Panska Ves 81.53 329 *e*P **P 20 10 22.9 +1.4**
PVCC *e*SKS 20 20 41.4
PVCC AMS AMS 20 41 00.0
comp=Z,1μm,21.2s,MS5.2
DAVOX Davos/Dischmat 81.67 324 P **P 20 10 22.7 +0.4**
comp=Z,3.8nm,0.6s,mb4.5,baz=171,slow=18,SNR=5.9
LMR La Mourre 81.69 320 *e*P **P 20 10 23.3 +0.8**
comp=Z,79nm,1.5s,mb5.1
LMR La Mourre 81.69 320 *e*P **P 20 10 23.3 +0.8**
comp=Z,40nm,1.5s,mb5.1
LMR La Mourre 81.69 320 *e*P **P 20 10 23.3 +0.8**
LMR pmax pmax
comp=Z,39nm,1.5s,mb5.1
FRF La Foret Royal 81.73 320 *e*P **P 20 10 23.5 +0.8**
comp=Z,79nm,1.5s,mb5.1
FRF La Foret Royal 81.73 320 *e*P **P 20 10 23.5 +0.8**
comp=Z,40nm,1.5s,mb5.1
FRF La Foret Royal 81.73 320 *e*P **P 20 10 23.5 +0.8**
FRF pmax pmax
comp=Z,39nm,1.5s,mb5.1
DAVA Damuels 81.97 325 ⇑ *i*P **P 20 10 23.2 -0.7**
comp=Z,11nm,0.8s,mb4.8
BRG Berggiesshubel 82.06 329 *e*P **P 20 10 26.7 +2.4**
BRG S S 20 20 35.0 -3.7
BRG SS SS 20 25 53.0 -5.4
BRG pmax pmax
comp=Z,15nm,1.1s,mb4.8
BRG Berggiesshubel 82.06 329 *e*P **P 20 10 26.7 +2.4**
comp=Z,4.5nm,1.1s,mb4.3
BRG S S 20 20 35.0 -3.7
BRG SS SS 20 25 53.0 -5.4
MBDF Montbardon 82.29 321 *e*P **P 20 10 27.1 +1.4**
comp=Z,59nm,1.1s,mb5.1
MBDF Montbardon 82.29 321 *e*P **P 20 10 27.1 +1.4**
comp=Z,29nm,1.1s,mb5.1
MBDF Montbardon 82.29 321 *e*P **P 20 10 27.1 +1.4**
MBDF pmax pmax
comp=Z,29nm,1.1s,mb5.1
NKC Novy Kostel 82.40 328 *e*P **P 20 10 28.0 +1.9**
NKC *e*S S 20 20 40.5 -1.7
NKC Novy Kostel 82.40 328 *e*P **P 20 10 28.0 +1.9**
NKC *e*S S 20 20 40.5 -1.7
NKC AMS AMS 20 38 50.0
comp=Z,2μm,40.2s,MS5.1
SMRF Simiane la Rot 82.61 320 *e*P **P 20 10 28.0 +0.7**
comp=Z,181nm,1.8s,mb5.5
SMRF Simiane la Rot 82.61 320 *e*P **P 20 10 28.0 +0.7**
comp=Z,181nm,1.8s,mb5.8
GRA1 Grafenberg Arr 82.69 327 *e*P **P 20 10 27.6 0.0**
comp=Z,37nm,1.8s,mb5.1
GRF Grafenberg Arr 82.69 327 *e*P **P 20 10 27.6 0.0**
GRF pmax pmax
comp=Z,37nm,1.8s,mb5.1
GRF Grafenberg Arr 82.69 327 *e*P **P 20 10 27.6 0.0**
GRF pmax pmax
comp=Z,37nm,1.8s,mb5.1
GRF Grafenberg Arr 82.69 327 *e*P **P 20 10 27.6 0.0**
comp=Z,37nm,1.8s,mb5.1
GRFO Grafenberg 82.69 327 *e*P **P 20 10 27.6 0.0**
comp=Z,20nm,1.4s,mb5.0
GRFO Grafenberg 82.69 327 *e*P **P 20 10 27.6 0.0**
GRFO pmax pmax
comp=Z,20nm,1.4s,mb5.0
LPG La Plagne 82.73 322 *e*P **P 20 10 28.5 +0.6**
comp=Z,18nm,1.0s,mb4.8
LPG La Plagne 82.73 322 *e*P **P 20 10 28.5 +0.6**
comp=Z,9.2nm,1.0s,mb4.8
LPG La Plagne 82.73 322 *e*P **P 20 10 28.5 +0.6**
LPG pmax pmax
comp=Z,9.0nm,1.0s,mb4.8
LPL La Plagne 82.75 322 *e*P **P 20 10 28.2 +0.2**
comp=Z,9.9nm,0.8s,mb4.6
LPL La Plagne 82.75 322 *e*P **P 20 10 28.2 +0.2**
comp=Z,4.9nm,0.8s,mb4.6
LPL La Plagne 82.75 322 *e*P **P 20 10 28.2 +0.2**
LPL pmax pmax
comp=Z,5.0nm,0.8s,mb4.6
CLL Collm 82.79 329 *i* P **P 20 10 28.9 +0.8**
comp=Z,138nm,2.8s,mb5.5
CLL *i* 20 10 35.8
CLL *i* 20 10 42.4
CLL *e*S S 20 20 48.0 +1.8
CLL LR LR
comp=Z,800nm,23.4s,MS5.0
CLL Collm 82.79 329 *i* P **P 20 10 28.9 +0.8**
CLL *i* 20 10 35.8
CLL *e*S S 20 20 48.0 +1.8
CLL pmax pmax
comp=Z,38nm,2.8s,mb4.9
CLL MLR MLR
comp=Z,800nm,23.4s,MS5.0
CLL Collm 82.79 329 *e*P **P 20 10 28.9 +0.8**
comp=Z,80nm,1.9s,mb5.4
CLL *e*S S 20 20 49.8 +3.6
CLL *e*SS SS 20 26 16.9 +7.6
CLL *e*SSS 20 29 36.7
CLL *e*SSSS 20 32 24.4
CLL Collm 82.79 329 *i* P **P 20 10 28.9 +0.8**
comp=Z,138nm,2.8s,mb5.5
CLL *i* (pP) pP 20 10 35.8 +4.4
CLL *i* x x 20 10 42.4
comp=Z,78nm,1.8s
CLL *e*PPPP 20 16 58.0
CLL *e*S S 20 20 48.0 +1.8
comp=N,800nm,31.9s
CLL *e*S S 20 20 48.0 +1.8
comp=E,700nm,25.1s
CLL *e*PPS 20 21 58.0
CLL *e*SS SS 20 26 12.0 +2.7
CLL *e*SSS 20 29 42.0
ORIF Oris-en-Rattie 82.93 321 *e*P **P 20 10 29.3 +0.3**
comp=E,46nm,1.3s,mb5.0
ORIF *e*MLR MLR
comp=Z,763nm,20.2s,MS4.8
ORIF Oris-en-Rattie 82.93 321 *e*P **P 20 10 29.3 +0.3**
comp=Z,23nm,1.3s,mb5.0
ORIF Oris-en-Rattie 82.93 321 *e*P **P 20 10 29.3 +0.3**
ORIF pmax pmax
comp=Z,23nm,1.3s,mb5.0
MOX Moxa 83.07 328 *e*P **P 20 10 30.7 +1.1**
comp=Z,1.0nm,19.0s
BFO Black Forest 83.42 325 P **P 20 10 30.9 -0.5**
comp=Z,11nm,1.3s,mb4.7
BFO Black Forest 83.42 325 P **P 20 10 30.9 -0.5**
BFO pmax pmax
comp=Z,11nm,1.3s,mb4.7
VIVF Saint-Julien-l 83.62 321 *e*P **P 20 10 33.1 +0.5**
LASF Ste Croix 83.72 320 *e*P **P 20 10 33.2 +0.1**
comp=Z,110nm,1.6s,mb5.4
CABF La Chapelle 83.73 323 *e*P **P 20 10 33.8 +0.8**
comp=Z,30nm,1.1s,mb5.0
CABF La Chapelle 83.73 323 *e*P **P 20 10 33.8 +0.8**
comp=Z,15nm,1.1s,mb5.0
CABF La Chapelle 83.73 323 *e*P **P 20 10 33.8 +0.8**
CABF pmax pmax
comp=Z,15nm,1.1s,mb5.0
MDJ Mudanjiang 83.88 40 P **P 20 10 32.4 -1.5**
MDJ PP PP 20 13 45.1 -2.5
MDJ S S 20 20 55.8 -1.7
MDJ SS SS 20 26 23.8 -1.9
MDJ AMB AMB
comp=Z,7.0nm,1.2s,mb4.7
MDJ AMB AMB
comp=Z,20nm,2.9s,mb4.7
MDJ LR LR
comp=N,2μm,35.0s,MS5.2
MDJ LR LR
comp=E,1μm,36.0s,MS5.2
MDJ LR LR
comp=Z,609nm,30.0s
HINF Hinteralfeld 83.95 324 *e*P **P 20 10 34.3 +0.1**
CDF Champ du Feu 84.05 325 *e*P **P 20 10 35.4 +0.7**
comp=Z,23nm,1.1s,mb4.9
CDF Champ du Feu 84.05 325 *e*P **P 20 10 35.4 +0.7**
comp=Z,12nm,1.1s,mb4.9
CDF Champ du Feu 84.05 325 *e*P **P 20 10 35.4 +0.7**
CDF pmax pmax
comp=Z,12nm,1.1s,mb4.9
TMCR Tamitsa 84.09 348 *e*P **P 20 10 38.8 +4.3**
TMCR *e* 20 10 44.9
BOD Bodaibo 84.30 23 *e*P **P 20 10 34.3 -1.4**
BOD pmax pmax
comp=Z,15nm,2.0s,mb4.8
HAU Haudompre 84.34 324 *e*P **P 20 10 36.5 +0.4**
comp=Z,17nm,0.9s,mb4.9
HAU *e*MLR MLR
comp=Z,599nm,22.8s,MS4.6
HAU Haudompre 84.34 324 *e*P **P 20 10 36.5 +0.4**
comp=Z,8.4nm,0.9s,mb4.9
HAU LR LR
comp=Z,600nm,22.8s,MS4.9
HAU Haudompre 84.34 324 *e*P **P 20 10 36.5 +0.4**
HAU pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
HAU MLR MLR
comp=Z,600nm,22.8s,MS4.9
MTLF Montolieu 84.37 319 *e*P **P 20 10 36.9 +0.5**
JOF Joensuu 84.56 345 *e*p **P 20 10 37.5 +0.6**
FINES FINESS Array B 84.82 342 P **P 20 10 38.8 +0.5**
FINES pmax pmax
comp=Z,15nm,1.0s
FINES FINESS Array B 84.82 342 P **P 20 10 38.8 +0.5**
comp=Z,15nm,1.0s,mb5.1,baz=131,slow=5.3,SNR=10
SMF Signal de Mont 85.06 322 *e*P **P 20 10 40.2 +0.4**
comp=Z,22nm,1.1s,mb4.9
SMF Signal de Mont 85.06 322 *e*P **P 20 10 40.2 +0.4**
comp=Z,11nm,1.0s,mb4.9
SMF Signal de Mont 85.06 322 *e*P **P 20 10 40.2 +0.4**
SMF pmax pmax
comp=Z,11nm,1.0s,mb4.9
CAF Calviac 85.25 320 *e*P **P 20 10 41.1 +0.3**
KAF Kangasniemi 85.28 342 *e*p **P 20 10 39.0 -1.5**
MEZF Maizieres J'vi 85.34 324 *e*P **P 20 10 43.0 +1.8**
comp=Z,25nm,0.9s,mb5.0
MEZF Maizieres J'vi 85.34 324 *e*P **P 20 10 43.0 +1.8**
comp=Z,25nm,0.9s,mb5.3
LOR Lormes 85.37 323 *e*P **P 20 10 42.9 +1.6**
comp=Z,30nm,1.1s,mb5.0
LOR *e*MLR MLR
comp=Z,576nm,21.0s,MS4.6
LOR Lormes 85.37 323 *e*P **P 20 10 42.9 +1.6**
comp=Z,15nm,1.1s,mb5.0
LOR LR LR
comp=Z,580nm,21.0s,MS5.0
LOR Lormes 85.37 323 *e*P **P 20 10 42.9 +1.6**
LOR pmax pmax
comp=Z,15nm,1.1s,mb5.0
LOR MLR MLR
comp=Z,580nm,21.0s,MS5.0
EPF Esparros 85.42 318 *e*P **P 20 10 42.2 +0.5**
AVF Avril sur Loir 85.42 322 *e*P **P 20 10 42.0 +0.4**
comp=Z,18nm,1.1s,mb4.8
AVF Avril sur Loir 85.42 322 *e*P **P 20 10 42.0 +0.4**
comp=Z,9.1nm,1.1s,mb4.8
AVF Avril sur Loir 85.42 322 *e*P **P 20 10 42.0 +0.4**
AVF pmax pmax
comp=Z,9.0nm,1.1s,mb4.8
SSF Saint Saulge 85.47 322 *e*P **P 20 10 43.8 +2.0**
comp=Z,34nm,1.2s,mb5.1
SSF Saint Saulge 85.47 322 *e*P **P 20 10 43.8 +2.0**
comp=Z,17nm,1.2s,mb5.1
SSF Saint Saulge 85.47 322 *e*P **P 20 10 43.8 +2.0**
SSF pmax pmax
comp=Z,17nm,1.2s,mb5.0
BGF Bois d'Agland 85.60 322 *e*P **P 20 10 43.0 +0.5**
comp=Z,53nm,1.2s,mb5.3
BGF Bois d'Agland 85.60 322 *e*P **P 20 10 43.0 +0.5**
comp=Z,27nm,1.2s,mb5.3
BGF Bois d'Agland 85.60 322 *e*P **P 20 10 43.0 +0.5**
BGF pmax pmax
comp=Z,27nm,1.2s,mb5.3
RJF Les Rejaudoux 85.78 320 *e*P **P 20 10 43.9 +0.5**
comp=Z,83nm,1.5s,mb5.4
RJF *e*MLR MLR
comp=Z,2μm,23.0s,MS5.1
RJF Les Rejaudoux 85.78 320 *e*P **P 20 10 43.9 +0.5**
comp=Z,42nm,1.5s,mb5.4
RJF LR LR
comp=Z,2μm,23.0s,MS5.4
RJF Les Rejaudoux 85.78 320 *e*P **P 20 10 43.9 +0.5**
RJF pmax pmax
comp=Z,42nm,1.5s,mb5.5
RJF MLR MLR
comp=Z,2μm,23.0s,MS5.4
TCF Toulx Ste Croi 85.84 321 *e*P **P 20 10 44.3 +0.6**
MAJO Matsushiro 85.90 50 *e*P **P 20 10 44.1 -0.1**
comp=Z,92nm,1.6s,mb5.8
MAJO LR LR
comp=Z,707nm,21.0s,MS5.0
MAJO Matsushiro 85.90 50 *e*P **P 20 10 44.1 -0.2**
MAJO pmax pmax
comp=Z,92nm,1.6s,mb5.8
MAJO MLR MLR
comp=Z,707nm,21.0s,MS5.0
MAT Matsushiro 85.90 50 P **P 20 10 43.8 -0.5**
MAT S S 20 21 14.0 -4.0
MJAR Matsushiro Arr 85.91 50 P **P 20 10 43.5 -0.8**
MJAR pmax pmax
comp=Z,7.0nm,1.0s
MJAR MLR MLR
comp=Z,576nm,20.8s
MJAR Matsushiro Arr 85.91 50 P **P 20 10 43.5 -0.8**
comp=Z,7.4nm,1.0s,mb4.9,baz=230,slow=5.3,SNR=14
MJAR LR LR 20 49 03.7
comp=Z,576nm,20.8s,MS5.0,baz=275,slow=36
ETSF Etsaut 85.94 317 *e*P **P 20 10 44.8 +0.5**
LFF La Frestale 86.08 319 *e*P **P 20 10 45.2 +0.3**
comp=Z,26nm,1.0s,mb5.1
LFF La Frestale 86.08 319 *e*P **P 20 10 45.2 +0.3**
comp=Z,13nm,1.0s,mb5.1
LFF La Frestale 86.08 319 *e*P **P 20 10 45.2 +0.3**
LFF pmax pmax
comp=Z,13nm,1.0s,mb5.1
SJPF Ste Jean 86.47 317 *e*P **P 20 10 47.1 +0.2**
comp=Z,122nm,1.5s,mb5.6
SJPF Ste Jean 86.47 317 *e*P **P 20 10 47.1 +0.2**
comp=Z,61nm,1.5s,mb5.6
SJPF Ste Jean 86.47 317 *e*P **P 20 10 47.1 +0.2**
SJPF pmax pmax
comp=Z,61nm,1.5s,mb5.6
BAIF Baives 86.63 325 *e*P **P 20 10 49.1 +1.6**
comp=Z,53nm,1.3s,mb5.3
BAIF Baives 86.63 325 *e*P **P 20 10 49.1 +1.6**
comp=Z,27nm,1.3s,mb5.3
BAIF Baives 86.63 325 *e*P **P 20 10 49.1 +1.6**
BAIF pmax pmax
comp=Z,27nm,1.3s,mb5.3
ESDC Sonseca Array 86.79 313 P **P 20 10 47.9 -0.7**
comp=Z,3.5nm,0.9s,mb4.6,baz=105,slow=4.4,SNR=8.2
ESDC LR LR 20 52 22.3
comp=Z,1μm,18.4s,MS5.3,baz=130,slow=38
PAB San Pablo 87.01 313 PFAKE 20 11 00.0 +10
PAB LR LR
comp=Z,1μm,20.0s,MS5.4
MFF Saint Martin d 87.42 321 *e*P **P 20 10 51.6 +0.2**
comp=Z,34nm,1.2s,mb5.2
MFF Saint Martin d 87.42 321 *e*P **P 20 10 51.6 +0.2**
comp=Z,17nm,1.2s,mb5.2
MFF Saint Martin d 87.42 321 *e*P **P 20 10 51.6 +0.2**
MFF pmax pmax
comp=Z,17nm,1.2s,mb5.2
KLR Kul'dur 87.50 36 *e*P **P 20 10 45.0 -6.8**
NRGR Nerungri 87.97 28 *e*P **P 20 11 00.3 +6.5**
NRGR pmax pmax
comp=Z,50nm,0.7s,mb5.8
HFS Hagfors 88.13 336 P **P 20 10 55.0 +0.5**
HFS pmax pmax
comp=Z,13nm,1.1s
HFS Hagfors 88.13 336 P **P 20 10 55.0 +0.5**
comp=Z,13nm,1.1s,mb5.1,baz=192,slow=2.9,SNR=4.3
CLNS Chul'man 88.15 28 *e*P **P 20 10 58.6 +3.9**
CLNS pmax pmax
comp=Z,15nm,0.8s,mb5.3
CLNS pmax pmax
comp=N,2.0nm,0.4s
CLNS MLR MLR
comp=Z,500nm,14.0s,MS5.1
CLNS MLR MLR
comp=N,100nm,15.0s,MS5.0
CLNS MLR MLR
comp=E,400nm,15.0s,MS5.0
RPZ Rata Peaks 88.17 135 LR LR 20 43 30.7
comp=E,2μm,20.2s,MS5.5,baz=246,slow=31
LDF La Druitiere 88.35 322 *e*P **P 20 10 56.7 +0.9**
comp=E,35nm,1.1s,mb5.2
LDF La Druitiere 88.35 322 *e*P **P 20 10 56.7 +0.9**
comp=E,18nm,1.1s,mb5.2
LDF La Druitiere 88.35 322 *e*P **P 20 10 56.7 +0.9**
LDF pmax pmax
comp=Z,18nm,1.1s,mb5.2
PBAR Barrancos 88.36 311 *e*S S 20 21 45.5 +3.9
PBAR Barrancos 88.36 311 *e*LQ 20 34 22.0
PBAR *e*LR LR 20 40 36.7
comp=Z,2μm,24.8s
PVAQ Vaqueiros 88.56 310 *e*S S 20 21 34.0 -9.5
PVAQ Vaqueiros 88.56 310 *e*LQ 20 34 28.5
PVAQ *e*LR LR 20 39 18.1
comp=Z,1μm,17.7s
PBDV Barranco-do-Ve 88.65 310 *e*S S 20 21 51.4 +7.0
PBDV Barranco-do-Ve 88.65 310 *e*LQ 20 36 55.4
PBDV *e*LR LR 20 41 18.6
comp=Z,1μm,30.0s
GRR Gorron 88.69 322 *e*P **P 20 10 58.0 +0.6**
PESTR Estremoz 89.03 311 *e*S S 20 21 53.6 +5.7
PESTR Estremoz 89.03 311 *e*LQ 20 34 44.2
PESTR *e*LR LR 20 41 08.4
comp=Z,2μm,22.0s
HABR Khabarovsk 89.05 38 *e*P **P 20 10 56.6 -2.6**
HABR *e* PP 20 14 25.4 -4.0
HABR *e*S SKSac 20 21 19.3 -10
HABR *e*SS SS 20 27 37.9 -3.5
MORF Marmelete 89.20 309 *e*LR LR 20 40 21.7
comp=Z,1μm,14.2s
EVO Evora 89.21 311 *e*P **P 20 11 00.9 +0.8**
comp=Z,45nm,1.2s,mb5.4
EVO *e*MLR MLR
comp=Z,3μm,21.2s,MS5.4
PFVI Vila Bisbo 89.27 309 *e*S S 20 21 55.8 +5.6
PFVI Vila Bisbo 89.27 309 *e*LQ 20 36 14.2
PFVI *e*LR LR 20 40 20.4
comp=Z,1μm,12.1s
MVO Moncorvo 89.54 314 *e*S S 20 21 58.6 +6.1
MVO Moncorvo 89.54 314 *e*LQ 20 34 52.7
MVO *e*LR LR 20 42 05.2
comp=Z,1μm,32.5s
MTE Manteigas 89.60 313 *e*S S 20 21 58.4 +5.3
MTE Manteigas 89.60 313 *e*LQ 20 34 53.6
MTE *e*LR LR 20 39 17.9
comp=Z,1μm,22.9s
SGMF Saint Gilles 89.63 321 *e*P **P 20 11 02.3 +0.4**
NOA NORSAR Array B 89.65 336 P **P 20 11 02.3 +0.6**
NOA pmax pmax
comp=Z,4.0nm,1.1s
NOA MLR MLR
comp=Z,459nm,20.1s
NOA NORSAR Array B 89.65 336 P **P 20 11 02.3 +0.6**
comp=Z,4.4nm,1.1s,mb4.7,baz=120,slow=4.6,SNR=4.4
NOA LR LR 20 52 24.0
comp=Z,459nm,20.1s,MS4.9,baz=110,slow=36
QUIF Quistinic 89.85 321 *e*P **P 20 11 03.3 +0.4**
ROSF Rostrenen 90.10 321 *e*P **P 20 11 04.0 -0.1**
PMAFR Mafra 90.29 311 *e*S S 20 22 02.1 +2.5
PMAFR Mafra 90.29 311 *e*LQ 20 35 10.2
PMAFR *e*LR LR 20 41 33.1
comp=Z,2μm,18.0s
ARCES ARCESS Array B 91.30 347 P **P 20 11 08.8 -0.4**
ARCES LR LR 20 51 40.7
ARCES ARCESS Array B 91.30 347 P **P 20 11 08.8 -0.3**
ARCES pmax pmax
comp=Z,6.0nm,0.7s
ARCES MLR MLR
comp=Z,811nm,20.7s
ARCES ARCESS Array B 91.30 347 P **P 20 11 08.8 -0.4**
comp=Z,6.1nm,0.7s,mb5.0,baz=20,slow=3.9,SNR=12
ARCES LR LR 20 51 40.7
comp=Z,811nm,20.7s,MS5.2,baz=143,slow=35
ERM Erimo 91.59 46 PFAKE 20 11 20.0 +8.8
ERM LR LR
comp=Z,908nm,21.0s,MS5.2
YAK Yakutsk 93.08 25 *e*P **P 20 11 15.0 -2.5**
YAK pmax pmax
comp=Z,3.0nm,0.8s,mb4.8
YSS Yuzh-Sakhalins 93.15 42 *e*P **P 20 11 15.5 -2.8**
YSS pmax pmax
comp=Z,4.0nm,1.3s,mb4.7
TIXI Tiksi 97.87 16 *e*P **P 20 11 37.1 -2.1**
comp=Z,3.3nm,0.8s,mb4.9
TIXI LR LR
comp=Z,1μm,22.0s,MS5.3
SFJD Kangerlussuaq 116.32 337 PFAKE 20 17 00.0 +13
SFJD LR LR
comp=Z,862nm,19.0s,MS5.4
LCO Las Campanas 118.40 222 PFAKE 20 17 00.0 +7.6
LCO LR LR
comp=Z,656nm,20.0s,MS5.3
IMA2 Indian Mountai 124.39 19 *e*PKPdf PKPdf 20 17 02.1 -0.5
LPAZ La Paz 124.51 236 *e*PKPdf PKPdf 20 17 05.2 +0.7
LPAZ La Paz 124.51 236 PKP PKPdf 20 17 05.3 +0.9
comp=Z,2.8nm,1.0s,baz=66,slow=6.2,SNR=8.3
COLA College 126.97 18 PFAKE 20 17 20.0 +12
COLA LR LR
comp=Z,719nm,19.0s,MS5.4
INK Inuvik 127.30 9 PKIKP PKPdf 20 17 07.2 -1.0
INK pmax pmax
comp=Z,3.0nm,1.0s
INK Inuvik 127.30 9 PKP PKPdf 20 17 07.2 -1.1
comp=Z,3.0nm,1.0s,baz=38,slow=1.5,SNR=6.8
SCHQ Schefferville 128.42 328 PFAKE 20 17 20.0 +9.3
SCHQ LR LR
comp=Z,1μm,20.0s,MS5.6
PPT Papeete 130.23 132 *e*SS SS 20 37 03.4 +9.3
comp=Z,1μm,26.2s
PPT Papeete 130.23 132 *e*LR LR 20 58 15.0
comp=Z,1μm,31.0s
RKT Rikitea 134.62 151 *e*LR LR 21 00 15.0
comp=Z,1μm,24.0s
YKA Yellowknife Ar 134.75 1 PKP PKPdf 20 17 22.4 0.0
YKA PP PP 20 19 56.1 +0.6
YKA Yellowknife Ar 134.75 1 PKIKP PKPdf 20 17 22.4 0.0
YKA 20 19 56.1
YKA pmax pmax
comp=Z,2.0nm,0.7s
YKA Yellowknife Ar 134.75 1 PKhKP 20 17 10.6
comp=Z,0.5nm,0.8s,baz=3.2,slow=3.4,SNR=4.9
YKA PKP PKPdf 20 17 22.4 0.0
comp=Z,1.5nm,0.7s,baz=355,slow=2.2,SNR=20
YKA PP PP 20 19 56.1 +0.6
comp=Z,1.2nm,0.9s,baz=359,slow=6.9,SNR=6.2
LBNH Lisbon 136.12 317 PFAKE 20 17 40.0 +14
LBNH LR LR
comp=Z,1μm,20.0s,MS5.6
NCB Newcomb 137.73 318 PFAKE 20 17 40.0 +11
NCB LR LR
comp=Z,1μm,22.0s,MS5.6
SDV Santo Domingo 137.81 264 PKP PKPdf 20 17 31.5 +1.9
comp=Z,4.0nm,1.1s,baz=4.1,slow=7.9,SNR=3.8
EDM Edmonton 144.06 0 *e*PKPpre 20 17 36.7
ULM Lac du Bonnet 144.21 341 *e*PKPpre 20 17 35.6
ULM Lac du Bonnet 144.21 341 PKhKP 20 17 35.4
comp=Z,6.3nm,0.7s,baz=52,slow=4.2,SNR=11
AAM Ann Arbor 144.50 321 PFAKE 20 17 50.0 +9.2
AAM LR LR
comp=Z,1μm,20.0s,MS5.7
EYMN Ely 144.56 335 *e*PKPdf PKPdf 20 17 39.8 -0.9
EYMN LR LR
comp=Z,2μm,20.0s,MS5.8
ELN Prospectdale 145.19 311 PKP PKPdf 20 17 42.3 +0.1
AGMN Agassiz Refuge 145.90 339 *e*PKP PKPdf 20 17 41.7 -1.3
TZTN Tazewell 147.49 312 *e*PKPbc PKPbc 20 17 47.2 -1.4
DGMT Dagmar 147.96 349 *e*PKPbc PKPbc 20 17 49.1 -0.4
TKL Tuckaleechee C 148.07 311 PKIKP PKPdf 20 17 47.5 +0.4
TKL pmax pmax
comp=Z,4.0nm,0.7s
TKL Tuckaleechee C 148.07 311 PKPbc PKPbc 20 17 47.5 -2.7
comp=Z,3.9nm,0.7s,baz=184,slow=3.0,SNR=2.4
WALA Waterton Lakes 148.22 1 *e*PKPbc PKPbc 20 17 49.1 -1.1
NLWA Neilton Lookou 148.63 14 *e*PKPbc PKPbc 20 17 50.9 -0.3
GOGA Godfrey 148.81 307 *e*PKPbc PKPbc 20 17 51.7 -0.5
NEW Newport 148.85 5 PKP PKPdf 20 17 47.5 -0.4
NEW PKPbc PKPbc 20 17 51.2 -0.6
NEW *e*PKPbc PKPbc 20 17 51.5 -0.4
NEW Newport 148.85 5 PKP PKPdf 20 17 47.5 -0.4
comp=Z,2.7nm,0.5s,baz=92,slow=22,SNR=2.4
NEW PKPbc PKPbc 20 17 51.2 -0.6
comp=Z,6.0nm,0.7s,baz=98,slow=22,SNR=8.3
EGMT Eagleton 149.13 356 PKPbc PKPbc 20 17 51.1 -1.4

OD2	Odessa Site #2	149.55	7	P	PKPbc	20 17 53.3	-0.3
EBG	Ellensburg	149.75	10	P	PKPbc	20 17 54.0	-0.2
SWET	Sewanee	149.83	312	ePKPbc	PKPbc	20 17 53.1	-1.6
LAO	LASA Array	150.03	350	ePKPbc	PKPbc	20 17 55.3	+0.5
LAO				LR	LR		
	comp=Z,1μm,20.0s,MS5.7						
ECSD	EROS,Sioux Fal	150.06	336	ePKPdf	PKPdf	20 17 49.2	-0.8
ECSD				ePKPbc	PKPbc	20 17 54.0	-0.9
ECSD				LR	LR		
	comp=Z,1μm,21.0s,MS5.8						
HAWA	Hanford	150.42	9	ePKPbc	PKPbc	20 17 55.5	-0.2
MSO	Missoula	150.45	1	ePKPbc	PKPbc	20 17 55.0	-0.8
WVT	Waverly	150.67	315	ePKPbc	PKPbc	20 17 54.6	-2.0
FVM	French Village	151.24	321	ePKPbc	PKPbc	20 17 57.4	-0.5
PLAL	Pickwick Lake	151.46	313	ePKPbc	PKPbc	20 17 58.2	-0.3
BOZ	Bozeman (W)	151.61	358	ePKPdf	PKPdf	20 17 52.7	+0.4
BOZ				ePKPbc	PKPbc	20 17 58.5	0.0
BOZ				LR	LR		
	comp=Z,989nm,20.0s,MS5.6						
LRAL	Lakeview Retre	151.64	309	PFAKE		20 18 00.0	+7.2
LRAL				LR	LR		
	comp=Z,1μm,20.0s,MS5.6						
CCM	Cathedral Cave	151.68	322	PFAKE		20 18 00.0	+7.3
CCM				LR	LR		
	comp=Z,2μm,22.0s,MS5.9						
RLMT	Red Lodge	151.97	354	ePKPbc	PKPbc	20 17 59.5	+0.2
RLMT				LR	LR		
	comp=Z,1μm,21.0s,MS5.7						
RSSD	Black Hills	152.07	346	ePKPbc	PKPbc	20 17 58.8	-0.8
BMO	Blue Mountains	152.22	6	ePKPbc	PKPbc	20 17 59.0	-0.9
YFT	Old Faithful	152.76	356	ePKPbc	PKPbc	20 18 02.8	+1.6
MOOW	Moose Ponds	153.46	356	PKPbc	PKPbc	20 18 00.2	-2.5
HLID	Hailey	153.70	2	ePKPbc	PKPbc	20 18 02.7	-0.6
HLID				LR	LR		
	comp=Z,2μm,22.0s,MS5.8						
TPAW	Teton Pass	153.73	356	ePKPbc	PKPbc	20 18 02.6	-0.7
KSU1	Kansas State U	153.82	330	PFAKE		20 18 10.0	+14
KSU1				LR	LR		
	comp=Z,1μm,20.0s,MS5.8						
REDW	Red Top Meadow	153.85	356	ePKPbc	PKPbc	20 18 01.0	-2.6
PDAR	Pinedale Array	154.33	354	PKP	PKPdf	20 17 56.2	-0.1
	comp=Z,0.5nm,0.7s,baz=104,slow=3.1,SNR=4.6						
PDAR				PKPbc	PKPbc	20 18 03.5	-1.2
	comp=Z,2.4nm,0.7s,baz=47,slow=1.0,SNR=17						
TEIG	Tepich	156.23	281	PKP	PKPdf	20 17 58.7	-0.9
	comp=Z,2.7nm,0.3s,baz=279,slow=1.6,SNR=2.3						
CMB	Columbia Colle	158.30	16	PFAKE		20 18 10.0	+8.3
CMB				LR	LR		
	comp=Z,1μm,21.0s,MS5.8						
WMOK	Wichita Mounta	158.30	326	PFAKE		20 18 10.0	+8.1
WMOK				LR	LR		
	comp=Z,1μm,21.0s,MS5.7						
NVAR	Mina Array Bea	158.38	11	PKP	PKPdf	20 18 00.5	-1.4
NVAR				PKPab	PKPab	20 18 36.1	0.0
NVAR	Mina Array Bea	158.38	11	PKP	PKPdf	20 18 00.5	-1.3
	comp=Z,0.3nm,0.4s,baz=304,slow=5.3,SNR=3.6						
NVAR				PKPab	PKPab	20 18 36.1	0.0
	comp=Z,2.9nm,0.7s,baz=22,slow=3.1,SNR=8.2						
ISA	Isabella	161.02	13	PFAKE		20 18 20.0	+15
ISA				LR	LR		
	comp=Z,1μm,21.0s						
ANMO	Albuquerque	161.33	343	PKP	PKPdf	20 18 05.0	-0.3
ANMO				PKPab	PKPab	20 18 50.8	+1.7
ANMO				LR	LR		
	comp=Z,1μm,21.0s						
ANMO	Albuquerque	161.33	343	PKP	PKPdf	20 18 05.0	-0.3
	comp=Z,0.9nm,0.7s,baz=183,slow=6.5,SNR=3.1						
ANMO				PKPab	PKPab	20 18 50.8	+1.7
	comp=Z,1.1nm,0.4s,baz=56,slow=3.6,SNR=2.6						
JCT	Junction City	162.01	320	PKPdf	PKPdf	20 18 06.3	+0.2
LAZ	Ladron	162.03	344	ePKPdf	PKPdf	20 18 06.8	+0.8
PFO	Pinyon Flat Ob	163.40	10	PFAKE		20 18 20.0	+13
PFO				LR	LR		
	comp=Z,1μm,19.0s						
PFO	Pinyon Flat Ob	163.40	10	PKP2	PKPab	20 18 56.1	-2.0
PFO				pmax	pmax		
	comp=Z,4.0nm,1.0s						
PFO	Pinyon Flat Ob	163.40	10	PKPab	PKPab	20 18 56.0	-2.0
	comp=Z,3.5nm,1.0s,baz=311,slow=12,SNR=2.3						
MNTX	Cornudas Mount	163.92	335	ePKPdf	PKPdf	20 18 07.5	-0.4
MNTX				LR	LR		
	comp=Z,1μm,22.0s						
TXAR	Lajitas Array	165.10	326	PKP	PKPdf	20 18 08.2	-0.8
	comp=Z,0.9nm,0.9s,baz=117,slow=0.6,SNR=4.7						
TXAR				PKPab	PKPab	20 19 04.7	-1.1
	comp=Z,1.6nm,0.9s,baz=71,slow=4.3,SNR=4.4						

*NEIC **04** 20:04:05.3±0.9, 1136N×8755W, h10km, Error ellipse: s-maj=22.5km s-min=14.0km az=45.0*
*ISCJB **04** 20:04:06.8±0.9, 1121N±004×8771W±006, h48km±12km, mb3.7/4, Error ellipse: s-maj=9.9km s-min=6.1km az=150.7*
*CASC **04** 20:04:08.2±2.3, 1122N×8766W, h37km±999km, MD4.0, ML4.2*
*IDC **04** 20:04:09.1±7.7, 1153N×8741W, h33km±61km, mb3.5/4, mb1 3.8/6, mb1mx3.6/21, mbtmp3.6/6, ML3.5/2, MS3.0/1, Ms1 3.0/1, ms1mx2.3/34, Error ellipse: s-maj=44.7km s-min=25.2km az=59.0*

ISC 04 20:04:07.8±1.7, 1125N±004×8769W±005, h31km±16km, n37, σ0§99/43, mb3.7/4, 10C-5D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COPN	Copaltepe	1.42	49	⇓ i P	Pn	20 04 31.6	0.0
CRUN	El Crucero	1.55	62	⇑ e P	Pn	20 04 33.2	0.0
CSAN		1.56	53	⇑ i P	Pn	20 04 33.4	0.0
TEL3	Telica 3	1.56	32	⇑ e P	Pn	20 04 33.1	-0.3
TELN	Telica	1.59	32	e P	Pn	20 04 32.4	-1.5
TELN				e S	Sn	20 04 52.9	-0.5
XAVN	Gruta Xavier	1.61	56	⇑ e P	Pn	20 04 34.4	+0.2
MOMJ	Momotombo	1.62	44	⇑ i P	Pn	20 04 33.8	-0.4
MOMJ				e S	Sn	20 04 54.8	+0.8
TICN	Ticuantepe	1.63	61	⇑ e P	Pn	20 04 34.7	+0.3
TICN				e S	Sn	20 04 56.1	+1.7
TISN	Laguna Tiscapa	1.66	57	e P	Pn	20 04 34.6	-0.2
TISN				e S	Sn	20 04 54.8	-0.2
MGAN	Managua	1.68	58	⇑ e P	Pn	20 04 34.8	-0.2
MGAN				e S	Sn	20 04 56.4	+1.0
MGAN				i		20 04 57.0	
	comp=E,4μm,0.3s						
APON	Apoyo	1.73	67	⇑ e P	Pn	20 04 35.3	-0.5
SSNN	San Juan del S	1.81	88	⇑ e P	Pn	20 04 36.6	-0.3
SSNN				e S	Sn	20 04 59.0	+0.2
HUEN		1.84	54	⇑ e P	Pn	20 04 37.2	-0.1
HUEN				e S	Sn	20 05 00.0	+0.4
CONN	Concepcion	2.05	81	⇓ e P	Pn	20 04 39.7	-0.5
MADN	Villa Maderas	2.12	85	e P	Pn	20 04 41.0	-0.2
VCR	Vista de Mar	2.31	119	e P	Pn	20 04 42.4	-1.4
TGUH	Tegucigalpa,Un	2.83	8	e P	Pn	20 04 50.0	-0.8
JCR	Jicaral	2.89	118	e P	Pn	20 04 50.6	-1.1
JCR				e S	Sn	20 05 22.7	-2.8
CGA2	Cerro Gallo 2	3.40	111	e P	Pn	20 04 59.3	+0.6
CGA2				e S	Sn	20 05 37.8	-0.2
PRS1	Puriscal	3.55	110	e P	Pn	20 05 02.3	+1.4
LAJ	Bijagual	3.77	111	e P	Pn	20 04 59.4	-4.4
LAJ				e S	Sn	20 05 37.2	-10
LCR2	La Lucha 2	3.92	112	e P	Pn	20 05 07.2	+1.2
LCR2				e S	Sn	20 05 50.3	-0.7
URSC	Urasca	4.10	110	⇓ e P	Pn	20 05 10.6	+2.3
BAR1		4.75	114	⇓ e P	Pn	20 05 18.6	+1.3
TEIG	Tepich	8.95	356	LR	LR	20 09 27.6	
	comp=E,103nm,21.3s,baz=317,slow=37						
CMIG	Matias Romero	9.08	311	Pn	Pn	20 06 17.9	+1.2
	comp=E,0.4nm,0.3s,baz=104,slow=12,SNR=4.3						
CHI2		15.29	114	⇓ e P	Px	20 04 32.2	
LAPE	La Pedrera	16.32	102	i P	Px	20 04 42.1	
SDV	Santo Domingo	16.96	96	Pn	Pn	20 08 02.1	-0.8
SDV	Santo Domingo	16.96	96	Pn	Pn	20 08 02.1	-0.8
	comp=E,0.2nm,0.3s,baz=315,slow=8.6,SNR=4.3						
TXAR	Lajitas Array	23.37	323	P	P	20 09 14.7	+0.7
	comp=E,0.8nm,0.6s,mb3.3,baz=136,slow=8.8,SNR=7.0						
SCHQ	Schefferville	46.49	17	P	P	20 12 29.6	-2.4
	comp=E,1.4nm,0.5s,mb4.2,baz=234,slow=10,SNR=4.1						
PLCA	Paso Flores	54.09	164	P	P	20 13 31.8	+2.2
	comp=E,1.1nm,0.7s,mb3.9,baz=312,slow=8.8,SNR=4.0						
YKA	Yellowknife Ar	54.71	345	P	P	20 13 33.0	-0.9
YKA				pP	pP	20 13 43.7	+0.4
YKA				PcP	PcP	20 14 37.2	+1.0
YKA				pPcP		20 14 47.5	
YKA	Yellowknife Ar	54.71	345	P	P	20 13 33.0	-0.9
	comp=E,0.2nm,0.5s,mb3.4,baz=140,slow=7.8,SNR=4.2						
YKA				pP	pP	20 13 43.7	+0.4
	comp=E,0.3nm,0.7s,baz=140,slow=7.7,SNR=4.9						
YKA				PcP	PcP	20 14 37.2	+1.0
	comp=E,0.1nm,0.4s,baz=143,slow=3.2,SNR=3.2						
YKA				pPcP		20 14 47.5	
	comp=E,0.5nm,0.7s,baz=143,slow=4.0,SNR=8.9						
ASAR	Alice Springs	138.59	247	pPKP	pPKPdf	20 23 42.1	+0.5
	comp=E,0.4nm,0.7s,baz=122,slow=2.3,SNR=2.8						
WRA	Warramunga Arr	138.70	253	PKP	PKPdf	20 23 31.8	+0.2
	comp=E,0.3nm,0.6s,baz=91,slow=2.5,SNR=5.8						
WRA				pPKP	pPKPdf	20 23 43.2	+1.3
	comp=E,0.4nm,0.5s,baz=90,slow=2.7,SNR=4.2						

*ATH **04** 20:08:06.5, 3983N×2480E, h36km±8km, MD3.6/5*
*THE **04** 20:08:06.4, 3982N×2485E, h9km, ML3.4*
*ISK **04** 20:08:06.6, 3971N×2498E, h16km, MD3.3*
*CSEM **04** 20:08:07.4±0.1, 3981N×2489E, h40km, MD3.3, Error ellipse: s-maj=2.7km s-min=1.5km az=179.0*
*NEIC **04** 20:08:08.0, 3962N×2487E, h10km, ML3.0(ATH), After ATH.*
*SKO **04** 20:08:18.4, 4000N×2415E, h0km*

ISC 04 20:08:04.8±0.5, 3982N±003×2480E±002, h3km±4km, n44, σ1§02/59, 2C, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LOS	Limnos	0.25	62	e Pg	Pg	20 08 10.8	+1.2
LIA	Limnos Island	0.31	75	P	Sg	20 08 16.7	+1.9
OUR	Ouranopolis	0.81	310	e Pg	Pg	20 08 22.7	+2.3
GADA	Gvkgeada	0.93	66	i PG	Pg	20 08 23.7	+1.1
GADA				i SG	Sg	20 08 35.8	+1.2
AOS	Alonnisos	0.96	228	e Pg	Pg	20 08 24.6	+1.4
PLG	Polygyros	1.18	299	e PN	Pn	20 08 28.2	0.0
EZN	Ezine	1.18	89	e PG	Pg	20 08 27.3	-0.1
EZN				e SG	Sg	20 08 42.8	+0.1
PRK	Paraskevi	1.28	116	e PN	Pn	20 08 29.5	-0.1
PRK				e SN	Sn	20 08 47.0	-0.2
NEO	Neokhori	1.32	248	e PN	Pn	20 08 30.1	0.0
NEO				e SN	Sn	20 08 47.3	-0.9
ENEZ	Enez	1.39	48	i PN	Pn	20 08 31.7	+0.6
ALN	Alexandroupoli	1.44	41	e Pg	Pg	20 08 30.7	-1.7
ALN				e Sg	Sg	20 08 49.7	-1.4
RDO	Rodhopi	1.44	23	e PB	Pb	20 08 31.4	-1.0
SOH	Sokhos	1.49	313	e Pg	Pg	20 08 32.7	-0.7
SOH				e Sg	Sg	20 08 53.9	+1.1
HORT	Hortiatis	1.52	302	e Pg	Pg	20 08 33.1	-0.7
HORT				e Sg	Sg	20 08 54.3	+0.8
SRS	Serrai	1.59	325	e Pg	Pg	20 08 33.9	-1.4
SRS				e Sg	Sg	20 08 55.6	-0.3
NVR	Nevrokopi	1.69	335	e PB	Pb	20 08 35.8	-0.8
CHOS	Chios island	1.73	145	e Pb	Pb	20 08 35.9	-1.4
CHOS				e Sb	Sb	20 08 58.6	-0.8
LIT	Litokhoron	1.79	280	e Pb	Pb	20 08 37.2	-1.1
LIT				e Sb	Sb	20 09 02.0	+0.7
LKR	Lokris	1.82	231	e PN	Pn	20 08 37.5	+0.5
KNT	Kendrikon	1.97	313	e Pn	Pn	20 08 39.5	+0.3
RKY	Sarkoy-Tekirda	2.02	64	e PN	Pn	20 08 40.1	+0.3
SART	Tekirdag	2.02	64	i P	Pn	20 08 38.7	-1.1
AGG	Agios Georgios	2.07	248	e Pn	Pn	20 08 41.0	+0.5
AGG				e Sn	Sn	20 09 07.7	+0.9
THL	Klokotos Trika	2.16	264	e PN	Pn	20 08 42.5	+0.8
VAY	Valandovo	2.27	312	e Pg	Pg	20 08 49.1	+0.8
VAY				e Sg	Sg	20 09 14.9	-2.7
VAY	Valandovo	2.27	312	e PN	Pn	20 08 44.6	+1.4
VAY	Valandovo	2.27	312	e Pg	Pg	20 08 49.0	+0.8
VAY				e Sg	Sg	20 09 14.9	-2.7
MRMT	Marmara Adasi	2.28	69	e PN	Pn	20 08 43.6	+0.2
PLD	Plovdiv	2.29	358	e Pn	Pn	20 08 44.3	+0.8
PLD				e Sn	Sn	20 09 12.9	+0.7
BALB	Balikesir	2.39	93	e PN	Pn	20 08 44.1	-0.7
BNT	Bandirma	2.46	76	e PN	Pn	20 08 45.0	-0.8
BTOK	Tokmak	2.49	90	i P	Pn	20 08 46.6	+0.3
AKS	Akhisar	2.52	111	e PN	Pn	20 08 45.5	-1.2
AKHS	Akhisar	2.52	111	i P	Pn	20 08 46.8	+0.1
SMG	Samos	2.64	142	e PN	Pn	20 08 48.8	+0.4
STIP	Stip	2.73	314	e Pn	Pg	20 08 56.5	-0.6
STIP				e Sg	Sg	20 09 29.9	-2.6
APE	Apeiranthos	2.80	168	P	Pn	20 08 50.8	+0.2
JMB	Yambol	2.97	26	e Pn	Pn	20 08 53.2	+0.4
VTS	Vitosha	3.02	337	⇑ i P	Pg	20 09 04.4	+1.7
KRUS	Krusevo	3.11	301	e Pn	Pg	20 09 03.1	-1.4
KRUS	Krusevo	3.11	301	e Pn	Pg	20 09 03.0	-1.5
KULA	Kula-Manisa	3.27	112	e PN	Pn	20 08 55.6	-1.5
YLV	Yalova	3.58	76	e PN	Pn	20 09 02.2	+0.9
GZR	Gura Zlata	5.77	346	⇑ i P	Pn	20 09 31.8	+0.5

IDC 04 20:13:26.4±2.1, 7157S×16371E, h0km, mb3.5/2, mb1 3.7/4, mb1mx3.6/12, mbtmp3.5/4, ML3.4/2, Error ellipse: s-maj=95.5km s-min=20.0km az=82.0, Victoria Land

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	Vanda	6.00	184	Pn	Pn	20 14 57.8	+1.6
	0.4nm,0.3s,baz=20,slow=18,SNR=21						
VNDA				Sn	Sn	20 16 11.5	+6.0
	1.8nm,0.3s,baz=70,slow=12,SNR=6.5						
VNDA				Lg		20 16 34.7	
	3.6nm,0.3s,baz=271,slow=15,SNR=8.0						
QSPA	South Pole Qui	18.48	180	P	Pn	20 17 43.7	+0.4
	0.0nm,0.3s,baz=317,slow=3.7,SNR=2.3						
ASAR	Alice Springs	50.84	324	P	P	20 22 28.9	+0.6
	0.4nm,0.6s,baz=167,slow=8.0,SNR=8.4						
WRA	Warramunga Arr	54.39	325	P	P	20 22 53.9	-0.8
	0.5nm,0.7s,baz=164,slow=7.0,SNR=5.0						
YKA	Yellowknife Ar	144.92	53	PKP	PKPdf	20 33 02.4	-0.9
	0.4nm,0.7s,baz=205,slow=3.1,SNR=7.1						

WEL 04 20:14:41.1±0.6, 3605S×17831E, h221km±6km, ML3.7/9, Error ellipse: s-maj=19.2km s-min=10.2km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	1.51	180	PN	Pn	20 15 16.8	+0.1
MXZ				SN	S	20 15 44.3	-0.4
PUZ	Puketiti	2.02	181	PN	Pn	20 15 21.7	+0.3
PUZ				SN	S	20 15 53.3	+0.3
MWZ	Matawai	2.37	195	PN	Pn	20 15 25.5	+0.6
MWZ				SN	S	20 15 58.9	-0.4
URZ	Urewera	2.41	203	PN	Pn	20 15 25.3	0.0
KNZ	Kokohu	3.01	190	PN	Pn	20 15 31.8	-0.1
PXZ	Pawanui	4.14	196	PN	Pn	20 15 44.5	-0.8
BFZ	Birch Farm	4.90	199	PN	Pn	20 15 53.7	-1.0
MRZ	Mangatainoka R	5.08	204	PN	Pn	20 15 55.1	-1.9
TIWZ	Tintock	5.09	201	PN	Pn	20 15 55.8	-1.3
KIW	Kapiti Island	5.50	208	PN	Pn	20 16 00.2	-2.1
KHZ	Kahutara	7.36	209	PN	Pn	20 16 21.7	-4.3

*IDC **04** 20:19:47.7±0.8, 695S×15492E, h0km, mb4.1/11, mb1 4.2/11, mb1mx4.1/17, mbtmp4.0/11, Error ellipse: s-maj=34.3km s-min=18.6km az=117.0*
*NEIC **04** 20:19:49.4±0.6, 689S×15484E, h10km, mb4.2/1, Error ellipse: s-maj=24.8km s-min=11.8km az=126.0*
*ISCJB **04** 20:19:51.5±0.7, 69S±01×1548E±02, h33km, mb3.9/11, Error ellipse: s-maj=29.1km s-min=13.7km az=36.3*

ISC 04 20:19:53.2±0.8, 69S±01×1548E±02, h35km, n17, σ0§73/15, mb3.9/11, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WB2	Warramunga Arr	23.69	235	e P	P	20 25 01.9	-0.2
WRA	Warramunga Arr	23.70	235	P	P	20 25 01.9	-0.3
	3.5nm,0.8s,mb3.8,baz=58,slow=9.2,SNR=19						
WRA				PcP	PcP	20 28 46.6	+0.8
	0.6nm,0.5s,baz=57,slow=2.6,SNR=5.5						
ASAR	Alice Springs	26.08	228	P	P	20 25 23.6	-0.1
	1.9nm,0.8s,mb3.7,baz=62,slow=8.7,SNR=20						
STKA	Stephens Creek	27.71	205	e P	P	20 25 40.6	+2.3
	3.7nm,0.8s,mb4.1						
STKA	Stephens Creek	27.71	205	P	P	20 25 39.0	+0.6
	4.8nm,0.8s,mb4.2,baz=30,slow=9.7,SNR=11						
FITZ	Fitzroy Crossi	30.52	246	P	P	20 26 03.0	-0.4
	1.5nm,0.9s,mb3.8,baz=84,slow=10,SNR=3.9						
MBWA	Marble Bar	36.74	244	e P	P	20 26 56.7	-0.9
SONM	Songino Array	69.19	327	P	P	20 30 57.6	+1.3
	1.2nm,0.8s,mb3.9,baz=140,slow=6.6,SNR=11						
QSPA	South Pole Qui	83.03	180	P	P	20 32 14.7	+0.2
	0.8nm,0.5s,mb4.0,baz=49,slow=0.1,SNR=9.9						
MKAR	Makanchi Array	83.25	319	P	P	20 32 17.1	+0.9
	0.6nm,0.7s,mb3.8,baz=108,slow=4.3,SNR=7.4						
ZALV	Zalesovo Beam	84.03	326	P	P	20 32 19.6	-0.4
	0.4nm,0.4s,mb4.0,baz=124,slow=5.6,SNR=3.6						
INK	Inuvik	89.73	21	P	P	20 32 47.4	-0.1
	0.4nm,0.4s,mb4.1,baz=259,slow=5.2,SNR=3.6						
NVAR	Mina Array Bea	91.83	52	P	P	20 32 57.6	-0.3
	0.4nm,0.7s,mb3.9,baz=259,slow=8.2,SNR=4.2						
YKA	Yellowknife Ar	96.37	28	P	P	20 33 17.2	-1.0
YKA	Yellowknife Ar	96.37	28	P	P	20 33 17.2	-1.0
	1.0nm,0.8s,mb4.3,baz=263,slow=4.7,SNR=14						
GERES	GERESS Array B	126.91	329	PKP	PKPdf	20 38 54.3	+0.8
	0.2nm,0.6s,baz=62,slow=3.6,SNR=3.6						
TORD	Torodi Ar. Bea	152.84	285	PKPbc	PKPbc	20 39 47.6	0.0
	1.2nm,0.7s,baz=62,slow=1.8,SNR=7.4						
TORD				PKPab	PKPab	20 39 57.9	-0.9
	0.9nm,0.8s,baz=60,slow=2.7,SNR=5.3						

IDC 04 20:30:19.8±4.3, 583S×12914E, h296km±44km, mb2.5/1, mb1 3.1/4, mb1mx2.9/14, mbtmp2.9/4, Error ellipse: s-maj=75.5km s-min=16.6km az=71.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	12.67	195	P	Pn	20 33 09.7	-0.9
	0.2nm,0.3s,baz=23,slow=13,SNR=5.0						
WRA	Warramunga Arr	14.91	161	P	Pn	20 33 35.2	-2.2
	0.3nm,0.3s,baz=340,slow=11,SNR=11						
WRA				S	S	20 36 20.1	+0.9
	0.1nm,0.3s,baz=339,slow=23,SNR=3.5						
ASAR	Alice Springs	18.32	166	P	P	20 34 14.1	+0.9
	0.7nm,0.3s,baz=348,slow=12,SNR=82						
ASAR				S	S	20 37 27.7	+0.8
	0.1nm,0.3s,baz=345,slow=25,SNR=3.2						
MKAR	Makanchi Array	66.78	327	P	P	20 40 40.0	+0.1
	0.1nm,0.3s,baz=122,slow=8.7,SNR=1.2						

*ISK **04** 20:36:22.8, 3837N×3921E, h5km, MD3.2*
*ISCJB **04** 20:36:23.6±0.4, 3835N±003×3925E±003, h2km, Error ellipse: s-maj=4.9km s-min=2.9km az=166.3*
*CSEM **04** 20:36:23.1±0.2, 3836N×3920E, h2km, MD3.3, Error ellipse: s-maj=5.3km s-min=3.5km az=177.0*
*DDA **04** 20:36:24.7, 3836N×3923E, h7km, Md3.3*

ISC 04 20:36:24.6±0.5, 3836N±004×3923E±004, h9km±6km, n18, σ1§12/27, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ELZG	Elazig	0.24	306	i P	Pg	20 36 28.7	-0.7
ELZG				i S	Sg	20 36 33.1	+0.4
MALT	Malatya	0.63	266	i PG	Pg	20 36 35.0	-1.8
MALT				i SG	Sg	20 36 46.3	+1.2
MYA	Malataya	0.63	267	i PG	Pg	20 36 35.7	-1.1
MYA				i SG	Sg	20 36 45.6	+0.5
DIY	Diyarbakir	0.91	120	i PG	Pg	20 36 41.4	-0.8
URFA	Urfa	0.97	199	PG	Pg	20 36 42.3	-1.0
BINT	Bingol	1.11	62	PN	Pn	20 36 45.2	-1.2
ATAB	Bozova	1.16	220	i P	Pb	20 36 47.0	+0.3
ATAB				i S	Sg	20 37 03.9	+2.1
EZC	Erzincan	1.46	18	PN	Pn	20 36 50.0	-1.1
MARD	Mardin	1.61	130	i P	Pn	20 36 51.6	-1.6
MARD				i S	Sn	20 37 13.5	-0.6
BNGL	BINGOL	1.62	68	i P	Pn	20 36 53.9	+0.6
BNGL				i S	Sg	20 37 17.9	+1.2
GZT	Gaziantep	1.66	233	i P	Pn	20 36 53.6	-0.2
GZT				i S	Sg	20 37 19.6	+1.8
BTMT	Batman	1.79	95	PN	Pn	20 36 55.0	-0.6
GAZ	Gaziantep	1.99	234	ePN	Pn	20 36 58.3	-0.1
EZM	Erzurum	2.27	46	ePN	Pn	20 37 03.7	+1.5
ERZM	Erzurum	2.27	46	i P	Pn	20 37 02.9	+0.6
ERZM				i S	Sg	20 37 37.4	-0.1
SIRT	Sirnak	2.68	108	ePN	Pn	20 37 09.2	+1.3
COBT	Iskenderun	3.00	233	i P	Pg	20 37 20.7	-1.3
COBT				i S	Sg	20 38 00.2	-0.6
CUKT	Cukurca	3.64	106	ePN	Pn	20 37 23.5	+2.4

*IDC **04** 20:56:24.8±0.7, 795S×15603E, h0km, mb4.3/12, mb1 4.5/12, mb1mx4.4/16, mbtmp4.3/12, MS3.8/3, Ms1 3.8/3, ms1mx3.4/27, Error ellipse: s-maj=28.3km s-min=17.6km az=107.0*
*BJI **04** 20:56:26.1, 772S×15574E, h8km, mB4.9, mb4.7*
*NEIC **04** 20:56:26.0±0.6, 795S×15608E, h10km, mb4.5/5, Error ellipse: s-maj=21.7km s-min=11.1km az=121.0*
*MOS **04** 20:56:28.7±1.0, 780S×15594E, h33km, mb4.8/5, Error ellipse: s-maj=17.6km s-min=12.0km az=76.2*
*ISCJB **04** 20:56:29.0±5.1, 80S±01×156.1E±02, h45km±45km, mb4.3/23, MS3.8/2, Error ellipse: s-maj=30.2km s-min=17.2km az=19.5*

ISC 04 20:56:32.9±4.4, 80S±01×1561E±02, h66km±41km, n50, σ0§77/36, mb4.2/23, 4C, Bougainville - Solomon Islands region

| Code | Station Name | Δ° | AZ° | Phase ID Op | ISC |

comp=Z,10.0nm,1.0s,mb4.5
TIXI Tiksi 81.53 352⇑ *e*P P **21 08 42.8 0.0**
TIXI pmax pmax
comp=Z,2.0nm,2.0s,mb3.6
COLA College 83.66 21 *e*P P **21 08 52.5 -1.5**
MK31 Makanchi Array 84.88 319 *e*P P **21 09 01.3 +0.7**
MKAR Makanchi Array 84.88 319 P P **21 09 01.5 +0.9**
comp=Z,1.7nm,0.6s,mb4.1,baz=99,slow=6.0,SNR=21
ZALV Zalesovo Beam 85.63 326 P P **21 09 03.5 -0.6**
comp=Z,1.1nm,0.6s,mb4.0,baz=120,slow=4.9,SNR=7.1
ZAL Zalesovo 85.64 326 P P **21 09 03.5 -0.7**
INK Inuvik 90.31 21 P P **21 09 25.6 -0.6**
comp=Z,0.7nm,0.5s,mb4.0,baz=218,slow=5.1,SNR=6.6
NVAR Mina Array Bea 91.52 52 P P **21 09 35.5 +3.0**
comp=Z,0.3nm,0.4s,mb3.9,baz=242,slow=7.1,SNR=4.8
YKA Yellowknife Ar 96.75 28 P P **21 09 56.2 +0.3**
YKA Yellowknife Ar 96.75 28 P P **21 09 56.2 +0.3**
comp=Z,0.7nm,0.8s,mb4.2,baz=268,slow=4.8,SNR=10
AKASG Malin Array Be 119.00 324 PKP PKPdf 21 15 13.8 -0.3
AKASG Malin Array Be 119.00 324 PKP PKPdf 21 15 13.8 -0.3
comp=Z,0.5nm,0.4s,baz=61,slow=2.1,SNR=4.8
BRG Berggiesshubel 127.06 331 *e*PKIKP PKPdf 21 15 28.0 -1.6
BRG *e* 21 15 33.0
BRG Berggiesshubel 127.06 331 *e*(P) PKPdf 21 15 31.0 +1.5
comp=Z,8.5nm,1.2s
CLL Collm 127.22 332 *e*P PKPdf 21 15 28.0 -1.9
CLL *e* 21 15 33.0
CLL Collm 127.22 332 *e*PKPdf PKPdf 21 15 32.0 +2.1
GERES GERESS Array B 128.49 329 PKP PKPdf 21 15 34.4 +2.1
comp=Z,0.8nm,0.7s,baz=90,slow=1.3,SNR=7.4
LPAZ La Paz 130.03 119 PKP PKPdf 21 15 38.0 +1.8
comp=Z,2.1nm,0.9s,baz=136,slow=1.7,SNR=6.2
BDFB Brasilia 146.50 135 PKPbc PKPbc 21 16 08.7 +0.9
comp=Z,3.3nm,0.7s,baz=159,slow=3.0,SNR=6.4
TORD Torodi Ar. Bea 154.31 284 PKPbc PKPbc 21 16 27.1 +0.4
comp=Z,1.9nm,1.0s,baz=60,slow=2.8,SNR=7.9
TORD PKPab PKPab 21 16 42.2 +1.2
comp=Z,1.8nm,1.0s,baz=92,slow=2.6,SNR=5.4
DBIC Dimbokro 161.04 267 PKPab PKPab 21 17 11.2 +1.1
comp=Z,4.8nm,1.0s,baz=23,slow=3.9,SNR=4.1

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*ISCJB **04** 20:57:32.6±0.6, 5151N±003×1605E±003, h0km, Error ellipse: s-maj=4.8km s-min=2.6km az=16.8*
*IPEC **04** 20:57:33.9±0.3, 5158N×1613E, h6km±1km, ML2.1/3, Error ellipse: s-maj=1.8km s-min=0.7km az=32.0*
*NEIC **04** 20:57:34.4±1.3, 5154N×1601E, h5km, ML2.5(SZGRF), Error ellipse: s-maj=14.7km s-min=6.0km az=195.0*
*CSEM **04** 20:57:34.6±0.3, 5154N×1602E, h0km, ML3.0/8, Error ellipse: s-maj=5.4km s-min=2.8km az=16.0*
*WAR **04** 20:57:35, 5154N×1603E, ML2.5, Mining Induced*
*PRU **04** 20:57:35.7, 5151N×1601E, h0km*
*VIE **04** 20:57:36.8±0.6, 5130N×1601E, h0km, mb2.1/2, ML2.6/4, Error ellipse: s-maj=3.5km s-min=3.2km az=171.0 73 km WNW of Wroclaw Suspected Mining induced.*
ISC 04 20:57:34.0±0.6, 5153N±003×1605E±003, h0km, n35, σ0s87/67, 3C-1D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.70**	**167**	*e*Pg	**Pg**	**20 57 48.3**	**+0.8**
KSP				*e*Sg	**Sg**	**20 57 57.8**	**+1.2**
KSP				*e*		20 58 02.1	
KSP	**Ksiaz**	**0.70**	**167**	*e*Pg	**Pg**	**20 57 48.2**	**+0.7**
KSP				*e*Sg	**Sg**	**20 57 57.8**	**+1.2**
UPC	**Upice**	**1.02**	**181**	*e*PG	**Pg**	**20 57 54.2**	**+0.6**
UPC	**Upice**	**1.02**	**181**	*e*Pg	**Pg**	**20 57 54.1**	**+0.5**
DPC	**Dobruska-Polom**	**1.19**	**172**	*e*PG	**Pg**	**20 57 57.1**	**+0.2**
DPC				*e*SG	**Sg**	**20 58 12.8**	**+0.5**
34nm,0.6s							
DPC	**Dobruska-Polom**	**1.19**	**172**	*e*Pg	**Pg**	**20 57 57.1**	**+0.2**
DPC				*e*Sg	**Sg**	**20 58 12.3**	**0.0**
PVCC	**Panska Ves**	**1.37**	**224**	*e*Pg	**Pg**	**20 58 00.3**	**0.0**
PVCC				*e*Sg	**Sg**	**20 58 19.6**	**+1.6**
BRG	**Berggiesshubel**	**1.48**	**244**	Pg	**Pg**	**20 58 02.2**	**-0.2**
BRG				*e*Sg	**Sg**	**20 58 21.7**	**+0.2**
BRG	**Berggiesshubel**	**1.48**	**244**	PG	**Pg**	**20 58 02.2**	**-0.2**
BRG				SG	**Sg**	**20 58 22.3**	**+0.7**
32nm,0.5s							
RUE	**Ruedersdorf**	**1.70**	**305**	*e*Pn	**Pn**	**20 58 03.6**	**-1.2**
PRU	**Pruhonice**	**1.82**	**212**	*e*PN	**Pn**	**20 58 06.3**	**-0.2**
PRU				*e*PG	**Pg**	**20 58 08.0**	**-0.8**
PRU				*e*SG	**Sg**	**20 58 32.4**	**+0.1**
22nm,0.5s							
PRU	**Pruhonice**	**1.82**	**212**	*e*PN	**Pn**	**20 58 06.1**	**-0.4**
CLL	**Collm**	**1.92**	**265**	*i* Pn	**Pn**	**20 58 07.0**	**-0.9**
CLL				*i* Pg	**Pg**	**20 58 09.9**	**-0.9**
CLL				*i* Sg	**Sg**	**20 58 35.9**	**+0.2**
CLL	**Collm**	**1.92**	**265**	*i* Pn	**Pn**	**20 58 07.0**	**-0.9**
CLL				*i* Pg	**Pg**	**20 58 09.9**	**-0.9**
CLL				*i* x	x	20 58 14.0	
CLL				*i* Sg	**Sg**	**20 58 35.9**	**+0.2**
comp=Z,17nm,0.5s							
CLL	**Collm**	**1.92**	**265**	*e*Pn	**Pn**	**20 58 07.0**	**-0.9**
MORC	**Moravsky Berou**	**2.00**	**151**	*e*Pn	**Pn**	**20 58 08.5**	**-0.4**
MORC				*e*Sg	**Sg**	**20 58 37.2**	**-0.9**
comp=Z,9.3nm,0.3s							
OKC	**Ostrava-Krasne**	**2.16**	**141**	*e*PN	**Pn**	**20 58 13.8**	**+2.6**
OKC				*e*PG	**Pg**	**20 58 15.7**	**+0.4**
OKC				*e*SG	**Sg**	**20 58 43.9**	**+0.7**
comp=Z,22nm,0.6s							
VRAC	**Vranov**	**2.25**	**171**	*e*Pn	**Pn**	**20 58 12.6**	**+0.1**
VRAC				*e*Sg	**Sg**	**20 58 44.9**	**-1.4**
comp=Z,12nm,0.4s							
TREC	**Trest**	**2.27**	**189**	*e*Pn	**Pn**	**20 58 13.9**	**+1.2**
KRUC	**Moravsky**	**2.48**	**175**	*e*Pn	**Pn**	**20 58 16.3**	**+0.7**
KRUC	**Moravsky**	**2.48**	**175**	*e*Pg	**Pg**	**20 58 20.1**	**-1.4**
KRUC				*e*Sg	**Sg**	**20 58 53.1**	**-0.6**
comp=Z,6.4nm,0.4s							
NKC	**Novy Kostel**	**2.62**	**242**	*e*PN	**Pn**	**20 58 18.0**	**+0.4**
NKC				*e*PG	**Pg**	**20 58 24.4**	**+0.1**
NKC				*e*SG	**Sg**	**20 59 00.1**	**+1.8**
comp=Z,30nm,0.4s							
NKC	**Novy Kostel**	**2.62**	**242**	*e*Pn	**Pn**	**20 58 17.7**	**+0.1**
OJC	**Ojcow**	**2.71**	**117**	*e*Pg	**Pg**	**20 58 25.6**	**-0.4**
OJC				*e*Sg	**Sg**	**20 59 01.7**	**+0.6**
KHC	**Kasperske Hory**	**2.88**	**214**	*e*PN	**Pn**	**20 58 20.9**	**-0.2**
KHC				*e*PG	**Pg**	**20 58 27.4**	**-1.7**
KHC				*e*SN	**Sn**	**20 58 57.0**	**+0.7**
KHC				*e*SG	**Sg**	**20 59 05.9**	**-0.5**
comp=Z,7.8nm,0.6s							
MOX	**Moxa**	**2.93**	**254**	*e*PG	**Pg**	**20 58 29.8**	**-0.4**
MOX				*e*SG	**Sg**	**20 59 09.1**	**+0.9**
MOX	**Moxa**	**2.93**	**254**	*e*Pg	**Pg**	**20 58 29.8**	**-0.4**
MOX				*e*Sg	**Sg**	**20 59 09.0**	**+0.8**
GEC2	**GERESS Array S**	**3.08**	**210**	*e*Pn	**Pn**	**20 58 24.6**	**+0.7**
MODS	**Modra-Piesok**	**3.26**	**165**	*e*PG	**Pg**	**20 58 36.0**	**-0.4**
MODS				*e*SG	**Sg**	**20 59 22.3**	**+3.7**
MODS	**Modra-Piesok**	**3.26**	**165**	*e*Pg	**Pg**	**20 58 36.1**	**-0.3**
MODS				*e*Sg	**Sg**	**20 59 22.3**	**+3.7**
KOLL	**Kolacno**	**3.32**	**152**	*e*PG	**Pg**	**20 58 37.6**	**0.0**
KOLL				*e*SG	**Sg**	**20 59 21.0**	**+0.4**
CONA	**Conrad Observa**	**3.61**	**182⇓**	*i*Pn	**Pn**	**20 58 31.0**	**-0.1**
CONA			**⇑**	*i*Sg	**Sg**	**20 59 27.9**	**-1.9**
comp=Z,9.4nm,0.5s							
MOA	**Molln**	**3.86**	**198⇑**	*i*Pn	**Pn**	**20 58 34.4**	**-0.2**
MOA			**⇑**	*i*Sg	**Sg**	**20 59 36.9**	**-1.1**
comp=Z,2.8nm,0.5s							
STHS	**Stebnicka Huta**	**3.93**	**121**	*e*PG	**Pg**	**20 58 49.8**	**+0.4**
STHS				*e*SG	**Sg**	**20 59 44.9**	**+4.6**
KECS	**Kecovo**	**4.18**	**135**	*e*PG	**Pg**	**20 58 53.6**	**-0.5**

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*IDC **04** 20:58:22.0±1.1, 4632N×15526E, h0km, mb3.7/10, mb1 3.9/11, mb1mx3.7/24, mbtmp3.7/11, ML3.6/1, Error ellipse: s-maj=32.4km s-min=20.5km az=168.0*
*NEIC **04** 20:58:23.5±0.9, 4633N×15521E, h10km, Error ellipse: s-maj=24.7km s-min=17.6km az=167.0*
*ISCJB **04** 20:58:25.0±0.8, 463N±02×1552E±01, h33km, mb3.7/12, Error ellipse: s-maj=22.5km s-min=12.5km az=160.7*
*MOS **04** 20:58:27.8±2.0, 4640N×15479E, h59km, mb4.0/7, Error ellipse: s-maj=22.8km s-min=19.9km az=77.5*
ISC 04 20:58:27.4±0.8, 464N±01×1552E±01, h35km, n23, σ0s77/23, mb3.7/12, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YSS	**Yuzh-Sakhalins**	**8.57**	**278**	*e*PN	**Pn**	**21 00 23.4**	**-5.5**
ASAJ	**Asahikawa**	**9.17**	**260**	PN	**Pn**	**21 00 37.5**	**+0.4**
ASAJ				pmax	pmax		
comp=Z,1.0nm,0.3s							

2007 APR

ASAJ Asahikawa 9.17 260 Pn **Pn 21 00 37.5 +0.4**
comp=Z,0.8nm,0.3s,baz=70,slow=13,SNR=8.4
BILL Bilibino 22.46 11 *e*P P **21 03 22.9 -0.1**
BILL pmax pmax
comp=Z,6.0nm,1.4s,mb3.8
INK Inuvik 41.20 32 P P **21 06 06.7 -1.4**
INK pmax pmax
comp=Z,1.0nm,0.9s
INK Inuvik 41.20 32 P P **21 06 06.7 -1.4**
comp=Z,0.6nm,0.9s,mb3.2,baz=292,slow=6.0,SNR=2.7
ZALV Zalesovo Beam 43.99 307 P P **21 06 30.5 -0.5**
comp=Z,0.5nm,0.5s,mb3.5,baz=69,slow=8.4,SNR=3.6
ZAL Zalesovo 44.00 307 P P **21 06 30.5 -0.5**
MKAR Makanchi Array 48.38 299 P P **21 07 04.9 -0.7**
MKAR pmax pmax
comp=Z,1.0nm,1.0s
MKAR Makanchi Array 48.38 299 P P **21 07 04.9 -0.7**
comp=Z,0.8nm,1.0s,mb3.7,baz=73,slow=8.4,SNR=4.4
YKA Yellowknife Ar 50.36 37 P P **21 07 20.1 -0.4**
YKA Yellowknife Ar 50.36 37 *i* P P **21 07 20.1 -0.3**
YKA pmax pmax
comp=Z,1.0nm,0.7s
YKA Yellowknife Ar 50.36 37 P P **21 07 20.1 -0.3**
comp=Z,0.7nm,0.7s,mb3.8,baz=295,slow=7.3,SNR=8.9
NVAR Mina Array Bea 61.33 63 P P **21 08 40.1 +0.7**
comp=Z,0.6nm,0.7s,mb3.8,baz=304,slow=6.0,SNR=4.5
PDAR Pinedale Array 63.80 55 P P **21 08 56.2 +0.4**
comp=Z,0.5nm,0.8s,mb3.6,baz=300,slow=2.0,SNR=4.1
FINES FINESS Array B 64.98 336 *i* P P **21 09 04.1 +0.9**
FINES pmax pmax
comp=Z,1.0nm,0.6s
FINES FINESS Array B 64.98 336 P P **21 09 03.7 +0.6**
comp=Z,0.9nm,0.6s,mb4.0,baz=46,slow=8.1,SNR=5.9
HFS Hagfors 69.30 341 P P **21 09 32.4 +1.8**
HFS pmax pmax
comp=Z,2.0nm,0.7s
HFS Hagfors 69.30 341 P P **21 09 32.4 +1.8**
comp=Z,1.8nm,0.7s,mb4.1,baz=69,slow=7.9,SNR=3.6
ASAR Alice Springs 72.34 200 P P **21 09 48.9 -0.5**
comp=Z,0.2nm,0.6s,mb3.2,baz=27,slow=6.3,SNR=3.7
TXAR Lajitas Array 76.42 62 P P **21 10 13.3 0.0**
comp=Z,0.9nm,0.6s,mb3.9,baz=312,slow=3.5,SNR=8.7
EKA Eskdalemuir Ar 77.03 348 P P **21 10 22.3 +6.0**
EKA pmax pmax
comp=Z,1.0nm,0.9s
EKA Eskdalemuir Ar 77.03 348 P P **21 10 22.2 +6.0**
comp=Z,0.7nm,0.9s,mb3.6,baz=15,slow=5.9,SNR=4.0

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*ISCJB **04** 21:03:45.5±0.9, 3890N±004×2636E±007, h6km±9km, Error ellipse: s-maj=9.4km s-min=5.7km az=164.7*
*CSEM **04** 21:03:45.0±0.6, 3892N×2636E, h2km, MD2.8, Error ellipse: s-maj=14.6km s-min=9.0km az=68.0*
*DDA **04** 21:03:46.5, 3891N×2636E, h7km±3km, Md2.8*
ISC 04 21:03:45.9±1.0, 3890N±004×2634E±008, h10km±9km, n6, σ0s59/12, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AYVA	**Ayvalik**	**0.49**	**34**	*i* P	**Pg**	**21 03 55.5**	**-0.1**
AYVA				*i* S	**Sg**	**21 04 02.7**	**+0.6**
URLA	**Izmir**	**0.58**	**159**	*i* P	**Pg**	**21 03 56.9**	**-0.2**
URLA				*i* S	**Sg**	**21 04 04.9**	**+0.2**
EZN	**Ezine**	**0.92**	**360**	*e*PG	**Pg**	**21 04 03.3**	**-0.4**
EZN				*e*SG	**Sg**	**21 04 15.9**	**+0.1**
BOZC	**Bozcaada**	**0.96**	**347**	*i* P	**Pg**	**21 04 03.8**	**-0.7**
BOZC				*i* S	**Sg**	**21 04 17.2**	**+0.1**
AKS	**Akhisar**	**1.15**	**91**	*e*PG	**Pg**	**21 04 08.5**	**+0.4**
AKS				*e*SG	**Sg**	**21 04 22.5**	**-0.6**
BTOK	**Tokmak**	**1.57**	**56**	*i* P	**Pn**	**21 04 15.3**	**+1.4**
BTOK				*i* S	**Sn**	**21 04 33.5**	**-0.8**

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*IDC **04** 21:15:59.9±0.7, 6825N×15484E, h0km, mb4.4/12, mb1 4.6/12, mb1mx4.5/15, mbtmp4.3/12, MS3.7/2, Ms1 3.7/2, ms1mx3.2/26, Error ellipse: s-maj=27.9km s-min=17.7km az=114.0*
*ISCJB **04** 21:16:00.9±0.5, 683S±007×15481E±0.10, h15km, mb4.6/28, MS4.6/3, Error ellipse: s-maj=14.2km s-min=9.1km az=20.3*
*BJI **04** 21:16:03.1, 690S×15470E, h24km, mB4.8, mb4.8, Ms5.5, Msz5.0*
*NEIC **04** 21:16:06.1±4.2, 688S×15481E, h44km±37km, mb4.5/10, Error ellipse: s-maj=14.9km s-min=12.4km az=76.0*
ISC 04 21:16:02.7±0.5, 687S±007×15486E±009, h16km, h16km±1.9km: pP-P, n50, σ0s86/44, mb4.6/28, MS4.6/3, 1C, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.64**	**117**	LR	LR	21 19 30.1	
comp=Z,597nm,21.9s,baz=173,slow=37							
EIDS	**Eidsvold**	**18.74**	**191**	*e*P	**Pn**	**21 20 21.1**	**-0.2**
KAKA	**Kakadu**	**22.83**	**254**	*e*P	**P**	**21 21 04.0**	**-1.2**
12nm,0.7s,mb4.4							
WB2	**Warramunga Arr**	**23.76**	**235**	*e*P	**P**	**21 21 14.5**	**-0.1**
WRA	**Warramunga Arr**	**23.77**	**235**	P	**P**	**21 21 14.3**	**-0.5**
16nm,1.0s,mb4.4,baz=60,slow=9.7,SNR=15							
WRA				PcP	PcP	21 24 58.9	+0.5
0.8nm,0.5s,baz=55,slow=2.5,SNR=8.2							
ASAR	**Alice Springs**	**26.15**	**228**	P	**P**	**21 21 36.0**	**-0.3**
ASAR				PcP	PcP	21 25 04.6	+1.0
ASAR				ScP	ScP	21 28 44.0	+1.2
ASAR	**Alice Springs**	**26.15**	**228**	P	**P**	**21 21 36.0**	**-0.3**
4.2nm,0.9s,mb4.0,baz=60,slow=8.5,SNR=27							
ASAR				PcP	PcP	21 25 04.6	+1.0
0.5nm,0.7s,baz=54,slow=4.7,SNR=3.1							
ASAR				ScP	ScP	21 28 44.0	+1.2
0.7nm,0.8s,baz=62,slow=2.6,SNR=6.5							
STKA	**Stephens Creek**	**27.79**	**205**	P	**P**	**21 21 52.2**	**+1.2**
7.8nm,1.2s,mb4.2							
STKA	**Stephens Creek**	**27.79**	**205**	P	**P**	**21 21 51.7**	**+0.7**
6.2nm,1.1s,mb4.1,baz=31,slow=13,SNR=4.9							
STKA				ScP	ScP	21 28 48.7	+1.1
3.0nm,0.9s,baz=18,slow=6.4,SNR=4.7							
STKA				LR	LR	21 32 20.6	
comp=Z,198nm,20.2s,MS3.7,baz=200,slow=35							
FITZ	**Fitzroy Crossi**	**30.58**	**246**	*e*P	**P**	**21 22 15.8**	**-0.1**
6.1nm,0.8s,mb4.5							
FITZ	**Fitzroy Crossi**	**30.58**	**246**	P	**P**	**21 22 15.8**	**-0.2**
3.3nm,0.8s,mb4.2,baz=88,slow=14,SNR=3.1							
KSRS	**Korea Array**	**50.77**	**332**	P	**P**	**21 25 00.8**	**-1.3**
2.5nm,1.0s,mb4.1,baz=153,slow=9.0,SNR=6.0							
NJ2	**Nanjing**	**51.73**	**321**	*e*P	**P**	**21 25 08.4**	**-1.0**
NJ2				AMB	AMB		
comp=Z,30nm,0.6s,mb5.4							
MDJ	**Mudanjiang**	**56.08**	**338**	P	**P**	**21 25 39.4**	**-1.5**
MDJ				AMB	AMB		
comp=Z,4.0nm,1.7s,mb4.2							
MDJ				AMB	AMB		
comp=Z,53nm,5.3s							
CN2	**Changchun**	**57.02**	**335**	*e*P	**P**	**21 25 48.5**	**+0.8**
GYA	**Guiyang**	**57.27**	**307⇑**	*i*P	**P**	**21 25 50.8**	**+1.0**
GYA				AMB	AMB		
comp=Z,10.0nm,1.2s,mb4.7							
BJI	**Beijing**	**58.74**	**326**	P	**P**	**21 25 58.8**	**-1.1**
KMI	**Kunming**	**59.84**	**304**	P	**P**	**21 26 08.6**	**+0.9**
KMI				AP	pP	21 26 14.7	+1.8
KMI				XP	sP	21 26 17.4	+2.5
KMI				AMB	AMB		
comp=Z,13nm,1.0s,mb4.9							
KMI	**Kunming**	**59.84**	**304**	P	**P**	**21 26 08.6**	**+0.9**
comp=Z,13nm,1.0s,mb4.9							
KMI				pP	pP	21 26 14.7	+1.8
KMI				sP	sP	21 26 17.4	+2.5
CD2	**Chengdu**	**61.63**	**311**	*e*P	**P**	**21 26 20.1**	**+0.2**
CD2				AMB	AMB		
comp=Z,10.0nm,0.8s,mb5.0							
CD2				AMB	AMB		
comp=Z,20nm,6.2s							
HHC	**Hu-ho-hao-te**	**61.91**	**324**	*e*P	**P**	**21 26 22.4**	**+0.8**
HHC				AP	pP	21 26 26.7	-0.1
HHC				PP	PP	21 28 39.4	+1.4
HHC				SCP	ScP	21 31 03.2	-0.5
HHC				PCS	PcS	21 31 06.6	+1.3
HHC				S	**S**	**21 34 46.4**	**+1.4**
HHC				SCS	ScS	21 36 10.1	-2.8
HHC				AMB	AMB		
comp=Z,12nm,0.4s,mb5.4							
HHC				AMB	AMB		
comp=Z,109nm,4.7s							
HHC				LR	LR		
comp=N,2μm,24.1s							
HHC				LR	LR		
comp=E,2μm,9.4s							
HHC				LR	LR		
comp=Z,742nm,14.7s							
LZH Lanzhou 64.13 316 *e*P **P 21 26 37.5 +1.1**							
LZH				AP	pP	21 26 42.3	+0.6
LZH				XP	sP	21 26 44.6	+1.0
LZH				PP	PP	21 29 01.2	+3.5
LZH				AMB	AMB		
comp=Z,17nm,1.4s,mb4.9							
LZH				AMB	AMB		
comp=Z,52nm,6.5s							
LZH				LR	LR		
comp=E,453nm,15.7s							
LZH				LR	LR		
comp=Z,715nm,19.2s,MS4.9							
LZH Lanzhou 64.13 316 *e*P **P 21 26 37.5 +1.1**							
comp=Z,17nm,1.4s,mb4.9							
LZH				pP	pP	21 26 42.3	+0.6
LZH				sP	sP	21 26 44.6	+1.0
LZH				PP	PP	21 29 01.2	+3.5
LZH				LR	LR		
comp=Z,720nm,19.2s,MS4.9							
GTA Gaotai 68.56 317 *e*P **P 21 27 06.7 +2.0**							
GTA				AP	pP	21 27 10.6	+0.6
GTA				XP	sP	21 27 14.1	+2.2
GTA				SCP		21 31 33.4	
GTA				S	S	21 36 10.6	+4.0
GTA				XS	sS	21 36 18.6	+3.3
GTA				SCS	ScS	21 37 02.8	-1.3
GTA				AMB	AMB		
comp=Z,4.0nm,0.9s,mb4.3							
GTA				AMB	AMB		
comp=Z,96nm,7.6s							
GTA				LR	LR		
comp=N,2μm,18.3s,MS5.6							
GTA				LR	LR		
comp=E,1μm,14.1s,MS5.6							
GTA				LR	LR		
comp=Z,1μm,17.6s,MS5.1							
SONM Songino Array 69.16 327 P **P 21 27 08.8 +0.5**							
comp=Z,3.3nm,1.0s,mb4.2,baz=131,slow=6.0,SNR=15							
VNDA Vanda 70.71 178 P **P 21 27 17.6 +0.3**							
comp=Z,6.5nm,1.3s,mb4.4							
VNDA Vanda 70.71 178 P **P 21 27 18.0 +0.7**							
comp=Z,1.1nm,0.9s,mb3.8,baz=276,slow=4.7,SNR=3.6							
JIRN Jiri 74.60 301 *e*P **P 21 27 41.9 +0.5**							
comp=Z,17nm,0.9s,mb5.0							
BILL Bilibino 75.17 4 *e*P **P 21 27 42.8 -1.0**							
comp=Z,5.9nm,0.9s,mb4.5							
KKN Kakani 75.41 301 *e*P **P 21 27 46.6 +0.5**							
GKN Gorkha 76.02 301 *e*P **P 21 27 49.9 +0.3**							
comp=Z,53nm,1.1s,mb5.4							
KOLN Koldanda 76.84 300 *e*P **P 21 27 54.6 +0.3**							
comp=Z,36nm,1.0s,mb5.2							
TTA Tatalina 78.96 21 *e*P **P 21 28 05.7 +0.4**							
IMA2 Indian Mountai 81.73 19 *e*P **P 21 28 20.5 +0.4**							
MCK McKinley 81.99 22 *e*P **P 21 28 20.1 -1.4**							
comp=Z,6.6nm,0.9s,mb4.6							
MK31 Makanchi Array 83.22 319 *e*P **P 21 28 27.5 -0.8**							
MKAR Makanchi Array 83.22 319 P **P 21 28 28.3 0.0**							
comp=Z,0.8nm,0.6s,mb3.9,baz=102,slow=5.1,SNR=9.1							
ZALV Zalesovo Beam 84.00 326 P **P 21 28 30.8 -1.4**							
ZALV Zalesovo Beam 84.00 326 P **P 21 28 30.8 -1.4**							
comp=Z,0.9nm,0.6s,mb4.1,baz=104,slow=6.3,SNR=6.2							
KBL Kabul 90.42 305 *e*P **P 21 29 03.0 -0.8**							
comp=Z,2.4nm,0.8s,mb4.6							
NVAR Mina Array Bea 91.75 52 P **P 21 29 10.9 +1.1**							
comp=Z,2.2nm,0.8s,mb4.5,baz=254,slow=8.3,SNR=2.5							
TPNV Topopah Spring 93.20 53 *e*P **P 21 29 16.8 +0.2**							
comp=Z,1.5nm,0.8s,mb4.5							
YKA Yellowknife Ar 96.29 28 P **P 21 29 29.9 -0.2**							
comp=Z,5.8nm,0.9s,mb5.0,baz=268,slow=4.6,SNR=46							
PDAR Pinedale Array 98.72 48 P **P 21 29 41.2 -0.3**							
comp=Z,1.1nm,0.9s,mb4.4,baz=279,slow=2.9,SNR=6.2							
AKASG Malin Array Be 117.36 324 PKP PKPdf 21 34 46.6 -0.9							
comp=Z,0.2nm,0.3s,baz=56,slow=2.0,SNR=4.8							
GERES GERESS Array B 126.88 329 PKP PKPdf 21 35 06.2 +0.4							
comp=Z,2.1nm,0.9s,baz=58,slow=3.3,SNR=9.5							
BDFB Brasilia 148.16 135 PKPbc PKPbc 21 35 46.3 -2.5							
comp=Z,5.1nm,0.9s,baz=201,slow=3.4,SNR=6.9							
TOA0 Torodi Ar. Sit 152.86 285 *e*PKPbc PKPbc 21 35 59.3 -0.8							
TORD Torodi Ar. Bea 152.86 285 PKP PKPdf 21 35 52.6 -0.3							
TORD PKPbc PKPbc 21 35 59.2 -0.9							
TORD Torodi Ar. Bea 152.86 285 PKP PKPdf 21 35 52.6 -0.3							
comp=Z,0.8nm,1.1s,baz=47,slow=1.3,SNR=3.5							
TORD PKPbc PKPbc 21 35 59.2 -0.9							
comp=Z,6.3nm,1.0s,baz=76,slow=1.6,SNR=21							

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*ISCJB **04** 21:18:10.8±0.9, 697N±008×7302W±009, h171km±8km, Error ellipse: s-maj=16.0km s-min=10.3km az=37.3*
*IDC **04** 21:18:10.7±1.4, 661N×7272W, h170km±16km, mb3.1/1, mb1 3.4/3, mb1mx3.0/20, mbtmp3.2/3, MS3.3/1, Ms1 3.3/1, ms1mx3.0/11, Error ellipse: s-maj=68.4km s-min=14.4km az=129.0*
*FUNV **04** 21:18:11.1, 686N×7314W, h170km, MW3.1*
ISC 04 21:18:11.6±0.9, 691N±008×7299W±009, h164km±9km, n17, σ1s00/24, 4D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**1.17**	**35**	*e*P	**Pn**	**21 18 39.7**	**+0.7**
CAPV				*e*S	**Sn**	**21 19 00.8**	**+0.6**
ROSC	**El Rosal**	**2.43**	**213**	P	**Pn**	**21 18 51.7**	**-1.0**
ROSC				S	**Sn**	**21 19 19.4**	**-5.0**
24nm,0.3s,baz=284,slow=22,SNR=16							
ROSC				LR	LR	21 19 32.1	
comp=Z,572nm,19.4s,baz=294,slow=34							
VIGV El Vigia 2.51 40⇓ *i*P **Pn 21 18 54.3 +0.8**							
VIGV				*e*S	**Sn**	**21 19 26.0**	**0.0**
SOCV Socops 2.52 57⇓ *e*P **Pn 21 18 54.5 +0.9**							
SOCV				*e*S	**Sn**	**21 19 26.7**	**+0.6**
SDV Santo Domingo 3.05 50 P **Pn 21 19 01.3 +1.1**							
12nm,0.3s,baz=224,slow=1.9,SNR=90							
SDV				S	**Sn**	**21 19 38.2**	**+0.3**
9.0nm,0.3

YKA	**Yellowknife Ar**	**75.95**	**28**	P	P	21 36 40.9	+0.1
YKA	**Yellowknife Ar**	**75.95**	**28**	P	P	21 36 40.9	+0.1
	0.5nm,0.8s,baz=292,slow=5.7,SNR=8.0						
FINES	**FINESS Array B**	**84.99**	**335**	P	P	21 37 28.1	-1.4
	3.4nm,0.9s,baz=54,slow=4.0,SNR=7.0						
TORD	**Torodi Ar. Bea**	**131.22**	**311**	PKP	PKPdf	21 44 06.6	-0.7
	0.3nm,0.6s,baz=45,slow=1.5,SNR=2.6						
LPAZ	**La Paz**	**147.42**	**88**	PKPbc	PKPbc	21 44 41.2	+2.2
LPAZ	**La Paz**	**147.42**	**88**	PKPbc	PKPbc	21 44 41.2	+2.2
	1.2nm,0.6s,baz=256,slow=4.7,SNR=5.5						

WEL 04 21:27:16.0±0.3,3907S×17518E,h224km±2km,ML3.5/21, 1C-1D,Error ellipse: s-maj=4.6km s-min=2.8km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FWVZ	**Far West T-bar**	**0.35**	**122**	PN	Pn	21 27 45.3	-0.1
FWVZ				SN	S	21 28 07.3	-1.0
WNVZ	**Wahianoa**	**0.42**	**128**	PN	Pn	21 27 45.8	+0.3
WNVZ				SN	S	21 28 08.1	-0.6
MOVZ	**Moawhango**	**0.56**	**127**	PN	Pn	21 27 45.8	-0.2
MOVZ				SN	S	21 28 08.0	-1.4
WAZ	**Wanganui**	**0.70**	**192**	PN	Pn	21 27 46.5	0.0
WAZ				SN	S	21 28 10.0	-0.6
BKZ	**Black Stump Fm**	**1.03**	**96**	PN	Pn	21 27 48.3	0.0
BKZ				SN	S	21 28 12.8	-0.8
TSZ	**Takapari Road**	**1.16**	**149**	PN	Pn	21 27 49.7	+0.5
TSZ				SN	S	21 28 15.4	+0.2
MRZ	**Mangatainoka R**	**1.62**	**169**	PN	Pn	21 27 52.5	-0.2
URZ	**Urewera**	**1.72**	**62**	⇓PN	Pn	21 27 52.0	-1.6
TIWZ	**Tintock**	**1.79**	**162**	PN	Pn	21 27 54.3	0.0
KIW	**Kapiti Island**	**1.80**	**186**	⇑PN	Pn	21 27 53.7	-0.7
BFZ	**Birch Farm**	**1.81**	**153**	PN	Pn	21 27 54.5	+0.1
KNZ	**Kokohu**	**1.95**	**89**	PN	Pn	21 27 55.9	+0.2
DUWZ	**D'Urville Isla**	**1.98**	**209**	PN	Pn	21 27 54.6	-1.4
MWZ	**Matawai**	**1.98**	**69**	PN	Pn	21 27 55.1	-1.0
CAW	**Cannon Point**	**2.04**	**182**	PN	Pn	21 27 56.0	-0.6
MTW	**Mount Morrison**	**2.10**	**173**	PN	Pn	21 27 56.6	-0.6
MRW	**Makara Radio**	**2.19**	**189**	PN	Pn	21 27 57.1	-1.0
TCW	**Tory Channel**	**2.25**	**198**	PN	Pn	21 27 57.7	-1.0
SNZO	**South Karori**	**2.27**	**189**	PN	Pn	21 27 57.7	-1.1
PAWZ	**Paruwai Farm**	**2.32**	**175**	PN	Pn	21 27 58.7	-0.7
MSWZ	**Moikau Station**	**2.34**	**179**	PN	Pn	21 27 58.8	-0.8
BHW	**Baring Head**	**2.35**	**186**	PN	Pn	21 27 58.6	-1.0
TUWZ	**Tuamarina**	**2.54**	**201**	PN	Pn	21 28 00.3	-1.4
NNZ	**Nelson**	**2.55**	**212**	PN	Pn	21 27 59.6	-2.2
PUZ	**Puketiti**	**2.61**	**69**	PN	Pn	21 28 01.4	-1.2
QRZ	**Quartz Range**	**2.69**	**228**	PN	Pn	21 27 59.9	-3.5
BSWZ	**Blackbirch Sta**	**2.82**	**200**	PN	Pn	21 28 03.7	-1.1
THZ	**Tophouse**	**3.20**	**212**	PN	Pn	21 28 07.0	-2.1
KHZ	**Kahutara**	**3.57**	**200**	PN	Pn	21 28 11.4	-1.9
DSZ	**Denniston Nort**	**3.71**	**223**	PN	Pn	21 28 10.7	-4.3
LTZ	**Lake Taylor**	**4.31**	**210**	PN	Pn	21 28 19.3	-3.1

*IDC **04** 21:28:17.5±1.6,698S×15489E,h0km,mb3.9/7,mb1 4.0/7, mb1mx3.9/13,mbtmp3.8/7,Error ellipse: s-maj=60.6km s-min=22.9km az=112.0*

*NEIC **04** 21:28:19.1±1.4,697S×15487E,h10km,Error ellipse: s-maj=53.1km s-min=19.7km az=112.0*

*ISCJB **04** 21:28:21.5±1.4,70S±02×1548E±03,h33km,mb3.7/7, Error ellipse: s-maj=50.6km s-min=18.5km az=22.9*

ISC 04 21:28:23.4±1.4,70S±02×1548E±03,h35km,n11,σ0°79/9, mb3.7/7,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.66**	**235**	P	**P**	**21 33 31.5**	**-0.4**
	2.1nm,0.8s,mb3.6,baz=58,slow=9.8,SNR=8.5						
ASAR	**Alice Springs**	**26.03**	**228**	P	**P**	**21 33 53.5**	**0.0**
	1.2nm,0.7s,mb3.5,baz=63,slow=8.8,SNR=11						
STKA	**Stephens Creek**	**27.65**	**205**	*e*P	**P**	**21 34 08.4**	**+0.4**
STKA	**Stephens Creek**	**27.65**	**205**	P	**P**	**21 34 08.1**	**+0.2**
	1.4nm,1.0s,mb3.5,baz=23,slow=13,SNR=2.7						
SONM	**Songino Array**	**69.24**	**327**	P	**P**	**21 39 27.4**	**+0.7**
	0.6nm,0.8s,mb3.6,baz=135,slow=6.4,SNR=5.1						
MKAR	**Makanchi Array**	**83.28**	**319**	P	**P**	**21 40 47.6**	**+1.0**
	0.5nm,0.7s,mb3.7,baz=103,slow=5.1,SNR=5.5						
ZALV	**Zalesovo Beam**	**84.08**	**326**	P	**P**	**21 40 48.8**	**-1.6**
	0.4nm,0.4s,mb3.9,baz=116,slow=6.7,SNR=2.8						
YKA	**Yellowknife Ar**	**96.43**	**28**	P	**P**	**21 41 48.5**	**-0.1**
YKA	**Yellowknife Ar**	**96.43**	**28**	P	**P**	**21 41 48.5**	**-0.1**
	0.8nm,0.8s,mb4.2,baz=268,slow=4.5,SNR=9.1						
TORD	**Torodi Ar. Bea**	**152.84**	**285**	PKPbc	PKPbc	21 48 16.0	-1.9
TORD				PKPab	PKPab	21 48 28.5	-0.4
TORD	**Torodi Ar. Bea**	**152.84**	**285**	PKPbc	PKPbc	21 48 16.0	-1.9
	0.3nm,0.4s,baz=19,slow=2.0,SNR=7.8						
TORD				PKPab	PKPab	21 48 28.5	-0.4
	0.7nm,0.8s,baz=74,slow=2.4,SNR=3.6						

*NIED **04** 21:40:00,3100N×14200E,h5km,Mw5.6 Best double couple: M0:2.86000×10^17 NP1:φs=32.00000°,δ70.00000°, λ119.00000°. NP2:φs=153.00000°,δ35.00000°,λ36.00000°.*

*BJI **04** 21:40:15.3,3085N×14192E,h22km,mB5.5,mb5.2,Ms5.7, Msz5.6*

*IDC **04** 21:40:17.4±0.4,3094N×14165E,h0km,mb5.1/24, mb1 5.2/27,mb1mx5.2/29,mbtmp5.1/27,ML4.8/4,MS5.3/33, Ms1 5.3/33,ms1mx5.3/41,Error ellipse: s-maj=17.1km s-min=9.5km az=83.0*

*GCMT **04** 21:40:18.8±0.1,3085N×14178E,h18km,MW5.7/100, Moment Tensor Solution. s88,c158; s100,c245; Duration: 1s8 Moment tensor: Scale 10^17Nm; Mrr3.16±.05; Mθθ0.67±.04; Mφφ-3.82±.05; Mrθ-0.97±.11; Mθφ0.20±.03; Mφr2.97±.12; Best double couple: M0:4.70100×10^17 NP1:φs=192.00000°,δ26.00000°, λ113.00000°. NP2:φs=346.00000°,δ66.00000°,λ79.00000°. Principal axes: T 4.4420, Plg67.0000°, Azm236.0000°; N 0.5250, Plg10.0000°, Azm351.0000°; P -4.9610, Plg21.0000°, Azm84.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

*NEIC **04** 21:40:18.8±2.0,3093N×14167E,h9km±11km,mb5.4/144, MS5.4/165,MW5.6,MW5.6(NIED) Error ellipse: s-maj=3.6km s-min=3.3km az=149.0,Moment Tensor Solution. s15 Moment tensor: Scale 10^17Nm; Mrr3.15; Mθθ0.02; Mφφ-3.17; Mrθ0.29; Mθφ0.46; Mφr-0.17; Best double couple: M0:3.20000×10^17 NP1:φs=357.00000°, δ43.00000°,λ97.00000°. NP2:φs=167.00000°,δ47.00000°, λ83.00000°. Principal axes: T 3.1800, Plg85.0000°, Azm13.0000°; N 0.0600, Plg5.0000°, Azm172.0000°; P -3.2400, Plg2.0000°, Azm262.0000°;*

*MOS **04** 21:40:19.9±1.7,3088N×14161E,h33km,mb5.7/118, MS5.5/76 Error ellipse: s-maj=10.1km s-min=5.1km az=112.2*

*JMA **04** 21:40:19.2±0.1,3103N×14196E,h34km,M5.8*

*ISCJB **04** 21:40:21.9±0.1,3094N±002×14162E±002,h40km, mb5.5/248,MS5.5/234,Error ellipse: s-maj=2.6km s-min=1.9km az=6.4*

*SZGRF **04** 21:40:25.3,3137N×14188E,h40km,mb5.7,MS5.5, Southeast of Honshu, Japan*

ISC 04 21:40:23.7±0.1,3094N±002×14162E±002,h42km, h42km±1.1km:pP-P,n1155,σ0°88/1066,mb5.5/248, MS5.5/234,128C-105D,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**2.65**	**325**	P	**Pn**	**21 41 03.2**	**-0.7**
JHJ2				*e*S	**Sn**	**21 41 34.6**	**-0.1**
JHJ	**Hachijo jima 2**	**2.67**	**325**	Pn	**Pn**	**21 41 02.9**	**-1.3**
	100nm,0.3s,baz=249,slow=22,SNR=22						
JHJ				Sn	**Sn**	**21 41 27.9**	**-7.4**
	346nm,0.3s,baz=243,slow=22,SNR=7.2						
BSO1	**Boso 1**	**3.74**	**352**	P	**Pn**	**21 41 16.3**	**-2.5**
JKO	**Kozu shima**	**3.85**	**328**	P	**Pn**	**21 41 19.8**	**-0.6**
JKO				*e*S	**Sn**	**21 42 05.6**	**+1.2**
CBIJ	**Chichi jima**	**3.86**	**172**	P	**Pn**	**21 41 19.4**	**-1.2**
CBIJ	**Chichi jima**	**3.86**	**172**	Pn	**Pn**	**21 41 18.9**	**-1.6**
	159nm,0.3s,baz=325,slow=13,SNR=21						
CBIJ				Sn	**Sn**	**21 41 59.7**	**-5.0**
	306nm,0.3s,baz=298,slow=23,SNR=6.3						
CBIJ				LR	LR	21 42 45.9	
	comp=Z,52μm,18.5s,baz=349,slow=38						
BSO3	**Boso 3**	**3.96**	**347**	P	**Pn**	**21 41 20.1**	**-1.8**
JOD2	**Odawara 2**	**4.80**	**334**	P	**Pn**	**21 41 31.8**	**-1.6**
JIE	**Ise**	**5.38**	**311**	P	**Pn**	**21 41 42.5**	**+1.1**
JIE				S	**Sn**	**21 42 44.5**	**+2.4**
JYT	**Yasato**	**5.40**	**348**	P	**Pn**	**21 41 40.7**	**-1.0**
JYT				*e*S	**Sn**	**21 42 42.5**	**-0.1**
JRY	**Ryogami san**	**5.55**	**337**	P	**Pn**	**21 41 43.4**	**-0.2**
JRY				S	**Sn**	**21 42 47.4**	**+1.3**
JWZ	**Kozaga**	**5.63**	**299**	P	**Pn**	**21 41 46.5**	**+1.7**
JWZ				S	**Sn**	**21 42 52.5**	**+4.4**
JGF	**Kuroka**	**5.86**	**324**	P	**Pn**	**21 41 49.1**	**+1.2**
JEG	**Eigenji**	**6.06**	**315**	P	**Pn**	**21 41 52.3**	**+1.6**
MJAR	**Matsushiro Arr**	**6.26**	**334**	P	**Pn**	**21 41 52.2**	**-1.3**
MJAR						21 43 03.8	
MJAR				pmax	pmax		
	comp=Z,27nm,0.3s						
MJAR				smax			
	comp=N,10.0nm,0.3s						
MJAR	**Matsushiro Arr**	**6.26**	**334**	Pn	**Pn**	**21 41 52.1**	**-1.3**
	comp=N,26nm,0.3s,baz=154,slow=10,SNR=212						
MJAR				Sn	**Sn**	**21 43 03.8**	**+0.1**
	comp=N,10nm,0.3s,baz=160,slow=18,SNR=5.0						
MAJO	**Matsushiro**	**6.27**	**334**	*e*Pn	**Pn**	**21 41 53.4**	**-0.1**
	comp=N,256nm,0.6s						
MAT	**Matsushiro**	**6.27**	**334**	P	**Pn**	**21 41 52.9**	**-0.6**
MAT				S	**Sn**	**21 43 05.2**	**+1.4**
MAT	**Matsushiro**	**6.27**	**334**	P	**Pn**	**21 41 51.1**	**-2.4**
MAT				S	**Sn**	**21 43 04.1**	**+0.3**
JFK	**Kawauchi**	**6.44**	**355**	P	**Pn**	**21 41 52.6**	**-3.3**
JWT	**Wachi**	**6.78**	**311**	P	**Pn**	**21 42 02.3**	**+1.8**
JWT				*e*S	**Sn**	**21 43 20.6**	**+4.2**
JMM	**Marumori**	**6.94**	**355**	P	**Pn**	**21 41 59.4**	**-3.4**
JMM				S	**Sn**	**21 43 15.3**	**-5.1**
JMN	**Monobe**	**7.11**	**295**	P	**Pn**	**21 42 09.1**	**+3.9**
JAD	**Aida**	**7.42**	**304**	P	**Pn**	**21 42 12.3**	**+2.9**
JSD	**Sado**	**7.60**	**340**	P	**Pn**	**21 42 10.2**	**-1.6**
JTO	**Tosashimizu**	**7.74**	**287**	P	**Pn**	**21 42 16.5**	**+2.8**
JYA	**Atsumi**	**7.79**	**349**	P	**Pn**	**21 42 12.4**	**-2.0**
JYA				*e*S	**Sn**	**21 43 36.7**	**-4.6**
JMK	**Ichinoseki**	**8.00**	**358**	P	**Pn**	**21 42 13.9**	**-3.4**
JMK				*e*S	**Sn**	**21 43 39.0**	**-7.4**
JHS	**Saijyo**	**8.21**	**302**	P	**Pn**	**21 42 24.2**	**+4.0**
JOM	**Ohasama**	**8.52**	**358**	P	**Pn**	**21 42 20.8**	**-3.6**
JOM				*e*S	**Sn**	**21 43 51.0**	**-8.1**
JKZ	**Kuzumaki**	**9.03**	**359**	P	**Pn**	**21 42 28.5**	**-2.8**
JNU	**Nakatsue**	**9.37**	**286**	P	**Pn**	**21 42 39.9**	**+3.8**
JNU	**Nakatsue**	**9.37**	**286**	Pn	**Pn**	**21 42 39.8**	**+3.7**
	comp=N,1.3nm,0.3s,baz=71,slow=17,SNR=14						
JNU				LR	LR	21 46 15.0	
	comp=N,45μm,18.4s,baz=105,slow=38						
JSU	**Suzuyama**	**9.58**	**276**	P	**Pn**	**21 42 43.4**	**+4.5**
JTM	**Tenmabayashi**	**9.83**	**358**	P	**Pn**	**21 42 39.3**	**-3.1**
JTM				*e*S	**Sn**	**21 44 19.9**	**-12**
JOT	**Ohata**	**10.43**	**358**	P	**Pn**	**21 42 48.7**	**-1.8**
JMZ	**Minamidaito 2**	**10.48**	**243**	P	**Pn**	**21 42 57.4**	**+6.1**
JAM	**Amami Oshima**	**10.75**	**259**	P	**Pn**	**21 42 59.8**	**+4.8**
JKB	**Kayabe**	**10.93**	**358**	P	**Pn**	**21 42 54.0**	**-3.4**
JKB				*e*S	**Sn**	**21 44 50.9**	**-7.5**
ERM	**Erimo**	**11.12**	**6**	*e*P	**Pn**	**21 42 54.5**	**-5.5**
	comp=N,98nm,0.8s						
ERM	**Erimo**	**11.12**	**6**	*e*P	**Pn**	**21 42 54.8**	**-5.2**
JEM	**Erimo**	**11.12**	**6**	P	**Pn**	**21 42 54.5**	**-5.5**
JEM				*e*S	**Sn**	**21 44 52.0**	**-11**
JSH	**Shimam**	**11.75**	**354**	P	**Pn**	**21 43 07.5**	**-1.0**
JEW	**Eniwo**	**11.88**	**359**	P	**Pn**	**21 43 06.8**	**-3.5**
JOW	**Kunigami**	**12.39**	**254**	Pn	**Pn**	**21 43 20.8**	**+3.4**
	comp=N,2.8nm,0.3s,baz=92,slow=11,SNR=6.1						
JOW				LR	LR	21 47 50.6	
	comp=N,36μm,19.4s,baz=269,slow=37						
KSRS	**Korea Array**	**13.06**	**303**	Pn	**Pn**	**21 43 27.8**	**+1.2**
	comp=N,1.0nm,0.3s,baz=111,slow=13,SNR=16						
KSRS				LR	LR	21 48 24.4	
	comp=N,13μm,18.6s,baz=115,slow=37						
ASAJ	**Asahikawa**	**13.17**	**3**	P	**Pn**	**21 43 22.7**	**-5.3**
ASAJ	**Asahikawa**	**13.17**	**3**	Pn	**Pn**	**21 43 22.8**	**-5.3**
	comp=N,7.4nm,0.3s,baz=225,slow=9.3,SNR=31						
ASAJ				Sn	**Sn**	**21 45 42.9**	**-10**
	comp=N,2.2nm,0.3s,baz=319,slow=20,SNR=3.5						
YUK	**Yuzh-Kuril'sk**	**13.49**	**13**	*e*P	**Pn**	**21 43 30.5**	**-1.9**
YUK				pmax	pmax		
	comp=Z,210nm,0.4s						
YUK				MLR	MLR		
	comp=Z,4μm,20.0s						
YUK				MLR	MLR		
	comp=N,6μm,16.0s						
YUK				MLR	MLR		
	comp=E,20μm,17.0s						
JKE	**Kume jima 2**	**13.81**	**254**	P	**Pn**	**21 43 46.4**	**+10**
INCN	**Inchon**	**14.00**	**302**	*e*P	**Pn**	**21 43 41.9**	**+2.5**
	comp=E,156nm,1.1s						
JWK2	**Keihoku**	**14.35**	**1**	P	**Pn**	**21 43 40.5**	**-3.6**
VLA	**Vladivostok**	**14.41**	**330**	*e*P	**Pn**	**21 43 45.1**	**+0.2**
VLA				pmax	pmax		
	comp=Z,44nm,1.3s						
YSS	**Yuzh-Sakhalins**	**16.01**	**3**	*e*P	**Pn**	**21 44 01.9**	**-3.9**
	comp=Z,454nm,1.4s						
YSS	**Yuzh-Sakhalins**	**16.01**	**3**	*b i*P	**Pn**	**21 44 01.8**	**-4.0**
YSS				pmax	pmax		
	comp=N,120nm,1.0s						
YSS				pmax	pmax		
	comp=E,20nm,1.0s						
YSS				pmax	pmax		
	comp=Z,190nm,1.0s						
YSS				MLR	MLR		
	comp=N,14μm,16.0s						
YSS				MLR	MLR		
	comp=E,13μm,16.0s						
YSS				MLR	MLR		
	comp=Z,14μm,16.0s						
MDJ	**Mudanjiang**	**16.61**	**329**	P	**Pn**	**21 44 11.1**	**-2.2**
MDJ				AP	pP	21 44 20.6	-4.8
MDJ				XP	sP	21 44 25.8	-4.9
MDJ				S	**S**	**21 47 13.2**	**-13**
MDJ				SCP	ScP	21 52 34.4	+1.4
MDJ				PCS	PcS	21 52 37.9	+0.5
MDJ				AMB	AMB		
	comp=Z,31nm,1.4s						
MDJ				AMB	AMB		
	comp=Z,757nm,7.7s						
MDJ				LR	LR		
	comp=N,13μm,21.0s						
MDJ				LR	LR		
	comp=E,14μm,21.0s						
MDJ				LR	LR		
	comp=Z,12μm,15.8s						
JIJ	**Ishigaki jima**	**16.80**	**251**	P	**Pn**	**21 44 19.4**	**+3.5**
IRIF	**Iriomote-Funau**	**17.15**	**252**	P	**Pn**	**21 44 23.3**	**+3.0**
SSE	**Sheshan**	**17.52**	**276**	P	**Pn**	**21 44 24.7**	**-0.1**
SSE				XP	sP	21 44 39.4	-1.5
SSE				S	**S**	**21 47 39.1**	**-6.2**
SSE				AMB	AMB		
	comp=Z,50nm,1.2s						
SSE				AMB	AMB		
	comp=Z,4μm,9.2s						
SSE				LR	LR		
	comp=N,9μm,15.9s						
SSE				LR	LR		
	comp=E,13μm,15.9s						
SSE				LR	LR		
	comp=Z,20μm,15.0s						
SSE	**Sheshan**	**17.52**	**276**	P	**Pn**	**21 44 24.7**	**-0.1**
	comp=Z,50nm,1.2s						
SSE				sP	sP	21 44 39.4	-1.5
SSE				S	**S**	**21 47 39.1**	**-6.2**
SSE				sS	sS	21 47 56.3	-5.2
GUMO	**Guam**	**17.53**	**169**	P	**Pn**	**21 44 23.4**	**-1.6**
	comp=Z,1μm,1.2s						
GUMO	**Guam**	**17.53**	**169**	P	**Pn**	**21 44 23.4**	**-1.6**
GUMO				pmax	pmax		
	comp=Z,1μm,1.2s						
GUMO	**Guam**	**17.53**	**169**	P	**Pn**	**21 44 24.6**	**-0.4**
	comp=Z,5.1nm,0.3s,baz=22,slow=19,SNR=3.3						
GUMO				LR	LR	21 50 52.0	
	comp=Z,11μm,18.2s,baz=359,slow=36						
YOJ	**Yonaguni jima**	**17.69**	**253**	P	**Pn**	**21 44 29.4**	**+2.5**
SNY	**Shenyang**	**18.10**	**312**	⇓P	**Pn**	**21 44 31.2**	**-0.6**
SNY				S	**S**	**21 47 54.3**	**-2.7**
SNY				AMB	AMB		
	comp=Z,45nm,1.3s						
SNY				AMB	AMB		
	comp=Z,2μm,12.0s						
SNY				LR	LR		
	comp=N,17μm,16.2s						
SNY				LR	LR		
	comp=E,9μm,17.4s						
SNY				LR	LR		
	comp=Z,11μm,14.7s						
CN2	**Changchun**	**18.12**	**320**	⇓P	**Pn**	**21 44 30.0**	**-2.1**
CN2				*e*XP	sP	21 44 45.7	-1.8
CN2				*e*S	**S**	**21 47 48.4**	**-9.0**
CN2				AMB	AMB		
	comp=Z,40nm,1.3s						
CN2				AMB	AMB		
	comp=Z,200nm,5.0s						
CN2				LR	LR		
	comp=N,9μm,14.0s						
CN2				LR	LR		
	comp=E,16μm,14.0s						
CN2				LR	LR		
	comp=Z,15μm,16.0s						
DL2	**Dalian**	**18.19**	**301**	⇑*i*P	**Pn**	**21 44 30.2**	**-2.8**
DL2				S	**S**	**21 47 49.3**	**-10**
DL2				AMB	AMB		
	comp=Z,50nm,1.0s						
DL2				AMB	AMB		
	comp=Z,1μm,9.4s						
DL2				LR	LR		
	comp=N,6μm,17.0s						
DL2				LR	LR		
	comp=E,8μm,17.2s						
DL2				LR	LR		
	comp=Z,9μm,17.1s						
HABR	**Khabarovsk**	**18.21**	**346**	⇑*i*P	**Pn**	**21 44 32.7**	**-0.4**
HABR				*e*S	**S**	**21 47 54.8**	**-4.3**
HABR				pmax	pmax		
	comp=Z,386nm,2.5s						
TATO	**Taipei**	**18.74**	**256**	*e*P	**Pn**	**21 44 40.3**	**+0.6**
	comp=Z,430nm,1.1s						
YHNB	**Yeheng**	**18.95**	**256**	*e*P	**Pn**	**21 44 41.4**	**-0.9**
NACB	**Ninganchiao**	**18.98**	**254**	*e*P	**Pn**	**21 44 40.9**	**-1.6**
NJ2	**Nanjing**	**19.44**	**279**	*e*P	**Pn**	**21 44 45.9**	**-2.2**
NJ2				AP	pP	21 44 53.5	-3.3
NJ2				XP	sP	21 44 58.5	-3.6
NJ2				PP		21 45 03.2	
NJ2				S	**S**	**21 48 18.0**	**-6.2**
NJ2				XS	sS	21 48 30.0	-11
NJ2				AMB	AMB		
	comp=Z,140nm,1.1s						
NJ2				AMB	AMB		
	comp=Z,5μm,8.6s						
NJ2				LR	LR		
	comp=N,7μm,12.4s						
NJ2				LR	LR		
	comp=E,21μm,18.6s						
NJ2				LR	LR		
	comp=Z,21μm,17.8s						
KLR	**Kul'dur**	**19.73**	**341**	*e*P	**Pn**	**21 44 42.7**	**-8.7**
KLR				*e*S	**S**	**21 48 32.5**	**+2.8**
KLR				pmax	pmax		
	comp=Z,200nm,2.2s						
KLR				pmax	pmax		
	comp=N,1μm,12.0s						
KLR				pmax	pmax		
	comp=Z,2μm,12.0s						
KLR				smax			
	comp=N,1μm,11.0s						
KLR				smax			
	comp=E,4μm,11.0s						
KLR				MLR	MLR		
	comp=Z,24μm,13.0s						
TIA	**Tai'an**	**21.05**	**291**	*e*P	**P**	**21 45 03.0**	**-1.1**
TIA				LR	LR		
	comp=N,7μm,15.0s,MS5.2						
TIA				LR	LR		
	comp=E,4μm,15.0s,MS5.2						
QZH	**Quanzhou**	**21.18**	**259**	⇑*i*P	**P**	**21 45 05.0**	**-0.6**
QZH				S	**S**	**21 48 59.1**	**+0.2**
QZH				AMB	AMB		
	comp=Z,190nm,1.0s,mb5.4						
QZH				AMB	AMB		
	comp=Z,3μm,9.0s						
QZH				LR	LR		
	comp=N,14μm,16.6s,MS5.8						
QZH				LR	LR		
	comp=E,28μm,18.2s,MS5.8						
QZH				LR	LR		
	comp=Z,25μm,18.0s,MS5.6						
SKR	**Severo-Kuril's**	**22.49**	**25**	*e*P	**P**	**21 45 20.0**	**+0.7**
SKR				*e*		21 45 35.5	
SKR				*e*		21 45 52.0	
SKR				*e*		21 49 07.0	
SKR				*e*S	**S**	**21 49 24.0**	**+0.3**
SKR				*e*SS		21 50 12.0	
SKR				pmax	pmax		
	comp=Z,130nm,1.0s,mb5.3						
SKR				pmax	pmax		
	comp=E,2μm,16.0s						
SKR				pmax	pmax		
	comp=Z,3μm,16.0s						
SKR				pmax	pmax		
	comp=N,2μm,18.0s						
SKR				smax			
	comp=E,8μm,16.0s						
SKR				smax			
	comp=N,6μm,20.0s						
SKR				MLR	MLR		
	comp=N,5μm,12.0s,MS5.3						
SKR				MLR	MLR		
	comp=E,6μm,12.0s,MS5.3						
SKR				MLR	MLR		
	comp=Z,5μm,12.0s,MS5.2						
BJI	**Beijing**	**22.56**	**301**	P	**P**	**21 45 16.9**	**-3.2**
BJI				AP		21 45 25.1	
BJI				XP	sP	21 45 29.1	-6.6
BJI				S	**S**	**21 49 20.5**	**-4.5**
BJI				AMB	AMB		
	comp=Z,87nm,1.5s,mb5.0						
BJI				AMB	AMB		
	comp=Z,1μm,4.2s						
BJI				LR	LR		
	comp=N,13μm,20.2s,MS5.7						
BJI				LR	LR		
	comp=E,22μm,17.5s,MS5.7						
BJI				LR	LR		
	comp=Z,18μm,18.6s,MS5.5						
BJI	**Beijing**	**22.56**	**301**	P	**P**	**21 45 16.9**	**-3.2**
	comp=Z,87nm,1.5s,mb5.0						
BJI				P		21 45 17.4	
BJI				pP		21 45 25.1	
BJI				sP	sP	21 45 29.1	-6.6
BJI				S	**S**	**21 49 15.7**	**-9.3**
BJI				S	**S**	**21 49 20.5**	**-4.5**
APYP	**Conner**	**22.62**	**240**	*e*P	**P**	**21 45 18.9**	**-2.0**
APYP				*e*S	**S**	**21 49 19.4**	**-6.9**
WHN	**Wuhan**	**23.42**	**276**	P	**P**	**21 45 27.5**	**-1.7**
WHN				S	**S**	**21 49 36.9**	**-2.4**
WHN				AMB	AMB		
	comp=Z,751nm,2.0s,mb5.8						
WHN				LR	LR		
	comp=Z,38μm,16.2s,MS5.9						
PVCP	**Virac**	**23.59**	**227**	*e*P	**P**	**21 45 31.3**	**+0.5**
BCPH	**Baguio City Da**	**24.05**	**238**	⇑*e*P	**P**	**21 45 33.0**	**-2.0**
PCPH	**Palayan**	**24.22**	**235**	⇓*e*P	**P**	**21 45 35.8**	**-0.8**
TIY	**Taiyuan**	**24.97**	**294**	⇑*i*P	**P**	**21 45 38.8**	**-4.4**
TIY				PP		21 46 20.7	
TIY				S	**S**	**21 49 58.1**	**-6.0**
TIY				LR

HHC			PCS	PcS	21 52 59.5	-1.7
HHC			AMB	AMB		
	comp=Z,39nm,1.1s,mb4.8					
HHC			AMB	AMB		
	comp=Z,1μm,6.8s					
HHC			LR	LR		
	comp=N,9μm,19.4s,MS5.7					
HHC			LR	LR		
	comp=E,20μm,18.4s,MS5.7					
HHC			LR	LR		
	comp=Z,22μm,17.5s,MS5.8					
GZH	**Guangzhou**	**26.33 260**	P	**P**	**21 45 53.2**	**-2.5**
GZH			S	**S**	**21 50 26.5**	**+0.7**
GZH			LR	LR		
	comp=N,8μm,19.7s,MS5.5					
GZH			LR	LR		
	comp=E,10μm,20.4s,MS5.5					
GZH			LR	LR		
	comp=Z,21μm,17.3s,MS5.7					
BUSP	**Coron**	**27.34 231**	*e*P	**P**	**21 46 04.4**	**-0.4**
BUKP	**Musuan**	**27.68 217**	*e*P	**P**	**21 46 07.3**	**-0.6**
XAN	**Xi'an**	**27.69 285**	P	**P**	**21 46 05.2**	**-2.6**
XAN			AP	pP	21 46 18.1	-1.0
XAN			PP		21 46 53.9	
XAN			AMB	AMB		
	comp=Z,21nm,1.7s,mb4.5					
XAN			AMB	AMB		
	comp=Z,744nm,10.3s					
XAN			LR	LR		
	comp=N,6μm,13.7s,MS5.5					
XAN			LR	LR		
	comp=E,6μm,14.1s,MS5.5					
XAN			LR	LR		
	comp=Z,8μm,15.0s,MS5.4					
DAV	**Davao City (W)**	**28.10 216**	PFAKE		21 46 20.0	+8.4
DAV			LR	LR		
	comp=Z,6μm,19.0s,MS5.2					
DAV	**Davao City (W)**	**28.10 216⇑**	*e*P	**P**	**21 46 10.0**	**-1.6**
NRGR	**Nerungri**	**28.29 340**	*e*P	**P**	**21 46 14.2**	**+1.3**
NRGR			S	**S**	**21 51 04.8**	**+8.7**
NRGR			pmax	pmax		
	comp=Z,86nm,0.7s,mb5.5					
NRGR			smax			
	comp=N,25nm,0.6s					
CLNS	**Chul'man**	**28.40 341***c*	*i*P	**P**	**21 46 14.1**	**+0.3**
CLNS			*e**PP	pP	21 46 22.9	-2.3
CLNS			*e*S	**S**	**21 50 59.6**	**+1.8**
CLNS			*e*SSS		21 52 39.2	
CLNS			pmax	pmax		
	comp=Z,70nm,2.0s,mb4.9					
CLNS			pmax	pmax		
	comp=N,60nm,1.3s					
CLNS			pmax	pmax		
	comp=E,10.0nm,1.2s					
CLNS			smax			
	comp=E,16nm,1.1s					
CLNS			smax			
	comp=Z,8.0nm,1.1s					
CLNS			smax			
	comp=N,36nm,1.3s					
CLNS			MLR	MLR		
	comp=N,3μm,14.0s,MS5.3					
CLNS			MLR	MLR		
	comp=Z,5μm,14.0s,MS5.3					
CLNS			MLR	MLR		
	comp=E,4μm,13.0s,MS5.3					
ENPP	**El Nido**	**28.43 231**	*e*P	**P**	**21 46 15.4**	**+0.8**
MA2	**Magadan**	**29.29 10**	P	**P**	**21 46 22.7**	**+0.9**
	comp=E,24nm,1.1s,mb4.8					
MA2			LR	LR		
	comp=Z,4μm,19.0s,MS5.1					
MA2	**Magadan**	**29.29 10***d*	*i*P	**P**	**21 46 24.3**	**+2.5**
MA2			*e**PP	pP	21 46 35.2	+2.1
MA2			*e*S	**S**	**21 51 12.5**	**+0.7**
MA2			pmax	pmax		
	comp=Z,100nm,1.6s,mb5.3					
MA2			MLR	MLR		
	comp=Z,12μm,15.2s,MS5.6					
CIT	**Chita**	**29.45 324**	*e*P	**P**	**21 46 19.3**	**-4.0**
CIT			*e*		21 47 18.5	
CIT			pmax	pmax		
	comp=Z,405nm,2.2s,mb5.8					
GYA	**Guiyang**	**30.91 271⇑**	*i*P	**P**	**21 46 34.6**	**-1.8**
GYA			PP	PP	21 47 40.2	-6.4
GYA			PCP	PcP	21 49 34.1	+1.7
GYA			S	**S**	**21 51 31.8**	**-6.0**
GYA			XS	sS	21 51 56.5	-0.3
GYA			SCP	ScP	21 53 12.3	+0.5
GYA			PCS	PcS	21 53 16.8	+0.3
GYA			SS	SS	21 53 22.8	-28
GYA			SCS	ScS	21 57 07.7	-1.1
GYA			AMB	AMB		
	comp=Z,60nm,0.8s,mb5.5					
GYA			AMB	AMB		
	comp=Z,790nm,8.9s					
GYA			LR	LR		
	comp=N,6μm,16.5s,MS5.4					
GYA			LR	LR		
	comp=E,2μm,16.4s,MS5.4					
GYA			LR	LR		
	comp=Z,6μm,18.5s,MS5.3					
QIZ	**Qiongzhong**	**31.04 255**	P	**P**	**21 46 37.7**	**0.0**
QIZ			S	**S**	**21 51 40.9**	**+0.9**
QIZ			XS	sS	21 51 57.7	-1.2
QIZ			AMB	AMB		
	comp=Z,40nm,2.4s,mb4.8					
QIZ			AMB	AMB		
	comp=Z,751nm,11.2s					
QIZ			LR	LR		
	comp=E,6μm,19.7s					
QIZ			LR	LR		
	comp=Z,8μm,20.1s,MS5.4					
ULN	**Ulaanbaatar**	**31.28 313**	*e*P	**P**	**21 46 38.9**	**-0.5**
	comp=Z,194nm,1.7s,mb5.7					
ULN			LR	LR		
	comp=Z,6μm,19.0s,MS5.3					
ULN	**Ulaanbaatar**	**31.28 313***c*	*i*P	**P**	**21 46 39.8**	**+0.4**
BATP	**Bataraza**	**31.28 230**	*e*P	**P**	**21 46 40.4**	**+0.6**
SONM	**Songino Array**	**31.68 312**	P	**P**	**21 46 43.3**	**+0.3**
SONM			pmax	pmax		
	comp=Z,17nm,0.7s					
SONM			MLR	MLR		
	comp=Z,6μm,19.0s					
SONM	**Songino Array**	**31.68 312**	P	**P**	**21 46 43.3**	**+0.3**
	comp=Z,16nm,0.7s,mb5.0,baz=119,slow=7.3,SNR=67					
SONM			LR	LR	21 59 41.5	
	comp=Z,6μm,19.0s,MS5.3,baz=110,slow=37					
LZH	**Lanzhou**	**31.77 290**	*e*P	**P**	**21 46 42.9**	**-1.1**
LZH			AP	pP	21 46 54.4	-0.9
LZH			PP	PP	21 47 49.0	-7.2
LZH			PCP	PcP	21 49 33.2	-1.3
LZH			*e*S	**S**	**21 51 48.1**	**-3.1**
LZH			XS	sS	21 52 08.5	-1.7
LZH			SCP	ScP	21 53 12.0	-2.5
LZH			SS	SS	21 53 40.2	-28
LZH			SCS	ScS	21 57 09.8	-3.0
LZH			AMB	AMB		
	comp=Z,55nm,1.0s,mb5.3					
LZH			AMB	AMB		
	comp=Z,499nm,8.1s					
LZH			LR	LR		
	comp=E,6μm,15.6s					
LZH			LR	LR		
	comp=Z,8μm,17.2s,MS5.5					
LZH	**Lanzhou**	**31.77 290**	*e*P	**P**	**21 46 42.9**	**-1.1**
	comp=Z,55nm,1.0s,mb5.3					
LZH			pP	pP	21 46 54.4	-0.9
LZH			sP	sP	21 47 00.3	0.0
LZH			PP	PP	21 47 49.0	-7.2
LZH			PPP		21 48 04.1	
LZH			PcP	PcP	21 49 33.2	-1.3
LZH			*e*S	**S**	**21 51 48.1**	**-3.1**
LZH			sS	sS	21 52 08.5	-1.7
LZH			ScP	ScP	21 53 12.0	-2.5
LZH			SS	SS	21 53 40.2	-28
LZH			ScS	ScS	21 57 09.8	-3.0
LZH			LR	LR		
	comp=Z,8μm,17.2s,MS5.5					
LZH	**Lanzhou**	**31.77 290**	*e*P	**P**	**21 46 42.9**	**-1.1**
LZH			*PP	pP	21 46 54.4	-0.9
LZH			*SP	sP	21 47 00.3	0.0
LZH					21 47 49.0	
LZH			PPP		21 48 04.1	
LZH					21 49 33.2	
LZH			*e*S	**S**	**21 51 48.1**	**-3.1**
LZH			*SS	sS	21 52 08.5	-1.7
LZH			SS	SS	21 53 40.2	-28
LZH					21 57 09.8	
LZH			pmax	pmax		
	comp=Z,55nm,1.0s,mb5.3					
LZH			MLR	MLR		
	comp=Z,8μm,17.2s,MS5.5					
YAK	**Yakutsk**	**32.06 349⇑**	*e*P	**P**	**21 46 44.6**	**-1.5**
YAK			LR	LR		
	comp=Z,4μm,20.0s,MS5.1					
YAK	**Yakutsk**	**32.06 349**	*e*P	**P**	**21 46 44.8**	**-1.3**
YAK			*e*		21 47 46.7	
YAK			*e*PPP		21 48 01.5	
YAK			*e*		21 49 36.2	
YAK			*e*S	**S**	**21 51 53.5**	**-1.5**
YAK			*i* SS	SS	21 53 42.1	-31
YAK			*e*		21 57 04.9	
YAK			pmax	pmax		
	comp=E,13nm,1.6s					
YAK			pmax	pmax		
	comp=Z,61nm,1.2s,mb5.3					
YAK			pmax	pmax		
	comp=N,45nm,1.3s					
YAK			smax			
	comp=N,2μm,12.2s					
YAK			smax			
	comp=E,2μm,11.5s					
SMY	**Shemya**	**32.12 38**	PFAKE		21 47 00.0	+13
SMY			LR	LR		
	comp=Z,5μm,21.0s,MS5.2					
CD2	**Chengdu**	**32.38 280⇓**	*i*P	**P**	**21 46 48.2**	**-1.1**
CD2			AP	pP	21 46 58.7	-2.0
CD2			XP	sP	21 47 03.8	-1.9
CD2			PP	PP	21 47 56.7	-6.2
CD2			PCP	PcP	21 49 34.0	-2.3
CD2			S	**S**	**21 51 59.2**	**-1.5**
CD2			XS	sS	21 52 16.2	-3.5
CD2			SS	SS	21 53 55.7	-25
CD2			SCS	ScS	21 57 10.6	-5.4
CD2			AMB	AMB		
	comp=Z,50nm,0.7s,mb5.5					
CD2			AMB	AMB		
	comp=Z,980nm,12.0s					
CD2			LR	LR		
	comp=N,13μm,15.6s,MS5.9					
CD2			LR	LR		
	comp=E,16μm,16.8s,MS5.9					
CD2			LR	LR		
	comp=Z,18μm,15.6s,MS5.9					
SEY	**Seymchan**	**32.74 9⇑**	*e*P	**P**	**21 46 50.0**	**-2.1**
BOD	**Bodaibo**	**32.90 333**	*e*P	**P**	**21 46 52.8**	**-0.7**
BOD			pmax	pmax		
	comp=Z,92nm,1.2s,mb5.6					
SDKM	**Sandakan**	**34.05 227**	⇑P	**P**	**21 47 05.6**	**+1.5**
KKM	**Kota Kinabalu**	**34.37 229**	*e*P	**P**	**21 47 06.9**	**+0.1**
KKM	**Kota Kinabalu**	**34.37 229**	⇑P	**P**	**21 47 08.1**	**+1.3**
ZAK	**Zakamensk**	**34.46 315⇑**	*i*P	**P**	**21 47 07.9**	**+0.7**
ZAK			*e*		21 52 37.0	
ZAK			pmax	pmax		
	comp=Z,40nm,1.9s,mb5.0					
IRK	**Irkutsk**	**34.57 319⇑**	*i*P	**P**	**21 47 08.0**	**-0.1**
IRK			pmax	pmax		
	comp=Z,309nm,2.3s,mb5.8					
KMI	**Kunming**	**34.68 270**	P	**P**	**21 47 08.0**	**-1.4**
KMI			AP	pP	21 47 21.1	+0.3
KMI			PP	PP	21 48 26.2	-2.3
KMI			S	**S**	**21 52 32.8**	**-3.7**
KMI			XS	sS	21 52 54.8	-0.8
KMI			SS	SS	21 54 45.9	-22
KMI			AMB	AMB		
	comp=Z,17nm,1.2s,mb4.8					
KMI			AMB	AMB		
	comp=Z,606nm,8.1s					
KMI			LR	LR		
	comp=N,3μm,15.3s,MS5.5					
KMI			LR	LR		
	comp=E,5μm,14.5s,MS5.5					
KMI			LR	LR		
	comp=Z,7μm,14.5s,MS5.5					
KMI	**Kunming**	**34.68 270**	P	**P**	**21 47 08.0**	**-1.4**
	comp=Z,17nm,1.2s,mb4.8					
KMI			pP	pP	21 47 21.1	+0.3
KMI			sP	sP	21 47 25.1	-0.7
KMI			PP	PP	21 48 26.2	-2.3
KMI			PPP		21 48 37.5	
KMI			S	**S**	**21 52 32.8**	**-3.7**
KMI			sS	sS	21 52 54.8	-0.8
KMI			SS	SS	21 54 45.9	-22
KMI			SSS		21 55 13.3	
KMI			LR	LR		
	comp=Z,7μm,14.5s,MS5.5					
KMI	**Kunming**	**34.68 270**	P	**P**	**21 47 08.0**	**-1.4**
KMI			*PP	pP	21 47 21.1	+0.3
KMI					21 48 26.2	
KMI			PPP		21 48 37.5	
KMI			S	**S**	**21 52 32.8**	**-3.7**
KMI			SS	SS	21 54 45.9	-22
KMI			SSS		21 55 13.3	
KMI			pmax	pmax		
	comp=Z,17nm,1.2s,mb4.8					
KMI			MLR	MLR		
	comp=Z,7μm,14.5s,MS5.5					
TSM	**Tawau**	**34.68 225**	⇓P	**P**	**21 47 10.7**	**+1.2**
TLY	**Talaya**	**34.71 318**	P	**P**	**21 47 10.6**	**+1.2**
	comp=Z,361nm,1.1s,mb6.2,SNR=42					
TLY	**Talaya**	**34.71 318***c*	*i*P	**P**	**21 47 09.8**	**+0.4**
TLY			*e*		21 48 43.2	
TLY			*e*S	**S**	**21 52 37.5**	**+1.1**
TLY			pmax	pmax		
	comp=Z,159nm,1.4s,mb5.8					
TLY			MLR	MLR		
	comp=Z,12μm,16.0s,MS5.7					
GTA	**Gaotai**	**34.95 296**	*e*P	**P**	**21 47 10.4**	**-1.2**
GTA			AP	pP	21 47 20.2	-2.8
GTA			XP	sP	21 47 24.0	-4.0
GTA			PP	PP	21 48 27.5	-3.7
GTA			PCP	PcP	21 49 45.4	+2.0
GTA			S	**S**	**21 52 38.7**	**-1.6**
GTA			XS	sS	21 52 55.1	-4.3
GTA			SCP	ScP	21 53 27.6	+2.0
GTA			PCS	PcS	21 53 30.3	+0.2
GTA			SS	SS	21 54 57.1	-16
GTA			SCS	ScS	21 57 30.2	+1.0
GTA			AMB	AMB		
	comp=Z,21nm,2.0s,mb4.7					
GTA			AMB	AMB		
	comp=Z,637nm,9.9s					
GTA			LR	LR		
	comp=N,9μm,15.7s,MS5.9					
GTA			LR	LR		
	comp=E,16μm,17.2s,MS5.9					
GTA			LR	LR		
	comp=Z,16μm,16.4s,MS5.9					
MOY	**Mondy**	**36.25 317**	*e*P	**P**	**21 47 22.9**	**+0.3**
MOY			pmax	pmax		
	comp=Z,179nm,2.0s,mb5.7					
ADK	**Adak**	**36.95 43**	PFAKE		21 47 40.0	+11
ADK			LR	LR		
	comp=Z,5μm,20.0s,MS5.3					
BTM	**Bintulu**	**38.55 230**	⇑P	**P**	**21 47 43.2**	**+0.8**
SBUM	**Sibu**	**39.68 230**	⇑P	**P**	**21 47 53.3**	**+1.4**
BILL	**Bilibino**	**39.84 14**	*e*P	**P**	**21 47 50.0**	**-2.6**
BILL			*i*		21 48 06.4	
BILL			*e*		21 49 21.7	
BILL			*i* S	**S**	**21 53 52.0**	**-2.0**
BILL			pmax	pmax		
	comp=Z,11nm,1.2s,mb4.5					
BILL			MLR	MLR		
	comp=Z,2μm,13.0s,MS5.2					
CHTO	**Chiang Mai**	**40.33 263**	*e*P	**P**	**21 47 54.8**	**-2.5**
	comp=Z,33nm,0.8s,mb5.1					
CHTO			LR	LR		
	comp=Z,6μm,20.0s,MS5.5					
CM31	**Chiang Mai Arr**	**40.48 262**	PFAKE		21 48 10.0	+11
CM31			LR	LR		
	comp=Z,8μm,20.0s,MS5.5					
NST	**Nakhon Sawan**	**40.77 258**	P	**P**	**21 48 00.0**	**-0.9**
TIXI	**Tiksi**	**41.35 354⇑**	*e*P	**P**	**21 48 02.0**	**-3.0**
TIXI			LR	LR		
	comp=Z,2μm,19.0s,MS4.9					
TIXI	**Tiksi**	**41.35 354**	*e*P	**P**	**21 48 03.8**	**-1.2**
TIXI			*e*S	**S**	**21 54 15.7**	**-0.6**
TIXI			pmax	pmax		
	comp=Z,28nm,0.9s,mb4.9					
KSM	**Kuching**	**41.68 231**	*e*P	**P**	**21 48 08.6**	**+0.2**
KSM	**Kuching**	**41.68 231**	⇑P	**P**	**21 48 09.9**	**+1.5**
LSA	**Lhasa**	**43.28 282**	P	**P**	**21 48 21.0**	**-0.3**
LSA			PP	PP	21 49 58.3	-4.0
LSA			S	**S**	**21 54 41.0**	**-4.8**
LSA			AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.5					
LSA			AMB	AMB		
	comp=Z,640nm,12.0s					
LSA			LR	LR		
	comp=N,3μm,17.0s,MS5.7					
LSA			LR	LR		
	comp=E,7μm,19.0s,MS5.7					
LSA			LR	LR		
	comp=Z,9μm,21.0s,MS5.7					
UNV	**Unalaska Valle**	**43.41 43**	PFAKE		21 48 30.0	+8.0
UNV			LR	LR		
	comp=Z,12μm,20.0s,MS5.8					
HNR	**Honiara**	**43.83 153**	PFAKE		21 48 40.0	+14
HNR			LR	LR		
	comp=Z,5μm,20.0s,MS5.4					
SHL	**Shillong**	**43.85 276**	*e*P	**P**	**21 48 26.0**	**+0.1**
WMQ	**Urumqi**	**44.01 303⇓**	*i*P	**P**	**21 48 27.4**	**+0.4**
WMQ			AP	pP	21 48 39.0	+0.3
WMQ			PP	PP	21 50 12.0	+2.1
WMQ			S	**S**	**21 54 57.0**	**+0.9**
WMQ			XS	sS	21 55 14.0	-1.5
WMQ			SS	SS	21 58 05.0	-8.9
WMQ			AMB	AMB		
	comp=Z,47nm,1.5s,mb5.0					
WMQ			AMB	AMB		
	comp=Z,1μm,7.6s					
WMQ			LR	LR		
	comp=N,7μm,22.0s					
WMQ			LR	LR		
	comp=E,4μm,16.8s					
WMQ			LR	LR		
	comp=Z,4μm,23.0s,MS5.3					
KTGM	**Kuala Trenggan**	**44.20 243**	⇑P	**P**	**21 48 29.6**	**+0.7**
KAKA	**Kakadu**	**44.29 193**	*e*P	**P**	**21 48 27.6**	**-1.8**
	comp=Z,57nm,1.0s,mb5.2					
BATI	**Kupang**	**44.40 206**	P	**P**	**21 48 29.2**	**-1.1**
	comp=Z,88nm,0.7s,mb5.6,baz=230,slow=0.8,SNR=23					
BATI			LR	LR	22 05 54.9	
	comp=Z,4μm,19.5s,MS5.3,baz=8.6,slow=35					
AGT	**Agartala**	**44.96 274**	*i* P	**P**	**21 48 33.0**	**-1.8**
AGT			*i* x	x	21 49 04.0	
KULM	**Kulim**	**46.14 245**	*e*P	**P**	**21 48 43.7**	**-0.6**
KULM	**Kulim**	**46.14 245**	⇓P	**P**	**21 48 44.8**	**+0.6**
TNA	**Tin City**	**46.15 26**	*e*P	**P**	**21 48 43.0**	**-0.7**
	comp=Z,141nm,1.8s,mb5.6					
TNA			LR	LR		
	comp=Z,1μm,19.0s,MS4.9					
KGM	**Kluang**	**46.23 239**	⇑P	**P**	**21 48 46.6**	**+1.7**
ZALV	**Zalesovo Beam**	**46.31 317**	P	**P**	**21 48 44.8**	**-0.2**
	comp=Z,11nm,0.6s,mb5.0,baz=101,slow=8.5,SNR=61					
ZALV			PcP	PcP	21 50 20.7	+0.9
	comp=Z,9.8nm,0.6s,baz=110,slow=3.0,SNR=6.7					
ZALV			LR	LR	22 08 52.6	
	comp=Z,3μm,18.3s,MS5.3,baz=96,slow=37					
ZAL	**Zalesovo**	**46.32 317**	P	**P**	**21 48 44.8**	**-0.4**
ZAL					21 50 20.7	
FRIM	**Kepong**	**46.69 242**	⇓P	**P**	**21 48 49.3**	**+0.7**
NVS	**Novosibirsk**	**47.32 318**	*i* P	**P**	**21 48 52.9**	**-0.1**
NVS			*i* S	**S**	**21 55 44.6**	**+1.1**
NVS			*i* SS	SS	21 58 39.3	-32
NVS			pmax	pmax		
	comp=Z,296nm,1.9s,mb5.9					
NVS			pmax	pmax		
	comp=N,64nm,1.8s					
NVS			pmax	pmax		
	comp=E,227nm,1.8s					
NVS			smax			
	comp=N,66nm,1.9s					
NVS			smax			
	comp=E,100nm,1.8s					
MK31	**Makanchi Array**	**47.71 307**	*e*P	**P**	**21 48 55.5**	**-0.6**
MKAR	**Makanchi Array**	**47.71 307**	*i* P	**P**	**21 48 55.7**	**-0.4**
MKAR			pmax	pmax		
	comp=Z,7.0nm,0.5s					
MKAR	**Makanchi Array**	**47.71 307**	P	**P**	**21 48 55.8**	**-0.3**
	comp=Z,6.6nm,0.5s,mb4.9,baz=86,slow=9.2,SNR=75					
MKAR			LR	LR	22 09 31.5	
	comp=Z,5μm,21.1s,MS5.4,baz=91,slow=37					
JIRN	**Jiri**	**48.03 281**	*e*P	**P**	**21 48 58.1**	**-0.8**
	comp=Z,172nm,0.9s,mb6.1					
KKN	**Kakani**	**48.76 281**	*e*P	**P**	**21 49 03.5**	**-1.0**
	comp=Z,108nm,1.0s,mb5.8					
GKN	**Gorkha**	**49.24 282**	*e*P	**P**	**21 49 06.9**	**-1.2**
	comp=Z,239nm,1.2s,mb6.1					
BOK	**Bokaro**	**49.58 276**	*e*P	**P**	**21 49 09.5**	**-1.3**
BOK			AMb	AMB	21 49 16.3	
	comp=Z,83nm,1.7s,mb5.5					
KOLN	**Koldanda**	**50.18 282**	*e*P	**P**	**21 49 13.4**	**-1.9**
	comp=Z,140nm,0.8s,mb6.1					
SVW2	**Sparrevohn**	**50.36 34**	*e*P	**P**	**21 49 16.6**	**+0.4**
TTA	**Tatalina**	**50.41 32**	*e*P	**P**	**21 49 16.4**	**-0.1**
TTA	**Tatalina**	**50.41 32**	*e*P	**P**	**21 49 15.7**	**-0.8**
TTA			pmax	pmax		
	comp=Z,200nm,2.1s,mb5.8					
CTA	**Charters Tower**	**50.93 174**	*e*P	**P**	**21 49 21.0**	**+0.1**
	comp=Z,28nm,1.2s,mb5.1					
CTA	**Charters Tower**	**50.93 174**	*e*P	**P**	**21 49 21.0**	**+0.1**
CTA			pmax	pmax		
	comp=Z,28nm,1.2s					
CTA	**Charters Tower**	**50.93 174**	P	**P**	**21 49 21.1**	**+0.2**
	comp=Z,16nm,0.8s,mb5.0,baz=360,slow=8.2,SNR=9.6					
CTA			LR	LR	22 08 18.3	
	comp=Z,2μm,20.4s,MS5.2,baz=358,slow=33					
CTAO	**Charters Tower**	**50.93 174**	*e*P	**P**	**21 49 20.8**	**0.0**
	comp=Z,75nm,1.2s,mb5.5					
CTAO			LR	LR		
	comp=Z,2μm,20.0s,MS5.2					
CTAO	**Charters Tower**	**50.93 174**	*e*P	**P**	**21 49 20.8**	**-0.1**
CTAO			pmax	pmax		
	comp=Z,75nm,1.2s,mb5.5					
CTAO			MLR	MLR		
	comp=Z,2μm,20.0s,MS5.2					
WRAB	**Tennant Creek**	**51.06 189**	P	**P**	**21 49 20.6**	**-1.3**
	comp=Z,852nm,1.0s,mb6.6,SNR=9.5					
WB2	**Warramunga Arr**	**51.07 189**	*e*P	**P**	**21 49 20.4**	**-1.5**
WRA	**Warramunga Arr**	**51.07 189**	*i* P	**P**	**21 49 20.2**	**-1.7**
WRA			pmax	pmax		
	comp=Z,103nm,0.9s					
WRA	**Warramunga Arr**	**51.07 189**	P	**P**	**21 49 20.2**	**-1.7**
	comp=Z,103nm,0.8s,mb5.8,baz=6.5,slow=7.9,SNR=103					
WRA			ScP	ScP	21 54 36.1	+5.8
	comp=Z,2.5nm,0.8s,baz=360,slow=4.5,SNR=5.1					
WRA			LR	LR	22 10 12.8	
	comp=Z,2μm,18.2s,MS5.2,baz=10.0,slow=35					
FITZ	**Fitzroy Crossi**	**51.12 200**	*e*P	**P**	**21 49 21.8**	**-0.6**
	comp=Z,32nm,0.6s,mb5.4					
FITZ	**Fitzroy Crossi**	**51.12 200**	P	**P**	**21 49 22.2**	**-0.1**
	comp=Z,17nm,0.7s,mb5.1,baz=20,slow=9.4,SNR=23					
KDAK	**Kodiak Island**	**51.63 39**	P	**P**	**21 49 25.0**	**-0.8**
	comp=Z,452nm,1.0s,mb6.4,SNR=8.2					
KDAK	**Kodiak Island**	**51.63 39**	*e*P	**P**	**21 49 24.5**	**-1.3**
	comp=Z,66nm,0.9s,mb5.6					
KDAK			LR	LR		
	comp=Z,1μm,20.0s,MS4.9					
IMA2	**Indian Mountai**	**51.91 28**	*e*P	**P**	**21 49 27.9**	**+0.2**
ULHL	**Ulahol**	**52.52 302**	P	**P**	**21 49 33.5**	**+0.9**
	SNR=17					
TKM2	**Tokmak 2**	**52.87 303**	*e*P	**P**	**21 49 36.1**	**+0.9**
	comp=Z,382nm,2.0s,mb6.0					
TKM2			LR	LR		
	comp=Z,4μm,22.0s,MS5.4					
TKM2	**Tokmak 2**	**52.87 303**	P	**P**	**21 49 36.6**	**+1.4**
	SNR=26					
SLKM	**Skilak Lake**	**52.93 35**	*e*P	**P**	**21 49 33.3**	**-2.1**
KSH	**Kashi**	**53.25 298**	*e*P	**P**	**21 49 39.9**	**+1.8**
KSH			*e*AP	pP	21 49 49.8	-0.2
KSH			XP	sP	21 49 53.6	-1.3
KSH			PCP	PcP	21 50 47.0	+1.5
KSH			*e*PP	PP	21 51 40.4	+2.1
KSH			*e*SCP	ScP	21 54 41.0	+1.2
KSH			PCS	PcS	21 54 44.9	+0.6
KSH			S	**S**	**21 57 05.4**	**-1.0**
KSH			XS	sS	21 57 21.6	-4.6
KSH			SCS	ScS	21 59 22.3	-1.9
KSH			SS	SS	22 00 43.5	-2.7
KSH			AMB	AMB		
	comp=Z,353nm,1.5s,mb6.1					
KSH			LR	LR		
	comp=Z,13μm,18.3s,MS6.0					
FUNA	**Funafuti**	**53.26 131**	PFAKE		21 49 50.0	+12

FUNA LR LR
comp=Z,4μm,19.0s,MS5.5
KZA Kyzart 53.27 302 P **P 21 49 39.3 +1.1**
SNR=29
KBK Karagaybulak 53.39 302 P **P 21 49 40.3 +1.3**
SNR=32
BLSP Bilaspur 53.41 276 *e*P **P 21 49 37.8 -1.7**
BLSP AMb AMB 21 49 42.4
comp=Z,95nm,2.0s,mb5.4
CHMS Chumysh 53.47 303 P **P 21 49 40.1 +0.5**
SNR=14
PMR Palmer 53.49 34 *e*P **P 21 49 38.8 -0.7**
comp=Z,8.9nm,0.3s,mb5.2
PMR LR LR
comp=Z,2μm,21.0s,MS5.2
PMR Palmer 53.49 34 *e*P **P 21 49 37.4 -2.1**
PMR pmax pmax
comp=Z,65nm,1.2s,mb5.4
FRU Bishkek 53.59 303 *e*P **P 21 49 40.5 0.0**
FRU pmax pmax
comp=Z,250nm,2.1s,mb5.8
USP Ospenovka 53.60 303 P **P 21 49 41.3 +0.8**
SNR=19
MCK McKinley 53.67 31 PFAKE 21 49 50.0 +9.2
MCK LR LR
comp=Z,987nm,20.0s,MS4.9
MCK McKinley 53.67 31 P **P 21 49 40.6 -0.2**
MCK pmax pmax
comp=Z,52nm,1.4s,mb5.3
AAK Ala-Archa 53.72 302 P **P 21 49 41.7 +0.2**
comp=Z,100nm,0.7s,mb5.8,SNR=19
AAK Ala-Archa 53.72 302 P **P 21 49 42.4 +1.0**
SNR=23
UCH Uchtor 53.78 302 *e*P **P 21 49 43.5 +1.5**
comp=Z,217nm,1.9s,mb5.8
UCH LR LR
comp=Z,4μm,21.0s,MS5.5
UCH Uchtor 53.78 302 P **P 21 49 43.8 +1.9**
SNR=22
SML Sawmill 53.88 34 *e*P **P 21 49 42.0 -0.4**
DDI Dehra Dun 54.00 287 *e*P **P 21 49 42.5 -1.2**
VIS Vishakhapatnam 54.18 270 *e*P **P 21 49 44.3 -0.8**
VIS AMb AMB 21 49 50.8
comp=Z,98nm,1.7s,mb5.5
COLA College 54.20 30 *e*P **P 21 49 41.0 -3.6**
COLA LR LR
comp=Z,1μm,22.0s,MS5.0
COLA College 54.20 30 P **P 21 49 45.1 +0.5**
COLA pmax pmax
comp=Z,17nm,0.8s,mb5.0
EKS2 Erkin-Say 54.23 303 *e*P **P 21 49 45.1 -0.1**
comp=Z,56nm,1.4s,mb5.3
EKS2 LR LR
comp=Z,5μm,19.0s,MS5.6
EKS2 Erkin-Say 54.23 303 P **P 21 49 46.1 +0.9**
SNR=19
AML Almayashu 54.40 302 *e*P **P 21 49 47.0 +0.6**
comp=Z,28nm,0.6s,mb5.4
AML LR LR
comp=Z,4μm,22.0s,MS5.4
AML Almayashu 54.40 302 P **P 21 49 48.4 +1.9**
SNR=35
KIP Kipapa 54.44 85 PFAKE 21 50 00.0 +13
KIP LR LR
comp=Z,6μm,20.0s,MS5.6
SMLA Simla 54.48 288 *e*P **P 21 49 45.9 -1.3**
SMLA AMb AMB 21 49 48.6
comp=Z,190nm,6.9s
SDNR Sundarnagar 54.53 289 *e*P **P 21 49 47.5 -0.1**
ASAR Alice Springs 54.80 189 P **P 21 49 47.8 -1.6**
ASAR pmax pmax
comp=Z,37nm,0.8s
ASAR Alice Springs 54.80 189 P **P 21 49 47.8 -1.6**
comp=Z,37nm,0.8s,mb5.5,baz=0.0,slow=5.5,SNR=176
JBP Jabalpur 54.84 278⇑ *i*P **P 21 49 49.3 -0.6**
JBP *e*x x 21 49 52.2
comp=Z,95nm,1.4s
JBP *i* x x 21 56 56.6
MID Middleton Isla 54.89 36 *e*P **P 21 49 50.4 +0.7**
BRVK Borovoye 54.98 316⇑ *e*P **P 21 49 50.4 0.0**
BRVK LR LR
comp=Z,4μm,21.0s,MS5.5
EYAK Cordova Ski Ar 55.14 35 *e*P **P 21 49 51.5 0.0**
comp=Z,44nm,1.0s,mb5.4
NDI New Delhi 55.22 285 *e*P **P 21 49 51.0 -1.6**
NDI AMb AMB 21 49 53.7
comp=Z,272nm,3.6s
NDI *e*x x 21 52 29.0
THN Thein Dam 55.27 290 *e*P **P 21 49 51.5 -1.4**
MBWA Marble Bar 55.90 205 *e*P **P 21 49 56.4 -1.0**
comp=Z,48nm,0.9s,mb5.5
MBWA LR LR
comp=Z,2μm,20.0s,MS5.1
MENT Mentasta 56.02 32 *e*P **P 21 49 58.1 +0.4**
NGP Nagpur 56.43 276 *i*P **P 21 49 58.5 -2.8**
NGP *e*x x 21 57 47.9
EIDS Eidsvold 56.72 170 *e*P **P 21 50 02.2 -0.9**
comp=Z,15nm,1.0s,mb5.0
BHPL Bhopal 56.99 279 *e*P **P 21 50 04.1 -1.2**
EGAK Eagle 57.06 30 *e*P **P 21 50 04.1 -1.1**
comp=Z,12nm,0.8s,mb5.0
EGAK LR LR
comp=Z,1μm,19.0s,MS5.0
POHA Pohakuloa 57.23 85 PFAKE 21 50 20.0 +13
POHA LR LR
comp=Z,5μm,19.0s,MS5.7
DZM Mont Dzumac 57.84 153 P **P 21 50 12.2 +1.1**
comp=Z,59nm,1.0s,mb5.6,baz=8.6,slow=7.8,SNR=16
DAWY Dawson 57.88 31 *e*P **P 21 50 10.7 -0.2**
AJM Ajmer 58.12 284 *i*P **P 21 50 11.0 -2.2**
AKL Akola 58.34 277 *e*P **P 21 50 14.8 0.0**
AKL AMb AMB 21 50 17.4
comp=Z,144nm,1.1s,mb5.9
HYB Hyderabad 58.41 272 *e*P **P 21 50 15.5 +0.2**
comp=Z,45nm,1.0s,mb5.5
HYB *e*S S 21 58 40.0 +24
HYB Hyderabad 58.41 272 *e*P **P 21 50 15.5 +0.2**
HYB *e*S S 21 58 40.0 +24
HYB pmax pmax
comp=Z,45nm,1.0s,mb5.5
HYB Hyderabad 58.41 272 *i*P **P 21 50 16.0 +0.7**
comp=Z,45nm,1.0s,mb5.5
HYB *e*S **S 21 58 18.0 +2.4**
MDRS Chennai 58.93 267⇑ *i*P **P 21 50 17.5 -1.5**
MDRS *e*x x 21 51 22.2
MDRS AMb AMB 21 51 32.9
comp=Z,80nm,0.2s,mb6.3
MDRS *e*x x 21 58 32.5
LATR Latur 59.69 274 *e*P **P 21 50 21.9 -2.3**
LATR AMb AMB 21 50 26.0
comp=Z,134nm,1.7s,mb5.7
INK Inuvik 59.76 25 *e*P **P 21 50 23.3 -0.6**
comp=Z,850nm,1.0s,mb6.7
INK Inuvik 59.76 25 P **P 21 50 23.5 -0.4**
INK Inuvik 59.76 25 P **P 21 50 23.2 -0.7**
comp=Z,13nm,0.7s,mb5.0,baz=304,slow=6.4,SNR=35
INK LR LR 22 19 41.3
comp=Z,2μm,19.3s,MS5.3,baz=273,slow=40
INK PKPPKP 22 19 49.0
comp=Z,2.8nm,1.1s,baz=134,slow=3.1,SNR=4.7
SVE Sverdlovsk 59.91 321⇓ *e*P **P 21 50 25.6 +0.5**
SVE *e*S **S 21 58 37.6 +3.7**
SVE pmax pmax
comp=Z,164nm,1.6s,mb5.8
SVE MLR MLR
comp=Z,5μm,17.0s,MS5.7
KBL Kabul 59.92 294 *e*P **P 21 50 25.0 -0.5**
comp=Z,58nm,1.0s,mb5.6
SKAG Skagway 60.47 36 *e*P **P 21 50 29.0 +0.1**
comp=Z,24nm,1.2s,mb5.1
SIT Sitka 60.97 38 PFAKE 21 50 40.0 +7.7
SIT LR LR
comp=Z,4μm,20.0s,MS5.5
ARU Arti 61.11 321 P **P 21 50 33.0 -0.3**
comp=Z,641nm,1.0s,mb6.7,SNR=41
ARU Arti 61.11 321⇑ *i*P **P 21 50 31.7 -1.6**
ARU LR LR
comp=Z,4μm,19.0s,MS5.5
ARU Arti 61.11 321*c i*P **P 21 50 31.5 -1.8**
ARU *e* 21 51 10.3
ARU *e* 21 52 44.8
ARU *e*S **S 21 58 44.9 -4.4**
ARU *e* 22 00 14.0
ARU *e*SS SS 22 02 44.9 -4.1
ARU pmax pmax
comp=Z,276nm,1.7s,mb6.1

ARU MLR MLR
comp=Z,4μm,17.0s,MS5.6
SOKR Solikamsk 61.33 325*d i*P **P 21 50 35.7 +1.0**
SOKR S **S 21 59 03.5 +12**
SOKR pmax pmax
comp=Z,120nm,1.8s,mb5.7
SOKR MLR MLR
comp=Z,6μm,17.0s,MS5.8
PALK Pallekele 61.40 261 PFAKE 21 50 50.0 +14
PALK LR LR
comp=Z,2μm,20.0s,MS5.3
ARMA Armidale 61.76 170 *e*P **P 21 50 37.2 -0.7**
POO Poona 61.96 276 *e*P **P 21 50 38.5 -1.2**
POO AMb AMB 21 50 44.6
comp=Z,116nm,1.8s,mb5.7
KAD Karad 62.21 274 *e*P **P 21 50 40.3 -1.0**
STKA Stephens Creek 62.48 180 *e*P **P 21 50 42.0 -0.6**
comp=Z,9.1nm,0.6s,mb5.1
STKA Stephens Creek 62.48 180 P **P 21 50 42.3 -0.3**
comp=Z,12nm,0.7s,mb5.1,baz=348,slow=7.1,SNR=20
STKA LR LR 22 17 05.5
comp=Z,2μm,19.7s,MS5.4,baz=259,slow=35
KOD Kodaikanal 62.68 266 *e*P **P 21 50 44.8 +0.3**
KOD AMb AMB 21 50 50.9
comp=Z,73nm,1.4s,mb5.6
FORT Forrest 62.72 193 *e*P **P 21 50 43.1 -1.2**
comp=Z,105nm,0.7s,mb6.1
WRAK Wrangell Islan 62.72 39 PFAKE 21 51 00.0 +16
WRAK LR LR
comp=Z,3μm,21.0s,MS5.4
GOA Goa 63.33 273 *e*P **P 21 50 48.8 0.0**
GOA AMb AMB 21 50 51.3
comp=Z,160nm,1.5s,mb5.9
DLBC Dease Lake 63.38 36 *e*P **P 21 50 50.4 +2.0**
BHJ Bhuj 63.54 282 *e*P **P 21 50 48.8 -1.3**
BHJ AMb AMB 21 50 54.1
comp=Z,130nm,1.5s,mb5.8
MNGI Mangalore 63.65 270 *e*P **P 21 50 50.3 -0.6**
MNGI AMb AMB 21 50 53.0
comp=Z,81nm,1.5s,mb5.5
KLBR Kellerberrin 66.18 202 *e*P **P 21 51 06.4 -0.5**
comp=Z,44nm,1.0s,mb5.4
CNB Canberra Magne 66.31 173 *e*P **P 21 51 08.9 +1.3**
comp=Z,29nm,1.1s,mb5.2
KBS Kingsbay 66.68 351 PFAKE 21 51 20.0 +10
KBS LR LR
comp=Z,1μm,20.0s,MS5.1
ABKT Ailbek 67.04 301 P **P 21 51 13.8 +1.3**
comp=Z,185nm,1.2s,mb6.0,SNR=14
MUN Mundaring 67.05 203 *e*P **P 21 51 12.4 -0.1**
NWAO Narrogin (SRO) 67.58 202 *e*P **P 21 51 14.5 -1.3**
comp=Z,30nm,0.8s,mb5.4
NWAO LR LR
comp=Z,1μm,20.0s,MS5.1
NWAO Narrogin (SRO) 67.58 202 P **P 21 51 15.9 +0.1**
NWAO pmax pmax
comp=Z,42nm,0.8s
NWAO MLR MLR
comp=Z,1μm,19.1s
NWAO Narrogin (SRO) 67.58 202 P **P 21 51 15.9 +0.1**
comp=Z,42nm,0.8s,mb5.5,baz=33,slow=7.4,SNR=22
NWAO LR LR 22 21 42.2
comp=Z,1μm,19.1s,MS5.1,baz=22,slow=37
TMCR Tamitsa 68.19 333 *e*P **P 21 51 22.7 +3.4**
TMCR pmax pmax
comp=Z,53nm,0.9s,mb5.6
APA Apatity 68.32 337⇓ *i*P **P 21 51 25.0 +4.9**
APA *i* pP 21 51 35.8 +3.4
APA *e*S S 22 00 19.0 +1.3
APA pmax pmax
comp=Z,20nm,0.8s,mb5.2
RES Resolute Bay 68.45 14 *e*P **P 21 51 20.0 -0.8**
comp=Z,891nm,0.9s,mb6.8
YKA Yellowknife Ar 69.02 29 P **P 21 51 23.6 -0.9**
YKA ⇑ *e* 22 19 32.1
YKA LR LR 22 24 24.1
YKA Yellowknife Ar 69.02 29 P **P 21 51 23.5 -1.0**
YKA pmax pmax
comp=Z,10.0nm,0.9s
YKA Yellowknife Ar 69.02 29 P **P 21 51 23.5 -0.9**
comp=Z,9.5nm,0.9s,mb4.7,baz=295,slow=6.0,SNR=60
YKA PKP2bc 22 19 32.1
comp=Z,0.6nm,1.0s,baz=109,slow=4.8,SNR=6.1
YKA LR LR 22 24 24.1
comp=Z,788nm,19.5s,MS5.0,baz=235,slow=38
KEV Kevo 69.20 340 PFAKE 21 51 40.0 +14
KEV LR LR
comp=Z,4μm,19.0s,MS5.7
ARCES ARCESS Array B 69.76 340 P **P 21 51 29.2 +0.2**
ARCES pmax pmax
comp=Z,10.0nm,0.8s
ARCES MLR MLR
comp=Z,4μm,18.6s
ARCES ARCESS Array B 69.76 340 P **P 21 51 29.1 +0.2**
comp=Z,10nm,0.8s,mb4.8,baz=46,slow=8.7,SNR=15
ARCES LR LR 22 26 00.7
comp=Z,4μm,18.6s,MS5.7,baz=68,slow=39
C03A Quillayute Air 70.11 46⇑ P **P 21 51 30.3 -1.1**
baz=70
OBC Olympics--Boni 70.37 45 P **P 21 51 35.0 +1.9**
NLWA Neilton Lookou 70.76 46 *e*P **P 21 51 36.0 +0.4**
comp=Z,39nm,1.4s,mb5.1
NLWA LR LR
comp=Z,2μm,22.0s,MS5.3
NLWA Neilton Lookou 70.76 46⇑ P **P 21 51 35.7 +0.2**
baz=71
D03A Wishkah Elem. 70.94 46⇑ P **P 21 51 36.6 0.0**
baz=71
HDW Hoodsport 71.16 45 P **P 21 51 38.6 +0.7**
A05A Maple Falls 71.16 44⇓ P **P 21 51 37.9 0.0**
baz=71
C04A Brinnon 71.18 45⇓ P **P 21 51 38.0 0.0**
baz=71
RAO Raoul Island 71.18 143 LR LR 22 21 04.0
comp=Z,1μm,18.9s,MS5.2,baz=324,slow=34
E03A Lebam 71.31 47⇓ P **P 21 51 38.7 -0.2**
baz=71
MBW Mount Baker 71.36 44 P **P 21 51 39.8 +0.6**
JOF Joensuu 71.43 333 *e*p **P 21 51 38.6 -0.7**
comp=Z,9.6nm,0.4s,mb5.1
JOF Joensuu 71.43 333 *e*P **P 21 51 38.6 -0.7**
JOF pmax pmax
comp=Z,10.0nm,0.4s,mb5.1
B05A Bryant 71.47 44⇑ P **P 21 51 39.5 -0.3**
baz=71
A06A Chilliwack 71.47 43⇓ P **P 21 51 39.4 -0.4**
baz=71
B06A Marblemount 71.73 44⇓ P **P 21 51 40.8 -0.5**
baz=72
E04A Onalaska 71.82 46⇓ P **P 21 51 42.4 +0.5**
baz=72
DAG Danmarks Havn 71.84 355⇓ *e*P **P 21 51 42.0 +0.4**
DAG pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
DAG Danmarks Havn 71.84 355⇓ *i*P **P 21 51 42.0 +0.4**
comp=Z,10nm,0.8s,mb4.8
C05A Tolt Reservoir 71.97 45⇑ P **P 21 51 42.6 -0.2**
baz=72
D05A Enumclaw 72.01 45⇑ P **P 21 51 43.4 +0.3**
baz=72
G03A Yamhill 72.02 48⇑ P **P 21 51 43.8 +0.7**
baz=72
A07A Ashnola River, 72.14 43 P **P 21 51 43.8 0.0**
baz=72,SNR=16
MOS Moscow 72.28 325 *e*P **P 21 51 43.2 -1.3**
MOS *e**PP pP 21 51 56.6 -0.2
MOS *e*S S 22 01 10.5 +6.3
MOS *e* 22 01 41.9
MOS pmax pmax
comp=Z,200nm,1.6s,mb5.8
MOS MLR MLR
comp=E,5μm,16.0s
MOS MLR MLR
comp=Z,6μm,16.0s,MS6.0
F04A Amboy 72.30 47⇓ P **P 21 51 45.0 +0.2**
baz=72
H03A Soap Creek Ran 72.30 48⇓ P **P 21 51 45.1 +0.3**
baz=72
FMW Mount Fremont 72.31 46 P **P 21 51 45.1 +0.2**
COR Corvallis 72.33 48 PFAKE 21 52 00.0 +15
COR LR LR
comp=Z,2μm,20.0s,MS5.5
C06A Tall Timber Ra 72.34 44⇑ P **P 21 51 45.7 +0.7**
baz=72
K01A Sixes 72.35 50⇓ P **P 21 51 45.4 +0.3**
baz=72

VRHR Novokhopersk 72.36 319 *e*P **P 21 51 43.7 -1.3**
VRHR *e*S S 22 01 03.2 -2.2
VRHR pmax pmax
comp=Z,100nm,1.5s,mb5.5
VRHR pmax pmax
comp=N,50nm,2.0s
VRHR pmax pmax
comp=E,90nm,1.7s
VRHR MLR MLR
comp=Z,4μm,17.0s,MS5.8
VRHR MLR MLR
comp=N,3μm,14.0s,MS5.8
VRHR MLR MLR
comp=E,4μm,19.0s,MS5.8
KEBM Edson Butte 72.41 50 *e*P **P 21 51 46.0 +0.5**
MAK Makhachkala 72.41 310*c i*P **P 21 51 46.5 +1.0**
MAK *i* 21 52 04.6
MAK *e* 21 54 25.7
MAK *e*PPP 21 56 06.7
MAK *e*S S 22 01 09.9 +3.6
MAK *e* 22 01 49.0
MAK pmax pmax
comp=Z,325nm,1.8s,mb6.0
MAK MLR MLR
comp=Z,11μm,16.0s,MS6.2
E05A Randle 72.43 46⇓ P **P 21 51 46.0 +0.5**
baz=72
B07A Winthrop 72.56 44 P **P 21 51 46.7 +0.3**
baz=72,SNR=10
G04A Mulino 72.58 47⇑ P **P 21 51 46.5 +0.1**
baz=72
I03A Eugene 72.61 49⇓ P **P 21 51 47.1 +0.4**
baz=72
J02A Umpqua 72.69 50⇓ P **P 21 51 47.0 -0.2**
baz=72
D06A Cle Elum 72.70 45⇑ P **P 21 51 47.4 +0.2**
baz=72,SNR=5.2
A08A Turner Farm, O 72.84 43⇑ P **P 21 51 48.4 +0.5**
baz=73,SNR=9.7
E06A Yakima 72.92 46⇑ P **P 21 51 48.3 -0.2**
baz=73,SNR=8.0
F05A White Salmon 72.92 47⇓ P **P 21 51 48.8 +0.3**
baz=73
C07A Waterville 72.95 44⇑ P **P 21 51 48.7 +0.1**
baz=73
H04A Detroit Lake 73.00 48 P **P 21 51 48.9 -0.1**
baz=73,SNR=18
M01C Crescent City 73.00 51⇓ P **P 21 51 48.8 -0.2**
baz=73
EBG Ellensburg 73.00 45 P **P 21 51 49.5 +0.6**
K02A Glendale 73.01 50 P **P 21 51 49.3 +0.2**
baz=73,SNR=9.3
B08A Colville Reser 73.08 44⇑ P **P 21 51 49.2 -0.2**
baz=73,SNR=9.9
J03A Ideyld Park 73.09 49⇓ P **P 21 51 49.8 +0.3**
baz=73
OBN Obninsk 73.11 325⇑ *e*P **P 21 51 49.9 +0.5**
OBN LR LR
comp=Z,6μm,20.0s,MS5.8
OBN Obninsk 73.11 325⇓ *i*P **P 21 51 49.9 +0.5**
OBN *i* pP 21 52 02.9 +1.1
OBN *i* S S 22 01 16.5 +2.8
OBN *i* SS SS 22 05 53.8 -0.7
OBN pmax pmax
comp=Z,173nm,1.9s,mb5.7
OBN MLR MLR
comp=Z,6μm,15.0s,MS6.0
L02A Cave Junction 73.21 51⇓ P **P 21 51 50.0 -0.3**
baz=73,SNR=9.6
A09A Danville 73.23 43 P **P 21 51 50.2 0.0**
baz=73,SNR=6.5
D07A Quincy 73.23 45⇓ P **P 21 51 50.0 -0.3**
baz=73
I04A Tendick Farm, 73.25 49 P **P 21 51 50.5 -0.1**
baz=73,SNR=12
HBO Huckleberry Mo 73.29 49 P **P 21 51 51.0 +0.3**
G05A Wamic 73.30 47⇓ P **P 21 51 50.9 +0.2**
baz=73
VOR Voronezh 73.40 321 *e*P **P 21 51 51.0 -0.2**
VOR pmax pmax
comp=Z,220nm,2.0s,mb5.7
HUMO Hull Mountain 73.43 50 PFAKE 21 52 00.0 +8.4
HUMO LR LR
comp=Z,4μm,22.0s,MS5.6
C08A Higginbotham F 73.52 44⇓ P **P 21 51 51.7 -0.3**
baz=73,SNR=7.1
JCC Jacoby Creek 73.52 52⇑ P **P 21 51 51.8 -0.3**
baz=73
E07A Sunnyside 73.60 45⇓ P **P 21 51 52.3 -0.2**
baz=73
CROR Criterion Ridg 73.62 47 P **P 21 51 52.8 +0.1**
H05A Madras 73.62 48⇑ P **P 21 51 52.5 -0.2**
baz=73
VRSR Storozhevoye 73.65 320 *e*P **P 21 51 53.3 +0.6**
VRSR pmax pmax
comp=Z,10.0nm,1.5s,mb4.5
VRSR pmax pmax
comp=N,7.0nm,1.2s
VRSR pmax pmax
comp=E,10.0nm,1.1s
TAU Tasmania Unive 73.67 176 PFAKE 21 52 00.0 +7.3
TAU LR LR
comp=Z,2μm,19.0s,MS5.4
J04A Umpqua Nationa 73.70 49⇓ P **P 21 51 52.7 -0.4**
baz=74
G06A Carlson Farm, 73.73 47⇓ P **P 21 51 52.8 -0.4**
baz=74,SNR=9.3
B09A Rice 73.75 43 P **P 21 51 53.7 +0.4**
baz=74,SNR=12
KAF Kangasniemi 73.81 334 *e*p **P 21 51 52.9 -0.5**
A10A Northport 73.82 42⇑ P **P 21 51 53.7 0.0**
baz=74
F07A Phinny Hill Vi 73.86 46⇓ P **P 21 51 54.0 -0.1**
baz=74
HAWA Hanford 73.87 45 *e*P **P 21 51 54.6 +0.5**
comp=Z,29nm,1.4s,mb5.0
HAWA LR LR
comp=Z,2μm,20.0s,MS5.3
D08A Wollman Farm, 73.93 45⇑ P **P 21 51 54.0 -0.4**
baz=74,SNR=5.5
YBH Yreka Blue Hor 74.00 51 *e*P **P 21 51 53.4 -1.5**
comp=Z,18nm,1.1s,mb4.9
YBH LR LR
comp=Z,3μm,22.0s,MS5.6
YBH Yreka Blue Hor 74.00 51 *e*P **P 21 51 53.4 -1.5**
YBH pmax pmax
comp=Z,18nm,1.1s
YBH MLR MLR
comp=Z,3μm,22.0s
YBH Yreka Blue Hor 74.00 51⇓ P **P 21 51 54.9 0.0**
baz=74,SNR=15
N02C Big Bar 74.01 52 P **P 21 51 55.1 +0.1**
baz=74,SNR=9.9
EDM Edmonton 74.05 37 *e*P **P 21 51 53.7 -1.3**
M02C Callahan 74.05 51⇑ P **P 21 51 55.0 -0.2**
baz=74,SNR=16
VIPM Ingram Point 74.08 47 P **P 21 51 55.4 +0.1**
E08A Dider Farm, El 74.11 45⇓ P **P 21 51 55.4 -0.1**
baz=74
H06A Lindquist Farm 74.15 47 P **P 21 51 55.5 -0.2**
baz=74,SNR=10
J05A Fort Rock 74.25 49⇓ P **P 21 51 55.8 -0.6**
baz=74,SNR=9.8
FINES FINESS Array B 74.30 333 *i*P **P 21 51 56.2 -0.1**
FINES pmax pmax
comp=Z,8.0nm,0.4s
FINES FINESS Array B 74.30 333 P **P 21 51 56.2 -0.1**
comp=Z,7.8nm,0.4s,mb5.0,baz=72,slow=6.0,SNR=37
D09A Jones Farm, Ri 74.30 44⇑ P **P 21 51 56.5 0.0**
baz=74,SNR=5.4
G07A Ruggs Ranch, H 74.32 46 P **P 21 51 57.0 +0.3**
baz=74,SNR=7.1
GOF Gofitskoye 74.33 313⇓ *i*P **P 21 52 04.0 +7.2**
GOF pmax pmax
comp=Z,140nm,1.7s,mb5.6
KCPM Cahto Peak 74.34 53 *e*P **P 21 51 56.6 -0.3**
KIPM Iron Peak 74.35 53 *e*P **P 21 51 56.9 -0.1**
LHEM Herd Peak 74.37 51 P **P 21 51 57.4 +0.3**
NEW Newport 74.42 43 *e*P **P 21 51 57.0 -0.3**
comp=Z,35nm,1.0s,mb5.2
NEW LR LR
comp=Z,1μm,20.0s,MS5.2
NEW Newport 74.42 43 *e*P **P 21 51 57.0 -0.2**
NEW pmax pmax
comp=Z,35nm,1.0s
NEW MLR MLR
comp=Z,1μm,20.0s

DGRG **David-gareji** 74.51 309 P P 21 52 00.5 +2.6
A11A **Hall Mountain,** 74.52 42 P P 21 51 58.4 +0.5
baz=74,SNR=13
C10A **Spilker Farm,** 74.53 43 ⇑P P 21 51 58.0 +0.1
baz=74
M04C **Macdoel** 74.55 50 ⇓P P 21 51 57.9 -0.2
baz=74,SNR=6.1
I06A **Prineville** 74.60 48 ⇓P P 21 51 57.8 -0.6
baz=74,SNR=10
M03C **McCloud** 74.60 51 ⇑P P 21 51 57.7 -0.7
baz=74
P01C **Double 8 Ranch** 74.61 53 ⇑P P 21 51 57.5 -1.0
baz=74,SNR=6.7
WDC **Whiskeytown Da** 74.64 52 eP P 21 51 58.4 -0.2
comp=Z,88nm,1.9s,mb5.4
WDC LR LR
comp=Z,2µm,20.0s,MS5.5
WDC **Whiskeytown Da** 74.64 52 eP P 21 51 58.4 -0.3
WDC pmax pmax
comp=Z,88nm,1.9s,mb5.4
WDC MLR MLR
comp=Z,2µm,20.0s,MS5.5
WDC **Whiskeytown Da** 74.64 52 ⇓P P 21 51 58.1 -0.6
baz=74,SNR=8.1
O02C **Red Bluff** 74.66 52 ⇓P P 21 51 58.1 -0.7
baz=74,SNR=11
K05A **Summer Lake** 74.73 49 ⇑P P 21 51 59.2 0.0
baz=74,SNR=26
G08A **Pilot Rock** 74.75 46 ⇑P P 21 51 58.8 -0.4
baz=74,SNR=8.8
B11A **Sandpoint** 74.78 42 ⇑P P 21 51 59.5 +0.2
baz=75
MTA **Mtatsminda** 74.78 310 P P 21 52 00.1 +0.6
TBLG **Delisi** 74.80 310 P P 21 51 59.9 +0.3
TBLG **Delisi** 74.80 310 P P 21 51 60.0 +0.4
D10A **Wagner Farm, O** 74.92 44 ⇓P P 21 52 00.1 -0.1
baz=75
A12A **Yaak River Ran** 74.94 42 ⇓P P 21 52 00.2 0.0
baz=75
GASB **Alder Springs** 74.95 53 ⇓P P 21 52 00.6 +0.2
baz=75,SNR=8.9
J06A **Christmas Vall** 74.96 48 P P 21 52 00.6 +0.1
baz=75,SNR=14
I07A **Izee** 74.98 47 P P 21 52 01.0 +0.4
baz=75,SNR=5.7
HOPS **Hopland** 75.01 53 PFAKE 21 52 10.0 +9.2
HOPS LR LR
comp=Z,4µm,19.0s,MS5.7
HOPS **Hopland** 75.01 53 ⇓P P 21 52 00.4 -0.5
baz=75
KIV **Kislovodsk** 75.08 312 ⇓P P 21 52 02.8 +1.6
KIV LR LR
comp=Z,3µm,19.0s,MS5.7
KIV **Kislovodsk** 75.08 312 c iP P 21 52 02.2 +1.1
KIV e pP 21 52 15.4 +1.8
KIV e 21 54 51.9
KIV ePPP 21 56 29.0
KIV eS S 22 01 34.6 -1.7
KIV eSS SS 22 06 27.3 +2.2
KIV pmax pmax
comp=Z,52nm,0.9s,mb5.5
KIV MLR MLR
comp=Z,4µm,19.0s,MS5.7
KIV **Kislovodsk** 75.08 312 ⇓iP P 21 52 02.8 +1.7
L05A **Lakeview** 75.09 50 ⇓P P 21 52 01.3 0.0
baz=75,SNR=6.9
K06A **Valley Falls** 75.11 49 P P 21 52 01.6 +0.2
baz=75,SNR=12
HATC **Hat Creek Radi** 75.25 51 ⇑P P 21 52 01.7 -0.5
baz=75
H08A **Prairie City** 75.30 47 ⇓P P 21 52 02.1 -0.3
baz=75
E10A **Myers Farm, Un** 75.30 44 ⇑P P 21 52 02.0 -0.3
baz=75
J07A **Hines** 75.44 48 ⇓P P 21 52 03.0 -0.2
baz=75,SNR=22
F10A **Beach Ranch, E** 75.48 45 ⇓P P 21 52 03.0 -0.4
baz=75
G09A **Cove** 75.48 46 ⇑P P 21 52 03.1 -0.3
baz=75,SNR=10.0
MNRC **McLaughlin Nat** 75.50 53 ⇑P P 21 52 03.8 +0.2
baz=75,SNR=6.4
MOD **Modoc** 75.51 50 eP P 21 52 02.5 -1.2
comp=Z,16nm,1.1s,mb4.9
MOD LR LR
comp=Z,3µm,19.0s,MS5.6
MOD **Modoc** 75.51 50 ⇓P P 21 52 03.3 -0.3
baz=75
MCCM **Marconi Confer** 75.54 54 PFAKE 21 52 20.0 +16
MCCM LR LR
comp=Z,1µm,20.0s,MS5.2
NSHM **Saint Helena R** 75.55 54 eP P 21 52 03.5 -0.5
I08A **Drewsey** 75.66 47 ⇑P P 21 52 04.5 +0.1
baz=76
CVS **Carmenet Viney** 75.74 54 ⇑P P 21 52 04.9 -0.1
baz=76
O04C **Chester** 75.74 51 ⇑P P 21 52 04.4 -0.6
baz=76,SNR=13
K07A **Rock Creek Ran** 75.81 49 ⇑P P 21 52 05.2 -0.2
baz=76,SNR=23
ORV **Oroville** 75.82 52 P P 21 52 04.9 -0.6
baz=76,SNR=8.1
H09A **Durkee** 75.85 46 ⇑P P 21 52 05.5 -0.1
baz=76
WALA **Waterton Lakes** 75.87 41 eP P 21 52 05.5 -0.1
comp=Z,23nm,0.9s,mb5.1
G10A **Bishop Farm, J** 75.88 46 P P 21 52 05.7 0.0
baz=76,SNR=18
E11A **Bogner Ranch,** 75.90 44 P P 21 52 05.5 -0.3
baz=76,SNR=10
B13A **Whitefish** 75.91 42 ⇓P P 21 52 05.9 +0.1
baz=76,SNR=19
OHCM **Honcut** 75.94 53 eP P 21 52 04.9 -1.3
BMO **Blue Mountains** 75.98 46 eP P 21 52 06.1 -0.2
comp=Z,38nm,1.3s,mb5.2
BMO LR LR
comp=Z,1µm,22.0s,MS5.2
BMO **Blue Mountains** 75.98 46 eP P 21 52 06.1 -0.2
BMO pmax pmax
comp=Z,38nm,1.3s,mb5.2
BMO MLR MLR
comp=Z,1µm,22.0s,MS5.2
J08A **Circle Bar Ran** 75.98 48 P P 21 52 06.8 +0.5
baz=76,SNR=12
O05C **Quincy** 76.02 52 ⇑P P 21 52 06.8 +0.2
baz=76
L07A **Adell** 76.08 49 P P 21 52 07.5 +0.6
baz=76,SNR=7.9
I09A **Lost Marbles R** 76.15 47 ⇑P P 21 52 07.0 -0.2
baz=76
F11A **Grangeville** 76.17 45 P P 21 52 07.7 +0.4
baz=76,SNR=15
C13A **Hot Springs** 76.20 43 P P 21 52 07.5 0.0
baz=76,SNR=32
K08A **Mann Creek Ran** 76.28 48 P P 21 52 08.4 +0.3
baz=76,SNR=9.0
DIGO **Kars** 76.33 309 ⇑iP P 21 52 09.4 +1.0
WVOR **Wild Horse Val** 76.33 49 eP P 21 52 08.1 -0.3
comp=Z,145nm,2.0s,mb5.6
WVOR LR LR
comp=Z,3µm,20.0s,MS5.6
WVOR **Wild Horse Val** 76.33 49 eP P 21 52 08.1 -0.2
WVOR pmax pmax
comp=Z,145nm,2.0s,mb5.6
WVOR MLR MLR
comp=Z,3µm,20.0s,MS5.6
G11A **Walters Elk Ra** 76.35 45 P P 21 52 08.0 -0.4
baz=76,SNR=49
N06A **Buffalo Meadow** 76.37 51 ⇑P P 21 52 08.1 -0.5
baz=76,SNR=7.7
BEKR **Beckwourth** 76.45 52 P P 21 52 09.1 +0.1
baz=76,SNR=16
J09A **Fry Pan Ranch,** 76.45 48 ⇑P P 21 52 08.8 -0.2
baz=76,SNR=19
H10A **Noah's Angus R** 76.46 46 P P 21 52 08.4 -0.6
baz=76,SNR=12
RAR **Rarotonga** 76.49 125 PFAKE 21 52 20.0 +11
RAR LR LR
comp=Z,2.0nm,22.0s
RAR **Rarotonga** 76.49 125 LR LR 22 22 16.7
comp=Z,1µm,18.1s,MS5.3,baz=224,slow=33
M07A **Soldier Meadow** 76.50 50 P P 21 52 09.6 +0.3
baz=76,SNR=16
DYDN **Diyadin** 76.54 308 ⇑iP P 21 52 10.8 +1.2
P05C **Yuba Gap, Truc** 76.55 52 P P 21 52 09.5 -0.1
baz=76,SNR=6.8
D13A **Huson** 76.57 43 P P 21 52 09.2 -0.3
baz=76,SNR=16
CLDR **Caldiran** 76.58 308 eP P 21 52 09.7 -0.1
L08A **Fields** 76.64 49 P P 21 52 10.5 +0.4
baz=76,SNR=22
O06A **Flanigan** 76.66 51 P P 21 52 10.2 -0.1
baz=76,SNR=18
LAVA **Lava Cap Winer** 76.72 53 P P 21 52 10.6 -0.1
baz=76,SNR=8.9
F12A **Elk City** 76.78 44 P P 21 52 10.7 -0.1
baz=77,SNR=29
K09A **Rome** 76.79 48 P P 21 52 11.0 +0.1
baz=77,SNR=12
R04C **Big Horse Ranc** 76.83 53 ⇑P P 21 52 10.5 -0.7
baz=77
H11A **Donnelly** 76.86 46 ⇓P P 21 52 10.5 -0.7
baz=77
ARTV **Artvin** 76.91 310 ⇑iP P 21 52 11.3 -0.4
S04C **Ingram Canyon,** 76.92 54 ⇓P P 21 52 11.3 -0.5
baz=77
M08A **Happy Creek Ra** 76.99 49 ⇑P P 21 52 11.8 -0.2
baz=77
AGRB **Hanur-Agry** 77.00 308 eP P 21 52 12.8 +0.6
MSO **Missoula** 77.01 43 eP P 21 52 11.3 -0.7
comp=Z,12nm,1.1s,mb4.8
MSO LR LR
comp=Z,680nm,19.0s,MS5.0
E13A **Victor** 77.06 43 ⇑P P 21 52 11.9 -0.4
baz=77,SNR=5.1
WCN **Washoe City** 77.13 52 ⇓P P 21 52 12.8 -0.1
baz=77
D14A **Greenough** 77.13 43 P P 21 52 12.2 -0.6
baz=77,SNR=17
SOC **Sochi** 77.13 313 c iP P 21 52 13.2 +0.4
SOC e 21 52 20.6
SOC e*PP pP 21 52 24.9 -0.4
SOC e 21 55 04.8
SOC eS S 22 01 59.0 +0.1
SOC pmax pmax
comp=Z,101nm,1.4s,mb5.6
SOC MLR MLR
comp=Z,4µm,18.0s,MS5.8
L09A **Wilkinson Ranc** 77.16 49 ⇑P P 21 52 12.9 -0.1
baz=77
PACP **Pacheco Peak** 77.19 55 ⇑P P 21 52 12.8 -0.5
baz=77,SNR=9.6
SAO **San Andreas Ge** 77.20 55 PFAKE 21 52 20.0 +6.7
SAO LR LR
comp=Z,3µm,19.0s,MS5.6
TUTA **Tutak** 77.20 308 ⇑iP P 21 52 15.0 +1.7
R05C **Kirkwood Meado** 77.20 53 P P 21 52 13.2 -0.1
baz=77,SNR=7.5
VANB **Van** 77.20 307 eP P 21 52 13.4 0.0
TVAN **Van** 77.23 307 i P P 21 52 05.5 -7.9
K10A **MacKenzie Ranc** 77.29 48 ⇑P P 21 52 13.8 0.0
baz=77,SNR=14
O07A **Toulon** 77.30 51 ⇓P P 21 52 13.3 -0.5
baz=77,SNR=20
HAST **Hastings Reser** 77.31 55 P P 21 52 13.7 -0.2
baz=77,SNR=6.9
CMB **Columbia Colle** 77.32 53 eP P 21 52 13.5 -0.5
comp=Z,32nm,1.1s,mb5.2
CMB LR LR
comp=Z,2µm,22.0s,MS5.4
CMB **Columbia Colle** 77.32 53 eP P 21 52 13.5 -0.5
CMB pmax pmax
comp=Z,32nm,1.1s,mb5.2
CMB MLR MLR
comp=Z,2µm,22.0s,MS5.4
CMB **Columbia Colle** 77.32 53 P P 21 52 13.7 -0.2
baz=77,SNR=20
CHMT **Chamberlain Mo** 77.36 43 eP P 21 52 13.3 -0.8
N08A **GE Springer Mi** 77.48 50 P P 21 52 14.9 +0.1
baz=77,SNR=9.4
E14A **Clinton** 77.49 43 P P 21 52 13.8 -1.0
baz=77,SNR=5.7
HAKT **HAKKARI** 77.49 306 ⇑iP P 21 52 15.5 +0.5
MFID **Camas Ranch** 77.63 47 P P 21 52 16.2 +0.6
baz=77,SNR=17
H12A **Diamond D Ranc** 77.64 45 P P 21 52 15.8 +0.2
baz=77,SNR=18
S05C **Merced** 77.69 54 P P 21 52 15.6 -0.5
baz=78,SNR=7.7
V03C **Hunter Liggett** 77.71 55 ⇓P P 21 52 16.0 -0.2
baz=78
CUKT **Cukurca** 77.71 306 eP P 21 52 14.6 -1.6
R06C **Coleville** 77.72 52 ⇓P P 21 52 16.0 -0.2
baz=78,SNR=15
D15A **Lincoln** 77.72 42 P P 21 52 16.0 0.0
baz=78,SNR=7.5
G13A **Cobalt** 77.74 45 P P 21 52 15.8 -0.4
baz=78,SNR=22
K11A **Parker Ranch,** 77.83 47 P P 21 52 16.9 +0.2
baz=78,SNR=18
N09A **Rock Creek Ran** 77.84 50 ⇑P P 21 52 16.4 -0.5
baz=78
U04C **Hernandez Rese** 77.86 55 ⇓P P 21 52 16.9 -0.1
baz=78
F14A **Wisdom** 77.88 44 ⇑P P 21 52 16.7 -0.2
baz=78
L10A **Juniper Basin** 77.90 48 P P 21 52 17.8 +0.6
baz=78,SNR=12
ANN **Anapa** 77.92 315 c iP P 21 52 16.9 -0.3
ANN e*PP pP 21 52 31.4 +1.8
ANN i S S 22 02 08.0 +0.7
ANN pmax pmax
comp=Z,160nm,1.7s,mb5.7
ANN MLR MLR
comp=Z,3µm,15.0s,MS5.7
ERZM **Erzurum** 77.92 309 i P P 21 52 19.0 +1.7
EZM **Erzurum** 77.92 309 eP P 21 52 18.6 +1.3
E15A **Deer Lodge** 77.98 43 P P 21 52 17.4 -0.1
baz=78,SNR=14
H13A **Challis** 78.00 45 P P 21 52 17.8 +0.1
baz=78,SNR=22
SNZO **South Karori** 78.12 155 PFAKE 21 52 30.0 +12
SNZO LR LR
comp=Z,1µm,21.0s,MS5.3
M10A **I.L. Ranch, Tu** 78.14 49 ⇓P P 21 52 18.9 +0.4
baz=78,SNR=6.6
J12A **Stokes Ranch,** 78.17 47 ⇓P P 21 52 19.0 +0.4
baz=78,SNR=7.3
R07C **Lee Vining** 78.21 53 P P 21 52 19.3 +0.3
baz=78,SNR=6.4
PKD **Parkfield** 78.23 55 P P 21 52 19.2 +0.1
baz=78,SNR=9.2
T06C **Millerton Lake** 78.29 54 P P 21 52 19.6 +0.2
baz=78,SNR=7.6
F15A **Butte** 78.38 43 P P 21 52 19.7 -0.1
baz=78,SNR=48
KCC **Kaiser Creek** 78.41 53 ⇓P P 21 52 20.1 0.0
baz=78,SNR=5.7
O09A **Fish Creek Ran** 78.41 50 ⇑P P 21 52 20.1 +0.1
baz=78,SNR=8.2
I13A **Wildhorse Cree** 78.43 46 P P 21 52 20.6 +0.5
baz=78,SNR=26
HLID **Hailey** 78.43 46 eP P 21 52 20.2 +0.1
comp=Z,27nm,1.3s,mb5.0
HLID LR LR
comp=Z,1µm,19.0s,MS5.2
HLID **Hailey** 78.43 46 P P 21 52 20.8 +0.7
baz=78,SNR=16
MACK **Trabzon** 78.44 311 ⇑iP P 21 52 20.9 +0.7
UMR **Umm Al-Rimmam** 78.46 297 eP P 21 52 20.1 -0.4
UMR AMb AMB 21 52 26.4
comp=Z,65nm,0.7s,mb5.7
BNGL **BINGOL** 78.55 309 ⇑iP P 21 52 22.4 +1.6
NVAR **Mina Array Bea** 78.55 52 P P 21 52 20.9 +0.1
comp=Z,8.5nm,0.6s,mb4.9,baz=298,slow=3.8,SNR=80
DLMT **Dillon** 78.58 44 eP P 21 52 21.0 +0.2
comp=Z,69nm,1.4s,mb5.4
K12A **Draper Farm, C** 78.61 47 ⇓P P 21 52 21.0 -0.1
baz=78
MIB **Mutribah** 78.62 298 eP P 21 52 21.1 -0.3
MIB AMb AMB 21 52 24.6
comp=Z,166nm,0.8s,mb6.0
KBD **Kabd** 78.66 297 eP P 21 52 21.5 0.0
KBD AMb AMB 21 52 25.1
comp=Z,618nm,1.3s,mb6.4
J13A **Cove Ranch, Pi** 78.67 46 ⇓P P 21 52 21.5 +0.2
baz=78,SNR=7.5
M11A **Holland Ranch,** 78.67 48 ⇓P P 21 52 21.8 +0.4
baz=78,SNR=11
QRN **Al-Qurain** 78.69 297 eP P 21 52 21.5 -0.3
QRN AMb AMB 21 52 25.1
comp=Z,251nm,1.4s,mb6.0
G15A **Dillon** 78.75 44 ⇑P P 21 52 22.4 +0.7
baz=78,SNR=15
FFC **Flin Flon** 78.75 32 eP P 21 52 20.3 -1.3
comp=Z,21nm,0.9s,mb5.1
FFC LR LR
comp=Z,2µm,20.0s,MS5.3
FFC **Flin Flon** 78.75 32 eP P 21 52 20.3 -1.3
FFC pmax pmax
comp=Z,21nm,0.9s,mb5.1
FFC MLR MLR
comp=Z,2µm,20.0s,MS5.3
EGMT **Eagleton** 78.76 40 eP P 21 52 21.6 -0.2
comp=Z,37nm,1.3s,mb5.2
EGMT LR LR
comp=Z,992nm,20.0s,MS5.1
EGMT **Eagleton** 78.76 40 P P 21 52 21.9 +0.1
baz=78,SNR=8.8
L12A **House Creek Ra** 78.80 48 ⇓P P 21 52 22.7 +0.6
baz=79,SNR=20
GUMT **Gumushane** 78.88 311 eP P 21 52 24.4 +1.9
RDF **Al-Radifah** 78.89 297 eP P 21 52 22.8 0.0
RDF AMb AMB 21 52 35.4
comp=Z,141nm,1.0s,mb5.9
MTUM **Tungsten Hills** 78.91 53 eP P 21 52 22.6 -0.3
HELL **Mitchell Peak** 78.93 54 P P 21 52 22.2 -0.8
baz=79,SNR=8.2
NAY **Al-Naaiem** 78.97 297 eP P 21 52 23.1 -0.1
NAY AMb AMB 21 52 27.2
comp=Z,165nm,1.2s,mb5.8
BOZ **Bozeman (W)** 79.00 43 eP P 21 52 23.1 0.0
comp=Z,35nm,1.5s,mb5.1
BOZ LR LR
comp=Z,794nm,19.0s,MS5.1
BOZ **Bozeman (W)** 79.00 43 eP P 21 52 23.2 +0.1
BOZ pmax pmax
comp=Z,35nm,1.5s,mb5.1
BOZ MLR MLR
comp=Z,794nm,19.0s,MS5.1
BOZ **Bozeman (W)** 79.00 43 ⇑P P 21 52 23.3 +0.2
baz=79,SNR=8.9
EZC **Erzincan** 79.03 310 eP P 21 52 26.6 +3.2
RST **Umm Al-Ruwaisa** 79.03 298 eP P 21 52 22.8 -0.8
RST AMb AMB 21 52 39.5
comp=Z,144nm,0.8s,mb6.0
RPZ **Rata Peaks** 79.03 159 P P 21 52 23.0 0.0
RPZ LR LR 22 24 56.5
RPZ **Rata Peaks** 79.03 159 P P 21 52 23.0 0.0
comp=Z,29nm,0.8s,mb5.3,baz=38,slow=2.7,SNR=11
RPZ LR LR 22 24 56.5
comp=Z,2µm,19.5s,MS5.3,baz=336,slow=34
S08C **White Mtn Res** 79.11 53 P P 21 52 23.9 0.0
baz=79,SNR=19
K13A **Stover Farm, H** 79.12 47 ⇓P P 21 52 24.0 +0.1
baz=79,SNR=6.4
ESPY **Espiye-Giresun** 79.13 311 eP P 21 52 22.8 -1.2
P10A **Eureka** 79.17 50 ⇑P P 21 52 24.2 0.0
baz=79,SNR=5.7
AKASG **Malin Array Be** 79.24 323 i P P 21 52 24.0 -0.3
AKASG pmax pmax
comp=Z,20nm,0.5s
AKASG **Malin Array Be** 79.24 323 P P 21 52 24.0 -0.3
comp=Z,20nm,0.5s,mb5.3,baz=50,slow=5.5,SNR=155
AKASG LR LR 22 29 51.0
comp=Z,4µm,18.3s,MS5.8,baz=40,slow=38
AKBB **Malin Array Si** 79.24 323 eP P 21 52 24.3 -0.1
M12A **Wells** 79.24 48 ⇑P P 21 52 24.8 +0.3
baz=79,SNR=28
KIEV **Kiev** 79.25 323 eP P 21 52 24.2 -0.3
comp=Z,35nm,0.6s,mb5.5
KIEV LR LR
comp=Z,5µm,20.0s,MS5.8
KIEV **Kiev** 79.25 323 eP P 21 52 24.2 -0.2
KIEV pmax pmax
comp=Z,35nm,0.6s,mb5.5
KIEV MLR MLR
comp=Z,5µm,20.0s,MS5.8
PKM **Peak Mountain** 79.27 56 ⇑P P 21 52 24.9 +0.1
baz=79,SNR=5.8
FCC **Fort Churchill** 79.38 26 eP P 21 52 23.4 -1.5
comp=Z,30nm,1.4s,mb5.0
FCC **Fort Churchill** 79.38 26 eP P 21 52 23.4 -1.5
FCC pmax pmax
comp=Z,31nm,1.4s,mb5.0
ELK **Elko** 79.39 49 PFAKE 21 52 40.0 +15
ELK LR LR
comp=Z,70nm,22.0s,MS4.0
GRSN **GIRESUNGRSN** 79.43 311 i P P 21 52 18.6 -7.0
N12A **Clover Valley,** 79.46 49 ⇓P P 21 52 25.9 +0.1
baz=79,SNR=12
R09A **Tonopah** 79.47 52 P P 21 52 25.8 -0.1
baz=79,SNR=24
L13A **Double Diamond** 79.50 47 ⇓P P 21 52 26.2 +0.3
baz=79,SNR=18
QLMT **Earthquake Lak** 79.56 44 eP P 21 52 26.6 +0.4
Q10A **Clear Creek Ra** 79.62 51 P P 21 52 26.4 -0.3
baz=79,SNR=10
MARD **Mardin** 79.63 307 ⇑iP P 21 52 27.4 +0.7
S09A **Goldfield** 79.64 52 ⇓P P 21 52 26.9 +0.1
baz=80
HFS **Hagfors** 79.71 336 LR LR 22 28 12.9
comp=Z,2µm,18.7s,MS5.5,baz=45,slow=36
M13A **Montello** 79.75 48 P P 21 52 27.7 +0.4
baz=80,SNR=26
SIM **Simferopol'** 79.82 317 c iP P 21 52 29.0 +1.4
SIM eS S 22 02 30.0 +2.4
SIM pmax pmax
comp=Z,32nm,0.8s,mb5.3
SIM MLR MLR
comp=Z,2µm,17.8s,MS5.5
ISA **Isabella** 79.83 55 PFAKE 21 52 40.0 +12
ISA LR LR
comp=Z,3µm,19.0s,MS5.7
ISA **Isabella** 79.83 55 ⇑P P 21 52 27.0 -0.9
baz=80
BSC **Santa Cruz Isl** 79.85 57 ⇑P P 21 52 28.3 +0.2
baz=80
NB2 **NORSAR Subarra** 79.87 338 P P 21 52 27.4 -0.2
comp=Z,23nm,0.8s,mb5.2,baz=42,slow=5.6
NOA **NORSAR Array B** 79.87 338 P P 21 52 27.4 -0.1
NOA LR LR 22 31 05.2
NOA **NORSAR Array B** 79.87 338 P P 21 52 27.4 -0.2
NOA pmax pmax
comp=Z,20nm,0.7s
NOA MLR MLR
comp=Z,3µm,19.9s
NOA **NORSAR Array B** 79.87 338 P P 21 52 27.4 -0.1
comp=Z,20nm,0.7s,mb5.1,baz=41,slow=5.4,SNR=37
NOA LR LR 22 31 05.2
comp=Z,3µm,19.9s,MS5.7,baz=25,slow=38
GRAC **Grapevine Rang** 79.91 53 ⇑P P 21 52 28.3 0.0
baz=80
YMR **Madison River** 79.92 44 eP P 21 52 28.1 0.0
comp=Z,19nm,0.8s,mb5.1
O12A **Currie** 79.96 49 P P 21 52 28.8 +0.3
baz=80,SNR=12
S10A **Tonopah Range,** 79.96 52 P P 21 52 28.6 +0.1
baz=80,SNR=27
N13A **Wendover, West** 79.99 48 ⇓P P 21 52 28.9 +0.3
baz=80
GCMT **Greycliff** 80.06 42 eP P 21 52 29.2 +0.3
YNR **Norris Junctio** 80.07 44 eP P 21 52 30.1 +1.2
Q11A **Duckwater** 80.11 51 ⇑P P 21 52 29.6 +0.2
baz=80
YFT **Old Faithful** 80.12 44 eP P 21 52 31.2 +1.9
SUW **Suwalki** 80.12 328 eP P 21 52 29.9 +0.8
SUW LMZ 22 31 37.2
comp=Z,3µm,17.1s
M14A **Sheep Mountain** 80.19 47 P P 21 52 30.3 +0.6
baz=80,SNR=26
ELZG **Elazig** 80.23 309 i P P 21 52 31.6 +1.6
P12A **McGill** 80.27 50 P P 21 52 30.8 +0.6
baz=80,SNR=15
SNCC **San Nicolas Is** 80.31 57 PFAKE 21 52 40.0 +10
SNCC LR LR
comp=Z,3µm,19.0s,MS5.7
MPMC **Manual Prospec** 80.31 54 P P 21 52 30.5 +0.1
baz=80,SNR=8.6
LKWY **Lake** 80.32 44 eP P 21 52 33.2 +2.9
comp=Z,24nm,1.0s,mb5.1
LKWY LR LR
comp=Z,1µm,21.0s,MS5.3
LKWY **Lake** 80.32 44 eP P 21 52 33.2 +2.9
LKWY pmax pmax
comp=Z,24nm,1.0s,mb5.1
LKWY MLR MLR
comp=Z,1µm,21.0s,MS5.3
IMW **Indian Meadow** 80.37 44 eP P 21 52 31.5 +0.9
comp=Z,21nm,0.8s,mb5.1
DCID1 **Drake Creek** 80.39 45 eP P 21 52 32.0 +1.3

HVU Hansel Valley 80.40 47 *eP* **P 21 52 30.8 0.0**
comp=Z,30nm,1.1s,mb5.1
HVU Hansel Valley 80.40 47 *eP* **P 21 52 30.8 0.0**
HVU pmax pmax
comp=Z,30nm,1.1s,mb5.1
FLWY Flagg Ranch 80.41 44 *eP* **P 21 52 31.9 +1.1**
comp=Z,38nm,1.0s,mb5.3
R11A Troy Canyon, C 80.42 51 P **P 21 52 31.3 +0.4**
baz=80,SNR=16
LRMC Laurel Mountai 80.47 54 P **P 21 52 30.9 -0.4**
baz=80,SNR=7.4
O13A Hicks Ranch, I 80.52 49 P **P 21 52 32.2 +0.7**
baz=80,SNR=8.4
FURC Furnace Creek, 80.53 53 P **P 21 52 32.1 +0.5**
baz=80,SNR=8.8
Q12A Willow Creek R 80.55 50 ⇓P **P 21 52 31.6 -0.1**
baz=80
MOOW Moose Ponds 80.57 44 *eP* **P 21 52 32.1 +0.4**
comp=Z,15nm,1.0s,mb4.9
EDW2 Edwards Air Fo 80.57 55 P **P 21 52 31.6 -0.3**
baz=80,SNR=19
TPAW Teton Pass 80.59 45 *eP* **P 21 52 32.4 +0.6**
comp=Z,29nm,1.0s,mb5.2
N14A Grayback Hills 80.65 48 P **P 21 52 32.8 +0.7**
baz=80,SNR=7.4
RLMT Red Lodge 80.67 43 *eP* **P 21 52 32.6 +0.5**
comp=Z,30nm,1.3s,mb5.1
RLMT LR LR
comp=Z,1µm,20.0s,MS5.2
S11A Rachel 80.68 52 ⇓P **P 21 52 32.1 -0.3**
baz=80
MALT Malatya 80.70 309 *eP* **P 21 52 22.6 -10**
MALT Malatya 80.70 309 *eP* **P 21 52 33.1 +0.7**
comp=Z,60nm,1.5s,mb5.3
MALT Malatya 80.70 309 *eP* **P 21 52 33.2 +0.7**
MALT pmax pmax
comp=Z,60nm,1.4s,mb5.3
TPNV Topopah Spring 80.70 53 *eP* **P 21 52 31.8 -0.7**
comp=Z,25nm,0.9s,mb5.2
TPNV LR LR
comp=Z,2µm,20.0s,MS5.5
TPNV Topopah Spring 80.70 53 *eP* **P 21 52 31.8 -0.7**
TPNV pmax pmax
comp=Z,25nm,0.9s,mb5.1
TPNV MLR MLR
comp=Z,2µm,20.0s,MS5.5
TPNV Topopah Spring 80.70 53 P **P 21 52 32.1 -0.4**
baz=80,SNR=34
BGU Big Grassy Mou 80.71 48 *eP* **P 21 52 32.1 -0.3**
REDW Red Top Meadow 80.72 45 *eP* **P 21 52 32.9 +0.4**
comp=Z,49nm,1.4s,mb5.2
SNOW Snow King Moun 80.72 45 *eP* **P 21 52 33.1 +0.6**
comp=Z,22nm,1.1s,mb5.0
KVT Kavak 80.76 312 *eP* **P 21 52 32.8 0.0**
M15A Larsen Ranch, 80.78 47 P **P 21 52 33.2 +0.3**
baz=81,SNR=18
P13A Bates Ranch, G 80.86 49 P **P 21 52 33.3 -0.1**
baz=81,SNR=16
SPUT South Promonto 80.86 47 *eP* **P 21 52 34.1 +0.8**
URFA Urfa 80.90 308 *eP* **P 21 52 34.5 +0.9**
AHID Auburn Hatcher 80.90 45 PFAKE 21 52 40.0 +6.5
AHID LR LR
comp=Z,1µm,22.0s,MS5.3
U10A Ash Meadows, A 80.93 53 ⇑P **P 21 52 33.5 -0.3**
baz=81
DIKM Dikmen 80.95 313 *eP* **P 21 52 31.0 -2.7**
CIS Catalina Islan 81.03 57 P **P 21 52 34.7 +0.3**
baz=81,SNR=5.2
N15A Stansbury Isla 81.05 48 P **P 21 52 34.6 +0.3**
baz=81,SNR=18
R12A Pony Springs, 81.08 51 P **P 21 52 34.9 +0.4**
baz=81,SNR=13
BFSC Mount Baldy St 81.14 55 ⇑P **P 21 52 35.0 +0.1**
baz=81
SCI San Clemente I 81.15 57 ⇓P **P 21 52 34.7 -0.3**
baz=81
GSC Goldstone 81.18 54 *eP* **P 21 52 35.2 +0.1**
comp=Z,38nm,1.4s,mb5.1
GSC LR LR
comp=Z,2µm,19.0s,MS5.5
GSC Goldstone 81.18 54 *eP* **P 21 52 35.2 +0.1**
GSC pmax pmax
comp=Z,38nm,1.4s,mb5.1
GSC MLR MLR
comp=Z,2µm,19.0s,MS5.5
GSC Goldstone 81.18 54 P **P 21 52 35.2 +0.1**
baz=81,SNR=6.8
DUG Dugway 81.24 48 *eP* **P 21 52 34.6 -0.7**
comp=Z,28nm,0.9s,mb5.2
DUG LR LR
comp=Z,2µm,20.0s,MS5.5
DUG Dugway 81.24 48 *eP* **P 21 52 34.6 -0.7**
DUG pmax pmax
comp=Z,28nm,0.9s,mb5.2
DUG MLR MLR
comp=Z,2µm,20.0s,MS5.5
DUG Dugway 81.24 48 P **P 21 52 35.6 +0.3**
baz=81,SNR=20
T11A Corn Creek, Al 81.25 52 P **P 21 52 35.4 -0.1**
baz=81,SNR=16
HWUT Hardware Ranch 81.26 47 *eP* **P 21 52 35.6 +0.2**
HWUT LR LR
comp=Z,1µm,20.0s,MS5.2
BOYT Boyabat 81.30 313 ⇓*iP* **P 21 52 36.7 +1.1**
NOQ North Oquirrh 81.43 48 *eP* **P 21 52 36.6 +0.3**
comp=Z,86nm,1.2s,mb5.5
KONO Kongsberg 81.45 338 PFAKE 21 52 50.0 +14
KONO LR LR
comp=Z,5µm,22.0s,MS5.8
LAO LASA Array 81.49 40 *eP* **P 21 52 36.4 -0.2**
LAO LR LR
comp=Z,1µm,19.0s,MS5.2
DGMT Dagmar 81.51 38 PFAKE 21 52 50.0 +13
DGMT LR LR
comp=Z,1µm,22.0s,MS5.2
BZK Bozkurt 81.56 314 *eP* **P 21 52 36.8 -0.2**
PMOR Pomariorio Ree 81.62 113 *eP* **P 21 52 38.3 +0.7**
comp=Z,24nm,1.0s,mb5.1
CTU Camp Tracy 81.65 47 *eP* **P 21 52 37.6 +0.1**
comp=Z,24nm,0.8s,mb5.2
KIS Kishinev 81.66 320 *eP* **P 21 52 36.0 -1.4**
KIS *e* 21 55 40.0
KIS *e* 21 57 38.0
KIS *eS* S 22 02 43.0 -3.7
KIS MLR MLR
comp=N,2µm,16.0s,MS5.8
KIS MLR MLR
comp=Z,5µm,16.0s,MS6.0
KIS MLR MLR
comp=E,2µm,17.0s,MS5.8
KIS MLR MLR
comp=Z,4µm,16.0s
KIS Kishinev 81.66 320 *eP* **P 21 52 36.0 -1.4**
KIS *eS* S 22 02 43.0 -3.7
KIS LRM 22 32 03.0
comp=Z,2µm,16.0s
TUQ Turquoise Mtn. 81.72 54 P **P 21 52 38.3 +0.3**
baz=82,SNR=8.0
HEC Hector,Ludlow 81.76 54 P **P 21 52 38.0 -0.2**
baz=82,SNR=12
PPT Papeete 81.79 116 *eP* **P 21 52 39.3 +0.8**
comp=Z,32nm,1.3s,mb5.1
PPT Papeete 81.79 116 *e*LR LR 22 17 48.5
comp=Z,2µm,21.8s,baz=304
PPT Papeete 81.79 116 *eP* **P 21 52 39.3 +0.8**
PPT pmax pmax
comp=Z,32nm,1.3s
PPT Papeete 81.79 116 LR LR 22 28 49.0
comp=Z,1µm,18.4s,MS5.3,baz=328,slow=36
GZT Gaziantep 81.79 309 *iP* **P 21 52 38.1 -0.2**
CTKT Corum 81.81 313 ⇑*iP* **P 21 52 39.2 +0.8**
BW06 Boulder Array 81.84 45 PFAKE 21 52 50.0 +12
BW06 LR LR
comp=Z,2µm,20.0s,MS5.4
PDAR Pinedale Array 81.84 45 P **P 21 52 38.0 -0.4**
comp=Z,7.2nm,0.8s,mb4.7,baz=277,slow=2.5,SNR=44
PDAR LR LR 22 28 45.9
comp=Z,1µm,18.9s,MS5.2,baz=320,slow=36
PAE Paea 81.84 116 *eP* **P 21 52 39.5 +0.8**
comp=Z,54nm,1.2s,mb5.3
PAE Paea 81.84 116 *eP* **P 21 52 39.5 +0.8**
PAE pmax pmax
comp=Z,54nm,1.2s,mb5.3
NLU North Lily Min 81.85 48 *eP* **P 21 52 38.4 -0.1**
V11A Goodsprings 81.85 53 ⇓P **P 21 52 38.1 -0.5**
baz=82
JLU Jordanelle 81.89 47 *eP* **P 21 52 39.0 +0.3**

SFJD Kangerlussuaq 81.93 5 PFAKE 21 52 50.0 +12
SFJD LR LR
comp=Z,2µm,20.0s,MS5.4
VAH Vaihoa 81.97 113 *eP* **P 21 52 39.8 +0.4**
comp=Z,18nm,1.0s,mb5.0
S13A Holt Ranch, En 81.98 51 ⇓P **P 21 52 39.3 0.0**
baz=82,SNR=6.1
MPU Maple Canyon 82.10 48 *eP* **P 21 52 40.3 +0.5**
comp=Z,31nm,1.0s,mb5.2
MPU LR LR
comp=Z,3µm,21.0s,MS5.5
BNN Bunyan 82.11 311 *eP* **P 21 52 41.3 +1.4**
DAU Daniels Canyon 82.11 47 *eP* **P 21 52 40.4 +0.5**
GAZ Gaziantep 82.12 309 *eP* **P 21 52 41.7 +1.6**
U12A Valley of Fire 82.14 52 ⇓P **P 21 52 40.3 +0.1**
baz=82
ARUT Antelope Range 82.15 51 *eP* **P 21 52 40.3 +0.2**
KMRS Kahramanmaras 82.15 309 *eP* **P 21 52 40.7 +0.5**
CORM Corum 82.16 312 *eP* **P 21 52 40.2 0.0**
BALT Daday 82.18 314 ⇑*iP* **P 21 52 41.4 +1.1**
T13A Saint George 82.25 51 ⇓P **P 21 52 40.7 0.0**
baz=82
GMRC Granite Mounta 82.25 54 P **P 21 52 40.6 -0.2**
baz=82,SNR=17
WAR Warsaw 82.27 328 *eP* **P 21 52 44.0 +3.5**
WAR LMZ 22 36 35.7
comp=Z,3µm,16.9s
V12A Nelson 82.31 53 P **P 21 52 41.4 +0.4**
baz=82,SNR=7.2
PFO Pinyon Flat Ob 82.32 55 *eP* **P 21 52 40.6 -0.6**
comp=Z,34nm,1.1s,mb5.2
PFO LR LR
comp=Z,3µm,19.0s,MS5.7
PFO Pinyon Flat Ob 82.32 55 *eP* **P 21 52 40.6 -0.5**
PFO pmax pmax
comp=Z,34nm,1.1s,mb5.2
PFO MLR MLR
comp=Z,3µm,19.0s,MS5.7
PFO Pinyon Flat Ob 82.32 55 P **P 21 52 40.8 -0.3**
baz=82,SNR=14
CCUT Cedar City 82.33 51 *eP* **P 21 52 41.3 +0.2**
LVV L'vov 82.41 325 *eP* **P 21 52 41.3 0.0**
LVV *e* pP 21 52 53.9 0.0
BELC Belle Mtn. 82.43 55 P **P 21 52 41.2 -0.6**
baz=82,SNR=9.5
ANDN Andirin 82.48 309 ⇑*iP* **P 21 52 42.4 +0.5**
W12A Cal Nev Ari 82.52 53 ⇓P **P 21 52 42.4 +0.2**
baz=82
U13A Pakoon Wash 82.54 52 P **P 21 52 42.4 +0.1**
baz=82,SNR=19
CANT Cankiri 82.56 313 *eP* **P 21 52 41.4 -0.8**
MSU Marysvale 82.58 49 *eP* **P 21 52 42.5 +0.1**
CDAG Cicekdag 82.63 312 ⇑*iP* **P 21 52 42.0 -0.7**
MONP Monument Peak 82.72 56 P **P 21 52 43.2 -0.1**
baz=82,SNR=17
ELDT Eldivan 82.74 313 *iP* **P 21 52 44.0 +0.8**
AVNT Avonos 82.79 311 ⇑*iP* **P 21 52 44.0 +0.5**
KOZT Kozan 82.88 310 *eP* **P 21 52 47.0 +3.0**
IRM Iron Mountain 82.94 54 P **P 21 52 44.1 -0.2**
baz=83,SNR=16
U14A Mt Trumbull 83.07 52 P **P 21 52 45.4 +0.4**
baz=83,SNR=9.5
DVTC Desert V Tower 83.07 56 P **P 21 52 45.1 0.0**
baz=83,SNR=9.4
COBT Iskenderun 83.12 309 *iP* **P 21 52 43.1 -2.2**
SWSC Sam W. Stewart 83.14 56 ⇑P **P 21 52 45.0 -0.4**
baz=83
KWP Kalwaria 83.19 325 *eP* **P 21 52 46.7 +1.4**
KWP LMZ 22 33 19.7
comp=Z,10µm,16.7s
KWP Kalwaria 83.19 325 *eP* **P 21 52 46.7 +1.4**
KWP Kalwaria 83.19 325 P **P 21 52 46.6 +1.3**
KWP pmax pmax
comp=Z,380nm,1.2s,mb6.3
KWP Kalwaria 83.19 325 ⇑*iP* **P 21 52 46.8 +1.5**
CEYT Ceyhan 83.19 309 *eP* **P 21 52 46.6 +1.0**
KAMT Kaman 83.20 312 *eP* **P 21 52 45.4 -0.2**
GKP Gorka Klasztor 83.25 330 *eP* **P 21 52 47.5 +1.9**
GKP LMZ 22 34 12.4
comp=Z,4µm,16.7s
T15A Red Dirt Ranch 83.27 51 ⇓P **P 21 52 46.1 +0.1**
baz=83
W13A Hualapai Mount 83.31 53 P **P 21 52 46.4 +0.1**
baz=83,SNR=8.5
SRU San Rafael 83.31 48 *eP* **P 21 52 45.6 -0.6**
comp=Z,14nm,0.8s,mb5.0
SRU San Rafael 83.31 48 *eP* **P 21 52 45.6 -0.6**
SRU pmax pmax
comp=Z,14nm,0.8s,mb5.0
TIRR Tirgusor 83.42 319 P **P 21 52 47.8 +1.2**
TIRR Tirgusor 83.42 319 ⇓*iP* **P 21 52 47.2 +0.6**
HTY Hatay 83.42 308 *eP* **P 21 52 47.4 +0.6**
VRI Vrincioaia 83.49 320 P **P 21 52 48.9 +1.9**
VRI Vrincioaia 83.49 320 ⇑*iP* **P 21 52 48.8 +1.8**
ANTO Ankara 83.50 313 *eP* **P 21 52 47.5 +0.4**
ANTO Ankara 83.50 313 P **P 21 52 47.8 +0.6**
ANTO LR LR
comp=Z,2µm,22.0s,MS5.4
ANTO Ankara 83.50 313 ⇓*iP* **P 21 52 47.8 +0.7**
LOD Lodumlu 83.50 313 *eP* **P 21 52 47.4 +0.2**
KARA Karaisali 83.51 310 *eP* **P 21 52 47.6 +0.4**
PLOR Plostina 83.55 320 P **P 21 52 49.2 +1.9**
HARR Harsova 83.55 319 P **P 21 52 48.4 +1.1**
V14A Boquillas Ranc 83.55 52 P **P 21 52 47.9 +0.4**
baz=83,SNR=15
PDMCI Parker Dam,Lak 83.57 54 ⇑P **P 21 52 47.2 -0.4**
baz=83
Y12C Blythe 83.60 54 ⇓P **P 21 52 47.6 -0.2**
baz=83
X13A Yucca 83.62 53 P **P 21 52 48.0 +0.1**
baz=83,SNR=13
KRTS Karatas 83.68 309 *eP* **P 21 52 48.2 +0.1**
W14A Seligman 83.80 53 P **P 21 52 49.0 +0.3**
baz=84,SNR=14
KOLS Kolonicke sedl 83.86 325 *eP* **P 21 52 48.8 0.0**
KOLS *e* pP 21 53 00.8 -0.6
KOLS *e* 21 53 31.7
KOLS *e*PP PP 21 55 57.1 -4.8
KOLS Kolonicke sedl 83.86 325 *eP* **P 21 52 48.8 0.0**
KOLS *e* pP 21 53 00.8 -0.6
KOLS *e* 21 55 57.1
KOLS Kolonicke sedl 83.86 325 *eP* **P 21 52 48.8 0.0**
KOLS *e* pP 21 53 00.8 -0.6
KOLS *e* 21 53 31.7
KOLS *e*PP PP 21 55 57.0 -4.9
T16A Glen Canyon Da 83.87 50 ⇑P **P 21 52 49.2 +0.1**
baz=84
RWWY Rawlins 83.88 45 *eP* **P 21 52 48.8 -0.3**
comp=Z,164nm,1.9s,mb5.8
PSN Preselentsi 84.02 318 P **P 21 52 50.6 +0.9**
STHS Stebnicka Huta 84.05 325 *eP* **P 21 52 51.4 +1.7**
comp=Z,46nm,1.4s,mb5.4
STHS *e* pP 21 53 03.2 +0.9
STHS Stebnicka Huta 84.05 325 *eP* **P 21 52 51.4 +1.7**
STHS *e* pP 21 53 03.2 +0.9
STHS pmax pmax
comp=Z,46nm,1.4s,mb5.4
UZH Uzhgorod 84.05 324 *eP* **P 21 52 50.0 +0.2**
UZH *i* pP 21 53 02.0 -0.4
UZH *i*S S 22 03 11.0 0.0
UZH MLR MLR
comp=Z,5µm,16.0s,MS6.0
MLR Muntele Rosu 84.16 320 P **P 21 52 51.7 +1.3**
MLR Muntele Rosu 84.16 320 ⇓*iP* **P 21 52 51.9 +1.5**
OJC Ojcow 84.20 327 *eP* **P 21 52 51.0 +0.5**
OJC *eS* S 22 03 14.4 +2.0
OJC L 22 40 12.6
comp=Z,3.5nm,16.8s
TRPA Tarpa 84.26 324 ⇓*iP* **P 21 52 51.6 +0.8**
RSSD Black Hills 84.27 41 *eP* **P 21 52 51.3 +0.3**
comp=Z,22nm,1.4s,mb5.1
RSSD LR LR
comp=Z,1µm,20.0s,MS5.2
RSSD Black Hills 84.27 41 *eP* **P 21 52 51.3 +0.3**
RSSD pmax pmax
comp=Z,23nm,1.4s,mb5.1
RSSD MLR MLR
comp=Z,1µm,20.0s,MS5.2
CRVS Cervenica-Dubn 84.28 325 *eP* **P 21 52 51.8 +0.8**
X14A Yava 84.34 53 P **P 21 52 52.1 +0.6**
baz=84,SNR=13
W15A Williams 84.37 52 ⇑P **P 21 52 52.3 +0.6**
baz=84,SNR=7.6
NIE Niedzica 84.50 326 *eP* **P 21 52 53.1 +1.1**

NIE *e* pP 21 53 05.3 +0.7
NIE Niedzica 84.50 326 *eP* **P 21 52 53.1 +1.1**
NIE *e* pP 21 53 05.3 +0.7
ULM Lac du Bonnet 84.50 33 P **P 21 52 50.7 -1.3**
ULM LR LR 22 35 33.8
ULM Lac du Bonnet 84.50 33 P **P 21 52 50.7 -1.3**
comp=Z,3.2nm,0.7s,mb4.6,baz=315,slow=8.5,SNR=5.6
ULM LR LR 22 35 33.8
comp=Z,1µm,18.3s,MS5.4,baz=44,slow=39
Y14A Wickenburg 84.56 54 P **P 21 52 52.5 -0.2**
baz=84,SNR=12
HWQ Hawqa 84.57 307 *eP* **P 21 52 52.4 -0.3**
GULT Gulveren 84.58 314 *eP* **P 21 52 53.1 +0.5**
KIZT Kizilcal 84.64 312 *eP* **P 21 52 52.3 -0.7**
VOIR 84.68 321 P **P 21 52 54.5 +1.5**
VOIR 84.68 321 ⇓*iP* **P 21 52 54.8 +1.8**
KDHN Kadinhani 84.70 312 ⇑*iP* **P 21 52 53.4 +0.1**
X15A Humboldt 84.78 53 P **P 21 52 54.1 +0.3**
baz=85,SNR=16
WUAZ Wupatki 84.79 52 *eP* **P 21 52 53.6 -0.1**
comp=Z,33nm,1.0s,mb5.4
WUAZ LR LR
comp=Z,2µm,21.0s,MS5.5
WUAZ Wupatki 84.79 52 P **P 21 52 53.9 +0.2**
baz=85,SNR=16
KONT Konya--Tatoy 84.88 311 *eP* **P 21 52 49.9 -4.3**
Z14A Wintersburg 84.91 54 ⇑P **P 21 52 54.7 +0.2**
baz=85
ESKT Eskisehir 84.92 313 *eP* **P 21 52 54.0 -0.4**
ESKT Eskisehir 84.92 313 *iP* **P 21 52 54.6 +0.2**
BHL Bhannes 84.98 307 *eP* **P 21 52 54.9 +0.1**
IKL Isikli 85.00 309 *eP* **P 21 52 55.2 +0.4**
Y15A Casa Rosa Ranc 85.01 53 P **P 21 52 54.9 0.0**
baz=85,SNR=23
RAC Raciborz 85.04 327 *eP* **P 21 52 55.7 +0.9**
RAC LR LR
comp=Z,4µm,18.4s,MS5.8
KECS Kecovo 85.05 325 *eP* **P 21 52 54.8 0.0**
comp=Z,14nm,1.2s,mb5.0
KECS *e* pP 21 53 04.6 -2.8
KECS Kecovo 85.05 325 *eP* **P 21 52 54.8 0.0**
KECS *e* pP 21 53 04.6 -2.8
KECS pmax pmax
comp=Z,14nm,1.2s,mb5.0
KECS Kecovo 85.05 325 *eP* **P 21 52 54.8 0.0**
KECS *e* pP 21 53 04.6 -2.8
DRGR 85.05 323 P **P 21 52 56.1 +1.2**
ADVT Abdulvahap 85.06 315 *eP* **P 21 52 52.3 -2.7**
ASF Jabal al Asfar 85.07 305 LR LR 22 36 20.3
comp=Z,1µm,18.1s,MS5.3,baz=99,slow=40
EREN Erenkoy 85.08 309 *eP* **P 21 52 54.8 -0.4**
ISK Istanbul-Kandi 85.09 316 *eP* **P 21 52 49.9 -5.3**
PHWY Pilot Hill 85.17 44 *eP* **P 21 52 56.2 +0.6**
OKC Ostrava-Krasne 85.24 327 *eP* **P 21 52 56.2 +0.5**
OKC *e*pP pP 21 53 08.8 +0.5
OKC *eS* S 22 03 29.7 +7.0
OKC Ostrava-Krasne 85.24 327 *eP* **P 21 52 56.2 +0.5**
OKC *ex* x 21 53 08.8
OKC *eS* S 22 03 29.7 +7.0
OKC AMS AMS 22 35 10.0
comp=Z,3µm,15.2s,MS5.8
RUE Ruedersdorf 85.27 331 *eP* **P 21 52 56.5 +0.7**
comp=Z,64nm,1.0s,mb5.7
RUE Ruedersdorf 85.27 331 *eP* **P 21 52 56.3 +0.4**
comp=Z,354nm,2.1s,mb6.1
ERMK Ermenek 85.28 310 *iP* **P 21 53 01.5 +5.3**
LIKS Likavka 85.33 326 *eP* **P 21 52 58.1 +1.9**
X16A Lo Mia Camp, P 85.36 53 P **P 21 52 57.4 +0.8**
baz=85,SNR=7.1
KSP Ksiaz 85.37 329 *eP* **P 21 52 57.7 +1.3**
KSP LMZ 22 35 22.1
comp=Z,6µm,17.5s
KSP Ksiaz 85.37 329 *eP* **P 21 52 56.8 +0.4**
KSP *e**PP pP 21 53 09.1 +0.1
KSP *eS* S 22 03 23.2 -0.9
KSP *eSS* SS 22 09 01.0 +2.8
KSP MLR MLR
comp=Z,6µm,18.4s,MS6.0
SMCO Snowmass 85.52 47 *eP* **P 21 52 57.5 +0.1**
comp=Z,39nm,1.2s,mb5.5
MORC Moravsky Berou 85.56 327 P **P 21 52 58.7 +1.4**
MORC Moravsky Berou 85.56 327 ⇓*iP* **P 21 52 58.0 +0.7**
SZH Strazhica 85.56 319 P **P 21 52 58.8 +1.3**
ZIMR 85.64 319 P **P 21 52 58.6 +0.7**
Y16A Circle Bar Ran 85.64 53 ⇑P **P 21 52 58.1 +0.1**
baz=86,SNR=12
LFK Lefkose 85.65 309 *eP* **P 21 52 58.9 +0.8**
MMAI Mount Meron Ar 85.65 306 LR LR 22 36 34.4
comp=Z,1µm,18.3s,MS5.3,baz=5.0,slow=39
ALT Altintas 85.66 313 *eP* **P 21 52 57.1 -0.9**
SHUT Suhut-Afyon 85.68 313 *eP* **P 21 52 57.2 -0.9**
DPC Dobruska-Polom 85.71 328 *eP* **P 21 52 58.8 +0.7**
DPC *ex* x 21 53 11.6
DPC *eS* S 22 03 29.9 +2.5
DPC AMS AMS 22 35 10.0
comp=Z,4µm,16.5s,MS5.9
MVCO Mesa Verde 85.71 49 *eP* **P 21 52 58.5 +0.1**
comp=Z,23nm,1.1s,mb5.3
MVCO LR LR
comp=Z,2µm,19.0s,MS5.6
MVCO Mesa Verde 85.71 49 ⇓P **P 21 52 58.5 +0.2**
baz=86
PSZ Piszkesteto 85.72 325 P **P 21 52 59.6 +1.5**
PSZ Piszkesteto 85.72 325 ⇑*iP* **P 21 52 59.1 +0.9**
PSZ Piszkesteto 85.72 325 ⇓*e*PcP PcP 21 52 59.3 -1.7
UPC Upice 85.74 329 *eP* **P 21 52 58.9 +0.7**
UPC *ex* x 21 53 11.5
115A Sonoran Desert 85.78 54 P **P 21 52 59.2 +0.4**
baz=86,SNR=11
VYHS Vyhne 85.84 326 *eP* **P 21 52 59.3 +0.5**
comp=Z,38nm,1.2s,mb5.5
VYHS *e* pP 21 53 11.1 -0.3
VYHS *e* 21 53 40.3
VYHS *e*PP PP 21 56 20.8 +2.9
VYHS Vyhne 85.84 326 *eP* **P 21 52 59.3 +0.5**
VYHS *e* pP 21 53 11.1 -0.3
VYHS *e* 21 56 20.8
VYHS pmax pmax
comp=Z,38nm,1.2s,mb5.5
AGMN Agassiz Refuge 85.85 34 PFAKE 21 53 10.0 +11
AGMN LR LR
comp=Z,2µm,19.0s,MS5.4
GZR Gura Zlata 85.93 322 P **P 21 53 00.9 +1.6**
CSS Prodhromos 85.96 309 *eP* **P 21 53 00.1 +0.4**
comp=Z,59nm,0.9s,mb5.8
ISCO Idaho Springs 85.98 45 *eP* **P 21 53 00.2 +0.6**
comp=Z,63nm,1.8s,mb5.5
ISCO LR LR
comp=Z,2µm,22.0s,MS5.4
ISCO Idaho Springs 85.98 45 *eP* **P 21 53 00.2 +0.5**
ISCO pmax pmax
comp=Z,63nm,1.8s,mb5.5
ISCO MLR MLR
comp=Z,2µm,22.0s,MS5.4
KOLL Kolacno 85.99 326 *eP* **P 21 53 00.8 +1.3**
KOLL *e* pP 21 53 12.3 +0.2
KOLL Kolacno 85.99 326 *eP* **P 21 53 00.8 +1.3**
KOLL *e* pP 21 53 12.3 +0.2
GDZ Gediz 86.03 314 ⇑*iP* **P 21 52 59.6 -0.2**
LEF Lefka 86.17 309 *eP* **P 21 53 00.5 -0.1**
116A Eloy 86.23 54 ⇓P **P 21 53 01.2 +0.2**
baz=86
VRAC Vranov 86.33 328 P **P 21 53 02.5 +1.4**
VRAC Vranov 86.33 328 ⇓*iP* **P 21 53 02.0 +0.9**
PVCC Panska Ves 86.36 329 *eP* **P 21 53 01.7 +0.4**
PVCC *ex* x 21 53 14.6
PVCC *eS* S 22 03 36.7 +2.9
PVCC AMS AMS 22 36 40.0
comp=Z,3µm,15.8s,MS5.8
BRG Berggiesshubel 86.38 330 *eP* **P 21 53 01.2 -0.2**
comp=Z,34nm,1.4s,mb5.4
BRG *e* 21 56 42.5
BRG S S 22 03 38.0 +4.1
BRG SS SS 22 09 14.0 +1.0
BRG LR LR
comp=Z,2µm,16.7s,MS5.6
BRG Berggiesshubel 86.38 330 *iP* **P 21 53 01.4 0.0**
BRG *i* pP 21 53 14.4 +0.4
BRG *eS* S 22 03 34.0 +0.1
BRG pmax pmax
comp=Z,138nm,2.0s,mb5.8
BRG MLR MLR
comp=Z,3µm,16.8s,MS5.8
BRG Berggiesshubel 86.38 330 *eP* **P 21 53 01.7 +0.3**

comp=Z,147nm,2.1s,mb5.8
BRG Berggiesshubel 86.38 330 *e*P **P 21 53 01.2 -0.2**
comp=Z,56nm,1.4s,mb5.6
BRG *e* 21 56 42.5
comp=Z,64nm,1.9s
BRG S S 22 03 38.0 +4.1
BRG SS SS 22 09 14.0 +1.0
BRG
comp=N,2μm,16.6s
BRG
comp=E,2μm,14.3s
BRG
comp=Z,3μm,16.7s
BZS Buzias 86.39 322 P **P 21 53 02.3 +0.7**
BZS Buzias 86.39 322⇓ *i*P **P 21 53 01.6 0.0**
BUD Budapest 86.44 325⇓ *e*PcP PcP 21 53 02.6 -1.6
SART Tekirdag 86.45 316 *i* P **P 21 53 01.7 -0.3**
CLL Collm 86.46 331 *i* P **P 21 53 01.4 -0.4**
comp=Z,169nm,2.0s,mb5.9
CLL *i* pP 21 53 14.4 0.0
CLL *i* 21 53 22.6
CLL *e*S S 22 03 34.0 -0.7
CLL LR LR
comp=Z,3μm,16.8s,MS5.8
CLL Collm 86.46 331 *i* P **P 21 53 01.4 -0.4**
CLL *i* pP 21 53 14.4 0.0
CLL *e*S S 22 03 34.0 -0.7
CLL pmax pmax
comp=Z,138nm,2.0s,mb5.8
CLL MLR MLR
comp=Z,3μm,16.8s,MS5.8
CLL Collm 86.46 331 *e*P **P 21 53 01.7 -0.1**
comp=Z,170nm,2.0s,mb5.9
CLL Collm 86.46 331 *i* P **P 21 53 01.4 -0.4**
comp=Z,169nm,2.0s,mb5.9
CLL *i* x x 21 53 14.4
CLL *i* x x 21 53 22.6
CLL *e*PP PP 21 56 26.0 +3.2
CLL *e*S S 22 03 34.0 -0.7
CLL *e*PPS 22 04 53.0
CLL *e*SS SS 22 09 19.0 +4.9
CLL *e*x x 22 13 52.0
CLL LmH 22 27 00.0
comp=N,2μm,19.7s
CLL LmH 22 27 00.0
comp=E,3μm,20.4s
BTOK Tokmak 86.51 315 *i* P **P 21 53 01.1 -1.1**
FBE Freiberg 86.60 330 *e*P **P 21 53 02.9 +0.4**
comp=Z,236nm,2.1s,mb6.0
MODS Modra-Piesok 86.67 327 *e*P **P 21 53 03.5 +0.7**
comp=Z,30nm,1.3s,mb5.4
MODS *e* pP 21 53 16.3 +0.8
MODS *e*PP PP 21 56 27.8 +3.2
MODS *e*S S 22 03 40.5 +3.7
MODS Modra-Piesok 86.67 327 *e*P **P 21 53 03.5 +0.7**
MODS *e* pP 21 53 16.3 +0.8
MODS *e* 21 56 27.8
MODS *e*S S 22 03 40.5 +3.7
MODS pmax pmax
comp=Z,30nm,1.3s,mb5.4
MODS Modra-Piesok 86.67 327 *e*P **P 21 53 03.5 +0.7**
MODS *e* pP 21 53 16.3 +0.8
MODS *e*PP PP 21 56 27.8 +3.2
MODS *e*S S 22 03 40.5 +3.7
BALB Balikesir 86.67 315 *e*P **P 21 52 59.7 -3.4**
216A Three Points, 86.72 55 P **P 21 53 03.9 +0.4**
baz=86,SNR=8.5
NRDL Niedersach Rie 86.75 333 *e*P **P 21 53 03.5 +0.3**
comp=Z,107nm,1.9s,mb5.8
PRA Prague 86.76 329 P **P 21 53 04.0 +0.8**
PRU Pruhonice 86.77 329 *e*P **P 21 53 04.0 +0.7**
PRU *e*x x 21 53 16.0
PRU *e*S S 22 03 38.5 +0.8
PRU AMS AMS 22 35 50.0
comp=Z,3μm,13.1s,MS5.9
TREC Trest 86.84 328 *e*P **P 21 53 04.3 +0.6**
TREC *e*x x 21 53 16.5
TREC *e*S S 22 03 41.7 +3.2
TREC AMS AMS 22 34 50.0
comp=Z,3μm,17.3s,MS5.8
ZST Bratislava 86.88 326 *e*P **P 21 53 04.8 +0.9**
comp=Z,33nm,1.2s,mb5.4
ZST *e* pP 21 53 16.8 +0.3
ZST *e*S S 22 03 40.0 +1.2
ZST LR LR
comp=Z,3μm,16.9s,MS5.8
ZST Bratislava 86.88 326 *e*P **P 21 53 04.8 +0.9**
ZST *e* pP 21 53 16.8 +0.3
ZST *e*S S 22 03 40.0 +1.2
ZST pmax pmax
comp=Z,33nm,1.2s,mb5.4
ZST MLR MLR
comp=Z,3μm,16.9s,MS5.8
ZST Bratislava 86.88 326 *e*P **P 21 53 04.8 +0.9**
ZST *e* pP 21 53 16.8 +0.3
ZST *e*S S 22 03 40.0 +1.2
KDZ Kurdzhali 86.88 318 P **P 21 53 03.2 -0.8**
TUC Tucson 87.01 54 *e*P **P 21 53 03.9 -0.9**
comp=Z,41nm,1.8s,mb5.3
TUC LR LR
comp=Z,3μm,19.0s,MS5.7
TUC Tucson 87.01 54 *e*P **P 21 53 03.9 -0.9**
TUC pmax pmax
comp=Z,41nm,1.8s,mb5.4
TUC MLR MLR
comp=Z,3μm,19.0s,MS5.7
CLZ Clausthal 87.14 332 *e*P **P 21 53 05.6 +0.5**
CLZ pmax pmax
comp=Z,132nm,1.9s,mb5.8
CLZ Clausthal 87.14 332 *e*P **P 21 53 05.6 +0.5**
comp=Z,132nm,1.9s,mb5.8
217A Green Valley 87.29 54 P **P 21 53 06.7 +0.5**
baz=87,SNR=9.8
SDCO Great Sand Dun 87.30 47 *e*P **P 21 53 06.0 -0.1**
comp=Z,23nm,1.5s,mb5.2
SDCO LR LR
comp=Z,2μm,19.0s,MS5.4
TANN Tannenbergstha 87.36 330 *e*P **P 21 53 06.6 +0.5**
comp=Z,58nm,1.9s,mb5.5
WERD Werda 87.40 330 *e*P **P 21 53 06.7 +0.4**
comp=Z,83nm,2.1s,mb5.6
WERD *e*PP PP 21 56 30.0 -0.4
GUNZ Gunzen 87.45 330 *e*P **P 21 53 07.1 +0.5**
comp=Z,142nm,2.1s,mb5.8
WERN Wernitzgrguen 87.49 330 *e*P **P 21 53 07.3 +0.5**
comp=Z,69nm,1.7s,mb5.6
NKC Novy Kostel 87.50 330 *e*P **P 21 53 07.5 +0.7**
NKC *e*pP pP 21 53 19.6 +0.1
NKC *e*S S 22 03 46.8 +2.1
NKC Novy Kostel 87.50 330 *e*P **P 21 53 07.5 +0.7**
NKC *e*x x 21 53 19.6
NKC *e*S S 22 03 46.8 +2.1
NKC AMS AMS 22 37 40.0
comp=Z,3μm,11.5s,MS6.0
SOP Sopron 87.50 326⇓ *e*PcP PcP 21 53 07.9 -0.9
PKSM Moragy 87.51 324 P **P 21 53 07.5 +0.6**
PKSM Moragy 87.51 324⇓ *i*P **P 21 53 06.6 -0.4**
MOX Moxa 87.54 331 *e*P **P 21 53 08.1 +1.1**
comp=Z,86nm,2.0s,mb5.6
MOX
comp=Z,1μm,20.0s
MOX Moxa 87.54 331 *e*P **P 21 53 07.3 +0.3**
comp=Z,97nm,2.0s,mb5.7
MOX *e*PP PP 21 56 31.9 +0.4
CONA Conrad Observa 87.65 327 *i* PcP PcP 21 53 08.7 -0.8
comp=Z,54nm,1.7s,SNR=14
218A Dragoon 87.71 54 P **P 21 53 08.9 +0.7**
baz=88,SNR=7.6
119A Ashpeak Ranch, 87.77 53⇓ P **P 21 53 08.4 -0.1**
baz=88
IBBN Ibbenburen 87.81 334 *e*P **P 21 53 08.3 0.0**
comp=Z,179nm,1.7s,mb6.0
KHC Kasperske Hory 87.82 329 *e*P **P 21 53 09.4 +1.0**
KHC *e*x x 21 53 21.1
KHC *e*PP PP 21 56 35.5 +1.7
KHC *e*S S 22 03 49.9 +2.0
KHC AMS AMS 22 37 00.0
comp=Z,4μm,17.4s,MS5.9
KPL Plockton 87.83 343 P **P 21 53 09.3 +1.1**
KPL AMb AMB 21 53 23.4
comp=Z,65nm,1.5s,mb5.6
KPL Plockton 87.83 343 *e*P **P 21 53 09.3 +1.1**
KPL AMb AMB 21 53 23.4
comp=Z,65nm,1.5s,mb5.6
KPL AMS AMS 22 43 52.8
comp=Z,874nm,17.6s,MS5.2
MANZ Manzenberg 87.83 330 *e*P **P 21 53 08.9 +0.5**
comp=Z,64nm,1.9s,mb5.5
EIL Elat 87.85 303 LR LR 22 38 58.0
comp=Z,935nm,18.2s,MS5.2,baz=69,slow=40
MMB Musomiste 87.89 318 P **P 21 53 09.8 +0.9**
ROTZ Rotzenmuhle 87.95 330 *e*P **P 21 53 09.6 +0.6**
comp=Z,84nm,2.0s,mb5.6
GEC2 GERESS Array S 87.98 329 *e*P **P 21 53 09.1 0.0**
GEC2 pmax pmax
comp=Z,17nm,1.4s,mb5.1
GEC2 GERESS Array S 87.98 329 *e*P **P 21 53 09.1 0.0**
comp=Z,17nm,1.4s,mb5.1
GERES GERESS Array B 87.98 329 P **P 21 53 09.4 +0.3**
GERES 21 56 35.1
GERES pmax pmax
comp=Z,3.0nm,0.7s
GERES pmax pmax
comp=Z,1.0nm,0.9s
GERES MLR MLR
comp=Z,3μm,19.0s
GERES GERESS Array B 87.98 329 P **P 21 53 09.4 +0.3**
comp=Z,2.9nm,0.7s,mb4.6,baz=38,slow=5.8,SNR=23
GERES PP PP 21 56 35.1 0.0
comp=Z,1.3nm,0.8s,baz=53,slow=8.8,SNR=3.6
GERES LR LR 22 36 08.2
comp=Z,3μm,19.0s,MS5.7,baz=48,slow=38
318A Bisbee 88.06 54 P **P 21 53 10.3 +0.4**
baz=88,SNR=8.7
UBBA Unterbreizbach 88.08 332 *e*P **P 21 53 09.7 +0.1**
comp=Z,51nm,1.8s,mb5.5
UBBA *e*PP PP 21 56 35.7 -0.1
WET Wettzell 88.12 329 *e*P **P 21 53 10.3 +0.5**
WET *e* 21 56 37.9
WET pmax pmax
comp=Z,59nm,1.9s,mb5.5
WET Wettzell 88.12 329 *e*P **P 21 53 10.3 +0.5**
comp=Z,59nm,1.9s,mb5.5
WET *e*PP PP 21 56 37.9 +1.7
EYMN Ely 88.17 33 PFAKE 21 53 20.0 +10
EYMN LR LR
comp=Z,1μm,19.0s,MS5.4
ANMO Albuquerque 88.38 50 PFAKE 21 53 20.0 +8.7
ANMO LR LR
comp=Z,4μm,20.0s,MS5.8
ANMO Albuquerque 88.38 50⇑ *e*P **P 21 53 10.8 -0.5**
GRA1 Grafenberg Arr 88.43 330 *e*P **P 21 53 11.9 +0.6**
comp=Z,152nm,1.9s,mb5.9
GRA1 *e*pP pP 21 53 23.6 -0.3
GRA1 *e*S S 22 03 51.1 -2.5
GRA1 *e*SS SS 22 09 43.7 +0.8
GRA1 LR LR
comp=Z,2μm,18.0s,MS5.5
GRF Grafenberg Arr 88.43 330 *e*P **P 21 53 11.9 +0.6**
GRF *e**PP pP 21 53 23.6 -0.3
GRF *e*S S 22 03 51.1 -2.5
GRF *e*SS SS 22 09 43.7 +0.8
GRF pmax pmax
comp=Z,152nm,1.9s,mb5.9
GRF MLR MLR
comp=Z,2μm,18.0s,MS5.5
GRF Grafenberg Arr 88.43 330 *e*P **P 21 53 11.9 +0.6**
GRF *e**PP pP 21 53 23.6 -0.3
GRF *e*S S 22 03 51.1 -2.5
GRF *e*SS SS 22 09 43.7 +0.8
GRF pmax pmax
comp=Z,152nm,1.9s,mb5.9
GRF MLR MLR
comp=Z,2μm,18.0s,MS5.5
GRF Grafenberg Arr 88.43 330 *e*P **P 21 53 11.9 +0.6**
comp=Z,152nm,1.9s,mb5.9
GRF *e*pP pP 21 53 23.6 -0.3
GRF *e*S S 22 03 51.1 -2.5
GRF *e*SS SS 22 09 43.7 +0.8
GRF *e*L 22 39 29.6
comp=Z,2μm,18.0s
GRFO Grafenberg 88.43 330 *e*P **P 21 53 11.9 +0.6**
comp=Z,6μm,1.9s
GRFO LR LR
comp=Z,2μm,19.0s,MS5.4
GRFO Grafenberg 88.43 330 *e*P **P 21 53 11.9 +0.6**
GRFO pmax pmax
comp=Z,6μm,1.9s
GRFO MLR MLR
comp=Z,2μm,19.0s,MS5.4
MOA Molln 88.45 328⇑ *i*P **P 21 53 08.8 -2.6**
comp=Z,26nm,1.4s,mb5.3,SNR=6.0
MOA Molln 88.45 328⇑ *e*P **P 21 53 10.7 -0.7**
comp=Z,26nm,1.4s,mb5.3,SNR=6.0
319A Douglas 88.59 54⇑ P **P 21 53 12.8 +0.4**
baz=88
ECSD EROS,Sioux Fal 88.59 38 *e*P **P 21 53 11.0 -1.2**
comp=Z,14nm,1.0s,mb5.2
ECSD LR LR
comp=Z,1μm,21.0s,MS5.3
LPM Los Pinos Moun 88.65 50 *e*P **P 21 53 12.5 -0.2**
BNM Barren Site 88.75 50 *e*P **P 21 53 14.8 +1.7**
ESK Eskdalemuir 88.95 341 P **P 21 53 14.5 +0.9**
ESK AMb AMB 21 53 17.8
ESK Eskdalemuir 88.95 341 *e*P **P 21 53 14.5 +0.9**
ESK AMb AMB 21 53 17.8
comp=Z,34nm,1.7s,mb5.4
ESK AMS AMS 22 37 29.8
comp=Z,1μm,19.0s,MS5.4
ESK Eskdalemuir 88.95 341 PFAKE 21 53 20.0 +6.4
ESK LR LR
comp=Z,2μm,20.0s,MS5.5
TNS Taunus Mts 89.17 332 *e*P **P 21 53 15.0 +0.3**
TNS *e* 21 56 45.7
TNS pmax pmax
comp=Z,38nm,1.6s,mb5.5
TNS Taunus Mts 89.17 332 *e*P **P 21 53 15.0 +0.3**
comp=Z,38nm,1.6s,mb5.5
TNS *e*PP PP 21 56 45.7 +1.2
KBA Koelnbreinsper 89.44 328⇑ *i*P **P 21 53 15.7 -0.4**
comp=Z,23nm,1.4s,mb5.3
KBA Koelnbreinsper 89.44 328⇑ *i*PcP PcP 21 53 15.7 -1.7
comp=Z,23nm,1.4s
KBA Koelnbreinsper 89.44 328⇑ *i*P **P 21 53 15.7 -0.4**
KBA pmax pmax
comp=Z,23nm,1.4s,mb5.3
FUR Furstenfeldbru 89.56 329 *e*P **P 21 53 17.0 +0.4**
FUR pmax pmax
comp=Z,152nm,2.0s,mb6.0
FUR Furstenfeldbru 89.56 329 *e*P **P 21 53 17.0 +0.4**
comp=Z,152nm,2.0s,mb6.0
HPK Haverah Park 89.66 339 P **P 21 53 17.4 +0.5**
HPK AMb AMB 21 53 22.6
comp=Z,78nm,1.8s,mb5.8
HPK Haverah Park 89.66 339 *e*P **P 21 53 17.4 +0.5**
HPK AMb AMB 21 53 22.6
comp=Z,78nm,1.8s,mb5.8
HPK AMS AMS 22 40 53.7
comp=Z,2μm,18.9s,MS5.5
HGN Heimansgroeve 89.73 334 *e*P **P 21 53 17.9 +0.6**
comp=Z,38nm,2.6s,mb5.3
HGN Heimansgroeve 89.73 334 *e*S S 22 04 08.8 +3.1
GAL1 Galloway 89.77 341 AMS AMS 22 44 12.8
comp=Z,920nm,17.0s
GAL1 Galloway 89.77 341 AMS AMS 22 44 12.8
comp=Z,920nm,17.0s,MS5.3
ABH Alteburg 89.80 332 *e*P **P 21 53 18.5 +0.8**
VOY Vojsko 89.96 327 *e*(P) **P 21 53 18.2 -0.3**
VOY *e* pP 21 53 28.0 -3.2
VOY *e* 21 53 37.4
STU Stuttgart 89.99 331 *e*P **P 21 53 18.6 0.0**
comp=Z,71nm,1.8s,mb5.7
ABTA Abfaltersbach 90.07 328⇓ *i*PcP PcP 21 53 18.5 -1.8
comp=Z,25nm,1.4s,SNR=8.9
LHO Holmfirth 90.09 339⇑ *e*P **P 21 53 19.5 +0.5**
RUP Ruppelstein 90.13 332 *e*P **P 21 53 20.0 +0.7**
CBKS Cedar Bluff 90.14 43 PFAKE 21 53 30.0 +10
CBKS LR LR
comp=Z,1μm,21.0s,MS5.2
RETA Reutte 90.30 329⇑ *i*PcP PcP 21 53 20.2 -1.1
comp=Z,46nm,1.3s,SNR=9.5
WLF Walferdange 90.52 333 *e*P **P 21 53 22.4 +1.3**
comp=Z,47nm,1.5s,mb5.6
WLF Walferdange 90.52 333 *e*P **P 21 53 22.4 +1.3**
WLF pmax pmax
comp=Z,47nm,1.5s,mb5.6
WLF Walferdange 90.52 333 *e*P **P 21 53 21.7 +0.6**
comp=Z,96nm,2.0s,mb5.8
CWF Charnwood Fore 90.61 338 *e*P **P 21 53 22.5 +1.1**
CWF AMb AMB 21 53 24.9
comp=Z,50nm,1.4s,mb5.6
COWI Conover 90.62 33 PFAKE 21 53 30.0 +8.4
COWI LR LR
comp=Z,1μm,19.0s,MS5.4
GIVF Givet 90.68 334 *e*P **P 21 53 21.6 -0.2**
comp=Z,191nm,1.9s,mb5.8
GIVF Givet 90.68 334 *e*P **P 21 53 21.6 -0.2**
comp=Z,95nm,1.9s,mb5.8
GIVF Givet 90.68 334 *e*P **P 21 53 21.6 -0.2**
GIVF pmax pmax
comp=Z,95nm,1.9s,mb5.8
SPAK Spaichingen-Ko 90.68 331 *e*P **P 21 53 22.6 +0.8**
BFO Black Forest 90.69 331 *e*P **P 21 53 21.8 -0.1**
comp=Z,39nm,1.4s,mb5.5
BFO LR LR
comp=Z,2μm,20.0s,MS5.5
BFO Black Forest 90.69 331 P **P 21 53 21.2 -0.7**
BFO pmax pmax
comp=Z,51nm,1.2s,mb5.7
DAVA Damuels 90.84 329⇑ *i*P **P 21 53 22.6 0.0**
comp=Z,81nm,1.4s,mb5.9,SNR=8.6
DAVA Damuels 90.84 329⇑ *i*PcP PcP 21 53 22.6 -1.0
comp=Z,81nm,1.4s,SNR=8.6
BAIF Baives 90.95 334 *e*P **P 21 53 22.9 -0.1**
comp=Z,69nm,1.6s,mb5.4
BAIF Baives 90.95 334 *e*P **P 21 53 22.9 -0.1**
comp=Z,34nm,1.6s,mb5.4
BAIF Baives 90.95 334 *e*P **P 21 53 22.9 -0.1**
BAIF pmax pmax
comp=Z,35nm,1.6s,mb5.4
CDF Champ du Feu 91.07 332 *e*P **P 21 53 23.3 -0.3**
comp=Z,119nm,1.4s,mb5.7
CDF Champ du Feu 91.07 332 *e*P **P 21 53 23.3 -0.3**
comp=Z,60nm,1.4s,mb5.7
CDF Champ du Feu 91.07 332 *e*P **P 21 53 23.3 -0.3**
CDF pmax pmax
comp=Z,60nm,1.4s,mb5.7
MNTX Cornudas Mount 91.07 52 *e*P **P 21 53 23.4 -0.5**
comp=Z,7.2nm,1.0s,mb5.0
MNTX LR LR
comp=Z,1μm,20.0s,MS5.4
SCHQ Schefferville 91.13 16 P **P 21 53 25.4 +1.6**
comp=Z,3.0nm,1.1s,mb4.6,baz=225,slow=4.3,SNR=4.7
SCHQ LR LR 22 36 44.0
comp=Z,810nm,20.2s,MS5.2,baz=349,slow=37
FELD Feldberg im Sc 91.19 331 *e*P **P 21 53 24.5 +0.3**
DMUB Kingscourt 91.22 342 *e*P **P 21 53 13.8 -10**
IDI Anoyia 91.26 313 LR LR 22 35 59.4
comp=Z,738nm,21.0s,MS5.1,baz=324,slow=37
ECH Echery 91.27 331 *e*P **P 21 53 24.5 -0.1**
SKP1 Kophill 91.32 338 *e*P **P 21 53 25.1 +0.4**
SSW Stow on the Wo 91.44 338⇑ *e*P **P 21 53 26.3 +1.0**
AMTX Amarillo 91.50 47 *e*P **P 21 53 26.4 +0.5**
comp=Z,14nm,0.9s,mb5.3
AMTX LR LR
comp=Z,2μm,19.0s,MS5.6
MOF Molkenrain 91.57 331 *e*P **P 21 53 26.5 +0.5**
DLF Lyons Farm 91.66 342 *e*P **P 21 53 15.8 -10**
HINF Hinteralfeld 91.71 331 *e*P **P 21 53 25.9 -0.7**
comp=Z,57nm,1.2s,mb5.5
HINF Hinteralfeld 91.71 331 *e*P **P 21 53 25.9 -0.7**
comp=Z,28nm,1.2s,mb5.5
HINF Hinteralfeld 91.71 331 *e*P **P 21 53 25.9 -0.7**
HINF pmax pmax
comp=Z,28nm,1.2s,mb5.5
THEF They Montfort 91.74 332 *e*P **P 21 53 27.3 +0.6**
KSU1 Kansas State U 91.76 41 *e*P **P 21 53 26.1 -1.0**
comp=Z,32nm,0.8s,mb5.7
KSU1 LR LR
comp=Z,1μm,21.0s,MS5.4
HAU Haudompre 91.77 332 *e*P **P 21 53 26.3 -0.6**
comp=Z,62nm,1.3s,mb5.5
HAU *e*MLR MLR
comp=Z,1μm,21.5s,MS5.0
HAU Haudompre 91.77 332 *e*P **P 21 53 26.3 -0.6**
comp=Z,31nm,1.3s,mb5.5
HAU LR LR
comp=Z,1μm,21.5s,MS5.3
HAU Haudompre 91.77 332 *e*P **P 21 53 26.3 -0.6**
HAU pmax pmax
comp=Z,31nm,1.3s,mb5.5
HAU MLR MLR
comp=Z,1μm,21.5s,MS5.3
MCH1 Michaelchurch 91.78 339 *e*P **P 21 53 27.2 +0.4**
MCH1 AMb AMB 21 53 31.7
comp=Z,37nm,1.2s,mb5.6
DCN Croghan 91.81 342 *e*P **P 21 53 22.8 -4.2**
MEZF Maizieres J'vi 91.89 333 *e*P **P 21 53 27.4 0.0**
comp=Z,246nm,1.7s,mb6.0
MEZF Maizieres J'vi 91.89 333 *e*P **P 21 53 27.4 0.0**
comp=Z,246nm,1.7s,mb6.3
LOMF Lomont 92.09 331 *e*P **P 21 53 28.0 -0.4**
JFWS Jewell Farm 92.45 35 PFAKE 21 53 40.0 +10
JFWS LR LR
comp=Z,1μm,19.0s,MS5.3
CABF La Chapelle 92.99 331 *e*P **P 21 53 32.0 -0.5**
comp=Z,76nm,1.4s,mb5.6
CABF La Chapelle 92.99 331 *e*P **P 21 53 32.0 -0.5**
comp=Z,38nm,1.4s,mb5.6
CABF La Chapelle 92.99 331 *e*P **P 21 53 32.0 -0.5**
CABF pmax pmax
comp=Z,38nm,1.4s,mb5.6
LOR Lormes 93.36 333 *e*P **P 21 53 33.7 -0.5**
comp=Z,101nm,1.2s,mb5.8
LOR *e*MLR MLR
comp=Z,2μm,22.2s,MS5.2
LOR Lormes 93.36 333 *e*P **P 21 53 33.7 -0.5**
comp=Z,50nm,1.2s,mb5.8
LOR LR LR
comp=Z,2μm,22.3s,MS5.5
LOR Lormes 93.36 333 *e*P **P 21 53 33.7 -0.5**
LOR pmax pmax
comp=Z,50nm,1.2s,mb5.8
LOR MLR MLR
comp=Z,2μm,22.3s,MS5.5
WMOK Wichita Mounta 93.40 46 *e*P **P 21 53 33.9 -0.8**
comp=Z,8.7nm,0.9s,mb5.2
WMOK LR LR
comp=Z,2μm,21.0s,MS5.6
WMOK Wichita Mounta 93.40 46 *e*P **P 21 53 33.9 -0.8**
WMOK pmax pmax
comp=Z,9.0nm,0.9s,mb5.2
WMOK MLR MLR
comp=Z,2μm,21.0s,MS5.6
DYA Yadsworthy 93.43 339 AMS AMS 22 42 39.0
comp=Z,2μm,18.5s
DYA Yadsworthy 93.43 339 AMS AMS 22 42 39.0
comp=Z,2μm,18.5s,MS5.6
LPL La Plagne 93.58 330 *e*P **P 21 53 35.2 -0.1**
comp=Z,131nm,1.4s,mb5.9
LPL La Plagne 93.58 330 *e*P **P 21 53 35.2 -0.1**
comp=Z,56nm,1.4s,mb5.9
LPL La Plagne 93.58 330 *e*P **P 21 53 35.2 -0.1**
LPL pmax pmax
comp=Z,65nm,1.4s,mb5.9
LPG La Plagne 93.59 330 *e*P **P 21 53 35.3 0.0**
comp=Z,61nm,0.9s,mb5.7
LPG La Plagne 93.59 330 *e*P **P 21 53 35.3 0.0**
comp=Z,31nm,0.9s,mb5.7
LPG La Plagne 93.59 330 *e*P **P 21 53 35.3 0.0**
LPG pmax pmax
comp=Z,31nm,0.9s,mb5.7
GLMI Grayling 93.64 31 PFAKE 21 53 50.0 +14
GLMI LR LR
comp=Z,2μm,19.0s,MS5.5
SSF Saint Saulge 93.67 333 *e*P **P 21 53 35.2 -0.5**
comp=Z,112nm,1.3s,mb5.8
SSF Saint Saulge 93.67 333 *e*P **P 21 53 35.2 -0.5**
comp=Z,56nm,1.3s,mb5.8
SSF Saint Saulge 93.67 333 *e*P **P 21 53 35.2 -0.5**
SSF pmax pmax
comp=Z,56nm,1.3s,mb5.8
TXAR Lajitas Array 93.69 53 P **P 21 53 36.3 +0.2**
TXAR 21 57 20.5
TXAR pmax pmax
comp=Z,12nm,0.8s
TXAR pmax pmax
comp=Z,1.0nm,0.9s
TXAR MLR MLR
comp=Z,3μm,18.2s
TXAR Lajitas Array 93.69 53 P **P 21 53 36.3 +0.2**
comp=Z,12nm,0.8s,mb5.4,baz=297,slow=3.0,SNR=78
TXAR PP PP 21 57 20.5 -0.4
comp=Z,1.3nm,0.9s,baz=318,slow=5.2,SNR=5.3
TXAR LR LR 22 38 04.1
comp=Z,3μm,18.2s,MS5.8,baz=15,slow=37
FLN La Foliniere 93.73 336 *e*P **P 21 53 35.3 -0.6**

comp=Z,60nm,1.0s,mb5.7
FLN eMLR MLR
comp=Z,2μm,21.0s,MS5.3
FLN La Foliniere 93.73 336 eP **P 21 53 35.3 -0.6**
comp=Z,30nm,1.0s,mb5.7
FLN LR LR
comp=Z,2μm,21.0s,MS5.6
FLN La Foliniere 93.73 336 eP **P 21 53 35.3 -0.6**
FLN pmax pmax
comp=Z,30nm,1.0s,mb5.7
FLN MLR MLR
comp=Z,2μm,21.0s,MS5.6
LDF La Druitiere 93.75 336 eP **P 21 53 35.4 -0.6**
comp=Z,32nm,0.8s,mb5.5
LDF La Druitiere 93.75 336 eP **P 21 53 35.4 -0.6**
comp=Z,16nm,0.8s,mb5.5
LDF La Druitiere 93.75 336 eP **P 21 53 35.4 -0.6**
LDF pmax pmax
comp=Z,16nm,0.8s,mb5.5
HYF Humbligny 93.83 333 eP **P 21 53 36.4 0.0**
SMF Signal de Mont 93.87 332 eP **P 21 53 36.0 -0.6**
comp=Z,227nm,1.6s,mb6.0
SMF Signal de Mont 93.87 332 eP **P 21 53 36.0 -0.6**
comp=Z,113nm,1.6s,mb6.0
SMF Signal de Mont 93.87 332 eP **P 21 53 36.0 -0.6**
SMF pmax pmax
comp=Z,113nm,1.6s,mb6.0
AVF Avril sur Loir 93.95 333 eP **P 21 53 36.5 -0.5**
comp=Z,152nm,1.2s,mb6.0
AVF Avril sur Loir 93.95 333 eP **P 21 53 36.5 -0.5**
comp=Z,76nm,1.2s,mb6.0
AVF Avril sur Loir 93.95 333 eP **P 21 53 36.5 -0.5**
AVF pmax pmax
comp=Z,76nm,1.2s,mb6.0
BNI Bardonecchia 93.98 330 eP **P 21 53 38.8 +1.6**
comp=Z,78nm,1.5s,mb5.9
BNI Bardonecchia 93.98 330 eP **P 21 53 38.8 +1.7**
BNI pmax pmax
comp=Z,78nm,1.5s,mb5.9
GRR Gorron 94.18 336 eP **P 21 53 37.8 -0.2**
comp=Z,143nm,1.3s,mb5.9
GRR Gorron 94.18 336 eP **P 21 53 37.8 -0.2**
comp=Z,72nm,1.3s,mb5.9
GRR Gorron 94.18 336 eP **P 21 53 37.8 -0.2**
GRR pmax pmax
comp=Z,72nm,1.3s,mb5.9
MBDF Montbardon 94.19 330 eP **P 21 53 37.3 -0.8**
comp=Z,30nm,0.9s,mb5.4
MBDF Montbardon 94.19 330 eP **P 21 53 37.3 -0.8**
comp=Z,15nm,0.9s,mb5.4
MBDF Montbardon 94.19 330 eP **P 21 53 37.3 -0.8**
MBDF pmax pmax
comp=Z,15nm,0.9s,mb5.4
BGF Bois d'Agland 94.34 333 eP **P 21 53 38.4 -0.4**
comp=Z,75nm,1.2s,mb5.7
BGF Bois d'Agland 94.34 333 eP **P 21 53 38.4 -0.4**
comp=Z,37nm,1.2s,mb5.7
BGF Bois d'Agland 94.34 333 eP **P 21 53 38.4 -0.4**
BGF pmax pmax
comp=Z,37nm,1.2s,mb5.7
ORIF Oris-en-Rattie 94.42 330 eP **P 21 53 38.7 -0.5**
comp=Z,48nm,1.3s,mb5.5
ORIF eMLR MLR
comp=Z,4μm,18.8s,MS5.7
ORIF Oris-en-Rattie 94.42 330 eP **P 21 53 38.7 -0.5**
comp=Z,24nm,1.3s,mb5.5
ORIF Oris-en-Rattie 94.42 330 eP **P 21 53 38.7 -0.5**
ORIF pmax pmax
comp=Z,24nm,1.3s,mb5.5
PLDF La Plantade 94.51 332 eP **P 21 53 40.2 +0.6**
AGO Saint Agoulin 94.64 332 eP **P 21 53 40.2 0.0**
HDIL Hopedale 94.67 36 PFAKE 21 53 50.0 +10
HDIL LR LR
comp=Z,1μm,20.0s,MS5.4
TCF Toulx Ste Croi 94.81 333 eP **P 21 53 40.7 -0.2**
comp=Z,126nm,1.6s,mb5.8
TCF Toulx Ste Croi 94.81 333 eP **P 21 53 40.7 -0.2**
comp=Z,63nm,1.6s,mb5.8
TCF Toulx Ste Croi 94.81 333 eP **P 21 53 40.7 -0.2**
TCF pmax pmax
comp=Z,63nm,1.6s,mb5.8
SGMF Saint Gilles 94.88 337 eP **P 21 53 41.0 -0.2**
comp=Z,57nm,1.1s,mb5.6
SGMF Saint Gilles 94.88 337 eP **P 21 53 41.0 -0.2**
comp=Z,28nm,1.1s,mb5.6
SGMF Saint Gilles 94.88 337 eP **P 21 53 41.0 -0.2**
SGMF pmax pmax
comp=Z,28nm,1.1s,mb5.6
PYM Petit Puy Mans 94.94 332 eP **P 21 53 41.6 +0.1**
VIVF Saint-Julien-l 94.99 331 eP **P 21 53 41.3 -0.5**
comp=Z,92nm,1.4s,mb5.7
VIVF Saint-Julien-l 94.99 331 eP **P 21 53 41.3 -0.5**
comp=Z,46nm,1.4s,mb5.7
VIVF Saint-Julien-l 94.99 331 eP **P 21 53 41.3 -0.5**
VIVF pmax pmax
comp=Z,46nm,1.4s,mb5.7
ROSF Rostrenen 95.05 337 eP **P 21 53 41.6 -0.4**
FRF La Foret Royal 95.17 329 eP **P 21 53 42.3 -0.3**
comp=Z,60nm,1.3s,mb5.6
FRF La Foret Royal 95.17 329 eP **P 21 53 42.3 -0.3**
comp=Z,30nm,1.3s,mb5.6
FRF La Foret Royal 95.17 329 eP **P 21 53 42.3 -0.3**
FRF pmax pmax
comp=Z,30nm,1.3s,mb5.6
LBL Lubilhac 95.27 332 eP **P 21 53 42.1 -0.9**
SMRF Simiane la Rot 95.31 330 eP **P 21 53 42.7 -0.6**
QUIF Quistinic 95.37 337 eP **P 21 53 43.1 -0.4**
comp=Z,95nm,1.3s,mb5.8
QUIF Quistinic 95.37 337 eP **P 21 53 43.1 -0.4**
comp=Z,48nm,1.3s,mb5.8
QUIF Quistinic 95.37 337 eP **P 21 53 43.1 -0.4**
QUIF pmax pmax
comp=Z,48nm,1.3s,mb5.8
LMR La Mourre 95.41 329 eP **P 21 53 43.2 -0.5**
comp=Z,104nm,1.3s,mb5.8
LMR La Mourre 95.41 329 eP **P 21 53 43.2 -0.5**
comp=Z,52nm,1.3s,mb5.8
LMR La Mourre 95.41 329 eP **P 21 53 43.2 -0.5**
LMR pmax pmax
comp=Z,52nm,1.3s,mb5.8
MFF Saint Martin d 95.44 335 eP **P 21 53 43.6 -0.2**
comp=Z,143nm,1.5s,mb5.9
MFF Saint Martin d 95.44 335 eP **P 21 53 43.6 -0.2**
comp=Z,71nm,1.5s,mb5.9
MFF Saint Martin d 95.44 335 eP **P 21 53 43.6 -0.2**
MFF pmax pmax
comp=Z,71nm,1.5s,mb5.9
CCM Cathedral Cave 95.48 39 eP **P 21 53 43.1 -1.0**
comp=Z,11nm,1.1s,mb5.2
CCM LR LR
comp=Z,812nm,20.0s,MS5.2
CCM Cathedral Cave 95.48 39 eP **P 21 53 43.1 -1.0**
CCM pmax pmax
comp=Z,11nm,1.1s,mb5.2
CCM MLR MLR
comp=Z,812nm,20.0s,MS5.2
JCT Junction City 95.55 50 eP **P 21 53 44.0 -0.6**
comp=Z,13nm,0.8s,mb5.4
JCT LR LR
comp=Z,2μm,19.0s,MS5.6
JCT Junction City 95.55 50 eP **P 21 53 44.0 -0.6**
JCT pmax pmax
comp=Z,13nm,0.8s,mb5.4
JCT MLR MLR
comp=Z,2μm,19.0s,MS5.6
RJF Les Rejaudoux 95.90 333 eP **P 21 53 46.0 +0.1**
comp=Z,95nm,1.3s,mb5.8
RJF eMLR MLR
comp=Z,2μm,21.8s,MS5.3
RJF Les Rejaudoux 95.90 333 eP **P 21 53 46.0 +0.1**
comp=Z,47nm,1.3s,mb5.8
RJF LR LR
comp=Z,2μm,21.8s,MS5.6
RJF Les Rejaudoux 95.90 333 eP **P 21 53 46.0 +0.1**
RJF pmax pmax
comp=Z,47nm,1.3s,mb5.8
RJF MLR MLR
comp=Z,2μm,21.8s,MS5.6
CAF Calviac 96.00 332 eP **P 21 53 46.7 +0.3**
comp=Z,125nm,1.5s,mb5.8
CAF Calviac 96.00 332 eP **P 21 53 46.7 +0.3**
comp=Z,62nm,1.5s,mb5.8
CAF Calviac 96.00 332 eP **P 21 53 46.7 +0.3**
CAF pmax pmax
comp=Z,63nm,1.5s,mb5.8
AAM Ann Arbor 96.06 32 PFAKE 21 54 00.0 +13
AAM LR LR
comp=Z,1μm,20.0s,MS5.3
RKT Rikitea 96.25 113 eSS SS 22 11 35.3 -2.8
comp=Z,822nm,27.8s
RKT Rikitea 96.25 113 eLR LR 22 24 16.9
comp=Z,2μm,33.8s,baz=312
LFF La Frestale 96.50 333 eP **P 21 53 48.6 -0.1**
comp=Z,55nm,1.2s,mb5.6
LFF La Frestale 96.50 333 eP **P 21 53 48.6 -0.1**
comp=Z,28nm,1.2s,mb5.6
LFF La Frestale 96.50 333 eP **P 21 53 48.6 -0.1**
LFF pmax pmax
comp=Z,28nm,1.2s,mb5.6
MIAR Mount Ida 96.67 43 eP **P 21 53 49.2 -0.4**
comp=Z,6.9nm,0.9s,mb5.1
MIAR LR LR
comp=Z,1μm,19.0s,MS5.4
MIAR Mount Ida 96.67 43 eP **P 21 53 49.2 -0.4**
MIAR pmax pmax
comp=Z,7.0nm,0.9s,mb5.1
MIAR MLR MLR
comp=Z,1μm,19.0s,MS5.4
MTLF Montolieu 97.24 331 eP **P 21 53 51.6 -0.4**
comp=Z,159nm,1.9s,mb5.8
MTLF Montolieu 97.24 331 eP **P 21 53 51.6 -0.4**
comp=Z,79nm,1.9s,mb5.8
MTLF Montolieu 97.24 331 eP **P 21 53 51.6 -0.4**
MTLF pmax pmax
comp=Z,79nm,1.9s,mb5.8
DRV Dumont d'Urvil 97.30 181 PP PP 21 57 55.0 +6.0
DRV S S 22 05 13.0 +1.4
DRV L 22 21 00.0
DRV R 22 27 00.0
ERPA Erie 97.83 30 PFAKE 21 54 10.0 +15
ERPA LR LR
comp=Z,2μm,22.0s,MS5.5
LONY Lake Ozonia 97.88 25 PFAKE 21 54 10.0 +15
LONY LR LR
comp=Z,1μm,20.0s,MS5.3
WCI Wyandotte Cave 97.95 36 PFAKE 21 54 10.0 +15
WCI LR LR
comp=Z,954nm,20.0s,MS5.3
NATX Nacogdoches 97.95 46 PFAKE 21 54 10.0 +15
NATX LR LR
comp=Z,2μm,19.0s,MS5.5
ACSO Alum Creek Sta 98.00 33 PFAKE 21 54 10.0 +14
ACSO LR LR
comp=Z,1μm,19.0s,MS5.5
HKT Hockley 98.46 48 PFAKE 21 54 10.0 +12
HKT LR LR
comp=Z,2μm,20.0s,MS5.6
NCB Newcomb 98.56 25 PFAKE 21 54 10.0 +12
NCB LR LR
comp=Z,1μm,19.0s,MS5.4
KVTX Kingsville 98.73 51 PFAKE 21 54 10.0 +11
KVTX LR LR
comp=Z,2μm,19.0s,MS5.7
ETSF Etsaut 98.73 333 eP **P 21 53 58.3 -0.4**
comp=Z,29nm,1.2s,mb5.4
ETSF Etsaut 98.73 333 eP **P 21 53 58.3 -0.4**
comp=Z,14nm,1.2s,mb5.4
ETSF Etsaut 98.73 333 eP **P 21 53 58.3 -0.4**
ETSF pmax pmax
comp=Z,14nm,1.2s,mb5.4
WVT Waverly 98.74 38 PFAKE 21 54 10.0 +11
WVT LR LR
comp=Z,919nm,21.0s,MS5.2
PKME Peaks-Kenny Pk 99.11 22 PFAKE 21 54 10.0 +10
PKME LR LR
comp=Z,2μm,19.0s,MS5.5
LBNH Lisbon 99.15 24 PFAKE 21 54 10.0 +9.4
LBNH LR LR
comp=Z,1μm,19.0s,MS5.3
BINY Binghamton 99.41 27 PFAKE 21 54 10.0 +8.2
BINY LR LR
comp=Z,2μm,20.0s,MS5.5
PLAL Pickwick Lake 99.46 39 PFAKE 21 54 10.0 +7.8
PLAL LR LR
comp=Z,1μm,19.0s,MS5.3
CASY Casey 99.80 192 PFAKE 21 54 10.0 +6.6
CASY LR LR
comp=Z,935nm,19.0s,MS5.3
MCWV Mont Chateau 99.89 31 PFAKE 21 54 20.0 +16
MCWV LR LR
comp=Z,2μm,19.0s,MS5.6
SSPA Standing Stone 99.94 29 PFAKE 21 54 20.0 +16
SSPA LR LR
comp=Z,1μm,22.0s,MS5.4
KEST Kesra 99.95 322 PP PP 21 58 10.6 +1.8
comp=Z,4.0nm,1.1s,baz=47,slow=1.6,SNR=4.1
KEST LR LR 22 44 40.3
comp=Z,875nm,18.0s,MS5.3,baz=179,slow=39
TZTN Tazewell 100.63 36 PFAKE 21 54 20.0 +13
TZTN LR LR
comp=Z,1μm,20.0s,MS5.5
HRV Adam Dziewonsk 100.80 24 PFAKE 21 54 20.0 +12
HRV LR LR
comp=Z,1μm,20.0s,MS5.3
WES Weston 100.99 24 PFAKE 21 54 20.0 +11
WES LR LR
comp=Z,1μm,21.0s,MS5.5
LRAL Lakeview Retre 101.51 40 PFAKE 21 54 20.0 +9.0
LRAL LR LR
comp=Z,904nm,19.0s,MS5.3
BLA Blacksburg 101.62 33 PFAKE 21 54 20.0 +8.5
BLA LR LR
comp=Z,1μm,20.0s,MS5.4
CBN Corbin 102.18 30 PFAKE 21 54 30.0 +16
CBN LR LR
comp=Z,1μm,22.0s,MS5.3
MVO Moncorvo 102.62 336 ePP PP 21 58 32.5 +3.9
MVO eS Sdif 22 06 01.0 +3.3
MVO Moncorvo 102.62 336 eLQ 22 29 45.4
MVO eLR LR 22 35 04.1
comp=Z,2μm,15.0s
ESDC Sonseca Array 102.81 333 PP PP 21 58 25.0 -5.1
comp=Z,0.9nm,0.7s,baz=31,slow=7.8,SNR=3.5
ESLA Sonseca Array 102.81 333 PFAKE 21 54 30.0 +13
ESLA LR LR
comp=Z,6μm,19.0s,MS6.2
KMBO Kilima Mbogo 102.89 276 P Pdif 21 54 17.9 +0.7
KMBO Kilima Mbogo 102.89 276 P Pdif 21 54 17.9 +0.7
KMBO pmax pmax
comp=Z,2.0nm,1.1s
KMBO Kilima Mbogo 102.89 276 P Pdif 21 54 17.9 +0.7
comp=Z,1.8nm,1.1s,baz=21,slow=10.0,SNR=5.6
BRAL Brewton 102.99 41 PFAKE 21 54 30.0 +12
BRAL LR LR
comp=Z,1μm,19.0s,MS5.4
PAB San Pablo 103.07 334 PFAKE 21 54 30.0 +12
PAB LR LR
comp=Z,2μm,19.0s,MS5.6
GOGA Godfrey 103.12 37 PFAKE 21 54 30.0 +12
GOGA LR LR
comp=Z,2μm,19.0s,MS5.6
MTE Manteigas 103.48 336 ePP PP 21 58 36.3 +1.3
MTE Manteigas 103.48 336 eLQ 22 30 35.0
MTE eLR LR 22 35 57.7
comp=Z,2μm,18.0s
CNNC Cliffs of the 104.41 33 PFAKE 21 54 40.0 +16
CNNC LR LR
comp=Z,1μm,19.0s,MS5.5
PESTR Estremoz 104.86 336 ePP PP 21 58 49.7 +4.4
PESTR eS Sdif 22 06 20.2 +3.9
PESTR Estremoz 104.86 336 eLQ 22 29 54.4
PESTR eLR LR 22 36 39.1
comp=Z,1μm,17.3s
NHSC New Hope 105.04 35 PFAKE 21 58 50.0 +8.4
NHSC LR LR
comp=Z,1μm,19.0s,MS5.5
PBAR Barrancos 105.28 335 ePP PP 21 58 56.5 +8.1
PBAR eS Sdif 22 06 23.9 +4.1
PBAR Barrancos 105.28 335 eLQ 22 29 33.3
PBAR eLR LR 22 35 17.1
comp=Z,2μm,20.8s
PMAFR Mafra 105.37 337 ePP PP 21 58 56.3 +7.2
PMAFR Mafra 105.37 337 eLQ 22 31 29.8
PMAFR eLR LR 22 38 18.0
comp=Z,2μm,15.1s
PVAQ Vaqueiros 106.21 335 ePP PP 21 58 58.1 +2.8
PVAQ eS Sdif 22 06 29.9 +2.3
PVAQ Vaqueiros 106.21 335 eLQ 22 28 02.5
PVAQ eLR LR 22 35 40.5
comp=Z,1μm,21.7s
PBDV Barranco-do-Ve 106.43 335 ePP PP 21 59 00.9 +4.0
PBDV eS Sdif 22 06 32.8 +3.4
PBDV Barranco-do-Ve 106.43 335 eLQ 22 30 18.0
PBDV eLR LR 22 35 35.3
comp=Z,2μm,17.6s
MORF Marmelete 106.63 336 eLQ 22 32 35.1
MORF eLR LR 22 37 59.6
comp=Z,2μm,22.8s
PFVI Vila Bisbo 106.85 336 eLQ 22 30 24.7
PFVI eLR LR 22 37 34.2
comp=Z,2μm,18.0s
DWPF Disney 108.35 39 PFAKE 21 59 00.0 +12
DWPF LR LR
comp=Z,2μm,20.0s,MS5.6
VNDA Vanda 108.90 175 PFAKE 21 59 00.0 +13
VNDA LR LR
comp=Z,1μm,20.0s,MS5.5
VNDA Vanda 108.90 175 PP PP 21 59 13.8 -1.8
comp=Z,1.7nm,0.9s,baz=1.0,slow=8.2,SNR=4.0
SBA Scott Base 109.59 175 PFAKE 21 59 00.0 +11
SBA LR LR
comp=Z,742nm,20.0s,MS5.3
TEIG Tepich 110.12 50 PFAKE 21 59 00.0 +8.7
TEIG LR LR
comp=Z,1μm,19.0s,MS5.4
BBSR BB Station 112.28 24 PFAKE 21 59 10.0 +15
BBSR LR LR
comp=Z,653nm,19.0s,MS5.2
TGUH Tegucigalpa,Un 115.13 54 PFAKE 21 59 10.0 +9.0
TGUH LR LR
comp=Z,1μm,19.0s,MS5.5
LSZ Lusaka 117.63 268 PFAKE 21 59 20.0 +14
LSZ LR LR
comp=Z,2μm,21.0s,MS5.7
QSPA South Pole Qui 120.70 180 eP PKPdf 21 59 09.7 -0.1
QSPA LR LR
comp=Z,687nm,20.0s,MS5.3
SDDR Presa de Saban 121.14 37 PFAKE 21 59 20.0 +7.5
SDDR LR LR
comp=Z,2μm,20.0s,MS5.7
TOA0 Torodi Ar. Sit 121.66 313 eP PKPdf 21 59 12.9 -0.7
TORD Torodi Ar. Bea 121.66 313 PKP PKPdf 21 59 13.2 -0.3
comp=Z,1.6nm,0.5s,baz=19,slow=1.5,SNR=43
TORD PP PP 22 00 37.8 -7.7
comp=Z,2.1nm,1.0s,baz=39,slow=7.8,SNR=4.5
TORD PKKPab PKKPab 22 09 15.2 0.0
comp=Z,1.8nm,1.0s,baz=202,slow=3.6,SNR=4.4
LBTB Lobatse 123.86 259 eP PKPdf 21 59 19.4 +1.9
LBTB LR LR
comp=Z,1μm,21.0s,MS5.5
SJG San Juan 124.40 32 PFAKE 21 59 30.0 +11
SJG LR LR
comp=Z,699nm,22.0s,MS5.3
BOSA Boshof 125.39 255 PKIKP PKPdf 21 59 22.1 +1.8
BOSA pmax pmax
comp=Z,2.0nm,0.8s
BOSA Boshof 125.39 255 PKP PKPdf 21 59 22.1 +1.8
comp=Z,2.4nm,0.8s,baz=53,slow=8.4,SNR=6.1
TSUM Tsumeb 128.44 269 PFAKE 21 59 40.0 +14
TSUM LR LR
comp=Z,2μm,21.0s,MS5.7
SDV Santo Domingo 129.76 43 eP PKPdf 21 59 29.2 +0.1
SDV LR LR
comp=Z,447nm,19.0s,MS5.2
SUR Sutherland 130.17 252 PFAKE 21 59 40.0 +11
SUR LR LR
comp=Z,988nm,20.0s,MS5.5
ROSC El Rosal 130.55 50 PKP PKPdf 21 59 31.9 +1.3
comp=Z,4.1nm,0.4s,baz=267,slow=22,SNR=4.1
DBIC Dimbokro 130.73 314 PKP PKPdf 21 59 31.6 +0.6
DBIC LR LR
comp=Z,1μm,19.0s,MS5.5
DBIC Dimbokro 130.73 314 PKP PKPdf 21 59 31.6 +0.6
comp=Z,2.4nm,0.5s,baz=348,slow=4.0,SNR=7.6
LIC Lamto 131.18 313 ePKIKP PKPdf 21 59 32.4 +0.6
LIC eMLR MLR
comp=Z,2μm,19.2s,MS5.5
LIC Lamto 131.18 313 ePKPdf PKPdf 21 59 32.4 +0.6
LIC LR LR
comp=Z,1μm,19.3s,MS5.5
BBGH Gun Hill 131.67 28 PFAKE 21 59 40.0 +7.3
BBGH LR LR
comp=Z,2μm,22.0s,MS5.8
VNA2 Neumayer--Watz 136.50 194 ePKPdf PKPdf 21 59 41.6 +1.6
baz=131,slow=0.9
VNA2 e 21 59 45.3
VNA2 e 21 59 53.3
VNA2 e 21 59 57.3
VNA2 e 21 59 59.8
VNA2 e 22 03 13.1
VNA2 e 22 03 20.4
VNA3 Neumayer Olymp 136.71 193 ePKPdf PKPdf 21 59 42.6 +2.2
VNA3 e 21 59 46.8
VNA3 e 21 59 54.8
VNA3 e 21 59 59.0
VNA3 e 22 00 01.4
VNA3 e 22 03 15.2
VNA3 e 22 03 21.0
NNA Nana 139.81 71 PFAKE 22 00 00.0 +12
NNA LR LR
comp=Z,1μm,20.0s,MS5.6
ARE Arequipa 146.58 72 P PKPbc 22 00 04.0 +2.8
LPAZ La Paz 149.21 69 ePKPdf PKPdf 22 00 04.6 +0.6
LPAZ ePKPbc PKPbc 22 00 09.5 +1.3
LPAZ LR LR
comp=Z,869nm,19.0s,MS5.6
LPAZ La Paz 149.21 69 PKP2 PKPab 22 00 10.2 -2.5
LPAZ pmax pmax
comp=Z,19nm,0.8s
LPAZ La Paz 149.21 69 PKP PKPdf 22 00 05.8 +1.9
comp=Z,19nm,0.8s,baz=6.7,slow=3.3,SNR=11
LPAZ PKPbc PKPbc 22 00 10.2 +2.0
comp=Z,19nm,0.8s,baz=353,slow=4.6,SNR=56
LCO Las Campanas 151.99 94 ePKPbc PKPbc 22 00 15.1 +0.5
LCO LR LR
comp=Z,815nm,20.0s,MS5.5
PLCA Paso Flores 152.28 120 PKPbc PKPbc 22 00 14.7 -0.1
PLCA LR LR
comp=Z,1μm,19.0s,MS5.7
PLCA Paso Flores 152.28 120 PKPbc PKPbc 22 00 14.7 -0.1
comp=Z,16nm,1.0s,baz=217,slow=3.5,SNR=26
EFI East Falkland 154.70 151 PFAKE 22 00 20.0 +8.9
EFI LR LR
comp=Z,1μm,19.0s,MS5.7
RCBR Riachuelo 154.91 354 PFAKE 22 00 20.0 +7.4
RCBR LR LR
comp=Z,844nm,20.0s,MS5.6
TRQA Tornquist 159.33 116 PFAKE 22 00 30.0 +13
TRQA LR LR
comp=Z,1μm,21.0s,MS5.8
BDFB Brasilia 162.40 32 PKPab PKPab 22 01 10.1 +1.2
comp=Z,4.0nm,1.0s,baz=0.0,slow=4.0,SNR=3.8

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*IDC **04** 21:41:27.2±1.1, 759S×1569.4E, h0km, mb4.2/8, mb1 4.3/9, mb1mx4.2/16, mbtmp4.2/9, ML4.8/1, MS3.4/2, Ms1 3.4/2, ms1mx3.3/27, Error ellipse: s-maj=30.6km s-min=22.3km az=117.0*

*NEIC **04** 21:41:28.6±0.6, 760S×1569.7E, h10km, mb4.5/2, Error ellipse: s-maj=18.8km s-min=13.6km az=182.0*

*ISCJB **04** 21:41:30.6±0.7, 77S±0.1×1570E±0.1, h33km, mb4.1/9, Error ellipse: s-maj=18.8km s-min=14.4km az=177.6*

ISC 04 21:41:32.4±0.7, 77S±0.1×1570E±0.1, h35km, n14, σ0=87/14, mb4.1/9, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**3.41**	**121**	Pn	**Pn**	**21 42 23.5**	**+0.4**
	77nm,0.3s,baz=282,slow=2.1,SNR=9.8						
HNR				LR	LR	21 43 09.3	
	comp=Z,197nm,19.1s,baz=350,slow=29						
HNR				Sn	**Sn**	**21 43 09.8**	**+7.4**
	88nm,0.3s,baz=270,slow=20,SNR=3.8						
CTA	**Charters Tower**	**16.16**	**219**	LR	LR	21 49 46.4	
	comp=Z,348nm,20.0s,baz=288,slow=31						
KAKA	**Kakadu**	**24.68**	**256**	eP	**P**	**21 46 51.2**	**+1.0**
	9.0nm,0.5s,mb4.6						
WB2	**Warramunga Arr**	**25.11**	**239**	eP	**P**	**21 46 54.2**	**+0.1**
WRA	**Warramunga Arr**	**25.12**	**239**	P	**P**	**21 46 52.8**	**-1.4**
	6.9nm,0.7s,mb4.3,baz=62,slow=10.0,SNR=31						
ASAR	**Alice Springs**	**27.27**	**232**	P	**P**	**21 47 12.6**	**-1.0**
	1.2nm,0.8s,mb3.5,baz=56,slow=9.8,SNR=9.7						
STKA	**Stephens Creek**	**28.05**	**209**	eP	**P**	**21 47 29.1**	**+8.6**
	4.4nm,0.9s,mb4.1						
STKA	**Stephens Creek**	**28.05**	**209**	P	**P**	**21 47 21.5**	**+1.0**
	1.9nm,1.0s,mb3.7,baz=54,slow=14,SNR=3.1						

FITZ	Fitzroy Crossi	32.23 248	P	P	21 47 58.2	+0.6
	3.0nm,0.8s,mb4.2,baz=89,slow=7.4,SNR=3.6					
SONM	Songino Array	70.97 327	P	P	21 52 47.1	+0.9
	1.1nm,0.8s,mb3.9,baz=139,slow=6.1,SNR=3.5					
MKAR	Makanchi Array	85.21 318	P	P	21 54 05.9	+0.6
	2.6nm,0.8s,mb4.4,baz=98,slow=5.7,SNR=4.2					
ZALV	Zalesovo Beam	85.83 326	P	P	21 54 07.7	-0.5
	1.1nm,0.6s,mb4.3,baz=103,slow=6.4,SNR=3.3					
YKA	Yellowknife Ar	95.99 28	P	P	21 54 54.3	-1.3
YKA	Yellowknife Ar	95.99 28	P	P	21 54 54.3	-1.3
	0.7nm,0.6s,mb4.2,baz=266,slow=5.1,SNR=4.7					

*NEIC **04** 21:50:55.8±0.7, 7.15S×15474E, h10km, mb4.6/3, Error ellipse: s-maj=27.5km s-min=11.7km az=124.0*
*BJI **04** 21:50:58.9, 6.76S×15436E, h8km, mB5.0, mb4.7*
*ISCJB **04** 21:50:59.5±0.8, 7.1S±01×1547E±02, h43km, mb4.3/13, Error ellipse: s-maj=26.8km s-min=12.1km az=28.7*
*IDC **04** 21:51:00.8±1.2, 705S×15462E, h40km±7km, mb4.1/10, mb1 4.2/10, mb1mx4.1/15, mbtmp4.0/10, Error ellipse: s-maj=35.5km s-min=16.9km az=112.0*
ISC 04 21:51:01.0±0.8, 72S±01×1547E±02, h45km, h45km±2.6km: pP-P, n24, σ1§07/22, mb4.3/13, 2D, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	Charters Tower	15.24	212	P	Pn	21 54 37.4	+4.2
CTA	Charters Tower	15.24	212	P	Pn	21 54 37.4	+4.2
	0.1nm,0.3s,baz=61,slow=11,SNR=3.8						
WB2	Warramunga Arr	23.47	235	eP	P	21 56 06.5	-0.3
WRA	Warramunga Arr	23.48	235	P	P	21 56 06.6	-0.3
	12nm,1.0s,mb4.3,baz=60,slow=9.6,SNR=15						
WRA				pP		21 56 18.3	
	7.7nm,0.6s,baz=59,slow=9.3,SNR=8.4						
WRA				PcP	PcP	21 59 52.8	+0.9
	0.4nm,0.7s,baz=60,slow=2.9,SNR=3.9						
ASAR	Alice Springs	25.84	228	P	P	21 56 27.9	-0.5
	3.0nm,0.8s,mb3.9,baz=61,slow=8.7,SNR=12						
ASAR				pP	pP	21 56 39.0	-1.3
	2.3nm,0.8s,baz=62,slow=8.7,SNR=6.1						
STKA	Stephens Creek	27.46	205	eP	P	21 56 42.5	-0.4
	5.1nm,0.6s,mb4.2						
STKA	Stephens Creek	27.46	205	P	P	21 56 44.8	+1.9
	6.6nm,0.6s,mb4.3,baz=31,slow=13,SNR=9.3						
STKA				pP	pP	21 56 55.4	+0.6
	8.0nm,0.9s,baz=22,slow=9.8,SNR=5.7						
KSRS	Korea Array	50.95	333	P	P	21 59 57.4	-0.7
	1.0nm,0.5s,mb4.0,baz=147,slow=8.3,SNR=5.9						
LZH	Lanzhou	64.24	316	⇓P	P	22 01 33.0	+1.4
LZH				AP	pP	22 01 45.1	+0.6
LZH				AMB	AMB		
	comp=Z,23nm,1.3s,mb5.0						
LZH				AMB	AMB		
	comp=Z,107nm,5.1s						
LZH	Lanzhou	64.24	316	⇓P	P	22 01 33.0	+1.4
	comp=Z,23nm,1.3s,mb5.0						
LZH				pP	pP	22 01 45.1	+0.6
LZH				sP	sP	22 01 50.5	+0.8
GTA	Gaotai	68.67	317	eP	P	22 02 01.5	+1.7
GTA				AP	pP	22 02 05.7	-7.2
GTA				XP	sP	22 02 09.6	-8.4
GTA				AMB	AMB		
	comp=Z,7.0nm,1.2s,mb4.5						
SONM	Songino Array	69.32	327	P	P	22 02 04.5	+0.8
	comp=Z,1.4nm,0.8s,mb3.9,baz=136,slow=6.0,SNR=4.7						
BILL	Bilibino	75.47	4	eP	P	22 02 39.2	-0.7
	comp=Z,2.3nm,0.6s,mb4.3						
NDI	New Delhi	82.55	300	ex	x	22 02 46.0	
MK31	Makanchi Array	83.34	319	eP	P	22 03 22.1	-1.1
MKAR	Makanchi Array	83.34	319	P	P	22 03 24.0	+0.7
	comp=Z,3.0nm,0.8s,mb4.4,baz=110,slow=5.2,SNR=23						
ZALV	Zalesovo Beam	84.16	326	P	P	22 03 25.3	-2.0
ZALV				pP	pP	22 03 39.5	-1.2
ZALV	Zalesovo Beam	84.16	326	P	P	22 03 25.3	-2.0
	comp=Z,0.7nm,0.5s,mb4.0,baz=114,slow=4.8,SNR=5.2						
ZALV				pP	pP	22 03 39.5	-1.2
	comp=Z,1.2nm,0.6s,baz=116,slow=6.0,SNR=4.7						
DAWY	Dawson	86.17	24	eP	P	22 03 38.2	+1.1
INK	Inuvik	89.98	21	P	P	22 03 53.9	-1.3
	comp=Z,0.6nm,0.5s,mb4.2,baz=205,slow=8.5,SNR=3.8						
NVAR	Mina Array Bea	92.05	52	P	P	22 04 06.5	+1.0
NVAR	Mina Array Bea	92.05	52	P	P	22 04 06.5	+1.0
	comp=Z,0.8nm,0.8s,mb4.1,baz=299,slow=4.9,SNR=5.5						
YKA	Yellowknife Ar	96.62	28	P	P	22 04 25.2	-0.6
	comp=Z,2.1nm,0.9s,mb4.6,baz=267,slow=4.5,SNR=23						
TORD	Torodi Ar. Bea	152.79	285	PKPbc	PKPbc	22 10 54.2	+0.1
	comp=Z,1.6nm,0.9s,baz=68,slow=1.5,SNR=6.6						
TORD				PKPab	PKPab	22 11 04.2	-0.9
	comp=Z,2.1nm,0.9s,baz=82,slow=2.3,SNR=7.3						

*NEIC **04** 21:52:45.2, 3833N×2027E, h11km, MD3.7(ATH), After ATH.*
*ISCJB **04** 21:52:46.0±0.7, 3839N±003×2048E±006, h5km, Error ellipse: s-maj=6.5km s-min=3.8km az=161.6*
*ATH **04** 21:52:45.8, 3839N×2041E, h5km, MD3.7/7*
*SKO **04** 21:52:46.1, 3835N×2003E, h13km*
*CSEM **04** 21:52:46.9±0.2, 3841N×2052E, h5km, MD3.7, Error ellipse: s-maj=5.3km s-min=2.8km az=79.0*
*THE **04** 21:52:46.5, 3843N×2046E, h3km, ML3.6*
ISC 04 21:52:46.3±0.8, 3839N±003×2046E±006, h4km±6km, n18, σ0§94/27, 1C, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	Valsamata	0.24	154	⇑iPG	Pg	21 52 51.4	+0.5
VLS				eSG	Sg	21 52 55.8	+1.8
LKD	Levkas	0.35	26	ePg	Pg	21 52 52.6	-0.5
LKD				eSg	Sg	21 52 57.3	-0.3
IGT	Igoumenitsa	1.14	355	ePg	Pg	21 53 07.3	-0.9
IGT				eSg	Sg	21 53 23.9	+0.9
EVR	Evrytania	1.18	63	ePG	Pg	21 53 08.4	-0.5
EVR				eSB	Sb	21 53 25.0	+0.1
EVR	Evrytania	1.18	63	ePb	Pn	21 53 08.0	-1.6
JAN	Janina	1.30	13	ePB	Pb	21 53 11.8	+0.5
JAN				eSB	Sb	21 53 29.0	+0.7
JAN	Janina	1.30	13	ePb	Pg	21 53 12.4	+1.2
JAN				eSb	Sg	21 53 31.0	+3.0
KEK	Kerkira	1.42	339	ePG	Pg	21 53 12.1	-1.3
KEK				eSB	Sb	21 53 31.3	-0.4
KEK	Kerkira	1.42	339	ePb	Pb	21 53 12.2	-1.1
KEK				eSb	Sb	21 53 31.3	-0.4
AGG	Agios Georgios	1.59	66	ePg	Pn	21 53 15.2	-0.1
AGG				eSg	Sg	21 53 37.4	-0.1
ITM	Ithomi	1.68	136	ePG	Pg	21 53 17.6	-0.9
THL	Klokotos Trika	1.69	46	ePN	Pg	21 53 18.1	-0.5
LKR	Lokris	2.01	82	ePG	Pg	21 53 24.0	-0.8
KZN	Kozani	2.17	28	ePN	Pn	21 53 24.8	+1.7
LIT	Litokhoron	2.32	42	ePn	Pn	21 53 24.8	-0.6
NEO	Neokhori	2.34	66	ePN	Pb	21 53 28.8	-0.3
BIA	Bitola	2.71	14	ePn	Pn	21 53 31.4	+0.8
KRUS	Krusevo	3.03	11	ePn	Pn	21 53 35.5	+0.4

*BJI **04** 21:56:10.9, 688S×15509E, h10km, mB5.1, mb4.7*
*IDC **04** 21:56:11.0±0.7, 708S×15474E, h0km, mb4.5/12, mb1 4.7/13, mb1mx4.6/16, mbtmp4.5/13, ML3.5/1, MS4.1/1, Ms1 4.1/1, ms1mx3.8/26, Error ellipse: s-maj=30.4km s-min=16.9km az=112.0*
*NEIC **04** 21:56:12.5±0.4, 706S×15482E, h10km, mb4.9/6, Error ellipse: s-maj=14.7km s-min=7.5km az=118.0*
*ISCJB **04** 21:56:14.7±0.5, 7.13S±007×15486E±0.10, h33km, mb4.6/23, Error ellipse: s-maj=14.9km s-min=9.6km az=24.4*
ISC 04 21:56:16.4±0.5, 718S±007×15491E±010, h35km, (h17km±5.6km: pP-P), n46, σ1§03/41, mb4.6/23, 1C-1D, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	5.46	115	LR	LR	21 59 39.5	
	comp=Z,2μm,18.7s,baz=353,slow=37						
CTA	Charters Tower	15.33	212	eP	Pn	21 59 55.3	+5.0
	10.0nm,0.9s						
CTA	Charters Tower	15.33	212	Pn	Pn	21 59 50.9	+0.6
CTA	Charters Tower	15.33	212	Pn	Pn	21 59 50.9	+0.6
	0.1nm,0.3s,baz=36,slow=17,SNR=2.8						
CTAO	Charters Tower	15.33	212	eP	Pn	21 59 55.4	+5.1
KAKA	Kakadu	22.80	254	eP	P	22 01 15.7	-0.5
	32nm,1.2s,mb4.6						

ARMA	Armidale	23.32	187	eP	P	22 01 22.7	+1.1
WB2	Warramunga Arr	23.63	235	eP	P	22 01 23.6	-1.1
WRA	Warramunga Arr	23.64	236	P	P	22 01 23.1	-1.6
	22nm,1.0s,mb4.5,baz=59,slow=9.3,SNR=46						
ASAR	Alice Springs	25.99	229	P	P	22 01 44.9	-1.2
	4.5nm,0.8s,mb4.0,baz=60,slow=9.5,SNR=17						
STKA	Stephens Creek	27.53	205	eP	P	22 01 59.1	-0.8
	7.3nm,1.0s,mb4.3						
STKA	Stephens Creek	27.53	205	P	P	22 01 59.6	-0.3
	11nm,0.8s,mb4.5,baz=14,slow=10.0,SNR=15						
KSRS	Korea Array	51.06	332	P	P	22 05 14.4	-0.9
	4.2nm,0.9s,mb4.4,baz=150,slow=8.9,SNR=11						
WHN	Wuhan	54.01	316	⇓P	P	22 05 38.5	+1.1
GYA	Guiyang	57.50	308	⇑P	P	22 06 04.2	+1.8
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.9						
XAN	Xi'an	59.78	316	P	P	22 06 17.9	-0.3
XAN				AP	pP	22 06 26.7	-2.2
XAN				AMB	AMB		
	comp=Z,9.0nm,1.0s,mb4.8						
KMI	Kunming	60.05	304	P	P	22 06 19.8	-0.4
KMI				AMB	AMB		
	comp=Z,11nm,1.2s,mb4.8						
KMI	Kunming	60.05	304	P	P	22 06 19.8	-0.4
	comp=Z,11nm,1.2s,mb4.8						
LZH	Lanzhou	64.39	316	eP	P	22 06 49.0	-0.1
LZH				AP	pP	22 06 54.3	-5.5
LZH				XP	sP	22 06 57.5	-6.4
LZH				AMB	AMB		
	comp=Z,18nm,1.4s,mb4.9						
LZH				AMB	AMB		
	comp=Z,88nm,4.3s						
LZH	Lanzhou	64.39	316	eP	P	22 06 49.0	-0.1
	comp=Z,18nm,1.4s,mb4.9						
LZH				pP	pP	22 06 54.3	-5.5
LZH				sP	sP	22 06 57.5	-6.4
GTA	Gaotai	68.81	317	eP	P	22 07 16.6	-0.7
GTA				AP	pP	22 07 21.5	-6.6
GTA				XP	sP	22 07 24.1	-8.1
GTA				AMB	AMB		
	comp=Z,7.0nm,1.8s,mb4.3						
SHL	Shillong	69.31	301	eP	P	22 07 23.0	+2.3
SONM	Songino Array	69.44	327	P	P	22 07 21.1	+0.1
	comp=Z,2.9nm,0.8s,mb4.3,baz=138,slow=5.6,SNR=25						
VNDA	Vanda	70.40	178	P	P	22 07 27.8	+1.3
	comp=Z,2.2nm,1.0s,mb4.0,baz=354,slow=2.6,SNR=4.0						
LSA	Lhasa	71.31	305	P	P	22 07 34.0	+1.2
LSA				AMB	AMB		
	comp=Z,30nm,1.0s,mb5.2						
JIRN	Jiri	74.80	301	eP	P	22 07 54.7	+1.2
BILL	Bilibino	75.47	4	eP	P	22 07 54.2	-2.2
	comp=Z,15nm,1.0s,mb4.9						
KKN	Kakani	75.61	301	eP	P	22 07 59.1	+0.9
	comp=Z,22nm,0.8s,mb5.1						
GKN	Gorkha	76.22	301	eP	P	22 08 02.5	+0.8
	comp=Z,38nm,0.9s,mb5.3						
KOLN	Koldanda	77.04	301	eP	P	22 08 07.2	+0.9
SLKM	Skilak Lake	79.94	24	eP	P	22 08 21.0	-0.6
IMA2	Indian Mountai	82.00	19	eP	P	22 08 32.6	+0.2
MCK	McKinley	82.26	22	eP	P	22 08 32.2	-1.6
	comp=Z,17nm,1.0s,mb4.9						
MK31	Makanchi Array	83.48	319	eP	P	22 08 40.3	-0.3
MKAR	Makanchi Array	83.48	319	P	P	22 08 39.7	-0.9
MKAR	Makanchi Array	83.48	319	P	P	22 08 39.7	-0.9
	comp=Z,7.1nm,0.9s,mb4.7,baz=106,slow=4.8,SNR=41						
ZALV	Zalesovo Beam	84.28	326	P	P	22 08 43.4	-1.1
	comp=Z,1.3nm,0.5s,mb4.4,baz=106,slow=5.6,SNR=11						
DAWY	Dawson	86.10	24	eP	P	22 08 54.3	+0.9
INK	Inuvik	89.92	21	P	P	22 09 10.7	-0.9
	comp=Z,1.9nm,0.5s,mb4.7,baz=228,slow=8.5,SNR=8.3						
NVAR	Mina Array Bea	91.90	52	P	P	22 09 21.6	+0.2
	comp=Z,2.9nm,1.0s,mb4.5,baz=252,slow=3.4,SNR=9.6						
YKA	Yellowknife Ar	96.54	28	P	P	22 09 42.1	0.0
	comp=Z,4.2nm,0.9s,mb4.9,baz=268,slow=4.6,SNR=37						
PDAR	Pinedale Array	98.88	48	P	P	22 09 54.0	+0.8
	comp=Z,0.4nm,0.8s,mb4.0,baz=286,slow=3.6,SNR=2.8						
NOA	NORSAR Array B	119.84	341	PKP	PKPdf	22 15 03.5	+0.7
NOA	NORSAR Array B	119.84	341	PKP	PKPdf	22 15 03.5	+0.8
	comp=Z,2.5nm,1.0s,baz=48,slow=1.8,SNR=3.3						
GERES	GERESS Array B	127.16	329	PKhKP		22 15 13.5	
	comp=Z,0.5nm,0.7s,baz=55,slow=3.7,SNR=2.5						
GERES				PKP	PKPdf	22 15 18.5	+1.3
	comp=Z,2.1nm,1.1s,baz=44,slow=3.0,SNR=4.8						
TORD	Torodi Ar. Bea	152.99	285	PKPbc	PKPbc	22 16 10.6	-0.6
	comp=Z,3.1nm,0.8s,baz=77,slow=1.9,SNR=14						
TORD				PKPab	PKPab	22 16 19.8	-2.7
	comp=Z,2.7nm,0.7s,baz=59,slow=2.2,SNR=6.7						

*ATH **04** 21:59:54.7, 3839N×2040E, h5km, MD3.6/8*
*ISCJB **04** 21:59:55.5±0.8, 3843N±003×2048E±005, h0km±6km, Error ellipse: s-maj=6.7km s-min=4.6km az=167.0*
*CSEM **04** 21:59:56.3±0.2, 3841N×2047E, h2km, MD3.6, Error ellipse: s-maj=5.7km s-min=4.0km az=74.0*
*THE **04** 21:59:56.5, 3845N×2048E, h3km, ML3.7*
*NEIC **04** 21:59:57.0, 3836N×2043E, h10km, ML3.0(ATH), After ATH.*
ISC 04 21:59:55.8±0.8, 3842N±003×2046E±005, h1km±6km, n24, σ1§12/33, 1C, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	Valsamata	0.26	157	⇑iPG	Pg	22 00 00.6	-0.2
VLS				eSG	Sg	22 00 04.9	+0.7
LKD	Levkas	0.32	27	ePg	Pg	22 00 01.8	-0.3
LKD				eSg	Sg	22 00 06.8	+0.5
IGT	Igoumenitsa	1.12	355	ePg	Pg	22 00 16.6	-0.7
IGT				eSg	Sg	22 00 33.3	+1.5
EVR	Evrytania	1.17	64	ePN	Pn	22 00 17.1	-2.2
JAN	Janina	1.27	14	ePB	Pb	22 00 20.1	-0.5
KEK	Kerkira	1.39	338	ePB	Pb	22 00 21.3	-1.3
KEK				eSB	Sb	22 00 40.9	+0.1
SRN	Sarande	1.50	346	i Pn	Pn	22 00 23.0	-0.9
SRN				i Sn	Sn	22 00 44.8	+0.7
AGG	Agios Georgios	1.58	67	ePg	Pn	22 00 24.2	-0.7
AGG				eSg	Sg	22 00 46.8	+0.1
AGG	Agios Georgios	1.58	67	ePg	Pn	22 00 24.2	-0.8
AGG				eSg	Sg	22 00 46.8	+0.2
THL	Klokotos Trika	1.67	46	ePG	Pn	22 00 26.4	+0.3
THL				eSN	Sg	22 00 51.6	+2.2
ITM	Ithomi	1.70	136	ePN	Pn	22 00 27.1	+0.6
LKR	Lokris	2.00	83	ePN	Pb	22 00 31.9	-1.1
KZN	Kozani	2.14	28	ePN	Pb	22 00 34.2	-1.2
LIT	Litokhoron	2.30	43	ePn	Pn	22 00 35.5	+0.6
LIT				eSn	Sn	22 01 03.9	+0.1
NEO	Neokhori	2.33	67	ePG	Pg	22 00 38.6	-1.9
ATH	Athens Observa	2.60	99	ePN	Pn	22 00 41.4	+2.4
BIA	Bitola	2.68	14	ePn	Pn	22 00 40.3	+0.2
BIA	Bitola	2.68	14	ePn	Pn	22 00 40.4	+0.3
TIR	Tirane	2.96	351	P	Pn	22 00 44.0	+0.1
TIP	Timpagrande	2.99	286	P	Pn	22 00 46.0	+1.7
KRUS	Krusevo	3.01	11	ePn	Pn	22 00 43.3	-1.3
PLG	Polygyros	3.03	49	ePN	Pn	22 00 47.1	+2.3
STIP	Stip	3.53	21	ePn	Pn	22 00 50.9	-0.9
STIP	Stip	3.53	21	ePn	Pn	22 00 50.8	-0.9

IDC 04 22:00:31.0±2.5, 774S×15575E, h0km, mb4.0/7, mb1 4.1/7, mb1mx4.0/14, mbtmp4.0/7, Error ellipse: s-maj=79.6km s-min=25.4km az=117.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	24.03	237	P	P	22 05 47.9	+0.1
	1.9nm,0.8s,baz=60,slow=9.7,SNR=4.4						
ASAR	Alice Springs	26.26	230	P	P	22 06 08.2	+0.1
	1.2nm,1.0s,baz=61,slow=9.7,SNR=3.4						
MJAR	Matsushiro Arr	47.02	341	P	P	22 09 04.1	-0.1
	3.0nm,0.7s,baz=169,slow=8.2,SNR=8.4						
SONM	Songino Array	70.36	327	P	P	22 11 46.9	+0.3
	0.7nm,0.7s,baz=131,slow=5.1,SNR=7.0						
MKAR	Makanchi Array	84.45	319	P	P	22 13 06.1	+0.5
	1.8nm,0.8s,baz=100,slow=5.9,SNR=9.1						
ZALV	Zalesovo Beam	85.21	326	P	P	22 13 08.6	-0.6
	0.8nm,0.5s,baz=106,slow=6.6,SNR=4.5						
YKA	Yellowknife Ar	96.64	28	P	P	22 14 02.7	0.0
	0.2nm,0.6s,baz=262,slow=4.3,SNR=4.4						

IDC 04 22:00:54.2±2.0, 141N×12623E, h0km, mb3.7/3, mb1 4.0/3, mb1mx3.6/15, mbtmp3.8/3, Error ellipse: s-maj=171.8km s-min=25.0km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	22.66	160	P	P	22 05 57.1	-0.1
	2.3nm,0.5s,baz=338,slow=11,SNR=12						
ASAR	Alice Springs	26.02	164	P	P	22 06 29.3	+0.2
	0.9nm,0.6s,baz=341,slow=8.9,SNR=6.0						
MKAR	Makanchi Array	59.18	326	P	P	22 10 57.0	+0.1
	0.3nm,0.3s,baz=119,slow=8.1,SNR=7.2						

IDC 04 22:01:54.0±6.6, 849S×15758E, h0km, mb3.9/5, mb1 4.0/5, mb1mx3.8/14, mbtmp3.9/5, Error ellipse: s-maj=199.5km s-min=29.9km az=115.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	25.20	241	P	P	22 07 22.1	+0.5
	1.8nm,0.7s,baz=68,slow=9.8,SNR=4.6						
ASAR	Alice Springs	27.23	234	P	P	22 07 39.5	-0.4
	0.2nm,0.4s,baz=59,slow=11,SNR=2.6						
SONM	Songino Array	71.98	326	P	P	22 13 19.8	+0.2
	1.9nm,0.8s,baz=129,slow=5.6,SNR=14						
MKAR	Makanchi Array	86.22	318	P	P	22 14 37.4	-0.1
	0.8nm,0.7s,baz=101,slow=6.1,SNR=6.6						
ZALV	Zalesovo Beam	86.85	326	P	P	22 14 40.7	+0.3
	0.5nm,0.4s,baz=109,slow=6.7,SNR=3.4						

*THE **04** 22:05:29.7, 3850N×2023E, h4km, ML3.6*
*CSEM **04** 22:05:30.2±0.3, 3843N×2037E, h2km±2km, MD3.5, Error ellipse: s-maj=5.4km s-min=3.0km az=78.0*
*NEIC **04** 22:05:30.5, 3836N×2037E, h11km, MD3.5(ATH), After ATH.*
*ATH **04** 22:05:30.4, 3835N×2035E, h12km±2km, MD3.5/7*
*SKO **04** 22:05:30.2, 3834N×2052E, h0km*
*ISCJB **04** 22:05:31.0±0.8, 3840N±003×2052E±006, h4km±6km, Error ellipse: s-maj=8.1km s-min=5.1km az=175.7*
ISC 04 22:05:31.5±0.8, 3838N±003×2050E±007, h8km±5km, n18, σ0§93/26, 1C, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	Valsamata	0.21	160	⇑iPG	Pg	22 05 35.9	+0.2
VLS				eSG	Sg	22 05 40.3	+1.7
LKD	Levkas	0.35	20	ePg	Pg	22 05 37.2	-1.2
LKD				eSg	Sg	22 05 42.7	-0.4
EVR	Evrytania	1.16	62	ePN	Pn	22 05 53.7	-0.4
EVR	Evrytania	1.16	62	ePb	Pb	22 05 52.6	-1.2
IGT	Igoumenitsa	1.16	354	ePg	Pg	22 05 48.6	-5.2
IGT				eSg	Sg	22 06 04.4	-4.6
JAN	Janina	1.31	12	ePB	Pb	22 05 56.5	+0.1
JAN				eSB	Sb	22 06 15.2	+1.9
KEK	Kerkira	1.44	338	ePG	Pn	22 05 56.5	-1.4
SRN	Sarande	1.55	346	i Pn	Pn	22 05 59.4	0.0
SRN				i Sn	Sg	22 06 22.4	+1.0
AGG	Agios Georgios	1.57	65	ePb	Pn	22 05 59.7	0.0
AGG				eSb	Sg	22 06 22.8	+0.7
ITM	Ithomi	1.65	136	ePG	Pg	22 06 02.8	-0.2
THL	Klokotos Trika	1.68	44	ePG	Pg	22 06 03.3	-0.4
THL				eSN	Sg	22 06 26.2	+0.8
LKR	Lokris	1.98	81	ePN	Pb	22 06 07.3	-0.5
KZN	Kozani	2.17	27	ePN	Pn	22 06 09.5	+1.6
LIT	Litokhoron	2.32	41	ePn	Pn	22 06 08.9	-1.1
LIT				eSn	Sn	22 06 39.2	+0.6
NEO	Neokhori	2.32	66	ePG	Pg	22 06 14.4	-1.6
BIA	Bitola	2.72	13	ePn	Pn	22 06 16.0	+0.6
KRUS	Krusevo	3.05	11	ePn	Pn	22 06 20.0	0.0
STIP	Stip	3.56	21	ePn	Pn	22 06 26.6	-0.4

*ISCJB **04** 22:12:50.8±1.5, 4404N±006×14921E±006, h31km±11km, mb4.1/29, Error ellipse: s-maj=11.2km s-min=5.9km az=154.9*
*JMA **04** 22:12:50.8±0.7, 4431N×14928E, h30km, M4.0*
*BJI **04** 22:12:51.8, 4405N×14923E, h41km, mB4.8, mb4.5, Ms4.3, Msz4.3*
*NEIC **04** 22:12:53.9±1.6, 4421N×14918E, h35km±20km, mb4.8/2, Error ellipse: s-maj=27.5km s-min=8.5km az=172.0*
*MOS **04** 22:12:53.6±1.1, 4439N×14910E, h42km, mb4.5/12, Error ellipse: s-maj=12.9km s-min=9.2km az=115.1*
*IDC **04** 22:12:55.8±3.9, 4431N×14918E, h49km±36km, mb3.8/16, mb1 4.0/17, mb1mx3.9/26, mbtmp3.8/17, ML3.2/1, Error ellipse: s-maj=56.2km s-min=18.4km az=177.0*
ISC 04 22:12:52.2±1.6, 4413N±006×14920E±006, h25km±11km, n90, σ1§04/96, mb4.1/29, 6C-3D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	Kuril'sk	1.45	320	⇑iPN	Pn	22 13 15.0	-1.8
KUR				i S	Sn	22 13 34.6	-0.5
KUR				pmax	pmax		
	comp=N,380nm,0.5s						
KUR				pmax	pmax		
	comp=E,250nm,0.5s						
KUR				pmax	pmax		
	comp=Z,760nm,0.5s						
KUR				smax			
	comp=N,2μm,0.7s						
KUR				smax			
	comp=E,770nm,0.7s						
YUK	Yuzh-Kuril'sk	2.40	269	ePN	Pn	22 13 29.4	-0.5
YUK				eS	Sn	22 13 59.0	+0.5
YUK				pmax	pmax		
	comp=Z,250nm,0.4s						
YUK				smax			
	comp=N,650nm,0.7s						
YUK				smax			
	comp=E,1μm,0.7s						
YUK				smax			
	comp=N,5μm,1.0s						
YUK				smax			
	comp=E,3μm,1.0s						
NEM2	Nemuro 2	2.62	254	P	Pn	22 13 31.4	-1.4
NEM2				eS	Sn	22 14 01.8	-2.0
JRA	Rausu	2.94	268	P	Pn	22 13 37.8	+0.5
JNK	Nakash	3.28	262	P	Pn	22 13 41.5	-0.5
JAK	Akkeshi	3.46	252	P	Pn	22 13 43.6	-0.8
JTKR	Abashiri--Toko	3.81	269	P	Pn	22 13 50.2

YAK pmax pmax
comp=Z,19nm,1.1s,mb4.3
BILL Bilibino 25.60 15 *e*P **P 22 18 16.3 -2.7**
BILL pmax pmax
comp=Z,1.0nm,1.0s,mb3.3
NJ2 Nanjing 26.60 253 *e*P **P 22 18 25.3 -3.1**
NJ2 AMB AMB
comp=Z,30nm,1.0s,mb4.8
ULN Ulaanbaatar 29.25 292⇑*e*P **P 22 18 52.4 +0.5**
TIXI Tiksi 29.30 347 *e*P **P 22 18 51.8 -0.4**
TIXI pmax pmax
comp=Z,1.0nm,1.3s,mb3.4
SONM Songino Array 29.69 292 P **P 22 18 56.1 +0.3**
SONM pmax pmax
comp=Z,2.0nm,0.8s
SONM Songino Array 29.69 292 P **P 22 18 56.1 +0.2**
comp=Z,1.9nm,0.8s,mb3.9,baz=81,slow=7.9,SNR=17
ZAK Zakamensk 31.38 298 *e*P **P 22 19 10.9 +0.2**
ZAK pmax pmax
comp=Z,1.0nm,1.2s,mb3.5
LZH Lanzhou 35.23 273 ⇓P **P 22 19 45.3 +0.8**
LZH AP pP 22 19 57.5 +5.7
LZH XP sP 22 20 02.8 +8.0
LZH AMB AMB
comp=Z,21nm,1.0s,mb5.0
LZH AMB AMB
comp=Z,88nm,4.3s
LZH Lanzhou 35.23 273 ⇓P **P 22 19 45.3 +0.8**
comp=Z,21nm,1.0s,mb5.0
LZH pP pP 22 19 57.5 +5.7
LZH sP sP 22 20 02.8 +8.0
LZH Lanzhou 35.23 273 ⇓P **P 22 19 45.3 +0.8**
LZH *PP pP 22 19 57.5 +5.7
LZH *SP sP 22 20 02.8 +8.0
LZH pmax pmax
comp=Z,21nm,1.0s,mb5.0
GTA Gaotai 36.68 280 *e*P **P 22 19 57.8 +0.9**
GTA AMB AMB
comp=Z,4.0nm,0.7s,mb4.4
IMA2 Indian Mountai 37.53 34 *e*P **P 22 20 04.5 +0.8**
ZALV Zalesovo Beam 41.95 307 P **P 22 20 40.4 -0.2**
comp=Z,0.6nm,0.4s,mb3.6,baz=65,slow=8.4,SNR=3.7
ZALV PcP PcP 22 22 35.1 -0.4
comp=Z,0.6nm,0.6s,baz=31,slow=6.7,SNR=3.6
ZAL Zalesovo 41.96 307 P **P 22 20 40.4 -0.3**
ZAL 22 22 35.1
WMQ Urumqi 43.33 292 P **P 22 20 52.6 +0.7**
WMQ AMB AMB
comp=Z,11nm,1.1s,mb4.5
DAWY Dawson 43.60 37 P **P 22 20 53.6 -0.3**
INK Inuvik 45.33 31 P **P 22 21 08.0 +0.4**
INK pmax pmax
comp=Z,1.0nm,0.7s
INK Inuvik 45.33 31 P **P 22 21 08.0 +0.4**
comp=Z,0.8nm,0.7s,mb3.7,baz=279,slow=6.9,SNR=5.8
MK31 Makanchi Array 45.71 298 *e*P **P 22 21 11.1 +0.2**
MKAR Makanchi Array 45.71 298⇑*e*P **P 22 21 11.3 +0.3**
MKAR Makanchi Array 45.71 298 P **P 22 21 11.1 +0.2**
comp=Z,5.4nm,0.8s,mb4.5,baz=76,slow=8.0,SNR=41
JIRN Jiri 52.39 274 *e*P **P 22 22 02.9 +0.6**
comp=Z,12nm,0.9s,mb4.8
KKN Kakani 52.96 275 *e*P **P 22 22 06.8 +0.2**
comp=Z,8.6nm,0.7s,mb4.8
GKN Gorkha 53.30 275 *e*P **P 22 22 09.2 +0.1**
comp=Z,15nm,0.9s,mb4.9
KOLN Koldanda 54.18 276 *e*P **P 22 22 15.8 +0.3**
YKA Yellowknife Ar 54.66 34 P **P 22 22 18.0 -0.5**
YKA pmax pmax
comp=Z,1.0nm,0.7s
YKA Yellowknife Ar 54.66 34 P **P 22 22 18.0 -0.5**
comp=Z,0.8nm,0.7s,mb3.8,baz=297,slow=6.7,SNR=11
FINES FINESS Array B 65.20 334 *i* P **P 22 23 29.1 -1.7**
FINES pmax pmax
comp=Z,5.0nm,0.6s
FINES FINESS Array B 65.20 334 P **P 22 23 29.8 -1.0**
comp=Z,4.9nm,0.6s,mb4.7,baz=32,slow=7.2,SNR=32
NVAR Mina Array Bea 66.12 59 P **P 22 23 38.9 +1.7**
comp=Z,0.4nm,0.7s,mb3.6,baz=312,slow=5.2,SNR=2.8
PDAR Pinedale Array 68.53 51 P **P 22 23 51.5 -0.9**
comp=Z,0.2nm,0.5s,mb3.3,baz=342,slow=1.4,SNR=4.0
NB2 NORSAR Subarra 69.77 340 P **P 22 23 58.9 -0.8**
comp=Z,1.6nm,0.5s,mb4.2,baz=30,slow=6.5
NOA NORSAR Array B 69.77 340 P **P 22 23 59.6 -0.1**
NOA pmax pmax
comp=Z,4.0nm,0.8s
NOA NORSAR Array B 69.77 340 P **P 22 23 59.6 -0.2**
comp=Z,4.4nm,0.8s,mb4.4,baz=32,slow=6.0,SNR=8.9
HFS Hagfors 69.90 338 P **P 22 24 00.1 -0.4**
HFS pmax pmax
comp=Z,3.0nm,0.5s
HFS Hagfors 69.90 338 P **P 22 24 00.1 -0.4**
comp=Z,3.0nm,0.5s,mb4.5,baz=52,slow=5.8,SNR=12
KIV Kislovodsk 70.60 313 *e*P **P 22 24 07.2 +2.1**
KIV pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
AKASG Malin Array Be 72.14 325 *i* P **P 22 24 13.8 -0.5**
AKASG pmax pmax
comp=Z,1.0nm,0.5s
AKASG Malin Array Be 72.14 325 P **P 22 24 13.8 -0.5**
comp=Z,1.3nm,0.5s,mb4.1,baz=34,slow=6.0,SNR=9.0
STHS Stebnicka Huta 76.33 328 *e*P **P 22 24 39.8 +1.0**
KECS Kecovo 77.39 328 *e*P **P 22 24 45.1 +0.4**
MLR Muntele Rosu 77.56 323 P **P 22 24 46.0 +0.3**
MLR pmax pmax
comp=Z,2.0nm,0.6s
MLR Muntele Rosu 77.56 323 P **P 22 24 46.0 +0.3**
comp=Z,1.7nm,0.6s,mb4.1,baz=198,slow=3.2,SNR=7.5
CLL Collm 77.65 334 *e*P **P 22 24 46.0 -0.1**
comp=Z,7.0nm,1.3s,mb4.4
CLL *es*P sP 22 25 00.0 +3.1
BRG Berggiesshubel 77.71 333 *e*P **P 22 24 46.0 -0.5**
BRG *e* 22 25 00.0
EKA Eskdalemuir Ar 78.17 344 P **P 22 24 48.8 -0.2**
comp=Z,1.6nm,1.0s,mb3.9,baz=15,slow=5.9,SNR=3.6
PRU Pruhonice 78.27 332 *e*P **P 22 24 50.0 +0.4**
KHC Kasperske Hory 79.33 332⇑*e*P **P 22 24 54.8 -0.6**
KHC Kasperske Hory 79.33 332 *e*P **P 22 24 55.9 +0.5**
GERES GERESS Array B 79.53 332 P **P 22 24 56.4 -0.1**
GERES pmax pmax
comp=Z,1.0nm,0.6s
GERES GERESS Array B 79.53 332 P **P 22 24 56.4 -0.2**
comp=Z,0.8nm,0.6s,mb3.9,baz=38,slow=5.5,SNR=9.0
TXAR Lajitas Array 81.20 58 P **P 22 25 05.7 -0.2**
TXAR pmax pmax
comp=Z,1.0nm,0.6s
TXAR Lajitas Array 81.20 58 P **P 22 25 05.7 -0.2**
comp=Z,0.8nm,0.6s,mb3.8,baz=305,slow=4.4,SNR=7.0
MMAI Mount Meron Ar 82.40 309 P **P 22 25 13.2 +1.0**
comp=Z,0.3nm,0.4s,mb3.6,baz=41,slow=4.6,SNR=3.9

IDC 04 22:17:46.0±1.1, 860S×15752E, h0km, mb3.8/6, mb1 3.9/7, mb1mx3.8/14, mbtmp3.8/7, ML3.7/1, MS3.6/1, Ms1 3.6/1, ms1mx3.4/22, Error ellipse: s-maj=30.6km s-min=24.1km az=134.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.54**	**109**	Pn	Pn	22 18 26.7	-1.8
	16nm,0.3s,baz=179,slow=0.9,SNR=2.7						
HNR				Sn	Sn	22 19 05.0	+4.9
	115nm,0.3s,baz=88,slow=22,SNR=16						
HNR				LR	LR	22 19 14.9	
	comp=Z,1μm,18.1s,baz=3.2,slow=35						
WRA	**Warramunga Arr**	**25.09**	**241**	P	P	22 23 11.8	-0.8
	3.8nm,0.9s,baz=66,slow=9.4,SNR=11						
ASAR	**Alice Springs**	**27.12**	**234**	P	P	22 23 30.3	-0.6
	0.6nm,0.6s,baz=74,slow=7.3,SNR=6.3						
STKA	**Stephens Creek**	**27.49**	**210**	P	P	22 23 36.0	+1.9
	2.7nm,0.7s,baz=38,slow=9.5,SNR=6.4						
SONM	**Songino Array**	**72.03**	**327**	P	P	22 29 12.1	+0.3
	0.2nm,0.7s,baz=129,slow=3.9,SNR=2.2						
MKAR	**Makanchi Array**	**86.25**	**318**	P	P	22 30 28.9	-0.7
	0.3nm,0.7s,baz=111,slow=6.5,SNR=3.0						
YKA	**Yellowknife Ar**	**96.58**	**28**	P	P	22 31 18.8	+1.3
	0.2nm,0.6s,baz=259,slow=6.2,SNR=3.0						

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*IDC **04** 22:23:36.4±1.1, 3078N×14196E, h0km, mb3.6/8, mb1 3.7/9, mb1mx3.7/18, mbtmp3.6/9, ML3.6/1, MS3.6/1, Ms1 3.6/1, ms1mx3.1/32, Error ellipse: s-maj=40.1km s-min=20.5km az=77.0*
*NEIC **04** 22:23:41.7±1.0, 3084N×14186E, h35km, MG4.0(JMA), Error ellipse: s-maj=37.4km s-min=14.1km az=74.0*
*JMA **04** 22:23:42.8±0.7, 3149N×14188E, h0km, M4.0*
*ISCJB **04** 22:23:43.7±2.1, 312N±0.1×1418E±02, h51km±16km, mb3.6/8, Error ellipse: s-maj=29.3km s-min=15.7km az=42.7*
ISC 04 22:23:42.8±1.6, 310N±01×1417E±02, h38km±15km, n21, σ1§25/22, mb3.6/8, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**2.64**	**323**	*e*S	**Sn**	**22 24 54.0**	**+0.3**
JHJ	**Hachijo jima 2**	**2.66**	**323**	Sn	**Sn**	**22 24 52.5**	**-1.8**
	24nm,0.3s,baz=86,slow=18,SNR=4.2						
JHJ				LR	LR	22 25 16.4	
	comp=Z,979nm,21.4s,baz=79,slow=34						
BSO1	**Boso 1**	**3.69**	**351**	P	**Pn**	**22 24 36.4**	**-0.9**
BSO3	**Boso 3**	**3.92**	**345**	P	**Pn**	**22 24 40.2**	**-0.2**
BSO4	**Boso 4**	**4.13**	**344**	P	**Pn**	**22 24 43.8**	**+0.4**
JOD2	**Odawara 2**	**4.78**	**333**	P	**Pn**	**22 24 53.5**	**+1.2**
JHU	**Hanno**	**5.24**	**338**	P	**Pn**	**22 24 59.3**	**+0.7**
JHU				*e*S	**Sn**	**22 25 55.7**	**-2.0**
JRY	**Ryogami san**	**5.52**	**336**	P	**Pn**	**22 25 04.3**	**+1.9**
JHO	**Hitachi**	**5.67**	**351**	P	**Pn**	**22 25 03.4**	**-1.1**
JHO				*e*S	Sx	22 26 04.8	
JAG	**Ashikaga**	**5.72**	**341**	P	**Pn**	**22 25 05.6**	**+0.4**
JAG				*e*S	**Sn**	**22 26 08.5**	**-1.1**
MJAR	**Matsushiro Arr**	**6.24**	**333**	Pn	**Pn**	**22 25 14.1**	**+1.8**
	1.1nm,0.3s,baz=160,slow=12,SNR=11						
MAJO	**Matsushiro**	**6.24**	**333**	*e*Pn	**Pn**	**22 25 12.3**	**0.0**
MAJO				Sn	Sx	22 26 19.2	
JMK	**Ichinoseki**	**7.94**	**357**	*e*S	Sx	22 26 58.0	
SONM	**Songino Array**	**31.69**	**312**	P	**P**	**22 30 04.7**	**+2.1**
	0.4nm,0.7s,mb3.3,baz=109,slow=8.9,SNR=3.2						
ZALV	**Zalesovo Beam**	**46.31**	**317**	P	**P**	**22 32 07.9**	**+3.3**
	0.3nm,0.5s,mb3.5,baz=83,slow=6.1,SNR=2.3						
MKAR	**Makanchi Array**	**47.73**	**307**	P	**P**	**22 32 16.1**	**+0.3**
	0.2nm,0.4s,mb3.5,baz=87,slow=10,SNR=4.1						
WRA	**Warramunga Arr**	**51.15**	**189**	P	**P**	**22 32 40.3**	**-1.8**
	0.8nm,0.5s,mb3.9,baz=3.7,slow=7.7,SNR=5.9						
ASAR	**Alice Springs**	**54.87**	**189**	P	**P**	**22 33 07.0**	**-2.5**
	0.4nm,0.6s,mb3.7,baz=0.2,slow=5.8,SNR=6.3						
YKA	**Yellowknife Ar**	**68.92**	**29**	P	**P**	**22 34 43.7**	**+0.2**
	0.1nm,0.5s,mb3.0,baz=296,slow=6.7,SNR=3.1						
FINES	**FINESS Array B**	**74.27**	**333**	P	**P**	**22 35 15.8**	**+0.1**
	2.7nm,1.0s,mb4.1,baz=58,slow=3.6,SNR=3.4						
AKASG	**Malin Array Be**	**79.23**	**323**	P	**P**	**22 35 44.2**	**+0.3**
	0.5nm,0.4s,mb3.8,baz=52,slow=5.4,SNR=4.7						

IDC 04 22:42:19.5±8.5, 2070S×16912E, h0km, mb3.7/2, mb1 4.0/2, mb1mx3.7/12, mbtmp3.7/2, Error ellipse: s-maj=367.4km s-min=57.0km az=150.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**2.84**	**241**	*e*P	Pn	22 43 03.9	-2.2
DZM				*e*S	Sn	22 43 35.8	-5.3
WRA	**Warramunga Arr**	**32.59**	**265**	P	P	22 48 53.9	+1.0
	0.5nm,0.4s,baz=90,slow=10,SNR=5.3						
ASAR	**Alice Springs**	**32.70**	**258**	P	P	22 48 52.9	-0.9
	1.1nm,0.8s,baz=84,slow=9.2,SNR=10						
GERES	**GERESS Array B**	**145.72**	**331**	PKPbc	PKPbc	23 01 59.5	-0.7
	2.9nm,1.2s,baz=39,slow=2.6,SNR=4.1						

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*NIED **04** 22:44:00, 4430N×14920E, h32km, Mw5.2 Best double couple: M0=6.93000×10^16 NP1:φs=55.00000°, δ72.00000°, λ135.00000°. NP2:φs=163.00000°, δ48.00000°, λ25.00000°.*
*SKHL **04** 22:44:49.8±3.0, 4410N×14930E, h26km±11km, mb5.3/7, mbh5.5/1, mbv5.7/5, ms5.1/5, msh5.7/3*
*IDC **04** 22:44:50.2±0.5, 4418N×14909E, h0km, mb4.7/22, mb1 4.7/25, mb1mx4.7/28, mbtmp4.6/25, ML4.0/3, MS4.9/13, Ms1 4.9/13, ms1mx4.5/39, Error ellipse: s-maj=16.1km s-min=12.7km az=141.0*
*JMA **04** 22:44:53.4±0.5, 4427N×14923E, h30km, M5.1*
*SZGRF **04** 22:44:54.8, 4386N×14939E, h33km, mb5.1, MS4.8, East of Kuril Islands, Russia*
*MOS **04** 22:44:54.0±1.5, 4411N×14906E, h42km, mb5.2/87, MS5.0/35, Error ellipse: s-maj=11.4km s-min=5.1km az=105.9*
*ISCJB **04** 22:44:55.3±0.2, 4412N±003×14897E±003, h43km, mb5.1/188, MS5.1/56, Error ellipse: s-maj=5.0km s-min=2.2km az=153.5*
*BJI **04** 22:44:55.8, 4433N×14883E, h39km, mB5.4, mb5.0, Ms5.2, Msz5.0*
*BGS **04** 22:44:57.6±2.1, 4442N×14868E, h33km, mb5.2, MS5.0*
*NEIC **04** 22:44:57.5±0.4, 4442N×14877E, h35km, mb5.1/102, MS5.2/10, Error ellipse: s-maj=11.5km s-min=7.2km az=159.0*
*GCMT **04** 22:44:57.5±0.3, 4409N×14956E, h26km, MW5.2/72, Moment Tensor Solution. s48,c71; s72,c131; Duration: 1§0 Moment tensor: Scale 10^16Nm; Mrr5.58±.28; Mθθ-2.89±.19; Mφφ-2.69±.19; Mrθ2.12±.35; Mθφ-3.46±.12; Mφr4.85±.38; Best double couple: M0=7.95700×10^16 NP1:φs=242.00000°, δ27.00000°, λ118.00000°. NP2: φs=31.00000°, δ66.00000°, λ77.00000°. Principal axes: T 7.8420, Plg66.0000°, Azm277.0000°; N 0.2290, Plg12.0000°, Azm36.0000°; P -8.0710, Plg20.0000°, Azm131.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 04 22:44:57.3±0.2, 4413N±003×14897E±003, h46km, h46km±1.3km: pP-P, n575, σ1§11/595, mb5.1/188, MS5.1/56, 38C-13D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.35**	**325**	*b i*PN	**Pn**	**22 45 16.5**	**-3.2**
KUR				*e*S	**Sn**	**22 45 38.8**	**+2.3**
KUR				pmax	pmax		
	comp=N,870nm,0.5s						
KUR				pmax	pmax		
	comp=E,1μm,0.5s						
KUR				pmax	pmax		
	comp=Z,4μm,0.5s						
KUR				pmax	pmax		
	comp=Z,29μm,2.0s						
KUR				smax			
	comp=N,30μm,3.0s						
KUR				smax			
	comp=E,78μm,3.0s						
KUR				smax			
	comp=N,10μm,0.5s						
KUR				smax			
	comp=E,10μm,0.5s						
KUR	**Kuril'sk**	**1.35**	**325**	⇑*i*P	**Pn**	**22 45 16.5**	**-3.2**
KUR				⇓*i*P		22 45 16.5	
KUR				AMB	AMB	22 45 18.9	
	comp=E,874nm,0.5s						
KUR				AMB	AMB	22 45 18.9	
	comp=E,1μm,0.5s						
KUR				AMB	AMB	22 45 18.9	
	comp=E,4μm,0.5s						
KUR				AMB	AMB	22 45 20.0	
	comp=E,29μm,2.0s						
KUR				AMB	AMB	22 45 20.0	
	comp=E,22μm,2.0s						
KUR				AMB	AMB	22 45 20.0	
	comp=E,25μm,2.0s						
KUR				*e*S	**Sn**	**22 45 38.8**	**+2.3**
KUR				A		22 45 42.0	
	comp=E,50μm,3.0s						
KUR				A		22 45 42.0	
	comp=E,30μm,3.0s						
KUR				A		22 45 42.0	
	comp=E,78μm,3.0s						
KUR				A		22 45 43.0	
	comp=E,10μm,0.5s						
KUR				A		22 45 43.0	
	comp=E,10μm,0.5s						
YUK	**Yuzh-Kuril'sk**	**2.24**	**269**	⇑*i*P	**Pn**	**22 45 31.3**	**-0.5**
YUK				AMB	AMB	22 45 33.0	
	comp=E,260nm,0.3s						
YUK				AMB	AMB	22 45 33.0	
	comp=E,710nm,0.4s						
YUK				AMB	AMB	22 45 33.0	
	comp=E,1μm,0.4s						
YUK				AMB	AMB	22 45 36.0	
	comp=E,5μm,1.0s						
YUK				AMB	AMB	22 45 36.0	
	comp=E,6μm,1.6s						
YUK				A		22 46 35.0	
	comp=E,48μm,1.4s						
YUK				A		22 46 35.0	
	comp=E,100μm,2.8s						
YUK				A		22 46 36.5	
	comp=E,7μm,0.6s						
YUK				A		22 46 36.5	
	comp=E,4μm,0.5s						
YUK				AMS	AMS	22 47 14.0	
	comp=E,48μm,12.0s						
YUK				AMS	AMS	22 47 14.0	
	comp=E,52μm,10.0s						
NEM2	**Nemuro 2**	**2.46**	**253**	P	**Pn**	**22 45 33.3**	**-1.5**
NEM2				*e*S	**Sn**	**22 46 03.0**	**-0.6**
JRA	**Rausu**	**2.78**	**267**	P	**Pn**	**22 45 39.5**	**+0.3**
JNK	**Nakash**	**3.12**	**261**	P	**Pn**	**22 45 43.6**	**-0.3**
JAK	**Akkeshi**	**3.30**	**251**	P	**Pn**	**22 45 45.4**	**-1.0**
JAK				*e*S	**Sn**	**22 46 23.3**	**-1.1**
JTKR	**Abashiri--Toko**	**3.65**	**269**	P	**Pn**	**22 45 52.0**	**+0.8**
JAR	**Ashorobuto**	**3.86**	**259**	P	**Pn**	**22 45 54.2**	**+0.1**
JOB	**Onbets**	**3.93**	**254**	P	**Pn**	**22 45 54.7**	**-0.3**
JMP	**Maruseppu**	**4.04**	**270**	P	**Pn**	**22 45 57.8**	**+1.2**
JCH	**Churui**	**4.36**	**252**	P	**Pn**	**22 46 00.2**	**-0.7**
JCH				*e*S	**Sn**	**22 46 50.3**	**-0.1**
JKK2	**Kamakawa 2**	**4.49**	**269**	P	**Pn**	**22 46 04.2**	**+1.4**
ASAJ	**Asahikawa**	**4.58**	**272**	P	**Pn**	**22 46 05.8**	**+1.8**
ASAJ	**Asahikawa**	**4.58**	**272**	PN	**Pn**	**22 46 05.9**	**+1.9**
ASAJ				pmax	pmax		
	comp=Z,7.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,16μm,20.0s						
ASAJ	**Asahikawa**	**4.58**	**272**	Pn	**Pn**	**22 46 05.9**	**+1.9**
	comp=Z,7.4nm,0.3s,baz=84,slow=9.8,SNR=39						
ASAJ				LR	LR	22 48 11.2	
	comp=Z,16μm,20.0s,baz=122,slow=43						
JSE	**Soyaes**	**4.64**	**283**	P	**Pn**	**22 46 06.4**	**+1.7**
JFR	**Furan**	**4.72**	**260**	P	**Pn**	**22 46 06.9**	**+1.0**
ERM	**Erimo**	**4.75**	**246**	Pn	**Pn**	**22 46 07.1**	**+0.8**
	comp=Z,2μm,0.5s,SNR=32						
ERM	**Erimo**	**4.75**	**246**	*e*Pn	**Pn**	**22 46 06.7**	**+0.4**
ERM	**Erimo**	**4.75**	**246**	*d i*PN	**Pn**	**22 46 06.9**	**+0.6**
JEM	**Erimo**	**4.75**	**246**	P	**Pn**	**22 46 06.8**	**+0.5**
JNBK	**Urakawa-nobuka**	**4.90**	**250**	P	**Pn**	**22 46 07.8**	**-0.6**
JNBK				*e*S	**Sn**	**22 47 02.9**	**-0.9**
JAB	**Ashibetsu**	**4.92**	**265**	P	**Pn**	**22 46 11.1**	**+2.5**
JBT2	**Biratori 2**	**4.99**	**257**	P	**Pn**	**22 46 09.3**	**-0.3**
JWK2	**Keihoku**	**5.17**	**286**	P	**Pn**	**22 46 15.4**	**+3.3**
YSS	**Yuzh-Sakhalins**	**5.20**	**305**	⇑*i*P	**Pn**	**22 46 13.7**	**+1.3**
YSS				AMB	AMB	22 46 15.8	
	comp=Z,60nm,1.0s						
YSS				AMB	AMB	22 46 18.0	
	comp=Z,600nm,6.0s						
YSS				*e*LQ		22 47 44.0	
YSS				AMS	AMS	22 48 44.0	
	comp=Z,9μm,16.0s						
YSS				AMS	AMS	22 48 44.0	
	comp=Z,11μm,14.0s						
YSS				AMS	AMS	22 48 44.0	
	comp=Z,10μm,16.0s						
YSS				AMS	AMS	22 48 44.0	
	comp=Z,15μm,16.0s						
YSS				AMS	AMS	22 48 44.0	
	comp=Z,13μm,16.0s						
YSS				AMS	AMS	22 48 44.0	
	comp=Z,12μm,15.0s						
JHR	**Hokuryu**	**5.24**	**268**	P	**Pn**	**22 46 15.4**	**+2.3**
JEW	**Eniwo**	**5.62**	**259**	P	**Pn**	**22 46 19.2**	**+1.0**
JNB	**Noboribetsu**	**6.02**	**257**	P	**Pn**	**22 46 23.8**	**+0.1**
JNB				*e*S	**Sn**	**22 47 31.4**	**+0.2**
JSK	**Shakotan**	**6.20**	**266**	P	**Pn**	**22 46 28.0**	**+1.8**
JKB	**Kayabe**	**6.23**	**252**	P	**Pn**	**22 46 26.2**	**-0.4**
JKB				*e*S	**Sn**	**22 47 34.1**	**-2.4**
JYM2	**Yakumo 2**	**6.60**	**255**	P	**Pn**	**22 46 31.7**	**0.0**
JSH	**Shimam**	**6.67**	**260**	P	**Pn**	**22 46 33.1**	**+0.5**
JANG	**Nango**	**6.68**	**238**	P	**Pn**	**22 46 30.0**	**-2.8**
JANG				*e*S	**Sn**	**22 47 41.1**	**-6.4**
JTM	**Tenmabayashi**	**6.73**	**243**	P	**Pn**	**22 46 31.5**	**-1.9**
JTM				*e*S	**Sn**	**22 47 44.7**	**-4.0**
JTH	**Tanohata**	**6.74**	**234**	P	**Pn**	**22 46 31.0**	**-2.6**
JTH				*e*S	**Sn**	**22 47 40.9**	**-8.2**
JSR	**Shiriuchi**	**6.80**	**250**	P	**Pn**	**22 46 34.0**	**-0.4**
UGL	**Uglegorsk**	**6.86**	**319**	PN	**Pn**	**22 46 38.0**	**+2.8**
UGL				pmax	pmax		
	comp=N,1μm,5.0s						
UGL				pmax	pmax		
	comp=E,2μm,5.0s						
UGL				pmax	pmax		
	comp=Z,2μm,5.0s						
UGL				pmax	pmax		
	comp=Z,90nm,0.4s						
UGL				MLR	MLR		
	comp=N,8μm,16.0s						
UGL				MLR	MLR		
	comp=Z,12μm,16.0s						
UGL				MLR	MLR		
	comp=E,10μm,14.0s						
UGL	**Uglegorsk**	**6.86**	**319**	*e*P	**Pn**	**22 46 38.0**	**+2.8**
UGL				*e*P		22 46 39.0	
UGL				AMB	AMB	22 46 40.0	
	comp=E,2μm,5.0s						
UGL				AMB	AMB	22 46 40.0	
	comp=E,1μm,5.0s						
UGL				AMB	AMB	22 46 40.0	
	comp=E,2μm,5.0s						
UGL				AMB	AMB	22 46 44.5	
	comp=E,90nm,0.4s						
UGL				A		22 48 26.0	
	comp=E,3μm,8.0s						
UGL				A		22 48 26.0	
	comp=E,3μm,8.0s						
UGL				A		22 48 26.0	
	comp=E,3μm,6.0s						
UGL				*e*L		22 48 52.0	
UGL				AMS	AMS	22 49 54.0	
	comp=E,12μm,16.0s						
UGL				AMS	AMS	22 49 54.0	
	comp=E,10μm,14.0s						
UGL				AMS	AMS	22 49 54.0	
	comp=E,8μm,16.0s						
JOSM	**Okushiri--Mats**	**7.24**	**257**	P	**Pn**	**22 46 40.4**	**-0.1**
OFUJ	**Ofunato**	**7.44**	**230**	P	**Pn**	**22 46 39.7**	**-3.5**
OFUJ				*e*S	**Sn**	**22 47 57.8**	**-8.3**
JRG	**Rokugo**	**7.82**	**236**	P	**Pn**	**22 46 46.5**	**-1.9**
TYV	**Tymovskoe**	**7.97**	**330**	*e*P	**Pn**	**22 46 51.0**	**+0.5**
TYV				AMB	AMB	22 46 53.0	
	comp=E,18nm,1.0s						
TYV				AMB	AMB	22 46 53.0	
	comp=E,44nm,1.0s						
TYV				AMB	AMB	22 46 53.0	
	comp=E,141nm,0.8s						
JIO	**Ouri**	**8.06**	**228**	P	**Pn**	**22 46 47.9**	**-3.8**
JIO				*e*S	**Sn**	**22 48 11.6**	**-10**
SKR	**Severo-Kuril's**	**8.15**	**34**	*e*P	**Pn**	**22 46 49.5**	**-3.4**
SKR				AMB	AMB	22 46 54.0	
	comp=E,70nm,0.4s						
SKR				AMB	AMB	22 46 54.0	
	comp=E,50nm,0.4s						
SKR				AMB	AMB	22 46 54.0	
	comp=E,90nm,0.5s						
SKR				*e*S	**Sn**	**22 48 17.0**	**-6.6**
SKR				A		22 48 38.0	
	comp=E,90nm,0.7s						
SKR				A		22 48 38.0	
	comp=E,60nm,0.6s						
SKR				A		22 48 38.0	
	comp=E,80nm,0.6s						
SKR				AMS	AMS	22 50 24.0	
	comp=E,8μm,16.0s						
SKR				AMS	AMS	22 50 24.0	
	comp=E,10μm,16.0s						
SKR				AMS	AMS	22 50 24.0	
	comp=E,3μm,16.0s						
SKR				AMS	AMS	22 50 24.0	
	comp=E,11μm,16.0s						
TEY	**Ternei**	**8.87**	**280**	*e*P	**Pn**	**22 47 05.0**	**+2.2**
TEY				AMS	AMS	22 51 15.0	
	comp=E,8μm,16.0s						
TEY				AMS	AMS	22 51 15.0	
	comp=E,8μm,16.0s						
TEY				AMS	AMS	22 51 15.0	
	comp=E,14μm,16.0s						
JYA	**Atsumi**	**8.88**	**235**	P	**Pn**	**22 47 00.8**	**-2.2**
JFK	**Kawauchi**	**9.12**	**225**	P	**Pn**	**22 47 03.0**	**-3.3**
JFK				*e*S	**Sn**	**22 48 36.8**	**-11**

OKH	**Okha**	**10.23 339**	*e*P	**Pn**	**22 47 24.0**	**+2.7**
OKH			AMB	AMB	22 47 27.6	
	comp=E,2μm,10.0s					
OKH			AMB	AMB	22 47 27.6	
	comp=E,2μm,10.0s					
OKH			*e*LQ		22 50 22.0	
OKH			AMS	AMS	22 52 05.8	
	comp=E,4μm,14.0s					
OKH			AMS	AMS	22 52 05.8	
	comp=E,7μm,14.0s					
OKH			AMS	AMS	22 52 05.8	
	comp=E,8μm,16.0s					
NKL	**Nikolayevsk**	**10.55 332**	*e*P	**Pn**	**22 47 25.0**	**-0.8**
NKL			AMB	AMB	22 47 28.0	
	comp=E,1μm,5.0s					
NKL			AMB	AMB	22 47 28.0	
	comp=E,1μm,5.0s					
NKL			AMB	AMB	22 47 29.8	
	comp=E,170nm,2.0s					
NKL			AMB	AMB	22 47 29.8	
	comp=E,290nm,2.0s					
NKL			*e*L		22 50 06.0	
NKL			AMS	AMS	22 51 43.0	
	comp=E,6μm,18.0s					
NKL			AMS	AMS	22 51 43.0	
	comp=E,8μm,18.0s					
NKL			AMS	AMS	22 51 43.0	
	comp=E,2μm,15.0s					
HABR	**Khabarovsk**	**10.56 299**	⇑*i*PN	**Pn**	**22 47 27.3**	**+1.4**
HABR			pmax	pmax		
	comp=Z,7.0nm,0.3s					
PET	**Petropavlovsk**	**10.96 32**	*e*PN	**Pn**	**22 47 30.6**	**-0.8**
PET			pmax	pmax		
	comp=Z,19nm,1.0s					
MAJO	**Matsushiro**	**11.16 231**	*e*Pn	**Pn**	**22 47 31.9**	**-2.3**
	comp=Z,57nm,1.0s					
MAJO	**Matsushiro**	**11.16 231**	*e*PN	**Pn**	**22 47 31.9**	**-2.3**
MAJO			pmax	pmax		
	comp=Z,57nm,1.0s					
MAT	**Matsushiro**	**11.16 231**	P	**Pn**	**22 47 32.7**	**-1.5**
MAT			S	**Sn**	**22 49 33.2**	**-4.3**
MJAR	**Matsushiro Arr**	**11.16 231**	PN	**Pn**	**22 47 31.7**	**-2.5**
MJAR			pmax	pmax		
	comp=Z,1.0nm,0.3s					
MJAR	**Matsushiro Arr**	**11.16 231**	Pn	**Pn**	**22 47 31.7**	**-2.5**
	comp=Z,0.7nm,0.3s,baz=29,slow=12,SNR=12					
VLA	**Vladivostok**	**12.42 271**	*e*PN	**Pn**	**22 47 48.0**	**-3.3**
VLA			pmax	pmax		
	comp=Z,22nm,1.3s					
KLR	**Kul'dur**	**12.87 299**	*e*PN	**Pn**	**22 47 54.6**	**-2.8**
KLR			pmax	pmax		
	comp=Z,430nm,3.0s					
KLR			MLR	MLR		
	comp=N,4μm,17.0s					
KLR			MLR	MLR		
	comp=E,5μm,17.0s					
MDJ	**Mudanjiang**	**13.87 279**	P	**Pn**	**22 48 06.7**	**-4.4**
MDJ			S	**Sn**	**22 50 33.7**	**-10**
MDJ			SCP	ScP	22 57 06.7	+6.4
MDJ			PCS	PcS	22 57 10.3	+5.0
MDJ			AMB	AMB		
	comp=Z,309nm,9.8s					
MDJ			LR	LR		
	comp=N,2μm,15.4s					
MDJ			LR	LR		
	comp=E,4μm,17.9s					
MDJ			LR	LR		
	comp=Z,6μm,17.1s					
MA2	**Magadan**	**15.51 3**	*e*P	**Pn**	**22 48 32.5**	**-0.1**
MA2			*e*S	**S**	**22 51 23.5**	**-14**
MA2			pmax	pmax		
	comp=Z,20nm,0.9s					
MA2			MLR	MLR		
	comp=Z,7μm,14.3s					
CN2	**Changchun**	**16.93 277**	*e*P	**Pn**	**22 48 48.1**	**-2.6**
CN2			*e*XP	sP	22 49 00.4	-8.3
CN2			*e*S	**S**	**22 51 46.2**	**-20**
CN2			AMB	AMB		
	comp=Z,20nm,1.4s					
CN2			AMB	AMB		
	comp=Z,300nm,6.0s					
CN2			LR	LR		
	comp=N,3μm,16.0s					
CN2			LR	LR		
	comp=E,5μm,16.0s					
CN2			LR	LR		
	comp=Z,6μm,17.0s					
ZEA	**Zeya**	**17.14 312**	*e*P	**Pn**	**22 48 50.0**	**-3.3**
ZEA			AMB	AMB	22 48 53.5	
	comp=Z,42nm,0.8s					
ZEA			AMB	AMB	22 48 53.5	
	comp=Z,44nm,0.9s					
ZEA			AMB	AMB	22 48 53.5	
	comp=Z,46nm,1.0s					
ZEA			AMB	AMB	22 49 05.0	
	comp=Z,1μm,11.0s					
ZEA			AMB	AMB	22 49 05.0	
	comp=Z,800nm,8.0s					
ZEA			AMB	AMB	22 49 05.0	
	comp=Z,1μm,10.0s					
ZEA			*e*S	**S**	**22 52 09.5**	**-0.8**
ZEA			A		22 52 24.0	
	comp=Z,1μm,14.0s					
KSRS	**Korea Array**	**17.25 254**	P	**Pn**	**22 48 52.7**	**-2.1**
	comp=Z,0.7nm,0.3s,baz=60,slow=11,SNR=26					
KSRS			LR	LR	22 55 28.3	
	comp=Z,2μm,20.0s,baz=62,slow=37					
JNU	**Nakatsue**	**17.86 238**	P	**Pn**	**22 49 03.0**	**+0.6**
	comp=Z,0.3nm,0.3s,baz=58,slow=12,SNR=7.3					
INCN	**Inchon**	**18.13 256**	Pn	**Pn**	**22 49 05.7**	**+0.1**
SNY	**Shenyang**	**18.70 272**	⇑P	**Pn**	**22 49 12.5**	**+0.1**
SNY			AMB	AMB		
	comp=Z,42nm,0.7s					
SNY			LR	LR		
	comp=N,2μm,15.6s					
SNY			LR	LR		
	comp=E,4μm,17.4s					
SNY			LR	LR		
	comp=Z,5μm,16.7s					
SEY	**Seymchan**	**18.95 5**	⇑*e*P	**Pn**	**22 49 11.7**	**-3.5**
NRGR	**Nerungri**	**19.77 318**	*e*P	**Pn**	**22 49 23.4**	**-1.6**
CLNS	**Chul'man**	**19.78 319**	*e*P	**Pn**	**22 49 21.9**	**-3.2**
CLNS			pmax	pmax		
	comp=N,16nm,1.0s					
CLNS			pmax	pmax		
	comp=Z,18nm,1.0s					
CLNS			pmax	pmax		
	comp=E,10.0nm,0.8s					
CLNS			MLR	MLR		
	comp=N,5μm,14.0s					
CLNS			MLR	MLR		
	comp=E,4μm,14.0s					
CLNS			MLR	MLR		
	comp=Z,8μm,14.0s					
DL2	**Dalian**	**21.07 265**	⇑*i*P	**P**	**22 49 37.7**	**+0.2**
DL2			XP	sP	22 49 52.3	-1.9
DL2			PP		22 50 04.8	
DL2			*e*S	**S**	**22 53 27.0**	**-2.5**
DL2			AMB	AMB		
	comp=Z,40nm,1.1s,mb4.7					
DL2			AMB	AMB		
	comp=Z,390nm,6.0s					
DL2			LR	LR		
	comp=N,1μm,17.3s,MS4.4					
DL2			LR	LR		
	comp=E,1μm,17.4s,MS4.4					
DL2			LR	LR		
	comp=Z,1μm,17.6s,MS4.4					
YAK	**Yakutsk**	**21.20 334**	*e*P	**P**	**22 49 35.7**	**-2.9**
	comp=Z,133nm,0.7s,mb5.4					
YAK	**Yakutsk**	**21.20 334**	*e*P	**P**	**22 49 36.2**	**-2.4**
YAK			*e*		22 49 51.1	
YAK			*e*S	**S**	**22 53 26.9**	**-4.5**
YAK			*e*SS		22 53 41.0	
YAK			*e*		22 53 44.9	
YAK			pmax	pmax		
	comp=N,33nm,1.0s					
YAK			pmax	pmax		
	comp=E,22nm,1.0s					
YAK			pmax	pmax		
	comp=Z,134nm,1.0s,mb5.2					
YAK			smax			
	comp=N,258nm,3.2s					
YAK			smax			
	comp=Z,31nm,0.6s					
YAK			smax			
	comp=E,169nm,3.3s					
YAK			MLR	MLR		
	comp=Z,4μm,17.0s,MS4.9					
YAK			MLR	MLR		
	comp=N,3μm,15.0s,MS4.8					
YAK			MLR	MLR		
	comp=E,2μm,16.0s,MS4.8					
JOW	**Kunigami**	**24.01 231**	P	**P**	**22 50 07.7**	**-0.1**
	comp=E,8.3nm,0.7s,mb4.3,baz=100,slow=27,SNR=3.5					
CIT	**Chita**	**24.74 301**	*e*P	**P**	**22 50 11.0**	**-3.2**
CIT			pmax	pmax		
	comp=Z,46nm,3.4s					
SSE	**Sheshan**	**25.43 249**	P	**P**	**22 50 20.4**	**-0.2**
SSE			S	**S**	**22 54 45.9**	**+1.7**
SSE			XS	sS	22 55 00.6	-3.8
SSE			AMB	AMB		
	comp=Z,47nm,0.8s,mb5.1					
SSE			AMB	AMB		
	comp=Z,543nm,9.4s					
SSE			LR	LR		
	comp=N,2μm,18.1s,MS4.8					
SSE			LR	LR		
	comp=E,2μm,18.1s,MS4.8					
SSE			LR	LR		
	comp=Z,3μm,16.9s,MS4.8					
SSE	**Sheshan**	**25.43 249**	P	**P**	**22 50 20.4**	**-0.2**
	comp=Z,47nm,0.8s,mb5.1					
SSE			S	**S**	**22 54 45.9**	**+1.7**
SSE			sS	sS	22 55 00.6	-3.8
SSE			LR	LR		
	comp=Z,3μm,16.9s,MS4.8					
TIA	**Tai'an**	**25.46 263**	*e*P	**P**	**22 50 19.9**	**-1.0**
TIA			AMB	AMB		
	comp=Z,65nm,1.1s,mb5.1					
TIA			LR	LR		
	comp=N,490nm,14.0s,MS4.2					
TIA			LR	LR		
	comp=E,354nm,15.0s,MS4.2					
BOD	**Bodaibo**	**25.58 315**	⇑*i*P	**P**	**22 50 18.3**	**-3.4**
BOD			pmax	pmax		
	comp=Z,17nm,0.9s,mb4.6					
BILL	**Bilibino**	**25.64 15**	*e*P	**P**	**22 50 21.3**	**-0.9**
	comp=Z,8.5nm,0.9s,mb4.3					
BILL	**Bilibino**	**25.64 15**	*e*P	**P**	**22 50 21.0**	**-1.2**
BILL			pmax	pmax		
	comp=Z,9.0nm,1.1s,mb4.2					
BILL			MLR	MLR		
	comp=Z,4μm,18.0s,MS5.0					
NJ2	**Nanjing**	**26.44 253**	*e*P	**P**	**22 50 33.1**	**+3.4**
NJ2			AP	pP	22 50 43.5	+1.8
NJ2			XP	sP	22 50 47.1	-0.1
NJ2			S	**S**	**22 55 07.0**	**+6.8**
NJ2			XS	sS	22 55 22.0	+1.5
NJ2			AMB	AMB		
	comp=Z,40nm,0.8s,mb5.0					
NJ2			AMB	AMB		
	comp=Z,1μm,4.2s					
NJ2			LR	LR		
	comp=N,3μm,16.0s					
NJ2			LR	LR		
	comp=E,1μm,10.0s					
HHC	**Hu-ho-hao-te**	**27.62 276**	⇑P	**P**	**22 50 41.4**	**+1.1**
HHC			S	**S**	**22 55 15.9**	**-2.7**
HHC			AMB	AMB		
	comp=Z,67nm,1.8s,mb5.0					
HHC			LR	LR		
	comp=N,2μm,13.7s,MS5.1					
HHC			LR	LR		
	comp=E,3μm,18.1s,MS5.1					
BTO	**Baotou**	**28.80 277**	*e*P	**P**	**22 50 52.2**	**+1.4**
ULN	**Ulaanbaatar**	**29.09 292**	*e*P	**P**	**22 50 52.9**	**-0.4**
	comp=E,32nm,1.0s,mb5.0					
ULN	**Ulaanbaatar**	**29.09 292**	*e*P	**P**	**22 50 52.9**	**-0.4**
ULN			pmax	pmax		
	comp=Z,31nm,1.0s,mb5.0					
TIXI	**Tiksi**	**29.27 347**	*e*	**P**	**22 50 50.2**	**-4.4**
TIXI	**Tiksi**	**29.27 347**	*e*P	**P**	**22 50 50.1**	**-4.5**
TIXI			*e*S	**S**	**22 55 42.7**	**-1.3**
TIXI			pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.5					
TIXI			MLR	MLR		
	comp=Z,2μm,16.0s,MS4.8					
TATO	**Taipei**	**29.40 239**	P	**P**	**22 50 59.3**	**+3.0**
SONM	**Songino Array**	**29.54 292**	P	**P**	**22 50 57.9**	**+0.7**
SONM			pmax	pmax		
	comp=Z,20nm,0.9s					
SONM			MLR	MLR		
	comp=Z,5μm,18.8s					
SONM	**Songino Array**	**29.54 292**	P	**P**	**22 50 57.9**	**+0.7**
	comp=Z,20nm,0.9s,mb4.8,baz=81,slow=7.7,SNR=111					
SONM			LR	LR	23 04 13.1	
	comp=Z,5μm,18.8s,MS5.2,baz=98,slow=39					
YHNB	**Yeheng**	**29.70 238**	P	**P**	**22 51 03.2**	**+4.3**
WHN	**Wuhan**	**30.44 255**	P	**P**	**22 51 05.5**	**+0.1**
WHN			S	**S**	**22 56 11.9**	**+8.8**
WHN			AMB	AMB		
	comp=Z,165nm,1.9s,mb5.4					
WHN			LR	LR		
	comp=Z,6μm,18.1s,MS5.3					
IRK	**Irkutsk**	**30.46 301**	*e*P	**P**	**22 51 05.9**	**+0.5**
IRK			*e*		22 52 08.2	
IRK			pmax	pmax		
	comp=Z,29nm,1.2s,mb4.9					
GUMO	**Guam**	**30.64 188**	LR	LR	23 02 08.7	
	comp=Z,730nm,18.0s,MS4.4,baz=242,slow=34					
TLY	**Talaya**	**30.88 300**	*e*P	**P**	**22 51 09.5**	**+0.4**
	comp=Z,5.9nm,0.8s,mb4.5					
TLY	**Talaya**	**30.88 300**	*e*P	**P**	**22 51 08.5**	**-0.6**
TLY			*e*		22 52 14.7	
TLY			pmax	pmax		
	comp=Z,12nm,1.4s,mb4.5					
TLY			MLR	MLR		
	comp=Z,5μm,15.0s,MS5.3					
ZAK	**Zakamensk**	**31.23 298**	*e*P	**P**	**22 51 12.2**	**+0.1**
ZAK			*e*		22 53 59.1	
ZAK			pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.4					
QZH	**Quanzhou**	**31.24 242**	*e*P	**P**	**22 51 17.7**	**+5.2**
QZH			S	**S**	**22 56 17.0**	**+1.3**
QZH			LR	LR		
	comp=N,3μm,16.0s,MS5.2					
QZH			LR	LR		
	comp=E,3μm,16.5s,MS5.2					
QZH			LR	LR		
	comp=Z,2μm,19.6s,MS4.8					
XAN	**Xi'an**	**32.39 266**	P	**P**	**22 51 22.4**	**-0.2**
XAN			AP	pP	22 51 32.1	-2.6
XAN			AMB	AMB		
	comp=Z,9.0nm,1.1s,mb4.5					
XAN			LR	LR		
	comp=N,1μm,16.4s,MS4.8					
XAN			LR	LR		
	comp=E,1μm,18.2s,MS4.8					
XAN			LR	LR		
	comp=Z,2μm,18.5s,MS4.8					
MOY	**Mondy**	**32.53 301**	*e*P	**P**	**22 51 23.3**	**-0.2**
LZH	**Lanzhou**	**35.07 273**	⇑P	**P**	**22 51 47.2**	**+1.4**
LZH			AP	pP	22 51 57.2	-0.8
LZH			XP	sP	22 52 01.7	-1.7
LZH			PP	PP	22 53 03.5	-2.3
LZH			*e*S	**S**	**22 57 12.6**	**-2.3**
LZH			XS	sS	22 57 28.3	-7.1
LZH			AMB	AMB		
	comp=Z,43nm,1.1s,mb5.3					
LZH			AMB	AMB		
	comp=Z,127nm,5.4s					
LZH			LR	LR		
	comp=E,1μm,13.2s					
LZH			LR	LR		
	comp=Z,2μm,17.4s,MS4.8					
LZH	**Lanzhou**	**35.07 273**	⇑P	**P**	**22 51 47.2**	**+1.4**
	comp=Z,43nm,1.1s,mb5.3					
LZH			pP	pP	22 51 57.2	-0.8
LZH			sP	sP	22 52 01.7	-1.7
LZH			PP	PP	22 53 03.5	-2.3
LZH			*e*S	**S**	**22 57 12.6**	**-2.3**
LZH			sS	sS	22 57 28.3	-7.1
LZH			SS	SS	22 59 23.2	-25
LZH			LR	LR		
	comp=Z,2μm,17.4s,MS4.8					
LZH	**Lanzhou**	**35.07 273**	⇑P	**P**	**22 51 47.2**	**+1.4**
LZH			*PP	pP	22 51 57.2	-0.8
LZH			*SP	sP	22 52 01.7	-1.7
LZH					22 53 03.5	
LZH			*e*S	**S**	**22 57 12.6**	**-2.3**
LZH			*SS	sS	22 57 28.3	-7.1
LZH			pmax	pmax		
	comp=Z,43nm,1.1s,mb5.3					
LZH			MLR	MLR		
	comp=Z,2μm,17.4s,MS4.8					
TTA	**Tatalina**	**36.31 39**	P	**P**	**22 51 55.2**	**-0.9**
SVW2	**Sparrevohn**	**36.41 42**	*e*P	**P**	**22 51 58.4**	**+1.5**
GTA	**Gaotai**	**36.52 280**	*e*P	**P**	**22 51 59.6**	**+1.4**
GTA			AP	pP	22 52 08.9	-1.6
GTA			XP	sP	22 52 13.1	-2.8
GTA			PP	PP	22 53 20.2	-1.6
GTA			S	**S**	**22 57 37.1**	**0.0**
GTA			XS	sS	22 57 52.7	-5.0
GTA			PCS	PcS	22 58 12.6	+3.8
GTA			SS	SS	23 00 00.8	-17
GTA			SCS	ScS	23 02 14.1	+4.0
GTA			AMB	AMB		
	comp=Z,15nm,0.9s,mb4.8					
GTA			AMB	AMB		
	comp=Z,450nm,6.9s					
GTA			LR	LR		
	comp=N,2μm,14.9s,MS5.3					
GTA			LR	LR		
	comp=E,2μm,13.8s,MS5.3					
GTA			LR	LR		
	comp=Z,3μm,14.5s,MS5.2					
IMA2	**Indian Mountai**	**37.63 34**	*e*P	**P**	**22 52 06.0**	**-1.2**
CD2	**Chengdu**	**37.75 265**	⇑*i*P	**P**	**22 52 08.9**	**+0.2**
CD2			AP	pP	22 52 19.3	-1.7
CD2			XP	sP	22 52 22.8	-3.6
CD2			PP	PP	22 53 36.1	+0.7
CD2			PCP	PcP	22 54 28.8	+4.0
CD2			S	**S**	**22 57 53.1**	**-2.8**
CD2			SCS	ScS	23 02 18.4	+1.1
CD2			AMB	AMB		
	comp=Z,100nm,0.8s,mb5.6					
CD2			AMB	AMB		
	comp=Z,250nm,5.8s					
CD2			LR	LR		
	comp=N,2μm,16.8s,MS5.2					
CD2			LR	LR		
	comp=E,2μm,15.6s,MS5.2					
CD2			LR	LR		
	comp=Z,2μm,14.4s,MS5.1					
GYA	**Guiyang**	**38.28 257**	⇑*i*P	**P**	**22 52 15.2**	**+2.0**
GYA			AP	pP	22 52 26.4	+0.8
GYA			XP	sP	22 52 30.8	-0.2
GYA			PP	PP	22 53 46.0	+4.7
GYA			PCP	PcP	22 54 32.6	+6.1
GYA			S	**S**	**22 58 04.0**	**-0.1**
GYA			SCP	ScP	22 58 16.2	+5.8
GYA			PCS	PcS	22 58 20.3	+4.5
GYA			SS	SS	23 00 40.8	-13
GYA			SCS	ScS	23 02 23.7	+3.3
GYA			AMB	AMB		
	comp=Z,20nm,0.8s,mb4.9					
GYA			AMB	AMB		
	comp=Z,420nm,8.1s					
GYA			LR	LR		
	comp=N,710nm,19.4s,MS4.6					
GYA			LR	LR		
	comp=E,570nm,18.1s,MS4.6					
GYA			LR	LR		
	comp=Z,750nm,17.4s,MS4.6					
MCK	**McKinley**	**39.53 38**	*e*P	**P**	**22 52 22.4**	**-0.8**
SML	**Sawmill**	**39.88 41**	*e*P	**P**	**22 52 26.4**	**+0.3**
SML			*e*pP	pP	22 52 30.8	-7.7
COLA	**College**	**39.99 36**	*e*P	**P**	**22 52 28.2**	**+1.2**
	comp=Z,26nm,1.0s,mb4.9					
COLA	**College**	**39.99 36**	*e*P	**P**	**22 52 27.5**	**+0.5**
QIZ	**Qiongzhong**	**41.12 245**	P	**P**	**22 52 40.8**	**+4.0**
QIZ			S	**S**	**22 58 51.0**	**+4.4**
QIZ			XS	sS	22 59 05.1	-2.3
QIZ			AMB	AMB		
	comp=Z,38nm,2.4s,mb4.6					
QIZ			LR	LR		
	comp=N,1μm,18.2s,MS5.1					
QIZ			LR	LR		
	comp=E,2μm,18.9s,MS5.1					
QIZ			LR	LR		
	comp=Z,2μm,17.4s,MS4.9					
ZALV	**Zalesovo Beam**	**41.82 307**	P	**P**	**22 52 41.1**	**-1.1**
	comp=Z,3.9nm,0.5s,mb4.3,baz=71,slow=8.0,SNR=16					
ZALV			PcP	PcP	22 54 37.0	-0.4
	comp=Z,4.5nm,0.7s,baz=68,slow=2.7,SNR=7.7					
ZALV			LR	LR	23 11 23.8	
	comp=Z,1μm,18.0s,MS4.8,baz=319,slow=38					
ZAL	**Zalesovo**	**41.83 307**	P	**P**	**22 52 41.1**	**-1.2**
ZAL					22 54 37.0	
KMI	**Kunming**	**41.88 259**	P	**P**	**22 52 43.8**	**+0.8**
KMI			AP	pP	22 52 53.3	-2.2
KMI			XP	sP	22 52 56.7	-4.2
KMI			PP	PP	22 54 25.5	+5.1
KMI			S	**S**	**22 58 59.0**	**+1.2**
KMI			XS	sS	22 59 15.0	-3.7
KMI			SS	SS	23 01 55.5	-10
KMI			AMB	AMB		
	comp=Z,27nm,1.6s,mb4.6					
KMI			AMB	AMB		
	comp=Z,341nm,4.7s					
KMI			LR	LR		
	comp=N,1μm,16.7s,MS4.9					
KMI			LR	LR		
	comp=E,958nm,16.7s,MS4.9					
KMI			LR	LR		
	comp=Z,2μm,15.3s,MS5.0					
KMI	**Kunming**	**41.88 259**	P	**P**	**22 52 43.8**	**+0.8**
	comp=Z,27nm,1.6s,mb4.6					
KMI			pP	pP	22 52 53.3	-2.2
KMI			sP	sP	22 52 56.7	-4.2
KMI			PP	PP	22 54 25.5	+5.1
KMI			PPP		22 54 53.9	
KMI			S	**S**	**22 58 59.0**	**+1.2**
KMI			sS	sS	22 59 15.0	-3.7
KMI			SS	SS	23 01 55.5	-10
KMI			SSS		23 02 38.2	
KMI			LR	LR		
	comp=Z,2μm,15.3s,MS5.0					
KMI	**Kunming**	**41.88 259**	P	**P**	**22 52 43.8**	**+0.8**
KMI			*SP	sP	22 52 56.7	-4.2
KMI					22 54 25.5	
KMI			PPP		22 54 53.9	
KMI			S	**S**	**22 58 59.0**	**+1.2**
KMI			*SS	sS	22 59 15.0	-3.7
KMI			SS	SS	23 01 55.5	-10
KMI			SSS		23 02 38.2	
KMI			pmax	pmax		
	comp=Z,27nm,1.6s,mb4.6					
KMI			MLR	MLR		
	comp=Z,2μm,15.3s,MS5.0					
NVS	**Novosibirsk**	**42.51 309**	*e*P	**P**	**22 52 48.0**	**+0.2**
NVS			pmax	pmax		
	comp=Z,9.0nm,1.1s,mb4.4					
NVS			pmax	pmax		
	comp=N,1.0nm,0.7s					
NVS			pmax	pmax		
	comp=E,2.0nm,0.7s					
EGAK	**Eagle**	**42.85 36**	*e*P	**P**	**22 52 48.9**	**-1.6**
WMQ	**Urumqi**	**43.17 292**	⇑*i*P	**P**	**22 52 54.4**	**+1.1**
WMQ			AP	pP	22 53 04.0	-1.8
WMQ			XP	sP	22 53 08.0	-3.2
WMQ			PP	PP	22 54 36.0	+2.0
WMQ			S	**S**	**22 59 14.0**	**-2.5**
WMQ			XS	sS	22 59 31.0	-6.4
WMQ			AMB	AMB		
	comp=Z,84nm,1.0s,mb5.4					
WMQ			AMB	AMB		
	comp=Z,263nm,3.5s					
WMQ			LR	LR		
	comp=N,5μm,18.2s,MS5.6					
WMQ			LR	LR		
	comp=E,4μm,16.2s,MS5.6					
WMQ			LR	LR		
	comp=Z,3μm,18.0s,MS5.2					
INK	**Inuvik**	**45.41 31**	*e*P	**P**	**22 53 10.5**	**-0.4**
	comp=Z,791nm,1.3s,mb6.4					
INK	**Inuvik**	**45.41 31**	P	**P**	**22 53 10.0**	**-0.9**
INK			pmax	pmax		
	comp=Z,6.0nm,0.5s					
INK	**Inuvik**	**45.41 31**	P	**P**	**22 53 10.0**	**-0.9**
	comp=Z,6.0nm,0.5s,mb4.7,baz=289,slow=7.2,SNR=19					
MK31	**Makanchi Array**	**45.57 298**	*e*P	**P**	**22 53 12.8**	**+0.4**
MKAR	**Makanchi Array**	**45.57 298**	*i*P	**P**	**22 53 12.8**	**+0.4**
MKAR			pmax	pmax		

comp=Z,39nm,0.8s
MKAR Makanchi Array 45.57 298 P **P 22 53 12.8 +0.4**
comp=Z,39nm,0.8s,mb5.4,baz=78,slow=8.1,SNR=188
MKAR PcP PcP 22 54 51.3 +1.1
comp=Z,3.6nm,0.7s,baz=86,slow=4.5,SNR=2.3
MKAR LR LR 23 13 59.2
comp=Z,5μm,18.0s,MS5.5,baz=67,slow=38
KURK Kurchatov 46.40 304 P **P 22 53 18.9 0.0**
comp=Z,205nm,0.8s,mb6.1,SNR=31
LSA Lhasa 47.49 273 *eP* **P 22 53 29.0 +1.3**
CHTO Chiang Mai 48.65 255 *eP* **P 22 53 37.8 +1.1**
comp=Z,21nm,1.0s,mb5.1
CHTO *e* pP 22 53 53.1 +3.7
CHTO Chiang Mai 48.65 255 *eP* **P 22 53 37.8 +1.1**
CHTO *e* pP 22 53 53.1 +3.7
CHTO pmax pmax
comp=Z,21nm,1.0s,mb5.1
SHL Shillong 49.36 268 *eP* **P 22 53 43.5 +1.3**
DLBC Dease Lake 49.51 43 *eP* **P 22 53 45.0 +2.2**
DLBC Dease Lake 49.51 43 P **P 22 53 42.0 -0.9**
baz=280,slow=6.1
BRVK Borovoye 50.32 310 P **P 22 53 49.6 +0.6**
comp=Z,79nm,0.9s,mb5.7,SNR=5.7
BRVK Borovoye 50.32 310 *eP* **P 22 53 48.2 -0.9**
comp=Z,12nm,0.8s,mb5.0
BRVK Borovoye 50.32 310 *eP* **P 22 53 48.2 -0.8**
BRVK pmax pmax
comp=Z,12nm,0.8s,mb5.0
ULHL Ulahol 51.42 295 P **P 22 53 58.8 +1.2**
SNR=68
TKM2 Tokmak 2 51.52 296 *eP* **P 22 53 58.9 +0.7**
comp=Z,62nm,1.1s,mb5.5
TKM2 Tokmak 2 51.52 296 *eP* **P 22 53 58.9 +0.7**
TKM2 pmax pmax
comp=Z,62nm,1.1s,mb5.5
TKM2 Tokmak 2 51.52 296 P **P 22 53 59.6 +1.3**
SNR=34
CHMS Chumysh 52.03 296 P **P 22 54 04.3 +2.2**
SNR=8.7
USP Ospenovka 52.07 297 P **P 22 54 03.2 +0.9**
SNR=61
KBK Karagaybulak 52.07 296 P **P 22 54 03.4 +1.1**
SNR=63
KZA Kyzart 52.15 295 P **P 22 54 05.2 +2.2**
SNR=94
FRU Bishkek 52.20 296⇑ *eP* **P 22 54 03.0 -0.3**
FRU pmax pmax
comp=Z,220nm,2.2s,mb5.7
JIRN Jiri 52.22 274 *eP* **P 22 54 04.8 +1.2**
comp=Z,69nm,0.9s,mb5.6
AAK Ala-Archa 52.37 296 P **P 22 54 04.3 -0.3**
comp=Z,176nm,0.7s,mb6.1,SNR=28
AAK Ala-Archa 52.37 296 P **P 22 54 05.3 +0.7**
SNR=33
UCH Uchtor 52.56 296 *eP* **P 22 54 07.3 +1.3**
comp=Z,9.9nm,0.9s,mb4.7
UCH Uchtor 52.56 296 P **P 22 54 07.4 +1.5**
SNR=12
KKN Kakani 52.80 274 *eP* **P 22 54 08.7 +0.8**
comp=Z,97nm,0.9s,mb5.7
EKS2 Erkin-Say 52.82 296 *eP* **P 22 54 08.8 +0.9**
comp=Z,130nm,1.0s,mb5.8
EKS2 Erkin-Say 52.82 296 P **P 22 54 09.0 +1.1**
SNR=51
KSH Kashi 52.94 292 *eP* **P 22 54 11.1 +2.3**
KSH *e*AP pP 22 54 21.1 -0.5
KSH XP sP 22 54 25.5 -1.4
KSH PCP PcP 22 55 22.3 +5.1
KSH PP PP 22 56 10.7 +2.2
KSH SCP ScP 22 59 15.4 +4.7
KSH PCS PcS 22 59 19.5 +3.6
KSH S **S 23 01 32.3 -2.4**
KSH XS sS 23 01 48.1 -7.9
KSH SCS ScS 23 03 55.2 +0.8
KSH SS SS 23 05 07.0 -6.7
KSH AMB AMB
comp=Z,69nm,0.5s,mb5.8
KSH LR LR
comp=N,2μm,7.0s
KSH LR LR
comp=E,3μm,7.2s
KSH LR LR
comp=Z,4μm,12.6s,MS5.7
AML Almayashu 53.14 296 *eP* **P 22 54 11.6 +1.4**
comp=Z,41nm,1.0s,mb5.3
AML PcP PcP 22 55 19.0 +1.1
AML Almayashu 53.14 296 P **P 22 54 11.9 +1.7**
SNR=29
GKN Gorkha 53.14 275 *eP* **P 22 54 11.0 +0.6**
comp=Z,108nm,0.9s,mb5.8
SVE Sverdlovsk 53.76 317⇑ *eP* **P 22 54 13.9 -0.7**
SVE *e* 22 55 18.5
SVE pmax pmax
comp=Z,19nm,1.0s,mb5.0
SVE MLR MLR
comp=Z,3μm,14.0s,MS5.5
KOLN Koldanda 54.02 275 *eP* **P 22 54 17.7 +0.8**
comp=Z,98nm,1.0s,mb5.7
RES Resolute Bay 54.23 17 *eP* **P 22 54 15.3 -2.4**
comp=Z,527nm,1.0s,mb6.4
YKW3 Yellowknife Ar 54.72 34 *eP* **P 22 54 19.6 -1.8**
YKA Yellowknife Ar 54.76 34 P **P 22 54 20.1 -1.6**
comp=Z,4.5nm,0.9s,mb4.5,baz=298,slow=6.7,SNR=34
BOK Bokaro 54.76 270 *eP* **P 22 54 22.9 +0.6**
BOK AMb AMB 22 54 26.1
comp=Z,17nm,1.8s,mb4.8
ARU Arti 54.96 317 P **P 22 54 22.1 -1.2**
comp=Z,135nm,0.5s,mb6.2,SNR=8.7
ARU Arti 54.96 317 *eP* **P 22 54 21.3 -2.0**
comp=Z,16nm,0.8s,mb5.1
ARU Arti 54.96 317 *d iP* **P 22 54 20.9 -2.4**
ARU *e* 22 55 23.4
ARU *e*S **S 23 01 57.9 -3.6**
ARU pmax pmax
comp=Z,23nm,1.0s,mb5.2
ARU MLR MLR
comp=Z,3μm,16.0s,MS5.4
LGTI Lohaghat 55.43 279 *eP* **P 22 54 28.5 +1.4**
SMLA Simla 56.65 283 *eP* **P 22 54 36.1 +0.4**
SMLA AMb AMB 22 54 39.2
comp=Z,164nm,1.5s,mb5.8
DLH Dalhousie 56.68 285 *eP* **P 22 54 37.0 +1.0**
THN Thein Dam 56.92 285 *eP* **P 22 54 37.2 -0.4**
NDI New Delhi 58.03 280 *eP* **P 22 54 45.3 -0.3**
NDI AMb AMB 22 54 48.8
comp=Z,81nm,1.3s,mb5.6
AKTK Aktyubinsk 58.28 311 P **P 22 54 46.5 -0.5**
AKTO Aktyubinsk 58.28 311 P **P 22 54 46.5 -0.4**
AKTO pmax pmax
comp=Z,5.0nm,0.5s,mb4.8
AKTO Aktyubinsk 58.28 311 P **P 22 54 46.5 -0.5**
comp=Z,4.6nm,0.5s,mb4.8,baz=63,slow=6.4,SNR=16
APA Apatity 58.57 336⇑ *i iP* **P 22 54 48.3 -0.4**
APA pmax pmax
comp=Z,11nm,0.9s,mb4.9
DAG Danmarks Havn 59.12 357 *eP* **P 22 54 52.0 -0.4**
DAG pmax pmax
comp=Z,6.0nm,0.2s,mb5.3
DAG Danmarks Havn 59.12 357 *i* P **P 22 54 52.0 -0.4**
comp=Z,5.6nm,0.2s,mb5.2
ARCES ARCESS Array B 59.34 340 P **P 22 54 52.1 -1.9**
ARCES pmax pmax
comp=Z,9.0nm,1.1s
ARCES MLR MLR
comp=Z,880nm,18.1s
ARCES ARCESS Array B 59.34 340 P **P 22 54 52.1 -1.9**
comp=Z,9.4nm,1.1s,mb4.7,baz=29,slow=8.3,SNR=7.7
ARCES LR LR 23 27 16.3
comp=Z,880nm,18.1s,MS4.9,baz=220,slow=43
ARE0 ARCESS Array S 59.34 340 P **P 22 54 53.0 -1.1**
HOOD Mount Hood Mea 60.19 54 *eP* **P 22 55 02.6 +2.4**
EDM Edmonton 60.23 43 *eP* **P 22 55 01.3 +0.9**
KBL Kabul 60.29 291 *eP* **P 22 55 00.8 -0.3**
VIS Vishakhapatnam 60.46 266 *eP* **P 22 55 03.4 +1.0**
NEW Newport 61.09 50 P **P 22 55 06.7 +0.3**
comp=Z,2.4nm,0.8s,mb4.4,baz=280,slow=9.2,SNR=3.3
AJM Ajmer 61.18 280 *i* P **P 22 55 07.0 -0.2**
BHPL Bhopal 61.19 275 *eP* **P 22 55 07.2 -0.1**
BHPL AMb AMB 22 55 10.1
comp=Z,48nm,1.1s,mb5.5
NGP Nagpur 61.33 272 *eP* **P 22 55 08.1 -0.2**
NGP AMb AMB 22 55 09.3
comp=Z,42nm,1.3s,mb5.4
KHMM Horse Mountain 61.45 60 *eP* **P 22 55 14.2 +5.3**
YBH Yreka Blue Hor 61.58 58 P **P 22 55 09.5 -0.3**
comp=Z,13nm,1.2s,mb5.0
YBH Yreka Blue Hor 61.58 58 P **P 22 55 09.5 -0.3**
YBH pmax pmax
comp=Z,13nm,1.2s
WDC Whiskeytown Da 62.35 59 *eP* **P 22 55 15.7 +0.8**
comp=Z,9.1nm,1.0s,mb4.9
WDC Whiskeytown Da 62.35 59 *eP* **P 22 55 15.7 +0.8**
WDC pmax pmax
comp=Z,9.0nm,1.0s,mb4.8
JOF Joensuu 62.36 333 *ep* **P 22 55 12.5 -2.1**
comp=Z,10nm,0.4s,mb5.3
JOF Joensuu 62.36 333 *eP* **P 22 55 12.5 -2.1**
JOF pmax pmax
comp=Z,11nm,0.4s,mb5.3
WALA Waterton Lakes 62.36 47 *eP* **P 22 55 18.1 +3.3**
MOD Modoc 62.95 57 P **P 22 55 22.9 +4.0**
AKL Akola 63.08 273 *eP* **P 22 55 20.1 0.0**
AKL AMb AMB 22 55 23.3
comp=Z,26nm,1.3s,mb5.2
WVOR Wild Horse Val 63.63 56 *eP* **P 22 55 24.6 +1.2**
comp=Z,11nm,1.0s,mb4.8
WVOR Wild Horse Val 63.63 56 *eP* **P 22 55 24.6 +1.2**
WVOR pmax pmax
comp=Z,11nm,1.0s,mb4.8
MSO Missoula 63.68 49 *eP* **P 22 55 23.7 +0.1**
comp=Z,15nm,1.2s,mb4.9
MSO *e* pP 22 55 36.0 -0.7
OHCM Honcut 63.74 60 P **P 22 55 27.8 +3.6**
CTA Charters Tower 63.95 183 LR LR 23 23 57.3
comp=Z,386nm,18.0s,MS4.6,baz=144,slow=37
CHMT Chamberlain Mo 64.01 49 *eP* **P 22 55 30.5 +4.7**
HYB Hyderabad 64.09 270 *eP* **P 22 55 27.0 +0.2**
HYB *e* pP 22 55 42.5 +2.6
HYB Hyderabad 64.09 270 *i* P **P 22 55 28.5 +1.7**
HYB *e* pP 22 55 42.5 +2.6
KAF Kangasniemi 64.56 334 *ep* **P 22 55 27.3 -1.8**
comp=Z,16nm,0.6s,mb5.2,baz=41,slow=6.2
KAF Kangasniemi 64.56 334 *eP* **P 22 55 27.3 -1.8**
KAF pmax pmax
comp=Z,16nm,0.6s,mb5.2
FFC Flin Flon 64.61 37 *eP* **P 22 55 28.4 -1.2**
comp=Z,26nm,1.2s,mb5.1
FFC Flin Flon 64.61 37 *eP* **P 22 55 28.4 -1.2**
FFC pmax pmax
comp=Z,26nm,1.2s,mb5.1
LATR Latur 64.88 272 *ex* **P 22 55 28.2 -3.6**
HRY Holter Researc 64.90 49 *eP* **P 22 55 32.7 +1.1**
MOS Moscow 64.91 324 *eP* **P 22 55 30.8 -0.7**
MOS pmax pmax
comp=Z,93nm,1.3s,mb5.7
MOS MLR MLR
comp=Z,2μm,16.0s,MS5.3
MOS MLR MLR
comp=E,1μm,15.0s
FCC Fort Churchill 65.03 31 *eP* **P 22 55 30.8 -1.5**
LRM Limekiln Ridge 65.11 50 *eP* **P 22 55 32.8 -0.2**
FIA1 FINESS Array S 65.13 334 *eP* **P 22 55 31.5 -1.4**
FINES FINESS Array B 65.13 334 P **P 22 55 31.9 -0.9**
FINES FINESS Array B 65.13 334 *i* P **P 22 55 31.8 -1.0**
FINES pmax pmax
comp=Z,29nm,0.5s
FINES FINESS Array B 65.13 334 P **P 22 55 31.9 -0.9**
comp=Z,29nm,0.5s,mb5.5,baz=44,slow=7.6,SNR=140
WB2 Warramunga Arr 65.15 195 *eP* **P 22 55 33.1 -0.3**
WB2 *e* pP 22 55 50.0 +3.4
WRA Warramunga Arr 65.15 195 P **P 22 55 32.5 -0.9**
WRA pmax pmax
comp=Z,3.0nm,0.7s
WRA Warramunga Arr 65.15 195 P **P 22 55 32.5 -0.9**
comp=Z,3.2nm,0.7s,mb4.5,baz=16,slow=6.8,SNR=13
CMB Columbia Colle 65.21 60 P **P 22 55 37.8 +4.0**
DLMT Dillon 65.32 50 P **P 22 55 40.0 +5.6**
comp=Z,22nm,1.3s,mb5.0
DLMT *e* pP 22 55 52.0 +4.5
ABKT Ailbek 65.40 300 P **P 22 55 35.8 +0.8**
comp=Z,94nm,0.6s,mb6.0,SNR=5.9
HLID Hailey 65.41 53 *eP* **P 22 55 36.2 +1.2**
comp=Z,3.0nm,1.2s,mb4.2
HLID *e* pP 22 55 51.0 +2.9
MCMT McKenzie Canyo 65.51 51 *eP* **P 22 55 37.1 +1.5**
MCMT *e* pP 22 55 52.5 +3.7
BOZ Bozeman (W) 65.67 49 *eP* **P 22 55 36.5 -0.2**
comp=Z,7.1nm,0.7s,mb4.8
BOZ Bozeman (W) 65.67 49 *eP* **P 22 55 36.5 -0.1**
BOZ pmax pmax
comp=Z,7.0nm,0.7s,mb4.8
OBN Obninsk 65.78 324 P **P 22 55 36.8 -0.4**
comp=Z,303nm,1.2s,mb6.2,SNR=5.9
OBN Obninsk 65.78 324 *eP* **P 22 55 36.5 -0.7**
comp=Z,57nm,1.0s,mb5.6
OBN Obninsk 65.78 324⇑ *eP* **P 22 55 36.9 -0.3**
OBN pmax pmax
comp=Z,43nm,1.0s,mb5.4
OBN MLR MLR
comp=Z,2μm,15.0s,MS5.3
VRHR Novokhopersk 66.22 319 *eP* **P 22 55 38.7 -1.4**
VRHR *e*S S 23 04 23.7 -1.8
VRHR pmax pmax
comp=N,20nm,0.9s
VRHR pmax pmax
comp=Z,40nm,0.9s,mb5.5
VRHR pmax pmax
comp=E,20nm,0.7s
VRHR smax
comp=N,50nm,0.7s
VRHR smax
comp=Z,10.0nm,0.6s
VRHR smax
comp=E,20nm,0.5s
QLMT Earthquake Lak 66.30 50 *eP* **P 22 55 40.8 +0.2**
QLMT *e* pP 22 55 52.8 -1.1
GCMT Greycliff 66.65 48 *eP* **P 22 55 43.6 +0.7**
POO Poona 66.75 274 *eP* **P 22 55 44.8 +0.8**
POO AMb AMB 22 55 46.2
comp=Z,25nm,0.5s,mb5.5
MTUM Tungsten Hills 66.77 60 *eP* **P 22 55 48.1 +4.3**
MTUM *e* pP 22 55 57.0 0.0
YNR Norris Junctio 66.78 50 P **P 22 55 45.9 +2.2**
YNR *e* pP 22 55 58.1 +1.2
YFT Old Faithful 66.86 50 *eP* **P 22 55 48.1 +3.9**
YFT *e* pP 22 56 02.2 +4.7
IMW Indian Meadow 67.16 51 *eP* **P 22 55 46.2 0.0**
comp=Z,21nm,1.1s,mb5.1
IMW *e* pP 22 56 03.1 +3.8
FLWY Flagg Ranch 67.18 50 *eP* **P 22 55 48.4 +2.1**
comp=Z,17nm,1.1s,mb5.0
FLWY *e* pP 22 56 02.8 +3.3
RLMT Red Lodge 67.29 49 *eP* **P 22 55 47.2 +0.2**
comp=Z,18nm,1.3s,mb5.0
RLMT *e* pP 22 55 59.6 -0.6
KAD Karad 67.31 272 *eP* **P 22 55 47.4 -0.1**
KAD *eP* 22 55 48.0
KAD AMb AMB 22 55 48.8
comp=Z,34nm,1.0s,mb5.3
MOOW Moose Ponds 67.36 51 *eP* **P 22 55 47.4 -0.1**
comp=Z,26nm,1.2s,mb5.1
MOOW *e* pP 22 55 60.0 -0.7
VORD Divnogorie 67.41 320 *eP* **P 22 55 47.2 -0.4**
VORD pmax pmax
comp=Z,70nm,1.0s,mb5.7
VORD pmax pmax
comp=N,70nm,0.9s
VORD pmax pmax
comp=E,60nm,0.9s
TPAW Teton Pass 67.42 51 *eP* **P 22 55 53.1 +5.3**
comp=E,48nm,1.2s,mb5.4
TPAW *e* pP 22 56 04.8 +3.8
LOHW Long Hollow 67.53 51 P **P 22 55 50.2 +1.7**
comp=E,21nm,1.1s,mb5.1
SNOW Snow King Moun 67.54 51 *eP* **P 22 55 53.4 +4.8**
comp=E,33nm,1.1s,mb5.3
REDW Red Top Meadow 67.55 51 *eP* **P 22 55 50.7 +2.0**
comp=E,29nm,1.1s,mb5.2
REDW *e* pP 22 56 02.6 +0.8
DGMT Dagmar 67.73 43 *eP* **P 22 55 51.0 +1.3**
comp=E,20nm,0.5s,mb5.4
DGMT *e* pP 22 56 05.8 +3.0
BGU Big Grassy Mou 67.87 54 *eP* **P 22 55 55.0 +4.3**
BGU *e* pP 22 56 05.6 +1.8
LAO LASA Array 67.88 46 *eP* **P 22 55 54.4 +3.7**
SPUT South Promonto 67.96 53 P **P 22 55 55.5 +4.2**
SPUT *e* pP 22 56 08.9 +4.4
SFJD Kangerlussuaq 68.20 8 *eP* **P 22 55 51.0 -1.3**
comp=E,11nm,0.8s,mb5.0
SFJD Kangerlussuaq 68.20 8 *i* P **P 22 55 51.0 -1.3**
SFJD pmax pmax
comp=Z,21nm,1.0s,mb5.1
SFJD Kangerlussuaq 68.20 8 *i* P **P 22 55 51.0 -1.3**
comp=Z,21nm,1.0s,mb5.1
HWUT Hardware Ranch 68.28 53 P **P 22 55 57.6 +4.3**
comp=Z,12nm,1.0s,mb4.9
DUG Dugway 68.46 55 *eP* **P 22 55 54.8 +0.4**
comp=Z,22nm,1.3s,mb5.0
DUG *e* pP 22 56 08.2 +0.6
DUG Dugway 68.46 55 *eP* **P 22 55 54.8 +0.4**
DUG *e* pP 22 56 08.2 +0.6
DUG pmax pmax
comp=Z,22nm,1.3s,mb5.0
TPNV Topopah Spring 68.46 59 *eP* **P 22 55 54.1 -0.4**
comp=Z,18nm,1.1s,mb5.0
TPNV *e* pP 22 56 07.1 -0.6
TPNV Topopah Spring 68.46 59 *eP* **P 22 55 54.1 -0.4**
TPNV *e* pP 22 56 07.1 -0.6
TPNV pmax pmax
comp=Z,18nm,1.1s,mb5.0
BW06 Boulder Array 68.66 51 *eP* **P 22 55 55.3 -0.4**
comp=Z,18nm,1.2s,mb4.9
BW06 *e* pP 22 56 09.1 +0.3
PDAR Pinedale Array 68.66 51 P **P 22 55 54.2 -1.4**
comp=Z,1.9nm,0.8s,mb4.1,baz=274,slow=0.6,SNR=14
ASAR Alice Springs 68.86 195 P **P 22 55 57.1 +0.3**
comp=Z,1.6nm,0.8s,mb4.0,baz=13,slow=6.6,SNR=14
JLU Jordanelle 68.99 54 P **P 22 55 59.4 +1.7**
DAU Daniels Canyon 69.23 54 *eP* **P 22 56 04.3 +5.2**
DAU *e* pP 22 56 14.5 +2.1
MPU Maple Canyon 69.27 54 P **P 22 56 05.5 +6.1**
comp=Z,17nm,1.2s,mb4.8
PALK Pallekele 69.40 260 *eP* **P 22 56 02.2 +1.6**
PALK *e* pP 22 56 12.1 -1.8
GOF Gofitskoye 69.55 313 *eP* **P 22 56 08.0 +6.9**
GOF pmax pmax
comp=Z,80nm,0.8s,mb5.7
ARUT Antelope Range 69.64 57 *eP* **P 22 56 01.0 -0.8**
ARUT *e* pP 22 56 16.0 +1.0
KOD Kodaikanal 69.67 265 *ex* x 22 55 57.9
KOD AMb AMB 22 56 06.0
comp=Z,33nm,1.5s,mb5.0
NB2 NORSAR Subarra 69.72 340 P **P 22 56 00.7 -1.1**
comp=Z,54nm,0.9s,mb5.5,baz=31,slow=6.5
NOA NORSAR Array B 69.72 340 P **P 22 56 00.8 -1.0**
NOA pmax pmax
comp=Z,40nm,0.9s
NOA MLR MLR
comp=Z,609nm,19.3s
NOA NORSAR Array B 69.72 340 P **P 22 56 00.8 -1.1**
comp=Z,40nm,0.9s,mb5.3,baz=32,slow=6.1,SNR=69
NOA LR LR 23 30 13.5
comp=Z,609nm,19.3s,MS4.9,baz=30,slow=39
MSU Marysvale 69.92 56 *eP* **P 22 56 04.3 +0.8**
NAO01 NORSAR Array S 69.97 340 *eP* **P 22 56 02.6 -0.8**
comp=Z,34nm,0.8s,mb5.3
MBWA Marble Bar 70.27 209 *eP* **P 22 56 11.8 +6.1**
comp=Z,4.6nm,0.9s,mb4.4
KIV Kislovodsk 70.48 313 P **P 22 56 08.3 +1.5**
comp=Z,410nm,0.7s,mb6.5,SNR=9.5
KIV Kislovodsk 70.48 313 *eP* **P 22 56 07.8 +1.0**
KIV *e*S S 23 05 17.8 +1.5
KIV *e*SS SS 23 09 50.9 +3.7
KIV pmax pmax
comp=Z,51nm,0.9s,mb5.5
KIV pmax pmax
comp=Z,85nm,3.6s
KIV MLR MLR
comp=Z,3μm,17.0s,MS5.6
KIV Kislovodsk 70.48 313⇑ *i iP* **P 22 56 08.1 +1.3**
SRU San Rafael 70.51 54 *eP* **P 22 56 06.7 -0.4**
comp=Z,13nm,1.1s,mb4.8
SRU *e* pP 22 56 23.1 +2.8
SRU San Rafael 70.51 54 *eP* **P 22 56 06.7 -0.4**
SRU *e* pP 22 56 23.1 +2.8
SRU pmax pmax
comp=Z,13nm,1.1s,mb4.8
RWWY Rawlins 70.68 50 P **P 22 56 06.9 -1.2**
comp=Z,26nm,1.1s,mb5.1
RWWY *e* pP 22 56 20.1 -1.2
DGRG David-gareji 70.71 309 P **P 22 56 09.4 +1.2**
RSSD Black Hills 70.75 47 *eP* **P 22 56 07.0 -1.5**
comp=Z,16nm,1.7s,mb4.7
RSSD *e* pP 22 56 19.5 -2.2
RSSD Black Hills 70.75 47 *eP* **P 22 56 07.0 -1.5**
RSSD *e* pP 22 56 19.5 -2.2
RSSD pmax pmax
comp=Z,16nm,1.7s,mb4.7
MTA Mtatsminda 70.87 310 P **P 22 56 10.5 +1.3**
TBLG Delisi 70.88 310 P **P 22 56 10.4 +1.1**
BORG Borgarnes 71.20 356 *eP* **P 22 56 12.0 +1.2**
comp=Z,33nm,1.0s,mb5.2
SUW Suwalki 71.85 330 *eP* **P 22 56 14.9 0.0**
AKASG Malin Array Be 72.04 325 *i* P **P 22 56 15.6 -0.5**
AKASG pmax pmax
comp=Z,8.0nm,0.5s
AKASG Malin Array Be 72.04 325 P **P 22 56 15.6 -0.6**
comp=Z,8.3nm,0.5s,mb4.9,baz=36,slow=5.9,SNR=50
AKBB Malin Array Si 72.04 325 *eP* **P 22 56 15.4 -0.7**
KIEV Kiev 72.06 325 *eP* **P 22 56 15.6 -0.6**
comp=Z,50nm,1.1s,mb5.3
KIEV Kiev 72.06 325 *eP* **P 22 56 15.6 -0.6**
KIEV pmax pmax
comp=Z,50nm,1.1s,mb5.4
SOC Sochi 72.29 314 *d iP* **P 22 56 19.3 +1.5**
SOC *e* pP 22 56 33.8 +2.7
SOC *e* 22 58 54.1
SOC *e*S S 23 05 38.8 +1.5
SOC *e* 23 06 14.4
SOC *e*SSS 23 13 21.1
SOC pmax pmax
comp=Z,49nm,0.8s,mb5.5
WUAZ Wupatki 72.38 58 P **P 22 56 22.9 +4.5**
comp=Z,16nm,1.2s,mb4.8
WUAZ *e* pP 22 56 31.7 -0.1
SMCO Snowmass 72.51 52 *eP* **P 22 56 18.7 -0.5**
comp=Z,10.0nm,0.9s,mb4.8
SMCO *e* pP 22 56 34.9 +2.4
ANN Anapa 72.60 316 *eP* **P 22 56 19.0 -0.6**
ANN *e**PP pP 22 56 30.2 -2.7
ANN *e*PPP 23 00 45.3
ANN *e*S S 23 05 45.8 +5.1
ANN pmax pmax
comp=Z,68nm,1.4s,mb5.4
ISCO Idaho Springs 72.85 51 *eP* **P 22 56 19.6 -1.6**
comp=Z,15nm,1.1s,mb4.8
ISCO *e* pP 22 56 34.0 -0.5
ISCO Idaho Springs 72.85 51 *eP* **P 22 56 19.6 -1.6**
ISCO *e* pP 22 56 34.0 -0.5
ISCO pmax pmax
comp=Z,15nm,1.1s,mb4.8
MVCO Mesa Verde 72.96 55 *eP* **P 22 56 21.1 -0.7**
comp=Z,18nm,1.2s,mb4.9
MVCO *e* pP 22 56 34.8 -0.3
ERZM Erzurum 73.99 310 *i* P **P 22 56 29.5 +1.7**
SIM Simferopol' 74.12 318 *eP* **P 22 56 30.0 +1.5**
SIM pmax pmax
comp=Z,31nm,0.7s,mb5.3
SIM MLR MLR
comp=Z,2μm,15.9s,MS5.4
HAKT HAKKARI 74.30 307 *i* P **P 22 56 29.6 -0.1**
SDCO Great Sand Dun 74.33 52 *eP* **P 22 56 30.1 +0.2**
comp=Z,9.2nm,1.2s,mb4.6
SDCO *e* pP 22 56 42.5 -0.8
GKP Gorka Klasztor 74.52 332 *eP* **P 22 56 31.6 +0.9**
ECSD EROS,Sioux Fal 74.80 43 *eP* **P 22 56 30.9 -1.6**
comp=Z,23nm,1.3s,mb4.9
ECSD *e* pP 22 56 43.8 -2.1
LVV L'vov 74.84 327 *eP* **P 22 56 30.2 -2.4**
KIS Kishinev 75.03 322 *eP* **P 22 56 32.0 -1.8**
KIS MLR MLR
comp=Z,3μm,16.0s,MS5.7
KIS MLR MLR
comp=Z,4μm,16.0s
KWP Kalwaria 75.51 327 *eP* **P 22 56 37.1 +0.7**
KWP Kalwaria 75.51 327‖ *i iP* **P 22 56 37.2 +0.7**
ANMO Albuquerque 75.71 55 *eP* **P 22 56 37.5 -0.4**
comp=Z,2.5nm,0.9s,mb4.1
ANMO Albuquerque 75.71 55 *eP* **P 22 56 37.5 -0.4**
ANMO pmax pmax
comp=Z,2.0nm,0.9s
MVH1 Achvaich 75.88 346 *eP* **P 22 56 38.0 -0.4**
STKA Stephens Creek 75.94 186 *eP* **P 22 56 46.5 +7.6**
STKA *e* pP 22 56 57.0 +4.7
MARD Mardin 76.14 309 *i* P **P 22 56 41.6 +1.3**
OJC Ojcow 76.14 329 *eP* **P 22 56 40.2 +0.2**

BNM Barren Site 76.17 56 *eP* **P 22 56 40.0 -0.5**
BNM *e* pP 22 56 53.7 -0.1
KOLS Kolonicke sedl 76.24 327 *eP* **P 22 56 40.4 -0.2**
STHS Stebnicka Huta 76.25 328 *eP* **P 22 56 41.7 +1.0**
comp=Z,14nm,1.1s,mb4.8
STHS Stebnicka Huta 76.25 328 *eP* **P 22 56 41.7 +1.0**
STHS pmax pmax
comp=Z,14nm,1.1s,mb4.8
ELZG Elazig 76.29 311 *i* P **P 22 56 42.8 +1.7**
BOYT Boyabat 76.32 315 *i* P **P 22 56 42.5 +1.2**
UZH Uzhgorod 76.48 327‖ *iP* **P 22 56 43.0 +1.0**
UZH *i* pP 22 56 55.0 -0.4
CRVS Cervenica-Dubn 76.58 327 *eP* **P 22 56 42.8 +0.2**
CRVS *e* 22 57 05.1
NIE Niedzica 76.60 328 *eP* **P 22 56 43.2 +0.5**
KPL Plockton 76.69 346 P **P 22 56 42.3 -0.7**
KPL AMb AMB 22 56 46.2
comp=Z,78nm,1.9s,mb5.3
KPL Plockton 76.69 346 *eP* **P 22 56 42.3 -0.7**
KPL AMb AMB 22 56 46.2
comp=Z,78nm,1.9s,mb5.3
KPL AMS AMS 23 33 36.8
comp=Z,538nm,17.6s,MS4.9
MALT Malatya 76.72 311 P **P 22 56 45.1 +1.5**
MALT Malatya 76.72 311⇑ *iP* **P 22 56 45.2 +1.6**
SCHQ Schefferville 76.82 20 P **P 22 56 43.6 -0.2**
SCHQ *e* pP 22 56 56.3 -0.9
SCHQ LR LR 23 33 12.0
SCHQ Schefferville 76.82 20 P **P 22 56 42.9 -0.9**
comp=Z,2.5nm,0.8s,mb4.2,baz=245,slow=0.9,SNR=7.6
SCHQ LR LR 23 33 12.0
comp=Z,894nm,19.3s,MS5.1,baz=346,slow=38
VRI Vrincioaia 76.82 323⇑ P **P 22 56 45.2 +1.2**
VRI Vrincioaia 76.82 323⇑ *iP* **P 22 56 45.2 +1.2**
PLOR Plostina 76.87 323 P **P 22 56 46.6 +2.3**
KSP Ksiaz 76.87 331 *eP* **P 22 56 45.1 +0.9**
KSP Ksiaz 76.87 331 *eP* **P 22 56 43.6 -0.6**
CTKT Corum 76.97 315 *i* P **P 22 56 46.0 +1.1**
BALT Daday 77.00 316 *i* P **P 22 56 45.2 +0.2**
OKC Ostrava-Krasne 77.06 330 *eP* **P 22 56 46.7 +1.5**
OKC *e* pP 22 56 58.6 0.0
OKC Ostrava-Krasne 77.06 330 *eP* **P 22 56 46.7 +1.5**
OKC *ep*P pP 22 56 58.6 0.0
OKC AMS AMS 23 34 40.0
comp=Z,2μm,18.3s,MS5.5
TIRR Tirgusor 77.17 321 P **P 22 56 45.6 -0.4**
TIRR Tirgusor 77.17 321⇑ *iP* **P 22 56 46.6 +0.7**
HARR Harsova 77.20 321 P **P 22 56 47.5 +1.4**
UPC Upice 77.25 331 *eP* **P 22 56 46.7 +0.4**
UPC *ep*P pP 22 57 02.0 +2.3
DPC Dobruska-Polom 77.28 331 *eP* **P 22 56 47.4 +0.9**
DPC *ex* x 22 57 02.8
DPC AMS AMS 23 38 50.0
comp=Z,2μm,19.1s,MS5.4
KECS Kecovo 77.30 328 *eP* **P 22 56 46.7 +0.1**
comp=Z,5.8nm,0.9s,mb4.5
KECS *e* pP 22 57 02.5 +2.5
KECS Kecovo 77.30 328 *eP* **P 22 56 46.7 +0.1**
KECS *e* pP 22 57 02.5 +2.5
KECS pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
MORC Moravsky Berou 77.33 330 P **P 22 56 47.1 +0.4**
MORC Moravsky Berou 77.33 330⇑ *iP* **P 22 56 47.0 +0.3**
UMR Umm Al-Rimmam 77.41 299 *eP* **P 22 56 46.6 -0.9**
UMR AMb AMB 22 56 50.0
comp=Z,38nm,0.8s,mb5.4
MLR Muntele Rosu 77.46 323 P **P 22 56 49.4 +1.8**
MLR Muntele Rosu 77.46 323‖ *iP* **P 22 56 48.2 +0.6**
MIB Mutribah 77.47 299 *eP* **P 22 56 47.6 -0.3**
MIB AMb AMB 22 56 50.4
comp=Z,56nm,1.0s,mb5.5
CLL Collm 77.58 333 *eP* **P 22 56 47.2 -0.9**
comp=Z,31nm,1.0s,mb5.2
CLL Collm 77.58 333⇑ *iP* **P 22 56 47.6 -0.5**
comp=Z,31nm,1.0s,mb5.2
CLL LmH 22 29 00.0
comp=N,900nm,20.6s
CLL LmH 22 29 00.0
comp=E,1μm,20.5s
EDI Edinburgh 77.58 344 P **P 22 56 48.1 +0.1**
EDI AMb AMB 22 56 51.3
comp=E,42nm,2.1s,mb5.0
EDI Edinburgh 77.58 344 *eP* **P 22 56 48.1 +0.1**
EDI AMb AMB 22 56 51.3
comp=Z,42nm,2.1s,mb5.0
EDI AMS AMS 23 36 36.2
comp=Z,619nm,19.5s,MS4.9
BRG Berggiesshubel 77.64 333⇑ *iP* **P 22 56 47.6 -0.9**
BRG pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
BRG MLR MLR
comp=Z,2μm,16.1s,MS5.4
BRG Berggiesshubel 77.64 333 *eP* **P 22 56 48.0 -0.5**
comp=Z,20nm,1.3s,mb4.9
BRG Berggiesshubel 77.64 333 *eP* **P 22 56 49.2 +0.7**
comp=Z,20nm,1.3s,mb4.9
PVCC Panska Ves 77.73 332 *eP* **P 22 56 49.0 0.0**
PVCC *ep*P pP 22 57 03.7 +1.3
PVCC AMS AMS 23 34 40.0
comp=Z,1μm,17.5s,MS5.3
ELDT Eldivan 77.76 315 *i* P **P 22 56 50.2 +0.9**
QRN Al-Qurain 77.83 298 *eP* **P 22 56 49.2 -0.8**
QRN AMb AMB 22 56 52.8
comp=Z,48nm,0.6s,mb5.6
GZT Gaziantep 77.89 311 *i* P **P 22 56 50.6 +0.5**
VOIR 77.89 323 P **P 22 56 51.2 +1.2**
VOIR 77.89 323‖ *iP* **P 22 56 50.9 +0.9**
RST Umm Al-Ruwaisa 77.89 299 *eP* **P 22 56 49.6 -0.7**
RST AMb AMB 22 56 52.5
comp=Z,58nm,0.9s,mb5.5
NAY Al-Naaiem 77.91 299 *eP* **P 22 56 49.8 -0.6**
NAY AMb AMB 22 56 52.8
comp=Z,29nm,0.9s,mb5.2
VYHS Vyhne 77.92 329 *i* P **P 22 56 50.3 +0.2**
comp=Z,8.1nm,0.8s,mb4.7
VYHS *e* pP 22 57 06.0 +2.5
VYHS Vyhne 77.92 329 *i* P **P 22 56 50.3 +0.2**
VYHS *e* pP 22 57 06.0 +2.5
VYHS pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
CDAG Cicekdag 77.92 314 *i* P **P 22 56 50.9 +0.6**
CLZ Clausthal 77.93 335 *eP* **P 22 56 50.0 -0.1**
CLZ pmax pmax
comp=Z,45nm,1.4s,mb5.2
CLZ Clausthal 77.93 335 *eP* **P 22 56 50.0 -0.1**
comp=Z,45nm,1.4s,mb5.2
PGBU Glenifferbraes 77.93 345 *eP* **P 22 56 49.3 -0.7**
PGBU AMb AMB 22 56 52.3
comp=Z,68nm,2.6s,mb5.1
RDF Al-Radifah 77.94 299 *eP* **P 22 56 50.4 -0.2**
RDF AMb AMB 22 57 07.8
comp=Z,79nm,0.8s,mb5.7
PSZ Piszkesteto 77.99 328 P **P 22 56 51.4 +0.9**
PSZ Piszkesteto 77.99 328‖ *iP* **P 22 56 50.7 +0.2**
PSZ Piszkesteto 77.99 328‖ *eP* **P 22 56 52.2 +1.7**
KOLL Kolacno 78.01 329 *eP* **P 22 56 50.6 0.0**
KOLL *es*P sP 22 57 07.2 -2.0
VRAC Vranov 78.06 330 P **P 22 56 51.4 +0.6**
VRAC Vranov 78.06 330⇑ *iP* **P 22 56 50.0 -0.8**
ESK Eskdalemuir 78.16 344 P **P 22 56 50.4 -0.8**
ESK AMb AMB 22 56 56.6
comp=Z,47nm,1.8s,mb5.1
ESK Eskdalemuir 78.16 344 *eP* **P 22 56 50.4 -0.8**
ESK AMb AMB 22 56 56.6
comp=Z,47nm,1.8s,mb5.1
ESK AMS AMS 23 36 53.9
comp=Z,829nm,19.0s,MS5.1
PRU Pruhonice 78.19 332 *eP* **P 22 56 51.7 +0.1**
PRU *ep*P pP 22 57 06.1 +1.1
PRU AMS AMS 23 35 00.0
comp=Z,1μm,21.3s,MS5.2
AVNT Avonos 78.30 313 *i* P **P 22 56 53.0 +0.7**
XAL Allendale 78.38 343 *eP* **P 22 56 52.9 +0.4**
TREC Trest 78.46 331 *eP* **P 22 56 53.2 +0.2**
TREC *ep*P pP 22 57 08.9 +2.4
TREC AMS AMS 23 34 20.0
comp=Z,1μm,19.3s,MS5.3
AMTX Amarillo 78.53 52 P **P 22 56 59.1 +5.4**
comp=Z,26nm,1.0s,mb5.1
AMTX *e* pP 22 57 09.5 +2.4
ANTO Ankara 78.55 315 P **P 22 56 54.8 +1.1**
ANTO Ankara 78.55 315⇑ *iP* **P 22 56 55.4 +1.7**
MOX Moxa 78.59 334 *eP* **P 22 56 53.4 -0.3**
comp=Z,52nm,2.0s,mb5.1
MOX
comp=Z,1μm,18.0s
MOX Moxa 78.59 334 *eP* **P 22 56 53.3 -0.4**
comp=Z,171nm,2.8s,mb5.5
MODS Modra-Piesok 78.59 329 *eP* **P 22 56 54.4 +0.6**
NKC Novy Kostel 78.68 333 *eP* **P 22 56 54.1 -0.1**
NKC *e* pP 22 57 07.2 -0.5
NKC Novy Kostel 78.68 333 *eP* **P 22 56 54.1 -0.1**
NKC *ep*P pP 22 57 07.2 -0.5
NKC AMS AMS 23 36 10.0
comp=Z,2μm,18.4s,MS5.4
BUD Budapest 78.68 328‖ *eP* **P 22 56 55.5 +1.2**
ZST Bratislava 78.81 329 *eP* **P 22 56 56.1 +1.1**
comp=Z,12nm,1.0s,mb4.8
ZST LR LR
comp=Z,1μm,16.2s,MS5.3
ZST Bratislava 78.81 329 *eP* **P 22 56 56.0 +1.0**
CKE Keswick 78.82 344 *eP* **P 22 56 55.4 +0.5**
WTSB Winterswijk 78.86 337 *eP* **P 22 56 55.9 +0.7**
comp=Z,22nm,1.3s,mb4.9
GZR Gura Zlata 78.89 325 P **P 22 56 56.3 +0.9**
MANZ Manzenberg 79.00 333 *eP* **P 22 56 55.7 -0.3**
comp=Z,12nm,1.0s,mb4.8
HPK Haverah Park 79.11 343 P **P 22 56 56.1 -0.4**
HPK AMb AMB 22 56 57.7
comp=Z,64nm,2.1s,mb5.2
HPK Haverah Park 79.11 343 *eP* **P 22 56 56.1 -0.4**
HPK AMb AMB 22 56 57.7
comp=Z,64nm,2.1s,mb5.2
HPK AMS AMS 23 34 04.0
comp=Z,1μm,20.6s,MS5.2
ROTZ Rotzenmuhle 79.16 333 *eP* **P 22 56 56.8 -0.1**
comp=Z,26nm,1.2s,mb5.0
BZS Buzias 79.19 325⇑ P **P 22 56 56.8 -0.3**
BZS Buzias 79.19 325⇑ *iP* **P 22 56 56.8 -0.3**
COBT Iskenderun 79.21 311 *i* P **P 22 56 57.9 +0.4**
SZH Strazhica 79.22 321 P **P 22 56 57.7 +0.4**
KHC Kasperske Hory 79.25 332 *eP* **P 22 56 57.6 +0.2**
KHC *e* pP 22 57 10.8 -0.1
KHC MLR MLR
comp=Z,2μm,19.0s,MS5.5
KHC Kasperske Hory 79.25 332 *eP* **P 22 56 57.6 +0.2**
KHC *ep*P pP 22 57 10.8 -0.1
KHC *ex* x 22 57 21.0
KHC *ex* x 22 57 44.5
KHC AMS AMS 23 35 30.0
comp=Z,2μm,19.0s,MS5.5
SOP Sopron 79.44 330‖ *eP* **P 22 56 59.7 +1.3**
GEC2 GERESS Array S 79.46 332 *eP* **P 22 56 58.1 -0.4**
GEC2 pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
GEC2 GERESS Array S 79.46 332 *eP* **P 22 56 58.1 -0.4**
comp=Z,9.0nm,0.8s,mb4.8
GERES GERESS Array B 79.46 332 P **P 22 56 58.3 -0.2**
GERES pmax pmax
comp=Z,8.0nm,0.7s
GERES GERESS Array B 79.46 332 P **P 22 56 58.3 -0.3**
comp=Z,7.8nm,0.7s,mb4.8,baz=38,slow=6.0,SNR=56
WET Wettzell 79.48 332 *eP* **P 22 56 58.7 +0.1**
WET pmax pmax
comp=Z,22nm,0.9s,mb5.1
WET Wettzell 79.48 332 *eP* **P 22 56 58.7 +0.1**
comp=Z,22nm,0.9s,mb5.1
CONA Conrad Observa 79.48 330⇑ *iP* **P 22 56 59.2 +0.5**
comp=Z,14nm,0.7s,mb5.0,SNR=17
LHO Holmfirth 79.54 343 *eP* **P 22 56 58.4 -0.5**
GRA1 Grafenberg Arr 79.55 334 *eP* **P 22 56 59.0 0.0**
comp=Z,30nm,0.9s,mb5.2
GRA1 LR LR
comp=Z,500nm,21.7s,MS4.8
GRF Grafenberg Arr 79.55 334 *eP* **P 22 56 59.0 0.0**
GRF pmax pmax
comp=Z,30nm,0.9s,mb5.2
GRF MLR MLR
comp=Z,500nm,21.7s,MS4.8
GRF Grafenberg Arr 79.55 334 *eP* **P 22 56 59.0 0.0**
GRF pmax pmax
comp=Z,30nm,0.9s,mb5.2
GRF MLR MLR
comp=Z,500nm,21.7s,MS4.8
GRF Grafenberg Arr 79.55 334 *eP* **P 22 56 59.0 0.0**
comp=Z,30nm,0.9s,mb5.2
GRF *eL* 23 31 09.1
comp=Z,472nm,21.7s
GRFO Grafenberg 79.55 334 *eP* **P 22 56 59.4 +0.4**
comp=Z,31nm,0.9s,mb5.2
GRFO Grafenberg 79.55 334 *eP* **P 22 56 59.4 +0.4**
GRFO pmax pmax
comp=Z,31nm,0.9s,mb5.2
KBI1 Birley Grange 79.74 342 *eP* **P 22 57 00.4 +0.4**
ESKT Eskisehir 79.79 316 *i* P **P 22 57 00.4 -0.1**
PKSM Moragy 79.88 327 P **P 22 57 02.0 +1.1**
PKSM Moragy 79.88 327⇑ *iP* **P 22 57 00.7 -0.2**
TNS Taunus Mts 79.94 335 *eP* **P 22 57 00.7 -0.4**
TNS pmax pmax
comp=Z,18nm,1.0s,mb5.0
TNS Taunus Mts 79.94 335 *eP* **P 22 57 00.7 -0.4**
comp=Z,18nm,1.0s,mb5.0
KWE Weaver Farm 80.03 343 *eP* **P 22 57 01.9 +0.3**
CWF Charnwood Fore 80.18 342 *eP* **P 22 57 01.5 -0.8**
CWF AMb AMB 22 57 08.3
comp=Z,34nm,1.7s,mb5.0
HGN Heimansgroeve 80.18 337 *eP* **P 22 57 01.9 -0.5**
comp=Z,20nm,1.8s,mb4.8
DMUB Kingscourt 80.19 346 *eP* **P 22 57 01.7 -0.7**
WMOK Wichita Mounta 80.27 51 *eP* **P 22 57 07.6 +4.4**
WMOK *ep*PcP PcP 22 57 14.4 +4.1
DLF Lyons Farm 80.70 345 *eP* **P 22 57 04.6 -0.5**
DCN Croghan 80.79 346 *eP* **P 22 57 04.9 -0.7**
PERS Pernice 80.85 330 *i* P **P 22 57 06.2 +0.1**
PERS *i* 22 57 09.0
VTS Vitosha 80.96 323 P **P 22 57 07.5 +0.7**
VTS Vitosha 80.96 323 P **P 22 57 07.0 +0.3**
KBA Koelnbreinsper 81.10 331⇑ *iP* **P 22 57 08.0 +0.6**
comp=Z,36nm,0.9s,mb5.3,SNR=8.9
KBA Koelnbreinsper 81.10 331⇑ *iP* **P 22 57 08.0 +0.6**
KBA pmax pmax
comp=Z,36nm,0.9s,mb5.3
HAE Alders End 81.10 343 *eP* **P 22 57 07.3 0.0**
HTR Trewern Hill 81.22 343 *eP* **P 22 57 07.5 -0.4**
MCH1 Michaelchurch 81.24 343 *eP* **P 22 57 08.2 +0.2**
MCH1 AMb AMB 22 57 11.1
comp=Z,57nm,1.4s,mb5.3
BAIF Baives 81.29 338 *eP* **P 22 57 07.6 -0.7**
TXAR Lajitas Array 81.35 57 P **P 22 57 07.9 -1.1**
TXAR pmax pmax
comp=Z,3.0nm,0.7s
TXAR Lajitas Array 81.35 57 P **P 22 57 07.9 -1.1**
comp=Z,3.0nm,0.7s,mb4.3,baz=302,slow=4.3,SNR=17
SWN1 Swindon 81.43 342 *eP* **P 22 57 09.3 +0.3**
SWN1 AMb AMB 22 57 14.4
comp=Z,137nm,1.4s,mb5.7
MMB Musomiste 81.54 322 P **P 22 57 10.8 +1.0**
MOTA Moosalm 81.63 333⇑ *iP* **P 22 57 10.3 +0.1**
comp=Z,27nm,1.1s,mb5.1,SNR=12
MOTA Moosalm 81.63 333⇑ *iP* **P 22 57 10.3 +0.1**
MOTA pmax pmax
comp=Z,27nm,1.1s,mb5.1
CCM Cathedral Cave 81.75 44 *eP* **P 22 57 11.8 +0.8**
comp=Z,14nm,1.1s,mb4.8
CCM *ep*PcP PcP 22 57 20.0 +3.3
CCM Cathedral Cave 81.75 44 *eP* **P 22 57 11.8 +0.8**
CCM *e* pP 22 57 20.0 -4.5
CCM pmax pmax
comp=Z,14nm,1.1s,mb4.8
BOJS Bojanci 81.76 329 *i* P **P 22 57 10.4 -0.5**
JAVS Javornik 81.86 330 *eP* **P 22 57 10.6 -0.8**
CDF Champ du Feu 81.90 335 *eP* **P 22 57 10.6 -1.0**
comp=Z,24nm,1.0s,mb4.8
CDF Champ du Feu 81.90 335 *eP* **P 22 57 10.6 -1.0**
comp=Z,12nm,1.0s,mb4.8
CDF Champ du Feu 81.90 335 *eP* **P 22 57 10.6 -1.0**
CDF pmax pmax
comp=Z,12nm,1.0s,mb4.8
CSS Prodhromos 81.96 312 *eP* **P 22 57 13.4 +1.3**
comp=Z,12nm,0.9s,mb4.8
DAVA Daouels 82.08 333⇑ *iP* **P 22 57 12.6 +0.1**
comp=Z,19nm,0.9s,mb5.0
PMOR Pomariorio Ree 82.19 120 *eT* 00 28 21.1
comp=Z,12nm,0.3s
MMAI Mount Meron Ar 82.28 309 P **P 22 57 14.9 +1.0**
comp=Z,3.1nm,0.5s,mb4.5,baz=46,slow=7.1,SNR=19
HEX Exmoor 82.28 343 *eP* **P 22 57 13.0 -0.5**
MEZF Maizieres J'vi 82.47 337 *eP* **P 22 57 14.0 -0.6**
comp=Z,45nm,1.0s,mb5.0
MEZF Maizieres J'vi 82.47 337 *eP* **P 22 57 14.0 -0.6**
comp=Z,45nm,1.0s,mb5.3
HAU Haudompre 82.54 336 *eP* **P 22 57 13.7 -1.2**
comp=Z,20nm,1.0s,mb4.8
HAU *e*MLR MLR
comp=Z,669nm,20.2s,MS4.7
HAU Haudompre 82.54 336 *eP* **P 22 57 13.7 -1.2**
comp=Z,10.0nm,1.0s,mb4.8
HAU LR LR
comp=Z,670nm,20.3s,MS5.0
HAU Haudompre 82.54 336 *eP* **P 22 57 13.7 -1.2**
HAU pmax pmax
comp=Z,10.0nm,1.0s,mb4.8
HAU MLR MLR
comp=Z,670nm,20.3s,MS5.0
HINF Hinteralfeld 82.56 335 *eP* **P 22 57 13.5 -1.5**
TAOE Nuku Hiva Isla 82.71 110 *e*LR LR 23 23 05.1
comp=Z,10μm,22.6s
JCT Junction City 82.82 54 *eP* **P 22 57 23.9 +7.2**
comp=Z,23nm,1.2s,mb5.1
JCT Junction City 82.82 54 *eP* **P 22 57 23.9 +7.2**
JCT pmax pmax
comp=Z,23nm,1.2s,mb5.1
PPT Papeete 83.10 122 *e*LR LR 23 23 16.1
comp=Z,372nm,20.2s
PPT Papeete 83.10 122 LR LR 23 35 23.7
comp=Z,647nm,18.2s,MS5.0,baz=7.6,slow=36
MIAR Mount Ida 83.25 48 P **P 22 57 19.5 +0.6**
comp=Z,14nm,1.3s,mb4.8
MIAR *e*PcP PcP 22 57 30.4 +7.1
MIAR Mount Ida 83.25 48 P **P 22 57 19.5 +0.6**
MIAR *e* pP 22 57 30.4 -2.0
MIAR pmax pmax
comp=Z,14nm,1.3s,mb4.8
BDRM Kayabasi 83.38 317 *i* P **P 22 57 18.5 -1.0**
FLN La Foliniere 83.69 340 *eP* **P 22 57 19.5 -1.4**
comp=Z,124nm,1.5s,mb5.5
FLN *e*MLR MLR
comp=Z,1μm,18.0s,MS5.0
FLN La Foliniere 83.69 340 *eP* **P 22 57 19.5 -1.4**
comp=Z,62nm,1.5s,mb5.5
FLN LR LR
comp=Z,1μm,18.0s,MS5.2
FLN La Foliniere 83.69 340 *eP* **P 22 57 19.5 -1.4**
FLN pmax pmax
comp=Z,62nm,1.5s,mb5.5
FLN MLR MLR
comp=Z,1μm,18.0s,MS5.2
LDF La Druitiere 83.76 340 *eP* **P 22 57 20.6 -0.6**
comp=Z,94nm,1.5s,mb5.4
LDF La Druitiere 83.76 340 *eP* **P 22 57 20.6 -0.6**
comp=Z,47nm,1.5s,mb5.4
LDF La Druitiere 83.76 340 *eP* **P 22 57 20.6 -0.6**
LDF pmax pmax
comp=Z,47nm,1.5s,mb5.4
CABF La Chapelle 83.87 335 *eP* **P 22 57 21.0 -0.8**
comp=Z,27nm,1.1s,mb5.0
CABF La Chapelle 83.87 335 *eP* **P 22 57 21.0 -0.8**
comp=Z,14nm,1.1s,mb5.0
CABF La Chapelle 83.87 335 *eP* **P 22 57 21.0 -0.8**
CABF pmax pmax
comp=Z,14nm,1.1s,mb5.0
LOR Lormes 83.93 337 *eP* **P 22 57 21.1 -1.0**
comp=Z,81nm,1.4s,mb5.3
LOR *e*MLR MLR
comp=Z,800nm,20.5s,MS4.8
LOR Lormes 83.93 337 *eP* **P 22 57 21.1 -1.0**
comp=Z,40nm,1.4s,mb5.4
LOR LR LR
comp=Z,800nm,20.5s,MS5.1
LOR Lormes 83.93 337 *eP* **P 22 57 21.1 -1.0**
LOR pmax pmax
comp=Z,41nm,1.4s,mb5.4
LOR MLR MLR
comp=Z,800nm,20.5s,MS5.1
GRR Gorron 84.13 340 *eP* **P 22 57 22.2 -0.9**
SSF Saint Saulge 84.21 337 *eP* **P 22 57 22.7 -0.9**
comp=Z,15nm,0.9s,mb4.8
SSF Saint Saulge 84.21 337 *eP* **P 22 57 22.7 -0.9**
comp=Z,7.7nm,0.9s,mb4.8
SSF Saint Saulge 84.21 337 *eP* **P 22 57 22.7 -0.9**
SSF pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
SMF Signal de Mont 84.50 337 *eP* **P 22 57 24.3 -0.7**
comp=Z,48nm,1.0s,mb5.3
SMF Signal de Mont 84.50 337 *eP* **P 22 57 24.3 -0.7**
comp=Z,24nm,1.0s,mb5.3
SMF Signal de Mont 84.50 337 *eP* **P 22 57 24.3 -0.7**
SMF pmax pmax
comp=Z,24nm,1.0s,mb5.3
AVF Avril sur Loir 84.50 337 *eP* **P 22 57 24.2 -0.8**
comp=Z,81nm,1.5s,mb5.3
AVF Avril sur Loir 84.50 337 *eP* **P 22 57 24.2 -0.8**
comp=Z,40nm,1.5s,mb5.3
AVF Avril sur Loir 84.50 337 *eP* **P 22 57 24.2 -0.8**
AVF pmax pmax
comp=Z,40nm,1.5s,mb5.3
LPL La Plagne 84.66 334 *eP* **P 22 57 25.6 -0.2**
comp=Z,29nm,0.9s,mb5.1
LPL La Plagne 84.66 334 *eP* **P 22 57 25.6 -0.2**
comp=Z,14nm,0.9s,mb5.1
LPL La Plagne 84.66 334 *eP* **P 22 57 25.6 -0.2**
LPL pmax pmax
comp=Z,14nm,0.9s,mb5.1
SGMF Saint Gilles 84.66 341 *eP* **P 22 57 25.1 -0.7**
comp=Z,47nm,1.0s,mb5.3
SGMF Saint Gilles 84.66 341 *eP* **P 22 57 25.1 -0.7**
comp=Z,24nm,1.0s,mb5.3
SGMF Saint Gilles 84.66 341 *eP* **P 22 57 25.1 -0.7**
SGMF pmax pmax
comp=Z,24nm,1.0s,mb5.3
LPG La Plagne 84.67 334 *eP* **P 22 57 25.8 -0.1**
comp=Z,31nm,0.9s,mb5.2
LPG La Plagne 84.67 334 *eP* **P 22 57 25.8 -0.1**
comp=Z,15nm,0.9s,mb5.1
LPG La Plagne 84.67 334 *eP* **P 22 57 25.8 -0.1**
LPG pmax pmax
comp=Z,15nm,0.9s,mb5.1
ROSF Rostrenen 84.75 342 *eP* **P 22 57 24.8 -1.4**
comp=Z,121nm,1.3s,mb5.6
ROSF Rostrenen 84.75 342 *eP* **P 22 57 24.8 -1.4**
comp=Z,61nm,1.3s,mb5.6
ROSF Rostrenen 84.75 342 *eP* **P 22 57 24.8 -1.4**
ROSF pmax pmax
comp=Z,61nm,1.3s,mb5.6
WVT Waverly 84.95 43 *eP* **P 22 57 24.9 -2.6**
comp=Z,3.8nm,0.8s,mb4.6
WVT Waverly 84.95 43 *eP* **P 22 57 24.9 -2.6**
WVT pmax pmax
comp=Z,4.0nm,0.8s,mb4.6
EIL Elat 85.03 307 P **P 22 57 28.7 +0.7**
comp=Z,9.5nm,0.8s,mb5.0,baz=334,slow=2.5,SNR=10
BNI Bardonecchia 85.09 334 *eP* **P 22 57 29.2 +1.2**
comp=Z,22nm,1.2s,mb5.2
BNI *e* pP 22 57 42.2 +0.6
BNI Bardonecchia 85.09 334 *eP* **P 22 57 29.2 +1.2**
BNI *e* pP 22 57 42.2 +0.6
BNI pmax pmax
comp=Z,22nm,1.2s,mb5.2
QUIF Quistinic 85.12 342 *eP* **P 22 57 26.6 -1.5**
TCF Toulx Ste Croi 85.28 338 *eP* **P 22 57 28.3 -0.7**
comp=Z,32nm,1.2s,mb5.0
TCF Toulx Ste Croi 85.28 338 *eP* **P 22 57 28.3 -0.7**
comp=Z,16nm,1.2s,mb5.0
TCF Toulx Ste Croi 85.28 338 *eP* **P 22 57 28.3 -0.7**
TCF pmax pmax
comp=Z,16nm,1.2s,mb5.0
MBDF Montbardon 85.35 334 *eP* **P 22 57 27.7 -1.6**
comp=Z,21nm,0.7s,mb5.1
MBDF Montbardon 85.35 334 *eP* **P 22 57 27.7 -1.6**
comp=Z,10nm,0.7s,mb5.1
MBDF Montbardon 85.35 334 *eP* **P 22 57 27.7 -1.6**
MBDF pmax pmax
comp=Z,10.0nm,0.7s,mb5.0
ORIF Oris-en-Rattie 85.46 335 *eP* **P 22 57 29.6 -0.3**
comp=Z,43nm,1.0s,mb5.2
ORIF *e*MLR MLR
comp=Z,971nm,18.5s,MS4.9
ORIF Oris-en-Rattie 85.46 335 *eP* **P 22 57 29.6 -0.3**
comp=Z,21nm,1.0s,mb5.2
ORIF Oris-en-Rattie 85.46 335 *eP* **P 22 57 29.6 -0.3**
ORIF pmax pmax
comp=Z,21nm,1.0s,mb5.2
MFF Saint Martin d 85.62 339 *eP* **P 22 57 30.0 -0.6**
comp=Z,49nm,1.0s,mb5.4
MFF Saint Martin d 85.62 339 *eP* **P 22 57 30.0 -0.6**
comp=Z,24nm,1.0s,mb5.4

MFF	**Saint Martin d**	**85.62**	**339**	*e*P	**P**	**22 57 30.0**	**-0.6**
MFF				pmax	pmax		
comp=Z,24nm,1.0s,mb5.4							
VIVF	**Saint-Julien-l**	**85.88**	**335**	*e*P	**P**	**22 57 31.6**	**-0.4**
comp=Z,34nm,1.0s,mb5.2							
VIVF	**Saint-Julien-l**	**85.88**	**335**	*e*P	**P**	**22 57 31.6**	**-0.4**
comp=Z,17nm,1.0s,mb5.2							
VIVF	**Saint-Julien-l**	**85.88**	**335**	*e*P	**P**	**22 57 31.6**	**-0.4**
VIVF				pmax	pmax		
comp=Z,17nm,1.0s,mb5.2							
SBF	**Sospel**	**85.91**	**333**	*e*P	**P**	**22 57 31.1**	**-1.0**
comp=Z,37nm,0.7s,mb5.5							
SBF	**Sospel**	**85.91**	**333**	*e*P	**P**	**22 57 31.1**	**-1.0**
comp=Z,18nm,0.7s,mb5.4							
SBF	**Sospel**	**85.91**	**333**	*e*P	**P**	**22 57 31.1**	**-1.0**
SBF				pmax	pmax		
comp=Z,19nm,0.7s,mb5.4							
RJF	**Les Rejaudoux**	**86.38**	**338**	*e*P	**P**	**22 57 34.0**	**-0.4**
RJF				*e*MLR	MLR		
comp=Z,857nm,19.0s,MS4.9							
RJF	**Les Rejaudoux**	**86.38**	**338**	*e*P	**P**	**22 57 34.0**	**-0.4**
RJF				MLR	MLR		
comp=Z,860nm,19.0s,MS5.2							
FRF	**La Foret Royal**	**86.44**	**334**	*e*P	**P**	**22 57 34.3**	**-0.4**
comp=Z,28nm,1.0s,mb5.2							
FRF	**La Foret Royal**	**86.44**	**334**	*e*P	**P**	**22 57 34.3**	**-0.4**
comp=Z,14nm,1.0s,mb5.2							
FRF	**La Foret Royal**	**86.44**	**334**	*e*P	**P**	**22 57 34.3**	**-0.4**
FRF				pmax	pmax		
comp=Z,14nm,1.0s,mb5.2							
CAF	**Calviac**	**86.57**	**337**	*e*P	**P**	**22 57 34.8**	**-0.6**
comp=Z,87nm,1.4s,mb5.5							
CAF	**Calviac**	**86.57**	**337**	*e*P	**P**	**22 57 34.8**	**-0.6**
comp=Z,43nm,1.4s,mb5.5							
CAF	**Calviac**	**86.57**	**337**	*e*P	**P**	**22 57 34.8**	**-0.6**
CAF				pmax	pmax		
comp=Z,43nm,1.4s,mb5.5							
LMR	**La Mourre**	**86.69**	**334**	*e*P	**P**	**22 57 35.0**	**-1.0**
comp=Z,66nm,1.0s,mb5.5							
LMR	**La Mourre**	**86.69**	**334**	*e*P	**P**	**22 57 35.0**	**-1.0**
comp=Z,33nm,1.0s,mb5.5							
LMR	**La Mourre**	**86.69**	**334**	*e*P	**P**	**22 57 35.0**	**-1.0**
LMR				pmax	pmax		
comp=Z,33nm,1.0s,mb5.5							
LFF	**La Frestale**	**86.92**	**338**	*e*P	**P**	**22 57 36.8**	**-0.3**
comp=Z,54nm,1.1s,mb5.4							
LFF	**La Frestale**	**86.92**	**338**	*e*P	**P**	**22 57 36.8**	**-0.3**
comp=Z,27nm,1.1s,mb5.4							
LFF	**La Frestale**	**86.92**	**338**	*e*P	**P**	**22 57 36.8**	**-0.3**
LFF				pmax	pmax		
comp=Z,27nm,1.1s,mb5.4							
TKL	**Tuckaleechee C**	**87.27**	**40**	LR	LR	23 38 00.8	
comp=Z,642nm,20.0s,MS5.0,baz=219,slow=37							
KEST	**Kesra**	**92.46**	**328**	P	**P**	**22 58 02.6**	**-0.7**
comp=Z,1.3nm,0.8s,mb4.3,baz=159,slow=8.6,SNR=4.6							
ESDC	**Sonseca Array**	**93.08**	**339**	P	**P**	**22 58 05.6**	**-0.5**
comp=Z,0.6nm,0.7s,mb4.2,baz=22,slow=4.0,SNR=3.2							
ESDC				LR	LR	23 46 57.5	
comp=Z,735nm,18.4s,MS5.2,baz=55,slow=40							
RKT	**Rikitea**	**96.38**	**116**	*e*LR	LR	23 29 19.9	
comp=Z,474nm,24.5s							
TORD	**Torodi Ar. Bea**	**115.68**	**324**	PKP	PKPdf	23 03 33.3	-1.5
comp=Z,0.2nm,0.5s,baz=12,slow=1.9,SNR=11							
SBA	**Scott Base**	**122.20**	**176**	PKPdf	PKPdf	23 03 49.9	+4.4
DBIC	**Dimbokro**	**124.19**	**328**	PKP	PKPdf	23 03 50.9	-0.3
comp=Z,2.4nm,1.0s,baz=271,slow=17,SNR=2.9							
LPAZ	**La Paz**	**138.16**	**60**	PKPdf	PKPdf	23 04 21.2	+3.8
CFAA	**Coronel Fontan**	**148.35**	**79**	PKPbc	PKPbc	23 04 37.6	-0.7
comp=Z,0.4nm,0.5s,baz=294,slow=4.8,SNR=7.6							
SNAA	**Sanae**	**149.20**	**197**	*e*PKPdf	PKPbc	23 04 40.5	+1.2
SNAA				*e*		23 04 55.5	
SNAA				*e*		23 05 01.7	
SNAA	**Sanae**	**149.20**	**197**	PKP2	PKPbc	23 04 40.0	+0.7
SNAA				pmax	pmax		
comp=Z,2.0nm,1.1s							
SNAA	**Sanae**	**149.20**	**197**	PKPbc	PKPbc	23 04 40.0	+0.7
comp=Z,2.2nm,1.1s,baz=268,slow=7.6,SNR=4.7							
VNA2	**Neumayer--Watz**	**150.71**	**196**	*e*PKPdf	PKPbc	23 04 42.9	-0.1
VNA2				*e*		23 04 49.5	
VNA2				*e*		23 04 57.8	
VNA2				*e*		23 05 01.0	
VNA2				*e*		23 05 05.5	
VNA2				*e*		23 05 10.3	
PLCA	**Paso Flores**	**150.83**	**97**	PKIKP	PKPbc	23 04 43.8	-0.4
PLCA				pmax	pmax		
comp=Z,3.0nm,0.8s							
PLCA	**Paso Flores**	**150.83**	**97**	PKPbc	PKPbc	23 04 43.8	-0.4
comp=Z,3.2nm,0.8s,baz=308,slow=3.3,SNR=8.0							
VNA3	**Neumayer Olymp**	**150.87**	**194**	*e*PKPdf	PKPbc	23 04 43.1	-0.2
VNA3				*e*		23 04 49.3	
VNA3				*e*		23 04 57.8	
VNA3				*e*		23 05 00.8	
VNA3				*e*		23 05 10.2	
VNA1	**Neumayer--Stat**	**151.10**	**195**	*e*PKPdf	PKPab	23 04 51.5	-0.3
VNA1				*e*		23 05 02.0	
VNA1				*e*		23 05 06.7	

MAN 04 22:45:16.6, 643N×12664E, h50km, mb4.7, ML3.5, MS3.5, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**0.64**	**323**	*e*P	Pn	22 45 31.2	+2.3
MATI				*e*S	Sn	22 45 42.1	+3.9
GSPH	**General Santos**	**1.72**	**259**	⇓*e*P	Pn	22 45 41.4	-2.1
GSPH				*e*S	Sn	22 45 59.8	-4.4
BUKP	**Musuan**	**2.13**	**313**	*e*P	Pn	22 45 50.9	+1.9
BUKP				*e*S	Sn	22 46 16.3	+1.9

IDC 04 22:46:22.3±2.4, 719S×15534E, h0km, mb3.6/5, mb1 3.8/5, mb1mx3.7/13, mbtmp3.6/5, Error ellipse: s-maj=79.5km s-min=28.5km az=121.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.99**	**236**	P	P	22 51 38.8	-0.1
0.7nm,0.5s,baz=58,slow=9.4,SNR=4.5							
ASAR	**Alice Springs**	**26.31**	**229**	P	P	22 51 59.7	-0.2
0.3nm,0.6s,baz=58,slow=8.8,SNR=3.0							
SONM	**Songino Array**	**69.68**	**327**	P	P	22 57 34.4	+0.7
0.6nm,0.8s,baz=150,slow=5.9,SNR=5.8							
MKAR	**Makanchi Array**	**83.77**	**319**	P	P	22 58 53.9	+0.4
0.4nm,0.8s,baz=106,slow=6.7,SNR=4.1							
YKA	**Yellowknife Ar**	**96.34**	**28**	P	P	22 59 51.9	-0.8
0.1nm,0.4s,baz=270,slow=4.8,SNR=4.0							

*ISCJB **04** 22:50:03.8±0.8, 4128N±005×2269E±005, h13km±8km, Error ellipse: s-maj=10.7km s-min=3.9km az=33.0*
*CSEM **04** 22:50:04.6±0.1, 4130N×2270E, h5km, ML2.0, Error ellipse: s-maj=3.2km s-min=1.2km az=29.0*
*THE **04** 22:50:04.7, 4131N×2273E, h1km, ML3.0*
*SKO **04** 22:50:04.2, 4126N×2268E, h15km, M1.5, ML2.0*
ISC 04 22:50:04.7±0.8, 4128N±005×2270E±005, h8km±11km, n13, σ0°52/23, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VAY	**Valandovo**	**0.11**	**291**	*e*Pg	**Pg**	**22 50 06.5**	**-0.7**
VAY				*e*Sg	**Sg**	**22 50 09.0**	**0.0**
VAY	**Valandovo**	**0.11**	**291**	*e*Pg	**Pg**	**22 50 06.9**	**-0.3**
VAY				*e*Sg	**Sg**	**22 50 08.8**	**-0.2**
VAY				*e*Lg		22 50 08.9	
comp=E,526nm,0.2s							
VAY				*e*Lg		22 50 09.0	
comp=N,767nm,0.3s							
VAY	**Valandovo**	**0.11**	**291**	*e*Pg	**Pg**	**22 50 06.8**	**-0.4**
VAY				*e*Sg	**Sg**	**22 50 08.7**	**-0.2**
VAY				*e*Lg		22 50 08.8	
comp=N,526nm,0.2s							
KNT	**Kendrikon**	**0.19**	**129**	*e*Pg	**Pg**	**22 50 08.9**	**+0.2**
KNT				*e*Sg	**Sg**	**22 50 11.2**	**-0.1**
STIP	**Stip**	**0.56**	**317**	*i* Pg	**Pg**	**22 50 15.8**	**+0.2**
STIP				*e*Sg	**Sg**	**22 50 24.1**	**+1.1**
STIP				*e*Lg		22 50 24.2	
comp=E,60nm,0.2s							
STIP				*e*Lg		22 50 24.3	
comp=N,58nm,0.4s							
STIP	**Stip**	**0.56**	**317**	*i* Pg	**Pg**	**22 50 15.7**	**+0.1**
STIP				*e*Sg	**Sg**	**22 50 24.1**	**+1.1**
SOH	**Sokhos**	**0.68**	**133**	*e*Pg	**Pg**	**22 50 17.3**	**-0.4**
SOH				*e*Sg	**Sg**	**22 50 26.9**	**+0.4**
THE	**Thessaloniki**	**0.68**	**163**	*e*Pg	**Pg**	**22 50 17.7**	**-0.1**
SRS	**Serrai**	**0.69**	**104**	*e*Pg	**Pg**	**22 50 17.5**	**-0.5**
SRS				*e*Sg	**Sg**	**22 50 27.1**	**+0.1**
HORT	**Hortiatis**	**0.75**	**156**	*e*Pg	**Pg**	**22 50 18.8**	**-0.3**
HORT				*e*Sg	**Sg**	**22 50 30.0**	**+1.2**
KRUS	**Krusevo**	**1.10**	**275**	*e*Pg	**Pg**	**22 50 25.7**	**-0.1**
KRUS				*e*Sg	**Sg**	**22 50 39.7**	**-0.3**
KRUS	**Krusevo**	**1.10**	**275**	*e*Pg	**Pg**	**22 50 25.6**	**-0.2**
OUR	**Ouranopolis**	**1.36**	**134**	*e*Pg	**Pg**	**22 50 30.0**	**-0.7**

*JMA **04** 22:51:28.9±0.5, 4428N×14942E, h30km, M3.8*
*IDC **04** 22:51:35.7±13.0, 4541N×14853E, h0km, mb4.0/3, mb1 3.9/4, mb1mx3.5/20, mbtmp3.9/4, ML3.1/1, Error ellipse: s-maj=310.9km s-min=44.4km az=142.0*
ISC 04 22:51:32.8±1.4, 437N±01×1492E±01, h58km±15km, n22, σ0°73/28, mb4.0/3, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**2.57**	**263**	P	**Pn**	**22 52 10.8**	**-1.1**
NEM2				*e*S	**Sn**	**22 52 42.2**	**+0.3**
JRA	**Rausu**	**2.99**	**276**	P	**Pn**	**22 52 17.5**	**-0.2**
JNK	**Nakash**	**3.29**	**269**	P	**Pn**	**22 52 20.9**	**-0.8**
JAK	**Akkeshi**	**3.39**	**259**	P	**Pn**	**22 52 22.5**	**-0.7**
JAK				*e*S	**Sn**	**22 53 02.5**	**+0.4**
JTKR	**Abashiri--Toko**	**3.87**	**276**	P	**Pn**	**22 52 29.3**	**-0.4**
JAR	**Ashorobuto**	**4.00**	**266**	P	**Pn**	**22 52 31.2**	**-0.3**
JAR				*e*S	**Sn**	**22 53 15.9**	**-1.2**
JOB	**Onbets**	**4.03**	**260**	P	**Pn**	**22 52 32.3**	**+0.4**
JMP	**Maruseppu**	**4.26**	**276**	P	**Pn**	**22 52 35.4**	**+0.3**
JCH	**Churui**	**4.44**	**258**	P	**Pn**	**22 52 37.7**	**+0.2**
JCH				*e*S	**Sn**	**22 53 28.9**	**+1.0**
ASAJ	**Asahikawa**	**4.82**	**277**	Pn	**Pn**	**22 52 43.8**	**+1.1**
0.7nm,0.3s,baz=111,slow=28,SNR=3.1							
JNBK	**Urakawa-nobuka**	**4.97**	**255**	P	**Pn**	**22 52 45.0**	**+0.2**
JNBK				*e*S	**Sn**	**22 53 41.4**	**+0.5**
JBT2	**Biratori 2**	**5.11**	**262**	P	**Pn**	**22 52 46.8**	**+0.1**
JNB	**Noboribetsu**	**6.13**	**261**	P	**Pn**	**22 53 01.1**	**+0.4**
JNB				*e*S	**Sn**	**22 54 09.4**	**-0.1**
JKB	**Kayabe**	**6.31**	**256**	P	**Pn**	**22 53 03.2**	**+0.1**
JKB				*e*S	Sx	22 54 11.9	
JANG	**Nango**	**6.65**	**243**	P	**Pn**	**22 53 07.3**	**-0.5**
JANG				*e*S	Sx	22 54 19.2	
JTM	**Tenmabayashi**	**6.73**	**247**	*e*S	**Sn**	**22 54 21.2**	**-3.0**
OFUJ	**Ofunato**	**7.34**	**233**	P	**Pn**	**22 53 16.8**	**-0.4**
OFUJ				*e*S	Sx	22 54 35.4	
JOSM	**Okushiri--Mats**	**7.36**	**261**	P	**Pn**	**22 53 18.3**	**+0.9**
JRG	**Rokugo**	**7.76**	**239**	P	**Pn**	**22 53 24.1**	**+1.1**
JRG				*e*S	Sx	22 54 46.6	
MKAR	**Makanchi Array**	**45.94**	**298**	P	**P**	**22 59 50.2**	**+0.6**
1.6nm,0.8s,mb4.0,baz=79,slow=8.0,SNR=7.7							
FINES	**FINESS Array B**	**65.59**	**334**	P	**P**	**23 02 09.2**	**-0.8**
2.0nm,0.7s,mb4.3,baz=35,slow=7.6,SNR=11							
NOA	**NORSAR Array B**	**70.18**	**340**	P	**P**	**23 02 39.0**	**+0.2**
0.9nm,0.7s,mb3.8,baz=29,slow=6.4,SNR=2.9							

*ISCJB **04** 22:58:29.8±0.8, 3842N±003×2046E±007, h4km±7km, Error ellipse: s-maj=8.8km s-min=5.1km az=168.0*
*CSEM **04** 22:58:30.8±0.8, 3835N×2037E, h15km, MD3.6, Error ellipse: s-maj=20.6km s-min=10.0km az=66.0*
*NEIC **04** 22:58:30.3, 3839N×2047E, h7km, MD3.6(ATH), After ATH.*
*ATH **04** 22:58:30.3, 3839N×2047E, h7km±3km, MD3.6/6*
*SKO **04** 22:58:30.9, 3851N×2019E, h0km*
ISC 04 22:58:30.4±0.9, 3839N±003×2046E±007, h6km±6km, n15, σ1°07/22, 1C, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.24**	**154**	⇑*i*PG	**Pg**	**22 58 35.0**	**-0.1**
VLS				*e*SG	**Sg**	**22 58 39.5**	**+1.2**
EVR	**Evrytania**	**1.18**	**63**	*e*PB	**Pg**	**22 58 51.3**	**-1.7**
EVR				*e*SB	**Sg**	**22 59 08.6**	**+0.3**
JAN	**Janina**	**1.30**	**13**	*e*PB	**Pg**	**22 58 55.5**	**+0.2**
JAN				*e*SB	**Sg**	**22 59 13.1**	**+1.0**
KEK	**Kerkira**	**1.42**	**339**	*e*PG	**Pg**	**22 58 56.6**	**-0.9**
KEK				*e*SB	**Sg**	**22 59 16.4**	**+0.5**
ITM	**Ithomi**	**1.68**	**136**	*e*PB	**Pb**	**22 59 01.7**	**+0.1**
THL	**Klokotos Trika**	**1.69**	**46**	*e*PG	**Pn**	**22 59 01.0**	**+0.7**
THL				*e*SB	**Sg**	**22 59 25.5**	**+1.0**
LKR	**Lokris**	**2.01**	**82**	*e*PN	**Pg**	**22 59 06.9**	**-2.0**
NEO	**Neokhori**	**2.34**	**66**	*e*PN	**Pg**	**22 59 11.9**	**-3.4**
BIA	**Bitola**	**2.71**	**14**	*e*Pn	**Pg**	**22 59 14.9**	**+0.5**
OHR	**Ohrid**	**2.73**	**5**	*e*Pn	**Pn**	**22 59 11.5**	**-3.1**
OHR				*e*Sn	**Sn**	**22 59 47.5**	**-0.4**
OHR	**Ohrid**	**2.73**	**5**	*e*Pn	**Pn**	**22 59 11.5**	**-3.1**
OHR				*e*Sn	**Sn**	**22 59 47.5**	**-0.4**
KRUS	**Krusevo**	**3.03**	**11**	*e*Pn	**Pn**	**22 59 19.3**	**+0.4**
KRUS	**Krusevo**	**3.03**	**11**	*e*Pn	**Pn**	**22 59 19.2**	**+0.3**
PLG	**Polygyros**	**3.04**	**49**	*e*PN	**Pn**	**22 59 20.4**	**+1.4**
VAY	**Valandovo**	**3.35**	**28**	*e*Pn	**Pn**	**22 59 22.5**	**-0.6**

*IDC **04** 22:58:30.2±1.6, 4425N×149.19E, h0km, mb4.0/11, mb1 4.1/13, mb1mx4.1/22, mbtmp3.9/13, ML3.6/2, Error ellipse: s-maj=43.6km s-min=18.7km az=167.0*
*BJI **04** 22:58:32.6, 4427N×14952E, h49km, mB4.8, mb4.6*
*JMA **04** 22:58:32.6±0.4, 4433N×14924E, h30km, M4.3*
*NEIC **04** 22:58:34.5±0.7, 44.12N×149.27E, h35km, mb4.8/2, Error ellipse: s-maj=20.1km s-min=8.9km az=149.0*
*MOS **04** 22:58:34.7±1.1, 4388N×149.29E, h66km, mb4.4/9, Error ellipse: s-maj=15.3km s-min=13.9km az=29.3*
*ISCJB **04** 22:58:34.1±1.0, 4370N±008×149.18E±007, h61km±10km, mb4.0/13, Error ellipse: s-maj=14.2km s-min=8.5km az=168.7*
ISC 04 22:58:35.8±1.0, 4377N±009×14919E±008, h57km±10km, n65, σ0°95/75, mb4.0/13, 1C, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.74**	**328**	⇑*i*PN	**Pn**	**22 58 56.0**	**-7.6**
KUR				pmax	pmax		
comp=N,140nm,0.5s							
KUR				pmax	pmax		
comp=E,120nm,0.5s							
KUR				pmax	pmax		
comp=Z,460nm,0.5s							
NEM2	**Nemuro 2**	**2.53**	**262**	P	**Pn**	**22 59 12.9**	**-1.5**
NEM2				*e*S	**Sn**	**22 59 42.3**	**-1.8**
JRA	**Rausu**	**2.94**	**275**	P	**Pn**	**22 59 19.2**	**-0.8**
JRA				*e*S	**Sn**	**22 59 53.8**	**-0.3**
JNK	**Nakash**	**3.25**	**268**	P	**Pn**	**22 59 23.2**	**-1.0**
JNK				*e*S	**Sn**	**23 00 00.9**	**-0.6**
JAK	**Akkeshi**	**3.36**	**258**	P	**Pn**	**22 59 24.9**	**-0.9**
JAK				*e*S	**Sn**	**23 00 04.4**	**0.0**
JTKR	**Abashiri--Toko**	**3.82**	**275**	P	**Pn**	**22 59 31.6**	**-0.4**
JAR	**Ashorobuto**	**3.97**	**265**	P	**Pn**	**22 59 33.9**	**-0.1**
JAR				*e*S	**Sn**	**23 00 19.7**	**+0.5**
JOB	**Onbets**	**4.00**	**259**	P	**Pn**	**22 59 34.2**	**-0.3**
JOB				*e*S	**Sn**	**23 00 20.2**	**+0.2**
JMP	**Maruseppu**	**4.22**	**275**	P	**Pn**	**22 59 37.5**	**0.0**
JCH	**Churui**	**4.41**	**257**	P	**Pn**	**22 59 40.3**	**+0.2**
JCH				*e*S	**Sn**	**23 00 30.4**	**+0.2**
JKK2	**Kamakawa 2**	**4.66**	**273**	P	**Pn**	**22 59 44.4**	**+0.9**
ERM	**Erimo**	**4.76**	**250**	*e*Pn	**Pn**	**22 59 46.4**	**+1.4**
ERM				*e*Sn	**Sn**	**23 00 37.9**	**-1.0**
ASAJ	**Asahikawa**	**4.77**	**276**	PN	**Pn**	**22 59 47.9**	**+2.9**
ASAJ				pmax	pmax		
comp=Z,2.0nm,0.3s							
ASAJ	**Asahikawa**	**4.77**	**276**	Pn	**Pn**	**22 59 47.9**	**+2.8**
comp=Z,2.0nm,0.3s,baz=148,slow=21,SNR=8.5							
JFR	**Furan**	**4.84**	**265**	P	**Pn**	**22 59 46.6**	**+0.7**
JNBK	**Urakawa-nobuka**	**4.95**	**255**	P	**Pn**	**22 59 47.1**	**-0.3**
JNBK				*e*S	**Sn**	**23 00 43.5**	**+0.2**
JBT2	**Biratori 2**	**5.08**	**261**	P	**Pn**	**22 59 49.0**	**-0.3**
JBT2				*e*S	**Sn**	**23 00 47.8**	**+1.3**
YSS	**Yuzh-Sakhalins**	**5.54**	**307**	*e*PN	**Pn**	**23 00 05.2**	**+10**
YSS				*e*		23 00 58.0	
JEW	**Eniwo**	**5.72**	**263**	P	**Pn**	**22 59 59.3**	**+1.2**
JNB	**Noboribetsu**	**6.10**	**260**	P	**Pn**	**23 00 03.6**	**+0.3**
JNB				*e*S	**Sn**	**23 01 11.5**	**-0.2**
JKB	**Kayabe**	**6.28**	**255**	P	**Pn**	**23 00 05.7**	**-0.1**
JKB				*e*S	**Sn**	**23 01 14.4**	**-1.7**
JSK	**Shakotan**	**6.34**	**269**	P	**Pn**	**23 00 08.0**	**+1.4**
JANG	**Nango**	**6.64**	**242**	P	**Pn**	**23 00 09.5**	**-1.2**
JANG				*e*S	Sx	23 01 21.0	
JTH	**Tanohata**	**6.67**	**237**	*e*S	Sx	23 01 20.6	
JTM	**Tenmabayashi**	**6.72**	**246**	P	**Pn**	**23 00 11.4**	**-0.3**
JTM				*e*S	Sx	23 01 23.2	
JSH	**Shimam**	**6.77**	**264**	P	**Pn**	**23 00 12.9**	**+0.4**
JSR	**Shiriuchi**	**6.84**	**254**	*e*S	Sx	23 01 27.1	
JOSM	**Okushiri--Mats**	**7.32**	**260**	P	**Pn**	**23 00 20.1**	**+0.1**
OFUJ	**Ofunato**	**7.34**	**233**	P	**Pn**	**23 00 19.5**	**-0.7**
OFUJ				*e*S	Sx	23 01 37.5	
JRG	**Rokugo**	**7.76**	**239**	P	**Pn**	**23 00 26.4**	**+0.5**
JRG				*e*S	Sx	23 01 49.8	
JIO	**Ouri**	**7.95**	**231**	P	**Pn**	**23 00 28.2**	**-0.4**
JIO				*e*S	Sx	23 01 50.8	
MJAR	**Matsushiro Arr**	**11.07**	**233**	Pn	**Pn**	**23 01 13.8**	**+2.6**
MJAR	**Matsushiro Arr**	**11.07**	**233**	Pn	**Pn**	**23 01 13.8**	**+2.6**
comp=Z,0.2nm,0.3s,baz=34,slow=16,SNR=2.9							
KLR	**Kul'dur**	**13.18**	**301**	*e*PN	**Pn**	**23 01 41.0**	**+1.0**
KSRS	**Korea Array**	**17.31**	**256**	P	**Pn**	**23 02 34.4**	**+1.1**
comp=Z,0.4nm,0.3s,baz=59,slow=13,SNR=3.8							
SONM	**Songino Array**	**29.82**	**293**	P	**P**	**23 04 37.5**	**+0.3**
SONM				pmax	pmax		
comp=Z,2.0nm,0.7s							
SONM	**Songino Array**	**29.82**	**293**	P	**P**	**23 04 37.5**	**+0.3**
comp=Z,1.5nm,0.7s,mb3.8,baz=77,slow=8.3,SNR=14							
LZH	**Lanzhou**	**35.24**	**273**	*e*P	**P**	**23 05 26.5**	**+1.8**
LZH				AP	pP	23 05 36.0	-3.1
LZH				XP	sP	23 05 40.2	-5.6
LZH				AMB	AMB		
comp=Z,18nm,1.0s,mb5.0							
LZH				AMB	AMB		
comp=Z,73nm,4.1s							
LZH	**Lanzhou**	**35.24**	**273**	*e*P	**P**	**23 05 26.5**	**+1.8**
comp=Z,18nm,1.0s,mb5.0							
LZH				pP	pP	23 05 36.0	-3.1
LZH				sP	sP	23 05 40.2	-5.6
ZALV	**Zalesovo Beam**	**42.16**	**307**	P	**P**	**23 06 23.0**	**+0.7**
comp=Z,0.5nm,0.5s,mb3.5,baz=91,slow=7.8,SNR=3.2							
ZAL	**Zalesovo**	**42.17**	**307**	P	**P**	**23 06 23.0**	**+0.6**
INK	**Inuvik**	**45.64**	**30**	P	**P**	**23 06 48.2**	**-1.9**
INK	**Inuvik**	**45.64**	**30**	P	**P**	**23 06 48.2**	**-1.8**
INK				pmax	pmax		
comp=Z,1.0nm,0.5s							
INK	**Inuvik**	**45.64**	**30**	P	**P**	**23 06 48.2**	**-1.8**
comp=Z,1.0nm,0.5s,mb4.0,baz=266,slow=10,SNR=4.7							
MK31	**Makanchi Array**	**45.88**	**298**	*e*P	**P**	**23 06 51.5**	**-0.7**
MKAR	**Makanchi Array**	**45.88**	**298**	P	**P**	**23 06 52.4**	**+0.2**
MKAR				pmax	pmax		
comp=Z,3.0nm,0.6s							
MKAR	**Makanchi Array**	**45.88**	**298**	P	**P**	**23 06 52.4**	**+0.2**
comp=Z,2.8nm,0.6s,mb4.3,baz=78,slow=8.5,SNR=18							
YKA	**Yellowknife Ar**	**54.96**	**34**	P	**P**	**23 08 00.3**	**-0.1**
YKA	**Yellowknife Ar**	**54.96**	**34**	P	**P**	**23 08 00.3**	**-0.1**
comp=Z,0.6nm,0.8s,mb3.7,baz=296,slow=6.7,SNR=7.9							
FINES	**FINESS Array B**	**65.52**	**334**	P	**P**	**23 09 11.6**	**-1.0**
FINES				pmax	pmax		
comp=Z,3.0nm,0.6s							
FINES	**FINESS Array B**	**65.52**	**334**	P	**P**	**23 09 11.6**	**-1.0**
comp=Z,3.3nm,0.6s,mb4.6,baz=47,slow=7.1,SNR=23							
TPNV	**Topopah Spring**	**68.51**	**59**	*e*P	**P**	**23 09 24.9**	**-7.2**
comp=Z,4.2nm,0.8s,mb4.4							
TPNV	**Topopah Spring**	**68.51**	**59**	*e*P	**P**	**23 09 24.9**	**-7.1**
TPNV				pmax	pmax		
comp=Z,4.0nm,0.8s,mb4.4							
PDAR	**Pinedale Array**	**68.76**	**51**	P	**P**	**23 09 34.4**	**+0.9**
comp=Z,0.3nm,0.5s,mb3.5,baz=308,slow=2.2,SNR=2.2							
NB2	**NORSAR Subarra**	**70.11**	**340**	P	**P**	**23 09 41.0**	**-0.5**
comp=Z,1.6nm,0.5s,mb4.2,baz=30,slow=6.5							
NOA	**NORSAR Array B**	**70.11**	**340**	P	**P**	**23 09 40.6**	**-0.9**
NOA				pmax	pmax		
comp=Z,4.0nm,0.8s							
NOA	**NORSAR Array B**	**70.11**	**340**	P	**P**	**23 09 40.6**	**-0.8**
comp=Z,3.8nm,0.8s,mb4.4,baz=32,slow=6.0,SNR=9.1							
AKASG	**Malin Array Be**	**72.43**	**325**	P	**P**	**23 09 55.1**	**-0.5**
AKASG				pmax	pmax		
comp=Z,1.0nm,0.5s							
AKASG	**Malin Array Be**	**72.43**	**325**	P	**P**	**23 09 55.0**	**-0.6**
comp=Z,1.1nm,0.5s,mb4.1,baz=37,slow=6.4,SNR=9.9							
CBKS	**Cedar Bluff**	**76.89**	**48**	P	**P**	**23 10 19.1**	**-2.7**
KHC	**Kasperske Hory**	**79.64**	**332**	*e*P	**P**	**23 10 36.5**	**-0.2**
GERES	**GERESS Array B**	**79.85**	**332**	P	**P**	**23 10 38.0**	**+0.2**
GERES				pmax	pmax		
comp=Z,1.0nm,0.5s							
GERES	**GERESS Array B**	**79.85**	**332**	P	**P**	**23 10 38.0**	**+0.2

JTKR Abashiri--Toko 3.78 269 P **Pn** **23 01 26.6 +1.4**
JAR Ashorobuto 3.99 259 P **Pn** **23 01 29.6 +1.5**
JAR *eS* **Sn** **23 02 13.8 -0.2**
JOB Onbets 4.06 254 P **Pn** **23 01 29.9 +0.9**
JOB *eS* **Sn** **23 02 14.8 -0.9**
JMP Maruseppu 4.17 270 P **Pn** **23 01 32.3 +1.8**
JCH Churui 4.49 252 P **Pn** **23 01 35.8 +0.9**
JCH *eS* **Sn** **23 02 25.6 -0.6**
ASAJ Asahikawa 4.72 272 Pn **Pn** **23 01 38.8 +0.7**
baz=127,slow=31,SNR=1.3
ERM Erimo 4.88 246 *i* PN **Pn** **23 01 42.1 +1.8**
ERM Erimo 4.88 246 *eP* **Pn** **23 01 42.1 +1.8**
JNBK Urakawa-nobuka 5.04 250 P **Pn** **23 01 43.2 +0.8**
JNBK *eS* **Sn** **23 02 38.8 -0.9**
YSS Yuzh-Sakhalins 5.29 304 Pn **Pn** **23 01 42.6 -3.2**
YSS Yuzh-Sakhalins 5.29 304 *e*PN **Pn** **23 01 42.4 -3.5**
JNB Noboribetsu 6.15 257 P **Pn** **23 01 58.5 +0.8**
JNB *eS* **Sn** **23 03 05.4 -1.8**
JSK Shakotan 6.33 266 P **Pn** **23 02 03.2 +3.0**
JKB Kayabe 6.37 252 P **Pn** **23 02 00.9 +0.2**
JKB *eS* **Sn** **23 03 09.2 -3.3**
JYM2 Yakumo 2 6.74 255 P **Pn** **23 02 06.3 +0.5**
JSH Shimam 6.80 260 P **Pn** **23 02 06.9 +0.2**
JSH *eS* **Sn** **23 03 23.3 +0.1**
JANG Nango 6.81 239 P **Pn** **23 02 04.9 -1.8**
JANG *eS* **Sn** **23 03 16.1 -7.2**
JTM Tenmabayashi 6.86 243 P **Pn** **23 02 06.8 -0.6**
JTM *eS* **Sn** **23 03 18.2 -6.4**
JTH Tanohata 6.87 235 *eS* **Sn** **23 03 14.9 -10**
JSR Shiriuchi 6.93 251 *eS* **Sn** **23 03 22.8 -3.6**
JOSM Okushiri--Mats 7.38 257 P **Pn** **23 02 15.3 +0.8**
OFUJ Ofunato 7.56 230 P **Pn** **23 02 14.6 -2.4**
OFUJ *eS* **Sn** **23 03 29.2 -13**
JRG Rokugo 7.94 236 P **Pn** **23 02 21.4 -0.9**
JRG *eS* **Sn** **23 03 43.1 -8.2**
SKR Severo-Kuril's 8.05 33 *e*PN **Pn** **23 02 22.0 -1.8**
SKR *e* 23 03 51.0
SKR pmax pmax
comp=E,30nm,0.5s
SKR pmax pmax
comp=Z,60nm,0.5s
JIO Ouri 8.18 228 P **Pn** **23 02 23.7 -1.9**
JIO *eS* **Sn** **23 03 46.9 -10**
JFK Kawauchi 9.24 226 *eS* **Sn** **23 04 12.8 -10**
NKL Nikolayevsk 10.59 331 *eP* **Pn** **23 02 57.0 -1.5**
NKL AMB AMB 23 03 03.0
comp=Z,20nm,1.2s
PET Petropavlovsk 10.87 32 Pn **Pn** **23 02 56.5 -5.8**
MJAR Matsushiro Arr 11.29 231 Pn **Pn** **23 03 05.7 -2.4**
comp=Z,0.4nm,0.3s,baz=26,slow=13,SNR=3.8
KLR Kul'dur 12.97 299 *e*PN **Pn** **23 03 33.0 +2.0**
CN2 Changchun 17.05 277 *eP* **Pn** **23 04 26.0 +0.9**
CN2 AMB AMB
comp=Z,10.0nm,1.2s
ZEA Zeya 17.22 312 *eP* **Pn** **23 04 25.7 -1.4**
ZEA AMB AMB 23 04 27.0
comp=Z,12nm,1.0s
KSRS Korea Array 17.38 255 P **Pn** **23 04 28.8 -0.5**
comp=Z,0.2nm,0.3s,baz=58,slow=11,SNR=9.4
SEY Seymchan 18.90 5⇑ *iP* **Pn** **23 04 46.0 -1.6**
YAK Yakutsk 21.23 334 *eP* **P** **23 05 09.2 -2.9**
YAK pmax pmax
comp=Z,35nm,1.0s,mb4.6
BILL Bilibino 25.58 15 *eP* **P** **23 05 53.0 -2.1**
BILL pmax pmax
comp=Z,3.0nm,1.1s,mb3.7
BOD Bodaibo 25.66 315 *eP* **P** **23 05 52.6 -3.3**
BOD pmax pmax
comp=Z,3.0nm,0.9s,mb3.8
TIXI Tiksi 29.27 347 *eP* **P** **23 06 24.8 -3.3**
TIXI pmax pmax
comp=Z,10.0nm,2.1s,mb4.2
SONM Songino Array 29.65 292 P **P** **23 06 32.5 +0.8**
SONM pmax pmax
comp=Z,3.0nm,0.8s
SONM Songino Array 29.65 292 P **P** **23 06 32.5 +0.7**
comp=Z,3.4nm,0.8s,mb4.1,baz=80,slow=8.2,SNR=16
TLY Talaya 30.98 300 *eP* **P** **23 06 47.7 +4.2**
comp=Z,3.9nm,0.7s,mb4.3
TLY Talaya 30.98 300 *eP* **P** **23 06 43.5 0.0**
TLY *e*PP PP 23 07 52.8 -0.7
ZAK Zakamensk 31.33 298 *eP* **P** **23 06 47.0 +0.4**
ZAK *e* 23 09 48.0
ZAK pmax pmax
comp=Z,2.0nm,1.1s,mb3.9
LZH Lanzhou 35.20 273 *eP* **P** **23 07 21.2 +0.8**
comp=Z,26nm,1.4s,mb5.0
LZH pP pP 23 07 25.6 -2.7
LZH sP sP 23 07 58.0 +27
LZH Lanzhou 35.20 273 *eP* **P** **23 07 21.2 +0.8**
LZH pmax pmax
comp=Z,26nm,1.4s,mb5.0
IMA2 Indian Mountai 37.53 34 *eP* **P** **23 07 40.5 +0.5**
COLA College 39.89 36 *eP* **P** **23 07 57.8 -1.9**
comp=Z,5.7nm,0.8s,mb4.3
COLA College 39.89 36 *eP* **P** **23 07 57.8 -2.0**
COLA pmax pmax
comp=Z,6.0nm,0.8s,mb4.4
ZALV Zalesovo Beam 41.90 307 P **P** **23 08 15.2 -1.3**
comp=Z,1.0nm,0.4s,mb3.8,baz=86,slow=5.1,SNR=4.8
ZALV PcP PcP 23 10 11.2 -0.4
comp=Z,1.4nm,0.6s,baz=79,slow=2.4,SNR=6.9
ZAL Zalesovo 41.92 307 P **P** **23 08 15.2 -1.4**
ZAL 23 10 11.2
WMQ Urumqi 43.28 292⇑ *iP* **P** **23 08 28.8 +1.0**
WMQ AMB AMB
comp=Z,16nm,1.1s,mb4.7
WMQ AMB AMB
comp=Z,342nm,6.6s
INK Inuvik 45.32 31 *eP* **P** **23 08 41.9 -1.9**
comp=Z,145nm,0.8s
INK Inuvik 45.32 31 P **P** **23 08 44.5 +0.7**
comp=Z,2.3nm,0.4s,mb4.3,baz=298,slow=6.0,SNR=6.8
MK31 Makanchi Array 45.67 298 *eP* **P** **23 08 47.2 +0.4**
MKAR Makanchi Array 45.67 298 P **P** **23 08 47.3 +0.4**
MKAR pmax pmax
comp=Z,8.0nm,0.7s
MKAR Makanchi Array 45.67 298 P **P** **23 08 47.3 +0.4**
comp=Z,8.4nm,0.8s,mb4.7,baz=76,slow=8.3,SNR=29
KURK Kurchatov 46.49 304 *eP* **P** **23 08 52.0 -1.3**
CHTO Chiang Mai 48.78 255 *eP* **P** **23 09 19.6 +8.2**
comp=Z,7.2nm,1.0s,mb4.7
CHTO *e* pP 23 09 26.1 +6.6
CHTO Chiang Mai 48.78 255 *eP* **P** **23 09 19.7 +8.3**
CHTO pmax pmax
comp=Z,7.0nm,1.0s,mb4.7
BRVK Borovoye 50.40 310 *eP* **P** **23 09 22.6 -0.8**
ULHL Ulahol 51.53 295 P **P** **23 09 33.2 +1.3**
SNR=15
TKM2 Tokmak 2 51.63 296 *eP* **P** **23 09 34.0 +1.3**
comp=Z,13nm,1.1s,mb4.8
TKM2 Tokmak 2 51.63 296 *eP* **P** **23 09 34.0 +1.3**
TKM2 pmax pmax
comp=Z,13nm,1.1s,mb4.8
TKM2 Tokmak 2 51.63 296 P **P** **23 09 34.1 +1.4**
SNR=8.6
USP Ospenovka 52.17 297 P **P** **23 09 37.7 +1.0**
SNR=15
KBK Karagaybulak 52.17 296 P **P** **23 09 38.0 +1.2**
SNR=12
KZA Kyzart 52.26 295 P **P** **23 09 39.6 +2.2**
SNR=17
JIRN Jiri 52.35 274 *eP* **P** **23 09 39.2 +0.9**
comp=Z,11nm,0.7s,mb4.9
AAK Ala-Archa 52.48 296 P **P** **23 09 40.0 +0.9**
SNR=8.4
UCH Uchtor 52.66 296 *eP* **P** **23 09 40.5 +0.1**
comp=Z,2.8nm,1.0s,mb4.2
EKS2 Erkin-Say 52.93 297 *eP* **P** **23 09 43.0 +0.7**
comp=Z,11nm,0.9s,mb4.8
EKS2 Erkin-Say 52.93 297 P **P** **23 09 43.1 +0.8**
SNR=15
KKN Kakani 52.93 275 *eP* **P** **23 09 43.2 +0.6**
AML Almayashu 53.24 296 *eP* **P** **23 09 46.3 +1.6**
comp=Z,5.5nm,0.8s,mb4.5
AML Almayashu 53.24 296 P **P** **23 09 46.4 +1.8**
SNR=6.2
GKN Gorkha 53.26 275 *eP* **P** **23 09 45.6 +0.6**
comp=Z,9.6nm,0.4s,mb5.0
KOLN Koldanda 54.14 276 *eP* **P** **23 09 52.3 +0.8**
RES Resolute Bay 54.16 17 *eP* **P** **23 09 50.1 -0.9**
comp=Z,96nm,0.7s
YKA Yellowknife Ar 54.66 34 P **P** **23 09 54.7 +0.1**
YKA Yellowknife Ar 54.66 34 P **P** **23 09 54.7 0.0**
YKA pmax pmax
comp=Z,1.0nm,0.6s
YKA Yellowknife Ar 54.66 34 P **P** **23 09 54.7 +0.1**
comp=Z,1.1nm,0.7s,mb4.0,baz=298,slow=6.9,SNR=9.7
ARU Arti 55.03 317 *eP* **P** **23 09 55.5 -1.9**
comp=Z,3.7nm,0.7s,mb4.5
ARU Arti 55.03 317 *eP* **P** **23 09 55.6 -1.9**
ARU pmax pmax
comp=Z,4.0nm,0.7s,mb4.6
AKTK Aktyubinsk 58.36 311 P **P** **23 10 21.1 -0.1**
AKTO Aktyubinsk 58.36 311 P **P** **23 10 21.1 -0.1**
AKTO pmax pmax
comp=Z,1.0nm,0.5s,mb4.1
AKTO Aktyubinsk 58.36 311 P **P** **23 10 21.1 -0.1**
comp=Z,1.3nm,0.5s,mb4.2,baz=64,slow=3.5,SNR=5.7
KBL Kabul 60.40 291 *eP* **P** **23 10 34.5 -1.1**
comp=Z,11nm,0.9s,mb4.9
WALA Waterton Lakes 62.25 48 P **P** **23 10 50.5 +2.6**
JOF Joensuu 62.39 333 *ep* **P** **23 10 46.1 -2.5**
FCC Fort Churchill 64.94 31 *eP* **P** **23 11 05.0 -0.5**
comp=Z,2.1nm,0.5s,mb4.4
FCC Fort Churchill 64.94 31 *eP* **P** **23 11 05.0 -0.4**
FCC pmax pmax
comp=Z,2.0nm,0.5s,mb4.4
FINES FINESS Array B 65.16 334 *eP* **P** **23 11 06.4 -0.4**
FINES FINESS Array B 65.16 334 P **P** **23 11 05.9 -0.9**
comp=Z,8.3nm,0.6s,mb5.0,baz=45,slow=8.2,SNR=31
WRA Warramunga Arr 65.21 195 P **P** **23 11 08.1 +0.5**
WRA pmax pmax
comp=Z,1.0nm,0.6s
WRA Warramunga Arr 65.21 195 P **P** **23 11 08.1 +0.6**
comp=Z,0.9nm,0.6s,mb4.0,baz=17,slow=7.1,SNR=3.4
HLID Hailey 65.29 53 P **P** **23 11 10.1 +2.1**
BOZ Bozeman (W) 65.55 50 *eP* **P** **23 11 10.4 +0.7**
comp=Z,2.5nm,0.7s,mb4.3
BOZ Bozeman (W) 65.55 50 *eP* **P** **23 11 10.4 +0.8**
BOZ pmax pmax
comp=Z,2.0nm,0.7s,mb4.3
TPNV Topopah Spring 68.33 59 *eP* **P** **23 11 33.1 +5.6**
comp=Z,3.1nm,1.1s,mb4.2
TPNV Topopah Spring 68.33 59 *eP* **P** **23 11 33.1 +5.6**
TPNV pmax pmax
comp=Z,3.0nm,1.1s,mb4.2
BW06 Boulder Array 68.54 51 P **P** **23 11 32.7 +4.0**
comp=Z,8.8nm,1.6s,mb4.4
PDAR Pinedale Array 68.54 51 P **P** **23 11 28.7 0.0**
comp=Z,0.8nm,0.3s,mb4.2,baz=0.0,slow=2.9,SNR=7.7
ASAR Alice Springs 68.92 195 P **P** **23 11 31.8 +0.8**
comp=Z,0.5nm,0.7s,mb3.5,baz=14,slow=7.8,SNR=2.7
GOF Gofitskoye 69.63 313 *eP* **P** **23 11 42.0 +6.6**
NB2 NORSAR Subarra 69.73 340 P **P** **23 11 35.1 -0.6**
comp=Z,12nm,0.8s,mb4.9,baz=30,slow=6.5
NOA NORSAR Array B 69.73 340 P **P** **23 11 35.7 0.0**
NOA pmax pmax
comp=Z,10.0nm,0.8s
NOA NORSAR Array B 69.73 340 P **P** **23 11 35.7 0.0**
comp=Z,10nm,0.8s,mb4.8,baz=32,slow=6.1,SNR=21
KIV Kislovodsk 70.56 313 *eP* **P** **23 11 41.9 +0.8**
comp=Z,11nm,0.6s,mb5.0
KIV Kislovodsk 70.56 313 *eP* **P** **23 11 41.5 +0.4**
KIV pmax pmax
comp=Z,10.0nm,0.7s,mb4.8
KIV Kislovodsk 70.56 313⇑ *iP* **P** **23 11 42.1 +1.0**
RSSD Black Hills 70.63 47 P **P** **23 11 43.5 +2.0**
AKASG Malin Array Be 72.09 325 P **P** **23 11 50.0 -0.3**
AKASG pmax pmax
comp=Z,3.0nm,0.5s
AKASG Malin Array Be 72.09 325 P **P** **23 11 50.0 -0.3**
comp=Z,3.3nm,0.5s,mb4.5,baz=37,slow=6.3,SNR=18
ISCO Idaho Springs 72.73 51 P **P** **23 11 55.1 +0.9**
SDCO Great Sand Dun 74.21 53 P **P** **23 12 07.1 +4.1**
KWP Kalwaria 75.56 327⇑ *iP* **P** **23 12 11.5 +1.0**
ANMO Albuquerque 75.59 55 P **P** **23 12 15.0 +4.0**
KOLS Kolonicke sedl 76.29 327 *eP* **P** **23 12 17.9 +3.2**
STHS Stebnicka Huta 76.29 328 *eP* **P** **23 12 15.6 +0.8**
comp=Z,2.8nm,0.9s,mb4.2
STHS Stebnicka Huta 76.29 328 *eP* **P** **23 12 15.6 +0.8**
STHS pmax pmax
comp=Z,3.0nm,0.9s,mb4.2
SCHQ Schefferville 76.75 20 P **P** **23 12 17.0 -0.2**
comp=Z,1.1nm,0.7s,mb3.9,baz=0.0,slow=10,SNR=3.4
MALT Malatya 76.80 311 *eP* **P** **23 12 19.4 +1.6**
comp=Z,1.1nm,0.5s,mb4.0
MALT Malatya 76.80 311 *eP* **P** **23 12 19.4 +1.5**
MALT pmax pmax
comp=Z,1.0nm,0.5s,mb4.0
TRPA Tarpa 76.83 326⇓ *iP* **P** **23 12 18.9 +1.1**
HARR Harsova 77.26 321⇑ *iP* **P** **23 12 21.0 +0.7**
DPC Dobruska-Polom 77.31 331 *eP* **P** **23 12 21.6 +1.1**
KECS Kecovo 77.34 328 *eP* **P** **23 12 21.1 +0.4**
comp=Z,2.7nm,1.0s,mb4.1
KECS Kecovo 77.34 328 *eP* **P** **23 12 21.1 +0.4**
KECS pmax pmax
comp=Z,3.0nm,1.0s,mb4.2
MORC Moravsky Berou 77.36 330 *eP* **P** **23 12 20.7 -0.1**
comp=Z,2.6nm,0.7s,mb4.3
MORC Moravsky Berou 77.36 330 *eP* **P** **23 12 20.7 -0.1**
MORC pmax pmax
comp=Z,3.0nm,0.7s,mb4.3
MORC Moravsky Berou 77.36 330⇑ *iP* **P** **23 12 21.1 +0.3**
UMR Umm Al-Rimmam 77.50 299 *eP* **P** **23 12 21.5 -0.5**
UMR AMb AMB 23 12 22.9
comp=Z,9.2nm,0.8s,mb4.8
MLR Muntele Rosu 77.52 323⇓ *iP* **P** **23 12 22.5 +0.8**
MIB Mutribah 77.57 299 *eP* **P** **23 12 21.6 -0.7**
MIB AMb AMB 23 12 22.9
comp=Z,12nm,0.9s,mb4.8
CLL Collm 77.61 334 *i* P **P** **23 12 21.8 -0.3**
CLL pmax pmax
comp=Z,31nm,0.8s,mb5.3
CLL Collm 77.61 334 *i* P **P** **23 12 21.8 -0.3**
comp=Z,6.0nm,0.8s,mb4.6
CLL *ex* x 23 12 56.0
BRG Berggiesshubel 77.67 333 *i* P **P** **23 12 21.8 -0.7**
BRG pmax pmax
comp=Z,31nm,0.8s,mb5.3
KBD Kabd 77.78 299 *eP* **P** **23 12 21.9 -1.5**
KBD AMb AMB 23 12 30.8
comp=Z,18nm,0.5s,mb5.2
VYHS Vyhne 77.96 329 *eP* **P** **23 12 24.3 +0.2**
RST Umm Al-Ruwaisa 77.99 299 *eP* **P** **23 12 23.6 -1.0**
RST AMb AMB 23 12 25.9
comp=Z,14nm,1.0s,mb4.8
NAY Al-Naaiem 78.01 299 *eP* **P** **23 12 24.1 -0.7**
NAY AMb AMB 23 12 26.4
comp=Z,6.1nm,1.0s,mb4.5
PSZ Piszkesteto 78.03 328 *eP* **P** **23 12 25.4 +0.9**
comp=Z,3.8nm,0.7s,mb4.4
PSZ Piszkesteto 78.03 328 *eP* **P** **23 12 25.4 +0.8**
PSZ pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
RDF Al-Radifah 78.04 299 *eP* **P** **23 12 24.3 -0.7**
RDF AMb AMB 23 12 25.5
comp=Z,9.9nm,0.5s,mb5.0
VRAC Vranov 78.10 330⇑ *iP* **P** **23 12 25.7 +0.8**
PRU Pruhonice 78.23 332 *eP* **P** **23 12 26.0 +0.4**
MODS Modra-Piesok 78.64 330 *eP* **P** **23 12 26.9 -1.0**
GZR Gura Zlata 78.94 325⇑ *iP* **P** **23 12 29.2 -0.4**
BZS Buzias 79.24 325⇓ *iP* **P** **23 12 31.2 0.0**
KHC Kasperske Hory 79.29 332 *eP* **P** **23 12 32.2 +0.8**
KHC *e*pP pP 23 12 39.0 -0.9
GERES GERESS Array B 79.49 332 P **P** **23 12 32.6 0.0**
GERES pmax pmax
comp=Z,2.0nm,0.6s
GERES GERESS Array B 79.49 332 P **P** **23 12 32.6 0.0**
comp=Z,2.0nm,0.6s,mb4.3,baz=36,slow=5.4,SNR=19
WMOK Wichita Mounta 80.15 51 *eP* **P** **23 12 40.3 +3.9**
comp=Z,4.1nm,1.0s,mb4.3
WMOK Wichita Mounta 80.15 51 *eP* **P** **23 12 40.3 +3.9**
WMOK pmax pmax
comp=Z,4.0nm,1.0s,mb4.3
TXAR Lajitas Array 81.22 58 P **P** **23 12 41.7 -0.5**
TXAR pmax pmax
comp=Z,1.0nm,0.6s
TXAR Lajitas Array 81.22 58 P **P** **23 12 41.6 -0.5**
comp=Z,1.1nm,0.6s,mb4.0,baz=300,slow=2.7,SNR=5.3
BAIF Baives 81.31 338 *eP* **P** **23 12 41.7 -0.6**
CDF Champ du Feu 81.92 335 *eP* **P** **23 12 45.3 -0.3**
comp=Z,9.2nm,0.9s,mb4.4
CDF Champ du Feu 81.92 335 *eP* **P** **23 12 45.3 -0.3**
comp=Z,4.6nm,0.9s,mb4.4
CDF Champ du Feu 81.92 335 *eP* **P** **23 12 45.3 -0.3**
CDF pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
MEZF Maizieres J'vi 82.49 337 *eP* **P** **23 12 48.4 -0.1**
HINF Hinteralfeld 82.58 335 *eP* **P** **23 12 49.1 +0.1**
FLN La Foliniere 83.71 340 *eP* **P** **23 12 53.5 -1.3**
comp=Z,95nm,1.4s,mb5.4
FLN La Foliniere 83.71 340 *eP* **P** **23 12 53.5 -1.3**
comp=Z,48nm,1.4s,mb5.4
FLN La Foliniere 83.71 340 *eP* **P** **23 12 53.5 -1.3**
FLN pmax pmax
comp=Z,47nm,1.4s,mb5.4
LDF La Druitiere 83.78 340 *eP* **P** **23 12 55.2 0.0**
LOR Lormes 83.95 337 *eP* **P** **23 12 55.6 -0.5**
GRR Gorron 84.15 340 *eP* **P** **23 12 56.2 -0.9**
SSF Saint Saulge 84.24 337 *eP* **P** **23 12 56.8 -0.8**
comp=Z,5.7nm,0.8s,mb4.5
SSF Saint Saulge 84.24 337 *eP* **P** **23 12 56.8 -0.8**
comp=Z,2.8nm,0.8s,mb4.4
SSF Saint Saulge 84.24 337 *eP* **P** **23 12 56.8 -0.8**
SSF pmax pmax
comp=Z,3.0nm,0.8s,mb4.5
SMF Signal de Mont 84.52 337 *eP* **P** **23 12 58.6 -0.4**
AVF Avril sur Loir 84.53 337 *eP* **P** **23 12 58.8 -0.2**
comp=Z,29nm,1.4s,mb4.9
AVF Avril sur Loir 84.53 337 *eP* **P** **23 12 58.8 -0.2**
comp=Z,15nm,1.4s,mb4.9
AVF Avril sur Loir 84.53 337 *eP* **P** **23 12 58.8 -0.2**
AVF pmax pmax
comp=Z,15nm,1.4s,mb4.9
LPL La Plagne 84.69 334 *eP* **P** **23 13 00.2 +0.3**
comp=Z,6.6nm,0.8s,mb4.5
LPL La Plagne 84.69 334 *eP* **P** **23 13 00.2 +0.3**
comp=Z,3.3nm,0.8s,mb4.5
LPL La Plagne 84.69 334 *eP* **P** **23 13 00.2 +0.3**
LPL pmax pmax
comp=Z,3.0nm,0.8s,mb4.5
LPG La Plagne 84.70 334 *eP* **P** **23 13 00.5 +0.6**
comp=Z,12nm,0.9s,mb4.7
LPG La Plagne 84.70 334 *eP* **P** **23 13 00.5 +0.6**
comp=Z,6.2nm,0.9s,mb4.7
LPG La Plagne 84.70 334 *eP* **P** **23 13 00.5 +0.6**
LPG pmax pmax
comp=Z,6.0nm,0.9s,mb4.7
TCF Toulx Ste Croi 85.30 338 *eP* **P** **23 13 03.0 +0.1**
MBDF Montbardon 85.38 334 *eP* **P** **23 13 01.7 -1.7**
comp=Z,7.0nm,0.7s,mb4.6
MBDF Montbardon 85.38 334 *eP* **P** **23 13 01.7 -1.7**
comp=Z,3.5nm,0.7s,mb4.6
MBDF Montbardon 85.38 334 *eP* **P** **23 13 01.7 -1.7**
MBDF pmax pmax
comp=Z,4.0nm,0.7s,mb4.7
ORIF Oris-en-Rattie 85.49 335 *eP* **P** **23 13 03.9 0.0**
comp=Z,11nm,0.7s,mb4.8
ORIF Oris-en-Rattie 85.49 335 *eP* **P** **23 13 03.9 0.0**
comp=Z,5.3nm,0.7s,mb4.8
ORIF Oris-en-Rattie 85.49 335 *eP* **P** **23 13 03.9 0.0**
ORIF pmax pmax
comp=Z,5.0nm,0.7s,mb4.8
MFF Saint Martin d 85.63 339 *eP* **P** **23 13 04.0 -0.6**
VIVF Saint-Julien-l 85.91 336 *eP* **P** **23 13 06.2 +0.2**
FRF La Foret Royal 86.47 334 *eP* **P** **23 13 08.4 -0.4**
CAF Calviac 86.60 337 *eP* **P** **23 13 09.1 -0.3**
LMR La Mourre 86.72 334 *eP* **P** **23 13 09.6 -0.4**
LFF La Frestale 86.95 338 *eP* **P** **23 13 11.4 +0.3**
comp=Z,22nm,1.0s,mb5.1
LFF La Frestale 86.95 338 *eP* **P** **23 13 11.4 +0.3**
comp=Z,11nm,1.0s,mb5.0
LFF La Frestale 86.95 338 *eP* **P** **23 13 11.4 +0.3**
LFF pmax pmax
comp=Z,11nm,1.0s,mb5.0
TORD Torodi Ar. Bea 115.73 324 PKP PKPdf 23 19 11.0 +2.1
comp=Z,12nm,0.3s,baz=348,slow=3.0,SNR=3.2

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*IDC **04** 23:03:26.6± 1.0, 44.28N× 149.15E, h0km, mb4.1/11, mb1 4.3/13, mb1mx4.2/21, mbtmp4.1/13, ML3.2/2, Error ellipse: s-maj=26.6km s-min=19.3km az=170.0*
*MOS **04** 23:03:30.2± 1.1, 44.28N× 149.08E, h36km, mb4.6/24, Error ellipse: s-maj=16.1km s-min=12.4km az=34.0*
*NEIC **04** 23:03:40.1± 0.6, 44.87N× 147.63E, h35km, mb4.5/18, Error ellipse: s-maj=18.7km s-min=10.4km az=168.0*
*ISCJB **04** 23:03:41.6± 0.9, 44.9N± 0.1× 147.75E± 0.08, h62km± 7km, mb4.3/28, Error ellipse: s-maj=18.5km s-min=8.8km az=167.7*

ISC 04 23:03:42.6± 0.9, 449N± 01× 14776E± 008, h53km± 7km, n77, σ 18 36/77, mb4.3/28, 1C, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**0.34**	**13**⇑	*i*PN	**Pn**	**23 03 52.4**	**0.0**
KUR				pmax	pmax		
	comp=N,460nm,0.6s						
KUR				pmax	pmax		
	comp=E,470nm,0.6s						
KUR				pmax	pmax		
	comp=Z,990nm,0.6s						
YUK	**Yuzh-Kuril'sk**	**1.61**	**238**	PN	**Pn**	**23 04 07.5**	**-1.1**
YUK				*i*		23 04 40.5	
YUK				pmax	pmax		
	comp=Z,360nm,0.3s						
YUK				smax			
	comp=N,4μm,0.5s						
YUK				smax			
	comp=E,14μm,0.5s						
YUK				MLR	MLR		
	comp=E,42μm,10.0s						
YUK				MLR	MLR		
	comp=Z,42μm,10.0s						
ASAJ	**Asahikawa**	**3.77**	**260**	PN	**Pn**	**23 04 38.8**	**+0.6**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ	**Asahikawa**	**3.77**	**260**	Pn	**Pn**	**23 04 38.8**	**+0.5**
	comp=Z,0.5nm,0.3s,baz=283,slow=29,SNR=1.9						
ERM	**Erimo**	**4.42**	**231**	*e*Pn	**Pn**	**23 04 42.7**	**-4.4**
KSRS	**Korea Array**	**16.66**	**250**	P	**Pn**	**23 07 31.9**	**-0.5**
	comp=Z,0.3nm,0.3s,baz=58,slow=11,SNR=5.1						
BOD	**Bodaibo**	**24.43**	**314**	*eP*	**P**	**23 08 54.3**	**-1.6**
BOD				pmax	pmax		
	comp=Z,3.0nm,1.4s,mb3.5						
ULN	**Ulaanbaatar**	**28.01**	**291**	*eP*	**P**	**23 09 30.4**	**+2.1**
	comp=Z,3.5nm,0.8s,mb4.0						
ULN	**Ulaanbaatar**	**28.01**	**291**	*eP*	**P**	**23 09 30.4**	**+2.1**
ULN				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.0						
SONM	**Songino Array**	**28.45**	**291**	P	**P**	**23 09 34.3**	**+2.1**
SONM				pmax	pmax		
	comp=Z,3.0nm,0.8s						
SONM	**Songino Array**	**28.45**	**291**	P	**P**	**23 09 34.3**	**+2.1**
	comp=Z,2.6nm,0.8s,mb3.9,baz=83,slow=8.5,SNR=11						
TLY	**Talaya**	**29.75**	**299**	*eP*	**P**	**23 09 47.0**	**+3.4**
ZALV	**Zalesovo Beam**	**40.66**	**306**	P	**P**	**23 11 17.3**	**0.0**
	comp=Z,0.8nm,0.4s,mb3.7,baz=79,slow=6.8,SNR=3.3						
ZAL	**Zalesovo**	**40.68**	**306**	P	**P**	**23 11 17.3**	**-0.1**
MK31	**Makanchi Array**	**44.45**	**297**	*eP*	**P**	**23 11 49.1**	**+1.0**
MKAR	**Makanchi Array**	**44.45**	**297**	P	**P**	**23 11 48.9**	**+0.8**
MKAR	**Makanchi Array**	**44.45**	**297**	P	**P**	**23 11 48.9**	**+0.8**
MKAR				pmax	pmax		
	comp=Z,6.0nm,0.8s						
MKAR	**Makanchi Array**	**44.45**	**297**	P	**P**	**23 11 48.9**	**+0.9**
	comp=Z,5.7nm,0.8s,mb4.4,baz=76,slow=8.5,SNR=18						
BRVK	**Borovoye**	**49.16**	**309**	*eP*	**P**	**23 12 24.8**	**0.0**
	comp=Z,1.3nm,0.6s,mb4.1						
BRVK	**Borovoye**	**49.16**	**309**	*eP*	**P**	**23 12 24.8**	**0.0**
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb4.0						
ULHL	**Ulahol**	**50.32**	**294**	P	**P**	**23 12 34.9**	**+1.2**
	SNR=10						
TKM2	**Tokmak 2**	**50.41**	**295**	*eP*	**P**	**23 12 35.5**	**+1.0**
	comp=Z,7.4nm,1.0s,mb4.7						
TKM2	**Tokmak 2**	**50.41**	**295**	*eP*	**P**	**23 12 35.5**	**+1.1**
TKM2				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.7						
TKM2	**Tokmak 2**	**50.41**	**295**	P	**P**	**23 12 35.7**	**+1.2**
	SNR=5.7						
USP	**Ospenovka**	**50.95**	**296**	P	**P**	**23 12 39.4**	**+0.9**
	SNR=10						
KBK	**Karagaybulak**	**50.96**	**295**	P	**P**	**23 12 39.7**	**+1.1**
	SNR=8.5						
KZA	**Kyzart**	**51.04**	**294**	P	**P**	**23 12 41.3**	**+2.1**
	SNR=6.2						
UCH	**Uchtor**	**51.45**	**295**	P	**P**	**23 12 44.6**	**+2.3**
EKS2	**Erkin-Say**	**51.71**	**295**	P	**P**	**23 12 45.1**	**+1.0**
	SNR=5.8						
AML	**Almayashu**	**52.02**	**295**	*eP*	**P**	**23 12 47.0**	**+0.5**
	comp=Z,3.0nm,0.8s,mb4.3						
ARU	**Arti**	**53.81**	**317**	P	**P**	**23 12 58.2**	**-1.2**
	comp=Z,2.1nm,0.3s,mb4.5						
ARU	**Arti**	**53.81**	**317**	P	**P**	**23 12 58.2**	**-1.2**

ARU				pmax	pmax		
	comp=Z,2.0nm,0.3s,mb4.5						
YKA	**Yellowknife Ar**	**54.61**	**34**	P	**P**	**23 12 56.7**	**-8.5**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
YKA	**Yellowknife Ar**	**54.61**	**34**	P	**P**	**23 12 56.7**	**-8.5**
	comp=Z,1.1nm,0.8s,mb4.0,baz=298,slow=6.8,SNR=7.8						
NLWA	**Neilton Lookou**	**58.01**	**53**	*e*P	**P**	**23 13 29.8**	**+0.2**
	comp=Z,9.2nm,1.2s,mb4.7						
KAKA	**Kakadu**	**59.00**	**198**	*e*P	**P**	**23 13 35.3**	**-1.5**
	comp=Z,6.3nm,0.4s,mb5.0						
KBL	**Kabul**	**59.21**	**290**	*e*P	**P**	**23 13 36.9**	**-1.3**
	comp=Z,8.6nm,1.0s,mb4.7						
EDM	**Edmonton**	**60.26**	**43**	*e*P	**P**	**23 13 47.1**	**+2.0**
YBH	**Yreka Blue Hor**	**61.91**	**58**	*e*P	**P**	**23 13 56.4**	**-0.1**
	comp=Z,3.5nm,1.2s,mb4.4						
YBH	**Yreka Blue Hor**	**61.91**	**58**	*e*P	**P**	**23 13 56.4**	**-0.1**
YBH				pmax	pmax		
	comp=Z,4.0nm,1.2s						
WALA	**Waterton Lakes**	**62.48**	**47**	P	**P**	**23 14 00.3**	**+0.2**
WVOR	**Wild Horse Val**	**63.91**	**55**	*e*P	**P**	**23 14 10.7**	**+0.9**
	comp=Z,1.6nm,0.8s,mb4.1						
WVOR	**Wild Horse Val**	**63.91**	**55**	*e*P	**P**	**23 14 10.7**	**+1.0**
WVOR				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.2						
FINES	**FINESS Array B**	**64.05**	**333**	P	**P**	**23 14 07.4**	**-2.9**
FINES				pmax	pmax		
	comp=Z,4.0nm,0.6s						
FINES	**FINESS Array B**	**64.05**	**333**	P	**P**	**23 14 07.4**	**-2.9**
	comp=Z,4.3nm,0.6s,mb4.7,baz=42,slow=7.9,SNR=19						
MTUM	**Tungsten Hills**	**67.13**	**60**	P	**P**	**23 14 29.9**	**-0.7**
MOOW	**Moose Ponds**	**67.54**	**50**	P	**P**	**23 14 32.8**	**-0.2**
SFJD	**Kangerlussuaq**	**67.56**	**8**	P	**P**	**23 14 33.4**	**+0.6**
	comp=Z,9.7nm,1.0s,mb4.8						
SFJD	**Kangerlussuaq**	**67.56**	**8**	P	**P**	**23 14 33.4**	**+0.6**
SFJD				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.8						
NB2	**NORSAR Subarra**	**68.69**	**339**	P	**P**	**23 14 36.6**	**-3.4**
	comp=Z,5.9nm,0.9s,mb4.5,baz=30,slow=6.2						
NOA	**NORSAR Array B**	**68.69**	**339**	P	**P**	**23 14 37.3**	**-2.7**
NOA				pmax	pmax		
	comp=Z,7.0nm,0.8s						
NOA	**NORSAR Array B**	**68.69**	**339**	P	**P**	**23 14 37.3**	**-2.6**
	comp=Z,6.6nm,0.8s,mb4.6,baz=32,slow=6.1,SNR=12						
TPNV	**Topopah Spring**	**68.80**	**59**	P	**P**	**23 14 41.8**	**+0.7**
	comp=Z,1.4nm,0.7s,mb4.0						
TPNV	**Topopah Spring**	**68.80**	**59**	P	**P**	**23 14 41.8**	**+0.7**
TPNV				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb3.9						
KIV	**Kislovodsk**	**69.32**	**312**	*e*P	**P**	**23 14 44.0**	**-0.2**
	comp=Z,6.6nm,0.7s,mb4.7						
KIV	**Kislovodsk**	**69.32**	**312**	*e*P	**P**	**23 14 44.0**	**-0.2**
KIV				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.7						
RSSD	**Black Hills**	**70.85**	**46**	*e*P	**P**	**23 14 53.1**	**-0.5**
	comp=Z,1.6nm,0.6s,mb4.1						
RSSD	**Black Hills**	**70.85**	**46**	*e*P	**P**	**23 14 53.1**	**-0.4**
RSSD				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
AKASG	**Malin Array Be**	**70.91**	**324**	P	**P**	**23 14 51.8**	**-2.0**
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.5s						
AKASG	**Malin Array Be**	**70.91**	**324**	P	**P**	**23 14 51.8**	**-2.0**
	comp=Z,1.5nm,0.5s,mb4.2,baz=37,slow=6.1,SNR=8.9						
AKBB	**Malin Array Si**	**70.91**	**324**	*e*P	**P**	**23 14 51.1**	**-2.7**
KIEV	**Kiev**	**70.92**	**324**	*e*P	**P**	**23 14 51.7**	**-2.2**
	comp=Z,2.6nm,0.5s,mb4.4						
KIEV	**Kiev**	**70.92**	**324**	*e*P	**P**	**23 14 51.7**	**-2.2**
KIEV				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.5						
ANMO	**Albuquerque**	**75.97**	**55**	P	**P**	**23 15 24.8**	**+1.0**
CLL	**Collm**	**76.50**	**333**	*e*P	**P**	**23 15 24.0**	**-2.5**
CLL				*e*	pP	23 15 37.0	-4.5
CLL				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.5						
CLL	**Collm**	**76.50**	**333**	*e*P	**P**	**23 15 24.0**	**-2.5**
	comp=Z,4.0nm,1.0s,mb4.3						
CLL				*e*PcP	PcP	23 15 37.0	-1.0
BRG	**Berggiesshubel**	**76.56**	**332**	*e*P	**P**	**23 15 24.0**	**-2.9**
BRG				*e*	pP	23 15 37.0	-4.9
BRG				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.5						
KHC	**Kasperske Hory**	**78.17**	**331**	*e*P	**P**	**23 15 32.5**	**-3.4**
KHC				*ex*	x	23 15 39.5	
GERES	**GERESS Array B**	**78.37**	**331**	P	**P**	**23 15 34.0**	**-3.0**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
GERES	**GERESS Array B**	**78.37**	**331**	P	**P**	**23 15 34.0**	**-3.0**
	comp=Z,1.2nm,0.6s,mb4.0,baz=39,slow=5.5,SNR=9.9						
GRFO	**Grafenberg**	**78.47**	**333**	*e*P	**P**	**23 15 35.8**	**-1.8**
	comp=Z,4.3nm,0.7s,mb4.5						
GRFO	**Grafenberg**	**78.47**	**333**	*e*P	**P**	**23 15 35.8**	**-1.7**
GRFO				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.5						
WMOK	**Wichita Mounta**	**80.44**	**50**	*e*P	**P**	**23 15 49.1**	**+0.5**
	comp=Z,2.1nm,0.7s,mb4.2						
WMOK	**Wichita Mounta**	**80.44**	**50**	*e*P	**P**	**23 15 49.1**	**+0.5**
WMOK				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.2						
WVT	**Waverly**	**84.96**	**42**	P	**P**	**23 16 13.5**	**+1.5**
PLAL	**Pickwick Lake**	**85.77**	**43**	P	**P**	**23 16 16.8**	**+0.8**
SWET	**Sewanee**	**86.60**	**41**	P	**P**	**23 16 19.9**	**-0.2**

IDC ***04*** *23:03:59.1±1.0, 727S×15559E, h0km, mb4.5/12, mb1 4.6/13, mb1mx4.5/19, mbtmp4.5/13, ML4.1/1, MS3.9/1, Ms1 3.9/1, ms1mx3.4/29, Error ellipse: s-maj=29.5km s-min=16.4km az=88.0*

NEIC ***04*** *23:04:01.1±0.4, 726S×155.49E, h10km, mb4.8/2, Error ellipse: s-maj=10.8km s-min=8.4km az=206.0*

ISCJB ***04*** *23:04:04.3±2.7, 730S±0.10×1556E±0.1, h48km±26km, mb4.5/14, Error ellipse: s-maj=17.6km s-min=15.6km az=135.6*

ISC 04 23:04:05.9±2.4, 731S±010×1555E±01, h46km±25km, n22, σ0.54/22, mb4.5/14, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.86**	**116**	Pn	**Pn**	**23 05 16.9**	**+0.4**
	16nm,0.3s,baz=247,slow=1.9,SNR=5.5						
HNR				Sn	**Sn**	**23 06 17.6**	**+6.2**
	28nm,0.3s,baz=260,slow=12,SNR=5.4						
CTA	**Charters Tower**	**15.56**	**214**	Pn	**Pn**	**23 07 47.4**	**+5.1**
	0.3nm,0.3s,baz=353,slow=6.4,SNR=3.9						
DZM	**Mont Dzumac**	**18.06**	**145**	P	**Pn**	**23 08 13.1**	**-0.4**
	0.6nm,0.3s,baz=1.1,slow=16,SNR=4.9						
KAKA	**Kakadu**	**23.35**	**255**	*e*P	**P**	**23 09 10.6**	**0.0**
	38nm,0.5s,mb5.1						
WB2	**Warramunga Arr**	**24.07**	**236**	*e*P	**P**	**23 09 16.8**	**-0.3**
WRA	**Warramunga Arr**	**24.08**	**236**	P	**P**	**23 09 17.9**	**+0.7**
	18nm,0.9s,mb4.5,baz=62,slow=9.6,SNR=27						
WRA				LR	LR	23 18 32.3	
	comp=Z,278nm,18.6s,baz=30,slow=36						
ASAR	**Alice Springs**	**26.36**	**230**	P	**P**	**23 09 37.9**	**0.0**
	1.2nm,0.5s,mb3.7,baz=57,slow=9.7,SNR=17						
STKA	**Stephens Creek**	**27.68**	**206**	*e*P	**P**	**23 09 48.9**	**-0.8**
	4.7nm,0.6s,mb4.3						
STKA	**Stephens Creek**	**27.68**	**206**	P	**P**	**23 09 48.8**	**-0.8**
	5.2nm,0.6s,mb4.3,baz=29,slow=12,SNR=7.1						
FITZ	**Fitzroy Crossi**	**31.01**	**247**	*e*P	**P**	**23 10 19.5**	**+0.1**
	24nm,0.6s,mb5.2						
FITZ	**Fitzroy Crossi**	**31.01**	**247**	P	**P**	**23 10 19.7**	**+0.3**
	15nm,0.7s,mb4.9,baz=84,slow=9.1,SNR=31						
RPZ	**Rata Peaks**	**38.73**	**162**	P	**P**	**23 11 25.0**	**-0.6**
	7.9nm,0.9s,mb4.5,baz=125,slow=13,SNR=3.7						
NWAO	**Narrogin (SRO)**	**43.68**	**229**	P	**P**	**23 12 06.5**	**+0.1**
	6.1nm,0.8s,mb4.4,baz=90,slow=7.8,SNR=6.5						
MJAR	**Matsushiro Arr**	**46.55**	**341**	P	**P**	**23 12 27.8**	**-1.2**
	1.7nm,0.6s,mb4.2,baz=165,slow=8.9,SNR=5.4						
KSRS	**Korea Array**	**51.46**	**332**	P	**P**	**23 13 06.3**	**-0.3**
	2.8nm,0.7s,mb4.3,baz=154,slow=9.7,SNR=6.7						
PMOR	**Pomariorio Ree**	**55.91**	**103**	*e*P	**P**	**23 13 39.9**	**+0.2**
	29nm,1.2s,mb5.2						
SONM	**Songino Array**	**69.88**	**327**	P	**P**	**23 15 12.6**	**+0.7**
	4.6nm,0.6s,mb4.6,baz=145,slow=6.0,SNR=18						
QSPA	**South Pole Qui**	**82.67**	**180**	P	**P**	**23 16 24.7**	**+0.7**
	1.6nm,0.7s,mb4.2,baz=353,slow=6.7,SNR=9.9						
MK31	**Makanchi Array**	**83.99**	**319**	*e*P	**P**	**23 16 31.7**	**+0.3**
MKAR	**Makanchi Array**	**83.99**	**319**	P	**P**	**23 16 31.9**	**+0.6**
	5.4nm,0.7s,mb4.8,baz=101,slow=5.3,SNR=7.7						
ZALV	**Zalesovo Beam**	**84.73**	**326**	P	**P**	**23 16 34.5**	**-0.4**
	3.7nm,0.5s,mb4.7,baz=119,slow=5.4,SNR=7.4						
DBIC	**Dimbokro**	**160.52**	**269**	PKPab	PKPab	23 24 41.4	-1.8

NIED ***04*** *23:04:00, 44.30N×149.20E, h32km, Mw5.2 Best double couple: M0:6.64000×10^16 NP1:ϕs:54.00000°, δ:72.00000°, λ:129.00000°. NP2:ϕs:165.00000°, δ:42.00000°, λ:28.00000°.*

BJI ***04*** *23:04:02.6, 44.23N×149.01E, h27km, mB5.4, mb5.2, Ms5.1, Msz5.0*

JMA ***04*** *23:04:02.9±0.4, 44.26N×149.22E, h30km, M5.1*

ISCJB ***04*** *23:04:03.6±0.1, 44.04N±003×149.12E±002, h44km, mb5.2/224, MS5.2/38, Error ellipse: s-maj=4.1km s-min=1.6km az=164.4*

NEIC ***04*** *23:04:04.8±0.1, 44.18N×149.12E, h35km, mb5.2/129, MS5.1/9, Error ellipse: s-maj=4.4km s-min=2.7km az=165.0*

SZGRF ***04*** *23:04:04.5, 44.14N×149.95E, h44km, mb5.2, MS4.9, Kuril Islands, Russia*

GCMT ***04*** *23:04:04.8±0.3, 44.10N×149.34E, h22km, MW5.2/71, Moment Tensor Solution. s41,c57; s71,c124; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr4.93±.28; Mθθ-2.66±.17; Mϕϕ-2.27±.17; Mre1.71±.28; Mθϕ-2.97±.11; Mθr3.75±.29; Best double couple: M0:6.63700×10^16 NP1:ϕs:242.00000°, δ:28.00000°, λ:116.00000°. NP2: ϕs:33.00000°, δ:65.00000°, λ:77.00000°. Principal axes: T 6.5490, Plg68.0000°, Azm278.0000°; N 0.1760, Plg12.0000°, Azm39.0000°; P -6.7250, Plg19.0000°, Azm133.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

MOS ***04*** *23:04:04.3±1.9, 44.31N×149.04E, h48km, mb5.4/95, MS5.0/31 Error ellipse: s-maj=15.5km s-min=5.3km az=108.2*

IDC ***04*** *23:04:04.2±5.6, 44.21N×149.05E, h32km±41km, mb4.6/25, mb1 4.7/28, mb1mx4.7/29, mbtmp4.6/28, ML4.2/3, MS4.7/3, Ms1 4.7/3, ms1mx4.1/34, Error ellipse: s-maj=15.1km s-min=11.4km az=127.0*

BGS ***04*** *23:04:07.5±1.5, 44.55N×148.49E, h33km, mb5.2*

SKHL ***04*** *23:04:08.3±2.7, 44.70N×149.00E, h76km±32km, mb5.2/7, mbh5.7/1, ms5.1/5*

ISC 04 23:04:06.6±0.1, 4405N±003×14907E±002, h54km, h54km±1.1km: pP-P, n815, σ0.94/844, mb5.2/224, MS5.2/38, 192C-86D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YUK	**Yuzh-Kuril'sk**	**2.31**	**271**	*e*PN	**Pn**	**23 04 49.2**	**+7.1**
YUK				*e*S	**Sn**	**23 05 12.8**	**+3.4**
YUK	**Yuzh-Kuril'sk**	**2.31**	**271**	*e*P	**Pn**	**23 04 46.3**	**+4.2**
YUK				AMB	AMB	23 04 53.0	
	360nm,0.3s						
YUK				*e*S	**Sn**	**23 05 12.8**	**+3.4**
YUK				A		23 05 21.0	
	4μm,0.5s						
YUK				A		23 05 21.0	
	14μm,0.5s						
YUK				A		23 05 40.0	
	77μm,2.2s						
YUK				A		23 05 40.0	
	35μm,2.2s						
YUK				AMS	AMS	23 06 22.0	
	42μm,10.0s						
YUK				AMS	AMS	23 06 22.0	
	42μm,10.0s						
NEM2	**Nemuro 2**	**2.50**	**255**	P	**Pn**	**23 04 42.8**	**-2.0**
NEM2				*e*S	**Sn**	**23 05 12.4**	**-1.7**
JRA	**Rausu**	**2.85**	**269**	P	**Pn**	**23 04 48.9**	**-0.6**
JRA				*e*S	**Sn**	**23 05 23.4**	**+0.9**
JNK	**Nakash**	**3.18**	**263**	P	**Pn**	**23 04 52.8**	**-1.2**
JNK				*e*S	**Sn**	**23 05 30.5**	**-0.2**
JAK	**Akkeshi**	**3.35**	**253**	P	**Pn**	**23 04 54.3**	**-2.0**
JAK				*e*S	**Sn**	**23 05 33.1**	**-1.7**
JTKR	**Abashiri--Toko**	**3.72**	**271**	P	**Pn**	**23 05 01.3**	**-0.2**
JAR	**Ashorobuto**	**3.92**	**261**	P	**Pn**	**23 05 03.8**	**-0.3**
JAR				*e*S	**Sn**	**23 05 48.3**	**-0.5**
JOB	**Onbets**	**3.98**	**255**	P	**Pn**	**23 05 03.8**	**-1.1**
JOB				*e*S	**Sn**	**23 05 49.9**	**-0.4**
JMP	**Maruseppu**	**4.12**	**271**	P	**Pn**	**23 05 06.7**	**-0.2**
JCH	**Churui**	**4.40**	**253**	P	**Pn**	**23 05 10.1**	**-0.7**
JCH				*e*S	**Sn**	**23 06 01.0**	**+0.3**
JKK2	**Kamakawa 2**	**4.56**	**270**	P	**Pn**	**23 05 13.7**	**+0.7**
ASAJ	**Asahikawa**	**4.66**	**273**	PN	**Pn**	**23 05 15.3**	**+1.0**
ASAJ				pmax	pmax		
	comp=Z,24nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,19μm,19.3s						
ASAJ	**Asahikawa**	**4.66**	**273**	Pn	**Pn**	**23 05 15.2**	**+0.9**
	comp=Z,24nm,0.3s,baz=102,slow=12,SNR=11						
ASAJ				LR	LR	23 07 19.4	
	comp=Z,19μm,19.2s,baz=112,slow=42						
JSE	**Soyaes**	**4.72**	**283**	P	**Pn**	**23 05 15.9**	**+0.7**
JFR	**Furan**	**4.78**	**262**	P	**Pn**	**23 05 16.6**	**+0.6**
JFR				*e*S	**Sn**	**23 06 10.8**	**+0.7**
ERM	**Erimo**	**4.78**	**247**	Pn	**Pn**	**23 05 16.1**	**+0.1**
	comp=Z,4μm,0.7s,SNR=8.2						
ERM	**Erimo**	**4.78**	**247**	*e*PN	**Pn**	**23 05 17.2**	**+1.2**
JEM	**Erimo**	**4.78**	**247**	P	**Pn**	**23 05 16.4**	**+0.4**
JEM				*e*S	**Sn**	**23 06 11.0**	**+0.9**
JNBK	**Urakawa-nobuka**	**4.94**	**251**	P	**Pn**	**23 05 16.7**	**-1.5**
JNBK				*e*S	**Sn**	**23 06 10.8**	**-3.3**
JAB	**Ashibetsu**	**4.98**	**266**	P	**Pn**	**23 05 20.4**	**+1.6**
JBT2	**Biratori 2**	**5.04**	**258**	P	**Pn**	**23 05 18.8**	**-0.8**
JBT2				*e*S	**Sn**	**23 06 16.4**	**-0.1**
JSS	**Shosan**	**5.20**	**276**	P	**Pn**	**23 05 23.7**	**+2.0**
JWK2	**Keihoku**	**5.27**	**286**	P	**Pn**	**23 05 24.6**	**+2.0**
YSS	**Yuzh-Sakhalins**	**5.30**	**305**	*e*Pn	**Pn**	**23 05 20.2**	**-2.8**
YSS	**Yuzh-Sakhalins**	**5.30**	**305**	*e*PN	**Pn**	**23 05 22.4**	**-0.7**
YSS				*e*S	**Sn**	**23 06 20.0**	**-2.8**
YSS				pmax	pmax		
	comp=N,70nm,0.6s						
YSS				pmax	pmax		
	comp=Z,70nm,0.6s						
YSS				smax			
	comp=N,280nm,1.0s						
YSS				smax			
	comp=E,450nm,1.0s						
YSS				MLR	MLR		
	comp=N,7μm,16.0s						
YSS				MLR	MLR		
	comp=Z,11μm,16.0s						
YSS				MLR	MLR		
	comp=E,11μm,15.0s						
YSS	**Yuzh-Sakhalins**	**5.30**	**305**	⇑*i*P	**Pn**	**23 05 22.4**	**-0.7**
YSS				⇑*i*P		23 05 22.4	
YSS				AMB	AMB	23 05 24.5	
	comp=E,70nm,0.6s						
YSS				*e*S	**Sn**	**23 06 20.0**	**-2.8**
YSS				A		23 06 29.0	
	comp=E,280nm,1.0s						
YSS				A		23 06 29.0	
	comp=E,450nm,1.0s						
YSS				*e*LQ		23 06 52.0	
YSS				AMS	AMS	23 07 52.0	
	comp=E,11μm,15.0s						
YSS				AMS	AMS	23 07 52.0	
	comp=E,8μm,16.0s						
YSS				AMS	AMS	23 07 52.0	
	comp=E,7μm,16.0s						
YSS				AMS	AMS	23 07 52.0	
	comp=E,11μm,16.0s						
YSS				AMS	AMS	23 07 52.0	
	comp=E,11μm,15.0s						
YSS				AMS	AMS	23 07 52.0	
	comp=E,14μm,16.0s						
JHR	**Hokuryu**	**5.31**	**269**	P	**Pn**	**23 05 24.4**	**+1.1**
JEW	**Eniwo**	**5.67**	**260**	P	**Pn**	**23 05 28.9**	**+0.7**
JNB	**Noboribetsu**	**6.07**	**258**	P	**Pn**	**23 05 33.1**	**-0.6**
JNB				*e*S	**Sn**	**23 06 41.4**	**-0.3**
JSK	**Shakotan**	**6.27**	**267**	P	**Pn**	**23 05 37.6**	**+1.3**
JKB	**Kayabe**	**6.28**	**253**	P	**Pn**	**23 05 35.5**	**-1.0**
JKB				*e*S	**Sn**	**23 06 43.7**	**-3.1**
JOT	**Ohata**	**6.48**	**248**	P	**Pn**	**23 05 38.4**	**-0.9**
JYM2	**Yakumo 2**	**6.65**	**256**	P	**Pn**	**23 05 40.7**	**-0.9**
JYM2				*e*S	**Sn**	**23 06 54.8**	**-1.2**
JANG	**Nango**	**6.70**	**239**	P	**Pn**	**23 05 39.2**	**-3.1**
JANG				*e*S	**Sn**	**23 06 50.6**	**-6.6**
JSH	**Shimam**	**6.72**	**261**	P	**Pn**	**23 05 42.5**	**-0.1**
JTH	**Tanohata**	**6.75**	**235**	P	**Pn**	**23 05 39.1**	**-4.0**
JTH				*e*S	**Sn**	**23 06 50.5**	**-8.1**
JTM	**Tenmabayashi**	**6.76**	**244**	P	**Pn**	**23 05 40.8**	**-2.3**
JTM				*e*S	**Sn**	**23 06 53.1**	**-5.5**
JSR	**Shiriuchi**	**6.84**	**251**	P	**Pn**	**23 05 42.9**	**-1.3**
JSR				*e*S	**Sn**	**23 06 56.5**	**-4.2**
UGL	**Uglegorsk**	**6.97**	**319**	*e*PN	**Pn**	**23 05 46.0**	**+0.1**
UGL				pmax	pmax		
	comp=Z,2μm,4.0s						
UGL				pmax	pmax		
	comp=Z,93nm,0.7s						
UGL				MLR	MLR		
	comp=N,12μm,17.0s						
UGL				MLR	MLR		
	comp=Z,12μm,17.0s						
UGL				MLR	MLR		
	comp=E,5μm,15.0s						
UGL	**Uglegorsk**	**6.97**	**319**	*e*P	**Pn**	**23 05 46.0**	**+0.1**
UGL				AMB	AMB	23 05 48.0	
	comp=E,2μm,4.0s						
UGL				AMB	AMB	23 05 51.0	
	comp=E,93nm,0.7s						
UGL				A		23 07 31.0	
	comp=E,150nm,0.7s						
UGL				A		23 07 31.0	
	comp=E,120nm,0.6s						
UGL				A		23 07 32.0	
	comp=E,3μm,5.0s						
UGL				A		23 07 32.0	
	comp=E,3μm,5.0s						
UGL				*e*L		23 07 57.0	
UGL				AMS	AMS	23 08 44.0	
	comp=E,5μm,15.0s						
UGL				AMS	AMS	23 08 44.0	
	comp=E,12μm,17.0s						
UGL				AMS	AMS	23 08 44.0	
	comp=E,12μm,17.0s						
JKZ	**Kuzumaki**	**7.05**	**237**	P	**Pn**	**23 05 44.2**	**-2.8**
JOSM	**Okushiri--Mats**	**7.29**	**258**	P	**Pn**	**23 05 49.2**	**-1.2**
JOSM				*e*S	**Sn**	**23 07 09.4**	**-2.3**
OFUJ	**Ofunato**	**7.44**	**231**	P	**Pn**	**23 05 49.1**	**-3.4**
OFUJ				*e*S	**Sn**	**23 07 07.2**	**-8.2**
JRG	**Rokugo**	**7.83**	**236**	P	**Pn**	**23 05 55.9**	**-1.9**
JRG				*e*S	**Sn**	**23 07 19.1**	**-5.9**
JOG2	**Oga 2**	**8.05**	**242**	P	**Pn**	**23 05 59.5**	**-1.2**
JIO	**Ouri**	**8.06**	**229**	P	**Pn**	**23 05 56.5**	**-4.4**
JIO				*e*S	**Sn**	**23 07 21.2**	**-9.4**
TYV	**Tymovskoe**	**8.08**	**330**	*e*P	**Pn**	**23 06 00.5**	**-0.6**
TYV				AMB	AMB	23 06 22.0	
	comp=E,264nm,1.0s						
TYV				AMB	AMB	23 06 22.0	
	comp=E,143nm,0.8s						
TYV				AMB	AMB	23 06 22.0	
	comp=E,110nm,0.8s						
TYV				*e*S	**Sn**	**23 07 23.0**	**-7.9**
TYV				A		23 07 26.8	
	comp=E,66nm,1.0s						
TYV				A		23 07 26.8	
	comp=E,24nm,0.8s						
TYV				AMS	AMS	23 09 16.0	
	comp=E,9μm,17.0s						
TYV				AMS	AMS	23 09 16.0	
	comp=E,12μm,14.0s						
TYV				AMS	AMS	23 09 16.0	
	comp=E,10μm,16.0s						
SKR	**Severo-Kuril's**	**8.18**	**33**	*e*P	**Pn**	**23 05 59.0**	**-3.5**
SKR				AMB	AMB	23 06 03.9	
	comp=E,160nm,0.9s						
SKR				AMB	AMB	23 06 03.9	
	comp=E,80nm,0.5s						
SKR				AMB	AMB	23 06 03.9	
	comp=E,150nm,0.5s						
SKR				*e*S	**Sn**	**23 07 25.2**	**-8.2**
SKR				A		23 07 34.0	
	comp=E,170nm,0.7s						
SKR				A		23 07 34.0	
	comp=E,60nm,0.5s						
SKR				A		23 07 34.0	
	comp=E,80nm,0.5s						
SKR				A		23 08 08.0	
	comp=E,3μm,10.0s						
SKR				A		23 08 08.0	
	comp=E,7μm,10.0s						
SKR				A		23 08 08.0	
	comp=E,5μm,10.0s						
SKR				A		23 08 08.0	
	comp=E,3μm,10.0s						
SKR				A		23 08 08.0	
	comp=E,6μm,10.0s						
SKR				A		23 08 08.0	
	comp=E,5μm,10.0s						
SKR				AMS	AMS	23 09 34.0	
	comp=E,9μm,20.0s						
SKR				AMS	AMS	23 09 34.0	
	comp=E,3μm,14.0s						
SKR				AMS	AMS	23 09 34.0	
	comp=E,8μm,14.0s						
SKR				AMS	AMS	23 09 34.0	
	comp=E,9μm,20.0s						
SKR				AMS	AMS	23 09 34.0	
	comp=E,4μm,14.0s						
SKR				AMS	AMS	23 09 34.0	
	comp=E,8μm,14.0s						
JYA	**Atsumi**	**8.90**	**235**	P	**Pn**	**23 06 10.0**	**-2.4**
JYA				*e*S	**Sn**	**23 07 44.5**	**-6.6**
JFK	**Kawauchi**	**9.12**	**226**	P	**Pn**	**23 06 10.8**	**-4.6**
JFK				*e*S	**Sn**	**23 07 46.7**	**-10**
JFY	**Yanaizu**	**9.72**	**230**	P	**Pn**	**23 06 21.2**	**-2.4**
JFY				*e*S	**Sn**	**23 08 02.0**	**-9.2**
OKH	**Okha**	**10.33**	**339**	*e*PN	**Pn**	**23 06 32.0**	**+0.2**
OKH				*e*S	**Sn**	**23 08 25.5**	**-0.5**
OKH				pmax	pmax		
	comp=Z,2μm,4.4s						
OKH				smax			
	comp=Z,6μm,14.0s						
OKH	**Okha**	**10.33**	**339**	*e*P	**Pn**	**23 06 32.0**	**+0.2**
OKH				AMB	AMB	23 06 33.8	
	comp=Z,2μm,4.4s						
OKH				*e*LQ		23 09 02.0	
OKH				AMS	AMS	23 11 30.0	
	comp=Z,6μm,14.0s						
OKH				AMS	AMS	23 11 30.0	
	comp=Z,5μm,18.0s						
OKH				AMS	AMS	23 11 30.0	
	comp=Z,6μm,14.0s						
NKL	**Nikolayevsk**	**10.66**	**332**	*e*P	**Pn**	**23 06 32.0**	**-4.3**
NKL				AMB	AMB	23 06 35.0	
	comp=Z,1μm,4.0s						
NKL				AMB	AMB	23 06 35.0	
	comp=Z,700nm,4.0s						
NKL				AMB	AMB	23 06 35.0	
	comp=Z,1μm,4.0s						
NKL				AMB	AMB	23 06 40.0	
	comp=Z,30nm,1.0s						

JHJ	**Hachijo jima 2**	**13.10 217**	LR	LR	23 11 39.6	
	comp=E,971nm,19.1s,baz=39,slow=34					
MDJ	**Mudanjiang**	**13.95 279**	P	**Pn**	**23 07 19.1**	**-2.2**
MDJ			S	**Sn**	**23 09 51.5**	**-3.0**
MDJ			SCP	ScP	23 16 14.1	+6.3
MDJ			PCS	PcS	23 16 16.6	+3.0
MDJ			SCS	ScS	23 19 50.8	+6.0
MDJ			AMB	AMB		
	comp=Z,9.0nm,1.3s					
MDJ			AMB	AMB		
	comp=Z,153nm,4.7s					
MDJ			LR	LR		
	comp=N,1μm,16.0s					
MDJ			LR	LR		
	comp=E,3μm,22.1s					
MDJ			LR	LR		
	comp=Z,6μm,19.4s					
MA2	**Magadan**	**15.58 3**	*e*Pn	**Pn**	**23 07 39.3**	**-3.1**
	comp=Z,40nm,0.9s					
MA2	**Magadan**	**15.58 3**	*e*P	**Pn**	**23 07 39.4**	**-3.1**
MA2			*e*S	**S**	**23 10 30.4**	**-16**
CN2	**Changchun**	**17.01 277**	*e*P	**Pn**	**23 07 57.6**	**-2.9**
CN2			*e*S	**S**	**23 11 02.6**	**-13**
CN2			AMB	AMB		
	comp=Z,20nm,1.3s					
CN2			AMB	AMB		
	comp=Z,300nm,6.0s					
CN2			LR	LR		
	comp=N,3μm,16.0s					
CN2			LR	LR		
	comp=E,5μm,16.0s					
CN2			LR	LR		
	comp=Z,6μm,17.0s					
ZEA	**Zeya**	**17.25 312**	*e*P	**Pn**	**23 07 58.5**	**-4.9**
ZEA			AMB	AMB	23 08 01.7	
	comp=Z,58nm,1.0s					
KSRS	**Korea Array**	**17.30 255**	P	**Pn**	**23 08 02.9**	**-1.2**
	comp=Z,0.7nm,0.3s,baz=60,slow=11,SNR=19					
KSRS			PcP	PcP	23 12 45.2	+1.2
	comp=Z,0.1nm,0.3s,baz=33,slow=1.6,SNR=4.4					
JNU	**Nakatsue**	**17.88 239**	P	**Pn**	**23 08 11.8**	**+0.4**
	comp=Z,0.6nm,0.3s,baz=44,slow=18,SNR=13					
JNU			LR	LR	23 16 35.1	
	comp=Z,3μm,18.1s,baz=26,slow=42					
INCN	**Inchon**	**18.19 257**	*e*Pn	**Pn**	**23 08 15.0**	**0.0**
	comp=Z,76nm,1.0s					
SNY	**Shenyang**	**18.77 272**	⇑P	**Pn**	**23 08 21.2**	**-0.9**
SNY			AMB	AMB		
	comp=Z,73nm,0.8s					
SNY			AMB	AMB		
	comp=Z,517nm,10.8s					
SNY			LR	LR		
	comp=N,2μm,15.0s					
SNY			LR	LR		
	comp=E,3μm,18.0s					
SNY			LR	LR		
	comp=Z,5μm,17.4s					
SEY	**Seymchan**	**19.02 5**	⇑*e*P	**Pn**	**23 08 21.1**	**-3.7**
NRGR	**Nerungri**	**19.88 318**	*e*P	**Pn**	**23 08 31.9**	**-3.1**
CLNS	**Chul'man**	**19.88 319**	*e*P	**Pn**	**23 08 29.4**	**-5.7**
CLNS			*e*S	**S**	**23 12 08.6**	**-5.1**
CLNS			pmax	pmax		
	comp=E,12nm,0.6s					
CLNS			pmax	pmax		
	comp=Z,15nm,0.6s					
CLNS			pmax	pmax		
	comp=N,20nm,1.2s					
CLNS			smax			
	comp=E,170nm,11.4s					
CLNS			smax			
	comp=Z,596nm,13.8s					
CLNS			smax			
	comp=N,108nm,12.2s					
CLNS			MLR	MLR		
	comp=E,4μm,15.0s					
CLNS			MLR	MLR		
	comp=Z,6μm,15.0s					
CLNS			MLR	MLR		
	comp=N,3μm,13.0s					
DL2	**Dalian**	**21.14 265**	⇑P	**P**	**23 08 46.9**	**+0.1**
DL2			*e*S	**S**	**23 12 39.7**	**+0.8**
DL2			SS		23 13 05.5	
DL2			AMB	AMB		
	comp=Z,40nm,0.6s,mb4.9					
DL2			AMB	AMB		
	comp=Z,320nm,5.5s					
DL2			LR	LR		
	comp=N,850nm,16.0s,MS4.4					
DL2			LR	LR		
	comp=E,900nm,16.8s,MS4.4					
DL2			LR	LR		
	comp=Z,1μm,17.3s,MS4.3					
YAK	**Yakutsk**	**21.30 334**	*e*P	**P**	**23 08 44.9**	**-3.4**
	comp=Z,162nm,0.6s,mb5.5					
YAK	**Yakutsk**	**21.30 334**	*e*P	**P**	**23 08 44.5**	**-3.8**
YAK			*e*		23 09 02.3	
YAK			*e*S	**S**	**23 12 41.9**	**+0.4**
YAK			*e*		23 12 52.1	
YAK			*e*SS		23 13 04.0	
YAK			pmax	pmax		
	comp=E,32nm,0.9s					
YAK			pmax	pmax		
	comp=Z,121nm,0.9s,mb5.2					
YAK			pmax	pmax		
	comp=N,38nm,1.0s					
YAK			smax			
	comp=Z,48nm,2.2s					
YAK			smax			
	comp=N,224nm,2.8s					
YAK			smax			
	comp=E,198nm,3.1s					
YAK			MLR	MLR		
	comp=Z,3μm,18.0s,MS4.8					
YAK			MLR	MLR		
	comp=N,3μm,18.0s,MS4.9					
YAK			MLR	MLR		
	comp=E,3μm,16.0s,MS4.9					
JOW	**Kunigami**	**24.02 231**	P	**P**	**23 09 16.7**	**+0.4**
	comp=E,27nm,0.8s,mb4.7,baz=38,slow=11,SNR=4.0					
BJI	**Beijing**	**24.66 272**	P	**P**	**23 09 21.9**	**-0.1**
BJI			S	**S**	**23 13 41.5**	**+1.9**
BJI			AMB	AMB		
	comp=Z,72nm,0.9s,mb5.2					
BJI			LR	LR		
	comp=N,1μm,19.1s,MS5.0					
BJI			LR	LR		
	comp=E,4μm,17.3s,MS5.0					
BJI			LR	LR		
	comp=Z,4μm,19.4s,MS4.9					
BJI	**Beijing**	**24.66 272**	P	**P**	**23 09 21.9**	**-0.1**
	comp=Z,72nm,0.9s,mb5.2					
BJI			S	**S**	**23 13 41.5**	**+1.9**
BJI			LR	LR		
	comp=Z,4μm,19.4s,MS4.9					
CIT	**Chita**	**24.85 301**	*e*P	**P**	**23 09 20.6**	**-3.0**
CIT			*e*		23 09 35.7	
CIT			*e*		23 09 58.1	
CIT			*e*		23 10 18.1	
SSE	**Sheshan**	**25.46 249**	P	**P**	**23 09 31.6**	**+2.2**
SSE			S	**S**	**23 13 57.8**	**+5.2**
SSE			XS	sS	23 14 13.0	-2.8
SSE			AMB	AMB		
	comp=Z,44nm,0.8s,mb5.0					
SSE			AMB	AMB		
	comp=Z,732nm,11.9s					
SSE			LR	LR		
	comp=N,2μm,20.0s,MS4.7					
SSE			LR	LR		
	comp=E,1μm,20.0s,MS4.7					
SSE			LR	LR		
	comp=Z,3μm,16.9s,MS4.8					
SSE	**Sheshan**	**25.46 249**	P	**P**	**23 09 31.6**	**+2.2**
	comp=Z,44nm,0.8s,mb5.0					
SSE			S	**S**	**23 13 57.8**	**+5.2**
SSE			sS	sS	23 14 13.0	-2.8
SSE			LR	LR		
	comp=Z,3μm,16.9s,MS4.8					
TIA	**Tai'an**	**25.53 263**	*e*P	**P**	**23 09 30.3**	**+0.4**
TIA			AMB	AMB		
	comp=Z,87nm,1.0s,mb5.2					
BOD	**Bodaibo**	**25.69 315**	*e*P	**P**	**23 09 27.3**	**-3.9**
BOD			pmax	pmax		
	comp=Z,19nm,1.0s,mb4.6					
BILL	**Bilibino**	**25.70 15**	*e*P	**P**	**23 09 27.6**	**-3.6**
	comp=Z,8.2nm,0.6s,mb4.4					
BILL			*e*	pP	23 09 39.9	-4.9
BILL	**Bilibino**	**25.70 15**	*e*P	**P**	**23 09 27.4**	**-3.8**
BILL			pmax	pmax		
	comp=Z,13nm,1.0s,mb4.4					
BILL			MLR	MLR		
	comp=Z,3μm,16.0s,MS4.9					
NJ2	**Nanjing**	**26.48 253**	*e*P	**P**	**23 09 42.6**	**+4.0**
NJ2			AP	pP	23 09 49.6	-2.6
NJ2			XP	sP	23 09 54.1	-4.6
NJ2			PP		23 10 21.4	
NJ2			S	**S**	**23 14 13.0**	**+4.3**
NJ2			XS	sS	23 14 25.0	-6.9
NJ2			AMB	AMB		
	comp=Z,50nm,0.8s,mb5.1					
NJ2			AMB	AMB		
	comp=Z,1μm,3.8s					
NJ2			LR	LR		
	comp=N,8μm,16.9s,MS5.4					
NJ2			LR	LR		
	comp=E,5μm,16.8s,MS5.4					
NJ2			LR	LR		
	comp=Z,5μm,16.6s,MS5.2					
HHC	**Hu-ho-hao-te**	**27.70 277**	*e*P	**P**	**23 09 50.5**	**+1.1**
HHC			AP	pP	23 09 57.5	-5.6
HHC			XP	sP	23 10 00.5	-9.1
HHC			PP	PP	23 10 38.3	-14
HHC			PCP	PcP	23 13 10.3	+5.2
HHC			S	**S**	**23 14 30.5**	**+2.8**
HHC			XS	sS	23 14 40.3	-11
HHC			SS		23 15 43.4	
HHC			PCS	PcS	23 16 44.7	-2.2
HHC			SCP	ScP	23 16 46.3	+5.3
HHC			SCS	ScS	23 20 36.4	+3.5
HHC			AMB	AMB		
	comp=Z,80nm,1.0s,mb5.3					
HHC			AMB	AMB		
	comp=Z,720nm,12.7s					
HHC			LR	LR		
	comp=N,2μm,13.3s,MS5.0					
HHC			LR	LR		
	comp=E,3μm,16.1s,MS5.0					
HHC			LR	LR		
	comp=Z,4μm,18.4s,MS5.0					
BTO	**Baotou**	**28.89 277**	*e*P	**P**	**23 10 01.0**	**+1.0**
ULN	**Ulaanbaatar**	**29.19 292**	⇑*e*P	**P**	**23 10 02.1**	**-0.5**
TIXI	**Tiksi**	**29.36 347**	*e*P	**P**	**23 09 59.6**	**-4.3**
TIXI	**Tiksi**	**29.36 347**	*e*P	**P**	**23 09 59.5**	**-4.4**
TIXI			pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.5					
SONM	**Songino Array**	**29.63 293**	P	**P**	**23 10 07.0**	**+0.5**
SONM					23 13 10.2	
SONM			pmax	pmax		
	comp=Z,21nm,0.7s					
SONM	**Songino Array**	**29.63 293**	P	**P**	**23 10 07.0**	**+0.5**
	comp=Z,21nm,0.7s,mb5.0,baz=81,slow=8.4,SNR=49					
SONM			PcP	PcP	23 13 10.2	+0.4
	comp=Z,1.9nm,0.8s,baz=80,slow=3.3,SNR=3.2					
WHN	**Wuhan**	**30.49 256**	⇓P	**P**	**23 10 15.0**	**+0.7**
WHN			LR	LR		
	comp=E,6μm,15.8s,MS5.3					
GUMO	**Guam**	**30.57 188**	P	**P**	**23 10 16.1**	**+1.1**
TLY	**Talaya**	**30.99 301**	*e*P	**P**	**23 10 17.5**	**-0.9**
	comp=Z,10nm,1.0s,mb4.6					
TLY	**Talaya**	**30.99 301**	*e*P	**P**	**23 10 18.2**	**-0.2**
TLY			pmax	pmax		
	comp=Z,14nm,1.3s,mb4.6					
TLY			MLR	MLR		
	comp=Z,4μm,16.0s,MS5.2					
ZAK	**Zakamensk**	**31.33 298**	⇓*i*P	**P**	**23 10 21.3**	**-0.2**
ZAK			*e*		23 13 13.5	
ZAK			pmax	pmax		
	comp=Z,9.0nm,1.1s,mb4.5					
TNA	**Tin City**	**31.85 33**	*e*P	**P**	**23 10 25.1**	**-0.8**
	comp=Z,23nm,1.1s,mb4.9					
XAN	**Xi'an**	**32.46 266**	P	**P**	**23 10 31.3**	**-0.3**
XAN			AP	pP	23 10 39.2	-6.2
XAN			AMB	AMB		
	comp=Z,21nm,1.1s,mb4.9					
XAN			LR	LR		
	comp=N,1μm,16.2s,MS4.9					
XAN			LR	LR		
	comp=E,2μm,17.7s,MS4.9					
XAN			LR	LR		
	comp=Z,1μm,19.2s,MS4.7					
MOY	**Mondy**	**32.63 301**	*e*P	**P**	**23 10 32.0**	**-0.9**
MOY			pmax	pmax		
	comp=Z,41nm,4.2s					
LZH	**Lanzhou**	**35.14 273**	⇑P	**P**	**23 10 56.5**	**+1.6**
LZH			AP	pP	23 11 04.1	-4.6
LZH			XP	sP	23 11 07.5	-7.6
LZH			PP	PP	23 12 15.6	+0.3
LZH			*e*S	**S**	**23 16 26.7**	**+2.8**
LZH			XS	sS	23 16 38.5	-8.9
LZH			SS	SS	23 18 41.8	-16
LZH			AMB	AMB		
	comp=Z,215nm,1.1s,mb6.0					
LZH			AMB	AMB		
	comp=Z,127nm,5.4s					
LZH			LR	LR		
	comp=E,1μm,13.7s					
LZH			LR	LR		
	comp=Z,2μm,17.6s,MS4.8					
LZH	**Lanzhou**	**35.14 273**	⇑P	**P**	**23 10 56.5**	**+1.6**
	comp=Z,215nm,1.1s,mb6.0					
LZH			pP	pP	23 11 04.1	-4.6
LZH			sP	sP	23 11 07.5	-7.6
LZH			PP	PP	23 12 15.6	+0.3
LZH			*e*S	**S**	**23 16 26.7**	**+2.8**
LZH			sS	sS	23 16 38.5	-8.9
LZH			SS	SS	23 18 41.8	-16
LZH			LR	LR		
	comp=Z,2μm,17.6s,MS4.8					
LZH	**Lanzhou**	**35.14 273**	⇑P	**P**	**23 10 56.5**	**+1.6**
LZH			*SP	sP	23 11 07.5	-7.6
LZH					23 12 15.6	
LZH			*e*S	**S**	**23 16 26.7**	**+2.8**
LZH			SS	SS	23 18 41.8	-16
LZH			pmax	pmax		
	comp=Z,215nm,1.1s,mb6.0					
LZH			MLR	MLR		
	comp=Z,2μm,17.6s,MS4.8					
TTA	**Tatalina**	**36.32 39**	*e*P	**P**	**23 11 03.7**	**-0.9**
SVW2	**Sparrevohn**	**36.41 42**	*e*P	**P**	**23 11 01.0**	**-4.4**
GTA	**Gaotai**	**36.61 280**	P	**P**	**23 11 08.6**	**+1.3**
GTA			AP	pP	23 11 16.1	-5.2
GTA			XP	sP	23 11 19.0	-8.7
GTA			PP	PP	23 12 34.4	+3.1
GTA			PCP	PcP	23 13 29.5	+0.1
GTA			S	**S**	**23 16 50.3**	**+4.1**
GTA			XS	sS	23 17 03.7	-6.1
GTA			SCP	ScP	23 17 11.6	+0.3
GTA			PCS	PcS	23 17 15.5	-1.8
GTA			SS	SS	23 19 19.0	-8.7
GTA			SCS	ScS	23 21 20.3	+2.3
GTA			AMB	AMB		
	comp=Z,35nm,0.9s,mb5.2					
GTA			AMB	AMB		
	comp=Z,2μm,7.3s					
GTA			LR	LR		
	comp=N,2μm,15.3s,MS5.2					
GTA			LR	LR		
	comp=E,2μm,13.8s,MS5.2					
GTA			LR	LR		
	comp=Z,3μm,13.4s,MS5.3					
IMA2	**Indian Mountai**	**37.65 34**	*e*P	**P**	**23 11 15.1**	**-0.8**
CD2	**Chengdu**	**37.81 265**	⇑*i*P	**P**	**23 11 18.2**	**+0.6**
CD2			AP	pP	23 11 25.6	-6.0
CD2			XP	sP	23 11 29.4	-8.6
CD2			PP	PP	23 12 47.7	+3.0
CD2			PCP	PcP	23 13 35.1	+1.8
CD2			S	**S**	**23 17 07.2**	**+2.5**
CD2			XS	sS	23 17 19.2	-9.1
CD2			SS	SS	23 19 43.0	-8.5
CD2			SCS	ScS	23 21 27.1	+2.1
CD2			AMB	AMB		
	comp=Z,180nm,0.7s,mb5.9					
CD2			LR	LR		
	comp=N,1μm,15.6s,MS5.0					
CD2			LR	LR		
	comp=E,2μm,16.8s,MS5.0					
CD2			LR	LR		
	comp=Z,1μm,16.8s,MS4.8					
GYA	**Guiyang**	**38.34 257**	⇑*i*P	**P**	**23 11 24.4**	**+2.3**
GYA			AP	pP	23 11 32.9	-3.2
GYA			XP	sP	23 11 36.0	-6.5
GYA			PP	PP	23 12 56.2	+5.7
GYA			PCP	PcP	23 13 39.3	+4.4
GYA			S	**S**	**23 17 11.5**	**-1.2**
GYA			SCP	ScP	23 17 24.2	+6.2
GYA			XS	sS	23 17 30.6	-5.7
GYA			SS	SS	23 19 56.5	-6.4
GYA			SCS	ScS	23 21 32.5	+4.3
GYA			AMB	AMB		
	comp=Z,20nm,0.8s,mb4.9					
GYA			AMB	AMB		
	comp=Z,390nm,8.1s					
GYA			LR	LR		
	comp=N,1μm,19.7s,MS4.9					
GYA			LR	LR		
	comp=E,890nm,16.8s,MS4.9					
GYA			LR	LR		
	comp=Z,1μm,20.0s,MS4.6					
SLKM	**Skilak Lake**	**39.05 43**	*e*P	**P**	**23 11 27.0**	**-0.7**
SLKM			*e*	pP	23 11 41.7	0.0
MCK	**McKinley**	**39.55 38**	*e*P	**P**	**23 11 31.2**	**-0.6**
	comp=Z,26nm,0.8s,mb5.0					
MCK	**McKinley**	**39.55 38**	*e*P	**P**	**23 11 31.2**	**-0.5**
MCK			pmax	pmax		
	comp=Z,26nm,0.8s,mb5.0					
SML	**Sawmill**	**39.89 41**	*e*P	**P**	**23 11 34.1**	**-0.5**
COLA	**College**	**40.01 36**	*e*P	**P**	**23 11 35.0**	**-0.6**
	comp=Z,38nm,0.8s,mb5.2					
COLA			*e*	pP	23 11 48.4	-1.3
COLA	**College**	**40.01 36**	*e*P	**P**	**23 11 35.0**	**-0.6**
COLA			*e*	pP	23 11 48.4	-1.3
COLA			pmax	pmax		
	comp=Z,38nm,0.8s,mb5.2					
ZALV	**Zalesovo Beam**	**41.92 307**	P	**P**	**23 11 49.8**	**-1.6**
	comp=Z,4.7nm,0.5s,mb4.4,baz=53,slow=6.2,SNR=13					
ZALV			PcP	PcP	23 13 46.3	+0.4
	comp=Z,13nm,0.8s,baz=74,slow=2.7,SNR=14					
KMI	**Kunming**	**41.93 259**	P	**P**	**23 11 52.8**	**+0.9**
KMI			AP	pP	23 12 01.1	-4.9
KMI			XP	sP	23 12 06.8	-5.6
KMI			S	**S**	**23 18 08.0**	**+1.6**
KMI			AMB	AMB		
	comp=Z,29nm,1.1s,mb4.8					
KMI			AMB	AMB		
	comp=Z,548nm,7.5s					
KMI			LR	LR		
	comp=N,887nm,14.7s,MS5.0					
KMI			LR	LR		
	comp=E,1μm,15.8s,MS5.0					
KMI			LR	LR		
	comp=Z,2μm,15.2s,MS5.0					
KMI	**Kunming**	**41.93 259**	P	**P**	**23 11 52.8**	**+0.9**
	comp=Z,29nm,1.1s,mb4.8					
KMI			pP	pP	23 12 01.1	-4.9
KMI			sP	sP	23 12 06.8	-5.6
KMI			S	**S**	**23 18 08.0**	**+1.6**
KMI			LR	LR		
	comp=Z,2μm,15.2s,MS5.0					
ZAL	**Zalesovo**	**41.94 307**	P	**P**	**23 11 49.8**	**-1.8**
ZAL					23 13 46.3	
NVS	**Novosibirsk**	**42.61 309**	*i* P	**P**	**23 11 55.6**	**-1.4**
NVS			pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.5					
NVS			pmax	pmax		
	comp=N,1.0nm,0.5s					
NVS			pmax	pmax		
	comp=E,5.0nm,0.7s					
EGAK	**Eagle**	**42.88 36**	*e*P	**P**	**23 11 58.3**	**-0.7**
WMQ	**Urumqi**	**43.27 292**	⇑*i*P	**P**	**23 12 03.6**	**+1.1**
WMQ			XP	sP	23 12 14.0	-9.0
WMQ			PP	PP	23 13 46.0	+2.3
WMQ			*e*S	**S**	**23 18 27.0**	**+1.3**
WMQ			AMB	AMB		
	comp=Z,117nm,0.9s,mb5.6					
WMQ			LR	LR		
	comp=N,4μm,16.1s,MS5.5					
WMQ			LR	LR		
	comp=E,3μm,15.8s,MS5.5					
WMQ			LR	LR		
	comp=Z,3μm,18.2s,MS5.2					
DAWY	**Dawson**	**43.73 37**	*e*P	**P**	**23 12 04.7**	**-1.2**
INK	**Inuvik**	**45.44 31**	*e*P	**P**	**23 12 19.8**	**+0.2**
INK	**Inuvik**	**45.44 31**	P	**P**	**23 12 19.2**	**-0.4**
	comp=Z,25nm,0.9s,mb5.0,baz=282,slow=7.6,SNR=30					
MK31	**Makanchi Array**	**45.67 298**	*e*P	**P**	**23 12 22.0**	**+0.4**
MKAR	**Makanchi Array**	**45.67 298**	P	**P**	**23 12 21.9**	**+0.3**
MKAR	**Makanchi Array**	**45.67 298**	P	**P**	**23 12 21.9**	**+0.3**
MKAR			pmax	pmax		
	comp=Z,48nm,0.7s					
MKAR	**Makanchi Array**	**45.67 298**	P	**P**	**23 12 21.9**	**+0.3**
	comp=Z,48nm,0.7s,mb5.5,baz=74,slow=9.0,SNR=72					
LSA	**Lhasa**	**47.56 273**	P	**P**	**23 12 39.0**	**+2.4**
LSA			AMB	AMB		
	comp=Z,30nm,1.0s,mb5.3					
CHTO	**Chiang Mai**	**48.70 255**	*e*P	**P**	**23 12 46.8**	**+1.3**
	comp=Z,52nm,0.9s,mb5.6					
CHTO			*e*	pP	23 13 00.9	+1.0
CHTO	**Chiang Mai**	**48.70 255**	*e*P	**P**	**23 12 46.8**	**+1.3**
CHTO			*e*	pP	23 13 00.9	+1.0
CHTO			pmax	pmax		
	comp=Z,53nm,0.9s,mb5.6					
CM31	**Chiang Mai Arr**	**48.94 255**	*e*P	**P**	**23 12 49.0**	**+1.6**
CM31			*e*	pP	23 13 02.0	+0.2
DLBC	**Dease Lake**	**49.52 43**	*e*P	**P**	**23 12 52.3**	**+1.1**
DLBC	**Dease Lake**	**49.52 43**	P	**P**	**23 12 52.2**	**+0.9**
BRVK	**Borovoye**	**50.43 310**	*e*P	**P**	**23 12 56.8**	**-1.4**
	comp=Z,11nm,0.7s,mb5.0					
BRVK			*e*PcP	PcP	23 14 15.7	-0.1
BRVK	**Borovoye**	**50.43 310**	*e*P	**P**	**23 12 56.8**	**-1.4**
BRVK			*e*		23 14 15.7	
BRVK			pmax	pmax		
	comp=Z,11nm,0.7s,mb5.0					
ULHL	**Ulahol**	**51.52 295**	P	**P**	**23 13 08.0**	**+1.4**
	SNR=16					
TKM2	**Tokmak 2**	**51.62 296**	*e*P	**P**	**23 13 08.4**	**+1.0**
	comp=Z,78nm,1.0s,mb5.6					
TKM2	**Tokmak 2**	**51.62 296**	*e*P	**P**	**23 13 08.4**	**+1.0**
TKM2			pmax	pmax		
	comp=Z,78nm,1.0s,mb5.6					
TKM2	**Tokmak 2**	**51.62 296**	P	**P**	**23 13 08.4**	**+1.1**
	SNR=26					
CHMS	**Chumysh**	**52.13 297**	P	**P**	**23 13 11.8**	**+0.6**
	SNR=15					
USP	**Ospenovka**	**52.17 297**	P	**P**	**23 13 12.2**	**+0.8**
	SNR=38					
KBK	**Karagaybulak**	**52.17 296**	P	**P**	**23 13 12.6**	**+1.2**
	SNR=37					
KZA	**Kyzart**	**52.25 295**	P	**P**	**23 13 14.2**	**+2.2**
	SNR=26					
FRU	**Bishkek**	**52.30 296**	*i* P	**P**	**23 13 12.8**	**+0.4**
FRU			pmax	pmax		
	comp=Z,130nm,2.1s,mb5.5					
JIRN	**Jiri**	**52.30 274**	*e*P	**P**	**23 13 13.8**	**+1.2**
	comp=Z,123nm,0.9s,mb5.8					
AAK	**Ala-Archa**	**52.47 296**	P	**P**	**23 13 14.8**	**+1.1**
	SNR=7.9					
UCH	**Uchtor**	**52.66 296**	*e*P	**P**	**23 13 16.0**	**+0.9**
	comp=Z,18nm,0.8s,mb5.1					
UCH			*e*PcP	PcP	23 14 25.1	+0.8
UCH	**Uchtor**	**52.66 296**	P	**P**	**23 13 16.6**	**+1.5**
	SNR=13					
KKN	**Kakani**	**52.88 275**	*e*P	**P**	**23 13 17.8**	**+0.9**
	comp=Z,114nm,0.8s,mb5.8					
EKS2	**Erkin-Say**	**52.92 297**	P	**P**	**23 13 18.1**	**+1.1**
	SNR=12					
KSH	**Kashi**	**53.04 292**	P	**P**	**23 13 19.9**	**+2.0**
KSH			AP	pP	23 13 26.6	-5.9
KSH			XP	sP	23 13 30.1	-8.6
KSH			PCP	PcP	23 14 29.4	+3.6
KSH			PP	PP	23 15 19.5	+1.7
KSH			SCP	ScP	23 18 23.4	+4.9
KSH			*e*PCS	PcS	23 18 26.4	+1.8
KSH			*e*S	**S**	**23 20 43.0**	**-0.7**
KSH			*e*SCS	ScS	23 23 03.0	+0.5
KSH			*e*SS	SS	23 24 20.8	-2.2
KSH			AMB	AMB		
	comp=Z,104nm,0.9s,mb5.8					
KSH			AMB	AMB		
	comp=Z,2μm,7.2s					
KSH			LR	LR		
	comp=N,4μm,8.5s					
KSH			LR	LR		
	comp=E,3μm,9.4s					
KSH			LR	LR		
	comp=Z,5μm,16.2s,MS5.7					
GKN	**Gorkha**	**53.22 275**	*e*P	**P**	**23 13 20.1**	**+0.7**

comp=Z,170nm,1.0s,mb6.0
AML Almayashu 53.23 296 *e*P **P 23 13 20.9 +1.6**
comp=Z,53nm,0.8s,mb5.5
AML Almayashu 53.23 296 P **P 23 13 21.0 +1.7**
SNR=23
SVE Sverdlovsk 53.87 317⇓*e*P **P 23 13 23.3 -0.4**
SVE pmax pmax
comp=Z,24nm,0.9s,mb5.1
SVE MLR MLR
comp=Z,3μm,14.0s,MS5.4
KOLN Koldanda 54.09 276 *e*P **P 23 13 26.9 +1.1**
comp=Z,123nm,0.9s,mb5.8
RES Resolute Bay 54.28 17 *e*P **P 23 13 25.1 -1.3**
comp=Z,986nm,0.8s
YKA Yellowknife Ar 54.78 34 P **P 23 13 29.8 -0.4**
YKA pmax pmax
comp=Z,7.0nm,0.8s
YKA Yellowknife Ar 54.78 34 P **P 23 13 29.8 -0.4**
comp=Z,6.7nm,0.8s,mb4.7,baz=298,slow=6.8,SNR=24
BOK Bokaro 54.83 270 *e*P **P 23 13 32.0 +0.8**
BOK AMb AMB 23 13 48.4
comp=Z,35nm,1.8s,mb5.1
ARU Arti 55.07 317 *e*P **P 23 13 31.1 -1.4**
comp=Z,20nm,0.8s,mb5.2
ARU Arti 55.07 317 *d i*P **P 23 13 30.0 -2.4**
ARU *e* 23 14 29.0
ARU *e*S **S 23 21 09.5 -1.1**
ARU *e*SS SS 23 24 54.3 0.0
ARU pmax pmax
comp=Z,32nm,1.2s,mb5.2
ARU MLR MLR
comp=Z,3μm,17.0s,MS5.4
LGTI Lohaghat 55.52 279 *e*P **P 23 13 37.0 +0.9**
DDI Dehra Dun 56.57 282 *e*P **P 23 13 44.8 +1.2**
SDNR Sundarnagar 56.66 283 *e*P **P 23 13 46.7 +2.5**
DLH Dalhousie 56.77 285 *e*P **P 23 13 45.0 0.0**
DLH *e*x x 23 13 53.0
THN Thein Dam 57.01 285 *e*P **P 23 13 46.8 +0.2**
BHK Bhakra 57.09 284 *e*P **P 23 13 47.0 -0.3**
KULM Kulim 57.31 242 *e*P **P 23 13 50.0 +1.0**
NLWA Neilton Lookou 57.76 53 *e*P **P 23 13 51.7 0.0**
comp=Z,13nm,0.9s,mb5.0
NLWA *e*PP PP 23 15 55.3 -4.6
NLWA Neilton Lookou 57.76 53 ⇑P **P 23 13 51.9 +0.2**
baz=57
NDI New Delhi 58.12 280 *e*P **P 23 13 55.0 +0.5**
comp=Z,8.0nm,0.7s,mb4.9
NDI *e*x x 23 21 53.0
AKTK Aktyubinsk 58.38 311 P **P 23 13 55.5 -0.5**
AKTO Aktyubinsk 58.38 311 P **P 23 13 55.6 -0.4**
AKTO pmax pmax
comp=Z,10.0nm,0.6s,mb5.0
AKTO Aktyubinsk 58.38 311 P **P 23 13 55.5 -0.5**
comp=Z,10nm,0.6s,mb5.0,baz=56,slow=7.5,SNR=21
E03A Lebam 58.39 54 ⇑P **P 23 13 56.9 +0.8**
baz=58
BLSP Bilaspur 58.57 271 *e*P **P 23 13 57.7 -0.1**
BLSP AMb AMB 23 13 58.3
comp=Z,26nm,0.7s,mb5.4
APA Apatity 58.67 336⇑ *i*P **P 23 13 55.0 -2.7**
APA pmax pmax
comp=Z,47nm,1.2s,mb5.4
C05A Tolt Reservoir 58.85 52 ⇑P **P 23 13 58.9 -0.4**
baz=58
E04A Onalaska 58.85 54 ⇑P **P 23 13 57.9 -1.4**
baz=58
A07A Ashnola River, 58.85 50 ⇑P **P 23 13 57.2 -2.1**
baz=58
KEV Kevo 58.92 340 *e*p **P 23 13 56.2 -3.2**
DAG Danmarks Havn 59.20 357 *e*P **P 23 13 59.0 -2.4**
DAG pmax pmax
comp=Z,5.0nm,0.4s,mb4.9
DAG Danmarks Havn 59.20 357 *i* P **P 23 13 59.0 -2.4**
comp=Z,5.1nm,0.4s,mb4.9
G03A Yamhill 59.22 55 ⇓P **P 23 14 02.2 +0.3**
baz=59
B07A Winthrop 59.32 51 ⇑P **P 23 14 02.6 +0.1**
baz=59
TMCR Tamitsa 59.38 332 *e*P **P 23 13 55.7 -7.0**
TMCR *e* 23 14 43.0
ARCES ARCESS Array B 59.44 340 P **P 23 14 01.4 -1.6**
ARCES ARCESS Array B 59.44 340 P **P 23 14 01.4 -1.7**
ARCES pmax pmax
comp=Z,5.0nm,0.6s
ARCES ARCESS Array B 59.44 340 P **P 23 14 01.4 -1.6**
comp=Z,5.1nm,0.6s,mb4.7,baz=38,slow=7.7,SNR=17
ARE0 ARCESS Array S 59.44 340 P **P 23 14 02.2 -0.9**
COR Corvallis 59.60 56 *e*P **P 23 14 05.5 +0.9**
comp=Z,23nm,1.0s,mb5.2
COR Corvallis 59.60 56 *e*P **P 23 14 05.5 +0.9**
COR pmax pmax
comp=Z,23nm,1.0s,mb5.2
B08A Colville Reser 59.81 50 ⇓P **P 23 14 05.5 -0.5**
baz=59
A09A Danville 59.89 50 ⇓P **P 23 14 06.5 0.0**
baz=60
E06A Yakima 59.89 53 ⇓P **P 23 14 06.7 +0.2**
baz=60
I03A Eugene 59.96 56 ⇑P **P 23 14 05.2 -1.8**
baz=60
F05A White Salmon 59.97 54 ⇑P **P 23 14 04.6 -2.4**
baz=60
J02A Umpqua 60.12 57 ⇓P **P 23 14 08.5 +0.4**
baz=60
H04A Detroit Lake 60.21 55 ⇑P **P 23 14 08.5 -0.2**
baz=60
EDM Edmonton 60.24 43 *e*P **P 23 14 08.0 -0.8**
PSI Prapat 60.31 242 P **P 23 14 10.7 +0.9**
PSI pmax pmax
comp=Z,22nm,0.9s,mb5.2
PSI Prapat 60.31 242 P **P 23 14 10.7 +0.8**
comp=Z,22nm,0.9s,mb5.2,baz=9.0,slow=3.1,SNR=15
KBL Kabul 60.38 291 *e*P **P 23 14 09.5 -0.6**
K02A Glendale 60.50 58 ⇓P **P 23 14 11.7 +1.0**
baz=60
VIS Vishakhapatnam 60.52 266 *e*P **P 23 14 12.2 +1.0**
VIS AMb AMB 23 14 27.4
comp=Z,33nm,1.4s,mb5.3
I04A Tendick Farm, 60.58 56 ⇓P **P 23 14 11.6 +0.4**
baz=60
L02A Cave Junction 60.78 58 ⇓P **P 23 14 12.6 0.0**
baz=60
G06A Carlson Farm, 60.82 54 ⇑P **P 23 14 12.0 -0.8**
baz=60
F07A Phinny Hill Vi 60.85 53 ⇑P **P 23 14 13.3 +0.2**
baz=60
TRO Tromso 60.90 342 *e*P **P 23 14 10.2 -2.8**
NEW Newport 61.09 50 P **P 23 14 13.6 -1.0**
NEW pmax pmax
comp=Z,5.0nm,1.0s
NEW Newport 61.09 50 P **P 23 14 13.6 -1.1**
comp=Z,5.4nm,1.0s,mb4.6,baz=12,slow=4.9,SNR=5.4
A11A Hall Mountain, 61.11 49 ⇓P **P 23 14 15.3 +0.5**
baz=61
AJM Ajmer 61.26 280 *i* P **P 23 14 16.0 -0.1**
BHPL Bhopal 61.27 275 *e*P **P 23 14 16.2 0.0**
BHPL AMb AMB 23 14 17.9
comp=Z,54nm,0.8s,mb5.8
B11A Sandpoint 61.40 49 ⇑P **P 23 14 16.3 -0.5**
baz=61
YBH Yreka Blue Hor 61.56 58 *e*P **P 23 14 18.7 +0.7**
comp=Z,5.6nm,1.1s,mb4.6
YBH Yreka Blue Hor 61.56 58 *e*P **P 23 14 18.7 +0.7**
YBH pmax pmax
comp=Z,6.0nm,1.1s
YBH Yreka Blue Hor 61.56 58 ⇓P **P 23 14 17.9 0.0**
baz=61
J05A Fort Rock 61.57 56 ⇓P **P 23 14 18.4 +0.4**
baz=61
M02C Callahan 61.67 59 ⇓P **P 23 14 19.2 +0.5**
baz=61
D10A Wagner Farm, O 61.70 51 ⇑P **P 23 14 18.4 -0.4**
baz=61
N02C Big Bar 61.72 59 ⇑P **P 23 14 19.6 +0.6**
baz=61
G08A Pilot Rock 61.76 53 ⇓P **P 23 14 20.0 +0.8**
baz=61
I06A Prineville 61.80 55 ⇓P **P 23 14 18.8 -0.7**
baz=61
M04C Macdoel 62.07 58 ⇓P **P 23 14 20.2 -1.1**
baz=62
K05A Summer Lake 62.10 56 ⇑P **P 23 14 21.9 +0.4**
baz=62
I07A Izee 62.14 55 ⇓P **P 23 14 21.6 -0.2**
baz=62
KIPM Iron Peak 62.19 60 P **P 23 14 22.8 +0.6**

KIPM *e* pP 23 14 38.9 +1.7
J06A Christmas Vall 62.23 56 ⇓P **P 23 14 22.8 +0.4**
baz=62
WDC Whiskeytown Da 62.33 59 *e*P **P 23 14 23.5 +0.3**
comp=Z,13nm,1.0s,mb5.0
WDC *e* pP 23 14 39.3 +1.3
WDC Whiskeytown Da 62.33 59 *e*P **P 23 14 23.5 +0.4**
WDC *e* pP 23 14 39.3 +1.3
WDC pmax pmax
comp=Z,13nm,1.0s,mb5.0
WDC Whiskeytown Da 62.33 59 ⇓P **P 23 14 23.7 +0.6**
baz=62
F10A Beach Ranch, E 62.35 52 ⇓P **P 23 14 21.2 -2.0**
baz=62
WALA Waterton Lakes 62.36 47 *e*P **P 23 14 22.4 -0.8**
comp=Z,13nm,0.9s,mb5.0
WALA *e* pP 23 14 32.6 -5.5
H08A Prairie City 62.37 54 ⇑P **P 23 14 22.5 -0.8**
baz=62
O02C Red Bluff 62.41 60 ⇑P **P 23 14 23.8 +0.1**
baz=62
K06A Valley Falls 62.44 56 ⇑P **P 23 14 23.7 -0.1**
baz=62
JOF Joensuu 62.46 333 *e*p **P 23 14 21.9 -1.7**
comp=Z,51nm,0.6s,mb5.8
JOF Joensuu 62.46 333 *e*P **P 23 14 21.9 -1.7**
JOF pmax pmax
comp=Z,51nm,0.6s,mb5.8
B13A Whitefish 62.47 48 P **P 23 14 24.4 +0.5**
baz=62,SNR=6.5
P01C Double 8 Ranch 62.48 61 ⇑P **P 23 14 22.1 -2.0**
baz=62
L05A Lakeview 62.52 57 ⇓P **P 23 14 24.3 -0.1**
baz=62
E11A Bogner Ranch, 62.70 51 ⇑P **P 23 14 25.1 -0.4**
baz=62
GASB Alder Springs 62.76 60 ⇓P **P 23 14 27.2 +1.2**
baz=62
I08A Drewsey 62.79 54 ⇑P **P 23 14 25.4 -0.7**
baz=62
C13A Hot Springs 62.82 49 ⇓P **P 23 14 25.3 -1.0**
baz=62
H09A Durkee 62.87 53 ⇑P **P 23 14 26.4 -0.3**
baz=62
MOD Modoc 62.93 57 *e*P **P 23 14 27.6 +0.5**
comp=Z,31nm,1.2s,mb5.3
MOD *e* pP 23 14 43.8 +1.8
BMO Blue Mountains 62.97 53 *e*P **P 23 14 27.4 +0.1**
comp=Z,9.7nm,1.1s,mb4.8
BMO *e* pP 23 14 43.1 +0.9
BMO Blue Mountains 62.97 53 *e*P **P 23 14 27.4 +0.1**
BMO *e* pP 23 14 43.1 +0.9
BMO pmax pmax
comp=Z,10.0nm,1.1s,mb4.9
F11A Grangeville 63.01 51 ⇓P **P 23 14 27.2 -0.3**
baz=63
K07A Rock Creek Ran 63.10 56 ⇓P **P 23 14 27.0 -1.2**
baz=63
J08A Circle Bar Ran 63.17 55 ⇑P **P 23 14 27.9 -0.7**
baz=63
G11A Walters Elk Ra 63.23 52 ⇓P **P 23 14 28.2 -0.9**
baz=63
D13A Huson 63.23 49 ⇓P **P 23 14 28.1 -1.0**
baz=63
MNRC McLaughlin Nat 63.39 61 ⇓P **P 23 14 31.4 +1.2**
baz=63
H10A Noah's Angus R 63.44 53 ⇓P **P 23 14 29.1 -1.3**
baz=63
K08A Mann Creek Ran 63.53 55 ⇑P **P 23 14 29.3 -1.7**
baz=63
ORV Oroville 63.58 60 ⇓P **P 23 14 31.0 -0.4**
baz=63
F12A Elk City 63.59 51 ⇑P **P 23 14 30.0 -1.4**
baz=63
J09A Fry Pan Ranch, 63.60 54 ⇑P **P 23 14 30.8 -0.7**
baz=63
MSO Missoula 63.68 49 *e*P **P 23 14 31.7 -0.3**
comp=Z,18nm,1.0s,mb5.0
OHCM Honcut 63.72 60 *e*P **P 23 14 31.9 -0.5**
OHCM *e* pP 23 14 48.7 +1.4
D14A Greenough 63.76 49 P **P 23 14 32.1 -0.4**
baz=63,SNR=7.5
E13A Victor 63.77 50 ⇓P **P 23 14 32.2 -0.4**
baz=63
CTAO Charters Tower 63.87 183 P **P 23 14 34.5 +1.2**
N06A Buffalo Meadow 63.90 58 ⇑P **P 23 14 33.5 0.0**
baz=64
M07A Soldier Meadow 63.92 57 ⇑P **P 23 14 34.7 +1.0**
baz=64
L08A Fields 63.94 56 ⇑P **P 23 14 35.2 +1.5**
baz=64
K09A Rome 64.00 55 ⇑P **P 23 14 34.0 -0.1**
baz=64
F13A Darby 64.09 51 ⇑P **P 23 14 33.8 -0.9**
baz=64
BEKR Beckwourth 64.10 59 ⇓P **P 23 14 36.0 +1.1**
baz=64
HYB Hyderabad 64.17 270 *e*P **P 23 14 35.0 -0.6**
comp=Z,55nm,1.0s,mb5.5
HYB *e* pP 23 14 50.0 -0.5
HYB Hyderabad 64.17 270 *e*P **P 23 14 35.0 -0.6**
HYB *e* pP 23 14 50.0 -0.5
HYB pmax pmax
comp=Z,55nm,1.0s,mb5.5
HYB Hyderabad 64.17 270⇑ *i*P **P 23 14 35.0 -0.6**
comp=Z,55nm,1.0s,mb5.5
HYB *e*pP pP 23 14 48.0 -2.5
E14A Clinton 64.17 50 ⇑P **P 23 14 34.8 -0.4**
baz=64
D15A Lincoln 64.32 49 ⇓P **P 23 14 35.2 -1.0**
baz=64
M08A Happy Creek Ra 64.36 56 ⇑P **P 23 14 35.9 -0.6**
baz=64
N07B Gerlach 64.40 57 ⇓P **P 23 14 38.4 +1.6**
baz=64
L09A Wilkinson Ranc 64.44 56 ⇓P **P 23 14 38.6 +1.5**
baz=64
K10A MacKenzie Ranc 64.45 54 ⇓P **P 23 14 37.5 +0.4**
baz=64
G13A Cobalt 64.57 51 ⇓P **P 23 14 36.4 -1.4**
baz=64
FFC Flin Flon 64.63 37 *e*P **P 23 14 37.6 -0.4**
comp=Z,19nm,0.8s,mb5.2
FFC *e* pP 23 14 51.6 -1.4
FFC Flin Flon 64.63 37 *e*P **P 23 14 37.6 -0.4**
FFC *e* pP 23 14 51.6 -1.4
FFC pmax pmax
comp=Z,19nm,0.8s,mb5.2
E15A Deer Lodge 64.64 49 P **P 23 14 38.3 +0.1**
baz=64,SNR=6.3
KAF Kangasniemi 64.66 334 *e*p **P 23 14 36.3 -1.8**
comp=Z,38nm,0.7s,mb5.5,baz=40,slow=6.2
KAF Kangasniemi 64.66 334 *e*P **P 23 14 36.3 -1.8**
KAF pmax pmax
comp=Z,38nm,0.7s,mb5.5
MOR8 Moi Rana 64.70 341 *e*P **P 23 14 35.7 -2.7**
MOR8 AMb AMB 23 14 37.5
comp=Z,82nm,1.0s,mb5.7
H13A Challis 64.88 52 ⇓P **P 23 14 38.5 -1.4**
baz=64
HRY Holter Researc 64.90 49 *e*P **P 23 14 40.0 +0.1**
N08A GE Springer Mi 64.91 57 ⇑P **P 23 14 40.6 +0.5**
baz=64
S04C Ingram Canyon, 64.92 61 ⇓P **P 23 14 41.5 +1.3**
baz=65
K11A Parker Ranch, 64.95 54 ⇓P **P 23 14 40.2 -0.2**
baz=64
R05C Kirkwood Meado 64.98 60 ⇓P **P 23 14 38.6 -2.0**
baz=65
MOS Moscow 65.02 324 *e*P **P 23 14 40.2 -0.4**
MOS pmax pmax
comp=Z,51nm,1.4s,mb5.4
MOS MLR MLR
comp=E,1μm,16.0s
MOS MLR MLR
comp=Z,1μm,16.0s,MS5.2
FCC Fort Churchill 65.06 31 *e*P **P 23 14 39.3 -1.5**
comp=Z,7.9nm,0.6s,mb4.9
FCC Fort Churchill 65.06 31 *e*P **P 23 14 39.3 -1.5**
FCC pmax pmax
comp=Z,8.0nm,0.6s,mb4.9
F15A Butte 65.08 50 P **P 23 14 41.1 0.0**
baz=65,SNR=6.3
WRA Warramunga Arr 65.09 195 P **P 23 14 42.0 +0.6**
WRA Warramunga Arr 65.09 195 *i* P **P 23 14 44.9 +3.6**
WRA pmax pmax
comp=Z,5.0nm,0.8s

WRA Warramunga Arr 65.09 195 P **P 23 14 42.0 +0.6**
comp=Z,5.4nm,0.8s,mb4.6,baz=16,slow=6.8,SNR=6.1
L10A Juniper Basin 65.11 55 ⇑P **P 23 14 42.4 +1.0**
baz=65
EGMT Eagleton 65.19 47 *e*P **P 23 14 41.7 -0.1**
comp=Z,14nm,0.8s,mb5.0
EGMT Eagleton 65.19 47 ⇓P **P 23 14 40.7 -1.1**
baz=65
CMB Columbia Colle 65.19 60 *e*P **P 23 14 41.4 -0.6**
comp=Z,11nm,1.0s,mb4.8
CMB *e* pP 23 14 56.2 -0.8
CMB Columbia Colle 65.19 60 *e*P **P 23 14 41.4 -0.6**
CMB *e* pP 23 14 56.2 -0.8
CMB pmax pmax
comp=Z,11nm,1.0s,mb4.8
CMB Columbia Colle 65.19 60 ⇑P **P 23 14 41.1 -0.9**
baz=65
FINES FINESS Array B 65.23 334 P **P 23 14 40.4 -1.4**
FINES pmax pmax
comp=Z,38nm,0.6s
FINES FINESS Array B 65.23 334 P **P 23 14 40.4 -1.4**
comp=Z,38nm,0.6s,mb5.6,baz=48,slow=7.5,SNR=75
N09A Rock Creek Ran 65.23 57 ⇓P **P 23 14 41.1 -1.1**
baz=65
PACP Pacheco Peak 65.24 62 ⇑P **P 23 14 40.4 -1.9**
baz=65
HLID Hailey 65.40 53 *e*P **P 23 14 43.4 +0.1**
HLID *e* pP 23 14 59.6 +1.3
HLID Hailey 65.40 53 ⇓P **P 23 14 43.0 -0.2**
baz=65
M10A I.L. Ranch, Tu 65.41 55 ⇓P **P 23 14 41.7 -1.7**
baz=65
FITZ Fitzroy Crossi 65.46 205 *e*P **P 23 14 35.2 -8.6**
comp=Z,3.8nm,0.5s,mb4.7
R06C Coleville 65.47 60 ⇓P **P 23 14 44.5 +0.7**
baz=65
G15A Dillon 65.50 50 ⇓P **P 23 14 43.0 -0.9**
baz=65
MCMT McKenzie Canyo 65.50 51 *e*P **P 23 14 44.0 +0.1**
MCMT *e* pP 23 14 60.0 +1.1
BOZ Bozeman (W) 65.67 49 *e*P **P 23 14 45.4 +0.5**
comp=Z,13nm,0.7s,mb5.1
BOZ Bozeman (W) 65.67 49 *e*P **P 23 14 45.4 +0.5**
BOZ pmax pmax
comp=Z,13nm,0.7s,mb5.1
BOZ Bozeman (W) 65.67 49 ⇑P **P 23 14 44.6 -0.4**
baz=65
OBN Obninsk 65.89 324 *e*P **P 23 14 45.2 -0.9**
comp=Z,78nm,1.1s,mb5.7
OBN Obninsk 65.89 324⇑ *i*P **P 23 14 45.7 -0.5**
OBN *e* 23 17 09.4
OBN pmax pmax
comp=Z,71nm,0.8s,mb5.8
OBN MLR MLR
comp=Z,2μm,17.0s,MS5.3
L12A House Creek Ra 65.93 54 ⇓P **P 23 14 46.0 -0.7**
baz=66
Q08A Gabbs 66.21 58 ⇑P **P 23 14 49.7 +1.2**
baz=66
NVAR Mina Array Bea 66.24 59 P **P 23 14 48.2 -0.5**
comp=Z,2.7nm,0.8s,mb4.3,baz=295,slow=6.5
QLMT Earthquake Lak 66.29 50 *e*P **P 23 14 49.2 +0.3**
QLMT *e* pP 23 15 05.5 +1.5
VRHR Novokhopersk 66.33 319 *e*P **P 23 14 47.1 -2.0**
VRHR pmax pmax
comp=Z,70nm,1.0s,mb5.7
VRHR pmax pmax
comp=N,30nm,0.7s
VRHR pmax pmax
comp=E,10.0nm,0.6s
M12A Wells 66.44 55 ⇓P **P 23 14 50.4 +0.4**
baz=66
GCMT Greycliff 66.64 48 *e*P **P 23 14 52.0 +0.8**
GCMT *e* pP 23 15 07.8 +1.6
MTUM Tungsten Hills 66.75 60 P **P 23 14 52.3 +0.3**
POO Poona 66.83 274 *e*P **P 23 14 52.7 0.0**
POO AMb AMB 23 14 54.3
comp=Z,39nm,1.1s,mb5.3
HELL Mitchell Peak 66.88 61 ⇓P **P 23 14 52.5 -0.3**
baz=66
M13A Montello 66.91 54 ⇓P **P 23 14 52.9 -0.1**
baz=66
R09A Tonopah 67.12 59 ⇓P **P 23 14 55.0 +0.7**
baz=67
IMW Indian Meadow 67.16 51 *e*P **P 23 14 55.2 +0.7**
comp=Z,28nm,1.0s,mb5.2
IMW *e* pP 23 15 11.2 +1.7
FLWY Flagg Ranch 67.17 50 *e*P **P 23 14 55.2 +0.6**
comp=Z,17nm,1.0s,mb5.0
FLWY *e* pP 23 15 11.4 +1.8
O12A Currie 67.26 56 ⇑P **P 23 14 54.6 -0.6**
baz=67
RLMT Red Lodge 67.29 49 *e*P **P 23 14 55.9 +0.6**
comp=Z,15nm,1.0s,mb5.0
RLMT *e* pP 23 15 12.3 +2.0
KAD Karad 67.39 273 *e*P **P 23 14 56.4 +0.1**
KAD AMb AMB 23 15 11.7
comp=Z,40nm,0.3s,mb6.0
TPAW Teton Pass 67.41 51 *e*P **P 23 14 56.4 +0.3**
comp=Z,43nm,0.9s,mb5.5
TPAW *e* pP 23 15 13.3 +2.2
VORD Divnogorie 67.51 320 *e*P **P 23 14 56.4 -0.2**
VORD pmax pmax
comp=Z,110nm,0.9s,mb5.9
VORD pmax pmax
comp=N,110nm,0.7s
VORD pmax pmax
comp=E,110nm,0.6s
LOHW Long Hollow 67.52 51 P **P 23 14 57.3 +0.5**
comp=E,27nm,1.2s,mb5.2
SNOW Snow King Moun 67.54 51 *e*P **P 23 14 57.8 +0.9**
comp=E,28nm,1.0s,mb5.2
SNOW *e* pP 23 15 14.5 +2.6
REDW Red Top Meadow 67.55 51 *e*P **P 23 14 57.7 +0.8**
comp=E,28nm,1.1s,mb5.2
DGMT Dagmar 67.73 44 *e*P **P 23 14 57.6 -0.4**
comp=E,26nm,0.7s,mb5.4
DGMT *e* pP 23 15 11.7 -1.4
M15A Larsen Ranch, 67.85 53 ⇑P **P 23 14 59.3 +0.4**
baz=67
ISA Isabella 67.86 61 *e*P **P 23 14 58.6 -0.5**
comp=E,3.3nm,0.8s,mb4.4
ISA *e* pP 23 15 12.7 -1.4
R11A Troy Canyon, C 67.96 58 ⇑P **P 23 15 00.3 +0.6**
baz=68
MPMC Manual Prospec 68.23 61 ⇑P **P 23 15 01.1 -0.3**
baz=68
HWUT Hardware Ranch 68.27 53 *e*P **P 23 15 01.5 0.0**
comp=E,20nm,1.1s,mb5.0
HWUT *e* pP 23 15 18.3 +1.7
SFJD Kangerlussuaq 68.27 8 *e*P **P 23 15 00.2 -0.9**
comp=E,24nm,0.9s,mb5.2
SFJD Kangerlussuaq 68.27 8 *i* P **P 23 15 00.3 -0.8**
SFJD pmax pmax
comp=Z,26nm,0.7s,mb5.4
SFJD Kangerlussuaq 68.27 8 *i* P **P 23 15 00.3 -0.8**
comp=Z,26nm,0.7s,mb5.4
FURC Furnace Creek, 68.36 60 ⇓P **P 23 15 03.5 +1.3**
baz=68
TPNV Topopah Spring 68.44 59 *e*P **P 23 15 02.8 +0.1**
TPNV *e* pP 23 15 19.4 +1.6
TPNV Topopah Spring 68.44 59 ⇑P **P 23 15 02.3 -0.4**
baz=68
DUG Dugway 68.45 55 *e*P **P 23 15 01.9 -0.7**
comp=Z,18nm,1.0s,mb5.0
DUG *e* pP 23 15 18.3 +0.5
DUG Dugway 68.45 55 *e*P **P 23 15 02.0 -0.7**
DUG *e* pP 23 15 18.3 +0.5
DUG pmax pmax
comp=Z,17nm,1.0s,mb5.0
DUG Dugway 68.45 55 ⇓P **P 23 15 01.5 -1.1**
baz=68
BW06 Boulder Array 68.65 51 *e*P **P 23 15 03.7 -0.2**
comp=Z,13nm,0.8s,mb4.9
BW06 *e* pP 23 15 20.2 +1.2
PDAR Pinedale Array 68.65 51 P **P 23 15 03.5 -0.4**
comp=Z,5.0nm,1.0s,mb4.4,baz=299,slow=1.5,SNR=12
ASAR Alice Springs 68.80 195 P **P 23 15 06.3 +1.5**
comp=Z,2.4nm,0.7s,mb4.2,baz=15,slow=5.4,SNR=10.0
ASAR PKPPKP 23 43 19.1
comp=Z,1.5nm,1.0s,baz=188,slow=3.3,SNR=7.8
NLU North Lily Min 69.03 54 *e*P **P 23 15 05.6 -0.7**
NLU *e* pP 23 15 20.5 -1.0
GSC Goldstone 69.14 61 P **P 23 15 06.9 -0.2**
comp=Z,9.0nm,0.9s,mb4.7
GSC Goldstone 69.14 61 P **P 23 15 06.9 -0.1**

GSC pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
MPU Maple Canyon 69.25 54 *e*P **P 23 15 07.9 +0.2**
comp=Z,23nm,1.0s,mb5.0
MPU *e* pP 23 15 24.4 +1.6
PALK Pallekele 69.46 260 *e*P **P 23 15 09.2 -0.1**
comp=Z,9.9nm,1.0s,mb4.7
ARUT Antelope Range 69.62 57 *e*P **P 23 15 10.3 +0.4**
ARUT *e* pP 23 15 24.1 -1.0
GOF Gofitskoye 69.66 313⇑*i*P **P 23 15 17.0 +6.9**
GOF pmax pmax
comp=Z,210nm,1.3s,mb5.9
NB2 NORSAR Subarra 69.81 340 P **P 23 15 09.7 -1.1**
comp=Z,51nm,0.6s,mb5.6,baz=31,slow=6.5
NOA NORSAR Array B 69.81 340 P **P 23 15 09.9 -0.8**
NOA pmax pmax
comp=Z,60nm,0.8s
NOA NORSAR Array B 69.81 340 P **P 23 15 09.9 -0.8**
comp=Z,60nm,0.8s,mb5.6,baz=32,slow=6.1,SNR=62
CCUT Cedar City 69.82 57 *e*P **P 23 15 11.5 +0.3**
CCUT *e* pP 23 15 27.9 +1.6
U12A Valley of Fire 69.83 59⇓P **P 23 15 12.0 +0.7**
baz=70
T13A Saint George 69.83 58⇓P **P 23 15 11.7 +0.4**
baz=70
MNK Minsk 69.84 328⇓*e*P **P 23 15 10.0 -1.0**
MNK pmax pmax
comp=Z,220nm,1.0s,mb6.0
MSU Marysvale 69.91 56 *e*P **P 23 15 12.3 +0.5**
MSU *e* pP 23 15 29.0 +2.1
NAO01 NORSAR Array S 70.06 340 *e*P **P 23 15 11.4 -0.9**
comp=Z,57nm,0.8s,mb5.5
V12A Nelson 70.09 59⇑P **P 23 15 13.1 +0.2**
baz=70
U13A Pakoon Wash 70.19 58 P **P 23 15 14.2 +0.7**
baz=70,SNR=6.6
GMRC Granite Mounta 70.19 61⇑P **P 23 15 13.7 +0.1**
baz=70
MBWA Marble Bar 70.24 209 P **P 23 15 14.9 +1.1**
MBWA *e* pP 23 15 31.7 +2.8
T14A Hurricane 70.31 57⇓P **P 23 15 14.4 +0.2**
baz=70
ULM Lac du Bonnet 70.42 38 P **P 23 15 13.4 -1.2**
comp=Z,3.3nm,0.8s,mb4.3,baz=284,slow=5.7,SNR=5.6
PFO Pinyon Flat Ob 70.44 62 *e*P **P 23 15 12.9 -2.2**
comp=Z,10.0nm,1.1s,mb4.7
PFO Pinyon Flat Ob 70.44 62 *e*P **P 23 15 12.9 -2.2**
PFO pmax pmax
comp=Z,10.0nm,1.1s,mb4.7
PFO Pinyon Flat Ob 70.44 62⇑P **P 23 15 15.4 +0.3**
baz=70
BELC Belle Mtn. 70.48 61⇓P **P 23 15 15.5 +0.2**
baz=70
KIV Kislovodsk 70.59 313 *e*P **P 23 15 16.8 +1.0**
KIV pmax pmax
comp=Z,61nm,0.7s,mb5.6
KIV MLR MLR
comp=Z,3μm,17.0s,MS5.6
KIV Kislovodsk 70.59 313⇑*i*P **P 23 15 16.8 +1.0**
U14A Mt Trumbull 70.67 58⇓P **P 23 15 16.6 +0.2**
baz=70
RWWY Rawlins 70.67 50 *e*P **P 23 15 13.6 -2.7**
comp=Z,21nm,1.0s,mb5.0
RWWY *e* pP 23 15 31.8 +0.3
RSSD Black Hills 70.75 47 *e*P **P 23 15 16.1 -0.6**
RSSD *e* pP 23 15 32.6 +0.7
T15A Red Dirt Ranch 70.76 57⇓P **P 23 15 17.0 0.0**
baz=70
IRM Iron Mountain 70.92 61⇓P **P 23 15 18.2 +0.3**
baz=71
MONP Monument Peak 70.93 63⇓P **P 23 15 18.6 +0.5**
baz=71
MTA Mtatsminda 70.97 310 P **P 23 15 19.3 +1.1**
TBLG Delisi 70.98 310 P **P 23 15 19.6 +1.4**
BC3 Big Chuckw Mtn 71.05 61⇓P **P 23 15 18.8 0.0**
baz=71
W13A Hualapai Mount 71.09 59⇑P **P 23 15 19.1 +0.1**
baz=71
V14A Boquillas Ranc 71.23 58⇓P **P 23 15 20.0 +0.2**
baz=71,SNR=6.4
BORG Borgarnes 71.28 356 *e*P **P 23 15 20.9 +1.3**
DVTC Desert V Tower 71.29 63⇑P **P 23 15 20.7 +0.4**
baz=71
SWSC Sam W. Stewart 71.30 62⇓P **P 23 15 20.4 +0.1**
baz=71
PDMCI Parker Dam,Lak 71.46 60⇓P **P 23 15 21.1 -0.1**
baz=71
X13A Yucca 71.46 60⇑P **P 23 15 21.3 +0.1**
baz=71
W14A Seligman 71.52 59⇑P **P 23 15 21.6 0.0**
baz=71
Y12C Blythe 71.58 61⇓P **P 23 15 21.9 0.0**
baz=71
AGMN Agassiz Refuge 71.84 40 *e*P **P 23 15 21.6 -1.7**
comp=Z,33nm,1.7s,mb5.0
SUW Suwalki 71.95 330 *e*P **P 23 15 23.4 -0.4**
Y13A Salome 71.97 60⇓P **P 23 15 24.6 +0.2**
baz=72
W15A Williams 72.04 58⇑P **P 23 15 25.1 +0.4**
baz=72
X14A Yava 72.12 59⇑P **P 23 15 25.6 +0.4**
baz=72
AKASG Malin Array Be 72.15 325 P **P 23 15 24.7 -0.4**
AKASG pmax pmax
comp=Z,21nm,0.5s
AKASG Malin Array Be 72.15 325 P **P 23 15 24.6 -0.4**
comp=Z,21nm,0.5s,mb5.3,baz=37,slow=6.2,SNR=66
AKBB Malin Array Si 72.15 325 *e*P **P 23 15 24.3 -0.7**
KIEV Kiev 72.16 325 *e*P **P 23 15 24.1 -1.0**
comp=Z,57nm,0.9s,mb5.5
KIEV Kiev 72.16 325 *e*P **P 23 15 24.2 -0.9**
KIEV pmax pmax
comp=Z,57nm,0.9s,mb5.5
WUAZ Wupatki 72.36 58 *e*P **P 23 15 27.4 +0.8**
comp=Z,15nm,1.0s,mb4.9
WUAZ *e* pP 23 15 43.5 +1.7
WUAZ Wupatki 72.36 58⇑P **P 23 15 26.9 +0.2**
baz=72
SOC Sochi 72.40 314*c i*P **P 23 15 26.5 -0.2**
SOC *e* 23 18 02.7
SOC *e*PPP 23 19 52.6
SOC *e*S S 23 24 46.0 -0.1
SOC *e* 23 25 27.8
SOC pmax pmax
comp=Z,57nm,0.8s,mb5.5
Y14A Wickenburg 72.40 60⇑P **P 23 15 27.1 +0.2**
baz=72
X15A Humboldt 72.52 59⇓P **P 23 15 27.7 +0.2**
baz=72
ANN Anapa 72.70 316 *e*P **P 23 15 28.7 +0.2**
ANN *e**PP pP 23 15 37.3 -6.4
ANN *e*S S 23 24 53.2 +3.7
ANN pmax pmax
comp=Z,59nm,0.9s,mb5.5
Y15A Casa Rosa Ranc 72.81 59⇑P **P 23 15 29.6 +0.2**
baz=72,SNR=5.1
ISCO Idaho Springs 72.85 51 *e*P **P 23 15 29.7 +0.3**
ISCO *e*PcP PcP 23 15 46.4 +0.1
MVCO Mesa Verde 72.95 55 *e*P **P 23 15 30.3 +0.3**
comp=Z,21nm,1.0s,mb5.0
MVCO *e* pP 23 15 46.9 +1.6
MVCO Mesa Verde 72.95 55⇓P **P 23 15 30.0 -0.1**
baz=72
X16A Lo Mia Camp, P 73.05 58⇑P **P 23 15 31.1 +0.3**
baz=73
Y16A Circle Bar Ran 73.39 59⇑P **P 23 15 33.0 +0.2**
baz=73
TUTA Tutak 73.64 309 *i*P **P 23 15 35.3 +1.2**
115A Sonoran Desert 73.71 60⇓P **P 23 15 34.9 +0.2**
baz=73
Z16A Peralta Trail, 73.78 59⇑P **P 23 15 35.8 +0.7**
baz=73
EYMN Ely 74.06 38 *e*P **P 23 15 35.3 -1.1**
EYMN *e* pP 23 15 46.6 -5.1
ERZM Erzurum 74.09 310 *i*P **P 23 15 38.6 +1.8**
SIM Simferopol' 74.23 318 *e*P **P 23 15 38.0 +0.6**
SIM pmax pmax
comp=Z,34nm,0.8s,mb5.3
SIM MLR MLR
comp=Z,1μm,16.5s,MS5.3
SDCO Great Sand Dun 74.32 53 *e*P **P 23 15 38.5 +0.4**
SDCO *e* pP 23 15 54.6 +1.2
GKP Gorka Klasztor 74.63 332 *e*P **P 23 15 39.6 +0.1**
GKP Gorka Klasztor 74.63 332 *e*P **P 23 15 39.6 0.0**
ECSD EROS,Sioux Fal 74.81 43 *e*P **P 23 15 39.9 -1.0**
comp=Z,19nm,1.0s,mb5.0
ECSD *e* pP 23 15 54.1 -2.0
TUC Tucson 74.88 60 *e*P **P 23 15 41.7 +0.3**
comp=Z,2.5nm,0.9s,mb4.1
TUC *e* pP 23 15 57.9 +1.2
TUC Tucson 74.88 60 *e*P **P 23 15 41.7 +0.3**
TUC *e* pP 23 15 57.9 +1.2
TUC pmax pmax
comp=Z,3.0nm,0.9s,mb4.2
BNGL BINGOL 74.88 310 *i*P **P 23 15 43.5 +2.1**
LVV L'vov 74.95 327 *e*P **P 23 15 40.8 -0.7**
LVV *e* pP 23 15 54.2 -2.6
GRSN GIRESUNGRSN 75.04 313 *i*P **P 23 15 41.4 -0.8**
KIS Kishinev 75.14 322 *e*P **P 23 15 41.0 -1.7**
KIS MLR MLR
comp=Z,3μm,16.0s,MS5.7
KIS MLR MLR
comp=Z,2μm,16.0s
217A Green Valley 75.22 60⇓P **P 23 15 43.4 0.0**
baz=75,SNR=5.3
MLA1 Latheron 75.47 345 *e*P **P 23 15 44.3 0.0**
119A Ashpeak Ranch, 75.48 58⇓P **P 23 15 44.2 -0.7**
baz=75
218A Dragoon 75.56 60⇑P **P 23 15 45.5 +0.2**
baz=75,SNR=5.1
KWP Kalwaria 75.61 327 *e*P **P 23 15 46.2 +0.8**
KWP Kalwaria 75.61 327⇑*i*P **P 23 15 45.9 +0.5**
MSL Mosul 75.64 307 *ex* x 23 15 45.5
LAZ Ladron 75.67 56 *e*P **P 23 15 47.0 +1.0**
LAZ *e* pP 23 16 03.3 +2.0
ANMO Albuquerque 75.70 55 *e*P **P 23 15 46.4 +0.3**
ANMO *e* pP 23 16 02.8 +1.3
STKA Stephens Creek 75.87 187 *e*P **P 23 15 52.1 +5.3**
comp=Z,4.0nm,0.8s,mb4.4
STKA Stephens Creek 75.87 187 P **P 23 15 51.2 +4.4**
STKA Stephens Creek 75.87 187 P **P 23 15 49.7 +2.9**
comp=Z,1.4nm,0.6s,mb4.0,baz=302,slow=18,SNR=2.4
318A Bisbee 75.96 60⇑P **P 23 15 47.8 +0.2**
baz=76,SNR=5.5
MVH1 Achvaich 75.97 346 P **P 23 15 47.1 -0.1**
MVH1 Achvaich 75.97 346 *e*P **P 23 15 47.1 -0.2**
MVH1 *e*P 23 15 47.1
MCD Coleburn Disti 76.13 345 *e*P **P 23 15 47.8 -0.3**
BNM Barren Site 76.15 56 *e*P **P 23 15 48.9 +0.2**
BNM *e* pP 23 16 05.4 +1.4
MARD Mardin 76.24 309 *i*P **P 23 15 49.6 +0.4**
OJC Ojcow 76.24 329 *e*P **P 23 15 49.3 +0.4**
KOLS Kolonicke sedl 76.35 327 *e*P **P 23 15 49.8 +0.3**
KOLS *e* 23 16 16.6
STHS Stebnicka Huta 76.35 328 *i*P **P 23 15 50.2 +0.6**
comp=Z,22nm,0.9s,mb5.1
STHS *e* pP 23 16 03.9 -1.0
STHS Stebnicka Huta 76.35 328 *i*P **P 23 15 50.2 +0.6**
STHS *e* pP 23 16 03.9 -1.0
STHS pmax pmax
comp=Z,22nm,0.9s,mb5.1
RUE Ruedersdorf 76.42 334 *e*P **P 23 15 49.5 -0.3**
comp=Z,22nm,0.7s,mb5.2
RUE *e* pP 23 16 02.6 -2.6
BOYT Boyabat 76.43 315 *i*P **P 23 15 50.4 +0.2**
319A Douglas 76.44 60⇑P **P 23 15 50.8 +0.4**
baz=76,SNR=5.4
MDO Dochfour 76.46 346 *e*P **P 23 15 49.7 -0.3**
UZH Uzhgorod 76.58 327 *e*P **P 23 15 49.0 -1.9**
UZH *i* pP 23 16 03.5 -2.7
CRVS Cervenica-Dubn 76.69 328 *e*P **P 23 15 51.8 +0.3**
NIE Niedzica 76.71 328 *e*P **P 23 15 52.5 +0.9**
KPL Plockton 76.78 346 *e*P **P 23 15 51.7 -0.1**
KPL AMb AMB 23 16 03.3
comp=Z,79nm,2.0s,mb5.3
MALT Malatya 76.83 311 P **P 23 15 54.3 +1.8**
MALT Malatya 76.83 311⇓*i*P **P 23 15 54.3 +1.8**
CFR Carcaliu 76.84 321 P **P 23 15 57.0 +4.6**
SCHQ Schefferville 76.87 20 P **P 23 15 51.9 -0.5**
comp=Z,10nm,0.9s,mb4.7,baz=350,slow=5.4,SNR=9.1
TRPA Tarpa 76.89 326⇑*i*P **P 23 15 53.4 +0.8**
VRI Vrincioaia 76.93 323 P **P 23 15 54.7 +1.8**
VRI Vrincioaia 76.93 323⇓*i*P **P 23 15 53.5 +0.6**
KSP Ksiaz 76.98 331 *e*P **P 23 15 53.4 +0.4**
KSP Ksiaz 76.98 331 *e*P **P 23 15 52.8 -0.2**
KSP *e**PP pP 23 16 05.7 -2.7
BHD Baghdad 76.99 304 *ex* x 23 15 50.0
CTKT Corum 77.07 315 *i*P **P 23 15 54.9 +1.1**
BALT Daday 77.11 316 *i*P **P 23 15 54.9 +0.9**
OKC Ostrava-Krasne 77.16 330 *e*P **P 23 15 54.6 +0.5**
OKC *e* pP 23 16 07.7 -1.8
OKC Ostrava-Krasne 77.16 330 *e*P **P 23 15 54.6 +0.5**
OKC *e*pP pP 23 16 07.7 -1.8
OKC AMS AMS 23 53 50.0
comp=Z,2μm,20.0s,MS5.4
TIRR Tirgusor 77.27 321 P **P 23 15 55.1 +0.3**
TIRR Tirgusor 77.27 321⇓*i*P **P 23 15 55.1 +0.3**
HARR Harsova 77.31 321 P **P 23 15 55.9 +0.9**
HARR Harsova 77.31 321⇑*i*P **P 23 15 55.4 +0.4**
UPC Upice 77.36 331 *e*P **P 23 15 55.7 +0.5**
DPC Dobruska-Polom 77.38 331 *e*P **P 23 15 56.1 +0.8**
DPC *e*pP pP 23 16 08.7 -2.0
DPC AMS AMS 23 53 40.0
comp=Z,1μm,18.8s,MS5.2
KECS Kecovo 77.41 328 *i*P **P 23 15 55.7 +0.2**
comp=Z,5.9nm,0.8s,mb4.6
KECS *e* pP 23 16 08.5 -2.3
KECS Kecovo 77.41 328 *i*P **P 23 15 55.7 +0.2**
KECS *e* pP 23 16 08.5 -2.3
KECS pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
MORC Moravsky Berou 77.43 330 P **P 23 15 56.3 +0.7**
MORC Moravsky Berou 77.43 330⇑*i*P **P 23 15 56.2 +0.6**
UMR Umm Al-Rimmam 77.51 299 *e*P **P 23 15 56.5 +0.1**
UMR AMb AMB 23 15 57.8
comp=Z,74nm,0.8s,mb5.7
NRDL Niedersach Rie 77.54 336 *e*P **P 23 15 56.3 +0.1**
comp=Z,96nm,2.0s,mb5.4
MLR Muntele Rosu 77.57 323 P **P 23 15 57.5 +1.0**
MLR Muntele Rosu 77.57 323⇑*i*P **P 23 15 57.8 +1.3**
MIB Mutribah 77.57 299 *e*P **P 23 15 56.9 +0.1**
MIB AMb AMB 23 15 58.7
comp=Z,87nm,0.8s,mb5.7
CLL Collm 77.68 334⇑*i*P **P 23 15 56.7 -0.3**
comp=Z,40nm,0.7s,mb5.5
CLL *i* 23 16 02.8
CLL *i* pP 23 16 09.0 -3.3
CLL LR LR
comp=Z,1μm,16.1s,MS5.3
CLL Collm 77.68 334 *e*P **P 23 15 56.8 -0.2**
comp=Z,41nm,0.7s,mb5.5
CLL Collm 77.68 334⇑*i*P **P 23 15 56.7 -0.3**
comp=Z,40nm,0.7s,mb5.5
CLL *i* x x 23 16 02.8
CLL *i* pP pP 23 16 09.0 -3.3
CLL LmH 23 48 00.0
comp=N,700nm,20.4s
CLL LmH 23 48 00.0
comp=E,1μm,19.6s
BRG Berggiesshubel 77.74 333 *e*P **P 23 15 57.0 -0.4**
comp=E,9.3nm,1.0s,mb4.7
BRG *e* pP 23 16 10.3 -2.4
BRG LR LR
comp=Z,990nm,15.2s,MS5.2
BRG Berggiesshubel 77.74 333 *e*P **P 23 15 57.0 -0.3**
BRG *e* pP 23 16 10.3 -2.4
BRG pmax pmax
comp=Z,12nm,1.0s,mb4.8
BRG MLR MLR
comp=N,22μm,17.4s,MS6.5
BRG MLR MLR
comp=E,607nm,17.9s,MS6.5
BRG MLR MLR
comp=Z,453nm,15.2s,MS4.9
BRG Berggiesshubel 77.74 333 *e*P **P 23 15 57.2 -0.1**
comp=Z,12nm,0.9s,mb4.8
BRG Berggiesshubel 77.74 333 *e*P **P 23 15 57.0 -0.4**
comp=Z,16nm,1.0s,mb4.9
BRG *e* pP 23 16 10.3 -2.4
BRG
comp=Z,37nm,1.7s
BRG
comp=N,1μm,17.4s
BRG
comp=E,757nm,17.9s
BRG
comp=Z,2μm,15.2s
KBD Kabd 77.78 299 *e*P **P 23 15 58.2 +0.2**
KBD AMb AMB 23 15 59.5
comp=Z,183nm,0.9s,mb6.0
PVCC Panska Ves 77.83 332 *e*P **P 23 15 58.3 +0.5**
PVCC *e*pP pP 23 16 11.6 -1.6
PVCC AMS AMS 23 54 10.0
comp=Z,2μm,18.9s,MS5.4
ELDT Eldivan 77.87 315 *i*P **P 23 15 59.5 +1.3**
DRGR 77.89 326 P **P 23 15 58.9 +0.7**
QRN Al-Qurain 77.93 298 *e*P **P 23 15 59.1 +0.3**
QRN AMb AMB 23 15 59.9
comp=Z,84nm,0.4s,mb6.0
RST Umm Al-Ruwaisa 77.99 299 *e*P **P 23 15 58.9 -0.2**
RST AMb AMB 23 16 00.8
comp=Z,92nm,0.8s,mb5.8
GZT Gaziantep 78.00 311 *i*P **P 23 15 59.2 +0.2**
VOIR 78.00 323 P **P 23 16 00.0 +1.2**
VOIR 78.00 323⇓*i*P **P 23 15 59.9 +1.1**
NAY Al-Naaiem 78.01 299 *e*P **P 23 15 59.4 +0.1**
NAY AMb AMB 23 16 01.1
comp=Z,37nm,0.8s,mb5.3
VYHS Vyhne 78.02 329 *i*P **P 23 15 59.4 +0.5**
comp=Z,10nm,1.0s,mb4.7
VYHS *e* 23 16 06.2
VYHS Vyhne 78.02 329 *i*P **P 23 15 59.4 +0.5**
VYHS *e* 23 16 06.2
VYHS pmax pmax
comp=Z,11nm,1.0s,mb4.7
PGBU Glenifferbraes 78.03 345 *e*P **P 23 15 58.9 0.0**
PGBU AMb AMB 23 16 03.5
comp=Z,44nm,2.0s,mb5.0
CDAG Cicekdag 78.03 314 *i*P **P 23 15 58.4 -0.8**
CLZ Clausthal 78.03 335 *e*P **P 23 15 59.1 +0.2**
CLZ pmax pmax
comp=Z,26nm,0.9s,mb5.2
CLZ Clausthal 78.03 335 *e*P **P 23 15 59.1 +0.2**
comp=Z,26nm,0.9s,mb5.2
RDF Al-Radifah 78.04 299 *e*P **P 23 15 59.8 +0.4**
RDF AMb AMB 23 16 01.0
comp=Z,113nm,0.8s,mb5.8
PSZ Piszkesteto 78.09 328 P **P 23 16 00.3 +0.9**
PSZ Piszkesteto 78.09 328⇓*i*P **P 23 16 00.1 +0.8**
PSZ Piszkesteto 78.09 328⇑*e*P **P 23 16 00.2 +0.9**
KOLL Kolacno 78.11 329 *i*P **P 23 15 59.9 +0.5**
VRAC Vranov 78.16 330 P **P 23 16 00.5 +0.8**
VRAC Vranov 78.16 330⇑*i*P **P 23 16 00.6 +0.9**
KSU1 Kansas State U 78.22 46 *e*P **P 23 16 00.2 -0.1**
comp=Z,17nm,0.9s,mb5.0
KSU1 *e* pP 23 16 13.0 -2.6
ESK Eskdalemuir 78.25 344 *e*P **P 23 16 00.0 0.0**
ESK AMb AMB 23 16 05.1
comp=Z,35nm,1.8s,mb5.0
PRU Pruhonice 78.30 332 *e*P **P 23 16 00.9 +0.5**
PRU *e* pP 23 16 12.6 -3.2
PRU Pruhonice 78.30 332 *e*P **P 23 16 00.9 +0.5**
PRU *e*pP pP 23 16 12.6 -3.2
PRU AMS AMS 23 53 50.0
comp=Z,2μm,8.4s
IBBN Ibbenburen 78.39 337 *e*P **P 23 16 00.8 -0.1**
comp=Z,22nm,0.8s,mb5.1
AVNT Avonos 78.40 313 *i*P **P 23 16 01.9 +0.7**
ANDN Andirin 78.49 312 *i*P **P 23 16 02.6 +0.8**
AMTX Amarillo 78.52 52 *e*P **P 23 16 01.6 -0.4**
comp=Z,25nm,0.9s,mb5.2
AMTX *e* pP 23 16 18.5 +1.1
TREC Trest 78.56 331 *e*P **P 23 16 02.4 +0.5**
TREC *e*pP pP 23 16 15.0 -2.3
TREC AMS AMS 23 53 30.0
comp=Z,1μm,19.2s,MS5.2
MNTX Cornudas Mount 78.61 57 *e*P **P 23 16 02.4 -0.1**
comp=Z,11nm,0.8s,mb4.8
MNTX *e* pP 23 16 18.9 +1.1
TANN Tannenbergstha 78.62 333 *e*P **P 23 16 02.2 0.0**
comp=Z,8.0nm,0.9s,mb4.7
ANTO Ankara 78.65 315 P **P 23 16 03.9 +1.3**
ANTO Ankara 78.65 315⇑*i*P **P 23 16 03.6 +1.0**
MOX Moxa 78.69 334 *e*P **P 23 16 02.6 0.0**
MOX
comp=Z,1μm,17.0s
MOX Moxa 78.69 334 *e*P **P 23 16 02.5 -0.1**
comp=Z,12nm,0.8s,mb4.9
MODS Modra-Piesok 78.70 330 *i*P **P 23 16 03.6 +0.9**
MODS *e*pP pP 23 16 14.4 -3.7
NKC Novy Kostel 78.78 333 *e*P **P 23 16 03.2 +0.1**
NKC *e* pP 23 16 16.4 -2.1
NKC Novy Kostel 78.78 333 *e*P **P 23 16 03.2 +0.1**
NKC *e*pP pP 23 16 16.4 -2.1
NKC AMS AMS 23 54 50.0
comp=Z,2μm,7.4s
BUD Budapest 78.79 328⇑*e*P **P 23 16 04.0 +0.8**
ZST Bratislava 78.91 330 *e*P **P 23 16 04.8 +1.0**
comp=Z,21nm,1.1s,mb5.0
ZST LR LR
comp=Z,900nm,16.9s,MS5.2
CKE Keswick 78.92 344 *e*P **P 23 16 03.9 +0.2**
WTSB Winterswijk 78.96 337 *e*P **P 23 16 03.8 -0.2**
GZR Gura Zlata 78.99 325 P **P 23 16 04.7 +0.3**
GZR Gura Zlata 78.99 325⇓*i*P **P 23 16 04.6 +0.3**
UBBA Unterbreizbach 79.04 335 *e*P **P 23 16 04.2 -0.3**
comp=Z,66nm,2.4s,mb5.1
MANZ Manzenberg 79.11 333 *e*P **P 23 16 04.9 0.0**
comp=Z,23nm,1.1s,mb5.0
HPK Haverah Park 79.20 343 *e*P **P 23 16 05.6 +0.3**
HPK AMb AMB 23 16 06.3
comp=Z,43nm,0.7s,mb5.5
ROTZ Rotzenmuhle 79.26 333 *e*P **P 23 16 05.8 +0.1**
comp=Z,18nm,0.9s,mb5.0
ZIMR 79.27 322 P **P 23 16 06.3 +0.4**
BZS Buzias 79.29 325 P **P 23 16 06.1 +0.2**
BZS Buzias 79.29 325⇑*i*P **P 23 16 05.8 -0.2**
COBT Iskenderun 79.32 311 *i*P **P 23 16 07.6 +1.3**
KHC Kasperske Hory 79.36 332 *e*P **P 23 16 06.8 +0.5**
KHC *ex* x 23 16 11.0
KHC *e*pP pP 23 16 19.0 -2.7
KHC *e*sP sP 23 16 24.5 -3.2
KHC AMS AMS 23 55 00.0
comp=Z,2μm,16.6s,MS5.5
SOP Sopron 79.54 330⇑*e*P **P 23 16 08.4 +1.1**
GEC2 GERESS Array S 79.56 332 *e*P **P 23 16 07.4 0.0**
comp=Z,18nm,0.6s,mb5.2
GERES GERESS Array B 79.56 332 P **P 23 16 07.5 +0.1**
GERES pmax pmax
comp=Z,14nm,0.6s
GERES GERESS Array B 79.56 332 P **P 23 16 07.5 +0.1**
comp=Z,14nm,0.6s,mb5.1,baz=36,slow=5.7,SNR=63
WET Wettzell 79.58 332 *e*P **P 23 16 07.8 +0.3**
WET pmax pmax
comp=Z,36nm,0.9s,mb5.3
WET Wettzell 79.58 332 *e*P **P 23 16 07.8 +0.3**
comp=Z,36nm,0.9s,mb5.3
CONA Conrad Observa 79.59 330 *i*P **P 23 16 08.4 +0.9**
comp=Z,31nm,0.8s,mb5.3,SNR=26
GRA1 Grafenberg Arr 79.65 334 *e*P **P 23 16 08.3 +0.5**
comp=Z,46nm,0.8s,mb5.5
GRA1 *e*pP pP 23 16 21.0 -2.2
GRA1 LR LR
comp=Z,600nm,19.7s,MS4.9
GRF Grafenberg Arr 79.65 334 *e*P **P 23 16 08.3 +0.5**
GRF *e**PP pP 23 16 21.0 -2.2
GRF pmax pmax
comp=Z,46nm,0.8s,mb5.5
GRF MLR MLR
comp=Z,600nm,19.7s,MS4.9
GRF Grafenberg Arr 79.65 334 *e*P **P 23 16 08.3 +0.5**
GRF *e**PP pP 23 16 21.0 -2.2
GRF pmax pmax
comp=Z,46nm,0.8s,mb5.5
GRF MLR MLR
comp=Z,600nm,19.7s,MS4.9
GRF Grafenberg Arr 79.65 334 *e*P **P 23 16 08.3 +0.5**
comp=Z,46nm,0.8s,mb5.5
GRF *e*pP pP 23 16 21.0 -2.2
GRF *e*L 23 50 48.9
comp=Z,610nm,19.7s
GRFO Grafenberg 79.65 334 *e*P **P 23 16 08.3 +0.5**
comp=Z,37nm,0.8s,mb5.4
GRFO *e* pP 23 16 22.2 -1.0
GRFO Grafenberg 79.65 334 *e*P **P 23 16 08.4 +0.6**
GRFO *e* pP 23 16 22.3 -0.9
GRFO pmax pmax
comp=Z,37nm,0.8s,mb5.4
KBI1 Birley Grange 79.84 343 *e*P **P 23 16 08.8 0.0**
ESKT Eskisehir 79.90 316 *i*P **P 23 16 08.9 -0.5**
PKSM Moragy 79.99 328 P **P 23 16 09.2 -0.6**
PKSM Moragy 79.99 328⇓*i*P **P 23 16 09.4 -0.3**
TNS Taunus Mts 80.04 336 *e*P **P 23 16 09.8 -0.1**
TNS pmax pmax
comp=Z,13nm,0.7s,mb5.0

TNS Taunus Mts 80.04 336 *eP* **P 23 16 09.8 -0.1**
comp=Z,13nm,0.7s,mb5.0
KWE Weaver Farm 80.13 343 *eP* **P 23 16 10.3 -0.1**
MOA Molln 80.22 331⇑ *iP* **P 23 16 11.4 +0.4**
comp=Z,15nm,0.8s,mb5.0,SNR=11
WMOK Wichita Mounta 80.27 51 *eP* **P 23 16 10.6 -0.8**
WMOK *e* pP 23 16 27.1 +0.2
CWF Charnwood Fore 80.27 342 *eP* **P 23 16 10.7 -0.4**
CWF AMb AMB 23 16 13.3
comp=Z,21nm,1.2s,mb5.0
HGN Heimansgroeve 80.28 337 *eP* **P 23 16 10.7 -0.5**
comp=Z,27nm,1.8s,mb4.9
ARSA Arzberg 80.28 330⇑ *iP* **P 23 16 11.8 +0.5**
comp=Z,12nm,1.1s,mb4.8
DMUB Kingscourt 80.28 346 *i* P **P 23 16 11.1 -0.1**
MEM Membach 80.40 337 P **P 23 16 12.1 +0.2**
comp=Z,13nm,0.9s,mb4.8
KLBR Kellerberrin 80.53 207 *eP* **P 23 16 20.6 +8.0**
comp=Z,4.3nm,0.4s,mb4.7
SBD1 Bryn Du 80.53 343 *eP* **P 23 16 12.9 +0.3**
ABH Alteburg 80.61 336 *eP* **P 23 16 13.5 +0.5**
HDIL Hopedale 80.76 41 *eP* **P 23 16 13.6 -0.4**
comp=Z,51nm,0.6s,mb5.6
HDIL *e* pP 23 16 28.7 -0.7
BCLA Clavier 80.77 337 P **P 23 16 13.7 -0.1**
comp=Z,9.0nm,1.0s,mb4.7
DLF Lyons Farm 80.80 345 *i* P **P 23 16 13.9 0.0**
DSB Dublin 80.81 345 *eP* **P 23 16 13.8 -0.2**
comp=Z,29nm,0.9s,mb5.2
DSB *e* pP 23 16 27.6 -1.8
HLM1 Long Mynd 80.82 343 *eP* **P 23 16 13.5 -0.6**
DCN Croghan 80.88 346 *eP* **P 23 16 14.4 0.0**
RUP Ruppelstein 80.91 336 *eP* **P 23 16 15.0 +0.4**
PERS Pernice 80.95 330 *i* P **P 23 16 15.0 +0.1**
FUR Furstenfeldbru 80.96 333 *eP* **P 23 16 15.3 +0.4**
FUR pmax pmax
comp=Z,52nm,0.9s,mb5.5
FUR Furstenfeldbru 80.96 333 *eP* **P 23 16 15.3 +0.4**
comp=Z,52nm,0.9s,mb5.5
VTS Vitosha 81.07 323 P **P 23 16 16.3 +0.7**
VTS Vitosha 81.07 323⇑ *iP* **P 23 16 16.4 +0.8**
STU Stuttgart 81.09 334 *eP* **P 23 16 15.4 -0.2**
comp=Z,28nm,0.9s,mb5.2
GIVF Givet 81.18 338⇑ *iP* **P 23 16 15.8 -0.3**
comp=Z,18nm,0.9s,mb4.7
GIVF Givet 81.18 338⇑ *iP* **P 23 16 15.8 -0.3**
comp=Z,8.9nm,0.9s,mb4.7
GIVF Givet 81.18 338⇑ *iP* **P 23 16 15.8 -0.3**
GIVF pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
HAE Alders End 81.20 343 *eP* **P 23 16 16.2 +0.1**
KBA Koelnbreinsper 81.20 331⇑ *iP* **P 23 16 17.2 +0.9**
comp=Z,72nm,1.1s,mb5.5,SNR=22
KBA Koelnbreinsper 81.20 331⇑ *iP* **P 23 16 17.2 +1.0**
KBA pmax pmax
comp=Z,72nm,1.1s,mb5.5
WLF Walferdange 81.21 337 *eP* **P 23 16 17.3 +1.1**
comp=Z,17nm,1.4s,mb4.8
DOU Dourbes 81.25 338 P **P 23 16 16.4 0.0**
comp=Z,8.1nm,1.9s,mb4.3
HTR Trewern Hill 81.31 343 *eP* **P 23 16 16.9 +0.2**
TXAR Lajitas Array 81.33 58 P **P 23 16 17.3 +0.1**
TXAR Lajitas Array 81.33 58 P **P 23 16 17.3 +0.1**
TXAR pmax pmax
comp=Z,7.0nm,0.7s
TXAR Lajitas Array 81.33 58 P **P 23 16 17.3 +0.1**
comp=Z,6.6nm,0.7s,mb4.7,baz=297,slow=4.0,SNR=17
MCH1 Michaelchurch 81.33 343 P **P 23 16 17.0 +0.2**
MCH1 AMb AMB 23 16 18.5
comp=Z,41nm,1.0s,mb5.3
MCH1 Michaelchurch 81.33 343 *eP* **P 23 16 16.9 +0.1**
MCH1 *eP* 23 16 17.0
MCH1 AMb AMB 23 16 18.5
comp=Z,41nm,1.0s,mb5.3
BAIF Baives 81.39 338⇑ *iP* **P 23 16 17.0 -0.2**
comp=Z,6.2nm,0.6s,mb4.4
BAIF Baives 81.39 338⇑ *iP* **P 23 16 17.0 -0.2**
comp=Z,3.1nm,0.6s,mb4.4
BAIF Baives 81.39 338⇑ *iP* **P 23 16 17.0 -0.2**
BAIF pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
PDKS Podkum 81.48 330 *i* P **P 23 16 17.4 -0.4**
SWN1 Swindon 81.53 342 *eP* **P 23 16 18.0 +0.2**
SWN1 AMb AMB 23 16 25.4
comp=Z,157nm,1.2s,mb5.8
WATA Walderalm 81.58 332⇑ *iP* **P 23 16 18.7 +0.5**
comp=Z,34nm,1.1s,mb5.2,SNR=19
WATA Walderalm 81.58 332⇑ *iP* **P 23 16 18.7 +0.5**
WATA pmax pmax
comp=Z,34nm,1.1s,mb5.2
RETA Reutte 81.72 333 *i* P **P 23 16 19.3 +0.4**
comp=Z,29nm,1.0s,mb5.2,SNR=19
MOTA Moosalm 81.73 333⇑ *iP* **P 23 16 19.3 +0.3**
comp=Z,41nm,1.0s,mb5.3,SNR=22
MOTA Moosalm 81.73 333⇑ *iP* **P 23 16 19.3 +0.3**
MOTA pmax pmax
comp=Z,41nm,1.0s,mb5.3
BFO Black Forest 81.75 335 *eP* **P 23 16 18.9 -0.2**
BFO pmax pmax
comp=Z,16nm,1.0s,mb4.9
BFO Black Forest 81.75 335 *eP* **P 23 16 18.9 -0.2**
comp=Z,16nm,1.0s,mb4.9
CCM Cathedral Cave 81.76 44 *eP* **P 23 16 18.2 -1.1**
comp=Z,21nm,0.8s,mb5.1
CCM *e* pP 23 16 34.5 -0.3
CCM Cathedral Cave 81.76 44 *eP* **P 23 16 18.2 -1.1**
CCM *e* pP 23 16 34.5 -0.3
CCM pmax pmax
comp=Z,21nm,0.8s,mb5.1
SQTA Sankt Quirin 81.81 332⇑ *iP* **P 23 16 19.8 +0.4**
comp=Z,26nm,1.0s,mb5.1,SNR=16
SQTA Sankt Quirin 81.81 332⇑ *iP* **P 23 16 19.8 +0.4**
SQTA pmax pmax
comp=Z,26nm,1.0s,mb5.1
SPAK Spaichingen-Ko 81.81 334 *eP* **P 23 16 20.0 +0.6**
BOJS Bojanci 81.86 329 *i* P **P 23 16 19.7 -0.1**
BOJS *i* 23 16 21.0
NWAO Narrogin (SRO) 81.93 207 P **P 23 16 20.9 +0.9**
NWAO pmax pmax
comp=Z,6.0nm,0.8s
NWAO Narrogin (SRO) 81.93 207 P **P 23 16 20.9 +0.9**
comp=Z,6.2nm,0.8s,mb4.6,baz=73,slow=14,SNR=2.3
JAVS Javornik 81.97 330 *i* P **P 23 16 19.5 -0.7**
JAVS *i* 23 16 21.1
CDF Champ du Feu 82.00 335⇑ *iP* **P 23 16 20.3 -0.1**
comp=Z,33nm,1.0s,mb4.9
CDF Champ du Feu 82.00 335⇑ *iP* **P 23 16 20.3 -0.1**
comp=Z,17nm,1.0s,mb4.9
CDF Champ du Feu 82.00 335⇑ *iP* **P 23 16 20.3 -0.1**
CDF pmax pmax
comp=Z,17nm,1.0s,mb4.9
CSS Prodhromos 82.06 312 *eP* **P 23 16 21.5 +0.5**
comp=Z,15nm,0.8s,mb5.0
PMOR Pomariorio Ree 82.09 120 *eT* 00 47 22.1
comp=Z,24nm,0.3s
FETA Feichten 82.14 333 *i* P **P 23 16 21.5 +0.3**
comp=Z,27nm,1.1s,mb5.1,SNR=15
DAVA Damuels 82.19 333 *i* P **P 23 16 21.7 +0.4**
comp=Z,36nm,1.0s,mb5.3,SNR=8.4
ECH Echery 82.21 335 *eP* **P 23 16 21.7 +0.2**
STIP Stip 82.24 323 *eP* **P 23 16 21.0 -0.8**
FELD Feldberg im Sc 82.26 335 *eP* **P 23 16 22.1 +0.4**
VAY Valandovo 82.37 322 *eP* **P 23 16 20.5 -2.0**
HEX Exmoor 82.38 343 *eP* **P 23 16 22.4 +0.1**
MOF Molkenrain 82.54 335 *eP* **P 23 16 23.4 +0.2**
THEF They Montfort 82.55 336 *eP* **P 23 16 23.4 +0.1**
MEZF Maizieres J'vi 82.57 337⇑ *iP* **P 23 16 23.5 +0.1**
comp=Z,57nm,0.9s,mb5.3
MEZF Maizieres J'vi 82.57 337⇑ *iP* **P 23 16 23.5 +0.1**
comp=Z,57nm,0.9s,mb5.6
HAU Haudompre 82.64 336⇑ *iP* **P 23 16 23.5 -0.2**
comp=Z,13nm,0.6s,mb4.8
HAU *e*MLR MLR
comp=Z,690nm,19.5s,MS4.7
HAU Haudompre 82.64 336⇑ *iP* **P 23 16 23.5 -0.2**
comp=Z,6.7nm,0.6s,mb4.8
HAU LR LR
comp=Z,690nm,19.5s,MS5.0
HAU Haudompre 82.64 336⇑ *iP* **P 23 16 23.5 -0.2**
HAU pmax pmax
comp=Z,7.0nm,0.6s,mb4.9
HAU MLR MLR
comp=Z,690nm,19.5s,MS5.0
HINF Hinteralfeld 82.66 335 *eP* **P 23 16 23.4 -0.4**
comp=Z,14nm,0.8s,mb4.8
HINF Hinteralfeld 82.66 335 *eP* **P 23 16 23.4 -0.4**
comp=Z,7.1nm,0.8s,mb4.8
HINF Hinteralfeld 82.66 335 *eP* **P 23 16 23.4 -0.4**
HINF pmax pmax
comp=Z,7.0nm,0.8s,mb4.7
JCT Junction City 82.81 54 *eP* **P 23 16 24.5 -0.4**
comp=Z,7.7nm,0.8s,mb4.8
JCT Junction City 82.81 54 *eP* **P 23 16 24.5 -0.4**
JCT pmax pmax
comp=Z,8.0nm,0.8s,mb4.8
KRUS Krusevo 82.91 323 *eP* **P 23 16 24.8 -0.5**
PPT Papeete 83.00 122 *e*LR LR 23 43 06.0
comp=Z,321nm,20.8s
DYA Yadsworthy 83.00 343 *eP* **P 23 16 25.3 -0.3**
DYA AMb AMB 23 16 26.8
comp=Z,75nm,1.2s,mb5.6
LOMF Lomont 83.08 335 *eP* **P 23 16 26.4 +0.3**
MIAR Mount Ida 83.25 48 *eP* **P 23 16 26.4 -0.7**
comp=Z,28nm,0.8s,mb5.3
MIAR *e* pP 23 16 43.2 +0.6
MIAR Mount Ida 83.25 48 *eP* **P 23 16 26.4 -0.8**
MIAR *e* pP 23 16 43.2 +0.5
MIAR pmax pmax
comp=Z,28nm,0.8s,mb5.3
OHR Ohrid 83.32 323 *eP* **P 23 16 25.9 -1.5**
CCA1 Carnmenellis 83.51 344 *eP* **P 23 16 28.5 +0.4**
PARMO Parma 83.59 44 *eP* **P 23 16 28.2 -0.6**
FLN La Foliniere 83.79 340⇑ *iP* **P 23 16 29.4 -0.3**
comp=Z,72nm,1.1s,mb5.4
FLN *e*MLR MLR
comp=Z,863nm,18.2s,MS4.9
FLN La Foliniere 83.79 340⇑ *iP* **P 23 16 29.4 -0.3**
comp=Z,36nm,1.1s,mb5.4
FLN LR LR
comp=Z,860nm,18.3s,MS5.2
FLN La Foliniere 83.79 340⇑ *iP* **P 23 16 29.4 -0.3**
FLN pmax pmax
comp=Z,36nm,1.1s,mb5.4
FLN MLR MLR
comp=Z,860nm,18.3s,MS5.2
LDF La Druitiere 83.86 340⇑ *iP* **P 23 16 29.8 -0.2**
comp=Z,52nm,1.3s,mb5.2
LDF La Druitiere 83.86 340⇑ *iP* **P 23 16 29.8 -0.2**
comp=Z,26nm,1.3s,mb5.2
LDF La Druitiere 83.86 340⇑ *iP* **P 23 16 29.8 -0.2**
LDF pmax pmax
comp=Z,26nm,1.3s,mb5.2
CABF La Chapelle 83.97 335⇑ *iP* **P 23 16 30.7 +0.1**
comp=Z,62nm,1.3s,mb5.3
CABF La Chapelle 83.97 335⇑ *iP* **P 23 16 30.7 +0.1**
comp=Z,31nm,1.3s,mb5.3
CABF La Chapelle 83.97 335⇑ *iP* **P 23 16 30.7 +0.1**
CABF pmax pmax
comp=Z,31nm,1.3s,mb5.3
LOR Lormes 84.03 337⇑ *iP* **P 23 16 30.7 -0.2**
comp=Z,42nm,1.0s,mb5.2
LOR *e*MLR MLR
comp=Z,710nm,19.8s,MS4.8
LOR Lormes 84.03 337⇑ *iP* **P 23 16 30.7 -0.2**
comp=Z,21nm,1.0s,mb5.2
LOR LR LR
comp=Z,710nm,19.8s,MS5.0
LOR Lormes 84.03 337⇑ *iP* **P 23 16 30.7 -0.2**
LOR pmax pmax
comp=Z,21nm,1.0s,mb5.2
LOR MLR MLR
comp=Z,710nm,19.8s,MS5.0
MEH Mehetia 84.16 122 *eT* 00 49 58.2
comp=Z,26nm,0.2s
GRR Gorron 84.23 340⇑ *iP* **P 23 16 32.0 +0.1**
comp=Z,90nm,1.1s,mb5.5
GRR Gorron 84.23 340⇑ *iP* **P 23 16 32.0 +0.1**
comp=Z,45nm,1.1s,mb5.5
GRR Gorron 84.23 340⇑ *iP* **P 23 16 32.0 +0.1**
GRR pmax pmax
comp=Z,45nm,1.1s,mb5.5
SSF Saint Saulge 84.31 337⇑ *iP* **P 23 16 32.4 0.0**
comp=Z,8.6nm,0.6s,mb4.7
SSF Saint Saulge 84.31 337⇑ *iP* **P 23 16 32.4 0.0**
comp=Z,4.3nm,0.6s,mb4.8
SSF Saint Saulge 84.31 337⇑ *iP* **P 23 16 32.4 0.0**
SSF pmax pmax
comp=Z,4.0nm,0.6s,mb4.7
HYF Humbligny 84.36 338 *eP* **P 23 16 32.9 +0.3**
SMF Signal de Mont 84.60 337⇑ *iP* **P 23 16 33.9 +0.1**
comp=Z,105nm,1.2s,mb5.6
SMF Signal de Mont 84.60 337⇑ *iP* **P 23 16 33.9 +0.1**
comp=Z,52nm,1.2s,mb5.5
SMF Signal de Mont 84.60 337⇑ *iP* **P 23 16 33.9 +0.1**
SMF pmax pmax
comp=Z,52nm,1.2s,mb5.5
AVF Avril sur Loir 84.61 337⇑ *iP* **P 23 16 34.0 +0.2**
comp=Z,64nm,1.1s,mb5.4
AVF Avril sur Loir 84.61 337⇑ *iP* **P 23 16 34.0 +0.2**
comp=Z,32nm,1.1s,mb5.4
AVF Avril sur Loir 84.61 337⇑ *iP* **P 23 16 34.0 +0.2**
AVF pmax pmax
comp=Z,32nm,1.1s,mb5.4
SGMF Saint Gilles 84.76 341⇑ *iP* **P 23 16 34.8 +0.2**
comp=Z,58nm,0.8s,mb5.5
SGMF Saint Gilles 84.76 341⇑ *iP* **P 23 16 34.8 +0.2**
comp=Z,29nm,0.8s,mb5.5
SGMF Saint Gilles 84.76 341⇑ *iP* **P 23 16 34.8 +0.2**
SGMF pmax pmax
comp=Z,29nm,0.8s,mb5.5
LPL La Plagne 84.76 334⇑ *iP* **P 23 16 35.3 +0.7**
comp=Z,29nm,0.6s,mb5.3
LPL La Plagne 84.76 334⇑ *iP* **P 23 16 35.3 +0.7**
comp=Z,15nm,0.6s,mb5.3
LPL La Plagne 84.76 334⇑ *iP* **P 23 16 35.3 +0.7**
LPL pmax pmax
comp=Z,15nm,0.6s,mb5.3
LPG La Plagne 84.77 334⇑ *iP* **P 23 16 35.5 +0.8**
comp=Z,53nm,0.8s,mb5.4
LPG La Plagne 84.77 334⇑ *iP* **P 23 16 35.5 +0.8**
comp=Z,27nm,0.8s,mb5.4
LPG La Plagne 84.77 334⇑ *iP* **P 23 16 35.5 +0.8**
LPG pmax pmax
comp=Z,27nm,0.8s,mb5.4
ROSF Rostrenen 84.84 342⇑ *iP* **P 23 16 34.4 -0.6**
comp=Z,59nm,0.9s,mb5.4
ROSF Rostrenen 84.84 342⇑ *iP* **P 23 16 34.4 -0.6**
comp=Z,29nm,0.9s,mb5.4
ROSF Rostrenen 84.84 342⇑ *iP* **P 23 16 34.4 -0.6**
ROSF pmax pmax
comp=Z,29nm,0.9s,mb5.4
WVT Waverly 84.96 43 *eP* **P 23 16 35.2 -0.7**
comp=Z,6.6nm,0.8s,mb4.8
WVT *e* pP 23 16 49.9 -1.5
WVT Waverly 84.96 43 *eP* **P 23 16 35.2 -0.6**
WVT *e* pP 23 16 49.9 -1.5
WVT pmax pmax
comp=Z,7.0nm,0.8s,mb4.8
BGF Bois d'Agland 84.96 337⇑ *iP* **P 23 16 35.7 +0.1**
comp=Z,22nm,0.8s,mb5.0
BGF Bois d'Agland 84.96 337⇑ *iP* **P 23 16 35.7 +0.1**
comp=Z,11nm,0.8s,mb5.0
BGF Bois d'Agland 84.96 337⇑ *iP* **P 23 16 35.7 +0.1**
BGF pmax pmax
comp=Z,11nm,0.8s,mb5.0
BNI Bardonecchia 85.19 334 *eP* **P 23 16 37.4 +0.5**
comp=Z,9.6nm,0.6s,mb5.1
BNI Bardonecchia 85.19 334 *eP* **P 23 16 37.4 +0.6**
BNI pmax pmax
comp=Z,10.0nm,0.6s,mb5.1
QUIF Quistinic 85.21 342 *eP* **P 23 16 36.3 -0.6**
comp=Z,22nm,0.7s,mb5.1
QUIF Quistinic 85.21 342 *eP* **P 23 16 36.3 -0.6**
comp=Z,11nm,0.7s,mb5.1
QUIF Quistinic 85.21 342 *eP* **P 23 16 36.3 -0.6**
QUIF pmax pmax
comp=Z,11nm,0.7s,mb5.1
AQU L'Aquila 85.25 329⇓ *iP* **P 23 16 38.2 +1.0**
AQU L'Aquila 85.25 329⇓ *iP* **P 23 16 38.2 +1.0**
PLDF La Plantade 85.28 337 *eP* **P 23 16 37.8 +0.6**
AGO Saint Agoulin 85.34 337 *eP* **P 23 16 38.4 +0.9**
TCF Toulx Ste Croi 85.38 338⇑ *iP* **P 23 16 38.2 +0.5**
comp=Z,24nm,0.9s,mb5.0
TCF Toulx Ste Croi 85.38 338⇑ *iP* **P 23 16 38.2 +0.5**
comp=Z,12nm,0.9s,mb5.0
TCF Toulx Ste Croi 85.38 338⇑ *iP* **P 23 16 38.2 +0.5**
TCF pmax pmax
comp=Z,12nm,0.9s,mb5.0
MBDF Montbardon 85.45 334⇑ *iP* **P 23 16 38.1 0.0**
comp=Z,40nm,0.7s,mb5.3
MBDF Montbardon 85.45 334⇑ *iP* **P 23 16 38.1 0.0**
comp=Z,20nm,0.7s,mb5.3
MBDF Montbardon 85.45 334⇑ *iP* **P 23 16 38.1 0.0**
MBDF pmax pmax
comp=Z,20nm,0.7s,mb5.4
ORIF Oris-en-Rattie 85.56 335⇑ *iP* **P 23 16 39.3 +0.7**
comp=Z,46nm,0.8s,mb5.5
ORIF *e*MLR MLR
comp=Z,670nm,18.5s,MS4.8
ORIF Oris-en-Rattie 85.56 335⇑ *iP* **P 23 16 39.3 +0.7**
comp=Z,23nm,0.8s,mb5.5
ORIF Oris-en-Rattie 85.56 335⇑ *iP* **P 23 16 39.3 +0.7**
ORIF pmax pmax
comp=Z,23nm,0.8s,mb5.5
PYM Petit Puy Mans 85.65 337 *eP* **P 23 16 39.8 +0.7**
MFF Saint Martin d 85.72 339⇑ *iP* **P 23 16 39.8 +0.4**
comp=Z,40nm,0.8s,mb5.4
MFF Saint Martin d 85.72 339⇑ *iP* **P 23 16 39.8 +0.4**
comp=Z,20nm,0.8s,mb5.4
MFF Saint Martin d 85.72 339⇑ *iP* **P 23 16 39.8 +0.4**
MFF pmax pmax
comp=Z,20nm,0.8s,mb5.4
PLAL Pickwick Lake 85.75 44 *eP* **P 23 16 38.9 -0.8**
comp=Z,7.2nm,0.8s,mb5.0
PLAL *e* pP 23 16 53.4 -2.0
VIVF Saint-Julien-I 85.98 335⇑ *iP* **P 23 16 41.2 +0.5**
comp=Z,40nm,0.9s,mb5.3
VIVF Saint-Julien-I 85.98 335⇑ *iP* **P 23 16 41.2 +0.5**
comp=Z,20nm,0.9s,mb5.3
VIVF Saint-Julien-I 85.98 335⇑ *iP* **P 23 16 41.2 +0.5**
VIVF pmax pmax
comp=Z,20nm,0.9s,mb5.3
SBF Sospel 86.02 333⇑ *iP* **P 23 16 40.7 -0.2**
comp=Z,46nm,0.7s,mb5.5
SBF Sospel 86.02 333⇑ *iP* **P 23 16 40.7 -0.2**
comp=Z,23nm,0.7s,mb5.5
SBF Sospel 86.02 333⇑ *iP* **P 23 16 40.7 -0.2**
SBF pmax pmax
comp=Z,23nm,0.7s,mb5.5
RJF Les Rejaudoux 86.48 338⇑ *iP* **P 23 16 43.7 +0.5**
comp=Z,52nm,1.1s,mb5.4
RJF *e*MLR MLR
comp=Z,893nm,20.8s,MS4.8
RJF Les Rejaudoux 86.48 338⇑ *iP* **P 23 16 43.7 +0.5**
comp=Z,26nm,1.1s,mb5.4
RJF LR LR
comp=Z,890nm,20.8s,MS5.2
RJF Les Rejaudoux 86.48 338⇑ *iP* **P 23 16 43.7 +0.5**
RJF pmax pmax
comp=Z,26nm,1.1s,mb5.4
RJF MLR MLR
comp=Z,890nm,20.8s,MS5.2
SMRF Simiane la Rot 86.50 335 *eP* **P 23 16 44.1 +0.8**
comp=Z,43nm,1.1s,mb5.3
SMRF Simiane la Rot 86.50 335 *eP* **P 23 16 44.1 +0.8**
comp=Z,43nm,1.1s,mb5.6
FRF La Foret Royal 86.54 334⇑ *iP* **P 23 16 44.4 +0.9**
comp=Z,17nm,0.8s,mb5.0
FRF La Foret Royal 86.54 334⇑ *iP* **P 23 16 44.4 +0.9**
comp=Z,8.4nm,0.8s,mb5.0
FRF La Foret Royal 86.54 334⇑ *iP* **P 23 16 44.4 +0.9**
FRF pmax pmax
comp=Z,8.0nm,0.8s,mb5.0
SWET Sewanee 86.61 42 *eP* **P 23 16 43.1 -0.9**
SWET *e* pP 23 16 59.0 -0.7
PGF Pioggiola 86.66 332⇑ *iP* **P 23 16 45.4 +1.3**
CAF Calviac 86.67 337⇑ *iP* **P 23 16 45.1 +1.0**
comp=Z,54nm,1.1s,mb5.4
CAF Calviac 86.67 337⇑ *iP* **P 23 16 45.1 +1.0**
comp=Z,27nm,1.1s,mb5.4
CAF Calviac 86.67 337⇑ *iP* **P 23 16 45.1 +1.0**
CAF pmax pmax
comp=Z,27nm,1.1s,mb5.4
LMR La Mourre 86.79 334⇑ *iP* **P 23 16 44.7 0.0**
comp=Z,68nm,0.8s,mb5.6
LMR La Mourre 86.79 334⇑ *iP* **P 23 16 44.7 0.0**
comp=Z,34nm,0.8s,mb5.6
LMR La Mourre 86.79 334⇑ *iP* **P 23 16 44.7 0.0**
LMR pmax pmax
comp=Z,34nm,0.8s,mb5.6
CORF Corte 86.83 331 *eP* **P 23 16 46.3 +1.3**
LASF Ste Croix 86.94 336 *eP* **P 23 16 46.2 +0.8**
comp=Z,29nm,1.0s,mb5.2
LFF La Frestale 87.03 338⇑ *iP* **P 23 16 46.7 +0.9**
comp=Z,64nm,0.9s,mb5.5
LFF La Frestale 87.03 338⇑ *iP* **P 23 16 46.7 +0.9**
comp=Z,32nm,0.9s,mb5.5
LFF La Frestale 87.03 338⇑ *iP* **P 23 16 46.7 +0.9**
LFF pmax pmax
comp=Z,32nm,0.9s,mb5.5
ELN Prospectdale 87.36 38 P **P 23 16 50.2 +2.6**
TBI Tubuai 87.51 126 *eT* 00 54 11.4
comp=Z,4.1nm,0.3s
MTLF Montolieu 88.09 336 *eP* **P 23 16 51.9 +0.9**
comp=Z,32nm,1.1s,mb5.2
MTLF Montolieu 88.09 336 *eP* **P 23 16 51.9 +0.9**
comp=Z,16nm,1.1s,mb5.2
MTLF Montolieu 88.09 336 *eP* **P 23 16 51.9 +0.9**
MTLF pmax pmax
comp=Z,16nm,1.1s,mb5.2
EPF Esparros 88.90 338 *eP* **P 23 16 57.0 +2.2**
ETSF Etsaut 89.27 338 *eP* **P 23 16 57.4 +0.9**
comp=Z,12nm,0.6s,mb5.1
ETSF Etsaut 89.27 338 *eP* **P 23 16 57.4 +0.9**
comp=Z,6.2nm,0.6s,mb5.1
ETSF Etsaut 89.27 338 *eP* **P 23 16 57.4 +0.9**
ETSF pmax pmax
comp=Z,6.0nm,0.6s,mb5.1
KEST Kesra 92.56 328 P **P 23 17 10.3 -1.7**
comp=Z,1.1nm,0.6s,mb4.5,baz=198,slow=14,SNR=9.0
ESDC Sonseca Array 93.18 339 P **P 23 17 13.7 -1.0**
comp=Z,2.4nm,0.9s,mb4.6,baz=31,slow=2.6,SNR=6.9
TORD Torodi Ar. Bea 115.78 324 PKP PKPdf 23 22 42.4 -0.9
comp=Z,0.5nm,0.5s,baz=37,slow=1.6,SNR=14
TORD PP PP 23 23 36.4 -10
comp=Z,1.6nm,0.8s,baz=15,slow=7.6,SNR=5.5
TORD PKKP PKKPbc 23 33 33.9 +20
comp=Z,1.0nm,1.1s,baz=210,slow=3.0,SNR=4.3
VNDA Vanda 121.55 177 PKIKP PKPdf 23 22 53.1 +0.7
VNDA pmax pmax
comp=Z,1.0nm,0.4s
VNDA Vanda 121.55 177 PKP PKPdf 23 22 53.1 +0.7
comp=Z,0.5nm,0.4s,baz=313,slow=3.4,SNR=5.6
DBIC Dimbokro 124.29 328 PKIKP PKPdf 23 22 59.3 -0.3
DBIC pmax pmax
comp=Z,3.0nm,0.7s
DBIC Dimbokro 124.29 328 PKP PKPdf 23 22 59.3 -0.3
comp=Z,2.5nm,0.7s,baz=113,slow=21,SNR=5.0
NNA Nana 129.34 65 PKPdf PKPdf 23 23 10.8 +1.7
QSPA South Pole Qui 133.78 180 PKP PKPdf 23 23 17.2 +1.6
comp=Z,1.0nm,0.5s,baz=290,slow=1.7,SNR=4.5
LPAZ La Paz 138.14 60 *e*PKPdf PKPdf 23 23 27.1 +1.5
LPAZ La Paz 138.14 60 PKP PKPdf 23 23 25.3 -0.3
comp=Z,1.0nm,0.8s,baz=44,slow=5.1,SNR=3.1
LCO Las Campanas 145.06 78 *e*PKP PKPdf 23 23 38.0 +0.3
MAIT Maitri 146.03 204 *e*PKPdf PKPdf 23 23 38.1 +0.1
BDFB Brasilia 148.18 32 PKP2 PKPbc 23 23 45.8 -0.7
BDFB pmax pmax
comp=Z,7.0nm,0.7s
BDFB Brasilia 148.18 32 PKPbc PKPbc 23 23 45.8 -0.8
comp=Z,7.3nm,0.7s,baz=222,slow=4.1,SNR=12
CFAA Coronel Fontan 148.29 80 PKPbc PKPbc 23 23 46.1 -0.3
comp=Z,0.3nm,0.5s,baz=294,slow=3.4,SNR=7.9
SNAA Sanae 149.15 197 *e*PKPdf PKPbc 23 23 48.0 +0.6
SNAA *e* 23 23 54.0
SNAA *e* 23 23 57.0
SNAA *e* 23 24 04.4
SNAA Sanae 149.15 197 PKP2 PKPbc 23 23 46.6 -0.8
SNAA pmax pmax
comp=Z,3.0nm,1.1s
SNAA Sanae 149.15 197 PKPbc PKPbc 23 23 46.6 -0.8
comp=Z,3.2nm,1.1s,baz=197,slow=2.9,SNR=5.2
VNA2 Neumayer--Watz 150.65 196 *e*PKPdf PKPdf 23 23 48.8 +3.3
VNA2 *e* 23 23 52.6
VNA2 *e* 23 23 57.5
VNA2 *e* 23 24 00.1
VNA2 *e* 23 24 05.7
VNA2 *e* 23 24 11.7
PLCA Paso Flores 150.75 97 PKIKP PKPbc 23 23 52.6 +0.4
PLCA pmax pmax
comp=Z,3.0nm,0.8s
PLCA Paso Flores 150.75 97 PKPbc PKPbc 23 23 52.6 +0.4
comp=Z,3.4nm,0.8s,baz=252,slow=4.6,SNR=6.3
VNA3 Neumayer Olymp 150.81 194 *e*PKPdf PKPdf 23 23 49.3 +3.6
VNA3 *e* 23 23 53.2
VNA3 *e* 23 23 57.4
VNA3 *e* 23 24 00.7

VNA3			*e*			23 24 06.0
VNA3			*e*			23 24 11.8
VNA1	**Neumayer--Stat**	**151.05 195**	*e*PKPdf	PKPbc		23 23 57.8 +5.8
VNA1			*e*			23 24 01.2
VNA1			*e*			23 24 12.0

IDC 04 23:08:17.3±1.1, 714S×15621E, h0km, mb4.3/9, mb1 4.4/9, mb1mx4.2/16, mbtmp4.3/9, Error ellipse: s-maj=34.7km s-min=23.2km az=104.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WB2	**Warramunga Arr**	**24.73**	**237**	*e*P	P	23 13 41.4	+0.8
WRA	**Warramunga Arr**	**24.74**	**237**	P	P	23 13 41.5	+0.8
2.9nm,0.3s,baz=60,slow=9.4,SNR=13							
ASAR	**Alice Springs**	**27.00**	**230**	P	P	23 14 01.1	0.0
0.5nm,0.4s,baz=60,slow=9.6,SNR=5.3							
FITZ	**Fitzroy Crossi**	**31.71**	**247**	P	P	23 14 42.8	-0.2
2.2nm,0.5s,baz=60,slow=11,SNR=6.0							
BATI	**Kupang**	**32.31**	**262**	P	P	23 14 48.0	-0.5
16nm,0.5s,baz=104,slow=4.2,SNR=4.7							
KSRS	**Korea Array**	**51.63**	**331**	P	P	23 17 26.1	+0.3
0.7nm,0.3s,baz=137,slow=7.2,SNR=4.1							
SONM	**Songino Array**	**70.11**	**327**	P	P	23 19 32.6	+1.2
1.4nm,0.7s,baz=140,slow=6.7,SNR=11							
QSPA	**South Pole Qui**	**82.84**	**180**	P	P	23 20 43.9	+0.8
1.3nm,0.4s,baz=300,slow=0.3,SNR=8.5							
MKAR	**Makanchi Array**	**84.31**	**318**	P	P	23 20 51.5	+0.3
2.8nm,0.6s,baz=101,slow=6.1,SNR=18							
ZALV	**Zalesovo Beam**	**84.97**	**326**	P	P	23 20 53.3	-1.1
1.0nm,0.4s,baz=120,slow=6.1,SNR=6.0							
BDFB	**Brasilia**	**147.01**	**133**	PKPbc	PKPbc	23 28 02.7	-0.4
2.6nm,0.7s,baz=201,slow=8.6,SNR=4.0							
TORD	**Torodi Ar. Bea**	**154.23**	**285**	PKPbc	PKPbc	23 28 19.0	-1.5
0.7nm,0.7s,baz=25,slow=1.5,SNR=5.6							

IDC 04 23:12:34.1±1.1, 784S×15625E, h0km, mb4.1/7, mb1 4.2/8, mb1mx4.1/14, mbtmp4.2/8, ML4.4/1, MS4.2/1, Ms1 4.2/1, ms1mx3.3/27, Error ellipse: s-maj=27.5km s-min=23.1km az=87.0

NEIC 04 23:12:35.6±0.5, 786S×15627E, h10km, mb4.5/1, Error ellipse: s-maj=14.0km s-min=12.0km az=168.0

ISCJB 04 23:12:37.7±0.6, 79S±01×15622E±007, h33km, mb4.0/8, MS4.1/1, Error ellipse: s-maj=15.7km s-min=8.9km az=18.6

ISC 04 23:12:39.7±0.6, 79S±01×15621E±007, h35km, n14, σ0980/13, mb4.0/8, MS4.1/1, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.00**	**113**	**Pn**	**Pn**	**23 13 36.3**	**-2.3**
22nm,0.3s,baz=242,slow=3.3,SNR=3.7							
HNR				Sn	**Sn**	**23 14 25.2**	**+0.9**
33nm,0.3s,baz=268,slow=22,SNR=7.0							
WB2	**Warramunga Arr**	**24.32**	**238**	*e*P	**P**	**23 17 54.7**	**+0.4**
WRA	**Warramunga Arr**	**24.33**	**238**	P	**P**	**23 17 54.9**	**+0.5**
9.2nm,0.7s,mb4.3,baz=63,slow=9.6,SNR=20							
ASAR	**Alice Springs**	**26.52**	**231**	P	**P**	**23 18 13.3**	**-0.8**
0.7nm,0.8s,mb3.2,baz=56,slow=9.1,SNR=4.3							
STKA	**Stephens Creek**	**27.47**	**208**	P	**P**	**23 18 23.0**	**+0.4**
STKA	**Stephens Creek**	**27.47**	**208**	P	**P**	**23 18 23.0**	**+0.4**
3.7nm,0.9s,mb3.9,baz=28,slow=12,SNR=5.2							
RPZ	**Rata Peaks**	**37.98**	**162**	LR	LR	23 31 53.7	
comp=Z,324nm,19.7s,MS4.1,baz=190,slow=30							
KSRS	**Korea Array**	**52.29**	**332**	P	**P**	**23 21 47.7**	**-0.1**
1.0nm,0.6s,mb3.9,baz=140,slow=5.9,SNR=3.6							
ULN	**Ulaanbaatar**	**70.40**	**327**	*e*P	**P**	**23 23 50.5**	**+0.3**
5.2nm,1.3s,mb4.3							
SONM	**Songino Array**	**70.73**	**327**	P	**P**	**23 23 52.5**	**+0.3**
3.2nm,0.7s,mb4.4,baz=140,slow=6.7,SNR=35							
MKAR	**Makanchi Array**	**84.86**	**318**	P	**P**	**23 25 10.3**	**-0.5**
1.0nm,0.6s,mb4.1,baz=99,slow=6.7,SNR=10							
ZALV	**Zalesovo Beam**	**85.59**	**326**	P	**P**	**23 25 13.9**	**-0.4**
0.6nm,0.6s,mb4.0,baz=106,slow=3.1,SNR=2.5							
IMW	**Indian Meadow**	**97.46**	**47**	P	**P**	**23 26 11.0**	**+1.0**
SFJD	**Kangerlussuaq**	**118.22**	**12**	PKPdf	PKPdf	23 31 21.4	-1.4

ISCJB 04 23:27:56.6±0.9, 3856N±008×3930E±005, h11km±7km, Error ellipse: s-maj=13.1km s-min=6.8km az=170.8

ISK 04 23:27:56.4, 3855N×3925E, h4km, MD2.7

CSEM 04 23:27:57.7±0.2, 3858N×3913E, h22km±2km, MD2.7, Error ellipse: s-maj=7.0km s-min=5.3km az=118.0

DDA 04 23:27:58.5, 3843N×3930E, h6km±1km, Md2.9

ISC 04 23:27:56.9±1.0, 3858N±008×3930E±006, h13km±7km, n9, σ0973/14, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ELZG	**Elazig**	**0.26**	**252**	*i* P	**Pg**	**23 28 03.5**	**+1.2**
ELZG				*i* S	**Sg**	**23 28 06.9**	**+1.0**
MYA	**Malataya**	**0.73**	**250**	PG	**Pg**	**23 28 10.8**	**-0.3**
MYA				SG	**Sg**	**23 28 20.8**	**+0.2**
MALT	**Malatya**	**0.73**	**249**	PG	**Pg**	**23 28 09.6**	**-1.5**
MALT				SG	**Sg**	**23 28 19.6**	**-1.1**
DIY	**Diyarbakir**	**1.00**	**133**	*e*PG	**Pg**	**23 28 15.9**	**-0.3**
URFA	**Urfa**	**1.20**	**198**	*e*PN	**Pn**	**23 28 19.1**	**-0.2**
EZC	**Erzincan**	**1.24**	**19**	*e*PN	**Pn**	**23 28 19.6**	**-0.3**
MARD	**Mardin**	**1.72**	**137**	*i* P	**Pn**	**23 28 26.8**	**+0.2**
MARD				*i* S	**Sn**	**23 28 48.1**	**-0.3**
BTMT	**Batman**	**1.77**	**102**	*e*PN	**Pn**	**23 28 28.0**	**+0.8**
GZT	**Gaziantep**	**1.83**	**229**	*i* P	**Pn**	**23 28 28.0**	**-0.1**
GZT				*i* S	**Sn**	**23 28 52.0**	**+0.8**

NIED 04 23:30:00, 4430N×14930E, h32km, Mw4.3 Best double couple: M0=2.86000×1015 NP1:φs=56.00000°, δ=77.00000°, λ=142.00000°. NP2:φs=156.00000°, δ=53.00000°, λ=16.00000°.

IDC 04 23:30:38.6±0.7, 4412N×149.18E, h0km, mb4.1/14, mb1 4.3/16, mb1mx4.2/23, mbtmp4.1/16, ML3.6/2, MS3.5/1, Ms1 3.5/1, ms1mx2.9/48, Error ellipse: s-maj=19.3km s-min=16.5km az=148.0

ISCJB 04 23:30:39.7±1.3, 4397N±005×14934E±005, h24km±9km, mb4.5/63, Error ellipse: s-maj=10.1km s-min=4.7km az=152.3

BJI 04 23:30:39.3, 4448N×14989E, h36km, mB5.1, mb4.7

SKHL 04 23:30:40.8±2.9, 4420N×14920E, h21km±3km, mb5.1/2, ms3.8/1

JMA 04 23:30:41.5±0.7, 4432N×14930E, h30km, M4.5

MOS 04 23:30:41.9±1.3, 4403N×14930E, h39km, mb4.7/29, Error ellipse: s-maj=9.0km s-min=6.3km az=110.1

NEIC 04 23:30:43.0±0.5, 4405N×14944E, h35km, mb4.6/29, Error ellipse: s-maj=12.7km s-min=7.5km az=154.0

SZGRF 04 23:30:45.7, 4435N×14947E, h33km, mb4.3, Kuril Islands, Russia

ISC 04 23:30:42.6±1.3, 4399N±006×14933E±005, h31km±9km, n192, σ1916/203, mb4.5/63, 7C-11D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.63**	**320**	PN	**Pn**	**23 31 05.5**	**-3.6**
KUR				*e*S	**Sn**	**23 31 24.0**	**-4.9**
KUR				pmax	pmax		
comp=Z,3μm,1.6s							
KUR				smax			
comp=N,9μm,2.0s							
KUR				smax			
comp=E,8μm,2.0s							
KUR	**Kuril'sk**	**1.63**	**320**	*e*P	**Pn**	**23 31 05.5**	**-3.6**
KUR				AMB	AMB	23 31 06.0	
comp=E,3μm,1.6s							
KUR				*e*S	**Sn**	**23 31 24.0**	**-4.9**
KUR				A		23 31 43.0	
comp=E,9μm,2.0s							
KUR				A		23 31 43.0	
comp=E,8μm,2.0s							
YUK	**Yuzh-Kuril'sk**	**2.50**	**272**	*e*P	**Pn**	**23 31 20.4**	**-0.7**
YUK				AMB	AMB	23 31 21.5	
comp=E,140nm,0.3s							
YUK				AMB	AMB	23 31 21.5	
comp=E,350nm,0.4s							
YUK				A		23 31 56.0	
comp=E,2μm,0.5s							
YUK				A		23 31 56.0	
comp=E,580nm,0.5s							
YUK				A		23 32 18.0	
comp=E,6μm,1.1s							
YUK				A		23 32 18.0	
comp=E,4μm,0.9s							
YUK				AMS	AMS	23 32 56.0	
comp=E,2μm,17.0s							
YUK				AMS	AMS	23 32 56.0	
comp=E,3μm,10.0s							
NEM2	**Nemuro 2**	**2.68**	**258**	P	**Pn**	**23 31 22.3**	**-1.2**
JRA	**Rausu**	**3.04**	**271**	P	**Pn**	**23 31 28.3**	**-0.2**
JNK	**Nakash**	**3.37**	**265**	P	**Pn**	**23 31 32.7**	**-0.2**
JAK	**Akkeshi**	**3.52**	**255**	P	**Pn**	**23 31 34.3**	**-0.7**
JAK				*e*S	**Sn**	**23 32 13.3**	**-2.2**
JTKR	**Abashiri--Toko**	**3.92**	**272**	P	**Pn**	**23 31 41.1**	**+0.6**
JAR	**Ashorobuto**	**4.10**	**262**	P	**Pn**	**23 31 43.2**	**+0.2**
JAR				*e*S	**Sn**	**23 32 29.5**	**-0.3**
JOB	**Onbets**	**4.15**	**257**	P	**Pn**	**23 31 43.8**	**+0.1**
JOB				*e*S	**Sn**	**23 32 30.4**	**-0.7**
JMP	**Maruseppu**	**4.31**	**272**	P	**Pn**	**23 31 46.8**	**+0.9**
JCH	**Churui**	**4.57**	**255**	P	**Pn**	**23 31 49.4**	**-0.1**
JCH				*e*S	**Sn**	**23 32 40.9**	**-0.6**
JKK2	**Kamakawa 2**	**4.76**	**271**	P	**Pn**	**23 31 53.8**	**+1.7**
ASAJ	**Asahikawa**	**4.86**	**274**	P	**Pn**	**23 31 57.2**	**+3.8**
ASAJ	**Asahikawa**	**4.86**	**274**	Pn	**Pn**	**23 31 55.1**	**+1.7**
comp=E,2.2nm,0.3s,baz=82,slow=16,SNR=4.6							
ASAJ				LR	LR	23 33 48.4	
comp=E,549nm,19.8s,baz=171,slow=40							
JEM	**Erimo**	**4.94**	**249**	P	**Pn**	**23 31 56.1**	**+1.5**
ERM	**Erimo**	**4.94**	**249**	*e*Pn	**Pn**	**23 31 56.7**	**+2.1**
comp=E,66nm,0.6s							
ERM				*e*Sn	**Sn**	**23 32 51.6**	**+1.0**
ERM	**Erimo**	**4.94**	**249**	*e*PN	**Pn**	**23 31 56.7**	**+2.1**
ERM				*e*		23 32 51.6	
ERM				pmax	pmax		
comp=Z,66nm,0.6s							
JFR	**Furan**	**4.97**	**263**	P	**Pn**	**23 31 56.1**	**+1.2**
JNBK	**Urakawa-nobuka**	**5.11**	**253**	P	**Pn**	**23 31 56.8**	**-0.1**
JBT2	**Biratori 2**	**5.22**	**259**	P	**Pn**	**23 31 58.3**	**-0.2**
YSS	**Yuzh-Sakhalins**	**5.50**	**305**	*e*Pn	**Pn**	**23 32 06.3**	**+4.1**
YSS	**Yuzh-Sakhalins**	**5.50**	**305**	*e*PN	**Pn**	**23 32 01.9**	**-0.3**
YSS				pmax	pmax		
comp=Z,15nm,1.1s							
YSS	**Yuzh-Sakhalins**	**5.50**	**305**	*e*P	**Pn**	**23 32 02.8**	**+0.6**
YSS				A		23 33 02.8	
comp=Z,30nm,1.0s							
YSS				AMS	AMS	23 34 32.0	
comp=Z,600nm,12.0s							
JEW	**Eniwo**	**5.86**	**261**	P	**Pn**	**23 32 08.9**	**+1.7**
JNB	**Noboribetsu**	**6.25**	**259**	P	**Pn**	**23 32 13.0**	**+0.5**
JNB				*e*S	**Sn**	**23 33 21.1**	**-1.7**
JKB	**Kayabe**	**6.44**	**254**	P	**Pn**	**23 32 15.2**	**0.0**
JKB				*e*S	**Sn**	**23 33 24.2**	**-3.5**
JYM2	**Yakumo 2**	**6.83**	**257**	P	**Pn**	**23 32 20.4**	**-0.1**
JANG	**Nango**	**6.84**	**241**	P	**Pn**	**23 32 18.8**	**-1.9**
JANG				*e*S	**Sn**	**23 33 30.0**	**-7.4**
JTH	**Tanohata**	**6.88**	**237**	*e*S	**Sn**	**23 33 30.5**	**-7.9**
JTM	**Tenmabayashi**	**6.90**	**245**	P	**Pn**	**23 32 20.8**	**-0.8**
JTM				*e*S	**Sn**	**23 33 32.9**	**-6.1**
JSH	**Shimam**	**6.91**	**262**	P	**Pn**	**23 32 22.5**	**+0.9**
JOSM	**Okushiri--Mats**	**7.47**	**259**	P	**Pn**	**23 32 29.8**	**+0.5**
OFUJ	**Ofunato**	**7.55**	**232**	P	**Pn**	**23 32 28.1**	**-2.4**
OFUJ				*e*S	**Sn**	**23 33 46.7**	**-8.3**
JRG	**Rokugo**	**7.96**	**238**	P	**Pn**	**23 32 35.4**	**-0.7**
SKR	**Severo-Kuril's**	**8.13**	**32**	*e*P	**Pn**	**23 32 39.2**	**+0.9**
SKR				AMB	AMB	23 32 44.2	
comp=Z,60nm,0.5s							
MAJO	**Matsushiro**	**11.29**	**233**	Pn	**Pn**	**23 33 21.3**	**-0.3**
MJAR	**Matsushiro Arr**	**11.29**	**233**	Pn	**Pn**	**23 33 20.8**	**-0.8**
comp=Z,0.4nm,0.3s,baz=347,slow=7.3,SNR=3.5							
KLR	**Kul'dur**	**13.17**	**300**	*e*PN	**Pn**	**23 33 49.3**	**+2.1**
ZEA	**Zeya**	**17.43**	**312**	*e*P	**Pn**	**23 34 40.5**	**-2.6**
ZEA				AMB	AMB	23 34 41.9	
comp=Z,10.0nm,0.7s							
KSRS	**Korea Array**	**17.47**	**255**	P	**Pn**	**23 34 42.5**	**-1.2**
comp=Z,0.2nm,0.3s,baz=61,slow=10,SNR=7.3							
INCN	**Inchon**	**18.36**	**257**	P	**Pn**	**23 34 53.0**	**-1.6**
SEY	**Seymchan**	**19.06**	**4**	*e*P	**Pn**	**23 35 01.8**	**-1.2**
YAK	**Yakutsk**	**21.44**	**334**	*e*P	**P**	**23 35 24.7**	**-3.1**
comp=Z,24nm,0.6s,mb4.7							
YAK	**Yakutsk**	**21.44**	**334**	*e*P	**P**	**23 35 25.9**	**-1.9**
YAK				pmax	pmax		
comp=Z,28nm,1.0s,mb4.5							
YAK				pmax	pmax		
comp=N,5.0nm,1.2s							
YAK				pmax	pmax		
comp=E,5.0nm,0.9s							
BILL	**Bilibino**	**25.71**	**15**	P	**P**	**23 36 06.7**	**-2.9**
BILL	**Bilibino**	**25.71**	**15**	*e*P	**P**	**23 36 10.3**	**+0.7**
BILL				pmax	pmax		
comp=Z,2.0nm,1.2s,mb3.5							
BOD	**Bodaibo**	**25.87**	**315**	*e*P	**P**	**23 36 06.8**	**-4.3**
BOD				pmax	pmax		
comp=Z,3.0nm,1.0s,mb3.8							
ULN	**Ulaanbaatar**	**29.39**	**293**	*e*P	**P**	**23 36 42.4**	**-0.4**
TIXI	**Tiksi**	**29.47**	**347**	*e*P	**P**	**23 36 39.4**	**-3.8**
TIXI				pmax	pmax		
comp=Z,1.0nm,0.9s,mb3.5							
TATO	**Taipei**	**29.56**	**239**	P	**P**	**23 36 47.7**	**+3.3**
SONM	**Songino Array**	**29.84**	**293**	P	**P**	**23 36 47.1**	**+0.4**
SONM				pmax	pmax		
comp=Z,4.0nm,0.8s							
SONM	**Songino Array**	**29.84**	**293**	P	**P**	**23 36 47.1**	**+0.4**
comp=Z,3.5nm,0.8s,mb4.1,baz=82,slow=8.4,SNR=36							
TLY	**Talaya**	**31.18**	**301**	*e*P	**P**	**23 36 58.2**	**-0.3**
ZAK	**Zakamensk**	**31.53**	**298**	*e*P	**P**	**23 37 01.8**	**+0.2**
ZAK				pmax	pmax		
comp=Z,2.0nm,1.1s,mb3.9							
LZH	**Lanzhou**	**35.34**	**273**	P	**P**	**23 37 36.5**	**+1.6**
LZH				AP	pP	23 37 47.9	+3.8
LZH				XP	sP	23 37 53.7	+5.8
LZH				AMB	AMB		
comp=Z,23nm,1.1s,mb5.0							
LZH				AMB	AMB		
comp=Z,88nm,4.1s							
LZH	**Lanzhou**	**35.34**	**273**	P	**P**	**23 37 36.5**	**+1.6**
comp=Z,23nm,1.1s,mb5.0							
LZH				pP	pP	23 37 47.9	+3.8
LZH				sP	sP	23 37 53.7	+5.8
LZH	**Lanzhou**	**35.34**	**273**	P	**P**	**23 37 36.5**	**+1.6**
LZH				*PP	pP	23 37 47.9	+3.8
LZH				*SP	sP	23 37 53.7	+5.8
LZH				pmax	pmax		
comp=Z,23nm,1.1s,mb5.0							
GTA	**Gaotai**	**36.81**	**280**	*e*P	**P**	**23 37 48.5**	**+1.0**
GTA				AMB	AMB		
comp=Z,8.0nm,0.5s,mb4.8							
IMA2	**Indian Mountai**	**37.60**	**34**	*e*P	**P**	**23 37 53.5**	**-0.3**
PMR	**Palmer**	**39.44**	**41**	*e*P	**P**	**23 38 07.1**	**-2.2**
comp=Z,15nm,0.4s,mb5.1							
PMR	**Palmer**	**39.44**	**41**	*e*P	**P**	**23 38 07.1**	**-2.2**
PMR				pmax	pmax		
comp=Z,15nm,0.4s,mb5.1							
COLA	**College**	**39.95**	**36**	P	**P**	**23 38 10.2**	**-3.3**
ZALV	**Zalesovo Beam**	**42.11**	**307**	P	**P**	**23 38 30.3**	**-1.2**
comp=Z,0.8nm,0.4s,mb3.7,baz=86,slow=6.1,SNR=5.9							
ZALV				PcP	PcP	23 40 26.0	+0.4
comp=Z,1.5nm,0.7s,baz=68,slow=3.1,SNR=7.5							
ZAL	**Zalesovo**	**42.13**	**307**	P	**P**	**23 38 30.3**	**-1.3**
ZAL						23 40 26.0	
WMQ	**Urumqi**	**43.47**	**292**	P	**P**	**23 38 43.5**	**+0.9**
WMQ				AMB	AMB		
comp=Z,16nm,1.0s,mb4.7							
WMQ				AMB	AMB		
comp=Z,305nm,6.9s							
INK	**Inuvik**	**45.40**	**31**	P	**P**	**23 38 58.9**	**+1.2**
INK				pmax	pmax		
comp=Z,2.0nm,0.8s							
INK	**Inuvik**	**45.40**	**31**	P	**P**	**23 38 58.9**	**+1.2**
comp=Z,2.4nm,0.8s,mb4.1,baz=292,slow=6.6,SNR=5.5							
MK31	**Makanchi Array**	**45.87**	**298**	*e*P	**P**	**23 39 01.7**	**0.0**
MKAR	**Makanchi Array**	**45.87**	**298**	*i* P	**P**	**23 39 01.9**	**+0.2**
MKAR				pmax	pmax		
comp=Z,9.0nm,0.8s							
MKAR	**Makanchi Array**	**45.87**	**298**	P	**P**	**23 39 01.9**	**+0.2**
comp=Z,8.5nm,0.8s,mb4.8,baz=76,slow=8.3,SNR=78							
DLBC	**Dease Lake**	**49.43**	**43**	P	**P**	**23 39 26.3**	**-2.8**
BRVK	**Borovoye**	**50.61**	**310**	*e*P	**P**	**23 39 37.5**	**-0.7**
comp=Z,1.5nm,0.5s,mb4.2							
BRVK	**Borovoye**	**50.61**	**310**	*e*P	**P**	**23 39 37.5**	**-0.7**
BRVK				pmax	pmax		
comp=Z,1.0nm,0.5s,mb4.0							
ULHL	**Ulahol**	**51.72**	**295**	P	**P**	**23 39 47.8**	**+1.1**
SNR=15							
TKM2	**Tokmak 2**	**51.82**	**296**	*e*P	**P**	**23 39 48.6**	**+1.1**
comp=Z,19nm,1.4s,mb4.8							
TKM2	**Tokmak 2**	**51.82**	**296**	*e*P	**P**	**23 39 48.6**	**+1.2**
TKM2				pmax	pmax		
comp=Z,19nm,1.4s,mb4.8							
TKM2	**Tokmak 2**	**51.82**	**296**	P	**P**	**23 39 48.7**	**+1.2**
SNR=7.8							
USP	**Ospenovka**	**52.37**	**297**	P	**P**	**23 39 52.4**	**+0.9**
SNR=12							
KBK	**Karagaybulak**	**52.37**	**296**	P	**P**	**23 39 52.6**	**+1.1**
SNR=12							
KZA	**Kyzart**	**52.45**	**295**	P	**P**	**23 39 54.1**	**+2.0**
SNR=18							
JIRN	**Jiri**	**52.49**	**274**	*e*P	**P**	**23 39 53.8**	**+1.2**
comp=Z,4.7nm,0.4s,mb4.8							
AAK	**Ala-Archa**	**52.67**	**296**	P	**P**	**23 39 54.6**	**+0.9**
SNR=6.8							
UCH	**Uchtor**	**52.86**	**296**	*e*P	**P**	**23 39 54.2**	**-0.9**
comp=Z,2.5nm,0.9s,mb4.1							
KKN	**Kakani**	**53.08**	**275**	*e*P	**P**	**23 39 57.8**	**+0.9**
EKS2	**Erkin-Say**	**53.12**	**297**	*e*P	**P**	**23 39 57.7**	**+0.7**
comp=Z,8.0nm,0.9s,mb4.7							
EKS2	**Erkin-Say**	**53.12**	**297**	P	**P**	**23 39 58.0**	**+1.0**
SNR=10							
GKN	**Gorkha**	**53.41**	**275**	*e*P	**P**	**23 40 00.1**	**+0.7**
comp=Z,9.2nm,0.5s,mb5.0							
AML	**Almayashu**	**53.44**	**296**	*e*P	**P**	**23 40 00.8**	**+1.5**
comp=Z,5.0nm,0.8s,mb4.5							
AML	**Almayashu**	**53.44**	**296**	P	**P**	**23 40 01.0**	**+1.7**
SNR=6.9							
RES	**Resolute Bay**	**54.28**	**17**	*e*P	**P**	**23 40 05.2**	**+0.1**
comp=Z,75nm,0.6s							
KOLN	**Koldanda**	**54.29**	**276**	*e*P	**P**	**23 40 06.7**	**+0.9**
comp=Z,18nm,0.9s,mb5.0							
YKA	**Yellowknife Ar**	**54.72**	**34**	*i* P	**P**	**23 40 08.8**	**+0.4**
YKA				pmax	pmax		
comp=Z,2.0nm,0.8s							
YKA	**Yellowknife Ar**	**54.72**	**34**	P	**P**	**23 40 09.3**	**+0.9**
comp=Z,1.5nm,0.8s,mb4.1,baz=297,slow=6.8,SNR=21							
ARU	**Arti**	**55.24**	**317**	*e*P	**P**	**23 40 10.8**	**-1.5**
comp=Z,7.7nm,1.1s,mb4.7							
ARU	**Arti**	**55.24**	**317**	*e*P	**P**	**23 40 10.0**	**-2.3**
ARU				*e*		23 42 11.7	
ARU				*e*S	**S**	**23 47 49.5**	**-4.0**
ARU				SS	SS	23 51 32.4	-4.9
KBL	**Kabul**	**60.59**	**291**	*e*P	**P**	**23 40 49.9**	**-0.2**
comp=Z,6.2nm,0.7s,mb4.8							
NEW	**Newport**	**60.98**	**50**	P	**P**	**23 40 52.0**	**-0.5**
FCC	**Fort Churchill**	**65.02**	**31**	*e*P	**P**	**23 41 15.1**	**-4.0**
comp=Z,2.5nm,0.7s,mb4.3							
FCC	**Fort Churchill**	**65.02**	**31**	*e*P	**P**	**23 41 15.1**	**-4.1**
FCC				pmax	pmax		
comp=Z,3.0nm,0.7s,mb4.4							
CMB	**Columbia Colle**	**65.05**	**61**	P	**P**	**23 41 17.9**	**-1.9**
WRA	**Warramunga Arr**	**65.08**	**196**	P	**P**	**23 41 21.3**	**+1.3**
comp=Z,0.4nm,0.4s,mb3.9,baz=15,slow=6.5,SNR=5.7							
HLID	**Hailey**	**65.28**	**53**	P	**P**	**23 41 20.0**	**-1.2**
FINES	**FINESS Array B**	**65.37**	**334**	*i* P	**P**	**23 41 21.1**	**-0.3**
FINES				pmax	pmax		
comp=Z,8.0nm,0.6s							
FINES	**FINESS Array B**	**65.37**	**334**	P	**P**	**23 41 20.4**	**-1.0**
comp=Z,7.7nm,0.6s,mb4.9,baz=44,slow=7.8,SNR=37							
OBN	**Obninsk**	**66.05**	**325**	*e*P	**P**	**23 41 24.7**	**-1.2**
OBN				pmax	pmax		
comp=Z,9.0nm,1.2s,mb4.7							
NVAR	**Mina Array Bea**	**66.11**	**59**	P	**P**	**23 41 27.6**	**+1.0**
comp=Z,0.3nm,0.5s,mb3.6,baz=311,slow=5.8,SNR=2.9							
VRHR	**Novokhopersk**	**66.50**	**319**	*e*P	**P**	**23 41 27.7**	**-1.2**
VRHR				*e*		23 41 59.4	
VRHR				pmax	pmax		
comp=Z,10.0nm,0.9s,mb4.8							
VRHR				pmax	pmax		
comp=N,20nm,1.3s							
VRHR				pmax	pmax		
comp=E,30nm,1.4s							
IMW	**Indian Meadow**	**67.05**	**51**	P	**P**	**23 41 36.9**	**+4.5**
comp=E,2.7nm,0.3s,mb4.8							
FLWY	**Flagg Ranch**	**67.06**	**50**	P	**P**	**23 41 35.6**	**+3.0**
REDW	**Red Top Meadow**	**67.43**	**51**	*e*P	**P**	**23 41 40.5**	**+5.5**
comp=E,5.8nm,0.6s,mb4.8							
AHID	**Auburn Hatcher**	**67.67**	**52**	P	**P**	**23 41 32.4**	**-4.0**
comp=E,45nm,0.6s							
TPNV	**Topopah Spring**	**68.30**	**59**	*e*P	**P**	**23 41 39.3**	**-1.3**
comp=E,1.2nm,0.5s,mb4.2							
TPNV	**Topopah Spring**	**68.30**	**59**	*e*P	**P**	**23 41 39.3**	**-1.2**
TPNV				pmax	pmax		
comp=Z,1.0nm,0.5s,mb4.1							
BW06	**Boulder Array**	**68.54**	**51**	P	**P**	**23 41 39.5**	**-2.4**
comp=Z,2.4nm,0.8s,mb4.2							
PDAR	**Pinedale Array**	**68.54**	**51**	P	**P**	**23 41 43.0**	**+1.1**
comp=Z,0.5nm,0.7s,mb3.5,baz=292,slow=4.3,SNR=4.4							
ASAR	**Alice Springs**	**68.79**	**195**	P	**P**	**23 41 45.4**	**+1.9**
comp=Z,0.2nm,0.5s,baz=12,slow=7.0,SNR=4.4							
PALK	**Pallekele**	**69.64**	**260**	P	**P**	**23 41 48.3**	**-0.8**
GOF	**Gofitskoye**	**69.84**	**314**	*e*P	**P**	**23 41 57.0**	**+7.1**
GOF				pmax	pmax		
comp=Z,20nm,0.8s,mb5.1							
NB2	**NORSAR Subarra**	**69.94**	**340**	P	**P**	**23 41 49.3**	**-0.9**
comp=Z,6.9nm,0.8s,mb4.6,baz=30,slow=6.5							
NOA	**NORSAR Array B**

CLL pmax pmax
comp=Z,40nm,0.9s,mb5.3
CLL Collm 77.82 334 *i* P **P 23 42 36.6 +0.1**
comp=Z,9.0nm,0.9s,mb4.7
CLL *ex* x 23 42 41.0
CLL *es*P sP 23 42 50.0 0.0
BRG Berggiesshubel 77.89 333 *i* P **P 23 42 36.6 -0.3**
BRG *e* 23 42 50.0
BRG pmax pmax
comp=Z,40nm,0.9s,mb5.3
KBD Kabd 77.98 299 *e*P **P 23 42 36.8 -1.0**
KBD AMb AMB 23 42 44.0
comp=Z,33nm,1.1s,mb5.2
QRN Al-Qurain 78.13 298 *e*P **P 23 42 38.2 -0.5**
QRN AMb AMB 23 42 41.5
comp=Z,13nm,0.7s,mb5.0
VYHS Vyhne 78.17 329 *e*P **P 23 42 38.9 +0.3**
RST Umm Al-Ruwaisa 78.19 300 *e*P **P 23 42 38.2 -0.8**
RST AMb AMB 23 42 40.4
comp=Z,13nm,0.8s,mb4.9
NAY Al-Naaiem 78.21 299 *e*P **P 23 42 38.4 -0.7**
NAY AMb AMB 23 42 41.2
comp=Z,5.8nm,0.9s,mb4.5
RDF Al-Radifah 78.24 299 *e*P **P 23 42 38.0 -1.3**
RDF AMb AMB 23 42 40.7
comp=Z,16nm,0.7s,mb5.0
PSZ Piszkesteto 78.25 328 P **P 23 42 36.2 -2.8**
PRU Pruhonice 78.44 332 *e*P **P 23 42 40.8 +0.8**
TREC Trest 78.71 331 *e*P **P 23 42 42.0 +0.5**
MODS Modra-Piesok 78.85 330 *e*P **P 23 42 42.8 +0.5**
BZS Buzias 79.45 326 ⇓*i*P **P 23 42 45.5 -0.1**
BZS Buzias 79.45 326 ⇓*i*P **P 23 42 45.5 -0.1**
KHC Kasperske Hory 79.50 332 *e*P **P 23 42 46.5 +0.7**
KHC *ep*P pP 23 43 00.0 +4.3
GERES GERESS Array B 79.71 332 P **P 23 42 47.1 +0.2**
GERES pmax pmax
comp=Z,1.0nm,0.6s
GERES GERESS Array B 79.71 332 P **P 23 42 47.1 +0.1**
comp=Z,1.2nm,0.6s,mb4.0,baz=35,slow=5.8,SNR=14
GRA1 Grafenberg Arr 79.79 334 *e*P **P 23 42 47.6 +0.2**
comp=Z,4.0nm,1.0s,mb4.3
GRF Grafenberg Arr 79.79 334 *e*P **P 23 42 47.6 +0.2**
GRF pmax pmax
comp=Z,4.0nm,1.0s,mb4.3
GRF Grafenberg Arr 79.79 334 *e*P **P 23 42 47.6 +0.2**
GRF pmax pmax
comp=Z,4.0nm,1.0s,mb4.3
GRF Grafenberg Arr 79.79 334 *e*P **P 23 42 47.6 +0.2**
comp=Z,4.0nm,1.0s,mb4.3
TXAR Lajitas Array 81.20 58 P **P 23 42 56.6 +1.3**
TXAR pmax pmax
comp=Z,1.0nm,0.5s
TXAR Lajitas Array 81.20 58 P **P 23 42 56.6 +1.3**
comp=Z,0.7nm,0.5s,mb3.9,baz=307,slow=4.4,SNR=5.8
FLN La Foliniere 83.91 340 *e*P **P 23 43 09.6 +0.5**
SSF Saint Saulge 84.45 337 *e*P **P 23 43 12.4 +0.6**
comp=Z,7.6nm,0.9s,mb4.5
SSF Saint Saulge 84.45 337 *e*P **P 23 43 12.4 +0.6**
comp=Z,3.8nm,0.9s,mb4.5
SSF Saint Saulge 84.45 337 *e*P **P 23 43 12.4 +0.6**
SSF pmax pmax
comp=Z,4.0nm,0.9s,mb4.5
LPL La Plagne 84.90 335 *e*P **P 23 43 14.9 +0.8**
comp=Z,7.5nm,0.7s,mb4.6
LPL La Plagne 84.90 335 *e*P **P 23 43 14.9 +0.8**
comp=Z,3.8nm,0.7s,mb4.6
LPL La Plagne 84.90 335 *e*P **P 23 43 14.9 +0.8**
LPL pmax pmax
comp=Z,4.0nm,0.7s,mb4.7
LPG La Plagne 84.91 335 *e*P **P 23 43 15.1 +0.9**
comp=Z,8.4nm,0.8s,mb4.6
LPG La Plagne 84.91 335 *e*P **P 23 43 15.1 +0.9**
comp=Z,4.2nm,0.8s,mb4.6
LPG La Plagne 84.91 335 *e*P **P 23 43 15.1 +0.9**
LPG pmax pmax
comp=Z,4.0nm,0.8s,mb4.6
TCF Toulx Ste Croi 85.51 338 *e*P **P 23 43 17.7 +0.5**
MBDF Montbardon 85.59 334 *e*P **P 23 43 18.0 +0.4**
comp=Z,5.8nm,0.7s,mb4.6
MBDF Montbardon 85.59 334 *e*P **P 23 43 18.0 +0.4**
comp=Z,2.9nm,0.7s,mb4.6
MBDF Montbardon 85.59 334 *e*P **P 23 43 18.0 +0.4**
MBDF pmax pmax
comp=Z,3.0nm,0.7s,mb4.6
PLCA Paso Flores 150.55 98 PKIKP PKPbc 23 50 32.3 +1.6
PLCA pmax pmax
comp=Z,1.0nm,0.7s
PLCA Paso Flores 150.55 98 PKPbc PKPbc 23 50 32.2 +1.6
comp=Z,0.7nm,0.7s,baz=163,slow=11,SNR=3.2

*ISCJB **04** 23:40:50.7±0.5, 4130N±003×2270E±003, h10km±5km, Error ellipse: s-maj=4.9km s-min=3.4km az=40.1*
*CSEM **04** 23:40:51.1±0.1, 4133N×2271E, h8km, ML2.9, Error ellipse: s-maj=2.3km s-min=1.8km az=45.0*
*THE **04** 23:40:51.6, 4129N×2270E, h4km, ML2.9*
*SKO **04** 23:40:51.1, 4129N×2270E, h15km*
ISC 04 23:40:51.7±0.4, 4129N±003×2271E±003, h6km±6km, n20, σ0§61/37, 1D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
VAY	**Valandovo**	**0.10**	**285**	*e*Pg		**Pg**		**23 40 53.5**	**-0.5**
VAY				*e*Sg		**Sg**		**23 40 55.7**	**+0.2**
VAY	**Valandovo**	**0.10**	**285**	*e*Pg		**Pg**		**23 40 53.8**	**-0.2**
VAY				*e*Sg		**Sg**		**23 40 55.9**	**+0.4**
VAY	**Valandovo**	**0.10**	**285**	*e*Pg		**Pg**		**23 40 53.7**	**-0.2**
VAY				*e*Sg		**Sg**		**23 40 55.8**	**+0.3**
KNT	**Kendrikon**	**0.20**	**132**	*e*Pg		**Pg**		**23 40 55.8**	**+0.2**
KNT				*e*Sg		**Sg**		**23 40 57.9**	**-0.3**
KNT	**Kendrikon**	**0.20**	**132**	*e*Pg		**Pg**		**23 40 55.8**	**+0.2**
KNT				*e*Sg		**Sg**		**23 40 57.8**	**-0.4**
STIP	**Stip**	**0.56**	**316**	*e*Pg		**Pg**		**23 41 02.6**	**+0.1**
STIP				*e*Sg		**Sg**		**23 41 10.0**	**+0.3**
STIP	**Stip**	**0.56**	**316**	*e*Pg		**Pg**		**23 41 02.6**	**+0.2**
STIP				*e*Sg		**Sg**		**23 41 10.7**	**+1.0**
SOH	**Sokhos**	**0.68**	**134**	*e*Pg		**Pg**		**23 41 04.2**	**-0.5**
SOH				*e*Sg		**Sg**		**23 41 14.8**	**+1.2**
THE	**Thessaloniki**	**0.69**	**163**	*e*Pg		**Pg**		**23 41 04.6**	**-0.3**
SRS	**Serrai**	**0.69**	**104**	*e*Pg		**Pg**		**23 41 04.4**	**-0.5**
SRS				*e*Sg		**Sg**		**23 41 14.9**	**+1.0**
HORT	**Hortiatis**	**0.76**	**157**	*e*Pg		**Pg**		**23 41 05.7**	**-0.5**
HORT				*e*Sg		**Sg**		**23 41 16.4**	**+0.4**
BIA	**Bitola**	**1.08**	**256**	*e*Pg		**Pg**		**23 41 12.4**	**0.0**
BIA				*e*Sg		**Sg**		**23 41 26.4**	**0.0**
BIA	**Bitola**	**1.08**	**256**	*e*Pg		**Pg**		**23 41 12.3**	**-0.1**
BIA				*e*Sg		**Sg**		**23 41 26.3**	**0.0**
KRUS	**Krusevo**	**1.10**	**274**	*e*Pg		**Pg**		**23 41 12.9**	**+0.1**
KRUS				*e*Sg		**Sg**		**23 41 26.9**	**-0.1**
KRUS	**Krusevo**	**1.10**	**274**	*e*Pg		**Pg**		**23 41 12.8**	**0.0**
KRUS				*e*Sg		**Sg**		**23 41 26.9**	**-0.1**
LIT	**Litokhoron**	**1.20**	**188**	*e*Pg		**Pg**		**23 41 13.8**	**-0.9**
LIT				*e*Sg		**Sg**		**23 41 31.3**	**+1.0**
VTS	**Vitosha**	**1.35**	**16**	*e*Pg		**Pg**		**23 41 16.5**	**-1.1**
VTS				*e*Sg		**Sg**		**23 41 35.6**	**+0.5**
OUR	**Ouranopolis**	**1.36**	**134**	*e*Pg		**Pg**		**23 41 16.8**	**-1.0**
AGG	**Agios Georgios**	**2.29**	**187**	*e*Pn		**Pn**		**23 41 29.2**	**-0.7**
AGG				*e*Sn		**Sn**		**23 41 58.9**	**+0.5**
TRPA	**Tarpa**	**6.84**	**359**	⇓*i*P		**Pn**		**23 42 32.9**	**+0.4**

*IDC **04** 23:41:22.8±1.7, 2061S×16871E, h0km, mb4.0/5, mb1 4.3/6, mb1mx4.1/14, mbtmp4.0/6, ML3.5/1, Error ellipse: s-maj=78.1km s-min=21.7km az=144.0*
*ISCJB **04** 23:41:25.7±1.5, 208S±03×1688E±03, h33km, mb4.0/6, Error ellipse: s-maj=55.5km s-min=10.9km az=143.0*
ISC 04 23:41:27.6±1.6, 209S±03×1689E±03, h35km, n10, σ1§14/10, mb4.0/6, Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**2.54**	**242**	*e*P		**Pn**		**23 42 04.4**	**-2.0**
DZM				*e*S		**Sn**		**23 42 36.1**	**0.0**
DZM	**Mont Dzumac**	**2.54**	**242**	Pn		**Pn**		**23 42 05.1**	**-1.3**
8.9nm,0.3s,baz=73,slow=18,SNR=51									
DZM						Sn		**23 42 39.1**	**+3.0**
14nm,0.3s,baz=149,slow=22,SNR=6.7									
CTA	**Charters Tower**	**21.19**	**268**	P		**P**		**23 46 11.9**	**+1.6**
4.3nm,0.6s,mb3.9,baz=67,slow=15,SNR=4.5									
STKA	**Stephens Creek**	**26.70**	**240**	P		**P**		**23 47 04.0**	**+0.4**
2.6nm,0.6s,mb3.9,baz=71,slow=11,SNR=7.7									
WRA	**Warramunga Arr**	**32.33**	**265**	P		**P**		**23 47 53.1**	**-0.7**
1.0nm,0.7s,mb3.8,baz=98,slow=7.4,SNR=6.5									
ASAR	**Alice Springs**	**32.42**	**258**	P		**P**		**23 47 54.1**	**-0.3**
3.3nm,0.7s,mb4.3,baz=83,slow=9.2,SNR=41									
SONM	**Songino Array**	**88.32**	**323**	P		**P**		**23 54 14.3**	**-1.1**
0.4nm,0.7s,mb3.8,baz=138,slow=2.8,SNR=4.1									
NVAR	**Mina Array Bea**	**90.15**	**49**	P		**P**		**23 54 25.3**	**+1.0**
0.4nm,0.6s,mb4.0,baz=220,slow=8.2,SNR=2.7									
EKA	**Eskdalemuir Ar**	**145.08**	**352**	PKP		PKPdf		00 00 59.4	-1.6
1.0nm,0.7s,baz=1.5,slow=2.6,SNR=5.3									
GERES	**GERESS Array B**	**145.75**	**330**	PKPbc		PKPbc		00 01 02.7	0.0
0.2nm,0.5s,baz=41,slow=6.5,SNR=2.6									

*JMA **04** 23:54:11.0±1.0, 4441N×149.16E, h30km, M3.6*
*IDC **04** 23:54:18.0±42.0, 4594N×148.35E, h0km, mb4.1/4, mb1 4.2/4, mb1mx3.6/21, mbtmp4.1/4, Error ellipse: s-maj=968.6km s-min=74.7km az=154.0*
*MOS **04** 23:54:22.8±0.8, 4664N×149.16E, h33km, mb4.2/3, Error ellipse: s-maj=45.8km s-min=27.8km az=99.5*
ISC 04 23:54:14.9±1.9, 439N±02×1490E±02, h70km±17km, n21, σ0§79/24, mb3.8/4, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
YUK	**Yuzh-Kuril'sk**	**2.25**	**273**	*e*Pn		**Sn**		**23 55 17.1**	**+0.4**
NEM2	**Nemuro 2**	**2.42**	**257**	P		**Pn**		**23 54 50.9**	**-1.3**
NEM2				*e*S		**Sn**		**23 55 20.3**	**-0.5**
JRA	**Rausu**	**2.79**	**271**	P		**Pn**		**23 54 57.6**	**+0.4**
JAK	**Akkeshi**	**3.26**	**255**	P		**Pn**		**23 55 02.7**	**-0.9**
JTKR	**Abashiri--Toko**	**3.66**	**272**	P		**Pn**		**23 55 08.9**	**-0.2**
JAR	**Ashorobuto**	**3.84**	**262**	P		**Pn**		**23 55 11.6**	**+0.1**
JCH	**Churui**	**4.31**	**254**	P		**Pn**		**23 55 18.7**	**+0.7**
JEM	**Erimo**	**4.69**	**248**	P		**Pn**		**23 55 24.9**	**+1.8**
JNBK	**Urakawa-nobuka**	**4.85**	**252**	P		**Pn**		**23 55 25.6**	**+0.2**
JNBK				*e*S		**Sn**		**23 56 21.0**	**+0.8**
JBT2	**Biratori 2**	**4.96**	**259**	P		**Pn**		**23 55 26.5**	**-0.4**
JNB	**Noboribetsu**	**5.99**	**259**	P		**Pn**		**23 55 41.3**	**+0.4**
JKB	**Kayabe**	**6.19**	**253**	P		**Pn**		**23 55 43.4**	**-0.2**
JKB				*e*S		**Sn**		**23 56 52.0**	**-0.9**
JANG	**Nango**	**6.59**	**240**	*e*S		**Sn**		**23 56 58.9**	**-4.0**
CLNS	**Chul'man**	**19.92**	**319**	*e*P		**Pn**		**23 58 34.9**	**-8.1**
CLNS				pmax		pmax			
comp=Z,30nm,1.0s									
CLNS				pmax		pmax			
comp=N,36nm,0.9s									
CLNS				pmax		pmax			
comp=E,38nm,0.7s									
MKAR	**Makanchi Array**	**45.67**	**298**	P		**P**		**00 02 29.7**	**+1.3**
MKAR				pmax		pmax			
comp=Z,1.0nm,0.8s									
MKAR	**Makanchi Array**	**45.67**	**298**	P		**P**		**00 02 29.7**	**+1.3**
comp=Z,0.7nm,0.8s,mb3.5,baz=74,slow=8.1,SNR=6.4									
FINES	**FINESS Array B**	**65.30**	**334**	P		**P**		**00 04 48.0**	**-1.0**
FINES				pmax		pmax			
comp=Z,2.0nm,0.9s									
FINES	**FINESS Array B**	**65.30**	**334**	P		**P**		**00 04 48.0**	**-1.0**
comp=Z,2.1nm,0.9s,mb4.0,baz=46,slow=8.2,SNR=4.6									
NOA	**NORSAR Array B**	**69.89**	**340**	P		**P**		**00 05 17.8**	**-0.2**
comp=Z,0.4nm,0.4s,mb3.6,baz=30,slow=6.2,SNR=2.9									
HFS	**Hagfors**	**70.02**	**338**	P		**P**		**00 05 18.6**	**-0.1**
HFS				pmax		pmax			
comp=Z,2.0nm,0.7s									
HFS	**Hagfors**	**70.02**	**338**	P		**P**		**00 05 18.6**	**-0.1**
comp=Z,2.0nm,0.7s,mb4.1,baz=23,slow=7.8,SNR=4.8									

PGC 05 00:03:12.2±0.2, 4888N×12865W, h10km, ML2.9/10, Mw3.5, 202km west of Tofino, Bc Vancouver Island Region, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
EDB	**Eliza Dome**	**1.41**	**45**	P		Pn		00 03 35.5	-2.5
EDB						Sn		00 03 52.0	-4.6
ETB	**Estevan Point**	**1.48**	**69**	P		Pn		00 03 36.9	-1.9
HOLB	**Holberg**	**1.80**	**11**	P		Pn		00 03 41.0	-2.2
HOLB						Sn		00 04 03.0	-3.1
MAYB	**Maynard**	**1.80**	**32**	P		Pn		00 03 41.5	-1.8
MAYB						Sn		00 04 02.5	-3.8
WOSB	**Woss**	**1.87**	**46**	P		Pn		00 03 42.6	-1.6
WOSB						Sn		00 04 04.6	-3.3
GDR	**Gold River**	**1.94**	**61**	P		Pn		00 03 43.4	-1.7
GDR						Sn		00 04 05.7	-3.9
PHC	**Port Hardy**	**1.99**	**23**	P		Pn		00 03 43.7	-2.2
PHC						Sn		00 04 06.8	-4.2
OZB	**Mount Ozzard**	**2.09**	**87**	P		Pn		00 03 45.1	-2.1
OZB						Sn		00 04 09.0	-4.2
BTB	**Buttle Lake**	**2.14**	**73**	P		Pn		00 03 46.6	-1.3
BTB						Sn		00 04 11.4	-3.1
BBB	**Bella Bella**	**3.33**	**6**	P		Pn		00 04 02.9	-1.4
BBB						Sn		00 04 40.9	-3.0

IDC 05 00:12:31.0±3.9, 2187S×16963E, h0km, mb3.9/4, mb1 4.1/5, mb1mx3.9/15, mbtmp3.9/5, ML4.2/1, Error ellipse: s-maj=155.4km s-min=32.8km az=154.0, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**2.96**	**266**	*e*P		Pn		00 13 17.8	-1.6
DZM				*e*S		Sn		00 13 48.9	-6.7
DZM	**Mont Dzumac**	**2.96**	**266**	Pn		Pn		00 13 18.7	-0.6
30nm,0.3s,baz=58,slow=18,SNR=40									
DZM						Sn		00 13 46.3	-9.3
65nm,0.3s,baz=135,slow=21,SNR=10									
ASAR	**Alice Springs**	**32.94**	**260**	P		P		00 19 08.1	+0.6
0.9nm,0.6s,baz=86,slow=8.9,SNR=12									
WRA	**Warramunga Arr**	**32.98**	**267**	P		P		00 19 06.7	-1.2
0.7nm,0.8s,baz=95,slow=8.5,SNR=2.9									
FITZ	**Fitzroy Crossi**	**41.41**	**267**	P		P		00 20 19.9	+0.5
2.0nm,0.7s,baz=134,slow=11,SNR=4.5									
SONM	**Songino Array**	**89.53**	**323**	P		P		00 25 31.5	+1.4
1.0nm,0.9s,baz=132,slow=4.6,SNR=7.6									
EKA	**Eskdalemuir Ar**	**146.15**	**353**	PKPbc		PKPbc		00 32 12.5	-0.3
0.7nm,0.6s,baz=344,slow=1.2,SNR=5.2									
GERES	**GERESS Array B**	**146.96**	**330**	PKPbc		PKPbc		00 32 12.5	-2.9
0.1nm,0.3s,baz=20,slow=4.4,SNR=3.5									

*IDC **05** 00:14:50.2±1.0, 788S×155.80E, h0km, mb4.1/10, mb1 4.3/10, mb1mx4.2/14, mbtmp4.1/10, MS3.6/5, Ms1 3.5/5, ms1mx3.2/24, Error ellipse: s-maj=37.1km s-min=19.0km az=99.0*
*ISCJB **05** 00:14:53.0±3.3, 79S±01×1558E±02, h30km±27km, mb3.9/10, MS3.5/3, Error ellipse: s-maj=30.8km s-min=17.0km az=27.6*
*NEIC **05** 00:14:53.7±0.7, 768S×155.32E, h10km, Error ellipse: s-maj=18.4km s-min=16.9km az=152.0*
ISC 05 00:14:52.1±7.1, 79S±01×1558E±02, h12km±47km, n20, σ0§43/16, mb3.9/10, MS3.5/3, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.36**	**111**	P		**Pb**		**00 16 08.7**	**0.0**
11nm,0.3s,baz=258,slow=9.2,SNR=1.8									
HNR						LR	LR	00 17 32.7	
comp=Z,330nm,19.1s,baz=348,slow=37									
CTA	**Charters Tower**	**15.27**	**216**	LR		LR		00 23 39.6	
comp=Z,238nm,19.2s,baz=51,slow=35									
GUMO	**Guam**	**23.94**	**333**	LR		LR		00 27 49.0	
comp=Z,91nm,19.6s,MS3.3,baz=103,slow=32									
WB2	**Warramunga Arr**	**24.01**	**238**	*e*P		**P**		**00 20 07.7**	**+0.8**
WB2	**Warramunga Arr**	**24.01**	**238**	*e*P		**P**		**00 20 07.0**	**+0.1**
WRA	**Warramunga Arr**	**24.02**	**238**	P		**P**		**00 20 07.2**	**+0.2**
18nm,1.2s,mb4.4,baz=64,slow=10.0,SNR=26									
ASAR	**Alice Springs**	**26.23**	**231**	P		**P**		**00 20 26.4**	**-0.7**
1.4nm,0.8s,mb3.5,baz=61,slow=9.7,SNR=8.5									
STKA	**Stephens Creek**	**27.31**	**207**	P		**P**		**00 20 36.6**	**-0.1**
4.7nm,1.1s,mb4.0,baz=50,slow=7.9,SNR=4.6									
STKA						LR	LR	00 31 42.8	
comp=Z,116nm,18.3s,MS3.5,baz=24,slow=37									
RPZ	**Rata Peaks**	**38.10**	**162**	LR		LR		00 33 48.0	
comp=Z,155nm,19.4s,MS3.8,baz=209,slow=30									
MJAR	**Matsushiro Arr**	**47.18**	**341**	P		**P**		**00 23 24.5**	**-0.1**
MJAR	**Matsushiro Arr**	**47.18**	**341**	P		**P**		**00 23 24.5**	**-0.1**
1.8nm,0.6s,mb4.2,baz=167,slow=7.5,SNR=6.7									
KSRS	**Korea Array**	**52.10**	**332**	P		**P**		**00 24 02.5**	**+0.4**
0.4nm,0.3s,mb3.8,baz=229,slow=33,SNR=4.3									
VNDA	**Vanda**	**69.68**	**179**	P		**P**		**00 26 01.6**	**+0.5**
0.5nm,0.3s,mb3.9,baz=0.5,slow=6.4,SNR=4.0									
SONM	**Songino Array**	**70.52**	**327**	P		**P**		**00 26 07.2**	**+0.5**
0.6nm,0.7s,mb3.6,baz=140,slow=7.1,SNR=5.0									
MKAR	**Makanchi Array**	**84.61**	**319**	P		**P**		**00 27 25.5**	**0.0**
MKAR	**Makanchi Array**	**84.61**	**319**	P		**P**		**00 27 25.5**	**0.0**
1.4nm,0.7s,mb4.2,baz=107,slow=5.9,SNR=13									
ZALV	**Zalesovo Beam**	**85.37**	**326**	P		**P**		**00 27 28.2**	**-0.9**
0.6nm,0.6s,mb3.9,baz=108,slow=7.1,SNR=4.9									
YKA	**Yellowknife Ar**	**96.73**	**28**	P		**P**		**00 28 22.1**	**-0.1**
YKA	**Yellowknife Ar**	**96.73**	**28**	P		**P**		**00 28 22.1**	**-0.1**
0.3nm,0.6s,mb3.9,baz=264,slow=4.2,SNR=5.9									
BDFB	**Brasilia**	**146.78**	**135**	PKPbc		PKPbc		00 34 34.5	-0.6
3.2nm,0.9s,baz=37,slow=11,SNR=4.3									

*ISCJB **05** 00:15:54.3±0.7, 2128S±006×682W±0.1, h100km, Error ellipse: s-maj=16.8km s-min=6.5km az=24.4*
*NEIC **05** 00:15:55.2±0.9, 2127S×684.6W, h105km±15km, Error ellipse: s-maj=22.8km s-min=11.3km az=96.0*
*IDC **05** 00:15:56.5±2.6, 2133S×68.17W, h106km±22km, mb5.2/1, mb1 4.4/3, mb1mx3.6/17, mbtmp4.3/3, Error ellipse: s-maj=54.9km s-min=27.1km az=99.0*
*GUC **05** 00:15:59.5±1.1, 2202S×678.6W, h145km, ML3.6*
ISC 05 00:15:55.5±0.8, 2124S±006×686W±02, h190km±26km, n12, σ1§35/17, 3D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CEN1	**Los Morros**	**2.62**	**215**	⇓*e*P		**Pn**		**00 16 43.9**	**+3.7**
CEN1				*i* S		**Sn**		**00 17 17.7**	**+2.6**
CEN1				AML		AML		00 17 23.2	
comp=N,127nm,0.4s									
ANCH	**Antofagasta**	**2.97**	**215**	⇓*i*P		**Pn**		**00 16 46.4**	**+2.1**
ANCH				*i* S		**Sn**		**00 17 21.4**	**-1.1**
CPN1	**Cerro Paranal**	**3.78**	**206**	*e*P		**Pn**		**00 16 55.4**	**+1.2**
CPN1				*i* S		**Sn**		**00 17 38.2**	**-2.0**
CPN1				AML		AML		00 17 45.5	
comp=N,74nm,0.3s									
LPAZ	**La Paz**	**4.94**	**5**	P		**Pn**		**00 17 09.8**	**+0.8**
LPAZ	**La Paz**	**4.94**	**5**	P		**Pn**		**00 17 09.8**	**+0.8**
comp=N,3.5nm,0.3s,baz=199,slow=8.8,SNR=74									
ARE	**Arequipa**	**5.50**	**329**	*e*P		**Pn**		**00 17 15.0**	**-1.2**
ARE				*e*S		**Sn**		**00 18 13.0**	**-6.7**
CDCH	**Caldera**	**6.17**	**199**	⇓*i*P		**Pn**		**00 17 24.6**	**-0.2**
CDCH				*i* S		**Sn**		**00 18 29.9**	**-5.4**
LCO	**Las Campanas**	**7.98**	**194**	*e*Pn		**Pn**		**00 17 48.3**	**-0.2**
comp=N,16nm,0.6s									
LCO				*e*Sn		**Sn**		**00 19 17.5**	**-0.8**
SIV	**San Ignacio**	**8.81**	**55**	P		**Pn**		**00 17 58.4**	**-1.1**
comp=N,3.0nm,0.3s,baz=252,slow=11,SNR=31									
CFAA	**Coronel Fontan**	**10.33**	**178**	P		**Pn**		**00 18 20.3**	**+1.2**
comp=N,0.1nm,0.3s,baz=358,slow=13,SNR=7.7									
TORD	**Torodi Ar. Bea**	**76.97**	**70**	P		**P**		**00 27 35.6**	**+8.1**
comp=N,1.0nm,0.5s,baz=257,slow=5.2,SNR=27									
MKAR	**Makanchi Array**	**145.23**	**36**	PKPbc		PKPbc		00 35 21.2	+11
comp=N,1.8nm,1.0s,baz=322,slow=2.4,SNR=9.1									

IDC 05 00:16:26.0±2.4, 168N×12623E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.5/15, mbtmp3.7/3, Error ellipse: s-maj=249.2km s-min=24.4km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.92**	**160**	P		P		00 21 31.3	-0.4
1.4nm,0.4s,baz=338,slow=10,SNR=4.7									
ASAR	**Alice Springs**	**26.28**	**164**	P		P		00 22 03.6	+0.3
0.8nm,0.4s,baz=344,slow=11,SNR=11									
MKAR	**Makanchi Array**	**58.95**	**326**	P		P		00 26 27.4	+0.1
0.2nm,0.3s,baz=122,slow=7.5,SNR=10.0									

*ISCJB **05** 00:21:48.6±0.8, 3215S±005×682W±0.1, h136km±31km, Error ellipse: s-maj=19.9km s-min=6.9km az=168.1*
*GUC **05** 00:21:49.8±0.8, 3216S×684.9W, h164km±15km, MD4.0, ML4.3*
*NEIC **05** 00:21:49.1±1.4, 3216S×684.3W, h167km±57km, MD4.0(GUC), Error ellipse: s-maj=29.7km s-min=9.9km az=81.0*
ISC 05 00:21:49.7±0.9, 3215S±005×682W±01, h133km±35km, n17, σ0§61/34, 8C-3D, Mendoza Province

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JACH	**Jahuel**	**2.06**	**254**	⇑*i*P		**Pn**		**00 22 25.1**	**+0.7**
JACH				*i* S		**Sn**		**00 22 51.0**	**-0.1**
PTCH	**Petorca**	**2.28**	**266**	*e*P		**Pn**		**00 22 27.2**	**0.0**
PTCH				*e*S		**Sn**		**00 22 55.4**	**-0.6**
PEL	**Peldehue**	**2.29**	**244**	⇓*i*P		**Pn**		**00 22 27.3**	**0.0**
PEL				*i* S		**Sn**		**00 22 56.1**	**-0.1**
PEL				AML		AML		00 22 57.6	
comp=N,2μm,0.3s									
CLCH	**Cerro Calan**	**2.30**	**237**	⇑*i*P		**Pn**		**00 22 27.8**	**+0.3**
CLCH				*i* S		**Sn**		**00 22 56.6**	**+0.2**
CLCH				AML		AML		00 22 59.0	
comp=N,2μm,0.5s									
STL	**Santa Lucia**	**2.39**	**237**	*i* P		**Pn**		**00 22 28.4**	**-0.3**
STL				*i* S		**Sn**		**00 22 58.3**	**-0.3**
PCH	**Pirque**	**2.41**	**232**	⇑*i*P		**Pn**		**00 22 29.3**	**+0.5**
PCH				*i* S		**Sn**		**00 22 59.6**	**+0.6**
ANTU	**Antumapu**	**2.46**	**234**	*i* P		**Pn**		**00 22 30.0**	**+0.6**
ANTU				*i* S		**Sn**		**00 23 00.4**	**+0.3**
ANTU	**Antumapu**	**2.46**	**234**	*i* P		**Pn**		**00 22 30.0**	**+0.6**
ANTU				*i* S		**Sn**		**00 23 00

*BJI **05** 00:46:49.1, 5.17S×15325E, h10km, mB5.2, mb4.7, Ms4.6, Msz4.1*
*NEIC **05** 00:46:50.3±0.3, 5.86S×15335E, h35km, mb4.9/19, Error ellipse: s-maj=9.6km s-min=6.6km az=91.0*
ISC 05 00:46:50.4±0.4, 588S±005×15339E±007, h35km, (h12km±4.7km:pP-P), n58, σ1§06/53, mb4.6/30, MS3.8/5,
New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**7.40**	**119**	Pn	**Pn**	**00 48 35.8**	**-0.2**
CTA	**Charters Tower**	**15.73**	**205**	*e*P	**Pn**	**00 50 33.7**	**+4.3**
	12nm,1.1s						
CTA	**Charters Tower**	**15.73**	**205**	Pn	**Pn**	**00 50 28.8**	**-0.7**
CTA				LR	LR	00 55 49.2	
CTA	**Charters Tower**	**15.73**	**205**	Pn	**Pn**	**00 50 28.8**	**-0.7**
	0.2nm,0.3s,baz=36,slow=14,SNR=2.3						
CTA				LR	LR	00 55 49.2	
	comp=Z,110nm,20.2s,baz=51,slow=34						
CTAO	**Charters Tower**	**15.73**	**205**	*e*Pn	**Pn**	**00 50 29.9**	**+0.5**
	18nm,1.0s						
EIDS	**Eidsvold**	**19.50**	**186**	*e*P	**Pn**	**00 51 15.8**	**-0.3**
	10nm,1.0s						
DZM	**Mont Dzumac**	**20.45**	**143**	P	**P**	**00 51 25.6**	**+0.6**
	17nm,1.1s,baz=357,slow=10,SNR=3.4						
KAKA	**Kakadu**	**21.75**	**250**	*e*P	**P**	**00 51 37.8**	**-1.2**
	39nm,0.8s,mb4.9						
WB2	**Warramunga Arr**	**23.19**	**231**	*e*P	**P**	**00 51 53.2**	**-1.1**
WB2	**Warramunga Arr**	**23.19**	**231**	*e*P	**P**	**00 51 53.7**	**-0.6**
WB2				*e*PcP	PcP	00 55 44.6	+2.7
WRA	**Warramunga Arr**	**23.20**	**231**	P	**P**	**00 51 53.3**	**-1.1**
	7.8nm,0.9s,mb4.1,baz=54,slow=11,SNR=13						
WRA				LR	LR	01 01 17.2	
	comp=Z,167nm,18.1s,MS3.5,baz=50,slow=38						
ARMA	**Armidale**	**24.46**	**184**	*e*P	**P**	**00 52 07.5**	**+1.4**
ASAR	**Alice Springs**	**25.77**	**225**	P	**P**	**00 52 17.9**	**-0.2**
	7.9nm,1.0s,mb4.2,baz=57,slow=8.7,SNR=44						
ASAR				PcP	PcP	00 55 48.5	+1.0
	1.7nm,0.5s,baz=89,slow=8.7,SNR=19						
ASAR				ScP	ScP	00 59 31.1	+6.5
	0.6nm,0.8s,baz=29,slow=2.9,SNR=4.2						
STKA	**Stephens Creek**	**28.12**	**202**	*e*P	**P**	**00 52 38.2**	**-0.9**
	3.9nm,0.8s,mb4.1						
STKA	**Stephens Creek**	**28.12**	**202**	P	**P**	**00 52 38.2**	**-0.9**
	8.4nm,1.1s,mb4.3,baz=22,slow=12,SNR=7.3						
STKA				LR	LR	01 03 28.4	
	comp=Z,126nm,20.3s,MS3.5,baz=23,slow=36						
FITZ	**Fitzroy Crossi**	**29.68**	**243**	*e*P	**P**	**00 52 50.9**	**-2.3**
	11nm,0.9s,mb4.6						
FITZ	**Fitzroy Crossi**	**29.68**	**243**	P	**P**	**00 52 51.0**	**-2.2**
	7.7nm,0.9s,mb4.4,baz=94,slow=7.3,SNR=6.5						
BATI	**Kupang**	**29.73**	**260**	P	**P**	**00 52 54.8**	**+1.1**
	7.6nm,0.3s,mb4.9,baz=25,slow=2.9,SNR=3.7						
KKM	**Kota Kinabalu**	**38.95**	**287**	P	**P**	**00 54 14.1**	**+0.7**
MJAR	**Matsushiro Arr**	**44.53**	**343**	P	**P**	**00 54 56.1**	**-2.6**
	2.2nm,0.9s,mb4.0,baz=165,slow=7.5,SNR=5.1						
MJAR				LR	LR	01 09 44.5	
	comp=Z,176nm,20.8s,MS4.0,baz=195,slow=31						
KSRS	**Korea Array**	**49.22**	**333**	P	**P**	**00 55 34.3**	**-1.1**
	2.2nm,0.7s,mb4.3,baz=145,slow=7.8,SNR=9.2						
KSRS				LR	LR	01 15 30.3	
	comp=Z,46nm,19.9s,MS3.5,baz=270,slow=35						
YSS	**Yuzh-Sakhalins**	**53.44**	**351**	P	**P**	**00 56 11.0**	**+4.2**
MDJ	**Mudanjiang**	**54.63**	**339**	P	**P**	**00 56 16.3**	**+0.7**
MDJ				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.8						
MDJ				AMB	AMB		
	comp=Z,54nm,5.0s						
CN2	**Changchun**	**55.52**	**336**	*e*P	**P**	**00 56 23.4**	**+1.4**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.9						
BJT	**Baijiatuau**	**57.10**	**326**	P	**P**	**00 56 33.1**	**-0.3**
	comp=Z,8.4nm,0.5s,mb5.0						
XAN	**Xi'an**	**57.80**	**317**	P	**P**	**00 56 38.1**	**-0.3**
XAN				AP	pP	00 56 43.7	-5.4
XAN				AMB	AMB		
	comp=Z,8.0nm,1.6s,mb4.5						
HIA	**Hailar**	**62.25**	**336**	*e*P	**P**	**00 57 08.5**	**-0.1**
	comp=Z,5.1nm,0.5s,mb4.9						
LZH	**Lanzhou**	**62.41**	**316**	*e*P	**P**	**00 57 11.2**	**+1.2**
LZH				AP	pP	00 57 16.3	-4.4
LZH				XP	sP	00 57 19.5	-5.3
LZH				AMB	AMB		
	comp=Z,15nm,1.3s,mb5.0						
LZH				AMB	AMB		
	comp=Z,66nm,4.1s						
LZH	**Lanzhou**	**62.41**	**316**	*e*P	**P**	**00 57 11.2**	**+1.2**
	comp=Z,15nm,1.3s,mb5.0						
LZH				pP	pP	00 57 16.3	-4.4
LZH				sP	sP	00 57 19.5	-5.3
MA2	**Magadan**	**65.28**	**359**	P	**P**	**00 57 27.5**	**-0.9**
GTA	**Gaotai**	**66.84**	**317**	*e*P	**P**	**00 57 39.1**	**+0.2**
GTA				AP	pP	00 57 43.8	-5.9
GTA				XP	sP	00 57 46.7	-7.0
GTA				AMB	AMB		
	comp=Z,7.0nm,2.2s,mb4.3						
SHL	**Shillong**	**67.36**	**301**	*e*P	**P**	**00 57 45.0**	**+2.6**
SONM	**Songino Array**	**67.55**	**328**	P	**P**	**00 57 44.2**	**+1.1**
	comp=Z,2.0nm,0.5s,mb4.4,baz=147,slow=6.1,SNR=19						
LSA	**Lhasa**	**69.33**	**305**	*e*P	**P**	**00 57 55.7**	**+1.0**
	comp=Z,10.0nm,0.9s,mb4.8						
YAK	**Yakutsk**	**70.14**	**348**	*e*P	**P**	**00 57 59.1**	**+0.1**
	comp=Z,41nm,1.0s,mb5.3						
TLY	**Talaya**	**71.30**	**330**	P	**P**	**00 58 06.0**	**-0.3**
VNDA	**Vanda**	**71.73**	**178**	*e*P	**P**	**00 58 09.7**	**+1.2**
	comp=Z,2.8nm,0.9s,mb4.2						
VNDA	**Vanda**	**71.73**	**178**	P	**P**	**00 58 09.6**	**+1.0**
	comp=Z,2.1nm,0.9s,mb4.0,baz=328,slow=7.4,SNR=8.5						
PALK	**Pallekele**	**73.69**	**279**	*e*P	**P**	**00 58 21.7**	**+0.4**
TNA	**Tin City**	**76.67**	**16**	P	**P**	**00 58 36.6**	**-0.8**
	comp=Z,10nm,0.4s,mb5.1						
MK31	**Makanchi Array**	**81.52**	**319**	*e*P	**P**	**00 59 02.1**	**-2.2**
MKAR	**Makanchi Array**	**81.52**	**319**	P	**P**	**00 59 03.7**	**-0.6**
	comp=Z,1.3nm,0.7s,mb4.0,baz=108,slow=4.0,SNR=9.1						
MCK	**McKinley**	**81.63**	**22**	P	**P**	**00 59 03.1**	**-1.4**
ZALV	**Zalesovo Beam**	**82.37**	**326**	P	**P**	**00 59 08.3**	**-0.3**
	comp=Z,3.8nm,0.8s,mb4.4,baz=115,slow=5.5,SNR=14						
COLA	**College**	**82.63**	**22**	P	**P**	**00 59 09.3**	**-0.5**
QSPA	**South Pole Qui**	**84.08**	**180**	*e*P	**P**	**00 59 18.1**	**+1.1**
	comp=Z,21nm,1.1s,mb5.2						
KURK	**Kurchatov**	**84.98**	**322**	*e*P	**P**	**00 59 22.3**	**+0.2**
	comp=Z,10nm,1.2s,mb4.8						
TKM2	**Tokmak 2**	**85.10**	**314**	*e*P	**P**	**00 59 23.6**	**+0.7**
	comp=Z,4.4nm,1.0s,mb4.5						
UCH	**Uchtor**	**85.73**	**313**	*e*P	**P**	**00 59 27.7**	**+1.7**
	comp=Z,12nm,1.3s,mb5.0						
AML	**Almayashu**	**86.31**	**313**	*e*P	**P**	**00 59 30.2**	**+1.3**
	comp=Z,13nm,1.2s,mb5.0						
EKS2	**Erkin-Say**	**86.35**	**313**	*e*P	**P**	**00 59 30.1**	**+1.1**
	comp=Z,7.0nm,1.3s,mb4.7						
BRVK	**Borovoye**	**90.52**	**323**	*e*P	**P**	**00 59 48.0**	**-0.7**
	comp=Z,4.5nm,0.8s,mb4.8						
YKA	**Yellowknife Ar**	**96.11**	**28**	P	**P**	**01 00 13.0**	**-1.1**
	comp=Z,0.4nm,0.9s,mb3.8,baz=269,slow=4.5,SNR=5.6						
PDAR	**Pinedale Array**	**99.14**	**48**	LR	LR	01 40 23.1	
	comp=Z,108nm,18.9s,MS4.4,baz=140,slow=32						
GERES	**GERESS Array B**	**125.28**	**328**	PKP	PKPdf	01 05 49.4	+1.9
	comp=Z,0.8nm,0.7s,baz=64,slow=3.1,SNR=6.6						
SDV	**Santo Domingo**	**136.26**	**83**	*e*PKPdf	PKPdf	01 06 10.5	+1.2
BDFB	**Brasilia**	**149.89**	**136**	PKPbc	PKPbc	01 06 38.5	+0.5
	comp=Z,3.7nm,0.9s,baz=217,slow=4.4,SNR=5.8						
TORD	**Torodi Ar. Bea**	**151.19**	**287**	PKPbc	PKPbc	01 06 40.7	-0.4
	comp=Z,4.3nm,0.8s,baz=57,slow=1.6,SNR=23						

*ISCJB **05** 01:07:40.0±1.1, 3833N±005×2035E±008, h12km±7km, Error ellipse: s-maj=12.3km s-min=6.0km az=142.1*
*CSEM **05** 01:07:40.5±0.2, 3832N×2033E, h3km±2km, MD3.5, Error ellipse: s-maj=6.2km s-min=2.4km az=47.0*
*THE **05** 01:07:40.7, 3824N×2032E, h14km, ML3.2*
*NEIC **05** 01:07:40.7, 3824N×2032E, h15km, MD3.5(ATH), ML3.2(THE), After THE.*
*ATH **05** 01:07:40.6, 3841N×2046E, h10km±2km, MD3.5/5*
ISC 05 01:07:40.3±1.1, 3831N±005×2034E±008, h18km±6km, n12, σ1§02/19, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.23**	**124**	*e*PG	**Pg**	**01 07 46.0**	**+0.2**
VLS				*e*SG	**Sg**	**01 07 50.5**	**+1.0**
KFL	**Anninata**	**0.40**	**119**	*e*Pg	**Pg**	**01 07 48.3**	**-0.3**
KFL				*e*Sg	**Sg**	**01 07 54.6**	**+0.3**
SELA	**Sela**	**1.22**	**91**	*e*Pg	**Pg**	**01 08 02.1**	**-1.8**
SELA				*e*Sg	**Sg**	**01 08 19.7**	**-0.2**
IGT	**Igoumenitsa**	**1.22**	**360**	*e*Pg	**Pg**	**01 08 03.1**	**-0.8**
IGT				*e*Sg	**Sg**	**01 08 21.3**	**+1.4**
EVR	**Evrytania**	**1.30**	**62**	*e*PB	**Pn**	**01 08 02.9**	**-0.6**
EVR				*e*SB	**Sb**	**01 08 18.5**	**-2.0**
EVR	**Evrytania**	**1.30**	**62**	*e*Pn	**Pn**	**01 08 02.9**	**-0.6**
EVR				*e*Sb	**Sb**	**01 08 21.8**	**+1.3**
KEK	**Kerkira**	**1.47**	**343**	*e*PB	**Pb**	**01 08 06.7**	**-0.3**
ITM	**Ithomi**	**1.69**	**131**	*e*PG	**Pg**	**01 08 12.2**	**-0.6**
AGG	**Agios Georgios**	**1.71**	**65**	*e*Pb	**Pb**	**01 08 10.1**	**-1.1**
AGG				*e*Sb	**Sb**	**01 08 32.9**	**+0.5**
THL	**Klokotos Trika**	**1.81**	**46**	*e*PB	**Pb**	**01 08 12.4**	**-0.5**
LTK	**Loutraki**	**2.09**	**97**	*e*Pn	**Pn**	**01 08 15.6**	**+1.3**
LKR	**Lokris**	**2.11**	**80**	*e*PN	**Pn**	**01 08 16.9**	**+2.2**

*NEIC **05** 01:16:01.8±0.8, 1914S×17752W, h547km±8km, mb4.9/24, Error ellipse: s-maj=10.6km s-min=6.9km az=139.0*
*BJI **05** 01:16:01.8, 1910S×17750W, h546km, mB4.5, mb4.6*
*ISCJB **05** 01:16:01.4±0.6, 1916S±004×17765W±004, h549km±7km, mb4.5/43, Error ellipse: s-maj=8.0km s-min=4.6km az=136.2*
*MOS **05** 01:16:02.9±1.1, 1907S×17774W, h536km, mb4.6/10, Error ellipse: s-maj=11.7km s-min=9.5km az=51.3*
*IDC **05** 01:16:04.3±0.6, 1911S×17765W, h574km±5km, mb3.8/13, mb1 4.1/14, mb1mx4.0/17, mbtmp3.9/14, Error ellipse: s-maj=14.1km s-min=9.7km az=147.0*
*SZGRF **05** 01:16:06.8, 1875S×17762W, h588km, Fiji Islands region*
ISC 05 01:16:01.9±0.6, 1917S±005×17758W±005, h542km±6km, h576km±3.1km:pP-P, n340, σ0§71/226, mb4.5/43, 74C-70D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.64**	**48**	*e*P	**P**	**01 17 55.1**	**-0.8**
	430nm,0.6s						
AFI				*e*S	**S**	**01 19 28.5**	**-0.8**
AFI	**Afiamalu**	**7.64**	**48**	*e*P	**P**	**01 17 55.1**	**-0.9**
AFI				*e*S	**S**	**01 19 28.5**	**-0.8**
AFI				pmax	pmax		
	comp=Z,430nm,0.6s						
RAO	**Raoul Island**	**10.04**	**182**	*e*P	**P**	**01 18 20.5**	**+0.4**
RAO				*e*S	**S**	**01 20 14.7**	**+1.1**
RAO	**Raoul Island**	**10.04**	**182**	P	**P**	**01 18 19.7**	**-0.3**
	comp=Z,176nm,0.3s,baz=77,slow=22,SNR=6.9						
RAO				S	**S**	**01 20 13.4**	**-0.3**
	comp=Z,62nm,0.3s,baz=90,slow=20,SNR=5.5						
FUNA	**Funafuti**	**11.03**	**343**	*e*P	**P**	**01 18 30.9**	**+0.4**
	comp=Z,222nm,0.9s						
FUNA				*e*S	**S**	**01 20 28.9**	**-3.8**
DZM	**Mont Dzumac**	**15.23**	**256**	*e*P	**P**	**01 19 15.3**	**+1.4**
DZM	**Mont Dzumac**	**15.23**	**256**	P	**P**	**01 19 14.6**	**+0.7**
	comp=Z,3.6nm,0.3s,baz=77,slow=16,SNR=29						
RAR	**Rarotonga**	**16.84**	**100**	P	**P**	**01 19 28.0**	**-1.7**
	comp=Z,2.3nm,0.3s,baz=238,slow=6.3,SNR=6.5						
URZ	**Urewera**	**19.58**	**193**	P	**P**	**01 19 52.3**	**-2.0**
	comp=Z,9.1nm,0.3s,baz=30,slow=2.7,SNR=26						
URZ				S	**S**	**01 22 55.2**	**-7.8**
	comp=Z,0.4nm,0.3s,baz=218,slow=20,SNR=5.6						
SNZO	**South Karori**	**23.03**	**195**	P	**P**	**01 20 24.9**	**-0.5**
RPZ	**Rata Peaks**	**26.27**	**199**	P	**P**	**01 20 53.6**	**-0.5**
	comp=Z,9.6nm,0.7s,mb4.6,baz=299,slow=2.8,SNR=11						
EIDS	**Eidsvold**	**29.60**	**252**	*e*P	**P**	**01 21 24.2**	**+0.8**
	comp=Z,15nm,1.0s,mb4.5						
ARMA	**Armidale**	**30.02**	**242**	⇓*i*P	**P**	**01 21 28.7**	**+1.7**
CNB	**Canberra Magne**	**33.30**	**234**	⇓*i*P	**P**	**01 21 56.2**	**+1.3**
	comp=Z,28nm,0.9s,mb4.8						
CTA	**Charters Tower**	**34.03**	**262**	⇓*i*P	**P**	**01 22 01.9**	**+0.6**
	comp=Z,53nm,0.6s,mb5.2						
CTA	**Charters Tower**	**34.03**	**262**	⇓*i*P	**P**	**01 22 01.9**	**+0.6**
CTA				pmax	pmax		
	comp=Z,53nm,0.6s						
CTA	**Charters Tower**	**34.03**	**262**	P	**P**	**01 22 02.6**	**+1.3**
	comp=Z,78nm,0.7s,mb5.4,baz=96,slow=12						
CTAO	**Charters Tower**	**34.03**	**262**	*e*P	**P**	**01 22 02.0**	**+0.8**
TAU	**Tasmania Unive**	**37.85**	**224**	*e*P	**P**	**01 22 33.7**	**+1.2**
	comp=Z,31nm,0.8s,mb4.9						
TAU	**Tasmania Unive**	**37.85**	**224**	*e*P	**P**	**01 22 33.7**	**+1.2**
TAU				pmax	pmax		
	comp=Z,31nm,0.8s,mb4.9						
STKA	**Stephens Creek**	**38.73**	**243**	⇓*i*P	**P**	**01 22 41.0**	**+1.2**
	comp=Z,53nm,0.9s,mb5.1						
STKA	**Stephens Creek**	**38.73**	**243**	P	**P**	**01 22 41.1**	**+1.2**
	comp=Z,66nm,0.8s,mb5.2,baz=91,slow=9.4,SNR=98						
ADE	**Adelaide**	**41.63**	**239**	⇓*i*P	**P**	**01 23 04.0**	**+1.0**
WB2	**Warramunga Arr**	**45.17**	**261**	⇓*i*P	**P**	**01 23 30.4**	**-0.4**
WRAB	**Tennant Creek**	**45.18**	**261**	*e*P	**P**	**01 23 30.5**	**-0.3**
WRA	**Warramunga Arr**	**45.19**	**261**	P	**P**	**01 23 30.4**	**-0.4**
	comp=Z,24nm,0.5s,mb5.0,baz=95,slow=6.8,SNR=96						
WRA				PcP	PcP	01 24 58.8	-0.9
	comp=Z,11nm,1.0s,baz=91,slow=3.8,SNR=8.1						
WRA				S	**S**	**01 29 27.6**	**-3.8**
	comp=Z,3.5nm,0.9s,baz=94,slow=14,SNR=8.2						
ASAR	**Alice Springs**	**45.22**	**255**	P	**P**	**01 23 31.4**	**+0.3**
	comp=Z,52nm,0.8s,mb5.1,baz=85,slow=8.8,SNR=317						
ASAR				PcP	PcP	01 24 58.9	-0.8
	comp=Z,12nm,0.8s,baz=104,slow=4.0,SNR=12						
ASAR				S	**S**	**01 29 28.9**	**-2.8**
	comp=Z,6.4nm,0.7s,baz=92,slow=16,SNR=24						
KAKA	**Kakadu**	**48.35**	**270**	⇓*i*P	**P**	**01 23 54.4**	**-0.4**
	comp=Z,37nm,0.6s,mb5.1						
FORT	**Forrest**	**50.19**	**246**	⇓*i*P	**P**	**01 24 07.7**	**-0.4**
	comp=Z,106nm,0.6s,mb5.5						
FITZ	**Fitzroy Crossi**	**53.60**	**261**	*e*P	**P**	**01 24 32.6**	**-0.3**
	comp=Z,31nm,0.6s,mb4.8						
MBWA	**Marble Bar**	**58.53**	**256**	*e*P	**P**	**01 25 06.6**	**-0.3**
	comp=Z,48nm,0.8s,mb4.8						
KLBR	**Kellerberrin**	**58.98**	**244**	⇓*i*P	**P**	**01 25 09.1**	**-0.6**
	comp=Z,90nm,0.7s,mb5.1						
VNDA	**Vanda**	**59.26**	**185**	P	**P**	**01 25 12.1**	**+1.3**
	comp=Z,6.4nm,0.7s,mb3.9,baz=0.3,slow=7.3,SNR=25						
NWAO	**Narrogin (SRO)**	**59.32**	**243**	*e*P	**P**	**01 25 12.0**	**0.0**
	comp=Z,60nm,1.4s,mb4.6						
NWAO	**Narrogin (SRO)**	**59.32**	**243**	*e*P	**P**	**01 25 12.0**	**0.0**
NWAO				pmax	pmax		
	comp=Z,60nm,1.4s						
MUN	**Mundaring**	**60.26**	**244**	*e*P	**P**	**01 25 18.5**	**+0.2**
CASY	**Casey**	**65.33**	**205**	*e*P	**P**	**01 25 49.7**	**-0.5**
	comp=Z,25nm,0.7s,mb4.8						
MJAR	**Matsushiro Arr**	**69.38**	**323**	P	**P**	**01 26 14.2**	**-1.3**
	comp=Z,4.2nm,0.7s,mb4.0,baz=160,slow=5.6,SNR=9.4						
MAJO	**Matsushiro**	**69.38**	**323**	*e*P	**P**	**01 26 14.6**	**-0.9**
	comp=Z,6.0nm,0.5s,mb4.4						
MAJO	**Matsushiro**	**69.38**	**323**	*e*P	**P**	**01 26 14.6**	**-0.9**
MAJO				pmax	pmax		
	comp=Z,6.0nm,0.5s,mb4.4						
QSPA	**South Pole Qui**	**70.89**	**180**	*e*P	**P**	**01 26 24.6**	**+0.8**
	comp=Z,56nm,0.9s,mb5.1						
KSM	**Kuching**	**73.62**	**277**	*e*P	**P**	**01 26 39.3**	**-1.5**
YSS	**Yuzh-Sakhalins**	**74.89**	**333**	*e*P	**P**	**01 26 47.2**	**0.0**
	comp=Z,15nm,0.8s,mb4.5						
YSS	**Yuzh-Sakhalins**	**74.89**	**333**	*e*P	**P**	**01 26 46.4**	**-0.8**
YSS				pmax	pmax		
	comp=Z,16nm,1.0s,mb4.4						
HAST	**Hastings Reser**	**76.50**	**43**	⇓P	**P**	**01 26 56.6**	**+0.2**
	baz=77						
PACP	**Pacheco Peak**	**77.04**	**43**	⇑P	**P**	**01 26 59.2**	**-0.1**
	baz=77						
VES	**Vestal, Richgr**	**77.82**	**45**	⇓P	**P**	**01 27 03.1**	**-0.5**
	baz=78						
BFSC	**Mount Baldy St**	**77.90**	**47**	⇑P	**P**	**01 27 03.8**	**-0.3**
	baz=78						
O02C	**Red Bluff**	**78.01**	**40**	⇑P	**P**	**01 27 05.0**	**+0.5**
	baz=78						
EDW2	**Edwards Air Fo**	**78.02**	**46**	⇓P	**P**	**01 27 04.9**	**+0.2**
	baz=78						
MONP	**Monument Peak**	**78.04**	**49**	⇑P	**P**	**01 27 05.1**	**+0.3**
	baz=78						
T06C	**Millerton Lake**	**78.07**	**44**	⇓P	**P**	**01 27 04.7**	**-0.2**
	baz=78						
Q04C	**Lincoln**	**78.07**	**42**	⇑P	**P**	**01 27 04.4**	**-0.4**
	baz=78						
N02C	**Big Bar**	**78.09**	**39**	⇑P	**P**	**01 27 05.1**	**+0.2**
	baz=78						
ISA	**Isabella**	**78.13**	**46**	*e*P	**P**	**01 27 04.5**	**-0.7**
	comp=Z,2.5nm,0.7s,mb3.6						
ISA	**Isabella**	**78.13**	**46**	⇓P	**P**	**01 27 05.2**	**0.0**
	baz=78						
CMB	**Columbia Colle**	**78.22**	**43**	*e*P	**P**	**01 27 05.5**	**-0.1**
	comp=Z,2.6nm,0.7s,mb3.7						
CMB	**Columbia Colle**	**78.22**	**43**	⇓P	**P**	**01 27 05.7**	**+0.1**
	baz=78						
HELL	**Mitchell Peak**	**78.33**	**44**	⇑P	**P**	**01 27 05.7**	**-0.6**
	baz=78						
WDC	**Whiskeytown Da**	**78.40**	**40**	⇑P	**P**	**01 27 06.8**	**+0.3**
	baz=78						
ORV	**Oroville**	**78.42**	**41**	⇓P	**P**	**01 27 06.9**	**+0.2**
	baz=78						
KCC	**Kaiser Creek**	**78.50**	**44**	⇓P	**P**	**01 27 07.4**	**+0.2**
	baz=79						
M02C	**Callahan**	**78.72**	**39**	⇓P	**P**	**01 27 08.9**	**+0.6**
	baz=79						
R05C	**Kirkwood Meado**	**78.81**	**42**	⇑P	**P**	**01 27 08.7**	**-0.1**
	baz=79						
BELC	**Belle Mtn.**	**78.93**	**48**	⇑P	**P**	**01 27 09.9**	**+0.3**
	baz=79						
YBH	**Yreka Blue Hor**	**79.01**	**39**	*e*P	**P**	**01 27 10.3**	**+0.6**
	comp=Z,79nm,3.0s						
YBH	**Yreka Blue Hor**	**79.01**	**39**	*e*P	**P**	**01 27 10.3**	**+0.5**
YBH				pmax	pmax		
	comp=Z,79nm,3.0s						
YBH	**Yreka Blue Hor**	**79.01**	**39**	P	**P**	**01 27 10.4**	**+0.6**
	baz=79,SNR=5.1						
O04C	**Chester**	**79.13**	**40**	⇓P	**P**	**01 27 10.7**	**+0.2**
	baz=79						
BC3	**Big Chuckw Mtn**	**79.13**	**49**	⇑P	**P**	**01 27 11.2**	**+0.5**
	baz=79						
HATC	**Hat Creek Radi**	**79.20**	**40**	⇑P	**P**	**01 27 10.9**	**+0.1**
	baz=79						
S08C	**White Mtn Res**	**79.36**	**44**	⇓P	**P**	**01 27 12.4**	**+0.6**
	baz=79						
WCN	**Washoe City**	**79.36**	**42**	⇑P	**P**	**01 27 12.1**	**+0.4**
	baz=80						
GMRC	**Granite Mounta**	**79.58**	**48**	⇑P	**P**	**01 27 12.9**	**0.0**
	baz=80						
IRM	**Iron Mountain**	**79.61**	**48**	⇑P	**P**	**01 27 13.3**	**+0.2**
	baz=80						
MDJ	**Mudanjiang**	**79.66**	**325**	P	**P**	**01 27 13.9**	**+0.8**
MDJ				AMB	AMB		
	comp=Z,8.0nm,0.8s,mb4.1						
MDJ				AMB	AMB		
	comp=Z,91nm,5.8s						
M05C	**Lookout**	**79.72**	**40**	⇑P	**P**	**01 27 14.0**	**+0.5**
	baz=80						
O06A	**Flanigan**	**79.82**	**41**	⇓P	**P**	**01 27 14.3**	**+0.2**
	baz=80						
N06A	**Buffalo Meadow**	**80.15**	**41**	⇑P	**P**	**01 27 16.1**	**+0.3**
	baz=80						
J04A	**Umpqua Nationa**	**80.29**	**38**	P	**P**	**01 27 17.1**	**+0.6**
	baz=80,SNR=5.2						
L05A	**Lakeview**	**80.31**	**39**	⇑P	**P**	**01 27 17.1**	**+0.5**
	baz=80						
TPNV	**Topopah Spring**	**80.33**	**45**	⇑P	**P**	**01 27 17.4**	**+0.6**
	baz=80						
Y13A	**Salome**	**80.37**	**49**	⇑P	**P**	**01 27 17.5**	**+0.4**
	baz=80						
I04A	**Tendick Farm,**	**80.45**	**37**	⇑P	**P**	**01 27 17.2**	**-0.1**
	baz=80						
H03A	**Soap Creek Ran**	**80.51**	**36**	⇑P	**P**	**01 27 18.0**	**+0.4**
	baz=81						
MOD	**Modoc**	**80.55**	**40**	⇓P	**P**	**01 27 18.2**	**+0.3**
	baz=81						
S10A	**Tonopah Range,**	**80.63**	**45**	⇓P	**P**	**01 27 18.7**	**+0.4**
	baz=81						
K05A	**Summer Lake**	**80.69**	**39**	P	**P**	**01 27 18.9**	**+0.4**
	baz=81,SNR=6.5						
X13A	**Yucca**	**80.77**	**49**	⇓P	**P**	**01 27 19.4**	**+0.3**
	baz=81						
Z14A	**Wintersburg**	**80.78**	**50**	⇑P	**P**	**01 27 20.0**	**+0.7**
	baz=81						
J05A	**Fort Rock**	**80.82**	**38**	P	**P**	**01 27 19.6**	**+0.4**
	baz=81,SNR=10						
Y14A	**Wickenburg**	**81.03**	**49**	⇑P	**P**	**01 27 20.7**	**+0.2**
	baz=81						
K06A	**Valley Falls**	**81.11**	**39**	⇓P	**P**	**01 27 21.2**	**+0.5**
	baz=81						
H04A	**Detroit Lake**	**81.13**	**36**	⇑P	**P**	**01 27 20.3**	**-0.5**
	baz=81						
T11A	**Corn Creek, Al**	**81.19**	**46**	⇓P	**P**	**01 27 21.7**	**+0.4**
	baz=81						
L07A	**Adell**	**81.20**	**40**	P	**P**	**01 27 21.9**	**+0.7**
	baz=81,SNR=5.5						
216A	**Three Points,**	**81.20**	**52**	⇑P	**P**	**01 27 22.3**	**+0.8**
	baz=81						
N08A	**GE Springer Mi**

G07A **Ruggs Ranch, H** 82.91 37 ⇑P P 01 27 29.6 -0.2
baz=83
J09A **Fry Pan Ranch,** 82.92 39 P P 01 27 30.1 +0.3
baz=83,SNR=5.6
E06A **Yakima** 82.94 35 ⇑P P 01 27 29.8 -0.2
baz=83
MAW **Mawson** 82.94 200 P P 01 27 29.2 -0.5
comp=Z,6.3nm,0.6s,mb4.3,baz=129,slow=8.0,SNR=11
L10A **Juniper Basin** 82.99 41 P P 01 27 30.6 +0.3
baz=83,SNR=5.2
H08A **Prairie City** 83.05 38 ⇑P P 01 27 30.3 -0.2
baz=83
O12A **Currie** 83.11 43 ⇓P P 01 27 30.8 -0.1
baz=83
K10A **MacKenzie Ranc** 83.13 40 ⇑P P 01 27 31.1 +0.1
baz=83
P13A **Bates Ranch, G** 83.16 44 ⇑P P 01 27 31.7 +0.5
baz=83
N12A **Clover Valley,** 83.23 43 ⇓P P 01 27 31.8 +0.3
baz=83
C05A **Tolt Reservoir** 83.26 34 ⇓P P 01 27 31.7 +0.2
baz=83
G08A **Pilot Rock** 83.33 37 ⇑P P 01 27 32.1 +0.2
baz=83
B05A **Bryant** 83.39 34 ⇓P P 01 27 32.1 0.0
baz=84
D06A **Cle Elum** 83.41 35 ⇓P P 01 27 32.1 -0.2
baz=84
M12A **Wells** 83.61 42 ⇓P P 01 27 33.6 +0.2
baz=84
PMR **Palmer** 83.64 13 P P 01 27 33.6 +0.5
C07A **Waterville** 84.13 35 ⇓P P 01 27 35.5 -0.3
baz=84
H10A **Noah's Angus R** 84.22 39 ⇓P P 01 27 35.6 -0.7
baz=84
G10A **Bishop Farm, J** 84.39 38 ⇓P P 01 27 36.8 -0.4
baz=84
B07A **Winthrop** 84.56 34 ⇑P P 01 27 37.6 -0.3
baz=85
F10A **Beach Ranch, E** 84.71 37 ⇓P P 01 27 38.2 -0.5
baz=85
H11A **Donnelly** 84.72 39 ⇓P P 01 27 38.5 -0.3
baz=85
A07A **Ashnola River,** 84.77 34 ⇑P P 01 27 38.7 -0.2
baz=85
B08A **Colville Reser** 84.92 35 ⇓P P 01 27 39.0 -0.7
baz=85
G11A **Walters Elk Ra** 84.95 38 ⇓P P 01 27 39.5 -0.4
baz=85
HLID **Hailey** 85.07 41 ⇓P P 01 27 40.3 -0.2
baz=85
SEY **Seymchan** 85.17 347 *e*P P 01 27 39.0 -1.5
A08A **Turner Farm, O** 85.30 34 ⇓P P 01 27 41.2 -0.3
baz=85
H12A **Diamond D Ranc** 85.33 40 ⇓P P 01 27 41.6 -0.1
baz=85
MCK **McKinley** 85.59 12 *e*P P 01 27 40.8 -1.7
comp=Z,6.9nm,0.6s,mb4.5
MCK **McKinley** 85.59 12 *e*P P 01 27 40.8 -1.7
MCK pmax pmax
comp=Z,7.0nm,0.6s,mb4.5
B09A **Rice** 85.60 35 ⇑P P 01 27 42.3 -0.6
baz=86
F12A **Elk City** 85.74 38 ⇑P P 01 27 43.4 -0.3
baz=86
LPM **Los Pinos Moun** 85.86 52 P P 01 27 44.2 -0.3
G13A **Cobalt** 85.99 39 ⇓P P 01 27 44.4 -0.5
baz=86
TXAR **Lajitas Array** 86.01 57 P P 01 27 46.0 +0.7
comp=Z,1.8nm,0.6s,mb3.9,baz=217,slow=6.6,SNR=21
TXAR pP pP 01 29 49.5 +6.0
comp=Z,0.9nm,1.0s,baz=190,slow=4.8,SNR=3.5
ANMO **Albuquerque** 86.27 51 *e*P P 01 27 46.4 -0.1
comp=Z,1.6nm,1.0s,mb3.6
F13A **Darby** 86.30 39 ⇑P P 01 27 45.9 -0.5
baz=86
GYA **Guiyang** 86.33 299 P P 01 27 47.2 +0.2
GYA AP pP 01 29 51.8 +6.6
GYA PP PP 01 31 21.3 +2.9
GYA SKS 01 37 18.2
GYA S S 01 37 34.6 -3.0
GYA AMB AMB
comp=Z,10.0nm,1.0s,mb4.4
D12A **Red Ives Fores** 86.39 37 ⇓P P 01 27 46.3 -0.4
baz=86
G14A **Jackson** 86.53 40 ⇑P P 01 27 47.5 0.0
baz=87
COLA **College** 86.83 12 *e*P P 01 27 46.2 -2.2
comp=Z,3.6nm,0.6s,mb4.2
COLA **College** 86.83 12 *e*P P 01 27 46.6 -1.8
D13A **Huson** 86.93 38 ⇓P P 01 27 48.7 -0.6
baz=87
G15A **Dillon** 87.08 40 ⇓P P 01 27 49.8 -0.2
baz=87
E14A **Clinton** 87.13 39 ⇑P P 01 27 49.9 -0.3
baz=87
XAN **Xi'an** 87.64 307 P P 01 27 53.5 +0.6
XAN AMB AMB
comp=Z,10.0nm,1.3s,mb4.4
PDAR **Pinedale Array** 87.73 43 P P 01 27 52.2 -0.9
comp=Z,0.9nm,0.7s,mb3.6,baz=222,slow=2.2,SNR=8.6
PDAR pP pP 01 29 56.3 +4.4
comp=Z,0.8nm,0.8s,baz=208,slow=2.9,SNR=5.7
BILL **Bilibino** 87.76 354 *e*P P 01 27 51.1 -1.6
BILL pmax pmax
comp=Z,3.0nm,1.2s,mb3.9
BOZ **Bozeman (W)** 87.85 40 *e*P P 01 27 53.6 0.0
BOZ **Bozeman (W)** 87.85 40 ⇓P P 01 27 53.5 -0.1
baz=88
SYO **Syowa Base** 88.11 193⇑*e*X P 01 27 51.8 -2.7
SYO **Syowa Base** 88.11 193⇑*e*PcP PcP 01 27 53.6 -2.1
SDCO **Great Sand Dun** 88.19 49 *e*P P 01 27 55.0 -0.4
comp=Z,1.0nm,0.8s,mb3.6
EGAK **Eagle** 88.22 15 *e*P P 01 27 54.1 -0.8
WALA **Waterton Lakes** 88.28 36 *e*P P 01 27 54.5 -1.0
HHC **Hu-ho-hao-te** 88.71 314 *e*P P 01 28 00.7 +3.0
HHC PP PP 01 31 43.3 +6.4
HHC SKS 01 37 34.8
HHC S S 01 37 55.4 -3.6
HHC SS SS 01 44 09.4 +1.8
HHC AMB AMB
comp=Z,16nm,0.3s,mb5.3
HHC AMB AMB
comp=Z,119nm,7.3s
KMI **Kunming** 89.10 297 P P 01 28 01.3 +1.4
KMI AMB AMB
comp=Z,11nm,0.6s,mb4.9
KMI **Kunming** 89.10 297 P P 01 28 01.3 +1.4
comp=Z,11nm,0.6s,mb4.9
SNAA **Sanae** 89.32 178 *e*P P 01 27 59.0 -1.1
SNAA *e* 01 28 06.0
SNAA **Sanae** 89.32 178 *e*P P 01 27 59.3 -0.8
VNA3 **Neumayer Olymp** 89.44 176 *e*P P 01 27 59.8 -0.9
VNA2 **Neumayer--Watz** 89.89 177 *e*P P 01 28 02.1 -0.6
baz=210,slow=5.3
VNA2 *e* 01 28 08.8
PLCA **Paso Flores** 89.90 133 P P 01 28 03.4 0.0
PLCA **Paso Flores** 89.90 133 P P 01 28 03.2 -0.2
comp=Z,1.4nm,0.8s,mb3.8,baz=194,slow=2.9,SNR=3.6
MAIT **Maitri** 90.06 183 *e*P P 01 28 01.7 -1.8
VNA1 **Neumayer--Stat** 90.11 176 *e*P P 01 28 03.6 -0.2
VNA1 *e* 01 28 11.1
CHTO **Chiang Mai** 90.16 290 *e*P P 01 28 05.3 +0.3
comp=Z,9.1nm,0.9s,mb4.6
CHTO **Chiang Mai** 90.16 290 *e*P P 01 28 05.3 +0.3
CHTO pmax pmax
comp=Z,9.0nm,0.9s,mb4.6
CD2 **Chengdu** 90.40 303 *e*P P 01 28 06.2 +0.3
CD2 AMB AMB
comp=Z,10.0nm,0.9s,mb4.7
CD2 AMB AMB
comp=Z,30nm,9.8s
LZH **Lanzhou** 92.27 307 P P 01 28 13.5 -0.9
LZH PP PP 01 32 06.7 +1.9
LZH AMB AMB
comp=Z,20nm,1.3s,mb5.0
LZH AMB AMB
comp=Z,51nm,8.7s
LZH **Lanzhou** 92.27 307 P P 01 28 13.5 -0.9
comp=Z,20nm,1.3s,mb5.0
LZH sP sP 01 31 20.5 +12
LZH PP PP 01 32 06.7 +1.9
INK **Inuvik** 92.89 15 *e*P P 01 28 14.7 -1.7
comp=Z,98nm,0.9s
SONM **Songino Array** 95.01 319 P P 01 28 25.4 -1.1
comp=Z,0.2nm,0.6s,baz=125,slow=4.2,SNR=2.3
SONM pP pP 01 30 32.5 +6.2
comp=Z,0.6nm,0.9s,baz=96,slow=1.5,SNR=3.0
YKA **Yellowknife Ar** 95.14 25 P P 01 28 25.2 -1.5
YKA pP pP 01 30 32.8 +6.2
YKA **Yellowknife Ar** 95.14 25 P P 01 28 25.2 -1.5
comp=Z,0.6nm,0.9s,mb3.7,baz=237,slow=4.7,SNR=7.9
YKA pP pP 01 30 32.8 +6.2
comp=Z,0.4nm,0.8s,baz=248,slow=4.7,SNR=3.4
TIXI **Tiksi** 97.57 345 *e*P P 01 28 41.6 +4.1
TIXI **Tiksi** 97.57 345 *e*P P 01 28 34.6 -2.9
TIXI pmax pmax
comp=Z,1.0nm,0.8s,mb4.2
ZALV **Zalesovo Beam** 109.70 322 PKiKP PKiKP 01 33 28.6 -2.4
comp=Z,1.1nm,0.5s,baz=70,slow=0.0,SNR=6.4
MKAR **Makanchi Array** 110.57 314 PKiKP PKiKP 01 33 30.4 -2.4
comp=Z,1.1nm,0.5s,baz=171,slow=0.3,SNR=12
KURK **Kurchatov** 113.28 318 *e*PKiKP PKiKP 01 33 35.3 -2.6
SJG **San Juan** 115.43 79 PKPdf PKPdf 01 33 42.1 -0.9
BRVK **Borovoye** 118.37 321 PKPdf PKPdf 01 33 45.4 -2.2
ARU **Arti** 124.33 326 *e*PKPdf PKPdf 01 33 57.8 -1.1
ARU **Arti** 124.33 326 PKiKP PKPdf 01 33 57.9 -1.0
AKTK **Aktyubinsk** 126.33 319 PKP PKPdf 01 34 01.4 -1.6
AKTO **Aktyubinsk** 126.33 319 PKP PKPdf 01 34 01.4 -1.6
comp=Z,2.0nm,0.8s,baz=108,slow=1.0,SNR=9.1
BOSA **Boshof** 127.62 206 PKP PKPdf 01 34 06.1 -0.1
comp=Z,5.9nm,1.1s,baz=282,slow=3.6,SNR=5.1
ARCES **ARCESS Array B** 127.69 350 PKP PKPdf 01 34 03.7 -1.3
ARCES **ARCESS Array B** 127.69 350 PKP PKPdf 01 34 03.7 -1.3
comp=Z,2.6nm,0.5s,baz=1.6,slow=2.3,SNR=20
FINES **FINESS Array B** 134.61 344 PKP PKPdf 01 34 17.6 -0.6
comp=Z,1.7nm,0.7s,baz=84,slow=1.1,SNR=4.8
FINES SKPbc SKPbc 01 36 54.1 -3.6
comp=Z,5.6nm,1.1s,baz=46,slow=8.2,SNR=4.0
NOA **NORSAR Array B** 137.71 354 PKP PKPdf 01 34 24.4 +0.3
comp=Z,1.9nm,0.8s,baz=14,slow=4.0,SNR=3.4
HFS **Hagfors** 138.29 352 PKhKP 01 34 15.0
comp=Z,1.1nm,0.5s,baz=35,slow=5.4,SNR=10.0
HFS PKP PKPdf 01 34 23.1 -2.1
comp=Z,3.9nm,1.0s,baz=90,slow=2.9,SNR=4.5
KIV **Kislovodsk** 138.30 315 PKPdf PKPdf 01 34 25.3 -0.4
KIV **Kislovodsk** 138.30 315 PKiKP PKPdf 01 34 25.3 -0.4
KMBO **Kilima Mbogo** 140.29 245 PKhKP 01 34 24.9
comp=Z,1.6nm,0.7s,baz=71,slow=7.9,SNR=8.7
AKASG **Malin Array Be** 142.03 332 PKP PKPdf 01 34 26.4 -5.8
AKASG PKP PKPdf 01 34 31.4 -0.8
AKASG SKPbc SKPbc 01 37 15.3 -3.4
AKASG **Malin Array Be** 142.03 332 PKHKP 01 34 26.4
AKASG 01 34 31.4
AKASG **Malin Array Be** 142.03 332 PKhKP 01 34 26.4
comp=Z,1.8nm,0.3s,baz=42,slow=4.1,SNR=28
AKASG PKP PKPdf 01 34 31.4 -0.8
comp=Z,1.2nm,0.5s,baz=44,slow=3.9,SNR=4.4
AKASG SKPbc SKPbc 01 37 15.3 -3.4
comp=Z,0.4nm,0.6s,baz=41,slow=3.5,SNR=4.2
MALT **Malatya** 143.42 309 *e*PKPdf PKPdf 01 34 33.5 -1.5
MALT **Malatya** 143.42 309 ⇓*i*P PKPdf 01 34 33.6 -1.4
EKA **Eskdalemuir Ar** 143.65 5 PKP PKPdf 01 34 31.9 -2.9
comp=Z,5.2nm,0.6s,baz=318,slow=3.1,SNR=32
KWP **Kalwaria** 145.53 337 ⇓P PKPdf 01 34 39.0 +0.7
KWP **Kalwaria** 145.53 337 ⇓*i*P PKPdf 01 34 39.0 +0.7
OJC **Ojcow** 146.06 340 *e*PKP PKPdf 01 34 40.1 +0.9
STHS **Stebnicka Huta** 146.25 338 *e*PKP PKPdf 01 34 38.1 -1.4
KOLS **Kolonicke sedl** 146.27 336 *e*PKP PKPdf 01 34 36.8 -2.8
ASF **Jabal al Asfar** 146.48 300 PKPbc PKPbc 01 34 42.5 -0.4
comp=Z,6.9nm,0.8s,baz=358,slow=2.6,SNR=15
UZH **Uzhgorod** 146.50 336 ⇓*i*PKiKP PKPdf 01 34 41.0 +1.0
NIE **Niedzica** 146.57 339 *e*PKP PKPdf 01 34 42.2 +2.2
CRVS **Cervenica-Dubn** 146.60 337 *e*PKP PKPdf 01 34 39.0 -1.1
ANTO **Ankara** 146.72 315 ⇓P PKPdf 01 34 42.8 +2.1
ANTO **Ankara** 146.72 315 ⇓*i*P PKPdf 01 34 42.8 +2.2
CLZ **Clausthal** 146.80 351 *e*PKPbc PKPbc 01 34 41.7 -1.4
TRPA **Tarpa** 146.81 335 ⇓*i*P PKPdf 01 34 42.5 +2.0
CLL **Collm** 146.86 348 *e*PKPbc PKPbc 01 34 42.2 -1.1
CLL **Collm** 146.86 348 ⇓*i*PKPbc PKPbc 01 34 42.3 -1.0
comp=Z,15nm,0.6s
CLL *ex* x 01 37 02.0
UPC **Upice** 146.91 344 *e*PKP PKPdf 01 34 43.0 +2.4
UPC *ep*PKP pPKPdf 01 36 57.1 +9.0
DPC **Dobruska-Polom** 146.97 344 *e*PKP PKPdf 01 34 43.0 +2.3
DPC *ep*PKP pPKPdf 01 36 53.6 +5.4
BRG **Berggiesshubel** 147.07 347 *e*PKPbc PKPbc 01 34 42.9 -1.0
BRG **Berggiesshubel** 147.07 347 *i* PKP PKPdf 01 34 43.0 +2.2
comp=Z,7.7nm,0.8s
PVCC **Panska Ves** 147.25 346 *e*PKP PKPdf 01 34 43.4 +2.3
PVCC *ep*PKP pPKPdf 01 36 54.7 +6.0
KECS **Kecovo** 147.30 338 *e*PKP PKPdf 01 34 42.8 +1.5
KECS *e* 01 36 53.6
MLR **Muntele Rosu** 147.31 329 ⇓P PKPdf 01 34 43.5 +2.1
MLR **Muntele Rosu** 147.31 329 ⇓*i*P PKPdf 01 34 43.5 +2.1
MMAI **Mount Meron Ar** 147.47 302 PKPbc PKPbc 01 34 45.1 -0.4
comp=Z,11nm,0.5s,baz=72,slow=8.0,SNR=48
MOX **Moxa** 147.75 349 *e*PKPbc PKPbc 01 34 44.3 -1.3
MOX *ep*PKPbc pPKPbc 01 36 55.7 +4.4
PRU **Pruhonice** 147.76 345 *e*PKP PKPdf 01 34 44.7 +2.7
PRU *ep*PKP pPKPdf 01 36 55.9 +6.4
TANN **Tannenbergstha** 147.81 348 *e*PKPbc PKPbc 01 34 44.5 -1.3
VYHS **Vyhne** 147.87 339 *e*PKP PKPbc 01 34 45.1 -0.9
VYHS *e* 01 36 57.7
KOLL **Kolacno** 147.94 340 *e*PKP PKPbc 01 34 45.6 -0.6
KOLL *e* 01 37 00.2
NKC **Novy Kostel** 147.99 348 *e*PKP PKPdf 01 34 45.7 +3.3
TREC **Trest** 148.16 344 *e*PKP PKPbc 01 34 45.8 -0.9
TREC *ep*PKP pPKPdf 01 36 58.7 +8.5
MANZ **Manzenberg** 148.29 348 *e*PKPbc PKPbc 01 34 46.3 -0.7
CSS **Prodhromos** 148.46 306 *e*PKPdf PKPdf 01 34 43.6 0.0
CSS *e*PKPbc PKPbc 01 34 46.8 -1.1
MODS **Modra-Piesok** 148.47 341 *e*PKP PKPbc 01 34 46.5 -1.0
MODS *e* 01 36 57.9
ROTZ **Rotzenmuhle** 148.48 348 *e*PKPbc PKPbc 01 34 46.6 -0.9
ROTZ *ep*PKPbc pPKPbc 01 37 01.1 +7.7
TNS **Taunus Mts** 148.65 353 *e*PKPbc PKPbc 01 34 47.0 -0.9
EIL **Elat** 148.68 296 PKPbc PKPbc 01 34 47.5 -1.2
comp=Z,8.7nm,0.8s,baz=2,slow=4.2,SNR=10
GRA1 **Grafenberg Arr** 148.74 349 *e*PKPbc PKPbc 01 34 47.3 -0.8
GRA1 *ep*PKPbc pPKPbc 01 37 02.6 +8.5
GRF **Grafenberg Arr** 148.74 349 *e*PKPbc PKPbc 01 34 47.3 -0.8
GRF *ep*PKPbc pPKPbc 01 37 02.6 +8.5
KHC **Kasperske Hory** 148.78 346 *e*PKP PKPbc 01 34 47.3 -1.0
KHC *ep*PKP pPKPdf 01 37 01.3 +10
GZR **Gura Zlata** 148.87 332 ⇑P PKPbc 01 34 47.5 -1.1
GZR **Gura Zlata** 148.87 332 ⇑*i*P PKPbc 01 34 47.5 -1.1
WET **Wettzell** 148.93 347 *e*PKPbc PKPbc 01 34 47.3 -1.3
WET *ep*PKPbc pPKPbc 01 37 02.8 +8.2
GEC2 **GERESS Array S** 149.02 345 *e*PKPbc PKPbc 01 34 48.0 -0.9
GERES **GERESS Array B** 149.02 345 PKPbc PKPbc 01 34 47.9 -1.0
comp=Z,6.4nm,0.8s,baz=42,slow=2.0,SNR=42
GERES *e*PKPbc pPKPbc 01 36 59.5 +4.6
comp=Z,2.1nm,1.1s,baz=27,slow=4.5,SNR=4.2
GIVF **Givet** 149.08 357 *e*PKP1 PKPbc 01 34 47.7 -1.2
comp=Z,19nm,0.7s
DOU **Dourbes** 149.09 357 PKP PKPdf 01 34 47.5 +3.4
BAIF **Baives** 149.15 358 *e*PKP1 PKPbc 01 34 48.0 -1.1
comp=Z,12nm,0.6s
BZS **Buzias** 149.21 333 ⇑P PKPbc 01 34 48.4 -1.0
BZS **Buzias** 149.21 333 ⇑*i*P PKPbc 01 34 48.4 -1.0
CONA **Conrad Observa** 149.30 342 ⇑*i*PKiKP PKiKP 01 34 49.3 -1.1
comp=Z,12nm,0.7s
WLF **Walferdange** 149.43 355 PKPbc PKPbc 01 34 49.3 -0.5
WLF **Walferdange** 149.43 355 *e*PKPbc PKPbc 01 34 49.3 -0.5
WLF *ep*PKPbc pPKPbc 01 37 04.3 +8.4
PKSM **Moragy** 149.89 337 ⇑P PKPbc 01 34 50.0 -1.1
STU **Stuttgart** 149.96 351 *e*PKPbc PKPbc 01 34 49.7 -1.4
FUR **Furstenfeldbru** 150.19 348 *e*PKPbc PKPbc 01 34 50.4 -1.3
FLN **La Foliniere** 150.38 4 *e*PKP1 PKPbc 01 34 50.5 -1.6
BFO **Black Forest** 150.52 352 *e*PKP PKPbc 01 34 51.4 -1.0
BFO **Black Forest** 150.52 352 *e*PKPbc PKPbc 01 34 51.2 -1.2
BFO *ep*PKPbc pPKPbc 01 37 03.8 +5.1
ROSF **Rostrenen** 150.54 8 *e*PKP1 PKPbc 01 34 50.5 -2.0
CDF **Champ du Feu** 150.56 353 *e*PKP1 PKPbc 01 34 51.2 -1.3
comp=Z,17nm,0.7s
LDF **La Druitiere** 150.57 3 *e*PKP1 PKPbc 01 34 50.8 -1.7
comp=Z,28nm,0.8s
MEZF **Maizieres J'vi** 150.66 356 *e*PKP1 PKPbc 01 34 51.7 -1.0
comp=Z,37nm,1.0s
SGMF **Saint Gilles** 150.71 7 *e*PKP1 PKPbc 01 34 51.0 -1.8
comp=Z,21nm,0.7s
GRR **Gorron** 150.73 4 *e*PKP1 PKPbc 01 34 51.4 -1.5
comp=Z,17nm,0.5s
KBA **Koelnbreinsper** 150.76 345 ⇓*i*P PKPbc 01 34 51.4 -1.6
comp=Z,11nm,0.7s
QUIF **Quistinic** 150.97 8 *e*PKP1 PKPbc 01 34 51.0 -2.4
MOTA **Moosalm** 151.01 348 ⇑*i*P PKPbc 01 34 52.5 -1.0
comp=Z,7.3nm,0.9s
HAU **Haudompre** 151.06 355 *e*PKP1 PKPbc 01 34 52.2 -1.4
comp=Z,25nm,0.8s
MYKA **Terra Mystica** 151.10 344 ⇓*i*PKPbc PKPbc 01 34 51.5 -2.3
comp=Z,10nm,0.5s
SQTA **Sankt Quirin** 151.11 348 ⇑*i*P PKPbc 01 34 52.9 -0.9
comp=Z,7.7nm,0.8s
HINF **Hinteralfeld** 151.20 354 *e*PKP1 PKPbc 01 34 52.4 -1.6
comp=Z,12nm,0.8s
ABTA **Abfaltersbach** 151.27 345 ⇑*i*PKPbc PKPbc 01 34 52.7 -1.5
comp=Z,16nm,0.6s
VNDS **Vrh nad Dolski** 151.29 342 *i* PKPbc PKPbc 01 34 53.1 -1.1
CRES **Cresnjev** 151.31 341 *i* PKPbc PKPbc 01 34 53.1 -1.2
FETA **Feichten** 151.40 348 ⇑*i*PKiKP PKiKP 01 34 53.8 -0.9
comp=Z,12nm,1.0s
BOJS **Bojanci** 151.66 341 *i* PKPbc PKPbc 01 34 54.3 -0.8
DAVOS **Davos** 151.75 349 PKiKP PKPbc 01 34 54.5 -0.7
DAVOX **Davos/Dischmat** 151.79 349 PKPbc PKPbc 01 34 54.5 -0.8
comp=Z,11nm,0.4s,baz=267,slow=1.9,SNR=36
DAVOX pPKPbc pPKPbc 01 37 05.9 +4.0
comp=Z,4.5nm,0.9s,baz=294,slow=2.9,SNR=4.1
LOR **Lormes** 151.95 358 *e*PKP1 PKPbc 01 34 54.3 -1.4
comp=Z,32nm,0.9s
HYF **Humbligny** 151.97 360 *e*PKP1 PKPbc 01 34 54.8 -0.9
SSF **Saint Saulge** 152.17 358 *e*PKP1 PKPbc 01 34 54.9 -1.3
comp=Z,14nm,0.8s
AVF **Avril sur Loir** 152.44 359 *e*PKP1 PKPbc 01 34 55.0 -1.8
CABF **La Chapelle** 152.47 355 *e*PKP1 PKPbc 01 34 56.0 -0.8
comp=Z,10nm,0.7s
MFF **Saint Martin d** 152.56 4 *e*PKP1 PKPbc 01 34 55.4 -1.6
comp=Z,13nm,0.7s
SMF **Signal de Mont** 152.57 358 *e*PKP1 PKPbc 01 34 55.0 -2.1
BGF **Bois d'Agland** 152.68 359 *e*PKP1 PKPbc 01 34 55.9 -1.4
comp=Z,20nm,0.9s
TCF **Toulx Ste Croi** 152.95 0 *e*PKP1 PKPbc 01 34 56.3 -1.6
LPL **La Plagne** 153.48 353 *e*PKP1 PKPbc 01 34 58.5 -0.6
LPG **La Plagne** 153.50 353 *e*PKP1 PKPbc 01 34 58.6 -0.5
ORIF **Oris-en-Rattie** 154.16 354 *e*PKP1 PKPbc 01 35 00.0 -0.5
MBDF **Montbardon** 154.26 353 *e*PKP1 PKPbc 01 34 59.5 -1.2
comp=Z,9.3nm,0.8s
MDT **Midelt** 165.02 23 PKP PKPdf 01 35 03.7 -0.7
comp=Z,1.2nm,0.7s,baz=18,slow=5.3,SNR=3.5
LIC **Lamto** 165.23 150 *e*PKiKP PKPdf 01 35 02.6 -2.5
comp=Z,34nm,1.2s
DBIC **Dimbokro** 165.70 149 PKP PKPdf 01 35 03.4 -2.1
comp=Z,3.4nm,1.0s,baz=44,slow=13,SNR=3.9
TORD **Torodi Ar. Bea** 173.97 173 PKP PKPdf 01 35 06.8 -3.4
TORD PKPab PKPab 01 36 43.2 -1.5
TORD **Torodi Ar. Bea** 173.97 173 PKP PKPdf 01 35 06.8 -3.4
comp=Z,2.8nm,0.9s,baz=328,slow=0.8,SNR=12
TORD PKPab PKPab 01 36 43.2 -1.4
comp=Z,0.6nm,0.7s,baz=172,slow=3.0,SNR=9.5

CSEM ***05*** *01:22:27.6±0.1, 4569N×2666E, h110km, mb4.0, Error ellipse: s-maj=1.6km s-min=1.5km az=59.0*
MOS ***05*** *01:22:28.2±0.9, 4568N×2658E, h110km, mb4.0/3, Error ellipse: s-maj=8.5km s-min=5.5km az=112.0*
ISCJB ***05*** *01:22:28.1±0.2, 4569N±002×2663E±003, h116km±2km, mb3.4/7, Error ellipse: s-maj=3.2km s-min=2.9km az=43.8*
BUC ***05*** *01:22:28.6±0.5, 4572N×2653E, h112km±5km, MD4.4/2, Error ellipse: s-maj=3.5km s-min=3.0km az=322.0*
IDC ***05*** *01:22:29.5±0.7, 4584N×2633E, h99km±5km, mb3.2/6, mb1 3.3/12, mb1mx3.3/24, mbtmp3.2/12, MS2.8/1, Ms1 2.8/1, ms1mx2.6/25, Error ellipse: s-maj=21.5km s-min=10.7km az=115.0*
NEIC ***05*** *01:22:29.9, 4565N×2658E, h100km, mb4.0/1, MD4.7(BUC), After BUC.*
SOF ***05*** *01:22:31.5, 4552N×2648E, h100km, MD3.1*
ISC 05 01:22:29.2±0.2,**4569N**±002×**2663E**±003,**h111**km±2km,
n131,σ0°**97**/183,**mb3.4**/7,**25C-15D**,**Romania**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLOR	**Plostina**	**0.16**	**4**	P	**Pn**	**01 22 44.2**	**-0.3**
PLOR				S	**Sn**	**01 22 54.7**	**-1.3**
VRI	**Vrincioaia**	**0.19**	**21**	P	**Pn**	**01 22 44.4**	**-0.1**
VRI	**Vrincioaia**	**0.19**	**21**	⇑P	**Pn**	**01 22 44.5**	**-0.1**
VRI				S	**Sn**	**01 22 55.1**	**-1.1**
VRI	**Vrincioaia**	**0.19**	**21**	⇑*i*P	**Pn**	**01 22 44.5**	**-0.1**
VRI				*i* S	**Sn**	**01 22 55.3**	**-0.9**
VRI	**Vrincioaia**	**0.19**	**21**	P	**Pn**	**01 22 44.4**	**-0.2**
VRI				*i* S	**Sn**	**01 22 55.1**	**-1.1**
ODB	**Odobesti**	**0.31**	**74**	⇓*i*P	**Pn**	**01 22 46.0**	**+1.0**
ODB				*i* S	**Sn**	**01 22 58.1**	**+1.2**
PETR		**0.42**	**85**	⇑*i*P	**Pn**	**01 22 46.3**	**+0.7**
PETR				*i* S	**Sn**	**01 22 58.4**	**+0.5**
MLR	**Muntele Rosu**	**0.52**	**248**	P	**Pn**	**01 22 46.0**	**-0.2**
MLR	**Muntele Rosu**	**0.52**	**248**	P	**Pn**	**01 22 46.1**	**-0.1**
MLR				S	**Sn**	**01 22 58.2**	**-0.8**
MLR				smax			
comp=N,600nm,0.3s							
MLR	**Muntele Rosu**	**0.52**	**248**	P	**Pn**	**01 22 46.1**	**-0.1**
baz=20,slow=12							
MLR				S	**Sn**	**01 22 58.2**	**-0.7**
comp=N,600nm,0.3s,baz=205,slow=22,SNR=122							
MLR	**Muntele Rosu**	**0.52**	**248**	⇓*i*P	**Pn**	**01 22 46.1**	**-0.1**
MLR				*i* S	**Sn**	**01 22 57.7**	**-1.3**
MLR	**Muntele Rosu**	**0.52**	**248**	S	**Sn**	**01 22 57.7**	**-1.3**
MLR	**Muntele Rosu**	**0.52**	**248**	⇓*i*P	**Pn**	**01 22 46.1**	**-0.1**
MLR				S	**Sn**	**01 22 58.2**	**-0.8**
ISR	**Istrita**	**0.57**	**186**	⇓*i*P	**Pn**	**01 22 47.2**	**+0.6**
GHRR		**0.66**	**55**	⇑*i*P	**Pn**	**01 22 47.9**	**+0.7**
GHRR				*i* S	**Sn**	**01 23 01.0**	**+0.2**
AAR	**Sfinta Ana**	**0.68**	**311**	⇓*i*P	**Pn**	**01 22 54.9**	**+7.5**
AAR				*i* S	**Sn**	**01 23 14.0**	**+13**
OZUR		**0.72**	**305**	⇓*i*P	**Pn**	**01 22 46.7**	**-1.0**
OZUR				*i* S	**Sn**	**01 22 58.1**	**-3.5**
TUDR		**0.73**	**97**	⇑*i*P	**Pn**	**01 22 48.0**	**+0.2**
TUDR				*i* S	**Sn**	**01 23 01.7**	**-0.2**
FULR		**0.81**	**190**	⇑*i*P	**Pn**	**01 22 49.0**	**+0.4**
FULR				*i* S	**Sn**	**01 23 03.9**	**+0.8**
FULR				*i* S	**Sn**	**01 23 04.0**	**+0.9**
PGOR	**Pogoanele**	**0.82**	**162**	⇑*i*P	**Pn**	**01 22 49.2**	**+0.6**
PGOR				*i* S	**Sn**	**01 23 04.4**	**+1.2**
TESR		**0.82**	**1**	⇓*i*P	**Pn**	**01 22 48.3**	**-0.3**
TESR				*i* S	**Sn**	**01 23 01.6**	**-1.7**
VARR		**0.88**	**77**	⇑*i*P	**Pn**	**01 22 50.1**	**+0.9**
VARR				*i* S	**Sn**	**01 23 04.5**	**+0.3**
ONCR	**Oncesti**	**0.89**	**29**	⇑*i*P	**Pn**	**01 22 49.4**	**+0.1**
ONCR				*i* S	**Sn**	**01 23 03.6**	**-0.9**
SULR		**1.04**	**195**	⇑*i*P	**Pn**	**01 22 51.3**	**+0.4**
SULR				*i* S	**Sn**	**01 23 07.5**	**+0.3**
VOIR		**1.14**	**258**	P	**Pn**	**01 22 51.3**	**-0.5**
VOIR		**1.14**	**258**	⇓*i*P	**Pn**	**01 22 51.0**	**-0.8**
VOIR				*i* S	**Sn**	**01 23 06.8**	**-2.2**
VOIR		**1.14**	**258**	P	**Pn**	**01 22 51.3**	**-0.5**
VOIR				*i* S	**Sn**	**01 23 06.8**	**-2.2**
CFR	**Carcaliu**	**1.18**	**115**	⇑*i*P	**Pn**	**01 22 52.7**	**+0.5**
CFR				*i* S	**Sn**	**01 23 10.0**	**+0.3**
AMRR		**1.19**	**155**	⇑*i*P	**Pn**	**01 22 53.1**	**+0.7**
AMRR				*i* S	**Sn**	**01 23 10.4**	**+0.5**
BERR	**Berezeni**	**1.25**	**57**	⇑*i*P	**Pn**	**01 22 54.1**	**+1.0**
BERR				*i* S	**Sn**	**01 23 11.8**	**+0.6**
BGMR	**Bucharest-Geol**	**1.29**	**198**	⇑*i*P	**Pn**	**01 22 55.0**	**+1.4**
BGMR				*i* S	**Sn**	**01 23 13.6**	**+1.6**
HARR	**Harsova**	**1.36**	**137**	P	**Pn**	**01 22 54.4**	**+0.1**
HARR	**Harsova**	**1.36**	**137**	⇓P	**Pn**	**01 22 54.9**	**+0.6**
HARR	**Harsova**	**1.36**	**137**	⇑*i*P	**Pn**	**01 22 54.9**	**+0.6**
HARR	**Harsova**	**1.36**	**137**	P	**Pn**	**01 22 54.4**	**+0.1**
BUC1	**Bucharest**	**1.41**	**198**	P	**Pn**	**01 22 54.9**	**0.0**
BUC1				S	**Sn**	**01 23 12.7**	**-1.7**
BUC1	**Bucharest**	**1.41**	**198**	⇓P	**Pn**	**01 22 55.0**	**+0.1**
BUC1				S	**Sn**	**01 23 13.7**	**-0.7**
BUC1	**Bucharest**	**1.41**	**198**	P	**Pn**	**01 22 54.9**	**0.0**
BUC1				*i* S	**Sn**	**01 23 13.7**	**-0.7**
TLCR		**1.62**	**107**	⇑*i*P	**Pn**	**01 22 58.4**	**+1.0**
TLCR				*i* S	**Sn**	**01 23 20.1**	**+1

KIS *i* S **Sn** **01 23 26.5 -0.9**
KIS pmax pmax
comp=Z,300nm,0.5s
KIS smax
comp=N,3μm,0.5s
KIS smax
comp=E,3μm,0.5s
KIS Kishinev 2.00 48 *i P* **Pn** **01 23 02.0 -0.1**
comp=E,300nm,0.5s
KIS *i* S **Sn** **01 23 26.5 -0.9**
comp=E,3μm,0.5s
ZIMR 2.22 204 ⇓P **Pn** **01 23 04.6 -0.4**
ZIMR 2.22 204 ⇑*i P* **Pn** **01 23 04.6 -0.4**
ZIMR *i* S **Sn** **01 23 30.2 -2.2**
PSN Preselentsi 2.29 151 P **Pn** **01 23 07.4 +1.5**
SZH Strazhica 2.47 192 P **Pn** **01 23 08.2 -0.1**
SZH Strazhica 2.47 192 P **Pn** **01 23 08.1 -0.1**
PRD Provadia 2.55 167 P **Pn** **01 23 10.7 +1.5**
PVL Pavlikeni 2.64 201 P **Pn** **01 23 11.8 +1.4**
GZR Gura Zlata 2.73 265 P **Pn** **01 23 11.4 -0.1**
GZR Gura Zlata 2.73 265 ⇑*i P* **Pn** **01 23 11.3 -0.2**
GZR *i* S **Sn** **01 23 45.1 +1.0**
DRGR 2.94 293 P **Pn** **01 23 14.1 -0.2**
DRGR 2.94 293 ⇓*i P* **Pn** **01 23 13.2 -1.1**
DRGR 2.94 293 P **Pn** **01 23 14.1 -0.2**
JMB Yambol 3.22 181 P **Pn** **01 23 18.2 +0.1**
BZS Buzias 3.52 271 ⇑*i P* **Pn** **01 23 21.3 -0.7**
BZS Buzias 3.52 271 P **Pn** **01 23 21.6 -0.4**
VTS Vitosha 3.96 220 P **Pn** **01 23 28.0 +0.1**
SVIS Svilajnac 4.08 252 *e*Pn **Pn** **01 23 28.4 -1.2**
KDZ Kurdzhali 4.13 193 P **Pn** **01 23 30.7 +0.4**
UZH Uzhgorod 4.17 316 *e*P **Pn** **01 23 31.0 +0.2**
UZH *e*S **Sn** **01 24 18.6 0.0**
KOLS Kolonicke sedl 4.40 319 *e*PN **Pn** **01 23 34.1 +0.4**
LVV L'vov 4.49 338 *e*P **Pn** **01 23 36.4 +1.4**
LVV *i* S **Sn** **01 24 25.6 -0.5**
GRUS Gruza 4.58 249 *e*Pn **Pn** **01 23 35.6 -0.7**
ELBA Catalca 4.72 163 *i P* **Pn** **01 23 38.0 -0.3**
ELBA Catalca 4.72 163 *i P* **Pn** **01 23 38.0 -0.3**
ELBA *i* S **Sn** **01 24 29.7 -2.2**
KWP Kalwaria 4.75 328 *e*Pn **Pn** **01 23 40.1 +1.5**
KWP Sn **Sn** **01 24 33.4 +0.9**
KWP Kalwaria 4.75 328 *e*Pn **Pn** **01 23 40.1 +1.6**
KWP Sn **Sn** **01 24 33.4 +0.9**
CRVS Cervenica-Dubn 4.76 314 *e*PN **Pn** **01 23 38.5 -0.2**
ISK Istanbul-Kandi 4.95 158 *e*PN **Pn** **01 23 36.2 -5.0**
DIVS Divibare 4.98 254 *e*Pn **Pn** **01 23 40.3 -1.3**
SART Tekirdag 5.01 175 *i P* **Pn** **01 23 42.3 +0.1**
KECS Kecovo 5.04 306 *e*PN **Pn** **01 23 44.1 +1.6**
SEV Sevastopol' 5.11 100 *e*P **Pn** **01 23 43.1 -0.3**
SEV *e*S **Sn** **01 24 38.8 -2.4**
SEV pmax pmax
comp=Z,13nm,0.3s
SEV smax
comp=N,120nm,0.3s
SEV smax
comp=E,20nm,0.3s
SEV Sevastopol' 5.11 100 *e*P **Pn** **01 23 43.1 -0.3**
comp=E,13nm,0.3s
STHS Stebnicka Huta 5.22 318 *i* PN **Pn** **01 23 45.5 +0.7**
AKASG Malin Array Be 5.31 18 *e*P **Pn** **01 23 45.4 -0.6**
AKASG pmax pmax
comp=Z,3.0nm,0.4s
AKASG Malin Array Be 5.31 18 P **Pn** **01 23 45.4 -0.6**
comp=Z,3.7nm,0.3s,baz=202,slow=13,SNR=20
AKASG S **Sn** **01 24 41.7 -4.2**
comp=Z,11nm,0.3s,baz=202,slow=21,SNR=9.2
SIM Simferopol' 5.33 95 *e*P **Pn** **01 23 46.4 0.0**
SIM *e*S **Sn** **01 24 45.7 -0.8**
SIM pmax pmax
comp=Z,8.0nm,0.2s
SIM Simferopol' 5.33 95 *e*P **Pn** **01 23 46.4 0.0**
comp=Z,8.0nm,0.2s
SIM *e*S **Sn** **01 24 45.7 -0.8**
HRT Hereke 5.35 154 *e*PN **Pn** **01 23 45.1 -1.5**
YAL Yalta 5.46 100 *e*P **Pn** **01 23 49.1 +1.0**
YAL *e*S **Sn** **01 24 48.8 -0.9**
YAL pmax pmax
comp=Z,13nm,0.3s
YAL smax
comp=N,12nm,0.6s
YAL smax
comp=E,29nm,0.2s
YAL smax
comp=N,18nm,0.7s
YAL smax
comp=E,22nm,0.8s
YAL Yalta 5.46 100 *e*P **Pn** **01 23 49.1 +1.0**
comp=E,13nm,0.3s
YAL *e*S **Sn** **01 24 48.8 -0.9**
comp=E,18nm,0.7s
YLV Yalova 5.50 158 *e*PN **Pn** **01 23 48.7 0.0**
ALU Alushta 5.58 98 ⇑*e*P **Pn** **01 23 50.4 +0.6**
ALU *i* S **Sn** **01 24 52.2 -0.5**
ALU pmax pmax
comp=Z,10.0nm,0.3s
ALU smax
comp=N,38nm,0.2s
ALU smax
comp=E,101nm,0.2s
ALU smax
comp=N,96nm,0.3s
ALU smax
comp=E,114nm,0.3s
ALU Alushta 5.58 98 *e*P **Pn** **01 23 50.4 +0.6**
comp=E,10.0nm,0.3s
ALU *i* S **Sn** **01 24 52.2 -0.5**
comp=E,38nm,0.2s
KDZE Karadeniz Ereo 5.60 140 *e*PN **Pn** **01 23 51.0 +0.9**
NIE Niedzica 5.68 313 *e*Pn **Pn** **01 23 52.0 +1.0**
IZI Iznik 5.74 158 *e*PN **Pn** **01 23 57.2 +5.3**
HENT Hendek 5.78 146 *i P* **Pn** **01 23 51.1 -1.3**
SUDU Sudak 5.96 95 ⇑*e*P **Pn** **01 23 54.2 -0.7**
SUDU *i* S **Sn** **01 24 59.8 -1.9**
SUDU pmax pmax
comp=Z,1.0nm,0.3s
SUDU smax
comp=N,28nm,0.5s
SUDU smax
comp=E,7.0nm,0.3s
SUDU Sudak 5.96 95 *e*P **Pn** **01 23 54.2 -0.7**
comp=E,1.0nm,0.3s
VYHS Vyhne 6.02 301 *e*PN **Pn** **01 23 56.0 +0.4**
VYHS Vyhne 6.02 301 *e*Pn **Pn** **01 23 56.1 +0.5**
SAFT Safranbolu 6.26 133 *e*P **Pn** **01 24 03.9 +4.9**
BALT Daday 6.42 128 *i P* **Pn** **01 24 00.9 -0.3**
ESKT Eskisehir 6.90 152 *i P* **Pn** **01 24 04.2 -3.6**
ELDT Eldivan 7.19 134 *i P* **Pn** **01 24 08.4 -3.2**
BOYT Boyabat 7.37 122 *i P* **Pn** **01 24 13.2 -0.8**
CDAG Cicekdag 8.32 134 *e*P **Pn** **01 24 26.1 -0.8**
GERES GERESS Array B 9.34 294 P **Pn** **01 24 39.6 -1.1**
comp=E,0.1nm,0.3s,baz=114,slow=13,SNR=4.1
IDI Anoyia 10.47 188 LR LR 01 29 40.8
comp=E,52nm,19.4s,baz=352,slow=41
OBN Obninsk 11.36 30 *e*P **Pn** **01 25 08.9 +1.1**
OBN pmax pmax
comp=Z,4.0nm,0.7s
OBN Obninsk 11.36 30 *e*P **Pn** **01 25 08.9 +1.1**
comp=Z,4.0nm,0.7s
KIV Kislovodsk 11.54 93 *e*P **Pn** **01 25 12.0 +1.7**
KIV pmax pmax
comp=Z,6.0nm,1.2s
KIV Kislovodsk 11.54 93 *e*P **Pn** **01 25 12.0 +1.7**
comp=Z,6.0nm,1.2s
MMAI Mount Meron Ar 14.35 149 P **Pn** **01 25 52.7 +5.6**
comp=Z,0.2nm,0.3s,baz=3.5,slow=26,SNR=2.9
FINES FINESS Array B 15.79 359 *i P* **Pn** **01 26 04.9 0.0**
FINES pmax pmax
comp=Z,5.0nm,0.9s
FINES FINESS Array B 15.79 359 P **Pn** **01 26 03.7 -1.2**
comp=Z,0.3nm,0.3s,baz=174,slow=9.1,SNR=8.4
FINES FINESS Array B 15.79 359 *i P* **Pn** **01 26 04.9 0.0**
comp=Z,5.0nm,0.9s
HFS Hagfors 16.39 337 P **Pn** **01 26 12.4 +0.1**
comp=Z,0.2nm,0.3s,baz=150,slow=13,SNR=5.9
KAF Kangasniemi 16.46 359 *e*p **Pn** **01 26 13.4 +0.2**
comp=Z,6.3nm,0.6s
KAF Kangasniemi 16.46 359 *e*P **Pn** **01 26 13.4 +0.2**
KAF pmax pmax
comp=Z,6.0nm,0.6s
NOA NORSAR Array B 17.84 335 P **Pn** **01 26 28.1 -1.9**
comp=Z,0.2nm,0.3s,baz=136,slow=11,SNR=2.7
EKA Eskdalemuir Ar 21.11 308 P **P** **01 27 04.2 -0.4**
EKA pmax pmax
comp=Z,1.0nm,0.8s
EKA Eskdalemuir Ar 21.11 308 P **P** **01 27 04.2 -0.4**
comp=Z,0.7nm,0.8s,mb3.0,baz=103,slow=9.5,SNR=3.4
AKTO Aktyubinsk 21.41 66 pP pP 01 27 30.0 +1.3
comp=Z,0.6nm,0.5s,baz=24,slow=3.9,SNR=2.6
ESDC Sonseca Array 23.19 266 P **P** **01 27 24.9 -1.1**
comp=Z,0.4nm,0.4s,mb3.1,baz=65,slow=9.7,SNR=4.6
ARCES ARCESS Array B 23.92 359 P **P** **01 27 33.8 +1.4**
ARCES pmax pmax
comp=Z,5.0nm,1.0s
ARCES ARCESS Array B 23.92 359 P **P** **01 27 33.8 +1.4**
comp=Z,5.3nm,1.0s,mb3.8,baz=172,slow=9.6,SNR=4.1
ZALV Zalesovo Beam 37.47 56 pP pP 01 29 57.4 +0.9
comp=Z,0.4nm,0.4s,baz=270,slow=3.0,SNR=2.7
TORD Torodi Ar. Bea 38.71 221 P **P** **01 29 43.0 +0.7**
comp=Z,0.7nm,0.6s,mb3.7,baz=26,slow=8.6,SNR=14
TORD pP pP 01 30 07.9 +0.6
comp=Z,0.5nm,0.5s,baz=27,slow=8.6,SNR=3.4
DBIC Dimbokro 47.46 225 P **P** **01 30 52.9 +0.1**
DBIC pmax pmax
comp=Z,1.0nm,0.3s
DBIC Dimbokro 47.46 225 P **P** **01 30 52.9 0.0**
comp=Z,1.3nm,0.3s,mb4.1,baz=12,slow=8.1,SNR=16
SONM Songino Array 52.34 57 P **P** **01 31 32.8 +3.4**
comp=Z,0.2nm,0.6s,mb3.4,baz=353,slow=10,SNR=2.6
YKA Yellowknife Ar 67.80 342 P **P** **01 33 14.5 -0.1**
comp=Z,0.1nm,0.4s,mb3.0,baz=29,slow=5.6,SNR=3.0

IDC 05 01:24:48.8±7.7, 738S×15725E, h0km, mb3.9/4, mb1 4.0/4, mb1mx3.7/14, mbtmp3.9/4, Error ellipse: s-maj=230.5km s-min=39.2km az=115.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**25.48**	**238**	P	P	01 30 18.8	0.0
1.3nm,0.7s,baz=64,slow=9.8,SNR=3.3							
SONM	**Songino Array**	**70.88**	**326**	P	P	01 36 08.2	+0.6
0.4nm,0.7s,baz=127,slow=5.2,SNR=4.3							
MKAR	**Makanchi Array**	**85.17**	**318**	P	P	01 37 27.4	+0.3
1.1nm,0.7s,baz=97,slow=6.6,SNR=9.2							
ZALV	**Zalesovo Beam**	**85.75**	**326**	P	P	01 37 29.1	-0.7
0.9nm,0.5s,baz=92,slow=6.4,SNR=4.3							

IDC 05 01:26:12.3±5.1, 757S×15554E, h0km, mb3.9/4, mb1 4.1/4, mb1mx3.8/14, mbtmp3.9/4, MS4.1/1, Ms1 4.1/1, ms1mx3.0/23, Error ellipse: s-maj=138.4km s-min=34.5km az=117.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.95**	**237**	P	P	01 31 28.8	+0.4
2.5nm,0.8s,baz=64,slow=9.9,SNR=6.1							
MJAR	**Matsushiro Arr**	**46.79**	**341**	P	P	01 34 43.0	-0.7
2.5nm,0.6s,baz=165,slow=8.2,SNR=6.4							
SONM	**Songino Array**	**70.10**	**327**	P	P	01 37 27.2	+0.8
0.6nm,0.6s,baz=141,slow=6.9,SNR=5.5							
MKAR	**Makanchi Array**	**84.19**	**319**	P	P	01 38 45.2	-0.4
0.4nm,0.6s,baz=96,slow=6.8,SNR=3.7							

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*IDC **05** 01:26:25.5±0.9, 772S×15563E, h0km, mb4.2/10, mb1 4.3/10, mb1mx4.3/14, mbtmp4.2/10, MS3.2/2, Ms1 3.2/2, ms1mx2.9/24, Error ellipse: s-maj=32.2km s-min=19.8km az=104.0*
*NEIC **05** 01:26:27.0±0.5, 775S×15565E, h10km, Error ellipse: s-maj=19.5km s-min=10.9km az=111.0*
*ISCJB **05** 01:26:29.0±0.7, 78S±01×1557E±02, h33km, mb4.3/14, Error ellipse: s-maj=24.8km s-min=14.1km az=19.1*
ISC 05 01:26:31.0±0.7, 78S±01×1557E±02, h35km, n26, σ0§46/21, mb4.3/14, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.53**	**111**	LR	LR	01 28 29.4	
comp=Z,122nm,20.8s,baz=182,slow=27							
CTA	**Charters Tower**	**15.25**	**216**	LR	LR	01 34 58.7	
comp=Z,242nm,21.8s,baz=49,slow=34							
WRA	**Warramunga Arr**	**23.93**	**238**	P	**P**	**01 31 42.3**	**+0.3**
2.6nm,0.8s,mb3.7,baz=62,slow=10,SNR=8.7							
ASAR	**Alice Springs**	**26.16**	**230**	P	**P**	**01 32 01.5**	**-0.7**
3.3nm,0.8s,mb3.9,baz=64,slow=8.4,SNR=16							
STKA	**Stephens Creek**	**27.31**	**207**	P	**P**	**01 32 12.7**	**+0.2**
4.1nm,1.0s,mb3.9,baz=28,slow=16,SNR=4.5							
KSRS	**Korea Array**	**51.95**	**332**	P	**P**	**01 35 36.2**	**-0.4**
0.8nm,0.3s,mb4.2,baz=147,slow=7.9,SNR=6.3							
VNDA	**Vanda**	**69.77**	**179**	P	**P**	**01 37 37.2**	**0.0**
VNDA	**Vanda**	**69.77**	**179**	P	**P**	**01 37 37.2**	**0.0**
1.0nm,0.9s,mb3.7,baz=326,slow=4.6,SNR=4.3							
SONM	**Songino Array**	**70.36**	**327**	P	**P**	**01 37 40.7**	**-0.5**
0.6nm,0.4s,mb3.9,baz=144,slow=6.6,SNR=6.8							
YAK	**Yakutsk**	**72.47**	**347**	*e*P	**P**	**01 37 54.3**	**+0.7**
43nm,1.4s,mb5.2							
JIRN	**Jiri**	**75.76**	**301**	*e*P	**P**	**01 38 14.3**	**+0.7**
BILL	**Bilibino**	**76.02**	**4**	*e*P	**P**	**01 38 14.4**	**+0.2**
18nm,1.1s,mb4.9							
KKN	**Kakani**	**76.57**	**301**	*e*P	**P**	**01 38 19.0**	**+0.8**
GKN	**Gorkha**	**77.18**	**301**	*e*P	**P**	**01 38 21.7**	**0.0**
3.5nm,0.3s,mb4.8							
KOLN	**Koldanda**	**78.00**	**300**	*e*P	**P**	**01 38 26.3**	**+0.1**
16nm,0.9s,mb4.9							
MK31	**Makanchi Array**	**84.44**	**319**	*e*P	**P**	**01 39 00.1**	**0.0**
MKAR	**Makanchi Array**	**84.44**	**319**	P	**P**	**01 38 59.7**	**-0.3**
MKAR	**Makanchi Array**	**84.44**	**319**	P	**P**	**01 38 59.7**	**-0.3**
5.4nm,0.7s,mb4.8,baz=105,slow=5.5,SNR=31							
ZALV	**Zalesovo Beam**	**85.21**	**326**	P	**P**	**01 39 02.7**	**-1.0**
ZALV	**Zalesovo Beam**	**85.21**	**326**	P	**P**	**01 39 02.7**	**-1.0**
3.5nm,0.7s,mb4.6,baz=110,slow=5.6,SNR=12							
NVAR	**Mina Array Bea**	**91.69**	**52**	P	**P**	**01 39 35.0**	**-0.1**
0.3nm,0.7s,mb3.7,baz=246,slow=7.8,SNR=2.8							
YKA	**Yellowknife Ar**	**96.73**	**28**	P	**P**	**01 39 57.5**	**0.0**
YKA	**Yellowknife Ar**	**96.73**	**28**	P	**P**	**01 39 57.5**	**0.0**
1.0nm,0.8s,mb4.3,baz=268,slow=4.6,SNR=12							
BDFB	**Brasilia**	**146.95**	**135**	PKPbc	PKPbc	01 46 11.5	+0.6
3.3nm,0.8s,baz=143,slow=4.1,SNR=5.2							
TORD	**Torodi Ar. Bea**	**153.87**	**284**	PKPbc	PKPbc	01 46 26.9	-0.8
TORD				PKPab	PKPab	01 46 41.0	+0.1
TORD	**Torodi Ar. Bea**	**153.87**	**284**	PKPbc	PKPbc	01 46 26.9	-0.8
1.4nm,1.1s,baz=124,slow=1.6,SNR=4.7							
TORD				PKPab	PKPab	01 46 41.0	+0.1
0.9nm,1.0s,baz=77,slow=2.9,SNR=4.1							

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*IDC **05** 01:34:12.0±1.2, 708S×15533E, h0km, mb4.1/9, mb1 4.2/9, mb1mx4.1/14, mbtmp4.1/9, MS4.3/1, Ms1 4.3/1, ms1mx3.1/22, Error ellipse: s-maj=41.6km s-min=20.3km az=110.0*
*NEIC **05** 01:34:14.9±0.9, 687S×15506E, h10km, mb4.3/3, Error ellipse: s-maj=32.9km s-min=12.7km az=124.0*
*ISCJB **05** 01:34:16.7±1.1, 70S±01×1552E±02, h33km, mb4.0/10, MS4.3/1, Error ellipse: s-maj=35.5km s-min=13.3km az=30.5*
ISC 05 01:34:18.6±1.1, 70S±01×1551E±02, h35km, n19, σ0§80/16, mb4.0/10, MS4.3/1, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**23.04**	**254**	*e*P	**P**	**01 39 21.4**	**+0.4**
WRAB	**Tennant Creek**	**23.91**	**235**	*e*P	**P**	**01 39 30.1**	**+0.8**
8.7nm,1.1s,mb4.1							
WB2	**Warramunga Arr**	**23.91**	**235**	*e*P	**P**	**01 39 29.9**	**+0.5**
WB2	**Warramunga Arr**	**23.91**	**235**	*e*P	**P**	**01 39 29.7**	**+0.3**
WRA	**Warramunga Arr**	**23.92**	**235**	P	**P**	**01 39 29.7**	**+0.2**
4.6nm,0.9s,mb3.9,baz=63,slow=9.5,SNR=9.3							
ASAR	**Alice Springs**	**26.27**	**229**	P	**P**	**01 39 50.2**	**-0.6**
1.3nm,0.6s,mb3.6,baz=57,slow=9.8,SNR=21							
STKA	**Stephens Creek**	**27.80**	**205**	*e*P	**P**	**01 40 06.0**	**+1.5**
5.0nm,0.9s,mb4.1							
STKA	**Stephens Creek**	**27.80**	**205**	P	**P**	**01 40 03.8**	**-0.7**
5.3nm,0.8s,mb4.2,baz=35,slow=12,SNR=13							
FITZ	**Fitzroy Crossi**	**30.76**	**246**	*e*P	**P**	**01 40 29.0**	**-2.0**
6.8nm,1.1s,mb4.4							
FITZ	**Fitzroy Crossi**	**30.76**	**246**	P	**P**	**01 40 29.2**	**-1.7**
3.3nm,0.8s,mb4.2,baz=200,slow=8.9,SNR=3.9							
RAR	**Rarotonga**	**45.82**	**113**	LR	LR	01 56 36.7	
comp=Z,354nm,19.5s,MS4.3,baz=223,slow=30							
KSRS	**Korea Array**	**50.97**	**332**	P	**P**	**01 43 17.0**	**+0.1**
0.7nm,0.3s,mb4.1,baz=132,slow=6.7,SNR=4.0							
SONM	**Songino Array**	**69.38**	**327**	P	**P**	**01 45 23.8**	**+1.0**
1.4nm,0.9s,mb3.9,baz=137,slow=6.6,SNR=11							
IMA2	**Indian Mountai**	**81.75**	**19**	*e*P	**P**	**01 46 33.7**	**+0.4**
MKAR	**Makanchi Array**	**83.46**	**319**	P	**P**	**01 46 42.7**	**0.0**
0.4nm,0.4s,mb3.8,baz=104,slow=4.6,SNR=4.7							
ZALV	**Zalesovo Beam**	**84.22**	**326**	P	**P**	**01 46 45.3**	**-1.0**
0.3nm,0.4s,mb3.8,baz=68,slow=3.9,SNR=3.0							
YKA	**Yellowknife Ar**	**96.27**	**28**	P	**P**	**01 47 42.6**	**-0.5**
0.7nm,0.9s,mb4.1,baz=263,slow=4.6,SNR=6.9							
BDFB	**Brasilia**	**147.92**	**135**	PKPbc	PKPbc	01 53 57.6	-3.5
1.0nm,0.6s,baz=290,slow=8.2,SNR=2.3							
TORD	**Torodi Ar. Bea**	**153.12**	**285**	PKPbc	PKPbc	01 54 13.1	-0.6
0.4nm,0.8s,baz=64,slow=3.4,SNR=2.9							
TORD				PKPab	PKPab	01 54 24.9	-0.4
0.7nm,0.7s,baz=78,slow=2.9,SNR=4.7							

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*IDC **05** 01:35:59.4±1.6, 687S×15503E, h0km, mb4.1/8, mb1 4.3/9, mb1mx4.1/15, mbtmp4.1/9, ML3.7/1, MS3.7/5, Ms1 3.7/5, ms1mx3.5/18, Error ellipse: s-maj=56.3km s-min=21.4km az=113.0*
*NEIC **05** 01:36:00.6±1.1, 693S×155.11E, h10km, mb4.5/2, Error ellipse: s-maj=38.1km s-min=12.9km az=115.0*
*ISCJB **05** 01:36:02.8±1.3, 70S±02×155.1E±03, h33km, mb4.0/9, MS3.6/3, Error ellipse: s-maj=42.0km s-min=14.4km az=25.0*
ISC 05 01:36:04.7±1.3, 70S±02×1551E±03, h35km, n15, σ0§86/12, mb4.0/9, MS3.6/3, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.42**	**117**	LR	LR	01 39 21.6	
comp=Z,923nm,18.9s,baz=355,slow=37							
CTA	**Charters Tower**	**15.59**	**212**	Pn	**Pn**	**01 39 40.3**	**-1.6**
0.2nm,0.3s,baz=60,slow=20,SNR=2.0							
CTA				LR	LR	01 44 02.6	
comp=Z,175nm,21.8s,baz=48,slow=31							
GUMO	**Guam**	**22.80**	**334**	LR	LR	01 48 21.0	
comp=Z,128nm,18.4s,MS3.4,baz=151,slow=33							
WRAB	**Tennant Creek**	**23.87**	**235**	*e*P	**P**	**01 41 15.9**	**+0.7**
26nm,1.2s,mb4.5							
WB2	**Warramunga Arr**	**23.87**	**235**	*e*P	**P**	**01 41 15.4**	**+0.2**
WRA	**Warramunga Arr**	**23.88**	**235**	P	**P**	**01 41 15.6**	**+0.4**
10.0nm,1.1s,mb4.2,baz=61,slow=9.4,SNR=8.6							
WRA				LR	LR	01 50 05.6	
comp=Z,157nm,19.3s,MS3.5,baz=65,slow=35							
ASAR	**Alice Springs**	**26.23**	**228**	P	**P**	**01 41 35.7**	**-0.9**
1.8nm,0.8s,mb3.6,baz=65,slow=8.7,SNR=6.8							
STKA	**Stephens Creek**	**27.78**	**205**	*e*P	**P**	**01 41 51.9**	**+1.5**
5.6nm,0.9s,mb4.2							
STKA	**Stephens Creek**	**27.78**	**205**	P	**P**	**01 41 52.0**	**+1.6**
7.6nm,0.9s,mb4.3,baz=33,slow=12,SNR=8.4							
STKA				LR	LR	01 52 58.4	
comp=Z,224nm,18.7s,MS3.8,baz=24,slow=37							
FITZ	**Fitzroy Crossi**	**30.72**	**246**	P	**P**	**01 42 16.9**	**+0.2**
2.0nm,0.8s,mb4.0,baz=77,slow=5.2,SNR=3.7							
SONM	**Songino Array**	**69.35**	**327**	P	**P**	**01 47 09.1**	**+0.3**
1.4nm,0.8s,mb3.9,baz=141,slow=5.6,SNR=8.2							
MKAR	**Makanchi Array**	**83.43**	**319**	P	**P**	**01 48 29.0**	**+0.4**
0.5nm,0.5s,mb3.8,baz=126,slow=4.4,SNR=2.9							
ZALV	**Zalesovo Beam**	**84.20**	**326**	P	**P**	**01 48 31.1**	**-1.3**
0.4nm,0.4s,mb3.9,baz=151,slow=3.1,SNR=2.7							
YKA	**Yellowknife Ar**	**96.29**	**28**	P	**P**	**01 49 29.1**	**-0.1**
0.6nm,0.7s,mb4.1,baz=266,slow=4.4,SNR=8.0							
TORD	**Torodi Ar. Bea**	**153.08**	**285**	PKPbc	PKPbc	01 55 58.6	-1.1
0.4nm,0.7s,baz=92,slow=1.8,SNR=5.1							
TORD				PKPab	PKPab	01 56 11.0	-0.2
0.8nm,0.9s,baz=78,slow=3.1,SNR=6.3							

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*CSEM **05** 01:38:34.9, 3828N×2047E, h11km, MD3.5/4, After ATH*
*NEIC **05** 01:38:34.9, 3828N×2047E, h11km, MD3.5(ATH), After ATH.*
ATH 05 01:38:34.9, 3828N×2047E, h11km±4km, MD3.5/4, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.14**	**137**	*e*PG	Pg	01 38 38.4	+0.2
VLS				*e*SG	Sg	01 38 41.7	+1.3
EVR	**Evrytania**	**1.23**	**58**	*e*PN	Pn	01 38 57.7	-0.3
KEK	**Kerkira**	**1.52**	**340**	*e*PB	Pb	01 39 03.8	+0.6
KEK				*e*SB	Sb	01 39 24.3	+1.8
ITM	**Ithomi**	**1.59**	**133**	*e*PG	Pg	01 39 04.3	-1.2
THL	**Klokotos Trika**	**1.76**	**43**	*e*PG	Pg	01 39 08.5	-0.2
LKR	**Lokris**	**2.02**	**79**	*e*PN	Pn	01 39 10.4	+1.5

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*ISCJB **05** 01:50:46.0±0.4, 6207S±006×563W±0.1, h10km, mb4.4/21, MS4.0/10, Error ellipse: s-maj=10.2km s-min=7.6km az=33.3*
*IDC **05** 01:50:45.4±0.6, 6201S×5631W, h0km, mb4.4/13, mb1 4.5/14, mb1mx4.4/16, mbtmp4.4/14, ML5.0/1, MS3.9/12, Ms1 3.9/12, ms1mx3.8/21, Error ellipse: s-maj=21.0km s-min=13.6km az=87.0*
*NEIC **05** 01:50:47.1±0.3, 6206S×5650W, h10km, mb4.7/10, Error ellipse: s-maj=11.9km s-min=9.1km az=91.0*
*BJI **05** 01:50:48.2, 62.10S×5650W, h10km*
ISC 05 01:50:47.8±5.7, 6207S±006×564W±02, h12km±35km, n57, σ1§09/38, mb4.4/21, MS4.0/10, 2D, South Shetland Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMSA	**Palmer Station**	**4.38**	**228**	Pn	**Pn**	**01 51 53.6**	**-0.4**
6.8nm,0.3s,baz=52,slow=8.9,SNR=22							
PMSA				Sn	**Sn**	**01 52 48.1**	**+3.3**
8.6nm,0.3s,baz=150,slow=19,SNR=3.9							
PMSA				LR	LR	01 53 33.6	
comp=Z,454nm,20.3s,baz=353,slow=38							
USHA	**Ushuaia**	**9.60**	**314**	LR	LR	01 56 11.0	
comp=Z,1μm,18.9s,baz=218,slow=34							
SNAA	**Sanae**	**22.27**	**138**	P	**P**	**01 55 44.4**	**+0.2**
5.6nm,0.9s,mb4.0,baz=256,slow=8.0,SNR=35							
SNAA				LR	LR	02 02 57.2	
comp=Z,194nm,20.1s,MS3.5,baz=160,slow=33							
PLCA	**Paso Flores**	**23.02**	**332**	*e*P	**P**	**01 55 52.2**	**-0.1**
5.4nm,1.0s,mb3.9							
PLCA	**Paso Flores**	**23.02**	**332**	P	**P**	**01 55 52.2**	**-0.2**
4.8nm,0.9s,mb3.9,baz=149,slow=9.9,SNR=8.9							
PLCA				LR	LR	02 04 50.3	
comp=Z,445nm,21.8s,MS3.9,baz=159,slow=37							
TRQA	**Tornquist**	**24.29**	**349**	*e*P	**P**	**01 56 04.7**	**0.0**
14nm,0.8s,mb4.5							
MAIT	**Maitri**	**27.06**	**137**	*e*P	**P**	**01 56 28.9**	**-0.6**
QSPA	**South Pole Qui**	**28.16**	**180**	*e*P	**P**	**01 56 40.5**	**+1.2**
47nm,0.7s,mb5.2							
QSPA	**South Pole Qui**	**28.16**	**180**	P	**P**	**01 56 40.3**	**+1.0**
19nm,0.8s,mb4.8,baz=158,slow=4.5,SNR=19							
SYO	**Syowa Base**	**36.36**	**143** ⇓*e*P	P	**P**	**01 57 50.4**	**-0.7**
SYO	**Syowa Base**	**36.36**	**143** ⇓*e*P	P	**P**	**01 57 55.6**	**+4.5**
SBA	**Scott Base**	**37.87**	**194**	P	**P**	**01 58 02.4**	**-1.3**
VNDA	**Vanda**	**38.68**	**192**	P	**P**	**01 58 12.8**	**+2.2**
VNDA	**Vanda**	**38.68**	**192**	P	**P**	**01 58 12.4**	**+1.9**
0.8nm,0.9s,mb3.4,baz=190,slow=4.2,SNR=2.4							
MAW	**Mawson**	**43.39**	**151**	P	**P**	**01 58 50.6**	**+1.2**
7.6nm,1.0s,mb4.4,baz=191,slow=5.2,SNR=5.0							
MAW				LR	LR	02 16 27.3	
comp=Z,685nm,18.0s,MS4.6

LSZ Lusaka 74.11 93 *eP* **P 02 02 24.6 +1.0**
7.6nm,1.0s,mb4.6
DBIC Dimbokro 79.10 52 P **P 02 02 51.5 -0.4**
3.8nm,0.7s,mb4.5,baz=201,slow=5.4,SNR=7.6
DBIC LR LR 02 31 50.2
comp=Z,54nm,21.5s,MS3.9,baz=221,slow=31
CCCC Cccc 84.72 340 *eP* **P 02 03 22.0 +0.8**
STKA Stephens Creek 85.26 195 P **P 02 03 23.2 -0.9**
STKA Stephens Creek 85.26 195 P **P 02 03 22.7 -1.3**
1.2nm,0.5s,mb4.3,baz=180,slow=11,SNR=2.8
TORD Torodi Ar. Bea 87.53 56 P **P 02 03 34.8 -0.4**
2.0nm,0.5s,mb4.6,baz=205,slow=5.1,SNR=55
TORD LR LR 02 34 01.9
comp=Z,66nm,19.3s,MS4.1,baz=155,slow=30
KMBO Kilima Mbogo 90.73 94 *eP* **P 02 03 50.6 +0.2**
1.2nm,0.8s,mb4.3
ASAR Alice Springs 94.16 189 P **P 02 04 04.8 -1.4**
0.8nm,0.8s,mb4.2,baz=166,slow=4.7,SNR=6.6
WB2 Warramunga Arr 97.82 190 P **P 02 04 21.2 -1.6**
WRA Warramunga Arr 97.82 190 P **P 02 04 21.4 -1.5**
0.6nm,0.3s,mb4.5,baz=180,slow=4.2,SNR=5.2
WRAB Tennant Creek 97.83 190 *eP* **P 02 04 21.5 -1.5**
1.3nm,0.5s,mb4.7
TXAR Lajitas Array 98.69 320 P **P 02 04 29.6 +3.3**
TXAR LR LR 02 42 03.2
TXAR Lajitas Array 98.69 320 P **P 02 04 29.6 +3.3**
0.2nm,0.6s,mb3.9,baz=109,slow=6.8,SNR=3.0
TXAR LR LR 02 42 03.2
comp=Z,83nm,19.7s,MS4.2,baz=5.0,slow=31
GERES GERESS Array B 123.81 48 PKP PKPdf 02 09 42.3 -1.9
0.7nm,0.8s,baz=211,slow=1.6,SNR=4.3
YKA Yellowknife Ar 131.78 328 PKP PKPdf 02 09 58.0 -0.9
YKA Yellowknife Ar 131.78 328 PKP PKPdf 02 09 58.0 -0.9
0.8nm,0.6s,baz=155,slow=1.9,SNR=24
ARCES ARCESS Array B 143.37 36 PKhKP 02 10 15.7
2.7nm,0.5s,baz=228,slow=2.2,SNR=23
AKTK Aktyubinsk 143.39 78 PKP PKPdf 02 10 15.7 -5.0
AKTO Aktyubinsk 143.39 78 PKhKP 02 10 15.7
baz=190,slow=4.2
SVW2 Sparrevohn 143.87 306 PKPdf PKPdf 02 10 22.4 +1.2
AML Almayashu 144.60 101 *e*PKPdf PKPdf 02 10 21.9 -1.3
UCH Uchtor 145.06 101 *e*PKP PKPdf 02 10 24.0 +0.2
TTA Tatalina 145.13 308 *e*PKP PKPdf 02 10 22.9 -0.4
IMA2 Indian Mountai 146.09 314 *e*PKPdf PKPdf 02 10 25.9 +1.1
XAN Xi'an 150.43 155 PKP PKPbc 02 10 37.9 -0.4
MK31 Makanchi Array 152.13 104 *e*PKPbc PKPbc 02 10 40.3 -1.6
MKAR Makanchi Array 152.13 104 PKPbc PKPbc 02 10 40.8 -1.0
3.0nm,0.9s,baz=243,slow=2.3,SNR=14
GTA Gaotai 153.08 136 *e*PKP PKPdf 02 10 39.3 +2.5
GTA APKP 02 10 43.6
GTA XPKP 02 10 46.7
KURK Kurchatov 153.22 94 PKPdf PKPdf 02 10 36.1 -0.5
KURK *e*PKPbc PKPbc 02 10 43.1 -1.0
ZALV Zalesovo Beam 158.21 94 PKPab PKPab 02 11 14.8 -2.6
0.6nm,0.3s,baz=243,slow=1.6,SNR=2.5
MDJ Mudanjiang 162.16 194 PKP PKPdf 02 10 44.4 -3.5
SONM Songino Array 162.74 138 PKPab PKPab 02 11 36.4 -0.8
0.8nm,0.8s,baz=207,slow=4.5,SNR=6.3

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*ISCJB **05** 01:52:38.5±0.6,3843N±005×3927E±003,h7km±6km, Error ellipse: s-maj=8.6km s-min=4.4km az=3.2*
*CSEM **05** 01:52:38.3±0.1,3840N×3924E,h5km,MD3.0,Error ellipse: s-maj=2.2km s-min=1.4km az=177.0*
*ISK **05** 01:52:38.3,3842N×3924E,h4km,MD3.0*
*DDA **05** 01:52:39.0,3844N×3931E,h6km±1km,Md3.0*
ISC 05 01:52:39.1±0.6,**3844N**±005×**3926E**±004,**h11**km±5km,**n11**, σ0§**67**/**18**,**Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ELZG	**Elazig**	**0.23**	**286**	*i* P	**Pg**	**01 52 44.0**	**+0.1**
ELZG				*i* S	**Sg**	**01 52 47.5**	**+0.5**
MALT	**Malatya**	**0.67**	**260**	PG	**Pg**	**01 52 50.6**	**-1.4**
MALT				SG	**Sg**	**01 53 00.7**	**-0.1**
MYA	**Malataya**	**0.67**	**261**	PG	**Pg**	**01 52 51.2**	**-0.8**
MYA				SG	**Sg**	**01 53 01.5**	**+0.8**
DIY	**Diyarbakir**	**0.93**	**125**	PG	**Pg**	**01 52 56.8**	**-0.3**
DIY				SG	**Sg**	**01 53 10.4**	**+1.1**
URFA	**Urfa**	**1.05**	**199**	PG	**Pg**	**01 52 59.1**	**-0.3**
BINT	**Bingol**	**1.06**	**65**	*e*PG	**Pg**	**01 52 59.7**	**+0.2**
ATAB	**Bozova**	**1.23**	**219**	*i* P	**Pn**	**01 53 01.6**	**-0.6**
ATAB				*i* S	**Sb**	**01 53 18.3**	**+0.1**
EZC	**Erzincan**	**1.38**	**18**	*e*PN	**Pn**	**01 53 04.7**	**+0.4**
MARD	**Mardin**	**1.64**	**133**	*i* P	**Pn**	**01 53 07.4**	**-0.5**
MARD				*i* S	**Sn**	**01 53 28.6**	**-0.4**
GZT	**Gaziantep**	**1.72**	**232**	*i* P	**Pn**	**01 53 08.8**	**-0.2**
GZT				*i* S	**Sn**	**01 53 32.4**	**+1.5**
BTMT	**Batman**	**1.77**	**97**	*e*PN	**Pn**	**01 53 09.6**	**-0.1**

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*IDC **05** 02:06:43.1±0.7,7.10S×15533E,h0km,mb4.3/11, mb1 4.4/11,mb1mx4.3/15,mbtmp4.2/11,MS3.7/7, Ms1 3.7/7,ms1mx3.5/22,Error ellipse: s-maj=29.9km s-min=18.4km az=109.0*
*NEIC **05** 02:06:44.6±0.3,7.09S×15532E,h10km,mb4.6/10,Error ellipse: s-maj=15.2km s-min=7.6km az=131.0*
*ISCJB **05** 02:06:47.0±0.5,7.1S±01×1553E±01,h33km,mb4.3/19, MS3.8/6,Error ellipse: s-maj=21.3km s-min=9.7km az=38.8*
ISC 05 02:06:48.8±0.5,**71S**±01×**1552E**±01,**h35**km,**n37**,σ0§**62**/**28**, **mb4.3**/19,**MS3.8**/6,**1D**,**Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.21**	**117**	LR	LR	02 09 12.3	
	comp=Z,166nm,18.4s,baz=85,slow=29						
CTA	**Charters Tower**	**15.61**	**213**	*e*P	**Pn**	**02 10 29.6**	**+3.4**
	16nm,0.9s						
CTA	**Charters Tower**	**15.61**	**213**	Pn	**Pn**	**02 10 28.4**	**+2.1**
	0.2nm,0.3s,baz=36,slow=12,SNR=9.2						
CTAO	**Charters Tower**	**15.61**	**213**	*e*P	**Pn**	**02 10 32.3**	**+6.1**
	26nm,1.1s						
GUMO	**Guam**	**22.96**	**333**	LR	LR	02 18 57.0	
	comp=Z,161nm,21.4s,MS3.4,baz=87,slow=32						
KAKA	**Kakadu**	**23.15**	**254**	*e*P	**P**	**02 11 51.8**	**-0.5**
	11nm,0.6s,mb4.5						
WRAB	**Tennant Creek**	**23.97**	**236**	*e*P	**P**	**02 12 00.2**	**+0.1**
	28nm,1.1s,mb4.6						
WB2	**Warramunga Arr**	**23.97**	**236**	⇓*i*P	**P**	**02 12 00.3**	**+0.1**
WB2	**Warramunga Arr**	**23.97**	**236**	*e*P	**P**	**02 12 00.7**	**+0.6**
WRA	**Warramunga Arr**	**23.98**	**236**	P	**P**	**02 12 00.7**	**+0.4**
	14nm,0.9s,mb4.4,baz=63,slow=9.3,SNR=29						
WRA				LR	LR	02 21 12.2	
	comp=Z,142nm,18.3s,MS3.5,baz=60,slow=36						
ASAR	**Alice Springs**	**26.31**	**229**	P	**P**	**02 12 21.5**	**+0.1**
	3.8nm,0.9s,mb3.9,baz=61,slow=8.8,SNR=28						
STKA	**Stephens Creek**	**27.78**	**206**	P	**P**	**02 12 33.9**	**-0.6**
	11nm,0.8s,mb4.5,baz=27,slow=12,SNR=19						
STKA				LR	LR	02 23 43.3	
	comp=Z,340nm,19.5s,MS3.9,baz=29,slow=37						
FITZ	**Fitzroy Crossi**	**30.85**	**246**	*e*P	**P**	**02 13 01.9**	**0.0**
	10nm,0.9s,mb4.7						
MBWA	**Marble Bar**	**37.07**	**244**	*e*P	**P**	**02 13 55.7**	**-0.2**
	3.9nm,0.8s,mb4.3						
JNU	**Nakatsue**	**46.19**	**331**	LR	LR	02 30 45.4	
	comp=Z,70nm,19.7s,MS3.6,baz=39,slow=31						
KSRS	**Korea Array**	**51.12**	**332**	LR	LR	02 34 09.5	
	comp=Z,65nm,19.8s,MS3.6,baz=261,slow=32						
SONM	**Songino Array**	**69.53**	**327**	P	**P**	**02 17 55.2**	**+1.3**
	2.6nm,0.9s,mb4.2,baz=137,slow=6.3,SNR=20						
SHL	**Shillong**	**69.54**	**300**	*e*P	**P**	**02 17 48.0**	**-6.5**
VNDA	**Vanda**	**70.50**	**178**	P	**P**	**02 17 58.9**	**-0.6**
	1.3nm,0.9s,mb3.9,baz=305,slow=5.3,SNR=5.3						
BILL	**Bilibino**	**75.33**	**4**	*e*P	**P**	**02 18 28.7**	**+0.6**
	8.3nm,1.0s,mb4.6						
MCK	**McKinley**	**82.03**	**22**	*e*P	**P**	**02 19 04.8**	**-0.2**
	7.8nm,0.9s,mb4.6						
QSPA	**South Pole Qui**	**82.91**	**180**	P	**P**	**02 19 09.2**	**-0.2**
QSPA	**South Pole Qui**	**82.91**	**180**	P	**P**	**02 19 09.2**	**-0.2**
	4.5nm,1.0s,mb4.4,baz=77,slow=2.3,SNR=7.3						
COLA	**College**	**83.06**	**21**	*e*P	**P**	**02 19 10.0**	**-0.3**
	4.0nm,0.8s,mb4.5						
MK31	**Makanchi Array**	**83.62**	**319**	*e*P	**P**	**02 19 12.9**	**-0.8**
MKAR	**Makanchi Array**	**83.62**	**319**	P	**P**	**02 19 13.1**	**-0.5**
	0.9nm,0.6s,mb4.0,baz=100,slow=6.3,SNR=7.5						
ZALV	**Zalesovo Beam**	**84.38**	**326**	P	**P**	**02 19 16.7**	**-0.6**
	0.9nm,0.6s,mb4.1,baz=100,slow=3.4,SNR=3.4						
MAW	**Mawson**	**84.43**	**203**	LR	LR	02 55 13.0	
	comp=Z,172nm,18.5s,MS4.5,baz=70,slow=34						
EGAK	**Eagle**	**85.48**	**23**	*e*P	**P**	**02 19 23.1**	**+0.4**
	3.4nm,0.8s,mb4.5						

INK Inuvik 89.70 21 *eP* **P 02 19 43.0 +0.1**
64nm,0.6s
NVAR Mina Array Bea 91.57 52 P **P 02 19 53.4 +1.1**
0.3nm,0.8s,mb3.7,baz=278,slow=2.6,SNR=3.0
YKA Yellowknife Ar 96.28 28 P **P 02 20 12.9 -0.4**
0.6nm,0.6s,mb4.2,baz=265,slow=4.5,SNR=18
PDAR Pinedale Array 98.56 48 P **P 02 20 23.8 -0.3**
0.3nm,0.8s,mb3.9,baz=255,slow=3.5,SNR=2.5
GERES GERESS Array B 127.24 329 PKP PKPdf 02 25 50.0 +0.3
0.2nm,0.5s,baz=48,slow=1.5,SNR=2.8
BDFB Brasilia 147.75 135 PKPbc PKPbc 02 26 30.3 -0.6
2.3nm,0.8s,baz=158,slow=8.7,SNR=3.2
TORD Torodi Ar. Bea 153.28 285 PKP PKPdf 02 26 34.7 -2.0
TORD PKPbc PKPbc 02 26 44.4 +0.2
TORD Torodi Ar. Bea 153.28 285 PKP PKPdf 02 26 34.7 -2.0
0.5nm,1.0s,baz=73,slow=4.8,SNR=2.8
TORD PKPbc PKPbc 02 26 44.4 +0.2
0.5nm,0.8s,baz=47,slow=2.9,SNR=4.1

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*IDC **05** 02:09:50.1±1.1,3836N×2047E,h0km,mb3.9/6, mb1 3.9/12,mb1mx3.7/28,mbtmp3.8/12,ML3.6/6,MS3.6/3, Ms1 3.6/3,ms1mx2.8/47,Error ellipse: s-maj=21.8km s-min=18.1km az=163.0*
*ISCJB **05** 02:09:51.3±0.7,3836N±002×2021E±003,h17km±6km, mb3.9/10,Error ellipse: s-maj=4.8km s-min=3.5km az=141.6*
*MOS **05** 02:09:51.5±1.0,3830N×2029E,h20km,mb4.0/6,Error ellipse: s-maj=8.8km s-min=4.7km az=81.1*
*NEIC **05** 02:09:51.8,3834N×2041E,h16km,mb3.9/3,ML4.2(THE), ML3.8(PDG),ML3.7(ATH),After ATH.*
*ATH **05** 02:09:51.8,3835N×2041E,h15km±1km,MD3.9/13,ML4.0*
*CSEM **05** 02:09:52.4±0.1,3829N×2038E,h2km,ML3.7,Error ellipse: s-maj=2.2km s-min=1.3km az=35.0*
*THE **05** 02:09:53.9,3837N×2031E,h18km,ML4.2*
*PDG **05** 02:09:54.2±0.6,3868N×2040E,h0km±11km,ML3.8/10, Error ellipse: s-maj=2.8km s-min=1.6km az=90.0*
*NAO **05** 02:10:01.4,3866N×2043E,h33km,mb4.0*
ISC 05 02:09:52.4±0.6,**3837N**±002×**2032E**±003,**h10**km±4km, **n115**,σ1§**08**/**147**,**mb3.9**/**10**,**18C-11D**,**Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.29**	**132**	*e*PB	**Pg**	**02 09 56.9**	**-1.2**
VLS				*e*SB	**Sg**	**02 10 01.0**	**-1.1**
IGT	**Igoumenitsa**	**1.16**	**1**	*e*Pg	**Pg**	**02 10 13.3**	**-1.3**
IGT				*e*Sg	**Sg**	**02 10 30.9**	**+1.3**
EVR	**Evrytania**	**1.29**	**65**	*e*PN	**Pn**	**02 10 14.8**	**-1.6**
EVR				*e*SN	**Sn**	**02 10 32.0**	**-1.7**
JAN	**Janina**	**1.35**	**18**	*e*PN	**Pn**	**02 10 17.7**	**+0.5**
JAN				*e*SN	**Sn**	**02 10 36.1**	**+0.9**
KEK	**Kerkira**	**1.40**	**343**	*e*PN	**Pn**	**02 10 18.9**	**+1.0**
KEK				*e*SN	**Sn**	**02 10 38.7**	**+2.2**
SRN	**Sarande**	**1.52**	**351**	*i* Pn	**Pn**	**02 10 20.8**	**+1.1**
SRN				*i* Sn	**Sn**	**02 10 41.4**	**+1.8**
AGG	**Agios Georgios**	**1.70**	**67**	*e*Pb	**Pb**	**02 10 21.9**	**-1.9**
AGG				*e*Sb	**Sb**	**02 10 44.4**	**-0.9**
ITM	**Ithomi**	**1.75**	**133**	*e*PN	**Pn**	**02 10 22.5**	**-0.2**
THL	**Klokotos Trika**	**1.78**	**48**	*e*PN	**Pn**	**02 10 23.6**	**+0.4**
LKR	**Lokris**	**2.12**	**82**	*e*PN	**Pn**	**02 10 28.6**	**+0.7**
KZN	**Kozani**	**2.24**	**30**	*e*PN	**Pn**	**02 10 30.9**	**+1.4**
KZN				*e*SN	**Sn**	**02 10 58.3**	**+1.2**
LIT	**Litokhoron**	**2.41**	**44**	*e*Pn	**Pn**	**02 10 32.2**	**+0.3**
LIT				*e*Sn	**Sn**	**02 11 01.0**	**-0.5**
NEO	**Neokhori**	**2.45**	**67**	*e*PN	**Pn**	**02 10 33.4**	**+0.9**
FNA	**Florina**	**2.54**	**18**	*e*Pn	**Pn**	**02 10 34.4**	**+0.7**
FNA				*e*Sn	**Sn**	**02 11 04.4**	**-0.3**
FNA	**Florina**	**2.54**	**18**	*e*Pn	**Pn**	**02 10 34.3**	**+0.6**
FNA				*e*Sn	**Sn**	**02 11 04.4**	**-0.3**
NAIG	**Nisos Aigina**	**2.58**	**103**	*e*PN	**Pn**	**02 10 35.0**	**+0.8**
VLI	**Veliai**	**2.66**	**128**	*e*Pb	**Pn**	**02 10 35.9**	**+0.6**
VLI				P	**Pb**	**02 10 39.7**	**-0.3**
ATH	**Athens Observa**	**2.71**	**97**	*e*PN	**Pn**	**02 10 36.3**	**+0.3**
BIA	**Bitola**	**2.75**	**16**	*e*Pn	**Pn**	**02 10 36.9**	**+0.3**
BIA				*e*Sn	**Sn**	**02 11 10.3**	**+0.4**
BIA	**Bitola**	**2.75**	**16**	*i* Pn	**Pn**	**02 10 38.4**	**+1.8**
OHR	**Ohrid**	**2.76**	**8**	*e*Pn	**Pn**	**02 10 36.6**	**0.0**
OHR				*e*Sn	**Sn**	**02 11 10.9**	**+0.8**
OHR	**Ohrid**	**2.76**	**8**	*i* Pn	**Pn**	**02 10 38.3**	**+1.6**
OHR				*e*Pn	**Pn**	**02 10 38.8**	**+2.2**
KVR	**Kavouri**	**2.78**	**100**	*e*PN	**Pn**	**02 10 37.0**	**+0.1**
PTL	**Penteli**	**2.81**	**96**	*e*PB	**Pb**	**02 10 38.5**	**-4.2**
PTL	**Penteli**	**2.81**	**96**	*e*Pb	**Pb**	**02 10 40.0**	**-2.7**
TIP	**Timpagrande**	**2.90**	**287**	*e*Pn	**Pn**	**02 10 40.1**	**+1.5**
TIP	**Timpagrande**	**2.90**	**287**	*e*Pn	**Pn**	**02 10 40.1**	**+1.6**
AOS	**Alonnisos**	**2.90**	**73**	*e*Pn	**Pn**	**02 10 39.4**	**+0.8**
TIR	**Tirane**	**2.99**	**353**	*e*Pn	**Pn**	**02 10 40.1**	**+0.3**
TIR				*e*Sn	**Sn**	**02 11 16.7**	**+0.9**
PAIG	**Paliouri**	**3.04**	**58**	*e*Pn	**Pn**	**02 10 41.2**	**+0.7**
THE	**Thessaloniki**	**3.05**	**41**	*e*Pn	**Pn**	**02 10 41.6**	**+1.0**
KRUS	**Krusevo**	**3.08**	**13**	*i* Pn	**Pn**	**02 10 42.3**	**+1.3**
HORT	**Hortiatis**	**3.09**	**43**	*e*Pn	**Pn**	**02 10 41.4**	**+0.2**
TA1	**Taranto**	**3.11**	**312**	*e*Pn	**Pn**	**02 10 43.8**	**+2.4**
PLG	**Polygyros**	**3.14**	**50**	*e*Pn	**Pn**	**02 10 41.9**	**0.0**
PLG	**Polygyros**	**3.14**	**50**	*e*Pn	**Pn**	**02 10 42.0**	**+0.1**
SOH	**Sokhos**	**3.39**	**43**	*e*Pn	**Pn**	**02 10 46.7**	**+1.4**
VAY	**Valandovo**	**3.42**	**30**	*e*Pn	**Pn**	**02 10 45.4**	**-0.3**
KNT	**Kendrikon**	**3.42**	**35**	*e*Pn	**Pn**	**02 10 47.0**	**+1.3**
STIP	**Stip**	**3.61**	**23**	*e*Pn	**Pn**	**02 10 48.7**	**+0.3**
STIP	**Stip**	**3.61**	**23**	*i* Pn	**Pn**	**02 10 49.0**	**+0.6**
ULC	**Ulcinj**	**3.68**	**347**	⇑*i*Pn	**Pn**	**02 10 49.4**	**+0.1**
ULC				*e*Sn	**Sn**	**02 11 32.5**	**-0.2**
SRS	**Serrai**	**3.73**	**42**	*e*Pn	**Pn**	**02 10 50.6**	**+0.6**
NVR	**Nevrokopi**	**4.04**	**41**	*e*PN	**Pn**	**02 10 54.9**	**+0.7**
BUM	**Brajici-Budva**	**4.07**	**345**	⇓*i*Pn	**Pn**	**02 10 54.9**	**+0.2**
BUM				*e*Sn	**Sn**	**02 11 41.9**	**-0.5**
PDG	**Podgorica**	**4.13**	**349**	⇓*i*Pn	**Pn**	**02 10 55.2**	**-0.3**
PDG				*e*Sn	**Sn**	**02 11 43.1**	**-0.8**
TTG	**Podgorica**	**4.13**	**349**	⇓*i*Pn	**Pn**	**02 10 55.2**	**-0.3**
TTG				*e*Sn	**Sn**	**02 11 43.1**	**-0.8**
KARN	**Karanos**	**4.14**	**135**	*e*Pn	**Pn**	**02 10 55.7**	**+0.1**
PVY	**Plav**	**4.22**	**357**	⇑*i*Pn	**Pn**	**02 10 56.9**	**+0.1**
PVY				*e*Sn	**Sn**	**02 11 44.7**	**-1.5**
HCY	**Herceg Novi**	**4.30**	**342**	⇓*i*Pn	**Pn**	**02 10 57.9**	**+0.1**
HCY				*e*Sn	**Sn**	**02 11 47.3**	**-0.7**
APE	**Apeiranthos**	**4.33**	**106**	*e*PN	**Pn**	**02 10 58.8**	**+0.5**
BEY	**Berane**	**4.50**	**356**	⇓*i*Pn	**Pn**	**02 11 00.8**	**+0.2**
BEY				*e*Sn	**Sn**	**02 11 51.9**	**-1.2**
IVA	**Berane**	**4.50**	**356**	⇓*i*Pn	**Pn**	**02 11 00.8**	**+0.2**
IVA				*e*Sn	**Sn**	**02 11 51.9**	**-1.2**
CHOS	**Chios island**	**4.51**	**88**	*e*Pn	**Pn**	**02 11 01.6**	**+0.9**
NKY	**Niksic**	**4.55**	**348**	⇑*i*Pn	**Pn**	**02 11 01.0**	**-0.2**
NKY				*e*Sn	**Sn**	**02 11 53.5**	**-0.6**
BARS	**Barje**	**4.59**	**14**	*e*Pn	**Pn**	**02 11 01.9**	**+0.1**
BRY	**Bratogost**	**4.72**	**344**	⇓*i*Pn	**Pn**	**02 11 02.6**	**-1.0**
BRY				*e*Sn	**Sn**	**02 11 57.5**	**-0.9**
VAE	**Valguarnera**	**4.75**	**261**	Pn	**Pn**	**02 11 05.4**	**+1.3**
	0.6nm,0.3s,baz=152,slow=11,SNR=4.0						
RDO	**Rodhopi**	**4.88**	**54**	*e*PN	**Pn**	**02 11 07.0**	**+1.2**
UPM	**Unac-Piva**	**4.94**	**348**	⇑*i*Pn	**Pn**	**02 11 07.3**	**+0.7**
UPM				*e*Sn	**Sn**	**02 12 02.8**	**-1.0**
PLE	**Pljevlja**	**5.00**	**352**	⇓*i*Pn	**Pn**	**02 11 07.9**	**+0.5**
PLE				*e*Sn	**Sn**	**02 12 04.1**	**-1.2**
LAST	**Lasithi**	**5.24**	**126**	*e*Pn	**Pn**	**02 11 12.4**	**+1.6**
GRUS	**Gruza**	**5.52**	**3**	*e*Pn	**Pn**	**02 11 13.8**	**-0.8**
AQU	**L'Aquila**	**6.61**	**309**	*e*Pn	**Pn**	**02 11 32.2**	**+2.6**
AQU	**L'Aquila**	**6.61**	**309**	*e*Pn	**Pn**	**02 11 32.2**	**+2.7**
FGSL	**Fruska Gora**	**6.79**	**357**	*e*Pn	**Pn**	**02 11 31.9**	**-0.1**
MLR	**Muntele Rosu**	**8.26**	**29**	Pn	**Pn**	**02 11 55.9**	**+3.8**
	0.2nm,0.3s,baz=266,slow=11,SNR=4.8						
MLR	**Muntele Rosu**	**8.26**	**29**	⇑*i*P	**Pn**	**02 11 56.6**	**+4.5**
PLOR	**Plostina**	**8.83**	**30**	⇑*i*P	**Pn**	**02 12 07.8**	**+7.8**
VRI	**Vrincioaia**	**8.87**	**30**	⇑*i*P	**Pn**	**02 12 09.2**	**+8.6**
VOY	**Vojsko**	**9.01**	**330**	*e*Pn	**Pn**	**02 12 01.0**	**-1.5**
VOY				*e*Sn	**Sn**	**02 13 42.2**	**-1.8**
KEST	**Kesra**	**9.16**	**257**	Pn	**Pn**	**02 12 03.6**	**-0.9**
	0.1nm,0.3s,baz=40,slow=7.9,SNR=3.3						
OBKA	**Obir**	**9.18**	**334**	⇓*i*Sn	**Sn**	**02 13 41.1**	**-6.9**
OBKA	**Obir**	**9.18**	**334**	⇑*i*Pn	**Pn**	**02 12 03.7**	**-1.0**
OBKA				*i* Sn	**Sn**	**02 13 41.1**	**-6.9**
OBKA	**Obir**	**9.18**	**334**	⇑*i*Pn	**Pn**	**02 12 03.7**	**-1.0**
OBKA				⇓*i*Sn	**Sn**	**02 13 46.5**	**-1.6**
ARSA	**Arzberg**	**9.54**	**340**	⇑*i*Sn	**Sn**	**02 13 48.7**	**-8.3**
ARSA	**Arzberg**	**9.54**	**340**	⇑*i*Pn	**Pn**	**02 12 08.2**	**-1.5**
ARSA				*i* Sn	**Sn**	**02 13 48.7**	**-8.3**
ARSA	**Arzberg**	**9.54**	**340**	⇑*i*Pn	**Pn**	**02 12 08.2**	**-1.5**
ARSA				⇑*e*Sn	**Sn**	**02 13 56.1**	**-0.9**
KBA	**Koelnbreinsper**	**10.09**	**332**	⇑*i*Pn	**Pn**	**02 12 16.5**	**-0.8**
KBA				⇑*i*Sn	**Sn**	**02 14 04.3**	**-6.2**

ABTA Abfaltersbach 10.15 328 ⇓*i*Pn **Pn 02 12 17.4 -0.7**
MOA Molln 10.45 337 ⇑*i*Pn **Pn 02 12 20.8 -1.3**
MOA Molln 10.45 337 ⇑*i*Pn **Pn 02 12 20.8 -1.3**
MOTA Moosalm 11.22 326 ⇑*i*Pn **Pn 02 12 33.6 +0.9**
VRAC Vranov 11.26 347 LR LR 02 17 04.0
comp=Z,114nm,20.1s,baz=234,slow=38
DAVOX Davos/Dischmat 11.38 321 Pn **Pn 02 12 35.7 +0.8**
0.2nm,0.3s,baz=150,slow=18,SNR=4.6
DAVOX LR LR 02 17 35.3
comp=Z,191nm,21.1s,baz=301,slow=40
GERES GERESS Array B 11.51 338 Pn **Pn 02 12 34.6 -2.1**
0.3nm,0.3s,baz=158,slow=14,SNR=11
KHC Kasperske Hory 11.80 338 *eP* **Pn 02 12 38.5 -2.1**
KHC *ex* x 02 12 50.5
MMAI Mount Meron Ar 13.37 109 Pn **Pn 02 13 00.3 -1.9**
0.4nm,0.3s,baz=313,slow=53,SNR=2.7
ASF Jabal al Asfar 14.88 110 Pn **Pn 02 13 28.3 +5.5**
0.1nm,0.3s,baz=164,slow=3.6,SNR=8.2
EIL Elat 14.91 121 Pn **Pn 02 13 20.0 -3.2**
0.3nm,0.3s,baz=333,slow=2.3,SNR=2.4
ESDC Sonseca Array 18.90 282 P **P 02 14 13.3 -0.3**
0.2nm,0.3s,baz=77,slow=9.9,SNR=4.3
HFS Hagfors 22.18 351 P **P 02 14 47.1 -1.3**
HFS pmax pmax
comp=Z,4.0nm,0.6s
HFS Hagfors 22.18 351 P **P 02 14 47.1 -1.3**
comp=Z,4.2nm,0.6s,mb4.0,baz=158,slow=12,SNR=9.3
EKA Eskdalemuir Ar 23.18 325 P **P 02 15 00.2 +1.2**
EKA pmax pmax
comp=Z,1.0nm,0.7s
EKA Eskdalemuir Ar 23.18 325 P **P 02 15 00.2 +1.2**
comp=Z,1.2nm,0.7s,mb3.4,baz=120,slow=12,SNR=5.4
ESK Eskdalemuir 23.19 325 *eP* **P 02 15 00.4 +1.3**
comp=Z,6.9nm,1.0s,mb4.0
ESK Eskdalemuir 23.19 325 *eP* **P 02 15 00.4 +1.3**
ESK pmax pmax
comp=Z,7.0nm,1.0s,mb4.0
FINES FINESS Array B 23.37 7 P **P 02 14 59.1 -1.9**
FINES pmax pmax
comp=Z,5.0nm,0.9s
FINES FINESS Array B 23.37 7 P **P 02 14 59.1 -1.8**
comp=Z,4.9nm,0.9s,mb4.0,baz=173,slow=10.0,SNR=7.7
NB2 NORSAR Subarra 23.40 349 P **P 02 14 55.8 -5.4**
comp=Z,14nm,1.7s,mb4.1,baz=161,slow=11
NOA NORSAR Array B 23.40 349 P **P 02 15 01.3 +0.1**
NOA NORSAR Array B 23.40 349 P **P 02 15 01.3 +0.1**
NOA pmax pmax
comp=Z,1.0nm,0.7s
NOA NORSAR Array B 23.40 349 P **P 02 15 01.3 +0.1**
comp=Z,1.4nm,0.7s,mb3.5,baz=162,slow=9.8,SNR=3.5
TORD Torodi Ar. Bea 30.08 218 P **P 02 16 02.0 0.0**
comp=Z,0.8nm,0.9s,mb3.5,baz=32,slow=9.3,SNR=5.0
BRVK Borovoye 37.05 50 *eP* **P 02 17 02.6 +0.4**
comp=Z,1.1nm,0.5s,mb3.9
BRVK Borovoye 37.05 50 *eP* **P 02 17 02.7 +0.4**
BRVK pmax pmax
comp=Z,1.0nm,0.5s,mb3.9
BRVK Borovoye 37.05 50 *eP* **P 02 17 02.7 +0.4**
EKS2 Erkin-Say 40.31 66 *eP* **P 02 17 30.7 +1.0**
comp=Z,1.6nm,0.7s,mb3.9
EKS2 Erkin-Say 40.31 66 *eP* **P 02 17 30.7 +1.0**
MK31 Makanchi Array 45.34 59 *eP* **P 02 18 09.7 -0.8**
MK31 Makanchi Array 45.34 59 *eP* **P 02 18 09.7 -0.8**
MKAR Makanchi Array 45.34 59 P **P 02 18 08.6 -1.9**
comp=Z,0.5nm,0.4s,mb3.7,baz=295,slow=6.6,SNR=6.0
ZAL Zalesovo 45.67 48 P **P 02 18 12.1 -0.9**
ZALV Zalesovo Beam 45.68 48 P **P 02 18 12.1 -1.0**
comp=Z,2.1nm,0.4s,mb4.4,baz=273,slow=11,SNR=10
CMIG Matias Romero 98.02 299 LR LR 03 02 03.4
comp=Z,103nm,21.3s,baz=204,slow=32

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*NIED **05** 02:18:00,4430N×1940E,h23km,Mw3.9 Best double couple: M0 8.00000×10^14 NP1:φ=39.00000°,δ=54.00000°, λ=121.00000°. NP2:φ=174.00000°,δ=46.00000°,λ=55.00000°.*
*IDC **05** 02:18:09.6±2.2,4429N×1949E,h0km,mb3.9/11, mb1 4.0/13,mb1mx3.9/23,mbtmp3.9/13,ML3.2/2,MS3.6/3, Ms1 3.6/3,ms1mx3.1/38,Error ellipse: s-maj=62.5km s-min=20.3km az=172.0*
*JMA **05** 02:18

FINES pmax pmax
comp=Z,4.0nm,0.9s
FINES FINESS Array B 65.43 334 P P 02 28 51.2 -1.1
comp=Z,3.6nm,0.8s,mb4.4,baz=45,slow=8.4,SNR=8.3
PDAR Pinedale Array 68.65 51 P P 02 29 12.6 -0.5
comp=Z,0.2nm,0.6s,mb3.2,baz=299,slow=6.1,SNR=2.6
NB2 NORSAR Subarra 70.00 340 P P 02 29 20.3 -0.8
comp=Z,1.6nm,0.8s,mb4.0,baz=29,slow=6.5
NOA NORSAR Array B 70.00 340 P P 02 29 20.3 -0.8
NOA pmax pmax
comp=Z,3.0nm,0.8s
NOA NORSAR Array B 70.00 340 P P 02 29 20.3 -0.8
comp=Z,2.6nm,0.8s,mb4.2,baz=32,slow=6.1,SNR=6.2
HFS Hagfors 70.13 338 P P 02 29 20.7 -1.2
HFS pmax pmax
comp=Z,7.0nm,1.1s
HFS Hagfors 70.13 338 P P 02 29 20.7 -1.2
comp=Z,7.2nm,1.1s,mb4.5,baz=74,slow=6.2,SNR=2.4
AKASG Malin Array Be 72.35 325 P P 02 29 34.4 -1.1
AKASG Malin Array Be 72.35 325 *i* P **P 02 29 36.7 +1.2**
AKASG Malin Array Be 72.35 325 P P 02 29 34.4 -1.0
comp=Z,0.2nm,0.3s,mb3.5,baz=36,slow=5.6,SNR=4.9
ANMO Albuquerque 75.68 55 LR LR 03 01 14.3
comp=Z,41nm,20.6s,MS3.7,baz=24,slow=34
CLL Collm 77.87 334 *e*P **P 02 30 07.0 -0.3**
GERES GERESS Array B 79.76 332 P P 02 30 17.6 -0.1
comp=Z,0.4nm,0.6s,mb3.5,baz=10,slow=6.0,SNR=4.3
TXAR Lajitas Array 81.30 58 P P 02 30 26.2 -0.1
comp=Z,0.4nm,0.6s,mb3.5,baz=305,slow=3.4,SNR=6.2
TKL Tuckaleechee C 87.32 41 LR LR 03 10 06.0
comp=Z,114nm,21.1s,MS4.2,baz=296,slow=36

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*CSEM **05** 02:28:42.1±1.0,3867N×2899W,h0km±4km,ML3.3,Error ellipse: s-maj=6.1km s-min=2.4km az=73.0,After PDA*
*PDA **05** 02:28:42.1±1.0,3867N×2899W,h0km±4km,MD3.6,ML3.3, Error ellipse: s-maj=6.1km s-min=2.4km az=73.0*
SVSA 05 02:28:42.1±1.0,3867N×2899W,h0km±4km,MD3.6,ML3.3, Error ellipse: s-maj=6.1km s-min=2.4km az=73.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTCA	**Ponta do Capel**	**0.17**	**119**	*i* P	Pg	02 28 46.1	+0.8
PTCA				*e*S	Sg	02 28 48.3	+0.8
PTCA				A		02 28 51.9	
	5μm,0.3s						
PTCA	**Ponta do Capel**	**0.17**	**119**	*e*S	Sg	02 28 48.3	+0.8
CALA	**Caldeira**	**0.24**	**111**	*e*P	Pg	02 28 46.3	-0.4
CALA				*e*S	Sg	02 28 50.4	+0.7
HOR	**Horta**	**0.31**	**116**	*e*P	Pg	02 28 47.4	-0.7
HOR				*e*S	Sg	02 28 52.5	+0.4
PLUZ	**Luz**	**0.35**	**1**	*e*P	Pg	02 28 56.5	+7.7
PLUZ				*e*S	Sg	02 29 07.4	+14
PCND	**Candelaria**	**0.46**	**115**	*e*P	Pg	02 28 50.4	-0.4
PCND				*i* S	Sg	02 28 57.0	+0.3
PCND				A		02 28 58.7	
	1μm,0.2s						
PICO	**Pico**	**0.47**	**110**	*e*P	Pg	02 28 50.2	-0.9
PICO				*e*S	Sg	02 28 57.5	+0.3
PTEI	**Pico do Teixo**	**0.52**	**109**	*e*P	Pg	02 28 51.5	-0.6
PTEI				*e*S	Sg	02 28 59.1	+0.2
PTEI				A		02 29 04.7	
	2μm,0.3s						
PBOI	**Pico dos Bois**	**0.53**	**115**	*e*P	Pg	02 28 51.7	-0.6
PBOI				*e*S	Sg	02 28 58.7	-0.4
PBOI				A		02 29 03.9	
	1μm,0.4s						
ROSA	**Rosais**	**0.58**	**85**	*e*P	Pg	02 28 52.1	-1.2
ROSA				*e*S	Sg	02 29 00.2	-0.7
PAMA	**Santo Amaro**	**0.63**	**89**	*e*P	Pg	02 28 53.3	-0.9
PAMA				*e*S	Sg	02 29 01.7	-0.7
PAMA				A		02 29 04.8	
	978nm,0.2s						
PAMA	**Santo Amaro**	**0.63**	**89**	*e*P	Pg	02 28 53.3	-0.9
PAMA				*e*S	Sg	02 29 01.7	-0.7
PMAN	**Manadas**	**0.70**	**92**	*e*P	Pg	02 28 54.4	-1.2
PMAN				*e*S	Sg	02 29 03.2	-1.5
PMAN				A		02 29 04.4	
	1μm,0.4s						
PMAN	**Manadas**	**0.70**	**92**	*e*P	Pg	02 28 54.4	-1.2
PMAN				*e*S	Sg	02 29 03.2	-1.5
PID	**Ribeirinha**	**0.71**	**108**	*e*P	Pg	02 28 53.5	-2.3
PID				*e*S	Sg	02 29 03.7	-1.4
PIED	**Piedade**	**0.77**	**108**	*i* P	Pg	02 28 55.1	-1.8
SRBC	**Serra Branca**	**0.83**	**63**	*e*P	Pg	02 28 58.4	+0.5
PVIA	**Vitoria**	**0.83**	**61**	*e*P	Pg	02 28 56.2	-1.9
PVIA				*e*S	Sg	02 29 06.7	-2.2
STGR	**Santa Cruz**	**0.87**	**61**	*e*P	Pg	02 28 56.7	-2.1
STGR				*e*S	Sg	02 29 07.6	-2.5
STGR				A		02 29 10.5	
	260nm,0.1s						
STGR	**Santa Cruz**	**0.87**	**61**	*e*P	Pg	02 28 56.7	-2.1
STGR				*e*S	Sg	02 29 07.6	-2.5
ASBA	**Santa Barbara**	**1.30**	**87**	*e*S	Sg	02 29 18.2	-5.7
ASBA				A		02 29 21.2	
	238nm,0.2s						
PPAD	**Pico dos Padre**	**1.33**	**88**	*e*P	Pg	02 29 03.1	-4.5
PPAD				*e*S	Sg	02 29 18.7	-6.1
PPAD				A		02 29 21.5	
	134nm,0.2s						
PPAD	**Pico dos Padre**	**1.33**	**88**	*e*P	Pg	02 29 03.1	-4.5
PPAD				*e*S	Sg	02 29 18.7	-6.1
PBIS	**Biscoitos**	**1.36**	**85**	*e*S	Sg	02 29 19.4	-6.4
PBIS				A		02 29 21.1	
	88nm,0.2s						
ADH	**Angra Heroismo**	**1.37**	**90**	*e*P	Pg	02 29 03.9	-4.5
ADH				*e*S	Sg	02 29 19.5	-6.6
RIB2	**Ribeirinha**	**1.42**	**89**	*e*P	Pn	02 29 04.5	-4.6
RIB2				*e*S	Sg	02 29 20.9	-6.8
RIB2				A		02 29 22.6	
	176nm,0.2s						
RIB2	**Ribeirinha**	**1.42**	**89**	*e*P	Pn	02 29 04.5	-4.6
RIB2				*e*S	Sg	02 29 20.9	-6.8
PVNV	**Vila Nova**	**1.44**	**86**	*e*P	Pn	02 29 04.7	-4.6
PVNV				*e*S	Sg	02 29 21.2	-7.0
PVNV				A		02 29 25.1	
	59nm,0.2s						
PVNV	**Vila Nova**	**1.44**	**86**	*e*P	Pn	02 29 04.7	-4.6
PVNV				*e*S	Sg	02 29 21.2	-7.0
PFAV	**Pico das Favas**	**1.49**	**88**	*e*P	Pn	02 29 05.2	-4.9
PFAV				*e*S	Sg	02 29 22.5	-7.4
PFAV				A		02 29 26.2	
	122nm,0.3s						
PFAV	**Pico das Favas**	**1.49**	**88**	*e*P	Pn	02 29 05.2	-4.9
PFAV				*e*S	Sg	02 29 22.5	-7.4
SET4	**Mosteiros**	**2.63**	**106**	*e*P	Pn	02 29 21.3	-4.5
SET4				*e*S	Sn	02 29 50.4	-8.0
SET2	**Ginetes**	**2.63**	**107**	*e*P	Pn	02 29 21.6	-4.2
SET2				*e*S	Sn	02 29 50.6	-7.9
PFET	**Feteiras**	**2.66**	**108**	*e*P	Pn	02 29 21.7	-4.4
PSAN	**Santo Antonio**	**2.69**	**107**	*e*P	Pn	02 29 22.1	-4.5
FAC	**Faja de Cima**	**2.77**	**108**	*e*P	Pn	02 29 23.4	-4.4
FAC				*e*S	Sn	02 29 54.0	-7.9
CML	**Cha da Macela**	**2.85**	**107**	*e*P	Pn	02 29 24.2	-4.6
PVER	**Pico Vermelho**	**2.87**	**107**	*e*P	Pn	02 29 24.4	-4.6
PMAT	**Coroa da Mata**	**2.90**	**106**	*e*P	Pn	02 29 24.8	-4.6
PMAT				*e*S	Sn	02 29 56.8	-8.1
PMAT				A		02 30 00.0	
	36nm,0.3s						
PMAT	**Coroa da Mata**	**2.90**	**106**	*e*P	Pn	02 29 24.8	-4.6
PMAT				*e*S	Sn	02 29 56.8	-8.1
LFA	**Lagoa do Fogo**	**2.90**	**107**	*e*P	Pn	02 29 25.1	-4.4
PRCH	**Ribeira Ch**	**2.92**	**108**	*e*P	Pn	02 29 25.1	-4.6
PRCH				*e*S	Sn	02 29 57.4	-8.0
PRCH				A		02 30 01.0	
	116nm,0.3s						
PRCH	**Ribeira Ch**	**2.92**	**108**	*e*P	Pn	02 29 25.1	-4.6
PRCH				*e*S	Sn	02 29 57.4	-8.0
MESC	**Monte Escuro**	**2.92**	**106**	*e*P	Pn	02 29 25.6	-4.2
VIF	**Vila Franca**	**2.94**	**107**	*e*P	Pn	02 29 25.5	-4.5
VIF				*e*S	Sn	02 29 58.1	-7.9
VIF				A		02 30 03.0	
	33nm,0.2s						
VIF	**Vila Franca**	**2.94**	**107**	*e*P	Pn	02 29 25.5	-4.5
VIF				*e*S	Sn	02 29 58.1	-7.9
PFAD	**Fenais da Ajud**	**3.00**	**105**	*e*P	Pn	02 29 26.2	-4.7
FRA1	**Furnas**	**3.00**	**107**	*e*P	Pn	02 29 26.4	-4.5
FRA1				*e*S	Sn	02 29 59.7	-7.9
MIRA	**Miradouro**	**3.05**	**106**	*e*P	Pn	02 29 27.2	-4.3
MIRA				*e*S	Sn	02 30 00.4	-8.3
PSMN	**Pico do Norte,**	**3.52**	**117**	*e*P	Pn	02 29 32.7	-5.3
PSMN				*e*S	Sn	02 30 11.3	-9.0

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*IDC **05** 02:46:19.7±1.5,1726S×17684W,h0km,mb3.9/7, mb1 4.2/7,mb1mx4.0/16,mbtmp3.9/7,MS4.5/10, Ms1 4.5/10,ms1mx4.2/23,Error ellipse: s-maj=134.6km s-min=19.5km az=152.0*
*ISCJB **05** 02:46:23.5±1.1,173S±04×1769W±03,h33km,mb4.0/10, MS4.4/8,Error ellipse: s-maj=73.3km s-min=15.5km az=148.6*
*GCMT **05** 02:46:25.3±0.2,1709S×17683W,h17km±1km,MW5.2/85, Moment Tensor Solution. s50,c65; s85,c141; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.47±.17; $M_{\theta\theta}$-4.78±.15; $M_{\phi\phi}$5.25±.15; $M_{r\theta}$-0.00±.38; $M_{\theta\phi}$3.52±.15; $M_{\phi r}$2.37±.47; Best double couple: $M_0$6.51900×10^{16} NP1:ϕ_s64.00000°,δ72.00000°,λ6.00000°. NP2: ϕ_s332.00000°,δ84.00000°,λ162.00000°. Principal axes: T 7.0450, Plg17.0000°, Azm287.0000°; N -1.0490, Plg71.0000°, Azm133.0000°; P -5.9930, Plg8.0000°, Azm19.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **05** 02:46:25.3±0.9,1733S×17687W,h35km,mb4.2/3 Error ellipse: s-maj=60.7km s-min=13.1km az=149.0*
ISC 05 02:46:25.3±1.1,173S±04×1769W±03,h35km,n24, σ0.66/10,mb4.0/10,MS4.4/8,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**11.94**	**184**	LR	LR	02 53 00.2	
	comp=Z,4μm,21.1s,baz=7.8,slow=33						
RAR	**Rarotonga**	**16.64**	**106**	LR	LR	02 55 07.5	
	comp=Z,1μm,20.7s,baz=229,slow=32						
URZ	**Urewera**	**21.54**	**193**	LR	LR	02 58 20.6	
	comp=Z,3μm,21.2s,MS4.6,baz=29,slow=33						
HNR	**Honiara**	**23.82**	**286**	LR	LR	02 59 26.4	
	comp=Z,2μm,19.8s,MS4.5,baz=170,slow=33						
PPT	**Papeete**	**26.07**	**95**	*e*LQ		02 57 09.7	
	1μm,26.2s						
PPT				*e*LR	LR	02 58 21.5	
	3μm,27.0s,baz=259						
PPT	**Papeete**	**26.07**	**95**	LR	LR	02 59 15.4	
	comp=Z,960nm,20.6s,MS4.3,baz=259,slow=30						
TBI	**Tubuai**	**26.41**	**108**	*e*LR	LR	02 58 39.8	
	3μm,28.5s,baz=281						
CTA	**Charters Tower**	**34.96**	**260**	LR	LR	03 06 21.1	
	comp=Z,1μm,18.1s,MS4.7,baz=73,slow=34						
TAOE	**Nuku Hiva Isla**	**36.72**	**82**	*e*LR	LR	03 03 08.4	
	26μm,29.1s,baz=258						
RKT	**Rikitea**	**39.68**	**106**	*e*LR	LR	03 04 46.0	
	2μm,27.8s,baz=276						
STKA	**Stephens Creek**	**40.18**	**241**	P	**P**	**02 53 58.6**	**+0.2**
	1.3nm,0.9s,mb3.7,baz=72,slow=13,SNR=3.0						
STKA				LR	LR	03 09 19.6	
	comp=Z,380nm,18.7s,MS4.3,baz=324,slow=34						
WRA	**Warramunga Arr**	**46.15**	**259**	P	**P**	**02 54 47.0**	**+0.2**
	1.5nm,1.0s,mb3.9,baz=93,slow=9.4,SNR=6.3						
WRA				LR	LR	03 13 06.9	
	comp=Z,756nm,18.1s,MS4.7,baz=75,slow=35						
ASAR	**Alice Springs**	**46.34**	**254**	P	**P**	**02 54 47.9**	**-0.4**
	6.0nm,1.0s,mb4.5,baz=86,slow=8.1,SNR=19						
VNDA	**Vanda**	**61.18**	**185**	LR	LR	03 18 31.8	
	comp=Z,156nm,19.1s,MS4.2,baz=38,slow=32						
KSRS	**Korea Array**	**75.20**	**317**	LR	LR	03 23 26.8	
	comp=Z,116nm,21.8s,MS4.1,baz=354,slow=30						
YBH	**Yreka Blue Hor**	**77.15**	**39**	*e*P	**P**	**02 58 16.1**	**+0.7**
	1.5nm,1.2s,mb3.8						
NVAR	**Mina Array Bea**	**77.99**	**43**	P	**P**	**02 58 20.0**	**-0.2**
	0.6nm,0.8s,mb3.6,baz=213,slow=5.8,SNR=6.1						
MCK	**McKinley**	**83.63**	**12**	*e*P	**P**	**02 58 49.8**	**+0.1**
	1.9nm,0.8s,mb4.3						
TXAR	**Lajitas Array**	**84.46**	**57**	P	**P**	**02 58 54.3**	**-0.5**
	1.1nm,1.1s,mb3.9,baz=187,slow=2.1,SNR=6.9						
ANMO	**Albuquerque**	**84.59**	**51**	P	**P**	**02 58 56.5**	**+1.2**
	1.1nm,0.6s,mb4.2,baz=241,slow=3.1,SNR=5.2						
COLA	**College**	**84.87**	**12**	*e*P	**P**	**02 58 55.9**	**-0.1**
	2.4nm,0.8s,mb4.4						
PDAR	**Pinedale Array**	**85.92**	**43**	P	**P**	**02 59 00.4**	**-1.4**
	0.1nm,0.3s,mb3.5,baz=287,slow=3.7,SNR=2.9						
GRA1	**Grafenberg Arr**	**147.02**	**350**	*e*PKP	PKPdf	03 06 04.8	+2.6
GERES	**GERESS Array B**	**147.36**	**347**	PKPbc	PKPbc	03 06 05.6	+0.3
	0.6nm,0.5s,baz=20,slow=4.3,SNR=6.5						

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*NIED **05** 03:02:00,3130N×14250E,h11km,Mw3.9 Best double couple: $M_0$9.20000×10^{14} NP1:ϕ_s136.00000°,δ75.00000°, λ77.00000°. NP2:ϕ_s357.00000°,δ20.00000°,λ129.00000°.*
*IDC **05** 03:02:16.0±1.0,3080N×14185E,h0km,mb3.8/7, mb1 4.0/9,mb1mx3.9/19,mbtmp3.8/9,ML3.6/2,MS2.8/1, Ms1 2.8/1,ms1mx2.6/30,Error ellipse: s-maj=35.0km s-min=20.0km az=73.0*
*ISCJB **05** 03:02:18.1±3.5,3079N±006×1417E±02,h26km±26km, mb3.9/8,Error ellipse: s-maj=25.9km s-min=7.8km az=162.5*
*NEIC **05** 03:02:20.5±5.9,3076N×14161E,h29km±41km,mb4.1/1, Error ellipse: s-maj=25.5km s-min=16.6km az=93.0*
ISC 05 03:02:21.4±1.3,3081N±006×1417E±02,h36km±12km,n16, σ0.94/18,mb3.9/8,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ	**Hachijo jima 2**	**2.81**	**326**	Sn	**Sn**	**03 03 36.5**	**0.0**
	21nm,0.3s,baz=239,slow=19,SNR=2.6						
CBIJ	**Chichi jima**	**3.72**	**173**	Sn	**Sn**	**03 03 58.8**	**-0.2**
	13nm,0.3s,baz=287,slow=19,SNR=2.9						
MJAR	**Matsushiro Arr**	**6.41**	**334**	Pn	**Pn**	**03 03 52.9**	**-0.4**
	1.6nm,0.3s,baz=152,slow=10,SNR=21						
MJAR				Sn	**Sn**	**03 05 04.1**	**-1.1**
	0.2nm,0.3s,baz=180,slow=14,SNR=3.9						
MAJO	**Matsushiro**	**6.41**	**334**	*e*Pn	**Pn**	**03 03 53.3**	**0.0**
	7.5nm,0.4s						
MAT	**Matsushiro**	**6.41**	**334**	P	**Pn**	**03 03 53.2**	**-0.1**
MAT				*e*S	**Sn**	**03 05 10.1**	**+4.9**
KSRS	**Korea Array**	**13.18**	**304**	Pn	**Pn**	**03 05 27.8**	**+1.8**
	0.2nm,0.3s,baz=111,slow=13,SNR=4.8						
KSRS				LR	LR	03 09 38.2	
	comp=Z,40nm,19.2s,baz=320,slow=33						
SONM	**Songino Array**	**31.81**	**312**	P	**P**	**03 08 44.2**	**+1.8**
	1.0nm,0.7s,mb3.8,baz=115,slow=9.3,SNR=9.1						
KULM	**Kulim**	**46.13**	**245**	*e*P	**P**	**03 10 40.3**	**-2.2**
MKAR	**Makanchi Array**	**47.83**	**307**	P	**P**	**03 10 55.8**	**+0.4**
	1.9nm,0.8s,mb4.2,baz=88,slow=9.2,SNR=14						
KURK	**Kurchatov**	**50.12**	**312**	*e*P	**P**	**03 11 12.2**	**-0.6**
	1.9nm,0.9s,mb4.1						
WRA	**Warramunga Arr**	**50.95**	**189**	P	**P**	**03 11 19.3**	**0.0**
	1.3nm,0.4s,mb4.2,baz=4.0,slow=7.5,SNR=6.5						
ASAR	**Alice Springs**	**54.67**	**189**	P	**P**	**03 11 47.0**	**+0.2**
	0.7nm,0.5s,mb4.0,baz=0.3,slow=5.1,SNR=15						
YKA	**Yellowknife Ar**	**69.11**	**29**	P	**P**	**03 13 22.7**	**-0.8**
	0.2nm,0.9s,mb3.1,baz=292,slow=6.0,SNR=4.2						
AKASG	**Malin Array Be**	**79.38**	**323**	P	**P**	**03 14 23.3**	**-0.2**
AKASG	**Malin Array Be**	**79.38**	**323**	P	**P**	**03 14 23.3**	**-0.2**
	0.6nm,0.5s,mb3.8,baz=48,slow=5.7,SNR=5.5						
TXAR	**Lajitas Array**	**93.73**	**53**	P	**P**	**03 15 36.0**	**+1.2**
	0.3nm,0.8s,mb3.8,baz=30,slow=7.7,SNR=3.4						

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*IDC **05** 03:03:46.6±1.0,691S×15506E,h0km,mb4.1/7,mb1 4.2/7, mb1mx4.0/13,mbtmp4.0/7,Error ellipse: s-maj=39.6km s-min=22.2km az=107.0*
*NEIC **05** 03:03:47.9±0.5,695S×155.11E,h10km,mb4.4/5,Error ellipse: s-maj=21.5km s-min=11.7km az=122.0*
*ISCJB **05** 03:03:49.8±0.7,70S±01×155.1E±02,h33km,mb4.0/10, Error ellipse: s-maj=28.1km s-min=14.0km az=31.6*
ISC 05 03:03:51.7±0.7,70S±01×1551E±02,h35km,n19,σ0.70/17, mb4.0/10,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**15.62**	**213**	Pn	**Pn**	**03 07 33.9**	**+4.6**
	0.2nm,0.3s,baz=46,slow=13,SNR=4.2						
CTAO	**Charters Tower**	**15.62**	**213**	*e*P	**Pn**	**03 07 33.7**	**+4.4**
	8.1nm,0.9s						
WB2	**Warramunga Arr**	**23.92**	**235**	*e*P	**P**	**03 09 02.8**	**+0.2**
WB2	**Warramunga Arr**	**23.92**	**235**	*e*P	**P**	**03 09 02.4**	**-0.2**
WRA	**Warramunga Arr**	**23.93**	**235**	P	**P**	**03 09 02.3**	**-0.4**
	7.9nm,1.0s,mb4.1,baz=62,slow=9.6,SNR=19						
ASAR	**Alice Springs**	**26.28**	**229**	P	**P**	**03 09 23.5**	**-0.5**
	1.8nm,0.6s,mb3.8,baz=58,slow=9.6,SNR=20						
STKA	**Stephens Creek**	**27.80**	**205**	*e*P	**P**	**03 09 38.6**	**+1.0**
	4.8nm,0.9s,mb4.1						
STKA	**Stephens Creek**	**27.80**	**205**	P	**P**	**03 09 39.4**	**+1.7**
	6.0nm,0.9s,mb4.2,baz=22,slow=13,SNR=10						
FITZ	**Fitzroy Crossi**	**30.78**	**246**	*e*P	**P**	**03 10 04.3**	**+0.1**
	4.4nm,0.8s,mb4.3						
SONM	**Songino Array**	**69.39**	**327**	P	**P**	**03 14 57.2**	**+1.2**
	0.9nm,0.7s,mb3.8,baz=134,slow=6.4,SNR=8.7						
VNDA	**Vanda**	**70.60**	**178**	P	**P**	**03 15 02.4**	**-0.6**
	0.6nm,0.8s,mb3.5,baz=352,slow=8.1,SNR=3.7						
IMA2	**Indian Mountai**	**81.74**	**19**	*e*P	**P**	**03 16 06.8**	**+0.4**
QSPA	**South Pole Qui**	**83.00**	**180**	*e*P	**P**	**03 16 12.7**	**-0.1**
	2.8nm,0.9s,mb4.3						
COLA	**College**	**83.02**	**21**	*e*P	**P**	**03 16 12.8**	**-0.2**
	2.0nm,0.6s,mb4.3						
MKAR	**Makanchi Array**	**83.47**	**319**	P	**P**	**03 16 14.6**	**-1.2**
	0.4nm,0.5s,mb3.7,baz=101,slow=6.3,SNR=5.5						
YKA	**Yellowknife Ar**	**96.26**	**28**	P	**P**	**03 17 16.0**	**-0.2**
YKA	**Yellowknife Ar**	**96.26**	**28**	P	**P**	**03 17 16.0**	**-0.1**
	0.5nm,0.8s,mb4.0,baz=269,slow=4.3,SNR=10						
BDFB	**Brasilia**	**147.90**	**135**	PKPbc	PKPbc	03 23 36.1	+1.8
	1.2nm,0.6s,baz=164,slow=3.7,SNR=3.1						
TORD	**Torodi Ar. Bea**	**153.14**	**285**	PKPbc	PKPbc	03 23 46.6	-0.2
	0.4nm,0.8s,baz=37,slow=0.7,SNR=4.6						

JMA 05 03:18:10.7±0.2,3211N×13869E,h31km,M3.8, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**1.38**	**43**	P	Pn	03 18 34.2	+0.4
JHJ2				*e*S	Sn	03 18 51.6	+0.6
TK01	**Tokai 1**	**1.89**	**331**	P	Pn	03 18 42.0	+1.1
TK01				*e*S	Sn	03 19 05.3	+1.7
TK02	**Tokai 2**	**1.99**	**337**	P	Pn	03 18 43.4	+1.2
TK02				S	Sn	03 19 09.2	+3.1
TK03	**Tokai 3**	**2.14**	**344**	P	Pn	03 18 46.0	+1.8
TK03				*e*S	Sn	03 19 12.5	+2.8
TK04	**Tokai 4**	**2.37**	**343**	P	Pn	03 18 48.8	+1.4
TK04				*e*S	Sn	03 19 18.1	+2.7
JHMK	**Hamakita**	**2.81**	**344**	*e*S	Sn	03 19 26.3	0.0
JIE	**Ise**	**2.82**	**324**	P	Pn	03 18 55.0	+1.4
JIE				*e*S	Sn	03 19 27.7	+1.2
JKN2	**Miekihoku**	**2.94**	**317**	P	Pn	03 18 56.8	+1.6
JNY	**Yasuok**	**3.31**	**348**	P	Pn	03 19 01.9	+1.5
JAO	**Obara**	**3.37**	**340**	P	Pn	03 19 02.7	+1.6
JYN	**Shimob**	**3.38**	**358**	P	Pn	03 19 03.5	+2.2
JYN				*e*S	Sn	03 19 43.4	+3.0
JWT	**Wachi**	**4.19**	**320**	P	Pn	03 19 14.9	+2.5
JWT				*e*S	Sn	03 20 01.8	+1.6
MAT	**Matsushiro**	**4.44**	**355**	P	Pn	03 19 18.3	+2.4
MAT				S	Sn	03 20 09.7	+3.2

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*IDC **05** 03:25:02.5±0.7,1743S×17680W,h0km,mb4.3/15, mb1 4.5/16,mb1mx4.4/20,mbtmp4.3/16,MS5.2/12, Ms1 5.2/12,ms1mx5.0/25,Error ellipse: s-maj=24.8km s-min=16.6km az=143.0*
*SZGRF **05** 03:25:02.2,1950S×17550W,h33km,Tonga Islands*
*ISCJB **05** 03:25:05.8±0.3,1718S±008×17689W±005,h31km, mb4.9/69,MS5.1/18,Error ellipse: s-maj=11.7km s-min=5.7km az=154.6*
*BJI **05** 03:25:05.9,17.17S×17732W,h19km,mB5.2,mb4.9,Ms5.4, Msz5.0*
*NEIC **05** 03:25:07.5±0.2,1700S×17694W,mb5.1/50,MW5.7,Error ellipse: s-maj=9.1km s-min=4.4km az=148.0,Moment Tensor Solution. s3 Moment tensor: Scale 10^{17}Nm; M_{rr}0.05; $M_{\theta\theta}$-4.11; $M_{\phi\phi}$4.06; $M_{r\theta}$-0.17; $M_{\theta\phi}$0.67; $M_{\phi r}$0.55; Best double couple: $M_0$4.20000×10^{17} NP1:ϕ_s50.00000°, δ83.00000°,λ3.00000°. NP2:ϕ_s319.00000°,δ87.00000°, λ173.00000°. Principal axes: T 4.1800, Plg7.0000°, Azm274.0000°; N 0.0000, Plg82.0000°, Azm116.0000°; P -4.1800, Plg3.0000°, Azm5.0000°;*
*GCMT **05** 03:25:07.5±0.2,1710S×17679W,h16km,MW5.6/89, Moment Tensor Solution. s65,c108; s89,c206; Duration: 1ᵗ5 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.28±.05; $M_{\theta\theta}$-2.66±.05; $M_{\phi\phi}$2.94±.05; $M_{r\theta}$-0.01±.12; $M_{\theta\phi}$1.20±.04; $M_{\phi r}$0.91±.14; Best double couple: $M_0$3.16000×10^{17} NP1:ϕ_s57.00000°,δ77.00000°, λ7.00000°. NP2:ϕ_s326.00000°,δ83.00000°,λ167.00000°. Principal axes: T 3.4000, Plg14.0000°, Azm281.0000°; N -0.4810, Plg76.0000°, Azm119.0000°; P -2.9200, Plg4.0000°, Azm12.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
*MOS **05** 03:25:11.6±1.7,1608S×17657W,h33km,mb5.2/20 Error ellipse: s-maj=15.9km s-min=11.1km az=64.1*
ISC 05 03:25:07.8±0.3,1711S±007×17689W±005,h32km, h32km±.4km:pP-P,n213,σ0.97/128,mb4.9/69,MS5.1/18, 12C-4D,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**5.86**	**58**	*e*Pn	**Pn**	**03 26 28.1**	**-4.5**
FUNA	**Funafuti**	**9.34**	**335**	*e*Pn	**Pn**	**03 27 17.9**	**-2.4**
RAO	**Raoul Island**	**12.12**	**184**	LR	LR	03 31 43.5	
	comp=Z,16μm,21.6s,baz=31,slow=34						
DZM	**Mont Dzumac**	**16.46**	**250**	Pn	**Pn**	**03 28 56.5**	**+0.1**
	baz=69,slow=14,SNR=4.8						
RAR	**Rarotonga**	**16.68**	**107**	LR	LR	03 33 50.9	
	comp=Z,7μm,21.0s,baz=200,slow=32						
URZ	**Urewera**	**

KAKA	**Kakadu**	**49.06**	**268**	*e*P	**P**	**03 33 51.9**	**-0.4**
	comp=Z,18nm,0.7s,mb5.2						
FORT	**Forrest**	**51.66**	**244**	*e*P	**P**	**03 34 12.7**	**+0.9**
	comp=Z,18nm,0.8s,mb5.0						
FITZ	**Fitzroy Crossi**	**54.59**	**260**	P	**P**	**03 34 33.6**	**0.0**
	comp=Z,2.7nm,0.8s,mb4.3,baz=283,slow=11,SNR=4.0						
FITZ				LR	LR	03 54 53.8	
	comp=Z,2μm,22.0s,MS5.1,baz=160,slow=33						
DRV				L		03 49 00.0	
DRV				R		03 52 00.0	
DRV	**Dumont d'Urvil**	**56.89**	**199**	S	**S**	**03 42 55.0**	**+15**
MBWA	**Marble Bar**	**59.68**	**255**	*e*P	**P**	**03 35 08.6**	**-1.0**
	comp=Z,36nm,1.4s,mb5.2						
KLBR	**Kellerberrin**	**60.48**	**243**	*e*P	**P**	**03 35 10.8**	**-4.1**
	comp=Z,29nm,1.0s,mb5.3						
NWAO	**Narrogin (SRO)**	**60.87**	**241**	LR	LR	03 58 46.7	
	comp=Z,1μm,18.5s,MS5.0,baz=96,slow=33						
VNDA	**Vanda**	**61.36**	**185**	*e*P	**P**	**03 35 21.2**	**+1.1**
	comp=Z,9.7nm,1.7s,mb4.7						
VNDA				LR	LR	03 57 14.9	
VNDA	**Vanda**	**61.36**	**185**	*e*P	**P**	**03 35 21.2**	**+1.1**
VNDA				pmax	pmax		
	comp=Z,10.0nm,1.7s						
VNDA	**Vanda**	**61.36**	**185**	P	**P**	**03 35 16.3**	**-3.8**
	comp=Z,0.4nm,0.8s,mb3.6,baz=49,slow=15,SNR=3.0						
VNDA				LR	LR	03 57 14.9	
	comp=Z,806nm,19.4s,MS4.9,baz=35,slow=32						
CASY	**Casey**	**67.47**	**205**	*e*P	**P**	**03 36 01.1**	**+1.0**
	comp=Z,124nm,1.4s,mb5.8						
MJAR	**Matsushiro Arr**	**68.15**	**322**	P	**P**	**03 36 07.2**	**+2.3**
	comp=Z,5.1nm,0.9s,mb4.5,baz=152,slow=4.5,SNR=6.6						
MAJO	**Matsushiro**	**68.15**	**322**	*e*P	**P**	**03 36 06.0**	**+1.1**
	comp=Z,16nm,1.1s,mb5.0						
MAJO	**Matsushiro**	**68.15**	**322**	*e*P	**P**	**03 36 06.0**	**+1.1**
MAJO				pmax	pmax		
	comp=Z,16nm,1.1s,mb5.0						
QSPA	**South Pole Qui**	**72.94**	**180**	*e*P	**P**	**03 36 32.9**	**-0.6**
	comp=Z,11nm,0.9s,mb4.8						
YSS	**Yuzh-Sakhalins**	**73.37**	**332**	*e*P	**P**	**03 36 40.0**	**+3.6**
YSS				pmax	pmax		
	comp=Z,20nm,1.0s,mb5.0						
YSS				MLR	MLR		
	comp=Z,600nm,19.0s,MS4.9						
KSM	**Kuching**	**74.03**	**277**	*e*P	**P**	**03 36 40.3**	**-0.7**
KSRS	**Korea Array**	**75.08**	**317**	P	**P**	**03 36 48.9**	**+2.3**
	comp=Z,0.4nm,0.4s,mb3.7,baz=152,slow=5.5,SNR=4.5						
ISA	**Isabella**	**76.22**	**46**	*e*P	**P**	**03 36 52.6**	**-0.6**
	comp=Z,39nm,1.7s,mb5.1						
ISA				*ep*P	pP	03 37 02.7	-0.7
ISA	**Isabella**	**76.22**	**46**	*e*P	**P**	**03 36 52.6**	**-0.6**
ISA				*e**PP	pP	03 37 02.7	-0.6
ISA				pmax	pmax		
	comp=Z,39nm,1.7s,mb5.1						
OHCM	**Honcut**	**76.32**	**41**	*e*P	**P**	**03 36 53.0**	**-0.6**
OHCM				*ep*P	pP	03 37 03.0	-0.8
SSE	**Sheshan**	**76.36**	**309**	P	**P**	**03 36 53.7**	**-0.3**
SSE				S	S	03 46 44.3	+7.2
SSE				AMB	AMB		
	comp=Z,13nm,0.8s,mb4.9						
SSE				AMB	AMB		
	comp=Z,47nm,5.0s						
SSE				LR	LR		
	comp=N,780nm,30.4s,MS4.8						
SSE				LR	LR		
	comp=E,165nm,31.0s,MS4.8						
SSE				LR	LR		
	comp=Z,427nm,33.0s,MS4.5						
SSE	**Sheshan**	**76.36**	**309**	P	**P**	**03 36 53.7**	**-0.3**
	comp=Z,13nm,0.8s,mb4.9						
SSE				S	S	03 46 44.3	+7.2
SSE				LR	LR		
	comp=Z,430nm,33.0s,MS4.5						
NVAR	**Mina Array Bea**	**77.85**	**43**	P	**P**	**03 37 02.4**	**+0.1**
	comp=Z,1.2nm,0.8s,mb3.9,baz=217,slow=7.2,SNR=8.0						
MDJ	**Mudanjiang**	**78.38**	**324**	P	**P**	**03 37 05.2**	**+0.2**
MDJ				AP	pP	03 37 14.8	-0.5
MDJ				XS	sS	03 47 15.9	+0.6
MDJ				SCS	ScS	03 47 21.2	-1.9
MDJ				SS	SS	03 52 04.1	+1.9
MDJ				AMB	AMB		
	comp=Z,4.0nm,0.5s,mb4.6						
MDJ				AMB	AMB		
	comp=Z,72nm,4.7s						
MDJ				LR	LR		
	comp=N,317nm,15.9s,MS4.9						
MDJ				LR	LR		
	comp=E,271nm,14.9s,MS4.9						
MDJ				LR	LR		
	comp=Z,861nm,14.9s,MS5.2						
TPNV	**Topopah Spring**	**78.42**	**45**	*e*P	**P**	**03 37 05.5**	**0.0**
	comp=Z,33nm,1.8s,mb5.0						
TPNV	**Topopah Spring**	**78.42**	**45**	*e*P	**P**	**03 37 05.5**	**0.0**
TPNV				pmax	pmax		
	comp=Z,33nm,1.8s,mb5.0						
MOD	**Modoc**	**78.54**	**39**	*e*P	**P**	**03 37 06.0**	**0.0**
	comp=Z,21nm,1.5s,mb4.8						
NJ2	**Nanjing**	**78.56**	**309**	*e*P	**P**	**03 37 07.0**	**+0.6**
NJ2				AMB	AMB		
	comp=Z,40nm,0.8s,mb5.4						
WVOR	**Wild Horse Val**	**79.86**	**40**	*e*P	**P**	**03 37 13.0**	**-0.3**
	comp=Z,17nm,1.5s,mb4.8						
WVOR	**Wild Horse Val**	**79.86**	**40**	*e*P	**P**	**03 37 13.0**	**-0.2**
WVOR				pmax	pmax		
	comp=Z,17nm,1.5s,mb4.8						
TUC	**Tucson**	**80.07**	**52**	*e*P	**P**	**03 37 14.5**	**-0.1**
	comp=Z,65nm,2.1s,mb5.2						
TUC	**Tucson**	**80.07**	**52**	*e*P	**P**	**03 37 14.5**	**-0.1**
TUC				pmax	pmax		
	comp=Z,65nm,2.1s,mb5.2						
CN2	**Changchun**	**80.29**	**322**	*e*P	**P**	**03 37 19.9**	**+4.4**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.8						
QIZ	**Qiongzhong**	**80.46**	**293**	P	**P**	**03 37 16.0**	**-1.0**
QIZ				S	S	03 47 22.0	+0.4
QIZ				XS	sS	03 47 37.4	-1.1
QIZ				SS	SS	03 52 35.5	+1.1
QIZ				LR	LR		
	comp=E,648nm,26.0s						
QIZ				LR	LR		
	comp=Z,1μm,27.9s,MS5.0						
TTA	**Tatalina**	**81.44**	**9**	*e*P	**P**	**03 37 21.2**	**0.0**
	comp=Z,46nm,1.5s,mb5.2						
TTA	**Tatalina**	**81.44**	**9**	*e*P	**P**	**03 37 21.2**	**0.0**
TTA				pmax	pmax		
	comp=Z,46nm,1.5s,mb5.2						
HAWA	**Hanford**	**81.60**	**36**	*e*P	**P**	**03 37 22.3**	**-0.1**
	comp=Z,28nm,1.5s,mb5.0						
MSU	**Marysvale**	**82.00**	**46**	*e*P	**P**	**03 37 25.3**	**+0.6**
BMO	**Blue Mountains**	**82.02**	**38**	*e*P	**P**	**03 37 23.3**	**-1.3**
	comp=Z,25nm,1.7s,mb4.9						
BMO	**Blue Mountains**	**82.02**	**38**	*e*P	**P**	**03 37 23.3**	**-1.3**
BMO				pmax	pmax		
	comp=Z,25nm,1.7s,mb4.9						
DUG	**Dugway**	**82.40**	**44**	*e*P	**P**	**03 37 26.2**	**-0.5**
	comp=Z,4.8nm,1.2s,mb4.3						
DUG	**Dugway**	**82.40**	**44**	*e*P	**P**	**03 37 26.2**	**-0.5**
DUG				pmax	pmax		
	comp=Z,5.0nm,1.2s,mb4.3						
TMUT	**Trail Mountain**	**83.04**	**45**	*e*P	**P**	**03 37 29.6**	**-0.6**
HLID	**Hailey**	**83.08**	**40**	*e*P	**P**	**03 37 30.0**	**-0.2**
	comp=Z,25nm,1.6s,mb5.0						
HLID				*ep*P	pP	03 37 40.2	-0.3
SPUT	**South Promonto**	**83.19**	**43**	*e*P	**P**	**03 37 28.9**	**-1.9**
HVU	**Hansel Valley**	**83.21**	**43**	*e*P	**P**	**03 37 31.4**	**+0.4**
	comp=Z,31nm,1.5s,mb5.1						
HVU				*ep*P	pP	03 37 40.7	-0.5
HVU	**Hansel Valley**	**83.21**	**43**	*e*P	**P**	**03 37 31.4**	**+0.5**
HVU				*e**PP	pP	03 37 40.7	-0.5
HVU				pmax	pmax		
	comp=Z,31nm,1.5s,mb5.1						
SEY	**Seymchan**	**83.33**	**346**	*e*P	**P**	**03 37 33.1**	**+2.0**
MCK	**McKinley**	**83.45**	**12**	*e*P	**P**	**03 37 32.6**	**+1.0**
	comp=Z,15nm,1.0s,mb5.0						
MCK	**McKinley**	**83.45**	**12**	*e*P	**P**	**03 37 32.6**	**+1.0**
MCK				pmax	pmax		
	comp=Z,15nm,1.0s,mb5.0						
DAU	**Daniels Canyon**	**83.54**	**44**	*e*P	**P**	**03 37 33.1**	**+0.5**
LAZ	**Ladron**	**83.73**	**51**	*e*P	**P**	**03 37 34.5**	**+0.8**
LAZ				*ep*P	pP	03 37 43.6	-0.5
HWUT	**Hardware Ranch**	**83.91**	**43**	*e*P	**P**	**03 37 33.8**	**-0.7**
	comp=Z,11nm,1.4s,mb4.8						
HWUT				*ep*P	pP	03 37 43.8	-1.1
MNTX	**Cornudas Mount**	**83.93**	**54**	*e*P	**P**	**03 37 34.7**	**-0.2**
	comp=Z,42nm,1.8s,mb5.3						
BNM	**Barren Site**	**84.00**	**52**	*e*P	**P**	**03 37 34.9**	**-0.3**
BNM				*ep*P	pP	03 37 44.6	-0.8
NEW	**Newport**	**84.02**	**35**	*e*P	**P**	**03 37 34.2**	**-0.7**
	comp=Z,3.4nm,0.8s,mb4.5						
NEW	**Newport**	**84.02**	**35**	*e*P	**P**	**03 37 34.2**	**-0.7**
NEW				pmax	pmax		
	comp=Z,3.0nm,0.8s						
LPM	**Los Pinos Moun**	**84.07**	**52**	*e*P	**P**	**03 37 36.7**	**+1.2**
BJI	**Beijing**	**84.25**	**315**	P	**P**	**03 37 36.7**	**+0.4**
BJI				XP	sP	03 37 50.1	-0.2
BJI				S	S	03 48 00.3	+0.8
BJI				SS	SS	03 53 31.2	+1.3
BJI				AMB	AMB		
	comp=Z,8.0nm,1.3s,mb4.7						
BJI				LR	LR		
	comp=N,428nm,14.4s,MS5.2						
BJI				LR	LR		
	comp=E,684nm,16.0s,MS5.2						
BJI				LR	LR		
	comp=Z,591nm,23.8s						
BJI	**Beijing**	**84.25**	**315**	P	**P**	**03 37 36.7**	**+0.4**
	comp=Z,8.0nm,1.3s,mb4.7						
BJI				sP	sP	03 37 50.1	-0.2
BJI				S	S	03 48 00.3	+0.8
BJI				SS	SS	03 53 31.2	+1.3
BJI				LR	LR		
	comp=Z,590nm,23.8s,MS4.9						
BJI	**Beijing**	**84.25**	**315**	P	**P**	**03 37 36.7**	**+0.4**
BJI				*SP	sP	03 37 50.1	-0.2
BJI				S	S	03 48 00.3	+0.8
BJI				SS	SS	03 53 31.2	+1.3
BJI				pmax	pmax		
	comp=Z,8.0nm,1.3s,mb4.7						
BJI				MLR	MLR		
	comp=Z,590nm,23.8s,MS4.9						
TXAR	**Lajitas Array**	**84.34**	**57**	P	**P**	**03 37 37.6**	**+0.6**
	comp=Z,0.9nm,0.9s,mb3.9,baz=219,slow=9.7,SNR=4.8						
ANMO	**Albuquerque**	**84.47**	**51**	*e*P	**P**	**03 37 37.5**	**0.0**
	comp=Z,29nm,1.6s,mb5.2						
ANMO	**Albuquerque**	**84.47**	**51**	*e*P	**P**	**03 37 37.8**	**+0.3**
COLA	**College**	**84.69**	**12**	*e*P	**P**	**03 37 36.8**	**-1.2**
	comp=Z,27nm,1.0s,mb5.3						
COLA	**College**	**84.69**	**12**	*e*P	**P**	**03 37 36.9**	**-1.0**
MCMT	**McKenzie Canyo**	**84.69**	**40**	*e*P	**P**	**03 37 38.8**	**+0.4**
IMA2	**Indian Mountai**	**84.74**	**9**	*e*P	**P**	**03 37 37.8**	**-0.4**
MAW	**Mawson**	**85.10**	**199**	LR	LR	04 10 48.9	
	comp=Z,2μm,20.1s,MS5.5,baz=23,slow=32						
DLMT	**Dillon**	**85.12**	**40**	*e*P	**P**	**03 37 41.5**	**+0.9**
	comp=Z,45nm,1.7s,mb5.3						
DLMT				*ep*P	pP	03 37 49.6	-1.2
TPAW	**Teton Pass**	**85.22**	**42**	*e*P	**P**	**03 37 41.5**	**+0.4**
	comp=Z,33nm,1.5s,mb5.2						
REDW	**Red Top Meadow**	**85.22**	**42**	*e*P	**P**	**03 37 40.9**	**-0.2**
	comp=Z,47nm,1.5s,mb5.4						
REDW				*ep*P	pP	03 37 50.7	-0.8
PSI	**Prapat**	**85.27**	**274**	P	**P**	**03 37 42.8**	**+0.8**
	comp=Z,6.6nm,1.0s,mb4.7,baz=132,slow=7.6,SNR=5.2						
SNOW	**Snow King Moun**	**85.33**	**42**	*e*P	**P**	**03 37 41.8**	**+0.1**
	comp=Z,45nm,1.6s,mb5.3						
SNOW				*ep*P	pP	03 37 51.1	-0.9
IMW	**Indian Meadow**	**85.43**	**41**	*e*P	**P**	**03 37 42.0**	**-0.2**
	comp=Z,28nm,1.5s,mb5.2						
IMW				*ep*P	pP	03 37 51.6	-0.9
MOOW	**Moose Ponds**	**85.48**	**42**	*e*P	**P**	**03 37 43.1**	**+0.7**
	comp=Z,20nm,1.7s,mb5.0						
LOHW	**Long Hollow**	**85.50**	**42**	*e*P	**P**	**03 37 44.8**	**+2.2**
	comp=Z,28nm,1.7s,mb5.2						
CHMT	**Chamberlain Mo**	**85.51**	**38**	*e*P	**P**	**03 37 41.1**	**-1.3**
CHMT				*ep*P	pP	03 37 51.4	-1.4
QLMT	**Earthquake Lak**	**85.57**	**40**	*e*P	**P**	**03 37 43.6**	**+0.8**
QLMT				*ep*P	pP	03 37 53.1	0.0
FLWY	**Flagg Ranch**	**85.67**	**41**	*e*P	**P**	**03 37 44.1**	**+0.8**
	comp=Z,59nm,1.8s,mb5.5						
FLWY				*ep*P	pP	03 37 53.8	+0.2
BW06	**Boulder Array**	**85.78**	**43**	*e*P	**P**	**03 37 42.9**	**-1.0**
	comp=Z,40nm,2.2s,mb5.3						
PDAR	**Pinedale Array**	**85.78**	**43**	P	**P**	**03 37 45.0**	**+1.1**
	comp=Z,0.9nm,1.0s,mb4.0,baz=132,slow=2.2,SNR=5.7						
YMR	**Madison River**	**85.78**	**41**	*e*P	**P**	**03 37 44.1**	**+0.3**
	comp=Z,54nm,1.6s,mb5.5						
YMR				*ep*P	pP	03 37 54.2	0.0
BILL	**Bilibino**	**85.79**	**354**	*e*P	**P**	**03 37 42.5**	**-0.8**
	comp=Z,20nm,1.0s,mb5.3						
BILL	**Bilibino**	**85.79**	**354**	*e*P	**P**	**03 37 45.1**	**+1.7**
BILL				pmax	pmax		
	comp=Z,25nm,1.1s,mb5.4						
BOZ	**Bozeman (W)**	**85.85**	**40**	*e*P	**P**	**03 37 44.0**	**-0.2**
	comp=Z,26nm,1.7s,mb5.2						
BOZ				*ep*P	pP	03 37 53.3	-1.2
BOZ	**Bozeman (W)**	**85.85**	**40**	*e*P	**P**	**03 37 44.0**	**-0.2**
BOZ				*e**PP	pP	03 37 53.3	-1.2
BOZ				pmax	pmax		
	comp=Z,26nm,1.7s,mb5.2						
GYA	**Guiyang**	**85.91**	**299**	P	**P**	**03 37 45.8**	**+0.9**
GYA				AP	pP	03 37 55.8	+0.5
GYA				XP	sP	03 37 59.4	+0.4
GYA				PP	PP	03 41 07.9	+2.7
GYA				SKS		03 48 06.2	
GYA				S	S	03 48 15.6	-1.0
GYA				XS	sS	03 48 31.4	-2.3
GYA				SS	SS	03 53 56.3	+1.3
GYA				AMB	AMB		
	comp=Z,20nm,0.8s,mb5.4						
GYA				AMB	AMB		
	comp=Z,120nm,5.8s						
GYA				LR	LR		
	comp=N,840nm,22.7s,MS5.2						
GYA				LR	LR		
	comp=E,890nm,21.8s,MS5.2						
GYA				LR	LR		
	comp=Z,720nm,20.0s,MS5.1						
SMCO	**Snowmass**	**85.91**	**47**	*e*P	**P**	**03 37 44.4**	**-0.3**
	comp=Z,33nm,1.8s,mb5.3						
SMCO				*ep*P	pP	03 37 53.9	-1.1
DAWY	**Dawson**	**85.92**	**16**	*e*P	**P**	**03 37 43.5**	**-0.6**
DAWY				*ep*P	pP	03 37 53.9	-0.6
HRY	**Holter Researc**	**86.25**	**39**	*e*P	**P**	**03 37 46.1**	**0.0**
HRY				*ep*P	pP	03 37 56.1	-0.4
SDCO	**Great Sand Dun**	**86.34**	**49**	*e*P	**P**	**03 37 46.7**	**-0.1**
	comp=Z,11nm,1.8s,mb4.8						
HHC	**Hu-ho-hao-te**	**87.76**	**314**	*e*P	**P**	**03 37 52.7**	**-0.9**
HHC				AP	pP	03 38 03.6	-0.4
HHC				XP	sP	03 38 07.0	-0.7
HHC				PP	PP	03 41 20.5	+0.7
HHC				SKS		03 48 16.1	
HHC				S	S	03 48 30.2	-3.6
HHC				XS	sS	03 48 47.8	-3.2
HHC				SS	SS	03 54 22.0	+0.6
HHC				AMB	AMB		
	comp=Z,12nm,0.4s,mb5.5						
HHC				AMB	AMB		
	comp=Z,284nm,7.1s						
HHC				LR	LR		
	comp=N,538nm,8.0s						
HHC				LR	LR		
	comp=E,455nm,18.1s						
HHC				LR	LR		
	comp=Z,517nm,23.0s,MS4.9						
EDM	**Edmonton**	**88.70**	**33**	*e*P	**P**	**03 37 56.6**	**-1.2**
EDM				*ep*P	pP	03 38 06.5	-1.6
KMI	**Kunming**	**88.77**	**297**	P	**P**	**03 37 59.7**	**+0.9**
KMI				AP	pP	03 38 09.6	+0.5
KMI				XP	sP	03 38 13.3	+0.5
KMI				AMB	AMB		
	comp=Z,9.0nm,0.5s,mb5.4						
KMI				AMB	AMB		
	comp=Z,74nm,4.0s						
KMI				LR	LR		
	comp=N,467nm,17.1s,MS5.1						
KMI				LR	LR		
	comp=E,606nm,21.1s,MS5.1						
KMI				LR	LR		
	comp=Z,1μm,22.2s,MS5.2						
KMI	**Kunming**	**88.77**	**297**	P	**P**	**03 37 59.7**	**+0.9**
	comp=Z,9.0nm,0.5s,mb5.4						
KMI				pP	pP	03 38 09.6	+0.5
KMI				sP	sP	03 38 13.3	+0.5
KMI				PP	PP	03 41 31.9	+3.7
KMI				SKS		03 48 24.5	
KMI				S	S	03 48 42.6	-1.5
KMI				sS	sS	03 48 58.4	-2.8
KMI				SS	SS	03 54 37.9	+1.1
KMI				SSS		03 58 10.7	
KMI				LR	LR		
	comp=Z,1μm,22.2s,MS5.2						
KMI	**Kunming**	**88.77**	**297**	P	**P**	**03 37 59.7**	**+0.9**
KMI				*PP	pP	03 38 09.6	+0.5
KMI				*SP	sP	03 38 13.3	+0.5
KMI						03 41 31.9	
KMI						03 48 24.5	
KMI				S	S	03 48 42.6	-1.5
KMI				SS	SS	03 54 37.9	+1.1
KMI				SSS		03 58 10.7	
KMI				pmax	pmax		
	comp=Z,9.0nm,0.5s,mb5.4						
KMI				MLR	MLR		
	comp=Z,1μm,22.2s,MS5.2						
CD2	**Chengdu**	**89.86**	**302**	*e*P	**P**	**03 38 03.2**	**-0.6**
CD2				AP	pP	03 38 13.8	-0.3
CD2				XP	sP	03 38 18.1	+0.2
CD2				PP	PP	03 41 38.1	+1.2
CD2				SKS		03 48 29.2	
CD2				S	S	03 48 50.6	-3.5
CD2				XS	sS	03 49 08.2	-3.1
CD2				AMB	AMB		
	comp=Z,20nm,1.2s,mb5.3						
CD2				AMB	AMB		
	comp=Z,50nm,9.4s						
RSSD	**Black Hills**	**89.99**	**43**	*e*P	**P**	**03 38 04.0**	**0.0**
	comp=Z,4.2nm,1.1s,mb4.7						
RSSD	**Black Hills**	**89.99**	**43**	*e*P	**P**	**03 38 04.0**	**0.0**
RSSD				pmax	pmax		
	comp=Z,4.0nm,1.1s,mb4.7						
INK	**Inuvik**	**90.74**	**15**	*e*P	**P**	**03 38 06.8**	**-0.1**
CIT	**Chita**	**91.35**	**325**	*e*P	**P**	**03 38 10.2**	**0.0**
DGMT	**Dagmar**	**91.65**	**39**	*e*P	**P**	**03 38 11.7**	**0.0**
	comp=Z,67nm,1.6s,mb5.7						
YKA	**Yellowknife Ar**	**93.00**	**24**	P	**P**	**03 38 16.7**	**-0.9**
YKA	**Yellowknife Ar**	**93.00**	**24**	P	**P**	**03 38 16.7**	**-0.9**
	comp=Z,0.3nm,0.7s,mb3.8,baz=243,slow=5.0,SNR=5.5						
SONM	**Songino Array**	**93.90**	**319**	P	**P**	**03 38 24.8**	**+2.7**
	comp=Z,0.5nm,0.7s,mb4.0,baz=107,slow=3.6,SNR=3.8						
TIXI	**Tiksi**	**95.76**	**345**	*e*P	**P**	**03 38 33.8**	**+3.8**
TIXI				pmax	pmax		
	comp=Z,2.0nm,1.0s,mb4.5						
MK31	**Makanchi Array**	**109.62**	**314**	*e*PKPdf	PKiKP	03 43 34.9	-0.3
UCH	**Uchtor**	**114.98**	**309**	*e*PKPdf	PKiKP	03 43 45.7	+0.1
AKASG	**Malin Array Be**	**140.51**	**334**	*i* PKIKP	PKiKP	03 44 40.2	+3.9
MALT	**Malatya**	**142.59**	**312**	*e*PKPdf	PKPdf	03 44 37.7	-0.2
LVV	**L'vov**	**143.26**	**337**	*e*PKIKP	PKiKP	03 44 41.8	-0.1
STHS	**Stebnicka Huta**	**144.58**	**339**	*e*PKP	PKPdf	03 44 40.5	-0.5
KSP	**Ksiaz**	**144.73**	**346**	*e*PKP	PKiKP	03 44 45.6	+0.7
UZH	**Uzhgorod**	**144.88**	**338**	*e*PKIKP	PKPdf	03 44 41.4	-0.1
UZH				*e*		03 44 51.8	
CRVS	**Cervenica-Dubn**	**144.95**	**339**	*e*PKP	PKPdf	03 44 41.1	-0.5
CLL	**Collm**	**144.98**	**349**	*e*PKPbc	PKPdf	03 44 42.6	+1.0
CLL	**Collm**	**144.98**	**349**	*e*PKPdf	PKPdf	03 44 43.0	+1.4
CLL				*i* sPKPdf		03 44 53.5	
UPC	**Upice**	**145.11**	**346**	*e*PKP	PKPdf	03 44 42.6	+0.7
UPC				*ep*PKP	pPKPdf	03 44 51.0	-1.5
OKC	**Ostrava-Krasne**	**145.17**	**343**	*e*PKP	PKiKP	03 44 45.4	-0.5
OKC				*ep*PKP	pPKPdf	03 44 50.2	-2.5
DPC	**Dobruska-Polom**	**145.18**	**345**	*e*PKP	PKPdf	03 44 40.7	-1.3
TRPA	**Tarpa**	**145.21**	**337**	⇑*i*P	PKiKP	03 44 46.3	+0.3
BRG	**Berggiesshubel**	**145.22**	**348**	*e*PKIKP	PKiKP	03 44 47.3	+1.4
BRG				pmax	pmax		
	comp=Z,12nm,1.5s						
BRG	**Berggiesshubel**	**145.22**	**348**	*e*PKP	PKiKP	03 44 47.3	+1.3
	comp=Z,20nm,1.5s						
VRI	**Vrincioaia**	**145.22**	**331**	⇓P	PKiKP	03 44 47.3	+1.2
VRI	**Vrincioaia**	**145.22**	**331**	⇓*i*P	PKiKP	03 44 47.3	+1.2
PLOR	**Plostina**	**145.27**	**331**	⇑*i*P	PKiKP	03 44 47.3	+1.1
MORC	**Moravsky Berou**	**145.39**	**343**	*e*PKPdf	PKPdf	03 44 42.3	-0.1
MORC	**Moravsky Berou**	**145.39**	**343**	⇑*i*P	PKPbc	03 44 42.7	+0.4
PVCC	**Panska Ves**	**145.41**	**347**	*e*PKP	PKPdf	03 44 44.2	+1.8
PVCC				*ep*PKP	pPKPdf	03 44 51.0	-2.1
KECS	**Kecovo**	**145.64**	**339**	*e*PKP	PKiKP	03 44 45.4	-1.5
ANTO	**Ankara**	**145.70**	**317**	*e*PKPbc	PKPbc	03 44 44.4	+0.8
MOX	**Moxa**	**145.85**	**350**	*e*PKPbc	PKPbc	03 44 44.5	+0.8
MOX				*e*PKPab	PKPab	03 44 48.7	+4.6
MLR	**Muntele Rosu**	**145.87**	**331**	⇑P	PKPdf	03 44 43.7	+0.4
MLR	**Muntele Rosu**	**145.87**	**331**	⇑*i*P	PKPdf	03 44 43.7	+0.4
UBBA	**Unterbreizbach**	**145.92**	**352**	*e*PKPbc	PKPbc	03 44 45.2	+1.3
UBBA				*e*PKPab	PKPab	03 44 48.8	+4.4
PRU	**Pruhonice**	**145.93**	**347**	*e*PKP	PKPdf	03 44 44.3	+1.0
PRU				*ep*PKP	pPKPdf	03 44 55.3	+1.3
TANN	**Tannenbergstha**	**145.93**	**349**	*e*PKPbc	PKPbc	03 44 45.0	+1.0
TANN				*e*PKPab	PKPab	03 44 49.7	+5.3
VRAC	**Vranov**	**146.07**	**344**	⇑P	PKiKP	03 44 50.7	+2.9
VRAC	**Vranov**	**146.07**	**344**	⇑*i*P	PKiKP	03 44 50.7	+3.0
NKC	**Novy Kostel**	**146.11**	**349**	*e*PKP	PKPab	03 44 46.2	+1.1
VYHS	**Vyhne**	**146.16**	**341**	*e*PKP	PKPdf	03 44 44.9	+1.2
DRGR		**146.25**	**335**	⇑P	PKiKP	03 44 51.2	+3.0
DRGR		**146.25**	**335**	⇑*i*P	PKiKP	03 44 51.2	+3.0
PSZ	**Piszkesteto**	**146.33**	**339**	*e*PKPbc	PKPbc	03 44 44.9	-0.3
TREC	**Trest**	**146.36**	**345**	*e*PKP	PKPdf	03 44 45.7	+1.7
TNS	**Taunus Mts**	**146.69**	**354**	*e*PKPbc	PKPbc	03 44 47.5	+1.3
TNS				*e*PKPab	PKPab	03 44 51.2	+3.9
MODS	**

KSRS	Korea Array	28.72 328	P	P	03 32 32.1	+0.9
	1.1nm,0.8s,baz=148,slow=9.1,SNR=4.3					
SONM	Songino Array	47.41 324	P	P	03 35 07.4	-0.9
	0.2nm,0.7s,baz=111,slow=8.9,SNR=3.1					
ZALV	Zalesovo Beam	62.31 324	P	P	03 36 56.6	+0.5
	0.4nm,0.3s,baz=111,slow=7.9,SNR=3.1					
YKA	Yellowknife Ar	81.98 28	P	P	03 38 53.8	+0.1
	0.5nm,0.6s,baz=286,slow=5.5,SNR=11					

*IDC **05** 03:29:44.5±1.0, 837S×15743E, h0km, mb4.0/5, mb1 4.2/6, mb1mx3.9/15, mbtmp4.1/6, ML4.3/1, Error ellipse: s-maj=28.9km s-min=23.9km az=10.0*
*NEIC **05** 03:29:45.6±0.5, 838S×15745E, h10km, mb4.2/3, Error ellipse: s-maj=14.7km s-min=11.1km az=160.0*
*ISCJB **05** 03:29:47.7±0.6, 84S±01×15737E±007, h33km, mb4.0/7, Error ellipse: s-maj=16.7km s-min=9.2km az=11.1*

ISC 05 03:29:49.5±0.6, 84S±01×15738E±007, h35km, n11, σ0§98/11, mb4.0/7, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	2.74	113	Pn	Pn	03 30 28.9	-2.2
	47nm,0.3s,baz=258,slow=4.4,SNR=7.2						
HNR				Sn	Sn	03 31 04.2	+1.2
	89nm,0.3s,baz=95,slow=14,SNR=9.5						
WRAB	Tennant Creek	25.08	240	eP	P	03 35 10.5	-0.4
	5.5nm,0.6s,mb4.3						
WB2	Warramunga Arr	25.08	240	eP	P	03 35 10.4	-0.6
WRA	Warramunga Arr	25.09	240	P	P	03 35 11.0	-0.1
	5.4nm,0.7s,mb4.2,baz=67,slow=9.1,SNR=13						
STKA	Stephens Creek	27.62	210	P	P	03 35 34.5	+0.8
	1.9nm,0.7s,mb3.9,baz=38,slow=16,SNR=4.6						
SONM	Songino Array	71.77	327	P	P	03 41 09.4	+1.2
	0.4nm,0.7s,baz=129,slow=5.6,SNR=4.1						
MCK	McKinley	82.46	21	eP	P	03 42 07.5	-0.4
	1.1nm,0.6s,mb4.0						
COLA	College	83.51	21	eP	P	03 42 12.4	-1.0
	1.2nm,0.7s,mb4.1						
MKAR	Makanchi Array	86.00	318	P	P	03 42 27.6	+1.3
	0.3nm,0.3s,mb4.0,baz=110,slow=3.4,SNR=3.6						
YKA	Yellowknife Ar	96.44	28	P	P	03 43 14.6	-0.1
	0.2nm,0.8s,mb3.6,baz=259,slow=4.4,SNR=3.8						
BDFB	Brasilia	145.33	133	PKPbc	PKPbc	03 49 24.4	0.0
	1.5nm,0.8s,baz=243,slow=2.3,SNR=3.9						

*IDC **05** 03:30:51.7±0.8, 860S×15761E, h0km, mb4.4/13, mb1 4.6/13, mb1mx4.5/16, mbtmp4.4/13, Error ellipse: s-maj=28.3km s-min=18.1km az=117.0*
*NEIC **05** 03:30:53.4±0.4, 853S×15756E, h10km, mb4.8/20, Error ellipse: s-maj=12.9km s-min=8.6km az=132.0*
*BJI **05** 03:30:56.6, 771S×15745E, h7km, mB5.1, mb4.8, Ms5.0, Msz4.9*
*ISCJB **05** 03:30:57.3±1.8, 858S±008×15748E±007, h49km±17km, mb4.6/30, Error ellipse: s-maj=15.0km s-min=9.1km az=146.1*

ISC 05 03:30:58.9±1.7, 862S±008×15756E±007, h51km±17km, n50, σ1§04/49, mb4.6/30, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	2.49	109	Pn	Pn	03 31 36.2	-0.8
	161nm,0.3s,baz=26,slow=2.8,SNR=5.5						
HNR				Sn	Sn	03 32 10.7	+4.5
	184nm,0.3s,baz=82,slow=22,SNR=13						
CTA	Charters Tower	15.79	223	eP	Pn	03 34 39.0	+1.0
	5.8nm,0.6s						
CTA	Charters Tower	15.79	223	Pn	Pn	03 34 39.1	+1.0
	0.6nm,0.3s,baz=49,slow=13,SNR=7.8						
CTAO	Charters Tower	15.79	223	eP	Pn	03 34 39.0	+0.9
	7.5nm,0.6s						
ARMA	Armidale	22.38	194	eP	P	03 35 54.9	+2.0
KAKA	Kakadu	25.01	258	eP	P	03 36 17.5	-0.8
	18nm,0.7s,mb4.7						
WRAB	Tennant Creek	25.11	241	eP	P	03 36 18.0	-1.1
	20nm,0.6s,mb4.8						
WB2	Warramunga Arr	25.11	241	eP	P	03 36 17.2	-2.0
WRA	Warramunga Arr	25.12	241	P	P	03 36 18.6	-0.7
	20nm,0.7s,mb4.8,baz=66,slow=9.2,SNR=33						
WRA				PcP	PcP	03 39 52.7	+0.1
	1.6nm,0.7s,baz=70,slow=2.6,SNR=5.9						
ASAR	Alice Springs	27.13	234	P	P	03 36 35.6	-1.8
	3.6nm,0.8s,mb4.0,baz=64,slow=9.1,SNR=5.2						
ASAR				PcP	PcP	03 39 57.5	+0.2
	1.0nm,0.7s,baz=90,slow=2.5,SNR=5.3						
STKA	Stephens Creek	27.48	210	eP	P	03 36 41.6	+1.1
	8.3nm,0.6s,mb4.4						
STKA	Stephens Creek	27.48	210	P	P	03 36 41.8	+1.3
	9.6nm,0.7s,mb4.5,baz=28,slow=13,SNR=17						
FITZ	Fitzroy Crossi	32.40	250	eP	P	03 37 22.8	-1.4
	7.2nm,1.5s,mb4.3						
FITZ	Fitzroy Crossi	32.40	250	P	P	03 37 25.5	+1.3
	2.2nm,0.6s,mb4.2,baz=70,slow=6.4,SNR=5.7						
FORT	Forrest	35.26	227	eP	P	03 37 49.8	+1.0
	1.6nm,0.7s,mb4.1						
NNZ	Nelson	35.36	159	SN	S	03 43 12.5	-8.0
MQZ	McQueen's Vall	37.35	162	SN	S	03 44 03.2	+12
MBWA	Marble Bar	38.51	247	eP	P	03 38 15.0	-1.6
	17nm,1.1s,mb4.7						
KLBR	Kellerberrin	43.45	233	eP	P	03 38 55.5	-1.7
	56nm,1.9s,mb5.0						
KKM	Kota Kinabalu	43.72	288	eP	P	03 39 01.9	+2.4
JNU	Nakatsue	48.66	330	P	P	03 39 37.8	-0.3
	6.7nm,0.9s,mb4.7,baz=17,slow=1.5,SNR=4.4						
KSRS	Korea Array	53.57	331	P	P	03 40 14.9	+0.1
	3.2nm,1.0s,mb4.2,baz=153,slow=8.8,SNR=8.4						
NJ2	Nanjing	54.79	319	eP	P	03 40 24.2	+0.4
NJ2				AMB	AMB		
	comp=Z,50nm,0.7s,mb5.7						
KMI	Kunming	63.03	304	P	P	03 41 22.5	+1.4
KMI				AMB	AMB		
	comp=Z,12nm,1.1s,mb4.9						
KMI	Kunming	63.03	304	P	P	03 41 22.5	+1.4
	comp=Z,12nm,1.1s,mb4.9						
CHTO	Chiang Mai	63.89	296	eP	P	03 41 27.6	+0.7
	comp=Z,2.7nm,0.5s,mb4.5						
LZH	Lanzhou	67.25	315	eP	P	03 41 50.0	+1.7
LZH				AP	pP	03 41 54.6	-8.0
LZH				XP	sP	03 41 57.3	-11
LZH				PP	PP	03 44 20.5	+3.3
LZH				eS	S	03 50 44.1	+4.4
LZH				XS	sS	03 50 51.8	-12
LZH				AMB	AMB		
	comp=Z,26nm,1.5s,mb5.0						
LZH				AMB	AMB		
	comp=Z,81nm,7.5s						
LZH				LR	LR		
	comp=N,475nm,16.4s						
LZH				LR	LR		
	comp=Z,797nm,19.2s						
LZH	Lanzhou	67.25	315	eP	P	03 41 50.0	+1.7
	comp=Z,26nm,1.5s,mb5.0						
LZH				pP	pP	03 41 54.6	-8.0
LZH				sP	sP	03 41 57.3	-11
LZH				PP	PP	03 44 20.5	+3.3
LZH				eS	S	03 50 44.1	+4.4
LZH				sS	sS	03 50 51.8	-12
LZH				eSS	SS	03 55 05.3	+5.0
LZH				LR	LR		
	comp=Z,800nm,19.2s						
VNDA	Vanda	68.91	179	eP	P	03 41 58.0	+0.1
	comp=Z,5.9nm,1.5s,mb4.3						
SONM	Songino Array	72.08	327	P	P	03 42 18.6	+0.8
	comp=Z,1.5nm,0.7s,mb4.0,baz=140,slow=6.1,SNR=7.6						
SHL	Shillong	72.31	300	eP	P	03 42 20.0	+0.4
BILL	Biiibino	76.72	3	eP	P	03 42 44.3	0.0
	comp=Z,3.3nm,0.7s,mb4.4						
PALK	Pallekele	78.21	279	eP	P	03 42 54.7	+0.9
	comp=Z,7.3nm,0.8s,mb4.7						
SVW2	Sparrevohn	78.56	21	eP	P	03 42 54.9	+0.2
TTA	Tatalina	79.67	20	eP	P	03 43 00.5	-0.2
	comp=Z,17nm,0.9s,mb5.0						
PMR	Palmer	81.27	23	eP	P	03 43 08.6	-0.7
	comp=Z,7.7nm,0.7s,mb4.7						
QSPA	South Pole Qui	81.36	180	eP	P	03 43 10.1	+0.4
	comp=Z,7.6nm,1.0s,mb4.6						
IMA2	Indian Mountai	82.53	18	eP	P	03 43 15.8	0.0
MCK	McKinley	82.63	21	eP	P	03 43 15.4	-1.0
	comp=Z,29nm,0.9s,mb5.3						
COLA	College	83.69	20	eP	P	03 43 20.1	-1.8
	comp=Z,13nm,0.8s,mb5.1						
MAW	Mawson	83.88	203	P	P	03 43 23.0	+0.1
	comp=Z,4.2nm,0.8s,mb4.6,baz=82,slow=2.5,SNR=4.9						
MKAR	Makanchi Array	86.30	318	P	P	03 43 35.3	-0.1
	comp=Z,2.0nm,0.7s,mb4.4,baz=103,slow=6.0,SNR=7.7						
DAWY	Dawson	86.37	23	eP	P	03 43 34.9	-0.5
ZALV	Zalesovo Beam	86.95	326	P	P	03 43 37.5	-0.9
	comp=Z,0.5nm,0.4s,mb4.1,baz=121,slow=5.7,SNR=2.7						
NVAR	Mina Array Bea	90.74	51	P	P	03 43 57.6	+1.0
	comp=Z,1.2nm,0.8s,mb4.3,baz=246,slow=6.8,SNR=8.7						
YKA	Yellowknife Ar	96.58	28	P	P	03 44 23.1	+0.2
YKA	Yellowknife Ar	96.58	28	P	P	03 44 23.1	+0.2
	comp=Z,0.9nm,0.8s,mb4.3,baz=265,slow=4.8,SNR=9.9						
PDAR	Pinedale Array	97.90	48	P	P	03 44 29.4	0.0
	comp=Z,0.4nm,0.9s,mb4.0,baz=240,slow=2.9,SNR=3.8						
ESDC	Sonseca Array	144.94	335	PKP	PKPdf	03 50 29.8	-1.0
	comp=Z,0.8nm,0.7s,baz=34,slow=3.3,SNR=4.8						
BDFB	Brasilia	145.03	133	PKPbc	PKPbc	03 50 30.2	-0.8
	comp=Z,3.3nm,0.8s,baz=202,slow=10,SNR=8.6						

*ISCJB **05** 03:39:21.3±5.6, 70S±01×15490E±008, h4km±34km, mb4.0/10, Error ellipse: s-maj=19.4km s-min=10.8km az=28.0*
*IDC **05** 03:39:22.4±0.9, 697S×15490E, h0km, mb4.1/9, mb1 4.2/10, mb1mx4.1/16, mbtmp4.1/10, ML4.5/1, Error ellipse: s-maj=25.8km s-min=21.0km az=107.0*
*NEIC **05** 03:39:25.8±8.3, 697S×15492E, h24km±62km, mb4.4/1, Error ellipse: s-maj=29.4km s-min=12.3km az=147.0*

ISC 05 03:39:22.6±6.8, 69S±01×15487E±008, h2km±42km, n14, σ0§77/14, mb4.0/10, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	5.61	117	Pn	Pn	03 40 47.0	-0.1
	15nm,0.3s,baz=263,slow=7.0,SNR=5.2						
HNR				Sn	Sn	03 41 52.6	+0.4
	23nm,0.3s,baz=353,slow=2.5,SNR=5.1						
WRA	Warramunga Arr	23.75	235	P	P	03 44 36.1	-0.6
	3.1nm,0.8s,mb3.8,baz=61,slow=9.9,SNR=9.8						
ASAR	Alice Springs	26.12	228	P	P	03 44 59.5	+1.3
	1.0nm,0.9s,mb3.4,baz=75,slow=8.3,SNR=5.3						
STKA	Stephens Creek	27.74	205	P	P	03 45 12.2	-0.5
	1.1nm,0.7s,mb3.6,baz=31,slow=13,SNR=3.5						
FITZ	Fitzroy Crossi	30.57	246	P	P	03 45 37.8	-0.3
	2.8nm,0.7s,mb4.2,baz=116,slow=9.3,SNR=5.8						
KSRS	Korea Array	50.83	332	P	P	03 48 26.2	+1.4
	0.9nm,0.5s,mb3.9,baz=154,slow=8.5,SNR=5.0						
SONM	Songino Array	69.22	327	P	P	03 50 32.1	+1.2
	1.9nm,0.7s,mb4.1,baz=135,slow=6.8,SNR=13						
MK31	Makanchi Array	83.28	319	eP	P	03 51 51.2	+0.2
MKAR	Makanchi Array	83.28	319	P	P	03 51 51.1	+0.2
	1.9nm,0.7s,mb4.2,baz=98,slow=5.8,SNR=11						
ZALV	Zalesovo Beam	84.06	326	P	P	03 51 53.7	-1.1
	1.3nm,0.7s,mb4.2,baz=119,slow=5.6,SNR=4.8						
KURK	Kurchatov	86.71	322	eP	P	03 52 07.7	-0.5
	1.0nm,0.4s,mb4.4						
INK	Inuvik	89.71	21	eP	P	03 52 21.4	-0.6
YKA	Yellowknife Ar	96.34	28	P	P	03 52 51.8	-0.9
	0.2nm,0.7s,mb3.7,baz=267,slow=4.9,SNR=4.5						
TORD	Torodi Ar. Bea	152.89	285	PKPbc	PKPbc	03 59 23.3	+0.7
	0.3nm,0.7s,baz=24,slow=1.2,SNR=5.4						
TORD				PKPab	PKPab	03 59 33.1	-0.6
	0.2nm,0.6s,baz=90,slow=4.3,SNR=3.1						

*NEIC **05** 03:40:18.2, 1702N×10006W, h9km, MD3.7(MEX), After MEX.*

MEX 05 03:40:18.1±0.9, 1698N×10008W, h16km±11km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	El Cayaco	0.19	290	iP	Pg	03 40 22.3	-0.4
CAIG				iS	Sg	03 40 24.4	-1.4
ACX	Acapulco	0.20	127	iP	Pg	03 40 22.1	-0.6
ACX				iS	Sg	03 40 24.6	-1.3
MEIG	Mezcala	1.03	25	iP	Pb	03 40 34.8	-2.8
MEIG				iS	Sb	03 40 45.8	-5.2
UTMO	Huajuapan	2.33	69	eP	Pn	03 40 53.6	-2.2
UTMO				iS	Sn	03 41 19.8	-4.4
PPM	Popocatepetl	2.49	34	iP	Pn	03 40 43.8	-14
PPM				iS	Sn	03 41 23.0	-5.1
PPM	Popocatepetl	2.49	34	iP	Pn	03 40 43.8	-14
PPM				iS	Sn	03 41 24.6	-3.4
IIO	Organos	2.90	26	eP	Pn	03 41 00.7	-2.9
IIO				iS	Sn	03 41 35.6	-2.5
IIO	Organos	2.90	26	eP	Pn	03 41 00.9	-2.6
IIO				iS	Sn	03 41 35.6	-2.5

*CSEM **05** 03:54:25.1, 3472N×2481E, h11km, MD3.5/5, After ATH*
*NEIC **05** 03:54:25.1, 3472N×2481E, h11km, MD3.5(ATH), After ATH.*

ATH 05 03:54:25.1, 3472N×2481E, h11km±6km, MD3.5/5, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVD	Gavdhos	0.61	282	ePB	Pb	03 54 37.1	-0.6
XRY	Khrisi	0.74	78	ePB	Pb	03 54 39.5	-0.6
VAM	Vamos	0.85	324	ePG	Pg	03 54 40.8	-0.7
VAM				eSB	Sb	03 54 53.6	+0.3
NPS	Neapolis	0.85	50	ePB	Pb	03 54 40.5	-1.4
NPS				eSB	Sb	03 54 53.1	-0.3
KARP	Karpathos	2.10	66	ePN	Pn	03 55 02.6	+2.5

*ISCJB **05** 03:54:31.6±0.8, 5149N±004×1607E±004, h0km, Error ellipse: s-maj=6.5km s-min=3.1km az=17.0*
*WAR **05** 03:54:31, 5147N×1609E, ML2.2, Mining Induced*
*PRU **05** 03:54:33.7, 5147N×1605E, h0km*
*NEIC **05** 03:54:33.1±1.6, 5135N×1588E, h5km, ML2.7(SZGRF), ML2.5(BRA), Error ellipse: s-maj=17.7km s-min=6.3km az=193.0*
*CSEM **05** 03:54:34.5±0.3, 5145N×1605E, h1km, ML2.7, Error ellipse: s-maj=5.0km s-min=2.2km az=15.0*

ISC 05 03:54:33.2±0.8, 5150N±004×1605E±004, h0km, n25, σ1§01/45, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	Ksiaz	0.67	167	ePg	Pg	03 54 46.4	+0.3
KSP				eSg	Sg	03 54 54.8	+0.1
UPC	Upice	0.99	182	ePg	Pg	03 54 52.7	+0.5
UPC	Upice	0.99	182	ePG	Pg	03 54 52.7	+0.5
DPC	Dobruska-Polom	1.16	171	ePg	Pg	03 54 55.2	-0.2
DPC				eSg	Sg	03 55 09.3	-1.1
DPC	Dobruska-Polom	1.16	171	ePG	Pg	03 54 55.2	-0.2
DPC				eSG	Sg	03 55 09.3	-1.1
	16nm,0.3s						
PVCC	Panska Ves	1.35	225	ePg	Pg	03 54 59.8	+0.8
PVCC				eSg	Sg	03 55 17.2	+0.7
PVCC	Panska Ves	1.35	225	ePG	Pg	03 54 59.8	+0.8
PVCC				eSG	Sg	03 55 17.2	+0.7
	65nm,0.2s						
BRG	Berggiesshubel	1.47	246	Pg	Pg	03 55 02.2	+0.9
BRG				Sg	Sg	03 55 22.3	+1.9
BRG	Berggiesshubel	1.47	246	PG	Pg	03 55 02.2	+0.9
BRG				SG	Sg	03 55 22.3	+1.9
	22nm,0.3s						
BRG	Berggiesshubel	1.47	246	Pg	Pg	03 54 58.3	-3.0
PRU	Pruhonice	1.79	213	ePg	Pg	03 55 06.9	-0.6
PRU				eSg	Sg	03 55 30.6	-0.1
PRU	Pruhonice	1.79	213	ePG	Pg	03 55 06.9	-0.6
PRU				eSG	Sg	03 55 30.6	-0.1
CLL	Collm	1.92	266	iPg	Pn	03 55 07.0	-0.1
CLL				ex	Pg	03 55 09.0	-1.0
CLL				eSg	Sg	03 55 35.0	+0.1
MORC	Moravsky Berou	1.96	151	ePn	Pn	03 55 06.9	-0.8
MORC				eSg	Sn	03 55 33.3	+0.2
MORC	Moravsky Berou	1.96	151	ePg	Pn	03 55 07.3	-0.4
MORC				eSg	Sn	03 55 33.3	+0.3
OKC	Ostrava-Krasne	2.13	140	ePG	Pg	03 55 12.6	-1.4
VRAC	Vranov	2.22	171	ePg	Pn	03 55 10.8	-0.4
NKC	Novy Kostel	2.61	242	ePN	Pn	03 55 17.6	+1.0
NKC				eSG	Sg	03 55 56.5	-0.6
	15nm,0.3s						
KHC	Kasperske Hory	2.85	215	ePN	Pn	03 55 20.5	+0.6
KHC				ePG	Pg	03 55 26.2	-1.6
KHC				eSN	Sn	03 55 55.1	+0.2
KHC				eSG	Sg	03 56 03.0	-1.7
MOX	Moxa	2.93	255	ePG	Pg	03 55 29.6	+0.3
MOX				eSG	Sg	03 56 07.7	+0.5
GEC2	GERESS Array S	3.06	211	ePn	Pn	03 55 24.1	+1.4
WET	Wettzell	3.11	222	ePn	Pn	03 55 21.3	-2.2
MODS	Modra-Piesok	3.23	165	eSG	Sg	03 56 18.1	+1.4
VYHS	Vyhne	3.50	148	ePG	Pg	03 55 38.7	-1.6
VYHS				eSG	Sg	03 56 26.3	+0.7
STHS	Stebnicka Huta	3.92	120	ePG	Pg	03 55 48.1	-0.1
STHS				eSG	Sg	03 56 40.8	+1.9

*ISCJB **05** 03:56:15.4±0.4, 5128N±002×1071E±004, h0km, Error ellipse: s-maj=3.5km s-min=2.8km az=136.0*
*CSEM **05** 03:56:16.7±0.1, 5128N×1064E, h2km, ML3.5/3, Error ellipse: s-maj=1.4km s-min=1.2km az=44.0*
*BGR **05** 03:56:16.8±0.3, 5128N×1064E, h1km, ML2.7/8, Error ellipse: s-maj=2.2km s-min=2.2km az=56.0*
*PRU **05** 03:56:17.9, 5122N×1074E, h0km*

ISC 05 03:56:16.3±0.4, 5128N±002×1068E±003, h0km, n24, σ0§78/47, 2C, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLZ	Clausthal	0.59	341	ePg	Pg	03 56 27.6	-0.1
	SNR=29						
CLZ				eSg	Sg	03 56 34.9	-0.5
UBBA	Unterbreizbach	0.63	223	ePg	Pg	03 56 28.0	-0.3
	SNR=6.8						
UBBA				eSg	Sg	03 56 36.6	+0.1
UBBA	Unterbreizbach	0.63	223	Pg	Pg	03 56 28.0	-0.3
	SNR=6.8						
UBBA				Sg	Sg	03 56 36.6	+0.1
NEUB	Neuenburg	0.69	95	ePg	Pg	03 56 30.1	+0.6
	SNR=13						
NEUB				eSg	Sg	03 56 39.7	+1.3
HROE	Hohe Rhon--Fla	0.81	204	iPg	Pg	03 56 31.9	+0.1
HROE				iSg	Sg	03 56 42.9	+0.5
MOX	Moxa	0.87	137	ePg	Pg	03 56 34.1	+1.3
	SNR=6.1						
MOX				eSg	Sg	03 56 45.3	+1.2
NRDL	Niedersach Rie	1.27	344	ePg	Pg	03 56 40.6	0.0
	SNR=8.6						
NRDL				eSg	Sg	03 56 57.4	+0.4
WERD	Werda	1.32	128	ePg	Pg	03 56 41.8	+0.2
	SNR=14						
WERD				eSg	Sg	03 56 59.8	+1.0
GUNZ	Gunzen	1.39	131	ePg	Pg	03 56 42.8	-0.1
	SNR=8.8						
GUNZ				eSg	Sg	03 57 01.8	+0.9
TANN	Tannenbergstha	1.42	127	ePg	Pg	03 56 43.8	+0.3
	SNR=14						
TANN				eSg	Sg	03 57 02.2	+0.2
CLL	Collm	1.46	88	ePn	Pn	03 56 43.7	-0.1
	SNR=17						
CLL				ePg	Pg	03 56 44.9	+0.7
	SNR=17						
CLL				eSg	Sg	03 57 03.5	+0.4
CLL	Collm	1.46	88	iPg	Pg	03 56 43.6	-0.6
CLL				iSg	Sg	03 57 03.6	+0.5
	comp=Z,40nm,0.4s						
CLL	Collm	1.46	88	Pg	Pg	03 56 44.9	+0.7
	SNR=17						
CLL				Sg	Sg	03 57 03.5	+0.4
MSBB	Schoenbrunner	1.50	146	ePn	Pn	03 56 43.7	-0.6
MSBB				iSn	Sn	03 57 04.6	+0.1
MROB	Rosenbuehl-Arz	1.53	141	iPn	Pn	03 56 43.9	-0.9
MROB				iSn	Sn	03 57 04.5	-0.9
NKC	Novy Kostel	1.54	132	ePG	Pg	03 56 44.6	-1.1
NKC				eSG	Sg	03 57 04.7	-0.8
	comp=Z,72nm,0.3s						
GRF	Grafenberg Arr	1.63	168	ePn	Pn	03 56 45.5	-0.6
	SNR=1.3						
GRF				ePg	Pg	03 56 47.8	+0.4
	SNR=4.7						
GRF				eSg	Sg	03 57 09.0	+0.6
BRG				SG	Sg	03 57 23.1	-0.5
	comp=Z,15nm,0.3s						
BRG	Berggiesshubel	2.10	100	PG	Pg	03 56 58.6	+2.1
PVCC	Panska Ves	2.57	105	ePG	Pg	03 57 06.0	+0.4
PVCC				eSG	Sg	03 57 38.0	-0.9
	comp=Z,26nm,0.3s						
PRU	Pruhonice	2.78	116	ePG	Pg	03 57 08.9	-0.6
PRU				eSG	Sg	03 57 44.3	-1.1
KHC	Kasperske Hory	2.84	138	ePG	Pg	03 57 10.0	-0.8
KHC				eSG	Sg	03 57 46.0	-1.6
	comp=Z,16nm,0.4s						
DPC	Dobruska-Polom	3.70	102	eSG	Sg	03 58 13.6	-1.4
MODS	Modra-Piesok	5.17	122	eSG	Sg	03 59 02.8	+0.7
ZST	Bratislava	5.18	124	eSG	Sg	03 59 02.7	+0.1

*BGS **05** 03:56:43.8, 3670N×2493W, h14km, mb5.8, MS6.3*
*CRAAG **05** 03:56:47.5, 3718N×2460W, Mb6.2*
*CSEM **05** 03:56:48.5±0.3, 3739N×2468W, h12km, mb6.1/99, Ms6.0, Mw6.3, Error ellipse: s-maj=1.7km s-min=0.7km az=179.0*
*IDC **05** 03:56:48.5±0.3, 3743N×2465W, h0km, mb5.4/32, mb1 5.5/33, mb1mx5.5/33, mbtmp5.4/33, ML4.7/1, MS6.2/38, Ms1 6.2/38, ms1mx6.1/39, Error ellipse: s-maj=11.3km s-min=8.9km az=146.0*
*ISCJB **05** 03:56:49.3±0.3, 3737N±002×2463 6W±0009, h16km±2km, mb6.0/380, MS6.2/251, Error ellipse: s-maj=3.5km s-min=1.2km az=179.0*
*BJI **05** 03:56:50.2, 3826N×2543W, h12km, mB6.3, mb5.6, Ms6.7, Msz6.6*
*GCMT **05** 03:56:50.5±0.1, 3745N×2444W, h12km, MW6.3/112, Moment Tensor Solution. s102,c213; s112,c492; Duration: 3§6 Moment tensor: Scale 1018Nm; Mrr=4.27±.02; Mθθ2.53±.02; Mφφ1.73±.02; Mrθ0.13±.05; Mθφ-1.71±.01; Mφr-0.06±.05; Best double couple: M0=4.08100×1018 NP1:φs129.00000°, δ44.00000°, λ-89.00000°. NP2:φs308.00000°, δ46.00000°, λ-91.00000°. Principal axes: T 3.8880, Plg1.0000°, Azm38.0000°; N 0.3740, Plg0.0000°, Azm308.0000°; P -4.2730, Plg89.0000°, Azm195.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
*NEIC **05** 03:56:50.5±0.1, 3731N×2462W, h14km, mb6.1/254, ME6.0, MS6.2/176, MW6.2 Error ellipse: s-maj=3.0km s-min=1.2km az=176.0 Broadband fault plane solution: P waves. NP1:φs315.00000°, δ65.00000°, λ-90.00000°. NP2:φs135.00000°, δ25.00000°, λ-90.00000°. Principal axes: T Plg20.0000°, Azm45.0000°; N Plg0.0000°, Azm0.0000°; P Plg70.0000°, Azm225.0000°; Moment Tensor Solution. s71 Moment tensor: Scale 1018 Nm; Mrr-2.25; Mθθ2.04; Mφφ0.22; Mrθ-0.51; Mθφ-0.25; Mφr0.14; Best double couple: M0=2.20000×1018 NP1:φs276.00000°, δ38.00000°, λ-93.00000°. NP2:φs99.00000°, δ52.00000°, λ-88.00000°. Principal axes: T 2.1300, Plg7.0000°, Azm188.0000°; N 0.1800, Plg2.0000°, Azm278.0000°; P -2.3200, Plg83.0000°, Azm22.0000°; Depth from synthetics of broadband displacement se

PFAD	**Fenais da Ajud**	**0.72**	**310**	*e*P	**Pg**	**03 57 04.4**	**+1.2**
PCNG	**Congro**	**0.72**	**303**	*i* P	**Pg**	**03 57 04.4**	**+1.2**
VIF	**Vila Franca**	**0.74**	**300**	*i* P	**Pg**	**03 57 04.5**	**+0.9**
PRCH	**Ribeira Ch**	**0.76**	**298**	*e*P	**Pg**	**03 57 04.7**	**+0.7**
MESC	**Monte Escuro**	**0.77**	**303**	*i* P	**Pg**	**03 57 05.0**	**+0.9**
LFA	**Lagoa do Fogo**	**0.78**	**300**	*i* P	**Pg**	**03 57 05.1**	**+0.7**
PMAT	**Coroa da Mata**	**0.80**	**304**	*i* P	**Pg**	**03 57 05.5**	**+0.8**
PVER	**Pico Vermelho**	**0.82**	**301**	*i* P	**Pg**	**03 57 05.6**	**+0.5**
CML	**Cha da Macela**	**0.83**	**299**	*i* P	**Pg**	**03 57 05.6**	**+0.4**
PDA	**Ponta Delgada**	**0.90**	**295**	*e*P	**Pg**	**03 57 05.2**	**-1.4**
FAC	**Faja de Cima**	**0.90**	**296**	*e*P	**Pg**	**03 57 06.9**	**+0.2**
PSAN	**Santo Antonio**	**0.99**	**299**	*e*P	**Pg**	**03 57 08.0**	**-0.4**
PFET	**Feteiras**	**1.02**	**296**	*e*P	**Pg**	**03 57 08.6**	**-0.3**
SET2	**Ginetes**	**1.04**	**297**	*e*P	**Pg**	**03 57 08.6**	**-0.8**
SET4	**Mosteiros**	**1.05**	**299**	*e*P	**Pg**	**03 57 08.8**	**-0.8**
PFAV	**Pico das Favas**	**2.35**	**305**	*e*P	**Pn**	**03 57 27.6**	**-1.1**
PFAV				*i* S	**Sn**	**03 57 53.5**	**-4.5**
RIB2	**Ribeirinha**	**2.39**	**304**	*i* P	**Pn**	**03 57 28.2**	**-1.0**
RIB2				*i* S	**Sn**	**03 57 54.4**	**-4.5**
ADH	**Angra Heroismo**	**2.42**	**303**	*e*P	**Pn**	**03 57 27.8**	**-1.9**
ADH				*e*S	**Sn**	**03 57 54.9**	**-4.8**
PVNV	**Vila Nova**	**2.42**	**306**	*i* P	**Pn**	**03 57 28.6**	**-1.1**
PVNV				*i* S	**Sn**	**03 57 55.3**	**-4.5**
PPAD	**Pico dos Padre**	**2.48**	**303**	*e*P	**Pn**	**03 57 29.6**	**-0.9**
PPAD				*i* S	**Sn**	**03 57 56.5**	**-4.6**
PBIS	**Biscoitos**	**2.49**	**305**	*e*P	**Pn**	**03 57 29.7**	**-0.9**
PBIS				*i* S	**Sn**	**03 57 57.3**	**-4.1**
ASBA	**Santa Barbara**	**2.51**	**303**	*i* P	**Pn**	**03 57 30.2**	**-0.8**
PIED	**Piedade**	**2.90**	**292**	*e*P	**Pn**	**03 57 35.0**	**-1.3**
PID	**Ribeirinha**	**2.96**	**292**	*e*P	**Pn**	**03 57 35.3**	**-1.7**
PID				*e*S	**Sn**	**03 58 07.7**	**-5.2**
PMAN	**Manadas**	**3.00**	**296**	*e*P	**Pn**	**03 57 36.0**	**-1.7**
PMAN				*e*S	**Sn**	**03 58 09.1**	**-5.0**
PMAN				A		03 58 14.9	
	7µm,0.4s						
PAMA	**Santo Amaro**	**3.09**	**296**	*e*P	**Pn**	**03 57 37.9**	**-1.0**
PAMA				*e*S	**Sn**	**03 58 11.0**	**-5.2**
PBOI	**Pico dos Bois**	**3.14**	**291**	*e*P	**Pn**	**03 57 38.5**	**-1.1**
PBOI				*e*S	**Sn**	**03 58 12.3**	**-5.3**
PTEI	**Pico do Teixo**	**3.15**	**292**	*e*P	**Pn**	**03 57 38.7**	**-1.0**
PTEI				*e*S	**Sn**	**03 58 12.4**	**-5.3**
ROSA	**Rosais**	**3.15**	**296**	*e*P	**Pn**	**03 57 38.2**	**-1.5**
ROSA				*e*S	**Sn**	**03 58 12.7**	**-5.0**
STGR	**Santa Cruz**	**3.15**	**304**	*e*P	**Pn**	**03 57 39.0**	**-0.7**
STGR				*e*S	**Sn**	**03 58 13.4**	**-4.4**
STGR				A		03 58 22.5	
	3µm,0.3s						
SRBC	**Serra Branca**	**3.15**	**303**	*e*P	**Pn**	**03 57 38.3**	**-1.5**
SRBC				*e*S	**Sn**	**03 58 12.3**	**-5.5**
PVIA	**Vitoria**	**3.18**	**303**	*e*P	**Pn**	**03 57 38.8**	**-1.3**
PVIA				*e*S	**Sn**	**03 58 13.4**	**-5.0**
PVIA				A		03 58 15.9	
	1µm,0.4s						
PICO	**Pico**	**3.20**	**292**	*e*P	**Pn**	**03 57 38.9**	**-1.5**
PICO				*e*S	**Sn**	**03 58 13.9**	**-5.1**
PCND	**Candelaria**	**3.22**	**291**	*i* P	**Pn**	**03 57 39.6**	**-1.1**
PCND				*e*S	**Sn**	**03 58 14.1**	**-5.3**
HOR	**Horta**	**3.36**	**291**	*e*P	**Pn**	**03 57 40.9**	**-1.7**
HOR				*e*S	**Sn**	**03 58 17.6**	**-5.3**
CALA	**Caldeira**	**3.43**	**292**	*e*P	**Pn**	**03 57 42.0**	**-1.6**
CALA				*e*S	**Sn**	**03 58 19.5**	**-5.2**
PTCA	**Ponta do Capel**	**3.50**	**291**	*e*P	**Pn**	**03 57 43.2**	**-1.4**
PTCA				*e*S	**Sn**	**03 58 21.1**	**-5.4**
PLUZ	**Luz**	**3.79**	**297**	*e*P	**Pn**	**03 57 38.1**	**-10**
PLUZ				*e*S	Sn	03 58 11.6	-22
PMAR	**Madeira**	**7.85**	**124**	*e*Pn	**Pn**	**03 58 41.2**	**-3.1**
PMAR				*e*Sn	**Sn**	**04 00 00.2**	**-13**
PMAR				A		04 01 40.4	
	18µm,21.6s						
PMAR				*e*T		04 05 27.0	
PMPS	**Porto Santo**	**8.04**	**120**	*e*Pn	**Pn**	**03 58 43.2**	**-3.7**
PMPS				*e*Sn	**Sn**	**04 00 02.5**	**-16**
PMPS				A		04 00 14.3	
	384nm,0.2s						
PMPS				A		04 02 04.6	
	14µm,18.8s						
PMPS				*e*T		04 05 30.6	
EHIG	**Higuera**	**10.49**	**145**	P	**Pn**	**03 59 16.5**	**-4.1**
	8µm,1.5s						
EHIG				S	**Sn**	**04 01 02.2**	**-16**
EGOM	**La Gomera**	**11.11**	**144**	P	**Pn**	**03 59 24.0**	**-5.0**
	357nm,0.4s						
EGOM				S	**Sn**	**04 01 17.4**	**-16**
CHIE	**El Hierro**	**11.14**	**148**	P	**Pn**	**03 59 29.1**	**-0.3**
	0.5nm,0.6s						
CHIE				S	**Sn**	**04 01 19.1**	**-15**
CHIE	**El Hierro**	**11.14**	**148**	P	**Pn**	**03 59 29.1**	**-0.3**
	0.5nm,0.6s						
EBAJ	**Bajamar**	**11.22**	**139**	P	**Pn**	**03 59 27.0**	**-3.6**
	447nm,1.0s						
EBAJ				S	**Sn**	**04 01 19.5**	**-17**
CCAN	**Las Canadas**	**11.35**	**141**	P	**Pn**	**03 59 28.3**	**-4.0**
	20nm,0.2s						
CCAN				S	**Sn**	**04 01 22.4**	**-17**
EOSO	**Osorio**	**12.02**	**138**	P	**Pn**	**03 59 38.1**	**-3.2**
	17nm,0.2s						
EOSO				S	**Sn**	**04 01 37.9**	**-18**
PMAFR	**Mafra**	**12.19**	**78**	*e*P	**Pn**	**03 59 38.1**	**-5.6**
PMAFR				A		04 00 02.6	
	614nm,1.6s						
PMAFR				*e*S	**Sn**	**04 01 43.8**	**-16**
PMAFR				A		04 03 32.9	
	112µm,20.5s						
PMAFR				T		04 10 54.6	
LIS	**Lisbon**	**12.28**	**79**	*e*P	**Pn**	**03 59 42.5**	**-2.5**
LIS				*e*S	**Sn**	**04 01 46.4**	**-16**
LIS				*e*S	**Sn**	**04 01 47.2**	**-15**
LIS				AMS	AMS	04 03 45.2	
	comp=Z,108µm,19.7s						
LIS	**Lisbon**	**12.28**	**79**	*e*P	**Pn**	**03 59 42.5**	**-2.5**
LIS				*e*S	**Sn**	**04 01 46.4**	**-16**
LIS				A		04 03 45.2	
	comp=Z,108µm,19.7s						
INMG	**Instituto de M**	**12.30**	**79**	*e*S	**Sn**	**04 01 44.0**	**-19**
INMG				*e*T		04 11 05.0	
EFAM	**Famara**	**12.40**	**128**	P	**Pn**	**03 59 44.9**	**-1.8**
	comp=Z,22nm,0.4s						
EFAM				S	**Sn**	**04 01 52.3**	**-13**
EFAM	**Famara**	**12.40**	**128**	P	**Pn**	**03 59 44.9**	**-1.8**
	comp=Z,22nm,0.4s						
CFTV	**Fuerteventura**	**12.58**	**132**	P	**Pn**	**03 59 45.4**	**-3.7**
	comp=Z,24nm,0.6s						
CFTV				S	**Sn**	**04 01 53.0**	**-17**
PFVI	**Vila Bisbo**	**12.60**	**86**	*e*P	**Pn**	**03 59 43.2**	**-6.1**
PFVI				A		04 00 14.6	
	comp=Z,392nm,1.8s						
PFVI				*e*S	**Sn**	**04 01 52.9**	**-17**
PFVI				A		04 03 46.4	
	comp=Z,98µm,19.9s						
PFVI				T		04 11 40.4	
PTEO	**Sao Teotonio**	**12.64**	**84**	*e*P	**Pn**	**03 59 44.3**	**-5.6**
PTEO				A		04 00 15.1	
	comp=Z,513nm,1.8s						
PTEO				*e*S	**Sn**	**04 01 53.3**	**-18**
PTEO				A		04 03 53.3	
	comp=Z,58µm,18.9s						
PTEO				*e*T		04 11 22.5	
MORF	**Marmelete**	**12.72**	**85**	*e*P	**Pn**	**03 59 45.8**	**-5.2**
MORF				A		04 00 11.7	
	comp=Z,346nm,2.0s						
MORF				*e*S	**Sn**	**04 01 56.1**	**-17**
MORF				A		04 03 50.8	
	comp=Z,96µm,20.1s						
MORF				*e*T		04 11 37.8	
ALMR	**Almeirim**	**12.74**	**77**	*e*P	**Pn**	**03 59 46.3**	**-5.0**
ALMR				AML	AML	04 02 10.6	
	comp=Z,2µm,0.8s						
MOE	**Montemor**	**12.90**	**80**	*e*P	**Pn**	**03 59 48.1**	**-5.4**
MOE				*e*S	**Sn**	**04 02 01.5**	**-16**
MOE				*e*T		04 11 18.3	
PTO	**Porto**	**12.98**	**68**	*e*P	**Pn**	**03 59 48.5**	**-6.0**
PTO				*e*S	**Sn**	**04 02 01.3**	**-18**
PTO				*e*T		04 11 43.5	
EVOP	**Sao Brissos**	**13.08**	**80**	*e*Pn	**Pn**	**03 59 49.8**	**-6.1**
EVOP				*e*Sn	**Sn**	**04 02 06.6**	**-15**
EZAM	**Zamans**	**13.15**	**64**	P	**Pn**	**03 59 50.5**	**-6.3**
	comp=Z,101nm,0.6s						
EZAM				S	**Sn**	**04 02 07.3**	**-16**
EZAM	**Zamans**	**13.15**	**64**	P	**Pn**	**03 59 50.5**	**-6.3**
EZAM				pmax	pmax		
	comp=Z,101nm,0.6s						
EVO	**Evora**	**13.17**	**80**	*e*Pn	**Pn**	**03 59 49.8**	**-7.3**
EVO				*e*Sn	**Sn**	**04 02 06.6**	**-17**
	comp=Z,451nm,0.5s						
EVO				*e*MLR	MLR		
	comp=Z,185µm,22.5s						
EVO	**Evora**	**13.17**	**80**	*e*P	**Pn**	**03 59 51.4**	**-5.7**
EVO				A		04 00 19.1	
	comp=Z,346nm,1.7s						
EVO				*e*S	**Sn**	**04 02 06.8**	**-17**
EVO				A		04 04 01.3	
	comp=Z,88µm,20.5s						
EVO				*e*T		04 11 27.2	
EMAZ	**Mazaricos**	**13.20**	**60**	P	**Pn**	**03 59 50.3**	**-7.1**
	comp=Z,49nm,0.4s						
EMAZ				S	**Sn**	**04 02 05.0**	**-20**
PBEJ	**Beja**	**13.30**	**82**	*e*P	**Pn**	**03 59 53.1**	**-5.7**
PBEJ				A		04 00 29.0	
	comp=Z,268nm,1.7s						
PBEJ				*e*S	**Sn**	**04 02 09.8**	**-17**
PBEJ				A		04 04 11.9	
	comp=Z,36µm,20.7s						
PBEJ				*e*T		04 11 37.2	
PBDV	**Barranco-do-Ve**	**13.30**	**86**	*e*P	**Pn**	**03 59 52.6**	**-6.3**
PBDV				A		04 00 22.1	
	comp=Z,379nm,1.6s						
PBDV				*e*S	**Sn**	**04 02 11.7**	**-15**
PBDV				A		04 04 18.1	
	comp=Z,122µm,19.4s						
PBDV				*e*T		04 12 00.6	
PVIS	**Viseu**	**13.43**	**70**	*e*P	**Pn**	**03 59 54.6**	**-6.0**
PVIS				A		04 00 32.2	
	comp=Z,430nm,1.5s						
PVIS				*e*S	**Sn**	**04 02 11.9**	**-18**
PVIS				A		04 04 36.9	
	comp=Z,77µm,19.5s						
PVIS				*e*T		04 11 48.2	
PVAQ	**Vaqueiros**	**13.45**	**85**	*e*P	**Pn**	**03 59 54.9**	**-6.1**
PVAQ				A		04 00 43.8	
	comp=Z,334nm,1.7s						
PVAQ				*e*S	**Sn**	**04 02 14.6**	**-16**
PVAQ				A		04 04 21.5	
	comp=Z,101µm,19.9s						
PVAQ				*e*T		04 11 43.4	
STS	**Santiago**	**13.47**	**61**	P	**Pn**	**03 59 54.2**	**-7.0**
	comp=Z,44nm,0.6s						
STS				S	**Sn**	**04 02 13.0**	**-18**
STS	**Santiago**	**13.47**	**61**	P	**Pn**	**03 59 54.2**	**-7.0**
STS				pmax	pmax		
	comp=Z,44nm,0.6s						
PESTR	**Estremoz**	**13.50**	**78**	*e*P	**Pn**	**03 59 56.5**	**-5.2**
PESTR				A		04 00 24.6	
	comp=Z,432nm,1.7s						
PESTR				*e*S	**Sn**	**04 02 16.3**	**-16**
PESTR				A		04 04 22.9	
	comp=Z,91µm,20.5s						
PESTR				*e*T		04 12 01.6	
PCAB	**Cabril**	**13.52**	**66**	*e*P	**Pn**	**03 59 55.3**	**-6.6**
PCAB				A		04 00 23.6	
	comp=Z,343nm,1.8s						
PCAB				*e*S	**Sn**	**04 02 14.6**	**-18**
PCAB				A		04 04 47.6	
	comp=Z,61µm,18.9s						
PCAB				*e*T		04 12 05.2	
ELOB	**Lobios**	**13.54**	**66**	P	**Pn**	**03 59 55.5**	**-6.6**
	comp=Z,54nm,0.3s						
ELOB				S	**Sn**	**04 02 14.2**	**-19**
EGRO	**El Granado**	**13.63**	**84**	P	**Pn**	**03 59 57.6**	**-5.8**
	comp=Z,6.4nm,0.3s						
EGRO				S	**Sn**	**04 02 16.2**	**-19**
PCBR	**Castelo Branco**	**13.64**	**74**	*e*P	**Pn**	**03 59 58.3**	**-5.2**
PCBR				A		04 00 42.4	
	comp=Z,285nm,1.7s						
PCBR				*e*S	**Sn**	**04 02 18.1**	**-17**
PCBR				A		04 04 44.1	
	comp=Z,57µm,20.3s						
PCBR				*e*T		04 11 34.9	
MTE	**Manteigas**	**13.65**	**72**	*e*P	**Pn**	**03 59 58.2**	**-5.4**
MTE				A		04 00 23.2	
	comp=Z,403nm,1.4s						
MTE				*e*S	**Sn**	**04 02 17.6**	**-18**
MTE				A		04 04 37.8	
	comp=Z,141µm,20.2s						
MTE				*e*T		04 11 51.3	
MTE	**Manteigas**	**13.65**	**72**	*e*Pn	**Pn**	**03 59 57.3**	**-6.4**
	comp=Z,353nm,1.0s						
MTE				*e*Sn	Sn	04 02 14.7	-21
MTE	**Manteigas**	**13.65**	**72**	*e*Pn	**Pn**	**03 59 57.3**	**-6.3**
	comp=Z,353nm,1.0s						
PVRL	**Vila Real**	**13.66**	**68**	*e*P	**Pn**	**03 59 57.2**	**-6.6**
PVRL				A		04 00 22.9	
	comp=Z,583nm,1.6s						
PVRL				*e*S	**Sn**	**04 02 17.9**	**-18**
PVRL				A		04 04 43.5	
	comp=Z,68µm,19.5s						
PVRL				*e*T		04 12 08.6	
PBAR	**Barrancos**	**13.94**	**81**	*e*P	**Pn**	**04 00 02.5**	**-5.2**
PBAR				A		04 00 42.5	
	comp=Z,270nm,1.8s						
PBAR				*e*S	**Sn**	**04 02 26.1**	**-17**
PBAR				A		04 04 36.4	
	comp=Z,74µm,20.9s						
PBAR				*e*T		04 11 49.9	
EBAD	**Badajoz**	**13.95**	**79**	P	**Pn**	**04 00 01.6**	**-6.1**
	comp=Z,17nm,0.7s						
EBAD				S	**Sn**	**04 02 26.9**	**-16**
MVO	**Moncorvo**	**14.15**	**69**	*e*P	**Pn**	**04 00 04.2**	**-6.3**
MVO				A		04 00 31.1	
	comp=Z,510nm,1.4s						
MVO				*e*S	**Sn**	**04 02 29.9**	**-18**
MVO				A		04 05 02.2	
	comp=Z,103µm,19.2s						
MVO				*e*T		04 12 07.4	
EMIN	**Mina Concepcio**	**14.25**	**83**	P	**Pn**	**04 00 08.5**	**-3.4**
	comp=Z,346nm,1.7s						
EMIN				S	**Sn**	**04 02 32.8**	**-18**
CIA	**Chichaoua**	**14.31**	**109**	*i* P	**Pn**	**04 00 14.0**	**+1.2**
PBRG	**Braganca**	**14.48**	**67**	*e*P	**Pn**	**04 00 07.9**	**-7.1**
PBRG				A		04 00 28.0	
	comp=Z,262nm,1.6s						
PBRG				*e*S	**Sn**	**04 02 37.5**	**-18**
PBRG				A		04 05 18.6	
	comp=Z,56µm,19.3s						
PBRG				*e*T		04 12 18.3	
ECAL	**Calabor**	**14.51**	**66**	P	**Pn**	**04 00 10.1**	**-5.3**
	comp=Z,128nm,1.0s						
ECAL				S	**Sn**	**04 02 38.8**	**-18**
EPON	**Pontenova**	**14.59**	**61**	P	**Pn**	**04 00 10.0**	**-6.4**
	comp=Z,619nm,1.4s						
EPON				S	Sn	04 02 37.6	-21
SFS	**San Fernando**	**14.77**	**88**	*i* P	**Pn**	**04 00 17.4**	**-1.6**
RTC	**Rabat Centre**	**14.84**	**98**	*i* P	**Pn**	**04 00 20.0**	**+0.1**
GIBL	**Gibalbin**	**14.91**	**86**	*e*P	**Pn**	**04 00 20.0**	**-0.8**
ESPR	**Espera**	**14.99**	**86**	P	**Pn**	**04 00 16.0**	**-6.0**
	comp=Z,475nm,1.8s						
ESPR				S	**Sn**	**04 02 51.4**	**-17**
ECAB	**El Cabril**	**15.22**	**82**	P	**Pn**	**04 00 21.9**	**-3.2**
	comp=Z,765nm,2.5s						
ECAB				S	**Sn**	**04 02 55.5**	**-19**
EJIF	**Jimena Fronter**	**15.36**	**88**	P	**Pn**	**04 00 24.9**	**-1.9**
	comp=Z,210nm,1.2s						
EJIF	**Jimena Fronter**	**15.36**	**88**	P	**Pn**	**04 00 24.9**	**-2.0**
EJIF				pmax	pmax		
	comp=Z,210nm,1.2s						
EJIF	**Jimena Fronter**	**15.36**	**88**	P	**Pn**	**04 00 24.9**	**-2.0**
	comp=Z,210nm,1.2s						
REAL	**Reales**	**15.56**	**87**	*e*P	**Pn**	**04 00 29.0**	**-0.5**
TIO	**Tiouine**	**15.74**	**109**	P	**Pn**	**04 00 31.0**	**-0.9**
EADA	**Adamuz**	**15.88**	**81**	P	**Pn**	**04 00 30.7**	**-3.0**
	comp=Z,1µm,3.8s						
EADA				S	**Sn**	**04 03 13.1**	**-17**
EMIJ	**Mijas**	**15.90**	**87**	P	**Pn**	**04 00 31.7**	**-2.1**
	comp=Z,553nm,1.8s						
EMIJ				S	**Sn**	**04 03 11.8**	**-19**
EMIJ	**Mijas**	**15.90**	**87**	P	**Pn**	**04 00 31.7**	**-2.2**
	comp=Z,553nm,1.8s						
EARI	**Arriondas**	**15.93**	**62**	P	**Pn**	**04 00 30.2**	**-4.1**
	comp=Z,1µm,3.0s						
EARI				S	**Sn**	**04 03 15.5**	**-16**
PAB	**San Pablo**	**16.04**	**76**	*e*Pn	**Pn**	**04 00 28.9**	**-6.7**
	comp=Z,249nm,1.3s						
PAB				*e*Sn	**Sn**	**04 03 15.5**	**-18**
PAB	**San Pablo**	**16.04**	**76**	*e*P	**Pn**	**04 00 28.9**	**-6.7**
PAB				pmax	pmax		
	comp=Z,250nm,1.2s						
ELUQ	**Luque**	**16.17**	**83**	P	**Pn**	**04 00 35.6**	**-1.9**
	comp=Z,55nm,0.8s						
ELUQ				S	**Sn**	**04 03 19.8**	**-17**
ELUQ	**Luque**	**16.17**	**83**	P	**Pn**	**04 00 35.6**	**-1.8**
ELUQ				pmax	pmax		
	comp=Z,55nm,0.8s						
ELUQ	**Luque**	**16.17**	**83**	P	**Pn**	**04 00 35.6**	**-1.8**
	comp=Z,55nm,0.8s						
TGT	**Taghat**	**16.24**	**96**	*i* P	**Pn**	**04 00 38.0**	**-0.3**
GUD	**Guadarrama**	**16.25**	**72**	P	**Pn**	**04 00 32.7**	**-5.7**
	comp=Z,99nm,1.0s						
GUD				S	**Sn**	**04 03 23.8**	**-15**
GUD	**Guadarrama**	**16.25**	**72**	P	**Pn**	**04 00 32.7**	**-5.6**
GUD				pmax	pmax		
	comp=Z,99nm,1.0s						
MIF	**Mishlifen**	**16.31**	**98**	*i* P	**Pn**	**04 00 40.5**	**+1.3**
ELOJ	**Sierra Loja**	**16.31**	**85**	P	**Pn**	**04 00 37.8**	**-1.3**
	comp=Z,93nm,0.9s						
ELOJ				S	**Sn**	**04 03 23.9**	**-17**
ELOJ	**Sierra Loja**	**16.31**	**85**	P	**Pn**	**04 00 37.8**	**-1.4**
ELOJ				pmax	pmax		
	comp=Z,93nm,0.9s						
ELOJ	**Sierra Loja**	**16.31**	**85**	P	**Pn**	**04 00 37.8**	**-1.4**
	comp=Z,93nm,0.9s						
ESDC	**Sonseca Array**	**16.34**	**76**	P	**Pn**	**04 00 33.2**	**-6.3**
	comp=Z,34nm,1.6s						
ESDC				S	**Sn**	**04 03 24.4**	**-17**
ESDC	**Sonseca Array**	**16.34**	**76**	Pn	**Pn**	**04 00 33.3**	**-6.2**
	comp=Z,3.6nm,0.3s,baz=272,slow=13,SNR=56						
ESDC				Sn	**Sn**	**04 03 26.8**	**-14**
	comp=Z,4.0nm,0.3s,baz=273,slow=23,SNR=5.9						
ESDC				LR	LR	04 05 55.6	
	comp=Z,63µm,20.3s,baz=275,slow=34						
ESLA	**Sonseca Array**	**16.34**	**76**	*e*Pn	**Pn**	**04 00 33.1**	**-6.4**
	comp=Z,139nm,1.4s						
ESLA				*e*Sn	**Sn**	**04 03 23.8**	**-17**
IFR	**Ifrane**	**16.35**	**98**	P	**Pn**	**04 00 39.0**	**-0.8**
EBAN	**Banos Encina**	**16.50**	**81**	P	**Pn**	**04 00 38.8**	**-2.9**
	comp=Z,62nm,1.0s						
EBAN				S	**Sn**	**04 03 26.7**	**-18**
EBAN	**Banos Encina**	**16.50**	**81**	P	**Pn**	**04 00 38.8**	**-2.9**
EBAN				pmax	pmax		
	comp=Z,62nm,1.0s						
ERON	**Agron**	**16.60**	**85**	P	**Pn**	**04 00 43.2**	**+0.3**
	comp=Z,63nm,0.8s						
ERON				S	**Sn**	**04 03 30.2**	**-17**
ECOG	**Cogollos-Vega**	**16.76**	**84**	P	**Pn**	**04 00 43.6**	**-1.3**
	comp=Z,370nm,1.5s						
ECOG				S	**Sn**	**04 03 34.6**	**-17**
ECOG	**Cogollos-Vega**	**16.76**	**84**	P	**Pn**	**04 00 43.6**	**-1.3**
ECOG				pmax	pmax		
	comp=Z,370nm,1.5s						
ECOG	**Cogollos-Vega**	**16.76**	**84**	P	**Pn**	**04 00 43.6**	**-1.3**
	comp=Z,370nm,1.5s						
EGUA	**Guajares**	**16.82**	**85**	P	**Pn**	**04 00 44.7**	**-0.9**
	comp=Z,45nm,0.8s						
EGUA				S	**Sn**	**04 03 35.4**	**-17**
EGUA	**Guajares**	**16.82**	**85**	P	**Pn**	**04 00 44.7**	**-0.9**
EGUA				pmax	pmax		
	comp=Z,45nm,0.8s						
EGUA	**Guajares**	**16.82**	**85**	P	**Pn**	**04 00 44.7**	**-0.9**
	comp=Z,45nm,0.8s						
MDT	**Midelt**	**17.00**	**100**	P	**Pn**	**04 00 47.7**	**-0.3**
	comp=Z,2.7nm,0.3s,baz=289,slow=14,SNR=46						
MDT				S	**Sn**	**04 03 40.4**	**-17**
	comp=Z,13nm,0.3s,baz=185,slow=20,SNR=7.4						
MDT				LR	LR	04 06 09.8	
	comp=Z,37µm,21.4s,baz=298,slow=33						
EQES	**Quesada**	**17.09**	**82**	P	**Pn**	**04 00 47.6**	**-1.5**
	comp=Z,5µm,4.0s						
EQES				S	**Sn**	**04 03 41.6**	**-18**
EQES	**Quesada**	**17.09**	**82**	P	**Pn**	**04 00 47.6**	**-1.5**
	comp=Z,5µm,4.0s						
ELAN	**Lanestosa**	**17.18**	**63**	P	**Pn**	**04 00 47.2**	**-2.9**
	comp=Z,6µm,5.9s						
ELAN				S	**Sn**	**04 03 45.2**	**-16**
EBER	**Berja**	**17.34**	**85**	P	**Pn**	**04 00 51.5**	**-0.7**
	comp=Z,2µm,3.1s						
EBER				S	**Sn**	**04 03 47.9**	**-18**
EBER	**Berja**	**17.34**	**85**	P	**Pn**	**04 00 51.5**	**-0.7**
	comp=Z,2µm,3.1s						
EVIA	**Vianos**	**17.48**	**79**	P	**Pn**	**04 00 49.7**	**-4.3**
	comp=Z,409nm,1.4s						
EVIA				S	**Sn**	**04 03 52.4**	**-16**
EVIA	**Vianos**	**17.48**	**79**	P	**Pn**	**04 00 49.7**	**-4.3**
EVIA				pmax	pmax		
	comp=Z,409nm,1.4s						
ZFT	**Errachidia**	**17.50**	**102**	*i* P	**Pn**	**04 00 54.0**	**-0.2**
ECRI	**Cripan**	**17.72**	**66**	P	**Pn**	**04 00 54.5**	**-2.4**
	comp=Z,318nm,1.4s						
ECRI				S	**Sn**	**04 04 00.6**	**-14**
ECRI	**Cripan**	**17.72**	**66**	P	**Pn**	**04 00 54.5**	**-2.4**
ECRI				pmax	pmax		
	comp=Z,318nm,1.4s						
VAL	**Valentia**	**17.75**	**30**	*e*P	**Pn**	**04 00 55.4**	**-1.7**
ZAI	**Zaio**	**17.83**	**91**	*i* P	**Pn**	**04 00 57.5**	**-0.8**
ETOR	**Torete**	**17.85**	**72**	P	**Pn**	**04 00 55.9**	**-2.6**
	comp=Z,166nm,1.5s						
ETOR				S	**Sn**	**04 04 00.0**	**-18**
ETOR	**Torete**	**17.85**	**72**	P	**Pn**	**04 00 55.9**	**-2.6**
ETOR				pmax	pmax		
	comp=Z,166nm,1.5s						
ENIJ	**Nijar**	**17.88**	**84**	P	**Pn**	**04 01 00.5**	**+1.7**
	comp=Z,32nm,1.2s						
ENIJ				S	**Sn**	**04 04 01.7**	**-17**
ENIJ	**Nijar**	**17.88**	**84**	P	**Pn**	**04 01 00.5**	**+1.7**
ENIJ				pmax	pmax		
	comp=Z,32nm,1.2s						
ENIJ	**Nijar**	**17.88**	**84**	P	**Pn**	**04 01 00.5**	**+1.7**
	comp=Z,32nm,1.2s						
ETOB	**Tobarra**	**18.23**	**79**	P	**Pn**	**04 01 02.4**	**-0.8**
	comp=Z,8µm,3.4s						
ETOB				S	**Sn**	**04 04 10.8**	**-16**

ROSF Rostrenen 19.04 48 eP Pn 04 01 12.6 -0.4
comp=Z,274nm,1.2s
ESAC San Caprasio 19.11 69 P Pn 04 01 13.2 -0.7
comp=Z,9µm,3.1s
ESAC S Sn 04 04 31.9 -16
ESAC San Caprasio 19.11 69 P Pn 04 01 13.1 -0.8
comp=Z,9µm,3.1s
ATE Arette 19.11 65 eP Pn 04 01 12.0 -1.9
CSA1 St Austell 19.18 41⇑eP Pn 04 01 15.4 +0.8
ETSF Etsaut 19.18 66 eP Pn 04 01 14.5 -0.3
comp=Z,718nm,1.3s
ETSF Etsaut 19.18 66 eP Pn 04 01 14.5 -0.3
ETSF pmax pmax
comp=Z,359nm,1.3s
ETSF Etsaut 19.18 66 eP Pn 04 01 14.5 -0.3
comp=Z,359nm,1.3s
EBEN Beniarda 19.26 79 P Pn 04 01 15.7 0.0
comp=Z,9µm,5.5s
EBEN S Sn 04 04 33.1 -19
EBEN Beniarda 19.26 79 P Pn 04 01 15.7 0.0
comp=Z,9µm,5.5s
USTO Oran 19.41 88 P Pn 04 01 23.0 +5.5
SGMF Saint Gilles 19.43 49 eP Pn 04 01 17.2 -0.5
comp=Z,1µm,1.3s
SGMF Saint Gilles 19.43 49 eP Pn 04 01 17.2 -0.5
SGMF pmax pmax
comp=Z,506nm,1.3s
SGMF Saint Gilles 19.43 49 eP Pn 04 01 17.2 -0.5
comp=Z,506nm,1.3s
ERTA Horta de San J 19.66 72 P Pn 04 01 17.5 -3.0
comp=Z,7µm,3.7s
ERTA S Sn 04 04 43.5 -18
EBIE Bielsa 19.67 67 P Pn 04 01 19.5 -1.1
comp=Z,10µm,4.5s
EBIE S Sn 04 04 44.3 -17
EBIE Bielsa 19.67 67 P Pn 04 01 19.5 -1.1
comp=Z,10µm,4.5s
DYA Yadsworthy 19.73 42⇑eP Pn 04 01 20.3 -1.0
DYA AMb AMB 04 01 34.3
comp=Z,541nm,1.5s
DYA AMS AMS 04 07 53.2
comp=Z,171µm,19.5s
HTL Hartland 19.76 40⇑eP Pn 04 01 21.1 -0.5
HTL AMb AMB 04 01 32.0
comp=Z,745nm,2.0s
HTL AMS AMS 04 07 42.8
comp=Z,124µm,20.1s
ODJA Bouhanifia 19.81 89 P Pn 04 01 25.0 +2.6
EPF Esparros 19.86 66 eP Pn 04 01 22.1 -0.7
comp=Z,3µm,1.5s
EPF Esparros 19.86 66 eP Pn 04 01 22.1 -0.7
EPF pmax pmax
comp=Z,1µm,1.5s
EPF Esparros 19.86 66 eP Pn 04 01 22.1 -0.7
comp=Z,1µm,1.5s
DCN Croghan 20.00 32⇑iP P 04 01 23.2 +0.5
JSA Saint Aubin 20.08 47⇑eP P 04 01 22.0 -1.7
JRS Jersey 20.13 47⇑eP P 04 01 22.6 -1.5
HEX Exmoor 20.16 41⇑iP P 04 01 25.2 +0.8
HEX Exmoor 20.16 41⇑iP P 04 01 25.2 +0.8
EPOB Poblet 20.24 71 P P 04 01 26.2 +0.7
comp=Z,2µm,2.4s
EPOB S S 04 04 56.8 -16
EPOB Poblet 20.24 71 P P 04 01 26.2 +0.7
comp=Z,2µm,2.4s
DLF Lyons Farm 20.28 33 eP P 04 01 25.9 +0.1
DSB Dublin 20.32 33 eP P 04 01 26.2 +0.1
comp=Z,3µm,2.1s
DSB Dublin 20.32 33 eP P 04 01 26.2 +0.1
comp=Z,3µm,2.1s
MFF Saint Martin d 20.33 55 eP P 04 01 27.2 +0.8
comp=Z,5µm,1.7s
MFF Saint Martin d 20.33 55 eP P 04 01 27.2 +0.8
MFF pmax pmax
comp=Z,3µm,1.7s
MFF Saint Martin d 20.33 55 eP P 04 01 27.2 +0.8
comp=Z,3µm,1.7s
EIBI Ibiza 20.46 77 P P 04 01 28.1 +0.2
comp=Z,6µm,4.1s
EIBI S S 04 05 05.7 -12
EIBI Ibiza 20.46 77 P P 04 01 28.1 +0.2
comp=Z,6µm,4.1s
LFF La Frestale 20.49 60 eP P 04 01 28.9 +0.8
comp=Z,2µm,1.1s
LFF La Frestale 20.49 60 eP P 04 01 28.9 +0.8
LFF pmax pmax
comp=Z,947nm,1.1s
LFF La Frestale 20.49 60 eP P 04 01 28.9 +0.8
comp=Z,947nm,1.1s
GRR Gorron 20.52 50 eP P 04 01 29.3 +0.9
comp=Z,4µm,1.4s
GRR Gorron 20.52 50 eP P 04 01 29.3 +0.9
GRR pmax pmax
comp=Z,2µm,1.4s
GRR Gorron 20.52 50 eP P 04 01 29.3 +0.9
comp=Z,2µm,1.4s
EMIR Miracle 20.61 69 P P 04 01 31.0 +1.5
comp=Z,5µm,2.9s
EMIR S S 04 05 05.8 -14
EMIR Miracle 20.61 69 P P 04 01 31.0 +1.5
comp=Z,5µm,2.9s
EANR 'Ain N'Sour 20.68 86 P P 04 01 32.0 +1.8
ECHA Ech Chlef 20.85 85 P P 04 01 35.5 +3.4
FLN La Foliniere 20.90 49 eP P 04 01 33.2 +0.7
comp=Z,2µm,1.2s,baz=240
FLN eMLR MLR
comp=Z,107µm,20.8s,MS5.9
FLN La Foliniere 20.90 49 eP P 04 01 33.2 +0.7
comp=Z,849nm,1.2s
FLN LR LR
comp=Z,107µm,20.8s,MS6.2
FLN La Foliniere 20.90 49 eP P 04 01 33.2 +0.7
FLN pmax pmax
comp=Z,849nm,1.2s
FLN MLR MLR
comp=Z,107µm,20.8s,MS6.2
EBNR Beni Rached 20.95 85 P P 04 01 36.0 +2.8
ETRT Tiaret 20.95 88 P P 04 01 35.0 +1.8
HGH Gray Hill 21.00 40⇑iP P 04 01 34.5 +1.0
HTR Trewern Hill 21.01 39⇑iP P 04 01 34.3 +0.6
SWK Warminster 21.02 42⇑eP P 04 01 35.4 +1.6
LDF La Druitiere 21.05 50 eP P 04 01 34.8 +0.6
comp=Z,3µm,1.8s,mb6.1
LDF La Druitiere 21.05 50 eP P 04 01 34.8 +0.6
LDF pmax pmax
comp=Z,2µm,1.8s,mb6.1
LDF La Druitiere 21.05 50 eP P 04 01 34.8 +0.6
comp=Z,2µm,1.8s,mb6.1
MCH1 Michaelchurch 21.10 39⇑iP P 04 01 35.1 +0.4
MCH1 ⇑iP 04 01 35.1
MCH1 AMb AMB 04 01 47.4
comp=Z,1µm,1.6s,mb5.9
RJF Les Rejaudoux 21.11 60 eP P 04 01 34.7 -0.1
comp=Z,2µm,1.6s,mb5.9
RJF eMLR MLR
comp=Z,149µm,19.2s,MS6.1
RJF Les Rejaudoux 21.11 60 eP P 04 01 34.7 -0.1
comp=Z,1µm,1.6s,mb6.0
RJF LR LR
comp=Z,149µm,19.3s,MS6.4
RJF Les Rejaudoux 21.11 60 eP P 04 01 34.7 -0.1
RJF pmax pmax
comp=Z,1µm,1.6s,mb6.0
RJF MLR MLR
comp=Z,149µm,19.3s,MS6.4
CARF Carcanieres 21.11 67 eP P 04 01 35.8 +1.0
GMM Mts of Mourne 21.19 31⇑eP P 04 01 35.0 -0.7
MTLF Montolieu 21.26 65 eP P 04 01 36.9 +0.4
comp=Z,3µm,1.9s,mb6.0
MTLF Montolieu 21.26 65 eP P 04 01 36.9 +0.4
MTLF pmax pmax
comp=Z,2µm,1.9s,mb6.0
MTLF Montolieu 21.26 65 eP P 04 01 36.9 +0.4
comp=Z,2µm,1.9s,mb6.0
HAE Alders End 21.35 40⇑iP P 04 01 37.7 +0.3
CAF Calviac 21.41 61 eP P 04 01 38.2 +0.2
comp=Z,3µm,1.5s,mb6.0
CAF Calviac 21.41 61 eP P 04 01 38.2 +0.2
CAF pmax pmax
comp=Z,1µm,1.5s,mb6.0
CAF Calviac 21.41 61 eP P 04 01 38.2 +0.2
comp=Z,1µm,1.5s,mb6.0
SWN1 Swindon 21.45 42⇑eP P 04 01 39.5 +1.1
SWN1 eP 04 01 39.5
SWN1 AMb AMB 04 01 51.8
comp=Z,2µm,1.7s,mb6.2

SWN1 Swindon 21.45 42 eP P 04 01 39.5 +1.1
HLM1 Long Mynd 21.47 38⇑iP P 04 01 38.7 +0.1
HLM1 ⇑iP 04 01 38.7
SBD1 Bryn Du 21.52 37⇑iP P 04 01 39.5 +0.3
ETOS Mallorca 21.56 75 P P 04 01 39.7 -0.1
comp=Z,6µm,2.9s,mb6.5
ETOS Mallorca 21.56 75 P P 04 01 39.7 0.0
comp=Z,6µm,2.9s,mb6.5
WOL Wolverton 21.65 43⇑eP P 04 01 41.6 +0.9
EJON La Jonquera 21.66 68 P P 04 01 41.5 +0.7
comp=Z,5µm,3.8s
EJON La Jonquera 21.66 68 P P 04 01 41.5 +0.7
comp=Z,5µm,3.8s
SSW Stow on the Wo 21.67 40⇑iP P 04 01 41.8 +0.9
GCL Cushendall 21.73 30⇑eP P 04 01 41.0 -0.4
TCF Toulx Ste Croi 21.81 57 eP P 04 01 42.9 +0.6
comp=Z,3µm,1.6s,mb6.2
TCF Toulx Ste Croi 21.81 57 eP P 04 01 42.9 +0.6
TCF pmax pmax
comp=Z,2µm,1.6s,mb6.2
TCF Toulx Ste Croi 21.81 57 eP P 04 01 42.9 +0.6
comp=Z,2µm,1.6s,mb6.2
GIM North Isle of 21.86 33⇑eP P 04 01 44.5 +1.7
ABA Alger-Bouzarea 22.05 83 P P 04 01 44.8 -0.2
SKP1 Kophill 22.09 42⇑iP P 04 01 45.4 +0.1
SKP1 Kophill 22.09 42⇑iP P 04 01 45.3 0.0
EMHD Djebel Mahouad 22.10 85 P P 04 01 46.0 +0.5
GMK Mull of Kintyr 22.13 30⇑eP P 04 01 45.1 -0.6
GAL1 Galloway 22.15 31⇑eP P 04 01 46.4 +0.5
GAL1 ⇑eP 04 01 46.4
GAL1 AMb AMB 04 01 57.7
comp=Z,728nm,1.7s,mb5.8
GAL1 AMS AMS 04 08 53.0
comp=Z,90µm,21.4s,MS6.2
PYM Petit Puy Mans 22.23 59 eP P 04 01 47.4 +0.6
KWE Weaver Farm 22.27 38⇑iP P 04 01 47.3 +0.1
LBL Lubilhac 22.29 61 eP P 04 01 48.1 +0.7
BGF Bois d'Agland 22.30 57 eP P 04 01 47.6 0.0
comp=Z,2µm,1.3s,mb6.0
BGF Bois d'Agland 22.30 57 eP P 04 01 47.6 0.0
BGF pmax pmax
comp=Z,909nm,1.3s,mb6.0
BGF Bois d'Agland 22.30 57 eP P 04 01 47.6 0.0
comp=Z,909nm,1.3s,mb6.0
HYF Humbligny 22.35 55 eP P 04 01 48.6 +0.5
AGO Saint Agoulin 22.38 58 eP P 04 01 49.0 +0.6
CWF Charnwood Fore 22.38 39⇑eP P 04 01 48.3 0.0
CWF AMb AMB 04 01 57.5
comp=Z,506nm,1.3s,mb5.8
GCD Castle Douglas 22.47 32 eP P 04 01 51.0 +1.7
ADJB Djebel Djouab 22.49 85 P P 04 01 51.1 +1.4
LASF Ste Croix 22.53 64 eP P 04 01 49.8 -0.3
comp=Z,3µm,1.5s,mb6.2
LASF Ste Croix 22.53 64 eP P 04 01 49.8 -0.3
comp=Z,1µm,1.5s,mb6.2
KBI1 Birley Grange 22.56 38⇑eP P 04 01 50.4 +0.1
LHO Holmfirth 22.58 37⇑eP P 04 01 49.8 -0.6
CKE Keswick 22.65 34⇑eP P 04 01 52.7 +1.5
MAHO Mahon 22.67 75 iP P 04 01 52.5 +0.9
PLDF La Plantade 22.69 59 eP P 04 01 52.1 +0.4
AVF Avril sur Loir 22.70 57 eP P 04 01 51.7 -0.1
comp=Z,1µm,1.5s,mb5.8
AVF Avril sur Loir 22.70 57 eP P 04 01 51.7 -0.1
AVF pmax pmax
comp=Z,572nm,1.5s,mb5.8
AVF Avril sur Loir 22.70 57 eP P 04 01 51.7 -0.1
comp=Z,572nm,1.5s,mb5.8
AKET Djebel Ketaf 22.86 85 P P 04 01 54.6 +0.9
SSF Saint Saulge 22.87 56 eP P 04 01 53.4 -0.2
comp=Z,2µm,1.4s,mb6.0
SSF Saint Saulge 22.87 56 eP P 04 01 53.4 -0.2
SSF pmax pmax
comp=Z,900nm,1.4s,mb6.0
SSF Saint Saulge 22.87 56 eP P 04 01 53.4 -0.2
comp=Z,900nm,1.4s,mb6.0
LDU Leeds Universi 22.87 37 eP P 04 01 53.2 -0.4
PGBU Glenifferbraes 22.91 30⇑eP P 04 01 53.4 -0.5
PGBU AMb AMB 04 02 04.5
comp=Z,765nm,1.3s,mb6.0
HPK Haverah Park 22.93 36⇑eP P 04 01 54.3 +0.1
HPK AMb AMB 04 02 05.0
comp=Z,851nm,1.4s,mb6.0
HPK eS S 04 06 08.9 +4.1
HPK AMS AMS 04 09 51.5
comp=Z,215µm,19.4s,MS6.6
SMF Signal de Mont 22.99 57 eP P 04 01 54.8 -0.1
comp=Z,3µm,1.5s,mb6.2
SMF Signal de Mont 22.99 57 eP P 04 01 54.8 -0.1
SMF pmax pmax
comp=Z,2µm,1.5s,mb6.2
SMF Signal de Mont 22.99 57 eP P 04 01 54.8 -0.1
comp=Z,2µm,1.5s,mb6.2
ECK Cauldkaine Hil 23.03 33⇑eP P 04 01 55.8 +0.5
ESK Eskdalemuir 23.09 32 P P 04 01 57.5 +1.6
comp=Z,1µm,1.2s,mb6.1,SNR=16
ESK Eskdalemuir 23.09 32⇑eP P 04 01 55.5 -0.4
ESK AMb AMB 04 02 05.2
comp=Z,246nm,1.1s,mb5.6
ESK AMS AMS 04 09 32.0
comp=Z,95µm,20.9s,MS6.2
ESK Eskdalemuir 23.09 32 eP P 04 01 55.5 -0.4
comp=Z,389nm,1.3s,mb5.7
ESK LR LR
comp=Z,103µm,22.0s,MS6.2
ESK Eskdalemuir 23.09 32 eP P 04 01 55.5 -0.4
comp=Z,389nm,1.3s,mb5.7
EKA Eskdalemuir Ar 23.12 32 P P 04 01 56.0 -0.1
comp=Z,89nm,1.0s,mb5.1,baz=230,slow=8.5,SNR=82
EKA Eskdalemuir Ar 23.12 32 P P 04 01 56.0 -0.2
LOR Lormes 23.15 56 eP P 04 01 56.1 -0.5
comp=Z,1µm,1.4s,mb5.9,baz=252
LOR eMLR MLR
comp=Z,94µm,21.5s,MS5.9
LOR Lormes 23.15 56 eP P 04 01 56.1 -0.5
comp=Z,705nm,1.4s,mb5.9
LOR LR LR
comp=Z,94µm,21.5s,MS6.2
LOR Lormes 23.15 56 eP P 04 01 56.1 -0.5
LOR pmax pmax
comp=Z,705nm,1.4s,mb5.9
LOR MLR MLR
comp=Z,94µm,21.5s,MS6.2
SSB Saint Sauveur 23.19 61 P P 04 01 57.3 +0.2
MENF Mencas 23.20 47 eP P 04 01 58.3 +1.2
KAR1 Arisaig 23.21 27⇑eP P 04 01 57.9 +0.8
VIVF Saint-Julien-I 23.22 62 eP P 04 01 57.2 -0.1
comp=Z,2µm,1.5s,mb5.9
VIVF Saint-Julien-I 23.22 62 eP P 04 01 57.2 -0.1
VIVF pmax pmax
comp=Z,824nm,1.5s,mb5.9
VIVF Saint-Julien-I 23.22 62 eP P 04 01 57.2 -0.1
comp=Z,824nm,1.5s,mb5.9
XAL Allendale 23.22 34⇑eP P 04 01 56.8 -0.5
EAB Aberfoyle 23.23 29⇑eP P 04 01 57.9 +0.6
EAU Auchinoon 23.35 31 eP P 04 01 58.7 +0.1
EBL Broad Law 23.47 31⇑iP P 04 01 59.3 -0.6
EDI Edinburgh 23.51 31⇑eP P 04 01 59.7 -0.6
EDI AMb AMB 04 02 12.5
comp=Z,385nm,2.2s,mb5.5
EDI AMS AMS 04 09 44.1
comp=Z,94µm,21.1s,MS6.2
KSB Sheil Bridge 23.58 27⇑iP P 04 02 00.7 -0.3
KPL Plockton 23.60 26 eP P 04 02 00.9 -0.3
KPL AMb AMB 04 02 10.9
comp=Z,642nm,1.4s,mb5.9
KPL eS S 04 06 21.0 +5.4
KPL AMS AMS 04 09 42.2
comp=Z,120µm,19.7s,MS6.4
EBH Black Hill 23.61 30⇑iP P 04 02 00.5 -0.8
XSO Sourhope Farm 23.61 33⇑iP P 04 02 01.0 -0.3
AEU East Anglia Un 23.63 42 eP P 04 02 01.4 0.0
ELO Logie Almond 23.68 30⇑iP P 04 02 01.6 -0.3
RRH Rhenigidale 23.70 24 eP P 04 02 01.7 -0.4
ABA1 Baconsthorpe 23.72 41⇑eP P 04 02 02.4 +0.1
ESY Stoneypath 23.74 32⇑eP P 04 02 02.1 -0.4
BBTS Babate 23.74 160 P P 04 02 03.0 +0.2
comp=Z,96nm,0.8s,mb5.3,baz=328,slow=1.6,SNR=20
BBTS S S 04 06 25.1 +6.6
comp=Z,25nm,0.9s,baz=98,slow=23,SNR=6.6
BBTS LR LR 04 09 31.5
comp=Z,25µm,19.5s,MS5.7,baz=333,slow=32
SMRF Simiane la Rot 23.75 64 eP P 04 02 02.0 -0.7
comp=Z,2µm,1.9s,mb6.0
SMRF Simiane la Rot 23.75 64 eP P 04 02 02.0 -0.7
comp=Z,1µm,1.9s,mb6.0

KAC Achnashellach 23.84 26⇑iP P 04 02 02.6 -0.8
RRR Rubha Reidh 23.94 25⇑eP P 04 02 04.2 -0.1
GRN Grenoble 24.03 61 eP P 04 02 06.7 +1.5
SET Setif 24.04 84 P P 04 02 05.0 -0.4
ORIF Oris-en-Rattie 24.08 62 eP P 04 02 06.0 +0.3
comp=Z,2µm,1.6s,mb6.0
ORIF eMLR MLR
comp=Z,95µm,20.2s,MS6.0
ORIF Oris-en-Rattie 24.08 62 eP P 04 02 06.0 +0.3
ORIF pmax pmax
comp=Z,1µm,1.6s,mb6.0
ORIF Oris-en-Rattie 24.08 62 eP P 04 02 06.0 +0.3
comp=Z,1µm,1.6s,mb6.0
MDO Dochfour 24.14 27⇑eP P 04 02 05.6 -0.5
CKHR Kef el Ahmar 24.16 84 P P 04 02 07.0 +0.5
BAIF Baives 24.23 49 eP P 04 02 06.2 -0.8
comp=Z,1µm,1.2s,mb5.8
BAIF Baives 24.23 49 eP P 04 02 06.2 -0.8
BAIF pmax pmax
comp=Z,534nm,1.2s,mb5.8
BAIF Baives 24.23 49 eP P 04 02 06.2 -0.8
comp=Z,534nm,1.2s,mb5.8
MEZF Maizieres J'vi 24.26 53 eP P 04 02 07.1 -0.2
comp=Z,5µm,1.8s,mb6.4
MEZF Maizieres J'vi 24.26 53 eP P 04 02 07.1 -0.2
comp=Z,3µm,1.8s,mb6.4
GDM Grand'Maison 24.28 62 eP P 04 02 09.0 +1.5
REB Eisghbrachaidh 24.32 25 eP P 04 02 06.5 -1.2
DFRA Djebel Bou Aff 24.34 83 P P 04 02 08.0 -0.2
LMR La Mourre 24.38 66 eP P 04 02 07.8 -0.6
comp=Z,439nm,1.3s,mb5.4
LMR La Mourre 24.38 66 eP P 04 02 07.8 -0.6
LMR pmax pmax
comp=Z,219nm,1.3s,mb5.4
LMR La Mourre 24.38 66 eP P 04 02 07.8 -0.6
comp=Z,219nm,1.3s,mb5.4
SNF Seneffe 24.43 48 P P 04 02 09.1 +0.2
comp=Z,425nm,2.4s,mb5.5
SNF Seneffe 24.43 48 P P 04 02 09.0 +0.2
comp=Z,425nm,2.4s,mb5.5
DOU Dourbes 24.47 49 P P 04 02 09.4 +0.2
FRF La Foret Royal 24.49 66 eP P 04 02 08.9 -0.6
comp=Z,296nm,0.9s,mb5.4
FRF La Foret Royal 24.49 66 eP P 04 02 08.9 -0.6
FRF pmax pmax
comp=Z,148nm,0.9s,mb5.4
FRF La Foret Royal 24.49 66 eP P 04 02 08.9 -0.6
comp=Z,148nm,0.9s,mb5.4
CABF La Chapelle 24.50 58 eP P 04 02 08.9 -0.6
comp=Z,2µm,1.9s,mb6.0
CABF La Chapelle 24.50 58 eP P 04 02 08.9 -0.6
CABF pmax pmax
comp=Z,1µm,1.9s,mb6.0
CABF La Chapelle 24.50 58 eP P 04 02 08.9 -0.6
comp=Z,1µm,1.9s,mb6.0
RSC Scourie 24.54 25 eP P 04 02 09.2 -0.5
CMER Merouana 24.56 85 P P 04 02 11.0 +0.9
MVH1 Achvaich 24.56 27⇑eP P 04 02 09.2 -0.7
MVH1 Achvaich 24.56 27⇑eP P 04 02 09.2 -0.7
MME1 Meikle Cairn 24.57 29⇑iP P 04 02 09.6 -0.4
GIMEL St. Georges / 24.60 58⇓iP P 04 02 10.7 +0.3
comp=Z,2µm,2.6s,mb6.1
GIVF Givet 24.61 49 eP P 04 02 10.5 0.0
comp=Z,4µm,1.7s,mb6.3
GIVF Givet 24.61 49 eP P 04 02 10.5 0.0
GIVF pmax pmax
comp=Z,2µm,1.7s,mb6.3
GIVF Givet 24.61 49 eP P 04 02 10.5 0.0
comp=Z,2µm,1.7s,mb6.3
MCD Coleburn Disti 24.65 28⇑eP P 04 02 10.4 -0.3
BNI Bardonecchia 24.66 62 eP P 04 02 12.6 +1.6
BNI pmax pmax
comp=Z,520nm,1.3s,mb5.9
BNI Bardonecchia 24.66 62 eP P 04 02 12.6 +1.6
comp=Z,517nm,1.4s,mb5.9
CALN Calern 24.68 65 eP P 04 02 12.1 +0.9
MBDF Montbardon 24.68 63 eP P 04 02 11.4 +0.2
comp=Z,1µm,1.6s,mb5.9
MBDF Montbardon 24.68 63 eP P 04 02 11.4 +0.2
MBDF pmax pmax
comp=Z,587nm,1.6s,mb5.9
MBDF Montbardon 24.68 63 eP P 04 02 11.4 +0.2
comp=Z,587nm,1.6s,mb5.9
SURF Saint Ours 24.69 63 eP P 04 02 12.7 +1.5
RRL Cesana Torines 24.72 62 P P 04 02 13.1 +1.6
LPL La Plagne 24.76 61 eP P 04 02 12.2 +0.4
comp=Z,1µm,1.5s,mb5.9
LPL La Plagne 24.76 61 eP P 04 02 12.2 +0.4
LPL pmax pmax
comp=Z,558nm,1.5s,mb5.9
LPL La Plagne 24.76 61 eP P 04 02 12.2 +0.4
comp=Z,558nm,1.5s,mb5.9
LPG La Plagne 24.77 61 eP P 04 02 12.5 +0.6
comp=Z,1µm,1.4s,mb6.0
LPG La Plagne 24.77 61 eP P 04 02 12.5 +0.6
LPG pmax pmax
comp=Z,704nm,1.4s,mb6.0
LPG La Plagne 24.77 61 eP P 04 02 12.5 +0.6
comp=Z,704nm,1.4s,mb6.0
THEF They Montfort 24.79 54 eP P 04 02 12.6 +0.5
BRANT Les Verrieres 24.82 58⇓iP P 04 02 12.7 +0.3
comp=Z,2µm,2.5s,mb6.2
CTEI Djebel Teioual 24.86 84 P P 04 02 12.0 -0.9
MVIF Mont Vial 24.88 65 eP P 04 02 13.9 +0.9
CASM Ain Smara 24.89 83 P P 04 02 13.0 -0.1
PZZ Prazzo 24.90 63 P P 04 02 14.5 +1.4
EMV Vieux Emosson 24.95 60⇓P P 04 02 13.9 +0.3
EMV Vieux Emosson 24.95 60⇓iP P 04 02 14.1 +0.5
comp=Z,800nm,1.5s,mb6.0
TOUF Mont Tournerai 24.96 65 eP P 04 02 14.4 +0.7
HAU Haudompre 24.97 55 eP P 04 02 13.8 +0.1
comp=Z,1µm,1.6s,mb5.9
HAU eMLR MLR
comp=Z,59µm,19.2s,MS5.8
HAU Haudompre 24.97 55 eP P 04 02 13.8 +0.1
comp=Z,613nm,1.6s,mb5.9
HAU LR LR
comp=Z,59µm,19.3s,MS6.1
HAU Haudompre 24.97 55 eP P 04 02 13.8 +0.1
HAU pmax pmax
comp=Z,613nm,1.6s,mb5.9
HAU MLR MLR
comp=Z,59µm,19.3s,MS6.1
DOI San Damiano 25.00 63 P P 04 02 15.0 +0.9
BCLA Clavier 25.01 49 P P 04 02 14.0 -0.1
LUCF Luceram 25.02 65 eP P 04 02 15.1 +0.8
REVF Revere 25.02 65 eP P 04 02 14.9 +0.6
STV Sta Anna Valdi 25.03 64 P P 04 02 15.2 +0.8
AIGLE Aigle 25.04 59⇓iP P 04 02 14.5 +0.1
comp=Z,1µm,1.5s,mb6.3
CKFL Kef-Lekhel 25.04 83 P P 04 02 14.5 0.0
LSD Ceresole Reale 25.04 61 P P 04 02 15.9 +1.4
MON Monaco 25.07 65 P P 04 02 16.0 +1.3
CAEH 'Ain El Ouahch 25.07 82 P P 04 02 15.0 +0.2
RSP Reno Superiore 25.08 62 P P 04 02 16.1 +1.3
SBF Sospel 25.08 65 eP P 04 02 14.3 -0.5
comp=Z,832nm,1.1s,mb5.9
SBF Sospel 25.08 65 eP P 04 02 14.3 -0.5
SBF pmax pmax
comp=Z,416nm,1.1s,mb5.9
SBF Sospel 25.08 65 eP P 04 02 14.3 -0.5
comp=Z,416nm,1.1s,mb5.9
AUTN L'Aution 25.09 65 eP P 04 02 17.3 +2.4
ENR Entracque 25.10 64 P P 04 02 15.8 +0.8
TORNY Torny/Romont 25.11 58⇓iP P 04 02 15.4 +0.3
comp=Z,1µm,1.5s,mb6.3
GRYON Gryon 25.13 59⇓iP P 04 02 15.5 +0.3
comp=Z,760nm,1.4s,mb6.0
LOMF Lomont 25.14 57 eP P 04 02 15.9 +0.6
ORE Reay 25.17 26 eP P 04 02 15.9 +0.4
SAOF Saorge 25.18 65 eP P 04 02 16.4 +0.7
HINF Hinteralfeld 25.25 56 eP P 04 02 15.8 -0.6
comp=Z,980nm,1.4s,mb5.8
HINF Hinteralfeld 25.25 56 eP P 04 02 15.8 -0.6
HINF pmax pmax
comp=Z,490nm,1.4s,mb5.8
HINF Hinteralfeld 25.25 56 eP P 04 02 15.8 -0.6
comp=Z,490nm,1.4s,mb5.8
SENIN Lac Senin/Sane 25.27 59⇓iP P 04 02 17.1 +0.5
comp=Z,872nm,1.5s,mb6.1
WLF Walferdange 25.29 51 eP P 04 02 15.9 -0.7
comp=Z,707nm,0.9s,mb6.2
WLF Walferdange 25.29 51 eP P 04 02 16.0 -0.6
WLF pmax pmax
comp=Z,707nm,0.9s,mb6.2

WLF	**Walferdange**	**25.29**	**51**	P		**P**	**04 02 16.5 -0.1**
	comp=Z,770nm,1.6s,mb6.0						
WLF	**Walferdange**	**25.29**	**51**	*e*P		**P**	**04 02 16.0 -0.6**
	comp=Z,1µm,1.1s,mb6.3						
DIX	**Grande Dixence**	**25.30**	**60**	⇑P		**P**	**04 02 18.3 +1.5**
DIX	**Grande Dixence**	**25.30**	**60**	⇓*i*P		**P**	**04 02 17.6 +0.8**
	comp=Z,679nm,1.6s,mb5.9						
BEBN	**Eben Emael**	**25.36**	**48**	P		**P**	**04 02 17.6 +0.3**
	comp=Z,148nm,1.7s,mb5.2						
BEBN	**Eben Emael**	**25.36**	**48**	P		**P**	**04 02 17.6 +0.3**
	comp=Z,148nm,1.7s,mb5.2						
IMI	**Imperia**	**25.41**	**65**	P		**P**	**04 02 18.1 +0.3**
BOURR	**Bourrignon**	**25.41**	**57**	⇓*i*P		**P**	**04 02 17.9 +0.1**
	comp=Z,2µm,1.4s,mb6.4						
ROB	**Roburent**	**25.43**	**64**	P		**P**	**04 02 18.6 +0.6**
MOF	**Molkenrain**	**25.45**	**56**	*e*P		**P**	**04 02 18.2 +0.1**
MEM	**Membach**	**25.50**	**49**	P		**P**	**04 02 18.9 +0.4**
	comp=Z,252nm,1.7s,mb5.5						
MEM	**Membach**	**25.50**	**49**	P		**P**	**04 02 18.8 +0.3**
	comp=Z,252nm,1.7s,mb5.5						
LKBD	**Leukerbad**	**25.50**	**59**	⇑P		**P**	**04 02 19.5 +0.9**
LKBD	**Leukerbad**	**25.50**	**59**	⇓*i*P		**P**	**04 02 19.1 +0.5**
	comp=Z,589nm,1.3s,mb6.0						
HGN	**Heimansgroeve**	**25.50**	**49**	*e*P		**P**	**04 02 18.7 +0.1**
	comp=Z,546nm,2.1s,mb5.7						
HGN	**Heimansgroeve**	**25.50**	**49**	*e*S		**S**	**04 06 35.5 -11**
ECH	**Echery**	**25.54**	**55**	*e*P		**P**	**04 02 18.9 -0.1**
WIMIS	**Wimmis**	**25.55**	**58**	⇓*i*P		**P**	**04 02 19.4 +0.4**
	comp=Z,637nm,1.6s,mb5.9						
CMAH	**Djebel Manchou**	**25.55**	**82**	P		**P**	**04 02 18.0 -1.1**
RORO		**25.55**	**64**	P		**P**	**04 02 20.0 +0.9**
ORO	**Oropa**	**25.64**	**61**	P		**P**	**04 02 20.8 +0.9**
ORX	**Oropa**	**25.64**	**61**	P		**P**	**04 02 21.1 +1.2**
FIN	**Finale Ligure**	**25.66**	**64**	P		**P**	**04 02 20.5 +0.4**
CDF	**Champ du Feu**	**25.67**	**54**	*e*P		**P**	**04 02 20.5 +0.4**
	comp=Z,2µm,1.5s,mb6.0						
CDF	**Champ du Feu**	**25.67**	**54**	*e*P		**P**	**04 02 20.5 +0.4**
CDF				pmax		pmax	
	comp=Z,782nm,1.5s,mb6.0						
CDF	**Champ du Feu**	**25.67**	**54**	*e*P		**P**	**04 02 20.5 +0.4**
	comp=Z,782nm,1.5s,mb6.0						
MMK	**Mattmark**	**25.68**	**60**	⇓P		**P**	**04 02 21.6 +1.3**
MMK	**Mattmark**	**25.68**	**60**	⇓*i*P		**P**	**04 02 21.5 +1.2**
	comp=Z,1µm,2.4s,mb5.9						
BALST	**Balsthal**	**25.71**	**57**	⇓*i*P		**P**	**04 02 20.5 0.0**
	comp=Z,945nm,1.4s,mb6.1						
QLNO	**Quiliano**	**25.77**	**64**	P		**P**	**04 02 21.6 +0.5**
RUP	**Ruppelstein**	**25.86**	**51**	*e*P		**P**	**04 02 22.1 +0.3**
HASLI	**Hasliberg/Brie**	**25.92**	**58**	⇓*i*P		**P**	**04 02 22.9 +0.5**
	comp=Z,1µm,1.7s,mb6.1						
PCP	**Pian Castagno**	**25.93**	**64**	P		**P**	**04 02 23.3 +0.8**
KIZ	**Kirchzarten**	**25.98**	**56**	P		**P**	**04 02 23.4 +0.4**
STR	**Strasbourg**	**26.02**	**54**	*e*P		**P**	**04 02 23.9 +0.6**
FELD	**Feldberg im Sc**	**26.02**	**56**	*e*P		**P**	**04 02 23.4 +0.1**
SULZ	**Cheisacher**	**26.03**	**57**	⇓*i*P		**P**	**04 02 23.1 -0.3**
	comp=Z,1µm,2.1s,mb6.1						
SULZ	**Cheisacher**	**26.03**	**57**	⇑P		**P**	**04 02 23.9 +0.5**
BNALP	**Bannalp**	**26.12**	**58**	⇓*i*P		**P**	**04 02 24.8 +0.6**
	comp=Z,1µm,2.4s,mb6.0						
LANF	**Langenberg**	**26.14**	**53**	*e*P		**P**	**04 02 24.5 +0.1**
PGF	**Pioggiola**	**26.18**	**68**	*e*P		**P**	**04 02 24.9 +0.1**
	comp=Z,465nm,1.2s,mb5.6						
PGF	**Pioggiola**	**26.18**	**68**	*e*P		**P**	**04 02 24.9 +0.1**
PGF				pmax		pmax	
	comp=Z,232nm,1.2s,mb5.6						
PGF	**Pioggiola**	**26.18**	**68**	*e*P		**P**	**04 02 24.9 +0.1**
	comp=Z,232nm,1.2s,mb5.6						
ABH	**Alteburg**	**26.22**	**51**	*e*P		**P**	**04 02 25.8 +0.7**
VAI	**Varese**	**26.22**	**61**	P		**P**	**04 02 25.7 +0.6**
FUSIO	**Fusio**	**26.22**	**59**	⇓*i*P		**P**	**04 02 25.7 +0.6**
	comp=Z,2µm,2.3s,mb6.2						
MUO	**Muotathal**	**26.28**	**58**	⇓P		**P**	**04 02 26.7 +1.0**
MUO	**Muotathal**	**26.28**	**58**	⇓*i*P		**P**	**04 02 26.1 +0.4**
	comp=Z,727nm,1.7s,mb5.9						
CORF	**Corte**	**26.30**	**69**	*e*P		**P**	**04 02 25.6 -0.3**
ZUR	**Degenried**	**26.31**	**57**	⇑P		**P**	**04 02 26.8 +0.9**
ZUR	**Degenried**	**26.31**	**57**	⇓*i*P		**P**	**04 02 26.3 +0.4**
	comp=Z,704nm,1.7s,mb5.9						
SLE	**Schleitheim**	**26.32**	**56**	⇓*i*P		**P**	**04 02 26.2 +0.1**
	comp=Z,914nm,1.7s,mb6.0						
SLE	**Schleitheim**	**26.32**	**56**	⇑P		**P**	**04 02 26.4 +0.3**
BFO	**Black Forest**	**26.33**	**55**	P		**P**	**04 02 26.6 +0.5**
	comp=Z,2µm,1.4s,mb6.3,SNR=61						
BFO	**Black Forest**	**26.33**	**55**	*e*P		**P**	**04 02 25.9 -0.2**
BFO				pmax		pmax	
	comp=Z,470nm,1.2s,mb5.9						
BFO	**Black Forest**	**26.33**	**55**	*e*P		**P**	**04 02 26.3 +0.2**
	comp=Z,428nm,1.3s,mb5.8						
KTD	**Kalmit**	**26.40**	**53**	*e*P		**P**	**04 02 27.3 +0.5**
MUGIO	**Muggio**	**26.41**	**60**	⇓*i*P		**P**	**04 02 26.9 0.0**
	comp=Z,2µm,1.7s,mb6.3						
TRULL	**Truellikon**	**26.43**	**57**	⇓*i*P		**P**	**04 02 26.7 -0.3**
	comp=Z,2µm,1.7s,mb6.3						
WTSB	**Winterswijk**	**26.43**	**46**	*e*P		**P**	**04 02 27.5 +0.5**
	comp=Z,435nm,1.6s,mb5.7						
LLS	**Linth-Limmern**	**26.51**	**58**	⇑P		**P**	**04 02 29.1 +1.3**
LLS	**Linth-Limmern**	**26.51**	**58**	⇓*i*P		**P**	**04 02 28.3 +0.5**
	comp=Z,924nm,2.3s,mb5.9						
WILA	**Wila**	**26.54**	**57**	⇑P		**P**	**04 02 28.8 +0.8**
WILA	**Wila**	**26.54**	**57**	⇓*i*P		**P**	**04 02 28.2 +0.2**
	comp=Z,2µm,1.8s,mb6.3						
SPAK	**Spaichingen-Ko**	**26.58**	**56**	*e*P		**P**	**04 02 28.9 +0.5**
BOB	**Bobbio (Coli)**	**26.59**	**63**	P		**P**	**04 02 29.7 +1.2**
SISB	**Singen-Schiene**	**26.62**	**57**	P		**P**	**04 02 29.7 +0.9**
SC2M	**Scurtabr**	**26.62**	**64**	P		**P**	**04 02 29.4 +0.6**
VSL	**Villasalto**	**26.64**	**75**	*e*P		**P**	**04 02 28.2 -0.8**
	comp=Z,305nm,1.3s,mb5.7						
VSL	**Villasalto**	**26.64**	**75**	*e*P		**P**	**04 02 28.2 -0.8**
	comp=Z,305nm,1.3s,mb5.7						
TUE	**Stuetta**	**26.69**	**59**	P		**P**	**04 02 29.7 +0.3**
LBG	**Lerchenberg**	**26.71**	**54**	P		**P**	**04 02 29.6 +0.1**
VDL	**Val di Lei**	**26.76**	**59**	⇓P		**P**	**04 02 30.9 +0.9**
VDL	**Val di Lei**	**26.76**	**59**	⇓*i*P		**P**	**04 02 30.7 +0.7**
	comp=Z,2µm,2.6s,mb6.2						
GUT	**Gutenstein**	**26.80**	**56**	P		**P**	**04 02 30.9 +0.6**
PLONS	**Plons/SG**	**26.80**	**58**	⇓*i*P		**P**	**04 02 30.7 +0.4**
	comp=Z,2µm,2.5s,mb6.2						
TNS	**Taunus Mts**	**26.87**	**51**	*e*P		**P**	**04 02 31.3 +0.4**
TNS				pmax		pmax	
	comp=Z,256nm,1.0s,mb5.7						
TNS	**Taunus Mts**	**26.87**	**51**	*e*P		**P**	**04 02 31.3 +0.4**
	comp=Z,256nm,1.0s,mb5.7						
LIENZ	**Kamor/St.Gall**	**26.91**	**58**	⇓*i*P		**P**	**04 02 31.7 +0.3**
	comp=Z,2µm,2.7s,mb6.2						
TOD	**Tromm**	**26.93**	**52**	P		**P**	**04 02 31.9 +0.4**
STU	**Stuttgart**	**26.99**	**54**	*e*P		**P**	**04 02 31.8 -0.2**
	comp=Z,262nm,0.9s,mb5.8						
STU	**Stuttgart**	**26.99**	**54**	P		**P**	**04 02 31.2 -0.8**
BACM		**27.00**	**64**	P		**P**	**04 02 32.8 +0.6**
GRAM		**27.01**	**64**	P		**P**	**04 02 33.3 +1.0**
BUCH	**Bad Urach**	**27.02**	**55**	P		**P**	**04 02 32.9 +0.5**
VINC	**Vinca**	**27.05**	**65**	P		**P**	**04 02 32.7 0.0**
DAVOX	**Davos/Dischmat**	**27.10**	**59**	P		**P**	**04 02 34.4 +1.4**
	comp=Z,64nm,0.9s,mb5.2,baz=272,slow=7.7,SNR=43						
DAVOX				LR		LR	04 13 08.5
	comp=Z,75µm,18.1s,MS6.3,baz=266,slow=36						
DAVOX	**Davos/Dischmat**	**27.10**	**59**	⇓*i*P		**P**	**04 02 33.8 +0.8**
	comp=Z,1µm,2.5s,mb5.9						
IBBN	**Ibbenburen**	**27.11**	**46**	*e*P		**P**	**04 02 33.4 +0.3**
	comp=Z,809nm,1.5s,mb6.0						
VALM		**27.13**	**64**	P		**P**	**04 02 34.0 +0.6**
DAVA	**Damuels**	**27.17**	**58**	*i*P		**P**	**04 02 34.5 +0.8**
	comp=Z,2µm,3.5s,SNR=70						
DAVA	**Damuels**	**27.17**	**58**	P		**P**	**04 02 32.8 -0.9**
VLC	**Villacollemand**	**27.22**	**65**	*e*P		**P**	**04 02 33.6 -0.6**
	comp=Z,237nm,1.4s,mb5.5						
VLC	**Villacollemand**	**27.22**	**65**	*e*P		**P**	**04 02 33.6 -0.6**
	comp=Z,237nm,1.4s,mb5.5						
SARO	**Sassorosso**	**27.24**	**64**	P		**P**	**04 02 34.2 -0.1**
ERBM	**Eremo**	**27.25**	**64**	P		**P**	**04 02 35.9 +1.4**
KEST	**Kesra**	**27.26**	**83**	P		**P**	**04 02 34.4 -0.3**
	comp=Z,17nm,1.0s,baz=188,slow=5.1,SNR=18						
MAIM		**27.29**	**65**	P		**P**	**04 02 34.7 -0.1**
FUORN	**Ofenpass-Fuorn**	**27.34**	**59**	⇓*i*P		**P**	**04 02 36.0 +0.8**
	comp=Z,1µm,2.5s,mb6.1						
BDI	**Bagni Di Lucca**	**27.37**	**65**	P		**P**	**04 02 35.5 0.0**
GSCL	**Gusciola**	**27.38**	**64**	P		**P**	**04 02 36.5 +0.9**
SIND	**Sindeldorf**	**27.38**	**53**	P		**P**	**04 02 35.8 +0.3**
UBR	**Ueberruh**	**27.38**	**57**	P		**P**	**04 02 36.4 +0.8**
MABI	**Malga Bissina**	**27.45**	**60**	P		**P**	**04 02 35.1 -1.1**
BORG	**Borgarnes**	**27.48**	**3**	*e*P		**P**	**04 02 36.7 +0.5**
	comp=Z,408nm,1.6s,mb5.7						
BORG				LR		LR	
	comp=Z,76µm,20.0s,MS6.3						
BORG	**Borgarnes**	**27.48**	**3**	P		**P**	**04 02 36.7 +0.5**
	comp=Z,56nm,0.9s,mb5.1,baz=181,slow=8.9,SNR=3.7						
BORG				LR		LR	04 10 48.3
	comp=Z,81µm,18.0s,MS6.3,baz=183,slow=31						
BORG	**Borgarnes**	**27.48**	**3**	*e*P		**P**	**04 02 36.7 +0.5**
	comp=Z,408nm,1.6s,mb5.7						
MAGA	**Magasa**	**27.50**	**61**	P		**P**	**04 02 35.7 -1.0**
HDH	**Heidenheim-Cha**	**27.61**	**55**	P		**P**	**04 02 38.1 +0.5**
ZCCA	**Zocca**	**27.66**	**64**	P		**P**	**04 02 39.4 +1.3**
FETA	**Feichten**	**27.71**	**58**	*i*P		**P**	**04 02 39.4 +0.9**
	comp=Z,1µm,2.5s,mb6.2,SNR=67						
FNVD	**Fontana Vidola**	**27.75**	**65**	P		**P**	**04 02 39.0 0.0**
RAVA	**Ravarino**	**27.77**	**63**	P		**P**	**04 02 40.8 +1.7**
RETA	**Reutte**	**27.79**	**57**	⇓*i*P		**P**	**04 02 39.5 +0.2**
	comp=Z,821nm,1.9s,mb6.0,SNR=47						
SEI	**Scarperia**	**27.92**	**65**	P		**P**	**04 02 40.2 -0.2**
UBBA	**Unterbreizbach**	**27.98**	**50**	*e*P		**P**	**04 02 41.4 +0.5**
	comp=Z,230nm,1.6s,mb5.6						
APPI	**Appiano**	**27.98**	**60**	P		**P**	**04 02 41.1 +0.1**
MOTA	**Moosalm**	**28.00**	**58**	⇑*i*P		**P**	**04 02 41.7 +0.5**
	comp=Z,311nm,1.3s,mb5.8,SNR=45						
MOTA	**Moosalm**	**28.00**	**58**	P		**P**	**04 02 41.8 +0.7**
SQTA	**Sankt Quirin**	**28.06**	**58**	⇑*i*P		**P**	**04 02 42.4 +0.8**
	comp=Z,392nm,1.4s,mb5.8,SNR=42						
CTI	**Castel Tesino**	**28.23**	**61**	P		**P**	**04 02 43.5 +0.3**
FUR	**Furstenfeldbru**	**28.24**	**56**	*e*P		**P**	**04 02 43.7 +0.5**
FUR				pmax		pmax	
	comp=Z,354nm,1.6s,mb5.7						
FUR	**Furstenfeldbru**	**28.24**	**56**	*e*P		**P**	**04 02 43.7 +0.5**
	comp=Z,354nm,1.6s,mb5.7						
SFI	**Santa Sofia**	**28.27**	**65**	P		**P**	**04 02 43.3 -0.3**
WATA	**Walderalm**	**28.32**	**58**	⇑*i*P		**P**	**04 02 44.5 +0.5**
	comp=Z,516nm,1.8s,mb5.9,SNR=17						
WATA	**Walderalm**	**28.32**	**58**	P		**P**	**04 02 45.1 +1.1**
CRE	**Caprese Michel**	**28.34**	**66**	P		**P**	**04 02 43.7 -0.5**
TOLF	**Tolfa**	**28.42**	**69**	P		**P**	**04 02 45.1 +0.2**
GRFO	**Grafenberg**	**28.48**	**53**	*e*P		**P**	**04 02 44.9 -0.5**
	comp=Z,149nm,0.8s,mb5.7						
GRFO				LR		LR	
	comp=Z,49µm,22.0s,MS6.1						
GRFO	**Grafenberg**	**28.48**	**53**	*e*P		**P**	**04 02 44.9 -0.5**
GRFO				pmax		pmax	
	comp=Z,149nm,0.8s,mb5.7						
GRFO				MLR		MLR	
	comp=Z,49µm,22.0s,MS6.1						
GRFO	**Grafenberg**	**28.48**	**53**	*e*P		**P**	**04 02 44.9 -0.5**
	comp=Z,149nm,0.8s,mb5.7						
GRA1	**Grafenberg Arr**	**28.48**	**53**	*e*P		**P**	**04 02 45.7 +0.3**
	comp=Z,1µm,2.2s,mb6.2						
GRA1				*e*S		**S**	**04 07 29.5 -3.8**
GRA1				LR		LR	
	comp=Z,51µm,21.9s,MS6.1						
GRF	**Grafenberg Arr**	**28.48**	**53**	*e*P		**P**	**04 02 45.7 +0.3**
	comp=Z,1µm,2.2s,mb6.2						
GRF				*e*S		**S**	**04 07 29.5 -3.8**
GRF				*e*L			04 12 12.3
	comp=Z,51µm,21.9s						
CLZ	**Clausthal**	**28.49**	**48**	*e*P		**P**	**04 02 45.8 +0.4**
CLZ				pmax		pmax	
	comp=Z,370nm,2.0s,mb5.7						
CLZ	**Clausthal**	**28.49**	**48**	*e*P		**P**	**04 02 45.8 +0.4**
	comp=Z,370nm,2.0s,mb5.7						
NRDL	**Niedersach Rie**	**28.53**	**47**	*e*P		**P**	**04 02 46.7 +0.9**
	comp=Z,608nm,1.4s,mb6.1						
SEST	**Monte Rota**	**28.69**	**59**	P		**P**	**04 02 47.3 0.0**
MURB	**Monte Urbino**	**28.77**	**66**	P		**P**	**04 02 48.5 +0.5**
PIEI	**Pieia**	**28.77**	**66**	P		**P**	**04 02 49.5 +1.5**
ROM9	**Roma**	**28.82**	**69**	P		**P**	**04 02 49.5 +1.1**
ASS	**Assisi**	**28.86**	**67**	P		**P**	**04 02 48.7 -0.1**
ABTA	**Abfaltersbach**	**28.89**	**59**	⇓*i*P		**P**	**04 02 48.4 -0.6**
	comp=Z,588nm,2.8s,mb5.8,SNR=24						
MNS	**Montasola**	**28.91**	**68**	P		**P**	**04 02 49.4 +0.1**
MOX	**Moxa**	**28.93**	**51**	*b i*P		**P**	**04 02 50.0 +0.6**
	comp=Z,342nm,1.9s,mb5.8						
MOX				*e*			04 03 08.7
MOX				*e*			04 03 38.0
MOX							
	comp=Z,17µm,18.0s						
MOX	**Moxa**	**28.93**	**51**	*b i*P		**P**	**04 02 50.0 +0.6**
MOX				*e*			04 03 08.7
MOX				*e*			04 03 38.0
MOX				pmax		pmax	
	comp=Z,342nm,1.9s,mb5.8						
MOX				MLR		MLR	
	comp=Z,17µm,18.0s,MS5.7						
MOX	**Moxa**	**28.93**	**51**	*e*P		**P**	**04 02 49.3 -0.1**
	comp=Z,349nm,1.8s,mb5.8						
MOX				*e*PPP			04 03 43.0
FSSB	**Fossombrone**	**28.94**	**66**	P		**P**	**04 02 49.3 -0.3**
RDP	**Rocca di Papa**	**28.97**	**70**	P		**P**	**04 02 49.4 -0.4**
MTCE	**Montecelio**	**28.97**	**69**	P		**P**	**04 02 49.5 -0.3**
FVI	**Forni Avoltri**	**29.06**	**60**	P		**P**	**04 02 51.2 +0.6**
SNTG	**Esanatoglia**	**29.07**	**66**	P		**P**	**04 02 50.5 -0.2**
MANZ	**Manzenberg**	**29.10**	**53**	*e*P		**P**	**04 02 51.3 +0.4**
	comp=Z,172nm,1.3s,mb5.6						
ROTZ	**Rotzenmuhle**	**29.12**	**53**	*e*P		**P**	**04 02 51.1 0.0**
	comp=Z,194nm,1.2s,mb5.7						
ROTZ				*e*PPP			04 03 45.8
CERT	**Cerreto**	**29.16**	**69**	P		**P**	**04 02 51.4 -0.1**
LGHD	**Ghdames**	**29.17**	**94**	*i*P		**P**	**04 02 50.4 -1.3**
	comp=Z,696nm,2.1s,mb6.0,SNR=28						
LGHD				*e*S		**S**	**04 07 30.9 -14**
	SNR=28						
NRCA	**Norcia**	**29.21**	**67**	P		**P**	**04 02 52.3 +0.4**
FIAM	**Fiamignano**	**29.24**	**68**	P		**P**	**04 02 52.9 +0.7**
CING	**Cingoli**	**29.25**	**66**	P		**P**	**04 02 52.5 +0.2**
ERC	**Erice**	**29.33**	**77**	P		**P**	**04 02 53.6 +0.6**
GMNA	**Gemona**	**29.35**	**60**	P		**P**	**04 02 52.2 -1.0**
NKC	**Novy Kostel**	**29.37**	**52**	*e*P		**P**	**04 02 53.7 +0.5**
NKC				*e*S		**S**	**04 07 43.9 -3.3**
NKC	**Novy Kostel**	**29.37**	**52**	*e*P		**P**	**04 02 53.7 +0.5**
NKC				*e*S		**S**	**04 07 43.9 -3.3**
NKC				AMS		AMS	04 12 30.0
	comp=Z,54µm,20.7s,MS6.2						
GUAR	**Guarcino**	**29.41**	**69**	P		**P**	**04 02 53.7 0.0**
TANN	**Tannenbergstha**	**29.41**	**52**	*e*P		**P**	**04 02 54.0 +0.4**
	comp=Z,593nm,1.9s,mb6.0						
PTCC	**Patocco-Chiusa**	**29.44**	**60**	P		**P**	**04 02 53.6 -0.3**
AQU	**L'Aquila**	**29.44**	**68**	*e*P		**P**	**04 02 54.1 +0.1**
	comp=Z,338nm,1.0s,mb6.0						
AQU	**L'Aquila**	**29.44**	**68**	*e*P		**P**	**04 02 54.1 +0.1**
AQU				pmax		pmax	
	comp=Z,338nm,1.0s,mb6.0						
AQU	**L'Aquila**	**29.44**	**68**	⇑*i*P		**P**	**04 02 54.9 +0.9**
AQU	**L'Aquila**	**29.44**	**68**	*e*P		**P**	**04 02 54.1 +0.1**
	comp=Z,338nm,1.0s,mb6.0						
WET	**Wettzell**	**29.44**	**54**	*e*P		**P**	**04 02 53.8 -0.1**
WET				*e*PPP			04 03 49.7
WET				pmax		pmax	
	comp=Z,206nm,1.8s,mb5.6						
WET	**Wettzell**	**29.44**	**54**	*e*P		**P**	**04 02 53.8 -0.1**
	comp=Z,206nm,1.8s,mb5.6						
WET				*e*PPP			04 03 49.7
KBA	**Koelnbreinsper**	**29.49**	**59**	*i*P		**P**	**04 02 54.7 +0.3**
	comp=Z,662nm,2.0s,mb6.0,SNR=21						
KBA	**Koelnbreinsper**	**29.49**	**59**	P		**P**	**04 02 53.6 -0.8**
MUD	**Monsted U'grnd**	**29.51**	**39**	*i*P		**P**	**04 02 54.7 +0.3**
MUD				*i*			04 03 48.4
MUD				*i*S		**S**	**04 07 44.6 -4.7**
MUD				pmax		pmax	
	comp=Z,120nm,1.1s,mb5.5						
MUD				MLR		MLR	
	comp=Z,120µm,20.0s,MS6.5						
MUD	**Monsted U'grnd**	**29.51**	**39**	*i*P		**P**	**04 02 54.7 +0.3**
	comp=Z,116nm,1.1s,mb5.5						
MUD				*i*			04 03 48.4
MUD				*i*S		**S**	**04 07 44.6 -4.7**
MUD							
	comp=Z,124µm,20.0s						
TERO	**Teramo**	**29.58**	**68**	P		**P**	**04 02 55.3 +0.1**
VENT	**Ventotene**	**29.58**	**71**	P		**P**	**04 02 56.1 +0.9**
VVLD	**Villa Vallelon**	**29.64**	**69**	P		**P**	**04 02 56.0 +0.3**
MYKA	**Terra Mystica**	**29.66**	**60**	⇓*i*P		**P**	**04 02 55.4 -0.4**
	comp=Z,15µm,3.4s						
TRI	**Trieste**	**29.69**	**61**	P		**P**	**04 02 55.4 -0.7**
TAM	**Tamanrasset**	**29.72**	**111**	P		**P**	**04 02 56.4 -0.2**
SDI	**San Donato**	**29.79**	**70**	P		**P**	**04 02 56.9 -0.2**
VOY	**Vojsko**	**29.79**	**61**	*e*P		**P**	**04 02 56.7 -0.4**
VOY				*e*			04 03 13.7
VOY				*e*			04 03 41.9
VOY				*e*			04 04 10.4
INTR	**Introdacqua**	**29.84**	**69**	P		**P**	**04 02 58.5 +1.0**
BER	**Bergen**	**29.84**	**30**	*e*P		**P**	**04 02 58.2 +0.9**
BER				*e*S		**S**	**04 07 55.5 +1.1**
BER				AMS		AMS	04 13 24.9
	comp=Z,67µm,20.9s,MS6.2						
ALAS	**Alassa**	**29.88**	**88**	*i*P		**P**	**04 02 57.8 -0.1**
	comp=Z,915nm,1.6s,mb6.2,SNR=28						
ALAS				*e*S		**S**	**04 07 49.7 -5.9**
	SNR=28						
KHC	**Kasperske Hory**	**29.89**	**55**	*e*P		**P**	**04 02 57.7 -0.2**
KHC				*e*pP		pP	04 03 04.2 +4.9
KHC				*e*x		x	04 03 36.0
KHC				*e*S		**S**	**04 07 55.9 +0.4**
KHC				AMS		AMS	04 12 00.0
	comp=Z,39µm,23.5s,MS6.0						
KHC	**Kasperske Hory**	**29.89**	**55**	*e*P		**P**	**04 02 58.0 +0.1**
KHC				*e*S		**S**	**04 07 55.9 +0.4**
GEC2	**GERESS Array S**	**29.93**	**55**	P		**P**	**04 02 58.1 -0.2**
GEC2	**GERESS Array S**	**29.93**	**55**	*e*P		**P**	**04 02 58.2 -0.1**
	comp=Z,340nm,1.6s,mb5.8						
GEC2				*e*PPP			04 03 57.1
GERES	**GERESS Array B**	**29.93**	**55**	P		**P**	**04 02 58.5 +0.2**
	comp=Z,30nm,0.8s,mb5.1,baz=258,slow=6.7,SNR=88						
GERES				LR		LR	04 13 05.6
	comp=Z,30µm,21.8s,MS5.9,baz=263,slow=33						
CLL	**Collm**	**29.94**	**50**	⇑*i*P		**P**	**04 02 58.5 +0.2**
CLL				*i*			04 03 03.6
CLL				*e*PcP		PcP	04 06 06.0 +5.2
CLL				*e*S		**S**	**04 07 52.0 -4.2**
CLL	**Collm**	**29.94**	**50**	⇑*i*P		**P**	**04 02 58.5 +0.2**
CLL				*i*			04 03 03.6
CLL				*e*			04 06 06.0
CLL				*e*S		**S**	**04 07 52.0 -4.2**
CLL				pmax		pmax	
	comp=Z,175nm,1.8s,mb5.5						
CLL				MLR		MLR	
	comp=Z,88µm,18.5s,MS6.4						
CLL	**Collm**	**29.94**	**50**	*e*P		**P**	**04 02 58.5 +0.2**
	comp=Z,254nm,1.6s,mb5.7						
CLL	**Collm**	**29.94**	**50**	⇑*i*P		**P**	**04 02 58.5 +0.2**
	comp=Z,175nm,1.8s,mb5.5						
CLL				*i*pP		pP	04 03 03.6 +4.0
CLL				*i*x		x	04 03 07.9
CLL				LV			04 04 00.0
	comp=Z,700nm,19.5s						
CLL				*e*PP		PP	04 04 03.0 -2.7
CLL				*e*(PcP)		PcP	04 06 05.0 +4.2
CLL				*e*x		x	04 07 17.0
CLL				*e*S		**S**	**04 07 52.0 -4.2**
RFI	**Roccamonfina**	**29.95**	**70**	P		**P**	**04 02 58.9 +0.3**
MIDA	**Miranda**	**30.13**	**70**	P		**P**	**04 03 00.2 +0.1**
CEY	**Cerknica**	**30.15**	**61**	*e*P		**P**	**04 02 59.9 -0.4**
CEY	**Cerknica**	**30.15**	**61**	*e*P		**P**	**04 02 59.8 -0.4**
MOA	**Molln**	**30.19**	**57**	⇓*i*P		**P**	**04 03 00.2 -0.3**
	comp=Z,1µm,3.3s,SNR=55						
MOA	**Molln**	**30.19**	**57**	P		**P**	**04 02 59.5 -1.0**
LJU	**Ljubljana**	**30.23**	**61**	*e*P		**P**	**04 03 01.1 +0.1**
LJU				*e*S		**S**	**04 08 01.8 +0.8**
SGG	**Gregorio Mates**	**30.24**	**70**	P		**P**	**04 03 02.0 +0.9**
OBKA	**Obir**	**30.27**	**60**	⇑*i*P		**P**	**04 03 01.3 0.0**
	comp=Z,2µm,3.4s,SNR=26						
OBKA	**Obir**	**30.27**	**60**	P		**P**	**04 03 00.1 -1.2**
BRG	**Berggiesshubel**	**30.43**	**51**	⇑*i*P		**P**	**04 03 03.2 +0.5**
	comp=Z,131nm,1.8s,mb5.4						
BRG				*e*			04 03 10.0
BRG				PP		PP	04 03 58.0 -13
BRG				S		**S**	**04 07 58.0 -5.9**
BRG				LR		LR	
	comp=Z,40µm,20.5s,MS6.0						
BRG	**Berggiesshubel**	**30.43**	**51**	⇑*i*P		**P**	**04 03 03.2 +0.6**
BRG				*e*			04 03 10.0
BRG							04 03 58.0
BRG				S		**S**	**04 07 58.0 -5.9**
BRG				pmax		pmax	
	comp=Z,131nm,

KSP Ksiaz 31.89 52⇓ *eP* **P 04 03 15.3 -0.2**
KSP *ep*P pP 04 03 20.4 +3.6
KSP *e*PP PP 04 04 18.5 -8.8
KSP *e*S **S 04 08 24.5 -2.2**
KSP LR LR
comp=Z,114µm,26.2s,MS6.4
KSP Ksiaz 31.89 52⇓ *eP* **P 04 03 15.3 -0.2**
KSP *e**PP pP 04 03 20.4 +3.6
KSP *e* 04 04 18.5
KSP *e*S **S 04 08 24.5 -2.2**
KSP Ksiaz 31.89 52⇓ *eP* **P 04 03 15.3 -0.2**
KSP *ep*P pP 04 03 20.4 +3.6
KSP *e*S **S 04 08 24.5 -2.2**
TDS Terranova Siba 31.94 73 P **P 04 03 16.3 +0.2**
SG1 Sgolgore (BA) 32.03 71 *e*Pn **P 04 03 19.1 +2.2**
BSD Bornholm Skovb 32.04 44 *eP* **P 04 03 20.8 +4.0**
BSD *i* S **S 04 08 32.1 +3.1**
BSD pmax pmax
comp=Z,92nm,1.0s,mb5.6
BSD MLR MLR
comp=Z,94µm,18.0s,MS6.5
BSD Bornholm Skovb 32.04 44 *i* P **P 04 03 20.8 +4.0**
comp=Z,92nm,1.0s,mb5.6
BSD *i* S **S 04 08 32.1 +3.1**
BSD
comp=Z,94µm,18.0s
ZST Bratislava 32.11 57 *eP* **P 04 03 17.1 -0.4**
comp=Z,71nm,1.1s,mb5.4
ZST *e*S **S 04 08 27.9 -2.4**
ZST *e*ScS ScS 04 13 51.7 +2.3
ZST LR LR
comp=Z,30µm,18.0s,MS6.0
ZST Bratislava 32.11 57 *eP* **P 04 03 17.1 -0.4**
ZST *e*S **S 04 08 27.9 -2.4**
ZST *e*SCS ScS 04 13 51.7 +2.3
ZST Bratislava 32.11 57 *eP* **P 04 03 17.1 -0.4**
comp=Z,71nm,1.1s,mb5.4
ZST *e*S **S 04 08 27.9 -2.4**
ZST LR LR
comp=Z,87µm,21.0s,MS6.4
JAVC Velka Javorina 32.54 56 P **P 04 03 19.7 -1.5**
MORC Moravsky Berou 32.54 54 *eP* **P 04 03 20.8 -0.4**
comp=Z,127nm,1.4s,mb5.7
MORC Moravsky Berou 32.54 54 P **P 04 03 21.7 +0.4**
MORC Moravsky Berou 32.54 54⇓ *iP* **P 04 03 21.4 +0.1**
MORC Moravsky Berou 32.54 54 *eP* **P 04 03 21.2 -0.1**
TA1 Taranto 32.55 71 *e*Pn **P 04 03 21.2 -0.2**
STON Ston 32.57 67 P **P 04 03 22.4 +0.8**
PE1 Pezze di Greco 32.59 71 *e*Pn **P 04 03 22.7 +0.9**
NB2 NORSAR Subarra 32.61 32 P **P 04 03 21.7 0.0**
comp=Z,146nm,1.2s,mb5.8,baz=241,slow=9.3
NB2 NORSAR Subarra 32.61 32 P **P 04 03 19.4 -2.3**
NOA NORSAR Array B 32.61 32 P **P 04 03 22.3 +0.5**
NOA LR LR 04 14 50.5
NOA NORSAR Array B 32.61 32 P **P 04 03 22.3 +0.6**
comp=Z,75nm,1.2s,mb5.5,baz=242,slow=8.8,SNR=21
NOA LR LR 04 14 50.5
comp=Z,82µm,21.9s,MS6.4,baz=260,slow=33
LMSR Misrath 32.75 87 *i* P **P 04 03 23.1 -0.2**
comp=Z,698nm,2.0s,mb6.2,SNR=27
RHK3 Tenkes 32.83 61⇑ *eP* **P 04 03 23.7 -0.1**
GKP Gorka Klasztor 32.90 48 *eP* **P 04 03 24.7 +0.3**
GKP *ep*P pP 04 03 31.9 +6.2
GKP *e*PP PP 04 04 28.8 -10
GKP *e*S **S 04 08 41.3 -1.1**
GKP *e*SS SS 04 11 03.7 +0.1
GKP LMZ 04 19 11.6
comp=Z,62µm,15.6s
GKP Gorka Klasztor 32.90 48 *eP* **P 04 03 24.7 +0.4**
GKP *e*S **S 04 08 41.3 -1.1**
GKP *e*SS SS 04 11 03.7 +0.1
OKC Ostrava-Krasne 32.94 54 *eP* **P 04 03 24.8 +0.1**
OKC AMS AMS 04 16 30.0
comp=Z,24µm,14.1s,MS6.0
PKSG 32.94 58⇑ *eP* **P 04 03 24.3 -0.5**
RAC Raciborz 32.99 54 *eP* **P 04 03 25.5 +0.3**
RAC MLR MLR
comp=Z,29µm,19.8s,MS6.0
RAC MLR MLR
comp=E,47µm,17.9s
KOLL Kolacno 33.00 56 *i* P **P 04 03 24.8 -0.5**
LSHF Shwairf 33.01 91 *i* P **P 04 03 24.1 -1.4**
comp=E,817nm,1.8s,mb6.3,SNR=27
BBSR BB Station 33.07 273 PFAKE 04 03 40.0 +14
BBSR LR LR
comp=Z,39µm,20.0s,MS6.1
PKSM Moragy 33.10 61 ⇓P **P 04 03 25.9 -0.2**
PKSM Moragy 33.10 61⇓ *iP* **P 04 03 25.9 -0.3**
SFJD Kangerlussuaq 33.15 342 *eP* **P 04 03 26.1 -0.3**
comp=Z,268nm,1.2s,mb6.0
SFJD LR LR
comp=Z,57µm,20.0s,MS6.3
SFJD Kangerlussuaq 33.15 342 P **P 04 03 26.3 0.0**
comp=Z,76nm,1.0s,mb5.6,baz=121,slow=10.0,SNR=25
SFJD LR LR 04 13 54.7
comp=Z,57µm,18.6s,MS6.3,baz=124,slow=31
SFJD Kangerlussuaq 33.15 342⇓ *iP* **P 04 03 25.7 -0.6**
comp=Z,223nm,1.1s,mb6.0
SFJD *i* S **S 04 08 49.0 +3.1**
SFJD
comp=Z,52µm,19.0s
BRY Bratogost 33.19 67⇓ *iP* **P 04 03 26.0 -1.0**
HCY Herceg Novi 33.20 68⇓ *iP* **P 04 03 26.9 -0.2**
HFA0 Hagfors New Ar 33.27 34 P **P 04 03 27.4 -0.1**
VYHS Vyhne 33.29 56 *eP* **P 04 03 27.3 -0.5**
comp=Z,60nm,1.2s,mb5.4
VYHS *e*PcP PcP 04 06 12.1 +2.3
VYHS *e*S **S 04 08 49.9 +1.4**
VYHS *e*ScS ScS 04 13 58.8 +3.5
VYHS LR LR
comp=Z,16µm,24.5s,MS5.6
VYHS Vyhne 33.29 56 *eP* **P 04 03 27.2 -0.6**
VYHS *e*PCP PcP 04 06 12.1 +2.3
VYHS *e*S **S 04 08 49.9 +1.4**
VYHS *e*SCS ScS 04 13 58.8 +3.5
VYHS Vyhne 33.29 56 *eP* **P 04 03 27.3 -0.5**
comp=Z,60nm,1.2s,mb5.4
VYHS *e*S **S 04 08 49.9 +1.4**
BUD Budapest 33.37 58 P **P 04 03 27.2 -1.3**
BUD Budapest 33.37 58⇑ *eP* **P 04 03 29.0 +0.5**
UPM Unac-Piva 33.43 66⇓ *iP* **P 04 03 28.4 -0.7**
SCHQ Schefferville 33.44 315 *eP* **P 04 03 28.6 -0.5**
comp=Z,971nm,1.7s,mb6.5
SCHQ LR LR
comp=Z,32µm,20.0s,MS6.0
SCHQ Schefferville 33.44 315 P **P 04 03 28.8 -0.2**
comp=Z,49nm,0.7s,mb5.5,baz=105,slow=8.6,SNR=90
SCHQ LR LR 04 14 07.6
comp=Z,28µm,21.1s,MS6.0,baz=97,slow=31
PKS7 Kunszentmiklos 33.46 59⇑ *eP* **P 04 03 29.0 -0.3**
BUM Brajici-Budva 33.51 68⇓ *iP* **P 04 03 28.5 -1.3**
NKY Niksic 33.53 67⇓ *iP* **P 04 03 29.6 -0.4**
TOA0 Torodi Ar. Sit 33.68 129 *eP* **P 04 03 30.7 -0.8**
TORD Torodi Ar. Bea 33.68 129 P **P 04 03 30.8 -0.7**
TORD LR LR 04 16 54.4
TORD PKKKP 04 36 04.7
TORD Torodi Ar. Bea 33.68 129 P **P 04 03 30.8 -0.7**
comp=Z,116nm,1.0s,mb5.8,baz=309,slow=3.7,SNR=234
TORD LR LR 04 16 54.4
comp=Z,10µm,19.3s,MS5.5,baz=320,slow=36
TORD P3KP 04 36 04.7
comp=Z,0.7nm,0.7s,baz=327,slow=5.5,SNR=7.2
PDG Podgorica 33.76 67⇓ *iP* **P 04 03 30.8 -1.2**
TTG Podgorica 33.76 67⇓ *iP* **P 04 03 30.8 -1.2**
PLE Pljevlja 33.77 66⇓ *iP* **P 04 03 31.5 -0.5**
ULC Ulcinj 33.81 68⇓ *iP* **P 04 03 31.8 -0.6**
FGSL Fruska Gora 33.94 63⇑ *iP*KIKP **P 04 03 33.5 0.0**

PSZ Piszkesteto 33.97 58 *eP* **P 04 03 33.4 -0.4**
comp=Z,197nm,1.3s,mb5.9
PSZ Piszkesteto 33.97 58 P **P 04 03 34.2 +0.5**
PSZ Piszkesteto 33.97 58⇓ *iP* **P 04 03 33.8 +0.1**
PSZ Piszkesteto 33.97 58⇑ *eP* **P 04 03 34.1 +0.4**
OJC Ojcow 34.03 53 *eP* **P 04 03 34.7 +0.4**
OJC *ep*P pP 04 03 37.0 +1.4
OJC *e*PcP PcP 04 06 12.1 +0.2
OJC *e*S **S 04 08 59.2 -0.9**
OJC L 04 18 38.6
comp=Z,37nm,17.0s
OJC Ojcow 34.03 53 *eP* **P 04 03 34.7 +0.4**
OJC *ep*P pP 04 03 37.0 +1.4
OJC *e*S **S 04 08 59.2 -0.9**
PKME Peaks-Kenny Pk 34.09 298 *eP* **P 04 03 34.5 -0.4**
comp=Z,416nm,1.8s,mb6.1
DIVS Divibare 34.14 64 *eP* **P 04 03 34.8 -0.4**
DIVS Divibare 34.14 64⇑ *iP*KIKP **P 04 03 35.1 -0.1**
SJES Sjenica 34.17 66⇑ *iP*KIKP **P 04 03 35.5 -0.1**
BEY Berane 34.18 67 *eP* **P 04 03 34.8 -0.8**
IVA Berane 34.18 67 *eP* **P 04 03 34.8 -0.8**
PVY Plav 34.27 67⇓ *iP* **P 04 03 35.7 -0.7**
NIE Niedzica 34.31 55 *i* P **P 04 03 37.9 +1.2**
NIE *e*PcP PcP 04 06 14.0 +1.3
TIR Tirane 34.35 69 *eP* **P 04 03 37.8 +0.7**
TIR Tirane 34.35 69 *i* Pn **P 04 03 38.4 +1.3**
KECS Kecovo 34.38 57 *i* P **P 04 03 37.6 +0.3**
comp=Z,60nm,1.2s,mb5.4
KECS *e*PcP PcP 04 06 14.0 +1.0
KECS *e*S **S 04 09 05.3 -0.2**
KECS Kecovo 34.38 57 *i* P **P 04 03 37.6 +0.3**
KECS pmax pmax
comp=Z,60nm,1.2s,mb5.4
LSRT Sirt 34.51 88 *i* P **P 04 03 38.3 -0.3**
comp=Z,970nm,1.7s,mb6.5,SNR=27
KEK Kerkira 34.56 72 P **P 04 03 39.3 +0.3**
KEK Kerkira 34.56 72 *eP* **P 04 03 39.6 +0.6**
LJFR Jufra 34.61 92 *i* P **P 04 03 39.9 +0.4**
comp=Z,471nm,1.2s,mb6.3,SNR=27
GRUS Gruza 34.67 65⇑ *iP*KIKP **P 04 03 39.4 -0.5**
JMIC Jan Mayen 34.72 9 *eP*P PP 04 04 57.9 -0.6
JMIC *e*S **S 04 09 11.3 +1.0**
JMIC *e*S **S 04 09 12.9 +2.6**
JMIC AMS AMS 04 14 45.7
comp=Z,35µm,18.8s,MS6.1
JMIC Jan Mayen 34.72 9 LR LR 04 14 57.9
comp=Z,36µm,18.1s,MS6.2,baz=188,slow=31
NSS Namsos 34.76 27 *eP*P PP 04 05 00.3 +1.4
NSS *e*S **S 04 09 11.6 +0.8**
STHS Stebnicka Huta 34.92 55 *i* P **P 04 03 43.3 +1.4**
comp=Z,68nm,0.9s,mb5.6
STHS *e*PP PP 04 05 08.4 +7.5
STHS *e*S **S 04 09 11.1 -2.6**
STHS Stebnicka Huta 34.92 55 *i* P **P 04 03 43.3 +1.4**
STHS pmax pmax
comp=Z,68nm,0.9s,mb5.6
IGT Igoumenitsa 35.00 72 *eP* **P 04 03 41.5 -1.2**
SVIS Svilajnac 35.00 64⇑ *iP*KIKP **P 04 03 42.4 -0.3**
WAR Warsaw 35.01 50 *eP* **P 04 03 43.9 +1.3**
CRVS Cervenica-Dubn 35.04 56 *eP* **P 04 03 43.7 +0.7**
CRVS *e*S **S 04 09 15.1 -0.5**
CRVS *e*ScS ScS 04 14 15.6 +11
CRVS Cervenica-Dubn 35.04 56 *eP* **P 04 03 43.6 +0.6**
CRVS *e*S **S 04 09 15.1 -0.5**
CRVS *e*SCS ScS 04 14 15.6 +11
CRVS Cervenica-Dubn 35.04 56 *eP* **P 04 03 43.7 +0.7**
CRVS *e*S **S 04 09 15.1 -0.5**
OHR Ohrid 35.08 70 *eP* **P 04 03 42.0 -1.4**
OHR Ohrid 35.08 70 *i* P **P 04 03 43.7 +0.3**
LUMB Murzuk 35.08 97 *i* P **P 04 03 43.6 0.0**
comp=Z,537nm,1.8s,mb6.2,SNR=27
KBN Korca 35.15 70 *i* Pn **P 04 03 46.1 +2.1**
BZS Buzias 35.19 62⇓ *iP* **P 04 03 44.3 0.0**
BZS Buzias 35.19 62⇓ *iP* **P 04 03 44.3 0.0**
JAN Janina 35.37 72 *eP* **P 04 03 47.1 +1.1**
KRUS Krusevo 35.37 69 *i* P **P 04 03 46.6 +0.6**
KRUS Krusevo 35.37 69 *i* P **P 04 03 46.5 +0.6**
SKO Skopje 35.42 68 P **P 04 03 47.8 +1.4**
SKO Skopje 35.42 68 *i* P **P 04 03 46.2 -0.2**
SKO Skopje 35.42 68 *i* P **P 04 03 46.1 -0.3**
DBIC Dimbokro 35.47 145 *eP* **P 04 03 46.1 -0.9**
comp=Z,202nm,1.2s,mb5.9
DBIC *e*PcP PcP 04 06 16.9 +0.3
DBIC LR LR
comp=Z,22µm,19.0s,MS5.9
DBIC Dimbokro 35.47 145 *eP* **P 04 03 46.2 -0.8**
DBIC *e* 04 06 16.9
DBIC pmax pmax
comp=Z,201nm,1.2s
DBIC MLR MLR
comp=Z,22µm,19.0s
DBIC Dimbokro 35.47 145 P **P 04 03 47.6 +0.6**
comp=Z,58nm,0.8s,mb5.6,baz=318,slow=9.8,SNR=28
DBIC LR LR 04 17 30.3
comp=Z,22µm,19.1s,MS5.9,baz=318,slow=35
BIA Bitola 35.48 70 *eP* **P 04 03 46.3 -0.6**
BIA Bitola 35.48 70 *i* P **P 04 03 46.8 -0.1**
FNA Florina 35.56 70 *eP* **P 04 03 47.9 +0.3**
KOLS Kolonicke sedl 35.58 56 *eP* **P 04 03 48.3 +0.7**
KOLS *e* 04 03 54.9
KOLS *e* 04 04 05.1
KOLS *e*S **S 04 09 24.0 +0.1**
KOLS *e*ScS ScS 04 14 20.3 +13
KOLS Kolonicke sedl 35.58 56 *eP* **P 04 03 48.3 +0.7**
KOLS *e* 04 03 54.9
KOLS *e* 04 04 05.1
KOLS *e*S **S 04 09 24.0 +0.1**
KOLS Kolonicke sedl 35.58 56 *eP* **P 04 03 48.3 +0.7**
KOLS *ep*P pP 04 03 54.9 +6.0
KOLS *e* 04 04 05.0
KOLS *e*S **S 04 09 24.0 +0.1**
KOLS *e*SCS ScS 04 14 20.3 +13
KOLS Kolonicke sedl 35.58 56 *eP* **P 04 03 48.3 +0.7**
KOLS *e*S **S 04 09 24.0 +0.1**
UZH Uzhgorod 35.59 56 *i* P **P 04 03 45.0 -2.7**
UZH Uzhgorod 35.59 56⇓ *iP* **P 04 03 47.0 -0.7**
UZH *e* 04 04 05.0
UZH *e* 04 05 04.0
UZH *i* S **S 04 09 23.0 -1.0**
UZH *e*SS SS 04 11 44.0 -14
UZH MLR MLR
comp=Z,24µm,19.0s,MS6.0
BARS Barje 35.59 66⇑ *iP*KIKP **P 04 03 48.0 +0.2**
TRPA Tarpa 35.75 57⇓ *iP* **P 04 03 48.9 -0.2**
LIC Lamto 35.79 145⇑ *iP* **P 04 03 50.0 +0.3**
comp=Z,78nm,0.8s,mb5.4,baz=323
LIC *e*MLR MLR
comp=Z,33µm,22.0s,MS5.8
LIC Lamto 35.79 145⇑ *iP* **P 04 03 50.0 +0.3**
comp=Z,39nm,0.8s,mb5.4
LIC LR LR
comp=Z,17µm,22.0s,MS5.8
WES Weston 35.82 293 *eP* **P 04 03 49.6 -0.2**
comp=Z,2µm,1.9s,mb6.7
WES LR LR
comp=Z,12µm,19.0s,MS5.7
WES Weston 35.82 293 *eP* **P 04 03 49.6 -0.2**
WES pmax pmax
comp=Z,2µm,1.9s,mb6.7
WES MLR MLR
comp=Z,12µm,19.0s,MS5.7
KWP Kalwaria 35.88 55 *eP* **P 04 03 50.8 +0.6**
KWP *e*S **S 04 09 33.5 +5.1**
KWP *e*SS SS 04 12 10.1 +5.8
KWP LMZ 04 22 53.8
comp=Z,27µm,16.6s
KWP Kalwaria 35.88 55 *eP* **P 04 03 50.8 +0.6**
KWP *e*S **S 04 09 33.5 +5.0**
KWP *e*SS SS 04 12 10.1 +5.8
KWP Kalwaria 35.88 55⇓ *iP* **P 04 03 51.6 +1.4**
DRGR 35.90 60⇓ P **P 04 03 50.8 +0.4**
DRGR 35.90 60⇓ *iP* **P 04 03 50.8 +0.4**
FFD Franklin Falls 35.93 295 *eP* **P 04 03 51.3 +0.6**
comp=Z,2µm,1.9s,mb6.6
KZN Kozani 35.94 71 *eP* **P 04 03 51.2 +0.3**
HRV Adam Dziewonsk 35.98 293 *eP* **P 04 03 51.0 -0.2**
comp=Z,355nm,1.6s,mb6.0
HRV LR LR
comp=Z,12µm,20.0s,MS5.7
HRV Adam Dziewonsk 35.98 293 *eP* **P 04 03 51.0 -0.1**
HRV pmax pmax
comp=Z,355nm,1.6s,mb6.0
HRV MLR MLR
comp=Z,12µm,20.0s,MS5.7
STIP Stip 36.02 68 *i* P **P 04 03 51.2 -0.2**
GZR Gura Zlata 36.02 62 P **P 04 03 51.8 +0.3**
LBNH Lisbon 36.04 296 *eP* **P 04 03 52.1 +0.4**
comp=Z,1µm,2.0s,mb6.5
LBNH LR LR
comp=Z,26µm,22.0s,MS6.0
LBNH Lisbon 36.04 296 *eP* **P 04 03 52.1 +0.5**
LBNH pmax pmax
comp=Z,1µm,2.0s,mb6.5
LBNH MLR MLR
comp=Z,26µm,22.0s,MS6.0
BRYW Bryant College 36.05 292 *eP* **P 04 03 51.9 +0.2**
comp=Z,1µm,1.6s,mb6.6
LZLA Zalla 36.23 91 *i* P **P 04 03 53.7 +0.2**
comp=Z,1µm,1.1s,mb6.8,SNR=27
EVR Evrytania 36.25 73 *eP* **P 04 03 54.9 +1.4**
THL Klokotos Trika 36.27 72 *eP* **P 04 03 53.3 -0.4**
HNH Hanover 36.35 295 *eP* **P 04 03 54.9 +0.6**
comp=Z,5µm,2.1s,mb7.1
VAY Valandovo 36.36 69 *eP* **P 04 03 53.2 -1.2**
VAY Valandovo 36.36 69 *i* P **P 04 03 53.7 -0.7**
SUW Suwalki 36.51 47 *eP* **P 04 03 55.3 -0.3**
SUW *ep*P pP 04 04 02.1 +5.2
SUW LMZ 04 19 20.7
comp=Z,77µm,18.6s
SUW Suwalki 36.51 47 *eP* **P 04 03 55.3 -0.3**
SUW *ep*P pP 04 04 02.1 +5.2
LIT Litokhoron 36.52 71 *eP* **P 04 03 55.0 -0.8**
QUA2 Belchertown 36.59 293 *eP* **P 04 03 56.7 +0.3**
comp=Z,3µm,1.8s,mb6.8
AGG Agios Georgios 36.62 73 *eP* **P 04 03 56.6 -0.1**
KNT Kendrikon 36.63 69 *eP* **P 04 03 56.4 -0.3**
VTS Vitosha 36.63 67 *eP* **P 04 03 56.7 -0.1**
VTS Vitosha 36.63 67⇑ *iP* **P 04 03 57.3 +0.6**
VTS Vitosha 36.63 67 *i* P **P 04 03 56.8 +0.1**
VTS Vitosha 36.63 67 P **P 04 03 57.3 +0.6**
KKB Krupnik 36.65 68 *i* P **P 04 03 57.5 +0.6**
KKB Krupnik 36.65 68 P **P 04 03 58.0 +1.1**
LVV L'vov 36.74 54 *eP* **P 04 03 57.3 -0.3**
LVV L'vov 36.74 54 *d iP* **P 04 03 57.0 -0.6**
LVV *e* 04 05 30.0
LVV *e* 04 06 25.0
LVV *e*S **S 04 09 41.2 -0.5**
LVV *e*SS SS 04 11 59.8 -22
LVV *e*SSS 04 12 33.0
THE Thessaloniki 36.78 70 *eP* **P 04 03 57.5 -0.5**
HORT Hortiatis 36.89 70 *eP* **P 04 03 57.0 -1.9**
SOH Sokhos 37.03 69 *eP* **P 04 03 59.6 -0.5**
SRS Serrai 37.16 69 *eP* **P 04 04 01.4 +0.1**
FRNY Flat Rock 37.16 297 *eP* **P 04 04 00.4 -0.8**
comp=Z,624nm,1.9s,mb6.1
MMB Musomiste 37.17 68 *i* P **P 04 04 02.0 +0.6**
MMB Musomiste 37.17 68 P **P 04 04 02.1 +0.7**
PLG Polygyros 37.19 70 *eP* **P 04 04 01.2 -0.3**
XOR Xorichti 37.20 72 *eP* **P 04 04 06.0 +4.4**
LKR Lokris 37.22 73 *eP* **P 04 04 01.5 -0.3**
NEO Neokhori 37.24 72 *eP* **P 04 04 02.0 +0.1**
NVR Nevrokopi 37.32 68 *eP* **P 04 04 02.7 +0.1**
PGB Panagyurishte 37.34 66 *i* P **P 04 04 03.0 +0.2**
LJBD Adjabya 37.38 86 *i* P **P 04 04 03.8 +0.5**
comp=Z,849nm,1.9s,mb6.2,SNR=27
ACCN Adirondack Com 37.39 295 *eP* **P 04 04 03.8 +0.6**
comp=Z,1µm,2.3s,mb6.3
PAIG Paliouri 37.45 71 *eP* **P 04 04 03.3 -0.4**
OUR Ouranopolis 37.60 70 *eP* **P 04 04 05.2 +0.3**
VOIR 37.61 62⇑ P **P 04 04 08.5 +3.5**
VOIR 37.61 62 P **P 04 04 05.5 +0.5**
VOIR 37.61 62⇑ *iP* **P 04 04 08.5 +3.5**
VLI Veliai 37.65 76 *eP* **P 04 04 04.2 -1.3**
NCB Newcomb 37.72 296 *eP* **P 04 04 06.5 +0.6**
comp=Z,754nm,1.9s,mb6.1
NCB LR LR
comp=Z,12µm,20.0s,MS5.7
AOS Alonnisos 37.77 72 *eP* **P 04 04 06.2 -0.2**
PLD Plovdiv 37.81 67 *eP* **P 04 04 05.7 -1.0**
PLD Plovdiv 37.81 67 *i* P **P 04 04 07.5 +0.8**
PLD Plovdiv 37.81 67 P **P 04 04 07.3 +0.6**
RZN Rozhen 37.89 68 *i* P **P 04 04 08.0 +0.6**
RZN Rozhen 37.89 68 P **P 04 04 08.3 +0.9**
LONY Lake Ozonia 37.89 297 *eP* **P 04 04 07.0 -0.4**
comp=Z,508nm,1.8s,mb6.0
LONY LR LR
comp=Z,32µm,22.0s,MS6.1
ATH Athens Observa 37.93 74 *eP* **P 04 04 08.5 +0.7**
PAL Palisades 37.96 291 *eP* **P 04 04 07.9 -0.1**
comp=Z,234nm,1.3s,mb5.8
PAL Palisades 37.96 291 *eP* **P 04 04 07.9 -0.1**
PAL pmax pmax
comp=Z,234nm,1.3s,mb5.8
CPNY Central Park 38.04 291 *eP* **P 04 04 08.3 -0.4**
comp=Z,568nm,1.9s,mb6.0
MSNY Massena 38.04 298 *eP* **P 04 04 08.5 -0.2**
ZIMR 38.05 64 P **P 04 04 09.0 +0.3**
PVL Pavlikeni 38.09 65 *i* P **P 04 04 07.5 -1.6**
PVL Pavlikeni 38.09 65 P **P 04 04 08.3 -0.8**
MLR Muntele Rosu 38.23 61⇓ P **P 04 04 10.1 -0.1**
MLR Muntele Rosu 38.23 61⇓ *iP* **P 04 04 10.1 -0.1**
KDZ Kurdzhali 38.41 68 *i* P **P 04 04 12.0 +0.2**
KDZ Kurdzhali 38.41 68 P **P 04 04 12.4 +0.6**
DIM Dimitrovgrad 38.42 67 *i* P **P 04 04 12.5 +0.6**
DIM Dimitrovgrad 38.42 67 P **P 04 04 12.6 +0.7**
BUC1 Bucharest 38.43 63 P **P 04 04 13.1 +1.2**
LOS Limnos 38.51 70 *eP* **P 04 04 14.6 +1.9**
BRNJ Basking Ridge 38.51 291 *eP* **P 04 04 13.5 +0.9**
comp=Z,1µm,1.8s,mb6.3
SZH Strazhica 38.51 65 *i* P **P 04 04 12.8 +0.2**
SZH Strazhica 38.51 65 P **P 04 04 12.6 0.0**
SZH Strazhica 38.51 65 P **P 04 04 12.6 0.0**
RDO Rodhopi 38.59 68 *eP* **P 04 04 12.6 -0.8**
PLOR Plostina 38.69 61 P **P 04 04 14.4 +0.3**
PLOR Plostina 38.69 61⇑ *iP* **P 04 04 14.6 +0.5**
NE53 Naroch' 38.71 46 *e*PcP PcP 04 06 25.4 -0.4
NE53 Naroch' 38.71 46 *e*PcS PcS 04 10 12.7 -2.1
VRI Vrincioaia 38.74 61⇑ P **P 04 04 15.4 +0.9**
VRI Vrincioaia 38.74 61 P **P 04 04 14.8 +0.3**
VRI Vrincioaia 38.74 61⇑ *iP* **P 04 04 15.4 +0.9**
KARN Karanos 38.79 78 *eP* **P 04 04 14.6 -0.5**
ALN Alexandroupoli 39.02 69 *eP* **P 04 04 17.1 +0.2**
GVD Gavdhos 39.10 79 *eP* **P 04 04 19.1 +1.5**
JMB Yambol 39.12 66 *eP* **P 04 04 17.3 -0.5**
JMB Yambol 39.12 66 *i* P **P 04 04 17.7 0.0**
ENEZ Enez 39.13 69 *eP* **P 04 04 12.8 -5.1**
BINY Binghamton 39.27 294 *eP* **P 04 04 19.1 +0.2**
comp=Z,785nm,2.0s,mb6.1
BINY LR LR
comp=Z,12µm,19.0s,MS5.8
MNK Minsk 39.28 47⇑ *eP* **P 04 04 17.0 -1.9**
MNK *e*S **S 04 10 12.0 -7.9**
MNK *e*SSS 04 13 12.0
MNK pmax pmax
comp=Z,170nm,1.5s,mb5.5
MNK pmax pmax
comp=E,530nm,1.5s
MNK MLR MLR
comp=N,43µm,16.0s,MS7.0
MNK MLR MLR
comp=E,170µm,18.0s,MS7.0
MNK MLR MLR
comp=Z,176µm,18.0s,MS6.9
BBGH Gun Hill 39.39 242 PFAKE 04 04 30.0 +10
BBGH LR LR
comp=Z,23µm,20.0s,MS6.0
FINES FINESS Array B 39.42 36 P **P 04 04 19.4 -0.6**
FINES 04 06 27.8
FINES FINESS Array B 39.42 36 P **P 04 04 19.4 -0.6**
comp=Z,21nm,0.9s,mb4.8,baz=266,slow=7.5,SNR=13
FINES PcP PcP 04 06 27.8 -0.2
comp=Z,11nm,0.8s,baz=163,slow=2.0,SNR=4.5
FINES LR LR 04 20 25.4
comp=Z,23µm,18.3s,MS6.0,baz=256,slow=36
APE Apeiranthos 39.56 75 *eP* **P 04 04 21.4 -0.1**
APE Apeiranthos 39.56 75⇓ *iP* **P 04 04 20.3 -1.2**
PRK Paraskevi 39.56 71 *eP* **P 04 04 22.3 +0.9**
DAG Danmarks Havn 39.58 2⇑ *eP* **P 04 04 20.8 -0.4**
DAG pmax pmax
comp=Z,110nm,1.3s,mb5.4
DAG MLR MLR
comp=Z,8µm,17.0s,MS5.6
DAG Danmarks Havn 39.58 2⇑ *iP* **P 04 04 20.8 -0.4**
comp=Z,107nm,1.3s,mb5.4
DAG
comp=Z,8µm,17.0s

DAG Danmarks Havn 39.58 2⇑ eP P 04 04 20.8 -0.4
comp=Z,5,6nm,1.3s
PRD Provadia 39.58 65 *i* P **P 04 04 20.2 -1.4**
SIVA Sivas 39.61 78 *e*P **P 04 04 22.2 +0.4**
SIVA Sivas 39.61 78 *e*P **P 04 04 22.2 +0.3**
CHOS Chios island 39.61 73 *e*P **P 04 04 22.4 +0.5**
KAF Kangasniemi 39.69 35 *e*p **P 04 04 21.0 -1.2**
comp=Z,101nm,0.9s,mb5.5,baz=256,slow=8.6
KAF Kangasniemi 39.69 35 *e*P **P 04 04 21.0 -1.2**
KAF pmax pmax
comp=Z,101nm,0.9s,mb5.5
THR1 Thera Island 39.70 76 *e*P **P 04 04 22.4 -0.3**
HARR Harsova 39.73 62 P **P 04 04 22.6 -0.2**
TRO Tromso 39.80 22 *e*P **P 04 04 25.5 +2.5**
TRO *e*PP PP 04 05 55.4 +1.2
TRO *e* 04 06 07.5
TRO *e*S **S 04 10 28.8 +1.4**
TRO *e*SS SS 04 13 29.1 +6.3
TRO AMS AMS 04 18 02.3
comp=Z,18μm,20.0s,MS5.9
SART Tekirdag 39.91 69 *i* P **P 04 04 24.4 0.0**
LTBQ Tobruq 39.91 83 *i* P **P 04 04 26.6 +2.1**
comp=Z,318nm,1.9s,mb5.7,SNR=26
MVL Millersville 39.99 290 *e*P **P 04 04 25.1 0.0**
comp=Z,213nm,1.4s,mb5.7
URLA Izmir 40.02 72 *i* P **P 04 04 25.8 +0.5**
KIEV Kiev 40.06 53 *e*P **P 04 04 24.7 -0.7**
comp=Z,398nm,1.4s,mb6.0
KIEV LR LR
comp=Z,31μm,21.0s,MS6.1
KIS Kishinev 40.06 59⇓ *i*P **P 04 04 22.0 -3.5**
KIS *i* 04 06 01.0
KIS *i* PPP 04 06 29.0
KIS *i*S **S 04 10 24.0 -7.8**
KIS *e*SS SS 04 13 21.0 -7.6
KIS pmax pmax
comp=E,800nm,2.5s
KIS pmax pmax
comp=Z,1μm,2.5s,mb6.2
KIS pmax pmax
comp=Z,4μm,14.0s
KIS pmax pmax
comp=N,1μm,7.0s
KIS pmax pmax
comp=E,2μm,12.0s
KIS pmax pmax
comp=Z,4μm,14.0s
KIS pmax pmax
comp=Z,8μm,14.0s
KIS smax
comp=N,5μm,13.0s
KIS smax
comp=E,10μm,13.0s
KIS MLR MLR
comp=Z,27μm,20.0s,MS6.1
KIS MLR MLR
comp=N,18μm,17.0s,MS6.2
KIS MLR MLR
comp=E,20μm,18.0s,MS6.2
KIS MLR MLR
comp=Z,27μm,20.0s
KIS Kishinev 40.06 59⇓ *i*P **P 04 04 22.0 -3.5**
comp=Z,1μm,2.5s,mb6.2
KIS Kishinev 40.06 59 *i* PP PP 04 06 01.0 +3.7
comp=Z,8μm,14.0s
KIS Kishinev 40.06 59 *e*PcS PcS 04 10 16.0 -4.3
KIS *i*S **S 04 10 24.0 -7.8**
comp=Z,5μm,13.0s
KIS *e*SS SS 04 13 21.0 -7.6
KIS *e*SSS 04 14 08.0
KIS *e*LQ 04 16 36.0
KIS LRM 04 21 32.0
comp=Z,27μm,20.0s
KIS Kishinev 40.06 59 *e*PcS PcS 04 10 16.0 -4.3
PSN Preselentsi 40.06 64 *i* P **P 04 04 25.0 -0.6**
PSN Preselentsi 40.06 64 P **P 04 04 24.9 -0.7**
PSN Preselentsi 40.06 64 P **P 04 04 24.9 -0.7**
AKASG Malin Array Be 40.07 53 P **P 04 04 24.2 -1.3**
comp=Z,47nm,0.8s,mb5.3,baz=268,slow=8.6,SNR=41
AKASG PKiKP PKiKP 04 13 39.7 -0.9
comp=Z,0.6nm,0.7s,baz=269,slow=1.5,SNR=4.7
AKASG LR LR 04 20 16.6
comp=Z,30μm,21.0s,MS6.1,baz=275,slow=35
AKBB Malin Array Si 40.07 53 *e*P **P 04 04 24.5 -1.0**
LAST Lasithi 40.08 78 *e*P **P 04 04 27.5 +1.6**
TIRR Tirgusor 40.10 63⇓ P **P 04 04 25.0 -0.9**
TIRR Tirgusor 40.10 63⇓ P **P 04 04 25.0 -0.9**
SDMD Soldier's Deli 40.50 289 *e*P **P 04 04 29.6 +0.3**
comp=Z,117nm,1.0s,mb5.5
KDAG Bornova 40.52 72 *i* P **P 04 04 29.8 +0.3**
BNT Bandirma 40.53 69 *e*P **P 04 04 29.6 +0.1**
MTP Monte Pirata 40.61 253 *e*P **P 04 04 28.8 -1.5**
ZKR Zakros 40.67 77 *e*P **P 04 04 27.6 -3.2**
BALB Balikesir 40.67 70 *e*P **P 04 04 27.7 -2.9**
ELBA Catalca 40.73 68 *i* P **P 04 04 29.7 -1.5**
BTOK Tokmak 40.76 70 *i* P **P 04 04 31.5 +0.2**
AKS Akhisar 40.81 71 *e*P **P 04 04 32.1 +0.2**
AKHS Akhisar 40.81 71⇓ *i*P **P 04 04 31.9 0.0**
SSPA Standing Stone 40.99 292 *e*P **P 04 04 33.9 +0.6**
comp=Z,621nm,1.8s,mb5.9
SSPA LR LR
comp=Z,18μm,22.0s,MS5.9
BDRM Kayabasi 41.03 74 *i* P **P 04 04 33.6 0.0**
SJG San Juan 41.06 254 *e*P **P 04 04 34.0 -0.1**
comp=Z,90nm,1.0s,mb5.4
SJG LR LR
comp=Z,44μm,22.0s,MS6.3
SJG San Juan 41.06 254 *e*P **P 04 04 34.0 -0.1**
SJG pmax pmax
comp=Z,90nm,1.0s
SJG MLR MLR
comp=Z,44μm,22.0s
SJG San Juan 41.06 254 LR LR 04 17 46.7
comp=Z,36μm,22.0s,MS6.2,baz=72,slow=31
CBN Corbin 41.21 288 *e*P **P 04 04 35.5 +0.4**
comp=Z,416nm,1.8s,mb5.8
CBN LR LR
comp=Z,17μm,19.0s,MS5.9
ISK Istanbul-Kandi 41.21 68 *e*P **P 04 04 33.4 -1.8**
GEMT Gemlik 41.46 69 *e*P **P 04 04 39.0 +1.8**
URVA University of 41.51 287 *e*P **P 04 04 37.8 +0.2**
KULA Kula-Manisa 41.55 71 *e*P **P 04 04 39.8 +1.9**
YLV Yalova 41.56 68 *e*P **P 04 04 30.4 -7.6**
GRGR Grenville 41.56 243 *e*P **P 04 04 38.6 +0.4**
comp=Z,928nm,1.6s,mb6.2
GRGR LR LR
comp=Z,23μm,22.0s,MS6.0
HRT Hereke 41.72 68 *e*P **P 04 04 39.5 +0.3**
ARCES ARCESS Array B 41.80 24 P **P 04 04 38.8 -0.8**
comp=Z,68nm,1.1s,mb5.2,baz=249,slow=5.5,SNR=40
ARCES LR LR 04 20 25.1
comp=Z,37μm,19.6s,MS6.3,baz=242,slow=34
ARE0 ARCESS Array S 41.80 24 *e*P **P 04 04 39.2 -0.4**
ADVT Abdulvahap 41.86 68 *e*P **P 04 04 39.0 -1.5**
GDZ Gediz 42.01 70⇓ *i*P **P 04 04 41.2 -0.5**
JOF Joensuu 42.13 34 *e*p **P 04 04 40.9 -1.4**
comp=Z,95nm,1.1s,mb5.3
JOF Joensuu 42.13 34 *e*P **P 04 04 40.9 -1.4**
JOF pmax pmax
comp=Z,95nm,1.1s,mb5.3
ERPA Erie 42.20 294 *e*P **P 04 04 44.0 +0.8**
comp=Z,203nm,1.3s,mb5.6
ERPA LR LR
comp=Z,11μm,19.0s,MS5.8
KEV Kevo 42.37 24 *e*P **P 04 04 44.4 +0.2**
comp=Z,39nm,1.0s,mb5.0
KEV LR LR
comp=Z,32μm,19.0s,MS6.2
TRN Trinidad (W) 42.42 241 *e* **P 04 04 46.9 +1.7**
GULT Gulveren 42.44 68 *i* P **P 04 04 45.9 +0.8**
ALT Altintas 42.49 70 *e*P **P 04 04 46.4 +0.7**
CNNC Cliffs of the 42.50 284 *e*P **P 04 04 45.9 +0.2**
comp=Z,228nm,1.6s,mb5.5
CNNC LR LR
comp=Z,20μm,20.0s,MS6.0
BORA Eskisehir 42.53 69⇓ *i*P **P 04 04 44.9 -1.0**
BJO Bjornoya 42.55 16 *e*P **P 04 04 46.6 +1.0**
BJO *e*PP PP 04 06 23.9 0.0
BJO *e*S **S 04 11 11.4 +3.3**
BJO AMS AMS 04 18 53.4
comp=Z,37μm,20.5s,MS6.2
GOLH Golhisar 42.59 73⇓ *i*P **P 04 04 46.3 -0.2**
HENT Hendek 42.63 68 *i* P **P 04 04 45.6 -1.1**
MCWV Mont Chateau 42.69 291 *e*P **P 04 04 47.9 +0.7**
comp=Z,2μm,2.0s,mb6.4
MCWV LR LR
comp=Z,24μm,21.0s,MS6.1
LKFR Kufra 42.74 94 *i* P **P 04 04 47.8 0.0**
comp=Z,1μm,1.7s,mb6.3,SNR=25
ESKT Eskisehir 42.92 69 *e*P **P 04 04 48.3 -0.8**
ESKT Eskisehir 42.92 69 *i* P **P 04 04 48.1 -1.0**
SEYT Eskypehyr 42.92 69 *i* P **P 04 04 48.1 -1.0**
AKAS Kas 42.93 74 *i* P **P 04 04 50.5 +1.2**
SHUT Suhut-Afyon 42.96 71 *e*P **P 04 04 48.5 -1.0**
ELL Elmali 43.01 74 *e*P **P 04 04 46.5 -3.4**
ISP Isparta 43.13 72 *e*P **P 04 04 48.6 -2.2**
ISP Isparta 43.13 72 *e*P **P 04 04 50.3 -0.5**
ISP Isparta 43.13 72⇓ *i*P **P 04 04 51.2 +0.4**
BCK Bucak 43.31 72 *e*P **P 04 04 50.2 -2.1**
ANTB Antalya 43.53 73 *e*P **P 04 04 50.2 -3.8**
BLA Blacksburg 43.81 288 *e*P **P 04 04 56.9 +0.6**
comp=Z,242nm,1.2s,mb5.8
BLA LR LR
comp=Z,14μm,20.0s,MS5.9
BLA Blacksburg 43.81 288 *e*P **P 04 04 56.9 +0.6**
BLA pmax pmax
comp=Z,242nm,1.2s,mb5.8
BLA MLR MLR
comp=Z,14μm,20.0s,MS5.9
KIZT Kizilcal 43.87 70 *i* P **P 04 04 57.3 +0.6**
APA Apatity 43.94 28⇓ *i*P **P 04 04 57.0 +0.1**
APA *i* 04 05 13.5
APA *i* 04 06 41.0
APA *i*S **S 04 11 27.0 -1.7**
APA pmax pmax
comp=Z,150nm,1.3s,mb5.6
SIM Simferopol' 44.02 61 *i* P **P 04 04 57.8 -0.1**
SIM Simferopol' 44.02 61 *de*P **P 04 04 58.2 +0.3**
SIM *e* 04 06 45.0
SIM *e*S **S 04 11 27.0 -3.5**
SIM *e* 04 14 58.0
SIM pmax pmax
comp=Z,2μm,11.6s
SIM MLR MLR
comp=Z,27μm,15.5s,MS6.3
ELN Prospectdale 44.06 288 *e*P **P 04 04 58.7 +0.4**
KDHN Kadinhani 44.15 70 *i* P **P 04 04 57.9 -1.1**
KBS Kingsbay 44.21 10 *e*P **P 04 05 00.2 +1.2**
comp=Z,111nm,1.0s,mb5.5
KBS LR LR
comp=Z,32μm,21.0s,MS6.2
KBS Kingsbay 44.21 10 *e*P **P 04 05 01.3 +2.3**
KBS *e*PP PP 04 06 41.9 +0.2
KBS *e*S **S 04 11 33.2 +0.7**
KBS AMS AMS 04 19 37.0
comp=Z,31μm,20.3s,MS6.2
KBS Kingsbay 44.21 10 *e*P **P 04 05 00.2 +1.2**
KBS pmax pmax
comp=Z,111nm,1.0s,mb5.5
KBS MLR MLR
comp=Z,32μm,21.0s,MS6.2
LOD Lodumlu 44.24 68 *e*P **P 04 04 55.8 -3.9**
BALT Daday 44.27 66⇓ *i*P **P 04 05 00.3 +0.3**
ANTO Ankara 44.27 68 *e*P **P 04 04 56.0 -4.0**
ANTO Ankara 44.27 68 *e*P **P 04 05 00.6 +0.6**
comp=Z,71nm,0.8s,mb5.5
ANTO LR LR
comp=Z,26μm,19.0s,MS6.2
ANTO Ankara 44.27 68⇓ *i*P **P 04 05 00.1 +0.1**
SPB4 Spitsbergen Ar 44.32 11 *e*P **P 04 05 00.1 +0.3**
OBN Obninsk 44.34 46 P **P 04 05 00.6 +0.3**
comp=Z,1μm,1.4s,mb6.4,SNR=6.3
OBN Obninsk 44.34 46 *e*P **P 04 04 59.9 -0.4**
comp=Z,297nm,1.1s,mb5.9
OBN LR LR
comp=Z,45μm,20.0s,MS6.4
OBN Obninsk 44.34 46⇑ *i*P **P 04 05 00.1 -0.2**
OBN *e* 04 06 44.6
OBN *e*S **S 04 11 30.4 -4.4**
OBN *e*SS SS 04 14 52.8 0.0
OBN pmax pmax
comp=Z,374nm,1.5s,mb5.9
OBN MLR MLR
comp=Z,30μm,17.0s,MS6.3
LVZ Lovozero 44.48 28 PFAKE 04 05 10.0 +8.8
LVZ LR LR
comp=Z,20μm,21.0s,MS6.0
KONT Konya--Tatoy 44.50 71 *e*P **P 04 05 02.8 +1.0**
SDDR Presa de Saban 44.53 259 *e*P **P 04 05 03.0 +0.8**
comp=Z,880nm,1.9s,mb6.3
SDDR LR LR
comp=Z,38μm,21.0s,MS6.3
ELDT Eldivan 44.57 67 *i* P **P 04 05 01.6 -0.7**
BZK Bozkurt 44.61 65 *e*P **P 04 05 03.3 +0.6**
CANT Cankiri 44.68 67 *e*P **P 04 04 59.5 -3.7**
AAM Ann Arbor 44.81 295 *e*P **P 04 05 04.6 +0.4**
comp=Z,540nm,1.8s,mb6.1
AAM Ann Arbor 44.81 295 *e*P **P 04 05 04.6 +0.4**
AAM pmax pmax
comp=Z,437nm,1.4s,mb6.1
ACSO LR LR
comp=Z,20μm,21.0s,MS6.0
TOS Tosya 44.86 66 *e*P **P 04 04 59.5 -5.1**
GLMI Grayling 44.91 299 *e*P **P 04 05 05.7 +0.8**
comp=Z,307nm,1.1s,mb6.0
GLMI LR LR
comp=Z,23μm,21.0s,MS6.1
MOS Moscow 44.91 45 *e*P **P 04 05 03.7 -1.1**
MOS *e* 04 05 12.0
MOS *e* 04 06 44.2
MOS *e* 04 06 50.2
MOS *e*PPP 04 07 26.6
MOS *i*S **S 04 11 36.5 -6.6**
MOS *i* 04 11 42.1
MOS *e*SS SS 04 14 59.0 -4.8
MOS pmax pmax
comp=Z,300nm,1.5s,mb5.9
MOS MLR MLR
comp=E,18μm,15.0s
MOS MLR MLR
comp=Z,16μm,15.0s,MS6.1
LHS Liberty Hill 45.01 284 *e*P **P 04 05 06.3 +0.3**
NHSC New Hope 45.02 282 *e*P **P 04 05 04.7 -1.4**
comp=Z,744nm,1.8s,mb6.2
NHSC LR LR
comp=Z,14μm,20.0s,MS5.9
PCRV Puerto La Cruz 45.02 243 P **P 04 05 06.7 +0.5**
comp=Z,23nm,0.6s,mb5.2,baz=356,slow=1.3,SNR=13
PCRV LR LR 04 20 46.6
comp=Z,21μm,21.0s,MS6.0,baz=68,slow=32
KAMT Kaman 45.09 69 *i* P **P 04 05 07.6 +1.0**
TMCR Tamitsa 45.28 33⇑ *i*P **P 04 05 08.0 +0.3**
TMCR *e*SP sP 04 05 21.6 +12
TMCR *e* 04 06 45.4
BYBT Boyabat 45.29 66 *e*P **P 04 05 05.2 -2.9**
COW Cow Castle Cre 45.32 283 *e*P **P 04 05 09.0 +0.6**
ERMK Ermenek 45.33 73 *i* P **P 04 05 08.6 +0.2**
BOYT Boyabat 45.40 66 *i* P **P 04 05 07.8 -1.2**
JSC Jenkinsville 45.43 284 *e*P **P 04 05 10.3 +1.0**
CDAG Cicekdag 45.51 68 *i* P **P 04 05 07.5 -2.3**
CTKT Corum 45.53 67 *i* P **P 04 05 09.8 -0.2**
CORM Corum 45.54 67 *e*P **P 04 05 07.0 -3.0**
DIKM Dikmen 45.60 65 *e*P **P 04 05 05.2 -5.3**
LEF Lefka 45.83 75 *e*P **P 04 05 12.4 0.0**
IKL Isikli 46.05 73 *e*P **P 04 05 13.4 -0.7**
ASCN Ascension 46.09 166 PFAKE 04 05 30.0 +15
ASCN LR LR
comp=Z,11μm,20.0s,MS5.8
AVNT Avonos 46.12 69⇓ *i*P **P 04 05 14.6 0.0**
MASC Masc 46.19 262 *e*P **P 04 05 16.3 +0.9**
CSS Prodhromos 46.22 75 *e*P **P 04 05 14.1 -1.5**
VOR Voronezh 46.22 51 *e*P **P 04 05 14.5 -0.8**
VOR pmax pmax
comp=Z,350nm,1.6s,mb6.0
LFK Lefkose 46.26 74 *e*P **P 04 05 10.8 -5.1**
VRSR Storozhevoye 46.29 51 *e*P **P 04 05 14.9 -0.9**
VRSR *e* 04 06 50.5
VRSR *e* 04 06 57.2
VRSR *e*S **S 04 11 58.9 -4.2**
VRSR *e*SS SS 04 15 18.6 -10
VRSR pmax pmax
comp=N,5.0nm,1.0s
VRSR pmax pmax
comp=E,30nm,1.0s
VRSR pmax pmax
comp=Z,10.0nm,1.0s
VRSR smax
comp=Z,610nm,6.3s
VRSR smax
comp=N,250nm,4.7s
VRSR smax
comp=E,510nm,4.8s
VRSR MLR MLR
comp=N,2μm,17.0s,MS5.6
VRSR MLR MLR
comp=Z,7μm,17.0s,MS5.7
VRSR MLR MLR
comp=E,6μm,18.0s,MS5.6
KVT Kavak 46.32 66 *e*P **P 04 05 16.9 +0.7**
ANN Anapa 46.35 60 *e*P **P 04 05 15.3 -1.1**
ANN *e* 04 07 09.8
ANN *e*S **S 04 12 02.5 -1.7**
ANN pmax pmax
comp=Z,251nm,1.3s,mb6.0
ANN MLR MLR
comp=N,20μm,18.0s,MS6.2
ANN MLR MLR
comp=E,12μm,18.0s,MS6.2
ANN MLR MLR
comp=Z,22μm,18.0s,MS6.2
VORD Divnogorie 46.39 52 *e*P **P 04 05 16.2 -0.4**
VORD *e*S **S 04 11 54.0 -11**
VORD pmax pmax
comp=Z,120nm,1.0s,mb5.8
VORD pmax pmax
comp=N,200nm,0.6s
VORD pmax pmax
comp=E,170nm,0.6s
VORD smax
comp=E,12μm,15.4s
VORD smax
comp=Z,4μm,13.2s
VORD smax
comp=N,2μm,11.9s
VORD MLR MLR
comp=E,21μm,18.0s,MS6.3
VORD MLR MLR
comp=Z,32μm,18.0s,MS6.3
VORD MLR MLR
comp=N,23μm,16.0s,MS6.3
TZTN Tazewell 46.40 288 *e*P **P 04 05 15.9 -1.0**
comp=N,445nm,1.6s,mb6.1
TZTN LR LR
comp=Z,13μm,19.0s,MS5.9
MERS Mersin 46.48 72 *e*P **P 04 05 17.6 +0.1**
EREN Erenkoy 46.66 74 *e*P **P 04 05 16.4 -2.6**
KARA Karaisali 46.75 71 *e*P **P 04 05 14.5 -5.1**
BNN Bunyan 46.83 69 *e*P **P 04 05 14.5 -5.8**
TKL Tuckaleechee C 46.88 287 LR LR 04 22 33.1
comp=Z,16μm,18.4s,MS6.0,baz=83,slow=33
ALE Alert 47.00 354 P **P 04 05 20.6 -0.4**
comp=Z,467nm,2.1s,mb6.0,SNR=15
KRTS Karatas 47.22 72 *e*P **P 04 05 18.2 -5.1**
KOZT Kozan 47.26 70 *e*P **P 04 05 20.1 -3.5**
CEYT Ceyhan 47.35 71 *e*P **P 04 05 22.0 -2.4**
GOGA Godfrey 47.46 284 *e*P **P 04 05 25.9 +0.7**
comp=Z,481nm,1.7s,mb6.2
GOGA LR LR
comp=Z,19μm,20.0s,MS6.1
GOGA Godfrey 47.46 284 *e*P **P 04 05 25.9 +0.7**
GOGA pmax pmax
comp=Z,481nm,1.7s,mb6.2
GOGA MLR MLR
comp=Z,19μm,20.0s,MS6.1
CPCT Cooper Cave 47.52 287 *e*P **P 04 05 25.7 0.0**
COWI Conover 47.72 302 *e*P **P 04 05 27.0 0.0**
comp=Z,471nm,1.9s,mb6.2
COWI LR LR
comp=Z,33μm,21.0s,MS6.3
BLO Bloomington 47.78 292 *e*P **P 04 05 27.8 +0.2**
comp=Z,1μm,1.8s,mb6.7
BLO *e*PP PP 04 07 20.5 +1.3
BLO Bloomington 47.78 292 *e*P **P 04 05 27.8 +0.2**
BLO *e* 04 07 20.5
BLO pmax pmax
comp=Z,1μm,1.8s,mb6.7
VRHR Novokhopersk 47.82 51 *e*P **P 04 05 27.7 -0.1**
VRHR *e*S **S 04 12 20.1 -4.9**
VRHR pmax pmax
comp=E,20nm,0.4s
VRHR pmax pmax
comp=Z,30nm,0.4s,mb5.7
VRHR pmax pmax
comp=N,60nm,0.8s
VRHR smax
comp=E,15μm,15.6s
VRHR smax
comp=Z,3μm,14.7s
VRHR smax
comp=N,3μm,13.0s
COBT Iskenderun 47.90 72 *i* P **P 04 05 25.9 -2.8**
WCI Wyandotte Cave 47.91 291 *e*P **P 04 05 28.8 +0.2**
comp=N,937nm,1.8s,mb6.5
WCI *e*PP PP 04 07 23.1 +2.7
WCI LR LR
comp=Z,16μm,21.0s,MS6.0
WCI Wyandotte Cave 47.91 291 *e*P **P 04 05 28.8 +0.1**
WCI *e* 04 07 23.1
WCI pmax pmax
comp=Z,937nm,1.8s,mb6.5
WCI MLR MLR
comp=Z,16μm,21.0s,MS6.0
GRSN GIRESUNGRSN 47.98 65 *i* P **P 04 05 29.4 +0.2**
DWPF Disney 48.04 276 *e*P **P 04 05 30.1 +0.3**
comp=Z,44nm,1.0s,mb5.4
DWPF LR LR
comp=Z,28μm,20.0s,MS6.2
KMRS Kahramanmaras 48.05 70 *e*P **P 04 05 30.1 +0.3**
SOC Sochi 48.25 61 *i* P **P 04 05 30.5 -0.7**
SOC Sochi 48.25 61 *d*i*P **P 04 05 31.3 +0.1**
SOC *e*PP pP 04 05 38.8 +6.2
SOC *e*SP sP 04 05 43.7 +11
SOC *e* 04 06 55.3
SOC *e* 04 07 24.2
SOC *e*S **S 04 12 28.9 -2.4**
SOC *e*SS sS 04 12 44.5 +11
SOC *e* 04 15 21.1
SOC *e*SSS 04 17 12.0
SOC pmax pmax
comp=Z,107nm,1.0s,mb5.8
SOC pmax pmax
comp=Z,1μm,4.4s
SOC MLR MLR
comp=Z,18μm,17.0s,MS6.1
ESPY Espiye-Giresun 48.31 65 *e*P **P 04 05 27.6 -4.1**
BHL Bhannes 48.39 75 *e*P **P 04 05 32.1 -0.3**
GAZ Gaziantep 48.40 70 *e*P **P 04 05 31.3 -1.1**
LMGC Las Mercedes 48.45 264 *e*P **P 04 05 34.3 +1.3**
baz=45
LMGC *e*S **S 04 12 39.2 +4.7**
comp=N,19μm,15.5s
LMGC *e*
comp=E,18μm,19.4s
CCCC Cccc 48.45 266 *e*P **P 04 05 30.2 -2.8**
HWQ Hawqa 48.48 74 *e*P **P 04 05 33.0 -0.1**
FCC Fort Churchill 48.58 319 *e*P **P 04 05 33.8 +0.2**
comp=E,845nm,1.5s,mb6.5
FCC Fort Churchill 48.58 319 P **P 04 05 33.8 +0.3**
FCC pmax pmax
comp=Z,850nm,1.5s,mb6.5
GZT Gaziantep 48.60 70 *i* P **P 04 05 33.2 -0.8**
SWET Sewanee 48.68 287 *e*P **P 04 05 34.8 +0.1**
FKH Fakeheh 48.84 74 *e*P **P 04 05 35.6 -0.3**
EYMN Ely 48.86 305 *e*P **P 04 05 35.4 -0.4**
comp=Z,215nm,1.1s,mb6.1
EYMN LR LR
comp=Z,24μm,21.0s,MS6.2
MALT Malatya 48.92 68 *i* P **P 04 05 36.1 -0.4**
MALT Malatya 48.92 68 *e*P **P 04 05 35.8 -0.6**
comp=Z,65nm,0.9s,mb5.7
MALT Malatya 48.92 68 P **P 04 05 36.9 +0.4**
MALT Malatya 48.92 68⇓ *i*P **P 04 05 36.3 -0.2**
GUMT Gumushane 49.00 65 *i* P **P 04 05 37.7 +0.7**
USIN University of 49.02 291 *e*P **P 04 05 37.3 +0.1**
comp=Z,828nm,1.6s,mb6.5
KTUT Trabzon 49.04 65 *e*P **P 04 05 29.5 -7.9**
MACK Trabzon 49.05 65 *i* P **P 04 05 36.9 -0.6**
MACK Trabzon 49.05 65 *i* P **P 04 05 36.8 -0.6**
ATAB Bozova 49.11 70⇓ *i*P **P 04 05 37.5 -0.4**
RES Resolute Bay 49.14 341 *e*P **P 04 05 37.9 +0.2**
comp=Z,14μm,1.1s
ELZG Elazig 49.27 68 *i* P **P 04 05 38.8 -0.4**

JFWS Jewell Farm 49.33 298 *e*P **P 04 05 39.8 +0.3**
comp=Z,419nm,1.7s,mb6.2
JFWS LR LR
comp=Z,16µm,21.0s,MS6.0
HDIL Hopedale 49.36 295 *e*P **P 04 05 40.0 +0.2**
comp=Z,1µm,2.0s,mb6.7
HDIL LR LR
comp=Z,11µm,20.0s,MS5.9
HOJ Hope 49.37 262⇑ *e*P **P 04 05 41.6 +1.5**
STH Stony Hill 49.38 262⇑ *e*P **P 04 05 41.4 +1.2**
EZC Erzincan 49.47 66 *i* P **P 04 05 36.9 -3.7**
URFA Urfa 49.51 69 *e*P **P 04 05 41.2 +0.3**
BBJ Bamboo Saint A 49.57 263⇑ *e*P **P 04 05 40.2 -1.5**
GLFJ 49.67 81 *e*P **P 04 05 43.1 +0.8**
SNR=22
MGV Manicaragua 49.74 268 *e*P **P 04 05 44.6 +1.7**
WVT Waverly 49.79 289 *e*P **P 04 05 43.1 0.0**
comp=Z,893nm,1.8s,mb6.5
WVT LR LR
comp=Z,14µm,19.0s,MS6.0
CVJ Coleyville 49.86 263⇑ *e*P **P 04 05 45.2 +1.4**
MCJ Malvern 50.15 262⇑ *e*P **P 04 05 47.4 +1.3**
KIV Kislovodsk 50.21 60 P **P 04 05 47.8 +1.6**
comp=Z,391nm,1.4s,mb6.2,SNR=17
KIV Kislovodsk 50.21 60 *e*P **P 04 05 46.8 +0.6**
comp=Z,263nm,1.5s,mb6.0
KIV LR LR
comp=Z,11µm,19.0s,MS5.9
KIV Kislovodsk 50.21 60 *d i*P **P 04 05 46.9 +0.7**
KIV *e* 04 07 07.9
KIV *e* 04 07 41.8
KIV *e*S **S 04 13 00.8 +2.0**
KIV *e*SSS 04 18 00.0
KIV pmax pmax
comp=Z,1µm,8.3s
KIV pmax pmax
comp=Z,95nm,1.2s,mb5.7
KIV MLR MLR
comp=Z,14µm,16.0s,MS6.0
KIV Kislovodsk 50.21 60⇑ *i*P **P 04 05 47.8 +1.6**
BCA Borcka 50.23 64 *e*P **P 04 05 44.4 -2.0**
SDV Santo Domingo 50.24 248 *e*P **P 04 05 47.5 +0.7**
comp=Z,276nm,1.1s,mb6.2
SDV LR LR
comp=Z,15µm,22.0s,MS6.0
SDV Santo Domingo 50.24 248 P **P 04 05 47.5 +0.7**
comp=Z,151nm,0.8s,mb6.1,baz=59,slow=4.4,SNR=172
SDV PKP2bc 04 36 45.8
comp=Z,3.5nm,0.9s,baz=150,slow=5.6,SNR=3.1
BINT Bingol 50.25 67 *e*P **P 04 05 48.2 +1.6**
SIUC Southern Illin 50.26 291 *e*P **P 04 05 46.8 +0.1**
comp=Z,731nm,1.4s,mb6.5
LRAL Lakeview Retre 50.33 285 *e*P **P 04 05 47.6 +0.3**
comp=Z,471nm,1.8s,mb6.2
LRAL LR LR
comp=Z,18µm,20.0s,MS6.1
PLAL Pickwick Lake 50.40 288 *e*P **P 04 05 47.8 0.0**
comp=Z,786nm,1.5s,mb6.5
PLAL LR LR
comp=Z,10µm,20.0s,MS5.8
UTMT University of 50.49 290 *e*P **P 04 05 48.6 +0.1**
comp=Z,505nm,1.0s,mb6.5
ARTV Artvin 50.53 64⇓ *i*P **P 04 05 48.5 -0.2**
EZM Erzurum 50.54 66 *e*P **P 04 05 50.5 +1.8**
ERZM Erzurum 50.54 66 *i* P **P 04 05 49.8 +1.0**
SLM Saint Louis 50.69 293 *e*P **P 04 05 49.6 -0.3**
comp=Z,500nm,1.3s,mb6.3
SLM Saint Louis 50.69 293 *e*P **P 04 05 49.6 -0.3**
SLM pmax pmax
comp=Z,500nm,1.3s,mb6.3
BNGL BINGOL 50.71 67⇓ *i*P **P 04 05 50.3 +0.3**
GLAT Glass 50.83 290 *e*P **P 04 05 50.8 -0.2**
HALT Halls 51.00 289 *e*P **P 04 05 51.7 -0.6**
MARD Mardin 51.01 69 *i* P **P 04 05 52.0 -0.4**
PARMO Parma 51.03 290 *e*P **P 04 05 52.1 -0.5**
FVM French Village 51.06 292 *e*P **P 04 05 52.3 -0.4**
comp=Z,356nm,1.1s,mb6.2
FVM French Village 51.06 292 P **P 04 05 52.3 -0.4**
FVM pmax pmax
comp=Z,360nm,1.1s,mb6.2
PVMO Portageville 51.09 290 *e*P **P 04 05 52.4 -0.6**
comp=Z,938nm,1.0s,mb6.7
ULM Lac du Bonnet 51.10 309 *e*P **P 04 05 52.1 -0.7**
comp=Z,263nm,1.6s,mb5.9
ULM *e*PP PP 04 07 47.3 -1.9
ULM LR LR
comp=Z,27µm,19.0s,MS6.3
ULM Lac du Bonnet 51.10 309 P **P 04 05 51.8 -1.0**
comp=Z,31nm,1.1s,mb5.2,baz=81,slow=7.2,SNR=22
ULM LR LR 04 25 55.5
comp=Z,25µm,18.2s,MS6.3,baz=78,slow=34
ULM PKP2bc 04 36 41.5
comp=Z,3.4nm,1.0s,baz=200,slow=3.5,SNR=3.1
BRAL Brewton 51.21 282 *e*P **P 04 05 54.2 +0.2**
comp=Z,2µm,2.1s,mb6.6
BRAL LR LR
comp=Z,14µm,19.0s,MS6.0
BTMT Batman 51.22 68 *e*P **P 04 05 51.9 -2.0**
GNAR Gosnell 51.49 290 *e*P **P 04 05 55.4 -0.6**
comp=Z,6µm,1.2s,mb7.4
KARS Kars 51.55 64 *e*P **P 04 05 53.8 -2.6**
AGMN Agassiz Refuge 51.60 306 *e*P **P 04 05 56.3 -0.4**
comp=Z,107nm,0.8s,mb5.8
AGMN LR LR
comp=Z,25µm,19.0s,MS6.3
CCM Cathedral Cave 51.63 292 *e*P **P 04 05 56.0 -1.0**
comp=Z,504nm,1.7s,mb6.2
CCM LR LR
comp=Z,20µm,20.0s,MS6.2
CCM Cathedral Cave 51.63 292 P **P 04 05 56.2 -0.8**
CCM pmax pmax
comp=Z,500nm,1.7s,mb6.2
MET Memphis--Engin 51.75 288 *e*P **P 04 05 56.8 -1.2**
TUTA Tutak 51.76 66⇓ *i*P **P 04 05 57.5 -0.5**
SOR Soroa 51.81 271 *e*P **P 04 05 58.8 +0.3**
DIGO Kars 51.82 64 *i* P **P 04 05 58.1 -0.3**
AGRB Hanur-Agry 51.83 65 *e*P **P 04 05 59.1 +0.7**
HBAR Harrisburg 52.13 289 *e*P **P 04 06 00.4 -0.4**
TBLG Delisi 52.34 62 P **P 04 06 02.6 +0.4**
DYDN Diyadin 52.35 65 *i* P **P 04 06 01.8 -0.5**
MTA Mtatsminda 52.39 62 P **P 04 06 02.9 +0.3**
VANB Van 52.47 66 *e*P **P 04 05 57.5 -5.7**
CLDR Caldiran 52.66 66 *e*P **P 04 05 59.4 -5.2**
DGRG David-gareji 52.89 62 P **P 04 06 05.5 -0.8**
HAKT HAKKARI 53.09 67⇓ *i*P **P 04 06 07.6 -0.2**
HKR Hakkari 53.10 67 *e*P **P 04 06 06.9 -1.1**
MSL Mosul 53.12 69 *ex* x 04 06 07.5
MSL *ex* x 04 06 32.0
MSL *ex* x 04 13 40.0
MSL *ex* x 04 13 52.0
MSL *ex* x 04 15 22.0
CUKT Cukurca 53.13 68 *e*P **P 04 06 08.6 +0.4**
ECSD EROS,Sioux Fal 53.49 301 *e*P **P 04 06 09.5 -1.2**
comp=Z,353nm,1.6s,mb6.0
ECSD LR LR
comp=Z,17µm,20.0s,MS6.1
FFC Flin Flon 53.59 315 P **P 04 06 11.6 +0.4**
comp=Z,990nm,1.5s,mb6.5,SNR=55
FFC Flin Flon 53.59 315 *e*P **P 04 06 11.2 0.0**
comp=Z,468nm,1.5s,mb6.2
FFC LR LR
comp=Z,28µm,22.0s,MS6.3
UALR University of 53.71 289 *e*P **P 04 06 10.6 -1.9**
comp=Z,192nm,1.0s,mb6.0
NAX Nakhchivan 53.79 65 P **P 04 06 13.9 +1.0**
SNR=14
GANJ Ganja 53.84 63 P **P 04 06 13.6 +0.3**
SNR=19
MAK Makhachkala 53.85 60 *e*P **P 04 06 12.0 -1.4**
MAK Makhachkala 53.85 60 *e*P **P 04 06 12.3 -1.1**
MAK *e* 04 08 15.0
MAK *e*PPP 04 09 24.3
MAK *i* S **S 04 13 41.7 -7.1**
MAK *e*SS SS 04 17 28.1 -1.3
MAK pmax pmax
comp=Z,443nm,1.5s,mb6.2
SEKA Sheki 54.26 62 P **P 04 06 16.5 +0.2**
SNR=56
SOKR Solikamsk 54.49 38 *c i*P **P 04 06 17.0 -0.8**
SOKR S **S 04 14 04.2 +7.2**
SOKR pmax pmax
comp=Z,350nm,1.1s,mb6.2
SOKR MLR MLR
comp=Z,32µm,16.0s,MS6.5
MRKH Merkhyat 54.52 97 *i* P **P 04 06 17.8 -0.7**
baz=305,slow=8.6
MRKH AMb AMB 04 06 25.1
comp=Z,312nm,1.3s,mb6.2
MRKH *e*S **S 04 13 59.4 +1.0**
BRDA Brd 54.59 63 P **P 04 06 19.9 +1.1**
SNR=22
KSU1 Kansas State U 55.15 296 *e*P **P 04 06 21.5 -1.3**
comp=Z,467nm,1.5s,mb6.3
KSU1 LR LR
comp=Z,18µm,19.0s,MS6.2
BHD Baghdad 55.31 72 *i* x x 04 06 21.0
BHD *i* x x 04 06 40.0
BHD *i* x x 04 14 07.0
BHD *i* x x 04 15 38.0
SIZA Siyzn 55.50 62 P **P 04 06 26.6 +1.2**
SNR=27
ROSC El Rosal 55.65 247 *e*P **P 04 06 26.5 -0.2**
ROSC El Rosal 55.65 247 P **P 04 06 27.1 +0.4**
comp=Z,49nm,0.8s,mb5.6,baz=95,slow=5.0,SNR=47
ROSC LR LR 04 27 33.5
comp=Z,29µm,21.1s,MS6.3,baz=14,slow=33
ALIB Ii-Bayraml 56.00 63 P **P 04 06 31.1 +2.1**
SNR=4.4
ARU Arti 56.28 42 P **P 04 06 31.6 +0.9**
comp=Z,1µm,1.7s,mb6.7,SNR=14
ARU Arti 56.28 42 *e*P **P 04 06 30.7 0.0**
comp=Z,483nm,1.3s,mb6.4
ARU LR LR
comp=Z,77µm,19.0s,MS6.8
ARU Arti 56.28 42 *d i*P **P 04 06 30.6 -0.1**
ARU *e* 04 07 28.2
ARU *e*S **S 04 14 18.4 -2.6**
ARU pmax pmax
comp=Z,228nm,1.2s,mb6.1
ARU pmax pmax
comp=Z,4µm,14.5s
ARU MLR MLR
comp=Z,76µm,19.0s,MS6.8
GOBA Gobu 56.34 62 P **P 04 06 34.2 +2.8**
SNR=6.2
NATX Nacogdoches 56.74 287 *e*P **P 04 06 34.1 -0.3**
comp=Z,2µm,1.7s,mb6.8
NATX LR LR
comp=Z,19µm,20.0s,MS6.2
DGMT Dagmar 56.82 309 *e*P **P 04 06 34.8 +0.1**
comp=Z,520nm,1.3s,mb6.4
DGMT LR LR
comp=Z,25µm,20.0s,MS6.3
BCIP Isla Barro Col 57.01 255 *e*P **P 04 06 37.4 +0.9**
comp=Z,172nm,1.3s,mb5.9
BCIP LR LR
comp=Z,13µm,20.0s,MS6.0
BDFB Brasilia 57.15 207 P **P 04 06 37.3 0.0**
BDFB PcP PcP 04 07 32.3 +0.4
BDFB LR LR 04 27 24.1
BDFB ⇑*e* 04 36 39.0
BDFB Brasilia 57.15 207 P **P 04 06 37.3 +0.1**
BDFB 04 07 32.3
BDFB Brasilia 57.15 207 P **P 04 06 37.3 0.0**
comp=Z,56nm,1.1s,mb5.5,baz=19,slow=8.3,SNR=55
BDFB PcP PcP 04 07 32.3 +0.4
comp=Z,80nm,1.1s,baz=20,slow=13,SNR=3.0
BDFB LR LR 04 27 24.0
comp=Z,29µm,20.6s,MS6.4,baz=203,slow=32
BDFB PKP2bc 04 36 39.0
comp=Z,4.7nm,1.1s,baz=336,slow=1.1,SNR=6.0
SVE Sverdlovsk 57.24 41⇓ *e*P **P 04 06 38.1 +0.6**
SVE *e* 04 08 54.0
SVE *e*S **S 04 14 30.9 -2.8**
SVE *e*SS SS 04 18 25.5 +3.3
SVE pmax pmax
comp=Z,365nm,1.6s,mb6.2
TEIG Tepich 57.33 271 *e*P **P 04 06 39.0 +0.3**
comp=Z,69nm,0.9s,mb5.7
TEIG LR LR
comp=Z,24µm,21.0s,MS6.3
CBKS Cedar Bluff 57.50 296 *e*P **P 04 06 38.7 -0.9**
comp=Z,479nm,1.8s,mb6.2
CBKS LR LR
comp=Z,21µm,19.0s,MS6.3
YKA Yellowknife Ar 57.62 327 P **P 04 06 39.3 -0.8**
YKA PcP PcP 04 07 32.9 -0.4
YKA LR LR 04 27 24.6
YKA P'P' 04 36 19.3
YKA ⇑*e* 04 36 33.7
YKA Yellowknife Ar 57.62 327 P **P 04 06 39.3 -0.8**
YKA 04 07 32.9
YKA Yellowknife Ar 57.62 327 P **P 04 06 39.3 -0.8**
comp=Z,29nm,0.8s,mb5.4,baz=70,slow=7.2,SNR=321
YKA PcP PcP 04 07 32.8 -0.4
comp=Z,7.0nm,0.7s,baz=70,slow=4.8,SNR=6.4
YKA LR LR 04 27 24.6
comp=Z,7µm,18.9s,MS5.8,baz=145,slow=32
YKA PKPPKP 04 36 19.3
comp=Z,0.7nm,0.9s,baz=252,slow=2.3,SNR=3.5
YKA PKP2bc 04 36 33.7
comp=Z,1.1nm,0.8s,baz=246,slow=1.8,SNR=7.0
AKTO Aktyubinsk 58.00 48 LR LR 04 32 59.3
comp=Z,42µm,18.5s,MS6.6,baz=306,slow=37
AKTO PKP2bc 04 36 41.2
comp=Z,1.2nm,0.8s,baz=311,slow=4.3,SNR=4.6
RSSD Black Hills 58.34 304 *e*P **P 04 06 44.7 -0.8**
comp=Z,30nm,1.1s,mb5.2
RSSD LR LR
comp=Z,11µm,19.0s,MS6.0
RSSD Black Hills 58.34 304 P **P 04 06 44.9 -0.6**
RSSD pmax pmax
comp=Z,30nm,1.1s,mb5.2
HKT Hockley 58.46 285 *e*P **P 04 06 46.2 -0.3**
comp=Z,1µm,1.9s,mb6.5
HKT LR LR
comp=Z,17µm,19.0s,MS6.2
HKT Hockley 58.46 285 *e*P **P 04 06 46.2 -0.3**
HKT pmax pmax
comp=Z,1µm,1.9s,mb6.5
HKT MLR MLR
comp=Z,17µm,19.0s,MS6.2
WMOK Wichita Mounta 58.53 292 *e*P **P 04 06 45.8 -1.1**
comp=Z,352nm,1.4s,mb6.2
WMOK *e*PP PP 04 08 59.5 +3.4
WMOK LR LR
comp=Z,11µm,20.0s,MS6.0
WMOK Wichita Mounta 58.53 292 *e*P **P 04 06 45.8 -1.1**
WMOK *e* 04 08 59.5
WMOK pmax pmax
comp=Z,352nm,1.4s,mb6.2
WMOK MLR MLR
comp=Z,11µm,20.0s,MS6.0
LAO LASA Array 58.76 307 *e*P **P 04 06 48.3 0.0**
comp=Z,904nm,1.7s,mb6.5
LAO *e*PP PP 04 08 56.3 -1.6
LAO LR LR
comp=Z,18µm,19.0s,MS6.2
MIB Mutribah 59.12 74 *e*P **P 04 06 50.9 -0.3**
MIB AMb AMB 04 06 55.3
comp=Z,178nm,0.9s,mb6.1
MIB Mutribah 59.12 74 *e*P **P 04 06 50.8 -0.3**
comp=Z,178nm,0.9s,mb6.1
NAY Al-Naaiem 59.31 75 *e*P **P 04 06 52.0 -0.4**
NAY AMb AMB 04 07 00.4
comp=Z,107nm,1.0s,mb5.8
NAY Al-Naaiem 59.31 75 *e*P **P 04 06 52.0 -0.4**
comp=Z,107nm,1.0s,mb5.8
UMR Umm Al-Rimmam 59.53 74 *e*P **P 04 06 54.1 +0.2**
UMR AMb AMB 04 06 58.8
comp=Z,312nm,0.9s,mb6.3
UMR Umm Al-Rimmam 59.53 74 *e*P **P 04 06 54.2 +0.3**
comp=Z,312nm,0.9s,mb6.3
KBD Kabd 59.69 75 *e*P **P 04 06 54.6 -0.4**
KBD AMb AMB 04 06 58.9
comp=Z,1µm,1.1s,mb6.8
KBD Kabd 59.69 75 *e*P **P 04 06 54.6 -0.4**
comp=Z,1µm,1.1s,mb6.8
RDF Al-Radifah 59.70 75 *e*P **P 04 06 54.2 -0.9**
RDF AMb AMB 04 07 03.5
comp=Z,207nm,1.2s,mb6.0
RDF Al-Radifah 59.70 75 *e*P **P 04 06 54.2 -0.9**
comp=Z,207nm,1.2s,mb6.0
CAM3 Guarapari 59.70 197⇓ *i*P **P 04 06 54.2 -0.8**
CAM3 *i* 04 06 58.9
CAM3 *i* 04 07 01.5
CAM3 *i* 04 07 22.1
TGUH Tegucigalpa,Un 59.92 265 *e*P **P 04 06 57.6 +0.8**
comp=Z,148nm,1.0s,mb6.0
TGUH LR LR
comp=Z,25µm,22.0s,MS6.3
QRN Al-Qurain 60.07 75 *e*P **P 04 06 57.7 0.0**
QRN AMb AMB 04 07 02.6
comp=Z,421nm,0.9s,mb6.5
EDM Edmonton 60.42 316 *e*P **P 04 06 59.2 -0.4**
EDM *e*PP PP 04 09 13.7 +1.3
EGMT Eagleton 60.43 310 *e*P **P 04 06 59.3 -0.5**
comp=Z,476nm,1.5s,mb6.3
EGMT LR LR
comp=Z,26µm,22.0s,MS6.3
EGMT Eagleton 60.43 310 P **P 04 06 59.6 -0.2**
baz=60,SNR=65
PHWY Pilot Hill 60.45 301 *e*P **P 04 06 60.0 -0.1**
AMTX Amarillo 60.60 293 *e*P **P 04 07 01.1 -0.1**
comp=Z,602nm,1.4s,mb6.5
AMTX LR LR
comp=Z,19µm,20.0s,MS6.2
KVTX Kingsville 61.20 284 *e*P **P 04 07 05.9 +0.5**
comp=Z,326nm,1.2s,mb6.3
KVTX LR LR
comp=Z,9µm,20.0s,MS5.9
KVTX Kingsville 61.20 284 *e*P **P 04 07 05.9 +0.5**
comp=Z,326nm,1.2s,mb6.3
ISCO Idaho Springs 61.21 300 *e*P **P 04 07 05.8 +0.5**
comp=Z,194nm,1.5s,mb6.0
ISCO *e*PP PP 04 09 22.2 +2.5
ISCO LR LR
comp=Z,17µm,20.0s,MS6.2
ISCO Idaho Springs 61.21 300 *e*P **P 04 07 05.8 +0.5**
comp=Z,194nm,1.5s,mb6.0
ISCO Idaho Springs 61.21 300 *e*PP PP 04 09 22.2 +2.5
JCT Junction City 61.24 288 *e*P **P 04 07 04.9 -0.8**
comp=Z,2µm,1.7s,mb7.0
JCT LR LR
comp=Z,22µm,19.0s,MS6.3
JCT Junction City 61.24 288 *e*P **P 04 07 04.9 -0.7**
JCT pmax pmax
comp=Z,2µm,1.7s,mb7.0
JCT MLR MLR
comp=Z,22µm,19.0s,MS6.3
GCMT Greycliff 61.31 307 *e*P **P 04 07 05.4 -0.5**
GCMT *e*PP PP 04 09 18.3 -2.2
RLMT Red Lodge 61.34 307 *e*P **P 04 07 05.8 -0.3**
comp=Z,432nm,1.7s,mb6.3
RLMT *e*PP PP 04 09 18.4 -2.3
RLMT LR LR
comp=Z,20µm,19.0s,MS6.3
RLMT Red Lodge 61.34 307 *e*P **P 04 07 05.8 -0.3**
comp=Z,432nm,1.7s,mb6.3
RLMT Red Lodge 61.34 307 *e*PP PP 04 09 18.4 -2.3
RWWY Rawlins 61.47 302 *e*P **P 04 07 07.2 +0.2**
comp=Z,847nm,1.8s,mb6.6
RWWY Rawlins 61.47 302 *e*P **P 04 07 07.2 +0.2**
comp=Z,847nm,1.8s,mb6.6
CAM4 Nova Friburgo 61.77 199⇓ *i*P **P 04 07 08.6 -0.5**
CAM4 *i* pP 04 07 10.0 -0.5
CAM4 *i* 04 07 13.4
CAM4 *i* 04 07 16.3
SDCO Great Sand Dun 62.05 298 *e*P **P 04 07 10.8 -0.2**
comp=Z,332nm,1.9s,mb6.1
SDCO *e*PP PP 04 09 27.5 +0.3
SDCO LR LR
comp=Z,15µm,19.0s,MS6.2
SDCO Great Sand Dun 62.05 298 *e*P **P 04 07 10.8 -0.2**
comp=Z,332nm,1.9s,mb6.1
SDCO Great Sand Dun 62.05 298 *e*PP PP 04 09 27.5 +0.3
HRY Holter Researc 62.26 309 *e*P **P 04 07 11.8 -0.5**
HRY Holter Researc 62.26 309 *e*P **P 04 07 11.8 -0.5**
INK Inuvik 62.27 337 *e*P **P 04 07 11.0 -1.0**
comp=Z,21µm,1.8s
INK Inuvik 62.27 337 P **P 04 07 11.3 -0.7**
INK Inuvik 62.27 337 *e*P **P 04 07 11.0 -1.0**
comp=Z,10µm,1.8s
LKWY Lake 62.31 306 *e*P **P 04 07 13.6 +1.0**
comp=Z,266nm,1.8s,mb6.1
LKWY LR LR
comp=Z,37µm,19.0s,MS6.6
LKWY Lake 62.31 306 *e*P **P 04 07 13.6 +1.0**
LKWY pmax pmax
comp=Z,266nm,1.8s,mb6.1
LKWY MLR MLR
comp=Z,37µm,19.0s,MS6.6
LKWY Lake 62.31 306 *e*P **P 04 07 13.6 +1.0**
comp=Z,266nm,1.8s,mb6.1
YNR Norris Junctio 62.42 307 *e*P **P 04 07 14.3 +1.0**
YNR Norris Junctio 62.42 307 *e*P **P 04 07 14.3 +1.0**
SMCO Snowmass 62.43 300 *e*P **P 04 07 14.0 +0.5**
comp=Z,356nm,1.7s,mb6.2
SMCO Snowmass 62.43 300 *e*P **P 04 07 14.0 +0.5**
comp=Z,356nm,1.7s,mb6.2
WALA Waterton Lakes 62.49 312 *e*P **P 04 07 13.1 -0.7**
comp=Z,453nm,1.6s,mb6.3
WALA Waterton Lakes 62.49 312 *e*P **P 04 07 13.1 -0.6**
comp=Z,453nm,1.6s,mb6.3
CCIG Comitan 62.54 270 *i* P **P 04 07 14.2 -0.3**
CCIG Comitan 62.54 270 *i* P **P 04 07 14.2 -0.3**
D15A Lincoln 62.54 310 P **P 04 07 13.9 -0.2**
baz=62,SNR=48
BW06 Boulder Array 62.56 304 *e*P **P 04 07 13.3 -1.0**
comp=Z,74nm,2.0s,mb5.5
BW06 LR LR
comp=Z,24µm,19.0s,MS6.4
BW06 Boulder Array 62.56 304 *e*P **P 04 07 13.3 -1.0**
comp=Z,74nm,2.0s,mb5.5
PDAR Pinedale Array 62.56 304 P **P 04 07 13.2 -1.1**
PDAR LR LR 04 33 53.6
PDAR ⇑*e* 04 36 21.9
PDAR Pinedale Array 62.56 304 P **P 04 07 13.2 -1.1**
comp=Z,40nm,0.9s,mb5.6,baz=70,slow=6.6,SNR=168
PDAR LR LR 04 33 53.6
comp=Z,23µm,18.3s,MS6.4,baz=72,slow=36
PDAR PKP2bc 04 36 21.9
comp=Z,1.3nm,1.1s,baz=0.0,slow=1.5,SNR=5.6
PDAR Pinedale Array 62.56 304 P **P 04 07 13.2 -1.1**
BOZ Bozeman (W) 62.61 308 *e*P **P 04 07 14.3 -0.3**
comp=Z,218nm,1.6s,mb6.0
BOZ LR LR
comp=Z,19µm,19.0s,MS6.3
BOZ Bozeman (W) 62.61 308 P **P 04 07 14.2 -0.4**
BOZ pmax pmax
comp=Z,220nm,1.6s,mb6.0
BOZ Bozeman (W) 62.61 308 P **P 04 07 14.4 -0.2**
baz=62,SNR=121
BOZ Bozeman (W) 62.61 308 *e*P **P 04 07 14.3 -0.3**
comp=Z,218nm,1.6s,mb6.0
YMR Madison River 62.62 307 *e*P **P 04 07 15.3 +0.6**
comp=Z,985nm,1.8s,mb6.6
YMR LR LR
comp=Z,24µm,21.0s,MS6.3
YFT Old Faithful 62.64 306 *e*P **P 04 07 16.1 +1.3**
YFT Old Faithful 62.64 306 *e*P **P 04 07 16.0 +1.2**
FLWY Flagg Ranch 62.71 306 *e*P **P 04 07 15.4 +0.1**
comp=Z,959nm,1.9s,mb6.6
FLWY *e*PP PP 04 09 31.8 -1.0
FLWY Flagg Ranch 62.71 306 *e*P **P 04 07 15.4 +0.1**
comp=Z,959nm,1.9s,mb6.6
FLWY Flagg Ranch 62.71 306 *e*PP PP 04 09 31.8 -1.1
A13A Flathead Natio 62.84 312 ⇑P **P 04 07 15.2 -0.9**
baz=63
QLMT Earthquake Lak 62.85 307 *e*P **P 04 07 16.2 0.0**
QLMT Earthquake Lak 62.85 307 *e*P **P 04 07 16.2 0.0**
LOHW Long Hollow 62.86 305 *e*P **P 04 07 15.9 -0.4**
comp=Z,490nm,1.7s,mb6.4
LOHW Long Hollow 62.86 305 *e*P **P 04 07 15.9 -0.4**
comp=Z,490nm,1.7s,mb6.4
E15A Deer Lodge 62.89 309 P **P 04 07 16.2 -0.3**
baz=63,SNR=31
MOOW Moose Ponds 62.89 306 *e*P **P 04 07 15.9 -0.6**
comp=Z,422nm,1.7s,mb6.3
MOOW *e*PP PP 04 09 33.5 -0.9
MOOW Moose Ponds 62.89 306 *e*P **P 04 07 15.9 -0.6**
comp=Z,422nm,1.7s,mb6.3
MOOW Moose Ponds 62.89 306 *e*PP PP 04 09 33.5 -1.0
DESE Dese 62.92 97 *e*P **P 04 07 18.1 +1.0**
DESE S **S 04 15 53.1 +5.3**
IMW Indian Meadow 62.95 306 *e*P **P 04 07 17.0 +0.1**
comp=Z,565nm,1.6s,mb6.5
C14A Swan Lake 62.97 311 ⇑P **P 04 07 16.1 -0.8**
baz=63
SNOW Snow King Moun 63.03 305 *e*P **P 04 07 17.5 0.0**
comp=Z,354nm,1.3s,mb6.3
SNOW Snow King Moun 63.03 305 *e*P **P 04 07 17.5 +0.1**
comp=Z,354nm,1.3s,mb6.3
CHMT Chamberlain Mo 63.05 310 *e*P **P 04 07 17.2 -0.3**
CHMT Chamberlain Mo 63.05 310 *e*P **P 04 07 17.2 -0.3**
F15A Butte 63.06 308 P **P 04 07 17.7 +0.1**
baz=63,SNR=28

B13A **Whitefish** 63.13 312 ⇑P P 04 07 17.4 -0.5
baz=63,SNR=32
D14A **Greenough** 63.13 310 P P 04 07 17.6 -0.4
baz=63,SNR=95
REDW **Red Top Meadow** 63.14 305 *e*P P 04 07 17.9 -0.2
comp=Z,980nm,1.6s,mb6.7
REDW **Red Top Meadow** 63.14 305 *e*P P 04 07 17.9 -0.2
comp=Z,980nm,1.6s,mb6.7
TPAW **Teton Pass** 63.14 306 *e*P P 04 07 17.7 -0.5
comp=Z,315nm,1.5s,mb6.2
TPAW **Teton Pass** 63.14 306 *e*P P 04 07 17.7 -0.5
comp=Z,315nm,1.5s,mb6.2
DCID1 **Drake Creek** 63.25 306 *e*P P 04 07 19.3 +0.4
DCID1 **Drake Creek** 63.25 306 *e*P P 04 07 19.3 +0.4
VAN **Vannovskaya** 63.27 61 *e*P P 04 07 18.8 -0.3
ABKT **Ailbek** 63.29 61 P P 04 07 19.6 +0.4
comp=Z,664nm,0.9s,mb6.8,SNR=28
DLMT **Dillon** 63.34 308 *e*P P 04 07 19.6 +0.2
comp=Z,389nm,1.5s,mb6.3
DLMT *e*PP PP 04 09 40.6 +2.3
DLMT **Dillon** 63.34 308 *e*P P 04 07 19.6 +0.1
comp=Z,389nm,1.5s,mb6.3
DLMT **Dillon** 63.34 308 *e*PP PP 04 09 40.7 +2.3
G15A **Dillon** 63.37 308 P P 04 07 19.7 0.0
baz=63,SNR=86
TUIG **Tuzandepetl** 63.40 273 *e*P P 04 07 19.6 -0.6
TUIG **Tuzandepetl** 63.40 273 *e*P P 04 07 19.6 -0.6
E14A **Clinton** 63.42 309 P P 04 07 20.0 0.0
baz=63,SNR=47
MBAR **Mbarara** 63.49 113 P P 04 07 20.9 0.0
SNR=21
C13A **Hot Springs** 63.51 311 P P 04 07 20.1 -0.4
baz=63,SNR=71
MSO **Missoula** 63.51 310 *e*P P 04 07 19.9 -0.6
comp=Z,192nm,1.5s,mb5.9
MSO LR LR
comp=Z,10μm,20.0s,MS6.0
MSO **Missoula** 63.51 310 *e*P P 04 07 19.9 -0.6
comp=Z,192nm,1.5s,mb5.9
BSMT **Bassoo Peak** 63.55 311 P P 04 07 20.6 -0.2
BSMT **Bassoo Peak** 63.55 311 P P 04 07 20.6 -0.2
AHID **Auburn Hatcher** 63.57 305 *e*P P 04 07 21.1 +0.1
comp=Z,569nm,1.7s,mb6.3
AHID LR LR
comp=Z,21μm,20.0s,MS6.3
AHID **Auburn Hatcher** 63.57 305 *e*P P 04 07 21.1 +0.1
comp=Z,569nm,1.7s,mb6.3
A12A **Yaak River Ran** 63.57 313 ⇑P P 04 07 20.5 -0.4
baz=63
F14A **Wisdom** 63.62 309 P P 04 07 21.4 +0.1
baz=64,SNR=27
D13A **Huson** 63.70 310 P P 04 07 21.5 -0.3
baz=64,SNR=131
MCMT **McKenzie Canyo** 63.75 308 *e*P P 04 07 22.3 +0.2
MCMT **McKenzie Canyo** 63.75 308 *e*P P 04 07 22.3 +0.1
B12A **Libby** 63.75 312 P P 04 07 22.0 -0.1
baz=64,SNR=40
E13A **Victor** 63.84 310 ⇓P P 04 07 22.3 -0.4
baz=64,SNR=47
BRVK **Borovoye** 63.85 42 P P 04 07 23.6 +0.9
comp=Z,487nm,0.9s,mb6.5,SNR=39
BRVK **Borovoye** 63.85 42 *e*P P 04 07 22.5 -0.2
comp=Z,158nm,1.2s,mb5.9
BRVK LR LR
comp=Z,68μm,21.0s,MS6.8
BRVK **Borovoye** 63.85 42 *e*P P 04 07 22.5 -0.2
BRVK pmax pmax
comp=Z,158nm,1.2s,mb5.9
BRVK MLR MLR
comp=Z,68μm,21.0s,MS6.8
BRVK **Borovoye** 63.85 42 *e*P P 04 07 22.5 -0.2
comp=Z,158nm,1.2s,mb5.9
G14A **Jackson** 63.94 308 P P 04 07 23.7 +0.3
baz=64,SNR=63
A11A **Hall Mountain,** 63.98 313 P P 04 07 23.7 +0.1
baz=64,SNR=102
ANMO **Albuquerque** 64.04 295 *e*P P 04 07 24.9 +0.6
comp=Z,279nm,1.6s,mb6.0
ANMO *e*PP PP 04 09 46.3 +1.5
ANMO LR LR
comp=Z,22μm,20.0s,MS6.3
ANMO **Albuquerque** 64.04 295 *d i*P P 04 07 25.2 +0.9
B11A **Sandpoint** 64.22 312 ⇓P P 04 07 24.5 -0.7
baz=64,SNR=6.8
F13A **Darby** 64.23 309 P P 04 07 25.1 -0.2
baz=64,SNR=64
D12A **Red Ives Fores** 64.26 311 ⇑P P 04 07 24.8 -0.7
baz=64
MVCO **Mesa Verde** 64.41 298 *e*P P 04 07 27.8 +1.2
comp=Z,732nm,1.6s,mb6.5
MVCO LR LR
comp=Z,15μm,20.0s,MS6.2
MVCO **Mesa Verde** 64.41 298 P P 04 07 28.1 +1.5
baz=64,SNR=91
MVCO **Mesa Verde** 64.41 298 *e*P P 04 07 27.8 +1.2
comp=Z,732nm,1.6s,mb6.5
HWUT **Hardware Ranch** 64.42 304 *e*P P 04 07 26.4 -0.2
comp=Z,781nm,1.7s,mb6.5
HWUT LR LR
comp=Z,17μm,21.0s,MS6.2
LPM **Los Pinos Moun** 64.47 295 *e*P P 04 07 27.9 +0.8
LPM **Los Pinos Moun** 64.47 295 *e*P P 04 07 27.9 +0.8
G13A **Cobalt** 64.49 308 P P 04 07 27.3 +0.2
baz=64,SNR=68
BNM **Barren Site** 64.55 295 *e*P P 04 07 28.6 +1.0
A10A **Northport** 64.66 313 ⇑P P 04 07 27.4 -0.7
baz=64
DHBB **Dhamar BB** 64.71 91 ⇓*e*P P 04 07 29.9 +1.1
DHBB AMb AMB 04 07 31.9
comp=Z,544nm,1.3s,mb6.4
TXAR **Lajitas Array** 64.73 289 P P 04 07 28.8 -0.1
TXAR LR LR 04 33 43.9
TXAR P'P' 04 36 09.6
TXAR ⇑*e* 04 36 17.5
TXAR **Lajitas Array** 64.73 289 P P 04 07 28.8 -0.1
comp=Z,117nm,0.8s,mb6.0,baz=77,slow=6.7,SNR=820
TXAR LR LR 04 33 43.8
comp=Z,15μm,19.7s,MS6.2,baz=0.0,slow=34
TXAR PKPPKP 04 36 09.6
comp=Z,1.3nm,1.0s,baz=266,slow=3.3,SNR=5.9
TXAR PKP2bc 04 36 17.5
comp=Z,1.9nm,0.9s,baz=242,slow=2.7,SNR=9.2
NEW **Newport** 64.75 312 *e*P P 04 07 28.0 -0.7
comp=Z,491nm,1.5s,mb6.3
NEW LR LR
comp=Z,25μm,21.0s,MS6.4
NEW **Newport** 64.75 312 *e*P P 04 07 28.0 -0.7
NEW pmax pmax
comp=Z,491nm,1.5s
NEW MLR MLR
comp=Z,25μm,21.0s
NEW **Newport** 64.75 312 *e*P P 04 07 28.0 -0.7
comp=Z,491nm,1.5s,mb6.3
H13A **Challis** 64.76 308 P P 04 07 29.2 +0.4
baz=65,SNR=76
DAU **Daniels Canyon** 64.78 303 *e*P P 04 07 29.1 +0.1
DAU **Daniels Canyon** 64.78 303 *e*P P 04 07 28.7 -0.3
DAU **Daniels Canyon** 64.78 303 *e*P P 04 07 29.1 +0.1
LENM **Lemitar** 64.79 295 *e*P P 04 07 30.5 +1.3
LENM **Lemitar** 64.79 295 *e*P P 04 07 30.5 +1.3
B10A **Chitwood Farm,** 64.79 313 ⇑P P 04 07 28.5 -0.4
baz=65,SNR=5.9
LAZ **Ladron** 64.80 295 *e*P P 04 07 30.4 +1.2
LAZ **Ladron** 64.80 295 *e*P P 04 07 30.4 +1.2
Y22C **IRIS PASSCAL I** 64.80 295 ⇑P P 04 07 30.7 +1.4
baz=65
F12A **Elk City** 64.81 309 P P 04 07 29.0 -0.2
baz=65,SNR=74
JLU **Jordanelle** 64.82 303 *e*P P 04 07 29.1 -0.2
JLU **Jordanelle** 64.82 303 *e*P P 04 07 29.1 -0.1
MNTX **Cornudas Mount** 64.83 292 *e*P P 04 07 28.6 -0.9
comp=Z,249nm,1.8s,mb5.9
MNTX LR LR
comp=Z,7μm,20.0s,MS5.8
MNTX **Cornudas Mount** 64.83 292 *e*P P 04 07 28.6 -0.9
comp=Z,249nm,1.8s,mb5.9
CTU **Camp Tracy** 64.97 303 *e*P P 04 07 30.1 -0.2
comp=Z,350nm,1.8s,mb6.1
CTU **Camp Tracy** 64.97 303 *e*P P 04 07 30.0 -0.3
comp=Z,350nm,1.8s,mb6.1
I13A **Wildhorse Cree** 64.98 307 P P 04 07 30.9 +0.7
baz=65,SNR=58
K14A **Jones Ranch, D** 65.03 305 P P 04 07 30.4 -0.2
baz=65,SNR=29
M15A **Larsen Ranch,** 65.07 304 P P 04 07 30.6 -0.2
baz=65,SNR=74
C10A **Spilker Farm,** 65.07 312 ⇓P P 04 07 30.0 -0.8
baz=65,SNR=5.6
E11A **Bogner Ranch,** 65.11 310 P P 04 07 30.4 -0.7
baz=65,SNR=114
HVU **Hansel Valley** 65.13 305 *e*P P 04 07 30.9 -0.4
comp=Z,307nm,1.4s,mb6.1
HVU *e*PP PP 04 09 55.2 +1.0
HVU **Hansel Valley** 65.13 305 *e*P P 04 07 30.9 -0.4
HVU *e* 04 09 55.2
HVU pmax pmax
comp=Z,307nm,1.4s,mb6.1
HVU **Hansel Valley** 65.13 305 *e*P P 04 07 30.9 -0.4
comp=Z,307nm,1.4s,mb6.1
HVU **Hansel Valley** 65.13 305 *e*PP PP 04 09 55.2 +1.0
H12A **Diamond D Ranc** 65.14 308 P P 04 07 31.9 +0.7
baz=65,SNR=44
SPUT **South Promonto** 65.14 304 *e*P P 04 07 30.2 -1.1
SPUT *e*PP PP 04 09 54.2 -0.1
SPUT **South Promonto** 65.14 304 *e*P P 04 07 30.2 -1.2
SPUT **South Promonto** 65.14 304 *e*PP PP 04 09 54.2 -0.1
MPU **Maple Canyon** 65.22 302 *e*P P 04 07 31.7 -0.2
comp=Z,244nm,1.6s,mb6.0
MPU LR LR
comp=Z,41μm,20.0s,MS6.6
MPU **Maple Canyon** 65.22 302 *e*P P 04 07 31.7 -0.2
comp=Z,244nm,1.6s,mb6.0
NOQ **North Oquirrh** 65.24 303 *e*P P 04 07 32.1 +0.2
comp=Z,676nm,1.6s,mb6.4
NOQ **North Oquirrh** 65.24 303 *e*P P 04 07 32.2 +0.2
comp=Z,676nm,1.6s,mb6.4
TRBA **At Turbah** 65.25 92 ⇓*e*P P 04 07 33.4 +1.0
TRBA AMb AMB 04 07 35.0
comp=Z,580nm,1.6s,mb6.3
A09A **Danville** 65.26 314 P P 04 07 31.5 -0.5
baz=65,SNR=38
J13A **Cove Ranch, Pi** 65.26 307 P P 04 07 32.7 +0.6
baz=65,SNR=37
B09A **Rice** 65.27 313 ⇑P P 04 07 31.6 -0.4
baz=65,SNR=30
TMUT **Trail Mountain** 65.28 301 *e*P P 04 07 32.7 +0.5
TMUT **Trail Mountain** 65.28 301 *e*P P 04 07 32.7 +0.4
F11A **Grangeville** 65.30 310 P P 04 07 31.9 -0.5
baz=65,SNR=24
HLID **Hailey** 65.34 307 *e*P P 04 07 32.9 +0.4
comp=Z,177nm,1.6s,mb5.8
HLID LR LR
comp=Z,27μm,19.0s,MS6.5
HLID **Hailey** 65.34 307 P P 04 07 33.2 +0.6
baz=65,SNR=75
HLID **Hailey** 65.34 307 *e*P P 04 07 32.9 +0.3
comp=Z,177nm,1.6s,mb5.8
N15A **Stansbury Isla** 65.39 304 P P 04 07 32.8 -0.2
baz=65,SNR=24
D10A **Wagner Farm, O** 65.42 311 P P 04 07 32.0 -1.0
baz=65,SNR=30
NLU **North Lily Min** 65.55 302 *e*P P 04 07 34.2 +0.3
NLU *e*PP PP 04 09 57.3 -0.6
NLU **North Lily Min** 65.55 302 *e*P P 04 07 34.2 +0.2
NLU **North Lily Min** 65.55 302 *e*PP PP 04 09 57.3 -0.5
K13A **Stover Farm, H** 65.56 306 ⇓P P 04 07 34.4 +0.3
baz=65,SNR=21
E10A **Myers Farm, Un** 65.60 311 ⇑P P 04 07 33.6 -0.6
baz=65,SNR=18
G11A **Walters Elk Ra** 65.61 309 P P 04 07 33.8 -0.5
baz=65,SNR=46
M14A **Sheep Mountain** 65.64 304 P P 04 07 34.5 -0.1
baz=66,SNR=26
C09A **Chrisman Ranch** 65.65 312 ⇑P P 04 07 33.2 -1.3
baz=66,SNR=14
A08A **Turner Farm, O** 65.67 314 P P 04 07 34.0 -0.6
baz=66,SNR=37
BGU **Big Grassy Mou** 65.71 304 *e*P P 04 07 34.7 -0.4
BGU *e*PP PP 04 10 04.0 +4.7
BGU **Big Grassy Mou** 65.71 304 *e*P P 04 07 34.7 -0.3
BGU **Big Grassy Mou** 65.71 304 *e*PP PP 04 10 04.0 +4.7
L13A **Double Diamond** 65.75 305 ⇑P P 04 07 35.3 +0.1
baz=66,SNR=44
VHO **Vista Hermosa** 65.76 273 *i*P P 04 07 35.7 0.0
VHO **Vista Hermosa** 65.76 273 *i*P P 04 07 35.7 0.0
LBOS 65.79 91 *e*P P 04 07 37.1 +1.2
LBOS AMb AMB 04 07 38.6
comp=Z,795nm,1.8s,mb6.4
H11A **Donnelly** 65.79 309 ⇓P P 04 07 35.3 -0.2
baz=66,SNR=68
N14A **Grayback Hills** 65.85 304 P P 04 07 35.7 -0.3
baz=66,SNR=56
F10A **Beach Ranch, E** 65.92 310 P P 04 07 35.4 -0.8
baz=66,SNR=19
DUG **Dugway** 65.92 303 *e*P P 04 07 36.5 +0.1
comp=Z,465nm,1.6s,mb6.3
DUG *e*PP PP 04 09 57.2 -3.9
DUG LR LR
comp=Z,18μm,21.0s,MS6.2
DUG **Dugway** 65.92 303 P P 04 07 36.3 -0.1
DUG pmax pmax
comp=Z,460nm,1.6s,mb6.3
DUG **Dugway** 65.92 303 P P 04 07 36.2 -0.2
baz=66,SNR=109
DUG **Dugway** 65.92 303 *e*P P 04 07 36.5 +0.1
comp=Z,464nm,1.6s,mb6.3
DUG **Dugway** 65.92 303 *e*PP PP 04 09 57.2 -3.9
J12A **Stokes Ranch,** 65.92 307 P P 04 07 37.0 +0.6
baz=66,SNR=120
IIO **Organos** 65.96 277 *e*P P 04 07 36.2 -0.8
IIO **Organos** 65.96 277 *e*P P 04 07 36.2 -0.8
HUIG **Huatulco** 65.99 272 *e*P P 04 07 33.8 -3.4
HUIG **Huatulco** 65.99 272 *e*P P 04 07 33.8 -3.4
B08A **Colville Reser** 65.99 313 P P 04 07 35.8 -1.0
baz=66,SNR=37
D09A **Jones Farm, Ri** 66.03 312 ⇓P P 04 07 35.8 -1.2
baz=66
K12A **Draper Farm, C** 66.10 306 P P 04 07 38.4 +0.8
baz=66,SNR=55
C08A **Higginbotham F** 66.11 313 P P 04 07 36.1 -1.4
baz=66,SNR=15
PPM **Popocatepetl** 66.17 276 *e*P P 04 07 34.5 -3.8
PPM **Popocatepetl** 66.17 276 *e*P P 04 07 34.5 -3.8
G10A **Bishop Farm, J** 66.19 310 P P 04 07 37.2 -0.8
baz=66,SNR=41
E09A **Wood Farm, Sta** 66.21 311 ⇑P P 04 07 37.4 -0.7
baz=66,SNR=6.6
DLBC **Dease Lake** 66.24 326 *e*P P 04 07 37.8 -0.4
DLBC **Dease Lake** 66.24 326 *e*P P 04 07 37.8 -0.3
M13A **Montello** 66.25 305 P P 04 07 38.6 +0.1
baz=66,SNR=43
A07A **Ashnola River,** 66.25 314 P P 04 07 38.1 -0.3
baz=66,SNR=55
PTVM **Pico Tres Padr** 66.27 277 *e*P P 04 07 36.2 -2.8
PTVM **Pico Tres Padr** 66.27 277 *e*P P 04 07 36.2 -2.7
H10A **Noah's Angus R** 66.30 309 ⇓P P 04 07 38.0 -0.8
baz=66,SNR=20
MFID **Camas Ranch** 66.31 307 P P 04 07 38.9 0.0
baz=66,SNR=27
MSU **Marysvale** 66.32 301 *e*P P 04 07 39.6 +0.6
MSU **Marysvale** 66.32 301 *e*P P 04 07 39.3 +0.3
MSU **Marysvale** 66.32 301 *e*P P 04 07 39.6 +0.6
PBVM **Pinon** 66.33 277 *e*P P 04 07 43.1 +3.8
PBVM **Pinon** 66.33 277 *e*P P 04 07 43.2 +3.9
B07A **Winthrop** 66.40 314 ⇑P P 04 07 38.6 -0.7
baz=66,SNR=31
D08A **Wollman Farm,** 66.40 312 ⇑P P 04 07 37.9 -1.4
baz=66
L12A **House Creek Ra** 66.41 306 ⇑P P 04 07 40.5 +1.0
baz=66,SNR=81
F09A **S2 Ranch, Elgi** 66.46 310 P P 04 07 39.3 -0.5
baz=66,SNR=24
BMO **Blue Mountains** 66.52 309 *e*P P 04 07 39.2 -1.0
comp=Z,223nm,1.6s,mb5.9
BMO LR LR
comp=Z,26μm,22.0s,MS6.4
BMO **Blue Mountains** 66.52 309 *e*P P 04 07 39.2 -1.0
comp=Z,223nm,1.6s,mb5.9
N13A **Wendover, West** 66.52 304 ⇑P P 04 07 40.5 +0.2
baz=66,SNR=13
I10A **Payette** 66.59 308 ⇑P P 04 07 41.1 +0.4
baz=66,SNR=22
LNOR **Lincton Mounta** 66.61 311 P P 04 07 39.9 -0.8
LNOR **Lincton Mounta** 66.61 311 P P 04 07 39.9 -0.8
T16A **Glen Canyon Da** 66.62 299 ⇓P P 04 07 41.1 +0.1
baz=66,SNR=23
WRD **Warden** 66.66 312 P P 04 07 39.0 -2.0
WRD **Warden** 66.66 312 P P 04 07 39.0 -2.0
DAWY **Dawson** 66.66 334 *e*P P 04 07 40.8 0.0
DAWY **Dawson** 66.66 334 *e*P P 04 07 40.8 +0.1
WTV **Waterville** 66.68 313 P P 04 07 39.9 -1.2
WTV **Waterville** 66.68 313 P P 04 07 39.9 -1.3
M12A **Wells** 66.71 305 P P 04 07 42.1 +0.6
baz=66,SNR=55
O13A **Hicks Ranch, I** 66.73 303 ⇑P P 04 07 41.8 +0.2
baz=67,SNR=33
C07A **Waterville** 66.75 313 P P 04 07 40.5 -1.1
baz=67,SNR=49
K11A **Parker Ranch,** 66.76 307 P P 04 07 42.1 +0.4
baz=67,SNR=55
E08A **Dider Farm, El** 66.76 311 ⇓P P 04 07 40.8 -0.9
baz=67,SNR=16
ATAH **Atahualpa** 66.78 241 P P 04 07 43.5 +1.2
comp=Z,80nm,0.9s,mb5.7,baz=58,slow=4.4,SNR=32
EGAK **Eagle** 66.81 335 *e*P P 04 07 41.5 -0.2
comp=Z,302nm,1.5s,mb6.1
EGAK LR LR
comp=Z,19μm,21.0s,MS6.3
EGAK **Eagle** 66.81 335 *e*P P 04 07 41.5 -0.2
comp=Z,302nm,1.5s,mb6.1
H09A **Durkee** 66.83 309 P P 04 07 42.0 -0.1
baz=67,SNR=49
A06A **Chilliwack** 66.85 315 ⇑P P 04 07 40.9 -1.3
baz=67
J10A **Berg Farm, Mel** 66.89 308 ⇑P P 04 07 42.7 +0.1
baz=67,SNR=17
F08A **Pendleton** 66.94 311 ⇓P P 04 07 41.8 -1.1
baz=67
D07A **Quincy** 66.95 312 P P 04 07 41.9 -1.0
baz=67,SNR=24
ETW **Entiat** 66.95 313 P P 04 07 42.0 -0.9
ETW **Entiat** 66.95 313 P P 04 07 42.0 -0.9
SLFW **Sugar Loaf** 66.99 313 P P 04 07 42.3 -0.8
SLFW **Sugar Loaf** 66.99 313 P P 04 07 42.3 -0.8
R14A **James Farms, M** 67.00 301 ⇓P P 04 07 44.5 +1.1
baz=67
N12A **Clover Valley,** 67.07 305 P P 04 07 44.2 +0.5
baz=67,SNR=37
P13A **Bates Ranch, G** 67.09 303 ⇓P P 04 07 44.3 +0.3
baz=67,SNR=81
HAWA **Hanford** 67.10 312 *e*P P 04 07 42.8 -1.1
comp=Z,223nm,1.8s,mb5.9
HAWA LR LR
comp=Z,16μm,20.0s,MS6.2
HAWA **Hanford** 67.10 312 *e*P P 04 07 42.8 -1.0
comp=Z,223nm,1.8s,mb5.9
C06A **Tall Timber Ra** 67.12 313 ⇑P P 04 07 43.0 -0.9
baz=67
B06A **Marblemount** 67.15 314 ⇑P P 04 07 42.7 -1.4
baz=67
O12A **Currie** 67.17 304 P P 04 07 44.7 +0.3
baz=67,SNR=36
119A **Ashpeak Ranch,** 67.17 294 P P 04 07 46.0 +1.4
baz=67,SNR=48
E07A **Sunnyside** 67.20 312 ⇓P P 04 07 43.6 -0.9
baz=67,SNR=5.2
T15A **Red Dirt Ranch** 67.21 300 P P 04 07 44.5 -0.2
baz=67,SNR=51
I09A **Lost Marbles R** 67.23 309 P P 04 07 45.2 +0.5
baz=67,SNR=71
A05A **Maple Falls** 67.24 315 ⇓P P 04 07 42.5 -2.2
baz=67
WUAZ **Wupatki** 67.26 298 *e*P P 04 07 46.0 +0.9
comp=Z,379nm,1.4s,mb6.2
WUAZ LR LR
comp=Z,13μm,19.0s,MS6.2
WUAZ **Wupatki** 67.26 298 P P 04 07 46.2 +1.1
baz=67,SNR=114
WUAZ **Wupatki** 67.26 298 *e*P P 04 07 46.0 +0.9
comp=Z,379nm,1.4s,mb6.2
LPAZ **La Paz** 67.27 226 *e*P P 04 07 45.0 -0.2
comp=Z,187nm,1.6s,mb5.9
LPAZ LR LR
comp=Z,22μm,22.0s,MS6.3
LPAZ **La Paz** 67.27 226 *e*P P 04 07 45.0 -0.2
LPAZ pmax pmax
comp=Z,187nm,1.6s
LPAZ MLR MLR
comp=Z,22μm,22.0s
LPAZ **La Paz** 67.27 226 P P 04 07 45.2 0.0
comp=Z,21nm,1.0s,mb5.1,baz=36,slow=7.1,SNR=23
LPAZ LR LR 04 33 23.6
comp=Z,20μm,21.4s,MS6.3,baz=354,slow=33
LPAZ PKP2bc 04 36 10.2
comp=Z,2.0nm,0.9s,baz=155,slow=6.9,SNR=6.7
M11A **Holland Ranch,** 67.27 305 P P 04 07 46.1 +1.1
baz=67,SNR=43
ZAIG **Zacatecas** 67.28 282 *i*P P 04 07 46.1 +0.8
ZAIG **Zacatecas** 67.28 282 *i*P P 04 07 46.1 +0.8
K10A **MacKenzie Ranc** 67.29 307 P P 04 07 45.2 +0.2
baz=67,SNR=22
G08A **Pilot Rock** 67.31 310 ⇓P P 04 07 43.6 -1.6
baz=67,SNR=23
LTY **Liberty** 67.33 313 P P 04 07 44.0 -1.2
LTY **Liberty** 67.33 313 P P 04 07 44.0 -1.3
TBM **Table Mountain** 67.33 313 P P 04 07 44.2 -1.1
TBM **Table Mountain** 67.33 313 P P 04 07 44.2 -1.1
S14A **Cedar City** 67.37 301 P P 04 07 46.6 +0.8
baz=67,SNR=52
L10A **Juniper Basin** 67.39 306 P P 04 07 46.3 +0.6
baz=67,SNR=28
EBG **Ellensburg** 67.45 312 P P 04 07 45.4 -0.6
EBG **Ellensburg** 67.45 312 P P 04 07 45.4 -0.6
MXC **Moxie City** 67.45 312 P P 04 07 45.6 -0.5
MXC **Moxie City** 67.45 312 P P 04 07 45.6 -0.5
D06A **Cle Elum** 67.46 313 ⇑P P 04 07 44.7 -1.4
baz=67
TWW **Teanaway** 67.50 313 P P 04 07 45.6 -0.8
TWW **Teanaway** 67.50 313 P P 04 07 45.6 -0.8
H08A **Prairie City** 67.53 309 ⇓P P 04 07 45.8 -0.8
baz=67,SNR=18
Z18A **Geronimo** 67.54 295 P P 04 07 48.2 +1.3
baz=67,SNR=31
ARUT **Antelope Range** 67.55 301 *e*P P 04 07 46.9 +0.1
ARUT **Antelope Range** 67.55 301 *e*P P 04 07 46.9 +0.1
N11A **Elko Archery C** 67.55 305 ⇑P P 04 07 47.4 +0.6
baz=67,SNR=18
J09A **Fry Pan Ranch,** 67.56 308 P P 04 07 47.7 +0.9
baz=67,SNR=93
F07A **Phinny Hill Vi** 67.59 311 P P 04 07 46.7 -0.2
baz=67,SNR=26
CCUT **Cedar City** 67.61 301 *e*P P 04 07 47.6 +0.3
CCUT **Cedar City** 67.61 301 *e*P P 04 07 47.6 +0.4
B05A **Bryant** 67.63 314 ⇓P P 04 07 44.6 -2.6
baz=67,SNR=8.8
T14A **Hurricane** 67.67 300 ⇓P P 04 07 47.2 -0.4
baz=68,SNR=18
P12A **McGill** 67.68 303 P P 04 07 47.9 +0.3
baz=68,SNR=29
NAC **Naches** 67.69 312 P P 04 07 46.9 -0.6
NAC **Naches** 67.69 312 P P 04 07 46.9 -0.7
C05A **Tolt Reservoir** 67.69 314 ⇑P P 04 07 45.1 -2.4
baz=68,SNR=5.4
M10A **I.L. Ranch, Tu** 67.71 306 ⇑P P 04 07 48.1 +0.3
baz=68,SNR=20
A04A **Legoe Bay, Lum** 67.74 315 ⇓P P 04 07 45.0 -2.8
baz=68
G07A **Ruggs Ranch, H** 67.75 311 ⇓P P 04 07 47.3 -0.7
baz=68,SNR=18
I08A **Drewsey** 67.78 309 ⇓P P 04 07 48.1 -0.1
baz=68,SNR=52
O11A **Cowboy Ranch,** 67.84 304 ⇓P P 04 07 48.9 +0.2
baz=68,SNR=44
Q12A **Willow Creek R** 67.85 303 P P 04 07 49.1 +0.4
baz=68,SNR=44
MOIG **Morelia** 67.86 278 *i*P P 04 07 48.8 -0.2
MOIG **Morelia** 67.86 278 *i*P P 04 07 48.8 -0.3
X16A **Lo Mia Camp, P** 67.87 297 P P 04 07 50.6 +1.7
baz=68,SNR=79
K09A **Rome** 67.87 307 P P 04 07 49.5 +0.8
baz=68,SNR=88
319A **Douglas** 67.87 293 P P 04 07 50.4 +1.4
baz=68,SNR=64
E06A **Yakima** 67.88 312 P P 04 07 47.9 -0.8
baz=68,SNR=35
SKAG **Skagway** 67.92 329 *e*P P 04 07 49.6 +0.9
comp=Z,508nm,1.6s,mb6.3
SKAG **Skagway** 67.92 329 *e*P P 04 07 49.6 +0.8
comp=Z,508nm,1.6s,mb6.3
S13A **Holt Ranch, En** 67.94 301 P P 04 07 49.9 +0.6
baz=68,SNR=55
J08A **Circle Bar Ran** 68.00 308 P P 04 07 50.2 +0.6
baz=68,SNR=121
H07A **Lands Inn, Kim** 68.04 310 ⇑P P 04 07 49.0 -0.8
baz=68
W15A **Williams** 68.06 298 ⇑P P 04 07 51.6 +1.5
baz=68,SNR=24
R12A **Pony Springs,** 68.06 302 P P 04 07 50.3 +0.2
baz=68,SNR=37
U14A **Mt Trumbull** 68.06 300 ⇓P P 04 07 50.4 +0.3

baz=68,SNR=43
N10A Dunphy 68.10 305 ⇑P P 04 07 50.7 +0.5
baz=68
218A Dragoon 68.12 294 P P 04 07 51.6 +1.1
baz=68,SNR=59
D05A Enumclaw 68.13 313 ⇓P P 04 07 48.1 -2.2
baz=68
F06A Goldendale 68.16 311 ⇑P P 04 07 50.1 -0.4
baz=68
Y16A Circle Bar Ran 68.17 297 P P 04 07 52.4 +1.6
baz=68,SNR=71
L09A Wilkinson Ranc 68.18 307 P P 04 07 51.7 +1.0
baz=68,SNR=24
PGC Sidney 68.20 315 *e*P **P 04 07 49.9 -0.9**
comp=Z,249nm,1.6s,mb6.0
PGC Sidney 68.20 315 *e*P **P 04 07 49.9 -0.8**
comp=Z,249nm,1.6s,mb6.0
T13A Saint George 68.26 301 P P 04 07 52.1 +0.8
baz=68,SNR=35
I07A Izee 68.27 309 ⇑P P 04 07 50.9 -0.3
baz=68,SNR=10
SQM Sequim 68.27 314 P P 04 07 50.8 -0.5
SQM Sequim 68.27 314 P P 04 07 50.8 -0.4
O10A Cortez Mining, 68.31 305 ⇓P P 04 07 51.7 +0.1
baz=68
E05A Randle 68.33 313 ⇓P P 04 07 50.1 -1.4
baz=68,SNR=14
K08A Mann Creek Ran 68.33 308 P P 04 07 52.4 +0.7
baz=68,SNR=38
M09A Marrel Ranch, 68.35 306 ⇓P P 04 07 52.4 +0.6
baz=68,SNR=18
G06A Carlson Farm, 68.35 311 P P 04 07 51.4 -0.3
baz=68,SNR=20
318A Bisbee 68.36 294 P P 04 07 53.0 +1.0
baz=68,SNR=33
X15A Humboldt 68.40 297 P P 04 07 53.9 +1.6
baz=68,SNR=114
Z16A Peralta Trail, 68.41 296 P P 04 07 53.7 +1.4
baz=68,SNR=42
V14A Boquillas Ranc 68.41 299 P P 04 07 53.7 +1.4
baz=68,SNR=45
WRAK Wrangell Islan 68.42 325 *e*P **P 04 07 49.9 -2.1**
comp=Z,216nm,1.6s,mb5.9
WRAK LR LR
comp=Z,8μm,19.0s,MS6.0
C04A Brinnon 68.42 314 ⇓P P 04 07 51.4 -0.7
baz=68
H06A Lindquist Farm 68.43 310 P P 04 07 52.0 -0.2
baz=68,SNR=42
MUKL Al Mukalla 68.46 88⇑e**P P 04 07 53.6 +0.7**
MUKL AMb AMB 04 07 54.4
comp=Z,221nm,1.0s,mb6.1
TUC Tucson 68.48 295 *e*P **P 04 07 53.7 +0.9**
comp=Z,719nm,2.1s,mb6.3
TUC LR LR
comp=Z,13μm,20.0s,MS6.2
TUC Tucson 68.48 295 *e*P **P 04 07 53.7 +0.9**
TUC pmax pmax
comp=Z,719nm,2.1s,mb6.3
TUC MLR MLR
comp=Z,13μm,20.0s,MS6.2
TUC Tucson 68.48 295 *e*P **P 04 07 53.7 +0.9**
comp=Z,719nm,2.1s,mb6.3
Q11A Duckwater 68.50 303 P P 04 07 52.6 -0.2
baz=68,SNR=25
F05A White Salmon 68.51 312 ⇓P P 04 07 52.0 -0.7
baz=68,SNR=5.8
J07A Hines 68.52 309 ⇓P P 04 07 52.7 -0.1
baz=68,SNR=16
L08A Fields 68.52 307 P P 04 07 53.6 +0.7
baz=68,SNR=40
B04A Port Angeles 68.54 315 ⇓P P 04 07 52.7 -0.2
baz=68
CAIG El Cayaco 68.58 275 *e*P **P 04 07 52.4 -1.3**
CAIG El Cayaco 68.58 275 *e*P **P 04 07 52.3 -1.3**
WVOR Wild Horse Val 68.58 308 *e*P **P 04 07 53.6 +0.4**
comp=Z,403nm,1.7s,mb6.1
WVOR LR LR
comp=Z,17μm,20.0s,MS6.3
WVOR Wild Horse Val 68.58 308 *e*P **P 04 07 53.6 +0.3**
WVOR pmax pmax
comp=Z,403nm,1.7s,mb6.1
WVOR MLR MLR
comp=Z,17μm,20.0s,MS6.3
WVOR Wild Horse Val 68.58 308 *e*P **P 04 07 53.6 +0.3**
comp=Z,403nm,1.7s,mb6.1
S12A Delamar Landin 68.60 301 ⇓P P 04 07 54.0 +0.6
baz=68,SNR=25
U13A Pakoon Wash 68.61 300 P P 04 07 54.5 +1.0
baz=68,SNR=26
W14A Seligman 68.62 298 P P 04 07 55.2 +1.6
baz=68,SNR=56
P10A Eureka 68.64 304 ⇓P P 04 07 54.2 +0.6
baz=68,SNR=26
D04A Dobbs Creek Ra 68.64 313 ⇓P P 04 07 52.5 -1.1
baz=68
KMBO Kilima Mbogo 68.68 109 *e*P **P 04 07 55.1 +0.9**
comp=Z,606nm,2.3s,mb6.1
KMBO Kilima Mbogo 68.68 109 *e*P **P 04 07 55.1 +0.8**
KMBO pmax pmax
comp=Z,606nm,2.3s
KMBO Kilima Mbogo 68.68 109 *e*P **P 04 07 55.1 +0.8**
comp=Z,606nm,2.3s,mb6.1
N09A Rock Creek Ran 68.69 306 P P 04 07 54.2 +0.3
baz=68,SNR=26
R11A Troy Canyon, C 68.71 302 P P 04 07 54.1 -0.1
baz=68,SNR=40
Y15A Casa Rosa Ranc 68.74 297 P P 04 07 55.5 +1.2
baz=69,SNR=78
G05A Wamic 68.76 311 ⇑P P 04 07 54.2 -0.1
baz=69,SNR=23
I06A Prineville 68.77 310 ⇓P P 04 07 55.2 +0.8
baz=69,SNR=30
217A Green Valley 68.78 294 ⇓P P 04 07 55.3 +0.6
baz=69,SNR=55
O09A Fish Creek Ran 68.83 305 P P 04 07 55.3 +0.5
baz=69,SNR=29
K07A Rock Creek Ran 68.83 308 P P 04 07 55.0 +0.2
baz=69,SNR=47
X14A Yava 68.87 298 P P 04 07 56.2 +1.1
baz=69,SNR=49
E04A Onalaska 68.87 313 ⇓P P 04 07 53.8 -1.2
baz=69,SNR=5.0
SFJM Santa Fe 68.88 280 *i*P **P 04 07 55.2 -0.2**
SFJM Santa Fe 68.88 280 *i*P **P 04 07 55.2 -0.2**
COLA College 68.88 337 *e*P **P 04 07 54.8 +0.1**
comp=Z,562nm,2.0s,mb6.2
COLA LR LR
comp=Z,13μm,20.0s,MS6.2
COLA College 68.88 337d *i*P **P 04 07 54.3 -0.4**
TSUM Tsumeb 68.90 137 *e*P **P 04 07 55.3 -0.1**
comp=Z,247nm,2.1s,mb5.8
TSUM LR LR
comp=Z,15μm,22.0s,MS6.2
TSUM Tsumeb 68.90 137 LR LR 04 34 59.6
comp=Z,15μm,21.6s,MS6.2,baz=318,slow=33
TSUM Tsumeb 68.90 137 *e*P **P 04 07 55.3 -0.1**
comp=Z,247nm,2.1s,mb5.8
T12A Moapa 68.96 301 ⇓P P 04 07 56.2 +0.5
baz=69
U12A Valley of Fire 69.00 300 P P 04 07 56.7 +0.7
baz=69,SNR=22
Q10A Clear Creek Ra 69.01 303 P P 04 07 56.5 +0.5
baz=69,SNR=29
116A Eloy 69.01 295 P P 04 07 57.0 +0.9
baz=69,SNR=24
H05A Madras 69.02 311 ⇑P P 04 07 55.7 -0.2
baz=69,SNR=6.4
T11A Corn Creek, Al 69.04 301 P P 04 07 56.8 +0.6
baz=69,SNR=48
F04A Amboy 69.05 312 ⇑P P 04 07 56.9 +0.8
baz=69
J06A Christmas Vall 69.10 309 P P 04 07 56.4 -0.1
baz=69,SNR=30
NLWA Neilton Lookou 69.11 314 *e*P **P 04 07 56.7 +0.2**
comp=Z,264nm,1.3s,mb6.0
NLWA LR LR
comp=Z,28μm,19.0s,MS6.5
NLWA Neilton Lookou 69.11 314 P P 04 07 56.9 +0.5
baz=69,SNR=18
NLWA Neilton Lookou 69.11 314 *e*P **P 04 07 56.7 +0.3**
comp=Z,264nm,1.3s,mb6.0
P09A Austin 69.12 304 P P 04 07 57.2 +0.5
baz=69,SNR=18
N08A GE Springer Mi 69.12 306 P P 04 07 56.9 +0.2
baz=69,SNR=31
216A Three Points, 69.13 295 P P 04 07 58.2 +1.4
baz=69,SNR=90

S11A Rachel 69.19 302 ⇑P P 04 07 57.6 +0.5
baz=69,SNR=41
D03A Wishkah Elem. 69.20 314 ⇓P P 04 07 57.7 +0.7
baz=69
C03A Quillayute Air 69.20 315 ⇓P P 04 07 57.7 +0.7
baz=69,SNR=7.7
R10A Warm Springs 69.22 303 ⇑P P 04 07 57.8 +0.5
baz=69,SNR=34
Y14A Wickenburg 69.22 297 P P 04 07 58.5 +1.1
baz=69,SNR=58
W13A Hualapai Mount 69.24 299 P P 04 07 58.7 +1.3
baz=69,SNR=45
L07A Adell 69.24 307 P P 04 07 58.4 +1.0
baz=69,SNR=45
I05A Bend 69.30 310 P P 04 07 58.2 +0.5
baz=69,SNR=26
115A Sonoran Desert 69.32 296 ⇑P P 04 07 59.5 +1.5
baz=69,SNR=60
NNA Nana 69.34 236 P P 04 07 57.9 -0.3
comp=Z,768nm,1.0s,mb6.6,SNR=9.1
NNA Nana 69.34 236 *e*P **P 04 07 57.1 -1.1**
comp=Z,459nm,1.5s,mb6.2
NNA LR LR
comp=Z,20μm,22.0s,MS6.3
NNA Nana 69.34 236 *e*P **P 04 07 57.1 -1.1**
comp=Z,459nm,1.5s,mb6.2
SIT Sitka 69.36 327 *e*P **P 04 07 57.2 -0.6**
comp=Z,350nm,1.7s,mb6.0
SIT LR LR
comp=Z,10μm,19.0s,MS6.1
SIT Sitka 69.36 327 *e*P **P 04 07 57.2 -0.6**
SIT pmax pmax
comp=Z,350nm,1.7s,mb6.0
SIT MLR MLR
comp=Z,10μm,19.0s,MS6.1
SIT Sitka 69.36 327 *e*P **P 04 07 57.2 -0.6**
comp=Z,350nm,1.7s,mb6.0
ARE Arequipa 69.36 228 *e*P **P 04 07 58.0 -0.3**
E03A Lebam 69.39 313 ⇑P P 04 07 57.7 -0.5
baz=69,SNR=27
O08A Rochester Mine 69.40 305 ⇓P P 04 07 58.4 +0.1
baz=69
K06A Valley Falls 69.40 309 ⇓P P 04 07 58.4 +0.1
baz=69,SNR=27
NVS Novosibirsk 69.41 36 *i*P **P 04 07 58.1 -0.1**
NVS *e*S S 04 17 05.1 -0.5
NVS pmax pmax
comp=Z,1μm,2.4s,mb6.4
NVS pmax pmax
comp=N,239nm,1.9s
NVS pmax pmax
comp=E,94nm,1.1s
NVS smax
comp=N,199nm,3.6s
NVS smax
comp=E,135nm,3.3s
X13A Yucca 69.46 298 P P 04 08 00.2 +1.3
baz=69,SNR=26
M07A Soldier Meadow 69.47 307 P P 04 07 59.5 +0.7
baz=69,SNR=40
G04A Mulino 69.47 312 ⇑P P 04 07 57.2 -1.6
baz=69
KURK Kurchatov 69.48 41 P P 04 07 58.5 -0.2
comp=E,875nm,1.3s,mb6.5,SNR=54
KURK Kurchatov 69.48 41 *e*P **P 04 07 58.0 -0.6**
comp=E,240nm,1.3s,mb6.0
KURK LR LR
comp=Z,44μm,21.0s,MS6.7
KURK Kurchatov 69.48 41 *e*P **P 04 07 58.0 -0.7**
KURK pmax pmax
comp=Z,241nm,1.3s,mb6.0
KURK MLR MLR
comp=Z,44μm,21.0s,MS6.7
KURK Kurchatov 69.48 41 *e*P **P 04 07 58.0 -0.7**
comp=Z,240nm,1.3s,mb6.0
Z14A Wintersburg 69.48 297 ⇑P P 04 08 00.0 +1.0
baz=69,SNR=13
Q09A Carvers 69.52 304 ⇓P P 04 07 59.3 +0.1
baz=69
U11A Corn Creek 69.58 301 ⇑P P 04 08 00.3 +0.7
baz=69
V12A Nelson 69.58 300 P P 04 08 00.1 +0.6
baz=69,SNR=36
H04A Detroit Lake 69.58 311 ⇓P P 04 07 58.5 -0.9
baz=69,SNR=21
S10A Tonopah Range, 69.61 303 P P 04 07 59.8 +0.1
baz=69,SNR=48
SSOR Sweet Springs 69.65 311 P P 04 07 58.9 -1.0
SSOR Sweet Springs 69.65 311 P P 04 07 58.8 -1.0
P08A Dixie Valley 69.66 305 ⇑P P 04 08 00.3 +0.3
baz=70
TIXI Tiksi 69.66 9 *e*P **P 04 07 59.9 +0.4**
comp=Z,140nm,1.0s,mb5.8
TIXI LR LR
comp=Z,11μm,19.0s,MS6.1
TIXI Tiksi 69.66 9d *i*P **P 04 07 59.7 +0.2**
TIXI *e*S S 04 17 07.6 -0.5
TIXI pmax pmax
comp=E,64nm,2.4s
TIXI pmax pmax
comp=Z,438nm,2.3s,mb6.0
TIXI pmax pmax
comp=N,100nm,2.4s
TIXI smax
comp=E,8μm,19.2s
TIXI Tiksi 69.66 9 *e*P **P 04 07 59.9 +0.4**
comp=E,140nm,1.0s,mb5.8
N07B Gerlach 69.67 306 P P 04 08 00.4 +0.4
baz=70,SNR=36
IMA2 Indian Mountai 69.69 340 *e*P **P 04 08 00.4 +0.7**
F03A Seaside 69.72 313 ⇓P P 04 08 00.0 -0.2
baz=70,SNR=7.6
J05A Fort Rock 69.75 309 P P 04 08 01.3 +0.8
baz=70,SNR=59
R09A Tonopah 69.76 303 P P 04 08 00.7 0.0
baz=70,SNR=112
W12A Cal Nev Ari 69.82 299 ⇑P P 04 08 01.5 +0.5
baz=70
PDMCI Parker Dam,Lak 69.83 298 P P 04 08 02.0 +0.8
baz=70,SNR=32
K05A Summer Lake 69.84 309 P P 04 08 01.6 +0.6
baz=70,SNR=41
Y13A Salome 69.87 298 ⇓P P 04 08 02.0 +0.6
baz=70,SNR=18
G03A Yamhill 69.89 312 ⇓P P 04 08 00.9 -0.5
baz=70
TPNV Topopah Spring 69.89 301 *e*P **P 04 08 01.6 +0.1**
comp=E,160nm,1.6s,mb5.7
TPNV *e*PP PP 04 10 35.0 -0.7
TPNV LR LR
comp=Z,38μm,22.0s,MS6.6
TPNV Topopah Spring 69.89 301 *e*P **P 04 08 01.6 +0.1**
TPNV *e* 04 10 35.0
TPNV pmax pmax
comp=Z,160nm,1.6s,mb5.7
TPNV MLR MLR
comp=Z,38μm,22.0s,MS6.6
TPNV Topopah Spring 69.89 301 P P 04 08 01.7 +0.3
baz=70,SNR=33
TPNV Topopah Spring 69.89 301 *e*P **P 04 08 01.5 0.0**
comp=Z,160nm,1.6s,mb5.7
TPNV Topopah Spring 69.89 301 *e*PP PP 04 10 35.0 -0.7
MOD Modoc 69.91 308 *e*P **P 04 08 01.4 -0.1**
comp=Z,230nm,1.6s,mb5.9
MOD LR LR
comp=Z,17μm,19.0s,MS6.3
MOD Modoc 69.91 308 ⇑P P 04 08 01.6 +0.1
baz=70,SNR=58
MOD Modoc 69.91 308 *e*P **P 04 08 01.4 -0.1**
comp=Z,230nm,1.6s,mb5.9
V11A Goodsprings 69.92 300 P P 04 08 02.5 +0.9
baz=70,SNR=23
Q08A Gabbs 70.01 304 P P 04 08 01.8 -0.4
baz=70,SNR=39
MCK McKinley 70.03 337 *e*P **P 04 08 01.9 +0.1**
comp=Z,359nm,1.5s,mb6.1
MCK LR LR
comp=Z,7μm,19.0s,MS5.9
MCK McKinley 70.03 337 *e*P **P 04 08 01.9 +0.1**
MCK pmax pmax
comp=Z,359nm,1.5s,mb6.1
MCK MLR MLR
comp=Z,7μm,19.0s,MS5.9
MCK McKinley 70.03 337 *e*P **P 04 08 01.9 +0.1**
comp=Z,359nm,1.5s,mb6.1
MAIG Mazatlaan 70.04 284 *e*P **P 04 08 02.4 -0.2**
MAIG Mazatlaan 70.04 284 *e*P **P 04 08 02.4 -0.2**

S09A Goldfield 70.14 303 P **P 04 08 02.9 -0.1**
baz=70,SNR=43
L05A Lakeview 70.17 308 P P 04 08 03.8 +0.7
baz=70,SNR=32
I04A Tendick Farm, 70.20 310 ⇓P P 04 08 02.3 -0.9
baz=70,SNR=13
U10A Ash Meadows, A 70.23 301 ⇑P P 04 08 04.4 +0.9
baz=70,SNR=51
N06A Buffalo Meadow 70.24 306 P P 04 08 03.8 +0.3
baz=70,SNR=42
H03A Soap Creek Ran 70.25 311 ⇑P P 04 08 03.4 -0.1
baz=70,SNR=5.2
P07A Fallon 70.27 305 ⇑P P 04 08 03.8 +0.1
baz=70
COR Corvallis 70.30 311 *e*P **P 04 08 03.8 0.0**
comp=Z,200nm,1.5s,mb5.8
COR LR LR
comp=Z,11μm,19.0s,MS6.1
COR Corvallis 70.30 311 *e*P **P 04 08 03.8 -0.1**
COR pmax pmax
comp=Z,200nm,1.5s,mb5.8
COR MLR MLR
comp=Z,11μm,19.0s,MS6.1
COR Corvallis 70.30 311 *e*P **P 04 08 03.8 -0.1**
comp=Z,200nm,1.5s,mb5.8
J04A Umpqua Nationa 70.31 310 ⇑P P 04 08 03.7 -0.2
baz=70,SNR=13
R08A Mina 70.39 304 ⇓P P 04 08 04.1 -0.4
baz=70
Y12C Blythe 70.40 298 P P 04 08 05.5 +0.9
baz=70,SNR=21
M06C Likely Place G 70.40 307 P P 04 08 05.1 +0.6
baz=70,SNR=16
K04A Chilquin 70.42 309 ⇓P P 04 08 04.5 -0.1
baz=70,SNR=16
SHOC Shoshone 70.47 301 P P 04 08 05.5 +0.5
baz=70,SNR=32
TUQ Turquoise Mtn. 70.47 300 P P 04 08 05.9 +0.8
baz=70,SNR=24
NVAR Mina Array Bea 70.48 304 P P 04 08 04.3 -0.8
NVAR PP PP 04 10 43.4 +2.7
NVAR ⇑*e* 04 36 01.6
NVAR Mina Array Bea 70.48 304 P P 04 08 04.3 -0.8
comp=Z,5.4nm,0.8s,baz=69,slow=6.1,SNR=26
NVAR PP PP 04 10 43.4 +2.7
comp=Z,4.5nm,1.0s,baz=79,slow=5.6,SNR=4.0
NVAR PKP2bc 04 36 01.6
comp=Z,1.0nm,0.9s,baz=206,slow=3.1,SNR=6.7
NVAR Mina Array Bea 70.48 304 PP PP 04 10 43.4 +2.7
Q07A Schurz 70.54 304 ⇑P P 04 08 04.9 -0.5
baz=70
O06A Flanigan 70.55 306 P P 04 08 05.7 +0.2
baz=70,SNR=29
FURC Furnace Creek, 70.56 301 P P 04 08 06.3 +0.7
baz=70,SNR=23
IRM Iron Mountain 70.62 298 P P 04 08 06.6 +0.6
baz=70,SNR=77
I03A Eugene 70.62 311 ⇓P P 04 08 05.0 -0.8
baz=70,SNR=5.3
GRAC Grapevine Rang 70.62 302 ⇑P P 04 08 06.1 +0.1
baz=70,SNR=24
GMRC Granite Mounta 70.64 299 P P 04 08 06.6 +0.5
baz=70,SNR=38
H02A Toledo 70.67 312 ⇓P P 04 08 06.2 +0.2
baz=70
ZAL Zalesovo 70.68 36 P P 04 08 05.6 -0.4
ZALV Zalesovo Beam 70.69 36 P P 04 08 05.6 -0.4
comp=Z,103nm,0.8s,mb5.8,baz=311,slow=5.8,SNR=113
ZALV LR LR 04 38 58.1
comp=Z,22μm,21.6s,MS6.4,baz=293,slow=36
VSP Spence Mountai 70.71 309 P P 04 08 06.3 -0.1
VSP Spence Mountai 70.71 309 P P 04 08 06.3 -0.1
M05C Lookout 70.74 308 P P 04 08 06.8 +0.2
baz=71,SNR=29
J03A Ideyld Park 70.77 310 ⇓P P 04 08 05.6 -1.1
baz=71
P06A Stead Airport, 70.85 306 ⇓P P 04 08 07.4 +0.1
baz=71
ELFS Eagle Lake Fie 70.88 307 ⇓P P 04 08 07.9 +0.4
baz=71,SNR=6.7
S08C White Mtn Res 70.89 303 P P 04 08 07.8 +0.3
baz=71,SNR=21
I02A Mapleton 70.94 311 ⇓P P 04 08 07.7 -0.1
baz=71,SNR=5.6
M04C Macdoel 70.94 308 P P 04 08 07.9 +0.1
baz=71,SNR=27
WCN Washoe City 70.97 305 P P 04 08 08.2 +0.2
baz=71,SNR=22
BEKR Beckwourth 71.05 306 P P 04 08 08.4 0.0
baz=71,SNR=45
HEC Hector,Ludlow 71.08 300 ⇓P P 04 08 09.2 +0.4
baz=71,SNR=23
BC3 Big Chuckw Mtn 71.10 298 P P 04 08 09.6 +0.7
baz=71,SNR=49
J02A Umpqua 71.14 310 ⇑P P 04 08 08.1 -0.8
baz=71
GSC Goldstone 71.15 300 *e*P **P 04 08 09.9 +0.7**
comp=Z,255nm,1.7s,mb5.9
GSC Goldstone 71.15 300 *e*P **P 04 08 09.9 +0.7**
GSC pmax pmax
comp=Z,255nm,1.7s,mb5.9
GSC Goldstone 71.15 300 ⇓P P 04 08 09.9 +0.7
baz=71,SNR=27
GSC Goldstone 71.15 300 *e*P **P 04 08 09.9 +0.7**
comp=Z,255nm,1.7s,mb5.9
R07C Lee Vining 71.16 304 P P 04 08 09.7 +0.5
baz=71,SNR=15
TIN Tinemaha 71.17 302 ⇑P P 04 08 09.9 +0.6
baz=71
R06C Coleville 71.19 304 ⇑P P 04 08 09.6 +0.2
baz=71
EKS2 Erkin-Say 71.20 50 *e*P **P 04 08 10.1 +0.7**
comp=Z,250nm,1.3s,mb6.0
EKS2 LR LR
comp=Z,26μm,19.0s,MS6.5
EKS2 Erkin-Say 71.20 50 P P 04 08 09.9 +0.6
SNR=109
EKS2 Erkin-Say 71.20 50 *e*P **P 04 08 10.1 +0.7**
comp=Z,250nm,1.3s,mb6.0
MPMC Manual Prospec 71.21 301 P P 04 08 10.4 +0.8
baz=71,SNR=126
SML Sawmill 71.21 335 *e*P **P 04 08 09.7 +0.6**
SML Sawmill 71.21 335 *e*P **P 04 08 09.7 +0.6**
HATC Hat Creek Radi 71.23 307 ⇑P P 04 08 09.4 -0.2
baz=71,SNR=17
MTUM Tungsten Hills 71.24 303 *e*P **P 04 08 09.4 -0.3**
MTUM Tungsten Hills 71.24 303 *e*P **P 04 08 09.4 -0.3**
MLAC Mammoth Lakes 71.27 303 ⇓P P 04 08 10.4 +0.6
baz=71
O04C Chester 71.27 307 ⇑P P 04 08 09.9 +0.1
baz=71,SNR=21
BELC Belle Mtn. 71.30 299 P P 04 08 11.2 +1.1
baz=71,SNR=31
USP Ospenovka 71.31 50 P P 04 08 09.6 -0.4
SNR=19
O05C Quincy 71.36 306 ⇓P P 04 08 10.3 -0.1
baz=71
M03C McCloud 71.40 308 ⇓P P 04 08 10.3 -0.3
baz=71,SNR=20
CWC Cottonwood Cre 71.41 302 P P 04 08 11.4 +0.7
baz=71,SNR=16
K02A Glendale 71.42 310 P P 04 08 09.9 -0.8
baz=71,SNR=16
AML Almayashu 71.45 51 *e*P **P 04 08 11.7 +0.8**
comp=Z,250nm,1.2s,mb6.0
AML LR LR
comp=Z,26μm,20.0s,MS6.5
AML Almayashu 71.45 51 P P 04 08 12.5 +1.7
SNR=133
AML Almayashu 71.45 51 *e*P **P 04 08 11.7 +0.8**
comp=Z,250nm,1.2s,mb6.0
R05C Kirkwood Meado 71.50 305 P P 04 08 11.2 0.0
baz=71,SNR=11
YBH Yreka Blue Hor 71.52 309 *e*P **P 04 08 09.8 -1.5**
comp=Z,77nm,1.7s,mb5.4
YBH *e*PP PP 04 10 46.8 -2.7
YBH LR LR
comp=Z,14μm,21.0s,MS6.2
YBH Yreka Blue Hor 71.52 309 *e*P **P 04 08 09.8 -1.5**
YBH *e* 04 10 46.8
YBH pmax pmax
comp=Z,77nm,1.7s
YBH MLR MLR
comp=Z,14μm,21.0s
YBH Yreka Blue Hor 71.52 309 ⇓P P 04 08 10.0 -1.3
baz=71,SNR=15
YBH Yreka Blue Hor 71.52 309 *e*P **P 04 08 09.8 -1.5**
comp=Z,77nm,1.7s,mb5.4

YBH Yreka Blue Hor 71.52 309 *e*PP PP 04 10 46.8 -2.7
RRX Edison Barstow 71.52 300 ⇓P **P 04 08 11.8 +0.4**
baz=71
P05C Yuba Gap, Truc 71.52 306 P **P 04 08 11.6 +0.3**
baz=71,SNR=25
CHMS Chumysh 71.61 50 P **P 04 08 12.8 +1.0**
SNR=37
FRU Bishkek 71.62 50 ⇓*i*P **P 04 08 12.4 +0.5**
FRU *e* 04 12 27.0
FRU S S 04 17 18.8 -13
FRU pmax pmax
comp=Z,840nm,2.2s,mb6.3
FRU MLR MLR
comp=E,16μm,16.0s,MS6.5
FRU MLR MLR
comp=Z,20μm,16.0s,MS6.5
FRU MLR MLR
comp=N,14μm,15.0s,MS6.5
PMR Palmer 71.63 335 *e*P **P 04 08 12.0 +0.4**
comp=N,640nm,1.8s,mb6.2
PMR LR LR
comp=Z,12μm,19.0s,MS6.2
PMR Palmer 71.63 335 *e*P **P 04 08 12.0 +0.4**
PMR pmax pmax
comp=Z,640nm,1.8s,mb6.2
PMR MLR MLR
comp=Z,12μm,19.0s,MS6.2
PMR Palmer 71.63 335 *e*P **P 04 08 12.0 +0.4**
comp=Z,640nm,1.8s,mb6.2
AAK Ala-Archa 71.66 50 P **P 04 08 12.5 +0.4**
comp=Z,264nm,1.9s,mb5.8,SNR=24
AAK Ala-Archa 71.66 50 P **P 04 08 12.8 +0.7**
SNR=21
LRMC Laurel Mountai 71.67 301 ⇑P **P 04 08 12.4 +0.1**
baz=72
SWSC Sam W. Stewart 71.73 298 P **P 04 08 13.6 +0.9**
baz=72,SNR=21
KCC Kaiser Creek 71.76 303 ⇑P **P 04 08 13.0 +0.2**
baz=72,SNR=14
M02C Callahan 71.79 308 P **P 04 08 11.9 -1.0**
baz=72,SNR=17
BBRC Big Bear Sol-O 71.80 299 ⇑P **P 04 08 14.1 +1.0**
baz=72,SNR=12
PFO Pinyon Flat Ob 71.83 299 P **P 04 08 14.0 +0.7**
comp=Z,437nm,1.5s,mb6.2,SNR=32
PFO Pinyon Flat Ob 71.83 299 *e*P **P 04 08 14.1 +0.8**
comp=Z,297nm,1.6s,mb6.0
PFO LR LR
comp=Z,8μm,19.0s,MS6.0
PFO Pinyon Flat Ob 71.83 299 *e*P **P 04 08 14.1 +0.8**
PFO pmax pmax
comp=Z,297nm,1.6s,mb6.0
PFO MLR MLR
comp=Z,8μm,19.0s,MS6.0
PFO Pinyon Flat Ob 71.83 299 ⇑P **P 04 08 14.3 +1.0**
baz=72,SNR=36
PFO Pinyon Flat Ob 71.83 299 *e*P **P 04 08 14.1 +0.8**
comp=Z,297nm,1.6s,mb6.0
L02A Cave Junction 71.83 309 P **P 04 08 12.8 -0.4**
baz=72,SNR=21
KEBM Edson Butte 71.88 310 *e*P **P 04 08 13.1 -0.3**
KEBM Edson Butte 71.88 310 *e*P **P 04 08 13.1 -0.3**
UCH Uchtor 71.90 50 *e*P **P 04 08 15.0 +1.5**
comp=Z,6.4nm,0.6s
UCH LR LR
comp=Z,32μm,19.0s,MS6.6
UCH Uchtor 71.90 50 P **P 04 08 14.8 +1.3**
SNR=104
UCH Uchtor 71.90 50 *e*P **P 04 08 15.0 +1.4**
comp=Z,6.4nm,0.6s
LAVA Lava Cap Winer 71.91 305 P **P 04 08 13.3 -0.3**
baz=72,SNR=15
HELL Mitchell Peak 71.91 303 P **P 04 08 14.0 +0.2**
baz=72,SNR=49
KBK Karagaybulak 71.92 50 P **P 04 08 15.3 +1.6**
SNR=24
ORV Oroville 71.96 306 P **P 04 08 13.2 -0.8**
baz=72,SNR=28
K01A Sixes 71.99 310 ⇓P **P 04 08 13.7 -0.5**
baz=72
WDC Whiskeytown Da 72.05 308 *e*P **P 04 08 12.4 -2.1**
comp=Z,73nm,1.8s,mb5.3
WDC *e*PP PP 04 10 46.8 -7.3
WDC LR LR
comp=Z,14μm,22.0s,MS6.2
WDC Whiskeytown Da 72.05 308 P **P 04 08 12.9 -1.6**
WDC pmax pmax
comp=Z,73nm,1.7s,mb5.3
WDC Whiskeytown Da 72.05 308 P **P 04 08 12.5 -2.0**
baz=72,SNR=5.8
WDC Whiskeytown Da 72.05 308 *e*P **P 04 08 12.4 -2.1**
comp=Z,73nm,1.8s,mb5.3
WDC Whiskeytown Da 72.05 308 *e*PP PP 04 10 46.8 -7.3
O03C Acorn Hollow, 72.05 307 ⇓P **P 04 08 13.4 -1.2**
baz=72
OHCM Honcut 72.07 306 *e*P **P 04 08 13.7 -0.9**
OHCM Honcut 72.07 306 *e*P **P 04 08 13.7 -0.9**
CMB Columbia Colle 72.07 304 *e*P **P 04 08 14.5 -0.2**
comp=Z,194nm,1.7s,mb5.8
CMB LR LR
comp=Z,7μm,22.0s,MS5.9
CMB Columbia Colle 72.07 304 *e*P **P 04 08 14.5 -0.2**
CMB pmax pmax
comp=Z,194nm,1.7s,mb5.8
CMB MLR MLR
comp=Z,7μm,22.0s,MS5.9
CMB Columbia Colle 72.07 304 P **P 04 08 14.9 +0.2**
baz=72,SNR=33
CMB Columbia Colle 72.07 304 *e*P **P 04 08 14.5 -0.2**
comp=Z,194nm,1.7s,mb5.8
DVTC Desert V Tower 72.10 298 P **P 04 08 16.3 +1.3**
baz=72,SNR=19
ISA Isabella 72.10 301 *e*P **P 04 08 15.4 +0.5**
comp=Z,214nm,1.8s,mb5.8
ISA LR LR
comp=Z,21μm,20.0s,MS6.4
ISA Isabella 72.10 301 *e*P **P 04 08 15.4 +0.5**
ISA pmax pmax
comp=Z,214nm,1.8s,mb5.8
ISA MLR MLR
comp=Z,21μm,20.0s,MS6.4
ISA Isabella 72.10 301 P **P 04 08 15.7 +0.8**
baz=72,SNR=35
ISA Isabella 72.10 301 *e*P **P 04 08 15.4 +0.5**
comp=Z,214nm,1.8s,mb5.8
TKM2 Tokmak 2 72.17 49 *e*P **P 04 08 15.6 +0.4**
comp=Z,107nm,1.3s,mb5.6
TKM2 LR LR
comp=Z,24μm,22.0s,MS6.4
TKM2 Tokmak 2 72.17 49 *e*P **P 04 08 15.6 +0.4**
TKM2 pmax pmax
comp=Z,107nm,1.3s,mb5.6
TKM2 MLR MLR
comp=Z,24μm,22.0s,MS6.4
TKM2 Tokmak 2 72.17 49 P **P 04 08 15.6 +0.5**
SNR=41
TKM2 Tokmak 2 72.17 49 *e*P **P 04 08 15.6 +0.4**
comp=Z,107nm,1.3s,mb5.6
KBO Bosley Butte 72.18 310 *e*P **P 04 08 16.1 +0.8**
KBO *e*PP PP 04 10 49.6 -5.5
KBO Bosley Butte 72.18 310 *e*P **P 04 08 16.1 +0.8**
KBO Bosley Butte 72.18 310 *e*PP PP 04 10 49.7 -5.5
T06C Millerton Lake 72.19 303 P **P 04 08 15.0 -0.4**
baz=72,SNR=21
MONP Monument Peak 72.19 298 P **P 04 08 16.9 +1.4**
baz=72,SNR=33
EDW2 Edwards Air Fo 72.20 300 P **P 04 08 16.0 +0.5**
baz=72,SNR=19
Q04C Lincoln 72.27 305 ⇓P **P 04 08 16.0 +0.1**
baz=72
R04C Big Horse Ranc 72.31 305 ⇑P **P 04 08 16.4 +0.3**
baz=72,SNR=6.6
BFSC Mount Baldy St 72.32 300 ⇓P **P 04 08 16.5 +0.3**
baz=72,SNR=12
SUTB Sutter Butte 72.32 306 ⇑P **P 04 08 15.1 -1.1**
baz=72
M01C Crescent City 72.32 309 P **P 04 08 16.6 +0.5**
baz=72,SNR=5.3
KRMB Red Mountain 72.38 309 *e*P **P 04 08 16.6 +0.2**
KRMB Red Mountain 72.38 309 *e*P **P 04 08 16.6 +0.2**
N02C Big Bar 72.39 308 P **P 04 08 16.2 -0.4**
baz=72,SNR=17
VES Vestal, Richgr 72.41 302 ⇑P **P 04 08 16.3 -0.5**
baz=72
S05C Merced 72.42 304 ⇑P **P 04 08 17.3 +0.6**
baz=72
O02C Red Bluff 72.43 307 P **P 04 08 15.6 -1.2**
baz=72,SNR=14
KZA Kyzart 72.43 50 P **P 04 08 18.1 +1.4**
SNR=60
LPIG La Paz 72.52 287 *e*P **P 04 08 16.4 -1.2**
KBL Kabul 72.60 60 *e*P **P 04 08 18.1 +0.2**
comp=Z,99nm,1.4s,mb5.5
KBL Kabul 72.60 60 *e*P **P 04 08 18.1 +0.2**
comp=Z,99nm,1.4s,mb5.5
ARVC Arvin 72.64 301 ⇑P **P 04 08 18.2 +0.1**
baz=72
109C Camp Elliot, M 72.68 298 ⇑P **P 04 08 18.8 +0.4**
baz=72
GASB Alder Springs 72.68 307 ⇓P **P 04 08 17.6 -0.7**
baz=72
TTA Tatalina 72.75 339 *e*P **P 04 08 18.9 +0.6**
AAA Alma-Ata 72.78 49 *i*P **P 04 08 21.9 +3.1**
AAA *i*S S 04 18 11.0 +26
AAA pmax pmax
comp=Z,2μm,2.6s,mb6.6
AAA smax
comp=E,4μm,5.9s
AAA MLR MLR
comp=Z,20μm,16.3s,MS6.5
DECC Green Verdugo 72.78 300 ⇑P **P 04 08 19.0 0.0**
baz=73
SLKM Skilak Lake 72.79 335 *e*P **P 04 08 19.1 +0.6**
SLKM Skilak Lake 72.79 335 *e*P **P 04 08 19.1 +0.5**
Q03C Winters 72.80 306 ⇓P **P 04 08 20.0 +0.9**
baz=73
U05C Westside ANR, 72.84 303 ⇑P **P 04 08 19.1 -0.2**
baz=73
OSI Osito Adit 72.85 301 ⇓P **P 04 08 19.9 +0.5**
baz=73
JCC Jacoby Creek 72.85 308 ⇓P **P 04 08 19.2 -0.1**
baz=73,SNR=5.3
T05C Eagle Field, D 72.89 303 ⇑P **P 04 08 20.7 +1.1**
baz=73
MNRC McLaughlin Nat 72.94 306 P **P 04 08 20.1 +0.2**
baz=73,SNR=23
ULHL Ulahol 72.94 50 P **P 04 08 21.3 +1.5**
SNR=52
V05C Boulder Hill, 72.95 302 ⇑P **P 04 08 19.7 -0.3**
baz=73
S04C Ingram Canyon, 72.99 304 ⇑P **P 04 08 20.4 +0.2**
baz=73
FMP Fort Macarthur 73.05 300 ⇓P **P 04 08 21.4 +0.8**
baz=73
KIPM Iron Peak 73.08 307 *e*P **P 04 08 20.7 0.0**
BDM Black Diamond 73.09 305 ⇓P **P 04 08 21.8 +1.1**
baz=73
O01C Eel River Cons 73.10 308 ⇓P **P 04 08 21.2 +0.4**
baz=73
P01C Double 8 Ranch 73.18 307 P **P 04 08 21.4 +0.2**
baz=73,SNR=28
WENL Wente Brothers 73.20 305 ⇑P **P 04 08 22.3 +0.8**
baz=73
KCPM Cahto Peak 73.21 307 *e*P **P 04 08 22.1 +0.6**
KCPM Cahto Peak 73.21 307 *e*P **P 04 08 22.1 +0.6**
PACP Pacheco Peak 73.24 304 P **P 04 08 22.7 +1.0**
baz=73,SNR=14
NSHM Saint Helena R 73.25 306 *e*P **P 04 08 22.1 +0.4**
NSHM Saint Helena R 73.25 306 *e*P **P 04 08 22.1 +0.4**
CVS Carmenet Viney 73.25 306 ⇑P **P 04 08 21.9 +0.2**
baz=73,SNR=5.3
U04C Hernandez Rese 73.27 303 ⇑P **P 04 08 22.4 +0.6**
baz=73,SNR=12
PTRM Twissleman Ran 73.28 302 *e*P **P 04 08 21.7 -0.3**
PTRM Twissleman Ran 73.28 302 *e*P **P 04 08 21.7 -0.2**
HOPS Hopland 73.28 306 *e*P **P 04 08 23.1 +1.2**
comp=Z,447nm,1.6s,mb6.2
HOPS LR LR
comp=Z,30μm,19.0s,MS6.6
HOPS Hopland 73.28 306 ⇓P **P 04 08 22.7 +0.8**
baz=73,SNR=22
HOPS Hopland 73.28 306 *e*P **P 04 08 23.0 +1.1**
comp=Z,447nm,1.6s,mb6.2
CIS Catalina Islan 73.30 299 ⇓P **P 04 08 22.6 +0.6**
baz=73
SMMC Simmler 73.33 302 ⇓P **P 04 08 22.0 -0.2**
baz=73
PKD Parkfield 73.34 303 ⇑P **P 04 08 22.2 0.0**
baz=73
BLG Laguna Peak 73.36 300 ⇓P **P 04 08 22.4 0.0**
baz=73
PKM Peak Mountain 73.44 301 ⇑P **P 04 08 23.9 +1.0**
baz=73,SNR=20
SAO San Andreas Ge 73.48 304 *e*P **P 04 08 23.8 +0.7**
comp=Z,153nm,1.8s,mb5.6
SAO LR LR
comp=Z,12μm,19.0s,MS6.2
SAO San Andreas Ge 73.48 304 *e*P **P 04 08 23.8 +0.7**
SAO pmax pmax
comp=Z,153nm,1.8s,mb5.6
SAO MLR MLR
comp=Z,12μm,19.0s,MS6.2
SAO San Andreas Ge 73.48 304 *e*P **P 04 08 23.8 +0.7**
comp=Z,153nm,1.8s,mb5.6
TNA Tin City 73.50 345 *e*P **P 04 08 23.7 +1.0**
comp=Z,192nm,1.4s,mb5.8
TNA LR LR
comp=Z,14μm,22.0s,MS6.2
TNA Tin City 73.50 345 *e*P **P 04 08 23.7 +1.0**
comp=Z,192nm,1.4s,mb5.8
SBC Santa Barbara 73.62 301 ⇑P **P 04 08 24.2 +0.2**
baz=74
SCI San Clemente I 73.63 299 ⇓P **P 04 08 24.7 +0.6**
baz=74
MCCM Marconi Confer 73.64 306 *e*P **P 04 08 24.8 +0.8**
MCCM LR LR
comp=Z,14μm,19.0s,MS6.2
MCCM Marconi Confer 73.64 306 ⇓P **P 04 08 24.3 +0.3**
baz=74
MCCM Marconi Confer 73.64 306 *e*P **P 04 08 24.8 +0.8**
JRSC Jasper Ridge 73.64 305 ⇓P **P 04 08 24.5 +0.4**
baz=74
V04C Ramage Ranch, 73.73 302 ⇑P **P 04 08 24.6 0.0**
baz=74
MK31 Makanchi Array 73.75 43 *e*P **P 04 08 24.2 -0.2**
MK31 Makanchi Array 73.75 43 *e*P **P 04 08 24.2 -0.3**
MKAR Makanchi Array 73.75 43 *i*P **P 04 08 24.5 0.0**
MKAR pmax pmax
comp=Z,23nm,0.7s
MKAR Makanchi Array 73.75 43 P **P 04 08 24.5 0.0**
comp=Z,23nm,0.7s,mb5.2,baz=316,slow=5.1,SNR=81
MKAR PKP2ab 04 35 53.1
comp=Z,0.9nm,0.9s,baz=141,slow=2.5,SNR=4.1
MKAR LR LR 04 41 54.4
comp=Z,46μm,18.0s,MS6.8,baz=312,slow=37
BNLO Ben Lomond (Sa 73.75 304 ⇓P **P 04 08 24.9 +0.2**
baz=74
V03C Hunter Liggett 73.76 303 ⇓P **P 04 08 25.5 +0.7**
baz=74
HAST Hastings Reser 73.76 303 ⇑P **P 04 08 25.3 +0.6**
baz=74
BSC Santa Cruz Isl 73.82 300 ⇓P **P 04 08 25.6 +0.5**
baz=74
FARB Farallon Islan 73.97 305 ⇓P **P 04 08 26.0 +0.1**
baz=74
SVW2 Sparrevohn 74.06 338 *e*P **P 04 08 26.3 +0.3**
SNCC San Nicolas Is 74.16 300 PFAKE 04 08 40.0 +13
SNCC LR LR
comp=Z,10μm,20.0s,MS6.1
SNCC San Nicolas Is 74.16 300 ⇑P **P 04 08 27.0 -0.1**
baz=74
KSH Kashi 74.36 52 P **P 04 08 30.0 +1.8**
KSH AP pP 04 08 34.4 +4.8
KSH XP sP 04 08 36.4 +6.3
KSH PCP PcP 04 08 44.1 +1.2
KSH PP PP 04 11 17.2 +3.5
KSH S S 04 18 02.9 -0.2
KSH XS sS 04 18 10.3 +4.9
KSH SKS 04 18 32.3
KSH SCS ScS 04 18 37.2 -2.6
KSH SS SS 04 22 50.2 +2.0
KSH LR LR
comp=Z,75μm,18.8s,MS7.0
BILL Bilibino 74.58 356 *e*P **P 04 08 29.2 +0.2**
comp=Z,242nm,1.5s,mb5.9
BILL LR LR
comp=Z,17μm,20.0s,MS6.3
BILL Bilibino 74.58 356*d i*P **P 04 08 28.9 -0.1**
BILL *i*SS SS 04 22 46.1 -4.1
BILL pmax pmax
comp=Z,165nm,1.6s,mb5.7
BILL Bilibino 74.58 356 *e*P **P 04 08 29.2 +0.2**
comp=Z,242nm,1.5s,mb5.9
TRIS Tristan da Cun 74.95 170 PFAKE 04 08 40.0 +8.7
TRIS LR LR
comp=Z,8μm,22.0s,MS6.0
KDAK Kodiak Island 75.64 334 *e*P **P 04 08 36.1 +0.9**
comp=Z,452nm,1.6s,mb6.2
KDAK LR LR
comp=Z,4μm,21.0s,MS5.7
KDAK Kodiak Island 75.64 334 *e*P **P 04 08 36.2 +1.0**
comp=Z,452nm,1.6s,mb6.2
GAMB Gambell 75.85 346 *e*P **P 04 08 36.7 +0.4**
comp=Z,396nm,1.8s,mb6.0
GAMB Gambell 75.85 346 *e*P **P 04 08 36.7 +0.4**
comp=Z,396nm,1.8s,mb6.0
MATP Matopo 76.20 129 LR LR 04 42 06.4
comp=Z,11μm,20.1s,MS6.2,baz=320,slow=36
LBTB Lobatse 77.98 135 *e*P **P 04 08 48.9 0.0**
comp=Z,61nm,1.1s,mb5.4
LBTB LR LR
comp=Z,14μm,22.0s,MS6.2
LBTB Lobatse 77.98 135 *e*P **P 04 08 48.9 +0.1**
LBTB pmax pmax
comp=Z,61nm,1.1s,mb5.4
LBTB MLR MLR
comp=Z,14μm,22.0s,MS6.2
LBTB Lobatse 77.98 135 LR LR 04 40 40.5
comp=Z,14μm,21.9s,MS6.2,baz=337,slow=34
LBTB Lobatse 77.98 135 *e*P **P 04 08 48.8 0.0**
comp=Z,61nm,1.1s,mb5.4
LPA La Plata 78.30 207*de*P **P 04 08 50.0 -0.3**
LPA *e*S S 04 18 46.0 0.0
LPA *es*S sS 04 18 55.0 +6.7
LPA *e*SP 04 19 23.0
LPA *e*PS 04 19 27.0
LPA
comp=Z,16μm,18.0s
THN Thein Dam 78.37 58 *e*P **P 04 08 49.8 -1.3**
WMQ Urumqi 78.58 43 ⇓*i*P **P 04 08 52.5 +0.5**
WMQ PCP PcP 04 09 02.0 +0.9
WMQ PP PP 04 11 52.0 +2.9
WMQ S S 04 18 48.0 -1.2
WMQ XS sS 04 18 55.5 +3.9
WMQ SS SS 04 23 53.0 +1.3
WMQ AMB AMB
comp=Z,83nm,1.6s,mb5.4
WMQ AMB AMB
comp=Z,3μm,8.2s
WMQ LR LR
comp=Z,50μm,28.0s,MS6.7
YAK Yakutsk 78.78 12 *e*P **P 04 08 53.0 +0.2**
comp=Z,215nm,1.1s,mb6.0
YAK LR LR
comp=Z,11μm,22.0s,MS6.2
YAK Yakutsk 78.78 12*d i*P **P 04 08 52.3 -0.5**
YAK *e* 04 08 59.6
YAK *e**PP pP 04 09 04.1 +10
YAK *e* 04 11 54.0
YAK *e*S S 04 18 45.4 -5.3
YAK *e**SS sS 04 19 08.9 +16
YAK *e* 04 19 23.7
YAK pmax pmax
comp=Z,236nm,1.3s,mb6.0
YAK pmax pmax
comp=N,106nm,1.2s
YAK pmax pmax
comp=E,63nm,1.4s
YAK smax
comp=E,1μm,7.0s
YAK smax
comp=Z,725nm,5.4s
YAK smax
comp=N,599nm,7.6s
YAK MLR MLR
comp=Z,13μm,23.0s,MS6.2
YAK MLR MLR
comp=N,9μm,24.0s,MS6.0
YAK MLR MLR
comp=E,4μm,28.0s,MS6.0
YAK Yakutsk 78.78 12 *e*P **P 04 08 53.0 +0.2**
comp=E,215nm,1.1s,mb6.0
LCO Las Campanas 78.90 220 *e*P **P 04 08 53.9 0.0**
comp=E,322nm,1.4s,mb6.1
LCO LR LR
comp=Z,16μm,19.0s,MS6.4
LCO Las Campanas 78.90 220 *e*P **P 04 08 53.9 +0.1**
comp=Z,322nm,1.4s,mb6.1
BOD Bodaibo 79.01 21 ⇑*i*P **P 04 08 52.4 -1.7**
BOD pmax pmax
comp=Z,253nm,1.6s,mb5.9
MOY Mondy 79.40 31 *e*P **P 04 08 56.9 +0.5**
MOY pmax pmax
comp=Z,701nm,2.3s,mb6.2
CFAA Coronel Fontan 79.81 217 LR LR 04 42 25.5
comp=Z,2μm,21.6s,MS5.4,baz=347,slow=34
TLL Tololo Astrono 79.89 219 *i*P **P 04 08 59.4 +0.2**
SEY Seymchan 80.00 1 ⇑*e*P **P 04 08 59.0 -0.4**
SMLA Simla 80.14 58 *e*P **P 04 09 00.6 -0.2**
SMLA AMb AMB 04 09 06.5
comp=Z,309nm,1.5s,mb6.0
SDPT Sand Point 80.23 336 *e*P **P 04 09 00.9 +0.1**
comp=Z,556nm,1.4s,mb6.3
SDPT Sand Point 80.23 336 *e*P **P 04 09 00.9 +0.1**
comp=Z,556nm,1.4s,mb6.3
IRK Irkutsk 80.27 29 *e*P **P 04 08 59.9 -1.2**
IRK *e* 04 20 07.1
IRK pmax pmax
comp=Z,45nm,2.4s,mb5.0
TLY Talaya 80.46 30 P **P 04 09 02.8 +0.7**
comp=Z,450nm,1.4s,mb6.2,SNR=28
TLY Talaya 80.46 30 *e*P **P 04 09 02.5 +0.5**
comp=Z,147nm,1.3s,mb5.8
TLY LR LR
comp=Z,24μm,20.0s,MS6.5
TLY Talaya 80.46 30*d i*P **P 04 09 01.8 -0.3**
TLY *e* 04 12 06.9
TLY *e*PPP 04 14 00.8
TLY *e*S S 04 19 11.0 +2.2
TLY *e*PS 04 20 06.7
TLY pmax pmax
comp=Z,121nm,1.3s,mb5.7
TLY MLR MLR
comp=Z,23μm,20.0s,MS6.5
TLY Talaya 80.46 30 *e*P **P 04 09 02.5 +0.4**
comp=Z,147nm,1.3s,mb5.8
BOSA Boshof 80.60 137 *e*P **P 04 09 02.9 -0.2**
comp=Z,76nm,1.2s,mb5.5
BOSA LR LR
comp=Z,12μm,21.0s,MS6.2
BOSA Boshof 80.60 137 *e*P **P 04 09 02.9 -0.2**
BOSA pmax pmax
comp=Z,76nm,1.2s,mb5.5
BOSA MLR MLR
comp=Z,12μm,21.0s,MS6.2
BOSA Boshof 80.60 137 P **P 04 09 02.9 -0.2**
comp=Z,38nm,1.0s,mb5.3,baz=322,slow=5.9,SNR=26
BOSA LR LR 04 43 33.8
comp=Z,11μm,18.5s,MS6.2,baz=327,slow=35
BOSA Boshof 80.60 137 *e*P **P 04 09 02.9 -0.2**
comp=Z,76nm,1.2s,mb5.5
CMCH Combarbala 80.81 219 ⇑*i*P **P 04 09 03.7 -0.4**
AJM Ajmer 81.20 64 *e*P **P 04 09 06.6 0.0**
AJM AMb AMB 04 09 08.9
comp=Z,140nm,0.3s,mb6.3
DDI Dehra Dun 81.24 59 *e*P **P 04 09 05.6 -1.1**
ZAK Zakamensk 81.32 31 *e*P **P 04 09 06.0 -0.7**
ZAK *e* 04 12 11.9
ZAK *e* 04 19 21.2
ZAK pmax pmax
comp=Z,50nm,1.5s,mb5.2
SUR Sutherland 81.33 142 P **P 04 09 08.3 +1.5**
comp=Z,660nm,1.2s,mb6.4,SNR=25
SUR Sutherland 81.33 142 *e*P **P 04 09 07.7 +0.8**
comp=Z,144nm,1.1s,mb5.8
SUR LR LR
comp=Z,7μm,20.0s,MS6.0
SUR Sutherland 81.33 142 LR LR 04 40 08.7
comp=Z,6μm,21.3s,MS5.9,baz=314,slow=32
SUR Sutherland 81.33 142 *e*P **P 04 09 07.7 +0.9**
comp=Z,144nm,1.1s,mb5.8
NDI New Delhi 81.67 60 *e*P **P 04 09 09.1 +0.2**
NDI AMb AMB 04 09 11.2
comp=Z,326nm,1.5s,mb6.0
CLCH Cerro Calan 82.38 217 *i*P **P 04 09 12.6 +0.2**
LMEL Las Melosas 82.59 217 *i*P **P 04 09 13.9 +0.4**
TRQA Tornquist 82.60 209 *e*P **P 04 09 12.2 -1.2**
comp=Z,186nm,1.6s,mb5.9
TRQA LR LR
comp=Z,70μm,20.0s,MS7.0

CLNS	**Chul'man**	**82.67**	**16**	*e*P	**P**	**04 09 11.1**	**-2.6**
CLNS				*e**PP	pP	04 09 21.5	+6.4
CLNS				*e*		04 12 18.9	
CLNS				*e*S	S	04 19 25.2	-6.3
CLNS				*e*PS		04 20 12.6	
CLNS				pmax	pmax		
	comp=N,21nm,0.9s						
CLNS				pmax	pmax		
	comp=Z,63nm,0.9s,mb5.7						
CLNS				pmax	pmax		
	comp=E,17nm,1.0s						
CLNS				smax			
	comp=E,1μm,12.1s						
CLNS				smax			
	comp=Z,888nm,19.4s						
CLNS				smax			
	comp=N,647nm,13.2s						
CLNS				MLR	MLR		
	comp=Z,8μm,17.0s,MS6.2						
CLNS				MLR	MLR		
	comp=N,5μm,16.0s,MS6.1						
CLNS				MLR	MLR		
	comp=E,4μm,15.0s,MS6.1						
LGTI	**Lohaghat**	**83.27**	**58**	*e*P	**P**	**04 09 18.0**	**+0.7**
MA2	**Magadan**	**83.33**	**2**	*e*P	**P**	**04 09 17.4**	**+0.4**
	comp=E,488nm,1.9s,mb6.2						
MA2	**Magadan**	**83.33**	**2**	*d i*P	**P**	**04 09 17.6**	**+0.5**
MA2				*e*		04 12 35.7	
MA2				*e*S	S	04 19 36.4	-1.7
MA2				*e*PS		04 20 35.3	
MA2				*e*SS	SS	04 24 57.7	-3.7
MA2				*e*SSS		04 28 31.8	
MA2				pmax	pmax		
	comp=Z,300nm,1.8s,mb6.0						
MA2				MLR	MLR		
	comp=Z,19μm,17.1s,MS6.5						
MA2	**Magadan**	**83.33**	**2**	*e*P	**P**	**04 09 17.4**	**+0.3**
	comp=Z,488nm,1.9s,mb6.2						
UNV	**Unalaska Valle**	**83.36**	**338**	PFAKE		04 09 30.0	+13
UNV				LR	LR		
	comp=Z,30μm,19.0s,MS6.7						
CIT	**Chita**	**83.78**	**24**	*e*P	**P**	**04 09 18.2**	**-1.3**
CIT				*e*		04 09 25.8	
CIT				pmax	pmax		
	comp=Z,179nm,2.5s,mb5.8						
BOM	**Bombay**	**84.44**	**71**	*e*x	x	04 09 18.2	
BOM				*e*x	x	04 09 22.8	
	comp=Z,180nm,0.6s						
BOM				*e*x	x	04 19 49.6	
SONM	**Songino Array**	**84.58**	**31**	P	**P**	**04 09 23.8**	**+0.1**
	comp=Z,51nm,0.9s,mb5.7,baz=317,slow=4.4,SNR=186						
SONM				PKKPbc	PKKPbc	04 27 35.9	+2.5
	comp=Z,0.5nm,0.7s,baz=81,slow=0.8,SNR=3.7						
SONM				LR	LR	04 48 03.3	
	comp=Z,31μm,20.9s,MS6.7,baz=322,slow=36						
POO	**Poona**	**85.44**	**70**	⇓*i*P	**P**	**04 09 27.0**	**-1.5**
	comp=Z,70nm,1.0s,mb5.8						
CCHI	**Chillan**	**85.72**	**216**	⇑*i*P	**P**	**04 09 28.8**	**-0.5**
DANN	**Dangsing**	**86.33**	**57**	*e*P	**P**	**04 09 33.8**	**+1.0**
	comp=Z,4.8nm,1.0s						
KAD	**Karad**	**86.44**	**71**	*e*P	**P**	**04 09 32.9**	**-0.6**
KAD				AMb	AMB	04 09 35.5	
	comp=Z,141nm,1.2s,mb6.1						
KAD				*e*x	x	04 20 09.0	
AKL	**Akola**	**86.45**	**67**	⇓*i*P	**P**	**04 09 33.2**	**-0.3**
AKL				*e*x	x	04 09 41.0	
	comp=Z,197nm,1.5s						
AKL				*i* x	x	04 20 05.9	
KOLN	**Koldanda**	**86.60**	**57**	*e*P	**P**	**04 09 33.1**	**-1.0**
JBP	**Jabalpur**	**87.05**	**63**	*i* P	**P**	**04 09 35.1**	**-1.2**
JBP				*e*x	x	04 09 43.8	
	comp=Z,305nm,1.7s						
JBP				*i* x	x	04 20 10.9	
GKN	**Gorkha**	**87.14**	**57**	*e*P	**P**	**04 09 36.2**	**-0.6**
GOA	**Goa**	**87.28**	**73**	*e*P	**P**	**04 09 37.8**	**+0.2**
GOA				AMb	AMB	04 09 45.6	
	comp=Z,192nm,1.0s,mb6.3						
OPO	**Ambohidratompo**	**87.45**	**116**	P	**P**	**04 09 39.6**	**+1.3**
	comp=Z,14nm,1.0s,mb5.2,baz=297,slow=4.7,SNR=11						
LATR	**Latur**	**87.53**	**69**	*e*P	**P**	**04 09 36.5**	**-2.3**
LATR				AMb	AMB	04 09 38.0	
	comp=Z,105nm,1.9s,mb5.7						
NGP	**Nagpur**	**87.65**	**65**	*e*P	**P**	**04 09 37.2**	**-2.2**
NGP				*e*x	x	04 09 45.3	
	comp=Z,359nm,1.5s						
NGP				*e*S	S	04 20 02.2	-20
KKN	**Kakani**	**87.71**	**56**	*e*P	**P**	**04 09 39.2**	**-0.3**
ADK	**Adak**	**87.81**	**343**	PFAKE		04 09 50.0	+10
ADK				LR	LR		
	comp=Z,7μm,20.0s,MS6.1						
GTA	**Gaotai**	**88.10**	**40**	*e*P	**P**	**04 09 40.7**	**-0.5**
GTA				AP	pP	04 09 44.9	+2.3
GTA				XP	sP	04 09 47.5	+4.4
GTA				PP	PP	04 13 08.5	+1.4
GTA				SKS		04 20 05.1	
GTA				S	S	04 20 21.1	-4.7
GTA				XS	sS	04 20 30.7	+2.5
GTA				SS	SS	04 26 12.8	+0.1
GTA				AMB	AMB		
	comp=Z,36nm,2.0s,mb5.3						
GTA				AMB	AMB		
	comp=Z,1μm,7.3s						
GTA				LR	LR		
	comp=N,23μm,19.1s,MS6.7						
GTA				LR	LR		
	comp=E,14μm,18.7s,MS6.7						
GTA				LR	LR		
	comp=Z,34μm,18.0s,MS6.8						
HIA	**Hailar**	**88.13**	**22**	*e*P	**P**	**04 09 40.8**	**-0.3**
	comp=Z,128nm,1.6s,mb5.9						
HIA				LR	LR		
	comp=Z,21μm,20.0s,MS6.6						
HIA	**Hailar**	**88.13**	**22**	*e*P	**P**	**04 09 40.8**	**-0.3**
HIA				pmax	pmax		
	comp=Z,128nm,1.6s						
HIA				MLR	MLR		
	comp=Z,21μm,20.0s						
HIA	**Hailar**	**88.13**	**22**	*e*P	**P**	**04 09 40.8**	**-0.3**
	comp=Z,128nm,1.6s,mb5.9						
PLCA	**Paso Flores**	**88.38**	**213**	*e*P	**P**	**04 09 42.1**	**0.0**
	comp=Z,158nm,1.4s,mb6.0						
PLCA				LR	LR		
	comp=Z,15μm,20.0s,MS6.4						
PLCA	**Paso Flores**	**88.38**	**213**	*e*P	**P**	**04 09 42.1**	**0.0**
PLCA				pmax	pmax		
	comp=Z,158nm,1.4s						
PLCA				MLR	MLR		
	comp=Z,15μm,20.0s						
PLCA	**Paso Flores**	**88.38**	**213**	P	**P**	**04 09 42.3**	**+0.2**
	comp=Z,14nm,0.8s,mb5.2,baz=21,slow=5.4,SNR=47						
PLCA				LR	LR	04 47 30.8	
	comp=Z,17μm,21.3s,MS6.4,baz=45,slow=34						
JIRN	**Jiri**	**88.40**	**56**	*e*P	**P**	**04 09 43.6**	**+0.8**
SMY	**Shemya**	**88.80**	**349**	PFAKE		04 10 00.0	+16
SMY				LR	LR		
	comp=Z,6μm,20.0s,MS6.0						
MNGI	**Mangalore**	**89.60**	**74**	*i* P	**P**	**04 09 48.7**	**+0.1**
MNGI				AMb	AMB	04 09 51.4	
	comp=Z,171nm,1.7s,mb6.1						
MNGI				*i* x	x	04 20 20.9	
HYB	**Hyderabad**	**89.64**	**68**	⇓*i*P	**P**	**04 09 48.0**	**-0.7**
	comp=Z,130nm,1.0s,mb6.2						
HYB				*e*S	S	04 20 38.0	-2.9
HYB				LR	LR	04 56 58.0	
	comp=Z,20nm,20.0s						
PET	**Petropavlovsk**	**89.92**	**358**	*e*P	**P**	**04 09 48.7**	**-0.8**
	comp=Z,227nm,1.4s,mb6.3						
PET				LR	LR		
	comp=Z,9μm,19.0s,MS6.2						
PET	**Petropavlovsk**	**89.92**	**358**	⇓*i*P	**P**	**04 09 48.3**	**-1.2**
PET				*e*		04 13 25.3	
PET				*e*		04 20 20.4	
PET				*e*S	S	04 20 43.0	+0.6
PET				*e*PS	PS	04 21 54.3	+6.5
PET				*e*PPS		04 22 23.6	
PET				pmax	pmax		
	comp=Z,98nm,1.3s,mb6.0						
PET				MLR	MLR		
	comp=Z,10μm,19.0s,MS6.3						
PET				MLR	MLR		
	comp=Z,9μm,19.0s						
PET	**Petropavlovsk**	**89.92**	**358**	*e*P	**P**	**04 09 48.7**	**-0.8**
	comp=Z,227nm,1.4s,mb6.3						
LSA	**Lhasa**	**90.20**	**52**	P	**P**	**04 09 52.6**	**+1.4**
LSA				AMB	AMB		
	comp=Z,20nm,1.5s,mb5.2						
LSA				AMB	AMB		
	comp=Z,980nm,9.0s						
LSA				LR	LR		
	comp=N,4μm,33.0s						
LSA				LR	LR		
	comp=E,9μm,25.0s						
LSA				LR	LR		
	comp=Z,11μm,33.0s,MS6.1						
LSA	**Lhasa**	**90.20**	**52**	*e*P	**P**	**04 09 51.9**	**+0.6**
	comp=Z,166nm,1.7s,mb6.1						
LSA				LR	LR		
	comp=Z,14μm,20.0s,MS6.4						
LSA	**Lhasa**	**90.20**	**52**	*e*P	**P**	**04 09 51.9**	**+0.7**
LSA				pmax	pmax		
	comp=Z,166nm,1.7s,mb6.1						
LSA				MLR	MLR		
	comp=Z,14μm,20.0s,MS6.4						
LSA	**Lhasa**	**90.20**	**52**	*e*P	**P**	**04 09 51.9**	**+0.7**
	comp=Z,166nm,1.7s,mb6.1						
KLR	**Kul'dur**	**91.26**	**15**	*e*P	**P**	**04 09 47.8**	**-8.0**
KLR				*e*		04 13 33.0	
KLR				*e*S	S	04 20 18.5	-36
KLR				*e*PS	PS	04 22 07.0	+4.2
KLR				pmax	pmax		
	comp=Z,220nm,2.4s,mb6.1						
BTO	**Baotou**	**91.97**	**33**	*e*P	**P**	**04 09 59.0**	**-0.2**
SKR	**Severo-Kuril's**	**92.31**	**360**	*e*P	**P**	**04 10 02.0**	**+1.4**
SKR				*e*		04 20 32.0	
SKR				MLR	MLR		
	comp=N,7μm,22.0s,MS6.2						
SKR				MLR	MLR		
	comp=E,7μm,22.0s,MS6.2						
SKR				MLR	MLR		
	comp=Z,11μm,22.0s,MS6.2						
HHC	**Hu-ho-hao-te**	**92.42**	**32**	*e*P	**P**	**04 10 01.2**	**-0.1**
HHC				AP	pP	04 10 05.8	+3.0
HHC				XP	sP	04 10 08.7	+5.4
HHC				PP	PP	04 13 46.6	+5.3
HHC				SKS		04 20 31.9	
HHC				S	S	04 21 00.8	-4.9
HHC				XS	sS	04 21 08.8	+0.7
HHC				AMB	AMB		
	comp=Z,33nm,2.3s,mb5.3						
HHC				AMB	AMB		
	comp=Z,977nm,7.9s						
HHC				LR	LR		
	comp=N,12μm,19.8s,MS6.5						
HHC				LR	LR		
	comp=E,12μm,18.1s,MS6.5						
HHC				LR	LR		
	comp=Z,14μm,30.2s						
HABR	**Khabarovsk**	**92.63**	**13**	*e*P	**P**	**04 09 59.6**	**-2.5**
HABR				*e*		04 13 39.7	
HABR				*e*S	S	04 20 27.7	-40
HABR				*e*SS	SS	04 27 11.4	-5.9
HABR				pmax	pmax		
	comp=Z,12nm,0.4s,mb5.7						
HABR				MLR	MLR		
	comp=Z,4μm,19.0s,MS5.9						
LZH	**Lanzhou**	**92.69**	**39**	⇓P	**P**	**04 10 02.5**	**-0.2**
LZH				AP	pP	04 10 07.2	+3.1
LZH				XP	sP	04 10 09.6	+5.0
LZH				PP	PP	04 13 46.3	+2.7
LZH				SKS		04 20 31.5	
LZH				S	S	04 21 00.6	-7.7
LZH				XS	sS	04 21 18.5	+7.8
LZH				SS	SS	04 27 16.8	-2.4
LZH				AMB	AMB		
	comp=Z,251nm,1.6s,mb6.4						
LZH				AMB	AMB		
	comp=Z,1μm,10.0s						
LZH				LR	LR		
	comp=N,19μm,17.2s						
LZH				LR	LR		
	comp=Z,38μm,19.8s,MS6.8						
LZH	**Lanzhou**	**92.69**	**39**	⇓P	**P**	**04 10 02.5**	**-0.2**
	comp=Z,251nm,1.6s,mb6.4						
LZH				pP	pP	04 10 07.2	+3.1
LZH				sP	sP	04 10 09.6	+5.0
LZH				PP	PP	04 13 46.3	+2.7
LZH				SKS		04 20 31.5	
LZH				S	S	04 21 00.6	-7.7
LZH				sS	sS	04 21 18.5	+7.8
LZH				PS	PS	04 22 23.0	+3.8
LZH				SS	SS	04 27 16.8	-2.4
LZH				LR	LR		
	comp=Z,38μm,19.8s,MS6.8						
LZH	**Lanzhou**	**92.69**	**39**	⇓P	**P**	**04 10 02.5**	**-0.2**
LZH				*SP	sP	04 10 09.6	+5.0
LZH						04 13 46.3	
LZH						04 20 31.5	
LZH				S	S	04 21 00.6	-7.7
LZH				PS	PS	04 22 23.0	+3.8
LZH				SS	SS	04 27 16.8	-2.4
LZH				pmax	pmax		
	comp=Z,251nm,1.6s,mb6.4						
LZH				MLR	MLR		
	comp=Z,38μm,19.8s,MS6.8						
LZH	**Lanzhou**	**92.69**	**39**	PS	PS	04 22 23.0	+3.8
VIS	**Vishakhapatnam**	**92.94**	**65**	*e*P	**P**	**04 10 03.9**	**-0.2**
VIS				AMb	AMB	04 10 14.7	
	comp=Z,62nm,3.3s						
KOD	**Kodaikanal**	**93.31**	**75**	*e*P	**P**	**04 10 06.1**	**+0.3**
KOD				AMb	AMB	04 10 08.9	
	comp=Z,63nm,1.9s,mb5.7						
EFI	**East Falkland**	**93.38**	**200**	PFAKE		04 10 20.0	+15
EFI				LR	LR		
	comp=Z,14μm,20.0s,MS6.4						
SHL	**Shillong**	**93.54**	**54**	⇓*i*P	**P**	**04 10 06.5**	**-0.3**
MDRS	**Chennai**	**93.64**	**71**	*e*P	**P**	**04 10 07.5**	**+0.2**
MDRS				AMb	AMB	04 10 14.2	
	comp=Z,92nm,0.1s,mb7.1						
TRD	**Trivandrum**	**93.98**	**76**	*e*P	**P**	**04 10 08.9**	**0.0**
TRD				AMb	AMB	04 10 22.0	
	comp=Z,59nm,1.0s,mb6.0						
AGT	**Agartala**	**94.30**	**56**	*e*x	x	04 10 06.0	
CN2	**Changchun**	**94.76**	**21**	⇑P	**P**	**04 10 09.9**	**-2.1**
CN2				*e*AP	pP	04 10 17.7	+4.2
CN2				PP	PP	04 14 00.5	+1.1
CN2				*e*S	S	04 21 16.4	-10
CN2				SS	SS	04 27 45.6	-2.4
CN2				AMB	AMB		
	comp=Z,30nm,1.5s,mb5.5						
CN2				AMB	AMB		
	comp=Z,200nm,6.0s						
CN2				LR	LR		
	comp=N,11μm,17.0s,MS6.5						
CN2				LR	LR		
	comp=E,10μm,17.0s,MS6.5						
CN2				LR	LR		
	comp=Z,13μm,21.0s,MS6.4						
BJI	**Beijing**	**94.97**	**29**	P	**P**	**04 10 12.4**	**-0.6**
BJI				SS	SS	04 27 49.1	-2.2
BJI				AMB	AMB		
	comp=Z,28nm,2.4s,mb5.3						
BJI				AMB	AMB		
	comp=Z,862nm,9.0s						
BJI				LR	LR		
	comp=N,22μm,19.7s,MS6.7						
BJI				LR	LR		
	comp=E,14μm,21.4s,MS6.7						
BJI				LR	LR		
	comp=Z,26μm,25.8s,MS6.6						
BJI	**Beijing**	**94.97**	**29**	P	**P**	**04 10 12.4**	**-0.6**
	comp=Z,28nm,2.4s,mb5.3						
BJI				sP	sP	04 10 15.6	+0.6
BJI				PP	PP	04 13 53.0	-8.2
BJI				S	S	04 20 58.8	-29
BJI				PS	PS	04 22 48.3	+4.3
BJI				SS	SS	04 27 49.1	-2.2
BJI				LR	LR		
	comp=Z,26μm,25.8s,MS6.6						
BJI	**Beijing**	**94.97**	**29**	PS	PS	04 22 48.3	+4.3
BJT	**Baijiatuau**	**94.99**	**29**	*e*P	**P**	**04 10 12.5**	**-0.7**
	comp=Z,93nm,1.4s,mb6.0						
BJT				LR	LR		
	comp=Z,33μm,20.0s,MS6.8						
BJT	**Baijiatuau**	**94.99**	**29**	*e*P	**P**	**04 10 12.5**	**-0.6**
BJT				pmax	pmax		
	comp=Z,93nm,1.4s						
BJT				MLR	MLR		
	comp=Z,33μm,20.0s						
BJT	**Baijiatuau**	**94.99**	**29**	*e*P	**P**	**04 10 12.5**	**-0.6**
	comp=Z,93nm,1.4s,mb6.0						
MDJ	**Mudanjiang**	**95.12**	**18**	P	**P**	**04 10 11.9**	**-1.7**
MDJ				AP	pP	04 10 15.3	+0.2
MDJ				XS	sS	04 21 30.7	-0.9
MDJ				SS	SS	04 27 49.0	-4.0
MDJ				AMB	AMB		
	comp=Z,19nm,1.2s,mb5.4						
MDJ				AMB	AMB		
	comp=Z,861nm,14.7s						
MDJ				LR	LR		
	comp=N,10μm,22.2s,MS6.3						
MDJ				LR	LR		
	comp=E,5μm,18.7s,MS6.3						
MDJ				LR	LR		
	comp=Z,14μm,18.8s,MS6.5						
MDJ	**Mudanjiang**	**95.12**	**18**	*e*P	**P**	**04 10 12.0**	**-1.6**
	comp=Z,35nm,1.3s,mb5.6						
MDJ				LR	LR		
	comp=Z,16μm,22.0s,MS6.4						
MDJ	**Mudanjiang**	**95.12**	**18**	*e*P	**P**	**04 10 12.0**	**-1.6**
	comp=Z,35nm,1.3s,mb5.6						
YSS	**Yuzh-Sakhalins**	**95.29**	**9**	*e*P	**P**	**04 10 12.3**	**-2.1**
	comp=Z,70nm,1.1s,mb6.0						
YSS				LR	LR		
	comp=Z,8μm,20.0s,MS6.2						
YSS	**Yuzh-Sakhalins**	**95.29**	**9**	⇑*e*P	**P**	**04 10 11.7**	**-2.6**
YSS				*e*		04 14 10.0	
YSS				*e*		04 20 49.0	
YSS				*e*S	S	04 21 24.0	-6.6
YSS				pmax	pmax		
	comp=Z,230nm,1.7s,mb6.3						
YSS	**Yuzh-Sakhalins**	**95.29**	**9**	*e*P	**P**	**04 10 12.3**	**-2.0**
	comp=Z,70nm,1.1s,mb6.0						
TIY	**Taiyuan**	**95.41**	**33**	*e*P	**P**	**04 10 18.0**	**+2.9**
TIY				LR	LR		
	comp=N,13μm,17.9s,MS6.6						
TIY				LR	LR		
	comp=E,10μm,17.8s,MS6.6						
TIY				LR	LR		
	comp=Z,26μm,24.8s						
SNY	**Shenyang**	**96.00**	**23**	P	**P**	**04 10 11.9**	**-5.8**
SNY				PP	PP	04 14 10.9	+1.9
SNY				S	S	04 21 21.5	-15
SNY				AMB	AMB		
	comp=Z,21nm,2.5s,mb5.1						
SNY				AMB	AMB		
	comp=Z,632nm,6.5s						
SNY				LR	LR		
	comp=N,12μm,21.6s,MS6.4						
SNY				LR	LR		
	comp=E,6μm,17.6s,MS6.4						
SNY				LR	LR		
	comp=Z,12μm,24.0s						
CD2	**Chengdu**	**96.67**	**43**	⇓*i*P	**P**	**04 10 20.4**	**-0.6**
CD2				AP	pP	04 10 25.2	+2.8
CD2				XP	sP	04 10 28.6	+5.6
CD2				PP	PP	04 14 16.7	+2.0
CD2				SKS		04 20 55.2	
CD2				S	S	04 21 36.8	-6.4
CD2				SS	SS	04 28 13.7	-2.4
CD2				AMB	AMB		
	comp=Z,20nm,1.9s,mb5.2						
CD2				AMB	AMB		
	comp=Z,970nm,11.8s						
CD2				LR	LR		
	comp=N,23μm,16.8s,MS6.7						
CD2				LR	LR		
	comp=E,13μm,21.6s,MS6.7						
CD2				LR	LR		
	comp=Z,29μm,20.4s,MS6.8						
XAN	**Xi'an**	**96.83**	**37**	P	**P**	**04 10 20.0**	**-1.6**
XAN				PP	PP	04 14 14.2	-1.6
XAN				SKS		04 20 54.2	
XAN				S	S	04 21 36.6	-7.9
XAN				SS	SS	04 28 11.5	-6.6
XAN				LR	LR		
	comp=N,16μm,20.7s,MS6.7						
XAN				LR	LR		
	comp=E,19μm,21.3s,MS6.7						
XAN				LR	LR		
	comp=Z,26μm,24.2s,MS6.6						
PALK	**Pallekele**	**97.64**	**75**	PFAKE		04 10 40.0	+14
PALK				LR	LR		
	comp=Z,6μm,19.0s,MS6.1						
ASAJ	**Asahikawa**	**98.06**	**9**	P	**P**	**04 10 25.6**	**-1.4**
	comp=Z,21nm,1.0s,mb5.6,baz=315,slow=7.9,SNR=6.5						
ASAJ				LR	LR	04 54 04.0	
	comp=Z,7μm,20.8s,MS6.1,baz=3.7,slow=35						
YUK	**Yuzh-Kuril'sk**	**98.51**	**7**	*e*P	**P**	**04 10 25.0**	**-4.0**
YUK				MLR	MLR		
	comp=Z,9μm,18.0s,MS6.3						
YUK				MLR	MLR		
	comp=N,4μm,16.0s						
YUK				MLR	MLR		
	comp=E,3μm,22.0s						
ERM	**Erimo**	**100.20**	**9**	PFAKE		04 10 50.0	+13
ERM				LR	LR		
	comp=Z,9μm,22.0s,MS6.2						
KMI	**Kunming**	**100.55**	**47**	P	Pdif	04 10 38.6	+0.4
KMI				AP		04 10 41.3	
KMI				PP	PP	04 14 47.8	+3.3
KMI				SKS		04 21 15.7	
KMI				S	Sdif	04 22 10.0	-5.6
KMI				SS	SS	04 29 10.6	-0.2
KMI				AMB	AMB		
	comp=Z,8.0nm,0.8s						
KMI				LR	LR		
	comp=N,16μm,20.0s,MS6.7						
KMI				LR	LR		
	comp=E,15μm,20.6s,MS6.7						
KMI				LR	LR		
	comp=Z,23μm,19.7s,MS6.7						
KMI	**Kunming**	**100.55**	**47**	P	Pdif	04 10 38.6	+0.4
	comp=Z,8.0nm,0.8s						
KMI				pP		04 10 41.3	
KMI				sP		04 10 42.5	
KMI				PP	PP	04 14 47.8	+3.3
KMI				PPP		04 16 56.1	
KMI				SKS		04 21 15.7	
KMI				S	Sdif	04 22 10.0	-5.6
KMI				sS		04 22 14.7	
KMI				PS	PS	04 23 46.2	+1.0
KMI				SS	SS	04 29 10.6	-0.2
KMI				SSS		04 32 59.1	
KMI				LR	LR		
	comp=Z,23μm,19.7s,MS6.7						
KMI	**Kunming**	**100.55**	**47**	P	Pdif	04 10 38.6	+0.4
KMI						04 14 47.8	
KMI				PPP		04 16 56.1	
KMI						04 21 15.7	
KMI				S	Sdif	04 22 10.0	-5.6
KMI				*SS		04 22 14.7	
KMI				PS	PS	04 23 46.2	+1.0
KMI				SS	SS	04 29 10.6	-0.2
KMI				SSS		04 32 59.1	
KMI				pmax	pmax		
	comp=Z,8.0nm,0.8s						
KMI				MLR	MLR		
	comp=Z,23μm,19.7s,MS6.7						
INCN	**Inchon**	**100.92**	**23**	PFAKE		04 10 50.0	+10
INCN				LR	LR		
	comp=Z,10μm,22.0s,MS6.3						
KSRS	**Korea Array**	**101.34**	**22**	P	Pdif	04 10 40.4	-1.3
	comp=Z,2.7nm,1.0s,baz=328,slow=3.9,SNR=9.0						
KSRS				PP	PP	04 14 50.8	+0.9
	comp=Z,4.8nm,1.1s,baz=345,slow=5.5,SNR=8.2						
KSRS				PKKPbc	PKKPbc	04 26 52.2	+2.0
	comp=Z,2.4nm,0.9s,baz=169,slow=4.9,SNR=6.9						
GYA	**Guiyang**	**101.74**	**43**	P	Pdif	04 10 42.8	-0.6
GYA				PP	PP	04 14 55.9	+2.5
GYA				SKS		04 21 21.0	
GYA				S	Sdif	04 22 19.9	-5.6
GYA				SS	SS	04 29 24.8	-2.3
GYA				AMB	AMB		
	comp=Z,80nm,1.0s						
GYA				AMB	AMB		
	comp=Z,190nm,6.9s						
GYA				LR	LR		
	comp=N,7μm,24.5s,MS6.2						
GYA				LR	LR		
	comp=E,6μm,23.4s,MS6.2						
GYA				LR	LR		
	comp=Z,9μm,25.5s,MS6.2						
RPN	**Rapa Nui**	**102.04**	**245**	PFAKE		04 11 00.0	+15
RPN				LR	LR		
	comp=Z,7μm,22.0s,MS6.1						

CHTO	**Chiang Mai**	**102.92**	**54**	PFAKE		04 11 00.0	+11
CHTO				LR	LR		
comp=Z,14μm,22.0s,MS6.4							
CM31	**Chiang Mai Arr**	**103.18**	**54**	PFAKE		04 11 00.0	+10
CM31				LR	LR		
comp=Z,10μm,22.0s,MS6.3							
MAJO	**Matsushiro**	**104.75**	**14**	PFAKE		04 11 10.0	+13
MAJO				LR	LR		
comp=Z,10μm,21.0s,MS6.3							
MAT	**Matsushiro**	**104.75**	**14**	PDIF	Pdif	04 10 55.0	-1.8
MJAR	**Matsushiro Arr**	**104.75**	**14**	Pdiff	Pdif	04 10 55.7	-1.1
comp=Z,1.6nm,0.7s,baz=333,slow=5.2,SNR=4.8							
MJAR				PP	PP	04 15 17.3	+2.0
comp=Z,2.9nm,0.9s,baz=318,slow=5.3,SNR=5.4							
MJAR	**Matsushiro Arr**	**104.75**	**14**	PP	PP	04 15 17.3	+2.0
SSE	**Sheshan**	**104.75**	**30**	P	Pdif	04 10 54.4	-2.4
comp=Z,34nm,0.7s							
SSE				PP	PP	04 15 14.4	-1.2
SSE				SKS		04 21 45.5	
SSE				S	Sdif	04 22 45.8	-4.9
SSE				PS	PS	04 24 24.9	-4.3
SSE				SS	SS	04 30 09.7	+1.7
SSE				LR	LR		
comp=Z,23μm,22.1s,MS6.7							
JNU	**Nakatsue**	**106.24**	**21**	PP	PP	04 15 27.6	+1.2
comp=Z,13nm,1.0s,baz=30,slow=7.3,SNR=4.2							
PMSA	**Palmer Station**	**106.41**	**196**	PFAKE		04 15 30.0	+16
PMSA				LR	LR		
comp=Z,7μm,19.0s,MS6.2							
POHA	**Pohakuloa**	**106.75**	**312**	PFAKE		04 15 30.0	+14
POHA				LR	LR		
comp=Z,6μm,22.0s,MS6.1							
KIP	**Kipapa**	**106.88**	**315**	PFAKE		04 15 30.0	+13
KIP				LR	LR		
comp=Z,5μm,20.0s,MS6.1							
QZH	**Quanzhou**	**109.01**	**35**	PDIF	Pdif	04 11 12.1	-3.7
QZH				PP	PP	04 15 49.0	+1.9
QZH				LR	LR		
comp=Z,27μm,26.3s,MS6.7							
QIZ	**Qiongzhong**	**109.39**	**46**	PDIF	Pdif	04 11 15.5	-2.0
QIZ				PP	PP	04 15 51.4	+1.2
QIZ				S	Sdif	04 23 20.0	-9.4
QIZ				LR	LR		
comp=N,9μm,20.0s							
QIZ				LR	LR		
comp=Z,16μm,19.9s,MS6.6							
TATO	**Taipei**	**110.27**	**33**	PFAKE		04 15 30.0	+7.1
TATO				LR	LR		
comp=Z,17μm,19.0s,MS6.7							
PSI	**Prapat**	**114.23**	**66**	PKP	PKiKP	04 15 30.1	-0.5
PSI				PP	PP	04 16 32.9	+7.4
PSI	**Prapat**	**114.23**	**66**	PKP	PKiKP	04 15 30.1	-0.5
comp=Z,4.1nm,0.6s,baz=351,slow=7.3,SNR=4.4							
PSI				PP	PP	04 16 32.9	+7.5
comp=Z,7.4nm,0.8s,baz=245,slow=8.4,SNR=4.3							
TAOE	**Nuku Hiva Isla**	**115.57**	**279**	*e*PP	PP	04 16 34.5	-0.7
comp=Z,22μm,25.4s							
TAOE	**Nuku Hiva Isla**	**115.57**	**279**	*e*PS	PS	04 26 15.9	+0.4
comp=Z,76μm,28.7s							
TAOE				*e*SS	SS	04 32 33.5	-2.1
comp=Z,142μm,27.7s							
TAOE	**Nuku Hiva Isla**	**115.57**	**279**	*e*LR	LR	04 50 41.8	
comp=Z,127μm,26.5s							
SYO	**Syowa Base**	**116.04**	**159↑**	*e*PKPdf	PKPdf	04 15 36.0	+3.6
RKT	**Rikitea**	**119.40**	**262**	*e*PP	PP	04 16 57.4	-4.6
comp=Z,802nm,28.6s							
RKT	**Rikitea**	**119.40**	**262**	*e*PS	PS	04 26 49.5	-0.7
comp=Z,3μm,28.0s							
RKT				*e*SS	SS	04 33 28.1	+2.5
comp=Z,10μm,28.8s							
RKT	**Rikitea**	**119.40**	**262**	*e*LQ		04 47 10.4	
comp=Z,4μm,36.2s							
RKT				*e*LR	LR	04 52 18.9	
comp=Z,8μm,36.0s							
MAW	**Mawson**	**123.03**	**153**	PKP	PKPdf	04 15 45.9	+0.1
comp=Z,11nm,0.7s,baz=270,slow=5.0,SNR=16							
KSM	**Kuching**	**123.17**	**58**	*e*PKPdf	PKPdf	04 15 46.7	-1.2
KSM	**Kuching**	**123.17**	**58**	*e*PKIKP	PKPdf	04 15 46.7	-1.2
KKM	**Kota Kinabalu**	**123.44**	**49**	*e*PKPdf	PKPdf	04 15 47.0	-1.4
KKM	**Kota Kinabalu**	**123.44**	**49**	*e*PKIKP	PKPdf	04 15 47.0	-1.4
QSPA	**South Pole Qui**	**127.26**	**180**	PFAKE		04 16 10.0	+16
QSPA				LR	LR		
comp=Z,7μm,22.0s,MS6.3							
DAV	**Davao City (W)**	**127.75**	**39**	PFAKE		04 16 10.0	+13
DAV				LR	LR		
comp=Z,18μm,22.0s,MS6.7							
PPT	**Papeete**	**128.07**	**277**	*e*PP	PP	04 18 01.9	+1.6
comp=Z,945nm,26.8s							
PPT	**Papeete**	**128.07**	**277**	*e*PS	PS	04 28 03.6	-3.2
comp=Z,1μm,24.0s							
PPT				*e*SS	SS	04 35 20.1	+4.8
comp=Z,7μm,34.5s							
PPT	**Papeete**	**128.07**	**277**	*e*LQ		04 50 24.5	
comp=Z,9μm,38.2s							
PPT				*e*LR	LR	04 56 15.3	
comp=Z,11μm,28.2s							
GUMO	**Guam**	**128.35**	**13**	PFAKE		04 16 10.0	+12
GUMO				LR	LR		
comp=Z,4μm,20.0s,MS6.1							
TBI	**Tubuai**	**131.02**	**270**	*e*PP	PP	04 18 14.7	-4.9
comp=Z,584nm,27.0s							
TBI	**Tubuai**	**131.02**	**270**	*e*SS	SS	04 35 53.1	+1.3
comp=Z,5μm,33.5s							
TBI	**Tubuai**	**131.02**	**270**	*e*LQ		04 52 03.9	
comp=Z,2μm,34.8s							
TBI				*e*LR	LR	04 57 51.5	
comp=Z,7μm,29.2s							
SBA	**Scott Base**	**139.13**	**184**	*e*PKPdf	PKPdf	04 16 17.3	+1.3
SBA				LR	LR		
comp=Z,4μm,21.0s,MS6.2							
SBA	**Scott Base**	**139.13**	**184**	*e*PKIKP	PKPdf	04 16 17.3	+1.2
VNDA	**Vanda**	**139.66**	**182**	PKP		04 16 09.0	
VNDA				*e*PKPdf	PKPdf	04 16 14.7	-2.3
VNDA				PKP	PKPdf	04 16 18.2	+1.2
VNDA				LR	LR		
comp=Z,5μm,20.0s,MS6.2							
VNDA	**Vanda**	**139.66**	**182**	PKHKP		04 16 09.0	
VNDA				*e*		04 16 14.7	
VNDA				MLR	MLR		
comp=Z,5μm,20.0s							
VNDA	**Vanda**	**139.66**	**182**	PKhKP		04 16 09.0	
comp=Z,1.2nm,0.8s,baz=289,slow=1.4,SNR=4.3							
VNDA				PKP	PKPdf	04 16 18.2	+1.2
comp=Z,15nm,0.8s,baz=267,slow=2.5,SNR=39							
VNDA	**Vanda**	**139.66**	**182**	*e*PKIKP	PKPdf	04 16 14.7	-2.3
CASY	**Casey**	**141.38**	**153**	PFAKE		04 16 30.0	+10
CASY				LR	LR		
comp=Z,5μm,21.0s,MS6.2							
AFI	**Afiamalu**	**142.58**	**300**	PFAKE		04 16 40.0	+16
AFI				LR	LR		
comp=Z,3μm,20.0s,MS6.1							
FUNA	**Funafuti**	**144.08**	**317**	PFAKE		04 16 40.0	+13
FUNA				LR	LR		
comp=Z,6μm,20.0s,MS6.4							
MBWA	**Marble Bar**	**145.21**	**72**	*e*PKPdf	PKPdf	04 16 27.4	-1.2
MBWA				LR	LR		
comp=Z,3μm,20.0s,MS6.1							
MBWA	**Marble Bar**	**145.21**	**72**	*e*PKIKP	PKPdf	04 16 27.4	-1.1
MUN	**Mundaring**	**147.51**	**92**	*e*PKP	PKPdf	04 16 31.4	-0.7
FITZ	**Fitzroy Crossi**	**147.63**	**62**	*e*PKP	PKPdf	04 16 32.2	-0.5
comp=Z,116nm,1.4s							
FITZ	**Fitzroy Crossi**	**147.63**	**62**	PKPbc	PKPbc	04 16 34.9	-0.5
comp=Z,73nm,1.1s,baz=318,slow=3.4,SNR=47							
KAKA	**Kakadu**	**148.00**	**46**	*e*PKP	PKPbc	04 16 35.8	-0.7
comp=Z,167nm,1.1s							
KAKA	**Kakadu**	**148.00**	**46**	*e*PKPdf	PKPdf	04 16 32.2	-1.2
KAKA				*e*PKP	PKPbc	04 16 35.8	-0.7
KLBR	**Kellerberrin**	**148.61**	**91**	*e*PKP	PKPbc	04 16 36.4	-1.2
comp=Z,93nm,0.8s							
NWAO	**Narrogin (SRO)**	**148.65**	**93**	*e*PKPdf	PKPdf	04 16 32.9	-1.1
NWAO				*e*PKPbc	PKPbc	04 16 37.3	-0.4
NWAO	**Narrogin (SRO)**	**148.65**	**93**	*e*PKPbc	PKPbc	04 16 37.3	-0.4
DRV	**Dumont d'Urvil**	**149.37**	**168**	PKP	PKPbc	04 16 37.0	-1.4
DRV	**Dumont d'Urvil**	**149.37**	**168**	PP	PP	04 20 10.0	-0.7
DRV				SS	SS	04 39 24.0	+0.1
DRV				L		04 58 00.0	
DRV				R		05 07 00.0	
DRV				R		21 22 00.0	
WRA	**Warramunga Arr**	**154.75**	**52**	PKP	PKPdf	04 16 42.8	-0.8
comp=Z,4.5nm,0.8s,baz=317,slow=1.6,SNR=18							
WRA				PKPbc	PKPbc	04 16 51.7	-0.4
comp=Z,13nm,0.9s,baz=323,slow=2.0,SNR=20							
WRA				PKPab	PKPab	04 17 06.1	-0.9
comp=Z,18nm,1.0s,baz=326,slow=3.6,SNR=7.4							
WRA				PP	PP	04 20 47.2	+4.9
comp=Z,14nm,1.2s,baz=334,slow=5.4,SNR=5.3							
WRA	**Warramunga Arr**	**154.75**	**52**	PKPbc	PKPbc	04 16 51.7	-0.4
WRAB	**Tennant Creek**	**154.75**	**52**	*e*PKPdf	PKPdf	04 16 42.7	-0.9
WRAB				*e*PKPbc	PKPbc	04 16 51.2	-0.9
WRAB				*e*PKPab	PKPab	04 17 06.3	-0.7
WRAB	**Tennant Creek**	**154.75**	**52**	*e*PKIKP	PKPdf	04 16 42.7	-0.8
WRAB	**Tennant Creek**	**154.75**	**52**	*e*PKPbc	PKPbc	04 16 51.2	-0.9
WB2	**Warramunga Arr**	**154.76**	**52**	*e*PKP	PKPdf	04 16 41.9	-1.6
WB2				*e*		04 16 51.3	
WB2				*e*		04 17 06.4	
WB2				*e*PP	PP	04 20 47.6	+5.3
FORT	**Forrest**	**156.49**	**82**	*e*PKP	PKPdf	04 16 44.5	-1.1
comp=Z,30nm,0.7s							
ASAR	**Alice Springs**	**157.08**	**59**	PKP	PKPdf	04 16 45.5	-1.1
comp=Z,5.9nm,0.8s,baz=293,slow=0.6,SNR=32							
ASAR				PKPab	PKPab	04 17 16.0	-0.9
comp=Z,17nm,0.9s,baz=316,slow=3.4,SNR=12							
ASAR				PP	PP	04 20 57.0	+1.5
comp=Z,2.5nm,0.9s,baz=310,slow=5.5,SNR=4.4							
ASAR	**Alice Springs**	**157.08**	**59**	PKPab	PKPab	04 17 16.0	-0.9
CTA	**Charters Tower**	**161.03**	**27**	*e*PKP	PKPdf	04 16 51.2	-0.1
comp=Z,15nm,1.5s							
CTA				*e*		04 17 34.0	
CTA				*e*PP	PP	04 21 16.7	+0.6
CTAO	**Charters Tower**	**161.03**	**27**	*e*PKPdf	PKPdf	04 16 47.5	-3.7
CTAO				*e*PKPab	PKPab	04 17 33.8	-0.3
CTAO	**Charters Tower**	**161.03**	**27**	*e*PKIKP	PKPdf	04 16 47.5	-3.8
CTAO	**Charters Tower**	**161.03**	**27**	*e*PKPab	PKPab	04 17 33.8	-0.2
DZM	**Mont Dzumac**	**161.99**	**325**	PKP	PKPdf	04 16 51.5	-0.7
comp=Z,6.6nm,0.8s							
DZM				PKPab	PKPab	04 17 43.8	+5.6
comp=Z,29nm,1.2s,baz=32,slow=9.4,SNR=3.1							
DZM				PP	PP	04 21 26.2	+4.8
comp=Z,6.9nm,0.8s,baz=111,slow=4.7,SNR=4.1							
DZM	**Mont Dzumac**	**161.99**	**325**	PKPab	PKPab	04 17 43.8	+5.6
STKA	**Stephens Creek**	**167.40**	**68**	*e*PKP	PKPdf	04 16 55.2	-1.4
comp=Z,26nm,1.2s							
STKA				*e*		04 18 01.3	
STKA				*e*PP	PP	04 21 47.8	-2.8
STKA	**Stephens Creek**	**167.40**	**68**	PKP	PKPdf	04 16 55.9	-0.8
comp=Z,24nm,1.1s,baz=0.9,slow=1.6,SNR=10							
STKA				PKPab	PKPab	04 18 01.4	-0.6
comp=Z,11nm,1.0s,baz=296,slow=4.5,SNR=3.6							
STKA				PP	PP	04 21 50.8	+0.2
comp=Z,3.5nm,1.0s,baz=247,slow=11,SNR=3.1							
ARMA	**Armidale**	**172.40**	**25**	*e*PKP	PKPdf	04 17 00.9	+1.3
ARMA				*ep*PKP	PKPab	04 18 25.4	+1.5
ARMA				*e*PP	PP	04 22 18.1	+3.5
CNB	**Canberra Magne**	**174.73**	**69**	*e*P	PKPdf	04 16 59.3	-1.0
comp=Z,45nm,1.3s							

KRSC 05 04:03:03.8±1.1, 5265N×15971E, h30km±19km, ML3.8, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.49**	**23**	*i* P	Pb	04 03 14.2	+0.2
SPN				*i* S	Sb	04 03 21.7	+0.7
NLC	**Nalytchevo**	**0.57**	**337**	*i* P	Pb	04 03 15.4	+0.1
NLC				*i* S	Sb	04 03 24.0	+0.9
PET	**Petropavlovsk**	**0.74**	**301**	*i* P	Pb	04 03 17.4	-0.8
PET				*i* S	Sb	04 03 27.5	-0.5
RUS	**Russkaya**	**0.76**	**254**	*i* P	Pn	04 03 17.5	-1.0
RUS				*i* S	Sb	04 03 27.5	-1.1
AVH	**Avacha**	**0.85**	**317**	*i* P	Pn	04 03 19.7	0.0
AVH				*i* S	Sb	04 03 30.9	-0.2
GRL	**Gorelyy**	**1.00**	**265**	*i* P	Pn	04 03 21.8	0.0
GRL				*i* S	Sn	04 03 35.0	+0.1
KII	**Karymskiy**	**1.40**	**354**	*i* P	Pn	04 03 27.1	-0.1
KII				*i* S	Sn	04 03 44.2	-0.4
GNL	**Ganaly**	**1.49**	**315**	*i* P	Pn	04 03 29.2	+0.7
GNL				*i* S	Sn	04 03 48.1	+1.1
MIPR	**Malaya Ipel'ka**	**1.84**	**259**	*i* P	Pn	04 03 33.9	+0.6
MIPR				*e*S	Sn	04 03 55.8	+0.2
MKZ	**Mys Kozlova**	**2.26**	**31**	P	Pn	04 03 38.4	-0.6
MKZ				*i* S	Sn	04 04 03.7	-2.1
TUMR	**Tumrok**	**2.65**	**5**	*e*P	Pn	04 03 45.1	+0.7
TUMR				*i* S	Sn	04 04 15.1	-0.4
KMNR	**Kamenistaya**	**3.13**	**5**	P	Pn	04 03 52.8	+1.8
ALID	**Alaid**	**3.14**	**237**	*e*P	Pn	04 03 51.2	+0.1
SRDR	**Sredinnyy**	**3.67**	**0**	P	Pn	04 04 00.9	+2.4
KBTR	**Krutoberegovo**	**4.00**	**26**	*e*P	Pn	04 04 04.3	+1.3

*CSEM **05** 04:05:06.8±0.5, 37.18N×2465W, h0km, ML3.7, Error ellipse: s-maj=11.5km s-min=3.7km az=33.0, After PDA*
*PDA **05** 04:05:06.8±0.5, 37.18N×2465W, h0km, MD4.0, ML3.7, Error ellipse: s-maj=11.5km s-min=3.7km az=33.0*
SVSA 05 04:05:06.8±0.5, 3718N×2465W, h0km, MD4.0, ML3.7, Error ellipse: s-maj=11.5km s-min=3.7km az=33.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDA	**Ponta Delgada**	**0.98**	**306**	*e*P	Pg	04 05 22.9	-2.8
ADH	**Angra Heroismo**	**2.52**	**307**	*e*P	Pn	04 05 44.0	-5.0
ADH				*e*S	Sn	04 06 12.5	-7.9
PID	**Ribeirinha**	**3.02**	**296**	*e*P	Pn	04 05 51.1	-4.8
PID				*e*S	Sn	04 06 24.7	-8.1
PMAN	**Manadas**	**3.08**	**299**	*e*S	Sn	04 06 25.8	-8.4
PMAN				A		04 06 27.8	
132nm,0.1s							
ROSA	**Rosais**	**3.23**	**300**	*e*P	Pn	04 05 54.3	-4.4
ROSA				*e*S	Sn	04 06 29.5	-8.3
PICO	**Pico**	**3.27**	**295**	*e*P	Pn	04 05 54.5	-4.7
PICO				*e*S	Sn	04 06 30.5	-8.3
HOR	**Horta**	**3.42**	**294**	*e*P	Pn	04 05 57.0	-4.4
HOR				*e*S	Sn	04 06 34.5	-8.2
CALA	**Caldeira**	**3.50**	**295**	*e*P	Pn	04 05 58.2	-4.2
CALA				*e*S	Sn	04 06 36.4	-8.1

*PDA **05** 04:06:44.1±0.7, 37.14N×2480W, h5km, MD3.9, ML3.7, Error ellipse: s-maj=34.7km s-min=5.6km az=35.0*
*CSEM **05** 04:06:44.1±0.7, 37.14N×2480W, h5km, ML3.7, Error ellipse: s-maj=34.7km s-min=5.6km az=35.0, After PDA*
SVSA 05 04:06:44.1±0.7, 3714N×2480W, h5km, MD3.9, ML3.7, Error ellipse: s-maj=34.7km s-min=5.6km az=35.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDA	**Ponta Delgada**	**0.91**	**312**	*e*S	Sg	04 07 08.1	-5.3
PID	**Ribeirinha**	**2.93**	**297**	*e*P	Pn	04 07 27.1	-4.2
PID				*e*S	Sn	04 07 58.7	-8.2
PMAN	**Manadas**	**3.00**	**301**	*e*S	Sn	04 07 59.8	-8.7
PMAN				A		04 08 00.7	
127nm,0.4s							
ROSA	**Rosais**	**3.14**	**301**	*e*P	Pn	04 07 29.8	-4.4
ROSA				*e*S	Sn	04 08 04.1	-8.0
PICO	**Pico**	**3.17**	**296**	*e*P	Pn	04 07 29.9	-4.7
PICO				*e*S	Sn	04 08 04.7	-8.2
HOR	**Horta**	**3.33**	**296**	*e*P	Pn	04 07 31.8	-5.0
HOR				*e*S	Sn	04 08 08.5	-8.2
CALA	**Caldeira**	**3.40**	**296**	*e*P	Pn	04 07 33.5	-4.3
CALA				*e*S	Sn	04 08 10.2	-8.3

*SVSA **05** 04:12:25.0±0.8, 3752N×2422W, h0km, ML3.9, Error ellipse: s-maj=5.5km s-min=3.2km az=69.0*
*CSEM **05** 04:12:25.2±0.1, 3752N×2472W, h5km, mb4.5/18, Error ellipse: s-maj=4.6km s-min=1.7km az=2.0*
*PDA **05** 04:12:25.0±0.8, 3752N×2422W, h0km, ML3.9, Error ellipse: s-maj=5.5km s-min=3.2km az=69.0*
*ISCJB **05** 04:12:26.4±1.9, 3744N±007×2472W±004, h12km±12km, mb4.4/33, Error ellipse: s-maj=11.7km s-min=4.6km az=9.0*
*IDC **05** 04:12:26.1±0.9, 3739N×2456W, h0km, mb4.0/11, mb1 4.2/11, mb1mx4.0/24, mbtmp4.0/11, Error ellipse: s-maj=28.3km s-min=17.5km az=168.0*
*NEIC **05** 04:12:27.4±0.3, 3726N×2462W, h10km, mb4.5/20, Error ellipse: s-maj=10.2km s-min=6.0km az=173.0*
ISC 05 04:12:27.1±1.2, 3747N±007×2474W±004, h3km±7km, n93, σ0.96/107, mb4.4/33, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSMN	**Pico do Norte,**	**0.54**	**209**	*e*P	**Pg**	**04 12 38.6**	**+1.2**
PSMN				*e*S	**Sg**	**04 12 50.4**	**+6.1**
PDA	**Ponta Delgada**	**0.79**	**291**	*e*P	**Pg**	**04 12 38.7**	**-3.4**
PDA				*e*S	**Sg**	**04 12 52.4**	**+0.1**
PID	**Ribeirinha**	**2.84**	**291**	*e*P	**Pn**	**04 13 12.2**	**-1.1**
PID				*e*S	**Sn**	**04 13 47.7**	**-0.3**
PID	**Ribeirinha**	**2.84**	**291**	*e*P	**Pn**	**04 13 12.9**	**-0.4**
PID				*e*S	**Sn**	**04 13 47.9**	**-0.1**
PID	**Ribeirinha**	**2.84**	**291**	*e*P	**Pn**	**04 13 12.9**	**-0.4**
PID				*e*S	**Sn**	**04 13 47.9**	**-0.1**
PMAN	**Manadas**	**2.89**	**295**	*e*P	**Pn**	**04 13 12.7**	**-1.2**
PMAN				*e*S	**Sn**	**04 13 48.4**	**-0.7**
PMAN				A		04 13 48.8	
94nm,0.4s							
PMAN	**Manadas**	**2.89**	**295**	*e*P	**Pn**	**04 13 13.6**	**-0.3**
PMAN				*e*S	**Sn**	**04 13 47.9**	**-1.2**
PMAN				A		04 13 48.8	
94nm,0.4s							
PMAN	**Manadas**	**2.89**	**295**	*e*P	**Pn**	**04 13 12.7**	**-1.2**
PMAN				*e*S	**Sn**	**04 13 48.4**	**-0.7**
PMAN	**Manadas**	**2.89**	**295**	*e*P	**Pn**	**04 13 13.6**	**-0.3**
PMAN				*e*S	**Sn**	**04 13 47.9**	**-1.2**
ROSA	**Rosais**	**3.03**	**295**	*e*P	**Pn**	**04 13 14.9**	**-1.0**
ROSA				*e*S	**Sn**	**04 13 51.9**	**-0.7**
ROSA	**Rosais**	**3.03**	**295**	*e*P	**Pn**	**04 13 15.8**	**-0.1**
ROSA				*e*S	**Sn**	**04 13 52.5**	**-0.1**
ROSA	**Rosais**	**3.03**	**295**	*e*P	**Pn**	**04 13 15.8**	**-0.1**
ROSA				*e*S	**Sn**	**04 13 52.5**	**-0.1**
PICO	**Pico**	**3.09**	**291**	*e*P	**Pn**	**04 13 15.8**	**-0.8**
PICO				*e*S	**Sn**	**04 13 53.8**	**-0.3**
PICO	**Pico**	**3.09**	**291**	*e*P	**Pn**	**04 13 16.2**	**-0.5**
PICO				*e*S	**Sn**	**04 13 53.8**	**-0.3**
PICO	**Pico**	**3.09**	**291**	*e*P	**Pn**	**04 13 16.2**	**-0.5**
PICO				*e*S	**Sn**	**04 13 53.8**	**-0.3**
HOR	**Horta**	**3.25**	**290**	*e*P	**Pn**	**04 13 17.8**	**-1.1**
HOR				*e*S	**Sn**	**04 13 57.4**	**-0.6**
HOR	**Horta**	**3.25**	**290**	*e*P	**Pn**	**04 13 18.4**	**-0.5**
HOR	**Horta**	**3.25**	**290**	*e*P	**Pn**	**04 13 18.4**	**-0.5**
CALA	**Caldeira**	**3.32**	**291**	*e*P	**Pn**	**04 13 18.8**	**-1.0**
CALA				*e*S	**Sn**	**04 13 59.4**	**-0.3**
CALA	**Caldeira**	**3.32**	**291**	*e*P	**Pn**	**04 13 19.5**	**-0.3**
CALA				*e*S	**Sn**	**04 13 59.7**	**-0.1**
CALA	**Caldeira**	**3.32**	**291**	*e*P	**Pn**	**04 13 19.5**	**-0.3**
CALA				*e*S	**Sn**	**04 13 59.7**	**-0.1**
ESK	**Eskdalemuir**	**23.05**	**32**	*e*P	**P**	**04 17 36.4**	**+3.1**
7.0nm,0.8s,mb4.1							
EKA	**Eskdalemuir Ar**	**23.09**	**32**	P	**P**	**04 17 33.8**	**+0.1**
2.9nm,0.9s,mb3.7,baz=226,slow=7.8,SNR=5.2							
BNI	**Bardonecchia**	**24.69**	**62**	*e*P	**P**	**04 17 49.3**	**+0.3**
14nm,1.4s,mb4.3							
BNI	**Bardonecchia**	**24.69**	**62**	*e*P	**P**	**04 17 49.3**	**+0.3**
14nm,1.4s,mb4.3							
WLF	**Walferdange**	**25.29**	**51**	*e*P	**P**	**04 17 53.8**	**-0.7**
26nm,1.0s,mb4.7							
WLF	**Walferdange**	**25.29**	**51**	P	**P**	**04 17 54.4**	**-0.1**
WLF	**Walferdange**	**25.29**	**51**	*e*P	**P**	**04 17 53.8**	**-0.7**
26nm,1.0s,mb4.7							
GERES	**GERESS Array B**	**29.95**	**55**	P	**P**	**04 18 34.1**	**-2.1**
0.9nm,0.8s,mb3.6,baz=274,slow=6.6,SNR=3.6							
TIP	**Timpagrande**	**32.40**	**74**	*e*P	**P**	**04 18 56.1**	**-1.8**
10nm,0.9s,mb4.7							
TIP	**Timpagrande**	**32.40**	**74**	*e*P	**P**	**04 18 56.1**	**-1.8**
10nm,0.9s,mb4.7							
MORC	**Moravsky Berou**	**32.55**	**54**	*e*P	**P**	**04 18 59.5**	**+0.4**
1.8nm,0.7s,mb4.1							
MORC	**Moravsky Berou**	**32.55**	**54**	*e*P	**P**	**04 18 59.5**	**+0.3**
1.8nm,0.7s,mb4.1							
SCHQ	**Schefferville**	**33.31**	**315**	*e*P	**P**	**04 19 06.5**	**+0.8**
4.0nm,0.9s,mb4.3							
SCHQ	**Schefferville**	**33.31**	**315**	*e*P	**P**	**04 19 06.5**	**+0.8**
4.0nm,0.9s,mb4.3							
TOA0	**Torodi Ar. Sit**	**33.81**	**129**	*e*P	**P**	**04 19 08.1**	**-2.3**
TORD	**Torodi Ar. Bea**	**33.81**	**129**	P	**P**	**04 19 08.4**	**-2.0**
3.0nm,0.7s,mb4.3,baz=318,slow=9.7,SNR=9.6							
AKASG	**Malin Array Be**	**40.08**	**53**	P	**P**	**04 20 01.9**	**-1.5**
1.2nm,0.7s,mb3.8,baz=274,slow=8.1,SNR=7.9							
GRGR	**Grenville**	**41.53**	**242**	*e*P	**P**	**04 20 15.4**	**-0.4**
230nm,1.4s,mb5.6							
MCWV	**Mont Chateau**	**42.57**	**291**	*e*P	**P**	**04 20 25.8**	**+1.7**
6.7nm,0.7s,mb4.5							
MCWV	**Mont Chateau**	**42.57**	**291**	*e*P	**P**	**04 20 25.8**	**+1.7**
6.7nm,0.7s,mb4.5							
KBS	**Kingsbay**	**44.13**	**10**	*e*P	**P**	**04 20 38.6**	**+2.5**
84nm,1.3s,mb5.3							
FCC	**Fort Churchill**	**48.45**	**319**	*e*P	**P**	**04 21 11.3**	**+1.0**
6.4nm,1.2s,mb4.5							
FCC	**Fort Churchill**	**48.45**	**319**	*e*P	**P**	**04 21 11.3**	**+1.0**
6.4nm,1.2s,mb4.5							
SWET	**Sewanee**	**48.57**	**287**	*e*P	**P**	**04 21 12.5**	**+0.9**
SWET	**Sewanee**	**48.57**	**287**	*e*P	**P**	**04 21 12.5**	**+0.9**
MALT	**

FITZ	Fitzroy Crossi	147.66	62	*e*PKPbc	PKPbc	04 32 12.2	-1.1
FITZ	Fitzroy Crossi	147.66	62	*e*PKPbc	PKPbc	04 32 12.2	-1.1
WRAB	Tennant Creek	154.76	52	*e*PKPbc	PKPbc	04 32 30.2	+0.2

IDC ***05*** *04:16:47.9±0.7,3777N×2482W,h0km, mb4.1/17, mb1 4.2/18,mb1mx4.1/25,mbtmp4.1/18,Error ellipse: s-maj=17.9km s-min=15.0km az=12.0*
CSEM ***05*** *04:16:49.1±0.1,3754N×2475W,h30km,mb4.5/27,Error ellipse: s-maj=4.3km s-min=1.1km az=7.0*
PDA ***05*** *04:16:49.2±1.3,3727N×2462W,h10km,MD3.5,ML4.5, Error ellipse: s-maj=5.4km s-min=3.4km az=66.0*
ISCJB ***05*** *04:16:49.1±0.5,3733N±004×2488W±004,h33km±4km, mb4.3/45,Error ellipse: s-maj=7.3km s-min=4.0km az=26.8*
SVSA ***05*** *04:16:49.2±1.3,3727N×2462W,h10km,MD3.5,ML4.5, Error ellipse: s-maj=5.4km s-min=3.4km az=66.0*
NEIC ***05*** *04:16:49.1±0.3,3768N×2479W,h10km,mb4.4/28,Error ellipse: s-maj=8.8km s-min=5.1km az=182.0*

ISC 05 04:16:50.0±0.5,3738N±004×2489W±003,h25km±2km, n152,σ0°90/181,mb4.3/45,Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSMN	**Pico do Norte,**	**0.40**	**201**	*e*P	**Pb**	**04 16 56.5**	**-2.0**
PSMN				*i* S	**Sb**	**04 17 02.6**	**-1.7**
MIRA	**Miradouro**	**0.51**	**323**	*e*P	**Pb**	**04 17 00.5**	**0.0**
FRA1	**Furnas**	**0.52**	**315**	*i* P	**Pb**	**04 17 00.7**	**+0.1**
PCNG	**Congro**	**0.56**	**314**	*e*P	**Pb**	**04 17 01.5**	**+0.3**
PCNG				*e*S	**Sb**	**04 17 10.9**	**+2.0**
PCNG				A		04 17 13.7	
	3μm,0.3s						
PCNG	**Congro**	**0.56**	**314**	*e*P	**Pb**	**04 17 01.5**	**+0.3**
PCNG				*e*S	**Sb**	**04 17 10.9**	**+2.0**
VIF	**Vila Franca**	**0.57**	**310**	*e*P	**Pb**	**04 17 01.5**	**+0.1**
VIF				*e*S	**Sb**	**04 17 11.2**	**+2.0**
VIF				A		04 17 12.7	
	3μm,0.1s						
VIF	**Vila Franca**	**0.57**	**310**	*e*P	**Pb**	**04 17 01.5**	**+0.1**
VIF				*e*S	**Sb**	**04 17 11.2**	**+2.0**
PFAD	**Fenais da Ajud**	**0.58**	**324**	*i* P	**Pb**	**04 17 01.2**	**-0.3**
PRCH	**Ribeira Ch**	**0.59**	**307**	*i* P	**Pb**	**04 17 01.7**	**0.0**
PRCH				*e*S	**Sb**	**04 17 11.2**	**+1.6**
PRCH				A		04 17 12.3	
	13μm,0.3s						
MESC	**Monte Escuro**	**0.61**	**314**	*i* P	**Pb**	**04 17 02.0**	**0.0**
MESC				*e*S	**Sb**	**04 17 12.2**	**+2.0**
LFA	**Lagoa do Fogo**	**0.62**	**310**	*i* P	**Pb**	**04 17 02.3**	**+0.1**
PMAT	**Coroa da Mata**	**0.64**	**314**	*e*P	**Pb**	**04 17 02.5**	**0.0**
PVER	**Pico Vermelho**	**0.65**	**311**	*e*P	**Pb**	**04 17 02.6**	**-0.1**
PVER				*e*S	**Sb**	**04 17 12.7**	**+1.3**
PVER				A		04 17 15.5	
	4μm,0.4s						
PVER	**Pico Vermelho**	**0.65**	**311**	*e*P	**Pb**	**04 17 02.6**	**-0.1**
PVER				*e*S	**Sb**	**04 17 12.7**	**+1.3**
CML	**Cha da Macela**	**0.65**	**307**	*i* P	**Pb**	**04 17 02.7**	**-0.1**
PDA	**Ponta Delgada**	**0.72**	**301**	*e*P	**Pb**	**04 17 02.6**	**-1.3**
PDA				*e*S	**Sb**	**04 17 12.8**	**-0.5**
FAC	**Faja de Cima**	**0.72**	**304**	*i* P	**Pb**	**04 17 04.0**	**0.0**
PSAN	**Santo Antonio**	**0.82**	**306**	*e*P	**Pb**	**04 17 05.2**	**-0.3**
PFET	**Feteiras**	**0.84**	**302**	*e*P	**Pb**	**04 17 05.3**	**-0.6**
SET2	**Ginetes**	**0.86**	**303**	*e*P	**Pb**	**04 17 06.1**	**-0.3**
SET4	**Mosteiros**	**0.88**	**305**	*e*P	**Pb**	**04 17 06.1**	**-0.5**
PFAV	**Pico das Favas**	**2.19**	**308**	*i* P	**Pn**	**04 17 24.9**	**+0.2**
PFAV				*i* S	**Sn**	**04 17 50.6**	**-0.4**
PFAV				A		04 17 52.5	
	805nm,0.2s						
RIB2	**Ribeirinha**	**2.22**	**306**	*e*P	**Pn**	**04 17 25.1**	**-0.1**
RIB2				*i* S	**Sn**	**04 17 51.4**	**-0.4**
RIB2				A		04 17 52.8	
	2μm,0.3s						
RIB2	**Ribeirinha**	**2.22**	**306**	*e*P	**Pn**	**04 17 25.1**	**-0.1**
RIB2				*i* S	**Sn**	**04 17 51.4**	**-0.4**
ADH	**Angra Heroismo**	**2.25**	**305**	*i* P	**Pn**	**04 17 25.0**	**-0.6**
ADH				*e*S	**Sn**	**04 17 52.0**	**-0.5**
PVNV	**Vila Nova**	**2.26**	**308**	*e*P	**Pn**	**04 17 25.4**	**-0.4**
PVNV				*e*S	**Sn**	**04 17 52.5**	**-0.3**
PVNV				A		04 17 55.5	
	689nm,0.5s						
PVNV	**Vila Nova**	**2.26**	**308**	*e*P	**Pn**	**04 17 25.4**	**-0.4**
PVNV				*e*S	**Sn**	**04 17 52.5**	**-0.3**
PPAD	**Pico dos Padre**	**2.31**	**306**	*e*P	**Pn**	**04 17 26.4**	**0.0**
PPAD				*e*S	**Sn**	**04 17 54.0**	**0.0**
PPAD				A		04 17 57.2	
	817nm,0.2s						
PPAD	**Pico dos Padre**	**2.31**	**306**	*e*P	**Pn**	**04 17 26.4**	**0.0**
PPAD				*e*S	**Sn**	**04 17 54.0**	**0.0**
PBIS	**Biscoitos**	**2.32**	**307**	*e*P	**Pn**	**04 17 26.2**	**-0.4**
PBIS				*e*S	**Sn**	**04 17 54.0**	**-0.3**
PBIS				A		04 17 57.4	
	244nm,0.2s						
PBIS	**Biscoitos**	**2.32**	**307**	*e*P	**Pn**	**04 17 26.2**	**-0.4**
PBIS				*e*S	**Sn**	**04 17 54.0**	**-0.3**
ASBA	**Santa Barbara**	**2.34**	**306**	*e*P	**Pn**	**04 17 27.2**	**+0.3**
ASBA				*i* S	**Sn**	**04 17 54.5**	**-0.4**
ASBA				A		04 17 57.0	
	520nm,0.1s						
ASBA	**Santa Barbara**	**2.34**	**306**	*e*P	**Pn**	**04 17 27.2**	**+0.3**
ASBA				*i* S	**Sn**	**04 17 54.5**	**-0.4**
PIED	**Piedade**	**2.71**	**294**	*e*P	**Pn**	**04 17 32.5**	**+0.6**
PID	**Ribeirinha**	**2.77**	**294**	*e*P	**Pn**	**04 17 32.2**	**-0.5**
PID				*e*S	**Sn**	**04 18 04.8**	**-0.5**
PMAN	**Manadas**	**2.82**	**297**	*e*P	**Pn**	**04 17 32.9**	**-0.6**
PMAN				*e*S	**Sn**	**04 18 05.3**	**-1.3**
PMAN				A		04 18 06.5	
	506nm,0.3s						
PMAN				A		04 18 06.7	
	406nm,0.3s						
PMAN	**Manadas**	**2.82**	**297**	*e*P	**Pn**	**04 17 32.9**	**-0.6**
PMAN				*e*S	**Sn**	**04 18 05.3**	**-1.3**
PAMA	**Santo Amaro**	**2.91**	**298**	*e*P	**Pn**	**04 17 34.3**	**-0.3**
PAMA				*e*S	**Sn**	**04 18 08.3**	**-0.4**
PAMA				A		04 18 12.6	
	182nm,0.4s						
PAMA	**Santo Amaro**	**2.91**	**298**	*e*P	**Pn**	**04 17 34.3**	**-0.3**
PAMA				*e*S	**Sn**	**04 18 08.3**	**-0.4**
PBOI	**Pico dos Bois**	**2.95**	**292**	*e*S	**Sn**	**04 18 09.4**	**-0.5**
PTEI	**Pico do Teixo**	**2.96**	**293**	*e*S	**Sn**	**04 18 09.8**	**-0.3**
ROSA	**Rosais**	**2.97**	**298**	*e*P	**Pn**	**04 17 35.2**	**-0.3**
ROSA				*e*S	**Sn**	**04 18 09.5**	**-0.7**
STGR	**Santa Cruz**	**2.98**	**306**	*e*P	**Pn**	**04 17 35.8**	**+0.1**
STGR				*e*S	**Sn**	**04 18 10.7**	**0.0**
STGR				A		04 18 13.8	
	318nm,0.2s						
STGR	**Santa Cruz**	**2.98**	**306**	*e*P	**Pn**	**04 17 35.8**	**+0.1**
STGR				*e*S	**Sn**	**04 18 10.7**	**0.0**
PVIA	**Vitoria**	**3.01**	**305**	*e*S	**Sn**	**04 18 10.9**	**-0.4**
PICO	**Pico**	**3.01**	**293**	*e*P	**Pn**	**04 17 35.8**	**-0.3**
PICO				*e*S	**Sn**	**04 18 10.5**	**-0.9**
PCND	**Candelaria**	**3.03**	**292**	*e*P	**Pn**	**04 17 36.4**	**+0.1**
PCND				*e*S	**Sn**	**04 18 11.2**	**-0.5**
PCND				A		04 18 16.6	
	283nm,0.3s						
HOR	**Horta**	**3.17**	**292**	*e*P	**Pn**	**04 17 38.0**	**-0.3**
HOR				*e*S	**Sn**	**04 18 14.2**	**-1.1**
CALA	**Caldeira**	**3.24**	**293**	*e*P	**Pn**	**04 17 38.9**	**-0.4**
CALA				*e*S	**Sn**	**04 18 16.5**	**-0.6**
PTCA	**Ponta do Capel**	**3.31**	**293**	*e*S	**Sn**	**04 18 18.1**	**-0.7**
PLUZ	**Luz**	**3.61**	**298**	*e*P	**Pn**	**04 17 34.5**	**-10**
PLUZ				*e*S	**Sn**	**04 18 09.0**	**-17**
PLUZ				A		04 18 11.8	
	352nm,0.3s						
MTE	**Manteigas**	**13.85**	**72**	*e*Pn	**Pn**	**04 20 02.8**	**-1.8**
ESDC	**Sonseca Array**	**16.54**	**76**	Pn	**Pn**	**04 20 38.8**	**-1.3**
	baz=270,slow=11,SNR=9.3						
EKA	**Eskdalemuir Ar**	**23.23**	**32**	P	**P**	**04 21 53.8**	**-1.3**
	3.6nm,0.6s,mb4.0,baz=227,slow=30,SNR=4.4						
BNI	**Bardonecchia**	**24.84**	**62**	*e*P	**P**	**04 22 10.8**	**+0.6**
	13nm,1.2s,mb4.3						
BNI	**Bardonecchia**	**24.84**	**62**	*e*P	**P**	**04 22 10.8**	**+0.6**
	13nm,1.2s,mb4.3						
WLF	**Walferdange**	**25.45**	**51**	*e*P	**P**	**04 22 14.0**	**-1.7**
	19nm,0.7s,mb4.7						
WLF				*e*	pP	04 22 19.5	-3.6
WLF	**Walferdange**	**25.45**	**51**	P	**P**	**04 22 14.2**	**-1.5**
	comp=Z,29nm,1.6s,mb4.6						
WLF	**Walferdange**	**25.45**	**51**	*e*P	**P**	**04 22 14.0**	**-1.7**
BFO	**Black Forest**	**26.50**	**55**	*e*P	**P**	**04 22 24.0**	**-1.2**
	comp=Z,3.2nm,0.6s,mb4.0						
BFO	**Black Forest**	**26.50**	**55**	*e*P	**P**	**04 22 24.0**	**-1.2**
	comp=Z,3.2nm,0.6s,mb4.0						
KEST	**Kesra**	**27.47**	**83**	P	**P**	**04 22 35.5**	**+1.5**
	comp=Z,1.9nm,1.0s,mb3.6,baz=258,slow=8.0,SNR=3.6						
GRFO	**Grafenberg**	**28.65**	**53**	*e*P	**P**	**04 22 43.9**	**-0.5**
	comp=Z,4.4nm,0.7s,mb4.3						
GRFO	**Grafenberg**	**28.65**	**53**	*e*P	**P**	**04 22 43.9**	**-0.5**
	comp=Z,4.4nm,0.7s,mb4.3						
GEC2	**GERESS Array S**	**30.11**	**55**	*e*P	**P**	**04 22 57.6**	**+0.2**
GEC2	**GERESS Array S**	**30.11**	**55**	*e*P	**P**	**04 22 57.6**	**+0.3**
GERES	**GERESS Array B**	**30.11**	**55**	P	**P**	**04 22 56.4**	**-1.0**
	comp=Z,7.7nm,0.7s,mb3.5,baz=263,slow=9.1,SNR=4.6						
NOA	**NORSAR Array B**	**32.72**	**32**	P	**P**	**04 23 19.9**	**-0.3**
	comp=Z,2.0nm,0.9s,mb4.0,baz=241,slow=8.9,SNR=2.5						
SCHQ	**Schefferville**	**33.30**	**315**	*e*P	**P**	**04 23 25.4**	**+0.1**
	comp=Z,3.8nm,0.7s,mb4.4						
SCHQ	**Schefferville**	**33.30**	**315**	P	**P**	**04 23 25.9**	**+0.6**
	comp=Z,3.2nm,0.7s,mb4.4,baz=81,slow=8.5,SNR=8.9						
SCHQ	**Schefferville**	**33.30**	**315**	*e*P	**P**	**04 23 25.4**	**+0.1**
	comp=Z,3.8nm,0.7s,mb4.4						
TOA0	**Torodi Ar. Sit**	**33.84**	**128**	*e*P	**P**	**04 23 33.3**	**+2.9**
TOA0	**Torodi Ar. Sit**	**33.84**	**128**	*e*P	**P**	**04 23 33.3**	**+2.9**
TORD	**Torodi Ar. Bea**	**33.84**	**128**	P	**P**	**04 23 34.0**	**+3.6**
	comp=Z,2.5nm,0.6s,mb4.3,baz=313,slow=7.4,SNR=14						
DBIC	**Dimbokro**	**35.59**	**144**	P	**P**	**04 23 49.3**	**+3.7**
	comp=Z,2.3nm,0.9s,mb4.1,baz=336,slow=12,SNR=3.8						
AKASG	**Malin Array Be**	**40.23**	**53**	P	**P**	**04 24 22.4**	**-2.0**
AKASG	**Malin Array Be**	**40.23**	**53**	P	**P**	**04 24 22.4**	**-2.0**
	comp=Z,2.0nm,0.9s,mb3.9,baz=272,slow=8.0,SNR=6.0						
AKBB	**Malin Array Si**	**40.23**	**53**	*e*P	**P**	**04 24 23.1**	**-1.3**
AKBB	**Malin Array Si**	**40.23**	**53**	*e*P	**P**	**04 24 23.1**	**-1.3**
ARCES	**ARCESS Array B**	**41.89**	**24**	P	**P**	**04 24 36.6**	**-1.2**
	comp=Z,2.9nm,0.7s,mb4.0,baz=234,slow=5.8,SNR=6.6						
FCC	**Fort Churchill**	**48.45**	**319**	*e*P	**P**	**04 25 31.2**	**+1.3**
	comp=Z,14nm,1.4s,mb4.8						
EYMN	**Ely**	**48.69**	**305**	*e*P	**P**	**04 25 31.0**	**-1.0**
	comp=Z,22nm,1.3s,mb5.0						
EYMN	**Ely**	**48.69**	**305**	*e*P	**P**	**04 25 31.0**	**-1.0**
	comp=Z,22nm,1.3s,mb5.0						
RES	**Resolute Bay**	**49.07**	**341**	*e*P	**P**	**04 25 35.4**	**+0.8**
	comp=Z,559nm,0.9s						
RES	**Resolute Bay**	**49.07**	**341**	*e*P	**P**	**04 25 35.4**	**+0.8**
	comp=Z,559nm,0.9s						
MALT	**Malatya**	**49.11**	**68**	*e*P	**P**	**04 25 34.3**	**-1.1**
	comp=Z,2.0nm,0.7s,mb4.3						
MALT	**Malatya**	**49.11**	**68**	*e*P	**P**	**04 25 34.3**	**-1.1**
	comp=Z,2.0nm,0.7s,mb4.3						
WVT	**Waverly**	**49.59**	**289**	*e*P	**P**	**04 25 40.7**	**+1.6**
	comp=Z,3.4nm,0.8s,mb4.4						
WVT	**Waverly**	**49.59**	**289**	*e*P	**P**	**04 25 40.7**	**+1.6**
	comp=Z,3.4nm,0.8s,mb4.4						
SDV	**Santo Domingo**	**50.05**	**247**	*e*P	**P**	**04 25 44.5**	**+1.7**
	comp=Z,3.4nm,0.7s,mb4.5						
SDV	**Santo Domingo**	**50.05**	**247**	*e*P	**P**	**04 25 44.5**	**+1.7**
	comp=Z,3.4nm,0.7s,mb4.5						
ULM	**Lac du Bonnet**	**50.94**	**309**	*e*P	**P**	**04 25 48.9**	**-0.2**
	comp=Z,13nm,1.5s,mb4.7						
ULM	**Lac du Bonnet**	**50.94**	**309**	*e*P	**P**	**04 25 48.9**	**-0.2**
	comp=Z,13nm,1.5s,mb4.7						
AGMN	**Agassiz Refuge**	**51.44**	**306**	*e*P	**P**	**04 25 53.4**	**+0.6**
	comp=Z,4.5nm,0.9s,mb4.4						
AGMN	**Agassiz Refuge**	**51.44**	**306**	*e*P	**P**	**04 25 53.4**	**+0.6**
	comp=Z,4.5nm,0.9s,mb4.4						
FFC	**Flin Flon**	**53.44**	**315**	*e*P	**P**	**04 26 08.4**	**+0.8**
	comp=Z,0.2nm,0.2s,mb3.7						
FFC	**Flin Flon**	**53.44**	**315**	*e*P	**P**	**04 26 08.4**	**+0.8**
	comp=Z,0.2nm,0.2s,mb3.7						
BDFB	**Brasilia**	**57.05**	**207**	P	**P**	**04 26 39.4**	**+5.5**
	comp=Z,1.1nm,0.4s,mb4.2,baz=31,slow=15,SNR=3.2						
YKA	**Yellowknife Ar**	**57.51**	**327**	P	**P**	**04 26 36.9**	**+0.2**
YKA				PcP	PcP	04 27 29.1	-0.9
YKA	**Yellowknife Ar**	**57.51**	**327**	P	**P**	**04 26 36.9**	**+0.2**
	comp=Z,1.3nm,0.8s,mb4.0,baz=70,slow=7.0,SNR=17						
YKA				PcP	PcP	04 27 29.1	-0.9
	comp=Z,0.3nm,0.7s,baz=67,slow=4.3,SNR=3.7						
YKA	**Yellowknife Ar**	**57.51**	**327**	PcP	PcP	04 27 29.1	-0.9
AKTK	**Aktyubinsk**	**58.16**	**48**	P	**P**	**04 26 40.9**	**-0.6**
AKTK	**Aktyubinsk**	**58.16**	**48**	P	**P**	**04 26 40.9**	**-0.6**
AKTO	**Aktyubinsk**	**58.16**	**48**	P	**P**	**04 26 40.9**	**-0.6**
	comp=Z,3.0nm,0.8s,mb4.4,baz=304,slow=12,SNR=9.2						
WMOK	**Wichita Mounta**	**58.34**	**292**	*e*P	**P**	**04 26 43.6**	**+0.6**
	comp=Z,3.9nm,1.2s,mb4.3						
WMOK	**Wichita Mounta**	**58.34**	**292**	*e*P	**P**	**04 26 43.6**	**+0.6**
	comp=Z,3.9nm,1.2s,mb4.3						
EDM	**Edmonton**	**60.27**	**316**	*e*P	**P**	**04 26 56.5**	**+0.5**
EDM	**Edmonton**	**60.27**	**316**	*e*P	**P**	**04 26 56.5**	**+0.4**
JCT	**Junction City**	**61.05**	**288**	*e*P	**P**	**04 27 02.5**	**+0.8**
	comp=Z,18nm,1.4s,mb5.0						
JCT	**Junction City**	**61.05**	**288**	*e*P	**P**	**04 27 02.5**	**+0.8**
	comp=Z,18nm,1.4s,mb5.0						
INK	**Inuvik**	**62.19**	**337**	*e*P	**P**	**04 27 08.6**	**-0.2**
	comp=Z,627nm,1.7s						
INK	**Inuvik**	**62.19**	**337**	*e*P	**P**	**04 27 08.6**	**-0.2**
	comp=Z,627nm,1.7s						
SMCO	**Snowmass**	**62.25**	**300**	*e*P	**P**	**04 27 11.5**	**+1.8**
	comp=Z,2.3nm,0.9s,mb4.3						
SMCO	**Snowmass**	**62.25**	**300**	*e*P	**P**	**04 27 11.5**	**+1.8**
	comp=Z,2.3nm,0.9s,mb4.3						
BW06	**Boulder Array**	**62.39**	**304**	*e*P	**P**	**04 27 10.8**	**+0.3**
	comp=Z,3.2nm,1.0s,mb4.4						
PDAR	**Pinedale Array**	**62.39**	**304**	P	**P**	**04 27 11.1**	**+0.6**
	comp=Z,1.3nm,0.9s,mb4.0,baz=56,slow=8.0,SNR=9.3						
BOZ	**Bozeman (W)**	**62.45**	**308**	*e*P	**P**	**04 27 12.2**	**+1.3**
	comp=Z,2.6nm,1.1s,mb4.3						
BOZ	**Bozeman (W)**	**62.45**	**308**	*e*P	**P**	**04 27 12.2**	**+1.3**
	comp=Z,2.6nm,1.1s,mb4.3						
LOHW	**Long Hollow**	**62.70**	**305**	*e*P	**P**	**04 27 14.1**	**+1.5**
	comp=Z,4.8nm,1.2s,mb4.5						
LOHW	**Long Hollow**	**62.70**	**305**	*e*P	**P**	**04 27 14.1**	**+1.5**
	comp=Z,4.8nm,1.2s,mb4.5						
MOOW	**Moose Ponds**	**62.73**	**306**	*e*P	**P**	**04 27 13.8**	**+1.0**
	comp=Z,4.7nm,1.5s,mb4.4						
MOOW	**Moose Ponds**	**62.73**	**306**	*e*P	**P**	**04 27 13.8**	**+1.0**
	comp=Z,4.7nm,1.5s,mb4.4						
BRVK	**Borovoye**	**63.99**	**42**	*e*P	**P**	**04 27 21.7**	**+0.8**
	comp=Z,3.0nm,0.9s,mb4.3						
BRVK	**Borovoye**	**63.99**	**42**	*e*P	**P**	**04 27 21.7**	**+0.7**
	comp=Z,3.0nm,0.9s,mb4.3						
TXAR	**Lajitas Array**	**64.53**	**288**	P	**P**	**04 27 26.1**	**+1.1**
	comp=Z,2.4nm,0.8s,mb4.3,baz=82,slow=7.1,SNR=22						
DUG	**Dugway**	**65.75**	**303**	*e*P	**P**	**04 27 33.9**	**+1.2**
	comp=Z,3.5nm,1.2s,mb4.3						
DUG	**Dugway**	**65.75**	**303**	*e*P	**P**	**04 27 33.9**	**+1.2**
	comp=Z,3.5nm,1.2s,mb4.3						
DAWY	**Dawson**	**66.57**	**334**	*e*P	**P**	**04 27 38.6**	**+1.1**
DAWY	**Dawson**	**66.57**	**334**	*e*P	**P**	**04 27 38.6**	**+1.1**
SKAG	**Skagway**	**67.81**	**329**	*e*P	**P**	**04 27 45.5**	**+0.1**
	comp=Z,15nm,1.2s,mb4.9						
SKAG	**Skagway**	**67.81**	**329**	*e*P	**P**	**04 27 45.5**	**0.0**
	comp=Z,15nm,1.2s,mb4.9						
TUC	**Tucson**	**68.30**	**295**	*e*P	**P**	**04 27 50.2**	**+1.3**
	comp=Z,2.0nm,1.1s,mb4.1						
TUC	**Tucson**	**68.30**	**295**	*e*P	**P**	**04 27 50.2**	**+1.2**
	comp=Z,2.0nm,1.1s,mb4.1						
WRAK	**Wrangell Islan**	**68.30**	**325**	*e*P	**P**	**04 27 47.6**	**-0.9**
	comp=Z,16nm,0.9s,mb5.1						
TIXI	**Tiksi**	**69.70**	**9**	*e*P	**P**	**04 27 57.7**	**+0.7**
	comp=Z,2.4nm,0.2s,mb4.8						
TIXI	**Tiksi**	**69.70**	**9**	*e*P	**P**	**04 27 57.7**	**+0.7**
	comp=Z,2.4nm,0.2s,mb4.8						
ZALV	**Zalesovo Beam**	**70.81**	**36**	P	**P**	**04 28 03.9**	**-0.2**
ZALV	**Zalesovo Beam**	**70.81**	**36**	P	**P**	**04 28 03.9**	**-0.2**
	comp=Z,2.3nm,0.7s,mb4.2,baz=310,slow=6.4,SNR=11						
EKS2	**Erkin-Say**	**71.36**	**50**	*e*P	**P**	**04 28 08.2**	**+0.6**
	comp=Z,2.6nm,0.9s,mb4.2						
EKS2	**Erkin-Say**	**71.36**	**50**	*e*P	**P**	**04 28 08.2**	**+0.5**
	comp=Z,2.6nm,0.9s,mb4.2						
AML	**Almayashu**	**71.61**	**51**	*e*P	**P**	**04 28 10.0**	**+0.9**
	comp=Z,2.9nm,1.0s,mb4.2						
AML	**Almayashu**	**71.61**	**51**	*e*P	**P**	**04 28 10.0**	**+0.8**
	comp=Z,2.9nm,1.0s,mb4.2						
MK31	**Makanchi Array**	**73.89**	**43**	*e*P	**P**	**04 28 22.2**	**-0.4**
MK31	**Makanchi Array**	**73.89**	**43**	*e*P	**P**	**04 28 22.2**	**-0.4**
MKAR	**Makanchi Array**	**73.89**	**43**	P	**P**	**04 28 22.2**	**-0.4**
	comp=Z,1.9nm,0.8s,mb4.1,baz=320,slow=5.5,SNR=8.9						
MATP	**Matopo**	**76.36**	**129**	P	**P**	**04 28 41.0**	**+4.0**
	comp=Z,1.1nm,0.7s,mb3.9,baz=285,slow=7.3,SNR=3.6						
SONM	**Songino Array**	**84.69**	**31**	P	**P**	**04 29 21.9**	**+0.3**
	comp=Z,2.4nm,0.9s,mb4.3,baz=287,slow=5.7,SNR=13						
MBWA	**Marble Bar**	**145.41**	**72**	*e*PKPbc	PKPbc	04 36 24.9	-1.1
MBWA				*e*PKPab	PKPab	04 36 29.8	+3.7
MBWA	**Marble Bar**	**145.41**	**72**	*e*PKPbc	PKPbc	04 36 24.9	-1.1
FITZ	**Fitzroy Crossi**	**147.81**	**61**	*e*PKPbc	PKPbc	04 36 32.0	-1.1
FITZ	**Fitzroy Crossi**	**147.81**	**61**	*e*PKPbc	PKPbc	04 36 32.0	-1.1
KAKA	**Kakadu**	**148.15**	**45**	*e*PKPbc	PKPbc	04 36 32.8	-1.2

CSEM ***05*** *04:29:29.3±0.2,3747N×2470W,h2km,mb4.2/2,Error ellipse: s-maj=11.8km s-min=5.0km az=12.0*
ISCJB ***05*** *04:29:31.1±1.0,375N±02×2472W±008,h10km,mb3.9/12, Error ellipse: s-maj=26.0km s-min=7.3km az=12.1*
IDC ***05*** *04:29:33.1±1.2,3759N×2436W,h0km,mb3.9/9,mb1 4.1/9, mb1mx3.8/24,mbtmp3.9/9,Error ellipse: s-maj=32.3km s-min=22.5km az=3.0*
NEIC ***05*** *04:29:34.5±0.8,3754N×2434W,h10km,mb4.2/2,Error ellipse: s-maj=20.3km s-min=13.6km az=189.0*

ISC 05 04:29:32.5±1.0,375N±02×2479W±008,h10km,n19, σ0°62/21,mb3.9/12,Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDA	**Ponta Delgada**	**0.75**	**293**	*e*P	**Pg**	**04 29 45.9**	**-1.1**
PDA				*e*S	**Sg**	**04 29 57.4**	**+0.6**
ADH	**Angra Heroismo**	**2.27**	**303**	*e*P	**Pn**	**04 30 09.6**	**-0.4**
ADH				*e*S	**Sn**	**04 30 25.8**	**-12**
EKA	**Eskdalemuir Ar**	**23.12**	**32**	P	**P**	**04 34 38.1**	**-0.4**
	2.5nm,1.0s,mb3.6,baz=231,slow=10.0,SNR=4.1						
GERES	**GERESS Array B**	**29.99**	**55**	P	**P**	**04 35 41.0**	**-0.1**
	0.5nm,0.7s,mb3.4,baz=247,slow=6.9,SNR=3.6						
TORD	**Torodi Ar. Bea**	**33.83**	**129**	P	**P**	**04 36 15.1**	**0.0**
	0.5nm,0.6s,mb3.6,baz=335,slow=5.6,SNR=6.3						
ARCES	**ARCESS Array B**	**41.78**	**24**	P	**P**	**04 37 21.4**	**-0.3**
	10nm,1.2s,mb4.3,baz=224,slow=5.1,SNR=3.8						
FCC	**Fort Churchill**	**48.43**	**319**	*e*P	**P**	**04 38 18.7**	**+4.0**
	4.9nm,1.2s,mb4.4						
FCC	**Fort Churchill**	**48.43**	**319**	*e*P	**P**	**04 38 18.7**	**+4.1**
MALT	**Malatya**	**49.01**	**68**	*e*P	**P**	**04 38 18.5**	**-0.9**
	1.2nm,0.8s,mb4.0						
MALT	**Malatya**	**49.01**	**68**	*e*P	**P**	**04 38 18.5**	**-0.9**
AKTK	**Aktyubinsk**	**58.04**	**48**	P	**P**	**04 39 25.9**	**+0.4**
AKTK	**Aktyubinsk**	**58.04**	**48**	P	**P**	**04 39 25.9**	**+0.4**
AKTO	**Aktyubinsk**	**58.04**	**48**	P	**P**	**04 39 25.9**	**+0.4**
	1.8nm,0.8s,mb4.1,baz=274,slow=5.4,SNR=4.7						
INK	**Inuvik**	**62.15**	**337**	P	**P**	**04 39 53.8**	**+0.5**
	2.2nm,1.1s,mb4.2,baz=60,slow=8.1,SNR=4.0						
PDAR	**Pinedale Array**	**62.41**	**304**	P	**P**	**04 39 59.7**	**+4.2**
	0.9nm,0.9s,mb3.9,baz=58,slow=5.6,SNR=5.3						
TXAR	**Lajitas Array**	**64.58**	**288**	P	**P**	**04 40 15.2**	**+5.1**
	0.8nm,0.7s,mb3.8,baz=72,slow=7.9,SNR=6.9						
MKAR	**Makanchi Array**	**73.78**	**43**	P	**P**	**04 41 07.0**	**+0.1**
MKAR	**Makanchi Array**	**73.78**	**43**	P	**P**	**04 41 07.0**	**+0.1**
	0.9nm,0.7s,mb3.8,baz

0.3nm,0.7s,mb3.3,baz=288,slow=6.6,SNR=2.3
AKASG **Malin Array Be** 75.75 323 P P 04 53 21.9 -0.3
0.7nm,0.4s,mb3.9,baz=46,slow=6.0,SNR=8.0
NOA **NORSAR Array B** 75.77 338 P P 04 53 21.7 -0.4
0.6nm,0.5s,mb3.8,baz=42,slow=6.0,SNR=3.0
PDAR **Pinedale Array** 78.53 45 P P 04 53 39.9 +1.9
0.5nm,0.9s,mb3.4,baz=326,slow=4.4,SNR=3.2

PDA ***05*** *04:44:29.4±0.7, 3757N×2439W, h10km, MD3.9, Error ellipse: s-maj=18.1km s-min=4.8km az=23.0*
CSEM ***05*** *04:44:29.4±0.7, 3757N×2439W, h10km, MD3.9, Error ellipse: s-maj=18.1km s-min=4.8km az=23.0, After PDA*
SVSA 05 04:44:29.4±0.7, 3757N×2439W, h10km, MD3.9, Error ellipse: s-maj=18.1km s-min=4.8km az=23.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDA	**Ponta Delgada**	**1.03**	**280**	*eP*	Pg	04 44 45.3	-3.8
PDA				*eS*	Sg	04 44 56.7	-5.8
ADH	**Angra Heroismo**	**2.49**	**297**	*eP*	Pn	04 45 05.5	-4.5
ADH				*eS*	Sn	04 45 32.2	-8.2
PID	**Ribeirinha**	**3.07**	**288**	*eP*	Pn	04 45 13.2	-4.8
PID				*eS*	Sn	04 45 46.9	-7.8
ROSA	**Rosais**	**3.25**	**292**	*eP*	Pn	04 45 16.1	-4.3
ROSA				*eS*	Sn	04 45 51.1	-7.9
PICO	**Pico**	**3.32**	**287**	*eP*	Pn	04 45 17.0	-4.4
PICO				*eS*	Sn	04 45 53.1	-7.8
CALA	**Caldeira**	**3.55**	**288**	*eP*	Pn	04 45 20.2	-4.3

IDC ***05*** *04:52:04.8±0.9, 3727N×2442W, h0km, mb3.7/10, mb1 3.9/11, mb1mx3.7/24, mbtmp3.7/11, ML3.8/1, Error ellipse: s-maj=24.5km s-min=20.5km az=168.0*
ISCJB ***05*** *04:52:05.7±1.4, 3738N±008×2476W±003, h22km±10km, mb4.0/24, Error ellipse: s-maj=14.2km s-min=4.0km az=9.0*
NEIC ***05*** *04:52:06.5±0.4, 3725N×2449W, h10km, mb4.3/17, Error ellipse: s-maj=8.9km s-min=5.9km az=167.0*
CSEM ***05*** *04:52:06.3±0.1, 3736N×2473W, h30km, mb4.4/10, Error ellipse: s-maj=3.9km s-min=1.4km az=1.0*
SVSA ***05*** *04:52:07.5±0.5, 3717N×2466W, h5km, MD4.0, ML3.8, Error ellipse: s-maj=10.5km s-min=2.8km az=36.0*
PDA ***05*** *04:52:07.5±0.5, 3717N×2466W, h5km, MD4.0, ML3.8, Error ellipse: s-maj=10.5km s-min=2.8km az=36.0*
ISC 05 04:52:07.1±2.0, 3741N±008×2478W±003, h20km±12km, n69, σ0§87/78, mb4.0/24, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDA	**Ponta Delgada**	**0.78**	**296**	*eP*	Pb	04 52 21.4	-0.5
PDA				*eS*	Sn	04 52 33.3	-0.7
ADH	**Angra Heroismo**	**2.30**	**303**	*eP*	Pn	04 52 44.0	+0.1
ADH				*eS*	Sn	04 53 12.0	+0.3
PID	**Ribeirinha**	**2.83**	**292**	*eP*	Pn	04 52 51.5	+0.3
PID				*eS*	Sn	04 53 24.3	-0.5
PMAN	**Manadas**	**2.88**	**296**	*eP*	Pn	04 52 52.1	+0.2
PMAN				*eS*	Sn	04 53 25.4	-0.6
PMAN				A		04 53 28.6	
	106nm,0.2s						
PMAN	**Manadas**	**2.88**	**296**	*eP*	Pn	04 52 52.1	+0.2
PMAN				*eS*	Sn	04 53 25.4	-0.6
ROSA	**Rosais**	**3.03**	**297**	*eP*	Pn	04 52 54.4	+0.5
ROSA				*eS*	Sn	04 53 29.3	-0.3
PICO	**Pico**	**3.08**	**292**	*eP*	Pn	04 52 54.9	+0.3
PICO				*eS*	Sn	04 53 30.2	-0.6
HOR	**Horta**	**3.24**	**291**	*eP*	Pn	04 52 57.0	+0.2
HOR				*eS*	Sn	04 53 33.9	-0.9
CALA	**Caldeira**	**3.31**	**292**	*eP*	Pn	04 52 58.0	+0.2
CALA				*eS*	Sn	04 53 35.8	-0.7
ESDC	**Sonseca Array**	**16.45**	**76**	Pn	Pn	04 55 55.3	-1.3
	0.1nm,0.3s,baz=255,slow=29,SNR=3.1						
QUIF	**Quistinic**	**18.99**	**50**	*eP*	Pn	04 56 28.0	0.0
	216nm,1.8s						
QUIF	**Quistinic**	**18.99**	**50**	*eP*	Pn	04 56 28.0	0.0
	108nm,1.8s						
ROSF	**Rostrenen**	**19.11**	**48**	*eP*	Pn	04 56 29.1	-0.4
	69nm,1.3s						
ROSF	**Rostrenen**	**19.11**	**48**	*eP*	Pn	04 56 29.1	-0.4
	34nm,1.3s						
SGMF	**Saint Gilles**	**19.50**	**49**	*eP*	Pn	04 56 33.6	-0.6
DSB	**Dublin**	**20.36**	**33**	*eP*	P	04 56 42.6	+0.5
	5.8nm,0.9s						
DSB	**Dublin**	**20.36**	**33**	*eP*	P	04 56 42.7	+0.6
	5.8nm,0.9s						
MFF	**Saint Martin d**	**20.42**	**55**	*eP*	P	04 56 43.2	+0.4
	31nm,1.1s						
MFF	**Saint Martin d**	**20.42**	**55**	*eP*	P	04 56 43.2	+0.4
	16nm,1.1s						
LFF	**La Frestale**	**20.58**	**61**	*eP*	P	04 56 44.8	+0.2
	71nm,1.3s						
LFF	**La Frestale**	**20.58**	**61**	*eP*	P	04 56 44.8	+0.2
	35nm,1.3s						
LDF	**La Druitiere**	**21.12**	**50**	*eP*	P	04 56 50.8	+0.3
	52nm,1.3s,mb4.4						
LDF	**La Druitiere**	**21.12**	**50**	*eP*	P	04 56 50.8	+0.3
	26nm,1.3s,mb4.4						
CAF	**Calviac**	**21.50**	**61**	*eP*	P	04 56 54.0	-0.5
	18nm,1.0s,mb4.1						
CAF	**Calviac**	**21.50**	**61**	*eP*	P	04 56 54.0	-0.5
	9.2nm,1.0s,mb4.1						
TCF	**Toulx Ste Croi**	**21.89**	**58**	*eP*	P	04 56 58.8	0.0
	45nm,1.2s,mb4.5						
TCF	**Toulx Ste Croi**	**21.89**	**58**	*eP*	P	04 56 58.8	0.0
	23nm,1.2s,mb4.5						
BGF	**Bois d'Agland**	**22.39**	**57**	*eP*	P	04 57 03.5	-0.5
	14nm,0.9s,mb4.1						
BGF	**Bois d'Agland**	**22.39**	**57**	*eP*	P	04 57 03.5	-0.5
	7.2nm,0.9s,mb4.1						
AVF	**Avril sur Loir**	**22.78**	**57**	*eP*	P	04 57 07.5	-0.7
	40nm,1.5s,mb4.3						
AVF	**Avril sur Loir**	**22.78**	**57**	*eP*	P	04 57 07.5	-0.7
	20nm,1.5s,mb4.3						
SSF	**Saint Saulge**	**22.95**	**56**	*eP*	P	04 57 09.3	-0.7
	34nm,1.3s,mb4.3						
SSF	**Saint Saulge**	**22.95**	**56**	*eP*	P	04 57 09.3	-0.7
	17nm,1.3s,mb4.3						
SMF	**Signal de Mont**	**23.07**	**57**	*eP*	P	04 57 10.7	-0.6
EKA	**Eskdalemuir Ar**	**23.16**	**32**	P	P	04 57 11.9	-0.2
	1.1nm,0.8s,mb3.4,baz=226,slow=6.8,SNR=4.0						
EKA	**Eskdalemuir Ar**	**23.16**	**32**	P	P	04 57 11.9	-0.2
BAIF	**Baives**	**24.30**	**49**	*eP*	P	04 57 22.8	-0.2
GIVF	**Givet**	**24.68**	**50**	*eP*	P	04 57 26.5	0.0
LPG	**La Plagne**	**24.86**	**61**	*eP*	P	04 57 29.1	+0.9
	30nm,1.3s,mb4.4						
LPG	**La Plagne**	**24.86**	**61**	*eP*	P	04 57 29.1	+0.9
	15nm,1.3s,mb4.4						
HAU	**Haudompre**	**25.05**	**55**	*eP*	P	04 57 29.6	-0.3
HINF	**Hinteralfeld**	**25.34**	**56**	*eP*	P	04 57 32.0	-0.5
	15nm,1.1s,mb4.2						
HINF	**Hinteralfeld**	**25.34**	**56**	*eP*	P	04 57 32.0	-0.5
	7.7nm,1.1s,mb4.2						
WLF	**Walferdange**	**25.36**	**51**	*eP*	P	04 57 33.0	+0.3
	18nm,1.0s,mb4.6						
WLF	**Walferdange**	**25.36**	**51**	*eP*	P	04 57 33.0	+0.3
	18nm,1.0s,mb4.6						
CDF	**Champ du Feu**	**25.75**	**55**	*eP*	P	04 57 36.4	+0.2
GERES	**GERESS Array B**	**30.02**	**55**	P	P	04 58 14.3	0.0
	0.3nm,0.5s,mb3.3,baz=282,slow=6.7,SNR=3.7						
TOA0	**Torodi Ar. Sit**	**33.79**	**129**	*eP*	P	04 58 47.2	-0.6
TOA0	**Torodi Ar. Sit**	**33.79**	**129**	*eP*	P	04 58 47.2	-0.6
TORD	**Torodi Ar. Bea**	**33.79**	**129**	P	P	04 58 46.5	-1.3
	1.4nm,0.8s,mb3.9,baz=315,slow=8.1,SNR=8.7						
AKASG	**Malin Array Be**	**40.14**	**53**	P	P	04 59 39.8	-1.7
	0.7nm,0.7s,mb3.5,baz=274,slow=7.9,SNR=4.6						
FCC	**Fort Churchill**	**48.48**	**319**	*eP*	P	05 00 51.9	+3.9
	2.8nm,0.9s,mb4.3						
RES	**Resolute Bay**	**49.07**	**341**	*eP*	P	05 00 54.6	+2.2
	320nm,1.5s						
RES	**Resolute Bay**	**49.07**	**341**	*eP*	P	05 00 54.6	+2.2
	320nm,1.5s						
BDFB	**Brasilia**	**57.12**	**207**	P	P	05 01 52.5	+0.2
	1.8nm,0.8s,mb4.2,baz=21,slow=6.4,SNR=3.7						
YKA	**Yellowknife Ar**	**57.53**	**327**	P	P	05 01 57.3	+2.7
	0.7nm,0.8s,mb3.7,baz=71,slow=7.0,SNR=7.7						
YKA	**Yellowknife Ar**	**57.53**	**327**	P	P	05 01 57.3	+2.6
WMOK	**Wichita Mounta**	**58.41**	**292**	*eP*	P	05 01 55.7	-5.6
	2.3nm,0.8s,mb4.3						
INK	**Inuvik**	**62.20**	**337**	*eP*	P	05 02 29.7	+3.0
INK	**Inuvik**	**62.20**	**337**	P	P	05 02 30.0	+3.3
	1.0nm,0.9s,mb4.0,baz=91,slow=6.7,SNR=4.2						
INK	**Inuvik**	**62.20**	**337**	*eP*	P	05 02 29.7	+3.0
MOOW	**Moose Ponds**	**62.78**	**306**	*eP*	P	05 02 34.6	+3.6
	1.6nm,1.2s,mb4.0						
TXAR	**Lajitas Array**	**64.60**	**288**	P	P	05 02 46.5	+3.2
	0.7nm,0.8s,mb3.8,baz=75,slow=6.8,SNR=11						
KURK	**Kurchatov**	**69.54**	**41**	*eP*	P	05 03 15.9	+1.6
	2.5nm,1.2s,mb4.0						
KURK	**Kurchatov**	**69.54**	**41**	*eP*	P	05 03 15.9	+1.7
	2.5nm,1.2s,mb4.0						
ZALV	**Zalesovo Beam**	**70.73**	**36**	P	P	05 03 21.7	+0.2
	0.4nm,0.3s,mb3.8,baz=316,slow=8.3,SNR=4.3						
MKAR	**Makanchi Array**	**73.81**	**43**	P	P	05 03 39.8	-0.2
	0.4nm,0.7s,mb3.5,baz=339,slow=6.5,SNR=3.6						
SONM	**Songino Array**	**84.62**	**31**	P	P	05 04 40.7	+1.7
SONM	**Songino Array**	**84.62**	**31**	P	P	05 04 40.7	+1.7
	0.2nm,0.4s,mb3.6,baz=325,slow=1.8,SNR=3.2						

IDC ***05*** *04:57:28.9±1.2, 3720N×2443W, h0km, mb3.7/10, mb1 3.8/11, mb1mx3.7/25, mbtmp3.7/11, ML4.1/1, Error ellipse: s-maj=30.4km s-min=21.8km az=12.0*
CSEM ***05*** *04:57:29.8±0.1, 3715N×2483W, h30km, mb4.8/4, Error ellipse: s-maj=6.9km s-min=1.9km az=19.0*
PDA ***05*** *04:57:29.9±0.7, 3735N×2441W, h5km, MD3.9, Error ellipse: s-maj=16.4km s-min=4.3km az=29.0*
ISCJB ***05*** *04:57:29.5±1.6, 372N±0.1×2483W±006, h24km±11km, mb3.9/14, Error ellipse: s-maj=19.6km s-min=5.5km az=18.7*
SVSA ***05*** *04:57:29.9±0.7, 3735N×2441W, h5km, MD3.9, Error ellipse: s-maj=16.4km s-min=4.3km az=29.0*
NEIC ***05*** *04:57:30.2±0.7, 3722N×2445W, h10km, mb4.2/2, Error ellipse: s-maj=17.0km s-min=12.0km az=202.0*
ISC 05 04:57:30.2±1.5, 373N±01×2482W±006, h15km±8km, n37, σ0§88/43, mb3.9/14, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDA	**Ponta Delgada**	**0.82**	**306**	*eP*	Pg	04 57 46.2	0.0
PDA				*eS*	Sn	04 57 59.7	+0.4
ADH	**Angra Heroismo**	**2.36**	**307**	*eP*	Pn	04 58 08.0	-0.4
ADH				*eS*	Sn	04 58 35.9	-1.2
PID	**Ribeirinha**	**2.86**	**295**	*eP*	Pn	04 58 15.4	0.0
PID				*eS*	Sn	04 58 49.4	-0.2
PMAN	**Manadas**	**2.92**	**299**	*eP*	Pn	04 58 15.9	-0.3
ROSA	**Rosais**	**3.07**	**299**	*eP*	Pn	04 58 18.2	0.0
ROSA				*eS*	Sn	04 58 53.9	-0.7
PICO	**Pico**	**3.11**	**294**	*eP*	Pn	04 58 19.0	+0.3
PICO				*eS*	Sn	04 58 55.5	-0.1
HOR	**Horta**	**3.27**	**294**	*eP*	Pn	04 58 21.2	+0.3
HOR				*eS*	Sn	04 58 59.4	-0.1
CALA	**Caldeira**	**3.34**	**294**	*eP*	Pn	04 58 21.9	0.0
CALA				*eS*	Sn	04 59 01.1	-0.2
ESDC	**Sonseca Array**	**16.51**	**75**	Pn	Pn	05 01 16.9	-4.4
	0.2nm,0.3s,baz=268,slow=13,SNR=3.6						
EKA	**Eskdalemuir Ar**	**23.30**	**32**	P	P	05 02 36.2	-1.2
	1.2nm,0.7s,mb3.5,baz=236,slow=8.4,SNR=6.7						
WLF	**Walferdange**	**25.48**	**51**	*eP*	P	05 02 56.3	-1.3
	3.0nm,0.5s,mb4.1						
WLF	**Walferdange**	**25.48**	**51**	*eP*	P	05 02 56.3	-1.3
	3.0nm,0.5s,mb4.1						
BFO	**Black Forest**	**26.52**	**55**	*eP*	P	05 03 07.7	+0.6
	3.7nm,0.8s,mb4.0						
BFO	**Black Forest**	**26.52**	**55**	*eP*	P	05 03 07.7	+0.6
	3.7nm,0.8s,mb4.0						
TOA0	**Torodi Ar. Sit**	**33.73**	**128**	*eP*	P	05 04 10.5	-0.7
TOA0	**Torodi Ar. Sit**	**33.73**	**128**	*eP*	P	05 04 10.5	-0.7
TORD	**Torodi Ar. Bea**	**33.73**	**128**	P	P	05 04 10.0	-1.2
	1.1nm,0.7s,mb3.9,baz=341,slow=5.5,SNR=11						
AKASG	**Malin Array Be**	**40.25**	**53**	P	P	05 05 05.0	-1.4
	0.4nm,0.5s,mb3.4,baz=270,slow=8.3,SNR=3.5						
AKASG	**Malin Array Be**	**40.25**	**53**	P	P	05 05 04.9	-1.4
ARCES	**ARCESS Array B**	**41.97**	**24**	P	P	05 05 21.4	+1.3
	5.0nm,1.1s,mb4.1,baz=266,slow=9.7,SNR=4.2						
RES	**Resolute Bay**	**49.20**	**341**	*eP*	P	05 06 18.5	+1.3
	70nm,0.8s						
RES	**Resolute Bay**	**49.20**	**341**	*eP*	P	05 06 18.5	+1.2
	70nm,0.8s						
YKA	**Yellowknife Ar**	**57.63**	**327**	P	P	05 07 22.9	+3.5
	0.3nm,0.7s,mb3.4,baz=68,slow=7.3,SNR=4.8						
AKTK	**Aktyubinsk**	**58.19**	**48**	P	P	05 07 24.1	+0.6
AKTK	**Aktyubinsk**	**58.19**	**48**	P	P	05 07 24.0	+0.5
AKTO	**Aktyubinsk**	**58.19**	**48**	P	P	05 07 24.1	+0.6
	1.9nm,0.8s,mb4.2,baz=281,slow=6.0,SNR=6.4						
INK	**Inuvik**	**62.32**	**337**	P	P	05 07 53.6	+2.2
	1.2nm,1.1s,mb3.9,baz=220,slow=8.3,SNR=6.1						
TXAR	**Lajitas Array**	**64.62**	**289**	P	P	05 08 09.9	+2.6
	1.1nm,0.8s,mb4.0,baz=78,slow=6.6,SNR=9.1						
SKAG	**Skagway**	**67.94**	**329**	*eP*	P	05 08 27.9	-0.1
	20nm,1.2s,mb5.0						
SKAG	**Skagway**	**67.94**	**329**	*eP*	P	05 08 27.9	-0.2
	20nm,1.2s,mb5.0						
ZALV	**Zalesovo Beam**	**70.86**	**36**	P	P	05 08 46.5	+0.2
	0.6nm,0.6s,mb3.7,baz=297,slow=6.3,SNR=3.2						
MK31	**Makanchi Array**	**73.93**	**43**	*eP*	P	05 09 04.1	-0.6
MK31	**Makanchi Array**	**73.93**	**43**	*eP*	P	05 09 04.1	-0.6
MKAR	**Makanchi Array**	**73.93**	**43**	P	P	05 09 04.6	-0.1
MKAR	**Makanchi Array**	**73.93**	**43**	P	P	05 09 04.6	-0.1
	0.3nm,0.6s,mb3.4,baz=308,slow=6.0,SNR=3.6						
SONM	**Songino Array**	**84.76**	**31**	P	P	05 10 04.0	+0.2
	0.9nm,0.9s,mb3.9,baz=304,slow=6.3,SNR=5.7						
FITZ	**Fitzroy Crossi**	**147.82**	**62**	*e*PKPbc	PKPbc	05 17 14.5	-0.5

ISCJB ***05*** *05:04:53.5±0.9, 3766N±006×724E±02, h222km±32km, Error ellipse: s-maj=31.5km s-min=4.7km az=162.3*
NNC ***05*** *05:05:02.7±5.5, 3863N×7207E, h0km, mb3.7, mpv3.4, Error ellipse: s-maj=70.9km s-min=36.6km az=53.0*
ISC 05 05:04:52.7±1.1, 3760N±006×723E±03, h250km±32km, n18, σ1§01/21, 2C-2D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**4.65**	**13**	P	Pn	05 06 03.3	-0.8
	SNR=31						
UCH	**Uchtor**	**4.92**	**19**	P	Pn	05 06 07.0	-0.4
	SNR=36						
KZA	**Kyzart**	**5.01**	**26**	P	Pn	05 06 07.6	-0.9
	SNR=10						
EKS2	**Erkin-Say**	**5.18**	**12**	P	Pn	05 06 10.7	+0.1
	SNR=27						
AAK	**Ala-Archa**	**5.30**	**18**	P	Pn	05 06 12.2	+0.2
	SNR=28						
KBK	**Karagaybulak**	**5.44**	**21**	P	Pn	05 06 15.4	+1.7
	SNR=5.9						
ULHL	**Ulahol**	**5.54**	**32**	P	Pn	05 06 14.4	-0.5
	SNR=19						
KK31	**Karatay Array**	**5.67**	**347**	⇓Pn	Pn	05 06 17.3	+0.7
	2.9nm,0.3s,baz=153,slow=12,SNR=6.0						
KK31				⇑Sn	S	05 07 15.0	-8.6
	17nm,0.5s,baz=159,slow=24,SNR=28						
CHMS	**Chumysh**	**5.71**	**18**	P	Pn	05 06 17.9	+0.9
	SNR=6.7						
THN	**Thein Dam**	**5.86**	**151**	*ex*	Pn	05 06 24.9	+5.7
THN				*eS*	S	05 07 28.5	+0.3
DLH	**Dalhousie**	**5.87**	**148**	*eS*	S	05 07 28.0	-0.4
TKM2	**Tokmak 2**	**5.88**	**24**	Pn	Pn	05 06 18.9	-0.2
	1.7nm,0.4s						
SDNR	**Sundarnagar**	**7.20**	**146**	*eS*	S	05 07 56.5	-2.2
KLP	**Kalpa**	**7.78**	**139**	*eS*	S	05 08 13.5	+1.3
KLP				AML	AML	05 08 17.9	
	comp=E,75nm,0.5s						
KLP				AML	AML	05 08 18.3	
	comp=N,60nm,0.5s						
KHET	**Khetri**	**9.94**	**162**	*eS*	S	05 09 03.4	+0.9
KHET				AML	AML	05 09 05.5	
	comp=E,10.0nm,0.2s						
KHET				AML	AML	05 09 05.6	
	comp=N,8.7nm,0.2s						
KUDL	**Kundal**	**10.06**	**158**	*eS*	S	05 09 06.0	+0.8
KUDL				AML	AML	05 09 08.9	
	comp=N,7.2nm,0.2s						
KUDL				AML	AML	05 09 09.2	
	comp=E,8.0nm,0.3s						
SONA	**Sohna**	**10.15**	**155**	*eS*	S	05 09 06.1	-1.1
SONA				AML	AML	05 09 10.7	
	comp=N,13nm,0.3s						
SONA				AML	AML	05 09 11.3	
	comp=E,13nm,0.2s						
AB31	**Akbulak array**	**14.69**	**326**	⇓Pn	Pn	05 08 16.9	+8.0
	comp=E,0.2nm,0.3s,baz=141,slow=11,SNR=10						
AB31				⇑Sn	S	05 10 47.8	-3.2
	comp=E,0.8nm,0.5s,baz=262,slow=47,SNR=5.9						

PDA ***05*** *05:06:26.2±0.2, 3805N×2586W, h5km, ML2.6, Error ellipse: s-maj=9.2km s-min=2.3km az=23.0*
CSEM ***05*** *05:06:26.2±0.2, 3805N×2586W, h5km, ML2.6, Error ellipse: s-maj=9.2km s-min=2.3km az=23.0, After PDA*
IDC ***05*** *05:06:29.1±1.4, 3726N×2466W, h0km, mb3.4/3, mb1 3.7/3, mb1mx3.4/22, mbtmp3.4/3, Error ellipse: s-maj=39.1km s-min=32.7km az=14.0*
SVSA 05 05:06:26.2±0.2, 3805N×2586W, h5km, ML2.6, Error ellipse: s-maj=9.2km s-min=2.3km az=23.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDA	**Ponta Delgada**	**0.34**	**152**	*eP*	Pg	05 06 33.3	+0.6
PID	**Ribeirinha**	**1.82**	**283**	*eP*	Pn	05 06 53.4	-4.7
PID				*eS*	Sn	05 07 13.9	-7.7
PMAN	**Manadas**	**1.84**	**289**	*eS*	Sn	05 07 14.3	-7.9
PMAN				A		05 07 15.3	
	21nm,0.2s						
ROSA	**Rosais**	**1.98**	**290**	*eP*	Pn	05 06 55.9	-4.5
ROSA				*eS*	Sn	05 07 17.9	-7.8
PICO	**Pico**	**2.07**	**283**	*eP*	Pn	05 06 56.9	-4.6
PICO				*eS*	Sn	05 07 19.9	-7.8
CALA	**Caldeira**	**2.29**	**284**	*eP*	Pn	05 07 00.1	-4.6
EKA	**Eskdalemuir Ar**	**23.10**	**34**	P	P	05 11 37.3	+4.7
	1.2nm,1.0s,baz=228,slow=12,SNR=4.8						
TORD	**Torodi Ar. Bea**	**34.86**	**128**	P	P	05 13 11.2	-7.3
	0.4nm,0.8s,baz=322,slow=7.2,SNR=4.8						
TXAR	**Lajitas Array**	**63.59**	**288**	P	P	05 17 09.4	+11
	0.4nm,0.8s,baz=49,slow=2.7,SNR=5.3						
MKAR	**Makanchi Array**	**73.92**	**43**	P	P	05 18 06.0	+3.8
	0.2nm,0.5s,baz=316,slow=6.0,SNR=3.4						

IDC ***05*** *05:06:57.4±7.2, 3776N×2484W, h0km, mb3.7/5, mb1 3.9/5, mb1mx3.6/22, mbtmp3.7/5, Error ellipse: s-maj=264.0km s-min=31.4km az=170.0*
ISC 05 05:06:58.5±2.5, 376N±06×248W±01, h10km, n7, σ0§32/7, mb3.7/5, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDA	**Ponta Delgada**	**0.70**	**285**	*eS*	Sg	05 07 20.8	-0.3
ADH	**Angra Heroismo**	**2.19**	**300**	*eP*	Pn	05 07 35.7	+0.7
PDAR	**Pinedale Array**	**62.33**	**304**	P	P	05 17 21.0	-0.1
	0.4nm,0.8s,mb3.6,baz=89,slow=4.8,SNR=3.1						
TXAR	**Lajitas Array**	**64.53**	**288**	P	P	05 17 35.9	+0.1
	0.5nm,0.8s,mb3.6,baz=72,slow=5.8,SNR=4.1						
ZALV	**Zalesovo Beam**	**70.61**	**36**	P	P	05 18 13.5	-0.3
	0.4nm,0.4s,mb3.7,baz=319,slow=6.5,SNR=4.4						
MKAR	**Makanchi Array**	**73.70**	**43**	P	P	05 18 32.2	-0.2
	0.7nm,0.7s,mb3.7,baz=311,slow=5.8,SNR=5.2						
SONM	**Songino Array**	**84.49**	**31**	P	P	05 19 31.6	+0.2
	0.7nm,0.9s,mb3.8,baz=315,slow=5.9,SNR=4.0						

CSEM ***05*** *05:39:15.2±0.8, 3709N×2489W, h5km, ML3.2, Error ellipse: s-maj=17.8km s-min=5.4km az=46.0, After PDA*
PDA ***05*** *05:39:15.2±0.8, 3709N×2489W, h5km, MD3.7, ML3.2, Error ellipse: s-maj=17.8km s-min=5.4km az=46.0*
SVSA 05 05:39:15.2±0.8, 3709N×2489W, h5km, MD3.7, ML3.2, Error ellipse: s-maj=17.8km s-min=5.4km az=46.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDA	**Ponta Delgada**	**0.90**	**317**	*eP*	Pg	05 39 27.1	-5.3
PDA				*eS*	Sg	05 39 38.3	-5.8
ADH	**Angra Heroismo**	**2.42**	**311**	*eS*	Sn	05 40 17.2	-8.3
PID	**Ribeirinha**	**2.89**	**299**	*eP*	Pn	05 39 57.5	-4.4
PMAN	**Manadas**	**2.96**	**302**	*eP*	Pn	05 40 20.4	+18
PMAN				*eS*	Sn	05 40 30.0	-8.7
PMAN				A		05 40 30.8	
	25nm,0.2s						
ROSA	**Rosais**	**3.11**	**303**	*eP*	Pn	05 40 00.4	-4.4
PICO	**Pico**	**3.13**	**298**	*eP*	Pn	05 40 00.6	-4.6
PICO				*eS*	Sn	05 40 34.9	-8.1
HOR	**Horta**	**3.29**	**297**	*eS*	Sn	05 40 38.3	-8.5
CALA	**Caldeira**	**3.36**	**297**	*eP*	Pn	05 40 04.1	-4.3
CALA				*eS*	Sn	05 40 40.6	-8.0

NEIC ***05*** *05:40:15.8±0.3, 3714N×2465W, h10km, mb4.4/42, Error ellipse: s-maj=6.4km s-min=4.6km az=6.0*
ISCJB ***05*** *05:40:15.9±0.6, 3720N±004×2476W±003, h25km±4km, mb4.2/48, Error ellipse: s-maj=7.7km s-min=3.3km az=17.3*
IDC ***05*** *05:40:15.4±0.8, 3744N×2457W, h0km, mb4.0/12, mb1 4.1/13, mb1mx4.0/24, mbtmp4.0/13, ML3.4/1, Error ellipse: s-maj=21.1km s-min=17.2km az=177.0*
SVSA ***05*** *05:40:17.4±1.2, 3728N×2450W, h10km, MD3.7, ML4.0, Error ellipse: s-maj=6.3km s-min=3.3km az=63.0*
CSEM ***05*** *05:40:17.1±0.1, 3739N×2476W, h25km, mb4.4/33, Error ellipse: s-maj=3.7km s-min=1.1km az=11.0*
PDA ***05*** *05:40:17.4±1.2, 3728N×2450W, h10km, MD3.7, ML4.0, Error ellipse: s-maj=6.3km s-min=3.3km az=63.0*
ISC 05 05:40:16.1±0.6, 3721N±004×2477W±003, h14km±3km, n199, σ1§16/232, mb4.2/48, Azores Islands region

| Code | Station Name | Δ

RIB2	Ribeirinha	2.39	308	eP	Pn	05 40 54.5	-0.3
RIB2				eS	Sn	05 41 21.9	-2.0
ADH	Angra Heroismo	2.42	307	i P	Pn	05 40 54.2	-1.0
ADH				eS	Sn	05 41 22.0	-2.7
PVNV	Vila Nova	2.44	310	eP	Pn	05 40 55.0	-0.4
PVNV				eS	Sn	05 41 22.6	-2.4
PVNV				A		05 41 24.4	
	127nm,0.1s						
PVNV	Vila Nova	2.44	310	eP	Pn	05 40 55.0	-0.4
PVNV				eS	Sn	05 41 22.6	-2.4
PPAD	Pico dos Padre	2.48	307	eP	Pn	05 40 55.6	-0.5
PPAD				eS	Sn	05 41 23.3	-2.8
PPAD				A		05 41 31.0	
	298nm,0.3s						
PPAD	Pico dos Padre	2.48	307	eP	Pn	05 40 55.6	-0.5
PPAD				eS	Sn	05 41 23.3	-2.8
PBIS	Biscoitos	2.50	309	eP	Pn	05 40 55.6	-0.7
PBIS				eS	Sn	05 41 24.4	-2.1
PBIS				A		05 41 28.2	
	45nm,0.2s						
PBIS	Biscoitos	2.50	309	eP	Pn	05 40 55.6	-0.7
PBIS				eS	Sn	05 41 24.4	-2.1
ASBA	Santa Barbara	2.52	307	eP	Pn	05 40 56.3	-0.2
ASBA				eS	Sn	05 41 24.9	-2.1
ASBA				A		05 41 28.5	
	177nm,0.2s						
ASBA	Santa Barbara	2.52	307	eP	Pn	05 40 56.3	-0.2
ASBA				eS	Sn	05 41 24.9	-2.1
PIED	Piedade	2.87	296	eP	Pn	05 41 01.5	+0.2
PID	Ribeirinha	2.92	296	eP	Pn	05 41 01.9	-0.2
PMAN	Manadas	2.98	299	eP	Pn	05 41 02.3	-0.6
PMAN				eS	Sn	05 41 36.7	-1.8
PMAN				A		05 41 39.3	
	93nm,0.3s						
PMAN	Manadas	2.98	299	eP	Pn	05 41 02.3	-0.6
PMAN				eS	Sn	05 41 36.7	-1.8
PAMA	Santo Amaro	3.07	300	eP	Sn	05 41 47.9	+7.3
PBOI	Pico dos Bois	3.10	294	eP	Pn	05 41 04.7	+0.1
PTEI	Pico do Teixo	3.11	295	eP	Pn	05 41 07.6	+2.9
ROSA	Rosais	3.13	300	eP	Pn	05 41 04.8	-0.1
STGR	Santa Cruz	3.16	307	eP	Pn	05 41 05.1	-0.2
STGR				eS	Sn	05 41 40.5	-2.3
STGR				A		05 41 42.2	
	43nm,0.3s						
STGR	Santa Cruz	3.16	307	eP	Pn	05 41 05.1	-0.2
STGR				eS	Sn	05 41 40.5	-2.3
PICO	Pico	3.17	295	eP	Pn	05 41 05.3	-0.1
PICO				eS	Sn	05 41 41.5	-1.5
PCND	Candelaria	3.18	294	eP	Pn	05 41 06.3	+0.7
HOR	Horta	3.32	294	eP	Pn	05 41 07.4	-0.2
HOR				eS	Sn	05 41 45.6	-1.3
CALA	Caldeira	3.40	295	eP	Pn	05 41 08.7	+0.1
PTCA	Ponta do Capel	3.47	294	eP	Sn	05 41 56.1	+5.7
PLUZ	Luz	3.77	300	eP	Pn	05 41 04.2	-10
PLUZ				eS	Sn	05 41 38.6	-19
PLUZ				A		05 41 41.0	
	56nm,0.3s						
PMAR	Madeira	7.85	122	ePn	Pn	05 42 08.1	-1.7
PMAR				eSn	Sn	05 43 27.4	-11
PMAR				A		05 43 35.2	
	76nm,0.3s						
PMPS	Porto Santo	8.06	118	ePn	Pn	05 42 09.9	-2.8
PMPS				eSn	Sn	05 43 29.4	-14
PMPS				A		05 43 38.6	
	13nm,0.3s						
EHIG	Higuera	10.43	144	P	Pn	05 42 43.0	-2.1
EGOM	La Gomera	11.04	143	P	Pn	05 42 51.7	-2.0
EGOM				S	Sn	05 44 42.3	-15
EBAJ	Bajamar	11.18	138	P	Pn	05 42 52.3	-3.1
EBAJ				S	Sn	05 44 45.8	-14
CCAN	Las Canadas	11.29	140	P	Pn	05 42 54.6	-2.4
CCAN				S	Sn	05 44 47.2	-16
CFTV	Fuerteventura	12.55	131	P	Pn	05 43 11.1	-3.1
	1.8nm,0.4s						
PFVI	Vila Bisbo	12.72	86	eS	Sn	05 45 22.0	-16
MOE	Montemor	13.04	79	eS	Sn	05 45 28.9	-17
EVO	Evora	13.31	79	eS	Sn	05 45 34.5	-18
PBDV	Barranco-do-Ve	13.42	85	eS	Sn	05 45 38.4	-17
PVAQ	Vaqueiros	13.58	84	eS	Sn	05 45 41.5	-17
MTE	Manteigas	13.81	71	eS	Sn	05 45 45.5	-19
MTE	Manteigas	13.81	71	ePn	Pn	05 43 26.8	-4.5
MTE	Manteigas	13.81	71	ePn	Pn	05 43 26.8	-4.5
PBAR	Barrancos	14.08	81	eS	Sn	05 45 52.3	-19
MVO	Moncorvo	14.31	69	eS	Sn	05 45 55.4	-21
ESDC	Sonseca Array	16.48	75	Pn	Pn	05 44 01.4	-5.5
	0.3nm,0.3s,baz=272,slow=13,SNR=4.8						
ESLA	Sonseca Array	16.48	75	eP	Pn	05 44 07.3	+0.4
	1.4nm,1.0s						
ESLA	Sonseca Array	16.48	75	eP	Pn	05 44 07.3	+0.4
	1.4nm,1.0s						
MDT	Midelt	17.08	99	Pn	Pn	05 44 14.5	+0.1
	0.1nm,0.3s,baz=291,slow=13,SNR=3.4						
CART	Cartagena	18.88	82	eP	Pn	05 44 34.3	-2.2
	109nm,1.3s						
SJPF	Ste Jean	18.91	65	eP	Pn	05 44 37.2	+0.4
	83nm,1.4s						
SJPF	Ste Jean	18.91	65	eP	Pn	05 44 37.2	+0.4
	42nm,1.4s						
QUIF	Quistinic	19.11	49	eP	Pn	05 44 39.1	-0.1
	28nm,1.0s						
QUIF	Quistinic	19.11	49	eP	Pn	05 44 39.1	-0.1
	14nm,1.0s						
ROSF	Rostrenen	19.23	48	eP	Pn	05 44 38.9	-1.8
	99nm,1.3s						
ROSF	Rostrenen	19.23	48	eP	Pn	05 44 38.9	-1.8
	49nm,1.3s						
ETSF	Etsaut	19.35	65	eP	Pn	05 44 42.3	+0.1
MFF	Saint Martin d	20.52	55	eP	P	05 44 53.8	+0.1
LFF	La Frestale	20.66	60	eP	P	05 44 55.4	+0.1
	47nm,1.1s						
LFF	La Frestale	20.66	60	eP	P	05 44 55.4	+0.1
	24nm,1.1s						
GRR	Gorron	20.71	50	eP	P	05 44 56.1	+0.3
	80nm,1.3s						
GRR	Gorron	20.71	50	eP	P	05 44 56.1	+0.3
	40nm,1.3s						
FLN	La Foliniere	21.09	49	eP	P	05 45 02.6	+2.7
	100nm,1.3s,mb4.7						
FLN	La Foliniere	21.09	49	eP	P	05 45 02.6	+2.7
	50nm,1.3s,mb4.7						
LDF	La Druitiere	21.24	50	eP	P	05 45 02.5	+1.0
	59nm,1.4s,mb4.4						
LDF	La Druitiere	21.24	50	eP	P	05 45 02.5	+1.0
	30nm,1.4s,mb4.4						
CAF	Calviac	21.58	61	eP	P	05 45 04.7	-0.5
	40nm,1.2s,mb4.4						
CAF	Calviac	21.58	61	eP	P	05 45 04.7	-0.5
	20nm,1.2s,mb4.4						
TCF	Toulx Ste Croi	21.99	57	eP	P	05 45 10.4	+0.8
	28nm,1.0s,mb4.3						
TCF	Toulx Ste Croi	21.99	57	eP	P	05 45 10.4	+0.8
	14nm,1.0s,mb4.3						
BGF	Bois d'Agland	22.48	57	eP	P	05 45 15.9	+1.0
AVF	Avril sur Loir	22.88	56	eP	P	05 45 18.9	-0.1
	5.2nm,0.8s,mb3.7						
AVF	Avril sur Loir	22.88	56	eP	P	05 45 18.9	-0.1
	2.6nm,0.8s,mb3.7						
SSF	Saint Saulge	23.05	56	eP	P	05 45 21.0	+0.1
	12nm,0.8s,mb4.1						
SSF	Saint Saulge	23.05	56	eP	P	05 45 21.0	+0.1
	6.1nm,0.8s,mb4.1						
SMF	Signal de Mont	23.17	57	eP	P	05 45 22.7	+0.6
	34nm,1.1s,mb4.4						
SMF	Signal de Mont	23.17	57	eP	P	05 45 22.7	+0.6
	17nm,1.1s,mb4.4						
ESK	Eskdalemuir	23.29	32	eP	P	05 45 21.6	-1.7
	5.7nm,0.8s,mb4.0						
ESK	Eskdalemuir	23.29	32	eP	P	05 45 21.5	-1.8
	5.7nm,0.8s,mb4.0						
EKA	Eskdalemuir Ar	23.32	32	P	P	05 45 22.8	-0.8
	2.0nm,0.7s,mb3.7,baz=228,slow=8.6,SNR=9.6						
LOR	Lormes	23.34	55	eP	P	05 45 23.6	-0.3
	7.0nm,0.8s,mb3.9						
LOR	Lormes	23.34	55	eP	P	05 45 23.6	-0.3
	3.5nm,0.8s,mb3.9						
VIVF	Saint-Julien-l	23.39	62	eP	P	05 45 24.5	0.0
	64nm,1.6s,mb4.5						
VIVF	Saint-Julien-l	23.39	62	eP	P	05 45 24.5	0.0
	32nm,1.6s,mb4.5						
ORIF	Oris-en-Rattie	24.25	62	eP	P	05 45 33.5	+1.0
	33nm,1.1s,mb4.4						
ORIF	Oris-en-Rattie	24.25	62	eP	P	05 45 33.5	+1.0
	16nm,1.1s,mb4.4						
BAIF	Baives	24.42	49	eP	P	05 45 33.4	-0.5
GIVF	Givet	24.80	49	eP	P	05 45 38.1	+0.6
MBDF	Montbardon	24.86	63	eP	P	05 45 39.1	+1.1
HAU	Haudompre	25.15	55	eP	P	05 45 40.3	-0.4
	9.6nm,0.7s,mb4.1						
HAU	Haudompre	25.15	55	eP	P	05 45 40.3	-0.4
	4.8nm,0.7s,mb4.1						
BCLA	Clavier	25.20	49	P	P	05 45 40.6	-0.5
BCLA	Clavier	25.20	49	P	P	05 45 40.5	-0.6
SBF	Sospel	25.25	65	eP	P	05 45 41.9	+0.3
HINF	Hinteralfeld	25.44	55	eP	P	05 45 42.9	-0.4
	5.5nm,0.6s,mb3.9						
HINF	Hinteralfeld	25.44	55	eP	P	05 45 42.9	-0.4
	2.8nm,0.6s,mb4.0						
WLF	Walferdange	25.48	51	eP	P	05 45 42.7	-0.9
	33nm,1.1s,mb4.8						
WLF	Walferdange	25.48	51	eP	P	05 45 42.7	-0.9
	33nm,1.1s,mb4.8						
CDF	Champ du Feu	25.85	54	eP	P	05 45 47.4	+0.4
	6.7nm,0.7s,mb4.0						
CDF	Champ du Feu	25.85	54	eP	P	05 45 47.4	+0.4
	3.3nm,0.7s,mb4.0						
GRFO	Grafenberg	28.67	53	eP	P	05 46 10.9	-1.3
	9.2nm,0.9s,mb4.5						
GRFO	Grafenberg	28.67	53	eP	P	05 46 10.9	-1.3
	9.2nm,0.9s,mb4.5						
GERES	GERESS Array B	30.12	55	P	P	05 46 24.8	-0.3
	0.8nm,0.7s,mb3.6,baz=266,slow=8.0,SNR=6.0						
TIP	Timpagrande	32.50	74	eP	P	05 46 44.9	-1.3
	6.4nm,0.8s,mb4.5						
SCHQ	Schefferville	33.48	315	eP	P	05 46 55.6	+1.0
	5.2nm,1.1s,mb4.4						
SCHQ	Schefferville	33.48	315	P	P	05 46 55.4	+0.8
	1.5nm,0.6s,mb4.1,baz=119,slow=9.5,SNR=5.2						
SCHQ	Schefferville	33.48	315	eP	P	05 46 55.6	+1.0
	5.2nm,1.1s,mb4.4						
LIC	Lamto	35.72	145	eP	P	05 47 17.1	+2.8
	68nm,1.6s,mb5.0						
LIC	Lamto	35.72	145	eP	P	05 47 17.1	+2.8
	34nm,1.6s,mb5.0						
MSNY	Massena	38.02	298	eP	P	05 47 34.4	+0.7
MSNY	Massena	38.02	298	eP	P	05 47 34.4	+0.7
AKASG	Malin Array Be	40.25	53	P	P	05 47 49.8	-2.5
	1.5nm,0.7s,mb3.9,baz=271,slow=8.4,SNR=7.2						
ARCES	ARCESS Array B	42.00	24	P	P	05 48 05.4	-1.0
	4.1nm,0.8s,mb4.1,baz=246,slow=8.8,SNR=4.5						
SWET	Sewanee	48.62	287	eP	P	05 49 01.9	+2.5
SWET	Sewanee	48.62	287	eP	P	05 49 01.9	+2.5
FCC	Fort Churchill	48.63	319	eP	P	05 49 00.4	+1.3
	4.6nm,1.0s,mb4.5						
FCC	Fort Churchill	48.63	319	eP	P	05 49 00.4	+1.3
	4.6nm,1.0s,mb4.5						
MALT	Malatya	49.08	68	eP	P	05 49 02.8	-0.1
	2.4nm,0.8s,mb4.3						
RES	Resolute Bay	49.26	341	eP	P	05 49 04.6	+0.9
	271nm,0.9s						
RES	Resolute Bay	49.26	341	eP	P	05 49 04.6	+0.9
	271nm,0.9s						
JFWS	Jewell Farm	49.31	298	eP	P	05 49 06.2	+1.6
	36nm,1.3s,mb5.2						
JFWS	Jewell Farm	49.31	298	eP	P	05 49 06.2	+1.7
	36nm,1.3s,mb5.2						
WVT	Waverly	49.73	289	eP	P	05 49 09.7	+1.8
	6.2nm,1.2s,mb4.5						
WVT	Waverly	49.73	289	eP	P	05 49 09.7	+1.8
	6.2nm,1.2s,mb4.5						
SDV	Santo Domingo	50.08	248	eP	P	05 49 13.8	+3.1
	2.3nm,0.6s,mb4.4						
SDV	Santo Domingo	50.08	248	eP	P	05 49 13.8	+3.1
	2.2nm,0.6s,mb4.4						
FFC	Flin Flon	53.62	315	eP	P	05 49 38.5	+1.8
	3.7nm,1.0s,mb4.3						
ARU	Arti	56.48	41	eP	P	05 49 57.4	+0.1
ARU	Arti	56.48	41	eP	P	05 49 57.3	0.0
BDFB	Brasilia	56.95	207	P	P	05 50 04.7	+3.7
	1.9nm,0.8s,mb4.2,baz=90,slow=3.0,SNR=4.2						
CBKS	Cedar Bluff	57.47	297	eP	P	05 50 05.8	+1.2
	7.3nm,0.8s,mb4.8						
CBKS	Cedar Bluff	57.47	297	eP	P	05 50 05.8	+1.2
	7.2nm,0.8s,mb4.8						
YKA	Yellowknife Ar	57.70	327	P	P	05 50 06.4	+0.7
	1.1nm,0.9s,mb3.9,baz=71,slow=7.0,SNR=15						
YKA	Yellowknife Ar	57.70	327	P	P	05 50 06.4	+0.6
RSSD	Black Hills	58.34	304	eP	P	05 50 09.4	-1.2
	1.7nm,0.7s,mb4.2						
WMOK	Wichita Mounta	58.49	292	eP	P	05 50 13.3	+1.5
	5.9nm,1.3s,mb4.5						
EDM	Edmonton	60.46	316	eP	P	05 50 26.1	+1.1
EDM	Edmonton	60.46	316	eP	P	05 50 26.1	+1.0
JCT	Junction City	61.19	288	eP	P	05 50 31.8	+1.4
	7.7nm,0.9s,mb4.8						
JCT	Junction City	61.19	288	eP	P	05 50 31.8	+1.4
	7.7nm,0.9s,mb4.8						
INK	Inuvik	62.38	337	eP	P	05 50 38.0	+0.2
	669nm,0.8s						
INK	Inuvik	62.38	337	eP	P	05 50 38.0	+0.2
	669nm,0.8s						
SMCO	Snowmass	62.41	300	eP	P	05 50 40.2	+1.6
	1.4nm,0.8s,mb4.1						
SMCO	Snowmass	62.41	300	eP	P	05 50 40.2	+1.7
	1.4nm,0.8s,mb4.1						
BW06	Boulder Array	62.56	304	eP	P	05 50 40.6	+1.1
	1.7nm,1.0s,mb4.1						
BW06	Boulder Array	62.56	304	eP	P	05 50 40.6	+1.1
	1.7nm,1.0s,mb4.1						
PDAR	Pinedale Array	62.56	304	P	P	05 50 40.6	+1.2
	0.9nm,1.0s,mb3.9,baz=64,slow=6.8,SNR=5.2						
BRVK	Borovoye	64.04	42	eP	P	05 50 50.4	+1.3
	1.4nm,0.6s,mb4.2						
BRVK	Borovoye	64.04	42	eP	P	05 50 50.4	+1.3
	1.4nm,0.6s,mb4.2						
TXAR	Lajitas Array	64.67	289	P	P	05 50 56.0	+2.3
TXAR	Lajitas Array	64.67	289	P	P	05 50 56.0	+2.3
	2.3nm,0.8s,mb4.2,baz=76,slow=7.3,SNR=23						
JLU	Jordanelle	64.81	303	eP	P	05 50 55.7	+1.4
JLU	Jordanelle	64.81	303	eP	P	05 50 55.7	+1.4
TUC	Tucson	68.45	295	eP	P	05 51 20.6	+2.8
	0.6nm,0.5s,mb3.9						
TUC	Tucson	68.45	295	eP	P	05 51 20.5	+2.8
	0.6nm,0.5s,mb3.9						
KURK	Kurchatov	69.68	41	eP	P	05 51 25.0	0.0
	2.1nm,0.8s,mb4.1						
TIXI	Tiksi	69.84	9	eP	P	05 51 26.5	+0.8
TIXI	Tiksi	69.84	9	eP	P	05 51 26.5	+0.8
ZALV	Zalesovo Beam	70.88	36	P	P	05 51 32.5	+0.2
	2.1nm,0.6s,mb4.2,baz=308,slow=5.9,SNR=12						
EKS2	Erkin-Say	71.39	50	eP	P	05 51 35.8	+0.2
	5.0nm,1.3s,mb4.3						
EKS2	Erkin-Say	71.39	50	eP	P	05 51 35.8	+0.2
	5.0nm,1.3s,mb4.3						
AML	Almayashu	71.64	51	eP	P	05 51 38.6	+1.5
	5.2nm,1.2s,mb4.3						
AML	Almayashu	71.64	51	eP	P	05 51 38.6	+1.5
	5.2nm,1.2s,mb4.3						
MKAR	Makanchi Array	73.94	43	P	P	05 51 50.8	0.0
	0.6nm,0.6s,mb3.7,baz=311,slow=5.9,SNR=4.6						
SONM	Songino Array	84.78	31	P	P	05 52 51.4	+1.6
	0.4nm,0.3s,mb4.0,baz=328,slow=5.3,SNR=5.2						
QSPA	South Pole Qui	127.10	180	PKP	PKPdf	05 59 21.3	+2.9
QSPA	South Pole Qui	127.10	180	PKP	PKPdf	05 59 21.3	+2.9
	1.1nm,0.7s,baz=162,slow=9.2,SNR=5.5						
MBWA	Marble Bar	145.36	72	ePKPbc	PKPbc	05 59 54.0	+0.3
MBWA	Marble Bar	145.36	72	ePKPbc	PKPbc	05 59 54.0	+0.3
FITZ	Fitzroy Crossi	147.81	62	ePKPdf	PKPdf	05 59 57.2	-0.8
FITZ	Fitzroy Crossi	147.81	62	ePKIKP	PKPdf	05 59 57.2	-0.8
NWAO	Narrogin (SRO)	148.75	94	ePKPbc	PKPbc	06 00 03.6	+0.6

IDC 05 05:44:07.9±1.4, 4938S×12512E, h0km, mb3.9/4, mb1 4.1/4, mb1mx3.9/11, mbtmp3.9/4, Error ellipse: s-maj=62.5km s-min=24.1km az=99.0, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	21.42	41	P	P	05 48 58.0	+0.7
	4.1nm,0.8s,baz=201,slow=8.5,SNR=7.9						
ASAR	Alice Springs	26.58	18	P	P	05 49 47.6	0.0
	1.9nm,0.8s,baz=190,slow=9.2,SNR=18						
WRA	Warramunga Arr	30.29	17	P	P	05 50 19.3	-1.4
	0.5nm,0.5s,baz=192,slow=7.8,SNR=5.4						
VNDA	Vanda	31.50	166	P	P	05 50 30.3	-0.6
	1.0nm,0.7s,baz=317,slow=8.4,SNR=8.8						
KSRS	Korea Array	86.49	2	P	P	05 56 55.5	+3.5
	0.5nm,0.3s,baz=176,slow=4.4,SNR=4.1						
YKA	Yellowknife Ar	145.42	45	PKPbc	PKPbc	06 03 46.7	+0.2
	1.4nm,0.7s,baz=268,slow=3.2,SNR=30						
EKA	Eskdalemuir Ar	148.48	301	PKPbc	PKPbc	06 03 55.2	-0.2
	1.6nm,0.8s,baz=101,slow=3.0,SNR=5.0						

*CSEM **05** 05:48:23.2±0.5, 3749N×2473W, h0km, MD3.7, Error ellipse: s-maj=14.5km s-min=4.5km az=35.0, After PDA*
*PDA **05** 05:48:23.2±0.5, 3749N×2473W, h0km, MD3.7, Error ellipse: s-maj=14.5km s-min=4.5km az=35.0*

SVSA 05 05:48:23.2±0.5, 3749N×2473W, h0km, MD3.7, Error ellipse: s-maj=14.5km s-min=4.5km az=35.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDA	Ponta Delgada	0.78	289	eP	Pg	05 48 36.5	-1.7
PDA				eS	Sg	05 48 45.6	-2.7
ADH	Angra Heroismo	2.29	301	eS	Sn	05 49 23.0	-8.1
PID	Ribeirinha	2.84	291	eP	Pn	05 49 05.3	-4.5
ROSA	Rosais	3.03	295	eP	Pn	05 49 07.7	-4.7
PICO	Pico	3.09	290	eP	Pn	05 49 08.7	-4.5
PICO				eS	Sn	05 49 42.6	-8.2
CALA	Caldeira	3.32	290	eP	Pn	05 49 11.5	-4.8
CALA				eS	Sn	05 49 48.3	-8.2

*IDC **05** 05:55:41.5±0.8, 883S×15720E, h0km, mb4.1/9, mb1 4.2/10, mb1mx4.1/15, mbtmp4.1/10, Error ellipse: s-maj=24.9km s-min=20.0km az=94.0*
*BJI **05** 05:55:42.1, 880S×15720E, h10km, mB5.2, mb4.8*
*NEIC **05** 05:55:43.1±0.6, 883S×15722E, h10km, mb4.4/4, Error ellipse: s-maj=17.0km s-min=13.5km az=158.0*
*ISCJB **05** 05:55:45.3±0.5, 885S±009×157.17E±008, h33km, mb4.2/14, Error ellipse: s-maj=13.6km s-min=11.1km az=171.0*

ISC 05 05:55:47.3±0.5, 885S±010×15715E±007, h35km, n23, σ1$14/23, mb4.2/14, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	2.83	102	Pn	Pn	05 56 28.1	-1.9
	72nm,0.3s,baz=262,slow=8.9,SNR=6.8						
HNR				Sn	Sn	05 57 05.6	+2.8
	109nm,0.3s,baz=93,slow=22,SNR=7.1						
WRAB	Tennant Creek	24.64	241	eP	P	06 01 04.6	-0.2
	12nm,1.0s,mb4.4						
WB2	Warramunga Arr	24.64	241	eP	P	06 01 04.9	+0.1
WB2	Warramunga Arr	24.64	241	eP	P	06 01 04.5	-0.3
WRA	Warramunga Arr	24.65	241	P	P	06 01 04.9	0.0
	9.8nm,1.0s,mb4.3,baz=66,slow=9.6,SNR=22						
ASAR	Alice Springs	26.67	234	P	P	06 01 22.4	-0.8
	1.3nm,0.9s,mb3.5,baz=56,slow=10,SNR=8.0						
STKA	Stephens Creek	27.09	210	eP	P	06 01 28.6	+1.8
	4.9nm,0.6s,mb4.2						
STKA	Stephens Creek	27.09	210	P	P	06 01 27.5	+0.7
	5.9nm,0.7s,mb4.2,baz=38,slow=14,SNR=13						
KSRS	Korea Array	53.57	331	P	P	06 05 04.5	-0.4
	3.5nm,1.0s,mb4.2,baz=149,slow=8.4,SNR=10						
XAN	Xi'an	62.51	316	P	P	06 06 08.0	+0.4
XAN				AMB	AMB		
	comp=Z,3.0nm,0.5s,mb4.7						
LZH	Lanzhou	67.12	315	eP	P	06 06 39.7	+2.1
LZH				AP	pP	06 06 44.5	-3.9
LZH				XP	sP	06 06 46.8	-5.7
LZH				AMB	AMB		
	comp=Z,21nm,1.4s,mb5.0						
LZH				AMB	AMB		
	comp=Z,107nm,5.1s						
LZH	Lanzhou	67.12	315	eP	P	06 06 39.7	+2.1
	comp=Z,21nm,1.4s,mb5.0						
LZH				pP	pP	06 06 44.5	-3.9
LZH				sP	sP	06 06 46.8	-5.7
VNDA	Vanda	68.69	179	P	P	06 06 46.4	-0.4
VNDA	Vanda	68.69	179	P	P	06 06 46.4	-0.4
	comp=Z,0.4nm,0.3s,mb3.9,baz=336,slow=3.2,SNR=13						
GTA	Gaotai	71.54	317	eP	P	06 07 06.0	+1.1
GTA				AP	pP	06 07 10.3	-5.5
GTA				XP	sP	06 07 13.7	-6.1
GTA				AMB	AMB		
	comp=Z,4.0nm,1.0s,mb4.3						
SONM	Songino Array	72.04	327	P	P	06 07 09.0	+1.3
	comp=Z,1.9nm,1.0s,mb4.0,baz=120,slow=5.8,SNR=6.9						
MCK	McKinley	82.99	21	eP	P	06 08 07.1	-1.4
	comp=Z,1.7nm,0.8s,mb4.1						
MK31	Makanchi Array	86.20	318	eP	P	06 08 25.2	+0.1
MKAR	Makanchi Array	86.20	318	P	P	06 08 24.4	-0.7
	comp=Z,1.0nm,0.6s,mb4.2,baz=104,slow=5.1,SNR=6.6						
ZALV	Zalesovo Beam	86.90	326	P	P	06 08 26.5	-1.9
	comp=Z,0.3nm,0.3s,mb3.9,baz=90,slow=7.2,SNR=2.7						
YKA	Yellowknife Ar	96.97	28	P	P	06 09 15.0	0.0
YKA	Yellowknife Ar	96.97	28	P	P	06 09 15.0	+0.1
	comp=Z,0.5nm,1.1s,mb3.9,baz=260,slow=4.3,SNR=3.6						
BDFB	Brasilia	145.17	134	PKPbc	PKPbc	06 15 19.8	-2.0
	comp=Z,3.4nm,0.9s,baz=155,slow=5.8,SNR=4.5						

MAN 05 06:08:19, 618N×12396E, h35km, mb5.0, ML3.9, MS4.0, 2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSPH	General Santos	0.99	95	eP	Pn	06 08 41.0	+4.6
GSPH				eS	Sn	06 08 56.6	+7.4
CTBH	Cotabato--PC H	1.07	16	⇓iP	Pn	06 08 39.1	+1.5
CTBH				i S	Sn	06 08

7.2nm,0.9s,baz=81,slow=9.1,SNR=13
FITZ Fitzroy Crossi 40.65 267 *e*P **P 06 17 41.2 -0.2**
8.7nm,0.8s,mb4.4
FITZ *e* pP 06 17 51.3 -0.3
FITZ Fitzroy Crossi 40.65 267 P **P 06 17 41.6 +0.2**
5.0nm,0.8s,mb4.2,baz=143,slow=8.0,SNR=6.1
SONM Songino Array 88.45 323 P **P 06 22 53.8 +1.0**
1.6nm,0.9s,mb4.3,baz=136,slow=6.1,SNR=6.6
SONM pP pP 06 23 04.3 +0.4
1.1nm,0.8s,baz=126,slow=5.7,SNR=3.9
NVAR Mina Array Bea 90.37 49 P **P 06 23 03.8 +1.8**
1.0nm,0.7s,mb4.2,baz=213,slow=6.0,SNR=8.6
NVAR pP pP 06 23 14.2 +1.1
1.6nm,0.8s,baz=212,slow=5.7,SNR=8.0
YKA Yellowknife Ar 102.53 28 P Pdif 06 23 58.2 +1.2
YKA Yellowknife Ar 102.53 28 P Pdif 06 23 58.2 +1.2
0.1nm,0.6s,baz=250,slow=4.3,SNR=4.2
BRG Berggiesshubel 144.33 332 *e*PKPbc PKPdf 06 29 36.7 +0.2
EKA Eskdalemuir Ar 145.29 352 PKPbc PKPbc 06 29 39.6 +1.8
1.0nm,0.7s,baz=66,slow=1.0,SNR=4.2
TANN Tannenbergstha 145.31 333 *e*PKPbc PKPbc 06 29 39.6 +1.6
TANN *e*pPKPbc pPKPbc 06 29 50.0 +0.6
NKC Novy Kostel 145.45 333 *e*PKP PKPdf 06 29 39.9 +1.4
MOX Moxa 145.48 334 *e*PKPbc PKPbc 06 29 39.8 +1.2
MOX *e*pPKPbc pPKPbc 06 29 50.6 +0.7
CONA Conrad Observa 145.49 327⇑ *e*PKPab PKPab 06 29 40.8 +1.9
KHC Kasperske Hory 145.76 331 *e*PKP PKPdf 06 29 41.0 +2.0
KHC *e*x x 06 29 51.0
MANZ Manzenberg 145.78 333 *e*PKPbc PKPbc 06 29 41.3 +1.8
MANZ *e*pPKPbc pPKPbc 06 29 51.5 +0.6
ROTZ Rotzenmuhle 145.90 333 *e*PKPbc PKPbc 06 29 41.5 +1.6
ROTZ *e*pPKPbc pPKPbc 06 29 51.6 +0.3
GEC2 GERESS Array S 145.91 330 *e*PKPbc PKPbc 06 29 41.5 +1.5
GEC2 *e*pPKPbc pPKPbc 06 29 51.5 +0.2
GERES GERESS Array B 145.91 330 PKPbc PKPbc 06 29 41.5 +1.5
5.3nm,0.9s,baz=46,slow=3.9,SNR=16
GERES pPKPbc pPKPbc 06 29 51.5 +0.2
3.0nm,0.8s,baz=50,slow=2.3,SNR=5.4
UBBA Unterbreizbach 145.98 336 *e*pPKPbc pPKPbc 06 29 52.0 +0.5
WET Wettzell 146.07 331 *e*PKPbc PKPbc 06 29 41.8 +1.4
WET *e*pPKPbc pPKPbc 06 29 52.7 +0.9
GRA1 Grafenberg Arr 146.38 333 *e*PKPbc PKPbc 06 29 43.2 +1.9
GRF Grafenberg Arr 146.38 333 *e*PKPbc PKPbc 06 29 43.2 +1.9
TNS Taunus Mts 147.05 337 *e*PKPbc PKPbc 06 29 44.9 +1.6
WLF Walferdange 148.34 338 *e*PKPbc PKPbc 06 29 48.8 +2.0
FETA Feichten 148.61 331⇑ *i*PKiKP PKiKP 06 29 49.3 +0.2
8.1nm,1.2s
DAVOX Davos/Dischmat 149.17 331 PKPbc PKPbc 06 29 48.9 -0.1
5.6nm,0.7s,baz=146,slow=3.6,SNR=5.9
TORD Torodi Ar. Bea 165.33 239 PKP PKPdf 06 30 08.0 +2.1
0.6nm,0.8s,baz=132,slow=2.1,SNR=3.3

*ISCJB **05** 06:13:59.9±1.1,3706N±005×13638E±004,h9km±8km, mb3.6/10, Error ellipse: s-maj=8.8km s-min=5.9km az=172.2*
*IDC **05** 06:13:59.9±0.7,3698N×13639E,h0km,mb3.6/10, mb1 3.9/12,mb1mx3.8/23,mbtmp3.6/12,ML3.5/2,MS3.3/1, Ms1 3.3/1,ms1mx3.0/43, Error ellipse: s-maj=21.0km s-min=11.2km az=19.0*
*NEIC **05** 06:14:01.2,3707N×13644E,h8km,MG4.3(JMA), After JMA.*
NEIC Recorded [2 JMA] in Ishikawa and [1 JMA] in Gifu and Toyama Prefectures.
*JMA **05** 06:14:01.2±0.1,3707N×13644E,h8km±2km,M4.3*
JMA Felt II J1.

ISC 05 06:14:01.1±0.8,3707N±004×13644E±004,h6km±6km,n22, σ0s77/26,mb3.6/10,2C-4D,Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JJH	**Hakui**	**0.31**	**117**	⇓P	**Pg**	**06 14 07.5**	**+0.4**
JJH				S	**Sg**	**06 14 12.2**	**+1.1**
JKG	**Kaga**	**0.79**	**186**	⇑P	**Pg**	**06 14 16.5**	**+0.2**
JKG				*e*S	**Sg**	**06 14 27.2**	**+0.6**
JSZ	**Suzu**	**0.83**	**62**	⇓P	**Pg**	**06 14 16.7**	**-0.3**
JTT	**Ttatey**	**0.85**	**122**	⇓P	**Pg**	**06 14 17.6**	**+0.2**
JHG	**Hegura jima**	**0.87**	**26**	⇑P	**Pg**	**06 14 17.5**	**-0.3**
JGN	**Niukaw**	**1.10**	**140**	⇓P	**Pg**	**06 14 21.4**	**-0.7**
MAJO	**Matsushiro**	**1.51**	**110**	*e*Pn	**Pn**	**06 14 28.3**	**-0.3**
MAJO				*e*Sg	**Sg**	**06 14 49.2**	**-0.4**
MAT	**Matsushiro**	**1.51**	**110**	P	**Pn**	**06 14 27.9**	**-0.7**
MAT				S	**Sn**	**06 14 49.0**	**+0.4**
MJAR	**Matsushiro Arr**	**1.51**	**110**	Pg	**Pg**	**06 14 29.0**	**-1.1**
	104nm,0.3s,baz=293,slow=16,SNR=128						
MJAR				Lg		06 14 48.9	
	160nm,0.3s,baz=287,slow=25,SNR=22						
JHJ	**Hachijo jima 2**	**4.80**	**144**	LR	LR	06 16 19.7	
	comp=Z,312nm,18.7s,baz=141,slow=29						
JNU	**Nakatsue**	**6.02**	**231**	Pn	**Pn**	**06 15 30.1**	**-0.6**
	1.3nm,0.3s,baz=38,slow=19,SNR=3.5						
KSRS	**Korea Array**	**6.81**	**276**	Pn	**Pn**	**06 15 43.0**	**+1.6**
	0.8nm,0.3s,baz=93,slow=14,SNR=4.8						
KSRS				Sn	**Sn**	**06 16 58.8**	**-0.4**
	0.6nm,0.3s,baz=91,slow=24,SNR=4.2						
SONM	**Songino Array**	**24.50**	**306**	P	**P**	**06 19 21.0**	**+0.1**
	0.4nm,0.4s,mb3.2,baz=112,slow=11,SNR=3.9						
ZALV	**Zalesovo Beam**	**38.96**	**313**	P	**P**	**06 21 27.1**	**-0.5**
	0.3nm,0.5s,mb3.3,baz=93,slow=7.2,SNR=2.5						
MKAR	**Makanchi Array**	**40.72**	**301**	P	**P**	**06 21 42.4**	**0.0**
	0.4nm,0.5s,mb3.3,baz=74,slow=11,SNR=4.0						
WRA	**Warramunga Arr**	**56.73**	**182**	P	**P**	**06 23 44.6**	**-1.0**
	0.4nm,0.4s,mb3.8,baz=357,slow=7.6,SNR=8.8						
ASAR	**Alice Springs**	**60.45**	**183**	P	**P**	**06 24 10.2**	**-1.3**
	0.3nm,0.5s,mb3.5,baz=6.0,slow=13,SNR=2.9						
YKA	**Yellowknife Ar**	**65.74**	**29**	P	**P**	**06 24 46.3**	**+0.1**
	0.4nm,0.7s,mb3.6,baz=310,slow=7.1,SNR=11						
FINES	**FINESS Array B**	**66.89**	**331**	P	**P**	**06 24 53.2**	**-0.4**
	2.2nm,0.8s,mb4.2,baz=75,slow=7.4,SNR=2.9						
NVAR	**Mina Array Bea**	**78.10**	**51**	P	**P**	**06 26 02.7**	**+1.8**
	0.5nm,0.7s,mb3.5,baz=311,slow=6.9,SNR=3.6						
PDAR	**Pinedale Array**	**80.42**	**43**	P	**P**	**06 26 14.4**	**+0.9**
	0.6nm,0.9s,mb3.5,baz=318,slow=2.6,SNR=3.6						
TXAR	**Lajitas Array**	**93.19**	**49**	P	**P**	**06 27 17.2**	**+0.8**
	0.2nm,0.5s,mb3.8,baz=301,slow=2.3,SNR=7.2						

IDC 05 06:14:36.8±3.9,691S×15542E,h0km,mb3.7/5,mb1 3.9/5, mb1mx3.7/15,mbtmp3.7/5,Error ellipse: s-maj=111.0km s-min=28.3km az=114.0,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.21**	**236**	P	P	06 19 56.2	+0.9
	2.2nm,0.6s,baz=61,slow=9.5,SNR=14						
ASAR	**Alice Springs**	**26.54**	**229**	P	P	06 20 15.3	-1.2
	0.3nm,0.4s,baz=59,slow=9.9,SNR=4.1						
FITZ	**Fitzroy Crossi**	**31.07**	**246**	P	P	06 20 57.5	+0.6
	1.3nm,0.5s,baz=98,slow=11,SNR=4.8						
SONM	**Songino Array**	**69.49**	**327**	P	P	06 25 47.7	+0.6
	0.3nm,0.4s,baz=140,slow=5.7,SNR=2.5						
MKAR	**Makanchi Array**	**83.62**	**319**	P	P	06 27 06.6	-0.5
	0.1nm,0.4s,baz=101,slow=7.5,SNR=2.7						

CASC 05 06:17:30.2±2.3,1206N×8730W,h50km±23km,MD3.9, ML3.6,10C-1D,Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TEL3	**Telica 3**	**0.68**	**41**	*e*P	Pn	06 17 44.0	+0.4
TEL3				*e*S	Sn	06 17 53.7	+0.4
CRIN	**San Cristobal**	**0.68**	**21**	*e*P	Pn	06 17 43.1	-0.6
CRIN				*e*S	Sn	06 17 53.8	+0.3
COPN	**Copaltepe**	**0.70**	**80⇑**	*e*P	Pn	06 17 44.3	+0.4
TELN	**Telica**	**0.71**	**40⇑**	*e*P	Pn	06 17 44.7	+0.6
TELN				*e*S	Sn	06 17 55.6	+1.6
CNGN	**Cerro Negro**	**0.73**	**53**	*e*P	Pn	06 17 44.1	-0.2
CNGN				*e*S	Sn	06 17 55.1	+0.5
MOMJ	**Momotombo**	**0.82**	**65**	*e*P	Pn	06 17 45.8	+0.3
MOMJ				*e*S	Sn	06 17 58.7	+2.0
CSAN		**0.87**	**82⇑**	*e*P	Pn	06 17 46.6	+0.5
XAVN	**Gruta Xavier**	**0.96**	**85⇑**	*e*P	Pn	06 17 47.8	+0.5
XAVN				*e*S	Sn	06 17 59.3	-0.6
CRUN	**El Crucero**	**0.98**	**94**	*e*P	Pn	06 17 48.1	+0.5
CRUN				*e*S	Sn	06 18 00.5	0.0
TISN	**Laguna Tiscapa**	**1.01**	**85**	*e*P	Pn	06 17 48.6	+0.6
TISN				*e*S	Sn	06 18 00.3	-0.9
MGAN	**Managua**	**1.03**	**85⇑**	*e*P	Pn	06 17 48.8	+0.4
MGAN				*e*S	Sn	06 18 02.9	+1.2
TICN	**Ticuantepe**	**1.04**	**91⇓**	*e*P	Pn	06 17 49.3	+0.8

HUEN		**1.14**	**76⇑**	*e*P	Pn	06 17 50.1	+0.4
HUEN				*e*S	Sn	06 18 04.9	+0.6
APON	**Apoyo**	**1.22**	**97⇑**	*e*P	Pn	06 17 50.7	-0.1
APON				*e*S	Sn	06 18 07.1	+0.9
SSNN	**San Juan del S**	**1.62**	**118**	*e*P	Pn	06 17 56.0	-0.3
SSNN				*e*S	Sn	06 18 15.6	-0.4
BOAB	**BOACO BROADBAN**	**1.64**	**76⇑**	*e*P	Pn	06 17 55.8	-0.9
BOAB				*e*S	Sn	06 18 16.6	0.0
VSM	**San Miguel**	**1.66**	**325⇑**	*e*P	x	06 18 44.2	
VSM				*e*S	x	06 19 06.3	
CONN	**Concepcion**	**1.71**	**107⇑**	*e*P	Pn	06 17 57.3	-0.3
CONN				*e*S	Sn	06 18 19.8	+1.5
	comp=Z,673nm,0.4s						
MADN	**Villa Maderas**	**1.85**	**110**	*e*P	Pn	06 17 59.2	-0.3
SNVI	**San Vicente**	**2.15**	**316**	*e*P	x	06 18 50.4	
SNVI				*e*S	x	06 19 17.1	
LFRS	**El Faro**	**2.31**	**312**	*e*P	x	06 18 51.8	
LFRS				*e*S	x	06 19 18.4	
LBRS	**Las Brisas**	**2.38**	**315**	*e*P	x	06 18 52.7	
LBRS				*e*S	x	06 19 21.0	
BOQS	**Boqueron**	**2.55**	**311**	*e*P	x	06 18 55.4	
BOQS				*e*S	x	06 19 24.3	
RTR	**El Retiro**	**2.92**	**309**	*e*P	x	06 19 01.5	
RTR				*e*S	x	06 19 35.3	
JCR	**Jicaral**	**3.07**	**135**	*e*P	Pn	06 18 15.3	-1.0
CGA2	**Cerro Gallo 2**	**3.45**	**126**	*e*P	Pn	06 18 22.4	+1.0
LAJ	**Bijagual**	**3.81**	**125**	*e*P	Pn	06 18 23.6	-2.8
LCR2	**La Lucha 2**	**3.98**	**125**	*e*P	Pn	06 18 30.3	+1.7
URSC	**Urasca**	**4.11**	**122**	*e*P	Pn	06 18 33.3	+2.9
BAR1		**4.82**	**125**	*e*P	Pn	06 18 41.2	+1.0
CHI2		**15.30**	**118**	*e*P		06 17 43.1	
CHI2				*e*S		06 17 52.5	
LAPE	**La Pedrera**	**16.12**	**105**	*i* P		06 18 04.1	
LAPE				*i* S		06 18 29.9	

*CSEM **05** 06:20:29.6±0.8,3737N×2466W,h0km,ML3.5, Error ellipse: s-maj=18.2km s-min=5.5km az=33.0, After PDA*
*PDA **05** 06:20:29.6±0.8,3737N×2466W,h0km,MD3.7,ML3.5, Error ellipse: s-maj=18.2km s-min=5.5km az=33.0*

SVSA 05 06:20:29.6±0.8,3737N×2466W,h0km,MD3.7,ML3.5, Error ellipse: s-maj=18.2km s-min=5.5km az=33.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDA	**Ponta Delgada**	**0.88**	**295**	*e*S	Sg	06 20 52.6	-5.3
ADH	**Angra Heroismo**	**2.40**	**303**	*e*P	Pn	06 21 05.3	-4.9
ADH				*e*S	Sn	06 21 32.0	-8.3
PID	**Ribeirinha**	**2.94**	**292**	*e*P	Pn	06 21 13.0	-4.5
PID				*e*S	Sn	06 21 45.3	-8.2
PMAN	**Manadas**	**2.99**	**296**	*e*S	Sn	06 21 47.2	-7.5
PMAN				A		06 21 49.4	
	38nm,0.2s						
ROSA	**Rosais**	**3.13**	**296**	*e*P	Pn	06 21 15.7	-4.5
ROSA				*e*S	Sn	06 21 49.9	-8.3
PICO	**Pico**	**3.18**	**292**	*e*P	Pn	06 21 16.3	-4.6
PICO				*e*S	Sn	06 21 51.3	-8.2
HOR	**Horta**	**3.34**	**291**	*e*P	Pn	06 21 18.4	-4.7
CALA	**Caldeira**	**3.41**	**292**	*e*P	Pn	06 21 19.6	-4.5
CALA				*e*S	Sn	06 21 57.0	-8.2

*PDA **05** 06:21:38.1±0.7,3737N×2456W,h0km,MD3.9, Error ellipse: s-maj=16.3km s-min=4.5km az=30.0*
*CSEM **05** 06:21:38.1±0.7,3737N×2456W,h0km,MD3.9, Error ellipse: s-maj=16.3km s-min=4.5km az=30.0, After PDA*

SVSA 05 06:21:38.1±0.7,3737N×2456W,h0km,MD3.9, Error ellipse: s-maj=16.3km s-min=4.5km az=30.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDA	**Ponta Delgada**	**0.96**	**293**	*e*P	Pg	06 21 53.0	-3.4
PDA				*e*S	Sg	06 22 04.1	-4.7
ADH	**Angra Heroismo**	**2.47**	**302**	*e*P	Pn	06 22 14.7	-4.9
ADH				*e*S	Sn	06 22 42.6	-7.9
PID	**Ribeirinha**	**3.01**	**292**	*e*P	Pn	06 22 22.3	-4.8
PID				*e*S	Sn	06 22 55.8	-8.1
ROSA	**Rosais**	**3.21**	**296**	*e*P	Pn	06 22 25.1	-4.6
ROSA				*e*S	Sn	06 23 00.4	-8.2
HOR	**Horta**	**3.42**	**291**	*e*P	Pn	06 22 27.9	-4.8
HOR				*e*S	Sn	06 23 05.6	-8.3
CALA	**Caldeira**	**3.49**	**291**	*e*P	Pn	06 22 29.1	-4.5
CALA				*e*S	Sn	06 23 07.5	-8.1

KRSC 05 06:22:58.2±3.0,5168N×15427E,h528km±52km,ML4.3, Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MIPR	**Malaya Ipel'ka**	**1.65**	**68**	*e*P	P	06 24 04.8	+0.6
GRL	**Gorelyy**	**2.50**	**68**	P	P	06 24 09.9	+1.7
RUS	**Russkaya**	**2.73**	**72**	*e*P	P	06 24 11.8	+2.3
RUS				*e*S	S	06 25 05.4	-2.5
PET	**Petropavlovsk**	**3.01**	**62**	S	S	06 25 09.7	-1.3
GNL	**Ganaly**	**3.01**	**46**	*e*P	P	06 24 12.0	+0.8
AVH	**Avacha**	**3.16**	**58**	*e*P	P	06 24 15.0	+2.8
AVH				S	S	06 25 11.0	-1.9
NLC	**Nalytchevo**	**3.45**	**62**	S	S	06 25 13.6	-2.8
SPN	**Mys Shipunski**	**3.80**	**66**	P	P	06 24 19.0	+2.2
SPN				*e*S	S	06 25 17.7	-3.4
TUMR	**Tumrok**	**5.03**	**42**	*e*P	P	06 24 30.0	+3.3
MKZ	**Mys Kozlova**	**5.34**	**54**	*e*P	P	06 24 31.9	+2.5
MKZ				*e*S	S	06 25 39.9	-4.4
KBTR	**Krutoberegovo**	**6.78**	**45**	*e*P	P	06 24 44.0	+1.1

*NEIC **05** 06:23:19.6±0.7,7.11S×15469E,h10km,mb4.4/1, Error ellipse: s-maj=26.5km s-min=10.4km az=125.0*
*ISCJB **05** 06:23:22.1±0.9,7.1S±0.1×1546E±02,h35km,mb3.9/9, Error ellipse: s-maj=32.5km s-min=13.8km az=29.5*
*IDC **05** 06:23:23.4±0.9,7.11S×15472E,h35km±5km,mb3.8/8, mb1 3.9/8,mb1mx3.9/14,mbtmp3.7/8, Error ellipse: s-maj=34.8km s-min=16.3km az=122.0*

ISC 05 06:23:23.9±0.9,71S±01×1546E±02,h37km, h37km±1.6km:pP-P,n16,σ0s54/14,mb3.9/9,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRAB	**Tennant Creek**	**23.42**	**235**	*e*P	**P**	**06 28 30.0**	**0.0**
	11nm,0.9s,mb4.3						
WRAB				*e*pP		06 28 40.3	
WB2	**Warramunga Arr**	**23.43**	**235**	*e*P	**P**	**06 28 29.6**	**-0.5**
WB2				*e*		06 28 39.9	
WB2	**Warramunga Arr**	**23.43**	**235**	*e*P	**P**	**06 28 30.1**	**0.0**
WB2				*e*		06 28 39.9	
WB2				*e*pP		06 28 40.5	
WRA	**Warramunga Arr**	**23.43**	**235**	P	**P**	**06 28 30.1**	**-0.1**
	2.5nm,0.8s,mb3.7,baz=59,slow=9.7,SNR=11						
WRA				pP		06 28 40.8	
	8.9nm,0.9s,baz=60,slow=9.8,SNR=25						
ASAR	**Alice Springs**	**25.81**	**228**	P	**P**	**06 28 51.2**	**-0.6**
	0.5nm,0.6s,mb3.2,baz=61,slow=9.0,SNR=5.9						
ASAR				pP	pP	06 29 02.8	+0.7
	2.1nm,0.9s,baz=58,slow=8.8,SNR=12						
STKA	**Stephens Creek**	**27.47**	**205**	P	**P**	**06 29 07.2**	**+0.6**
	0.8nm,0.6s,mb3.4,baz=15,slow=13,SNR=4.0						
KSRS	**Korea Array**	**50.86**	**333**	P	**P**	**06 32 20.4**	**-0.7**
	0.4nm,0.4s,mb3.7,baz=155,slow=9.6,SNR=4.1						
SONM	**Songino Array**	**69.22**	**328**	P	**P**	**06 34 27.7**	**+0.8**
	0.9nm,0.7s,mb3.8,baz=127,slow=2.2,SNR=4.4						
SONM				pP	pP	06 34 38.2	0.0
	0.9nm,0.6s,baz=144,slow=6.4,SNR=4.1						
MK31	**Makanchi Array**	**83.24**	**319**	*e*P	**P**	**06 35 47.0**	**+0.4**
MK31				epP	pP	06 35 58.1	+0.1
MKAR	**Makanchi Array**	**83.24**	**319**	P	**P**	**06 35 46.9**	**+0.4**
MKAR				pP	pP	06 35 57.7	-0.3
MKAR	**Makanchi Array**	**83.24**	**319**	P	**P**	**06 35 46.9**	**+0.4**
	1.8nm,0.8s,mb4.1,baz=112,slow=5.4,SNR=12						
MKAR				pP	pP	06 35 57.7	-0.3
	0.9nm,0.8s,baz=98,slow=4.3,SNR=4.6						
NVAR	**Mina Array Bea**	**92.09**	**52**	P	**P**	**06 36 29.9**	**+0.3**
	0.9nm,1.0s,mb4.1,baz=253,slow=4.2,SNR=3.9						
NVAR				pP	pP	06 36 40.0	-1.1
	0.5nm,0.9s,baz=246,slow=6.8,SNR=2.7						
YKA	**Yellowknife Ar**	**96.62**	**28**	P	**P**	**06 36 48.7**	**-1.0**
YKA				pP	pP	06 36 59.4	-1.9
YKA	**Yellowknife Ar**	**96.62**	**28**	P	**P**	**06 36 48.7**	**-1.0**
	1.2nm,0.9s,mb4.3,baz=268,slow=4.5,SNR=14						
YKA				pP	pP	06 36 59.4	-1.9
	1.0nm,0.6s,baz=265,slow=4.4,SNR=12						
MDT	**Midelt**	**147.96**	**326**	PKPbc	PKPbc	06 43 06.5	+0.6
	3.5nm,0.8s,baz=250,slow=3.1,SNR=4.4						
TORD	**Torodi Ar. Bea**	**152.68**	**285**	PKPbc	PKPbc	06 43 17.2	-0.5
	0.8nm,0.9s,baz=67,slow=0.9,SNR=4.3						
TORD				PKPab	PKPab	06 43 28.6	+0.1
	0.7nm,0.8s,baz=62,slow=2.3,SNR=3.7						

IDC 05 06:28:49.3±2.2,1378S×17793W,h0km,mb3.7/6, mb1 4.1/6,mb1mx3.9/15,mbtmp3.7/6,Error ellipse: s-maj=183.6km s-min=22.5km az=152.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**45.97**	**256**	P	P	06 37 14.6	0.0
	0.2nm,0.3s,baz=91,slow=6.9,SNR=5.8						
ASAR	**Alice Springs**	**46.48**	**250**	P	P	06 37 18.6	0.0
	3.9nm,0.3s,baz=84,slow=8.5,SNR=76						
NVAR	**Mina Array Bea**	**76.15**	**44**	P	P	06 40 40.3	+0.9
	0.4nm,0.8s,baz=226,slow=6.0,SNR=3.5						
TXAR	**Lajitas Array**	**83.41**	**58**	P	P	06 41 18.8	-0.2
	0.4nm,0.7s,baz=224,slow=6.5,SNR=6.0						
PDAR	**Pinedale Array**	**84.05**	**43**	P	P	06 41 22.4	+0.4
	0.3nm,0.6s,baz=202,slow=1.9,SNR=2.8						
YKA	**Yellowknife Ar**	**90.41**	**25**	P	P	06 41 51.8	-0.5
	0.1nm,0.4s,baz=238,slow=4.8,SNR=4.1						

*NEIC **05** 06:44:26.1±0.7,848S×15757E,h10km, Error ellipse: s-maj=22.8km s-min=13.3km az=158.0*

IDC 05 06:44:24.8±0.9,851S×15748E,h0km,mb3.9/6,mb1 4.1/7, mb1mx3.9/15,mbtmp3.9/7,ML4.6/1,MS2.9/1,Ms1 2.9/1, ms1mx2.6/32,Error ellipse: s-maj=31.3km s-min=20.8km az=165.0,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.60**	**111**	Pn	Pn	06 45 06.9	-1.2
	106nm,0.3s,baz=264,slow=3.2,SNR=14						
HNR				Sn	Sn	06 45 43.1	+2.7
	123nm,0.3s,baz=89,slow=18,SNR=9.1						
HNR				LR	LR	06 46 07.0	
	comp=Z,204nm,18.9s,baz=190,slow=39						
CTA	**Charters Tower**	**15.83**	**222**	Pn	Pn	06 48 12.6	+3.4
	0.0nm,0.3s,baz=52,slow=8.3,SNR=3.3						
WB2	**Warramunga Arr**	**25.10**	**241**	*e*P	P	06 49 50.8	-0.6
WRA	**Warramunga Arr**	**25.11**	**241**	P	P	06 49 51.8	+0.3
	2.7nm,1.1s,baz=66,slow=9.2,SNR=10						
WRA				PcP	PcP	06 53 25.7	-0.4
	0.7nm,0.7s,baz=71,slow=3.0,SNR=6.3						
ASAR	**Alice Springs**	**27.14**	**234**	P	P	06 50 09.6	-0.3
	0.7nm,0.8s,baz=69,slow=8.2,SNR=8.1						
STKA	**Stephens Creek**	**27.55**	**210**	P	P	06 50 13.9	+0.5
	1.7nm,0.7s,baz=32,slow=9.5,SNR=3.7						
MKAR	**Makanchi Array**	**86.16**	**318**	P	P	06 57 07.8	-0.2
	0.4nm,0.6s,baz=100,slow=5.1,SNR=6.8						
NVAR	**Mina Array Bea**	**90.72**	**51**	P	P	06 57 31.0	+1.1
	0.2nm,0.3s,baz=246,slow=4.0,SNR=3.7						
YKA	**Yellowknife Ar**	**96.51**	**28**	P	P	06 57 55.7	-0.2
YKA	**Yellowknife Ar**	**96.51**	**28**	P	P	06 57 55.7	-0.2
	0.3nm,0.7s,baz=265,slow=5.0,SNR=6.7						
BDFB	**Brasilia**	**145.16**	**133**	PKPbc	PKPbc	07 04 04.0	-0.9
	0.6nm,0.5s,baz=172,slow=4.2,SNR=3.8						

*IDC **05** 06:48:50.9±1.1,3742N×2443W,h0km,mb3.9/7,mb1 4.1/8, mb1mx3.8/23,mbtmp3.8/8, Error ellipse: s-maj=34.5km s-min=20.8km az=15.0*
*NEIC **05** 06:48:52.5±0.6,37.15N×2480W,h10km,mb4.3/9, Error ellipse: s-maj=12.7km s-min=8.1km az=178.0*
*CSEM **05** 06:48:53.3±0.3,3735N×2481W,h25km,mb4.5/5, Error ellipse: s-maj=14.3km s-min=3.9km az=7.0*
*ISCJB **05** 06:48:54.1±1.1,3728N±010×2487W±006,h33km±11km, mb4.2/14, Error ellipse: s-maj=16.7km s-min=6.8km az=12.0*
*PDA **05** 06:48:57.1±0.6,3735N×2480W,h0km,MD4.0, Error ellipse: s-maj=13.5km s-min=4.0km az=34.0*
*SVSA **05** 06:48:57.1±0.6,3735N×2480W,h0km,MD4.0, Error ellipse: s-maj=13.5km s-min=4.0km az=34.0*

ISC 05 06:48:54.6±1.4,3731N±010×2488W±004,h22km±9km,n44, σ0s98/51,mb4.2/14,Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDA	**Ponta Delgada**	**0.76**	**305**	*e*P	**Pb**	**06 49 08.8**	**-0.4**
PDA				*e*S	**Sb**	**06 49 18.5**	**-0.6**
ADH	**Angra Heroismo**	**2.30**	**306**	*e*P	**Pn**	**06 49 31.6**	**+0.4**
ADH				*e*S	**Sn**	**06 49 58.0**	**-0.8**
PID	**Ribeirinha**	**2.80**	**295**	*e*P	**Pn**	**06 49 38.9**	**+0.8**
PID				*e*S	**Sn**	**06 50 10.7**	**-0.6**
ROSA	**Rosais**	**3.01**	**299**	*e*P	**Pn**	**06 49 41.8**	**+0.9**
ROSA				*e*S	**Sn**	**06 50 15.1**	**-1.2**
PICO	**Pico**	**3.05**	**294**	*e*P	**Pn**	**06 49 42.7**	**+1.2**
PICO				*e*S	**Sn**	**06 50 16.8**	**-0.5**
HOR	**Horta**	**3.21**	**293**	*e*P	**Pn**	**06 49 44.5**	**+0.8**
HOR				*e*S	**Sn**	**06 50 20.2**	**-1.0**
CALA	**Caldeira**	**3.28**	**294**	*e*P	**Pn**	**06 49 45.7**	**+1.0**
CALA				*e*S	**Sn**	**06 50 22.3**	**-0.7**
EVOP	**Sao Brissos**	**13.29**	**80**	*e*Sn	**Sn**	**06

PDAR Pinedale Array 62.44 304 P **P 06 59 17.2 +1.3**
0.9nm,0.9s,mb3.9,baz=58,slow=6.4,SNR=7.2
TXAR Lajitas Array 64.56 288 P **P 06 59 32.4 +2.2**
2.6nm,0.8s,mb4.3,baz=74,slow=7.5,SNR=31
ZALV Zalesovo Beam 70.85 36 P **P 07 00 08.9 -0.6**
0.4nm,0.4s,mb3.7,baz=290,slow=5.4,SNR=2.9
MKAR Makanchi Array 73.93 43 P **P 07 00 26.4 -1.6**
0.3nm,0.7s,mb3.4,baz=305,slow=5.1,SNR=3.1

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*ISCJB **05** 06:49:21.3±0.6, 843S±0.10×15740E±006, h10km, mb3.9/9, Error ellipse: s-maj=14.0km s-min=8.7km az=4.3*
*IDC **05** 06:49:21.2±0.8, 845S×15742E, h0km, mb4.0/8, mb1 4.2/10, mb1mx4.1/16, mbtmp4.0/10, ML4.3/2, Error ellipse: s-maj=24.7km s-min=19.3km az=155.0*
*NEIC **05** 06:49:22.7±0.5, 846S×15745E, h10km, Error ellipse: s-maj=17.5km s-min=10.3km az=150.0*
ISC 05 06:49:22.7±6.4, 84S±01×15743E±007, h10km±40km, n16, σ0°79/16, mb3.9/9, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.67**	**112**	Pn	**Pn**	**06 50 05.7**	**-0.2**
	144nm,0.3s,baz=240,slow=2.5,SNR=8.6						
HNR				Sn	**Sn**	**06 50 38.1**	**-0.3**
	323nm,0.3s,baz=273,slow=20,SNR=19						
CTA	**Charters Tower**	**15.85**	**222**	Pn	**Pn**	**06 53 06.8**	**+0.7**
	0.4nm,0.3s,baz=61,slow=15,SNR=4.1						
WB2	**Warramunga Arr**	**25.09**	**240**	*e*P	**P**	**06 54 47.0**	**-0.8**
WB2	**Warramunga Arr**	**25.09**	**240**	*e*P	**P**	**06 54 47.3**	**-0.6**
WRA	**Warramunga Arr**	**25.10**	**240**	P	**P**	**06 54 47.6**	**-0.4**
	1.4nm,0.7s,mb3.6,baz=67,slow=9.3,SNR=15						
ASAR	**Alice Springs**	**27.15**	**233**	P	**P**	**06 55 05.5**	**-0.9**
	0.5nm,0.8s,mb3.1,baz=61,slow=9.2,SNR=4.1						
STKA	**Stephens Creek**	**27.59**	**210**	P	**P**	**06 55 11.1**	**+0.9**
	2.0nm,0.6s,mb3.9,baz=26,slow=13,SNR=3.2						
KSRS	**Korea Array**	**53.35**	**331**	P	**P**	**06 58 41.6**	**-0.8**
	0.5nm,0.3s,mb3.9,baz=142,slow=6.2,SNR=3.5						
COLA	**College**	**83.56**	**21**	*e*P	**P**	**07 01 50.3**	**-0.5**
	8.7nm,1.1s,mb4.8						
MKAR	**Makanchi Array**	**86.08**	**318**	P	**P**	**07 02 05.1**	**+1.3**
	0.5nm,0.6s,mb3.9,baz=95,slow=4.3,SNR=5.9						
ZAA0	**Zalesovo Array**	**86.72**	**326**	*e*P	**P**	**07 02 03.0**	**-3.8**
NVAR	**Mina Array Bea**	**90.72**	**51**	P	**P**	**07 02 27.6**	**+1.4**
	1.2nm,0.9s,mb4.2,baz=241,slow=4.9,SNR=7.2						
YKA	**Yellowknife Ar**	**96.47**	**28**	P	**P**	**07 02 52.0**	**-0.1**
YKA	**Yellowknife Ar**	**96.47**	**28**	P	**P**	**07 02 52.0**	**-0.1**
	0.2nm,0.6s,mb3.8,baz=267,slow=4.8,SNR=6.6						
PDAR	**Pinedale Array**	**97.86**	**48**	P	**P**	**07 02 58.9**	**0.0**
	0.3nm,0.6s,mb4.0,baz=261,slow=4.1,SNR=3.1						
BDFB	**Brasilia**	**145.25**	**133**	PKPbc	PKPbc	07 09 00.2	-1.3
	1.2nm,0.5s,baz=227,slow=4.4,SNR=3.8						

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*IDC **05** 06:53:08.8±0.9, 7.17S×15477E, h0km, mb4.2/11, mb1 4.3/11, mb1mx4.3/14, mbtmp4.1/11, MS3.8/3, Ms1 3.8/3, ms1mx3.3/27, Error ellipse: s-maj=32.4km s-min=18.4km az=107.0*
*NEIC **05** 06:53:10.4±0.6, 7.14S×15481E, h10km, mb4.5/5, Error ellipse: s-maj=19.7km s-min=11.6km az=121.0*
*ISCJB **05** 06:53:12.3±0.8, 7.14S±0.10×1548E±0.1, h33km, mb4.2/17, MS4.0/2, Error ellipse: s-maj=22.0km s-min=12.2km az=24.5*
*BJI **05** 06:53:15.6, 6.45S×15420E, h8km, mB5.0, mb4.7*
ISC 05 06:53:14.3±0.8, 72S±01×1548E±0.1, h35km, n27, σ0°78/23, mb4.2/17, MS4.0/2, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**15.25**	**212**	LR	LR	07 00 38.1	
	comp=Z,184nm,19.9s,baz=164,slow=29						
KAKA	**Kakadu**	**22.66**	**254**	P	**P**	**06 58 14.3**	**+1.6**
	13nm,0.8s,mb4.4						
WRAB	**Tennant Creek**	**23.51**	**235**	*e*P	**P**	**06 58 20.6**	**-0.8**
	6.4nm,0.7s,mb4.2						
WB2	**Warramunga Arr**	**23.52**	**235**	*e*P	**P**	**06 58 21.0**	**-0.4**
WRA	**Warramunga Arr**	**23.52**	**235**	P	**P**	**06 58 20.8**	**-0.7**
	7.0nm,0.9s,mb4.1,baz=61,slow=9.7,SNR=18						
ASAR	**Alice Springs**	**25.88**	**228**	P	**P**	**06 58 42.5**	**-0.4**
	2.2nm,0.8s,mb3.7,baz=59,slow=9.1,SNR=11						
STKA	**Stephens Creek**	**27.46**	**205**	*e*P	**P**	**06 58 59.0**	**+1.9**
	4.5nm,0.7s,mb4.1						
STKA	**Stephens Creek**	**27.46**	**205**	P	**P**	**06 58 56.6**	**-0.5**
	4.9nm,0.6s,mb4.2,baz=22,slow=13,SNR=12						
FITZ	**Fitzroy Crossi**	**30.38**	**246**	P	**P**	**06 59 22.9**	**-0.3**
	2.9nm,0.8s,mb4.0,baz=81,slow=8.0,SNR=3.9						
BATI	**Kupang**	**30.89**	**262**	LR	LR	07 13 10.9	
	comp=Z,144nm,18.7s,MS3.7,baz=292,slow=39						
KSRS	**Korea Array**	**51.01**	**332**	P	**P**	**07 02 12.9**	**+0.1**
	0.9nm,0.4s,mb4.1,baz=148,slow=9.0,SNR=3.3						
XAN	**Xi'an**	**59.70**	**316**	P	**P**	**07 03 15.1**	**-0.4**
XAN				AMB	AMB		
	comp=Z,4.0nm,0.7s,mb4.6						
KMI	**Kunming**	**59.95**	**304**	P	**P**	**07 03 17.7**	**+0.3**
KMI				AMB	AMB		
	comp=Z,6.0nm,1.0s,mb4.6						
KMI	**Kunming**	**59.95**	**304**	P	**P**	**07 03 17.7**	**+0.3**
	comp=Z,6.0nm,1.0s,mb4.6						
LZH	**Lanzhou**	**64.30**	**316**	*e*P	**P**	**07 03 46.5**	**+0.1**
LZH				AP	pP	07 03 51.3	-5.8
LZH				XP	sP	07 03 53.6	-7.6
LZH				AMB	AMB		
	comp=Z,19nm,1.3s,mb5.0						
LZH				AMB	AMB		
	comp=Z,89nm,4.3s						
LZH	**Lanzhou**	**64.30**	**316**	*e*P	**P**	**07 03 46.5**	**+0.1**
	comp=Z,19nm,1.3s,mb5.0						
LZH				pP	pP	07 03 51.3	-5.8
LZH				sP	sP	07 03 53.6	-7.6
SONM	**Songino Array**	**69.38**	**327**	P	**P**	**07 04 19.4**	**+0.9**
	comp=Z,0.9nm,0.6s,mb3.9,baz=147,slow=5.9,SNR=4.9						
VNDA	**Vanda**	**70.39**	**178**	P	**P**	**07 04 25.1**	**+0.9**
	comp=Z,1.1nm,1.0s,mb3.7,baz=357,slow=5.0,SNR=6.1						
MK31	**Makanchi Array**	**83.41**	**319**	*e*P	**P**	**07 05 34.4**	**-3.6**
MKAR	**Makanchi Array**	**83.41**	**319**	P	**P**	**07 05 38.3**	**+0.3**
	comp=Z,1.3nm,0.7s,mb4.1,baz=104,slow=5.1,SNR=10						
ZALV	**Zalesovo Beam**	**84.22**	**326**	P	**P**	**07 05 41.3**	**-0.7**
	comp=Z,0.7nm,0.4s,mb4.1,baz=135,slow=6.5,SNR=3.1						
NVAR	**Mina Array Bea**	**92.01**	**52**	P	**P**	**07 06 19.4**	**-0.4**
	comp=Z,0.5nm,0.7s,mb4.0,baz=228,slow=4.6,SNR=4.4						
YKA	**Yellowknife Ar**	**96.61**	**28**	P	**P**	**07 06 40.2**	**-0.1**
YKA	**Yellowknife Ar**	**96.61**	**28**	P	**P**	**07 06 40.2**	**-0.1**
	comp=Z,2.4nm,1.0s,mb4.6,baz=270,slow=4.6,SNR=17						
LPIG	**La Paz**	**97.37**	**67**	LR	LR	07 41 25.3	
	comp=Z,97nm,18.9s,MS4.3,baz=215,slow=30						
PDAR	**Pinedale Array**	**98.99**	**48**	P	**P**	**07 06 55.8**	**+4.3**
	comp=Z,0.2nm,0.5s,mb3.9,baz=193,slow=3.6,SNR=2.7						
TORD	**Torodi Ar. Bea**	**152.86**	**285**	PKPbc	PKPbc	07 13 08.6	-0.1
	comp=Z,0.7nm,0.6s,baz=68,slow=1.8,SNR=6.2						
TORD				PKPab	PKPab	07 13 18.1	-1.8
	comp=Z,1.3nm,0.7s,baz=68,slow=2.1,SNR=5.4						

WEL 05 06:55:34.6±0.3, 4125S×17260E, h193km±2km, ML3.6/16, 3C, Error ellipse: s-maj=2.4km s-min=2.0km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QRZ	**Quartz Range**	**0.43**	**352**	⇑PN	Pn	06 56 00.5	-0.2
QRZ				SN	Sn	06 56 19.9	-0.8
THZ	**Tophouse**	**0.56**	**156**	PN	Pn	06 56 01.4	+0.3
THZ				SN	Sn	06 56 21.2	-0.6
NNZ	**Nelson**	**0.59**	**87**	PN	Pn	06 56 01.2	0.0
DSZ	**Denniston Nort**	**0.78**	**230**	PN	Pn	06 56 01.8	-0.4
DSZ				SN	Sn	06 56 21.8	-1.8
TUWZ	**Tuamarina**	**1.02**	**101**	⇑PN	Pn	06 56 04.0	+0.2
TUWZ				SN	Sn	06 56 25.8	-0.5
BSWZ	**Blackbirch Sta**	**1.06**	**116**	PN	Pn	06 56 04.2	+0.2
DUWZ	**D'Urville Isla**	**1.09**	**66**	PN	Pn	06 56 04.2	-0.1
TCW	**Tory Channel**	**1.26**	**89**	PN	Pn	06 56 05.7	+0.1
KHZ	**Kahutara**	**1.36**	**149**	⇑PN	Pn	06 56 06.5	+0.1
KHZ				SN	Sn	06 56 29.8	-1.4
LTZ	**Lake Taylor**	**1.55**	**189**	PN	Pn	06 56 08.0	-0.1
MRW	**Makara Radio**	**1.58**	**90**	PN	Pn	06 56 08.2	-0.2
SNZO	**South Karori**	**1.58**	**93**	PN	Pn	06 56 08.1	-0.3
WEL	**Wellington**	**1.63**	**92**	PN	Pn	06 56 08.7	-0.2
BHW	**Baring Head**	**1.71**	**96**	PN	Pn	06 56 09.4	-0.3
KIW	**Kapiti Island**	**1.79**	**78**	PN	Pn	06 56 10.1	-0.3
CAW	**Cannon Point**	**1.87**	**86**	PN	Pn	06 56 10.8	-0.4
MSWZ	**Moikau Station**	**2.00**	**96**	PN	Pn	06 56 12.2	-0.3
PAWZ	**Paruwai Farm**	**2.13**	**94**	PN	Pn	06 56 13.6	-0.4
MTW	**Mount Morrison**	**2.19**	**89**	PN	Pn	06 56 14.2	-0.4
PKE	**Pukeiti**	**2.31**	**28**	PN	Pn	06 56 15.2	-0.8
TRWZ	**Traveller**	**2.33**	**95**	PN	Pn	06 56 16.0	-0.1
MRZ	**Mangatainoka R**	**2.33**	**76**	PN	Pn	06 56 15.4	-0.7
WAZ	**Wanganui**	**2.35**	**51**	PN	Pn	06 56 16.1	-0.3
MQZ	**McQueen's Vall**	**2.46**	**179**	PN	Pn	06 56 16.2	-1.3
TIWZ	**Tintock**	**2.53**	**80**	PN	Pn	06 56 17.9	-0.4
BFZ	**Birch Farm**	**2.82**	**80**	PN	Pn	06 56 21.2	-0.5
WNVZ	**Wahianoa**	**2.99**	**51**	PN	Pn	06 56 22.8	-0.9
TUVZ	**Tukino**	**3.06**	**51**	PN	Pn	06 56 23.4	-1.2
BKZ	**Black Stump Fm**	**3.63**	**56**	PN	Pn	06 56 29.4	-2.1
JCZ	**Jackson Bay**	**4.00**	**224**	PN	Pn	06 56 34.0	-2.0

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*ISCJB **05** 07:07:38.9±0.5, 3164S±002×72.19W±005, h10km, mb4.1/8, Error ellipse: s-maj=5.8km s-min=2.7km az=176.0*
*IDC **05** 07:07:38.9±0.9, 3157S×7192W, h0km, mb4.3/6, mb1 4.3/9, mb1mx4.1/17, mbtmp4.2/9, ML3.9/3, MS3.9/2, Ms1 3.8/2, ms1mx3.2/27, Error ellipse: s-maj=29.6km s-min=21.2km az=88.0*
*GUC **05** 07:07:41.1±0.8, 3165S×7209W, h24km±3km, ML4.3*
*NEIC **05** 07:07:41.1, 3165S×7209W, h24km, ML4.3(GUC), After GUC.*
ISC 05 07:07:39.5±0.9, 3164S±002×7211W±005, h3km±4km, n52, σ0°82/74, mb4.2/7, 14C-6D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHNG	**Los Chungos**	**0.57**	**115**	⇓*i*P	**Pg**	**07 07 34.3**	**-16**
CHNG				*i* S	**Sg**	**07 07 42.3**	**-16**
CMCH	**Combarbala**	**1.05**	**64**	⇑*i*P	**Pg**	**07 07 59.2**	**-0.4**
CMCH				*i* S	**Sg**	**07 08 13.6**	**+0.2**
CMCH	**Combarbala**	**1.05**	**64**	⇑*i*P	**Pg**	**07 07 59.2**	**-0.4**
CMCH				*i* S	**Sg**	**07 08 13.6**	**+0.2**
CMCH				AML	AML	07 08 27.8	
	comp=N,31μm,0.7s						
PACH	**Papudo**	**1.06**	**148**	⇑*i*P	**Pg**	**07 08 00.2**	**+0.5**
PACH				*i* S	**Sg**	**07 08 13.9**	**+0.4**
PTCH	**Petorca**	**1.18**	**122**	*e*P	**Pg**	**07 08 01.7**	**-0.3**
PTCH				*i* S	**Sg**	**07 08 17.1**	**-0.2**
PTCH	**Petorca**	**1.18**	**122**	*e*P	**Pg**	**07 08 01.7**	**-0.3**
PTCH				*i* S	**Sg**	**07 08 17.1**	**-0.2**
PTCH				AML	AML	07 08 18.9	
	comp=N,3μm,0.6s						
OVCH	**Ovalle**	**1.29**	**37**	*e*P	**Pg**	**07 08 03.2**	**-1.0**
OVCH				*i* S	**Sg**	**07 08 20.5**	**-0.4**
OVCH	**Ovalle**	**1.29**	**37**	*e*P	**Pg**	**07 08 03.2**	**-1.0**
OVCH				*i* S	**Sg**	**07 08 20.5**	**-0.4**
OVCH				AML	AML	07 08 27.7	
	comp=N,9μm,0.2s						
IHA	**Instituto Hidr**	**1.44**	**164**	⇑*i*P	**Pn**	**07 08 05.5**	**-0.9**
IHA				*i* S	**Sb**	**07 08 23.7**	**-1.8**
ROCH	**El Roble**	**1.62**	**145**	⇑*i*P	**Pn**	**07 08 08.7**	**-0.2**
ROCH				*i* S	**Sn**	**07 08 30.0**	**-0.2**
JACH	**Jahuel**	**1.65**	**129**	*e*P	**Pn**	**07 08 09.2**	**-0.2**
JACH				*i* S	**Sn**	**07 08 30.3**	**-0.7**
TLL	**Tololo Astrono**	**1.85**	**38**	*e*P	**Pn**	**07 08 13.2**	**+1.2**
TLL				*i* S	**Sn**	**07 08 37.1**	**+1.2**
TLL	**Tololo Astrono**	**1.85**	**38**	*e*P	**Pn**	**07 08 13.2**	**+1.2**
TLL				*i* S	**Sn**	**07 08 37.1**	**+1.2**
TLL				AML	AML	07 08 43.2	
	comp=N,5μm,0.7s						
LSCH	**La Serena**	**1.88**	**23**	⇑*i*P	**Pn**	**07 08 13.0**	**+0.5**
LSCH				*i* S	**Sn**	**07 08 36.9**	**+0.2**
PEL	**Peldehue**	**1.92**	**142**	⇓*i*P	**Pn**	**07 08 13.1**	**+0.1**
PEL				*i* S	**Sn**	**07 08 37.5**	**-0.2**
PEL				AML	AML	07 08 46.7	
	comp=E,7μm,0.7s						
STL	**Santa Lucia**	**2.17**	**146**	⇑*i*P	**Pn**	**07 08 16.4**	**-0.1**
STL				*i* S	**Sn**	**07 08 43.8**	**-0.2**
CLCH	**Cerro Calan**	**2.19**	**143**	⇑*i*P	**Pn**	**07 08 17.1**	**+0.2**
CLCH				*i* S	**Sn**	**07 08 46.7**	**+2.2**
CLCH				AML	AML	07 08 53.6	
	comp=N,5μm,0.7s						
TACH	**Talagante**	**2.23**	**154**	⇓*i*P	**Pn**	**07 08 17.9**	**+0.5**
FSR	**Penalolen**	**2.27**	**144**	⇑*i*P	**Pn**	**07 08 18.2**	**+0.4**
FSR				*i* S	**Sn**	**07 08 46.5**	**+0.2**
FSR	**Penalolen**	**2.27**	**144**	⇑*i*P	**Pn**	**07 08 18.2**	**+0.4**
FSR				*i* S	**Sn**	**07 08 46.5**	**+0.2**
FSR				AML	AML	07 09 00.3	
	comp=N,4μm,0.6s						
ANTU	**Antumapu**	**2.29**	**148**	⇓*e*P	**Pn**	**07 08 18.4**	**+0.3**
ANTU				*i* S	**Sn**	**07 08 45.8**	**-1.0**
LNV	**Longovilo**	**2.38**	**166**	*i* P	**Pn**	**07 08 18.7**	**-0.7**
PCH	**Pirque**	**2.39**	**146**	⇑*i*P	**Pn**	**07 08 19.8**	**+0.4**
SJCH	**San Jose de Ma**	**2.48**	**144**	*e*P	**Pn**	**07 08 20.3**	**-0.5**
SJCH				*i* S	**Sn**	**07 08 51.3**	**-0.3**
SJCH	**San Jose de Ma**	**2.48**	**144**	*e*P	**Pn**	**07 08 20.3**	**-0.5**
SJCH				*i* S	**Sn**	**07 08 51.3**	**-0.3**
SJCH				AML	AML	07 09 06.2	
	comp=E,2μm,0.6s						
CHCH	**Chadas Angostu**	**2.59**	**152**	*e*P	**Pn**	**07 08 22.6**	**+0.3**
LMEL	**Las Melosas**	**2.72**	**144**	⇑*i*P	**Pn**	**07 08 24.8**	**+0.7**
LMEL				*i* S	**Sn**	**07 08 58.0**	**+0.5**
LMEL	**Las Melosas**	**2.72**	**144**	⇑*i*P	**Pn**	**07 08 24.8**	**+0.7**
LMEL				*i* S	**Sn**	**07 08 58.0**	**+0.5**
LMEL				AML	AML	07 09 09.3	
	comp=N,1μm,0.9s						
CACH	**El Canelo**	**2.77**	**153**	⇑*e*P	**Pn**	**07 08 25.9**	**+1.1**
LCO	**Las Campanas**	**2.89**	**25**	*e*Pn	**Pn**	**07 08 26.1**	**-0.3**
LCO				*e*Sn	**Sn**	**07 09 01.1**	**-0.6**
CICH	**Cipreses**	**3.02**	**153**	⇓*i*P	**Pn**	**07 08 28.9**	**+0.7**
SFDO	**San Fernando**	**3.10**	**163**	⇓*i*P	**Pn**	**07 08 29.6**	**+0.3**
VACH	**Vallenar**	**3.27**	**21**	*e*P	**Pn**	**07 08 33.8**	**+2.1**
CFAA	**Coronel Fontan**	**3.30**	**90**	Pn	**Pn**	**07 08 34.2**	**+2.2**
	comp=N,8.1nm,0.3s,baz=262,slow=14,SNR=90						
CFAA				Lg		07 09 17.1	
	comp=N,3.9nm,0.3s,baz=44,slow=8.5,SNR=5.5						
NICH	**Los Niches**	**3.43**	**168**	*e*P	**Pn**	**07 08 27.2**	**-6.6**
PLCA	**Paso Flores**	**9.16**	**173**	Pn	**Pn**	**07 09 52.9**	**+0.4**
	comp=N,0.4nm,0.3s,baz=339,slow=9.1,SNR=11						
PLCA				LR	LR	07 13 42.3	
	comp=N,401nm,18.8s,baz=321,slow=39						
LPAZ	**La Paz**	**15.71**	**14**	Pn	**Pn**	**07 11 21.2**	**-0.6**
	comp=N,0.1nm,0.3s,baz=172,slow=8.2,SNR=7.2						
SIV	**San Ignacio**	**18.54**	**35**	P	**Pn**	**07 11 55.5**	**-1.9**
	comp=N,0.2nm,0.3s,baz=225,slow=12,SNR=19						
USHA	**Ushuaia**	**23.33**	**175**	P	**P**	**07 12 49.5**	**+0.9**
	comp=N,5.3nm,0.9s,mb4.0,baz=4.4,slow=13,SNR=2.1						
BDFB	**Brasilia**	**27.12**	**60**	P	**P**	**07 13 22.6**	**-1.3**
	comp=N,7.3nm,0.9s,mb4.2,baz=222,slow=11,SNR=9.2						
BDFB				LR	LR	07 25 16.5	
	comp=N,447nm,20.5s,baz=192,slow=39						
VNA3	**Neumayer Olymp**	**51.56**	**159**	*e*	**P**	**07 16 46.8**	**+0.4**
VNA3				*e*		07 16 52.6	
VNA3				*e*		07 16 56.5	
VNA3				*e*		07 17 04.7	
VNA1	**Neumayer--Stat**	**51.87**	**158**	*e*	**P**	**07 16 48.1**	**-0.5**
VNA1				*e*		07 16 55.7	
VNA1				*e*		07 16 59.4	
VNA1				*e*		07 17 06.5	
VNA2	**Neumayer--Watz**	**52.21**	**158**	*e*	**P**	**07 16 50.5**	**-0.7**
	baz=282,slow=9.0						
VNA2				*e*		07 16 57.3	
VNA2				*e*		07 17 00.2	
VNA2				*e*		07 17 09.2	
SNAA	**Sanae**	**53.79**	**158**	*e*	**P**	**07 17 01.7**	**-1.1**
SNAA				*e*		07 17 08.3	
SNAA				*e*		07 17 13.2	
SNAA				*e*		07 17 20.8	
TXAR	**Lajitas Array**	**67.66**	**330**	P	**P**	**07 18 38.2**	**+0.4**
	comp=N,0.3nm,0.6s,mb3.5,baz=146,slow=7.1,SNR=3.8						
DBIC	**Dimbokro**	**74.49**	**72**	P	**P**	**07 19 18.9**	**-0.8**
	comp=N,13nm,0.8s,mb4.9,baz=220,slow=7.6,SNR=12						
BOSA	**Boshof**	**81.22**	**118**	P	**P**	**07 19 56.5**	**-0.5**
	comp=N,3.3nm,0.9s,mb4.2,baz=285,slow=4.3,SNR=5.0						
NVAR	**Mina Array Bea**	**81.92**	**325**	P	**P**	**07 20 01.2**	**+1.0**
	comp=N,0.5nm,0.8s,mb3.5,baz=170,slow=5.4,SNR=5.0						
TORD	**Torodi Ar. Bea**	**83.47**	**70**	P	**P**	**07 20 07.7**	**-1.2**
	comp=N,7.1nm,0.8s,mb4.7,baz=260,slow=4.9,SNR=34						
YKA	**Yellowknife Ar**	**99.81**	**341**	P	Pdif	07 21 23.3	-1.8
	comp=N,0.1nm,0.7s,baz=139,slow=4.8,SNR=3.3						
ZALV	**Zalesovo Beam**	**152.24**	**30**	PKPbc	PKPbc	07 27 35.2	-0.9
	comp=N,6.1nm,0.8s,baz=297,slow=3.1,SNR=31						
ZALV				PKPab	PKPab	07 27 44.1	-1.8
	comp=N,5.1nm,0.6s,baz=300,slow=3.5,SNR=9.1						
MKAR	**Makanchi Array**	**155.20**	**45**	PKPbc	PKPdf	07 27 41.6	+7.8
	comp=N,0.3nm,0.6s,baz=336,slow=2.7,SNR=3.8						
MKAR				PKPab	PKPab	07 27 58.0	-0.7
	comp=N,1.4nm,0.8s,baz=314,slow=4.0,SNR=7.1						

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*NEIC **05** 07:13:03.6, 2892S×6983W, h84km, MD3.5(GUC), After GUC.*
GUC 05 07:13:03.6±0.9, 2892S×6983W, h84km±47km, MD3.5, ML3.9, 1C-3D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCO	**Las Campanas**	**0.77**	**263**	*e*Pn	Pn	07 13 21.6	+1.3
LCO				*e*Sn	Sn	07 13 35.5	+2.9
VACH	**Vallenar**	**0.88**	**293**	⇓*i*P	Pn	07 13 21.9	+0.4
VACH				*i* S	Sn	07 13 35.6	+0.7
VACH	**Vallenar**	**0.88**	**293**	⇓*i*P	Pn	07 13 21.9	+0.4
VACH				*i* S	Sn	07 13 35.6	+0.7
VACH				AML	AML	07 13 36.2	
	comp=N,8μm,0.1s						
LSCH	**La Serena**	**1.58**	**231**	*e*P	Pn	07 13 30.3	+0.3
LSCH				*i* S	Sn	07 13 50.6	+0.6
CPCH	**Copiapo**	**1.62**	**343**	*e*P	Pn	07 13 27.7	-3.0
CPCH				*i* S	Sn	07 13 47.8	-3.3
CPCH	**Copiapo**	**1.62**	**343**	*e*P	Pn	07 13 27.7	-3.0
CPCH				*i* S	Sn	07 13 47.8	-3.3
CPCH				AML	AML	07 13 49.8	
	comp=E,3μm,0.1s						
OVCH	**Ovalle**	**2.06**	**215**	*e*P	Pn	07 13 36.6	+0.2
OVCH				*i* S	Sn	07 14 01.6	+0.3
OVCH	**Ovalle**	**2.06**	**215**	*e*P	Pn	07 13 36.6	+0.2
OVCH				*i* S	Sn	07 14 01.6	+0.3
OVCH				AML	AML	07 14 02.9	
	comp=N,535nm,0.3s						
JACH	**Jahuel**	**3.81**	**190**	⇑*i*P	Pn	07 14 01.1	+1.2
PCH	**Pirque**	**4.72**	**187**	⇓*i*P	Pn	07 14 13.0	+0.6

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*NEIC **05** 07:13:17.4±0.4, 2072S×16891E, h10km, mb4.9/10, Error ellipse: s-maj=14.7km s-min=9.4km az=143.0*
*BJI **05** 07:13:17.3, 2070S×16890E, h10km, mB5.2, mb4.8*
*ISCJB **05** 07:13:18.0±4.7, 2078S±009×16885E±008, h23km±32km, mb4.7/24, MS3.7/2, Error ellipse: s-maj=15.0km s-min=12.8km az=153.1*
*MOS **05** 07:13:20.5±1.2, 2077S×16871E, h33km, mb5.0/8, Error ellipse: s-maj=16.9km s-min=14.1km az=30.5*
*IDC **05** 07:13:20.9±0.9, 2075S×16884E, h29km±4km, mb4.3/11, mb1 4.4/13, mb1mx4.3/18, mbtmp4.3/13, ML3.7/2, MS3.8/2, Ms1 3.7/2, ms1mx3.1/25, Error ellipse: s-maj=25.3km s-min=15.7km az=140.0*
*SZGRF **05** 07:13:22.2, 2095S×16829E, h33km, Loyalty Islands*
ISC 05 07:13:21.8±2.4, 2084S±009×1689E±01, h39km±20km, h32km±3.7km: pP-P, n70, σ1°04/46, mb4.7/24, MS3.7/2, 5C-2D, Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**2.56**	**241**	*e*P	**Pn**	**07 13 58.7**	**-2.1**
DZM				*e*S	**Sn**	**07 14 31.1**	**+0.3**
DZM	**Mont Dzumac**	**2.56**	**241**	Pn	**Pn**	**07 13 59.1**	**-1.7**
	15nm,0.3s,baz=79,slow=20,SNR=100						
DZM				Sn	**Sn**	**07 14 31.8**	**+1.1**
	87nm,0.3s,baz=353,slow=16,SNR=8.8						
ARMA	**Armidale**	**18.21**	**235**	*e*P	**Pn**	**07 17 31.9**	**+0.3**
URZ	**Urewera**	**18.77**	**159**	P	**Pn**	**07 17 39.0**	**+0.7**
	0.2nm,0.3s,baz=339,slow=2.3,SNR=3.7						
CTA	**Charters Tower**	**21.19**	**268**	*e*P	**P**	**07 18 05.5**	**+1.4**
	15nm,0.9s,mb4.3						
CTA	**Charters Tower**	**21.19**	**268**	*e*P	**P**	**07 18 05.5**	**+1.4**
CTA				pmax	pmax		
	comp=Z,15nm,0.9s						
CTA	**Charters Tower**	**21.19**	**268**	P	**P**	**07 18 05.4**	**+1.3**
	comp=Z,16nm,0.8s,mb4.4,baz=93,slow=13,SNR=11						
CTAO	**Charters Tower**	**21.19**	**268**	*e*P	**P**	**07 18 05.6**	**+1.5**
	comp=Z,27nm,1.0s,mb4.5						
CTAO	**Charters Tower**	**21.19**	**268**	*e*P	**P**	**07 18 05.6**	**+1.5**
CTAO				pmax	pmax		
	comp=Z,27nm,1.0s,mb4.5						
CNB	**Canberra Magne**	**22.39**	**226**	*e*P	**P**

VNA2 e 07 26 24.0
VNA2 e 07 26 32.4
VNA2 e 07 26 35.4
VNA2 e 07 26 38.3
VNA2 e 07 26 42.5
BILL Bilibino 88.64 359⇑ *e*P **P 07 26 09.7 -0.5**
BILL pmax pmax
comp=Z,16nm,1.9s,mb5.0
NVAR Mina Array Bea 90.12 49 P **P 07 26 17.4 -0.4**
comp=Z,0.7nm,0.7s,mb4.1,baz=216,slow=5.1,SNR=7.1
ZAK Zakamensk 91.38 324 *e*P **P 07 26 23.9 +0.5**
ZAK pmax pmax
comp=Z,3.0nm,1.4s,mb4.4
TLY Talaya 91.87 326⇓ *e*P **P 07 26 24.7 -0.9**
TLY pmax pmax
comp=Z,1.0nm,1.7s,mb3.9
MCMT McKenzie Canyo 96.51 45 *e*P **P 07 26 42.3 -4.9**
MCMT *e*pP pP 07 26 54.1 -5.2
YKA Yellowknife Ar 102.25 28 P Pdif 07 27 12.8 0.0
comp=Z,0.2nm,0.6s,baz=254,slow=4.7,SNR=5.3
YKA pP 07 27 21.5
comp=Z,0.1nm,0.6s,baz=256,slow=4.5,SNR=2.9
MKAR Makanchi Array 102.62 315 P Pdif 07 27 15.2 +0.8
MKAR Makanchi Array 102.62 315 P Pdif 07 27 15.3 +0.8
comp=Z,0.2nm,0.6s,baz=119,slow=5.8,SNR=3.2
GOF Gofitskoye 129.61 312 *e*PKHKP 07 32 08.5
BRG Berggiesshubel 144.14 333 *e*PKPbc PKPdf 07 32 51.4 -1.7
BRG Berggiesshubel 144.14 333 *e*(P) PKPdf 07 32 51.6 -1.5
comp=Z,7.3nm,1.2s
BRG *e* 07 33 00.2
comp=Z,6.5nm,0.8s
CLL Collm 144.21 334 *e*PKPdf PKPdf 07 32 53.0 -0.2
CLL e(pPKPdf) 07 32 59.0
TANN Tannenbergstha 145.11 333 *e*PKPbc PKPbc 07 32 54.6 +0.2
MOX Moxa 145.28 334 *e*(P) PKPbc 07 32 56.2 +1.3
MOX Moxa 145.28 334 *e*PKPbc PKPbc 07 32 55.6 +0.7
ROTZ Rotzenmuhle 145.70 333 *e*PKPbc PKPbc 07 32 56.8 +0.5
GEC2 GERESS Array S 145.72 330 *e*PKPbc PKPbc 07 32 56.8 +0.5
GERES GERESS Array B 145.72 330 PKPbc PKPbc 07 32 56.7 +0.3
comp=Z,3.2nm,0.7s,baz=43,slow=2.5,SNR=15
GERES pPKPbc pPKPbc 07 33 05.5 -3.3
comp=Z,5.8nm,0.7s,baz=38,slow=5.0,SNR=9.9
WET Wettzell 145.87 332 *e*PKPbc PKPbc 07 32 58.0 +1.2
GRA1 Grafenberg Arr 146.18 334 *e*PKPbc PKPbc 07 32 58.0 +0.3
GRF Grafenberg Arr 146.18 334 *e*PKPbc PKPbc 07 32 58.0 +0.3
DMUB Kingscourt 146.84 355 *e*P PKPdf 07 32 59.5 +1.8
WLF Walferdange 148.12 339 *e*PKPbc PKPbc 07 33 05.8 +2.6
BAIF Baives 148.41 341 *e*PKIKP PKPdf 07 32 59.6 -0.8
BFO Black Forest 148.42 335 *e*PKPbc PKPbc 07 33 03.7 -0.3
CDF Champ du Feu 148.77 336 *e*PKIKP PKPdf 07 33 00.5 -0.5
comp=Z,22nm,1.0s
HINF Hinteralfeld 149.42 336 *e*PKIKP PKPdf 07 33 01.3 -0.8
CABF La Chapelle 150.71 335 *e*PKIKP PKPdf 07 33 04.0 -0.2
comp=Z,36nm,1.3s
FLN La Foliniere 150.86 345 *e*PKIKP PKPdf 07 33 03.5 -0.8
LDF La Druitiere 150.93 345 *e*PKIKP PKPdf 07 33 03.6 -0.8
GRR Gorron 151.30 346 *e*PKIKP PKPdf 07 33 04.2 -0.8

NEIC ***05*** *07:18:24.8, 1738N×10134W, h19km, MD3.5(MEX), After MEX.*

MEX 05 07:18:24.8±0.7, 1738N×10134W, h19km±44km, MD3.5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.25**	**332**	*i* P	Pg	07 18 29.5	-1.2
ZIIG				*i* S	Sg	07 18 33.8	-0.9
CAIG	**El Cayaco**	**1.08**	**108**	*i* P	Pb	07 18 41.5	-3.3
CAIG				*i* S	Sb	07 18 54.5	-4.0
ACX	**Acapulco**	**1.46**	**110**	*e*P	Pn	07 18 47.7	-2.3
ACX				*i* S	Sn	07 19 02.5	-6.0
PPM	**Popocatepetl**	**3.08**	**57**	*e*P	Pn	07 19 02.6	-10
PPM				*i* S	Sn	07 19 50.8	+2.2
PPM	**Popocatepetl**	**3.08**	**57**	*i* P	Pn	07 19 11.6	-0.7
PPM				*i* S	Sn	07 19 48.5	-0.1
UTMO	**Huajuapan**	**3.40**	**82**	*e*P	Pn	07 19 14.9	-1.9
UTMO				*i* S	Sn	07 19 53.7	-3.0

SKHL ***05*** *07:22:00.9±0.6, 4670N×15330E, h22km±10km, mb4.9/6*
JMA ***05*** *07:22:02.6±1.0, 4699N×15331E, h30km, M4.8*
ISCJB ***05*** *07:22:04.8±0.8, 4691N±006×15302E±008, h57km±7km, mb4.3/21, Error ellipse: s-maj=11.9km s-min=5.6km az=138.3*
NEIC ***05*** *07:22:06.0±0.6, 4695N×15303E, mb4.5/3, Error ellipse: s-maj=19.4km s-min=11.2km az=149.0*
BJI ***05*** *07:22:05.6, 4736N×15331E, h71km, mB4.7, mb4.3, Ms4.2, Msz4.1*
MOS ***05*** *07:22:06.2±1.0, 4697N×15293E, h69km, mb4.6/6, Error ellipse: s-maj=12.8km s-min=8.7km az=73.0*
IDC ***05*** *07:22:06.4±0.6, 4701N×15282E, h51km±5km, mb3.8/16, mb1 4.0/16, mb1mx3.9/23, mbtmp3.8/16, MS3.2/1, Ms1 3.2/1, ms1mx2.6/34, Error ellipse: s-maj=18.1km s-min=12.7km az=137.0*

ISC 05 07:22:07.1±0.7, 4696N±006×15299E±008, h57km±6km, h50km±.5km:pP-P, n98, σ1§32/105, mb4.3/21, 5C-3D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.96**	**246**	*e*PN	**Pn**	**07 23 04.0**	**-1.3**
KUR				*e*S	**Sn**	**07 23 51.8**	**+1.4**
KUR				pmax	pmax		
comp=N,80nm,0.6s
KUR pmax pmax
comp=Z,110nm,0.6s
KUR smax
comp=N,970nm,0.8s
KUR smax
comp=E,540nm,0.8s
KUR Kuril'sk 3.96 246 *e*P **Pn 07 23 04.0 -1.3**
KUR AMB AMB 07 23 08.0
comp=E,76nm,0.6s
KUR AMB AMB 07 23 08.0
comp=E,114nm,0.6s
KUR *e*S **Sn 07 23 51.8 +1.4**
KUR A 07 24 09.7
comp=E,968nm,0.8s
KUR A 07 24 09.7
comp=E,537nm,0.8s
SKR Severo-Kuril's 4.26 28 *e*PN **Pn 07 23 09.5 +0.2**
SKR *e*S **Sn 07 23 54.7 -3.0**
SKR pmax pmax
comp=N,30nm,0.5s
SKR pmax pmax
comp=Z,50nm,0.5s
SKR smax
comp=N,150nm,0.5s
SKR smax
comp=E,220nm,0.5s
SKR Severo-Kuril's 4.26 28 *e*P **Pn 07 23 09.5 +0.2**
SKR AMB AMB 07 23 11.0
comp=E,30nm,0.5s
SKR AMB AMB 07 23 11.0
comp=E,50nm,0.5s
SKR *e*S **Sn 07 23 54.7 -3.0**
SKR A 07 24 05.4
comp=E,150nm,0.5s
SKR A 07 24 05.4
comp=E,220nm,0.5s
SKR A 07 24 05.4
comp=E,80nm,0.7s
YUK Yuzh-Kuril'sk 5.80 242 *e*P **Pn 07 23 30.9 +0.4**
YUK AMB AMB 07 23 31.5
comp=E,390nm,0.2s
YUK *e*S **Sn 07 24 38.0 +2.4**
YUK A 07 25 05.0
comp=E,730nm,0.5s
YUK A 07 25 05.0
comp=E,360nm,0.5s
NEM2 Nemuro 2 6.26 238 P **Pn 07 23 34.5 -2.2**
NEM2 *e*S **Sn 07 24 42.5 -4.3**
JRA Rausu 6.31 244 P **Pn 07 23 38.2 +0.8**
JNK Nakash 6.74 243 P **Pn 07 23 43.4 +0.1**
YSS Yuzh-Sakhalins 7.01 274 *e*Pn **Pn 07 23 50.4 +3.4**
YSS Yuzh-Sakhalins 7.01 274 *e*PN **Pn 07 23 50.2 +3.2**
YSS *e*S **Sn 07 25 08.4 +3.2**
YSS pmax pmax
comp=Z,30nm,0.9s
YSS Yuzh-Sakhalins 7.01 274 *e*P **Pn 07 23 50.2 +3.2**
YSS AMB AMB 07 23 51.0
comp=Z,30nm,0.9s
YSS *e*S **Sn 07 25 08.4 +3.2**
JTKR Abashiri--Toko 7.05 248 P **Pn 07 23 48.7 +1.1**
PET Petropavlovsk 7.08 29⇑ *e*PN **Pn 07 23 48.1 +0.2**
JAK Akkeshi 7.09 239 P **Pn 07 23 46.1 -2.0**
JAK *e*S **Sn 07 25 03.1 -4.2**
JMP Maruseppu 7.38 250 P **Pn 07 23 53.9 +1.7**
JAR Ashorobuto 7.48 244 P **Pn 07 23 53.6 +0.2**
JOB Onbets 7.66 241 P **Pn 07 23 55.2 -0.7**
JOB *e*S **Sn 07 25 18.3 -2.9**
ASAJ Asahikawa 7.83 252 P **Pn 07 24 01.0 +2.7**
ASAJ Asahikawa 7.83 252 PN **Pn 07 24 00.8 +2.5**
ASAJ pmax pmax
comp=Z,3.0nm,0.3s
ASAJ Asahikawa 7.83 252 P **Pn 07 24 00.8 +2.5**
comp=Z,2.9nm,0.3s,baz=76,slow=10.0,SNR=20
JKK2 Kamakawa 2 7.84 251 P **Pn 07 24 00.1 +1.7**
TYV Tymovskoe 7.85 304 *e*P **Pn 07 24 00.5 +2.1**
TYV AMB AMB 07 24 02.0
comp=Z,8.0nm,0.6s
TYV AMB AMB 07 24 02.0
comp=Z,22nm,0.8s
JWK2 Keihoku 7.88 262 P **Pn 07 24 03.0 +4.1**
JCH Churui 8.11 241 P **Pn 07 24 00.7 -1.4**
JCH *e*S **Sn 07 25 27.9 -4.3**
JFR Furan 8.28 246 P **Pn 07 24 05.1 +0.7**
JAB Ashibetsu 8.35 249 P **Pn 07 24 07.6 +2.3**
JEM Erimo 8.59 238 P **Pn 07 24 08.4 -0.3**
ERM Erimo 8.59 238 *e*Pn **Pn 07 24 06.7 -2.0**
ERM *e*Sn **Sn 07 25 44.2 +0.2**
JBT2 Biratori 2 8.63 245 P **Pn 07 24 08.9 -0.2**
JNBK Urakawa-nobuka 8.67 241 P **Pn 07 24 07.5 -2.2**
JKB Kayabe 9.94 244 P **Pn 07 24 25.3 -1.8**
JKB *e*S **Sn 07 26 10.5 -6.6**
NKL Nikolayevsk 10.04 313 *e*P **Pn 07 24 27.0 -1.5**
NKL AMB AMB 07 24 29.2
comp=Z,20nm,1.0s
JSH Shimam 10.16 250 P **Pn 07 24 30.6 +0.5**
JYM2 Yakumo 2 10.23 246 P **Pn 07 24 29.9 -1.1**
JTM Tenmabayashi 10.59 239 P **Pn 07 24 32.1 -3.8**
JANG Nango 10.60 236 P **Pn 07 24 31.6 -4.5**
JOSM Okushiri--Mats 10.81 248 P **Pn 07 24 37.8 -1.2**
MAJO Matsushiro 15.14 232 *e*P **Pn 07 25 42.2 +4.9**
comp=Z,4.8nm,0.4s
MAJO *e*S **S 07 28 46.1 +7.9**
MAJO Matsushiro 15.14 232 *e*P **Pn 07 25 42.2 +4.9**
MAJO pmax pmax
comp=Z,5.0nm,0.4s
MJAR Matsushiro Arr 15.14 232 P **Pn 07 25 40.5 +3.2**
MJAR pmax pmax
comp=Z,1.0nm,0.3s
MJAR Matsushiro Arr 15.14 232 P **Pn 07 25 40.5 +3.1**
comp=Z,1.0nm,0.3s,baz=36,slow=9.1,SNR=15
SEY Seymchan 16.01 359⇑ *e*P **Pn 07 25 49.2 +0.9**
YAK Yakutsk 20.10 327⇑ *e*P **P 07 26 36.8 +1.1**
YAK pmax pmax
comp=Z,14nm,0.7s
KSRS Korea Array 20.78 252 P **P 07 26 44.1 +0.9**
comp=Z,3.0nm,0.6s,baz=58,slow=10,SNR=12
KSRS LR LR 07 35 46.4
comp=Z,67nm,18.4s,baz=325,slow=40
SNY Shenyang 21.56 267 ⇑P **P 07 26 52.5 +0.9**
SNY AMB AMB
comp=Z,11nm,0.8s,mb4.3
JNU Nakatsue 21.76 238 P **P 07 26 54.1 +0.3**
comp=Z,6.6nm,0.8s,mb4.1,baz=9.5,slow=19,SNR=3.7
BILL Bilibino 22.21 13 *i* P **P 07 27 06.1 +7.9**
HIA Hailar 22.22 288⇑ *e*P **P 07 26 57.1 -1.5**
TLY Talaya 32.01 297⇓ *e*P **P 07 28 26.8 -0.9**
IMA2 Indian Mountai 33.68 36 *e*P **P 07 28 42.7 +0.6**
COLA College 36.02 39⇓ *e*P **P 07 29 03.6 +1.3**
INK Inuvik 41.52 33 *e*P **P 07 29 49.0 +0.8**
comp=Z,95nm,1.0s,mb5.4
INK Inuvik 41.52 33 P **P 07 29 49.4 +1.2**
comp=Z,1.4nm,0.5s,mb3.9,baz=272,slow=6.2,SNR=20
INK pP pP 07 30 02.4 -0.4
comp=Z,2.8nm,0.5s,baz=296,slow=7.8,SNR=8.2
ZALV Zalesovo Beam 42.42 306 P **P 07 29 53.6 -2.1**
comp=Z,0.5nm,0.4s,mb3.5,baz=42,slow=6.7,SNR=3.3
ZALV PcP PcP 07 31 47.0 -0.8
comp=Z,1.4nm,0.7s,baz=62,slow=3.5,SNR=5.3
ZAL Zalesovo 42.44 306 P **P 07 29 53.6 -2.2**
ZAL 07 31 47.0
MKAR Makanchi Array 46.77 297 P **P 07 30 29.2 -1.3**
MKAR PcP PcP 07 32 02.6 -0.2
MKAR Makanchi Array 46.77 297 *e*P **P 07 30 32.6 +2.1**
MKAR Makanchi Array 46.77 297 P **P 07 30 29.2 -1.3**
comp=Z,0.8nm,0.5s,mb3.9,baz=59,slow=6.6,SNR=10
MKAR PcP PcP 07 32 02.6 -0.2
comp=Z,0.5nm,0.5s,baz=68,slow=4.0,SNR=4.6
KURK Kurchatov 47.18 303 *i*P **P 07 30 32.9 -0.7**
YKA Yellowknife Ar 50.81 37 P **P 07 31 01.8 +0.6**
YKA pP pP 07 31 15.3 -0.9
YKA Yellowknife Ar 50.81 37 *e*P **P 07 31 01.8 +0.6**
YKA Yellowknife Ar 50.81 37 P **P 07 31 01.8 +0.6**
comp=Z,1.5nm,0.6s,mb4.1,baz=297,slow=7.1,SNR=30
YKA pP pP 07 31 15.3 -0.9
comp=Z,2.3nm,0.8s,baz=298,slow=7.3,SNR=15
JIRN Jiri 54.85 274 *e*P **P 07 31 32.7 +1.3**
comp=Z,3.9nm,0.2s,mb5.1
KKN Kakani 55.38 275 *e*P **P 07 31 36.6 +1.3**
comp=Z,9.0nm,0.4s,mb5.1
GKN Gorkha 55.69 276 *e*P **P 07 31 38.2 +0.7**
comp=Z,13nm,0.6s,mb5.1
KOLN Koldanda 56.54 276 *e*P **P 07 31 44.5 +0.9**
ARCES ARCESS Array B 57.63 341 P **P 07 31 49.9 -0.7**
ARCES ARCESS Array B 57.63 341 P **P 07 31 49.9 -0.7**
comp=Z,6.2nm,1.1s,mb4.5,baz=5.7,slow=6.1,SNR=3.6
FCC Fort Churchill 61.13 33 *e*P **P 07 32 14.8 -0.2**
comp=Z,1.7nm,0.5s,mb4.4
FCC Fort Churchill 61.13 33 *e*P **P 07 32 14.8 -0.1**
FCC pmax pmax
comp=Z,2.0nm,0.5s,mb4.5
NVAR Mina Array Bea 62.41 62 P **P 07 32 24.9 +1.0**
comp=Z,0.5nm,0.6s,mb3.9,baz=312,slow=5.9,SNR=5.9
FINES FINESS Array B 63.81 335 *e*P **P 07 32 32.1 -0.7**
FINES FINESS Array B 63.81 335 P **P 07 32 31.2 -1.6**
comp=Z,1.9nm,0.5s,mb4.4,baz=47,slow=6.5,SNR=1.8
PDAR Pinedale Array 64.69 54 P **P 07 32 39.6 +0.8**
comp=Z,1.3nm,0.7s,mb4.1,baz=268,slow=1.0,SNR=12
NB2 NORSAR Subarra 68.00 341 P **P 07 32 59.1 -0.6**
comp=Z,2.6nm,0.7s,mb4.4,baz=27,slow=6.5
NOA NORSAR Array B 68.00 341 P **P 07 32 59.4 -0.3**
NOA NORSAR Array B 68.00 341 P **P 07 32 59.4 -0.3**
NOA pmax pmax
comp=Z,3.0nm,0.7s
NOA NORSAR Array B 68.00 341 P **P 07 32 59.4 -0.3**
comp=Z,3.3nm,0.7s,mb4.5,baz=28,slow=6.3,SNR=9.3
WRA Warramunga Arr 68.68 199 P **P 07 33 03.8 -0.5**
comp=Z,0.4nm,0.5s,mb3.6,baz=9.4,slow=6.7,SNR=6.2
AKASG Malin Array Be 71.33 326 *e*P **P 07 33 19.2 -1.1**
AKASG Malin Array Be 71.33 326 P **P 07 33 19.2 -1.1**
comp=Z,5.4nm,0.5s,mb4.8,baz=35,slow=6.3,SNR=17
ASAR Alice Springs 72.38 198 *e*P **P 07 33 27.5 +0.7**
ASAR Alice Springs 72.38 198 P **P 07 33 27.4 +0.6**
comp=Z,1.1nm,0.6s,mb4.0,baz=10,slow=5.3,SNR=14
ASAR pP pP 07 33 41.4 -1.3
comp=Z,0.8nm,0.6s,baz=8.1,slow=5.5,SNR=6.0
VRI Vrincioaia 76.22 325 P **P 07 33 47.5 -1.6**
CLL Collm 76.24 335 *e*P **P 07 33 49.0 0.0**
CLL pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
CLL Collm 76.24 335 *e*P **P 07 33 49.0 0.0**
comp=Z,7.0nm,0.9s,mb4.6
TXAR Lajitas Array 77.46 61 P **P 07 33 56.6 +0.3**
TXAR pP pP 07 34 10.5 -1.7
TXAR Lajitas Array 77.46 61 *e*P **P 07 33 56.7 +0.4**
TXAR Lajitas Array 77.46 61 P **P 07 33 56.6 +0.3**
comp=Z,1.2nm,0.5s,mb4.1,baz=300,slow=4.8,SNR=48
TXAR pP pP 07 34 10.5 -1.7
comp=Z,2.2nm,0.7s,baz=302,slow=4.7,SNR=13
GERES GERESS Array B 78.23 334 P **P 07 33 59.1 -1.1**
GERES pmax pmax
comp=Z,1.0nm,0.4s
GERES GERESS Array B 78.23 334 P **P 07 33 59.1 -1.2**
comp=Z,0.8nm,0.4s,mb4.0,baz=15,slow=4.1,SNR=2.2
CFAA Coronel Fontan 145.03 79 PKPbc PKPbc 07 41 35.9 -1.2
CFAA Coronel Fontan 145.03 79 PKPbc PKPbc 07 41 35.9 -1.2
comp=Z,0.1nm,0.6s,baz=254,slow=5.1,SNR=2.7
PLCA Paso Flores 148.31 95 PKPbc PKPbc 07 41 44.9 -1.4
PLCA Paso Flores 148.31 95 PKP2 PKPbc 07 41 44.9 -1.4
PLCA pmax pmax
comp=Z,1.0nm,0.9s
PLCA Paso Flores 148.31 95 PKPbc PKPbc 07 41 44.9 -1.4
comp=Z,1.3nm,0.9s,baz=349,slow=3.2,SNR=4.2
VNA2 Neumayer--Watz 154.19 195 *e*PKPdf PKPab 07 42 13.4 +0.3
VNA2 *e* 07 42 17.8
VNA3 Neumayer Olymp 154.28 193 *e*PKPdf PKPab 07 42 12.9 -0.6
VNA3 *e* 07 42 17.5

IDC 05 07:33:44.9±1.4, 714S×15553E, h0km, mb3.7/4, mb1 3.9/5, mb1mx3.7/14, mbtmp3.9/5, ML3.9/1, MS3.7/2, Ms1 3.7/2, ms1mx2.9/23, Error ellipse: s-maj=33.1km s-min=28.2km az=10.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.93**	**118**	Pn	Pn	07 35 01.2	+0.9
4.8nm,0.3s,baz=263,slow=4.3,SNR=4.5
HNR Sn Sn 07 35 56.7 -1.4
25nm,0.3s,baz=276,slow=20,SNR=5.5
HNR LR LR 07 36 46.2
comp=Z,245nm,18.3s,baz=358,slow=37
WRA Warramunga Arr 24.17 236 P P 07 39 03.4 +0.3
2.3nm,1.0s,baz=61,slow=9.4,SNR=7.3
ASAR Alice Springs 26.47 229 P P 07 39 23.9 -0.1
0.2nm,0.5s,baz=58,slow=10,SNR=4.2
CBIJ Chichi jima 36.41 340 LR LR 07 52 02.4
comp=Z,347nm,19.8s,baz=104,slow=30
MKAR Makanchi Array 83.86 319 P P 07 46 17.4 +0.8
0.9nm,0.6s,baz=92,slow=5.1,SNR=8.9
ZALV Zalesovo Beam 84.60 326 P P 07 46 19.2 -1.0
0.7nm,0.6s,baz=117,slow=5.4,SNR=3.7

IDC 05 07:38:14.9±22.0, 3672S×10278W, h0km, mb3.7/3, mb1 4.2/3, mb1mx3.8/16, mbtmp3.7/3, Error ellipse: s-maj=677.8km s-min=283.0km az=134.0, Southeast of Easter Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TXAR	**Lajitas Array**	**65.71**	**359**	P	P	07 49 01.3	+0.2
0.7nm,0.7s,baz=180,slow=9.2,SNR=11
NVAR Mina Array Bea 76.14 347 P P 07 50 04.8 +0.5
0.4nm,0.7s,baz=164,slow=9.0,SNR=4.6
PDAR Pinedale Array 79.35 355 P P 07 50 22.5 +0.4
0.7nm,0.8s,baz=155,slow=5.6,SNR=6.0

VIE 05 07:51:52.0±0.5, 4463N×1673E, h6km, ML2.5/1, 2D, Error ellipse: s-maj=3.5km s-min=1.8km az=10.0 117 km WSW of Slavonski Brod, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NVLJ	**Novalja**	**1.33**	**268**	*e*Pn	Pn	07 52 14.7	-2.3
NVLJ Sn Sn 07 52 35.5 +0.4
BOJS Bojanci 1.37 310 *i* Pn Pn 07 52 17.2 -0.3
BOJS
comp=Z,16nm,0.2s
OBKA Obir 2.43 322⇓ *i*Pn Pn 07 52 32.7 +0.5
OBKA ⇓*i*Sg Sg 07 53 12.4 +2.5
comp=Z,9.2nm,0.3s

NEIC ***05*** *08:01:22.5±1.5, 2307S×17006E, Error ellipse: s-maj=38.7km s-min=18.1km az=35.0*
IDC ***05*** *08:01:24.0±2.1, 2309S×16992E, h65km±8km, mb3.6/4, mb1 3.8/5, mb1mx3.6/14, mbtmp3.6/5, Error ellipse: s-maj=48.0km s-min=17.0km az=30.0*

ISC 05 08:01:20.4±4.5, 231S±07×1701E±04, h38km±40km, n8, σ0§84/8, mb3.8/4, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.53**	**286**	P	**Pn**	**08 02 13.2**	**+0.5**
2.2nm,0.3s,baz=111,slow=17,SNR=9.4
DZM S **Sn 08 02 52.7 -0.6**
15nm,0.3s,baz=322,slow=23,SNR=5.0
STKA Stephens Creek 26.69 245 P **P 08 06 56.8 +0.8**
2.4nm,0.9s,mb3.7,baz=95,slow=13,SNR=4.8
ASAR Alice Springs 33.17 262 P **P 08 07 54.2 +0.7**
2.4nm,0.8s,mb4.2,baz=95,slow=9.8,SNR=18
ASAR pP pP 08 08 09.7 +5.5
1.1nm,0.5s,baz=90,slow=9.4,SNR=5.4
ASAR sP sP 08 08 17.8 +9.1
1.1nm,0.5s,baz=96,slow=9.5,SNR=4.0
WRA Warramunga Arr 33.37 269 P **P 08 07 54.8 -0.5**
1.5nm,1.0s,mb3.9,baz=103,slow=8.1,SNR=5.4
WRA pP pP 08 08 09.6 +3.7
0.8nm,0.9s,baz=92,slow=8.3,SNR=2.8
VNDA Vanda 54.61 182 P **P 08 10 44.0 -0.7**
VNDA Vanda 54.61 182 P **P 08 10 44.0 -0.6**
0.5nm,0.7s,mb3.6,baz=359,slow=6.3,SNR=3.3
QSPA South Pole Qui 66.96 180 *e*P **P 08 12 08.3 -0.3**
99nm,2.1s
GERES GERESS Array B 148.25 330 PKPbc PKPbc 08 21 02.2 0.0
0.3nm,0.3s,baz=60,slow=4.9,SNR=4.7

IDC 05 08:22:08.1±2.4, 1098N×9196E, h23km±6km, mb3.6/5, mb1 3.8/5, mb1mx3.5/21, mbtmp3.6/5, MS3.5/1, Ms1 3.5/1, ms1mx3.0/32, Error ellipse: s-maj=98.7km s-min=18.0km az=66.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.02**	**49**	*e*P	x	08 22 38.2	
PBA *e*S x 08 23 00.2
PBA *ex* x 08 23 13.1
comp=N,1μm,0.6s
PBA *ex* x 08 23 13.3
comp=E,1μm,0.6s
MKAR Makanchi Array 36.62 349 P P 08 29 12.5 -0.1
comp=E,0.6nm,0.7s,baz=157,slow=7.8,SNR=7.4
MKAR pP pP 08 29 19.5 -0.1
comp=E,0.7nm,0.5s,baz=166,slow=8.8,SNR=6.8
SONM Songino Array 38.69 16 P P 08 29 30.1 +0.1
comp=E,0.5nm,0.5s,baz=206,slow=9.6,SNR=4.0
SONM pP pP 08 29 37.4 +0.4
comp=E,0.7nm,0.6s,baz=202,slow=11,SNR=4.0
GUMO Guam 51.69 81 LR LR 08 51 46.5
comp=E,48nm,18.1s,baz=268,slow=34
WRA Warramunga Arr 51.82 126 P P 08 31 14.0 -0.6
comp=E,0.2nm,0.5s,baz=310,slow=8.2,SNR=6.4
ASAR Alice Springs 53.55 130 P P 08 31 27.8 +0.3
comp=E,1.7nm,0.8s,baz=307,slow=6.5,SNR=20
ASAR pP pP 08 31 34.5 -0.1
comp=E,1.3nm,0.9s,baz=304,slow=6.7,SNR=5.2
STKA Stephens Creek 63.80 134 P P 08 32 38.9 +0.3
comp=E,0.7nm,0.6s,baz=304,slow=15,SNR=2.6

IDC 05 08:24:46.0±3.6, 2929S×13612E, h0km, mb1 2.8/3, mb1mx2.8/13, mbtmp2.5/3, ML2.4/3, Error ellipse: s-maj=59.2km s-min=16.4km az=49.0, South Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**5.38**	**120**	Pn	Pn	08 26 07.0	-0.5
0.1nm,0.3s,baz=304,slow=15,SNR=1.6
STKA Sn Sn 08 27 09.1 -1.1
0.4nm,0.3s,baz=15,slow=18,SNR=5.8
STKA Lg 08 27 39.4
0.4nm,0.3s,baz=166,slow=12,SNR=4.4
ASAR Alice Springs 5.94 340 Pn Pn 08 26 15.6 +0.3
0.0nm,0.3s,baz=163,slow=13,SNR=2.2
ASAR Sn Sn 08 27 22.8 -1.3
0.1nm,0.3s,baz=156,slow=23,SNR=3.5
ASAR Lg 08 27 57.9
0.1nm,0.3s,baz=163,slow=26,SNR=3.2
WRA Warramunga Arr 9.45 350 Pn Pn 08 27 02.9 -0.5
0.1nm,0.3s,baz=168,slow=13,SNR=8.4
WRA Sn Sn 08 28 49.9 -0.5
0.1nm,0.3s,baz=171,slow=25,SNR=4.8

IDC 05 08:27:50.5±10.0, 439S×14923E, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.6/14, mbtmp3.7/4, MS3.6/1, Ms1 3.6/1, ms1mx2.8/23, Error ellipse: s-maj=174.8km s-min=79.1km az=33.0, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.20**	**222**	P	P	08 32 37.5	-0.4
0.9nm,0.6s,baz=40,slow=10,SNR=12
ASAR Alice Springs 24.21 216 P P 08 33 10.4 +1.4

0.4nm,0.6s,baz=45,slow=7.3,SNR=5.5
FITZ Fitzroy Crossi 26.80 238 P P 08 33 32.4 -0.2
1.5nm,0.4s,baz=58,slow=13,SNR=9.6
STKA Stephens Creek 28.27 194 P P 08 33 44.8 -0.8
1.3nm,0.9s,baz=14,slow=12,SNR=3.2
RAO Raoul Island 39.74 132 LR LR 08 47 47.5
comp=Z,84nm,21.3s,baz=174,slow=30

IDC 05 08:28:31.1±1.6, 2078S×16843E, h34km±7km, mb3.7/4, mb1 4.0/5, mb1mx3.7/14, mbtmp3.7/5, ML3.3/1, Error ellipse: s-maj=76.9km s-min=19.8km az=148.0, Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**2.25**	**235**	Pn	Pn	08 29 04.9	-1.1
	8.0nm,0.3s,baz=110,slow=16,SNR=43						
DZM				Sn	Sn	08 29 34.3	+1.7
	48nm,0.3s,baz=168,slow=20,SNR=19						
STKA	**Stephens Creek**	**26.40**	**240**	P	P	08 34 05.0	+0.6
	1.5nm,0.7s,baz=72,slow=16,SNR=3.1						
WRA	**Warramunga Arr**	**31.94**	**265**	P	P	08 34 52.8	-1.0
	0.4nm,0.5s,baz=96,slow=8.4,SNR=5.3						
ASAR	**Alice Springs**	**32.04**	**258**	P	P	08 34 55.0	+0.3
	2.7nm,0.5s,baz=85,slow=8.7,SNR=47						
ASAR				pP	pP	08 35 04.8	+0.2
	2.6nm,0.7s,baz=84,slow=9.3,SNR=13						
NVAR	**Mina Array Bea**	**90.38**	**49**	P	P	08 41 28.9	-0.1
	0.4nm,0.6s,baz=213,slow=6.3,SNR=3.9						
NVAR				pP	pP	08 41 39.7	-0.1
	0.4nm,0.6s,baz=243,slow=5.0,SNR=4.3						
GERES	**GERESS Array B**	**145.46**	**330**	PKPbc	PKPbc	08 48 05.6	+0.1
	0.6nm,0.4s,baz=52,slow=5.1,SNR=5.7						
GERES				pPKPbc	pPKPbc	08 48 16.2	-0.3
	0.4nm,0.2s,baz=37,slow=3.3,SNR=2.5						

GUC 05 08:34:19.7±0.3, 4538S×7301W, h4km±1km, ML3.6, Southern Chile

*IDC **05** 08:42:11.2±8.3, 2484N×9518E, h75km±76km, mb3.8/14, mb1 3.9/14, mb1mx3.8/22, mbtmp3.8/14, Error ellipse: s-maj=26.0km s-min=14.2km az=45.0*
*ISCJB **05** 08:42:13.0±0.9, 2485N±008×9509E±009, h106km±8km, mb4.0/16, Error ellipse: s-maj=16.2km s-min=10.6km az=136.3*
*NEIC **05** 08:42:16.3±1.0, 2489N×9521E, h125km±10km, mb4.5/3, Error ellipse: s-maj=14.8km s-min=8.3km az=60.0*
*BJI **05** 08:42:22.4, 2567N×9532E, h125km, mb4.1*
ISC 05 08:42:14.3±0.9, 2488N±008×9508E±009, h100km±8km, n29, σ1§02/29, mb4.0/16, 1C, Myanmar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IMP	**Imphal**	**1.05**	**265**	*e*P	**Pn**	**08 42 33.0**	**-2.2**
IMP				*e*S	**Sn**	**08 42 51.0**	**0.0**
SHL	**Shillong**	**2.98**	**284**	⇑*i*PN	**Pn**	**08 43 01.0**	**+1.3**
SHL				*e*S	**Sn**	**08 43 34.0**	**-0.8**
LSA	**Lhasa**	**5.94**	**325**	P	**Pn**	**08 43 42.0**	**+2.2**
LSA				S	**Sn**	**08 44 43.0**	**-3.5**
LSA				Smax			
	comp=N,20nm,0.7s						
LSA				Smax			
	comp=E,50nm,0.7s						
LSA	**Lhasa**	**5.94**	**325**	*e*Pn	**Pn**	**08 43 42.2**	**+2.4**
	comp=E,14nm,0.4s						
CHTO	**Chiang Mai**	**7.02**	**149**	*e*Pn	**Pn**	**08 43 56.2**	**+1.7**
	comp=E,13nm,0.5s						
MK31	**Makanchi Array**	**24.14**	**338**	*e*P	**P**	**08 47 22.0**	**+1.2**
MKAR	**Makanchi Array**	**24.14**	**338**	P	**P**	**08 47 21.9**	**+1.1**
	comp=E,8.1nm,0.5s,mb4.3,baz=149,slow=9.3,SNR=40						
MKAR				PcP	PcP	08 51 01.0	+1.8
	comp=E,0.2nm,0.4s,baz=151,slow=3.3,SNR=4.1						
SONM	**Songino Array**	**24.60**	**19**	P	**P**	**08 47 24.3**	**-0.7**
	comp=E,0.4nm,0.4s,mb3.2,baz=194,slow=10,SNR=2.8						
ZALV	**Zalesovo Beam**	**30.03**	**348**	P	**P**	**08 48 13.4**	**-0.1**
	comp=E,0.6nm,0.4s,mb3.6,baz=168,slow=7.6,SNR=4.1						
AKTK	**Aktyubinsk**	**38.27**	**322**	P	**P**	**08 49 25.1**	**+0.5**
AKTO	**Aktyubinsk**	**38.27**	**322**	P	**P**	**08 49 25.1**	**+0.4**
	comp=E,1.3nm,0.4s,mb4.2,baz=108,slow=7.7,SNR=7.1						
MJAR	**Matsushiro Arr**	**38.57**	**62**	P	**P**	**08 49 26.4**	**-0.9**
	comp=E,1.3nm,0.7s,mb3.9,baz=270,slow=8.5,SNR=4.1						
AKASG	**Malin Array Be**	**56.01**	**316**	P	**P**	**08 51 41.5**	**-0.9**
AKASG	**Malin Array Be**	**56.01**	**316**	P	**P**	**08 51 41.5**	**-0.9**
	comp=E,0.6nm,0.4s,mb4.0,baz=80,slow=6.9,SNR=4.7						
FINES	**FINESS Array B**	**58.45**	**328**	P	**P**	**08 51 59.0**	**-0.4**
	comp=E,2.3nm,0.7s,mb4.3,baz=108,slow=13,SNR=8.7						
WRA	**Warramunga Arr**	**58.68**	**136**	P	**P**	**08 52 00.4**	**-1.2**
	comp=E,0.9nm,0.5s,mb4.0,baz=323,slow=7.5,SNR=32						
ARCES	**ARCESS Array B**	**59.80**	**338**	P	**P**	**08 52 08.3**	**-0.2**
	comp=E,3.1nm,0.8s,mb4.4,baz=79,slow=6.3,SNR=6.1						
ASAR	**Alice Springs**	**61.19**	**139**	P	**P**	**08 52 17.7**	**-1.0**
	comp=E,1.1nm,0.8s,mb3.9,baz=322,slow=7.1,SNR=13						
KMBO	**Kilima Mbogo**	**61.62**	**254**	P	**P**	**08 52 22.8**	**+1.0**
	comp=E,0.3nm,0.4s,mb3.7,baz=52,slow=9.7,SNR=5.8						
NB2	**NORSAR Subarra**	**65.63**	**328**	P	**P**	**08 52 46.7**	**-0.7**
	comp=Z,2.6nm,0.5s,mb4.3,baz=83,slow=6.5						
NOA	**NORSAR Array B**	**65.63**	**328**	P	**P**	**08 52 47.0**	**-0.4**
	comp=Z,3.6nm,0.6s,mb4.4,baz=84,slow=6.4,SNR=8.4						
GERES	**GERESS Array B**	**66.17**	**314**	P	**P**	**08 52 51.5**	**+0.3**
	comp=Z,1.3nm,0.5s,mb4.0,baz=66,slow=6.6,SNR=7.9						
LSZ	**Lusaka**	**76.44**	**246**	*e*P	**P**	**08 53 53.8**	**+0.4**
	comp=Z,5.2nm,0.6s,mb4.4						
BOSA	**Boshof**	**85.64**	**236**	P	**P**	**08 54 41.7**	**-0.3**
BOSA	**Boshof**	**85.64**	**236**	P	**P**	**08 54 41.7**	**-0.3**
	comp=Z,2.0nm,0.7s,mb4.2,baz=180,slow=21,SNR=4.9						
TORD	**Torodi Ar. Bea**	**87.58**	**283**	P	**P**	**08 54 52.0**	**+0.2**
	comp=Z,0.9nm,0.6s,mb4.0,baz=63,slow=4.1,SNR=16						
SDV	**Santo Domingo**	**143.67**	**336**	*e*PKPdf	PKPdf	09 01 34.8	-3.6
BDFB	**Brasilia**	**144.28**	**278**	PKP	PKPdf	09 01 37.4	-1.9
	comp=Z,3.1nm,0.8s,baz=59,slow=4.2,SNR=3.4						
ROSC	**El Rosal**	**148.70**	**339**	PKPbc	PKPbc	09 01 50.8	0.0
	comp=Z,2.3nm,0.3s,baz=105,slow=20,SNR=4.1						

GUC 05 08:42:17.0±0.3, 4529S×7308W, h4km±3km, ML3.9, Southern Chile

IDC 05 08:52:58.4±1.9, 091S×12754E, h0km, mb3.9/4, mb1 4.1/4, mb1mx3.8/15, mbtmp4.0/4, Error ellipse: s-maj=178.5km s-min=22.9km az=66.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**20.05**	**161**	P	P	08 57 32.6	-0.7
	0.8nm,0.5s,baz=344,slow=12,SNR=19						
WRA				S	S	09 01 09.5	-10
	0.5nm,0.9s,baz=333,slow=21,SNR=2.8						
ASAR	**Alice Springs**	**23.45**	**165**	P	P	08 58 09.4	-0.3
	4.0nm,0.7s,baz=347,slow=10,SNR=41						
ASAR				S	S	09 02 15.3	-8.7
	1.0nm,1.1s,baz=345,slow=24,SNR=5.1						
STKA	**Stephens Creek**	**33.54**	**158**	P	P	08 59 40.8	+0.8
	2.8nm,0.9s,baz=350,slow=6.1,SNR=4.3						
MKAR	**Makanchi Array**	**61.82**	**326**	P	P	09 03 19.3	0.0
	1.0nm,0.3s,baz=119,slow=7.3,SNR=9.5						

IDC 05 08:55:38.0±27.0, 2146S×17418W, h0km, mb4.2/4, mb1 4.3/4, mb1mx3.8/17, mbtmp4.2/4, Error ellipse: s-maj=507.5km s-min=151.3km az=76.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**36.95**	**265**	P	P	09 02 50.1	+1.0
	4.2nm,0.3s,baz=90,slow=11,SNR=9.3						
STKA	**Stephens Creek**	**40.62**	**246**	P	P	09 03 18.7	-1.0
	1.3nm,0.6s,baz=64,slow=11,SNR=4.7						
ASAR	**Alice Springs**	**47.77**	**257**	P	P	09 04 16.6	-0.6
	1.2nm,0.6s,baz=93,slow=7.3,SNR=17						
WRA	**Warramunga Arr**	**48.00**	**262**	P	P	09 04 19.3	+0.3
	1.3nm,0.5s,baz=96,slow=8.5,SNR=45						

*CSEM **05** 09:00:29.2±1.2, 4543N×2639E, h127km±11km, MD3.8/3, Error ellipse: s-maj=11.8km s-min=5.3km az=12.0, After BUC*
*NEIC **05** 09:00:30.4, 4536N×2636E, h114km, MD3.4(BUC), After BUC.*
BUC 05 09:00:29.2±1.2, 4543N×2639E, h127km±11km, MD3.8/3, 4C-1D, Error ellipse: s-maj=11.8km s-min=5.3km az=12.0, Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLR	**Muntele Rosu**	**0.32**	**282**	⇑*i*P	Pn	09 00 47.5	+0.5
MLR				*i*S	Sn	09 01 00.8	+0.3
VRI	**Vrincioaia**	**0.50**	**28**	P	Pn	09 00 48.1	+0.2
VRI	**Vrincioaia**	**0.50**	**28**	⇑*i*P	Pn	09 00 48.1	+0.2
VRI				*i*S	Sn	09 01 02.0	-0.1
VOIR		**0.95**	**271**	P	Pn	09 00 51.4	+0.1
VOIR				S	Sn	09 01 08.2	+0.1
VOIR		**0.95**	**271**	⇑*i*P	Pn	09 00 51.5	+0.2
VOIR				*i*S	Sn	09 01 07.1	-1.0
HARR	**Harsova**	**1.31**	**123**	P	Pn	09 00 55.6	+0.6
HARR				S	Sn	09 01 14.4	-0.2
HARR	**Harsova**	**1.31**	**123**	⇑*i*P	Pn	09 00 55.5	+0.5
HARR				*i*S	Sn	09 01 14.2	-0.4
TIRR	**Tirgusor**	**1.73**	**123**	P	Pn	09 01 00.3	+0.6
TIRR				S	Sn	09 01 23.2	+0.2
TIRR	**Tirgusor**	**1.73**	**123**	⇓*i*P	Pn	09 01 00.3	+0.6
TIRR				*i*S	Sn	09 01 22.0	-1.0
GZR	**Gura Zlata**	**2.55**	**271**	*i*S	Sn	09 01 41.0	-0.1

IDC 05 09:02:01.9±1.4, 728S×15572E, h0km, mb3.7/4, mb1 3.8/5, mb1mx3.6/15, mbtmp3.8/5, ML4.1/1, Error ellipse: s-maj=33.6km s-min=27.6km az=11.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.69**	**117**	Pn	Pn	09 03 14.7	+0.7
	9.3nm,0.3s,baz=273,slow=13,SNR=3.7						
HNR				Sn	Sn	09 04 07.5	-1.7
	7.7nm,0.3s,baz=85,slow=11,SNR=4.2						
WRA	**Warramunga Arr**	**24.25**	**237**	P	P	09 07 21.5	+0.6
	1.1nm,0.6s,baz=60,slow=9.2,SNR=14						
ASAR	**Alice Springs**	**26.53**	**230**	P	P	09 07 40.6	-0.9
	0.2nm,0.7s,baz=61,slow=9.3,SNR=4.3						
MKAR	**Makanchi Array**	**84.10**	**319**	P	P	09 14 35.3	+0.5
	0.5nm,0.5s,baz=98,slow=6.9,SNR=3.9						
ZALV	**Zalesovo Beam**	**84.82**	**326**	P	P	09 14 38.3	0.0
	0.4nm,0.4s,baz=122,slow=5.2,SNR=2.5						

IDC 05 09:08:20.5±2.3, 2061S×16896E, h30km±7km, mb3.7/3, mb1 3.9/4, mb1mx3.6/14, mbtmp3.7/4, ML3.3/1, Error ellipse: s-maj=69.2km s-min=32.7km az=146.0, Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**2.76**	**238**	Pn	Pn	09 09 00.6	-2.1
	5.4nm,0.3s,baz=64,slow=20,SNR=24						
DZM				Sn	Sn	09 09 34.0	-1.1
	21nm,0.3s,baz=51,slow=15,SNR=5.4						
STKA	**Stephens Creek**	**26.91**	**240**	P	P	09 13 59.2	+0.1
	1.2nm,0.7s,baz=91,slow=12,SNR=3.4						
WRA	**Warramunga Arr**	**32.44**	**265**	P	P	09 14 48.2	-0.1
	0.6nm,0.6s,baz=91,slow=8.5,SNR=13						
WRA				pP	pP	09 14 57.1	+0.2
	0.5nm,0.6s,baz=91,slow=8.5,SNR=3.6						
ASAR	**Alice Springs**	**32.56**	**258**	P	P	09 14 49.8	+0.5
	1.3nm,0.5s,baz=92,slow=9.2,SNR=30						
ASAR				pP	pP	09 14 58.8	+0.8
	2.1nm,0.7s,baz=87,slow=9.5,SNR=7.2						
EKA	**Eskdalemuir Ar**	**144.82**	**352**	PKP	PKPdf	09 27 53.9	-0.3
	0.7nm,0.7s,baz=17,slow=3.2,SNR=4.0						
EKA				pPKP	pPKPdf	09 28 02.8	-1.3
	2.2nm,0.7s,baz=343,slow=2.2,SNR=5.6						

IDC 05 09:16:08.3±1.6, 816S×15711E, h0km, mb3.8/4, mb1 3.9/5, mb1mx3.7/15, mbtmp3.9/5, ML4.3/1, MS3.0/2, Ms1 3.0/2, ms1mx2.8/21, Error ellipse: s-maj=37.3km s-min=25.2km az=9.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**3.08**	**115**	Pn	Pn	09 16 57.5	-0.7
	35nm,0.3s,baz=276,slow=1.9,SNR=23						
HNR				Sn	Sn	09 17 38.3	+2.6
	29nm,0.3s,baz=297,slow=18,SNR=6.9						
HNR				LR	LR	09 18 13.4	
	comp=Z,178nm,18.6s,baz=0.6,slow=41						
WRA	**Warramunga Arr**	**24.97**	**240**	P	P	09 21 33.2	-0.6
	1.5nm,0.6s,baz=66,slow=9.7,SNR=11						
WRA				LR	LR	09 29 07.8	
	comp=Z,41nm,19.7s,baz=175,slow=31						
ASAR	**Alice Springs**	**27.06**	**233**	P	P	09 21 52.7	0.0
	0.7nm,0.9s,baz=64,slow=8.4,SNR=4.5						
STKA	**Stephens Creek**	**27.67**	**209**	P	P	09 21 58.7	+0.7
	1.4nm,0.7s,baz=29,slow=13,SNR=3.5						
MKAR	**Makanchi Array**	**85.66**	**318**	P	P	09 28 49.4	+0.4
	0.2nm,0.3s,baz=106,slow=5.2,SNR=3.0						

*ISCJB **05** 09:19:40.6±0.9, 373N±02×248W±01, h10km, mb3.7/4, Error ellipse: s-maj=29.5km s-min=6.7km az=19.4*
*IDC **05** 09:19:40.6±1.3, 3727N×2464W, h0km, mb3.6/3, mb1 3.9/4, mb1mx3.6/23, mbtmp3.6/4, MS3.5/1, Ms1 3.5/1, ms1mx2.8/31, Error ellipse: s-maj=47.1km s-min=25.5km az=23.0*
*CSEM **05** 09:19:45.4±0.5, 3726N×2478W, h0km, ML3.6, Error ellipse: s-maj=10.1km s-min=3.6km az=40.0, After PDA*
*PDA **05** 09:19:45.4±0.5, 3726N×2478W, h0km, ML3.6, Error ellipse: s-maj=10.1km s-min=3.6km az=40.0*
*SVSA **05** 09:19:45.4±0.5, 3726N×2478W, h0km, ML3.6, Error ellipse: s-maj=10.1km s-min=3.6km az=40.0*
ISC 05 09:19:41.9±0.8, 372N±02×249W±01, h10km, n12, σ1§19/15, mb3.7/4, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDA	**Ponta Delgada**	**0.82**	**309**	*e*S	**Sg**	**09 20 10.2**	**+1.9**
ADH	**Angra Heroismo**	**2.35**	**308**	*e*P	**Pn**	**09 20 21.1**	**+0.6**
ADH				*e*S	**Sn**	**09 20 47.8**	**-1.6**
PID	**Ribeirinha**	**2.85**	**296**	*e*P	**Pn**	**09 20 28.2**	**+0.9**
PMAN	**Manadas**	**2.91**	**300**	*e*S	**Sn**	**09 21 01.6**	**-1.5**
PMAN				A		09 21 02.6	
	42nm,0.3s						
ROSA	**Rosais**	**3.05**	**300**	*e*P	**Pn**	**09 20 30.7**	**+0.5**
PICO	**Pico**	**3.09**	**295**	*e*P	**Pn**	**09 20 31.8**	**+1.1**
PICO				*e*S	**Sn**	**09 21 06.2**	**-1.4**
CALA	**Caldeira**	**3.32**	**295**	*e*P	**Pn**	**09 20 34.7**	**+0.9**
CALA				*e*S	**Sn**	**09 21 11.9**	**-1.4**
ESDC	**Sonseca Array**	**16.55**	**75**	Pn	**Pn**	**09 23 33.3**	**-0.7**
	baz=271,slow=10,SNR=5.8						
TORD	**Torodi Ar. Bea**	**33.74**	**128**	P	**P**	**09 26 22.5**	**-1.1**
	1.0nm,0.7s,mb3.9,baz=318,slow=9.8,SNR=6.9						
YKA	**Yellowknife Ar**	**57.64**	**327**	P	**P**	**09 29 32.1**	**+0.3**
	0.4nm,0.9s,mb3.5,baz=72,slow=7.3,SNR=4.8						
TXAR	**Lajitas Array**	**64.60**	**289**	P	**P**	**09 30 21.5**	**+1.9**
	0.8nm,0.8s,mb3.8,baz=70,slow=6.8,SNR=8.8						
MKAR	**Makanchi Array**	**73.97**	**43**	P	**P**	**09 31 17.0**	**-0.3**
	0.2nm,0.2s,mb3.6,baz=322,slow=4.4,SNR=3.3						

IDC 05 09:27:25.2±3.0, 683S×15556E, h35km±8km, mb3.5/3, mb1 3.7/3, mb1mx3.4/14, mbtmp3.5/3, MS3.1/1, Ms1 3.1/1, ms1mx2.6/23, Error ellipse: s-maj=94.0km s-min=35.5km az=116.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**15.98**	**214**	LR	LR	09 36 22.2	
	comp=Z,64nm,20.5s,baz=232,slow=34						
WRA	**Warramunga Arr**	**24.38**	**236**	P	P	09 32 41.5	+1.1
	0.6nm,0.5s,baz=62,slow=9.6,SNR=21						
WRA				pP	pP	09 32 49.3	-0.9
	0.8nm,0.6s,baz=60,slow=9.2,SNR=9.5						
ASAR	**Alice Springs**	**26.71**	**229**	P	P	09 33 01.3	-0.2
	0.3nm,0.3s,baz=58,slow=10,SNR=8.7						
ASAR				pP	pP	09 33 11.3	0.0
	0.3nm,0.4s,baz=57,slow=9.9,SNR=6.1						
ASAR				sP	sP	09 33 16.9	+1.3
	0.2nm,0.5s,baz=59,slow=9.4,SNR=1.8						
MKAR	**Makanchi Array**	**83.65**	**319**	P	P	09 39 51.7	+1.4
	0.8nm,0.6s,baz=96,slow=5.7,SNR=4.8						
TORD	**Torodi Ar. Bea**	**153.52**	**286**	PKPbc	PKPbc	09 47 19.9	-1.3
	0.5nm,0.8s,baz=86,slow=1.9,SNR=3.7						
TORD				PKPab	PKPab	09 47 32.9	-0.8
	0.4nm,0.7s,baz=64,slow=3.4,SNR=2.6						

IDC 05 09:36:20.1±1.8, 670S×15469E, h0km, mb3.7/5, mb1 3.8/5, mb1mx3.7/14, mbtmp3.7/5, MS2.6/1, Ms1 2.6/1, ms1mx2.4/28, Error ellipse: s-maj=68.7km s-min=27.3km az=119.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.88**	**118**	LR	LR	09 39 27.3	
	comp=Z,62nm,21.2s,baz=180,slow=32						
WRA	**Warramunga Arr**	**23.74**	**234**	P	P	09 41 34.2	-0.1
	1.4nm,0.7s,baz=57,slow=9.6,SNR=12						
ASAR	**Alice Springs**	**26.14**	**228**	P	P	09 41 55.4	-0.8
	0.3nm,0.7s,baz=59,slow=9.6,SNR=3.9						
STKA	**Stephens Creek**	**27.88**	**204**	P	P	09 42 12.2	+0.5
	1.5nm,0.8s,baz=36,slow=14,SNR=3.2						
MKAR	**Makanchi Array**	**82.98**	**319**	P	P	09 48 48.2	+1.1
	0.3nm,0.3s,baz=91,slow=5.8,SNR=2.3						
YKA	**Yellowknife Ar**	**96.22**	**28**	P	P	09 49 48.9	-1.0
	0.2nm,0.6s,baz=268,slow=4.7,SNR=5.5						

IDC 05 09:40:06.3±5.2, 1469N×14594E, h102km±80km, mb3.6/4, mb1 3.7/4, mb1mx3.3/19, mbtmp3.6/4, Error ellipse: s-maj=110.5km s-min=39.3km az=179.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.51**	**224**	P	Pn	09 40 33.1	+0.2
	46nm,0.3s,baz=28,slow=5.2,SNR=19						
GUMO				S	Sn	09 40 53.0	0.0
	250nm,0.3s,baz=339,slow=23,SNR=36						
ZALV	**Zalesovo Beam**	**61.34**	**324**	P	P	09 50 10.2	-0.9
	0.6nm,0.5s,baz=113,slow=6.9,SNR=4.9						
MKAR	**Makanchi Array**	**61.43**	**315**	P	P	09 50 12.8	+0.9
	0.7nm,0.5s,baz=91,slow=8.5,SNR=5.0						
INK	**Inuvik**	**72.95**	**23**	P	P	09 51 23.9	-0.3
	0.4nm,0.5s,baz=280,slow=5.8,SNR=6.7						
YKA	**Yellowknife Ar**	**81.41**	**28**	P	P	09 52 11.9	+0.3
	0.9nm,0.4s,baz=285,slow=5.1,SNR=28						

IDC 05 09:42:53.1±3.9, 2472S×13221E, h0km, mb1 3.2/2, mb1mx3.1/12, mbtmp3.0/2, ML2.8/2, Error ellipse: s-maj=27.1km s-min=20.4km az=71.0, Northern Territory

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**1.87**	**56**	Pg	Pg	09 43 28.1	-0.9
	0.7nm,0.3s,baz=235,slow=15,SNR=41						
ASAR				Lg		09 43 52.8	
	1.5nm,0.3s,baz=236,slow=24,SNR=23						
WRA	**Warramunga Arr**	**5.15**	**23**	Pn	Pn	09 44 12.7	+1.2
	0.1nm,0.3s,baz=200,slow=14,SNR=11						
WRA				Sn	Sn	09 45 10.1	-1.5
	0.1nm,0.3s,baz=205,slow=22,SNR=3.9						
WRA				Lg		09 45 34.4	
	0.2nm,0.3s,baz=200,slow=28,SNR=4.1						
STKA	**Stephens Creek**	**10.92**	**133**	Pn	Pn	09 45 29.3	-1.3
	0.1nm,0.3s,baz=329,slow=18,SNR=3.5						

*IDC **05** 09:57:34.2±1.4, 7.13S×15565E, h0km, mb3.8/4, mb1 3.9/5, mb1mx3.7/15, mbtmp3.9/5, Error ellipse: s-maj=34.9km s-min=28.1km az=16.0*
*NEIC **05** 09:57:35.8±0.9, 7.12S×15570E, h10km, Error ellipse: s-maj=23.8km s-min=15.5km az=190.0*
*ISCJB **05** 09:57:37.9±1.0, 7.1S±02×15568E±009, h33km, mb3.7/4, Error ellipse: s-maj=26.2km s-min=10.2km az=18.3*
ISC 05 09:57:39.7±1.0, 71S±02×15564E±009, h35km, n6, σ1§05/7, mb3.7/4, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.85**	**119**	Pn	**Pn**	**09 58 48.2**	**-2.0**
	baz=256,slow=8.3,SNR=1.8						
HNR				Sn	**Sn**	**09 59 46.3**	**+1.1**
	2.2nm,0.3s,baz=93,slow=19,SNR=2.0						
WB2	**Warramunga Arr**	**24.27**	**236**	*e*P	**P**	**10 02 54.7**	**+0.9**
WRA	**Warramunga Arr**	**24.28**	**236**	P	**P**	**10 02 54.4**	**+0.5**
	1.3nm,0.6s,mb3.5,baz=63,slow=9.3,SNR=7.6						
ASAR	**Alice Springs**	**26.58**	**229**	P	**P**	**10 03 13.4**	**-1.3**
	0.6nm,1.0s,mb3.1,baz=60,slow=9.7,SNR=4.5						
MKAR	**Makanchi Array**	**83.91**	**319**	P	**P**	**10 10 06.2**	**+0.2**
	1.0nm,0.6s,mb4.1,baz=102,slow=5.1,SNR=5.7						
ZALV	**Zalesovo Beam**	**84.63**	**326**	P	**P**	**10 10 09.8**	**+0.3**
	0.7nm,0.5s,mb4.0,baz=101,slow=5.3,SNR=3.6						

*NIED **05** 09:58:00, 2460N×12770E, h5km, Mw4.0 Best double couple: M0:9.59000×10^14 NP1:φ0:45.00000°, δ46.00000°, λ-81.00000°. NP2:φ0:212.00000°, δ45.00000°, λ-99.00000°.*
*BJI **05** 09:58:28.7, 2423N×12807E, h29km, mB4.4, mb4.2, Ms3.9, Msz3.8*
*ISCJB **05** 09:58:30.6±1.6, 2459N±004×12769E±004, h22km±13km, mb4.1/13, Error ellipse: s-maj=7.3km s-min=4.6km az=135.4*
*JMA **05** 09:58:32.0±0.3, 2460N×12773E, h47km, M3.8*
*NEIC **05** 09:58:34.4±0.6, 2457N×12772E, mb4.7/2, MW3.9(NIED), Error ellipse: s-maj=14.1km s-min=10.4km az=97.0*
*IDC **05** 09:58:34.4±0.7, 2457N×12783E, h37km±6km, mb3.8/9, mb1 3.9/13, mb1mx3.8/23, mbtmp3.8/13, ML3.6/4, MS2.8/1, Ms1 2.8/1, ms1mx2.6/35, Error ellipse: s-maj=29.8km s-min=12.4km az=79.0*
ISC 05 09:58:32.6±1.7, 2463N±004×12764E±004, h23km±13km, h38km±1.2km: pP-P, n39, σ1§10/53, mb4.1/13, Southeast of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JJT2	**Tamagusuku 2**	**1.50**	**4**	P	**Pn**	**09 58 57.5**	**-0.7**
JJT2				*e*S	**Sn**	**09 59 16.5**	**-0.6**
JKE	**Kume jima 2**	**1.86**	**336**	P	**Pn**	**09 59 03.1**	**+0.1**
JKE				*e*S	**Sn**	**09 59 26.2**	**+0.4**
JAGN	**Aguni-jima**	**1.98**	**350**	P	**Pn**	**09 59 05.1**	**+0.3**
JAGN				*e*S	**Sn**	**09 59 29.2**	**+0.3**
JOGS	**Gusukube**	**2.04**	**274**	P	**Pn**	**09 59 06.2**	**+0.7**
JOGS				*e*S	**Sn**	**09 59 30.4**	**+0.2

CN2 AMB AMB
comp=Z,10.0nm,1.0s
CD2 Chengdu 22.02 292 *e*P **P 10 03 27.8 +2.4**
CD2 AMB AMB
comp=Z,30nm,0.6s,mb4.9
CD2 AMB AMB
comp=Z,50nm,5.8s
GTA Gaotai 27.68 309 *e*P **P 10 04 19.1 +0.3**
GTA AMB AMB
comp=Z,3.0nm,1.4s,mb3.7
SONM Songino Array 28.63 329 P **P 10 04 29.1 +1.9**
comp=Z,0.5nm,0.5s,mb3.5,baz=134,slow=8.3,SNR=2.7
MK31 Makanchi Array 42.22 313 *e*P **P 10 06 24.9 +1.2**
MKAR Makanchi Array 42.22 313 P **P 10 06 24.8 +1.0**
comp=Z,2.0nm,0.8s,mb3.8,baz=98,slow=11,SNR=12
MKAR pP pP 10 06 36.6 +5.7
comp=Z,1.0nm,0.7s,baz=96,slow=11,SNR=3.8
ZALV Zalesovo Beam 43.21 324 P **P 10 06 31.9 +0.3**
comp=Z,2.0nm,0.7s,mb4.0,baz=112,slow=7.5,SNR=10
WRA Warramunga Arr 44.78 171 P **P 10 06 43.6 -1.0**
comp=Z,4.7nm,0.6s,mb4.5,baz=352,slow=8.6,SNR=50
WB2 Warramunga Arr 44.78 171 *e*P **P 10 06 43.7 -0.9**
UCH Uchtor 46.91 306 *e*P **P 10 07 04.6 +3.3**
comp=Z,8.7nm,1.0s,mb4.6
ASAR Alice Springs 48.39 172 P **P 10 07 12.1 -0.8**
comp=Z,1.4nm,0.6s,mb4.2,baz=359,slow=13,SNR=28
ASAR pP pP 10 07 22.7 +2.6
comp=Z,1.3nm,0.7s,baz=1.3,slow=7.6,SNR=8.6
KBL Kabul 51.29 295 *e*P **P 10 07 36.4 +1.4**
comp=Z,5.4nm,0.7s,mb4.6
STKA Stephens Creek 57.75 166 P **P 10 08 21.0 -0.7**
STKA pP pP 10 08 31.8 +2.7
STKA Stephens Creek 57.75 166 P **P 10 08 21.0 -0.7**
comp=Z,1.1nm,0.7s,mb4.0,baz=137,slow=14,SNR=4.5
STKA pP pP 10 08 31.8 +2.7
comp=Z,1.6nm,0.8s,baz=282,slow=6.5,SNR=3.0
FINES FINESS Array B 73.99 331 P **P 10 10 07.3 +1.3**
comp=Z,0.8nm,0.7s,mb3.8,baz=79,slow=8.6,SNR=4.0
YKA Yellowknife Ar 80.19 25 P **P 10 10 41.3 +0.5**
YKA pP pP 10 10 52.4 +3.9
YKA Yellowknife Ar 80.19 25 P **P 10 10 41.3 +0.5**
comp=Z,0.6nm,0.7s,mb3.6,baz=304,slow=5.6,SNR=13
YKA pP pP 10 10 52.3 +3.9
comp=Z,0.2nm,0.6s,baz=303,slow=5.6,SNR=4.5
NOA NORSAR Array B 80.51 334 P **P 10 10 43.5 +0.9**
comp=Z,1.7nm,0.9s,mb4.0,baz=71,slow=4.1,SNR=2.5

CASC 05 10:06:19.6±1.9, 917N×8315W, h24km±7km, MD3.7, 2C-2D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
BAR1		**0.17**	**296**	⇓*i*P		Pb	10 06 26.2	+1.4
CNI	**Changuinola**	**0.68**	**68**	⇓*i*P		Pb	10 06 32.9	+0.2
BUS	**Buena Vista**	**0.71**	**303**	*e*P		Pb	10 06 33.3	-0.1
BUS				*e*S		Sb	10 06 43.7	+0.9
URSC	**Urasca**	**0.91**	**317**	*e*P		Pb	10 06 36.6	-0.1
URSC				*e*S		Sb	10 06 49.5	+1.2
DVD	**David**	**1.00**	**136**	*e*P		Pn	10 06 37.4	-0.9
DVD				*e*S		Sb	10 06 50.0	-1.1
LCR2	**La Lucha 2**	**1.02**	**304**	*e*P		Pn	10 06 38.1	-0.3
LCR2				*e*S		Sb	10 06 52.1	+0.6
LAJ	**Bijagual**	**1.18**	**306**	⇑*e*P		Pn	10 06 45.8	+5.1
LAJ				*e*S		Sn	10 07 05.4	+9.3
PRS1	**Puriscal**	**1.40**	**306**	⇑*e*P		Pn	10 06 43.7	0.0
PRS1				*e*S		Sn	10 07 01.7	+0.2
CGA2	**Cerro Gallo 2**	**1.55**	**303**	*e*P		Pn	10 06 46.2	+0.5
CGA2				*e*S		Sn	10 07 06.5	+1.4
AZU	**Azuero**	**3.16**	**115**	*e*P		Pn	10 07 13.0	+5.1
PTP	**Ponta Puerca**	**19.26**	**60**	*e*S		Sx	10 06 52.1	

ISCJB ***05*** *10:06:31.6±1.7, 678S±004×15488E±004, h1km±10km, mb5.0/58, MS4.4/17, Error ellipse: s-maj=7.3km s-min=5.7km az=159.5*
IDC ***05*** *10:06:32.6±0.4, 685S×15480E, h0km, mb4.7/21, mb1 4.8/22, mb1mx4.7/23, mbtmp4.6/22, ML4.1/1, MS4.2/9, Ms1 4.2/9, ms1mx4.0/21, Error ellipse: s-maj=15.4km s-min=11.5km az=108.0*
BJI ***05*** *10:06:36.5, 690S×15490E, h29km, mB5.2, mb5.0, Ms5.1, Msz4.6*
MOS ***05*** *10:06:36.4±1.0, 677S×15486E, h33km, mb5.2/17, Error ellipse: s-maj=10.0km s-min=8.8km az=83.1*
NEIC ***05*** *10:06:39.6±1.1, 688S×15487E, h49km±10km, mb5.0/31, Error ellipse: s-maj=6.6km s-min=5.4km az=148.0*
GCMT ***05*** *10:06:39.6±0.2, 706S×15495E, h21km, MW5.1/61, Moment Tensor Solution. s49,c59; s61,c94; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr4.71±.21; Mθθ-2.84±.14; Mφφ-1.86±.14; Mre1.73±.24; Mθφ2.10±.09; Mθr-1.83±.24; Best double couple: M0 5.25100×1016 NP1:φs132.00000°, δ59.00000°, λ94.00000°. Principal axes: T 5.3630, Plg75.0000°, Azm53.0000°; N -0.2140, Plg3.0000°, Azm310.0000°; P -5.1390, Plg14.0000°, Azm219.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 05 10:06:38.4±1.3, 685S±005×15490E±004, h36km±11km, h19km±7.4km: pP-P, n267, σ1§06/250, mb4.9/58, MS4.4/17, 57C-65D, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.62**	**118**	*e*Pn		**Pn**	**10 08 01.4**	**+1.9**
	556nm,0.8s							
HNR	**Honiara**	**5.62**	**118**	*e*P		**Pn**	**10 08 01.4**	**+1.9**
HNR				pmax		pmax		
	comp=Z,556nm,0.8s							
HNR	**Honiara**	**5.62**	**118**	Pn		**Pn**	**10 08 01.8**	**+2.4**
	comp=Z,5.5nm,0.3s,baz=209,slow=1.1,SNR=4.4							
HNR					Sn	**Sn**	**10 09 11.4**	**+8.6**
	comp=Z,7.1nm,0.3s,baz=274,slow=19,SNR=2.4							
CTA	**Charters Tower**	**15.61**	**212**	*e*P		**Pn**	**10 10 15.9**	**0.0**
	comp=Z,28nm,0.9s							
CTA	**Charters Tower**	**15.61**	**212**	*e*P		**Pn**	**10 10 15.9**	**0.0**
CTA				pmax		pmax		
	comp=Z,28nm,0.9s							
CTA	**Charters Tower**	**15.61**	**212**	Pn		**Pn**	**10 10 15.7**	**-0.2**
	comp=Z,0.5nm,0.3s,baz=30,slow=13,SNR=5.1							
CTAO	**Charters Tower**	**15.61**	**212**	*e*P		**Pn**	**10 10 15.9**	**+0.1**
EIDS	**Eidsvold**	**18.78**	**191**	*e*P		**Pn**	**10 10 55.6**	**+0.3**
	comp=Z,11nm,1.0s							
KAKA	**Kakadu**	**22.88**	**254**	*e*P		**P**	**10 11 38.4**	**-0.7**
	comp=Z,46nm,0.9s,mb4.9							
ARMA	**Armidale**	**23.65**	**187**	*e*P		**P**	**10 11 46.2**	**-0.4**
WRAB	**Tennant Creek**	**23.81**	**235**	P		**P**	**10 11 48.0**	**-0.2**
	comp=Z,233nm,0.8s,mb5.7,SNR=20							
WRAB	**Tennant Creek**	**23.81**	**235**	*e*P		**P**	**10 11 47.1**	**-1.1**
	comp=Z,30nm,0.7s,mb4.8							
WRAB	**Tennant Creek**	**23.81**	**235**	*d*P		**P**	**10 11 47.4**	**-0.8**
WB2	**Warramunga Arr**	**23.82**	**235**	⇓*i*P		**P**	**10 11 47.7**	**-0.5**
WRA	**Warramunga Arr**	**23.83**	**235**	P		**P**	**10 11 47.6**	**-0.8**
	comp=Z,23nm,0.7s,mb4.7,baz=59,slow=9.7,SNR=88							
WRA				PcP		PcP	10 15 31.8	+0.6
	comp=Z,2.9nm,0.6s,baz=59,slow=2.3,SNR=13							
WRA				S		**S**	**10 16 02.6**	**+0.7**
	comp=Z,1.3nm,1.1s,baz=55,slow=17,SNR=3.1							
ASAR	**Alice Springs**	**26.20**	**228**	P		**P**	**10 12 09.3**	**-0.6**
	comp=Z,14nm,0.9s,mb4.5,baz=60,slow=8.5,SNR=106							
ASAR				PcP		PcP	10 15 36.6	+0.3
	comp=Z,0.9nm,0.6s,baz=52,slow=1.5,SNR=4.1							
STKA	**Stephens Creek**	**27.83**	**205**	*e*P		**P**	**10 12 26.5**	**+2.0**
	comp=Z,28nm,0.9s,mb4.9							
STKA				*e*			10 17 08.9	
STKA	**Stephens Creek**	**27.83**	**205**	*e*P		**P**	**10 12 23.5**	**-1.0**
	comp=Z,46nm,1.0s,mb5.1							
STKA	**Stephens Creek**	**27.83**	**205**	P		**P**	**10 12 23.3**	**-1.2**
	comp=Z,37nm,0.9s,mb5.0,baz=28,slow=10.0,SNR=21							
FITZ	**Fitzroy Crossi**	**30.63**	**246**	*e*P		**P**	**10 12 48.9**	**-0.6**
	comp=Z,18nm,0.7s,mb5.0							
FITZ	**Fitzroy Crossi**	**30.63**	**246**	P		**P**	**10 12 48.6**	**-0.9**
	comp=Z,9.1nm,0.8s,mb4.6,baz=91,slow=9.9,SNR=8.8							
AFI	**Afiamalu**	**33.49**	**105**	*e*P		**P**	**10 13 13.2**	**-1.5**
FORT	**Forrest**	**34.63**	**223**	*e*P		**P**	**10 13 22.0**	**-2.4**
	comp=Z,28nm,1.0s,mb5.2							
MBWA	**Marble Bar**	**36.86**	**244**	*e*P		**P**	**10 13 43.4**	**-0.3**
	comp=Z,16nm,0.9s,mb4.9							
URZ	**Urewera**	**37.18**	**151**	P		**P**	**10 13 46.4**	**+0.3**
	comp=Z,4.6nm,0.8s,mb4.4,baz=270,slow=1.5,SNR=4.3							
RPZ	**Rata Peaks**	**39.37**	**161**	P		**P**	**10 14 04.0**	**-0.4**
	comp=Z,3.5nm,0.3s,mb4.5,baz=174,slow=10,SNR=2.4							
KLBR	**Kellerberrin**	**42.51**	**230**	*e*P		**P**	**10 14 29.3**	**-1.2**
	comp=Z,18nm,1.0s,mb4.8							
NWAO	**Narrogin (SRO)**	**43.52**	**228**	LR		LR	10 33 28.0	
	comp=Z,551nm,18.1s,MS4.5,baz=237,slow=37							
YHNB	**Yeheng**	**45.26**	**315**	*e*P		**P**	**10 14 53.2**	**+0.6**
MJAR	**Matsushiro Arr**	**45.91**	**341**	P		**P**	**10 14 56.1**	**-1.4**
MJAR	**Matsushiro Arr**	**45.91**	**341**	P		**P**	**10 14 56.2**	**-1.4**
	comp=Z,1.1nm,0.8s,mb3.8,baz=180,slow=4.9,SNR=3.3							
RAR	**Rarotonga**	**46.05**	**113**	P		**P**	**10 14 58.6**	**-0.4**
	comp=Z,9.5nm,0.6s,mb4.9,baz=252,slow=9.5,SNR=3.9							
RAR				LR		LR	10 30 35.7	
	comp=Z,170nm,21.4s,MS4.0,baz=91,slow=31							
QZH	**Quanzhou**	**47.41**	**313**	⇑*i*P		**P**	**10 15 11.2**	**+1.6**
QZH						AMB	AMB	
	comp=Z,50nm,0.7s,mb5.5							
KSRS	**Korea Array**	**50.76**	**332**	P		**P**	**10 15 34.2**	**-0.7**
	comp=Z,3.2nm,0.8s,mb4.3,baz=149,slow=8.6,SNR=13							
KSRS						LR	LR	10 36 12.5
	comp=Z,120nm,19.8s,MS3.9,baz=326,slow=35							
NJ2	**Nanjing**	**51.74**	**320**	*e*P		**P**	**10 15 42.9**	**+0.5**
NJ2						AMB	AMB	
	comp=Z,20nm,0.5s,mb5.3							
ASAJ	**Asahikawa**	**51.93**	**349**	P		**P**	**10 15 44.0**	**+0.4**
	comp=Z,2.6nm,0.7s,mb4.3,baz=270,slow=20,SNR=3.4							
ASAJ						LR	LR	10 36 33.3
	comp=Z,157nm,18.5s,MS4.1,baz=269,slow=35							
PPT	**Papeete**	**55.13**	**107**	*e*S		**S**	**10 23 51.3**	**+2.9**
	comp=Z,76nm,26.2s							
PPT				*e*LR		LR	10 32 18.2	
	comp=Z,171nm,21.8s							
PPT	**Papeete**	**55.13**	**107**	LR		LR	10 35 28.8	
	comp=Z,268nm,18.7s,MS4.3,baz=118,slow=31							
TBI	**Tubuai**	**55.82**	**114**	*e*LQ			10 30 15.1	
	comp=Z,691nm,29.2s							
TBI				*e*LR		LR	10 32 34.5	
	comp=Z,273nm,32.8s							
CN2	**Changchun**	**57.02**	**335**	*e*P		**P**	**10 16 22.2**	**+1.6**
GYA	**Guiyang**	**57.29**	**307**	⇑*i*P		**P**	**10 16 24.2**	**+1.3**
GYA				PCP		PcP	10 17 19.2	+2.3
GYA				PP		PP	10 18 34.2	+3.8
GYA				SCP		ScP	10 21 17.9	+3.8
GYA				AMB		AMB		
	comp=Z,20nm,1.1s,mb5.1							
GYA				AMB		AMB		
	comp=Z,210nm,5.9s							
GYA				LR		LR		
	comp=N,890nm,19.8s,MS5.1							
GYA				LR		LR		
	comp=E,1μm,20.2s,MS5.1							
GYA				LR		LR		
	comp=Z,620nm,19.0s,MS4.7							
NST	**Nakhon Sawan**	**58.67**	**293**	P		**P**	**10 16 34.0**	**+1.3**
KLR	**Kul'dur**	**59.40**	**343**	*e*P		**P**	**10 16 30.0**	**-7.1**
XAN	**Xi'an**	**59.53**	**316**	P		**P**	**10 16 38.2**	**-0.2**
XAN				AP		pP	10 16 49.6	+0.3
XAN				AMB		AMB		
	comp=Z,5.0nm,0.8s,mb4.6							
KMI	**Kunming**	**59.86**	**304**	P		**P**	**10 16 43.1**	**+2.3**
KMI				PP		PP	10 18 57.1	+3.9
KMI				AMB		AMB		
	comp=Z,29nm,0.9s,mb5.3							
KMI				AMB		AMB		
	comp=Z,121nm,3.1s							
KMI				LR		LR		
	comp=Z,125nm,19.2s,MS4.1							
KMI	**Kunming**	**59.86**	**304**	P		**P**	**10 16 43.1**	**+2.3**
	comp=Z,29nm,0.9s,mb5.3							
KMI				pP		pP	10 16 46.7	-5.0
KMI				sP		sP	10 16 47.7	-8.3
KMI				PP		PP	10 18 57.1	+3.9
KMI				S		**S**	**10 24 53.5**	**+3.2**
KMI				sS		sS	10 24 58.0	-10
KMI				SS		SS	10 28 50.5	+3.3
KMI				SSS			10 31 18.7	
KMI				LR		LR		
	comp=Z,130nm,19.2s,MS4.1							
KMI	**Kunming**	**59.86**	**304**	P		**P**	**10 16 43.1**	**+2.3**
KMI							10 18 57.1	
KMI				S		**S**	**10 24 53.5**	**+3.2**
KMI				*SS		sS	10 24 58.0	-10
KMI				SS		SS	10 28 50.5	+3.3
KMI				SSS			10 31 18.7	
KMI				pmax		pmax		
	comp=Z,29nm,0.9s,mb5.3							
KMI				MLR		MLR		
	comp=Z,130nm,19.2s,MS4.1							
CM31	**Chiang Mai Arr**	**60.64**	**296**	*e*P		**P**	**10 16 48.2**	**+2.0**
	comp=Z,18nm,0.8s,mb5.2							
CHG	**Chiang Mai**	**60.75**	**296**	⇓P		pP	10 16 57.3	-0.7
	comp=Z,18nm,0.7s							
CHTO	**Chiang Mai**	**60.75**	**296**	*e*P		**P**	**10 16 45.6**	**-1.4**
	comp=Z,6.8nm,0.6s,mb5.0							
CHTO	**Chiang Mai**	**60.75**	**296**	*e*P		**P**	**10 16 45.6**	**-1.4**
CHTO				pmax		pmax		
	comp=Z,7.0nm,0.6s,mb5.0							
CD2	**Chengdu**	**61.65**	**310**	*e*P		**P**	**10 16 54.0**	**+1.1**
CD2				XP		sP	10 17 02.9	-5.2
CD2				PP		PP	10 19 11.8	+2.8
CD2				S		**S**	**10 25 13.9**	**+0.9**
CD2				SS		SS	10 29 16.7	+1.6
CD2				AMB		AMB		
	comp=Z,50nm,0.8s,mb5.7							
CD2				AMB		AMB		
	comp=Z,60nm,5.8s							
CD2				LR		LR		
	comp=N,220nm,16.8s,MS4.8							
CD2				LR		LR		
	comp=E,430nm,14.4s,MS4.8							
CD2				LR		LR		
	comp=Z,340nm,16.8s,MS4.6							
HHC	**Hu-ho-hao-te**	**61.92**	**324**	*e*P		**P**	**10 16 55.1**	**+0.6**
HHC				PP		PP	10 19 12.3	+1.1
HHC				AMB		AMB		
	comp=Z,24nm,0.4s,mb5.7							
HHC				AMB		AMB		
	comp=Z,238nm,8.4s							
HHC				LR		LR		
	comp=N,239nm,10.2s							
HHC				LR		LR		
	comp=E,203nm,7.6s							
HHC				LR		LR		
	comp=Z,205nm,12.5s,MS4.5							
HIA	**Hailar**	**63.75**	**335**	*e*P		**P**	**10 17 05.6**	**-0.8**
	comp=Z,2.3nm,0.3s,mb4.7							
HIA	**Hailar**	**63.75**	**335**	⇑*e*P		**P**	**10 17 06.2**	**-0.3**
LZH	**Lanzhou**	**64.14**	**316**	*e*P		**P**	**10 17 08.3**	**-1.1**
LZH				PP		PP	10 19 31.5	+0.6
LZH				AMB		AMB		
	comp=Z,21nm,1.5s,mb5.0							
LZH				AMB		AMB		
	comp=Z,102nm,6.8s							
LZH				LR		LR		
	comp=N,695nm,16.6s							
LZH				LR		LR		
	comp=Z,1μm,18.7s,MS5.1							
LZH	**Lanzhou**	**64.14**	**316**	*e*P		**P**	**10 17 08.3**	**-1.1**
	comp=Z,21nm,1.5s,mb5.0							
LZH				pP		pP	10 17 13.1	-7.3
LZH				sP		sP	10 17 15.4	-9.2
LZH				PP		PP	10 19 31.5	+0.6
LZH				*e*S		**S**	**10 25 43.3**	**-0.8**
LZH				sS		sS	10 25 51.5	-11
LZH				SS		SS	10 29 54.3	+0.3
LZH				LR		LR		
	comp=Z,1μm,18.7s,MS5.1							
LZH	**Lanzhou**	**64.14**	**316**	*e*P		**P**	**10 17 08.3**	**-1.1**
LZH				*SP		sP	10 17 15.4	-9.2
LZH							10 19 31.5	
LZH				*e*S		**S**	**10 25 43.3**	**-0.8**
LZH				SS		SS	10 29 54.3	+0.3
LZH				pmax		pmax		
	comp=Z,21nm,1.5s,mb5.0							
LZH				MLR		MLR		
	comp=Z,1μm,18.7s,MS5.1							
TAOE	**Nuku Hiva Isla**	**64.30**	**97**	*e*LR		LR	10 36 31.2	
	comp=Z,6μm,22.9s							
CASY	**Casey**	**66.70**	**198**	*e*P		**P**	**10 17 25.1**	**-0.3**
	comp=Z,60nm,0.7s,mb5.7							
GTA	**Gaotai**	**68.57**	**317**	*e*P		**P**	**10 17 38.4**	**+0.8**
GTA				PP		PP	10 20 11.6	+2.2
GTA				AMB		AMB		
	comp=Z,9.0nm,1.2s,mb4.6							
GTA				AMB		AMB		
	comp=Z,186nm,7.6s							
GTA				LR		LR		
	comp=N,298nm,14.5s,MS4.8							
GTA				LR		LR		
	comp=E,272nm,15.3s,MS4.8							
GTA				LR		LR		
	comp=Z,297nm,14.9s,MS4.7							
SHL	**Shillong**	**69.14**	**301**	*e*P		**P**	**10 17 43.5**	**+2.0**
SONM	**Songino Array**	**69.16**	**327**	P		**P**	**10 17 41.5**	**+0.4**
	comp=Z,4.6nm,0.9s,mb4.4,baz=123,slow=5.4,SNR=14							
SEY	**Seymchan**	**69.60**	**359**	⇓*e*P		**P**	**10 17 43.3**	**-0.2**
VNDA	**Vanda**	**70.73**	**178**	*e*P		**P**	**10 17 50.2**	**-0.2**
	comp=Z,11nm,1.2s,mb4.7							
VNDA	**Vanda**	**70.73**	**178**	*e*P		**P**	**10 17 50.2**	**-0.1**
VNDA				pmax		pmax		
	comp=Z,11nm,1.2s							
VNDA	**Vanda**	**70.73**	**178**	P		**P**	**10 17 50.4**	**+0.1**
	comp=Z,2.7nm,1.0s,mb4.1,baz=348,slow=6.1,SNR=8.3							
VNDA				LR		LR	10 43 41.8	
	comp=Z,110nm,19.0s,MS4.1,baz=80,slow=32							
LSA	**Lhasa**	**71.11**	**304**	*e*P		**P**	**10 17 55.4**	**+1.9**
LSA	**Lhasa**	**71.11**	**304**	*e*P		**P**	**10 17 54.2**	**+0.7**
	comp=Z,57nm,1.3s,mb5.3							
LSA	**Lhasa**	**71.11**	**304**	*e*P		**P**	**10 17 54.2**	**+0.7**
LSA				pmax		pmax		
	comp=Z,57nm,1.3s,mb5.3							
SBA	**Scott Base**	**71.24**	**177**	*e*P		**P**	**10 17 54.6**	**+1.2**
ZAK	**Zakamensk**	**72.32**	**328**	*e*P		**P**	**10 18 00.0**	**-0.3**
ZAK				pmax		pmax		
	comp=Z,6.0nm,1.2s,mb4.4							
BOD	**Bodaibo**	**72.44**	**338**	*e*P		**P**	**10 17 59.2**	**-1.7**
TLY	**Talaya**	**72.89**	**329**	*e*P		**P**	**10 18 03.2**	**-0.4**
	comp=Z,3.4nm,0.9s,mb4.3							
TLY	**Talaya**	**72.89**	**329**	*e*P		**P**	**10 18 03.4**	**-0.2**
TLY				pmax		pmax		
	comp=Z,5.0nm,1.2s,mb4.3							
JIRN	**Jiri**	**74.63**	**301**	*e*P		**P**	**10 18 16.6**	**+2.2**
BILL	**Bilibino**	**75.14**	**4**	*e*P		**P**	**10 18 15.9**	**-0.6**
	comp=Z,26nm,1.1s,mb5.1							
BILL	**Bilibino**	**75.14**	**4**	⇑*e*P		**P**	**10 18 15.9**	**-0.6**
BILL				*i*		pP	10 18 24.5	-3.2
BILL				pmax		pmax		
	comp=Z,16nm,1.0s,mb4.9							
BILL				MLR		MLR		
	comp=Z,200nm,18.0s,MS4.5							
KKN	**Kakani**	**75.44**	**301**	*e*P		**P**	**10 18 19.8**	**+0.7**
	comp=Z,41nm,0.8s,mb5.4							
GKN	**Gorkha**	**76.04**	**301**	*e*P		**P**	**10 18 23.1**	**+0.6**
	comp=Z,120nm,1.0s,mb5.8							
KOLN	**Koldanda**	**76.87**	**300**	*e*P		**P**	**10 18 27.4**	**+0.2**
	comp=Z,70nm,1.1s,mb5.5							
WMQ	**Urumqi**	**78.65**	**317**	*e*P		**P**	**10 18 36.0**	**-0.8**
WMQ				AMB		AMB		
	comp=Z,9.0nm,0.8s,mb4.8							
WMQ				AMB		AMB		
	comp=Z,132nm,3.9s							
WMQ				LR		LR		
	comp=Z,392nm,19.6s,MS4.8							
TTA	**Tatalina**	**78.92**	**21**	*e*P		**P**	**10 18 38.2**	**+0.4**
	comp=Z,5.8nm,0.8s,mb4.6							
TTA	**Tatalina**	**78.92**	**21**	*e*P		**P**	**10 18 38.2**	**+0.4**
TTA				pmax		pmax		
	comp=Z,6.0nm,0.8s,mb4.6							
HYB	**Hyderabad**	**79.13**	**289**	*e*P		**P**	**10 18 41.0**	**+1.0**
HYB	**Hyderabad**	**79.13**	**289**	*i* P		**P**	**10 18 41.0**	**+1.0**
SLKM	**Skilak Lake**	**79.64**	**24**	*e*P		**P**	**10 18 41.5**	**-0.3**
TIXI	**Tiksi**	**80.19**	**352**	⇑*e*P		**P**	**10 18 43.0**	**-1.6**
TIXI				pmax		pmax		
	comp=Z,6.0nm,1.7s,mb4.2							
PMR	**Palmer**	**80.69**	**24**	*e*P		**P**	**10 18 46.6**	**-0.9**
	comp=Z,16nm,0.8s,mb5.0							
PMR	**Palmer**	**80.69**	**24**	*e*P		**P**	**10 18 46.6**	**-0.8**
PMR				pmax		pmax		
	comp=Z,16nm,0.8s,mb5.0							
SML	**Sawmill**	**81.13**	**24**	*e*P		**P**	**10 18 49.9**	**+0.1**
IMA2	**Indian Mountai**	**81.69**	**19**	*e*P		**P**	**10 18 52.3**	**-0.3**
MCK	**McKinley**	**81.95**	**22**	*e*P		**P**	**10 18 53.0**	**-1.0**
	comp=Z,26nm,0.8s,mb5.2							
MCK	**McKinley**	**81.95**	**22**	*e*P		**P**	**10 18 53.1**	**-1.0**
MCK				pmax		pmax		
	comp=Z,26nm,0.8s,mb5.2							
NDI	**New Delhi**	**82.56**	**300**	*e*P		**P**	**10 18 55.0**	**-3.1**
COLA	**College**	**82.97**	**21**	*e*P		**P**	**10 18 58.6**	**-0.8**
QSPA	**South Pole Qui**	**83.13**	**180**	*e*P		**P**	**10 18 60.0**	**-0.1**
	comp=Z,26nm,0.8s,mb5.3							
QSPA	**South Pole Qui**	**83.13**	**180**	P		**P**	**10 19 00.5**	**+0.5**
	comp=Z,8.0nm,0.6s,mb4.9,baz=351,slow=1.0,SNR=83							
MK31	**Makanchi Array**	**83.23**	**319**	*e*P		**P**	**10 19 01.3**	**+0.2**
MKAR	**Makanchi Array**	**83.23**	**319**	P		**P**	**10 19 01.1**	**0.0**
	comp=Z,4.2nm,0.8s,mb4.5,baz=102,slow=5.8,SNR=26							
ZALV	**Zalesovo Beam**	**84.00**	**326**	P		**P**	**10 19 03.5**	**-1.4**
	comp=Z,2.3nm,0.6s,mb4.5,baz=107,slow=5.3,SNR=13							
ZAL	**Zalesovo**	**84.01**	**326**	P		**P**	**10 19 03.5**	**-1.5**
MAW	**Mawson**	**84.50**	**203**	P		**P**	**10 19 07.7**	**+0.5**
	comp=Z,3.4nm,0.5s,mb4.7,baz=96,slow=8.5,SNR=16							
MAW				LR		LR	10 54 41.3	
	comp=Z,174nm,18.2s,MS4.5,baz=65,slow=34							
EGAK	**Eagle**	**85.42**	**23**	*e*P		**P**	**10 19 12.1**	**+0.3**
	comp=Z,14nm,0.8s,mb5.1							
DAWY	**Dawson**	**85.80**	**24**	*e*P		**P**	**10 19 14.6**	**+0.9**
KURK	**Kurchatov**	**86.66**	**322**	⇑*e*P		**P**	**10 19 16.5**	**-1.8**
DLBC	**Dease Lake**	**88.06**	**31**	*e*P		**P**	**10 19 25.2**	**+0.3**
DLBC	**Dease Lake**	**88.06**	**31**	P		**P**	**10 19 25.4**	**+0.6**
	baz=316,slow=7.2							
AML	**Almayashu**	**88.06**	**313**	*e*P		**P**	**10 19 26.9**	**+1.6**
	comp=Z,8.1nm,1.0s,mb4.9							
L02A	**Cave Junction**	**88.28**	**47**	⇑P		**P**	**10 19 26.4**	**+0.1**
	baz=88							
K02A	**Glendale**	**88.47**	**47**	⇑P		**P**	**10 19 19.9**	**-7.3**
	baz=88							

R07C Lee Vining 91.08 52 ⇑P P 10 19 40.4 +0.9
baz=91
ISA Isabella 91.21 54 eP P 10 19 40.5 +0.4
comp=Z,4.2nm,1.2s,mb4.6
ISA Isabella 91.21 54 eP P 10 19 40.5 +0.4
ISA pmax pmax
comp=Z,4.0nm,1.2s,mb4.6
ISA Isabella 91.21 54 ⇑P P 10 19 40.3 +0.2
baz=91
MWC Mount Wilson 91.36 56 eP P 10 19 41.6 +0.7
L07A Adell 91.39 48 ⇑P P 10 19 41.6 +0.8
baz=91
M07A Soldier Meadow 91.43 49 ⇓P P 10 19 42.6 +1.6
baz=92
N07B Gerlach 91.50 49 ⇓P P 10 19 41.0 -0.4
baz=92
EDW2 Edwards Air Fo 91.50 55 ⇓P P 10 19 42.0 +0.5
baz=92
K07A Rock Creek Ran 91.55 47 ⇑P P 10 19 41.8 +0.3
baz=92,SNR=5.5
I07A Izee 91.55 46 P P 10 19 37.3 -4.2
baz=92,SNR=6.1
H07A Lands Inn, Kim 91.58 45 ⇓P P 10 19 34.5 -7.1
baz=92
J07A Hines 91.59 47 P P 10 19 41.9 +0.1
baz=92,SNR=6.0
G07A Ruggs Ranch, H 91.60 45 ⇑P P 10 19 36.3 -5.4
baz=92
S08C White Mtn Res 91.69 53 ⇑P P 10 19 44.3 +2.0
baz=92
NVAR Mina Array Bea 91.70 52 P P 10 19 42.8 +0.4
comp=Z,3.2nm,0.8s,mb4.7,baz=246,slow=4.5,SNR=18
LRMC Laurel Mountai 91.82 55 ⇓P P 10 19 42.9 -0.1
baz=92
WVOR Wild Horse Val 91.96 48 eP P 10 19 43.7 +0.2
comp=Z,13nm,0.9s,mb5.3
M08A Happy Creek Ra 92.03 49 ⇑P P 10 19 44.2 +0.4
baz=92
Q08A Gabbs 92.04 51 ⇑P P 10 19 44.2 +0.3
baz=92
MPMC Manual Prospec 92.05 54 ⇑P P 10 19 43.3 -0.7
baz=92
N08A GE Springer Mi 92.13 49 ⇑P P 10 19 44.5 +0.2
baz=92
L08A Fields 92.14 48 ⇓P P 10 19 44.4 +0.1
baz=92
J08A Circle Bar Ran 92.20 47 P P 10 19 44.7 +0.2
baz=92,SNR=5.1
I08A Drewsey 92.20 46 ⇓P P 10 19 42.6 -1.9
baz=92
H08A Prairie City 92.20 46 ⇓P P 10 19 39.6 -5.0
baz=92
GRAC Grapevine Rang 92.26 53 ⇑P P 10 19 45.3 +0.4
baz=92
BBRC Big Bear Sol-O 92.30 56 ⇑P P 10 19 46.2 +1.0
baz=92
SYO Syowa Base 92.44 199⇑eP P 10 19 47.2 +2.0
S09A Goldfield 92.46 52 ⇓P P 10 19 46.4 +0.5
baz=92
MONP Monument Peak 92.56 57 ⇓P P 10 19 47.3 +0.8
baz=93
N09A Rock Creek Ran 92.59 49 ⇓P P 10 19 47.3 +0.8
baz=93
FURC Furnace Creek, 92.61 54 ⇓P P 10 19 47.0 +0.4
baz=93
PFO Pinyon Flat Ob 92.61 57 eP P 10 19 46.7 0.0
comp=Z,3.3nm,0.8s,mb4.8
PFO Pinyon Flat Ob 92.61 57 eP P 10 19 46.7 0.0
PFO pmax pmax
comp=Z,3.0nm,0.8s,mb4.8
PFO Pinyon Flat Ob 92.61 57 P P 10 19 47.1 +0.4
comp=Z,1.9nm,0.6s,mb4.7,baz=253,slow=2.7,SNR=6.8
L09A Wilkinson Ranc 92.62 48 ⇓P P 10 19 45.3 -1.2
baz=93
K09A Rome 92.66 47 ⇓P P 10 19 45.1 -1.6
baz=93
J09A Fry Pan Ranch, 92.72 47 ⇑P P 10 19 47.2 +0.2
baz=93
O09A Fish Creek Ran 92.77 50 ⇑P P 10 19 47.6 +0.3
baz=93
F09A S2 Ranch, Elgi 92.89 44 ⇓P P 10 19 47.7 0.0
baz=93
S10A Tonopah Range, 92.98 52 ⇑P P 10 19 49.2 +1.0
baz=93
U10A Ash Meadows, A 93.03 54 ⇑P P 10 19 49.7 +1.2
baz=93
BELC Belle Mtn. 93.03 56 ⇓P P 10 19 49.6 +0.9
baz=93
TUQ Turquoise Mtn. 93.25 55 ⇓P P 10 19 49.5 -0.1
baz=93
K10A MacKenzie Ranc 93.30 47 ⇓P P 10 19 49.7 +0.1
baz=93
G10A Bishop Farm, J 93.39 45 P P 10 19 43.2 -6.8
baz=93,SNR=6.1
GMRC Granite Mounta 93.39 56 ⇓P P 10 19 49.5 -0.8
baz=93
BC3 Big Chuckw Mtn 93.45 57 ⇓P P 10 19 50.9 +0.4
baz=94
I10A Payette 93.49 46 ⇑P P 10 19 50.4 -0.1
baz=94
H10A Noah's Angus R 93.58 46 ⇑P P 10 19 48.3 -2.6
baz=94
IRM Iron Mountain 93.75 56 ⇑P P 10 19 52.4 +0.5
baz=94
Q11A Duckwater 93.81 51 ⇑P P 10 19 52.9 +0.8
baz=94
R11A Troy Canyon, C 93.81 52 ⇓P P 10 19 52.1 0.0
baz=94
LDFC Landfair 93.87 55 eP P 10 19 53.1 +0.6
K11A Parker Ranch, 93.91 48 ⇑P P 10 19 51.3 -1.2
baz=94
O11A Cowboy Ranch, 93.93 50 ⇓P P 10 19 52.8 +0.2
baz=94
T11A Corn Creek, Al 93.99 53 ⇓P P 10 19 55.6 +2.7
baz=94
H11A Donnelly 94.11 46 ⇑P P 10 19 49.0 -4.3
baz=94
E11A Bogner Ranch, 94.13 44 ⇓P P 10 19 50.0 -3.4
baz=94
V12A Nelson 94.15 55 ⇓P P 10 19 54.6 +0.9
baz=94
P12A McGill 94.45 51 ⇑P P 10 19 54.3 -0.7
baz=94
Q12A Willow Creek R 94.47 51 ⇓P P 10 19 55.8 +0.7
baz=94
N12A Clover Valley, 94.47 50 ⇓P P 10 19 55.7 +0.7
baz=94
PDMCI Parker Dam,Lak 94.60 56 ⇑P P 10 19 57.1 +1.3
baz=95
L12A House Creek Ra 94.60 48 ⇑P P 10 19 55.9 +0.3
baz=95,SNR=11
M12A Wells 94.61 49 ⇓P P 10 19 56.0 +0.2
baz=95
J12A Stokes Ranch, 94.64 47 ⇓P P 10 19 54.0 -1.8
baz=95
O12A Currie 94.64 50 ⇓P P 10 19 55.2 -0.7
baz=95
K12A Draper Ranch, C 94.73 48 ⇑P P 10 19 55.9 -0.3
baz=95,SNR=6.0
F12A Elk City 94.74 45 P P 10 19 50.5 -5.7
baz=95,SNR=5.7
D12A Red Ives Fores 94.78 43 ⇓P P 10 19 54.5 -1.9
baz=95
W13A Hualapai Mount 94.88 55 ⇓P P 10 19 59.5 +2.4
baz=95
H12A Diamond D Ranc 94.92 46 ⇓P P 10 19 55.2 -1.8
baz=95
T13A Saint George 95.02 53 ⇑P P 10 19 59.4 +1.8
baz=95
S13A Holt Ranch, En 95.10 53 ⇓P P 10 19 59.0 +0.9
baz=95
P13A Bates Ranch, G 95.13 51 ⇓P P 10 19 56.0 -2.2
baz=95
HLID Hailey 95.16 47 eP P 10 20 02.5 +4.4
comp=Z,6.7nm,0.8s,mb5.1
HLID Hailey 95.16 47 P P 10 20 04.6 +6.5
baz=95,SNR=7.9
M13A Montello 95.17 49 ⇓P P 10 19 58.8 +0.5
baz=95
J13A Cove Ranch, Pi 95.32 47 ⇓P P 10 20 03.8 +4.9
baz=95,SNR=7.0
K13A Stover Farm, H 95.33 48 ⇓P P 10 19 57.7 -1.3
baz=95
H13A Challis 95.35 46 ⇑P P 10 19 57.7 -1.3
baz=95
F13A Darby 95.39 45 ⇓P P 10 19 57.7 -1.5
baz=95
L13A Double Diamond 95.39 48 ⇓P P 10 19 58.8 -0.5
baz=95,SNR=7.0
D13A Huson 95.39 43 ⇓P P 10 19 56.7 -2.4
baz=95
G13A Cobalt 95.41 45 P P 10 19 58.1 -1.2
baz=95,SNR=5.5
U14A Mt Trumbull 95.55 54 ⇓P P 10 20 00.8 +0.7
baz=96
V14A Boquillas Ranc 95.56 55 ⇓P P 10 20 01.8 +1.6
baz=96
S14A Cedar City 95.66 53 ⇑P P 10 20 02.0 +1.4
baz=96
M14A Sheep Mountain 95.79 49 ⇓P P 10 20 02.0 +0.9
baz=96
E14A Clinton 96.01 44 ⇓P P 10 19 56.9 -5.0
baz=96
D14A Greenough 96.04 43 P P 10 19 52.4 -10
baz=96,SNR=7.2
YKW3 Yellowknife Ar 96.25 28 eP P 10 20 03.4 +0.7
YKA Yellowknife Ar 96.25 28 P P 10 20 02.4 -0.2
YKA PKKPbc PKKPbc 10 36 46.3 -5.2
YKA LR LR 10 59 20.5
YKA Yellowknife Ar 96.25 28 P P 10 20 02.4 -0.2
comp=Z,7.0nm,0.8s,mb5.2,baz=267,slow=4.6,SNR=33
YKA PKKPbc PKKPbc 10 36 46.3 -5.2
comp=Z,0.1nm,0.5s,baz=88,slow=3.0,SNR=6.7
YKA LR LR 10 59 20.5
comp=Z,94nm,19.1s,MS4.3,baz=110,slow=33
MCMT McKenzie Canyo 96.37 46 eP P 10 20 04.0 +0.4
M15A Larsen Ranch, 96.47 49 ⇑P P 10 20 05.7 +1.5
baz=96
E15A Deer Lodge 96.60 44 ⇓P P 10 19 60.0 -4.7
baz=97
G15A Dillon 96.64 45 ⇓P P 10 20 03.6 -1.3
baz=97
D15A Lincoln 96.71 43 ⇑P P 10 19 58.9 -6.2
baz=97
WUAZ Wupatki 96.95 55 ⇑P P 10 20 09.9 +3.4
baz=97
BOZ Bozeman (W) 97.27 45 eP P 10 20 06.6 -1.1
comp=Z,8.2nm,0.9s,mb5.2
BOZ Bozeman (W) 97.27 45 ⇓P P 10 20 06.7 -0.9
baz=97,SNR=8.0
EGMT Eagleton 98.62 43 ⇑P P 10 20 11.4 -2.3
baz=99
PDAR Pinedale Array 98.67 48 P P 10 20 13.4 -0.6
PDAR LR LR 11 01 57.0
PDAR Pinedale Array 98.67 48 P P 10 20 13.4 -0.6
comp=Z,1.5nm,0.9s,mb4.5,baz=234,slow=2.8,SNR=12
PDAR LR LR 11 01 57.0
comp=Z,156nm,18.1s,MS4.5,baz=333,slow=34
TXAR Lajitas Array 103.27 62 Pdiff Pdif 10 20 38.6 +4.3
comp=Z,0.1nm,0.3s,baz=291,slow=5.0,SNR=2.5
SOC Sochi 112.86 314 i PKIKP PKiKP 10 25 08.3 -3.4
PLCA Paso Flores 116.90 143 PKP PKPdf 10 25 19.0 -0.6
comp=Z,0.8nm,0.7s,baz=301,slow=8.0,SNR=4.1
AKASG Malin Array Be 117.36 324 PKP PKPdf 10 25 18.9 -1.2
comp=Z,1.7nm,0.6s,baz=58,slow=2.2,SNR=8.6
BOSA Boshof 120.04 231 PKP PKPdf 10 25 24.4 -1.6
comp=Z,2.3nm,0.9s,baz=114,slow=6.9,SNR=4.0
BRG Berggiesshubel 125.47 331 ePKIKP PKPdf 10 25 36.0 +0.3
BRG e 10 25 40.8
BRG pmax pmax
comp=Z,2.0nm,0.8s
BRG Berggiesshubel 125.47 331 ePKP PKPdf 10 25 36.0 +0.3
comp=Z,3.7nm,0.8s
BRG e 10 25 40.8
comp=Z,10nm,1.3s
CLL Collm 125.64 332 ePKIKP PKPdf 10 25 36.0 0.0
CLL pmax pmax
comp=Z,9.0nm,0.9s
CLL Collm 125.64 332 ePKPdf PKPdf 10 25 36.0 0.0
comp=Z,9.0nm,0.9s
KHC Kasperske Hory 126.76 329 ePKPdf PKPdf 10 25 37.5 -0.7
KHC ex x 10 25 42.5
KHC epPKP pPKPdf 10 25 51.0 +1.0
GERES GERESS Array B 126.88 329 PKP PKPdf 10 25 38.6 +0.2
comp=Z,2.2nm,0.7s,baz=48,slow=2.0,SNR=11
GRA1 Grafenberg Arr 127.56 331 ePKP PKPdf 10 25 40.0 +0.3
GRF Grafenberg Arr 127.56 331 ePKIKP PKPdf 10 25 40.0 +0.3
FETA Feichten 129.58 329 ⇑/PKIKP PKiKP 10 25 43.9 -0.5
comp=Z,5.7nm,1.0s
LPAZ La Paz 131.61 119 PKP PKPdf 10 25 49.0 +0.6
comp=Z,3.4nm,1.1s,baz=111,slow=5.5,SNR=6.8
BDFB Brasilia 148.15 135 PKPbc PKPbc 10 26 21.0 -0.4
comp=Z,9.0nm,0.6s,baz=222,slow=3.5,SNR=12
TOA0 Torodi Ar. Sit 152.90 285 ePKPbc PKPbc 10 26 32.4 -0.5
TOA0 ePKPab PKPab 10 26 45.0 +0.9
TORD Torodi Ar. Bea 152.90 285 PKP PKPdf 10 26 25.0 -0.6
TORD PKPbc PKPbc 10 26 32.2 -0.6
TORD PKPab PKPab 10 26 44.4 +0.3
TORD Torodi Ar. Bea 152.90 285 PKP PKPdf 10 26 25.0 -0.6
comp=Z,1.1nm,0.8s,baz=358,slow=2.3,SNR=5.7
TORD PKPbc PKPbc 10 26 32.2 -0.6
comp=Z,7.1nm,0.8s,baz=58,slow=2.2,SNR=31
TORD PKPab PKPab 10 26 44.4 +0.3
comp=Z,12nm,0.8s,baz=60,slow=2.1,SNR=16

BJI ***05*** *10:11:48.7, 51.00N×178.60E, h10km, mB5.0, mb4.7, Ms4.6, Msz4.5*
IDC ***05*** *10:11:50.0±0.6, 51.18N×178.69E, h0km, mb4.3/20, mb1 4.5/20, mb1mx4.4/27, mbtmp4.3/20, Error ellipse: s-maj=20.6km s-min=12.2km az=161.0*
NEIC ***05*** *10:11:51.8±0.3, 51.02N×178.62E, h10km, mb4.7/38, ML4.2(AEIC), Error ellipse: s-maj=8.8km s-min=4.6km az=177.0*
MOS ***05*** *10:11:53.4±1.1, 51.14N×178.62E, h33km, mb4.7/32, Error ellipse: s-maj=9.9km s-min=8.1km az=88.1*
ISCJB ***05*** *10:11:54.1±0.9, 51.12N±0.07×178.66E±0.04, h37km±7km, mb4.6/65, MS4.5/4, Error ellipse: s-maj=11.1km s-min=4.5km az=0.2*
ISC 05 10:11:54.5±1.2, 5109N±006×17864E±004, h26km±7km, h17km±2.9km:pP-P, n153, σ0=99/148, mb4.6/65, MS4.5/4, 8C-1D, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMKA	Amchitka	0.51	55	P	Pb	10 12 03.9	-1.0
AMKA				S	Sb	10 12 11.8	-0.1
ADK	Adak	3.03	73	P	Pn	10 12 40.6	-0.1
ADK				S	Sn	10 13 16.4	+0.3
ADK	Adak	3.03	73	P	Pn	10 12 40.6	-0.1
ADK				S	Sn	10 13 16.3	+0.2
SMY	Shemya	3.26	302	P	Pn	10 12 44.4	+0.5
SMY				S	Sn	10 13 25.0	+3.2
SPIA	Saint Paul Isl	8.92	43	P	Pn	10 14 01.4	-0.2
UNV	Unalaska Valle	9.48	67	P	Pn	10 14 08.5	-0.7
AKLV	Akutan Long Va	9.86	66	P	Pn	10 14 14.2	-0.2
GAMB	Gambell	13.72	18	ePn	Pn	10 15 09.1	+2.0
22nm,1.1s							
TNA	Tin City	16.08	20	eP	Pn	10 15 39.9	+1.5
SVW2	Sparrevohn	17.41	45	eP	Pn	10 15 56.5	+1.3
KDAK	Kodiak Island	17.93	57	eP	Pn	10 16 01.6	-0.1
TTA	Tatalina	18.04	39	eP	Pn	10 16 04.2	+1.1
BILL	Bilibino	18.05	345	eP	Pn	10 16 04.3	+1.1
15nm,0.8s							
BILL	Bilibino	18.05	345	c iP	Pn	10 16 04.4	+1.2
BILL				pmax	pmax		
comp=Z,14nm,1.0s							
SEY	Seymchan	18.41	320	⇑eP	Pn	10 16 08.5	+0.9
PMR	Palmer	20.50	47	eP	P	10 16 29.3	-0.9
comp=Z,5.3nm,0.5s							
PMR	Palmer	20.50	47	eP	P	10 16 29.3	-0.9
PMR				pmax	pmax		
comp=Z,5.0nm,0.5s							
IMA2	Indian Mountai	20.55	33	eP	P	10 16 30.8	+0.1
MCK	McKley	21.27	41	eP	P	10 16 40.2	+1.7
comp=Z,14nm,1.0s,mb4.3							
MCK	McKinley	21.27	41	eP	P	10 16 40.2	+1.7
MCK				pmax	pmax		
comp=Z,15nm,1.0s,mb4.3							
COLA	College	22.14	39	eP	P	10 16 47.0	-0.8
comp=Z,12nm,0.8s,mb4.4							
COLA	College	22.14	39	⇑iP	P	10 16 47.3	-0.5
YSS	Yuzh-Sakhalins	23.74	274	eP	P	10 17 06.2	+1.7
comp=Z,6.3nm,0.5s,mb4.3							
YSS	Yuzh-Sakhalins	23.74	274	c iP	P	10 17 06.0	+1.5
YSS				pmax	pmax		
comp=Z,41nm,1.3s,mb4.7							
EGAK	Eagle	24.82	41	eP	P	10 17 13.0	-1.2
comp=Z,84nm,1.2s,mb5.1							
ASAJ	Asahikawa	25.09	268	P	P	10 17 17.8	+1.0
ASAJ				pmax	pmax		
comp=Z,20nm,0.8s							
ASAJ	Asahikawa	25.09	268	P	P	10 17 17.8	+0.9
comp=Z,20nm,0.8s,mb4.7,baz=78,slow=8.9,SNR=10							
DAWY	Dawson	25.42	43	eP	P	10 17 20.6	+1.0
HABR	Khabarovsk	27.97	282	eP	P	10 17 42.3	-0.4
YAK	Yakutsk	28.41	312	⇓eP	P	10 17 45.3	-1.2
YAK				pmax	pmax		
comp=Z,20nm,0.7s,mb4.9							
INK	Inuvik	28.62	35	eP	P	10 17 46.9	-1.4
comp=Z,154nm,0.7s,mb5.8							
INK	Inuvik	28.62	35	P	P	10 17 47.4	-0.9
INK				pmax	pmax		
comp=Z,2.0nm,0.5s							
INK	Inuvik	28.62	35	P	P	10 17 47.4	-1.0
comp=Z,2.4nm,0.5s,mb4.2,baz=244,slow=9.5,SNR=27							
KLR	Kul'dur	29.71	285	eP	P	10 17 53.7	-4.4
DLBC	Dease Lake	29.86	56	P	P	10 18 00.9	+1.5
baz=245,slow=17							
TIXI	Tiksi	30.11	331	⇑eP	P	10 17 59.7	-1.8
TIXI				pmax	pmax		
comp=Z,4.0nm,1.7s,mb3.9							
MJAR	Matsushiro Arr	32.15	259	P	P	10 18 20.4	+0.6
MJAR				pmax	pmax		
comp=Z,1.0nm,0.7s							
MJAR	Matsushiro Arr	32.15	259	P	P	10 18 20.4	+0.6
comp=Z,0.9nm,0.7s,mb3.7,baz=53,slow=7.3,SNR=3.8							
MDJ	Mudanjiang	33.03	278	P	P	10 18 27.3	-0.1
MDJ				AMB	AMB		
comp=Z,5.0nm,0.8s,mb4.5							
MDJ				AMB	AMB		
comp=Z,103nm,6.0s							
CN2	Changchun	36.02	280	eP	P	10 18 50.2	-3.1
YKW3	Yellowknife Ar	36.57	46	eP	P	10 18 58.0	+0.3
YKA	Yellowknife Ar	36.59	46	P	P	10 18 56.4	-1.5
YKA				ScP	ScP	10 25 05.5	+0.3
YKA	Yellowknife Ar	36.59	46	P	P	10 18 56.4	-1.5
YKA				pmax	pmax		
comp=Z,1.0nm,0.5s							
YKA	Yellowknife Ar	36.59	46	P	P	10 18 56.4	-1.5
comp=Z,1.1nm,0.5s,mb3.9,baz=283,slow=8.0,SNR=24							
YKA				ScP	ScP	10 25 05.5	+0.3
comp=Z,1.2nm,0.7s,baz=294,slow=3.4,SNR=15							
BOD	Bodaibo	36.86	306	eP	P	10 18 59.0	-1.3
HIA	Hailar	36.90	291	⇑eP	P	10 18 58.9	-1.8
GNW	Green Mountain	37.44	72	eP	P	10 19 05.5	+0.1
KSRS	Korea Array	38.03	269	P	P	10 19 11.4	+1.0
comp=Z,6.4nm,0.9s,mb4.3,baz=58,slow=8.2,SNR=23							
CIT	Chita	39.26	298	eP	P	10 19 20.9	+0.3
CIT				e		10 19 31.4	
CIT				pmax	pmax		
comp=Z,26nm,1.9s,mb4.6							
HAWA	Hanford	39.98	72	eP	P	10 19 27.1	+0.4
comp=Z,8.6nm,0.9s,mb4.5							
EDM	Edmonton	40.35	59	eP	P	10 19 27.7	-1.9
NEW	Newport	40.49	68	eP	P	10 19 30.7	-0.1
comp=Z,10nm,0.8s,mb4.6							
NEW				e		10 19 41.2	
NEW	Newport	40.49	68	eP	P	10 19 30.7	-0.1
NEW				e		10 19 41.2	
NEW				pmax	pmax		
comp=Z,10.0nm,0.8s							
NEW	Newport	40.49	68	P	P	10 19 30.4	-0.4
comp=Z,3.9nm,0.7s,mb4.2,baz=288,slow=4.2,SNR=10							
RES	Resolute Bay	40.67	24	eP	P	10 19 30.6	-1.5
comp=Z,320nm,1.1s,mb5.9							
RES				e		10 19 42.8	
MOD	Modoc	41.91	78	eP	P	10 19 43.1	+0.5
comp=Z,9.6nm,0.7s,mb4.5							
MOD				e		10 19 54.4	
WALA	Waterton Lakes	41.96	65	eP	P	10 19 41.9	-1.0
comp=Z,8.1nm,0.9s,mb4.3							
WALA				e		10 19 54.5	
MSO	Missoula	43.07	68	eP	P	10 19 50.8	-1.2
comp=Z,7.2nm,0.8s,mb4.5							
MSO				e		10 20 02.5	
HRY	Holter Researc	44.37	67	eP	P	10 20 02.7	+0.4
HRY				e		10 20 13.0	
TLY	Talaya	44.85	301	eP	P	10 20 06.4	+0.2
comp=Z,4.3nm,0.8s,mb4.3							
TLY	Talaya	44.85	301	eP	P	10 20 06.1	-0.1
TLY				e		10 26 46.6	
TLY				pmax	pmax		
comp=Z,4.0nm,0.8s,mb4.3							
TLY				MLR	MLR		
comp=Z,125nm,15.0s,MS4.0							
EGMT	Eagleton	44.86	65	eP	P	10 20 06.9	+0.6
comp=Z,5.9nm,0.8s,mb4.5							
NVAR	Mina Array Bea	45.18	81	P	P	10 20 10.1	+1.1
comp=Z,3.1nm,0.8s,mb4.2,baz=280,slow=8.7,SNR=7.3							
SONM	Songino Array	45.33	296	P	P	10 20 10.6	+0.6
SONM				pmax	pmax		
comp=Z,3.0nm,0.5s							
SONM	Songino Array	45.33	296	P	P	10 20 10.6	+0.6
comp=Z,2.8nm,0.5s,mb4.4,baz=62,slow=6.6,SNR=9.8							
MTUM	Tungsten Hills	45.68	82	eP	P	10 20 13.3	+0.3
MTUM				e		10 20 24.7	
HHC	Hu-ho-hao-te	46.22	285	eP	P	10 20 18.0	+0.9
HHC				AP	pP	10 20 22.3	-2.6
HHC				XP	sP	10 20 25.1	-2.9
HHC				PP	PP	10 22 06.4	+0.9
HHC				XS	sS	10 27 10.9	-3.8
HHC				AMB	AMB		
comp=Z,20nm,0.4s,mb5.4							
HHC				AMB	AMB		
comp=Z,181nm,5.1s							
HHC				LR	LR		
comp=N,162nm,5.6s							
HHC				LR	LR		
comp=E,655nm,14.8s							
HHC				LR	LR		
comp=Z,206nm,6.4s							
IMW	Indian Meadow	46.45	70	eP	P	10 20 19.1	+0.2
comp=Z,4.7nm,0.9s,mb4.4							
IMW				e		10 20 30.2	
FLWY	Flagg Ranch	46.48	70	eP	P	10 20 19.6	+0.5
comp=Z,5.7nm,0.6s,mb4.7							
LOHW	Long Hollow	46.81	70	eP	P	10 20 23.0	+1.3
comp=Z,1.8nm,0.6s,mb4.2							
LOHW				e	pP	10 20 32.3	+2.7
NJ2	Nanjing	47.21	270	eP	P	10 20 26.1	+1.1
NJ2				AMB	AMB		
comp=Z,20nm,0.5s,mb5.3							
FCC	Fort Churchill	47.31	45	eP	P	10 20 24.9	-0.5
comp=Z,3.2nm,0.7s,mb4.4							
FCC	Fort Churchill	47.31	45	eP	P	10 20 24.9	-0.5
FCC				pmax	pmax		
comp=Z,3.0nm,0.7s,mb4.3							
TPNV	Topopah Spring	47.38	81	eP	P	10 20 27.1	+0.8
comp=Z,12nm,0.7s,mb4.9							
TPNV				e		10 20 37.7	
TPNV	Topopah Spring	47.38	81	eP	P	10 20 27.1	+0.8
TPNV				e		10 20 37.7	
TPNV				pmax	pmax		
comp=Z,12nm,0.7s,mb4.9							
HWUT	Hardware Ranch	47.41	73	eP	P	10 20 25.9	-0.6
comp=Z,4.1nm,0.6s,mb4.5							
HWUT				e		10 20 35.6	
DUG	Dugway	47.50	75	eP	P	10 20 27.4	+0.3
comp=Z,8.4nm,0.6s,mb4.8							
DUG				e		10 20 38.5	
DUG	Dugway	47.50	75	eP	P	10 20 27.4	+0.3
DUG				e		10 20 38.5	
DUG				pmax	pmax		
comp=Z,8.0nm,0.6s,mb4.8							
BW06	Boulder Array	47.92	70	eP	P	10 20 29.0	-1.4
comp=Z,7.4nm,0.7s,mb4.8							
BW06				e		10 20 40.9	
PDAR	Pinedale Array	47.93	70	P	P	10 20 30.1	-0.3
comp=Z,1.7nm,0.5s,mb4.3,baz=242,slow=3.2,SNR=9.6							
GSC	Goldstone	48.08	83	eP	P	10 20 32.1	+0.5
comp=Z,7.0nm,0.7s,mb4.8							
GSC				e		10 20 42.5	
GSC	Goldstone	48.08	83	eP	P	10 20 32.1	+0.4
GSC				e		10 20 42.5	
GSC				pmax	pmax		
comp=Z,7.0nm,0.7s,mb4.8							
JLU	Jordanelle	48.08	74	eP	P	10 20 32.4	+0.7
JLU				e		10 20 42.2	
DAU	Daniels Canyon	48.31	74	eP	P	10 20 34.0	+0.5
MSU	Marysvale	48.92	77	eP	P	10 20 39.2	+1.1
TMUT	Trail Mountain	49.03	75	eP	P	10 20 39.9	+1.0
WUAZ	Wupatki	51.32	79	eP	P	10 20 56.7	+0.4
comp=Z,19nm,1.3s,mb4.9							
WUAZ				e		10 21 07.5	
MVCO	Mesa Verde	52.00	76	eP	P	10 21 01.6	+0.2
comp=Z,5.8nm,0.9s,mb4.5							

ISCO Idaho Springs 52.09 71 *eP* **P 10 21 02.3 +0.2**
comp=Z,2.0nm,0.9s,mb4.0
ISCO Idaho Springs 52.09 71 *eP* **P 10 21 02.3 +0.3**
ISCO pmax pmax
comp=Z,2.0nm,0.9s,mb4.0
ZALV Zalesovo Beam 53.05 312 P **P 10 21 08.0 -1.0**
comp=Z,1.4nm,0.4s,mb4.2,baz=38,slow=9.5,SNR=4.3
ZAL Zalesovo 53.07 312 P **P 10 21 08.0 -1.1**
NVS Novosibirsk 53.23 314 *eP* **P 10 21 09.0 -1.2**
NVS pmax pmax
comp=Z,8.0nm,0.7s,mb4.8
NVS pmax pmax
comp=N,9.0nm,1.4s
NVS pmax pmax
comp=E,13nm,1.4s
SDCO Great Sand Dun 53.47 73 *eP* **P 10 21 12.6 +0.3**
comp=E,5.7nm,0.9s,mb4.5
SDCO *e* 10 21 23.8
LZH Lanzhou 53.91 285 *eP* **P 10 21 15.2 -0.3**
LZH AP pP 10 21 19.8 -3.7
LZH XP sP 10 21 22.5 -4.1
LZH AMB AMB
comp=Z,19nm,1.4s,mb4.8
LZH AMB AMB
comp=Z,123nm,6.7s
LZH LR LR
comp=E,527nm,15.6s
LZH LR LR
comp=Z,743nm,18.3s,MS4.8
LZH Lanzhou 53.91 285 *eP* **P 10 21 15.2 -0.3**
comp=Z,19nm,1.4s,mb4.8
LZH pP pP 10 21 19.8 -3.7
LZH sP sP 10 21 22.5 -4.1
LZH PP PP 10 23 18.3 +1.7
LZH LR LR
comp=Z,740nm,18.3s,MS4.8
GTA Gaotai 54.17 290 *eP* **P 10 21 17.7 +0.3**
GTA AP pP 10 21 22.0 -3.3
GTA XP sP 10 21 25.4 -3.0
GTA PCP PcP 10 22 25.1 +3.4
GTA PP PP 10 23 21.4 +2.5
GTA S **S 10 28 52.7 +0.1**
GTA XS sS 10 29 00.4 -5.3
GTA AMB AMB
comp=Z,8.0nm,1.2s,mb4.5
GTA AMB AMB
comp=Z,209nm,8.4s
GTA LR LR
comp=N,262nm,18.0s,MS4.5
GTA LR LR
comp=E,189nm,14.1s,MS4.5
GTA LR LR
comp=Z,336nm,16.8s,MS4.5
LAZ Ladron 54.67 77 *eP* **P 10 21 20.8 -0.3**
ANMO Albuquerque 54.72 76⇑*eP* **P 10 21 23.3 +1.9**
MNTX Cornudas Mount 57.58 78 *eP* **P 10 21 42.0 +0.1**
comp=Z,6.8nm,1.0s,mb4.6
MNTX *e* 10 21 53.0
AMTX Amarillo 57.67 73 *eP* **P 10 21 42.8 +0.2**
comp=Z,12nm,0.9s,mb4.9
KURK Kurchatov 58.05 312 *eP* **P 10 21 44.7 -0.2**
comp=Z,12nm,0.8s,mb5.0
KURK Kurchatov 58.05 312⇑*eP* **P 10 21 44.5 -0.4**
ARCES ARCESS Array B 58.09 349 P **P 10 21 42.8 -2.1**
ARCES pmax pmax
comp=Z,1.0nm,0.5s
ARCES ARCESS Array B 58.09 349 P **P 10 21 42.8 -2.1**
comp=Z,1.2nm,0.5s,mb4.2,baz=26,slow=8.5,SNR=6.2
WMQ Urumqi 58.14 302 *eP* **P 10 21 47.0 +1.4**
GYA Guiyang 58.75 274 P **P 10 21 51.6 +1.5**
GYA AP pP 10 21 55.8 -2.3
GYA XP sP 10 21 58.6 -2.6
GYA PCP PcP 10 22 41.6 +1.9
GYA PP PP 10 24 04.2 +4.2
GYA SCP ScP 10 26 40.7 +2.5
GYA S **S 10 29 55.2 +1.7**
GYA SCS ScS 10 31 38.0 -0.2
GYA AMB AMB
comp=Z,10.0nm,1.0s,mb4.8
GYA AMB AMB
comp=Z,70nm,5.6s
GYA LR LR
comp=N,390nm,19.4s,MS4.7
GYA LR LR
comp=E,470nm,20.0s,MS4.7
GYA LR LR
comp=Z,420nm,19.3s,MS4.6
MK31 Makanchi Array 58.94 307 *eP* **P 10 21 50.6 -0.6**
MKAR Makanchi Array 58.94 307 P **P 10 21 50.5 -0.7**
MKAR pmax pmax
comp=Z,1.0nm,0.4s
MKAR Makanchi Array 58.94 307 P **P 10 21 50.5 -0.8**
comp=Z,1.3nm,0.4s,mb4.3,baz=47,slow=6.7,SNR=6.2
WMOK Wichita Mounta 59.52 71 *eP* **P 10 21 55.5 +0.1**
comp=Z,3.6nm,0.9s,mb4.4
WMOK *e* 10 22 06.2
WMOK Wichita Mounta 59.52 71 *eP* **P 10 21 55.5 +0.2**
WMOK *e* 10 22 06.2
WMOK pmax pmax
comp=Z,4.0nm,0.9s,mb4.5
BRVK Borovoye 60.08 319 *eP* **P 10 21 59.0 +0.1**
comp=Z,10nm,0.6s,mb5.0
BRVK Borovoye 60.08 319 *eP* **P 10 21 59.0 +0.1**
BRVK pmax pmax
comp=Z,11nm,0.6s,mb5.1
TXAR Lajitas Array 60.29 79 P **P 10 22 00.3 -0.4**
TXAR pmax pmax
comp=Z,1.0nm,0.5s
TXAR Lajitas Array 60.29 79 P **P 10 22 00.3 -0.4**
comp=Z,1.2nm,0.5s,mb4.2,baz=303,slow=5.2,SNR=27
SCHQ Schefferville 61.22 37 P **P 10 22 04.9 -1.8**
comp=Z,1.1nm,0.4s,mb4.3,baz=308,slow=7.3,SNR=4.2
ARU Arti 61.99 327 *eP* **P 10 22 12.1 +0.3**
comp=Z,24nm,0.9s,mb5.3
ARU Arti 61.99 327 *eP* **P 10 22 11.9 +0.1**
ARU *e* 10 22 47.9
ARU *e* 10 24 24.3
ARU *eS* **S 10 30 34.6 +0.4**
ARU SS SS 10 34 34.3 -1.5
KMI Kunming 62.17 276 P **P 10 22 17.0 +3.5**
KMI AMB AMB
comp=Z,6.0nm,0.8s,mb4.8
KMI Kunming 62.17 276 P **P 10 22 17.0 +3.5**
comp=Z,6.0nm,0.8s,mb4.8
MIAR Mount Ida 62.73 68 *eP* **P 10 22 16.5 -0.6**
comp=Z,7.9nm,1.0s,mb4.8
MIAR Mount Ida 62.73 68 *eP* **P 10 22 16.5 -0.6**
MIAR pmax pmax
comp=Z,8.0nm,1.0s,mb4.8
FINES FINESS Array B 65.70 346 P **P 10 22 35.2 -0.9**
FINES pmax pmax
comp=Z,1.0nm,0.4s
FINES FINESS Array B 65.70 346 P **P 10 22 35.1 -1.0**
comp=Z,1.3nm,0.4s,mb4.4,baz=26,slow=7.5,SNR=11
EKS2 Erkin-Say 66.13 309 *eP* **P 10 22 39.9 +0.6**
comp=Z,4.3nm,0.6s,mb4.7
AML Almayashu 66.57 308 *eP* **P 10 22 43.2 +1.1**
comp=Z,6.9nm,1.0s,mb4.6
NOA NORSAR Array B 67.77 353 P **P 10 22 47.9 -1.5**
NOA pmax pmax
comp=Z,2.0nm,0.6s
NOA NORSAR Array B 67.77 353 P **P 10 22 47.9 -1.5**
comp=Z,2.0nm,0.6s,mb4.3,baz=8.6,slow=6.3,SNR=5.4
SHL Shillong 68.58 284 *eP* **P 10 22 56.0 +1.0**
KBL Kabul 74.73 306 *eP* **P 10 23 30.9 -1.1**
comp=Z,10nm,0.9s,mb4.8
AKASG Malin Array Be 75.31 340 P **P 10 23 33.7 -1.2**
AKASG Malin Array Be 75.31 340 P **P 10 23 33.7 -1.3**
AKASG pmax pmax
comp=Z,3.0nm,0.4s
AKASG Malin Array Be 75.31 340 P **P 10 23 33.7 -1.2**
comp=Z,2.6nm,0.3s,mb4.6,baz=20,slow=6.1,SNR=12
WB2 Warramunga Arr 80.70 222 *eP* **P 10 24 04.1 -1.0**
WRA Warramunga Arr 80.71 222 P **P 10 24 04.0 -1.2**
WRA pmax pmax
comp=Z,2.0nm,0.6s
WRA Warramunga Arr 80.71 222 P **P 10 24 04.0 -1.2**
comp=Z,2.0nm,0.6s,mb4.2,baz=31,slow=5.7,SNR=18
HYB Hyderabad 82.80 289 *i P* **P 10 24 15.5 -1.0**
FITZ Fitzroy Crossi 83.03 230 P **P 10 24 16.7 -0.8**
comp=Z,2.6nm,0.9s,mb4.3,baz=44,slow=11,SNR=3.2
ASAR Alice Springs 84.20 220 P **P 10 24 23.0 -0.3**
ASAR pmax pmax
comp=Z,1.0nm,0.8s
ASAR Alice Springs 84.20 220 P **P 10 24 22.9 -0.4**
comp=Z,1.4nm,0.8s,mb4.1,baz=28,slow=4.4,SNR=9.6
TORD Torodi Ar. Bea 115.98 357 PKP PKPdf 10 30 33.8 -1.3
comp=Z,0.8nm,0.9s,baz=4.0,slow=2.2,SNR=3.0
DBIC Dimbokro 122.40 4 PKIKP PKPdf 10 30 45.8 -1.7
DBIC pmax pmax
comp=Z,4.0nm,0.9s
DBIC Dimbokro 122.40 4 PKP PKPdf 10 30 45.8 -1.8
comp=Z,3.9nm,0.9s,baz=297,slow=4.5,SNR=3.4
QSPA South Pole Qui 140.84 180 *e*PKPdf PKPdf 10 31 20.8 +0.7
QSPA South Pole Qui 140.84 180 PKhKP 10 31 14.7
comp=Z,1.6nm,1.0s,baz=209,slow=2.7,SNR=3.9
QSPA PKP PKPdf 10 31 20.8 +0.6
comp=Z,1.4nm,0.8s,baz=103,slow=2.8,SNR=9.8
TSUM Tsumeb 144.83 328 PKP PKPdf 10 31 27.8 -1.3
comp=Z,2.8nm,0.7s,baz=254,slow=2.9,SNR=5.9
MAW Mawson 145.27 217 PKIKP PKPdf 10 31 27.7 -0.6
MAW pmax pmax
comp=Z,3.0nm,0.9s
MAW Mawson 145.27 217 PKPbc PKPbc 10 31 27.7 -0.4
comp=Z,2.6nm,0.9s,baz=44,slow=14,SNR=4.4
LBTB Lobatse 146.76 311 *e*PKPdf PKPdf 10 31 34.1 +1.9
BOSA Boshof 149.94 308 *e*PKPbc PKPbc 10 31 41.6 -0.6
BOSA Boshof 149.94 308 PKP2 PKPbc 10 31 42.1 -0.1
BOSA pmax pmax
comp=Z,4.0nm,0.7s
BOSA Boshof 149.94 308 PKPbc PKPbc 10 31 42.0 -0.1
comp=Z,4.0nm,0.7s,baz=21,slow=3.3,SNR=8.1

IDC ***05*** *10:12:31.4±0.6, 731S×15535E, h0km, mb4.3/14, mb1 4.4/17, mb1mx4.4/20, mbtmp4.3/17, ML3.4/3, MS4.1/3, Ms1 4.1/3, ms1mx3.6/20, Error ellipse: s-maj=19.3km s-min=16.3km az=94.0*
ISCJB ***05*** *10:12:34.0±3.4, 731S±008×15534E±006, h26km±24km, mb4.5/23, MS4.4/4, Error ellipse: s-maj=13.8km s-min=9.1km az=6.8*
NEIC ***05*** *10:12:33.4±0.4, 733S×15536E, h10km, mb4.8/12, Error ellipse: s-maj=11.5km s-min=10.3km az=169.0*
BJI ***05*** *10:12:38.5, 631S×15503E, h10km, mB5.0, mb4.8, Ms5.0, Msz4.7*
ISC 05 10:12:37.2±1.9, 733S±009×15532E±007, h38km±19km, n43, σ0°89/38, mb4.5/23, MS4.4/4, 2C, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.04**	**115**	Pn	**Pn**	**10 13 49.7**	**-0.6**
	0.7nm,0.3s,baz=260,slow=8.2,SNR=1.7						
HNR				Sn	**Sn**	**10 14 48.1**	**+0.8**
	14nm,0.3s,baz=264,slow=16,SNR=2.2						
CTA	**Charters Tower**	**15.43**	**214**	*e*P	**Pn**	**10 16 17.3**	**+5.0**
	12nm,0.9s						
CTA				LR	LR	10 20 42.4	
CTA	**Charters Tower**	**15.43**	**214**	Pn	**Pn**	**10 16 10.9**	**-1.4**
	0.1nm,0.3s,baz=252,slow=9.6,SNR=2.4						
CTA				LR	LR	10 20 42.4	
	comp=Z,680nm,21.9s,baz=39,slow=32						
CTAO	**Charters Tower**	**15.43**	**214**	*e*P	**Pn**	**10 16 17.2**	**+4.9**
	18nm,0.9s						
DZM	**Mont Dzumac**	**18.17**	**145**	P	**Pn**	**10 16 46.7**	**+0.1**
	0.2nm,0.3s,baz=23,slow=12,SNR=4.9						
KAKA	**Kakadu**	**23.15**	**255**	*e*P	**P**	**10 17 40.3**	**-0.2**
	12nm,0.6s,mb4.5						
GUMO	**Guam**	**23.22**	**333**	LR	LR	10 25 01.5	
	comp=Z,210nm,18.1s,MS3.6,baz=185,slow=32						
WRAB	**Tennant Creek**	**23.88**	**236**	*e*P	**P**	**10 17 47.8**	**+0.3**
	49nm,1.3s,mb4.8						
WB2	**Warramunga Arr**	**23.89**	**236**	*e*P	**P**	**10 17 48.4**	**+0.8**
WRA	**Warramunga Arr**	**23.90**	**236**	P	**P**	**10 17 48.2**	**+0.5**
	8.8nm,1.0s,mb4.2,baz=58,slow=9.0,SNR=14						
ASAR	**Alice Springs**	**26.20**	**229**	P	**P**	**10 18 08.6**	**0.0**
	3.0nm,0.8s,mb3.9,baz=59,slow=8.6,SNR=6.8						
STKA	**Stephens Creek**	**27.58**	**206**	*e*P	**P**	**10 18 19.9**	**-0.9**
	6.2nm,0.8s,mb4.3						
STKA	**Stephens Creek**	**27.58**	**206**	P	**P**	**10 18 20.7**	**-0.2**
	12nm,1.0s,mb4.5,baz=7.4,slow=3.9,SNR=11						
FITZ	**Fitzroy Crossi**	**30.82**	**247**	*e*P	**P**	**10 18 49.7**	**-0.1**
	8.6nm,0.7s,mb4.7						
FITZ	**Fitzroy Crossi**	**30.82**	**247**	P	**P**	**10 18 50.1**	**+0.3**
	6.0nm,0.9s,mb4.4,baz=61,slow=7.0,SNR=4.9						
CBIJ	**Chichi jima**	**36.51**	**340**	LR	LR	10 30 39.5	
	comp=Z,638nm,21.8s,MS4.4,baz=102,slow=30						
MBWA	**Marble Bar**	**37.02**	**244**	*e*P	**P**	**10 19 43.6**	**0.0**
	12nm,1.2s,mb4.6						
KSRS	**Korea Array**	**51.38**	**332**	P	**P**	**10 21 37.1**	**-1.1**
	1.1nm,0.7s,mb3.9,baz=104,slow=3.3,SNR=5.7						
QIZ	**Qiongzhong**	**51.90**	**301**	P	**P**	**10 21 41.6**	**-0.9**
QIZ				S	**S**	**10 29 02.8**	**-0.3**
QIZ				AMB	AMB		
	comp=Z,32nm,1.8s,mb5.0						
QIZ				LR	LR		
	comp=E,386nm,18.2s						
QIZ				LR	LR		
	comp=Z,471nm,19.5s,MS4.5						
NJ2	**Nanjing**	**52.37**	**320**	*e*P	**P**	**10 21 45.7**	**-0.1**
NJ2				AMB	AMB		
	comp=Z,20nm,0.5s,mb5.3						
KMI	**Kunming**	**60.47**	**304**	P	**P**	**10 22 48.6**	**+5.0**
KMI				AMB	AMB		
	comp=Z,17nm,1.6s,mb4.8						
KMI	**Kunming**	**60.47**	**304**	P	**P**	**10 22 48.6**	**+5.0**
	comp=Z,17nm,1.6s,mb4.8						
LZH	**Lanzhou**	**64.77**	**316**	⇑P	**P**	**10 23 15.6**	**+3.5**
LZH				AP	pP	10 23 20.3	-3.2
LZH				XP	sP	10 23 22.7	-5.2
LZH				PP	PP	10 25 40.3	+5.2
LZH				AMB	AMB		
	comp=Z,23nm,1.2s,mb5.1						
LZH				AMB	AMB		
	comp=Z,152nm,7.1s						
LZH				LR	LR		
	comp=N,553nm,15.9s						
LZH				LR	LR		
	comp=Z,812nm,18.7s,MS4.9						
LZH	**Lanzhou**	**64.77**	**316**	⇑P	**P**	**10 23 15.6**	**+3.5**
	comp=Z,23nm,1.2s,mb5.1						
LZH				pP	pP	10 23 20.3	-3.2
LZH				sP	sP	10 23 22.7	-5.2
LZH				PP	PP	10 25 40.3	+5.2
LZH				LR	LR		
	comp=Z,810nm,18.7s,MS4.9						
SONM	**Songino Array**	**69.78**	**327**	P	**P**	**10 23 45.0**	**+1.4**
	comp=Z,3.2nm,0.8s,mb4.3,baz=145,slow=5.6,SNR=8.9						
VNDA	**Vanda**	**70.24**	**178**	P	**P**	**10 23 45.4**	**-0.7**
	comp=Z,1.5nm,1.0s,mb3.9,baz=252,slow=5.1,SNR=1.4						
BILL	**Bilibino**	**75.58**	**4**	*e*P	**P**	**10 24 17.8**	**+0.1**
	comp=Z,24nm,1.3s,mb5.0						
MCK	**McKinley**	**82.24**	**22**	*e*P	**P**	**10 24 52.7**	**-1.5**
	comp=Z,8.3nm,1.0s,mb4.6						
QSPA	**South Pole Qui**	**82.65**	**180**	*e*P	**P**	**10 24 56.8**	**+0.6**
	comp=Z,12nm,1.3s,mb4.8						
QSPA	**South Pole Qui**	**82.65**	**180**	P	**P**	**10 24 56.9**	**+0.7**
	comp=Z,4.8nm,1.0s,mb4.5,baz=240,slow=1.9,SNR=9.0						
MK31	**Makanchi Array**	**83.86**	**319**	*e*P	**P**	**10 25 04.8**	**+1.8**
MKAR	**Makanchi Array**	**83.86**	**319**	P	**P**	**10 25 04.9**	**+1.9**
	comp=Z,1.9nm,0.7s,mb4.3,baz=99,slow=5.5,SNR=8.2						
MAW	**Mawson**	**84.22**	**203**	P	**P**	**10 25 03.3**	**-1.2**
	comp=Z,1.8nm,0.6s,mb4.3,baz=73,slow=20,SNR=5.4						
ZALV	**Zalesovo Beam**	**84.63**	**326**	P	**P**	**10 25 05.9**	**-0.8**
	comp=Z,1.1nm,0.4s,mb4.3,baz=104,slow=5.0,SNR=6.0						
INK	**Inuvik**	**89.91**	**21**	*e*P	**P**	**10 25 31.3**	**-0.6**
	comp=Z,150nm,1.1s,mb6.2						
INK	**Inuvik**	**89.91**	**21**	P	**P**	**10 25 31.7**	**-0.3**
	comp=Z,0.7nm,0.4s,mb4.3,baz=271,slow=2.4,SNR=8.6						
NVAR	**Mina Array Bea**	**91.67**	**52**	P	**P**	**10 25 41.0**	**+0.2**
	comp=Z,0.3nm,0.6s,mb3.8,baz=54,slow=34,SNR=4.5						
YKA	**Yellowknife Ar**	**96.48**	**28**	P	**P**	**10 26 02.1**	**-0.2**
	comp=Z,0.8nm,0.7s,mb4.2,baz=267,slow=4.5,SNR=8.9						
PLCA	**Paso Flores**	**116.27**	**143**	PKP	PKPdf	10 31 17.1	+0.1
	comp=Z,1.5nm,1.0s,baz=207,slow=9.6,SNR=5.4						
LPAZ	**La Paz**	**131.02**	**119**	*e*PKPdf	PKPdf	10 31 47.5	+1.6
LPAZ	**La Paz**	**131.02**	**119**	PKP	PKPdf	10 31 46.9	+1.0
	comp=Z,2.8nm,1.0s,baz=3.6,slow=4.6,SNR=5.9						
BDFB	**Brasilia**	**147.52**	**135**	PKPbc	PKPbc	10 32 18.2	-0.1
	comp=Z,4.7nm,0.6s,baz=211,slow=1.3,SNR=7.1						
TORD	**Torodi Ar. Bea**	**153.42**	**285**	PKPbc	PKPbc	10 32 31.1	-1.5
	comp=Z,2.1nm,1.0s,baz=151,slow=0.7,SNR=5.2						
TORD				PKPab	PKPab	10 32 45.0	+0.2
	comp=Z,1.0nm,0.7s,baz=84,slow=1.9,SNR=3.4						

IDC ***05*** *10:32:25.5±0.6, 733S×15601E, h0km, mb4.4/13, mb1 4.5/14, mb1mx4.5/16, mbtmp4.4/14, ML3.9/1, MS3.8/3, Ms1 3.7/3, ms1mx3.0/19, Error ellipse: s-maj=26.9km s-min=16.2km az=90.0*
BJI ***05*** *10:32:27.3, 728S×15636E, h29km, mB5.0, mb4.9, Ms5.1, Msz4.5*
NEIC ***05*** *10:32:27.7±0.4, 7.18S×15593E, h10km, mb4.7/10, Error ellipse: s-maj=11.4km s-min=9.8km az=108.0*
ISCJB ***05*** *10:32:31.7±2.1, 731S±008×15599E±007, h55km±21km, mb4.5/23, MS3.8/2, Error ellipse: s-maj=14.7km s-min=10.9km az=147.9*
ISC 05 10:32:34.0±1.9, 733S±008×15599E±008, h62km±19km, n42, σ0°83/37, mb4.5/23, 1C, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.44**	**118**	*e*Pn	**Pn**	**10 33 39.8**	**+1.0**
HNR	**Honiara**	**4.44**	**118**	Pn	**Pn**	**10 33 39.1**	**+0.2**
	18nm,0.3s,baz=270,slow=6.3,SNR=5.4						
HNR				Sn	**Sn**	**10 34 29.1**	**-0.2**
	22nm,0.3s,baz=270,slow=18,SNR=2.9						
CTA	**Charters Tower**	**15.81**	**216**	Pn	**Pn**	**10 36 14.3**	**+1.5**
	0.4nm,0.3s,baz=68,slow=5.4,SNR=6.3						
CTA				LR	LR	10 41 30.7	
	comp=Z,147nm,18.0s,baz=50,slow=34						
CTAO	**Charters Tower**	**15.81**	**216**	*e*P	**Pn**	**10 36 16.3**	**+3.5**
	2.4nm,0.6s						
DZM	**Mont Dzumac**	**17.79**	**147**	P	**Pn**	**10 36 35.8**	**-1.6**
	0.4nm,0.3s,baz=174,slow=19,SNR=2.6						
KAKA	**Kakadu**	**23.79**	**255**	*e*P	**P**	**10 37 42.0**	**+0.7**
	16nm,0.6s,mb4.6						
WRAB	**Tennant Creek**	**24.44**	**237**	*e*P	**P**	**10 37 47.5**	**+0.4**
	9.8nm,0.6s,mb4.4						
WB2	**Warramunga Arr**	**24.44**	**237**⇑*i*P		**P**	**10 37 47.4**	**+0.3**
WRA	**Warramunga Arr**	**24.45**	**237**	P	**P**	**10 37 47.6**	**+0.3**
	11nm,0.5s,mb4.5,baz=61,slow=9.6,SNR=155						
WRA				PcP	PcP	10 41 24.9	0.0
	0.6nm,0.5s,baz=57,slow=2.1,SNR=5.4						
ASAR	**Alice Springs**	**26.70**	**230**	P	**P**	**10 38 06.8**	**-0.8**
	0.9nm,0.6s,mb3.5,baz=61,slow=8.9,SNR=14						
STKA	**Stephens Creek**	**27.87**	**207**	*e*P	**P**	**10 38 19.9**	**+2.0**
	2.4nm,0.9s,mb3.8						
STKA				LR	LR	10 49 31.0	
STKA	**Stephens Creek**	**27.87**	**207**	P	**P**	**10 38 16.3**	**-1.6**
	2.5nm,0.6s,mb4.0,baz=356,slow=15,SNR=3.4						
STKA				LR	LR	10 49 31.0	
	comp=Z,245nm,18.4s,baz=23,slow=37						
FITZ	**Fitzroy Crossi**	**31.43**	**247**	*e*P	**P**	**10 38 49.0**	**-0.7**
	11nm,0.6s,mb4.9						
BATI	**Kupang**	**32.07**	**263**	LR	LR	10 50 47.3	
	comp=Z,183nm,18.5s,baz=12,slow=34						
MBWA	**Marble Bar**	**37.62**	**245**	*e*P	**P**	**10 39 42.4**	**-0.7**
	4.4nm,0.7s,mb4.3						
KLBR	**Kellerberrin**	**43.03**	**231**	*e*P	**P**	**10 40 26.9**	**-0.8**
	12nm,0.8s,mb4.7						
MJAR	**Matsushiro Arr**	**46.72**	**340**	P	**P**	**10 40 55.3**	**-1.6**
	1.6nm,0.8s,mb4.0,baz=24,slow=0.7,SNR=5.5						
MAJO	**Matsushiro**	**46.72**	**340**	*e*P	**P**	**10 40 56.8**	**-0.1**
	7.3nm,0.8s,mb4.7						
KSRS	**Korea Array**	**51.69**	**332**	P	**P**	**10 41 35.0**	**+0.1**
	3.9nm,0.7s,mb4.5,baz=149,slow=7.5,SNR=12						
NJ2	**Nanjing**	**52.80**	**320**	*e*P	**P**	**10 41 42.7**	**-0.5**
NJ2				AMB	AMB		
	comp=Z,20nm,0.5s,mb5.3						
KMI	**Kunming**	**61.02**	**304**	P	**P**	**10 42 47.0**	**+5.5**
KMI				AMB	AMB		
	comp=Z,11nm,0.7s,mb5.1						
SONM	**Songino Array**	**70.15**	**327**	P	**P**	**10 43 41.1**	**+1.2**
	comp=Z,7.2nm,0.6s,mb4.8,baz=146,slow=6.3,SNR=30						
VNDA	**Vanda**	**70.23**	**179**	P	**P**	**10 43 40.0**	**0.0**
VNDA	**Vanda**	**70.23**	**179**	P	**P**	**10 43 40.0**	**0.0**
	comp=Z,0.9nm,0.9s,mb3.7,baz=322,slow=7.1,SNR=4.3						
BILL	**Bilibino**	**75.54**	**4**	*e*P	**P**	**10 44 11.6**	**+0.2**
	comp=Z,4.5nm,0.8s,mb4.5						
QSPA	**South Pole Qui**	**82.65**	**180**	*e*P	**P**	**10 44 51.0**	**+0.9**
	comp=Z,9.4nm,1.0s,mb4.8						
QSPA	**South Pole Qui**	**82.65**	**180**	P	**P**	**10 44 51.0**	**+0.9**
	comp=Z,3.6nm,0.9s,mb4.4,baz=60,slow=3.1						
MK31	**Makanchi Array**	**84.30**	**318**	*e*P	**P**	**10 44 59.9**	**+0.7**
MKAR	**Makanchi Array**	**84.30**	**318**	P	**P**	**10 44 59.9**	**+0.7**
	comp=Z,14nm,0.6s,mb5.3,baz=98,slow=6.2,SNR=83						
MAW	**Mawson**	**84.47**	**203**	P	**P**	**10 44 59.7**	**0.0**
	comp=Z,2.6nm,0.7s,mb4.5,baz=157,slow=14,SNR=6.7						
ZAA0	**Zalesovo Array**	**85.01**	**326**	*e*P	**P**	**10 45 01.5**	**-1.0**
ZALV	**Zalesovo Beam**	**85.01**	**326**	P	**P**	**10 45 02.1**	**-0.5**
	comp=Z,10nm,0.5s,mb5.2,baz=117,slow=5.5,SNR=56						
KURK	**Kurchatov**	**87.70**	**322**	*e*P	**P**	**10 45 15.7**	**-0.2**
	comp=Z,4.8nm,0.3s,mb5.2						
INK	**Inuvik**	**89.68**	**21**	*e*P	**P**	**10 45 24.7**	**-0.1**
	comp=Z,33nm,0.6s						
NVAR	**Mina Array Bea**	**91.15**	**52**	P	**P**	**10 45 33.9**	**+1.5**
	comp=Z,0.2nm,0.6s,mb3.6,baz=257,slow=3.8,SNR=3.5						
YKA	**Yellowknife Ar**	**96.17**	**28**	P	**P**	**10 45 54.7**	**-0.1**
YKA	**Yellowknife Ar**	**96.17**	**28**	P	**P**	**10 45 54.7**	**-0.1**
	comp=Z,0.4nm,0.6s,mb4.0,baz=265,slow=4.6,SNR=12						
GERES	**GERESS Array B**	**127.84**	**329**	PKP	PKPdf	10 51 33.2	+0.5
	comp=Z,0.7nm,0.6s,baz=2.5,slow=3.1,SNR=4.2						
LPAZ	**La Paz**	**130.43**	**119**	PKP	PKPdf	10 51 39.6	+1.0
	comp=Z,0.8nm,0.7s,baz=198,slow=6.0,SNR=3.6						
BDFB	**Brasilia**	**147.04**	**134**	PKPbc	PKPbc	10 52 10.6	-0.3
	comp=Z,3.2nm,0.6s,baz=202,slow=2.0,SNR=5.2						
MDT	**Midelt**	**148.89**	**327**	PKPbc	PKPbc	10 52 15.4	+0.1
	comp=Z,4.6nm,0.8s,baz=88,slow=7.9,SNR=6.4						
TORD	**Torodi Ar. Bea**	**154.06**	**285**	PKP	PKPdf	10 52 18.6	-1.0
	comp=Z,0.3nm,0.7s,baz=60,slow=3.3,SNR=2.4						
TORD				PKPbc	PKPbc	10 52 26.6	-1.1
	comp=Z,0.8nm,0.6s,baz=33,slow=2.7,SNR=7.5						

MEX 05 10:40:31.8±0.8, 1684N×10016W, h5km±7km, MD3.5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	**Acapulco**	**0.23**	**84**	*i P*	Pg	10 40 35.8	-0.5
ACX				*i* S	Sg	10 40 39.7	+0.3
CAIG	**El Cayaco**	**0.23**	**333**	*i P*	Pg	10 40 36.0	-0.3
CAIG				*i* S	Sg	10 40 39.6	+0.2
MEIG	**Mezcala**	**1.19**	**25**	*i P*	Pg	10 40 52.1	-2.6
MEIG				*i* S	Sg	10 41 05.9	-4.3
UTMO	**Huajuapan**	**2.45**	**66**	*e*P	Pn	10 41 09.8	-2.7
UTMO				*i* S	Sn	10 41 38.9	-4.0

PDA ***05*** *10:42:25.3±0.7, 3721N×2438W, h10km, MD4.0, ML3.5, Error ellipse: s-maj=19.5km s-min=5.1km az=35.0*
CSEM ***05*** *10:42:25.3±0.7, 3721N×2438W, h10km, ML3.5, Error ellipse: s-maj=19.5km s-min=5.1km az=35.0, After PDA*
SVSA 05 10:42:25.3±0.7, 3721N×2438W, h10km, MD4.0, ML3.5, Error ellipse: s-maj=19.5km s-min=5.1km az=35.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDA	**Ponta Delgada**	**1.15**	**298**	*e*S	Sb	10 42 53.4	-8.9
ADH	**Angra Heroismo**	**2.68**	**304**	*e*S	Sn	10 43 32.7	-8.2
PID	**Ribeirinha**	**3.20**	**294**	*e*P	Pn	10 43 11.5	-4.2
PID				*e*S	Sn	10 43 46.1	-7.8
PMAN	**Manadas**	**3.26**	**297**	*e*P	Pn	10 43 12.0	-4.4
PMAN				*e*S	Sn	10 43 47.5	-7.7
PMAN				A		10 43 49.3	
	28nm,0.3s						
PMAN	**Manadas**	**3.26**	**297**	*e*P	Pn	10 43 12.0	-4.4
PMAN				*e*S	Sn	10 43

7.7nm,0.3s,baz=94,slow=23,SNR=4.0
USHA Ushuaia 9.77 167 LR LR 10 48 48.8
comp=Z,268nm,18.7s,baz=288,slow=39
CFAA Coronel Fontan 14.06 14 Pn Pn 10 45 50.4 -0.1
0.0nm,0.3s,baz=198,slow=3.2,SNR=3.6
LPAZ La Paz 29.17 8 P P 10 48 31.2 -1.8
0.6nm,0.5s,baz=171,slow=15,SNR=2.5
SIV San Ignacio 30.71 21 P P 10 48 45.3 -1.4
0.5nm,0.5s,baz=196,slow=6.7,SNR=3.9
QSPA South Pole Qui 44.89 180 P P 10 50 45.6 -0.1
2.3nm,1.1s,baz=125,slow=15,SNR=3.5
TXAR Lajitas Array 79.69 332 P P 10 54 39.6 +0.3
0.6nm,0.9s,baz=152,slow=8.2,SNR=4.8
TORD Torodi Ar. Bea 88.20 69 P P 10 55 24.1 +1.0
0.3nm,0.7s,baz=217,slow=3.1,SNR=2.5

IDC 05 10:49:07.4±4.3,539S×15388E,h0km,mb3.7/5,mb1 3.8/5, mb1mx3.6/14,mbtmp3.7/5,Error ellipse: s-maj=148.5km s-min=29.7km az=109.0,New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.89**	**231**	P	P	10 54 22.5	-0.5
	0.5nm,0.6s,baz=54,slow=9.8,SNR=6.2						
ASAR	**Alice Springs**	**26.47**	**225**	P	P	10 54 46.8	+0.4
	0.6nm,0.8s,baz=56,slow=9.4,SNR=5.2						
SONM	**Songino Array**	**67.40**	**327**	P	P	11 00 05.1	+0.5
	0.6nm,0.6s,baz=118,slow=6.0,SNR=3.9						
MKAR	**Makanchi Array**	**81.48**	**319**	P	P	11 01 27.3	+0.7
	0.7nm,0.4s,baz=102,slow=5.6,SNR=7.8						
ZALV	**Zalesovo Beam**	**82.24**	**326**	P	P	11 01 29.1	-1.4
	0.5nm,0.6s,baz=134,slow=6.2,SNR=3.3						
TORD	**Torodi Ar. Bea**	**151.51**	**288**	PKPbc	PKPbc	11 09 04.4	-0.2
	1.3nm,0.6s,baz=57,slow=1.5,SNR=10						
TORD				PKPab	PKPab	11 09 13.2	+0.2
	0.7nm,0.7s,baz=67,slow=3.9,SNR=3.9						

*IDC **05** 10:52:31.9±0.8,861S×15725E,h0km,mb4.1/10, mb1 4.2/11,mb1mx4.1/17,mbtmp4.1/11,ML5.0/1,Error ellipse: s-maj=23.4km s-min=19.7km az=163.0*
*ISCJB **05** 10:52:35.6±0.6,87S±01×15722E±006,h33km,mb3.9/10, Error ellipse: s-maj=18.0km s-min=8.8km az=3.8*
ISC 05 10:52:37.4±0.6,86S±01×15724E±006,h35km,n13, σ1°11/14,mb3.9/10,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.79**	**107**	Pn	**Pn**	**10 53 17.1**	**-2.5**
	265nm,0.3s,baz=263,slow=4.5,SNR=42						
HNR				Sn	**Sn**	**10 53 52.9**	**+0.8**
	432nm,0.3s,baz=258,slow=20,SNR=19						
WB2	**Warramunga Arr**	**24.83**	**241**	*eP*	**P**	**10 57 57.1**	**+0.6**
WB2				*e*		10 58 23.1	
WRA	**Warramunga Arr**	**24.84**	**241**	*eP*	**P**	**10 57 57.5**	**+0.8**
	4.8nm,0.6s,mb4.2,baz=67,slow=9.4,SNR=41						
ASAR	**Alice Springs**	**26.87**	**233**	P	**P**	**10 58 13.6**	**-1.5**
	2.0nm,1.1s,mb3.6,baz=66,slow=10,SNR=8.2						
STKA	**Stephens Creek**	**27.32**	**210**	P	**P**	**10 58 18.8**	**-0.2**
	1.7nm,0.5s,mb3.8,baz=23,slow=14,SNR=3.1						
FITZ	**Fitzroy Crossi**	**32.10**	**250**	*eP*	**P**	**10 59 00.7**	**-0.8**
	6.8nm,1.0s,mb4.4						
FITZ	**Fitzroy Crossi**	**32.10**	**250**	P	**P**	**10 58 59.3**	**-2.2**
	4.9nm,1.0s,mb4.3,baz=126,slow=5.2,SNR=4.6						
VNDA	**Vanda**	**68.90**	**179**	P	**P**	**11 03 39.8**	**+1.5**
	1.0nm,0.7s,mb3.8,baz=14,slow=3.9,SNR=6.0						
SONM	**Songino Array**	**71.91**	**327**	P	**P**	**11 03 57.5**	**+0.6**
	0.4nm,0.7s,mb3.4,baz=142,slow=7.3,SNR=3.1						
QSPA	**South Pole Qui**	**81.36**	**180**	P	**P**	**11 04 50.3**	**+0.4**
	3.4nm,1.0s,mb4.2,baz=90,slow=13,SNR=6.4						
MKAR	**Makanchi Array**	**86.09**	**318**	P	**P**	**11 05 15.4**	**+0.7**
	0.9nm,0.6s,mb4.2,baz=96,slow=6.5,SNR=4.3						
NVAR	**Mina Array Bea**	**90.99**	**51**	P	**P**	**11 05 36.9**	**-1.3**
	0.6nm,0.9s,mb3.9,baz=257,slow=5.7,SNR=3.9						
YKA	**Yellowknife Ar**	**96.74**	**28**	P	**P**	**11 06 04.5**	**+0.5**
	0.2nm,0.9s,mb3.6,baz=264,slow=4.8,SNR=5.1						

IDC 05 10:53:00.9±2.3,778S×15639E,h0km,mb4.4/8,mb1 4.5/8, mb1mx4.3/15,mbtmp4.3/8,MS3.9/2,Ms1 3.9/2, ms1mx3.3/19,Error ellipse: s-maj=70.1km s-min=23.4km az=120.0,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.55**	**238**	P	P	10 58 23.3	+0.8
	12nm,0.6s,baz=62,slow=9.5,SNR=30						
ASAR	**Alice Springs**	**26.73**	**231**	P	P	10 58 42.1	-0.2
	1.6nm,0.7s,baz=63,slow=9.3,SNR=8.9						
FITZ	**Fitzroy Crossi**	**31.63**	**248**	P	P	10 59 25.6	-0.3
	4.0nm,0.6s,baz=107,slow=6.0,SNR=7.5						
FITZ	**Fitzroy Crossi**	**31.63**	**248**	*e*	P	10 59 25.5	-0.4
RAO	**Raoul Island**	**32.25**	**135**	LR	LR	11 09 08.8	
	comp=Z,135nm,21.5s,baz=148,slow=30						
KSRS	**Korea Array**	**52.28**	**331**	P	P	11 02 14.1	-0.1
	1.1nm,0.8s,baz=150,slow=10,SNR=5.0						
VNDA	**Vanda**	**69.77**	**179**	LR	LR	11 30 21.7	
	comp=Z,117nm,18.2s,baz=273,slow=32						
SONM	**Songino Array**	**70.74**	**327**	P	P	11 04 19.9	+1.0
	5.6nm,0.8s,baz=132,slow=6.2,SNR=24						
MKAR	**Makanchi Array**	**84.91**	**318**	P	P	11 05 37.8	0.0
	3.2nm,0.6s,baz=96,slow=6.2,SNR=13						
ZALV	**Zalesovo Beam**	**85.60**	**326**	P	P	11 05 40.1	-1.1
	1.4nm,0.6s,baz=106,slow=5.1,SNR=7.4						
YKA	**Yellowknife Ar**	**96.38**	**28**	P	P	11 06 31.5	+0.1
	0.6nm,0.8s,baz=267,slow=4.7,SNR=7.7						

*IDC **05** 11:01:39.0±0.6,674S×15474E,h0km,mb4.3/14, mb1 4.5/14,mb1mx4.5/16,mbtmp4.3/14,MS3.9/3, Ms1 3.8/3,ms1mx3.2/24,Error ellipse: s-maj=26.1km s-min=17.2km az=111.0*
*NEIC **05** 11:01:41.2±0.4,675S×15475E,h10km,mb4.5/9,Error ellipse: s-maj=12.9km s-min=9.6km az=122.0*
*BJI **05** 11:01:42.2,754S×15459E,h35km,mB5.1,mb4.9,Ms4.9, Msz4.7*
*ISCJB **05** 11:01:48.8±4.3,69S±01×1547E±0.1,h83km±39km, mb4.3/22,Error ellipse: s-maj=17.7km s-min=16.2km az=136.6*
ISC 05 11:01:50.0±3.5,687S±010×15474E±010,h81km±32km, n37,σ1°02/32,mb4.3/22,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**15.51**	**211**	*eP*	**Pn**	**11 05 26.1**	**+2.0**
	6.5nm,0.8s						
CTA	**Charters Tower**	**15.51**	**211**	Pn	**Pn**	**11 05 26.4**	**+2.3**
	0.3nm,0.3s,baz=26,slow=12,SNR=6.3						
CTAO	**Charters Tower**	**15.51**	**211**	*eP*	**Pn**	**11 05 25.9**	**+1.8**
	12nm,0.9s						
DZM	**Mont Dzumac**	**18.87**	**144**	P	**Pn**	**11 06 04.6**	**-0.7**
	0.4nm,0.3s,baz=316,slow=15,SNR=2.9						
KAKA	**Kakadu**	**22.72**	**253**	*eP*	**P**	**11 06 45.4**	**0.0**
	17nm,0.8s,mb4.4						
WRAB	**Tennant Creek**	**23.67**	**235**	*eP*	**P**	**11 06 53.3**	**-1.0**
	10nm,0.8s,mb4.2						
WB2	**Warramunga Arr**	**23.67**	**235**	*eP*	**P**	**11 06 53.7**	**-0.6**
WRA	**Warramunga Arr**	**23.68**	**235**	P	**P**	**11 06 53.1**	**-1.3**
	12nm,0.7s,mb4.3,baz=58,slow=9.7,SNR=32						
WRA				PcP	PcP	11 10 37.3	+0.4
	1.0nm,0.4s,baz=57,slow=2.6,SNR=10						
WRA				ScP	ScP	11 14 15.5	+7.3
	1.7nm,1.2s,baz=59,slow=3.7,SNR=4.8						
ASAR	**Alice Springs**	**26.07**	**228**	P	**P**	**11 07 15.2**	**-0.9**
	4.2nm,0.8s,mb3.9,baz=61,slow=8.8,SNR=24						
ASAR				ScP	ScP	11 14 22.8	+8.0
	0.9nm,0.7s,baz=62,slow=2.8,SNR=7.5						
STKA	**Stephens Creek**	**27.74**	**205**	P	**P**	**11 07 32.0**	**+1.0**
	1.6nm,0.3s,mb4.0,baz=14,slow=17,SNR=3.4						
STKA				ScP	ScP	11 14 27.8	+8.2
	6.8nm,1.1s,baz=273,slow=4.1,SNR=4.1						
STKA				LR	LR	11 17 46.2	
	comp=Z,194nm,18.1s,baz=26,slow=35						
FITZ	**Fitzroy Crossi**	**30.47**	**246**	*eP*	**P**	**11 07 54.9**	**-0.5**
	7.4nm,0.6s,mb4.5						
FITZ	**Fitzroy Crossi**	**30.47**	**246**	P	**P**	**11 07 53.9**	**-1.5**
	4.1nm,0.6s,mb4.3,baz=71,slow=9.5,SNR=13						
MBWA	**Marble Bar**	**36.70**	**244**	*eP*	**P**	**11 08 49.0**	**-0.5**
	8.5nm,1.1s,mb4.6						
KSRS	**Korea Array**	**50.71**	**332**	P	**P**	**11 10 39.6**	**-1.9**
	1.2nm,0.7s,mb4.0,baz=147,slow=8.4,SNR=4.6						
NJ2	**Nanjing**	**51.66**	**321**	*eP*	**P**	**11 10 50.2**	**+1.5**
NJ2				AMB	AMB		
	comp=Z,20nm,0.6s,mb5.3						
PPT	**Papeete**	**55.28**	**107**	LR	LR	11 30 33.0	
	comp=Z,55nm,20.8s,baz=192,slow=31						
LZH	**Lanzhou**	**64.05**	**316**	*eP*	**P**	**11 12 16.7**	**+1.3**
LZH				*e*PP	PP	11 14 39.6	+2.3
LZH				AMB	AMB		
	comp=Z,16nm,1.4s,mb4.7						
LZH				AMB	AMB		
	comp=Z,83nm,6.8s						
LZH				LR	LR		
	comp=E,432nm,15.9s						
LZH				LR	LR		
	comp=Z,657nm,18.5s						
LZH	**Lanzhou**	**64.05**	**316**	*eP*	**P**	**11 12 16.7**	**+1.3**
	comp=Z,16nm,1.4s,mb4.7						
LZH				pP	pP	11 12 21.5	-15
LZH				sP	sP	11 12 23.9	-21
LZH				*e*PP	PP	11 14 39.6	+2.3
LZH				LR	LR		
	comp=Z,660nm,18.5s						
GTA	**Gaotai**	**68.48**	**317**	*eP*	**P**	**11 12 45.6**	**+1.9**
GTA				AMB	AMB		
	comp=Z,7.0nm,0.7s,mb4.6						
SONM	**Songino Array**	**69.09**	**327**	P	**P**	**11 12 46.9**	**-0.4**
	comp=Z,1.0nm,0.7s,mb3.8,baz=106,slow=4.8,SNR=5.4						
VNDA	**Vanda**	**70.71**	**178**	P	**P**	**11 12 57.7**	**+0.9**
	comp=Z,1.2nm,1.0s,mb3.7,baz=340,slow=6.4,SNR=4.0						
BILL	**Bilibino**	**75.18**	**4**	*eP*	**P**	**11 13 23.0**	**-0.1**
	comp=Z,4.5nm,1.0s,mb4.2						
QSPA	**South Pole Qui**	**83.11**	**180**	*eP*	**P**	**11 14 07.0**	**+0.7**
	comp=Z,9.5nm,0.9s,mb4.6						
QSPA	**South Pole Qui**	**83.11**	**180**	P	**P**	**11 14 07.2**	**+0.8**
	comp=Z,2.6nm,0.7s,mb4.2,baz=332,slow=2.4,SNR=12						
MK31	**Makanchi Array**	**83.14**	**319**	*eP*	**P**	**11 14 08.8**	**+1.7**
MKAR	**Makanchi Array**	**83.14**	**319**	P	**P**	**11 14 07.0**	**0.0**
	comp=Z,0.9nm,0.5s,mb3.9,baz=100,slow=5.2,SNR=5.6						
ZALV	**Zalesovo Beam**	**83.94**	**326**	P	**P**	**11 14 10.1**	**-0.9**
	comp=Z,1.0nm,0.6s,mb3.8,baz=111,slow=8.1,SNR=4.6						
MAW	**Mawson**	**84.41**	**203**	P	**P**	**11 14 13.6**	**+0.4**
	comp=Z,1.6nm,0.5s,mb4.1,baz=298,slow=13,SNR=6.8						
MAW				LR	LR	11 51 29.2	
	comp=Z,124nm,18.2s,baz=252,slow=35						
INK	**Inuvik**	**89.69**	**21**	*eP*	**P**	**11 14 38.1**	**-0.6**
	comp=Z,42nm,0.6s,mb5.7						
NVAR	**Mina Array Bea**	**91.84**	**52**	P	**P**	**11 14 49.4**	**0.0**
	comp=Z,1.9nm,0.9s,mb4.3,baz=247,slow=4.4,SNR=14						
YKA	**Yellowknife Ar**	**96.34**	**28**	P	**P**	**11 15 09.2**	**-0.2**
YKA	**Yellowknife Ar**	**96.34**	**28**	P	**P**	**11 15 09.2**	**-0.2**
	comp=Z,2.7nm,0.8s,mb4.7,baz=268,slow=4.7,SNR=29						
PDAR	**Pinedale Array**	**98.80**	**48**	P	**P**	**11 15 20.3**	**-0.7**
	comp=Z,0.9nm,0.9s,mb4.3,baz=225,slow=1.9,SNR=7.1						
AKASG	**Malin Array Be**	**117.29**	**324**	PKP	PKPdf	11 20 24.7	-1.3
	comp=Z,0.8nm,0.5s,baz=56,slow=2.7,SNR=4.5						
GERES	**GERESS Array B**	**126.81**	**329**	PKP	PKPdf	11 20 44.8	+0.4
	comp=Z,0.4nm,0.4s,baz=98,slow=4.7,SNR=6.7						
BDFB	**Brasilia**	**148.25**	**135**	PKPbc	PKPbc	11 21 27.4	-0.4
	comp=Z,4.6nm,0.9s,baz=86,slow=1.0,SNR=4.9						
TORD	**Torodi Ar. Bea**	**152.75**	**285**	PKPbc	PKPbc	11 21 38.7	+0.1
	comp=Z,3.0nm,0.8s,baz=59,slow=1.8,SNR=14						
TORD				PKPab	PKPab	11 21 49.2	-0.5
	comp=Z,5.3nm,0.8s,baz=48,slow=1.7,SNR=12						

IDC 05 11:03:31.9±3.6,2866S×17822W,h49km±43km,mb3.9/4, mb1 4.1/4,mb1mx3.7/14,mbtmp3.9/4,Error ellipse: s-maj=63.8km s-min=41.1km az=179.0,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.65**	**156**	P	Pn	11 03 45.2	+0.2
	263nm,0.3s,baz=251,slow=23,SNR=14						
RAO				S	Sn	11 03 56.2	+1.8
	2μm,0.3s,baz=83,slow=21,SNR=28						
CTA	**Charters Tower**	**33.37**	**277**	P	P	11 10 06.2	+0.7
	2.4nm,0.5s,baz=189,slow=11,SNR=2.8						
STKA	**Stephens Creek**	**34.72**	**255**	P	P	11 10 16.4	-0.8
	1.4nm,0.5s,baz=101,slow=7.5,SNR=3.0						
ASAR	**Alice Springs**	**43.04**	**265**	P	P	11 11 26.8	-0.1
	0.9nm,0.7s,baz=106,slow=6.8,SNR=6.4						
WRA	**Warramunga Arr**	**43.87**	**270**	P	P	11 11 33.7	+0.1
	2.2nm,0.5s,baz=111,slow=8.1,SNR=18						
FINES	**FINESS Array B**	**143.44**	**341**	PKP	PKPdf	11 22 58.4	-1.8
	1.0nm,0.5s,baz=42,slow=4.5,SNR=5.6						
AKASG	**Malin Array Be**	**149.79**	**324**	PKPbc	PKPbc	11 23 16.0	0.0
	0.5nm,0.4s,baz=49,slow=2.6,SNR=4.1						

*IDC **05** 11:05:50.7±0.9,3738N×2459W,h0km,mb4.0/12, mb1 4.2/13,mb1mx4.0/25,mbtmp4.0/13,ML4.1/1,MS3.8/4, Ms1 3.8/4,ms1mx3.2/38,Error ellipse: s-maj=25.7km s-min=16.6km az=172.0*
*NEIC **05** 11:05:52.8±0.5,3736N×2474W,h10km,mb4.5/32,Error ellipse: s-maj=12.8km s-min=6.6km az=172.0*
*CSEM **05** 11:05:53.1±0.2,3771N×2477W,h10km,mb4.5/26*
*ISCJB **05** 11:05:54.5±2.2,3746N±009×2476W±003,h32km±16km, mb4.3/40,MS3.7/4,Error ellipse: s-maj=15.3km s-min=3.8km az=6.1*
*SZGRF **05** 11:05:54.0,37.16N×2483W,h33km,mb4.4,Azores Islands region*
*SVSA **05** 11:05:55.0±0.3,3723N×2469W,h0km,MD4.1,Error ellipse: s-maj=7.0km s-min=2.3km az=35.0*
*PDA **05** 11:05:55.0±0.3,3723N×2469W,h0km,MD4.1,Error ellipse: s-maj=7.0km s-min=2.3km az=35.0*
ISC 05 11:05:55.1±1.6,3745N±009×2476W±003,h23km±11km, n118,σ0°87/118,mb4.3/40,MS3.7/4,52C,Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDA	**Ponta Delgada**	**0.77**	**293**	*eS*	**Sb**	**11 06 19.9**	**0.0**
ADH	**Angra Heroismo**	**2.29**	**302**	*eP*	**Pn**	**11 06 31.5**	**+0.1**
ADH				*eS*	**Sn**	**11 06 59.0**	**+0.1**
PID	**Ribeirinha**	**2.83**	**291**	*eP*	**Pn**	**11 06 38.9**	**+0.1**
PID				*eS*	**Sn**	**11 07 11.4**	**-0.8**
ROSA	**Rosais**	**3.02**	**296**	*eP*	**Pn**	**11 06 41.6**	**+0.1**
ROSA				*eS*	**Sn**	**11 07 16.6**	**-0.3**
PICO	**Pico**	**3.08**	**291**	*eP*	**Pn**	**11 06 42.1**	**-0.1**
PICO				*eS*	**Sn**	**11 07 17.5**	**-0.8**
CALA	**Caldeira**	**3.31**	**291**	*eP*	**Pn**	**11 06 45.4**	**0.0**
CALA				*eS*	**Sn**	**11 07 23.4**	**-0.6**
PMAR	**Madeira**	**7.98**	**124**	*e*Pn	**Pn**	**11 07 44.7**	**-4.8**
PMAR				*e*Sn	**Sn**	**11 09 03.0**	**-16**
PMAR				A		11 09 10.1	
	48nm,0.2s						
PMPS	**Porto Santo**	**8.17**	**120**	*e*Pn	**Pn**	**11 07 45.6**	**-6.6**
PMPS				*e*Sn	**Sn**	**11 09 05.2**	**-19**
PMPS				A		11 09 10.7	
	13nm,0.2s						
ESDC	**Sonseca Array**	**16.42**	**76**	Pn	**Pn**	**11 09 42.6**	**-1.3**
	0.2nm,0.3s,baz=265,slow=12,SNR=3.7						
SJPF	**Ste Jean**	**18.80**	**65**	*eP*	**Pn**	**11 10 14.0**	**+0.6**
QUIF	**Quistinic**	**18.95**	**50**	*eP*	**Pn**	**11 10 13.8**	**-1.3**
	23nm,1.0s						
QUIF	**Quistinic**	**18.95**	**50**	*eP*	**Pn**	**11 10 13.8**	**-1.3**
	11nm,1.0s						
ROSF	**Rostrenen**	**19.07**	**48**	⇑*iP*	**Pn**	**11 10 17.6**	**+1.0**
ETSF	**Etsaut**	**19.25**	**66**	⇑*iP*	**Pn**	**11 10 19.4**	**+0.6**
SGMF	**Saint Gilles**	**19.46**	**49**	⇑*iP*	**Pn**	**11 10 21.5**	**+0.2**
	71nm,1.4s						
SGMF	**Saint Gilles**	**19.46**	**49**	⇑*iP*	**Pn**	**11 10 21.5**	**+0.2**
	36nm,1.4s						
EPF	**Esparros**	**19.92**	**66**	⇑*iP*	**Pn**	**11 10 26.9**	**+0.1**
	39nm,1.3s						
EPF	**Esparros**	**19.92**	**66**	⇑*iP*	**Pn**	**11 10 26.9**	**+0.1**
	20nm,1.3s						
MFF	**Saint Martin d**	**20.38**	**56**	⇑*iP*	**P**	**11 10 30.3**	**+0.3**
	74nm,1.2s						
MFF	**Saint Martin d**	**20.38**	**56**	⇑*iP*	**P**	**11 10 30.3**	**+0.3**
	37nm,1.2s						
LFF	**La Frestale**	**20.54**	**61**	⇑*iP*	**P**	**11 10 31.8**	**0.0**
	34nm,0.7s						
LFF	**La Frestale**	**20.54**	**61**	⇑*iP*	**P**	**11 10 31.8**	**0.0**
	17nm,0.7s						
GRR	**Gorron**	**20.55**	**50**	*eP*	**P**	**11 10 32.2**	**+0.4**
FLN	**La Foliniere**	**20.93**	**50**	⇑*iP*	**P**	**11 10 36.4**	**+0.5**
LDF	**La Druitiere**	**21.08**	**50**	⇑*iP*	**P**	**11 10 37.3**	**-0.3**
	13nm,0.9s,mb4.0						
LDF	**La Druitiere**	**21.08**	**50**	⇑*iP*	**P**	**11 10 37.3**	**-0.3**
	6.6nm,0.9s,mb4.0						
RJF	**Les Rejaudoux**	**21.16**	**60**	*eP*	**P**	**11 10 37.2**	**-1.2**
MTLF	**Montolieu**	**21.32**	**66**	⇑*iP*	**P**	**11 10 41.7**	**+1.5**
	28nm,1.3s,mb4.2						
MTLF	**Montolieu**	**21.32**	**66**	⇑*iP*	**P**	**11 10 41.7**	**+1.5**
	14nm,1.3s,mb4.2						
CAF	**Calviac**	**21.46**	**61**	⇑*iP*	**P**	**11 10 41.0**	**-0.7**
	42nm,1.1s,mb4.4						
CAF	**Calviac**	**21.46**	**61**	⇑*iP*	**P**	**11 10 41.0**	**-0.7**
	21nm,1.1s,mb4.4						
TCF	**Toulx Ste Croi**	**21.86**	**58**	⇑*iP*	**P**	**11 10 47.7**	**+1.8**
	41nm,1.0s,mb4.5						
TCF	**Toulx Ste Croi**	**21.86**	**58**	⇑*iP*	**P**	**11 10 47.7**	**+1.8**
	20nm,1.0s,mb4.5						
BGF	**Bois d'Agland**	**22.35**	**57**	⇑*iP*	**P**	**11 10 52.1**	**+0.9**
	24nm,0.9s,mb4.3						
BGF	**Bois d'Agland**	**22.35**	**57**	⇑*iP*	**P**	**11 10 52.1**	**+0.9**
	12nm,0.9s,mb4.3						
LASF	**Ste Croix**	**22.59**	**64**	⇑*iP*	**P**	**11 10 54.5**	**+0.7**
AVF	**Avril sur Loir**	**22.74**	**57**	⇑*iP*	**P**	**11 10 55.5**	**+0.2**
	18nm,1.1s,mb4.1						
AVF	**Avril sur Loir**	**22.74**	**57**	⇑*iP*	**P**	**11 10 55.5**	**+0.2**
	9.1nm,1.1s,mb4.1						
SSF	**Saint Saulge**	**22.91**	**56**	⇑*iP*	**P**	**11 10 57.2**	**+0.1**
	39nm,1.3s,mb4.4						
SSF	**Saint Saulge**	**22.91**	**56**	⇑*iP*	**P**	**11 10 57.2**	**+0.1**
	19nm,1.3s,mb4.4						
SMF	**Signal de Mont**	**23.04**	**57**	⇑*iP*	**P**	**11 10 58.9**	**+0.5**
	55nm,1.2s,mb4.5						
SMF	**Signal de Mont**	**23.04**	**57**	⇑*iP*	**P**	**11 10 58.9**	**+0.5**
	28nm,1.2s,mb4.5						
EKA	**Eskdalemuir Ar**	**23.11**	**32**	P	**P**	**11 10 58.3**	**-0.9**
	1.4nm,0.6s,mb3.6,baz=230,slow=8.0,SNR=5.9						
LOR	**Lormes**	**23.20**	**56**	*eP*	**P**	**11 11 00.4**	**+0.3**
	20nm,1.1s,mb4.2						
LOR	**Lormes**	**23.20**	**56**	*eP*	**P**	**11 11 00.4**	**+0.3**
	9.9nm,1.1s,mb4.2						
VIVF	**Saint-Julien-l**	**23.28**	**62**	⇑*iP*	**P**	**11 11 00.5**	**-0.5**
	100nm,1.7s,mb4.7						
VIVF	**Saint-Julien-l**	**23.28**	**62**	⇑*iP*	**P**	**11 11 00.5**	**-0.5**
	50nm,1.7s,mb4.7						
SMRF	**Simiane la Rot**	**23.81**	**65**	⇑*iP*	**P**	**11 11 06.1**	**-0.1**
	63nm,1.3s,mb4.6						
SMRF	**Simiane la Rot**	**23.81**	**65**	⇑*iP*	**P**	**11 11 06.1**	**-0.1**
	32nm,1.3s,mb4.6						
BBTS	**Babate**	**23.85**	**160**	LR	LR	11 18 29.5	
	comp=Z,124nm,19.0s,MS3.4,baz=30,slow=32						
ORIF	**Oris-en-Rattie**	**24.13**	**62**	⇑*iP*	**P**	**11 11 09.4**	**+0.3**
	53nm,1.4s,mb4.5						
ORIF	**Oris-en-Rattie**	**24.13**	**62**	⇑*iP*	**P**	**11 11 09.4**	**+0.3**
	26nm,1.4s,mb4.5						
BAIF	**Baives**	**24.25**	**49**	*eP*	**P**	**11 11 09.1**	**-1.0**
	30nm,1.0s,mb4.4						
BAIF	**Baives**	**24.25**	**49**	*eP*	**P**	**11 11 09.1**	**-1.0**
	15nm,1.0s,mb4.4						
LMR	**La Mourre**	**24.44**	**66**	⇑*iP*	**P**	**11 11 12.8**	**+0.9**
CABF	**La Chapelle**	**24.54**	**58**	⇑*iP*	**P**	**11 11 13.0**	**+0.2**
	12nm,0.8s,mb4.2						
CABF	**La Chapelle**	**24.54**	**58**	⇑*iP*	**P**	**11 11 13.0**	**+0.2**
	6.1nm,0.8s,mb4.2						
FRF	**La Foret Royal**	**24.55**	**66**	⇑*iP*	**P**	**11 11 13.1**	**+0.2**
GIVF	**Givet**	**24.64**	**50**	⇑*iP*	**P**	**11 11 13.2**	**-0.5**
	46nm,1.0s,mb4.7						
GIVF	**Givet**	**24.64**	**50**	⇑*iP*	**P**	**11 11 13.2**	**-0.5**
	23nm,1.0s,mb4.7						
BNI	**Bardonecchia**	**24.71**	**62**	*eP*	**P**	**11 11 12.5**	**-1.8**
	7.6nm,1.1s,mb4.1						
BNI	**Bardonecchia**	**24.71**	**62**	*eP*	**P**	**11 11 12.5**	**-1.9**
	7.6nm,1.1s,mb4.1						
MBDF	**Montbardon**	**24.74**	**63**	⇑*iP*	**P**	**11 11 14.9**	**+0.3**
LPL	**La Plagne**	**24.81**	**61**	⇑*iP*	**P**	**11 11 15.7**	**+0.5**
LPG	**La Plagne**	**24.82**	**61**	⇑*iP*	**P**	**11 11 15.9**	**+0.6**
	28nm,1.2s,mb4.3						
LPG	**La Plagne**	**24.82**	**61**	⇑*iP*	**P**	**11 11 15.9**	**+0.6**
	14nm,1.2s,mb4.3						
HAU	**Haudompre**	**25.01**	**55**	⇑*iP*	**P**	**11 11 16.3**	**-0.7**
SBF	**Sospel**	**25.14**	**65**	⇑*iP*	**P**	**11 11 18.5**	**+0.2**
	21nm,0.8s,mb4.4						
SBF	**Sospel**	**25.14**	**65**	⇑*iP*	**P**	**11 11 18.5**	**+0.2**
	10nm,0.8s,mb4.4						
HINF	**Hinteralfeld**	**25.30**	**56**	⇑*iP*	**P**	**11 11 19.2**	**-0.4**
WLF	**Walferdange**	**25.32**	**51**	*eP*	**P**	**11 11 18.4**	**-1.4**
	27nm,0.8s,mb4.8						
WLF	**Walferdange**	**25.32**	**51**	*eP*	**P**	**11 11 18.4**	**-1.4**

*ISCJB **05** 11:08:07.9±0.8, 30.90N±0.006×142.1E±0.2, h33km, mb3.6/5, Error ellipse: s-maj=22.0km s-min=5.2km az=163.0*
*JMA **05** 11:08:10.5±0.4, 31.46N×142.95E, h165km, M3.0*
*IDC **05** 11:08:10.7±5.4, 30.83N×142.03E, h34km±43km, mb3.3/5, mb1 3.5/7, mb1mx3.4/20, mbtmp3.4/7, ML3.5/2, MS4.0/1, Ms1 4.0/1, ms1mx2.7/28, Error ellipse: s-maj=51.6km s-min=18.6km az=81.0*

ISC 05 11:08:10.1±0.7, 30.87N±0.005×142.1E±0.2, h35km, n15, σ1.9 06/21, mb3.6/5, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ	**Hachijo jima 2**	**2.99**	**319**	Sn	**Sn**	**11 09 29.6**	**-0.1**
	12nm,0.3s,baz=232,slow=19,SNR=2.6						
CBIJ	**Chichi jima**	**3.76**	**179**	Pn	**Pn**	**11 09 05.7**	**0.0**
	6.5nm,0.3s,baz=288,slow=20,SNR=2.2						
CBIJ				Sn	**Sn**	**11 09 46.9**	**-1.8**
	11nm,0.3s,baz=279,slow=19,SNR=3.1						
BSO1	**Boso 1**	**3.89**	**346**	P	**Pn**	**11 09 06.6**	**-0.8**
BSO1				*e*S	**Sn**	**11 09 49.6**	**-2.3**
JHU	**Hanno**	**5.50**	**335**	P	**Pn**	**11 09 29.1**	**-0.5**
JHU				*e*S	**Sn**	**11 10 32.1**	**+0.5**
JRY	**Ryogami san**	**5.79**	**333**	P	**Pn**	**11 09 34.1**	**+0.6**
JRY				*e*S	**Sn**	**11 10 38.7**	**0.0**
JHO	**Hitachi**	**5.87**	**348**	*e*S	**Sn**	**11 10 35.4**	**-5.2**
JAG	**Ashikaga**	**5.97**	**339**	P	**Pn**	**11 09 36.5**	**+0.6**
JAG				*e*S	**Sn**	**11 10 41.2**	**-1.8**
MJAR	**Matsushiro Arr**	**6.53**	**331**	Pn	**Pn**	**11 09 43.8**	**+0.2**
	1.1nm,0.3s,baz=159,slow=11,SNR=15						
MAT	**Matsushiro**	**6.53**	**331**	P	**Pn**	**11 09 44.4**	**+0.8**
MAT				*e*S	**Sn**	**11 10 59.9**	**+3.1**
JFK	**Kawauchi**	**6.56**	**351**	*e*S	**Sn**	**11 10 51.6**	**-6.0**
MKAR	**Makanchi Array**	**48.09**	**307**	P	**P**	**11 16 47.5**	**+1.2**
	0.6nm,0.4s,mb4.0,baz=91,slow=9.9,SNR=4.4						
WRA	**Warramunga Arr**	**51.07**	**189**	P	**P**	**11 17 09.6**	**+0.6**
	0.4nm,0.3s,mb3.8,baz=5.6,slow=7.6,SNR=21						
ASAR	**Alice Springs**	**54.79**	**189**	P	**P**	**11 17 36.6**	**+0.1**
	0.1nm,0.3s,mb3.4,baz=358,slow=5.0,SNR=4.3						
YKA	**Yellowknife Ar**	**68.87**	**29**	P	**P**	**11 19 12.3**	**+1.5**
	0.2nm,0.8s,mb3.1,baz=293,slow=6.5,SNR=3.3						
AKASG	**Malin Array Be**	**79.55**	**323**	P	**P**	**11 20 12.8**	**-0.5**
	0.3nm,0.3s,mb3.6,baz=54,slow=6.2,SNR=4.1						

*ISCJB **05** 11:13:17.6±0.9, 29.88N±0.004×36.33E±0.005, h0km, Error ellipse: s-maj=7.2km s-min=5.7km az=141.2*
*CSEM **05** 11:13:17.9±0.2, 29.90N×36.25E, h1km, ML2.2, Error ellipse: s-maj=3.5km s-min=1.8km az=45.0, Mining explosion.*
*SGS **05** 11:13:17.5, 30.13N×36.20E, h1km*
*HLW **05** 11:13:19.4, 29.22N×36.78E, h24km, Mb3.3*
*GII **05** 11:13:19.9±1.1, 29.92N×36.19E, h0km, ML2.2/3*

ISC 05 11:13:17.9±1.0, 29.86N±0.004×36.35E±0.006, h0km, n16, σ0.76/24, 1C, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HRFI	**Mount Harif**	**1.16**	**279**	Pg	**Pg**	**11 13 39.3**	**-0.7**
HRFI				Sg	**Sg**	**11 13 55.5**	**+0.4**
ZFRI	**Zfri**	**1.23**	**304**	Pg	**Pg**	**11 13 40.9**	**-0.6**
ZFRI				Sg	**Sg**	**11 13 57.2**	**-0.2**
ZFRI	**Zfri**	**1.23**	**304**	Pg	**Pg**	**11 13 40.8**	**-0.7**
ZFRI				Sg	**Sg**	**11 13 57.2**	**-0.2**
EIL	**Elat**	**1.23**	**261**	Pg	**Pg**	**11 13 41.6**	**+0.1**
EIL				Sg	**Sg**	**11 13 58.3**	**+0.7**
MBH	**Mount Berech**	**1.25**	**267**	Pg	**Pg**	**11 13 42.3**	**+0.4**
MBH				Sg	**Sg**	**11 13 58.4**	**+0.3**
HQLS		**1.26**	**244**	P	**Pg**	**11 13 40.8**	**-1.1**
HQLS		**1.26**	**244**	P	**Pg**	**11 13 40.8**	**-1.2**
HQLS				S	**Sg**	**11 13 58.3**	**0.0**
PRNI	**Paran**	**1.27**	**293**	Pg	**Pg**	**11 13 41.5**	**-0.7**
PRNI				Sg	**Sg**	**11 13 58.7**	**+0.1**
JLOS		**1.35**	**214**	P	**Pg**	**11 13 44.0**	**+0.2**
HBST	**Basata**	**1.55**	**246**	↑*i*P	**Pn**	**11 13 47.6**	**+0.9**
HBST				S	**Sn**	**11 14 08.2**	**+0.6**
MZDA	**Masada**	**1.68**	**330**	Pn	**Pn**	**11 13 49.3**	**+0.8**
YTIR	**Yattir**	**1.84**	**325**	Pn	**Pn**	**11 13 51.4**	**+0.7**
HDHB	**Dhahab**	**1.89**	**234**	P	**Pn**	**11 13 49.7**	**-1.8**
RSHS		**2.07**	**222**	P	**Pn**	**11 13 53.2**	**-0.7**
HKAT	**Jabal Katrina**	**2.46**	**238**	P	**Pn**	**11 13 58.5**	**-0.8**
WJHS		**3.12**	**179**	P	**Pn**	**11 14 09.8**	**+1.4**

*IDC **05** 11:14:15.2±1.1, 37.29N×24.66W, h0km, mb3.7/6, mb1 4.0/6, mb1mx3.7/23, mbtmp3.7/6, Error ellipse: s-maj=35.1km s-min=23.6km az=13.0*
*ISCJB **05** 11:14:16.1±1.0, 37.4N±0.2×24.85W±0.008, h10km, mb3.7/7, Error ellipse: s-maj=26.9km s-min=6.5km az=14.9*
*CSEM **05** 11:14:20.4±0.7, 37.19N×24.82W, h5km, ML3.6, Error ellipse: s-maj=12.5km s-min=4.9km az=38.0, After PDA*
*PDA **05** 11:14:20.4±0.7, 37.19N×24.82W, h5km, MD4.0, ML3.6, Error ellipse: s-maj=12.5km s-min=4.9km az=38.0*
*SVSA **05** 11:14:20.4±0.7, 37.19N×24.82W, h5km, MD4.0, ML3.6, Error ellipse: s-maj=12.5km s-min=4.9km az=38.0*

ISC 05 11:14:17.2±0.8, 37.4N±0.1×24.86W±0.008, h10km, n16, σ1.9 20/23, mb3.7/7, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDA	**Ponta Delgada**	**0.74**	**301**	*e*P	**Pg**	**11 14 34.3**	**+2.8**
PDA				*e*S	**Sg**	**11 14 44.8**	**+3.6**
ADH	**Angra Heroismo**	**2.27**	**305**	*e*P	**Pn**	**11 14 55.3**	**+0.5**
ADH				*e*S	**Sn**	**11 15 22.3**	**-0.6**
PID	**Ribeirinha**	**2.79**	**294**	*i*P	**Pn**	**11 15 02.6**	**+0.7**
PID				*e*S	**Sn**	**11 15 34.1**	**-1.5**
PMAN	**Manadas**	**2.85**	**297**	*e*P	**Pn**	**11 15 03.5**	**+0.9**
PMAN				*e*S	**Sn**	**11 15 36.3**	**-0.7**
PMAN				A		11 15 36.4	
	77nm,0.4s						
PMAN	**Manadas**	**2.85**	**297**	*e*P	**Pn**	**11 15 03.5**	**+0.9**
PMAN				*e*S	**Sn**	**11 15 36.3**	**-0.7**
ROSA	**Rosais**	**2.99**	**298**	*e*P	**Pn**	**11 15 05.5**	**+0.9**
ROSA				*e*S	**Sn**	**11 15 39.2**	**-1.4**
PICO	**Pico**	**3.04**	**293**	*e*P	**Pn**	**11 15 06.3**	**+1.0**
PICO				*e*S	**Sn**	**11 15 39.9**	**-1.8**
CALA	**Caldeira**	**3.27**	**293**	*e*P	**Pn**	**11 15 09.3**	**+0.9**
CALA				*e*S	**Sn**	**11 15 45.7**	**-1.7**
EKA	**Eskdalemuir Ar**	**23.23**	**32**	P	**P**	**11 19 23.4**	**-0.9**
	0.5nm,0.6s,mb3.1,baz=228,slow=8.8,SNR=4.0						
TORD	**Torodi Ar. Bea**	**33.81**	**129**	P	**P**	**11 20 57.6**	**-2.0**
	0.9nm,0.7s,mb3.8,baz=313,slow=12,SNR=6.1						
YKA	**Yellowknife Ar**	**57.53**	**327**	P	**P**	**11 24 06.7**	**+0.4**
	0.6nm,0.9s,mb3.6,baz=70,slow=7.1,SNR=6.7						
PDAR	**Pinedale Array**	**62.41**	**304**	P	**P**	**11 24 41.3**	**+1.1**
	0.3nm,0.7s,mb3.5,baz=39,slow=7.3,SNR=2.9						
TXAR	**Lajitas Array**	**64.56**	**288**	P	**P**	**11 24 55.9**	**+1.3**
	1.0nm,0.7s,mb4.0,baz=74,slow=7.9,SNR=15						
ZALV	**Zalesovo Beam**	**70.80**	**36**	P	**P**	**11 25 33.0**	**-0.6**
	1.0nm,0.6s,mb3.9,baz=311,slow=5.8,SNR=4.2						
MKAR	**Makanchi Array**	**73.88**	**43**	P	**P**	**11 25 52.0**	**-0.1**
	0.4nm,0.5s,mb3.6,baz=305,slow=5.3,SNR=4.6						
VNDA	**Vanda**	**139.64**	**182**	PKP	PKPdf	11 33 41.3	-2.5
	1.1nm,0.7s,baz=228,slow=6.1,SNR=8.3						

*IDC **05** 11:23:09.1±3.0, 20.36S×168.55E, h0km, mb3.8/3, mb1 4.0/4, mb1mx3.7/14, mbtmp3.8/4, MS3.3/1, Ms1 3.2/1, ms1mx2.8/22, Error ellipse: s-maj=77.9km s-min=33.0km az=128.0*

ISC 05 11:23:12.2±1.3, 20.7S±0.2×169.0E±0.1, h35km, n8, σ1.9 33/8, mb3.7/4, Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**2.72**	**239**	Pn	**Pn**	**11 23 51.1**	**-2.3**
	10nm,0.3s,baz=51,slow=20,SNR=37						
DZM				Sn	**Sn**	**11 24 25.7**	**+0.5**
	33nm,0.3s,baz=258,slow=22,SNR=6.3						
CTA	**Charters Tower**	**21.30**	**268**	P	**P**	**11 27 58.9**	**+2.9**
	2.8nm,0.7s,mb3.7,baz=90,slow=17,SNR=3.8						
STKA	**Stephens Creek**	**26.88**	**240**	P	**P**	**11 28 50.8**	**+1.0**
	2.5nm,0.9s,mb3.8,baz=78,slow=9.3,SNR=3.4						
STKA				LR	LR	11 37 50.7	
	comp=Z,69nm,20.4s,baz=25,slow=33						
WRA	**Warramunga Arr**	**32.45**	**265**	P	**P**	**11 29 37.5**	**-1.8**
	0.4nm,0.5s,mb3.5,baz=93,slow=8.4,SNR=11						
ASAR	**Alice Springs**	**32.55**	**258**	P	**P**	**11 29 40.3**	**+0.1**
	1.1nm,0.6s,mb4.0,baz=86,slow=9.0,SNR=18						
VNA3	**Neumayer Olymp**	**88.31**	**180**	*e*	**P**	**11 35 59.5**	**-0.2**
VNA3				*e*		11 36 01.3	
VNA3				*e*	pP	11 36 07.6	-3.3
VNA2	**Neumayer--Watz**	**88.59**	**181**	*e*	**P**	**11 36 01.7**	**+0.6**
	baz=180,slow=4.6						
VNA2				*e*		11 36 03.4	
VNA2				*e*	pP	11 36 10.6	-1.6
GERES	**GERESS Array B**	**145.64**	**331**	PKPbc	PKPbc	11 42 47.3	+0.3
	1.1nm,0.6s,baz=43,slow=2.5,SNR=7.2						

JMA 05 11:28:21.9±0.3, 30.50N×147.10E, h0km, M3.5, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**2.26**	**316**	P	Pn	11 29 01.6	+1.0
JHJ2				*e*S	Sn	11 29 30.6	+1.4
BSO3	**Boso 3**	**3.44**	**343**	P	Pn	11 29 18.8	+2.1
BSO3				*e*S	Sn	11 30 01.2	+3.0
BSO4	**Boso 4**	**3.66**	**342**	P	Pn	11 29 22.2	+2.4
JOD2	**Odawara 2**	**4.34**	**330**	P	Pn	11 29 31.7	+2.6
JOD2				*e*S	Sn	11 30 22.5	+2.0
JHU	**Hanno**	**4.79**	**336**	P	Pn	11 29 37.2	+2.0
JHU				*e*S	Sn	11 30 33.6	+2.2
JYT	**Yasato**	**4.88**	**346**	P	Pn	11 29 39.1	+2.6
JYT				*e*S	Sn	11 30 36.9	+3.2
JRY	**Ryogami san**	**5.07**	**333**	P	Pn	11 29 41.6	+2.4
JRY				*e*S	Sn	11 30 42.0	+3.6
JHO	**Hitachi**	**5.18**	**350**	P	Pn	11 29 40.5	-0.2
JHO				*e*S	Sn	11 30 43.2	+2.0
JAG	**Ashikaga**	**5.25**	**340**	P	Pn	11 29 42.8	+1.1
JAG				*e*S	Sn	11 30 44.7	+1.7

IDC 05 11:28:45.6±3.0, 27.13S×175.91E, h0km, mb3.9/4, mb1 4.1/4, mb1mx3.8/14, mbtmp3.8/4, Error ellipse: s-maj=216.6km s-min=32.3km az=171.0, North of New Zealand

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**28.02**	**278**	P	P	11 34 40.1	+1.7
	1.2nm,0.3s,baz=89,slow=13,SNR=6.6						
ASAR	**Alice Springs**	**37.98**	**266**	P	P	11 36 06.3	+1.0
	0.2nm,0.5s,baz=98,slow=6.6,SNR=4.7						
WRA	**Warramunga Arr**	**38.64**	**272**	P	P	11 36 08.9	-2.0
	0.3nm,0.3s,baz=105,slow=8.3,SNR=14						
TXAR	**Lajitas Array**	**95.25**	**60**	P	P	11 42 11.6	+0.1
	0.6nm,0.7s,baz=211,slow=6.0,SNR=8.7						

*IDC **05** 11:28:50.5±1.2, 851S×157.28E, h0km, mb3.9/5, mb1 4.0/6, mb1mx3.8/15, mbtmp3.9/6, ML3.7/1, Error ellipse: s-maj=35.8km s-min=27.3km az=157.0*
*ISCJB **05** 11:28:53.9±0.8, 86S±0.2×157.3E±0.1, h33km, mb3.7/5, Error ellipse: s-maj=26.0km s-min=15.6km az=173.2*

ISC 05 11:28:55.6±0.8, 86S±0.2×157.3E±0.1, h35km, n7, σ0.97/7, mb3.7/5, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.69**	**107**	Pn	**Pn**	**11 29 36.4**	**0.0**
	11nm,0.3s,baz=280,slow=20,SNR=6.2						
WB2	**Warramunga Arr**	**24.92**	**241**	*e*P	**P**	**11 34 15.7**	**+0.1**
WRA	**Warramunga Arr**	**24.93**	**241**	P	**P**	**11 34 16.0**	**+0.3**
	5.9nm,0.8s,mb4.2,baz=66,slow=9.8,SNR=24						
ASAR	**Alice Springs**	**26.96**	**234**	P	**P**	**11 34 33.9**	**-0.2**
	1.0nm,0.9s,mb3.3,baz=63,slow=10.0,SNR=5.2						
SONM	**Songino Array**	**71.97**	**327**	P	**P**	**11 40 16.0**	**+0.4**
	0.7nm,0.8s,mb3.6,baz=142,slow=5.1,SNR=3.3						
MKAR	**Makanchi Array**	**86.17**	**318**	P	**P**	**11 41 32.5**	**-0.8**
	0.4nm,0.6s,mb3.8,baz=101,slow=6.3,SNR=4.0						
YKA	**Yellowknife Ar**	**96.69**	**28**	P	**P**	**11 42 22.3**	**+0.3**
	0.2nm,0.7s,mb3.7,baz=269,slow=4.9,SNR=3.4						

IDC 05 11:29:49.5±27.0, 2342S×17881W, h454km±93km, mb3.6/5, mb1 3.7/5, mb1mx3.3/16, mbtmp3.6/5, 2D, Error ellipse: s-maj=365.9km s-min=104.7km az=80.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**32.57**	**269**	↓*i*P	P	11 35 42.9	+1.0
	12nm,0.3s						
CTA	**Charters Tower**	**32.57**	**269**	P	P	11 35 42.6	+0.6
	14nm,0.3s,baz=98,slow=13,SNR=53						
STKA	**Stephens Creek**	**35.91**	**248**	P	P	11 36 09.2	-0.8
	1.3nm,0.6s,baz=90,slow=7.1,SNR=3.5						
ASAR	**Alice Springs**	**43.19**	**260**	P	P	11 37 08.8	-0.3
	1.7nm,0.6s,baz=94,slow=7.5,SNR=36						
ASAR				ScP	ScP	11 41 55.0	-1.3
	0.7nm,0.9s,baz=103,slow=4.9,SNR=4.5						
WB2	**Warramunga Arr**	**43.52**	**265**	↓*i*P	P	11 37 11.2	-0.5
WRA	**Warramunga Arr**	**43.53**	**265**	P	P	11 37 11.4	-0.4
	3.4nm,0.3s,baz=97,slow=8.3,SNR=135						
WRA				ScP	ScP	11 41 58.1	+0.3
	0.9nm,0.9s,baz=95,slow=3.9,SNR=8.1						
FITZ	**Fitzroy Crossi**	**51.96**	**265**	P	P	11 38 15.7	+0.3
	6.8nm,1.0s,baz=112,slow=19,SNR=7.2						

*NIED **05** 11:39:00, 38.20N×141.20E, h8km, Mw4.2 Best double couple: M0:2.34000×10^15 NP1:φs353.00000°, δ65.00000°, λ91.00000°. NP2:φs171.00000°, δ25.00000°, λ88.00000°.*
*IDC **05** 11:39:38.5±0.5, 38.19N×140.96E, h0km, mb4.3/19, mb1 4.5/20, mb1mx4.4/23, mbtmp4.3/20, ML4.0/1, MS3.1/1, Ms1 3.1/1, ms1mx2.6/39, Error ellipse: s-maj=18.3km s-min=14.0km az=88.0*
*ISCJB **05** 11:39:40.8±0.4, 38.19N±0.002×141.14E±0.004, h23km±3km, mb4.5/56, MS4.0/3, Error ellipse: s-maj=5.1km s-min=3.5km az=30.1*
*JMA **05** 11:39:40.8, 38.20N×141.15E, h12km±1km, M4.5 Broadband fault plane solution: P waves. NP1: φs176.00000°, δ40.00000°, λ108.00000°. NP2: φs333.00000°, δ52.00000°, λ75.00000°. Principal axes: T Plg77.0000°, Azm189.0000°; N Plg12.0000°, Azm342.0000°; P Plg6.0000°, Azm73.0000°;*
JMA Felt III J1.
*MOS **05** 11:39:42.5±1.4, 38.23N×140.97E, h33km, mb4.8/23 Error ellipse: s-maj=10.1km s-min=6.3km az=90.2*
*BJI **05** 11:39:43.2, 38.20N×141.10E, h23km, mB4.8, mb4.5, Ms4.1, Msz4.0*
*NEIC **05** 11:39:46.2±0.8, 38.22N×141.05E, h53km±7km, mb4.4/24, Error ellipse: s-maj=8.6km s-min=6.1km az=135.0*
NEIC Recorded [3 JMA] in Miyagi; [2 JMA] in Fukushima and Iwate; [1 JMA] in Ibaraki, Niigata, Tochigi and Yamagata Prefectures.

ISC 05 11:39:41.1±0.5, 38.19N±0.002×141.11E±0.003, h13km±2km, n127, σ1.9 10/140, mb4.5/56, MS4.0/3, 5C-10D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**0.32**	**35**	↓P	**Pg**	**11 39 46.9**	**-0.7**
JIO				S	**Sg**	**11 39 50.9**	**-1.1**
JOU	**Okura**	**0.39**	**296**	↓P	**Pg**	**11 39 49.3**	**+0.4**
JOU				S	**Sg**	**11 39 55.2**	**+1.0**
JMM	**Marumori**	**0.41**	**218**	↓P	**Pg**	**11 39 49.3**	**0.0**
JMM				S	**Sg**	**11 39 55.1**	**+0.3**
JMK	**Ichinoseki**	**0.76**	**6**	↓P	**Pg**	**11 39 54.7**	**-1.2**
JYS	**Shiratake**	**0.82**	**272**	↓P	**Pg**	**11 39 56.9**	**-0.2**
JYS				S	**Sg**	**11 40 08.1**	**+0.2**
JFK	**Kawauchi**	**0.85**	**193**	↓P	**Pg**	**11 39 56.7**	**-0.8**
JFK				*e*S	**Sg**	**11 40 08.3**	**-0.2**
JFT	**Otama**	**0.91**	**223**	↓P	**Pg**	**11 39 58.4**	**-0.3**
JYK	**Kaneyama**	**0.94**	**321**	↓P	**Pg**	**11 39 58.5**	**-0.7**
JYK				*e*S	**Sg**	**11 40 11.0**	**-0.4**
MJAR	**Matsushiro Arr**	**2.84**	**235**	P	**Pn**	**11 40 27.5**	**+1.3**
MJAR				pmax	pmax		
	comp=Z,10.0nm,0.3s						
MJAR	**Matsushiro Arr**	**2.84**	**235**	Pn	**Pn**	**11 40 27.5**	**+1.3**
	comp=Z,10.0nm,0.3s,baz=37,slow=12,SNR=77						
MAJO	**Matsushiro**	**2.84**	**235**	*e*Pn	**Pn**	**11 40 28.3**	**+2.1**
MAT	**Matsushiro**	**2.84**	**235**	P	**Pn**	**11 40 28.0**	**+1.8**
MAT				*e*S	**Sb**	**11 41 09.8**	**+3.4**
ERM	**Erimo**	**4.13**	**22**	*e*Pn	**Pn**	**11 40 44.7**	**+0.8**
ERM				*e*Sn	**Sn**	**11 41 33.5**	**+1.5**
JHJ	**Hachijo jima 2**	**5.18**	**192**	Pn	**Pn**	**11 40 59.2**	**+0.9**
	comp=Z,125nm,0.3s,baz=103,slow=6.7,SNR=19						
JHJ				Sn	**Sn**	**11 41 57.1**	**-0.8**
	comp=Z,29nm,0.3s,baz=255,slow=22,SNR=3.0						
ASAJ	**Asahikawa**	**6.02**	**10**	P	**Pn**	**11 41 09.3**	**-0.6**
ASAJ						11 42 20.0	
ASAJ				pmax	pmax		
	comp=Z,3.0nm,0.3s						
ASAJ				smax			
	comp=N,2.0nm,0.3s						
ASAJ	**Asahikawa**	**6.02**	**10**	Pn	**Pn**	**11 41 09.3**	**-0.6**
	comp=N,3.4nm,0.3s,baz=212,slow=9.7,SNR=27						
ASAJ				Sn	**Sn**	**11 42 19.9**	**+1.3**
	comp=N,2.2nm,0.3s,baz=142,slow=31,SNR=2.7						
YUK	**Yuzh-Kuril'sk**	**6.85**	**30**	P	**Pn**	**11 41 23.5**	**+2.3**
YUK				*e*S	**Sn**	**11 42 34.2**	**-4.8**
YUK				pmax	pmax		
	comp=Z,160nm,0.4s						
YUK				smax			
	comp=N,420nm,0.5s						
YUK				smax			
	comp=E,320nm,0.4s						
VLA	**Vladivostok**	**8.56**	**308**	*e*P	**Pn**	**11 41 44.0**	**-0.7**
VLA				pmax	pmax		
	comp=Z,22nm,1.3s						
YSS	**Yuzh-Sakhalins**	**8.84**	**7**	*e*Pn	**Pn**	**11 41 49.3**	**+0.8**
YSS	**Yuzh-Sakhalins**	**8.84**	**7**	*e*P	**Pn**	**11 41 53.2**	**+4.7**
YSS				pmax	pmax		
	comp=Z,31nm,1.4s						
JNU	**Nakatsue**	**9.74**	**242**	Pn	**Pn**	**11 42 05.7**	**+4.7**
	comp=Z,0.5nm,0.3s,baz=54,slow=7.7,SNR=8.4						
JNU				LR	LR	11 45 32.8	
	comp=Z,119nm,20.8s,baz=175,slow=37						
KSRS	**Korea Array**	**10.46**	**270**	Pn	**Pn**	**11 42 13.3**	**+2.6**
	comp=Z,1.8nm,0.3s,baz=78,slow=14,SNR=24						
KSRS				Sn	**Sn**	**11 44 13.5**	**+5.6**
	comp=Z,0.2nm,0.3s,baz=82,slow=22,SNR=3.7						
KS15	**Wonju Array Si**	**10.49**	**270**	*e*Pn	**Pn**	**11 42 15.8**	**+4.5**
MDJ	**Mudanjiang**	**10.77**	**310**	P	**Pn**	**11 42 20.2**	**+5.3**
MDJ				S	**Sn**	**11 44 22.1**	**+6.8**
MDJ				AMB	AMB		
	comp=Z,11nm,1.1s						
MDJ				AMB	AMB		
	comp=Z,132nm,6.6s						
MDJ				LR	LR		
	comp=N,160nm,8.6s						
MDJ				LR	LR		
	comp=E,99nm,9.2s						
MDJ				LR	LR		
	comp=Z,217nm,12.5s						
MDJ	**Mudanjiang**	**10.77**	**310**	*e*Pn	**Pn**	**11 42 18.2**	**+3.3**
	comp=Z,10.0nm,0.8s						
KLR	**Kul'dur**	**12.93**	**332**	*e*P	**Pn**	**11 42 48.3**	**+3.8**
CN2	**Changchun**	**13.09**	**300**	*e*P	**Pn**	**11 42 48.5**	**+1.9**
NJ2	**Nanjing**	**19.19**	**258**	*e*P	**Pn**	**11 44 08.3**	**+2.8**
NJ2				AMB	AMB		
	comp=Z,30nm,0.6s						
BJI	**Beijing**	**19.42**	**283**	P	**Pn**	**11 44 10.1**	**+1.8**
BJI				AMB	AMB		
	comp=Z,16nm,1.0s						
BJI	**Beijing**	**19.42**	**283**	P	**Pn**	**11 44 10.1**	**+1.8**
	comp=Z,16nm,1.0s						
YAK	**Yakutsk**	**24.89**	**347**	*e*P	**P**	**11 45 04.6**	**+1.3**
YAK				pmax	pmax		
	comp=Z,17nm,1.0s,mb4.5						
SEY	**Seymchan**	**25.70**	**12**	*e*P	**P**	**11 45 13.1**	**+2.4**
XAN	**Xi'an**	**26.26**	**271**	P	**P**	**11 45 15.1**	**-1.0**
XAN				AMB	AMB		
	comp=Z,5.0nm,0.6s,mb4.2						
BOD	**Bodaibo**	**26.43**	**327**	*e*P	**P**	**11 45 15.0**	**-2.3**
SONM	**Songino Array**	**26.95**	**302**	P	**P**	**11 45 20.3**	**-1.9**
SONM						11 48 42.7	
SONM				pmax	pmax		
	comp=Z,2.0nm,0.8s						
SONM	**Songino Array**	**26.95**	**302**	P	**P**	**11 45 20.3**	**-1.9**
	comp=Z,2.2nm,0.8s,mb3.7,baz=98,slow=9.1,SNR=9.9						
SONM				PcP	PcP	11 48 42.7	-1.1
	comp=Z,0.3nm,0.5s,baz=116,slow=3.4,SNR=4.4						
ZAK	**Zakamensk**	**29.38**	**307**	*e*P	**P**	**11 45 42.1**	**-1.6**
GYA	**Guiyang**	**31.20**	**258**	P	**P**	**11 46 01.8**	**+1.6**
GYA				AP	pP	11 46 08.4	+4.4
GYA				XP	sP	11 46 10.6	+5.0
GYA				PP	PP	11 47 05.2	-5.4
GYA				PCP	PcP	11 48 57.5	+2.7
GYA				S	**S**	**11 51 05.9**	**-0.2**
GYA				XS	sS	11 51 15.6	+3.2
GYA				SCP	ScP	11 52 38.0	+0.5
GYA				PCS	PcS	11 52 40.4	+1.3
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.7						
GYA				AMB	AMB		
	comp=Z,80nm,6.2s						
GYA				LR	LR		
	comp=N,450nm,16.8s,MS4.4						
GYA				LR	LR		
	comp=E,490nm,16.6s,MS4.4						
GYA				LR	LR		
	comp=Z,380nm,18.9s,MS4.1						
CD2	**Chengdu**	**31.45**	**268**	*e*P	**P**	**11 46 02.8**	**+0.5**
CD2				AP	pP	11 46 08.6	+2.4
CD2				XP	sP	11 46 11.8	+4.0
CD2				PP	PP	11 47 06.6	-6.7
CD2				S	**S**	**11 51 07.8**	**-2.1**
CD2				SS	SS	11 52 56.2	-28
CD2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.8						
CD2				AMB	AMB		
	comp=Z,30nm,4.2s						
CD2				LR	LR		
	comp=N,150nm,14.4s						
CD2				LR	LR		
	comp=Z,160nm,12.0s,MS3.9						
BILL	**Bilibino**	**32.99**	**17**	*e*P	**P**	**11 46 17.9**	**+2.5**
BILL				pmax	pmax		
	comp=Z,5.0nm,1.2s,mb4.3						
TIXI	**Tiksi**	**34.11**	**353**	*e*P	**P**	**11 46 26.3**	**+1.1**
	comp=Z,2.1n

comp=Z,106nm,1.0s,mb5.7
ARU Arti 55.34 318 *d iP* **P 11 49 13.9 -0.4**
ARU *e* 11 50 10.6
ARU *e* 11 51 14.0
ARU *e*S **S 11 56 56.0 -1.9**
ARU *e*SS SS 12 00 39.9 -1.9
ARU pmax pmax
comp=Z,9.0nm,0.7s,mb4.9
AKTK Aktyubinsk 57.73 311 P **P 11 49 30.6 -0.8**
AKTO Aktyubinsk 57.73 311 P **P 11 49 30.6 -0.8**
AKTO pmax pmax
comp=Z,3.0nm,0.7s,mb4.4
AKTO Aktyubinsk 57.73 311 P **P 11 49 30.6 -0.8**
comp=Z,3.0nm,0.7s,mb4.4,baz=76,slow=12,SNR=11
FITZ Fitzroy Crossi 57.85 197 P **P 11 49 32.3 -0.2**
comp=Z,1.4nm,0.6s,mb4.2,baz=0.0,slow=7.1,SNR=5.2
WB2 Warramunga Arr 58.17 187 *e*P **P 11 49 34.0 -0.8**
WRA Warramunga Arr 58.17 188 P **P 11 49 33.7 -1.1**
WRA pmax pmax
comp=Z,10.0nm,0.8s
WRA Warramunga Arr 58.17 188 P **P 11 49 33.7 -1.1**
comp=Z,10nm,0.8s,mb4.9,baz=5.8,slow=7.3,SNR=79
RES Resolute Bay 61.54 15 *e*P **P 11 49 56.4 -1.0**
comp=Z,249nm,1.1s
ASAR Alice Springs 61.90 187 P **P 11 49 59.4 -0.9**
ASAR pmax pmax
comp=Z,2.0nm,0.9s
ASAR Alice Springs 61.90 187 P **P 11 49 59.4 -0.9**
comp=Z,2.4nm,0.9s,mb4.3,baz=12,slow=5.9,SNR=21
ARCES ARCESS Array B 62.83 339 P **P 11 50 05.3 -0.7**
ARCES pmax pmax
comp=Z,6.0nm,1.0s
ARCES ARCESS Array B 62.83 339 P **P 11 50 05.3 -0.7**
comp=Z,6.1nm,1.0s,mb4.7,baz=56,slow=7.4,SNR=4.8
YKA Yellowknife Ar 62.93 30 P **P 11 50 05.9 -0.9**
comp=Z,0.8nm,0.7s,mb4.0,baz=300,slow=5.8,SNR=12
OBN Obninsk 67.03 323 ⇑ *e*P **P 11 50 33.0 -0.6**
OBN pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
FINES FINESS Array B 67.68 332 P **P 11 50 36.2 -1.4**
FINES pmax pmax
comp=Z,3.0nm,0.7s
FINES FINESS Array B 67.68 332 P **P 11 50 36.1 -1.5**
comp=Z,3.4nm,0.7s,mb4.5,baz=46,slow=8.2,SNR=5.3
STKA Stephens Creek 69.71 180 P **P 11 50 49.6 -0.8**
comp=Z,1.5nm,0.8s,mb4.0,baz=0.0,slow=5.1,SNR=2.9
KIV Kislovodsk 69.97 310 *e*P **P 11 50 52.3 +0.1**
KIV pmax pmax
comp=Z,11nm,1.0s,mb4.7
WALA Waterton Lakes 70.74 42 *e*P **P 11 50 57.1 +0.3**
comp=Z,3.1nm,0.7s,mb4.3
BMO Blue Mountains 71.32 47 *e*P **P 11 51 00.6 +0.2**
comp=Z,1.9nm,0.6s,mb4.2
FFC Flin Flon 72.86 33 *e*P **P 11 51 09.1 -0.4**
comp=Z,2.2nm,0.6s,mb4.3
FFC Flin Flon 72.86 33 *e*P **P 11 51 09.1 -0.3**
FFC pmax pmax
comp=Z,2.0nm,0.6s,mb4.2
HFS Hagfors 72.94 335 P **P 11 51 09.0 -0.8**
baz=63,slow=6.6
NB2 NORSAR Subarra 73.03 337 P **P 11 51 09.6 -0.7**
comp=Z,2.1nm,0.6s,mb4.2,baz=39,slow=6.2
NOA NORSAR Array B 73.03 337 P **P 11 51 09.5 -0.8**
NOA pmax pmax
comp=Z,3.0nm,0.7s
NOA NORSAR Array B 73.03 337 P **P 11 51 09.5 -0.8**
comp=Z,3.2nm,0.7s,mb4.4,baz=39,slow=6.0,SNR=7.2
FCC Fort Churchill 73.07 27 *e*P **P 11 51 09.8 -0.9**
comp=Z,3.8nm,0.8s,mb4.4
FCC Fort Churchill 73.07 27 *e*P **P 11 51 09.8 -0.8**
FCC pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
AKASG Malin Array Be 73.24 322 P **P 11 51 10.4 -1.3**
AKASG pmax pmax
comp=Z,1.0nm,0.4s
AKASG Malin Array Be 73.24 322 P **P 11 51 10.3 -1.4**
comp=Z,1.4nm,0.3s,mb4.3,baz=44,slow=6.2,SNR=22
HRY Holter Researc 73.28 43 *e*P **P 11 51 12.4 +0.4**
LRM Limekiln Ridge 73.49 44 *e*P **P 11 51 13.4 +0.1**
EGMT Eagleton 73.56 41 *e*P **P 11 51 13.6 -0.1**
comp=Z,5.7nm,0.7s,mb4.6
DLMT Dillon 73.69 45 *e*P **P 11 51 15.6 +1.1**
comp=Z,9.6nm,1.2s,mb4.6
HLID Hailey 73.76 47 *e*P **P 11 51 14.9 -0.1**
comp=Z,1.7nm,0.8s,mb4.0
BOZ Bozeman (W) 74.05 44 *e*P **P 11 51 17.7 +1.1**
comp=Z,2.4nm,0.8s,mb4.2
BOZ Bozeman (W) 74.05 44 *e*P **P 11 51 17.7 +1.1**
BOZ pmax pmax
comp=Z,2.0nm,0.8s,mb4.1
NVAR Mina Array Bea 74.49 53 P **P 11 51 20.6 +1.4**
comp=Z,1.9nm,0.8s,mb4.1,baz=295,slow=3.8,SNR=13
QRN Al-Qurain 75.17 295 *e*P **P 11 51 22.4 -0.9**
QRN AMb AMB 11 51 23.5
comp=Z,26nm,0.8s,mb5.2
RDF Al-Radifah 75.32 295 *e*P **P 11 51 22.5 -1.8**
RDF AMb AMB 11 51 28.0
comp=Z,24nm,0.7s,mb5.3
NAY Al-Naaiem 75.36 296 *e*P **P 11 51 22.9 -1.5**
NAY AMb AMB 11 51 24.3
comp=Z,7.5nm,0.8s,mb4.7
RST Umm Al-Ruwaisa 75.38 296 *e*P **P 11 51 23.4 -1.2**
RST AMb AMB 11 51 24.6
comp=Z,9.0nm,0.9s,mb4.7
IMW Indian Meadow 75.53 45 *e*P **P 11 51 26.7 +1.5**
comp=Z,3.2nm,0.8s,mb4.3
MOOW Moose Ponds 75.73 45 *e*P **P 11 51 27.1 +0.8**
comp=Z,8.9nm,1.5s,mb4.5
HWUT Hardware Ranch 76.62 47 *e*P **P 11 51 32.1 +0.7**
comp=Z,12nm,1.4s,mb4.6
TPNV Topopah Spring 76.68 53 *e*P **P 11 51 32.5 +0.6**
comp=Z,3.1nm,0.7s,mb4.3
TPNV Topopah Spring 76.68 53 *e*P **P 11 51 32.5 +0.6**
TPNV pmax pmax
comp=Z,3.0nm,0.7s,mb4.3
DUG Dugway 76.78 49 *e*P **P 11 51 33.2 +0.8**
comp=Z,3.8nm,0.8s,mb4.4
DUG Dugway 76.78 49 *e*P **P 11 51 33.2 +0.8**
DUG pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
BW06 Boulder Array 77.03 45 *e*P **P 11 51 33.7 -0.1**
comp=Z,2.2nm,0.6s,mb4.3
PDAR Pinedale Array 77.03 45 P **P 11 51 33.4 -0.4**
comp=Z,2.6nm,0.6s,mb4.3,baz=287,slow=1.7,SNR=16
ULM Lac du Bonnet 78.67 33 P **P 11 51 42.6 -0.1**
comp=Z,2.1nm,0.7s,mb4.2,baz=7.1,slow=8.1,SNR=2.6
WUAZ Wupatki 80.64 52 *e*P **P 11 51 54.0 +0.3**
comp=Z,6.9nm,1.2s,mb4.5
GERES GERESS Array B 81.60 328 P **P 11 51 57.2 -1.4**
GERES pmax pmax
comp=Z,1.0nm,0.4s
GERES GERESS Array B 81.60 328 P **P 11 51 57.2 -1.4**
comp=Z,0.5nm,0.4s,mb3.8,baz=22,slow=4.9,SNR=3.8
SDCO Great Sand Dun 82.68 47 *e*P **P 11 52 05.1 +0.7**
comp=Z,1.3nm,0.9s,mb4.0
ANMO Albuquerque 84.02 50 *e*P **P 11 52 12.2 +0.8**
comp=Z,6.9nm,1.5s,mb4.6
ANMO Albuquerque 84.02 50 *e*P **P 11 52 12.2 +0.8**
ANMO pmax pmax
comp=Z,7.0nm,1.5s
ANMO Albuquerque 84.02 50 ⇑ *e*P **P 11 52 12.4 +1.0**
SCHQ Scheefferville 84.29 16 P **P 11 52 12.3 -0.1**
comp=Z,2.9nm,0.7s,mb4.5,baz=330,slow=4.1,SNR=5.3
TXAR Lajitas Array 89.60 52 P **P 11 52 39.3 +0.6**
TXAR pmax pmax
comp=Z,2.0nm,0.6s
TXAR Lajitas Array 89.60 52 P **P 11 52 39.3 +0.5**
comp=Z,2.1nm,0.6s,mb4.6,baz=293,slow=3.6,SNR=24
LPAZ La Paz 146.29 58 *e*PKPdf PKPdf 11 59 22.3 +1.6
LPAZ La Paz 146.29 58 PKP2 PKPab 11 59 22.5 -0.2
LPAZ pmax pmax
comp=Z,2.0nm,0.4s
LPAZ La Paz 146.29 58 PKPbc PKPbc 11 59 22.4 +0.6
comp=Z,1.7nm,0.4s,baz=336,slow=3.4,SNR=6.8

IDC 05 11:46:11.4±1.6, 723S×15473E, h0km, mb3.9/8, mb1 4.0/8, mb1mx3.9/15, mbtmp3.9/8, MS3.8/2, Ms1 3.8/2, ms1mx3.0/19, Error ellipse: s-maj=48.7km s-min=22.9km az=99.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.47**	**235**	P	P	11 51 22.9	-0.1
	1.0nm,0.6s,baz=60,slow=9.3,SNR=5.7						
ASAR	**Alice Springs**	**25.82**	**228**	P	P	11 51 42.7	-1.9
	0.6nm,0.8s,baz=57,slow=8.4,SNR=4.6						
STKA	**Stephens Creek**	**27.41**	**205**	P	P	11 51 59.4	+0.5
	1.9nm,0.8s,baz=31,slow=12,SNR=2.7						
FITZ	**Fitzroy Crossi**	**30.32**	**246**	P	P	11 52 26.1	+1.2
	1.9nm,0.9s,baz=81,slow=13,SNR=1.8						
RAR	**Rarotonga**	**46.06**	**112**	LR	LR	12 10 18.4	
	comp=Z,312nm,18.4s,baz=71,slow=31						
KSRS	**Korea Array**	**51.03**	**333**	LR	LR	12 16 03.0	
	comp=Z,23nm,19.0s,baz=350,slow=35						
SONM	**Songino Array**	**69.39**	**327**	P	P	11 57 20.6	-0.5
	1.2nm,0.7s,baz=133,slow=6.3,SNR=2.8						
VNDA	**Vanda**	**70.35**	**178**	P	P	11 57 26.6	+0.1
	0.9nm,0.7s,baz=264,slow=3.7,SNR=3.8						
MKAR	**Makanchi Array**	**83.41**	**319**	P	P	11 58 41.4	+0.7
	1.9nm,0.7s,baz=104,slow=5.1,SNR=8.4						
ZALV	**Zalesovo Beam**	**84.23**	**326**	P	P	11 58 45.1	+0.4
	0.5nm,0.3s,baz=110,slow=6.5,SNR=4.6						

IDC 05 11:56:01.8±2.5, 566S×10344E, h0km, mb3.6/6, mb1 3.7/6, mb1mx3.6/18, mbtmp3.6/6, Error ellipse: s-maj=88.6km s-min=22.5km az=55.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**33.22**	**118**	P	P	12 02 40.7	0.0
	0.2nm,0.6s,baz=308,slow=8.8,SNR=4.7						
ASAR	**Alice Springs**	**34.35**	**125**	P	P	12 02 51.5	+0.9
	0.1nm,0.3s,baz=303,slow=7.8,SNR=6.2						
KSRS	**Korea Array**	**48.59**	**26**	P	P	12 04 46.7	-0.5
	0.7nm,0.6s,baz=254,slow=7.5,SNR=3.5						
SONM	**Songino Array**	**53.33**	**2**	P	P	12 05 23.8	+1.1
	1.1nm,0.8s,baz=173,slow=9.6,SNR=6.9						
MKAR	**Makanchi Array**	**55.49**	**342**	P	P	12 05 38.8	+0.3
	0.4nm,0.5s,baz=148,slow=7.8,SNR=6.8						
ZALV	**Zalesovo Beam**	**61.42**	**348**	P	P	12 06 19.7	0.0
	0.8nm,0.4s,baz=155,slow=6.9,SNR=6.3						
TXAR	**Lajitas Array**	**145.21**	**44**	PKPbc	PKPbc	12 15 39.1	-2.7
	0.4nm,0.6s,baz=280,slow=0.4,SNR=8.7						

IDC 05 11:59:32.2±1.2, 792S×15591E, h0km, mb3.8/8, mb1 4.0/8, mb1mx3.9/14, mbtmp3.8/8, MS3.4/2, Ms1 3.5/2, ms1mx2.9/22, Error ellipse: s-maj=43.2km s-min=22.7km az=100.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**15.29**	**217**	LR	LR	12 06 55.5	
	comp=Z,49nm,19.1s,baz=56,slow=29						
WRA	**Warramunga Arr**	**24.07**	**238**	P	P	12 04 49.9	+0.4
	0.8nm,0.5s,baz=60,slow=9.4,SNR=15						
ASAR	**Alice Springs**	**26.27**	**231**	P	P	12 05 08.8	-0.6
	0.5nm,0.7s,baz=65,slow=9.8,SNR=4.8						
MJAR	**Matsushiro Arr**	**47.24**	**341**	P	P	12 08 05.6	-1.5
	1.3nm,0.7s,baz=162,slow=9.1,SNR=5.3						
KSRS	**Korea Array**	**52.17**	**332**	P	P	12 08 45.8	+1.1
	0.6nm,0.5s,baz=154,slow=6.8,SNR=3.6						
VNDA	**Vanda**	**69.64**	**179**	P	P	12 10 43.1	+0.1
	0.6nm,0.4s,baz=360,slow=5.5,SNR=7.6						
VNDA				LR	LR	12 35 07.7	
	comp=Z,84nm,19.1s,baz=46,slow=31						
MKAR	**Makanchi Array**	**84.69**	**319**	P	P	12 12 08.4	+0.4
	0.7nm,0.7s,baz=116,slow=5.5,SNR=6.4						
ZALV	**Zalesovo Beam**	**85.44**	**326**	P	P	12 12 11.7	+0.1
	0.4nm,0.3s,baz=98,slow=2.9,SNR=2.5						
YKA	**Yellowknife Ar**	**96.72**	**28**	P	P	12 13 04.2	-0.1
	0.2nm,0.6s,baz=268,slow=4.1,SNR=4.2						

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*BJI **05** 12:09:51.4, 20.12S×16965E, h10km, mb4.9, mB5.1, Ms5.1, Msz4.8*
*IDC **05** 12:09:52.3±1.0, 2060S×16894E, h0km, mb4.4/10, mb1 4.5/11, mb1mx4.4/17, mbtmp4.4/11, ML3.8/1, MS3.4/4, Ms1 3.4/4, ms1mx3.1/20, Error ellipse: s-maj=28.6km s-min=21.2km az=149.0*
*NEIC **05** 12:09:53.5±0.8, 2054S×16897E, h10km, mb4.9/10, Error ellipse: s-maj=17.6km s-min=16.0km az=167.0*
*ISCJB **05** 12:09:55.7±0.5, 2070S±008×16884E±008, h33km, mb4.6/18, MS3.7/4, Error ellipse: s-maj=12.2km s-min=9.3km az=145.0*
ISC 05 12:09:57.7±0.5, 2074S±008×16886E±008, h35km, n36, σ0 93/32, mb4.6/18, MS3.7/4, 1C-2D, Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**2.61**	**239**	*e*P	**Pn**	**12 10 35.8**	**-1.6**
DZM				*e*S	**Sn**	**12 11 07.5**	**-0.3**
URZ	**Urewera**	**18.46**	**160**	P	**Pn**	**12 14 17.1**	**+1.6**
	0.3nm,0.3s,baz=319,slow=11,SNR=3.4						
URZ				LR	LR	12 20 46.7	
	comp=Z,143nm,18.6s,baz=121,slow=34						
CTA	**Charters Tower**	**21.20**	**268**	*e*P	**P**	**12 14 42.4**	**+2.1**
	4.5nm,0.6s,mb4.0						
CTA	**Charters Tower**	**21.20**	**268**	P	**P**	**12 14 42.1**	**+1.7**
	20nm,1.2s,mb4.3,baz=98,slow=14,SNR=9.1						
CTA				LR	LR	12 21 30.1	
	comp=Z,69nm,18.4s,MS3.1,baz=176,slow=33						
CTAO	**Charters Tower**	**21.20**	**268**	*e*P	**P**	**12 14 42.5**	**+2.1**
	14nm,1.0s,mb4.3						
CNB	**Canberra Magne**	**22.45**	**226**	*e*P	**P**	**12 14 57.0**	**+3.4**
	36nm,1.0s,mb4.8						
STKA	**Stephens Creek**	**26.77**	**240**	⇓ *i*P	**P**	**12 15 35.5**	**+1.3**
	7.3nm,0.6s,mb4.4						
STKA	**Stephens Creek**	**26.77**	**240**	P	**P**	**12 15 35.2**	**+1.0**
	11nm,0.8s,mb4.5,baz=72,slow=9.3,SNR=24						
STKA				LR	LR	12 26 10.3	
	comp=Z,133nm,18.6s,MS3.5,baz=209,slow=36						
WB2	**Warramunga Arr**	**32.33**	**265**	*e*P	**P**	**12 16 22.9**	**-0.9**
WRA	**Warramunga Arr**	**32.34**	**265**	P	**P**	**12 16 23.0**	**-0.9**
	2.0nm,0.4s,mb4.3,baz=92,slow=8.5,SNR=105						
WRA				PcP	PcP	12 19 11.4	+0.1
	0.9nm,0.8s,baz=94,slow=2.2,SNR=6.0						
ASAR	**Alice Springs**	**32.45**	**258**	P	**P**	**12 16 24.7**	**0.0**
	13nm,0.7s,mb4.9,baz=84,slow=9.3,SNR=150						
ASAR				PcP	PcP	12 19 10.9	-0.6
	1.2nm,0.8s,baz=90,slow=3.0,SNR=6.3						
PPT	**Papeete**	**39.31**	**93**	LR	LR	12 29 11.9	
	comp=Z,36nm,19.6s,MS3.2,baz=273,slow=30						
FITZ	**Fitzroy Crossi**	**40.76**	**266**	⇓ *i*P	**P**	**12 17 36.1**	**+0.5**
	24nm,0.6s,mb5.0						
FITZ	**Fitzroy Crossi**	**40.76**	**266**	P	**P**	**12 17 36.1**	**+0.5**
	15nm,0.7s,mb4.7,baz=131,slow=8.9,SNR=30						
BATI	**Kupang**	**44.67**	**276**	P	**P**	**12 18 09.2**	**+1.8**
	9.4nm,0.6s,mb4.8,baz=325,slow=3.7,SNR=4.0						
MBWA	**Marble Bar**	**45.73**	**260**	*e*P	**P**	**12 18 15.9**	**+0.1**
	39nm,1.3s,mb5.2						
KLBR	**Kellerberrin**	**46.76**	**246**	*e*P	**P**	**12 18 23.1**	**-0.6**
	23nm,1.0s,mb5.1						
NWAO	**Narrogin (SRO)**	**47.22**	**244**	*e*P	**P**	**12 18 27.1**	**-0.2**
	25nm,1.2s,mb5.0						
MJAR	**Matsushiro Arr**	**63.91**	**333**	P	**P**	**12 20 27.3**	**+0.3**
	1.1nm,0.9s,mb3.9,baz=148,slow=7.2,SNR=3.0						
QSPA	**South Pole Qui**	**69.32**	**180**	*e*P	**P**	**12 21 00.7**	**-0.2**
	4.4nm,0.9s,mb4.4						
KSRS	**Korea Array**	**69.55**	**326**	P	**P**	**12 21 02.6**	**-0.3**
	1.0nm,0.8s,mb3.8,baz=121,slow=7.1,SNR=4.2						
NJ2	**Nanjing**	**71.04**	**317**	*e*P	**P**	**12 21 12.2**	**0.0**
NJ2				AMB	AMB		
	comp=Z,20nm,0.8s,mb5.1						
MDJ	**Mudanjiang**	**74.27**	**332**	P	**P**	**12 21 30.9**	**-0.2**
MDJ				AP	pP	12 21 33.8	-8.2
MDJ				XP	sP	12 21 35.3	-11
MDJ				AMB	AMB		
	comp=Z,6.0nm,0.8s,mb4.6						
MDJ				AMB	AMB		
	comp=Z,97nm,4.5s						
SYO	**Syowa Base**	**83.40**	**196**	⇑ *e*P	**P**	**12 22 17.4**	**-3.5**
LZH	**Lanzhou**	**83.47**	**312**	*e*P	**P**	**12 22 22.5**	**+0.7**
LZH				AP	pP	12 22 27.3	-5.6
LZH				XP	sP	12 22 29.6	-7.3
LZH				PP	PP	12 25 37.6	+3.0
LZH				AMB	AMB		
	comp=Z,22nm,1.5s,mb5.0						
LZH				AMB	AMB		
	comp=Z,139nm,6.7s						
LZH				LR	LR		
	comp=E,457nm,17.2s						
LZH				LR	LR		
	comp=Z,719nm,19.3s,MS5.1						
LZH	**Lanzhou**	**83.47**	**312**	*e*P	**P**	**12 22 22.5**	**+0.7**
	comp=Z,22nm,1.5s,mb5.0						
LZH				pP	pP	12 22 27.3	-5.6
LZH				sP	sP	12 22 29.6	-7.3
LZH				PP	PP	12 25 37.6	+3.0
LZH				LR	LR		
	comp=Z,720nm,19.3s,MS5.1						
SNAA	**Sanae**	**87.65**	**183**	*e*	**P**	**12 22 41.2**	**-0.9**
SNAA				*e*		12 22 42.5	
SNAA				*e*		12 22 44.7	
SONM	**Songino Array**	**88.20**	**323**	P	**P**	**12 22 44.6**	**-0.3**
	comp=Z,1.0nm,0.8s,mb4.1,baz=140,slow=7.2,SNR=7.0						
VNA3	**Neumayer Olymp**	**88.25**	**180**	*e*	**P**	**12 22 44.5**	**-0.4**
VNA3				*e*		12 22 45.5	
VNA3				*e*		12 22 48.1	
VNA3				*e*		12 22 51.1	
VNA2	**Neumayer--Watz**	**88.54**	**181**	*e*	**P**	**12 22 46.4**	**+0.1**
	baz=189,slow=4.6						
VNA2				*e*		12 22 47.6	
VNA2				*e*		12 22 49.7	
VNA2				*e*		12 22 52.5	
VNA1	**Neumayer--Stat**	**88.83**	**181**	*e*	**P**	**12 22 47.5**	**-0.2**
VNA1				*e*		12 22 48.8	
VNA1				*e*		12 22 50.6	
VNA1				*e*		12 22 54.3	
NVAR	**Mina Array Bea**	**90.06**	**49**	P	**P**	**12 22 53.1**	**-0.8**
	comp=Z,0.5nm,0.6s,mb4.0,baz=237,slow=8.3,SNR=5.4						
EKA	**Eskdalemuir Ar**	**144.94**	**352**	PKP	PKPdf	12 29 29.1	-1.7
	comp=Z,2.3nm,0.8s,baz=345,slow=2.9,SNR=5.7						
KHC	**Kasperske Hory**	**145.48**	**331**	*e*PKP	PKPdf	12 29 31.5	-0.4
GERES	**GERESS Array B**	**145.63**	**331**	PKPbc	PKPbc	12 29 32.6	+0.2
	comp=Z,1.0nm,0.7s,baz=44,slow=3.0,SNR=4.2						
DAVOX	**Davos/Dischmat**	**148.89**	**332**	PKPbc	PKPbc	12 29 41.7	+0.1
	comp=Z,3.5nm,0.7s,baz=27,slow=9.0,SNR=5.0						

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*PDA **05** 12:31:33.6±0.9, 3735N×2461W, h10km, MD3.5, ML3.6, Error ellipse: s-maj=7.1km s-min=2.9km az=51.0*
*CSEM **05** 12:31:33.6±0.9, 3735N×2461W, h10km, ML3.6, Error ellipse: s-maj=7.1km s-min=2.9km az=51.0, After PDA*
SVSA 05 12:31:33.6±0.9, 3735N×2461W, h10km, MD3.5, ML3.6, Error ellipse: s-maj=7.1km s-min=2.9km az=51.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSMN	**Pico do Norte,**	**0.50**	**227**	*e*P	Pg	12 31 42.0	-1.3
MIRA	**Miradouro**	**0.69**	**310**	*e*P	Pg	12 31 44.4	-2.5
FRA1	**Furnas**	**0.71**	**304**	*e*P	Pg	12 31 44.8	-2.6
PFAD	**Fenais da Ajud**	**0.75**	**311**	*e*P	Pg	12 31 45.4	-2.7
PCNG	**Congro**	**0.75**	**304**	*e*P	Pg	12 31 45.4	-2.7
PCNG				*e*S	Sg	12 31 54.2	-3.7
PCNG				A		12 31 59.4	
	453nm,0.3s						
PCNG	**Congro**	**0.75**	**304**	*e*P	Pg	12 31 45.4	-2.7
PCNG				*e*S	Sg	12 31 54.2	-3.7
VIF	**Vila Franca**	**0.77**	**301**	*e*P	Pg	12 31 45.6	-2.8
VIF				*e*S	Sg	12 31 54.0	-4.5
VIF				A		12 32 00.5	
	619nm,0.3s						
VIF	**Vila Franca**	**0.77**	**301**	*e*P	Pg	12 31 45.6	-2.8
VIF				*e*S	Sg	12 31 54.0	-4.5
PRCH	**Ribeira Ch**	**0.79**	**299**	*e*P	Pg	12 31 45.8	-3.0
PRCH				*e*S	Sg	12 31 55.5	-3.6
PRCH				A		12 31 58.2	
	1μm,0.2s						
PRCH	**Ribeira Ch**	**0.79**	**299**	*e*P	Pg	12 31 45.8	-3.0
PRCH				*e*S	Sg	12 31 55.5	-3.6
MESC	**Monte Escuro**	**0.80**	**304**	*e*P	Pg	12 31 46.2	-2.8
MESC				*e*S	Sg	12 31 55.5	-3.9
LFA	**Lagoa do Fogo**	**0.81**	**302**	*e*P	Pg	12 31 46.4	-2.9
PMAT	**Coroa da Mata**	**0.83**	**305**	*e*P	Pg	12 31 46.6	-3.0
PMAT				A		12 31 58.6	
	393nm,0.4s						
PVER	**Pico Vermelho**	**0.85**	**302**	*e*P	Pg	12 31 46.7	-3.2
PVER				*e*S	Sg	12 31 56.7	-4.2
PVER				A		12 32 01.6	
	762nm,0.5s						
PVER	**Pico Vermelho**	**0.85**	**302**	*e*P	Pg	12 31 46.7	-3.2
PVER				*e*S	Sg	12 31 56.7	-4.2
CML	**Cha da Macela**	**0.85**	**300**	*e*P	Pg	12 31 46.9	-3.2
PDA	**Ponta Delgada**	**0.93**	**296**	*e*P	Pg	12 31 46.4	-5.0
PDA				*e*S	Sg	12 31 56.7	-6.8
FAC	**Faja de Cima**	**0.93**	**298**	*e*P	Pg	12 31 47.9	-3.6
PSAN	**Santo Antonio**	**1.02**	**300**	*e*P	Pg	12 31 49.3	-3.9
PFET	**Feteiras**	**1.05**	**297**	*e*P	Pg	12 31 50.1	-3.6
SET2	**Ginetes**	**1.07**	**298**	*e*P	Pg	12 31 50.2	-4.0
SET4	**Mosteiros**	**1.08**	**299**	*e*P	Pg	12 31 50.3	-4.1
PFAV	**Pico das Favas**	**2.38**	**306**	*e*P	Pn	12 32 08.3	-4.4
PFAV				*e*S	Sn	12 32 34.3	-7.6
PSCM	**Serra do Cume**	**2.40**	**305**	*i* P	Pn	12 32 08.2	-4.7
PSCM				*e*S	Sn	12 32 34.4	-7.9
PSCM				A		12 32 36.7	
	415nm,0.5s						
RIB2	**Ribeirinha**	**2.42**	**304**	*e*P	Pn	12 32 08.5	-4.7
RIB2				*e*S	Sn	12 32 35.2	-7.6
RIB2				A		12 32 36.6	
	175nm,0.3s						
RIB2	**Ribeirinha**	**2.42**	**304**	*e*P	Pn	12 32 08.5	-4.7
RIB2				*e*S	Sn	12 32 35.2	-7.6
ADH	**Angra Heroismo**	**2.45**	**303**	*e*P	Pn	12 32 08.9	-4.7
ADH				*e*S	Sn	12 32 35.3	-8.3
PVNV	**Vila Nova**	**2.46**	**306**	*e*P	Pn	12 32 09.6	-4.1
PVNV				*e*S	Sn	12 32 36.1	-7.6
PVNV				A		12 32 40.5	
	80nm,0.3s						
PVNV	**Vila Nova**	**2.46**	**306**	*e*P	Pn	12 32 09.6	-4.1
PVNV				*e*S	Sn	12 32 36.1	-7.6
PPAD	**Pico dos Padre**	**2.51**	**303**	*e*P	Pn	12 32 10.4	-4.0
PPAD				*e*S	Sn	12 32 37.5	-7.5
PPAD				A		12 32 39.6	
	60nm,0.2s						
PPAD	**Pico dos Padre**	**2.51**	**303**	*e*P	Pn	12 32 10.4	-4.0
PPAD				*e*S	Sn	12 32 37.5	-7.5
PBIS	**Biscoitos**	**2.52**	**305**	*e*P	Pn	12 32 10.3	-4.2
PBIS				*e*S	Sn	12 32 37.9	-7.4
PBIS				A		12 32 40.2	
	31nm,0.2s						
PBIS	**Biscoitos**	**2.52**	**305**	*e*P	Pn	12 32 10.3	-4.2
PBIS				*e*S	Sn	12 32 37.9	-7.4
ASBA	**Santa Barbara**	**2.54**	**303**	*e*P	Pn	12 32 10.3	-4.6
ASBA				*e*S	Sn	12 32 38.3	-7.6
ASBA				A		12 32 42.1	
	105nm,0.3s						
ASBA	**Santa Barbara**	**2.54**	**303**	*e*P	Pn	12 32 10.3	-4.6
ASBA				*e*S	Sn	12 32 38.3	-7.6
PIED	**Piedade**	**2.93**	**292**	*e*P	Pn	12 32 15.6	-4.6
PID	**Ribeirinha**	**2.98**	**293**	*i* P	Pn	12 32 16.6	-4.3
PID				*e*S	Sn	12 32 49.3	-7.4
ROSA	**Rosais**	**3.18**	**297**	*e*P	Pn	12 32 19.4	-4.2
STGR	**Santa Cruz**	**3.18**	**304**	*e*P	Pn	12 32 19.6	-4.1
PICO	**Pico**	**3.23**

SIQV	**Siquisique**	**0.64**	**13**⇑	*i*P	Pg	12 52 15.3	0.0
SIQV				*e*S	Sg	12 52 23.9	+0.2
SANV	**Sanarito**	**0.66**	**141**⇓	*i*P	Pg	12 52 14.6	-1.0
SANV				*e*S	Sg	12 52 23.8	-0.3
TEPV	**Terepaima**	**0.75**	**94**⇓	*i*P	Pg	12 52 17.1	-0.3
TEPV				*e*S	Sg	12 52 27.0	-0.1
DABV	**Dabajuro**	**1.12**	**323**⇓	*e*P	Pg	12 52 24.0	-0.5
DABV				*e*S	Sg	12 52 39.3	+0.3
JACV	**Jacura**	**1.53**	**46**	*e*P	Pn	12 52 30.5	-0.3
JACV				*e*S	Sn	12 52 50.5	-0.5
VIGV	**El Vigia**	**1.82**	**230**	*e*P	Pn	12 52 34.7	0.0
VIGV				*e*S	Sn	12 52 56.7	-1.3
SOCV	**Socops**	**1.94**	**207**⇓	*i*P	Pn	12 52 36.6	+0.3
SOCV				*e*S	Sn	12 53 00.5	-0.5
TURV	**Turiamo**	**2.12**	**78**⇓	*e*P	Pn	12 52 38.1	-0.7
TURV				*e*S	Sn	12 53 05.0	-0.6
BAUV	**El Baul**	**2.17**	**119**	*e*P	Pn	12 52 39.3	-0.2
BAUV				*e*S	Sn	12 53 05.6	-1.0
VIRV	**Villa del Rosa**	**2.46**	**282**⇓	*i*P	Pn	12 52 41.9	-1.7
VIRV				*e*S	Sn	12 53 12.4	-1.5
IMOV	**Isla Los Monje**	**2.51**	**338**	*e*P	Pn	12 52 43.0	-1.2
ELOV	**Elorza**	**3.03**	**171**	*e*P	Pn	12 52 50.5	-1.0
ELOV				*e*S	Sn	12 53 25.4	-2.6
CAPV	**Capacho**	**3.17**	**228**	*e*P	Pn	12 52 52.6	-0.6
CAPV				*e*S	Sn	12 53 29.4	-1.9
MERV	**Las Mercedes**	**3.69**	**102**	*e*P	Pn	12 52 59.5	-0.9
CAOV	**Caicara del Or**	**4.48**	**126**	*e*P	Pn	12 53 09.9	-1.4
CAOV				*e*S	Sn	12 53 59.8	-3.9

IDC ***05*** *12:53:48.4±1.3, 3736N×2453W, h0km, mb3.7/3, mb1 3.9/4, mb1mx3.6/24, mbtmp3.6/4, ML4.3/1, Error ellipse: s-maj=47.3km s-min=26.2km az=21.0*
CSEM ***05*** *12:53:51.7±0.3, 3755N×2438W, h5km, MD3.9, Error ellipse: s-maj=16.2km s-min=3.0km az=26.0, After PDA*
PDA ***05*** *12:53:51.7±0.3, 3755N×2438W, h5km, MD3.9, Error ellipse: s-maj=16.2km s-min=3.0km az=26.0*
SVSA ***05*** *12:53:51.7±0.3, 3755N×2438W, h5km, MD3.9, Error ellipse: s-maj=16.2km s-min=3.0km az=26.0*

ISC 05 12:53:51.9±1.6, 374N±02×2472W±010, h27km±10km, n11, σ0§67/15, mb3.7/4, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDA	**Ponta Delgada**	**0.84**	**298**	*e*P	**Pb**	**12 54 08.0**	**+0.1**
PDA				*e*S	**Sb**	**12 54 18.6**	**-0.3**
PID	**Ribeirinha**	**2.90**	**293**	*e*P	**Pn**	**12 54 36.4**	**+0.2**
ROSA	**Rosais**	**3.10**	**297**	*e*P	**Pn**	**12 54 39.1**	**+0.2**
ROSA				*e*S	**Sn**	**12 55 14.3**	**-0.7**
PICO	**Pico**	**3.15**	**292**	*e*P	**Pn**	**12 54 39.8**	**+0.2**
PICO				*e*S	**Sn**	**12 55 16.3**	**+0.1**
HOR	**Horta**	**3.30**	**292**	*e*S	**Sn**	**12 55 19.8**	**-0.4**
CALA	**Caldeira**	**3.38**	**292**	*e*P	**Pn**	**12 54 43.2**	**+0.4**
CALA				*e*S	**Sn**	**12 55 21.9**	**0.0**
ESDC	**Sonseca Array**	**16.41**	**76**	Pn	**Pn**	**12 57 40.1**	**-0.1**
	0.2nm,0.3s,baz=269,slow=12,SNR=4.6						
TORD	**Torodi Ar. Bea**	**33.72**	**129**	P	**P**	**13 00 29.9**	**-1.1**
	1.1nm,0.9s,mb3.8,baz=317,slow=12,SNR=5.2						
YKA	**Yellowknife Ar**	**57.60**	**327**	P	**P**	**13 03 38.6**	**-0.3**
	0.2nm,0.7s,mb3.2,baz=73,slow=7.0,SNR=4.1						
AKTO	**Aktyubinsk**	**58.07**	**48**	P	**P**	**13 03 42.7**	**+0.3**
	1.3nm,0.8s,mb4.0,baz=271,slow=8.7,SNR=4.9						
TXAR	**Lajitas Array**	**64.67**	**289**	P	**P**	**13 04 30.3**	**+2.9**
	0.6nm,0.7s,mb3.8,baz=79,slow=6.5,SNR=7.0						

IDC ***05*** *12:55:14.2±1.1, 742S×1560E, h0km, mb4.0/6, mb1 4.1/7, mb1mx3.9/15, mbtmp4.1/7, ML4.2/1, MS3.5/5, Ms1 3.5/5, ms1mx3.3/21, Error ellipse: s-maj=33.6km s-min=27.2km az=123.0*
ISCJB ***05*** *12:55:17.7±0.8, 75S±02×156.1E±01, h33km, mb3.9/6, MS3.3/4, Error ellipse: s-maj=22.0km s-min=16.3km az=13.4*

ISC 05 12:55:19.6±0.8, 75S±02×1561E±01, h35km, n10, σ0§47/8, mb3.9/6, MS3.3/4, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.29**	**117**	Pn	**Pn**	**12 56 22.5**	**+0.1**
	12nm,0.3s,baz=246,slow=15,SNR=5.3						
HNR				Sn	**Sn**	**12 57 19.9**	**+8.7**
	43nm,0.3s,baz=270,slow=23,SNR=7.1						
HNR				LR	LR	12 58 01.6	
	comp=Z,836nm,18.5s,baz=355,slow=38						
GUMO	**Guam**	**23.71**	**332**	LR	LR	13 08 00.3	
	comp=Z,67nm,18.4s,MS3.1,baz=114,slow=32						
WRA	**Warramunga Arr**	**24.44**	**237**	P	**P**	**13 00 35.5**	**+0.3**
	1.5nm,0.5s,mb3.6,baz=64,slow=9.4,SNR=12						
WRA				PcP	PcP	13 04 13.1	-0.6
	0.5nm,0.5s,baz=72,slow=2.7,SNR=5.8						
WRA				LR	LR	13 08 49.5	
	comp=Z,46nm,21.2s,MS2.9,baz=150,slow=33						
ASAR	**Alice Springs**	**26.67**	**230**	P	**P**	**13 00 55.1**	**-0.3**
	0.4nm,0.7s,mb3.0,baz=66,slow=9.6,SNR=6.6						
STKA	**Stephens Creek**	**27.77**	**207**	LR	LR	13 11 17.9	
	comp=Z,81nm,18.8s,MS3.3,baz=24,slow=35						
RAO	**Raoul Island**	**32.68**	**135**	LR	LR	13 11 24.7	
	comp=Z,216nm,21.1s,MS3.8,baz=197,slow=30						
SONM	**Songino Array**	**70.33**	**327**	P	**P**	**13 06 30.4**	**+0.8**
	0.9nm,0.7s,mb3.8,baz=142,slow=6.9,SNR=6.0						
MKAR	**Makanchi Array**	**84.48**	**318**	P	**P**	**13 07 48.9**	**+0.1**
	3.7nm,0.7s,mb4.6,baz=103,slow=6.0,SNR=32						
ZALV	**Zalesovo Beam**	**85.18**	**326**	P	**P**	**13 07 51.3**	**-0.8**
	3.0nm,0.5s,mb4.7,baz=108,slow=6.0,SNR=15						
YKA	**Yellowknife Ar**	**96.26**	**28**	P	**P**	**13 08 43.8**	**-0.2**
	0.1nm,0.5s,mb3.5,baz=262,slow=4.5,SNR=5.5						

KRSC 05 13:09:03.8±0.5, 5506N×16224E, h18km±18km, ML3.8, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**0.58**	**211**	*i*P	Pg	13 09 15.7	+0.3
MKZ				*i*S	Sg	13 09 24.2	+1.0
KBTR	**Krutoberegovo**	**1.20**	**16**	*e*P	Pn	13 09 24.1	-1.5
KBTR				*i*S	Sb	13 09 39.2	-1.8
TUMR	**Tumrok**	**1.22**	**281**	*e*P	Pn	13 09 27.0	+1.1
TUMR				*i*S	Sb	13 09 43.7	+2.0
ZLN	**Zelenaya**	**1.26**	**320**	P	Pn	13 09 27.4	+0.9
ZLN				*i*S	Sb	13 09 44.1	+1.3
KMNR	**Kamenistaya**	**1.34**	**302**	*e*P	Pn	13 09 28.3	+0.8
KMNR				*i*S	Sn	13 09 45.5	+0.7
KPT	**Kopyto**	**1.46**	**309**	P	Pn	13 09 30.8	+1.5
KPT				*i*S	Sn	13 09 50.8	+2.9
KRSR	**Krestovskiy**	**1.50**	**321**	P	Pn	13 09 31.5	+1.8
KRSR				*i*S	Sn	13 09 51.4	+2.6
KLY	**Klyuchi**	**1.54**	**325**	*e*P	Pn	13 09 29.1	-1.3
KLY				*i*S	Sn	13 09 46.9	-3.0
KOZ	**Kozyrevsk**	**1.68**	**308**	P	Pn	13 09 32.8	+0.6
KOZ				*i*S	Sn	13 09 54.4	+1.2
SRKR	**Sorokina**	**1.71**	**340**	*e*P	Pn	13 09 33.2	+0.6
SRKR				*i*S	Sn	13 09 55.1	+1.1
SRDR	**Sredinnyy**	**1.91**	**312**	*e*P	Pn	13 09 36.2	+0.9
SRDR				*i*S	Sn	13 10 00.3	+1.5
KII	**Karymskiy**	**1.92**	**239**	*e*P	Pn	13 09 36.2	+0.6
KII				*i*S	Sn	13 10 00.3	+1.1
SPN	**Mys Shipunski**	**2.36**	**215**	P	Pn	13 09 41.5	-0.1
SPN				*i*S	Sn	13 10 08.8	-1.2
NLC	**Nalytchevo**	**2.55**	**223**	*e*P	Pn	13 09 44.7	+0.6
NLC				*i*S	Sn	13 10 15.2	+0.6
AVH	**Avacha**	**2.73**	**230**	*e*P	Pn	13 09 48.9	+2.2
AVH				*i*S	Sn	13 10 21.5	+2.3
GNL	**Ganaly**	**2.86**	**243**	*e*P	Pn	13 09 50.3	+1.8
GNL				*e*S	Sn	13 10 24.2	+1.8
PET	**Petropavlovsk**	**2.94**	**227**	*e*P	Pn	13 09 51.0	+1.5
PET				*i*S	Sn	13 10 26.2	+1.9
RUS	**Russkaya**	**3.44**	**222**	P	Pn	13 09 57.0	+0.6
RUS				*i*S	Sn	13 10 37.0	+0.4
GRL	**Gorelyy**	**3.52**	**226**	P	Pn	13 10 00.7	+3.1
MIPR	**Malaya Ipel'ka**	**4.29**	**232**	P	Pn	13 10 11.1	+3.0

ISCJB ***05*** *13:14:42.9±0.8, 1793N±004×6076W±004, h67km±8km, mb3.9/9, Error ellipse: s-maj=9.4km s-min=3.5km az=42.3*
TRN ***05*** *13:14:42.0, 1796N×6068W, h64km, MD4.1*
NEIC ***05*** *13:14:42.5, 1795N×6071W, h67km, MD4.5(RSPR), MD4.1(TRN), After TRN.*
RSPR ***05*** *13:14:42.7, 1953N×6084W, h25km±56km, MD4.5/13, MD4.5/13*
IDC ***05*** *13:14:42.1±4.5, 1802N×6054W, h35km±38km, mb3.9/7, mb1 4.1/11, mb1mx3.8/26, mbtmp4.0/11, ML3.4/3, MS3.3/5, Ms1 3.3/5, ms1mx3.1/26, Error ellipse: s-maj=22.0km s-min=16.1km az=56.0*

ISC 05 13:14:43.6±0.8, 1795N±004×6069W±005, h45km±9km, n53, σ1§13/75, mb3.9/9, MS3.3/3, 17C-1D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPB	**Codrington**	**1.13**	**254**	*e*P	**Pn**	**13 15 04.3**	**+1.4**
CPB				*e*S	**Sn**	**13 15 18.5**	**+1.2**
BPA	**Boggy Peak**	**1.43**	**231**	*e*P	**Pn**	**13 15 07.3**	**+0.2**
BPA				*e*S	**Sn**	**13 15 23.6**	**-1.2**
DEG	**La Desirade**	**1.67**	**192**⇑	*i*P	**Pn**	**13 15 09.4**	**-0.9**
SKI	**Saint Kitts**	**2.05**	**253**	*e*P	**Pn**	**13 15 16.7**	**+1.1**
SKI				*e*S	**Sn**	**13 15 43.6**	**+3.6**
LZG	**Guadaloupe-1**	**2.08**	**210**	*e*P	**Pn**	**13 15 16.9**	**+0.9**
MGG	**Marie-Galante**	**2.11**	**197**	*e*P	**Pn**	**13 15 16.4**	**0.0**
TBG	**Guadaloupe-3**	**2.28**	**204**⇑	*i*P	**Pn**	**13 15 19.7**	**+1.0**
DWS	**Wesley**	**2.44**	**194**	*e*P	**Pn**	**13 15 21.6**	**+0.6**
DWS				*e*S	**Sn**	**13 15 50.0**	**+0.3**
FDF	**Fort de France**	**3.23**	**188**	*e*P	**Pn**	**13 15 30.9**	**-0.9**
FDF				*e*S	**Sn**	**13 16 08.2**	**-0.9**
MVM	**Montagne Vaucl**	**3.38**	**183**	*e*P	**Pn**	**13 15 33.3**	**-0.6**
BIM	**Bigot**	**3.44**	**186**	*e*P	**Pn**	**13 15 34.4**	**-0.2**
ABV	**Anegada**	**3.54**	**283**⇑	*e*P	**Pn**	**13 15 35.8**	**-0.3**
ABV				*e*S	**Sn**	**13 16 17.4**	**+0.6**
TBVI	**Tortola**	**3.76**	**278**⇑	*e*P	**Pn**	**13 15 38.1**	**-1.0**
TBVI				*e*S	**Sn**	**13 16 21.2**	**-0.9**
STVI	**Saint Thomas**	**4.07**	**276**	*e*S	**Sn**	**13 16 28.8**	**-1.0**
SLB	**Belfond**	**4.12**	**185**	*e*P	**Pn**	**13 15 44.2**	**+0.2**
SLB				*e*S	**Sn**	**13 16 31.1**	**+0.3**
SSV	**Crater Summit**	**4.62**	**186**	*e*P	**Pn**	**13 15 52.2**	**+1.3**
SSV				*e*S	**Sn**	**13 16 41.1**	**-2.3**
MTP	**Monte Pirata**	**4.63**	**273**⇑	*e*P	**Pn**	**13 15 49.5**	**-1.5**
MTP				*e*S	**Sn**	**13 16 43.1**	**-0.4**
SVV	**Soufriere Volc**	**4.64**	**186**	*e*P	**Pn**	**13 15 52.8**	**+1.7**
SVV				*e*S	**Sn**	**13 16 42.1**	**-1.6**
SVB	**Belmont**	**4.69**	**187**	*e*P	**Pn**	**13 15 53.5**	**+1.7**
SVB				*e*S	**Sn**	**13 16 42.2**	**-2.7**
FCV	**Fort Charlotte**	**4.80**	**186**	*e*P	**Pn**	**13 15 54.3**	**+0.9**
FCV				*e*S	**Sn**	**13 16 46.9**	**-0.8**
HUMP	**Col San Antoni**	**4.91**	**273**⇑	*e*P	**Pn**	**13 15 55.3**	**+0.4**
HUMP	**Col San Antoni**	**4.91**	**273**⇑	*e*P	**Pn**	**13 15 55.3**	**+0.4**
HUMP				*e*S	**Sn**	**13 16 51.3**	**+0.8**
CBYP	**Canovanas**	**4.92**	**274**⇑	*e*P	**Pn**	**13 15 53.4**	**-1.6**
CBYP				*e*S	**Sn**	**13 16 49.1**	**-1.7**
CPD	**Cerro la Pandu**	**4.97**	**272**⇑	*e*P	**Pn**	**13 15 55.3**	**-0.4**
CPD	**Cerro la Pandu**	**4.97**	**272**	*e*S	**Sn**	**13 16 53.1**	**+1.1**
SJG	**San Juan**	**5.20**	**273**	*e*S	**Sn**	**13 16 57.5**	**-0.1**
SJG	**San Juan**	**5.20**	**273**⇑	*e*P	**Pn**	**13 15 59.5**	**+0.7**
SJG				*e*S	**Sn**	**13 16 57.5**	**-0.1**
SJG	**San Juan**	**5.20**	**273**	Pn	**Pn**	**13 15 59.2**	**+0.4**
	15nm,0.3s,baz=78,slow=14,SNR=9.2						
SJG				Sn	**Sn**	**13 16 59.5**	**+1.9**
	22nm,0.3s,baz=247,slow=20,SNR=14						
ICM	**Isla Caja Muer**	**5.55**	**270**⇑	*e*P	**Pn**	**13 16 03.9**	**+0.2**
ICM				*e*S	**Sn**	**13 17 07.3**	**+1.1**
CELP	**Cerrillos**	**5.61**	**272**⇑	*e*P	**Pn**	**13 16 04.9**	**+0.5**
CELP				*e*S	**Sn**	**13 17 06.8**	**-0.7**
OBIP	**Obispado Ponce**	**5.63**	**272**	*e*S	**Sn**	**13 17 08.9**	**+0.7**
AOPR	**Arecibo Observ**	**5.78**	**275**⇑	*e*P	**Pn**	**13 16 06.4**	**-0.4**
AOPR				*e*S	**Sn**	**13 17 09.6**	**-2.2**
LRS	**Lares**	**5.86**	**274**⇑	*e*P	**Pn**	**13 16 07.0**	**-0.9**
LRS				*e*S	**Sn**	**13 17 13.7**	**-0.2**
GBPR	**Guanica, Bosqu**	**5.89**	**271**⇑	*e*P	**Pn**	**13 16 08.6**	**+0.3**
GBPR	**Guanica, Bosqu**	**5.89**	**271**	*e*S	**Sn**	**13 17 16.4**	**+1.8**
LSP	**Las Mesas**	**6.09**	**273**⇑	*e*P	**Pn**	**13 16 10.6**	**-0.5**
LSP				*e*S	**Sn**	**13 17 18.2**	**-1.2**
CRPR	**Cabo Rojo, PR**	**6.11**	**271**⇓	*i*P	**Pn**	**13 16 10.9**	**-0.4**
CRPR				*e*S	**Sn**	**13 17 20.9**	**+0.9**
PCRV	**Puerto La Cruz**	**8.63**	**207**	Pn	**Pn**	**13 16 47.6**	**+1.7**
	0.6nm,0.3s,baz=238,slow=13,SNR=3.2						
PCRV				LR	LR	13 20 33.9	
	comp=Z,268nm,18.3s,baz=218,slow=40						
SDDR	**Presa de Saban**	**10.11**	**277**⇑	*e*P	**Pn**	**13 17 05.4**	**-0.8**
SDDR				*e*S	**Sn**	**13 18 55.1**	**-3.2**
SDV	**Santo Domingo**	**13.21**	**228**	Pn	**Pn**	**13 17 50.5**	**+1.9**
SDV				LR	LR	13 23 08.3	
SDV	**Santo Domingo**	**13.21**	**228**	Pn	**Pn**	**13 17 50.5**	**+1.9**
	0.3nm,0.3s,baz=336,slow=8.6,SNR=6.4						
SDV				LR	LR	13 23 08.3	
	comp=Z,91nm,21.4s,baz=29,slow=38						
ROSC	**El Rosal**	**18.64**	**227**	P	**Pn**	**13 18 58.9**	**+0.6**
	1.7nm,0.3s,baz=88,slow=18,SNR=9.7						
TEIG	**Tepich**	**26.16**	**279**	P	**P**	**13 20 16.0**	**+2.2**
	3.3nm,0.4s,mb4.2,baz=319,slow=5.9,SNR=6.4						
SIV	**San Ignacio**	**33.73**	**181**	P	**P**	**13 21 21.5**	**+0.7**
	3.3nm,0.7s,mb4.4,baz=15,slow=9.2,SNR=13						
LPAZ	**La Paz**	**34.80**	**193**	P	**P**	**13 21 31.1**	**+1.0**
	3.0nm,0.8s,mb4.2,baz=358,slow=12,SNR=13						
LPAZ				LR	LR	13 37 27.9	
	comp=Z,33nm,21.0s,MS3.1,baz=106,slow=39						
TXAR	**Lajitas Array**	**40.76**	**294**	P	**P**	**13 22 22.8**	**+2.3**
	0.1nm,0.6s,mb2.6,baz=131,slow=53,SNR=2.3						
ULM	**Lac du Bonnet**	**42.75**	**327**	LR	LR	13 40 01.4	
	comp=Z,109nm,19.1s,MS3.8,baz=312,slow=36						
PDAR	**Pinedale Array**	**48.06**	**312**	P	**P**	**13 23 18.5**	**0.0**
	0.5nm,0.6s,mb3.8,baz=111,slow=8.7,SNR=6.8						
CFAA	**Coronel Fontan**	**49.80**	**188**	LR	LR	13 45 38.0	
	comp=Z,14nm,21.7s,MS2.9,baz=241,slow=37						
MDT	**Midelt**	**52.22**	**62**	P	**P**	**13 23 50.0**	**-0.2**
	2.7nm,0.6s,mb4.4,baz=253,slow=10.0,SNR=5.4						
YKA	**Yellowknife Ar**	**57.88**	**334**	P	**P**	**13 24 28.5**	**-2.0**
	0.8nm,0.7s,mb3.9,baz=106,slow=7.4,SNR=14						
PLCA	**Paso Flores**	**59.10**	**189**	P	**P**	**13 24 38.0**	**-1.2**
	1.2nm,0.7s,mb4.0,baz=345,slow=14,SNR=3.2						
TORD	**Torodi Ar. Bea**	**60.06**	**85**	P	**P**	**13 24 45.4**	**-1.1**
	1.0nm,0.9s,mb3.9,baz=286,slow=6.6,SNR=4.6						

IDC 05 13:22:32.0±1.6, 752S×15522E, h0km, mb3.7/3, mb1 3.9/4, mb1mx3.8/15, mbtmp3.8/4, ML3.9/1, Error ellipse: s-maj=35.5km s-min=29.4km az=132.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.05**	**112**	Pn	Pn	13 23 49.3	+0.2
	4.8nm,0.3s,baz=270,slow=6.1,SNR=2.4						
WRA	**Warramunga Arr**	**23.71**	**236**	P	P	13 27 45.8	-0.1
	1.1nm,0.8s,baz=61,slow=9.5,SNR=6.3						
ASAR	**Alice Springs**	**26.00**	**229**	P	P	13 28 06.4	-0.4
	0.6nm,0.9s,baz=55,slow=8.0,SNR=5.9						
MJAR	**Matsushiro Arr**	**46.64**	**341**	P	P	13 31 02.4	+0.2
	2.7nm,0.7s,baz=165,slow=6.8,SNR=6.7						

MOS ***05*** *13:22:51.7±0.9, 5606N×11450E, h14km, mb5.2/78, MS4.5/23, Error ellipse: s-maj=5.7km s-min=4.1km az=101.4*
MOS Felt (IV) at Severomuisk, Uoyan; (II-III) at Chita.
LDG ***05*** *13:22:51.1±0.4, 5617N×11431E, h10km, Mb5.2/32, Ms4.2/7, Error ellipse: s-maj=18.6km s-min=6.5km az=122.0*
BJI ***05*** *13:22:51.6, 5609N×11477E, h9km, mB4.8, mb4.8, Ms4.9, Msz4.8*
IDC ***05*** *13:22:51.0±0.4, 5607N×11463E, h0km, mb4.6/25, mb1 4.7/27, mb1mx4.7/30, mbtmp4.6/27, ML4.2/2, MS4.2/16, Ms1 4.2/16, ms1mx4.0/27, Error ellipse: s-maj=15.3km s-min=10.8km az=57.0*
ISCJB ***05*** *13:22:52.3±0.1, 5607N±002×11440E±002, h14km, mb4.9/162, MS4.4/34, Error ellipse: s-maj=2.5km s-min=1.6km az=158.2*
NEIC ***05*** *13:22:53.0±0.1, 5605N×11454E, h10km, mb5.0/105, Error ellipse: s-maj=3.2km s-min=2.8km az=197.0*
NEIC Felt [IV] at Severomuysk and Uoyan; [III] at Chita.
GCMT ***05*** *13:22:53.0±0.3, 5616N×11434E, h27km±1km, MW4.9/61, Moment Tensor Solution. s25,c25; s61,c91; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.71±.16; $M_{\theta\theta}$1.73±.11; $M_{\phi\phi}$-0.02±.10; $M_{r\theta}$0.42±.15; $M_{r\phi}$0.96±.06; $M_{\theta\phi}$1.31±.18; Best double couple: $M_0$2.40300×10^{16} NP1:$\phi_0$221.00000°, δ63.00000°, λ-118.00000°. NP2: $\phi_0$91.00000°, δ38.00000°, λ-47.00000°. Principal axes: T 2.3800, Plg14.0000°, Azm331.0000°; N 0.0450, Plg25.0000°, Azm234.0000°; P -2.4260, Plg61.0000°, Azm87.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
BYKL ***05*** *13:22:53.7±0.3, 5607N×11456E, h22km±19km, FELT I=IV-V MSK at Yanchukan, Taksimo, Severomuisk, IV at Bodaibo, Mamakan, Irakinda, III-IV at Novyy Uoyan, Ust-Muya, III at Vitimskiy*
SZGRF ***05*** *13:22:57.0, 5763N×11604E, h15km, mb5.2, East of Lake Baykal, Russia*

ISC 05 13:22:54.3±0.1, 5606N±002×11443E±002, h15km, h15km±.7km: pP-P, n693, σ0§82/749, mb4.9/162, MS4.4/34, 121C-111D, East of Lake Baykal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SVKR	**Severomuysk**	**0.49**	**277**⇑	*i*PG	**Pg**	**13 23 03.4**	**-0.6**
SVKR				*e*		13 23 09.7	
SVKR				pmax	pmax		
	comp=Z,20μm,1.0s						
SVKR				smax			
	comp=N,362μm,0.7s						
SVKR	**Severomuysk**	**0.49**	**277**⇓	*i*Pg	**Pg**	**13 23 03.4**	**-0.6**
SVKR				Pmax		13 23 04.1	
	comp=N,16μm,0.3s						
SVKR				*i* Sg	**Sg**	**13 23 10.6**	**0.0**
SVKR				Smax		13 23 11.3	
	comp=N,361μm,0.7s						
UKT	**Uakit**	**0.73**	**219**	*e*PG	**Pg**	**13 23 07.6**	**-0.9**
UKT				*e*		13 23 17.7	
UKT				pmax	pmax		
	comp=Z,5μm,0.2s						
UKT				smax			
	comp=E,23μm,0.5s						
UKT	**Uakit**	**0.73**	**219**⇓	*i*Pg	**Pg**	**13 23 07.6**	**-0.9**
UKT				Pmax		13 23 08.9	
	comp=E,5μm,0.6s						
UKT				*i* Sg	**Sg**	**13 23 17.8**	**-0.3**
UKT				Smax		13 23 18.4	
	comp=E,57μm,0.6s						
NLYR	**Nelyaty**	**0.83**	**58**⇓	*i*PG	**Pg**	**13 23 07.6**	**-2.9**
NLYR				*e*S	**Sb**	**13 23 17.3**	**-4.1**
NLYR	**Nelyaty**	**0.83**	**58**⇓	*i*Pg	**Pg**	**13 23 07.8**	**-2.7**
NLYR				*e*Pb	**Pb**	**13 23 10.2**	**-0.2**
NLYR				max		13 23 10.7	
	comp=E,9μm,0.6s						
NLYR				*e*Sg	**Sg**	**13 23 18.2**	**-3.2**
NLYR				*e*Sb	**Sb**	**13 23 23.6**	**+2.2**
NLYR				max		13 23 24.5	
	comp=E,83μm,0.7s						
YOA	**Uoyan**	**1.52**	**274**⇓	*i*PN	**Pn**	**13 23 21.8**	**+1.0**
YOA				*e*		13 23 43.7	
YOA				pmax	pmax		
	comp=Z,27μm,0.6s						
YOA				smax			
	comp=E,159μm,0.4s						
YOA	**Uoyan**	**1.52**	**274**⇓	*i*Pg	**Pn**	**13 23 21.8**	**+1.0**
YOA				Pmax		13 23 31.5	
	comp=E,28μm,1.8s						
YOA				*i* Sg	**Sg**	**13 23 43.8**	**+0.7**
YOA				Smax		13 23 47.9	
	comp=E,130μm,0.7s						
BOD	**Bodaibo**	**1.78**	**353**	*e*PN	**Pn**	**13 23 23.7**	**-0.7**
BOD				*e*		13 23 24.6	
BOD				*e*		13 23 47.7	
BOD				pmax	pmax		
	comp=Z,38μm,0.6s						
BOD				smax			
	comp=E,59μm,0.9s						
BOD	**Bodaibo**	**1.78**	**353**⇑	*i*Pn	**Pn**	**13 23 23.7**	**-0.7**
BOD				⇓*i*Pg	**Pg**	**13 23 24.8**	**-3.6**
BOD				Pmax		13 23 25.7	
	comp=E,21μm,0.6s						
BOD				*i* Sg	**Sg**	**13 23 47.9**	**-3.6**
BOD				Smax		13 23 52.7	
	comp=E,38μm,0.6s						
KMO	**Kumora**	**1.82**	**266**⇑	*i*PN	**Pn**	**13 23 25.9**	**+0.9**
KMO				*e*		13 23 50.3	
KMO				pmax	pmax		
	comp=Z,17μm,0.5s						
KMO				smax			
	comp=N,79μm,0.5s						
KMO	**Kumora**	**1.82**	**266**⇑	*i*Pn	**Pn**	**13 23 25.9**	**+0.9**
KMO				⇓*i*Pg	**Pg**	**13 23 27.1**	**-2.1**
KMO				*e*		13 23 29.6	
KMO				max		13 23 30.0	
	comp=N,17μm,0.7s						
KMO				*i* Sg	**Sg**	**13 23 52.0**	**-0.8**
KMO				Smax		13 23 53.9	
	comp=N,79μm,0.9s						
YLYR	**Ulyunkhan**	**2.20**	**239**	*e*PN	**Pn**	**13 23 31.4**	**+1.2**
YLYR				*e*		13 23 34.3	
YLYR				*e*S	**Sn**	**13 23 59.7**	**+2.6**
YLYR				*e*		13 24 03.5	
YLYR				pmax	pmax		
	comp=Z,4μm,0.6s						
YLYR				smax			
	comp=N,20μm,1.0s						
YLYR	**Ulyunkhan**	**2.20**	**239**⇑	*i*Pn	**Pn**	**13 23 31.4**	**+1.2**
YLYR				⇑*i*Pg	**Pg

TUP	**Tupik**	**3.56 115**	⇑*i*Pn	**Pn**	**13 23 48.3**	**-0.6**
	comp=N,690nm,0.7s					
TUP			⇓*i*Pn	**Pn**	**13 23 48.3**	**-0.6**
	comp=N,1μm,0.7s					
TUP			⇓*i*Pn	**Pn**	**13 23 48.3**	**-0.6**
	comp=N,3μm,0.7s					
TUP			max		13 23 48.8	
	comp=N,3μm,0.7s					
TUP			*i*Pg	**Pg**	**13 23 55.0**	**-7.5**
TUP			*e*Sg	**Sg**	**13 24 40.8**	**-7.8**
TUP			Smax		13 24 54.2	
	comp=N,20μm,1.4s					
CIT	**Chita**	**4.08 188**	*e*PN	**Pn**	**13 23 55.5**	**-0.5**
CIT			*e*		13 24 06.5	
CIT			*e*		13 25 00.0	
CIT			pmax	pmax		
	comp=Z,3μm,1.1s					
CIT			smax			
	comp=E,14μm,0.7s					
CIT	**Chita**	**4.08 188**	⇓*i*Pn	**Pn**	**13 23 55.4**	**-0.6**
CIT			*e*		13 24 02.2	
CIT			*e*Pg	**Pg**	**13 24 06.7**	**-5.7**
CIT			Pmax		13 24 12.6	
	comp=E,3μm,1.1s					
CIT			*e*		13 24 38.1	
CIT			*i*Sg	**Sg**	**13 25 00.6**	**-4.5**
CIT			Smax		13 25 18.7	
	comp=E,13μm,1.8s					
MXMB	**Maximikha**	**4.33 232**	⇓*i*Pn	**Pn**	**13 24 00.3**	**+0.9**
MXMB			*e*Pg	**Pg**	**13 24 13.2**	**-3.9**
MXMB			Pmax		13 24 23.0	
	comp=E,1μm,0.7s					
MXMB			*e*Sn	**Sn**	**13 24 51.0**	**+1.5**
MXMB			*i*Sg	**Sg**	**13 25 10.3**	**-2.8**
MXMB			Smax		13 25 21.4	
	comp=E,15μm,0.7s					
OGRR	**Ongureny**	**4.63 241**	*e*PN	**Pn**	**13 24 04.1**	**+0.6**
OGRR			*e*		13 24 17.4	
OGRR			*e*		13 25 19.1	
OGRR			pmax	pmax		
	comp=Z,809nm,1.3s					
OGRR			smax			
	comp=N,4μm,1.5s					
OGRR	**Ongureny**	**4.63 241**	⇑*i*Pn	**Pn**	**13 24 04.2**	**+0.7**
OGRR			⇑*i*		13 24 04.4	
	comp=N,10.0nm,0.6s					
OGRR			⇑*i*		13 24 04.4	
	comp=N,24nm,0.6s					
OGRR			⇓*i*		13 24 04.4	
	comp=N,4μm,0.6s					
OGRR			*e*		13 24 08.5	
OGRR			*e*Pg	**Pg**	**13 24 17.8**	**-5.1**
OGRR			Pmax		13 24 20.9	
	comp=N,814nm,1.1s					
OGRR			*e*		13 25 15.3	
OGRR			*e*Sg	**Sg**	**13 25 19.4**	**-3.4**
OGRR			Smax		13 25 36.1	
	comp=N,4μm,1.5s					
KELR	**Kotokel**	**4.96 231**	*e*Pn	**Pn**	**13 24 10.0**	**+1.8**
KELR			max		13 24 35.4	
	comp=N,361nm,0.2s					
KELR			*e*		13 25 16.1	
KELR			*e*Sg	**Sg**	**13 25 30.0**	**-3.5**
KELR			*e*		13 25 34.0	
KELR			max		13 25 53.3	
	comp=N,8μm,1.1s					
ZRHB	**Zarechye**	**5.52 233**	*e*Pn	**Pn**	**13 24 17.2**	**+1.5**
ZRHB			*e*Pg	**Pg**	**13 24 34.5**	**-5.4**
ZRHB			Pmax		13 24 57.3	
	comp=N,739nm,1.0s					
ZRHB			*i*Sg	**Sg**	**13 25 48.1**	**-3.1**
ZRHB			Smax		13 26 03.6	
	comp=N,9μm,1.0s					
TRTB	**Turuntaevo**	**5.54 229**	*e*Pn	**Pn**	**13 24 16.7**	**+0.7**
TRTB			*e*		13 24 22.2	
TRTB			*e*		13 24 25.9	
TRTB			*e*Pg	**Pg**	**13 24 34.4**	**-5.8**
TRTB			Pmax		13 25 04.4	
	comp=N,462nm,1.0s					
TRTB			*i*Sg	**Sg**	**13 25 46.8**	**-5.0**
TRTB			Smax		13 25 54.6	
	comp=N,7μm,1.6s					
NRGR	**Nerungri**	**5.76 80**	*e*PN	**Pn**	**13 24 18.4**	**-0.6**
NRGR			S	**Sn**	**13 25 22.6**	**-2.1**
NRGR			smax			
	comp=E,2μm,0.6s					
TRG	**Tyrgan**	**5.76 238**	*e*PN	**Pn**	**13 24 19.7**	**+0.7**
TRG			*e*		13 24 38.0	
TRG			*e*		13 25 53.5	
TRG			pmax	pmax		
	comp=Z,249nm,1.0s					
TRG			smax			
	comp=N,2μm,1.0s					
TRG	**Tyrgan**	**5.76 238**	⇓*i*Pn	**Pn**	**13 24 19.6**	**+0.6**
TRG			*e*		13 24 30.8	
TRG			*e*		13 24 43.5	
TRG			max		13 24 50.5	
	comp=N,250nm,1.2s					
TRG			*e*Sg	**Sg**	**13 25 53.7**	**-5.2**
TRG			Smax		13 26 02.9	
	comp=N,2μm,1.5s					
UUDB	**Ulan-Yde**	**5.79 226**	*e*Pn	**Pn**	**13 24 20.8**	**+1.3**
UUDB			*e*		13 24 24.9	
UUDB			*e*		13 24 34.8	
UUDB			*e*		13 24 40.9	
UUDB			max		13 24 52.8	
	comp=N,481nm,1.1s					
UUDB			*i*Sg	**Sg**	**13 25 54.4**	**-5.6**
UUDB			Smax		13 25 58.9	
	comp=N,8μm,1.6s					
IENR	**Iengra**	**5.84 84**	⇓*i*Pn	**Pn**	**13 24 19.3**	**-0.9**
IENR			*e*		13 25 27.0	
IENR			*e*Sg	**Sg**	**13 25 51.8**	**-10**
CLNS	**Chul'man**	**5.86 78**	*e*PN	**Pn**	**13 24 19.5**	**-0.9**
CLNS			*e*		13 24 38.8	
CLNS			*e*S	**Sn**	**13 25 29.0**	**+1.8**
CLNS			pmax	pmax		
	comp=Z,82nm,0.4s					
CLNS			pmax	pmax		
	comp=N,17nm,0.3s					
CLNS			pmax	pmax		
	comp=E,61nm,0.5s					
CLNS			pmax	pmax		
	comp=Z,395nm,0.6s					
CLNS			pmax	pmax		
	comp=N,224nm,0.5s					
CLNS			pmax	pmax		
	comp=E,343nm,0.5s					
CLNS			smax			
	comp=N,505nm,0.4s					
CLNS			smax			
	comp=E,346nm,0.4s					
CLNS			smax			
	comp=Z,260nm,0.4s					
CLNS			smax			
	comp=E,2μm,0.4s					
CLNS			smax			
	comp=Z,1μm,0.5s					
CLNS			smax			
	comp=N,5μm,0.7s					
CLNS			MLR	MLR		
	comp=Z,6μm,12.0s					
CLNS	**Chul'man**	**5.86 78**	*e*Pn	**Pn**	**13 24 20.0**	**-0.4**
CLNS			*e*		13 24 41.2	
CLNS			*e*Sg	**Sg**	**13 25 54.2**	**-7.9**
KAB	**Kabansk**	**6.09 232**	*e*	**Pn**	**13 24 33.5**	**+10**
KAB			*e*Pg	**Pg**	**13 24 46.1**	**-4.6**
KAB			Pmax		13 25 06.3	
	comp=Z,901nm,1.0s					
KAB			*e*Sg	**Sg**	**13 26 06.2**	**-3.3**
KAB			Smax		13 26 35.8	
	comp=Z,20μm,1.7s					
STDB	**Stepnoy Dvoret**	**6.13 234**	*e*Pn	**Pn**	**13 24 24.0**	**-0.2**
STDB			*e*Sg	**Sg**	**13 26 07.2**	**-3.8**
STDB			Smax		13 26 38.3	
	comp=Z,12μm,1.1s					
ALDR	**Aldan**	**6.47 62**	*e*Pn	**Pn**	**13 24 27.6**	**-1.2**
ALDR			*e*		13 24 49.6	
ALDR			*e*Sn	**Sn**	**13 25 36.9**	**-5.4**
ALDR			*e*		13 26 02.9	
ALDR			*e*Sg	**Sg**	**13 26 10.6**	**-11**
KPC	**Khapcheranga**	**6.49 192**	*e*PN	**Pn**	**13 24 28.3**	**-0.7**
KPC			*e*		13 24 51.4	
KPC			*e*		13 26 16.2	
KPC			pmax	pmax		
	comp=Z,307nm,1.1s					
KPC			smax			
	comp=E,5μm,1.6s					
KPC	**Khapcheranga**	**6.49 192**	⇑*i*Pn	**Pn**	**13 24 28.1**	**-0.9**
KPC			⇑*i*		13 24 29.9	
KPC			⇓*i*Pg	**Pg**	**13 24 52.0**	**-6.3**
KPC			Pmax		13 24 54.5	
	comp=E,305nm,1.3s					
KPC			*e*		13 25 49.2	
KPC			*e*Sg	**Sg**	**13 26 16.2**	**-6.0**
KPC			Smax		13 26 34.2	
	comp=E,5μm,1.5s					
LSTR	**Listvyanka**	**7.04 237**	⇓*i*Pn	**Pn**	**13 24 37.0**	**+0.3**
LSTR			*e*		13 24 43.0	
LSTR			max		13 25 02.6	
	comp=E,84nm,1.0s					
LSTR			*e*Sg	Sn	13 26 32.3	+36
LSTR			Smax		13 26 39.6	
	comp=E,3μm,1.8s					
IRK	**Irkutsk**	**7.08 242**	*e*PG	Px	13 25 02.5	
IRK			*e*		13 26 34.5	
IRK			pmax	pmax		
	comp=Z,102nm,0.2s					
IRK			smax			
	comp=N,5μm,1.1s					
HIA	**Hailar**	**7.53 152**	*e*Pn	**Pn**	**13 24 39.5**	**-3.9**
	comp=N,156nm,0.6s					
HIA			*e*Sg	Sn	13 26 45.7	+37
HIA	**Hailar**	**7.53 152**	*e*PN	**Pn**	**13 24 39.5**	**-3.9**
HIA			*e*		13 26 45.7	
HIA			pmax	pmax		
	comp=Z,156nm,0.6s					
HIA	**Hailar**	**7.53 152**	⇓*i*Pn	**Pn**	**13 24 40.0**	**-3.4**
HIA			⇓*i*		13 25 10.5	
HIA			*e*Sn	**Sn**	**13 26 03.6**	**-4.8**
HIA			*e*Sg	Sn	13 26 44.2	+36
TLY	**Talaya**	**7.73 240**	*e*Pn	**Pn**	**13 24 46.5**	**+0.4**
TLY			*e*S	Sn	13 26 52.0	+39
TLY	**Talaya**	**7.73 240**	*e*PN	**Pn**	**13 24 47.9**	**+1.8**
TLY			*e*		13 25 14.2	
TLY			*e*		13 26 54.6	
TLY			pmax	pmax		
	comp=Z,75nm,0.6s					
TLY			smax			
	comp=E,463nm,0.6s					
TLY	**Talaya**	**7.73 240**	*e*Pn	**Pn**	**13 24 46.2**	**+0.1**
TLY			*e*		13 24 47.5	
TLY			*e*		13 25 15.9	
TLY			max		13 25 19.8	
	comp=E,104nm,0.8s					
TLY			*e*		13 26 37.2	
TLY			*e*Sg	Sn	13 26 54.1	+41
TLY			Smax		13 27 19.0	
	comp=E,2μm,1.6s					
ZEA	**Zeya**	**7.75 102**	*i*Sg	**Sb**	**13 26 50.5**	**+10**
ARS	**Arshan**	**8.20 245**	*e*PN	**Pn**	**13 24 53.3**	**+0.8**
ARS			*e*		13 25 21.4	
ARS			pmax	pmax		
	comp=Z,241nm,0.6s					
ARS	**Arshan**	**8.20 245**	*e*Pn	**Pn**	**13 24 53.1**	**+0.6**
ARS			max		13 25 38.3	
	comp=Z,243nm,0.5s					
ARS			*e*Sg	Sn	13 27 08.3	+44
ARS			Smax		13 27 17.2	
	comp=E,6μm,0.9s					
ZAK	**Zakamensk**	**8.77 234**	*e*PN	**Pn**	**13 25 00.9**	**+0.5**
ZAK			*e*		13 25 32.3	
ZAK			*e*S	Sn	13 27 28.4	+50
ZAK			smax			
	comp=N,2μm,1.7s					
ZAK	**Zakamensk**	**8.77 234**	*e*Pn	**Pn**	**13 25 02.3**	**+1.9**
ZAK			max		13 25 49.7	
	comp=N,44nm,1.0s					
ZAK			*e*		13 25 59.5	
ZAK			*e*Sg	Sn	13 27 28.8	+50
ZAK			Smax		13 27 38.5	
	comp=N,2μm,1.7s					
MOY	**Mondy**	**9.07 247**	*e*P	**Pn**	**13 25 04.9**	**+0.4**
MOY			*e*S	**Sn**	**13 26 58.6**	**+12**
MOY			pmax	pmax		
	comp=Z,262nm,0.7s					
MOY			pmax	pmax		
	comp=E,3μm,1.6s					
MOY	**Mondy**	**9.07 247**	⇓*i*Pn	**Pn**	**13 25 05.3**	**+0.8**
MOY			*e*		13 25 15.0	
MOY			max		13 25 37.2	
	comp=E,261nm,0.9s					
MOY			*e*		13 26 58.8	
MOY			*e*Sg	Sn	13 27 36.0	+50
MOY			Smax		13 27 53.5	
	comp=E,3μm,1.5s					
ORL	**Orlik**	**9.24 254**	*e*P	**Pn**	**13 25 06.9**	**+0.1**
ORL			pmax	pmax		
	comp=Z,131nm,1.1s					
ORL	**Orlik**	**9.24 254**	⇓*i*Pn	**Pn**	**13 25 07.0**	**+0.2**
ORL			*e*		13 25 10.8	
ORL			max		13 25 32.2	
	comp=Z,122nm,0.9s					
ORL			*e*		13 27 01.3	
ORL			*i*Sg	Sn	13 27 42.2	+52
ORL			Smax		13 27 53.0	
	comp=Z,5μm,1.2s					
SONM	**Songino Array**	**9.61 214**	P	**Pn**	**13 25 12.3**	**+0.5**
SONM					13 27 11.0	
SONM			pmax	pmax		
	comp=Z,2.0nm,0.3s					
SONM			smax			
	comp=N,9.0nm,0.3s					
SONM			MLR	MLR		
	comp=Z,841nm,21.4s					
SONM	**Songino Array**	**9.61 214**	Pn	**Pn**	**13 25 12.3**	**+0.5**
	comp=Z,2.3nm,0.3s,baz=24,slow=13,SNR=55					
SONM			Sn	**Sn**	**13 27 11.0**	**+12**
	comp=Z,8.5nm,0.3s,baz=31,slow=18,SNR=4.1					
SONM			Lg		13 27 55.5	
	comp=Z,27nm,0.3s,baz=27,slow=28,SNR=10					
SONM			LR	LR	13 29 17.7	
	comp=Z,841nm,21.4s,baz=26,slow=40					
YAK	**Yakutsk**	**9.86 46**	*e*Pn	**Pn**	**13 25 10.3**	**-5.0**
YAK	**Yakutsk**	**9.86 46**	*e*P	**Pn**	**13 25 10.5**	**-4.8**
YAK			*e*SS		13 27 10.3	
YAK			pmax	pmax		
	comp=Z,67nm,0.8s					
YAK			pmax	pmax		
	comp=N,4.0nm,0.5s					
YAK			MLR	MLR		
	comp=Z,2μm,9.0s					
TDJR	**Todzha**	**11.33 259**	*e*Pn	**Pn**	**13 25 34.3**	**-1.0**
TDJR			*e*		13 25 44.4	
TDJR			*e*		13 28 13.9	
TDJR			*e*Sg	Sn	13 28 43.9	+62
KLR	**Kul'dur**	**12.53 116**	*e*P	**Pn**	**13 25 45.0**	**-6.7**
KLR			*e*		13 28 18.0	
KLR			pmax	pmax		
	comp=E,84nm,0.9s					
KLR			pmax	pmax		
	comp=Z,68nm,0.9s					
KLR			MLR	MLR		
	comp=N,6μm,8.0s					
KLR			MLR	MLR		
	comp=E,7μm,8.0s					
KLR			MLR	MLR		
	comp=Z,18μm,8.0s					
CN2	**Changchun**	**14.15 146**	⇑P	**Pn**	**13 26 14.2**	**+0.3**
CN2			*e*AP		13 26 17.6	
CN2			*e*XP	sP	13 26 21.0	-6.7
CN2			*e*S	**Sn**	**13 28 50.5**	**0.0**
CN2			AMB	AMB		
	comp=Z,20nm,0.7s					
HABR	**Khabarovsk**	**14.70 112**	*e*P	**Pn**	**13 26 30.5**	**+9.2**
MDJ	**Mudanjiang**	**14.96 134**	P	**Pn**	**13 26 24.2**	**-0.7**
MDJ			S	**Sn**	**13 29 15.9**	**+5.8**
MDJ			SCP	ScP	13 35 09.2	+2.8
MDJ			SCS	ScS	13 38 48.1	+4.0
MDJ			AMB	AMB		
	comp=Z,9.0nm,0.8s					
MDJ			AMB	AMB		
	comp=Z,181nm,7.5s					
MDJ			LR	LR		
	comp=N,3μm,7.6s					
MDJ			LR	LR		
	comp=E,2μm,7.3s					
MDJ			LR	LR		
	comp=Z,4μm,7.2s					
MDJ	**Mudanjiang**	**14.96 134**	*e*Pn	**Pn**	**13 26 23.9**	**-1.0**
	comp=Z,25nm,0.8s					
HHC	**Hu-ho-hao-te**	**15.34 188**	*e*P	**Pn**	**13 26 31.1**	**+1.2**
HHC			AP	pP	13 26 34.4	-4.5
HHC			XP	sP	13 26 38.5	-2.4
HHC			PP		13 26 43.1	
HHC			S	**Sn**	**13 29 23.8**	**+4.4**
HHC			XS	sS	13 29 25.2	-17
HHC			SS		13 29 37.6	
HHC			PCP	PcP	13 31 39.0	+5.0
HHC			AMB	AMB		
	comp=Z,23nm,0.3s					
HHC			AMB	AMB		
	comp=Z,224nm,4.4s					
HHC			LR	LR		
	comp=N,2μm,6.8s					
HHC			LR	LR		
	comp=E,948nm,5.5s					
HHC			LR	LR		
	comp=Z,2μm,8.9s					
SNY	**Shenyang**	**15.44 153**	⇓P	**Pn**	**13 26 35.7**	**+4.5**
SNY			S	**Sn**	**13 29 25.5**	**+3.7**
SNY			AMB	AMB		
	comp=Z,40nm,1.3s					
SNY			AMB	AMB		
	comp=Z,228nm,3.5s					
SNY			LR	LR		
	comp=N,4μm,8.8s					
SNY			LR	LR		
	comp=E,2μm,7.9s					
SNY			LR	LR		
	comp=Z,4μm,8.7s					
BTO	**Baotou**	**15.73 192**	*e*P	**Pn**	**13 26 40.8**	**+5.7**
BTO			LR	LR		
	comp=N,993nm,7.8s					
BTO			LR	LR		
	comp=E,202nm,7.3s					
BJI	**Beijing**	**16.07 175**	P	**Pn**	**13 26 38.8**	**-0.7**
BJI			XP	sP	13 26 51.8	+2.7
BJI			S	**Sn**	**13 29 38.7**	**+1.5**
BJI			AMB	AMB		
	comp=Z,18nm,0.6s					
BJI			AMB	AMB		
	comp=Z,150nm,3.5s					
BJI			LR	LR		
	comp=N,3μm,9.4s					
BJI			LR	LR		
	comp=E,1μm,9.0s					
BJI			LR	LR		
	comp=Z,1μm,17.9s					
BJI	**Beijing**	**16.07 175**	P	**Pn**	**13 26 38.8**	**-0.7**
	comp=Z,18nm,0.6s					
BJI			sP	sP	13 26 51.8	+2.7
BJI			S	**Sn**	**13 29 38.7**	**+1.5**
BJI			sS	sS	13 30 00.2	+2.7
BJT	**Baijiatuau**	**16.09 175**	*e*P	**Pn**	**13 26 38.9**	**-0.9**
	comp=Z,27nm,0.6s					
BJT	**Baijiatuau**	**16.09 175**	*e*P	**Pn**	**13 26 38.9**	**-0.8**
BJT			pmax	pmax		
	comp=Z,27nm,0.6s					
TIXI	**Tiksi**	**16.80 16**	*e*P	**Pn**	**13 26 41.9**	**-6.7**
	comp=Z,62nm,0.7s					
TIXI			*e*S	**Sn**	**13 29 35.9**	**-19**
TIXI			*e*		13 31 34.8	
TIXI	**Tiksi**	**16.80 16***c*	*i*P	**Pn**	**13 26 41.6**	**-7.0**
TIXI			pmax	pmax		
	comp=Z,33nm,0.8s					
ZAA0	**Zalesovo Array**	**17.05 275**	*e*P	**Pn**	**13 26 50.1**	**-1.8**
ZALV	**Zalesovo Beam**	**17.05 275**	P	**Pn**	**13 26 50.8**	**-1.0**
	comp=Z,0.6nm,0.3s,baz=68,slow=12,SNR=21					
ZALV			Lg		13 31 47.6	
	comp=Z,0.6nm,0.3s,baz=94,slow=24,SNR=4.4					
ZALV			LR	LR	13 34 07.4	
	comp=Z,529nm,20.5s,baz=70,slow=39					
ZAL	**Zalesovo**	**17.07 275**	P	**Pn**	**13 26 50.8**	**-1.2**
VLA	**Vladivostok**	**17.14 132***d*	*i*P	**Pn**	**13 26 55.0**	**+2.1**
VLA			pmax	pmax		
	comp=Z,63nm,1.3s					
NVS	**Novosibirsk**	**17.66 279**	*e*P	**Pn**	**13 26 56.8**	**-2.6**
NVS			pmax	pmax		
	comp=N,50nm,1.5s					
NVS			pmax	pmax		
	comp=Z,55nm,1.5s					
NVS			pmax	pmax		
	comp=E,74nm,1.2s					
DL2	**Dalian**	**17.82 161**	P	**Pn**	**13 27 02.7**	**+1.2**
DL2			S	**Sn**	**13 30 24.7**	**+5.0**
DL2			AMB	AMB		
	comp=Z,30nm,0.9s					
DL2			AMB	AMB		
	comp=Z,140nm,6.1s					
DL2			LR	LR		
	comp=N,1μm,14.5s					
DL2			LR	LR		
	comp=E,840nm,12.0s					
DL2			LR	LR		
	comp=Z,2μm,11.5s					
UGL	**Uglegorsk**	**18.11 101**	*e*P	**Pn**	**13 27 04.5**	**-0.4**
UGL			pmax	pmax		
	comp=Z,200nm,1.2s					
UGL			pmax	pmax		
	comp=Z,300nm,2.0s					
UGL			MLR	MLR		
	comp=N,2μm,12.0s					
UGL			MLR	MLR		
	comp=E,2μm,12.0s					
UGL			MLR	MLR		
	comp=Z,2μm,12.0s					
GTA	**Gaotai**	**19.27 216**	*e*P	**Pn**	**13 27 23.9**	**+4.8**
GTA			AP	pP	13 27 28.1	+5.7
GTA			XP	sP	13 27 32.1	+7.7
GTA			S	**Sn**	**13 31 02.2**	**+7.6**
GTA			PCP	PcP	13 31 46.6	+6.3
GTA			SCS	ScS	13 39 01.6	+4.7
GTA			AMB	AMB		
	comp=Z,12nm,0.7s					
GTA			AMB	AMB		
	comp=Z,131nm,7.6s					
GTA			LR	LR		
	comp=N,1μm,9.9s					
GTA			LR	LR		
	comp=E,2μm,10.3s					
GTA			LR	LR		
	comp=Z,1μm,11.1s					
MA2	**Magadan**	**19.51 65**	*e*P	**Pn**	**13 27 21.0**	**-0.8**
MA2			*e*S	**Sn**	**13 30 58.7**	**-1.5**
MA2			pmax	pmax		
	comp=Z,60nm,1.0s					
MA2			MLR	MLR		
	comp=Z,3μm,11.1s					
YSS	**Yuzh-Sakhalins**	**19.72 106**	*e*P	**Pn**	**13 27 22.8**	**-1.7**
	comp=Z,16nm,0.5s					
YSS	**Yuzh-Sakhalins**	**19.72 106**	⇑*e*P	**Pn**	**13 27 22.8**	**-1.6**
YSS			pmax	pmax		
	comp=Z,40nm,1.0s					
YSS			MLR	MLR		
	comp=N,1μm,14.0s					
YSS			MLR	MLR		
	comp=E,2μm,14.0s					
YSS			MLR	MLR		
	comp=Z,2μm,14.0s					
TIA	**Tai'an**	**19.94 174**	*e*P	**Pn**	**13 27 26.4**	**-0.7**
TIA			LR	LR		
	comp=N,1μm,12.0s					
SEY	**Seymchan**	**20.20 55**	⇓*i*P	**P**	**13 27 27.7**	**-0.3**
INCN	**Inchon**	**20.32 151**	*e*P	**P**	**13 27 30.4**	**+0.9**
	comp=N,40nm,0.8s					
KS15	**Wonju Array Si**	**20.71 148**	*e*P	**P**	**13 27 34.2**	**+0.5**
KSRS	**Korea Array**	**20.71 148**	P	**P**	**13 27 33.7**	**-0.1**
	comp=N,19nm,0.9s,baz=343,slow=10.0,SNR=34					
KSRS			Lg		13 33 40.8	
	comp=N,13nm,0.9s,baz=331,slow=27,SNR=6.7					
KSRS			LR	LR	13 36 24.0	
	comp=N,884nm,20.6s,MS4.1,baz=345,slow=39					
WMQ	**Urumqi**	**20.96 246**	*e*P	**P**	**13 27 40.3**	**+3.9**
WMQ			XP	sP	13 27 49.0	+6.3
WMQ			PP		13 28 03.0	
WMQ			S	**S**	**13 31 29.0**	**-0.2**
WMQ			XS	sS	13 31 38.5	+2.3
WMQ			SS		13 32 01.0	
WMQ			AMB	AMB		
	comp=Z,52nm,1.2s					
WMQ			AMB	AMB		
	comp=Z,504nm,3.6s					
WMQ			LR	LR		

comp=N,1µm,9.9s
WMQ LR LR
comp=E,1µm,10.2s
WMQ LR LR
comp=Z,2µm,15.0s,MS4.5
LZH Lanzhou 21.23 204 ⇓P P 13 27 40.2 +0.8
LZH AP 13 27 44.3
LZH XP sP 13 27 47.5 +1.7
LZH PP 13 28 03.9
LZH S **S 13 31 30.3 -4.4**
LZH AMB AMB
comp=Z,47nm,1.1s,mb4.7
LZH AMB AMB
comp=Z,172nm,4.5s
LZH LR LR
comp=E,2µm,10.5s
LZH LR LR
comp=Z,3µm,11.9s,MS4.8
LZH Lanzhou 21.23 204 ⇓P P 13 27 40.2 +0.8
comp=Z,47nm,1.1s,mb4.7
LZH pP 13 27 44.3
LZH sP sP 13 27 47.5 +1.7
LZH PP 13 28 03.9
LZH S **S 13 31 30.3 -4.4**
LZH SS 13 42 04.5
LZH LR LR
comp=Z,3µm,11.9s,MS4.8
LZH Lanzhou 21.23 204 ⇓P P 13 27 40.2 +0.8
LZH *PP 13 27 44.3
LZH 13 28 03.9
LZH S **S 13 31 30.3 -4.4**
LZH pmax pmax
comp=Z,47nm,1.1s,mb4.7
LZH MLR MLR
comp=Z,3µm,11.9s,MS4.8
ASAJ Asahikawa 21.50 112 P P 13 27 40.5 -1.7
ASAJ pmax pmax
comp=Z,19nm,0.7s
ASAJ MLR MLR
comp=Z,704nm,18.5s
ASAJ Asahikawa 21.50 112 P P 13 27 40.5 -1.7
comp=Z,19nm,0.7s,mb4.5,baz=340,slow=9.3,SNR=20
ASAJ LR LR 13 36 56.0
comp=Z,704nm,18.5s,MS4.1,baz=94,slow=40
KURK Kurchatov 21.84 271 *eP* P 13 27 45.8 0.0
comp=Z,149nm,0.9s,mb5.4
KURK Kurchatov 21.84 271 *d iP* P 13 27 45.8 0.0
MK31 Makanchi Array 21.89 259 *eP* P 13 27 46.8 +0.4
MK31 Makanchi Array 21.89 259 *i P* P 13 27 46.8 +0.4
MK31 pmax pmax
comp=Z,112nm,0.8s,mb5.3
MKAR Makanchi Array 21.89 259 *i P* P 13 27 47.2 +0.8
MKAR pmax pmax
comp=Z,68nm,0.8s
MKAR Makanchi Array 21.89 259 P P 13 27 47.1 +0.7
comp=Z,68nm,0.8s,mb5.2,baz=59,slow=9.6,SNR=73
MKAR LR LR 13 36 33.2
comp=Z,2µm,18.3s,MS4.5,baz=43,slow=37
XAN Xi'an 22.34 192 P P 13 27 50.0 -1.3
XAN AP 13 27 55.7
XAN AMB AMB
comp=Z,28nm,1.0s,mb4.7
XAN LR LR
comp=N,1µm,10.9s,MS4.7
XAN LR LR
comp=E,1µm,10.1s,MS4.7
XAN LR LR
comp=Z,2µm,11.2s,MS4.7
VOSK Vostochnaya 25.20 281 P P 13 28 17.9 -1.0
VOSK pmax pmax
comp=Z,26nm,1.2s,mb4.6
MJAR Matsushiro Arr 25.29 131 P P 13 28 17.6 -2.2
MJAR pmax pmax
comp=Z,3.0nm,0.9s
MJAR MLR MLR
comp=Z,697nm,18.3s
MJAR Matsushiro Arr 25.29 131 P P 13 28 17.6 -2.2
comp=Z,2.9nm,0.9s,mb3.8,baz=331,slow=10,SNR=7.8
MJAR LR LR 13 38 35.7
comp=Z,697nm,18.3s,MS4.2,baz=345,slow=37
BVA0 Borovoye Array 25.40 282 *i* P P 13 28 20.5 -0.2
BVA0 pmax pmax
comp=Z,6.0nm,1.0s,mb4.1
BRVK Borovoye 25.44 282 *eP* P 13 28 20.6 -0.5
PET Petropavlovsk 25.50 78 *eP* P 13 28 20.5 -1.1
comp=Z,57nm,1.1s,mb5.0
PET Petropavlovsk 25.50 78 *d iP* P 13 28 20.5 -1.1
PET pmax pmax
comp=Z,92nm,1.7s,mb5.0
PET MLR MLR
comp=Z,500nm,15.0s,MS4.2
WHN Wuhan 25.50 180 ⇑P P 13 28 22.5 +0.7
WHN LR LR
comp=Z,2µm,10.3s,MS4.9
JNU Nakatsue 25.62 147 P P 13 28 22.2 -0.6
comp=Z,3.6nm,0.7s,mb4.0,baz=287,slow=1.9,SNR=4.9
JNU LR LR 13 38 21.5
comp=Z,320nm,21.1s,MS3.8,baz=139,slow=36
BILL Bilibino 26.18 42 *eP* P 13 28 27.7 +0.1
comp=Z,27nm,0.8s,mb4.8
BILL Bilibino 26.18 42 *c iP* P 13 28 27.4 -0.2
BILL pmax pmax
comp=Z,39nm,1.0s,mb4.9
BILL MLR MLR
comp=Z,300nm,16.0s,MS3.9
ZRNK Zerenda 26.19 282 P P 13 28 26.5 -1.3
ZRNK pmax pmax
comp=Z,14nm,0.8s,mb4.5
CD2 Chengdu 26.24 201 *eP* P 13 28 29.4 +0.9
CD2 AP pP 13 28 35.0 +1.9
CD2 XP sP 13 28 38.4 +3.4
CD2 PP 13 29 12.5
CD2 PCP PcP 13 31 54.4 -0.3
CD2 S **S 13 32 59.4 -0.7**
CD2 XS sS 13 33 09.2 +1.4
CD2 SS 13 34 09.3
CD2 AMB AMB
comp=Z,20nm,0.6s,mb4.8
CD2 AMB AMB
comp=Z,60nm,3.8s
CD2 LR LR
comp=N,2µm,10.8s,MS5.0
CD2 LR LR
comp=E,2µm,15.6s,MS5.0
CD2 LR LR
comp=Z,2µm,10.8s,MS5.0
TKM2 Tokmak 2 28.03 259 *eP* P 13 28 47.6 +3.2
comp=Z,12nm,0.7s,mb4.6
TKM2 Tokmak 2 28.03 259 *eP* P 13 28 47.6 +3.2
TKM2 pmax pmax
comp=Z,11nm,0.7s,mb4.6
FRU Bishkek 28.62 259 P P 13 28 53.0 +3.2
JHJ Hachijo jima 2 28.89 132 LR LR 13 40 47.1
comp=Z,386nm,20.7s,MS4.0,baz=301,slow=37
UCH Uchtor 29.09 259 *eP* P 13 28 57.6 +3.8
comp=Z,6.2nm,0.9s,mb4.3
SVE Sverdlovsk 29.11 294 ⇓*eP* P 13 28 53.7 -0.2
SVE *e* 13 35 12.6
SVE pmax pmax
comp=Z,16nm,1.2s,mb4.6
SVE MLR MLR
comp=Z,2µm,15.0s,MS4.9
GYA Guiyang 30.11 194 ⇑*i iP* P 13 29 05.4 +2.4
GYA AP pP 13 29 11.6 +3.9
GYA XP sP 13 29 14.4 +4.8
GYA PP PP 13 30 04.9 -6.0
GYA PCP PcP 13 32 07.6 +3.3
GYA S **S 13 34 03.2 +2.3**
GYA XS sS 13 34 12.8 +4.1
GYA SS SS 13 35 41.2 -28
GYA SCP ScP 13 35 47.0 +1.4
GYA PCS PcS 13 35 49.8 +2.0
GYA SCS ScS 13 39 41.2 0.0
GYA AMB AMB
comp=Z,20nm,0.8s,mb4.9
GYA AMB AMB
comp=Z,140nm,6.6s
GYA LR LR
comp=N,450nm,16.8s,MS4.3
GYA LR LR
comp=E,490nm,16.6s,MS4.3
GYA LR LR
comp=Z,380nm,18.9s,MS4.1
ARU Arti 30.32 294 *d iP* P 13 29 03.2 -1.4
ARU *e* 13 29 59.0
ARU *eS* **S 13 34 03.3 -0.5**
ARU *eSS* SS 13 35 38.8 -34
ARU pmax pmax
comp=Z,7.0nm,1.3s,mb4.2
ARU MLR MLR
comp=Z,1µm,18.0s,MS4.7
KK31 Karatay Array 30.73 264 *i* P P 13 29 09.3 +0.9
KK31 pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
KKAR Karatay Array 30.73 264 *i* P P 13 29 09.3 +0.9
KKAR pmax pmax
comp=Z,4.0nm,0.8s,mb4.3
KMI Kunming 32.06 200 P P 13 29 20.1 -0.1
KMI AP pP 13 29 24.8 -0.1
KMI PP PP 13 30 26.6 -6.1
KMI S **S 13 34 27.4 -4.1**
KMI SS SS 13 36 20.7 -28
KMI AMB AMB
comp=Z,69nm,6.6s
KMI LR LR
comp=N,701nm,12.5s,MS4.8
KMI LR LR
comp=E,1µm,15.7s,MS4.8
KMI LR LR
comp=Z,898nm,10.4s
KMI Kunming 32.06 200 P P 13 29 20.1 -0.1
comp=Z,0.1nm,6.6s
KMI pP pP 13 29 24.8 -0.1
KMI PP PP 13 30 26.6 -6.1
KMI S **S 13 34 27.4 -4.1**
KMI sS sS 13 34 36.8 -2.5
KMI SS SS 13 36 20.7 -28
KMI LR LR
comp=Z,900nm,10.4s,MS4.7
AB31 Akbulak array 32.97 282 P P 13 29 27.0 -1.0
AB31 pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
TNA Tin City 36.61 43 *eP* P 13 29 59.6 +0.4
comp=Z,28nm,0.9s,mb5.1
TMCR Tamitsa 36.68 315 *eP* P 13 29 58.9 -0.9
TMCR *e* 13 32 20.5
APA Apatity 37.05 321 ⇓*eP* P 13 30 03.0 0.0
APA *i* 13 30 13.8
APA pmax pmax
comp=Z,120nm,1.6s,mb5.5
QIZ Qiongzhong 37.13 187 P P 13 30 03.6 -0.5
QIZ S **S 13 35 50.9 +1.2**
QIZ AMB AMB
comp=Z,35nm,1.8s,mb4.9
QIZ LR LR
comp=E,811nm,16.2s
QIZ LR LR
comp=Z,983nm,13.3s,MS4.8
SPB4 Spitsbergen Ar 37.46 340 *eP* P 13 30 05.5 -0.8
KEV Kevo 38.29 326 *ep* P 13 30 11.7 -1.7
comp=Z,8.6nm,0.6s,mb4.7
KEV Kevo 38.29 326 *eP* P 13 30 11.7 -1.7
KEV pmax pmax
comp=Z,9.0nm,0.6s,mb4.7
ARCES ARCESS Array B 38.86 326 P P 13 30 17.3 -0.9
ARCES pmax pmax
comp=Z,7.0nm,0.9s
ARCES MLR MLR
comp=Z,553nm,18.9s
ARCES ARCESS Array B 38.86 326 P P 13 30 17.2 -0.9
comp=Z,6.8nm,0.9s,mb4.4,baz=65,slow=10,SNR=25
ARCES LR LR 13 48 32.0
comp=Z,553nm,18.9s,MS4.4,baz=294,slow=40
JOF Joensuu 39.93 315 *ep* P 13 30 26.2 -1.0
comp=Z,25nm,0.7s,mb5.1
JOF Joensuu 39.93 315 *eP* P 13 30 26.2 -1.0
JOF pmax pmax
comp=Z,25nm,0.7s,mb5.0
MOS Moscow 40.96 303 *eP* P 13 30 38.9 +3.1
MOS pmax pmax
comp=Z,87nm,1.0s,mb5.3
IMA2 Indian Mountai 41.56 38 *eP* P 13 30 40.9 +0.3
OBN Obninsk 41.81 303 ⇑*eP* P 13 30 41.7 -1.1
OBN *i* pP 13 30 46.8 -0.7
OBN *e* 13 32 19.6
OBN pmax pmax
comp=Z,71nm,2.5s,mb4.8
OBN MLR MLR
comp=Z,700nm,16.0s,MS4.6
KAF Kangasniemi 42.33 316 *ep* P 13 30 46.0 -0.9
comp=Z,16nm,0.7s,mb4.8
KAF Kangasniemi 42.33 316 *eP* P 13 30 46.0 -0.9
KAF pmax pmax
comp=Z,16nm,0.7s,mb4.8
TTA Tatalina 42.43 43 *eP* P 13 30 48.1 +0.4
FIA1 FINESS Array S 42.79 315 *eP* P 13 30 50.6 -0.1
FINES FINESS Array B 42.79 315 *i* P P 13 30 50.2 -0.5
FINES pmax pmax
comp=Z,27nm,0.6s
FINES FINESS Array B 42.79 315 P P 13 30 50.3 -0.4
comp=Z,27nm,0.6s,mb5.2,baz=64,slow=9.0,SNR=80
VRSR Storozhevoye 42.82 297 *eP* P 13 30 50.5 -0.5
VRSR pmax pmax
comp=E,5.0nm,1.0s
VRSR pmax pmax
comp=Z,3.0nm,1.0s,mb4.0
VRSR pmax pmax
comp=N,6.0nm,1.1s
DAG Danmarks Havn 44.16 346 *eP* P 13 31 00.0 -1.6
DAG pmax pmax
comp=Z,7.0nm,0.9s,mb4.4
DAG Danmarks Havn 44.16 346 *i* P P 13 31 00.0 -1.6
comp=Z,6.7nm,0.9s,mb4.4
COLA College 44.24 37 *eP* P 13 31 02.3 0.0
comp=Z,9.3nm,0.8s,mb4.6
COLA College 44.24 37 *d iP* P 13 31 02.6 +0.3
MCK McKinley 44.56 39 *eP* P 13 31 04.4 -0.5
comp=Z,7.0nm,0.7s,mb4.6
MCK McKinley 44.56 39 *eP* P 13 31 04.4 -0.5
MCK pmax pmax
comp=Z,7.0nm,0.7s,mb4.6
KIV Kislovodsk 45.61 286 *eP* P 13 31 14.0 +0.5
comp=Z,57nm,1.2s,mb5.4
KIV Kislovodsk 45.61 286 *eP* P 13 31 14.1 +0.6
KIV *eS* **S 13 37 56.8 +1.7**
KIV pmax pmax
comp=Z,49nm,1.2s,mb5.3
KIV MLR MLR
comp=Z,674nm,16.0s,MS4.7
INK Inuvik 46.35 28 *eP* P 13 31 18.4 -0.7
comp=Z,258nm,0.8s,mb6.2
EGAK Eagle 46.52 35 *eP* P 13 31 20.4 +0.1
comp=Z,8.6nm,0.9s,mb4.7
MENT Mentasta 46.88 38 *eP* P 13 31 23.0 -0.2
KDAK Kodiak Island 46.89 47 P P 13 31 22.9 -0.4
KDAK Kodiak Island 46.89 47 P P 13 31 22.9 -0.4
comp=Z,14nm,0.7s,mb5.0,baz=339,slow=11,SNR=5.8
SOC Sochi 47.45 288 *eP* P 13 31 25.6 -2.3
SOC *e* 13 33 16.9
SOC *e*PPP 13 34 00.4
SOC *eS* **S 13 38 19.3 -2.2**
SOC *e*SSS 13 42 50.3
SOC MLR MLR
comp=Z,2µm,22.0s,MS5.0
DAWY Dawson 47.56 35 *eP* P 13 31 27.7 -0.8
AKASG Malin Array Be 48.03 302 P P 13 31 31.6 -0.7
AKASG pmax pmax
comp=Z,29nm,0.8s
AKASG Malin Array Be 48.03 302 P P 13 31 31.6 -0.7
comp=Z,28nm,0.8s,mb5.4,baz=42,slow=8.5,SNR=91
AKBB Malin Array Si 48.03 302 *eP* P 13 31 31.1 -1.2
RES Resolute Bay 48.08 10 *eP* P 13 31 31.2 -1.2
comp=Z,176nm,0.8s,mb6.1
GUMO Guam 48.43 139 LR LR 13 50 26.3
comp=Z,137nm,19.5s,MS3.9,baz=88,slow=34
NB2 NORSAR Subarra 48.64 321 P P 13 31 36.9 0.0
comp=Z,11nm,0.7s,mb5.0,baz=49,slow=7.9
NOA NORSAR Array B 48.64 321 P P 13 31 36.4 -0.5
NOA pmax pmax
comp=Z,11nm,0.6s
NOA MLR MLR
comp=Z,269nm,18.7s
NOA NORSAR Array B 48.64 321 P P 13 31 36.4 -0.5
comp=Z,11nm,0.6s,mb5.1,baz=42,slow=6.8,SNR=27
NOA LR LR 13 54 38.9
comp=Z,269nm,18.7s,MS4.3,baz=0.0,slow=39
NAO01 NORSAR Array S 48.89 321 *eP* P 13 31 38.3 -0.5
comp=Z,17nm,0.8s,mb5.1
KKM Kota Kinabalu 49.90 178 *eP* P 13 31 47.0 +0.1
KONO Kongsberg 50.19 320 *eP* P 13 31 48.6 0.0
KONO Kongsberg 50.19 320 ⇑*eP* P 13 31 49.2 +0.5
KIS Kishinev 50.73 298 *eP* P 13 31 50.0 -3.0
KIS *e* pP 13 31 56.0 -1.8
KIS Kishinev 50.73 298 *e*UNK P 13 31 50.0 -3.0
LVV L'vov 51.08 304 *eP* P 13 31 55.6 0.0
KWP Kalwaria 51.83 304 ⇑P P 13 32 01.1 0.0
KWP Kalwaria 51.83 304 ⇑*i iP* P 13 32 01.1 -0.1
MALT Malatya 51.84 284 *eP* P 13 32 01.6 +0.2
comp=Z,10nm,0.8s,mb4.8
MALT Malatya 51.84 284 *eP* P 13 32 01.6 +0.2
MALT pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
MALT Malatya 51.84 284 ⇑*i iP* pP 13 32 07.9 +1.6
KOLS Kolonicke sedl 52.52 304 *eP* P 13 32 07.0 +0.7
KOLS *ep*P pP 13 32 12.3 +1.1
PLOR Plostina 52.61 298 ⇑*i iP* P 13 32 11.5 +4.5
MUD Monsted U'grnd 52.65 318 *eP* P 13 32 07.5 +0.3
MUD pmax pmax
comp=Z,63nm,1.2s,mb5.4
MUD Monsted U'grnd 52.65 318 *i* P P 13 32 07.5 +0.3
comp=Z,63nm,1.2s,mb5.4
STHS Stebnicka Huta 52.66 305 *eP* P 13 32 08.1 +0.8
comp=Z,5.9nm,0.7s,mb4.6
STHS Stebnicka Huta 52.66 305 *eP* P 13 32 08.1 +0.8
STHS pmax pmax
comp=Z,6.0nm,0.7s,mb4.6
OJC Ojcow 52.74 306 *eP* P 13 32 08.4 +0.5
CRVS Cervenica-Dubn 52.92 304 *eP* P 13 32 09.6 +0.3
TRPA Tarpa 52.97 303 ⇓*i iP* P 13 32 10.7 +1.1
NIE Niedzica 53.08 305 *eP* P 13 32 11.8 +1.3
MIB Mutribah 53.19 270 *eP* P 13 32 10.9 -0.6
MIB AMb AMB 13 32 17.9
comp=Z,26nm,0.8s,mb5.2
MLR Muntele Rosu 53.21 299 ⇑P P 13 32 12.8 +1.3
MLR Muntele Rosu 53.21 299 ⇑*i iP* P 13 32 12.8 +1.3
RST Umm Al-Ruwaisa 53.61 270 *eP* P 13 32 14.1 -0.5
RST AMb AMB 13 32 23.0
comp=Z,26nm,0.6s,mb5.4
NAY Al-Naaiem 53.66 269 *eP* P 13 32 14.3 -0.7
NAY AMb AMB 13 32 23.6
comp=Z,11nm,0.6s,mb5.0
QRN Al-Qurain 53.67 268 *eP* P 13 32 14.5 -0.6
QRN AMb AMB 13 32 23.6
comp=Z,27nm,0.5s,mb5.4
KECS Kecovo 53.67 305 *i* P P 13 32 15.5 +0.7
comp=Z,14nm,0.7s,mb5.0
KECS *e* pP 13 32 19.6 -0.1
KECS Kecovo 53.67 305 *i* P P 13 32 15.5 +0.7
KECS *e* pP 13 32 19.6 -0.1
KECS pmax pmax
comp=Z,14nm,0.7s,mb5.0
VOIR 53.69 299 ⇑P P 13 32 16.3 +1.3
VOIR 53.69 299 ⇑*i iP* P 13 32 16.3 +1.3
RDF Al-Radifah 53.74 269 *eP* P 13 32 15.1 -0.5
RDF AMb AMB 13 32 21.6
comp=Z,30nm,0.9s,mb5.2
OKC Ostrava-Krasne 53.76 307 *ep*P pP 13 32 20.1 -0.2
DRGR 53.84 302 ⇑P P 13 32 17.2 +1.1
DRGR 53.84 302 ⇑*i iP* P 13 32 17.2 +1.1
KSP Ksiaz 53.85 309 *eP* P 13 32 16.7 +0.6
KSP *ep*P pP 13 32 20.2 -0.8
MORC Moravsky Berou 54.07 307 *eP* P 13 32 17.9 +0.1
comp=Z,12nm,0.8s,mb4.9
MORC Moravsky Berou 54.07 307 ⇑*i iP* P 13 32 18.5 +0.8
DPC Dobruska-Polom 54.20 309 *eP* P 13 32 19.7 +1.1
DPC *ep*P pP 13 32 23.4 -0.1
UPC Upice 54.22 309 *eP* P 13 32 19.5 +0.7
UPC *e* pP 13 32 23.1 -0.5
UPC Upice 54.22 309 *eP* P 13 32 19.5 +0.7
UPC *ep*P pP 13 32 23.1 -0.5
PSZ Piszkesteto 54.35 304 *eP* P 13 32 20.3 +0.5
comp=Z,18nm,1.0s,mb4.9
PSZ Piszkesteto 54.35 304 ⇓*i iP* P 13 32 20.8 +1.0
VYHS Vyhne 54.42 306 *i* P P 13 32 21.3 +1.0
comp=Z,19nm,1.1s,mb5.0
VYHS *e* pP 13 32 25.3 +0.1
VYHS Vyhne 54.42 306 *i* P P 13 32 21.3 +1.0
VYHS *e* pP 13 32 25.3 +0.1
VYHS pmax pmax
comp=Z,19nm,1.1s,mb4.9
GZR Gura Zlata 54.83 300 ⇑P P 13 32 22.9 -0.3
GZR Gura Zlata 54.83 300 ⇑*i iP* P 13 32 22.9 -0.4
PVCC Panska Ves 54.83 310 *eP* P 13 32 23.8 +0.6
PVCC *ep*P pP 13 32 28.0 -0.1
VRAC Vranov 54.84 308 ⇓*i iP* pP 13 32 28.1 -0.1
BRG Berggiesshubel 54.84 310 *i* P P 13 32 23.7 +0.4
BRG *i* pP 13 32 27.7 -0.5
BRG pmax pmax
comp=Z,10.0nm,0.8s,mb4.9
BRG Berggiesshubel 54.84 310 *eP* P 13 32 23.6 +0.3
comp=Z,31nm,1.0s,mb5.3
BRG Berggiesshubel 54.84 310 *i* P P 13 32 23.7 +0.4
comp=Z,16nm,0.8s,mb5.1
BRG *i* pP 13 32 27.7 -0.5
comp=Z,31nm,1.0s
CLL Collm 54.92 311 ⇑*i iP* P 13 32 23.6 -0.2
CLL *i* *PP pP 13 32 27.6 -1.1
CLL pmax pmax
comp=Z,26nm,1.2s,mb5.1
CLL Collm 54.92 311 *eP* P 13 32 23.7 -0.1
comp=Z,36nm,1.1s,mb5.3
CLL Collm 54.92 311 ⇑*i iP* P 13 32 23.6 -0.2
comp=Z,26nm,1.2s,mb5.1
CLL *i* pP pP 13 32 27.6 -1.1
comp=Z,36nm,1.0s
MODS Modra-Piesok 55.22 306 *eP* P 13 32 27.1 +1.0
MODS *ep*P pP 13 32 33.0 +2.0
BZS Buzias 55.22 301 ⇑P P 13 32 27.9 +1.8
BZS Buzias 55.22 301 ⇑*i iP* P 13 32 27.9 +1.8
PRU Pruhonice 55.24 309 *eP* P 13 32 27.0 +0.8
PRU *ep*P pP 13 32 31.1 0.0
TREC Trest 55.34 308 *eP* P 13 32 27.8 +0.9
TREC *ep*P pP 13 32 31.4 -0.4
CLZ Clausthal 55.61 313 *eP* P 13 32 28.7 -0.1
CLZ pmax pmax
comp=Z,46nm,1.3s,mb5.3
CLZ Clausthal 55.61 313 *eP* P 13 32 28.7 -0.1
comp=Z,46nm,1.3s,mb5.3
YKW3 Yellowknife Ar 55.71 25 *eP* P 13 32 29.0 -0.4
YKA Yellowknife Ar 55.77 25 P P 13 32 28.1 -1.7
comp=Z,5.3nm,0.7s,mb4.7,baz=330,slow=7.0,SNR=76
YKA LR LR 14 00 12.1
comp=Z,97nm,18.8s,MS3.9,baz=335,slow=40
TANN Tannenbergstha 55.81 311 *eP* P 13 32 30.9 +0.6
NKC Novy Kostel 55.96 311 *eP* P 13 32 32.2 +0.9
NKC *ep*P pP 13 32 35.7 -0.5
MOX Moxa 56.00 312 *eP* P 13 32 32.1 +0.5
comp=Z,40nm,1.0s,mb5.4
MOX *e* pP 13 32 36.2 -0.3
MOX Moxa 56.00 312 *eP* P 13 32 32.1 +0.5
MOX *e* pP 13 32 36.2 -0.3
comp=Z,40nm,1.0s
CONA Conrad Observa 56.19 307 ⇑*i*pP pP 13 32 34.3 -3.6
comp=Z,14nm,0.9s
PKSM Moragy 56.19 304 ⇑P P 13 32 33.3 +0.2
PKSM Moragy 56.19 304 ⇑*i iP* P 13 32 33.3 +0.3
MANZ Manzenberg 56.29 311 *eP* P 13 32 34.4 +0.7
comp=Z,11nm,1.0s,mb4.8
KHC Kasperske Hory 56.30 309 *eP* P 13 32 34.4 +0.6
KHC *e* pP 13 32 38.2 -0.5
KHC Kasperske Hory 56.30 309 *eP* P 13 32 34.4 +0.6
KHC *ep*P pP 13 32 38.2 -0.5
ROTZ Rotzenmuhle 56.41 310 *eP* P 13 32 35.3 +0.7
comp=Z,23nm,0.9s,mb5.2
GEC2 GERESS Array S 56.46 309 *eP* P 13 32 35.4 +0.5
GEC2 pmax pmax
comp=Z,12nm,0.9s,mb4.9
GEC2 GERESS Array S 56.46 309 *eP* P 13 32 35.4 +0.5
comp=Z,12nm,0.9s,mb4.9
GERES GERESS Array B 56.46 309 P P 13 32 34.7 -0.2
GERES pmax pmax
comp=Z,6.0nm,0.7s
GERES MLR MLR
comp=Z,485nm,18.1s
GERES GERESS Array B 56.46 309 P P 13 32 34.7 -0.2
comp=Z,6.0nm,0.7s,mb4.7,baz=46,slow=7.6,SNR=22
GERES LR LR 13 58 59.1
comp=Z,485nm,18.1s,MS4.6,baz=78,slow=38
UBBA Unterbreizbach 56.54 313 *eP* P 13 32 35.3 -0.2
comp=Z,49nm,1.7s,mb5.3
WET Wettzell 56.59 310 *eP* P 13 32 36.8 +0.9
WET pmax pmax
comp=Z,25nm,0.9s,mb5.2
WET Wettzell 56.59 310 *eP* P 13 32 36.8 +0.9

comp=Z,25nm,0.9s,mb5.2
VTS Vitosha 56.67 298⇑ *i*P pP 13 32 41.7 +0.2
GRA1 Grafenberg Arr 56.88 311 *e*P P 13 32 38.9 +1.0
comp=Z,23nm,0.8s,mb5.3
GRA1 *e*pP pP 13 32 43.1 +0.2
GRF Grafenberg Arr 56.88 311 *e*P P 13 32 38.9 +1.0
GRF *e**PP pP 13 32 43.1 +0.2
GRF pmax pmax
comp=Z,23nm,0.8s,mb5.3
GRF Grafenberg Arr 56.88 311 *e*P P 13 32 38.9 +1.0
comp=Z,23nm,0.8s,mb5.3
GRF *e*pP pP 13 32 43.1 +0.2
WTSB Winterswijk 56.95 315 *e*P P 13 32 38.0 -0.4
comp=Z,48nm,0.9s,mb5.5
OBKA Obir 57.84 307⇑ *i*P P 13 32 45.7 +0.9
comp=Z,41nm,0.8s,mb5.5,SNR=15
OBKA Obir 57.84 307⇑ *i*pP P 13 32 45.7 +0.9
comp=Z,41nm,0.8s,mb5.5,SNR=15
KBA Koelnbreinsper 57.95 308⇑ *i*P P 13 32 47.1 +1.6
comp=Z,22nm,0.8s,mb5.2,SNR=10
KBA Koelnbreinsper 57.95 308⇑ *i*pP P 13 32 47.1 +1.6
comp=Z,22nm,0.8s,mb5.2,SNR=10
KBA Koelnbreinsper 57.95 308⇑ *i*P P 13 32 47.1 +1.6
KBA pmax pmax
comp=Z,22nm,0.8s,mb5.2
ESK Eskdalemuir 57.96 323 *e*P P 13 32 44.9 -0.5
comp=Z,17nm,0.8s,mb5.1
ESK Eskdalemuir 57.96 323 *e*P P 13 32 44.9 -0.5
ESK pmax pmax
comp=Z,17nm,0.8s,mb5.1
HGN Heimansgroeve 58.23 315 *e*P P 13 32 47.0 -0.4
comp=Z,32nm,1.1s,mb5.3
BEBN Eben Emael 58.31 315 P P 13 32 48.1 +0.2
MEM Membach 58.32 315 P P 13 32 48.3 +0.3
comp=Z,24nm,0.9s,mb5.2
STU Stuttgart 58.45 311 *e*P P 13 32 49.3 +0.4
comp=Z,20nm,0.9s,mb5.2
BCLA Clavier 58.75 315 P P 13 32 51.3 +0.3
comp=Z,7.1nm,1.1s,mb4.6
UCC Uccle 58.82 316 P P 13 32 51.6 +0.1
comp=Z,23nm,1.5s,mb5.0
WLF Walferdange 59.00 314 *e*P P 13 32 52.9 +0.1
comp=Z,17nm,1.0s,mb5.0
SNF Seneffe 59.08 316 P P 13 32 52.9 -0.4
comp=Z,15nm,1.6s,mb4.8
FETA Feichten 59.14 309⇑ *i*pP pP 13 32 54.9 -3.8
comp=Z,22nm,1.4s
BFO Black Forest 59.15 312 *e*P P 13 32 53.5 -0.3
BFO pmax pmax
comp=Z,20nm,1.2s,mb5.0
BFO Black Forest 59.15 312 *e*P P 13 32 53.5 -0.3
comp=Z,20nm,1.2s,mb5.0
GIVF Givet 59.19 315 *e*P P 13 32 53.7 -0.4
DOU Dourbes 59.29 315 P P 13 32 54.8 +0.1
comp=Z,12nm,1.4s,mb4.7
BAIF Baives 59.47 315 *e*P P 13 32 55.6 -0.4
comp=Z,48nm,1.1s,mb5.1
BAIF Baives 59.47 315 *e*P P 13 32 55.6 -0.4
comp=Z,24nm,1.1s,mb5.1
BAIF Baives 59.47 315 *e*P P 13 32 55.6 -0.4
BAIF pmax pmax
comp=Z,24nm,1.1s,mb5.1
CDF Champ du Feu 59.53 312 *e*P P 13 32 56.4 0.0
comp=Z,40nm,1.0s,mb5.1
CDF Champ du Feu 59.53 312 *e*P P 13 32 56.4 0.0
comp=Z,20nm,1.0s,mb5.1
CDF Champ du Feu 59.53 312 *e*P P 13 32 56.4 0.0
CDF pmax pmax
comp=Z,20nm,1.0s,mb5.1
HINF Hinteralfeld 60.17 312 *e*P P 13 33 00.5 -0.4
comp=Z,48nm,1.3s,mb5.1
HINF Hinteralfeld 60.17 312 *e*P P 13 33 00.5 -0.4
comp=Z,24nm,1.3s,mb5.1
HINF Hinteralfeld 60.17 312 *e*P P 13 33 00.5 -0.4
HINF pmax pmax
comp=Z,24nm,1.3s,mb5.1
HAU Haudompre 60.23 313 *e*P P 13 33 00.9 -0.4
HAU *e*MLR MLR
comp=Z,331nm,17.2s,MS4.2
HAU Haudompre 60.23 313 *e*P P 13 33 00.9 -0.4
HAU MLR MLR
comp=Z,330nm,17.3s,MS4.5
DMUB Kingscourt 60.35 324 *e*P P 13 33 01.3 -0.7
MEZF Maizieres J'vi 60.37 314 *e*P P 13 33 02.1 -0.1
comp=Z,45nm,0.7s,mb5.3
MEZF Maizieres J'vi 60.37 314 *e*P P 13 33 02.1 -0.1
comp=Z,45nm,0.7s,mb5.6
CABF La Chapelle 61.44 312 *e*P P 13 33 08.5 -1.0
comp=Z,11nm,0.9s,mb4.7
CABF La Chapelle 61.44 312 *e*P P 13 33 08.5 -1.0
comp=Z,5.3nm,0.9s,mb4.7
CABF La Chapelle 61.44 312 *e*P P 13 33 08.5 -1.0
CABF pmax pmax
comp=Z,5.0nm,0.9s,mb4.6
AQU L'Aquila 61.56 304 *e*P P 13 33 11.9 +1.4
comp=Z,34nm,0.9s,mb5.5
AQU L'Aquila 61.56 304 *e*P P 13 33 11.9 +1.5
AQU pmax pmax
comp=Z,34nm,0.9s,mb5.5
LOR Lormes 61.84 314 *e*P P 13 33 11.5 -0.7
comp=Z,71nm,1.0s,mb5.5
LOR *e*MLR MLR
comp=Z,259nm,17.2s,MS4.2
LOR Lormes 61.84 314 *e*P P 13 33 11.5 -0.7
comp=Z,36nm,1.0s,mb5.5
LOR LR LR
comp=Z,260nm,17.3s,MS4.5
LOR Lormes 61.84 314 *e*P P 13 33 11.5 -0.7
LOR pmax pmax
comp=Z,35nm,1.0s,mb5.4
LOR MLR MLR
comp=Z,260nm,17.3s,MS4.5
LPL La Plagne 62.04 311 *e*P P 13 33 14.2 +0.6
comp=Z,54nm,1.1s,mb5.3
LPL La Plagne 62.04 311 *e*P P 13 33 14.2 +0.6
comp=Z,27nm,1.1s,mb5.3
LPL La Plagne 62.04 311 *e*P P 13 33 14.2 +0.6
LPL pmax pmax
comp=Z,27nm,1.1s,mb5.3
LPG La Plagne 62.05 311 *e*P P 13 33 14.4 +0.8
comp=Z,34nm,0.9s,mb5.2
LPG La Plagne 62.05 311 *e*P P 13 33 14.4 +0.8
comp=Z,17nm,0.9s,mb5.2
LPG La Plagne 62.05 311 *e*P P 13 33 14.4 +0.8
LPG pmax pmax
comp=Z,17nm,0.9s,mb5.2
SSF Saint Saulge 62.15 314 *e*P P 13 33 13.7 -0.6
comp=Z,35nm,0.9s,mb5.2
SSF Saint Saulge 62.15 314 *e*P P 13 33 13.7 -0.6
comp=Z,18nm,0.9s,mb5.2
SSF Saint Saulge 62.15 314 *e*P P 13 33 13.7 -0.6
SSF pmax pmax
comp=Z,18nm,0.9s,mb5.2
FLN La Foliniere 62.33 317 *e*P P 13 33 14.4 -1.1
comp=Z,92nm,0.9s,mb5.6
FLN *e*MLR MLR
comp=Z,325nm,18.0s,MS4.2
FLN La Foliniere 62.33 317 *e*P P 13 33 14.4 -1.1
comp=Z,46nm,0.9s,mb5.6
FLN LR LR
comp=Z,330nm,18.0s,MS4.5
FLN La Foliniere 62.33 317 *e*P P 13 33 14.4 -1.1
FLN pmax pmax
comp=Z,46nm,0.9s,mb5.6
FLN MLR MLR
comp=Z,330nm,18.0s,MS4.5
LDF La Druitiere 62.33 317 *e*P P 13 33 14.3 -1.2
comp=Z,60nm,0.8s,mb5.5
LDF La Druitiere 62.33 317 *e*P P 13 33 14.3 -1.2
comp=Z,30nm,0.8s,mb5.5
LDF La Druitiere 62.33 317 *e*P P 13 33 14.3 -1.2
LDF pmax pmax
comp=Z,30nm,0.8s,mb5.5
SMF Signal de Mont 62.34 313 *e*P P 13 33 14.8 -0.8
comp=Z,55nm,1.0s,mb5.3
SMF Signal de Mont 62.34 313 *e*P P 13 33 14.8 -0.8
comp=Z,28nm,1.0s,mb5.3
SMF Signal de Mont 62.34 313 *e*P P 13 33 14.8 -0.8
SMF pmax pmax
comp=Z,28nm,1.0s,mb5.3
AVF Avril sur Loir 62.42 314 *e*P P 13 33 15.3 -0.8
comp=Z,27nm,1.0s,mb5.0
AVF Avril sur Loir 62.42 314 *e*P P 13 33 15.3 -0.8
comp=Z,14nm,1.0s,mb5.0
AVF Avril sur Loir 62.42 314 *e*P P 13 33 15.3 -0.8
AVF pmax pmax
comp=Z,14nm,1.0s,mb5.0
BNI Bardonecchia 62.44 310 *e*P P 13 33 17.6 +1.4
comp=Z,22nm,0.9s,mb5.3
BNI Bardonecchia 62.44 310 *e*P P 13 33 17.6 +1.4
BNI pmax pmax
comp=Z,22nm,0.9s,mb5.3
MBDF Montbardon 62.66 310 *e*P P 13 33 18.5 +0.8
comp=Z,33nm,1.0s,mb5.1
MBDF Montbardon 62.66 310 *e*P P 13 33 18.5 +0.8
comp=Z,16nm,1.0s,mb5.1
MBDF Montbardon 62.66 310 *e*P P 13 33 18.5 +0.8
MBDF pmax pmax
comp=Z,16nm,1.0s,mb5.1
GRR Gorron 62.78 317 *e*P P 13 33 17.4 -1.1
comp=Z,58nm,1.0s,mb5.4
GRR Gorron 62.78 317 *e*P P 13 33 17.4 -1.1
comp=Z,29nm,1.0s,mb5.4
GRR Gorron 62.78 317 *e*P P 13 33 17.4 -1.1
GRR pmax pmax
comp=Z,29nm,1.0s,mb5.4
BGF Bois d'Agland 62.82 314 *e*P P 13 33 18.2 -0.6
comp=Z,21nm,0.8s,mb5.0
BGF Bois d'Agland 62.82 314 *e*P P 13 33 18.2 -0.6
comp=Z,10nm,0.8s,mb5.0
BGF Bois d'Agland 62.82 314 *e*P P 13 33 18.2 -0.6
BGF pmax pmax
comp=Z,10.0nm,0.8s,mb5.0
ORIF Oris-en-Rattie 62.88 311 *e*P P 13 33 20.1 +0.9
ORIF *e*MLR MLR
comp=Z,278nm,17.5s,MS4.2
SBF Sospel 63.06 309 *e*P P 13 33 21.1 +0.7
comp=Z,178nm,1.3s,mb5.7
SBF Sospel 63.06 309 *e*P P 13 33 21.1 +0.7
comp=Z,89nm,1.3s,mb5.7
SBF Sospel 63.06 309 *e*P P 13 33 21.1 +0.7
SBF pmax pmax
comp=Z,89nm,1.3s,mb5.7
FCC Fort Churchill 63.28 16 *e*P P 13 33 19.9 -1.7
comp=Z,8.6nm,0.8s,mb4.9
FCC Fort Churchill 63.28 16 *e*P P 13 33 19.9 -1.7
FCC pmax pmax
comp=Z,9.0nm,0.8s,mb5.0
TCF Toulx Ste Croi 63.30 314 *e*P P 13 33 21.4 -0.5
comp=Z,40nm,1.0s,mb5.2
TCF Toulx Ste Croi 63.30 314 *e*P P 13 33 21.4 -0.5
comp=Z,20nm,1.0s,mb5.2
TCF Toulx Ste Croi 63.30 314 *e*P P 13 33 21.4 -0.5
TCF pmax pmax
comp=Z,20nm,1.0s,mb5.2
PGF Pioggiola 63.42 307 *e*P P 13 33 22.9 +0.1
comp=Z,39nm,1.0s,mb5.2
PGF Pioggiola 63.42 307 *e*P P 13 33 22.9 +0.1
comp=Z,20nm,1.0s,mb5.2
PGF Pioggiola 63.42 307 *e*P P 13 33 22.9 +0.1
PGF pmax pmax
comp=Z,20nm,1.0s,mb5.2
VIVF Saint-Julien-l 63.44 312 *e*P P 13 33 22.8 -0.1
comp=Z,24nm,1.0s,mb5.0
VIVF Saint-Julien-l 63.44 312 *e*P P 13 33 22.8 -0.1
comp=Z,12nm,1.0s,mb5.0
VIVF Saint-Julien-l 63.44 312 *e*P P 13 33 22.8 -0.1
VIVF pmax pmax
comp=Z,12nm,1.0s,mb5.0
SGMF Saint Gilles 63.53 318 *e*P P 13 33 22.8 -0.7
comp=Z,75nm,0.9s,mb5.4
SGMF Saint Gilles 63.53 318 *e*P P 13 33 22.8 -0.7
comp=Z,38nm,0.9s,mb5.4
SGMF Saint Gilles 63.53 318 *e*P P 13 33 22.8 -0.7
SGMF pmax pmax
comp=Z,38nm,0.9s,mb5.4
FRF La Foret Royal 63.64 309 *e*P P 13 33 23.8 -0.5
ROSF Rostrenen 63.73 319 *e*P P 13 33 24.3 -0.5
comp=Z,34nm,0.9s,mb5.1
ROSF Rostrenen 63.73 319 *e*P P 13 33 24.3 -0.5
comp=Z,17nm,0.9s,mb5.1
ROSF Rostrenen 63.73 319 *e*P P 13 33 24.3 -0.5
ROSF pmax pmax
comp=Z,17nm,0.9s,mb5.1
SMRF Simiane la Rot 63.77 310 *e*P P 13 33 25.0 -0.1
LMR La Mourre 63.88 309 *e*P P 13 33 24.6 -1.3
MFF Saint Martin d 63.97 316 *e*P P 13 33 25.9 -0.5
comp=Z,46nm,0.8s,mb5.3
MFF Saint Martin d 63.97 316 *e*P P 13 33 25.9 -0.5
comp=Z,23nm,0.8s,mb5.3
MFF Saint Martin d 63.97 316 *e*P P 13 33 25.9 -0.5
MFF pmax pmax
comp=Z,23nm,0.8s,mb5.3
QUIF Quistinic 64.04 318 *e*P P 13 33 26.4 -0.4
comp=Z,83nm,1.0s,mb5.4
QUIF Quistinic 64.04 318 *e*P P 13 33 26.4 -0.4
comp=Z,42nm,1.0s,mb5.4
QUIF Quistinic 64.04 318 *e*P P 13 33 26.4 -0.4
QUIF pmax pmax
comp=Z,42nm,1.0s,mb5.4
EDM Edmonton 64.23 30 *e*P P 13 33 27.1 -0.9
RJF Les Rejaudoux 64.38 314 *e*P P 13 33 28.7 -0.4
RJF *e*MLR MLR
comp=Z,424nm,18.8s,MS4.4
RJF Les Rejaudoux 64.38 314 *e*P P 13 33 28.7 -0.4
RJF MLR MLR
comp=Z,420nm,18.8s,MS4.7
LASF Ste Croix 64.42 312 *e*P P 13 33 29.9 +0.5
comp=Z,72nm,1.3s,mb5.2
CAF Calviac 64.47 313 *e*P P 13 33 29.7 0.0
LFF La Frestale 64.99 314 *e*P P 13 33 33.3 +0.2
A04A Legoe Bay, Lum 65.25 38 ⇑P P 13 33 34.1 -0.6
baz=65
MBW Mount Baker 65.47 37 P P 13 33 35.8 -0.3
B04A Port Angeles 65.54 39 ⇑P P 13 33 36.0 -0.6
baz=65
FFC Flin Flon 65.64 22 *e*P P 13 33 35.8 -1.4
comp=Z,32nm,1.6s,mb5.1
FFC Flin Flon 65.64 22 *e*P P 13 33 35.8 -1.3
FFC pmax pmax
comp=Z,32nm,1.6s,mb5.1
MTLF Montolieu 65.70 312 *e*P P 13 33 38.0 +0.3
comp=Z,23nm,1.1s,mb4.8
MTLF Montolieu 65.70 312 *e*P P 13 33 38.0 +0.3
comp=Z,12nm,1.1s,mb4.8
MTLF Montolieu 65.70 312 *e*P P 13 33 38.0 +0.3
MTLF pmax pmax
comp=Z,12nm,1.1s,mb4.8
CMW Cultus Mountai 65.70 38 P P 13 33 37.5 -0.1
A07A Ashnola River, 65.75 36 ⇓P P 13 33 37.3 -0.6
baz=65
B06A Marblemount 65.84 37 ⇓P P 13 33 37.6 -0.9
baz=66
B05A Bryant 65.85 38 ⇑P P 13 33 38.2 -0.4
baz=66
NLWA Neilton Lookou 65.98 39 ⇓P P 13 33 39.1 -0.4
baz=66
C04A Brinnon 66.01 39 ⇓P P 13 33 39.2 -0.5
baz=66
HDW Hoodsport 66.04 39 P P 13 33 40.5 +0.7
A08A Turner Farm, O 66.20 35 ⇑P P 13 33 40.2 -0.6
baz=66
B07A Winthrop 66.34 36 ⇑P P 13 33 41.1 -0.6
baz=66
A09A Danville 66.40 35 ⇓P P 13 33 41.6 -0.5
baz=66
BATI Kupang 66.47 170 P P 13 33 42.0 -0.8
comp=Z,5.4nm,0.5s,mb4.8,baz=240,slow=6.4,SNR=3.6
B08A Colville Reser 66.69 36 P P 13 33 43.6 -0.4
baz=66,SNR=7.0
EPF Esparros 66.73 313 *e*P P 13 33 44.0 -0.3
comp=Z,17nm,0.9s,mb4.8
EPF Esparros 66.73 313 *e*P P 13 33 44.0 -0.3
comp=Z,8.3nm,0.9s,mb4.8
EPF Esparros 66.73 313 *e*P P 13 33 44.0 -0.3
EPF pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
E03A Lebam 66.81 40 ⇑P P 13 33 44.7 -0.1
baz=66
D05A Enumclaw 66.81 38 ⇑P P 13 33 44.9 +0.1
baz=66
B09A Rice 67.02 35 ⇑P P 13 33 45.8 -0.3
baz=67
C07A Waterville 67.03 37 P P 13 33 45.9 -0.3
baz=67,SNR=5.3
A11A Hall Mountain, 67.12 34 P P 13 33 47.2 +0.6
baz=67,SNR=7.8
FMW Mount Fremont 67.14 38 P P 13 33 47.1 +0.2
ETSF Etsaut 67.21 314 *e*P P 13 33 46.2 -1.2
comp=Z,19nm,0.9s,mb4.8
ETSF Etsaut 67.21 314 *e*P P 13 33 46.2 -1.2
comp=Z,9.4nm,0.9s,mb4.8
ETSF Etsaut 67.21 314 *e*P P 13 33 46.2 -1.2
ETSF pmax pmax
comp=Z,9.0nm,0.9s,mb4.8
C08A Higginbotham F 67.29 36 ⇓P P 13 33 47.5 -0.2
baz=67
TBM Table Mountain 67.30 37 P P 13 33 47.8 -0.1
EPH Ephrata 67.48 37 P P 13 33 48.7 -0.3
D07A Quincy 67.50 37 ⇑P P 13 33 48.9 -0.2
baz=67
C09A Chrisman Ranch 67.53 35 ⇑P P 13 33 48.9 -0.4
baz=67
B11A Sandpoint 67.58 34 ⇓P P 13 33 49.1 -0.5
baz=67
E06A Yakima 67.72 38 ⇑P P 13 33 49.9 -0.6
baz=67
A13A Flathead Natio 67.74 32 ⇑P P 13 33 50.1 -0.5
baz=67
F04A Amboy 67.74 39 ⇑P P 13 33 50.2 -0.5
baz=67
WALA Waterton Lakes 67.77 32 *e*P P 13 33 50.2 -0.6
comp=Z,11nm,1.1s,mb4.8
D08A Wollman Farm, 67.97 36 ⇓P P 13 33 51.6 -0.5
baz=68
G03A Yamhill 67.97 40 ⇓P P 13 33 52.3 +0.2
baz=68
E07A Sunnyside 68.09 37 ⇓P P 13 33 53.2 +0.4
baz=68
F05A White Salmon 68.12 39 ⇑P P 13 33 53.2 +0.2
baz=68
D09A Jones Farm, Ri 68.16 36 P P 13 33 53.8 +0.4
baz=68,SNR=7.3
B13A Whitefish 68.22 33 ⇑P P 13 33 53.3 -0.4
baz=68
G04A Mulino 68.35 40 ⇑P P 13 33 54.4 -0.1
baz=68
E08A Dider Farm, El 68.42 37 ⇓P P 13 33 54.9 0.0
baz=68
F06A Goldendale 68.46 38 ⇑P P 13 33 55.2 0.0
baz=68
D10A Wagner Farm, O 68.51 35 P P 13 33 55.6 +0.2
baz=68,SNR=8.8
E09A Wood Farm, Sta 68.70 36 ⇑P P 13 33 56.8 +0.1
baz=68
KEST Kesra 68.74 303 LR LR 14 07 46.3
comp=Z,173nm,18.3s,MS4.3,baz=306,slow=39
C13A Hot Springs 68.81 33 P P 13 33 57.7 +0.4
baz=68,SNR=5.5
H04A Detroit Lake 68.90 40 ⇑P P 13 33 57.9 -0.1
baz=69
G06A Carlson Farm, 68.97 38 ⇑P P 13 33 57.9 -0.5
baz=69
E10A Myers Farm, Un 69.06 35 ⇓P P 13 33 58.4 -0.5
baz=69
F08A Pendleton 69.12 37 ⇑P P 13 33 59.3 0.0
baz=69
I03A Eugene 69.12 41 ⇓P P 13 33 59.7 +0.3
baz=69
H05A Madras 69.28 39 ⇑P P 13 34 00.1 -0.2
baz=69
G07A Ruggs Ranch, H 69.28 38 ⇓P P 13 34 00.5 +0.2
baz=69
D13A Huson 69.36 33 ⇑P P 13 34 00.4 -0.4
baz=69
SCHQ Schefferville 69.47 1 *e*P P 13 34 00.3 -1.0
comp=Z,15nm,1.0s,mb4.9
SCHQ Schefferville 69.47 1 P P 13 34 00.0 -1.3
comp=Z,8.2nm,0.8s,mb4.7,baz=251,slow=19,SNR=6.0
E11A Bogner Ranch, 69.47 35 P P 13 34 01.6 +0.1
baz=69,SNR=7.9
F10A Beach Ranch, E 69.48 36 P P 13 34 02.0 +0.5
baz=69,SNR=21
G08A Pilot Rock 69.50 37 P P 13 34 02.4 +0.8
baz=69,SNR=5.4
H06A Lindquist Farm 69.51 38 ⇑P P 13 34 01.8 0.0
baz=69,SNR=6.7
I04A Tendick Farm, 69.59 40 ⇓P P 13 34 02.1 -0.2
baz=69
D14A Greenough 69.67 33 P P 13 34 02.9 +0.3
baz=69,SNR=34
J03A Ideyld Park 69.75 41 ⇑P P 13 34 03.5 +0.2
baz=69,SNR=5.2
MSO Missoula 69.76 33 *e*P P 13 34 03.4 +0.1
comp=Z,6.4nm,0.9s,mb4.5
CHMT Chamberlain Mo 69.89 33 *e*P P 13 34 04.0 0.0
F11A Grangeville 69.90 35 P P 13 34 04.7 +0.6
baz=70,SNR=5.7
EGMT Eagleton 69.91 30 *e*P P 13 34 02.9 -1.3
comp=Z,30nm,1.5s,mb5.0
EGMT Eagleton 69.91 30 ⇓P P 13 34 03.5 -0.6
baz=70
D15A Lincoln 70.00 32 P P 13 34 04.5 -0.2
baz=70,SNR=7.4
E13A Victor 70.03 34 P P 13 34 05.2 +0.3
baz=70,SNR=14
K02A Glendale 70.08 42 ⇓P P 13 34 05.4 +0.1
baz=70
G10A Bishop Farm, J 70.11 36 P P 13 34 05.8 +0.3
baz=70,SNR=6.1
KAKA Kakadu 70.15 161 *e*P P 13 34 04.8 -1.1
comp=Z,7.0nm,0.6s,mb4.8
J04A Umpqua Nationa 70.18 40 P P 13 34 06.7 +0.8
baz=70,SNR=6.3
I06A Prineville 70.25 39 P P 13 34 07.4 +1.1
baz=70,SNR=6.7
E14A Clinton 70.27 33 P P 13 34 06.6 +0.3
baz=70,SNR=11
H08A Prairie City 70.28 37 ⇑P P 13 34 06.7 +0.3
baz=70
G11A Walters Elk Ra 70.30 35 P P 13 34 07.0 +0.5
baz=70,SNR=18
F12A Elk City 70.31 35 ⇑P P 13 34 06.5 -0.1
baz=70
I07A Izee 70.37 38 P P 13 34 08.0 +0.9
baz=70,SNR=11
BMO Blue Mountains 70.44 36 *e*P P 13 34 07.6 +0.1
comp=Z,15nm,1.0s,mb4.9
J05A Fort Rock 70.46 40 P P 13 34 08.4 +0.8
baz=70,SNR=10
HRY Holter Researc 70.50 32 *e*P P 13 34 07.5 -0.3
E15A Deer Lodge 70.52 32 ⇓P P 13 34 07.3 -0.6
baz=70
F13A Darby 70.57 34 ⇓P P 13 34 08.1 -0.1
baz=70
F14A Wisdom 70.85 33 ⇓P P 13 34 09.9 0.0
baz=70
H10A Noah's Angus R 70.86 36 P P 13 34 09.8 -0.2
baz=70,SNR=5.8
J06A Christmas Vall 70.87 39 P P 13 34 11.1 +1.0
baz=70,SNR=11
DGMT Dagmar 70.96 26 *e*P P 13 34 10.0 -0.5
comp=Z,22nm,0.9s,mb5.1
H11A Donnelly 71.00 36 ⇑P P 13 34 11.3 +0.4
baz=71
J07A Hines 71.06 38 ⇓P P 13 34 11.7 +0.4
baz=71
K05A Summer Lake 71.07 40 ⇓P P 13 34 11.8 +0.4
baz=71,SNR=5.3
I09A Lost Marbles R 71.07 37 ⇑P P 13 34 11.4 +0.1
baz=71
F15A Butte 71.09 33 P P 13 34 11.4 0.0
baz=71,SNR=7.4
ULM Lac du Bonnet 71.11 20 P P 13 34 10.9 -0.5
comp=Z,1.6nm,0.7s,mb4.1,baz=319,slow=9.3,SNR=2.6
G13A Cobalt 71.22 34 P P 13 34 11.9 -0.3
baz=71,SNR=7.0
K06A Valley Falls 71.23 39 ⇓P P 13 34 12.5 +0.2
baz=71,SNR=5.4
YBH Yreka Blue Hor 71.27 42 ⇑P P 13 34 12.6 +0.1
baz=71
ESDC Sonseca Array 71.30 314 P P 13 34 13.2 +0.5
comp=Z,16nm,0.8s,mb5.0,baz=25,slow=6.7,SNR=45
ESLA Sonseca Array 71.30 314 *e*P P 13 34 13.3 +0.5
comp=Z,4.8nm,0.9s,mb4.4
G14A Jackson 71.33 34 P P 13 34 13.0 +0.2
baz=71,SNR=15
J08A Circle Bar Ran 71.36 38 P P 13 34 13.9 +0.8
baz=71,SNR=6.2
DLMT Dillon 71.49 33 *e*P P 13 34 14.0 +0.2
comp=Z,22nm,1.1s,mb5.0
M02C Callahan 71.51 42 ⇓P P 13 34 14.5 +0.5
baz=71,SNR=7.0
H12A Diamond D Ranc 71.51 35 ⇓P P 13 34 13.2 -0.7
baz=71
BOZ Bozeman (W) 71.52 32 *e*P P 13 34 14.0 0.0
comp=Z,2.6nm,0.9s,mb4.2
BOZ Bozeman (W) 71.52 32 *e*P P 13 34 14.0 0.0
BOZ pmax pmax
comp=Z,3.0nm,0.9s,mb4.2
BOZ Bozeman (W) 71.52 32 ⇑P P 13 34 14.0 0.0
baz=71

PAB	San Pablo	71.57	314	eP	P	13 34 15.1	+0.7
	comp=Z,15nm,1.1s,mb4.8						
PAB	San Pablo	71.57	314	eP	P	13 34 15.1	+0.7
PAB				pmax	pmax		
	comp=Z,15nm,1.1s,mb4.8						
J09A	Fry Pan Ranch,	71.62	37	P	P	13 34 15.1	+0.4
	baz=71,SNR=5.7						
L05A	Lakeview	71.68	40	P	P	13 34 16.0	+1.0
	baz=71,SNR=11						
K07A	Rock Creek Ran	71.68	39	P	P	13 34 15.8	+0.8
	baz=71,SNR=10						
G15A	Dillon	71.70	33	P	P	13 34 15.2	+0.2
	baz=71,SNR=16						
MCMT	McKenzie Canyo	71.89	33	eP	P	13 34 16.5	+0.3
K08A	Mann Creek Ran	71.91	38	⇑P	P	13 34 17.1	+0.7
	baz=72						
GCMT	Greycliff	71.97	31	eP	P	13 34 16.7	+0.1
MOD	Modoc	72.00	40	eP	P	13 34 17.4	+0.4
	comp=Z,15nm,1.2s,mb4.8						
MOD	Modoc	72.00	40	P	P	13 34 17.9	+0.9
	baz=72,SNR=7.9						
WVOR	Wild Horse Val	72.12	38	eP	P	13 34 17.8	+0.2
	comp=Z,5.4nm,0.9s,mb4.5						
WVOR	Wild Horse Val	72.12	38	eP	P	13 34 17.8	+0.1
WVOR				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.4						
M05C	Lookout	72.17	41	⇓P	P	13 34 18.3	+0.3
	baz=72						
K09A	Rome	72.20	38	P	P	13 34 18.7	+0.5
	baz=72,SNR=6.5						
MFID	Camas Ranch	72.21	36	P	P	13 34 18.5	+0.3
	baz=72,SNR=8.5						
O01C	Eel River Cons	72.23	43	⇑P	P	13 34 18.9	+0.6
	baz=72						
L07A	Adell	72.24	39	P	P	13 34 19.4	+1.0
	baz=72,SNR=7.4						
I13A	Wildhorse Cree	72.31	35	P	P	13 34 19.1	+0.3
	baz=72,SNR=11						
QLMT	Earthquake Lak	72.32	32	eP	P	13 34 18.8	0.0
WDC	Whiskeytown Da	72.33	42	⇑P	P	13 34 18.8	-0.1
	baz=72						
K10A	MacKenzie Ranc	72.42	37	P	P	13 34 19.9	+0.5
	baz=72,SNR=5.1						
L08A	Fields	72.44	38	P	P	13 34 20.3	+0.8
	baz=72,SNR=6.2						
HATC	Hat Creek Radi	72.53	41	⇓P	P	13 34 19.8	-0.3
	baz=72						
HLID	Hailey	72.54	35	eP	P	13 34 20.2	+0.1
	comp=Z,5.4nm,0.9s,mb4.5						
HLID	Hailey	72.54	35	P	P	13 34 20.6	+0.5
	baz=72,SNR=5.3						
M06C	Likely Place G	72.55	40	⇑P	P	13 34 20.8	+0.6
	baz=72						
O02C	Red Bluff	72.59	42	⇑P	P	13 34 21.1	+0.6
	baz=72						
J12A	Stokes Ranch,	72.59	36	P	P	13 34 21.2	+0.8
	baz=72,SNR=9.1						
RLMT	Red Lodge	72.69	31	eP	P	13 34 21.3	+0.3
	comp=Z,20nm,1.1s,mb5.0						
K11A	Parker Ranch,	72.71	36	⇓P	P	13 34 21.7	+0.6
	baz=72						
J13A	Cove Ranch, Pi	72.76	35	⇓P	P	13 34 21.8	+0.3
	baz=72						
L09A	Wilkinson Ranc	72.83	38	⇓P	P	13 34 22.4	+0.6
	baz=72						
M07A	Soldier Meadow	72.86	39	⇓P	P	13 34 22.9	+0.8
	baz=72						
LKWY	Lake	72.87	32	eP	P	13 34 23.6	+1.5
	comp=Z,8.5nm,0.9s,mb4.7						
LKWY	Lake	72.87	32	eP	P	13 34 23.6	+1.5
LKWY				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.7						
ELFS	Eagle Lake Fie	72.97	41	⇑P	P	13 34 23.2	+0.5
	baz=73						
AGMN	Agassiz Refuge	72.97	21	eP	P	13 34 20.5	-2.1
	comp=Z,6.6nm,0.7s,mb4.7						
GASB	Alder Springs	73.07	43	⇑P	P	13 34 24.2	+0.9
	baz=73						
M08A	Happy Creek Ra	73.08	39	⇓P	P	13 34 23.9	+0.5
	baz=73						
O04C	Chester	73.10	41	P	P	13 34 24.2	+0.7
	baz=73,SNR=7.4						
N06A	Buffalo Meadow	73.18	40	P	P	13 34 24.5	+0.5
	baz=73,SNR=14						
L10A	Juniper Basin	73.18	37	P	P	13 34 24.7	+0.8
	baz=73,SNR=5.8						
K12A	Draper Farm, C	73.21	36	⇑P	P	13 34 24.9	+0.8
	baz=73						
FLWY	Flagg Ranch	73.22	32	eP	P	13 34 24.8	+0.6
	comp=Z,12nm,0.9s,mb4.8						
IMW	Indian Meadow	73.32	32	eP	P	13 34 24.8	0.0
	comp=Z,4.4nm,0.8s,mb4.4						
K13A	Stover Farm, H	73.46	35	⇑P	P	13 34 26.7	+1.1
	baz=73						
N07B	Gerlach	73.46	39	P	P	13 34 26.6	+0.9
	baz=73,SNR=5.7						
O05C	Quincy	73.47	41	⇑P	P	13 34 26.0	+0.2
	baz=73						
MOOW	Moose Ponds	73.51	32	eP	P	13 34 25.8	-0.1
	comp=Z,2.2nm,0.8s,mb4.1						
L12A	House Creek Ra	73.61	36	⇓P	P	13 34 26.9	+0.5
	baz=73						
ORV	Oroville	73.61	42	⇑P	P	13 34 25.7	-0.9
	baz=73						
M10A	I.L. Ranch, Tu	73.65	37	⇑P	P	13 34 27.5	+0.7
	baz=73						
TPAW	Teton Pass	73.68	33	eP	P	13 34 27.4	+0.6
	comp=Z,17nm,1.1s,mb4.9						
O06A	Flanigan	73.70	40	P	P	13 34 27.5	+0.4
	baz=73,SNR=13						
N08A	GE Springer Mi	73.76	39	⇑P	P	13 34 27.4	0.0
	baz=73						
BEKR	Beckwourth	73.76	41	P	P	13 34 27.7	+0.2
	baz=73,SNR=14						
K14A	Jones Ranch, D	73.85	35	P	P	13 34 29.2	+1.3
	baz=74,SNR=7.2						
MNRC	McLaughlin Nat	73.85	43	⇑P	P	13 34 28.6	+0.6
	baz=74						
N09A	Rock Creek Ran	73.91	38	⇓P	P	13 34 29.1	+0.9
	baz=74						
M11A	Holland Ranch,	73.99	37	⇑P	P	13 34 29.6	+0.8
	baz=74						
O07A	Toulon	74.04	40	P	P	13 34 30.2	+1.1
	baz=74,SNR=8.1						
P05C	Yuba Gap, Truc	74.17	41	⇓P	P	13 34 29.8	0.0
	baz=74						
M12A	Wells	74.30	36	P	P	13 34 31.7	+1.2
	baz=74,SNR=5.5						
CVS	Carmenet Viney	74.31	43	⇑P	P	13 34 30.8	+0.2
	baz=74						
FITZ	Fitzroy Crossi	74.47	169	eP	P	13 34 30.8	-0.8
	comp=Z,8.9nm,0.8s,mb4.8						
FITZ	Fitzroy Crossi	74.47	169	P	P	13 34 30.1	-1.5
	comp=Z,5.3nm,0.8s,mb4.5,baz=332,slow=2.3,SNR=5.0						
WCN	Washoe City	74.48	41	⇓P	P	13 34 31.9	+0.3
	baz=74						
M13A	Montello	74.59	36	⇑P	P	13 34 32.3	+0.1
	baz=74						
LAVA	Lava Cap Winer	74.60	42	⇓P	P	13 34 32.5	+0.1
	baz=74						
M14A	Sheep Mountain	74.73	35	P	P	13 34 34.1	+1.0
	baz=74,SNR=6.5						
BW06	Boulder Array	74.76	32	eP	P	13 34 32.0	-1.2
	comp=Z,2.2nm,0.8s,mb4.1						
N12A	Clover Valley,	74.76	37	P	P	13 34 34.4	+1.2
	baz=74,SNR=5.1						
PDAR	Pinedale Array	74.76	32	P	P	13 34 31.8	-1.4
	comp=Z,2.4nm,0.8s,mb4.2,baz=32,slow=2.8,SNR=23						
R05C	Kirkwood Meado	74.89	41	P	P	13 34 34.5	+0.4
	baz=75,SNR=8.2						
N13A	Wendover, West	75.03	36	⇑P	P	13 34 35.4	+0.6
	baz=75						
RSSD	Black Hills	75.05	28	eP	P	13 34 34.1	-0.7
	comp=Z,7.0nm,0.8s,mb4.6						
RSSD	Black Hills	75.05	28	eP	P	13 34 34.2	-0.6
RSSD				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.6						
M15A	Larsen Ranch,	75.06	35	⇑P	P	13 34 35.6	+0.7
	baz=75						
O11A	Cowboy Ranch,	75.20	37	⇑P	P	13 34 36.1	+0.4
	baz=75						
HWUT	Hardware Ranch	75.20	34	eP	P	13 34 36.1	+0.3
	comp=Z,19nm,1.2s,mb4.9						
WENL	Wente Brothers	75.21	43	⇓P	P	13 34 35.2	-0.7
	baz=75						
JRSC	Jasper Ridge	75.21	43	⇓P	P	13 34 35.4	-0.4
	baz=75						
R06C	Coleville	75.28	41	⇓P	P	13 34 36.0	-0.2
	baz=75						
CMB	Columbia Colle	75.36	42	⇑P	P	13 34 36.4	-0.3
	baz=75						
N14A	Grayback Hills	75.37	35	⇑P	P	13 34 36.6	-0.1
	baz=75						
O12A	Currie	75.38	37	⇓P	P	13 34 37.2	+0.4
	baz=75,SNR=5.2						
Q08A	Gabbs	75.53	40	⇓P	P	13 34 37.9	+0.1
	baz=75						
N15A	Stansbury Isla	75.55	35	⇓P	P	13 34 37.8	0.0
	baz=75						
O13A	Hicks Ranch, I	75.76	36	⇓P	P	13 34 39.4	+0.4
	baz=75						
NVAR	Mina Array Bea	75.78	40	P	P	13 34 38.9	-0.3
	comp=Z,4.4nm,0.8s,mb4.5,baz=333,slow=3.4,SNR=36						
R07C	Lee Vining	75.81	41	⇓P	P	13 34 39.7	+0.4
	baz=76						
PACP	Pacheco Peak	75.92	43	⇑P	P	13 34 39.9	-0.1
	baz=76						
S05C	Merced	75.99	42	⇓P	P	13 34 40.7	+0.3
	baz=76						
P12A	McGill	76.04	37	⇓P	P	13 34 40.6	0.0
	baz=76						
DUG	Dugway	76.09	35	⇓P	P	13 34 40.8	0.0
	baz=76						
Q10A	Clear Creek Ra	76.11	39	⇓P	P	13 34 41.1	+0.1
	baz=76						
Q11A	Duckwater	76.35	38	P	P	13 34 42.6	+0.3
	baz=76,SNR=11						
P13A	Bates Ranch, G	76.36	37	P	P	13 34 42.7	+0.3
	baz=76,SNR=7.2						
R09A	Tonopah	76.39	39	P	P	13 34 42.7	+0.1
	baz=76,SNR=14						
Q12A	Willow Creek R	76.46	37	⇑P	P	13 34 43.2	+0.3
	baz=76,SNR=5.3						
T06C	Millerton Lake	76.52	42	⇑P	P	13 34 43.4	+0.1
	baz=76						
R10A	Warm Springs	76.62	39	P	P	13 34 44.5	+0.6
	baz=76,SNR=7.2						
S08C	White Mtn Res	76.65	40	⇓P	P	13 34 44.7	+0.5
	baz=76						
U04C	Hernandez Rese	76.68	43	⇓P	P	13 34 44.6	+0.3
	baz=76						
S09A	Goldfield	76.80	40	P	P	13 34 45.1	+0.2
	baz=76,SNR=10						
R11A	Troy Canyon, C	76.82	38	P	P	13 34 45.4	+0.4
	baz=76,SNR=7.9						
S10A	Tonopah Range,	76.84	39	P	P	13 34 45.8	+0.6
	baz=76,SNR=14						
MBWA	Marble Bar	77.04	175	eP	P	13 34 45.0	-1.2
	comp=Z,8.3nm,0.8s,mb4.7						
HELL	Mitchell Peak	77.07	41	⇑P	P	13 34 46.0	-0.4
	baz=77						
R12A	Pony Springs,	77.17	38	⇑P	P	13 34 46.7	-0.3
	baz=77						
ECSD	EROS,Sioux Fal	77.18	23	eP	P	13 34 45.4	-1.5
	comp=Z,6.1nm,0.8s,mb4.6						
GRAC	Grapevine Rang	77.39	40	⇓P	P	13 34 48.6	+0.3
	baz=77						
S11A	Rachel	77.39	39	⇓P	P	13 34 48.2	-0.1
	baz=77						
MDT	Midelt	77.45	311	P	P	13 34 49.7	+1.0
	comp=Z,2.4nm,0.7s,mb4.2,baz=51,slow=6.5,SNR=4.6						
WRA	Warramunga Arr	77.56	161	P	P	13 34 47.9	-1.3
WRA				pmax	pmax		
	comp=Z,10.0nm,0.7s						
WRA	Warramunga Arr	77.56	161	P	P	13 34 47.9	-1.3
	comp=Z,9.5nm,0.7s,mb4.8,baz=352,slow=6.7,SNR=62						
WB2	Warramunga Arr	77.56	161	eP	P	13 34 47.8	-1.4
T11A	Corn Creek, Al	77.94	38	P	P	13 34 51.6	+0.3
	baz=78,SNR=5.8						
S13A	Holt Ranch, En	78.10	37	P	P	13 34 52.8	+0.6
	baz=78,SNR=5.7						
MPMC	Manual Prospec	78.18	41	⇑P	P	13 34 53.3	+0.6
	baz=78						
U10A	Ash Meadows, A	78.28	40	P	P	13 34 54.3	+1.1
	baz=78,SNR=7.3						
PKM	Peak Mountain	78.34	43	⇓P	P	13 34 54.1	+0.5
	baz=78						
T13A	Saint George	78.59	38	⇑P	P	13 34 55.0	+0.1
	baz=78						
LRMC	Laurel Mountai	78.63	41	P	P	13 34 55.5	+0.3
	baz=78,SNR=7.0						
SMCO	Snowmass	78.83	32	eP	P	13 34 56.4	+0.2
	comp=Z,8.8nm,0.8s,mb4.7						
EDW2	Edwards Air Fo	79.05	42	⇑P	P	13 34 57.4	0.0
	baz=79						
GSC	Goldstone	79.11	40	⇓P	P	13 34 57.9	+0.1
	baz=79						
U13A	Pakoon Wash	79.11	38	⇓P	P	13 34 57.9	+0.1
	baz=79						
TUQ	Turquoise Mtn.	79.31	40	⇓P	P	13 34 59.1	+0.2
	baz=79						
U14A	Mt Trumbull	79.38	37	⇓P	P	13 34 59.1	-0.2
	baz=79						
HEC	Hector,Ludlow	79.70	40	⇓P	P	13 35 01.3	+0.2
	baz=79						
BFSC	Mount Baldy St	79.74	42	⇑P	P	13 35 01.6	+0.4
	baz=79						
GMRC	Granite Mounta	79.99	40	⇓P	P	13 35 02.7	+0.1
	baz=80						
V14A	Boquillas Ranc	80.12	38	P	P	13 35 04.0	+0.7
	baz=80,SNR=16						
MVCO	Mesa Verde	80.18	33	eP	P	13 35 03.1	-0.5
	comp=Z,5.1nm,0.8s,mb4.5						
MVCO	Mesa Verde	80.18	33	⇑P	P	13 35 03.1	-0.5
	baz=80						
W13A	Hualapai Mount	80.33	38	⇓P	P	13 35 04.8	+0.3
	baz=80						
CTA	Charters Tower	80.49	150	P	P	13 35 04.4	-0.8
CTA				pmax	pmax		
	comp=Z,23nm,1.3s						
CTA	Charters Tower	80.49	150	P	P	13 35 04.4	-0.8
	comp=Z,22nm,1.2s,mb5.0,baz=14,slow=10,SNR=3.4						
CTAO	Charters Tower	80.49	150	eP	P	13 35 03.1	-2.1
	comp=Z,36nm,1.6s,mb5.1						
CTAO	Charters Tower	80.49	150	eP	P	13 35 03.1	-2.1
CTAO				pmax	pmax		
	comp=Z,36nm,1.6s,mb5.0						
W14A	Seligman	80.51	38	⇑P	P	13 35 05.3	0.0
	baz=80						
BELC	Belle Mtn.	80.57	40	⇑P	P	13 35 05.2	-0.5
	baz=80						
SDCO	Great Sand Dun	80.58	31	eP	P	13 35 05.5	-0.2
	comp=Z,4.4nm,0.9s,mb4.4						
IRM	Iron Mountain	80.73	40	P	P	13 35 07.0	+0.4
	baz=80,SNR=8.3						
PFO	Pinyon Flat Ob	80.75	41	eP	P	13 35 06.3	-0.4
	comp=Z,6.0nm,1.0s,mb4.5						
PFO	Pinyon Flat Ob	80.75	41	eP	P	13 35 06.3	-0.4
PFO				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.5						
PFO	Pinyon Flat Ob	80.75	41	⇑P	P	13 35 06.4	-0.3
	baz=80						
WUAZ	Wupatki	80.81	36	eP	P	13 35 07.1	+0.1
	comp=Z,4.0nm,0.9s,mb4.3						
WUAZ	Wupatki	80.81	36	⇓P	P	13 35 07.7	+0.7
	baz=80						
X13A	Yucca	80.81	39	P	P	13 35 07.5	+0.5
	baz=80,SNR=8.4						
W15A	Williams	80.81	37	⇓P	P	13 35 07.2	+0.2
	baz=80						
PDMCI	Parker Dam,Lak	80.96	39	⇓P	P	13 35 07.8	0.0
	baz=81						
BC3	Big Chuckw Mtn	81.08	40	⇓P	P	13 35 08.6	+0.1
	baz=81						
ASAR	Alice Springs	81.12	162	P	P	13 35 07.5	-1.0
ASAR				pmax	pmax		
	comp=Z,4.0nm,0.8s						
ASAR	Alice Springs	81.12	162	P	P	13 35 07.5	-1.0
	comp=Z,4.2nm,0.8s,mb4.4,baz=352,slow=5.1,SNR=80						
X14A	Yava	81.25	38	⇓P	P	13 35 09.6	+0.2
	baz=81						
Y12C	Blythe	81.32	39	⇓P	P	13 35 09.8	0.0
	baz=81						
MONP	Monument Peak	81.41	41	P	P	13 35 10.7	+0.5
	baz=81,SNR=6.0						
X15A	Humboldt	81.45	37	⇑P	P	13 35 10.9	+0.5
	baz=81						
Y13A	Salome	81.51	39	⇓P	P	13 35 10.9	+0.1
	baz=81						
Y14A	Wickenburg	81.69	38	⇑P	P	13 35 11.7	0.0
	baz=81						
X16A	Lo Mia Camp, P	81.79	37	P	P	13 35 13.1	+0.9
	baz=82,SNR=6.4						
Y15A	Casa Rosa Ranc	81.91	38	⇓P	P	13 35 12.8	0.0
	baz=82						
Y16A	Circle Bar Ran	82.26	37	⇑P	P	13 35 15.3	+0.6
	baz=82						
ANMO	Albuquerque	82.89	33	eP	P	13 35 17.9	0.0
	comp=Z,9.9nm,1.5s,mb4.6						
ANMO	Albuquerque	82.89	33	eP	P	13 35 17.9	-0.1
ANMO				pmax	pmax		
	comp=Z,10.0nm,1.5s						
LAZ	Ladron	83.19	34	eP	P	13 35 19.6	+0.1
BNM	Barren Site	83.58	33	eP	P	13 35 21.7	+0.1
KMBO	Kilima Mbogo	83.78	259	LR	LR	14 17 27.6	
	comp=Z,75nm,18.4s,MS4.1,baz=92,slow=39						
119A	Ashpeak Ranch,	84.01	36	⇓P	P	13 35 23.7	0.0
	baz=84						
217A	Green Valley	84.41	37	⇑P	P	13 35 25.6	-0.2
	baz=84						
WCI	Wyandotte Cave	84.44	16	eP	P	13 35 24.6	-1.2
	comp=Z,16nm,0.8s,mb5.2						
WCI	Wyandotte Cave	84.44	16	eP	P	13 35 24.6	-1.2
WCI				pmax	pmax		
	comp=Z,16nm,0.8s,mb5.2						
SIUC	Southern Illin	84.45	19	eP	P	13 35 25.4	-0.5
	comp=Z,30nm,0.7s,mb5.5						
318A	Bisbee	85.00	37	P	P	13 35 28.9	+0.1
	baz=85,SNR=5.3						
WMOK	Wichita Mounta	85.24	27	eP	P	13 35 29.0	-0.9
	comp=Z,9.6nm,0.9s,mb4.9						
WMOK	Wichita Mounta	85.24	27	eP	P	13 35 29.0	-0.9
WMOK				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb5.0						
319A	Douglas	85.29	36	⇑P	P	13 35 30.4	+0.1
	baz=85						
WVT	Waverly	86.23	18	eP	P	13 35 34.2	-0.7
	comp=Z,8.1nm,0.7s,mb5.1						
WVT	Waverly	86.23	18	eP	P	13 35 34.2	-0.7
WVT				pmax	pmax		
	comp=Z,8.0nm,0.7s,mb5.1						
FORT	Forrest	87.27	168	eP	P	13 35 38.7	-0.9
	comp=Z,16nm,0.7s,mb5.3						
TKL	Tuckaleechee C	87.33	15	P	P	13 35 39.1	-1.1
TKL				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.7						
TKL	Tuckaleechee C	87.33	15	P	P	13 35 39.1	-1.1
	comp=Z,4.3nm,0.8s,mb4.7,baz=39,slow=6.7,SNR=3.6						
TXAR	Lajitas Array	88.97	33	P	P	13 35 46.8	-1.3
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
TXAR	Lajitas Array	88.97	33	P	P	13 35 46.8	-1.4
	comp=Z,1.0nm,0.8s,mb4.2,baz=338,slow=2.5,SNR=9.9						
STKA	Stephens Creek	90.60	157	LR	LR	14 16 58.6	
	comp=Z,94nm,19.0s,MS4.2,baz=26,slow=36						
TORD	Torodi Ar. Bea	91.38	296	P	P	13 35 59.6	+0.1
	comp=Z,5.6nm,1.0s,mb4.8,baz=31,slow=4.7,SNR=17						
VNDA	Vanda	136.51	167	PKIKP	PKPdf	13 42 13.3	-0.3
VNDA				pmax	pmax		
	comp=Z,1.0nm,0.9s						
VNDA	Vanda	136.51	167	PKP	PKPdf	13 42 13.3	-0.3
	comp=Z,1.2nm,0.9s,baz=300,slow=3.6,SNR=3.9						
MAIT	Maitri	145.28	215	ePKPdf	PKPdf	13 42 28.1	-1.4
QSPA	South Pole Qui	145.82	180	ePKPdf	PKPdf	13 42 29.7	-0.5
QSPA	South Pole Qui	145.82	180	PKPbc	PKPbc	13 42 29.8	-1.0
	comp=Z,19nm,1.0s,baz=296,slow=2.0,SNR=44						
SNAA	Sanae	150.07	214	ePKPdf	PKPbc	13 42 42.0	-0.4
SNAA				e		13 42 46.4	
SNAA				e		13 42 51.3	
SNAA				e		13 42 57.0	
SNAA	Sanae	150.07	214	PKIKP	PKPbc	13 42 41.6	-0.8
SNAA				pmax	pmax		
	comp=Z,1.0nm,0.9s						
SNAA	Sanae	150.07	214	PKPbc	PKPbc	13 42 41.6	-0.8
	comp=Z,1.4nm,0.9s,baz=110,slow=5.9,SNR=5.3						
VNA2	Neumayer--Watz	151.53	216	ePKPdf	PKPbc	13 42 45.8	-0.1
	baz=55,slow=2.2						
VNA2				e		13 42 50.9	
VNA2				e		13 42 55.6	
VNA2				e		13 43 03.0	
VNA2				e		13 43 21.9	
VNA1	Neumayer--Stat	151.82	216	ePKPdf	PKPbc	13 42 46.5	0.0
VNA1				e		13 42 51.8	
VNA1				e		13 42 56.3	
VNA1				e		13 43 01.3	
VNA1				e		13 43 22.7	
VNA3	Neumayer Olymp	152.26	215	ePKPdf	PKPbc	13 42 47.1	-0.4
VNA3				e		13 42 52.3	
VNA3				e		13 42 55.7	
VNA3				e		13 43 04.7	
VNA3				e		13 43 23.9	

*ISCJB **05** 13:36:53.4±1.0, 34.24N±0.08×72.4E±0.1, h33km, Error ellipse: s-maj=16.8km s-min=6.0km az=142.6*

ISC 05 13:36:56.0±3.1, 344N±01×726E±03, h32km±20km, n8, σ0°91/12, 1C, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THN	Thein Dam	3.26	126	eP	Pn	13 37 46.3	+1.4
THN				eS	Sb	13 38 32.5	0.0
DLH	Dalhousie	3.37	122	ex	Pb	13 37 55.0	0.0
DLH				eS	Sb	13 38 34.0	-1.6
SDNR	Sundarnagar	4.67	127	eP	Pn	13 38 04.0	-0.3
SDNR				ex	Sb	13 39 14.0	+0.9
KHET	Khetri	6.87	156	eS	Sn	13 39 50.2	-1.4
KHET				AML	AML	13 40 46.2	
	comp=E,7.1nm,0.2s						
KHET				AML	AML	13 40 47.1	
	comp=N,8.7nm,0.1s						
KUDL	Kundal	7.06	151	eS	Sn	13 39 56.4	+0.1
KUDL				AML	AML	13 40 43.4	
	comp=E,4.4nm,0.3s						
KUDL				AML	AML	13 40 45.2	
	comp=N,3.7nm,0.3s						
SONA	Sohna	7.23	147	eS	Sn	13 40 01.1	+0.8
SONA				AML	AML	13 40 57.7	
	comp=N,6.3nm,0.1s						
SONA				AML	AML	13 40 57.8	
	comp=E,10nm,0.1s						
KK31	Karatay Array	8.85	350	Pn	Pn	13 39 02.8	+1.2
	comp=E,1.4nm,0.5s,baz=154,slow=11,SNR=10.0						
KK31				Sn	Sn	13 40 39.3	-0.9
	comp=E,1.0nm,0.5s,baz=173,slow=22,SNR=5.0						
AB31	Akbulak array	17.55	332	⇑Pn	Pn	13 40 57.6	-0.4
	comp=E,2.8nm,1.1s,baz=348,slow=9.6,SNR=5.3						

*IDC **05** 13:48:33.5±1.4, 7.26S×155.63E, h0km, mb4.0/5, mb1 4.1/6, mb1mx3.8/15, mbtmp4.1/6, ML4.1/1, MS4.4/1, Ms1 4.4/1, ms1mx3.1/17, Error ellipse: s-maj=33.7km s-min=27.5km az=110.0*

*ISCJB **05** 13:48:35.9±7.4, 7.4S±02×155.80E±009, h28km±54km, mb3.9/5, Error ellipse: s-maj=33.1km s-min=14.6km az=11.2*

ISC 05 13:48:36.4±7.8, 73S±02×15578E±010, h21km±56km, n6, σ0°48/7, mb3.9/5, Bougainville - Solomon Islands region

| Code | Station Name | Δ° | AZ

GUIM	Jordan	3.26 272	eP	Pn	14 03 50.7	+1.2
PVCP	Virac	3.48 331	eP	Pn	14 03 52.0	-0.5
PAGZ	Pagadian	3.66 223	eP	Pn	14 03 56.3	+1.3

*IDC **05** 14:08:11.3±5.9, 1822S×17649W, h0km, mb4.3/4, mb1 4.5/4, mb1mx3.9/16, mbtmp4.4/4, Error ellipse: s-maj=112.5km s-min=49.3km az=64.0*
*NEIC **05** 14:08:12.6±1.2, 1821S×17658W, h10km, mb4.6/4, Error ellipse: s-maj=35.7km s-min=24.5km az=135.0*
*ISCJB **05** 14:08:14.4±1.2, 183S±02×1765W±02, h33km, mb4.5/6, Error ellipse: s-maj=32.1km s-min=23.6km az=135.5*

ISC 05 14:08:16.6±1.2, 183S±02×1766W±02, h35km, n12, σ0§95/11, mb4.5/6, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	20.69	194	P	P	14 12 53.9	+0.2
	5.1nm,0.7s,baz=330,slow=20,SNR=15						
STKA	Stephens Creek	40.02	242	P	P	14 15 45.0	-3.3
	2.5nm,0.5s,mb4.2						
STKA	Stephens Creek	40.02	242	P	P	14 15 47.4	-0.9
	1.1nm,0.3s,mb4.1,baz=101,slow=9.4,SNR=4.8						
WB2	Warramunga Arr	46.29	260	eP	P	14 16 40.3	+1.1
WB2	Warramunga Arr	46.29	260	eP	P	14 16 39.9	+0.7
WRA	Warramunga Arr	46.30	260	P	P	14 16 40.3	+1.1
	1.9nm,0.3s,mb4.5,baz=97,slow=7.2,SNR=147						
ASAR	Alice Springs	46.40	254	P	P	14 16 40.2	+0.3
	6.2nm,0.7s,mb4.7,baz=88,slow=7.6,SNR=145						
FITZ	Fitzroy Crossi	54.71	260	eP	P	14 17 43.3	+0.5
	5.6nm,0.8s,mb4.7						
MBWA	Marble Bar	59.70	256	eP	P	14 18 16.2	-1.8
	3.1nm,0.5s,mb4.6						
CMB	Columbia Colle	76.89	42	P	P	14 20 05.5	+0.2
	6.1nm,1.4s,mb4.3						
KULM	Kulim	84.82	277	P	P	14 20 47.5	-0.7
AKASG	Malin Array Be	141.66	334	PKP	PKPdf	14 27 43.4	-0.8
	3.3nm,1.0s,baz=42,slow=4.5,SNR=5.9						

*ISCJB **05** 14:18:23.1±0.8, 3607N±005×702E±02, h33km, Error ellipse: s-maj=23.1km s-min=5.7km az=166.9*
*NNC **05** 14:18:32.9±1.7, 3697N×7003E, h0km, mb3.8, mpv3.6, Error ellipse: s-maj=16.0km s-min=13.3km az=91.0*

ISC 05 14:18:25.0±0.7, 3610N±004×703E±01, h35km, n12, σ1§08/17, 2C-5D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	Cherat	2.63	149	P	Pn	14 19 05.5	+0.6
CHCP	Chirah Chowk	3.45	134	P	Pn	14 19 16.4	+0.2
THW	Thamme Wali	3.51	160	P	Pn	14 19 16.5	-0.5
THW				S	Sn	14 19 58.0	+0.7
DRP	Derazinda	4.35	181	P	Pn	14 19 28.4	-0.1
DRP				S	Sn	14 20 13.0	-5.0
SARP	Sargodha	4.61	154	P	Pn	14 19 29.8	-2.4
KK31	Karatay Array	7.00	1	⇓Pn	Pn	14 20 07.8	+3.0
	1.5nm,0.3s,baz=188,slow=13,SNR=34						
KK31				⇓Sn	Sn	14 21 22.3	-0.8
	8.8nm,0.6s,baz=201,slow=18,SNR=4.9						
TKM2	Tokmak 2	7.95	29	⇑Pn	Pn	14 20 21.0	+3.1
	2.9nm,0.6s						
TKM2				⇓Sn	Sn	14 21 45.9	-0.6
	5.5nm,0.7s						
MK31	Makanchi Array	13.95	36	Pn	Pn	14 21 46.9	+7.0
	0.6nm,0.9s,baz=232,slow=5.3,SNR=4.1						
AB31	Akbulak array	15.17	333	⇓Pn	Pn	14 21 56.7	+0.2
	3.6nm,0.5s,baz=164,slow=13,SNR=4.0						
AB31				Sn	Sn	14 24 35.0	-8.2
	0.7nm,0.4s,baz=151,slow=23,SNR=6.5						
VOSK	Vostochnaya	16.63	1	⇑Pn	Pn	14 22 14.1	-1.0
	1.2nm,0.7s						
ZRNK	Zerenda	16.87	357	⇓Pn	Pn	14 22 18.2	0.0
	1.5nm,0.8s						
BVA0	Borovoye Array	16.92	0	Pn	Pn	14 22 19.1	+0.3
	1.3nm,1.9s,baz=181,slow=18,SNR=7.1						

*PDA **05** 14:18:29.7±0.7, 3731N×2481W, h0km, MD4.0, ML3.6, Error ellipse: s-maj=14.5km s-min=4.5km az=38.0*
*CSEM **05** 14:18:29.7±0.7, 3731N×2481W, h0km, ML3.6, Error ellipse: s-maj=14.5km s-min=4.5km az=38.0, After PDA*

SVSA 05 14:18:29.7±0.7, 3731N×2481W, h0km, MD4.0, ML3.6, Error ellipse: s-maj=14.5km s-min=4.5km az=38.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDA	Ponta Delgada	0.81	303	eS	Sg	14 18 53.1	-2.5
ADH	Angra Heroismo	2.34	306	eS	Sn	14 19 31.2	-7.6
PID	Ribeirinha	2.85	294	eP	Pn	14 19 11.8	-4.6
PID				eS	Sn	14 19 43.4	-8.1
PMAN	Manadas	2.91	298	eP	Pn	14 19 12.4	-4.8
PMAN				eS	Sn	14 19 44.5	-8.4
PMAN				A		14 19 47.0	
	46nm,0.5s						
PMAN	Manadas	2.91	298	eP	Pn	14 19 12.4	-4.8
PMAN				eS	Sn	14 19 44.5	-8.4
ROSA	Rosais	3.05	298	eP	Pn	14 19 14.5	-4.7
ROSA				eS	Sn	14 19 48.3	-8.2
PICO	Pico	3.10	294	eP	Pn	14 19 15.5	-4.3
PICO				eS	Sn	14 19 49.4	-8.1
HOR	Horta	3.26	293	eP	Pn	14 19 17.4	-4.6
HOR				eS	Sn	14 19 53.4	-8.1
CALA	Caldeira	3.33	294	eP	Pn	14 19 18.4	-4.6
CALA				eS	Sn	14 19 55.1	-8.1

IDC 05 14:24:24.8±1.9, 701S×15518E, h0km, mb3.6/5, mb1 3.8/5, mb1mx3.6/14, mbtmp3.6/5, Error ellipse: s-maj=68.2km s-min=27.6km az=121.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	23.96	236	P	P	14 29 41.4	+0.3
	1.4nm,0.9s,baz=59,slow=9.3,SNR=9.7						
WRA				PcP	PcP	14 33 23.5	-0.2
	0.1nm,0.5s,baz=66,slow=2.7,SNR=5.0						
ASAR	Alice Springs	26.30	229	P	P	14 30 01.9	-0.5
	0.4nm,0.7s,baz=59,slow=9.8,SNR=9.3						
SONM	Songino Array	69.45	327	P	P	14 35 35.7	+0.8
	0.4nm,0.5s,baz=140,slow=6.1,SNR=4.9						
MKAR	Makanchi Array	83.54	319	P	P	14 36 54.6	-0.2
	0.1nm,0.3s,baz=101,slow=6.7,SNR=3.9						
YKA	Yellowknife Ar	96.26	28	P	P	14 37 54.4	-0.4
	0.3nm,0.7s,baz=262,slow=4.5,SNR=5.3						

JMA 05 14:25:52.0±0.3, 4397N×14794E, h0km, M4.2, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	Nemuro 2	1.71	250	P	Pn	14 26 23.2	+0.3
NEM2				eS	Sn	14 26 45.8	+0.4
JRA	Rausu	2.04	270	P	Pn	14 26 28.2	+0.7
JRA				eS	Sn	14 26 54.7	+1.1
JNK	Nakash	2.36	262	P	Pn	14 26 32.8	+0.8
JNK				eS	Sn	14 27 02.4	+0.7
JAK	Akkeshi	2.55	249	P	Pn	14 26 35.4	+0.8
JAK				eS	Sn	14 27 07.7	+1.3
JTKR	Abashiri--Toko	2.91	271	P	Pn	14 26 40.0	+0.5
JAR	Ashorobuto	3.10	259	P	Pn	14 26 43.8	+1.6
JOB	Onbets	3.17	252	P	Pn	14 26 44.6	+1.4
JOB				eS	Sn	14 27 23.4	+1.7
JCH	Churui	3.61	250	P	Pn	14 26 50.2	+1.1
JCH				eS	Sn	14 27 34.3	+2.0
JKK2	Kamakawa 2	3.75	270	P	Pn	14 26 52.9	+1.8
JSE	Soyaes	3.96	286	P	Pn	14 26 53.2	-0.7
JFR	Furan	3.97	260	P	Pn	14 26 57.0	+2.9
JNBK	Urakawa-nobuka	4.16	248	P	Pn	14 26 57.8	+1.2
JKB	Kayabe	5.48	250	P	Pn	14 27 16.5	+1.6
JKB				eS	Sn	14 28 19.5	+0.9

*ISCJB **05** 14:38:11.6±0.3, 3724N±004×2448W±003, h10km, mb4.0/16, Error ellipse: s-maj=6.5km s-min=2.5km az=30.2*
*IDC **05** 14:38:13.2±1.1, 3735N×2458W, h0km, mb3.7/9, mb1 4.0/9, mb1mx3.8/22, mbtmp3.7/9, Error ellipse: s-maj=32.6km s-min=20.2km az=1.0*
*NEIC **05** 14:38:14.1±0.4, 3721N×2445W, h10km, mb4.5/6, Error ellipse: s-maj=10.6km s-min=5.5km az=52.0*
*CSEM **05** 14:38:16.4±0.1, 3734N×2475W, h35km, mb4.5/5, Error ellipse: s-maj=5.2km s-min=2.6km az=13.0*
*PDA **05** 14:38:17.1±1.0, 3725N×2456W, h10km, MD3.7, ML4.1, Error ellipse: s-maj=4.0km s-min=2.4km az=58.0*
*SVSA **05** 14:38:17.1±1.0, 3725N×2456W, h10km, MD3.7, ML4.1, Error ellipse: s-maj=4.0km s-min=2.4km az=58.0*

ISC 05 14:38:13.0±0.3, 3736N±004×2449W±003, h10km, n107, σ1§32/161, mb4.0/16, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSMN	Pico do Norte,	0.58	232	iP	Pg	14 38 25.2	+1.0
PSMN				eS	Sg	14 38 31.4	-0.4
MIRA	Miradouro	0.76	305	eP	Pg	14 38 29.2	+1.6
MIRA				eS	Sg	14 38 38.8	+1.4
FRA1	Furnas	0.79	299	eP	Pg	14 38 29.3	+1.2
FRA1				eS	Sg	14 38 39.2	+0.8
PFAD	Fenais da Ajud	0.81	306	eP	Pg	14 38 30.0	+1.3
PFAD				eS	Sg	14 38 40.4	+1.1
PCNG	Congro	0.83	300	eP	Pg	14 38 30.1	+1.2
PCNG				eS	Sg	14 38 40.1	+0.4
PCNG				A		14 38 46.3	
	1μm,0.3s						
PCNG	Congro	0.83	300	eP	Pg	14 38 30.1	+1.2
PCNG				eS	Sg	14 38 40.1	+0.4
VIF	Vila Franca	0.85	297	eP	Pg	14 38 30.4	+1.1
VIF				eS	Sg	14 38 40.6	+0.3
VIF				A		14 38 45.2	
	2μm,0.3s						
VIF	Vila Franca	0.85	297	eP	Pg	14 38 30.4	+1.1
VIF				eS	Sg	14 38 40.6	+0.3
PRCH	Ribeira Ch	0.87	295	eP	Pg	14 38 30.6	+0.9
PRCH				eS	Sg	14 38 40.5	-0.5
PRCH				A		14 38 43.2	
	4μm,0.3s						
PRCH	Ribeira Ch	0.87	295	eP	Pg	14 38 30.6	+0.9
PRCH				eS	Sg	14 38 40.5	-0.5
MESC	Monte Escuro	0.87	300	eP	Pg	14 38 30.8	+1.0
MESC				eS	Sg	14 38 41.4	+0.2
LFA	Lagoa do Fogo	0.89	298	eP	Pg	14 38 31.0	+0.9
PMAT	Coroa da Mata	0.90	301	eP	Pg	14 38 31.1	+0.8
PMAT				eS	Sg	14 38 42.0	-0.1
PMAT				A		14 38 46.7	
	1μm,0.2s						
PMAT	Coroa da Mata	0.90	301	eP	Pg	14 38 31.1	+0.8
PMAT				eS	Sg	14 38 42.0	-0.1
PVER	Pico Vermelho	0.92	299	eP	Pg	14 38 31.7	+1.0
PVER				eS	Sg	14 38 42.3	-0.4
PVER				A		14 38 46.3	
	1μm,0.5s						
PVER	Pico Vermelho	0.92	299	eP	Pg	14 38 31.7	+1.0
PVER				eS	Sg	14 38 42.3	-0.4
CML	Cha da Macela	0.93	297	eP	Pg	14 38 31.4	+0.5
CML				eS	Sg	14 38 42.2	-0.9
PDA	Ponta Delgada	1.01	293	eP	Pg	14 38 31.0	-1.4
PDA				eS	Sg	14 38 42.4	-3.1
FAC	Faja de Cima	1.01	295	eP	Pg	14 38 32.6	+0.2
FAC				eS	Sg	14 38 44.7	-0.8
PSAN	Santo Antonio	1.10	297	eP	Pb	14 38 34.0	0.0
PFET	Feteiras	1.13	294	eP	Pb	14 38 34.5	0.0
SET2	Ginetes	1.15	295	eP	Pb	14 38 34.7	-0.2
SET4	Mosteiros	1.16	297	eP	Pb	14 38 34.7	-0.4
PFAV	Pico das Favas	2.45	304	eP	Pn	14 38 53.0	0.0
PFAV				eS	Sn	14 39 20.0	-3.0
PFAV				A		14 39 25.5	
	368nm,0.2s						
PFAV	Pico das Favas	2.45	304	eP	Pn	14 38 53.0	0.0
PFAV				eS	Sn	14 39 20.0	-3.0
PSCM	Serra do Cume	2.47	304	eP	Pn	14 38 52.6	-0.6
PSCM				eS	Sn	14 39 19.4	-4.0
PSCM				A		14 39 23.1	
	1μm,0.3s						
PSCM	Serra do Cume	2.47	304	eP	Pn	14 38 52.6	-0.6
PSCM				eS	Sn	14 39 19.4	-4.0
RIB2	Ribeirinha	2.49	303	eP	Pn	14 38 53.8	+0.3
RIB2				eS	Sn	14 39 20.9	-3.1
RIB2				A		14 39 22.4	
	730nm,0.3s						
RIB2	Ribeirinha	2.49	303	eP	Pn	14 38 53.8	+0.3
RIB2				eS	Sn	14 39 20.9	-3.1
ADH	Angra Heroismo	2.52	302	eP	Pn	14 38 53.5	-0.5
ADH				eS	Sn	14 39 21.3	-3.5
PVNV	Vila Nova	2.53	304	eP	Pn	14 38 53.8	-0.2
PVNV				eS	Sn	14 39 21.7	-3.1
PVNV				A		14 39 24.2	
	221nm,0.3s						
PVNV	Vila Nova	2.53	304	eP	Pn	14 38 53.8	-0.2
PVNV				eS	Sn	14 39 21.7	-3.1
PPAD	Pico dos Padre	2.58	302	eP	Pn	14 38 55.4	+0.6
PPAD				eS	Sn	14 39 23.7	-2.5
PPAD				A		14 39 24.8	
	207nm,0.2s						
PPAD	Pico dos Padre	2.58	302	eP	Pn	14 38 55.4	+0.6
PPAD				eS	Sn	14 39 23.7	-2.5
PBIS	Biscoitos	2.59	304	eP	Pn	14 38 55.3	+0.4
PBIS				eS	Sn	14 39 23.9	-2.5
PBIS				A		14 39 27.6	
	113nm,0.2s						
PBIS	Biscoitos	2.59	304	eP	Pn	14 38 55.3	+0.4
PBIS				eS	Sn	14 39 23.9	-2.5
ASBA	Santa Barbara	2.62	302	eP	Pn	14 38 56.1	+0.8
ASBA				eS	Sn	14 39 24.9	-2.2
ASBA				A		14 39 28.2	
	282nm,0.1s						
ASBA	Santa Barbara	2.62	302	eP	Pn	14 38 56.1	+0.8
ASBA				eS	Sn	14 39 24.9	-2.2
PIED	Piedade	3.01	292	eP	Pn	14 39 00.5	-0.2
PIED				eS	Sn	14 39 32.5	-4.3
PID	Ribeirinha	3.07	292	eP	Pn	14 39 01.2	-0.2
PID				eS	Sn	14 39 33.4	-4.8
PMAN	Manadas	3.11	295	eP	Pn	14 39 01.8	-0.3
PMAN				eS	Sn	14 39 34.9	-4.4
PMAN				A		14 39 37.6	
	145nm,0.3s						
PMAN	Manadas	3.11	295	eP	Pn	14 39 01.8	-0.3
PMAN				eS	Sn	14 39 34.9	-4.4
PAMA	Santo Amaro	3.20	295	eP	Pn	14 39 03.2	0.0
PAMA				eS	Sn	14 39 37.7	-3.7
PAMA				A		14 39 44.0	
	59nm,0.2s						
PAMA	Santo Amaro	3.20	295	eP	Pn	14 39 03.2	0.0
PAMA				eS	Sn	14 39 37.7	-3.7
PBOI	Pico dos Bois	3.25	290	eP	Pn	14 39 03.7	-0.3
PBOI				eS	Sn	14 39 38.7	-4.1
PBOI				A		14 39 45.5	
	62nm,0.3s						
STGR	Santa Cruz	3.25	303	eP	Pn	14 39 04.2	+0.2
STGR				eS	Sn	14 39 39.4	-3.4
STGR				A		14 39 43.8	
	79nm,0.2s						
STGR	Santa Cruz	3.25	303	eP	Pn	14 39 04.2	+0.2
STGR				eS	Sn	14 39 39.4	-3.4
ROSA	Rosais	3.26	296	eP	Pn	14 39 03.8	-0.3
ROSA				eS	Sn	14 39 38.4	-4.5
PTEI	Pico do Teixo	3.26	292	eS	Sn	14 39 38.7	-4.2
PTEI				A		14 39 47.9	
	74nm,0.4s						
PVIA	Vitoria	3.28	302	eS	Sn	14 39 39.6	-3.9
PVIA				A		14 39 43.8	
	34nm,0.3s						
PICO	Pico	3.31	291	eP	Pn	14 39 04.8	0.0
PICO				eS	Sn	14 39 40.5	-3.7
PCND	Candelaria	3.33	291	eP	Pn	14 39 04.6	-0.5
PCND				eS	Sn	14 39 40.1	-4.6
PCND				A		14 39 46.0	
	68nm,0.3s						
HOR	Horta	3.47	291	eP	Pn	14 39 06.6	-0.4
HOR				eS	Sn	14 39 43.5	-4.7
CALA	Caldeira	3.54	291	eP	Pn	14 39 07.8	-0.2
CALA				eS	Sn	14 39 45.9	-4.0
PLUZ	Luz	3.90	296	eS	Sx	14 39 38.4	
PLUZ				A		14 39 43.8	
	90nm,0.1s						
PMAR	Madeira	7.75	124	ePn	Pn	14 40 06.1	+0.4
PMAR				eSn	Sn	14 41 22.6	-11
PMAR				A		14 41 32.3	
	57nm,0.3s						
PMPS	Porto Santo	7.94	120	ePn	Pn	14 40 08.0	-0.4
PMPS				eSn	Sn	14 41 26.3	-12
PMPS				A		14 41 37.9	
	11nm,0.2s						
EHIG	Higuera	10.42	145	P	Pn	14 40 42.2	-0.2
	134nm,0.6s						
EHIG				S	Sn	14 42 28.6	-11
EGOM	La Gomera	11.03	144	P	Pn	14 40 49.2	-1.6
	36nm,0.3s						
EGOM				S	Sn	14 42 41.4	-13
EBAJ	Bajamar	11.14	140	P	Pn	14 40 51.6	-0.7
	15nm,0.4s						
EBAJ				S	Sn	14 42 43.0	-14
CCAN	Las Canadas	11.27	142	P	Pn	14 40 53.2	-0.8
	5.5nm,0.2s						
CCAN				S	Sn	14 42 46.2	-14
EOSO	Osorio	11.93	138	P	Pn	14 41 02.4	-0.6
	8.3nm,0.4s						
CFTV	Fuerteventura	12.48	133	P	Pn	14 41 09.9	-0.8
	3.7nm,0.4s						
PFVI	Vila Bisbo	12.49	86	eS	Sn	14 43 17.5	-12
PTEO	Sao Teotonio	12.54	84	eS	Sn	14 43 17.5	-13
MORF	Marmelete	12.61	85	eS	Sn	14 43 21.9	-11
PBEJ	Beja	13.19	82	eS	Sn	14 43 33.4	-14
PBDV	Barranco-do-Ve	13.19	85	eS	Sn	14 43 35.2	-12
PVAQ	Vaqueiros	13.35	85	eS	Sn	14 43 37.5	-13
PCAB	Cabril	13.43	66	eS	Sn	14 43 38.5	-14
ELOB	Lobios	13.44	65	P	Pn	14 41 21.3	-2.4
	1.0nm,0.2s						
ELOB				S	Sn	14 43 37.6	-15
EGRO	El Granado	13.52	84	P	Pn	14 41 23.1	-1.7
	0.4nm,0.2s						
EGRO				S	Sn	14 43 40.2	-15
MTE	Manteigas	13.55	72	eS	Sn	14 43 43.1	-13
PBAR	Barrancos	13.84	81	eS	Sn	14 43 49.8	-13
MVO	Moncorvo	14.05	69	eS	Sn	14 43 53.4	-15
ESDC	Sonseca Array	16.23	76	Pn	Pn	14 41 57.8	-3.2
	0.3nm,0.3s,baz=268,slow=14,SNR=6.6						
ESDC				Sn	Sn	14 44 48.5	-13
	0.4nm,0.3s,baz=272,slow=24,SNR=4.3						
EKA	Eskdalemuir Ar	23.08	32	P	P	14 43 21.2	+2.7
	1.1nm,0.5s,mb3.5,baz=227,slow=8.9,SNR=6.2						
WLF	Walferdange	25.21	51	eP	P	14 43 40.0	+1.3
	18nm,0.8s,mb4.7						
WLF	Walferdange	25.21	51	eP	P	14 43 40.0	+1.3
	18nm,0.8s,mb4.7						
GERES	GERESS Array B	29.85	55	P	P	14 44 22.7	+2.4
	0.2nm,0.3s,mb3.3,baz=233,slow=4.8,SNR=2.8						
NAO01	NORSAR Array S	32.33	32	P	P	14 44 48.6	+6.6
	8.7nm,0.9s,mb4.6						
TOA0	Torodi Ar. Sit	33.58	129	P	P	14 44 53.2	-0.1
TORD	Torodi Ar. Bea	33.58	129	P	P	14 44 55.9	+2.5
	0.9nm,0.7s,mb3.8,baz=317,slow=8.0,SNR=6.1						
AKASG	Malin Array Be	39.99	53	P	P	14 45 49.3	+1.7
	0.2nm,0.3s,mb3.3,baz=274,slow=7.6,SNR=2.9						
FCC	Fort Churchill	48.66	319	eP	P	14 46 58.7	+1.9
	2.4nm,0.8s,mb4.3						
FCC	Fort Churchill	48.66	319	eP	P	14 46 58.7	+1.8
	2.4nm,0.8s,mb4.3						
USIN	University of	49.13	291	eP	P	14 47 02.0	+1.3
	25nm,0.6s,mb5.4						
USIN	University of	49.13	291	eP	P	14 47 02.0	+1.3
	25nm,0.6s,mb5.4						
RES	Resolute Bay	49.19	341	eP	P	14 47 03.2	+2.4
	181nm,0.9s						
RES	Resolute Bay	49.19	341	eP	P	14 47 03.2	+2.5
	181nm,0.9s						
YKA	Yellowknife Ar	57.70	327	P	P	14 48 04.9	+1.6
YKA	Yellowknife Ar	57.70	327	P	P	14 48 04.9	+1.6
	0.7nm,0.8s,mb3.7,baz=71,slow=7.0,SNR=9.6						
WALA	Waterton Lakes	62.59	312	eP	P	14 48 38.7	+1.7
	1.0nm,0.5s,mb4.2						
WALA	Waterton Lakes	62.59	312	eP	P	14 48 38.7	+1.7
	1.0nm,0.5s,mb4.2						
PDAR	Pinedale Array	62.66	304	P	P	14 48 38.8	+1.2
	0.4nm,0.7s,mb3.7,baz=75,slow=7.8,SNR=3.6						
TXAR	Lajitas Array	64.84	289	P	P	14 48 54.2	+2.0
TXAR	Lajitas Array	64.84	289	P	P	14 48 54.2	+2.0
	2.7nm,0.9s,mb4.3,baz=76,slow=7.5,SNR=20						
DAWY	Dawson	66.72	334	P	P	14 49 06.5	+2.7
DAWY	Dawson	66.72	334	P	P	14 49 06.5	+2.7
TIXI	Tiksi	69.67	9	P	P	14 49 25.1	+3.0
	2.0nm,1.0s,mb4.0						
TIXI	Tiksi	69.67	9	P	P	14 49 25.1	+3.0
	2.0nm,1.0s,mb4.0						
ZALV	Zalesovo Beam	70.64	36	P	P	14 49 30.9	+2.5
	0.9nm,0.6s,mb3.9,baz=307,slow=5.4,SNR=5.4						
MK31	Makanchi Array	73.68	43	eP	P	14 49 48.6	+1.9
MK31	Makanchi Array	73.68	43	eP	P	14 49 48.6	+1.9
MKAR	Makanchi Array	73.68	43	P	P	14 49 49.0	+2.3
	1.2nm,0.8s,mb3.9,baz=304,slow=5.6,SNR=6.6						
SONM	Songino Array	84.55	31	P	P	14 50 48.9	+2.7
	1.0nm,0.9s,mb3.9,baz=335,slow=6.6,SNR=7.1						
WRA	Warramunga Arr	154.68	53	PKPbc	PKPbc	14 58 15.9	+1.3
	0.3nm,0.8s,baz=319,slow=2.5,SNR=5.5						

*ATH **05** 15:03:05.9, 3804N×2047E, h34km±1km, MD3.5/4*
*NEIC **05** 15:03:06.3, 3809N×2054E, h35km, MD3.5(ATH), ML3.4(THE), After ATH.*
*ISCJB **05** 15:03:07.5±0.9, 3838N±003×2047E±006, h2km±7km, Error ellipse: s-maj=8.6km s-min=4.6km az=162.5*
*THE **05** 15:03:08.7, 3840N×2049E, h3km, ML3.4*
*CSEM **05** 15:03:09.1±0.2, 3839N×2052E, h8km, MD3.5, Error ellipse: s-maj=4.4km s-min=2.1km az=77.0*

ISC 05 15:03:08.5±0.8, 3839N±003×2048E±006, h9km±6km, n14, σ0§90/21, 1C, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	Valsamata	0.23	158	⇑iPB	Pg	15 03 13.1	-0.1
VLS				eSB	Sg	15 03 17.4	+1.1
LKD	Levkas	0.34	23	ePg	Pg	15 03 14.6	-0.8
LKD				eSg	Sg	15 03 20.4	+0.5
KFL	Anninata	0.37	139	ePg	Pg	15 03 15.8	0.0
KFL				eSg	Sg	15 03 20.9	+0.3
SELA	Sela	1.12	95	ePg	Pg	15 03 29.4	-0.6
SELA				eSg	Sg	15 03 45.9	+1.4
IGT	Igoumenitsa	1.15	354	ePg	Pg	15 03 30.1	-0.5
IGT				eSg	Sg	15 03 46.5	+1.0
EVR	Evrytania	1.17	63	ePB	Pb	15 03 30.1	-0.8
EVR				eSN	Sn	15 03 48.4	+1.3
EVR	Evrytania	1.17	63	ePn	Pn	15 03 29.6	-1.5
KEK	Kerkira	1.42	338	ePN	Pn	15 03 35.6	+1.0
MEV	Metsovon	1.51	22	ePg	Pg	15 03 36.9	-0.6
AGG	Agios Georgios	1.58	66	ePg	Pg	15 03 37.5	-1.4
AGG				eSg	Sg	15 03 59.4	0.0
ITM	Ithomi	1.67	136	ePN	Pn	15 03 31.5	-6.4
THL	Klokotos Trika	1.68	45	ePB	Pb	15 03 39.1	-0.5
PYL	PYLOS	1.80	146	ePb

ms1mx3.0/22, Error ellipse: s-maj=1202.0km s-min=154.5km az=84.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**36.90**	**245**	P	P	15 32 53.6	-1.1
	1.0nm,0.8s,baz=73,slow=11,SNR=2.4						
ASAR	**Alice Springs**	**43.80**	**258**	P	P	15 33 52.1	0.0
	0.3nm,0.4s,baz=92,slow=7.5,SNR=12						
WRA	**Warramunga Arr**	**43.97**	**263**	P	P	15 33 54.2	+0.8
	0.2nm,0.3s,baz=94,slow=8.2,SNR=26						
QSPA	**South Pole Qui**	**68.56**	**180**	LR	LR	15 59 43.2	
	comp=Z,12nm,19.9s,slow=30						
JOW	**Kunigami**	**70.43**	**311**	LR	LR	16 04 09.2	
	comp=Z,117nm,18.9s,baz=6.2,slow=33						
NVAR	**Mina Array Bea**	**82.10**	**43**	LR	LR	16 09 32.3	
	comp=Z,2.6nm,20.4s,baz=125,slow=32						

SZGRF ***05*** *15:40:36.7, 3582N±2436W, h33km, mb4.9, Azores Islands region*
BJI ***05*** *15:40:38.3, 37.10N±2460W, h10km, mB5.5, mb5.0, Ms5.1, Msz4.7*
CRAAG ***05*** *15:40:39.0, 3733N±2465W, Mb4.8*
CSEM ***05*** *15:40:39.1±0.1, 37.35N±2473W, h10km, mb4.8/60, Ms3.9, Error ellipse: s-maj=3.6km s-min=0.8km az=8.0*
IDC ***05*** *15:40:39.4±0.6, 3729N±2462W, h0km, mb4.4/19, mb1 4.5/20, mb1mx4.3/28, mbtmp4.4/20, MS4.2/27, Ms1 4.2/27, ms1mx4.1/37, Error ellipse: s-maj=17.6km s-min=14.0km az=11.0*
ISCJB ***05*** *15:40:39.9±0.5, 37.13N±0.004±2479W±0.002, h26km±3km, mb4.7/105, MS4.2/35, Error ellipse: s-maj=6.4km s-min=2.3km az=17.5*
NEIC ***05*** *15:40:40.3±0.2, 37.14N±2464W, h10km, mb4.8/74, MS4.1/4, Error ellipse: s-maj=4.3km s-min=3.6km az=186.0*
SVSA ***05*** *15:40:41.3±1.1, 3725N±2450W, h5km, MD3.7, ML4.3, Error ellipse: s-maj=4.7km s-min=2.7km az=54.0*
PDA ***05*** *15:40:41.3±1.1, 3725N±2450W, h5km, MD3.7, ML4.3, Error ellipse: s-maj=4.7km s-min=2.7km az=54.0*
MOS ***05*** *15:40:43.7±0.8, 3754N±2468W, h33km, mb5.0/53, MS4.0/6, Error ellipse: s-maj=12.0km s-min=3.6km az=136.1*

ISC 05 15:40:41.1±0.7, 3721N±0.003×2479W±0.002, h18km±4km, n459, σ0.97/491, mb4.7/105, MS4.2/35, 10C-3D, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSMN	**Pico do Norte,**	**0.30**	**227**	*e*P	**Pg**	**15 40 50.1**	**+2.5**
PSMN				*e*S	**Sg**	**15 40 56.7**	**+4.7**
MIRA	**Miradouro**	**0.69**	**326**	*e*P	**Pb**	**15 40 54.3**	**-0.3**
MIRA				*e*S	**Sb**	**15 41 04.7**	**+0.8**
FRA1	**Furnas**	**0.70**	**320**	*e*P	**Pb**	**15 40 54.9**	**+0.2**
PCNG	**Congro**	**0.74**	**319**	*e*P	**Pb**	**15 40 55.5**	**+0.1**
PCNG				*e*S	**Sb**	**15 41 05.9**	**+0.8**
PCNG				A		15 41 13.6	
	3μm,0.4s						
PCNG	**Congro**	**0.74**	**319**	*e*P	**Pb**	**15 40 55.5**	**+0.1**
PCNG				*e*S	**Sb**	**15 41 05.9**	**+0.8**
VIF	**Vila Franca**	**0.74**	**316**	*e*P	**Pb**	**15 40 56.0**	**+0.5**
VIF				*e*S	**Sb**	**15 41 06.1**	**+0.8**
VIF				A		15 41 09.5	
	2μm,0.3s						
VIF	**Vila Franca**	**0.74**	**316**	*e*P	**Pb**	**15 40 56.0**	**+0.5**
VIF				*e*S	**Sb**	**15 41 06.1**	**+0.8**
PRCH	**Ribeira Ch**	**0.75**	**314**	*e*P	**Pb**	**15 40 55.7**	**0.0**
PRCH				*e*S	**Sb**	**15 41 06.4**	**+0.8**
PRCH				A		15 41 10.6	
	8μm,0.3s						
PRCH	**Ribeira Ch**	**0.75**	**314**	*e*P	**Pb**	**15 40 55.7**	**0.0**
PRCH				*e*S	**Sb**	**15 41 06.4**	**+0.8**
PFAD	**Fenais da Ajud**	**0.76**	**326**	*e*P	**Pb**	**15 40 55.3**	**-0.4**
PFAD				*e*S	**Sb**	**15 41 06.0**	**+0.3**
MESC	**Monte Escuro**	**0.78**	**319**	*e*P	**Pb**	**15 40 56.2**	**+0.1**
MESC				*e*S	**Sb**	**15 41 07.2**	**+0.8**
LFA	**Lagoa do Fogo**	**0.79**	**316**	*e*P	**Pb**	**15 40 56.3**	**+0.1**
PMAT	**Coroa da Mata**	**0.81**	**319**	*e*P	**Pb**	**15 40 56.7**	**0.0**
PMAT				*e*S	**Sb**	**15 41 07.7**	**+0.4**
PMAT				A		15 41 11.1	
	2μm,0.3s						
PMAT	**Coroa da Mata**	**0.81**	**319**	*e*P	**Pb**	**15 40 56.7**	**0.0**
PMAT				*e*S	**Sb**	**15 41 07.7**	**+0.4**
CML	**Cha da Macela**	**0.82**	**313**	*e*P	**Pb**	**15 40 56.7**	**-0.1**
PVER	**Pico Vermelho**	**0.82**	**316**	*e*P	**Pb**	**15 40 56.5**	**-0.3**
PVER				*e*S	**Sb**	**15 41 08.2**	**+0.6**
PVER				A		15 41 11.0	
	2μm,0.3s						
PVER	**Pico Vermelho**	**0.82**	**316**	*e*P	**Pb**	**15 40 56.5**	**-0.3**
PVER				*e*S	**Sb**	**15 41 08.2**	**+0.6**
PDA	**Ponta Delgada**	**0.88**	**308**	*e*P	**Pb**	**15 40 56.5**	**-1.3**
PDA				*i* S	**Sb**	**15 41 07.8**	**-1.3**
FAC	**Faja de Cima**	**0.89**	**310**	*e*P	**Pb**	**15 40 57.9**	**0.0**
FAC				*e*S	**Sb**	**15 41 10.0**	**+0.6**
PSAN	**Santo Antonio**	**0.98**	**311**	*e*P	**Pb**	**15 40 59.3**	**-0.2**
PFET	**Feteiras**	**1.00**	**308**	*e*P	**Pb**	**15 40 59.4**	**-0.4**
SET2	**Ginetes**	**1.03**	**308**	*e*P	**Pb**	**15 41 00.2**	**-0.1**
SET4	**Mosteiros**	**1.04**	**310**	*e*P	**Pb**	**15 41 00.1**	**-0.5**
PFAV	**Pico das Favas**	**2.35**	**310**	*e*P	**Pn**	**15 41 18.3**	**-0.5**
PFAV				*e*S	**Sn**	**15 41 46.8**	**-0.4**
PFAV				A		15 41 51.7	
	689nm,0.3s						
PFAV	**Pico das Favas**	**2.35**	**310**	*e*P	**Pn**	**15 41 18.3**	**-0.5**
PFAV				*e*S	**Sn**	**15 41 46.8**	**-0.4**
PSCM	**Serra do Cume**	**2.37**	**310**	*e*P	**Pn**	**15 41 18.0**	**-1.0**
PSCM				*e*S	**Sn**	**15 41 45.4**	**-2.1**
PSCM				A		15 41 50.0	
	2μm,0.5s						
PSCM	**Serra do Cume**	**2.37**	**310**	*e*P	**Pn**	**15 41 18.0**	**-1.0**
PSCM				*e*S	**Sn**	**15 41 45.4**	**-2.1**
RIB2	**Ribeirinha**	**2.38**	**309**	*e*P	**Pn**	**15 41 18.9**	**-0.3**
RIB2				*e*S	**Sn**	**15 41 47.4**	**-0.6**
RIB2				A		15 41 51.6	
	767nm,0.2s						
RIB2	**Ribeirinha**	**2.38**	**309**	*e*P	**Pn**	**15 41 18.9**	**-0.3**
RIB2				*e*S	**Sn**	**15 41 47.4**	**-0.6**
ADH	**Angra Heroismo**	**2.41**	**308**	*e*P	**Pn**	**15 41 19.2**	**-0.4**
ADH				*e*S	**Sn**	**15 41 47.1**	**-1.6**
PVNV	**Vila Nova**	**2.43**	**310**	*e*P	**Pn**	**15 41 20.1**	**+0.3**
PVNV				*e*S	**Sn**	**15 41 48.4**	**-0.7**
PVNV				A		15 41 50.6	
	318nm,0.4s						
PVNV	**Vila Nova**	**2.43**	**310**	*e*P	**Pn**	**15 41 20.1**	**+0.3**
PVNV				*e*S	**Sn**	**15 41 48.4**	**-0.7**
PPAD	**Pico dos Padre**	**2.47**	**308**	*e*P	**Pn**	**15 41 20.5**	**+0.1**
PPAD				*e*S	**Sn**	**15 41 49.8**	**-0.3**
PPAD				A		15 41 53.5	
	677nm,0.3s						
PPAD	**Pico dos Padre**	**2.47**	**308**	*e*P	**Pn**	**15 41 20.5**	**+0.1**
PPAD				*e*S	**Sn**	**15 41 49.8**	**-0.3**
PBIS	**Biscoitos**	**2.49**	**309**	*e*P	**Pn**	**15 41 19.7**	**-0.9**
PBIS				*e*S	**Sn**	**15 41 49.1**	**-1.4**
PBIS				A		15 41 55.8	
	235nm,0.3s						
PBIS	**Biscoitos**	**2.49**	**309**	*e*P	**Pn**	**15 41 19.7**	**-0.9**
PBIS				*e*S	**Sn**	**15 41 49.1**	**-1.4**
ASBA	**Santa Barbara**	**2.51**	**308**	*e*P	**Pn**	**15 41 22.0**	**+1.1**
ASBA				*e*S	**Sn**	**15 41 51.3**	**+0.3**
ASBA				A		15 41 55.0	
	282nm,0.3s						
ASBA	**Santa Barbara**	**2.51**	**308**	*e*P	**Pn**	**15 41 22.0**	**+1.1**
ASBA				*e*S	**Sn**	**15 41 51.3**	**+0.3**
PIED	**Piedade**	**2.85**	**296**	*e*P	**Pn**	**15 41 25.5**	**-0.2**
PID	**Ribeirinha**	**2.91**	**296**	*e*P	**Pn**	**15 41 26.3**	**-0.1**
PID				*e*S	**Sn**	**15 42 00.5**	**-0.4**
PMAN	**Manadas**	**2.97**	**300**	*e*P	**Pn**	**15 41 26.9**	**-0.4**
PMAN				*e*S	**Sn**	**15 42 00.9**	**-1.5**
PMAN				A		15 42 07.7	
	286nm,0.3s						
PMAN	**Manadas**	**2.97**	**300**	*e*P	**Pn**	**15 41 26.9**	**-0.4**
PMAN				*e*S	**Sn**	**15 42 00.9**	**-1.5**
PAMA	**Santo Amaro**	**3.05**	**300**	*e*P	**Pn**	**15 41 28.8**	**+0.4**
PAMA				*e*S	**Sn**	**15 42 04.1**	**-0.4**
PAMA				A		15 42 09.1	
	85nm,0.3s						
PAMA	**Santo Amaro**	**3.05**	**300**	*e*P	**Pn**	**15 41 28.8**	**+0.4**
PAMA				*e*S	**Sn**	**15 42 04.1**	**-0.4**
PBOI	**Pico dos Bois**	**3.09**	**294**	*e*P	**Pn**	**15 41 29.3**	**+0.4**
PBOI				*e*S	**Sn**	**15 42 04.8**	**-0.6**
PBOI				A		15 42 15.7	
	159nm,0.5s						
PTEI	**Pico do Teixo**	**3.10**	**296**	*e*S	**Sn**	**15 42 04.8**	**-0.8**
PTEI				A		15 42 14.5	
	80nm,0.4s						
ROSA	**Rosais**	**3.12**	**300**	*e*P	**Pn**	**15 41 29.1**	**-0.2**
ROSA				*e*S	**Sn**	**15 42 05.0**	**-1.0**
STGR	**Santa Cruz**	**3.15**	**307**	*e*P	**Pn**	**15 41 31.1**	**+1.4**
STGR				*e*S	**Sn**	**15 42 06.6**	**-0.2**
STGR				A		15 42 10.5	
	128nm,0.2s						
STGR	**Santa Cruz**	**3.15**	**307**	*e*P	**Pn**	**15 41 31.1**	**+1.4**
STGR				*e*S	**Sn**	**15 42 06.6**	**-0.2**
PICO	**Pico**	**3.15**	**295**	*e*P	**Pn**	**15 41 29.5**	**-0.3**
PICO				*e*S	**Sn**	**15 42 06.0**	**-0.9**
PCND	**Candelaria**	**3.17**	**295**	*e*P	**Pn**	**15 41 29.9**	**-0.1**
PCND				*e*S	**Sn**	**15 42 06.3**	**-1.0**
PCND				A		15 42 13.4	
	89nm,0.3s						
PVIA	**Vitoria**	**3.17**	**307**	*e*S	**Sn**	**15 42 05.4**	**-2.0**
PVIA				A		15 42 09.0	
	56nm,0.3s						
HOR	**Horta**	**3.31**	**295**	*e*P	**Pn**	**15 41 32.1**	**+0.1**
HOR				*e*S	**Sn**	**15 42 09.6**	**-1.2**
CALA	**Caldeira**	**3.38**	**295**	*e*P	**Pn**	**15 41 32.5**	**-0.1**
CALA				*e*S	**Sn**	**15 42 11.6**	**-1.0**
PTCA	**Ponta do Capel**	**3.45**	**295**	*e*P	**Pn**	**15 41 34.2**	**+0.3**
PLUZ	**Luz**	**3.76**	**300**	*e*P	**Pn**	**15 41 29.7**	**-8.5**
PLUZ				*e*S	**Sn**	**15 42 04.8**	**-17**
PLUZ				A		15 42 10.6	
	223nm,0.3s						
PMAR	**Madeira**	**7.86**	**122**	*e*Pn	**Pn**	**15 42 32.2**	**-2.3**
PMAR				*e*Sn	**Sn**	**15 43 52.0**	**-11**
PMAR				A		15 44 00.5	
	135nm,0.3s						
PMAR				A		15 45 14.9	
	1μm,19.1s						
PMAR				*e*T		15 50 00.8	
PMPS	**Porto Santo**	**8.07**	**118**	*e*Pn	**Pn**	**15 42 33.8**	**-3.6**
PMPS				*e*Sn	**Sn**	**15 43 54.3**	**-14**
PMPS				A		15 44 04.3	
	27nm,0.5s						
PMPS				A		15 45 09.7	
	867nm,21.2s						
EHIG	**Higuera**	**10.43**	**144**	P	**Pn**	**15 43 07.9**	**-1.9**
EHIG				S	**Sn**	**15 44 53.4**	**-13**
EHIG	**Higuera**	**10.43**	**144**	P	**Pn**	**15 43 07.9**	**-1.9**
EHIG				S	**Sn**	**15 44 53.4**	**-13**
EGOM	**La Gomera**	**11.05**	**143**	P	**Pn**	**15 43 15.0**	**-3.2**
	24nm,0.3s						
EGOM				S	**Sn**	**15 45 04.3**	**-17**
EGOM	**La Gomera**	**11.05**	**143**	P	**Pn**	**15 43 15.0**	**-3.2**
	24nm,0.3s						
EGOM				S	**Sn**	**15 45 04.3**	**-17**
EBAJ	**Bajamar**	**11.18**	**138**	P	**Pn**	**15 43 17.1**	**-3.0**
	11nm,0.3s						
EBAJ				S	**Sn**	**15 45 09.4**	**-15**
EBAJ	**Bajamar**	**11.18**	**138**	P	**Pn**	**15 43 17.0**	**-3.0**
	11nm,0.3s						
EBAJ				S	**Sn**	**15 45 09.4**	**-15**
CCAN	**Las Canadas**	**11.30**	**140**	P	**Pn**	**15 43 18.4**	**-3.2**
	4.4nm,0.2s						
CCAN	**Las Canadas**	**11.30**	**140**	P	**Pn**	**15 43 18.4**	**-3.2**
	4.4nm,0.2s						
EOSO	**Osorio**	**11.98**	**137**	P	**Pn**	**15 43 28.8**	**-2.1**
	7.6nm,0.3s						
EOSO	**Osorio**	**11.98**	**137**	P	**Pn**	**15 43 28.8**	**-2.1**
	7.6nm,0.3s						
EFAM	**Famara**	**12.40**	**127**	P	**Pn**	**15 43 36.7**	**0.0**
	21nm,0.6s						
EFAM	**Famara**	**12.40**	**127**	P	**Pn**	**15 43 36.7**	**0.0**
	21nm,0.6s						
CFTV	**Fuerteventura**	**12.56**	**131**	P	**Pn**	**15 43 35.5**	**-3.4**
	3.4nm,0.4s						
CFTV	**Fuerteventura**	**12.56**	**131**	P	**Pn**	**15 43 35.5**	**-3.4**
	3.4nm,0.4s						
PFVI	**Vila Bisbo**	**12.74**	**86**	*e*S	**Sn**	**15 45 45.9**	**-17**
PFVI				A		15 47 20.3	
	460nm,19.6s						
PFVI				*e*T		15 55 41.8	
PTEO	**Sao Teotonio**	**12.79**	**84**	*e*S	**Sn**	**15 45 44.8**	**-19**
MORF	**Marmelete**	**12.86**	**85**	*e*S	**Sn**	**15 45 47.3**	**-18**
MORF				*e*T		15 55 46.3	
EVOP	**Sao Brissos**	**13.24**	**79**	*e*Pn	**Pn**	**15 43 43.1**	**-5.0**
EVOP				*e*Sn	**Sn**	**15 45 54.9**	**-20**
	15nm,0.7s						
EVO	**Evora**	**13.33**	**79**	*e*Pn	**Pn**	**15 43 43.1**	**-6.2**
EVO				*e*Sn	Sn	15 45 54.9	-22
	30nm,0.7s						
EVO				*e*MLR	MLR		
	comp=Z,526nm,22.0s						
PBDV	**Barranco-do-Ve**	**13.44**	**85**	*e*S	**Sn**	**15 46 02.2**	**-18**
PBDV				A		15 48 22.6	
	comp=Z,386nm,18.0s						
PBDV				*e*T		15 56 02.1	
PBEJ	**Beja**	**13.45**	**81**	*e*S	**Sn**	**15 46 01.0**	**-19**
PVAQ	**Vaqueiros**	**13.60**	**84**	*e*S	**Sn**	**15 46 06.1**	**-17**
PVAQ				A		15 47 55.4	
	comp=Z,361nm,20.1s						
PVAQ				*e*T		15 55 53.7	
PESTR	**Estremoz**	**13.66**	**78**	*e*S	**Sn**	**15 46 07.2**	**-18**
PESTR				A		15 48 06.0	
	comp=Z,277nm,20.4s						
ELOB	**Lobios**	**13.72**	**65**	P	**Pn**	**15 43 46.0**	**-8.6**
	comp=Z,3.7nm,0.5s						
ELOB				S	**Sn**	**15 46 05.8**	**-21**
ELOB	**Lobios**	**13.72**	**65**	P	**Pn**	**15 43 46.0**	**-8.7**
	comp=Z,3.7nm,0.5s						
ELOB				S	**Sn**	**15 46 05.8**	**-21**
MTE	**Manteigas**	**13.82**	**71**	*e*P	**Pn**	**15 43 56.3**	**+0.2**
MTE				*e*S	**Sn**	**15 46 09.8**	**-19**
MTE				A		15 48 51.4	
	comp=Z,382nm,17.5s						
MTE				*e*T		15 56 05.3	
PBAR	**Barrancos**	**14.10**	**81**	*e*S	**Sn**	**15 46 15.5**	**-20**
PBAR				*e*T		15 56 03.4	
EBAD	**Badajoz**	**14.11**	**78**	P	**Pn**	**15 43 53.8**	**-6.2**
	comp=Z,1.0nm,0.3s						
EBAD				S	Sn	15 46 14.9	-21
EBAD	**Badajoz**	**14.11**	**78**	P	**Pn**	**15 43 53.8**	**-6.2**
	comp=Z,1.0nm,0.3s						
EBAD				S	Sn	15 46 14.9	-21
MVO	**Moncorvo**	**14.33**	**69**	*e*P	**Pn**	**15 43 56.4**	**-6.6**
MVO				*e*S	**Sn**	**15 46 20.8**	**-21**
MVO				A		15 48 46.4	
	comp=Z,324nm,19.1s						
MVO				*e*T		15 56 19.9	
EMIN	**Mina Concepcio**	**14.40**	**82**	P	**Pn**	**15 43 59.5**	**-4.4**
	comp=Z,1.3nm,0.5s						
EMIN				S	Sn	15 46 20.8	-22
EMIN	**Mina Concepcio**	**14.40**	**82**	P	**Pn**	**15 43 59.5**	**-4.5**
	comp=Z,1.3nm,0.5s						
EMIN				S	Sn	15 46 20.8	-22
PBRG	**Braganca**	**14.67**	**66**	*e*S	Sx	15 46 28.4	
EPON	**Pontenova**	**14.78**	**60**	P	**Pn**	**15 44 03.9**	**-5.2**
	comp=Z,1.6nm,0.4s						
EPON				S	Sn	15 46 30.5	-22
EPON	**Pontenova**	**14.78**	**60**	P	**Pn**	**15 44 03.9**	**-5.2**
	comp=Z,1.6nm,0.4s						
EPON				S	Sn	15 46 30.5	-22
EADA	**Adamuz**	**16.03**	**80**	P	**Pn**	**15 44 20.0**	**-5.6**
	comp=Z,1.1nm,0.5s						
EADA				S	Sn	15 47 01.1	-22
EADA	**Adamuz**	**16.03**	**80**	P	**Pn**	**15 44 20.0**	**-5.6**
	comp=Z,1.1nm,0.5s						
EADA				S	Sn	15 47 01.1	-22
EARI	**Arriondas**	**16.13**	**62**	P	**Pn**	**15 44 21.6**	**-5.1**
	comp=Z,2.6nm,0.6s						
ESDC	**Sonseca Array**	**16.50**	**75**	Pn	**Pn**	**15 44 23.1**	**-8.5**
ESDC				P		15 44 27.0	
ESDC				Sn	**Sn**	**15 47 15.3**	**-19**
ESDC				LR	LR	15 49 50.0	
ESDC	**Sonseca Array**	**16.50**	**75**	Pn	**Pn**	**15 44 23.1**	**-8.5**
	comp=Z,0.4nm,0.3s,baz=271,slow=13,SNR=9.2						
ESDC				Sn	**Sn**	**15 47 15.3**	**-19**
	comp=Z,0.2nm,0.3s,baz=349,slow=21,SNR=1.5						
ESDC				LR	LR	15 49 50.0	
	comp=Z,277nm,19.2s,baz=325,slow=34						
ESDC	**Sonseca Array**	**16.50**	**75**	P	**Pn**	**15 44 27.0**	**-4.6**
ESLA	**Sonseca Array**	**16.50**	**75**	*e*Pn	**Pn**	**15 44 20.5**	**-11**
ESLA	**Sonseca Array**	**16.50**	**75**	*e*Pn	**Pn**	**15 44 20.5**	**-11**
MDT	**Midelt**	**17.10**	**99**	Pn	**Pn**	**15 44 37.1**	**-1.9**
	comp=Z,0.3nm,0.3s,baz=279,slow=14,SNR=4.6						
MDT				LR	LR	15 49 55.3	
	comp=Z,349nm,20.2s,baz=332,slow=33						
EQES	**Quesada**	**17.25**	**81**	P	**Pn**	**15 44 35.9**	**-5.1**
	comp=Z,1.6nm,0.5s						
EQES	**Quesada**	**17.25**	**81**	P	**Pn**	**15 44 35.9**	**-5.0**
	comp=Z,1.6nm,0.5s						
ELAN	**Lanestosa**	**17.37**	**63**	P	**Pn**	**15 44 37.7**	**-4.7**
	comp=Z,5.3nm,0.7s						
ELAN	**Lanestosa**	**17.37**	**63**	P	**Pn**	**15 44 37.7**	**-4.7**
	comp=Z,5.3nm,0.7s						
ETOB	**Tobarra**	**18.39**	**78**	P	**Pn**	**15 44 55.5**	**+0.5**
	comp=Z,11nm,1.0s						
ETOB	**Tobarra**	**18.39**	**78**	P	**Pn**	**15 44 55.5**	**+0.5**
	comp=Z,11nm,1.0s						
SJPF	**Ste Jean**	**18.93**	**65**	*e*P	**Pn**	**15 45 01.5**	**0.0**
QUIF	**Quistinic**	**19.13**	**49**	*e*P	**Pn**	**15 45 03.3**	**-0.6**
	comp=Z,30nm,1.0s						
QUIF	**Quistinic**	**19.13**	**49**	*e*P	**Pn**	**15 45 03.3**	**-0.6**
QUIF				pmax	pmax		
	comp=Z,15nm,1.0s						
QUIF	**Quistinic**	**19.13**	**49**	*e*P	**Pn**	**15 45 03.3**	**-0.6**
	comp=Z,15nm,1.0s						
ROSF	**Rostrenen**	**19.25**	**48**	*e*P	**Pn**	**15 45 04.9**	**-0.5**
	comp=Z,39nm,1.0s						
ROSF	**Rostrenen**	**19.25**	**48**	*e*P	**Pn**	**15 45 04.9**	**-0.5**
ROSF				pmax	pmax		
	comp=Z,20nm,1.0s						
ROSF	**Rostrenen**	**19.25**	**48**	*e*P	**Pn**	**15 45 04.9**	**-0.5**
	comp=Z,20nm,1.0s						
ETSF	**Etsaut**	**19.37**	**65**	*e*P	**Pn**	**15 45 05.8**	**-1.1**
	comp=Z,26nm,0.9s						
ETSF	**Etsaut**	**19.37**	**65**	*e*P	**Pn**	**15 45 05.8**	**-1.1**
ETSF				pmax	pmax		
	comp=Z,13nm,0.9s						
ETSF	**Etsaut**	**19.37**	**65**	*e*P	**Pn**	**15 45 05.8**	**-1.1**
	comp=Z,13nm,0.9s						
SGMF	**Saint Gilles**	**19.64**	**49**	*e*P	**Pn**	**15 45 09.2**	**-0.8**
EBIE	**Bielsa**	**19.85**	**66**	P	**Pn**	**15 45 10.5**	**-2.1**
	comp=Z,6.8nm,0.7s						
EBIE	**Bielsa**	**19.85**	**66**	P	**Pn**	**15 45 10.5**	**-2.1**
	comp=Z,6.8nm,0.7s						
EPF	**Esparros**	**20.04**	**65**	*e*P	**P**	**15 45 13.6**	**+0.6**
	comp=Z,223nm,1.7s						
EPF	**Esparros**	**20.04**	**65**	*e*P	**P**	**15 45 13.6**	**+0.6**
EPF				pmax	pmax		
	comp=Z,112nm,1.7s						
EPF	**Esparros**	**20.04**	**65**	*e*P	**P**	**15 45 13.6**	**+0.6**
	comp=Z,112nm,1.7s						
MELF	**Melles**	**20.33**	**66**	*e*P	**P**	**15 45 16.6**	**+0.5**
EPOB	**Poblet**	**20.42**	**70**	P	**P**	**15 45 16.6**	**-0.5**
	comp=Z,10nm,0.7s						
EPOB	**Poblet**	**20.42**	**70**	P	**P**	**15 45 16.6**	**-0.6**
	comp=Z,10nm,0.7s						
DLF	**Lyons Farm**	**20.50**	**32**	*e*P	**P**	**15 45 20.9**	**+3.1**
DSB	**Dublin**	**20.53**	**33**	*e*P	**P**	**15 45 14.4**	**-3.8**
	comp=Z,13nm,0.8s						
DSB	**Dublin**	**20.53**	**33**	*e*P	**P**	**15 45 14.4**	**-3.8**
	comp=Z,13nm,0.8s						
MFF	**Saint Martin d**	**20.54**	**55**	*e*P	**P**	**15 45 18.5**	**+0.2**
	comp=Z,383nm,1.5s						
MFF	**Saint Martin d**	**20.54**	**55**	*e*P	**P**	**15 45 18.5**	**+0.2**
MFF				pmax	pmax		
	comp=Z,192nm,1.5s						
MFF	**Saint Martin d**	**20.54**	**55**	*e*P	**P**	**15 45 18.5**	**+0.2**
	comp=Z,192nm,1.5s						
SALF	**Salau**	**20.63**	**66**	*e*P	**P**	**15 45 20.8**	**+1.4**
LFF	**La Frestale**	**20.68**	**60**	*e*P	**P**	**15 45 20.2**	**+0.2**
	comp=Z,180nm,1.0s						
LFF	**La Frestale**	**20.68**	**60**	*e*P	**P**	**15 45 20.2**	**+0.2**
LFF				pmax	pmax		
	comp=Z,90nm,1.0s						
LFF	**La Frestale**	**20.68**	**60**	*e*P	**P**	**15 45 20.2**	**+0.2**
	comp=Z,90nm,1.0s						
GRR	**Gorron**	**20.73**	**50**	*e*P	**P**	**15 45 20.8**	**+0.4**
	comp=Z,188nm,1.2s						
GRR	**Gorron**	**20.73**	**50**	*e*P	**P**	**15 45 20.8**	**+0.4**
GRR				pmax	pmax		
	comp=Z,94nm,1.2s						
GRR	**Gorron**	**20.73**	**50**	*e*P	**P**	**15 45 20.8**	**+0.4**
	comp=Z,94nm,1.2s						
EANR	**'Ain N'Sour**	**20.82**	**86**	P	**P**	**15 45 22.5**	**+1.0**
ECHA	**Ech Chlef**	**20.99**	**85**	P	**P**	**15 45 21.0**	**-2.4**
ETRT	**Tiaret**	**21.09**	**87**	P	**P**	**15 45 26.5**	**+2.0**
EBNR	**Beni Rached**	**21.09**	**85**	P	**P**	**15 45 20.0**	**-4.5**
FLN	**La Foliniere**	**21.11**	**49**	*e*P	**P**	**15 45 24.8**	**+0.3**
	comp=Z,43nm,0.8s,mb4.5						
FLN				*e*MLR	MLR		
	comp=Z,446nm,22.2s,MS3.5						
FLN	**La Foliniere**	**21.11**	**49**	*e*P	**P**	**15 45 24.8**	**+0.3**
	comp=Z,22nm,0.8s,mb4.5						
FLN				LR	LR		
	comp=Z,450nm,22.3s,MS3.8						
FLN	**La Foliniere**	**21.11**	**49**	*e*P	**P**	**15 45 24.8**	**+0.3**
FLN				pmax	pmax		
	comp=Z,22nm,0.8s,mb4.5						
FLN				MLR	MLR		
	comp=Z,450nm,22.3s,MS3.8						
LDF	**La Druitiere**	**21.26**	**50**	*e*P	**P**	**15 45 25.9**	**-0.2**
	comp=Z,66nm,1.1s,mb4.6						
LDF	**La Druitiere**	**21.26**	**50**	*e*P	**P**	**15 45 25.9**	**-0.2**
LDF				pmax	pmax		
	comp=Z,33nm,1.1s,mb4.6						
LDF	**La Druitiere**	**21.26**	**50**	*e*P	**P**	**15 45 25.9**	**-0.2**
	comp=Z,33nm,1.1s,mb4.6						
RJF	**Les Rejaudoux**	**21.30**	**59**	*e*P	**P**	**15 45

comp=Z,34nm,1.4s,mb4.6
EKA Eskdalemuir Ar 23.33 32 P **P 15 45 47.2 -0.9**
comp=Z,3.6nm,0.6s,mb4.0,baz=228,slow=8.4,SNR=16
LOR Lormes 23.35 55 *e*P **P 15 45 47.9 -0.6**
comp=Z,97nm,1.3s,mb4.8
LOR *e*MLR MLR
comp=Z,333nm,18.0s,MS3.5
LOR Lormes 23.35 55 *e*P **P 15 45 47.9 -0.6**
comp=Z,48nm,1.3s,mb4.8
LOR LR LR
comp=Z,330nm,18.0s,MS3.8
LOR Lormes 23.35 55 *e*P **P 15 45 47.9 -0.6**
LOR pmax pmax
comp=Z,48nm,1.3s,mb4.8
LOR MLR MLR
comp=Z,330nm,18.0s,MS3.8
MENF Mencas 23.41 47 *e*P **P 15 45 48.1 -0.9**
VIVF Saint-Julien-I 23.41 62 *e*P **P 15 45 48.2 -0.9**
comp=Z,101nm,1.2s,mb4.8
VIVF Saint-Julien-I 23.41 62 *e*P **P 15 45 48.2 -0.9**
VIVF pmax pmax
comp=Z,51nm,1.2s,mb4.8
VIVF Saint-Julien-I 23.41 62 *e*P **P 15 45 48.2 -0.9**
comp=Z,51nm,1.2s,mb4.8
BBTS Babate 23.63 160 LR LR 15 53 17.5
comp=Z,568nm,20.5s,MS4.0,baz=58,slow=32
SMRF Simiane la Rot 23.94 64 *e*P **P 15 45 53.6 -0.5**
ORIF Oris-en-Rattie 24.27 62 *e*P **P 15 45 56.9 -0.1**
comp=Z,107nm,1.3s,mb4.8
ORIF *e*MLR MLR
comp=Z,454nm,23.0s,MS3.6
ORIF Oris-en-Rattie 24.27 62 *e*P **P 15 45 56.9 -0.1**
ORIF pmax pmax
comp=Z,53nm,1.3s,mb4.8
ORIF Oris-en-Rattie 24.27 62 *e*P **P 15 45 56.9 -0.1**
comp=Z,53nm,1.3s,mb4.8
BAIF Baives 24.43 49 *e*P **P 15 45 57.8 -0.7**
comp=Z,40nm,0.9s,mb4.6
BAIF Baives 24.43 49 *e*P **P 15 45 57.8 -0.7**
BAIF pmax pmax
comp=Z,20nm,0.9s,mb4.5
BAIF Baives 24.43 49 *e*P **P 15 45 57.8 -0.7**
comp=Z,20nm,0.9s,mb4.5
MEZF Maizieres J'vi 24.46 53 *e*P **P 15 45 58.4 -0.4**
SNF Seneffe 24.64 48 P **P 15 46 00.3 0.0**
comp=Z,32nm,2.1s,mb4.5
FRF La Foret Royal 24.68 65 *e*P **P 15 46 00.8 0.0**
DOU Dourbes 24.68 49 P **P 15 46 00.7 -0.1**
comp=Z,35nm,2.0s,mb4.5
CABF La Chapelle 24.69 58 *e*P **P 15 46 00.7 -0.2**
UCC Uccle 24.79 47 P **P 15 46 01.6 -0.2**
GIVF Givet 24.82 49 *e*P **P 15 46 01.8 -0.2**
comp=Z,210nm,1.2s,mb5.2
GIVF Givet 24.82 49 *e*P **P 15 46 01.8 -0.2**
GIVF pmax pmax
comp=Z,105nm,1.3s,mb5.2
GIVF Givet 24.82 49 *e*P **P 15 46 01.8 -0.2**
comp=Z,105nm,1.3s,mb5.2
BNI Bardonecchia 24.85 62 *e*P **P 15 46 02.0 -0.3**
comp=Z,22nm,1.1s,mb4.6
BNI Bardonecchia 24.85 62 *e*P **P 15 46 02.0 -0.3**
BNI pmax pmax
comp=Z,22nm,1.1s,mb4.6
BNI Bardonecchia 24.85 62 *e*P **P 15 46 02.0 -0.3**
comp=Z,22nm,1.1s,mb4.6
MBDF Montbardon 24.88 63 *e*P **P 15 46 02.7 +0.1**
LPL La Plagne 24.95 61 *e*P **P 15 46 03.5 +0.3**
comp=Z,42nm,1.2s,mb4.5
LPL La Plagne 24.95 61 *e*P **P 15 46 03.5 +0.3**
LPL pmax pmax
comp=Z,21nm,1.2s,mb4.5
LPL La Plagne 24.95 61 *e*P **P 15 46 03.5 +0.3**
comp=Z,21nm,1.2s,mb4.5
LPG La Plagne 24.96 61 *e*P **P 15 46 03.6 +0.3**
comp=Z,71nm,1.4s,mb4.7
LPG La Plagne 24.96 61 *e*P **P 15 46 03.6 +0.3**
LPG pmax pmax
comp=Z,36nm,1.4s,mb4.7
LPG La Plagne 24.96 61 *e*P **P 15 46 03.6 +0.3**
comp=Z,36nm,1.4s,mb4.7
THEF They Montfort 24.99 54 *e*P **P 15 46 03.3 -0.3**
TOUF Mont Tournerai 25.15 64 *e*P **P 15 46 07.0 +2.0**
HAU Haudompre 25.17 55 *e*P **P 15 46 05.1 -0.1**
comp=Z,58nm,1.1s,mb4.7
HAU *e*MLR MLR
comp=Z,425nm,17.0s,MS3.7
HAU Haudompre 25.17 55 *e*P **P 15 46 05.1 -0.1**
comp=Z,29nm,1.1s,mb4.7
HAU LR LR
comp=Z,430nm,17.0s,MS4.0
HAU Haudompre 25.17 55 *e*P **P 15 46 05.1 -0.1**
HAU pmax pmax
comp=Z,29nm,1.1s,mb4.7
HAU MLR MLR
comp=Z,430nm,17.0s,MS4.0
BCLA Clavier 25.22 49 P **P 15 46 05.5 -0.1**
SBF Sospel 25.27 65 *e*P **P 15 46 06.4 +0.2**
comp=Z,51nm,0.9s,mb4.8
SBF Sospel 25.27 65 *e*P **P 15 46 06.4 +0.2**
SBF pmax pmax
comp=Z,26nm,0.9s,mb4.8
SBF Sospel 25.27 65 *e*P **P 15 46 06.4 +0.2**
comp=Z,26nm,0.9s,mb4.8
LOMF Lomont 25.34 56 *e*P **P 15 46 07.2 +0.5**
HINF Hinteralfeld 25.45 55 *e*P **P 15 46 07.6 -0.2**
comp=Z,44nm,1.2s,mb4.6
HINF Hinteralfeld 25.45 55 *e*P **P 15 46 07.6 -0.2**
HINF pmax pmax
comp=Z,22nm,1.2s,mb4.6
HINF Hinteralfeld 25.45 55 *e*P **P 15 46 07.6 -0.2**
comp=Z,22nm,1.2s,mb4.6
WLF Walferdange 25.49 51 *e*P **P 15 46 07.5 -0.7**
comp=Z,66nm,0.9s,mb5.2
WLF Walferdange 25.49 51 *e*P **P 15 46 07.5 -0.6**
WLF pmax pmax
comp=Z,66nm,0.9s,mb5.2
WLF Walferdange 25.49 51 P **P 15 46 08.2 +0.1**
comp=Z,52nm,1.2s,mb4.9
WLF Walferdange 25.49 51 *e*P **P 15 46 08.3 +0.2**
comp=Z,80nm,1.0s,mb5.2
WLF Walferdange 25.49 51 *e*P **P 15 46 07.5 -0.6**
comp=Z,66nm,0.9s,mb5.2
BEBN Eben Emael 25.57 48 P **P 15 46 07.6 -1.2**
MOF Molkenrain 25.65 55 *e*P **P 15 46 09.4 -0.1**
MEM Membach 25.70 49 P **P 15 46 09.8 -0.2**
comp=Z,14nm,1.9s,mb4.2
HGN Heimansgroeve 25.71 48 *e*P **P 15 46 09.8 -0.3**
comp=Z,30nm,2.2s,mb4.4
ECH Echery 25.75 55 *e*P **P 15 46 10.0 -0.4**
CDF Champ du Feu 25.87 54 *e*P **P 15 46 11.4 -0.1**
comp=Z,87nm,1.4s,mb4.6
CDF Champ du Feu 25.87 54 *e*P **P 15 46 11.4 -0.1**
CDF pmax pmax
comp=Z,43nm,1.4s,mb4.8
CDF Champ du Feu 25.87 54 *e*P **P 15 46 11.4 -0.1**
comp=Z,43nm,1.4s,mb4.8
RUP Ruppelstein 26.07 51 *e*P **P 15 46 13.3 0.0**
FELD Feldberg im Sc 26.23 56 *e*P **P 15 46 14.6 -0.2**
LANF Langenberg 26.35 53 *e*P **P 15 46 15.7 -0.2**
ABH Alteburg 26.42 51 *e*P **P 15 46 16.5 0.0**
BFO Black Forest 26.53 55 *e*P **P 15 46 17.5 -0.1**
BFO pmax pmax
comp=Z,48nm,1.2s,mb4.9
BFO Black Forest 26.53 55 *e*P **P 15 46 17.5 -0.1**
comp=Z,48nm,1.2s,mb4.9
WTSB Winterswijk 26.64 46 *e*P **P 15 46 18.6 +0.1**
comp=Z,69nm,1.5s,mb5.0
SPAK Spaichingen-Ko 26.79 55 *e*P **P 15 46 19.5 -0.3**
STU Stuttgart 27.19 54 *e*P **P 15 46 26.8 +3.3**
comp=Z,24nm,0.9s,mb4.7
DAVOS Davos 27.24 58 P **P 15 46 25.4 +1.4**
DAVOX Davos/Dischmat 27.29 58 P **P 15 46 25.4 +1.0**
comp=Z,4.3nm,0.8s,mb4.0,baz=273,slow=10,SNR=5.9
DAVA Damuels 27.37 57⇑ *i*P **P 15 46 26.0 +0.9**
comp=Z,17nm,1.1s,mb4.5
DAVA Damuels 27.37 57⇑ *i*pP pP 15 46 26.0 -4.5
comp=Z,17nm,1.1s
KEST Kesra 27.41 83 P **P 15 46 24.9 -0.7**
comp=Z,3.4nm,0.8s,mb3.9,baz=324,slow=5.5,SNR=3.5
BORG Borgarnes 27.65 3 LR LR 15 54 07.7
comp=Z,880nm,19.1s,MS4.4,baz=145,slow=29
FETA Feichten 27.90 58⇓ *i*pP pP 15 46 31.0 -4.4
comp=Z,24nm,1.6s
RETA Reutte 27.99 57⇑ *i*P **P 15 46 31.2 +0.5**
comp=Z,10nm,0.8s,mb4.5
UBBA Unterbreizbach 28.19 50 *e*P **P 15 46 33.5 +1.1**
comp=Z,66nm,2.2s,mb4.9
GRFO Grafenberg 28.68 53 *e*P **P 15 46 36.1 -0.7**
comp=Z,48nm,1.4s,mb5.0
GRFO Grafenberg 28.68 53 *e*P **P 15 46 36.1 -0.7**
GRFO pmax pmax
comp=Z,48nm,1.4s,mb5.0
GRFO Grafenberg 28.68 53 *e*P **P 15 46 36.1 -0.7**
comp=Z,48nm,1.4s,mb5.0
GRA1 Grafenberg Arr 28.68 53 *e*P **P 15 46 36.8 0.0**
comp=Z,32nm,1.0s,mb5.0
GRF Grafenberg Arr 28.68 53 *e*P **P 15 46 36.8 0.0**
GRF pmax pmax
comp=Z,32nm,1.0s,mb5.0
GRF Grafenberg Arr 28.68 53 *e*P **P 15 46 36.8 0.0**
comp=Z,32nm,1.0s,mb5.0
CLZ Clausthal 28.70 48 *e*P **P 15 46 38.2 +1.3**
CLZ pmax pmax
comp=Z,55nm,2.0s,mb4.9
CLZ Clausthal 28.70 48 *e*P **P 15 46 38.2 +1.3**
comp=Z,55nm,2.0s,mb4.9
MOX Moxa 29.14 51 *e*(P) **P 15 46 42.8 +2.0**
comp=Z,48nm,2.2s,mb4.8
MOX Moxa 29.14 51 P **P 15 46 42.8 +2.0**
MOX pmax pmax
comp=Z,48nm,2.2s,mb4.8
MOX Moxa 29.14 51 *e*P **P 15 46 40.9 +0.1**
comp=Z,26nm,1.5s,mb4.7
MANZ Manzenberg 29.31 52 *e*P **P 15 46 42.9 +0.6**
comp=Z,17nm,1.5s,mb4.5
ROTZ Rotzenmuhle 29.33 53 *e*P **P 15 46 42.4 -0.1**
comp=Z,18nm,1.3s,mb4.6
NKC Novy Kostel 29.57 52 *e*P **P 15 46 45.2 +0.5**
TANN Tannenbergstha 29.62 52 *e*P **P 15 46 45.6 +0.5**
comp=Z,29nm,1.5s,mb4.8
WET Wettzell 29.64 54 *e*P **P 15 46 44.8 -0.5**
WET pmax pmax
comp=Z,48nm,2.4s,mb4.8
WET Wettzell 29.64 54 *e*P **P 15 46 44.8 -0.5**
comp=Z,48nm,2.4s,mb4.8
KBA Koelnbreinsper 29.69 58⇑ *i*P **P 15 46 45.7 -0.1**
comp=Z,12nm,1.0s,mb4.6
KBA Koelnbreinsper 29.69 58⇑ *i*P **P 15 46 45.7 0.0**
KBA pmax pmax
comp=Z,12nm,1.0s,mb4.6
KHC Kasperske Hory 30.10 54 *e*P **P 15 46 51.1 +1.8**
KHC *ex* x 15 47 03.6
GEC2 GERESS Array S 30.14 55 *e*P **P 15 46 49.2 -0.5**
GEC2 pmax pmax
comp=Z,22nm,1.8s,mb4.6
GEC2 GERESS Array S 30.14 55 *e*P **P 15 46 49.2 -0.5**
comp=Z,22nm,1.8s,mb4.6
GERES GERESS Array B 30.14 55 P **P 15 46 49.6 -0.1**
comp=Z,2.0nm,0.8s,mb3.9,baz=264,slow=7.9,SNR=11
GERES LR LR 15 56 50.6
comp=Z,318nm,20.2s,MS4.0,baz=277,slow=32
CLL Collm 30.15 50 *e*P **P 15 46 49.7 0.0**
comp=Z,11nm,1.3s,mb4.4
CLL Collm 30.15 50⇓ *i*P **P 15 46 49.5 -0.2**
comp=Z,12nm,1.4s,mb4.4
CLL Collm 30.15 50⇓ *i*P **P 15 46 49.5 -0.2**
OBKA Obir 30.47 60⇑ *i*P **P 15 46 52.7 0.0**
comp=Z,38nm,1.7s,mb4.8
BRG Berggiesshubel 30.63 51 *i*P **P 15 46 54.2 +0.2**
BRG pmax pmax
comp=Z,7.0nm,1.1s,mb4.4
BRG Berggiesshubel 30.63 51 *e*P **P 15 46 54.0 0.0**
comp=Z,16nm,1.3s,mb4.7
BRG Berggiesshubel 30.63 51 *i*P **P 15 46 54.2 +0.2**
comp=Z,11nm,1.1s,mb4.6
PRU Pruhonice 30.85 53 *e*P **P 15 46 55.6 -0.4**
PVCC Panska Ves 30.96 52 *e*P **P 15 46 57.2 +0.3**
PVCC *ex* x 15 47 07.0
KONO Kongsberg 31.43 33 P **P 15 46 59.1 -1.9**
comp=Z,47nm,1.4s,mb5.1
KONO Kongsberg 31.43 33 P **P 15 46 59.1 -1.8**
KONO pmax pmax
comp=Z,47nm,1.4s,mb5.1
KONO Kongsberg 31.43 33 P **P 15 46 59.1 -1.8**
comp=Z,47nm,1.4s,mb5.1
UPC Upice 31.86 52 *e*P **P 15 47 05.0 +0.1**
DPC Dobruska-Polom 32.04 53 *e*P **P 15 47 06.5 +0.1**
DPC *ex* x 15 47 15.0
KSP Ksiaz 32.09 52 *e*P **P 15 47 06.9 0.0**
MODS Modra-Piesok 32.44 56 *e*P **P 15 47 09.4 -0.6**
MORC Moravsky Berou 32.75 54 *e*P **P 15 47 12.2 -0.4**
comp=Z,9.3nm,1.2s,mb4.6
MORC Moravsky Berou 32.75 54 *e*P **P 15 47 12.2 -0.4**
MORC pmax pmax
comp=Z,9.0nm,1.2s,mb4.6
MORC Moravsky Berou 32.75 54 *e*P **P 15 47 12.2 -0.4**
comp=Z,9.3nm,1.2s,mb4.6
NOA NORSAR Array B 32.82 32 P **P 15 47 12.0 -1.1**
comp=Z,4.3nm,1.1s,mb4.3,baz=240,slow=8.8,SNR=2.7
NOA LR LR 15 58 13.4
comp=Z,431nm,22.0s,MS4.1,baz=330,slow=32
SFJD Kangerlussuaq 33.27 342 P **P 15 47 15.7 -1.2**
comp=Z,7.9nm,0.9s,mb4.6
SFJD Kangerlussuaq 33.27 342 P **P 15 47 15.7 -1.3**
SFJD pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
SFJD Kangerlussuaq 33.27 342 P **P 15 47 15.7 -1.3**
comp=Z,7.9nm,0.9s,mb4.6
SCHQ Schefferville 33.47 315 *e*P **P 15 47 19.8 +0.9**
comp=Z,25nm,1.3s,mb5.0
SCHQ Schefferville 33.47 315 P **P 15 47 20.1 +1.2**
comp=Z,4.2nm,0.7s,mb4.5,baz=92,slow=8.0,SNR=7.6
SCHQ LR LR 15 58 47.8
comp=Z,504nm,18.8s,MS4.3,baz=298,slow=32
SCHQ Schefferville 33.47 315 *e*P **P 15 47 19.8 +0.9**
comp=Z,25nm,1.3s,mb5.0
VYHS Vyhne 33.49 56 *e*P **P 15 47 18.3 -0.8**
TOA0 Torodi Ar. Sit 33.67 128 *e*P **P 15 47 22.1 +1.0**
TOA0 Torodi Ar. Sit 33.67 128 *e*P **P 15 47 22.0 +0.9**
TORD Torodi Ar. Bea 33.67 128 P **P 15 47 22.1 +1.0**
comp=Z,6.7nm,0.7s,mb4.7,baz=320,slow=7.8,SNR=43
TORD LR LR 15 59 38.7
comp=Z,276nm,21.6s,MS3.9,baz=315,slow=34
PSZ Piszkesteto 34.17 57 P **P 15 47 24.8 -0.3**
comp=Z,46nm,1.8s,mb5.1
PSZ Piszkesteto 34.17 57 P **P 15 47 24.8 -0.3**
PSZ pmax pmax
comp=Z,46nm,1.8s,mb5.1
PSZ Piszkesteto 34.17 57 P **P 15 47 24.8 -0.3**
comp=Z,46nm,1.8s,mb5.1
OJC Ojcow 34.24 53 *e*P **P 15 47 26.0 +0.4**
KECS Kecovo 34.58 56 *e*P **P 15 47 28.3 -0.3**
comp=Z,4.4nm,1.3s,mb4.2
KECS Kecovo 34.58 56 *e*P **P 15 47 28.3 -0.3**
KECS pmax pmax
comp=Z,4.0nm,1.3s,mb4.2
JMIC Jan Mayen 34.91 9 LR LR 15 59 20.2
comp=Z,1µm,18.8s,MS4.7,baz=81,slow=32
STHS Stebnicka Huta 35.12 55 *e*P **P 15 47 34.8 +1.6**
STHS pmax pmax
comp=Z,8.0nm,1.2s,mb4.5
STHS Stebnicka Huta 35.12 55 *e*P **P 15 47 34.8 +1.6**
comp=Z,8.4nm,1.2s,mb4.5
CRVS Cervenica-Dubn 35.24 56 *e*P **P 15 47 34.9 +0.6**
DBIC Dimbokro 35.41 144 P **P 15 47 35.3 -0.8**
comp=Z,9.7nm,1.1s,mb4.7
DBIC Dimbokro 35.41 144 P **P 15 47 35.3 -0.8**
DBIC pmax pmax
comp=Z,10.0nm,1.1s
DBIC Dimbokro 35.41 144 P **P 15 47 35.0 -1.0**
comp=Z,3.5nm,0.9s,mb4.3,baz=322,slow=12,SNR=2.9
DBIC LR LR 16 01 24.3
comp=Z,498nm,18.5s,MS4.3,baz=312,slow=35
DBIC Dimbokro 35.41 144 P **P 15 47 35.3 -0.8**
comp=Z,9.7nm,1.1s,mb4.7
LIC Lamto 35.72 145 *e*P **P 15 47 41.9 +3.1**
LIC *e*MLR MLR
comp=Z,785nm,22.0s,MS4.1
LIC Lamto 35.72 145 *e*P **P 15 47 41.9 +3.1**
LIC LR LR
comp=Z,390nm,22.0s,MS4.1
KOLS Kolonicke sedl 35.78 56 *e*P **P 15 47 39.4 +0.5**
LVV L'vov 36.94 54 *e*P **P 15 47 47.6 -1.3**
FINES FINESS Array B 39.63 36 LR LR 16 01 22.9
comp=Z,418nm,19.5s,MS4.3,baz=208,slow=32
AKASG Malin Array Be 40.27 53 P **P 15 48 16.2 -0.6**
comp=Z,4.5nm,0.7s,mb4.3,baz=273,slow=8.2,SNR=27
AKBB Malin Array Si 40.27 53 *e*P **P 15 48 15.9 -0.9**
AKBB *e* 15 48 24.1
AKBB Malin Array Si 40.27 53 *e*P **P 15 48 15.9 -0.9**
SJG San Juan 40.89 254 LR LR 16 01 22.7
comp=Z,120nm,21.4s,MS3.7,baz=281,slow=30
ARCES ARCESS Array B 42.01 24 P **P 15 48 30.2 -0.6**
comp=Z,7.8nm,1.0s,mb4.3,baz=245,slow=5.2,SNR=8.5
ARCES LR LR 16 04 10.6
comp=Z,520nm,18.4s,MS4.5,baz=238,slow=34
OBN Obninsk 44.55 46⇑ *e*P **P 15 48 51.1 -0.4**
OBN pmax pmax
comp=Z,40nm,1.6s,mb5.0
MOS Moscow 45.12 45 *e*P **P 15 48 56.3 +0.3**
MOS pmax pmax
comp=Z,66nm,0.9s,mb5.5
FCC Fort Churchill 48.62 319 *e*P **P 15 49 24.7 +1.3**
FCC pmax pmax
comp=Z,57nm,1.8s,mb5.3
FCC Fort Churchill 48.62 319 *e*P **P 15 49 24.7 +1.3**
comp=Z,57nm,1.8s,mb5.3
MALT Malatya 49.10 68 *e*P **P 15 49 26.8 -0.6**
comp=Z,12nm,1.3s,mb4.8
MALT Malatya 49.10 68 *e*P **P 15 49 26.8 -0.6**
MALT pmax pmax
comp=Z,12nm,1.3s,mb4.8
MALT Malatya 49.10 68 *e*P **P 15 49 26.8 -0.6**
comp=Z,12nm,1.3s,mb4.8
RES Resolute Bay 49.26 341 *e*P **P 15 49 29.6 +1.5**
comp=Z,532nm,0.9s
RES Resolute Bay 49.26 341 *e*P **P 15 49 29.5 +1.4**
comp=Z,532nm,0.9s
SDV Santo Domingo 50.06 248 *e*P **P 15 49 38.2 +3.3**
comp=Z,12nm,0.8s,mb5.0
SDV Santo Domingo 50.06 248 *e*P **P 15 49 38.2 +3.3**
comp=Z,12nm,0.8s,mb5.0
KIV Kislovodsk 50.41 60 P **P 15 49 36.1 -1.1**
comp=Z,6.5nm,0.7s,mb4.8
KIV Kislovodsk 50.41 60 *e*P **P 15 49 38.0 +0.8**
KIV pmax pmax
comp=Z,6.0nm,0.8s,mb4.7
KIV Kislovodsk 50.41 60 P **P 15 49 36.1 -1.1**
comp=Z,6.5nm,0.7s,mb4.8
ULM Lac du Bonnet 51.11 309 LR LR 16 09 51.0
comp=Z,631nm,18.7s,MS4.7,baz=69,slow=34
MIAR Mount Ida 54.66 289 *e*P **P 15 50 10.5 +1.6**
comp=Z,51nm,1.5s,mb5.3
MIAR Mount Ida 54.66 289 *e*P **P 15 50 10.5 +1.6**
MIAR pmax pmax
comp=Z,51nm,1.5s,mb5.3
MIAR Mount Ida 54.66 289 *e*P **P 15 50 10.5 +1.6**
comp=Z,51nm,1.5s,mb5.3
ROSC El Rosal 55.47 247 LR LR 16 11 08.1
comp=Z,97nm,21.2s,MS3.9,baz=32,slow=33
ARU Arti 56.50 41 *e*P **P 15 50 21.3 -0.4**
comp=Z,38nm,1.4s,mb5.2
ARU Arti 56.50 41 *e*P **P 15 50 21.4 -0.3**
ARU *e*PPP 15 53 39.2
ARU *e*S **S 15 58 05.5 -6.4**
ARU *e*SS SS 16 01 55.0 -3.7
ARU Arti 56.50 41 *e*P **P 15 50 21.3 -0.4**
comp=Z,38nm,1.4s,mb5.2
BDFB Brasilia 56.94 207 LR LR 16 11 30.3
comp=Z,275nm,20.9s,MS4.3,baz=65,slow=32
SVE Sverdlovsk 57.46 41 *e*P **P 15 50 29.0 +0.5**
YKA Yellowknife Ar 57.69 327 P **P 15 50 31.0 +0.9**
YKA 15 51 23.0
YKA Yellowknife Ar 57.69 327 P **P 15 50 31.0 +0.9**
comp=Z,1.8nm,0.8s,mb4.2,baz=68,slow=7.3,SNR=24
YKA PcP PcP 15 51 23.0 +0.1
comp=Z,0.3nm,0.6s,baz=73,slow=5.0,SNR=4.3
YKA LR LR 16 11 45.3
comp=Z,193nm,19.7s,MS4.2,baz=115,slow=32
YKA Yellowknife Ar 57.69 327 PcP PcP 15 51 23.0 +0.1
AKTK Aktyubinsk 58.21 48 P **P 15 50 34.9 +1.0**
AKTK Aktyubinsk 58.21 48 P **P 15 50 34.9 +1.0**
AKTO Aktyubinsk 58.21 48 P **P 15 50 34.9 +1.0**
comp=Z,9.3nm,0.9s,mb4.8,baz=293,slow=7.5,SNR=32
WMOK Wichita Mounta 58.47 292 *e*P **P 15 50 37.5 +1.4**
comp=Z,3.2nm,1.0s,mb4.3
WMOK Wichita Mounta 58.47 292 *e*P **P 15 50 37.5 +1.5**
WMOK pmax pmax
comp=Z,3.0nm,1.0s,mb4.3
WMOK Wichita Mounta 58.47 292 *e*P **P 15 50 37.5 +1.5**
comp=Z,3.2nm,1.0s,mb4.3
RST Umm Al-Ruwaisa 59.17 75 *e*P **P 15 50 39.5 -1.5**
RST AMb AMB 15 50 43.4
comp=Z,33nm,1.1s,mb5.3
MIB Mutribah 59.29 74 *e*P **P 15 50 39.6 -2.2**
MIB AMb AMB 15 50 44.3
comp=Z,27nm,1.2s,mb5.2
NAY Al-Naaiem 59.48 75 *e*P **P 15 50 41.3 -1.7**
NAY AMb AMB 15 50 47.7
comp=Z,12nm,1.2s,mb4.8
RDF Al-Radifah 59.87 75 *e*P **P 15 50 44.7 -1.1**
RDF AMb AMB 15 50 47.8
comp=Z,20nm,0.8s,mb5.2
QRN Al-Qurain 60.23 75 *e*P **P 15 50 46.3 -2.0**
QRN AMb AMB 15 50 50.6
comp=Z,40nm,0.8s,mb5.5
JCT Junction City 61.17 288 *e*P **P 15 50 56.4 +1.8**
comp=Z,15nm,0.8s,mb5.2
JCT Junction City 61.17 288 *e*P **P 15 50 56.4 +1.7**
JCT pmax pmax
comp=Z,15nm,0.8s,mb5.2
JCT Junction City 61.17 288 *e*P **P 15 50 56.4 +1.7**
comp=Z,15nm,0.8s,mb5.2
INK Inuvik 62.38 337 *e*P **P 15 51 02.6 +0.5**
comp=Z,279nm,1.1s
INK Inuvik 62.38 337 P **P 15 51 03.0 +0.8**
comp=Z,2.5nm,0.8s,mb4.4,baz=58,slow=9.6,SNR=10
INK Inuvik 62.38 337 *e*P **P 15 51 02.6 +0.5**
comp=Z,279nm,1.1s
WALA Waterton Lakes 62.51 312 *e*P **P 15 51 05.0 +1.7**
comp=Z,2.3nm,0.8s,mb4.4
WALA Waterton Lakes 62.51 312 *e*P **P 15 51 05.0 +1.6**
comp=Z,2.3nm,0.8s,mb4.4
PDAR Pinedale Array 62.55 304 P **P 15 51 05.5 +1.8**
comp=Z,1.5nm,0.9s,mb4.1,baz=80,slow=9.2,SNR=11
PDAR LR LR 16 17 12.7
comp=Z,369nm,18.2s,MS4.6,baz=69,slow=35
MOOW Moose Ponds 62.89 306 *e*P **P 15 51 07.0 +1.0**
comp=Z,9.9nm,1.7s,mb4.7
MOOW Moose Ponds 62.89 306 *e*P **P 15 51 07.0 +1.0**
comp=Z,9.9nm,1.7s,mb4.7
BRVK Borovoye 64.06 42 *e*P **P 15 51 14.4 +0.9**
comp=Z,10nm,1.4s,mb4.7
BRVK Borovoye 64.06 42 *e*P **P 15 51 14.4 +0.9**
BRVK pmax pmax
comp=Z,10.0nm,1.4s,mb4.7
BRVK Borovoye 64.06 42 *e*P **P 15 51 14.4 +0.9**
comp=Z,10nm,1.4s,mb4.7
HWUT Hardware Ranch 64.40 304 *e*P **P 15 51 18.0 +2.0**
comp=Z,4.3nm,0.9s,mb4.5
HWUT Hardware Ranch 64.40 304 *e*P **P 15 51 18.0 +2.0**
comp=Z,4.3nm,0.9s,mb4.5
BNM Barren Site 64.50 295 *e*P **P 15 51 20.4 +3.6**
BNM Barren Site 64.50 295 *e*P **P 15 51 20.4 +3.6**
TXAR Lajitas Array 64.66 289 P **P 15 51 20.3 +2.4**
comp=Z,7.2nm,0.8s,mb4.8,baz=76,slow=6.9,SNR=70
NEW Newport 64.77 312 *e*P **P 15 51 19.0 +0.8**
NEW Newport 64.77 312 *e*P **P 15 51 19.0 +0.7**
HLID Hailey 65.33 307 *e*P **P 15 51 23.4 +1.4**
comp=Z,2.3nm,1.0s,mb4.2
DAWY Dawson 66.76 334 *e*P **P 15 51 33.3 +2.5**
EGAK Eagle 66.91 335 P **P 15 51 26.1 -5.7**
comp=Z,17nm,1.5s,mb4.9
LPAZ La Paz 67.06 226 LR LR 16 17 00.4
comp=Z,97nm,21.7s,MS4.0,baz=211,slow=32
KMBO Kilima Mbogo 68.75 109 LR LR 16 23 11.7
comp=Z,213nm,18.0s,MS4.4,baz=87,slow=37
COLA College 68.99 337 *e*P **P 15 51 36.0 -8.8**
COLA College 68.99 337 *e*P **P 15 51 36.0 -8.9**
NNA Nana 69.14 236 LR LR 16 20 28.1
comp=Z,78nm,20.7s,MS3.9,baz=318,slow=34
NVS Novosibirsk 69.62 36 *i*P **P 15 51 50.0 +1.1**
NVS pmax pmax
comp=Z,49nm,2.1s,mb5.1
NVS pmax pmax
comp=N,21nm,2.0s
KURK Kurchatov 69.69 41⇑ *e*P **P 15 51 49.9 +0.4**
KURK Kurchatov 69.69 41 *e*P **P 15 51 49.7 +0.2**
comp=N,12nm,1.5s,mb4.6
TIXI Tiksi 69.85 9 *e*P **P 15 51 51.7 +1.6**
comp=N,12nm,1.2s,mb4.7
TIXI Tiksi 69.85 9 *e*P **P 15 51 51.1 +1.0**
TIXI pmax pmax
comp=Z,21nm,1.9s,mb4.7
TIXI Tiksi 69.85 9 *e*P **P 15 51 51.7 +1.6**
comp=Z,12nm,1.2s,mb4.7
ZAL Zalesovo 70.89 36 P **P 15 51 57.5 +0.8**
ZAA0 Zalesovo Array 70.90 36 *e*P **P 15 51 56.9 +0.1**
ZAA0 Zalesovo Array 70.90 36 *e*P **P 15 51 56.9 +0.1**

ZALV	**Zalesovo Beam**	**70.90**	**36**	P	**P**	**15 51 57.5**	**+0.8**
	comp=Z,3.0nm,0.7s,mb4.3,baz=308,slow=6.5,SNR=17						
ZALV				LR	LR	16 23 03.5	
	comp=Z,150nm,18.1s,MS4.3,baz=143,slow=36						
EKS2	**Erkin-Say**	**71.41**	**50**	*e*P	**P**	**15 52 01.4**	**+1.4**
	comp=Z,13nm,1.4s,mb4.7						
EKS2	**Erkin-Say**	**71.41**	**50**	*e*P	**P**	**15 52 01.4**	**+1.3**
	comp=Z,13nm,1.4s,mb4.7						
UCH	**Uchtor**	**72.10**	**50**	*e*P	**P**	**15 52 05.4**	**+1.1**
	comp=Z,23nm,1.9s,mb4.8						
UCH	**Uchtor**	**72.10**	**50**	*e*P	**P**	**15 52 05.4**	**+1.1**
	comp=Z,23nm,1.9s,mb4.8						
TKM2	**Tokmak 2**	**72.37**	**49**	*e*P	**P**	**15 52 07.1**	**+1.2**
	comp=Z,8.1nm,1.5s,mb4.4						
TKM2	**Tokmak 2**	**72.37**	**49**	*e*P	**P**	**15 52 07.1**	**+1.2**
TKM2				pmax	pmax		
	comp=Z,8.0nm,1.5s,mb4.4						
TKM2	**Tokmak 2**	**72.37**	**49**	*e*P	**P**	**15 52 07.1**	**+1.2**
	comp=Z,8.1nm,1.5s,mb4.4						
MK31	**Makanchi Array**	**73.96**	**43**	*e*P	**P**	**15 52 15.3**	**+0.1**
MK31	**Makanchi Array**	**73.96**	**43**	*e*P	**P**	**15 52 15.3**	**+0.1**
MKAR	**Makanchi Array**	**73.96**	**43**	P	**P**	**15 52 16.1**	**+0.9**
	comp=Z,3.0nm,0.8s,mb4.3,baz=313,slow=4.4,SNR=23						
MKAR				LR	LR	16 26 08.2	
	comp=Z,248nm,18.7s,MS4.5,baz=322,slow=37						
BILL	**Bilibino**	**74.74**	**356**	*e*P	**P**	**15 52 20.1**	**+0.8**
BILL				pmax	pmax		
	comp=Z,17nm,1.5s,mb4.8						
BILL	**Bilibino**	**74.74**	**356**	*e*P	**P**	**15 52 20.1**	**+0.8**
	comp=Z,17nm,1.5s,mb4.8						
YAK	**Yakutsk**	**78.97**	**12**	*e*P	**P**	**15 52 44.0**	**+0.7**
	comp=Z,8.7nm,0.6s,mb4.9						
YAK	**Yakutsk**	**78.97**	**12⇑**	*e*P	**P**	**15 52 43.1**	**-0.2**
YAK				pmax	pmax		
	comp=Z,26nm,1.5s,mb4.9						
YAK	**Yakutsk**	**78.97**	**12**	*e*P	**P**	**15 52 44.0**	**+0.7**
	comp=Z,8.6nm,0.6s,mb4.9						
BOD	**Bodaibo**	**79.21**	**21**	*e*P	**P**	**15 52 44.7**	**0.0**
BOD				pmax	pmax		
	comp=Z,16nm,1.6s,mb4.7						
MOY	**Mondy**	**79.61**	**31**	*e*P	**P**	**15 52 48.9**	**+1.9**
MOY				pmax	pmax		
	comp=Z,45nm,2.1s,mb5.0						
SEY	**Seymchan**	**80.18**	**1⇑**	*e*P	**P**	**15 52 50.9**	**+1.1**
BOSA	**Boshof**	**80.57**	**137**	LR	LR	16 26 39.1	
	comp=Z,362nm,19.0s,MS4.7,baz=304,slow=34						
TLY	**Talaya**	**80.67**	**30**	*e*P	**P**	**15 52 54.1**	**+1.4**
TLY				pmax	pmax		
	comp=Z,15nm,2.4s,mb4.5						
TLY				MLR	MLR		
	comp=Z,157nm,18.0s,MS4.4						
ZAK	**Zakamensk**	**81.53**	**31**	*e*P	**P**	**15 52 58.2**	**+0.9**
ZAK				pmax	pmax		
	comp=Z,4.0nm,2.0s,mb4.0						
SONM	**Songino Array**	**84.80**	**31**	P	**P**	**15 53 16.0**	**+1.8**
SONM				LR	LR	16 30 56.7	
SONM	**Songino Array**	**84.80**	**31**	P	**P**	**15 53 16.0**	**+1.8**
	comp=Z,3.8nm,0.9s,mb4.5,baz=318,slow=5.9,SNR=23						
SONM				LR	LR	16 30 56.7	
	comp=Z,130nm,20.1s,MS4.3,baz=156,slow=36						
PLCA	**Paso Flores**	**88.17**	**213**	P	**P**	**15 53 33.9**	**+3.4**
	comp=Z,1.6nm,0.8s,mb4.3,baz=42,slow=5.2,SNR=4.1						
PLCA				LR	LR	16 30 22.6	
	comp=Z,200nm,20.2s,MS4.5,baz=21,slow=34						
HIA	**Hailar**	**88.34**	**22**	P	**P**	**15 53 32.5**	**+1.0**
HIA	**Hailar**	**88.34**	**22**	P	**P**	**15 53 32.5**	**+1.0**
HYB	**Hyderabad**	**89.82**	**68**	*i* P	**P**	**15 53 39.0**	**0.0**
HYB	**Hyderabad**	**89.82**	**68**	*e*P	**P**	**15 53 40.0**	**+1.0**
HHC	**Hu-ho-hao-te**	**92.64**	**32**	*e*P	**P**	**15 53 52.2**	**+0.5**
HHC				AP	pP	15 53 57.1	-0.6
HHC				XP	sP	15 53 59.2	-0.6
HHC				PP	PP	15 57 37.6	+5.1
HHC				SKS		16 04 23.6	
HHC				S	S	16 04 53.3	-2.2
HHC				AMB	AMB		
	comp=Z,9.0nm,0.3s,mb5.7						
HHC				AMB	AMB		
	comp=Z,170nm,9.8s						
HHC				LR	LR		
	comp=N,198nm,7.3s						
HHC				LR	LR		
	comp=E,259nm,5.5s						
HHC				LR	LR		
	comp=Z,208nm,7.1s						
CN2	**Changchun**	**94.97**	**21**	*e*P	**P**	**15 54 02.4**	**+0.1**
CD2	**Chengdu**	**96.89**	**43**	*e*P	**P**	**15 54 10.2**	**-1.1**
CD2				AP	pP	15 54 15.2	-2.2
CD2				XP	sP	15 54 18.1	-1.4
CD2				PP	PP	15 58 06.5	+0.6
CD2				SKS		16 04 45.0	
CD2				S	S	16 05 26.6	-6.3
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb5.3						
CD2				AMB	AMB		
	comp=Z,20nm,5.2s						
CD2				LR	LR		
	comp=N,150nm,18.4s						
CD2				LR	LR		
	comp=Z,140nm,16.8s,MS4.5						
USHA	**Ushuaia**	**99.02**	**204**	LR	LR	16 35 58.6	
	comp=Z,246nm,19.9s,MS4.7,baz=241,slow=34						
KMI	**Kunming**	**100.76**	**47**	P	Pdif	15 54 29.9	+1.4
KMI				S	Sdif	16 06 02.0	-3.3
KMI				AMB	AMB		
	comp=Z,9.0nm,0.5s						
KMI				LR	LR		
	comp=Z,86nm,20.2s,MS4.2						
KMI	**Kunming**	**100.76**	**47**	P	Pdif	15 54 29.9	+1.4
	comp=Z,9.0nm,0.5s						
KMI				S	Sdif	16 06 02.0	-3.3
KMI				LR	LR		
	comp=Z,90nm,20.2s,MS4.3						
GYA	**Guiyang**	**101.95**	**43**	P	Pdif	15 54 33.8	0.0
GYA				PP	PP	15 58 46.6	+2.1
GYA				SKS		16 05 12.3	
GYA				S	Sdif	16 06 11.0	-4.2
GYA				AMB	AMB		
	comp=Z,10.0nm,1.0s						
GYA				AMB	AMB		
	comp=Z,90nm,7.2s						
GYA				LR	LR		
	comp=N,350nm,24.8s,MS5.0						
GYA				LR	LR		
	comp=E,390nm,23.6s,MS5.0						
GYA				LR	LR		
	comp=Z,280nm,25.4s,MS4.7						
QSPA	**South Pole Qui**	**127.09**	**180**	PKP	PKPdf	15 59 45.2	+2.5
	comp=Z,3.4nm,1.0s						
QSPA	**South Pole Qui**	**127.09**	**180**	PKIKP	PKPdf	15 59 45.2	+2.5
MBWA	**Marble Bar**	**145.38**	**72**	*e*P	PKPbc	16 00 18.5	+0.4
MBWA	**Marble Bar**	**145.38**	**72**	*e*P	PKPbc	16 00 18.5	+0.4
FITZ	**Fitzroy Crossi**	**147.82**	**62**	PKPbc	PKPbc	16 00 26.0	+0.7
	baz=344,slow=1.1						
WRA	**Warramunga Arr**	**154.96**	**52**	PKPbc	PKPbc	16 00 42.4	+0.5
	comp=Z,0.6nm,0.7s,baz=325,slow=2.0,SNR=8.1						
WRA				PKPab	PKPab	16 00 57.5	+0.2
	comp=Z,2.6nm,1.0s,baz=323,slow=4.3,SNR=8.9						
WRA	**Warramunga Arr**	**154.96**	**52**	PKPab	PKPab	16 00 57.5	+0.2
ASAR	**Alice Springs**	**157.27**	**60**	PKP	PKPdf	16 00 36.9	+0.8
	comp=Z,0.4nm,0.9s,baz=277,slow=1.0,SNR=4.3						
ASAR				PKPab	PKPab	16 01 07.1	-0.1
	comp=Z,1.5nm,0.9s,baz=312,slow=4.5,SNR=10						
ASAR	**Alice Springs**	**157.27**	**60**	PKPab	PKPab	16 01 07.1	-0.1

*NNC **05** 15:42:37.1±4.0,3930N×7141E,h0km,mb3.5,mpv3.1,*
Error ellipse: s-maj=30.5km s-min=20.3km az=13.0
ISC 05 15:42:36.4±2.2,388N±01×714E±01,h35km,n9,σ0§65/12,
4C-2D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**3.75**	**27**	P	**Pn**	**15 43 31.8**	**+0.1**
	SNR=11						
UCH	**Uchtor**	**4.15**	**33**	P	**Pn**	**15 43 37.2**	**0.0**
	SNR=7.4						
EKS2	**Erkin-Say**	**4.25**	**24**	P	**Pn**	**15 43 38.9**	**+0.3**
	SNR=8.1						
KK31	**Karatay Array**	**4.36**	**351**	Pn	**Pn**	**15 43 40.3**	**+0.3**
	2.2nm,0.4s,baz=173,slow=13,SNR=33						
KK31				⇑Sn	**Sn**	**15 44 30.2**	**+0.7**
	1.8nm,0.4s,baz=162,slow=34,SNR=4.8						
KK31				⇓Lg		15 44 43.5	
	19nm,0.8s,baz=172,slow=34,SNR=9.9						
KZA	**Kyzart**	**4.38**	**40**	P	**Pn**	**15 43 40.5**	**+0.1**
	SNR=7.3						
AAK	**Ala-Archa**	**4.48**	**30**	P	**Pn**	**15 43 41.9**	**+0.2**
	SNR=6.3						
CHMS	**Chumysh**	**4.89**	**30**	P	**Pn**	**15 43 47.6**	**+0.3**
	SNR=5.9						
TKM2	**Tokmak 2**	**5.19**	**36**	⇓Pn	**Pn**	**15 43 51.9**	**+0.5**
	1.8nm,0.7s						
TKM2				⇑Sn	**Sn**	**15 44 48.7**	**-1.3**
	2.9nm,0.8s						
TKM2				⇑Lg		15 45 04.0	
	5.1nm,0.6s						
AB31	**Akbulak array**	**13.31**	**325**	Pn	**Pn**	**15 45 41.3**	**-1.4**
	0.3nm,0.3s,baz=135,slow=12,SNR=7.0						
AB31				⇑Sn	**Sn**	**15 48 03.9**	**-5.3**
	0.8nm,0.7s						

*NIED **05** 15:44:00,4650N×15330E,h35km,Mw4.7 Best double couple: M0=1.15000×10^16 NP1:φ=111.00000°,δ=66.00000°, λ=-50.00000°. NP2:φ=227.00000°,δ=45.00000°, λ=-145.00000°.*
*BJI **05** 15:44:30.2,4656N×15298E,h24km,mB4.7,mb4.6,Ms4.3, Msz4.1*
*NEIC **05** 15:44:31.0±0.3,4664N×15272E,h10km,mb4.6/28,Error ellipse: s-maj=9.2km s-min=4.8km az=148.0*
*JMA **05** 15:44:31.2±0.8,4653N×15330E,h30km,M5.1*
*ISCJB **05** 15:44:32.9±0.6,4657N±004×15278E±005,h38km±5km, mb4.6/58,MS3.7/7,Error ellipse: s-maj=7.4km s-min=3.8km az=138.9*
*SKHL **05** 15:44:32.1±2.9,4670N×15280E,h37km±3km,mb5.1/6, ms3.9/1,msh4.8/1*
*MOS **05** 15:44:33.8±1.3,4665N×15270E,h44km,mb4.6/20,Error ellipse: s-maj=9.0km s-min=6.4km az=61.9*
*IDC **05** 15:44:34.4±0.4,4669N×15262E,h31km±2km,mb4.1/20, mb1 4.3/21,mb1mx4.2/28,mbtmp4.1/21,ML4.1/1,MS3.7/6, Ms1 3.7/6,ms1mx3.3/40,Error ellipse: s-maj=16.2km s-min=10.0km az=141.0*
ISC 05 15:44:35.0±0.5,4656N±004×15281E±005,h38km±5km, h42km±2.7km:pP-P,n191,σ1§32/205,mb4.6/58,MS3.7/7, 4C-6D,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.70**	**251**	⇓*i*PN	**Pn**	**15 45 29.2**	**-0.4**
KUR				*i* S	**Sn**	**15 46 14.2**	**+2.3**
KUR				pmax	pmax		
	comp=N,260nm,0.7s						
KUR				pmax	pmax		
	comp=E,140nm,0.7s						
KUR				pmax	pmax		
	comp=Z,900nm,0.7s						
KUR				smax			
	comp=N,4μm,1.6s						
KUR				smax			
	comp=E,5μm,1.6s						
KUR				smax			
	comp=N,1μm,0.8s						
KUR				smax			
	comp=E,3μm,0.8s						
KUR	**Kuril'sk**	**3.70**	**251**	⇓*i*P	**Pn**	**15 45 29.2**	**-0.4**
KUR				AMB	AMB	15 45 30.0	
	comp=E,258nm,0.7s						
KUR				AMB	AMB	15 45 30.0	
	comp=E,138nm,0.7s						
KUR				AMB	AMB	15 45 30.0	
	comp=E,903nm,0.7s						
KUR				*i* S	**Sn**	**15 46 14.2**	**+2.3**
KUR				A		15 46 26.0	
	comp=E,4μm,1.6s						
KUR				A		15 46 26.0	
	comp=E,5μm,1.6s						
KUR				A		15 46 30.0	
	comp=E,1μm,0.8s						
KUR				A		15 46 30.0	
	comp=E,3μm,0.8s						
SKR	**Severo-Kuril's**	**4.67**	**27**	*e*P	**Pn**	**15 45 42.4**	**-0.5**
SKR				AMB	AMB	15 45 45.5	
	comp=E,300nm,0.4s						
SKR				AMB	AMB	15 45 45.5	
	comp=E,190nm,0.5s						
SKR				AMB	AMB	15 45 45.5	
	comp=E,590nm,0.5s						
SKR				pP		15 45 53.5	
SKR				*e*S	**Sn**	**15 46 33.0**	**-2.8**
SKR				A		15 46 51.0	
	comp=E,1μm,4.0s						
SKR				A		15 46 51.0	
	comp=E,1μm,8.0s						
SKR				A		15 46 51.0	
	comp=E,1μm,8.0s						
SKR				A		15 46 54.0	
	comp=E,190nm,0.5s						
SKR				A		15 46 54.0	
	comp=E,280nm,0.6s						
SKR				A		15 46 54.0	
	comp=E,520nm,0.6s						
SKR				AMS	AMS	15 47 32.0	
	comp=E,1μm,14.0s						
SKR				AMS	AMS	15 47 32.0	
	comp=E,2μm,14.0s						
YUK	**Yuzh-Kuril'sk**	**5.51**	**245**	*e*PN	**Pn**	**15 45 56.5**	**+2.0**
YUK				*e*S	**Sn**	**15 47 06.3**	**+10**
YUK				pmax	pmax		
	comp=Z,550nm,0.5s						
YUK				pmax	pmax		
	comp=N,320nm,0.3s						
YUK				pmax	pmax		
	comp=E,250nm,0.4s						
YUK				smax			
	comp=N,5μm,1.0s						
YUK				smax			
	comp=E,4μm,1.0s						
YUK				smax			
	comp=N,2μm,0.5s						
YUK				smax			
	comp=E,850nm,0.5s						
YUK				MLR	MLR		
	comp=Z,2μm,16.0s						
YUK	**Yuzh-Kuril'sk**	**5.51**	**245**	*e*P	**Pn**	**15 45 56.5**	**+2.0**
YUK				AMB	AMB	15 45 59.6	
	comp=Z,550nm,0.5s						
YUK				AMB	AMB	15 45 59.6	
	comp=Z,320nm,0.3s						
YUK				AMB	AMB	15 45 59.6	
	comp=Z,250nm,0.4s						
YUK				*e*S	**Sn**	**15 47 06.3**	**+10**
YUK				A		15 47 20.0	
	comp=Z,5μm,1.0s						
YUK				A		15 47 20.0	
	comp=Z,4μm,1.0s						
YUK				A		15 47 22.0	
	comp=Z,2μm,0.5s						
YUK				A		15 47 22.0	
	comp=Z,850nm,0.5s						
YUK				AMS	AMS	15 47 55.0	
	comp=Z,2μm,16.0s						
NEM2	**Nemuro 2**	**5.95**	**240**	P	**Pn**	**15 46 00.5**	**0.0**
NEM2				*e*S	**Sn**	**15 47 05.9**	**-1.4**
JRA	**Rausu**	**6.03**	**247**	P	**Pn**	**15 46 04.1**	**+2.5**
JNK	**Nakash**	**6.46**	**245**	P	**Pn**	**15 46 09.3**	**+1.8**
JNK				*e*S	**Sn**	**15 47 21.6**	**+1.8**
JAK	**Akkeshi**	**6.79**	**241**	P	**Pn**	**15 46 11.9**	**-0.1**
JAK				*e*S	**Sn**	**15 47 25.9**	**-2.0**
JTKR	**Abashiri--Toko**	**6.79**	**251**	P	**Pn**	**15 46 14.9**	**+2.8**
YSS	**Yuzh-Sakhalins**	**6.92**	**277**	*e*Pn	**Pn**	**15 46 16.6**	**+2.8**
	comp=Z,60nm,0.8s						
YSS	**Yuzh-Sakhalins**	**6.92**	**277⇑**	*e*PN	**Pn**	**15 46 17.0**	**+3.2**
YSS				*e*S	**Sn**	**15 47 34.0**	**+2.8**
YSS				pmax	pmax		
	comp=E,60nm,1.0s						
YSS				pmax	pmax		
	comp=Z,60nm,1.0s						
YSS				smax			
	comp=E,50nm,0.8s						
YSS				MLR	MLR		
	comp=Z,800nm,18.0s						
YSS				MLR	MLR		
	comp=E,600nm,16.0s						
YSS	**Yuzh-Sakhalins**	**6.92**	**277⇑**	*e*P	**Pn**	**15 46 17.0**	**+3.2**
YSS				AMB	AMB	15 46 20.1	
	comp=E,60nm,1.0s						
YSS				AMB	AMB	15 46 20.1	
	comp=E,60nm,1.0s						
YSS				*e*pP		15 46 29.5	
YSS				*e*sP		15 46 34.1	
YSS				*e*S	**Sn**	**15 47 34.0**	**+2.8**
YSS				A		15 47 35.1	
	comp=E,50nm,0.8s						
YSS				AMS	AMS	15 48 40.0	
	comp=E,800nm,18.0s						
YSS				AMS	AMS	15 48 40.0	
	comp=E,600nm,16.0s						
JMP	**Maruseppu**	**7.14**	**252**	P	**Pn**	**15 46 19.9**	**+3.1**
JAR	**Ashorobuto**	**7.20**	**246**	P	**Pn**	**15 46 19.6**	**+1.9**
JAR				*e*S	**Sn**	**15 47 41.7**	**+3.6**
JSE	**Soyaes**	**7.33**	**261**	P	**Pn**	**15 46 24.3**	**+4.8**
JOB	**Onbets**	**7.36**	**243**	P	**Pn**	**15 46 20.7**	**+0.8**
JOB				*e*S	**Sn**	**15 47 42.3**	**+0.2**
PET	**Petropavlovsk**	**7.49**	**28**	*e*Pn	**Pn**	**15 46 20.6**	**-0.9**
	comp=E,39nm,0.6s						
PET				*e*Sn	**Sn**	**15 47 36.7**	**-8.5**
PET	**Petropavlovsk**	**7.49**	**28**	*e*PN	**Pn**	**15 46 21.3**	**-0.3**
PET				pmax	pmax		
	comp=Z,70nm,0.7s						
PET				MLR	MLR		
	comp=Z,200nm,16.0s						
JKK2	**Kamakawa 2**	**7.60**	**253**	P	**Pn**	**15 46 26.5**	**+3.4**
ASAJ	**Asahikawa**	**7.60**	**255**	P	**Pn**	**15 46 27.1**	**+3.9**
ASAJ	**Asahikawa**	**7.60**	**255**	Pn	**Pn**	**15 46 27.1**	**+4.0**
	comp=Z,5.6nm,0.3s,baz=91,slow=13,SNR=90						
ASAJ				LR	LR	15 49 12.5	
	comp=Z,479nm,19.4s,baz=46,slow=37						
UGL	**Uglegorsk**	**7.66**	**293**	*e*PN	**Pn**	**15 46 22.0**	**-1.9**
UGL				*e*		15 47 54.0	
UGL				pmax	pmax		
	comp=Z,90nm,1.0s						
UGL				MLR	MLR		
	comp=Z,500nm,17.0s						
UGL				MLR	MLR		
	comp=N,300nm,16.0s						
UGL				MLR	MLR		
	comp=E,500nm,16.0s						
UGL	**Uglegorsk**	**7.66**	**293**	*e*P	**Pn**	**15 46 22.0**	**-1.9**
UGL				AMB	AMB	15 46 23.0	
	comp=E,900nm,1.0s						
UGL				sP		15 46 36.5	
UGL				AMS	AMS	15 49 24.0	
	comp=E,300nm,16.0s						
UGL				AMS	AMS	15 49 24.0	
	comp=E,500nm,16.0s						
UGL				AMS	AMS	15 49 24.0	
	comp=E,500nm,17.0s						
JWK2	**Keihoku**	**7.71**	**265**	P	**Pn**	**15 46 30.6**	**+5.9**
JCH	**Churui**	**7.81**	**243**	P	**Pn**	**15 46 26.5**	**+0.4**
JCH				*e*S	**Sn**	**15 47 51.3**	**-1.9**
TYV	**Tymovskoe**	**7.97**	**306**	*e*P	**Pn**	**15 46 30.0**	**+1.7**
TYV				AMB	AMB	15 46 40.0	
	comp=E,22nm,0.8s						
TYV				AMB	AMB	15 46 40.0	
	comp=E,17nm,1.0s						
JFR	**Furan**	**8.01**	**249**	P	**Pn**	**15 46 31.0**	**+2.2**
ERM	**Erimo**	**8.28**	**240**	*e*Pn	**Pn**	**15 46 34.2**	**+1.7**
	comp=E,82nm,0.4s						
ERM				*e*Sn	**Sn**	**15 48 03.2**	**-1.5**
ERM	**Erimo**	**8.28**	**240**	*ce*PN	**Pn**	**15 46 34.2**	**+1.7**
JEM	**Erimo**	**8.28**	**240**	*e*S	**Sn**	**15 48 03.3**	**-1.4**
JBT2	**Biratori 2**	**8.35**	**247**	P	**Pn**	**15 46 34.3**	**+0.9**
JNBK	**Urakawa-nobuka**	**8.37**	**243**	P	**Pn**	**15 46 33.5**	**-0.3**
JNBK				*e*S	**Sn**	**15 48 04.7**	**-2.3**
JEW	**Eniwo**	**8.90**	**249**	P	**Pn**	**15 46 42.9**	**+1.9**
JNB	**Noboribetsu**	**9.35**	**248**	P	**Pn**	**15 46 48.2**	**+1.0**
JNB				*e*S	**Sn**	**15 48 30.2**	**-0.8**
JKB	**Kayabe**	**9.66**	**245**	P	**Pn**	**15 46 50.7**	**-0.7**
JKB				*e*S	**Sn**	**15 48 33.6**	**-4.9**
JSH	**Shimam**	**9.91**	**251**	P	**Pn**	**15 46 56.7**	**+1.9**
JYM2	**Yakumo 2**	**9.96**	**248**	P	**Pn**	**15 46 56.1**	**+0.7**
NKL	**Nikolayevsk**	**10.23**	**315**	*e*P	**Pn**	**15 46 58.0**	**-1.1**
NKL				AMB	AMB	15 47 10.0	
	comp=E,5.0nm,0.8s						
NKL				AMB	AMB	15 47 10.0	
	comp=E,13nm,0.8s						
JSR	**Shiriuchi**	**10.24**	**245**	P	**Pn**	**15 46 59.5**	**+0.2**
JANG	**Nango**	**10.27**	**237**	P	**Pn**	**15 46 57.2**	**-2.6**
JANG				*e*S	**Sn**	**15 48 44.8**	**-8.8**
JTM	**Tenmabayashi**	**10.28**	**240**	P	**Pn**	**15 46 58.6**	**-1.2**
JTM				*e*S	**Sn**	**15 48 46.4**	**-7.2**
JTH	**Tanohata**	**10.37**	**234**	P	**Pn**	**15 46 58.7**	**-2.4**
JTH				*e*S	**Sn**	**15 48 46.5**	**-9.4**
JOSM	**Okushiri--Mats**	**10.55**	**250**	P	**Pn**	**15 47 04.1**	**+0.5**
JAH	**Hinai**	**10.91**	**239**	P	**Pn**	**15 47 06.6**	**-1.9**
OFUJ	**Ofunato**	**11.08**	**232**	P	**Pn**	**15 47 07.8**	**-3.0**
JRG	**Rokugo**	**11.43**	**236**	*e*S	**Sn**	**15 49 15.5**	**-6.4**
JYW	**Yuwa**	**11.58**	**237**	P	**Pn**	**15 47 16.8**	**-0.8**
JIO	**Ouri**	**11.70**	**230**	*e*S	**Sn**	**15 49 18.5**	**-10**
HABR	**Khabarovsk**	**12.16**	**286**	*e*PN	**Pn**	**15 47 23.5**	**-2.0**
HABR				pmax	pmax		
	comp=Z,3.0nm,0.3s						
MA2	**Magadan**	**13.09**	**355**	*e*Pn	**Pn**	**15 47 38.6**	**+0.4**
	comp=Z,17nm,0.6s						
MA2	**Magadan**	**13.09**	**355**	*d i*PN	**Pn**	**15 47 39.8**	**+1.6**
MA2				*e*S	**Sn**	**15 50 04.8**	**+2.5**
MA2				pmax	pmax		
	comp=Z,20nm,0.6s						
MA2				MLR	MLR		
	comp=Z,400nm,10.9s						
JAG	**Ashikaga**	**14.22**	**229**	P	**Pn**	**15 47 51.8**	**-1.9**
KLR	**Kul'dur**	**14.37**	**288**	*e*P	**Pn**	**15 47 51.4**	**-4.3**
MAJO	**Matsushiro**	**14.80**	**233**	*e*Pn	**Pn**	**15 47 59.2**	**-2.3**
	comp=Z,64nm,0.8s						
MAJO				*e*		15 48 08.7	
MAJO	**Matsushiro**	**14.80**	**233**	*e*P	**Pn**	**15 47 59.3**	**-2.2**
MAJO				pmax	pmax		
	comp=Z,64nm,0.8s						
MAT	**Matsushiro**	**14.80**	**233**	P	**Pn**	**15 47 59.3**	**-2.2**
MJAR	**Matsushiro Arr**	**14.80**	**233**	Pn	**Pn**	**15 47 59.5**	**-2.1**
MJAR	**Matsushiro Arr**	**14.80**	**233**	P	**Pn**	**15 47 59.5**	**-2.0**
MJAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MJAR	**Matsushiro Arr**	**14.80**	**233**	Pn	**Pn**	**15 47 59.5**	**-2.1**
	comp=Z,0.8nm,0.3s,baz=29,slow=13,SNR=27						
JNG	**Nsakai**	**14.96**	**233**	P	**Pn**	**15 48 01.7**	**-1.9**
VLA	**Vladivostok**	**15.22**	**265**	⇓*e*P	**Pn**	**15 48 07.7**	**+0.6**
VLA				pmax	pmax		
	comp=Z,11nm,0.6s						
MDJ	**Mudanjiang**	**16.36**	**272**	P	**Pn**	**15 48 22.8**	**+1.1**
MDJ				AP	pP	15 48 28.2	-5.5
MDJ				XP	sP	15 48 29.4	-9.1
MDJ				S	**S**	**15 51 27.1**	**-6.1**
MDJ				PCP	PcP	15 53 12.9	0.0
MDJ				SCP	ScP	15 56 48.1	+3.9
MDJ				AMB	AMB		
	comp=Z,7.0nm,0.9s						
MDJ				AMB	AMB		
	comp=Z,86nm,5.0s						
MDJ				LR	LR		
	comp=N,197nm,15.8s						
MDJ				LR	LR		
	comp=E,192nm,18.1s						
MDJ				LR	LR		
	comp=Z,311nm,17.9s						
MDJ	**Mudanjiang**	**16.36**	**272**	*e*Pn	**Pn**	**15 48 21.9**	**+0.3**
	comp=Z,8.0nm,0.8s						
MDJ				*e*		15 48 34.8	
SEY	**Seymchan**	**16.41**	**359⇑**	*e*P	**Pn**	**15 48 22.5**	**+0.4**
ZEA	**Zeya**	**17.82**	**303**	*e*P	**Pn**	**15 48 40.3**	**+0.5**
ZEA				AMB	AMB	15 48 40.7	
	comp=Z,7.0nm,0.7s						
CN2	**Changchun**	**19.45**	**272**	*e*P	**Pn**	**15 48 58.3**	**-1.2**
CN2				*e*S	**S**	**15 52 29.0**	**-6.8**
CN2				AMB	A

comp=Z,43nm,6.0s
YAK MLR MLR
comp=N,65nm,8.0s
YAK MLR MLR
comp=E,72nm,9.0s
KSRS Korea Array 20.54 253 P **P 15 49 11.4 +1.3**
comp=E,8.8nm,0.7s,baz=55,slow=10,SNR=18
KSRS LR LR 15 56 33.3
comp=E,137nm,20.2s,MS3.3,baz=20,slow=35
JUS Usuki 20.97 237 P **P 15 49 16.6 +1.8**
INCN Inchon 21.38 254 *eP* **P 15 49 22.1 +3.0**
comp=E,23nm,0.7s,mb4.6
JNU Nakatsue 21.45 239 P **P 15 49 20.3 +0.5**
comp=E,22nm,0.9s,mb4.5,baz=62,slow=5.4,SNR=10
JNU LR LR 15 57 54.5
comp=E,142nm,20.8s,MS3.3,baz=36,slow=37
JIU2 Izumi 2 21.89 238 P **P 15 49 25.8 +1.2**
HIA Hailar 22.23 289 *eP* **P 15 49 24.9 -3.2**
comp=E,9.4nm,1.1s,mb4.1
HIA Hailar 22.23 289 *eP* **P 15 49 24.9 -3.2**
HIA pmax pmax
comp=Z,9.0nm,1.1s
BILL Bilibino 22.62 13 *eP* **P 15 49 30.0 -2.1**
comp=Z,3.9nm,0.7s,mb4.0
BILL Bilibino 22.62 13 *eP* **P 15 49 31.2 -0.9**
BILL pmax pmax
comp=Z,4.0nm,0.8s,mb3.9
BILL MLR MLR
comp=Z,200nm,18.0s,MS3.6
BOD Bodaibo 25.95 310 *eP* **P 15 50 00.3 -3.2**
NJ2 Nanjing 29.74 253 *eP* **P 15 50 38.8 +1.2**
NJ2 AMB AMB
comp=Z,60nm,0.7s,mb5.4
SONM Songino Array 31.20 290 P **P 15 50 49.8 -0.5**
SONM pmax pmax
comp=Z,2.0nm,0.9s
SONM MLR MLR
comp=Z,199nm,18.9s
SONM Songino Array 31.20 290 P **P 15 50 49.8 -0.5**
comp=Z,1.5nm,0.9s,mb3.8,baz=76,slow=6.6,SNR=7.3
SONM LR LR 16 04 13.7
comp=Z,199nm,18.9s,MS3.8,baz=304,slow=38
ZAK Zakamensk 32.57 295 *eP* **P 15 50 59.8 -2.5**
GUMO Guam 33.54 194 LR LR 16 02 39.6
comp=Z,87nm,20.0s,MS3.5,baz=38,slow=32
IMA2 Indian Mountai 34.08 36 *eP* **P 15 51 15.4 +0.1**
IMA2 *e* pP 15 51 27.7 +1.7
KDAK Kodiak Island 34.38 51 P **P 15 51 17.8 -0.2**
comp=Z,25nm,0.7s,mb5.3,baz=275,slow=2.3,SNR=10
XAN Xi'an 35.29 265 P **P 15 51 26.1 -0.1**
XAN AP pP 15 51 31.1 -5.8
XAN AMB AMB
comp=Z,10.0nm,0.7s,mb4.8
MCK McKinley 35.93 40 *eP* **P 15 51 30.8 -0.5**
comp=Z,10nm,1.0s,mb4.7
MCK *e* pP 15 51 43.5 +1.5
MCK McKinley 35.93 40 *eP* **P 15 51 30.8 -0.5**
MCK *e* pP 15 51 43.5 +1.5
MCK pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
SML Sawmill 36.25 43 *eP* **P 15 51 33.9 -0.1**
COLA College 36.41 38 ||*iP* **P 15 51 34.2 -1.2**
LZH Lanzhou 37.69 272 *eP* **P 15 51 47.4 +0.9**
LZH AP pP 15 51 51.3 -6.0
LZH XP sP 15 51 55.5 -6.4
LZH AMB AMB
comp=Z,16nm,1.3s,mb4.6
LZH AMB AMB
comp=Z,68nm,4.1s
LZH Lanzhou 37.69 272 *eP* **P 15 51 47.4 +0.9**
comp=Z,16nm,1.3s,mb4.6
LZH pP pP 15 51 51.3 -6.0
LZH sP sP 15 51 55.5 -6.4
GTA Gaotai 38.79 279 *eP* **P 15 51 56.3 +0.5**
GTA AP pP 15 52 00.7 -5.9
GTA XP sP 15 52 04.1 -7.1
GTA AMB AMB
comp=Z,3.0nm,0.7s,mb4.1
EGAK Eagle 39.28 38 *eP* **P 15 51 59.0 -0.6**
comp=Z,18nm,1.0s,mb4.7
EGAK *e* pP 15 52 10.8 +0.4
CD2 Chengdu 40.66 265 *eP* **P 15 52 11.5 +0.1**
CD2 AMB AMB
comp=Z,30nm,0.8s,mb5.0
CD2 AMB AMB
comp=Z,60nm,6.8s
INK Inuvik 41.92 32 *eP* **P 15 52 21.8 +0.4**
comp=Z,440nm,1.0s,mb6.0
INK *e* 15 52 29.1
INK *e* pP 15 52 34.4 +2.2
INK Inuvik 41.92 32 P **P 15 52 22.0 +0.7**
INK pmax pmax
comp=Z,3.0nm,0.6s
INK Inuvik 41.92 32 P **P 15 52 21.9 +0.6**
comp=Z,3.4nm,0.6s,mb4.1,baz=294,slow=6.6,SNR=12
ZALV Zalesovo Beam 42.55 306 P **P 15 52 24.4 -2.2**
ZALV PcP PcP 15 54 18.4 0.0
ZALV Zalesovo Beam 42.55 306 P **P 15 52 24.4 -2.2**
comp=Z,1.2nm,0.4s,mb4.0,baz=60,slow=6.8,SNR=5.7
ZALV PcP PcP 15 54 18.4 0.0
comp=Z,0.6nm,0.3s,baz=64,slow=3.4,SNR=4.3
ZAL Zalesovo 42.57 306 P **P 15 52 24.4 -2.4**
ZAL 15 54 18.4
WMQ Urumqi 44.80 291 *eP* **P 15 52 43.5 -1.3**
WMQ *eS* ScS 16 02 39.0 +0.1
WMQ AMB AMB
comp=Z,6.0nm,0.6s,mb4.6
WMQ AMB AMB
comp=Z,138nm,5.4s
WMQ LR LR
comp=N,192nm,21.3s
WMQ LR LR
comp=E,153nm,15.8s
WMQ LR LR
comp=Z,215nm,19.0s,MS4.1
KMI Kunming 45.00 259 P **P 15 52 46.5 -0.2**
KMI AMB AMB
comp=Z,8.0nm,0.8s,mb4.6
KMI Kunming 45.00 259 P **P 15 52 46.5 -0.2**
comp=Z,8.0nm,0.8s,mb4.6
MKAR Makanchi Array 46.84 297 *i* P **P 15 52 59.5 -1.4**
MKAR pmax pmax
comp=Z,1.0nm,0.6s
MKAR Makanchi Array 46.84 297 P **P 15 52 59.3 -1.6**
comp=Z,1.4nm,0.6s,mb4.0,baz=68,slow=7.1,SNR=7.9
MKAR PcP PcP 15 54 33.2 -0.1
comp=Z,1.1nm,0.8s,baz=57,slow=5.5,SNR=3.2
KURK Kurchatov 47.30 304 *eP* **P 15 53 01.1 -3.3**
comp=Z,2.5nm,0.8s,mb4.2
KURK Kurchatov 47.30 304 ||*iP* **P 15 53 03.3 -1.1**
LSA Lhasa 50.08 273 P **P 15 53 28.2 +2.2**
LSA AMB AMB
comp=Z,20nm,0.7s,mb5.3
LSA Lhasa 50.08 273 *eP* **P 15 53 27.7 +1.6**
comp=Z,16nm,0.6s,mb5.2
LSA Lhasa 50.08 273 *eP* **P 15 53 27.7 +1.7**
LSA pmax pmax
comp=Z,16nm,0.6s,mb5.2
RES Resolute Bay 51.08 18 P **P 15 53 32.3 -0.7**
comp=Z,37nm,0.6s,mb5.5
RES Resolute Bay 51.08 18 P **P 15 53 32.3 -0.7**
RES pmax pmax
comp=Z,37nm,0.6s,mb5.5
YKA Yellowknife Ar 51.20 37 P **P 15 53 34.1 +0.1**
YKA pP pP 15 53 43.4 -1.8
YKA sP sP 15 53 47.4 -2.2
YKA pPcP 15 54 58.5
YKA sPcP 15 55 02.9
YKA Yellowknife Ar 51.20 37 P **P 15 53 34.2 +0.2**
YKA *SP sP 15 53 47.4 -2.2
YKA Yellowknife Ar 51.20 37 P **P 15 53 34.1 +0.1**
comp=Z,1.4nm,0.6s,mb4.0,baz=297,slow=7.6,SNR=19
YKA pP pP 15 53 43.3 -1.8
comp=Z,4.3nm,0.8s,baz=296,slow=7.1,SNR=8.6
YKA sP sP 15 53 47.4 -2.2
comp=Z,3.0nm,0.6s,baz=297,slow=7.1,SNR=14
YKA pPcP 15 54 58.5
comp=Z,0.8nm,0.5s,baz=304,slow=3.5,SNR=2.6
YKA sPcP 15 55 02.8
comp=Z,0.8nm,0.5s,baz=303,slow=3.7,SNR=5.1
CHTO Chiang Mai 51.87 257 *eP* **P 15 53 40.2 +0.6**
comp=Z,8.7nm,0.9s,mb4.7
CHTO *e* pP 15 53 53.4 +2.7
CHTO Chiang Mai 51.87 257 *eP* **P 15 53 40.2 +0.6**
CHTO *e* pP 15 53 53.4 +2.7
CHTO pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
UCH Uchtor 53.94 296 P **P 15 53 52.8 -1.8**
EKS2 Erkin-Say 54.16 297 *eP* **P 15 53 56.0 -0.2**
comp=Z,2.2nm,0.9s,mb4.1
AML Almayashu 54.50 296 P **P 15 53 60.0 +1.2**
comp=Z,3.3nm,1.0s,mb4.3
JIRN Jiri 54.75 274 *eP* **P 15 54 01.7 +1.0**
JIRN Jiri 54.75 274 *eP* **P 15 54 01.7 +1.0**
comp=Z,6.1nm,0.4s,mb4.9
KKN Kakani 55.30 275 *eP* **P 15 54 05.4 +0.8**
comp=Z,44nm,0.6s,mb5.6
KKN Kakani 55.30 275 *eP* **P 15 54 05.4 +0.8**
comp=Z,44nm,0.6s,mb5.6
GKN Gorkha 55.60 276 *eP* **P 15 54 07.5 +0.6**
comp=Z,82nm,0.8s,mb5.8
GKN Gorkha 55.60 276 *eP* **P 15 54 07.5 +0.6**
comp=Z,82nm,0.8s,mb5.8
KOLN Koldanda 56.46 276 *eP* **P 15 54 13.8 +0.8**
comp=Z,48nm,0.8s,mb5.6
KOLN Koldanda 56.46 276 *eP* **P 15 54 13.7 +0.7**
comp=Z,48nm,0.8s,mb5.6
KOLN Koldanda 56.46 276 *eP* **P 15 54 13.7 +0.7**
EDM Edmonton 56.60 46 *eP* **P 15 54 13.9 +0.3**
EDM *e* pP 15 54 23.6 -1.2
KSM Kuching 58.20 233 *eP* **P 15 54 26.6 +1.3**
KSM *e* pP 15 54 39.6 +3.0
MOD Modoc 59.37 60 *eP* **P 15 54 33.5 +0.3**
comp=Z,6.3nm,0.8s,mb4.7
MOD *e* 15 54 47.9
WVOR Wild Horse Val 60.03 59 *eP* **P 15 54 38.2 +0.4**
comp=Z,2.2nm,0.8s,mb4.2
WVOR Wild Horse Val 60.03 59 *eP* **P 15 54 38.2 +0.5**
WVOR pmax pmax
comp=Z,2.0nm,0.8s,mb4.2
MSO Missoula 60.04 52 P **P 15 54 38.2 +0.5**
comp=Z,6.1nm,1.0s,mb4.6
MSO *e* pP 15 54 52.0 +3.0
KULM Kulim 60.80 244 *eP* **P 15 54 44.0 +0.7**
KULM *e* 15 54 58.0
FFC Flin Flon 61.02 40 *eP* **P 15 54 44.2 -0.1**
comp=Z,9.3nm,0.9s,mb4.9
FFC Flin Flon 61.02 40 *eP* **P 15 54 44.2 0.0**
FFC pmax pmax
comp=Z,9.0nm,0.9s,mb4.9
FCC Fort Churchill 61.53 33 *eP* **P 15 54 46.5 -1.1**
comp=Z,68nm,1.9s,mb5.5
FCC Fort Churchill 61.53 33 *eP* **P 15 54 46.5 -1.2**
FCC pmax pmax
comp=Z,68nm,1.9s,mb5.5
HLID Hailey 61.79 55 P **P 15 54 50.2 +0.6**
comp=Z,3.6nm,1.1s,mb4.4
HLID *e* pP 15 55 03.8 +2.8
KBL Kabul 61.94 292 *eP* **P 15 54 49.0 -1.8**
comp=Z,3.9nm,0.6s,mb4.7
BOZ Bozeman (W) 62.03 52 *eP* **P 15 54 51.8 +0.6**
comp=Z,8.7nm,1.1s,mb4.8
BOZ *e* 15 55 05.8
BOZ Bozeman (W) 62.03 52 *eP* **P 15 54 51.8 +0.6**
BOZ *e* 15 55 05.9
BOZ pmax pmax
comp=Z,9.0nm,1.1s,mb4.8
NVAR Mina Array Bea 62.71 62 P **P 15 54 57.2 +1.3**
NVAR pP pP 15 55 06.5 -0.7
NVAR sP sP 15 55 11.1 -0.6
NVAR Mina Array Bea 62.71 62 P **P 15 54 57.2 +1.3**
comp=Z,1.6nm,0.6s,mb4.3,baz=307,slow=5.7,SNR=14
NVAR pP pP 15 55 06.5 -0.7
comp=Z,1.0nm,0.6s,baz=53,slow=26,SNR=6.3
NVAR sP sP 15 55 11.1 -0.6
comp=Z,0.9nm,0.5s,baz=280,slow=4.0,SNR=5.2
PSI Prapat 63.81 244 P **P 15 55 03.3 -0.1**
PSI *SP sP 15 55 18.1 -1.1
PSI pmax pmax
comp=Z,4.0nm,0.7s,mb4.6
PSI pmax pmax
comp=N,5.0nm,0.8s
PSI Prapat 63.81 244 P **P 15 55 03.2 -0.2**
comp=N,3.6nm,0.7s,mb4.5,baz=349,slow=5.2,SNR=6.0
PSI sP sP 15 55 18.1 -1.1
comp=N,4.9nm,0.8s,baz=51,slow=1.5,SNR=3.7
FINES FINESS Array B 64.12 335 P **P 15 55 03.4 -1.4**
FINES pmax pmax
comp=Z,1.0nm,0.5s
FINES FINESS Array B 64.12 335 P **P 15 55 03.4 -1.4**
comp=Z,1.1nm,0.5s,mb4.2,baz=46,slow=5.8,SNR=8.4
PDAR Pinedale Array 65.03 54 P **P 15 55 11.3 +0.3**
comp=Z,1.9nm,0.8s,mb4.2,baz=260,slow=1.7,SNR=14
PDAR pP pP 15 55 20.7 -1.7
comp=Z,2.9nm,0.8s,baz=284,slow=1.6,SNR=8.2
PDAR sP sP 15 55 25.4 -1.4
comp=Z,3.2nm,0.9s,baz=262,slow=1.0,SNR=11
HYB Hyderabad 66.79 271 *i* P **P 15 55 23.0 +0.3**
ULM Lac du Bonnet 66.80 41 P **P 15 55 22.0 -0.3**
ULM sP sP 15 55 35.1 -3.0
ULM Lac du Bonnet 66.80 41 P **P 15 55 22.0 -0.3**
comp=Z,2.3nm,0.5s,mb4.5,baz=326,slow=7.7,SNR=6.3
ULM sP sP 15 55 35.1 -3.0
comp=Z,1.2nm,0.5s,baz=318,slow=12,SNR=2.6
SRU San Rafael 66.89 57 *eP* **P 15 55 23.5 +0.3**
comp=Z,1.2nm,0.7s,mb4.0
SRU *e* pP 15 55 33.6 -1.0
SRU *e* pP 15 55 37.4 +2.8
SRU San Rafael 66.89 57 *eP* **P 15 55 23.5 +0.4**
SRU *e* pP 15 55 37.4 +2.8
SRU pmax pmax
comp=Z,1.0nm,0.7s,mb4.0
RSSD Black Hills 67.11 50 *eP* **P 15 55 24.6 +0.2**
comp=Z,5.8nm,0.8s,mb4.7
RSSD *e* pP 15 55 37.9 +2.1
RSSD Black Hills 67.11 50 *eP* **P 15 55 24.6 +0.2**
RSSD *e* pP 15 55 37.9 +2.1
RSSD pmax pmax
comp=Z,6.0nm,0.8s,mb4.7
WRA Warramunga Arr 68.27 199 *i* P **P 15 55 31.7 -0.1**
WRA pmax pmax
comp=Z,3.0nm,0.8s
WRA Warramunga Arr 68.27 199 P **P 15 55 31.8 0.0**
comp=Z,2.5nm,0.8s,mb4.3,baz=21,slow=7.1,SNR=15
WRA sP sP 15 55 46.2 -1.5
comp=Z,2.3nm,0.9s,baz=16,slow=6.8,SNR=5.8
NB2 NORSAR Subarra 68.34 341 P **P 15 55 31.6 -0.2**
comp=Z,1.9nm,0.6s,mb4.3,baz=30,slow=6.5
NOA NORSAR Array B 68.34 341 P **P 15 55 31.1 -0.7**
NOA pmax pmax
comp=Z,1.0nm,0.6s
NOA NORSAR Array B 68.34 341 P **P 15 55 31.1 -0.7**
comp=Z,0.8nm,0.6s,mb4.0,baz=27,slow=6.3,SNR=2.7
FITZ Fitzroy Crossi 68.88 208 P **P 15 55 36.4 +0.8**
comp=Z,2.2nm,0.6s,mb4.2,baz=22,slow=7.7,SNR=4.0
MVCO Mesa Verde 69.35 57 P **P 15 55 37.9 -0.7**
comp=Z,9.3nm,1.2s,mb4.6
MVCO *e* pP 15 55 49.1 -1.0
AKASG Malin Array Be 71.59 326 *i* P **P 15 55 50.4 -1.5**
AKASG pmax pmax
comp=Z,1.0nm,0.3s
AKASG Malin Array Be 71.59 326 P **P 15 55 50.4 -1.5**
comp=Z,0.5nm,0.3s,mb3.9,baz=32,slow=6.2,SNR=5.9
AKASG pP pP 15 55 59.7 -3.8
comp=Z,0.5nm,0.4s,baz=34,slow=6.4,SNR=4.4
ASAR Alice Springs 71.96 198 P **P 15 55 55.5 +1.1**
ASAR pmax pmax
comp=Z,4.0nm,0.6s
ASAR Alice Springs 71.96 198 P **P 15 55 55.5 +1.1**
comp=Z,3.7nm,0.6s,mb4.5,baz=12,slow=5.2,SNR=92
EKA Eskdalemuir Ar 76.47 346 P **P 15 56 21.6 +1.3**
comp=Z,0.5nm,0.5s,mb3.8,baz=26,slow=5.0,SNR=3.2
CLL Collm 76.55 335 *e*(P) **P 15 56 23.0 +2.1**
TXAR Lajitas Array 77.77 60 P **P 15 56 28.7 +0.6**
TXAR *PP pP 15 56 39.4 -0.4
TXAR *SP sP 15 56 42.5 -1.6
TXAR pmax pmax
comp=Z,1.0nm,0.7s
TXAR Lajitas Array 77.77 60 P **P 15 56 28.6 +0.5**
comp=Z,1.1nm,0.7s,mb3.9,baz=301,slow=4.2,SNR=10
TXAR pP pP 15 56 39.4 -0.4
comp=Z,6.1nm,0.7s,baz=290,slow=5.1,SNR=26
TXAR sP sP 15 56 42.5 -1.6
comp=Z,6.2nm,0.7s,baz=297,slow=4.9,SNR=26
MIB Mutribah 78.58 301 *eP* **P 15 56 32.6 -0.1**
MIB AMb AMB 15 56 33.8
comp=Z,20nm,0.8s,mb5.1
STKA Stephens Creek 78.73 190 P **P 15 56 33.4 +0.4**
comp=Z,8.4nm,1.3s,mb4.5
STKA Stephens Creek 78.73 190 LR LR 16 30 02.1
comp=Z,98nm,19.9s,MS4.1,baz=26,slow=35
RST Umm Al-Ruwaisa 79.01 301 *eP* **P 15 56 34.6 -0.3**
RST AMb AMB 15 56 35.1
comp=Z,16nm,0.7s,mb5.1
NAY Al-Naaiem 79.05 301 *eP* **P 15 56 35.0 -0.2**
NAY AMb AMB 15 56 36.4
comp=Z,7.4nm,1.0s,mb4.6
RDF Al-Radifah 79.10 301 *eP* **P 15 56 35.7 +0.2**
RDF AMb AMB 15 56 37.0
comp=Z,14nm,0.8s,mb4.9
NWAO Narrogin (SRO) 85.39 209 *eP* **P 15 57 07.8 -0.2**
comp=Z,8.4nm,0.9s,mb4.9
NWAO Narrogin (SRO) 85.39 209 *eP* **P 15 57 07.8 -0.2**
NWAO pmax pmax
comp=Z,8.0nm,0.9s
PLCA Paso Flores 148.40 95 PKPbc PKPbc 16 04 17.7 +0.9
PLCA sPKPbc 16 04 32.3
PLCA Paso Flores 148.40 95 PKP2 PKPbc 16 04 17.7 +0.9
PLCA pmax pmax
comp=Z,1.0nm,0.8s
PLCA pmax pmax
comp=N,8.0nm,0.8s
PLCA Paso Flores 148.40 95 PKPbc PKPbc 16 04 17.7 +0.9
comp=N,1.4nm,0.8s,baz=253,slow=7.0,SNR=3.6
PLCA sPKPbc 16 04 32.3
comp=N,7.5nm,0.8s,baz=265,slow=2.6,SNR=16
SNAA Sanae 152.31 196 *e*PKPdf PKPbc 16 04 25.3 +0.1
SNAA *e* 16 04 40.5
SNAA Sanae 152.31 196 PKIKP PKPbc 16 04 24.9 -0.3
SNAA pmax pmax
comp=Z,1.0nm,0.9s
SNAA Sanae 152.31 196 PKPbc PKPbc 16 04 24.9 -0.3
comp=Z,0.5nm,0.9s,baz=190,slow=12,SNR=5.2
VNA2 Neumayer--Watz 153.77 195 *e*PKPdf PKPdf 16 04 15.1 -5.4
VNA2 *e* 16 04 29.2
VNA2 *e* 16 04 42.4
VNA2 *e* 16 04 46.5
VNA2 *e* 16 04 56.9
VNA3 Neumayer Olymp 153.86 193 *e*PKPdf PKPdf 16 04 15.3 -5.4
VNA3 *e* 16 04 29.2
VNA3 *e* 16 04 42.6
VNA3 *e* 16 04 46.5
VNA3 *e* 16 04 57.2

ISCJB ***05*** *15:50:09.0± 1.0, 374N± 02× 2466W± 008, h10km, mb3.8/8, MS3.5/2, Error ellipse: s-maj=25.9km s-min=6.4km az=16.5*
IDC ***05*** *15:50:09.3± 1.2, 3732N× 2454W, h0km, mb3.7/7, mb1 3.9/8, mb1mx3.7/25, mbtmp3.7/8, ML4.4/1, MS3.7/2, Ms1 3.6/2, ms1mx3.0/32, Error ellipse: s-maj=35.4km s-min=23.7km az=5.0*

ISC 05 15:50:10.9± 1.0, 375N± 02× 2468W± 007, h10km, n14, σ 1§23/13, mb3.8/8, MS3.5/2, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDA	**Ponta Delgada**	**0.82**	**288**	*e*S	**Sg**	**15 50 38.5**	**+1.2**
PSCM	**Serra do Cume**	**2.26**	**303**	*e*P	**Pn**	**15 50 47.9**	**-0.4**
PSCM				*e*S	**Sn**	**15 51 15.0**	**-1.3**
PSCM				A		15 51 19.5	
328nm,0.4s							
ADH	**Angra Heroismo**	**2.32**	**300**	*e*S	**Sn**	**15 51 16.0**	**-1.7**
ADH				*e*P		15 52 24.6	
ESDC	**Sonseca Array**	**16.34**	**76**	Pn	**Pn**	**15 53 58.3**	**-2.0**
0.3nm,0.3s,baz=267,slow=12,SNR=3.1							
EKA	**Eskdalemuir Ar**	**23.04**	**32**	P	**P**	**15 55 16.7**	**+0.7**
1.1nm,0.7s,mb3.4,baz=233,slow=7.8,SNR=4.5							
BBTS	**Babate**	**23.87**	**160**	LR	LR	16 03 43.9	
comp=Z,153nm,18.9s,MS3.5,baz=238,slow=34							
SCHQ	**Schefferville**	**33.33**	**315**	LR	LR	16 07 59.1	
comp=Z,111nm,18.1s,MS3.6,baz=3.9,slow=32							
TORD	**Torodi Ar. Bea**	**33.79**	**129**	P	**P**	**15 56 51.1**	**-1.9**
1.0nm,0.7s,mb3.9,baz=314,slow=10,SNR=4.8							
YKA	**Yellowknife Ar**	**57.49**	**327**	P	**P**	**16 00 00.9**	**+1.1**
0.4nm,0.8s,mb3.5,baz=71,slow=7.2,SNR=5.3							
AKTO	**Aktyubinsk**	**57.95**	**48**	P	**P**	**16 00 04.2**	**+1.0**
1.4nm,0.8s,mb4.1,baz=108,slow=19							
TXAR	**Lajitas Array**	**64.65**	**288**	P	**P**	**16 00 50.2**	**+1.2**
1.5nm,0.7s,mb4.1,baz=81,slow=6.7,SNR=13							
ZALV	**Zalesovo Beam**	**70.61**	**36**	P	**P**	**16 01 26.1**	**0.0**
0.4nm,0.5s,mb3.6,baz=316,slow=8.1,SNR=2.9							
MKAR	**Makanchi Array**	**73.68**	**43**	P	**P**	**16 01 44.7**	**+0.1**
0.5nm,0.7s,mb3.5,baz=298,slow=5.2,SNR=5.0							
SONM	**Songino Array**	**84.50**	**31**	P	**P**	**16 02 45.3**	**+1.5**
0.7nm,0.8s,mb3.9,baz=331,slow=6.6,SNR=5.2							

ISCJB ***05*** *15:51:24.7± 0.6, 5146N± 003× 1604E± 003, h0km, Error ellipse: s-maj=4.8km s-min=2.5km az=14.5*
CSEM ***05*** *15:51:26.9± 0.2, 5148N× 1605E, h1km, ML3.3/9, Error ellipse: s-maj=3.2km s-min=1.8km az=10.0*
IPEC ***05*** *15:51:26.8± 0.3, 5148N× 1643E, h0km, ML2.4/4, Error ellipse: s-maj=3.4km s-min=2.0km az=93.0*
NEIC ***05*** *15:51:26.3± 1.3, 5148N× 1603E, h5km, ML2.9(SZGRF), Error ellipse: s-maj=14.3km s-min=6.1km az=195.0*
WAR ***05*** *15:51:26.5, 5154N× 1606E, ML2.6, Mining Induced*
PRU ***05*** *15:51:27.5, 5144N× 1604E, h0km*
VIE ***05*** *15:51:27.1± 0.4, 5137N× 1608E, h0km, mb2.4/4, ML2.8/4, Error ellipse: s-maj=2.5km s-min=2.4km az=167.0, Suspected Mining induced.*

ISC 05 15:51:25.6± 0.7, 5152N± 003× 1605E± 003, h0km, n28, σ 1§02/55, 3C-1D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.70**	**167**	*e*Pg	**Pg**	**15 51 39.4**	**+0.5**
KSP				*e*Sg	**Sg**	**15 51 48.9**	**+0.9**
KSP	**Ksiaz**	**0.70**	**167**	*e*Pg	**Pg**	**15 51 39.5**	**+0.5**
KSP				*e*Sg	**Sg**	**15 51 48.9**	**+0.9**
UPC	**Upice**	**1.02**	**181**	*e*PG	**Pg**	**15 51 45.3**	**+0.2**
DPC	**Dobruska-Polom**	**1.19**	**172**	*e*PG	**Pg**	**15 51 48.2**	**-0.1**
DPC				*e*SG	**Sg**	**15 52 03.5**	**-0.2**
28nm,0.4s							
PVCC	**Panska Ves**	**1.37**	**224**	*e*PG	**Pg**	**15 51 51.8**	**0.0**
PVCC				*e*SG	**Sg**	**15 52 10.5**	**+1.0**
138nm,0.4s							
BRG	**Berggiesshubel**	**1.48**	**245**	PG	**Pg**	**15 51 54.2**	**+0.3**
BRG				SG	**Sg**	**15 52 14.1**	**+1.0**
62nm,0.5s							
PRU	**Pruhonice**	**1.81**	**213**	*e*PG	**Pg**	**15 51 57.5**	**-2.8**
PRU				*e*SG	**Sg**	**15 52 23.3**	**-0.5**
28nm,0.4s							
CLL	**Collm**	**1.92**	**265**	*i* Pn	**Pn**	**15 51 58.4**	**-1.1**
CLL				*e*Pg	**Pg**	**15 52 02.0**	**-0.4**
CLL				*i* Sg	**Sg**	**15 52 27.3**	**0.0**
CLL	**Collm**	**1.92**	**265**	*i* Pn	**Pn**	**15 51 58.4**	**-1.1**
CLL				*e*Pg	**Pg**	**15 52 02.0**	**-0.4**
CLL				*i* x	x	15 52 05.4	
CLL				*i* Sg	**Sg**	**15 52 27.3**	**0.0**
comp=Z,25nm,0.6s							
MORC	**Moravsky Berou**	**1.99**	**151**	*e*Pn	**Pn**	**15 51 59.4**	**-1.0**
MORC				*e*Sn	**Sn**	**15 52 27.0**	**+0.9**
MORC	**Moravsky Berou**	**1.99**	**151**	*e*Pn	**Pn**	**15 51 59.4**	**-1.0**
MORC				*e*Sg	**Sg**	**15 52 24.8**	**-4.7**
MORC				*e*Sn	**Sn**	**15 52 27.0**	**+1.0**
OKC	**Ostrava-Krasne**	**2.15**	**141**	*e*PG	**Pg**	**15 52 06.1**	**-0.7**
OKC				*e*SG	**Sg**	**15 52 33.1**	**-1.6**
comp=Z,53nm,0.8s							
VRAC	**Vranov**	**2.25**	**171**	*e*Pn	**Pn**	**15 52 04.2**	**+0.3**
VRAC				*e*Sg	**Sg**	**15 52 34.5**	**-3.2**
comp=Z,21nm,0.4s							
KRUC	**Moravsky**	**2.48**	**175**	*e*Pg	**Pg**	**15 52 11.5**	**-1.5**
KRUC				*e*Sg	**Sg**	**15 52 43.0**	**-2.0**
comp=Z,15nm,0.5s							
NKC	**Novy Kostel**	**2.62**	**242**	*e*PN	**Pn**	**15 52 09.4**	**+0.3**
NKC				*e*PG	**Pg**	**15 52 15.0**	**-0.8**
NKC				*e*SG	**Sg**	**15 52 52.1**	**+2.3**
comp=Z,54nm,0.6s							
OJC	**Ojcow**	**2.71**	**117**	*e*Pg	**Pg**	**15 52 18.2**	**+0.7**
OJC				*e*Sg	**Sg**	**15 52 52.9**	**+0.3**
JAVC	**Velka Javorina**	**2.86**	**158**	*e*Sg	**Sg**	**15 52 58.1**	**+0.6**
comp=Z,21nm,0.6s							
KHC	**Kasperske Hory**	**2.87**	**214**	*e*PN	**Pn**	**15 52 12.5**	**-0.1**
KHC				*e*PG	**Pg**	**15 52 18.5**	**-2.1**
KHC				*e*SN	**Sn**	**15 52 48.0**	**+0.2**
KHC				*e*SG	**Sg**	**15 52 58.0**	**+0.2**
comp=Z,14nm,0.5s							
MOX	**Moxa**	**2.93**	**254**	*e*PG	**Pg**	**15 52 21.4**	**-0.4**
MOX				*i* SG	**Sg**	**15 53 01.0**	**+1.3**
GEC2	**GERESS Array S**	**3.08**	**210**	*e*Pn	**Pn**	**15 52 16.1**	**+0.7**
GEC2				*e*Sg	**Sg**	**15 53 02.8**	**-1.6**
WET	**Wettzell**	**3.13**	**222**	*e*Pn	**Pn**	**15 52 16.2**	**+0.1**

MODS	**Modra-Piesok**	**3.25**	**165**	*e*SG	**Sg**	**15 53 11.1**	**+1.1**
GRA1	**Grafenberg Arr**	**3.58**	**241**	*e*Pn	**Pn**	**15 52 22.1**	**-0.2**
CONA	**Conrad Observa**	**3.60**	**182**	⇊ *i*Pn	**Pn**	**15 52 22.1**	**-0.5**
CONA				⇑ *i*Sg	**Sg**	**15 53 21.5**	**+0.3**
	comp=Z,17nm,0.7s						
MOA	**Molln**	**3.86**	**198**	⇑ *i*Pn	**Pn**	**15 52 26.4**	**+0.3**
MOA				⇑ *i*Sg	**Sg**	**15 53 30.1**	**+0.7**
	comp=Z,13nm,0.6s						
STHS	**Stebnicka Huta**	**3.93**	**120**	*e*PG	**Pg**	**15 52 41.5**	**+0.6**
STHS				*e*SG	**Sg**	**15 53 35.6**	**+3.8**
STHS	**Stebnicka Huta**	**3.93**	**120**	*e*Pg	**Pg**	**15 52 41.6**	**+0.7**
KECS	**Kecovo**	**4.18**	**135**	*e*SG	**Sg**	**15 53 42.3**	**+2.6**

*ISCJB **05** 15:55:46.8±1.3,2782S±007×710W±02,h62km±10km, mb4.1/2,Error ellipse: s-maj=34.5km s-min=8.4km az=15.1*
*NEIC **05** 15:55:46.8,2782S×7104W,h45km,MD4.0(GUC),After GUC.*
*GUC **05** 15:55:46.8±1.0,2782S×7104W,h45km±13km,MD4.0, ML4.1*
*IDC **05** 15:55:50.0±1.8,2378S×7037W,h0km,mb4.9/2,mb1 4.7/2, mb1mx3.8/15,mbtmp4.9/2,Error ellipse: s-maj=172.1km s-min=59.4km az=159.0*

ISC 05 15:55:47.9±1.2,2785S±007×709W±02,h57km±10km,n15, σ0§67/13,mb4.1/2,2C,Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPCH	**Copiapo**	**0.71**	**46**	⇑ *i*P	**Pn**	**15 56 02.1**	**0.0**
CPCH				*i*S	**Sn**	**15 56 12.7**	**+0.2**
CPCH	**Copiapo**	**0.71**	**46**	⇑ *i*P	**Pn**	**15 56 02.1**	**0.0**
CPCH				*i*S	**Sn**	**15 56 12.7**	**+0.2**
CPCH				AML	AML	15 56 15.3	
	comp=N,40μm,0.1s						
VACH	**Vallenar**	**0.74**	**168**	*i*P	**Pn**	**15 56 02.3**	**-0.1**
VACH				*e*S	**Sn**	**15 56 13.3**	**+0.3**
VACH				AML	AML	15 56 13.7	
	comp=E,21μm,0.1s						
LCO	**Las Campanas**	**1.17**	**170**	*e*Pn	**Pn**	**15 56 07.7**	**-0.4**
LSCH	**La Serena**	**2.07**	**188**	*e*P	**Pn**	**15 56 19.9**	**-0.3**
TLL	**Tololo Astrono**	**2.31**	**177**	*e*P	**Pn**	**15 56 24.6**	**+1.1**
TLL				AML	AML	15 57 08.7	
	comp=E,488nm,0.5s						
CPN1	**Cerro Paranal**	**3.25**	**8**	*e*P	**Pn**	**15 56 36.0**	**-0.3**
CPN1				AML	AML	15 57 38.4	
	comp=E,293nm,0.4s						
TRQA	**Tornquist**	**12.64**	**146**	Pn	**Pn**	**15 58 41.5**	**-3.3**
DBIC	**Dimbokro**	**72.36**	**72**	P	**P**	**16 07 08.3**	**+0.1**
	comp=E,3.6nm,1.0s,mb4.3,baz=217,slow=5.1,SNR=2.0						
TORD	**Torodi Ar. Bea**	**81.22**	**70**	P	**P**	**16 07 58.4**	**+0.3**
	comp=E,1.4nm,0.7s,mb4.0,baz=258,slow=5.1,SNR=8.8						
WRA	**Warramunga Arr**	**126.57**	**210**	PKP	pPKPdf	16 15 02.7	+0.5
	comp=E,0.2nm,0.5s,baz=158,slow=1.6,SNR=5.1						
ZALV	**Zalesovo Beam**	**148.44**	**28**	PKP	PKPbc	16 15 28.9	+1.3
ZALV	**Zalesovo Beam**	**148.44**	**28**	PKP	PKPbc	16 15 28.9	+1.3
	comp=E,1.5nm,0.5s,baz=303,slow=3.3,SNR=10						
MK31	**Makanchi Array**	**151.74**	**41**	*e*PKPbc	PKPbc	16 15 36.2	+0.4
MKAR	**Makanchi Array**	**151.74**	**41**	PKPbc	PKPbc	16 15 36.9	+1.1
	comp=E,0.9nm,0.6s,baz=320,slow=1.9,SNR=7.3						

IDC 05 15:59:01.4±3.1,900S×11367E,h0km,mb3.5/3,mb1 3.8/3, mb1mx3.4/16,mbtmp3.6/3,Error ellipse: s-maj=130.2km s-min=54.0km az=36.0,Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.75**	**121**	P	P	16 04 04.5	-0.9
	0.3nm,0.3s,baz=295,slow=12,SNR=9.8						
ASAR	**Alice Springs**	**24.24**	**129**	P	P	16 04 20.2	+0.1
	0.8nm,0.6s,baz=305,slow=8.6,SNR=16						
ASAR				PcP	PcP	16 08 01.1	+0.3
	0.1nm,0.4s,baz=309,slow=1.9,SNR=4.8						
STKA	**Stephens Creek**	**34.49**	**135**	P	P	16 05 51.7	+0.4
	1.4nm,0.6s,baz=323,slow=10,SNR=2.9						

IDC 05 16:03:38.4±1.2,740S×15574E,h0km,mb3.8/5,mb1 3.9/6, mb1mx3.7/15,mbtmp3.8/6,ML3.9/1,Error ellipse: s-maj=28.3km s-min=27.1km az=16.0,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.63**	**116**	Pn	Pn	16 04 49.2	-0.4
	5.0nm,0.3s,baz=264,slow=7.8,SNR=3.2						
HNR				Sn	Sn	16 05 47.8	+3.7
	8.4nm,0.3s,baz=252,slow=3.2,SNR=3.3						
WRA	**Warramunga Arr**	**24.21**	**237**	P	P	16 08 57.6	+0.7
	1.9nm,0.6s,baz=63,slow=9.2,SNR=22						
ASAR	**Alice Springs**	**26.47**	**230**	P	P	16 09 16.9	-0.6
	0.6nm,0.8s,baz=62,slow=9.6,SNR=8.3						
SONM	**Songino Array**	**70.07**	**327**	P	P	16 14 53.3	+1.0
	0.8nm,0.8s,baz=140,slow=6.6,SNR=5.0						
MKAR	**Makanchi Array**	**84.19**	**319**	P	P	16 16 11.9	+0.2
	0.2nm,0.3s,baz=103,slow=5.9,SNR=2.5						
ZALV	**Zalesovo Beam**	**84.92**	**326**	P	P	16 16 14.4	-0.9
	0.4nm,0.4s,baz=119,slow=5.7,SNR=2.2						

CASC 05 16:13:24.1±1.3,840N×8285W,h0km±4km,MD3.9,1C-1D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DVD	**David**	**0.39**	**84**	*e*S	Sg	16 13 39.7	+3.0
BAR1		**0.96**	**331**	⇊ *e*P	Pg	16 13 42.6	+0.1
BAR1				*e*S	Sg	16 13 56.4	+1.4
LCR2	**La Lucha 2**	**1.76**	**320**	*e*P	Pn	16 13 56.2	+0.4
LCR2				*e*S	Sn	16 14 20.9	+1.9
PRS1	**Puriscal**	**2.14**	**318**	*e*P	Pn	16 14 00.3	-0.8
PRS1				*e*S	Sn	16 14 29.1	+0.7
CGA2	**Cerro Gallo 2**	**2.27**	**315**	*e*P	Pn	16 14 04.1	+1.3
CGA2				*e*S	Sn	16 14 33.9	+2.3
PTP	**Ponta Puerca**	**19.39**	**58**	⇑ *i*P	Px	16 13 28.1	
PTP				*e*S	Sx	16 13 32.7	

IDC 05 16:13:48.2±1.4,709S×15581E,h0km,mb4.0/5,mb1 4.1/6, mb1mx3.9/15,mbtmp4.0/6,ML3.9/1,MS3.3/1,Ms1 3.3/1, ms1mx2.7/21,Error ellipse: s-maj=35.7km s-min=27.9km az=106.0,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.71**	**120**	Pn	Pn	16 14 59.6	-1.0
	5.4nm,0.3s,baz=284,slow=0.2,SNR=3.9						
CTA	**Charters Tower**	**15.90**	**215**	LR	LR	16 22 33.5	
	comp=Z,122nm,21.2s,baz=300,slow=33						
WB2	**Warramunga Arr**	**24.42**	**236**	*e*P	P	16 19 09.2	+0.5
WRA	**Warramunga Arr**	**24.43**	**236**	P	P	16 19 09.5	+0.7
	6.9nm,0.6s,baz=61,slow=9.4,SNR=72						
ASAR	**Alice Springs**	**26.72**	**230**	P	P	16 19 29.2	-0.3
	0.6nm,0.5s,baz=58,slow=9.9,SNR=20						
SONM	**Songino Array**	**69.86**	**327**	P	P	16 25 01.9	+1.1
	0.5nm,0.6s,baz=134,slow=7.4,SNR=4.4						
MKAR	**Makanchi Array**	**84.01**	**319**	P	P	16 26 20.8	+0.1
	1.2nm,0.7s,baz=111,slow=5.3,SNR=7.2						
ZALV	**Zalesovo Beam**	**84.71**	**326**	P	P	16 26 22.9	-1.2
	0.5nm,0.5s,baz=123,slow=5.5,SNR=3.8						

*IDC **05** 16:21:30.4±1.2,3733N×2444W,h0km,mb3.6/8,mb1 3.8/8, mb1mx3.6/24,mbtmp3.6/8,Error ellipse: s-maj=35.2km s-min=22.6km az=178.0*
*CSEM **05** 16:21:32.4±0.2,3745N×2476W,h30km,mb4.2/5,Error ellipse: s-maj=10.0km s-min=2.4km az=9.0*
*ISCJB **05** 16:21:32.6±0.5,3732N±005×2483W±006,h36km±7km, mb3.8/14,Error ellipse: s-maj=9.8km s-min=4.8km az=44.2*
*NEIC **05** 16:21:32.0±0.6,3729N×2459W,h10km,mb4.2/8,Error ellipse: s-maj=13.3km s-min=9.8km az=152.0*
*SVSA **05** 16:21:35.5±1.0,3730N×2491W,h5km,MD3.4,ML3.4, Error ellipse: s-maj=5.8km s-min=2.1km az=79.0*
*PDA **05** 16:21:35.5±1.0,3730N×2491W,h5km,MD3.4,ML3.4, Error ellipse: s-maj=5.8km s-min=2.1km az=79.0*

ISC 05 16:21:33.0±0.5,3733N±004×2485W±003,h25km±3km,n82, σ0§86/116,mb3.8/14,Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSMN	**Pico do Norte,**	**0.37**	**208**	*e*P	**Pb**	**16 21 40.5**	**-0.5**
PSMN				*e*S	**Sb**	**16 21 46.0**	**-0.5**
MIRA	**Miradouro**	**0.57**	**323**	*i* P	**Pb**	**16 21 44.9**	**+0.6**
FRA1	**Furnas**	**0.58**	**316**	*i* P	**Pb**	**16 21 45.3**	**+0.8**
FRA1				*e*S	**Sb**	**16 21 52.8**	**+0.5**
FRA1	**Furnas**	**0.58**	**316**	*e*S	**Sb**	**16 21 52.8**	**+0.5**
PCNG	**Congro**	**0.62**	**315**	*e*P	**Pb**	**16 21 45.6**	**+0.5**
PCNG				*e*S	**Sb**	**16 21 53.3**	**-0.1**
PCNG				A		16 21 57.2	
	317nm,0.4s						
PCNG	**Congro**	**0.62**	**315**	*e*P	**Pb**	**16 21 45.6**	**+0.5**
PCNG				*e*S	**Sb**	**16 21 53.3**	**-0.1**
VIF	**Vila Franca**	**0.63**	**312**	*e*P	**Pb**	**16 21 46.0**	**+0.7**
VIF				*e*S	**Sb**	**16 21 53.8**	**+0.1**
VIF				A		16 21 57.9	
	490nm,0.3s						
VIF	**Vila Franca**	**0.63**	**312**	*e*P	**Pb**	**16 21 46.0**	**+0.7**
VIF				*e*S	**Sb**	**16 21 53.8**	**+0.1**
PFAD	**Fenais da Ajud**	**0.63**	**324**	*e*P	**Pb**	**16 21 46.1**	**+0.7**
PFAD				*e*S	**Sb**	**16 21 54.1**	**+0.2**
PRCH	**Ribeira Ch**	**0.64**	**309**	*e*P	**Pb**	**16 21 46.1**	**+0.6**
PRCH				*e*S	**Sb**	**16 21 54.1**	**0.0**
PRCH				A		16 22 00.9	
	708nm,0.2s						
PRCH	**Ribeira Ch**	**0.64**	**309**	*e*P	**Pb**	**16 21 46.1**	**+0.6**
PRCH				*e*S	**Sb**	**16 21 54.1**	**0.0**
MESC	**Monte Escuro**	**0.66**	**315**	*i* P	**Pb**	**16 21 46.6**	**+0.7**
MESC				*e*S	**Sb**	**16 21 54.8**	**+0.1**
MESC	**Monte Escuro**	**0.66**	**315**	*e*S	**Sb**	**16 21 54.8**	**+0.1**
LFA	**Lagoa do Fogo**	**0.67**	**311**	*i* P	**Pb**	**16 21 46.8**	**+0.8**
PMAT	**Coroa da Mata**	**0.69**	**315**	*e*P	**Pb**	**16 21 46.9**	**+0.5**
PMAT				*e*S	**Sb**	**16 21 55.1**	**-0.5**
PMAT				A		16 21 58.9	
	304nm,0.2s						
PMAT				A		16 21 59.1	
	417nm,0.3s						
PMAT	**Coroa da Mata**	**0.69**	**315**	*e*P	**Pb**	**16 21 46.9**	**+0.5**
PMAT				*e*S	**Sb**	**16 21 55.1**	**-0.5**
PVER	**Pico Vermelho**	**0.70**	**312**	*e*P	**Pb**	**16 21 47.0**	**+0.4**
PVER				*e*S	**Sb**	**16 21 55.8**	**-0.1**
PVER				A		16 22 02.5	
	627nm,0.3s						
PVER	**Pico Vermelho**	**0.70**	**312**	*e*P	**Pb**	**16 21 47.0**	**+0.4**
PVER				*e*S	**Sb**	**16 21 55.8**	**-0.1**
CML	**Cha da Macela**	**0.71**	**309**	*i* P	**Pb**	**16 21 47.1**	**+0.4**
CML				*e*S	**Sb**	**16 21 55.5**	**-0.5**
CML	**Cha da Macela**	**0.71**	**309**	*e*S	**Sb**	**16 21 55.5**	**-0.5**
PDA	**Ponta Delgada**	**0.77**	**303**	*e*S	**Sb**	**16 21 57.2**	**-0.6**
FAC	**Faja de Cima**	**0.78**	**305**	*e*P	**Pb**	**16 21 47.9**	**+0.1**
PSAN	**Santo Antonio**	**0.87**	**307**	*e*P	**Pb**	**16 21 49.2**	**-0.2**
PSAN				*e*S	**Sb**	**16 21 59.5**	**-1.1**
PFET	**Feteiras**	**0.89**	**303**	*e*P	**Pb**	**16 21 49.9**	**+0.1**
PFET				*e*S	**Sb**	**16 22 00.0**	**-1.2**
SET2	**Ginetes**	**0.92**	**304**	*e*P	**Pb**	**16 21 50.0**	**-0.2**
SET2				*e*S	**Sb**	**16 22 00.5**	**-1.5**
SET4	**Mosteiros**	**0.93**	**306**	*e*P	**Pn**	**16 21 50.0**	**-0.4**
SET4				*e*S	**Sb**	**16 22 00.8**	**-1.6**
PFAV	**Pico das Favas**	**2.24**	**309**	*e*P	**Pn**	**16 22 09.6**	**+1.2**
PFAV				*e*S	**Sn**	**16 22 36.4**	**+1.2**
PFAV				A		16 22 45.0	
	140nm,0.4s						
PFAV	**Pico das Favas**	**2.24**	**309**	*e*P	**Pn**	**16 22 09.6**	**+1.2**
PFAV				*e*S	**Sn**	**16 22 36.4**	**+1.2**
RIB2	**Ribeirinha**	**2.27**	**307**	*e*P	**Pn**	**16 22 10.0**	**+1.2**
RIB2				*e*S	**Sn**	**16 22 37.0**	**+1.0**
RIB2				A		16 22 38.2	
	111nm,0.3s						
RIB2	**Ribeirinha**	**2.27**	**307**	*e*P	**Pn**	**16 22 10.0**	**+1.2**
RIB2				*e*S	**Sn**	**16 22 37.0**	**+1.0**
ADH	**Angra Heroismo**	**2.30**	**306**	*e*P	**Pn**	**16 22 09.3**	**0.0**
ADH				*e*S	**Sn**	**16 22 36.2**	**-0.6**
PVNV	**Vila Nova**	**2.31**	**309**	*e*P	**Pn**	**16 22 10.5**	**+1.1**
PVNV				*e*S	**Sn**	**16 22 38.1**	**+1.0**
PVNV				A		16 22 43.9	
	101nm,0.3s						
PVNV	**Vila Nova**	**2.31**	**309**	*e*P	**Pn**	**16 22 10.5**	**+1.1**
PVNV				*e*S	**Sn**	**16 22 38.1**	**+1.0**
PPAD	**Pico dos Padre**	**2.36**	**306**	*e*P	**Pn**	**16 22 11.3**	**+1.2**
PPAD				*e*S	**Sn**	**16 22 36.8**	**-1.4**
PPAD				A		16 22 42.3	
	65nm,0.3s						
PPAD	**Pico dos Padre**	**2.36**	**306**	*e*P	**Pn**	**16 22 11.3**	**+1.2**
PPAD				*e*S	**Sn**	**16 22 36.8**	**-1.4**
PBIS	**Biscoitos**	**2.38**	**308**	*e*P	**Pn**	**16 22 11.1**	**+0.8**
PBIS				*e*S	**Sn**	**16 22 37.7**	**-0.9**
PBIS				A		16 22 49.4	
	42nm,0.5s						
PBIS	**Biscoitos**	**2.38**	**308**	*e*P	**Pn**	**16 22 11.1**	**+0.8**
PBIS				*e*S	**Sn**	**16 22 37.7**	**-0.9**
ASBA	**Santa Barbara**	**2.40**	**306**	*e*P	**Pn**	**16 22 12.2**	**+1.6**
ASBA				*e*S	**Sn**	**16 22 40.3**	**+1.2**
ASBA				A		16 22 43.6	
	74nm,0.3s						
ASBA	**Santa Barbara**	**2.40**	**306**	*e*P	**Pn**	**16 22 12.2**	**+1.6**
ASBA				*e*S	**Sn**	**16 22 40.3**	**+1.2**
PID	**Ribeirinha**	**2.81**	**294**	*e*P	**Pn**	**16 22 15.7**	**-0.6**
ROSA	**Rosais**	**3.02**	**298**	*e*P	**Pn**	**16 22 19.6**	**+0.5**
STGR	**Santa Cruz**	**3.04**	**306**	*e*P	**Sn**	**16 22 54.4**	**-0.5**
PICO	**Pico**	**3.06**	**294**	*e*P	**Pn**	**16 22 19.7**	**0.0**
PICO				*e*S	**Sn**	**16 22 52.4**	**-3.1**
PVIA	**Vitoria**	**3.06**	**306**	*e*P	**Sn**	**16 22 52.3**	**-3.2**
CALA	**Caldeira**	**3.29**	**293**	*e*P	**Pn**	**16 22 22.9**	**0.0**
CALA				*e*S	**Sn**	**16 22 58.2**	**-3.0**
ESDC	**Sonseca Array**	**16.52**	**75**	Pn	**Pn**	**16 25 16.1**	**-6.7**
	0.1nm,0.3s,baz=266,slow=12,SNR=3.1						
QUIF	**Quistinic**	**19.08**	**49**	*e*P	**Pn**	**16 25 53.4**	**-1.0**
SGMF	**Saint Gilles**	**19.60**	**49**	*e*P	**Pn**	**16 25 58.8**	**-1.7**
EPF	**Esparros**	**20.04**	**66**	*e*P	**P**	**16 26 04.0**	**+0.1**
MFF	**Saint Martin d**	**20.50**	**55**	*e*P	**P**	**16 26 09.1**	**+0.1**
	24nm,1.0s						
MFF	**Saint Martin d**	**20.50**	**55**	*e*P	**P**	**16 26 09.1**	**+0.1**
	12nm,1.0s						
LFF	**La Frestale**	**20.66**	**60**	*e*P	**P**	**16 26 10.7**	**0.0**
	15nm,0.5s						
LFF	**La Frestale**	**20.66**	**60**	*e*P	**P**	**16 26 10.7**	**0.0**
	7.3nm,0.5s						
GRR	**Gorron**	**20.68**	**50**	*e*P	**P**	**16 26 11.4**	**+0.5**
	33nm,1.0s						
GRR	**Gorron**	**20.68**	**50**	*e*P	**P**	**16 26 11.4**	**+0.5**
	17nm,1.0s						
LDF	**La Druitiere**	**21.21**	**50**	*e*P	**P**	**16 26 16.7**	**+0.1**
	34nm,1.2s,mb4.2						
LDF	**La Druitiere**	**21.21**	**50**	*e*P	**P**	**16 26 16.7**	**+0.1**
	17nm,1.2s,mb4.2						
CAF	**Calviac**	**21.58**	**61**	*e*P	**P**	**16 26 19.9**	**-0.7**
	21nm,1.0s,mb4.2						
CAF	**Calviac**	**21.58**	**61**	*e*P	**P**	**16 26 19.9**	**-0.7**
	11nm,1.0s,mb4.2						
TCF	**Toulx Ste Croi**	**21.98**	**57**	*e*P	**P**	**16 26 25.6**	**+0.7**
	16nm,1.0s,mb4.1						
TCF	**Toulx Ste Croi**	**21.98**	**57**	*e*P	**P**	**16 26 25.6**	**+0.7**
	7.9nm,1.0s,mb4.1						
SSF	**Saint Saulge**	**23.04**	**56**	*e*P	**P**	**16 26 35.3**	**-0.8**
SMF	**Signal de Mont**	**23.16**	**57**	*e*P	**P**	**16 26 37.4**	**0.0**
EKA	**Eskdalemuir Ar**	**23.25**	**32**	P	**P**	**16 26 37.3**	**-1.0**
	0.8nm,0.6s,mb3.4,baz=230,slow=8.6,SNR=4.5						
VIVF	**Saint-Julien-l**	**23.39**	**62**	*e*P	**P**	**16 26 38.9**	**-1.0**
	14nm,1.0s,mb4.0						
VIVF	**Saint-Julien-l**	**23.39**	**62**	*e*P	**P**	**16 26 38.9**	**-1.0**
	6.9nm,1.0s,mb4.0						
ORIF	**Oris-en-Rattie**	**24.25**	**62**	*e*P	**P**	**16 26 48.0**	**+0.2**
GIVF	**Givet**	**24.77**	**50**	*e*P	**P**	**16 26 52.0**	**-0.5**
LPL	**La Plagne**	**24.93**	**61**	*e*P	**P**	**16 26 54.0**	**+0.1**
PGF	**Pioggiola**	**26.36**	**68**	*e*P	**P**	**16 27 06.0**	**-0.9**
	25nm,1.0s,mb4.4						
PGF	**Pioggiola**	**26.36**	**68**	*e*P	**P**	**16 27 06.0**	**-0.9**
	13nm,1.0s,mb4.4						
TORD	**Torodi Ar. Bea**	**33.79**	**128**	P	**P**	**16 28 12.1**	**-0.8**
	1.0nm,0.9s,mb3.8,baz=315,slow=8.4,SNR=5.6						
LIC	**Lamto**	**35.85**	**145**	*e*P	**P**	**16 28 31.4**	**+0.7**
AKASG	**Malin Array Be**	**40.23**	**53**	P	**P**	**16 29 06.2**	**-1.1**
	0.4nm,0.6s,mb3.3,baz=275,slow=7.7,SNR=4.2						
AKTK	**Aktyubinsk**	**58.16**	**48**	P	**P**	**16 31 24.5**	**+0.1**
AKTK	**Aktyubinsk**	**58.16**	**48**	P	**P**	**16 31 24.5**	**+0.1**
AKTO	**Aktyubinsk**	**58.16**	**48**	P	**P**	**16 31 24.5**	**+0.1**
	1.2nm,0.7s,mb4.0,baz=304,slow=11,SNR=2.8						
PDAR	**Pinedale Array**	**62.44**	**304**	P	**P**	**16 31 58.5**	**+4.7**
	0.4nm,0.9s,mb3.6,baz=99,slow=5.6,SNR=3.2						
TXAR	**Lajitas Array**	**64.58**	**288**	P	**P**	**16 32 10.8**	**+2.7**
	1.0nm,0.8s,mb3.9,baz=54,slow=6.4,SNR=7.5						
ZALV	**Zalesovo Beam**	**70.83**	**36**	P	**P**	**16 32 46.8**	**-0.3**
	0.5nm,0.6s,mb3.6,baz=302,slow=8.4,SNR=2.8						
MKAR	**Makanchi Array**	**73.90**	**43**	P	**P**	**16 33 06.0**	**+0.4**
	0.1nm,0.3s,mb3.2,baz=320,slow=4.3,SNR=3.2						
SONM	**Songino Array**	**84.72**	**31**	P	**P**	**16 34 05.7**	**+1.1**
	0.7nm,0.8s,mb3.8,baz=318,slow=4.3,SNR=6.2						

*IDC **05** 16:27:11.2±1.1,3738N×2460W,h0km,mb3.7/8,mb1 3.9/8, mb1mx3.7/24,mbtmp3.7/8,Error ellipse: s-maj=34.2km s-min=21.1km az=4.0*
*NEIC **05** 16:27:12.9±0.8,3744N×2445W,h10km,mb4.8/5,Error ellipse: s-maj=21.6km s-min=13.4km az=193.0*
*ISCJB **05** 16:27:14.1±0.6,3728N±004×2479W±006,h34km±6km, mb3.9/12,Error ellipse: s-maj=9.9km s-min=4.9km az=138.7*
*CSEM **05** 16:27:14.1±0.1,3736N×2479W,h30km,ML3.6,Error ellipse: s-maj=5.8km s-min=2.0km az=25.0*
*PDA **05** 16:27:15.3±1.1,3728N×2469W,h5km,MD3.5,ML3.6, Error ellipse: s-maj=6.2km s-min=3.0km az=79.0*
*SVSA **05** 16:27:15.3±1.1,3728N×2469W,h5km,MD3.5,ML3.6, Error ellipse: s-maj=6.2km s-min=3.0km az=79.0*

ISC 05 16:27:14.6±0.6,3731N±004×2480W±005,h25km±3km,n74, σ0§89/106,mb3.9/12,Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSMN	**Pico do Norte,**	**0.37**	**216**	*i* P	**Pb**	**16 27 22.2**	**-0.4**
PSMN				*e*S	**Sb**	**16 27 28.2**	**+0.1**
MIRA	**Miradouro**	**0.61**	**322**	*i* P	**Pb**	**16 27 26.5**	**-0.2**
MIRA				*e*S	**Sb**	**16 27 35.6**	**+0.7**
MIRA	**Miradouro**	**0.61**	**322**	*e*S	**Sb**	**16 27 35.6**	**+0.7**
FRA1	**Furnas**	**0.62**	**315**	*i* P	**Pb**	**16 27 26.8**	**-0.1**
FRA1				*e*S	**Sb**	**16 27 35.4**	**+0.2**
FRA1	**Furnas**	**0.62**	**315**	*e*S	**Sb**	**16 27 35.4**	**+0.2**
PCNG	**Congro**	**0.66**	**314**	*e*P	**Pb**	**16 27 27.5**	**0.0**
PCNG				*e*S	**Sb**	**16 27 36.8**	**+0.5**
PCNG				A		16 27 39.1	
	313nm,0.4s						
PCNG	**Congro**	**0.66**	**314**	*e*P	**Pb**	**16 27 27.5**	**0.0**
PCNG				*e*S	**Sb**	**16 27 36.8**	**+0.5**
VIF	**Vila Franca**	**0.67**	**311**	*e*P	**Pb**	**16 27 27.7**	**0.0**
VIF				*e*S	**Sb**	**16 27 37.2**	**+0.6**
VIF				A		16 27 41.0	
	496nm,0.2s						
VIF	**Vila Franca**	**0.67**	**311**	*e*P	**Pb**	**16 27 27.7**	**0.0**
VIF				*e*S	**Sb**	**16 27 37.2**	**+0.6**
PFAD	**Fenais da Ajud**	**0.68**	**322**	*e*P	**Pb**	**16 27 27.4**	**-0.4**
PFAD				*e*S	**Sb**	**16 27 37.1**	**+0.3**
PRCH	**Ribeira Ch**	**0.69**	**308**	*e*P	**Pb**	**16 27 27.8**	**-0.1**
PRCH				*e*S	**Sb**	**16 27 38.0**	**+0.9**
PRCH				A		16 27 42.2	
	2μm,0.3s						
PRCH	**Ribeira Ch**	**0.69**	**308**	*e*P	**Pb**	**16 27 27.8**	**-0.1**
PRCH				*e*S	**Sb**	**16 27 38.0**	**+0.9**
MESC	**Monte Escuro**	**0.71**	**314**	*e*P	**Pb**	**16 27 28.3**	**0.0**
MESC				*e*S	**Sb**	**16 27 38.4**	**+0.7**
LFA	**Lagoa do Fogo**	**0.72**	**311**	*e*P	**Pb**	**16 27 28.4**	**-0.1**
PMAT	**Coroa da Mata**	**0.74**	**314**	*e*P	**Pb**	**16 27 28.7**	**-0.1**
PMAT				*e*S	**Sb**	**16 27 38.4**	**-0.1**
PMAT				A		16 27 40.9	
	321nm,0.2s						
PMAT	**Coroa da Mata**	**0.74**	**314**	*e*P	**Pb**	**16 27 28.7**	**-0.1**
PMAT				*e*S	**Sb**	**16 27 38.4**	**-0.1**
PVER	**Pico Vermelho**	**0.75**	**311**	*e*P	**Pb**	**16 27 29.0**	**0.0**
PVER				*e*S	**Sb**	**16 27 38.9**	**0.0**
PVER				A		16 27 42.7	
	599nm,0.3s						
PVER	**Pico Vermelho**	**0.75**	**311**	*e*P	**Pb**	**16 27 29.0**	**0.0**
PVER				*e*S	**Sb**	**16 27 38.9**	**0.0**
CML	**Cha da Macela**	**0.76**	**308**	*i* P	**Pb**	**16 27 28.9**	**-0.2**
CML				*e*S	**Sb**	**16 27 39.1**	**+0.1**
PDA	**Ponta Delgada**	**0.82**	**303**	*i* S	**Sb**	**16 27 39.9**	**-0.9**
FAC	**Faja de Cima**	**0.82**	**305**	*e*S	**Sb**	**16 27 40.1**	**-0.8**
PSAN	**Santo Antonio**	**0.92**	**307**	*e*P	**Pb**	**16 27 31.3**	**-0.5**
PFET	**Feteiras**	**0.94**	**303**	*e*P	**Pn**	**16 27 31.3**	**-0.9**
SET2	**Ginetes**	**0.97**	**304**	*e*P	**Pn**	**16 27 32.1**	**-0.5**
SET4	**Mosteiros**	**0.98**	**306**	*e*P	**Pn**	**16 27 32.8**	**+0.1**
PFAV	**Pico das Favas**	**2.29**	**309**	*e*P	**Pn**	**16 27 51.0**	**+0.2**
PFAV				*e*S	**Sn**	**16 28 18.0**	**-0.1**
PFAV				A		16 28 22.6	
	163nm,0.3s						
PFAV	**Pico das Favas**	**2.29**	**309**	*e*

1.1nm,0.7s,mb4.0,baz=285,slow=10,SNR=4.3
WMOK Wichita Mounta 58.43 292 P P 16 37 09.3 +1.1
1.4nm,0.8s,mb4.0
WMOK Wichita Mounta 58.43 292 P P 16 37 09.3 +1.0
PDAR Pinedale Array 62.49 304 P P 16 37 36.0 +0.1
0.2nm,0.7s,mb3.4,baz=72,slow=5.8,SNR=2.5
TXAR Lajitas Array 64.63 289 P P 16 37 52.4 +2.2
1.7nm,0.8s,mb4.1,baz=73,slow=7.2,SNR=17
MKAR Makanchi Array 73.89 43 P P 16 38 47.4 +0.2
0.2nm,0.2s,mb3.6,baz=300,slow=6.5,SNR=4.1
SONM Songino Array 84.71 31 P P 16 39 46.4 +0.1
0.8nm,0.9s,mb3.9,baz=326,slow=3.5,SNR=6.5

IDC 05 16:27:29.2±3.7, 740S×15545E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.4/14, mbtmp3.4/3, Error ellipse: s-maj=107.9km s-min=37.1km az=118.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.97**	**237**	P	P	16 32 46.0	+0.5
	0.6nm,0.7s,baz=61,slow=9.6,SNR=7.7						
ASAR	**Alice Springs**	**26.25**	**230**	P	P	16 33 05.7	-0.6
	0.5nm,0.8s,baz=64,slow=10,SNR=4.5						
MKAR	**Makanchi Array**	**84.00**	**319**	P	P	16 40 01.7	+0.2
	0.3nm,0.5s,baz=97,slow=4.6,SNR=2.9						

*ISCJB **05** 16:27:51.7±3.8, 823N±006×127.7E±0.1, h28km±27km, mb3.9/8, Error ellipse: s-maj=17.8km s-min=10.0km az=1.1*
*IDC **05** 16:27:54.0±1.2, 835N×12808E, h34km±7km, mb3.6/6, mb1 3.8/7, mb1mx3.6/19, mbtmp3.7/7, ML4.3/1, MS2.5/1, Ms1 2.5/1, ms1mx2.4/27, Error ellipse: s-maj=90.0km s-min=15.6km az=72.0*
*NEIC **05** 16:27:54.4±0.5, 8.19N×12776E, mb4.3/2, Error ellipse: s-maj=20.7km s-min=9.6km az=73.0*
*MAN **05** 16:27:59, 8.17N×12688E, h37km, mb4.0, ML2.8, MS2.5*

ISC 05 16:27:52.4±4.2, 820N±006×12758E±009, h17km±26km, h36km±.7km: pP-P, n19, σ1$08/20, mb3.9/8, 2C, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BIPH	**Bislig**	**1.21**	**269⇑**	*e*P	**Pn**	**16 28 13.4**	**-1.2**
BIPH				*e*S	**Sb**	**16 28 22.8**	**-7.4**
MATI	**Mati**	**1.81**	**227**	*e*P	**Pn**	**16 28 22.7**	**-0.2**
MATI				*e*S	**Sn**	**16 28 44.6**	**-0.8**
BUKP	**Musuan**	**2.52**	**263**	*e*P	**Pn**	**16 28 34.1**	**+1.6**
SCPH	**Surigao**	**2.60**	**307⇑**	*e*P	**Pn**	**16 28 31.9**	**-1.8**
MSLP	**Maasin**	**3.31**	**306**	*e*P	**Pn**	**16 28 43.0**	**-0.4**
PVCP	**Virac**	**6.33**	**328**	*e*P	**Pn**	**16 29 20.3**	**-4.8**
GUMO	**Guam**	**17.80**	**71**	LR	LR	16 38 18.2	
	comp=Z,18nm,20.3s,baz=280,slow=36						
KSM	**Kuching**	**18.45**	**250**	*e*P	**Pn**	**16 32 09.0**	**+1.5**
BATI	**Kupang**	**18.70**	**192**	P	**Pn**	**16 32 13.1**	**+2.6**
	0.9nm,0.3s,baz=0.0,slow=0.0,SNR=3.3						
WRA	**Warramunga Arr**	**28.74**	**167**	P	**P**	**16 33 48.1**	**-1.1**
	2.2nm,0.7s,mb4.0,baz=348,slow=10,SNR=12						
ASAR	**Alice Springs**	**32.27**	**169**	P	**P**	**16 34 19.9**	**-0.4**
	0.7nm,0.7s,mb3.6,baz=349,slow=6.9,SNR=13						
ASAR				PcP	PcP	16 37 08.3	-0.2
	0.3nm,0.4s,baz=344,slow=2.6,SNR=10						
STKA	**Stephens Creek**	**42.04**	**162**	P	**P**	**16 35 42.3**	**-0.8**
	0.8nm,0.4s,mb3.7,baz=355,slow=11,SNR=4.5						
SONM	**Songino Array**	**43.40**	**339**	P	**P**	**16 35 54.1**	**+0.1**
	0.3nm,0.5s,mb3.3,baz=161,slow=11,SNR=4.7						
SONM				pP	pP	16 36 03.8	+4.4
	0.4nm,0.7s,baz=165,slow=7.1,SNR=3.0						
MKAR	**Makanchi Array**	**54.45**	**323**	P	**P**	**16 37 19.1**	**+0.3**
	1.3nm,0.6s,mb4.0,baz=120,slow=7.2,SNR=13						
MKAR				pP	pP	16 37 29.7	+5.4
	1.7nm,0.6s,baz=120,slow=8.4,SNR=9.8						
ZALV	**Zalesovo Beam**	**57.05**	**331**	P	**P**	**16 37 36.7**	**-0.7**
	1.9nm,0.7s,mb4.2,baz=126,slow=7.3,SNR=9.7						
ZALV				pP	pP	16 37 47.4	+4.5
	2.2nm,0.7s,baz=116,slow=7.8,SNR=5.8						
UCH	**Uchtor**	**57.55**	**315**	*e*P	**P**	**16 37 42.3**	**+1.2**
	2.1nm,0.7s,mb4.3						
KURK	**Kurchatov**	**58.50**	**326**	*e*P	**P**	**16 37 47.6**	**0.0**
	2.6nm,0.8s,mb4.3						
KURK				*e*		16 37 58.0	
TIXI	**Tiksi**	**63.39**	**0**	P	**P**	**16 38 20.2**	**-0.3**
BRVK	**Borovoye**	**64.17**	**326**	P	**P**	**16 38 27.6**	**+1.7**
BRVK				*e*		16 38 35.5	

DHMR 05 16:36:38.2±0.7, 1385N×5098E, h6km±32km, MD3.9, ML4.1, 4D, Eastern Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MUKL	**Al Mukalla**	**1.98**	**288⇓**	*e*P	Pn	16 37 13.3	+1.0
MUKL				*i* S	Sn	16 37 40.9	+3.3
MUKL				AML	AML	16 37 43.2	
	comp=N,2μm,0.4s						
BDHA	**Al Bayda'**	**5.26**	**272⇓**	*e*P	Pn	16 37 59.8	+2.5
BDHA				*i* S	Sn	16 39 03.1	+4.8
LBOS		**5.57**	**271⇓**	*e*P	Pn	16 38 04.0	+2.4
LBOS				*i* S	Sn	16 39 10.1	+4.1
TRBA	**At Turbah**	**6.71**	**266**	*e*P	Pn	16 38 18.6	+1.3
TRBA				*i* S	Sn	16 39 37.8	+3.7
UDYN	**Al 'Udayn**	**6.81**	**272⇓**	*e*P	Pn	16 38 19.9	+1.2
UDYN				*i* S	Sn	16 39 39.4	+2.7

*PDA **05** 16:40:28.9±0.5, 3721N×2461W, h0km, MD3.9, ML3.5, Error ellipse: s-maj=14.4km s-min=3.6km az=39.0*
*CSEM **05** 16:40:28.9±0.5, 3721N×2461W, h0km, ML3.5, Error ellipse: s-maj=14.4km s-min=3.6km az=39.0, After PDA*

SVSA 05 16:40:28.9±0.5, 3721N×2461W, h0km, MD3.9, ML3.5, Error ellipse: s-maj=14.4km s-min=3.6km az=39.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDA	**Ponta Delgada**	**0.99**	**303**	*e*P	Pg	16 40 42.8	-5.1
PDA				*e*S	Sg	16 40 55.2	-5.6
ADH	**Angra Heroismo**	**2.52**	**306**	*e*S	Sn	16 41 34.4	-8.2
PMAN	**Manadas**	**3.09**	**298**	*e*S	Sn	16 41 48.4	-8.2
PMAN				A		16 41 49.9	
	50nm,0.2s						
ROSA	**Rosais**	**3.24**	**299**	*e*P	Pn	16 41 16.7	-4.3
ROSA				*e*S	Sn	16 41 52.2	-8.0
PICO	**Pico**	**3.28**	**294**	*e*P	Pn	16 41 17.1	-4.4
PICO				*e*S	Sn	16 41 53.3	-8.0
CALA	**Caldeira**	**3.51**	**294**	*e*P	Pn	16 41 20.3	-4.4
CALA				*e*S	Sn	16 41 58.6	-8.4

IDC 05 16:45:16.3±1.4, 840S×15720E, h0km, mb3.7/4, mb1 3.9/5, mb1mx3.7/15, mbtmp3.7/5, ML3.8/1, MS3.0/1, Ms1 3.0/1, ms1mx2.7/19, Error ellipse: s-maj=43.4km s-min=28.7km az=160.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.90**	**111**	Pn	Pn	16 46 03.1	-0.7
	12nm,0.3s,baz=266,slow=14,SNR=3.1						
HNR				Sn	Sn	16 46 44.4	+5.1
	24nm,0.3s,baz=90,slow=20,SNR=2.9						
CTA	**Charters Tower**	**15.72**	**221**	LR	LR	16 54 17.4	
	comp=Z,59nm,19.3s,baz=25,slow=34						
WRA	**Warramunga Arr**	**24.92**	**240**	P	P	16 50 41.2	-0.1
	1.1nm,0.7s,baz=66,slow=9.6,SNR=12						
ASAR	**Alice Springs**	**26.98**	**233**	P	P	16 51 00.1	+0.2
	0.3nm,0.7s,baz=59,slow=9.2,SNR=3.5						
MKAR	**Makanchi Array**	**85.90**	**318**	P	P	16 57 58.1	-0.1
	0.5nm,0.6s,baz=105,slow=6.2,SNR=3.4						
YKA	**Yellowknife Ar**	**96.55**	**28**	P	P	16 58 48.1	+0.5
	0.1nm,0.3s,baz=260,slow=4.2,SNR=4.0						

*ATH **05** 16:47:16.5, 3812N×2051E, h35km±1km, MD3.5/4*
*ISCJB **05** 16:47:17.4±1.0, 3838N±003×2045E±008, h2km±5km, Error ellipse: s-maj=10.2km s-min=4.6km az=164.8*
*CSEM **05** 16:47:18.7±0.2, 3840N×2049E, h2km, MD3.5, Error ellipse: s-maj=5.4km s-min=2.4km az=78.0*
*THE **05** 16:47:18.4, 3842N×2048E, h3km, ML3.5*
*NEIC **05** 16:47:18.4, 3842N×2048E, h0km, MD3.5(ATH),*

ML3.5(THE), After THE.

ISC 05 16:47:18.4±0.8, 3842N±003×2048E±008, h1km±6km, n15, σ0$88/25, 1C, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.25**	**161⇑**	*i*PB	**Pg**	**16 47 23.1**	**-0.1**
VLS				*e*SB	**Sg**	**16 47 27.6**	**+1.1**
LKD	**Levkas**	**0.32**	**24**	*e*Pg	**Pg**	**16 47 24.4**	**-0.1**
LKD				*e*Sg	**Sg**	**16 47 29.1**	**+0.5**
KFL	**Anninata**	**0.39**	**142**	*e*Pg	**Pg**	**16 47 25.7**	**-0.1**
KFL				*e*Sg	**Sg**	**16 47 32.1**	**+1.2**
SELA	**Sela**	**1.12**	**97**	*e*Pg	**Pg**	**16 47 39.4**	**-0.4**
SELA				*e*Sg	**Sn**	**16 47 56.5**	**-0.6**
IGT	**Igoumenitsa**	**1.12**	**354**	*e*Pg	**Pg**	**16 47 39.5**	**-0.4**
IGT				*e*Sg	**Sn**	**16 47 56.2**	**-1.0**
EVR	**Evrytania**	**1.15**	**64**	*e*PB	**Pb**	**16 47 39.6**	**-1.5**
JAN	**Janina**	**1.27**	**13**	*e*PB	**Pb**	**16 47 43.6**	**+0.5**
JAN				*e*SN	**Sn**	**16 48 03.1**	**+2.1**
KEK	**Kerkira**	**1.40**	**338**	*e*PN	**Pn**	**16 47 45.3**	**+0.2**
MEV	**Metsovon**	**1.48**	**23**	*e*Pg	**Pn**	**16 47 45.0**	**-1.2**
AGG	**Agios Georgios**	**1.57**	**67**	*e*Pg	**Pn**	**16 47 46.6**	**-0.8**
AGG				*e*Sg	**Sn**	**16 48 07.9**	**-0.4**
THL	**Klokotos Trika**	**1.65**	**46**	*e*PB	**Pb**	**16 47 48.8**	**-0.9**
PYL	**PYLOS**	**1.82**	**146**	*e*Pb	**Pn**	**16 47 50.0**	**-0.8**
LIT	**Litokhoron**	**2.29**	**42**	*e*Pn	**Pn**	**16 47 57.5**	**+0.2**
LIT				*e*Sn	**Sn**	**16 48 27.5**	**+1.3**
LIT	**Litokhoron**	**2.29**	**42**	*e*Pn	**Pn**	**16 47 57.5**	**+0.2**
LIT				S	**Sn**	**16 48 27.5**	**+1.4**
FNA	**Florina**	**2.46**	**16**	*e*Pn	**Pn**	**16 47 59.9**	**+0.2**
FNA				*e*Sn	**Sn**	**16 48 31.6**	**+1.2**

*MOS **05** 16:49:36.8±1.0, 5603N×11456E, h15km, mb4.4/1, Error ellipse: s-maj=17.1km s-min=10.8km az=69.7*

BYKL 05 16:49:37.7±0.2, 5607N×11454E, h15km±11km, 8C-4D, East of Lake Baykal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SVKR	**Severomuysk**	**0.55**	**275⇑**	*i*PG	Pg	16 49 47.5	-1.1
SVKR				*i*		16 49 54.3	
SVKR				pmax	pmax		
	comp=Z,485nm,0.3s						
SVKR				smax			
	comp=N,6μm,0.6s						
SVKR	**Severomuysk**	**0.55**	**275⇑**	*i*Pg	Pg	16 49 47.6	-1.0
SVKR				*i* Sg	Sg	16 49 55.0	-0.9
SVKR				Pmax			
	comp=N,220nm,0.2s						
SVKR				Smax			
	comp=N,6μm,0.4s						
NLYR	**Nelyaty**	**0.77**	**56⇑**	*i*Pg	Pg	16 49 51.6	-1.1
NLYR				*e*Sg	Sg	16 50 02.4	-0.5
NLYR				Pmax			
	comp=N,225nm,0.3s						
NLYR				Smax			
	comp=N,643nm,0.6s						
UKT	**Uakit**	**0.78**	**222⇓**	*i*PG	Pg	16 49 51.5	-1.3
UKT				*e*		16 50 01.7	
UKT				pmax	pmax		
	comp=Z,359nm,0.3s						
UKT				smax			
	comp=E,2μm,0.4s						
UKT	**Uakit**	**0.78**	**222⇑**	*i*Pg	Pg	16 49 51.5	-1.3
	comp=E,326nm,0.5s						
UKT			⇑	*i*Pg	Pg	16 49 51.5	-1.3
	comp=E,279nm,0.5s						
UKT			⇓	*i*Pg	Pg	16 49 51.5	-1.3
	comp=E,349nm,0.5s						
UKT				*i* Sg	Sg	16 50 02.1	-0.9
UKT				Pmax			
	comp=E,337nm,0.5s						
UKT				Smax			
	comp=E,1μm,0.4s						
YOA	**Uoyan**	**1.58**	**273⇓**	*i*PN	Pn	16 50 06.3	+1.2
YOA	**Uoyan**	**1.58**	**273**	*e*Pg	Pg	16 50 06.0	-2.0
YOA				*e*Sg	Sg	16 50 27.0	-1.5
YOA				Pmax			
	comp=E,168nm,0.4s						
YOA				Smax			
	comp=E,1μm,0.5s						
BOD	**Bodaibo**	**1.78**	**351**	*e*PN	Pn	16 50 08.5	+0.7
BOD				*e*		16 50 32.0	
BOD				pmax	pmax		
	comp=Z,326nm,0.3s						
BOD				smax			
	comp=N,886nm,0.3s						
BOD	**Bodaibo**	**1.78**	**351⇑**	*i*Pg	Pg	16 50 09.1	-2.7
BOD				*i* Sg	Sg	16 50 32.1	-2.8
BOD				Pmax			
	comp=N,307nm,0.3s						
BOD				Smax			
	comp=N,849nm,0.3s						
KMO	**Kumora**	**1.89**	**266**	*e*PN	Pn	16 50 08.8	-0.5
KMO				*e*		16 50 10.2	
KMO				*e*		16 50 34.7	
KMO				pmax	pmax		
	comp=Z,190nm,0.4s						
KMO				smax			
	comp=N,1μm,0.9s						
KMO	**Kumora**	**1.89**	**266**	*e*Pn	Pn	16 50 10.1	+0.8
KMO				*e*Pg	Pg	16 50 10.9	-3.0
KMO				*e*		16 50 14.0	
KMO				*e*Sg	Sg	16 50 35.8	-2.5
KMO				max			
	comp=N,184nm,0.4s						
KMO				Smax			
	comp=N,1μm,0.9s						
CRS	**Chara**	**2.23**	**67**	*e*PN	Pn	16 50 14.7	+0.7
CRS				*e*		16 50 17.8	
CRS				*e*		16 50 47.7	
CRS				pmax	pmax		
	comp=Z,303nm,0.8s						
CRS				smax			
	comp=N,204nm,0.3s						
CRS	**Chara**	**2.23**	**67⇓**	*i*Pn	Pn	16 50 14.9	+0.9
CRS				*e*Pg	Pg	16 50 18.0	-2.4
CRS				*e*Sg	Sg	16 50 47.7	-1.6
CRS				Pmax			
	comp=Z,296nm,0.6s						
CRS				Smax			
	comp=N,246nm,0.5s						
YLYR	**Ulyunkhan**	**2.27**	**240⇑**	*i*PN	Pn	16 50 15.3	+0.8
YLYR				*i*		16 50 17.5	
YLYR				*e*S	Sn	16 50 43.4	+1.3
YLYR				*e*		16 50 47.4	
YLYR				pmax	pmax		
	comp=Z,50nm,0.4s						
YLYR				smax			
	comp=N,346nm,0.5s						
YLYR	**Ulyunkhan**	**2.27**	**240⇑**	*i*Pn	Pn	16 50 15.3	+0.8
YLYR				*e*Pg	Pg	16 50 17.4	-3.7
YLYR				*e*Sn	Sn	16 50 43.5	+1.4
YLYR				*e*Sg	Sg	16 50 47.9	-2.5
YLYR				Pmax			
	comp=N,48nm,0.7s						
YLYR				Smax			
	comp=N,334nm,0.5s						
NIZ	**Nizh Angarsk**	**2.83**	**266**	*e*PN	Pn	16 50 28.2	+5.9
NIZ				*e*		16 51 05.1	
NIZ				pmax	pmax		
	comp=Z,22nm,0.7s						
NIZ				smax			
	comp=N,154nm,0.7s						
NIZ	**Nizh Angarsk**	**2.83**	**266**	*e*Pn	Pn	16 50 23.6	+1.3
NIZ				*e*Pg	Pg	16 50 28.5	-3.4
NIZ				*e*Sg	Sg	16 51 05.2	-3.3
NIZ				Pmax			
	comp=N,18nm,0.3s						
NIZ				Smax			
	comp=N,152nm,0.5s						
KHNR	**Khani**	**3.13**	**72**	*e*Pn	Pn	16 50 27.9	+1.4
KHNR				*e*Pg	Pg	16 50 34.9	-2.8
KHNR				*e*Sn	Sn	16 51 04.7	+1.2
KHNR				*e*Sg	Sg	16 51 15.0	-3.3
TUP	**Tupik**	**3.51**	**116**	*e*PN	Pn	16 50 32.0	+0.4
TUP				*e*		16 50 40.3	
TUP				*e*S	Sn	16 51 13.4	+0.6
TUP				*e*		16 51 25.9	
TUP				pmax	pmax		
	comp=Z,21nm,0.4s						
TUP				smax			
	comp=E,164nm,0.9s						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TUP	**Tupik**	**3.51**	**116**	*e*Pn	Pn	16 50 32.2	+0.6
TUP				*e*Pg	Pg	16 50 40.6	-4.3
TUP				*e*Sn	Sn	16 51 12.7	-0.1
TUP				*e*Sg	Sg	16 51 26.4	-3.9
TUP				Pmax			
	comp=E,34nm,0.6s						
TUP				Smax			
	comp=E,199nm,0.8s						
SYVR	**Suvo**	**3.57**	**229**	*e*PN	Pn	16 50 34.6	+2.2
SYVR				*e*		16 50 41.2	
SYVR				*e*		16 51 27.8	
SYVR				pmax	pmax		
	comp=Z,24nm,0.5s						
SYVR				smax			
	comp=E,208nm,0.7s						
SYVR	**Suvo**	**3.57**	**229**	*e*Pn	Pn	16 50 32.4	0.0
SYVR				*e*Pg	Pg	16 50 41.1	-4.9
SYVR				*e*Sn	Sn	16 51 16.2	+2.0
SYVR				*e*Sg	Sg	16 51 27.5	-4.7
SYVR				Pmax			
	comp=E,15nm,0.5s						
SYVR				Smax			
	comp=E,201nm,0.7s						
CIT	**Chita**	**4.10**	**189**	*e*PN	Pn	16 50 39.4	-0.3
CIT				*e*		16 50 49.8	
CIT				*e*		16 51 43.7	
CIT				pmax	pmax		
	comp=Z,26nm,0.8s						
CIT				smax			
	comp=E,154nm,0.9s						
CIT	**Chita**	**4.10**	**189**	*e*Pn	Pn	16 50 39.8	+0.1
CIT				*e*Pg	Pg	16 50 51.0	-5.1
CIT				*e*Sg	Sg	16 51 44.3	-4.9
CIT				Pmax			
	comp=E,23nm,0.6s						
CIT				Smax			
	comp=E,156nm,0.5s						
OGRR	**Ongureny**	**4.69**	**242**	*e*PN	Pn	16 50 48.4	+0.5
OGRR				*e*		16 51 01.1	
OGRR				*e*		16 52 01.0	
OGRR				pmax	pmax		
	comp=Z,19nm,1.3s						
OGRR				smax			
	comp=N,42nm,1.0s						
OGRR	**Ongureny**	**4.69**	**242**	*e*Pn	Pn	16 50 48.9	+1.0
OGRR				*e*Pg	Pg	16 51 02.1	-5.4
OGRR				*e*Sg	Sg	16 52 03.2	-5.0
OGRR				Pmax			
	comp=N,5.0nm,0.6s						
OGRR				Smax			
	comp=N,41nm,0.6s						
NRGR	**Nerungri**	**5.69**	**80**	*e*PN	Pn	16 51 15.0	+13
IENR	**Iengra**	**5.77**	**84**	*e*Sg	Sg	16 52 35.2	-7.6
CLNS	**Chul'man**	**5.79**	**78**	*e*Sg	Sg	16 52 37.0	-6.5
CLNS				Smax			
	comp=N,20nm,0.7s						
TRG	**Tyrgan**	**5.82**	**239**	*e*Sg	Sg	16 52 38.9	-5.4
TRG				Smax			
	comp=N,17nm,0.4s						
KAB	**Kabansk**	**6.14**	**232**	*e*Sg	Sg	16 52 48.6	-6.1
KAB				Smax			
	comp=N,308nm,1.5s						
KPC	**Khapcheranga**	**6.51**	**192**	*e*PN	Pn	16 51 13.8	+1.0
KPC				*e*		16 51 32.6	
KPC				*e*		16 53 00.2	
KPC				pmax	pmax		
	comp=Z,3.0nm,0.4s						
KPC				smax			
	comp=E,94nm,1.5s						
KPC	**Khapcheranga**	**6.51**	**192**	*e*Pn	Pn	16 51 13.1	+0.3
KPC				*e*Sg	Sg	16 52 58.5	-7.9
KPC				max			
	comp=E,3.0nm,0.4s						
KPC				Smax			
	comp=E,87nm,1.4s						
LSTR	**Listvyanka**	**7.11**	**238**	*e*Sg	Sn	16 53 18.9	+38
LSTR				Smax			
	comp=E,30nm,2.0s						
TLY	**Talaya**	**7.79**	**240**	*e*PG	Pn	16 51 57.2	+27
TLY				*e*		16 53 37.5	
TLY				pmax	pmax		
	comp=Z,2.0nm,0.4s						
TLY				smax			
	comp=E,16nm,1.0s						
TLY	**Talaya**	**7.79**	**240**	*e*Sg	Sn	16 53 36.7	+38
TLY				Smax			
	comp=E,15nm,1.3s						
ARS	**Arshan**	**8.26**	**245**	*e*PG	Pn	16 52 02.9	+26
ARS				*e*		16 53 49.7	
ARS				pmax	pmax		
	comp=Z,2.0nm,0.1s						
ARS				smax			
	comp=E,60nm,0.7s						
ARS	**Arshan**	**8.26**	**245**	*e*Sg	Sn	16 53 53.7	+44
ARS				Smax			
	comp=E,58nm,1.0s						
ZAK	**Zakamensk**	**8.83**	**235**	*e*PG	Pn	16 52 17.9	+33
ZAK				*e*		16 54 12.1	
ZAK				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ZAK	**Zakamensk**	**8.83**	**235**	*e*Sg	Sn	16 54 12.3	+49
ZAK				Smax			
	comp=Z,26nm,2.0s						
MOY	**Mondy**	**9.13**	**247**	*e*Sg	Sn	16 54 20.3	+49
MOY				Smax			
	comp=Z,28nm,1.4s						
ORL	**Orlik**	**9.31**	**254**	*e*Sg	Sn	16 54 25.5	+50
ORL				Smax			
	comp=Z,33nm,1.8s						

*NEIC **05** 17:11:49.7±1.8, 774S×12831E, h126km±22km, mb4.4/2, Error ellipse: s-maj=25.9km s-min=13.6km az=79.0*
*ISCJB **05** 17:11:50.2±1.1, 797S±006×12827E±007, h167km±14km, mb3.6/4, Error ellipse: s-maj=12.9km s-min=8.0km az=140.4*
*IDC **05** 17:11:51.3±5.8, 783S×128.13E, h145km±60km, mb3.4/4, mb1 3.5/8, mb1mx3.4/15, mbtmp3.4/8, Error ellipse: s-maj=54.4km s-min=18.0km az=49.0*

ISC 05 17:11:50.4±1.2, 791S±009×12826E±007, h142km±17km, n11, σ1$11/16, mb3.6/4, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Kupang**	**5.08**	**243**	P	**Pn**	**17 13 06.5**	**+1.7**
	16nm,0.3s,baz=118,slow=3.5,SNR=65						
BATI				S	**Sn**	**17 14 02.5**	**-0.4**
	16nm,0.3s,baz=304,slow=2.2,SNR=8.1						
KAKA	**Kakadu**	**6.30**	**140**	*e*Pn	**Pn**	**17 13 21.6**	**+0.5**
	18nm,0.4s						
KAKA				*e*Sn	**Sn**	**17 14 30.8**	**-1.2**
FITZ	**Fitzroy Crossi**	**10.45**	**194**	P	**Pn**	**17 14 16.7**	**+0.2**
	0.7nm,0.3s,baz=29,slow=12,SNR=15						
FITZ				S	**Sn**	**17 16 10.3**	**-1.7**
	3.2nm,0.3s,baz=99,slow=23,SNR=11						
WRA	**Warramunga Arr**	**13.33**	**154**	P	**Pn**	**17 14 54.9**	**+0.7**
	0.4nm,0.3s,baz=322,slow=14,SNR=31						
WRA				S	**Sn**	**17 17 15.9**	**-5.7**
	1.9nm,0.3s,baz=336,slow=22,SNR=13						
DAV	**Davao City (W)**	**15.12**	**350**	Pn	**Pn**	**17 15 16.0**	**-0.8**
MBWA	**Marble Bar**	**15.54**	**211**	*e*Pn	**Pn**	**17 15 25.9**	**+4.0**
	4.3nm,0.5s						
ASAR	**Alice Springs**	**16.58**	**162**	P	**Pn**	**17 15 36.7**	**+2.1**
	0.7nm,0.3s,baz=342,slow=11,SNR=29						
ASAR				S	**S**	**17 18 29.9**	**-9.4**
	0.2nm,0.3s,baz=334,slow=17,SNR=4.3						
STKA	**Stephens Creek**	**26.89**	**154**	P	**P**	**17 17 21.8**	**+3.7**
	1.0nm,0.6s,mb3.6,baz=354,slow=10,SNR=2.6						
SONM	**Songino Array**	**58.77**	**343**	P	**P**	**17 21 33.5**	**0.0**
	0.9nm,0.8s,mb3.6,baz=164,slow=7.7,SNR=9.5						
MKAR	**Makanchi Array**	**68.06**	**328**	P	**P**	**17 22 34.0**	**-0.5**
	0.4nm,0.5s,mb3.4,baz=114,slow=7.1,SNR=4.6						
ZALV	**Zalesovo Beam**	**71.65**	**335**	P	**P**	**17 22 55.6**	**-0.7**
	0.6nm,0.5s,mb3.5,baz=106,slow=3.2,SNR=3.6						

*CSEM **05** 17:20:17.8±0.2, 3834N×2035E, h2km, MD3.3, Error ellipse: s-maj=5.2km s-min=1.6km az=71.0*
*ISCJB **05** 17:20:18.0±1.0, 3836N±003×2041E±008, h2km, Error ellipse: s-maj=9.3km s-min=3.7km az=160.6*
*THE **05** 17:20:18.4, 3834N×2040E, h3km, ML3.1*
*NEIC **05**

*ATH **05** 17:20:18.5,3833N×2049E,h12km±5km,MD3.3/4*
ISC 05 17:20:18.1±1.2,3834N±004×2038E±009,h5km±9km,n13, σ0°88/20,2C,Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.23**	**134**	⇑iPG	**Pg**	**17 20 22.5**	**-0.1**
VLS				eSG	**Sg**	**17 20 25.8**	**+0.2**
VLS	**Valsamata**	**0.23**	**134**	⇑iPg	**Pg**	**17 20 22.5**	**-0.1**
VLS				eSg	**Sg**	**17 20 25.7**	**+0.1**
KFL	**Anninata**	**0.39**	**125**	ePg	**Pg**	**17 20 25.3**	**-0.4**
KFL				eSg	**Sg**	**17 20 31.5**	**+0.7**
LKD	**Levkas**	**0.43**	**30**	ePg	**Pg**	**17 20 25.8**	**-0.5**
LKD				eSg	**Sg**	**17 20 32.2**	**+0.3**
SELA	**Sela**	**1.19**	**92**	ePg	**Pg**	**17 20 39.7**	**-1.2**
SELA				eSg	**Sg**	**17 20 57.9**	**+1.5**
IGT	**Igoumenitsa**	**1.19**	**358**	ePg	**Pg**	**17 20 40.2**	**-0.8**
IGT				eSg	**Sg**	**17 20 59.0**	**+2.5**
EVR	**Evrytania**	**1.26**	**62**	ePB	**Pb**	**17 20 41.3**	**-1.0**
KEK	**Kerkira**	**1.45**	**342**	ePB	**Pb**	**17 20 46.6**	**+1.1**
MEV	**Metsovon**	**1.59**	**24**	ePg	**Pg**	**17 20 47.8**	**-0.8**
MEV				eSg	**Sg**	**17 21 08.8**	**-0.4**
AGG	**Agios Georgios**	**1.67**	**65**	ePb	**Pb**	**17 20 48.6**	**-0.8**
ITM	**Ithomi**	**1.68**	**133**	ePB	**Pb**	**17 20 50.0**	**+0.4**
THL	**Klokotos Trika**	**1.77**	**46**	ePN	**Pn**	**17 20 49.3**	**-0.1**
LIT	**Litokhoron**	**2.41**	**42**	ePn	**Pn**	**17 20 58.6**	**+0.5**

IDC 05 17:21:49.5±1.2,747S×15613E,h0km,mb3.7/5,mb1 3.7/6, mb1mx3.6/15,mbtmp3.7/6,ML3.8/1,MS3.6/1,Ms1 3.6/1, ms1mx2.8/23,Error ellipse: s-maj=33.8km s-min=28.7km az=104.0,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.25**	**118**	Pn	Pn	17 22 55.2	-0.3
	4.9nm,0.3s,baz=267,slow=11,SNR=4.0						
HNR				Sn	Sn	17 23 51.5	+5.7
	20nm,0.3s,baz=270,slow=20,SNR=4.4						
WRA	**Warramunga Arr**	**24.49**	**237**	P	P	17 27 10.4	-0.3
	0.7nm,0.6s,baz=62,slow=9.5,SNR=12						
WRA				PcP	PcP	17 30 48.6	-1.0
	0.2nm,0.5s,baz=62,slow=2.5,SNR=5.7						
ASAR	**Alice Springs**	**26.72**	**230**	P	P	17 27 31.6	+0.7
	0.2nm,0.7s,baz=57,slow=10,SNR=3.2						
BATI	**Kupang**	**32.19**	**263**	LR	LR	17 38 48.9	
	comp=Z,114nm,21.6s,baz=134,slow=32						
SONM	**Songino Array**	**70.35**	**327**	P	P	17 33 06.2	+1.1
	0.4nm,0.8s,baz=130,slow=4.5,SNR=3.1						
MKAR	**Makanchi Array**	**84.51**	**318**	P	P	17 34 25.1	+0.7
	1.7nm,0.7s,baz=101,slow=6.4,SNR=10						
ZALV	**Zalesovo Beam**	**85.21**	**326**	P	P	17 34 26.4	-1.4
	1.1nm,0.6s,baz=118,slow=5.6,SNR=5.5						

*ATH **05** 17:34:52.7,4007N×2666E,h150km±18km*
*SOF **05** 17:34:53.4,4024N×2698E,h8km,MD2.7*
*CSEM **05** 17:34:53.6±0.1,4025N×2720E,h8km,MD3.3,Error ellipse: s-maj=1.5km s-min=1.4km az=131.0*
*ISK **05** 17:34:53.7,4026N×2721E,h7km,MD3.2*
*ISCJB **05** 17:34:53.7±0.4,4025N±002×2721E±003,h4km±4km, Error ellipse: s-maj=3.4km s-min=3.0km az=174.9*
*DDA **05** 17:34:55.2,4027N×2719E,h15km±2km,Md3.3*
ISC 05 17:34:54.4±0.4,4026N±002×2720E±003,h8km±3km,n46, σ0°93/62,2C-2D,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RKY	**Sarkoy-Tekirda**	**0.43**	**358**	iPG	**Pg**	**17 35 03.1**	**+0.4**
RKY				iSG	**Sg**	**17 35 09.7**	**+1.3**
SART	**Tekirdag**	**0.43**	**358**	iP	**Pg**	**17 35 03.0**	**+0.2**
SART				iS	**Sg**	**17 35 09.2**	**+0.7**
MRMT	**Marmara Adasi**	**0.46**	**41**	iPG	**Pg**	**17 35 02.3**	**-1.0**
MRMT				iSG	**Sg**	**17 35 08.9**	**-0.5**
EDC	**Edincik**	**0.52**	**80**	iPG	**Pg**	**17 35 04.5**	**+0.1**
BNT	**Bandirma**	**0.56**	**80**	iPG	**Pg**	**17 35 04.8**	**-0.4**
EZN	**Ezine**	**0.80**	**237**	iPG	**Pg**	**17 35 09.8**	**+0.2**
BALB	**Balikesir**	**0.81**	**139**	PG	**Pg**	**17 35 09.8**	**-0.1**
BTOK	**Tokmak**	**0.81**	**127**	iP	**Pg**	**17 35 09.7**	**-0.2**
BTOK				iS	**Sg**	**17 35 20.9**	**+0.5**
KCT	**Karacabey**	**0.89**	**89**	PG	**Pg**	**17 35 10.5**	**-0.9**
ENEZ	**Enez**	**0.93**	**301**	PG	**Pg**	**17 35 11.2**	**-1.0**
BOZC	**Bozcaada**	**0.97**	**245**	iP	**Pg**	**17 35 12.6**	**-0.4**
BOZC				iS	**Sg**	**17 35 25.6**	**0.0**
GADA	**Gvkgeada**	**0.99**	**267**	PG	**Pg**	**17 35 13.1**	**-0.4**
PRK	**Paraskevi**	**1.24**	**215**	ePn	**Pn**	**17 35 17.3**	**-0.6**
PRK				eS	**Sb**	**17 35 34.6**	**+0.6**
PRK	**Paraskevi**	**1.24**	**215**	ePn	**Pn**	**17 35 17.3**	**-0.6**
PRK				eS	**Sb**	**17 35 34.9**	**+0.9**
DST	**Dursunbey**	**1.28**	**120**	PN	**Pn**	**17 35 19.1**	**+0.6**
CTT	**Catalca**	**1.29**	**46**	PN	**Pn**	**17 35 18.3**	**-0.4**
ELBA	**Catalca**	**1.29**	**46**	iP	**Pn**	**17 35 17.9**	**-0.8**
ELBA				iS	**Sb**	**17 35 34.4**	**-1.3**
AKS	**Akhisar**	**1.46**	**161**	PN	**Pn**	**17 35 20.9**	**-0.1**
AKHS	**Akhisar**	**1.46**	**161**	iP	**Pn**	**17 35 20.3**	**-0.7**
AKHS				iS	**Sn**	**17 35 40.0**	**-0.3**
GEMT	**Gemlik**	**1.53**	**83**	PN	**Pn**	**17 35 22.5**	**+0.5**
RDO	**Rodhopi**	**1.54**	**306**	eP	**Pn**	**17 35 21.8**	**-0.3**
RDO	**Rodhopi**	**1.54**	**306**	eP	**Pn**	**17 35 22.2**	**+0.1**
LIA	**Limnos Island**	**1.58**	**258**	eP	**Pn**	**17 35 18.6**	**-4.1**
LIA				eS	**Sn**	**17 35 39.2**	**-4.2**
LIA	**Limnos Island**	**1.58**	**258**	eP	**Pn**	**17 35 18.9**	**-3.8**
ISK	**Istanbul-Kandi**	**1.63**	**60**	PN	**Pn**	**17 35 23.3**	**-0.1**
YLV	**Yalova**	**1.69**	**79**	PN	**Pn**	**17 35 24.2**	**0.0**
IZI	**Iznik**	**1.74**	**87**	PN	**Pn**	**17 35 24.1**	**-0.8**
KDAG	**Bornova**	**1.85**	**178**	iP	**Pn**	**17 35 25.9**	**-0.5**
KDAG				iS	**Sg**	**17 35 55.4**	**+1.5**
KDZ	**Kurdzhali**	**1.94**	**316**	iP	**Pn**	**17 35 26.7**	**-0.9**
ADVT	**Abdulvahap**	**1.95**	**84**	ePN	**Pn**	**17 35 27.7**	**-0.1**
URLA	**Izmir**	**1.95**	**194**	iP	**Pn**	**17 35 27.1**	**-0.7**
URLA				iS	**Sg**	**17 35 60.0**	**+2.9**
HRT	**Hereke**	**1.97**	**73**	ePN	**Pn**	**17 35 28.5**	**+0.5**
GDZ	**Gediz**	**2.12**	**123**	iP	**Pn**	**17 35 30.4**	**+0.3**
GDZ				iS	**Sg**	**17 36 01.0**	**-1.3**
DIM	**Dimitrovgrad**	**2.19**	**326**	iP	**Pn**	**17 35 31.1**	**+0.1**
DIM				iPg	**Pg**	**17 35 34.9**	**-1.4**
JMB	**Yambol**	**2.25**	**348**	iP	**Pn**	**17 35 32.8**	**+0.9**
JMB				iPg	**Pg**	**17 35 39.2**	**+1.6**
RZN	**Rozhen**	**2.36**	**308**	iP	**Pn**	**17 35 32.8**	**-0.6**
BORA	**Eskisehir**	**2.53**	**98**	iP	**Pn**	**17 35 35.1**	**-0.6**
BORA				iS	**Sg**	**17 36 16.0**	**+0.5**
GULT	**Gulveren**	**2.54**	**85**	ePN	**Pn**	**17 35 36.5**	**+0.6**
NVR	**Nevrokopi**	**2.76**	**294**	eP	**Pn**	**17 35 38.5**	**-0.3**
ESKT	**Eskisehir**	**2.91**	**104**	ePN	**Pn**	**17 35 41.6**	**+0.7**
MMB	**Musomiste**	**2.94**	**298**	iP	**Pn**	**17 35 45.1**	**+3.7**
SZH	**Strazhica**	**3.15**	**343**	iP	**Pn**	**17 35 44.5**	**+0.2**
VTS	**Vitosha**	**3.80**	**309**	⇓iP	**Sg**	**17 36 54.3**	**-2.0**
TIRR	**Tirgusor**	**4.29**	**12**	⇓iP	**Pb**	**17 36 12.9**	**+2.8**
MLR	**Muntele Rosu**	**5.31**	**350**	⇑iP	**Pn**	**17 36 16.5**	**+2.6**
VRI	**Vrincioaia**	**5.62**	**357**	⇑iP	**Pn**	**17 36 20.4**	**+2.3**

*IDC **05** 17:41:45.1±1.0,525S×15363E,h0km,mb4.0/11, mb1 4.2/11,mb1mx4.1/16,mbtmp4.0/11,MS3.4/2, Ms1 3.3/2,ms1mx2.8/25,Error ellipse: s-maj=34.8km s-min=20.4km az=102.0*
*NEIC **05** 17:41:46.6±0.7,525S×15364E,h10km,mb4.8/4,Error ellipse: s-maj=21.7km s-min=12.8km az=111.0*
*ISCJB **05** 17:41:49.3±0.8,53S±01×1535E±02,h33km,mb4.1/15, Error ellipse: s-maj=23.3km s-min=13.6km az=19.7*
ISC 05 17:41:51.0±0.8,53S±01×1536E±02,h35km,n22,σ0°72/18, mb4.1/15,1D,New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**16.34**	**205**	LR	LR	17 50 47.5	
	comp=Z,80nm,20.5s,baz=298,slow=33						
KAKA	**Kakadu**	**22.11**	**249**	⇓iP	**P**	**17 46 43.6**	**0.0**
	19nm,0.6s,mb4.7						
KAKA	**Kakadu**	**22.11**	**249**	eP	**P**	**17 46 43.4**	**-0.2**
	52nm,0.7s,mb5.1						
WB2	**Warramunga Arr**	**23.70**	**230**	eP	**P**	**17 46 59.6**	**-0.2**
WRA	**Warramunga Arr**	**23.70**	**230**	P	**P**	**17 46 59.8**	**-0.1**
	3.0nm,0.7s,mb3.9,baz=54,slow=9.7,SNR=34						
WRA				PcP	PcP	17 50 43.2	-0.4
	0.9nm,0.6s,baz=58,slow=2.2,SNR=7.9						
ASAR	**Alice Springs**	**26.32**	**224**	P	**P**	**17 47 23.1**	**-0.5**
	0.4nm,0.5s,mb3.2,baz=58,slow=8.9,SNR=16						
ASAR				PcP	PcP	17 50 49.3	-0.1
	1.0nm,0.7s,baz=67,slow=2.8,SNR=6.7						

STKA	**Stephens Creek**	**28.73**	**202**	LR	LR	17 58 43.6	
	comp=Z,101nm,18.6s,baz=24,slow=35						
BATI	**Kupang**	**30.01**	**259**	P	**P**	**17 47 57.0**	**+0.2**
	12nm,0.8s,mb4.7,baz=244,slow=7.0,SNR=4.7						
FITZ	**Fitzroy Crossi**	**30.10**	**243**	P	**P**	**17 47 57.6**	**+0.1**
	2.0nm,0.8s,mb3.9,baz=74,slow=9.5,SNR=3.8						
KSRS	**Korea Array**	**48.78**	**333**	P	**P**	**17 50 33.0**	**+0.4**
	0.6nm,0.8s,mb3.7,baz=146,slow=7.9,SNR=3.3						
SONM	**Songino Array**	**67.14**	**328**	P	**P**	**17 52 40.5**	**-0.7**
	0.5nm,0.6s,mb3.7,baz=148,slow=6.7,SNR=3.9						
VNDA	**Vanda**	**72.32**	**178**	P	**P**	**17 53 13.2**	**+0.5**
	1.1nm,0.8s,mb3.9,baz=341,slow=6.8,SNR=6.4						
MK31	**Makanchi Array**	**81.19**	**319**	eP	**P**	**17 54 02.2**	**-1.0**
MKAR	**Makanchi Array**	**81.19**	**319**	P	**P**	**17 54 02.5**	**-0.6**
	1.0nm,0.8s,mb3.8,baz=101,slow=4.5,SNR=7.7						
ZALV	**Zalesovo Beam**	**81.98**	**326**	P	**P**	**17 54 08.4**	**+1.3**
	0.6nm,0.5s,mb3.8,baz=104,slow=6.3,SNR=3.7						
QSPA	**South Pole Qui**	**84.67**	**180**	eP	**P**	**17 54 21.0**	**+0.4**
	5.9nm,0.7s,mb4.8						
TKM2	**Tokmak 2**	**84.81**	**314**	eP	**P**	**17 54 21.9**	**-0.1**
	2.1nm,0.5s,mb4.5						
MAW	**Mawson**	**85.41**	**203**	P	**P**	**17 54 24.4**	**-0.1**
	2.7nm,0.6s,mb4.6,baz=101,slow=7.3,SNR=7.2						
UCH	**Uchtor**	**85.46**	**313**	eP	**P**	**17 54 27.2**	**+2.0**
	3.3nm,1.2s,mb4.3						
YKA	**Yellowknife Ar**	**95.50**	**28**	P	**P**	**17 55 11.0**	**-1.0**
	0.1nm,0.3s,mb3.7,baz=258,slow=2.5,SNR=2.9						
TOA0	**Torodi Ar. Sit**	**151.18**	**288**	ePKPbc	PKPbc	18 01 40.0	-1.7
TOA0				ePKPab	PKPab	18 01 47.3	-2.2
TORD	**Torodi Ar. Bea**	**151.18**	**288**	PKPbc	PKPbc	18 01 40.4	-1.3
	3.6nm,1.0s,baz=61,slow=2.2,SNR=16						
TORD				PKPab	PKPab	18 01 48.1	-1.4
	1.1nm,0.6s,baz=69,slow=3.0,SNR=7.2						

IDC 05 17:56:25.8±1.3,751S×15607E,h0km,mb3.8/6,mb1 3.9/7, mb1mx3.8/15,mbtmp3.9/7,ML3.4/1,MS4.4/1,Ms1 4.4/1, ms1mx3.0/25,Error ellipse: s-maj=34.9km s-min=26.1km az=102.0,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.29**	**117**	Pn	Pn	17 57 32.4	+0.1
	2.2nm,0.3s,baz=264,slow=13,SNR=2.8						
HNR				Sn	Sn	17 58 32.3	+9.2
	4.6nm,0.3s,baz=100,slow=19,SNR=2.3						
WRA	**Warramunga Arr**	**24.42**	**237**	P	P	18 01 46.9	+0.7
	1.8nm,0.6s,baz=65,slow=9.7,SNR=24						
ASAR	**Alice Springs**	**26.65**	**230**	P	P	18 02 05.8	-0.7
	0.4nm,0.6s,baz=63,slow=8.9,SNR=6.9						
STKA	**Stephens Creek**	**27.75**	**207**	P	P	18 02 16.6	+0.4
	1.1nm,0.7s,baz=34,slow=7.3,SNR=2.9						
URZ	**Urewera**	**36.05**	**151**	LR	LR	18 14 12.9	
	comp=Z,602nm,20.4s,baz=12,slow=30						
SONM	**Songino Array**	**70.34**	**327**	P	P	18 07 42.3	+1.0
	0.5nm,0.6s,baz=143,slow=7.2,SNR=6.6						
MKAR	**Makanchi Array**	**84.49**	**318**	P	P	18 09 00.6	0.0
	0.7nm,0.7s,baz=101,slow=6.3,SNR=5.5						
ZALV	**Zalesovo Beam**	**85.20**	**326**	P	P	18 09 03.0	-0.9
	0.8nm,0.5s,baz=99,slow=6.0,SNR=5.2						

*ISCJB **05** 18:09:34.8±0.6,4379N±004×10523W±007,h0km,Error ellipse: s-maj=6.9km s-min=5.7km az=2.4*
*IDC **05** 18:09:35.1±1.6,4373N×10545W,h0km,mb1 3.6/4, mb1mx3.4/24,mbtmp3.3/4,ML3.3/4,Error ellipse: s-maj=39.5km s-min=8.2km az=149.0*
*NEIC **05** 18:09:36.2±0.4,4380N×10523W,h0km,ML3.2,Error ellipse: s-maj=5.1km s-min=4.3km az=111.0,Suspected Mining explosion.*
NEIC 60 km [40 miles] SSE of Gillette.
ISC 05 18:09:36.2±0.5,4382N±004×10522W±006,h0km,n35, σ0°78/37,Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**0.90**	**70**	eP	**Pg**	**18 09 54.4**	**+0.9**
PHWY	**Pilot Hill**	**2.52**	**184**	eP	**Pn**	**18 10 17.5**	**-0.9**
RWWY	**Rawlins**	**2.58**	**215**	eP	**Pn**	**18 10 19.1**	**-0.2**
LAO	**LASA Array**	**2.96**	**346**	ePn	**Pn**	**18 10 24.4**	**0.0**
RLMT	**Red Lodge**	**3.18**	**296**	ePn	**Pn**	**18 10 26.9**	**-0.5**
BW06	**Boulder Array**	**3.34**	**253**	ePn	**Pn**	**18 10 29.3**	**-0.3**
PDAR	**Pinedale Array**	**3.34**	**253**	Pn	**Pn**	**18 10 29.4**	**-0.3**
	2.7nm,0.3s,baz=76,slow=16,SNR=70						
PDAR				Pg	**Pg**	**18 10 34.3**	**-5.9**
	6.1nm,0.3s,baz=74,slow=17,SNR=58						
PDAR				Lg		18 11 14.5	
	12nm,0.3s,baz=76,slow=31,SNR=13						
GCMT	**Greycliff**	**3.73**	**303**	ePn	**Pn**	**18 10 35.1**	**+0.1**
LOHW	**Long Hollow**	**3.91**	**269**	ePn	**Pn**	**18 10 37.8**	**+0.3**
LOHW				eP		18 10 45.4	
MOOW	**Moose Ponds**	**4.01**	**271**	ePn	**Pn**	**18 10 39.6**	**+0.8**
ISCO	**Idaho Springs**	**4.02**	**184**	ePn	**Pn**	**18 10 39.1**	**0.0**
YNR	**Norris Junctio**	**4.03**	**285**	eP	**Pb**	**18 10 48.8**	**+0.8**
SNOW	**Snow King Moun**	**4.04**	**267**	eP	**Pn**	**18 10 44.8**	**+5.6**
YFT	**Old Faithful**	**4.10**	**281**	ePn	**Pn**	**18 10 42.1**	**+2.1**
REDW	**Red Top Meadow**	**4.12**	**266**	ePn	**Pn**	**18 10 41.7**	**+1.3**
IMW	**Indian Meadow**	**4.14**	**273**	ePn	**Pn**	**18 10 40.7**	**+0.1**
TPAW	**Teton Pass**	**4.18**	**268**	ePn	**Pn**	**18 10 41.4**	**+0.3**
YMR	**Madison River**	**4.22**	**284**	ePn	**Pn**	**18 10 40.7**	**-1.0**
QLMT	**Earthquake Lak**	**4.57**	**285**	eP	**Pb**	**18 10 57.0**	**-0.3**
DGMT	**Dagmar**	**4.71**	**8**	ePn	**Pn**	**18 10 49.9**	**+1.4**
SMCO	**Snowmass**	**4.82**	**197**	Pn	**Pn**	**18 10 50.6**	**+0.7**
SMCO				eP		18 11 02.2	
BOZ	**Bozeman (W)**	**4.92**	**294**	ePn	**Pn**	**18 10 50.8**	**-0.6**
HWUT	**Hardware Ranch**	**5.17**	**247**	ePn	**Pn**	**18 10 54.3**	**-0.5**
	7.4nm,0.5s						
EGMT	**Eagleton**	**5.27**	**325**	ePn	**Pn**	**18 10 55.9**	**-0.2**
	11nm,0.4s						
HRY	**Holter Researc**	**5.50**	**304**	ePn	**Pn**	**18 10 59.3**	**+0.1**
DAU	**Daniels Canyon**	**5.63**	**235**	ePn	**Pn**	**18 11 00.6**	**-0.6**
SPUT	**South Promonto**	**5.90**	**247**	ePn	**Pn**	**18 11 05.3**	**+0.5**
SDCO	**Great Sand Dun**	**6.07**	**182**	ePn	**Pn**	**18 11 07.8**	**+0.7**
	1.8nm,0.6s						
MPU	**Maple Canyon**	**6.11**	**234**	ePn	**Pn**	**18 11 07.1**	**-0.5**
	4.4nm,0.5s						
SRU	**San Rafael**	**6.16**	**222**	ePn	**Pn**	**18 11 07.6**	**-0.8**
	7.3nm,0.6s						
TMUT	**Trail Mountain**	**6.37**	**227**	ePn	**Pn**	**18 11 11.2**	**-0.1**
CHMT	**Chamberlain Mo**	**6.45**	**301**	ePn	**Pn**	**18 11 12.1**	**-0.3**
ULM	**Lac du Bonnet**	**9.06**	**41**	Pn	**Pn**	**18 11 47.1**	**-1.0**
	1.3nm,0.3s,baz=225,slow=14,SNR=11						
ULM				Pg	**Pg**	**18 12 17.9**	**-12**
	0.7nm,0.3s,baz=213,slow=16,SNR=3.2						
ULM				Lg		18 14 21.8	
	0.4nm,0.3s,baz=307,slow=20,SNR=2.9						
NVAR	**Mina Array Bea**	**11.24**	**246**	Pn	**Pn**	**18 12 18.1**	**+0.1**
	0.1nm,0.3s,baz=60,slow=14,SNR=3.7						
YKA	**Yellowknife Ar**	**19.50**	**347**	P	**Pn**	**18 14 03.2**	**-2.5**
	0.1nm,0.3s,baz=163,slow=11,SNR=4.9						

*IDC **05** 18:16:12.6±0.9,2809N×7113E,h0km,mb3.8/9,mb1 3.9/9, mb1mx3.7/22,mbtmp3.8/9,Error ellipse: s-maj=26.4km s-min=21.1km az=53.0*
*ISCJB **05** 18:16:13.4±0.3,2828N±003×7117E±003,h10km, mb3.9/13,Error ellipse: s-maj=4.1km s-min=3.7km az=42.6*
*NEIC **05** 18:16:14.7±0.9,2823N×7114E,h10km,mb4.1/4,Error ellipse: s-maj=16.7km s-min=12.9km az=69.0*
*NDI **05** 18:16:18.3±3.9,2824N×7114E,h10km,ML4.0, mb4.1(NEIC)*
*BJI **05** 18:16:25.7,2915N×7164E,h25km,mB5.2,mb4.2,Ms4.3, Msz4.0*
ISC 05 18:16:14.6±0.3,2820N±003×7113E±003,h10km,n63, σ1°51/83,mb3.9/13,2C-3D,India-Pakistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JASL	**Jaisalmer**	**1.29**	**189**	eP	**Pn**	**18 16 39.2**	**+0.5**
JASL				eS	**Sb**	**18 16 55.2**	**-0.4**
JASL				AML	AML	18 16 58.4	
	comp=Z,2μm,0.3s						
AJM	**Ajmer**	**3.56**	**118**	eP	**Pn**	**18 17 13.7**	**+3.8**
AJM				ex	**Sg**	**18 18 02.3**	**-6.8**
AJM				AML	AML	18 18 09.3	
	comp=N,1μm,0.4s						
AJM				AML	AML	18 18 16.6	
	comp=E,1μm,0.5s						
DRP	**Derazinda**	**3.62**	**347**	⇑P	**Pn**	**18 17 13.6**	**+2.9**
DRP				S	**Sg**	**18 18 09.0**	**-1.8**
SARP	**Sargodha**	**3.94**	**19**	P	**Pn**	**18 17 14.8**	**-0.3**
KHET	**Khetri**	**4.13**	**91**	eP	**Pn**	**18 17 20.2**	**+2.5**
KHET				eS	**Sn**	**18 18 07.5**	**+1.4**
KHET				AML	AML	18 18 27.0	
	comp=N,318nm,0.3s						
KHET				AML	AML	18 18 28.3	
	comp=E,309nm,0.4s						
THW	**Thamme Wali**	**4.61**	**6**	⇑P	**Pn**	**18 17 25.5**	**+1.2**
KUDL	**Kundal**	**4.73**	**89**	eP	**Pn**	**18 17 29.7**	**+3.7**
KUDL				eS	**Sn**	**18 18 20.2**	**-0.6**
KUDL				AML	AML	18 18 46.4	
	comp=E,176nm,0.5s						
KUDL				AML	AML	18 18 46.7	
	comp=N,274nm,0.7s						
BHJ	**Bhuj**	**5.11**	**195**	eP	**Pn**	**18 17 35.6**	**+4.5**
BHJ				ex	**Sn**	**18 18 35.9**	**+5.7**
BHJ				AML	AML	18 18 58.8	
	comp=N,665nm,0.7s						
BHJ				AML	AML	18 18 59.1	
	comp=E,278nm,0.7s						
SONA	**Sohna**	**5.25**	**88**	eP	**Pn**	**18 17 36.7**	**+3.6**
SONA				eS	**Sn**	**18 18 32.1**	**-1.6**
SONA				AML	AML	18 19 07.2	
	comp=E,339nm,0.4s						
SONA				AML	AML	18 19 08.3	
	comp=N,266nm,0.4s						
AYAN	**Aya Nagar**	**5.29**	**86**	eP	**Pn**	**18 17 36.6**	**+2.9**
NDI	**New Delhi**	**5.38**	**83**	eS	**Sn**	**18 18 37.6**	**+0.7**
NDI				AML	AML	18 19 09.7	
	comp=N,235nm,0.3s						
NDI				AML	AML	18 19 11.6	
	comp=E,145nm,0.3s						
BHK	**Bhakra**	**5.60**	**54**	eP	**Pn**	**18 17 40.2**	**+2.3**
BHK				eS	**Sn**	**18 18 39.8**	**-2.4**
CEP	**Cherat**	**5.64**	**7**	⇓P	**Pn**	**18 17 39.9**	**+1.4**
CEP				S	**Sn**	**18 18 45.0**	**+1.7**
CHCP	**Chirah Chowk**	**5.74**	**18**	P	**Pn**	**18 17 40.6**	**+0.8**
THN	**Thein Dam**	**5.78**	**42**	eP	**Pn**	**18 17 41.9**	**+1.4**
THN				ex	**Sg**	**18 19 17.4**	**-2.9**
SMLA	**Simla**	**6.00**	**60**	eP	**Pn**	**18 17 48.2**	**+4.7**
SMLA				eS	**Sn**	**18 18 51.6**	**-0.7**
SMLA				AML	AML	18 19 29.9	
	comp=E,296nm,0.6s						
SMLA				AML	AML	18 19 30.5	
	comp=N,252nm,0.4s						
DLH	**Dalhousie**	**6.01**	**43**	eP	**Pn**	**18 17 47.0**	**+3.4**
DLH				ex	**Sn**	**18 18 53.0**	**+0.6**
SDNR	**Sundarnagar**	**6.04**	**56**	ex	**Pn**	**18 17 44.5**	**+0.5**
SDNR				eS	**Sn**	**18 18 52.0**	**-1.2**
DDI	**Dehra Dun**	**6.41**	**69**	eP	**Pn**	**18 17 51.0**	**+2.0**
DDI				ex	**Sn**	**18 19 19.0**	**+17**
BHV	**Bhavnagar**	**6.49**	**172**	ex	**Sn**	**18 19 16.0**	**+12**
KBL	**Kabul**	**6.56**	**345**	eP	**Pn**	**18 17 53.3**	**+2.2**
	comp=N,47nm,0.7s						
JOSI	**Joshimath**	**7.71**	**70**	eP	**Pn**	**18 18 11.3**	**+4.3**
JOSI				eS	**Sn**	**18 19 33.9**	**-0.6**
LGTI	**Lohaghat**	**8.09**	**79**	eP	**Pn**	**18 18 15.0**	**+2.9**
LGTI				ex	**Sn**	**18 19 49.3**	**+5.6**
AKL	**Akola**	**9.19**	**143**	eP	**Pn**	**18 18 29.8**	**+2.6**
AKL				iS	**Sn**	**18 20 07.7**	**-3.1**
BOM	**Bombay**	**9.39**	**170**	⇓ex	x	18 19 31.1	
BOM				eS	**Sn**	**18 20 12.4**	**-3.3**
JBP	**Jabalpur**	**9.43**	**120**	⇓iP	**Pn**	**18 18 27.4**	**-3.0**
JBP				iS	**Sn**	**18 20 07.2**	**-9.3**
POO	**Poona**	**9.95**	**165**	ex	x	18 20 59.6	
POO				AML	AML	18 21 30.0	
	comp=E,42nm,0.4s						
POO				AML	AML	18 21 30.5	
	comp=N,23nm,0.7s						
KOLN	**Koldanda**	**11.03**	**89**	eP	**Pn**	**18 18 52.3**	**-0.1**
	comp=N,20nm,0.6s						
KOLN				eS	**Sn**	**18 20 52.6**	**-3.3**
GKN	**Gorkha**	**11.93**	**88**	eP	**Pn**	**18 19 02.0**	**-2.7**
	comp=N,11nm,0.4s						
GKN				eS	**Sn**	**18 21 09.2**	**-8.6**
KKN	**Kakani**	**12.51**	**89**	eP	**Pn**	**18 19 10.2**	**-2.5**
	comp=N,12nm,0.4s						
KKN				eS	**Sn**	**18 21 25.0**	**-7.1**
JIRN	**Jiri**	**13.32**	**89**	eP	**Pn**	**18 19 21.1**	**-2.7**
	comp=N,4.9nm,0.2s						
AML	**Almayashu**	**14.05**	**8**	eP	**Pn**	**18 19 32.5**	**-1.2**
	comp=N,15nm,0.6s						
AML	**Almayashu**	**14

URZ Urewera 18.73 160 LR LR 18 27 38.3
comp=Z,181nm,18.8s,baz=288,slow=33
CTA Charters Tower 21.42 268 LR LR 18 29 36.5
comp=Z,116nm,21.4s,MS3.2,baz=90,slow=34
STKA Stephens Creek 26.93 240 P **P 18 23 01.7 +1.3**
STKA LR LR 18 34 11.5
STKA Stephens Creek 26.93 240 P **P 18 23 01.7 +1.3**
1.9nm,0.7s,mb3.7,baz=83,slow=8.1,SNR=4.4
STKA LR LR 18 34 11.5
comp=Z,111nm,18.8s,MS3.5,baz=25,slow=38
WRA Warramunga Arr 32.57 265 P **P 18 23 50.4 0.0**
0.6nm,0.5s,mb3.8,baz=92,slow=8.5,SNR=19
ASAR Alice Springs 32.66 258 P **P 18 23 52.0 +0.8**
1.4nm,0.7s,mb4.0,baz=87,slow=9.3,SNR=21
FITZ Fitzroy Crossi 40.98 266 P **P 18 25 02.3 +0.3**
1.1nm,0.5s,mb3.7,baz=110,slow=8.6,SNR=2.9
GUMO Guam 41.66 323 LR LR 18 41 30.2
comp=Z,55nm,18.1s,MS3.5,baz=129,slow=35
BATI Kupang 44.90 276 LR LR 18 43 23.3
comp=Z,167nm,18.2s,MS4.0,baz=141,slow=35
NWAO Narrogin (SRO) 47.40 244 LR LR 18 47 34.7
comp=Z,146nm,18.0s,MS4.0,baz=85,slow=38
MJAR Matsushiro Arr 64.07 333 P **P 18 27 51.9 -0.7**
2.1nm,0.8s,mb4.2,baz=168,slow=7.8,SNR=5.4
VNA3 Neumayer Olymp 88.20 180 *e* **P 18 30 08.7 -0.5**
VNA3 *e* 18 30 11.0
VNA3 *e* pP 18 30 16.5 -3.9
VNA3 *e* pP 18 30 20.0 -0.4
SONM Songino Array 88.39 323 P **P 18 30 10.5 +0.2**
1.1nm,0.8s,mb4.1,baz=135,slow=5.7,SNR=9.1
VNA2 Neumayer--Watz 88.49 181 *e* **P 18 30 10.7 +0.1**
VNA2 *e* 18 30 12.7
VNA2 *e* 18 30 18.1
VNA2 *e* pP 18 30 22.6 +0.9
NVAR Mina Array Bea 89.92 49 P **P 18 30 17.5 -0.3**
0.3nm,0.5s,mb3.9,baz=226,slow=6.2,SNR=3.3
CLL Collm 144.27 334 *e*PKPdf PKPdf 18 36 56.0 +1.7
comp=Z,7.0nm,1.0s
CLL *e*(pPKPdf) 18 37 04.0
NKC Novy Kostel 145.31 333 *e*PKP PKPdf 18 36 57.0 +0.9
CONA Conrad Observa 145.40 328 P PKPbc 18 36 57.8 +1.5
comp=Z,6.7nm,1.0s
KHC Kasperske Hory 145.64 331 *e*PKP PKPdf 18 36 57.9 +1.2
GERES GERESS Array B 145.79 331 PKPbc PKPbc 18 36 58.1 +0.6
comp=Z,3.6nm,0.7s,baz=31,slow=3.0,SNR=27

ISCJB ***05*** *18:17:28.9±1.5, 1344S±008×7059W±009, h33km±14km, mb4.3/19, MS3.7/4, Error ellipse: s-maj=17.4km s-min=10.1km az=140.4*
IDC ***05*** *18:17:31.4±2.9, 1341S×7055W, h37km±24km, mb3.8/9, mb1 4.1/13, mb1mx3.9/22, mbtmp4.0/13, ML3.3/4, MS3.7/6, Ms1 3.7/6, ms1mx3.2/44, Error ellipse: s-maj=22.8km s-min=15.1km az=53.0*
NEIC ***05*** *18:17:32.2±1.0, 1343S×7067W, h45km±10km, mb4.6/7, Error ellipse: s-maj=13.3km s-min=7.9km az=49.0*
ISC 05 18:17:32.2±1.0, 1344S±008×7062W±009, h43km±11km, n46, σ1§15/34, mb4.3/19, MS3.7/4, Central Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**3.72**	**140**	*eP*		**Pn**		**18 18 29.7**	**+2.5**
LPAZ	**La Paz**	**3.72**	**140**	Pn		**Pn**		**18 18 29.9**	**+2.7**
	9.7nm,0.3s,baz=321,slow=11,SNR=103								
LPAZ					Lg			18 19 25.6	
	135nm,0.3s,baz=25,slow=22,SNR=10								
LPAZ					LR	LR		18 20 16.3	
	comp=Z,332nm,19.3s,baz=178,slow=45								
NNA	**Nana**	**6.24**	**283**	*eP*		**Pn**		**18 19 00.7**	**-1.2**
	45nm,0.8s								
NNA	**Nana**	**6.24**	**283**	Pn		**Pn**		**18 19 00.8**	**-1.1**
	2.7nm,0.3s,baz=124,slow=7.7,SNR=5.8								
SIV	**San Ignacio**	**9.58**	**107**	Pn		**Pn**		**18 19 46.6**	**-1.0**
	5.6nm,0.3s,baz=301,slow=12,SNR=58								
ATAH	**Atahualpa**	**9.97**	**309**	Pn		**Pn**		**18 19 53.6**	**+0.6**
	0.7nm,0.3s,baz=120,slow=20,SNR=4.9								
CFAA	**Coronel Fontan**	**18.21**	**173**	P		**Pn**		**18 21 40.7**	**-1.1**
	0.0nm,0.3s,baz=349,slow=10,SNR=4.5								
ROSC	**El Rosal**	**18.55**	**348**	P		**Pn**		**18 21 46.7**	**+0.8**
	1.2nm,0.3s,baz=144,slow=12,SNR=6.1								
ROSC					LR	LR		18 29 40.5	
	comp=Z,180nm,20.0s,baz=201,slow=39								
BDFB	**Brasilia**	**21.99**	**98**	P		**P**		**18 22 26.1**	**+3.3**
	3.4nm,0.8s,mb3.8,baz=260,slow=16,SNR=5.8								
BDFB					LR	LR		18 31 12.4	
	comp=Z,91nm,20.8s,MS3.2,baz=224,slow=37								
SDV	**Santo Domingo**	**22.18**	**360**	*eP*		**P**		**18 22 23.8**	**-0.9**
	15nm,0.8s,mb4.5								
SDV	**Santo Domingo**	**22.18**	**360**	P		**P**		**18 22 23.8**	**-1.0**
	9.3nm,0.5s,mb4.5,baz=201,slow=11,SNR=11								
SDV					LR	LR		18 31 50.2	
	comp=Z,175nm,18.1s,MS3.5,baz=239,slow=39								
PCRV	**Puerto La Cruz**	**24.20**	**15**	LR		LR		18 32 54.4	
	comp=Z,291nm,18.8s,MS3.8,baz=17,slow=38								
PLCA	**Paso Flores**	**27.19**	**180**	P		**P**		**18 23 11.8**	**+0.1**
	0.9nm,0.5s,mb3.5,baz=8.7,slow=13,SNR=3.3								
TEIG	**Tepich**	**37.69**	**332**	P		**P**		**18 24 43.2**	**-0.5**
	3.8nm,0.5s,mb4.4,baz=158,slow=4.8,SNR=7.2								
CMIG	**Matias Romero**	**38.66**	**321**	P		**P**		**18 24 51.6**	**-0.2**
	1.8nm,0.6s,mb4.0,baz=360,slow=6.0,SNR=4.4								
TXAR	**Lajitas Array**	**53.16**	**323**	P		**P**		**18 26 45.9**	**-0.1**
	0.7nm,0.7s,mb3.7,baz=152,slow=7.6,SNR=11								
USIN	**University of**	**53.57**	**343**	P		**P**		**18 26 52.0**	**+3.1**
	90nm,1.0s,mb5.7								
SDCO	**Great Sand Dun**	**60.53**	**329**	*eP*		**P**		**18 27 38.6**	**+0.5**
	5.8nm,0.9s,mb4.7								
WUAZ	**Wupatki**	**62.11**	**323**	*eP*		**P**		**18 27 48.2**	**-0.7**
	6.9nm,1.0s,mb4.7								
SMCO	**Snowmass**	**62.37**	**329**	P		**P**		**18 27 50.6**	**+0.1**
	3.6nm,0.7s,mb4.6								
RWWY	**Rawlins**	**64.40**	**330**	P		**P**		**18 28 06.5**	**+2.7**
	7.9nm,0.6s,mb4.9								
CCUT	**Cedar City**	**64.67**	**323**	*eP*		**P**		**18 28 07.5**	**+1.7**
ULM	**Lac du Bonnet**	**67.18**	**343**	P		**P**		**18 28 19.2**	**-2.4**
ULM	**Lac du Bonnet**	**67.18**	**343**	P		**P**		**18 28 19.2**	**-2.4**
	0.9nm,0.5s,mb4.1,baz=166,slow=7.5,SNR=2.9								
IMW	**Indian Meadow**	**67.87**	**330**	P		**P**		**18 28 25.6**	**-0.5**
NVAR	**Mina Array Bea**	**68.19**	**321**	P		**P**		**18 28 28.8**	**+0.6**
	0.5nm,0.7s,mb3.6,baz=134,slow=7.7,SNR=2.8								
DBIC	**Dimbokro**	**68.28**	**77**	P		**P**		**18 28 28.9**	**-0.5**
	2.4nm,0.7s,mb4.3,baz=225,slow=7.3,SNR=3.4								
HLID	**Hailey**	**69.39**	**327**	*eP*		**P**		**18 28 36.4**	**+0.8**
	5.5nm,1.0s,mb4.4								
HLID				*e*		pP		18 28 46.3	-2.0
BMO	**Blue Mountains**	**71.79**	**327**	*eP*		**P**		**18 28 50.0**	**-0.2**
	2.7nm,0.7s,mb4.3								
TORD	**Torodi Ar. Bea**	**76.37**	**73**	P		**P**		**18 29 16.8**	**-0.8**
TORD	**Torodi Ar. Bea**	**76.37**	**73**	P		**P**		**18 29 16.8**	**-0.8**
	2.0nm,0.6s,mb4.2,baz=271,slow=4.7,SNR=26								
YKA	**Yellowknife Ar**	**83.08**	**341**	P		**P**		**18 29 51.5**	**-1.4**
YKA	**Yellowknife Ar**	**83.08**	**341**	P		**P**		**18 29 51.5**	**-1.4**
	1.2nm,0.7s,mb4.1,baz=137,slow=5.5,SNR=23								
VNDA	**Vanda**	**84.46**	**190**	P		**P**		**18 30 00.5**	**+0.6**
VNDA	**Vanda**	**84.46**	**190**	P		**P**		**18 30 00.5**	**+0.6**
	0.8nm,0.9s,mb3.9,baz=156,slow=6.4,SNR=3.6								
INK	**Inuvik**	**92.84**	**341**	LR		LR		19 19 10.6	
	comp=Z,139nm,18.3s,MS4.5,baz=328,slow=40								
ZAA0	**Zalesovo Array**	**135.18**	**20**	*eP*		PKPdf		18 36 46.9	0.0
ZALV	**Zalesovo Beam**	**135.18**	**20**	PKP		PKPdf		18 36 47.2	+0.4
	2.0nm,0.7s,baz=296,slow=2.6,SNR=13								
ASAR	**Alice Springs**	**136.01**	**213**	PKP		PKPdf		18 36 49.2	-0.1
	0.4nm,0.5s,baz=121,slow=2.1,SNR=9.1								
WRA	**Warramunga Arr**	**138.72**	**217**	PKP		PKPdf		18 36 54.1	-0.4
	0.7nm,0.6s,baz=148,slow=2.0,SNR=12								
MKAR	**Makanchi Array**	**139.73**	**29**	PKP		PKPdf		18 36 55.1	-0.4
	0.4nm,0.8s,baz=332,slow=4.6,SNR=3.4								
FITZ	**Fitzroy Crossi**	**144.79**	**208**	PKP		PKPdf		18 37 04.7	-0.6
	2.6nm,0.5s,baz=193,slow=2.1,SNR=5.9								
MJAR	**Matsushiro Arr**	**145.42**	**317**	PKPbc		PKPbc		18 37 05.8	-0.1
	7.7nm,1.2s,baz=61,slow=1.0,SNR=12								
MAJO	**Matsushiro**	**145.42**	**317**	*eP*		PKPdf		18 37 05.5	-0.4
SONM	**Songino Array**	**145.62**	**4**	PKPbc		PKPbc		18 37 06.0	-0.2
	0.7nm,0.5s,baz=329,slow=3.0,SNR=12								
KSRS	**Korea Array**	**150.92**	**329**	PKPbc		PKPbc		18 37 20.4	-0.2
	0.7nm,0.7s,baz=41,slow=1.8,SNR=2.7								
KSRS				PKPab		PKPab		18 37 27.8	-0.1
	1.2nm,0.7s,baz=24,slow=2.2,SNR=4.6								

IDC 05 18:24:13.7±8.9, 522S×14997E, h0km, mb3.7/3, mb1 4.0/3, mb1mx3.5/13, mbtmp3.8/3, Error ellipse: s-maj=138.0km s-min=86.4km az=17.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.11**	**225**	P		P		18 29 00.8	+0.7
	0.9nm,0.4s,baz=50,slow=10,SNR=15								
ASAR	**Alice Springs**	**24.00**	**219**	P		P		18 29 30.6	+0.3
	0.8nm,0.3s,baz=51,slow=8.6,SNR=44								
STKA	**Stephens Creek**	**27.66**	**195**	P		P		18 30 02.5	-0.8
	3.6nm,1.1s,baz=22,slow=11,SNR=3.2								

GUC 05 18:29:07.1±0.7, 2849S×7124W, h42km±4km, MD3.4, ML3.6, 1C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
VACH	**Vallenar**	**0.43**	**101**	⇑*iP*		Pn		18 29 17.3	+0.3
VACH				*i* S		Sn		18 29 24.6	+0.6
VACH				AML		AML		18 29 27.3	
	comp=E,5μm,0.1s								
CPCH	**Copiapo**	**1.37**	**35**	⇓*iP*		Pn		18 29 30.9	+1.1
CPCH				*i* S		Sn		18 29 48.6	+1.9
TLL	**Tololo Astrono**	**1.71**	**167**	*eP*		Pn		18 29 35.9	+1.5
TLL				*i* S		Sn		18 29 57.9	+2.8
CMCH	**Combarbala**	**2.68**	**176**	*eP*		Pn		18 29 48.5	+0.7
CMCH				*i* S		Sn		18 30 20.9	+1.9
CMCH				AML		AML		18 30 32.2	
	comp=E,432nm,0.6s								

IDC 05 18:30:54.0±1.2, 817S×15716E, h0km, mb3.6/5, mb1 3.7/6, mb1mx3.6/15, mbtmp3.6/6, ML4.1/1, MS3.1/1, Ms1 3.1/1, ms1mx2.2/18, Error ellipse: s-maj=28.3km s-min=25.3km az=24.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**3.03**	**115**	Pn		Pn		18 31 42.7	-0.4
	25nm,0.3s,baz=60,slow=2.2,SNR=10								
HNR						Sn	Sn	18 32 21.5	+1.3
	45nm,0.3s,baz=268,slow=19,SNR=6.4								
CTA	**Charters Tower**	**15.87**	**221**	LR		LR		18 39 28.6	
	comp=Z,70nm,19.1s,baz=252,slow=32								
WRA	**Warramunga Arr**	**25.00**	**240**	P		P		18 36 19.1	-0.7
	1.3nm,0.8s,baz=66,slow=9.4,SNR=6.5								
ASAR	**Alice Springs**	**27.09**	**233**	P		P		18 36 38.7	0.0
	0.2nm,0.5s,baz=58,slow=9.0,SNR=3.1								
STKA	**Stephens Creek**	**27.68**	**209**	P		P		18 36 44.8	+0.9
	1.6nm,0.8s,baz=23,slow=7.7,SNR=2.9								
SONM	**Songino Array**	**71.48**	**327**	P		P		18 42 17.4	+1.0
	0.3nm,0.9s,baz=120,slow=7.5,SNR=2.8								
MKAR	**Makanchi Array**	**85.70**	**318**	P		P		18 43 34.2	-0.7
	0.8nm,1.1s,baz=92,slow=5.5,SNR=3.2								

IDC ***05*** *18:34:10.3±1.6, 272N×8453W, h0km, mb3.8/7, mb1 4.0/9, mb1mx3.9/22, mbtmp3.9/9, ML3.0/2, MS3.8/16, Ms1 3.8/16, ms1mx3.6/38, Error ellipse: s-maj=43.2km s-min=24.2km az=42.0*
NEIC ***05*** *18:34:11.8±1.2, 272N×8455W, h10km, Error ellipse: s-maj=26.9km s-min=16.5km az=203.0*
ISCJB ***05*** *18:34:17.6±3.5, 29N±02×843W±02, h62km±27km, mb3.6/7, Error ellipse: s-maj=37.4km s-min=15.6km az=40.3*
ISC 05 18:34:20.0±2.8, 29N±02×843W±02, h68km±20km, n23, σ0§84/12, mb3.5/7, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ROSC	**El Rosal**	**10.14**	**78**	Pn		**Pn**		**18 36 43.3**	**+0.4**
	1.0nm,0.3s,baz=282,slow=21,SNR=5.2								
ROSC					LR	LR		18 40 24.2	
	comp=Z,225nm,20.9s,baz=22,slow=36								
TGUH	**Tegucigalpa,Un**	**11.51**	**345**	*eP*		**Pn**		**18 37 01.7**	**+0.2**
	17nm,0.7s								
SDV	**Santo Domingo**	**14.85**	**66**	Pn		**Pn**		**18 37 45.2**	**-1.1**
	0.2nm,0.3s,baz=233,slow=10,SNR=2.6								
SDV					LR	LR		18 43 10.9	
	comp=Z,295nm,19.9s,baz=41,slow=36								
CMIG	**Matias Romero**	**17.55**	**324**	LR		LR		18 43 43.2	
	comp=Z,300nm,20.5s,baz=185,slow=33								
TEIG	**Tepich**	**17.69**	**348**	LR		LR		18 44 26.7	
	comp=Z,565nm,20.8s,baz=134,slow=35								
PCRV	**Puerto La Cruz**	**20.83**	**69**	P		**P**		**18 38 56.7**	**+0.4**
	15nm,0.9s,baz=213,slow=6.0,SNR=3.7								
SJG	**San Juan**	**23.37**	**48**	LR		LR		18 48 09.5	
	comp=Z,120nm,21.8s,baz=96,slow=36								
LPAZ	**La Paz**	**24.85**	**140**	P		**P**		**18 39 36.3**	**0.0**
	2.7nm,1.0s,mb3.6,baz=324,slow=10,SNR=6.0								
TXAR	**Lajitas Array**	**32.12**	**327**	LR		LR		18 53 04.3	
	comp=Z,86nm,20.7s,baz=5.0,slow=35								
LPIG	**La Paz**	**32.82**	**312**	LR		LR		18 51 54.0	
	comp=Z,101nm,21.4s,baz=240,slow=32								
ANMO	**Albuquerque**	**37.99**	**330**	LR		LR		18 57 37.5	
	comp=Z,115nm,19.7s,baz=196,slow=37								
BDFB	**Brasilia**	**40.33**	**118**	LR		LR		18 58 19.3	
	comp=Z,87nm,19.1s,baz=269,slow=36								
PLCA	**Paso Flores**	**45.17**	**165**	LR		LR		18 56 25.4	
	comp=Z,130nm,19.2s,baz=359,slow=30								
PDAR	**Pinedale Array**	**45.68**	**334**	P		**P**		**18 42 33.5**	**-0.6**
	0.5nm,0.9s,mb3.2,baz=110,slow=7.8,SNR=3.8								
PDAR					LR	LR		19 02 23.8	
	comp=Z,232nm,19.5s,baz=328,slow=37								
ULM	**Lac du Bonnet**	**48.23**	**350**	P		**P**		**18 42 54.4**	**+0.6**
	3.0nm,1.0s,mb4.1,baz=180,slow=7.1,SNR=2.6								
ULM					LR	LR		19 05 08.2	
	comp=Z,62nm,18.8s,baz=231,slow=38								
SCHQ	**Schefferville**	**53.73**	**12**	LR		LR		19 06 58.3	
	comp=Z,175nm,18.2s,baz=241,slow=36								
YKA	**Yellowknife Ar**	**63.62**	**345**	P		**P**		**18 44 43.4**	**-0.2**
YKA					LR	LR		19 15 22.6	
YKA	**Yellowknife Ar**	**63.62**	**345**	P		**P**		**18 44 43.4**	**-0.2**
	0.1nm,0.7s,mb2.7,baz=138,slow=7.5,SNR=3.0								
YKA					LR	LR		19 15 22.6	
	comp=Z,66nm,18.1s,baz=170,slow=39								
SFJD	**Kangerlussuaq**	**68.14**	**14**	LR		LR		19 15 38.4	
	comp=Z,184nm,18.8s,baz=162,slow=36								
ESDC	**Sonseca Array**	**80.74**	**50**	P		**P**		**18 46 28.7**	**+2.4**
	0.1nm,0.3s,mb3.1,baz=282,slow=6.4,SNR=3.6								
EKA	**Eskdalemuir Ar**	**82.61**	**35**	P		**P**		**18 46 35.1**	**-0.7**
	1.5nm,0.9s,mb3.8,baz=228,slow=8.4,SNR=3.5								
TORD	**Torodi Ar. Bea**	**85.46**	**77**	P		**P**		**18 46 50.3**	**-0.8**
	0.5nm,0.6s,mb3.6,baz=248,slow=6.2,SNR=4.2								
VNDA	**Vanda**	**97.83**	**192**	LR		LR		19 27 48.9	
	comp=Z,116nm,18.5s,baz=139,slow=33								

NEIC ***05*** *18:45:36.8±0.6, 2073S×16859E, h10km, mb4.4/1, Error ellipse: s-maj=16.0km s-min=14.3km az=180.0*
ISCJB ***05*** *18:45:38.3±0.7, 2079S±0.10×16855E±009, h33km, mb4.1/8, MS3.3/2, Error ellipse: s-maj=14.9km s-min=10.3km az=151.9*
SZGRF ***05*** *18:45:38.7, 2189S×16850E, h35km, Loyalty Islands*
IDC ***05*** *18:45:40.5±0.7, 2084S×16847E, h34km±4km, mb4.0/8, mb1 4.2/8, mb1mx4.1/14, mbtmp4.0/8, ML5.7/1, MS3.5/2, Ms1 3.4/2, ms1mx2.9/28, Error ellipse: s-maj=19.7km s-min=18.0km az=147.0*
ISC 05 18:45:40.3±0.7, 2082S±010×16855E±009, h35km, h35km±7km: pP-P, n54, σ1§04/19, mb4.1/8, MS3.3/2, 4C, Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**2.32**	**237**	*eP*		**Pn**		**18 46 13.7**	**-2.3**
DZM				*eS*		**Sn**		**18 46 44.2**	**+0.8**
URZ	**Urewera**	**18.89**	**159**	P		**Pn**		**18 49 59.5**	**+0.9**
	24nm,0.3s,baz=291,slow=6.9,SNR=136								
URZ					pP	pP		18 50 05.8	-1.2
	22nm,0.3s,baz=344,slow=11,SNR=13								
CTA	**Charters Tower**	**20.90**	**268**	P		**P**		**18 50 22.0**	**+2.2**
CTA					LR	LR		18 57 16.2	
CTA	**Charters Tower**	**20.90**	**268**	P		**P**		**18 50 22.0**	**+2.2**
	4.5nm,0.7s,baz=68,slow=11,SNR=4.5								
CTA					LR	LR		18 57 16.2	
	comp=Z,115nm,19.6s,MS3.3,baz=306,slow=33								
CTAO	**Charters Tower**	**20.90**	**268**	*eP*		**P**		**18 50 21.2**	**+1.4**
	20nm,1.1s								
STKA	**Stephens Creek**	**26.47**	**240**	P		**P**		**18 51 15.2**	**+1.0**
STKA					LR	LR		19 01 00.2	
STKA	**Stephens Creek**	**26.47**	**240**	P		**P**		**18 51 15.2**	**+1.0**
	3.1nm,0.8s,mb3.9,baz=64,slow=10,SNR=6.2								
STKA					LR	LR		19 01 00.2	
	comp=Z,103nm,19.6s,MS3.4,baz=24,slow=35								
WRA	**Warramunga Arr**	**32.04**	**265**	P		**P**		**18 52 02.2**	**-1.6**
	0.7nm,0.5s,mb3.7,baz=97,slow=8.4,SNR=11								
WRA					pP	pP		18 52 12.5	-1.6
	1.4nm,0.7s,baz=86,slow=6.8,SNR=7.2								

ASAR Alice Springs 32.14 258 P **P 18 52 04.2 -0.5**
9.9nm,0.7s,mb4.7,baz=84,slow=9.2,SNR=142
ASAR pP pP 18 52 14.2 -0.7
9.2nm,0.6s,baz=85,slow=9.3,SNR=22
FITZ Fitzroy Crossi 40.46 266 P **P 18 53 15.7 -0.1**
3.0nm,0.7s,mb4.1,baz=114,slow=3.3,SNR=3.9
FITZ pP pP 18 53 25.9 -0.3
3.7nm,0.7s,baz=155,slow=9.6,SNR=4.4
VNDA Vanda 56.84 182 P **P 18 55 20.4 -0.5**
0.9nm,0.8s,mb3.8,baz=359,slow=5.3,SNR=4.1
MJAR Matsushiro Arr 63.84 333 P **P 18 56 08.8 -0.3**
MJAR pP pP 18 56 19.2 -0.9
MJAR Matsushiro Arr 63.84 333 P **P 18 56 08.8 -0.3**
0.3nm,0.3s,mb3.8,baz=164,slow=9.1,SNR=4.2
MJAR pP pP 18 56 19.2 -0.9
0.9nm,0.6s,baz=166,slow=7.7,SNR=3.2
SONM Songino Array 88.09 323 P **P 18 58 28.0 +1.0**
1.5nm,0.8s,mb4.3,baz=144,slow=5.4,SNR=14
SONM pP pP 18 58 38.3 +0.1
1.4nm,0.8s,baz=151,slow=5.0,SNR=8.7
VNA3 Neumayer Olymp 88.18 181 *e* **P 18 58 26.6 -0.6**
VNA3 *e* 18 58 28.3
VNA2 Neumayer--Watz 88.46 181 *e* **P 18 58 28.2 -0.4**
baz=182,slow=4.0
VNA2 *e* 18 58 30.0
NVAR Mina Array Bea 90.33 49 P **P 18 58 38.2 +0.4**
NVAR pP pP 18 58 48.5 -0.6
NVAR Mina Array Bea 90.33 49 P **P 18 58 38.2 +0.4**
1.2nm,0.8s,mb4.3,baz=216,slow=6.0,SNR=4.6
NVAR pP pP 18 58 48.5 -0.6
1.1nm,0.7s,baz=216,slow=5.6,SNR=2.8
AKASG Malin Array Be 136.37 323 PKP PKPdf 19 04 57.9 -0.2
0.4nm,0.4s,baz=62,slow=2.1,SNR=3.3
TANN Tannenbergstha 144.95 333 *e*PKPbc PKPdf 19 05 13.8 +0.2
EKA Eskdalemuir Ar 144.97 352 PKP PKPdf 19 05 11.5 -1.9
2.4nm,1.0s,baz=264,slow=1.7,SNR=3.7
EKA pPKP pPKPdf 19 05 22.9 -2.1
1.8nm,0.9s,baz=343,slow=1.7,SNR=3.3
WERD Werda 144.99 333 *e*PKPbc PKPdf 19 05 13.9 +0.3
WERD *e*pPKPbc 19 05 24.4
GUNZ Gunzen 145.04 333 *e*PKPbc PKPbc 19 05 14.4 +1.3
GUNZ *e*pPKPbc 19 05 24.7
WERN Wernitzgruen 145.08 333 *e*PKPbc PKPbc 19 05 14.4 +1.1
NKC Novy Kostel 145.09 333 *e*PKP PKPdf 19 05 14.2 +0.4
NKC *e*x x 19 05 24.9
MOX Moxa 145.13 334 *e*PKPbc PKPbc 19 05 14.1 +0.7
MOX *e*pPKPbc pPKPbc 19 05 24.9 0.0
CONA Conrad Observa 145.13 327 ⇑*i*pPKPbc pPKPbc 19 05 15.1 -10
6.1nm,0.9s
KHC Kasperske Hory 145.40 331 *e*PKP PKPdf 19 05 15.1 +0.7
KHC *e*x x 19 05 26.0
MANZ Manzenberg 145.42 333 *e*PKPbc PKPbc 19 05 15.4 +1.0
MANZ *e*pPKPbc pPKPbc 19 05 25.8 0.0
ROTZ Rotzenmuhle 145.54 333 *e*PKPbc PKPbc 19 05 15.8 +1.0
ROTZ *e*pPKPbc pPKPbc 19 05 26.1 -0.1
GEC2 GERESS Array S 145.55 330 *e*PKPbc PKPbc 19 05 15.6 +0.8
GEC2 *e*pPKPbc pPKPbc 19 05 26.1 -0.2
GERES GERESS Array B 145.55 330 PKPbc PKPbc 19 05 15.4 +0.6
3.8nm,0.9s,baz=29,slow=3.0,SNR=25
GERES pPKPbc pPKPbc 19 05 26.4 +0.1
3.7nm,0.8s,baz=56,slow=3.4,SNR=13
GRA1 Grafenberg Arr 146.02 333 *e*PKPbc PKPbc 19 05 17.2 +1.0
GRF Grafenberg Arr 146.02 333 *e*PKPbc PKPbc 19 05 17.2 +1.0
MOTA Moosalm 147.84 331 ⇑*iP* PKPbc 19 05 21.9 +0.4
comp=Z,5.7nm,1.0s
MOTA Moosalm 147.84 331 ⇑*i*pPKPdf PKPbc 19 05 21.9 +0.4
5.7nm,1.0s
WLF Walferdange 147.99 338 *e*PKPbc PKPbc 19 05 23.0 +1.2
GIVF Givet 148.06 340 *e*PKP1 PKPbc 19 05 21.9 -0.1
FETA Feichten 148.25 331 ⇑*i*pPKPdf pPKPdf 19 05 23.0 -7.8
4.6nm,0.8s
BFO Black Forest 148.27 335 *e*PKPbc PKPbc 19 05 22.9 +0.3
BAIF Baives 148.29 341 *e*PKP1 PKPbc 19 05 22.5 -0.1
CDF Champ du Feu 148.62 336 *e*PKP1 PKPbc 19 05 23.4 -0.1
8.2nm,0.8s
DAVOX Davos/Dischmat 148.82 331 PKPbc PKPbc 19 05 24.6 +0.6
7.2nm,0.8s,baz=102,slow=1.0,SNR=7.1
DAVOX pPKPbc pPKPbc 19 05 35.7 +0.1
6.0nm,0.8s,baz=59,slow=6.0,SNR=5.4
HINF Hinteralfeld 149.27 336 *e*PKP1 PKPbc 19 05 24.7 -0.5
2.9nm,0.6s
HAU Haudompre 149.31 336 *e*PKP1 PKPbc 19 05 25.1 -0.2
5.7nm,0.6s
MEZF Maizieres J'vi 149.36 338 *e*PKP1 PKPbc 19 05 25.8 +0.4
CABF La Chapelle 150.56 335 *e*PKP1 PKPbc 19 05 28.7 +0.3
7.8nm,0.8s
LOR Lormes 150.83 338 *e*PKP1 PKPbc 19 05 28.7 -0.3
4.8nm,0.8s
SSF Saint Saulge 151.13 339 *e*PKP1 PKPbc 19 05 29.5 -0.2
3.2nm,0.6s
LPL La Plagne 151.18 333 *e*PKP1 PKPbc 19 05 30.1 +0.3
9.9nm,1.0s
LPG La Plagne 151.19 333 *e*PKP1 PKPbc 19 05 30.3 +0.4
4.7nm,0.6s
AVF Avril sur Loir 151.42 338 *e*PKP1 PKPbc 19 05 30.6 +0.2
6.8nm,1.1s
ORIF Oris-en-Rattie 152.02 333 *e*PKP1 PKPbc 19

comp=Z,122nm,21.5s,MS3.9,baz=310,slow=34
YKA Yellowknife Ar 63.18 344 P **P 19 08 01.8 -0.5**
0.3nm,0.7s,mb3.6,baz=140,slow=6.8,SNR=5.9
YKA LR LR 19 36 31.9
comp=Z,59nm,19.0s,MS3.8,baz=155,slow=37
INK Inuvik 72.81 343 LR LR 19 42 23.8
comp=Z,108nm,18.2s,MS4.2,baz=72,slow=37
NOA NORSAR Array B 89.33 29 LR LR 19 48 07.1
comp=Z,292nm,19.7s,MS4.7,baz=325,slow=34
VNDA Vanda 98.58 192 LR LR 19 49 39.9
comp=Z,110nm,20.2s,MS4.3,baz=23,slow=32
MKAR Makanchi Array 128.41 12 PKP PKPdf 19 16 38.6 -3.0
0.2nm,0.2s,baz=357,slow=2.9,SNR=3.2
ASAR Alice Springs 138.57 238 PKhKP 19 16 50.2
0.4nm,0.9s,baz=108,slow=2.2,SNR=2.6
ASAR PKP PKPdf 19 16 54.5 -6.9
1.3nm,1.0s,baz=132,slow=2.3,SNR=6.9
WRA Warramunga Arr 139.52 243 PKhKP 19 16 50.3
0.3nm,0.7s,baz=100,slow=1.9,SNR=3.9
WRA PKP PKPdf 19 16 56.5 -6.6
1.8nm,1.1s,baz=102,slow=2.0,SNR=5.1

IDC 05 19:01:29.4±2.9,2284N×1158W,h0km,mb3.8/5, mb1 3.9/6,mb1mx3.5/23,mbtmp3.8/6,ML3.3/2,Error ellipse: s-maj=100.8km s-min=28.3km az=84.0, Mauritania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TORD	**Torodi Ar. Bea**	**15.87**	**125**	Pn	Pn	19 05 14.2	-0.1
	0.1nm,0.3s,baz=314,slow=12,SNR=3.4						
DBIC	**Dimbokro**	**17.33**	**157**	P	Pn	19 05 31.8	-1.1
	0.2nm,0.3s,baz=315,slow=11,SNR=2.7						
GERES	**GERESS Array B**	**32.77**	**31**	P	P	19 08 04.4	+0.3
	0.6nm,0.6s,baz=224,slow=7.8,SNR=5.7						
HFS	**Hagfors**	**41.27**	**19**	P	P	19 09 15.2	-0.9
	3.8nm,0.9s,baz=181,slow=13,SNR=4.7						
FINES	**FINESS Array B**	**46.42**	**24**	P	P	19 09 57.0	-0.5
	1.7nm,0.8s,baz=226,slow=7.7,SNR=4.7						
MKAR	**Makanchi Array**	**76.25**	**45**	P	P	19 13 20.4	+0.5
	0.4nm,0.5s,baz=290,slow=5.3,SNR=5.9						
SONM	**Songino Array**	**90.36**	**37**	P	P	19 14 33.6	+1.0
	0.2nm,0.6s,baz=292,slow=2.9,SNR=2.7						
WRA	**Warramunga Arr**	**148.17**	**91**	PKPbc	PKPbc	19 21 17.4	-0.6
	0.4nm,0.7s,baz=289,slow=2.8,SNR=7.1						
ASAR	**Alice Springs**	**148.32**	**98**	PKPbc	PKPbc	19 21 17.9	-0.4
	0.6nm,0.7s,baz=297,slow=2.4,SNR=7.4						

*ISCJB **05** 19:03:24.5±0.6,3731N×004×2457W×005,h10km,mb3.6/4, Error ellipse: s-maj=7.5km s-min=4.2km az=38.2*
*IDC **05** 19:03:25.5±1.3,3732N×2470W,h0km,mb3.5/3,mb1 3.7/3, mb1mx3.4/22,mbtmp3.5/3,Error ellipse: s-maj=48.0km s-min=30.8km az=19.0*
*CSEM **05** 19:03:26.5±0.9,3723N×2449W,h5km,ML3.5,Error ellipse: s-maj=4.6km s-min=2.7km az=69.0,After PDA*
*PDA **05** 19:03:26.5±0.9,3723N×2449W,h5km,MD3.4,ML3.5, Error ellipse: s-maj=4.6km s-min=2.7km az=69.0*
*SVSA **05** 19:03:26.5±0.9,3723N×2449W,h5km,MD3.4,ML3.5, Error ellipse: s-maj=4.6km s-min=2.7km az=69.0*
ISC 05 19:03:25.5±0.6,3732N±004×2463W±005,h10km,n45, σ1°31/77,mb3.6/4,Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSMN	**Pico do Norte,**	**0.47**	**228**	*i* P	**Pg**	**19 03 35.4**	**+0.7**
PSMN				*e*S	**Sg**	**19 03 42.0**	**+1.2**
PSMN	**Pico do Norte,**	**0.47**	**228**	*e*S	**Sg**	**19 03 42.0**	**+1.2**
MIRA	**Miradouro**	**0.69**	**312**	*e*P	**Pg**	**19 03 39.8**	**+0.9**
MIRA				*e*S	**Sg**	**19 03 50.3**	**+2.3**
FRA1	**Furnas**	**0.71**	**307**	*e*P	**Pg**	**19 03 40.3**	**+1.0**
PCNG	**Congro**	**0.75**	**307**	*e*P	**Pg**	**19 03 40.7**	**+0.6**
PCNG				*e*S	**Sg**	**19 03 52.0**	**+2.1**
PCNG				A		19 04 00.9	
	258nm,0.4s						
PCNG	**Congro**	**0.75**	**307**	*e*P	**Pg**	**19 03 40.7**	**+0.6**
PCNG				*e*S	**Sg**	**19 03 52.0**	**+2.1**
PFAD	**Fenais da Ajud**	**0.75**	**314**	*e*P	**Pg**	**19 03 40.8**	**+0.7**
PFAD				*e*S	**Sg**	**19 03 52.1**	**+2.1**
VIF	**Vila Franca**	**0.77**	**304**	*e*P	**Pg**	**19 03 41.3**	**+0.9**
VIF				*e*S	**Sg**	**19 03 52.0**	**+1.6**
VIF				A		19 03 55.6	
	237nm,0.3s						
VIF	**Vila Franca**	**0.77**	**304**	*e*P	**Pg**	**19 03 41.3**	**+0.9**
VIF				*e*S	**Sg**	**19 03 52.0**	**+1.6**
PRCH	**Ribeira Ch**	**0.79**	**301**	*e*P	**Pg**	**19 03 41.1**	**+0.4**
PRCH				*e*S	**Sg**	**19 03 52.2**	**+1.2**
PRCH				A		19 03 57.4	
	987nm,0.5s						
PRCH	**Ribeira Ch**	**0.79**	**301**	*e*P	**Pg**	**19 03 41.1**	**+0.4**
PRCH				*e*S	**Sg**	**19 03 52.2**	**+1.2**
MESC	**Monte Escuro**	**0.80**	**306**	*e*P	**Pg**	**19 03 41.4**	**+0.4**
MESC				*e*S	**Sg**	**19 03 52.8**	**+1.4**
LFA	**Lagoa do Fogo**	**0.81**	**304**	*e*P	**Pg**	**19 03 41.6**	**+0.4**
PMAT	**Coroa da Mata**	**0.83**	**307**	*e*P	**Pg**	**19 03 42.0**	**+0.5**
PMAT				*e*S	**Sg**	**19 03 53.8**	**+1.4**
PMAT				A		19 03 57.3	
	227nm,0.2s						
PMAT	**Coroa da Mata**	**0.83**	**307**	*e*P	**Pg**	**19 03 42.0**	**+0.5**
PMAT				*e*S	**Sg**	**19 03 53.8**	**+1.4**
PVER	**Pico Vermelho**	**0.85**	**305**	*e*P	**Pg**	**19 03 42.1**	**+0.2**
PVER				*e*S	**Sg**	**19 03 53.6**	**+0.7**
PVER				A		19 03 57.5	
	257nm,0.4s						
PVER	**Pico Vermelho**	**0.85**	**305**	*e*P	**Pg**	**19 03 42.1**	**+0.2**
PVER				*e*S	**Sg**	**19 03 53.6**	**+0.7**
CML	**Cha da Macela**	**0.85**	**302**	*e*P	**Pg**	**19 03 42.1**	**+0.1**
CML				*e*S	**Sg**	**19 03 53.5**	**+0.4**
PDA	**Ponta Delgada**	**0.92**	**298**	*e*S	**Sg**	**19 03 53.8**	**-1.5**
FAC	**Faja de Cima**	**0.93**	**300**	*e*P	**Pg**	**19 03 43.5**	**+0.1**
FAC				*e*S	**Sg**	**19 03 56.1**	**+0.7**
PSET	**Sete Cidades**	**1.00**	**301**	*e*P	**Pg**	**19 03 44.5**	**-0.3**
PSET				*e*S	**Sg**	**19 03 57.4**	**-0.4**
PSET				A		19 04 03.8	
	568nm,0.3s						
PSET	**Sete Cidades**	**1.00**	**301**	*e*P	**Pg**	**19 03 44.5**	**-0.3**
PSET				*e*S	**Sg**	**19 03 57.4**	**-0.4**
PSAN	**Santo Antonio**	**1.02**	**302**	*e*P	**Pg**	**19 03 44.7**	**-0.4**
PSAN				*e*S	**Sg**	**19 03 58.2**	**-0.1**
PFET	**Feteiras**	**1.04**	**299**	*e*P	**Pg**	**19 03 44.8**	**-0.8**
SET2	**Ginetes**	**1.07**	**300**	*e*P	**Pb**	**19 03 45.5**	**-0.6**
SET2				*e*S	**Sg**	**19 03 59.2**	**-0.8**
SET4	**Mosteiros**	**1.08**	**301**	*e*P	**Pb**	**19 03 45.6**	**-0.7**
PFAV	**Pico das Favas**	**2.38**	**306**	*e*P	**Pn**	**19 04 03.6**	**-1.0**
PFAV				*e*S	**Sn**	**19 04 31.2**	**-2.7**
PFAV				A		19 04 35.5	
	91nm,0.4s						
PFAV	**Pico das Favas**	**2.38**	**306**	*e*P	**Pn**	**19 04 03.6**	**-1.0**
PFAV				*e*S	**Sn**	**19 04 31.2**	**-2.7**
PSCM	**Serra do Cume**	**2.40**	**306**	*e*P	**Pn**	**19 04 03.8**	**-1.0**
PSCM				*e*S	**Sn**	**19 04 32.1**	**-2.2**
RIB2	**Ribeirinha**	**2.42**	**305**	*e*P	**Pn**	**19 04 03.9**	**-1.2**
RIB2				*e*S	**Sn**	**19 04 32.4**	**-2.4**
RIB2				A		19 04 34.2	
	128nm,0.2s						
RIB2	**Ribeirinha**	**2.42**	**305**	*e*P	**Pn**	**19 04 03.9**	**-1.2**
RIB2				*e*S	**Sn**	**19 04 32.4**	**-2.4**
ADH	**Angra Heroismo**	**2.45**	**304**	*e*P	**Pn**	**19 04 04.7**	**-0.9**
ADH				*e*S	**Sn**	**19 04 32.7**	**-2.8**
PVNV	**Vila Nova**	**2.46**	**307**	*e*P	**Pn**	**19 04 04.8**	**-0.9**
PVNV				*e*S	**Sn**	**19 04 33.5**	**-2.2**
PVNV				A		19 04 36.3	
	55nm,0.3s						
PVNV	**Vila Nova**	**2.46**	**307**	*e*P	**Pn**	**19 04 04.8**	**-0.9**
PVNV				*e*S	**Sn**	**19 04 33.5**	**-2.2**
PPAD	**Pico dos Padre**	**2.51**	**304**	*e*S	**Sn**	**19 04 34.6**	**-2.4**
PPAD				A		19 04 37.6	
	79nm,0.4s						
PBIS	**Biscoitos**	**2.52**	**306**	*e*S	**Sn**	**19 04 34.9**	**-2.4**
PBIS				A		19 04 40.2	
	20nm,0.2s						
ASBA	**Santa Barbara**	**2.54**	**304**	*e*P	**Pn**	**19 04 05.9**	**-1.0**
ASBA				*e*S	**Sn**	**19 04 35.5**	**-2.4**
ASBA				A		19 04 38.1	
	53nm,0.3s						
ASBA	**Santa Barbara**	**2.54**	**304**	*e*P	**Pn**	**19 04 05.9**	**-1.0**
ASBA				*e*S	**Sn**	**19 04 35.5**	**-2.4**
PMAR	**Madeira**	**7.82**	**124**	*e*Pn	**Pn**	**19 05 17.8**	**-1.5**
PMAR				*e*Sn	**Sn**	**19 06 35.0**	**-13**
PMAR				A		19 06 44.2	
	29nm,0.2s						
PMAR				*e*T		19 12 44.6	
PMPS	**Porto Santo**	**8.01**	**120**	*e*Sn	**Sn**	**19 06 39.0**	**-14**
PMPS				*e*T		19 13 07.8	
TORD	**Torodi Ar. Bea**	**33.65**	**129**	P	**P**	**19 10 08.3**	**+1.8**
	1.3nm,0.9s,mb3.9,baz=322,slow=8.4,SNR=5.3						
TXAR	**Lajitas Array**	**64.75**	**289**	P	**P**	**19 14 05.6**	**+1.4**
	0.7nm,0.7s,mb3.8,baz=75,slow=7.0,SNR=8.9						
MKAR	**Makanchi Array**	**73.79**	**43**	P	**P**	**19 15 01.6**	**+1.7**
	0.1nm,0.2s,mb3.3,baz=344,slow=4.7,SNR=2.9						
SONM	**Songino Array**	**84.64**	**31**	P	**P**	**19 16 01.5**	**+2.3**
	0.2nm,0.7s,mb3.4,baz=337,slow=3.3,SNR=3.0						

*IDC **05** 19:08:49.4±1.3,3731N×2460W,h0km,mb3.5/5,mb1 3.7/6, mb1mx3.5/24,mbtmp3.5/6,ML3.8/1,MS4.1/1,Ms1 4.1/1, ms1mx2.8/38,Error ellipse: s-maj=38.3km s-min=26.5km az=177.0*
*NEIC **05** 19:08:50.8±1.3,3718N×2489W,h10km,mb4.1/4,Error ellipse: s-maj=29.8km s-min=20.4km az=160.0*
*ISCJB **05** 19:08:50.5±1.5,372N±0.1×2490W±006,h24km±9km, mb3.6/8,Error ellipse: s-maj=17.5km s-min=6.3km az=17.4*
*SVSA **05** 19:08:51.5±0.7,3732N×2458W,h0km,MD4.1,ML3.8, Error ellipse: s-maj=15.3km s-min=4.5km az=40.0*
*CSEM **05** 19:08:51.7±0.2,3734N×2492W,h20km,ML3.8,Error ellipse: s-maj=7.6km s-min=1.8km az=8.0*
*PDA **05** 19:08:51.5±0.7,3732N×2458W,h0km,MD4.1,ML3.8, Error ellipse: s-maj=15.3km s-min=4.5km az=40.0*
ISC 05 19:08:50.3±1.3,3718N±009×2489W±005,h13km±7km,n35, σ1°29/42,mb3.6/8,13C,Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDA	**Ponta Delgada**	**0.83**	**313**	*e*P	**Pg**	**19 09 05.6**	**-0.9**
PDA				*e*S	**Sg**	**19 09 17.4**	**0.0**
PSET	**Sete Cidades**	**0.92**	**314**	*e*P	**Pg**	**19 09 07.9**	**-0.2**
PSET				*e*S	**Sg**	**19 09 20.8**	**+0.7**
PSET				A		19 09 26.9	
	569nm,0.5s						
PSET	**Sete Cidades**	**0.92**	**314**	*e*P	**Pg**	**19 09 07.9**	**-0.2**
PSET				*e*S	**Sg**	**19 09 20.8**	**+0.7**
PSCM	**Serra do Cume**	**2.32**	**311**	*e*P	**Pn**	**19 09 27.5**	**-0.8**
PSCM				*e*S	**Sn**	**19 09 55.0**	**-1.7**
PSCM				A		19 09 59.0	
	182nm,0.2s						
PSCM	**Serra do Cume**	**2.32**	**311**	*e*P	**Pn**	**19 09 27.5**	**-0.8**
PSCM				*e*S	**Sn**	**19 09 55.0**	**-1.7**
ADH	**Angra Heroismo**	**2.37**	**309**	*e*P	**Pn**	**19 09 28.6**	**-0.3**
ADH				*e*S	**Sn**	**19 09 56.5**	**-1.2**
PID	**Ribeirinha**	**2.85**	**297**	*e*P	**Pn**	**19 09 36.0**	**+0.5**
PMAN	**Manadas**	**2.91**	**301**	*e*P	**Pn**	**19 09 36.6**	**+0.2**
ROSA	**Rosais**	**3.06**	**301**	*e*P	**Pn**	**19 09 38.9**	**+0.5**
PICO	**Pico**	**3.09**	**296**	*e*P	**Pn**	**19 09 39.2**	**+0.4**
PICO				*e*S	**Sn**	**19 10 15.4**	**-0.3**
HOR	**Horta**	**3.25**	**295**	*e*P	**Pn**	**19 09 41.8**	**+0.8**
CALA	**Caldeira**	**3.32**	**296**	*e*P	**Pn**	**19 09 42.5**	**+0.5**
PMAR	**Madeira**	**7.92**	**122**	*e*Pn	**Pn**	**19 10 42.8**	**-2.3**
PMAR				*e*Sn	**Sn**	**19 12 01.8**	**-13**
PMPS	**Porto Santo**	**8.13**	**118**	*e*Pn	**Pn**	**19 10 43.8**	**-4.3**
EVO	**Evora**	**13.41**	**79**	*e*Sn	Sx	19 14 06.2	
	8.7nm,0.6s						
ESDC	**Sonseca Array**	**16.59**	**75**	Pn	**Pn**	**19 12 39.9**	**-2.6**
	0.1nm,0.3s,baz=265,slow=11,SNR=3.1						
MFF	**Saint Martin d**	**20.61**	**55⇑**	*i*P	**P**	**19 13 31.5**	**+2.3**
LFF	**La Frestale**	**20.76**	**60⇑**	*i*P	**P**	**19 13 29.8**	**-1.0**
	65nm,1.4s						
LFF	**La Frestale**	**20.76**	**60⇑**	*i*P	**P**	**19 13 29.8**	**-1.0**
	32nm,1.4s						
GRR	**Gorron**	**20.80**	**50⇑**	*i*P	**P**	**19 13 29.4**	**-1.8**
	40nm,1.2s						
GRR	**Gorron**	**20.80**	**50⇑**	*i*P	**P**	**19 13 29.4**	**-1.8**
	20nm,1.2s						
RJF	**Les Rejaudoux**	**21.38**	**59⇑**	*i*P	**P**	**19 13 39.1**	**+1.6**
MTLF	**Montolieu**	**21.53**	**65⇑**	*i*P	**P**	**19 13 41.4**	**+2.3**
	14nm,1.1s,mb4.0						
MTLF	**Montolieu**	**21.53**	**65⇑**	*i*P	**P**	**19 13 41.4**	**+2.3**
	6.9nm,1.1s,mb4.0						
TCF	**Toulx Ste Croi**	**22.09**	**57⇑**	*i*P	**P**	**19 13 47.2**	**+2.1**
	12nm,1.1s,mb3.9						
TCF	**Toulx Ste Croi**	**22.09**	**57⇑**	*i*P	**P**	**19 13 47.2**	**+2.1**
	6.1nm,1.1s,mb3.9						
SSF	**Saint Saulge**	**23.15**	**56⇑**	*i*P	**P**	**19 13 57.1**	**+0.8**
EKA	**Eskdalemuir Ar**	**23.39**	**32**	P	**P**	**19 13 57.1**	**-1.7**
	0.6nm,0.7s,mb3.1,baz=230,slow=7.5,SNR=3.8						
LOR	**Lormes**	**23.43**	**55⇑**	*i*P	**P**	**19 14 00.1**	**+0.8**
ORIF	**Oris-en-Rattie**	**24.35**	**62⇑**	*i*P	**P**	**19 14 10.0**	**+2.2**
TORD	**Torodi Ar. Bea**	**33.72**	**128**	P	**P**	**19 15 31.6**	**0.0**
	0.6nm,0.8s,mb3.6,baz=322,slow=7.8,SNR=3.9						
AKASG	**Malin Array Be**	**40.35**	**53**	P	**P**	**19 16 25.6**	**-1.9**
	0.1nm,0.3s,mb3.0,baz=274,slow=7.4,SNR=4.3						
TXAR	**Lajitas Array**	**64.59**	**289**	P	**P**	**19 19 29.9**	**+2.3**
	1.3nm,0.8s,mb4.0,baz=75,slow=7.2,SNR=11						
MKAR	**Makanchi Array**	**74.03**	**43**	P	**P**	**19 20 26.0**	**+0.3**
	0.1nm,0.3s,mb3.2,baz=320,slow=6.4,SNR=2.7						
SONM	**Songino Array**	**84.86**	**31**	P	**P**	**19 21 25.2**	**+0.6**
	0.5nm,0.9s,mb3.6,baz=288,slow=4.5,SNR=4.3						

*ISCJB **05** 19:11:45.6±0.4,3716N±005×2474W±003,h10km, mb4.1/32,MS3.5/5,Error ellipse: s-maj=7.2km s-min=2.3km az=22.6*
*IDC **05** 19:11:46.6±0.7,3731N×2465W,h0km,mb4.0/14, mb1 4.2/15,mb1mx4.0/27,mbtmp4.0/15,ML4.3/1,MS3.6/5, Ms1 3.6/5,ms1mx3.2/38,Error ellipse: s-maj=21.5km s-min=15.2km az=161.0*
*NEIC **05** 19:11:48.0±0.4,3726N×2469W,h10km,mb4.3/23,Error ellipse: s-maj=10.8km s-min=5.7km az=167.0*
*CSEM **05** 19:11:48.3±0.1,3730N×2479W,h30km,mb4.3/16,Error ellipse: s-maj=2.6km s-min=1.1km az=14.0*
*PDA **05** 19:11:49.9±1.4,3730N×2468W,h0km,MD3.7,ML4.0, Error ellipse: s-maj=5.6km s-min=3.3km az=69.0*
*SVSA **05** 19:11:49.9±1.4,3730N×2468W,h0km,MD3.7,ML4.0, Error ellipse: s-maj=5.6km s-min=3.3km az=69.0*
ISC 05 19:11:49.8±0.4,3732N±004×2482W±002,h26km±2km, n148,σ0°88/190,mb4.1/32,MS3.5/5,Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSMN	**Pico do Norte,**	**0.38**	**212**	*e*P	**Pb**	**19 11 57.7**	**-0.3**
PSMN				*e*S	**Sb**	**19 12 03.7**	**+0.1**
MIRA	**Miradouro**	**0.59**	**322**	*e*P	**Pb**	**19 12 01.5**	**-0.1**
FRA1	**Furnas**	**0.60**	**315**	*i*P	**Pb**	**19 12 01.6**	**-0.2**
PCNG	**Congro**	**0.64**	**314**	*e*P	**Pb**	**19 12 02.4**	**0.0**
PCNG				*e*S	**Sb**	**19 12 12.0**	**+1.0**
PCNG				A		19 12 16.4	
	1μm,0.3s						
PCNG	**Congro**	**0.64**	**314**	*e*P	**Pb**	**19 12 02.4**	**0.0**
PCNG				*e*S	**Sb**	**19 12 12.0**	**+1.0**
VIF	**Vila Franca**	**0.65**	**311**	*e*P	**Pb**	**19 12 02.7**	**+0.1**
VIF				*e*S	**Sb**	**19 12 12.4**	**+1.1**
VIF				A		19 12 18.5	
	2μm,0.2s						
VIF	**Vila Franca**	**0.65**	**311**	*e*P	**Pb**	**19 12 02.7**	**+0.1**
VIF				*e*S	**Sb**	**19 12 12.4**	**+1.1**
PFAD	**Fenais da Ajud**	**0.66**	**322**	*i*P	**Pb**	**19 12 02.3**	**-0.4**
PRCH	**Ribeira Ch**	**0.67**	**308**	*e*P	**Pb**	**19 12 02.7**	**-0.1**
PRCH				*e*S	**Sb**	**19 12 12.4**	**+0.7**
PRCH				A		19 12 16.3	
	4μm,0.3s						
PRCH	**Ribeira Ch**	**0.67**	**308**	*e*P	**Pb**	**19 12 02.7**	**-0.1**
PRCH				*e*S	**Sb**	**19 12 12.4**	**+0.7**
MESC	**Monte Escuro**	**0.69**	**313**	*e*P	**Pb**	**19 12 03.0**	**-0.2**
MESC				*i*S	**Sb**	**19 12 13.6**	**+1.3**
LFA	**Lagoa do Fogo**	**0.70**	**311**	*i*P	**Pb**	**19 12 03.3**	**0.0**
PMAT	**Coroa da Mata**	**0.72**	**314**	*e*P	**Pb**	**19 12 03.4**	**-0.3**
PMAT				*e*S	**Sb**	**19 12 14.1**	**+0.9**
PMAT				A		19 12 15.8	
	1μm,0.3s						
PMAT	**Coroa da Mata**	**0.72**	**314**	*e*P	**Pb**	**19 12 03.4**	**-0.3**
PMAT				*e*S	**Sb**	**19 12 14.1**	**+0.9**
PVER	**Pico Vermelho**	**0.73**	**311**	*e*P	**Pb**	**19 12 03.6**	**-0.3**
PVER				*e*S	**Sb**	**19 12 14.2**	**+0.7**
PVER				A		19 12 19.8	
	2μm,0.5s						
PVER	**Pico Vermelho**	**0.73**	**311**	*e*P	**Pb**	**19 12 03.6**	**-0.3**
PVER				*e*S	**Sb**	**19 12 14.2**	**+0.7**
CML	**Cha da Macela**	**0.73**	**308**	*i*P	**Pb**	**19 12 03.7**	**-0.3**
CML				*e*S	**Sb**	**19 12 14.1**	**+0.5**
PDA	**Ponta Delgada**	**0.80**	**302**	*e*P	**Pb**	**19 12 03.7**	**-1.3**
PDA				*e*S	**Sb**	**19 12 13.8**	**-1.6**
FAC	**Faja de Cima**	**0.80**	**304**	*i*P	**Pb**	**19 12 05.1**	**0.0**
PSET	**Sete Cidades**	**0.88**	**305**	*e*P	**Pb**	**19 12 05.4**	**-1.0**
PSET				*e*S	**Sb**	**19 12 18.0**	**+0.3**
PSET				A		19 12 21.6	
	2μm,0.3s						
PSET	**Sete Cidades**	**0.88**	**305**	*e*P	**Pb**	**19 12 05.4**	**-1.0**
PSET				*e*S	**Sb**	**19 12 18.0**	**+0.3**
PSAN	**Santo Antonio**	**0.90**	**306**	*e*P	**Pn**	**19 12 06.4**	**-0.3**
PFET	**Feteiras**	**0.92**	**303**	*e*P	**Pn**	**19 12 06.5**	**-0.5**
SET2	**Ginetes**	**0.94**	**304**	*e*P	**Pn**	**19 12 06.9**	**-0.5**
SET4	**Mosteiros**	**0.96**	**306**	*e*P	**Pn**	**19 12 07.2**	**-0.3**
PFAV	**Pico das Favas**	**2.27**	**308**	*e*P	**Pn**	**19 12 25.8**	**+0.3**
PFAV				*e*S	**Sn**	**19 12 51.9**	**-0.7**
PFAV				A		19 12 54.7	
	288nm,0.1s						
PFAV	**Pico das Favas**	**2.27**	**308**	*e*P	**Pn**	**19 12 25.8**	**+0.3**
PFAV				*e*S	**Sn**	**19 12 51.9**	**-0.7**
PSCM	**Serra do Cume**	**2.28**	**308**	*e*P	**Pn**	**19 12 25.1**	**-0.6**
PSCM				*e*S	**Sn**	**19 12 51.5**	**-1.5**
PSCM				A		19 12 54.5	
	1μm,0.3s						
PSCM	**Serra do Cume**	**2.28**	**308**	*e*P	**Pn**	**19 12 25.1**	**-0.6**
PSCM				*e*S	**Sn**	**19 12 51.5**	**-1.5**
RIB2	**Ribeirinha**	**2.30**	**307**	*e*P	**Pn**	**19 12 26.1**	**+0.1**
RIB2				*e*S	**Sn**	**19 12 52.7**	**-0.7**
RIB2				A		19 12 55.6	
	677nm,0.2s						
RIB2	**Ribeirinha**	**2.30**	**307**	*e*P	**Pn**	**19 12 26.1**	**+0.1**
RIB2				*e*S	**Sn**	**19 12 52.7**	**-0.7**
ADH	**Angra Heroismo**	**2.33**	**306**	*i*P	**Pn**	**19 12 26.0**	**-0.4**
ADH				*e*S	**Sn**	**19 12 53.2**	**-1.0**
PVNV	**Vila Nova**	**2.34**	**309**	*e*P	**Pn**	**19 12 26.8**	**+0.2**
PVNV				*e*S	**Sn**	**19 12 54.0**	**-0.5**
PVNV				A		19 12 56.3	
	305nm,0.2s						
PVNV	**Vila Nova**	**2.34**	**309**	*e*P	**Pn**	**19 12 26.8**	**+0.2**
PVNV				*e*S	**Sn**	**19 12 54.0**	**-0.5**
PPAD	**Pico dos Padre**	**2.39**	**306**	*e*P	**Pn**	**19 12 27.8**	**+0.6**
PPAD				*e*S	**Sn**	**19 12 55.7**	**+0.1**
PPAD				A		19 12 58.0	
	286nm,0.2s						
PPAD	**Pico dos Padre**	**2.39**	**306**	*e*P	**Pn**	**19 12 27.8**	**+0.6**
PPAD				*e*S	**Sn**	**19 12 55.7**	**+0.1**
PBIS	**Biscoitos**	**2.40**	**308**	*e*P	**Pn**	**19 12 28.7**	**+1.3**
PBIS				*i*S	**Sn**	**19 12 55.7**	**-0.3**
PBIS				A		19 12 59.0	
	103nm,0.2s						
PBIS	**Biscoitos**	**2.40**	**308**	*e*P	**Pn**	**19 12 28.7**	**+1.3**
PBIS				*i*S	**Sn**	**19 12 55.7**	**-0.3**
ASBA	**Santa Barbara**	**2.42**	**306**	*e*P	**Pn**	**19 12 28.2**	**+0.5**
ASBA				*i*S	**Sn**	**19 12 57.9**	**+1.4**
ASBA				A		19 12 58.5	
	400nm,0.3s						
ASBA	**Santa Barbara**	**2.42**	**306**	*e*P	**Pn**	**19 12 28.2**	**+0.5**
ASBA				*i*S	**Sn**	**19 12 57.9**	**+1.4**
PIED	**Piedade**	**2.79**	**294**	*e*P	**Pn**	**19 12 32.6**	**-0.1**
PID	**Ribeirinha**	**2.84**	**294**	*e*P	**Pn**	**19 12 33.2**	**-0.3**
PID				*e*S	**Sn**	**19 13 05.7**	**-1.1**
PAMA	**Santo Amaro**	**2.98**	**298**	*e*P	**Pn**	**19 12 36.6**	**+1.2**
PAMA				*e*S	**Sn**	**19 13 10.5**	**+0.2**
PAMA				A		19 13 15.8	
	38nm,0.2s						
PAMA	**Santo Amaro**	**2.98**	**298**	*e*P	**Pn**	**19 12 36.6**	**+1.2**
PAMA				*e*S	**Sn**	**19 13 10.5**	**+0.2**
PBOI	**Pico dos Bois**	**3.03**	**293**	*e*P	**Pn**	**19 12 35.9**	**-0.1**
PBOI				*e*S	**Sn**	**19 13 10.5**	**-0.9**
PBOI				A		19 13 13.2	
	50nm,0.2s						
PTEI	**Pico do Teixo**	**3.04**	**294**	*e*S	**Sn**	**19 13 12.7**	**+1.1**
PTEI				A		19 13 16.8	
	28nm,0.3s						
ROSA	**Rosais**	**3.04**	**298**	*e*P	**Pn**	**19 12 36.3**	**+0.1**
ROSA				*e*S	**Sn**	**19 13 10.8**	**-1.0**
STGR	**Santa Cruz**	**3.06**	**306**	*e*P	**Pn**	**19 12 36.6**	**+0.1**
STGR				*e*S	**Sn**	**19 13 12.0**	**-0.3**
STGR				A		19 13 14.6	
	85nm,0.1s						
STGR	**Santa Cruz**	**3.06**	**306**	*e*P	**Pn**	**19 12 36.6**	**+0.1**
STGR				*e*S	**Sn**	**19 13 12.0**	**-0.3**
PICO	**Pico**	**3.09**	**294**	*e*P	**Pn**	**19 12 36.8**	**0.0**
PICO				*e*S	**Sn**	**19 13 11.8**	**-1.1**
PVIA	**Vitoria**	**3.09**	**305**	*e*S	**Sn**	**19 13 12.0**	**-0.9**
PVIA				A		19 13 15.5	
	31nm,0.1s						
PCND	**Candelaria**	**3.10**	**293**	*e*P	**Pn**	**19 12 37.6**	**+0.6**
PCND				*e*S	**Sn**	**19 13 13.6**	**+

SSF Saint Saulge 23.02 56 *eP* **P 19 16 52.7 +0.1**
8.8nm,0.9s,mb3.9
SSF Saint Saulge 23.02 56 *eP* **P 19 16 52.7 +0.1**
4.4nm,0.9s,mb3.9
SMF Signal de Mont 23.14 57 *eP* **P 19 16 53.7 -0.2**
18nm,1.0s,mb4.2
SMF Signal de Mont 23.14 57 *eP* **P 19 16 53.7 -0.2**
9.2nm,1.0s,mb4.2
EKA Eskdalemuir Ar 23.25 32 P **P 19 16 54.8 -0.1**
1.1nm,0.7s,mb3.4,baz=232,slow=8.6,SNR=5.2
LOR Lormes 23.31 56 *eP* **P 19 16 54.9 -0.7**
VIVF Saint-Julien-I 23.38 62 *eP* **P 19 16 55.5 -0.9**
12nm,1.0s,mb4.0
VIVF Saint-Julien-I 23.38 62 *eP* **P 19 16 55.5 -0.9**
6.0nm,1.0s,mb4.0
BBTS Babate 23.74 160 LR LR 19 26 09.6
comp=Z,111nm,18.3s,MS3.4,baz=282,slow=36
ORIF Oris-en-Rattie 24.23 62 *eP* **P 19 17 04.6 +0.3**
9.0nm,0.8s,mb3.9
ORIF Oris-en-Rattie 24.23 62 *eP* **P 19 17 04.6 +0.3**
4.5nm,0.8s,mb3.9
BAIF Baives 24.37 49 *eP* **P 19 17 04.9 -0.6**
10nm,0.9s,mb4.0
BAIF Baives 24.37 49 *eP* **P 19 17 04.9 -0.6**
5.2nm,0.9s,mb3.9
MEZF Maizieres J'vi 24.41 53 *eP* **P 19 17 06.0 +0.1**
14nm,0.7s,mb4.2
MEZF Maizieres J'vi 24.41 53 *eP* **P 19 17 06.0 +0.1**
6.9nm,0.7s,mb4.2
GIVF Givet 24.76 49 *eP* **P 19 17 09.9 +0.8**
LPL La Plagne 24.91 61 *eP* **P 19 17 10.8 +0.3**
LPG La Plagne 24.92 61 *eP* **P 19 17 11.6 +1.0**
18nm,1.3s,mb4.2
LPG La Plagne 24.92 61 *eP* **P 19 17 11.6 +1.0**
9.0nm,1.3s,mb4.2
HAU Haudompre 25.12 55 *eP* **P 19 17 13.0 +0.7**
8.3nm,0.8s,mb4.0
HAU Haudompre 25.12 55 *eP* **P 19 17 13.0 +0.7**
4.2nm,0.8s,mb4.0
HINF Hinteralfeld 25.41 56 *eP* **P 19 17 14.7 -0.3**
WLF Walferdange 25.44 51 *eP* **P 19 17 14.7 -0.5**
26nm,1.2s,mb4.6
WLF Walferdange 25.44 51 *eP* **P 19 17 14.7 -0.5**
26nm,1.2s,mb4.6
GERES GERESS Array B 30.09 55 P **P 19 17 56.5 -0.3**
0.5nm,0.7s,mb3.4,baz=262,slow=6.6,SNR=4.4
NOA NORSAR Array B 32.74 32 LR LR 19 30 31.0
comp=Z,200nm,21.5s,MS3.8,baz=265,slow=34
SCHQ Schefferville 33.38 315 P **P 19 18 27.2 +1.5**
2.8nm,0.7s,mb4.3,baz=104,slow=8.5,SNR=5.9
TOA0 Torodi Ar. Sit 33.76 129 *eP* **P 19 18 29.5 +0.1**
TOA0 Torodi Ar. Sit 33.76 129 *eP* **P 19 18 29.5 +0.1**
TORD Torodi Ar. Bea 33.76 129 P **P 19 18 29.3 -0.1**
2.7nm,0.7s,mb4.3,baz=317,slow=8.6,SNR=20
AKASG Malin Array Be 40.22 53 P **P 19 19 22.8 -1.1**
0.6nm,0.5s,mb3.6,baz=271,slow=8.1,SNR=7.5
SJG San Juan 40.90 254 LR LR 19 31 53.5
comp=Z,70nm,21.1s,MS3.5,baz=192,slow=29
ARCES ARCESS Array B 41.91 24 P **P 19 19 39.7 +2.1**
6.4nm,1.0s,mb4.2,baz=286,slow=4.4,SNR=5.0
BLA Blacksburg 43.69 288 *eP* **P 19 19 52.8 +0.3**
17nm,0.7s,mb4.9
BLA Blacksburg 43.69 288 *eP* **P 19 19 52.8 +0.3**
17nm,0.7s,mb4.9
RES Resolute Bay 49.15 341 *eP* **P 19 20 36.9 +2.1**
256nm,0.9s
RES Resolute Bay 49.15 341 *eP* **P 19 20 36.9 +2.2**
256nm,0.9s
SDV Santo Domingo 50.08 248 *eP* **P 19 20 45.5 +2.9**
5.8nm,0.8s,mb4.7
SDV Santo Domingo 50.08 248 P **P 19 20 45.6 +3.0**
5.9nm,0.7s,mb4.7,baz=34,slow=5.3,SNR=12
SDV LR LR 19 35 29.7
comp=Z,23nm,22.0s,MS3.1,baz=5.6,slow=28
YKA Yellowknife Ar 57.59 327 P **P 19 21 38.1 +1.2**
0.9nm,0.7s,mb3.9,baz=269,slow=7.1,SNR=11
AKTK Aktyubinsk 58.15 48 P **P 19 21 41.4 +0.4**
AKTK Aktyubinsk 58.15 48 P **P 19 21 41.4 +0.4**
AKTO Aktyubinsk 58.15 48 P **P 19 21 41.4 +0.4**
1.9nm,0.9s,mb4.1,baz=300,slow=7.3,SNR=4.4
INK Inuvik 62.27 337 P **P 19 22 10.2 +1.3**
1.2nm,0.5s,mb4.3,baz=31,slow=7.2,SNR=5.0
INK Inuvik 62.27 337 P **P 19 22 10.2 +1.3**
PDAR Pinedale Array 62.47 304 P **P 19 22 11.2 +0.5**
0.8nm,0.7s,mb4.0,baz=64,slow=7.1,SNR=3.7
PDAR Pinedale Array 62.47 304 P **P 19 22 11.2 +0.5**
TXAR Lajitas Array 64.61 288 P **P 19 22 27.3 +2.3**
4.2nm,0.8s,mb4.5,baz=76,slow=7.6,SNR=38
LPAZ La Paz 67.12 226 P **P 19 22 43.0 +1.7**
0.5nm,0.6s,mb3.7,baz=183,slow=1.7,SNR=3.0
LPAZ LR LR 19 46 56.8
comp=Z,61nm,21.0s,MS3.8,baz=69,slow=31
ZAA0 Zalesovo Array 70.82 36 *eP* **P 19 23 02.0 -1.8**
ZAA0 Zalesovo Array 70.82 36 *eP* **P 19 23 02.0 -1.8**
ZALV Zalesovo Beam 70.82 36 P **P 19 23 04.3 +0.6**
1.3nm,0.7s,mb3.9,baz=306,slow=6.8,SNR=6.7
AML Almayashu 71.59 51 *eP* **P 19 23 11.3 +2.6**
4.6nm,0.7s,mb4.5
UCH Uchtor 72.05 50 *eP* **P 19 23 09.3 -2.1**
5.7nm,0.8s,mb4.5
MK31 Makanchi Array 73.89 43 *eP* **P 19 23 20.7 -1.5**
MK31 Makanchi Array 73.89 43 *eP* **P 19 23 20.7 -1.5**
SONM Songino Array 84.71 31 P **P 19 24 22.2 +1.0**
1.4nm,0.9s,mb4.1,baz=309,slow=3.4,SNR=5.6

IDC ***05*** *19:14:44.5±0.8, 102N×9703E, h0km, mb4.3/17, mb1 4.3/18, mb1mx4.2/26, mbtmp4.3/18, ML3.7/1, MS3.5/3, Ms1 3.5/3, ms1mx3.3/28, Error ellipse: s-maj=26.8km s-min=13.6km az=52.0*
BJI ***05*** *19:14:48.9, 107N×9737E, h45km, mB5.0, mb4.6, Ms4.3, Msz4.1*
ISCJB ***05*** *19:14:49.5±2.7, 114N±0.10×972E±0.1, h46km±21km, mb4.3/26, MS3.8/3, Error ellipse: s-maj=26.2km s-min=10.6km az=149.0*
NEIC ***05*** *19:14:51.3±2.6, 113N×9720E, h46km±20km, mb4.6/5, Error ellipse: s-maj=24.4km s-min=9.2km az=60.0*
ISC 05 19:14:50.2±2.6, 111N±010×972E±01, h35km±21km, n39, σ0892/38, mb4.3/26, MS3.8/3, 1C, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.44**	**46**	Pn	**Pn**	**19 15 27.4**	**-0.1**
	14nm,0.3s,baz=247,slow=7.1,SNR=44						
PSI				LR	LR	19 16 16.8	
	comp=Z,466nm,19.1s,baz=304,slow=37						
KULM	**Kulim**	**5.42**	**40**	*eP*	**Pn**	**19 16 08.5**	**-0.1**
KMI	**Kunming**	**24.48**	**12**	P	**P**	**19 20 07.9**	**+1.8**
KMI				AP		19 20 13.6	
KMI				AMB	AMB		
	comp=Z,27nm,1.0s,mb4.6						
KMI				LR	LR		
	comp=N,331nm,12.7s,MS4.2						
KMI				LR	LR		
	comp=E,222nm,10.3s,MS4.2						
KMI				LR	LR		
	comp=Z,340nm,12.7s,MS4.0						
SHL	**Shillong**	**24.85**	**349**	*eP*	**P**	**19 20 11.0**	**+1.5**
BATI	**Kupang**	**28.66**	**114**	P	**P**	**19 20 44.1**	**+0.1**
	comp=Z,5.0nm,0.6s,mb4.4,baz=270,slow=7.1,SNR=2.9						
LSA	**Lhasa**	**29.01**	**349**	*eP*	**P**	**19 20 48.7**	**+1.8**
	comp=Z,6.2nm,0.9s,mb4.3						
FITZ	**Fitzroy Crossi**	**33.90**	**126**	P	**P**	**19 21 29.2**	**-0.9**
	comp=Z,2.1nm,0.7s,mb4.2,baz=269,slow=6.9,SNR=3.5						
XAN	**Xi'an**	**34.56**	**17**	P	**P**	**19 21 34.6**	**-1.0**
XAN				AMB	AMB		
	comp=Z,8.0nm,0.7s,mb4.8						
LZH	**Lanzhou**	**35.35**	**9**	*eP*	**P**	**19 21 40.3**	**-2.1**
LZH				AMB	AMB		
	comp=Z,16nm,1.4s,mb4.8						
LZH				AMB	AMB		
	comp=Z,68nm,4.3s						
LZH	**Lanzhou**	**35.35**	**9**	*eP*	**P**	**19 21 40.3**	**-2.1**
	comp=Z,16nm,1.4s,mb4.8						
LZH				pP	pP	19 21 45.5	-7.1
LZH				sP	sP	19 21 49.6	-7.2
GTA	**Gaotai**	**38.20**	**3**	*eP*	**P**	**19 22 06.8**	**+0.2**
GTA				AMB	AMB		
	comp=Z,14nm,0.9s,mb4.7						
WRA	**Warramunga Arr**	**42.01**	**122**	P	**P**	**19 22 38.3**	**-0.3**
	comp=Z,2.6nm,0.6s,mb4.1,baz=301,slow=9.1,SNR=39						
WB2	**Warramunga Arr**	**42.02**	**122**	*eP*	**P**	**19 22 38.3**	**-0.3**
ASAR	**Alice Springs**	**43.37**	**127**	P	**P**	**19 22 49.5**	**+0.1**
	comp=Z,1.8nm,0.7s,mb3.9,baz=298,slow=8.0,SNR=22						
JNU	**Nakatsue**	**44.90**	**41**	P	**P**	**19 23 02.2**	**+0.6**
	comp=Z,5.3nm,0.8s,mb4.4,baz=207,slow=6.8,SNR=4.2						
KSRS	**Korea Array**	**45.95**	**34**	P	**P**	**19 23 09.8**	**0.0**
	comp=Z,8.9nm,0.8s,mb4.7,baz=221,slow=9.2,SNR=27						
KSRS				LR	LR	19 42 00.5	
	comp=Z,37nm,20.0s,MS3.3,baz=330,slow=36						
SONM	**Songino Array**	**47.23**	**8**	P	**P**	**19 23 20.3**	**+0.6**
	comp=Z,1.9nm,0.4s,mb4.4,baz=191,slow=9.2,SNR=40						
SONM				PcP	PcP	19 24 51.3	+0.7
	comp=Z,1.1nm,0.8s,baz=198,slow=3.6,SNR=3.2						
SONM				LR	LR	19 45 46.3	
	comp=Z,136nm,18.8s,MS3.9,baz=240,slow=39						
MKAR	**Makanchi Array**	**47.32**	**346**	P	**P**	**19 23 20.9**	**+0.4**
	comp=Z,3.9nm,0.7s,mb4.5,baz=160,slow=8.2,SNR=48						
CN2	**Changchun**	**49.40**	**27**	⇑P	**P**	**19 23 36.3**	**-0.3**
CN2				AMB	AMB		
	comp=Z,20nm,0.7s,mb5.3						
HIA	**Hailar**	**51.74**	**19**	*eP*	**P**	**19 23 53.9**	**-0.2**
	comp=Z,4.9nm,0.8s,mb4.5						
MJAR	**Matsushiro Arr**	**51.78**	**42**	P	**P**	**19 23 53.7**	**-0.9**
	comp=Z,1.1nm,0.8s,mb3.8,baz=224,slow=8.5,SNR=4.2						
MJAR				PcP	PcP	19 25 08.1	+0.6
	comp=Z,1.4nm,0.9s,baz=211,slow=3.8,SNR=3.2						
MDJ	**Mudanjiang**	**51.97**	**29**	P	**P**	**19 23 56.7**	**+0.8**
MDJ				AMB	AMB		
	comp=Z,6.0nm,0.8s,mb4.6						
MDJ				AMB	AMB		
	comp=Z,117nm,4.6s						
MDJ	**Mudanjiang**	**51.97**	**29**	*eP*	**P**	**19 23 56.8**	**+0.9**
STKA	**Stephens Creek**	**53.32**	**132**	*eP*	**P**	**19 24 06.5**	**+0.4**
STKA	**Stephens Creek**	**53.32**	**132**	P	**P**	**19 24 06.7**	**+0.6**
	comp=Z,2.5nm,0.6s,mb4.3,baz=336,slow=2.1,SNR=8.1						
ZAA0	**Zalesovo Array**	**53.65**	**351**	*eP*	**P**	**19 24 08.1**	**0.0**
ZALV	**Zalesovo Beam**	**53.65**	**351**	P	**P**	**19 24 08.3**	**+0.2**
	comp=Z,12nm,0.8s,mb4.8,baz=177,slow=5.9,SNR=36						
BRVK	**Borovoye**	**56.39**	**341**	*eP*	**P**	**19 24 27.5**	**-0.4**
ASAJ	**Asahikawa**	**58.76**	**37**	P	**P**	**19 24 45.8**	**+1.0**
	comp=Z,10.0nm,1.2s,mb4.7,baz=249,slow=8.6,SNR=2.8						
AKTK	**Aktyubinsk**	**59.30**	**332**	P	**P**	**19 24 47.0**	**-1.4**
AKTO	**Aktyubinsk**	**59.30**	**332**	P	**P**	**19 24 47.0**	**-1.4**
	comp=Z,1.8nm,0.8s,mb4.1,baz=155,slow=7.8,SNR=5.7						
TIXI	**Tiksi**	**73.28**	**10**	*eP*	**P**	**19 26 16.3**	**-1.3**
	comp=Z,2.6nm,0.6s,mb4.3						
AKASG	**Malin Array Be**	**75.31**	**322**	P	**P**	**19 26 28.4**	**-1.5**
	comp=Z,0.1nm,0.3s,mb3.3,baz=94,slow=4.9,SNR=4.5						
FINES	**FINESS Array B**	**80.07**	**333**	P	**P**	**19 26 55.9**	**-0.2**
	comp=Z,1.8nm,0.8s,mb4.0,baz=106,slow=10,SNR=2.3						
ARCES	**ARCESS Array B**	**82.61**	**340**	P	**P**	**19 27 09.8**	**+0.4**
	comp=Z,2.5nm,0.8s,mb4.3,baz=87,slow=5.3,SNR=3.7						
GERES	**GERESS Array B**	**84.86**	**319**	P	**P**	**19 27 22.1**	**+0.7**
	comp=Z,0.1nm,0.4s,mb3.3,baz=115,slow=6.0,SNR=4.7						
VNDA	**Vanda**	**85.74**	**169**	*eP*	**P**	**19 27 26.9**	**+1.7**
QSPA	**South Pole Qui**	**91.05**	**180**	*eP*	**P**	**19 27 55.9**	**+5.5**
TXAR	**Lajitas Array**	**143.77**	**32**	PKP	PKPdf	19 34 20.7	-1.7
	comp=Z,0.4nm,0.7s,baz=85,slow=3.1,SNR=4.3						

MEX 05 19:22:13.6±1.1, 1707N×9998W, h9km±33km, MD3.5, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	**Acapulco**	**0.21**	**162**	*i* P	Pg	19 22 17.0	-0.9
ACX				*i* S	Sg	19 22 21.0	+0.2
CAIG	**El Cayaco**	**0.27**	**266**	*i* P	Pg	19 22 18.6	-0.4
CAIG				*i* S	Sg	19 22 22.9	+0.2
MEIG	**Mezcala**	**0.92**	**22**	*i* P	Pg	19 22 29.7	-1.7
MEIG				*i* S	Sg	19 22 40.2	-3.2
UTMO	**Huajuapan**	**2.22**	**70**	*i* P	Pn	19 22 49.2	-1.4
UTMO				*i* S	Sn	19 23 12.8	-5.3

NEIC ***05*** *19:22:32.4±0.1, 131.1S×167.18E, mb4.9/35, Error ellipse: s-maj=5.3km s-min=4.1km az=128.0*
IDC ***05*** *19:22:32.9±0.6, 131.8S×167.15E, h211km±5km, mb4.6/22, mb1 4.6/23, mb1mx4.6/24, mbtmp4.6/23, Error ellipse: s-maj=9.0km s-min=7.8km az=134.0*
ISCJB ***05*** *19:22:33.9±1.2, 131.5S±004×167.08E±004, h234km±10km, mb4.8/67, Error ellipse: s-maj=7.6km s-min=5.1km az=154.4*
MOS ***05*** *19:22:33.0±1.1, 1306S×167.12E, h220km, mb5.0/24, Error ellipse: s-maj=10.1km s-min=8.0km az=114.2*
BJI ***05*** *19:22:33.6, 1267S×167.17E, h216km, mB4.8, mb4.8*
ISC 05 19:22:35.4±1.0, 1316S±004×16713E±003, h236km±9km, h219km±3.4km; pP-P, n415, σ0964/267, mb4.8/67, 101C-73D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**7.96**	**297**	*eP*	**Pn**	**19 24 26.0**	**-2.2**
	134nm,0.7s						
HNR	**Honiara**	**7.96**	**297**	*eP*	**Pn**	**19 24 26.0**	**-2.2**
HNR				pmax	pmax		
	comp=Z,134nm,0.7s						
HNR	**Honiara**	**7.96**	**297**	P	**Pn**	**19 24 26.5**	**-1.7**
	comp=Z,11nm,0.3s,baz=166,slow=0.9,SNR=11						
HNR				S	**S**	**19 25 59.3**	**+0.5**
	baz=89,slow=8.4,SNR=1.9						
FUNA	**Funafuti**	**12.72**	**70**	*eP*	**Pn**	**19 25 28.0**	**-0.4**
	comp=Z,211nm,0.9s						
EIDS	**Eidsvold**	**19.39**	**229**	*eP*	**P**	**19 26 45.0**	**+1.1**
	comp=Z,22nm,0.9s						
CTA	**Charters Tower**	**21.14**	**248**	*eP*	**P**	**19 27 02.9**	**+0.3**
	comp=Z,26nm,0.8s,mb4.8						
CTA	**Charters Tower**	**21.14**	**248**	*eP*	**P**	**19 27 02.9**	**+0.3**
CTA				pmax	pmax		
	comp=Z,26nm,0.8s						
CTA	**Charters Tower**	**21.14**	**248**	P	**P**	**19 27 02.8**	**+0.3**
	comp=Z,37nm,0.9s,mb4.9,baz=77,slow=11,SNR=23						
CTA				S	**S**	**19 30 45.3**	**+2.9**
	comp=Z,3.4nm,1.0s,baz=149,slow=16,SNR=1.5						
CTA				PcP	PcP	19 30 58.9	+0.5
	comp=Z,3.2nm,0.6s,baz=184,slow=7.5,SNR=5.2						
CTAO	**Charters Tower**	**21.14**	**248**	*eP*	**P**	**19 27 02.9**	**+0.3**
	comp=Z,53nm,1.0s,mb5.0						
CTAO	**Charters Tower**	**21.14**	**248**	*eP*	**P**	**19 27 02.9**	**+0.3**
CTAO				pmax	pmax		
	comp=Z,53nm,1.0s,mb5.0						
ARMA	**Armidale**	**22.36**	**217**	*eP*	**P**	**19 27 15.1**	**+1.2**
RIV	**Riverview**	**25.19**	**213**	*eP*	**P**	**19 27 40.5**	**+1.0**
URZ	**Urewera**	**26.53**	**162**	P	**P**	**19 27 51.5**	**0.0**
	comp=Z,8.7nm,0.6s,mb4.5,baz=58,slow=4.6,SNR=7.5						
URZ				PcP	PcP	19 31 07.7	-2.0
	comp=Z,5.0nm,0.8s,baz=248,slow=5.4,SNR=3.6						
CNB	**Canberra Magne**	**27.27**	**213**	⇑*i*P	**P**	**19 27 59.0**	**+0.8**
	comp=Z,41nm,0.6s,mb5.2						
CNB				*e*PCP	PcP	19 31 12.4	+0.9
SNZO	**South Karori**	**28.82**	**168**	P	**P**	**19 28 09.7**	**-2.0**
STKA	**Stephens Creek**	**29.93**	**227**	⇑*i*P	**P**	**19 28 22.2**	**+0.5**
	comp=Z,22nm,0.6s,mb5.0						
STKA				*e*PCP	PcP	19 31 18.3	0.0
STKA	**Stephens Creek**	**29.93**	**227**	P	**P**	**19 28 22.3**	**+0.6**
	comp=Z,33nm,0.7s,mb5.1,baz=46,slow=8.0,SNR=80						
STKA				PcP	PcP	19 31 18.8	+0.5
	comp=Z,18nm,0.7s,baz=38,slow=2.0,SNR=14						
RPZ	**Rata Peaks**	**30.64**	**174**	P	**P**	**19 28 27.7**	**0.0**
	comp=Z,35nm,0.8s,mb5.0,baz=311,slow=1.3,SNR=14						
RPZ				PcP	PcP	19 31 19.4	-0.5
	comp=Z,4.7nm,0.7s,baz=322,slow=11,SNR=2.9						
WB2	**Warramunga Arr**	**32.09**	**253**	*eP*	**P**	**19 28 39.7**	**-1.1**
WB2				*e*PCP	PcP	19 31 24.4	+0.1
WB2				*e*S	**S**	**19 33 32.7**	**-2.8**
WB2				*e*PCS	PcS	19 35 08.2	-1.4
WRA	**Warramunga Arr**	**32.10**	**253**	P	**P**	**19 28 40.0**	**-0.9**
WRA				pP	pP	19 29 22.6	-5.6
WRA				PcP	PcP	19 31 24.4	+0.1
WRA				S	**S**	**19 33 34.1**	**-1.6**
WRA				ScP	ScP	19 34 48.0	+2.5
WRA	**Warramunga Arr**	**32.10**	**253**	P	**P**	**19 28 40.0**	**-0.9**
WRA				*PP	pP	19 29 22.6	-5.6
WRA						19 31 24.4	
WRA				S	**S**	**19 33 34.1**	**-1.6**
WRA	**Warramunga Arr**	**32.10**	**253**	P	**P**	**19 28 40.0**	**-0.9**
	comp=Z,13nm,0.5s,mb4.7,baz=85,slow=9.3,SNR=193						
WRA				pP	pP	19 29 22.6	-5.6
	comp=Z,4.4nm,0.8s,baz=87,slow=8.4,SNR=2.1						
WRA				PcP	PcP	19 31 24.4	+0.1
	comp=Z,3.9nm,0.8s,baz=77,slow=3.4,SNR=7.9						
WRA				S	**S**	**19 33 34.1**	**-1.6**
	comp=Z,1.1nm,0.7s,baz=78,slow=15,SNR=3.8						
WRA				ScP	ScP	19 34 48.0	+2.5
	comp=Z,3.3nm,1.0s,baz=83,slow=3.6,SNR=8.6						
WRA				PKiKP	PKiKP	19 38 50.7	-1.4
	comp=Z,1.7nm,0.8s,baz=21,slow=0.5,SNR=20						
RAR	**Rarotonga**	**32.57**	**109**	P	**P**	**19 28 44.1**	**-0.8**
	comp=Z,6.4nm,0.6s,mb4.3,baz=308,slow=7.1,SNR=3.4						
ASAR	**Alice Springs**	**33.13**	**247**	P	**P**	**19 28 49.4**	**-0.3**
ASAR				pP	pP	19 29 31.4	-5.8
ASAR				PcP	PcP	19 31 27.2	+0.1
ASAR				S	**S**	**19 33 50.6**	**-0.9**
ASAR				ScP	ScP	19 34 52.0	+3.1
ASAR	**Alice Springs**	**33.13**	**247**	P	**P**	**19 28 49.4**	**-0.4**
ASAR				*PP	pP	19 29 31.4	-5.8
ASAR						19 31 27.3	
ASAR				S	**S**	**19 33 50.6**	**-0.9**
ASAR	**Alice Springs**	**33.13**	**247**	P	**P**	**19 28 49.4**	**-0.3**
	comp=Z,27nm,0.7s,mb4.9,baz=76,slow=8.9,SNR=605						
ASAR				pP	pP	19 29 31.4	-5.8
	comp=Z,3.1nm,0.7s,baz=72,slow=8.9,SNR=1.2						
ASAR				PcP	PcP	19 31 27.2	+0.1
	comp=Z,5.6nm,0.7s,baz=80,slow=3.0,SNR=13						
ASAR				S	**S**	**19 33 50.6**	**-0.9**
	comp=Z,5.5nm,1.1s,baz=75,slow=15,SNR=13						
ASAR				ScP	ScP	19 34 52.0	+3.1
	comp=Z,4.1nm,0.9s,baz=76,slow=3.8,SNR=15						
ASAR				PKiKP	PKiKP	19 38 51.5	-1.3
	comp=Z,0.5nm,0.5s,baz=86,slow=2.2,SNR=9.4						
KAKA	**Kakadu**	**33.79**	**267**	⇑*i*P	**P**	**19 28 55.4**	**-0.2**
	comp=Z,20nm,0.6s,mb4.8						
FORT	**Forrest**	**40.00**	**238**	*eP*	**P**	**19 29 47.2**	**-0.4**
	comp=Z,83nm,0.5s,mb5.4						
FITZ	**Fitzroy Crossi**	**40.19**	**258**	*eP*	**P**	**19 29 49.2**	**-0.1**
	comp=Z,11nm,0.5s,mb4.5						
FITZ	**Fitzroy Crossi**	**40.19**	**258**	P	**P**	**19 29 49.4**	**+0.1**
	comp=Z,7.7nm,0.6s,mb4.3,baz=84,slow=9.7,SNR=18						
FITZ				PcP	PcP	19 31 49.3	+0.6
	comp=Z,3.9nm,0.6s,baz=174,slow=0.8,SNR=3.8						
BATI	**Kupang**	**42.63**	**269**	P	**P**	**19 30 10.6**	**+1.4**
	comp=Z,98nm,0.6s,mb5.5,baz=149,slow=2.5,SNR=68						
MBWA	**Marble Bar**	**45.84**	**253**	*eP*	**P**	**19 30 34.7**	**+0.2**
	comp=Z,56nm,1.1s,mb4.8						
KLBR	**Kellerberrin**	**48.76**	**239**	*eP*	**P**	**19 30 56.0**	**-0.8**
	comp=Z,25nm,0.5s,mb4.8						
NWAO	**Narrogin (SRO)**	**49.45**	**238**	*eP*	**P**	**19 31 01.3**	**-0.7**
	comp=Z,51nm,1.0s,mb4.8						
NWAO	**Narrogin (SRO)**	**49.45**	**238**	*eP*	**P**	**19 31 01.3**	**-0.7**
NWAO				pmax	pmax		
	comp=Z,51nm,1.0s						
NWAO	**Narrogin (SRO)**	**49.45**	**238**	P	**P**	**19 31 01.7**	**-0.3**
	comp=Z,26nm,0.5s,mb4.8,baz=76,slow=6.7,SNR=77						
MUN	**Mundaring**	**50.13**	**239**	*eP*	**P**	**19 31 06.9**	**-0.2**
JOW	**Kunigami**	**54.81**	**317**	P	**P**	**19 31 42.1**	**+0.7**
	comp=Z,51nm,0.6s,mb5.2,baz=156,slow=7.7,SNR=35						
MJAR	**Matsushiro Arr**	**56.46**	**332**	P	**P**	**19 31 52.1**	**-0.8**
	comp=Z,15nm,0.7s,mb4.6,baz=167,slow=8.3,SNR=43						
MJAR				PcP	PcP	19 32 47.2	+0.3
	comp=Z,3.7nm,0.9s,baz=150,slow=4.0,SNR=3.0						
MAJO	**Matsushiro**	**56.46**	**332**	*eP*	**P**	**19 31 52.2**	**-0.7**
	comp=Z,27nm,1.0s,mb4.7						
MAJO	**Matsushiro**	**56.46**	**332**	*eP*	**P**	**19 31 52.3**	**-0.6**
MAJO				pmax	pmax		
	comp=Z,27nm,1.0s,mb4.7						
MAT	**Matsushiro**	**56.46**	**332**	P	**P**	**19 31 52.2**	**-0.7**
JNU	**Nakatsue**	**57.57**	**324**	P	**P**	**19 32 00.8**	**+0.1**
	comp=Z,39nm,0.7s,mb5.2,baz=84,slow=6.3,SNR=45						
YHNB	**Yeheng**	**58.37**	**310**	*eP*	**P**	**19 32 06.0**	**-0.5**
ASAJ	**Asahikawa**	**61.23**	**340**	P	**P**	**19 32 26.4**	**+0.9**
	comp=Z,33nm,0.7s,mb5.1,baz=213,slow=8.0,SNR=42						
KSRS	**Korea Array**	**62.37**	**325**	P	**P**	**19 32 33.5**	**+0.2**
	comp=Z,9.3nm,0.9s,mb4.4,baz=138,slow=6.9,SNR=34						
YSS	**Yuzh-Sakhalins**	**63.70**	**342**	*eP*	**P**	**19 32 42.6**	**+0.8**
	comp=Z,34nm,0.9s,mb5.0						
YSS	**Yuzh-Sakhalins**	**63.70**	**342**	⇑*eP*	**P**	**19 32 42.5**	**+0.7**
YSS				pmax	pmax		
	comp=Z,50nm,0.9s,mb5.1						
VNDA	**Vanda**	**64.42**	**181**	*eP*	**P**	**19 32 46.4**	**+0.4**
	comp=Z,13nm,1.1s,mb4.5						
VNDA	**Vanda**	**64.42**	**181**	*eP*	**P**	**19 32 46.4**	**+0.3**
VNDA				pmax	pmax		
	comp=Z,13nm,1.1s						
VNDA	**Vanda**	**64.42**	**181**	P	**P**	**19 32 46.5**	**+0.4**
	comp=Z,4.6nm,0.6s,mb4.3,baz=352,slow=6.1,SNR=45						
NJ2	**Nanjing**	**64.46**	**315**	*eP*	**P**	**19 32 44.8**	**-2.3**
NJ2				AMB	AMB		
	comp=Z,30nm,0.6s,mb5.1						
SBA	**Scott Base**	**64.70**	**180**	*eP*	**P**	**19 32 48.6**	**+0.7**
	comp=Z,22nm,1.0s,mb4.8						
SBA	**Scott Base**	**64.70**	**180**	*eP*	**P**	**19 32 48.6**	**+0.7**
SBA				pmax	pmax		
	comp=Z,22nm,1.0s,mb4.7						
MDJ	**Mudanjiang**	**66.84**	**332**	P	**P**	**19 33 02.7**	**+0.8**
MDJ				AP	pP	19 33 55.7	-0.4
MDJ				PP	PP	19 35 32.2	-0.5
MDJ				S	S	19 41 37.9	+2.8
MDJ				XS	sS	19 43 06.6	-3.6
MDJ				SS	SS	19 45 58.1	-0.5
MDJ				AMB	AMB		
	comp=Z,21nm,1.0s,mb4.7						
MDJ				AMB	AMB		
	comp=Z,85nm,5.4s						
MDJ	**Mudanjiang**	**66.84**	**332**	*eP*	**P**	**19 33 02.7**	**+0.8**
	comp=Z,23nm,1.

KMI SS SS 19 47 42.8 +3.3
KMI LR LR
comp=Z,140nm,11.3s
KMI Kunming 73.37 301 ⇑P **P 19 33 43.6 +1.6**
KMI 19 33 59.0
KMI *PP pP 19 34 36.7 -0.5
KMI *SP sP 19 35 00.7 -1.6
KMI 19 36 31.2
KMI PPP 19 38 18.4
KMI S S 19 42 54.2 +2.6
KMI 19 43 23.0
KMI PS 19 44 00.3
KMI SS SS 19 47 42.8 +3.3
KMI pmax pmax
comp=Z,27nm,1.0s,mb4.8
KMI MLR MLR
comp=Z,140nm,11.3s
MA2 Magadan 73.68 351 *eP* **P 19 33 42.9 -0.1**
MA2 pmax pmax
comp=Z,30nm,0.8s,mb5.0
BDT Bhumibol Dam 73.73 293 P **P 19 33 36.0 -8.2**
comp=Z,31nm,0.7s,mb5.0
HHC Hu-ho-hao-te 74.31 319 *eP* **P 19 33 48.4 +1.3**
HHC AP pP 19 34 40.6 -1.8
HHC XP sP 19 35 05.4 -2.1
HHC PP PP 19 36 39.6 +2.9
HHC S S 19 43 02.1 +0.6
HHC SKS 19 43 29.6
HHC SCS ScS 19 43 34.5 -1.0
HHC XS sS 19 44 34.4 -4.1
HHC SS SS 19 47 56.9 +3.8
HHC AMB AMB
comp=Z,19nm,1.0s,mb4.7
HHC AMB AMB
comp=Z,247nm,6.0s
HHC LR LR
comp=N,195nm,11.4s
HHC LR LR
comp=E,202nm,6.9s
HHC LR LR
comp=Z,169nm,8.2s
HIA Hailar 74.86 330 *eP* **P 19 33 50.4 +0.4**
comp=Z,31nm,1.1s,mb4.8
HIA Hailar 74.86 330 *eP* **P 19 33 50.4 +0.3**
HIA pmax pmax
comp=Z,31nm,1.1s
CD2 Chengdu 74.95 307 *eP* **P 19 33 51.7 +0.7**
CD2 AP pP 19 34 44.7 -1.7
CD2 XP sP 19 35 08.3 -3.2
CD2 PP PP 19 36 44.7 +2.3
CD2 S S 19 43 08.7 -0.3
CD2 XS sS 19 44 42.0 -4.2
CD2 SS SS 19 48 05.7 +2.4
CD2 AMB AMB
comp=Z,30nm,1.0s,mb4.9
CD2 AMB AMB
comp=Z,60nm,5.8s
SEY Seymchan 76.72 353⇑ *eP* **P 19 34 00.4 +0.2**
QSPA South Pole Qui 76.86 180 *eP* **P 19 34 01.5 +0.6**
comp=Z,54nm,0.8s,mb5.2
LZH Lanzhou 77.17 312 ⇑P **P 19 34 05.0 +1.6**
LZH AP pP 19 34 58.5 -0.6
LZH XP sP 19 35 22.1 -2.0
LZH PP PP 19 37 04.6 +3.7
LZH AMB AMB
comp=Z,37nm,1.3s,mb4.8
LZH AMB AMB
comp=Z,83nm,7.5s
LZH Lanzhou 77.17 312 ⇑P **P 19 34 05.0 +1.6**
comp=Z,37nm,1.3s,mb4.8
LZH pP pP 19 34 58.5 -0.6
LZH sP sP 19 35 22.1 -2.0
LZH PP PP 19 37 04.6 +3.7
LZH Lanzhou 77.17 312 ⇑P **P 19 34 05.0 +1.6**
LZH *PP pP 19 34 58.5 -0.6
LZH *SP sP 19 35 22.1 -2.0
LZH 19 37 04.6
LZH pmax pmax
comp=Z,37nm,1.3s,mb4.8
CLNS Chul'man 78.03 338 *eP* **P 19 34 08.4 +0.8**
CLNS pmax pmax
comp=Z,32nm,0.8s,mb5.0
CLNS pmax pmax
comp=N,15nm,1.0s
CLNS pmax pmax
comp=E,10.0nm,1.0s
CIT Chita 79.66 330 *eP* **P 19 34 17.1 +0.5**
CIT *e* 19 34 20.0
CIT pmax pmax
comp=Z,60nm,1.2s,mb5.1
SVW2 Sparrevohn 79.70 17 *eP* **P 19 34 18.0 +1.4**
YAK Yakutsk 80.50 343 *eP* **P 19 34 20.6 -0.2**
comp=Z,21nm,0.7s,mb4.9
YAK Yakutsk 80.50 343 *eP* **P 19 34 20.8 0.0**
YAK pmax pmax
comp=Z,53nm,1.0s,mb5.1
YAK pmax pmax
comp=N,22nm,1.2s
YAK pmax pmax
comp=E,20nm,1.7s
TNA Tin City 80.69 10 *eP* **P 19 34 21.6 -0.1**
comp=E,8.8nm,0.8s,mb4.4
SLKM Skilak Lake 80.91 20 *eP* **P 19 34 22.6 -0.4**
BILL Bilibino 80.98 360 *eP* **P 19 34 23.1 -0.2**
comp=E,23nm,0.8s,mb4.8
BILL Bilibino 80.98 360 *c i*P **P 19 34 23.3 0.0**
BILL *e* pP 19 35 15.3 -4.3
BILL pmax pmax
comp=Z,30nm,1.0s,mb4.9
TTA Tatalina 81.06 16 *eP* **P 19 34 23.1 -0.7**
comp=Z,21nm,1.1s,mb4.7
TTA Tatalina 81.06 16 *eP* **P 19 34 23.1 -0.7**
TTA pmax pmax
comp=Z,21nm,1.1s,mb4.7
SONM Songino Array 81.16 324 P **P 19 34 25.2 +0.5**
SONM pP pP 19 35 15.9 -5.1
SONM Songino Array 81.16 324 P **P 19 34 25.2 +0.5**
comp=Z,9.8nm,1.0s,mb4.4,baz=139,slow=5.1,SNR=71
SONM pP pP 19 35 15.9 -5.1
comp=Z,0.7nm,0.6s,baz=137,slow=6.2,SNR=1.4
SONM PKiKP PKiKP 19 39 47.7 -0.8
comp=Z,0.4nm,0.7s,baz=70,slow=2.1,SNR=3.5
SONM PKKPbc PKKPbc 19 52 59.0 -2.6
comp=Z,0.3nm,0.8s,baz=291,slow=2.4,SNR=4.9
GTA Gaotai 81.49 314 P **P 19 34 27.8 +1.2**
GTA AMB AMB
comp=Z,19nm,1.1s,mb4.6
BOD Bodaibo 83.01 334 *eP* **P 19 34 33.0 -1.0**
P01C Double 8 Ranch 83.08 47 ⇑P **P 19 34 35.3 +0.4**
baz=83
MAW Mawson 83.28 202 P **P 19 34 36.0 +0.6**
comp=Z,7.6nm,0.6s,mb4.6,baz=109,slow=6.7,SNR=19
M01C Crescent City 83.49 44 ⇓P **P 19 34 37.3 +0.4**
baz=84
GASB Alder Springs 83.60 47 ⇓P **P 19 34 37.9 +0.5**
baz=84
N02C Big Bar 83.64 46 ⇑P **P 19 34 37.8 +0.1**
baz=84
PACP Pacheco Peak 83.64 50 ⇑P **P 19 34 37.8 0.0**
baz=84
MCK McKinley 83.71 18 *eP* **P 19 34 36.5 -1.0**
comp=Z,52nm,1.2s,mb5.1
MCK McKinley 83.71 18 *eP* **P 19 34 36.5 -1.0**
MCK pmax pmax
comp=Z,52nm,1.2s,mb5.1
O02C Red Bluff 83.75 46 ⇑P **P 19 34 38.4 +0.1**
baz=84
L02A Cave Junction 83.97 44 ⇑P **P 19 34 39.2 0.0**
baz=84
WDC Whiskeytown Da 84.08 46 ⇑P **P 19 34 40.2 +0.3**
baz=84
SUTB Sutter Butte 84.10 48 ⇓P **P 19 34 39.9 -0.1**
baz=84
IMA2 Indian Mountai 84.18 15 *eP* **P 19 34 39.2 -0.5**
M02C Callahan 84.18 45 ⇓P **P 19 34 39.7 -0.7**
baz=84
ZAK Zakamensk 84.20 325 ⇓*i*P **P 19 34 39.8 -0.4**
ZAK pmax pmax
comp=Z,16nm,1.1s,mb4.7
K02A Glendale 84.29 44 ⇓P **P 19 34 41.0 +0.1**
baz=84
OHCM Honcut 84.36 48 *eP* **P 19 34 40.7 -0.6**
YBH Yreka Blue Hor 84.41 45 *eP* **P 19 34 41.6 +0.1**
comp=Z,10nm,1.3s,mb4.4
YBH Yreka Blue Hor 84.41 45 *eP* **P 19 34 41.6 +0.1**
YBH pmax pmax
comp=Z,10.0nm,1.3s
YBH Yreka Blue Hor 84.41 45 ⇓P **P 19 34 41.3 -0.3**
baz=84
ORV Oroville 84.43 47 ⇑P **P 19 34 41.3 -0.3**
baz=84
J02A Umpqua 84.47 43 ⇑P **P 19 34 41.8 +0.1**
baz=85
S05C Merced 84.48 50 ⇑P **P 19 34 41.5 -0.5**
baz=85
IRK Irkutsk 84.56 327⇑*i*P **P 19 34 41.0 -1.0**
IRK pmax pmax
comp=Z,36nm,1.3s,mb4.9
I02A Mapleton 84.56 43 ⇓P **P 19 34 41.8 -0.4**
baz=85
HUMO Hull Mountain 84.58 44 ⇓P **P 19 34 42.3 -0.1**
baz=85
LSA Lhasa 84.61 302 P **P 19 34 44.4 +1.6**
LSA AMB AMB
comp=Z,10.0nm,0.8s,mb4.6
LSA Lhasa 84.61 302 *eP* **P 19 34 44.1 +1.3**
comp=Z,17nm,0.6s,mb4.9
LSA Lhasa 84.61 302 *eP* **P 19 34 44.1 +1.3**
LSA pmax pmax
comp=Z,17nm,0.6s,mb5.0
TLY Talaya 84.62 326 *eP* **P 19 34 41.3 -1.0**
comp=Z,21nm,0.8s,mb4.9
TLY Talaya 84.62 326 *c i*P **P 19 34 42.2 -0.1**
TLY pmax pmax
comp=Z,7.0nm,1.3s,mb4.2
T06C Millerton Lake 84.82 50 ⇓P **P 19 34 43.3 -0.3**
baz=85
COLA College 84.87 18 *eP* **P 19 34 42.5 -0.7**
comp=Z,36nm,1.0s,mb5.1
COLA College 84.87 18⇑*eP* **P 19 34 42.3 -1.0**
COLA *i* *PP pP 19 35 34.8 -5.3
J03A Ideyld Park 84.88 43 ⇑P **P 19 34 43.9 +0.1**
baz=85
P05C Yuba Gap, Truc 84.98 48 ⇑P **P 19 34 44.0 -0.4**
baz=85
O04C Chester 85.01 47 ⇓P **P 19 34 44.3 -0.2**
baz=85
M04C Macdoel 85.03 45 ⇓P **P 19 34 44.3 -0.3**
baz=85
R05C Kirkwood Meado 85.15 49 ⇓P **P 19 34 44.8 -0.5**
baz=85
H03A Soap Creek Ran 85.19 42 ⇑P **P 19 34 45.3 +0.1**
baz=85
HELL Mitchell Peak 85.22 51 ⇓P **P 19 34 45.3 -0.4**
baz=85
KCC Kaiser Creek 85.22 50 ⇓P **P 19 34 45.5 -0.2**
baz=85
ISA Isabella 85.30 52 ⇓P **P 19 34 46.0 -0.1**
baz=85
M05C Lookout 85.35 46 ⇓P **P 19 34 46.3 +0.1**
baz=85
BEKR Beckwourth 85.36 47 ⇓P **P 19 34 46.2 -0.1**
baz=86
ELFS Eagle Lake Fie 85.37 47 ⇑P **P 19 34 46.4 0.0**
baz=86
J04A Umpqua Nationa 85.41 44 ⇓P **P 19 34 46.4 0.0**
baz=86
EDW2 Edwards Air Fo 85.41 53 ⇑P **P 19 34 46.6 0.0**
baz=86
I04A Tendick Farm, 85.42 43 ⇓P **P 19 34 46.4 -0.1**
baz=86
BFSC Mount Baldy St 85.45 53 ⇓P **P 19 34 46.8 -0.1**
baz=86
R07C Lee Vining 85.69 49 ⇓P **P 19 34 48.2 +0.3**
baz=86
L05A Lakeview 85.83 45 ⇑P **P 19 34 48.7 +0.1**
baz=86
H04A Detroit Lake 85.91 42 ⇓P **P 19 34 48.5 -0.4**
baz=86
MONP Monument Peak 86.00 55 ⇓P **P 19 34 49.5 -0.1**
baz=86
J05A Fort Rock 86.01 44 ⇑P **P 19 34 50.0 +0.6**
baz=86,SNR=6.8
K05A Summer Lake 86.04 45 ⇑P **P 19 34 49.9 +0.4**
baz=86,SNR=5.4
N06A Buffalo Meadow 86.06 47 ⇓P **P 19 34 49.9 +0.2**
baz=86
MOY Mondy 86.07 325 *eP* **P 19 34 48.6 -0.9**
S08C White Mtn Res 86.14 50 ⇓P **P 19 34 50.0 -0.2**
baz=86
MPMC Manual Prospec 86.18 52 ⇓P **P 19 34 50.4 0.0**
baz=86
NVAR Mina Array Bea 86.36 49 P **P 19 34 51.5 +0.3**
NVAR pP pP 19 35 42.0 -6.2
NVAR PKKPbc PKKPbc 19 52 49.6 +0.8
NVAR Mina Array Bea 86.36 49 P **P 19 34 51.5 +0.3**
comp=Z,0.8nm,0.7s,mb3.6,baz=224,slow=5.4,SNR=7.9
NVAR pP pP 19 35 42.0 -6.2
comp=Z,0.8nm,0.7s,baz=59,slow=34,SNR=5.6
NVAR PKKPbc PKKPbc 19 52 49.6 +0.8
comp=Z,0.3nm,0.6s,baz=84,slow=4.8,SNR=4.2
B04A Port Angeles 86.42 39 ⇑P **P 19 34 51.4 +0.2**
baz=86
K06A Valley Falls 86.50 45 ⇑P **P 19 34 51.9 +0.1**
baz=87
O07A Toulon 86.53 48 ⇑P **P 19 34 52.0 0.0**
baz=87
C04A Brinnon 86.61 39 ⇑P **P 19 34 52.5 +0.3**
baz=87
BELC Belle Mtn. 86.68 54 ⇓P **P 19 34 52.7 -0.2**
baz=87
J06A Christmas Vall 86.73 44 ⇓P **P 19 34 52.8 -0.1**
baz=87
M07A Soldier Meadow 86.75 46 ⇑P **P 19 34 52.7 -0.3**
baz=87
L07A Adell 86.85 46 ⇓P **P 19 34 53.9 +0.3**
baz=87,SNR=5.8
EGAK Eagle 86.89 20 *eP* **P 19 34 52.4 -0.7**
comp=Z,10nm,0.6s,mb4.7
E05A Randle 86.91 41 ⇓P **P 19 34 53.8 +0.2**
baz=87
I06A Prineville 86.95 44 ⇑P **P 19 34 54.3 +0.4**
baz=87,SNR=6.4
BC3 Big Chuckw Mtn 87.01 55 ⇓P **P 19 34 54.1 -0.4**
baz=87
D05A Enumclaw 87.01 40 ⇑P **P 19 34 54.5 +0.3**
baz=87
H06A Lindquist Farm 87.15 43 ⇑P **P 19 34 54.8 -0.1**
baz=87
K07A Rock Creek Ran 87.16 45 ⇑P **P 19 34 55.3 +0.3**
baz=87,SNR=5.4
A04A Legoe Bay, Lum 87.17 39 ⇓P **P 19 34 55.0 +0.2**
baz=87
TUQ Turquoise Mtn. 87.19 53 ⇓P **P 19 34 55.4 +0.2**
baz=87
GLA Glamis 87.33 55 *eP* **P 19 34 56.3 +0.3**
comp=Z,2.7nm,0.8s,mb4.0
GLA Glamis 87.33 55 *eP* **P 19 34 56.3 +0.3**
GLA pmax pmax
comp=Z,3.0nm,0.8s,mb4.1
GLA Glamis 87.33 55 ⇑P **P 19 34 56.2 +0.2**
baz=87
B05A Bryant 87.36 39 ⇑P **P 19 34 56.1 +0.3**
baz=88
C05A Tolt Reservoir 87.39 40 ⇓P **P 19 34 56.2 +0.3**
baz=88
IRM Iron Mountain 87.40 54 ⇓P **P 19 34 56.6 +0.3**
baz=88
E06A Yakima 87.41 41 ⇑P **P 19 34 55.9 -0.1**
baz=88
TPNV Topopah Spring 87.41 51 ⇑P **P 19 34 56.4 +0.1**
baz=88
S10A Tonopah Range, 87.46 50 ⇓P **P 19 34 56.4 -0.1**
baz=88
I07A Izee 87.47 44 ⇓P **P 19 34 56.5 +0.1**
baz=88,SNR=6.1
L08A Fields 87.61 46 ⇑P **P 19 34 57.5 +0.4**
baz=88,SNR=5.5
O09A Fish Creek Ran 87.75 48 ⇑P **P 19 34 57.9 +0.1**
baz=88
G07A Ruggs Ranch, H 87.79 43 ⇓P **P 19 34 57.6 -0.3**
baz=88
R10A Warm Springs 87.80 50 ⇑P **P 19 34 58.6 +0.5**
baz=88
J08A Circle Bar Ran 87.92 45 ⇑P **P 19 34 58.8 +0.3**
baz=88
E07A Sunnyside 88.13 41 ⇓P **P 19 34 59.7 +0.2**
baz=88
H08A Prairie City 88.19 44 ⇑P **P 19 35 00.1 +0.4**
baz=88
K09A Rome 88.21 45 ⇑P **P 19 34 59.8 -0.2**
baz=88,SNR=7.2
PDMCI Parker Dam,Lak 88.24 54 ⇑P **P 19 35 00.6 +0.3**
baz=88
G08A Pilot Rock 88.26 43 ⇑P **P 19 35 00.0 -0.1**
baz=88
R11A Troy Canyon, C 88.35 50 ⇓P **P 19 35 00.4 -0.3**
baz=88
J09A Fry Pan Ranch, 88.41 45 ⇓P **P 19 35 01.2 +0.3**
baz=88,SNR=8.3
TIXI Tiksi 88.41 349 *eP* **P 19 34 59.1 -1.2**
comp=Z,4.7nm,0.9s,mb4.3
TIXI Tiksi 88.41 349⇑*eP* **P 19 34 59.6 -0.6**
TIXI pmax pmax
comp=Z,13nm,2.2s,mb4.4
Q11A Duckwater 88.45 50 ⇓P **P 19 35 01.3 +0.1**
baz=88
M10A I.L. Ranch, Tu 88.66 47 ⇑P **P 19 35 02.1 0.0**
baz=89,SNR=6.2
B07A Winthrop 88.66 39 ⇑P **P 19 35 01.7 -0.2**
baz=89
A07A Ashnola River, 88.71 39 ⇓P **P 19 35 02.3 +0.2**
baz=89
K10A MacKenzie Ranc 88.83 46 ⇓P **P 19 35 02.4 -0.4**
baz=89,SNR=6.2
L10A Juniper Basin 88.89 46 ⇓P **P 19 35 02.7 -0.4**
baz=89,SNR=6.5
R12A Pony Springs, 89.08 50 ⇓P **P 19 35 04.0 -0.1**
baz=89
B08A Colville Reser 89.11 40 ⇑P **P 19 35 03.7 -0.3**
baz=89
M11A Holland Ranch, 89.16 47 ⇑P **P 19 35 04.6 +0.2**
baz=89,SNR=8.6
A08A Turner Farm, O 89.36 39 ⇑P **P 19 35 04.6 -0.5**
baz=90
K11A Parker Ranch, 89.41 46 ⇓P **P 19 35 05.7 +0.1**
baz=90,SNR=5.2
V14A Boquillas Ranc 89.44 53 ⇓P **P 19 35 06.0 +0.1**
baz=90
G10A Bishop Farm, J 89.49 43 ⇑P **P 19 35 06.1 +0.3**
baz=90
H10A Noah's Angus R 89.51 44 ⇑P **P 19 35 06.1 +0.1**
baz=90,SNR=6.2
N12A Clover Valley, 89.52 48 ⇑P **P 19 35 07.1 +1.0**
baz=90,SNR=8.1
O12A Currie 89.56 48 ⇓P **P 19 35 06.4 +0.1**
baz=90,SNR=9.2
Y15A Casa Rosa Ranc 89.58 55 ⇓P **P 19 35 06.9 +0.4**
baz=90
U14A Mt Trumbull 89.61 53 ⇓P **P 19 35 07.0 +0.4**
baz=90,SNR=8.2
F10A Beach Ranch, E 89.64 43 ⇓P **P 19 35 06.9 +0.4**
baz=90
M12A Wells 89.78 47 ⇑P **P 19 35 07.4 +0.1**
baz=90,SNR=7.3
A09A Danville 89.79 39 ⇑P **P 19 35 07.2 0.0**
baz=90
P13A Bates Ranch, G 89.85 49 ⇑P **P 19 35 07.4 -0.3**
baz=90,SNR=11
L12A House Creek Ra 89.94 47 ⇓P **P 19 35 08.5 +0.5**
baz=90,SNR=6.0
G11A Walters Elk Ra 90.09 43 ⇓P **P 19 35 09.4 +0.7**
baz=90
N13A Wendover, West 90.13 48 ⇓P **P 19 35 08.7 -0.3**
baz=90
SYO Syowa Base 90.16 197⇓*eP* **P 19 35 07.0 -1.6**
SYO Syowa Base 90.16 197⇑*e*PcP PcP 19 35 09.0 -0.6
SYO Syowa Base 90.16 197⇑*e*pP pP 19 36 01.9 -4.1
K12A Draper Farm, C 90.16 46 ⇑P **P 19 35 09.8 +0.8**
baz=90
J12A Stokes Ranch, 90.21 46 ⇑P **P 19 35 09.0 -0.2**
baz=90,SNR=12
Y16A Circle Bar Ran 90.25 55 ⇑P **P 19 35 10.4 +0.8**
baz=90
M13A Montello 90.31 48 ⇑P **P 19 35 09.8 0.0**
baz=90,SNR=8.6
E11A Bogner Ranch, 90.43 42 ⇓P **P 19 35 10.1 -0.1**
baz=90
H12A Diamond D Ranc 90.78 44 ⇓P **P 19 35 11.5 -0.3**
baz=91
HLID Hailey 90.78 45 ⇓P **P 19 35 12.2 +0.3**
baz=91
F12A Elk City 90.88 43 ⇓P **P 19 35 12.3 +0.1**
baz=91
J13A Cove Ranch, Pi 90.90 46 ⇓P **P 19 35 12.9 +0.4**
baz=91
M14A Sheep Mountain 90.94 48 ⇑P **P 19 35 12.8 +0.1**
baz=91
I13A Wildhorse Cree 91.09 45 ⇑P **P 19 35 13.9 +0.6**
baz=91
A11A Hall Mountain, 91.17 40 ⇓P **P 19 35 14.4 +0.8**
baz=91
H13A Challis 91.19 45 ⇑P **P 19 35 13.9 +0.1**
baz=91
G13A Cobalt 91.36 44 ⇑P **P 19 35 14.5 0.0**
baz=91
INK Inuvik 91.45 19 P **P 19 35 12.9 -1.6**
comp=Z,0.6nm,0.4s,mb3.9,baz=240,slow=6.7,SNR=4.3
WMQ Urumqi 91.53 315 *eP* **P 19 35 15.3 -0.1**
WMQ AMB AMB
comp=Z,6.0nm,1.4s,mb4.3
WMQ AMB AMB
comp=Z,228nm,6.2s
HYB Hyderabad 92.53 287 *eP* **P 19 35 20.5 -0.1**
HYB Hyderabad 92.53 287 *i* P **P 19 35 20.5 -0.1**
PDAR Pinedale Array 93.99 47 PKKPbc PKKPbc 19 52 28.4 -1.5
comp=Z,0.9nm,0.7s,baz=102,slow=6.2,SNR=7.6
SNAA Sanae 95.10 183 *eP* **P 19 35 30.6 -0.7**
SNAA *e* 19 35 33.9
SNAA *e* 19 35 40.8
SNAA *e* 19 35 47.7
SNAA Sanae 95.10 183⇓*i*P **P 19 35 30.5 -0.8**
TXAR Lajitas Array 95.65 61 P **P 19 35 34.8 +0.2**
comp=Z,0.3nm,0.7s,mb3.6,baz=224,slow=3.8,SNR=2.3
VNA3 Neumayer Olymp 95.77 181 *eP* **P 19 35 33.8 -0.6**
VNA3 *e* 19 35 36.3
VNA3 *e* 19 35 42.5
VNA3 *e* 19 35 48.5
MK31 Makanchi Array 95.98 317 *eP* **P 19 35 35.7 +0.1**
MKAR Makanchi Array 95.98 317 P **P 19 35 35.7 0.0**
MKAR PP PP 19 39 28.1 -3.5
MKAR Makanchi Array 95.98 317 P **P 19 35 35.7 0.0**
comp=Z,8.2nm,0.6s,mb5.1,baz=90,slow=6.5,SNR=111
MKAR PP PP 19 39 28.1 -3.5
comp=Z,0.8nm,0.8s,baz=92,slow=6.1,SNR=4.2
MKAR PKiKP PKiKP 19 40 12.7 -0.5
comp=Z,0.8nm,0.5s,baz=230,slow=1.2,SNR=6.6
MKAR PKKPbc PKKPbc 19 52 22.2 -2.6
comp=Z,1.3nm,0.7s,baz=278,slow=2.8,SNR=13
VNA2 Neumayer--Watz 96.04 182 *eP* **P 19 35 35.0 -0.6**
baz=189,slow=4.2
VNA2 *e* 19 35 37.7
VNA2 *e* 19 35 44.5
VNA2 *e* 19 35 50.7
ZAA0 Zalesovo Array 96.05 324 *eP* **P 19 35 34.6 -1.2**
ZALV Zalesovo Beam 96.05 324 P **P 19 35 35.0 -0.9**
ZALV Zalesovo Beam 96.05 324 P **P 19 35 35.0 -0.9**
comp=Z,7.4nm,0.7s,mb5.0,baz=113,slow=4.4,SNR=44
ZALV PKiKP PKiKP 19 40 12.9 -0.3
comp=Z,0.8nm,0.6s,baz=53,slow=0.7,SNR=4.0
ZALV PKKPbc PKKPbc 19 52 22.0 -2.9
comp=Z,0.7nm,0.5s,baz=282,slow=3.2,SNR=4.7
ZAL Zalesovo 96.06 324 P **P 19 35 35.0 -0.9**
YKA Yellowknife Ar 96.22 27 P **P 19 35 34.9 -1.5**
YKA pP pP 19 36 27.9 -6.1
YKA PKKPbc PKKPbc 19 52 21.6 -3.1
YKA Yellowknife Ar 96.22 27 P **P 19 35 34.9 -1.5**
YKA *PP pP 19 36 27.9 -6.1
YKA Yellowknife Ar 96.22 27 P **P 19 35 34.9 -1.5**
comp=Z,2.5nm,0.7s,mb4.6,baz=256,slow=4.6,SNR=41
YKA pP pP 19 36 27.9 -6.1
comp=Z,1.5nm,0.7s,baz=256,slow=4.7,SNR=6.6
YKA PKKPbc PKKPbc 19 52 21.6 -3.1
comp=Z,0.6nm,0.6s,baz=78,slow=2.6,SNR=11
VNA1 Neumayer--Stat 96.34 182 *eP* **P 19 35 37.3 +0.4**
VNA1 *e* 19 35 39.5
VNA1 *e* 19 35 46.7
VNA1 *e* 19 35 54.5
NVS Novosibirsk 97.16 325 *eP* **P 19 35 38.9 -1.9**
ARU Arti 111.12 326 *i* PKiKP PKiKP 19 40 40.4 -0.2
ARU 19 41 22.7
ARU 19 47 01.5
LPAZ La Paz 118.04 117 PKP PKPdf 19 40 55.5 +0.4
comp=Z,1.0nm,0.7s,baz=330,slow=1.8,SNR=4.2
LPAZ PKKPbc PKKPbc 19 51 15.3 +0.1
comp=Z,0.4nm,0.6s,baz=357,slow=11,SNR=4.7
ARCES ARCESS Array B 118.71 346 PKP PKPdf 19 40 54.5 -0.4
comp=Z,14nm,0.5s,baz=82,slow=2.2,SNR=97
ARCES PKKPbc PKKPbc 19 51 10.4 -3.9

comp=Z,3.0nm,0.7s,baz=187,slow=1.0,SNR=6.1
SCHQ Schefferville 121.07 33 PKP PKPdf 19 40 58.9 -0.9
comp=Z,3.0nm,0.8s,baz=263,slow=11,SNR=5.9
SDV Santo Domingo 123.24 88 PKP PKPdf 19 41 04.1 -1.1
comp=Z,1.5nm,0.7s,baz=128,slow=13,SNR=4.3
OBN Obninsk 123.30 329⇑*i*PKIKP PKPdf 19 41 03.3 -0.8
OBN pmax pmax
comp=Z,15nm,0.6s
KIV Kislovodsk 123.66 314 *e*PKIKP PKPdf 19 41 05.2 +0.1
KIV pmax pmax
comp=Z,7.0nm,1.1s
FINES FINESS Array B 124.22 339 PKP PKPdf 19 41 05.5 -0.1
comp=Z,8.5nm,0.7s,baz=53,slow=2.3,SNR=54
BOSA Boshof 124.47 221 *e*PKPdf PKPdf 19 41 07.5 +0.3
BOSA Boshof 124.47 221 PKP PKPdf 19 41 07.6 +0.4
comp=Z,9.0nm,0.8s,baz=181,slow=2.8,SNR=15
MALT Malatya 128.22 309 ⇓*P* PKPdf 19 41 15.2 +1.2
MALT Malatya 128.22 309 ⇓*P* PKPdf 19 41 15.2 +1.2
KMBO Kilima Mbogo 128.31 258 PKP PKPdf 19 41 15.8 +0.9
KMBO Kilima Mbogo 128.31 258 PKP PKPdf 19 41 15.8 +0.9
comp=Z,2.4nm,0.8s,baz=49,slow=5.7,SNR=8.5
NB2 NORSAR Subarra129.08 345 PKPdf PKPdf 19 41 14.6 -0.3
comp=Z,5.8nm,0.8s,baz=31,slow=1.9
NB2 NORSAR Subarra129.08 345 PKPdf PKPdf 19 41 14.6 -0.3
baz=31,slow=1.9
NOA NORSAR Array B 129.08 345 PKP PKPdf 19 41 14.7 -0.3
comp=Z,7.2nm,0.6s,baz=32,slow=2.0,SNR=28
AKASG Malin Array Be 129.36 327 PKP PKPdf 19 41 15.7 -0.1
comp=Z,3.6nm,0.5s,baz=48,slow=2.7,SNR=28
LSZ Lusaka 130.51 236 *e*PKPdf PKPdf 19 41 19.4 +0.4
ANTO Ankara 131.94 312 ⇓*P* PKPdf 19 41 21.8 +0.8
ANTO Ankara 131.94 312 ⇓*P* PKPdf 19 41 21.8 +0.8
VRI Vrincioaia 133.33 322 ⇑*P* PKPdf 19 41 24.8 +1.3
VRI Vrincioaia 133.33 322 ⇑*P* PKPdf 19 41 24.8 +1.3
MLR Muntele Rosu 134.00 322 ⇑*P* PKPdf 19 41 25.8 +1.1
MLR Muntele Rosu 134.00 322 ⇑*P* PKPdf 19 41 25.8 +1.1
KOLS Kolonicke sedl 134.05 328 *e*PKP PKPdf 19 41 25.4 +0.7
STHS Stebnicka Huta 134.26 329 *e*PKP PKPdf 19 41 24.6 -0.5
TRPA Tarpa 134.41 327⇑*i*P PKPdf 19 41 26.1 +0.7
CRVS Cervenica-Dubn 134.49 329 *e*PKP PKPdf 19 41 25.7 +0.2
BDFB Brasilia 134.98 128 PKP PKPdf 19 41 27.8 +0.3
comp=Z,3.3nm,0.7s,baz=201,slow=8.0,SNR=6.4
KECS Kecovo 135.25 329 *e*PKP PKPdf 19 41 26.9 -0.1
KECS Kecovo 135.25 329 *e*PKP PKPdf 19 41 26.8 -0.2
OKC Ostrava-Krasne 135.47 332 *e*PKPdf PKPdf 19 41 27.8 +0.5
MORC Moravsky Berou 135.79 332 ⇓*P* PKPdf 19 41 28.2 +0.3
MORC Moravsky Berou 135.79 332 ⇓*P* PKPdf 19 41 28.3 +0.4
GZR Gura Zlata 135.91 324 ⇑*P* PKPdf 19 41 29.0 +0.7
GZR Gura Zlata 135.91 324⇑*i*P PKPdf 19 41 29.0 +0.7
PSZ Piszkesteto 135.92 328 ⇑*P* PKPdf 19 41 29.2 +0.9
PSZ Piszkesteto 135.92 328⇑*i*P PKPdf 19 41 29.2 +1.0
DPC Dobruska-Polom 135.93 333 *e*PKPdf PKPdf 19 41 28.3 +0.1
UPC Upice 135.95 334 *e*PKPdf PKPdf 19 41 27.9 -0.3
VYHS Vyhne 136.07 330 *e*PKP PKPdf 19 41 28.0 -0.5
BZS Buzias 136.44 325 ⇓*P* PKPdf 19 41 28.8 -0.5
BZS Buzias 136.44 325⇓*i*P PKPdf 19 41 28.8 -0.5
BRG Berggiesshubel 136.54 335 *e*PKPdf PKPdf 19 41 29.7 +0.4
BRG Berggiesshubel 136.54 335 *i* PKP PKPdf 19 41 29.7 +0.4
comp=Z,24nm,1.5s
PVCC Panska Ves 136.54 335 *e*PKPdf PKPdf 19 41 30.4 +1.1
CLL Collm 136.57 337 *e*PKPdf PKPdf 19 41 29.7 +0.4
CLL Collm 136.57 337 *i* PKPdf PKPdf 19 41 29.7 +0.4
comp=Z,13nm,0.8s
FBE Freiberg 136.74 336 *e*PKPdf PKPdf 19 41 31.5 +1.9
MODS Modra-Piesok 136.90 331 *e*PKP PKPdf 19 41 30.8 +0.8
PRU Pruhonice 136.96 334 *e*PKPdf PKPdf 19 41 30.3 +0.2
TREC Trest 137.07 333 *e*PKPdf PKPdf 19 41 31.1 +0.8
CLZ Clausthal 137.11 339 *e*PKPdf PKPdf 19 41 31.1 +0.8
VTS Vitosha 137.21 320⇑*i*P PKPdf 19 41 31.2 +0.4
EKA Eskdalemuir Ar 137.24 352 PKP PKPdf 19 41 29.9 -0.5
EKA Eskdalemuir Ar 137.24 352 PKhKP 19 41 18.9
comp=Z,1.2nm,0.7s,baz=3.9,slow=2.7,SNR=5.3
EKA PKP PKPdf 19 41 29.9 -0.5
comp=Z,2.7nm,0.9s,baz=27,slow=5.8,SNR=5.4
TANN Tannenbergstha 137.49 336 *e*PKPdf PKPdf 19 41 31.8 +0.8
WERD Werda 137.52 336 *e*PKPdf PKPdf 19 41 33.5 +2.4
GUNZ Gunzen 137.58 336 *e*PKPdf PKPdf 19 41 31.1 -0.1
WERN Wernitzgruen 137.62 336 *e*PKPdf PKPdf 19 41 34.1 +2.8
MOX Moxa 137.63 337 *e*PKPdf PKPdf 19 41 31.2 -0.1
PKSM Moragy 137.68 327 ⇑*P* PKPdf 19 41 32.1 +0.6
PKSM Moragy 137.68 327⇑*i*P PKPdf 19 41 32.1 +0.6
CONA Conrad Observa 137.89 331⇑*i*PKPdf PKPdf 19 41 32.3 +0.4
comp=Z,11nm,0.7s
MANZ Manzenberg 137.96 336 *e*PKPdf PKPdf 19 41 31.7 -0.2
KHC Kasperske Hory 138.02 334 *e*PKPdf PKPdf 19 41 32.3 +0.2
GEC2 GERESS Array S 138.19 334 *e*PKPdf PKPdf 19 41 32.1 -0.3
GERES GERESS Array B 138.19 334 PKP PKPdf 19 41 33.2 +0.8
GERES SKPbc SKPbc 19 44 48.5 +4.2
GERES GERESS Array B 138.19 334 PKhKP 19 41 24.7
comp=Z,0.8nm,0.6s,baz=50,slow=6.5,SNR=8.2
GERES PKP PKPdf 19 41 33.2 +0.8
comp=Z,6.4nm,0.9s,baz=46,slow=4.2,SNR=17
GERES SKPbc SKPbc 19 44 48.5 +4.2
comp=Z,0.3nm,0.6s,baz=52,slow=5.2,SNR=4.4
WET Wettzell 138.31 335 *e*PKPdf PKPdf 19 41 33.0 +0.4
GRF Grafenberg Arr 138.55 336 *e*PKPdf PKPdf 19 41 34.0 +1.0
MEM Membach 139.61 341 PKPdf PKPdf 19 41 35.4 +0.5
ABH Alteburg 139.73 340 PKP PKPdf 19 41 36.3 +1.1
RUP Ruppelstein 140.05 340 PKP PKPdf 19 41 37.1 +1.3
SNF Seneffe 140.21 343 PKPdf PKPdf 19 41 35.3 -0.7
WLF Walferdange 140.38 341 PKPdf PKPdf 19 41 35.3 -1.0
WLF Walferdange 140.38 341 *e*PKPdf PKPdf 19 41 37.5 +1.1
DOU Dourbes 140.49 342 PKPdf PKPdf 19 41 37.6 +1.1
FELD Feldberg im Sc 141.26 337 PKP PKPdf 19 41 36.7 -1.3
DAVOS Davos 141.40 335 PKIKP PKPdf 19 41 38.6 +0.3
DAVOX Davos/Dischmat 141.41 335 PKP PKPdf 19 41 38.6 +0.3
DAVOX Davos/Dischmat 141.41 335 PKhKP 19 41 32.2
comp=Z,2.2nm,0.4s,baz=159,slow=14,SNR=7.2
DAVOX PKP PKPdf 19 41 38.6 +0.3
comp=Z,11nm,0.6s,baz=113,slow=2.3,SNR=14
CABF La Chapelle 143.03 338 *e*PKP1 PKPdf 19 41 38.9 -2.3
comp=Z,16nm,0.6s
FLN La Foliniere 143.05 346 *e*PKP1 PKPdf 19 41 37.3 -3.8
comp=Z,11nm,0.6s
LDF La Druitiere 143.12 346 *e*PKP1 PKPdf 19 41 37.7 -3.6
comp=Z,12nm,0.7s
GRR Gorron 143.49 347⇑*i*PKP1 PKPdf 19 41 39.3 -2.6
comp=Z,15nm,0.5s
SSF Saint Saulge 143.51 341 *e*PKP1 PKPdf 19 41 39.7 -2.3
comp=Z,19nm,0.8s
LPL La Plagne 143.71 337 *e*PKP1 PKPdf 19 41 41.1 -1.3
LPG La Plagne 143.72 336 *e*PKP1 PKPdf 19 41 41.2 -1.2
comp=Z,18nm,0.6s
SMF Signal de Mont 143.78 340 *e*PKP1 PKPdf 19 41 40.4 -2.1
comp=Z,96nm,1.5s
AVF Avril sur Loir 143.80 341⇑*i*PKP1 PKPdf 19 41 40.5 -2.0
comp=Z,28nm,1.0s
SGMF Saint Gilles 143.97 348 *e*PKP1 PKPdf 19 41 41.1 -1.7
comp=Z,73nm,0.8s
ROSF Rostrenen 144.03 349 *e*PKP1 PKPdf 19 41 41.1 -1.8
BNI Bardonecchia 144.12 336 *e*PKPdf PKPdf 19 41 42.4 -0.8
BGF Bois d'Agland 144.17 341 *e*PKP1 PKPdf 19 41 42.0 -1.2
comp=Z,58nm,0.7s
GDM Grand'Maison 144.21 337 PKP PKPdf 19 41 42.6 -0.7
GRN Grenoble 144.32 337 PKP PKPdf 19 41 43.2 -0.3
MBDF Montbardon 144.35 336⇑*i*PKP1 PKPdf 19 41 42.6 -1.0
comp=Z,42nm,0.8s
QUIF Quistinic 144.41 349 *e*PKP1 PKPdf 19 41 42.3 -1.3
comp=Z,73nm,0.8s
PLDF La Plantade 144.44 340 PKP PKPdf 19 41 43.5 -0.2
AGO Saint Agoulin 144.53 341 PKP PKPdf 19 41 43.3 -0.5
SURF Saint Ours 144.54 335 PKP PKPdf 19 41 44.0 +0.1
ORIF Oris-en-Rattie 144.54 337⇑*i*PKP1 PKPdf 19 41 43.7 -0.2
comp=Z,123nm,0.8s
TCF Toulx Ste Croi 144.61 342⇑*i*PKP1 PKPdf 19 41 43.5 -0.5
comp=Z,64nm,0.8s
SAOF Saorge 144.63 334 PKP PKPdf 19 41 43.5 -0.6
AUTN L'Aution 144.68 334 PKP PKPdf 19 41 43.9 -0.3
TOUF Mont Tournerai 144.74 335 PKP PKPdf 19 41 43.9 -0.4
SBF Sospel 144.78 334 *e*PKP1 PKPdf 19 41 43.8 -0.5
comp=Z,221nm,0.9s
LUCF Luceram 144.80 334 PKP PKPdf 19 41 44.1 -0.3
COLF Collangettes 144.81 340 PKP PKPdf 19 41 44.6 +0.3
PYM Petit Puy Mans 144.84 341 PKP PKPdf 19 41 44.5 +0.1
MVIF Mont Vial 144.88 335 PKP PKPdf 19 41 44.3 -0.2
REVF Revere 144.91 334 PKP PKPdf 19 41 44.4 -0.2
MFF Saint Martin d 144.98 345⇑*i*PKP1 PKPdf 19 41 44.7 +0.1
comp=Z,187nm,0.8s
VERF Verneugheol 145.00 341 PKP PKPdf 19 41 44.8 +0.1
VIVF Saint-Julien-l 145.04 338 *e*PKP1 PKPbc 19 41 45.3 +0.6
comp=Z,143nm,1.2s
OG26 St.-Nazaire-De 145.05 337 PKP PKPdf 19 41 45.6 +0.8
OCF Saint Nazaire 145.05 337 PKP PKPdf 19 41 45.6 +0.8
PGF Pioggiola 145.13 331 *e*PKP1 PKPbc 19 41 45.1 +0.1
comp=Z,164nm,1.2s
LBL Lubilhac 145.22 340 PKP PKPdf 19 41 46.3 +1.3
FRF La Foret Royal 145.36 335⇑*i*PKP1 PKPbc 19 41 45.7 0.0
comp=Z,125nm,1.0s
SMRF Simiane la Rot 145.45 336 *e*PKP1 PKPbc 19 41 45.7 -0.3
comp=Z,80nm,1.0s
LMR La Mourre 145.60 335⇑*i*PKP1 PKPbc 19 41 46.5 0.0
comp=Z,69nm,0.8s
RJF Les Rejaudoux 145.70 342⇑*i*PKP1 PKPbc 19 41 47.1 +0.4
CAF Calviac 145.87 341 *e*PKP1 PKPbc 19 41 47.8 +0.6
comp=Z,35nm,0.9s
LASF Ste Croix 146.01 338 *e*PKP1 PKPbc 19 41 48.2 +0.6
comp=Z,91nm,1.0s
LFF La Frestale 146.27 342⇑*i*PKP1 PKPbc 19 41 48.7 +0.3
comp=Z,47nm,0.7s
MTLF Montolieu 147.23 339⇑*i*PKP1 PKPbc 19 41 51.7 +0.6
comp=Z,94nm,1.0s
VSL Villasalto 147.23 327 *e*PKPdf PKPdf 19 41 47.9 -0.8
FILF Fillols 147.80 338 PKP PKPbc 19 41 53.0 +0.3
MLS Moulis 147.95 340 PKP PKPbc 19 41 53.3 +0.3
EPF Esparros 148.12 341 *e*PKP1 PKPbc 19 41 53.7 +0.2
comp=Z,15nm,0.8s
VIEF Viey 148.35 342 PKP PKPbc 19 41 55.2 +1.1
SJPF Ste Jean 148.50 344 *e*PKP1 PKPbc 19 41 54.8 +0.3
comp=Z,18nm,0.6s
LARF Larrau 148.51 343 PKP PKPbc 19 41 55.5 +1.0
ETSF Etsaut 148.51 343 *e*PKP1 PKPbc 19 41 55.4 +0.9
comp=Z,22nm,0.6s
KEST Kesra 149.91 322 PKP PKPdf 19 41 53.9 +0.8
comp=Z,15nm,0.7s,baz=112,slow=1.5,SNR=5.1
KEST PKPbc PKPbc 19 41 58.9 +0.7
comp=Z,15nm,0.7s,baz=286,slow=0.3,SNR=48
PBRG Braganca 150.97 351 *e*PKPbc PKPbc 19 42 00.9 +0.4
PCAB Cabril 151.24 352 *e*PKPbc PKPbc 19 42 01.8 +0.7
MVO Moncorvo 151.64 351 *e*PKPbc PKPbc 19 42 02.6 +0.6
PTO Porto 151.88 353 *e*PKPbc PKPbc 19 42 03.3 +0.7
PVIS Viseu 152.20 352 *e*PKPbc PKPbc 19 42 03.7 +0.4
ESDC Sonseca Array 152.44 345 PKP PKPdf 19 41 57.4 +0.6
comp=Z,1.2nm,0.8s,baz=4.1,slow=2.1,SNR=5.5
ESDC PKPbc PKPbc 19 42 04.4 +0.5
comp=Z,12nm,0.7s,baz=12,slow=3.0,SNR=61
ESDC PKPab PKPab 19 42 15.4 +0.5
comp=Z,3.3nm,0.5s,baz=9.1,slow=4.7,SNR=9.9
ESLA Sonseca Array 152.44 345 *e*PKPbc PKPbc 19 42 04.3 +0.4
MTE Manteigas 152.46 351 *e*PKPbc PKPbc 19 42 04.5 +0.6
MTE Manteigas 152.46 351 *e*PKPbc PKPbc 19 42 04.2 +0.3
PAB San Pablo 152.66 346 *e*PKPbc PKPbc 19 42 04.8 +0.4
PCBR Castelo Branco 153.00 351 *e*PKPbc PKPbc 19 42 05.4 +0.3
PBAR Barrancos 154.55 349 *e*PKPab PKPab 19 42 24.4 +0.5
PBEJ Beja 154.84 351 *e*PKPab PKPab 19 42 26.3 +1.2
MDT Midelt 159.03 340 PKPab PKPab 19 42 44.5 +1.2
comp=Z,2.9nm,0.8s,baz=57,slow=4.5,SNR=4.3
TORD Torodi Ar. Bea 165.81 272 PKP PKPdf 19 42 12.2 -0.7
comp=Z,6.6nm,0.9s,baz=32,slow=0.9,SNR=28
TORD PKPab PKPab 19 43 13.8 -0.1
comp=Z,3.4nm,0.8s,baz=82,slow=4.6,SNR=11
DBIC Dimbokro 169.81 232 PKP PKPdf 19 42 14.8 -1.0
comp=Z,2.8nm,0.3s,baz=146,slow=5.1,SNR=18
DBIC PKPab PKPab 19 43 31.8 +0.3
comp=Z,3.0nm,0.9s,baz=129,slow=3.0,SNR=6.6

*ISCJB **05** 19:25:12.5±0.3,3737N±004×2464W±002,h10km, mb4.0/21,MS3.6/2,Error ellipse: s-maj=5.7km s-min=2.5km az=11.5*
*IDC **05** 19:25:12.8±0.9,3732N×2464W,h0km,mb4.0/10, mb1 4.1/11,mb1mx3.9/25,mbtmp3.9/11,ML4.2/1,MS3.6/3, Ms1 3.6/3,ms1mx3.1/27,Error ellipse: s-maj=27.0km s-min=17.5km az=173.0*
*SVSA **05** 19:25:14.8±1.1,3727N×2455W,h5km,MD3.6,ML3.8, Error ellipse: s-maj=5.4km s-min=3.1km az=68.0*
*NEIC **05** 19:25:14.2±0.5,3730N×2456W,h10km,mb4.2/15,Error ellipse: s-maj=12.7km s-min=6.6km az=166.0*
*PDA **05** 19:25:14.8±1.1,3727N×2455W,h5km,MD3.6,ML3.8, Error ellipse: s-maj=5.4km s-min=3.1km az=68.0*
*CSEM **05** 19:25:15.4±0.1,3750N×2469W,h30km,mb4.1/10,Ms2.9, Error ellipse: s-maj=4.8km s-min=1.1km az=5.0*
ISC 05 19:25:15.2±0.5,3732N±004×2477W±003,h25km±3km, n105,σ0°89/132,mb4.0/22,MS3.6/2,Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSMN	**Pico do Norte,**	**0.40**	**217**	*i P*	**Pb**	**19 25 23.1**	**-0.6**
PSMN				*i* S	**Sb**	**19 25 29.6**	**+0.2**
MIRA	**Miradouro**	**0.61**	**319**	*i P*	**Pb**	**19 25 27.2**	**-0.1**
FRA1	**Furnas**	**0.63**	**312**	*i P*	**Pb**	**19 25 27.5**	**0.0**
PCNG	**Congro**	**0.67**	**312**	*e*P	**Pb**	**19 25 28.1**	**-0.1**
PCNG				*e*S	**Sb**	**19 25 38.5**	**+1.5**
PCNG				A		19 25 45.5	
802nm,0.3s							
PCNG	**Congro**	**0.67**	**312**	*e*P	**Pb**	**19 25 28.1**	**-0.1**
PCNG				*e*S	**Sb**	**19 25 38.5**	**+1.5**
PFAD	**Fenais da Ajud**	**0.68**	**320**	*i P*	**Pb**	**19 25 28.2**	**-0.2**
VIF	**Vila Franca**	**0.68**	**309**	*e*P	**Pb**	**19 25 28.3**	**-0.1**
VIF				*e*S	**Sb**	**19 25 38.6**	**+1.2**
PRCH	**Ribeira Ch**	**0.69**	**306**	*e*P	**Pb**	**19 25 28.5**	**-0.1**
PRCH				*e*S	**Sb**	**19 25 39.3**	**+1.5**
PRCH				A		19 25 42.4	
2μm,0.5s							
PRCH	**Ribeira Ch**	**0.69**	**306**	*e*P	**Pb**	**19 25 28.5**	**-0.1**
PRCH				*e*S	**Sb**	**19 25 39.3**	**+1.5**
MESC	**Monte Escuro**	**0.71**	**311**	*e*P	**Pb**	**19 25 28.9**	**-0.1**
MESC				*e*S	**Sb**	**19 25 39.5**	**+1.2**
LFA	**Lagoa do Fogo**	**0.72**	**309**	*i P*	**Pb**	**19 25 29.0**	**-0.1**
PMAT	**Coroa da Mata**	**0.74**	**312**	*e*P	**Pb**	**19 25 29.2**	**-0.3**
PMAT				*e*S	**Sb**	**19 25 40.4**	**+1.2**
PVER	**Pico Vermelho**	**0.76**	**309**	*e*P	**Pb**	**19 25 29.5**	**-0.2**
PVER				*e*S	**Sb**	**19 25 40.3**	**+0.7**
PVER				A		19 25 45.1	
1μm,0.4s							
PVER	**Pico Vermelho**	**0.76**	**309**	*e*P	**Pb**	**19 25 29.5**	**-0.2**
PVER				*e*S	**Sb**	**19 25 40.3**	**+0.7**
CML	**Cha da Macela**	**0.76**	**306**	*i P*	**Pb**	**19 25 29.6**	**-0.2**
PDA	**Ponta Delgada**	**0.83**	**301**	*e*P	**Pb**	**19 25 28.7**	**-2.2**
PDA				*e*S	**Sb**	**19 25 40.2**	**-1.4**
FAC	**Faja de Cima**	**0.83**	**303**	*e*P	**Pb**	**19 25 31.3**	**+0.3**
PSET	**Sete Cidades**	**0.91**	**304**	*e*P	**Pb**	**19 25 31.0**	**-1.2**
PSET				*e*S	**Sb**	**19 25 44.5**	**+0.6**
PSET				A		19 25 50.6	
1μm,0.4s							
PSET	**Sete Cidades**	**0.91**	**304**	*e*P	**Pb**	**19 25 31.0**	**-1.2**
PSET				*e*S	**Sb**	**19 25 44.5**	**+0.6**
PSAN	**Santo Antonio**	**0.92**	**305**	*e*P	**Pb**	**19 25 32.0**	**-0.5**
PFET	**Feteiras**	**0.95**	**302**	*e*P	**Pn**	**19 25 32.3**	**-0.6**
SET2	**Ginetes**	**0.97**	**303**	*e*P	**Pn**	**19 25 32.9**	**-0.4**
SET4	**Mosteiros**	**0.98**	**304**	*e*P	**Pn**	**19 25 33.0**	**-0.4**
PFAV	**Pico das Favas**	**2.29**	**308**	*e*P	**Pn**	**19 25 51.4**	**0.0**
PFAV				*e*S	**Sn**	**19 26 18.4**	**-0.5**
PFAV				A		19 26 22.9	
125nm,0.1s							
PFAV	**Pico das Favas**	**2.29**	**308**	*e*P	**Pn**	**19 25 51.4**	**0.0**
PFAV				*e*S	**Sn**	**19 26 18.4**	**-0.5**
PSCM	**Serra do Cume**	**2.31**	**307**	*e*P	**Pn**	**19 25 50.8**	**-0.8**
PSCM				*e*S	**Sn**	**19 26 18.5**	**-0.7**
PSCM				A		19 26 22.9	
328nm,0.2s							
PSCM	**Serra do Cume**	**2.31**	**307**	*e*P	**Pn**	**19 25 50.8**	**-0.8**
PSCM				*e*S	**Sn**	**19 26 18.5**	**-0.7**
RIB2	**Ribeirinha**	**2.33**	**306**	*e*P	**Pn**	**19 25 51.8**	**-0.1**
RIB2				*e*S	**Sn**	**19 26 19.3**	**-0.4**
RIB2				A		19 26 22.3	
170nm,0.4s							
RIB2	**Ribeirinha**	**2.33**	**306**	*e*P	**Pn**	**19 25 51.8**	**-0.1**
RIB2				*e*S	**Sn**	**19 26 19.3**	**-0.4**
ADH	**Angra Heroismo**	**2.36**	**305**	*e*P	**Pn**	**19 25 51.9**	**-0.4**
ADH				*e*S	**Sn**	**19 26 19.5**	**-1.0**
PVNV	**Vila Nova**	**2.37**	**308**	*e*P	**Pn**	**19 25 52.6**	**+0.1**
PVNV				*e*S	**Sn**	**19 26 20.1**	**-0.6**
PVNV				A		19 26 24.9	
134nm,0.4s							
PVNV	**Vila Nova**	**2.37**	**308**	*e*P	**Pn**	**19 25 52.6**	**+0.1**
PVNV				*e*S	**Sn**	**19 26 20.1**	**-0.6**
PPAD	**Pico dos Padre**	**2.42**	**305**	*e*P	**Pn**	**19 25 53.7**	**+0.6**
PPAD				*e*S	**Sn**	**19 26 22.1**	**+0.2**
PPAD				A		19 26 29.3	
79nm,0.3s							
PPAD	**Pico dos Padre**	**2.42**	**305**	*e*P	**Pn**	**19 25 53.7**	**+0.6**
PPAD				*e*S	**Sn**	**19 26 22.1**	**+0.2**
PBIS	**Biscoitos**	**2.43**	**307**	*e*P	**Pn**	**19 25 53.3**	**0.0**
PBIS				*e*S	**Sn**	**19 26 21.5**	**-0.7**
PBIS				A		19 26 28.0	
66nm,0.2s							
PBIS	**Biscoitos**	**2.43**	**307**	*e*P	**Pn**	**19 25 53.3**	**0.0**
PBIS				*e*S	**Sn**	**19 26 21.5**	**-0.7**
ASBA	**Santa Barbara**	**2.45**	**305**	*e*P	**Pn**	**19 25 54.4**	**+0.8**
ASBA				*e*S	**Sn**	**19 26 22.4**	**-0.4**
ASBA				A		19 26 26.5	
65nm,0.2s							
ASBA	**Santa Barbara**	**2.45**	**305**	*e*P	**Pn**	**19 25 54.4**	**+0.8**
ASBA				*e*S	**Sn**	**19 26 22.4**	**-0.4**
PIED	**Piedade**	**2.82**	**294**	*e*P	**Pn**	**19 25 58.6**	**-0.1**
PID	**Ribeirinha**	**2.88**	**294**	*e*P	**Pn**	**19 25 59.1**	**-0.3**
PMAN	**Manadas**	**2.93**	**298**	*e*P	**Pn**	**19 26 00.1**	**-0.1**
PMAN				*e*S	**Sn**	**19 26 33.9**	**-0.7**
ROSA	**Rosais**	**3.08**	**298**	*e*P	**Pn**	**19 26 02.0**	**-0.2**
ROSA				*e*S	**Sn**	**19 26 37.1**	**-1.1**
STGR	**Santa Cruz**	**3.09**	**306**	*e*P	**Sn**	**19 26 39.2**	**+0.6**
PICO	**Pico**	**3.12**	**293**	*e*P	**Pn**	**19 26 03.0**	**+0.2**
PICO				*e*S	**Sn**	**19 26 38.8**	**-0.5**
HOR	**Horta**	**3.28**	**293**	*e*P	**Pn**	**19 26 04.4**	**-0.6**
CALA	**Caldeira**	**3.35**	**293**	*e*P	**Pn**	**19 26 05.6**	**-0.4**
EVOP	**Sao Brissos**	**13.20**	**80**	*e*Sn	**Sn**	**19 30 29.4**	**-18**
EVO	**Evora**	**13.29**	**80**	*e*Sn	**Sn**	**19 30 29.4**	**-20**
5.3nm,0.3s							
EVO				*e*MLR	MLR		
comp=Z,127nm,17.0s							
ESDC	**Sonseca Array**	**16.46**	**75**	Pn	**Pn**	**19 29 02.9**	**-1.5**
comp=Z,0.2nm,0.3s,baz=266,slow=13,SNR=3.8							
MDT	**Midelt**	**17.10**	**99**	LR	LR	19 34 15.1	
comp=Z,116nm,18.9s,baz=154,slow=32							
QUIF	**Quistinic**	**19.04**	**49**	*e*P	**Pn**	**19 29 34.8**	**-1.3**
comp=Z,44nm,1.3s							
QUIF	**Quistinic**	**19.04**	**49**	*e*P	**Pn**	**19 29 34.8**	**-1.3**
comp=Z,22nm,1.3s							
ROSF	**Rostrenen**	**19.16**	**48**	*e*P	**Pn**	**19 29 36.3**	**-1.3**
MFF	**Saint Martin d**	**20.45**	**55**	*e*P	**P**	**19 29 50.8**	**0.0**
comp=Z,31nm,1.1s							
MFF	**Saint Martin d**	**20.45**	**55**	*e*P	**P**	**19 29 50.8**	**0.0**
comp=Z,16nm,1.1s							
LFF	**La Frestale**	**20.61**	**60**	*e*P	**P**	**19 29 52.7**	**+0.2**
comp=Z,84nm,1.5s							
LFF	**La Frestale**	**20.61**	**60**	*e*P	**P**	**19 29 52.7**	**+0.2**
comp=Z,42nm,1.5s							
GRR	**Gorron**	**20.64**	**50**	*e*P	**P**	**19 29 53.0**	**+0.3**
comp=Z,54nm,1.1s							
GRR	**Gorron**	**20.64**	**50**	*e*P	**P**	**19 29 53.0**	**+0.3**
comp=Z,27nm,1.1s							
FLN	**La Foliniere**	**21.02**	**49**	*e*P	**P**	**19 29 56.7**	**-0.1**
comp=Z,29nm,1.0s,mb4.2							
FLN	**La Foliniere**	**21.02**	**49**	*e*P	**P**	**19 29 56.7**	**-0.1**
comp=Z,14nm,1.0s,mb4.2							
LDF	**La Druitiere**	**21.17**	**50**	*e*P	**P**	**19 29 58.8**	**+0.3**
comp=Z,20nm,1.1s,mb4.1							
LDF	**La Druitiere**	**21.17**	**50**	*e*P	**P**	**19 29 58.8**	**+0.3**
comp=Z,10nm,1.1s,mb4.1							
CAF	**Calviac**	**21.53**	**61**	*e*P	**P**	**19 30 01.8**	**-0.5**
comp=Z,35nm,1.1s,mb4.4							
CAF	**Calviac**	**21.53**	**61**	*e*P	**P**	**19 30 01.8**	**-0.5**
comp=Z,18nm,1.1s,mb4.4							
TCF	**Toulx Ste Croi**	**21.93**	**57**	*e*P	**P**	**19 30 06.7**	**+0.1**
comp=Z,24nm,1.2s,mb4.2							
TCF	**Toulx Ste Croi**	**21.93**	**57**	*e*P	**P**	**19 30 06.7**	**+0.1**
comp=Z,12nm,1.2s,mb4.2							
BGF	**Bois d'Agland**	**22.42**	**57**	*e*P	**P**	**19 30 11.7**	**-0.2**
comp=Z,15nm,0.9s,mb4.1							
BGF	**Bois d'Agland**	**22.42**	**57**	*e*P	**P**	**19 30 11.7**	**-0.2**
comp=Z,7.6nm,0.9s,mb4.2							
AVF	**Avril sur Loir**	**22.82**	**57**	*e*P	**P**	**19 30 16.0**	**-0.1**
SSF	**Saint Saulge**	**22.99**	**56**	*e*P	**P**	**19 30 16.9**	**-1.0**
comp=Z,6.2nm,0.8s,mb3.8							
SSF	**Saint Saulge**	**22.99**	**56**	*e*P	**P**	**19 30 16.9**	**-1.0**
comp=Z,3.1nm,0.8s,mb3.8							
SMF	**Signal de Mont**	**23.11**	**57**	*e*P	**P**	**19 30 18.6**	**-0.6**
comp=Z,8.1nm,0.8s,mb3.9							
SMF	**Signal de Mont**	**23.11**	**57**	*e*P	**P**	**19 30 18.6**	**-0.6**
comp=Z,4.1nm,0.8s,mb3.9							
ESK	**Eskdalemuir**	**23.20**	**32**	*e*P	**P**	**19 30 21.0**	**+1.1**
comp=Z,2.9nm,0.7s,mb3.8							
ESK	**Eskdalemuir**	**23.20**	**32**	*e*P	**P**	**19 30 21.0**	**+1.0**
comp=Z,2.9nm,0.7s,mb3.8							
EKA	**Eskdalemuir Ar**	**23.23**	**32**	P	**P**	**19 30 20.3**	**0.0**
comp=Z,1.7nm,0.7s,mb3.6,baz=228,slow=8.4,SNR=7.4							
LOR	**Lormes**	**23.27**	**56**	*e*P	**P**	**19 30 19.6**	**-1.3**
comp=Z,10nm,1.0s,mb3.9							
LOR	**Lormes**	**23.27**	**56**	*e*P	**P**	**19 30 19.6**	**-1.3**
comp=Z,5.1nm,1.0s,mb3.9							
BAIF	**Baives**	**24.34**	**49**	*e*P	**P**	**19 30 30.4**	**-0.5**
comp=Z,4.6nm,0.6s,mb3.8							
BAIF	**Baives**	**24.34**	**49**	*e*P	**P**	**19 30 30.4**	**-0.5**
comp=Z,2.

AGG	Agios Georgios	1.55	67	*e*Pb	Pb	19 33 27.2	-1.1
AGG				*e*Sb	Sb	19 33 51.7	+3.6
THL	Klokotos Trika	1.64	45	*e*PB	Pb	19 33 30.3	+0.4
THL	Klokotos Trika	1.64	45	*e*Pg	Pg	19 33 28.1	-2.8
ITM	Ithomi	1.67	137	*e*PB	Pb	19 33 30.3	-0.1
VLI	Veliai	2.57	131	*e*PN	Pn	19 33 44.1	+2.8

IDC ***05*** *19:54:27.9±1.2,3733N×2456W,h0km,mb3.5/7,mb1 3.6/8, mb1mx3.5/24,mbtmp3.5/8,ML4.2/1,Error ellipse: s-maj=33.2km s-min=24.7km az=13.0*
NEIC ***05*** *19:54:29.7±1.1,3734N×2452W,h10km,mb4.6/1,Error ellipse: s-maj=27.5km s-min=18.2km az=187.0*
CSEM ***05*** *19:54:29.8±0.1,3723N×2477W,h30km,ML3.8,Error ellipse: s-maj=2.8km s-min=1.6km az=43.0*
PDA ***05*** *19:54:30.4±0.9,3725N×2452W,h5km,MD4.0,ML3.8, Error ellipse: s-maj=4.2km s-min=2.4km az=65.0*
SVSA ***05*** *19:54:30.4±0.9,3725N×2452W,h5km,MD4.0,ML3.8, Error ellipse: s-maj=4.2km s-min=2.4km az=65.0*
ISCJB ***05*** *19:54:31.0±0.5,3722N±005×2484W±006,h42km±5km, mb3.5/9,Error ellipse: s-maj=10.0km s-min=5.0km az=44.1*

ISC 05 19:54:31.3±0.6,3727W±004×2477W±005,h31km±3km,n52, σ0s82/79,mb3.5/9,Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSMN	**Pico do Norte,**	**0.35**	**221**	*e*P	**Pb**	**19 54 39.0**	**-0.6**
PSMN				*e*S	**Sb**	**19 54 45.9**	**+0.6**
MIRA	**Miradouro**	**0.65**	**322**	*i* P	**Pb**	**19 54 43.3**	**-1.0**
MIRA				*e*S	**Sb**	**19 54 53.7**	**+0.6**
FRA1	**Furnas**	**0.66**	**316**	*e*P	**Pb**	**19 54 43.6**	**-0.9**
FRA1				*e*S	**Sb**	**19 54 54.1**	**+0.7**
PCNG	**Congro**	**0.70**	**315**	*e*P	**Pn**	**19 54 44.4**	**-0.6**
PCNG				*e*S	**Sb**	**19 54 54.8**	**+0.3**
VIF	**Vila Franca**	**0.71**	**312**	*e*P	**Pn**	**19 54 44.5**	**-0.7**
VIF				*e*S	**Sb**	**19 54 55.3**	**+0.6**
PFAD	**Fenais da Ajud**	**0.71**	**323**	*e*P	**Pn**	**19 54 44.3**	**-1.0**
PFAD				*e*S	**Sb**	**19 54 55.0**	**+0.1**
PRCH	**Ribeira Ch**	**0.72**	**309**	*e*P	**Pn**	**19 54 44.7**	**-0.7**
PRCH				*e*S	**Sb**	**19 54 55.8**	**+0.7**
MESC	**Monte Escuro**	**0.75**	**314**	*e*P	**Pn**	**19 54 45.1**	**-0.6**
MESC				*e*S	**Sb**	**19 54 56.1**	**+0.3**
LFA	**Lagoa do Fogo**	**0.75**	**312**	*e*P	**Pn**	**19 54 45.3**	**-0.5**
PMAT	**Coroa da Mata**	**0.78**	**315**	*e*P	**Pn**	**19 54 45.5**	**-0.6**
PMAT				*e*S	**Sb**	**19 54 56.8**	**+0.2**
PVER	**Pico Vermelho**	**0.79**	**312**	*e*P	**Pn**	**19 54 45.4**	**-0.9**
PVER				*e*S	**Sn**	**19 54 57.1**	**+0.1**
CML	**Cha da Macela**	**0.79**	**309**	*e*P	**Pn**	**19 54 45.7**	**-0.6**
PDA	**Ponta Delgada**	**0.85**	**304**	*e*P	**Pn**	**19 54 46.7**	**-0.4**
PDA				*e*S	**Sn**	**19 54 56.6**	**-1.9**
FAC	**Faja de Cima**	**0.86**	**306**	*e*P	**Pn**	**19 54 46.7**	**-0.5**
PSET	**Sete Cidades**	**0.93**	**307**	*e*P	**Pn**	**19 54 47.6**	**-0.7**
PSET				*e*S	**Sn**	**19 55 00.9**	**+0.4**
PSET				A		19 55 04.4	
	672nm,0.3s						
PSET	**Sete Cidades**	**0.93**	**307**	*e*P	**Pn**	**19 54 47.6**	**-0.7**
PSET				*e*S	**Sn**	**19 55 00.9**	**+0.4**
PSAN	**Santo Antonio**	**0.95**	**308**	*e*P	**Pn**	**19 54 47.8**	**-0.7**
PFET	**Feteiras**	**0.97**	**304**	*e*P	**Pn**	**19 54 48.0**	**-0.8**
SET2	**Ginetes**	**1.00**	**305**	*e*P	**Pn**	**19 54 48.7**	**-0.5**
SET4	**Mosteiros**	**1.01**	**307**	*e*P	**Pn**	**19 54 48.7**	**-0.7**
PFAV	**Pico das Favas**	**2.32**	**309**	*e*P	**Pn**	**19 55 08.0**	**+0.6**
PFAV				*e*S	**Sn**	**19 55 35.5**	**+0.6**
PSCM	**Serra do Cume**	**2.34**	**308**	*e*P	**Pn**	**19 55 07.1**	**-0.5**
PSCM				*e*S	**Sn**	**19 55 34.6**	**-0.6**
PSCM				A		19 55 40.7	
	378nm,0.5s						
PSCM	**Serra do Cume**	**2.34**	**308**	*e*P	**Pn**	**19 55 07.1**	**-0.5**
PSCM				*e*S	**Sn**	**19 55 34.6**	**-0.6**
RIB2	**Ribeirinha**	**2.36**	**307**	*e*P	**Pn**	**19 55 08.4**	**+0.6**
RIB2				*e*S	**Sn**	**19 55 36.0**	**+0.4**
ADH	**Angra Heroismo**	**2.39**	**306**	*e*P	**Pn**	**19 55 08.1**	**-0.1**
ADH				*e*S	**Sn**	**19 55 36.1**	**-0.3**
PVNV	**Vila Nova**	**2.40**	**309**	*e*P	**Pn**	**19 55 08.2**	**-0.2**
PVNV				*e*S	**Sn**	**19 55 36.7**	**0.0**
PPAD	**Pico dos Padre**	**2.45**	**306**	*e*P	**Pn**	**19 55 10.0**	**+1.0**
PPAD				*e*S	**Sn**	**19 55 38.3**	**+0.4**
PBIS	**Biscoitos**	**2.46**	**308**	*e*P	**Pn**	**19 55 08.9**	**-0.3**
PBIS				*e*S	**Sn**	**19 55 38.5**	**+0.3**
ASBA	**Santa Barbara**	**2.48**	**306**	*e*P	**Pn**	**19 55 11.7**	**+2.2**
ASBA				*e*S	**Sn**	**19 55 39.9**	**+1.2**
PID	**Ribeirinha**	**2.89**	**295**	*e*P	**Pn**	**19 55 15.6**	**+0.4**
PMAN	**Manadas**	**2.95**	**298**	*e*P	**Pn**	**19 55 16.0**	**0.0**
PMAN				*e*S	**Sn**	**19 55 50.3**	**-0.1**
PMAN				A		19 55 54.4	
	30nm,0.2s						
PMAN	**Manadas**	**2.95**	**298**	*e*P	**Pn**	**19 55 16.0**	**0.0**
PMAN				*e*S	**Sn**	**19 55 50.3**	**-0.1**
ROSA	**Rosais**	**3.10**	**299**	*e*P	**Pn**	**19 55 18.1**	**+0.1**
STGR	**Santa Cruz**	**3.12**	**306**	*e*S	**Sn**	**19 55 55.2**	**+0.7**
PICO	**Pico**	**3.14**	**294**	*e*P	**Pn**	**19 55 18.8**	**+0.2**
PICO				*e*S	**Sn**	**19 55 54.3**	**-0.7**
PVIA	**Vitoria**	**3.14**	**306**	*e*S	**Sn**	**19 55 54.3**	**-0.8**
HOR	**Horta**	**3.30**	**294**	*e*P	**Pn**	**19 55 20.8**	**0.0**
CALA	**Caldeira**	**3.37**	**294**	*e*P	**Pn**	**19 55 22.1**	**+0.3**
CALA				*e*S	**Sn**	**19 56 00.4**	**-0.3**
PMAR	**Madeira**	**7.88**	**123**	*e*Pn	**Pn**	**19 56 19.9**	**-3.9**
PMAR				*e*Sn	**Sn**	**19 57 37.8**	**-14**
PMAR				A		19 57 47.5	
	26nm,0.3s						
PMAR				*e*T		20 03 49.7	
ESDC	**Sonseca Array**	**16.47**	**75**	Pn	**Pn**	**19 58 16.1**	**-3.9**
	0.2nm,0.3s,baz=270,slow=13,SNR=5.1						
EKA	**Eskdalemuir Ar**	**23.27**	**32**	P	**P**	**19 59 35.3**	**-0.8**
	0.7nm,0.6s,mb3.3,baz=225,slow=8.4,SNR=4.9						
WLF	**Walferdange**	**25.44**	**51**	*e*P	**P**	**19 59 55.8**	**-0.4**
	16nm,1.2s,mb4.4						
WLF	**Walferdange**	**25.44**	**51**	*e*P	**P**	**19 59 55.8**	**-0.3**
VSL	**Villasalto**	**26.77**	**75**	P	**P**	**20 00 10.3**	**+2.1**
VSL	**Villasalto**	**26.77**	**75**	P	**P**	**20 00 10.3**	**+2.0**
TORD	**Torodi Ar. Bea**	**33.70**	**129**	P	**P**	**20 01 10.2**	**+0.5**
	0.5nm,0.6s,mb3.6,baz=324,slow=6.4,SNR=13						
AKASG	**Malin Array Be**	**40.22**	**53**	P	**P**	**20 02 03.7**	**-1.1**
	0.1nm,0.2s,mb3.2,baz=260,slow=9.2,SNR=3.1						
YKA	**Yellowknife Ar**	**57.65**	**327**	P	**P**	**20 04 19.9**	**+1.8**
	0.2nm,0.6s,mb3.3,baz=80,slow=7.0,SNR=2.9						
TXAR	**Lajitas Array**	**64.65**	**289**	P	**P**	**20 05 08.1**	**+2.0**
	0.8nm,0.8s,mb3.8,baz=61,slow=7.7,SNR=7.0						
ZALV	**Zalesovo Beam**	**70.84**	**36**	P	**P**	**20 05 45.9**	**+1.3**
	0.6nm,0.6s,mb3.7,baz=319,slow=4.2,SNR=3.4						
MKAR	**Makanchi Array**	**73.90**	**43**	P	**P**	**20 06 03.7**	**+0.6**
	0.1nm,0.2s,mb3.3,baz=308,slow=4.2,SNR=4.0						
SONM	**Songino Array**	**84.73**	**31**	P	**P**	**20 07 04.6**	**+2.4**
	0.1nm,0.6s,mb3.1,baz=337,slow=7.2,SNR=3.8						

IDC 05 19:59:54.6±1.4,717S×15496E,h0km,mb3.8/7,mb1 4.0/7, mb1mx3.9/14,mbtmp3.8/7,MS3.0/2,Ms1 3.0/2, ms1mx2.7/26,Error ellipse: s-maj=56.3km s-min=25.4km az=127.0,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.43**	**115**	LR	LR	20 03 16.0	
	comp=Z,151nm,20.9s,baz=351,slow=37						
CTA	**Charters Tower**	**15.37**	**212**	LR	LR	20 07 35.5	
	comp=Z,62nm,18.6s,baz=210,slow=30						
WRA	**Warramunga Arr**	**23.69**	**236**	P	P	20 05 08.6	+0.3
	3.1nm,1.1s,baz=61,slow=9.7,SNR=11						
ASAR	**Alice Springs**	**26.03**	**229**	P	P	20 05 29.6	-0.1
	0.4nm,0.8s,baz=61,slow=9.3,SNR=5.8						
SONM	**Songino Array**	**69.46**	**327**	P	P	20 11 05.7	+0.9
	0.8nm,0.8s,baz=128,slow=5.0,SNR=7.8						
MKAR	**Makanchi Array**	**83.51**	**319**	P	P	20 12 25.1	+0.7
	0.3nm,0.5s,baz=108,slow=5.7,SNR=4.4						
ZALV	**Zalesovo Beam**	**84.30**	**326**	P	P	20 12 26.5	-1.8
	0.6nm,0.4s,baz=94,slow=6.5,SNR=3.8						
NVAR	**Mina Array Bea**	**91.86**	**52**	P	P	20 13 05.7	+0.7
	0.2nm,0.3s,baz=248,slow=5.1,SNR=3.6						
YKA	**Yellowknife Ar**	**96.51**	**28**	P	P	20 13 25.6	-0.2
	0.7nm,0.9s,baz=265,slow=4.5,SNR=6.5						
TORD	**Torodi Ar. Bea**	**153.03**	**285**	PKPbc	PKPbc	20 19 55.0	-0.2
	1.2nm,0.9s,baz=83,slow=1.7,SNR=11						

IDC ***05*** *20:03:05.4±0.7,1682S×17356W,h0km,mb4.2/13, mb1 4.4/13,mb1mx4.4/18,mbtmp4.2/13,Error ellipse: s-maj=27.5km s-min=16.4km az=136.0*
NEIC ***05*** *20:03:06.9±0.4,1675S×17364W,h10km,mb4.6/1,Error ellipse: s-maj=17.0km s-min=9.2km az=135.0*
ISCJB ***05*** *20:03:08.9±0.6,168S±01×1736W±01,h33km,mb4.2/12, Error ellipse: s-maj=22.2km s-min=13.6km az=136.0*
SZGRF ***05*** *20:03:14.3,1583S×17261W,h33km,Samoa Islands region*

ISC 05 20:03:10.9±0.6,168S±01×1736W±01,h35km,n78, σ0s81/15,mb4.2/12,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**22.84**	**199**	P	**P**	**20 08 10.9**	**0.0**
	11nm,0.6s,mb4.4,baz=273,slow=10,SNR=9.9						
PPT	**Papeete**	**22.98**	**95**	*e*LR	LR	20 13 44.9	
	165nm,27.2s						
TVO	**Taravao**	**23.28**	**96**	*e*T		20 32 11.3	
	6.4nm,0.3s						
TBI	**Tubuai**	**23.58**	**110**	*e*T		20 32 29.9	
	10nm,0.3s						
PMOR	**Pomariorio Ree**	**24.80**	**89**	*e*T		20 34 06.9	
	1.6nm,0.2s						
VAH	**Vaihoa**	**25.03**	**90**	*e*T		20 34 23.1	
	6.5nm,0.3s						
RKT	**Rikitea**	**36.78**	**106**	*e*T		20 48 59.6	
	3.8nm,0.3s						
CTA	**Charters Tower**	**38.13**	**259**	P	**P**	**20 10 27.1**	**+0.2**
	4.3nm,0.9s,mb4.2,baz=95,slow=11,SNR=2.5						
STKA	**Stephens Creek**	**43.15**	**241**	*e*P	**P**	**20 11 08.4**	**+0.2**
	9.2nm,0.8s,mb4.6						
STKA	**Stephens Creek**	**43.15**	**241**	P	**P**	**20 11 08.4**	**+0.2**
	12nm,0.8s,mb4.7,baz=102,slow=10,SNR=19						
WB2	**Warramunga Arr**	**49.31**	**258**	*e*P	**P**	**20 11 55.8**	**-1.0**
WRA	**Warramunga Arr**	**49.32**	**258**	P	**P**	**20 11 55.9**	**-1.0**
	1.3nm,0.4s,mb4.3,baz=96,slow=7.3,SNR=70						
WRA				PcP	PcP	20 13 19.2	-0.2
	0.7nm,0.5s,baz=94,slow=3.5,SNR=3.7						
ASAR	**Alice Springs**	**49.48**	**253**	P	**P**	**20 11 57.4**	**-0.7**
	21nm,0.7s,mb5.3,baz=88,slow=8.5,SNR=337						
ASAR				PcP	PcP	20 13 19.5	-0.4
	1.0nm,0.7s,baz=98,slow=3.8,SNR=2.7						
VNDA	**Vanda**	**61.93**	**186**	P	**P**	**20 13 27.9**	**+1.3**
	1.7nm,1.0s,mb4.1,baz=43,slow=5.4,SNR=5.4						
MJAR	**Matsushiro Arr**	**69.90**	**320**	P	**P**	**20 14 19.2**	**+0.8**
	0.7nm,0.6s,mb3.8,baz=150,slow=5.7,SNR=3.9						
NVAR	**Mina Array Bea**	**75.54**	**42**	P	**P**	**20 14 51.5**	**-0.3**
	0.9nm,0.8s,mb3.8,baz=213,slow=8.0,SNR=5.6						
KSRS	**Korea Array**	**77.03**	**316**	P	**P**	**20 15 02.1**	**+1.8**
	0.8nm,0.7s,mb3.8,baz=122,slow=8.7,SNR=3.8						
TXAR	**Lajitas Array**	**81.59**	**56**	P	**P**	**20 15 25.3**	**-0.1**
	0.4nm,0.8s,baz=201,slow=9.2,SNR=4.2						
PDAR	**Pinedale Array**	**83.47**	**42**	P	**P**	**20 15 34.2**	**-0.7**
	2.4nm,0.8s,mb4.3,baz=207,slow=3.1,SNR=19						
YKA	**Yellowknife Ar**	**91.50**	**23**	P	**P**	**20 16 12.6**	**-0.7**
	0.3nm,0.5s,mb3.9,baz=240,slow=4.0,SNR=7.4						
SONM	**Songino Array**	**95.77**	**318**	P	**P**	**20 16 33.8**	**+0.6**
	0.2nm,0.6s,mb3.7,baz=108,slow=4.7,SNR=3.3						
KMBO	**Kilima Mbogo**	**144.70**	**243**	PKP	PKPdf	20 22 45.1	+0.1
	3.2nm,0.8s,baz=51,slow=6.8,SNR=8.4						
CLZ	**Clausthal**	**144.93**	**356**	*e*PKPbc	PKPdf	20 22 43.7	-0.5
CLL	**Collm**	**145.21**	**353**	*i* PKPdf	PKPdf	20 22 43.7	-0.9
	comp=Z,7.0nm,0.8s						
STHS	**Stebnicka Huta**	**145.34**	**343**	*e*PKP	PKPdf	20 22 45.7	+0.8
STHS				*e*		20 22 48.4	
KOLS	**Kolonicke sedl**	**145.47**	**341**	*e*P	PKPdf	20 22 45.4	+0.2
KOLS	**Kolonicke sedl**	**145.47**	**341**	*e*PKP	PKPdf	20 22 45.3	+0.1
BRG	**Berggiesshubel**	**145.51**	**352**	*e*PKPbc	PKPbc	20 22 45.1	-0.2
BRG	**Berggiesshubel**	**145.51**	**352**	*i* P	PKPdf	20 22 45.0	-0.1
	comp=Z,4.7nm,1.0s						
UPC	**Upice**	**145.53**	**349**	*e*PKP	PKPdf	20 22 45.6	+0.4
DPC	**Dobruska-Polom**	**145.62**	**349**	*e*PKP	PKPdf	20 22 45.9	+0.5
DPC				*ex*	x	20 23 00.7	
OKC	**Ostrava-Krasne**	**145.73**	**346**	*e*PKP	PKPdf	20 22 44.4	-1.2
CRVS	**Cervenica-Dubn**	**145.74**	**342**	*e*PKP	PKPbc	20 22 46.9	+0.8
PVCC	**Panska Ves**	**145.75**	**351**	*e*PKP	PKPdf	20 22 46.0	+0.4
UBBA	**Unterbreizbach**	**145.98**	**356**	*e*PKPbc	PKPbc	20 22 46.4	-0.3
MOX	**Moxa**	**146.01**	**354**	*e*P	PKPdf	20 22 46.8	+0.8
	comp=Z,16nm,1.1s						
MOX	**Moxa**	**146.01**	**354**	*e*PKPbc	PKPbc	20 22 46.6	-0.2
TANN	**Tannenbergstha**	**146.15**	**353**	*e*PKPbc	PKPbc	20 22 47.3	0.0
PRU	**Pruhonice**	**146.28**	**350**	*e*PKP	PKPbc	20 22 47.8	+0.1
PRU				*ex*	x	20 23 01.9	
KECS	**Kecovo**	**146.40**	**343**	*e*PKP	PKPdf	20 22 48.0	+1.2
MANZ	**Manzenberg**	**146.61**	**353**	*e*PKPbc	PKPbc	20 22 48.7	+0.1
TREC	**Trest**	**146.79**	**349**	*e*PKP	PKPdf	20 22 48.5	+1.1
GIVF	**Givet**	**146.80**	**2**	*e*PKP1	PKPbc	20 22 48.9	-0.3
	comp=Z,10nm,0.7s						
BAIF	**Baives**	**146.82**	**3**	*e*PKP1	PKPbc	20 22 49.2	0.0
	comp=Z,21nm,0.9s						
ROTZ	**Rotzenmuhle**	**146.82**	**353**	*e*PKPbc	PKPbc	20 22 49.6	+0.4
VYHS	**Vyhne**	**146.82**	**345**	*e*PKP	PKPbc	20 22 50.0	+0.7
GRA1	**Grafenberg Arr**	**147.00**	**354**	*e*PKPbc	PKPbc	20 22 50.1	+0.4
GRF	**Grafenberg Arr**	**147.00**	**354**	*e*PKPbc	PKPbc	20 22 50.1	+0.4
WLF	**Walferdange**	**147.26**	**0**	*e*PKPbc	PKPbc	20 22 51.0	+0.5
KHC	**Kasperske Hory**	**147.26**	**351**	*e*PKP	PKPbc	20 22 49.8	-0.7
KHC				*ex*	x	20 23 10.3	
MODS	**Modra-Piesok**	**147.31**	**346**	*e*PKP	PKPbc	20 22 53.1	+2.4
GEC2	**GERESS Array S**	**147.52**	**351**	*e*PKPbc	PKPbc	20 22 51.6	+0.4
GERES	**GERESS Array B**	**147.52**	**351**	PKPbc	PKPbc	20 22 51.4	+0.2
	comp=Z,1.2nm,0.6s,baz=26,slow=3.4,SNR=12						
ROSF	**Rostrenen**	**147.61**	**12**	*e*PKP1	PKPbc	20 22 50.7	-0.8
	comp=Z,11nm,0.9s						
FLN	**La Foliniere**	**147.67**	**8**	*e*PKP1	PKPbc	20 22 51.0	-0.7
	comp=Z,7.8nm,0.7s						
SGMF	**Saint Gilles**	**147.82**	**11**	*e*PKP1	PKPbc	20 22 51.3	-0.8
LDF	**La Druitiere**	**147.89**	**8**	*e*PKP1	PKPbc	20 22 51.5	-0.7
	comp=Z,8.5nm,0.8s						
GRR	**Gorron**	**147.98**	**9**	*e*PKP1	PKPbc	20 22 52.1	-0.4
	comp=Z,19nm,0.8s						
MEZF	**Maizieres J'vi**	**148.40**	**2**	*e*PKP1	PKPbc	20 22 53.7	+0.1
CDF	**Champ du Feu**	**148.50**	**359**	*e*PKP1	PKPbc	20 22 53.9	0.0
	comp=Z,13nm,0.9s						
BFO	**Black Forest**	**148.55**	**358**	*e*PKPbc	PKPbc	20 22 53.8	-0.2
HAU	**Haudompre**	**148.92**	**0**	*e*PKP1	PKPbc	20 22 54.8	-0.1
	comp=Z,11nm,0.8s						
LOR	**Lormes**	**149.59**	**3**	*e*PKP1	PKPbc	20 22 55.8	-0.8
	comp=Z,5.4nm,0.8s						
SSF	**Saint Saulge**	**149.77**	**4**	*e*PKP1	PKPbc	20 22 56.3	-0.8
	comp=Z,12nm,0.9s						
MFF	**Saint Martin d**	**149.83**	**9**	*e*PKP1	PKPbc	20 22 56.8	-0.5
DAVOX	**Davos/Dischmat**	**150.00**	**355**	PKPbc	PKPbc	20 22 57.9	+0.3
	comp=Z,4.0nm,0.8s,baz=9.6,slow=19,SNR=4.7						
AVF	**Avril sur Loir**	**150.03**	**4**	*e*PKP1	PKPbc	20 22 57.3	-0.4
	comp=Z,23nm,1.3s						
BGF	**Bois d'Agland**	**150.22**	**5**	*e*PKP1	PKPbc	20 22 58.1	-0.1
	comp=Z,13nm,0.8s						
CABF	**La Chapelle**	**150.31**	**0**	*e*PKP1	PKPbc	20 22 59.0	+0.6
	comp=Z,21nm,1.0s						
TCF	**Toulx Ste Croi**	**150.43**	**6**	*e*PKP1	PKPbc	20 22 58.4	-0.3
	comp=Z,30nm,1.4s						
LPL	**La Plagne**	**151.41**	**359**	*e*PKP1	PKPbc	20 23 01.9	+0.9
	comp=Z,6.6nm,0.9s						
LPG	**La Plagne**	**151.43**	**359**	*e*PKP1	PKPbc	20 23 02.1	+1.0
	comp=Z,9.8nm,1.0s						
CAF	**Calviac**	**151.76**	**6**	*e*PKP1	PKPbc	20 23 01.7	-0.2
ORIF	**Oris-en-Rattie**	**152.00**	**1**	*e*PKP1	PKPbc	20 23 02.7	+0.3
VIVF	**Saint-Julien-l**	**152.03**	**3**	*e*PKP1	PKPbc	20 23 02.7	+0.2
	comp=Z,4.5nm,0.7s						
MBDF	**Montbardon**	**152.20**	**359**	*e*PKP1	PKPbc	20 23 03.0	+0.1
LASF	**Ste Croix**	**152.76**	**4**	*e*PKP1	PKPbc	20 23 04.4	+0.3
EVO	**Evora**	**154.98**	**27**	*e*PKIKP	PKPdf	20 22 59.1	-1.2
	comp=Z,18nm,1.2s						

CSEM ***05*** *20:06:31.6±0.8,3752N×2433W,h10km,ML3.6,Error ellipse: s-maj=15.3km s-min=5.3km az=31.0,After PDA*
PDA ***05*** *20:06:31.6±0.8,3752N×2433W,h10km,MD4.0,ML3.6, Error ellipse: s-maj=15.3km s-min=5.3km az=31.0*
SVSA 05 20:06:31.6±0.8,3752N×2433W,h10km,MD4.0,ML3.6, Error ellipse: s-maj=15.3km s-min=5.3km az=31.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDA	**Ponta Delgada**	**1.08**	**283**	*e*S	Sg	20 06 58.0	-8.5
PSET	**Sete Cidades**	**1.15**	**286**	*e*P	Pb	20 06 48.9	-4.6
PSET				*e*S	Sb	20 07 02.2	-6.2
PSET				A		20 07 04.2	
	608nm,0.2s						
PSET	**Sete Cidades**	**1.15**	**286**	*e*P	Pb	20 06 48.9	-4.6
PSET				*e*S	Sb	20 07 02.2	-6.2
PSCM	**Serra do Cume**	**2.50**	**299**	*e*P	Pn	20 07 08.0	-4.3
PSCM				*e*S	Sn	20 07 35.0	-7.8
PSCM				A		20 07 41.2	
	188nm,0.3s						
PSCM	**Serra do Cume**	**2.50**	**299**	*e*P	Pn	20 07 08.0	-4.3
PSCM				*e*S	Sn	20 07 35.0	-7.8
ADH	**Angra Heroismo**	**2.56**	**297**	*e*S	Sn	20 07 35.9	-8.4
PID	**Ribeirinha**	**3.13**	**288**	*e*P	Pn	20 07 16.9	-4.1
PMAN	**Manadas**	**3.17**	**292**	*e*P	Pn	20 07 17.4	-4.1
PMAN				*e*S	Sn	20 07 51.5	-7.9
PMAN				A		20 07 53.8	
	42nm,0.3s						
PMAN	**Manadas**	**3.17**	**292**	*e*P	Pn	20 07 17.4	-4.1
PMAN				*e*S	Sn	20 07 51.5	-7.9
ROSA	**Rosais**	**3.31**	**292**	*e*P	Pn	20 07 19.2	-4.2
ROSA				*e*S	Sn	20 07 55.1	-7.7
PICO	**Pico**	**3.38**	**288**	*e*P	Pn	20 07 20.5	-3.9
PICO				*e*S	Sn	20 07 56.7	-7.9
HOR	**Horta**	**3.54**	**288**	*e*P	Pn	20 07 22.0	-4.6
CALA	**Caldeira**	**3.61**	**288**	*e*P	Pn	20 07 23.3	-4.3
CALA				*e*S	Sn	20 08 01.9	-8.4

IDC ***05*** *20:08:32.9±1.7,7135S×15490E,h0km,mb3.8/7,mb1 4.0/7, mb1mx3.9/13,mbtmp3.8/7,Error ellipse: s-maj=62.9km s-min=23.5km az=112.0*
NEIC ***05*** *20:08:33.7±0.6,7255S×15508E,h10km,Error ellipse: s-maj=18.1km s-min=13.9km az=130.0*
ISCJB ***05*** *20:08:35.6±0.8,73S±01×155.1E±02,h33km,mb3.7/7, Error ellipse: s-maj=24.3km s-min=18.1km az=40.9*

ISC 05 20:08:37.6±0.8,73S±01×1551E±02,h35km,n11,σ0s63/10, mb3.7/7,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.73**	**236**	P	**P**	**20 13 46.5**	**-0.3**
	1.7nm,0.8s,mb3.5,baz=57,slow=9.1,SNR=6.1						
ASAR	**Alice Springs**	**26.06**	**229**	P	**P**	**20 14 07.4**	**-0.4**
	0.9nm,0.8s,mb3.4,baz=64,slow=8.9,SNR=5.0						
STKA	**Stephens Creek**	**27.52**	**205**	*e*P	**P**	**20 14 21.2**	**+0.2**
STKA	**Stephens Creek**	**27.52**	**205**	P	**P**	**20 14 22.4**	**+1.5**
	2.8nm,0.8s,mb3.9,baz=14,slow=12,SNR=4.2						
AFI	**Afiamalu**	**33.21**	**104**	P	**P**	**20 15 11.0**	**-0.5**
	103nm,0.5s						
SONM	**Songino Array**	**69.61**	**327**	P	**P**	**20 19 43.6**	**+0.4**
	0.5nm,0.7s,mb3.6,baz=144,slow=6.1,SNR=6.4						
MKAR	**Makanchi Array**	**83.67**	**319**	P	**P**	**20 21 02.9**	**+0.3**
	0.7nm,0.9s,mb3.8,baz=123,slow=4.5,SNR=4.9						
ZALV	**Zalesovo Beam**	**84.46**	**326**	P	**P**	**20 21 05.5**	**-1.0**
	0.3nm,0.5s,mb3.6,baz=93,slow=12,SNR=2.0						
YKA	**Yellowknife Ar**	**96.54**	**28**	P	**P**	**20 22 03.9**	**+0.7**
YKA	**Yellowknife Ar**	**96.54**	**28**	P	**P**	**20 22 03.9**	**+0.7**
	0.2nm,0.4s,mb3.9,baz=260,slow=5.0,SNR=7.3						
TORD	**Torodi Ar. Bea**	**153.18**	**285**	PKPbc	PKPbc	20 28 32.9	+0.1
	0.9nm,0.9s,baz=94,slow=3.2,SNR=4.7						

IDC ***05*** *20:09:15.5±0.8,682S×15477E,h0km,mb4.1/11, mb1 4.3/11,mb1mx4.2/15,mbtmp4.1/11,MS3.5/5, Ms1 3.5/5,ms1mx3.2/24,Error ellipse: s-maj=31.3km s-min=19.4km az=113.0*
BJI ***05*** *20:09:17.1,680S×15470E,h10km,mB4.9,mb4.2*
NEIC

366nm,0.8s
LPG La Plagne 0.24 20 *e*Pg **Pg 20 13 51.8 +0.5**
SNR=1.0
LPG *e*Sg **Sg 20 13 55.7 +1.1**
510nm,0.5s
LPG La Plagne 0.24 20 *e*Pg **Pg 20 13 51.8 +0.5**
SNR=1.0
LPG *e*Sg **Sg 20 13 55.7 +1.1**
255nm,0.5s
LPL La Plagne 0.26 16 *e*Pg **Pg 20 13 51.9 +0.4**
LPL *e*Sg **Sg 20 13 56.1 +1.0**
407nm,0.4s
LPL La Plagne 0.26 16 *e*Pg **Pg 20 13 51.9 +0.4**
LPL *e*Sg **Sg 20 13 56.1 +1.0**
204nm,0.4s
RRL Cesana Torines 0.37 163 P **Pg 20 13 53.6 +0.1**
LSD Ceresole Reale 0.41 63 P **Pg 20 13 54.1 -0.4**
RSP Reno Superiore 0.46 105 Pg **Pg 20 13 55.2 -0.1**
RSP Sg **Sg 20 14 02.7 +1.4**
215nm,0.6s
MBDF Montbardon 0.55 170 *e*Pg **Pg 20 13 57.0 0.0**
MBDF *e*Sg **Sg 20 14 04.1 -0.2**
162nm,0.5s
MBDF Montbardon 0.55 170 *e*Pg **Pg 20 13 57.0 0.0**
MBDF *e*Sg **Sg 20 14 04.1 -0.2**
81nm,0.5s
MRGE Morge 0.58 31 Pg **Pg 20 13 58.0 +0.3**
MRGE Sg **Sg 20 14 08.3 +3.0**
105nm,0.8s
GRN Grenoble 0.63 268 Pg **Pg 20 13 59.7 +1.3**
ORIF Oris-en-Rattie 0.64 237 *e*Pg **Pg 20 13 59.3 +0.7**
SNR=1.0
ORIF *e*Sg **Sg 20 14 07.4 +0.4**
247nm,0.5s,SNR=1.0
ORIF Oris-en-Rattie 0.64 237 *e*Pg **Pg 20 13 59.3 +0.7**
SNR=1.0
ORIF *e*Sg **Sg 20 14 07.4 +0.4**
124nm,0.5s,SNR=1.0
SURF Saint Ours 0.80 171 Pg **Pg 20 14 01.5 -0.2**
EMV Vieux Emosson 0.81 13 Pg **Pg 20 14 02.4 +0.4**
EMV Vieux Emosson 0.81 13⇓/Pg **Pg 20 14 02.2 +0.2**
120nm,0.6s
TRAV 0.82 72 P **Pg 20 14 02.1 -0.1**
TRAV S **Sg 20 14 12.4 -0.5**
PZZ Prazzo 0.83 156 Pg **Pg 20 14 02.1 -0.3**
PZZ Sg **Sg 20 14 13.3 +0.1**
DOI San Damiano 0.88 150 Pg **Pg 20 14 02.7 -0.6**
160nm,0.4s
SALAN Lac Salanfe 0.91 15 *e*Pg **Pg 20 14 03.9 +0.1**
36nm,0.5s
DIX Grande Dixence 0.98 34 *e*Pg **Pg 20 14 04.7 -0.4**
147nm,0.5s
DIX Grande Dixence 0.98 34 Pg **Pg 20 14 05.0 -0.1**
ORO Oropa 1.02 69 Pg **Pg 20 14 05.5 -0.3**
96nm,0.3s
ORX Oropa 1.02 69 Pg **Pg 20 14 05.8 -0.1**
ORX S **Sg 20 14 18.6 -0.5**
GRYON Gryon 1.04 19 *e*P* **Pb 20 14 06.4 +0.1**
45nm,0.7s
AIGLE Aigle 1.09 12 *e*Pn **Pn 20 14 07.3 -0.4**
210nm,0.8s
STV Sta Anna Valdi 1.14 154 P **Pb 20 14 07.9 -0.2**
STV S **Sb 20 14 22.1 -0.8**
OCF Saint Nazaire 1.17 234 Pg **Pg 20 14 10.7 +1.9**
OG26 St.-Nazaire-De 1.17 234 Pg **Pg 20 14 10.7 +1.9**
ENR Entracque 1.19 151 P **Pb 20 14 08.2 -0.7**
ENR S **Sb 20 14 23.0 -1.2**
SENIN Lac Senin/Sane 1.19 23 *e*Pn **Pn 20 14 08.9 -0.1**
196nm,0.6s
MMK Mattmark 1.22 50 *e*Pg **Pg 20 14 09.1 -0.6**
107nm,0.6s
MMK Mattmark 1.22 50 Pg **Pg 20 14 09.9 +0.2**
LKBD2 Leukerbad 2 1.31 32 *e*Pn **Pn 20 14 11.1 +0.4**
101nm,0.6s
ROB Roburent 1.32 137 P **Pn 20 14 10.6 -0.1**
ROB S **Sb 20 14 27.2 -0.8**
LKBD Leukerbad 1.32 32 *e*Pg **Pg 20 14 11.2 -0.4**
89nm,0.6s
TOUF Mont Tournerai 1.33 160 Pn **Pn 20 14 11.4 +0.5**
TOUF Mont Tournerai 1.33 160 Pn **Pn 20 14 11.3 +0.4**
CABF La Chapelle 1.39 344 *e*Pg **Pg 20 14 13.3 +0.2**
SNR=1.0
CABF *e*Sg **Sg 20 14 31.7 +0.5**
84nm,0.7s
CABF La Chapelle 1.39 344 *e*Pg **Pg 20 14 13.3 +0.2**
SNR=1.0
CABF *e*Sg **Sg 20 14 31.7 +0.5**
42nm,0.7s
AUTN L'Aution 1.40 156 Pn **Pn 20 14 12.1 +0.3**
AUTN Sg **Sg 20 14 37.2 +6.0**
AUTN L'Aution 1.40 156 Pn **Pn 20 14 12.3 +0.5**
AUTN Sg **Sg 20 14 37.2 +6.0**
MONE Monesi 1.44 146 P **Pn 20 14 12.4 0.0**
SAOF Saorge 1.44 152 Pn **Pn 20 14 12.9 +0.4**
SAOF Sg **Sg 20 14 39.5 +6.8**
SAOF Saorge 1.44 152 Pn **Pn 20 14 13.5 +1.0**
SAOF Sg **Sg 20 14 39.5 +6.8**
VIVF Saint-Julien-I 1.45 254 *e*Pg **Pg 20 14 14.2 +0.1**
SNR=1.0
VIVF *e*Sg **Sg 20 14 33.6 +0.7**
107nm,0.7s
VIVF Saint-Julien-I 1.45 254 *e*Pg **Pg 20 14 14.2 +0.1**
SNR=1.0
VIVF *e*Sg **Sg 20 14 33.6 +0.7**
53nm,0.7s
LUCF Luceram 1.47 159 Pn **Pn 20 14 14.2 +1.4**
LUCF Sg **Sg 20 14 39.6 +6.1**
SMRF Simiane la Rot 1.50 211 *e*Pg **Pg 20 14 14.7 -0.3**
SNR=1.0
SMRF *e*Sg **Sg 20 14 34.6 +0.2**
41nm,0.6s,SNR=1.0
SMRF Simiane la Rot 1.50 211 *e*Pg **Pg 20 14 14.7 -0.3**
SNR=1.0
SMRF *e*Sg **Sg 20 14 34.6 +0.2**
20nm,0.6s,SNR=1.0
SBF Sospel 1.52 157 *e*Pg **Pg 20 14 15.0 -0.5**
SNR=1.0
SBF *e*Sg **Sg 20 14 35.0 -0.2**
150nm,0.6s,SNR=1.0
SBF Sospel 1.52 157 *e*Pg **Pg 20 14 15.0 -0.5**
SNR=1.0
SBF *e*Sg **Sg 20 14 35.0 -0.2**
75nm,0.6s,SNR=1.0
CALN Calern 1.53 173 Pn **Pn 20 14 15.6 +2.0**
CALN Sg **Sg 20 14 40.1 +4.7**
CALN Calern 1.53 173 Pn **Pn 20 14 15.1 +1.5**
CALN Sg **Sg 20 14 40.1 +4.7**
PCP Pian Castagno 1.54 117 P **Pn 20 14 14.0 +0.2**
PCP S **Sn 20 14 33.9 0.0**
RORO 1.54 138 P **Pn 20 14 14.1 +0.2**
FIN Finale Ligure 1.55 133 Pg **Pg 20 14 14.6 -1.4**
VAI Varese 1.62 68 Pg **Pg 20 14 15.4 -1.9**
59nm,0.6s
IMI Imperia 1.63 146 P **Pn 20 14 16.1 +1.1**
FRF La Foret Royal 1.71 180 *e*Pg **Pg 20 14 18.2 -0.9**
SNR=1.0
FRF *e*Sg **Sg 20 14 40.0 -1.2**
61nm,0.6s,SNR=1.0
FRF La Foret Royal 1.71 180 *e*Pg **Pg 20 14 18.2 -0.9**
SNR=1.0
FRF *e*Sg **Sg 20 14 40.0 -1.2**
31nm,0.6s,SNR=1.0
LMR La Mourre 1.94 183 *e*Pn **Pg 20 14 22.4 -1.0**
SNR=1.0
LMR *e*Sg **Sg 20 14 47.1 -1.5**
20nm,0.6s,SNR=1.0
LMR La Mourre 1.94 183 *e*P **Pn 20 14 20.5 +1.2**
LMR *e*Pn **Pg 20 14 22.4 -1.0**
LMR *e*Sg **Sg 20 14 47.1 -1.5**
LMR La Mourre 1.94 183 *e*Pn **Pg 20 14 22.4 -1.0**
SNR=1.0
LMR *e*Sg **Sg 20 14 47.1 -1.5**
10nm,0.6s,SNR=1.0
COLF Collangettes 2.08 278 Pn **Pg 20 14 26.1 -0.1**
LOMF Lomont 2.09 4 Pn **Pg 20 14 26.8 +0.5**
PLDF La Plantade 2.23 289 Pn **Pn 20 14 26.1 +2.9**
PLDF La Plantade 2.23 289 Pn **Pn 20 14 24.0 +0.8**
LASF Ste Croix 2.31 240 *e*P **Pn 20 14 26.5 +2.1**
LASF *e*Sn **Sn 20 14 52.6 -0.2**
SNR=1.0
LASF *e*Sg **Sg 20 14 59.9 -0.6**
27nm,0.9s
LASF Ste Croix 2.31 240 *e*Pn **Pn 20 14 23.9 -0.5**
LASF *e*P 20 14 26.5
LASF *e*Sn **Sn 20 14 52.6 -0.2**
LASF *e*Sg **Sg 20 14 59.9 -0.6**
LASF Ste Croix 2.31 240 *e*P **Pn 20 14 26.5 +2.1**
LASF *e*Sn **Sn 20 14 52.6 -0.2**
SNR=1.0
LASF *e*Sg **Sg 20 14 59.9 -0.6**
14nm,0.9s
SMF Signal de Mont 2.38 306 *e*Pg **Pg 20 14 32.1 +0.1**
SNR=1.0
SMF *e*Sg **Sg 20 15 03.1 +0.3**
26nm,0.4s,SNR=1.0
SMF Signal de Mont 2.38 306 *e*P **Pn 20 14 27.7 +2.3**
SMF *e*Pg **Pg 20 14 32.1 +0.1**
SMF *e*Sg **Sg 20 15 03.1 +0.3**
SMF Signal de Mont 2.38 306 *e*Pg **Pg 20 14 32.1 +0.1**
SNR=1.0
SMF *e*Sg **Sg 20 15 03.1 +0.3**
13nm,0.4s,SNR=1.0
LBL Lubilhac 2.39 270 Pn **Pn 20 14 28.3 +2.8**
HINF Hinteralfeld 2.55 3 *e*P **Pn 20 14 29.5 +1.8**
HINF Hinteralfeld 2.55 3 *e*Pg **Pg 20 14 34.2 -1.0**
SNR=1.0
HINF *e*Sg **Sg 20 15 07.7 -0.6**
17nm,0.5s,SNR=1.0
HINF Hinteralfeld 2.55 3 *e*Pn **Pn 20 14 27.4 -0.3**
HINF *e*P 20 14 29.5
HINF *e*Pg **Pg 20 14 34.2 -1.0**
HINF *e*Sg **Sg 20 15 07.7 -0.6**
HINF Hinteralfeld 2.55 3 *e*P **Pn 20 14 29.5 +1.8**
HINF Hinteralfeld 2.55 3 *e*Pg **Pg 20 14 34.2 -1.0**
SNR=1.0
HINF *e*Sg **Sg 20 15 07.7 -0.6**
8.6nm,0.5s,SNR=1.0
AGO Saint Agoulin 2.58 289 Pn **Pn 20 14 30.5 +2.5**
PYM Petit Puy Mans 2.59 282 Pn **Pn 20 14 31.1 +2.8**
AVF Avril sur Loir 2.74 305 *e*P **Pn 20 14 33.0 +2.7**
AVF Avril sur Loir 2.74 305 *e*Pg **Pg 20 14 38.7 -0.2**
SNR=1.0
AVF *e*Sg **Sg 20 15 13.5 -0.9**
11nm,0.5s,SNR=1.0
AVF Avril sur Loir 2.74 305 *e*Pn **Pn 20 14 30.3 0.0**
AVF *e*P 20 14 33.0
AVF *e*Pg **Pg 20 14 38.7 -0.2**
AVF *e*Sg **Sg 20 15 13.5 -0.9**
AVF Avril sur Loir 2.74 305 *e*P **Pn 20 14 33.0 +2.7**
AVF Avril sur Loir 2.74 305 *e*Pg **Pg 20 14 38.7 -0.2**
SNR=1.0
AVF *e*Sg **Sg 20 15 13.5 -0.9**
5.6nm,0.5s,SNR=1.0
HAU Haudompre 2.74 356 *e*P **Pn 20 14 31.8 +1.5**
HAU Haudompre 2.74 356 *e*Pg **Pg 20 14 37.7 -1.2**
SNR=1.0
HAU *e*Sg **Sg 20 15 13.5 -0.9**
14nm,0.4s,SNR=1.0
HAU Haudompre 2.74 356 *e*Pn **Pn 20 14 30.2 -0.1**
HAU *e*P 20 14 31.8
HAU *e*Pg **Pg 20 14 37.7 -1.2**
HAU *e*Sg **Sg 20 15 13.5 -0.9**
HAU Haudompre 2.74 356 *e*P **Pn 20 14 31.8 +1.5**
HAU Haudompre 2.74 356 *e*Pg **Pg 20 14 37.7 -1.2**
SNR=1.0
HAU *e*Sg **Sg 20 15 13.5 -0.9**
6.9nm,0.4s,SNR=1.0
LOR Lormes 2.77 317 *e*Pn **Pn 20 14 30.5 -0.2**
baz=142,SNR=1.0
LOR Lormes 2.77 317 *e*P **Pn 20 14 33.1 +2.4**
baz=138
LOR Lormes 2.77 317 *e*Pg **Pg 20 14 38.7 -0.7**
baz=134,SNR=1.0
LOR *e*Sg **Sg 20 15 14.6 -0.8**
10nm,0.4s,SNR=1.0
LOR Lormes 2.77 317 *e*Pn **Pn 20 14 30.5 -0.2**
LOR *e*P 20 14 33.1
LOR *e*Pg **Pg 20 14 38.7 -0.7**
LOR *e*Sg **Sg 20 15 14.6 -0.8**
LOR Lormes 2.77 317 *e*P **Pn 20 14 33.1 +2.4**
LOR Lormes 2.77 317 *e*Pg **Pg 20 14 38.7 -0.7**
SNR=1.0
LOR *e*Sg **Sg 20 15 14.6 -0.8**
5.1nm,0.4s,SNR=1.0
FELD Feldberg im Sc 2.77 19 Pn **Pg 20 14 37.9 -1.6**
SSF Saint Saulge 2.81 311 *e*Pg **Pg 20 14 39.3 -0.9**
SNR=1.0
SSF *e*Sg **Sg 20 15 15.5 -1.2**
10nm,0.5s
SSF Saint Saulge 2.81 311 *e*P **Pn 20 14 34.2 +2.9**
SSF *e*Pg **Pg 20 14 39.3 -0.9**
SSF *e*Sg **Sg 20 15 15.5 -1.2**
SSF Saint Saulge 2.81 311 *e*Pg **Pg 20 14 39.3 -0.9**
SNR=1.0
SSF *e*Sg **Sg 20 15 15.5 -1.2**
5.1nm,0.5s
BGF Bois d'Agland 2.94 297 *e*Pg **Pg 20 14 42.3 -0.3**
SNR=1.0
BGF *e*Sg **Sg 20 15 20.2 -0.5**
26nm,0.4s,SNR=1.0
BGF Bois d'Agland 2.94 297 *e*P **Pn 20 14 35.5 +2.5**
BGF *e*Pg **Pg 20 14 42.3 -0.3**
BGF *e*Sg **Sg 20 15 20.2 -0.5**
BGF Bois d'Agland 2.94 297 *e*Pg **Pg 20 14 42.3 -0.3**
SNR=1.0
BGF *e*Sg **Sg 20 15 20.2 -0.5**
13nm,0.4s,SNR=1.0
ECH Echery 2.97 7 Pn **Pb 20 14 39.8 +0.5**
ECH Echery 2.97 7 Pn **Pg 20 14 44.0 +0.8**
DAVA Damuels 3.02 47⇑/Pn **Pb 20 14 41.2 +1.0**
SFTF Sexfontaines 3.13 340 *e*Pg **Pg 20 14 45.1 -1.2**
baz=156
SFTF *e*Sg **Sg 20 15 26.0 -0.9**
27nm,0.7s
SFTF Sexfontaines 3.13 340 *e*Pg **Pg 20 14 45.1 -1.2**
SFTF *e*Sg **Sg 20 15 26.0 -0.9**
14nm,0.7s
CDF Champ du Feu 3.17 8 *e*Pg **Pg 20 14 45.6 -1.5**
SNR=1.0
CDF *e*Sg **Sg 20 15 26.2 -2.0**
9.4nm,0.6s
CDF Champ du Feu 3.17 8 *e*Pn **Pn 20 14 35.9 -0.4**
CDF *e*Pg **Pg 20 14 45.6 -1.5**
CDF *e*Sg **Sg 20 15 26.2 -2.0**
CDF Champ du Feu 3.17 8 *e*Pg **Pg 20 14 45.6 -1.5**
SNR=1.0
CDF *e*Sg **Sg 20 15 26.2 -2.0**
4.7nm,0.6s
SPAK Spaichingen-Ko 3.20 27 Pn **Pg 20 14 48.1 +0.5**
CAF Calviac 3.25 266 *e*P **Pn 20 14 40.4 +3.1**
CAF Calviac 3.25 266 *e*Pg **Pg 20 14 48.2 -0.4**
SNR=1.0
CAF *e*Sg **Sg 20 15 29.9 -0.8**
13nm,0.6s
CAF Calviac 3.25 266 *e*Pn **Pn 20 14 37.3 0.0**
CAF *e*P 20 14 40.4
CAF *e*Pg **Pg 20 14 48.2 -0.4**
CAF *e*Sg **Sg 20 15 29.9 -0.8**
CAF Calviac 3.25 266 *e*P **Pn 20 14 40.4 +3.1**
CAF Calviac 3.25 266 *e*Pg **Pg 20 14 48.2 -0.4**
SNR=1.0
CAF *e*Sg **Sg 20 15 29.9 -0.8**
6.7nm,0.6s
TCF Toulx Ste Croi 3.26 290 *e*P **Pn 20 14 39.9 +2.5**
TCF Toulx Ste Croi 3.26 290 *e*Pg **Pg 20 14 48.3 -0.4**
SNR=1.0
TCF *e*Sg **Sg 20 15 30.3 -0.6**
9.5nm,0.5s,SNR=1.0
TCF Toulx Ste Croi 3.26 290 *e*Pn **Pn 20 14 37.2 -0.2**
TCF *e*P 20 14 39.9
TCF *e*Pg **Pg 20 14 48.3 -0.4**
TCF *e*Sg **Sg 20 15 30.3 -0.6**
TCF Toulx Ste Croi 3.26 290 *e*P **Pn 20 14 39.9 +2.5**
TCF Toulx Ste Croi 3.26 290 *e*Pg **Pg 20 14 48.3 -0.4**
SNR=1.0
TCF *e*Sg **Sg 20 15 30.3 -0.6**
4.8nm,0.5s,SNR=1.0
FETA Feichten 3.34 57⇑/Pn **Pn 20 14 45.3 +6.7**
MEZF Maizieres J'vi 3.41 342 *e*Pg **Pg 20 14 49.4 -2.2**
baz=170
MEZF *e*Sg **Sg 20 15 34.7 -1.1**
24nm,0.6s
MEZF Maizieres J'vi 3.41 342 *e*Pg **Pg 20 14 49.4 -2.2**
MEZF *e*Sg **Sg 20 15 34.7 -1.1**
12nm,0.6s
RFYF Reffroy 3.45 347 *e*Pg **Pg 20 14 50.7 -1.7**
RJF Les Rejaudoux 3.61 272 *e*Pg **Pg 20 14 54.3 -1.1**
RJF *e*Sg **Sg 20 15 41.9 -0.3**
20nm,0.6s
RJF Les Rejaudoux 3.61 272 *e*Pg **Pg 20 14 54.3 -1.1**
RJF *e*Sg **Sg 20 15 41.9 -0.3**
9.8nm,0.6s
MTLF Montolieu 3.71 240 *e*P **Pn 20 14 46.2 +2.6**
MTLF *e*Sg **Sg 20 15 43.5 -1.9**
3.9nm,0.4s
MTLF Montolieu 3.71 240 *e*P **Pn 20 14 46.2 +2.6**
MTLF *e*Sg **Sg 20 15 43.5 -1.9**
2.0nm,0.4s
SQTA Sankt Quirin 3.73 57⇑/Pn **Pn 20 14 50.1 +6.3**
MOTA Moosalm 3.73 55⇑/Pn **Pn 20 14 48.8 +4.9**
LFF La Frestale 4.18 268 *e*Sg **Sg 20 15 58.9 -1.7**
21nm,0.6s
LFF La Frestale 4.18 268 *e*Sg **Sg 20 15 58.9 -1.7**
11nm,0.6s
MFF Saint Martin d 4.91 288 *e*Pn **Pn 20 15 00.1 0.0**
SNR=1.0
GIVF Givet 4.99 346 *e*P **Pn 20 15 03.9 +2.8**
BAIF Baives 5.06 342 *e*P **Pn 20 15 04.5 +2.3**
GRR Gorron 6.01 304 *e*Pn **Pn 20 15 14.9 -0.3**

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*IDC **05** 20:14:31.9±12.0, 1879S×17583W, h0km, mb4.5/7, mb1 4.6/7, mb1mx4.2/18, mbtmp4.5/7, Error ellipse: s-maj=244.0km s-min=36.0km az=60.0*

NEIC 05 20:14:28.5±10.0, 1850S×17527W, h10km, mb4.5/4, Error ellipse: s-maj=202.0km s-min=27.3km az=62.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**20.79**	**197**	P	P	20 19 08.2	-1.7
6.4nm,0.3s,baz=12,slow=2.7,SNR=13							
PAE	**Paea**	**24.43**	**92**	*e*T		20 42 46.6	
39nm,0.3s							
PPT	**Papeete**	**24.44**	**92**	*e*LR	LR	20 24 48.9	
194nm,25.5s							
TBI	**Tubuai**	**24.57**	**106**	*e*T		20 43 05.2	
12nm,0.3s							
TVO	**Taravao**	**24.73**	**92**	*e*T		20 43 09.3	
6.0nm,0.3s							
MEH	**Mehetia**	**25.84**	**93**	*e*T		20 44 33.0	
28nm,0.2s							
PMOR	**Pomariorio Ree**	**26.43**	**87**	*e*T		20 45 15.7	
3.0nm,0.3s							
VAH	**Vaihoa**	**26.64**	**87**	*e*T		20 45 31.0	
5.6nm,0.3s							
RPZ	**Rata Peaks**	**27.66**	**202**	P	P	20 20 18.5	+2.0
5.9nm,0.5s,baz=333,slow=5.4,SNR=4.8							
CTA	**Charters Tower**	**36.30**	**261**	*e*P	P	20 21 34.3	+1.7
5.1nm,0.7s							
CTA	**Charters Tower**	**36.30**	**261**	P	P	20 21 34.1	+1.5
7.8nm,0.8s,baz=87,slow=11,SNR=9.3							
RKT	**Rikitea**	**37.86**	**104**	*e*T		20 59 39.6	
2.7nm,0.3s							
STKA	**Stephens Creek**	**40.99**	**242**	*e*P	P	20 22 12.2	+0.4
2.0nm,0.7s							
STKA	**Stephens Creek**	**40.99**	**242**	P	P	20 22 11.8	-0.1
2.4nm,0.7s,baz=108,slow=5.9,SNR=5.1							
WB2	**Warramunga Arr**	**47.45**	**260**	*e*P	P	20 23 03.2	-0.6
WRA	**Warramunga Arr**	**47.47**	**260**	P	P	20 23 03.3	-0.6
2.2nm,0.3s,baz=97,slow=7.3,SNR=114							
ASAR	**Alice Springs**	**47.51**	**255**	P	P	20 23 03.9	-0.3
8.8nm,0.7s,baz=93,slow=7.8,SNR=130							
KAKA	**Kakadu**	**50.56**	**269**	*e*P	P	20 23 27.0	-0.7
4.2nm,0.4s							
FITZ	**Fitzroy Crossi**	**55.88**	**260**	*e*P	P	20 24 07.5	+0.6
3.9nm,0.7s							
FITZ	**Fitzroy Crossi**	**55.88**	**260**	P	P	20 24 07.4	+0.5
1.8nm,0.5s,baz=96,slow=4.7,SNR=4.9							

IDC 05 20:22:26.1±2.7, 2049S×16798E, h33km±6km, mb3.7/4, mb1 3.8/4, mb1mx3.6/13, mbtmp3.7/4, Error ellipse: s-maj=88.9km s-min=26.4km az=137.0, Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**26.18**	**239**	P	P	20 27 56.0	-1.7
1.9nm,0.9s,baz=342,slow=14,SNR=2.6							
STKA				pP	pP	20 28 07.2	0.0
1.9nm,0.8s,baz=25,slow=14,SNR=2.6							
WRA	**Warramunga Arr**	**31.54**	**265**	P	P	20 28 46.1	+0.7
0.5nm,0.9s,baz=85,slow=8.5,SNR=2.6							
WRA				pP	pP	20 28 54.8	-0.3
1.9nm,1.0s,baz=93,slow=9.6,SNR=8.9							
ASAR	**Alice Springs**	**31.69**	**258**	P	P	20 28 47.1	+0.4
1.9nm,0.7s,baz=83,slow=9.1,SNR=17							
ASAR				pP	pP	20 28 57.0	+0.5
5.7nm,0.8s,baz=80,slow=9.1,SNR=26							
SONM	**Songino Array**	**87.51**	**324**	P	P	20 35 10.8	+0.5
0.1nm,0.4s,baz=141,slow=3.8,SNR=5.1							
SONM				pP	pP	20 35 20.8	-0.1
0.5nm,0.8s,baz=155,slow=5.1,SNR=4.1							
VNA3	**Neumayer Olymp**	**88.50**	**181**	*e*	P	20 35 09.2	-5.6
VNA3				*e*		20 35 12.8	
VNA2	**Neumayer--Watz**	**88.78**	**182**	*e*	P	20 35 10.4	-5.7
baz=216,slow=1.2							
VNA2				*e*		20 35 13.6	
GERES	**GERESS Array B**	**145.00**	**330**	PKPbc	PKPbc	20 41 58.5	-0.6
GERES				pPKPbc		20 42 09.5	
1.9nm,0.9s,baz=62,slow=3.2,SNR=6.4							

IDC 05 20:23:13.0±2.3, 2072S×16835E, h37km±6km, mb3.8/4, mb1 4.1/4, mb1mx3.8/13, mbtmp3.8/4, MS3.4/1, Ms1 3.4/1, ms1mx2.9/24, Error ellipse: s-maj=97.7km s-min=25.0km az=153.0, Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**31.87**	**265**	P	P	20 29 33.8	-1.1
0.5nm,0.9s,baz=96,slow=7.8,SNR=3.1							
WRA				pP	pP	20 29 44.5	-0.8
2.6nm,1.0s,baz=91,slow=9.1,SNR=7.4							
ASAR	**Alice Springs**	**31.98**	**258**	P	P	20 29 36.5	+0.6
3.0nm,0.7s,baz=78,slow=8.9,SNR=8.0							
ASAR				pP	pP	20 29 45.8	-0.5
7.9nm,0.9s,baz=82,slow=9.0,SNR=10.0							
SONM	**Songino Array**	**87.90**	**323**	P	P	20 35 59.7	+1.0
1.0nm,0.9s,baz=135,slow=5.0,SNR=6.5							
SONM				pP	pP	20 36 10.6	+0.5
0.8nm,0.8s,baz=144,slow=4.5,SNR=4.5							
NVAR	**Mina Array Bea**	**90.40**	**49**	P	P	20 36 09.0	-1.6
1.5nm,0.8s,baz=230,slow=7.0,SNR=6.9							
GERES	**GERESS Array B**	**145.37**	**330**	PKPbc	PKPbc	20 42 47.4	+0.6
3.1nm,0.9s,baz=31,slow=3.1,SNR=11							
GERES				pPKPbc	pPKPbc	20 42 58.4	-0.1
3.5nm,0.8s,baz=35,slow=3.3,SNR=8.3							
CDF	**Champ du Feu**	**148.46**	**336**	*e*PKP1	PKPbc	20 42 56.0	+0.4
HAU	**Haudompre**	**149.14**	**336**	*e*PKP1	PKPbc	20 42 56.9	-0.5
MEZF	**Maizieres J'vi**	**149.20**	**338**	*e*PKP1	PKPbc	20 42 57.5	0.0
LOR	**Lormes**	**150.67**	**338**	*e*PKP1	PKPbc	20 43 00.6	-0.5
5.7nm,0.8s							
SSF	**Saint Saulge**	**150.97**	**338**	*e*PKP1	PKPbc	20 43 01.5	-0.3
LPL	**La Plagne**	**151.01**	**333**	*e*PKP1	PKPbc	20 43 02.0	0.0
4.0nm,0.8s							
LPG	**La Plagne**	**151.01**	**333**	*e*PKP1	PKPbc	20 43 02.1	+0.1
5.7nm,0.8s							
SMF	**Signal de Mont**	**151.21**	**338**	*e*PKP1	PKPbc	20 43 01.6	-0.8
ORIF	**Oris-en-Rattie**	**151.85**	**333**	*e*PKP1	PKPbc	20 43 04.2	+0.3

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*ISCJB **05** 20:43:25.5±0.8, 56N±02×1243E±04, h450km, mb3.4/6, Error ellipse: s-maj=63.7km s-min=11.4km az=157.5*
*NEIC **05** 20:43:27.5±4.1, 535N×12389E, h455km±54km, mb3.8/2, Error ellipse: s-maj=116.6km s-min=14.5km az=67.0*
*IDC **05** 20:43:29.4±5.6, 548N×12421E, h481km±77km, mb3.0/6, mb1 3.2/7, mb1mx2.9/20, mbtmp3.1/7, Error ellipse: s-maj=81.1km s-min=17.2km az=65.0*

ISC 05 20:43:27.0±0.8, 56N±02×1243E±04, h450km, n11, σ0°61/11, mb3.4/6, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Kupang**	**15.67**	**182**	P	**P**	**20 46 46.0**	**+0.6**
1.2nm,0.3s,baz=75,slow=3.8,SNR=4.7							
KAKA	**Kakadu**	**19.87**	**156**	*e*P	**P**	**20 47 27.3**	**0.0**
5.4nm,0.6s							
WRA	**Warramunga Arr**	**27.20**	**159**	P	**P**	**20 48 32.4**	**-0.5**
0.7nm,0.5s,mb3.4,baz=341,slow=9.2,SNR=15							
WB2	**Warramunga Arr**	**27.20**	**159**	*e*P	**P**	**20 48 32.2**	**-0.8**
ASAR	**Alice Springs**	**30.52**	**162**	P	**P**	**20 49 02.2**	**+0.3**
1.3nm,0.3s,mb3.8,baz=339,slow=7.4,SNR=27							
STKA	**Stephens Creek**	**40.71**	**157**	*e*P	**P**	**20 50 27.6**	**+0.5**
1.2nm,0.9s,mb3.3							

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**40.71**	**157**	P	**P**	**20 50 27.7**	**+0.6**
	1.4nm,0.4s,mb3.7,baz=343,slow=9.7,SNR=8.1						
SONM	**Songino Array**	**44.83**	**343**	P	**P**	**20 51 00.3**	**+1.0**
	0.2nm,0.5s,mb2.8,baz=150,slow=8.7,SNR=3.6						
MKAR	**Makanchi Array**	**54.69**	**326**	P	**P**	**20 52 12.5**	**+0.2**
	0.9nm,0.4s,mb3.5,baz=126,slow=7.9,SNR=6.8						
AKTK	**Aktyubinsk**	**70.73**	**322**	P	**P**	**20 53 55.8**	**-0.7**
AKTO	**Aktyubinsk**	**70.73**	**322**	P	**P**	**20 53 55.8**	**-0.7**
	1.0nm,0.5s,mb3.6,baz=94,slow=10,SNR=3.9						

IDC 05 20:43:43.3±7.3, 247N×9715E, h0km, mb3.5/4, mb1 3.6/4, mb1mx3.3/20, mbtmp3.5/4, Error ellipse: s-maj=365.3km s-min=23.4km az=56.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**42.76**	**123**	P	P	20 51 43.4	+0.6
	0.3nm,0.9s,baz=302,slow=9.1,SNR=2.6						
ASAR	**Alice Springs**	**44.21**	**128**	P	P	20 51 53.8	-0.7
	0.1nm,0.4s,baz=304,slow=7.3,SNR=3.4						
MKAR	**Makanchi Array**	**46.00**	**346**	P	P	20 52 08.2	-0.1
	0.8nm,0.5s,baz=170,slow=7.9,SNR=6.5						
ZALV	**Zalesovo Beam**	**52.30**	**351**	P	P	20 52 56.6	+0.1
	0.5nm,0.4s,baz=178,slow=8.2,SNR=4.6						

*BJI **05** 20:48:48.4, 2120S×5570E, h10km, mB5.4, mb4.8, Ms4.9, Msz4.7*
*IDC **05** 20:48:51.6±0.6, 2119S×5566E, h0km, mb4.0/16, mb1 4.1/17, mb1mx4.0/29, mbtmp4.0/17, ML3.5/1, MS4.8/18, Ms1 4.8/18, ms1mx4.6/28, Error ellipse: s-maj=19.0km s-min=13.9km az=3.0*
*MOS **05** 20:48:51.9±1.3, 2117S×5571E, h10km, mb5.5/9, Error ellipse: s-maj=16.8km s-min=13.5km az=99.6*
*ISCJB **05** 20:48:51.5±0.4, 2122S±009×5570E±007, h10km, mb4.5/35, MS4.8/28, Error ellipse: s-maj=13.2km s-min=8.7km az=165.0*
*NEIC **05** 20:48:53.4±0.3, 2119S×5566E, h10km, mb5.3/9, MS5.1/6, Error ellipse: s-maj=11.5km s-min=8.3km az=174.0*
*SZGRF **05** 20:49:03.7, 1988S×5511E, h33km, mb5.2, Mauritius - Reunion region*

ISC 05 20:48:53.5±0.4, 2118S±009×5566E±006, h10km, n77, σ0§94/61, mb4.5/35, MS4.8/28, 1C, Mauritius - Reunion region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPO	**Ambohidratompo**	**8.38**	**287**	Pn	**Pn**	**20 50 54.9**	**-0.2**
	0.6nm,0.3s,baz=96,slow=12,SNR=6.5						
OPO				Sn	**Sn**	**20 52 27.9**	**-1.9**
	0.3nm,0.3s,baz=192,slow=23,SNR=2.4						
MATP	**Matopo**	**25.39**	**267**	P	**P**	**20 54 21.6**	**+0.4**
	2.7nm,0.8s,mb3.8,baz=98,slow=11,SNR=5.6						
MATP				LR	LR	21 03 43.0	
	comp=Z,2μm,18.2s,MS4.7,baz=11,slow=35						
LSZ	**Lusaka**	**26.72**	**278**	P	**P**	**20 54 32.8**	**-0.5**
LSZ				LR	LR	21 04 44.5	
LSZ	**Lusaka**	**26.72**	**278**	P	**P**	**20 54 32.8**	**-0.5**
	0.8nm,0.4s,mb3.6,baz=128,slow=10.0,SNR=5.4						
LSZ				LR	LR	21 04 44.5	
	comp=Z,2μm,19.5s,MS4.8,baz=162,slow=36						
KMBO	**Kilima Mbogo**	**26.83**	**316**	P	**P**	**20 54 34.1**	**-0.1**
	1.6nm,1.1s,mb3.5,baz=137,slow=9.5,SNR=12						
KMBO				LR	LR	21 03 08.3	
	comp=Z,2μm,20.8s,MS4.6,baz=94,slow=32						
LBTB	**Lobatse**	**27.88**	**256**	P	**P**	**20 54 43.7**	**+0.1**
LBTB				LR	LR	21 04 52.0	
LBTB	**Lobatse**	**27.88**	**256**	P	**P**	**20 54 43.7**	**+0.1**
	4.0nm,0.9s,mb4.1,baz=109,slow=8.2,SNR=6.0						
LBTB				LR	LR	21 04 52.0	
	comp=Z,5μm,18.2s,MS5.1,baz=106,slow=34						
BOSA	**Boshof**	**28.49**	**249**	LR	LR	21 04 58.6	
	comp=Z,2μm,18.4s,MS4.8,baz=87,slow=34						
SUR	**Sutherland**	**32.91**	**243**	P	**P**	**20 55 28.4**	**+0.4**
SUR				LR	LR		
	comp=Z,2μm,19.0s,MS4.8						
SUR	**Sutherland**	**32.91**	**243**	P	**P**	**20 55 28.4**	**+0.4**
	comp=Z,10nm,1.0s,mb4.7,baz=344,slow=9.5,SNR=3.0						
TSUM	**Tsumeb**	**35.73**	**266**	P	**P**	**20 55 52.8**	**+0.1**
TSUM	**Tsumeb**	**35.73**	**266**	P	**P**	**20 55 52.8**	**+0.2**
	comp=Z,2.2nm,1.0s,mb4.1,baz=113,slow=5.6,SNR=4.8						
MDRS	**Chennai**	**41.74**	**38⇑**	*e*P	**P**	**20 56 39.5**	**-3.5**
MDRS				*i* x	x	20 58 10.2	
MDRS				*i* x	x	20 58 58.5	
MAW	**Mawson**	**46.64**	**176**	LR	LR	21 14 05.4	
	comp=Z,568nm,18.5s,MS4.6,baz=62,slow=32						
PSI	**Prapat**	**48.60**	**66**	P	**P**	**20 57 37.3**	**-0.4**
	comp=Z,2.0nm,0.6s,mb4.3,baz=185,slow=23,SNR=5.4						
KBL	**Kabul**	**56.86**	**13**	*e*P	**P**	**20 58 29.8**	**-8.5**
	comp=Z,76nm,2.3s,mb5.3						
LSA	**Lhasa**	**61.05**	**35**	P	**P**	**20 59 08.4**	**+0.8**
LSA	**Lhasa**	**61.05**	**35**	*e*P	**P**	**20 59 07.5**	**-0.1**
	comp=Z,76nm,2.1s,mb5.5						
LSA				LR	LR		
	comp=Z,917nm,19.0s,MS5.0						
LSA	**Lhasa**	**61.05**	**35**	*e*P	**P**	**20 59 07.5**	**-0.1**
LSA				pmax	pmax		
	comp=Z,76nm,2.1s,mb5.5						
LSA				MLR	MLR		
	comp=Z,917nm,19.0s,MS5.0						
TORD	**Torodi Ar. Bea**	**63.02**	**298**	P	**P**	**20 59 20.0**	**-1.1**
	comp=Z,1.4nm,1.1s,mb4.0,baz=112,slow=1.9,SNR=10						
TORD				LR	LR	21 26 48.7	
	comp=Z,969nm,18.9s,MS5.0,baz=125,slow=36						
KMI	**Kunming**	**64.89**	**47**	P	**P**	**20 59 28.2**	**-5.0**
KMI				PP	PP	21 01 56.8	+0.6
KMI				S	**S**	**21 08 13.5**	**-1.3**
KMI				SS	SS	21 12 27.4	+0.5
KMI				AMB	AMB		
	comp=Z,372nm,8.7s						
KMI				LR	LR		
	comp=N,325nm,17.0s,MS4.7						
KMI				LR	LR		
	comp=E,250nm,14.3s,MS4.7						
KMI				LR	LR		
	comp=Z,418nm,15.7s,MS4.7						
DBIC	**Dimbokro**	**65.49**	**288**	LR	LR	21 27 36.1	
	comp=Z,μm,18.5s,MS5.3,baz=91,slow=36						
FRU	**Bishkek**	**66.05**	**15**	P	**P**	**20 59 41.0**	**+0.7**
QSPA	**South Pole Qui**	**68.94**	**180**	P	**P**	**20 59 58.2**	**-0.1**
	comp=Z,2.6nm,0.9s,mb4.2,baz=204,slow=3.0,SNR=6.9						
WMQ	**Urumqi**	**71.05**	**24**	*e*P	**P**	**21 00 12.7**	**+1.1**
WMQ				XP	sP	21 00 20.0	+4.0
WMQ				*e*S	S	21 09 21.0	-6.8
WMQ				AMB	AMB		
	comp=Z,8.0nm,1.4s,mb4.5						
WMQ				AMB	AMB		
	comp=Z,265nm,4.5s						
WMQ				LR	LR		
	comp=N,239nm,22.0s,MS4.7						
WMQ				LR	LR		
	comp=E,326nm,18.7s,MS4.7						
WMQ				LR	LR		
	comp=Z,394nm,18.0s,MS4.7						
ASAR	**Alice Springs**	**71.48**	**109**	P	**P**	**21 00 14.3**	**-0.5**
	comp=Z,2.2nm,1.0s,mb4.0,baz=254,slow=5.7,SNR=13						
KEST	**Kesra**	**71.60**	**322**	LR	LR	21 33 57.4	
	comp=Z,351nm,18.2s,MS4.7,baz=279,slow=38						
MK31	**Makanchi Array**	**71.81**	**19**	*e*P	**P**	**21 00 14.7**	**-1.4**
MKAR	**Makanchi Array**	**71.81**	**19**	P	**P**	**21 00 16.6**	**+0.5**
	comp=Z,0.2nm,0.2s,mb3.6,baz=190,slow=5.9,SNR=4.7						
WRA	**Warramunga Arr**	**72.90**	**105**	P	**P**	**21 00 22.7**	**-0.6**
	comp=Z,3.0nm,0.9s,mb4.2,baz=257,slow=4.6,SNR=14						
WRA				LR	LR	21 29 08.4	
	comp=Z,677nm,18.1s,MS5.0,baz=255,slow=33						
VNDA	**Vanda**	**72.90**	**167**	P	**P**	**21 00 22.1**	**-0.3**
	comp=Z,0.5nm,1.0s,mb3.4,baz=256,slow=5.3,SNR=4.3						
VNDA				LR	LR	21 28 09.5	
	comp=Z,506nm,18.3s,MS4.8,baz=270,slow=32						
LZH	**Lanzhou**	**72.94**	**39**	*e*P	**P**	**21 00 18.2**	**-4.9**
LZH				AP	pP	21 00 23.6	-2.8
LZH				XP	sP	21 00 27.0	-0.6
LZH				AMB	AMB		
	comp=Z,15nm,1.3s,mb4.8						
LZH				AMB	AMB		
	comp=Z,76nm,5.1s						
GTA	**Gaotai**	**73.05**	**34**	*e*P	**P**	**21 00 23.6**	**-0.1**
GTA				AP	pP	21 00 28.4	+1.4
GTA				XP	sP	21 00 31.5	+3.3
GTA				SS	SS	21 14 24.7	-7.8
GTA				AMB	AMB		
	comp=Z,12nm,2.0s,mb4.5						
GTA				AMB	AMB		
	comp=Z,371nm,7.6s						
GTA				LR	LR		
	comp=N,324nm,17.2s,MS4.9						
GTA				LR	LR		
	comp=E,457nm,17.6s,MS4.9						
GTA				LR	LR		
	comp=Z,412nm,22.9s						
XAN	**Xi'an**	**74.73**	**44**	P	**P**	**21 00 33.4**	**-0.3**
AKASG	**Malin Array Be**	**75.28**	**343**	P	**P**	**21 00 35.0**	**-1.4**
	comp=Z,0.1nm,0.2s,mb3.3,baz=164,slow=3.7,SNR=11						
STKA	**Stephens Creek**	**75.82**	**119**	LR	LR	21 30 16.4	
	comp=Z,861nm,18.2s,MS5.1,baz=97,slow=33						
MOS	**Moscow**	**78.13**	**350**	*e*P	**P**	**21 00 53.2**	**+0.8**
MOS				pmax	pmax		
	comp=Z,60nm,1.7s,mb5.2						
MORC	**Moravsky Berou**	**78.32**	**336**	*e*P	**P**	**21 00 52.9**	**-0.7**
	comp=Z,80nm,2.5s,mb5.2						
MORC	**Moravsky Berou**	**78.32**	**336**	*e*P	**P**	**21 00 52.9**	**-0.7**
MORC				pmax	pmax		
	comp=Z,81nm,2.5s,mb5.2						
ZAL	**Zalesovo**	**78.92**	**17**	P	**P**	**21 00 56.3**	**-0.5**
ZAA0	**Zalesovo Array**	**78.93**	**17**	*e*P	**P**	**21 00 55.9**	**-1.0**
ZALV	**Zalesovo Beam**	**78.93**	**17**	P	**P**	**21 00 56.3**	**-0.6**
	comp=Z,2.2nm,0.8s,mb4.1,baz=217,slow=4.7,SNR=12						
ZALV				LR	LR	21 33 17.6	
	comp=Z,244nm,20.3s,MS4.5,baz=40,slow=34						
GEC2	**GERESS Array S**	**79.12**	**333**	*e*P	**P**	**21 00 58.0**	**0.0**
GEC2				pmax	pmax		
	comp=Z,88nm,2.9s,mb5.2						
GEC2	**GERESS Array S**	**79.12**	**333**	*e*P	**P**	**21 00 58.0**	**0.0**
	comp=Z,88nm,2.9s,mb5.2						
NVS	**Novosibirsk**	**79.31**	**16**	*e*P	**P**	**21 00 59.3**	**+0.4**
NVS				pmax	pmax		
	comp=Z,56nm,2.6s,mb5.0						
NVS				pmax	pmax		
	comp=N,33nm,2.3s						
FUR	**Furstenfeldbru**	**79.65**	**332**	*e*P	**P**	**21 01 02.5**	**+1.6**
FUR				pmax	pmax		
	comp=Z,267nm,3.0s						
FUR	**Furstenfeldbru**	**79.65**	**332**	*e*P	**P**	**21 01 02.5**	**+1.6**
	comp=Z,267nm,3.0s						
ROTZ	**Rotzenmuhle**	**80.45**	**333**	*e*P	**P**	**21 01 06.1**	**+0.9**
	comp=Z,37nm,2.1s,mb5.0						
GRA1	**Grafenberg Arr**	**80.82**	**333**	*e*P	**P**	**21 01 08.4**	**+1.2**
	comp=Z,64nm,2.1s,mb5.2						
GRF	**Grafenberg Arr**	**80.82**	**333**	*e*P	**P**	**21 01 08.4**	**+1.2**
GRF				pmax	pmax		
	comp=Z,64nm,2.1s,mb5.2						
GRF	**Grafenberg Arr**	**80.82**	**333**	*e*P	**P**	**21 01 08.4**	**+1.2**
	comp=Z,64nm,2.1s,mb5.2						
BFO	**Black Forest**	**81.11**	**330**	*e*P	**P**	**21 01 09.6**	**+0.8**
BFO				pmax	pmax		
	comp=Z,46nm,2.1s,mb5.0						
BFO	**Black Forest**	**81.11**	**330**	*e*P	**P**	**21 01 09.6**	**+0.8**
	comp=Z,46nm,2.1s,mb5.0						
MOX	**Moxa**	**81.37**	**333**	*e*P	**P**	**21 01 11.1**	**+1.0**
	comp=Z,32nm,2.2s,mb4.9						
SSE	**Sheshan**	**81.55**	**52**	P	**P**	**21 01 07.5**	**-4.1**
SSE				S	S	21 11 26.6	+2.9
SSE				AMB	AMB		
	comp=Z,34nm,0.7s,mb5.4						
SSE				AMB	AMB		
	comp=Z,315nm,7.9s						
SSE				LR	LR		
	comp=N,82nm,19.7s,MS4.3						
SSE				LR	LR		
	comp=E,92nm,19.7s,MS4.3						
SSE				LR	LR		
	comp=Z,131nm,21.8s,MS4.2						
SSE	**Sheshan**	**81.55**	**52**	P	**P**	**21 01 07.5**	**-4.1**
	comp=Z,34nm,0.7s,mb5.4						
SSE				S	S	21 11 26.6	+2.9
SSE				SS	SS	21 17 00.9	+20
SSE				LR	LR		
	comp=Z,130nm,21.8s,MS4.2						
UBBA	**Unterbreizbach**	**82.18**	**333**	*e*P	**P**	**21 01 15.6**	**+1.2**
	comp=Z,57nm,2.2s,mb5.1						
ESDC	**Sonseca Array**	**82.19**	**318**	P	**P**	**21 01 15.2**	**+0.5**
	comp=Z,0.3nm,0.7s,mb3.3,baz=116,slow=3.0,SNR=3.3						
ESDC				LR	LR	21 40 14.6	
	comp=Z,317nm,18.4s,MS4.7,baz=30,slow=38						
SONM	**Songino Array**	**82.39**	**32**	P	**P**	**21 01 17.0**	**+1.4**
	comp=Z,1.6nm,1.0s,mb3.9,baz=220,slow=2.1,SNR=12						
SONM				LR	LR	21 36 48.6	
	comp=Z,308nm,18.5s,MS4.7,baz=228,slow=35						
ZAK	**Zakamensk**	**82.72**	**28**	*e*P	**P**	**21 01 14.9**	**-2.3**
CLZ	**Clausthal**	**82.78**	**334**	*e*P	**P**	**21 01 18.8**	**+1.3**
CLZ				pmax	pmax		
	comp=Z,35nm,1.8s,mb5.1						
CLZ	**Clausthal**	**82.78**	**334**	*e*P	**P**	**21 01 18.8**	**+1.3**
	comp=Z,35nm,1.8s,mb5.1						
WLF	**Walferdange**	**83.06**	**330**	*e*P	**P**	**21 01 19.7**	**+0.7**
	comp=Z,12nm,1.4s,mb4.7						
CTA	**Charters Tower**	**83.48**	**109**	LR	LR	21 35 19.5	
	comp=Z,610nm,18.5s,MS5.0,baz=247,slow=33						
DL2	**Dalian**	**85.88**	**46**	⇑P	**P**	**21 01 29.8**	**-3.8**
DL2				S	S	21 11 54.6	-12
DL2				AMB	AMB		
	comp=Z,20nm,1.3s,mb5.2						
DL2				AMB	AMB		
	comp=Z,230nm,7.0s						
DL2				LR	LR		
	comp=N,180nm,19.2s,MS4.6						
DL2				LR	LR		
	comp=E,150nm,16.5s,MS4.6						
DL2				LR	LR		
	comp=Z,150nm,18.0s,MS4.4						
KSRS	**Korea Array**	**89.50**	**49**	LR	LR	21 40 55.8	
	comp=Z,139nm,19.7s,MS4.4,baz=65,slow=35						
MJAR	**Matsushiro Arr**	**96.64**	**54**	LR	LR	21 43 11.9	
	comp=Z,183nm,20.2s,MS4.5,baz=310,slow=34						
YKA	**Yellowknife Ar**	**138.18**	**353**	PKP	PKPdf	21 08 19.6	+1.4
	comp=Z,0.1nm,0.5s,baz=20,slow=2.0,SNR=3.7						
HDIL	**Hopedale**	**144.56**	**311**	*e*P	PKPdf	21 08 29.4	-1.1
HDIL				LR	LR		
	comp=Z,532nm,19.0s,MS5.3						
EDM	**Edmonton**	**146.92**	**348**	*e*P	PKPdf	21 08 35.3	+1.3
ECSD	**EROS,Sioux Fal**	**147.81**	**321**	*e*P	PKPdf	21 08 36.3	+0.5
MIAR	**Mount Ida**	**149.84**	**303**	*e*P	PKPdf	21 08 38.8	-0.7
LAO	**LASA Array**	**150.59**	**334**	*e*P	PKPdf	21 08 42.6	+2.4
EGMT	**Eagleton**	**150.76**	**340**	*e*P	PKPdf	21 08 41.5	+1.1
EGMT				LR	LR		
	comp=Z,696nm,21.0s,MS5.4						
PDAR	**Pinedale Array**	**155.17**	**333**	PKPbc	PKPdf	21 08 56.7	+10
	comp=Z,0.4nm,0.8s,baz=17,slow=1.5,SNR=3.8						
HLID	**Hailey**	**156.20**	**342**	PFAKE		21 09 00.0	+12
HLID				LR	LR		
	comp=Z,423nm,19.0s,MS5.3						
TUC	**Tucson**	**163.60**	**315**	*e*P	PKPdf	21 08 57.6	+0.6

MEX 05 20:52:03.7±0.4, 1721N×9930W, h30km, MD3.6, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	**Acapulco**	**0.68**	**240**	*i* P	Pb	20 52 15.0	-2.1
ACX				*i* S	Sb	20 52 24.0	-2.2
UTMO	**Huajuapan**	**1.56**	**67**	*i* P	Pn	20 52 27.8	-1.6
UTMO				*i* S	Sn	20 52 46.7	-1.9
PPM	**Popocatepetl**	**1.95**	**19**	*i* P	Pn	20 52 31.8	-3.0
PPM				*i* S	Sn	20 52 56.9	-1.4
VHO	**Vista Hermosa**	**2.46**	**93**	*e*P	Pn	20 52 39.8	-2.0
VHO				*i* S	Sn	20 53 08.7	-2.2

IDC 05 21:23:03.0±44.0, 1600S×17225W, h0km, mb4.2/3, mb1 4.4/3, mb1mx3.8/17, mbtmp4.2/3, Error ellipse: s-maj=856.1km s-min=185.6km az=79.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**44.70**	**241**	P	P	21 31 19.2	+1.2
	0.8nm,0.5s,baz=104,slow=12,SNR=3.2						
WRA	**Warramunga Arr**	**50.79**	**257**	P	P	21 32 04.8	-0.6
	0.6nm,0.5s,baz=98,slow=7.1,SNR=16						
ASAR	**Alice Springs**	**50.98**	**252**	P	P	21 32 06.6	-0.2
	6.7nm,0.6s,baz=88,slow=8.2,SNR=154						

*IDC **05** 21:26:58.0±0.8, 160N×8462W, h0km, mb4.0/10, mb1 4.2/14, mb1mx4.1/25, mbtmp4.0/14, ML3.5/2, MS4.6/19, Ms1 4.6/19, ms1mx4.4/24, Error ellipse: s-maj=28.2km s-min=14.5km az=55.0*

*GCMT **05** 21:27:00.1±0.2, 1.15N×8538W, h16km, MW5.4/89, Moment Tensor Solution. s73,c122; s89,c163; Duration: 1§2 Moment tensor: Scale 1017Nm; Mrr-0.05±.03; Mθθ0.44±.02; Mφφ-0.39±.03; Mrθ0.01±.05; Mrφ1.58±.02; Mθφ0.20±.07; Best double couple: M§1.64700×1017 NP1:φ§97.00000°, δ83.00000°, λ-1.00000°. NP2:φ§187.00000°, δ89.00000°, λ-173.00000°. Principal axes: T 1.6680, Plg4.0000°, Azm322.0000°; N -0.0430, Plg83.0000°, Azm195.0000°; P -1.6250, Plg6.0000°, Azm53.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **05** 21:27:00.1±0.5, 151N×8467W, h10km, mb4.6/13, MS4.8/13, MW5.5 Error ellipse: s-maj=12.7km s-min=8.0km az=50.0, Moment Tensor Solution. s7 Moment tensor: Scale 1017Nm; Mrr0.00; Mθθ0.72; Mφφ-0.72; Mrθ0.16; Mθφ2.06; Mφr0.97; Best double couple: M§2.40000×1017 NP1:φ§100.00000°, δ66.00000°, λ0.00000°. NP2:φ§190.00000°, δ90.00000°, λ-156.00000°. Principal axes: T 2.3900, Plg17.0000°, Azm322.0000°; N 0.0000, Plg66.0000°, Azm190.0000°; P -2.3900, Plg17.0000°, Azm27.0000°;*
*ISCJB **05** 21:27:01.6±2.3, 154N±007×8467W±0.10, h33km±23km, mb4.3/21, MS4.7/30 Error ellipse: s-maj=17.4km s-min=9.8km az=152.7*

ISC 05 21:27:04.6±1.5, 155N±007×8463W±010, h42km±16km, n69, σ1§18/43, mb4.3/21, MS4.7/30, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BCIP	**Isla Barro Col**	**8.95**	**32**	*e*P	**Pn**	**21 29 18.7**	**+7.4**
	233nm,1.4s						
ATAH	**Atahualpa**	**10.53**	**144**	Pn	**Pn**	**21 29 34.1**	**+1.1**
	3.3nm,0.3s,baz=351,slow=12,SNR=8.5						
ROSC	**El Rosal**	**10.79**	**72**	Pn	**Pn**	**21 29 35.8**	**-0.9**
	0.5nm,0.3s,baz=101,slow=21,SNR=2.4						
NNA	**Nana**	**15.51**	**150**	*e*P	**Pn**	**21 30 41.0**	**+0.4**
NNA	**Nana**	**15.51**	**150**	Pn	**Pn**	**21 30 42.2**	**+1.6**
	0.9nm,0.3s,baz=333,slow=14,SNR=2.8						
SDV	**Santo Domingo**	**15.72**	**62**	Pn	**Pn**	**21 30 41.4**	**-1.8**
	0.2nm,0.3s,baz=246,slow=15,SNR=2.3						
CMIG	**Matias Romero**	**18.45**	**327**	P	**Pn**	**21 31 15.8**	**-1.5**
CMIG				LR	LR	21 36 55.4	
CMIG	**Matias Romero**	**18.45**	**327**	P	**Pn**	**21 31 15.8**	**-1.5**
	0.1nm,0.3s,baz=145,slow=9.2,SNR=9.6						
CMIG				LR	LR	21 36 55.4	
	comp=Z,3μm,20.6s,baz=138,slow=32						
TEIG	**Tepich**	**18.90**	**349**	P	**Pn**	**21 31 22.3**	**-0.5**
TEIG				LR	LR	21 38 13.0	
TEIG	**Tepich**	**18.90**	**349**	P	**Pn**	**21 31 22.3**	**-0.4**
	0.5nm,0.3s,baz=39,slow=18,SNR=2.2						
TEIG				LR	LR	21 38 13.0	
	comp=Z,3μm,19.0s,baz=326,slow=36						
RCC	**Rio Carpintero**	**20.31**	**25**	*e*P	**P**	**21 31 40.7**	**+3.5**
CCCC	**Cccc**	**20.65**	**18**	*e*P	**P**	**21 31 50.0**	**+9.2**
MGV	**Manicaragua**	**20.93**	**12**	*e*P	**P**	**21 31 51.0**	**+7.1**
SDDR	**Presa de Saban**	**21.71**	**36**	P	**P**	**21 31 53.4**	**+1.2**
	46nm,1.3s,mb4.8						
LPAZ	**La Paz**	**24.07**	**138**	*e*P	**P**	**21 32 15.7**	**-0.6**
	15nm,1.1s,mb4.3						
LPAZ				LR	LR		
	comp=Z,2μm,21.0s,MS4.5						
LPAZ	**La Paz**	**24.07**	**138**	P	**P**	**21 32 15.6**	**-0.7**
	comp=Z,5.7nm,1.2s,mb3.9,baz=321,slow=8.9,SNR=12						
SJG	**San Juan**	**24.50**	**47**	P	**P**	**21 32 18.9**	**-1.3**
	comp=Z,3.3nm,0.3s,mb4.3,baz=350,slow=21,SNR=1.5						
SJG				LR	LR	21 42 04.9	
	comp=Z,1μm,19.8s,MS4.3,baz=240,slow=37						
CPD	**Cerro la Pandu**	**24.62**	**47**	P	**P**	**21 32 24.1**	**+2.8**
	comp=Z,57nm,1.4s,mb4.9						
SIV	**San Ignacio**	**29.07**	**128**	P	**P**	**21 32 59.8**	**-1.6**
	comp=Z,0.2nm,0.4s,mb3.2,baz=305,slow=19,SNR=1.9						
JCT	**Junction City**	**32.17**	**335**	*e*P	**P**	**21 33 29.4**	**+0.8**
JCT				LR	LR		
	comp=Z,393nm,21.0s,MS4.1						
TXAR	**Lajitas Array**	**33.05**	**329**	P	**P**	**21 33 34.4**	**-1.9**
TXAR				LR	LR	21 45 51.4	
TXAR	**Lajitas Array**	**33.05**	**329**	P	**P**	**21 33 34.4**	**-1.8**
	comp=Z,0.9nm,0.9s,mb3.7,baz=144,slow=7.6,SNR=7.2						
TXAR				LR	LR	21 45 51.4	
	comp=Z,1μm,20.6s,MS4.6,baz=235,slow=34						
WMOK	**Wichita Mounta**	**35.56**	**340**	*e*P	**P**	**21 33 59.4**	**+1.5**
WMOK				LR	LR		
	comp=Z,478nm,21.0s,MS4.2						
CCM	**Cathedral Cave**	**36.84**	**351**	*e*P	**P**	**21 34 07.7**	**-1.1**
	comp=Z,4.6nm,0.6s,mb4.5						
BDFB	**Brasilia**	**40.02**	**117**	LR	LR	21 52 58.5	
	comp=Z,1μm,18.6s,MS4.7,baz=284,slow=39						
SDCO	**Great Sand Dun**	**40.82**	**334**	*e*P	**P**	**21 34 42.0**	**-0.1**
	comp=Z,6.7nm,1.2s,mb4.2						
ISCO	**Idaho Springs**	**42.60**	**336**	*e*P	**P**	**21 34 58.3**	**+1.7**
	comp=Z,4.1nm,0.9s,mb4.2						
SMCO	**Snowmass**	**42.65**	**334**	*e*P	**P**	**21 34 57.7**	**+0.6**
	comp=Z,13nm,1.0s,mb4.6						
PLCA	**Paso Flores**	**43.99**	**165**	*e*P	**P**	**21 35 07.5**	**-0.5**
PLCA	**Paso Flores**	**43.99**	**165**	P	**P**	**21 35 07.8**	**-0.1**
	comp=Z,3.2nm,1.0s,mb4.0,baz=346,slow=5.2,SNR=5.4						
PLCA				LR	LR	21 48 40.4	
	comp=Z,741nm,21.2s,MS4.6,baz=338,slow=30						
TPNV	**Topopah Spring**	**45.73**	**324**	PFAKE		21 35 30.0	+8.1
TPNV				LR	LR		
	comp=Z,1μm,20.0s,MS4.8						
HWUT	**Hardware Ranch**	**46.68**	**332**	*e*P	**P**	**21 35 29.2**	**0.0**
	comp=Z,6.8nm,0.9s,mb4.6						
HWUT				LR	LR		
	comp=Z,2μm,21.0s,MS4.9						
PDAR	**Pinedale Array**	**46.71**	**335**	P	**P**	**21 35 28.9**	**-0.5**
	comp=Z,1.6nm,0.9s,mb4.0,baz=142,slow=7.5,SNR=7.8						

ESDC					LR	LR	22 09 23.4	
	comp=Z,264nm,18.4s,MS4.6,baz=345,slow=31							
TORD	**Torodi Ar. Bea**	**86.07**	**77**		LR	LR	22 16 16.9	
	comp=Z,163nm,19.3s,MS4.4,baz=265,slow=34							
NOA	**NORSAR Array B**	**91.50**	**29**		LR	LR	22 15 41.5	
	comp=Z,226nm,18.3s,MS4.7,baz=300,slow=32							
KEST	**Kesra**	**92.34**	**54**		LR	LR	22 14 45.9	
	comp=Z,77nm,20.1s,MS4.2,baz=23,slow=31							
GERES	**GERESS Array B**	**94.33**	**41**		LR	LR	22 20 09.0	
	comp=Z,243nm,20.4s,MS4.7,baz=65,slow=34							
ARCES	**ARCESS Array B**	**95.50**	**19**		LR	LR	22 18 28.2	
	comp=Z,368nm,19.5s,MS4.9,baz=92,slow=32							
URZ	**Urewera**	**97.45**	**232**		LR	LR	22 14 48.6	
	comp=Z,260nm,18.2s,MS4.8,baz=155,slow=29							
BOSA	**Boshof**	**108.16**	**120**		PFAKE		21 45 40.0	+11
BOSA					LR	LR		
	comp=Z,599nm,19.0s,MS5.2							
LBTB	**Lobatse**	**108.95**	**116**		PFAKE		21 45 40.0	+10
LBTB					LR	LR		
	comp=Z,710nm,19.0s,MS5.2							
KIV	**Kislovodsk**	**114.78**	**39**		PFAKE		21 45 50.0	+9.1
KIV					LR	LR		
	comp=Z,349nm,22.0s,MS4.9							
ZALV	**Zalesovo Beam**	**124.01**	**8**		PKP	PKPdf	21 45 59.2	+0.8
	comp=Z,0.2nm,0.3s,baz=356,slow=2.1,SNR=3.6							
CTAO	**Charters Tower**	**127.01**	**246**		PFAKE		21 46 20.0	+15
CTAO					LR	LR		
	comp=Z,285nm,21.0s,MS4.9							
SONM	**Songino Array**	**129.89**	**350**		PKP	PKPdf	21 46 10.9	+1.1
	comp=Z,0.5nm,1.0s,baz=7.1,slow=6.0,SNR=3.6							
MKAR	**Makanchi Array**	**130.51**	**12**		PKP	PKPdf	21 46 10.6	-0.4
	comp=Z,0.2nm,0.2s,baz=5.7,slow=3.7,SNR=4.5							
ASAR	**Alice Springs**	**136.69**	**236**		PKP	PKPdf	21 46 24.2	+0.9
	comp=Z,0.4nm,0.9s,baz=104,slow=3.9,SNR=2.9							
WRA	**Warramunga Arr**	**137.75**	**242**		PKP	PKPdf	21 46 25.3	0.0
	comp=Z,0.7nm,1.0s,baz=111,slow=1.7,SNR=4.2							

IDC 05 21:27:35.4±1.0, 5538S×2921W, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.7/15, mbtmp3.9/3, Error ellipse: s-maj=38.5km s-min=29.4km az=70.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SIV	**San Ignacio**	**46.29**	**315**		P	P	21 36 01.4	-1.1
	0.7nm,0.5s,baz=166,slow=8.3,SNR=3.6							
VNDA	**Vanda**	**47.19**	**183**		P	P	21 36 08.8	-0.2
	0.5nm,0.5s,baz=178,slow=1.4,SNR=6.2							
LPAZ	**La Paz**	**49.06**	**307**		P	P	21 36 25.4	+1.4
	2.8nm,0.7s,baz=161,slow=6.2,SNR=9.9							
TORD	**Torodi Ar. Bea**	**73.06**	**32**		P	P	21 39 07.1	+0.1
	0.5nm,0.6s,baz=200,slow=6.5,SNR=18							
YKA	**Yellowknife Ar**	**134.91**	**319**		PKP	PKPdf	21 46 54.4	-0.3
	0.4nm,0.8s,baz=111,slow=1.7,SNR=6.4							
SONM	**Songino Array**	**151.83**	**87**		PKPbc	PKPbc	21 47 31.0	+0.1
	0.9nm,0.7s,baz=222,slow=2.7,SNR=6.5							

GUC 05 21:49:34.1±0.6, 3151S×7190W, h41km±2km, MD3.6, ML3.5, 6C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CHNG	**Los Chungos**	**0.51**	**137**	⇓	*i* P	Pn	21 49 27.2	-18
CHNG					*i* S	Sn	21 49 35.2	-17
CHNG					AML	AML	21 49 36.2	
	comp=E,3μm,0.8s							
CMCH	**Combarbala**	**0.84**	**67**	⇑	*i* P	Pn	21 49 50.1	+0.7
CMCH					*i* S	Sn	21 50 02.2	+1.6
CMCH					AML	AML	21 50 04.5	
	comp=N,11μm,0.7s							
OVCH	**Ovalle**	**1.08**	**34**	⇑	*i* P	Pn	21 49 53.4	+0.7
OVCH					*i* S	Sn	21 50 08.2	+1.6
OVCH					AML	AML	21 50 09.2	
	comp=N,981nm,0.2s							
PTCH	**Petorca**	**1.12**	**133**	⇑	*i* P	Pn	21 49 54.3	+1.1
PTCH					*i* S	Sn	21 50 08.9	+1.5
PTCH					AML	AML	21 50 09.8	
	comp=N,1μm,0.2s							
JACH	**Jahuel**	**1.61**	**137**		*e* P	Pn	21 50 01.5	+1.5
JACH					*i* S	Sn	21 50 22.2	+2.6
TLL	**Tololo Astrono**	**1.64**	**35**	⇑	*i* P	Pn	21 50 01.9	+1.5
TLL					*i* S	Sn	21 50 23.3	+3.1
TLL					AML	AML	21 50 29.0	
	comp=E,491nm,0.6s							
PEL	**Peldehue**	**1.93**	**148**	⇑	*i* P	Pn	21 50 05.8	+1.4
PEL					*i* S	Sn	21 50 29.3	+2.0
PEL					AML	AML	21 50 30.8	
	comp=E,787nm,0.2s							
RCDM	**Rinconada Maip**	**2.18**	**155**	⇓	*i* P	Pn	21 50 08.9	+1.1
RCDM					*i* S	Sn	21 50 35.4	+1.8
RCDM					AML	AML	21 50 38.9	
	comp=E,512nm,0.1s							
CLCH	**Cerro Calan**	**2.21**	**149**		*i* P	Pn	21 50 09.4	+1.2
CLCH					*i* S	Sn	21 50 36.1	+1.9
CLCH					AML	AML	21 50 38.9	
	comp=E,504nm,0.3s							
CLCH					AML	AML	21 50 39.6	
	comp=E,566nm,0.3s							
FCH	**Farellones**	**2.27**	**144**	⇓	*i* P	Pn	21 50 10.8	+1.7
FCH					*i* S	Sn	21 50 38.7	+3.0
FCH					AML	AML	21 50 40.0	
	comp=N,339nm,0.2s							
TACH	**Talagante**	**2.29**	**159**		*e* P	Pn	21 50 10.7	+1.4
TACH					*i* S	Sn	21 50 38.1	+1.8
ANTU	**Antumapu**	**2.32**	**153**		AML	AML	21 50 39.8	
	comp=E,492nm,0.3s							
CHCH	**Chadas Angostu**	**2.64**	**157**		*e* P	Pn	21 50 15.2	+1.1
CHCH					*i* S	Sn	21 50 46.5	+1.6
LMEL	**Las Melosas**	**2.73**	**149**	⇑	*i* P	Pn	21 50 17.3	+1.8
LMEL					*i* S	Sn	21 50 49.4	+2.1
LMEL					AML	AML	21 50 52.5	
	comp=N,422nm,0.2s							
SFDO	**San Fernando**	**3.18**	**167**		*e* P	Pn	21 50 22.4	+0.8
SFDO					*i* S	Sn	21 50 59.6	+1.2

IDC 05 22:01:25.8±7.8, 7688S×15525E, h0km, mb3.7/7, mb1 3.8/7, mb1mx3.8/14, mbtmp3.7/7, MS2.9/1, Ms1 2.9/1, ms1mx2.5/27, Error ellipse: s-maj=230.6km s-min=26.1km az=111.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.96**	**111**		LR	LR	22 04 04.2	
	comp=Z,137nm,20.6s,baz=357,slow=32							
WRA	**Warramunga Arr**	**23.65**	**237**		P	P	22 06 39.6	+0.4
	1.0nm,0.7s,baz=61,slow=9.7,SNR=5.6							
ASAR	**Alice Springs**	**25.92**	**230**		P	P	22 06 59.0	-0.8
	0.4nm,0.7s,baz=62,slow=9.7,SNR=4.4							
MJAR	**Matsushiro Arr**	**46.80**	**341**		P	P	22 09 55.5	-1.7
	1.3nm,0.5s,baz=160,slow=7.2,SNR=7.3							
KSRS	**Korea Array**	**51.66**	**332**		P	P	22 10 34.4	0.0
	0.5nm,0.5s,baz=142,slow=6.0,SNR=3.1							
SONM	**Songino Array**	**70.04**	**327**		P	P	22 12 40.9	+1.4
	0.3nm,0.5s,baz=140,slow=5.6,SNR=5.6							
MKAR	**Makanchi Array**	**84.08**	**319**		P	P	22 13 58.0	-0.5
	0.8nm,0.7s,baz=105,slow=5.4,SNR=8.5							
ZALV	**Zalesovo Beam**	**84.88**	**326**		P	P	22 14 03.4	+1.0
	0.3nm,0.5s,baz=106,slow=4.7,SNR=3.3							
VNA3	**Neumayer Olymp**	**100.60**	**185**		*e*	PKiKP	22 19 43.3	+1.8
VNA3					*e*		22 19 45.7	
VNA3					*e*		22 19 51.2	
VNA2	**Neumayer--Watz**	**100.70**	**186**		*e*	PKiKP	22 19 37.8	-3.8
	baz=18,slow=13							
VNA2					*e*		22 19 40.1	
VNA2					*e*		22 19 45.4	

ISCJB ***05*** *22:12:01.3±0.9, 3827N±003×2027E±006, h2km, Error ellipse: s-maj=7.9km s-min=3.9km az=153.4*
THE ***05*** *22:12:02.7, 3831N×2037E, h3km, ML3.6*
NEIC ***05*** *22:12:02.7, 3831N×2037E, h0km, MD3.5(ATH), ML3.6(THE), After THE.*
ATH ***05*** *22:12:02.5, 3824N×2033E, h9km±3km, MD3.5/5*
CSEM ***05*** *22:12:03.4±0.2, 3835N×2042E, h2km, MD3.5, Error ellipse: s-maj=6.8km s-min=1.6km az=66.0*
ISC 05 22:12:01.5±1.2, 3825N±004×2026E±007, h3km±6km, n18, σ1§00/28, Greece

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.27**	**105**		*e* PG	**Pg**	**22 12 07.3**	**+0.6**
VLS					*e* SG	**Sg**	**22 12 10.4**	**+0.2**
KFL	**Anninata**	**0.44**	**108**		*e* Pg	**Pg**	**22 12 10.3**	**+0.3**
KFL					*e* Sg	**Sg**	**22 12 16.0**	**+0.4**
LKD	**Levkas**	**0.55**	**34**		*e* Pg	**Pg**	**22 12 11.2**	**-0.9**
LKD					*e* Sg	**Sg**	**22 12 18.2**	**-1.1**
IGT	**Igoumenitsa**	**1.29**	**3**		*e* Pg	**Pn**	**22 12 25.0**	**-1.4**
IGT					*e* Sg	**Sg**	**22 12 44.2**	**+1.4**
SELA	**Sela**	**1.29**	**88**		*e* Pg	**Pg**	**22 12 24.6**	**-1.6**
SELA					*e* Sg	**Sg**	**22 12 43.4**	**+0.5**
SELA	**Sela**	**1.29**	**88**		*e* Pg	**Pn**	**22 12 24.5**	**-1.8**
SELA					*e* Sg	**Sg**	**22 12 43.4**	**+0.6**
EVR	**Evrytania**	**1.39**	**61**		*e* PG	**Pg**	**22 12 27.5**	**-0.6**
EVR					*e* SB	**Sb**	**22 12 46.0**	**-0.2**
EVR	**Evrytania**	**1.39**	**61**		*e* Pn	**Pn**	**22 12 26.4**	**-1.3**
EVR					*e* Sb	**Sb**	**22 12 46.7**	**+0.5**
JAN	**Janina**	**1.48**	**18**		*e* PB	**Pb**	**22 12 30.4**	**+0.7**
JAN					*e* SB	**Sb**	**22 12 50.8**	**+1.9**
KEK	**Kerkira**	**1.51**	**346**		*e* PG	**Pg**	**22 12 30.7**	**+0.3**
ITM	**Ithomi**	**1.70**	**128**		*e* PB	**Pb**	**22 12 34.0**	**+0.7**
PYL	**PYLOS**	**1.79**	**138**		*e* Pb	**Pb**	**22 12 35.0**	**+0.1**
PYL					*e* Sb	**Sb**	**22 12 58.2**	**+0.5**
AGG	**Agios Georgios**	**1.80**	**64**		*e* Pb	**Pn**	**22 12 32.3**	**-1.1**
THL	**Klokotos Trika**	**1.90**	**46**		*e* PN	**Pn**	**22 12 36.7**	**+1.9**
LTK	**Loutraki**	**2.15**	**95**		*e* Pn	**Pn**	**22 12 38.0**	**-0.2**
DID	**Didima**	**2.47**	**106**		*e* Pn	**Pn**	**22 12 43.6**	**+1.0**
FNA	**Florina**	**2.68**	**18**		*e* Pn	**Pn**	**22 12 45.0**	**-0.4**
FNA	**Florina**	**2.68**	**18**		*e* Pn	**Pn**	**22 12 45.0**	**-0.5**

IDC 05 22:15:24.1±4.1, 1987S×16808E, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.8/13, mbtmp3.9/3, MS3.5/1, Ms1 3.4/1, ms1mx2.8/29, Error ellipse: s-maj=118.6km s-min=67.2km az=147.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**26.58**	**238**		P	P	22 21 03.0	-1.1
	1.4nm,0.7s,baz=76,slow=9.1,SNR=3.3							
STKA					LR	LR	22 29 51.0	
	comp=Z,102nm,19.0s,baz=26,slow=33							
WRA	**Warramunga Arr**	**31.69**	**264**		P	P	22 21 50.1	+0.4
	0.5nm,0.6s,baz=92,slow=8.5,SNR=12							
ASAR	**Alice Springs**	**31.91**	**257**		P	P	22 21 51.9	+0.3
	0.5nm,0.7s,baz=34,slow=5.0,SNR=5.0							
GERES	**GERESS Array B**	**144.52**	**331**		PKP	PKPdf	22 35 02.3	-0.1

IDC 05 22:19:19.3±1.2, 713S×15499E, h0km, mb3.7/7, mb1 3.9/7, mb1mx3.8/14, mbtmp3.6/7, Error ellipse: s-maj=49.4km s-min=23.5km az=122.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.73**	**236**		P	P	22 24 33.0	-0.5
	2.0nm,1.1s,baz=62,slow=9.9,SNR=5.0							
ASAR	**Alice Springs**	**26.08**	**229**		P	P	22 24 54.2	-0.5
	0.6nm,0.8s,baz=58,slow=9.9,SNR=5.3							
STKA	**Stephens Creek**	**27.61**	**205**		P	P	22 25 09.6	+1.1
	1.2nm,0.5s,baz=31,slow=9.6,SNR=3.8							
SONM	**Songino Array**	**69.45**	**327**		P	P	22 30 29.4	+0.1
	0.2nm,0.5s,baz=137,slow=9.2,SNR=2.8							
MKAR	**Makanchi Array**	**83.50**	**319**		P	P	22 31 51.0	+1.9
	0.1nm,0.2s,baz=102,slow=4.1,SNR=2.7							
NVAR	**Mina Array Bea**	**91.81**	**52**		P	P	22 32 30.1	+0.7
	0.2nm,0.5s,baz=253,slow=5.5,SNR=2.8							
YKA	**Yellowknife Ar**	**96.46**	**28**		P	P	22 32 49.0	-1.2
	0.2nm,0.6s,baz=265,slow=5.0,SNR=4.8							
ESDC	**Sonseca Array**	**142.49**	**333**		PKP	PKPdf	22 38 56.2	+1.6
	0.1nm,0.4s,baz=49,slow=1.9,SNR=3.1							
TORD	**Torodi Ar. Bea**	**153.06**	**285**		PKPbc	PKPbc	22 39 18.6	-1.3
	0.2nm,0.4s,baz=61,slow=2.8,SNR=5.9							

IDC 05 22:19:31.5±2.7, 671S×15501E, h0km, mb3.9/4, mb1 4.1/4, mb1mx3.7/15, mbtmp3.9/4, Error ellipse: s-maj=75.8km s-min=45.7km az=122.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.99**	**235**		P	P	22 24 48.0	-0.1
	1.1nm,0.8s,baz=59,slow=9.6,SNR=5.2							
ASAR	**Alice Springs**	**26.37**	**228**		P	P	22 25 09.6	-0.1
	0.4nm,0.6s,baz=62,slow=9.7,SNR=7.1							
STKA	**Stephens Creek**	**28.00**	**205**		P	P	22 25 24.1	-0.1
	1.9nm,0.6s,baz=30,slow=10.0,SNR=5.1							
FITZ	**Fitzroy Crossi**	**30.78**	**246**		P	P	22 25 49.6	+0.5
	4.9nm,1.1s,baz=86,slow=4.2,SNR=3.3							
TORD	**Torodi Ar. Bea**	**152.96**	**286**		PKPbc	PKPbc	22 39 31.9	-0.1
	0.2nm,0.7s,baz=80,slow=1.6,SNR=2.9							

IDC 05 22:24:33.7±2.6, 589S×13023E, h0km, mb3.5/1, mb1 3.3/3, mb1mx3.2/12, mbtmp3.1/3, ML3.2/2, Error ellipse: s-maj=156.3km s-min=33.3km az=70.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.53**	**164**		Pn	Pn	22 28 00.5	-0.2
	0.1nm,0.3s,baz=348,slow=13,SNR=4.8							
WRA					Sn	Sn	22 30 29.2	-13
	0.1nm,0.3s,baz=342,slow=24,SNR=2.4							
ASAR	**Alice Springs**	**18.02**	**169**		P	Pn	22 28 46.0	+0.2
	0.0nm,0.3s,baz=341,slow=8.3,SNR=3.7							
MKAR	**Makanchi Array**	**67.43**	**326**		P	P	22 35 31.2	+0.1
	0.2nm,0.4s,baz=126,slow=6.2,SNR=3.6							

ISCJB ***05*** *22:25:35.5±2.6, 188S±02×1690E±01, h223km±26km, mb3.9/6, Error ellipse: s-maj=36.7km s-min=21.5km az=6.1*
IDC ***05*** *22:25:48.1±10.0, 1921S×16891E, h343km±112km, mb3.4/8, mb1 3.7/8, mb1mx3.5/15, mbtmp3.4/8, Error ellipse: s-maj=61.3km s-min=20.9km az=18.0*
ISC 05 22:25:35.9±2.7, 188S±02×1690E±01, h215km±27km, n26, σ0§42/9, mb3.9/6, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.05**	**216**		*e* P	**Pn**	**22 26 38.7**	**-0.1**
URZ	**Urewera**	**20.62**	**162**		**P**	**P**	**22 29 58.9**	**+0.1**
	4.6nm,0.6s,baz=309,slow=6.5,SNR=4.0							
CTA	**Charters Tower**	**21.51**	**263**		P	**P**	**22 30 09.1**	**+0.8**
	3.4nm,0.7s,mb4.0,baz=84,slow=9.2,SNR=3.4							
WRA	**Warramunga Arr**	**32.71**	**262**		**P**	**P**	**22 31 47.8**	**-0.7**
	1.1nm,0.5s,mb3.7,baz=89,slow=8.3,SNR=7.3							
ASAR	**Alice Springs**	**33.04**	**255**		**P**	**P**	**22 31 51.1**	**-0.2**
	7.4nm,0.4s,mb4.6,baz=81,slow=8.7,SNR=195							
SONM	**Songino Array**	**86.75**	**323**		**P**	**P**	**22 37 55.7**	**+0.1**
	1.4nm,0.8s,mb3.8,baz=154,slow=6.8,SNR=14							
NVAR	**Mina Array Bea**	**88.67**	**49**		P	**P**	**22 38 04.3**	**-0.6**
	0.7nm,0.8s,mb3.6,baz=207,slow=6.5,SNR=4.3							
PDAR	**Pinedale Array**	**96.47**	**47**		**P**	**P**	**22 38 41.1**	**+0.4**
	0.2nm,0.4s,mb3.7,baz=250,slow=4.2,SNR=2.6							
TXAR	**Lajitas Array**	**96.74**	**61**		**P**	**P**	**22 38 42.4**	**+0.1**
	0.0nm,0.3s,baz=247,slow=4.6,SNR=2.9							
YKA	**Yellowknife Ar**	**100.38**	**27**		P	Pdif	22 38 57.1	-1.0
	0.5nm,0.6s,baz=252,slow=4.9,SNR=9.3							
MKAR	**Makanchi Array**	**101.29**	**316**		P	Pdif	22 39 02.5	+0.3
	0.2nm,0.4s,baz=105,slow=4.6,SNR=3.4							
ARCES	**ARCESS Array B**	**124.60**	**345**		PKP	PKPdf	22 44 06.3	-2.7
	8.0nm,1.1s,baz=40,slow=1.8,SNR=9.9							
GERES	**GERESS Array B**	**144.02**	**332**		PKP	PKPdf	22 44 43.1	-2.6
	1.4nm,0.7s,baz=35,slow=3.3,SNR=13							
CDF	**Champ du Feu**	**146.97**	**337**		*e* PKP1	PKPbc	22 44 52.0	-1.0
	3.7nm,0.6s							
CABF	**La Chapelle**	**148.92**	**337**		*e* PKP1	PKPbc	22 44 57.5	-0.7
	5.3nm,0.6s							
FLN	**La Foliniere**	**148.94**	**346**		*e* PKP1	PKPbc	22 44 56.2	-2.0
LDF	**La Druitiere**	**149.01**	**346**		*e* PKP1	PKPbc	22 44 56.7	-1.7
GRR	**Gorron**	**149.37**	**347**		*e* PKP1	PKPbc	22 44 58.0	-1.3
SSF	**Saint Saulge**	**149.42**	**340**		*e* PKP1	PKPbc	22 44 58.3	-1.1
	1.9nm,0.6s							
LPL	**La Plagne**	**149.58**	**335**		*e* PKP1	PKPbc	22 44 59.2	-0.7
LPG	**La Plagne**	**149.59**	**335**		*e* PKP1	PKPbc	22 44 59.5	-0.4
BGF	**Bois d'Agland**	**150.07**	**341**		*e* PKP1	PKPbc	22 44 59.6	-1.4
	10nm,1.0s							
ORIF	**Oris-en-Rattie**	**150.41**	**335**		*e* PKP1	PKPbc	22 44 59.9	-2.0
	8.5nm,1.0s							
TCF	**Toulx Ste Croi**	**150.51**	**341**		*e* PKP1	PKPbc	22 45 00.7	-1.4
MFF	**Saint Martin d**	**150.88**	**345**		*e* PKP1	PKPbc	22 45 01.3	-1.6
LFF	**La Frestale**	**152.17**	**342**		*e* PKP1	PKPbc	22 45 05.1	-0.8

PDA ***05*** *22:39:42.9±0.8, 3721N×2453W, h5km, ML3.5, Error ellipse: s-maj=21.6km s-min=5.6km az=36.0*
CSEM ***05*** *22:39:42.9±0.8, 3721N×2453W, h5km, ML3.5, Error ellipse: s-maj=21.6km s-min=5.6km az=36.0, After PDA*
SVSA 05 22:39:42.9±0.8, 3721N×2453W, h5km, ML3.5, Error ellipse: s-maj=21.6km s-min=5.6km az=36.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PDA	**Ponta Delgada**	**1.05**	**301**		*e* P	Pg	22 39 57.6	-5.4
PDA					*e* S	Sg	22 40 09.7	-7.0
ADH	**Angra Heroismo**	**2.58**	**305**		*e* P	Pn	22 40 20.4	-4.9
ADH					*e* S	Sn	22 40 48.8	-8.3
PID	**Ribeirinha**	**3.10**	**295**		*e* P	Pn	22 40 27.8	-4.6
PMAN	**Manadas**	**3.15**	**298**		*e* P	Pn	22 40 28.9	-4.3
PMAN					*e* S	Sn	22 41 03.3	-7.9
PMAN					A		22 41 04.4	
	46nm,0.2s							
PMAN	**Manadas**	**3.15**	**298**		*e* P	Pn	22 40 28.9	-4.3
PMAN					*e* S	Sn	22 41 03.3	-7.9
ROSA	**Rosais**	**3.30**	**298**		*e* P	Pn	22 40 30.6	-4.6
PICO	**Pico**	**3.34**	**294**		*e* P	Pn	22 40 31.5	-4.3
PICO					*e* S	Sn	22 41 07.5	-8.3
CALA	**Caldeira**	**3.57**	**294**		*e* P	Pn	22 40 34.2	-4.8
CALA					*e* S	Sn	22 41 13.2	-8.3

ISCJB ***05*** *22:45:17.9±0.5, 3734N±003×2462W±002, h19km±3km, mb4.5/95, MS4.1/35, Error ellipse: s-maj=5.9km s-min=2.9km az=9.2*
BJI ***05*** *22:45:17.5, 37.12N×2500W, h28km, mB5.3, mb5.3, Ms5.2, Msz4.8*
SZGRF ***05*** *22:45:17.4, 37.18N×2475W, h12km, mb4.6, Azores Islands region*
NEIC ***05*** *22:45:18.6±0.2, 3720N×2446W, h10km, mb4.8/68, MS4.0/4, Error ellipse: s-maj=5.2km s-min=3.5km az=178.0*
CSEM ***05*** *22:45:18.2±0.1, 3759N×2465W, h13km, mb4.8/61, Ms3.8, Error ellipse: s-maj=3.9km s-min=0.9km az=3.0*
IDC ***05*** *22:45:18.0±0.6, 3749N×2440W, h0km, mb4.1/19, mb1 4.3/20, mb1mx4.2/28, mbtmp4.1/20, ML4.0/1, MS4.0/27, Ms1 4.0/27, ms1mx3.9/35, Error ellipse: s-maj=18.1km s-min=13.4km az=5.0*
PDA ***05*** *22:45:19.5±1.4, 3726N×2457W, h5km, MD3.7, ML4.2, Error ellipse: s-maj=6.0km s-min=3.5km az=60.0*
SVSA ***05*** *22:45:19.5±1.4, 3726N×2457W, h5km, MD3.7, ML4.2, Error ellipse: s-maj=6.0km s-min=3.5km az=60.0*
MOS ***05*** *22:45:21.6±0.9, 3754N×2449W, h33km, mb4.9/51, MS4.0/5, Error ellipse: s-maj=10.1km s-min=3.9km az=138.5*
ISC 05 22:45:19.2±0.5, 3733N±003×2472W±002, h20km±3km, h14km±1.3km: pP-P, n457, σ1§06/510, mb4.5/95, MS4.1/35, 7C-1D, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PSMN	**Pico do Norte,**	**0.43**	**220**		*i* P	**Pg**	**22 45 27.5**	**-0.7**
PSMN					*e* S	**Sg**	**22 45 34.1**	**0.0**
MIRA	**Miradouro**	**0.63**	**316**		*i* P	**Pg**	**22 45 32.0**	**+0.2**
MIRA					*e* S	**Sg**	**22 45 41.8**	**+1.5**
MIRA					*e* T		22 46 07.7	
MIRA	**Miradouro**	**0.63**	**316**		*e* S	**Sg**	**22 45 41.8**	**+1.5**
FRA1	**Furnas**	**0.65**	**309**		*e* P	**Pg**	**22 45 32.5**	**+0.4**
FRA1					*e* S	**Sg**	**22 45 42.0**	**+1.1**
FRA1					*e* T		22 46 09.8	
FRA1	**Furnas**	**0.65**	**309**		*e* P	**Pg**	**22 45 32.5**	**+0.4**
FRA1					*e* S	**Sg**	**22 45 42.0**	**+1.1**
PCNG	**Congro**	**0.69**	**309**		*e* P	**Pb**	**22 45 32.9**	**+0.3**
PCNG					*e* S	**Sb**	**22 45 43.5**	**+1.8**
PCNG					A		22 45 45.9	
	2μm,0.3s							
PCNG	**Congro**	**0.69**	**309**		*e* P	**Pb**	**22 45 32.9**	**+0.3**
PCNG					*e* S	**Sb**	**22 45 43.5**	**+1.8**
PFAD	**Fenais da Ajud**	**0.69**	**317**		*i* P	**Pb**	**22 45 32.9**	**+0.2**
VIF	**Vila Franca**	**0.70**	**306**		*e* P	**Pb**	**22 45 33.2**	**+0.4**
VIF					*e* S	**Sb**	**22 45 43.4**	**+1.3**
VIF					A		22 45 46.3	
	2μm,0.2s							
VIF					*e* T		22 46 14.2	
VIF	**Vila Franca**	**0.70**	**306**		*e* P	**Pb**	**22 45 33.2**	**+0.4**
VIF					*e* S	**Sb**	**22 45 43.4**	**+1.3**
PRCH	**Ribeira Ch**	**0.72**	**303**		*e* P	**Pb**	**22 45 33.5**	**+0.4**
PRCH					*e* S	**Sb**	**22 45 43.4**	**+0.8**
PRCH					A		22 45 47.6	
	3μm,0.2s							
PRCH					*e* T		22 46 15.9	
PRCH	**Ribeira Ch**	**0.72**	**303**		*e* P	**Pb**	**22 45 33.5**	**+0.4**
PRCH					*e* S	**Sb**	**22 45 43.4**	**+0.8**
MESC	**Monte Escuro**	**0.74**	**309**		*e* P	**Pb**	**22 45 33.5**	**+0.1**
MESC					*e* S	**Sb**	**22 45 44.1**	**+1.0**
**LF

ASBA Santa Barbara 2.48 305 *e*P **Pn 22 45 58.7 +0.2**
ASBA *e*S **Sn 22 46 27.1 -1.1**
ASBA A 22 46 29.0
370nm,0.2s
ASBA Santa Barbara 2.48 305 *e*P **Pn 22 45 58.7 +0.2**
ASBA *e*S **Sn 22 46 27.1 -1.1**
PIED Piedade 2.85 293 *e*P **Pn 22 46 04.1 +0.5**
PID Ribeirinha 2.91 293 *e*P **Pn 22 46 03.8 -0.6**
PID *e*S **Sn 22 46 36.5 -2.3**
PMAN Manadas 2.96 297 *e*P **Pn 22 46 04.6 -0.5**
PMAN *e*S **Sn 22 46 38.3 -1.8**
PMAN A 22 46 39.0
139nm,0.4s
PMAN Manadas 2.96 297 *e*P **Pn 22 46 04.6 -0.5**
PMAN *e*S **Sn 22 46 38.3 -1.8**
PAMA Santo Amaro 3.04 297 *e*P **Pn 22 46 05.9 -0.4**
PAMA *e*S **Sn 22 46 41.5 -0.6**
PAMA A 22 46 50.5
68nm,0.2s
PAMA Santo Amaro 3.04 297 *e*P **Pn 22 46 05.9 -0.4**
PAMA *e*S **Sn 22 46 41.5 -0.6**
PBOI Pico dos Bois 3.09 292 *e*P **Pn 22 46 07.2 +0.2**
PBOI *e*S **Sn 22 46 42.3 -1.1**
PBOI A 22 46 46.0
48nm,0.5s
PTEI Pico do Teixo 3.10 293 *e*S **Sn 22 46 43.8 +0.3**
PTEI A 22 46 50.2
60nm,0.5s
ROSA Rosais 3.11 298 *e*P **Pn 22 46 06.6 -0.5**
ROSA *e*S **Sn 22 46 41.3 -2.3**
STGR Santa Cruz 3.12 305 *e*P **Pn 22 46 07.7 +0.4**
STGR *e*S **Sn 22 46 43.7 -0.3**
STGR A 22 46 46.1
182nm,0.2s
STGR Santa Cruz 3.12 305 *e*P **Pn 22 46 07.7 +0.4**
STGR *e*S **Sn 22 46 43.7 -0.3**
PVIA Vitoria 3.14 304 *e*P **Pn 22 46 08.1 +0.5**
PVIA *e*S **Sn 22 46 43.5 -1.1**
PVIA A 22 46 45.0
31nm,0.2s
PICO Pico 3.15 293 *e*P **Pn 22 46 07.4 -0.4**
PICO *e*S **Sn 22 46 43.0 -1.8**
PCND Candelaria 3.17 292 *e*P **Pn 22 46 08.1 +0.1**
PCND *e*S **Sn 22 46 44.2 -1.0**
PCND A 22 46 51.2
73nm,0.1s
HOR Horta 3.31 292 *e*P **Pn 22 46 09.4 -0.6**
HOR *e*S **Sn 22 46 46.5 -2.2**
CALA Caldeira 3.38 293 *e*P **Pn 22 46 10.5 -0.4**
CALA *e*S **Sn 22 46 48.8 -1.7**
PTCA Ponta do Capel 3.46 292 *e*P **Pn 22 46 11.5 -0.4**
PTCA *e*S **Sn 22 46 51.9 -0.4**
PTCA A 22 46 56.0
49nm,0.3s
PTCA Ponta do Capel 3.46 292 *e*P **Pn 22 46 11.5 -0.4**
PTCA *e*S **Sn 22 46 51.9 -0.4**
PLUZ Luz 3.75 298 *e*P **Pn 22 46 06.8 -9.2**
PLUZ *e*S Sn 22 46 41.4 -18
PLUZ A 22 46 44.2
120nm,0.3s
PMAR Madeira 7.88 123 *e*Pn **Pn 22 47 08.4 -4.3**
PMAR *e*Sn **Sn 22 48 27.6 -14**
PMAR A 22 48 39.0
50nm,0.3s
PMAR *e*T 22 54 39.0
PMPS Porto Santo 8.08 119 *e*Pn **Pn 22 47 10.8 -4.7**
PMPS *e*Sn **Sn 22 48 29.6 -17**
PMPS A 22 48 41.5
10nm,0.2s
PMPS *e*T 22 55 01.2
EHIG Higuera 10.50 144 P **Pn 22 47 45.1 -3.6**
EHIG S **Sn 22 49 30.4 -15**
EHIG Higuera 10.50 144 P **Pn 22 47 45.1 -3.6**
EHIG S **Sn 22 49 30.4 -15**
EGOM La Gomera 11.12 143 P **Pn 22 47 52.0 -5.0**
EGOM S **Sn 22 49 45.8 -15**
EGOM La Gomera 11.12 143 P **Pn 22 47 52.0 -5.1**
EGOM S **Sn 22 49 45.8 -15**
EBAJ Bajamar 11.24 139 P **Pn 22 47 54.5 -4.3**
EBAJ Bajamar 11.24 139 P **Pn 22 47 54.5 -4.3**
CCAN Las Canadas 11.36 141 P **Pn 22 47 55.6 -4.8**
6.5nm,0.7s
CCAN S **Sn 22 49 52.6 -14**
CCAN Las Canadas 11.36 141 P **Pn 22 47 55.6 -4.8**
6.5nm,0.7s
CCAN S **Sn 22 49 52.6 -14**
PMAFR Mafra 12.26 78 *e*S **Sn 22 50 12.4 -16**
EFAM Famara 12.43 128 P **Pn 22 48 13.8 -1.2**
1.2nm,0.1s
EFAM Famara 12.43 128 P **Pn 22 48 13.8 -1.3**
1.2nm,0.1s
CFTV Fuerteventura 12.60 132 P **Pn 22 48 13.7 -3.7**
1.7nm,0.2s
PFVI Vila Bisbo 12.67 86 *e*S **Sn 22 50 21.8 -17**
PTEO Sao Teotonio 12.72 84 *e*S **Sn 22 50 21.7 -18**
MORF Marmelete 12.79 85 *e*S **Sn 22 50 23.9 -18**
MOE Montemor 12.98 80 *e*S **Sn 22 50 30.9 -15**
EVOP Sao Brissos 13.16 80 *e*Pn **Pn 22 48 21.2 -3.8**
EVOP *e*Sn **Sn 22 50 32.0 -19**
EVO Evora 13.25 80 *e*Pn **Pn 22 48 21.2 -5.0**
EVO *e*Sn **Sn 22 50 32.0 -21**
11nm,0.4s
EVO *e*MLR MLR
comp=Z,602nm,19.2s
PBEJ Beja 13.37 82 *e*S **Sn 22 50 36.7 -19**
PBDV Barranco-do-Ve 13.37 85 *e*S **Sn 22 50 40.1 -16**
PVIS Viseu 13.51 70 *e*S **Sn 22 50 40.6 -19**
PVAQ Vaqueiros 13.53 85 *e*S **Sn 22 50 42.7 -17**
STS Santiago 13.55 61 P **Pn 22 48 27.0 -3.3**
comp=Z,1.3nm,0.2s
PESTR Estremoz 13.58 78 *e*S **Sn 22 50 43.6 -17**
PCAB Cabril 13.61 66 *e*S **Sn 22 50 44.2 -17**
ELOB Lobios 13.62 65 P **Pn 22 48 26.8 -4.4**
comp=Z,1.7nm,0.4s
ELOB S **Sn 22 50 42.5 -19**
ELOB Lobios 13.62 65 P **Pn 22 48 26.8 -4.4**
comp=Z,1.7nm,0.4s
ELOB S **Sn 22 50 42.5 -19**
EGRO El Granado 13.70 84 P **Pn 22 48 28.4 -4.0**
comp=Z,0.7nm,0.4s
EGRO S **Sn 22 50 45.5 -18**
EGRO El Granado 13.70 84 P **Pn 22 48 28.4 -4.0**
comp=Z,0.7nm,0.4s
EGRO S **Sn 22 50 45.5 -18**
PCBR Castelo Branco 13.72 74 *e*S **Sn 22 50 46.2 -18**
MTE Manteigas 13.73 72 *e*S **Sn 22 50 47.1 -17**
MTE Manteigas 13.73 72 Pn **Pn 22 48 32.4 -0.3**
PVRL Vila Real 13.74 68 *e*S **Sn 22 50 45.5 -19**
PBAR Barrancos 14.02 81 *e*S **Sn 22 50 53.0 -19**
EBAD Badajoz 14.03 79 P **Pn 22 48 33.4 -3.5**
comp=Z,0.2nm,0.3s
EBAD S **Sn 22 50 51.9 -20**
EBAD Badajoz 14.03 79 P **Pn 22 48 33.4 -3.4**
comp=Z,0.2nm,0.3s
EBAD S **Sn 22 50 51.9 -20**
MVO Moncorvo 14.23 69 *e*S **Sn 22 50 55.9 -21**
EMIN Mina Concepcio 14.33 83 P **Pn 22 48 35.6 -5.3**
comp=Z,0.3nm,0.3s
EMIN S **Sn 22 51 00.3 -19**
EMIN Mina Concepcio 14.33 83 P **Pn 22 48 35.6 -5.3**
comp=Z,0.3nm,0.3s
EMIN S **Sn 22 51 00.3 -19**
PBRG Braganca 14.56 67 *e*S **Sn 22 51 05.3 -20**
ECAL Calabor 14.60 66 P **Pn 22 48 39.2 -5.4**
comp=Z,0.8nm,0.3s
ECAL S **Sn 22 51 06.6 -19**
ECAL Calabor 14.60 66 P **Pn 22 48 39.2 -5.3**
comp=Z,0.8nm,0.3s
ECAL S **Sn 22 51 06.6 -19**
EPON Pontenova 14.67 60 P **Pn 22 48 40.9 -4.6**
comp=Z,0.3nm,0.1s
EPON S **Sn 22 51 08.7 -19**
EPON Pontenova 14.67 60 P **Pn 22 48 40.9 -4.6**
comp=Z,0.3nm,0.1s
EPON S **Sn 22 51 08.7 -19**
SFS San Fernando 14.84 88 *e*Pn **Pn 22 48 48.2 +0.2**
SFS San Fernando 14.84 88 *e*Pn **Pn 22 48 48.2 +0.3**
ESDC Sonseca Array 16.41 75 Pn **Pn 22 49 01.5 -6.9**
comp=Z,0.4nm,0.3s,baz=269,slow=13,SNR=8.9
ESDC Sn **Sn 22 51 53.5 -16**
comp=Z,0.3nm,0.3s,baz=264,slow=23,SNR=4.4
ESDC LR LR 22 54 07.3
comp=Z,405nm,20.4s,baz=270,slow=33

ESDC Sonseca Array 16.41 75 Pn **Pn 22 49 01.5 -6.9**
ESDC Sn **Sn 22 51 53.5 -16**
ESLA Sonseca Array 16.41 75 *e*Pn **Pn 22 49 07.9 -0.5**
comp=Z,8.3nm,1.4s
ESLA Sonseca Array 16.41 75 *e*Pn **Pn 22 49 07.9 -0.5**
MDT Midelt 17.06 99 Pn **Pn 22 49 13.8 -2.8**
comp=Z,0.6nm,0.3s,baz=271,slow=6.1,SNR=15
MDT Sn **Sn 22 52 06.9 -19**
comp=Z,0.2nm,0.3s,baz=210,slow=20,SNR=5.7
MDT LR LR 22 54 20.5
comp=Z,417nm,20.7s,baz=335,slow=32
MDT Midelt 17.06 99 Pn **Pn 22 49 13.8 -2.8**
MDT Sn **Sn 22 52 06.9 -19**
ELAN Lanestosa 17.26 63 P **Pn 22 49 17.9 -1.1**
comp=Z,0.9nm,0.4s
ELAN S **Sn 22 52 18.4 -12**
ELAN Lanestosa 17.26 63 P **Pn 22 49 17.9 -1.1**
comp=Z,0.9nm,0.4s
ELAN S **Sn 22 52 18.4 -12**
ETOR Torete 17.93 72 P **Pn 22 49 22.3 -5.0**
comp=Z,1.2nm,0.4s
ETOR Torete 17.93 72 P **Pn 22 49 22.3 -5.0**
ETOR pmax pmax
comp=Z,1.0nm,0.4s
ETOR Torete 17.93 72 P **Pn 22 49 22.3 -5.0**
comp=Z,1.2nm,0.4s
SJPF Ste Jean 18.82 65 *e*P **Pn 22 49 36.9 -1.3**
CART Cartagena 18.83 82 P **Pn 22 49 38.6 +0.3**
QUIF Quistinic 19.00 49 *e*P **Pn 22 49 40.0 -0.3**
ROSF Rostrenen 19.12 48 *e*P **Pn 22 49 41.3 -0.5**
comp=Z,49nm,1.3s
ROSF Rostrenen 19.12 48 *e*P **Pn 22 49 41.3 -0.5**
ROSF pmax pmax
comp=Z,25nm,1.3s
ROSF Rostrenen 19.12 48 *e*P **Pn 22 49 41.3 -0.5**
comp=Z,25nm,1.3s
ETSF Etsaut 19.27 66 *e*P **Pn 22 49 42.4 -1.2**
comp=Z,12nm,0.8s
ETSF Etsaut 19.27 66 *e*P **Pn 22 49 42.4 -1.2**
ETSF pmax pmax
comp=Z,6.0nm,0.8s
ETSF Etsaut 19.27 66 *e*P **Pn 22 49 42.4 -1.2**
comp=Z,6.1nm,0.8s
SGMF Saint Gilles 19.52 49 *e*P **Pn 22 49 44.2 -2.3**
EPF Esparros 19.94 66 *e*P **Pn 22 49 50.2 -1.4**
comp=Z,92nm,1.4s
EPF Esparros 19.94 66 *e*P **Pn 22 49 50.2 -1.4**
EPF pmax pmax
comp=Z,46nm,1.4s
EPF Esparros 19.94 66 *e*P **Pn 22 49 50.2 -1.4**
comp=Z,46nm,1.4s
DCN Croghan 20.08 32 *e*P **P 22 49 51.0 -0.2**
DLF Lyons Farm 20.36 33 *e*P **P 22 49 54.1 -0.2**
DSB Dublin 20.39 33 P **P 22 49 55.1 +0.5**
comp=Z,11nm,0.9s
DSB Dublin 20.39 33 P **P 22 49 55.1 +0.5**
comp=Z,11nm,0.9s
MFF Saint Martin d 20.42 55 *e*P **P 22 49 55.1 +0.1**
comp=Z,195nm,1.4s
MFF Saint Martin d 20.42 55 *e*P **P 22 49 55.1 +0.1**
MFF pmax pmax
comp=Z,97nm,1.4s
MFF Saint Martin d 20.42 55 *e*P **P 22 49 55.1 +0.1**
comp=Z,97nm,1.4s
SALF Salau 20.52 67 *e*P **P 22 49 57.1 +0.9**
LFF La Frestale 20.57 60 *e*P **P 22 49 56.6 -0.1**
comp=Z,177nm,1.3s
LFF La Frestale 20.57 60 *e*P **P 22 49 56.6 -0.1**
LFF pmax pmax
comp=Z,89nm,1.3s
LFF La Frestale 20.57 60 *e*P **P 22 49 56.6 -0.1**
comp=Z,88nm,1.3s
GRR Gorron 20.60 50 *e*P **P 22 49 57.4 +0.4**
comp=Z,156nm,1.2s
GRR Gorron 20.60 50 *e*P **P 22 49 57.4 +0.4**
GRR pmax pmax
comp=Z,78nm,1.2s
GRR Gorron 20.60 50 *e*P **P 22 49 57.4 +0.4**
comp=Z,78nm,1.2s
FLN La Foliniere 20.98 49 *e*P **P 22 50 01.2 +0.1**
comp=Z,36nm,1.1s
FLN *e*MLR MLR
comp=Z,448nm,21.5s,MS3.5
FLN La Foliniere 20.98 49 *e*P **P 22 50 01.2 +0.1**
comp=Z,18nm,1.0s
FLN LR LR
comp=Z,450nm,21.5s,MS3.8
FLN La Foliniere 20.98 49 *e*P **P 22 50 01.2 +0.1**
FLN pmax pmax
comp=Z,18nm,1.0s
FLN MLR MLR
comp=Z,450nm,21.5s,MS3.8
LDF La Druitiere 21.13 50 *e*P **P 22 50 02.3 -0.4**
comp=Z,64nm,1.4s,mb4.5
LDF La Druitiere 21.13 50 *e*P **P 22 50 02.3 -0.4**
LDF pmax pmax
comp=Z,32nm,1.4s,mb4.5
LDF La Druitiere 21.13 50 *e*P **P 22 50 02.3 -0.4**
comp=Z,32nm,1.4s,mb4.5
RJF Les Rejaudoux 21.19 60 *e*P **P 22 50 02.8 -0.5**
RJF *e*MLR MLR
comp=Z,796nm,21.5s,MS3.8
RJF Les Rejaudoux 21.19 60 *e*P **P 22 50 02.8 -0.5**
RJF MLR MLR
comp=Z,800nm,21.5s,MS4.1
MTLF Montolieu 21.34 65 *e*P **P 22 50 04.5 -0.5**
comp=Z,28nm,1.1s,mb4.2
MTLF Montolieu 21.34 65 *e*P **P 22 50 04.5 -0.5**
MTLF pmax pmax
comp=Z,14nm,1.1s,mb4.2
MTLF Montolieu 21.34 65 *e*P **P 22 50 04.5 -0.5**
comp=Z,14nm,1.1s,mb4.2
CAF Calviac 21.49 61 *e*P **P 22 50 05.7 -0.9**
comp=Z,147nm,1.3s,mb4.8
CAF Calviac 21.49 61 *e*P **P 22 50 05.7 -0.9**
CAF pmax pmax
comp=Z,74nm,1.3s,mb4.9
CAF Calviac 21.49 61 *e*P **P 22 50 05.7 -0.9**
comp=Z,74nm,1.3s,mb4.8
TCF Toulx Ste Croi 21.89 57 *e*P **P 22 50 11.0 +0.1**
comp=Z,165nm,1.4s,mb5.0
TCF Toulx Ste Croi 21.89 57 *e*P **P 22 50 11.0 +0.1**
TCF pmax pmax
comp=Z,82nm,1.4s,mb5.0
TCF Toulx Ste Croi 21.89 57 *e*P **P 22 50 11.0 +0.1**
comp=Z,82nm,1.4s,mb5.0
PYM Petit Puy Mans 22.31 59 *e*P **P 22 50 14.6 -0.7**
LBL Lubilhac 22.37 61 *e*P **P 22 50 17.1 +1.1**
BGF Bois d'Agland 22.39 57 *e*P **P 22 50 16.3 +0.2**
comp=Z,60nm,1.2s,mb4.6
BGF Bois d'Agland 22.39 57 *e*P **P 22 50 16.3 +0.2**
BGF pmax pmax
comp=Z,30nm,1.2s,mb4.6
BGF Bois d'Agland 22.39 57 *e*P **P 22 50 16.3 +0.2**
comp=Z,30nm,1.2s,mb4.6
HYF Humbligny 22.44 55 *e*P **P 22 50 16.2 -0.5**
AGO Saint Agoulin 22.46 58 *e*P **P 22 50 18.0 +1.1**
LASF Ste Croix 22.61 64 *e*P **P 22 50 17.7 -0.9**
comp=Z,73nm,1.3s,mb4.7
LASF Ste Croix 22.61 64 *e*P **P 22 50 17.7 -0.9**
comp=Z,37nm,1.3s,mb4.7
PLDF La Plantade 22.77 59 *e*P **P 22 50 21.3 +1.0**
AVF Avril sur Loir 22.78 57 *e*P **P 22 50 20.1 -0.2**
comp=Z,32nm,1.2s,mb4.3
AVF Avril sur Loir 22.78 57 *e*P **P 22 50 20.1 -0.2**
AVF pmax pmax
comp=Z,16nm,1.2s,mb4.3
AVF Avril sur Loir 22.78 57 *e*P **P 22 50 20.1 -0.2**
comp=Z,16nm,1.2s,mb4.3
SSF Saint Saulge 22.95 56 *e*P **P 22 50 22.1 0.0**
comp=Z,109nm,1.3s,mb4.8
SSF Saint Saulge 22.95 56 *e*P **P 22 50 22.1 0.0**
SSF pmax pmax
comp=Z,55nm,1.3s,mb4.8
SSF Saint Saulge 22.95 56 *e*P **P 22 50 22.1 0.0**
comp=Z,54nm,1.3s,mb4.8
SMF Signal de Mont 23.07 57 *e*P **P 22 50 23.2 -0.2**
comp=Z,131nm,1.3s,mb4.9
SMF Signal de Mont 23.07 57 *e*P **P 22 50 23.2 -0.2**
SMF pmax pmax
comp=Z,65nm,1.3s,mb4.9
SMF Signal de Mont 23.07 57 *e*P **P 22 50 23.2 -0.2**
comp=Z,65nm,1.3s,mb4.9
ESK Eskdalemuir 23.16 32 *e*P **P 22 50 25.1 +0.8**
comp=Z,34nm,1.3s,mb4.6
ESK Eskdalemuir 23.16 32 *e*P **P 22 50 25.1 +0.8**

ESK pmax pmax
comp=Z,34nm,1.3s,mb4.6
ESK Eskdalemuir 23.16 32 *e*P **P 22 50 25.1 +0.8**
comp=Z,34nm,1.3s,mb4.6
EKA Eskdalemuir Ar 23.20 32 P **P 22 50 24.4 -0.2**
comp=Z,1.9nm,0.6s,mb3.7,baz=228,slow=8.3,SNR=9.5
LOR Lormes 23.24 56 *e*P **P 22 50 24.4 -0.7**
comp=Z,79nm,1.4s,mb4.7
LOR *e*MLR MLR
comp=Z,502nm,22.8s,MS3.6
LOR Lormes 23.24 56 *e*P **P 22 50 24.4 -0.7**
comp=Z,40nm,1.4s,mb4.7
LOR LR LR
comp=Z,500nm,22.8s,MS3.9
LOR Lormes 23.24 56 *e*P **P 22 50 24.4 -0.7**
LOR pmax pmax
comp=Z,39nm,1.4s,mb4.6
LOR MLR MLR
comp=Z,500nm,22.8s,MS3.9
MENF Mencas 23.28 47 *e*P **P 22 50 25.1 -0.5**
VIVF Saint-Julien-l 23.30 62 *e*P **P 22 50 24.4 -1.5**
comp=Z,36nm,1.1s,mb4.4
VIVF Saint-Julien-l 23.30 62 *e*P **P 22 50 24.4 -1.5**
VIVF pmax pmax
comp=Z,18nm,1.1s,mb4.4
VIVF Saint-Julien-l 23.30 62 *e*P **P 22 50 24.4 -1.5**
comp=Z,18nm,1.1s,mb4.4
BBTS Babate 23.73 160 LR LR 23 00 14.7
comp=Z,88nm,19.0s,MS3.2,baz=301,slow=38
SMRF Simiane la Rot 23.83 64 *e*P **P 22 50 30.4 -0.6**
comp=Z,82nm,1.4s,mb4.7
SMRF Simiane la Rot 23.83 64 *e*P **P 22 50 30.4 -0.6**
comp=Z,41nm,1.4s,mb4.7
ORIF Oris-en-Rattie 24.16 62 *e*P **P 22 50 32.8 -1.2**
comp=Z,47nm,1.1s,mb4.5
ORIF *e*MLR MLR
comp=Z,540nm,21.0s,MS3.7
ORIF Oris-en-Rattie 24.16 62 *e*P **P 22 50 32.8 -1.2**
ORIF pmax pmax
comp=Z,24nm,1.1s,mb4.5
ORIF Oris-en-Rattie 24.16 62 *e*P **P 22 50 32.8 -1.2**
comp=Z,24nm,1.1s,mb4.5
BAIF Baives 24.31 49 *e*P **P 22 50 34.2 -1.0**
comp=Z,67nm,1.3s,mb4.6
BAIF Baives 24.31 49 *e*P **P 22 50 34.2 -1.0**
BAIF pmax pmax
comp=Z,33nm,1.3s,mb4.6
BAIF Baives 24.31 49 *e*P **P 22 50 34.2 -1.0**
comp=Z,33nm,1.3s,mb4.6
MEZF Maizieres J'vi 24.34 53 *e*P **P 22 50 34.9 -0.7**
comp=Z,58nm,1.2s,mb4.6
MEZF Maizieres J'vi 24.34 53 *e*P **P 22 50 34.9 -0.7**
comp=Z,29nm,1.2s,mb4.6
LMR La Mourre 24.46 66 *e*P **P 22 50 36.6 -0.1**
SNF Seneffe 24.51 48 P **P 22 50 36.7 -0.4**
DOU Dourbes 24.55 49 P **P 22 50 37.1 -0.4**
comp=Z,18nm,2.3s,mb4.2
FRF La Foret Royal 24.57 65 *e*P **P 22 50 37.5 -0.2**
comp=Z,23nm,0.9s,mb4.4
FRF La Foret Royal 24.57 65 *e*P **P 22 50 37.5 -0.2**
FRF pmax pmax
comp=Z,12nm,0.9s,mb4.4
FRF La Foret Royal 24.57 65 *e*P **P 22 50 37.5 -0.2**
comp=Z,12nm,0.9s,mb4.4
CABF La Chapelle 24.58 58 *e*P **P 22 50 37.6 -0.1**
UCC Uccle 24.66 48 P **P 22 50 37.9 -0.6**
UCC Uccle 24.66 48 P **P 22 50 37.8 -0.7**
GIVF Givet 24.69 49 *e*P **P 22 50 38.5 -0.3**
comp=Z,118nm,1.3s,mb5.0
GIVF Givet 24.69 49 *e*P **P 22 50 38.5 -0.3**
GIVF pmax pmax
comp=Z,59nm,1.3s,mb5.0
GIVF Givet 24.69 49 *e*P **P 22 50 38.5 -0.3**
comp=Z,59nm,1.3s,mb5.0
BNI Bardonecchia 24.74 62 *e*P **P 22 50 40.1 +0.8**
comp=Z,32nm,1.3s,mb4.7
BNI *e*PcP PcP 22 54 15.4 -0.2
BNI Bardonecchia 24.74 62 *e*P **P 22 50 40.1 +0.9**
BNI *e* 22 54 15.5
BNI pmax pmax
comp=Z,32nm,1.3s,mb4.7
BNI Bardonecchia 24.74 62 *e*P **P 22 50 40.1 +0.9**
comp=Z,32nm,1.3s,mb4.7
BNI Bardonecchia 24.74 62 *e*PcP PcP 22 54 15.4 -0.3
MBDF Montbardon 24.77 63 *e*P **P 22 50 38.7 -0.8**
LPL La Plagne 24.84 61 *e*P **P 22 50 40.0 -0.1**
comp=Z,26nm,1.1s,mb4.4
LPL La Plagne 24.84 61 *e*P **P 22 50 40.0 -0.1**
LPL pmax pmax
comp=Z,13nm,1.1s,mb4.4
LPL La Plagne 24.84 61 *e*P **P 22 50 40.0 -0.1**
comp=Z,13nm,1.1s,mb4.4
LPG La Plagne 24.85 61 *e*P **P 22 50 40.4 +0.2**
comp=Z,44nm,1.3s,mb4.5
LPG La Plagne 24.85 61 *e*P **P 22 50 40.4 +0.2**
LPG pmax pmax
comp=Z,22nm,1.3s,mb4.5
LPG La Plagne 24.85 61 *e*P **P 22 50 40.4 +0.2**
comp=Z,22nm,1.3s,mb4.5
HAU Haudompre 25.05 55 *e*P **P 22 50 41.9 -0.1**
comp=Z,30nm,1.1s,mb4.4
HAU *e*MLR MLR
comp=Z,471nm,20.5s,MS3.7
HAU Haudompre 25.05 55 *e*P **P 22 50 41.9 -0.1**
comp=Z,15nm,1.1s,mb4.4
HAU LR LR
comp=Z,470nm,20.5s,MS4.0
HAU Haudompre 25.05 55 *e*P **P 22 50 41.9 -0.1**
HAU pmax pmax
comp=Z,15nm,1.1s,mb4.4
HAU MLR MLR
comp=Z,470nm,20.5s,MS4.0
BCLA Clavier 25.09 49 P **P 22 50 42.2 -0.2**
comp=Z,6.3nm,1.3s,mb4.0
BCLA Clavier 25.09 49 P **P 22 50 42.1 -0.3**
comp=Z,6.3nm,1.3s,mb4.0
LUCF Luceram 25.10 65 *e*P **P 22 50 44.1 +1.6**
SBF Sospel 25.16 65 *e*P **P 22 50 43.1 0.0**
comp=Z,89nm,1.2s,mb4.9
SBF Sospel 25.16 65 *e*P **P 22 50 43.1 0.0**
SBF pmax pmax
comp=Z,45nm,1.2s,mb4.9
SBF Sospel 25.16 65 *e*P **P 22 50 43.1 0.0**
comp=Z,44nm,1.2s,mb4.9
LOMF Lomont 25.22 57 *e*P **P 22 50 44.1 +0.5**
HINF Hinteralfeld 25.34 56 *e*P **P 22 50 44.4 -0.2**
comp=Z,24nm,0.9s,mb4.4
HINF Hinteralfeld 25.34 56 *e*P **P 22 50 44.4 -0.2**
HINF pmax pmax
comp=Z,12nm,0.9s,mb4.4
HINF Hinteralfeld 25.34 56 *e*P **P 22 50 44.4 -0.2**
comp=Z,12nm,0.9s,mb4.4
WLF Walferdange 25.37 51 *e*P **P 22 50 44.8 -0.2**
comp=Z,59nm,0.9s,mb5.1
WLF *e*S **S 22 55 15.9 +5.7**
WLF Walferdange 25.37 51 *e*P **P 22 50 44.8 -0.1**
WLF pmax pmax
comp=Z,59nm,0.9s,mb5.1
WLF Walferdange 25.37 51 P **P 22 50 44.8 -0.1**
comp=Z,44nm,1.2s,mb4.9
WLF Walferdange 25.37 51 *e*P **P 22 50 44.8 -0.1**
comp=Z,59nm,0.9s,mb5.1
WLF *e*S **S 22 55 15.9 +5.7**
MOF Molkenrain 25.53 56 *e*P **P 22 50 46.4 0.0**
MEM Membach 25.58 49 P **P 22 50 46.9 +0.1**
comp=Z,14nm,1.6s,mb4.2
MEM Membach 25.58 49 P **P 22 50 46.8 0.0**
comp=Z,14nm,1.6s,mb4.2
HGN Heimansgroeve 25.59 49 *e*P **P 22 50 48.1 +1.3**
comp=Z,19nm,2.0s,mb4.3
ECH Echery 25.63 55 *e*P **P 22 50 46.7 -0.6**
CDF Champ du Feu 25.75 54 *e*P **P 22 50 48.3 -0.1**
comp=Z,92nm,1.4s,mb4.8
CDF Champ du Feu 25.75 54 *e*P **P 22 50 48.3 -0.1**
CDF pmax pmax
comp=Z,46nm,1.4s,mb4.8
CDF Champ du Feu 25.75 54 *e*P **P 22 50 48.3 -0.1**
comp=Z,46nm,1.4s,mb4.8
RUP Ruppelstein 25.94 51 *e*P **P 22 50 50.1 0.0**
FELD Feldberg im Sc 26.11 56 *e*P **P 22 50 53.1 +1.5**
PGF Pioggiola 26.26 68 *e*P **P 22 50 53.6 +0.5**
ABH Altenburg 26.30 51 *e*P **P 22 50 53.6 +0.3**
BFO Black Forest 26.41 55 *e*P **P 22 50 54.2 -0.2**
comp=Z,35nm,1.3s,mb4.7
BFO *e*S **S 22 55 26.4 -0.4**
BFO Black Forest 26.41 55 *e*P **P 22 50 54.2 -0.2**

BFO *e*S **S** **22 55 26.4 -0.4**
BFO pmax pmax
comp=Z,35nm,1.3s,mb4.7
WTSB Winterswijk 26.52 46 *e*P **P** **22 50 53.6 -1.6**
comp=Z,37nm,2.0s,mb4.6
SPAK Spaichingen-Ko 26.67 56 *e*P **P** **22 50 57.3 +0.6**
VSL Villasalto 26.71 75 P **P** **22 50 57.6 +0.4**
VSL Villasalto 26.71 75 P **P** **22 50 57.6 +0.4**
DAVOS Davos 27.13 59 P **P** **22 50 59.8 -1.0**
DAVOX Davos/Dischmat 27.18 59 P **P** **22 50 59.8 -1.5**
comp=Z,1.4nm,0.7s,mb3.6,baz=277,slow=8.1,SNR=2.7
DAVOX LR LR 23 01 30.3
comp=Z,392nm,19.1s,MS4.0,baz=302,slow=36
DAVA Damuels 27.25 58⇑ *i*P **P** **22 51 02.7 +0.7**
comp=Z,26nm,1.4s,mb4.6
KEST Kesra 27.34 83 P **P** **22 51 03.2 +0.4**
comp=Z,1.9nm,1.0s,mb3.6,baz=260,slow=6.1,SNR=3.5
KEST LR LR 23 00 05.8
comp=Z,92nm,18.8s,MS3.4,baz=262,slow=33
BORG Borgarnes 27.52 3 LR LR 22 59 18.9
comp=Z,279nm,18.6s,MS3.9,baz=348,slow=31
FETA Feichten 27.79 58⇑ *i*P **P** **22 51 06.7 0.0**
comp=Z,20nm,2.0s,mb4.4
RETA Reutte 27.88 57⇑ *i*P **P** **22 51 07.7 +0.2**
comp=Z,17nm,1.2s,mb4.5
GRFO Grafenberg 28.56 53 *e*P **P** **22 51 13.9 +0.3**
comp=Z,17nm,0.9s,mb4.8
GRFO Grafenberg 28.56 53 *e*P **P** **22 51 13.9 +0.3**
GRFO pmax pmax
comp=Z,17nm,0.9s,mb4.8
GRFO Grafenberg 28.56 53 *e*P **P** **22 51 13.9 +0.3**
comp=Z,17nm,0.9s,mb4.8
GRA1 Grafenberg Arr 28.56 53 *e*P **P** **22 51 13.6 0.0**
comp=Z,14nm,1.2s,mb4.6
GRA1 *e*pP pP 22 51 16.8 -2.8
GRF Grafenberg Arr 28.56 53 *e*P **P** **22 51 13.6 0.0**
GRF pmax pmax
comp=Z,14nm,1.2s,mb4.6
GRF Grafenberg Arr 28.56 53 *e*P **P** **22 51 13.6 0.0**
comp=Z,14nm,1.2s,mb4.6
GRF *e*pP pP 22 51 16.8 -2.8
NKC Novy Kostel 29.45 52 *e*P **P** **22 51 21.4 -0.1**
AQU L'Aquila 29.52 68 *e*P **P** **22 51 23.6 +1.4**
comp=Z,27nm,1.1s,mb4.9
AQU L'Aquila 29.52 68 *e*P **P** **22 51 23.6 +1.4**
AQU pmax pmax
comp=Z,27nm,1.1s,mb4.9
AQU L'Aquila 29.52 68 *e*P **P** **22 51 23.6 +1.4**
comp=Z,27nm,1.1s,mb4.9
KHC Kasperske Hory 29.98 55 *e*P **P** **22 51 25.4 -0.8**
GERES GERESS Array B 30.02 55 P **P** **22 51 26.4 -0.1**
comp=Z,1.2nm,0.7s,mb3.8,baz=264,slow=6.7,SNR=12
OBKA Obir 30.36 60⇑ *i*P **P** **22 51 29.2 -0.4**
comp=Z,13nm,1.5s,mb4.4
BRG Berggiesshubel 30.51 51 *e*P **P** **22 51 34.1 +3.2**
BRG pmax pmax
comp=Z,4.0nm,1.0s,mb4.2
BRG Berggiesshubel 30.51 51 *e*P **P** **22 51 34.1 +3.2**
comp=Z,4.0nm,1.0s,mb4.2
PVCC Panska Ves 30.84 52 *e*P **P** **22 51 33.7 -0.1**
VAE Valguarnera 30.93 78 LR LR 23 03 12.6
comp=Z,349nm,19.1s,MS4.0,baz=124,slow=35
TREC Trest 31.24 55 *e*P **P** **22 51 39.2 +1.9**
UPC Upice 31.74 52 *e*P **P** **22 51 41.4 -0.3**
DPC Dobruska-Polom 31.92 53 *e*P **P** **22 51 43.5 +0.2**
MODS Modra-Piesok 32.33 57 *e*P **P** **22 51 47.8 +0.9**
TIP Timpagrande 32.42 74 *e*P **P** **22 51 47.2 -0.6**
comp=Z,30nm,1.4s,mb4.9
TIP Timpagrande 32.42 74 *e*P **P** **22 51 47.2 -0.6**
comp=Z,30nm,1.4s,mb4.9
MORC Moravsky Berou 32.63 54 *e*P **P** **22 51 50.7 +1.2**
comp=Z,1.7nm,0.6s,mb4.2
MORC Moravsky Berou 32.63 54 *e*P **P** **22 51 50.7 +1.2**
MORC pmax pmax
comp=Z,2.0nm,0.6s,mb4.2
MORC Moravsky Berou 32.63 54 *e*P **P** **22 51 50.7 +1.2**
comp=Z,1.7nm,0.6s,mb4.2
NOA NORSAR Array B 32.69 32 LR LR 23 03 23.5
comp=Z,355nm,18.9s,MS4.1,baz=250,slow=34
SFJD Kangerlussuaq 33.17 342 LR LR 23 02 49.8
comp=Z,148nm,18.1s,MS3.7,baz=126,slow=32
VYHS Vyhne 33.37 56 *e*P **P** **22 51 54.9 -1.1**
SCHQ Schefferville 33.42 315 *e*P **P** **22 51 58.4 +2.1**
SCHQ Schefferville 33.42 315 P **P** **22 51 58.7 +2.3**
comp=Z,11nm,1.3s,mb4.6,baz=111,slow=7.0,SNR=4.7
SCHQ LR LR 23 03 05.9
comp=Z,154nm,18.8s,MS3.7,baz=131,slow=32
SCHQ Schefferville 33.42 315 *e*P **P** **22 51 58.4 +2.0**
TOA0 Torodi Ar. Sit 33.71 129 *e*P **P** **22 51 59.1 -0.1**
TOA0 Torodi Ar. Sit 33.71 129 *e*P **P** **22 51 59.1 -0.2**
TORD Torodi Ar. Bea 33.71 129 P **P** **22 51 58.9 -0.4**
comp=Z,2.6nm,0.6s,mb4.3,baz=331,slow=7.0,SNR=31
PSZ Piszkesteto 34.05 58 *e*P **P** **22 52 01.8 -0.2**
PSZ pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
PSZ Piszkesteto 34.05 58 *e*P **P** **22 52 01.8 -0.2**
comp=Z,4.1nm,0.9s,mb4.4
OJC Ojcow 34.12 53 *e*P **P** **22 52 02.6 +0.1**
KECS Kecovo 34.47 57 *e*P **P** **22 52 04.7 -0.8**
comp=Z,4.4nm,1.2s,mb4.3
KECS Kecovo 34.47 57 *e*P **P** **22 52 04.7 -0.8**
KECS pmax pmax
comp=Z,4.0nm,1.2s,mb4.2
KECS Kecovo 34.47 57 *e*P **P** **22 52 04.7 -0.8**
KECS *e* 00 06 34.5
STHS Stebnicka Huta 35.00 55 *e*P **P** **22 52 11.0 +0.9**
comp=Z,6.9nm,1.1s,mb4.5
STHS *e* 22 52 14.2
STHS Stebnicka Huta 35.00 55 *e*P **P** **22 52 11.0 +0.9**
STHS pmax pmax
comp=Z,7.0nm,1.1s,mb4.5
DBIC Dimbokro 35.48 144 P **P** **22 52 18.4 +3.8**
DBIC Dimbokro 35.48 144 P **P** **22 52 17.5 +3.0**
comp=Z,5.2nm,1.1s,mb4.4,baz=277,slow=8.1,SNR=5.3
DBIC Dimbokro 35.48 144 P **P** **22 52 18.4 +3.8**
UZH Uzhgorod 35.57 56 *e*P **P** **22 52 14.4 -1.5**
KWP Kalwaria 35.96 55 P **P** **22 52 19.0 +0.6**
KWP Kalwaria 35.96 55 P **P** **22 52 19.0 +0.6**
LVV L'vov 36.82 54 *e*P **P** **22 52 26.2 +0.5**
FINES FINESS Array B 39.49 36 LR LR 23 06 19.2
comp=Z,291nm,21.9s,MS4.1,baz=204,slow=32
KIS Kishinev 40.14 59 *e*P **P** **22 52 54.0 +0.4**
KIS Kishinev 40.14 59 *e*UNK **P** **22 52 54.0 +0.4**
AKASG Malin Array Be 40.15 53 P **P** **22 52 52.0 -1.7**
comp=Z,3.7nm,0.9s,mb4.1,baz=269,slow=8.5,SNR=13
SJG San Juan 40.98 254 LR LR 23 06 10.2
comp=Z,136nm,20.7s,MS3.8,baz=93,slow=30
ARCES ARCESS Array B 41.87 24 P **P** **22 53 07.2 -0.4**
comp=Z,4.1nm,0.9s,mb4.1,baz=255,slow=7.4,SNR=3.8
ARCES LR LR 23 07 37.9
comp=Z,247nm,20.0s,MS4.1,baz=250,slow=32
OBN Obninsk 44.42 46 *e*P **P** **22 53 27.4 -1.0**
comp=Z,10nm,0.5s,mb4.8
OBN Obninsk 44.42 46⇑ *e*P **P** **22 53 28.3 -0.1**
OBN *e* 22 55 12.8
OBN pmax pmax
comp=Z,58nm,1.8s,mb5.0
OBN Obninsk 44.42 46 *e*P **P** **22 53 27.4 -1.0**
comp=Z,10nm,0.5s,mb4.8
PCRV Puerto La Cruz 44.94 243 LR LR 23 08 59.9
comp=Z,164nm,21.0s,MS3.9,baz=329,slow=31
TKL Tuckaleechee C 46.82 287 LR LR 23 10 47.9
comp=Z,87nm,19.3s,MS3.7,baz=90,slow=32
FCC Fort Churchill 48.56 319 *e*P **P** **22 54 03.3 +2.5**
comp=Z,22nm,1.5s,mb5.0
FCC Fort Churchill 48.56 319 *e*P **P** **22 54 03.3 +2.5**
FCC pmax pmax
comp=Z,22nm,1.5s,mb5.0
FCC Fort Churchill 48.56 319 *e*P **P** **22 54 03.3 +2.5**
comp=Z,22nm,1.5s,mb5.0
MALT Malatya 49.00 68 *e*P **P** **22 54 05.2 +0.7**
comp=Z,13nm,1.4s,mb4.8
MALT Malatya 49.00 68 *e*P **P** **22 54 05.2 +0.7**
MALT pmax pmax
comp=Z,13nm,1.4s,mb4.8
MALT Malatya 49.00 68 *e*P **P** **22 54 05.2 +0.7**
comp=Z,13nm,1.4s,mb4.8
RES Resolute Bay 49.16 341 *e*P **P** **22 54 06.9 +1.7**
comp=Z,565nm,1.2s
RES Resolute Bay 49.16 341 *e*P **P** **22 54 06.9 +1.7**
comp=Z,565nm,1.2s
WVT Waverly 49.73 289 *e*P **P** **22 54 12.8 +2.6**
comp=Z,23nm,1.3s,mb5.0
WVT Waverly 49.73 289 *e*P **P** **22 54 12.8 +2.7**
WVT pmax pmax
comp=Z,23nm,1.3s,mb5.0
WVT Waverly 49.73 289 *e*P **P** **22 54 12.8 +2.7**
comp=Z,23nm,1.3s,mb5.0
SDV Santo Domingo 50.16 248 *e*P **P** **22 54 13.5 -0.1**
comp=Z,8.0nm,1.0s,mb4.7
SDV Santo Domingo 50.16 248 *e*P **P** **22 54 13.5 -0.1**
comp=Z,7.9nm,1.0s,mb4.7
SIUC Southern Illin 50.21 291 *e*P **P** **22 54 16.6 +2.8**
comp=Z,20nm,1.1s,mb5.1
SIUC Southern Illin 50.21 291 *e*P **P** **22 54 16.5 +2.8**
comp=Z,20nm,1.1s,mb5.1
KIV Kislovodsk 50.29 60 P **P** **22 54 15.2 +0.9**
KIV Kislovodsk 50.29 60 P **P** **22 54 15.2 +0.9**
HALT Halls 50.95 289 *e*P **P** **22 54 21.6 +2.3**
HALT Halls 50.95 289 *e*P **P** **22 54 21.6 +2.2**
ULM Lac du Bonnet 51.08 309 LR LR 23 13 37.8
comp=Z,146nm,19.3s,MS4.0,baz=19,slow=33
MIAR Mount Ida 54.67 289 *e*P **P** **22 54 48.2 +1.3**
comp=Z,34nm,1.4s,mb5.2
MIAR Mount Ida 54.67 289 *e*P **P** **22 54 48.2 +1.3**
MIAR pmax pmax
comp=Z,33nm,1.4s,mb5.2
MIAR Mount Ida 54.67 289 *e*P **P** **22 54 48.2 +1.3**
comp=Z,34nm,1.4s,mb5.2
ROSC El Rosal 55.57 247 LR LR 23 15 57.5
comp=Z,138nm,20.0s,MS4.0,baz=21,slow=33
ARU Arti 56.36 42 *e*P **P** **22 54 59.4 +0.7**
comp=Z,26nm,1.4s,mb5.1
ARU *e*PcP PcP 22 55 54.0 -1.6
ARU Arti 56.36 42 *c i*P **P** **22 54 59.3 +0.6**
ARU *e*S **S** **23 02 39.4 -8.5**
ARU *e*SS SS 23 06 25.6 -8.7
ARU pmax pmax
comp=Z,24nm,1.7s,mb5.0
ARU Arti 56.36 42 *e*P **P** **22 54 59.4 +0.7**
comp=Z,26nm,1.4s,mb5.1
ARU Arti 56.36 42 *e*PcP PcP 22 55 54.0 -1.7
BDFB Brasilia 57.08 207 LR LR 23 16 27.6
comp=Z,141nm,18.2s,MS4.1,baz=4.5,slow=33
SVE Sverdlovsk 57.32 41 *e*P **P** **22 55 05.4 -0.1**
SVE pmax pmax
comp=Z,25nm,1.7s,mb5.0
YKA Yellowknife Ar 57.62 327 P **P** **22 55 08.9 +1.5**
comp=Z,1.1nm,0.8s,mb3.9,baz=70,slow=7.3,SNR=14
YKA Yellowknife Ar 57.62 327 P **P** **22 55 08.9 +1.4**
RSSD Black Hills 58.31 304 P **P** **22 55 09.7 -2.9**
RSSD Black Hills 58.31 304 P **P** **22 55 09.7 -2.9**
WMOK Wichita Mounta 58.48 292 P **P** **22 55 17.1 +3.2**
comp=Z,12nm,1.3s,mb4.8
WMOK Wichita Mounta 58.48 292 P **P** **22 55 17.1 +3.1**
WMOK pmax pmax
comp=Z,12nm,1.3s,mb4.8
WMOK Wichita Mounta 58.48 292 P **P** **22 55 17.1 +3.1**
comp=Z,12nm,1.3s,mb4.8
ISCO Idaho Springs 61.17 300 P **P** **22 55 34.8 +2.4**
ISCO Idaho Springs 61.17 300 P **P** **22 55 34.8 +2.4**
JCT Junction City 61.19 288 P **P** **22 55 36.2 +3.5**
comp=Z,42nm,1.3s,mb5.4
JCT Junction City 61.19 288 P **P** **22 55 36.2 +3.5**
JCT pmax pmax
comp=Z,42nm,1.3s,mb5.4
JCT Junction City 61.19 288 P **P** **22 55 36.2 +3.5**
comp=Z,42nm,1.3s,mb5.4
SDCO Great Sand Dun 62.01 298 P **P** **22 55 41.2 +3.1**
comp=Z,4.8nm,1.6s,mb4.4
SDCO Great Sand Dun 62.01 298 P **P** **22 55 41.2 +3.1**
comp=Z,4.8nm,1.6s,mb4.4
INK Inuvik 62.28 337 P **P** **22 55 42.0 +2.6**
comp=Z,3.4nm,1.0s,mb4.4,baz=49,slow=7.4,SNR=4.6
INK Inuvik 62.28 337 P **P** **22 55 42.0 +2.6**
WALA Waterton Lakes 62.47 312 *e*P **P** **22 55 43.8 +2.9**
WALA Waterton Lakes 62.47 312 *e*P **P** **22 55 43.8 +2.8**
PDAR Pinedale Array 62.52 304 P **P** **22 55 45.0 +3.5**
comp=Z,0.9nm,0.8s,mb4.0,baz=62,slow=3.5,SNR=8.5
PDAR LR LR 23 23 11.9
comp=Z,144nm,18.8s,MS4.2,baz=250,slow=36
BOZ Bozeman (W) 62.58 308 *e*P **P** **22 55 44.2 +2.4**
comp=Z,37nm,2.5s,mb5.1
BOZ Bozeman (W) 62.58 308 *e*P **P** **22 55 44.2 +2.4**
BOZ pmax pmax
comp=Z,37nm,2.5s,mb5.1
BOZ Bozeman (W) 62.58 308 *e*P **P** **22 55 44.2 +2.4**
comp=Z,37nm,2.5s,mb5.1
CHMT Chamberlain Mo 63.02 310 *e*P **P** **22 55 46.6 +2.0**
CHMT Chamberlain Mo 63.02 310 *e*P **P** **22 55 46.7 +2.0**
BRVK Borovoye 63.93 42 *e*P **P** **22 55 50.7 +0.1**
comp=Z,22nm,1.7s,mb4.9
BRVK Borovoye 63.93 42 *e*P **P** **22 55 50.7 +0.1**
BRVK pmax pmax
comp=Z,22nm,1.7s,mb4.9
BRVK Borovoye 63.93 42 *e*P **P** **22 55 50.7 +0.1**
comp=Z,22nm,1.7s,mb4.9
ANMO Albuquerque 64.00 295 P **P** **22 55 56.0 +4.6**
comp=Z,1.0nm,0.7s,mb3.9,baz=100,slow=10.0,SNR=4.1
MVCO Mesa Verde 64.37 298 *e*P **P** **22 55 57.7 +3.9**
comp=Z,6.5nm,0.6s,mb4.8
MVCO Mesa Verde 64.37 298 *e*P **P** **22 55 57.7 +4.0**
comp=Z,6.5nm,0.6s,mb4.8
TXAR Lajitas Array 64.67 289 P **P** **22 55 57.9 +2.0**
comp=Z,5.4nm,0.9s,mb4.5,baz=80,slow=7.8,SNR=18
TXAR LR LR 23 22 16.8
comp=Z,79nm,19.9s,MS3.9,baz=135,slow=34
TXAR Lajitas Array 64.67 289 P **P** **22 55 57.8 +1.9**
NEW Newport 64.73 312 P **P** **22 55 58.1 +2.3**
comp=Z,0.9nm,0.3s,mb4.2,baz=50,slow=3.6,SNR=3.5
HLID Hailey 65.31 307 *e*P **P** **22 56 02.7 +2.9**
comp=Z,4.0nm,1.3s,mb4.3
HLID Hailey 65.31 307 *e*P **P** **22 56 02.7 +3.0**
comp=Z,4.0nm,1.3s,mb4.3
MSU Marysvale 66.28 301 *e*P **P** **22 56 11.3 +5.1**
MSU Marysvale 66.28 301 *e*P **P** **22 56 11.3 +5.2**
DAWY Dawson 66.67 334 *e*P **P** **22 56 10.0 +1.9**
DAWY Dawson 66.67 334 *e*P **P** **22 56 10.0 +1.9**
LPAZ La Paz 67.18 226 P **P** **22 56 16.3 +4.3**
comp=Z,0.2nm,0.4s,mb3.5,baz=21,slow=10,SNR=3.8
LPAZ LR LR 23 21 46.6
comp=Z,102nm,18.1s,MS4.1,baz=211,slow=32
KMBO Kilima Mbogo 68.73 109 LR LR 23 28 24.9
comp=Z,70nm,18.8s,MS3.9,baz=89,slow=38
TSUM Tsumeb 68.92 137 *e*P **P** **22 56 25.5 +2.6**
comp=Z,16nm,1.7s,mb4.7
TSUM Tsumeb 68.92 137 *e*P **P** **22 56 25.5 +2.6**
comp=Z,16nm,1.7s,mb4.7
NVS Novosibirsk 69.48 36 *i* P **P** **22 56 26.5 +0.5**
NVS pmax pmax
comp=Z,22nm,1.6s,mb4.8
IMA2 Indian Mountai 69.70 340 *e*P **P** **22 56 29.1 +1.9**
IMA2 Indian Mountai 69.70 340 *e*P **P** **22 56 29.1 +2.0**
TIXI Tiksi 69.72 9⇑ *e*P **P** **22 56 27.3 +0.2**
TIXI pmax pmax
comp=Z,8.0nm,1.5s,mb4.4
TPNV Topopah Spring 69.86 301 *e*P **P** **22 56 32.1 +3.5**
comp=Z,14nm,1.6s,mb4.6
TPNV Topopah Spring 69.86 301 *e*P **P** **22 56 32.2 +3.6**
TPNV pmax pmax
comp=Z,14nm,1.6s,mb4.6
TPNV Topopah Spring 69.86 301 *e*P **P** **22 56 32.2 +3.6**
comp=Z,14nm,1.6s,mb4.6
ZAL Zalesovo 70.76 36 P **P** **22 56 34.3 +0.5**
ZAA0 Zalesovo Array 70.76 36 *e*P **P** **22 56 34.3 +0.4**
ZAA0 Zalesovo Array 70.76 36 *e*P **P** **22 56 34.3 +0.5**
ZALV Zalesovo Beam 70.76 36 P **P** **22 56 34.3 +0.5**
comp=Z,1.2nm,0.6s,mb4.0,baz=309,slow=7.1,SNR=9.8
ZALV LR LR 23 27 20.2
comp=Z,114nm,18.8s,MS4.2,baz=67,slow=36
EKS2 Erkin-Say 71.28 50 *e*P **P** **22 56 36.4 -0.8**
comp=Z,12nm,1.3s,mb4.7
EKS2 Erkin-Say 71.28 50 *e*P **P** **22 56 36.4 -0.8**
comp=Z,12nm,1.3s,mb4.7
AML Almayashu 71.53 51 *e*P **P** **22 56 39.8 +1.1**
comp=Z,11nm,1.3s,mb4.6
FRU Bishkek 71.70 50 P **P** **22 56 41.0 +1.3**
FRU *e* 22 56 55.0
UCH Uchtor 71.98 50 *e*P **P** **22 56 43.0 +1.6**
comp=Z,22nm,1.6s,mb4.8
UCH Uchtor 71.98 50 *e*P **P** **22 56 43.0 +1.6**
comp=Z,22nm,1.6s,mb4.8
MK31 Makanchi Array 73.83 43 P **P** **22 56 52.8 +0.5**
MKAR Makanchi Array 73.83 43 P **P** **22 56 52.9 +0.6**
comp=Z,1.0nm,0.7s,mb3.8,baz=328,slow=4.3,SNR=8.0
MKAR LR LR 23 29 49.9
comp=Z,239nm,18.4s,MS4.5,baz=343,slow=36
BILL Bilibino 74.62 356 *e*P **P** **22 56 56.8 +0.3**
BILL pmax pmax
comp=Z,11nm,1.4s,mb4.6
LBTB Lobatse 78.00 134 *e*P **P** **22 57 16.7 +0.5**
comp=Z,9.6nm,1.2s,mb4.6
LBTB Lobatse 78.00 134 *e*P **P** **22 57 16.7 +0.4**
LBTB pmax pmax
comp=Z,10.0nm,1.2s,mb4.6
LBTB Lobatse 78.00 134 *e*P **P** **22 57 16.7 +0.4**
comp=Z,9.6nm,1.2s,mb4.6
WMQ Urumqi 78.66 43 *e*P **P** **22 57 21.4 +1.6**
WMQ *e*S S 23 07 17.0 +1.2
WMQ AMB AMB
comp=Z,11nm,0.7s,mb4.9
WMQ AMB AMB
comp=Z,104nm,4.2s
WMQ LR LR
comp=N,191nm,21.0s,MS4.5
WMQ LR LR
comp=E,163nm,20.3s,MS4.5
WMQ LR LR
comp=Z,193nm,21.8s,MS4.4
BOD Bodaibo 79.07 21 *e*P **P** **22 57 20.9 -0.9**
BOD pmax pmax
comp=Z,11nm,1.3s,mb4.6
SEY Seymchan 80.05 1⇓ *e*P **P** **22 57 27.9 +0.9**
TLY Talaya 80.53 30 *e*P **P** **22 57 31.1 +1.3**
TLY Talaya 80.53 30 *e*P **P** **22 57 31.0 +1.2**
TLY pmax pmax
comp=Z,7.0nm,1.4s,mb4.4
TLY Talaya 80.53 30 *e*P **P** **22 57 31.1 +1.3**
BOSA Boshof 80.62 137 LR LR 23 31 06.8
comp=Z,160nm,18.3s,MS4.4,baz=39,slow=34
ZAK Zakamensk 81.39 31 *e*P **P** **22 57 27.4 -7.0**
SONM Songino Array 84.66 31 P **P** **22 57 52.7 +1.3**
comp=Z,2.7nm,1.1s,mb4.3,baz=305,slow=3.3,SNR=11
SONM LR LR 23 36 26.4
comp=Z,115nm,21.7s,MS4.2,baz=254,slow=36
HIA Hailar 88.20 22 P **P** **22 58 10.4 +1.7**
HIA Hailar 88.20 22 P **P** **22 58 10.4 +1.7**
PLCA Paso Flores 88.31 213 P **P** **22 58 14.0 +5.0**
comp=Z,2.3nm,1.1s,mb4.3,baz=38,slow=3.5,SNR=3.3
PLCA LR LR 23 36 23.8
comp=Z,175nm,21.0s,MS4.5,baz=292,slow=35
LZH Lanzhou 92.77 39 *e*P **P** **22 58 31.5 +1.2**
LZH AP pP 22 58 36.3 -0.6
LZH PP PP 23 02 15.7 +4.0
LZH AMB AMB
comp=Z,22nm,1.4s,mb5.4
LZH AMB AMB
comp=Z,157nm,7.7s
LZH LR LR
comp=E,472nm,17.2s
LZH LR LR
comp=Z,703nm,19.7s,MS5.1
LZH Lanzhou 92.77 39 *e*P **P** **22 58 31.5 +1.2**
comp=Z,22nm,1.4s,mb5.4
LZH pP pP 22 58 36.3 -0.6
LZH sP sP 22 58 38.6 -0.6
LZH PP PP 23 02 15.7 +4.0
LZH LR LR
comp=Z,700nm,19.7s,MS5.1
CN2 Changchun 94.83 21 *e*P **P** **22 58 37.7 -1.9**
CD2 Chengdu 96.75 43 *e*P **P** **22 58 48.6 0.0**
CD2 AP pP 22 58 53.6 -1.6
CD2 PP PP 23 02 44.9 +2.1
CD2 SKS 23 09 23.4
CD2 S S 23 10 05.9 -3.6
CD2 SS SS 23 16 41.9 -1.2
CD2 AMB AMB
comp=Z,10.0nm,0.8s,mb5.3
CD2 AMB AMB
comp=Z,30nm,9.8s
CD2 LR LR
comp=N,200nm,18.0s
CD2 LR LR
comp=Z,300nm,14.4s,MS4.9
KMI Kunming 100.63 47 P Pdif 22 59 07.1 +1.3
KMI PP PP 23 03 16.5 +3.9
KMI S Sdif 23 10 40.0 -1.9
KMI SS SS 23 17 39.1 +1.4
KMI AMB AMB
comp=Z,4.0nm,0.7s
KMI LR LR
comp=Z,88nm,19.7s,MS4.3
KMI Kunming 100.63 47 P Pdif 22 59 07.1 +1.3
comp=Z,4.0nm,0.7s
KMI pP 22 59 10.7
KMI PP PP 23 03 16.5 +3.9
KMI S Sdif 23 10 40.0 -1.9
KMI SS SS 23 17 39.1 +1.4
KMI LR LR
comp=Z,90nm,19.7s,MS4.3
KMI Kunming 100.63 47 P Pdif 22 59 07.1 +1.3
comp=Z,4.0nm,0.7s
KMI pP 22 59 10.7
KMI SS SS 23 17 39.1 +1.4
GYA Guiyang 101.82 43 P Pdif 22 59 11.8 +0.7
GYA PP PP 23 03 25.4 +4.0
GYA AMB AMB
comp=Z,10.0nm,1.0s
GYA AMB AMB
comp=Z,90nm,7.4s
GYA LR LR
comp=N,380nm,24.9s,MS5.0
GYA LR LR
comp=E,340nm,23.7s,MS5.0
GYA LR LR
comp=Z,380nm,25.5s,MS4.8
MAJO Matsushiro 104.81 14 *e*Pdif Pdif 22 59 25.6 +1.3
MBWA Marble Bar 145.29 72 PKP PKPdf 23 04 58.1 +2.3
MBWA Marble Bar 145.29 72 PKIKP PKPdf 23 04 58.1 +2.2
WRA Warramunga Arr 154.83 52 PKPbc PKPbc 23 05 19.3 -0.2
comp=Z,0.3nm,0.4s,baz=321,slow=2.4,SNR=3.3
WRA PKPab PKPab 23 05 35.5 +0.9
comp=Z,0.4nm,0.8s,baz=326,slow=2.3,SNR=3.8
WRA Warramunga Arr 154.83 52 PKPab PKPab 23 05 35.5 +0.9
WB2 Warramunga Arr 154.84 52 *e*PKPdf PKPdf 23 05 13.2 +2.3
WB2 Warramunga Arr 154.84 52 *e*PKIKP PKPdf 23 05 13.1 +2.2
ASAR Alice Springs 157.16 59 PKPab PKPab 23 05 45.5 +0.9
comp=Z,0.4nm,0.8s,baz=313,slow=3.4,SNR=3.1
CTAO Charters Tower 161.10 27 *e*PKPdf PKPdf 23 05 20.9 +2.4
CTAO Charters Tower 161.10 27 *e*PKIKP PKPdf 23 05 21.0 +2.5

IDC 05 22:47:08.7±3.1, 656S×15056E, h0km, mb3.7/4, mb1 4.0/4, mb1mx3.7/14, mbtmp3.8/4, MS3.3/1, Ms1 3.3/1, ms1mx2.7/17, Error ellipse: s-maj=100.6km s-min=30.7km az=114.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**14.09**	**197**	LR	LR	22 55 29.0	
	comp=Z,103nm,18.7s,baz=241,slow=36						
WB2	**Warramunga Arr**	**20.61**	**228**	*e*P	P	22 51 49.5	-0.2
WRA	**Warramunga Arr**	**20.62**	**228**	P	P	22 51 49.6	-0.1
	2.7nm,0.7s,baz=54,slow=11,SNR=12						
ASAR	**Alice Springs**	**23.36**	**222**	P	P	22 52 18.5	-0.6
	1.2nm,0.7s,baz=55,slow=9.3,SNR=21						
FITZ	**Fitzroy Crossi**	**26.87**	**242**	P	P	22 52 51.6	+0.2
	3.2nm,0.8s,baz=63,slow=12,SNR=6.5						
MKAR	**Makanchi Array**	**80.19**	**320**	P	P	22 59 20.6	-0.4
	0.2nm,0.4s,baz=100,slow=7.5,SNR=2.8						
TORD	**Torodi Ar. Bea**	**148.66**	**284**	PKPbc	PKPbc	23 06 59.2	+0.3
	0.3nm,0.3s,baz=87,slow=2.5,SNR=16						

IDC 05 22:47:38.6±3.2, 763S×14880E, h0km, mb3.7/4, mb1 3.9/5, mb1mx3.8/14, mbtmp3.8/5, ML3.9/1, Error ellipse: s-maj=96.3km s-min=27.6km az=113.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.61**	**227**	P	Pn	22 51 57.1	-0.8
	0.4nm,0.3s,baz=53,slow=11,SNR=7.7						
ASAR	**Alice Springs**	**21.41**	**220**	P	P	22 52 29.3	+1.1
	1.1nm,0.7s,baz=55,slow=8.7,SNR=11						
FITZ	**Fitzroy Crossi**	**24.83**	**243**	P	P	22 53 01.6	-1.3
	2.0nm,0.5s,baz=73,slow=10,SNR=6.5						
SONM	**Songino Array**	**66.69**	**330**	P	P	22 58 31.4	+0.1
	0.3nm,0.5s,baz=152,slow=5.3,SNR=2.9						
MKAR	**Makanchi Array**	**79.88**	**320**	P	P	22 59 49.8	+0.6
	0.8nm,0.7s,baz=102,slow=6.8,SNR=6.8						
TORD	**Torodi Ar. Bea**	**147.21**	**282**	PKPbc	PKPbc	23 07 24.6	-0.4
	0.4nm,0.6s,baz=73,slow=2.7,SNR=3.0						

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*IDC **05** 22:49:48.6±1.3, 3739N×2463W, h0km, mb3.6/7, mb1 3.9/8, mb1mx3.7/24, mbtmp3.6/8, MS3.8/2, Ms1 3.8/2,*

ms1mx3.2/34, Error ellipse: s-maj=33.8km s-min=23.3km az=6.0
NEIC ***05*** *22:49:50.0±0.8, 3736N×2465W, h10km, Error ellipse: s-maj=20.8km s-min=12.3km az=184.0*
PDA ***05*** *22:49:50.7±0.6, 3748N×2445W, h0km, ML3.8, Error ellipse: s-maj=13.1km s-min=4.4km az=33.0*
ISCJB ***05*** *22:49:50.9±1.2, 374N±0.1×2472W±0.009, h33km±12km, mb3.7/9, MS3.8/2, Error ellipse: s-maj=23.7km s-min=8.9km az=19.1*
SVSA ***05*** *22:49:50.7±0.6, 3748N×2445W, h0km, ML3.8, Error ellipse: s-maj=13.1km s-min=4.4km az=33.0*
CSEM ***05*** *22:49:50.7±0.6, 3748N×2445W, h0km, ML3.8, Error ellipse: s-maj=13.1km s-min=4.4km az=33.0, After PDA*

ISC 05 22:49:52.0±1.3, 375N±01×2475W±006, h24km±8km, n33, σ0§71/34, mb3.7/9, MS3.8/2, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDA	**Ponta Delgada**	**0.79**	**292**	*e*S	**Sb**	**22 50 17.3**	**+0.1**
PSET	**Sete Cidades**	**0.86**	**296**	*e*P	**Pb**	**22 50 07.6**	**-0.6**
PSET				*e*S	**Sb**	**22 50 20.8**	**+1.5**
PSET				A		22 50 26.4	
	1μm,0.3s						
PSET	**Sete Cidades**	**0.86**	**296**	*e*P	**Pb**	**22 50 07.6**	**-0.6**
PSET				*e*S	**Sb**	**22 50 20.8**	**+1.5**
PSCM	**Serra do Cume**	**2.25**	**304**	*e*P	**Pn**	**22 50 26.9**	**-0.8**
PSCM				*e*S	**Sn**	**22 50 54.1**	**-0.6**
PSCM				A		22 50 57.9	
	404nm,0.2s						
PSCM	**Serra do Cume**	**2.25**	**304**	*e*P	**Pn**	**22 50 26.9**	**-0.8**
PSCM				*e*S	**Sn**	**22 50 54.1**	**-0.6**
ADH	**Angra Heroismo**	**2.30**	**302**	*e*P	**Pn**	**22 50 27.7**	**-0.7**
ADH				*e*S	**Sn**	**22 50 55.1**	**-0.9**
PID	**Ribeirinha**	**2.84**	**291**	*e*P	**Pn**	**22 50 35.6**	**-0.3**
PMAN	**Manadas**	**2.89**	**295**	*e*P	**Pn**	**22 50 36.4**	**-0.1**
PMAN				*e*S	**Sn**	**22 51 10.4**	**-0.1**
PMAN				A		22 51 15.4	
	96nm,0.3s						
PMAN	**Manadas**	**2.89**	**295**	*e*P	**Pn**	**22 50 36.4**	**-0.1**
PMAN				*e*S	**Sn**	**22 51 10.4**	**-0.1**
ROSA	**Rosais**	**3.03**	**296**	*e*P	**Pn**	**22 50 38.4**	**-0.1**
ROSA				*e*S	**Sn**	**22 51 14.2**	**+0.2**
PICO	**Pico**	**3.09**	**291**	*e*P	**Pn**	**22 50 39.2**	**-0.1**
PICO				*e*S	**Sn**	**22 51 15.4**	**0.0**
HOR	**Horta**	**3.25**	**290**	*e*P	**Pn**	**22 50 41.4**	**-0.1**
CALA	**Caldeira**	**3.32**	**291**	*e*P	**Pn**	**22 50 42.3**	**-0.1**
PMAR	**Madeira**	**7.96**	**124**	*e*Pn	**Pn**	**22 51 40.9**	**-5.4**
PMAR				*e*Sn	Sx	22 52 59.1	
PMAR				A		22 53 08.6	
	26nm,0.3s						
PMPS	**Porto Santo**	**8.16**	**120**	*e*Pn	**Pn**	**22 51 42.5**	**-6.4**
PMPS				*e*Sn	Sx	22 53 03.4	
PMPS				A		22 53 12.3	
	6.6nm,0.1s						
PBEJ	**Beja**	**13.38**	**82**	*e*S	Sx	22 55 10.1	
PVAQ	**Vaqueiros**	**13.54**	**85**	*e*S	Sx	22 55 14.0	
PCAB	**Cabril**	**13.58**	**67**	*e*S	Sx	22 55 16.1	
PCBR	**Castelo Branco**	**13.71**	**75**	*e*S	Sx	22 55 18.3	
PVRL	**Vila Real**	**13.72**	**69**	*e*S	Sx	22 55 19.7	
PBAR	**Barrancos**	**14.02**	**82**	*e*S	Sx	22 55 25.3	
MVO	**Moncorvo**	**14.21**	**69**	*e*S	Sx	22 55 30.8	
ESDC	**Sonseca Array**	**16.41**	**76**	Pn	**Pn**	**22 53 40.1**	**-0.5**
	baz=266,slow=13,SNR=5.2						
EKA	**Eskdalemuir Ar**	**23.11**	**32**	P	**P**	**22 54 56.3**	**+0.3**
	1.5nm,0.7s,mb3.5,baz=222,slow=9.3,SNR=5.4						
GERES	**GERESS Array B**	**29.97**	**55**	P	**P**	**22 55 58.5**	**+0.2**
	0.3nm,0.6s,mb3.2,baz=261,slow=8.4,SNR=3.3						
TORD	**Torodi Ar. Bea**	**33.80**	**129**	P	**P**	**22 56 31.4**	**-0.9**
	0.7nm,0.6s,mb3.8,baz=318,slow=4.9,SNR=7.2						
TORD				LR	LR	23 11 20.8	
	comp=Z,105nm,19.5s,MS3.6,baz=330,slow=38						
DBIC	**Dimbokro**	**35.59**	**144**	LR	LR	23 11 29.0	
	comp=Z,233nm,18.0s,MS4.0,baz=22,slow=37						
AKASG	**Malin Array Be**	**40.09**	**53**	P	**P**	**22 57 25.1**	**-0.4**
	0.1nm,0.3s,mb3.1,baz=271,slow=7.8,SNR=4.7						
YKA	**Yellowknife Ar**	**57.51**	**327**	P	**P**	**22 59 39.7**	**+0.8**
	0.4nm,0.6s,mb3.6,baz=72,slow=7.1,SNR=5.0						
LOHW	**Long Hollow**	**62.74**	**305**	P	**P**	**23 00 16.1**	**+1.0**
	10nm,0.5s,mb5.2						
TXAR	**Lajitas Array**	**64.62**	**288**	P	**P**	**23 00 29.3**	**+1.7**
	1.0nm,0.8s,mb3.9,baz=85,slow=8.0,SNR=6.6						
MKAR	**Makanchi Array**	**73.76**	**43**	P	**P**	**23 01 25.5**	**+1.5**
	0.2nm,0.3s,mb3.5,baz=316,slow=5.1,SNR=4.6						
SONM	**Songino Array**	**84.57**	**31**	P	**P**	**23 02 22.4**	**-0.6**
	0.4nm,0.8s,mb3.6,baz=305,slow=3.9,SNR=5.1						

ISCJB ***05*** *22:54:28.6±0.4, 4032N±001×12462W±004, h33km±7km, Error ellipse: s-maj=5.2km s-min=2.4km az=171.6*
BJI ***05*** *22:54:29.0, 4030N×12460W, h28km*
NEIC ***05*** *22:54:29.0, 4031N×12458W, h19km, mb3.7/1, MW4.1(BRK), After NCEDC.*
NEIC Felt [IV] at Bridgeville and Whitethorn; [III] at Ferndale, Fortuna, Petrolia and Scotia; [II] at Arcata, Eureka and Garberville. Also felt at Hydesville, Loleta, Myers Flat, Rio Dell and Trinidad.
IDC ***05*** *22:54:35.3±2.2, 3978N×12409W, h0km, mb3.4/2, mb1 4.0/5, mb1mx3.6/23, mbtmp3.7/5, ML3.7/3, MS3.1/1, Ms1 3.1/1, ms1mx2.7/18, Error ellipse: s-maj=34.3km s-min=18.8km az=54.0*

ISC 05 22:54:29.9±0.6, 4033N±001×12459W±004, h30km±5km, n132, σ0§96/172, 39C-53D, Near coast of northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
O01C	**Eel River Cons**	**0.62**	**108**	P	**Pb**	**22 54 41.6**	**-0.6**
O01C				⇑S	**Sb**	**22 54 51.1**	**+0.4**
	baz=1.0,SNR=1000						
JCC	**Jacoby Creek**	**0.65**	**41**	⇑P	**Pb**	**22 54 41.6**	**-1.1**
	baz=1.1,SNR=1000						
JCC				⇑S	**Sb**	**22 54 50.7**	**-0.8**
	baz=1.1						
KIPM	**Iron Peak**	**1.00**	**121**	*e*P	**Pn**	**22 54 46.6**	**-1.3**
KCPM	**Cahto Peak**	**1.01**	**129**	*e*P	**Pn**	**22 54 47.0**	**-1.1**
KCPM				*e*S	**Sn**	**22 54 59.9**	**-1.2**
N02C	**Big Bar**	**1.09**	**63**	P	**Pn**	**22 54 48.2**	**-1.0**
	baz=1.6,SNR=1000						
P01C	**Double 8 Ranch**	**1.29**	**131**	⇓P	**Pn**	**22 54 50.7**	**-1.3**
	baz=1.5,SNR=1000						
P01C				⇓S	**Sn**	**22 55 06.3**	**-1.9**
	baz=1.5						
KRMB	**Red Mountain**	**1.30**	**23**	*e*Pn	**Pn**	**22 54 51.0**	**-1.0**
O02C	**Red Bluff**	**1.39**	**96**	⇓P	**Pn**	**22 54 53.1**	**-0.2**
	baz=1.8,SNR=1000						
O02C				⇑S	**Sn**	**22 55 10.7**	**+0.1**
	baz=1.8						
M01C	**Crescent City**	**1.56**	**13**	P	**Pn**	**22 54 54.3**	**-1.3**
	baz=2.0,SNR=129						
M01C				⇓S	**Sn**	**22 55 12.7**	**-2.0**
	baz=2.0						
WDC	**Whiskeytown Da**	**1.58**	**80**	*e*Pn	**Pn**	**22 54 55.3**	**-0.6**
WDC				*e*Pg	**Pn**	**22 55 02.4**	**+6.4**
WDC				*e*Sn	**Sn**	**22 55 13.8**	**-1.6**
WDC	**Whiskeytown Da**	**1.58**	**80**	⇓P	**Pn**	**22 54 55.2**	**-0.7**
	baz=2.0,SNR=290						
WDC				⇑S	**Sn**	**22 55 14.6**	**-0.8**
	baz=2.0						
GASB	**Alder Springs**	**1.59**	**115**	⇑P	**Pn**	**22 54 55.1**	**-1.0**
	baz=1.9,SNR=149						
GASB				⇓S	**Sn**	**22 55 14.3**	**-1.3**
	baz=1.9						
M02C	**Callahan**	**1.69**	**51**	P	**Pn**	**22 54 56.9**	**-0.5**
	baz=2.2,SNR=1000						
M02C				⇓S	**Sn**	**22 55 17.7**	**-0.4**
	baz=2.2						
HOPS	**Hopland**	**1.78**	**138**	*e*Pn	**Pn**	**22 54 57.4**	**-1.2**
HOPS				*e*Pg	**Pn**	**22 55 03.2**	**+4.6**
HOPS				*e*Sn	**Sn**	**22 55 20.1**	**0.0**
HOPS	**Hopland**	**1.78**	**138**	P	**Pn**	**22 54 57.4**	**-1.2**
	baz=1.9,SNR=59						
KTRM	**Thompson Ridge**	**1.82**	**30**	P	**Pn**	**22 54 58.7**	**-0.6**
KBO	**Bosley Butte**	**1.90**	**8**	*e*Pn	**Pn**	**22 54 59.0**	**-1.3**
L02A	**Cave Junction**	**1.97**	**22**	P	**Pn**	**22 55 01.2**	**0.0**
	baz=2.4,SNR=224						
L02A				⇓S	**Sn**	**22 55 24.6**	**-0.3**
	baz=2.4						
O03C	**Acorn Hollow,**	**1.99**	**99**	⇑P	**Pn**	**22 55 01.3**	**-0.2**
	baz=2.3						
O03C				⇑S	**Sn**	**22 55 24.6**	**-0.8**
	baz=2.3						
YBH	**Yreka Blue Hor**	**2.00**	**45**	P	**Pn**	**22 55 01.4**	**-0.3**
YBH	**Yreka Blue Hor**	**2.00**	**45**	P	**Pn**	**22 55 01.4**	**-0.2**
	baz=2.5,SNR=500						
YBH				⇓S	**Sn**	**22 55 26.0**	**+0.5**
	baz=2.5						
M03C	**McCloud**	**2.10**	**62**	⇓P	**Pn**	**22 55 03.4**	**+0.4**
	baz=2.6,SNR=63						
M03C				⇓S	**Sn**	**22 55 29.0**	**+0.9**
	baz=2.6						
MNRC	**McLaughlin Nat**	**2.20**	**130**	⇓P	**Pn**	**22 55 04.1**	**-0.3**
	baz=2.4,SNR=39						
LHEM	**Herd Peak**	**2.21**	**53**	P	**Pn**	**22 55 05.2**	**+0.6**
NSHM	**Saint Helena R**	**2.37**	**139**	*e*Pn	**Pn**	**22 55 05.6**	**-1.2**
SUTB	**Sutter Butte**	**2.42**	**116**	⇑P	**Pn**	**22 55 06.2**	**-1.3**
	baz=2.7,SNR=6.5						
HATC	**Hat Creek Radi**	**2.43**	**77**	⇑P	**Pn**	**22 55 08.2**	**+0.6**
	baz=2.9,SNR=57						
ORV	**Oroville**	**2.50**	**107**	⇑P	**Pn**	**22 55 07.8**	**-0.8**
	baz=2.8,SNR=46						
ORV				⇓S	**Sn**	**22 55 36.9**	**-1.1**
	baz=2.8						
LTIM	**Timbered Crate**	**2.50**	**69**	P	**Pn**	**22 55 08.7**	**+0.2**
LBCM	**Butte Creek Ri**	**2.52**	**77**	P	**Pn**	**22 55 09.0**	**+0.2**
M04C	**Macdoel**	**2.54**	**54**	⇓P	**Pn**	**22 55 09.4**	**+0.4**
	baz=3.0,SNR=75						
KEBM	**Edson Butte**	**2.55**	**4**	*e*Pn	**Pn**	**22 55 09.3**	**+0.2**
KEBM				Pg	**Pn**	**22 55 19.0**	**+10**
KEBM				*e*Sn	**Sn**	**22 55 39.4**	**+0.2**
MCCM	**Marconi Confer**	**2.56**	**148**	*e*Pn	**Pn**	**22 55 07.9**	**-1.4**
MCCM				Sn	**Sn**	**22 55 38.7**	**-0.7**
MCCM	**Marconi Confer**	**2.56**	**148**	⇓P	**Pn**	**22 55 07.9**	**-1.4**
	baz=2.6,SNR=124						
K02A	**Glendale**	**2.57**	**18**	P	**Pn**	**22 55 09.7**	**+0.1**
	baz=3.0,SNR=67						
K02A				⇓S	**Sn**	**22 55 38.7**	**-1.1**
	baz=3.0						
CVS	**Carmenet Viney**	**2.58**	**140**	⇑P	**Pn**	**22 55 08.8**	**-0.9**
	baz=2.6,SNR=7.5						
HUMO	**Hull Mountain**	**2.58**	**28**	P	**Pn**	**22 55 09.9**	**+0.2**
HUMO	**Hull Mountain**	**2.58**	**28**	P	**Pn**	**22 55 09.9**	**+0.2**
	baz=3.0,SNR=76						
HUMO				⇑S	**Sn**	**22 55 40.3**	**+0.2**
	baz=3.0						
OHCM	**Honcut**	**2.59**	**112**	*e*Pn	**Pn**	**22 55 08.6**	**-1.1**
OHCM				*e*Sn	**Sn**	**22 55 38.2**	**-2.0**
OHCM				*e*Sg	**Sn**	**22 55 48.6**	**+8.3**
LASM	**Arnica Sink**	**2.61**	**60**	P	**Pn**	**22 55 10.3**	**+0.2**
Q03C	**Winters**	**2.62**	**130**	⇑P	**Pn**	**22 55 10.7**	**+0.5**
	baz=2.8,SNR=12						
Q03C				⇑S	**Sn**	**22 55 40.6**	**-0.2**
	baz=2.8						
BUOR	**Burton Butte**	**2.63**	**41**	P	**Pn**	**22 55 11.7**	**+1.4**
O04C	**Chester**	**2.68**	**89**	⇓P	**Pn**	**22 55 11.6**	**+0.6**
	baz=3.1,SNR=8.0						
O04C				⇓S	**Sn**	**22 55 42.0**	**-0.4**
	baz=3.1						
M05C	**Lookout**	**2.81**	**67**	⇑P	**Pn**	**22 55 12.3**	**-0.4**
	baz=3.3,SNR=17						
VSP	**Spence Mountai**	**2.83**	**44**	P	**Pn**	**22 55 13.9**	**+0.9**
O05C	**Quincy**	**2.84**	**96**	⇓P	**Pn**	**22 55 14.3**	**+1.1**
	baz=3.2,SNR=81						
O05C				⇓S	**Sn**	**22 55 47.1**	**+0.7**
	baz=3.2						
HOG	**Hogback Mounta**	**2.89**	**48**	P	**Pn**	**22 55 14.8**	**+0.8**
Q04C	**Lincoln**	**2.90**	**120**	⇑P	**Pn**	**22 55 13.7**	**-0.3**
	baz=3.1						
FARB	**Farallon Islan**	**2.91**	**154**	⇑P	**Pn**	**22 55 12.9**	**-1.3**
	baz=2.8,SNR=89						
ELFS	**Eagle Lake Fie**	**2.96**	**83**	⇑P	**Pn**	**22 55 14.8**	**-0.1**
	baz=3.4,SNR=28						
J02A	**Umpqua**	**3.13**	**14**	⇓P	**Pn**	**22 55 17.6**	**+0.5**
	baz=3.5,SNR=20						
K04A	**Chiloquin**	**3.13**	**42**	⇓P	**Pn**	**22 55 17.7**	**+0.4**
	baz=3.6,SNR=13						
BDM	**Black Diamond**	**3.18**	**137**	⇑P	**Pn**	**22 55 18.0**	**+0.1**
	baz=3.3						
P05C	**Yuba Gap, Truc**	**3.23**	**107**	⇑P	**Pn**	**22 55 19.4**	**+0.7**
	baz=3.5						
P05C				⇓S	**Sn**	**22 55 57.8**	**+1.7**
	baz=3.5						
M06C	**Likely Place G**	**3.24**	**73**	⇑P	**Pn**	**22 55 18.6**	**-0.2**
	baz=3.7,SNR=43						
J03A	**Ideyld Park**	**3.27**	**21**	⇓P	**Pn**	**22 55 19.9**	**+0.7**
	baz=3.7,SNR=34						
J03A				⇑S	**Sn**	**22 55 57.4**	**+0.3**
	baz=3.7						
BEKR	**Beckwourth**	**3.28**	**97**	⇑P	**Pn**	**22 55 19.5**	**+0.3**
	baz=3.6,SNR=26						
BEKR				⇓S	**Sn**	**22 55 58.6**	**+1.4**
	baz=3.6						
L05A	**Lakeview**	**3.31**	**58**	P	**Pn**	**22 55 19.9**	**+0.2**
	baz=3.8,SNR=98						
L05A				⇓S	**Sn**	**22 55 59.2**	**+1.1**
	baz=3.8						
LAVA	**Lava Cap Winer**	**3.37**	**117**	⇑P	**Pn**	**22 55 21.3**	**+0.9**
	baz=3.6,SNR=23						
JRSC	**Jasper Ridge**	**3.45**	**147**	⇑P	**Pn**	**22 55 20.2**	**-1.4**
	baz=3.4,SNR=52						
JRSC				⇓S	**Sn**	**22 56 01.2**	**-0.3**
	baz=3.4						
WENL	**Wente Brothers**	**3.49**	**140**	⇓P	**Pn**	**22 55 22.1**	**-0.1**
	baz=3.5,SNR=12						
WENL				⇑S	**Sn**	**22 56 02.3**	**-0.2**
	baz=3.5						
R04C	**Big Horse Ranc**	**3.51**	**125**	⇓P	**Pn**	**22 55 22.4**	**0.0**
	baz=3.7,SNR=7.0						
MOD	**Modoc**	**3.60**	**63**	*e*Pn	**Pn**	**22 55 23.7**	**+0.1**
MOD	**Modoc**	**3.60**	**63**	⇓P	**Pn**	**22 55 23.8**	**+0.1**
	baz=4.1						
N06A	**Buffalo Meadow**	**3.65**	**82**	P	**Pn**	**22 55 24.1**	**-0.2**
	baz=4.1,SNR=69						
O06A	**Flanigan**	**3.65**	**91**	⇓P	**Pn**	**22 55 24.8**	**+0.4**
	baz=4.0						
P06A	**Stead Airport,**	**3.66**	**99**	⇓P	**Pn**	**22 55 25.2**	**+0.7**
	baz=4.0						
K05A	**Summer Lake**	**3.66**	**48**	⇑P	**Pn**	**22 55 25.3**	**+0.8**
	baz=4.1,SNR=28						
BNLO	**Ben Lomond (Sa**	**3.71**	**149**	P	**Pn**	**22 55 23.5**	**-1.7**
	baz=3.7,SNR=158						
I02A	**Mapleton**	**3.71**	**8**	⇓P	**Pn**	**22 55 26.3**	**+1.1**
	baz=4.1,SNR=13						
I02A				⇓S	**Sn**	**22 56 06.8**	**-1.1**
	baz=4.1						
I03A	**Eugene**	**3.77**	**15**	⇓S	**Sn**	**22 56 08.0**	**-1.3**
	baz=4.2						
S04C	**Ingram Canyon,**	**3.80**	**137**	P	**Pn**	**22 55 27.1**	**+0.6**
	baz=3.9,SNR=46						
I04A	**Tendick Farm,**	**3.82**	**24**	⇑P	**Pn**	**22 55 27.7**	**+1.0**
	baz=4.3,SNR=16						
R05C	**Kirkwood Meado**	**3.85**	**114**	⇓P	**Pn**	**22 55 27.9**	**+0.8**
	baz=4.1						
WCN	**Washoe City**	**3.86**	**104**	⇑P	**Pn**	**22 55 28.0**	**+0.7**
	baz=4.2,SNR=12						
J05A	**Fort Rock**	**3.87**	**39**	⇑P	**Pn**	**22 55 28.5**	**+1.1**
	baz=4.3,SNR=53						
CMB	**Columbia Colle**	**3.99**	**124**	*e*Pn	**Pn**	**22 55 29.3**	**+0.3**
CMB				*e*Pg	**Pn**	**22 55 42.0**	**+13**
CMB				*e*Sn	**Sn**	**22 56 10.8**	**-4.0**
CMB	**Columbia Colle**	**3.99**	**124**	⇓P	**Pn**	**22 55 30.1**	**+1.1**
	baz=4.2						
K06A	**Valley Falls**	**4.08**	**51**	⇑P	**Pn**	**22 55 30.5**	**+0.2**
	baz=4.6,SNR=40						
PACP	**Pacheco Peak**	**4.21**	**141**	P	**Pn**	**22 55 31.3**	**-0.7**
	baz=4.2,SNR=59						
M07A	**Soldier Meadow**	**4.24**	**74**	P	**Pn**	**22 55 31.9**	**-0.5**
	baz=4.7,SNR=154						
N07B	**Gerlach**	**4.30**	**82**	⇑P	**Pn**	**22 55 33.1**	**-0.2**
	baz=4.7,SNR=9.3						
L07A	**Adell**	**4.31**	**65**	⇓P	**Pn**	**22 55 33.1**	**-0.3**
	baz=4.8,SNR=6.1						
SAO	**San Andreas Ge**	**4.33**	**144**	*e*Pn	**Pn**	**22 55 31.7**	**-2.0**
SAO				*e*Sn	**Sn**	**22 56 24.4**	**+1.2**
J06A	**Christmas Vall**	**4.42**	**47**	⇓P	**Pn**	**22 55 35.7**	**+0.8**
	baz=4.9,SNR=46						
S05C	**Merced**	**4.46**	**131**	⇓P	**Pn**	**22 55 36.9**	**+1.3**
	baz=4.6						
T05C	**Eagle Field, D**	**4.60**	**137**	⇑P	**Pn**	**22 55 38.1**	**+0.7**
	baz=4.7,SNR=30						
HAST	**Hastings Reser**	**4.60**	**148**	⇓P	**Pn**	**22 55 35.9**	**-1.5**
	baz=4.6,SNR=332						
K07A	**Rock Creek Ran**	**4.65**	**58**	P	**Pn**	**22 55 38.4**	**+0.2**
	baz=5.1,SNR=43						
M08A	**Happy Creek Ra**	**4.84**	**75**	P	**Pn**	**22 55 40.0**	**-0.7**
	baz=5.3,SNR=58						
WVOR	**Wild Horse Val**	**4.95**	**63**	*e*Pn	**Pn**	**22 55 41.5**	**-0.7**
WVOR				*e*Pg	**Pn**	**22 56 02.1**	**+20**
WVOR				Sn	**Sn**	**22 56 38.0**	**-0.3**
U04C	**Hernandez Rese**	**4.96**	**142**	P	**Pn**	**22 55 41.9**	**-0.5**
	baz=5.0,SNR=32						
V03C	**Hunter Liggett**	**5.05**	**147**	P	**Pn**	**22 55 42.2**	**-1.4**
	baz=5.0,SNR=45						
T06C	**Milleton Lake**	**5.06**	**129**	⇓P	**Pn**	**22 55 45.1**	**+1.3**
	baz=5.2,SNR=19						
K08A	**Mann Creek Ran**	**5.17**	**60**	⇑P	**Pn**	**22 55 44.8**	**-0.4**
	baz=5.6						
NVAR	**Mina Array Bea**	**5.23**	**109**	Pn	**Pn**	**22 55 47.8**	**+1.7**
	1.1nm,0.3s,baz=292,slow=14,SNR=37						
NVAR				Lg		22 57 04.6	
	0.6nm,0.3s,baz=294,slow=29,SNR=4.4						
PKD	**Parkfield**	**5.42**	**143**	⇓P	**Pn**	**22 55 47.6**	**-1.1**
	baz=5.4,SNR=65						
J08A	**Circle Bar Ran**	**5.48**	**54**	⇑P	**Pn**	**22 55 49.1**	**-0.4**
	baz=6.0						
L09A	**Wilkinson Ranc**	**5.49**	**70**	⇓P	**Pn**	**22 55 49.3**	**-0.3**
	baz=5.9						
V04C	**Ramage Ranch,**	**5.53**	**147**	P	**Pn**	**22 55 49.3**	**-0.9**
	baz=5.5,SNR=15						
VES	**Vestal, Richgr**	**6.24**	**134**	⇓P	**Pn**	**22 56 00.9**	**+0.9**
	baz=6.3,SNR=13						
PKM	**Peak Mountain**	**6.62**	**144**	P	**Pn**	**22 56 04.6**	**-0.5**
	baz=6.6,SNR=48						
ISA	**Isabella**	**6.71**	**132**	*e*Pn	**Pn**	**22 56 08.1**	**+1.7**
	34nm,0.5s						
ISA	**Isabella**	**6.71**	**132**	⇓P	**Pn**	**22 56 08.3**	**+1.9**
	baz=6.8,SNR=14						
ARVC	**Arvin**	**6.91**	**137**	⇑P	**Pn**	**22 56 10.4**	**+1.2**
	baz=7.0						
BMO	**Blue Mountains**	**7.02**	**48**	*e*Pn	**Pn**	**22 56 10.0**	**-0.6**
	7.0nm,0.8s						
BMO				*e*Sn	**Sn**	**22 57 28.1**	**-1.3**
Q11A	**Duckwater**	**7.06**	**99**	⇑P	**Pn**	**22 56 12.9**	**+1.7**
	baz=7.4						
HAWA	**Hanford**	**7.09**	**30**	*e*Pn	**Pn**	**22 56 11.1**	**-0.5**
	7.8nm,0.7s						
HAWA				*e*Sn	**Sn**	**22 57 30.4**	**-0.7**
EDW2	**Edwards Air Fo**	**7.55**	**134**	⇓P	**Pn**	**22 56 19.3**	**+1.4**
	baz=7.6,SNR=18						
GSC	**Goldstone**	**7.94**	**127**	*e*Pn	**Pn**	**22 56 23.7**	**+0.3**
	6.1nm,0.3s						
HLID	**Hailey**	**8.24**	**64**	*e*Pn	**Pn**	**22 56 28.7**	**+1.3**
HLID				*e*Sn	**Sn**	**22 57 59.5**	**+0.1**
HEC	**Hector,Ludlow**	**8.55**	**127**	⇑P	**Pn**	**22 56 34.1**	**+2.5**
	baz=8.7,SNR=12						
G13A	**Cobalt**	**8.98**	**55**	⇓P	**Pn**	**22 56 39.5**	**+1.9**
	baz=9.5						
GMRC	**Granite Mounta**	**8.99**	**125**	⇓P	**Pn**	**22 56 39.8**	**+2.0**
	baz=9.1,SNR=6.7						
BELC	**Belle Mtn.**	**9.32**	**130**	⇓P	**Pn**	**22 56 43.8**	**+1.6**
	baz=9.4,SNR=34						
PFO	**Pinyon Flat Ob**	**9.34**	**133**	*e*Pn	**Pn**	**22 56 41.7**	**-0.8**
	5.0nm,0.4s						
PFO	**Pinyon Flat Ob**	**9.34**	**133**	Pn	**Pn**	**22 56 44.1**	**+1.6**
	1.9nm,0.3s,baz=322,slow=13,SNR=17						
PFO	**Pinyon Flat Ob**	**9.34**	**133**	⇓P	**Pn**	**22 56 43.9**	**+1.3**
	baz=9.4						
BC3	**Big Chuckw Mtn**	**9.88**	**130**	⇓P	**Pn**	**22 56 51.2**	**+1.2**
	baz=10.0,SNR=11						
MONP	**Monument Peak**	**9.91**	**136**	⇓P	**Pn**	**22 56 51.9**	**+1.6**
	baz=10.0,SNR=7.5						
GLA	**Glamis**	**10.68**	**130**	P	**Pn**	**22 57 01.4**	**+0.6**
	4.6nm,0.4s						
SDCO	**Great Sand Dun**	**15.06**	**94**	Pn	**Pn**	**22 58 03.5**	**+3.0**
	4.2nm,1.1s						
ANMO	**Albuquerque**	**15.33**	**105**	LR	LR	23 03 34.0	
	comp=Z,79nm,21.3s,baz=34,slow=36						
TXAR	**Lajitas Array**	**20.33**	**116**	P	**P**	**22 59 07.3**	**+3.6**
	0.1nm,0.3s,baz=299,slow=9.0,SNR=26						
ULM	**Lac du Bonnet**	**22.38**	**54**	P	**P**	**22 59 35.2**	**+10**
	1.6nm,0.8s,baz=246,slow=10.0,SNR=2.6						
YKA	**Yellowknife Ar**	**23.00**	**12**	P	sP	22 59 46.5	+2.8
YKA	**Yellowknife Ar**	**23.00**	**12**	P	sP	22 59 46.5	+2.9
	0.9nm,0.8s,baz=194,slow=12,SNR=6.2						
GNAR	**Gosnell**	**27.43**	**88**	P	**P**	**23 00 12.9**	**-0.1**
MDJ	**Mudanjiang**	**72.40**	**314**	P	**P**	**23 05 53.2**	**+0.1**
NJ2	**Nanjing**	**87.12**	**310**	*e*P	**P**	**23 07 17.1**	**+4.0**
LZH	**Lanzhou**	**91.88**	**323**	*e*P	**P**	**23 07 36.5**	**+1.2**
LZH				AP	pP	23 07 43.1	-1.7
LZH				XP	sP	23 07 45.8	-2.4
LZH				*e*PP	PP	23 11 17.5	+3.6
GYA	**Guiyang**	**98.24**	**315**	P	**P**	**23 08 05.4**	**+0.9**

ISK ***05*** *23:06:41.9, 3987N×4031E, h3km, ML2.5*
*CSE

2.7nm,1.0s,baz=34,slow=18,SNR=8.9
FITZ Fitzroy Crossi 24.57 237 ||*iP* **P 23 36 09.0 -0.5**
61nm,0.5s,mb5.4
FITZ Fitzroy Crossi 24.57 237 P **P 23 36 09.6 +0.1**
31nm,0.5s,mb5.1,baz=56,slow=9.7,SNR=114
STKA Stephens Creek 26.86 191 P **P 23 36 30.2 +0.2**
3.5nm,0.7s,mb4.1,baz=16,slow=14,SNR=3.7
MBWA Marble Bar 30.91 237 *eP* **P 23 37 04.8 -1.2**
3.8nm,0.4s,mb4.5
FORT Forrest 31.02 213 *eP* **P 23 37 06.2 -0.6**
9.7nm,0.6s,mb4.7
KLBR Kellerberrin 37.95 223 *eP* **P 23 38 05.3 -1.2**
5.2nm,0.3s,mb4.6
YHNB Yeheng 39.06 321 P **P 23 38 15.9 +0.1**
NWAO Narrogin (SRO) 39.12 222 P **P 23 38 15.9 -0.3**
NWAO Narrogin (SRO) 39.12 222 P **P 23 38 17.5 +1.3**
5.2nm,0.9s,mb4.2,baz=51,slow=6.5,SNR=3.3
MUN Mundaring 39.24 224 *eP* **P 23 38 16.9 -0.4**
JNU Nakatsue 41.32 339 LR LR 23 54 41.0
comp=Z,47nm,19.3s,baz=218,slow=34
URZ Urewera 42.52 145 P **P 23 38 42.9 -1.0**
1.7nm,0.3s,mb4.1,baz=310,slow=7.5,SNR=2.5
MJAR Matsushiro Arr 42.56 349 P **P 23 38 44.8 +0.5**
0.9nm,0.3s,mb3.8,baz=170,slow=7.6,SNR=5.5
MDJ Mudanjiang 52.24 344 P **P 23 39 59.7 +0.7**
SONM Songino Array 63.98 331 P **P 23 41 21.8 +1.2**
0.7nm,0.5s,mb3.8,baz=146,slow=5.5,SNR=9.0
TLY Talaya 67.91 332 P **P 23 41 45.5 -0.1**
VNDA Vanda 72.50 177 *eP* **P 23 42 14.1 +1.0**
0.7nm,0.5s,mb3.6
VNDA Vanda 72.50 177 P **P 23 42 13.2 +0.1**
0.8nm,0.6s,mb3.6,baz=353,slow=5.7,SNR=8.7
MK31 Makanchi Array 77.17 320 *eP* **P 23 42 40.7 +0.2**
MKAR Makanchi Array 77.17 320 P **P 23 42 41.0 +0.5**
0.5nm,0.4s,mb3.5,baz=116,slow=6.1,SNR=11
ZALV Zalesovo Beam 78.62 328 P **P 23 42 47.9 -0.5**
1.4nm,0.4s,mb3.9,baz=104,slow=6.0,SNR=9.5
KURK Kurchatov 80.86 323 *eP* **P 23 42 59.5 -1.0**
3.9nm,1.2s,mb3.9
EKS2 Erkin-Say 81.59 314 P **P 23 43 05.4 +0.8**
BRVK Borovoye 86.48 324 *eP* **P 23 43 28.2 -0.9**
0.9nm,0.5s,mb3.8
GERES GERESS Array B 121.53 326 PKP PKPdf 23 49 37.7 -1.4
0.2nm,0.7s,baz=48,slow=2.0,SNR=5.0
TORD Torodi Ar. Bea 145.14 285 PKPbc PKPbc 23 50 23.1 -0.9
2.1nm,0.5s,baz=69,slow=3.7,SNR=47

*IDC **05** 23:44:48.5±0.7, 7.17S×15547E, h0km, mb4.3/12, mb1 4.4/12, mb1mx4.4/16, mbtmp4.2/12, MS3.5/6, Ms1 3.5/6, ms1mx3.2/27, Error ellipse: s-maj=26.0km s-min=18.0km az=117.0*
*BJI **05** 23:44:49.5, 700S×15550E, h10km, mB4.9, mb4.6*
*NEIC **05** 23:44:50.5±0.4, 700S×15554E, h10km, mb4.5/12, Error ellipse: s-maj=11.7km s-min=9.5km az=126.0*
*MOS **05** 23:44:53.7±0.9, 685S×15528E, h33km, mb4.7/7, Error ellipse: s-maj=15.0km s-min=12.4km az=75.2*
*ISCJB **05** 23:44:58.5±1.9, 7.16S±009×15542E±006, h87km±18km, mb4.2/25, Error ellipse: s-maj=14.4km s-min=9.4km az=169.2*

ISC 05 23:45:00.2±1.6, 717S±008×15541E±006, h88km±16km, n62, σ0°88/54, mb4.2/25, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.02**	**117**	P	**Pn**	**23 46 12.2**	**-1.0**
HNR						23 47 10.7	
HNR	**Honiara**	**5.02**	**117**	Pn	**Pn**	**23 46 12.2**	**-1.0**
	11nm,0.3s,baz=270,slow=3.2,SNR=7.5						
HNR				Sn	**Sn**	**23 47 10.6**	**+0.7**
	5.8nm,0.3s,baz=90,slow=19,SNR=2.0						
HNR				LR	LR	23 47 13.3	
	comp=Z,200nm,19.9s,baz=343,slow=29						
CTA	**Charters Tower**	**15.61**	**214**	Pn	**Pn**	**23 48 36.3**	**+1.0**
	0.3nm,0.3s,baz=28,slow=15,SNR=3.5						
CTA				LR	LR	23 53 39.2	
	comp=Z,161nm,21.1s,baz=47,slow=34						
CTAO	**Charters Tower**	**15.61**	**214**	*e*Pn	**Pn**	**23 48 36.4**	**+1.2**
	5.8nm,0.8s						
CTAO	**Charters Tower**	**15.61**	**214**	*eP*	**Pn**	**23 48 36.4**	**+1.2**
CTAO				pmax	pmax		
	comp=Z,6.0nm,0.8s						
KAKA	**Kakadu**	**23.27**	**255**	*eP*	**P**	**23 50 00.2**	**-0.1**
	comp=Z,21nm,1.4s,mb4.3						
WB2	**Warramunga Arr**	**24.05**	**236**	*eP*	**P**	**23 50 06.0**	**-1.3**
WB2	**Warramunga Arr**	**24.05**	**236**	*eP*	**P**	**23 50 06.3**	**-0.9**
WRA	**Warramunga Arr**	**24.05**	**236**	P	**P**	**23 50 06.5**	**-0.9**
	comp=Z,7.8nm,0.8s,mb4.1,baz=61,slow=9.3,SNR=14						
WRA				LR	LR	23 59 04.1	
	comp=Z,99nm,19.6s,baz=65,slow=36						
ASAR	**Alice Springs**	**26.36**	**229**	P	**P**	**23 50 27.8**	**-0.5**
	comp=Z,1.3nm,0.8s,mb3.4,baz=60,slow=9.2,SNR=10.0						
STKA	**Stephens Creek**	**27.75**	**206**	*eP*	**P**	**23 50 39.4**	**-1.2**
	comp=Z,6.0nm,0.8s,mb4.2						
STKA	**Stephens Creek**	**27.75**	**206**	*eP*	**P**	**23 50 40.1**	**-0.5**
STKA	**Stephens Creek**	**27.75**	**206**	P	**P**	**23 50 39.2**	**-1.4**
	comp=Z,6.7nm,0.8s,mb4.2,baz=17,slow=12,SNR=12						
STKA				LR	LR	00 01 12.2	
	comp=Z,199nm,19.8s,baz=290,slow=35						
FITZ	**Fitzroy Crossi**	**30.96**	**247**	P	**P**	**23 51 08.5**	**-0.7**
	comp=Z,2.3nm,0.5s,mb4.1,baz=89,slow=9.6,SNR=4.4						
RAO	**Raoul Island**	**33.37**	**135**	P	**P**	**23 51 29.6**	**-0.6**
MBWA	**Marble Bar**	**37.17**	**244**	P	**P**	**23 52 05.8**	**+2.9**
KKM	**Kota Kinabalu**	**41.25**	**288**	P	**P**	**23 52 37.9**	**+0.9**
NACB	**Ninganchiao**	**45.37**	**314**	*eP*	**P**	**23 53 09.7**	**-0.3**
YHNB	**Yeheng**	**45.84**	**315**	*eP*	**P**	**23 53 13.8**	**+0.2**
KSRS	**Korea Array**	**51.28**	**332**	P	**P**	**23 53 54.5**	**-0.8**
	comp=Z,1.7nm,0.6s,mb4.2,baz=152,slow=9.5,SNR=7.1						
KSRS				LR	LR	00 12 32.2	
	comp=Z,44nm,18.8s,baz=332,slow=32						
PPT	**Papeete**	**54.56**	**106**	LR	LR	00 14 55.1	
	comp=Z,120nm,19.3s,baz=25,slow=33						
KULM	**Kulim**	**56.02**	**281**	*eP*	**P**	**23 54 32.0**	**+1.6**
PMOR	**Pomariorio Ree**	**56.06**	**103**	*eP*	**P**	**23 54 31.2**	**+0.7**
	comp=Z,33nm,1.0s,mb5.3						
VAH	**Vaihoa**	**56.32**	**103**	*eP*	**P**	**23 54 32.8**	**+0.4**
	comp=Z,30nm,1.0s,mb5.3						
MDJ	**Mudanjiang**	**56.55**	**338**	*eP*	**P**	**23 54 33.3**	**-0.2**
	comp=Z,2.4nm,0.4s,mb4.6						
KLR	**Kul'dur**	**59.86**	**342**	*eP*	**P**	**23 54 51.0**	**-5.4**
XAN	**Xi'an**	**60.12**	**316**	P	**P**	**23 54 58.5**	**0.0**
XAN				AP	pP	23 55 03.7	-17
XAN				AMB	AMB		
	comp=Z,4.0nm,0.6s,mb4.6						
SONM	**Songino Array**	**69.70**	**327**	P	**P**	**23 56 01.2**	**+0.7**
	comp=Z,3.6nm,0.8s,mb4.3,baz=137,slow=6.8,SNR=31						
SHL	**Shillong**	**69.74**	**300**	*eP*	**P**	**23 56 04.0**	**+2.9**
LSA	**Lhasa**	**71.71**	**304**	*eP*	**P**	**23 56 14.2**	**+1.1**
	comp=Z,5.3nm,0.8s,mb4.4						
LSA	**Lhasa**	**71.71**	**304**	*eP*	**P**	**23 56 14.2**	**+1.2**
LSA				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.4						
ZAK	**Zakamensk**	**72.86**	**328**	*eP*	**P**	**23 56 18.8**	**-0.6**
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.0s,mb3.9						
BOD	**Bodaibo**	**72.93**	**338**	*eP*	**P**	**23 56 18.9**	**-0.8**
BILL	**Bilibino**	**75.42**	**4**	*eP*	**P**	**23 56 34.5**	**+0.6**
	comp=Z,3.3nm,0.6s,mb4.2						
BILL	**Bilibino**	**75.42**	**4**	*eP*	**P**	**23 56 34.0**	**0.0**
BILL				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.2						
PALK	**Pallekele**	**75.87**	**279**	P	**P**	**23 56 37.3**	**-0.4**
TIXI	**Tiksi**	**80.59**	**352**	*eP*	**P**	**23 57 03.4**	**+0.9**
	comp=Z,1.8nm,0.6s,mb4.1						
TIXI	**Tiksi**	**80.59**	**352**	*eP*	**P**	**23 57 03.4**	**+0.9**
TIXI				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.1						
MCK	**McKinley**	**82.07**	**22**	*eP*	**P**	**23 57 10.0**	**-0.5**
	comp=Z,8.3nm,0.8s,mb4.6						
MCK	**McKinley**	**82.07**	**22**	*eP*	**P**	**23 57 10.0**	**-0.5**
MCK				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.6						
QSPA	**South Pole Qui**	**82.81**	**180**	P	**P**	**23 57 14.4**	**+0.2**
	comp=Z,0.9nm,0.3s,mb4.0,baz=21,slow=5.6,SNR=3.7						
COLA	**College**	**83.10**	**21**	*eP*	**P**	**23 57 14.7**	**-1.1**
	comp=Z,3.6nm,0.7s,mb4.3						
COLA	**College**	**83.10**	**21**	*eP*	**P**	**23 57 14.7**	**-1.1**
COLA				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.4						
MK31	**Makanchi Array**	**83.81**	**319**	*eP*	**P**	**23 57 19.7**	**-0.1**
MKAR	**Makanchi Array**	**83.81**	**319**	P	**P**	**23 57 19.9**	**0.0**
	comp=Z,1.5nm,0.7s,mb3.9,baz=104,slow=5.8,SNR=11						
ZALV	**Zalesovo Beam**	**84.55**	**326**	P	**P**	**23 57 23.0**	**-0.4**
	comp=Z,1.0nm,0.5s,mb4.0,baz=115,slow=6.3,SNR=6.0						
ZAL	**Zalesovo**	**84.56**	**326**	P	**P**	**23 57 23.0**	**-0.5**
KURK	**Kurchatov**	**87.22**	**322**	*eP*	**P**	**23 57 36.1**	**-0.6**
	comp=Z,1.6nm,0.9s,mb4.0						
KURK	**Kurchatov**	**87.22**	**322**	*eP*	**P**	**23 57 36.1**	**-0.6**
KURK				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.0						
EKS2	**Erkin-Say**	**88.69**	**313**	*eP*	**P**	**23 57 44.5**	**+0.6**
	comp=Z,0.8nm,0.6s,mb3.9						
NVAR	**Mina Array Bea**	**91.51**	**52**	P	**P**	**23 57 59.1**	**+2.0**
	comp=Z,0.8nm,0.6s,mb4.1,baz=57,slow=19,SNR=5.6						
BRVK	**Borovoye**	**92.75**	**323**	P	**P**	**23 58 01.5**	**-1.0**
YKA	**Yellowknife Ar**	**96.30**	**28**	P	**P**	**23 58 18.5**	**0.0**
	comp=Z,1.3nm,0.8s,mb4.4,baz=265,slow=4.5,SNR=23						
PDAR	**Pinedale Array**	**98.51**	**48**	P	**P**	**23 58 28.4**	**-0.6**
	comp=Z,0.3nm,0.7s,mb3.9,baz=153,slow=0.3,SNR=3.7						
AKASG	**Malin Array Be**	**117.92**	**324**	PKP	PKPdf	00 03 36.6	+0.1
	comp=Z,0.4nm,0.5s,baz=122,slow=1.3,SNR=3.9						
GERES	**GERESS Array B**	**127.41**	**329**	PKP	PKPdf	00 03 55.9	+1.1
	comp=Z,0.5nm,0.7s,baz=326,slow=0.4,SNR=6.0						
LPAZ	**La Paz**	**131.01**	**119**	PKP	PKPdf	00 04 04.5	+1.8
	comp=Z,2.9nm,0.9s,baz=356,slow=2.9,SNR=9.2						
SDV	**Santo Domingo**	**134.40**	**85**	PKP	PKPdf	00 04 09.2	+0.1
	comp=Z,5.0nm,0.8s,baz=265,slow=5.6,SNR=9.1						
SIV	**San Ignacio**	**137.18**	**123**	PKP	PKPdf	00 04 15.0	+0.8
	comp=Z,3.1nm,1.0s,baz=324,slow=1.1,SNR=11						
BDFB	**Brasilia**	**147.57**	**134**	PKPbc	PKPbc	00 04 34.2	-1.1
	comp=Z,6.8nm,0.9s,baz=129,slow=2.5,SNR=12						
TORD	**Torodi Ar. Bea**	**153.47**	**285**	PKPbc	PKPbc	00 04 49.3	-0.1
	comp=Z,1.4nm,0.7s,baz=70,slow=2.0,SNR=13						
TORD				PKPab	PKPab	00 05 02.1	+0.1
	comp=Z,1.2nm,0.8s,baz=83,slow=2.2,SNR=5.7						
DBIC	**Dimbokro**	**160.40**	**270**	PKPab	PKPab	00 05 31.5	-0.5
	comp=Z,3.5nm,0.9s,baz=30,slow=0.9,SNR=3.6						

IDC 05 23:54:17.2±6.5, 704S×15569E, h0km, mb3.6/5, mb1 3.7/5, mb1mx3.6/14, mbtmp3.6/5, Error ellipse: s-maj=200.3km s-min=29.1km az=112.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.36**	**236**	P	P	23 59 37.9	+0.8
	0.6nm,0.5s,baz=63,slow=9.5,SNR=3.7						
ASAR	**Alice Springs**	**26.66**	**229**	P	P	23 59 57.6	-0.4
	0.3nm,0.9s,baz=60,slow=9.6,SNR=2.6						
SONM	**Songino Array**	**69.75**	**327**	P	P	00 05 30.2	+1.1
	0.2nm,0.6s,baz=131,slow=5.0,SNR=3.2						
MKAR	**Makanchi Array**	**83.89**	**319**	P	P	00 06 49.0	-0.1
	0.7nm,0.6s,baz=108,slow=5.5,SNR=7.3						
ZALV	**Zalesovo Beam**	**84.60**	**326**	P	P	00 06 51.5	-1.0
	0.4nm,0.4s,baz=116,slow=6.6,SNR=2.7						

IDC 05 23:54:27.4±7.3, 750S×15607E, h0km, mb3.6/5, mb1 3.7/5, mb1mx3.6/14, mbtmp3.6/5, Error ellipse: s-maj=224.7km s-min=30.8km az=113.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.43**	**237**	P	P	23 59 48.0	+0.1
	0.6nm,0.6s,baz=60,slow=8.8,SNR=3.1						
ASAR	**Alice Springs**	**26.66**	**230**	P	P	00 00 08.1	-0.1
	0.3nm,0.6s,baz=61,slow=9.6,SNR=4.8						
SONM	**Songino Array**	**70.33**	**327**	P	P	00 05 43.5	+0.6
	0.5nm,0.6s,baz=141,slow=6.4,SNR=5.1						
MKAR	**Makanchi Array**	**84.48**	**318**	P	P	00 07 02.7	+0.5
	0.8nm,0.7s,baz=99,slow=5.9,SNR=6.4						
ZALV	**Zalesovo Beam**	**85.19**	**326**	P	P	00 07 05.0	-0.6
	0.4nm,0.5s,baz=108,slow=3.2,SNR=2.7						

*ISCJB **06** 00:00:02.3±0.3, 37.11N±003×24.73W±003, h10km, mb4.1/24, MS3.5/10, Error ellipse: s-maj=5.3km s-min=1.9km az=32.9*
*IDC **06** 00:00:04.2±0.9, 37.36N×2469W, h0km, mb3.8/11, mb1 4.0/12, mb1mx3.8/26, mbtmp3.8/12, ML3.6/1, MS3.6/6, Ms1 3.7/6, ms1mx3.2/37, Error ellipse: s-maj=27.7km s-min=17.2km az=175.0*
*CSEM **06** 00:00:04.5±0.1, 37.34N×2476W, h20km, mb4.3/12, Ms3.3, Error ellipse: s-maj=2.8km s-min=0.9km az=10.0*
*NEIC **06** 00:00:05.2±0.4, 37.16N×2460W, h10km, mb4.3/18, Error ellipse: s-maj=6.6km s-min=5.2km az=92.0*
*SVSA **06** 00:00:06.8±1.2, 3728N×2457W, h10km, MD3.5, ML3.8, Error ellipse: s-maj=5.7km s-min=3.3km az=66.0*
*PDA **06** 00:00:06.8±1.2, 3728N×2457W, h10km, MD3.5, ML3.8, Error ellipse: s-maj=5.7km s-min=3.3km az=66.0*
*MDD **06** 00:00:11.0±10.0, 3750N×2299W, h0km, mb4.5/8, Error ellipse: s-maj=354.0km s-min=99.1km az=64.0*

ISC 06 00:00:05.1±0.8, 3718N±003×2482W±003, h19km±5km, n176, σ1°05/193, mb4.1/24, MS3.5/10, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
PSMN	**Pico do Norte,**	**0.27**	**228**	*i P*	**Pg**	**00 00 14.6**	**+3.5**
PSMN				*e*S	**Sg**	**00 00 21.0**	**+5.8**
FRA1	**Furnas**	**0.70**	**323**	*i P*	**Pb**	**00 00 18.9**	**+0.1**
FRA1				*e*S	**Sb**	**00 00 28.0**	**-0.1**
MIRA	**Miradouro**	**0.70**	**329**	*i P*	**Pb**	**00 00 18.7**	**-0.1**
MIRA				*e*S	**Sb**	**00 00 27.3**	**-0.8**
MIRA	**Miradouro**	**0.70**	**329**	*e*S	**Sb**	**00 00 27.3**	**-0.8**
PCNG	**Congro**	**0.74**	**322**	*eP*	**Pb**	**00 00 19.7**	**+0.3**
PCNG				*e*S	**Sb**	**00 00 29.6**	**+0.4**
PCNG				A		00 00 37.2	
	1μm,0.3s						
PCNG	**Congro**	**0.74**	**322**	*eP*	**Pb**	**00 00 19.7**	**+0.3**
PCNG				*e*S	**Sb**	**00 00 29.6**	**+0.4**
VIF	**Vila Franca**	**0.75**	**319**	*eP*	**Pb**	**00 00 19.8**	**+0.3**
VIF				*e*S	**Sb**	**00 00 29.6**	**+0.2**
VIF				A		00 00 42.3	
	826nm,0.5s						
VIF	**Vila Franca**	**0.75**	**319**	*eP*	**Pb**	**00 00 19.8**	**+0.3**
VIF				*e*S	**Sb**	**00 00 29.6**	**+0.2**
PRCH	**Ribeira Ch**	**0.76**	**316**	*eP*	**Pb**	**00 00 19.9**	**+0.2**
PRCH				*e*S	**Sb**	**00 00 29.6**	**0.0**
PRCH				A		00 00 33.7	
	2μm,0.4s						
PRCH	**Ribeira Ch**	**0.76**	**316**	*eP*	**Pb**	**00 00 19.9**	**+0.2**
PRCH				*e*S	**Sb**	**00 00 29.6**	**0.0**
PFAD	**Fenais da Ajud**	**0.77**	**329**	*i P*	**Pb**	**00 00 19.7**	**-0.2**
PFAD				*e*S	**Sb**	**00 00 29.4**	**-0.5**
MESC	**Monte Escuro**	**0.79**	**321**	*eP*	**Pb**	**00 00 20.4**	**+0.2**
MESC				*e*S	**Sb**	**00 00 30.6**	**+0.1**
LFA	**Lagoa do Fogo**	**0.79**	**318**	*i P*	**Pb**	**00 00 20.6**	**+0.3**
PMAT	**Coroa da Mata**	**0.82**	**321**	*eP*	**Pb**	**00 00 20.9**	**+0.2**
PMAT				*e*S	**Sb**	**00 00 30.7**	**-0.7**
PMAT				A		00 00 41.4	
	638nm,0.5s						
PMAT	**Coroa da Mata**	**0.82**	**321**	*eP*	**Pb**	**00 00 20.9**	**+0.2**
PMAT				*e*S	**Sb**	**00 00 30.7**	**-0.7**
CML	**Cha da Macela**	**0.82**	**316**	*i P*	**Pb**	**00 00 21.0**	**+0.2**
CML				*e*S	**Sb**	**00 00 31.9**	**+0.3**
PVER	**Pico Vermelho**	**0.82**	**318**	*eP*	**Pb**	**00 00 20.9**	**0.0**
PVER				*e*S	**Sb**	**00 00 31.0**	**-0.6**
PVER				A		00 00 36.7	
	1μm,0.3s						
PVER	**Pico Vermelho**	**0.82**	**318**	*eP*	**Pb**	**00 00 20.9**	**0.0**
PVER				*e*S	**Sb**	**00 00 31.0**	**-0.6**
PDA	**Ponta Delgada**	**0.88**	**310**	*eP*	**Pb**	**00 00 20.1**	**-1.6**
PDA				*e*S	**Sb**	**00 00 31.4**	**-1.7**
FAC	**Faja de Cima**	**0.89**	**312**	*eP*	**Pb**	**00 00 22.4**	**+0.5**
FAC				*e*S	**Sb**	**00 00 34.0**	**+0.7**
PSET	**Sete Cidades**	**0.96**	**312**	*eP*	**Pb**	**00 00 22.4**	**-0.8**
PSET				*e*S	**Sb**	**00 00 35.3**	**-0.2**
PSET				A		00 00 47.2	
	2μm,0.4s						
PSET	**Sete Cidades**	**0.96**	**312**	*eP*	**Pb**	**00 00 22.4**	**-0.8**
PSET				*e*S	**Sb**	**00 00 35.3**	**-0.2**
PSAN	**Santo Antonio**	**0.98**	**313**	*eP*	**Pb**	**00 00 23.6**	**+0.1**
PFET	**Feteiras**	**1.00**	**310**	*eP*	**Pb**	**00 00 24.1**	**+0.3**
SET2	**Ginetes**	**1.02**	**310**	*eP*	**Pb**	**00 00 24.4**	**+0.1**
SET4	**Mosteiros**	**1.04**	**312**	*eP*	**Pb**	**00 00 24.7**	**+0.2**
PFAV	**Pico das Favas**	**2.35**	**311**	*eP*	**Pn**	**00 00 43.3**	**+0.6**
PFAV				*e*S	**Sn**	**00 01 10.1**	**-1.0**
PFAV				A		00 01 18.1	
	188nm,0.3s						
PFAV	**Pico das Favas**	**2.35**	**311**	*eP*	**Pn**	**00 00 43.3**	**+0.6**
PFAV				*e*S	**Sn**	**00 01 10.1**	**-1.0**
PSCM	**Serra do Cume**	**2.37**	**311**	*eP*	**Pn**	**00 00 42.4**	**-0.5**
PSCM				*e*S	**Sn**	**00 01 09.5**	**-1.9**
PSCM				A		00 01 19.5	
	390nm,0.4s						
PSCM	**Serra do Cume**	**2.37**	**311**	*eP*	**Pn**	**00 00 42.4**	**-0.5**
PSCM				*e*S	**Sn**	**00 01 09.5**	**-1.9**
RIB2	**Ribeirinha**	**2.38**	**309**	*eP*	**Pn**	**00 00 43.7**	**+0.5**
RIB2				*e*S	**Sn**	**00 01 11.1**	**-0.7**
RIB2				A		00 01 17.4	
	114nm,0.5s						
RIB2	**Ribeirinha**	**2.38**	**309**	*eP*	**Pn**	**00 00 43.7**	**+0.5**
RIB2				*e*S	**Sn**	**00 01 11.1**	**-0.7**
ADH	**Angra Heroismo**	**2.41**	**308**	*eP*	**Pn**	**00 00 43.4**	**-0.1**
ADH				*e*S	**Sn**	**00 01 10.1**	**-2.4**
PVNV	**Vila Nova**	**2.43**	**311**	*eP*	**Pn**	**00 00 44.1**	**+0.3**
PVNV				*e*S	**Sn**	**00 01 11.1**	**-1.9**
PVNV				A		00 01 17.5	
	83nm,0.3s						
PVNV	**Vila Nova**	**2.43**	**311**	*eP*	**Pn**	**00 00 44.1**	**+0.3**
PVNV				*e*S	**Sn**	**00 01 11.1**	**-1.9**
PPAD	**Pico dos Padre**	**2.47**	**309**	*eP*	**Pn**	**00 00 45.0**	**+0.6**
PPAD				A		00 00 46.8	
	74nm,0.3s						
PPAD				*e*S	**Sn**	**00 01 13.1**	**-0.9**
PBIS	**Biscoitos**	**2.48**	**310**	*eP*	**Pn**	**00 00 45.4**	**+0.8**
PBIS				A		00 00 48.7	
	43nm,0.3s						
PBIS				*e*S	**Sn**	**00 01 14.7**	**+0.3**
ASBA	**Santa Barbara**	**2.50**	**309**	*eP*	**Pn**	**00 00 46.1**	**+1.2**
ASBA				*e*S	**Sn**	**00 01 16.2**	**+1.3**
ASBA				A		00 01 17.8	
	62nm,0.1s						
ASBA	**Santa Barbara**	**2.50**	**309**	*eP*	**Pn**	**00 00 46.1**	**+1.2**
ASBA				*e*S	**Sn**	**00 01 16.2**	**+1.3**
PIED	**Piedade**	**2.84**	**297**	*eP*	**Pn**	**00 00 49.8**	**+0.3**
PID	**Ribeirinha**	**2.90**	**297**	*eP*	**Pn**	**00 00 50.5**	**+0.2**
PID				*e*S	**Sn**	**00 01 23.2**	**-1.4**
PMAN	**Manadas**	**2.96**	**300**	*eP*	**Pn**	**00 00 51.0**	**-0.1**
PMAN				*e*S	**Sn**	**00 01 24.4**	**-1.8**
PMAN				A		00 01 25.3	
	56nm,0.4s						
PMAN	**Manadas**	**2.96**	**300**	*eP*	**Pn**	**00 00 51.0**	**-0.1**
PMAN				*e*S	**Sn**	**00 01 24.4**	**-1.8**
PBOI	**Pico dos Bois**	**3.08**	**295**	*eP*	**Pn**	**00 00 54.6**	**+1.8**
PBOI				A		00 00 55.4	
	39nm,0.2s						
PTEI	**Pico do Teixo**	**3.09**	**296**	*eP*	**Pn**	**00 00 56.6**	**+3.7**
ROSA	**Rosais**	**3.11**	**301**	*eP*	**Pn**	**00 00 53.3**	**+0.1**
PICO	**Pico**	**3.14**	**296**	*eP*	**Pn**	**00 00 54.0**	**+0.4**
PICO				*e*S	**Sn**	**00 01 29.6**	**-1.0**
STGR	**Santa Cruz**	**3.14**	**308**	*eP*	**Pn**	**00 01 00.8**	**+7.2**
PCND	**Candelaria**	**3.16**	**295**	*eP*	**Pn**	**00 00 53.6**	**-0.2**
HOR	**Horta**	**3.30**	**295**	*eP*	**Pn**	**00 00 56.1**	**+0.3**
CALA	**Caldeira**	**3.37**	**296**	*eP*	**Pn**	**00 00 57.3**	**+0.5**
CALA				*e*S	**Sn**	**00 01 35.8**	**-0.5**
PTCA	**Ponta do Capel**	**3.44**	**295**	*eP*	**Pn**	**00 00 59.2**	**+1.4**
PLUZ	**Luz**	**3.75**	**300**	*eP*	Sx	00 01 29.7	
PMAR	**Madeira**	**7.87**	**122**	*e*Pn	**Pn**	**00 01 57.5**	**-1.0**
PMAR				*e*Sn	**Sn**	**00 03 16.0**	**-11**
PMAR				A		00 03 32.5	
	19nm,0.2s						
PMPS	**Porto Santo**	**8.08**	**118**	*e*Pn	**Pn**	**00 01 59.2**	**-2.2**
PMPS				*e*Sn	**Sn**	**00 03 20.5**	**-12**
PMPS				A		00 03 29.7	
	7.8nm,0.6s						
EHIG	**Higuera**	**10.43**	**144**	P	**Pn**	**00 02 35.5**	**+1.9**
EHIG	**Higuera**	**10.43**	**144**	P	**Pn**	**00 02 35.5**	**+1.9**
EGOM	**La Gomera**	**11.04**	**142**	P	**Pn**	**00 02 40.0**	**-2.1**
	13nm,0.3s,SNR=10						
EGOM				S	**Sn**	**00 04 32.3**	**-13**
	5.0nm,0.2s,SNR=7.9						
CICO	**Icod de los Vi**	**11.13**	**140**	P	**Pn**	**00 02 41.9**	**-1.4**
	0.4nm,0.2s,SNR=7.9						
CHIO	**Chio**	**11.17**	**141**	P	**Pn**	**00 02 42.1**	**-1.8**
	4.1nm,0.4s,SNR=7.9						
EBAJ	**Bajamar**	**11.18**	**138**	P	**Pn**	**00 02 42.0**	**-2.0**
	2.5nm,0.4s,SNR=4.9						
CRAJ	**Montana Rajada**	**11.27**	**140**	P	**Pn**	**00 02 44.0**	**-1.1**
	3.9nm,0.2s,SNR=6.2						
CCAN	**Las Canadas**	**11.30**	**140**	P	**Pn**	**00 02 43.7**	**-1.8**
	3.9nm,0.4s,SNR=7.5						
EOSO	**Osorio**	**11.97**	**137**	P	**Pn**	**00 02 53.4**	**-1.4**
	0.6nm,0.2s						
CFUE	**Fuerteventura**	**12.48**	**130**	P	**Pn**	**00 02 59.7**	**-2.1**
	2.9nm,0.1s,SNR=7.9				

comp=Z,20nm,1.4s,mb4.3
BGF Bois d'Agland 22.53 57 *e*P **P 00 05 03.3 -0.4**
comp=Z,3.5nm,0.4s,mb3.8
BGF Bois d'Agland 22.53 57 *e*P **P 00 05 03.3 -0.4**
comp=Z,1.8nm,0.4s,mb3.8
LASF Ste Croix 22.75 63 *e*P **P 00 05 05.4 -0.7**
AVF Avril sur Loir 22.93 56 *e*P **P 00 05 06.5 -1.4**
SSF Saint Saulge 23.10 56 *e*P **P 00 05 08.6 -1.1**
SMF Signal de Mont 23.22 57 *e*P **P 00 05 10.1 -0.9**
EKA Eskdalemuir Ar 23.36 32 P **P 00 05 11.2 -1.2**
comp=Z,1.5nm,0.7s,mb3.5,baz=235,slow=9.2,SNR=4.8
LOR Lormes 23.39 55 *e*P **P 00 05 11.5 -1.2**
LOR *e*MLR MLR
comp=Z,171nm,17.2s,MS3.3
LOR Lormes 23.39 55 *e*P **P 00 05 11.5 -1.2**
LOR LR LR
comp=Z,170nm,17.3s,MS3.6
VIVF Saint-Julien-l 23.44 62 *e*P **P 00 05 12.1 -1.3**
ORIF Oris-en-Rattie 24.30 62 *e*P **P 00 05 20.8 -0.5**
ORIF *e*MLR MLR
comp=Z,148nm,19.0s,MS3.2
BAIF Baives 24.46 49 *e*P **P 00 05 22.0 -0.7**
MEZF Maizieres J'vi 24.49 53 *e*P **P 00 05 22.4 -0.6**
GIVF Givet 24.85 49 *e*P **P 00 05 25.9 -0.3**
LPG La Plagne 24.99 61 *e*P **P 00 05 28.4 +0.8**
comp=Z,30nm,1.5s,mb4.3
LPG La Plagne 24.99 61 *e*P **P 00 05 28.4 +0.8**
comp=Z,15nm,1.5s,mb4.3
HAU Haudompre 25.20 55 *e*P **P 00 05 29.1 -0.3**
HAU *e*MLR MLR
comp=Z,158nm,17.0s,MS3.3
HAU Haudompre 25.20 55 *e*P **P 00 05 29.1 -0.3**
HAU LR LR
comp=Z,160nm,17.0s,MS3.6
SBF Sospel 25.30 65 *e*P **P 00 05 30.0 -0.4**
HINF Hinteralfeld 25.49 55 *e*P **P 00 05 31.8 -0.2**
WLF Walferdange 25.53 51 *e*P **P 00 05 32.9 +0.5**
comp=Z,23nm,1.3s,mb4.5
WLF Walferdange 25.53 51 *e*P **P 00 05 32.8 +0.4**
comp=Z,23nm,1.3s,mb4.5
CDF Champ du Feu 25.90 54 *e*P **P 00 05 35.8 0.0**
PGF Pioggiola 26.39 68 *e*P **P 00 05 39.9 -0.4**
comp=Z,18nm,1.2s,mb4.2
PGF Pioggiola 26.39 68 *e*P **P 00 05 39.9 -0.4**
comp=Z,8.8nm,1.2s,mb4.2
DAVOX Davos/Dischmat 27.33 58 LR LR 00 15 32.6
comp=Z,161nm,19.6s,MS3.6,baz=38,slow=34
GERES GERESS Array B 30.17 55 P **P 00 06 13.4 -0.5**
comp=Z,0.5nm,0.8s,mb3.3,baz=271,slow=7.7,SNR=3.8
KONO Kongsberg 31.46 33 P **P 00 06 26.1 +0.9**
KONO Kongsberg 31.46 33 P **P 00 06 26.1 +0.9**
MORC Moravsky Berou 32.78 54 *e*P **P 00 06 37.8 +0.9**
comp=Z,7.4nm,0.4s,mb5.0
MORC Moravsky Berou 32.78 54 *e*P **P 00 06 37.8 +0.9**
comp=Z,7.4nm,0.4s,mb5.0
NOA NORSAR Array B 32.86 32 LR LR 00 17 51.5
comp=Z,154nm,19.1s,MS3.7,baz=180,slow=33
TORD Torodi Ar. Bea 33.68 128 P **P 00 06 47.0 +1.9**
comp=Z,1.7nm,0.7s,mb4.1,baz=318,slow=7.6,SNR=9.8
PSZ Piszkesteto 34.20 57 *e*P **P 00 06 46.1 -3.2**
comp=Z,16nm,2.0s,mb4.6
DBIC Dimbokro 35.40 144 P **P 00 06 59.6 -0.3**
DBIC Dimbokro 35.40 144 P **P 00 06 59.6 -0.4**
MLR Muntele Rosu 38.46 61 LR LR 00 23 14.8
comp=Z,249nm,19.1s,MS4.0,baz=312,slow=36
AKASG Malin Array Be 40.30 53 P **P 00 07 41.0 0.0**
comp=Z,0.1nm,0.2s,baz=273,slow=7.8,SNR=5.6
SJG San Juan 40.86 254 LR LR 00 21 28.2
comp=Z,18nm,19.3s,MS2.9,baz=267,slow=31
RES Resolute Bay 49.27 341 *e*P **P 00 08 54.4 +2.2**
comp=Z,196nm,0.8s
RES Resolute Bay 49.27 341 *e*P **P 00 08 54.4 +2.3**
comp=Z,196nm,0.8s
SDV Santo Domingo 50.03 248 P **P 00 09 02.5 +3.8**
comp=Z,5.7nm,0.8s,mb4.7,baz=59,slow=6.1,SNR=4.0
YKA Yellowknife Ar 57.70 327 P **P 00 09 55.4 +1.4**
YKA Yellowknife Ar 57.70 327 P **P 00 09 55.4 +1.4**
comp=Z,0.7nm,0.8s,mb3.7,baz=69,slow=7.1,SNR=8.9
YKA Yellowknife Ar 57.70 327 P **P 00 09 55.4 +1.3**
AKTK Aktyubinsk 58.24 48 P **P 00 09 59.0 +0.9**
AKTO Aktyubinsk 58.24 48 P **P 00 09 59.0 +0.9**
comp=Z,1.0nm,0.6s,mb4.0,baz=268,slow=8.6,SNR=5.3
PDAR Pinedale Array 62.54 304 P **P 00 10 29.5 +1.9**
comp=Z,0.8nm,0.8s,mb3.9,baz=69,slow=8.1,SNR=6.1
TXAR Lajitas Array 64.65 289 P **P 00 10 44.0 +2.3**
comp=Z,3.3nm,0.8s,mb4.4,baz=76,slow=7.6,SNR=31
MCK McKinley 70.15 337 P **P 00 11 18.5 +2.5**
MCK McKinley 70.15 337 P **P 00 11 18.5 +2.6**
ZALV Zalesovo Beam 70.93 36 P **P 00 11 22.4 +1.5**
ZALV Zalesovo Beam 70.93 36 P **P 00 11 22.4 +1.5**
comp=Z,0.8nm,0.6s,mb3.8,baz=305,slow=6.1,SNR=6.9
EKS2 Erkin-Say 71.44 50 *e*P **P 00 11 25.6 +1.3**
comp=Z,1.3nm,0.9s,mb3.9
EKS2 Erkin-Say 71.44 50 *e*P **P 00 11 25.6 +1.4**
comp=Z,1.3nm,0.9s,mb3.9
LSZ Lusaka 72.17 126 *e*P **P 00 11 30.4 +1.6**
comp=Z,1.2nm,0.7s,mb3.9
MKAR Makanchi Array 73.99 43 P **P 00 11 41.3 +2.0**
comp=Z,0.8nm,0.7s,mb3.7,baz=316,slow=5.1,SNR=5.8
MKAR LR LR 00 43 48.9
comp=Z,106nm,19.0s,MS4.2,baz=350,slow=36
LBTB Lobatse 77.96 134 P **P 00 12 04.1 +2.1**
TLY Talaya 80.70 30 *e*P **P 00 12 17.8 +1.1**
comp=Z,1.6nm,0.3s,mb4.4
TLY Talaya 80.70 30 *e*P **P 00 12 17.8 +1.0**
comp=Z,1.6nm,0.3s,mb4.4
SUR Sutherland 81.27 142 *e*P **P 00 12 21.2 +1.3**
SUR Sutherland 81.27 142 *e*P **P 00 12 21.2 +1.3**
SONM Songino Array 84.83 31 P **P 00 12 40.5 +2.2**
comp=Z,1.1nm,0.9s,mb4.0,baz=310,slow=4.9,SNR=10
MAJO Matsushiro 104.98 14 Pdif Pdif 00 14 12.5 +1.3
NWAO Narrogin (SRO) 148.79 94 *e*PKPdf PKPdf 00 19 48.6 +1.2
NWAO Narrogin (SRO) 148.79 94 *e*PKIKP PKPdf 00 19 48.7 +1.2

*IDC **06** 00:10:42.8±1.1, 758S×156.17E, h0km, mb4.2/6, mb1 4.2/7, mb1mx4.0/15, mbtmp4.2/7, ML4.3/1, MS3.5/1, Ms1 3.4/1, ms1mx2.6/21, Error ellipse: s-maj=33.0km s-min=27.2km az=126.0*
*NEIC **06** 00:10:44.5±0.6, 759S×156.14E, h10km, Error ellipse: s-maj=16.8km s-min=13.5km az=183.0*
*ISCJB **06** 00:10:46.4±0.7, 77S±0.1×1562E±0.1, h33km, mb4.0/6, Error ellipse: s-maj=19.7km s-min=15.4km az=0.7*
ISC 06 00:10:48.1±0.7, 77S±0.1×1562E±0.1, h35km, n11, σ0§67/10, mb4.0/6, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.12**	**116**	Pn	**Pn**	**00 11 48.9**	**+0.3**
	16nm,0.3s,baz=248,slow=4.5,SNR=3.3						
HNR				Sn	**Sn**	**00 12 43.3**	**+7.7**
	37nm,0.3s,baz=82,slow=22,SNR=7.7						
WB2	**Warramunga Arr**	**24.42**	**238**	*e*P	**P**	**00 16 02.9**	**-0.7**
WRA	**Warramunga Arr**	**24.43**	**238**	P	**P**	**00 16 04.7**	**+1.0**
	3.6nm,0.7s,mb3.9,baz=62,slow=9.4,SNR=10						
ASAR	**Alice Springs**	**26.64**	**231**	P	**P**	**00 16 23.2**	**-0.4**
	0.4nm,0.6s,mb3.1,baz=62,slow=9.1,SNR=5.5						
SONM	**Songino Array**	**70.53**	**327**	P	**P**	**00 22 00.3**	**+1.0**
	2.4nm,0.8s,mb4.2,baz=141,slow=6.7,SNR=25						
MK31	**Makanchi Array**	**84.68**	**318**	*e*P	**P**	**00 23 18.6**	**+0.3**
MKAR	**Makanchi Array**	**84.68**	**318**	P	**P**	**00 23 18.6**	**+0.2**
	2.6nm,0.5s,mb4.6,baz=99,slow=6.8,SNR=50						
ZALV	**Zalesovo Beam**	**85.39**	**326**	P	**P**	**00 23 20.9**	**-0.8**
	2.0nm,0.4s,mb4.6,baz=112,slow=5.7,SNR=15						
YKA	**Yellowknife Ar**	**96.37**	**28**	P	**P**	**00 24 12.3**	**-0.8**
	0.2nm,0.5s,mb3.8,baz=267,slow=4.7,SNR=6.7						
TORD	**Torodi Ar. Bea**	**154.33**	**284**	PKPbc	PKPbc	00 30 45.7	-0.1
TORD				PKPab	PKPab	00 30 58.7	-1.2
TORD	**Torodi Ar. Bea**	**154.33**	**284**	PKPbc	PKPbc	00 30 45.7	-0.1
	0.4nm,0.9s,baz=59,slow=2.0,SNR=6.7						
TORD				PKPab	PKPab	00 30 58.7	-1.2
	0.3nm,0.6s,baz=92,slow=3.3,SNR=4.2						

*ISCJB **06** 00:13:54.5±1.0, 3832N±003×2036E±007, h2km±6km, Error ellipse: s-maj=9.9km s-min=4.1km az=159.1*
*ATH **06** 00:13:54.2, 3826N×2033E, h13km±2km, MD3.7/5*
*CSEM **06** 00:13:55.1±0.2, 3835N×2038E, h0km±1km, MD3.7, Error ellipse: s-maj=4.6km s-min=1.6km az=67.0*
*THE **06** 00:13:55.5, 3836N×2043E, h3km, ML3.6*
*NEIC **06** 00:13:55.5, 3836N×2043E, h0km, MD3.7(ATH), ML3.6(THE), After THE.*
ISC 06 00:13:54.3±1.2, 3830N±003×2032E±008, h0km±6km, n24, σ1§06/38, 1C, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.25**	**120**	*i*PG	**Pg**	**00 13 59.5**	**+0.5**
VLS				*e*SG	**Sg**	**00 14 03.0**	**+0.8**
KFL	**Anninata**	**0.42**	**117**	*e*Pg	**Pg**	**00 14 02.3**	**0.0**
KFL				*e*Sg	**Sg**	**00 14 08.4**	**+0.7**
LKD	**Levkas**	**0.48**	**33**	*e*Pg	**Pg**	**00 14 02.8**	**-0.8**
LKD				*e*Sg	**Sg**	**00 14 09.2**	**-0.6**
IGT	**Igoumenitsa**	**1.23**	**1**	*e*Pg	**Pn**	**00 14 16.9**	**-1.8**
IGT				*e*Sg	**Sg**	**00 14 34.9**	**+1.2**
SELA	**Sela**	**1.24**	**91**	*e*Pg	**Pg**	**00 14 16.4**	**-1.7**
EVR	**Evrytania**	**1.32**	**62**	*e*Pn	**Pn**	**00 14 18.2**	**-1.7**
EVR				*e*Sb	**Sg**	**00 14 38.3**	**+1.6**
EVR	**Evrytania**	**1.32**	**62**	*e*PN	**Pn**	**00 14 18.4**	**-1.5**
EVR				*e*SB	**Sg**	**00 14 37.7**	**+1.0**
JAN	**Janina**	**1.41**	**17**	*e*Pb	**Pb**	**00 14 21.6**	**+0.1**
JAN				*e*Sb	**Sb**	**00 14 41.7**	**+1.6**
JAN	**Janina**	**1.41**	**17**	*e*PB	**Pb**	**00 14 21.6**	**+0.1**
JAN				*e*SB	**Sb**	**00 14 41.4**	**+1.3**
KEK	**Kerkira**	**1.47**	**344**	*e*PG	**Pg**	**00 14 22.2**	**-0.2**
SRN	**Sarande**	**1.59**	**351**	*i* Pn	**Pn**	**00 14 24.8**	**+1.1**
SRN				*i* Sn	**Sg**	**00 14 49.8**	**+4.3**
MEV	**Metsovon**	**1.64**	**25**	*e*Pg	**Pn**	**00 14 23.1**	**-1.2**
MEV				*e*Sg	**Sg**	**00 14 45.1**	**-1.9**
ITM	**Ithomi**	**1.70**	**131**	*e*PB	**Pb**	**00 14 25.9**	**-0.5**
AGG	**Agios Georgios**	**1.73**	**65**	*e*Pb	**Pn**	**00 14 24.8**	**-0.8**
PYL	**PYLOS**	**1.80**	**141**	*e*Pb	**Pb**	**00 14 27.4**	**-0.8**
THL	**Klokotos Trika**	**1.83**	**46**	*e*PN	**Pn**	**00 14 27.3**	**+0.4**
LTK	**Loutraki**	**2.11**	**97**	*e*Pn	**Pn**	**00 14 31.3**	**+0.5**
LKR	**Lokris**	**2.13**	**80**	*e*PN	**Pn**	**00 14 31.5**	**+0.4**
KZN	**Kozani**	**2.30**	**29**	*e*PN	**Pn**	**00 14 34.9**	**+1.5**
FNA	**Florina**	**2.61**	**18**	*e*Pn	**Pn**	**00 14 37.9**	**+0.3**
OHR	**Ohrid**	**2.83**	**7**	*e*Pn	**Pn**	**00 14 42.4**	**+1.7**
OHR				*e*Sn	**Sn**	**00 15 9.9**	**+0.4**
OHR	**Ohrid**	**2.83**	**7**	*e*Pn	**Pn**	**00 14 42.3**	**+1.6**
OHR				*e*Sn	**Sn**	**00 15 15.8**	**+0.3**
KRUS	**Krusevo**	**3.15**	**13**	*e*Pn	**Pn**	**00 14 45.9**	**+0.8**
KRUS				*e*Sn	**Sn**	**00 15 21.6**	**-1.7**
KRUS	**Krusevo**	**3.15**	**13**	*e*Pn	**Pn**	**00 14 45.8**	**+0.8**
KRUS				*e*Sn	**Sn**	**00 15 21.5**	**-1.8**

*KISR **06** 00:19:07.7±1.2, 3008N×5061E, h33km, ML2.6*
*CSEM **06** 00:19:08.5±1.7, 2931N×5070E, h10km, ML2.6, Error ellipse: s-maj=44.3km s-min=12.6km az=43.0*
ISC 06 00:19:10.1±2.6, 294N±01×507E±01, h18km±22km, n12, σ1§02/21, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QRN	**Al-Qurain**	**2.55**	**257**	*e*P	**Pn**	**00 19 51.4**	**+0.9**
QRN				*e*S	**Sb**	**00 20 25.3**	**-1.0**
QRN				AML	AML	00 20 28.9	
	comp=Z,33nm,0.3s						
KBD	**Kabd**	**2.67**	**267**	*e*P	**Pn**	**00 19 52.2**	**+0.1**
KBD				*e*S	**Sn**	**00 20 25.6**	**+1.5**
KBD				AML	AML	00 20 29.1	
	comp=Z,64nm,0.3s						
KBD	**Kabd**	**2.67**	**267**	*e*P	**Pn**	**00 19 52.2**	**0.0**
KBD				*e*S	**Sn**	**00 20 25.6**	**+1.5**
	comp=Z,64nm,0.3s						
KFJS		**2.73**	**245**	P	**Pn**	**00 19 53.6**	**+0.7**
RDF	**Al-Radifah**	**2.83**	**262**	*e*P	**Pn**	**00 19 54.2**	**-0.1**
RDF				*e*S	**Sn**	**00 20 29.9**	**+2.0**
RDF				AML	AML	00 20 33.5	
	comp=Z,17nm,0.3s						
NAY	**Al-Naaiem**	**3.06**	**269**	*e*P	**Pn**	**00 19 57.1**	**-0.4**
NAY				*e*S	**Sn**	**00 20 33.2**	**-0.5**
NAY				AML	AML	00 20 36.3	
	comp=Z,10nm,0.5s						
NAY	**Al-Naaiem**	**3.06**	**269**	*e*P	**Pn**	**00 19 57.1**	**-0.4**
NAY				*e*S	**Sn**	**00 20 33.2**	**-0.5**
RST	**Umm Al-Ruwaisa**	**3.27**	**273**	*e*P	**Pn**	**00 19 59.3**	**-1.1**
RST				*e*S	**Sn**	**00 20 37.0**	**-1.9**
RST				AML	AML	00 20 39.6	
	comp=Z,13nm,0.4s						
RST	**Umm Al-Ruwaisa**	**3.27**	**273**	*e*P	**Pn**	**00 19 59.3**	**-1.1**
RST				*e*S	**Sn**	**00 20 37.0**	**-1.9**
	comp=Z,13nm,0.4s						
BOQSS		**3.69**	**200**	P	**Pn**	**00 20 06.9**	**+0.8**
BTHS		**5.30**	**179**	P	**Pn**	**00 20 28.4**	**+0.1**
BTHS		**5.30**	**179**	P	**Pn**	**00 20 28.4**	**+0.1**
BTHS				S	**Sn**	**00 21 28.0**	**-0.9**

*IDC **06** 00:20:02.9±1.3, 180N×6754E, h0km, mb4.0/7, mb1 4.2/7, mb1mx3.8/21, mbtmp4.0/7, MS4.5/2, Ms1 4.5/2, ms1mx3.3/27, Error ellipse: s-maj=45.3km s-min=22.3km az=55.0*
*ISCJB **06** 00:20:03.1±1.4, 19N±02×676E±03, h10km, mb4.0/7, MS4.5/2, Error ellipse: s-maj=43.0km s-min=21.0km az=147.3*
*NEIC **06** 00:20:04.3±0.9, 181N×6752E, h10km, Error ellipse: s-maj=32.5km s-min=19.8km az=61.0*
ISC 06 00:20:05.0±1.4, 19N±02×676E±03, h10km, n12, σ0§89/9, mb4.0/7, MS4.5/2, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**46.53**	**14**	P	**P**	**00 28 33.0**	**+0.4**
	0.6nm,0.8s,mb3.6,baz=187,slow=5.6,SNR=4.7						
AKTK	**Aktyubinsk**	**49.04**	**352**	P	**P**	**00 28 50.8**	**-1.2**
AKTK				LR	LR	00 47 02.9	
AKTO	**Aktyubinsk**	**49.04**	**352**	P	**P**	**00 28 50.8**	**-1.2**
	2.0nm,0.8s,mb4.2,baz=179,slow=9.5,SNR=9.7						
AKTO				LR	LR	00 47 02.8	
	comp=Z,3μm,21.9s,MS5.2,baz=355,slow=33						
ZAA0	**Zalesovo Array**	**53.79**	**13**	*e*P	**P**	**00 29 27.5**	**-0.1**
ZALV	**Zalesovo Beam**	**53.79**	**13**	P	**P**	**00 29 27.7**	**+0.1**
	3.8nm,0.8s,mb4.4,baz=211,slow=7.4,SNR=16						
SONM	**Songino Array**	**56.71**	**30**	P	**P**	**00 29 50.2**	**+1.5**
	0.8nm,0.8s,mb3.8,baz=227,slow=5.3,SNR=7.7						
SONM				LR	LR	00 52 24.4	
	comp=Z,77nm,18.0s,MS3.8,baz=259,slow=34						
WRA	**Warramunga Arr**	**68.90**	**112**	P	**P**	**00 31 10.6**	**0.0**
	2.7nm,0.9s,mb4.2,baz=286,slow=5.8,SNR=26						
ASAR	**Alice Springs**	**69.21**	**116**	P	**P**	**00 31 11.8**	**-0.6**
	1.7nm,0.7s,mb4.1,baz=284,slow=6.0,SNR=13						
ESDC	**Sonseca Array**	**74.63**	**311**	P	**P**	**00 31 45.9**	**+1.2**
	0.4nm,0.5s,mb3.6,baz=91,slow=6.2,SNR=5.9						
WUAZ	**Wupatki**	**142.77**	**359**	PKPdf	PKPdf	00 39 38.8	-0.5
MNTX	**Cornudas Mount**	**145.93**	**349**	*e*PKPdf	PKPdf	00 39 44.6	-0.2
TXAR	**Lajitas Array**	**147.84**	**346**	PKPbc	PKPbc	00 39 49.1	-1.9
	1.2nm,0.8s,baz=55,slow=3.0,SNR=17						

*ISCJB **06** 00:23:42.7±0.7, 3838N±003×2051E±005, h2km±5km, Error ellipse: s-maj=7.4km s-min=3.6km az=159.8*
*CSEM **06** 00:23:42.7±0.1, 3839N×2048E, h2km, MD3.7, Error ellipse: s-maj=3.8km s-min=1.6km az=74.0*
*NEIC **06** 00:23:42.2, 3834N×2043E, h16km, MD3.7(ATH), ML3.8(THE), After ATH.*
*ATH **06** 00:23:42.2, 3833N×2043E, h16km±1km, MD3.7/5*
*THE **06** 00:23:43.3, 3839N×2051E, h3km, ML3.8*
ISC 06 00:23:43.2±0.7, 3836N±003×2050E±006, h5km±5km, n29, σ1§09/40, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.19**	**158**	*e*PB	**Pg**	**00 23 46.9**	**-0.1**
VLS				*e*SB	**Sg**	**00 23 51.0**	**+1.5**
KFL	**Anninata**	**0.34**	**137**	*e*Pg	**Pg**	**00 23 49.6**	**0.0**
KFL				*e*Sg	**Sg**	**00 23 55.6**	**+1.6**
LKD	**Levkas**	**0.37**	**19**	*e*Pg	**Pg**	**00 23 49.1**	**-1.2**
LKD				*e*Sg	**Sg**	**00 23 54.7**	**-0.5**
SELA	**Sela**	**1.10**	**94**	*e*Pg	**Pg**	**00 24 03.0**	**-1.3**
SELA				*e*Sg	**Sg**	**00 24 19.5**	**+1.0**
EVR	**Evrytania**	**1.17**	**61**	*e*PB	**Pg**	**00 24 04.0**	**-1.6**
EVR				*e*SN	**Sg**	**00 24 22.4**	**+1.7**
EVR	**Evrytania**	**1.17**	**61**	*e*Pb	**Pg**	**00 24 03.8**	**-1.8**
EVR				*e*Sn	**Sg**	**00 24 22.3**	**+1.6**
IGT	**Igoumenitsa**	**1.18**	**354**	*e*Pg	**Pg**	**00 24 03.9**	**-1.9**
IGT				*e*Sg	**Sg**	**00 24 22.0**	**+0.9**
JAN	**Janina**	**1.33**	**12**	*e*PN	**Pn**	**00 24 08.4**	**+0.1**
JAN				*e*SN	**Sn**	**00 24 26.4**	**+0.1**
KEK	**Kerkira**	**1.46**	**338**	*e*PN	**Pn**	**00 24 09.9**	**-0.2**
KEK				*e*SN	**Sn**	**00 24 29.6**	**0.0**
KEK	**Kerkira**	**1.46**	**338**	*e*Pn	**Pn**	**00 24 09.7**	**-0.4**
KEK				*e*Sn	**Sn**	**00 24 29.6**	**0.0**
MEV	**Metsovon**	**1.54**	**22**	*e*Pg	**Pn**	**00 24 11.2**	**+0.1**
SRN	**Sarande**	**1.57**	**346**	*i* Pn	**Pn**	**00 24 11.8**	**+0.2**
SRN				*i* Sn	**Sg**	**00 24 34.8**	**+1.2**
AGG	**Agios Georgios**	**1.58**	**65**	*e*Pg	**Pn**	**00 24 11.1**	**-0.6**
ITM	**Ithomi**	**1.63**	**136**	*e*PN	**Pb**	**00 24 13.2**	**-0.5**
THL	**Klokotos Trika**	**1.69**	**44**	*e*PN	**Pb**	**00 24 14.0**	**-0.6**
PYL	**PYLOS**	**1.76**	**146**	*e*Pb	**Pb**	**00 24 14.1**	**-1.8**
VLX	**Vlachokerasia**	**1.79**	**123**	*e*Pb	**Pb**	**00 24 15.4**	**-0.9**
LTK	**Loutraki**	**1.97**	**99**	*e*Pb	**Pb**	**00 24 17.9**	**-1.6**
LKR	**Lokris**	**1.98**	**81**	*e*PN	**Pn**	**00 24 18.3**	**+1.0**
KZN	**Kozani**	**2.18**	**26**	*e*PB	**Pn**	**00 24 20.3**	**+0.3**
DID	**Didima**	**2.33**	**111**	*e*Pn	**Pn**	**00 24 22.6**	**+0.7**
DID	**Didima**	**2.33**	**111**	*e*Pn	**Pn**	**00 24 22.6**	**+0.6**
LIT	**Litokhoron**	**2.33**	**41**	*e*Pn	**Pn**	**00 24 21.1**	**-0.9**
NEO	**Neokhori**	**2.33**	**65**	*e*PB	**Pb**	**00 24 22.5**	**-3.1**
FNA	**Florina**	**2.52**	**15**	*e*Pn	**Pn**	**00 24 24.8**	**+0.2**
PAIG	**Paliouri**	**2.93**	**57**	*e*Pn	**Pn**	**00 24 31.1**	**+0.8**
TIR	**Tirane**	**3.03**	**351**	P	**Pn**	**00 24 33.2**	**+1.6**
PLG	**Polygyros**	**3.04**	**48**	P	**Pn**	**00 24 34.9**	**+3.0**
OUR	**Ouranopolis**	**3.34**	**53**	*e*Pn	**Pn**	**00 24 36.8**	**+0.8**

*IDC **06** 00:27:45.2±1.0, 2.10S×12762E, h0km, mb4.0/6, mb1 4.2/7, mb1mx4.0/18, mbtmp4.0/7, ML4.3/1, MS3.3/1, Ms1 3.3/1, ms1mx2.7/21, Error ellipse: s-maj=85.4km s-min=17.5km az=63.0*
*ISCJB **06** 00:27:48.1±0.7, 22S±02×1275E±04, h33km, mb3.9/6, Error ellipse: s-maj=69.3km s-min=11.9km az=154.1*
*NEIC **06** 00:27:50.3±0.6, 220S×12751E, h35km, Error ellipse: s-maj=56.5km s-min=10.2km az=65.0*
ISC 06 00:27:50.3±0.8, 23S±02×1275E±04, h35km, n10, σ0§69/9, mb3.9/6, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Kupang**	**8.75**	**205**	LR	LR	00 33 40.5	
	comp=Z,191nm,18.2s,baz=270,slow=40						
WRA	**Warramunga Arr**	**18.82**	**160**	P	**Pn**	**00 32 07.0**	**-0.9**
	1.0nm,0.3s,baz=344,slow=12,SNR=10						
WB2	**Warramunga Arr**	**18.83**	**160**	*e*P	**Pn**	**00 32 07.0**	**-1.0**
ASAR	**Alice Springs**	**22.18**	**164**	P	**P**	**00 32 44.6**	**+1.1**
	6.0nm,0.4s,mb4.3,baz=345,slow=12,SNR=101						
CTA	**Charters Tower**	**25.52**	**135**	P	**P**	**00 33 16.2**	**+0.4**
	7.1nm,0.8s,mb4.3,baz=293,slow=13,SNR=4.8						
STKA	**Stephens Creek**	**32.34**	**157**	P	**P**	**00 34 17.0**	**+0.6**
	1.6nm,0.6s,mb4.0,baz=339,slow=9.6,SNR=3.9						
SONM	**Songino Array**	**53.17**	**342**	P	**P**	**00 37 04.1**	**-0.7**
	0.5nm,0.7s,mb3.6,baz=145,slow=8.4,SNR=4.3						
MKAR	**Makanchi Array**	**62.89**	**327**	P	**P**	**00 38 13.3**	**+0.4**
	0.3nm,0.6s,mb3.6,baz=115,slow=8.4,SNR=5.5						
AKTK	**Aktyubinsk**	**78.79**	**322**	P	**P**	**00 39 49.5**	**0.0**
AKTO	**Aktyubinsk**	**78.79**	**322**	P	**P**	**00 39 49.5**	**0.0**
	0.8nm,0.6s,mb3.8,baz=146,slow=9.6,SNR=3.2						

*CSEM **06** 00:29:34.3±0.9, 3727N×2466W, h0km, ML3.5, Error ellipse: s-maj=4.8km s-min=2.4km az=82.0, After PDA*
*PDA **06** 00:29:34.3±0.9, 3727N×2466W, h0km, MD3.3, ML3.5, Error ellipse: s-maj=4.8km s-min=2.4km az=82.0*
*SVSA **06** 00:29:34.3±0.9, 3727N×2466W, h0km, MD3.3, ML3.5, Error ellipse: s-maj=4.8km s-min=2.4km az=82.0*
ISC 06 00:29:33.0±0.7, 3727N±005×2471W±007, h30km±3km, n48, σ0§81/83, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSMN	**Pico do Norte,**	**0.39**	**227**	*e*P	**Pb**	**00 29 42.0**	**+0.2**
PSMN				*e*S	**Sb**	**00 29 48.0**	**+0.3**
MIRA	**Miradouro**	**0.69**	**319**	*e*P	**Pb**	**00 29 46.4**	**-0.2**
MIRA				*e*S	**Sb**	**00 29 56.2**	**+0.4**
FRA1	**Furnas**	**0.70**	**313**	*e*P	**Pb**	**00 29 46.5**	**-0.3**
FRA1				*e*S	**Sb**	**00 29 56.3**	**+0.2**
PCNG	**Congro**	**0.74**	**312**	*e*P	**Pb**	**00 29 47.6**	**+0.2**
PCNG				*e*S	**Sb**	**00 29 57.2**	**0.0**
PCNG				A		00 30 01.4	
	330nm,0.4s						
PCNG	**Congro**	**0.74**	**312**	*e*P	**Pb**	**00 29 47.6**	**+0.2**
PCNG				*e*S	**Sb**	**00 29 57.2**	**0.0**
PFAD	**Fenais da Ajud**	**0.75**	**319**	*e*P	**Pn**	**00 29 47.5**	**-0.1**
PFAD				*e*S	**Sb**	**00 29 57.1**	**-0.4**
VIF	**Vila Franca**	**0.75**	**309**	*e*P	**Pn**	**00 29 47.6**	**0.0**
VIF				*e*S	**Sb**	**00 29 57.5**	**-0.1**
VIF				A		00 30 03.6	
	611nm,0.2s						
VIF	**Vila Franca**	**0.75**	**309**	*e*P	**Pn**	**00 29 47.6**	**0.0**
VIF				*e*S	**Sb**	**00 29 57.5**	**-0.1**
PRCH	**Ribeira Ch**	**0.77**	**307**	*e*P	**Pn**	**00 29 47.7**	**-0.1**
PRCH				*e*S	**Sb**	**00 29 57.7**	**-0.3**
PRCH				A		00 30 01.9	
	1μm,0.3s						
PRCH	**Ribeira Ch**	**0.77**	**307**	*e*P	**Pn**	**00 29 47.7**	**-0.1**
PRCH				*e*S	**Sb**	**00 29 57.7**	**-0.3**
MESC	**Monte Escuro**	**0.79**	**312**	*e*P	**Pn**	**00 29 47.9**	**-0.2**
MESC				*e*S	**Sb**	**00 29 58.5**	**-0.1**
LFA	**Lagoa do Fogo**	**0.80**	**309**	*e*P	**Pn**	**00 29 48.2**	**0.0**
PMAT	**Coroa da Mata**	**0.82**	**312**	*e*P	**Pn**	**

PID	**Ribeirinha**	**2.94**	**294**	*e*P	**Pn**	**00 30 18.2 +0.5**
PMAN	**Manadas**	**3.00**	**298**	*e*P	**Sn**	**00 30 50.5 -3.0**
ROSA	**Rosais**	**3.15**	**298**	*e*P	**Pn**	**00 30 20.8 +0.3**
ROSA				*e*S	**Sn**	**00 30 55.6 -1.4**
STGR	**Santa Cruz**	**3.17**	**306**	*e*P	**Sn**	**00 30 58.7 +1.2**
PICO	**Pico**	**3.19**	**294**	*e*P	**Pn**	**00 30 21.2 +0.1**
PICO				*e*S	**Sn**	**00 30 56.6 -1.5**
HOR	**Horta**	**3.35**	**293**	*e*P	**Pn**	**00 30 23.4 +0.1**
CALA	**Caldeira**	**3.42**	**294**	*e*P	**Pn**	**00 30 24.5 +0.2**
PLUZ	**Luz**	**3.79**	**299**	*e*P	**Sn**	**00 30 56.7 -16**
PMAR	**Madeira**	**7.84**	**123**	*e*Pn	**Pn**	**00 31 24.5 -0.5**
PMAR				*e*Sn	**Sn**	**00 32 41.8 -11**
PMAR				A		00 32 51.8
	17nm,0.2s					
PMPS	**Porto Santo**	**8.04**	**119**	*e*Pn	**Pn**	**00 31 25.3 -2.4**
PMPS				*e*Sn	**Sn**	**00 32 45.5 -12**

IDC 06 00:35:24.4±5.8, 753S×14510E, h0km, mb1 3.7/2, mb1mx3.3/12, mbtmp3.4/2, ML3.6/2, Error ellipse: s-maj=297.2km s-min=71.2km az=117.0, Near south coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**16.16**	**219**	Pn	Pn	00 39 15.1	+2.1
	0.3nm,0.3s,baz=38,slow=14,SNR=4.6						
ASAR	**Alice Springs**	**19.31**	**213**	P	Pn	00 39 50.4	-1.7
	0.1nm,0.3s,baz=38,slow=13,SNR=12						
TORD	**Torodi Ar. Bea**	**143.60**	**282**	PKP	PKPdf	00 55 01.9	-0.4
	0.5nm,0.8s,baz=74,slow=1.9,SNR=5.7						

*IDC **06** 00:38:54.0±1.2, 751S×15535E, h0km, mb3.9/7, mb1 4.0/8, mb1mx4.0/13, mbtmp3.9/8, ML4.3/1, MS3.7/9, Ms1 3.6/9, ms1mx3.5/19, Error ellipse: s-maj=33.1km s-min=26.6km az=122.0*

*NEIC **06** 00:38:55.8±0.7, 758S×15534E, h10km, mb4.8/1, Error ellipse: s-maj=22.0km s-min=16.9km az=168.0*

*ISCJB **06** 00:38:56.5±0.6, 77S±01×15554E±007, h33km, mb3.9/8, MS3.7/7, Error ellipse: s-maj=17.1km s-min=9.6km az=16.6*

ISC 06 00:38:58.5±0.6, 77S±01×15550E±007, h35km, n20, σ1°24/14, mb3.9/8, MS3.7/7, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.72**	**112**	*e*Pn	**Pn**	**00 40 09.1**	**+1.8**
HNR				Sn	**Sn**	**00 40 59.8**	**-1.1**
HNR				LR	LR	00 41 51.3	
HNR	**Honiara**	**4.72**	**112**	Pn	**Pn**	**00 40 07.9**	**+0.6**
	13nm,0.3s,baz=270,slow=5.9,SNR=5.8						
HNR				Sn	**Sn**	**00 40 59.0**	**-1.8**
	34nm,0.3s,baz=272,slow=18,SNR=7.1						
HNR				LR	LR	00 41 51.3	
	comp=Z,277nm,18.5s,baz=355,slow=36						
CTA	**Charters Tower**	**15.24**	**215**	LR	LR	00 47 46.7	
	comp=Z,153nm,19.0s,baz=47,slow=35						
GUMO	**Guam**	**23.63**	**333**	LR	LR	00 51 43.7	
	comp=Z,94nm,21.0s,MS3.2,baz=270,slow=33						
WB2	**Warramunga Arr**	**23.84**	**237**	*e*P	**P**	**00 44 07.8**	**-0.8**
WRA	**Warramunga Arr**	**23.85**	**237**	P	**P**	**00 44 08.3**	**-0.4**
	4.0nm,0.9s,mb3.8,baz=64,slow=9.4,SNR=7.0						
WRA				PcP	PcP	00 47 56.4	+5.0
	0.5nm,0.7s,baz=63,slow=2.2,SNR=5.3						
ASAR	**Alice Springs**	**26.10**	**230**	P	**P**	**00 44 30.7**	**+1.5**
	0.8nm,0.8s,mb3.3,baz=58,slow=9.0,SNR=5.6						
STKA	**Stephens Creek**	**27.33**	**206**	LR	LR	00 55 38.0	
	comp=Z,95nm,19.7s,MS3.4,baz=23,slow=37						
BATI	**Kupang**	**31.54**	**263**	LR	LR	00 57 26.6	
	comp=Z,199nm,20.0s,MS3.8,baz=109,slow=35						
URZ	**Urewera**	**36.16**	**151**	LR	LR	00 56 53.1	
	comp=Z,682nm,19.8s,MS4.4,baz=193,slow=30						
KSRS	**Korea Array**	**51.78**	**332**	P	**P**	**00 48 01.4**	**-1.5**
	0.7nm,0.3s,mb4.0,baz=154,slow=9.2,SNR=5.1						
KSRS				LR	LR	01 07 16.7	
	comp=Z,30nm,18.2s,MS3.4,baz=125,slow=33						
PPT	**Papeete**	**54.32**	**106**	LR	LR	01 09 28.4	
	comp=Z,31nm,18.9s,MS3.4,baz=52,slow=34						
SONM	**Songino Array**	**70.19**	**327**	P	**P**	**00 50 07.7**	**+0.1**
	0.7nm,0.8s,mb3.7,baz=141,slow=6.9,SNR=6.2						
MCK	**McKinley**	**82.51**	**22**	*e*P	**P**	**00 51 18.3**	**+1.1**
	8.2nm,1.1s,mb4.7						
MAW	**Mawson**	**83.95**	**203**	LR	LR	01 29 05.0	
	comp=Z,126nm,18.2s,MS4.3,baz=247,slow=36						
MKAR	**Makanchi Array**	**84.25**	**319**	P	**P**	**00 51 26.1**	**-0.4**
	0.6nm,0.8s,mb3.8,baz=93,slow=7.3,SNR=6.6						
ZALV	**Zalesovo Beam**	**85.03**	**326**	P	**P**	**00 51 29.0**	**-1.3**
	0.2nm,0.3s,mb3.7,baz=116,slow=6.6,SNR=2.6						
YKA	**Yellowknife Ar**	**96.71**	**28**	P	**P**	**00 52 27.3**	**+2.4**
YKA	**Yellowknife Ar**	**96.71**	**28**	P	**P**	**00 52 27.3**	**+2.4**
	0.6nm,0.9s,mb4.0,baz=264,slow=4.5,SNR=5.8						
TORD	**Torodi Ar. Bea**	**153.69**	**284**	PKPbc	PKPbc	00 58 58.6	+3.8
	0.4nm,0.7s,baz=63,slow=1.3,SNR=4.5						
TORD				PKPab	PKPab	00 59 07.8	+0.2
	0.2nm,0.6s,baz=39,slow=2.5,SNR=4.2						

*ISCJB **06** 00:50:43.2±0.3, 4833N±002×664E±002, h15km±2km, Error ellipse: s-maj=2.6km s-min=2.1km az=2.3*

*STR **06** 00:50:45.2±0.2, 4832N×666E, h10km, Ml2.2, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*

*BGR **06** 00:50:45.5±0.3, 4835N×667E, h10km, ML1.8/2, Error ellipse: s-maj=2.2km s-min=2.2km az=60.0*

*LDG **06** 00:50:45.4±0.1, 4833N×664E, h10km, Md2.7/4, Ml2.4/17, Error ellipse: s-maj=1.4km s-min=1.1km az=152.0*

ISC 06 00:50:44.4±0.2, 4833N±001×663E±002, h18km±2km, n56, σ0°98/93, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HAU	**Haudompre**	**0.37**	**210**	*e*Pg	**Pg**	**00 50 53.1**	**+1.0**
	SNR=1.0						
HAU				*e*Sg	**Sg**	**00 50 57.8**	**+0.4**
	25nm,0.2s						
ECH	**Echery**	**0.37**	**107**	*e*Pg	**Pg**	**00 50 52.5**	**+0.3**
	SNR=11						
ECH				*e*Sg	**Sg**	**00 50 57.1**	**-0.3**
	SNR=7.1						
ECH	**Echery**	**0.37**	**107**	Pg	**Pg**	**00 50 52.4**	**+0.2**
ECH				Sg	**Sg**	**00 50 56.9**	**-0.5**
THEF	**They Montfort**	**0.44**	**257**	*e*Pg	**Pg**	**00 50 54.2**	**+0.8**
	SNR=17						
THEF				*e*Sg	**Sg**	**00 50 59.7**	**+0.4**
	SNR=1.3						
THEF	**They Montfort**	**0.44**	**257**	Pg	**Pg**	**00 50 54.0**	**+0.7**
THEF				Sg	**Sg**	**00 51 00.5**	**+1.2**
CDF	**Champ du Feu**	**0.44**	**79**	*e*Pg	**Pg**	**00 50 53.5**	**+0.1**
	SNR=1.0						
CDF				*e*Sg	**Sg**	**00 50 59.2**	**-0.3**
CDF				*e*Sn	**Sg**	**00 51 02.3**	**+2.8**
	18nm,0.2s,SNR=1.0						
HINF	**Hinteralfeld**	**0.53**	**163**	*e*Pg	**Pg**	**00 50 55.7**	**+0.7**
	SNR=1.0						
HINF				*e*Sg	**Sg**	**00 51 02.4**	**+0.2**
HINF				*e*Sn	**Sg**	**00 51 05.6**	**+3.4**
	21nm,0.2s,SNR=1.0						
MOF	**Molkenrain**	**0.58**	**144**	*e*Pg	**Pg**	**00 50 56.6**	**+0.6**
	SNR=6.4						
MOF	**Molkenrain**	**0.58**	**144**	Pg	**Pg**	**00 50 56.5**	**+0.5**
RFYF	**Reffroy**	**0.82**	**292**	*e*Pg	**Pg**	**00 51 01.2**	**+0.7**
	baz=106						
RFYF				*e*Sn	**Sn**	**00 51 13.6**	**+0.9**
	33nm,0.2s,baz=110						
LOMF	**Lomont**	**0.99**	**172**	*e*Pg	**Pg**	**00 51 04.6**	**+1.1**
	SNR=10						
LOMF	**Lomont**	**0.99**	**172**	Pg	**Pg**	**00 51 04.5**	**+1.0**
LOMF				Sg	**Sg**	**00 51 17.3**	**+0.8**
BOURR	**Bourrignon**	**1.02**	**156**	*e*Pg	**Pg**	**00 51 05.2**	**+1.0**
	SNR=7.2						
BOURR				*e*Sg	**Sg**	**00 51 18.3**	**+0.8**
	SNR=1.8						
LANF	**Langenberg**	**1.02**	**50**	*e*Pg	**Pg**	**00 51 03.7**	**-0.4**
	SNR=2.7						
LANF				*e*Sg	**Sg**	**00 51 16.7**	**-0.8**
	SNR=3.1						
LANF	**Langenberg**	**1.02**	**50**	Pg	**Pg**	**00 51 04.5**	**+0.3**
FELD	**Feldberg im Sc**	**1.03**	**116**	*e*Sg	**Sg**	**00 51 17.7**	**-0.1**
	SNR=7.6						
MEZF	**Maizieres J'vi**	**1.06**	**280**	*e*Pg	**Pg**	**00 51 05.6**	**+0.6**
	baz=103						
MEZF				*e*Sg	**Sg**	**00 51 19.7**	**+0.8**
	14nm,0.2s,baz=108,SNR=1.0						
SFTF	**Sexfontaines**	**1.07**	**264**	*e*Pn	**Pn**	**00 51 05.6**	**+1.2**
SFTF	**Sexfontaines**	**1.07**	**264**	*e*Pg	**Pg**	**00 51 06.4**	**+1.3**
SFTF				*e*Sg	**Sg**	**00 51 20.6**	**+1.5**
	13nm,0.2s						
BFO	**Black Forest**	**1.14**	**89**	*e*Pg	**Pg**	**00 51 06.6**	**+0.2**
	SNR=6.9						
BFO				*e*Sg	**Sg**	**00 51 19.3**	**-2.0**
	SNR=5.9						
BALST	**Balsthal**	**1.23**	**144**	*e*Pg	**Pg**	**00 51 08.5**	**+0.4**
	SNR=2.3						
BALST				*e*Sg	**Sg**	**00 51 24.3**	**+0.2**
	SNR=6.2						
SULZ	**Cheisacher**	**1.28**	**128**	*e*Pn	**Pn**	**00 51 09.9**	**+2.6**
SULZ				*e*Sg	**Sg**	**00 51 25.8**	**0.0**
	SNR=6.4						
SLE	**Schleitheim**	**1.37**	**114**	*e*Pg	**Pg**	**00 51 11.4**	**+0.5**
	SNR=9.9						
SLE				*e*Sg	**Sg**	**00 51 28.2**	**-0.5**
	SNR=8.4						
WLF	**Walferdange**	**1.37**	**347**	*e*Pg	**Pg**	**00 51 11.6**	**+0.7**
	SNR=2.6						
WLF				*e*Sg	**Sg**	**00 51 29.2**	**+0.4**
	SNR=2.6						
KTD	**Kalmit**	**1.38**	**44**	*e*Sg	**Sg**	**00 51 29.1**	**-0.1**
	SNR=3.7						
SPAK	**Spaichingen-Ko**	**1.46**	**98**	*e*Pg	**Pg**	**00 51 13.1**	**+0.5**
	SNR=4.7						
ZUR	**Degenried**	**1.63**	**125**	*e*Sg	**Sg**	**00 51 37.2**	**+0.2**
	SNR=6.5						
ABH	**Alteburg**	**1.67**	**21**	*e*Sg	**Sg**	**00 51 37.5**	**-0.7**
	SNR=2.6						
CABF	**La Chapelle**	**1.76**	**192**	*e*Pn	**Pn**	**00 51 14.9**	**+1.0**
	SNR=1.0						
CABF	**La Chapelle**	**1.76**	**192**	*e*Pg	**Pg**	**00 51 18.8**	**+0.7**
	SNR=1.0						
CABF				*e*Sg	**Sg**	**00 51 41.4**	**+0.4**
	9.8nm,0.5s,SNR=1.0						
STU	**Stuttgart**	**1.76**	**74**	*e*Sg	**Sg**	**00 51 39.8**	**-1.4**
WILA	**Wila**	**1.79**	**120**	*e*Sg	**Sg**	**00 51 41.9**	**-0.1**
	SNR=9.2						
GIVF	**Givet**	**2.13**	**327**	*e*Pg	**Pg**	**00 51 25.0**	**-0.3**
	SNR=1.0						
LOR	**Lormes**	**2.15**	**241**	*e*Pn	**Pn**	**00 51 19.9**	**+0.7**
	baz=66,SNR=1.0						
LOR	**Lormes**	**2.15**	**241**	*e*Pg	**Pg**	**00 51 25.5**	**-0.1**
	baz=65						
LOR				*e*Sn	**Sn**	**00 51 47.4**	**+2.1**
LOR				*e*Sg	**Sg**	**00 51 52.7**	**-0.7**
	5.0nm,0.2s,baz=68,SNR=1.0						
LIENZ	**Kamor/St.Gall**	**2.19**	**117**	*e*Sn	**Sn**	**00 51 47.2**	**+0.8**
LIENZ				*e*Sg	**Sg**	**00 51 55.2**	**+0.4**
	SNR=2.1						
BAIF	**Baives**	**2.35**	**318**	*e*Pn	**Pn**	**00 51 24.8**	**+2.8**
	SNR=1.0						
BAIF	**Baives**	**2.35**	**318**	*e*Pg	**Pg**	**00 51 28.9**	**-0.5**
BAIF				*e*Sn	**Sn**	**00 51 49.6**	**-0.8**
	SNR=1.0						
BAIF				*e*Sg	**Sg**	**00 51 58.2**	**-1.7**
	3.5nm,0.5s,SNR=1.0						
SSF	**Saint Saulge**	**2.46**	**240**	*e*Pn	**Pn**	**00 51 24.1**	**+0.6**
	SNR=1.0						
SSF	**Saint Saulge**	**2.46**	**240**	*e*Pg	**Pg**	**00 51 31.0**	**-0.5**
	SNR=1.0						
SSF				*e*Sg	**Sg**	**00 52 02.0**	**-1.4**
	3.6nm,0.3s,SNR=1.0						
SMF	**Signal de Mont**	**2.53**	**229**	*e*Pn	**Pn**	**00 51 24.5**	**0.0**
	SNR=1.0						
SMF	**Signal de Mont**	**2.53**	**229**	*e*Pg	**Pg**	**00 51 31.8**	**-1.1**
SMF				*e*Sg	**Sg**	**00 52 04.6**	**-1.1**
	8.9nm,0.3s,SNR=1.0						
AVF	**Avril sur Loir**	**2.70**	**236**	*e*Pn	**Pn**	**00 51 27.3**	**+0.5**
	SNR=1.0						
AVF	**Avril sur Loir**	**2.70**	**236**	*e*Pg	**Pg**	**00 51 35.9**	**-0.2**
	SNR=1.0						
AVF				*e*Sn	**Sn**	**00 51 58.2**	**-0.8**
	SNR=1.0						
AVF				*e*Sg	**Sg**	**00 52 10.3**	**-0.8**
	1.5nm,0.2s,SNR=1.0						
LPL	**La Plagne**	**2.81**	**178**	*e*Pg	**Pg**	**00 51 38.2**	**-0.1**
	SNR=1.0						
LPL				*e*Sg	**Sg**	**00 52 14.3**	**-0.5**
	0.7nm,0.2s						
LPG	**La Plagne**	**2.83**	**178**	*e*Pg	**Pg**	**00 51 37.9**	**-0.8**
	SNR=1.0						
LPG				*e*Sg	**Sg**	**00 52 15.3**	**-0.1**
	1.7nm,0.4s,SNR=1.0						
HYF	**Humbligny**	**2.89**	**250**	*e*Pg	**Pg**	**00 51 40.3**	**+0.6**
FUR	**Furstenfeldbru**	**3.11**	**91**	*e*Sn	**Sn**	**00 52 07.5**	**-1.7**
BGF	**Bois d'Agland**	**3.12**	**237**	*e*Pn	**Pn**	**00 51 33.2**	**+0.6**
	SNR=1.0						
BGF	**Bois d'Agland**	**3.12**	**237**	*e*Pg	**Pg**	**00 51 42.8**	**-1.3**
	SNR=1.0						
BGF				*e*Sn	**Sn**	**00 52 06.7**	**-2.6**
	SNR=1.0						
BGF				*e*Sg	**Sg**	**00 52 22.3**	**-2.2**
	4.4nm,0.3s,SNR=1.0						
ORIF	**Oris-en-Rattie**	**3.45**	**189**	*e*Pg	**Pg**	**00 51 49.0**	**-1.4**
ORIF				*e*Sg	**Sg**	**00 52 33.7**	**-1.4**
	2.0nm,0.3s						
TCF	**Toulx Ste Croi**	**3.63**	**237**	*e*Pn	**Pn**	**00 51 39.6**	**0.0**
	SNR=1.0						
TCF				*e*Sg	**Sg**	**00 52 41.4**	**+0.4**
	1.4nm,0.3s,SNR=1.0						
VIVF	**Saint-Julien-l**	**3.72**	**202**	*e*Pn	**Pn**	**00 51 40.9**	**0.0**
	SNR=1.0						
VIVF	**Saint-Julien-l**	**3.72**	**202**	*e*Pg	**Pg**	**00 51 54.0**	**-1.7**
VIVF				*e*Sg	**Sg**	**00 52 41.1**	**-2.8**
	1.2nm,0.2s						
LDF	**La Druitiere**	**4.50**	**276**	*e*Sn	**Sn**	**00 52 42.4**	**-0.9**
	2.0nm,0.6s,SNR=1.0						
MFF	**Saint Martin d**	**4.91**	**252**	*e*Pn	**Pn**	**00 51 56.4**	**-0.8**

*CSEM **06** 00:54:26.4, 3840N×2049E, h4km, ML3.6, After THE*

THE 06 00:54:26.4, 3840N×2049E, h4km, ML3.6, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKD	**Levkas**	**0.34**	**22**	*e*Pg	Pg	00 54 32.4	-0.6
LKD				*e*Sg	Sg	00 54 37.9	+0.6
KFL	**Anninata**	**0.37**	**140**	*e*Pg	Pg	00 54 33.3	-0.3
KFL				*e*Sg	Sg	00 54 38.7	+0.3
SELA	**Sela**	**1.11**	**96**	*e*Pg	Pg	00 54 47.9	+0.2
IGT	**Igoumenitsa**	**1.14**	**354**	*e*Pg	Pg	00 54 48.7	+0.4
IGT				*e*Sg	Sg	00 55 03.9	+0.8
AGG	**Agios Georgios**	**1.57**	**66**	*e*Pg	Pg	00 54 54.1	-2.5

GUC 06 01:00:24.6±1.1, 3162S×7214W, h22km±8km, MD3.8, ML3.2, 1C-3D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHNG	**Los Chungos**	**0.61**	**116**	⇑*i*P	Pb	01 00 18.3	-18
CHNG				*i* S	Sb	01 00 26.4	-18
CHNG				AML	AML	01 00 26.9	
	comp=E,859nm,0.3s						
CMCH	**Combarbala**	**1.07**	**66**	⇓*i*P	Pn	01 00 43.1	-1.2
CMCH				*i* S	Sb	01 00 57.6	-0.4
CMCH				AML	AML	01 01 06.0	
	comp=E,2μm,0.6s						
PACH	**Papudo**	**1.09**	**147**	*e*P	Pn	01 00 44.1	-0.5
OVCH	**Ovalle**	**1.29**	**39**	*e*P	Pn	01 00 46.7	-0.6
OVCH				*e*S	Sn	01 01 04.6	+0.7
OVCH				AML	AML	01 01 12.8	
	comp=N,710nm,0.6s						
JACH	**Jahuel**	**1.69**	**129**	*i* P	Pn	01 00 53.8	+1.0
JACH				*i* S	Sn	01 01 15.8	+2.1
TLL	**Tololo Astrono**	**1.85**	**39**	*i* P	Pn	01 00 58.4	+3.4
TLL				*i* S	Sn	01 01 23.0	+5.4
TLL				AML	AML	01 01 25.2	
	comp=N,306nm,0.5s						
PEL	**Peldehue**	**1.96**	**141**	⇓*i*P	Pn	01 00 57.2	+0.7
PEL				*i* S	Sn	01 01 22.4	+2.0
PEL				AML	AML	01 01 29.5	
	comp=E,645nm,0.4s						
CLCH	**Cerro Calan**	**2.23**	**143**	*e*P	Pn	01 01 01.7	+1.5
CLCH				*i* S	Sn	01 01 29.6	+2.5
CLCH				AML	AML	01 01 41.0	
	comp=E,362nm,0.6s						
TACH	**Talagante**	**2.27**	**154**	*e*P	Pn	01 01 01.7	+1.0
FCH	**Farellones**	**2.31**	**138**	*e*P	Pn	01 01 03.0	+1.7
FCH				*i* S	Sn	01 01 34.4	+5.3
FCH				AML	AML	01 01 40.0	
	comp=E,134nm,0.3s						
LMEL	**Las Melosas**	**2.76**	**144**	*e*P	Pn	01 01 09.2	+1.7
LMEL				AML	AML	01 01 53.5	
	comp=N,126nm,0.4s						
CICH	**Cipreses**	**3.06**	**152**	*e*P	Pn	01 01 13.5	+1.9
SFDO	**San Fernando**	**3.13**	**163**	⇓*i*P	Pn	01 01 13.8	+1.2

*ISCJB **06** 01:22:00.8±0.8, 3837N±002×2051E±006, h4km±5km, Error ellipse: s-maj=7.6km s-min=4.0km az=169.0*

*CSEM **06** 01:22:01.6±0.2, 3838N×2052E, h2km, ML3.3, Error ellipse: s-maj=3.8km s-min=1.6km az=81.0*

*THE **06** 01:22:01.7, 3837N×2048E, h3km, ML3.3*

*NEIC **06** 01:22:01.7, 3837N×2048E, h3km, ML3.3(THE), After THE.*

*ATH **06** 01:22:01.4, 3833N×2054E, h15km±2km, MD3.3/3*

ISC 06 01:22:01.7±0.7, 3837N±002×2051E±006, h5km±4km, n25, σ1°01/36, 1C, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.20**	**162**	⇑*i*PB	**Pg**	**01 22 05.5**	**-0.1**
VLS				*e*SB	**Sg**	**01 22 09.1**	**+0.8**
KFL	**Anninata**	**0.34**	**140**	*e*Pg	**Pg**	**01 22 08.1**	**-0.1**
KFL				*e*Sg	**Sg**	**01 22 13.4**	**+0.8**
KFL	**Anninata**	**0.34**	**140**	*e*Pg	**Pg**	**01 22 08.1**	**-0.1**
KFL				*e*Sg	**Sg**	**01 22 13.4**	**+0.8**
LKD	**Levkas**	**0.35**	**18**	*e*Pg	**Pg**	**01 22 08.3**	**-0.2**
LKD				*e*Sg	**Sg**	**01 22 14.1**	**+0.9**
SELA	**Sela**	**1.09**	**95**	*e*Pg	**Pg**	**01 22 21.5**	**-1.1**
SELA				*e*Sg	**Sg**	**01 22 39.4**	**+2.6**
EVR	**Evrytania**	**1.16**	**61**	*e*PN	**Pn**	**01 22 23.4**	**-1.1**
EVR				*e*SN	**Sn**	**01 22 38.5**	**-2.2**
IGT	**Igoumenitsa**	**1.17**	**353**	*e*Pg	**Pg**	**01 22 23.6**	**-0.5**
IGT				*e*Sg	**Sg**	**01 22 40.7**	**+1.4**
KEK	**Kerkira**	**1.45**	**338**	*e*PN	**Pn**	**01 22 29.5**	**+0.9**
MEV	**Metsovon**	**1.52**	**21**	*e*Pg	**Pg**	**01 22 29.5**	**-1.3**
MEV				*e*Sg	**Sg**	**01 22 50.1**	**-0.4**
AGG	**Agios Georgios**	**1.57**	**65**	*e*Pg	**Pg**	**01 22 30.3**	**-1.4**
AGG				*e*Sg	**Sg**	**01 22 51.8**	**-0.2**
ITM	**Ithomi**	**1.64**	**136**	*e*PN	**Pn**	**01 22 30.6**	**-0.5**
THL	**Klokotos Trika**	**1.67**	**44**	*e*PN	**Pn**	**01 22 32.7**	**+1.1**
PYL	**PYLOS**	**1.77**	**146**	*e*Pb	**Pb**	**01 22 32.6**	**-1.9**
VLX	**Vlachokerasia**	**1.79**	**123**	*e*Pb	**Pb**	**01 22 32.4**	**-2.4**
LTK	**Loutraki**	**1.97**	**99**	*e*Pn	**Pn**	**01 22 35.9**	**+0.2**
LKR	**Lokris**	**1.97**	**81**	*e*PN	**Pn**	**01 22 36.9**	**+1.2**
LIT	**Litokhoron**	**2.31**	**41**	*e*Pn	**Pn**	**01 22 41.0**	**+0.6**
NEO	**Neokhori**	**2.32**	**65**	*e*PN	**Pn**	**01 22 41.2**	**+0.7**
DID	**Didima**	**2.32**	**111**	*e*Pn	**Pn**	**01 22 40.8**	**+0.2**
DID				*e*Sn	**Sn**	**01 23 10.4**	**+1.0**
FNA	**Florina**	**2.50**	**15**	*e*Pn	**Pn**	**01 22 42.4**	**-0.6**
AOS	**Alonnisos**	**2.75**	**72**	*e*Pn	**Pn**	**01 22 46.7**	**+0.2**
PAIG	**Paliouri**	**2.92**	**57**	*e*Pn	**Pn**	**01 22 48.4**	**-0.3**
PAIG				*e*Sn	**Sn**	**01 23 24.9**	**+0.8**
PLG	**Polygyros**	**3.03**	**48**	*e*Pn	**Pn**	**01 22 49.7**	**-0.5**
OUR	**Ouranopolis**	**3.33**	**53**	*e*Pn	**Pn**	**01 22 54.5**	**+0.1**
KARN	**Karanos**	**4.03**	**136**	*e*Pn	**Pn**	**01 23 04.8**	**+0.8**

IDC 06 01:47:27.1±1.0, 5854S×13996W, h0km, mb4.1/4, mb1 4.3/4, mb1mx4.0/14, mbtmp4.1/4, MS3.6/2, Ms1 3.6/2, ms1mx3.1/20, Error ellipse: s-maj=47.3km s-min=30.3km az=176.0, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QSPA	**South Pole Qui**	**31.62**	**180**	P	P	01 53 51.0	0.0
	3.2nm,1.1s,baz=103,slow=11,SNR=3.1						
QSPA				LR	LR	02 05 34.9	
	comp=Z,162nm,18.0s,baz=170,slow=34						
PPT	**Papeete**	**41.52**	**346**	LR	LR	02 08 21.2	
	comp=Z,43nm,19.6s,baz=155,slow=30						
LPAZ	**La Paz**	**66.77**	**83**	P	P	01 58 21.5	+1.3
	0.7nm,0.6s,baz=207,slow=2.7,SNR=3.5						
ASAR	**Alice Springs**	**68.14**	**260**	P	P	01 58 29.2	+0.4
	2.6nm,0.9s,baz=142,slow=6.3,SNR=19						
WRA	**Warramunga Arr**	**70.99**	**263**	P	P	01 58 47.0	+0.5
	2.4nm,0.9s,baz=151,slow=5.4,SNR=7.6						
YKA	**Yellowknife Ar**	**122.28**	**14**	PKP	PKPdf	02 06 21.3	-0.9
	0.3nm,0.9s,baz=178,slow=1.9,SNR=3.8						
MKAR	**Makanchi Array**	**152.30**	**264**	PKPbc	PKPbc	02 07 23.9	+0.2
	1.0nm,0.8s,baz=126,slow=4.1,SNR=5.8						
ZALV	**Zalesovo Beam**	**155.07**	**279**	PKPab	PKPab	02 07 43.8	-1.5
	1.4nm,0.7s,baz=104,slow=4.6,SNR=6.5						

CASC 06 01:49:49.8±2.3, 1375N×9100W, h36km±999km, MD3.8, 1C, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FUG	**Fuego 3**	**0.71**	**12**	*e*P	Pn	01 50 03.9	+0.5
PCG	**Pacaya**	**0.75**	**30**	*e*P	Pn	01 50 03.4	-0.5
JAT	**Jato**	**0.84**	**313**	*e*P	Pn	01 50 05.0	-0.1
RTR	**El Retiro**	**1.32**	**83**	*e*P	x	01 50 12.1	
RTR				*e*S	x	01 50 31.1	
RBDL	**Robledal**	**1.32**	**74**	*e*P	x	01 50 13.6	
SBLS	**San Blas**	**1.34**	**86**	*e*P	x	01 50 12.0	
SBLS				*e*S	x	01 50 30.2	
SNJE	**San Jose**	**1.36**	**85**	*e*P	x	01 50 12.3	

SLKM	Skilak Lake	0.93	178	P	Pn	02 48 28.0	-0.1
SML	Sawmill	1.01	67	P	Pn	02 48 28.6	-0.6
SML				S	Sn	02 48 43.4	+0.8
SEW	Seward	1.39	162	P	Pn	02 48 34.3	+0.1
TRF	Thorofare Moun	2.03	0	P	Pn	02 48 42.2	-0.6
KTH	Kantishna Hill	2.15	352	P	Pn	02 48 45.1	+0.6
EYAK	Cordova Ski Ar	2.38	110	P	Pn	02 48 48.4	+0.8
MCK	McKinley	2.40	15	P	Pn	02 48 48.5	+0.7
SVW2	Sparrevohn	2.58	265	P	Pn	02 48 50.3	+0.1
PAX	Paxson	2.74	53	P	Pn	02 48 52.8	+0.3
TTA	Tatalina	3.08	302	eP	Pn	02 48 57.0	-0.1
MENT	Mentasta	3.43	61	P	Pn	02 49 02.3	+0.4
COLA	College	3.63	17	ePn	Pn	02 49 04.6	-0.1
DOT	Dot Lake	3.65	50	P	Pn	02 49 05.4	+0.5
IL1	Eielson Array	3.70	23	P	Pn	02 49 06.2	+0.7
BCA3	Beaver Creek A	4.30	64	P	Pn	02 49 14.1	+0.2
IM3	Indian Mountai	4.82	343	P	Pn	02 49 20.8	-0.2
IMA2	Indian Mountai	4.90	344	P	Pn	02 49 22.2	+0.3
EGAK	Eagle	5.34	47	ePn	Pn	02 49 28.1	+0.1
	14nm,0.6s						
DAWY	Dawson	5.67	57	ePn	Pn	02 49 33.7	+1.3
DAWY				eSn	Sn	02 50 35.7	-0.3
BM3	Burnt Mountain	6.50	20	P	Pn	02 49 43.3	-0.5
INK	Inuvik	9.89	39	ePn	Pn	02 50 30.4	+0.2
INK	Inuvik	9.89	39	Pn	Pn	02 50 31.8	+1.6
	0.2nm,0.3s,baz=250,slow=17,SNR=9.2						
INK				Sn	Sn	02 52 23.6	+4.1
	0.3nm,0.3s,baz=339,slow=7.7,SNR=6.0						
YKA	Yellowknife Ar	16.68	71	P	Pn	02 51 57.7	-2.7
	0.0nm,0.3s,baz=204,slow=25,SNR=2.7						
GERES	GERESS Array B	69.33	11	P	P	02 59 11.2	-0.3
	0.7nm,0.9s,mb3.6,baz=1.9,slow=8.0,SNR=3.8						
ESDC	Sonseca Array	75.59	26	P	P	02 59 49.1	+0.1
	0.1nm,0.5s,mb3.0,baz=336,slow=6.9,SNR=4.1						

*NEIC **06** 02:54:27.1, 1700N×9457W, h136km, MD3.9(MEX), After MEX.*

MEX 06 02:54:28.1±1.4, 1695N×9455W, h130km±11km, MD4.0, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	Matias Romero	0.35	294	i P	Pn	02 54 45.0	-1.4
CMIG				i S	Sn	02 54 58.1	-2.1
CMIG	Matias Romero	0.35	294	i P	Pn	02 54 45.1	-1.3
CMIG				i S	Sn	02 54 58.3	-1.9
TUIG	Tuzandepetl	1.08	7	i P	Pn	02 54 49.0	-2.8
TUIG				i S	Sn	02 55 06.4	-3.5
HUIG	Huatulco	1.90	232	i P	Pn	02 54 58.1	-2.8
HUIG				i S	Sn	02 55 24.9	-1.1
HUIG	Huatulco	1.90	232	i P	Pn	02 54 58.1	-2.8
HUIG				i S	Sn	02 55 24.8	-1.2
VHO	Vista Hermosa	2.09	274	i P	Pn	02 55 02.5	-0.7
VHO				i S	Sn	02 55 29.3	-0.8
VHO	Vista Hermosa	2.09	274	i P	Pn	02 55 02.5	-0.7
VHO				i S	Sn	02 55 29.6	-0.5
CCIG	Comitan	2.41	106	i P	Pn	02 55 06.6	-0.5
CCIG				i S	Sn	02 55 35.3	-1.9
CCIG	Comitan	2.41	106	i P	Pn	02 55 06.7	-0.5
CCIG				i S	Sn	02 55 37.4	+0.3
TPIG	Tehuac#an	3.05	299	i P	Pn	02 55 13.9	-1.5
TPIG				i S	Sn	02 55 49.8	-2.1
UTMO	Huajuapan	3.23	286	i P	Pn	02 55 16.4	-1.2
UTMO				i S	Sn	02 55 55.2	-0.8
PPM	Popocatepetl	4.41	299	i P	Pn	02 55 34.4	+1.1
PPM				i S	Sn	02 56 22.8	-1.3
IIO	Organos	4.75	304	i P	Pn	02 55 37.8	-0.1
IIO				i S	Sn	02 56 32.5	+0.3

*IDC **06** 02:54:39.5±1.2, 7.10S×15479E, h0km, mb4.1/7, mb1 4.3/7, mb1mx4.1/14, mbtmp4.0/7, MS3.9/2, Ms1 3.8/2, ms1mx3.0/18, Error ellipse: s-maj=47.1km s-min=21.6km az=119.0*

*NEIC **06** 02:54:40.5±0.6, 7.06S×154.84E, h10km, mb4.4/5, Error ellipse: s-maj=29.6km s-min=13.8km az=119.0*

*ISCJB **06** 02:54:42.6±0.7, 7.1S±0.1×154.8E±0.2, h33km, mb4.1/11, MS3.9/2, Error ellipse: s-maj=32.1km s-min=14.5km az=28.8*

ISC 06 02:54:44.5±0.7, 71S±01×1548E±0.2, h35km, n16, σ1§03/14, mb4.1/11, MS3.9/2, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	Charters Tower	15.38	212	Pn	Pn	02 58 23.4	+4.5
	0.6nm,0.3s,baz=21,slow=11,SNR=4.1						
CTAO	Charters Tower	15.38	212	eP	Pn	02 58 24.2	+5.3
	10nm,1.0s						
WRA	Warramunga Arr	23.63	235	P	P	02 59 52.6	0.0
	4.8nm,0.9s,mb3.9,baz=60,slow=9.6,SNR=11						
ASAR	Alice Springs	25.99	228	P	P	03 00 13.8	-0.4
	2.1nm,0.7s,mb3.8,baz=62,slow=9.0,SNR=22						
STKA	Stephens Creek	27.59	205	P	P	03 00 28.5	0.0
	5.7nm,0.8s,mb4.2,baz=13,slow=13,SNR=12						
STKA				LR	LR	03 10 46.7	
	comp=Z,129nm,19.2s,MS3.5,baz=26,slow=35						
SONM	Songino Array	69.29	327	P	P	03 05 49.3	+1.2
	0.9nm,0.8s,mb3.8,baz=136,slow=6.8,SNR=6.8						
BILL	Bilibino	75.36	4	eP	P	03 06 23.8	-0.1
	2.1nm,0.7s,mb4.2						
MCK	McKinley	82.19	22	eP	P	03 07 00.4	-1.1
	6.7nm,0.9s,mb4.6						
QSPA	South Pole Qui	82.91	180	eP	P	03 07 05.3	+0.2
	3.0nm,0.9s,mb4.3						
COLA	College	83.21	21	eP	P	03 07 05.6	-1.2
	3.3nm,0.8s,mb4.4						
MK31	Makanchi Array	83.33	319	eP	P	03 07 06.3	-1.5
MKAR	Makanchi Array	83.33	319	P	P	03 07 09.5	+1.7
	0.4nm,0.6s,mb3.6,baz=113,slow=3.7,SNR=2.7						
NVAR	Mina Array Bea	91.91	52	P	P	03 07 51.5	+2.0
	0.5nm,0.8s,mb3.9,baz=252,slow=4.7,SNR=4.5						
YKA	Yellowknife Ar	96.48	28	P	P	03 08 09.5	-0.4
	1.0nm,1.0s,mb4.2,baz=269,slow=4.4,SNR=9.6						
AKTO	Aktyubinsk	99.73	320	LR	LR	03 57 03.2	
	comp=Z,76nm,19.5s,MS4.2,baz=318,slow=38						
TORD	Torodi Ar. Bea	152.87	285	PKPbc	PKPbc	03 14 39.6	+0.6
	0.7nm,0.8s,baz=53,slow=1.6,SNR=6.0						
TORD				PKPab	PKPab	03 14 48.4	-1.7
	0.8nm,0.8s,baz=39,slow=2.1,SNR=4.5						

*NEIC **06** 02:59:06.2, 3841N×2045E, h0km, ML3.0(THE), After THE.*

*CSEM **06** 02:59:06.2±0.6, 3840N×2046E, h2km, ML3.0, Error ellipse: s-maj=13.6km s-min=5.5km az=71.0*

THE 06 02:59:06.2, 3841N×2045E, h3km, ML3.0, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKD	Levkas	0.34	28	ePg	Pg	02 59 12.5	-0.3
LKD				eSg	Sg	02 59 17.8	+0.5
KFL	Anninata	0.40	138	ePg	Pg	02 59 13.6	-0.3
KFL				eSg	Sg	02 59 20.3	+1.3
IGT	Igoumenitsa	1.13	356	ePg	Pg	02 59 27.6	-0.3
IGT				eSg	Sg	02 59 44.6	+2.0
SELA	Sela	1.14	96	ePg	Pg	02 59 27.0	-1.2
SELA				eSg	Sg	02 59 45.1	+2.1
MEV	Metsovon	1.51	24	ePg	Pg	02 59 33.8	-1.3
AGG	Agios Georgios	1.60	67	ePg	Pg	02 59 34.9	-1.9
PYL	PYLOS	1.82	145	ePb	Pb	02 59 38.3	-1.9

*ISCJB **06** 03:00:32.9±0.7, 4542N±003×1450E±004, h9km, Error ellipse: s-maj=5.0km s-min=3.8km az=6.2*

*CSEM **06** 03:00:32.1±0.2, 4539N×1446E, h16km±1km, ML2.4, Error ellipse: s-maj=3.4km s-min=1.8km az=9.0*

*VIE **06** 03:00:32.3±0.4, 4539N×1446E, h9km±1km, mb2.1/4, ML2.7/4, Error ellipse: s-maj=2.8km s-min=1.4km az=1.0*

6 km NE of Rijeka

*LJU **06** 03:00:32.6, 4541N×1447E, h11km, ML2.4*

*ROM **06** 03:00:32.4±0.8, 4539N×1477E, h10km, Md2.9/3, Ml2.8/3, Error ellipse: s-maj=17.8km s-min=5.6km az=115.0*

ISC 06 03:00:32.7±0.8, 4538N±004×1451E±004, h0km±4km, n27, σ0§87/51, 9C-10D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KNDS	Knezji Dol	0.17	328	⇓i Pg	Pg	03 00 36.2	+0.2
KNDS				i Sg	Sg	03 00 38.3	+0.2
KNDS							
	comp=Z,312nm,0.1s						
KNDS	Knezji Dol	0.17	328	⇓i Pg	Pg	03 00 36.2	+0.2
KNDS				i Sg	Sg	03 00 38.3	+0.1
	comp=Z,312nm,0.1s						
CEY	Cerknica	0.36	351	⇓i Pg	Pg	03 00 39.1	-0.5
CEY				eSg	Sg	03 00 44.2	-0.1
CEY							
	comp=Z,174nm,0.1s						
CEY	Cerknica	0.36	351	⇓i Pg	Pg	03 00 39.1	-0.5
CEY				eSg	Sg	03 00 44.2	-0.1
	comp=Z,174nm,0.1s						
SKDS	Skadanscina	0.38	295	⇑i Pg	Pg	03 00 39.9	-0.2
SKDS				i Sg	Sg	03 00 45.1	+0.1
BOJS	Bojanci	0.54	77	i Pg	Pg	03 00 43.6	+0.6
LJU	Ljubljana	0.66	1	i Pg	Pg	03 00 45.4	+0.1
LJU				i Sg	Sg	03 00 54.6	+0.6
LJU							
	comp=Z,90nm,0.1s						
LJU	Ljubljana	0.66	1	i Pg	Pg	03 00 45.4	0.0
LJU				i Sg	Sg	03 00 54.6	+0.6
	comp=Z,90nm,0.1s						
VNDS	Vrh nad Dolski	0.73	11	i Pg	Pg	03 00 46.8	+0.1
PDKS	Podkum	0.76	27	i Pg	Pg	03 00 47.5	+0.2
PDKS				eSg	Sg	03 00 58.2	+1.1
PDKS							
	comp=Z,56nm,0.1s						
VOJS	Vojsko	0.78	326	i Pg	Pg	03 00 46.5	-1.2
VOJS				eSg	Sg	03 00 58.0	+0.2
CRES	Cresnjev	0.80	56	i Pg	Pg	03 00 48.3	+0.2
GCIS	Gornji Cirnik	0.92	58	i Pg	Pg	03 00 50.6	+0.2
ZAVS	Zavodnje	1.11	19	i Pg	Pg	03 00 53.8	-0.2
OBKA	Obir	1.13	1	⇑ePg	Pg	03 00 54.0	-0.3
	SNR=37						
OBKA				⇑iSg	Sg	03 01 09.5	+0.6
	comp=Z,48nm,0.2s						
GMNA	Gemona	1.26	316	Pn	Pn	03 00 58.3	+0.8
GMNA				Sn	Sn	03 01 16.7	+1.6
	comp=Z,160nm,0.6s						
PTCC	Patocco-Chiusa	1.30	322	Pn	Pn	03 00 58.0	-0.1
PTCC				Sn	Sn	03 01 17.7	+1.5
	comp=Z,37nm,0.3s						
BISS	Bistriski jare	1.34	19	i Pg	Pg	03 00 57.8	-0.6
MYKA	Terra Mystica	1.39	334	⇑iPn	Pn	03 00 57.5	-1.7
MYKA				⇓iPg	Pg	03 00 58.3	-0.9
MYKA				⇓iSn	Sn	03 01 16.9	-1.4
MYKA				⇓iSg	Sg	03 01 18.1	+0.8
	comp=Z,25nm,0.3s						
FVI	Forni Avoltri	1.71	316	Pn	Pn	03 01 04.6	+0.9
FVI				Sn	Sg	03 01 29.3	+1.7
	comp=Z,71nm,0.3s						
KBA	Koelnbreinsper	1.88	335	⇓iPn	Pn	03 01 04.3	-1.7
KBA				⇑iPg	Pg	03 01 08.0	-0.7
KBA				⇑iSn	Sn	03 01 29.1	-1.3
KBA	Koelnbreinsper	1.88	335	Pg	Pg	03 01 08.0	-0.7
KBA				Sn	Sn	03 01 29.1	-1.3
ABTA	Abfaltersbach	1.95	315	⇑e	Pn	03 01 07.5	+0.6
	SNR=33						
ABTA				⇓iPg	Pg	03 01 08.9	-1.1
ABTA				⇑iSg	Sg	03 01 35.5	+0.3
	comp=Z,12nm,0.3s						
ABTA	Abfaltersbach	1.95	315	Pg	Pg	03 01 08.9	-1.1
ABTA				Sg	Sg	03 01 35.5	+0.3
ARSA	Arzberg	2.00	20	⇑iPn	Pn	03 01 06.6	-1.0
ARSA				⇓iSn	Sn	03 01 33.2	-0.2
FSSB	Fossombrone	2.09	217	Pn	Pn	03 01 09.9	+0.9
	comp=Z,58nm,0.4s						
SEST	Monte Rota	2.10	311	Pn	Pn	03 01 10.1	+1.0
SEST				Sn	Sg	03 01 38.8	-1.4
	comp=Z,945nm,3.9s						

*CSEM **06** 03:02:12.0±0.5, 3726N×2534W, h5km, ML2.8, Error ellipse: s-maj=12.0km s-min=3.2km az=52.0, After PDA*

*PDA **06** 03:02:12.0±0.5, 3726N×2534W, h5km, ML2.8, Error ellipse: s-maj=12.0km s-min=3.2km az=52.0*

SVSA 06 03:02:12.0±0.5, 3726N×2534W, h5km, ML2.8, Error ellipse: s-maj=12.0km s-min=3.2km az=52.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDA	Ponta Delgada	0.55	332	eP	Pg	03 02 19.3	-3.2
PDA				eS	Sg	03 02 26.2	-3.4
ADH	Angra Heroismo	2.04	313	eP	Sn	03 03 06.9	-6.0
PID	Ribeirinha	2.50	299	eP	Pn	03 02 49.5	-3.7
PMAN	Manadas	2.57	303	eP	Pn	03 02 49.8	-4.4
PMAN				eS	Sn	03 03 17.8	-8.0
PMAN				A		03 03 21.9	
	24nm,0.3s						
PMAN	Manadas	2.57	303	eP	Pn	03 02 49.8	-4.4
PMAN				eS	Sn	03 03 17.8	-8.0
ROSA	Rosais	2.71	303	eP	Pn	03 02 51.7	-4.5
ROSA				eS	Sn	03 03 21.6	-7.8
PICO	Pico	2.74	298	eP	Pn	03 02 51.9	-4.6
PICO				eS	Sn	03 03 21.9	-8.1
HOR	Horta	2.89	297	eP	Pn	03 02 54.0	-4.7
CALA	Caldeira	2.97	297	eP	Pn	03 02 55.1	-4.6

*SSNC **06** 03:03:20.0, 1998N×7809W, h0km, MD3.1, ML1.8*

*ISCJB **06** 03:03:21.2±1.5, 1950N±005×7779W±009, h10km, Error ellipse: s-maj=13.3km s-min=5.6km az=21.5*

*JSN **06** 03:03:21.0±1.2, 1971N×7783W, h31km±999km, MD3.4*

ISC 06 03:03:20.9±2.0, 1950N±005×7779W±009, h7km±11km, n9, σ1§15/14, 3C-2D, Cuba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LMGC	Las Mercedes	0.93	53	ePG	Pn	03 03 41.7	+1.3
LMGC				eSG	Sn	03 03 56.1	+2.1
	comp=N,319nm,0.1s						
LMGC				e			
	comp=E,313nm,0.1s						
BBJ	Bamboo Saint A	1.21	156	⇑iP	Pb	03 03 44.1	-0.1
BBJ				eS	Sg	03 04 00.9	+0.9
MCJ	Malvern	1.57	176	⇑iP	Pn	03 03 48.6	-0.6
STH	Stony Hill	1.69	147	⇓eP	Pn	03 03 50.7	-0.2
STH				eS	Sn	03 04 13.3	+0.5
PCJ	Portland Cotta	1.85	161	⇑eP	Pn	03 03 53.0	-0.1
CMJ	Castle Mountai	1.91	135	⇓eS	Sn	03 04 17.2	-0.9
RCC	Rio Carpintero	2.03	76	eP	Pn	03 03 56.2	+0.6
RCC				eS	Sn	03 04 22.2	+1.0
	comp=N,9.7nm,0.2s						
RCC				e			
	comp=E,12nm,0.1s						
HLGC	Holguin	2.13	49	eS	Sn	03 04 21.5	-2.2
	comp=N,3.7nm,0.2s						
HLGC				e			
	comp=E,2.7nm,0.2s						
MASC	Masc	3.42	78	eP	Pb	03 04 19.4	-2.4
MASC				eS	Sb	03 05 02.9	-0.6
	comp=N,0.1nm,0.4s						
MASC				e			
	comp=E,0.2nm,0.6s						

*ISCJB **06** 03:19:32.4±0.7, 3838N±003×2044E±007, h13km, Error ellipse: s-maj=8.5km s-min=3.2km az=159.4*

*CSEM **06** 03:19:32.4±0.1, 3840N×2040E, h8km, MD3.6, Error ellipse: s-maj=3.8km s-min=1.3km az=76.0*

*NEIC **06** 03:19:32.6, 3837N×2045E, h13km, MD3.6(ATH), ML3.7(THE), After ATH.*

*ATH **06** 03:19:32.6, 3837N×2045E, h13km±2km, MD3.6/5*

*THE **06** 03:19:33.1, 3840N×2047E, h3km, ML3.7*

ISC 06 03:19:32.1±0.9, 3837N±003×2040E±007, h2km±6km, n22, σ1§08/32, 1C, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	Valsamata	0.25	143	⇑iPG	Pg	03 19 37.6	+0.7
VLS				eSG	Sg	03 19 41.7	+1.7
VLS	Valsamata	0.25	143	ePg	Pg	03 19 37.6	+0.7
VLS				eSg	Sg	03 19 41.7	+1.7
LKD	Levkas	0.39	30	ePg	Pg	03 19 39.2	-0.3
LKD				eSg	Sg	03 19 44.9	+0.3
KFL	Anninata	0.40	131	ePg	Pg	03 19 40.2	+0.4
KFL				eSg	Sg	03 19 46.5	+1.4
IGT	Igoumenitsa	1.16	357	ePg	Pg	03 19 53.6	-0.8
IGT				eSg	Sg	03 20 11.0	+1.7
SELA	Sela	1.18	94	ePg	Pg	03 19 53.3	-1.4
SELA				eSg	Sg	03 20 10.6	+0.7
EVR	Evrytania	1.23	63	ePN	Pn	03 19 54.4	-1.9
JAN	Janina	1.33	15	ePB	Pb	03 19 57.7	-0.1
JAN				eSB	Sb	03 20 16.1	+0.8
KEK	Kerkira	1.42	341	ePG	Pg	03 19 59.2	-0.1
SRN	Sarande	1.54	348	i Pn	Pn	03 20 00.6	0.0
SRN				i Sn	Sn	03 20 22.5	+1.4
MEV	Metsovon	1.55	24	ePg	Pg	03 20 01.2	-0.7
AGG	Agios Georgios	1.64	66	ePg	Pg	03 20 01.3	-2.3
ITM	Ithomi	1.70	134	ePG	Pg	03 20 04.1	-0.6
THL	Klokotos Trika	1.73	46	ePN	Pn	03 20 04.1	+0.8
PYL	PYLOS	1.82	144	ePb	Pb	03 20 04.6	-1.5
VLX	Vlachokerasia	1.86	122	ePb	Pb	03 20 05.3	-1.6
LTK	Loutraki	2.05	99	ePn	Pn	03 20 08.1	+0.4
NEO	Neokhori	2.39	66	ePN	Pn	03 20 13.0	+0.6
DID	Didima	2.40	110	ePn	Pn	03 20 13.1	+0.6
FNA	Florina	2.52	17	ePn	Pn	03 20 14.7	+0.5
OHR	Ohrid	2.75	6	ePn	Pn	03 20 22.9	+5.6
OHR				eSn	Sn	03 20 51.4	+0.3
KRUS	Krusevo	3.06	12	ePn	Pn	03 20 20.4	-1.1
KRUS				eSn	Sn	03 20 55.5	-3.3

*ATH **06** 03:24:50.4, 38.16N×2053E, h34km±2km, MD3.3/4*

*ISCJB **06** 03:24:52.0±0.7, 3840N±003×2048E±006, h3km, Error ellipse: s-maj=6.7km s-min=3.2km az=158.3*

*THE **06** 03:24:51.7, 3840N×2043E, h3km, ML3.2*

*NEIC **06** 03:24:51.7, 3831N×2046E, h21km, MD3.3(ATH), ML3.2(THE), After ATH.*

*CSEM **06** 03:24:52.3±0.2, 3838N×2043E, h1km±1km, MD3.3, Error ellipse: s-maj=4.1km s-min=2.3km az=74.0*

ISC 06 03:24:52.1±0.9, 3839N±003×2044E±006, h1km±6km, n16, σ1§05/27, 1C, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	Valsamata	0.24	150	⇑iPB	Pg	03 24 56.6	-0.1
VLS				eSB	Sg	03 25 00.9	+1.1
LKD	Levkas	0.36	28	ePg	Pg	03 24 58.3	-0.7
LKD				eSg	Sg	03 25 03.9	+0.1
LKD	Levkas	0.36	28	ePg	Pg	03 24 58.3	-0.7
LKD				eSg	Sg	03 25 03.8	+0.1
KFL	Anninata	0.39	135	ePg	Pg	03 24 59.2	-0.3
KFL				eSg	Sg	03 25 05.8	+1.2
IGT	Igoumenitsa	1.15	356	ePg	Pg	03 25 12.8	-1.2
IGT				eSg	Sg	03 25 29.7	+0.8
SELA	Sela	1.15	95	ePg	Pg	03 25 12.4	-1.7
SELA				eSg	Sg	03 25 29.6	+0.6
EVR	Evrytania	1.20	63	ePN	Pn	03 25 13.1	-2.8
JAN	Janina	1.31	14	ePN	Pn	03 25 17.5	+0.1
JAN				eSN	Sn	03 25 36.5	+1.0
JAN	Janina	1.31	14	ePn	Pn	03 25 18.0	+0.6
JAN				eSn	Sn	03 25 36.5	+1.0
KEK	Kerkira	1.42	340	ePB	Pb	03 25 19.1	-0.1
KEK				eSN	Sg	03 25 39.5	+2.0
MEV	Metsovon	1.53	24	ePg	Pn	03 25 20.1	-0.3
AGG	Agios Georgios	1.61	66	ePg	Pn	03 25 20.4	-1.3
AGG				eSg	Sg	03 25 43.6	-0.3
THL	Klokotos Trika	1.70	46	ePn	Pn	03 25 23.3	+0.5
PYL	PYLOS	1.81	145	ePb	Pn	03 25 22.8	-1.6
DID	Didima	2.38	111	ePn	Pn	03 25 32.5	+0.3
DID				eSn	Sn	03 26 03.7	+1.7
AOS	Alonnisos	2.80	73	ePn	Pn	03 25 37.8	-0.2

*NEIC **06** 03:33:06.3±0.9, 2139S×16978E, h10km, mb4.2/3, Error ellipse: s-maj=26.1km s-min=17.6km az=201.0*

*ISCJB **06** 03:33:14.1±2.6, 220S±01×1695E±01, h69km±20km, mb4.2/8, Error ellipse: s-maj=28.6km s-min=15.0km az=36.7*

*IDC **06** 03:33:25.9±8.5, 2224S×16945E, h170km±76km, mb3.8/8, mb1 3.9/9, mb1mx3.8/16, mbtmp3.8/9, MS3.9/12, Ms1 3.9/12, ms1mx3.7/20, Error ellipse: s-maj=38.2km s-min=28.4km az=35.0*

ISC 06 03:33:15.7±2.6, 220S±02×1695E±01, h67km±20km, n54, σ1§15/19, mb4.2/8, 3C, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	2.79	268	eP	Pn	03 33 56.2	-1.8
DZM				eS	Sn	03 34 31.1	+0.5
RAO	Raoul Island	13.47	125	LR	LR	03 40 41.4	
	comp=Z,153nm,19.6s,baz=147,slow=33						
HNR	Honiara	15.49	322	LR	LR	03 42 18.5	
	comp=Z,228nm,20.3s,baz=180,slow=34						
URZ	Urewera	17.48	160	P	Pn	03 37 16.4	+1.6
	0.5nm,0.3s,baz=353,slow=7.1,SNR=8.6						
URZ				LR	LR	03 42 29.8	
	comp=Z,458nm,20.8s,baz=225,slow=32						
RPZ	Rata Peaks	21.68	177	LR	LR	03 45 42.4	
	comp=Z,480nm,18.0s,baz=2.5,slow=34						
CTA	Charters Tower	21.73	271	eP	P	03 38 02.6	+1.0
	8.8nm,0.8s,mb4.1						
CTA	Charters Tower	21.73	271	P	P	03 38 02.6	+1.0
	6.1nm,0.7s,mb4.0,baz=98,slow=9.4,SNR=5.2						
CTA				LR	LR	03 45 55.2	
	comp=Z,308nm,19.9s,baz=50,slow=34						
CTAO	Charters Tower	21.73	271	eP	P	03 38 02.5	+0.9
	12nm,0.9s,mb4.2						
STKA	Stephens Creek	26.64	242	eP	P	03 38 50.4	+2.3
	3.9nm,0.8s,mb4.0						
STKA	Stephens Creek	26.64	242	P	P	03 38 49.4	+1.3
	4.8nm,1.0s,mb4.0,baz=89,slow=7.4,SNR=5.2						
STKA				LR	LR	03 48 57.8	
	comp=Z,210nm,19.6s,baz=216,slow=35						
ASAR	Alice Springs	32.75	260	P	P	03 39 42.2	-0.1
	1.7nm,0.5s,mb4.1,baz=78,slow=8.1,SNR=27						
WB2	Warramunga Arr	32.80	267	eP	P	03 39 42.8	0.0
WRA	Warramunga Arr	32.81	267	P	P	03 39 41.8	-1.1
	1.3nm,0.6s,mb3.9,baz=97,slow=8.4,SNR=4.7						
WRA				LR	LR	03 53 21.6	
	comp=Z,225nm,18.5s,baz=95,slow=36						
PPT	Papeete	38.72	91	eLR	LR	03 50 58.2	
	134nm,25.0s						
FITZ	Fitzroy Crossi	41.24	267	eP	P	03 40 54.4	0.0
	18nm,0.6s,mb5.1						
FITZ	Fitzroy Crossi	41.24	267	eP	P	03 40 54.1	-0.3
	18nm,0.6s,mb5.1						
FITZ	Fitzroy Crossi	41.24	267	P	P	03 40 54.7	+0.3
	4.5nm,0.7s,mb4.4,baz=121,slow=7.9,SNR=8.3						
BATI	Kupang	45.37	277	LR	LR	04 00 36.4	
	comp=Z,178nm,18.7s,baz=118,slow=36						
VNDA	Vanda	55.67	182	LR	LR	04 02 38.8	
	comp=Z,152nm,19.7s,baz=99,slow=32						
MJAR	Matsushiro Arr	65.29	333	P	P	03 43 50.4	-0.1
	1.4nm,0.6s,mb4.0,baz=163,slow=6.6,SNR=5.7						
MJAR				LR	LR	04 08 46.3	
	comp=Z,38nm,

PRU			ex	x	03 52 53.3	
NKC	Novy Kostel	146.54 333	ePKP	PKPab	03 52 50.8	+0.5
CONA	Conrad Observa	146.59 327	⇑iPKPab	PKPdf	03 52 46.6	-1.3
	comp=Z,5.2nm,0.9s					
KHC	Kasperske Hory	146.86 331	ePKP	PKPdf	03 52 47.6	-0.7
KHC			epPKP	PKPab	03 52 52.7	+1.1
GERES	GERESS Array B	147.01 330	PKPbc	PKPdf	03 52 47.4	-1.1
	comp=Z,1.8nm,0.6s,baz=39,slow=2.7,SNR=21					
GRA1	Grafenberg Arr	147.47 333	ePKP	PKPdf	03 52 49.0	-0.3
ABTA	Abfaltersbach	149.06 328	⇑pPKPdf	PKPdf	03 52 52.6	+0.7
	comp=Z,4.0nm,0.8s					
FETA	Feichten	149.71 331	⇑iPKPbc	PKPdf	03 52 55.1	+2.1
	comp=Z,4.8nm,0.7s					
HINF	Hinteralfeld	150.71 336	ePKP1	PKPdf	03 52 55.0	+0.5
	comp=Z,4.9nm,0.7s					
HAU	Haudompre	150.74 336	ePKP1	PKPdf	03 52 55.2	+0.6
	comp=Z,17nm,1.0s					
CABF	La Chapelle	152.00 335	ePKP1	PKPdf	03 52 58.6	+2.1
	comp=Z,12nm,0.7s					
FLN	La Foliniere	152.13 346	ePKP1	PKPdf	03 52 57.9	+1.2
	comp=Z,14nm,0.7s					
LDF	La Druitiere	152.21 345	ePKP1	PKPdf	03 52 57.9	+1.1
	comp=Z,8.4nm,0.7s					
LOR	Lormes	152.25 339	ePKP1	PKPdf	03 52 58.6	+1.7
	comp=Z,6.8nm,0.8s					
SSF	Saint Saulge	152.55 339	ePKP1	PKPdf	03 52 59.3	+2.0
	comp=Z,5.2nm,0.8s					
GRR	Gorron	152.57 346	ePKP1	PKPdf	03 52 58.9	+1.6
	comp=Z,6.7nm,0.5s					
LPL	La Plagne	152.63 333	ePKP1	PKPdf	03 53 00.2	+2.7
	comp=Z,8.2nm,0.7s					
LPG	La Plagne	152.63 333	ePKP1	PKPdf	03 53 00.3	+2.8
	comp=Z,4.8nm,0.6s					
AVF	Avril sur Loir	152.84 339	ePKP1	PKPdf	03 52 59.2	+1.4
MBDF	Montbardon	153.24 332	ePKP1	PKPdf	03 53 01.0	+2.6
	comp=Z,10nm,0.9s					
ORIF	Oris-en-Rattie	153.47 333	ePKP1	PKPdf	03 53 02.3	+3.6
	comp=Z,9.6nm,0.8s					
TCF	Toulx Ste Croi	153.66 340	ePKP1	PKPdf	03 53 01.6	+2.6
	comp=Z,13nm,1.0s					

*IDC **06** 03:45:29.8±0.9, 2826N×8641E, h0km, mb3.8/6, mb1 3.9/7, mb1mx3.6/21, mbtmp3.7/7, ML3.7/1, Error ellipse: s-maj=36.6km s-min=19.9km az=52.0*
*ISCJB **06** 03:45:36.7±1.4, 284N±0.1×8665E±008, h68km±16km, mb3.7/8, Error ellipse: s-maj=20.0km s-min=8.5km az=29.5*
*NEIC **06** 03:45:41.5±5.0, 2844N×8646E, h95km±45km, mb3.7/1, Error ellipse: s-maj=29.5km s-min=17.6km az=217.0*

ISC 06 03:45:38.6±1.1, 284N±01×8669E±008, h67km±13km, n14, σ0§98/15, mb3.7/8, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHL	Shillong	5.44	120	ePN	Pn	03 46 58.0	+0.9
SHL				eSN	Sn	03 47 57.0	-1.4
LGTI	Lohaghat	5.74	282	eSN	Sn	03 48 06.0	+0.4
UCH	Uchtor	16.95	327	eP	Pn	03 49 31.7	+0.5
	1.2nm,0.6s						
MK31	Makanchi Array	18.65	351	eP	Pn	03 49 51.6	-0.3
MKAR	Makanchi Array	18.65	351	P	Pn	03 49 51.9	0.0
	0.3nm,0.3s,baz=180,slow=13,SNR=3.3						
SONM	Songino Array	24.68	33	P	P	03 50 54.8	+1.8
	0.8nm,0.5s,mb3.4,baz=221,slow=8.8,SNR=6.7						
BRVK	Borovoye	27.43	338	eP	P	03 51 15.0	-2.8
	0.7nm,0.3s,mb3.7						
AKASG	Malin Array Be	48.19	314	P	P	03 54 11.1	-0.9
	0.3nm,0.2s,mb3.7,baz=82,slow=6.8,SNR=4.7						
FINES	FINESS Array B	51.46	328	P	P	03 54 36.5	-0.2
	3.1nm,1.0s,mb4.3,baz=120,slow=8.2,SNR=6.7						
ARCES	ARCESS Array B	53.65	338	P	P	03 54 52.7	-0.1
ARCES	ARCESS Array B	53.65	338	P	P	03 54 52.7	-0.1
	7.2nm,1.1s,mb4.6,baz=99,slow=7.2,SNR=5.2						
WRA	Warramunga Arr	66.57	131	P	P	03 56 22.3	+0.5
	0.2nm,0.4s,mb3.3,baz=322,slow=6.7,SNR=3.4						
ASAR	Alice Springs	68.93	134	P	P	03 56 37.8	+1.1
	0.3nm,0.8s,mb3.2,baz=318,slow=6.5,SNR=3.5						
TORD	Torodi Ar. Bea	79.52	279	P	P	03 57 38.0	-0.6
	0.3nm,0.7s,mb3.2,baz=72,slow=4.7,SNR=5.7						

*IDC **06** 03:54:26.1±1.0, 2079S×16878E, h0km, mb4.0/7, mb1 4.2/8, mb1mx4.1/15, mbtmp4.1/8, ML4.2/1, MS3.1/1, Ms1 3.1/1, ms1mx2.8/20, Error ellipse: s-maj=27.8km s-min=25.9km az=112.0*
*NEIC **06** 03:54:27.6±0.6, 2075S×16880E, h10km, Error ellipse: s-maj=17.6km s-min=15.3km az=60.0*
*ISCJB **06** 03:54:28.0±5.5, 208S±0.1×16879E±009, h25km±38km, mb4.0/7, Error ellipse: s-maj=20.6km s-min=14.5km az=169.2*

ISC 06 03:54:29.8±5.6, 209S±01×16879E±009, h25km±39km, n19, σ0§90/15, mb4.0/7, Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	2.49	241	eP	Pn	03 55 08.0	-0.8
DZM				eS	Sn	03 55 38.7	+0.2
HNR	Honiara	14.20	322	LR	LR	04 02 40.7	
	comp=Z,72nm,19.4s,baz=186,slow=35						
URZ	Urewera	18.78	159	P	Pn	03 58 48.7	+0.9
	0.7nm,0.3s,baz=347,slow=2.8,SNR=6.5						
STKA	Stephens Creek	26.65	240	P	P	04 00 08.1	+1.3
	2.3nm,0.8s,mb3.8,baz=83,slow=11,SNR=4.7						
WRA	Warramunga Arr	32.27	265	P	P	04 00 55.5	-1.2
WRA	Warramunga Arr	32.27	265	P	P	04 00 55.5	-1.2
	0.6nm,0.4s,mb3.8,baz=90,slow=8.3,SNR=3.9						
ASAR	Alice Springs	32.36	258	P	P	04 00 57.1	-0.3
	4.4nm,0.8s,mb4.3,baz=83,slow=9.1,SNR=31						
KSM	Kuching	61.33	284	eP	P	04 04 44.9	+1.0
MJAR	Matsushiro Arr	63.98	333	P	P	04 05 01.4	+0.3
	1.2nm,0.7s,mb4.0,baz=175,slow=5.8,SNR=4.4						
QSPA	South Pole Qui	69.21	180	P	P	04 05 34.6	+0.7
QSPA	South Pole Qui	69.21	180	P	P	04 05 34.6	+0.7
	2.6nm,1.0s,mb4.1,baz=344,slow=2.3,SNR=4.0						
VNA3	Neumayer Olymp	88.14	180	e	P	04 07 16.5	-1.6
VNA3				e		04 07 19.4	
VNA3				e	pP	04 07 22.3	-3.9
SONM	Songino Array	88.25	323	P	P	04 07 19.7	+0.9
	0.7nm,0.7s,mb4.0,baz=131,slow=3.8,SNR=6.6						
VNA2	Neumayer--Watz	88.43	181	e	P	04 07 18.7	-0.8
	baz=178,slow=4.0						
VNA2				e		04 07 21.3	
VNA2				e	pP	04 07 24.5	-3.1
NVAR	Mina Array Bea	90.18	49	P	P	04 07 27.5	-0.6
	0.4nm,0.7s,mb3.9,baz=218,slow=5.7,SNR=3.1						
KHC	Kasperske Hory	145.54	331	eP	PKPdf	04 14 05.0	-0.7
KHC				e		04 14 13.5	
KHC	Kasperske Hory	145.54	331	ePKP	PKPdf	04 14 05.0	-0.7
KHC				pPKP	pPKPdf	04 14 13.5	-0.6
GERES	GERESS Array B	145.69	330	PKPbc	PKPbc	04 14 06.3	-0.1
	1.4nm,0.8s,baz=55,slow=3.7,SNR=12						
GRA1	Grafenberg Arr	146.16	334	ePKP	PKPdf	04 14 07.4	+0.6

IDC 06 04:01:47.9±2.7, 2171S×16938E, h0km, mb3.7/4, mb1 4.0/4, mb1mx3.8/13, mbtmp3.7/4, MS3.6/2, Ms1 3.6/2, ms1mx3.1/18, Error ellipse: s-maj=129.2km s-min=31.3km az=158.0, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	Charters Tower	21.67	270	LR	LR	04 14 09.4	
	comp=Z,186nm,18.6s,baz=55,slow=34						
STKA	Stephens Creek	26.72	242	LR	LR	04 17 57.7	
	comp=Z,122nm,19.0s,baz=295,slow=36						
ASAR	Alice Springs	32.74	260	P	P	04 08 22.9	+0.3
	0.5nm,0.5s,baz=89,slow=9.5,SNR=9.6						
WRA	Warramunga Arr	32.76	267	P	P	04 08 22.3	-0.5
	0.3nm,0.4s,baz=96,slow=8.1,SNR=4.6						
SONM	Songino Array	89.27	323	P	P	04 14 46.2	+0.5
	0.2nm,0.5s,baz=106,slow=4.7,SNR=3.3						
NVAR	Mina Array Bea	90.33	48	P	P	04 14 51.0	0.0
	0.8nm,0.7s,baz=218,slow=5.2,SNR=7.9						
GERES	GERESS Array B	146.71	330	PKPbc	PKPbc	04 21 31.3	-0.3
	0.3nm,0.6s,baz=38,slow=6.8,SNR=3.8						

*IDC **06** 04:11:20.8±2.2, 640S×14774E, h0km, mb4.2/3, mb1 4.5/4, mb1mx3.9/14, mbtmp4.3/4, ML4.0/1, Error ellipse: s-maj=58.7km s-min=24.8km az=118.0*
*ISCJB **06** 04:11:21.6±1.2, 62S±02×1480E±02, h35km, mb4.4/6, Error ellipse: s-maj=40.3km s-min=19.5km az=41.1*
*NEIC **06** 04:11:22.8±0.8, 6.17S×148.10E, h35km, mb4.5/6, Error ellipse: s-maj=30.4km s-min=14.2km az=126.0*

ISC 06 04:11:22.3±4.9, 62S±02×1481E±03, h28km±34km, n13, σ0§93/13, mb4.4/6, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRAB	Tennant Creek	19.04	223	eP	Pn	04 15 42.4	-0.8
	8.0nm,0.9s						
WB2	Warramunga Arr	19.04	223	eP	Pn	04 15 42.5	-0.8
WRA	Warramunga Arr	19.05	223	P	Pn	04 15 42.6	-0.8
	0.5nm,0.3s,baz=45,slow=12,SNR=22						
ASAR	Alice Springs	22.03	217	P	P	04 16 15.4	+0.7
	7.2nm,0.6s,mb4.3,baz=53,slow=9.2,SNR=81						
ASAR				S	S	04 20 15.3	-1.1
	2.8nm,0.7s,baz=35,slow=22,SNR=15						
FITZ	Fitzroy Crossi	24.84	240	eP	P	04 16 43.6	+1.1
	14nm,0.6s,mb4.7						
FITZ	Fitzroy Crossi	24.84	240	eP	P	04 16 43.4	+0.9
	21nm,0.8s,mb4.7						
FITZ	Fitzroy Crossi	24.84	240	P	P	04 16 43.5	+1.0
	7.5nm,0.6s,mb4.4,baz=79,slow=8.5,SNR=15						
STKA	Stephens Creek	26.21	192	eP	P	04 16 55.7	+0.9
	2.4nm,0.8s,mb3.8						
STKA	Stephens Creek	26.21	192	P	P	04 16 55.1	+0.3
	2.2nm,0.5s,mb3.9,baz=8,2,slow=13,SNR=6.6						
MBWA	Marble Bar	31.17	239	eP	P	04 17 40.6	+1.5
	14nm,1.1s,mb4.7						
QSPA	South Pole Qui	83.73	180	eP	P	04 23 48.7	+0.4
	1.7nm,0.5s,mb4.4						
MCK	McKinley	84.03	23	eP	P	04 23 48.8	-1.2
	4.7nm,0.6s,mb4.8						
TORD	Torodi Ar. Bea	146.16	284	PKPbc	PKPbc	04 31 00.7	-0.3
	0.2nm,0.6s,baz=75,slow=3.1,SNR=5.0						

MEX 06 04:11:44.2±1.2, 1817N×10331W, h6km±18km, MD3.8, Near coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMIG	Aquila	0.12	344	i P	Pg	04 11 46.0	-0.7
MMIG				i S	Sg	04 11 48.7	+0.2
SFJM	Santa Fe	2.31	6	i P	Pn	04 12 21.0	-1.9
SFJM				i S	Sn	04 12 46.5	-5.2
MOIG	Morelia	2.50	53	i P	Pn	04 12 22.9	-2.6
MOIG				i S	Sn	04 12 51.6	-4.8
ANIG	Ahuacatlan	3.08	338	i P	Pn	04 12 29.9	-3.5
ANIG				i S	Sn	04 13 13.7	+3.0

*CSEM **06** 04:15:41.1±0.7, 3751N×2462W, h10km, ML3.7, Error ellipse: s-maj=13.5km s-min=4.6km az=27.0, After PDA*
*PDA **06** 04:15:41.1±0.7, 3751N×2462W, h10km, MD4.0, ML3.7, Error ellipse: s-maj=13.5km s-min=4.6km az=27.0*

SVSA 06 04:15:41.1±0.7, 3751N×2462W, h10km, MD4.0, ML3.7, Error ellipse: s-maj=13.5km s-min=4.6km az=27.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDA	Ponta Delgada	0.86	286	eP	Pg	04 15 52.9	-4.8
PDA				eS	Sg	04 16 02.6	-6.2
ADH	Angra Heroismo	2.36	300	eP	Pn	04 16 15.4	-4.4
ADH				eS	Sn	04 16 41.0	-7.8
PMAN	Manadas	2.96	293	eS	Sn	04 16 55.9	-7.7
PMAN				A		04 16 57.5	
	45nm,0.3s						
PGRA	Graciosa	3.05	301	eS	Sn	04 16 57.6	-8.2
PGRA				A		04 16 59.3	
	36nm,0.3s						
ROSA	Rosais	3.10	294	eP	Pn	04 16 25.6	-4.4
ROSA				eS	Sn	04 16 59.1	-8.0
PICO	Pico	3.16	289	eP	Pn	04 16 26.6	-4.3
PICO				eS	Sn	04 17 00.9	-7.8
HOR	Horta	3.32	289	eS	Sn	04 17 04.5	-8.1
CALA	Caldeira	3.39	290	eP	Pn	04 16 29.7	-4.4
CALA				eS	Sn	04 17 06.3	-8.1
PCED	Cedros	3.41	290	eS	Sn	04 17 06.4	-8.3
PCED				A		04 17 07.8	
	25nm,0.3s						

*NEIC **06** 04:28:28.4, 3637S×17830E, h167km, MG3.8(WEL), After WEL.*

WEL 06 04:28:28.7±0.9, 3640S×17830E, h167km±7km, ML3.7/4, Error ellipse: s-maj=17.3km s-min=12.8km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	1.16	180	P	Pn	04 28 56.1	-0.3
MXZ				S	Sn	04 29 17.9	+0.2
MXZ	Matakaoa Point	1.16	180	PN	Pn	04 28 56.1	-0.2
MXZ				SN	Sn	04 29 17.9	+0.1
PUZ	Puketiti	1.67	181	eP	Pn	04 29 01.5	+0.3
PUZ	Puketiti	1.67	181	PN	Pn	04 29 01.5	+0.3
MWZ	Matawai	2.03	197	eP	Pn	04 29 05.9	+0.8
MWZ	Matawai	2.03	197	PN	Pn	04 29 05.9	+0.8
MWZ				SN	Sn	04 29 32.3	-1.0
URZ	Urewera	2.08	207	P	Pn	04 29 05.6	-0.2
URZ	Urewera	2.08	207	PN	Pn	04 29 05.6	-0.2
URZ				SN	Sn	04 29 34.6	+0.2
KNZ	Kokohu	2.66	191	eP	Pn	04 29 12.4	-0.1
KNZ	Kokohu	2.66	191	PN	Pn	04 29 12.4	-0.2
BKZ	Black Stump Fm	3.11	207	P	Pn	04 29 18.1	+0.1
BKZ	Black Stump Fm	3.11	207	PN	Pn	04 29 18.1	+0.1
FWVZ	Far West T-bar	3.58	217	P	Pn	04 29 26.6	+2.6
FWVZ	Far West T-bar	3.58	217	ePN	Pn	04 29 26.3	+2.3
MOVZ	Moawhango	3.61	213	P	Pn	04 29 23.2	-1.2
MOVZ	Moawhango	3.61	213	ePN	Pn	04 29 23.2	-1.2
PXZ	Pawanui	3.80	197	PN	Pn	04 29 25.3	-1.5
PXZ				SN	Sn	04 30 09.3	-2.7
TSZ	Takapari Road	4.09	206	P	Pn	04 29 29.4	-1.1
TSZ	Takapari Road	4.09	206	PN	Pn	04 29 29.4	-1.1
BFZ	Birch Farm	4.57	200	eP	Pn	04 29 34.7	-1.9
BFZ	Birch Farm	4.57	200	PN	Pn	04 29 34.7	-1.9
MRZ	Mangatainoka R	4.76	206	eP	Pn	04 29 36.7	-2.4
MRZ	Mangatainoka R	4.76	206	PN	Pn	04 29 36.7	-2.4
MRZ				SN	Sn	04 30 29.9	-4.4
TIWZ	Tintock	4.76	203	PN	Pn	04 29 36.7	-2.5
KIW	Kapiti Island	5.18	210	P	Pn	04 29 41.7	-3.0
KIW	Kapiti Island	5.18	210	PN	Pn	04 29 41.7	-3.0
MTW	Mount Morrison	5.23	204	P	Pn	04 29 42.4	-2.9
MTW	Mount Morrison	5.23	204	PN	Pn	04 29 42.4	-2.9
CAW	Cannon Point	5.33	207	ePN	Pn	04 29 43.4	-3.3
MSWZ	Moikau Station	5.54	204	P	Pn	04 29 46.3	-3.1
MSWZ	Moikau Station	5.54	204	PN	Pn	04 29 46.3	-3.1
MRW	Makara Radio	5.58	209	P	Pn	04 29 49.0	-0.9
MRW	Makara Radio	5.58	209	PN	Pn	04 29 49.0	-0.9
SNZO	South Karori	5.65	209	P	Pn	04 29 47.6	-3.2
SNZO	South Karori	5.65	209	PN	Pn	04 29 47.6	-3.2
TCW	Tory Channel	5.74	212	P	Pn	04 29 48.4	-3.6
TCW	Tory Channel	5.74	212	ePN	Pn	04 29 48.2	-3.9
NNZ	Nelson	6.16	217	eP	Pn	04 29 54.3	-3.2
NNZ	Nelson	6.16	217	ePN	Pn	04 29 54.0	-3.5
THZ	Tophouse	6.80	216	eP	Pn	04 30 02.4	-3.6
THZ	Tophouse	6.80	216	PN	Pn	04 30 02.4	-3.6
KHZ	Kahutara	7.05	210	eP	Pn	04 30 06.1	-3.2
KHZ	Kahutara	7.05	210	PN	Pn	04 30 06.1	-3.2
DSZ	Denniston Nort	7.35	221	ePN	Pn	04 30 08.6	-4.7
LTZ	Lake Taylor	7.89	214	eP	Pn	04 30 15.1	-5.3
MQZ	McQueen's Vall	8.48	209	SN	Sn	04 31 52.7	-10

*IDC **06** 04:28:48.2±1.8, 778S×15532E, h0km, mb4.1/8, mb1 4.2/8, mb1mx4.1/15, mbtmp4.0/8, MS2.9/4, Ms1 2.9/4, ms1mx2.8/17, Error ellipse: s-maj=56.1km s-min=20.3km az=112.0*
*NEIC **06** 04:28:49.8±1.0, 779S×15536E, h10km, mb4.4/2, Error ellipse: s-maj=34.4km s-min=12.2km az=121.0*
*ISCJB **06** 04:28:51.8±1.1, 78S±02×155±E±02, h33km, mb4.0/10, MS2.9/3, Error ellipse: s-maj=37.6km s-min=13.2km az=31.6*

ISC 06 04:28:53.6±1.1, 78S±02×1553E±02, h35km, n18, σ0§92/15, mb4.0/10, MS2.9/3, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	4.84	110	LR	LR	04 31 39.7	
	comp=Z,133nm,18.6s,baz=356,slow=35						
WRAB	Tennant Creek	23.63	237	eP	P	04 34 02.2	+0.3
	2.8nm,0.4s,mb4.0						
WB2	Warramunga Arr	23.64	237	eP	P	04 34 02.6	+0.7
WB2	Warramunga Arr	23.64	237	eP	P	04 34 02.4	+0.4
WRA	Warramunga Arr	23.65	237	P	P	04 34 01.9	-0.1
	3.4nm,0.5s,mb4.0,baz=60,slow=9.4,SNR=11						
GUMO	Guam	23.66	334	LR	LR	04 41 09.9	
	comp=Z,17nm,19.7s,MS2.5,baz=80,slow=31						
ASAR	Alice Springs	25.90	230	P	P	04 34 21.2	-1.3
	1.1nm,0.8s,mb3.5,baz=60,slow=9.6,SNR=11						
STKA	Stephens Creek	27.16	206	P	P	04 34 34.3	+0.6
	4.0nm,0.9s,mb3.9,baz=29,slow=10,SNR=4.0						
STKA				LR	LR	04 45 33.1	
	comp=Z,35nm,19.4s,MS2.9,baz=28,slow=37						
FITZ	Fitzroy Crossi	30.64	248	P	P	04 35 04.7	-0.2
	1.4nm,0.6s,mb4.0,baz=77,slow=8.5,SNR=5.6						
MBWA	Marble Bar	36.83	245	eP	P	04 35 58.4	-0.3
	12nm,1.1s,mb4.6						
MJAR	Matsushiro Arr	46.95	341	P	P	04 37 19.8	-1.2
	1.7nm,0.6s,mb4.2,baz=158,slow=6.9,SNR=4.5						
KSRS	Korea Array	51.80	332	LR	LR	04 56 42.7	
	comp=Z,19nm,20.9s,MS3.1,baz=125,slow=32						
SONM	Songino Array	70.19	327	P	P	04 40 04.6	+1.8
	0.6nm,0.5s,mb3.8,baz=143,slow=5.2,SNR=7.1						
SML	Sawmill	81.83	24	eP	P	04 41 08.6	-0.2
MK31	Makanchi Array	84.23	319	eP	P	04 41 23.2	+1.7
MKAR	Makanchi Array	84.23	319	P	P	04 41 20.4	-1.1
MKAR	Makanchi Array	84.23	319	P	P	04 41 20.4	-1.1
	1.0nm,0.7s,mb4.0,baz=91,slow=6.1,SNR=3.5						
YKA	Yellowknife Ar	96.89	28	P	P	04 42 20.6	-0.3
	0.5nm,0.8s,mb4.0,baz=272,slow=4.5,SNR=7.0						

*IDC **06** 04:41:28.1±1.2, 834S×15734E, h0km, mb3.8/5, mb1 4.0/6, mb1mx3.8/15, mbtmp3.8/6, ML4.4/1, MS3.6/2, Ms1 3.6/2, ms1mx2.9/19, Error ellipse: s-maj=31.4km s-min=23.6km az=171.0*
*NEIC **06** 04:41:29.3±0.6, 863S×15730E, h10km, mb4.3/4, Error ellipse: s-maj=18.3km s-min=10.8km az=141.0*
*ISCJB **06** 04:41:31.7±0.6, 86S±01×15729E±007, h33km, mb4.0/9, MS3.6/2, Error ellipse: s-maj=15.9km s-min=9.2km az=7.5*

ISC 06 04:41:33.4±0.6, 85S±01×15731E±007, h35km, n14, σ1§16/14, mb4.0/9, MS3.6/2, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	2.75	109	Pn	Pn	04 42 13.2	-1.9
	53nm,0.3s,baz=263,slow=2.1,SNR=11						
HNR				Sn	Sn	04 42 47.9	+0.7
	38nm,0.3s,baz=265,slow=21,SNR=8.5						
CTA	Charters Tower	15.69	222	Pn	Pn	04 45 08.6	-3.3
CTA	Charters Tower	15.69	222	Pn	Pn	04 45 08.6	-3.3
	0.2nm,0.3s,baz=28,slow=17,SNR=3.3						
CTAO	Charters Tower	15.69	222	eP	Pn	04 45 09.1	-2.8
	4.8nm,0.9s						
WRA	Warramunga Arr	24.94	241	P	P	04 46 53.7	0.0
	1.9nm,0.7s,mb3.7,baz=67,slow=9.2,SNR=5.9						
WRA				LR	LR	04 54 34.9	
	comp=Z,44nm,20.6s,MS3.0,baz=215,slow=31						
ASAR	Alice Springs	26.98	233	P	P	04 47 12.8	+0.7
	0.5nm,0.8s,mb3.1,baz=61,slow=8.6,SNR=4.9						
STKA	Stephens Creek	27.43	210	P	P	04 47 18.9	+2.8
	1.4nm,0.8s,mb3.6,baz=32,slow=14,SNR=4.7						
MCK	McKinley	82.64	21	eP	P	04 53 52.7	-0.2
	4.5nm,0.9s,mb4.5						
COLA	College	83.70	21	eP	P	04 53 58.0	-0.2
	1.7nm,0.5s,mb4.4						
MAW	Mawson	83.86	203	LR	LR	05 27 42.3	
	comp=Z,124nm,20.4s,MS4.3,baz=61,slow=33						
EGAK	Eagle	86.06	22	eP	P	04 54 11.2	+1.1
	27nm,1.8s,mb5.2						
MKAR	Makanchi Array	86.07	318	P	P	04 54 09.4	-1.2
	0.4nm,0.6s,mb3.8,baz=92,slow=7.2,SNR=2.7						
KURK	Kurchatov	89.46	321	eP	P	04 54 26.7	0.0
	0.5nm,0.4s,mb4.2						
YKA	Yellowknife Ar	96.62	28	P	P	04 55 00.1	+0.6
	0.2nm,0.7s,mb3.6,baz=256,slow=4.1,SNR=3.4						

*ISCJB **06** 04:42:26.2±0.4, 4276N±003×4588E±002, h10km±3km, mb3.4/3, Error ellipse: s-maj=4.6km s-min=2.8km az=5.2*
*IDC **06** 04:42:26.9±2.5, 4298N×4577E, h0km, mb3.4/3, mb1 3.7/4, mb1mx3.3/21, mbtmp3.6/4, ML3.7/1, Error ellipse: s-maj=46.6km s-min=23.3km az=160.0*
*CSEM **06** 04:42:26.6±0.2, 4270N×4591E, h12km, mb4.4, Error ellipse: s-maj=4.2km s-min=2.4km az=13.0*
*MOS **06** 04:42:27.1±2.0, 4275N×4591E, h19km, mb4.4/1, Error ellipse: s-maj=11.1km s-min=7.3km az=22.9*
*TIF **06** 04:42:27.2, 4270N×4580E, h13km±2km*
*NNC **06** 04:42:38.6±15.0, 4420N×4597E, h0km, mb3.8, Error ellipse: s-maj=260.3km s-min=155.7km az=152.0*

ISC 06 04:42:27.2±0.4, 4273N±003×4586E±002, h9km±3km, n38, σ1§24/65, mb3.4/3, 5C-3D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTLR	Botlikh	0.27	103	⇑iPG	Pg	04 42 32.5	-0.1
BTLR				S	Sg	04 42 39.0	+2.8
BTLR				pmax	pmax		
	comp=Z,350nm,0.4s						
BTLR	Botlikh	0.27	103	i Pg	Pg	04 42 32.5	-0.1
	comp=Z,350nm,0.4s						
BTLR				Sg	Sg	04 42 39.0	+2.8
DLMR	Dylym	0.66	58	⇑iPG	Pg	04 42 37.2	-2.7
DLMR				i S	Sg	04 42 48.4	-0.1
DBC	Dubki	0.77	67	ePG	Pg	04 42 41.0	-1.0
DBC				i S	Sg	04 42 53.5	+1.5
DBC				pmax	pmax		
	comp=Z,144nm,0.3s						
DBC	Dubki	0.77	67	ePg	Pg	04 42 41.0	-1.0
	comp=Z,144nm,0.3s						
DBC				i Sg	Sg	04 42 53.5	+1.5
SNJR	Sundja	0.85	294	ePg	Pg	04 42

KIV smax
comp=E,6.0nm,0.2s
KIV smax
comp=E,159nm,0.6s
KIV Kislovodsk 2.62 299 Pn Pn 04 43 09.1 -0.6
comp=E,5.0nm,0.5s
KIV *i* Sn **Sn 04 43 45.4 +3.7**
KIV *e*Sg **Sg 04 43 54.6 +3.2**
DIGO Kars 2.97 220 *i* P **Pn 04 43 21.5 +7.0**
ARTV Artvin 3.31 244 *i* P **Pn 04 43 22.9 +3.7**
ARTV *i* S **Sn 04 43 59.7 +1.0**
AKTK Aktyubinsk 11.37 43 P **Pn 04 45 08.9 -0.7**
comp=E,1.0nm,0.3s
AKTO Aktyubinsk 11.37 43 Pn **Pn 04 45 08.9 -0.7**
comp=E,0.5nm,0.3s,baz=235,slow=17,SNR=5.5
AKTO Sn **Sn 04 47 07.0 -10**
comp=E,0.4nm,0.3s,baz=62,slow=21,SNR=6.3
AB31 Akbulak array 11.76 51 ⇑P **Pn 04 45 13.9 -1.2**
comp=E,0.9nm,0.5s,baz=239,slow=12,SNR=19
AB31 ⇑S **Sn 04 47 18.4 -8.0**
comp=E,2.9nm,0.5s,baz=250,slow=22
ZRNK Zerenda 18.52 48 ⇓P **Pn 04 46 45.1 +1.3**
comp=E,2.8nm,0.8s
VOSK Vostochnaya 19.54 51 ⇑P **Pn 04 46 56.9 +0.8**
comp=E,7.9nm,2.5s
FINES FINESS Array B 22.18 334 P **P 04 47 21.6 -1.6**
FINES pmax pmax
comp=Z,4.0nm,1.0s
FINES FINESS Array B 22.18 334 P **P 04 47 21.6 -1.6**
comp=Z,3.7nm,1.0s,mb3.8,baz=142,slow=14,SNR=7.9
MKAR Makanchi Array 26.03 68 P **P 04 48 00.7 +0.2**
comp=Z,0.4nm,0.6s,mb3.1,baz=261,slow=8.6,SNR=2.5
PDA Ponta Delgada 53.33 290 *e*S **S 04 59 23.9 +5.5**
YKA Yellowknife Ar 73.96 351 P **P 04 54 01.4 -1.0**
comp=Z,0.2nm,0.6s,mb3.2,baz=10,slow=6.0,SNR=5.7

IDC 06 04:53:03.8±4.1, 498S×14821E, h0km, mb3.6/3, mb1 3.9/3, mb1mx3.5/14, mbtmp3.6/3, Error ellipse: s-maj=134.5km s-min=46.1km az=113.0, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**20.09**	**221**	P	P	04 57 40.2	+1.0
	1.0nm,0.4s,baz=50,slow=10,SNR=6.4						
ASAR	**Alice Springs**	**23.14**	**215**	P	P	04 58 12.7	+0.8
	0.8nm,0.5s,baz=52,slow=8.7,SNR=19						
FITZ	**Fitzroy Crossi**	**25.63**	**238**	P	P	04 58 33.8	-1.6
	1.8nm,0.7s,baz=53,slow=11,SNR=3.3						
TORD	**Torodi Ar. Bea**	**145.99**	**286**	PKPbc	PKPbc	05 12 46.2	-0.4
	0.1nm,0.3s,baz=90,slow=2.8,SNR=3.8						

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*IDC **06** 05:05:13.3±10.0, 44.03N×149.38E, h0km, mb3.6/4, mb1 3.7/4, mb1mx3.4/20, mbtmp3.6/4, Error ellipse: s-maj=285.6km s-min=37.6km az=167.0*
*ISCJB **06** 05:05:19.2±1.6, 435N±01×149.1E±01, h79km±14km, mb3.4/4, Error ellipse: s-maj=21.1km s-min=10.7km az=138.5*
*JMA **06** 05:05:19.4±0.8, 44.36N×149.01E, h30km, M3.6*
ISC 06 05:05:20.7±1.5, 436N±01×1491E±01, h69km±14km, n19, σ1§23/27, mb3.4/4, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**2.47**	**266**	P	**Pn**	**05 05 57.8**	**-0.8**
NEM2				*e*S	**Sn**	**05 06 25.9**	**-1.8**
JNK	**Nakash**	**3.20**	**272**	P	**Pn**	**05 06 07.7**	**-0.8**
JAK	**Akkeshi**	**3.28**	**261**	P	**Pn**	**05 06 09.7**	**0.0**
JAK				*e*S	**Sn**	**05 06 47.7**	**+0.2**
JTKR	**Abashiri--Toko**	**3.79**	**278**	P	**Pn**	**05 06 16.0**	**-0.7**
JAR	**Ashorobuto**	**3.91**	**268**	P	**Pn**	**05 06 18.3**	**+0.1**
JAR				*e*S	**Sn**	**05 07 04.0**	**+1.2**
JCH	**Churui**	**4.33**	**259**	P	**Pn**	**05 06 24.9**	**+1.0**
JCH				*e*S	**Sn**	**05 07 14.5**	**+1.5**
JKK2	**Kamakawa 2**	**4.63**	**276**	P	**Pn**	**05 06 26.3**	**-1.7**
JEM	**Erimo**	**4.66**	**252**	P	**Pn**	**05 06 31.1**	**+2.6**
JEM				*e*S	**Sn**	**05 07 24.4**	**+3.2**
JNB	**Noboribetsu**	**6.03**	**262**	P	**Pn**	**05 06 48.0**	**+0.8**
JKB	**Kayabe**	**6.19**	**257**	P	**Pn**	**05 06 50.1**	**+0.7**
JKB				*e*S	**Sn**	**05 07 56.7**	**-2.0**
JANG	**Nango**	**6.51**	**243**	P	**Pn**	**05 06 53.7**	**-0.1**
JANG				*e*S	**Sn**	**05 08 04.7**	**-1.8**
JTM	**Tenmabayashi**	**6.60**	**248**	P	**Pn**	**05 06 56.3**	**+1.3**
JTM				*e*S	**Sn**	**05 08 07.2**	**-1.5**
OFUJ	**Ofunato**	**7.18**	**234**	*e*S	**Sn**	**05 08 22.5**	**-0.6**
JOSM	**Okushiri--Mats**	**7.25**	**261**	P	**Pn**	**05 07 04.8**	**+1.0**
JRG	**Rokugo**	**7.62**	**240**	*e*S	**Sn**	**05 08 34.2**	**+0.5**
SONM	**Songino Array**	**29.85**	**293**	P	**P**	**05 11 22.3**	**+1.1**
	0.3nm,0.6s,mb3.1,baz=90,slow=8.6,SNR=2.6						
MKAR	**Makanchi Array**	**45.93**	**298**	P	**P**	**05 13 37.3**	**+1.1**
	0.6nm,0.8s,mb3.4,baz=74,slow=8.9,SNR=4.3						
YKA	**Yellowknife Ar**	**55.15**	**34**	P	**P**	**05 14 43.5**	**-2.0**
	0.2nm,1.0s,mb3.1,baz=299,slow=6.9,SNR=3.6						
FINES	**FINESS Array B**	**65.67**	**334**	P	**P**	**05 15 56.9**	**-0.3**
	2.1nm,0.9s,mb4.0,baz=53,slow=7.4,SNR=6.7						

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*IDC **06** 05:13:08.0±1.1, 36.62N×24.64W, h0km, mb3.9/8, mb1 4.0/9, mb1mx3.8/22, mbtmp3.8/9, ML2.6/1, MS3.8/12, Ms1 3.8/12, ms1mx3.5/32, Error ellipse: s-maj=33.7km s-min=20.0km az=9.0*
*ISCJB **06** 05:13:10.6±1.6, 37.04N±005×24.88W±003, h14km±11km, mb4.1/34, MS3.8/14, Error ellipse: s-maj=8.4km s-min=3.7km az=20.8*
*CSEM **06** 05:13:11.1±0.1, 37.05N×24.85W, h20km, mb4.4/23, ML4.5/2, Ms3.4, Error ellipse: s-maj=3.5km s-min=1.6km az=14.0*
*NEIC **06** 05:13:13.0±0.3, 37.10N×24.73W, h10km, mb4.4/31, Error ellipse: s-maj=5.1km s-min=4.6km az=21.0*
*SVSA **06** 05:13:14.6±0.8, 37.35N×24.64W, h0km, MD4.0, ML3.9, Error ellipse: s-maj=14.0km s-min=4.3km az=32.0*
*PDA **06** 05:13:14.6±0.8, 37.35N×24.64W, h0km, MD4.0, ML3.9, Error ellipse: s-maj=14.0km s-min=4.3km az=32.0*
ISC 06 05:13:11.6±1.0, 3713N±004×2491W±003, h7km±6km, n143, σ1§07/154, mb4.1/34, MS3.8/14, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDA	**Ponta Delgada**	**0.86**	**316**	*e*P	**Pg**	**05 13 28.0**	**-0.2**
PDA				*e*S	**Sg**	**05 13 39.3**	**-0.1**
ADH	**Angra Heroismo**	**2.39**	**310**	*e*P	**Pn**	**05 13 50.8**	**-0.4**
ADH				*e*S	**Sn**	**05 14 17.6**	**-3.1**
PID	**Ribeirinha**	**2.86**	**298**	*e*P	**Pn**	**05 13 58.3**	**+0.6**
PMAN	**Manadas**	**2.93**	**302**	*e*P	**Pn**	**05 13 58.9**	**+0.3**
PMAN				*e*S	**Sn**	**05 14 32.3**	**-1.8**
PMAN				A		05 14 33.9	
	55nm,0.3s						
ROSA	**Rosais**	**3.08**	**302**	*e*P	**Pn**	**05 14 01.2**	**+0.6**
ROSA				*e*S	**Sn**	**05 14 35.9**	**-1.8**
PGRA	**Graciosa**	**3.08**	**309**	*e*P	**Pn**	**05 14 00.7**	**0.0**
PGRA				*e*S	**Sn**	**05 14 35.1**	**-2.6**
PGRA				A		05 14 36.4	
	55nm,0.3s						
PICO	**Pico**	**3.10**	**297**	*e*P	**Pn**	**05 14 02.1**	**+1.1**
PICO				*e*S	**Sn**	**05 14 36.9**	**-1.5**
SRBC	**Serra Branca**	**3.12**	**308**	*e*P	**Pn**	**05 14 01.0**	**-0.2**
HOR	**Horta**	**3.26**	**296**	*e*P	**Pn**	**05 14 03.8**	**+0.6**
HOR				*e*S	**Sn**	**05 14 40.9**	**-1.3**
CALA	**Caldeira**	**3.33**	**297**	*e*P	**Pn**	**05 14 05.0**	**+0.8**
CALA				*e*S	**Sn**	**05 14 43.2**	**-0.8**
PCED	**Cedros**	**3.35**	**298**	*e*P	**Pn**	**05 14 04.7**	**+0.2**
PCED				*e*S	**Sn**	**05 14 42.6**	**-1.9**
PCED				A		05 14 43.5	
	42nm,0.4s						
PMAR	**Madeira**	**7.90**	**121**	*e*Pn	**Pn**	**05 15 06.4**	**-0.5**
PMAR				*e*Sn	**Sn**	**05 16 27.8**	**-8.7**
PMAR				A		05 16 38.9	
	32nm,0.4s						
PMAR	**Madeira**	**7.90**	**121**	*e*Pn	**Pn**	**05 15 06.4**	**-0.5**
PMAR				*e*Sn	**Sn**	**05 16 27.8**	**-8.7**
	32nm,0.4s						
PMPS	**Porto Santo**	**8.12**	**118**	*e*Pn	**Pn**	**05 15 08.1**	**-1.8**
PMPS				*e*Sn	**Sn**	**05 16 29.7**	**-12**
EHIG	**Higuera**	**10.43**	**143**	P	**Pn**	**05 15 41.5**	**0.0**
	38nm,0.5s						
EHIG	**Higuera**	**10.43**	**143**	P	**Pn**	**05 15 41.5**	**-0.1**
	38nm,0.5s						
EGOM	**La Gomera**	**11.05**	**142**	P	**Pn**	**05 15 48.9**	**-1.1**
	25nm,0.4s						
EGOM				S	**Sn**	**05 17 47.6**	**-6.2**
EGOM	**La Gomera**	**11.05**	**142**	P	**Pn**	**05 15 48.9**	**-1.1**
	25nm,0.4s						
EBAJ	**Bajamar**	**11.19**	**138**	P	**Pn**	**05 15 51.4**	**-0.6**
	4.7nm,0.3s						
EBAJ				S	**Sn**	**05 17 52.5**	**-4.7**
EBAJ	**Bajamar**	**11.19**	**138**	P	**Pn**	**05 15 51.4**	**-0.6**
	4.7nm,0.3s						
CCAN	**Las Canadas**	**11.30**	**139**	P	**Pn**	**05 15 52.9**	**-0.6**
	11nm,0.5s						
CCAN				S	**Sn**	**05 17 55.5**	**-4.6**
CCAN	**Las Canadas**	**11.30**	**139**	P	**Pn**	**05 15 52.9**	**-0.6**
	11nm,0.5s						
EOSO	**Osorio**	**11.98**	**136**	P	**Pn**	**05 16 02.4**	**-0.5**
	4.3nm,0.4s						
EOSO	**Osorio**	**11.98**	**136**	P	**Pn**	**05 16 02.4**	**-0.5**
	4.3nm,0.4s						
CFTV	**Fuerteventura**	**12.58**	**131**	P	**Pn**	**05 16 08.5**	**-2.6**
	0.6nm,0.2s						
CFTV	**Fuerteventura**	**12.58**	**131**	P	**Pn**	**05 16 08.5**	**-2.6**
	0.6nm,0.2s						
PFVI	**Vila Bisbo**	**12.83**	**85**	*e*S	**Sn**	**05 18 19.7**	**-18**
PTEO	**Sao Teotonio**	**12.89**	**83**	*e*S	**Sn**	**05 18 20.4**	**-18**
MORF	**Marmelete**	**12.96**	**84**	*e*S	**Sn**	**05 18 22.2**	**-18**
MOE	**Montemor**	**13.16**	**79**	*e*S	**Sn**	**05 18 26.5**	**-19**
EVOP	**Sao Brissos**	**13.34**	**79**	*e*Sn	**Sn**	**05 18 31.6**	**-18**
	4.2nm,0.4s						
EVO	**Evora**	**13.43**	**79**	*e*Sn	**Sn**	**05 18 31.6**	**-20**
	8.4nm,0.4s						
EVO				*e*MLR	MLR		
	comp=Z,453nm,22.0s						
PBDV	**Barranco-do-Ve**	**13.54**	**84**	*e*S	**Sn**	**05 18 37.7**	**-17**
PBEJ	**Beja**	**13.55**	**81**	*e*S	**Sn**	**05 18 36.3**	**-19**
PVAQ	**Vaqueiros**	**13.70**	**84**	*e*S	**Sn**	**05 18 40.2**	**-18**
PESTR	**Estremoz**	**13.77**	**78**	*e*S	**Sn**	**05 18 42.2**	**-18**
PCAB	**Cabril**	**13.82**	**65**	*e*S	**Sn**	**05 18 40.1**	**-22**
ELOB	**Lobios**	**13.84**	**65**	P	**Pn**	**05 16 18.2**	**-10**
	comp=Z,0.7nm,0.3s						
ELOB				S	**Sn**	**05 18 41.3**	**-21**
MTE	**Manteigas**	**13.93**	**71**	*e*S	**Sn**	**05 18 43.2**	**-21**
PBAR	**Barrancos**	**14.20**	**80**	*e*S	**Sn**	**05 18 51.6**	**-19**
MVO	**Moncorvo**	**14.44**	**68**	*e*S	**Sn**	**05 18 54.6**	**-22**
ESDC	**Sonseca Array**	**16.61**	**75**	Pn	**Pn**	**05 16 59.0**	**-5.9**
	comp=Z,0.1nm,0.3s,baz=270,slow=13,SNR=3.7						
ESDC				LR	LR	05 22 24.3	
	comp=Z,185nm,18.4s,baz=305,slow=34						
MDT	**Midelt**	**17.17**	**99**	Pn	**Pn**	**05 17 07.5**	**-4.6**
	comp=Z,0.0nm,0.3s,baz=303,slow=8.4,SNR=2.1						
MDT				LR	LR	05 22 18.0	
	comp=Z,190nm,20.4s,baz=272,slow=32						
SJPF	**Ste Jean**	**19.04**	**64**	*e*P	**Pn**	**05 17 34.0**	**-0.9**
	comp=Z,36nm,1.5s						
SJPF	**Ste Jean**	**19.04**	**64**	*e*P	**Pn**	**05 17 34.0**	**-0.9**
	comp=Z,18nm,1.5s						
QUIF	**Quistinic**	**19.24**	**49**	*e*P	**Pn**	**05 17 36.6**	**-0.7**
	comp=Z,63nm,1.5s						
QUIF	**Quistinic**	**19.24**	**49**	*e*P	**Pn**	**05 17 36.6**	**-0.7**
	comp=Z,32nm,1.5s						
ROSF	**Rostrenen**	**19.37**	**48**	*e*P	**Pn**	**05 17 37.4**	**-1.4**
	comp=Z,78nm,1.7s						
ROSF	**Rostrenen**	**19.37**	**48**	*e*P	**Pn**	**05 17 37.4**	**-1.4**
	comp=Z,39nm,1.7s						
ETSF	**Etsaut**	**19.48**	**65**	*e*P	**Pn**	**05 17 39.5**	**-0.8**
SGMF	**Saint Gilles**	**19.76**	**49**	*e*P	**Pn**	**05 17 41.9**	**-1.6**
	comp=Z,58nm,1.6s						
SGMF	**Saint Gilles**	**19.76**	**49**	*e*P	**Pn**	**05 17 41.9**	**-1.6**
	comp=Z,29nm,1.6s						
EPF	**Esparros**	**20.16**	**65**	*e*P	**P**	**05 17 46.9**	**+0.5**
	comp=Z,44nm,1.5s						
EPF	**Esparros**	**20.16**	**65**	*e*P	**P**	**05 17 46.9**	**+0.5**
	comp=Z,22nm,1.5s						
DCN	**Croghan**	**20.33**	**32**	*e*P	**P**	**05 17 50.9**	**+2.8**
MFF	**Saint Martin d**	**20.65**	**55**	*e*P	**P**	**05 17 52.1**	**+0.4**
	comp=Z,50nm,1.3s						
MFF	**Saint Martin d**	**20.65**	**55**	*e*P	**P**	**05 17 52.1**	**+0.4**
	comp=Z,25nm,1.3s						
LFF	**La Frestale**	**20.80**	**60**	*e*P	**P**	**05 17 53.5**	**+0.1**
	comp=Z,49nm,1.2s						
LFF	**La Frestale**	**20.80**	**60**	*e*P	**P**	**05 17 53.5**	**+0.1**
	comp=Z,25nm,1.2s						
GRR	**Gorron**	**20.84**	**50**	*e*P	**P**	**05 17 54.4**	**+0.6**
	comp=Z,54nm,1.1s						
GRR	**Gorron**	**20.84**	**50**	*e*P	**P**	**05 17 54.4**	**+0.6**
	comp=Z,27nm,1.1s						
FLN	**La Foliniere**	**21.22**	**49**	*e*P	**P**	**05 17 58.3**	**+0.4**
FLN				*e*MLR	MLR		
	comp=Z,273nm,20.5s,MS3.3						
FLN	**La Foliniere**	**21.22**	**49**	*e*P	**P**	**05 17 58.3**	**+0.4**
FLN				LR	LR		
	comp=Z,270nm,20.5s,MS3.6						
LDF	**La Druitiere**	**21.38**	**50**	*e*P	**P**	**05 17 58.7**	**-0.8**
	comp=Z,32nm,1.3s,mb4.2						
LDF	**La Druitiere**	**21.38**	**50**	*e*P	**P**	**05 17 58.7**	**-0.8**
	comp=Z,16nm,1.3s,mb4.2						
RJF	**Les Rejaudoux**	**21.42**	**59**	*e*P	**P**	**05 17 59.6**	**-0.4**
	comp=Z,37nm,1.3s,mb4.2						
RJF				*e*MLR	MLR		
	comp=Z,386nm,18.5s,MS3.5						
RJF	**Les Rejaudoux**	**21.42**	**59**	*e*P	**P**	**05 17 59.6**	**-0.4**
	comp=Z,18nm,1.3s,mb4.2						
RJF				LR	LR		
	comp=Z,390nm,18.5s,MS3.8						
CAF	**Calviac**	**21.71**	**61**	*e*P	**P**	**05 18 03.3**	**+0.1**
	comp=Z,44nm,1.2s,mb4.5						
CAF	**Calviac**	**21.71**	**61**	*e*P	**P**	**05 18 03.3**	**+0.1**
	comp=Z,22nm,1.2s,mb4.5						
TCF	**Toulx Ste Croi**	**22.12**	**57**	*e*P	**P**	**05 18 07.7**	**+0.1**
	comp=Z,59nm,1.6s,mb4.5						
TCF	**Toulx Ste Croi**	**22.12**	**57**	*e*P	**P**	**05 18 07.7**	**+0.1**
	comp=Z,30nm,1.6s,mb4.5						
BGF	**Bois d'Agland**	**22.62**	**57**	*e*P	**P**	**05 18 14.0**	**+1.2**
LASF	**Ste Croix**	**22.84**	**63**	*e*P	**P**	**05 18 15.1**	**-0.1**
	comp=Z,39nm,1.4s,mb4.4						
LASF	**Ste Croix**	**22.84**	**63**	*e*P	**P**	**05 18 15.1**	**-0.1**
	comp=Z,20nm,1.4s,mb4.4						
AVF	**Avril sur Loir**	**23.02**	**56**	*e*P	**P**	**05 18 16.6**	**-0.4**
	comp=Z,27nm,1.5s,mb4.2						
AVF	**Avril sur Loir**	**23.02**	**56**	*e*P	**P**	**05 18 16.6**	**-0.4**
	comp=Z,14nm,1.5s,mb4.2						
SSF	**Saint Saulge**	**23.18**	**56**	*e*P	**P**	**05 18 19.0**	**+0.2**
	comp=Z,18nm,1.2s,mb4.1						
SSF	**Saint Saulge**	**23.18**	**56**	*e*P	**P**	**05 18 19.0**	**+0.2**
	comp=Z,8.9nm,1.2s,mb4.1						
SMF	**Signal de Mont**	**23.30**	**57**	*e*P	**P**	**05 18 20.0**	**-0.1**
	comp=Z,26nm,1.2s,mb4.2						
SMF	**Signal de Mont**	**23.30**	**57**	*e*P	**P**	**05 18 20.0**	**-0.1**
	comp=Z,13nm,1.2s,mb4.2						
EKA	**Eskdalemuir Ar**	**23.44**	**32**	P	**P**	**05 18 16.2**	**-5.3**
	comp=Z,1.0nm,0.9s,mb3.2,baz=225,slow=8.6,SNR=2.9						
LOR	**Lormes**	**23.47**	**55**	*e*P	**P**	**05 18 21.7**	**-0.1**
	comp=Z,46nm,1.5s,mb4.4						
LOR				*e*MLR	MLR		
	comp=Z,211nm,18.8s,MS3.3						
LOR	**Lormes**	**23.47**	**55**	*e*P	**P**	**05 18 21.7**	**-0.1**
	comp=Z,23nm,1.5s,mb4.4						
LOR				LR	LR		
	comp=Z,210nm,18.8s,MS3.6						
VIVF	**Saint-Julien-l**	**23.53**	**62**	*e*P	**P**	**05 18 22.8**	**+0.3**
	comp=Z,27nm,1.2s,mb4.3						
VIVF	**Saint-Julien-l**	**23.53**	**62**	*e*P	**P**	**05 18 22.8**	**+0.3**
	comp=Z,14nm,1.2s,mb4.3						
SMRF	**Simiane la Rot**	**24.05**	**64**	*e*P	**P**	**05 18 26.9**	**-0.4**
	comp=Z,74nm,1.6s,mb4.6						
SMRF	**Simiane la Rot**	**24.05**	**64**	*e*P	**P**	**05 18 26.9**	**-0.4**
	comp=Z,37nm,1.6s,mb4.6						
GIVF	**Givet**	**24.94**	**49**	*e*P	**P**	**05 18 35.0**	**-0.3**
	comp=Z,37nm,1.2s,mb4.5						
GIVF	**Givet**	**24.94**	**49**	*e*P	**P**	**05 18 35.0**	**-0.3**
	comp=Z,18nm,1.2s,mb4.5						
LPL	**La Plagne**	**25.07**	**61**	*e*P	**P**	**05 18 37.5**	**+1.0**
LPG	**La Plagne**	**25.08**	**61**	*e*P	**P**	**05 18 37.6**	**+1.0**
	comp=Z,17nm,1.3s,mb4.1						
LPG	**La Plagne**	**25.08**	**61**	*e*P	**P**	**05 18 37.6**	**+1.0**
	comp=Z,8.4nm,1.3s,mb4.1						
HAU	**Haudompre**	**25.29**	**55**	*e*P	**P**	**05 18 39.4**	**+0.9**
HAU				*e*MLR	MLR		
	comp=Z,253nm,21.8s,MS3.4						
HAU	**Haudompre**	**25.29**	**55**	*e*P	**P**	**05 18 39.4**	**+0.9**
HAU				LR	LR		
	comp=Z,250nm,21.8s,MS3.7						
SBF	**Sospel**	**25.38**	**65**	*e*P	**P**	**05 18 39.3**	**-0.1**
HINF	**Hinteralfeld**	**25.57**	**55**	*e*P	**P**	**05 18 40.8**	**-0.3**
WLF	**Walferdange**	**25.61**	**51**	*e*P	**P**	**05 18 40.9**	**-0.5**
	comp=Z,18nm,1.1s,mb4.5						
WLF	**Walferdange**	**25.61**	**51**	*e*P	**P**	**05 18 40.9**	**-0.5**
	comp=Z,18nm,1.2s,mb4.5						
CDF	**Champ du Feu**	**25.99**	**54**	*e*P	**P**	**05 18 46.3**	**+1.5**
	comp=Z,21nm,1.3s,mb4.2						
CDF	**Champ du Feu**	**25.99**	**54**	*e*P	**P**	**05 18 46.3**	**+1.5**
	comp=Z,10nm,1.3s,mb4.2						
BFO	**Black Forest**	**26.65**	**55**	*e*P	**P**	**05 18 50.5**	**-0.4**
	comp=Z,15nm,1.4s,mb4.3						
BFO	**Black Forest**	**26.65**	**55**	*e*P	**P**	**05 18 50.5**	**-0.4**
	comp=Z,15nm,1.4s,mb4.3						
DAVOX	**Davos/Dischmat**	**27.41**	**58**	LR	LR	05 29 10.1	
	comp=Z,199nm,18.9s,MS3.7,baz=263,slow=35						
GRFO	**Grafenberg**	**28.80**	**53**	*e*P	**P**	**05 19 10.2**	**+0.1**
	comp=Z,4.2nm,0.8s,mb4.2						
GRFO	**Grafenberg**	**28.80**	**53**	*e*P	**P**	**05 19 10.2**	**+0.1**
	comp=Z,4.2nm,0.8s,mb4.2						
GERES	**GERESS Array B**	**30.25**	**55**	P	**P**	**05 19 15.7**	**-7.2**
	comp=Z,0.3nm,0.5s,mb3.2,baz=292,slow=6.2,SNR=2.8						
GERES				LR	LR	05 32 07.7	
	comp=Z,136nm,18.2s,MS3.6,baz=68,slow=38						
NOA	**NORSAR Array B**	**32.94**	**32**	P	**P**	**05 19 45.4**	**-1.0**
NOA				LR	LR	05 30 10.8	
NOA	**NORSAR Array B**	**32.94**	**32**	P	**P**	**05 19 45.4**	**-1.0**
	comp=Z,0.7nm,0.7s,mb3.7,baz=256,slow=14,SNR=2.9						
NOA				LR	LR	05 30 10.8	
	comp=Z,231nm,21.0s,MS3.9,baz=250,slow=31						
TOA0	**Torodi Ar. Sit**	**33.70**	**128**	*e*P	**P**	**05 19 54.7**	**+1.2**
TOA0	**Torodi Ar. Sit**	**33.70**	**128**	*e*P	**P**	**05 19 54.7**	**+1.2**
TORD	**Torodi Ar. Bea**	**33.70**	**128**	P	**P**	**05 19 45.5**	**-8.1**
	comp=Z,0.1nm,0.8s,baz=321,slow=7.7,SNR=2.5						
AKASG	**Malin Array Be**	**40.39**	**53**	P	**P**	**05 20 48.7**	**-1.3**
	comp=Z,0.2nm,0.3s,mb3.3,baz=270,slow=8.4,SNR=3.7						
ARCES	**ARCESS Array B**	**42.12**	**24**	LR	LR	05 36 43.4	
	comp=Z,243nm,18.6s,MS4.1,baz=194,slow=33						
RES	**Resolute Bay**	**49.30**	**341**	*e*P	**P**	**05 22 02.0**	**+1.3**
	comp=Z,210nm,1.2s						
RES	**Resolute Bay**	**49.30**	**341**	*e*P	**P**	**05 22 02.0**	**+1.3**
	comp=Z,210nm,1.2s						
WVT	**Waverly**	**49.66**	**289**	*e*P	**P**	**05 22 06.0**	**+2.0**
	comp=Z,5.7nm,1.1s,mb4.5						
WVT	**Waverly**	**49.66**	**289**	*e*P	**P**	**05 22 06.0**	**+2.0**
	comp=Z,5.7nm,1.1s,mb4.5						
SDV	**Santo Domingo**	**49.95**	**248**	*e*P	**P**	**05 22 10.9**	**+4.5**
	comp=Z,3.4nm,0.8s,mb4.4						
ULM	**Lac du Bonnet**	**51.09**	**309**	LR	LR	05 42 14.3	
	comp=Z,113nm,18.4s,MS3.9,baz=352,slow=34						
FFC	**Flin Flon**	**53.61**	**315**	*e*P	**P**	**05 22 35.1**	**+1.9**
	comp=Z,3.1nm,0.9s,mb4.2						
FFC	**Flin Flon**	**53.61**	**315**	*e*P	**P**	**05 22 35.1**	**+1.9**
	comp=Z,3.1nm,0.9s,mb4.2						
ROSC	**El Rosal**	**55.35**	**247**	LR	LR	05 44 13.3	
	comp=Z,88nm,18.1s,MS3.9,baz=205,slow=34						
BDFB	**Brasilia**	**56.83**	**207**	LR	LR	05 43 52.3	
	comp=Z,98nm,19.5s,MS3.9,baz=47,slow=33						
YKA	**Yellowknife Ar**	**57.70**	**327**	P	**P**	**05 23 02.9**	**+0.4**
YKA				LR	LR	05 46 07.0	
YKA	**Yellowknife Ar**	**57.70**	**327**	P	**P**	**05 23 02.9**	**+0.4**
	comp=Z,0.7nm,0.9s,mb3.7,baz=70,slow=7.0,SNR=7.5						
YKA				LR	LR	05 46 07.0	
	comp=Z,33nm,19.2s,MS3.5,baz=40,slow=34						
YKA	**Yellowknife Ar**	**57.70**	**327**	P	**P**	**05 23 02.9**	**+0.4**
JCT	**Junction City**	**61.11**	**288**	*e*P	**P**	**05 23 28.7**	**+2.1**
	comp=Z,6.3nm,1.0s,mb4.7						
JCT	**Junction City**	**61.11**	**288**	*e*P	**P**	**05 23 28.7**	**+2.1**
	comp=Z,6.2nm,1.0s,mb4.7						
INK	**Inuvik**	**62.41**	**337**	*e*P	**P**	**05 23 35.2**	**+0.5**
INK	**Inuvik**	**62.41**	**337**	*e*P	**P**	**05 23 35.2**	**+0.5**
BW06	**Boulder Array**	**62.52**	**304**	*e*P	**P**	**05 23 37.2**	**+1.4**
	comp=Z,1.3nm,0.8s,mb4.1						
BW06	**Boulder Array**	**62.52**	**304**	*e*P	**P**	**05 23 37.2**	**+1.3**
	comp=Z,1.3nm,0.8s,mb4.1						
PDAR	**Pinedale Array**	**62.52**	**304**	P	**P**	**05 23 35.1**	**-0.8**
	comp=Z,0.9nm,0.9s,mb3.9,baz=69,slow=8.1,SNR=6.5						
BOZ	**Bozeman (W)**	**62.59**	**308**	*e*P	**P**	**05 23 38.9**	**+2.6**
	comp=Z,1.0nm,0.9s,mb4.0						
BOZ	**Bozeman (W)**	**62.59**	**308**	*e*P	**P**	**05 23 38.9**	**+2.6**
	comp=Z,1.0nm,0.9s,mb4.0						
MOOW	**Moose Ponds**	**62.86**	**306**	*e*P	**P**	**05 23 40.5**	**+2.4**
	comp=Z,2.0nm,1.2s,mb4.1						
MOOW	**Moose Ponds**	**62.86**	**306**	*e*P	**P**	**05 23 40.5**	**+2.4**
	comp=Z,2.0nm,1.2s,mb4.1						
TXAR	**Lajitas Array**	**64.60**	**289**	P	**

az=155.0

NEIC ***06*** *05:37:16.3±0.7, 788S×15725E, h10km, mb4.1/2, Error ellipse: s-maj=18.0km s-min=13.6km az=174.0*

ISCJB ***06*** *05:37:18.2±0.8, 79S±0.1×15722E±007, h33km, mb3.7/7, MS3.4/3, Error ellipse: s-maj=18.5km s-min=9.0km az=16.9*

ISC 06 05:37:20.0±0.8, 79S±01×15724E±007, h35km, n13, σ0°94/11, mb3.7/7, MS3.4/3, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
HNR	**Honiara**	**3.08**	**120**	Pn			**Pn**	**05 38 04.6**	**-1.7**
	81nm,0.3s,baz=283,slow=1.3,SNR=12								
HNR					LR		LR	05 38 42.3	
	comp=Z,261nm,18.9s,baz=156,slow=28								
HNR					Sn		**Sn**	**05 38 42.7**	**+0.9**
	128nm,0.3s,baz=263,slow=18,SNR=10.0								
CTA	**Charters Tower**	**16.12**	**220**	LR			LR	05 46 20.2	
	comp=Z,272nm,20.3s,baz=49,slow=34								
GUMO	**Guam**	**24.63**	**330**	LR			LR	05 50 57.8	
	comp=Z,102nm,20.2s,MS3.3,baz=167,slow=34								
WRAB	**Tennant Creek**	**25.19**	**239**	*eP*			**P**	**05 42 42.8**	**+0.3**
	2.8nm,0.8s,mb3.8								
WB2	**Warramunga Arr**	**25.19**	**239**	*eP*			**P**	**05 42 42.8**	**+0.3**
WRA	**Warramunga Arr**	**25.20**	**239**	P			**P**	**05 42 42.9**	**+0.3**
	11nm,0.9s,mb4.4,baz=65,slow=9.5,SNR=29								
WRA					LR		LR	05 52 06.5	
	comp=Z,200nm,19.2s,MS3.6,baz=55,slow=35								
ASAR	**Alice Springs**	**27.32**	**232**	P			**P**	**05 42 59.7**	**-2.0**
	2.1nm,0.9s,mb3.7,baz=62,slow=9.1,SNR=14								
STKA	**Stephens Creek**	**27.95**	**209**	*eP*			**P**	**05 43 08.2**	**+0.9**
	4.2nm,0.8s,mb4.1								
STKA	**Stephens Creek**	**27.95**	**209**	P			**P**	**05 43 08.2**	**+0.9**
	4.9nm,0.7s,mb4.3,baz=40,slow=13,SNR=13								
STKA					LR		LR	05 53 19.2	
	comp=Z,94nm,21.2s,MS3.4,baz=27,slow=34								
SONM	**Songino Array**	**71.30**	**327**	P			**P**	**05 48 35.5**	**-0.5**
	0.2nm,0.6s,mb3.2,baz=146,slow=6.6,SNR=2.6								
MKAR	**Makanchi Array**	**85.55**	**318**	P			**P**	**05 49 55.5**	**+0.9**
	0.1nm,0.3s,mb3.6,baz=102,slow=6.3,SNR=3.0								
YKA	**Yellowknife Ar**	**96.09**	**28**	P			**P**	**05 50 43.8**	**+0.2**
	0.1nm,0.7s,mb3.4,baz=273,slow=4.6,SNR=2.6								
BDFB	**Brasilia**	**145.76**	**133**	PKPbc			PKPbc	05 56 57.6	+1.3
	2.5nm,0.9s,baz=173,slow=2.6,SNR=4.8								

IDC ***06*** *05:54:18.2±0.3, 5536S×12368W, h0km, mb5.3/26, mb1 5.3/26, mb1mx5.3/27, mbtmp5.2/26, MS5.3/20, Ms1 5.3/20, ms1mx5.1/25, Error ellipse: s-maj=17.4km s-min=10.6km az=159.0*

MOS ***06*** *05:54:19.2±2.2, 5540S×12359W, h10km, mb5.6/34, MS5.4/23, Error ellipse: s-maj=35.7km s-min=27.3km az=5.7*

ISCJB ***06*** *05:54:19.2±0.2, 5538S±004×12355W±007, h10km, mb5.4/81, MS5.4/198, Error ellipse: s-maj=6.1km s-min=5.5km az=29.0*

NEIC ***06*** *05:54:20.4±0.1, 5537S×12365W, h10km, mb5.6/65, MS5.5/159, MW5.8, Error ellipse: s-maj=8.6km s-min=6.8km az=132.0, Moment Tensor Solution. s32 Moment tensor: Scale 10^{17}Nm; M_{rr}=5.95; $M_{\theta\theta}$5.97; $M_{\phi\phi}$-0.02; $M_{r\theta}$-2.64; $M_{\theta\phi}$-1.10; $M_{\phi r}$0.37; Best double couple: $M_0$6.60000×10^{17} NP1:ϕ_s281.00000°, δ33.00000°, λ-89.00000°. NP2:ϕ_s99.00000°, δ57.00000°, λ-91.00000°. Principal axes: T 6.7200, Plg12.0000°, Azm190.0000°; N -0.2200, Plg1.0000°, Azm100.0000°; P -6.5100, Plg78.0000°, Azm6.0000°;*

GCMT ***06*** *05:54:20.4±0.1, 5561S×12385W, h12km, MW5.9/108, Moment Tensor Solution. s107, c222; s108, c333; Duration: 2s2 Moment tensor: Scale 10^{18}Nm; M_{rr}-0.90±.01; $M_{\theta\theta}$0.98±.01; $M_{\phi\phi}$-0.08±.01; $M_{r\theta}$0.06±.02; $M_{\theta\phi}$0.11±.01; $M_{\phi r}$-0.11±.02; Best double couple: $M_0$0.95600×10^{18} NP1:ϕ_s77.00000°, δ44.00000°, λ-101.00000°. NP2:ϕ_s272.00000°, δ47.00000°, λ-79.00000°. Principal axes: T 0.9970, Plg1.0000°, Azm355.0000°; N -0.0830, Plg8.0000°, Azm85.0000°; P -0.9140, Plg82.0000°, Azm254.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

BJI ***06*** *05:54:20.4, 5540S×12360W, h10km, mB6.0, Ms5.6, Msz5.2*

BGS ***06*** *05:54:21.0±2.0, 5537S×12365W, h10km, MS5.7, mb5.6(NEIC)*

SZGRF ***06*** *05:54:24.3, 5571S×122.19W, h33km, Southern East Pacific Rise*

ISC 06 05:54:20.9±0.2, 5534S±004×12358W±007, h10km, (h11km±2.5km: pP-P), n814, σ1°02/174, mb5.4/81, MS5.4/198, 38C-109D, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
RPN	**Rapa Nui**	**30.03**	**26**	PFAKE				06 00 40.0	+10
RPN					LR		LR		
	comp=Z,11μm,22.0s,MS5.5								
PMSA	**Palmer Station**	**30.04**	**132**	PFAKE				06 00 40.0	+11
PMSA					LR		LR		
	comp=Z,9μm,22.0s,MS5.3								
PMSA	**Palmer Station**	**30.04**	**132**	LR			LR	06 09 05.5	
	comp=Z,7μm,22.0s,MS5.3,baz=301,slow=30								
USHA	**Ushuaia**	**30.87**	**112**	P			**P**	**06 00 35.2**	**-1.7**
	comp=Z,28nm,1.1s,mb5.0,baz=223,slow=10,SNR=5.5								
USHA					LR		LR	06 09 42.1	
	comp=Z,6μm,20.0s,MS5.2,baz=219,slow=30								
SBA	**Scott Base**	**32.42**	**202**	*eP*			**P**	**06 00 52.0**	**+1.7**
	comp=Z,65nm,1.4s,mb5.3								
SBA					LR		LR		
	comp=Z,11μm,22.0s,MS5.5								
SBA	**Scott Base**	**32.42**	**202**	*eP*			**P**	**06 00 52.0**	**+1.7**
SBA					pmax		pmax		
	comp=Z,65nm,1.4s,mb5.3								
SBA					MLR		MLR		
	comp=Z,11μm,22.0s,MS5.5								
RKT	**Rikitea**	**33.28**	**341**	*e*S			**S**	**06 06 16.4**	**-2.0**
	comp=Z,4μm,28.8s								
RKT					*e*LQ			06 08 14.6	
	comp=Z,5μm,30.0s								
RKT					*e*LR		LR	06 09 49.6	
	comp=Z,29μm,29.2s,baz=168								
RKT	**Rikitea**	**33.28**	**341**	*e*S			**S**	**06 06 16.4**	**-2.0**
RKT					*e*LQ			06 08 14.6	
VNDA	**Vanda**	**33.47**	**202**	P			**P**	**06 01 01.6**	**+2.1**
	comp=Z,42nm,1.1s,mb5.3,baz=94,slow=8.8,SNR=72								
VNDA					PcP		PcP	06 03 40.3	+0.2
	comp=Z,14nm,1.0s,baz=279,slow=0.6,SNR=5.8								
VNDA					LR		LR	06 11 22.4	
	comp=Z,11μm,20.9s,MS5.5,baz=70,slow=31								
QSPA	**South Pole Qui**	**34.84**	**180**	*eP*			**P**	**06 01 13.0**	**+1.7**
	comp=Z,113nm,1.2s,mb5.7								
QSPA					*e*PcP		PcP	06 03 44.0	+0.1
QSPA					LR		LR		
	comp=Z,6μm,20.0s,MS5.4								
QSPA	**South Pole Qui**	**34.84**	**180**	P			**P**	**06 01 13.4**	**+2.0**
	comp=Z,77nm,1.1s,mb5.5,baz=105,slow=5.6,SNR=54								
QSPA					LR		LR	06 13 04.5	
	comp=Z,7μm,21.1s,MS5.4,baz=275,slow=32								
TBI	**Tubuai**	**37.27**	**319**	*e*S			**S**	**06 07 19.6**	**-0.1**
	comp=Z,3μm,28.5s								
TBI					*e*LQ			06 10 04.4	
	comp=Z,8μm,23.8s								
TBI	**Tubuai**	**37.27**	**319**	*e*S			**S**	**06 07 19.6**	**-0.1**
TBI					*e*LQ			06 10 04.4	
PLCA	**Paso Flores**	**37.38**	**90**	⇓*iP*			**P**	**06 01 34.4**	**+0.9**
	comp=Z,113nm,1.5s,mb5.5								
PLCA					*e*PcP		PcP	06 03 51.8	-0.3
PLCA					LR		LR		
	comp=Z,3μm,22.0s,MS5.0								
PLCA	**Paso Flores**	**37.38**	**90**	P			**P**	**06 01 33.9**	**+0.4**
	comp=Z,62nm,1.4s,mb5.3,baz=233,slow=9.2,SNR=24								
PLCA					PcP		PcP	06 03 52.2	0.0
	comp=Z,18nm,1.3s,baz=231,slow=5.0,SNR=6.8								
PLCA					LR		LR	06 12 50.9	
	comp=Z,3μm,20.7s,MS5.0,baz=228,slow=30								
EFI	**East Falkland**	**37.85**	**113**	PFAKE				06 01 50.0	+13
EFI					LR		LR		
	comp=Z,7μm,22.0s,MS5.4								
EFI	**East Falkland**	**37.85**	**113**	⇑*iP*			**P**	**06 01 37.1**	**-0.2**
MRZ	**Mangatainoka R**	**41.89**	**264**	P*			**P**	**06 02 13.0**	**+2.0**
MRZ					pP		pP	06 02 19.8	+5.7
SNZO	**South Karori**	**41.95**	**263**	PFAKE				06 02 20.0	+8.5
SNZO					LR		LR		
	comp=Z,5μm,20.0s,MS5.0								
RPZ	**Rata Peaks**	**42.45**	**258**	LR			LR	06 16 49.1	
	comp=Z,2μm,18.6s,MS5.0,baz=122,slow=32								
CLCH	**Cerro Calan**	**42.52**	**82**	⇓*eP*			**P**	**06 02 16.3**	**+0.1**
PPT	**Papeete**	**42.60**	**322**	*e*S			**S**	**06 08 36.8**	**-2.9**
	comp=Z,4μm,26.0s								
PPT					*e*LQ			06 11 58.8	
	comp=Z,32μm,26.8s								
PPT					*e*LR		LR	06 14 13.3	
	comp=Z,20μm,27.2s,baz=165								
PPT	**Papeete**	**42.60**	**322**	*e*S			**S**	**06 08 36.8**	**-2.9**
PPT					*e*LQ			06 11 58.8	
PPT	**Papeete**	**42.60**	**322**	LR			LR	06 15 34.6	
	comp=Z,4μm,20.2s,MS5.3,baz=153,slow=30								
URZ	**Urewera**	**42.64**	**268**	P			**P**	**06 02 16.1**	**-1.1**
	comp=Z,11nm,1.0s,mb4.6,baz=13,slow=5.5,SNR=4.8								
URZ					LR		LR	06 16 00.3	
	comp=Z,3μm,20.0s,MS5.1,baz=146,slow=31								
WHZ	**Wether Hill Ro**	**42.79**	**253**	P*			**P**	**06 02 20.6**	**+2.3**
DRV	**Dumont d'Urvil**	**43.33**	**215**	P			**P**	**06 02 27.0**	**+4.6**
DRV					S		**S**	**06 08 55.0**	**+5.5**
DRV					L			06 12 00.0	
DRV					R			06 14 00.0	
DCZ	**Deep Cove**	**43.49**	**253**	P*			**P**	**06 02 25.0**	**+1.1**
RAR	**Rarotonga**	**43.50**	**307**	P			**P**	**06 02 22.9**	**-1.3**
	comp=Z,6.7nm,0.7s,mb4.5,baz=164,slow=7.4,SNR=2.6								
RAR					LR		LR	06 15 27.4	
	comp=Z,2μm,20.4s,MS5.0,baz=148,slow=29								
TRQA	**Tornquist**	**44.08**	**94**	⇓*iP*			**P**	**06 02 29.0**	**+0.2**
	comp=Z,192nm,1.5s,mb5.6								
TRQA					*e*PcP		PcP	06 04 12.9	-1.0
TRQA					LR		LR		
	comp=Z,2μm,22.0s,MS4.9								
VAH	**Vaihoa**	**44.12**	**326**	*eP*			**P**	**06 02 30.5**	**+1.3**
	comp=Z,71nm,1.2s,mb5.3								
PMOR	**Pomariorio Ree**	**44.42**	**325**	*eP*			**P**	**06 02 32.8**	**+1.1**
	comp=Z,38nm,1.4s,mb4.9								
TLL	**Tololo Astrono**	**44.79**	**78**	⇓*eP*			**P**	**06 02 35.0**	**+0.5**
CFAA	**Coronel Fontan**	**45.15**	**82**	LR			LR	06 16 53.9	
	comp=Z,148nm,20.9s,baz=300,slow=30								
VNA3	**Neumayer Olymp**	**45.44**	**155**	*eP*			**P**	**06 02 39.6**	**+0.4**
VNA3				*e*			pP	06 02 42.6	+0.3
VNA3				*e*				06 02 45.2	
VNA3				*e*				06 02 48.4	
VNA3				*e*				06 02 56.3	
VNA3				*e*				06 04 16.4	
VNA3				*e*				06 04 18.5	
VNA3				*e*				06 04 20.3	
VNA3				*e*				06 04 25.0	
VNA3				*e*				06 04 32.7	
LCO	**Las Campanas**	**45.73**	**77**	*eP*			**P**	**06 02 42.3**	**+0.3**
	comp=Z,133nm,1.5s,mb5.7								
LCO					LR		LR		
	comp=Z,889nm,20.0s,MS4.7								
VNA1	**Neumayer--Stat**	**46.18**	**155**	*eP*			**P**	**06 02 46.3**	**+1.2**
VNA1				*e*			pP	06 02 49.1	+0.9
VNA1				*e*				06 02 52.0	
VNA1				*e*				06 02 54.6	
VNA1				*e*				06 03 06.0	
VNA1				*e*				06 04 19.0	
VNA1				*e*				06 04 23.0	
VNA1				*e*				06 04 24.7	
VNA1				*e*				06 04 27.7	
VNA1				*e*				06 04 36.7	
VNA2	**Neumayer--Watz**	**46.19**	**156**	*eP*			**P**	**06 02 45.9**	**+0.8**
	baz=215,slow=8.3								
VNA2				*e*			pP	06 02 48.9	+0.6
VNA2				*e*				06 02 51.5	
VNA2				*e*				06 02 54.6	
VNA2				*e*				06 03 04.6	
VNA2				*e*				06 04 19.2	
VNA2				*e*				06 04 21.2	
VNA2				*e*				06 04 23.1	
VNA2				*e*				06 04 24.7	
VNA2				*e*				06 04 27.5	
VNA2				*e*				06 04 37.5	
SNAA	**Sanae**	**46.67**	**158**	*eP*			**P**	**06 02 48.6**	**-0.3**
SNAA				*e*			pP	06 02 52.3	+0.3
SNAA				*e*				06 02 55.2	
SNAA				*e*				06 02 58.2	
SNAA				*e*				06 03 09.7	
SNAA				*e*				06 04 21.0	
SNAA				*e*				06 04 24.6	
SNAA				*e*				06 04 31.9	
SNAA	**Sanae**	**46.67**	**158**	LR			LR	06 23 15.1	
	comp=Z,3μm,18.0s,MS5.2,baz=251,slow=37								
TAOE	**Nuku Hiva Isla**	**48.19**	**338**	*e*S			**S**	**06 10 00.7**	**+0.3**
	comp=Z,94μm,27.3s								
TAOE					*e*LQ			06 14 11.3	
	comp=Z,166μm,25.0s								
TAOE					*e*LR		LR	06 16 39.8	
	comp=Z,423μm,28.3s								
TAOE	**Nuku Hiva Isla**	**48.19**	**338**	*e*S			**S**	**06 10 00.7**	**+0.3**
TAOE					*e*LQ			06 14 11.3	
LPA	**La Plata**	**48.61**	**94**	*deP*			**P**	**06 03 05.0**	**+0.6**
LPA				*e*pP			pP	06 03 06.0	-1.6
LPA				*e*S			**S**	**06 10 07.0**	**+0.9**
LPA				*e*pS				06 10 10.0	
MAIT	**Maitri**	**50.22**	**162**	*eP*			**P**	**06 03 15.7**	**-0.5**
NVL	**N'lazarevskaya**	**50.24**	**162**	*i* P			**P**	**06 03 17.5**	**+1.1**
NVL				*i*				06 03 25.2	
NVL				*e*S			**S**	**06 10 30.6**	**+2.5**
NVL				pmax			pmax		
	comp=N,51nm,1.4s								
NVL				pmax			pmax		
	comp=E,41nm,1.4s								
NVL				pmax			pmax		
	comp=Z,117nm,1.4s,mb5.7								
CASY	**Casey**	**52.04**	**205**	*eP*			**P**	**06 03 30.8**	**+0.9**
CASY					LR		LR		
	comp=Z,6μm,22.0s,MS5.6								
MIR	**Mirnyy**	**55.35**	**197**	⇑*iP*			**P**	**06 03 49.0**	**-5.1**
MIR				*i*				06 03 54.0	
MIR				*i* S			**S**	**06 11 44.0**	**+6.2**
MIR				pmax			pmax		
	comp=Z,600nm,1.5s,mb6.4								
SYO	**Syowa Base**	**55.35**	**173**	⇓*iP*			**P**	**06 03 54.5**	**+0.4**
ARE	**Arequipa**	**55.39**	**67**	*eP*			**P**	**06 03 55.0**	**-0.1**
TAU	**Tasmania Unive**	**55.71**	**243**	*eP*			**P**	**06 03 57.1**	**0.0**
	comp=Z,153nm,1.2s,mb5.9								
TAU					LR		LR		
	comp=Z,2μm,19.0s,MS5.2								
TAU	**Tasmania Unive**	**55.71**	**243**	*eP*			**P**	**06 03 57.8**	**+0.7**
TAU				pmax			pmax		
	comp=Z,150nm,1.2s,mb5.9								
NNA	**Nana**	**56.46**	**59**	*eP*			**P**	**06 04 03.2**	**+0.4**
	comp=Z,89nm,1.3s,mb5.6								
NNA					LR		LR		
	comp=Z,1μm,19.0s,MS5.0								
NNA	**Nana**	**56.46**	**59**	P			**P**	**06 04 02.7**	**-0.1**
	comp=Z,10.0nm,0.3s,mb5.3,baz=224,slow=8.6,SNR=5.6								
NNA					LR		LR	06 23 17.2	
	comp=Z,938nm,18.8s,MS4.9,baz=210,slow=31								
MAW	**Mawson**	**57.28**	**183**	*eP*			**P**	**06 04 07.7**	**-0.2**
	comp=Z,42nm,1.0s,mb5.4								
MAW	**Mawson**	**57.28**	**183**	*eP*			**P**	**06 04 07.7**	**-0.2**
MAW				pmax			pmax		
	comp=Z,42nm,1.0s								
MAW	**Mawson**	**57.28**	**183**	P			**P**	**06 04 06.5**	**-1.4**
	comp=Z,80nm,1.1s,mb5.7,baz=185,slow=7.4,SNR=39								
MAW					LR		LR	06 26 54.9	
	comp=Z,12μm,21.0s,MS6.0,baz=168,slow=34								
LPAZ	**La Paz**	**57.32**	**70**	⇓*iP*			**P**	**06 04 10.0**	**+1.1**
	comp=Z,54nm,0.8s,mb5.6								
LPAZ					LR		LR		
	comp=Z,1μm,22.0s,MS5.0								
LPAZ	**La Paz**	**57.32**	**70**	*eP*			**P**	**06 04 10.0**	**+1.1**
LPAZ				pmax			pmax		
	comp=Z,54nm,0.8s								
LPAZ	**La Paz**	**57.32**	**70**	P			**P**	**06 04 09.4**	**+0.5**
	comp=Z,137nm,1.3s,mb5.8,baz=200,slow=4.9,SNR=128								
LPAZ					LR		LR	06 22 56.2	
	comp=Z,1μm,21.6s,MS4.9,baz=320,slow=30								
LPAZ					PKPPKP			06 33 59.0	
	comp=Z,0.8nm,0.7s,baz=223,slow=7.2,SNR=4.2								
ATAH	**Atahualpa**	**60.06**	**54**	P			**P**	**06 04 27.8**	**-0.1**
	comp=Z,50nm,1.2s,mb5.4,baz=246,slow=5.7,SNR=23								
ATAH					LR		LR	06 24 39.9	
	comp=Z,2μm,19.5s,MS5.2,baz=23,slow=30								
CNB	**Canberra Magne**	**60.24**	**250**	*eP*			**P**	**06 04 29.7**	**+0.7**
	comp=Z,171nm,1.2s,mb6.0								
ARMA	**Armidale**	**62.72**	**255**	*eP*			**P**	**06 04 46.2**	**+0.4**
FUNA	**Funafuti**	**64.74**	**293**	PFAKE				06 05 10.0	+11
FUNA					LR		LR		
	comp=Z,5μm,20.0s,MS5.7								
CAM4	**Nova Friburgo**	**66.86**	**96**	⇑*iP*			**P**	**06 05 11.1**	**-1.8**
CAM4				*i*				06 05 22.5	
CAM4				*i*				06 05 44.5	
CAM4				*i*				06 06 17.4	
EIDS	**Eidsvold**	**66.94**	**259**	⇓*iP*			**P**	**06 05 11.8**	**-1.6**
	comp=Z,49nm,1.6s,mb5.3								
STKA	**Stephens Creek**	**67.02**	**247**	⇓*iP*			**P**	**06 05 13.4**	**-0.4**
	comp=Z,33nm,1.1s,mb5.3								
STKA	**Stephens Creek**	**67.02**	**247**	P			**P**	**06 05 13.1**	**-0.7**
	comp=Z,38nm,1.0s,mb5.4,baz=141,slow=6.3,SNR=40								
STKA					LR		LR	06 30 14.8	
	comp=Z,1μm,18.5s,MS5.1,baz=141,slow=32								
STKA					PKPPKP			06 33 39.1	
	comp=Z,2.2nm,0.8s,baz=269,slow=6.3,SNR=4.6								
BDFB	**Brasilia**	**69.08**	**87**	P			**P**	**06 05 26.4**	**-0.5**
	comp=Z,19nm,1.2s,mb4.9,baz=200,slow=7.7,SNR=23								
BDFB					LR		LR	06 32 23.4	
	comp=Z,2μm,20.0s,MS5.3,baz=18,slow=33								
CAM3	**Guarapari**	**69.30**	**97**	⇑*iP*			**P**	**06 05 26.7**	**-1.5**
CAM3				*i*				06 05 34.1	
CAM3				*i*				06 05 50.3	
ROSC	**El Rosal**	**72.39**	**52**	P			**P**	**06 05 47.8**	**+0.9**
	comp=Z,80nm,1.3s,mb5.5,baz=142,slow=1.8,SNR=72								
CTA	**Charters Tower**	**73.82**	**258**	⇓*iP*			**P**	**06 05 55.3**	**-0.2**
	comp=Z,54nm,1.1s,mb5.4								
CTA	**Charters Tower**	**73.82**	**258**	P			**P**	**06 05 55.6**	**+0.1**
CTA				pmax			pmax		
	comp=Z,67nm,1.0s								
CTA	**Charters Tower**	**73.82**	**258**	P			**P**	**06 05 55.6**	**+0.1**
	comp=Z,67nm,1.0s,mb5.5,baz=166,slow=5.5,SNR=25								
CTAO	**Charters Tower**	**73.82**	**258**	⇓*iP*			**P**	**06 05 55.4**	**-0.1**
	comp=Z,96nm,1.1s,mb5.6								
CTAO					LR		LR		
	comp=Z,1μm,19.0s,MS5.2								
CTAO	**Charters Tower**	**73.82**	**258**	⇓*iP*			**P**	**06 05 55.4**	**-0.1**
CTAO				pmax			pmax		
	comp=Z,96nm,1.1s,mb5.6								
CTAO				MLR			MLR		
	comp=Z,1μm,19.0s,MS5.2								
HNR	**Honiara**	**74.61**	**276**	PFAKE				06 06 10.0	+10
HNR					LR		LR		
	comp=Z,556nm,21.0s,MS4.8								
FORT	**Forrest**	**74.75**	**238**	*eP*			**P**	**06 06 00.0**	**-0.8**
	comp=Z,97nm,0.9s,mb5.7								
TGUH	**Tegucigalpa,Un**	**75.60**	**36**	⇓*iP*			**P**	**06 06 05.8**	**+0.1**
	comp=Z,143nm,1.5s,mb5.7								
TGUH					LR		LR		
	comp=Z,2μm,21.0s,MS5.4								
CMIG	**Matias Romero**	**76.14**	**28**	P			**P**	**06 06 07.7**	**-1.0**
	comp=Z,14nm,1.1s,mb4.8,baz=176,slow=6.0,SNR=4.5								
SDV	**Santo Domingo**	**77.63**	**54**	⇓*iP*			**P**	**06 06 15.3**	**-1.9**
	comp=Z,119nm,1.5s,mb5.6								
SDV					LR		LR		
	comp=Z,332nm,19.0s,MS4.7								
SDV	**Santo Domingo**	**77.63**	**54**	P			**P**	**06 06 15.0**	**-2.2**
	comp=Z,30nm,1.1s,mb5.1,baz=243,slow=4.8,SNR=38								
ASAR	**Alice Springs**	**77.64**	**246**	P			**P**	**06 06 16.1**	**-1.2**
ASAR				pmax			pmax		
	comp=Z,55nm,1.0s								
ASAR	**Alice Springs**	**77.64**	**246**	P			**P**	**06 06 16.1**	**-1.2**
	comp=Z,54nm,1.0s,mb5.5,baz=144,slow=5.3,SNR=174								
NWAO	**Narrogin (SRO)**	**77.89**	**229**	⇓*iP*			**P**	**06 06 17.2**	**-1.4**
	comp=Z,104nm,1.3s,mb5.6								
NWAO					LR		LR		
	comp=Z,853nm,21.0s,MS5.0								
NWAO	**Narrogin (SRO)**	**77.89**	**229**	P			**P**	**06 06 17.6**	**-1.0**
NWAO				pmax			pmax		
	comp=Z,100nm,1.2s								
KLBR	**Kellerberrin**	**78.81**	**230**	⇓*iP*			**P**	**06 06 23.0**	**-0.7**
	comp=Z,146nm,1.4s,mb5.7								
MUN	**Mundaring**	**79.15**	**228**	⇓*iP*			**P**	**06 06 25.3**	**-0.2**
POHA	**Pohakuloa**	**79.59**	**330**	PFAKE				06 06 40.0	+12
POHA					LR		LR		
	comp=Z,5μm,22.0s,MS5.8								
LPIG	**La Paz**	**79.93**	**12**	P			**P**	**06 06 28.5**	**-1.1**
	comp=Z,11nm,0.5s,mb5.0,baz=170,slow=11,SNR=3.1								
WB2	**Warramunga Arr**	**80.45**	**249**	⇓*iP*			**P**	**06 06 31.7**	**-1.1**
WB2				*e*S			S	06 16 37.4	-1.6
WRA	**Warramunga Arr**	**80.46**	**249**	P			**P**	**06 06 31.2**	**-1.6**
WRA				pmax			pmax		
	comp=Z,95nm,1.0s								
WRA	**Warramunga Arr**	**80.46**	**249**	P			**P**	**06 06 31.2**	**-1.6**
	comp=Z,94nm,1.0s,mb5.7,baz=143,slow=4.9,SNR=186								
WRAB	**Tennant Creek**	**80.46**	**249**	⇓*iP*			**P**	**06 06 31.8**	**-1.0**
	comp=Z,166nm,1.1s,mb5.9								
WRAB	**Tennant Creek**	**80.46**	**249**	P			**P**	**06 06 31.9**	**-0.9**
WRAB				pmax			pmax		
	comp=Z,170nm,1.1s,mb5.9								
TEIG	**Tepich**	**81.04**	**33**	⇓*iP*			**P**	**06 06 36.0**	**+0.3**
	comp=Z,186nm,1.7s,mb5.7								
TEIG					LR		LR		
	comp=Z,2μm,21.0s,MS5.5								
TEIG	**Tepich**	**81.04**	**33**	P			**P**	**06 06 34.8**	**-0.8**
	comp=Z,20nm,0.9s,mb5.0,baz=228,slow=

comp=Z,122nnm,1.6s,mb5.9
HKT LR LR
comp=Z,1µm,19.0s,MS5.4
HKT Hockley 88.22 24 P **P 06 07 12.8 +1.1**
HKT pmax pmax
comp=Z,120nm,1.6s,mb5.9
SNCC San Nicolas Is 88.30 3 PFAKE 06 07 20.0 +8.0
SNCC LR LR
comp=Z,3µm,22.0s,MS5.7
GLA Glamis 88.36 7⇓ *iP* **P 06 07 13.1 +0.8**
comp=Z,113nm,1.4s,mb5.9
GLA LR LR
comp=Z,3µm,22.0s,MS5.7
PFO Pinyon Flat Ob 88.80 6⇓ *iP* **P 06 07 14.0 -0.3**
comp=Z,76nm,1.6s,mb5.8
PFO LR LR
comp=Z,3µm,20.0s,MS5.7
PFO Pinyon Flat Ob 88.80 6 *eP* **P 06 07 14.2 -0.1**
PFO pmax pmax
comp=Z,76nm,1.6s,mb5.8
PFO Pinyon Flat Ob 88.80 6 P **P 06 07 14.0 -0.3**
comp=Z,15nm,1.1s,mb5.2,baz=164,slow=1.9,SNR=19
PFO LR LR 06 37 14.4
comp=Z,3µm,21.4s,MS5.7,baz=167,slow=29
NATX Nacogdoches 90.22 24 *eP* **P 06 07 21.9 +0.8**
comp=Z,56nm,1.2s,mb5.8
NATX LR LR
comp=Z,1µm,22.0s,MS5.2
LENM Lemitar 90.28 14 *eP* **P 06 07 21.9 +0.7**
BNM Barren Site 90.31 14 *eP* **P 06 07 21.9 +0.5**
GSC Goldstone 90.47 6 *eP* **P 06 07 22.8 +0.7**
comp=Z,49nm,1.4s,mb5.6
GSC LR LR
comp=Z,3µm,21.0s,MS5.7
GSC Goldstone 90.47 6 P **P 06 07 23.0 +0.9**
LPM Los Pinos Moun 90.47 14 *eP* **P 06 07 22.6 +0.4**
LAZ Ladron 90.49 14 *eP* **P 06 07 23.1 +0.9**
DWPF Disney 90.60 36 PFAKE 06 07 30.0 +7.1
DWPF LR LR
comp=Z,1µm,20.0s,MS5.3
PTRM Twissleman Ran 90.68 3 *eP* **P 06 07 24.4 +1.4**
ISA Isabella 90.75 4⇓ *iP* **P 06 07 24.1 +0.7**
comp=Z,52nm,1.3s,mb5.7
ISA LR LR
comp=Z,3µm,20.0s,MS5.8
WUAZ Wupatki 91.10 10⇓ *iP* **P 06 07 25.5 +0.5**
comp=Z,112nm,1.4s,mb6.0
WUAZ LR LR
comp=Z,2µm,21.0s,MS5.5
ANMO Albuquerque 91.12 14⇓ *iP* **P 06 07 25.4 +0.3**
comp=Z,46nm,1.3s,mb5.7
ANMO LR LR
comp=Z,1µm,22.0s,MS5.4
ANMO Albuquerque 91.12 14 *dP iP* **P 06 07 25.9 +0.8**
ANMO Albuquerque 91.12 14 P **P 06 07 23.5 -1.6**
comp=Z,28nm,1.1s,mb5.5,baz=188,slow=5.6,SNR=39
BRAL Brewton 91.52 31 PFAKE 06 07 40.0 +13
BRAL LR LR
comp=Z,2µm,21.0s,MS5.5
SAO San Andreas Ge 91.76 2 PFAKE 06 07 40.0 +12
SAO LR LR
comp=Z,4µm,22.0s,MS5.8
AMTX Amarillo 91.80 18 *eP* **P 06 07 28.7 +0.4**
comp=Z,28nm,1.1s,mb5.5
AMTX LR LR
comp=Z,1µm,21.0s,MS5.3
TPNV Topopah Spring 92.14 6⇓ *iP* **P 06 07 31.1 +1.3**
comp=Z,38nm,1.3s,mb5.6
TPNV LR LR
comp=Z,3µm,20.0s,MS5.7
TPNV Topopah Spring 92.14 6 P **P 06 07 31.2 +1.4**
TPNV pmax pmax
comp=Z,38nm,1.2s,mb5.6
WMOK Wichita Mounta 92.20 20⇓ *iP* **P 06 07 29.6 -0.5**
comp=Z,28nm,1.5s,mb5.4
WMOK LR LR
comp=Z,1µm,21.0s,MS5.4
WMOK Wichita Mounta 92.20 20 P **P 06 07 30.5 +0.3**
WMOK pmax pmax
comp=Z,28nm,1.5s,mb5.4
BOSA Boshof 92.22 153 *eP* **P 06 07 27.5 -3.2**
comp=Z,32nm,1.3s,mb5.5
BOSA LR LR
comp=Z,2µm,20.0s,MS5.6
BOSA Boshof 92.22 153 P **P 06 07 29.0 -1.7**
BOSA pmax pmax
comp=Z,33nm,1.2s,mb5.5
BOSA Boshof 92.22 153 P **P 06 07 27.4 -3.3**
comp=Z,12nm,1.0s,mb5.2,baz=199,slow=5.6,SNR=8.7
BOSA LR LR 06 43 38.7
comp=Z,2µm,21.0s,MS5.6,baz=203,slow=32
MTUM Tungsten Hills 92.43 4 *eP* **P 06 07 32.3 +1.2**
CCUT Cedar City 92.94 8⇓ *iP* **P 06 07 34.6 +1.2**
CMB Columbia Colle 93.05 3⇓ *iP* **P 06 07 33.9 -0.1**
comp=Z,26nm,1.4s,mb5.5
CMB LR LR
comp=Z,3µm,22.0s,MS5.7
CMB Columbia Colle 93.05 3 P **P 06 07 34.7 +0.7**
CMB pmax pmax
comp=Z,27nm,1.4s,mb5.5
MVCO Mesa Verde 93.08 12⇓ *iP* **P 06 07 33.8 -0.4**
comp=Z,71nm,1.4s,mb5.9
MVCO LR LR
comp=Z,2µm,20.0s,MS5.6
MCCM Marconi Confer 93.12 1 PFAKE 06 07 50.0 +16
MCCM LR LR
comp=Z,3µm,20.0s,MS5.7
MIAR Mount Ida 93.15 24 PFAKE 06 07 50.0 +15
MIAR LR LR
comp=Z,784nm,20.0s,MS5.2
ARUT Antelope Range 93.17 8 *eP* **P 06 07 35.5 +1.0**
LRAL Lakeview Retre 93.44 30 PFAKE 06 07 50.0 +14
LRAL LR LR
comp=Z,22nm,22.0s,MS5.6
NVAR Mina Array Bea 93.51 4 P **P 06 07 36.9 +0.8**
comp=Z,3.3nm,0.8s,mb4.8,baz=177,slow=5.9,SNR=27
NVAR PKKPbc PKKPbc 06 24 41.2 -0.3
comp=Z,1.0nm,0.9s,baz=38,slow=2.1,SNR=6.5
HOPS Hopland 93.97 0 PFAKE 06 07 50.0 +12
HOPS LR LR
comp=Z,4µm,21.0s,MS5.8
MSU Marysvale 93.99 9 *eP* **P 06 07 39.3 +1.0**
SDCO Great Sand Dun 94.00 14⇓ *iP* **P 06 07 38.7 +0.3**
comp=Z,15nm,1.4s,mb5.2
SDCO *e*PP PP 06 11 25.6 +0.6
SDCO LR LR
comp=Z,1µm,19.0s,MS5.4
ASCN Ascension 94.23 110 PFAKE 06 07 50.0 +10
ASCN LR LR
comp=Z,1µm,20.0s,MS5.3
OHCM Honcut 94.32 2 *eP* **P 06 07 40.2 +0.4**
SRU San Rafael 94.74 10⇓ *iP* **P 06 07 41.1 -0.7**
comp=Z,11nm,1.2s,mb5.2
SRU San Rafael 94.74 10 *eP* **P 06 07 41.2 -0.5**
SRU pmax pmax
comp=Z,11nm,1.1s,mb5.2
GOGA Godfrey 94.84 33 PFAKE 06 07 50.0 +7.7
GOGA LR LR
comp=Z,956nm,22.0s,MS5.2
PLAL Pickwick Lake 94.96 29 PFAKE 06 07 50.0 +7.1
PLAL LR LR
comp=Z,1µm,21.0s,MS5.4
SMCO Snowmass 95.21 13 *eP* **P 06 07 44.7 +0.8**
comp=Z,13nm,1.3s,mb5.2
NLU North Lily Min 95.43 9⇓ *iP* **P 06 07 45.5 +0.7**
MPU Maple Canyon 95.53 9⇓ *iP* **P 06 07 45.8 +0.5**
comp=Z,23nm,1.3s,mb5.5
MPU LR LR
comp=Z,4µm,20.0s,MS5.9
WDC Whiskeytown Da 95.55 1⇓ *iP* **P 06 07 44.9 -0.5**
comp=Z,30nm,1.8s,mb5.4
WDC LR LR
comp=Z,3µm,21.0s,MS5.8
WDC Whiskeytown Da 95.55 1 P **P 06 07 45.8 +0.4**
WDC pmax pmax
comp=Z,30nm,1.7s,mb5.5
DUG Dugway 95.61 8⇓ *iP* **P 06 07 46.0 +0.4**
comp=Z,20nm,1.4s,mb5.4
DUG LR LR
comp=Z,2µm,22.0s,MS5.6
DUG Dugway 95.61 8 P **P 06 07 46.2 +0.5**
DUG pmax pmax
comp=Z,20nm,1.4s,mb5.3
NHSC New Hope 95.61 35 PFAKE 06 08 00.0 +14
NHSC LR LR
comp=Z,1µm,20.0s,MS5.3

LBTB Lobatse 95.74 152 *eP* **P 06 07 44.5 -2.4**
comp=Z,24nm,1.2s,mb5.5
LBTB LR LR
comp=Z,2µm,20.0s,MS5.5
DAU Daniels Canyon 95.96 9 *eP* **P 06 07 47.2 -0.1**
DAU *e*PP PP 06 11 41.4 +1.2
CBKS Cedar Bluff 95.98 19 PFAKE 06 08 00.0 +13
CBKS LR LR
comp=Z,659nm,19.0s,MS5.1
ISCO Idaho Springs 96.00 14 PFAKE 06 08 00.0 +13
ISCO LR LR
comp=Z,3µm,19.0s,MS5.8
WVT Waverly 96.11 28 *eP* **P 06 07 47.8 -0.2**
comp=Z,10nm,1.3s,mb5.1
WVT LR LR
comp=Z,1µm,20.0s,MS5.3
WVT Waverly 96.11 28 *eP* **P 06 07 47.8 -0.3**
WVT pmax pmax
comp=Z,11nm,1.3s,mb5.1
WVT MLR MLR
comp=Z,1µm,20.0s,MS5.3
JLU Jordanelle 96.13 9⇑ *iP* **P 06 07 47.0 -1.1**
YBH Yreka Blue Hor 96.70 1 PFAKE 06 08 00.0 +9.4
YBH LR LR
comp=Z,3µm,20.0s,MS5.8
SPUT South Promonto 96.74 8 *eP* **P 06 07 50.8 0.0**
KSU1 Kansas State U 96.86 21 PFAKE 06 08 00.0 +8.6
KSU1 LR LR
comp=Z,1µm,19.0s,MS5.4
MOD Modoc 96.91 2 PFAKE 06 08 00.0 +8.5
MOD LR LR
comp=Z,2µm,22.0s,MS5.6
CCM Cathedral Cave 97.05 25 PFAKE 06 08 00.0 +7.7
CCM LR LR
comp=Z,823nm,22.0s,MS5.2
HWUT Hardware Ranch 97.12 9 *eP* **P 06 07 52.5 0.0**
comp=Z,1.7nm,0.6s,mb4.7
HWUT LR LR
comp=Z,2µm,19.0s,MS5.7
HVU Hansel Valley 97.19 8⇓ *iP* **P 06 07 52.6 -0.1**
comp=Z,19nm,1.3s,mb5.4
HVU Hansel Valley 97.19 8 P **P 06 07 53.3 +0.5**
HVU pmax pmax
comp=Z,19nm,1.2s,mb5.4
WVOR Wild Horse Val 97.49 4⇓ *iP* **P 06 07 54.8 +0.7**
comp=Z,16nm,1.4s,mb5.2
WVOR LR LR
comp=Z,2µm,20.0s,MS5.6
WVOR Wild Horse Val 97.49 4 P **P 06 07 55.4 +1.2**
WVOR pmax pmax
comp=Z,16nm,1.3s,mb5.3
HUMO Hull Mountain 97.58 0 PFAKE 06 08 10.0 +15
HUMO LR LR
comp=Z,3µm,22.0s,MS5.8
TZTN Tazewell 97.72 32 PFAKE 06 08 10.0 +15
TZTN LR LR
comp=Z,2µm,22.0s,MS5.5
AHID Auburn Hatcher 98.31 9 PFAKE 06 08 10.0 +12
AHID LR LR
comp=Z,3µm,22.0s,MS5.7
CNNC Cliffs of the 98.32 36 PFAKE 06 08 10.0 +12
CNNC LR LR
comp=Z,894nm,19.0s,MS5.3
BW06 Boulder Array 98.46 10 *eP* **P 06 07 57.4 -1.1**
comp=Z,26nm,2.0s,mb5.4
BW06 LR LR
comp=Z,3µm,20.0s,MS5.8
PDAR Pinedale Array 98.46 10 P **P 06 07 56.6 -1.9**
comp=Z,1.0nm,0.8s,mb4.4,baz=195,slow=2.9,SNR=7.5
PDAR PKKPbc PKKPbc 06 24 26.7 -1.4
comp=Z,0.7nm,1.1s,baz=344,slow=3.2,SNR=3.9
PDAR LR LR 06 43 46.7
comp=Z,3µm,21.8s,MS5.7,baz=195,slow=30
WCI Wyandotte Cave 98.50 29 PFAKE 06 08 10.0 +11
WCI LR LR
comp=Z,1µm,22.0s,MS5.3
TSUM Tsumeb 98.76 143 PFAKE 06 08 10.0 +9.4
TSUM LR LR
comp=Z,2µm,22.0s,MS5.5
HLID Hailey 98.84 7 *eP* **P 06 08 00.8 +0.6**
comp=Z,10nm,1.3s,mb5.2
HLID LR LR
comp=Z,1µm,21.0s,MS5.4
REDW Red Top Meadow 98.92 9 *eP* **P 06 08 01.0 +0.4**
comp=Z,24nm,1.4s,mb5.5
SNOW Snow King Moun 99.03 9 *eP* **P 06 08 01.2 +0.2**
comp=Z,17nm,1.5s,mb5.3
TPAW Teton Pass 99.04 9 *eP* **P 06 08 01.2 +0.1**
comp=Z,18nm,1.4s,mb5.4
DCID1 Drake Creek 99.12 9 *eP* **P 06 08 02.1 +0.6**
LOHW Long Hollow 99.19 10 *eP* **P 06 08 01.4 -0.4**
comp=Z,4.4nm,1.2s,mb4.9
BLA Blacksburg 99.30 34 PFAKE 06 08 10.0 +7.6
BLA LR LR
comp=Z,678nm,20.0s,MS5.2
MOOW Moose Ponds 99.31 9 *eP* **P 06 08 02.2 -0.1**
comp=Z,3.5nm,1.2s,mb4.8
COR Corvallis 99.55 0 PFAKE 06 08 10.0 +6.7
COR LR LR
comp=Z,2µm,21.0s,MS5.7
HDIL Hopedale 99.90 26 PFAKE 06 08 20.0 +14
HDIL LR LR
comp=Z,721nm,22.0s,MS5.1
BMO Blue Mountains 99.96 5 PFAKE 06 08 20.0 +14
BMO LR LR
comp=Z,2µm,22.0s,MS5.6
LKWY Lake 100.16 10 PFAKE 06 08 20.0 +13
LKWY LR LR
comp=Z,2µm,20.0s,MS5.6
YMR Madison River 100.21 9 PFAKE 06 08 20.0 +13
YMR LR LR
comp=Z,723nm,20.0s,MS5.2
RSSD Black Hills 100.47 14 *eP* Pdif 06 08 07.3 -1.0
comp=Z,4.6nm,1.2s
RSSD LR LR
comp=Z,2µm,20.0s,MS5.7
RSSD Black Hills 100.47 14 *eP* Pdif 06 08 07.3 -1.0
RSSD pmax pmax
comp=Z,5.0nm,1.2s
RSSD MLR MLR
comp=Z,2µm,20.0s,MS5.7
BBSR BB Station 100.81 48 PFAKE 06 08 20.0 +10
BBSR LR LR
comp=Z,518nm,20.0s,MS5.0
RLMT Red Lodge 100.82 10 PFAKE 06 08 20.0 +10
RLMT LR LR
comp=Z,4µm,21.0s,MS5.8
BOZ Bozeman (W) 101.12 9 *e*Pdif Pdif 06 08 10.6 -0.6
BOZ LR LR
comp=Z,2µm,19.0s,MS5.7
CBN Corbin 101.19 35 PFAKE 06 08 20.0 +8.5
CBN LR LR
comp=Z,1µm,20.0s,MS5.5
ACSO Alum Creek Sta 101.30 31 PFAKE 06 08 20.0 +8.0
ACSO LR LR
comp=Z,2µm,22.0s,MS5.6
ECSD EROS,Sioux Fal 101.32 20 PFAKE 06 08 20.0 +7.9
ECSD LR LR
comp=Z,1µm,21.0s,MS5.4
HAWA Hanford 101.42 3 PFAKE 06 08 20.0 +7.5
HAWA LR LR
comp=Z,2µm,22.0s,MS5.6
MCWV Mont Chateau 101.72 33 PFAKE 06 08 20.0 +6.2
MCWV LR LR
comp=Z,830nm,19.0s,MS5.3
JFWS Jewell Farm 101.90 24 PFAKE 06 08 30.0 +15
JFWS LR LR
comp=Z,1µm,20.0s,MS5.5
MSO Missoula 102.12 7 PFAKE 06 08 30.0 +14
MSO LR LR
comp=Z,2µm,20.0s,MS5.6
NLWA Neilton Lookou 102.36 360 PFAKE 06 08 30.0 +13
NLWA LR LR
comp=Z,2µm,22.0s,MS5.5
LAO LASA Array 102.70 12 PFAKE 06 08 30.0 +12
LAO LR LR
comp=Z,1µm,22.0s,MS5.4
AAM Ann Arbor 103.02 29 PFAKE 06 08 30.0 +10
AAM LR LR
comp=Z,2µm,22.0s,MS5.5
SSPA Standing Stone 103.22 34 PFAKE 06 08 30.0 +9.5
SSPA LR LR
comp=Z,959nm,20.0s,MS5.3
NEW Newport 103.37 4 PFAKE 06 08 30.0 +8.8
NEW LR LR
comp=Z,1µm,20.0s,MS5.5

EGMT Eagleton 103.65 10 PFAKE 06 08 30.0 +7.6
EGMT LR LR
comp=Z,918nm,22.0s,MS5.3
ERPA Erie 103.92 32 PFAKE 06 08 30.0 +6.4
ERPA LR LR
comp=Z,1µm,22.0s,MS5.4
DGMT Dagmar 104.71 13 PFAKE 06 08 40.0 +13
DGMT LR LR
comp=Z,1µm,21.0s,MS5.4
GLMI Grayling 105.10 28 PFAKE 06 12 50.0 +7.7
GLMI LR LR
comp=Z,1µm,19.0s,MS5.5
COWI Conover 105.17 24 *e*PKP PKiKP 06 12 42.2 -0.2
COWI LR LR
comp=Z,812nm,19.0s,MS5.3
BINY Binghamton 105.25 35 PFAKE 06 12 50.0 +7.3
BINY LR LR
comp=Z,2µm,20.0s,MS5.6
LSZ Lusaka 105.72 152 PFAKE 06 13 00.0 +15
LSZ LR LR
comp=Z,224nm,19.0s,MS4.7
AGMN Agassiz Refuge 105.86 19 PFAKE 06 12 50.0 +6.4
AGMN LR LR
comp=Z,2µm,20.0s,MS5.7
EYMN Ely 106.39 22 PFAKE 06 13 00.0 +15
EYMN LR LR
comp=Z,1µm,20.0s,MS5.5
WES Weston 106.99 38 PFAKE 06 13 00.0 +14
WES LR LR
comp=Z,2µm,19.0s,MS5.6
HRV Adam Dziewonsk 107.01 38 PFAKE 06 13 00.0 +14
HRV LR LR
comp=Z,1µm,21.0s,MS5.4
NCB Newcomb 107.41 35 PFAKE 06 13 00.0 +13
NCB LR LR
comp=Z,1µm,19.0s,MS5.5
DAV Davao City (W) 107.58 257 PFAKE 06 13 00.0 +12
DAV LR LR
comp=Z,499nm,19.0s,MS5.1
LONY Lake Ozonia 107.87 34 PFAKE 06 13 00.0 +13
LONY LR LR
comp=Z,1µm,21.0s,MS5.5
LBNH Lisbon 108.41 36 PFAKE 06 13 00.0 +11
LBNH LR LR
comp=Z,2µm,19.0s,MS5.6
PKME Peaks-Kenny Pk 110.22 38 PFAKE 06 13 00.0 +8.1
PKME LR LR
comp=Z,1µm,20.0s,MS5.5
FFC Flin Flon 111.12 13 PFAKE 06 13 00.0 +6.7
FFC LR LR
comp=Z,2µm,20.0s,MS5.6
DBIC Dimbokro 111.56 111 *e*PKP PKiKP 06 12 55.0 -0.4
DBIC LR LR
comp=Z,783nm,20.0s,MS5.3
WRAK Wrangell Islan 111.63 355 PFAKE 06 13 10.0 +16
WRAK LR LR
comp=Z,2µm,21.0s,MS5.6
SIT Sitka 112.44 353 PFAKE 06 13 10.0 +14
SIT LR LR
comp=Z,3µm,20.0s,MS5.9
UNV Unalaska Valle 114.41 334 PFAKE 06 13 10.0 +10
UNV LR LR
comp=Z,3µm,19.0s,MS5.9
KDAK Kodiak Island 115.17 343 PFAKE 06 13 10.0 +9.1
KDAK LR LR
comp=Z,6µm,22.0s,MS6.1
ADK Adak 115.56 327 PFAKE 06 13 10.0 +8.2
ADK LR LR
comp=Z,2µm,20.0s,MS5.6
FCC Fort Churchill 116.19 17 *e*PKPdf PKPdf 06 13 00.5 -2.3
FCC *e*PP PP 06 14 07.4 -1.8
YKA Yellowknife Ar 117.70 5 PKP PKPdf 06 13 04.3 -1.3
YKA PP PP 06 14 22.8 +3.1
YKA PKKPbc PKKPbc 06 23 26.9 -0.2
YKA Yellowknife Ar 117.70 5 PKIKP PKPdf 06 13 04.3 -1.3
YKA 06 14 22.8
YKA pmax pmax
comp=Z,5.0nm,1.2s
YKA pmax pmax
comp=Z,2.0nm,1.2s
YKA Yellowknife Ar 117.70 5 PKP PKPdf 06 13 04.3 -1.3
comp=Z,5.1nm,1.2s,baz=185,slow=2.0,SNR=23
YKA PP PP 06 14 22.8 +3.1
comp=Z,2.1nm,1.2s,baz=180,slow=6.1,SNR=5.1
YKA PKKPbc PKKPbc 06 23 26.9 -0.2
comp=Z,2.3nm,1.0s,baz=356,slow=3.5,SNR=21
PMR Palmer 118.31 346 PFAKE 06 13 20.0 +13
PMR LR LR
comp=Z,2µm,21.0s,MS5.7
SMY Shemya 119.35 322 PFAKE 06 13 20.0 +11
SMY LR LR
comp=Z,2µm,20.0s,MS5.7
DAWY Dawson 119.70 352 *e*PKPdf PKPdf 06 13 09.0 -0.4
DAWY *e*PP PP 06 14 30.9 -2.6
MCK McKinley 120.35 347 *e*PKPdf PKPdf 06 13 10.0 -0.7
MCK LR LR
comp=Z,927nm,20.0s,MS5.4
TORD Torodi Ar. Bea 120.46 113 PKP PKPdf 06 13 10.0 -2.4
TORD PP PP 06 14 34.1 -4.8
TORD PKKPbc PKKPbc 06 23 16.8 +0.7
TORD Torodi Ar. Bea 120.46 113 PKP PKPdf 06 13 10.0 -2.4
comp=Z,5.5nm,1.2s,baz=240,slow=0.8,SNR=13
TORD PP PP 06 14 34.1 -4.8
comp=Z,1.9nm,1.1s,baz=351,slow=4.8,SNR=4.1
TORD PKKPbc PKKPbc 06 23 16.8 +0.6
comp=Z,3.1nm,1.1s,baz=23,slow=4.0,SNR=10
EGAK Eagle 120.55 351 *e*PKPdf PKPdf 06 13 10.4 -0.6
EGAK LR LR
comp=Z,3µm,20.0s,MS5.9
TTA Tatalina 120.61 343 *e*PKPdf PKPdf 06 13 10.5 -0.7
COLA College 121.32 348 *e*PKPdf PKPdf 06 13 11.9 -0.6
COLA LR LR
comp=Z,2µm,19.0s,MS5.8
COLA College 121.32 348 *i* PKIKP PKPdf 06 13 12.2 -0.3
KMBO Kilima Mbogo 121.57 157 *e*PKPdf PKPdf 06 13 14.8 +0.1
KMBO LR LR
comp=Z,2µm,20.0s,MS5.8
EHIG Higuera 121.80 85 P PKPdf 06 13 18.5 +3.9
IMA2 Indian Mountai 123.21 346 *e*PKPdf PKPdf 06 13 15.6 -0.5
MJAR Matsushiro Arr 123.52 287 PKIKP PKPdf 06 13 15.5 -2.2
MJAR pmax pmax
comp=Z,4.0nm,0.9s
MJAR Matsushiro Arr 123.52 287 PKP PKPdf 06 13 15.5 -2.1
comp=Z,4.4nm,0.9s,baz=175,slow=2.5,SNR=14
MAJO Matsushiro 123.52 287 *e*PKPdf PKPdf 06 13 15.8 -1.8
MAJO LR LR
comp=Z,370nm,20.0s,MS5.0
MAT Matsushiro 123.52 287 *e*PKP PKPdf 06 13 15.6 -2.1
INK Inuvik 123.55 356 *e*PKPdf PKPdf 06 13 15.4 -1.3
ERM Erimo 124.86 295 PFAKE 06 13 30.0 +10
ERM LR LR
comp=Z,536nm,20.0s,MS5.2
JNU Nakatsue 125.09 279 PKP PKPdf 06 13 18.6 -2.1
comp=Z,15nm,1.1s,baz=350,slow=6.5,SNR=6.3
TNA Tin City 125.19 339 *e*PKPdf PKPdf 06 13 19.1 -0.8
TNA LR LR
comp=Z,708nm,22.0s,MS5.3
PET Petropavlovsk 125.52 314 PFAKE 06 13 30.0 +9.1
PET LR LR
comp=Z,917nm,20.0s,MS5.5
QIZ Qiongzhong 126.02 250 PKP PKPdf 06 13 18.6 -4.4
QIZ PP PP 06 15 15.8 -0.7
QIZ SS SS 06 32 16.5 -1.8
QIZ PP PP
comp=Z,272nm,5.3s
QIZ LR LR
comp=N,385nm,18.8s
QIZ LR LR
comp=Z,424nm,18.8s,MS5.1
QIZ Qiongzhong 126.02 250 PFAKE 06 13 30.0 +7.0
QIZ LR LR
comp=Z,674nm,20.0s,MS5.3
ASAJ Asahikawa 126.64 296 PKIKP PKPdf 06 13 21.2 -2.2
ASAJ pmax pmax
comp=Z,6.0nm,0.3s
ASAJ Asahikawa 126.64 296 PKP PKPdf 06 13 21.2 -2.2
comp=Z,5.5nm,0.3s,baz=257,slow=32,SNR=5.6
PALK Pallekele 128.30 211 *e*PKPdf PKPdf 06 13 26.6 -1.0
PALK LR LR
comp=Z,1µm,22.0s,MS5.5
YSS Yuzh-Sakhalins 128.53 299 *e*PKPdf PKPdf 06 13 26.8 -0.1
YSS LR LR
comp=Z,488nm,20.0s,MS5.2
YSS Yuzh-Sakhalins 128.53 299⇑ *iPKIKP* PKPdf 06 13 25.6 -1.3
YSS *e* 06 15 30.0

YSS *e*PS PS 06 25 32.0 -8.0
YSS *e*SS SS 06 32 50.0 +0.3
KSRS Korea Array 129.88 280 PKP PKPdf 06 13 28.9 -0.9
comp=Z,7.3nm,1.1s,baz=144,slow=0.7,SNR=25
INCN Inchon 130.63 279 PFAKE 06 13 40.0 +8.8
INCN LR LR
comp=Z,328nm,22.0s,MS5.0
CM31 Chiang Mai Arr 131.14 238 PFAKE 06 13 40.0 +7.2
CM31 LR LR
comp=Z,574nm,21.0s,MS5.2
NJ2 Nanjing 131.14 268 *e*PKP PKPdf 06 13 35.0 +2.6
NJ2 PP PP 06 15 59.0 +8.7
NJ2 PKS 06 17 11.0
NJ2 SKS SKSdf 06 20 44.0 +0.4
NJ2 PP PP
comp=Z,550nm,10.3s
NJ2 LR LR
comp=N,460nm,22.4s,MS5.2
NJ2 LR LR
comp=E,330nm,26.4s,MS5.2
NJ2 LR LR
comp=Z,300nm,22.8s,MS4.9
RES Resolute Bay 131.15 10 *e*PKPdf PKPdf 06 13 30.1 -1.0
CHTO Chiang Mai 131.45 239 *e*PKPdf PKPdf 06 13 32.3 -1.0
CHTO *e*PP PP 06 15 47.4 -4.5
CHTO LR LR
comp=Z,636nm,21.0s,MS5.3
MDT Midelt 132.51 92 PKP PKPdf 06 13 34.6 -0.4
comp=Z,9.8nm,1.2s,baz=205,slow=2.7,SNR=10
WHN Wuhan 132.59 263 PKP PKPdf 06 13 34.9 -0.2
WHN LR LR
comp=Z,1μm,24.1s,MS5.5
MA2 Magadan 133.19 316 PFAKE 06 13 50.0 +15
MA2 LR LR
comp=Z,990nm,22.0s,MS5.5
MA2 Magadan 133.19 316*d* *i*PKIKP PKPdf 06 13 33.7 -1.6
MA2 *e* 06 13 41.5
MA2 pmax pmax
comp=Z,30nm,1.3s
MORF Marmelete 133.42 85 *e*PKPdf PKPdf 06 13 36.3 -0.2
BILL Bilibino 133.43 331 *e*PKPdf PKPdf 06 13 34.1 -1.5
BILL LR LR
comp=Z,1μm,20.0s,MS5.6
BILL Bilibino 133.43 331κ *i*PKIKP PKPdf 06 13 34.1 -1.4
BILL *e* 06 16 06.0
BILL *e*PS PS 06 26 22.6 +0.7
BILL pmax pmax
comp=Z,18nm,1.5s
HABR Khabarovsk 133.44 296 *e*PKIKP PKPdf 06 13 35.3 -0.8
HABR *e* 06 20 46.3
HABR *e*SS SS 06 33 47.8 -1.9
PTEO Sao Teotonio 133.54 84 *e*PKPdf PKPdf 06 13 39.4 +2.7
SFJD Kangerlussuaq 133.54 31 PKP PKPdf 06 13 32.9 -2.9
SFJD LR LR
comp=Z,1μm,19.0s,MS5.6
SFJD Kangerlussuaq 133.54 31 PKP PKPdf 06 13 32.9 -2.9
comp=Z,3.9nm,0.7s,baz=198,slow=6.4,SNR=2.9
PBDV Barranco-do-Ve 133.78 85 *e*PKPdf PKPdf 06 13 38.0 +0.8
MDJ Mudanjiang 133.84 289 PKP PKPdf 06 13 34.8 -2.2
MDJ PP PP 06 16 06.7 -0.8
MDJ PP PP
comp=Z,365nm,9.8s
MDJ LR LR
comp=N,224nm,37.2s,MS4.9
MDJ LR LR
comp=E,311nm,34.3s,MS4.9
MDJ LR LR
comp=Z,557nm,30.4s,MS5.1
PBEJ Beja 134.37 84 *e*PKPdf PKPdf 06 13 39.2 +1.0
PBEJ Beja 134.37 84 *e*PP PP 06 16 11.3 +0.4
DL2 Dalian 134.45 277 *i* PKPR 06 13 35.8
DL2 *e*SS SS 06 33 59.8 -2.3
DL2 PP PP
comp=Z,160nm,8.5s
DL2 LR LR
comp=N,170nm,15.8s,MS5.0
DL2 LR LR
comp=E,180nm,17.8s,MS5.0
DL2 LR LR
comp=Z,240nm,19.6s,MS4.9
EVO Evora 134.63 84 *e*PKIKP PKPdf 06 13 35.4 -3.3
comp=Z,26nm,1.2s
EVO *e*MLR MLR
comp=Z,458nm,21.0s,MS4.9
SEY Seymchan 134.64 320 *i* PKIKP PKPdf 06 13 37.4 -0.5
KMI Kunming 134.76 247 PKP PKPdf 06 13 39.0 -0.4
PBAR Barrancos 134.94 85 *e*PKPdf PKPdf 06 13 36.1 -3.2
PESTR Estremoz 135.10 84 *e*PKPdf PKPdf 06 13 39.4 -0.2
CN2 Changchun 135.57 285 *e*PKP PKPdf 06 13 39.3 -1.0
CN2 PKS 06 17 11.1
CN2 PP PP
comp=Z,300nm,6.0s
CN2 LR LR
comp=N,700nm,21.0s,MS5.4
CN2 LR LR
comp=E,300nm,21.0s,MS5.4
CN2 LR LR
comp=Z,300nm,21.0s,MS5.0
KLR Kul'dur 135.61 295 *e*PKHKP 06 13 24.4
PCBR Castelo Branco 135.83 85 *e*PKPdf PKPdf 06 13 41.3 +0.4
MTE Manteigas 136.17 82 *e*PKPdf PKPdf 06 13 41.5 0.0
PVRL Vila Real 136.65 81 *e*PKPdf PKPdf 06 13 41.1 -1.3
PCAB Cabril 136.76 80 *e*PKPdf PKPdf 06 13 42.3 -0.3
MVO Moncorvo 136.97 82 *e*PKPdf PKPdf 06 13 43.4 +0.4
VIS Vishakhapatnam 137.21 219 *e*P PKPdf 06 13 42.4 -1.7
PAB San Pablo 137.41 86 PFAKE 06 14 00.0 +16
PAB LR LR
comp=Z,467nm,20.0s,MS5.2
PBRG Braganca 137.55 81 *e*PP PP 06 16 31.3 +0.4
ESDC Sonseca Array 137.71 86 PKP PKPdf 06 13 42.9 -1.5
comp=Z,5.2nm,1.1s,baz=260,slow=0.7,SNR=20
ESLA Sonseca Array 137.71 86 PFAKE 06 14 00.0 +16
ESLA LR LR
comp=Z,3μm,21.0s,MS6.0
CART Cartagena 137.98 90 *e*PKPdf PKPdf 06 13 44.5 -0.5
LUMB Murzuk 138.01 117 *i* P PKPdf 06 13 44.3 -1.1
SNR=56
LUMB *e*S SKPbc 06 17 06.4 -13
SNR=54
XAN Xi'an 138.25 262 PKP PKPdf 06 13 42.7 -2.9
XAN XPKP 06 13 55.0
XAN PP PP 06 16 41.8 +6.5
XAN SKKS SKKSac 06 23 27.5 -1.5
XAN SS SS 06 34 51.6 +4.2
XAN LR LR
comp=N,310nm,30.8s,MS5.0
XAN LR LR
comp=E,289nm,27.7s,MS5.0
XAN LR LR
comp=Z,119nm,23.9s,MS4.5
LGHD Ghdames 138.29 108 *i* P PKPdf 06 13 38.0 -7.8
SNR=56
BJT Baijiatuau 138.31 274 *e*PKPdf PKPdf 06 13 44.5 -1.0
BJT LR LR
comp=Z,681nm,21.0s,MS5.4
BJI Beijing 138.32 274 PKP PKPdf 06 13 44.0 -1.5
BJI PP PP 06 16 35.4 -0.3
BJI PP PP
comp=Z,501nm,9.6s
BJI LR LR
comp=N,329nm,19.7s,MS5.2
BJI LR LR
comp=E,305nm,23.6s,MS5.2
BJI LR LR
comp=Z,464nm,24.6s,MS5.1
HYB Hyderabad 138.54 213 *i* PKP PKPdf 06 13 45.5 -1.1
CD2 Chengdu 138.79 254 PKP PKPdf 06 13 46.2 -0.5
CD2 XPKP 06 13 54.5
CD2 PP PP 06 16 38.4 -0.1
CD2 PKS 06 17 20.7
CD2 SKS SKSdf 06 20 50.8 -6.2
CD2 SKKS SKKSac 06 23 28.0 -4.3
CD2 PP PP
comp=Z,700nm,11.9s
CD2 LR LR
comp=N,450nm,26.2s
CD2 LR LR
comp=Z,530nm,25.0s,MS5.2
KAD Karad 139.68 207 *e*P PKPdf 06 13 48.6 -0.1
LATR Latur 140.08 211 *e*P PKPdf 06 13 48.2 -1.2
POO Poona 140.93 207 *e*P PKPdf 06 13 50.1 -0.8
LJFR Jufra 140.96 115 *e*S SKPbc 06 17 47.7 +21
SNR=43
HHC Hu-ho-hao-te 141.49 272 *e*PKP PKPdf 06 13 50.2 -1.0

HHC PP PP 06 16 56.7 +1.5
HHC PKS 06 17 23.5
HHC SKS SKSdf 06 20 56.6 -4.3
HHC SKKS SKKSac 06 23 47.2 -0.5
HHC PP PP
comp=Z,357nm,5.5s
HHC LR LR
comp=N,442nm,18.6s,MS5.4
HHC LR LR
comp=E,461nm,22.7s,MS5.4
HHC LR LR
comp=Z,612nm,21.6s,MS5.3
SJPF Ste Jean 141.52 84 *e*PKP1 PKPdf 06 13 46.8 -4.4
comp=Z,126nm,1.5s
ALAS Alassa 141.65 107 *e*S SKPbc 06 17 49.6 +21
SNR=43
BLSP Bilaspur 141.69 220 *e*P PKPdf 06 13 49.6 -2.6
BOK Bokaro 141.71 227 *e*P PKPdf 06 13 50.4 -1.8
ETSF Etsaut 141.76 85 *e*PKP1 PKPdf 06 13 47.6 -4.1
comp=Z,104nm,1.6s
NGP Nagpur 141.87 216 *e*P PKPdf 06 13 52.5 0.0
HIA Hailar 142.01 288 *e*PKPdf PKPdf 06 13 49.4 -2.5
HIA LR LR
comp=Z,786nm,22.0s,MS5.4
EPF Esparros 142.36 85 *e*PKP1 PKPdf 06 13 50.6 -2.1
comp=Z,109nm,1.6s
MELF Melles 142.50 86 PKP PKPdf 06 13 49.6 -3.4
KEST Kesra 142.54 102 PKhKP 06 13 47.5
comp=Z,3.1nm,1.0s,baz=260,slow=3.4,SNR=5.3
LZH Lanzhou 142.60 259 ⇑PKP PKPdf 06 13 49.2 -4.2
LZH APKP 06 13 59.7
LZH XPKP 06 14 03.6
LZH PP PP 06 17 01.5 -0.4
LZH PKS 06 17 23.7
LZH PP PP
comp=Z,966nm,8.2s
LZH LR LR
comp=E,1μm,18.2s
LZH LR LR
comp=Z,2μm,20.3s,MS5.8
SALF Salau 142.67 86 PKP PKPdf 06 13 50.2 -3.1
CLNS Chul'man 143.22 301 *e*PKHKP 06 13 48.5
CLNS pmax pmax
comp=Z,31nm,0.9s
CLNS pmax pmax
comp=N,10.0nm,1.3s
CLNS pmax pmax
comp=E,12nm,1.0s
YAK Yakutsk 143.26 311 PFAKE 06 14 00.0 +6.3
YAK LR LR
comp=Z,711nm,22.0s,MS5.4
YAK Yakutsk 143.26 311 *e*PKIKP PKPdf 06 13 49.4 -4.3
YAK *e* 06 17 02.6
YAK pmax pmax
comp=Z,470nm,14.7s
YAK pmax pmax
comp=N,61nm,7.9s
YAK pmax pmax
comp=E,119nm,13.7s
YAK pmax pmax
comp=Z,153nm,7.3s
QUIF Quistinic 143.31 76 *e*PKP1 PKPdf 06 13 51.1 -3.1
comp=Z,68nm,1.3s
FILF Fillols 143.32 87 PKP PKPdf 06 13 50.1 -4.3
ROSF Rostrenen 143.48 75 *e*PKP1 PKPdf 06 13 51.3 -3.2
comp=Z,174nm,1.7s
MTLF Montolieu 143.62 86 *e*PKP1 PKPdf 06 13 52.3 -2.6
comp=Z,77nm,1.3s
LFF La Frestale 143.76 83 *e*PKP1 PKPdf 06 13 51.8 -3.3
comp=Z,338nm,1.5s
SGMF Saint Gilles 143.83 76 *e*PKP1 PKPdf 06 13 51.3 -3.8
comp=Z,56nm,1.3s
DCN Croghan 143.96 66 *e*P PKPdf 06 13 52.2 -3.0
MFF Saint Martin d 144.24 80 *e*PKP1 PKPdf 06 13 53.2 -2.7
comp=Z,344nm,1.4s
HTL Hartland 144.26 71 AMS AMS 06 21 51.0
comp=Z,1μm,19.3s
HTL Hartland 144.26 71 AMS AMS 06 21 51.0
comp=Z,1μm,19.3s,MS5.7
DYA Yadsworthy 144.26 72 AMS AMS 06 21 50.5
comp=Z,2μm,19.2s
DYA Yadsworthy 144.26 72 AMS AMS 06 21 50.5
comp=Z,2μm,19.2s,MS5.8
BHPL Bhopal 144.35 214 *e*P PKPdf 06 13 55.6 -1.2
DSB Dublin 144.38 67 *e*PKPdf PKPdf 06 13 54.3 -1.6
DSB *e*PP PP 06 17 09.4 -3.2
LSA Lhasa 144.40 238 *e*PKPdf PKPdf 06 13 55.6 -1.2
LSA LR LR
comp=Z,727nm,20.0s,MS5.5
RJF Les Rejaudoux 144.42 83 *e*PKP1 PKPdf 06 13 53.8 -2.5
comp=Z,527nm,1.5s
RJF *e*MLR MLR
comp=Z,594nm,19.8s,MS5.1
RJF Les Rejaudoux 144.42 83 *e*PKIKP PKPdf 06 13 53.8 -2.5
RJF MLR MLR
comp=Z,590nm,19.8s,MS5.4
DMUB Kingscourt 144.43 65 *e*P PKPdf 06 13 54.0 -2.0
CAF Calviac 144.50 84 *e*PKP1 PKPdf 06 13 54.5 -1.9
comp=Z,511nm,1.5s
HEX Exmoor 144.66 71⇓*i*P PKPdf 06 13 54.4 -2.1
GRR Gorron 144.85 77 *e*PKP1 PKPdf 06 13 55.1 -1.8
comp=Z,266nm,1.4s
LASF Ste Croix 145.01 86 *e*PKP1 PKPbc 06 13 55.1 -1.6
comp=Z,598nm,1.5s
FRNF Fournols 145.06 84 PKP PKPdf 06 13 57.1 -0.3
GMM Mts of Mourne 145.08 65⇓*i*P PKPbc 06 13 56.0 -0.7
VSL Villasalto 145.20 97 *e*PKPbc PKPbc 06 13 56.9 -0.6
FLN La Foliniere 145.26 77 *e*PKP1 PKPbc 06 13 55.5 -1.9
comp=Z,1μm,1.5s
FLN *e*MLR MLR
comp=Z,460nm,22.8s,MS4.9
FLN La Foliniere 145.26 77 *e*PKP2 PKPab 06 13 55.5 -2.0
FLN MLR MLR
comp=Z,460nm,22.8s,MS5.2
LBL Lubilhac 145.36 84 PKP PKPdf 06 13 57.9 0.0
LDF La Drutiere 145.37 77 *e*PKP1 PKPbc 06 13 55.8 -2.0
comp=Z,1μm,1.6s
GCL Cushendall 145.38 64 *e*P PKPbc 06 13 57.0 -0.6
TCF Toulx Ste Croi 145.39 82 *e*PKP1 PKPbc 06 13 56.0 -1.9
comp=Z,841nm,1.6s
HTR Trewern Hill 145.46 70⇓*i*P PKPdf 06 13 57.2 -0.6
GELF Grande-Etoile 145.48 89 PKP PKPdf 06 13 57.8 -0.4
HGH Gray Hill 145.49 71⇓*i*P PKPdf 06 13 57.1 -0.8
PYM Petit Puy Mans 145.53 83 PKP PKPdf 06 13 58.6 +0.4
MCH1 Michaelchurch 145.57 70⇓*i*P PKPdf 06 13 57.6 -0.4
MCH1 ⇓*i*P 06 13 57.6
PRAF Pradon 145.59 88 PKP PKPdf 06 13 58.7 +0.4
AGO Saint Agoulin 145.77 83 PKP PKPdf 06 13 59.0 +0.4
COLF Collangettes 145.78 84 PKP PKPdf 06 13 59.2 +0.6
HAE Alders End 145.83 70⇓*i*P PKPdf 06 13 58.2 -0.3
SBD1 Bryn Du 145.87 69⇓*i*P PKPdf 06 13 58.3 -0.2
GIM North Isle of 145.88 66⇓*i*P PKPdf 06 13 58.8 +0.3
HLM1 Long Mynd 145.88 70⇓*i*P PKPdf 06 13 58.4 -0.2
BGF Bois d'Agland 145.90 82 *e*PKP1 PKPbc 06 13 58.9 -0.6
comp=Z,535nm,1.4s
SMRF Simiane la Rot 145.93 88 *e*PKP1 PKPbc 06 13 58.5 -1.2
comp=Z,776nm,1.8s
VIVF Saint-Julien-l 145.94 86 *e*PKP1 PKPbc 06 13 59.1 -0.6
comp=Z,411nm,1.7s
SWN1 Swindon 145.97 72 *e*P PKPdf 06 13 58.3 -0.4
SWN1 ⇓*i*P 06 13 58.3
TAVF Tavernes 145.98 89 PKP PKPdf 06 13 58.9 -0.1
PLDF La Plantade 146.00 84 PKP PKPdf 06 13 59.7 +0.7
GAL1 Galloway 146.01 65⇓*e*P PKPdf 06 13 58.8 +0.1
GAL1 ⇓*i*P 06 13 58.8
GAL1 AMS AMS 06 22 58.6
comp=Z,840nm,19.3s,MS5.5
LMR La Mourre 146.06 89 *e*PKP1 PKPbc 06 13 59.4 -0.7
comp=Z,630nm,1.7s
STOF St-Etienne Org 146.13 88 PKP PKPdf 06 14 00.4 +1.1
SSW Stow on the Wo 146.17 71⇓*e*P PKPdf 06 13 59.4 +0.3
WOL Wolverton 146.19 72⇓*i*P PKPdf 06 13 59.1 0.0
HYF Humbligny 146.19 81 *e*PKP1 PKPdf 06 13 58.4 -0.8
FRF La Foret Royal 146.28 89 *e*PKP1 PKPbc 06 14 00.0 -0.7
comp=Z,350nm,1.6s
AVF Avril sur Loir 146.32 82 *e*PKP1 PKPbc 06 13 59.7 -1.0
comp=Z,180nm,1.1s
DAG Danmarks Havn 146.36 24⇓*e*PKIKP PKPdf 06 13 56.8 -1.9
DAG pmax pmax
comp=Z,640nm,2.4s
DAG Danmarks Havn 146.36 24⇓*i*P PKPdf 06 13 56.8 -1.9
comp=Z,640nm,2.4s
GCD Castle Douglas 146.41 65⇓*e*P PKPdf 06 13 60.0 +0.6
TIXI Tiksi 146.41 327 *e*PKPbc PKPbc 06 13 59.6 -0.7
TIXI LR LR

comp=Z,980nm,20.0s,MS5.6
TIXI Tiksi 146.41 327 *e*PKHKP 06 13 54.8
TIXI *i* 06 13 59.4
TIXI *e*SS SS 06 36 16.9 -4.1
TIXI pmax pmax
comp=Z,18nm,2.3s
TIXI pmax pmax
comp=Z,174nm,1.2s
BHJ Bhuj 146.48 202 *e*P PKPdf 06 13 59.0 -1.5
SMF Signal de Mont 146.52 83 *e*PKP1 PKPbc 06 14 00.5 -0.8
comp=Z,544nm,1.4s
CALN Calern 146.54 89 PKP PKPdf 06 14 01.6 +1.6
PGBU Glenifferbraes 146.54 63⇓*i*P PKPdf 06 14 00.6 +1.1
SSF Saint Saulge 146.56 82 *e*PKP1 PKPbc 06 14 00.4 -1.0
comp=Z,124nm,1.2s
KPL Plockton 146.58 60⇓*i*P PKPdf 06 14 00.5 +0.9
KPL AMS AMS 06 23 41.5
comp=Z,1μm,19.4s,MS5.6
SKP1 Kophill 146.61 72⇓*e*P PKPdf 06 14 00.5 +0.7
VAE Valguarnera 146.61 105 PKPbc PKPbc 06 14 01.6 -0.3
comp=Z,38nm,0.8s,baz=79,slow=3.3,SNR=7.9
ORIF Oris-en-Rattie 146.67 87 *e*PKP1 PKPbc 06 14 01.6 -0.2
comp=Z,682nm,1.5s
ORIF *e*MLR MLR
comp=Z,868nm,22.5s,MS5.2
CKE Keswick 146.72 66⇓*i*P PKPdf 06 14 01.1 +1.2
EAB Aberfoyle 146.77 63⇓*i*P PKPdf 06 14 00.8 +0.9
MVIF Mont Vial 146.78 89 PKP PKPdf 06 14 01.8 +1.4
GRN Grenoble 146.79 86 PKP PKPdf 06 14 02.0 +1.7
REVF Revere 146.81 90 PKP PKPdf 06 14 02.0 +1.6
CIT Chita 146.81 289 *e*PKIKP PKPdf 06 13 59.5 -0.6
CIT pmax pmax
comp=Z,696nm,1.6s
CWF Charnwood Fore 146.83 70⇓*i*P PKPdf 06 14 01.4 +1.2
LOR Lormes 146.88 82 *e*PKP1 PKPdf 06 14 01.4 +1.0
comp=Z,267nm,1.2s
LOR *e*MLR MLR
comp=Z,690nm,22.8s,MS5.1
LOR Lormes 146.88 82 *e*PKP2 PKPdf 06 14 01.4 +1.0
LOR MLR MLR
comp=Z,690nm,22.8s,MS5.4
LUCF Luceram 146.89 89 PKP PKPdf 06 14 02.0 +1.5
TOUF Mont Tournerai 146.91 89 PKP PKPdf 06 14 02.3 +1.7
LHO Holmfirth 146.91 68⇓*i*P PKPdf 06 14 01.8 +1.5
SBF Sospel 146.92 89 *e*PKP1 PKPbc 06 14 01.8 -0.8
comp=Z,1μm,1.5s
CORF Corte 146.92 93 PKP PKPdf 06 14 01.7 +1.0
SURF Saint Ours 146.94 88 PKP PKPbc 06 14 02.7 +0.1
KBI1 Birley Grange 146.95 69⇓*i*P PKPdf 06 14 01.4 +1.1
ECK Cauldkaine Hil 146.97 65⇓*i*P PKPdf 06 14 01.5 +1.2
GDM Grand'Maison 146.97 86 PKP PKPdf 06 14 02.1 +1.5
ESK Eskdalemuir 146.99 65⇓*i*P PKPdf 06 14 01.7 +1.4
ESK AMS AMS 06 23 30.1
comp=Z,918nm,20.3s,MS5.5
ESK Eskdalemuir 146.99 65 *e*PKP2 PKPdf 06 14 01.7 +1.4
ESK MLR MLR
comp=Z,818nm,19.0s,MS5.5
PGF Pioggiola 146.99 93 *e*PKP1 PKPbc 06 14 02.2 -0.6
comp=Z,1μm,1.5s
AUTN L'Aution 147.00 89 PKP PKPdf 06 14 02.5 +1.8
EKA Eskdalemuir Ar 147.02 65 PKIKP PKPdf 06 13 59.8 -0.6
EKA pmax pmax
comp=Z,61nm,1.2s
EKA Eskdalemuir Ar 147.02 65 PKPbc PKPdf 06 13 59.8 -0.6
comp=Z,61nm,1.1s,baz=256,slow=2.3,SNR=60
MBDF Montbardon 147.06 88 *e*PKP1 PKPbc 06 14 02.6 -0.3
comp=Z,533nm,1.6s
SAOF Saorge 147.06 89 PKP PKPdf 06 14 02.5 +1.7
EAU Auchinoon 147.09 64⇓*e*P PKPdf 06 14 01.6 +1.1
LDU Leeds Universi 147.19 68 *e*P PKPdf 06 14 02.5 +1.8
GTA Gaotai 147.20 259 PKP PKPdf 06 14 00.9 -0.3
GTA PP PP 06 17 30.6 +1.3
GTA PKS 06 17 32.9
GTA SKS SKSdf 06 21 08.8 -0.8
GTA SKKS SKKSac 06 24 17.4 -3.0
GTA PP PP
comp=Z,1μm,6.5s
GTA LR LR
comp=N,318nm,20.2s,MS5.3
GTA LR LR
comp=E,399nm,20.2s,MS5.3
GTA LR LR
comp=Z,251nm,23.6s,MS4.9
BNI Bardonecchia 147.21 87 *e*PKPbc PKPbc 06 14 02.7 -0.7
BNI *e*PKPab PKPab 06 14 04.5 -0.6
BNI *e*PP PP 06 17 23.9 -5.5
ELO Logie Almond 147.21 63⇓*i*P PKPdf 06 14 02.3 +1.7
EBH Black Hill 147.22 63⇓*e*P PKPdf 06 14 01.6 +0.9
HPK Haverah Park 147.22 68⇓*i*P PKPdf 06 14 02.6 +1.9
HPK AMS AMS 06 23 59.7
comp=Z,2μm,18.7s,MS6.0
EDI Edinburgh 147.25 64⇓*e*P PKPdf 06 14 02.4 +1.7
EDI AMS AMS 06 23 42.8
comp=Z,893nm,20.1s,MS5.5
EBL Broad Law 147.26 64⇓*i*P PKPdf 06 14 01.9 +1.1
MDO Dochfour 147.27 61⇓*e*P PKPdf 06 14 02.4 +1.7
XAL Allendale 147.31 66⇓*i*P PKPdf 06 14 02.5 +1.7
TFO1 Folkestone 147.38 74⇓*e*P PKPdf 06 14 03.1 +2.0
LPG La Plagne 147.51 87 *e*PKP1 PKPbc 06 14 04.4 +0.2
comp=Z,428nm,1.4s
LPL La Plagne 147.51 86 *e*PKP1 PKPbc 06 14 04.2 0.0
comp=Z,476nm,1.6s
MVH1 Achvaich 147.54 60 *i* P PKPdf 06 14 03.4 +2.2
ESY Stoneypath 147.54 64 *e*P PKPdf 06 14 02.3 +1.1
XSO Sourhope Farm 147.56 65⇓*e*P PKPdf 06 14 02.8 +1.5
MENF Mencas 147.66 75 PKP PKPdf 06 14 03.2 +1.6
CABF La Chapelle 147.77 84 *e*PKP1 PKPbc 06 14 04.2 -0.6
comp=Z,422nm,1.4s
MCD Coleburn Disti 147.87 61⇓*i*P PKPbc 06 14 04.0 -0.7
ABA1 Baconsthorpe 148.22 71 *e*P PKPdf 06 14 03.7 +1.3
MEZF Maizieres J'vi 148.22 81 *e*PKP1 PKPbc 06 14 05.4 -0.6
comp=Z,759nm,1.7s
AJM Ajmer 148.25 212 *e*P PKPdf 06 14 03.2 -0.1
AJM AMb AMB 06 14 07.7
comp=Z,160nm,1.2s
BAIF Baives 148.56 78 *e*PKP1 PKPbc 06 14 06.2 -0.6
comp=Z,583nm,1.6s
THEF They Montfort 148.60 82 PKP PKPbc 06 14 06.1 -0.9
LOMF Lomont 148.61 84 PKP PKPdf 06 14 05.7 +2.4
SONM Songino Array 148.65 277 PKIKP PKPdf 06 14 04.9 +1.6
SONM pmax pmax
comp=Z,49nm,1.2s
SONM Songino Array 148.65 277 PKPbc PKPdf 06 14 04.9 +1.6
comp=Z,48nm,1.2s,baz=147,slow=0.6,SNR=88
HAU Haudompre 148.69 82 *e*PKP1 PKPbc 06 14 06.2 -1.0
comp=Z,166nm,1.5s
HAU *e*MLR MLR
comp=Z,452nm,19.5s,MS5.0
VLC Villacollemand 148.79 91 *e*PKPdf PKPdf 06 14 03.2 -0.5
DOU Dourbes 148.79 78 PKP PKPbc 06 14 07.0 -0.4
HINF Hinteralfeld 148.88 83 *e*PKP1 PKPbc 06 14 06.7 -1.0
comp=Z,235nm,1.5s
GIVF Givet 148.92 78 *e*PKP1 PKPbc 06 14 07.2 -0.5
comp=Z,527nm,1.5s
UCC Uccle 149.00 76 PKP PKPbc 06 14 07.5 -0.3
BOD Bodaibo 149.01 299 *e*PKHKP 06 14 00.5
BOD pmax pmax
comp=Z,97nm,1.4s
LGTI Lohaghat 149.01 223 *e*P PKPdf 06 14 04.5 0.0
MOF Molkenrain 149.05 83 PKP PKPdf 06 14 06.1 +2.1
TIP Timpagrande 149.12 105 *e*PKPbc PKPbc 06 14 07.8 -0.8
ECH Echery 149.26 83 PKP PKPbc 06 14 07.9 -0.7
BCLA Clavier 149.34 78 PKP PKPbc 06 14 08.9 +0.2
AQU L'Aquila 149.38 97 *e*PKPbc PKPbc 06 14 08.4 -0.7
AQU L'Aquila 149.38 97 PKP2 PKPbc 06 14 08.8 -0.3
AQU L'Aquila 149.38 97⇑*i*P PKPdf 06 14 00.2 -4.5
CDF Champ du Feu 149.43 82 *e*PKP1 PKPdf 06 14 07.0 +2.4
comp=Z,277nm,1.6s
WLF Walferdange 149.44 79 *e*PKPbc PKPbc 06 14 08.8 -0.2
WLF Walferdange 149.44 79 PKP2 PKPbc 06 14 08.9 -0.1
WLF Walferdange 149.44 79 PKP PKPbc 06 14 09.6 +0.6
WLF Walferdange 149.44 79 *e*PKPbc PKPbc 06 14 08.7 -0.3
NDI New Delhi 149.45 218 *e*P PKPdf 06 14 05.5 +0.2
NDI *ex* *x* 06 14 05.5
NDI *e*P 06 14 08.1
FELD Feldberg im Sc 149.56 84 PKP PKPbc 06 14 09.2 -0.2
BEBN Eben Emael 149.74 77 PKP PKPbc 06 14 09.3 -0.3
GVD Gavdhos 149.75 119 *e*PKPbc PKPbc 06 14 09.7 -0.6
MEM Membach 149.83 78 PKP PKPbc 06 14 09.5 -0.4
HGN Heimansgroeve 149.86 77 *e*P PKPdf 06 14 04.7 -0.5
comp=Z,144nm,1.6s
RUP Ruppelstein 149.97 80 PKP PKPbc 06 14 10.0 -0.3
BFO Black Forest 149.99 83 *e*PKPbc PKPbc 06 14 09.8 -0.6
BFO LR LR

comp=Z,697nm,20.0s,MS5.5
DAVOX **Davos/Dischmat 150.03 87** PKP PKPdf 06 14 04.9 -0.7
comp=Z,24nm,1.2s,baz=222,slow=8.9,SNR=12
DAVOX PKPbc PKPbc 06 14 10.5 -0.1
comp=Z,40nm,1.1s,baz=220,slow=11,SNR=38
LANF Langenberg 150.03 82 PKP PKPbc 06 14 10.2 -0.3
EIL Elat 150.10 140 PKPbc PKPbc 06 14 09.6 -1.7
comp=Z,72nm,1.2s,baz=38,slow=0.2,SNR=27
SPAK Spaichingen-Ko 150.12 84 PKP PKPbc 06 14 10.0 -0.7
PYL PYLOS 150.14 114 *eP* PKPdf 06 14 03.4 -2.7
VAM Vamos 150.25 119 *eP* PKPbc 06 14 10.0 -1.5
DAVA Damuels 150.31 86 *i P* PKPbc 06 14 11.5 +0.3
comp=Z,229nm,1.4s,SNR=13
DAVA Damuels 150.31 86 *i P* PKPdf 06 14 06.0 0.0
DAVA *i P* 06 14 11.5
DAVA Damuels 150.31 86⇑*i*PKPdf PKPdf 06 14 06.0 0.0
DAVA *i* PKPbc PKPbc 06 14 11.5 +0.3
comp=Z,229nm,1.4s,SNR=13
ABH Alteburg 150.34 80 PKP PKPbc 06 14 10.2 -1.0
KYTH Kithira 150.34 116 *eP* PKPdf 06 14 08.0 +1.6
ITM Ithomi 150.45 113 *eP* PKPbc 06 14 12.0 +0.1
VLS Valsamata 150.49 111 *eP* PKPdf 06 14 10.0 +3.4
XRY Khrisi 150.57 121 *eP* PKPbc 06 14 12.0 -0.2
VLI Veliai 150.63 115 *eP* PKPdf 06 14 11.0 +4.1
DDI Dehra Dun 150.63 221 *ex* x 06 14 11.7
FETA Feichten 150.65 87⇓*i*PKPdf PKPdf 06 14 07.0 +0.4
FETA *i* PKPbc PKPbc 06 14 12.3 +0.3
comp=Z,193nm,1.3s,SNR=25
STU Stuttgart 150.71 83 *e*PKPbc PKPbc 06 14 11.5 -0.6
VLX Vlachokerasia 150.83 114 *eP* PKPdf 06 14 05.5 -1.7
NPS Neapolis 150.84 121 *eP* PKPdf 06 14 08.0 +0.8
WTSB Winterswijk 150.90 76 *eP* PKPdf 06 14 06.6 -0.1
comp=Z,193nm,1.3s
LKD Levkas 150.90 110 *eP* PKPdf 06 14 05.8 -1.4
RETA Reutte 150.92 86⇓*i*PKPdf PKPdf 06 14 07.3 +0.4
comp=Z,11nm,1.0s
RETA *i* PKPbc PKPbc 06 14 12.9 +0.3
comp=Z,209nm,1.5s,SNR=22
SQTA Sankt Quirin 151.03 87⇑*iP* PKPbc 06 14 13.3 +0.4
comp=Z,301nm,1.6s,SNR=15
SQTA Sankt Quirin 151.03 87⇑*i*PKPdf PKPdf 06 14 07.0 -0.1
comp=Z,45nm,1.6s
SQTA ⇑*i*PKPbc PKPbc 06 14 13.3 +0.4
comp=Z,301nm,1.6s,SNR=15
MOTA Moosalm 151.04 87⇑*iP* PKPbc 06 14 13.2 +0.2
comp=Z,220nm,1.4s,SNR=14
MOTA Moosalm 151.04 87⇑*i*PKPdf PKPdf 06 14 06.6 -0.5
comp=Z,43nm,1.7s
MOTA ⇑*i*PKPbc PKPbc 06 14 13.2 +0.2
comp=Z,220nm,1.4s,SNR=14
SELA Sela 151.25 112 *eP* PKPdf 06 14 08.0 +0.2
WATA Walderalm 151.30 87⇑*iP* PKPbc 06 14 13.9 +0.3
comp=Z,274nm,1.7s,SNR=9.3
WATA Walderalm 151.30 87⇑*i*PKPdf PKPdf 06 14 07.2 -0.3
comp=Z,31nm,1.7s
WATA ⇑*i*PKPbc PKPbc 06 14 13.9 +0.3
comp=Z,274nm,1.7s,SNR=9.3
DID Didima 151.38 115 *eP* PKPdf 06 14 06.0 -2.0
ABTA Abfaltersbach 151.51 89⇑*i*PKPdf PKPdf 06 14 07.0 -0.9
comp=Z,7.7nm,1.3s,SNR=21
ABTA ⇑*i*PKPbc PKPbc 06 14 14.1 +0.1
comp=Z,79nm,1.3s
FUR Furstenfeldbru 151.57 86 *e*PKPbc PKPbc 06 14 13.8 -0.3
IBBN Ibbenburen 151.58 76 *e*PKPbc PKPbc 06 14 14.0 0.0
IBBN *e*PP PP 06 17 53.0 -1.7
NVLJ Novalja 151.59 95 P PKPdf 06 14 06.2 -1.8
LTK Loutraki 151.63 114 *eP* PKPdf 06 14 06.8 -1.5
EVR Evrytania 151.68 111 *eP* PKPdf 06 14 10.0 +1.6
SMLA Simla 151.68 220 *eP* PKPdf 06 14 09.4 +0.7
NAIG Nisos Aigina 151.70 115 *eP* PKPbc 06 14 14.0 -0.8
ZAK Zakamensk 151.71 280 *e*PKIKP PKPdf 06 14 06.9 -1.1
ZAK *e* 06 14 13.4
VOY Vojsko 151.90 91 *e*PKPdf PKPbc 06 14 12.9 -2.0
VOY *e* 06 14 28.6
ATH Athens Observa 151.98 115 *eP* PKPbc 06 14 15.0 -0.4
IRK Irkutsk 152.00 284 *e*PKIKP PKPbc 06 14 13.5 -1.5
IRK pmax pmax
comp=Z,807nm,1.6s
AGG Agios Georgios 152.03 111 *eP* PKPdf 06 14 08.1 -0.8
CEY Cerknica 152.03 92 *i* PKPdf PKPbc 06 14 14.9 -0.4
CEY *e* 06 14 24.4
TLY Talaya 152.11 282 *e*PKPbc PKPbc 06 14 14.7 -0.6
TLY *e*PKPab PKPab 06 14 23.7 -1.2
TLY LR LR
comp=Z,581nm,20.0s,MS5.4
TLY Talaya 152.11 282 *e*PKIKP PKPbc 06 14 14.8 -0.4
TLY pmax pmax
comp=Z,108nm,1.3s
PTL Penteli 152.12 115 *eP* PKPdf 06 14 08.5 -0.6
KBS Kingsbay 152.14 17 PFAKE 06 14 20.0 +12
KBS LR LR
comp=Z,2μm,22.0s,MS5.9
UBBA Unterbreizbach 152.17 80 *e*PKPdf PKPdf 06 14 09.8 +1.1
UBBA *e*PKPbc PKPbc 06 14 15.2 -0.2
UBBA *e*PP PP 06 17 56.6 -1.4
KBA Koelnbreinsper 152.17 89⇑*iP* PKPbc 06 14 15.0 -0.6
comp=Z,100nm,1.2s,SNR=12
KBA Koelnbreinsper 152.17 89⇓*i*PKPdf PKPdf 06 14 07.8 -1.1
KBA ⇑*i*PKPbc PKPbc 06 14 15.0 -0.6
comp=Z,100nm,1.2s,SNR=12
APE Apeiranthos 152.22 118 ⇑P PKPdf 06 14 08.7 -0.6
APE P 06 14 15.8
APE Apeiranthos 152.22 118 *eP* PKPdf 06 14 08.0 -1.3
APE Apeiranthos 152.22 118⇑*iP* PKPdf 06 14 08.7 -0.6
LJU Ljubljana 152.27 92 *i* PKPdf PKPbc 06 14 15.1 -0.7
LJU *i* 06 14 26.0
LJU *e* 06 17 10.0
GRFO Grafenberg 152.32 83 *e*PKPdf PKPdf 06 14 08.9 -0.1
GRFO *e*PKPbc PKPbc 06 14 16.2 +0.5
GRFO LR LR
comp=Z,935nm,22.0s,MS5.5
GRA1 Grafenberg Arr 152.32 83 *e*PKPdf PKPdf 06 14 10.1 +1.1
GRA1 *e*PKPbc PKPbc 06 14 15.5 -0.3
GRA1 *e*PP PP 06 17 57.0 -1.9
GRF Grafenberg Arr 152.32 83 *e*PKPdf PKPdf 06 14 10.1 +1.1
GRF *e*PKPbc PKPbc 06 14 15.5 -0.3
GRF *e*PP PP 06 17 57.0 -1.9
BOJS Bojanci 152.37 94 *i* PKPdf PKPbc 06 14 15.6 -0.4
BOJS *i* 06 14 26.6
OBKA Obir 152.54 91 *i P* PKPbc 06 14 16.9 +0.5
comp=Z,86nm,1.3s,SNR=9.9
OBKA Obir 152.54 91⇑*i*PKPdf PKPdf 06 14 11.1 +1.6
comp=Z,15nm,1.4s
OBKA *i* PKPbc PKPbc 06 14 16.9 +0.5
comp=Z,86nm,1.3s,SNR=9.9
OHR Ohrid 152.69 106 *i* PKP PKPdf 06 14 09.8 0.0
NEO Neokhori 152.71 112 *eP* PKPdf 06 14 10.0 +0.1
CLZ Clausthal 152.83 78 *e*PKPdf PKPdf 06 14 10.5 +0.8
CLZ *e*PKPbc PKPbc 06 14 17.0 +0.2
CLZ *e*PKPab PKPab 06 14 28.0 0.0
RDF Al-Radifah 152.84 163 *eP* PKPdf 06 14 05.2 -5.3
RDF AMb AMB 06 14 18.0
comp=Z,144nm,1.2s
LIT Litokhoron 152.90 110 *eP* PKPdf 06 14 08.9 -1.2
ROTZ Rotzenmuhle 152.91 83 *e*PKPbc PKPbc 06 14 16.8 -0.3
MANZ Manzenberg 152.96 83 *e*PKPbc PKPbc 06 14 17.1 -0.1
WET Wettzell 152.99 85 *e*PKPbc PKPbc 06 14 16.7 -0.6
MOX Moxa 153.00 81 P PKPdf 06 14 09.8 -0.1
MOX *e* 06 14 17.5
MOX *e* 06 14 29.1
MOX LR LR
comp=Z,700nm,20.0s,MS5.5
MOX Moxa 153.00 81 *e*(P) PKPdf 06 14 09.8 -0.1
MOX *e* 06 14 17.5
comp=Z,110nm,1.6s
MOX *e* 06 14 29.1
MOX *e* 06 18 09.0
MOX
comp=Z,700nm,20.0s
MOX Moxa 153.00 81 *e*PKIKP PKPdf 06 14 09.8 -0.1
MOX *e* 06 14 17.5
MOX *e* 06 14 29.1
MOX *e* 06 18 09.0
MOX pmax pmax
comp=Z,110nm,1.6s
MOX MLR MLR
comp=Z,700nm,20.0s,MS5.5
MOX Moxa 153.00 81 *e*PKPbc PKPbc 06 14 17.0 -0.2
MOX *e*PKPab PKPab 06 14 28.5 -0.2
ASF Jabal al Asfar 153.07 141 PKP PKPdf 06 14 10.2 -0.5
comp=Z,25nm,1.3s,baz=37,slow=2.7,SNR=7.8
ASF PKPbc PKPbc 06 14 17.2 -0.8
comp=Z,53nm,1.3s,baz=81,slow=1.6,SNR=12

BODT Bodrum 153.10 121 *eP* PKPdf 06 14 07.6 -3.0
NAY Al-Naaiem 153.10 162 *eP* PKPdf 06 14 06.0 -4.8
NAY AMb AMB 06 14 19.8
comp=Z,48nm,1.6s
KRUS Krusevo 153.11 107 *i* PKP PKPdf 06 14 11.6 +1.2
BDRM Kayabasi 153.17 121 *i P* PKPdf 06 14 09.4 -1.3
MMAI Mount Meron Ar 153.27 138 PKP PKPdf 06 14 10.0 -0.9
comp=Z,2.9nm,0.7s,baz=179,slow=7.5,SNR=5.8
MMAI PKPbc PKPbc 06 14 17.8 -0.7
comp=Z,5.3nm,0.7s,baz=305,slow=2.9,SNR=7.9
NKC Novy Kostel 153.27 83 *e*PKP PKPdf 06 14 11.9 +1.6
NKC *e* 06 14 30.8
NKC *e*PP PP 06 18 05.7 +1.4
NKC Novy Kostel 153.27 83 *e*PKPdf PKPdf 06 14 11.9 +1.6
NKC *e*PKPab PKPab 06 14 30.8 +0.9
NKC *e*PP PP 06 18 05.7 +1.4
GEC2 GERESS Array S 153.31 86 *e*PKPdf PKPdf 06 14 09.1 -1.3
GEC2 *e*PKPbc PKPbc 06 14 17.5 -0.5
GEC2 *e*PP PP 06 18 02.9 -1.6
GERES GERESS Array B 153.31 86 PKP PKPdf 06 14 09.8 -0.7
comp=Z,5.1nm,1.1s,baz=135,slow=0.8,SNR=18
GERES PKPbc PKPbc 06 14 17.7 -0.3
comp=Z,13nm,1.1s,baz=222,slow=1.8,SNR=28
GERES PKPab PKPab 06 14 29.6 -0.5
comp=Z,7.3nm,0.9s,baz=230,slow=3.3,SNR=8.7
GERES PP PP 06 18 03.8 -0.8
comp=Z,8.4nm,1.2s,baz=223,slow=5.5,SNR=8.0
TANN Tannenbergstha 153.37 82 *e*PKPab PKPab 06 14 30.4 +0.1
TANN *e*PP PP 06 18 04.0 -0.9
SMG Samos 153.37 119 *eP* PKPdf 06 14 10.0 -0.9
KHC Kasperske Hory 153.38 85 *e*PKP PKPdf 06 14 08.9 -1.6
KHC *e* 06 14 17.9
KHC *e* 06 14 29.4
KHC *e*PP PP 06 18 03.9 -1.1
KHC Kasperske Hory 153.38 85 *e*PKPdf PKPdf 06 14 08.9 -1.6
KHC *e*PKPbc PKPbc 06 14 17.9 -0.2
KHC *e*PKPab PKPab 06 14 29.4 -1.0
KHC *e*PP PP 06 18 03.9 -1.1
THN Thein Dam 153.38 219 *eP* PKPdf 06 14 09.4 -1.7
CHOS Chios island 153.50 117 *eP* PKPdf 06 14 10.7 -0.4
THE Thessaloniki 153.53 110 *eP* PKPdf 06 14 09.8 -1.2
HORT Hortiatis 153.57 110 *eP* PKPdf 06 14 10.5 -0.6
MOY Mondy 153.59 281 *e*PKIKP PKPbc 06 14 17.6 -0.9
PLG Polygyros 153.60 111 *eP* PKPdf 06 14 09.9 -1.3
PLG Polygyros 153.60 111 *eP* PKPdf 06 14 10.0 -1.2
SKO Skopje 153.62 106 *eP* PKPdf 06 14 10.5 -0.7
MIB Mutribah 153.66 162 *eP* PKPdf 06 14 06.6 -5.0
MIB AMb AMB 06 14 21.0
comp=Z,101nm,1.5s
URLA Izmir 153.75 118 *i P* PKPdf 06 14 09.9 -1.6
VAY Valandovo 153.80 108 *eP* PKPdf 06 14 10.5 -0.9
VAY Valandovo 153.80 108 *i* PKP PKPdf 06 14 10.8 -0.6
SOH Sokhos 153.87 110 *eP* PKPdf 06 14 10.4 -1.1
MUD Monsted U'grnd 153.89 68⇑*e*PKP2 PKPab 06 14 33.4 +1.1
MUD pmax pmax
comp=Z,180nm,1.3s
MUD Monsted U'grnd 153.89 68⇑*iP* PKPab 06 14 33.4 +1.1
comp=Z,178nm,1.3s
CONA Conrad Observa 154.07 90⇑*i*PKPdf PKPdf 06 14 11.1 -0.5
comp=Z,27nm,1.7s,SNR=8.5
CONA ⇓*i*PKPab PKPab 06 14 34.1 +0.7
comp=Z,91nm,1.5s
CLL Collm 154.08 81 *e*PKP PKPdf 06 14 11.0 -0.5
CLL ⇓*i*PKP PKPbc 06 14 19.0 -0.6
CLL ⇑*i*PKP PKPab 06 14 33.7 +0.4
CLL *ep*PKP pPKPab 06 14 39.0 +2.3
CLL *e*PP PP 06 18 01.0 -7.9
CLL Collm 154.08 81⇓*e*PKIKP PKPdf 06 14 11.0 -0.5
CLL *i* 06 14 19.0
CLL *i* 06 14 33.7
CLL MLR MLR
comp=Z,600nm,21.9s,MS5.4
CLL Collm 154.08 81 *e*PKPbc PKPbc 06 14 19.6 0.0
CLL *e*PKPab PKPab 06 14 33.5 +0.2
CLL Collm 154.08 81 *e*PKPdf PKPdf 06 14 11.0 -0.5
CLL ⇓*i*PKPbc PKPbc 06 14 19.0 -0.6
comp=Z,39nm,1.4s
CLL ⇑*i*PKPab PKPab 06 14 33.7 +0.4
comp=Z,150nm,1.7s
CLL *ep*PKPab pPKPab 06 14 39.0 +2.3
CLL *e*PP PP 06 18 01.0 -7.9
comp=Z,800nm,13.4s
CLL *e*SS SS 06 38 04.0 +17
CLL *e*SSS 06 43 54.0
CLL *e*SSSS 06 47 39.0
LEF Lefka 154.08 132 *eP* PKPdf 06 14 11.0 -1.1
CSS Prodhromos 154.13 132 *eP* PKPdf 06 14 11.7 -0.4
DIVS Divibare 154.20 101 *eP* PKPdf 06 14 11.4 -0.4
PRK Paraskevi 154.26 116 *eP* PKPdf 06 14 12.0 -0.1
PRA Prague 154.32 84 PKPdf PKPdf 06 14 15.0 +3.2
PRA PKPab PKPab 06 14 35.0 +0.6
GOLH Golhisar 154.33 124 *i P* PKPdf 06 14 12.7 +0.4
SOP Sopron 154.34 91⇓*e*PKP PKPdf 06 14 11.3 -0.6
SOP *e*PKP PKPab 06 14 35.7 +1.2
PRU Pruhonice 154.35 84 *e*PKP PKPdf 06 14 14.2 +2.3
PRU *e* 06 14 34.6
PRU Pruhonice 154.35 84 *e*PKPdf PKPdf 06 14 14.2 +2.3
PRU *e*PKPab PKPab 06 14 34.6 +0.1
PRU *e*PP PP 06 18 10.2 -0.2
BRG Berggiesshubel 154.41 82 *i* PKP PKPbc 06 14 21.1 +0.7
BRG Berggiesshubel 154.41 82 *e*PKPdf PKPdf 06 14 10.9 -1.0
BRG *e*PKPbc PKPbc 06 14 20.7 +0.4
BRG Berggiesshubel 154.41 82 *i* PKP PKPbc 06 14 21.1 +0.7
comp=Z,15nm,0.8s
LFK Lefkose 154.49 132 *eP* PKPdf 06 14 14.0 +1.4
TREC Trest 154.55 87 *e*PKPdf PKPdf 06 14 12.1 -0.1
TREC *e*PKPab PKPab 06 14 34.9 -0.5
TREC *e*PP PP 06 18 10.2 -1.3
BOZC Bozcaada 154.59 115 *i P* PKPdf 06 14 11.3 -1.3
PVCC Panska Ves 154.61 83 *e*PP PP 06 18 12.6 +0.7
PVCC Panska Ves 154.61 83 *e*PP PP 06 18 12.6 +0.7
PKSM Moragy 154.71 95 P PKPdf 06 14 12.4 -0.1
PKSM Moragy 154.71 95⇓*i*P PKPdf 06 14 11.8 -0.7
EZN Ezine 154.72 115 *eP* PKPdf 06 14 11.6 -1.2
AKHS Akhisar 154.76 119 *i P* PKPdf 06 14 10.6 -2.2
GADA Gvkgeada 154.76 114 *eP* PKPdf 06 14 11.0 -1.8
KULA Kula-Manisa 154.90 121 *eP* PKPdf 06 14 13.6 +0.6
ZST Bratislava 154.92 90 *e*PKP PKPdf 06 14 12.8 +0.1
ZST *e* 06 14 36.9
ZST *e*PP PP 06 18 13.5 -0.1
ZST LR LR
comp=Z,300nm,21.2s,MS5.1
ZST Bratislava 154.92 90 *e*PKIKP PKPdf 06 14 12.8 +0.1
ZST *e* 06 14 36.9
ZST *e* 06 18 13.5
ZST Bratislava 154.92 90 *e*PKP PKPdf 06 14 12.8 +0.1
ZST *e* 06 14 36.8
ZST *e*PP PP 06 18 13.5 -0.1
BCK Bucak 154.99 125 *eP* PKPdf 06 14 12.7 -0.6
VTS Vitosha 155.01 107 *eP* PKPdf 06 14 12.6 -0.5
VTS Vitosha 155.01 107⇓*iP* PKPdf 06 14 12.8 -0.3
MODS Modra-Piesok 155.11 90 *e*PKP PKPdf 06 14 12.2 -0.8
MODS *e* 06 14 37.2
MODS *e*PP PP 06 18 13.7 -1.0
MODS Modra-Piesok 155.11 90 *e*PKP PKPdf 06 14 12.2 -0.8
MODS *e* 06 14 37.2
MODS *e*PP PP 06 18 13.7 -1.0
VRAC Vranov 155.19 87 P PKPdf 06 14 12.9 -0.2
VRAC Vranov 155.19 87 PKP PKPdf 06 14 12.1 -0.9
comp=Z,3.2nm,0.4s,baz=70,slow=3.4,SNR=13
VRAC Vranov 155.19 87⇑*iP* PKPdf 06 14 12.1 -1.0
ISP Isparta 155.26 124 *e*PKPdf PKPdf 06 14 12.8 -0.8
RDO Rodhopi 155.26 112 *eP* PKPdf 06 14 12.5 -1.0
ENEZ Enez 155.29 114 *eP* PKPdf 06 14 12.6 -0.9
ALN Alexandroupoli 155.35 113 *eP* PKPdf 06 14 11.8 -1.8
IKL Isikli 155.37 131 *eP* PKPdf 06 14 14.0 +0.2
BALB Balikesir 155.37 118 *eP* PKPdf 06 14 12.8 -0.8
UPC Upice 155.42 84 *e*PKP PKPab 06 14 39.8 +0.7
UPC *e*PP PP 06 18 15.4 -1.0
UPC Upice 155.42 84 *e*PKPab PKPab 06 14 39.8 +0.7
UPC *e*PP PP 06 18 15.4 -1.0
PLD Plovdiv 155.49 109 *eP* PKPdf 06 14 12.9 -0.8
DPC Dobruska-Polom 155.53 85 *e*PKP PKPdf 06 14 14.0 +0.5
DPC *e* 06 14 39.8
DPC *e*PP PP 06 18 16.1 -0.9
DPC Dobruska-Polom 155.53 85 *e*PKPdf PKPdf 06 14 14.0 +0.5
DPC *e*PKPab PKPab 06 14 39.8 +0.3
DPC *e*PP PP 06 18 16.1 -0.9
BTOK Tokmak 155.54 118 *i P* PKPdf 06 14 13.0 -0.9
BUD Budapest 155.63 93 *e*PKP PKPdf 06 14 11.8 -1.9
NAO01 NORSAR Array S 155.72 58 *e*PKPdf PKPdf 06 14 12.8 -0.6

KSP Ksiaz 155.74 84 *eP* PKPdf 06 14 16.2 +2.5
GDZ Gediz 155.75 121 *i P* PKPdf 06 14 13.8 -0.3
RKY Sarkoy-Tekirda 155.79 115 *eP* PKPdf 06 14 12.6 -1.6
SART Tekirdag 155.79 115 *i P* PKPdf 06 14 10.9 -3.3
SHUT Suhut-Afyon 155.85 123 *eP* PKPdf 06 14 14.6 +0.2
KOLL Kolacno 155.86 90 *e*PKP PKPdf 06 14 14.1 +0.1
NOA NORSAR Array B 155.91 58 PKP PKPdf 06 14 12.8 -0.8
NOA PKPab PKPab 06 14 40.7 -0.1
NOA NORSAR Array B 155.91 58 PKP PKPdf 06 14 12.8 -0.8
comp=Z,18nm,1.3s,baz=273,slow=1.4,SNR=4.5
NOA PKPab PKPab 06 14 40.7 -0.1
comp=Z,14nm,1.1s,baz=261,slow=4.0,SNR=7.1
BNT Bandirma 155.93 117 *eP* PKPdf 06 14 13.6 -0.8
MORC Moravsky Berou 155.96 87 *e*PKPdf PKPdf 06 14 13.5 -0.6
MORC *e*PKPdif 06 14 23.0
MORC *e*PKPab PKPab 06 14 40.7 -0.7
MORC Moravsky Berou 155.96 87⇓*iP* PKPdf 06 14 14.8 +0.7
ALT Altintas 156.03 122 *eP* PKPdf 06 14 14.6 0.0
BZS Buzias 156.05 99 P PKPdf 06 14 14.3 -0.1
BZS Buzias 156.05 99⇓⇓PKIKP PKPdf 06 14 14.0 -0.3
BZS Buzias 156.05 99⇓*iP* PKPdf 06 14 13.9 -0.4
VYHS Vyhne 156.06 91 *e*PKP PKPdf 06 14 13.8 -0.5
VYHS *e* 06 14 40.2
VYHS *e*PP PP 06 18 18.0 -2.0
VYHS Vyhne 156.06 91 *e*PKP PKPdf 06 14 13.8 -0.5
VYHS *e* 06 14 40.2
VYHS *e*PP PP 06 18 18.0 -2.0
KONT Konya--Tatoy 156.20 127 *eP* PKPdf 06 14 14.6 -0.2
MERS Mersin 156.26 132 *eP* PKPdf 06 14 14.0 -1.0
OKC Ostrava-Krasne 156.33 87 *e*PKPdf PKPdf 06 14 14.6 0.0
OKC *e*PKPab PKPab 06 14 41.5 -1.5
PSZ Piszkesteto 156.37 93 *e*PKPdf PKPdf 06 14 14.7 0.0
PSZ *e*PKPab PKPab 06 14 42.3 -0.9
PSZ Piszkesteto 156.37 93 PKIKP PKPdf 06 14 14.9 +0.2
PSZ Piszkesteto 156.37 93⇑*iP* PKPdf 06 14 14.3 -0.4
PSZ Piszkesteto 156.37 93⇑*e*PKP PKPdf 06 14 15.0 +0.3
PSZ *e*PKP PKPab 06 14 43.2 0.0
KDHN Kadinhani 156.56 126 *i P* PKPdf 06 14 13.1 -2.2
GZR Gura Zlata 156.56 101 P PKPdf 06 14 15.2 +0.2
BSD Bornholm Skovb 156.57 73 *i P* PKPab 06 14 45.4 +1.5
BSD *i* S 06 15 27.5
GEMT Gemlik 156.63 118 *eP* PKPdf 06 14 14.6 -0.7
KIZT Kizilcal 156.74 125 *eP* PKPdf 06 14 15.7 +0.2
KARA Karaisali 156.82 132 *eP* PKPdf 06 14 13.3 -2.4
YLV Yalova 156.82 118 *eP* PKPdf 06 14 14.7 -0.8
BORA Eskisehir 156.84 121 *i P* PKPdf 06 14 15.1 -0.5
WMQ Urumqi 156.89 253 PKP PKPdf 06 14 14.2 -1.3
WMQ PKP2 PKPab 06 14 45.0 -0.5
WMQ PP PP 06 18 25.5 +1.0
WMQ SKS SKSdf 06 21 15.0 -6.2
WMQ PP PP
comp=Z,573nm,4.6s
WMQ LR LR
comp=N,1μm,21.2s,MS5.8
WMQ LR LR
comp=E,763nm,19.8s,MS5.8
WMQ LR LR
comp=Z,866nm,27.4s
CEYT Ceyhan 156.90 134 *eP* PKPdf 06 14 14.9 -0.8
ZIMR 156.90 107 P PKPdf 06 14 16.0 +0.4
ADVT Abdulvahap 156.91 119 *eP* PKPdf 06 14 14.6 -1.1
KECS Kecovo 157.00 92 *e*PKP PKPdf 06 14 15.1 -0.4
KECS *e* 06 14 45.2
ISK Istanbul-Kandi 157.04 117 *eP* PKPdf 06 14 14.6 -1.2
HRT Hereke 157.16 118 *eP* PKPdf 06 14 15.3 -0.7
GKP Gorka Klasztor 157.25 79 *eP* PKPdf 06 14 16.2 +0.5
KOZT Kozan 157.33 133 *eP* PKPdf 06 14 17.0 +0.7
DRGR 157.35 98 P PKPdf 06 14 16.1 +0.1
DRGR 157.35 98⇑*iP* PKPdf 06 14 16.3 +0.3
NIE Niedzica 157.37 90 *e*PKPdf PKPdf 06 14 16.8 +0.9
NIE *e*PKPab PKPab 06 14 48.4 +0.9
KBL Kabul 157.43 208 *e*PKPdf PKPdf 06 14 16.0 -0.6
KBL *e*PKPdif 06 14 27.3
KBL *e*PKPab PKPab 06 14 47.2 -0.9
OJC Ojcow 157.45 88 *e*PKPdf PKPdf 06 14 15.6 -0.4
OJC *e*PKPab PKPab 06 14 48.2 +0.4
GAZ Gaziantep 157.62 136 *eP* PKPdf 06 14 16.4 -0.3
ANDN Andirin 157.63 134 *i P* PKPdf 06 14 16.0 -0.6
CRVS Cervenica-Dubn 157.77 92 *e*PKP PKPab 06 14 48.6 -0.6
KMRS Kahramanmaras 157.79 135 *eP* PKPdf 06 14 16.4 -0.5
VOIR 157.86 103 P PKPdf 06 14 17.0 +0.3
GZT Gaziantep 157.92 137 *i P* PKPdf 06 14 17.2 +0.2
ANTO Ankara 157.95 125 P PKPdf 06 14 17.1 +0.1
ANTO LR LR
comp=Z,694nm,20.0s,MS5.5
ANTO Ankara 157.95 125⇑*iP* PKPdf 06 14 16.6 -0.4
LOD Lodumlu 157.95 125 *eP* PKPdf 06 14 16.4 -0.6
KAMT Kaman 157.98 127 *eP* PKPdf 06 14 16.4 -0.6
TRPA Tarpa 157.98 95⇓*iP* PKPdf 06 14 16.0 -0.7
AVNT Avonos 158.01 130 *i P* PKPdf 06 14 15.4 -1.6
UZH Uzhgorod 158.10 94⇓*e*PKP2 PKPab 06 14 50.0 -0.7
KOLS Kolonicke sedl 158.25 93 *e*PKP PKPab 06 14 51.2 -0.1
ATAB Bozova 158.31 138 *i P* PKPdf 06 14 16.9 -0.6
MLR Muntele Rosu 158.39 104 P PKPdf 06 14 17.0 -0.3
MLR Muntele Rosu 158.39 104 PKP2 PKPab 06 14 51.3 -0.7
MLR pmax pmax
comp=Z,80nm,1.3s
MLR Muntele Rosu 158.39 104 PKP PKPdf 06 14 15.7 -1.6
comp=Z,29nm,1.2s,baz=32,slow=1.6,SNR=20
MLR PKPab PKPab 06 14 51.3 -0.7
comp=Z,80nm,1.3s,baz=42,slow=1.6,SNR=8.5
MLR PP PP 06 18 22.1 -11
comp=Z,8.8nm,1.1s,baz=154,slow=12,SNR=3.2
MLR Muntele Rosu 158.39 104⇓⇓*iP* PKPdf 06 14 16.5 -0.8
KDZE Karadeniz Ereo 158.42 120 *eP* PKPdf 06 14 15.8 -1.7
URFA Urfa 158.48 139 *eP* PKPdf 06 14 18.4 +0.7
CDAG Cicekdag 158.48 128 *i P* PKPdf 06 14 15.6 -2.0
BNN Bunyan 158.50 132 *eP* PKPdf 06 14 17.6 -0.1
ELDT Eldivan 158.74 125 *i P* PKPdf 06 14 17.0 -0.9
KWP Kalwaria 158.84 92 *eP* PKPdf 06 14 18.9 +1.2
KWP Kalwaria 158.84 92 *eP* PKPdf 06 14 18.9 +1.2
KWP Kalwaria 158.84 92 PKIKP PKPdf 06 14 18.2 +0.5
MSL Mosul 158.87 149 *ex* x 06 14 18.0
CANT Cankiri 158.92 125 *eP* PKPdf 06 14 17.6 -0.5
HARR Harsova 158.97 109 P PKPdf 06 14 18.4 +0.4
PLOR Plostina 159.00 104 PKIKP PKPdf 06 14 17.5 -0.5
WAR Warsaw 159.00 84 *eP* PKPdf 06 14 17.8 -0.1
CORM Corum 159.05 127 *eP* PKPdf 06 14 18.8 +0.5
VRI Vrincioaia 159.05 104 P PKPdf 06 14 17.6 -0.5
VRI Vrincioaia 159.05 104⇓*iP* PKPdf 06 14 17.8 -0.3
MARD Mardin 159.07 143 *i P* PKPdf 06 14 17.5 -0.9
TIRR Tirgusor 159.08 110 P PKPdf 06 14 18.2 +0.1
TIRR Tirgusor 159.08 110⇑*iP* PKPdf 06 14 18.4 +0.2
MALT Malatya 159.09 137 *e*PKPdf PKPdf 06 14 17.2 -1.2
MALT *e*PKPab PKPab 06 14 53.6 -1.6
MALT Malatya 159.09 137 PKIKP PKPdf 06 14 18.5 +0.1
MALT Malatya 159.09 137⇑*iP* PKPdf 06 14 18.3 -0.1
MYA Malataya 159.10 137 *eP* PKPdf 06 14 18.8 +0.4
CFR Carcaliu 159.40 108 P PKPdf 06 14 14.2 -4.3
ELZG Elazig 159.47 138 *i P* PKPdf 06 14 19.0 +0.2
BALT Daday 159.53 123 *i P* PKPdf 06 14 18.5 -0.3
LVV L'vov 159.68 92 *e*PKIKP PKPdf 06 14 17.4 -1.3
LVV *e* 06 14 56.4
ARCES ARCESS Array B 160.17 32 PKP2 PKPab 06 14 56.9 -2.2
ARCES pmax pmax
comp=Z,9.0nm,0.9s
ARCES ARCESS Array B 160.17 32 PKPab PKPab 06 14 56.9 -2.2
comp=Z,9.4nm,0.9s,baz=273,slow=0.9,SNR=6.5
HAKT HAKKARI 160.23 149 *i P* PKPdf 06 14 19.2 -0.6
KVT Kavak 160.41 128 *eP* PKPdf 06 14 19.4 -0.4
KEV Kevo 160.50 31 PFAKE 06 14 30.0 +11
KEV LR LR
comp=Z,2μm,19.0s
DIKM Dikmen 160.50 126 *eP* PKPdf 06 14 20.0 +0.1
BNGL BINGOL 160.67 142 *i P* PKPdf 06 14 20.6 +0.4
SUW Suwalki 160.83 80 *eP* PKPdf 06 14 19.1 -0.7
EZC Erzincan 160.87 138 *eP* PKPdf 06 14 20.5 +0.2
KIS Kishinev 160.89 104 *e*PKP PKPdf 06 14 17.0 -3.1
KIS LRM 07 34 03.0
comp=Z,800nm,20.0s
VANB Van 161.09 147 *eP* PKPdf 06 14 18.8 -1.8
GUMT Gumushane 161.35 136 *eP* PKPdf 06 14 21.1 +0.2
TUTA Tutak 161.64 145 *i P* PKPdf 06 14 21.0 -0.2
MK31 Makanchi Array 161.72 253 *e*PKPdf PKPdf 06 14 19.5 -1.5
MK31 *e*PKPab PKPab 06 15 05.0 -1.5
MK31 *e*PP PP 06 18 48.4 -2.3
MKAR Makanchi Array 161.72 253 PKP2 PKPab 06 15 04.1 -2.4
MKAR 06 18 47.1
MKAR pmax pmax
comp=Z,14nm,1.1s
MKAR pmax pmax

comp=Z,6.0nm,1.0s
MKAR Makanchi Array 161.72 253 PKP PKPdf 06 14 19.1 -1.9
comp=Z,1.6nm,0.8s,baz=90,slow=0.1,SNR=16
MKAR PKPab PKPab 06 15 04.1 -2.3
comp=Z,14nm,1.1s,baz=126,slow=5.1,SNR=14
MKAR PP PP 06 18 47.1 -3.6
comp=Z,6.4nm,0.9s,baz=108,slow=6.5,SNR=13
CLDR Caldiran 161.76 147 *e*P PKPdf 06 14 20.6 -0.7
KTUT Trabzon 161.91 136 *e*P PKPdf 06 14 21.2 -0.2
DYDN Diyadin 162.05 146 *i* P PKPdf 06 14 21.4 -0.1
UCH Uchtor 162.34 230 *e*PKPdf PKPdf 06 14 21.4 -0.4
UCH *e*PKPab PKPab 06 15 07.7 -1.6
UCH *e*SKPdf SKPdf 06 17 49.9 -3.5
UCH *e*PP PP 06 18 51.6 -2.1
UCH LR LR
comp=Z,883nm,22.0s
SIM Simferopol' 162.40 117 *i* PKIKP PKPdf 06 14 22.0 +0.2
SIM *e* 06 18 59.0
SIM pmax pmax
comp=Z,90nm,6.2s
TKM2 Tokmak 2 162.41 233 *e*PKPdf PKPdf 06 14 20.5 -1.4
TKM2 *e*PKPab PKPab 06 15 07.5 -2.1
TKM2 LR LR
comp=Z,976nm,22.0s
KBK Karagaybulak 162.50 231 P PKPab 06 15 09.1 -0.9
SNR=5.1
AML Almayashu 162.62 228 *e*PKPdf PKPdf 06 14 21.0 -1.1
AML *e*PKPab PKPab 06 15 09.3 -1.1
AML *e*PP PP 06 18 51.9 -3.3
AML LR LR
comp=Z,1μm,22.0s
AML Almayashu 162.62 228 P PKPab 06 15 09.7 -0.8
SNR=5.6
AAK Ala-Archa 162.68 230 P PKPab 06 15 10.0 -0.8
SNR=7.9
DIGO Kars 162.74 144 *i* P PKPdf 06 14 21.8 -0.5
FRU Bishkek 162.79 231 *e*PKIKP PKPdf 06 14 21.0 -1.2
FRU *e* 06 18 53.0
FRU pmax pmax
comp=Z,427nm,3.5s
KARS Kars 162.82 144 *e*P PKPdf 06 14 22.2 -0.1
ARTV Artvin 162.91 140 *i* P PKPdf 06 14 22.1 -0.3
EKS2 Erkin-Say 163.01 229 *e*PKPdf PKPdf 06 14 21.1 -1.3
EKS2 *e*PKPab PKPab 06 15 10.5 -1.7
EKS2 LR LR
comp=Z,988nm,19.0s
EKS2 Erkin-Say 163.01 229 P PKPab 06 15 10.8 -1.4
SNR=8.5
BCA Borcka 163.03 139 *e*P PKPdf 06 14 21.2 -1.3
KIEV Kiev 163.04 95 *e*PKPdf PKPdf 06 14 20.6 -1.6
KIEV *e*PKPab PKPab 06 15 10.9 -1.2
KIEV LR LR
comp=Z,2μm,21.0s
AKASG Malin Array Be 163.05 95 PKP2 PKPab 06 15 10.6 -1.6
AKASG 06 18 53.8
AKASG pmax pmax
comp=Z,5.0nm,0.7s
AKASG Malin Array Be 163.05 95 PKP PKPdf 06 14 20.3 -1.9
comp=Z,16nm,1.1s,baz=268,slow=1.6,SNR=61
AKASG PKPab PKPab 06 15 10.6 -1.6
comp=Z,5.2nm,0.7s,baz=250,slow=4.4,SNR=5.6
AKASG PP PP 06 18 53.8 -4.1
comp=Z,0.1nm,0.3s,baz=232,slow=6.5,SNR=5.9
AKBB Malin Array Si 163.05 95 *e*PKPdf PKPdf 06 14 20.7 -1.5
AKBB *e*PKPab PKPab 06 15 11.0 -1.2
FINES FINESS Array B 163.08 57 PKP PKPdf 06 14 19.2 -2.7
comp=Z,13nm,1.1s,baz=199,slow=12,SNR=6.5
FINES PKPab PKPab 06 15 15.0 +3.0
comp=Z,4.4nm,0.9s,baz=50,slow=3.0,SNR=4.4
USP Ospenovka 163.18 232 P PKPab 06 15 11.7 -1.2
SNR=5.5
ZAA0 Zalesovo Array 163.55 277 *e*PKPdf PKPdf 06 14 18.8 -3.8
ZAA0 *e*PKPab PKPab 06 15 13.2 -1.1
ZALV Zalesovo Beam 163.55 277 PKP PKPdf 06 14 18.1 -4.5
comp=Z,1.0nm,0.6s,baz=331,slow=1.9,SNR=10
ZALV PKPab PKPab 06 15 13.1 -1.2
comp=Z,24nm,1.1s,baz=111,slow=3.8,SNR=24
ZALV PP PP 06 18 59.9 -0.6
comp=Z,1.7nm,0.9s,baz=104,slow=6.3,SNR=4.1
ZAL Zalesovo 163.56 277 PKIKP PKPdf 06 14 18.1 -4.5
ZAL 06 15 13.1
ZAL 06 18 59.9
MNK Minsk 163.59 81 *e*PKIKP PKPdf 06 14 20.0 -2.6
SOC Sochi 164.04 131 *d i* PKIKP PKPdf 06 14 22.5 -0.9
SOC *e* 06 15 15.4
SOC *e* 06 19 00.7
SOC *e*PPP 06 22 56.9
SOC pmax pmax
comp=Z,36nm,1.1s
NVS Novosibirsk 164.67 279 *e*PKP2 PKPab 06 15 19.0 -0.2
KIV Kislovodsk 165.58 136 *e*PKPdf PKPdf 06 14 24.3 -0.4
KIV *e*PKPab PKPab 06 15 22.6 -0.9
KIV LR LR
comp=Z,1μm,22.0s
KIV Kislovodsk 165.58 136 *d i* PKIKP PKPdf 06 14 23.6 -1.1
KIV *i* 06 15 22.0
KIV *e* 06 19 10.2
KIV pmax pmax
comp=Z,54nm,1.5s
KIV pmax pmax
comp=Z,34nm,1.3s
KURK Kurchatov 165.88 260 *e*PKPdf PKPdf 06 14 22.0 -2.7
KURK *e*PKPab PKPab 06 15 22.6 -2.1
KURK LR LR
comp=Z,944nm,22.0s
MAK Makhachkala 166.32 151 *e*PKIKP PKPdf 06 14 23.9 -1.4
MAK *e* 06 19 13.4
MAK *e*SS SS 06 40 53.0 +58
MAK pmax pmax
comp=Z,144nm,1.4s
OBN Obninsk 168.66 83 PFAKE 06 14 40.0 +13
OBN LR LR
comp=Z,3μm,21.0s
OBN Obninsk 168.66 83 ⇑ *i* PKIKP PKPdf 06 14 25.3 -1.3
OBN *i* 06 15 36.6
OBN *e* 06 19 26.1
OBN pmax pmax
comp=Z,133nm,1.7s
OBN pmax pmax
comp=Z,100nm,1.6s
MOS Moscow 169.34 80 *e*PKIKP PKPdf 06 14 25.1 -1.9
MOS *e* 06 15 38.2
MOS *e* 06 19 32.2
MOS pmax pmax
comp=Z,101nm,1.2s
BRVK Borovoye 171.56 260 *e*PKPdf PKPdf 06 14 25.0 -3.3
BRVK *e*PKPab PKPab 06 15 48.2 -1.6
BRVK *e*PP PP 06 19 35.1 -6.4
BRVK LR LR
comp=Z,2μm,22.0s
AKTK Aktyubinsk 174.99 192 PKP PKPdf 06 14 27.6 -2.2
AKTK PKPab PKPab 06 16 02.3 -2.6
AKTK PP PP 06 19 56.0 -1.5
AKTO Aktyubinsk 174.99 192 PKP PKPdf 06 14 27.6 -2.2
comp=Z,7.8nm,1.2s,baz=46,slow=4.8,SNR=12
AKTO PKPab PKPab 06 16 02.3 -2.6
comp=Z,18nm,1.1s,baz=174,slow=5.6,SNR=13
AKTO PP PP 06 19 56.0 -1.5
comp=Z,4.9nm,1.2s,baz=123,slow=6.0,SNR=4.3
ARU Arti 178.37 313 *e*PKPdf PKPdf 06 14 27.0 -3.1
ARU Arti 178.37 313 *e*PKIKP PKPdf 06 14 27.0 -3.2

IDC 06 05:58:44.8±1.3, 106N×12637E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.6/14, mbtmp3.5/4, Error ellipse: s-maj=138.8km s-min=21.0km az=69.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.29**	**160**	P	P	06 03 43.3	-0.5
	0.7nm,0.5s,baz=338,slow=11,SNR=3.8						
ASAR	**Alice Springs**	**25.65**	**164**	P	P	06 04 16.9	+0.5
	0.3nm,0.3s,baz=346,slow=12,SNR=8.4						
SONM	**Songino Array**	**49.70**	**342**	P	P	06 07 38.8	+0.3
	0.3nm,0.6s,baz=140,slow=7.6,SNR=3.4						
MKAR	**Makanchi Array**	**59.54**	**326**	P	P	06 08 50.0	-0.1
	0.5nm,0.3s,baz=125,slow=8.0,SNR=7.9						

*ISCJB **06** 05:59:29.4±0.4, 27.12N±006×12768E±006, h105km±5km, mb3.5/4, Error ellipse: s-maj=13.4km s-min=4.7km az=139.9*
*IDC **06** 05:59:29.2±1.4, 2697N×12754E, h92km±16km, mb3.4/4, mb1 3.5/6, mb1mx3.3/22, mbtmp3.4/6, MS2.6/1, Ms1 2.6/1, ms1mx2.3/15, Error ellipse: s-maj=40.5km s-min=32.8km az=38.0*
*JMA **06** 05:59:30.8±0.2, 2728N×12759E, h87km±2km, M3.7*

ISC 06 05:59:30.5±0.4, 2711N±006×12770E±006, h101km±5km, n24, σ0995/34, mb3.5/4, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIH	**Iheya**	**0.25**	**106**	P	**Pn**	**05 59 44.8**	**-0.2**
JIH				*e*S	**Sn**	**05 59 54.8**	**-1.0**
JOW	**Kunigami**	**0.58**	**118**	P	**Pn**	**05 59 47.6**	**+0.6**
JOW				*e*S	**Sn**	**05 59 59.4**	**+0.1**
JOW	**Kunigami**	**0.58**	**118**	P	**Pn**	**05 59 47.6**	**+0.6**
	222nm,0.3s,baz=311,slow=4.7,SNR=941						
JOW				S	**Sn**	**05 59 59.2**	**-0.1**
	350nm,0.3s,baz=140,slow=26,SNR=35						
JAGN	**Aguni-jima**	**0.66**	**219**	P	**Pn**	**05 59 47.6**	**0.0**
JAGN				*e*S	**Sn**	**06 00 00.3**	**-0.2**
NAH1	**Naha**	**0.90**	**181**	P	**Pn**	**05 59 51.4**	**+1.5**
NAH1				*e*S	**Sn**	**06 00 06.6**	**+2.1**
JJT2	**Tamagusuku 2**	**0.96**	**177**	P	**Pn**	**05 59 52.6**	**+2.0**
JKE	**Kume jima 2**	**1.13**	**227**	P	**Pn**	**05 59 52.6**	**+0.2**
JKE				*e*S	**Sn**	**06 00 08.5**	**-0.4**
JTK	**Tokunoshima**	**1.30**	**58**	P	**Pn**	**05 59 54.0**	**-0.4**
JTK				*e*S	**Sn**	**06 00 11.5**	**-1.0**
JAM	**Amami Oshima**	**2.13**	**52**	P	**Pn**	**06 00 04.6**	**-0.2**
JAM				*e*S	**Sn**	**06 00 29.8**	**-1.2**
JZK	**Kikaishima**	**2.35**	**59**	P	**Pn**	**06 00 08.1**	**+0.5**
JZK				*e*S	**Sn**	**06 00 36.9**	**+0.9**
JNN	**Nakanoshima**	**3.33**	**35**	P	**Pn**	**06 00 21.0**	**+0.4**
JMZ	**Minamidaito 2**	**3.41**	**111**	P	**Pn**	**06 00 21.5**	**-0.2**
JMZ				*e*S	**Sn**	**06 00 58.6**	**-2.6**
JTJ	**Tarama**	**3.65**	**228**	P	**Pn**	**06 00 24.9**	**0.0**
JIJ	**Ishigaki jima**	**4.21**	**230**	P	**Pn**	**06 00 31.6**	**-0.9**
JKRS	**Kuro-shima**	**4.39**	**230**	P	**Pn**	**06 00 34.1**	**-0.8**
IRIF	**Iriomote-Funau**	**4.52**	**233**	P	**Pn**	**06 00 35.9**	**-0.8**
HATJ	**Hateruma jima**	**4.65**	**230**	P	**Pn**	**06 00 37.8**	**-0.6**
YOJ	**Yonaguni jima**	**4.98**	**239**	P	**Pn**	**06 00 42.5**	**-0.4**
JNU	**Nakatsue**	**6.60**	**24**	P	**Pn**	**06 01 05.8**	**+1.0**
	0.9nm,0.3s,baz=19,slow=26,SNR=4.2						
JNU				LR	LR	06 03 25.8	
	comp=Z,45nm,18.0s,baz=49,slow=35						
KSRS	**Korea Array**	**10.32**	**1**	P	**Pn**	**06 01 56.4**	**+0.9**
	0.4nm,0.3s,baz=182,slow=12,SNR=4.9						
SONM	**Songino Array**	**26.56**	**327**	P	**P**	**06 04 59.8**	**+1.1**
	0.6nm,0.5s,mb3.4,baz=137,slow=9.7,SNR=7.7						
MKAR	**Makanchi Array**	**40.60**	**311**	P	**P**	**06 06 58.5**	**-1.6**
	0.1nm,0.3s,mb3.1,baz=106,slow=9.2,SNR=2.6						
FINES	**FINESS Array B**	**71.87**	**330**	P	**P**	**06 10 41.8**	**-0.3**
	2.6nm,0.9s,mb4.0,baz=94,slow=4.2,SNR=2.9						
YKA	**Yellowknife Ar**	**77.94**	**25**	P	**P**	**06 11 18.0**	**+1.0**
	0.3nm,0.4s,mb3.4,baz=302,slow=5.5,SNR=9.5						

*NEIC **06** 06:02:06.3, 4462S×16874E, h5km, ML3.8(WEL), After WEL.*
NEIC Felt at Wanaka. Also felt in Arrowtown.

WEL 06 06:02:06.3±0.1, 4462S×16873E, h5km, ML3.8/14, 1C, Error ellipse: s-maj=0.9km s-min=0.6km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WKZ	**Wanaka**	**0.29**	**135**	P	Pg	06 02 12.3	+0.3
WKZ				S	Sg	06 02 16.1	+0.2
WKZ	**Wanaka**	**0.29**	**135**	PG	Pg	06 02 12.2	+0.2
WKZ				SG	Sg	06 02 16.1	+0.2
JCZ	**Jackson Bay**	**0.55**	**2**	P	Pg	06 02 17.5	+0.7
JCZ				S	Sg	06 02 24.7	+0.8
JCZ	**Jackson Bay**	**0.55**	**2**	⇑PG	Pg	06 02 17.5	+0.6
JCZ				SG	Sg	06 02 24.7	+0.8
MSZ	**Milford Sound**	**0.57**	**264**	P	Pg	06 02 18.1	+0.7
MSZ				S	Sg	06 02 25.5	+0.7
MSZ	**Milford Sound**	**0.57**	**264**	PG	Pg	06 02 18.0	+0.7
MSZ				SG	Sg	06 02 25.5	+0.7
EAZ	**Earnscleugh**	**0.74**	**146**	P	Pg	06 02 20.1	-0.4
EAZ	**Earnscleugh**	**0.74**	**146**	P*	Pb	06 02 20.1	-1.6
MLZ	**Mavora Lakes**	**0.83**	**208**	P	Pg	06 02 22.8	+0.6
MLZ	**Mavora Lakes**	**0.83**	**208**	P*	Pb	06 02 22.8	-0.4
LBZ	**Lake Benmore**	**1.07**	**78**	*e*P	Pg	06 02 26.6	-0.2
LBZ				S	Sg	06 02 39.9	-0.7
LBZ	**Lake Benmore**	**1.07**	**78**	P*	Pb	06 02 26.6	-0.7
LBZ				S*	Sb	06 02 39.9	-1.6
FOZ	**Fox Glacier**	**1.26**	**34**	P	Pg	06 02 31.1	+0.6
FOZ	**Fox Glacier**	**1.26**	**34**	P*	Pb	06 02 31.1	+0.5
WHZ	**Wether Hill Ro**	**1.39**	**203**	P	Pn	06 02 31.8	-0.5
WHZ	**Wether Hill Ro**	**1.39**	**203**	PN	Pn	06 02 31.8	-0.6
DCZ	**Deep Cove**	**1.41**	**232**	P	Pn	06 02 32.2	-0.4
DCZ	**Deep Cove**	**1.41**	**232**	PN	Pn	06 02 32.2	-0.4
ODZ	**Otahua Downs**	**1.43**	**108**	P	Pn	06 02 32.3	-0.6
ODZ	**Otahua Downs**	**1.43**	**108**	PN	Pn	06 02 32.3	-0.6
TUZ	**Tuapeka**	**1.48**	**155**	P	Pn	06 02 33.5	-0.1
TUZ	**Tuapeka**	**1.48**	**155**	PN	Pn	06 02 33.5	-0.1
HHSZ	**Highcliff Hill**	**1.83**	**134**	PN	Pn	06 02 39.2	+0.8
RPZ	**Rata Peaks**	**1.90**	**62**	*e*PN	Pn	06 02 38.8	-0.6
SYZ	**Scrubby Hill**	**1.94**	**172**	PN	Pn	06 02 39.3	-0.6
WVZ	**Waitaha Valley**	**2.12**	**44**	*e*P	Pn	06 02 43.6	+1.2
WVZ	**Waitaha Valley**	**2.12**	**44**	*e*PN	Pn	06 02 42.7	+0.3
APZ	**The Paps**	**2.27**	**193**	PN	Pn	06 02 44.1	-0.4
LTZ	**Lake Taylor**	**3.16**	**56**	*e*PN	Pn	06 02 58.8	+2.1
QRZ	**Quartz Range**	**4.71**	**38**	*e*PN	Pn	06 03 18.1	+0.1
NNZ	**Nelson**	**4.82**	**47**	*e*PN	Pn	06 03 20.9	+1.4

IDC 06 06:06:23.5±17.0, 5459S×12348W, h0km, mb4.3/3, mb1 4.4/3, mb1mx3.9/13, mbtmp4.3/3, Error ellipse: s-maj=1145.0km s-min=411.4km az=149.0, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**67.37**	**247**	P	P	06 17 20.4	0.0
	1.4nm,0.7s,baz=124,slow=3.6,SNR=3.6						
ASAR	**Alice Springs**	**78.00**	**246**	P	P	06 18 23.9	+0.3
	2.1nm,0.9s,baz=148,slow=5.2,SNR=15						
WRA	**Warramunga Arr**	**80.78**	**249**	P	P	06 18 38.9	0.0
	4.6nm,1.1s,baz=142,slow=5.0,SNR=14						

*ISCJB **06** 06:10:50.4±0.2, 3720N±004×2470W±003, h10km, mb4.6/76, MS4.4/25, Error ellipse: s-maj=6.2km s-min=2.9km az=9.8*
*IDC **06** 06:10:50.4±0.5, 3730N×2477W, h0km, mb4.0/26, mb1 4.1/26, mb1mx4.1/30, mbtmp4.0/26, MS4.4/15, Ms1 4.4/15, ms1mx4.1/38, Error ellipse: s-maj=14.0km s-min=11.6km az=150.0*
*NEIC **06** 06:10:52.0±0.2, 3710N×2460W, h10km, mb4.8/44, Error ellipse: s-maj=4.9km s-min=3.5km az=177.0*
*BJI **06** 06:10:51.9, 3710N×2460W, h10km, mB5.5, mb5.3, Ms5.2, Msz5.0*
*CRAAG **06** 06:10:52.2, 3732N×2478W, Mb4.9*
*CSEM **06** 06:10:52.0±0.1, 3735N×2474W, h20km, mb4.8/36, Ms4.0, Error ellipse: s-maj=3.0km s-min=1.0km az=3.0*
*PDA **06** 06:10:53.9±0.9, 3722N×2462W, h5km, MD4.3, ML4.3, Error ellipse: s-maj=11.9km s-min=4.3km az=37.0*
*SVSA **06** 06:10:53.9±0.9, 3722N×2462W, h5km, MD4.3, ML4.3, Error ellipse: s-maj=11.9km s-min=4.3km az=37.0*
*MOS **06** 06:10:54.2±1.1, 3723N×2466W, h33km, mb5.0/32, Error ellipse: s-maj=11.6km s-min=6.4km az=48.9*

ISC 06 06:10:52.1±0.2, 3723N±004×2472W±003, h10km, n272, σ1921/289, mb4.6/76, MS4.4/25, 2C-2D, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDA	**Ponta Delgada**	**0.91**	**305**	*e*P	**Pg**	**06 11 08.2**	**-1.4**
PDA				*e*S	**Sg**	**06 11 19.8**	**-1.6**
PSET	**Sete Cidades**	**0.99**	**307**	*e*P	**Pg**	**06 11 10.4**	**-0.7**
PSET				*e*S	**Sg**	**06 11 23.1**	**-0.9**
PSET				A		06 11 26.8	
	3μm,0.3s						
PSET	**Sete Cidades**	**0.99**	**307**	*e*P	**Pg**	**06 11 10.4**	**-0.7**
PSET				*e*S	**Sg**	**06 11 23.1**	**-0.9**
PSCM	**Serra do Cume**	**2.39**	**308**	*e*P	**Pn**	**06 11 30.0**	**-1.3**
PSCM				*e*S	**Sn**	**06 11 57.3**	**-3.4**
PSCM				A		06 12 00.6	
	657nm,0.4s						
PSCM	**Serra do Cume**	**2.39**	**308**	*e*P	**Pn**	**06 11 30.0**	**-1.3**
PSCM				*e*S	**Sn**	**06 11 57.3**	**-3.4**
ADH	**Angra Heroismo**	**2.44**	**306**	*e*P	**Pn**	**06 11 30.9**	**-1.1**
ADH				*e*S	**Sn**	**06 11 58.5**	**-3.4**
PID	**Ribeirinha**	**2.95**	**295**	*e*P	**Pn**	**06 11 37.9**	**-1.0**
PID				*e*S	**Sn**	**06 12 11.2**	**-3.2**
PMAN	**Manadas**	**3.01**	**299**	*e*P	**Pn**	**06 11 38.7**	**-1.1**
PMAN				*e*S	**Sn**	**06 12 12.4**	**-3.4**
PMAN				A		06 12 14.3	
	122nm,0.4s						
PMAN	**Manadas**	**3.01**	**299**	*e*P	**Pn**	**06 11 38.7**	**-1.1**
PMAN				*e*S	**Sn**	**06 12 12.4**	**-3.4**
PGRA	**Graciosa**	**3.13**	**306**	*e*P	**Pn**	**06 11 40.7**	**-0.8**
PGRA				*e*S	**Sn**	**06 12 14.8**	**-4.2**
PGRA				A		06 12 15.9	
	117nm,0.3s						
PGRA	**Graciosa**	**3.13**	**306**	*e*P	**Pn**	**06 11 40.7**	**-0.8**
PGRA				*e*S	**Sn**	**06 12 14.8**	**-4.2**
ROSA	**Rosais**	**3.15**	**299**	*e*P	**Pn**	**06 11 40.9**	**-0.9**
SRBC	**Serra Branca**	**3.18**	**306**	*e*P	**Pn**	**06 11 41.3**	**-0.8**
PICO	**Pico**	**3.19**	**294**	*e*P	**Pn**	**06 11 41.7**	**-0.6**
PICO				*e*S	**Sn**	**06 12 17.0**	**-3.4**
HOR	**Horta**	**3.35**	**294**	*e*P	**Pn**	**06 11 43.2**	**-1.3**
HOR				*e*S	**Sn**	**06 12 20.4**	**-3.9**
CALA	**Caldeira**	**3.42**	**294**	*e*P	**Pn**	**06 11 44.1**	**-1.4**
CALA				*e*S	**Sn**	**06 12 22.8**	**-3.3**
PCED	**Cedros**	**3.44**	**295**	*e*P	**Pn**	**06 11 44.7**	**-1.0**
PCED				*e*S	**Sn**	**06 12 22.8**	**-3.8**
PCED				A		06 12 25.7	
	108nm,0.4s						
PCED	**Cedros**	**3.44**	**295**	*e*P	**Pn**	**06 11 44.7**	**-1.0**
PCED				*e*S	**Sn**	**06 12 22.8**	**-3.8**
PMAR	**Madeira**	**7.83**	**123**	*e*Pn	**Pn**	**06 12 43.8**	**-2.2**
PMAR				*e*Sn	**Sn**	**06 14 02.9**	**-12**
PMAR				A		06 14 14.9	
	40nm,0.2s						
PMPS	**Porto Santo**	**8.03**	**119**	*e*Pn	**Pn**	**06 12 45.5**	**-3.3**
PMPS				*e*Sn	**Sn**	**06 14 05.6**	**-14**
PMPS				A		06 14 19.4	
	20nm,0.5s						
EGOM	**La Gomera**	**11.04**	**143**	P	**Pn**	**06 13 26.3**	**-3.6**
	22nm,0.2s						
EGOM				S	**Sn**	**06 15 20.0**	**-13**
EBAJ	**Bajamar**	**11.16**	**139**	P	**Pn**	**06 13 28.8**	**-2.9**
	4.2nm,0.3s						
EBAJ				S	**Sn**	**06 15 21.9**	**-15**
CCAN	**Las Canadas**	**11.28**	**140**	P	**Pn**	**06 13 29.5**	**-3.9**
	3.7nm,0.2s						
CCAN				S	**Sn**	**06 15 24.5**	**-15**
EOSO	**Osorio**	**11.96**	**137**	P	**Pn**	**06 13 39.3**	**-3.3**
	1.7nm,0.2s						
EOSO				S	**Sn**	**06 15 41.2**	**-15**
PMAFR	**Mafra**	**12.29**	**77**	*e*S	**Sn**	**06 15 47.4**	**-17**
EFAM	**Famara**	**12.37**	**128**	P	**Pn**	**06 13 47.5**	**-0.7**
	1.4nm,0.3s						
CFTV	**Fuerteventura**	**12.54**	**131**	P	**Pn**	**06 13 47.3**	**-3.2**
	0.9nm,0.2s						
PFVI	**Vila Bisbo**	**12.68**	**86**	*e*S	**Sn**	**06 15 57.5**	**-16**
PTEO	**Sao Teotonio**	**12.73**	**84**	*e*S	**Sn**	**06 15 58.9**	**-16**
MORF	**Marmelete**	**12.80**	**85**	*e*S	**Sn**	**06 16 01.6**	**-15**
MOE	**Montemor**	**13.00**	**79**	*e*S	**Sn**	**06 16 05.1**	**-16**
EVOP	**Sao Brissos**	**13.18**	**79**	*e*Pn	**Pn**	**06 13 55.4**	**-3.8**
EVO	**Evora**	**13.27**	**79**	*e*Pn	**Pn**	**06 13 55.4**	**-5.0**
EVO				*e*Sn	**Sn**	**06 16 07.6**	**-20**
	16nm,0.5s						
EVO				*e*MLR	MLR		
	comp=Z,2μm,22.0s						
PBDV	**Barranco-do-Ve**	**13.38**	**85**	*e*S	**Sn**	**06 16 14.1**	**-17**
PBEJ	**Beja**	**13.39**	**81**	*e*S	**Sn**	**06 16 13.5**	**-17**
PVAQ	**Vaqueiros**	**13.54**	**84**	*e*S	**Sn**	**06 16 17.6**	**-17**
PVIS	**Viseu**	**13.54**	**70**	*e*S	**Sn**	**06 16 16.7**	**-18**
PESTR	**Estremoz**	**13.60**	**78**	*e*S	**Sn**	**06 16 18.3**	**-18**
PCAB	**Cabril**	**13.64**	**66**	*e*S	**Sn**	**06 16 19.3**	**-18**
ELOB	**Lobios**	**13.66**	**65**	P	**Pn**	**06 13 58.7**	**-7.1**
	comp=Z,11nm,0.7s						
ELOB				S	**Sn**	**06 16 18.1**	**-19**
PCBR	**Castelo Branco**	**13.75**	**74**	*e*S	**Sn**	**06 16 20.8**	**-19**
MTE	**Manteigas**	**13.76**	**71**	*e*S	**Sn**	**06 16 22.0**	**-18**
PVRL	**Vila Real**	**13.78**	**68**	*e*S	**Sn**	**06 16 21.8**	**-19**
PBAR	**Barrancos**	**14.03**	**81**	*e*S	**Sn**	**06 16 29.4**	**-17**
MVO	**Moncorvo**	**14.27**	**69**	*e*S	**Sn**	**06 16 32.4**	**-20**
PBRG	**Braganca**	**14.60**	**66**	*e*S	**Sn**	**06 16 40.5**	**-20**
ESDC	**Sonseca Array**	**16.44**	**75**	Pn	**Pn**	**06 14 37.9**	**-4.9**
	comp=Z,0.4nm,0.3s,baz=269,slow=13,SNR=12						
ESDC				Sn	**Sn**	**06 17 28.5**	**-17**
	comp=Z,0.3nm,0.3s,baz=268,slow=24,SNR=4.2						
ESDC				LR	LR	06 20 02.8	
	comp=Z,839nm,19.3s,baz=275,slow=34						
ESLA	**Sonseca Array**	**16.44**	**75**	*e*Pn	**Pn**	**06 14 40.9**	**-1.9**
	comp=Z,16nm,1.6s						
ESLA	**Sonseca Array**	**16.44**	**75**	*e*Pn	**Pn**	**06 14 40.9**	**-1.9**
	comp=Z,16nm,1.6s						
MDT	**Midelt**	**17.04**	**99**	Pn	**Pn**	**06 14 47.1**	**-3.4**
	comp=Z,0.5nm,0.3s,baz=286,slow=14,SNR=14						
MDT				Sn	**Sn**	**06 17 39.3**	**-21**
	comp=Z,0.1nm,0.3s,baz=329,slow=17,SNR=2.9						
MDT				LR	LR	06 19 55.0	
	comp=Z,774nm,20.1s,baz=294,slow=32						
SJPF	**Ste Jean**	**18.86**	**65**	*e*P	**Pn**	**06 15 12.7**	**-0.1**
	comp=Z,65nm,1.3s						
SJPF	**Ste Jean**	**18.86**	**65**	*e*P	**Pn**	**06 15 12.7**	**-0.1**
SJPF				pmax	pmax		
	comp=Z,33nm,1.3s						
SJPF	**Ste Jean**	**18.86**	**65**	*e*P	**Pn**	**06 15 12.7**	**-0.1**
	comp=Z,32nm,1.3s						
QUIF	**Quistinic**	**19.07**	**49**	*e*P	**Pn**	**06 15 15.1**	**-0.1**
	comp=Z,100nm,1.6s						
QUIF	**Quistinic**	**19.07**	**49**	*e*P	**Pn**	**06 15 15.1**	**-0.1**
QUIF				pmax	pmax		
	comp=Z,50nm,1.6s						
QUIF	**Quistinic**	**19.07**	**49**	*e*P	**Pn**	**06 15 15.1**	**-0.1**
	comp=Z,50nm,1.6s						
ROSF	**Rostrenen**	**19.19**	**48**	*e*P	**Pn**	**06 15 16.2**	**-0.5**
	comp=Z,89nm,1.5s						
ROSF	**Rostrenen**	**19.19**	**48**	*e*P	**Pn**	**06 15 16.2**	**-0.5**
ROSF				pmax	pmax		
	comp=Z,45nm,1.5s						
ROSF	**Rostrenen**	**19.19**	**48**	*e*P	**Pn**	**06 15 16.2**	**-0.5**
	comp=Z,45nm,1.5s						
ETSF	**Etsaut**	**19.31**	**65**	*e*P	**Pn**	**06 15 18.1**	**-0.1**
SGMF	**Saint Gilles**	**19.58**	**49**	*e*P	**Pn**	**06 15 20.6**	**-0.8**
EPF	**Esparros**	**19.98**	**65**	*e*P	**Pn**	**06 15 25.3**	**-0.9**
MFF	**Saint Martin d**	**20.47**	**55**	*e*P	**P**	**06 15 30.5**	**+0.7**
	comp=Z,151nm,1.1s						
MFF	**Saint Martin d**	**20.47**	**55**	*e*P	**P**	**06 15 30.5**	**+0.7**
MFF				pmax	pmax		
	comp=Z,76nm,1.1s						
MFF	**Saint Martin d**	**20.47**	**55**	*e*P	**P**	**06 15 30.5**	**+0.7**
	comp=Z,76nm,1.1s						
LFF	**La Frestale**	**20.62**	**60**	*e*P	**P**	**06 15 31.8**	**+0.4**
	comp=Z,66nm,0.8s						
LFF	**La Frestale**	**20.62**	**60**	*e*P	**P**	**06 15 31.8**	**+0.4**
LFF				pmax	pmax		
	comp=Z,33nm,0.8s						
LFF	**La Frestale**	**20.62**	**60**	*e*P	**P**	**06 15 31.8**	**+0.4**
	comp=Z,33nm,0.8s						

MTLF **Montolieu** 21.38 65 *eP* P 06 15 40.1 +0.4
CAF **Calviac** 21.54 61 *eP* P 06 15 41.4 +0.1
comp=Z,94nm,1.1s,mb4.8
CAF **Calviac** 21.54 61 *eP* P 06 15 41.4 +0.1
CAF pmax pmax
comp=Z,47nm,1.1s,mb4.8
CAF **Calviac** 21.54 61 *eP* P 06 15 41.4 +0.1
comp=Z,47nm,1.1s,mb4.8
TCF **Toulx Ste Croi** 21.95 57 *eP* P 06 15 45.2 -0.5
comp=Z,177nm,1.4s,mb5.0
TCF **Toulx Ste Croi** 21.95 57 *eP* P 06 15 45.2 -0.5
TCF pmax pmax
comp=Z,89nm,1.4s,mb5.0
TCF **Toulx Ste Croi** 21.95 57 *eP* P 06 15 45.2 -0.5
comp=Z,88nm,1.4s,mb5.0
EMHD **Djebel Mahouad** 22.18 84 P P 06 15 50.5 +2.2
BGF **Bois d'Agland** 22.44 57 *eP* P 06 15 50.5 -0.4
LASF **Ste Croix** 22.66 63 *eP* P 06 15 53.0 -0.3
comp=Z,112nm,1.5s,mb4.8
LASF **Ste Croix** 22.66 63 *eP* P 06 15 53.0 -0.3
comp=Z,56nm,1.5s,mb4.8
AVF **Avril sur Loir** 22.84 56 *eP* P 06 15 54.4 -0.7
comp=Z,11nm,0.9s,mb4.0
AVF **Avril sur Loir** 22.84 56 *eP* P 06 15 54.4 -0.7
AVF pmax pmax
comp=Z,6.0nm,0.9s,mb4.0
AVF **Avril sur Loir** 22.84 56 *eP* P 06 15 54.4 -0.7
comp=Z,5.7nm,0.9s,mb4.0
SSF **Saint Saulge** 23.01 56 *eP* P 06 15 56.7 -0.2
comp=Z,30nm,0.8s,mb4.5
SSF **Saint Saulge** 23.01 56 *eP* P 06 15 56.7 -0.2
SSF pmax pmax
comp=Z,15nm,0.8s,mb4.5
SSF **Saint Saulge** 23.01 56 *eP* P 06 15 56.7 -0.2
comp=Z,15nm,0.8s,mb4.5
SMF **Signal de Mont** 23.13 57 *eP* P 06 15 57.5 -0.7
comp=Z,124nm,1.3s,mb4.9
SMF **Signal de Mont** 23.13 57 *eP* P 06 15 57.5 -0.7
SMF pmax pmax
comp=Z,62nm,1.3s,mb4.9
SMF **Signal de Mont** 23.13 57 *eP* P 06 15 57.5 -0.7
comp=Z,62nm,1.3s,mb4.9
EKA **Eskdalemuir Ar** 23.28 32 P P 06 15 59.1 -0.6
comp=Z,2.4nm,0.6s,mb3.8,baz=227,slow=8.8,SNR=8.3
LOR **Lormes** 23.29 55 *eP* P 06 15 59.2 -0.8
comp=Z,71nm,1.4s,mb4.6
LOR *e*MLR MLR
comp=Z,1μm,23.0s,MS3.9
LOR **Lormes** 23.29 55 *eP* P 06 15 59.2 -0.8
comp=Z,36nm,1.4s,mb4.6
LOR LR LR
comp=Z,1μm,23.0s,MS4.2
LOR **Lormes** 23.29 55 *eP* P 06 15 59.2 -0.8
LOR pmax pmax
comp=Z,36nm,1.4s,mb4.6
LOR MLR MLR
comp=Z,1μm,23.0s,MS4.2
VIVF **Saint-Julien-l** 23.35 62 *eP* P 06 15 59.8 -0.8
comp=Z,25nm,0.8s,mb4.4
VIVF **Saint-Julien-l** 23.35 62 *eP* P 06 15 59.8 -0.8
VIVF pmax pmax
comp=Z,13nm,0.8s,mb4.4
VIVF **Saint-Julien-l** 23.35 62 *eP* P 06 15 59.8 -0.8
comp=Z,12nm,0.8s,mb4.4
BBTS **Babate** 23.63 160 P P 06 16 03.6 0.0
comp=Z,83nm,1.3s,mb5.0,baz=333,slow=5.8,SNR=3.6
SMRF **Simiane la Rot** 23.88 64 *eP* P 06 16 04.5 -1.2
comp=Z,16nm,0.8s,mb4.2
SMRF **Simiane la Rot** 23.88 64 *eP* P 06 16 04.5 -1.2
comp=Z,8.2nm,0.8s,mb4.2
ORIF **Oris-en-Rattie** 24.21 62 *eP* P 06 16 08.3 -0.4
ORIF *e*MLR MLR
comp=Z,1μm,22.5s,MS4.0
BAIF **Baives** 24.37 49 *eP* P 06 16 09.3 -0.8
MEZF **Maizieres J'vi** 24.40 53 *eP* P 06 16 10.0 -0.4
LMR **La Mourre** 24.50 66 *eP* P 06 16 11.0 -0.4
DOU **Dourbes** 24.62 49 P P 06 16 12.7 +0.3
comp=Z,30nm,2.4s,mb4.4
CABF **La Chapelle** 24.63 58 *eP* P 06 16 12.3 -0.2
GIVF **Givet** 24.76 49 *eP* P 06 16 13.1 -0.5
LPL **La Plagne** 24.89 61 *eP* P 06 16 14.9 0.0
LPG **La Plagne** 24.90 61 *eP* P 06 16 14.9 -0.1
HAU **Haudompre** 25.11 55 *eP* P 06 16 16.7 -0.1
comp=Z,36nm,0.9s,mb4.6
HAU *e*MLR MLR
comp=Z,879nm,22.5s,MS3.9
HAU **Haudompre** 25.11 55 *eP* P 06 16 16.7 -0.1
comp=Z,18nm,0.9s,mb4.6
HAU LR LR
comp=Z,880nm,22.5s,MS4.2
HAU **Haudompre** 25.11 55 *eP* P 06 16 16.7 -0.1
HAU pmax pmax
comp=Z,18nm,0.9s,mb4.6
HAU MLR MLR
comp=Z,880nm,22.5s,MS4.2
SBF **Sospel** 25.21 65 *eP* P 06 16 17.7 -0.1
comp=Z,43nm,0.9s,mb4.7
SBF **Sospel** 25.21 65 *eP* P 06 16 17.7 -0.1
SBF pmax pmax
comp=Z,22nm,0.9s,mb4.7
SBF **Sospel** 25.21 65 *eP* P 06 16 17.7 -0.1
comp=Z,22nm,0.9s,mb4.7
HINF **Hinteralfeld** 25.39 55 *eP* P 06 16 19.3 -0.1
WLF **Walferdange** 25.43 51 *eP* P 06 16 19.8 0.0
WLF pmax pmax
comp=Z,24nm,0.8s,mb4.8
WLF **Walferdange** 25.43 51 P P 06 16 20.3 +0.5
comp=Z,32nm,1.4s,mb4.7
WLF **Walferdange** 25.43 51 *eP* P 06 16 19.8 0.0
comp=Z,24nm,0.8s,mb4.8
CDF **Champ du Feu** 25.81 54 *eP* P 06 16 23.4 +0.2
comp=Z,60nm,1.4s,mb4.6
CDF **Champ du Feu** 25.81 54 *eP* P 06 16 23.4 +0.2
CDF pmax pmax
comp=Z,30nm,1.4s,mb4.6
CDF **Champ du Feu** 25.81 54 *eP* P 06 16 23.4 +0.2
comp=Z,30nm,1.4s,mb4.6
PGF **Pioggiola** 26.30 68 *eP* P 06 16 27.7 0.0
comp=Z,20nm,0.9s,mb4.3
PGF **Pioggiola** 26.30 68 *eP* P 06 16 27.7 0.0
PGF pmax pmax
comp=Z,10.0nm,0.9s,mb4.3
PGF **Pioggiola** 26.30 68 *eP* P 06 16 27.7 0.0
comp=Z,10nm,0.9s,mb4.3
DAVOX **Davos/Dischmat** 27.23 59 LR LR 06 26 28.0
comp=Z,812nm,19.0s,MS4.3,baz=286,slow=34
KEST **Kesra** 27.35 83 LR LR 06 25 29.0
comp=Z,149nm,21.9s,MS3.5,baz=222,slow=32
BORG **Borgarnes** 27.62 3 LR LR 06 24 18.7
comp=Z,81nm,19.2s,MS4.3,baz=201,slow=29
NKC **Novy Kostel** 29.51 52 *eP* P 06 16 57.7 +1.4
KHC **Kasperske Hory** 30.04 54 *eP* P 06 17 01.8 +0.8
GERES **GERESS Array B** 30.07 55 P P 06 16 58.5 -2.8
comp=Z,0.3nm,0.3s,mb3.5,baz=275,slow=5.5,SNR=2.0
GERES LR LR 06 28 12.7
comp=Z,383nm,18.5s,MS4.1,baz=280,slow=35
VAE **Valguarnera** 30.95 77 LR LR 06 29 58.4
comp=Z,618nm,18.9s,MS4.3,baz=111,slow=37
KSP **Ksiaz** 32.03 52 *eP* P 06 17 19.2 +0.6
KSP *e* 06 18 18.3
NOA **NORSAR Array B** 32.77 32 P P 06 17 24.4 -0.5
comp=Z,2.0nm,1.0s,mb4.0,baz=240,slow=9.0,SNR=2.5
NOA LR LR 06 29 00.1
comp=Z,700nm,21.6s,MS4.3,baz=265,slow=33
HFS **Hagfors** 33.43 34 P P 06 17 29.8 -0.8
comp=Z,3.6nm,0.8s,mb4.3,baz=149,slow=21,SNR=2.6
HFS LR LR 06 29 43.3
comp=Z,610nm,21.3s,MS4.3,baz=80,slow=34
SCHQ **Schefferville** 33.49 315 P P 06 17 30.8 -0.6
comp=Z,2.8nm,0.7s,mb4.3,baz=126,slow=6.5,SNR=6.5
TORD **Torodi Ar. Bea** 33.65 129 P P 06 17 32.7 -0.3
comp=Z,3.2nm,0.8s,mb4.3,baz=319,slow=2.7,SNR=15
OJC **Ojcow** 34.18 53 *eP* P 06 17 40.0 +2.7
JMIC **Jan Mayen** 34.88 9 LR LR 06 29 39.2
comp=Z,526nm,19.2s,MS4.3,baz=61,slow=32
KIS **Kishinev** 40.19 59 *eP* P 06 18 26.0 -2.4
KIS *e* 06 18 44.0
AKASG **Malin Array Be** 40.21 53 P P 06 18 27.6 -0.9
comp=Z,3.4nm,0.8s,mb4.1,baz=268,slow=8.3,SNR=9.9
ARCES **ARCESS Array B** 41.96 24 P P 06 18 41.1 -1.5
ARCES **ARCESS Array B** 41.96 24 P P 06 18 41.2 -1.5
comp=Z,5.1nm,1.0s,mb4.1,baz=241,slow=9.8,SNR=7.3
SIM **Simferopol'** 44.15 61 *eP* P 06 19 08.0 +7.3
SIM pmax pmax
comp=Z,140nm,7.8s
SIM MLR MLR
comp=Z,590nm,19.7s,MS4.5

KBS **Kingsbay** 44.37 10 *i* P P 06 19 02.6 +0.6
OBN **Obninsk** 44.49 46↓ *eP* P 06 19 05.9 +2.6
OBN pmax pmax
comp=Z,54nm,1.5s,mb5.1
OBN MLR MLR
comp=Z,400nm,18.0s,MS4.4
ANN **Anapa** 46.49 60 *eP* P 06 19 17.3 -2.0
ANN *e*S S 06 25 59.5 -7.8
ANN pmax pmax
comp=Z,39nm,1.4s,mb5.1
FCC **Fort Churchill** 48.64 319 *eP* P 06 19 37.2 +1.4
comp=Z,44nm,1.7s,mb5.2
FCC **Fort Churchill** 48.64 319 *eP* P 06 19 37.2 +1.4
FCC pmax pmax
comp=Z,44nm,1.7s,mb5.2
FCC **Fort Churchill** 48.64 319 *eP* P 06 19 37.2 +1.4
comp=Z,44nm,1.7s,mb5.2
MALT **Malatya** 49.04 68 *eP* P 06 19 41.2 +2.1
comp=Z,47nm,1.8s,mb5.2
MALT **Malatya** 49.04 68 *eP* P 06 19 41.2 +2.1
MALT pmax pmax
comp=Z,47nm,1.8s,mb5.2
MALT **Malatya** 49.04 68 *eP* P 06 19 41.2 +2.1
comp=Z,47nm,1.8s,mb5.2
RES **Resolute Bay** 49.25 341 *eP* P 06 19 41.5 +1.2
comp=Z,1μm,1.4s
RES **Resolute Bay** 49.25 341 *eP* P 06 19 41.5 +1.2
comp=Z,1μm,1.4s
SDV **Santo Domingo** 50.12 248 *eP* P 06 19 49.9 +2.3
comp=Z,5.1nm,0.6s,mb4.7
SDV **Santo Domingo** 50.12 248 P P 06 19 47.8 +0.2
comp=Z,6.1nm,0.6s,mb4.8,baz=88,slow=5.4,SNR=14
SDV **Santo Domingo** 50.12 248 *eP* P 06 19 49.9 +2.2
comp=Z,5.1nm,0.6s,mb4.7
ASF **Jabal al Asfar** 50.13 76 P P 06 19 47.7 +0.1
comp=Z,0.9nm,0.6s,mb4.0,baz=192,slow=5.6,SNR=3.1
KIV **Kislovodsk** 50.34 60 *i* P P 06 19 49.1 +0.1
KIV pmax pmax
comp=Z,14nm,1.6s,mb4.7
PLAL **Pickwick Lake** 50.38 288 *eP* P 06 19 50.8 +1.4
comp=Z,19nm,1.4s,mb4.9
FVM **French Village** 51.05 292 *eP* P 06 19 55.5 +1.1
FVM pmax pmax
comp=Z,11nm,0.8s,mb4.8
FVM **French Village** 51.05 292 *eP* P 06 19 55.5 +1.1
comp=Z,11nm,0.8s,mb4.8
ULM **Lac du Bonnet** 51.14 309 P P 06 19 53.1 -1.8
comp=Z,0.7nm,0.5s,mb3.8,baz=347,slow=4.4,SNR=3.6
ROSC **El Rosal** 55.53 247 P P 06 20 25.9 -1.7
ROSC LR LR 06 41 31.5
ROSC **El Rosal** 55.53 247 P P 06 20 25.9 -1.7
comp=Z,0.9nm,0.4s,mb4.2,baz=90,slow=20,SNR=2.5
ROSC LR LR 06 41 31.5
comp=Z,600nm,18.9s,MS4.7,baz=3.7,slow=33
BDFB **Brasilia** 56.99 207 P P 06 20 37.8 0.0
comp=Z,1.7nm,0.9s,mb4.1,baz=43,slow=9.5,SNR=4.2
YKA **Yellowknife Ar** 57.70 327 P P 06 20 41.5 -0.9
YKA **Yellowknife Ar** 57.70 327 P P 06 20 41.5 -0.9
comp=Z,0.6nm,0.5s,mb3.9,baz=68,slow=7.4,SNR=13
AKTK **Aktyubinsk** 58.15 48 P P 06 20 46.6 +0.9
AKTK **Aktyubinsk** 58.15 48 P P 06 20 46.6 +0.8
AKTO **Aktyubinsk** 58.15 48 P P 06 20 46.6 +0.8
comp=Z,4.9nm,1.0s,mb4.5,baz=271,slow=7.5,SNR=5.6
WMOK **Wichita Mounta** 58.52 292 *eP* P 06 20 49.1 +0.5
comp=Z,14nm,1.5s,mb4.8
WMOK **Wichita Mounta** 58.52 292 *eP* P 06 20 49.1 +0.5
WMOK pmax pmax
comp=Z,14nm,1.5s,mb4.8
WMOK **Wichita Mounta** 58.52 292 *eP* P 06 20 49.1 +0.5
comp=Z,14nm,1.5s,mb4.8
AMTX **Amarillo** 60.59 293 *eP* P 06 21 03.6 +0.7
comp=Z,8.0nm,0.9s,mb4.8
AMTX **Amarillo** 60.59 293 *eP* P 06 21 03.6 +0.7
comp=Z,8.0nm,0.9s,mb4.8
JCT **Junction City** 61.22 288 *eP* P 06 21 08.3 +1.0
comp=Z,24nm,1.3s,mb5.2
JCT **Junction City** 61.22 288 *eP* P 06 21 08.3 +1.0
JCT pmax pmax
comp=Z,24nm,1.3s,mb5.2
JCT **Junction City** 61.22 288 *eP* P 06 21 08.3 +1.0
comp=Z,24nm,1.3s,mb5.2
ISCO **Idaho Springs** 61.22 300 *eP* P 06 21 09.3 +2.2
comp=Z,55nm,2.4s,mb5.3
ISCO **Idaho Springs** 61.22 300 *eP* P 06 21 09.3 +2.2
ISCO pmax pmax
comp=Z,55nm,2.4s,mb5.3
ISCO **Idaho Springs** 61.22 300 *eP* P 06 21 09.3 +2.2
comp=Z,55nm,2.4s,mb5.3
INK **Inuvik** 62.38 337 *eP* P 06 21 14.7 +0.3
comp=Z,769nm,1.6s
INK **Inuvik** 62.38 337 P P 06 21 13.5 -1.0
comp=Z,10nm,1.4s,mb4.8,baz=97,slow=6.5,SNR=6.5
INK **Inuvik** 62.38 337 *eP* P 06 21 14.7 +0.3
comp=Z,769nm,1.6s
WALA **Waterton Lakes** 62.54 312 *eP* P 06 21 18.0 +2.2
comp=Z,19nm,1.7s,mb5.0
WALA **Waterton Lakes** 62.54 312 *eP* P 06 21 18.0 +2.2
comp=Z,19nm,1.7s,mb5.0
PDAR **Pinedale Array** 62.58 304 P P 06 21 16.1 -0.1
comp=Z,0.7nm,0.7s,mb3.9,baz=69,slow=7.7,SNR=8.2
PDAR **Pinedale Array** 62.58 304 P P 06 21 16.1 -0.1
MOOW **Moose Ponds** 62.92 306 P P 06 21 19.0 +0.5
comp=Z,2.2nm,0.6s,mb4.5
IMW **Indian Meadow** 62.98 306 *eP* P 06 21 20.6 +1.7
comp=Z,2.2nm,0.3s,mb4.8
IMW **Indian Meadow** 62.98 306 *eP* P 06 21 20.6 +1.7
comp=Z,2.2nm,0.3s,mb4.8
CHMT **Chamberlain Mo** 63.09 310 *eP* P 06 21 22.1 +2.6
CHMT **Chamberlain Mo** 63.09 310 *eP* P 06 21 22.1 +2.6
BRVK **Borovoye** 64.00 42 *eP* P 06 21 26.1 +0.6
comp=Z,68nm,2.0s,mb5.3
BRVK **Borovoye** 64.00 42 *eP* P 06 21 26.1 +0.6
BRVK pmax pmax
comp=Z,68nm,2.0s,mb5.3
ANMO **Albuquerque** 64.04 295 P P 06 21 27.2 +1.2
ANMO **Albuquerque** 64.04 295 P P 06 21 27.2 +1.2
comp=Z,0.6nm,0.6s,mb3.8,baz=46,slow=4.2,SNR=6.0
MVCO **Mesa Verde** 64.42 298 *eP* P 06 21 29.7 +1.3
comp=Z,33nm,1.8s,mb5.1
BNM **Barren Site** 64.54 295 *eP* P 06 21 31.7 +2.4
TXAR **Lajitas Array** 64.71 289 P P 06 21 31.1 +0.6
comp=Z,4.5nm,0.7s,mb4.6,baz=73,slow=7.3,SNR=43
LAZ **Ladron** 64.79 295 *eP* P 06 21 32.5 +1.5
NEW **Newport** 64.79 312 *eP* P 06 21 31.3 +0.6
comp=Z,9.0nm,1.4s,mb4.6
NEW **Newport** 64.79 312 *eP* P 06 21 31.3 +0.6
NEW pmax pmax
comp=Z,9.0nm,1.4s
NEW **Newport** 64.79 312 P P 06 21 31.0 +0.3
comp=Z,17nm,0.9s,mb4.0,baz=91,slow=11,SNR=4.5
DAU **Daniels Canyon** 64.79 303 *eP* P 06 21 32.6 +1.8
JLU **Jordanelle** 64.83 303 *eP* P 06 21 32.8 +1.7
HLID **Hailey** 65.36 307 *eP* P 06 21 36.4 +1.9
comp=Z,8.1nm,1.7s,mb4.5
HLID **Hailey** 65.36 307 *eP* P 06 21 36.4 +1.9
comp=Z,8.1nm,1.7s,mb4.5
MSU **Marysvale** 66.33 301 *eP* P 06 21 43.1 +2.2
MSU **Marysvale** 66.33 301 *eP* P 06 21 43.1 +2.2
DAWY **Dawson** 66.76 334 *eP* P 06 21 43.7 +0.6
DAWY **Dawson** 66.76 334 *eP* P 06 21 43.7 +0.6
LPAZ **La Paz** 67.11 226 P P 06 21 47.0 +1.0
LPAZ LR LR 06 47 09.8
LPAZ **La Paz** 67.11 226 P P 06 21 47.0 +1.0
comp=Z,0.7nm,0.6s,mb3.9,baz=234,slow=15,SNR=4.1
LPAZ LR LR 06 47 09.7
comp=Z,323nm,20.4s,MS4.5,baz=219,slow=32
KMBO **Kilima Mbogo** 68.70 109 P P 06 21 58.5 +2.4
comp=Z,0.4nm,0.3s,mb3.8,baz=104,slow=22,SNR=4.9
COLA **College** 68.99 337 *i* P P 06 21 58.9 +1.8
KURK **Kurchatov** 69.64 41 *eP* P 06 22 01.5 +0.1
KURK pmax pmax
comp=Z,16nm,1.5s,mb4.7
KURK **Kurchatov** 69.64 41 *eP* P 06 22 01.5 +0.1
comp=Z,16nm,1.5s,mb4.7
TIXI **Tiksi** 69.81 9 *i* P P 06 22 01.6 -0.6
TIXI pmax pmax
comp=Z,24nm,1.9s,mb4.8
TIXI **Tiksi** 69.81 9 *eP* P 06 22 02.7 +0.5
comp=Z,4.8nm,0.8s,mb4.5
NVAR **Mina Array Bea** 70.50 304 P P 06 22 06.5 -0.5
comp=Z,0.1nm,0.3s,baz=100,slow=41,SNR=2.1
ZAL **Zalesovo** 70.84 36 P P 06 22 07.4 -1.3
ZAA0 **Zalesovo Array** 70.84 36 *eP* P 06 22 09.4 +0.7
ZAA0 **Zalesovo Array** 70.84 36 *eP* P 06 22 09.4 +0.7
ZALV **Zalesovo Beam** 70.84 36 P P 06 22 07.4 -1.4
comp=Z,1.9nm,0.6s,mb4.2,baz=301,slow=6.2,SNR=5.7

ZALV LR LR 06 52 56.3
comp=Z,240nm,20.2s,MS4.5,baz=195,slow=36
GLA **Glamis** 70.99 297 *eP* P 06 22 11.1 +1.1
GLA pmax pmax
comp=Z,4.0nm,1.1s,mb4.3
GLA **Glamis** 70.99 297 *eP* P 06 22 11.1 +1.1
comp=Z,4.4nm,1.1s,mb4.3
UCH **Uchtor** 72.04 50 *eP* P 06 22 17.5 +1.3
comp=Z,29nm,1.8s,mb4.9
UCH **Uchtor** 72.04 50 *eP* P 06 22 17.5 +1.3
comp=Z,29nm,1.8s,mb4.9
MK31 **Makanchi Array** 73.90 43 *eP* P 06 22 27.0 -0.1
MK31 **Makanchi Array** 73.90 43 *eP* P 06 22 27.0 -0.1
MKAR **Makanchi Array** 73.90 43 P P 06 22 27.2 +0.1
comp=Z,1.7nm,0.8s,mb4.0,baz=301,slow=5.0,SNR=6.8
MKAR LR LR 06 55 06.3
comp=Z,595nm,20.3s,MS4.9,baz=208,slow=36
BILL **Bilibino** 74.72 356↓ *eP* P 06 22 34.0 +2.5
BILL pmax pmax
comp=Z,17nm,1.6s,mb4.7
BILL **Bilibino** 74.72 356 *eP* P 06 22 31.6 +0.1
comp=Z,18nm,1.4s,mb4.8
WMQ **Urumqi** 78.73 43 *eP* P 06 22 56.8 +2.2
WMQ *e*S S 06 32 52.0 0.0
WMQ AMB AMB
comp=Z,11nm,1.6s,mb4.5
WMQ AMB AMB
comp=Z,230nm,5.4s
WMQ LR LR
comp=N,632nm,27.4s,MS5.0
WMQ LR LR
comp=E,586nm,26.8s,MS5.0
WMQ LR LR
comp=Z,507nm,26.9s,MS4.7
YAK **Yakutsk** 78.93 12↑ *eP* P 06 22 56.2 +0.8
YAK pmax pmax
comp=Z,42nm,2.1s,mb5.0
BOD **Bodaibo** 79.17 21 *eP* P 06 22 55.6 -1.1
BOD pmax pmax
comp=Z,18nm,1.8s,mb4.7
CFAA **Coronel Fontan** 79.65 217 P P 06 23 00.7 +1.1
comp=Z,0.1nm,0.4s,baz=356,slow=14,SNR=5.5
TLY **Talaya** 80.62 30 *eP* P 06 23 05.2 +0.5
comp=Z,7.1nm,1.0s,mb4.5
TLY **Talaya** 80.62 30 *eP* P 06 23 05.6 +0.9
TLY pmax pmax
comp=Z,12nm,1.2s,mb4.7
TLY **Talaya** 80.62 30 *eP* P 06 23 05.2 +0.5
comp=Z,7.1nm,1.0s,mb4.5
ZAK **Zakamensk** 81.47 31 *eP* P 06 23 10.4 +1.1
ZAK pmax pmax
comp=Z,4.0nm,1.8s,mb4.0
NDI **New Delhi** 81.80 60 *ex* x 06 23 10.5
UNV **Unalaska Valle** 83.47 338 *eP* P 06 23 19.6 0.0
comp=Z,64nm,1.4s,mb5.5
UNV **Unalaska Valle** 83.47 338 *eP* P 06 23 19.6 0.0
comp=Z,64nm,1.4s,mb5.5
SONM **Songino Array** 84.74 31 P P 06 23 27.0 +0.8
comp=Z,3.3nm,1.0s,mb4.4,baz=306,slow=4.4,SNR=8.2
PLCA **Paso Flores** 88.22 213 P P 06 23 43.0 -0.1
comp=Z,1.2nm,0.8s,mb4.2,baz=40,slow=3.9,SNR=4.0
PLCA LR LR 07 01 06.0
comp=Z,291nm,21.5s,MS4.7,baz=160,slow=34
HIA **Hailar** 88.29 22 *i* P P 06 23 45.0 +1.4
HHC **Hu-ho-hao-te** 92.58 32 *eP* P 06 24 04.1 +0.3
HHC AP pP 06 24 11.9 +4.8
HHC PP PP 06 27 48.3 +4.0
HHC AMB AMB
comp=Z,14nm,0.4s,mb5.7
HHC AMB AMB
comp=Z,136nm,8.0s
HHC LR LR
comp=N,221nm,14.9s
HHC LR LR
comp=E,603nm,21.6s
HHC LR LR
comp=Z,426nm,32.0s
LZH **Lanzhou** 92.85 39 ↑P P 06 24 05.4 +0.3
LZH PP PP 06 27 48.0 +1.4
LZH SKS 06 34 36.8
LZH *e*S S 06 35 05.9 -4.9
LZH AMB AMB
comp=Z,23nm,1.6s,mb5.4
LZH AMB AMB
comp=Z,91nm,8.9s
LZH LR LR
comp=E,357nm,16.5s
LZH LR LR
comp=Z,763nm,19.2s,MS5.2
CN2 **Changchun** 94.92 21 *eP* P 06 24 14.1 -0.4
BJI **Beijing** 95.13 29 P P 06 24 16.5 +1.0
BJI AMB AMB
comp=Z,6.0nm,0.7s,mb5.1
BJI LR LR
comp=N,329nm,20.3s,MS4.9
BJI LR LR
comp=E,311nm,21.3s,MS4.9
BJI LR LR
comp=Z,463nm,24.5s,MS4.9
MDJ **Mudanjiang** 95.28 18 P P 06 24 15.3 -0.8
MDJ AMB AMB
comp=Z,3.0nm,0.7s,mb4.8
MDJ AMB AMB
comp=Z,60nm,4.2s
MDJ LR LR
comp=N,303nm,30.7s,MS4.8
MDJ LR LR
comp=E,332nm,28.5s,MS4.8
MDJ LR LR
comp=Z,557nm,28.5s,MS4.9
CD2 **Chengdu** 96.83 43 *eP* P 06 24 23.8 +0.4
CD2 AP pP 06 24 30.9 +4.1
CD2 PP PP 06 28 20.1 +2.4
CD2 AMB AMB
comp=Z,20nm,0.9s,mb5.5
CD2 AMB AMB
comp=Z,80nm,9.8s
GYA **Guiyang** 101.89 43 P Pdif 06 24 46.5 +0.7
GYA PP PP 06 29 01.4 +5.1
GYA LR LR
comp=N,670nm,20.9s,MS5.2
GYA LR LR
comp=E,540nm,21.7s,MS5.2
GYA LR LR
comp=Z,510nm,21.2s,MS5.0
WHN **Wuhan** 102.45 35 *eP* Pdif 06 24 48.3 0.0
WRA **Warramunga Arr** 154.90 52 PKPbc PKPbc 06 30 54.1 0.0
comp=Z,0.5nm,0.6s,baz=313,slow=2.4,SNR=4.8
WRA PKPab PKPab 06 31 11.2 +1.8
comp=Z,1.5nm,1.0s,baz=318,slow=3.8,SNR=4.9
ASAR **Alice Springs** 157.21 60 PKPab PKPab 06 31 18.4 -0.8
comp=Z,0.8nm,0.8s,baz=308,slow=4.7,SNR=5.6

ISCJB ***06*** *06:13:46.5±1.1,5143N±005×1607E±005,h0km,Error ellipse: s-maj=8.0km s-min=3.4km az=22.0*
WAR ***06*** *06:13:48.4,5145N×1618E,ML2.6,Mining Induced*
PRU ***06*** *06:13:49.0,5141N×1610E,h0km*
ISC 06 06:13:48.0±1.3,5144N±006×1609E±006,h0km,n13,
σ1§03/22,Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.61**	**168**	*e*Pg	**Pg**	**06 13 59.4**	**-0.3**
KSP				*e*Sg	**Sg**	**06 14 07.6**	**+0.1**
UPC	**Upice**	**0.93**	**183**	*e*Pg	**Pg**	**06 14 05.7**	**-0.2**
DPC	**Dobruska-Polom**	**1.10**	**172**	*e*PG	**Pg**	**06 14 08.3**	**-0.7**
DPC				*e*SG	**Sg**	**06 14 22.9**	**-0.4**
	44nm,0.7s						
PVCC	**Panska Ves**	**1.33**	**227**	*e*PG	**Pg**	**06 14 13.8**	**+0.4**
PVCC				*e*SG	**Sg**	**06 14 31.1**	**+0.5**
	114nm,0.4s						
PRU	**Pruhonice**	**1.75**	**215**	*e*PG	**Pg**	**06 14 20.6**	**-1.0**
PRU				*e*SG	**Sg**	**06 14 44.3**	**0.0**
	37nm,0.3s						
CLL	**Collm**	**1.94**	**267**	*i* Pg	**Pg**	**06 14 24.6**	**-0.6**
CLL				*i x*	x	06 14 47.9	
CLL				*e*Sg	**Sg**	**06 14 51.0**	**+0.7**
OKC	**Ostrava-Krasne**	**2.07**	**140**	*e*SG	**Sg**	**06 14 52.8**	**-1.6**
NKC	**Novy Kostel**	**2.61**	**244**	*e*PG	**Pg**	**06 14 37.9**	**0.0**
NKC				*e*SG	**Sg**	**06 15 12.2**	**+0.5**
	45nm,0.3s						
KHC	**Kasperske Hory**	**2.82**	**216**	*e*PN	**Pn**	**06 14 34.3**	**+0.1**
KHC				*e*PG	**Pg**	**06 14 40.2**	**-1.8**
KHC				*e*SG	**Sg**	**06 15 17.0**	**-1.5**
	9.0nm,0.4s						

MOX	**Moxa**	**2.94**	**256**	*e*PG	**Pg**	**06 14 44.4 +0.2**
MOX				*i* SG	**Sg**	**06 15 23.4 +1.1**
MODS	**Modra-Piesok**	**3.16**	**166**	*e*SG	**Sg**	**06 15 31.4 +1.9**
KOLL	**Kolacno**	**3.23**	**152**	*e*SG	**Sg**	**06 15 34.0 +2.4**
STHS	**Stebnicka Huta**	**3.87**	**120**	*e*SG	**Sg**	**06 15 55.4 +3.3**

NIED ***06*** *06:18:00,37.30N×13.680E,h11km,Mw3.9 Best double couple: M0:8.18000×10^14 NP1:φ0:55.00000°,δ60.00000°, λ118.00000°. NP2:φ0:189.00000°,δ40.00000°,λ51.00000°.*
IDC ***06*** *06:18:15.4±0.7,3726N×13.672E,h0km,mb3.8/12, mb1 4.0/13,mb1mx3.9/23,mbtmp3.8/13,ML3.1/1,Error ellipse: s-maj=20.2km s-min=11.8km az=37.0*
NEIC ***06*** *06:18:16.6±3.1,3700N×13.667E,h14km±21km, MG4.4(JMA),Error ellipse: s-maj=20.0km s-min=18.5km az=69.0*
NEIC Recorded [4 JMA] in Ishikawa and [1 JMA] in Niigata and Toyama Prefectures.
ISCJB ***06*** *06:18:17.4±0.6,3728N±0.03×13.674E±0.05,h24km±4km, mb3.8/13,Error ellipse: s-maj=7.1km s-min=5.0km az=7.9*
JMA ***06*** *06:18:17.7,3727N×13.679E,h12km±1km,M4.3 Broadband fault plane solution: P waves. NP1: φ0:179.00000°,δ46.00000°,λ59.00000°. NP2:φ0:40.00000°, δ52.00000°,λ118.00000°. Principal axes: T Plg68.0000°, Azm13.0000°; N Plg22.0000°, Azm201.0000°; P Plg3.0000°, Azm110.0000°;*
JMA Felt IV J1.
BJI ***06*** *06:18:26.3,3722N×13.630E,h20km,mB4.8,mb4.6,Ms4.2, Msz4.1*

ISC 06 06:18:17.6±0.6,3727N±0.03×13680E±0.05,h15km±4km, n27,σ0:89/33,mb3.8/13,3C-2D,Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JJH	**Hakui**	**0.34**	**182**	⇑P	**Pg**	**06 18 24.8**	**+0.2**
JJH				S	**Sg**	**06 18 29.8**	**+0.5**
JSZ	**Suzu**	**0.49**	**68**	⇓P	**Pg**	**06 18 27.3**	**0.0**
JSZ				S	**Sg**	**06 18 34.1**	**+0.3**
JHG	**Hegura jima**	**0.59**	**9**	⇑P	**Pg**	**06 18 28.9**	**-0.3**
JHG				*e*S	**Sg**	**06 18 37.3**	**+0.2**
JTT	**Ttatey**	**0.79**	**147**	⇓P	**Pg**	**06 18 32.8**	**-0.1**
JTT				S	**Sg**	**06 18 43.9**	**+0.7**
JKG	**Kaga**	**1.05**	**201**	⇑P	**Pb**	**06 18 37.0**	**-0.6**
JKG				S	**Sb**	**06 18 51.9**	**+0.7**
MAJO	**Matsushiro**	**1.34**	**122**	*e*Pn	**Pn**	**06 18 41.0**	**-0.8**
MAT	**Matsushiro**	**1.34**	**122**	P	**Pn**	**06 18 41.1**	**-0.7**
MAT				S	**Sn**	**06 19 00.1**	**+0.7**
MJAR	**Matsushiro Arr**	**1.34**	**122**	Pg	**Pg**	**06 18 41.7**	**-1.7**
	103nm,0.3s,baz=306,slow=16,SNR=214						
MJAR				Lg		06 19 02.0	
	104nm,0.3s,baz=300,slow=25,SNR=14						
ERM	**Erimo**	**6.82**	**44**	*e*Pn	**Pn**	**06 20 00.7**	**+3.5**
	16nm,0.8s						
KSRS	**Korea Array**	**7.07**	**274**	Pn	**Pn**	**06 20 00.9**	**+0.3**
	0.4nm,0.3s,baz=92,slow=15,SNR=3.6						
ASAJ	**Asahikawa**	**8.14**	**31**	Pn	**Pn**	**06 20 19.2**	**+4.0**
	1.1nm,0.3s,baz=294,slow=11,SNR=5.1						
SONM	**Songino Array**	**24.61**	**305**	P	**P**	**06 23 38.9**	**+1.6**
	0.9nm,0.5s,mb3.5,baz=102,slow=9.0,SNR=7.0						
KMI	**Kunming**	**31.38**	**257**	P	**P**	**06 24 44.8**	**+6.8**
KMI				AMB	AMB		
	comp=Z,15nm,0.6s						
KMI				LR	LR		
	comp=N,261nm,20.4s						
KMI				LR	LR		
	comp=E,264nm,19.3s						
KMI				LR	LR		
	comp=Z,442nm,22.9s						
TIXI	**Tiksi**	**34.70**	**356**	*e*P	**P**	**06 25 05.9**	**-0.6**
	comp=Z,3.2nm,0.4s,mb4.6						
MKAR	**Makanchi Array**	**40.86**	**301**	P	**P**	**06 25 57.7**	**-1.1**
MKAR	**Makanchi Array**	**40.86**	**301**	P	**P**	**06 25 57.7**	**-1.1**
	comp=Z,0.3nm,0.7s,mb3.0,baz=92,slow=10,SNR=2.4						
INK	**Inuvik**	**55.85**	**27**	P	**P**	**06 27 54.8**	**+0.8**
	comp=Z,0.8nm,0.5s,mb4.0,baz=228,slow=8.0,SNR=13						
FITZ	**Fitzroy Crossi**	**56.06**	**193**	*e*P	**P**	**06 27 53.0**	**-3.1**
	comp=Z,29nm,1.0s						
WRA	**Warramunga Arr**	**56.95**	**183**	P	**P**	**06 28 02.0**	**-0.3**
	comp=Z,0.3nm,0.4s,mb3.7,baz=359,slow=7.4,SNR=10.0						
ASAR	**Alice Springs**	**60.66**	**183**	P	**P**	**06 28 28.2**	**0.0**
	comp=Z,0.7nm,0.8s,mb3.8,baz=8.8,slow=6.7,SNR=3.4						
YKA	**Yellowknife Ar**	**65.43**	**29**	P	**P**	**06 28 59.6**	**+0.2**
	comp=Z,0.3nm,0.7s,mb3.5,baz=308,slow=6.9,SNR=8.7						
FINES	**FINESS Array B**	**66.85**	**331**	P	**P**	**06 29 08.0**	**-0.6**
	comp=Z,2.5nm,0.9s,mb4.2,baz=265,slow=13,SNR=3.2						
AKASG	**Malin Array Be**	**71.81**	**320**	P	**P**	**06 29 38.0**	**-1.5**
	comp=Z,0.5nm,0.6s,mb3.6,baz=52,slow=6.3,SNR=4.1						
NVAR	**Mina Array Bea**	**77.75**	**51**	P	**P**	**06 30 15.4**	**+1.3**
	comp=Z,0.8nm,0.7s,mb3.8,baz=314,slow=4.1,SNR=7.6						
PDAR	**Pinedale Array**	**80.08**	**43**	P	**P**	**06 30 26.9**	**+0.1**
	comp=Z,1.0nm,0.6s,mb3.9,baz=316,slow=1.9,SNR=8.7						
GERES	**GERESS Array B**	**80.51**	**326**	P	**P**	**06 30 30.1**	**+1.1**
	comp=Z,0.2nm,0.4s,mb3.4,baz=23,slow=5.3,SNR=3.9						
TXAR	**Lajitas Array**	**92.84**	**50**	P	**P**	**06 31 29.9**	**-0.1**
	comp=Z,0.3nm,0.6s,mb3.9,baz=270,slow=2.5,SNR=4.2						

IDC ***06*** *06:20:12.0±0.7,2082S×16858E,h0km,mb4.3/12, mb1 4.5/14,mb1mx4.5/18,mbtmp4.4/14,ML5.6/1,MS4.2/3, Ms1 4.2/3,ms1mx3.6/23,Error ellipse: s-maj=21.1km s-min=19.1km az=92.0*
BJI ***06*** *06:20:12.0,2350S×17020E,h32km,mB5.1,mb5.0,Ms5.2, Msz4.9*
LDG ***06*** *06:20:14.9±0.2,2053S×168.19E,h10km,Mb5.0/2,Error ellipse: s-maj=20.9km s-min=3.5km az=127.0*
MOS ***06*** *06:20:14.2±3.2,2325S×17020E,h33km,mb5.2/19,Error ellipse: s-maj=12.7km s-min=12.1km az=120.8*
NEIC ***06*** *06:20:14.0±0.3,2354S×17023E,mb5.1/26,Error ellipse: s-maj=12.2km s-min=7.8km az=165.0*
ISCJB ***06*** *06:20:15.8±0.2,2093S±0.07×16853E±0.06,h33km, mb4.7/36,MS4.8/4,Error ellipse: s-maj=11.8km s-min=6.8km az=146.3*
SZGRF ***06*** *06:20:15.4,2168S×169.15E,h36km,mb5.4,Southeast of Loyalty Islands*

ISC 06 06:20:17.6±0.2,2093S±0.07×16859E±0.06,h35km, h35km±.8km:pP-P,n352,σ0:69/238,mb4.7/36,MS4.8/4, 92C-69D,Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**14.14**	**323**	*e*Pn	Px	06 24 10.8	
	566nm,0.9s						
HNR	**Honiara**	**14.14**	**323**	*e*P	Px	06 24 10.9	
HNR				pmax	pmax		
	comp=Z,566nm,0.9s						
HNR	**Honiara**	**14.14**	**323**	Pn	**Pn**	**06 23 31.0**	**-4.6**
	comp=Z,30nm,0.3s,baz=250,slow=4.2,SNR=5.2						
URZ	**Urewera**	**18.78**	**159**	P	**Pn**	**06 24 34.9**	**+0.5**
	comp=Z,0.3nm,0.3s,baz=318,slow=16,SNR=7.6						
AFI	**Afiamalu**	**19.98**	**73**	*e*P	**Pn**	**06 24 38.1**	**-11**
	comp=Z,28nm,1.1s						
AFI	**Afiamalu**	**19.98**	**73**	*e*P	**Pn**	**06 24 38.1**	**-11**
AFI				pmax	pmax		
	comp=Z,28nm,1.1s						
CTA	**Charters Tower**	**20.93**	**268**	*e*P	**P**	**06 25 00.8**	**+3.3**
	comp=Z,20nm,1.0s						
CTA	**Charters Tower**	**20.93**	**268**	P	**P**	**06 24 57.9**	**+0.4**
CTA				pmax	pmax		
	comp=Z,6.0nm,0.8s						
CTA	**Charters Tower**	**20.93**	**268**	P	**P**	**06 24 57.9**	**+0.5**
	comp=Z,6.1nm,0.8s,baz=65,slow=14,SNR=3.5						
RPZ	**Rata Peaks**	**22.82**	**175**	P	**P**	**06 25 18.3**	**+1.0**
	comp=Z,14nm,1.1s,mb4.3,baz=24,slow=12,SNR=2.3						
STKA	**Stephens Creek**	**26.45**	**240**	*e*P	**P**	**06 25 52.9**	**+1.5**
	comp=Z,12nm,1.1s,mb4.3						
STKA	**Stephens Creek**	**26.45**	**240**	P	**P**	**06 25 51.5**	**+0.2**
	comp=Z,5.2nm,0.9s,mb4.0,baz=55,slow=8.5,SNR=5.6						
TAU	**Tasmania Unive**	**28.24**	**214**	*e*P	**P**	**06 25 53.6**	**-14**
	comp=Z,37nm,1.4s,mb4.8						
TAU	**Tasmania Unive**	**28.24**	**214**	*e*P	**P**	**06 25 53.6**	**-14**
TAU				pmax	pmax		
	comp=Z,37nm,1.4s,mb4.8						
RAR	**Rarotonga**	**29.50**	**96**	LR	LR	06 35 25.1	
	comp=Z,150nm,19.1s,baz=86,slow=31						
WB2	**Warramunga Arr**	**32.06**	**266**	*e*P	**P**	**06 26 42.1**	**+0.7**
WRAB	**Tennant Creek**	**32.06**	**266**	*e*P	pP	06 26 49.5	-2.0
	comp=Z,18nm,1.2s						
WRAB	**Tennant Creek**	**32.06**	**266**	*e*P	pP	06 26 49.6	-1.9
WRAB				pmax	pmax		
	comp=Z,18nm,1.2s,mb4.8						
WRA	**Warramunga Arr**	**32.07**	**266**	P	**P**	**06 26 40.4**	**-1.1**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
WRA	**Warramunga Arr**	**32.07**	**266**	P	**P**	**06 26 40.4**	**-1.1**
	comp=Z,1.2nm,0.8s,mb3.8,baz=96,slow=8.6,SNR=7.3						
ASAR	**Alice Springs**	**32.16**	**259**	P	**P**	**06 26 42.1**	**-0.1**
ASAR				pmax	pmax		
	comp=Z,7.0nm,0.7s						
ASAR	**Alice Springs**	**32.16**	**259**	P	**P**	**06 26 42.0**	**-0.1**
	comp=Z,7.4nm,0.7s,mb4.7,baz=86,slow=9.0,SNR=125						
FORT	**Forrest**	**37.59**	**246**	*e*P	**P**	**06 27 30.1**	**+1.1**
	comp=Z,26nm,1.0s,mb4.9						
FITZ	**Fitzroy Crossi**	**40.49**	**266**	P	pP	06 28 01.8	-1.9
	comp=Z,52nm,1.1s						
MBWA	**Marble Bar**	**45.45**	**261**	*e*P	**P**	**06 28 39.6**	**+6.1**
	comp=Z,45nm,1.2s,mb5.2						
KLBR	**Kellerberrin**	**46.45**	**246**	*e*P	**P**	**06 28 40.8**	**-0.5**
	comp=Z,40nm,1.2s,mb5.2						
NWAO	**Narrogin (SRO)**	**46.91**	**244**	*e*P	**P**	**06 28 42.5**	**-2.4**
	comp=Z,15nm,1.0s,mb4.9						
NWAO	**Narrogin (SRO)**	**46.91**	**244**	*e*P	**P**	**06 28 42.5**	**-2.4**
NWAO				pmax	pmax		
	comp=Z,15nm,1.0s						
CBIJ	**Chichi jima**	**54.16**	**331**	LR	LR	06 49 51.3	
	comp=Z,462nm,18.3s,MS4.6,baz=117,slow=33						
KSM	**Kuching**	**61.17**	**284**	*e*P	pP	06 30 39.5	-0.3
MJAR	**Matsushiro Arr**	**63.96**	**333**	P	**P**	**06 30 46.0**	**-1.3**
	comp=Z,0.6nm,0.3s,mb4.1,baz=169,slow=7.2,SNR=3.7						
JNU	**Nakatsue**	**64.69**	**325**	LR	LR	06 54 59.9	
	comp=Z,180nm,21.6s,MS4.2,baz=280,slow=32						
QSPA	**South Pole Qui**	**69.13**	**180**	P	**P**	**06 31 19.8**	**0.0**
	comp=Z,5.4nm,0.9s,mb4.5,baz=7.0,slow=4.0,SNR=9.9						
KSRS	**Korea Array**	**69.56**	**326**	P	**P**	**06 31 21.8**	**-1.2**
	comp=Z,0.4nm,0.3s,mb3.8,baz=115,slow=5.5,SNR=2.7						
YSS	**Yuzh-Sakhalins**	**71.48**	**342**	*e*P	pP	06 31 45.0	-0.3
YSS				pmax	pmax		
	comp=Z,30nm,1.0s,mb5.2						
MA2	**Magadan**	**81.53**	**351**	*e*P	pP	06 32 41.9	-0.2
	comp=Z,2.2nm,0.4s						
MA2	**Magadan**	**81.53**	**351**	*e*P	pP	06 32 40.8	-1.3
MA2				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.7						
HIA	**Hailar**	**82.26**	**330**	*i* P	pP	06 32 43.9	-2.3
SEY	**Seymchan**	**84.56**	**353**	*e*P	pP	06 32 57.3	-0.4
CIT	**Chita**	**87.03**	**330**	*e*P	**P**	**06 32 59.8**	**+0.7**
CIT				*e*	pP	06 33 10.5	+0.2
KCPM	**Cahto Peak**	**87.34**	**46**	*e*P	**P**	**06 33 01.5**	**+0.5**
KCPM				*e*pP	pP	06 33 12.0	-0.2
O01C	**Eel River Cons**	**87.41**	**45**	⇑P	**P**	**06 33 02.1**	**+0.8**
	baz=88						
CVS	**Carmenet Viney**	**87.45**	**47**	⇓P	**P**	**06 33 01.3**	**-0.2**
	baz=88						
PACP	**Pacheco Peak**	**87.62**	**49**	⇑P	**P**	**06 33 02.7**	**+0.3**
	baz=88						
PKD	**Parkfield**	**87.65**	**50**	⇓P	**P**	**06 33 02.2**	**-0.4**
	baz=88						
MNRC	**McLaughlin Nat**	**87.72**	**47**	⇓P	**P**	**06 33 03.4**	**+0.6**
	baz=89						
S04C	**Ingram Canyon,**	**87.83**	**48**	⇓P	**P**	**06 33 03.7**	**+0.3**
	baz=89						
GASB	**Alder Springs**	**87.91**	**46**	⇑P	**P**	**06 33 04.6**	**+0.9**
	baz=89,SNR=6.2						
VNA3	**Neumayer Olymp**	**88.07**	**181**	*e*P	**P**	**06 33 03.6**	**-0.4**
VNA3				*e*		06 33 07.1	
VNA3				*e*	pP	06 33 14.9	-0.3
M01C	**Crescent City**	**88.07**	**44**	⇑P	**P**	**06 33 05.8**	**+1.4**
	baz=89						
N02C	**Big Bar**	**88.09**	**45**	⇓P	**P**	**06 33 05.1**	**+0.6**
	baz=89						
O02C	**Red Bluff**	**88.12**	**46**	P	**P**	**06 33 05.8**	**+1.1**
	baz=89,SNR=5.8						
SONM	**Songino Array**	**88.20**	**323**	P	**P**	**06 33 04.9**	**0.0**
SONM				pmax	pmax		
	comp=Z,2.0nm,0.8s						
SONM	**Songino Array**	**88.20**	**323**	P	**P**	**06 33 04.9**	**0.0**
	comp=Z,1.5nm,0.8s,mb4.3,baz=141,slow=4.8,SNR=13						
YAK	**Yakutsk**	**88.29**	**343**	*e*P	pP	06 33 15.9	-0.2
YAK				pmax	pmax		
	comp=Z,11nm,1.0s,mb5.0						
SUTB	**Sutter Butte**	**88.33**	**47**	⇓P	**P**	**06 33 05.9**	**+0.2**
	baz=89						
VNA2	**Neumayer--Watz**	**88.35**	**181**	*e*P	**P**	**06 33 04.9**	**-0.5**
	baz=184,slow=4.3						
VNA2				*e*		06 33 08.1	
VNA2				*e*	pP	06 33 17.5	+1.0
S05C	**Merced**	**88.45**	**49**	⇑P	**P**	**06 33 06.4**	**0.0**
	baz=89						
KEBM	**Edson Butte**	**88.46**	**43**	*e*P	**P**	**06 33 07.0**	**+0.8**
KEBM				*e*pP	pP	06 33 16.9	-0.4
WDC	**Whiskeytown Da**	**88.48**	**45**	*e*P	**P**	**06 33 06.4**	**0.0**
	comp=Z,11nm,1.5s,mb4.9						
WDC				*e*pP	pP	06 33 16.6	-1.0
WDC	**Whiskeytown Da**	**88.48**	**45**	*e*P	**P**	**06 33 06.4**	**0.0**
WDC				*e**PP	pP	06 33 16.6	-0.9
WDC				pmax	pmax		
	comp=Z,11nm,1.5s,mb4.9						
WDC	**Whiskeytown Da**	**88.48**	**45**	⇑P	**P**	**06 33 06.7**	**+0.3**
	baz=90						
ARVC	**Arvin**	**88.51**	**51**	⇑P	**P**	**06 33 05.8**	**-0.9**
	baz=89						
O03C	**Acorn Hollow,**	**88.54**	**46**	⇑P	**P**	**06 33 06.9**	**+0.2**
	baz=90						
L02A	**Cave Junction**	**88.56**	**44**	⇑P	**P**	**06 33 07.5**	**+0.8**
	baz=90						
M02C	**Callahan**	**88.67**	**44**	P	**P**	**06 33 07.8**	**+0.5**
	baz=90,SNR=12						
ORV	**Oroville**	**88.68**	**47**	⇑P	**P**	**06 33 07.3**	**-0.1**
	baz=90						
BILL	**Bilibino**	**88.72**	**359**	*e*P	**P**	**06 33 16.2**	**+9.4**
	comp=Z,21nm,1.4s,mb5.3						
BILL	**Bilibino**	**88.72**	**359**	⇑*e*P	**P**	**06 33 16.5**	**+10**
BILL				*e*	pP	06 33 27.2	+9.2
BILL				pmax	pmax		
	comp=Z,15nm,1.6s,mb5.1						
BILL				MLR	MLR		
	comp=Z,400nm,18.0s,MS4.9						
CMB	**Columbia Colle**	**88.73**	**48**	*e*P	**P**	**06 33 07.6**	**0.0**
	comp=Z,13nm,1.1s,mb5.2						
CMB				*e*pP	pP	06 33 17.6	-1.2
CMB	**Columbia Colle**	**88.73**	**48**	*e*P	**P**	**06 33 07.6**	**0.0**
CMB				*e**PP	pP	06 33 17.7	-1.1
CMB				pmax	pmax		
	comp=Z,13nm,1.1s,mb5.2						
CMB	**Columbia Colle**	**88.73**	**48**	⇑P	**P**	**06 33 07.7**	**+0.1**
	baz=90						
T06C	**Millerton Lake**	**88.73**	**49**	P	**P**	**06 33 07.7**	**+0.1**
	baz=90,SNR=5.9						
LAVA	**Lava Cap Winer**	**88.83**	**48**	⇓P	**P**	**06 33 07.8**	**-0.2**
	baz=90						
YBH	**Yreka Blue Hor**	**88.93**	**44**	*e*P	**P**	**06 33 09.0**	**+0.5**
	comp=Z,17nm,1.1s,mb5.3						
YBH				*e*pP	pP	06 33 19.6	-0.1
YBH	**Yreka Blue Hor**	**88.93**	**44**	*e*P	**P**	**06 33 09.0**	**+0.5**
YBH				*e**PP	pP	06 33 19.6	-0.1
YBH				pmax	pmax		
	comp=Z,17nm,1.1s						
YBH	**Yreka Blue Hor**	**88.93**	**44**	P	**P**	**06 33 09.2**	**+0.7**
	baz=90,SNR=6.6						
K02A	**Glendale**	**88.94**	**43**	⇑P	**P**	**06 33 09.4**	**+0.9**
	baz=90						
ISA	**Isabella**	**89.01**	**51**	*e*P	**P**	**06 33 09.3**	**+0.2**
	comp=Z,20nm,1.4s,mb5.3						
ISA	**Isabella**	**89.01**	**51**	*e*P	**P**	**06 33 09.3**	**+0.3**
ISA				pmax	pmax		
	comp=Z,20nm,1.4s,mb5.2						
ISA	**Isabella**	**89.01**	**51**	⇓P	**P**	**06 33 08.9**	**-0.1**
	baz=90,SNR=6.3						
EDW2	**Edwards Air Fo**	**89.02**	**52**	⇓P	**P**	**06 33 08.0**	**-1.1**
	baz=90						
HELL	**Mitchell Peak**	**89.08**	**50**	⇑P	**P**	**06 33 08.5**	**-0.8**
	baz=90						
M03C	**McCloud**	**89.09**	**45**	P	**P**	**06 33 09.2**	**-0.1**
	baz=90,SNR=6.6						
KCC	**Kaiser Creek**	**89.16**	**49**	⇓P	**P**	**06 33 09.3**	**-0.3**
	baz=90						
P05C	**Yuba Gap, Truc**	**89.17**	**47**	⇑P	**P**	**06 33 10.1**	**+0.4**
	baz=90						
J02A	**Umpqua**	**89.19**	**42**	⇑P	**P**	**06 33 10.1**	**+0.4**
	baz=90						
HUMO	**Hull Mountain**	**89.20**	**43**	*e*P	**P**	**06 33 10.4**	**+0.7**
	comp=Z,16nm,0.9s,mb5.4						
HUMO				*e*pP	pP	06 33 21.0	+0.1
HUMO	**Hull Mountain**	**89.20**	**43**	P	**P**	**06 33 10.4**	**+0.7**
	baz=90,SNR=6.8						
R05C	**Kirkwood Meado**	**89.26**	**48**	⇑P	**P**	**06 33 10.4**	**+0.3**
	baz=90						
O05C	**Quincy**	**89.27**	**46**	⇓P	**P**	**06 33 10.3**	**+0.2**
	baz=90						
HATC	**Hat Creek Radi**	**89.31**	**45**	⇓P	**P**	**06 33 10.6**	**+0.3**
	baz=90						
MONP	**Monument Peak**	**89.33**	**54**	⇓P	**P**	**06 33 08.9**	**-1.6**
	baz=90						
O04C	**Chester**	**89.33**	**46**	P	**P**	**06 33 10.8**	**+0.4**
	baz=90,SNR=6.2						
I02A	**Mapleton**	**89.35**	**42**	⇓P	**P**	**06 33 11.9**	**+1.6**
	baz=90						
LTIM	**Timbered Crate**	**89.47**	**45**	P	**P**	**06 33 11.3**	**+0.3**
LRMC	**Laurel Mountai**	**89.50**	**52**	P	**P**	**06 33 11.6**	**+0.3**
	baz=90,SNR=5.7						
M04C	**Macdoel**	**89.53**	**44**	⇑P	**P**	**06 33 12.0**	**+0.7**
	baz=91						
BBRC	**Big Bear Sol-O**	**89.54**	**53**	⇑P	**P**	**06 33 10.4**	**-1.1**
	baz=90						
J03A	**Ideyld Park**	**89.58**	**43**	⇑P	**P**	**06 33 12.7**	**+1.2**
	baz=91						
BEKR	**Beckwourth**	**89.61**	**47**	⇑P	**P**	**06 33 12.1**	**+0.4**
	baz=90						
PFO	**Pinyon Flat Ob**	**89.61**	**54**	P	**P**	**06 33 11.5**	**-0.3**
PFO	**Pinyon Flat Ob**	**89.61**	**54**	P	**P**	**06 33 11.5**	**-0.4**
PFO				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.7						
PFO	**Pinyon Flat Ob**	**89.61**	**54**	P	**P**	**06 33 11.5**	**-0.3**
	comp=Z,2.7nm,0.8s,mb4.6,baz=240,slow=5.4,SNR=2.6						
PFO	**Pinyon Flat Ob**	**89.61**	**54**	⇑P	**P**	**06 33 10.3**	**-1.6**
	baz=90						
R06C	**Coleville**	**89.61**	**48**	⇓P	**P**	**06 33 11.7**	**-0.1**
	baz=90						
CWC	**Cottonwood Cre**	**89.64**	**51**	⇓P	**P**	**06 33 11.5**	**-0.5**
	baz=90						
I03A	**Eugene**	**89.68**	**42**	⇑P	**P**	**06 33 11.9**	**0.0**
	baz=91						
R07C	**Lee Vining**	**89.70**	**49**	⇓P	**P**	**06 33 12.1**	**-0.1**
	baz=90						
MTUM	**Tungsten Hills**	**89.71**	**50**	*e*P	**P**	**06 33 12.2**	**0.0**
MTUM				*e*pP	pP	06 33 22.6	-0.8
ELFS	**Eagle Lake Fie**	**89.71**	**46**	⇓P	**P**	**06 33 12.7**	**+0.6**
	baz=91						
WCN	**Washoe City**	**89.76**	**47**	⇑P	**P**	**06 33 12.6**	**+0.2**
	baz=91						
MPOR	**Mary's Peak**	**89.77**	**42**	P	**P**	**06 33 12.9**	**+0.6**
M05C	**Lookout**	**89.78**	**45**	P	**P**	**06 33 12.8**	**+0.3**
	baz=91,SNR=8.2						
TIN	**Tinemaha**	**89.81**	**50**	⇓P	**P**	**06 33 12.7**	**-0.1**
	baz=90						
SWSC	**Sam W. Stewart**	**89.82**	**55**	⇓P	**P**	**06 33 10.7**	**-2.2**
	baz=90						
P06A	**Stead Airport,**	**89.83**	**47**	⇑P	**P**	**06 33 13.0**	**+0.3**
	baz=91						
MPMC	**Manual Prospec**	**89.91**	**51**	⇓P	**P**	**06 33 13.1**	**-0.1**
	baz=91,SNR=5.3						
H03A	**Soap Creek Ran**	**90.02**	**41**	P	**P**	**06 33 14.1**	**+0.6**
	baz=91,SNR=5.8						
S08C	**White Mtn Res**	**90.05**	**50**	P	**P**	**06 33 14.6**	**+0.7**
	baz=91,SNR=6.7						
J04A	**Umpqua Nationa**	**90.06**	**43**	⇓P	**P**	**06 33 14.3**	**+0.6**
	baz=91						
O06A	**Flanigan**	**90.11**	**47**	P	**P**	**06 33 14.3**	**+0.3**
	baz=91,SNR=8.3						
BELC	**Belle Mtn.**	**90.12**	**54**	⇑P	**P**	**06 33 13.7**	**-0.6**
	baz=91,SNR=5.1						
I04A	**Tendick Farm,**	**90.13**	**43**	⇓P	**P**	**06 33 13.9**	**-0.1**
	baz=91						
M06C	**Likely Place G**	**90.15**	**45**	⇓P	**P**	**06 33 14.6**	**+0.4**
	baz=91						
L05A	**Lakeview**	**90.31**	**45**	⇑P	**P**	**06 33 16.2**	**+1.3**
	baz=91						
N06A	**Buffalo Meadow**	**90.37**	**46**	P	**P**	**06 33 15.5**	**+0.3**
	baz=91,SNR=6.4						
NVAR	**Mina Array Bea**	**90.37**	**49**	P	**P**	**06 33 15.5**	**+0.2**
	comp=Z,2.8nm,0.8s,mb4.6,baz=215,slow=6.2,SNR=22						
BC3	**Big Chuckw Mtn**	**90.39**	**54**	⇑P	**P**	**06 33 14.8**	**-0.7**
	baz=91						
GRAC	**Grapevine Rang**	**90.40**	**50**	⇑P	**P**	**06 33 15.3**	**-0.2**
	baz=91						
F03A	**Seaside**	**90.48**	**40**	⇓P	**P**	**06 33 16.8**	**+1.2**
	baz=92						
FURC	**Furnace Creek,**	**90.54**	**51**	⇑P	**P**	**06 33 15.4**	**-0.7**
	baz=91						
BOD	**Bodaibo**	**90.58**	**334**	*e*P	pP	06 33 25.2	-1.7
BOD				pmax	pmax		
	comp=Z,6.0nm,1.2s,mb4.8						
K05A	**Summer Lake**	**90.59**	**44**	P	**P**	**06 33 16.9**	**+0.7**
	baz=92,SNR=5.8						
MOD	**Modoc**	**90.59**	**45**	*e*P	**P**	**06 33 16.3**	**+0.1**
	comp=Z,15nm,1.0s,mb5.3						
MOD				*e*pP	pP	06 33 26.7	-0.7
MOD	**Modoc**	**90.59**	**45**	P	**P**	**06 33 16.5**	**+0.3**
	baz=92,SNR=6.9						
GLA	**Glamis**	**90.61**	**55**	⇑P	**P**	**06 33 15.5**	**-1.1**
	baz=91						
J05A	**Fort Rock**	**90.64**	**43**	P	**P**	**06 33 17.1**	**+0.6**
	baz=92,SNR=

C04A Brinnon 91.72 39 ⇑P P 06 33 21.6 +0.3
baz=93
R10A Warm Springs 91.72 50 ⇓P P 06 33 21.1 -0.5
baz=92
F05A White Salmon 91.74 41 ⇑P P 06 33 22.0 +0.6
baz=93
TLY Talaya 91.80 326 *e*P **P 06 33 22.1 +0.5**
TLY pmax pmax
comp=Z,10.0nm,1.5s,mb4.9
COLA College 91.83 17 *e*P **P 06 33 25.7 +4.3**
comp=Z,2.7nm,0.8s,mb4.6
COLA College 91.83 17 *e*P **P 06 33 29.3 +7.9**
S11A Rachel 91.85 50 ⇑P P 06 33 21.4 -0.8
baz=92
E05A Randle 91.88 40 ⇑P P 06 33 21.6 -0.5
baz=93
Q10A Clear Creek Ra 91.89 49 ⇓P P 06 33 22.0 -0.3
baz=93
H06A Lindquist Farm 91.89 42 P **P 06 33 22.2 0.0**
baz=93,SNR=10
O09A Fish Creek Ran 91.91 48 ⇑P P 06 33 22.5 +0.1
baz=93
J07A Hines 91.92 44 ⇑P P 06 33 22.4 0.0
baz=93
WVOR Wild Horse Val 91.94 45 *e*P **P 06 33 22.7 +0.2**
comp=Z,10nm,1.2s,mb5.0
WVOR *e*pP pP 06 33 33.3 -0.4
WVOR Wild Horse Val 91.94 45 *e*P **P 06 33 22.7 +0.2**
WVOR *e*'PP pP 06 33 33.3 -0.4
WVOR pmax pmax
comp=Z,10.0nm,1.2s,mb5.0
G06A Carlson Farm, 91.94 42 ⇓P P 06 33 21.8 -0.7
baz=93
X13A Yucca 92.00 54 ⇑P P 06 33 22.3 -0.7
baz=92
L08A Fields 92.02 45 P **P 06 33 23.2 +0.4**
baz=93,SNR=9.7
D05A Enumclaw 92.04 40 ⇓P P 06 33 24.0 +1.2
baz=93
T11A Corn Creek, Al 92.06 51 ⇑P P 06 33 22.9 -0.2
baz=93
F06A Goldendale 92.10 41 ⇓P P 06 33 23.2 +0.1
baz=93
I07A Izee 92.12 43 P **P 06 33 23.6 +0.3**
baz=93,SNR=6.0
W13A Hualapai Mount 92.16 53 ⇑P P 06 33 23.5 -0.2
baz=93
K08A Mann Creek Ran 92.17 45 ⇓P P 06 33 23.3 -0.2
baz=93
R11A Troy Canyon, C 92.26 50 ⇑P P 06 33 22.9 -1.2
baz=93
M09A Marrel Ranch, 92.28 46 ⇑P P 06 33 24.4 +0.2
baz=93
H07A Lands Inn, Kim 92.31 43 ⇑P P 06 33 24.4 +0.2
baz=93
E06A Yakima 92.34 41 ⇑P P 06 33 24.5 +0.3
baz=94
Y14A Wickenburg 92.36 55 ⇑P P 06 33 23.4 -1.3
baz=93
L09A Wilkinson Ranc 92.40 46 ⇑P P 06 33 24.9 +0.3
baz=93
Q11A Duckwater 92.42 49 ⇑P P 06 33 24.4 -0.4
baz=93
J08A Circle Bar Ran 92.46 44 ⇑P P 06 33 24.5 -0.3
baz=94
S12A Delamar Landin 92.48 51 ⇓P P 06 33 25.2 +0.1
baz=93
B05A Bryant 92.50 39 ⇓P P 06 33 25.8 +0.9
baz=94
G07A Ruggs Ranch, H 92.56 42 ⇓P P 06 33 25.1 -0.1
baz=94
U13A Pakoon Wash 92.64 52 ⇓P P 06 33 24.0 -1.8
baz=93
X14A Yava 92.66 54 ⇑P P 06 33 25.8 -0.2
baz=93
K09A Rome 92.66 45 P **P 06 33 25.9 +0.1**
baz=94,SNR=7.3
W14A Seligman 92.81 53 ⇑P P 06 33 26.7 0.0
baz=93
H08A Prairie City 92.85 43 ⇑P P 06 33 26.4 -0.3
baz=94
Y15A Casa Rosa Ranc 92.88 55 ⇑P P 06 33 26.8 -0.2
baz=93
J09A Fry Pan Ranch, 92.92 45 P **P 06 33 27.1 +0.1**
baz=94,SNR=6.8
T13A Saint George 92.92 51 ⇑P P 06 33 27.2 +0.1
baz=94
M10A I.L. Ranch, Tu 92.94 47 ⇓P P 06 33 27.3 +0.2
baz=94
R12A Pony Springs, 92.95 50 ⇓P P 06 33 25.6 -1.7
baz=94
O11A Cowboy Ranch, 92.96 48 ⇓P P 06 33 27.4 +0.1
baz=94
V14A Boquillas Ranc 92.96 53 ⇑P P 06 33 27.5 +0.1
baz=94
G08A Pilot Rock 93.02 42 ⇑P P 06 33 27.8 +0.4
baz=94
X15A Humboldt 93.16 54 ⇓P P 06 33 27.8 -0.5
baz=94
S13A Holt Ranch, En 93.19 51 ⇑P P 06 33 28.7 +0.3
baz=94
P12A McGill 93.21 49 ⇑P P 06 33 27.4 -1.0
baz=94
217A Green Valley 93.21 57 ⇑P P 06 33 28.7 0.0
baz=94
U14A Mt Trumbull 93.22 52 P **P 06 33 29.1 +0.6**
baz=94,SNR=5.6
L10A Juniper Basin 93.23 46 ⇑P P 06 33 28.4 -0.1
baz=94
K10A MacKenzie Ranc 93.26 45 ⇓P P 06 33 28.6 0.0
baz=94
M11A Holland Ranch, 93.41 47 ⇓P P 06 33 29.6 +0.3
baz=94
T14A Hurricane 93.55 52 ⇑P P 06 33 29.8 -0.3
baz=94
O12A Currie 93.65 48 ⇑P P 06 33 30.7 +0.3
baz=94
EGAK Eagle 93.71 19 *e*P **P 06 33 35.6 +5.5**
comp=Z,3.5nm,0.8s,mb4.8
X16A Lo Mia Camp, P 93.74 55 ⇓P P 06 33 30.0 -1.0
baz=94
B07A Winthrop 93.75 39 ⇓P P 06 33 31.1 +0.5
baz=95
K11A Parker Ranch, 93.81 46 ⇓P P 06 33 31.0 -0.1
baz=95
P13A Bates Ranch, G 93.83 49 ⇑P P 06 33 30.6 -0.7
baz=95
H10A Noah's Angus R 94.12 44 ⇓P P 06 33 32.5 0.0
baz=95
G10A Bishop Farm, J 94.18 43 ⇑P P 06 33 32.3 -0.4
baz=95
F10A Beach Ranch, E 94.41 42 ⇑P P 06 33 33.9 +0.1
baz=96
A08A Turner Farm, O 94.48 39 ⇑P P 06 33 34.8 +0.8
baz=96
M13A Montello 94.50 47 ⇓P P 06 33 34.0 -0.3
baz=95
K12A Draper Farm, C 94.52 46 ⇓P P 06 33 33.1 -1.3
baz=95
J12A Stokes Ranch, 94.64 45 ⇓P P 06 33 35.2 +0.3
baz=96
H11A Donnelly 94.64 44 ⇓P P 06 33 34.4 -0.4
baz=96
G11A Walters Elk Ra 94.77 43 ⇓P P 06 33 34.9 -0.5
baz=96
HLID Hailey 95.22 45 ⇑P P 06 33 37.1 -0.5
baz=96
H12A Diamond D Ranc 95.33 44 ⇓P P 06 33 37.7 -0.4
baz=96
I13A Wildhorse Cree 95.56 45 ⇓P P 06 33 38.6 -0.5
baz=96
H13A Challis 95.73 44 ⇓P P 06 33 39.9 +0.1
baz=97
B11A Sandpoint 95.98 40 ⇑P P 06 33 40.2 -0.7
baz=97
F13A Darby 96.17 43 ⇑P P 06 33 40.3 -1.5
baz=97
HWUT Hardware Ranch 96.39 48 *e*P **P 06 33 42.7 -0.3**
comp=Z,1.0nm,0.9s,mb4.2
PDAR Pinedale Array 98.21 47 P **P 06 33 53.3 +2.2**
comp=Z,0.2nm,0.5s,mb3.9,baz=278,slow=2.6,SNR=2.5
INK Inuvik 98.33 19 P **P 06 33 51.6 +0.5**
INK pmax pmax
comp=Z,1.0nm,1.0s
INK Inuvik 98.33 19 P **P 06 33 51.5 +0.5**
comp=Z,0.8nm,1.0s,mb4.2,baz=270,slow=1.0,SNR=2.6
YKA Yellowknife Ar 102.44 28 P Pdif 06 34 09.5 -0.5
comp=Z,0.2nm,0.6s,baz=253,slow=4.6,SNR=9.5

MKAR Makanchi Array 102.51 315 P Pdif 06 34 10.7 +0.5
comp=Z,0.1nm,0.2s,baz=98,slow=5.0,SNR=3.3
AKTK Aktyubinsk 118.89 317 PKP PKPdf 06 39 00.9 -1.2
AKTO Aktyubinsk 118.89 317 PKIKP PKPdf 06 39 01.0 -1.1
AKTO pmax pmax
comp=Z,1.0nm,0.4s
AKTO Aktyubinsk 118.89 317 PKP PKPdf 06 39 00.9 -1.2
comp=Z,0.5nm,0.4s,baz=290,slow=2.4,SNR=4.3
ARCES ARCESS Array B 126.53 345 PKIKP PKPdf 06 39 11.6 -4.7
ARCES pmax pmax
comp=Z,12nm,1.1s
ARCES ARCESS Array B 126.53 345 PKP PKPdf 06 39 11.6 -4.7
comp=Z,12nm,1.1s,baz=333,slow=29,SNR=2.6
ANN Anapa 133.42 312 *i* PKIKP PKPdf 06 39 26.9 -3.2
ANN pmax pmax
comp=Z,72nm,1.2s
AKASG Malin Array Be 136.48 323 *i* PKIKP PKPdf 06 39 33.9 -1.7
AKASG Malin Array Be 136.48 323 PKhKP 06 39 33.9
comp=Z,0.1nm,0.3s,baz=35,slow=2.3,SNR=4.4
KOLS Kolonicke sedl 141.25 324 *e*PKP PKPdf 06 39 47.7 +3.3
VYHS Vyhne 143.35 326 *e*PKP PKPdf 06 39 56.0 +7.8
DPC Dobruska-Polom 143.40 330 *e*PKP PKPdf 06 39 55.9 +7.7
UPC Upice 143.43 330 *e*PKP PKPdf 06 39 56.3 +8.1
PVCC Panska Ves 144.07 332 *e*PKP PKPdf 06 39 48.4 -0.9
PVCC *ex* x 06 39 58.9
BRG Berggiesshubel 144.09 332 *e*PKPbc PKPdf 06 39 47.6 -1.8
BRG *ep*PKPbc 06 39 58.3
BRG Berggiesshubel 144.09 332 *e*P PKPdf 06 39 47.7 -1.7
comp=Z,7.0nm,1.0s
BRG *e* 06 39 58.3
comp=Z,15nm,1.2s
CLL Collm 144.17 334 *e*PKPbc PKPdf 06 39 47.8 -1.7
CLL Collm 144.17 334 *i* PKPdf PKPdf 06 39 47.7 -1.8
comp=Z,44nm,2.1s
CLL ⇓*i*PKiKP PKiKP 06 39 58.3 +5.2
comp=Z,14nm,1.1s
CLL *ep*PKiKP 06 40 07.0
CLL *ex* x 06 40 22.0
MODS Modra-Piesok 144.24 327 *e*PKP PKPdf 06 39 50.4 +0.7
MODS *e* 06 40 00.4
ZST Bratislava 144.44 327 *e*PKP pPKPdf 06 40 00.3 -1.3
PRU Pruhonice 144.47 331 *e*PKP PKPdf 06 39 48.4 -1.7
PRU *ex* x 06 39 59.9
TREC Trest 144.51 329 *e*PKP PKPdf 06 39 49.0 -1.2
TREC *ex* x 06 39 59.6
CLZ Clausthal 144.79 336 *e*PKPbc PKPdf 06 39 50.4 -0.2
CLZ *ep*PKPbc 06 40 01.0
VAY Valandovo 144.83 313 *e*PKP PKPdf 06 39 59.6 +8.7
SOP Sopron 145.05 326⇑ *e*PKP PKPdf 06 39 51.7 +0.6
TANN Tannenbergstha 145.07 333 *e*PKPbc PKPbc 06 39 50.6 +0.1
EKA Eskdalemuir Ar 145.09 352 PKHKP 06 39 48.8
EKA pmax pmax
comp=Z,2.0nm,0.8s
EKA Eskdalemuir Ar 145.09 352 PKP PKPdf 06 39 48.8 -2.1
comp=Z,1.6nm,0.8s,baz=5.4,slow=1.8,SNR=6.1
NKC Novy Kostel 145.21 333 *e*PKP PKPdf 06 39 51.7 +0.4
NKC *ex* x 06 40 02.4
MOX Moxa 145.25 334 *e*P PKPbc 06 39 51.7 +0.6
MOX *e* 06 40 02.2
comp=Z,33nm,1.1s
MOX Moxa 145.25 334 *e*PKPbc PKPbc 06 39 51.3 +0.2
MOX *ep*PKPbc pPKPbc 06 40 02.0 -0.5
CONA Conrad Observa 145.25 327⇑*i*PKPdf PKPdf 06 39 52.6 +1.1
comp=Z,24nm,1.4s
CONA ⇓*i*pPKPdf pPKPdf 06 40 03.1 +0.1
comp=Z,37nm,1.3s
IBBN Ibbenburen 145.33 339 *e*PKPbc PKPbc 06 39 51.6 +0.3
KHC Kasperske Hory 145.52 331 *e*PKP PKPdf 06 39 52.8 +0.9
KHC *ex* x 06 40 03.1
MANZ Manzenberg 145.54 333 *e*PKPbc PKPbc 06 39 52.8 +0.7
ROTZ Rotzenmuhle 145.66 333 *e*PKPbc PKPbc 06 39 53.1 +0.6
GEC2 GERESS Array S 145.67 330 *e*PKPbc PKPbc 06 39 53.1 +0.6
GEC2 *ep*PKPbc pPKPbc 06 40 03.7 -0.2
GERES GERESS Array B 145.67 330 PKPbc PKPbc 06 39 52.7 +0.2
comp=Z,5.9nm,0.8s,baz=46,slow=3.9,SNR=39
KRUS Krusevo 145.71 314 *e*PKP pPKPdf 06 40 03.2 -0.8
UBBA Unterbreizbach 145.75 336 *e*PKPbc PKPbc 06 39 53.2 +0.5
UBBA *ep*PKPbc pPKPbc 06 40 03.9 -0.2
WET Wettzell 145.83 331 *e*PKPbc PKPbc 06 39 53.4 +0.4
ARSA Arzberg 145.87 327⇑*i* pPKPdf 06 40 05.2 +1.1
comp=Z,22nm,1.1s
ARSA Arzberg 145.87 327⇑*i*P PKPdf 06 39 54.4 +1.8
ARSA *i* 06 40 05.2
ARSA Arzberg 145.87 327⇑*i*PKPbc PKPbc 06 39 54.4 +1.2
comp=Z,13nm,1.4s
ARSA ⇑*i*pPKPdf pPKPdf 06 40 05.2 +1.1
comp=Z,22nm,1.1s
MOA Molln 146.09 328⇓*i* pPKPdf 06 40 04.2 -0.2
comp=Z,26nm,1.2s
MOA Molln 146.09 328⇑*i*PKPbc PKPbc 06 39 54.9 +1.0
comp=Z,15nm,1.3s
MOA ⇓*i*pPKPdf pPKPdf 06 40 04.2 -0.2
comp=Z,26nm,1.2s
GRA1 Grafenberg Arr 146.14 333 *e*PKPbc PKPbc 06 39 54.1 +0.2
GRA1 LR LR
comp=Z,700nm,21.1s,MS5.4
GRF Grafenberg Arr 146.14 333 *e*PKPbc PKPbc 06 39 54.1 +0.2
GRF *e*L 07 32 44.0
comp=Z,734nm,21.1s
DMUB Kingscourt 146.91 355 *e*P PKPdf 06 39 57.0 +2.9
VNDS Vrh nad Dolski 147.05 326 *e*PKPdf PKPdf 06 39 56.7 +2.1
VNDS *i* PKPbc PKPbc 06 40 07.0 +10
BOJS Bojanci 147.14 324 *e*PKPdf PKPdf 06 39 57.6 +2.9
BOJS *e*PKPbc PKPbc 06 40 08.2 +11
BOJS *i* PKPab PKPab 06 40 17.7 +19
LJU Ljubljana 147.18 326 *i* PKPdf PKPdf 06 39 57.4 +2.6
LJU *i* PKPbc PKPbc 06 40 07.8 +11
LJU *e*PKPab PKPab 06 40 17.4 +19
FUR Furstenfeldbru 147.27 331 *e*PKPbc PKPbc 06 39 58.0 +0.8
MEM Membach 147.35 339 PKP PKPdf 06 39 58.2 +3.2
DCN Croghan 147.49 355 *e*P PKPdf 06 39 58.0 +2.9
STU Stuttgart 147.69 334 *e*PKPbc PKPbc 06 39 59.2 +0.8
STU *ep*PKPbc pPKPbc 06 40 09.9 +0.1
ABTA Abfaltersbach 147.72 329⇑*i*PKPdf PKPdf 06 39 57.6 +1.9
comp=Z,8.4nm,0.9s
WLF Walferdange 148.11 338 *e*PKPab PKPab 06 40 11.2 +8.9
WLF Walferdange 148.11 338 PKP PKPdf 06 40 01.3 +5.1
WLF Walferdange 148.11 338 *e*PKPbc PKPbc 06 40 00.5 +1.0
WLF *ep*PKPbc pPKPbc 06 40 11.3 +0.4
GIVF Givet 148.18 340 *e*PKP1 PKPbc 06 39 59.6 0.0
comp=Z,52nm,1.0s
DOU Dourbes 148.25 340 PKP PKPdf 06 40 00.6 +4.2
FETA Feichten 148.37 331⇑*i*PKPbc PKPbc 06 40 01.1 +0.8
comp=Z,10nm,0.9s
FETA ⇓*i*PKPab PKPab 06 40 11.6 +8.2
comp=Z,27nm,1.0s
BFO Black Forest 148.39 335 *e*PKPdf PKPdf 06 39 58.4 +1.7
BFO Black Forest 148.39 335 *ep*PKPbc pPKPbc 06 40 10.8 -0.9
BAIF Baives 148.41 341 *e*PKP1 PKPbc 06 40 00.4 +0.2
comp=Z,40nm,1.1s
DAVA Damuels 148.55 332⇑*i* pPKPdf 06 40 11.4 +2.9
comp=Z,18nm,1.1s
DAVA Damuels 148.55 332⇑*i*P PKPdf 06 40 01.1 +4.1
DAVA *i* 06 40 11.4
DAVA Damuels 148.55 332⇑*i*PKPbc PKPbc 06 40 01.1 +0.4
comp=Z,8.0nm,0.9s
DAVA ⇑*i*PKPab PKPab 06 40 11.4 +7.3
comp=Z,18nm,1.1s
CDF Champ du Feu 148.74 336 *e*PKP1 PKPbc 06 40 01.1 0.0
comp=Z,40nm,1.1s
HINF Hinteralfeld 149.39 335 *e*PKP1 PKPbc 06 40 02.5 -0.3
HAU Haudompre 149.43 336 *e*PKP1 PKPbc 06 40 02.7 -0.2
comp=Z,42nm,1.0s
MEZF Maizieres J'vi 149.48 338 *e*PKP1 PKPbc 06 40 03.4 +0.4
comp=Z,55nm,0.9s
TIP Timpagrande 149.76 313 *e*PKPdf PKPdf 06 39 59.9 +0.7
CABF La Chapelle 150.68 335 *e*PKP1 PKPbc 06 40 06.4 +0.5
comp=Z,32nm,0.9s
FLN La Foliniere 150.88 345 *e*PKP1 PKPbc 06 40 05.9 -0.5
comp=Z,29nm,0.9s
LDF La Druitiere 150.95 344 *e*PKP1 PKPbc 06 40 05.9 -0.6
LOR Lormes 150.95 338 *e*PKP1 PKPbc 06 40 06.4 -0.2
comp=Z,30nm,1.1s
SSF Saint Saulge 151.25 339 *e*PKP1 PKPbc 06 40 07.2 -0.1
comp=Z,25nm,0.9s
LPL La Plagne 151.30 333 *e*PKP1 PKPbc 06 40 07.9 +0.5
comp=Z,26nm,1.0s
LPG La Plagne 151.30 333 *e*PKP1 PKPbc 06 40 08.0 +0.5
comp=Z,32nm,1.0s
GRR Gorron 151.32 345 *e*PKP1 PKPbc 06 40 07.1 -0.3
SMF Signal de Mont 151.49 338 *e*PKP1 PKPbc 06 40 07.5 -0.3
comp=Z,30nm,1.0s
AVF Avril sur Loir 151.54 338 *e*PKP1 PKPbc 06 40 07.3 -0.7
comp=Z,10nm,0.9s

BNI Bardonecchia 151.69 332 *e*PKPdf PKPdf 06 40 05.9 +3.8
MBDF Montbardon 151.90 332 *e*PKP1 PKPbc 06 40 08.7 -0.2
comp=Z,14nm,0.9s
BGF Bois d'Agland 151.91 339 *e*PKP1 PKPbc 06 40 09.4 +0.6
ORIF Oris-en-Rattie 152.14 333 *e*PKP1 PKPbc 06 40 09.3 -0.1
comp=Z,17nm,0.7s
SBF Sospel 152.27 330 *e*PKP1 PKPbc 06 40 09.2 -0.5
comp=Z,35nm,1.0s
TCF Toulx Ste Croi 152.36 339 *e*PKP1 PKPbc 06 40 09.6 -0.2
comp=Z,29nm,1.1s
PGF Pioggiola 152.46 326 *e*PKP1 PKPbc 06 40 10.1 -0.1
comp=Z,51nm,0.9s
VIVF Saint-Julien-l 152.69 335 *e*PKP1 PKPbc 06 40 10.5 -0.1
MFF Saint Martin d 152.79 343 *e*PKP1 PKPbc 06 40 10.3 -0.5
SMRF Simiane la Rot 153.02 332 *e*PKP1 PKPbc 06 40 11.6 +0.2
comp=Z,20nm,0.9s
LMR La Mourre 153.11 330 *e*PKP1 PKPbc 06 40 11.2 -0.4
comp=Z,20nm,1.0s
LASF Ste Croix 153.66 335 *e*PKP1 PKPbc 06 40 12.7 -0.1
comp=Z,29nm,1.2s
TORD Torodi Ar. Bea 165.28 240 PKP PKPdf 06 40 18.6 -0.5
comp=Z,0.7nm,0.8s,baz=16,slow=1.1,SNR=4.8
TORD PKPab PKPab 06 41 24.1 +7.4
comp=Z,1.3nm,1.1s,baz=87,slow=3.6,SNR=3.7

IDC ***06*** *06:31:19.9±0.6, 864S×15761E, h0km, mb4.2/13, mb1 4.4/14, mb1mx4.3/16, mbtmp4.2/14, ML4.0/1, MS4.3/4, Ms1 4.3/4, ms1mx3.8/24, Error ellipse: s-maj=20.4km s-min=18.3km az=93.0*

ISCJB ***06*** *06:31:20.3±0.4, 855S±008×15764E±005, h10km, mb4.2/16, MS4.2/4, Error ellipse: s-maj=11.9km s-min=6.7km az=15.6*

NEIC ***06*** *06:31:21.8±0.5, 851S×15763E, h10km, mb4.7/3, Error ellipse: s-maj=12.9km s-min=11.4km az=141.0*

ISC 06 06:31:21.5±3.5, 855S±010×15762E±009, h8km±23km, n28, σ0982/24, mb4.2/16, MS4.2/4, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.46**	**111**	Pn		**Pn**	**06 32 01.1**	**-1.0**
32nm,0.3s,baz=255,slow=1.7,SNR=11								
HNR				Sn		**Sg**	**06 32 40.9**	**+0.1**
292nm,0.3s,baz=86,slow=21,SNR=10								
CTA	**Charters Tower**	**15.89**	**223**	*e*P		**Pn**	**06 35 12.3**	**+6.6**
7.9nm,0.9s								
CTA	**Charters Tower**	**15.89**	**223**	Pn		**Pn**	**06 35 09.7**	**+4.0**
0.2nm,0.3s,baz=67,slow=10.0,SNR=3.5								
ARMA	**Armidale**	**22.47**	**194**	*e*P		**P**	**06 36 24.5**	**+3.2**
KAKA	**Kakadu**	**25.08**	**258**	*e*P		**P**	**06 36 46.1**	**-0.8**
15nm,0.9s,mb4.5								
WRAB	**Tennant Creek**	**25.19**	**241**	*e*P		**P**	**06 36 48.1**	**+0.2**
18nm,0.8s,mb4.6								
WB2	**Warramunga Arr**	**25.20**	**241**	*e*P		**P**	**06 36 47.6**	**-0.3**
WRA	**Warramunga Arr**	**25.21**	**241**	P		**P**	**06 36 47.6**	**-0.4**
20nm,0.9s,mb4.6,baz=66,slow=9.5,SNR=37								
WRA				PcP		PcP	06 40 22.0	+0.2
0.7nm,0.5s,baz=68,slow=2.7,SNR=4.4								
GUMO	**Guam**	**25.37**	**330**	LR		LR	06 44 08.7	
comp=Z,301nm,21.8s,MS3.8,baz=181,slow=30								
ASAR	**Alice Springs**	**27.23**	**234**	P		**P**	**06 37 05.2**	**-1.1**
2.6nm,0.9s,mb3.8,baz=64,slow=9.0,SNR=18								
ASAR				PcP		PcP	06 40 24.9	-1.5
0.6nm,0.5s,baz=81,slow=2.6,SNR=6.8								
STKA	**Stephens Creek**	**27.58**	**210**	*e*P		**P**	**06 37 11.1**	**+1.8**
6.4nm,0.7s,mb4.4								
STKA	**Stephens Creek**	**27.58**	**210**	P		**P**	**06 37 11.1**	**+1.8**
8.2nm,0.7s,mb4.5,baz=24,slow=11,SNR=9.5								
STKA				LR		LR	06 47 42.0	
comp=Z,411nm,18.0s,MS4.0,baz=21,slow=36								
BATI	**Kupang**	**33.53**	**264**	LR		LR	06 51 35.8	
comp=Z,846nm,19.1s,MS4.5,baz=260,slow=36								
RPZ	**Rata Peaks**	**36.95**	**164**	LR		LR	06 49 45.6	
comp=Z,904nm,19.7s,MS4.6,baz=242,slow=30								
MJAR	**Matsushiro Arr**	**48.41**	**339**	P		**P**	**06 40 04.6**	**+0.3**
0.7nm,0.3s,mb4.1,baz=160,slow=7.4,SNR=3.7								
JNU	**Nakatsue**	**48.62**	**330**	P		**P**	**06 40 05.8**	**-0.3**
5.8nm,0.9s,mb4.6,baz=260,slow=11,SNR=4.3								
KSRS	**Korea Array**	**53.53**	**331**	P		**P**	**06 40 42.9**	**+0.1**
1.4nm,0.6s,mb4.1,baz=155,slow=7.7,SNR=7.9								
SONM	**Songino Array**	**72.04**	**326**	P		**P**	**06 42 46.8**	**+0.7**
1.7nm,0.9s,mb4.0,baz=140,slow=4.5,SNR=6.8								
QSPA	**South Pole Qui**	**81.44**	**180**	P		**P**	**06 43 38.6**	**-0.1**
1.2nm,0.5s,mb4.1,baz=295,slow=7.8,SNR=16								
MAW	**Mawson**	**83.97**	**203**	P		**P**	**06 43 51.6**	**-0.5**
4.4nm,0.9s,mb4.6,baz=89,slow=6.0,SNR=5.1								
MKAR	**Makanchi Array**	**86.28**	**318**	P		**P**	**06 44 03.6**	**-0.3**
0.8nm,0.6s,mb4.2,baz=90,slow=6.8,SNR=8.6								
RPN	**Rapa Nui**	**88.85**	**117**	P		**P**	**06 44 15.7**	**-1.2**
268nm,0.7s,baz=72,slow=2.8,SNR=5.2								
INK	**Inuvik**	**90.25**	**20**	P		**P**	**06 44 22.4**	**0.0**
0.9nm,0.9s,mb4.1,baz=197,slow=16,SNR=4.4								
NVAR	**Mina Array Bea**	**90.64**	**51**	P		**P**	**06 44 26.2**	**+1.2**
1.2nm,0.9s,mb4.2,baz=249,slow=7.5,SNR=5.3								
YKA	**Yellowknife Ar**	**96.48**	**28**	P		**P**	**06 44 51.1**	**-0.2**
0.4nm,0.7s,mb3.9,baz=264,slow=4.8,SNR=8.7								
PDAR	**Pinedale Array**	**97.80**	**48**	P		**P**	**06 44 58.3**	**+0.6**
0.2nm,0.4s,mb4.0,baz=263,slow=3.5,SNR=3.2								
ESDC	**Sonseca Array**	**144.89**	**335**	PKP		PKPdf	06 50 59.2	-0.5
0.1nm,0.3s,baz=137,slow=48,SNR=2.8								
BDFB	**Brasilia**	**145.04**	**133**	PKP		PKPbc	06 50 57.5	-2.4
2.5nm,0.9s,baz=180,slow=2.0,SNR=3.2								

ISCJB ***06*** *06:34:39.0±2.9, 189S±02×1693E±02, h302km±30km, mb3.7/5, Error ellipse: s-maj=30.0km s-min=23.2km az=143.5*

IDC ***06*** *06:34:40.0±5.0, 1899S×16941E, h302km±50km, mb3.4/6, mb1 3.7/7, mb1mx3.5/15, mbtmp3.6/7, Error ellipse: s-maj=30.5km s-min=18.9km az=27.0*

ISC 06 06:34:39.0±2.9, 190S±02×1694E±02, h290km±32km, n11, σ1905/7, mb3.7/5, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
HNR	**Honiara**	**13.18**	**315**	P		**Pn**	**06 37 36.0**	**-0.1**
4.3nm,0.3s,baz=228,slow=1.4,SNR=3.8								
URZ	**Urewera**	**20.37**	**162**	P		**P**	**06 38 54.1**	**-0.1**
5.1nm,0.5s,baz=15,slow=2.6,SNR=4.5								
CTA	**Charters Tower**	**21.86**	**263**	P		**P**	**06 39 10.1**	**+1.6**
3.8nm,0.9s,mb3.7,baz=55,slow=12,SNR=2.6								
WRA	**Warramunga Arr**	**33.05**	**262**	P		**P**	**06 40 46.9**	**-1.1**
0.8nm,0.7s,mb3.4,baz=96,slow=8.2,SNR=3.5								
ASAR	**Alice Springs**	**33.35**	**256**	P		**P**	**06 40 50.2**	**-0.3**
3.7nm,0.6s,mb4.1,baz=81,slow=8.9,SNR=40								
SONM	**Songino Array**	**87.09**	**323**	P		**P**	**06 46 51.7**	**-0.3**
1.4nm,0.8s,mb3.9,baz=134,slow=4.2,SNR=5.0								
NVAR	**Mina Array Bea**	**88.49**	**48**	P		**P**	**06 46 59.1**	**+0.3**
0.9nm,0.8s,mb3.7,baz=217,slow=5.9,SNR=6.3								
YKA	**Yellowknife Ar**	**100.34**	**27**	P		Pdif	06 47 52.7	0.0
0.5nm,0.7s,baz=256,slow=4.6,SNR=5.4								
MKAR	**Makanchi Array**	**101.65**	**316**	P		Pdif	06 47 59.6	+1.1
0.3nm,0.6s,baz=90,slow=3.7,SNR=2.1								
GERES	**GERESS Array B**	**144.32**	**332**	PKP		PKPdf	06 53 38.0	-2.4
1.3nm,0.6s,baz=44,slow=4.1,SNR=11								
DAVOX	**Davos/Dischmat**	**147.56**	**333**	PKPbc		PKPbc	06 53 48.8	-0.2
4.2nm,0.5s,baz=155,slow=3.5,SNR=8.8								

ISCJB ***06*** *06:39:42.5±0.4, 5053N±006×14992E±0.10, h512km±7km, mb3.7/19, Error ellipse: s-maj=11.9km s-min=6.6km az=42.3*

MOS ***06*** *06:39:42.3±0.8, 5050N×14997E, h511km, mb4.1/10, Error ellipse: s-maj=14.6km s-min=8.4km az=91.3*

NEIC ***06*** *06:39:43.4±0.7, 5048N×14989E, h513km±8km, mb4.5/5, Error ellipse: s-maj=11.8km s-min=8.1km az=113.0*

IDC ***06*** *06:39:43.8±1.9, 5057N×14990E, h513km±23km, mb3.3/16, mb1 3.5/18, mb1mx3.4/26, mbtmp3.3/18, Error ellipse: s-maj=13.0km s-min=11.1km az=129.0*

ISC 06 06:39:43.1±0.4, 5050N±006×14994E±010, h506km±6km, n65, σ0983/65, mb3.7/19, 9C, Sea of Okhotsk

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.94**	**85**	*e*P		**P**	**06 41 01.2**	**-0.1**
SKR				*e*S		**S**	**06 42 06.5**	**+1.3**
SKR				pmax		pmax		
comp=N,30nm,0.5s								
SKR				pmax		pmax		
comp=E,50nm,0.5s								
SKR				pmax		pmax		
comp=Z,50nm,0.5s								
SKR				smax				

comp=N,40nm,0.5s
SKR smax
comp=E,40nm,0.5s
YSS Yuzh-Sakhalins 5.93 236 *e*P **P 06 41 20.6 +1.6**
comp=E,25nm,0.7s
YSS Yuzh-Sakhalins 5.93 236⇑ *e*P **P 06 41 20.3 +1.3**
YSS pmax pmax
comp=Z,50nm,0.8s
PET Petropavlovsk 5.97 62 *e*P **P 06 41 27.4 +8.2**
PET *e*S **S 06 42 36.3 -1.7**
PET smax
comp=N,36nm,0.9s
PET smax
comp=E,29nm,0.9s
YUK Yuzh-Kuril'sk 7.04 205 *e*P **P 06 41 28.9 -1.0**
YUK *e*S **S 06 42 56.4 -0.9**
YUK pmax pmax
comp=N,130nm,0.3s
YUK pmax pmax
comp=Z,340nm,0.3s
YUK pmax pmax
comp=E,140nm,0.4s
YUK smax
comp=N,230nm,0.5s
YUK smax
comp=E,210nm,0.5s
ASAJ Asahikawa 8.10 221 P **P 06 41 41.7 +1.0**
ASAJ pmax pmax
comp=Z,2.0nm,0.3s
ASAJ Asahikawa 8.10 221 P **P 06 41 41.6 +1.0**
comp=Z,2.1nm,0.3s,baz=28,slow=7.9,SNR=7.5
MA2 Magadan 9.11 3 *e*P **P 06 41 51.8 +1.0**
comp=Z,36nm,0.9s
MA2 Magadan 9.11 3*c i*P **P 06 41 51.8 +1.0**
MA2 pmax pmax
comp=N,30nm,0.7s
MA2 pmax pmax
comp=Z,40nm,0.7s
ERM Erimo 9.70 211 *e*P **P 06 41 55.9 -1.4**
comp=Z,56nm,0.4s
ERM Erimo 9.70 211⇑ *i*P **P 06 41 56.5 -0.8**
HABR Khabarovsk 9.90 264 *e*P **P 06 41 59.6 +0.3**
SEY Seymchan 12.54 5⇑ *i*P **P 06 42 27.3 +0.4**
YAK Yakutsk 16.03 324 *i*P **P 06 43 02.9 -0.6**
YAK pmax pmax
comp=Z,13nm,0.6s
MAJO Matsushiro 16.31 216 *e*P **P 06 43 06.3 -0.5**
comp=Z,9.6nm,0.8s
MAJO Matsushiro 16.31 216 *e*P **P 06 43 06.3 -0.5**
MAJO pmax pmax
comp=Z,10.0nm,0.8s
MJAR Matsushiro Arr 16.31 216 P **P 06 43 05.9 -0.9**
MJAR pmax pmax
comp=Z,1.0nm,0.3s
MJAR Matsushiro Arr 16.31 216 P **P 06 43 05.9 -0.9**
comp=Z,1.3nm,0.3s,baz=18,slow=11,SNR=15
BILL Bilibino 19.35 19 P **P 06 43 35.0 +0.1**
BILL pmax pmax
comp=Z,12nm,1.3s
KSRS Korea Array 20.42 239 P **P 06 43 47.0 +1.9**
comp=Z,1.7nm,0.8s,baz=41,slow=11,SNR=6.8
TIXI Tiksi 23.27 343 *i*P **P 06 44 09.7 -0.6**
TIXI pmax pmax
comp=Z,9.0nm,3.0s
TLY Talaya 28.73 291 *i*P **P 06 44 59.8 +1.1**
TLY pmax pmax
comp=Z,1.0nm,1.5s,mb3.0
COLA College 34.62 42 *i*P **P 06 45 49.0 +0.2**
ZALV Zalesovo Beam 38.78 301 P **P 06 46 22.5 -0.8**
comp=Z,2.1nm,0.5s,mb3.8,baz=70,slow=6.9,SNR=9.9
ZALV PcP PcP 06 48 21.8 0.0
comp=Z,1.5nm,0.3s,baz=63,slow=2.3,SNR=4.7
ZAL Zalesovo 38.80 301 P **P 06 46 22.5 -0.9**
ZAL 06 48 21.8
INK Inuvik 39.68 34 P **P 06 46 30.0 -0.3**
INK pmax pmax
comp=Z,3.0nm,0.5s
INK Inuvik 39.68 34 P **P 06 46 29.9 -0.4**
comp=Z,3.2nm,0.5s,mb4.0,baz=307,slow=6.5,SNR=51
MK31 Makanchi Array 43.45 292 *e*P **P 06 47 00.8 +0.3**
MKAR Makanchi Array 43.45 292⇑ *e*P **P 06 47 00.7 +0.2**
MKAR Makanchi Array 43.45 292 P **P 06 47 00.5 0.0**
comp=Z,3.5nm,0.8s,mb3.8,baz=66,slow=8.4,SNR=15
MKAR PcP PcP 06 48 36.8 -0.6
comp=Z,0.9nm,0.7s,baz=71,slow=4.5,SNR=6.4
KURK Kurchatov 43.61 299⇑ *i*P **P 06 47 01.4 -0.3**
BRVK Borovoye 46.94 306 *e*P **P 06 47 27.1 -0.1**
comp=Z,5.5nm,0.6s,mb4.2
BRVK Borovoye 46.94 306 *e*P **P 06 47 27.1 -0.1**
BRVK pmax pmax
comp=Z,5.0nm,0.6s,mb4.1
ZRNK Zerenda 47.66 306 *i*P **P 06 47 32.4 -0.2**
ZRNK pmax pmax
comp=Z,3.0nm,0.4s,mb4.0
YKA Yellowknife Ar 49.21 38 P **P 06 47 43.6 -0.3**
YKA PcP PcP 06 48 57.5 -0.1
YKA Yellowknife Ar 49.21 38 P **P 06 47 43.6 -0.3**
comp=Z,1.4nm,0.6s,mb3.5,baz=304,slow=7.1,SNR=46
YKA PcP PcP 06 48 57.5 -0.1
comp=Z,0.2nm,0.4s,baz=309,slow=3.7,SNR=5.8
ARCES ARCESS Array B 53.60 339 P **P 06 48 16.0 +0.3**
ARCES ARCESS Array B 53.60 339 P **P 06 48 16.0 +0.3**
ARCES pmax pmax
comp=Z,5.0nm,0.8s
ARCES ARCESS Array B 53.60 339 P **P 06 48 16.0 +0.3**
comp=Z,4.5nm,0.8s,mb3.8,baz=29,slow=6.6,SNR=7.3
AKTK Aktyubinsk 54.70 308 P **P 06 48 23.3 -0.4**
AKTO Aktyubinsk 54.70 308 P **P 06 48 23.3 -0.4**
AKTO pmax pmax
comp=Z,1.0nm,0.5s,mb3.4
AKTO Aktyubinsk 54.70 308 P **P 06 48 23.3 -0.4**
comp=Z,1.0nm,0.5s,mb3.5,baz=63,slow=13,SNR=7.6
FINES FINESS Array B 59.74 332 P **P 06 48 57.6 -0.4**
FINES PcP PcP 06 49 37.7 -0.8
FINES FINESS Array B 59.74 332 P **P 06 48 57.6 -0.5**
FINES 06 49 37.7
FINES pmax pmax
comp=Z,5.0nm,0.4s
FINES FINESS Array B 59.74 332 P **P 06 48 57.6 -0.4**
comp=Z,4.5nm,0.4s,mb4.3,baz=37,slow=7.5,SNR=71
FINES PcP PcP 06 49 37.7 -0.8
comp=Z,1.0nm,0.5s,baz=73,slow=2.5,SNR=3.9
NVAR Mina Array Bea 62.55 62 P **P 06 49 17.7 +0.8**
comp=Z,0.4nm,0.5s,mb3.2,baz=301,slow=6.6,SNR=4.3
NB2 NORSAR Subarra 63.98 339 P **P 06 49 25.6 -0.1**
comp=Z,1.5nm,0.5s,mb3.8,baz=27,slow=6.5
NOA NORSAR Array B 63.98 339 P **P 06 49 25.1 -0.6**
NOA pmax pmax
comp=Z,3.0nm,0.6s
NOA NORSAR Array B 63.98 339 P **P 06 49 25.1 -0.6**
comp=Z,2.6nm,0.6s,mb3.9,baz=28,slow=6.4,SNR=6.8
PDAR Pinedale Array 64.22 54 P **P 06 49 28.0 +0.4**
comp=Z,0.7nm,0.6s,mb3.4,baz=292,slow=1.8,SNR=7.0
KIV Kislovodsk 66.70 311⇑ *e*P **P 06 49 45.6 +2.5**
KIV pmax pmax
comp=Z,9.0nm,0.9s,mb4.4
AKASG Malin Array Be 67.27 324 *i*P **P 06 49 45.7 -0.7**
AKASG pmax pmax
comp=Z,2.0nm,0.4s
AKASG Malin Array Be 67.27 324 P **P 06 49 45.4 -1.0**
comp=Z,2.0nm,0.4s,mb4.1,baz=34,slow=6.2,SNR=15
WRA Warramunga Arr 71.47 195 P **P 06 50 12.1 +0.1**
WRA pmax pmax
comp=Z,1.0nm,0.5s
WRA Warramunga Arr 71.47 195 P **P 06 50 12.1 +0.1**
comp=Z,0.7nm,0.5s,mb3.4,baz=17,slow=6.9,SNR=5.0
CLL Collm 72.17 333⇑ *i*P **P 06 50 15.2 -0.5**
CLL Collm 72.17 333⇑ *i*P **P 06 50 15.2 -0.5**
CLL *e*PcP PcP 06 50 30.0 -0.6
MLR Muntele Rosu 72.79 322 P **P 06 50 20.3 +0.8**
MLR pmax pmax
comp=Z,2.0nm,0.6s
MLR Muntele Rosu 72.79 322 P **P 06 50 20.3 +0.9**
comp=Z,2.1nm,0.6s,mb3.8,baz=162,slow=11,SNR=7.1
GERES GERESS Array B 74.16 332 P **P 06 50 26.5 -0.7**
comp=Z,0.4nm,0.5s,mb3.2,baz=19,slow=5.7,SNR=3.9
ASAR Alice Springs 75.19 195 *e*P **P 06 50 34.3 +1.1**
ASAR Alice Springs 75.19 195 P **P 06 50 34.0 +0.8**
comp=Z,2.5nm,0.8s,mb3.8,baz=8.0,slow=5.3,SNR=35
CFAA Coronel Fontan 146.06 71 PKPbc PKPbc 06 58 24.7 -1.1
comp=Z,0.2nm,0.5s,baz=278,slow=1.1,SNR=5.9
PLCA Paso Flores 150.38 87 PKIKP PKPbc 06 58 36.1 -0.2
PLCA pmax pmax
comp=Z,2.0nm,0.8s
PLCA Paso Flores 150.38 87 PKPbc PKPbc 06 58 36.1 -0.2
comp=Z,2.0nm,0.8s,baz=323,slow=3.8,SNR=8.2

IDC ***06*** *06:48:59.2±1.8, 54.27S×125.15W, h0km, mb4.3/3, mb1 4.5/3, mb1mx3.9/13, mbtmp4.3/3, MS4.0/1, Ms1 4.1/1, ms1mx3.2/19, Error ellipse: s-maj=214.2km s-min=51.9km az=159.0*
ISC 06 06:48:59.4±14.0, 55S±3×124W±, h10km, (h8km±3.0km):pP-P), n8, σ0§94/6, mb4.2/3, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA3	**Neumayer Olymp**	**45.74**	**156**	*e*	**P**	**06 57 19.4**	**-0.8**
VNA3				*e*	pP	06 57 21.3	-2.0
VNA3				*e*	pP	06 57 24.0	+0.7
VNA3				*e*		06 57 27.7	
VNA1	**Neumayer--Stat**	**46.49**	**156**	*e*	**P**	**06 57 27.4**	**+1.4**
VNA1				*e*	pP	06 57 29.2	0.0
VNA1				*e*		06 57 35.2	
VNA2	**Neumayer--Watz**	**46.50**	**156**	*e*	**P**	**06 57 25.6**	**-0.5**
baz=234,slow=9.3							
VNA2				*e*	pP	06 57 27.3	-2.0
VNA2				*e*		06 57 30.7	
VNA2				*e*		06 57 34.2	
STKA	**Stephens Creek**	**66.88**	**247**	P	**P**	**06 59 51.6**	**+0.1**
1.9nm,0.7s,mb4.2,baz=84,slow=4.4,SNR=3.1							
ASAR	**Alice Springs**	**77.50**	**247**	P	**P**	**07 00 55.0**	**-0.1**
1.8nm,0.8s,mb4.1,baz=156,slow=6.5,SNR=15							
WRA	**Warramunga Arr**	**80.31**	**249**	P	**P**	**07 01 10.6**	**0.0**
3.6nm,0.8s,mb4.3,baz=145,slow=4.9,SNR=23							
SONM	**Songino Array**	**148.38**	**278**	PKPbc	PKPbc	07 08 43.0	-1.9
0.5nm,0.8s,baz=108,slow=4.7,SNR=4.0							
GERES	**GERESS Array B**	**153.54**	**86**	PKPbc	PKPbc	07 09 00.5	+3.4
0.1nm,0.3s,baz=276,slow=3.8,SNR=3.8							

IDC 06 07:05:13.4±2.1, 680S×12929E, h0km, mb4.0/1, mb1 3.7/3, mb1mx3.5/12, mbtmp3.5/3, ML3.6/2, Error ellipse: s-maj=151.2km s-min=30.9km az=68.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**13.95**	**160**	Pn	Pn	07 08 32.7	+0.2
0.4nm,0.3s,baz=342,slow=12,SNR=6.6							
WRA				Sn	Sn	07 10 54.5	-14
1.2nm,0.3s,baz=332,slow=22,SNR=10							
ASAR	**Alice Springs**	**17.34**	**166**	P	Pn	07 09 16.9	0.0
0.1nm,0.3s,baz=348,slow=12,SNR=6.3							
ASAR				S	Sn	07 12 14.9	-16
0.3nm,0.3s,baz=319,slow=15,SNR=7.3							
MKAR	**Makanchi Array**	**67.68**	**327**	P	P	07 16 12.5	+0.1
0.9nm,0.5s,baz=122,slow=8.5,SNR=20							

IDC 06 07:12:08.4±1.2, 5533S×12387W, h0km, mb4.1/5, mb1 4.3/5, mb1mx4.0/13, mbtmp4.1/5, MS4.0/5, Ms1 4.0/5, ms1mx3.5/23, Error ellipse: s-maj=96.5km s-min=27.7km az=152.0, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RKT	**Rikitea**	**33.22**	**341**	*e*LR	LR	07 27 23.8	
675nm,29.2s							
RKT	**Rikitea**	**33.22**	**341**	*e*T		07 53 45.7	
2.1nm,0.2s							
QSPA	**South Pole Qui**	**34.85**	**180**	LR	LR	07 30 28.9	
comp=Z,221nm,21.6s,baz=187,slow=32							
TBI	**Tubuai**	**37.15**	**319**	*e*LR	LR	07 29 12.9	
258nm,28.8s							
RPZ	**Rata Peaks**	**42.29**	**258**	LR	LR	07 32 39.1	
comp=Z,180nm,18.5s,baz=14,slow=29							
URZ	**Urewera**	**42.47**	**268**	LR	LR	07 34 59.9	
comp=Z,69nm,19.5s,baz=222,slow=32							
PPT	**Papeete**	**42.50**	**322**	*e*LR	LR	07 31 45.5	
432nm,27.5s							
PPT	**Papeete**	**42.50**	**322**	LR	LR	07 33 33.1	
comp=Z,236nm,18.1s,baz=259,slow=30							
VAH	**Vaihoa**	**44.02**	**326**	*e*T		08 07 11.5	
18nm,0.3s							
PMOR	**Pomariorio Ree**	**44.32**	**326**	*e*T		08 07 34.3	
2.4nm,0.3s							
TAOE	**Nuku Hiva Isla**	**48.12**	**338**	*e*LR	LR	07 34 18.4	
9μm,27.2s							
MAW	**Mawson**	**57.28**	**183**	LR	LR	07 44 42.1	
comp=Z,375nm,20.3s,baz=251,slow=34							
LPAZ	**La Paz**	**57.47**	**70**	P	P	07 21 59.8	+0.7
1.5nm,0.9s,baz=203,slow=2.7,SNR=4.6							
STKA	**Stephens Creek**	**66.87**	**247**	P	P	07 23 02.2	+0.2
1.6nm,0.6s,baz=150,slow=21,SNR=4.4							
ASAR	**Alice Springs**	**77.49**	**247**	P	P	07 24 05.7	0.0
2.3nm,0.9s,baz=154,slow=6.4,SNR=18							
WRA	**Warramunga Arr**	**80.31**	**249**	P	P	07 24 21.2	0.0
3.9nm,0.9s,baz=146,slow=5.0,SNR=16							
NVAR	**Mina Array Bea**	**93.51**	**4**	P	P	07 25 25.4	+0.1
0.1nm,0.4s,baz=180,slow=3.6,SNR=3.0							
SONM	**Songino Array**	**148.49**	**278**	PKPbc	PKPbc	07 31 56.0	+0.1
0.7nm,0.8s,baz=140,slow=3.1,SNR=5.4							

IDC ***06*** *07:17:40.2±0.9, 829S×157.57E, h0km, mb3.8/7, mb1 4.0/8, mb1mx3.9/14, mbtmp3.8/8, ML4.1/1, MS2.9/1, Ms1 2.9/1, ms1mx2.6/20, Error ellipse: s-maj=25.9km s-min=21.7km az=164.0*
NEIC ***06*** *07:17:41.8±0.7, 833S×157.60E, h10km, Error ellipse: s-maj=19.6km s-min=15.3km az=172.0*
ISCJB ***06*** *07:17:43.8±0.7, 84S±0.1×157.52E±0.07, h33km, mb3.7/6, Error ellipse: s-maj=19.3km s-min=9.7km az=15.3*
ISC 06 07:17:45.7±0.7, 83S±0.1×157.55E±0.08, h35km, n10, σ1§08/11, mb3.7/6, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.61**	**115**	Pn	**Pn**	**07 18 22.9**	**-2.4**
38nm,0.3s,baz=260,slow=4.4,SNR=10							
HNR				Sn	**Sn**	**07 18 56.6**	**+0.8**
48nm,0.3s,baz=83,slow=23,SNR=10							
HNR				LR	LR	07 18 59.3	
comp=Z,222nm,20.7s,baz=175,slow=30							
WRA	**Warramunga Arr**	**25.25**	**240**	P	**P**	**07 23 07.5**	**-1.2**
2.7nm,0.7s,mb3.9,baz=66,slow=9.5,SNR=11							
ASAR	**Alice Springs**	**27.29**	**233**	P	**P**	**07 23 27.1**	**0.0**
0.7nm,0.9s,baz=71,slow=7.5,SNR=4.6							
STKA	**Stephens Creek**	**27.72**	**210**	P	**P**	**07 23 32.2**	**+1.3**
1.9nm,0.9s,mb3.7,baz=1.4,slow=6.0,SNR=4.3							
SONM	**Songino Array**	**71.84**	**326**	P	**P**	**07 29 04.3**	**-0.6**
SONM	**Songino Array**	**71.84**	**326**	P	**P**	**07 29 04.3**	**-0.6**
0.2nm,0.3s,mb3.5,baz=114,slow=3.5,SNR=2.2							
MKAR	**Makanchi Array**	**86.08**	**318**	P	**P**	**07 30 23.7**	**+0.8**
0.4nm,0.6s,mb3.8,baz=101,slow=5.5,SNR=5.3							
NVAR	**Mina Array Bea**	**90.57**	**51**	P	**P**	**07 30 44.1**	**-0.4**
0.2nm,0.6s,mb3.6,baz=202,slow=1.9,SNR=2.5							
YKA	**Yellowknife Ar**	**96.34**	**28**	P	**P**	**07 31 11.4**	**+1.0**
YKA	**Yellowknife Ar**	**96.34**	**28**	P	**P**	**07 31 11.4**	**+1.0**
0.3nm,1.0s,mb3.7,baz=263,slow=4.6,SNR=4.4							

ISCJB ***06*** *07:31:45.3±0.6, 37.19N±0.09×24.77W±0.05, h10km, mb3.9/10, Error ellipse: s-maj=13.7km s-min=3.8km az=16.4*
CSEM ***06*** *07:31:46.6±0.1, 37.28N×24.75W, h15km, mb4.1/3, Error ellipse: s-maj=4.7km s-min=1.9km az=10.0*
IDC ***06*** *07:31:47.2±1.3, 37.34N×24.59W, h0km, mb3.6/5, mb1 3.7/7, mb1mx3.5/25, mbtmp3.5/7, ML4.1/2, Error ellipse: s-maj=37.0km s-min=23.5km az=22.0*
NEIC ***06*** *07:31:48.5±0.8, 37.22N×24.57W, h10km, mb4.2/9, Error ellipse: s-maj=15.9km s-min=11.1km az=181.0*
SVSA ***06*** *07:31:49.5±1.1, 37.23N×24.59W, h5km, ML3.4, Error ellipse: s-maj=23.4km s-min=7.3km az=35.0*
PDA ***06*** *07:31:49.5±1.1, 37.23N×24.59W, h5km, ML3.4, Error ellipse: s-maj=23.4km s-min=7.3km az=35.0*
ISC 06 07:31:46.9±0.6, 3719N±008×2480W±004, h10km, n43, σ1§09/48, mb3.9/10, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDA	**Ponta Delgada**	**0.88**	**309**	*e*P	**Pg**	**07 32 05.2**	**+1.4**
PDA				*e*S	**Sg**	**07 32 16.1**	**+0.8**
ADH	**Angra Heroismo**	**2.41**	**308**	*e*P	**Pn**	**07 32 27.0**	**+0.6**
ADH				*e*S	**Sn**	**07 32 54.4**	**-1.6**
PID	**Ribeirinha**	**2.91**	**296**	*e*P	**Pn**	**07 32 33.7**	**+0.5**
PMAN	**Manadas**	**2.97**	**300**	*e*P	**Pn**	**07 32 34.3**	**+0.3**
PMAN				*e*S	**Sn**	**07 33 08.3**	**-1.4**
PMAN				A		07 33 10.8	
30nm,0.3s							
PMAN	**Manadas**	**2.97**	**300**	*e*P	**Pn**	**07 32 34.3**	**+0.3**
PMAN				*e*S	**Sn**	**07 33 08.3**	**-1.4**
ROSA	**Rosais**	**3.12**	**300**	*e*P	**Pn**	**07 32 36.5**	**+0.4**
PICO	**Pico**	**3.15**	**296**	*e*P	**Pn**	**07 32 36.8**	**+0.3**
PICO				*e*S	**Sn**	**07 33 13.0**	**-1.2**
HOR	**Horta**	**3.31**	**295**	*e*P	**Pn**	**07 32 39.3**	**+0.6**
HOR				*e*S	**Sn**	**07 33 16.9**	**-1.2**
CALA	**Caldeira**	**3.38**	**295**	*e*P	**Pn**	**07 32 40.3**	**+0.6**
CALA				*e*S	**Sn**	**07 33 18.6**	**-1.3**
PMAR	**Madeira**	**7.86**	**122**	*e*Pn	**Pn**	**07 33 40.5**	**-0.8**
PMPS	**Porto Santo**	**8.07**	**118**	*e*Pn	**Pn**	**07 33 42.1**	**-2.0**
EVO	**Evora**	**13.34**	**79**	*e*Sn	Sx	07 37 05.2	
3.8nm,0.4s							
EVO	**Evora**	**13.34**	**79**	*e*Pn	**Pn**	**07 34 48.4**	**-7.8**
PVAQ	**Vaqueiros**	**13.61**	**84**	*e*S	Sx	07 37 16.1	
ESDC	**Sonseca Array**	**16.51**	**75**	Pn	**Pn**	**07 35 36.3**	**-2.2**
0.4nm,0.3s,baz=268,slow=12,SNR=4.4							
MDT	**Midelt**	**17.10**	**99**	Pn	**Pn**	**07 35 44.7**	**-1.3**
0.1nm,0.3s,baz=297,slow=9.7,SNR=4.7							
QUIF	**Quistinic**	**19.14**	**49**	*e*P	**Pn**	**07 36 10.5**	**-0.4**
20nm,1.1s							
QUIF	**Quistinic**	**19.14**	**49**	*e*P	**Pn**	**07 36 10.5**	**-0.4**
10nm,1.1s							
ROSF	**Rostrenen**	**19.27**	**48**	*e*P	**Pn**	**07 36 11.4**	**-1.0**
75nm,1.6s							
ROSF	**Rostrenen**	**19.27**	**48**	*e*P	**Pn**	**07 36 11.4**	**-1.0**
38nm,1.6s							
MFF	**Saint Martin d**	**20.55**	**55**	*e*P	**P**	**07 36 26.3**	**+0.9**
25nm,1.1s							
MFF	**Saint Martin d**	**20.55**	**55**	*e*P	**P**	**07 36 26.3**	**+0.9**
12nm,1.1s							
LFF	**La Frestale**	**20.70**	**60**	*e*P	**P**	**07 36 27.7**	**+0.7**
16nm,0.7s							
LFF	**La Frestale**	**20.70**	**60**	*e*P	**P**	**07 36 27.7**	**+0.7**
7.8nm,0.7s							
GRR	**Gorron**	**20.74**	**50**	*e*P	**P**	**07 36 28.0**	**+0.5**
33nm,1.1s							
GRR	**Gorron**	**20.74**	**50**	*e*P	**P**	**07 36 28.0**	**+0.5**
17nm,1.1s							
CAF	**Calviac**	**21.61**	**61**	*e*P	**P**	**07 36 36.8**	**-0.1**
18nm,1.1s,mb4.1							
CAF	**Calviac**	**21.61**	**61**	*e*P	**P**	**07 36 36.8**	**-0.1**
8.9nm,1.1s,mb4.1							
TCF	**Toulx Ste Croi**	**22.02**	**57**	*e*P	**P**	**07 36 41.8**	**+0.5**
SMF	**Signal de Mont**	**23.20**	**57**	*e*P	**P**	**07 36 53.5**	**-0.3**
9.2nm,0.8s,mb4.0							
SMF	**Signal de Mont**	**23.20**	**57**	*e*P	**P**	**07 36 53.5**	**-0.3**
4.6nm,0.8s,mb4.0							
EKA	**Eskdalemuir Ar**	**23.35**	**32**	P	**P**	**07 36 54.9**	**-0.4**
1.1nm,0.7s,mb3.4,baz=227,slow=8.4,SNR=3.9							
EKA	**Eskdalemuir Ar**	**23.35**	**32**	P	**P**	**07 36 54.8**	**-0.5**
VIVF	**Saint-Julien-l**	**23.43**	**62**	*e*P	**P**	**07 36 55.9**	**-0.3**
16nm,1.0s,mb4.1							
VIVF	**Saint-Julien-l**	**23.43**	**62**	*e*P	**P**	**07 36 55.9**	**-0.3**
7.8nm,1.0s,mb4.1							
TORD	**Torodi Ar. Bea**	**33.67**	**128**	P	**P**	**07 38 29.6**	**+1.5**
0.7nm,0.7s,mb3.7,baz=319,slow=8.8,SNR=6.6							
KWP	**Kalwaria**	**36.09**	**54**	*e*P	**P**	**07 38 55.9**	**+7.2**
8.2nm,0.5s,mb4.9							
YKA	**Yellowknife Ar**	**57.70**	**327**	P	**P**	**07 41 38.1**	**+0.9**
0.2nm,0.8s,mb3.2,baz=66,slow=7.3,SNR=4.0							
TXAR	**Lajitas Array**	**64.66**	**289**	P	**P**	**07 42 28.0**	**+3.1**
TXAR	**Lajitas Array**	**64.66**	**289**	P	**P**	**07 42 28.0**	**+3.1**
0.8nm,0.8s,mb3.8,baz=64,slow=7.8,SNR=5.7							
MKAR	**Makanchi Array**	**73.97**	**43**	P	**P**	**07 43 23.8**	**+1.4**
MKAR	**Makanchi Array**	**73.97**	**43**	P	**P**	**07 43 23.8**	**+1.4**
0.5nm,0.8s,mb3.5,baz=343,slow=3.8,SNR=3.6							
SONM	**Songino Array**	**84.81**	**31**	P	**P**	**07 44 23.4**	**+2.0**
0.6nm,0.8s,mb3.8,baz=309,slow=4.6,SNR=3.3							

ISCJB ***06*** *07:39:36.9±0.7, 237S±02×699E±02, h10km, mb3.9/9, Error ellipse: s-maj=24.0km s-min=19.9km az=31.1*
IDC ***06*** *07:39:37.0±0.7, 2373S×6980E, h0km, mb4.0/8, mb1 4.1/8, mb1mx3.9/22, mbtmp4.0/8, Error ellipse: s-maj=26.7km s-min=20.9km az=26.0*
NEIC ***06*** *07:39:38.7±0.6, 2373S×6981E, h10km, Error ellipse: s-maj=21.6km s-min=17.6km az=203.0*
ISC 06 07:39:38.9±0.7, 237S±02×698E±02, h10km, n14, σ0§60/10, mb3.9/9, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSZ	**Lusaka**	**40.02**	**274**	P	**P**	**07 47 15.5**	**+1.2**
3.0nm,0.8s,mb4.1,baz=107,slow=11,SNR=4.1							
ASAR	**Alice Springs**	**58.20**	**104**	P	**P**	**07 49 33.5**	**0.0**
1.9nm,0.8s,mb4.2,baz=254,slow=6.2,SNR=23							
WRA	**Warramunga Arr**	**59.56**	**100**	P	**P**	**07 49 44.0**	**+0.9**
2.8nm,0.8s,mb4.3,baz=254,slow=7.0,SNR=13							
QSPA	**South Pole Qui**	**66.40**	**180**	P	**P**	**07 50 26.9**	**-0.7**
1.1nm,0.8s,mb4.0,baz=191,slow=14,SNR=6.1							
MKAR	**Makanchi Array**	**71.08**	**9**	P	**P**	**07 50 57.3**	**+0.3**
1.3nm,0.9s,mb3.9,baz=191,slow=5.9,SNR=8.9							
AKTK	**Aktyubinsk**	**74.56**	**352**	P	**P**	**07 51 17.6**	**0.0**
AKTO	**Aktyubinsk**	**74.56**	**352**	P	**P**	**07 51 17.6**	**0.0**
0.9nm,0.8s,mb3.8,baz=242,slow=9.5,SNR=4.6							
TORD	**Torodi Ar. Bea**	**75.98**	**291**	P	**P**	**07 51 25.9**	**-0.8**
0.3nm,0.8s,mb3.2,baz=119,slow=5.2,SNR=2.6							
ZALV	**Zalesovo Beam**	**78.42**	**9**	P	**P**	**07 51 38.9**	**-0.5**
0.6nm,0.6s,mb3.7,baz=188,slow=9.5,SNR=3.8							
SONM	**Songino Array**	**78.44**	**24**	P	**P**	**07 51 39.5**	**-0.2**
0.7nm,0.9s,mb3.6,baz=198,slow=9.3,SNR=3.7							
YKA	**Yellowknife Ar**	**141.13**	**3**	PKP	PKPdf	07 59 07.7	-1.2
YKA	**Yellowknife Ar**	**141.13**	**3**	PKP	PKPdf	07 59 07.7	-1.2
0.3nm,0.8s,baz=348,slow=2.8,SNR=5.6							
ULM	**Lac du Bonnet**	**151.26**	**341**	PKPbc	PKPbc	07 59 31.3	-1.1
1.4nm,0.5s,baz=21,slow=3.9,SNR=5.8							
JLU	**Jordanelle**	**163.13**	**3**	*e*PKPdf	PKPdf	07 59 43.4	+1.6

IDC 06 07:49:38.6±18.0, 5538S×12750W, h0km, mb4.2/3, mb1 4.4/3, mb1mx3.9/13, mbtmp4.2/3, Error ellipse: s-maj=1246.0km s-min=417.4km az=151.0, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**64.92**	**250**	P	P	08 00 19.3	-0.3
2.2nm,0.9s,baz=168,slow=7.9,SNR=3.3							
ASAR	**Alice Springs**	**75.55**	**249**	P	P	08 01 25.4	+0.5
1.2nm,0.7s,baz=153,slow=5.6,SNR=14							
WRA	**Warramunga Arr**	**78.33**	**252**	P	P	08 01 40.6	0.0
2.8nm,0.8s,baz=145,slow=4.8,SNR=14							

IDC 06 07:57:01.9±1.7, 798S×15742E, h0km, mb3.5/3, mb1 3.6/4, mb1mx3.5/14, mbtmp3.6/4, ML3.4/1, MS4.4/1, Ms1 4.4/1, ms1mx3.1/13, Error ellipse: s-maj=42.8km s-min=26.5km az=16.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.89**	**120**	Pn	Pn	07 57 48.5	-0.7
6.1nm,0.3s,baz=122,slow=1.5,SNR=3.8							
HNR				Sn	Sn	07 58 27.0	+2.4
73nm,0.3s,baz=90,slow=20,SNR=9.7							
WRA	**Warramunga Arr**	**25.31**	**240**	P	P	08 02 30.8	+0.3

PLCA Paso Flores 37.58 90 LR LR 08 33 04.1
comp=Z,198nm,18.3s,MS4.0,baz=286,slow=31
RPZ Rata Peaks 42.24 258 LR LR 08 35 26.4
comp=Z,14nm,20.3s,MS2.8,baz=236,slow=31
CFAA Coronel Fontan 45.36 82 P **P 08 21 50.7 -2.9**
0.2nm,0.9s,mb3.0,baz=226,slow=8.7,SNR=4.1
SNAA Sanae 46.66 158 P **P 08 22 03.0 -0.3**
1.5nm,0.9s,mb3.9,baz=240,slow=3.8,SNR=5.7
MAW Mawson 57.18 183 P **P 08 23 21.7 -0.1**
3.1nm,0.8s,mb4.4,baz=154,slow=7.6,SNR=4.1
MAW LR LR 08 46 53.3
comp=Z,341nm,18.4s,MS4.5,baz=249,slow=35
LPAZ La Paz 57.53 70 P **P 08 23 25.1 +0.2**
3.5nm,0.9s,mb4.4,baz=194,slow=6.1,SNR=9.7
STKA Stephens Creek 66.81 247 P **P 08 24 27.8 +0.8**
STKA Stephens Creek 66.81 247 P **P 08 24 27.8 +0.8**
2.9nm,0.7s,mb4.4,baz=153,slow=8.1,SNR=5.1
ROSC El Rosal 72.59 53 P **P 08 25 03.6 +0.9**
0.5nm,0.4s,mb3.8,baz=108,slow=3.2,SNR=4.5
ASAR Alice Springs 77.42 247 P **P 08 25 30.1 -0.5**
3.9nm,0.8s,mb4.4,baz=147,slow=5.3,SNR=29
WB2 Warramunga Arr 80.24 249 *e*P **P 08 25 45.7 -0.5**
WRA Warramunga Arr 80.24 249 P **P 08 25 45.9 -0.3**
8.4nm,0.9s,mb4.7,baz=144,slow=4.9,SNR=48
WRAB Tennant Creek 80.25 249 *e*P **P 08 25 45.7 -0.5**
14nm,1.1s,mb4.8
TXAR Lajitas Array 86.18 18 P **P 08 26 16.6 +0.3**
1.3nm,1.0s,mb4.1,baz=169,slow=8.9,SNR=5.4
FITZ Fitzroy Crossi 86.31 243 *e*P **P 08 26 17.2 -0.3**
7.1nm,0.9s,mb4.9
PDAR Pinedale Array 98.58 11 P **P 08 27 14.0 +0.4**
0.2nm,0.8s,mb3.7,baz=177,slow=5.4,SNR=2.7
YKA Yellowknife Ar 117.81 5 PKP PKPdf 08 32 18.5 -1.9
0.2nm,0.9s,baz=190,slow=1.7,SNR=4.1
MTLF Montolieu 143.82 86 *e*PKP1 PKPdf 08 33 05.4 -4.4
MFF Saint Martin d 144.45 80 *e*PKP1 PKPdf 08 33 05.9 -4.9
RJF Les Rejaudoux 144.62 83 *e*PKP1 PKPdf 08 33 07.9 -3.3
CAF Calviac 144.71 84 *e*PKP1 PKPdf 08 33 09.7 -1.6
LASF Ste Croix 145.21 87 *e*PKP1 PKPbc 08 33 10.3 -1.6
FLN La Foiniere 145.47 77 *e*PKP1 PKPbc 08 33 10.9 -1.7
LDF La Druitiere 145.58 77 *e*PKP1 PKPbc 08 33 11.1 -1.9
39nm,1.2s
TCF Toulx Ste Croi 145.59 82 *e*PKP1 PKPbc 08 33 11.2 -1.9
BGF Bois d'Agland 146.11 82 *e*PKP1 PKPbc 08 33 13.2 -1.5
LMR La Mourre 146.26 90 *e*PKP1 PKPbc 08 33 12.9 -2.3
34nm,1.1s
TIXI Tiksi 146.38 327 *e*PKPdf PKPdf 08 33 12.9 -0.5
AVF Avril sur Loir 146.53 82 *e*PKP1 PKPbc 08 33 13.7 -2.2
SMF Signal de Mont 146.72 83 *e*PKP1 PKPbc 08 33 14.7 -1.8
11nm,0.7s
SSF Saint Saulge 146.77 82 *e*PKP1 PKPbc 08 33 14.4 -2.2
10.0nm,0.6s
ORIF Oris-en-Rattie 146.87 87 *e*PKP1 PKPbc 08 33 15.6 -1.3
LOR Lormes 147.08 82 *e*PKP1 PKPbc 08 33 15.2 -2.3
SBF Sospel 147.12 90 *e*PKP1 PKPbc 08 33 15.9 -1.8
PGF Pioggiola 147.18 93 *e*PKP1 PKPbc 08 33 15.0 -2.9
29nm,1.3s
EKA Eskdalemuir Ar 147.23 65 PKPbc PKPbc 08 33 16.1 -1.6
2.1nm,0.9s,baz=232,slow=4.1,SNR=4.9
MBDF Montbardon 147.26 88 *e*PKP1 PKPbc 08 33 16.5 -1.5
5.8nm,0.9s
LPG La Plagne 147.71 87 *e*PKP1 PKPbc 08 33 18.6 -0.6
LPL La Plagne 147.71 87 *e*PKP1 PKPbc 08 33 18.3 -0.9
CABF La Chapelle 147.98 85 *e*PKP1 PKPbc 08 33 18.3 -1.6
19nm,1.1s
SONM Songino Array 148.47 277 PKPbc PKPbc 08 33 21.1 -0.1
1.8nm,0.9s,baz=80,slow=1.7,SNR=12
TLY Talaya 151.94 282 *e*PKPbc PKPbc 08 33 29.2 -0.1
GERES GERESS Array B 153.51 87 PKPbc PKPbc 08 33 31.7 -1.3
1.4nm,0.9s,baz=151,slow=3.0,SNR=6.0
GERES PKPab PKPab 08 33 43.4 -2.1
0.8nm,0.8s,baz=255,slow=5.2,SNR=3.6
MKAR Makanchi Array 161.51 253 PKPab PKPab 08 34 19.3 -0.8
1.0nm,0.9s,baz=145,slow=4.4,SNR=5.0
AKASG Malin Array Be 163.24 95 PKP PKPdf 08 33 35.0 -1.9
1.2nm,0.6s,baz=263,slow=1.6,SNR=4.8
ZALV Zalesovo Beam 163.37 277 PKPab PKPab 08 34 27.6 -0.5
0.4nm,0.5s,baz=103,slow=5.2,SNR=4.1

*CSEM **06** 08:26:41.8±1.0, 37.19N×2466W, h0km, ML3.6, Error ellipse: s-maj=20.4km s-min=7.8km az=43.0, After PDA*
*PDA **06** 08:26:41.8±1.0, 37.19N×2466W, h0km, ML3.6, Error ellipse: s-maj=20.4km s-min=7.8km az=43.0*
SVSA 06 08:26:41.8±1.0, 3719N×2466W, h0km, ML3.6, Error ellipse: s-maj=20.4km s-min=7.8km az=43.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDA	**Ponta Delgada**	**0.98**	**305**	*e*S	Sg	08 27 08.8	-4.4
ADH	**Angra Heroismo**	**2.51**	**306**	*e*P	Pn	08 27 18.9	-4.9
ADH				*e*S	Sn	08 27 46.9	-8.2
PSBA	**Serra de Santa**	**2.63**	**308**	*e*S	Sn	08 27 50.4	-7.8
PSBA				A		08 27 54.5	
	296nm,0.4s						
PID	**Ribeirinha**	**3.02**	**296**	*e*P	Pn	08 27 25.2	-5.6
PMAN	**Manadas**	**3.07**	**299**	*e*S	Sn	08 28 00.6	-8.4
PMAN				A		08 28 03.6	
	62nm,0.4s						
ROSA	**Rosais**	**3.22**	**299**	*e*S	Sn	08 28 04.5	-8.1
PICO	**Pico**	**3.26**	**295**	*e*P	Pn	08 27 30.1	-4.0
PICO				*e*S	Sn	08 28 05.3	-8.3
HOR	**Horta**	**3.42**	**294**	*e*P	Pn	08 27 31.9	-4.4
CALA	**Caldeira**	**3.49**	**295**	*e*P	Pn	08 27 32.3	-5.0
CALA				*e*S	Sn	08 28 11.3	-8.0

IDC 06 08:28:13.0±3.6, 470S×15003E, h0km, mb4.0/3, mb1 4.3/3, mb1mx3.7/13, mbtmp4.1/3, Error ellipse: s-maj=106.2km s-min=50.0km az=115.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WB2	**Warramunga Arr**	**21.51**	**224**	*e*P	P	08 33 04.3	+0.5
WRA	**Warramunga Arr**	**21.52**	**224**	P	P	08 33 04.7	+0.8
	2.6nm,0.3s,baz=49,slow=10,SNR=34						
ASAR	**Alice Springs**	**24.45**	**218**	P	P	08 33 33.1	-0.6
	1.7nm,0.4s,baz=52,slow=8.2,SNR=35						
FITZ	**Fitzroy Crossi**	**27.32**	**239**	*e*P	P	08 33 59.7	-0.1
	6.1nm,1.4s						
FITZ	**Fitzroy Crossi**	**27.32**	**239**	P	P	08 33 59.9	+0.1
	2.3nm,0.8s,baz=75,slow=6.9,SNR=4.7						
TORD	**Torodi Ar. Bea**	**147.65**	**287**	PKPbc	PKPbc	08 48 00.0	-0.6
	0.3nm,0.5s,baz=105,slow=2.0,SNR=4.4						

*ISCJB **06** 08:36:07.3±1.9, 80S×02×1197E±02, h178km±15km, mb3.7/3, Error ellipse: s-maj=46.3km s-min=13.7km az=139.9*
*IDC **06** 08:36:10.5±2.2, 805S×11985E, h197km±18km, mb3.2/4, mb1 3.2/7, mb1mx3.1/17, mbtmp3.1/7, MS3.2/1, Ms1 3.2/1, ms1mx2.6/10, Error ellipse: s-maj=51.7km s-min=11.7km az=52.0*
ISC 06 08:36:10.5±1.7, 80S×02×1199E±02, h193km±14km, n8, σ0°42/10, mb3.5/3, Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Kupang**	**4.34**	**121**	P	**Pn**	**08 37 16.8**	**+0.5**
	6.1nm,0.3s,baz=290,slow=2.4,SNR=7.2						
BATI				S	**Sn**	**08 38 07.6**	**-0.4**
	8.9nm,0.3s,baz=235,slow=23,SNR=4.7						
FITZ	**Fitzroy Crossi**	**11.50**	**151**	P	**Pn**	**08 38 49.0**	**-0.2**
	0.2nm,0.3s,baz=321,slow=6.5,SNR=4.9						
FITZ				S	**Sn**	**08 40 45.7**	**-12**
	0.1nm,0.3s,baz=184,slow=19,SNR=5.5						
WRA	**Warramunga Arr**	**18.36**	**132**	P	**P**	**08 40 11.0**	**+0.1**
	0.2nm,0.3s,baz=308,slow=11,SNR=14						
WRA				S	**S**	**08 43 30.6**	**0.0**
	0.1nm,0.3s,baz=304,slow=24,SNR=3.9						
ASAR	**Alice Springs**	**20.58**	**141**	P	**P**	**08 40 35.0**	**+0.3**
	0.5nm,0.6s,baz=318,slow=9.2,SNR=9.7						
ASAR				PcP	PcP	08 44 35.4	-2.1
	0.1nm,0.4s,baz=337,slow=2.0,SNR=4.7						
NWAO	**Narrogin (SRO)**	**24.92**	**185**	LR	LR	08 50 03.4	
	comp=Z,50nm,18.5s,baz=312,slow=34						
SONM	**Songino Array**	**56.86**	**349**	P	**P**	**08 45 35.5**	**+0.6**
	0.4nm,0.5s,mb3.3,baz=165,slow=7.3,SNR=4.3						
MKAR	**Makanchi Array**	**63.98**	**332**	P	**P**	**08 46 23.2**	**0.0**
	0.9nm,0.5s,mb3.7,baz=144,slow=7.6,SNR=5.2						
ZALV	**Zalesovo Beam**	**68.43**	**339**	P	**P**	**08 46 50.5**	**-0.8**
	0.7nm,0.4s,mb3.6,baz=138,slow=9.5,SNR=2.7						

*ISCJB **06** 08:59:19.6±0.7, 6480N×003×307E±0.1, h0km, Error ellipse: s-maj=7.7km s-min=3.7km az=1.1*
*HEL **06** 08:59:20.7±0.2, 6480N×3082E, h0km, ML1.7, Explosion*
*IDC **06** 08:59:21.2±3.0, 6467N×3126E, h0km, mb1 3.0/3, mb1mx2.9/22, mbtmp2.9/3, ML2.3/3, Error ellipse: s-maj=46.4km s-min=10.7km az=106.0*
ISC 06 08:59:20.6±0.7, 6482N±002×307E±01, h0km, n17, σ1°11/31, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KU6	**Riekki**	**1.26**	**345**	*e*P	**Pg**	**08 59 44.2**	**-0.4**
KU6				*e*S	**Sg**	**09 00 00.7**	**-0.2**
MSF	**Maaselka**	**1.30**	**329**	*e*P	**Pg**	**08 59 44.8**	**-0.6**
MSF				*e*S	**Sg**	**09 00 02.1**	**-0.1**
KJN	**Kajaani**	**1.49**	**242**	*e*P	**Pn**	**08 59 47.7**	**-0.8**
KJN				*e*S	**Sg**	**09 00 06.5**	**-1.7**
JOF	**Joensuu**	**1.93**	**171**	*e*P	**Pn**	**08 59 53.7**	**-0.8**
JOF				*e*S	**Sn**	**09 00 18.8**	**-0.6**
OUL	**Oulu**	**2.06**	**280**	*e*P	**Pn**	**08 59 57.7**	**+1.4**
OUL				*e*S	**Sn**	**09 00 23.9**	**+1.3**
SUF	**Sumiainen**	**2.92**	**226**	*e*P	**Pn**	**09 00 10.3**	**+2.2**
SUF				*e*S	**Sn**	**09 00 44.3**	**+0.6**
SUF				MSG		09 00 49.1	
	comp=Z,1.7nm,0.2s						
SGF	**Sodankyl**	**3.13**	**329**	*e*P	**Pn**	**09 00 11.3**	**+0.2**
SGF				*e*S	**Sn**	**09 00 48.4**	**-0.6**
SGF				MSG		09 00 59.5	
	comp=Z,3.0nm,0.2s						
KAF	**Kangasniemi**	**3.35**	**218**	*e*P	**Pn**	**09 00 16.0**	**+1.9**
KAF				*e*S	**Sn**	**09 00 55.0**	**+0.5**
KAF				MSG		09 01 08.7	
	comp=Z,1.4nm,0.2s						
KEF	**Keuruu**	**3.73**	**227**	*e*P	**Pn**	**09 00 20.2**	**+1.0**
KEF				*e*S	**Sn**	**09 01 03.0**	**-0.7**
VAF	**Ylistaro**	**3.96**	**247**	*e*P	**Pn**	**09 00 23.6**	**+1.1**
VAF				*e*S	**Sn**	**09 01 08.9**	**-0.6**
FIA0	**FINESS Array S**	**3.98**	**214**	*e*SG	**Sg**	**09 01 24.1**	**-4.2**
FINES	**FINESS Array B**	**3.98**	**214**	Pn	**Pn**	**09 00 23.5**	**+0.7**
	comp=Z,0.1nm,0.3s,baz=39,slow=14,SNR=5.2						
FINES				Pg	**Pg**	**09 00 31.7**	**-5.1**
	comp=Z,0.1nm,0.3s,baz=45,slow=18,SNR=5.5						
FINES				Lg		09 01 23.3	
	comp=Z,0.4nm,0.3s,baz=32,slow=26,SNR=8.1						
VJF	**Virojoki**	**4.53**	**200**	*e*P	**Pn**	**09 00 30.2**	**-0.1**
VJF				*e*S	**Sn**	**09 01 21.2**	**-2.4**
PVF	**Pernaja**	**4.83**	**210**	*e*P	**Pn**	**09 00 35.5**	**+1.1**
PVF				*e*S	**Sn**	**09 01 29.0**	**-2.0**
ARCES	**ARCESS Array B**	**5.15**	**339**	Pn	**Pn**	**09 00 39.2**	**+0.5**
	comp=Z,0.3nm,0.3s,baz=157,slow=14,SNR=24						
ARCES				Sn	**Sn**	**09 01 36.3**	**-2.4**
	comp=Z,0.1nm,0.3s,baz=160,slow=21,SNR=2.2						
RAF	**Rauma**	**5.58**	**231**	*e*P	**Pn**	**09 00 44.8**	**+0.1**
NOA	**NORSAR Array B**	**9.63**	**256**	Pn	**Pn**	**09 01 40.9**	**+0.7**
	comp=Z,0.0nm,0.3s,baz=339,slow=17,SNR=2.4						

*IDC **06** 09:03:16.7±0.7, 862S×15761E, h0km, mb4.1/11, mb1 4.3/12, mb1mx4.2/15, mbtmp4.1/12, ML4.7/1, Error ellipse: s-maj=23.3km s-min=18.8km az=128.0*
*NEIC **06** 09:03:17.7±0.9, 863S×15769E, h10km, mb4.2/2, Error ellipse: s-maj=20.9km s-min=15.8km az=174.0*
*ISCJB **06** 09:03:20.7±0.5, 856S±010×15747E±006, h33km, mb4.0/13, Error ellipse: s-maj=13.9km s-min=9.2km az=4.4*
ISC 06 09:03:22.5±0.5, 857S±010×15748E±007, h35km, n17, σ0°87/17, mb4.0/13, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.58**	**110**	Pn	**Pn**	**09 03 56.1**	**-5.7**
	184nm,0.3s,baz=279,slow=4.1,SNR=26						
HNR				Sn	**Sn**	**09 04 32.1**	**0.0**
	274nm,0.3s,baz=92,slow=22,SNR=13						
WRAB	**Tennant Creek**	**25.06**	**241**	*e*P	**P**	**09 08 43.7**	**-0.1**
	4.4nm,0.6s,mb4.2						
WB2	**Warramunga Arr**	**25.07**	**241**	*e*P	**P**	**09 08 43.5**	**-0.3**
WRA	**Warramunga Arr**	**25.08**	**241**	P	**P**	**09 08 43.7**	**-0.2**
	5.0nm,0.7s,mb4.2,baz=66,slow=9.4,SNR=51						
WRA				PcP	PcP	09 12 18.0	-0.1
	0.4nm,0.8s,baz=73,slow=2.6,SNR=6.7						
ASAR	**Alice Springs**	**27.10**	**234**	P	**P**	**09 09 00.9**	**-1.3**
	1.0nm,0.9s,mb3.4,baz=65,slow=8.8,SNR=9.3						
STKA	**Stephens Creek**	**27.49**	**210**	*e*P	**P**	**09 09 06.8**	**+1.2**
	2.1nm,0.6s,mb3.8						
STKA	**Stephens Creek**	**27.49**	**210**	P	**P**	**09 09 06.7**	**+1.0**
	2.4nm,0.7s,mb3.9,baz=35,slow=14,SNR=9.4						
FITZ	**Fitzroy Crossi**	**32.35**	**250**	P	**P**	**09 09 52.4**	**+3.6**
	1.0nm,0.6s,mb3.8,baz=96,slow=10,SNR=4.4						
MJAR	**Matsushiro Arr**	**48.39**	**339**	P	**P**	**09 12 00.3**	**-0.7**
	1.0nm,0.8s,mb3.9,baz=163,slow=8.7,SNR=3.5						
KSRS	**Korea Array**	**53.49**	**331**	P	**P**	**09 12 40.0**	**+0.5**
	1.0nm,0.5s,mb4.0,baz=150,slow=8.2,SNR=5.9						
SONM	**Songino Array**	**71.99**	**327**	P	**P**	**09 14 44.2**	**+1.6**
	1.0nm,0.7s,mb3.8,baz=140,slow=7.0,SNR=7.7						
MKAR	**Makanchi Array**	**86.21**	**318**	P	**P**	**09 16 00.4**	**+0.1**
	1.2nm,0.7s,mb4.2,baz=98,slow=6.2,SNR=5.7						
INK	**Inuvik**	**90.33**	**20**	P	**P**	**09 16 18.6**	**-0.9**
	1.0nm,0.9s,mb4.1,baz=189,slow=4.3,SNR=5.3						
NVAR	**Mina Array Bea**	**90.77**	**51**	P	**P**	**09 16 23.2**	**+1.0**
	1.5nm,1.1s,mb4.2,baz=238,slow=3.6,SNR=7.2						
YKA	**Yellowknife Ar**	**96.57**	**28**	P	**P**	**09 16 47.5**	**-0.8**
	0.4nm,0.7s,mb4.0,baz=262,slow=4.7,SNR=13						
PDAR	**Pinedale Array**	**97.92**	**48**	P	**P**	**09 16 54.6**	**-0.3**
	0.4nm,0.9s,mb3.9,baz=282,slow=4.5,SNR=2.7						
BDFB	**Brasilia**	**145.12**	**134**	PKPbc	PKPbc	09 22 55.1	-1.8
	2.3nm,0.9s,baz=199,slow=11,SNR=4.5						

*CRAAG **06** 09:12:17.7, 830S×15699E, Mb5.5*
*IDC **06** 09:12:18.3±0.4, 835S×15701E, h0km, mb5.2/19, mb1 5.3/20, mb1mx5.3/20, mbtmp5.2/20, ML3.6/1, MS4.7/21, Ms1 4.7/21, ms1mx4.6/27, Error ellipse: s-maj=14.8km s-min=13.5km az=75.0*
*ISCJB **06** 09:12:18.6±0.1, 836S±003×15696E±002, h9km, mb5.5/114, MS5.0/196, Error ellipse: s-maj=4.5km s-min=3.4km az=177.1*
*NEIC **06** 09:12:19.7±2.1, 837S×15704E, h9km±13km, mb5.5/65, MS5.1/156, MW5.4, Error ellipse: s-maj=4.6km s-min=3.7km az=157.0, Moment Tensor Solution. s19 Moment tensor: Scale 1017Nm; Mrr 1.45; Mθθ -1.15; Mφφ -0.30; Mrθ 0.86; Mθφ 0.55; Mφr -0.10; Best double couple: M0 1.70000×1017 NP1:φs 305.00000°, δ31.00000°, λ106.00000°. NP2:φs 107.00000°, δ61.00000°, λ81.00000°. Principal axes: T 1.7100, Plg73.0000°, Azm354.0000°; N -0.0700, Plg8.0000°, Azm111.0000°; P -1.6400, Plg15.0000°, Azm203.0000°;*
*GCMT **06** 09:12:19.7±0.1, 862S×15725E, h12km, MW5.4/89, Moment Tensor Solution. s85,c151; s89,c151; Duration: 1s2 Moment tensor: Scale 1017Nm; Mrr 1.05±.02; Mθθ -0.54±.02; Mφφ -0.51±.02; Mrθ 1.08±.04; Mθφ 0.82±.02; Mφr -0.15±.05; Best double couple: M0 1.64300×1017 NP1:φs 340.00000°, δ32.00000°, λ134.00000°. NP2:φs 111.00000°, δ68.00000°, λ66.00000°. Principal axes: T 1.6260, Plg60.0000°, Azm346.0000°; N 0.0290, Plg22.0000°, Azm120.0000°; P -1.6590, Plg19.0000°, Azm218.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*BJI **06** 09:12:19.4, 793S×15720E, h9km, mB5.5, mb5.5, Ms5.1, Msz4.7*
*MOS **06** 09:12:22.7±1.0, 830S×15698E, h33km, mb5.8/39, MS4.9/25, Error ellipse: s-maj=8.2km s-min=6.5km az=90.2*
ISC 06 09:12:20.0±1.1, 837S±003×15701E±002, h8km±6km, h18km±1.6km: pP-P, n736, σ0°67/509, mb5.5/14, MS5.0/196, 110C-86D, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**3.09**	**110**	*e*Pn	**Pn**	**09 13 05.9**	**-3.1**
HNR	**Honiara**	**3.09**	**110**	Pn	**Pn**	**09 13 05.4**	**-3.6**
	109nm,0.3s,baz=264,slow=3.9,SNR=44						
HNR				Sn	**Sn**	**09 13 50.0**	**+3.8**
	675nm,0.3s,baz=267,slow=23,SNR=17						
HNR				LR	LR	09 14 15.7	
	comp=Z,9μm,18.2s,baz=331,slow=38						
CTA	**Charters Tower**	**15.62**	**221**	*e*P	**Pn**	**09 16 00.8**	**+0.3**
	91nm,1.0s						
CTA				*e*S	**Sn**	**09 19 06.9**	**+13**
CTA	**Charters Tower**	**15.62**	**221**	*e*P	**Pn**	**09 16 00.8**	**+0.3**
CTA				pmax	pmax		
	comp=Z,91nm,1.0s						
CTA	**Charters Tower**	**15.62**	**221**	Pn	**Pn**	**09 16 00.4**	**-0.1**
	comp=Z,0.2nm,0.3s,baz=44,slow=14,SNR=6.4						
CTAO	**Charters Tower**	**15.62**	**221**	*e*Pn	**Pn**	**09 16 01.2**	**+0.7**
	comp=Z,227nm,1.1s						
CTAO	**Charters Tower**	**15.62**	**221**	*e*P	**Pn**	**09 16 01.2**	**+0.7**
CTAO				pmax	pmax		
	comp=Z,227nm,1.1s						
EIDS	**Eidsvold**	**17.82**	**198**	*e*Pn	**Pn**	**09 16 28.0**	**-0.4**
	comp=Z,68nm,1.0s						
ARMA	**Armidale**	**22.50**	**192**	⇓*i*P	**P**	**09 17 20.4**	**+0.4**
ARMA				*i* S	**S**	**09 21 28.3**	**+0.9**
KAKA	**Kakadu**	**24.53**	**258**	*e*P	**P**	**09 17 41.0**	**+0.8**
	comp=Z,76nm,1.1s,mb5.1						
WRAB	**Tennant Creek**	**24.75**	**240**	P	**P**	**09 17 42.0**	**-0.2**
	comp=Z,691nm,1.0s,mb6.1,SNR=27						
WRAB	**Tennant Creek**	**24.75**	**240**	*e*P	**P**	**09 17 42.8**	**+0.6**
	comp=Z,114nm,0.9s,mb5.4						
WRAB				LR	LR		
	comp=Z,4μm,22.0s,MS4.9						
WB2	**Warramunga Arr**	**24.76**	**240**	⇓*i*P	**P**	**09 17 42.5**	**+0.3**
WB2				*e*PCP	PcP	09 21 19.1	-0.1
WB2				*e*S	**S**	**09 21 54.9**	**-10**
WB2				*i* SCP	ScP	09 24 59.2	+0.7
WB2				*e*SCS	ScS	09 28 47.7	+1.0
WRA	**Warramunga Arr**	**24.77**	**240**	P	**P**	**09 17 42.6**	**+0.3**
WRA						09 21 19.4	
WRA	**Warramunga Arr**	**24.77**	**240**	P	**P**	**09 17 42.6**	**+0.3**
	comp=Z,49nm,0.8s,mb5.1,baz=65,slow=9.2,SNR=141						
WRA				PcP	PcP	09 21 19.4	+0.2
	comp=Z,23nm,0.9s,baz=66,slow=2.2,SNR=17						
WRA				ScP	ScP	09 24 58.5	-0.1
	comp=Z,3.9nm,1.2s,baz=72,slow=2.5,SNR=6.0						
WRA				LR	LR	09 26 48.2	
	comp=Z,4μm,20.9s,MS4.8,baz=65,slow=35						
GUMO	**Guam**	**24.93**	**331**	P	**P**	**09 17 43.1**	**-0.6**
	comp=Z,33nm,0.3s,mb5.3,baz=181,slow=7.0,SNR=4.9						
GUMO				LR	LR	09 26 12.1	
	comp=Z,952nm,19.3s,MS4.3,baz=326,slow=34						
ASAR	**Alice Springs**	**26.85**	**233**	P	**P**	**09 18 00.6**	**-0.5**
ASAR				PcP	PcP	09 21 24.3	+0.4
ASAR				*e*		09 50 40.9	
ASAR	**Alice Springs**	**26.85**	**233**	P	**P**	**09 18 00.6**	**-0.5**
ASAR						09 21 24.3	
ASAR	**Alice Springs**	**26.85**	**233**	P	**P**	**09 18 00.6**	**-0.5**
	comp=Z,46nm,1.2s,mb4.9,baz=63,slow=8.9,SNR=108						
ASAR				PcP	PcP	09 21 24.3	+0.4
	comp=Z,10.0nm,0.8s,baz=75,slow=2.4,SNR=9.8						
ASAR				P3KPbc		09 50 40.9	
	comp=Z,0.7nm,0.8s,baz=238,slow=4.1,SNR=5.2						
STKA	**Stephens Creek**	**27.43**	**209**	*e*P	**P**	**09 18 05.0**	**-1.3**
	comp=Z,114nm,1.0s,mb5.4						
STKA				*e*PCP	PcP	09 21 25.1	0.0
STKA				*e*S	**S**	**09 22 46.5**	**-0.4**
STKA	**Stephens Creek**	**27.43**	**209**	P	**P**	**09 18 06.5**	**+0.2**
	comp=Z,99nm,0.8s,mb5.4,baz=35,slow=14,SNR=71						
STKA				PcP	PcP	09 21 25.3	+0.2
	comp=Z,27nm,0.8s,baz=16,slow=4.0,SNR=8.8						
STKA				LR	LR	09 28 22.1	
	comp=Z,2μm,21.1s,MS4.7,baz=28,slow=35						
CNB	**Canberra Magne**	**27.71**	**194**	*e*P	**P**	**09 18 08.1**	**-0.7**
	comp=Z,115nm,1.0s,mb5.5						
AFI	**Afiamalu**	**31.10**	**103**	PFAKE		09 18 50.0	+11
AFI				LR	LR		
	comp=Z,1μm,19.0s,MS4.6						
FITZ	**Fitzroy Crossi**	**31.98**	**249**	*e*P	**P**	**09 18 46.5**	**-0.3**
	comp=Z,34nm,1.0s,mb5.1						
FITZ				*e*S	**S**	**09 23 52.2**	**-6.5**
FITZ	**Fitzroy Crossi**	**31.98**	**249**	P	**P**	**09 18 44.6**	**-2.2**
	comp=Z,23nm,1.1s,mb4.9,baz=59,slow=9.6,SNR=11						
FITZ				LR	LR	09 31 44.3	
	comp=Z,2μm,20.6s,MS4.8,baz=90,slow=36						
BATI	**Kupang**	**32.95**	**264**	P	**P**	**09 18 54.7**	**-0.7**
	comp=Z,37nm,0.7s,mb5.4,baz=187,slow=1.4,SNR=7.4						
BATI				LR	LR	09 34 30.0	
	comp=Z,3μm,18.1s,MS5.1,baz=238,slow=40						
URZ	**Urewera**	**34.84**	**152**	P	**P**	**09 19 12.6**	**+1.0**
	comp=Z,9.4nm,0.8s,mb4.8,baz=138,slow=0.8,SNR=3.7						
DAV	**Davao City (W)**	**34.89**	**295**	PFAKE		09 19 20.0	+7.8
DAV				LR	LR		
	comp=Z,2μm,22.0s,MS4.7						
FORT	**Forrest**	**35.03**	**227**	*e*P	**P**	**09 19 12.9**	**-0.4**
	comp=Z,134nm,1.0s,mb5.8						
TAU	**Tasmania Unive**	**35.44**	**192**	*e*P	**P**	**09 19 17.2**	**+0.7**
	comp=Z,82nm,0.9s,mb5.7						
TAU				LR	LR		
	comp=Z,1μm,19.0s,MS4.7						
SNZO	**South Karori**	**36.36**	**157**	PFAKE		09 19 40.0	+15
SNZO				LR	LR		
	comp=Z,998nm,20.0s,MS4.6						
KAPI	**Kappang**	**37.14**	**273**	P	**P**	**09 19 31.8**	**+0.2**
	comp=Z,267nm,1.2s,mb6.0,SNR=7.5						
RPZ	**Rata Peaks**	**37.28**	**163**	P	**P**	**09 19 31.6**	**-0.8**
	comp=Z,23nm,0.8s,mb5.0,baz=32,slow=3.8,SNR=8.6						
RPZ				LR	LR	09 33 27.8	
	comp=Z,2μm,18.9s,MS4.9,baz=324,slow=34						
CBIJ	**Chichi jima**	**38.07**	**338**	LR	LR	09 33 22.8	
	comp=Z,1μm,19.4s,MS4.6,baz=146,slow=33						
MBWA	**Marble Bar**	**38.11**	**246**	*e*P	**P**	**09 19 39.7**	**0.0**
	comp=Z,102nm,1.3s,mb5.4						
MBWA				LR	LR		
	comp=Z,1μm,19.0s,MS4.8						
KKM	**Kota Kinabalu**	**43.12**	**288**	*e*P	**P**	**09 20 21.9**	**+0.7**
KLBR	**Kellerberrin**	**43.17**	**232**	*e*P	**P**

comp=Z,363nm,22.3s,MS4.4
PPT Papeete 52.70 106 *e*S **S 09 29 00.7 -3.2**
comp=Z,1μm,26.2s
PPT *e*LQ 09 34 45.2
comp=Z,2μm,26.0s
PPT *e*LR LR 09 36 57.3
comp=Z,2μm,25.5s
PPT Papeete 52.70 106 P **P 09 21 35.1 -0.4**
comp=Z,25nm,1.0s,mb5.1,baz=185,slow=12,SNR=2.4
PPT LR LR 09 38 05.6
comp=Z,858nm,20.2s,MS4.8,baz=272,slow=29
PAE Paea 52.70 106 *e*P **P 09 21 35.0 -0.5**
comp=Z,74nm,1.1s,mb5.5
PAE Paea 52.70 106 *e*P **P 09 21 35.0 -0.5**
PAE pmax pmax
comp=Z,74nm,1.1s,mb5.5
TVO Taravao 53.02 106 *e*P **P 09 21 37.7 -0.1**
comp=Z,82nm,1.0s,mb5.6
TVO Taravao 53.02 106 *e*P **P 09 21 37.7 -0.1**
TVO pmax pmax
comp=Z,82nm,1.0s,mb5.6
KSRS Korea Array 53.09 331 P **P 09 21 38.1 +0.2**
comp=Z,26nm,0.9s,mb5.2,baz=149,slow=8.4,SNR=89
KSRS LR LR 09 42 59.5
comp=Z,713nm,18.4s,MS4.8,baz=258,slow=35
TBI Tubuai 53.31 113 *e*LQ 09 34 55.2
comp=Z,5μm,30.5s
TBI *e*LR LR 09 37 10.5
comp=Z,811nm,29.5s
INCN Inchon 53.74 330 *e*P **P 09 21 42.7 0.0**
comp=Z,260nm,1.1s,mb6.1
INCN LR LR
comp=Z,590nm,20.0s,MS4.6
ASAJ Asahikawa 53.85 347 LR LR 09 44 47.4
comp=Z,1μm,18.5s,MS5.0,baz=185,slow=36
QIZ Qiongzhong 53.88 301 P **P 09 21 44.5 +0.5**
QIZ XP sP 09 21 49.4 +1.7
QIZ S **S 09 29 20.9 +1.2**
QIZ XS sS 09 29 25.8 +1.7
QIZ SCS ScS 09 31 35.7 +1.3
QIZ AMB AMB
comp=Z,476nm,3.7s
QIZ LR LR
comp=N,398nm,15.0s,MS4.8
QIZ LR LR
comp=E,434nm,15.4s,MS4.8
QIZ LR LR
comp=Z,546nm,18.4s,MS4.7
QIZ Qiongzhong 53.88 301 PFAKE 09 22 00.0 +16
QIZ LR LR
comp=Z,611nm,20.0s,MS4.7
KHU Kahuku 54.15 59 *e*P **P 09 21 45.6 -0.4**
MEH Mehetia 54.15 106 *e*P **P 09 21 45.8 -0.3**
comp=Z,80nm,1.0s,mb5.6
NJ2 Nanjing 54.24 320 *e*P **P 09 21 47.6 +1.1**
NJ2 AP pP 09 21 52.1 +2.9
NJ2 XP sP 09 21 55.3 +5.1
NJ2 PP PP 09 23 50.1 +1.6
NJ2 S **S 09 29 24.0 -0.3**
NJ2 XS sS 09 29 33.0 +4.3
NJ2 AMB AMB
comp=Z,120nm,1.1s,mb5.7
NJ2 AMB AMB
comp=Z,510nm,11.2s
NJ2 LR LR
comp=N,1μm,20.6s
NJ2 LR LR
comp=E,670nm,14.8s
PMOR Pomariorio Ree 54.25 102 *e*P **P 09 21 46.7 -0.1**
comp=E,137nm,1.1s,mb5.8
POHA Pohakuloa 54.45 59 *e*P **P 09 21 48.0 -0.2**
comp=E,167nm,1.0s,mb5.9
VLA Vladivostok 56.12 338⇑*e*P **P 09 22 00.0 +0.2**
VLA pmax pmax
comp=Z,182nm,1.9s,mb5.8
WHN Wuhan 56.31 315 ⇓P **P 09 22 02.0 +0.5**
WHN S **S 09 29 51.3 -0.8**
WHN AMB AMB
comp=Z,589nm,8.2s
WHN LR LR
comp=Z,1μm,18.1s,MS5.0
YSS Yuzh-Sakhalins 56.52 348 *e*P **P 09 22 02.6 -0.1**
comp=Z,52nm,1.0s,mb5.5
YSS LR LR
comp=Z,1μm,19.0s,MS5.0
YSS Yuzh-Sakhalins 56.52 348α*e*P **P 09 22 02.0 -0.6**
YSS *e* 09 22 58.0
YSS *e*PPP 09 25 26.0
YSS *e*S **S 09 30 02.0 +7.8**
YSS pmax pmax
comp=N,30nm,1.0s
YSS pmax pmax
comp=Z,60nm,1.0s,mb5.6
YSS MLR MLR
comp=N,500nm,18.0s
YSS MLR MLR
comp=Z,1μm,18.0s,MS5.0
DL2 Dalian 57.39 328 ⇑P **P 09 22 09.3 +0.4**
DL2 S **S 09 30 06.9 +1.0**
DL2 SCS ScS 09 31 57.4 -1.5
DL2 AMB AMB
comp=Z,100nm,0.9s,mb5.8
DL2 AMB AMB
comp=Z,150nm,5.7s
DL2 LR LR
comp=N,380nm,15.8s,MS4.7
DL2 LR LR
comp=E,230nm,14.7s,MS4.7
DL2 LR LR
comp=Z,300nm,15.2s,MS4.5
KULM Kulim 57.82 282 *e*P **P 09 22 11.6 -0.9**
TIA Tai'an 58.06 322 ⇑P **P 09 22 13.4 -0.4**
TIA AMB AMB
comp=Z,149nm,1.0s,mb6.0
MDJ Mudanjiang 58.26 337 P **P 09 22 14.7 -0.3**
MDJ XP sP 09 22 19.3 +0.7
MDJ PP PP 09 24 23.7 -0.4
MDJ S **S 09 30 17.6 +0.4**
MDJ SS SS 09 34 04.2 -5.2
MDJ AMB AMB
comp=Z,82nm,1.3s,mb5.6
MDJ AMB AMB
comp=Z,352nm,8.9s
MDJ LR LR
comp=N,218nm,24.0s,MS4.4
MDJ LR LR
comp=E,231nm,21.3s,MS4.4
MDJ LR LR
comp=Z,293nm,19.5s,MS4.4
MDJ Mudanjiang 58.26 337 PFAKE 09 22 30.0 +15
MDJ LR LR
comp=Z,511nm,19.0s,MS4.7
SNY Shenyang 58.60 331 ⇑P **P 09 22 17.2 -0.2**
SNY AP pP 09 22 26.8 +6.8
SNY S **S 09 30 18.5 -3.2**
SNY AMB AMB
comp=Z,35nm,0.9s,mb5.4
SNY AMB AMB
comp=Z,1μm,3.9s
SNY LR LR
comp=N,508nm,14.3s
SNY LR LR
comp=Z,574nm,17.4s,MS4.8
SKR Severo-Kuril's 58.82 359 *e*P **P 09 22 20.0 +1.3**
SKR *e* 09 30 17.0
SKR MLR MLR
comp=Z,1μm,18.0s,MS5.0
SKR MLR MLR
comp=E,2μm,20.0s
CN2 Changchun 59.29 334 ⇑P **P 09 22 22.3 +0.2**
CN2 *e*AP pP 09 22 26.9 +2.1
CN2 *e*XP sP 09 22 29.2 +3.4
CN2 *e*S **S 09 30 30.1 -0.5**
CN2 AMB AMB
comp=Z,10.0nm,0.9s,mb4.8
CN2 AMB AMB
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,500nm,14.0s,MS4.9
CN2 LR LR
comp=E,400nm,14.0s,MS4.9
CN2 LR LR
comp=Z,500nm,15.0s,MS4.8
DRV R 09 41 00.0
DRV Dumont d'Urvil 59.36 188 S **S 09 30 39.0 +8.1**
HABR Khabarovsk 59.82 343⇑*i*P **P 09 22 25.8 +0.1**
HABR *e*S **S 09 30 41.6 +4.3**
HABR pmax pmax
comp=Z,162nm,1.5s,mb5.8
GYA Guiyang 59.87 307⇑*i*P **P 09 22 28.4 +1.9**
GYA AP pP 09 22 32.4 +3.2
GYA XP sP 09 22 36.8 +6.6
GYA PCP PcP 09 23 15.2 +2.2
GYA PP PP 09 24 43.7 +4.9
GYA SCP ScP 09 27 14.6 +0.1
GYA S **S 09 30 40.2 +1.5**
GYA SCS ScS 09 32 16.2 -1.5
GYA SS SS 09 34 38.1 +2.8
GYA AMB AMB
comp=Z,60nm,1.0s,mb5.6
GYA AMB AMB
comp=Z,240nm,6.8s
GYA LR LR
comp=N,2μm,22.6s,MS5.3
GYA LR LR
comp=E,2μm,20.2s,MS5.3
GYA LR LR
comp=Z,2μm,22.8s,MS5.1
BJT Baijiatuau 61.17 325 *e*P **P 09 22 34.9 -0.2**
comp=Z,66nm,1.0s,mb5.7
BJT LR LR
comp=Z,613nm,20.0s,MS4.8
BJT Baijiatuau 61.17 325 *e*P **P 09 22 34.9 -0.2**
BJT pmax pmax
comp=Z,66nm,1.0s
BJT MLR MLR
comp=Z,613nm,20.0s
PET Petropavlovsk 61.17 1 *e*P **P 09 22 33.9 -1.0**
comp=Z,87nm,1.3s,mb5.7
PET LR LR
comp=Z,1μm,20.0s,MS5.0
PET Petropavlovsk 61.17 1α*i*P **P 09 22 33.9 -0.9**
PET *i*S **S 09 30 52.1 -2.3**
PET *e*SS SS 09 34 54.5 -0.3
PET pmax pmax
comp=Z,60nm,0.9s,mb5.7
BJI Beijing 61.18 325 P **P 09 22 35.2 0.0**
BJI XP sP 09 22 40.9 +2.0
BJI S **S 09 30 55.0 0.0**
BJI XS sS 09 31 03.2 +3.7
BJI AMB AMB
comp=Z,63nm,1.3s,mb5.6
BJI AMB AMB
comp=Z,572nm,4.1s
BJI LR LR
comp=N,498nm,16.4s,MS4.8
BJI LR LR
comp=E,391nm,18.1s,MS4.8
BJI LR LR
comp=Z,379nm,19.3s,MS4.6
NST Nakhon Sawan 61.18 293 P **P 09 22 35.0 -0.6**
TIY Taiyuan 61.91 321⇑*i*P **P 09 22 40.4 +0.3**
TIY S **S 09 31 04.0 -0.4**
TIY LR LR
comp=N,474nm,11.1s,MS5.0
TIY LR LR
comp=E,363nm,13.6s,MS5.0
TIY LR LR
comp=Z,441nm,14.7s,MS4.8
TAOE Nuku Hiva Isla 62.07 96 *e*LR LR 09 41 03.0
comp=Z,24μm,22.3s
XAN Xi'an 62.08 316 P **P 09 22 41.3 -0.1**
XAN AP pP 09 22 48.5 +4.4
XAN XP sP 09 22 52.4 +7.3
XAN S **S 09 31 04.6 -2.1**
XAN SS SS 09 35 02.9 -6.8
XAN AMB AMB
comp=Z,30nm,1.1s,mb5.3
XAN AMB AMB
comp=Z,241nm,6.6s
XAN LR LR
comp=E,423nm,18.2s
XAN LR LR
comp=Z,555nm,20.9s,MS4.7
KMI Kunming 62.44 304 ⇑P **P 09 22 45.1 +1.2**
KMI AP pP 09 22 47.5 +0.9
KMI XP sP 09 22 48.8 +1.2
KMI PP PP 09 25 06.2 +4.7
KMI S **S 09 31 13.8 +2.3**
KMI XS sS 09 31 18.1 +2.2
KMI SKS 09 32 33.9
KMI SS SS 09 35 15.5 -0.1
KMI AMB AMB
comp=Z,23nm,1.1s,mb5.2
KMI AMB AMB
comp=Z,306nm,5.5s
KMI LR LR
comp=N,462nm,18.7s,MS4.8
KMI LR LR
comp=E,419nm,18.7s,MS4.8
KMI LR LR
comp=Z,525nm,17.1s,MS4.8
SMY Shemya 62.59 12 PFAKE 09 23 00.0 +16
SMY LR LR
comp=Z,1μm,21.0s,MS5.1
CHRT Chiangrai 62.92 297 ⇑P **P 09 22 48.0 +0.7**
comp=Z,224nm,1.0s,mb6.2
CM31 Chiang Mai Arr 63.17 295 PFAKE 09 23 00.0 +11
CM31 LR LR
comp=Z,315nm,19.0s,MS4.5
CHG Chiang Mai 63.29 296 ⇑P **P 09 22 50.7 +0.9**
comp=Z,50nm,1.0s,mb5.6
CHTO Chiang Mai 63.29 296 *e*P **P 09 22 50.7 +1.0**
comp=Z,73nm,1.3s,mb5.7
CHTO LR LR
comp=Z,292nm,19.0s,MS4.5
ADK Adak 64.13 18 PFAKE 09 23 10.0 +15
ADK LR LR
comp=Z,2μm,20.0s,MS5.2
CD2 Chengdu 64.22 310 *e*P **P 09 22 55.9 +0.2**
CD2 AP pP 09 23 00.6 +2.2
CD2 XP sP 09 23 03.8 +4.4
CD2 PP PP 09 25 19.9 +2.8
CD2 PCS 09 27 32.2
CD2 S **S 09 31 32.4 -1.2**
CD2 XS sS 09 31 40.1 +2.1
CD2 SCS ScS 09 32 45.9 -4.5
CD2 SS SS 09 35 43.9 +0.6
CD2 AMB AMB
comp=Z,70nm,0.7s,mb5.8
CD2 AMB AMB
comp=Z,540nm,9.5s
CD2 LR LR
comp=N,570nm,17.8s,MS4.9
CD2 LR LR
comp=E,570nm,20.2s,MS4.9
CD2 LR LR
comp=Z,500nm,16.6s,MS4.8
HHC Hu-ho-hao-te 64.38 323⇑*i*P **P 09 22 57.5 +1.0**
HHC AP pP 09 23 02.1 +2.9
HHC XP sP 09 23 04.5 +4.3
HHC PP PP 09 25 19.7 +1.4
HHC SCP 09 27 34.2
HHC S **S 09 31 37.3 +2.1**
HHC XS sS 09 31 44.0 +4.4
HHC SCS ScS 09 32 49.1 -2.1
HHC SS SS 09 35 44.3 -1.1
HHC AMB AMB
comp=Z,71nm,0.9s,mb5.7
HHC AMB AMB
comp=Z,439nm,4.3s
HHC LR LR
comp=N,400nm,18.1s,MS4.8
HHC LR LR
comp=E,367nm,14.2s,MS4.8
HHC LR LR
comp=Z,391nm,16.7s,MS4.7
BTO Baotou 65.16 322 *e*P **P 09 23 02.8 +1.2**
CASY Casey 65.92 199 *e*P **P 09 23 05.1 -1.0**
CASY LR LR
comp=Z,2μm,21.0s,MS5.3
HIA Hailar 66.01 334 *e*P **P 09 23 07.1 +0.2**
comp=Z,53nm,0.8s,mb5.6
HIA LR LR
comp=Z,490nm,20.0s,MS4.7
HIA Hailar 66.01 334 *e*P **P 09 23 07.1 +0.2**
HIA pmax pmax
comp=Z,53nm,0.8s
HIA MLR MLR
comp=Z,490nm,20.0s
LZH Lanzhou 66.69 315 ⇑P **P 09 23 12.7 +1.1**
LZH PP PP 09 25 41.5 +2.9
LZH S S 09 32 04.2 +0.5
LZH XS sS 09 32 11.3 +3.2
LZH SS SS 09 36 23.8 +2.2
LZH AMB AMB
comp=Z,69nm,1.2s,mb5.6
LZH AMB AMB
comp=Z,246nm,7.7s
LZH LR LR
comp=E,839nm,15.6s
LZH LR LR
comp=Z,1μm,18.3s,MS5.2
MA2 Magadan 67.91 357 *e*P **P 09 23 17.9 -0.9**
comp=Z,50nm,1.0s,mb5.5
MA2 LR LR
comp=Z,659nm,22.0s,MS4.8
MA2 Magadan 67.91 357*c i*P **P 09 23 17.8 -1.0**
MA2 *e* 09 23 23.2
MA2 *e* 09 23 50.3
MA2 *e*PPP 09 27 23.1
MA2 *e*S S 09 32 13.0 -4.4
MA2 *e* 09 33 11.2
MA2 *e*SS SS 09 36 35.9 -3.6
MA2 pmax pmax
comp=N,20nm,0.9s
MA2 pmax pmax
comp=Z,60nm,0.9s,mb5.6
MA2 MLR MLR
comp=Z,600nm,19.0s,MS4.8
SBA Scott Base 69.64 178 *e*P **P 09 23 30.0 +0.6**
comp=Z,87nm,1.6s,mb5.4
SBA LR LR
comp=Z,1μm,20.0s,MS5.1
SBA Scott Base 69.64 178 *e*P **P 09 23 30.0 +0.6**
SBA pmax pmax
comp=Z,87nm,1.6s,mb5.4
SBA MLR MLR
comp=Z,1μm,20.0s,MS5.1
NRGR Nerungri 70.04 342 *e*P **P 09 23 33.5 +1.4**
NRGR S S 09 32 31.5 -11
NRGR pmax pmax
comp=Z,313nm,1.1s,mb6.2
NRGR smax
comp=N,31nm,0.6s
CLNS Chul'man 70.14 342 *e*P **P 09 23 32.9 +0.2**
CLNS *e**PP pP 09 23 40.3 +4.9
CLNS *e* 09 23 56.5
CLNS *e*S S 09 32 37.0 -6.9
CLNS *e*PS 09 33 02.6
CLNS pmax pmax
comp=N,49nm,0.8s
CLNS pmax pmax
comp=Z,103nm,0.8s,mb5.8
CLNS pmax pmax
comp=E,17nm,1.0s
CLNS smax
comp=N,100nm,10.7s
CLNS smax
comp=Z,59nm,10.4s
CLNS smax
comp=E,287nm,11.9s
CLNS MLR MLR
comp=N,200nm,15.0s,MS4.7
CLNS MLR MLR
comp=Z,500nm,15.0s,MS4.9
CLNS MLR MLR
comp=E,200nm,14.0s,MS4.7
CIT Chita 70.72 333 *e*P **P 09 23 35.7 -0.7**
CIT *e* 09 23 42.5
CIT *e* 09 23 53.0
CIT *e* 09 23 56.3
CIT pmax pmax
comp=Z,134nm,1.7s,mb5.6
GTA Gaotai 71.10 317 *e*P **P 09 23 40.3 +1.3**
GTA AP pP 09 23 44.0 +2.3
GTA XP sP 09 23 47.4 +4.7
GTA PP PP 09 26 18.6 +1.8
GTA S S 09 32 58.1 +2.2
GTA XS sS 09 33 01.9 +1.5
GTA SCS ScS 09 33 34.1 -10
GTA AMB AMB
comp=Z,53nm,1.7s,mb5.2
GTA AMB AMB
comp=Z,393nm,6.1s
GTA LR LR
comp=N,255nm,17.6s,MS4.8
GTA LR LR
comp=E,313nm,16.1s,MS4.8
GTA LR LR
comp=Z,264nm,19.5s,MS4.5
SEY Seymchan 71.18 358⇓*e*P **P 09 23 38.6 -0.3**
ULN Ulaanbaatar 71.23 327 PFAKE 09 23 50.0 +10
ULN LR LR
comp=Z,483nm,22.0s,MS4.7
SONM Songino Array 71.57 327 P **P 09 23 42.6 +1.0**
comp=Z,30nm,0.9s,mb5.2,baz=134,slow=5.5,SNR=148
SONM PKPPKP 09 51 36.8
comp=Z,1.5nm,1.0s,baz=343,slow=1.5,SNR=6.8
SONM LR LR 09 52 45.8
comp=Z,474nm,20.7s,MS4.7,baz=296,slow=34
MIR Mirnyy 72.17 202⇑*i*P **P 09 23 41.0 -3.9**
MIR *i* 09 23 48.0
MIR pmax pmax
comp=Z,200nm,1.0s,mb6.0
YAK Yakutsk 73.33 347 *e*P **P 09 23 51.6 -0.1**
comp=Z,204nm,0.9s,mb6.1
YAK LR LR
comp=Z,424nm,20.0s,MS4.7
YAK Yakutsk 73.33 347*c i*P **P 09 23 51.5 -0.3**
YAK *e**PP pP 09 23 57.9 +3.4
YAK *e* 09 24 06.5
YAK *e* 09 26 35.3
YAK *e*S S 09 33 21.9 +1.4
YAK *e* 09 34 02.7
YAK *e*SS SS 09 38 05.3 +2.5
YAK pmax pmax
comp=Z,214nm,1.0s,mb6.0
YAK pmax pmax
comp=N,48nm,1.1s
YAK pmax pmax
comp=E,28nm,1.1s
YAK pmax pmax
comp=Z,23nm,0.6s,mb5.3
YAK smax
comp=E,243nm,4.6s
YAK smax
comp=N,197nm,5.3s
YAK MLR MLR
comp=N,411nm,19.0s,MS4.8
YAK MLR MLR
comp=Z,441nm,19.0s,MS4.8
YAK MLR MLR
comp=E,226nm,15.0s,MS4.8
LSA Lhasa 73.69 304 P **P 09 23 56.3 +1.7**
LSA Lhasa 73.69 304 *e*P **P 09 23 56.2 +1.6**
comp=E,66nm,1.3s,mb5.4
LSA LR LR
comp=Z,313nm,21.0s,MS4.6
LSA Lhasa 73.69 304 *e*P **P 09 23 56.2 +1.6**
LSA pmax pmax
comp=Z,66nm,1.3s,mb5.4
LSA MLR MLR
comp=Z,313nm,21.0s,MS4.6
BOD Bodaibo 74.63 338⇓*i*P **P 09 23 58.7 -0.8**
BOD pmax pmax
comp=Z,49nm,1.1s,mb5.3
ZAK Zakamensk 74.71 328⇓*i*P **P 09 24 00.2 +0.1**
ZAK pmax pmax
comp=Z,32nm,1.1s,mb5.2
TLY Talaya 75.26 329 P **P 09 24 03.8 +0.5**
comp=Z,269nm,0.9s,mb6.2,SNR=17
TLY Talaya 75.26 329 *e*P **P 09 24 03.5 +0.3**
comp=Z,49nm,1.0s,mb5.4
TLY LR LR
comp=Z,357nm,19.0s,MS4.7
TLY Talaya 75.26 329⇑*i*P **P 09 24 03.7 +0.4**
TLY *e*S S 09 33 39.6 -3.0
TLY *e*SS SS 09 38 31.6 -1.0
TLY pmax pmax
comp=Z,59nm,1.1s,mb5.4
TLY MLR MLR
comp=Z,270nm,17.0s,MS4.6
IRK Irkutsk 75.27 330 *e*P **P 09 24 03.1 -0.2**
IRK *e* 09 24 19.8
IRK pmax pmax
comp=Z,95nm,0.9s,mb5.7

BILL Bilibino 76.51 4 *eP* **P 09 24 09.7 -0.3**
comp=Z,78nm,1.0s,mb5.6
BILL LR LR
comp=Z,580nm,21.0s,MS4.9
BILL Bilibino 76.51 4α *iP* **P 09 24 09.1 -1.0**
BILL *e* 09 24 25.4
BILL *e*S S 09 34 00.8 +5.0
BILL pmax pmax
comp=Z,131nm,1.4s,mb5.7
BILL MLR MLR
comp=Z,300nm,17.0s,MS4.7
MOY Mondy 76.63 328 *eP* **P 09 24 11.7 +0.6**
MOY pmax pmax
comp=Z,75nm,1.4s,mb5.4
PALK Pallekele 77.63 279 *eP* **P 09 24 18.3 +0.8**
comp=Z,44nm,1.3s,mb5.2
PALK LR LR
comp=Z,418nm,21.0s,MS4.7
TNA Tin City 78.15 14 *eP* **P 09 24 19.0 -0.3**
comp=Z,19nm,1.1s,mb4.9
TNA LR LR
comp=Z,504nm,20.0s,MS4.8
SVW2 Sparrevohn 78.53 21 *eP* **P 09 24 19.5 -2.0**
TTA Tatalina 79.62 20 *eP* **P 09 24 27.1 -0.3**
SLKM Skilak Lake 80.18 24 *eP* **P 09 24 30.0 -0.5**
SLKM *e*PcP PcP 09 24 37.8 +0.1
WMQ Urumqi 81.19 317⇑ *iP* **P 09 24 36.8 +0.5**
WMQ AP pP 09 24 42.0 +2.9
WMQ PP PP 09 27 45.0 +3.2
WMQ S S 09 34 45.0 -1.7
WMQ XS sS 09 34 54.0 +2.7
WMQ AMB AMB
comp=Z,76nm,1.4s,mb5.4
WMQ AMB AMB
comp=Z,656nm,5.7s
WMQ LR LR
comp=N,358nm,11.1s,MS5.0
WMQ LR LR
comp=E,300nm,15.4s,MS5.0
WMQ LR LR
comp=Z,302nm,22.8s
PMR Palmer 81.26 23 PFAKE 09 24 50.0 +14
PMR LR LR
comp=Z,1μm,19.0s,MS5.2
HYB Hyderabad 81.60 289 *eP* **P 09 24 39.0 -0.1**
comp=Z,60nm,1.0s,mb5.5
HYB Hyderabad 81.60 289 *eP* **P 09 24 39.0 -0.1**
HYB pmax pmax
comp=Z,60nm,1.0s,mb5.5
HYB Hyderabad 81.60 289⇑ *iP* **P 09 24 39.5 +0.4**
comp=Z,60nm,1.0s,mb5.5
HYB *e*PcP PcP 09 24 45.0 0.0
HYB *e*S S 09 34 52.0 0.0
QSPA South Pole Qui 81.61 180 *eP* **P 09 24 38.3 +0.4**
comp=Z,98nm,1.0s,mb5.7
QSPA LR LR
comp=Z,913nm,20.0s,MS5.1
SML Sawmill 81.69 23 *eP* **P 09 24 37.9 -0.7**
TIXI Tiksi 82.00 351 *eP* **P 09 24 38.9 -1.1**
comp=Z,23nm,1.0s,mb5.1
TIXI LR LR
comp=Z,445nm,20.0s,MS4.8
TIXI Tiksi 82.00 351 *c iP* **P 09 24 38.8 -1.2**
TIXI pmax pmax
comp=Z,50nm,1.5s,mb5.2
TIXI MLR MLR
comp=Z,388nm,17.0s,MS4.8
IMA2 Indian Mountai 82.47 18 *eP* **P 09 24 41.3 -1.2**
MCK McKinley 82.59 21 PFAKE 09 24 50.0 +6.7
MCK LR LR
comp=Z,375nm,20.0s,MS4.8
LGTI Lohaghat 82.71 301 *eP* **P 09 24 46.5 +1.8**
COLA College 83.65 21 *eP* **P 09 24 46.8 -1.9**
comp=Z,47nm,0.9s,mb5.6
COLA LR LR
comp=Z,599nm,19.0s,MS5.0
COLA College 83.65 21 *eP* **P 09 24 46.8 -1.9**
COLA pmax pmax
comp=Z,47nm,0.9s,mb5.6
COLA MLR MLR
comp=Z,599nm,19.0s,MS5.0
AKL Akola 83.68 292 *eP* **P 09 24 49.7 -0.1**
AKL *ex* x 09 24 51.4
comp=Z,114nm,1.1s
AKL *i* x x 09 25 47.0
BHPL Bhopal 83.81 295 *eP* **P 09 24 50.3 -0.1**
BHPL AMb AMB 09 24 54.2
comp=Z,62nm,1.9s,mb5.4
MAW Mawson 83.90 203 *eP* **P 09 24 50.4 +0.4**
comp=Z,32nm,1.0s,mb5.4
MAW Mawson 83.90 203 *eP* **P 09 24 50.4 +0.4**
MAW pmax pmax
comp=Z,32nm,1.0s
MAW Mawson 83.90 203 P **P 09 24 50.3 +0.3**
comp=Z,46nm,1.1s,mb5.5,baz=109,slow=7.4,SNR=15
MAW LR LR 09 58 57.3
comp=Z,363nm,18.7s,MS4.8,baz=82,slow=33
MENT Mentasta 84.11 23 *eP* **P 09 24 50.9 -0.2**
NDI New Delhi 85.12 300 *eP* **P 09 24 55.5 -1.5**
SIT Sitka 85.17 30 PFAKE 09 25 10.0 +13
SIT LR LR
comp=Z,2μm,20.0s,MS5.5
KAD Karad 85.68 288 *eP* **P 09 24 59.5 -0.6**
KAD AMb AMB 09 25 01.4
comp=Z,79nm,0.9s,mb5.9
MK31 Makanchi Array 85.75 318 *eP* **P 09 25 00.0 +0.3**
MKAR Makanchi Array 85.75 318 P **P 09 24 59.9 +0.2**
MKAR PKKP PKKPbc 09 43 00.3 -3.3
MKAR P'P' 09 51 08.0
MKAR LR LR 10 02 06.1
MKAR Makanchi Array 85.75 318 P **P 09 24 59.9 +0.2**
comp=Z,54nm,0.8s,mb5.8,baz=101,slow=5.9,SNR=359
MKAR PKKP PKKPbc 09 43 00.3 -3.3
comp=Z,0.7nm,0.6s,baz=270,slow=2.4,SNR=4.8
MKAR PKPPKP 09 51 08.0
comp=Z,0.3nm,0.2s,baz=288,slow=1.4,SNR=3.4
MKAR LR LR 10 02 06.1
comp=Z,221nm,20.1s,MS4.5,baz=263,slow=35
EGAK Eagle 86.02 22 *eP* **P 09 25 00.7 0.0**
comp=Z,40nm,1.2s,mb5.5
EGAK LR LR
comp=Z,674nm,22.0s,MS5.0
SKAG Skagway 86.12 28 *eP* **P 09 25 01.1 -0.1**
comp=Z,176nm,2.4s,mb5.9
POO Poona 86.21 289 *eP* **P 09 25 02.0 -0.6**
POO *eP* 09 25 02.2
POO AMb AMB 09 25 07.8
comp=Z,52nm,1.2s,mb5.6
DAWY Dawson 86.36 23 *eP* **P 09 25 02.3 0.0**
ZAA0 Zalesovo Array 86.43 326 *eP* **P 09 25 01.9 -1.0**
ZALV Zalesovo Beam 86.43 326 P **P 09 25 01.8 -1.1**
ZALV P'P' 09 51 08.4
ZALV LR LR 10 07 01.0
ZALV Zalesovo Beam 86.43 326 P **P 09 25 01.8 -1.1**
comp=Z,22nm,0.8s,mb5.4,baz=110,slow=5.3,SNR=86
ZALV PKPPKP 09 51 08.4
comp=Z,0.4nm,0.4s,baz=325,slow=2.3,SNR=4.4
ZALV LR LR 10 07 01.0
comp=Z,142nm,18.6s,MS4.4,baz=260,slow=38
ZAL Zalesovo 86.44 326 P **P 09 25 01.8 -1.1**
WRAK Wrangell Islan 86.45 32 PFAKE 09 25 10.0 +7.1
WRAK LR LR
comp=Z,1μm,21.0s,MS5.3
AJM Ajmer 86.92 297 *eP* **P 09 25 04.6 -1.4**
AJM *eP* 09 25 05.0
AJM AMb AMB 09 25 09.0
comp=Z,103nm,1.4s,mb5.9
THN Thein Dam 87.16 303 *eP* **P 09 25 05.9 -1.1**
MCCM Marconi Confer 87.42 51 PFAKE 09 25 20.0 +12
MCCM LR LR
comp=Z,529nm,22.0s,MS4.9
HOPS Hopland 87.46 50 PFAKE 09 25 20.0 +12
HOPS LR LR
comp=Z,654nm,20.0s,MS5.0
HOPS Hopland 87.46 50 ⇓P **P 09 25 08.6 +0.3**
baz=88
NVS Novosibirsk 87.60 326 *eP* **P 09 25 07.2 -1.4**
NVS pmax pmax
comp=E,99nm,2.2s
NVS pmax pmax
comp=Z,109nm,2.2s,mb5.7
NVS pmax pmax
comp=N,62nm,2.4s
N02C Big Bar 87.69 48 ⇓P **P 09 25 09.6 +0.2**
baz=88

L02A Cave Junction 87.78 47⇑P **P 09 25 09.4 -0.4**
baz=88
CVS Carmenet Viney 87.79 51⇑P **P 09 25 10.4 +0.5**
baz=88
MNRC McLaughlin Nat 87.92 50⇓P **P 09 25 10.2 -0.2**
baz=88
O02C Red Bluff 87.94 49⇑P **P 09 25 10.8 +0.3**
baz=88,SNR=7.1
I02A Mapleton 88.05 45⇑P **P 09 25 10.7 -0.3**
baz=88
J02A Umpqua 88.08 46⇓P **P 09 25 10.9 -0.2**
baz=88
HAST Hastings Reser 88.09 53⇑P **P 09 25 11.0 -0.3**
baz=88
M02C Callahan 88.15 48 P **P 09 25 12.1 +0.6**
baz=88,SNR=6.6
WDC Whiskeytown Da 88.21 49 PFAKE 09 25 20.0 +8.2
WDC LR LR
comp=Z,587nm,19.0s,MS5.0
WDC Whiskeytown Da 88.21 49⇑P **P 09 25 12.1 +0.3**
baz=88
SAO San Andreas Ge 88.25 53 PFAKE 09 25 20.0 +7.9
SAO LR LR
comp=Z,1μm,21.0s,MS5.2
V03C Hunter Liggett 88.26 53⇑P **P 09 25 12.6 +0.4**
baz=88,SNR=5.1
YBH Yreka Blue Hor 88.33 48 *eP* **P 09 25 12.6 +0.2**
comp=Z,7.7nm,0.9s,mb4.9
YBH LR LR
comp=Z,764nm,21.0s,MS5.1
YBH Yreka Blue Hor 88.33 48 *eP* **P 09 25 12.6 +0.2**
YBH pmax pmax
comp=Z,8.0nm,0.9s
YBH MLR MLR
comp=Z,764nm,21.0s
YBH Yreka Blue Hor 88.33 48 P **P 09 25 13.1 +0.7**
baz=88,SNR=7.7
HUMO Hull Mountain 88.35 47 *eP* **P 09 25 12.4 -0.1**
comp=Z,11nm,0.8s,mb5.2
HUMO LR LR
comp=Z,932nm,20.0s,MS5.2
HUMO Hull Mountain 88.35 47 P **P 09 25 13.0 +0.6**
baz=88,SNR=11
KSH Kashi 88.42 310 P **P 09 25 14.7 +1.9**
KSH AP pP 09 25 19.7 +4.1
KSH XP sP 09 25 22.0 +5.4
KSH PP PP 09 28 46.2 +5.4
KSH SKS 09 35 41.5
KSH S S 09 35 59.6 +0.8
KSH XS sS 09 36 07.6 +4.2
KSH LR LR
comp=Z,880nm,6.8s
PACP Pacheco Peak 88.42 52 P **P 09 25 13.6 +0.7**
baz=88,SNR=6.6
V04C Ramage Ranch, 88.48 54⇓P **P 09 25 13.2 0.0**
baz=88
S04C Ingram Canyon, 88.49 52⇑P **P 09 25 13.0 -0.2**
baz=88
SUTB Sutter Butte 88.49 50⇓P **P 09 25 12.9 -0.2**
baz=88
J03A Ideyld Park 88.51 46⇑P **P 09 25 13.5 +0.3**
baz=89
COR Corvallis 88.55 45 PFAKE 09 25 20.0 +6.7
COR LR LR
comp=Z,1μm,20.0s,MS5.3
H03A Soap Creek Ran 88.58 45⇓P **P 09 25 13.4 -0.1**
baz=89
M03C McCloud 88.67 48⇓P **P 09 25 14.2 +0.2**
baz=89,SNR=8.7
LHEM Herd Peak 88.67 48 P **P 09 25 14.3 +0.4**
F03A Seaside 88.68 43⇑P **P 09 25 13.7 -0.3**
baz=89
U04C Hernandez Rese 88.69 53⇓P **P 09 25 15.0 +0.8**
baz=89,SNR=7.4
OHCM Honcut 88.74 50 *eP* **P 09 25 13.7 -0.7**
ORV Oroville 88.77 50⇑P **P 09 25 14.4 -0.1**
baz=89,SNR=5.3
ULHL Ulahol 88.80 313 P **P 09 25 15.4 +0.8**
SNR=55
PKD Parkfield 88.80 54⇑P **P 09 25 14.9 +0.1**
baz=89,SNR=8.7
NLWA Neilton Lookou 88.81 42 PFAKE 09 25 30.0 +15
NLWA LR LR
comp=Z,928nm,19.0s,MS5.2
NLWA Neilton Lookou 88.81 42⇓P **P 09 25 14.4 -0.1**
baz=89
E03A Lebam 88.82 43 P **P 09 25 14.5 -0.1**
baz=89,SNR=5.5
M04C Macdoel 88.98 48⇓P **P 09 25 15.8 +0.3**
baz=89
I04A Tendick Farm, 89.00 46⇓P **P 09 25 15.0 -0.5**
baz=89
PTRM Twissleman Ran 89.01 54 *eP* **P 09 25 16.5 +0.8**
HATC Hat Creek Radi 89.06 49⇓P **P 09 25 15.4 -0.5**
baz=89
J04A Umpqua Nationa 89.09 46⇓P **P 09 25 15.8 -0.1**
baz=89
SMMC Simmler 89.11 54⇓P **P 09 25 16.6 +0.4**
baz=89
SNCC San Nicolas Is 89.12 56 PFAKE 09 25 30.0 +14
SNCC LR LR
comp=Z,1μm,19.0s,MS5.4
SNCC San Nicolas Is 89.12 56⇑P **P 09 25 16.5 +0.2**
baz=89
KURK Kurchatov 89.14 321 P **P 09 25 15.2 -0.8**
comp=Z,158nm,1.3s,mb6.2,SNR=20
KURK Kurchatov 89.14 321 *eP* **P 09 25 15.0 -0.9**
comp=Z,51nm,1.3s,mb5.7
KURK LR LR
comp=Z,417nm,20.0s,MS4.9
KURK Kurchatov 89.14 321 P **P 09 25 15.1 -0.9**
KURK pmax pmax
comp=Z,51nm,1.3s,mb5.7
PKM Peak Mountain 89.18 55⇓P **P 09 25 17.1 +0.6**
baz=89,SNR=8.5
LAVA Lava Cap Winer 89.19 51⇑P **P 09 25 16.7 +0.2**
baz=89
U05C Westside ANR, 89.21 53⇓P **P 09 25 16.9 +0.3**
baz=89
K04A Chilquin 89.23 47⇓P **P 09 25 16.7 +0.1**
baz=89
S05C Merced 89.24 52 P **P 09 25 17.2 +0.4**
baz=89,SNR=6.9
O04C Chester 89.24 49 P **P 09 25 17.4 +0.7**
baz=89,SNR=9.9
G04A Mulino 89.26 44⇑P **P 09 25 16.7 +0.1**
baz=89
O05C Quincy 89.29 50⇑P **P 09 25 17.2 +0.3**
baz=89
V05C Boulder Hill, 89.29 54⇑P **P 09 25 17.7 +0.6**
baz=89
CMB Columbia Colle 89.32 52 PFAKE 09 25 30.0 +13
CMB LR LR
comp=Z,623nm,21.0s,MS5.0
CMB Columbia Colle 89.32 52⇓P **P 09 25 16.3 -0.8**
baz=89
H04A Detroit Lake 89.35 45⇑P **P 09 25 16.3 -0.8**
baz=89
E04A Onalaska 89.40 43⇑P **P 09 25 17.1 -0.1**
baz=89
P05C Yuba Gap, Truc 89.40 50⇓P **P 09 25 17.8 +0.4**
baz=89,SNR=5.5
M05C Lookout 89.40 48⇓P **P 09 25 17.4 -0.1**
baz=89
TKM2 Tokmak 2 89.40 313 *eP* **P 09 25 17.6 +0.2**
comp=Z,32nm,0.8s,mb5.7
TKM2 LR LR
comp=Z,226nm,20.0s,MS4.6
TKM2 Tokmak 2 89.40 313 P **P 09 25 17.7 +0.3**
TKM2 pmax pmax
comp=Z,32nm,0.8s,mb5.7
TKM2 Tokmak 2 89.40 313 P **P 09 25 17.7 +0.3**
SNR=33
F04A Amboy 89.45 44⇓P **P 09 25 16.9 -0.7**
baz=90
C04A Brinnon 89.48 42⇓P **P 09 25 17.2 -0.5**
baz=90
KZA Kyzart 89.48 313 P **P 09 25 19.2 +1.4**
SNR=67
ELFS Eagle Lake Fie 89.57 49⇓P **P 09 25 18.0 -0.2**
baz=90
T06C Millerton Lake 89.66 53 P **P 09 25 18.8 0.0**
baz=90,SNR=12
R05C Kirkwood Meado 89.69 51⇓P **P 09 25 19.2 +0.3**
baz=90,SNR=6.5
BEKR Beckwourth 89.70 50⇓P **P 09 25 19.1 +0.2**
baz=90

J05A Fort Rock 89.73 46 P **P 09 25 19.0 +0.1**
baz=90,SNR=13
L05A Lakeview 89.77 48 P **P 09 25 19.1 0.0**
baz=90,SNR=6.7
KBK Karagaybulak 89.82 313 P **P 09 25 19.8 +0.4**
SNR=13
K05A Summer Lake 89.86 47 P **P 09 25 19.9 +0.4**
baz=90,SNR=9.8
M06C Likely Place G 89.87 48⇑P **P 09 25 19.9 +0.3**
baz=90
SCI San Clemente I 89.88 57⇓P **P 09 25 19.2 -0.6**
baz=90
I05A Bend 89.88 45⇑P **P 09 25 19.2 -0.4**
baz=90
RCTC Rector, Farmer 89.90 53⇓P **P 09 25 19.4 -0.5**
baz=90
VES Vestal, Richgr 89.95 54 P **P 09 25 19.7 -0.4**
baz=90,SNR=12
H05A Madras 90.01 45⇓P **P 09 25 19.7 -0.5**
baz=90
P06A Stead Airport, 90.01 50⇑P **P 09 25 20.3 0.0**
baz=90
D05A Enumclaw 90.02 42⇓P **P 09 25 20.0 -0.1**
baz=90
OSI Osito Adit 90.02 55⇑P **P 09 25 20.7 +0.2**
baz=90
ARVC Arvin 90.02 55⇓P **P 09 25 20.7 +0.2**
baz=90,SNR=9.7
KCC Kaiser Creek 90.02 52⇓P **P 09 25 19.7 -0.7**
baz=90,SNR=8.5
CHMS Chumysh 90.03 313 P **P 09 25 20.5 +0.2**
SNR=14
E05A Randle 90.04 43⇓P **P 09 25 19.4 -0.9**
baz=90
WCN Washoe City 90.05 50 P **P 09 25 21.1 +0.6**
baz=90,SNR=8.6
UCH Uchtor 90.05 313 PFAKE 09 25 30.0 +10
UCH LR LR
comp=Z,402nm,19.0s,MS4.9
UCH Uchtor 90.05 313 P **P 09 25 21.7 +1.2**
SNR=34
G05A Wamic 90.07 44⇓P **P 09 25 19.9 -0.6**
baz=90
CIS Catalina Islan 90.07 56⇑P **P 09 25 20.7 0.0**
baz=90,SNR=7.2
FRU Bishkek 90.09 313⇑ *iP* **P 09 25 20.0 -0.6**
FRU pmax pmax
comp=Z,112nm,2.0s,mb5.8
F05A White Salmon 90.10 44⇑P **P 09 25 20.3 -0.3**
baz=90
MOD Modoc 90.13 48 PFAKE 09 25 30.0 +9.2
MOD LR LR
comp=Z,667nm,19.0s,MS5.1
MOD Modoc 90.13 48 P **P 09 25 20.9 +0.1**
baz=90,SNR=7.7
R06C Coleville 90.14 51⇑P **P 09 25 21.0 +0.1**
baz=90
AAK Ala-Archa 90.14 313 P **P 09 25 20.4 -0.5**
comp=Z,208nm,0.7s,mb6.6,SNR=24
AAK Ala-Archa 90.14 313 P **P 09 25 21.1 +0.3**
SNR=32
HELL Mitchell Peak 90.14 53 P **P 09 25 20.9 -0.1**
baz=90,SNR=29
O06A Flanigan 90.15 50 P **P 09 25 21.7 +0.7**
baz=90,SNR=12
B05A Bryant 90.17 41⇑P **P 09 25 20.5 -0.3**
baz=90
WPW White Pass 90.21 43 P **P 09 25 20.5 -0.6**
N06A Buffalo Meadow 90.26 49⇑P **P 09 25 21.7 +0.3**
baz=90,SNR=8.6
USP Ospenovka 90.26 314 P **P 09 25 21.6 +0.2**
SNR=20
DECC Green Verdugo 90.28 56⇑P **P 09 25 21.6 -0.1**
baz=90
INK Inuvik 90.30 20 *eP* **P 09 25 20.2 -0.8**
comp=Z,225nm,0.9s,mb6.5
K06A Valley Falls 90.34 47 P **P 09 25 21.8 0.0**
baz=90,SNR=7.8
R07C Lee Vining 90.37 52⇑P **P 09 25 22.3 +0.3**
baz=90,SNR=7.5
ISA Isabella 90.40 54 *eP* **P 09 25 22.0 -0.2**
comp=Z,19nm,1.1s,mb5.3
ISA LR LR
comp=Z,812nm,20.0s,MS5.2
ISA Isabella 90.40 54 P **P 09 25 22.3 +0.1**
baz=90,SNR=18
J06A Christmas Vall 90.50 46 P **P 09 25 22.1 -0.4**
baz=90,SNR=11
F06A Goldendale 90.54 44⇓P **P 09 25 22.1 -0.6**
baz=91
E06A Yakima 90.56 43 P **P 09 25 22.4 -0.3**
baz=91,SNR=6.4
I06A Prineville 90.59 46 P **P 09 25 22.9 +0.1**
baz=91,SNR=14
MTUM Tungsten Hills 90.62 52 *eP* **P 09 25 23.2 0.0**
AML Almayashu 90.63 312 PFAKE 09 25 30.0 +6.9
AML LR LR
comp=Z,415nm,20.0s,MS4.9
AML Almayashu 90.63 312 P **P 09 25 24.3 +1.1**
SNR=40
H06A Lindquist Farm 90.65 45 P **P 09 25 22.6 -0.6**
baz=91,SNR=5.5
EDW2 Edwards Air Fo 90.66 55 P **P 09 25 24.0 +0.5**
baz=91,SNR=19
EKS2 Erkin-Say 90.67 313 *eP* **P 09 25 23.5 +0.2**
EKS2 LR LR
comp=Z,275nm,21.0s,MS4.7
EKS2 Erkin-Say 90.67 313 P **P 09 25 23.8 +0.5**
SNR=28
D06A Cle Elum 90.78 43⇑P **P 09 25 23.2 -0.5**
baz=91
BFSC Mount Baldy St 90.82 56 P **P 09 25 24.4 +0.2**
baz=91,SNR=15
TIN Tinemaha 90.83 53⇑P **P 09 25 24.5 +0.2**
baz=91,SNR=10
CWC Cottonwood Cre 90.85 53⇓P **P 09 25 24.3 0.0**
baz=91
L07A Adell 90.86 48 P **P 09 25 24.8 +0.6**
baz=91,SNR=24
M07A Soldier Meadow 90.87 48⇑P **P 09 25 24.5 +0.3**
baz=91
N07B Gerlach 90.91 49⇓P **P 09 25 25.0 +0.5**
baz=91,SNR=10
S08C White Mtn Res 90.95 52 P **P 09 25 25.6 +0.8**
baz=91,SNR=15
LRMC Laurel Mountai 91.00 54 P **P 09 25 25.9 +0.9**
baz=91,SNR=6.2
NVAR Mina Array Bea 91.01 51 P **P 09 25 25.4 +0.4**
comp=Z,13nm,1.0s,mb5.2,baz=237,slow=3.9,SNR=52
NVAR PKKP PKKPbc 09 42 50.6 +0.3
comp=Z,0.4nm,0.8s,baz=98,slow=1.2,SNR=4.3
K07A Rock Creek Ran 91.05 47 P **P 09 25 25.2 +0.2**
baz=91,SNR=18
109C Camp Elliot, M 91.06 57⇑P **P 09 25 25.7 +0.3**
baz=91
MURC Murrieta 91.09 56⇑P **P 09 25 25.3 -0.2**
baz=91
I07A Izee 91.11 46 P **P 09 25 25.2 -0.2**
baz=91,SNR=16
J07A Hines 91.12 46 P **P 09 25 25.5 +0.1**
baz=91,SNR=11
R08A Mina 91.15 52 P **P 09 25 26.2 +0.5**
baz=91,SNR=16
F07A Phinny Hill Vi 91.15 44⇑P **P 09 25 24.9 -0.6**
baz=91
H07A Lands Inn, Kim 91.16 45 P **P 09 25 25.0 -0.6**
baz=91,SNR=8.2
G07A Ruggs Ranch, H 91.21 45 P **P 09 25 25.1 -0.7**
baz=91,SNR=10
MPMC Manual Prospec 91.25 54 P **P 09 25 26.8 +0.6**
baz=91,SNR=28
D07A Quincy 91.36 43⇓P **P 09 25 25.8 -0.7**
baz=91
Q08A Gabbs 91.37 51 P **P 09 25 26.9 +0.3**
baz=91,SNR=17
P08A Dixie Valley 91.39 50⇑P **P 09 25 26.7 -0.1**
baz=91
C07A Waterville 91.40 42 P **P 09 25 25.3 -1.3**
baz=91,SNR=5.8
BBRC Big Bear Sol-O 91.43 56⇓P **P 09 25 26.9 -0.1**
baz=91,SNR=5.7
A07A Ashnola River, 91.44 41⇑P **P 09 25 27.0 +0.3**
baz=92
WVOR Wild Horse Val 91.44 47 *eP* **P 09 25 26.9 0.0**
comp=Z,23nm,1.0s,mb5.5
WVOR LR LR
comp=Z,607nm,20.0s,MS5.0
M08A Happy Creek Ra 91.47 48⇓P **P 09 25 27.5 +0.5**

baz=92,SNR=10
GRAC Grapevine Rang 91.50 53 ⇑P P 09 25 27.6 +0.2
baz=92,SNR=24
B07A Winthrop 91.50 41 P P 09 25 26.4 -0.6
baz=92,SNR=5.3
HAWA Hanford 91.51 43 eP P 09 25 26.6 -0.5
comp=Z,6.1nm,0.8s,mb5.0
HAWA LR LR
comp=Z,1µm,20.0s,MS5.3
N08A GE Springer Mi 91.53 49 P P 09 25 27.8 +0.4
baz=92,SNR=14
K08A Mann Creek Ran 91.61 47 P P 09 25 27.6 0.0
baz=92,SNR=8.0
L08A Fields 91.62 48 P P 09 25 28.1 +0.3
baz=92,SNR=23
MONP Monument Peak 91.63 57 ⇓P P 09 25 27.8 -0.2
baz=92,SNR=8.3
GSC Goldstone 91.69 55 eP P 09 25 28.2 0.0
comp=Z,15nm,1.0s,mb5.3
GSC LR LR
comp=Z,944nm,19.0s,MS5.2
GSC Goldstone 91.69 55 P P 09 25 28.5 +0.3
baz=92,SNR=9.3
PFO Pinyon Flat Ob 91.71 56 P P 09 25 29.0 +0.6
comp=Z,80nm,1.1s,mb6.0,SNR=5.6
PFO Pinyon Flat Ob 91.71 56 eP P 09 25 28.6 +0.2
comp=Z,24nm,1.3s,mb5.4
PFO LR LR
comp=Z,1µm,21.0s,MS5.4
PFO Pinyon Flat Ob 91.71 56 P P 09 25 29.0 +0.6
PFO pmax pmax
comp=Z,23nm,1.2s,mb5.4
PFO Pinyon Flat Ob 91.71 56 ⇑P P 09 25 28.7 +0.3
baz=92,SNR=8.3
G08A Pilot Rock 91.71 45 ⇑P P 09 25 27.6 -0.5
baz=92,SNR=10
J08A Circle Bar Ran 91.72 47 P P 09 25 28.1 0.0
baz=92,SNR=22
S09A Goldfield 91.73 52 P P 09 25 28.6 +0.3
baz=92,SNR=41
I08A Drewsey 91.75 46 P P 09 25 28.1 -0.2
baz=92,SNR=6.0
H08A Prairie City 91.78 45 P P 09 25 27.9 -0.5
baz=92,SNR=9.3
FURC Furnace Creek, 91.82 54 P P 09 25 29.2 +0.4
baz=92,SNR=56
E08A Dider Farm, El 91.85 43 ⇑P P 09 25 28.4 -0.3
baz=92
DVTC Desert V Tower 91.86 57 ⇑P P 09 25 29.5 +0.4
baz=92
F08A Pendleton 91.92 44 ⇓P P 09 25 28.0 -1.1
baz=92
R09A Tonopah 91.93 52 P P 09 25 29.6 +0.3
baz=92,SNR=29
Q09A Carvers 91.94 51 ⇓P P 09 25 30.0 +0.6
baz=92
HEC Hector,Ludlow 92.00 55 P P 09 25 29.9 +0.2
baz=92,SNR=17
B08A Colville Reser 92.00 42 ⇑P P 09 25 28.8 -0.5
baz=92,SNR=6.5
N09A Rock Creek Ran 92.00 49 P P 09 25 30.1 +0.6
baz=92,SNR=7.3
D08A Wollman Farm, 92.05 43 ⇓P P 09 25 28.8 -0.8
baz=92
L09A Wilkinson Ranc 92.08 48 P P 09 25 30.4 +0.4
baz=92,SNR=16
P09A Austin 92.09 51 ⇑P P 09 25 30.0 0.0
baz=92
C08A Higginbotham F 92.09 42 ⇑P P 09 25 28.6 -1.2
baz=92
BELC Belle Mtn. 92.14 56 P P 09 25 30.8 +0.4
baz=92,SNR=24
A08A Turner Farm, O 92.14 41 ⇓P P 09 25 29.1 -0.9
baz=92
O09A Fish Creek Ran 92.15 50 P P 09 25 30.9 +0.6
baz=92,SNR=12
M09A Marrel Ranch, 92.15 49 P P 09 25 31.3 +1.1
baz=92,SNR=8.9
K09A Rome 92.15 47 ⇓P P 09 25 29.9 -0.3
baz=92,SNR=15
SWSC Sam W. Stewart 92.16 57 ⇓P P 09 25 30.5 +0.1
baz=92,SNR=6.1
SHOC Shoshone 92.20 54 P P 09 25 30.8 +0.2
baz=92,SNR=22
J09A Fry Pan Ranch, 92.24 47 P P 09 25 30.5 0.0
baz=92,SNR=26
U10A Ash Meadows, A 92.24 54 ⇓P P 09 25 31.1 +0.3
baz=92,SNR=15
OD2 Odessa Site #2 92.24 43 P P 09 25 29.8 -0.7
S10A Tonopah Range, 92.26 52 P P 09 25 31.1 +0.3
baz=92,SNR=42
I09A Lost Marbles R 92.35 46 ⇑P P 09 25 30.5 -0.6
baz=92
TPNV Topopah Spring 92.38 53 eP P 09 25 31.6 +0.2
comp=Z,34nm,1.0s,mb5.6
TPNV LR LR
comp=Z,791nm,21.0s,MS5.1
TPNV Topopah Spring 92.38 53 eP P 09 25 31.6 +0.2
TPNV pmax pmax
comp=Z,34nm,1.0s,mb5.6
TPNV MLR MLR
comp=Z,791nm,21.0s,MS5.1
TPNV Topopah Spring 92.38 53 ⇓P P 09 25 31.8 +0.4
baz=92
TUQ Turquoise Mtn. 92.42 55 P P 09 25 32.4 +0.8
baz=92,SNR=23
D09A Jones Farm, Ri 92.46 43 ⇓P P 09 25 31.0 -0.5
baz=92
E09A Wood Farm, Sta 92.48 44 P P 09 25 30.9 -0.7
baz=92,SNR=6.7
H09A Durkee 92.51 45 ⇓P P 09 25 31.3 -0.5
baz=92
GMRC Granite Mounta 92.53 55 P P 09 25 32.5 +0.3
baz=92,SNR=22
R10A Warm Springs 92.54 52 ⇑P P 09 25 32.6 +0.5
baz=93,SNR=11
BC3 Big Chuckw Mtn 92.54 57 ⇓P P 09 25 32.4 +0.2
baz=93,SNR=12
Q10A Clear Creek Ra 92.54 51 P P 09 25 32.7 +0.6
baz=93,SNR=15
A09A Danville 92.59 41 ⇑P P 09 25 31.3 -0.8
baz=93
P10A Eureka 92.61 51 ⇓P P 09 25 32.1 -0.3
baz=93
K10A MacKenzie Ranc 92.79 47 P P 09 25 33.2 +0.1
baz=93,SNR=19
B09A Rice 92.79 42 ⇓P P 09 25 32.8 -0.2
baz=93
BMO Blue Mountains 92.79 45 eP P 09 25 32.2 -0.9
comp=Z,18nm,1.3s,mb5.3
BMO LR LR
comp=Z,866nm,20.0s,MS5.2
M10A I.L. Ranch, Tu 92.84 49 ⇓P P 09 25 34.0 +0.6
baz=93,SNR=8.0
IRM Iron Mountain 92.86 56 ⇑P P 09 25 33.8 +0.1
baz=93,SNR=27
V11A Goodsprings 92.87 54 ⇓P P 09 25 33.7 0.0
baz=93,SNR=14
S11A Rachel 92.88 53 ⇑P P 09 25 33.6 0.0
baz=93,SNR=7.7
J10A Berg Farm, Mel 92.96 47 ⇑P P 09 25 33.2 -0.7
baz=93
L10A Juniper Basin 92.97 48 P P 09 25 34.4 +0.4
baz=93,SNR=20
GLA Glamis 92.98 57 eP P 09 25 34.6 +0.4
comp=Z,27nm,1.3s,mb5.5
GLA LR LR
comp=Z,1µm,19.0s,MS5.4
GLA Glamis 92.98 57 eP P 09 25 34.6 +0.4
GLA pmax pmax
comp=Z,27nm,1.3s,mb5.5
GLA MLR MLR
comp=Z,1µm,19.0s,MS5.4
GLA Glamis 92.98 57 ⇑P P 09 25 34.9 +0.7
baz=93,SNR=6.2
G10A Bishop Farm, J 92.99 45 ⇓P P 09 25 32.8 -1.2
baz=93,SNR=20
KBL Kabul 93.02 304 eP P 09 25 33.5 -0.8
comp=Z,30µm,0.6s
F10A Beach Ranch, E 93.02 44 P P 09 25 33.1 -1.0
baz=93,SNR=11
I10A Payette 93.03 46 ⇓P P 09 25 34.1 -0.1
baz=93
R11A Troy Canyon, C 93.11 52 ⇑P P 09 25 34.7 0.0
baz=93,SNR=23
Q11A Duckwater 93.12 51 P P 09 25 35.4 +0.6
baz=93,SNR=25
H10A Noah's Angus R 93.15 46 P P 09 25 33.8 -0.9
baz=93,SNR=15
D10A Wagner Farm, O 93.16 43 ⇑P P 09 25 33.7 -1.0
baz=93
T11A Corn Creek, Al 93.24 53 P P 09 25 35.7 +0.3
baz=93,SNR=26
A10A Northport 93.26 41 ⇓P P 09 25 34.1 -1.1
baz=93
O11A Cowboy Ranch, 93.30 50 P P 09 25 36.2 +0.7
baz=93,SNR=13
Y12C Blythe 93.32 57 ⇓P P 09 25 36.1 +0.3
baz=93,SNR=6.6
V12A Nelson 93.32 55 ⇑P P 09 25 35.8 0.0
baz=93,SNR=9.7
N11A Elko Archery C 93.34 49 ⇑P P 09 25 35.6 -0.1
baz=93
M11A Holland Ranch, 93.38 49 P P 09 25 36.8 +0.8
baz=93,SNR=13
K11A Parker Ranch, 93.40 47 P P 09 25 36.2 +0.3
baz=93,SNR=18
NEW Newport 93.44 42 PFAKE 09 25 50.0 +14
NEW LR LR
comp=Z,890nm,20.0s,MS5.2
T12A Moapa 93.57 54 ⇑P P 09 25 37.4 +0.5
baz=94
S12A Delamar Landin 93.58 53 ⇑P P 09 25 37.6 +0.7
baz=94,SNR=13
G11A Walters Elk Ra 93.60 45 ⇓P P 09 25 35.5 -1.3
baz=94,SNR=6.8
MFID Camas Ranch 93.64 47 ⇓P P 09 25 36.8 -0.3
baz=94,SNR=8.0
U12A Valley of Fire 93.67 54 ⇑P P 09 25 37.6 +0.3
baz=94
H11A Donnelly 93.68 46 P P 09 25 36.8 -0.4
baz=94,SNR=9.6
PDMCI Parker Dam,Lak 93.71 56 ⇑P P 09 25 37.8 +0.2
baz=94,SNR=5.5
F11A Grangeville 93.75 44 ⇑P P 09 25 36.1 -1.4
baz=94
E11A Bogner Ranch, 93.78 44 P P 09 25 36.5 -1.1
baz=94,SNR=6.1
P12A McGill 93.78 51 ⇓P P 09 25 38.2 +0.4
baz=94,SNR=14
Q12A Willow Creek R 93.79 51 ⇑P P 09 25 38.3 +0.5
baz=94
R12A Pony Springs, 93.86 52 ⇑P P 09 25 38.8 +0.6
baz=94,SNR=18
N12A Clover Valley, 93.87 49 P P 09 25 38.7 +0.5
baz=94,SNR=16
Y13A Salome 93.91 57 ⇓P P 09 25 39.3 +0.8
baz=94
B11A Sandpoint 93.96 42 ⇑P P 09 25 38.6 +0.1
baz=94
X13A Yucca 94.00 56 ⇓P P 09 25 38.8 -0.2
baz=94
O12A Currie 94.01 50 ⇑P P 09 25 38.7 -0.1
baz=94,SNR=18
W13A Hualapai Mount 94.02 55 ⇑P P 09 25 39.5 +0.5
baz=94,SNR=8.6
M12A Wells 94.03 49 P P 09 25 39.3 +0.4
baz=94,SNR=9.4
A11A Hall Mountain, 94.04 41 P P 09 25 38.8 +0.1
baz=94,SNR=6.0
L12A House Creek Ra 94.06 48 ⇑P P 09 25 39.4 +0.4
baz=94,SNR=18
U13A Pakoon Wash 94.13 54 ⇓P P 09 25 40.1 +0.6
baz=94,SNR=8.5
J12A Stokes Ranch, 94.14 47 P P 09 25 39.5 +0.2
baz=94,SNR=31
K12A Draper Farm, C 94.20 48 P P 09 25 39.8 +0.1
baz=94,SNR=21
T13A Saint George 94.25 53 ⇑P P 09 25 40.5 +0.5
baz=94,SNR=21
S13A Holt Ranch, En 94.36 53 P P 09 25 41.2 +0.7
baz=94,SNR=14
D12A Red Ives Fores 94.46 43 ⇑P P 09 25 40.0 -0.7
baz=94
P13A Bates Ranch, G 94.47 51 P P 09 25 41.5 +0.6
baz=94,SNR=13
H12A Diamond D Ranc 94.48 46 ⇓P P 09 25 40.1 -0.7
baz=94
N13A Wendover, West 94.50 50 ⇓P P 09 25 41.8 +0.7
baz=94
O13A Hicks Ranch, I 94.58 50 ⇓P P 09 25 41.9 +0.5
baz=95,SNR=7.6
M13A Montello 94.59 49 P P 09 25 41.8 +0.3
baz=95,SNR=15
Y14A Wickenburg 94.60 57 ⇑P P 09 25 42.2 +0.5
baz=95
BRVK Borovoye 94.66 323 P P 09 25 40.2 -1.3
comp=Z,134nm,1.2s,mb6.2,SNR=8.3
BRVK Borovoye 94.66 323 eP P 09 25 40.3 -1.2
comp=Z,33nm,1.2s,mb5.6
BRVK LR LR
comp=Z,372nm,21.0s,MS4.8
HLID Hailey 94.67 47 eP P 09 25 41.8 0.0
comp=Z,12nm,1.2s,mb5.2
HLID LR LR
comp=Z,871nm,21.0s,MS5.2
HLID Hailey 94.67 47 P P 09 25 42.0 +0.2
baz=95,SNR=14
W14A Seligman 94.69 55 P P 09 25 43.5 +1.4
baz=95,SNR=7.1
ARUT Antelope Range 94.71 53 eP P 09 25 42.6 +0.5
ARUT Antelope Range 94.71 53 eP P 09 25 42.7 +0.6
V14A Boquillas Ranc 94.72 55 P P 09 25 43.4 +1.2
baz=95,SNR=7.2
CCUT Cedar City 94.74 53 eP P 09 25 43.1 +0.8
U14A Mt Trumbull 94.75 54 P P 09 25 43.6 +1.3
baz=95,SNR=16
X14A Yava 94.76 56 ⇓P P 09 25 42.9 +0.5
baz=95
K13A Stover Farm, H 94.80 48 P P 09 25 43.1 +0.7
baz=95,SNR=7.5
J13A Cove Ranch, Pi 94.83 47 P P 09 25 43.0 +0.5
baz=95,SNR=12
L13A Double Diamond 94.84 48 P P 09 25 43.4 +0.8
baz=95,SNR=5.1
T14A Hurricane 94.91 53 ⇓P P 09 25 43.6 +0.6
baz=95,SNR=11
H13A Challis 94.91 46 P P 09 25 42.6 -0.3
baz=95,SNR=8.1
S14A Cedar City 94.92 53 ⇑P P 09 25 43.6 +0.5
baz=95
I13A Wildhorse Cree 94.93 46 P P 09 25 43.0 +0.1
baz=95,SNR=10
G13A Cobalt 94.99 45 ⇓P P 09 25 42.6 -0.6
baz=95
F13A Darby 95.00 45 P P 09 25 41.9 -1.4
baz=95,SNR=10.0
Y15A Casa Rosa Ranc 95.16 57 ⇓P P 09 25 45.4 +1.1
baz=95
E13A Victor 95.18 44 ⇑P P 09 25 44.2 +0.2
baz=95
M14A Sheep Mountain 95.22 49 P P 09 25 44.6 +0.3
baz=95,SNR=8.2
N14A Grayback Hills 95.26 50 P P 09 25 44.8 +0.2
baz=95,SNR=12
X15A Humboldt 95.30 56 ⇓P P 09 25 45.4 +0.5
baz=95
BGU Big Grassy Mou 95.39 50 eP P 09 25 45.0 -0.1
MSO Missoula 95.39 44 PFAKE 09 26 00.0 +15
MSO LR LR
comp=Z,497nm,19.0s,MS5.0
K14A Jones Ranch, D 95.46 48 ⇑P P 09 25 46.2 +0.8
baz=96
T15A Red Dirt Ranch 95.46 54 ⇓P P 09 25 46.1 +0.6
baz=96,SNR=6.4
DUG Dugway 95.47 50 eP P 09 25 45.4 -0.1
comp=Z,5.8nm,1.1s,mb4.9
DUG LR LR
comp=Z,414nm,21.0s,MS4.9
DUG Dugway 95.47 50 P P 09 25 45.5 0.0
DUG pmax pmax
comp=Z,6.0nm,1.1s,mb4.9
DUG Dugway 95.47 50 ⇑P P 09 25 45.6 +0.1
baz=96
G14A Jackson 95.55 45 P P 09 25 45.1 -0.6
baz=96,SNR=6.3
HVU Hansel Valley 95.67 49 eP P 09 25 46.6 +0.2
comp=Z,12nm,1.1s,mb5.2
HVU Hansel Valley 95.67 49 P P 09 25 47.0 +0.6
HVU pmax pmax
comp=Z,12nm,1.1s,mb5.2
N15A Stansbury Isla 95.77 50 ⇑P P 09 25 47.2 +0.3
baz=96
MSU Marysvale 95.78 52 eP P 09 25 47.9 +0.9
MSU Marysvale 95.78 52 eP P 09 25 48.0 +1.0
SPUT South Promonto 95.87 49 eP P 09 25 47.4 +0.1
M15A Larsen Ranch, 95.88 49 P P 09 25 47.7 +0.3
baz=96,SNR=6.9
MCMT McKenzie Canyo 95.94 46 eP P 09 25 47.4 -0.1
X16A Lo Mia Camp, P 95.94 56 ⇑P P 09 25 48.4 +0.6
baz=96
NLU North Lily Min 96.01 51 eP P 09 25 48.7 +0.7
WUAZ Wupatki 96.11 55 PFAKE 09 26 00.0 +11
WUAZ LR LR
comp=Z,865nm,20.0s,MS5.2
WUAZ Wupatki 96.11 55 ⇑P P 09 25 49.2 +0.6
baz=96
217A Green Valley 96.19 59 ⇓P P 09 25 49.0 0.0
baz=96
G15A Dillon 96.22 45 ⇑P P 09 25 48.0 -0.8
baz=96
E15A Deer Lodge 96.24 44 ⇑P P 09 25 48.0 -0.9
baz=96
TUC Tucson 96.27 58 eP P 09 25 49.3 0.0
comp=Z,1.7nm,0.8s,mb4.5
TUC LR LR
comp=Z,744nm,20.0s,MS5.2
TUC Tucson 96.27 58 P P 09 25 50.4 +1.0
TUC pmax pmax
comp=Z,2.0nm,0.9s,mb4.5
MPU Maple Canyon 96.35 51 eP P 09 25 50.0 +0.4
comp=Z,24nm,1.6s,mb5.4
MPU LR LR
comp=Z,881nm,20.0s,MS5.2
EDM Edmonton 96.42 37 eP P 09 25 48.2 -1.3
EDM Edmonton 96.42 37 eP P 09 25 48.6 -0.9
JLU Jordanelle 96.55 50 eP P 09 25 50.7 +0.2
HWUT Hardware Ranch 96.56 49 eP P 09 25 50.1 -0.3
comp=Z,3.8nm,0.9s,mb4.8
HWUT LR LR
comp=Z,353nm,19.0s,MS4.9
YKA Yellowknife Ar 96.61 28 P P 09 25 49.1 -1.1
YKA PKKP PKKPbc 09 42 31.9 -4.4
YKA LR LR 10 11 02.8
YKA Yellowknife Ar 96.61 28 P P 09 25 49.1 -1.1
comp=Z,11nm,0.9s,mb5.3,baz=264,slow=4.7,SNR=136
YKA PKKP PKKPbc 09 42 31.9 -4.4
comp=Z,1.5nm,0.9s,baz=82,slow=2.9,SNR=20
YKA LR LR 10 11 02.8
comp=Z,456nm,18.5s,MS5.0,baz=255,slow=36
DAU Daniels Canyon 96.68 50 eP P 09 25 51.2 +0.2
318A Bisbee 96.86 59 ⇓P P 09 25 52.1 +0.1
baz=97
BOZ Bozeman (W) 96.87 45 eP P 09 25 50.7 -1.1
comp=Z,3.4nm,0.9s,mb4.8
BOZ LR LR
comp=Z,607nm,20.0s,MS5.1
BOZ Bozeman (W) 96.87 45 eP P 09 25 50.7 -1.0
BOZ pmax pmax
comp=Z,3.0nm,0.9s,mb4.7
BOZ MLR MLR
comp=Z,607nm,20.0s,MS5.1
BOZ Bozeman (W) 96.87 45 ⇑P P 09 25 51.3 -0.5
baz=97
AHID Auburn Hatcher 97.00 48 PFAKE 09 26 00.0 +7.6
AHID LR LR
comp=Z,503nm,22.0s,MS5.0
SRU San Rafael 97.12 52 eP P 09 25 53.0 0.0
comp=Z,2.5nm,1.0s,mb4.6
SRU San Rafael 97.12 52 eP P 09 25 53.1 0.0
SRU pmax pmax
comp=Z,3.0nm,1.0s,mb4.7
IMW Indian Meadow 97.21 47 eP P 09 25 53.2 -0.2
comp=Z,11nm,1.4s,mb5.1
YMR Madison River 97.26 46 PFAKE 09 26 00.0 +6.5
YMR LR LR
comp=Z,957nm,19.0s,MS5.3
SNOW Snow King Moun 97.31 47 eP P 09 25 53.3 -0.5
comp=Z,16nm,1.5s,mb5.2
319A Douglas 97.45 59 ⇑P P 09 25 55.4 +0.7
baz=98
LKWY Lake 97.65 46 PFAKE 09 26 10.0 +15
LKWY LR LR
comp=Z,1µm,20.0s,MS5.3
BW06 Boulder Array 98.14 48 PFAKE 09 26 10.0 +12
BW06 LR LR
comp=Z,517nm,20.0s,MS5.0
PDAR Pinedale Array 98.14 48 P P 09 25 56.5 -1.0
comp=Z,3.5nm,0.8s,mb4.9,baz=240,slow=2.7,SNR=26
PDAR PKKP PKKPbc 09 42 37.5 +6.0
comp=Z,0.6nm,0.9s,baz=91,slow=5.5,SNR=3.8
PDAR LR LR 10 03 53.6
comp=Z,392nm,19.2s,MS4.9,baz=239,slow=32
EGMT Eagleton 98.32 43 PFAKE 09 26 10.0 +12
EGMT LR LR
comp=Z,524nm,19.0s,MS5.0
RLMT Red Lodge 98.49 46 PFAKE 09 26 10.0 +11
RLMT LR LR
comp=Z,692nm,19.0s,MS5.2
ANMO Albuquerque 100.08 56 PFAKE 09 26 20.0 +14
ANMO LR LR
comp=Z,757nm,20.0s,MS5.2
LAO LASA Array 100.67 44 PFAKE 09 26 20.0 +11
LAO LR LR
comp=Z,789nm,19.0s,MS5.2
MNTX Cornudas Mount 100.80 59 PFAKE 09 26 20.0 +11
MNTX LR LR
comp=Z,912nm,21.0s,MS5.3
ISCO Idaho Springs 100.96 51 PFAKE 09 26 20.0 +10
ISCO LR LR
comp=Z,533nm,19.0s,MS5.1
SDCO Great Sand Dun 100.98 53 PFAKE 09 26 20.0 +10
SDCO LR LR
comp=Z,506nm,20.0s,MS5.0
ARU Arti 101.60 326 PFAKE 09 26 20.0 +7.3
ARU LR LR
comp=Z,532nm,20.0s,MS5.1
DGMT Dagmar 102.05 42 PFAKE 09 26 30.0 +15
DGMT LR LR
comp=Z,526nm,20.0s,MS5.0
AKTK Aktyubinsk 102.13 320 P Pdif 09 26 13.1 -2.0
AKTO Aktyubinsk 102.13 320 P Pdif 09 26 13.1 -2.0
comp=Z,3.8nm,0.9s,baz=70,slow=4.5,SNR=12
LTX Lajitas 102.15 62 PFAKE 09 26 30.0 +15
LTX LR LR
comp=Z,101nm,22.0s,MS4.3
TXAR Lajitas Array 102.15 62 P Pdif 09 26 16.6 +1.5
comp=Z,0.5nm,0.8s,baz=191,slow=2.6,SNR=3.6
TXAR PP PP 09 30 21.2 -6.6
comp=Z,1.0nm,0.9s,baz=248,slow=6.6,SNR=5.0
TXAR PKKPbc PKKPbc 09 42 19.1 -0.4
comp=Z,1.7nm,0.8s,baz=100,slow=5.0,SNR=8.8
RSSD Black Hills 102.20 47 PFAKE 09 26 30.0 +15
RSSD LR LR
comp=Z,790nm,20.0s,MS5.2
FFC Flin Flon 103.15 36 PFAKE 09 26 30.0 +10
FFC LR LR
comp=Z,937nm,22.0s,MS5.3
AMTX Amarillo 104.00 56 PFAKE 09 26 30.0 +6.6
AMTX LR LR
comp=Z,901nm,21.0s,MS5.3
CBKS Cedar Bluff 105.52 52 PFAKE 09 31 00.0 +16
CBKS LR LR
comp=Z,668nm,20.0s,MS5.2
JCT Junction City 105.54 61 PFAKE 09 31 00.0 +16
JCT LR LR
comp=Z,908nm,19.0s,MS5.3
WMOK Wichita Mounta 106.39 56 PFAKE 09 31 00.0 +14
WMOK LR LR
comp=Z,765nm,21.0s,MS5.2
KVTX Kingsville 107.18 64 PFAKE 09 31 00.0 +13
KVTX LR LR
comp=Z,587nm,20.0s,MS5.1
ULM Lac du Bonnet 107.33 40 PFAKE 09 31 00.0 +13
ULM LR LR
comp=Z,309nm,19.0s,MS4.9
ECSD EROS,Sioux Fal 107.57 47 PFAKE 09 31 00.0 +12
ECSD LR LR
comp=Z,549nm,20.0s,MS5.1
AGMN Agassiz Refuge 107.60 42 PFAKE 09 31 00.0 +12
AGMN LR LR
comp=Z,658nm,19.0s,MS5.2
KSU1 Kansas State U 107.94 52 PFAKE 09 31 00.0 +11
KSU1 LR LR
comp=Z,492nm,20.0s,MS5.1
HKT Hockley 108.98 61 PFAKE 09 31 00.0 +9.2
HKT LR LR
comp=Z,823nm,19.0s,MS5.3
NATX Nacogdoches 109.93 59 PFAKE 09 31 00.0 +7.5
NATX LR LR
comp=Z,893nm,21.0s,MS5.3
EYMN Ely 110.54 42 PFAKE 09 31 00.0 +6.9

EYMN LR LR
comp=Z,457nm,19.0s,MS5.1
MIAR Mount Ida 110.68 56 PFAKE 09 31 00.0 +6.2
MIAR LR LR
comp=Z,813nm,21.0s,MS5.3
CCM Cathedral Cave 112.22 52 PFAKE 09 31 10.0 +13
CCM LR LR
comp=Z,470nm,20.0s,MS5.1
JFWS Jewell Farm 112.28 47 PFAKE 09 31 10.0 +13
JFWS LR LR
comp=Z,495nm,19.0s,MS5.1
COWI Conover 112.48 44 PFAKE 09 31 10.0 +13
COWI LR LR
comp=Z,697nm,19.0s,MS5.3
KIV Kislovodsk 113.23 314 PFAKE 09 31 10.0 +12
KIV LR LR
comp=Z,342nm,19.0s,MS5.0
HDIL Hopedale 113.37 49 PFAKE 09 31 10.0 +11
HDIL LR LR
comp=Z,757nm,19.0s,MS5.3
PLCA Paso Flores 114.42 142 PKP PKiKP 09 30 59.3 -1.5
PLCA PKKPbc PKKPbc 09 41 40.5 -0.6
PLCA Paso Flores 114.42 142 PKP PKiKP 09 30 59.3 -1.5
comp=Z,1.7nm,0.9s,baz=57,slow=9.3,SNR=4.2
PLCA PKKPbc PKKPbc 09 41 40.5 -0.6
comp=Z,2.8nm,0.9s,baz=25,slow=3.6,SNR=5.2
PLAL Pickwick Lake 115.14 55 PFAKE 09 31 10.0 +7.7
PLAL LR LR
comp=Z,756nm,20.0s,MS5.3
WVT Waverly 115.18 54 PFAKE 09 31 10.0 +7.6
WVT LR LR
comp=Z,516nm,19.0s,MS5.2
GLMI Grayling 115.87 44 PFAKE 09 31 10.0 +6.6
GLMI LR LR
comp=Z,753nm,21.0s,MS5.3
TEIG Tepich 115.99 72 PFAKE 09 31 20.0 +16
TEIG LR LR
comp=Z,708nm,21.0s,MS5.2
FINES FINESS Array B 116.00 336 PKhKP 09 30 59.8
comp=Z,2.8nm,0.8s,baz=42,slow=3.1,SNR=4.1
WCI Wyandotte Cave 116.06 52 PFAKE 09 31 20.0 +16
WCI LR LR
comp=Z,736nm,20.0s,MS5.3
LRAL Lakeview Retre 116.28 57 PFAKE 09 31 20.0 +15
LRAL LR LR
comp=Z,741nm,19.0s,MS5.3
BRAL Brewton 116.47 60 PFAKE 09 31 20.0 +15
BRAL LR LR
comp=Z,644nm,19.0s,MS5.3
TGUH Tegucigalpa,Un 116.85 78 PFAKE 09 31 20.0 +14
TGUH LR LR
comp=Z,402nm,20.0s,MS5.0
AAM Ann Arbor 117.17 47 PFAKE 09 31 20.0 +14
AAM LR LR
comp=Z,728nm,21.0s,MS5.3
ACSO Alum Creek Sta 118.16 49 PFAKE 09 31 20.0 +12
ACSO LR LR
comp=Z,521nm,21.0s,MS5.1
TZTN Tazewell 118.52 53 PFAKE 09 31 20.0 +11
TZTN LR LR
comp=Z,587nm,20.0s,MS5.2
SFJD Kangerlussuaq 118.53 12 PFAKE 09 31 20.0 +12
SFJD LR LR
comp=Z,814nm,19.0s,MS5.4
GOGA Godfrey 119.15 56 PFAKE 09 31 20.0 +10
GOGA LR LR
comp=Z,894nm,21.0s,MS5.4
KMBO Kilima Mbogo 119.22 264 PKP PKPdf 09 31 08.8 -2.0
KMBO LR LR
comp=Z,444nm,21.0s,MS5.1
KMBO Kilima Mbogo 119.22 264 PKP PKPdf 09 31 08.8 -2.0
comp=Z,2.1nm,0.9s,baz=130,slow=18,SNR=3.6
AKASG Malin Array Be 119.81 325 PKP PKPdf 09 31 09.7 -1.1
comp=Z,4.7nm,0.7s,baz=67,slow=2.1,SNR=16
AKASG PP PP 09 32 31.1 -2.9
comp=Z,1.3nm,0.6s,baz=52,slow=6.2,SNR=8.0
ERPA Erie 119.84 46 PFAKE 09 31 20.0 +8.8
ERPA LR LR
comp=Z,574nm,19.0s,MS5.2
MCWV Mont Chateau 120.64 49 PFAKE 09 31 20.0 +7.2
MCWV LR LR
comp=Z,959nm,19.0s,MS5.5
BOSA Boshof 120.69 230 PKP PKPdf 09 31 13.4 +0.2
BOSA LR LR
comp=Z,865nm,21.0s,MS5.4
BOSA Boshof 120.69 230 PKP PKPdf 09 31 13.4 +0.2
comp=Z,5.9nm,0.8s,baz=148,slow=3.1,SNR=8.0
BLA Blacksburg 120.82 52 PFAKE 09 31 20.0 +6.8
BLA LR LR
comp=Z,751nm,22.0s,MS5.3
LCO Las Campanas 120.89 131 *e*PKPdf PKPdf 09 31 13.0 -0.6
ANTO Ankara 121.37 312 *e*PKPdf PKPdf 09 31 13.9 -0.2
ANTO LR LR
comp=Z,230nm,20.0s,MS4.8
NB2 NORSAR Subarra121.64 341 PKPdf PKPdf 09 31 12.7 -1.3
comp=Z,1.3nm,0.7s,baz=37,slow=1.9
NOA NORSAR Array B 121.64 341 PKP PKPdf 09 31 12.4 -1.6
NOA PP PP 09 32 42.0 -4.0
NOA NORSAR Array B 121.64 341 PKP PKPdf 09 31 12.4 -1.7
comp=Z,3.6nm,0.9s,baz=44,slow=1.9,SNR=9.4
NOA PP PP 09 32 42.0 -4.0
comp=Z,2.4nm,0.9s,baz=39,slow=7.1,SNR=2.9
DWPF Disney 121.69 62 PFAKE 09 31 30.0 +15
DWPF LR LR
comp=Z,487nm,19.0s,MS5.2
SSPA Standing Stone 121.80 47 PFAKE 09 31 30.0 +15
SSPA LR LR
comp=Z,659nm,20.0s,MS5.3
SUR Sutherland 121.81 224 PFAKE 09 31 30.0 +15
SUR LR LR
comp=Z,640nm,21.0s,MS5.2
EIL Elat 121.89 300 PKP PKPdf 09 31 15.3 -0.1
comp=Z,4.6nm,0.9s,baz=4.4,slow=6.5,SNR=3.6
NHSC New Hope 121.92 56 PFAKE 09 31 30.0 +15
NHSC LR LR
comp=Z,606nm,20.0s,MS5.2
LBTB Lobatse 122.21 234 *e*PKPdf PKPdf 09 31 16.2 -0.1
LBTB LR LR
comp=Z,607nm,20.0s,MS5.2
BINY Binghamton 122.64 45 PFAKE 09 31 30.0 +13
BINY LR LR
comp=Z,836nm,20.0s,MS5.4
LONY Lake Ozonia 122.70 42 PFAKE 09 31 30.0 +13
LONY LR LR
comp=Z,729nm,20.0s,MS5.3
CBN Corbin 122.89 50 PFAKE 09 31 30.0 +13
CBN LR LR
comp=Z,658nm,21.0s,MS5.3
NCB Newcomb 123.19 42 PFAKE 09 31 30.0 +12
NCB LR LR
comp=Z,1μm,20.0s,MS5.5
CNNC Cliffs of the 123.29 53 PFAKE 09 31 30.0 +12
CNNC LR LR
comp=Z,855nm,20.0s,MS5.4
KWP Kalwaria 124.00 326 *e*PKP PKPdf 09 31 19.5 +0.6
MLR Muntele Rosu 124.06 320 PKP PKPdf 09 31 18.6 -0.5
comp=Z,4.8nm,0.8s,baz=122,slow=5.2,SNR=5.6
LSZ Lusaka 124.11 245 PFAKE 09 31 30.0 +10
LSZ LR LR
comp=Z,461nm,20.0s,MS5.1
LBNH Lisbon 124.60 41 PFAKE 09 31 30.0 +10
LBNH LR LR
comp=Z,1μm,22.0s,MS5.5
KOLS Kolonicke sedl 124.61 325 *e*PKP PKPdf 09 31 20.1 0.0
UZH Uzhgorod 124.76 325 *e*PKIKP PKPdf 09 31 25.6 +5.2
UZH *e* 09 33 07.0
STHS Stebnicka Huta 124.93 326 *e*PKP PKPdf 09 31 20.8 +0.1
CRVS Cervenica-Dubn 125.08 326 *e*PKP PKPdf 09 31 20.7 -0.3
HRV Adam Dziewonsk 125.56 43 PFAKE 09 31 30.0 +7.9
HRV LR LR
comp=Z,539nm,21.0s,MS5.2
WES Weston 125.77 43 PFAKE 09 31 30.0 +7.5
WES LR LR
comp=Z,1μm,20.0s,MS5.6
PKME Peaks-Kenny Pk 125.82 39 PFAKE 09 31 30.0 +7.5
PKME LR LR
comp=Z,1μm,19.0s,MS5.6
KECS Kecovo 125.85 326 *e*PKP PKPdf 09 31 27.8 +5.3
PSZ Piszkesteto 126.49 325 ||*e*PKP PKPdf 09 31 23.8 +0.1
MORC Moravsky Berou 126.70 328 *e*PKPdf PKPdf 09 31 24.0 -0.1
VYHS Vyhne 126.76 326 *e*PKP PKPdf 09 31 24.0 -0.2
DPC Dobruska-Polom 126.98 329 *e*PKPdf PKPdf 09 31 24.8 +0.2
UPC Upice 127.04 330 *e*PKPdf PKPdf 09 31 24.6 -0.1
UPC *ep*PKP pPKPdf 09 31 30.4 +2.9
VRAC Vranov 127.48 328 PKP PKPdf 09 31 25.6 0.0
comp=Z,6.6nm,0.9s,baz=234,slow=0.5,SNR=5.0
MODS Modra-Piesok 127.68 327 *e*PKP PKPdf 09 31 26.0 0.0
PVCC Panska Ves 127.73 331 *e*PKPdf PKPdf 09 31 26.2 +0.2
BRG Berggiesshubel 127.81 331 *e*PKP PKPdf 09 31 26.0 -0.2
BRG *e* 09 31 31.0
BRG LR LR
comp=Z,380nm,21.0s,MS5.0
BRG Berggiesshubel 127.81 331 *e*PKP PKPdf 09 31 26.0 -0.2
comp=Z,20nm,1.2s
BRG *e* 09 31 31.0
comp=Z,15nm,1.1s
BRG
comp=N,484nm,18.6s
BRG
comp=E,277nm,19.7s
BRG
comp=Z,626nm,21.0s
CLL Collm 127.96 332 ||*i*PKP PKPdf 09 31 25.8 -0.6
CLL *i* 09 31 30.9
CLL Collm 127.96 332 ||*i*PKIKP PKPdf 09 31 25.8 -0.6
CLL *i* 09 31 30.9
CLL pmax pmax
comp=Z,14nm,1.1s
CLL MLR MLR
comp=Z,400nm,17.1s,MS5.2
CLL Collm 127.96 332 *e*PKPdf PKPdf 09 31 25.8 -0.6
CLL Collm 127.96 332 ||*e*PKPdf PKPdf 09 31 25.8 -0.6
comp=Z,14nm,1.1s
CLL *i* (sPKPdf) 09 31 30.9
CLL *e*PP PP 09 33 29.0 +0.5
PRU Pruhonice 128.09 330 *e*PKPdf PKPdf 09 31 26.6 -0.1
CLZ Clausthal 128.77 334 *e*PKPdf PKPdf 09 31 28.0 +0.1
TANN Tannenbergstha 128.82 332 *e*PKPdf PKPdf 09 31 28.0 -0.1
ROSC El Rosal 128.91 91 PKP PKPdf 09 31 28.8 -0.6
comp=Z,2.4nm,0.5s,baz=91,slow=22,SNR=5.1
NKC Novy Kostel 128.95 331 *e*PKPdf PKPdf 09 31 29.0 +0.7
NKC *ep*PKP pPKPdf 09 31 33.5 +2.3
LPAZ La Paz 129.05 119 *e*PKPdf PKPdf 09 31 30.0 +0.5
LPAZ LR LR
comp=Z,262nm,19.0s,MS4.9
LPAZ La Paz 129.05 119 PKP PKPdf 09 31 29.9 +0.3
comp=Z,12nm,1.0s,baz=304,slow=1.1,SNR=30
MOX Moxa 129.06 332 *e*PKPdf PKPdf 09 31 28.5 0.0
KHC Kasperske Hory 129.13 330 *e*PKPdf PKPdf 09 31 28.8 +0.1
KHC *ep*PKP pPKPdf 09 31 33.1 +1.5
GEC2 GERESS Array S 129.25 329 *e*PKPdf PKPdf 09 31 28.6 -0.4
GERES GERESS Array B 129.25 329 PKP PKPdf 09 31 28.3 -0.7
comp=Z,3.9nm,1.0s,baz=70,slow=1.6,SNR=21
MANZ Manzenberg 129.28 331 *e*PKPdf PKPdf 09 31 28.8 -0.2
ROTZ Rotzenmuhle 129.38 331 *e*PKPdf PKPdf 09 31 28.5 -0.7
WET Wettzell 129.47 330 *e*PKPdf PKPdf 09 31 29.4 0.0
GRA1 Grafenberg Arr 129.90 332 *e*PKPdf PKPdf 09 31 30.1 -0.1
GRA1 *ep*PP PP 09 33 38.6 -2.6
GRA1 *ep*PKPbc 09 40 41.5
GRA1 LR LR
comp=Z,300nm,20.3s,MS5.0
GRF Grafenberg Arr 129.90 332 *e*PKPdf PKPdf 09 31 30.1 -0.1
GRF *ep*PP PP 09 33 38.6 -2.6
GRFO Grafenberg 129.90 332 PFAKE 09 31 40.0 +10
GRFO LR LR
comp=Z,323nm,22.0s,MS5.0
EKA Eskdalemuir Ar 130.59 345 PKP PKPdf 09 31 31.6 +0.3
comp=Z,2.1nm,0.9s,baz=316,slow=2.8,SNR=5.2
EKA PP PP 09 33 37.6 -7.6
comp=Z,0.9nm,0.9s,baz=34,slow=7.7,SNR=2.5
FUR Furstenfeldbru 130.91 330 *e*PKPdf PKPdf 09 31 32.2 +0.1
TSUM Tsumeb 131.53 235 PFAKE 09 31 50.0 +16
TSUM LR LR
comp=Z,660nm,20.0s,MS5.3
SDDR Presa de Saban 132.04 72 PFAKE 09 31 50.0 +15
SDDR LR LR
comp=Z,436nm,20.0s,MS5.2
BFO Black Forest 132.21 332 PFAKE 09 31 50.0 +15
BFO LR LR
comp=Z,431nm,19.0s,MS5.2
GIVF Givet 132.40 336 *e*PKIKP PKPdf 09 31 34.6 -0.3
DAVOX Davos/Dischmat 132.55 330 PKP PKPdf 09 31 35.3 +0.1
comp=Z,8.1nm,0.9s,baz=342,slow=22,SNR=3.4
CDF Champ du Feu 132.63 333 *e*PKIKP PKPdf 09 31 35.1 -0.3
BAIF Baives 132.68 336 *e*PKIKP PKPdf 09 31 35.2 -0.2
SDV Santo Domingo 132.92 86 *e*PKPdf PKPdf 09 31 35.8 -1.2
SDV LR LR
comp=Z,120nm,20.0s,MS4.6
HINF Hinteralfeld 133.26 333 *e*PKIKP PKPdf 09 31 36.2 -0.4
comp=Z,24nm,1.0s
HAU Haudompre 133.35 333 *e*PKIKP PKPdf 09 31 36.5 -0.2
HAU *e*MLR MLR
comp=Z,424nm,20.5s,MS4.8
HAU Haudompre 133.35 333 *e*PKIKP PKPdf 09 31 36.5 -0.2
HAU MLR MLR
comp=Z,420nm,20.5s,MS5.1
CABF La Chapelle 134.50 332 *e*PKIKP PKPdf 09 31 38.7 -0.3
comp=Z,32nm,1.0s
BBSR BB Station 134.61 52 PFAKE 09 31 50.0 +10
BBSR LR LR
comp=Z,583nm,21.0s,MS5.3
LPL La Plagne 134.99 330 *e*PKIKP PKPdf 09 31 39.8 -0.1
LPG La Plagne 135.00 330 *e*PKIKP PKPdf 09 31 39.6 -0.3
LOR Lormes 135.00 334 *e*PKIKP PKPdf 09 31 39.7 -0.2
comp=Z,16nm,1.0s
LOR *e*MLR MLR
comp=Z,308nm,19.0s,MS4.8
LOR Lormes 135.00 334 *e*PKIKP PKPdf 09 31 39.7 -0.2
LOR MLR MLR
comp=Z,310nm,19.0s,MS5.0
SSF Saint Saulge 135.31 334 *e*PKIKP PKPdf 09 31 40.1 -0.4
BNI Bardonecchia 135.35 330 *e*PKPdf PKPdf 09 31 40.8 +0.2
SMF Signal de Mont 135.49 334 *e*PKIKP PKPdf 09 31 40.5 -0.3
FLN La Foliniere 135.50 339 *e*PKIKP PKPdf 09 31 39.4 -1.4
FLN *e*MLR MLR
comp=Z,307nm,19.5s,MS4.7
FLN La Foliniere 135.50 339 *e*PKIKP PKPdf 09 31 39.4 -1.4
FLN MLR MLR
comp=Z,310nm,19.5s,MS5.0
LDF La Druitiere 135.52 338 *e*PKIKP PKPdf 09 31 40.4 -0.4
comp=Z,9.5nm,0.7s
MBDF Montbardon 135.54 330 *e*PKIKP PKPdf 09 31 40.4 -0.6
comp=Z,18nm,1.1s
AVF Avril sur Loir 135.59 334 *e*PKIKP PKPdf 09 31 40.5 -0.5
comp=Z,9.4nm,1.0s
SBF Sospel 135.81 328 *e*PKIKP PKPdf 09 31 41.1 -0.4
PGF Pioggiola 135.86 326 *e*PKIKP PKPdf 09 31 41.2 -0.4
comp=Z,52nm,1.2s
GRR Gorron 135.96 339 *e*PKIKP PKPdf 09 31 40.2 -1.4
comp=Z,25nm,1.1s
VIVF Saint-Julien-l 136.47 331 *e*PKIKP PKPdf 09 31 41.6 -1.1
TCF Toulx Ste Croi 136.48 335 *e*PKIKP PKPdf 09 31 41.8 -0.9
comp=Z,21nm,1.0s
SGMF Saint Gilles 136.66 340 *e*PKIKP PKPdf 09 31 41.5 -1.4
comp=Z,56nm,1.3s
LMR La Mourre 136.66 328 *e*PKIKP PKPdf 09 31 42.5 -0.6
SMRF Simiane la Rot 136.68 330 *e*PKIKP PKPdf 09 31 42.6 -0.5
comp=Z,33nm,1.1s
ROSF Rostrenen 136.82 341 *e*PKIKP PKPdf 09 31 41.3 -1.9
comp=Z,60nm,1.6s
SJG San Juan 136.99 72 PFAKE 09 32 00.0 +16
SJG LR LR
comp=Z,235nm,22.0s,MS4.9
QUIF Quistinic 137.16 340 *e*PKIKP PKPdf 09 31 42.4 -1.5
MFF Saint Martin d 137.18 337 *e*PKIKP PKPdf 09 31 42.7 -1.3
LASF Ste Croix 137.44 331 *e*PKIKP PKPdf 09 31 43.2 -1.3
comp=Z,46nm,1.3s
MTLF Montolieu 138.77 332 *e*PKIKP PKPdf 09 31 46.2 -0.8
comp=Z,38nm,1.3s
KEST Kesra 139.84 318 PKP PKPdf 09 31 48.6 -0.5
comp=Z,2.4nm,0.9s,baz=263,slow=4.6,SNR=5.4
ETSF Etsaut 140.37 334 *e*PKIKP PKPdf 09 31 49.4 -0.5
SJPF Ste Jean 140.48 335 *e*PKIKP PKPdf 09 31 49.5 -0.6
EMHD Djebel Mahouad 143.59 323 P PKPdf 09 31 54.0 -1.9
GUD Guadarrama 143.75 335 P PKPdf 09 31 54.4 -1.7
CAM4 Nova Friburgo 143.94 148 ||*i*P PKPdf 09 31 55.1 -1.8
CAM4 *i* 09 31 57.2
CAM4 *i* 09 32 02.8
CAM4 *i* 09 32 05.7
CAM4 *i* 09 32 23.3
ETOB Tobarra 144.21 331 P PKPdf 09 31 53.9 -3.0
EBNR Beni Rached 144.35 325 P PKPdf 09 31 56.0 -1.2
MVO Moncorvo 144.40 339 *e*PKP PKPdf 09 31 55.1 -2.0
MVO Moncorvo 144.40 339 A 10 40 03.0
comp=Z,576nm,21.6s
ESDC Sonseca Array 144.48 334 P PKPdf 09 31 54.8 -2.5
ESDC Sonseca Array 144.48 334 PKP PKPdf 09 31 55.3 -2.0
comp=Z,6.0nm,1.0s,baz=26,slow=3.1,SNR=23
ESDC PP PP 09 35 06.3 -5.9
comp=Z,2.9nm,1.1s,baz=25,slow=6.5,SNR=4.3
ESLA Sonseca Array 144.48 334 *e*PKPdf PKPdf 09 31 56.2 -1.1
ESLA LR LR
comp=Z,2μm,21.0s,MS5.8
ECHA Ech Chlef 144.54 325 P PKPdf 09 31 57.0 -0.5
PVRL Vila Real 144.54 340 *e*PKP PKPdf 09 31 56.0 -1.4
EVIA Vianos 144.67 332 P PKPdf 09 31 54.4 -3.3
PAB San Pablo 144.75 335 PFAKE 09 32 10.0 +12
PAB LR LR
comp=Z,445nm,19.0s,MS5.3
EANR 'Ain N'Sour 144.83 325 P PKPdf 09 31 58.3 +0.2
PVIS Viseu 145.10 340 *e*P PKPbc 09 31 57.6 -0.2
ETRT Tiaret 145.11 324 P PKPbc 09 31 59.0 +1.0
MTE Manteigas 145.26 339 *e*PKP PKPdf 09 31 58.3 -0.4
MTE Manteigas 145.26 339 A 10 39 48.1
comp=Z,627nm,15.2s
BDFB Brasilia 145.60 134 PKPbc PKPbc 09 31 59.4 -0.7
comp=Z,79nm,0.9s,baz=223,slow=3.9,SNR=125
EQES Quesada 145.61 331 P PKPdf 09 31 59.0 -0.3
EBAN Banos Encina 145.65 333 P PKPdf 09 31 59.4 0.0
PCBR Castelo Branco 145.73 339 *e*PKP PKPdf 09 31 59.8 +0.3
EADA Adamuz 146.00 334 P PKPdf 09 31 60.0 0.0
CAM3 Guarapari 146.34 149 ||*i*P PKPdf 09 32 02.4 +1.3
CAM3 *i* 09 32 07.8
CAM3 *i* 09 32 12.5
CAM3 *i* 09 32 21.1
ELUQ Luque 146.36 333 P PKPdf 09 32 00.8 +0.2
EBAD Badajoz 146.51 337 P PKPdf 09 31 59.8 -1.0
ERON Agron 146.58 331 P PKPdf 09 32 01.8 +0.8
EGUA Guajares 146.62 331 P PKPdf 09 32 00.6 -0.5
PESTR Estremoz 146.63 338 *e*PKP PKPdf 09 32 01.9 +0.9
PESTR Estremoz 146.63 338 A 10 39 23.5
comp=Z,407nm,23.1s
ELOJ Sierra Loja 146.64 332 P PKPdf 09 32 01.6 +0.5
PBAR Barrancos 147.02 337 *e*PKP PKPdf 09 32 03.5 +1.8
PBAR Barrancos 147.02 337 A 10 42 39.8
comp=Z,319nm,14.9s
EVO Evora 147.08 338 *e*PKIKP PKPdf 09 32 03.5 +1.7
comp=Z,49nm,1.2s
EVO *e*MLR MLR
comp=Z,304nm,17.8s,MS4.8
PMAFR Mafra 147.15 340 *e*PKP PKPab 09 32 05.4 -0.2
PMAFR Mafra 147.15 340 A 10 38 23.9
comp=Z,523nm,17.4s
EMIN Mina Concepcio 147.22 336 P PKPdf 09 32 02.9 +0.9
EMIJ Mijas 147.41 332 P PKPdf 09 32 02.3 -0.1
PBEJ Beja 147.47 337 *e*PKP PKPab 09 32 05.6 -1.3
ESPR Espera 147.64 334 P PKPbc 09 32 04.8 -0.7
EGRO El Granado 147.75 337 P PKPdf 09 32 04.8 +1.8
EJIF Jimena Fronter 147.82 333 P PKPbc 09 32 05.5 -0.5
PVAQ Vaqueiros 147.96 337 *e*PKP PKPbc 09 32 05.3 -1.0
PVAQ Vaqueiros 147.96 337 A 10 39 22.0
comp=Z,504nm,18.6s
PBDV Barranco-do-Ve 148.18 337 *e*PKP PKPbc 09 32 07.2 +0.3
PBDV Barranco-do-Ve 148.18 337 A 10 38 55.5
comp=Z,327nm,19.8s
PTEO Sao Teotonio 148.21 338 *e*PKP PKPbc 09 32 06.4 -0.6
MORF Marmelete 148.40 338 *e*PKP PKPdf 09 32 05.1 +1.1
MORF Marmelete 148.40 338 A 10 38 39.4
comp=Z,349nm,22.9s
MDT Midelt 150.31 328 PKPbc PKPbc 09 32 12.7 +0.3
comp=Z,25nm,1.0s,baz=39,slow=3.0,SNR=28
TORD Torodi Ar. Bea 155.30 283 PKP PKPdf 09 32 13.8 -1.2
TORD PKPbc PKPdf 09 32 22.8 +7.8
TORD PP PP 09 36 23.6 +7.0
TORD Torodi Ar. Bea 155.30 283 PKP PKPdf 09 32 13.8 -1.2
comp=Z,1.5nm,1.0s,baz=8.4,slow=0.9,SNR=8.2
TORD PKPbc PKPdf 09 32 22.8 +7.8
comp=Z,8.1nm,1.0s,baz=77,slow=0.5,SNR=21
TORD PP PP 09 36 23.6 +7.0
comp=Z,3.2nm,1.1s,baz=61,slow=4.3,SNR=5.6
RCBR Riachuelo 160.90 137 PFAKE 09 32 30.0 +8.1
RCBR LR LR
comp=Z,389nm,21.0s
DBIC Dimbokro 161.94 266 PFAKE 09 32 30.0 +7.0
DBIC LR LR
comp=Z,522nm,22.0s
DBIC Dimbokro 161.94 266 PKPab PKPab 09 33 09.8 +0.9
comp=Z,14nm,1.0s,baz=102,slow=5.1,SNR=11

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*IDC **06** 09:20:47.8±1.3,2079S×16856E,h0km,mb4.3/9,*
mb1 4.5/9,mb1mx4.4/15,mbtmp4.3/9,MS4.7/2,Ms1 4.6/2,
ms1mx3.7/23,Error ellipse: s-maj=51.5km s-min=19.8km
az=153.0
*BJI **06** 09:20:48.7,2006S×16878E,h4km,mB5.1,mb4.8*
*NEIC **06** 09:20:48.4±0.7,2087S×16865E,h10km,mb4.7/4,Error*
ellipse: s-maj=36.2km s-min=12.4km az=156.0
*LDG **06** 09:20:49.4±0.4,2044S×16830E,h10km,Mb4.8/2,Error*
ellipse: s-maj=33.2km s-min=5.4km az=126.0
*ISCJB **06** 09:20:50.9±0.6,209S±0.1×1686E±0.1,h33km,mb4.5/12,*
MS4.8/2,Error ellipse: s-maj=23.1km s-min=8.4km
az=146.9
*SZGRF **06** 09:20:53.1,2075S×16960E,h42km,mb5.0,Vanuatu*
Islands

ISC 06 09:20:52.5±0.6,210S±01×1686E±01,h35km,
(h38km±3.5km:pP-P),n59,σ0°94/18,mb4.5/12,MS4.8/2,1C,
Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**2.28**	**242**	*e*P		**P**	**Pn**	**09 21 26.4**	**-1.2**
DZM				*e*S			**Sn**	**09 21 54.4**	**+0.1**
CTA	**Charters Tower**	**20.95**	**269**	P		**P**	**P**	**09 25 33.6**	**+1.1**
10nm,1.1s,baz=80,slow=14,SNR=3.0									
STKA	**Stephens Creek**	**26.43**	**240**	P		**P**	**P**	**09 26 27.8**	**+1.8**
3.3nm,0.7s,mb4.0,baz=73,slow=10,SNR=7.6									
WRA	**Warramunga Arr**	**32.09**	**266**	P		**P**	**P**	**09 27 15.4**	**-1.0**
2.5nm,0.9s,mb4.0,baz=96,slow=8.7,SNR=9.1									
ASAR	**Alice Springs**	**32.16**	**259**	P		**P**	**P**	**09 27 16.6**	**-0.4**
7.5nm,0.7s,mb4.7,baz=85,slow=9.2,SNR=74									
FITZ	**Fitzroy Crossi**	**40.51**	**266**	*e*P		**P**	**P**	**09 28 28.6**	**+0.2**
8.6nm,0.7s,mb4.5									
FITZ				*e*		pP		09 28 38.6	0.0
FITZ	**Fitzroy Crossi**	**40.51**	**266**	P		**P**	**P**	**09 28 28.7**	**+0.4**
4.9nm,0.7s,mb4.2,baz=114,slow=9.3,SNR=10									
MJAR	**Matsushiro Arr**	**64.04**	**333**	P		**P**	**P**	**09 31 21.6**	**-1.1**
2.7nm,0.9s,mb4.3,baz=171,slow=6.8,SNR=5.9									
GTA	**Gaotai**	**87.91**	**314**	*e*P		**P**	**P**	**09 33 39.4**	**+0.9**
GTA				AP		pP		09 33 44.2	-5.5
GTA				XP		sP		09 33 47.4	-6.3
GTA				AMB		AMB			
comp=Z,5.0nm,0.8s,mb4.8									
VNA3	**Neumayer Olymp**	**87.99**	**181**	*e*		**P**	**P**	**09 33 38.2**	**-0.3**
VNA3				*e*				09 33 44.2	
VNA3				*e*		pP		09 33 49.9	+0.3
SONM	**Songino Array**	**88.27**	**323**	P		**P**	**P**	**09 33 40.4**	**+0.4**
comp=Z,3.7nm,0.8s,mb4.6,baz=143,slow=5.7,SNR=21									
VNA2	**Neumayer--Watz**	**88.28**	**181**	*e*		**P**	**P**	**09 33 39.5**	**-0.4**
baz=190,slow=3.9									
VNA2				*e*				09 33 45.2	
VNA2				*e*		pP		09 33 51.4	+0.4
HUMO	**Hull Mountain**	**89.24**	**43**	*e*P		**P**	**P**	**09 33 44.9**	**+0.1**
comp=Z,3.5nm,0.7s,mb4.8									
USHA	**Ushuaia**	**90.20**	**151**	LR		LR		10 07 09.0	
comp=Z,526nm,21.4s,MS4.9,baz=182,slow=31									
NVAR	**Mina Array Bea**	**90.41**	**49**	P		**P**	**P**	**09 33 50.0**	**-0.3**
comp=Z,2.4nm,0.7s,mb4.6,baz=211,slow=6.4,SNR=22									
COLA	**College**	**91.89**	**17**	*e*P		**P**	**P**	**09 33 55.2**	**-1.3**
comp=Z,4.3nm,0.4s,mb5.1									
WVOR	**Wild Horse Val**	**91.98**	**45**	*e*P		**P**	**P**	**09 33 57.2**	**-0.3**
comp=Z,4.4nm,1.1s,mb4.7									
PLCA	**Paso Flores**	**97.61**	**139**	LR		LR		10 11 01.6	
comp=Z,213nm,20.0s,MS4.6,baz=60,slow=31									
PDAR	**Pinedale Array**	**98.24**	**47**	P		**P**	**P**	**09 34 28.2**	**+2.1**
comp=Z,0.2nm,0.7s,mb3.8,baz=224,slow=7.6,SNR=2.6									
YKA	**Yellowknife Ar**	**102.50**	**28**	P		Pdif		09 34 44.8	-0.3
YKA	**Yellowknife Ar**	**102.50**	**28**	P		Pdif		09 34 44.8	-0.2
comp=Z,0.4nm,0.6s,baz=257,slow=4.6,SNR=13									
MKAR	**Makanchi Array**	**102.57**	**315**	P		Pdif		09 34 45.8	+0.4
comp=Z,0.6nm,0.7s,baz=104,slow=6.1,SNR=2.4									
DPC	**Dobruska-Polom**	**143.47**	**330**	*e*PKP		PKPdf		09 40 20.7	-2.5
PVCC	**Panska Ves**	**144.14**	**332**	*e*PKP		PKPdf		09 40 23.1	-1.2
BRG	**Berggiesshubel**	**144.17**	**332**	*e*PKPbc		PKPdf		09 40 22.3	-2.1
CLL	**Collm**	**144.25**	**334**	*e*PKPdf		PKPdf		09 40 22.0	-2.5
CLL				*e*(pPKPdf)				09 40 34.0	
PRU	**Pruhonice**	**144.54**	**331**	*e*PKP		PKPdf		09 40 23.4	-1.6
CLZ	**Clausthal**	**144.87**	**336**	*e*PKPbc		PKPdf		09 40 24.5	-1.0
SOP	**Sopron**	**145.12**	**326**	||*e*PKP		PKPdf		09 40 26.5	+0.4
TANN	**Tannenbergstha**	**145.14**	**333**	*e*PKPbc		PKPbc		09 40 25.5	-0.1
NKC	**Novy Kostel**	**145.28**	**333**	*e*PKP		PKPdf		09 40 26.0	-0.3
MOX	**Moxa**	**145.32**	**334**	*e*(P)		PKPbc		09 40 26.2	0.0
comp=Z,17nm,1.1s									

MOX	Moxa	145.32	334	*e*PKPbc	PKPbc	09 40 26.0	-0.2
KHC	Kasperske Hory	145.59	331	*e*PKP	PKPdf	09 40 27.0	+0.1
KHC				*ex*	x	09 40 39.3	
MANZ	Manzenberg	145.62	333	*e*PKPbc	PKPbc	09 40 26.8	-0.4
ROTZ	Rotzenmuhle	145.74	333	*e*PKPbc	PKPbc	09 40 27.3	-0.2
GEC2	GERESS Array S	145.74	330	*e*PKPbc	PKPbc	09 40 27.4	-0.2
GEC2	GERESS Array S	145.74	330	*e*PKPbc	PKPbc	09 40 27.6	0.0
GERES	GERESS Array B	145.74	330	PKPbc	PKPbc	09 40 27.7	+0.1
	comp=Z,11nm,0.9s,baz=33,slow=3.2,SNR=56						
WET	Wettzell	145.90	331	*e*PKPbc	PKPbc	09 40 28.3	+0.2
GRF	Grafenberg Arr	146.21	333	*e*PKPbc	PKPbc	09 40 29.1	+0.1
GRF				*ep*PKPbc	pPKPbc	09 40 41.5	+1.1
GRF				*eL*		10 32 00.6	
	comp=Z,269nm,20.3s						
BFO	Black Forest	148.47	334	*e*PKPbc	PKPbc	09 40 35.0	-0.3
CDF	Champ du Feu	148.81	336	*e*PKP1	PKPbc	09 40 35.3	-0.9
	comp=Z,7.0nm,0.7s						
DAVOX	Davos/Dischmat	149.01	331	PKPbc	PKPbc	09 40 37.0	+0.2
	comp=Z,11nm,0.7s,baz=54,slow=0.9,SNR=13						
HINF	Hinteralfeld	149.47	335	*e*PKP1	PKPbc	09 40 36.9	-0.9
HAU	Haudompre	149.50	336	*e*PKP1	PKPbc	09 40 37.2	-0.7
CABF	La Chapelle	150.75	335	*e*PKP1	PKPbc	09 40 40.8	-0.2
	comp=Z,18nm,0.9s						
LOR	Lormes	151.03	338	*e*PKP1	PKPbc	09 40 40.7	-0.9
	comp=Z,8.4nm,0.7s						
SSF	Saint Saulge	151.33	339	*e*PKP1	PKPbc	09 40 41.5	-0.8
LPL	La Plagne	151.37	333	*e*PKP1	PKPbc	09 40 42.3	-0.2
LPG	La Plagne	151.38	333	*e*PKP1	PKPbc	09 40 42.3	-0.2
	comp=Z,12nm,0.8s						
MBDF	Montbardon	151.98	332	*e*PKP1	PKPbc	09 40 42.8	-1.1
	comp=Z,15nm,1.1s						
ORIF	Oris-en-Rattie	152.21	333	*e*PKP1	PKPbc	09 40 43.7	-0.7
	comp=Z,16nm,0.8s						
TCF	Toulx Ste Croi	152.44	339	*e*PKP1	PKPbc	09 40 44.0	-0.9
	comp=Z,9.5nm,0.9s						
PGF	Pioggiola	152.53	326	*e*PKP1	PKPbc	09 40 44.4	-0.8
	comp=Z,22nm,0.8s						
SMRF	Simiane la Rot	153.10	332	*e*PKP1	PKPbc	09 40 45.9	-0.5
	comp=Z,12nm,0.9s						
LMR	La Mourre	153.18	330	*e*PKP1	PKPbc	09 40 45.6	-1.0
MTLF	Montolieu	154.99	336	*e*PKP1	PKPbc	09 40 44.9	-5.6
TORD	Torodi Ar. Bea	165.26	240	PKP	PKPdf	09 40 53.8	-0.2
	comp=Z,2.2nm,1.2s,baz=350,slow=1.3,SNR=4.5						

*IDC **06** 09:31:22.3±0.9, 1969N×12200E, h0km, mb3.7/7, mb1 3.9/9, mb1mx3.8/21, mbtmp3.9/9, ML3.9/2, MS4.3/1, Ms1 4.3/1, ms1mx3.2/43, Error ellipse: s-maj=33.2km s-min=18.0km az=80.0*
*ISCJB **06** 09:31:26.2±0.8, 1986N±004×1219E±0.1, h34km±11km, mb3.6/7, Error ellipse: s-maj=16.4km s-min=6.2km az=13.5*
*NEIC **06** 09:31:26.8±0.9, 1975N×12199E, h30km, Error ellipse: s-maj=21.6km s-min=13.3km az=88.0*
*MAN **06** 09:31:27, 1953N×12162E, h1km, mb4.5, ML3.4, MS3.3*

ISC 06 09:31:28.0±0.7, 1983N±004×1219E±01, h36km±11km, n22, σ1°38/26, mb3.6/7, 2C, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PIP	**Pasuquin**	**1.94**	**220**	⇑*i*P	**Pn**	**09 31 56.0**	**-2.6**
PIP				*e*S	**Sn**	**09 32 20.9**	**-0.8**
APYP	**Conner**	**2.06**	**199**	*e*P	**Pn**	**09 31 58.0**	**-2.2**
APYP				*e*S	**Sn**	**09 32 23.5**	**-1.1**
CVP	**Callao Caves**	**2.11**	**183**	*e*P	**Pn**	**09 32 00.2**	**-0.7**
CVP				*e*S	**Sn**	**09 32 26.5**	**+0.6**
ABRA	**Dolores**	**2.46**	**208**	*e*P	Px	09 32 18.2	
PALP	**Palanan**	**2.79**	**170**	*e*P	**Pn**	**09 32 17.8**	**+7.6**
CAUP	**Cauayan**	**2.87**	**182**	*e*P	**Pn**	**09 32 12.7**	**+1.5**
BCPH	**Baguio City Da**	**3.66**	**201**	⇑*i*P	**Pn**	**09 32 24.8**	**+2.7**
BCPH				*i* S	**Sn**	**09 33 07.6**	**+3.5**
BOLP	**Bolinao**	**3.93**	**210**	*e*P	**Pn**	**09 32 25.9**	**+0.1**
BALP	**Baler**	**4.08**	**185**	*e*P	**Pn**	**09 32 29.0**	**+1.2**
NACB	**Ninganchiao**	**4.34**	**356**	*e*Pn	**Pn**	**09 32 29.7**	**-1.8**
YHNB	**Yeheng**	**4.85**	**354**	*e*Pn	**Pn**	**09 32 39.0**	**+0.5**
JOW	**Kunigami**	**9.08**	**39**	Pn	**Pn**	**09 33 35.4**	**-1.2**
	4.2nm,0.3s,baz=239,slow=13,SNR=16						
JOW				Sn	**Sn**	**09 35 09.7**	**-7.9**
	baz=114,slow=20,SNR=2.3						
JNU	**Nakatsue**	**15.46**	**29**	Pn	**Pn**	**09 35 04.5**	**+1.0**
	0.2nm,0.3s,baz=193,slow=13,SNR=2.3						
KSRS	**Korea Array**	**18.32**	**15**	P	**Pn**	**09 35 45.4**	**+6.0**
	0.2nm,0.3s,baz=198,slow=11,SNR=6.3						
MJAR	**Matsushiro Arr**	**21.92**	**37**	P	**P**	**09 36 19.6**	**+1.3**
	0.5nm,0.5s,mb3.2,baz=302,slow=9.8,SNR=3.1						
SONM	**Songino Array**	**30.66**	**339**	P	**P**	**09 37 39.0**	**+0.1**
	0.4nm,0.7s,mb3.4,baz=131,slow=9.9,SNR=3.8						
WRA	**Warramunga Arr**	**41.35**	**162**	P	**P**	**09 39 08.6**	**-2.0**
	1.3nm,0.8s,mb3.6,baz=342,slow=9.2,SNR=10						
MKAR	**Makanchi Array**	**42.01**	**319**	P	**P**	**09 39 18.1**	**+2.3**
	0.9nm,0.4s,mb3.7,baz=119,slow=9.9,SNR=4.0						
ZALV	**Zalesovo Beam**	**44.30**	**329**	P	**P**	**09 39 34.4**	**+0.2**
ZALV	**Zalesovo Beam**	**44.30**	**329**	P	**P**	**09 39 34.4**	**+0.2**
	1.4nm,0.6s,mb3.9,baz=116,slow=8.1,SNR=6.0						
ASAR	**Alice Springs**	**44.77**	**164**	P	**P**	**09 39 37.1**	**-1.1**
	0.5nm,0.7s,mb3.5,baz=343,slow=7.3,SNR=10						
YKA	**Yellowknife Ar**	**86.70**	**23**	P	**P**	**09 44 07.2**	**-0.6**
	0.4nm,0.6s,mb3.9,baz=307,slow=4.5,SNR=15						

IDC 06 09:51:35.5±2.7, 1469S×7675W, h0km, mb1 3.6/2, mb1mx3.4/15, mbtmp3.5/2, ML3.5/2, Error ellipse: s-maj=67.6km s-min=29.9km az=55.0, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**2.69**	**358**	Pn	Pn	09 52 19.4	-0.6
	1.8nm,0.3s,baz=166,slow=12,SNR=2.4						
NNA				Sn	Sn	09 52 55.5	+2.3
	20nm,0.3s,baz=230,slow=19,SNR=11						
LPAZ	**La Paz**	**8.46**	**102**	Pn	Pn	09 53 40.9	+1.5
	0.6nm,0.3s,baz=281,slow=7.7,SNR=13						
TORD	**Torodi Ar. Bea**	**82.42**	**74**	P	P	10 03 59.8	-0.5
	0.6nm,0.7s,baz=251,slow=4.5,SNR=6.3						
YKA	**Yellowknife Ar**	**82.44**	**343**	P	P	10 03 59.8	+0.5
	0.1nm,0.8s,baz=144,slow=5.7,SNR=4.7						

IDC 06 09:52:08.0±1.4, 729S×15556E, h0km, mb3.7/5, mb1 3.8/6, mb1mx3.7/14, mbtmp3.7/6, ML3.9/1, Error ellipse: s-maj=35.0km s-min=27.9km az=116.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.83**	**116**	Pn	Pn	09 53 21.4	-0.6
	5.5nm,0.3s,baz=252,slow=4.3,SNR=3.9						
WRA	**Warramunga Arr**	**24.12**	**236**	P	P	09 57 27.2	+1.6
	1.0nm,0.6s,baz=61,slow=9.8,SNR=14						
ASAR	**Alice Springs**	**26.41**	**230**	P	P	09 57 45.6	-0.8
	0.4nm,0.7s,baz=62,slow=9.6,SNR=7.5						
SONM	**Songino Array**	**69.89**	**327**	P	P	10 03 22.1	+1.4
	0.2nm,0.5s,baz=134,slow=4.2,SNR=3.6						
MKAR	**Makanchi Array**	**84.00**	**319**	P	P	10 04 39.7	-0.5
	0.4nm,0.5s,baz=90,slow=4.9,SNR=4.0						
ZALV	**Zalesovo Beam**	**84.74**	**326**	P	P	10 04 42.8	-1.0
	0.7nm,0.5s,baz=114,slow=7.0,SNR=2.8						

IDC 06 09:52:30.8±1.3, 727S×15560E, h0km, mb3.9/5, mb1 3.9/6, mb1mx3.8/14, mbtmp4.0/6, ML4.3/1, Error ellipse: s-maj=34.8km s-min=28.2km az=113.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.81**	**117**	Pn	Pn	09 53 43.6	-0.8
	14nm,0.3s,baz=250,slow=2.4,SNR=4.4						
WRA	**Warramunga Arr**	**24.16**	**236**	P	P	09 57 49.9	+1.0
	0.7nm,0.5s,baz=61,slow=9.8,SNR=12						
ASAR	**Alice Springs**	**26.45**	**230**	P	P	09 58 09.4	-0.2
	0.2nm,0.5s,baz=54,slow=13,SNR=5.2						
SONM	**Songino Array**	**69.89**	**327**	P	P	10 03 44.7	+1.2
	1.1nm,0.8s,baz=128,slow=7.3,SNR=7.6						
MKAR	**Makanchi Array**	**84.00**	**319**	P	P	10 05 03.2	+0.1
	2.7nm,0.8s,baz=106,slow=5.9,SNR=12						
ZALV	**Zalesovo Beam**	**84.74**	**326**	P	P	10 05 05.5	-1.2
	1.8nm,0.4s,baz=106,slow=6.4,SNR=9.6						

*ISCJB **06** 10:00:45.0±1.5, 2159S±0.10×682W±0.1, h106km±18km, mb3.8/2, Error ellipse: s-maj=24.4km s-min=11.8km az=29.5*

*NEIC **06** 10:00:45.5±1.2, 2154S×6842W, h102km±12km, Error ellipse: s-maj=23.7km s-min=11.7km az=105.0*
*IDC **06** 10:00:46.1±2.4, 2154S×6842W, h106km±21km, mb3.4/2, mb1 3.5/5, mb1mx3.3/17, mbtmp3.3/5, MS3.8/1, Ms1 3.8/1, ms1mx2.5/34, Error ellipse: s-maj=33.7km s-min=20.6km az=105.0*

ISC 06 10:00:46.3±1.3, 2157S±009×682W±01, h101km±15km, n13, σ1°38/13, mb3.7/2, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**5.25**	**1**	*e*P	**Pn**	**10 02 02.8**	**+0.3**
LPAZ	**La Paz**	**5.25**	**1**	P	**Pn**	**10 02 04.2**	**+1.8**
	0.7nm,0.3s,baz=210,slow=8.2,SNR=11						
SIV	**San Ignacio**	**8.76**	**52**	P	**Pn**	**10 02 50.7**	**+0.6**
	0.6nm,0.3s,baz=245,slow=12,SNR=20						
SIV				S	**Sn**	**10 04 25.7**	**-1.4**
	baz=272,slow=20,SNR=3.7						
CFAA	**Coronel Fontan**	**10.00**	**180**	P	**Pn**	**10 03 05.3**	**-1.5**
CFAA				S	**Sn**	**10 04 50.3**	**-6.8**
CFAA	**Coronel Fontan**	**10.00**	**180**	P	**Pn**	**10 03 05.3**	**-1.5**
	0.0nm,0.3s,baz=7.6,slow=15,SNR=2.3						
CFAA				S	**Sn**	**10 04 50.3**	**-6.8**
	0.0nm,0.3s,baz=94,slow=23,SNR=5.7						
PLCA	**Paso Flores**	**19.21**	**185**	P	**P**	**10 05 03.5**	**+1.4**
	0.1nm,0.3s,baz=329,slow=9.7,SNR=3.4						
BDFB	**Brasilia**	**20.04**	**76**	P	**P**	**10 05 12.9**	**+1.6**
	0.6nm,0.3s,baz=260,slow=13,SNR=3.6						
SDV	**Santo Domingo**	**30.36**	**355**	LR	LR	10 19 46.1	
	comp=Z,203nm,21.7s,baz=341,slow=38						
TORD	**Torodi Ar. Bea**	**76.78**	**70**	P	**P**	**10 12 27.4**	**+0.2**
	0.5nm,0.4s,mb3.6,baz=253,slow=6.0,SNR=12						
YKA	**Yellowknife Ar**	**91.46**	**340**	P	**P**	**10 13 38.2**	**-2.4**
YKA	**Yellowknife Ar**	**91.46**	**340**	P	**P**	**10 13 38.2**	**-2.4**
	0.4nm,0.5s,mb3.8,baz=133,slow=4.6,SNR=13						
WRA	**Warramunga Arr**	**133.21**	**210**	PKP	PKPdf	10 19 50.0	-1.0
	0.5nm,1.2s,baz=168,slow=1.9,SNR=3.2						
MKAR	**Makanchi Array**	**145.31**	**36**	PKPbc	PKPbc	10 20 11.7	-0.3
	0.3nm,0.3s,baz=284,slow=2.4,SNR=2.5						

*BJI **06** 10:02:01.7, 5170N×17930W, h1km, mB4.9, mb4.7, Ms4.8, Msz4.6*
*NEIC **06** 10:02:03.8, 5170N×17928W, h2km, mb4.5/15, ML4.7(AEIC), After AEIC.*
*ISCJB **06** 10:02:05.8±0.2, 5179N±007×17932W±004, h33km, mb4.3/35, MS4.5/4, Error ellipse: s-maj=9.7km s-min=3.4km az=175.0*
*IDC **06** 10:02:06.5±2.5, 5166N×179.14W, h33km±18km, mb3.9/18, mb1 4.1/18, mb1mx4.0/26, mbtmp3.9/18, MS4.1/1, Ms1 4.1/1, ms1mx3.0/52, Error ellipse: s-maj=20.0km s-min=12.3km az=159.0*

ISC 06 10:02:08.0±0.2, 5182N±006×17930W±004, h35km, (h9km±4.9km:pP-P), n183, σ0°85/187, mb4.3/35, MS4.5/4, 57C-54D, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMKA	**Amchitka**	**0.98**	**244**	P	**Pn**	**10 02 21.5**	**-3.6**
AMKA				S	**Sn**	**10 02 34.8**	**-3.0**
ADK	**Adak**	**1.62**	**87**	P	**Pn**	**10 02 31.5**	**-2.5**
ADK				S	**Sn**	**10 02 52.7**	**-0.9**
SMY	**Shemya**	**4.16**	**285**	P	**Pn**	**10 03 07.4**	**-1.5**
SMY				S	**Sn**	**10 03 57.5**	**+1.3**
SPIA	**Saint Paul Isl**	**7.52**	**41**	P	**Pn**	**10 03 53.2**	**-1.7**
SPIA				S	**Sn**	**10 05 16.6**	**-2.2**
UNV	**Unalaska Valle**	**8.01**	**70**	P	**Pn**	**10 03 59.5**	**-2.1**
AKUT	**Akutan**	**8.48**	**69**	*e*P	**Pn**	**10 04 06.8**	**-1.4**
FALS	**False Pass**	**9.97**	**66**	P	**Pn**	**10 04 25.4**	**-3.2**
SVW2	**Sparrevohn**	**15.97**	**45**	*e*P	**Pn**	**10 05 57.8**	**+8.1**
TTA	**Tatalina**	**16.66**	**39**	*e*P	**Pn**	**10 06 05.0**	**+6.7**
IMA2	**Indian Mountai**	**19.23**	**32**	*e*P	**Pn**	**10 06 33.9**	**+4.0**
MCK	**McKinley**	**19.87**	**41**	*e*P	**Pn**	**10 06 35.5**	**-2.0**
	10nm,0.8s						
COLA	**College**	**20.76**	**39**	*e*P	**P**	**10 06 46.7**	**+1.4**
	22nm,0.8s						
MENT	**Mentasta**	**21.85**	**46**	*e*P	**P**	**10 07 00.1**	**+3.0**
EGAK	**Eagle**	**23.42**	**42**	*e*P	**P**	**10 07 11.8**	**-1.8**
	46nm,1.0s,mb4.9						
DAWY	**Dawson**	**24.00**	**44**	*e*P	**P**	**10 07 17.2**	**-1.7**
ASAJ	**Asahikawa**	**26.41**	**268**	P	**P**	**10 07 41.1**	**+0.2**
	11nm,1.1s,mb4.3,baz=118,slow=5.8,SNR=4.6						
INK	**Inuvik**	**27.28**	**36**	*e*P	**P**	**10 07 46.4**	**-2.1**
	265nm,0.9s						
INK	**Inuvik**	**27.28**	**36**	P	**P**	**10 07 48.1**	**-0.4**
	4.8nm,0.7s,mb4.1,baz=250,slow=8.7,SNR=17						
INK				PcP	PcP	10 11 04.9	-2.3
	1.3nm,1.0s,baz=0.0,slow=0.0,SNR=2.9						
INK				ScP	ScP	10 14 43.0	-1.6
	0.9nm,0.9s,baz=256,slow=4.6,SNR=3.0						
MJAR	**Matsushiro Arr**	**33.55**	**260**	P	**P**	**10 08 41.9**	**-2.3**
	1.7nm,0.8s,mb4.0,baz=55,slow=6.4,SNR=4.7						
YKA	**Yellowknife Ar**	**35.15**	**47**	P	**P**	**10 08 56.0**	**-1.8**
YKA				PcP	PcP	10 11 26.3	-2.0
YKA				ScP	ScP	10 15 08.7	-2.2
YKA	**Yellowknife Ar**	**35.15**	**47**	P	**P**	**10 08 56.0**	**-1.8**
	1.0nm,0.5s,mb4.0,baz=283,slow=7.8,SNR=11						
YKA				PcP	PcP	10 11 26.3	-2.0
	0.2nm,0.4s,baz=285,slow=3.1,SNR=6.1						
YKA				ScP	ScP	10 15 08.7	-2.2
	0.3nm,0.8s,baz=295,slow=3.2,SNR=4.4						
CN2	**Changchun**	**37.16**	**280**	*e*P	**P**	**10 09 14.7**	**-0.5**
COR	**Corvallis**	**37.20**	**78**	*e*P	**P**	**10 09 16.3**	**+0.9**
J02A	**Umpqua**	**37.68**	**80**	⇓P	**P**	**10 09 19.9**	**+0.3**
	baz=38						
H04A	**Detroit Lake**	**37.82**	**78**	⇑P	**P**	**10 09 20.9**	**+0.1**
	baz=38						
J03A	**Ideyld Park**	**38.05**	**80**	⇑P	**P**	**10 09 23.1**	**+0.4**
	baz=38						
I04A	**Tendick Farm,**	**38.16**	**79**	⇑P	**P**	**10 09 23.9**	**+0.3**
	baz=38						
L02A	**Cave Junction**	**38.34**	**82**	⇑P	**P**	**10 09 25.2**	**+0.1**
	baz=38						
NEW	**Newport**	**39.02**	**70**	P	**P**	**10 09 29.2**	**-1.5**
	1.4nm,1.0s,mb3.7,baz=145,slow=6.7,SNR=2.4						
YBH	**Yreka Blue Hor**	**39.12**	**82**	*e*P	**P**	**10 09 32.0**	**+0.3**
	8.1nm,1.2s,mb4.3						
YBH	**Yreka Blue Hor**	**39.12**	**82**	⇓P	**P**	**10 09 32.3**	**+0.6**
	baz=39						
J05A	**Fort Rock**	**39.16**	**79**	⇓P	**P**	**10 09 32.2**	**+0.2**
	baz=39						
M02C	**Callahan**	**39.23**	**82**	⇑P	**P**	**10 09 33.1**	**+0.4**
	baz=39						
N02C	**Big Bar**	**39.28**	**84**	⇓P	**P**	**10 09 33.6**	**+0.5**
	baz=39						
KSRS	**Korea Array**	**39.33**	**270**	P	**P**	**10 09 32.9**	**-0.6**
	1.2nm,0.6s,mb3.8,baz=58,slow=7.1,SNR=7.0						
M04C	**Macdoel**	**39.63**	**81**	⇑P	**P**	**10 09 36.3**	**+0.4**
	baz=40						
K05A	**Summer Lake**	**39.67**	**79**	⇑P	**P**	**10 09 36.8**	**+0.4**
	baz=40						
M03C	**McCloud**	**39.75**	**82**	⇑P	**P**	**10 09 37.2**	**+0.2**
	baz=40						
I07A	**Izee**	**39.77**	**77**	⇓P	**P**	**10 09 37.4**	**+0.3**
	baz=40						
J06A	**Christmas Vall**	**39.83**	**78**	⇑P	**P**	**10 09 38.0**	**+0.4**
	baz=40						
WDC	**Whiskeytown Da**	**39.89**	**83**	*e*P	**P**	**10 09 39.8**	**+1.6**
	4.5nm,0.9s,mb4.2						
O02C	**Red Bluff**	**39.98**	**84**	⇓P	**P**	**10 09 39.4**	**+0.5**
	baz=40						
K06A	**Valley Falls**	**40.02**	**79**	⇑P	**P**	**10 09 39.1**	**-0.1**
	baz=40						
L05A	**Lakeview**	**40.09**	**80**	⇓P	**P**	**10 09 40.2**	**+0.4**
	baz=40						
M05C	**Lookout**	**40.30**	**81**	⇑P	**P**	**10 09 41.6**	**+0.1**
	baz=40,SNR=5.9						
GASB	**Alder Springs**	**40.34**	**85**	⇑P	**P**	**10 09 42.3**	**+0.5**
	baz=40						
HATC	**Hat Creek Radi**	**40.42**	**82**	⇓P	**P**	**10 09 43.0**	**+0.5**
	baz=40						
MOD	**Modoc**	**40.50**	**80**	*e*P	**P**	**10 09 43.4**	**+0.2**
	5.8nm,0.9s,mb4.2						
MOD	**Modoc**	**40.50**	**80**	⇑P	**P**	**10 09 43.4**	**+0.2**
	baz=40						
K07A	**Rock Creek Ran**	**40.70**	**78**	⇓P	**P**	**10 09 45.2**	**+0.4**
	baz=40						
O04C	**Chester**	**40.94**	**83**	⇑P	**P**	**10 09 47.1**	**+0.2**
	baz=41,SNR=6.8						
ELFS	**Eagle Lake Fie**	**40.99**	**82**	⇓P	**P**	**10 09 47.3**	**+0.1**
	baz=41						
L07A	**Adell**	**41.02**	**79**	⇑P	**P**	**10 09 47.8**	**+0.4**
	baz=41						
ORV	**Oroville**	**41.15**	**84**	⇑P	**P**	**10 09 48.9**	**+0.4**
	baz=41						
WVOR	**Wild Horse Val**	**41.21**	**78**	*e*P	**P**	**10 09 46.5**	**-2.5**
	3.0nm,0.7s,mb4.0						
O05C	**Quincy**	**41.26**	**83**	⇑P	**P**	**10 09 49.7**	**+0.2**
	baz=41						
OHCM	**Honcut**	**41.29**	**84**	*e*P	**P**	**10 09 49.1**	**-0.5**
N06A	**Buffalo Meadow**	**41.46**	**81**	P	**P**	**10 09 51.5**	**+0.5**
	baz=41,SNR=6.7						
M07A	**Soldier Meadow**	**41.49**	**80**	⇓P	**P**	**10 09 51.9**	**+0.6**
	baz=41						
L08A	**Fields**	**41.53**	**78**	⇑P	**P**	**10 09 51.7**	**0.0**
	baz=41						
BEKR	**Beckwourth**	**41.66**	**83**	⇓P	**P**	**10 09 53.1**	**+0.4**
	baz=42						
M08A	**Happy Creek Ra**	**41.94**	**79**	⇑P	**P**	**10 09 55.5**	**+0.5**
	baz=42						
L09A	**Wilkinson Ranc**	**42.04**	**78**	⇑P	**P**	**10 09 56.1**	**+0.3**
	baz=42						
K10A	**MacKenzie Ranc**	**42.09**	**77**	⇓P	**P**	**10 09 56.2**	**0.0**
	baz=42						
LAVA	**Lava Cap Winer**	**42.10**	**84**	⇓P	**P**	**10 09 55.9**	**-0.4**
	baz=42						
WCN	**Washoe City**	**42.37**	**83**	⇑P	**P**	**10 09 59.4**	**+0.9**
	baz=42						
N08A	**GE Springer Mi**	**42.48**	**80**	⇓P	**P**	**10 09 59.8**	**+0.4**
	baz=42						
R05C	**Kirkwood Meado**	**42.54**	**84**	⇓P	**P**	**10 10 00.4**	**+0.5**
	baz=42						
CMB	**Columbia Colle**	**42.76**	**85**	⇓P	**P**	**10 10 01.9**	**+0.2**
	baz=43						
J12A	**Stokes Ranch,**	**42.89**	**75**	⇓P	**P**	**10 10 03.4**	**+0.7**
	baz=43						
M10A	**I.L. Ranch, Tu**	**43.02**	**78**	⇓P	**P**	**10 10 03.8**	**+0.1**
	baz=43						
R06C	**Coleville**	**43.04**	**84**	⇑P	**P**	**10 10 04.5**	**+0.5**
	baz=43						
I13A	**Wildhorse Cree**	**43.10**	**74**	⇓P	**P**	**10 10 05.3**	**+0.9**
	baz=43						
HLID	**Hailey**	**43.12**	**74**	*e*P	**P**	**10 10 04.3**	**-0.2**
	19nm,1.9s,mb4.5						
HLID	**Hailey**	**43.12**	**74**	⇓P	**P**	**10 10 05.2**	**+0.6**
	baz=43						
MCMT	**McKenzie Canyo**	**43.33**	**72**	*e*P	**P**	**10 10 04.0**	**-2.3**
J13A	**Cove Ranch, Pi**	**43.35**	**74**	⇑P	**P**	**10 10 06.8**	**+0.4**
	baz=43						
K12A	**Draper Farm, C**	**43.36**	**76**	⇑P	**P**	**10 10 06.8**	**+0.3**
	baz=43						
O09A	**Fish Creek Ran**	**43.42**	**80**	⇑P	**P**	**10 10 07.4**	**+0.4**
	baz=43						
M11A	**Holland Ranch,**	**43.52**	**78**	⇑P	**P**	**10 10 08.0**	**+0.1**
	baz=43						
R07C	**Lee Vining**	**43.56**	**84**	⇓P	**P**	**10 10 08.5**	**+0.4**
	baz=43						
L12A	**House Creek Ra**	**43.57**	**76**	⇓P	**P**	**10 10 08.8**	**+0.5**
	baz=43						
BOZ	**Bozeman (W)**	**43.59**	**70**	⇑P	**P**	**10 10 08.6**	**+0.2**
	baz=43						
Q08A	**Gabbs**	**43.77**	**82**	⇑P	**P**	**10 10 10.3**	**+0.5**
	baz=44,SNR=5.2						
O10A	**Cortez Mining,**	**43.77**	**80**	⇓P	**P**	**10 10 10.3**	**+0.4**
	baz=44						
NVAR	**Mina Array Bea**	**43.80**	**83**	P	**P**	**10 10 09.7**	**-0.4**
	1.7nm,0.8s,mb3.9,baz=300,slow=5.7,SNR=13						
T06C	**Millerton Lake**	**43.83**	**86**	⇓P	**P**	**10 10 10.5**	**+0.2**
	baz=44						
KCC	**Kaiser Creek**	**43.87**	**85**	⇑P	**P**	**10 10 11.0**	**+0.4**
	baz=44						
M12A	**Wells**	**44.06**	**77**	⇑P	**P**	**10 10 12.5**	**+0.3**
	baz=44						
P10A	**Eureka**	**44.20**	**80**	⇓P	**P**	**10 10 13.8**	**+0.5**
	baz=44						
L13A	**Double Diamond**	**44.25**	**76**	⇓P	**P**	**10 10 13.6**	**0.0**
	baz=44						
N12A	**Clover Valley,**	**44.33**	**78**	⇑P	**P**	**10 10 14.4**	**+0.1**
	baz=44						
O11A	**Cowboy Ranch,**	**44.38**	**79**	⇓P	**P**	**10 10 14.7**	**0.0**
	baz=44						
HELL	**Mitchell Peak**	**44.46**	**85**	⇑P	**P**	**10 10 15.4**	**0.0**
	baz=44						
S08C	**White Mtn Res**	**44.47**	**84**	⇓P	**P**	**10 10 15.7**	**+0.3**
	baz=44,SNR=5.2						
R09A	**Tonopah**	**44.68**	**82**	P	**P**	**10 10 17.0**	**-0.1**
	baz=44,SNR=19						
Q10A	**Clear Creek Ra**	**44.73**	**81**	P	**P**	**10 10 17.9**	**+0.4**
	baz=45,SNR=16						
O12A	**Currie**	**44.86**	**78**	⇑P	**P**	**10 10 18.4**	**-0.1**
	baz=45						
S09A	**Goldfield**	**44.91**	**83**	⇑P	**P**	**10 10 18.9**	**0.0**
	baz

baz=48,SNR=5.5
PFO Pinyon Flat Ob 48.05 87 LR LR 10 28 42.2
comp=Z,204nm,19.2s,MS4.1,baz=155,slow=33
SRU San Rafael 48.13 77 *e*P **P 10 10 44.0 -0.2**
4.5nm,1.0s,mb4.5
U14A Mt Trumbull 48.23 81 ⇑P **P 10 10 44.9 -0.1**
baz=48
T15A Red Dirt Ranch 48.33 80 ⇑P **P 10 10 45.7 -0.1**
baz=48
NJ2 Nanjing 48.49 271 *e*P **P 10 10 48.5 +1.4**
NJ2 AMB AMB
comp=Z,20nm,0.6s,mb5.3
W13A Hualapai Mount 48.66 83 ⇓P **P 10 10 47.7 -0.6**
baz=48
V14A Boquillas Ranc 48.78 82 ⇓P **P 10 10 49.4 +0.2**
baz=49,SNR=5.1
X13A Yucca 49.02 84 ⇓P **P 10 10 50.9 -0.3**
baz=49
GLA Glamis 49.44 86 ⇑P **P 10 10 54.3 0.0**
baz=49
Y13A Salome 49.54 85 ⇑P **P 10 10 55.3 +0.2**
baz=49
W15A Williams 49.60 82 ⇑P **P 10 10 56.1 +0.6**
baz=49
X14A Yava 49.69 83 ⇑P **P 10 10 56.2 0.0**
baz=50,SNR=5.6
WUAZ Wupatki 49.92 81 *e*P **P 10 10 56.6 -1.3**
comp=Z,5.7nm,0.8s,mb4.7
WUAZ Wupatki 49.92 81 ⇑P **P 10 10 58.2 +0.2**
baz=50
Y14A Wickenburg 49.97 84 ⇓P **P 10 10 58.4 0.0**
baz=50
X15A Humboldt 50.08 83 ⇑P **P 10 10 59.1 -0.1**
baz=50
Y15A Casa Rosa Ranc 50.37 83 ⇑P **P 10 11 01.7 +0.3**
baz=50
X16A Lo Mia Camp, P 50.61 82 ⇓P **P 10 11 03.4 +0.2**
baz=50,SNR=6.2
Y16A Circle Bar Ran 50.95 83 ⇑P **P 10 11 06.1 +0.4**
baz=51
115A Sonoran Desert 51.28 84 ⇓P **P 10 11 08.6 +0.3**
baz=51
116A Eloy 51.70 84 ⇓P **P 10 11 11.4 0.0**
baz=52
217A Green Valley 52.79 84 ⇓P **P 10 11 20.5 +1.0**
baz=53
119A Ashpeak Ranch, 53.04 82 ⇓P **P 10 11 22.3 +1.0**
baz=53
LAZ Ladron 53.26 79 *e*P **P 10 11 22.7 -0.2**
318A Bisbee 53.53 84 ⇑P **P 10 11 25.7 +0.8**
baz=53
BNM Barren Site 53.74 79 *e*P **P 10 11 25.8 -0.6**
319A Douglas 54.01 83 ⇑P **P 10 11 29.2 +0.7**
baz=54
LZH Lanzhou 54.97 286 *e*P **P 10 11 35.6 +0.3**
LZH AP pP 10 11 40.3 -5.6
LZH XP sP 10 11 42.8 -7.2
LZH *e*PP PP 10 13 40.2 +1.9
LZH AMB AMB
comp=Z,16nm,1.4s,mb4.9
LZH AMB AMB
comp=Z,49nm,6.6s
LZH LR LR
comp=E,393nm,16.1s
LZH LR LR
comp=Z,521nm,18.7s,MS4.6
GTA Gaotai 55.12 291 *e*P **P 10 11 38.3 +1.9**
GTA AP pP 10 11 42.5 -4.4
GTA XP sP 10 11 46.0 -5.0
GTA PP PP 10 13 42.4 +2.9
GTA S **S 10 19 22.8 +6.2**
GTA XS sS 10 19 30.8 -3.1
GTA SCS ScS 10 21 23.8 +1.3
GTA SS SS 10 23 08.4 +8.2
GTA AMB AMB
comp=Z,5.0nm,1.0s,mb4.5
GTA AMB AMB
comp=Z,188nm,6.5s
GTA LR LR
comp=N,230nm,18.3s,MS4.5
GTA LR LR
comp=E,346nm,18.7s,MS4.5
GTA LR LR
comp=Z,163nm,14.1s,MS4.2
ARCES ARCESS Array B 57.60 350 P **P 10 11 55.3 +1.7**
comp=Z,8.2nm,1.1s,mb4.7,baz=26,slow=5.8,SNR=5.5
TXAR Lajitas Array 58.89 81 P **P 10 12 01.4 -1.8**
comp=Z,1.3nm,0.6s,mb4.2,baz=302,slow=4.8,SNR=12
GYA Guiyang 59.97 275 P **P 10 12 11.6 +0.9**
GYA AP pP 10 12 15.8 -5.5
GYA XP sP 10 12 18.6 -6.8
GYA PCP PcP 10 12 58.0 +1.4
GYA PP PP 10 14 26.6 +3.6
GYA SCP ScP 10 16 58.0 +3.3
GYA S **S 10 20 22.5 +1.9**
GYA SCS ScS 10 21 59.0 +0.6
GYA SS SS 10 24 19.9 +2.9
GYA AMB AMB
comp=Z,10.0nm,1.0s,mb4.8
GYA AMB AMB
comp=Z,110nm,6.5s
GYA LR LR
comp=N,490nm,21.6s,MS4.8
GYA LR LR
comp=E,520nm,22.2s,MS4.8
GYA LR LR
comp=Z,410nm,20.8s,MS4.5
KMI Kunming 63.36 277 P **P 10 12 35.8 +2.2**
KMI AMB AMB
comp=Z,7.0nm,1.0s,mb4.8
FINES FINESS Array B 65.28 347 P **P 10 12 45.0 -0.6**
comp=Z,1.3nm,0.7s,mb4.1,baz=349,slow=1.9,SNR=3.1
NOA NORSAR Array B 67.18 354 P **P 10 12 58.8 +1.1**
comp=Z,2.0nm,0.9s,mb4.2,baz=7.4,slow=6.7,SNR=2.9
AKASG Malin Array Be 75.03 342 P **P 10 13 44.1 -1.3**
comp=Z,0.7nm,0.3s,mb4.0,baz=21,slow=6.2,SNR=7.5
GERES GERESS Array B 79.10 351 P **P 10 14 09.3 +1.0**
comp=Z,0.4nm,0.8s,mb3.4,baz=38,slow=6.8,SNR=4.0
WB2 Warramunga Arr 82.11 223 *e*P **P 10 14 23.1 -1.6**
WRA Warramunga Arr 82.12 223 P **P 10 14 22.6 -2.1**
comp=Z,2.4nm,0.7s,mb4.2,baz=34,slow=6.1,SNR=22
FITZ Fitzroy Crossi 84.50 232 *e*P **P 10 14 36.3 -0.7**
comp=Z,6.0nm,0.6s,mb4.9
ASAR Alice Springs 85.61 222 P **P 10 14 41.7 -0.7**
comp=Z,2.3nm,0.8s,mb4.5,baz=24,slow=5.4,SNR=30
STKA Stephens Creek 90.13 212 *e*P **P 10 15 04.0 +0.1**
comp=Z,4.4nm,0.8s,mb4.8
STKA Stephens Creek 90.13 212 P **P 10 15 03.6 -0.3**
comp=Z,3.3nm,0.8s,mb4.7,baz=353,slow=5.8,SNR=10
MAW Mawson 146.64 218 PKPbc PKPbc 10 21 42.8 -1.5
comp=Z,5.4nm,0.6s,baz=76,slow=6.6,SNR=12

IDC 06 10:02:13.9±6.3,787S×15754E,h0km,mb3.9/3,mb1 4.0/4, mb1mx3.6/14,mbtmp3.9/4,ML4.2/1,Error ellipse: s-maj=132.2km s-min=32.1km az=9.0,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.84**	**123**	Pn	Pn	10 03 00.5	-0.1
	37nm,0.3s,baz=269,slow=4.5,SNR=12						
HNR				Sn	Sn	10 03 39.2	+3.6
	127nm,0.3s,baz=268,slow=24,SNR=8.3						
WRA	**Warramunga Arr**	**25.48**	**239**	P	P	10 07 44.0	-0.1
	1.7nm,0.8s,baz=67,slow=9.4,SNR=14						
ASAR	**Alice Springs**	**27.57**	**233**	P	P	10 08 02.0	-0.9
	0.6nm,0.9s,baz=61,slow=11,SNR=4.5						
STKA	**Stephens Creek**	**28.13**	**210**	P	P	10 08 08.9	+1.1
	1.7nm,0.6s,baz=49,slow=15,SNR=6.5						

*ISCJB **06** 10:08:58.1±0.5,3693N±009×2491W±009,h10km,mb3.7/6, MS3.8/2,Error ellipse: s-maj=15.4km s-min=4.1km az=37.1*
*IDC **06** 10:08:59.6±1.3,3714N×2471W,h0km,mb3.7/5,mb1 3.9/5, mb1mx3.6/24,mbtmp3.7/5,MS3.9/2,Ms1 3.9/2, ms1mx3.1/39,Error ellipse: s-maj=44.9km s-min=25.9km az=28.0*
*NEIC **06** 10:09:00.5±0.7,3698N×2471W,h10km,mb4.3/1,Error ellipse: s-maj=30.4km s-min=9.9km az=53.0*
*PDA **06** 10:09:03.7±0.8,3709N×2473W,h0km,MD4.1,ML4.0, Error ellipse: s-maj=14.4km s-min=4.2km az=42.0*
*SVSA **06** 10:09:03.7±0.8,3709N×2473W,h0km,MD4.1,ML4.0, Error ellipse: s-maj=14.4km s-min=4.2km az=42.0*
*CSEM **06** 10:09:03.8±0.2,3722N×2492W,h30km,ML4.0,Error ellipse: s-maj=9.8km s-min=3.1km az=24.0*

ISC 06 10:09:00.2±0.5,3702N±009×2490W±008,h10km,n32, σ1§11/45,mb3.7/6,MS3.8/2,Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDA	**Ponta Delgada**	**0.95**	**321**	*e*P	**Pg**	**10 09 18.6**	**+0.2**
PDA				*e*S	**Sg**	**10 09 30.4**	**-0.4**
ADH	**Angra Heroismo**	**2.47**	**312**	*e*P	**Pn**	**10 09 40.3**	**-0.1**
ADH				*e*S	**Sn**	**10 10 07.9**	**-2.7**
PSBA	**Serra de Santa**	**2.59**	**313**	*e*P	**Pn**	**10 09 43.0**	**+0.8**
PSBA				*e*S	**Sn**	**10 10 12.6**	**-1.1**
PSBA				A		10 10 15.6	
	411nm,0.4s						
PSBA	**Serra de Santa**	**2.59**	**313**	*e*P	**Pn**	**10 09 43.0**	**+0.8**
PSBA				*e*S	**Sn**	**10 10 12.6**	**-1.1**
PID	**Ribeirinha**	**2.92**	**300**	*e*P	**Pn**	**10 09 47.6**	**+1.0**
PID				*e*S	**Sn**	**10 10 21.1**	**-0.7**
PMAN	**Manadas**	**2.99**	**304**	*e*P	**Pn**	**10 09 48.9**	**+1.2**
PMAN				*e*S	**Sn**	**10 10 22.8**	**-0.8**
PMAN				A		10 10 26.5	
	71nm,0.3s						
PMAN	**Manadas**	**2.99**	**304**	*e*P	**Pn**	**10 09 48.9**	**+1.2**
PMAN				*e*S	**Sn**	**10 10 22.8**	**-0.8**
ROSA	**Rosais**	**3.14**	**304**	*e*P	**Pn**	**10 09 50.6**	**+0.9**
ROSA				*e*S	**Sn**	**10 10 26.4**	**-0.8**
PGRA	**Graciosa**	**3.15**	**311**	*e*P	**Pn**	**10 09 50.9**	**+1.0**
PGRA				*e*S	**Sn**	**10 10 26.3**	**-1.2**
PGRA				A		10 10 29.1	
	89nm,0.4s						
PGRA	**Graciosa**	**3.15**	**311**	*e*P	**Pn**	**10 09 50.9**	**+1.0**
PGRA				*e*S	**Sn**	**10 10 26.3**	**-1.2**
PICO	**Pico**	**3.16**	**299**	*e*P	**Pn**	**10 09 51.7**	**+1.7**
PICO				*e*S	**Sn**	**10 10 27.1**	**-0.6**
HOR	**Horta**	**3.31**	**298**	*e*P	**Pn**	**10 09 53.3**	**+1.2**
CALA	**Caldeira**	**3.39**	**299**	*e*P	**Pn**	**10 09 54.3**	**+1.2**
CALA				*e*S	**Sn**	**10 10 32.9**	**-0.5**
PCED	**Cedros**	**3.41**	**299**	*e*P	**Pn**	**10 09 54.8**	**+1.4**
PCED				*e*S	**Sn**	**10 10 33.0**	**-0.9**
PCED				A		10 10 34.7	
	22nm,0.1s						
PCED	**Cedros**	**3.41**	**299**	*e*P	**Pn**	**10 09 54.8**	**+1.4**
PCED				*e*S	**Sn**	**10 10 33.0**	**-0.9**
EGOM	**La Gomera**	**10.95**	**142**	P	**Pn**	**10 11 35.5**	**-1.4**
	6.0nm,0.2s						
EGOM				S	**Sn**	**10 13 25.7**	**-14**
EGOM	**La Gomera**	**10.95**	**142**	P	**Pn**	**10 11 35.5**	**-1.5**
	6.0nm,0.2s						
EBAJ	**Bajamar**	**11.10**	**137**	P	**Pn**	**10 11 36.8**	**-2.2**
	6.3nm,0.3s						
EBAJ	**Bajamar**	**11.10**	**137**	P	**Pn**	**10 11 36.8**	**-2.2**
	6.3nm,0.3s						
CCAN	**Las Canadas**	**11.21**	**139**	P	**Pn**	**10 11 39.4**	**-1.1**
	0.3nm,0.2s						
CCAN	**Las Canadas**	**11.21**	**139**	P	**Pn**	**10 11 39.4**	**-1.1**
	0.3nm,0.2s						
BBTS	**Babate**	**23.48**	**159**	LR	LR	10 22 12.0	
	comp=Z,118nm,18.1s,MS3.4,baz=91,slow=34						
TORD	**Torodi Ar. Bea**	**33.63**	**128**	P	**P**	**10 15 41.0**	**+0.1**
	0.7nm,0.7s,mb3.7,baz=301,slow=7.3,SNR=5.8						
MLR	**Muntele Rosu**	**38.60**	**61**	LR	LR	10 30 26.0	
	comp=Z,356nm,20.1s,MS4.2,baz=196,slow=34						
YKA	**Yellowknife Ar**	**57.80**	**327**	P	**P**	**10 18 50.7**	**-0.5**
YKA	**Yellowknife Ar**	**57.80**	**327**	P	**P**	**10 18 50.7**	**-0.5**
	0.2nm,0.8s,mb3.2,baz=70,slow=7.4,SNR=6.0						
YKA	**Yellowknife Ar**	**57.80**	**327**	P	**P**	**10 18 50.7**	**-0.5**
AKTK	**Aktyubinsk**	**58.40**	**48**	P	**P**	**10 18 55.3**	**-0.4**
AKTO	**Aktyubinsk**	**58.40**	**48**	P	**P**	**10 18 55.3**	**-0.4**
	1.0nm,0.7s,mb4.0,baz=297,slow=12,SNR=3.6						
INK	**Inuvik**	**62.52**	**337**	P	**P**	**10 19 24.4**	**+0.9**
	0.8nm,0.9s,mb3.8,baz=49,slow=6.4,SNR=4.0						
TXAR	**Lajitas Array**	**64.64**	**289**	P	**P**	**10 19 40.6**	**+2.4**
	1.3nm,0.8s,mb4.0,baz=86,slow=7.6,SNR=9.8						
SONM	**Songino Array**	**85.01**	**31**	P	**P**	**10 21 36.9**	**+1.2**
	0.2nm,0.4s,mb3.6,baz=309,slow=5.2,SNR=3.1						

*ISCJB **06** 10:14:54.8±0.9,3837N±003×2033E±006,h3km,Error ellipse: s-maj=7.6km s-min=3.4km az=163.0*
*ATH **06** 10:14:54.7,3820N×2035E,h32km±3km,MD3.5/5*
*CSEM **06** 10:14:55.8±0.2,3841N×2032E,h2km,ML3.5,Error ellipse: s-maj=4.4km s-min=1.5km az=74.0*
*THE **06** 10:14:56.1,3839N×2039E,h3km,ML3.5*
*NEIC **06** 10:14:56.1,3839N×2039E,h0km,MD3.6(ATH), ML3.5(THE),After THE.*

ISC 06 10:14:55.5±1.0,3838N±003×2033E±007,h4km±5km,n18, σ1§09/29,Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.29**	**135**	*e*PB	**Pg**	**10 15 01.8**	**+0.8**
VLS				*e*SB	**Sg**	**10 15 06.4**	**+1.6**
LKD	**Levkas**	**0.41**	**37**	*e*Pg	**Pg**	**10 15 03.1**	**-0.3**
LKD				*e*Sg	**Sg**	**10 15 08.5**	**-0.2**
KFL	**Anninata**	**0.45**	**127**	*e*Pg	**Pg**	**10 15 04.5**	**+0.4**
KFL				*e*Sg	**Sg**	**10 15 10.4**	**+0.5**
KFL	**Anninata**	**0.45**	**127**	*e*Pg	**Pg**	**10 15 04.5**	**+0.4**
KFL				*e*Sg	**Sg**	**10 15 10.4**	**+0.5**
IGT	**Igoumenitsa**	**1.15**	**360**	*e*Pg	**Pg**	**10 15 16.9**	**-0.6**
IGT				*e*Sg	**Sg**	**10 15 34.4**	**+2.0**
SELA	**Sela**	**1.23**	**94**	*e*Pg	**Pg**	**10 15 17.6**	**-1.5**
SELA				*e*Sg	**Sg**	**10 15 36.3**	**+1.2**
EVR	**Evrytania**	**1.27**	**65**	*e*PB	**Pb**	**10 15 18.5**	**-1.5**
EVR				*e*SN	**Sn**	**10 15 37.3**	**-0.2**
JAN	**Janina**	**1.33**	**17**	*e*PB	**Pb**	**10 15 20.5**	**-0.6**
JAN				*e*SN	**Sn**	**10 15 40.5**	**+1.4**
KEK	**Kerkira**	**1.39**	**343**	*e*PN	**Pn**	**10 15 22.5**	**+0.8**
MEV	**Metsovon**	**1.56**	**26**	*e*Pg	**Pg**	**10 15 24.7**	**-0.8**
MEV				*e*Sg	**Sg**	**10 15 45.5**	**-0.3**
AGG	**Agios Georgios**	**1.69**	**67**	*e*Pb	**Pb**	**10 15 25.4**	**-1.7**
AGG				*e*Sb	**Sb**	**10 15 48.9**	**+0.3**
THL	**Klokotos Trika**	**1.76**	**47**	*e*PB	**Pb**	**10 15 27.3**	**-1.1**
THL	**Klokotos Trika**	**1.76**	**47**	*e*Pb	**Pb**	**10 15 27.9**	**-0.5**
PYL	**PYLOS**	**1.86**	**143**	*e*Pb	**Pb**	**10 15 27.3**	**-2.6**
PYL				*e*Sb	**Sb**	**10 15 53.7**	**+0.2**
VLX	**Vlachokerasia**	**1.91**	**121**	*e*Pb	**Pb**	**10 15 28.9**	**-2.0**
LIT	**Litokhoron**	**2.40**	**44**	*e*Pn	**Pn**	**10 15 36.4**	**+1.0**
DID	**Didima**	**2.46**	**110**	*e*Pn	**Pn**	**10 15 36.8**	**+0.6**
AOS	**Alonnisos**	**2.88**	**73**	*e*Pn	**Pn**	**10 15 43.1**	**+1.0**

*MOS **06** 10:19:41.6±2.1,5375N×11686E,h10km,mb4.4/1,Error ellipse: s-maj=14.7km s-min=11.6km az=70.1*

BYKL 06 10:19:42.0±0.4,5385N×11710E,h15km±20km,1C-4D, East of Lake Baykal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TUP	**Tupik**	**1.77**	**70**	*e*PN	Pn	10 20 11.8	-0.3
TUP				*e*		10 20 13.8	
TUP				*e*		10 20 37.9	
TUP				pmax	pmax		
	comp=Z,223nm,0.4s						
TUP				smax			
	comp=N,488nm,0.8s						
TUP	**Tupik**	**1.77**	**70**	*e*Pn	Pn	10 20 11.8	-0.3
TUP				⇓*i*Pg	Pg	10 20 13.8	-2.3
	comp=N,22nm,0.5s						
TUP				⇓*i*Pg	Pg	10 20 13.8	-2.3
	comp=N,113nm,0.5s						
TUP				⇓*i*Pg	Pg	10 20 13.8	-2.3
	comp=N,131nm,0.5s						
TUP				*e*Sn	Sn	10 20 35.9	+1.5
TUP				*e*Sg	Sg	10 20 38.0	-1.1
TUP				Pmax			
	comp=N,209nm,0.3s						
TUP				Smax			
	comp=N,450nm,0.6s						
UKT	**Uakit**	**2.60**	**311**	*e*PN	Pn	10 20 23.2	-0.2
UKT				*e*		10 20 27.4	
UKT				*e*S	Sn	10 20 55.0	+0.3
UKT				*e*		10 21 01.0	
UKT				pmax	pmax		
	comp=Z,69nm,0.3s						
UKT				smax			
	comp=E,592nm,0.5s						
UKT	**Uakit**	**2.60**	**311**	*e*Pn	Pn	10 20 24.1	+0.7
UKT				*e*Pg	Pg	10 20 28.1	-3.7
UKT				*e*Sn	Sn	10 20 54.5	-0.2
UKT				*e*Sg	Sg	10 21 01.3	-4.2
UKT				Pmax			
	comp=E,68nm,0.6s						
UKT				Smax			
	comp=E,588nm,0.5s						
NLYR	**Nelyaty**	**2.77**	**344**	*e*Pn	Pn	10 20 27.9	+2.2
NLYR				⇓*i*Pg	Pg	10 20 30.4	-4.6
NLYR				*i* Sg	Sg	10 21 08.5	-2.3
NLYR				Pmax			
	comp=E,106nm,0.8s						
NLYR				Smax			
	comp=E,797nm,1.0s						
CIT	**Chita**	**2.82**	**231**	*e*PN	Pn	10 20 26.3	-0.2
CIT				*e*		10 21 09.5	
CIT				pmax	pmax		
	comp=Z,93nm,0.4s						
CIT				smax			
	comp=N,816nm,0.7s						
CIT	**Chita**	**2.82**	**231**	*e*Pn	Pn	10 20 28.0	+1.5
CIT				*e*Pg	Pg	10 20 32.5	-3.5
CIT				*e*Sn	Sn	10 21 00.1	-0.1
CIT				*e*Sg	Sg	10 21 07.7	-4.9
CIT				Pmax			
	comp=N,92nm,0.3s						
CIT				Smax			
	comp=N,782nm,0.7s						
SVKR	**Severomuysk**	**3.05**	**320**	*e*PN	Pn	10 20 38.5	+8.8
SVKR				*e*		10 21 16.9	
SVKR				pmax	pmax		
	comp=Z,166nm,0.8s						
SVKR				smax			
	comp=N,1μm,0.6s						
SVKR	**Severomuysk**	**3.05**	**320**	*e*Pg	Pg	10 20 37.1	-3.4
SVKR				*e*Sg	Sg	10 21 17.4	-2.6
SVKR				Pmax			
	comp=N,70nm,0.3s						
SVKR				Smax			
	comp=N,953nm,0.5s						
CRS	**Chara**	**3.13**	**12**	*e*PN	Pn	10 20 37.6	+6.9
CRS				*e*		10 21 18.9	
CRS				pmax	pmax		
	comp=Z,77nm,0.8s						
CRS				smax			
	comp=E,466nm,1.0s						
CRS	**Chara**	**3.13**	**12**	⇑*i*Pg	Pg	10 20 39.6	-2.3
CRS				*e*Sg	Sg	10 21 18.9	-3.5
CRS				Pmax			
	comp=E,77nm,0.7s						
CRS				Smax			
	comp=E,490nm,1.1s						
KHNR	**Khani**	**3.49**	**27**	*e*Pn	Pn	10 20 35.1	-0.5
KHNR				*e*Pg	Pg	10 20 45.1	-3.7
KHNR				*e*Sg	Sg	10 21 28.8	-5.1
YLYR	**Ulyunkhan**	**3.62**	**289**	*e*PN	Pn	10 20 37.4	-0.1
YLYR				*e*		10 20 45.9	
YLYR				*e*S	Sn	10 21 19.0	-0.9
YLYR				*e*		10 21 32.3	
YLYR				pmax	pmax		
	comp=Z,25nm,0.4s						
YLYR				smax			
	comp=N,557nm,0.9s						
YLYR	**Ulyunkhan**	**3.62**	**289**	*e*Pn	Pn	10 20 37.4	-0.1
YLYR				*e*Pg	Pg	10 20 46.1	-5.2
YLYR				*e*Sn	Sn	10 21 19.4	-0.5
YLYR				*e*Sg	Sg	10 21 32.9	-5.3
YLYR				Pmax			
	comp=N,15nm,0.3s						
YLYR				Smax			
	comp=N,479nm,0.8s						
YOA	**Uoyan**	**3.85**	**309**	*e*PN	Pn	10 20 50.5	+10
YOA				*e*		10 21 41.0	
YOA				pmax	pmax		
	comp=Z,96nm,0.4s						
YOA				smax			
	comp=E,1μm,0.5s						
YOA	**Uoyan**	**3.85**	**309**	*e*Sg	Sg	10 21 41.4	-4.1
YOA				Smax			
	comp=E,1μm,0.6s						
KMO	**Kumora**	**3.97**	**303**	*e*PN	Pn	10 20 41.2	-1.1
KMO				*e*		10 20 50.9	
KMO				*e*S	Sn	10 21 27.1	-1.4
KMO				*e*		10 21 41.9	
KMO				pmax	pmax		
	comp=Z,20nm,0.5s						
KMO				smax			
	comp=N,560nm,1.0s						
KMO	**Kumora**	**3.97**	**303**	*e*Pn	Pn	10 20 42.4	+0.1
KMO				*e*Pg	Pg	10 20 53.5	-4.5
KMO				*e*Sg	Sg	10 21 45.0	-4.4
KMO				Pmax			
	comp=N,29nm,0.5s						
KMO				Smax			
	comp=N,590nm,1.0s						
SYVR	**Suvo**	**4.22**	**270**	*e*PN	Pn	10 20 57.4	+12
SYVR				*e*		10 21 51.3	
SYVR				pmax	pmax		
	comp=Z,28nm,0.7s						
SYVR				smax			
	comp=N,501nm,1.4s						
SYVR	**Suvo**	**4.22**	**270**	*e*Pg	Pg	10 20 56.4	-6.3
SYVR				*e*Sg	Sg	10 21 51.0	-6.4
SYVR				Pmax			
	comp=N,26nm,0.6s						
SYVR				Smax			
	comp=N,484nm,1.5s						
BOD	**Bodaibo**	**4.34**	**338**	*e*PN	Pn	10 20 50.4	+3.0
BOD				*e*		10 21 00.9	
BOD				*e*		10 21 57.5	
BOD				pmax	pmax		
	comp=Z,14nm,0.5s						
BOD				smax			
	comp=E,248nm,0.5s						
BOD	**Bodaibo**	**4.34**	**338**	*e*Pn	Pn	10 20 49.1	+1.7
BOD				*e*Pg	Pg	10 20 59.8	-5.3
BOD				*e*Sn	Sn	10 21 39.4	+1.7
BOD				*e*Sg	Sg	10 21 54.7	-6.6
BOD				Pmax			
	comp=E,25nm,0.8s						
BOD				Smax			
	comp=E,241nm,0.9s						
TNDR	**Tynda**	**4.63**	**71**	*e*Pg	Pg	10 21 04.0	-6.6
TNDR				*e*Sg	Sg	10 22 06.9	-3.6
NIZ	**Nizh Angarsk**	**4.78**	**297**	*e*PN	Pn	10 21 06.9	+14
NIZ				*e*		10 22 09.9	
NIZ				pmax	pmax		
	comp=Z,10.0nm,0.7s						
NIZ				smax			
	comp=E,213nm,1.5s						
NIZ	**Nizh Angarsk**	**4.78**	**297**	*e*Pg	Pg	10 21 08.7	-4.7
NIZ				*e*Sn	Sn	10 21 49.4	+1.0
NIZ				*e*Sg	Sg	10 22 10.3	-5.0
NIZ				Pmax			
	comp=E,7.0nm,0.4s						
NIZ				Smax			
	comp=E,207nm,1.2s						
MXMB	**Maximikha**	**5.02**	**267**	*e*Pn	Pn	10 20 57.5	+0.9
MXMB				*e*Pg	Pg	10 21 12.0	-6.0
MXMB				*e*Sg	Sg	10 22 17.5	-5.4
MXMB				Pmax			
	comp=E,17nm,1.0s						
MXMB				Smax			
	comp=E,585nm,0.8s						
KPC	**Khapcheranga**	**5.08**	**217**	*e*PN	Pn	10 20 57.3	-0.2
KPC				*e*		10 21 12.2	
KPC				*e*		10 22 18.5	
KPC				pmax	pmax		
	comp=Z,8.0nm,0.3s						
KPC				smax			
	comp=N,219nm,0.6s						
KPC	**Khapcheranga**	**5.08**	**217**	*e*Pn	Pn	10 20 57.0	-0.5
KPC				*e*Pg	Pg	10 21 12.9	-6.3
KPC				*e*Sg	Sg	10 22 17.9	-7.1
KPC				Pmax			
	comp=N,8.0nm,0.4s						
KPC				Smax			
	comp=N,204nm,0.5s						
NRGR	**Nerungri**	**5.19**	**54**	*e*PN	Pn	10 21 06.2	+7.2
CLNS	**Chul'man**	**5.36**	**53**	*e*PN	Pn	10 21 19.8	+18
CLNS				pmax	pmax		
	comp=N,4.0nm,0.2s						
CLNS				pmax	pmax		
	comp=Z,6.0nm,0.2s						
CLNS				pmax	pmax		
	comp=E,4.0nm,0.3s						
CLNS				MLR	MLR		
	comp=Z,200nm,16.0s						
CLNS	**Chul'man**	**5.36**	**53**	*e*Sg	Sg	10 22 29.3	-4.6

CLNS				Smax			
	comp=Z,144nm,0.7s						
OGRR	**Ongureny**	**5.64**	**272**	*e*PN	Pn	10 21 05.5	+0.3
OGRR				*e*		10 21 23.2	
OGRR				*e*		10 22 38.3	
OGRR				pmax	pmax		
	comp=Z,3.0nm,0.5s						
OGRR				smax			
	comp=N,93nm,1.4s						
OGRR	**Ongureny**	**5.64**	**272**	*e*Pn	Pn	10 21 05.4	+0.2
OGRR				*e*Pg	Pg	10 21 21.4	-8.6
OGRR				*e*Sg	Sg	10 22 35.6	-7.4
OGRR				Pmax			
	comp=N,4.0nm,1.0s						
OGRR				Smax			
	comp=N,93nm,1.4s						
KROS	**Kirovskiy**	**5.83**	**80**	*e*Pg	Pg	10 21 24.3	-9.3
KROS				*e*Sg	Sg	10 22 40.4	-8.6
TRTB	**Turuntaevo**	**5.94**	**258**	*e*Pg	Pg	10 21 28.6	-7.0
TRTB				*e*Sg	Sg	10 22 46.1	-6.3
TRTB				Pmax			
	comp=N,10.0nm,0.7s						
TRTB				Smax			
	comp=N,146nm,1.0s						
ZEA	**Zeya**	**6.02**	**87**	*e*Pg	Pg	10 21 29.8	-7.3
ZEA				*e*Sg	Sg	10 22 49.6	-5.4
UUDB	**Ulan-Yde**	**6.05**	**255**	*e*Pg	Pg	10 21 31.3	-6.5
UUDB				*e*Sg	Sg	10 22 50.5	-5.6
UUDB				Pmax			
	comp=N,13nm,0.8s						
UUDB				Smax			
	comp=N,163nm,1.3s						
ZRHB	**Zarechye**	**6.12**	**262**	*e*Sg	Sg	10 22 52.4	-5.8
ZRHB				Smax			
	comp=N,495nm,1.1s						
TRG	**Tyrgan**	**6.54**	**265**	*e*PN	Pn	10 21 18.4	+0.9
TRG				*e*		10 21 40.0	
TRG	**Tyrgan**	**6.54**	**265**	*e*Pn	Pn	10 21 20.2	+2.7
TRG				*e*Sg	Sg	10 23 04.4	-7.2
TRG				Smax			
	comp=N,60nm,0.8s						
KAB	**Kabansk**	**6.57**	**258**	*e*PG	Pg	10 21 40.8	-6.8
KAB	**Kabansk**	**6.57**	**258**	*e*Sg	Sg	10 23 06.3	-6.2
KAB				Smax			
	comp=N,415nm,0.8s						
LSTR	**Listvyanka**	**7.69**	**260**	*e*Sg	Sn	10 23 37.3	+37
LSTR				Smax			
	comp=N,59nm,1.3s						
IRK	**Irkutsk**	**7.90**	**263**	*e*PG	Pn	10 22 03.8	+28
IRK				pmax	pmax		
	comp=Z,115nm,0.1s						
TLY	**Talaya**	**8.45**	**261**	*e*PN	Pn	10 21 43.5	-0.2
TLY				*e*		10 22 13.3	
TLY				pmax	pmax		
	comp=Z,2.0nm,0.4s						
TLY	**Talaya**	**8.45**	**261**	*e*Sg	Sn	10 24 04.8	+46
TLY				Smax			
	comp=Z,30nm,1.2s						
ULN	**Ulaanbaatar**	**8.73**	**231**	*e*Sg	Sn	10 24 12.0	+46
ARS	**Arshan**	**9.08**	**264**	*e*Sg	Sn	10 24 24.0	+50
ARS				Smax			
	comp=Z,89nm,0.9s						
ZAK	**Zakamensk**	**9.18**	**253**	*e*P	Pn	10 21 57.5	+3.7
ZAK				pmax	pmax		
	comp=Z,3.0nm,0.4s						
ZAK	**Zakamensk**	**9.18**	**253**	*e*Sg	Sn	10 24 27.8	+51
ZAK				Smax			
	comp=Z,107nm,1.7s						
MOY	**Mondy**	**10.01**	**264**	*e*Sg	Sn	10 24 52.1	+55
MOY				Smax			
	comp=Z,37nm,1.4s						
TDJR	**Todzha**	**12.69**	**272**	*e*Sg		10 26 14.7	

*ISCJB **06** 10:28:01.4±1.8, 520N±0.1×1793W±0.1, h16km±17km, mb3.5/3, Error ellipse: s-maj=22.6km s-min=9.8km az=165.8*
*IDC **06** 10:28:01.4±1.5, 5148N×1793.4W, h0km, mb3.4/3, mb1 3.7/3, mb1mx3.4/23, mbtmp3.4/3, Error ellipse: s-maj=270.6km s-min=32.8km az=135.0*
*NEIC **06** 10:28:03.0, 5173N×1792.5W, h6km, ML4.0(AEIC), After AEIC.*
ISC 06 10:28:01.3±2.1, 518N±02×1793W±01, h6km±16km, n7, σ0§76/9, mb3.5/3, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMKA	**Amchitka**	**1.00**	**245**	P	**Pg**	**10 28 20.3**	**-0.2**
AMKA				S	**Sg**	**10 28 33.5**	**+0.2**
ADK	**Adak**	**1.60**	**86**	P	**Pn**	**10 28 30.4**	**+0.3**
ADK				S	**Sn**	**10 28 51.0**	**-0.1**
SMY	**Shemya**	**4.18**	**285**	P	**Pn**	**10 29 05.7**	**+0.1**
SPIA	**Saint Paul Isl**	**7.51**	**41**	P	**Pn**	**10 29 50.5**	**-0.8**
YKA	**Yellowknife Ar**	**35.15**	**47**	P	**P**	**10 34 58.4**	**+3.1**
	0.3nm,0.7s,mb3.3,baz=283,slow=8.1,SNR=4.0						
WRA	**Warramunga Arr**	**82.13**	**223**	P	**P**	**10 40 21.9**	**-0.8**
	0.8nm,1.1s,mb3.5,baz=32,slow=6.1,SNR=2.7						
ASAR	**Alice Springs**	**85.61**	**222**	P	**P**	**10 40 40.6**	**+0.2**
	0.2nm,0.5s,mb3.6,baz=29,slow=4.8,SNR=4.6						

*HEL **06** 10:29:14.4±0.4, 6766N×3406E, h0km, ML2.1, Explosion*
*IDC **06** 10:29:18.2±2.7, 6761N×3341E, h0km, mb1 3.4/3, mb1mx3.1/22, mbtmp3.3/3, ML2.9/3, Error ellipse: s-maj=29.3km s-min=9.1km az=76.0*
ISC 06 10:29:14.2±1.3, 6764N±004×340E±02, h0km, n11, σ1§13/22, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KU6	**Riekki**	**2.28**	**227**	*e*P	**Pn**	**10 29 54.0**	**+1.1**
KU6				*e*S	**Sn**	**10 30 22.7**	**+1.0**
KU6				MSG		10 30 27.1	
	comp=Z,3.8nm,0.1s						
MSF	**Maaselka**	**2.61**	**231**	*e*P	**Pn**	**10 29 58.8**	**+1.3**
MSF				*e*SB	**Sb**	**10 30 33.9**	**-0.3**
MSF				MSG		10 30 39.0	
	comp=Z,6.3nm,0.2s						
SGF	**Sodankyl**	**2.86**	**270**	*e*P	**Pn**	**10 30 02.0**	**+1.0**
SGF				*e*S	**Sn**	**10 30 37.0**	**+1.0**
SGF				MSG		10 30 44.5	
	comp=Z,13nm,0.1s						
KEV	**Kevo**	**3.31**	**313**	*e*P	**Pn**	**10 30 08.0**	**+0.8**
KEV				*e*S	**Sn**	**10 30 46.2**	**-1.0**
ARCES	**ARCESS Array B**	**3.64**	**305**	Pn	**Pn**	**10 30 12.3**	**+0.7**
	comp=Z,1.7nm,0.3s,baz=121,slow=14,SNR=106						
ARCES				Pg	**Pg**	**10 30 20.4**	**-3.4**
	comp=Z,1.8nm,0.3s,baz=115,slow=15,SNR=16						
ARCES				Sn	**Sn**	**10 30 54.4**	**-0.8**
	comp=Z,1.8nm,0.3s,baz=122,slow=25,SNR=8.2						
ARCES				Lg		10 31 06.7	
	comp=Z,4.7nm,0.3s,baz=109,slow=32,SNR=15						
HEF	**Hetta**	**3.95**	**286**	*e*PG	**Pg**	**10 30 24.8**	**-5.0**
HEF				*e*S	**Sn**	**10 31 02.4**	**-0.4**
OUL	**Oulu**	**4.13**	**235**	*e*P	**Pn**	**10 30 19.7**	**+1.2**
OUL				*e*S	**Sn**	**10 31 07.7**	**+0.3**
KJN	**Kajaani**	**4.39**	**219**	*e*P	**Pn**	**10 30 22.4**	**+0.4**
KJN				*e*S	**Sn**	**10 31 12.0**	**-1.7**
JOF	**Joensuu**	**4.87**	**194**	*e*P	**Pn**	**10 30 27.0**	**-1.5**
JOF				*e*S	**Sn**	**10 31 21.7**	**-3.8**
FINES	**FINESS Array B**	**7.08**	**212**	Pn	**Pn**	**10 30 58.8**	**0.0**
	comp=Z,0.3nm,0.3s,baz=45,slow=14,SNR=7.0						
FINES				Sn	**Sn**	**10 32 16.1**	**-3.8**
	comp=Z,0.1nm,0.3s,baz=42,slow=20,SNR=2.6						
FINES				Lg		10 32 55.4	
	comp=Z,0.3nm,0.3s,baz=40,slow=27,SNR=3.3						
NOA	**NORSAR Array B**	**11.81**	**247**	Pn	**Pn**	**10 32 01.8**	**-1.8**
	comp=Z,0.1nm,0.3s,baz=45,slow=11,SNR=2.4						

*IDC **06** 10:31:42.6±1.0, 3737N×2478W, h0km, mb4.0/12, mb1 4.2/14, mb1mx4.0/27, mbtmp4.0/14, ML3.9/2, MS3.9/14, Ms1 3.9/14, ms1mx3.6/44, Error ellipse: s-maj=27.5km s-min=16.7km az=8.0*
*ISCJB **06** 10:31:42.4±0.5, 3738N±008×2484W±003, h10km, mb4.1/32, MS3.8/17, Error ellipse: s-maj=12.1km s-min=2.6km az=10.6*
*NEIC **06** 10:31:44.0±0.5, 3727N×2476W, h10km, mb4.3/22, Error ellipse: s-maj=10.1km s-min=5.9km az=179.0*
*CSEM **06** 10:31:45.2±0.1, 3742N×2483W, h30km, mb4.3/18, ML4.3/1, Ms3.5, Error ellipse: s-maj=5.9km s-min=0.9km az=4.0*
*PDA **06** 10:31:45.6±0.9, 3730N×2469W, h0km, MD4.1, ML4.2, Error ellipse: s-maj=13.1km s-min=4.8km az=36.0*
*SVSA **06** 10:31:45.6±0.9, 3730N×2469W, h0km, MD4.1, ML4.2, Error ellipse: s-maj=13.1km s-min=4.8km az=36.0*
*SZGRF **06** 10:31:59.2, 3823N×2362W, h33km, mb4.1, Azores Islands region*
ISC 06 10:31:46.0±1.0, 3738N±008×2486W±003, h25km±6km, n119, σ0§80/126, mb4.1/32, MS3.8/17, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDA	**Ponta Delgada**	**0.74**	**300**	*e*P	**Pb**	**10 32 00.0**	**-0.3**
PDA				*i* S	**Sb**	**10 32 11.4**	**+1.4**
PSET	**Sete Cidades**	**0.82**	**303**	*e*P	**Pb**	**10 32 01.1**	**-0.5**
PSET				*e*S	**Sb**	**10 32 13.7**	**+1.4**
PSET				A		10 32 18.7	
	4μm,0.4s						
PSET	**Sete Cidades**	**0.82**	**303**	*e*P	**Pb**	**10 32 01.1**	**-0.5**
PSET				*e*S	**Sb**	**10 32 13.7**	**+1.4**
ADH	**Angra Heroismo**	**2.27**	**305**	*i* P	**Pn**	**10 32 21.7**	**-0.3**
ADH				*e*S	**Sn**	**10 32 48.8**	**-0.4**
PSBA	**Serra de Santa**	**2.39**	**306**	*i* P	**Pn**	**10 32 23.6**	**0.0**
PSBA				*e*S	**Sn**	**10 32 52.0**	**-0.1**
PSBA				A		10 32 54.8	
	972nm,0.4s						
PID	**Ribeirinha**	**2.79**	**293**	*e*P	**Pn**	**10 32 29.1**	**0.0**
PID				*e*S	**Sn**	**10 33 01.6**	**-0.4**
PMAN	**Manadas**	**2.85**	**297**	*e*P	**Pn**	**10 32 29.7**	**-0.1**
PMAN				*e*S	**Sn**	**10 33 02.2**	**-1.1**
PMAN				A		10 33 05.3	
	179nm,0.4s						
PMAN	**Manadas**	**2.85**	**297**	*e*P	**Pn**	**10 32 29.7**	**-0.1**
PMAN				*e*S	**Sn**	**10 33 02.2**	**-1.1**
PGRA	**Graciosa**	**2.96**	**305**	*i* P	**Pn**	**10 32 31.5**	**0.0**
PGRA				*e*S	**Sn**	**10 33 05.2**	**-1.0**
PGRA				A		10 33 08.3	
	141nm,0.4s						
ROSA	**Rosais**	**2.99**	**298**	*e*P	**Pn**	**10 32 31.9**	**+0.1**
ROSA				*e*S	**Sn**	**10 33 06.8**	**-0.1**
PICO	**Pico**	**3.04**	**293**	*e*P	**Pn**	**10 32 32.6**	**+0.1**
PICO				*e*S	**Sn**	**10 33 07.5**	**-0.5**
HOR	**Horta**	**3.20**	**292**	*e*P	**Pn**	**10 32 34.5**	**-0.2**
HOR				*e*S	**Sn**	**10 33 11.2**	**-0.8**
CALA	**Caldeira**	**3.27**	**293**	*e*P	**Pn**	**10 32 35.6**	**-0.1**
CALA				*e*S	**Sn**	**10 33 13.2**	**-0.5**
PCED	**Cedros**	**3.29**	**294**	*e*P	**Pn**	**10 32 35.6**	**-0.3**
PCED				*e*S	**Sn**	**10 33 13.2**	**-1.0**
PCED				A		10 33 14.5	
	98nm,0.5s						
PCED	**Cedros**	**3.29**	**294**	*e*P	**Pn**	**10 32 35.6**	**-0.3**
PCED				*e*S	**Sn**	**10 33 13.2**	**-1.0**
EVOP	**Sao Brissos**	**13.26**	**80**	*e*Pn	**Pn**	**10 34 48.6**	**-4.0**
EVOP				*e*Sn	**Sn**	**10 37 03.7**	**-15**
	5.2nm,0.6s						
EVO	**Evora**	**13.35**	**80**	*e*Pn	**Pn**	**10 34 48.6**	**-5.2**
EVO				*e*Sn	**Sn**	**10 37 03.7**	**-18**
	10nm,0.6s						
EVO				*e*MLR	MLR		
	comp=Z,551nm,20.2s						
ESDC	**Sonseca Array**	**16.51**	**76**	Pn	**Pn**	**10 35 34.1**	**-1.7**
	comp=Z,0.2nm,0.3s,baz=272,slow=13,SNR=4.2						
ESDC				LR	LR	10 40 13.9	
	comp=Z,217nm,21.0s,baz=350,slow=31						
ESLA	**Sonseca Array**	**16.51**	**76**	*e*P	**Pn**	**10 35 35.4**	**-0.4**
	comp=Z,1.8nm,1.1s						
ESLA	**Sonseca Array**	**16.51**	**76**	*e*P	**Pn**	**10 35 35.4**	**-0.4**
	comp=Z,1.8nm,1.1s						
MDT	**Midelt**	**17.17**	**99**	P	**Pn**	**10 35 42.8**	**-1.4**
MDT				LR	LR	10 41 29.4	
MDT	**Midelt**	**17.17**	**99**	P	**Pn**	**10 35 42.8**	**-1.4**
	comp=Z,0.1nm,0.3s,baz=306,slow=12,SNR=3.5						
MDT				LR	LR	10 41 29.4	
	comp=Z,276nm,18.0s,baz=109,slow=34						
SJPF	**Ste Jean**	**18.90**	**65**	*e*P	**Pn**	**10 36 05.2**	**-0.1**
QUIF	**Quistinic**	**19.05**	**50**	*e*P	**Pn**	**10 36 07.2**	**0.0**
	comp=Z,20nm,1.0s						
QUIF	**Quistinic**	**19.05**	**50**	*e*P	**Pn**	**10 36 07.2**	**0.0**
	comp=Z,9.9nm,1.0s						
ROSF	**Rostrenen**	**19.18**	**48**	*e*P	**Pn**	**10 36 08.4**	**-0.2**
	comp=Z,21nm,1.1s						
ROSF	**Rostrenen**	**19.18**	**48**	*e*P	**Pn**	**10 36 08.4**	**-0.2**
	comp=Z,10nm,1.1s						
ETSF	**Etsaut**	**19.35**	**66**	*e*P	**Pn**	**10 36 10.3**	**-0.4**
SGMF	**Saint Gilles**	**19.57**	**49**	*e*P	**Pn**	**10 36 12.8**	**-0.5**
EPF	**Esparros**	**20.02**	**66**	*e*P	**P**	**10 36 18.2**	**+1.3**
MFF	**Saint Martin d**	**20.48**	**55**	*e*P	**P**	**10 36 22.5**	**+0.7**
	comp=Z,71nm,1.3s						
MFF	**Saint Martin d**	**20.48**	**55**	*e*P	**P**	**10 36 22.5**	**+0.7**
	comp=Z,35nm,1.3s						
LFF	**La Frestale**	**20.64**	**60**	*e*P	**P**	**10 36 24.2**	**+0.6**
GRR	**Gorron**	**20.66**	**50**	*e*P	**P**	**10 36 24.3**	**+0.6**
	comp=Z,83nm,1.1s						
GRR	**Gorron**	**20.66**	**50**	*e*P	**P**	**10 36 24.3**	**+0.6**
	comp=Z,42nm,1.1s						
FLN	**La Foliniere**	**21.04**	**50**	*e*P	**P**	**10 36 28.5**	**+0.7**
	comp=Z,8.8nm,0.6s,mb4.0						
FLN				*e*MLR	MLR		
	comp=Z,317nm,20.2s,MS3.4						
FLN	**La Foliniere**	**21.04**	**50**	*e*P	**P**	**10 36 28.5**	**+0.7**
	comp=Z,4.4nm,0.6s,mb4.0						
FLN				LR	LR		
	comp=Z,320nm,20.3s,MS3.7						
LDF	**La Druitiere**	**21.19**	**50**	*e*P	**P**	**10 36 30.1**	**+0.6**
	comp=Z,32nm,1.2s,mb4.2						
LDF	**La Druitiere**	**21.19**	**50**	*e*P	**P**	**10 36 30.1**	**+0.6**
	comp=Z,16nm,1.2s,mb4.2						
RJF	**Les Rejaudoux**	**21.26**	**60**	*e*P	**P**	**10 36 30.8**	**+0.5**
RJF				*e*MLR	MLR		
	comp=Z,542nm,19.5s,MS3.6						
RJF	**Les Rejaudoux**	**21.26**	**60**	*e*P	**P**	**10 36 30.8**	**+0.5**
RJF				LR	LR		
	comp=Z,540nm,19.5s,MS4.0						
MTLF	**Montolieu**	**21.42**	**65**	*e*P	**P**	**10 36 32.5**	**+0.5**
	comp=Z,8.3nm,0.9s,mb3.8						
MTLF	**Montolieu**	**21.42**	**65**	*e*P	**P**	**10 36 32.5**	**+0.5**
	comp=Z,4.2nm,0.9s,mb3.8						
CAF	**Calviac**	**21.56**	**61**	*e*P	**P**	**10 36 33.9**	**+0.4**
	comp=Z,54nm,1.2s,mb4.5						
CAF	**Calviac**	**21.56**	**61**	*e*P	**P**	**10 36 33.9**	**+0.4**
	comp=Z,27nm,1.2s,mb4.5						
TCF	**Toulx Ste Croi**	**21.96**	**58**	*e*P	**P**	**10 36 37.9**	**+0.1**
	comp=Z,57nm,1.4s,mb4.5						
TCF	**Toulx Ste Croi**	**21.96**	**58**	*e*P	**P**	**10 36 37.9**	**+0.1**
	comp=Z,28nm,1.4s,mb4.5						
BGF	**Bois d'Agland**	**22.45**	**57**	*e*P	**P**	**10 36 42.8**	**-0.2**
	comp=Z,12nm,0.8s,mb4.1						
BGF	**Bois d'Agland**	**22.45**	**57**	*e*P	**P**	**10 36 42.8**	**-0.2**
	comp=Z,6.1nm,0.8s,mb4.1						
LASF	**Ste Croix**	**22.69**	**64**	*e*P	**P**	**10 36 45.2**	**-0.4**
	comp=Z,32nm,1.2s,mb4.3						
LASF	**Ste Croix**	**22.69**	**64**	*e*P	**P**	**10 36 45.2**	**-0.4**
	comp=Z,16nm,1.2s,mb4.3						
AVF	**Avril sur Loir**	**22.85**	**57**	*e*P	**P**	**10 36 46.8**	**-0.4**
	comp=Z,4.8nm,0.7s,mb3.7						
AVF	**Avril sur Loir**	**22.85**	**57**	*e*P	**P**	**10 36 46.8**	**-0.4**
	comp=Z,2.4nm,0.7s,mb3.7						
SSF	**Saint Saulge**	**23.02**	**56**	*e*P	**P**	**10 36 48.4**	**-0.6**
	comp=Z,6.0nm,0.6s,mb3.9						
SSF	**Saint Saulge**	**23.02**	**56**	*e*P	**P**	**10 36 48.4**	**-0.6**
	comp=Z,3.0nm,0.6s,mb3.9						
SMF	**Signal de Mont**	**23.14**	**57**	*e*P	**P**	**10 36 49.5**	**-0.8**
	comp=Z,25nm,1.1s,mb4.2						
SMF	**Signal de Mont**	**23.14**	**57**	*e*P	**P**	**10 36 49.5**	**-0.8**
	comp=Z,12nm,1.1s,mb4.2						
EKA	**Eskdalemuir Ar**	**23.22**	**32**	P	**P**	**10 36 49.8**	**-1.2**
	comp=Z,2.5nm,0.8s,mb3.7,baz=229,slow=8.0,SNR=6.5						
LOR	**Lormes**	**23.30**	**56**	*e*P	**P**	**10 36 51.0**	**-1.0**
	comp=Z,9.9nm,0.9s,mb3.9						
LOR				*e*MLR	MLR		
	comp=Z,371nm,20.5s,MS3.5						
LOR	**Lormes**	**23.30**	**56**	*e*P	**P**	**10 36 51.0**	**-1.0**
	comp=Z,4.9nm,0.9s,mb3.9						
LOR				LR	LR		
	comp=Z,370nm,20.5s,MS3.8						
VIVF	**Saint-Julien-l**	**23.38**	**62**	*e*P	**P**	**10 36 51.5**	**-1.3**
	comp=Z,24nm,1.1s,mb4.2						
VIVF	**Saint-Julien-l**	**23.38**	**62**	*e*P	**P**	**10 36 51.5**	**-1.3**
	comp=Z,12nm,1.1s,mb4.2						
SMRF	**Simiane la Rot**	**23.91**	**64**	*e*P	**P**	**10 36 56.9**	**-0.9**
	comp=Z,32nm,1.4s,mb4.3						
SMRF	**Simiane la Rot**	**23.91**	**64**	*e*P	**P**	**10 36 56.9**	**-0.9**
	comp=Z,16nm,1.4s,mb4.3						
ORIF	**Oris-en-Rattie**	**24.24**	**62**	*e*P	**P**	**10 37 00.3**	**-0.4**
ORIF				*e*MLR	MLR		
	comp=Z,323nm,20.8s,MS3.5						
BAIF	**Baives**	**24.36**	**49**	*e*P	**P**	**10 37 01.3**	**-0.5**
	comp=Z,12nm,0.9s,mb4.0						
BAIF	**Baives**	**24.36**	**49**	*e*P	**P**	**10 37 01.3**	**-0.5**
	comp=Z,6.1nm,0.9s,mb4.0						
LMR	**La Mourre**	**24.54**	**66**	*e*P	**P**	**10 37 03.0**	**-0.5**
CABF	**La Chapelle**	**24.65**	**58**	*e*P	**P**	**10 37 04.0**	**-0.5**
GIVF	**Givet**	**24.75**	**50**	*e*P	**P**	**10 37 05.2**	**-0.2**
HAU	**Haudompre**	**25.11**	**55**	*e*P	**P**	**10 37 08.4**	**-0.3**
HAU				*e*MLR	MLR		
	comp=Z,336nm,21.8s,MS3.5						
HAU	**Haudompre**	**25.11**	**55**	*e*P	**P**	**10 37 08.4**	**-0.3**
HAU				LR	LR		
	comp=Z,340nm,21.8s,MS3.8						
SBF	**Sospel**	**25.24**	**65**	*e*P	**P**	**10 37 09.6**	**-0.3**
HINF	**Hinteralfeld**	**25.40**	**56**	*e*P	**P**	**10 37 11.1**	**-0.2**
	comp=Z,5.2nm,0.5s,mb4.0						
HINF	**Hinteralfeld**	**25.40**	**56**	*e*P	**P**	**10 37 11.1**	**-0.2**
	comp=Z,2.6nm,0.5s,mb4.0						
CDF	**Champ du Feu**	**25.81**	**54**	*e*P	**P**	**10 37 15.3**	**+0.3**
PGF	**Pioggiola**	**26.35**	**68**	*e*P	**P**	**10 37 20.3**	**+0.4**
BFO	**Black Forest**	**26.48**	**55**	*e*P	**P**	**10 37 20.0**	**-1.0**
	comp=Z,14nm,1.3s,mb4.3						
BFO	**Black Forest**	**26.48**	**55**	*e*P	**P**	**10 37 20.0**	**-1.1**
	comp=Z,14nm,1.3s,mb4.3						
DAVOX	**Davos/Dischmat**	**27.25**	**59**	LR	LR	10 48 07.6	
	comp=Z,263nm,18.4s,MS3.8,baz=256,slow=36						
KEST	**Kesra**	**27.44**	**83**	LR	LR	10 47 21.0	
	comp=Z,59nm,19.1s,MS3.2,baz=174,slow=34						
GRA1	**Grafenberg Arr**	**28.62**	**53**	*e*P	**P**	**10 37 40.8**	**+0.6**
	comp=Z,5.0nm,1.1s,mb4.2						
GRF	**Grafenberg Arr**	**28.62**	**53**	*e*P	**P**	**10 37 40.8**	**+0.6**
	comp=Z,5.0nm,1.1s,mb4.2						
GERES	**GERESS Array B**	**30.08**	**55**	P	**P**	**10 37 52.9**	**-0.2**
	comp=Z,0.6nm,0.6s,mb3.5,baz=265,slow=6.7,SNR=5.0						
VRAC	**Vranov**	**32.02**	**55**	LR	LR	10 49 33.4	
	comp=Z,141nm,18.3s,MS3.7,baz=251,slow=34						
NOA	**NORSAR Array B**	**32.71**	**32**	LR	LR	10 49 07.7	
	comp=Z,196nm,21.6s,MS3.8,baz=245,slow=32						
HFS	**Hagfors**	**33.37**	**35**	LR	LR	10 48 47.0	
	comp=Z,291nm,20.2s,MS4.0,baz=60,slow=31						
TOA0	**Torodi Ar. Sit**	**33.82**	**129**	*e*P	**P**	**10 38 25.4**	**-0.8**
TOA0	**Torodi Ar. Sit**	**33.82**	**129**	*e*P	**P**	**10 38 25.5**	**-0.8**
TORD	**Torodi Ar. Bea**	**33.82**	**129**	P	**P**	**10 38 25.9**	**-0.4**
TORD	**Torodi Ar. Bea**	**33.82**	**129**	P	**P**	**10 38 25.9**	**-0.4**
	comp=Z,1.9nm,0.6s,mb4.2,baz=320,slow=8.8,SNR=16						
FINES	**FINESS Array B**	**39.52**	**36**	LR	LR	10 53 16.7	
	comp=Z,135nm,18.6s,MS3.8,baz=246,slow=33						
AKASG	**Malin Array Be**	**40.21**	**53**	P	**P**	**10 39 19.5**	**-0.7**
	comp=Z,1.2nm,0.8s,mb3.7,baz=272,slow=8.0,SNR=5.0						
ARCES	**ARCESS Array B**	**41.88**	**24**	P	**P**	**10 39 33.6**	**-0.1**
	comp=Z,3.8nm,0.9s,mb4.0,baz=240,slow=6.8,SNR=7.3						
ARCES				LR	LR	10 55 26.1	
	comp=Z,212nm,18.4s,MS4.0,baz=17,slow=34						
RES	**Resolute Bay**	**49.08**	**341**	*e*P	**P**	**10 40 33.0**	**+2.3**
	comp=Z,258nm,1.0s						
RES	**Resolute Bay**	**49.08**	**341**	*e*P	**P**	**10 40 33.0**	**+2.3**
	comp=Z,258nm,1.0s						
ROSC	**El Rosal**	**55.48**	**247**	LR	LR	11 02 33.1	
	comp=Z,158nm,18.4s,MS4.1,baz=34,slow=33						
ARU	**Arti**	**56.40**	**41**	*e*P	**P**	**10 41 26.2**	**+1.2**
	comp=Z,6.0nm,0.6s,mb4.8						
ARU	**Arti**	**56.40**	**41**	*e*P	**P**	**10 41 26.2**	**+1.2**
	comp=Z,6.0nm,0.6s,mb4.8						
YKA	**Yellowknife Ar**	**57.52**	**327**	P	**P**	**10 41 33.1**	**+0.3**
	comp=Z,1.0nm,0.9s,mb3.9,baz=70,slow=7.0,SNR=14						
AKTK	**Aktyubinsk**	**58.13**	**48**	P	**P**	**10 41 38.4**	**+1.0**
AKTK				LR	LR	11 07 49.4	
AKTK	**Aktyubinsk**	**58.13**	**48**	P	**P**	**10 41 38.4**	**+1.1**
AKTO	**Aktyubinsk**	**58.13**	**48**	P	**P**	**10 41 38.4**	**+1.0**
	comp=Z,3.8nm,0.9s,mb4.4,baz=289,slow=8.9,SNR=13						
AKTO				LR	LR	11 07 49.4	
	comp=Z,146nm,18.6s,MS4.1,baz=320,slow=37						
JCT	**Junction City**	**61.08**	**288**	*e*P	**P**	**10 41 59.9**	**+2.0**
	comp=Z,16nm,1.2s,mb5.0						
JCT	**Junction City**	**61.08**	**288**	*e*P	**P**	**10 41 59.9**	**+2.0**
	comp=Z,16nm,1.2s,mb5.0						
INK	**Inuvik**	**62.20**	**337**	P	**P**	**10 42 05.1**	**+0.2**
	comp=Z,2.3nm,0.9s,mb4.3,baz=57,slow=7.1,SNR=8.1						
PDAR	**Pinedale Array**	**62.41**	**304**	P	**P**	**10 42 07.7**	**+0.9**
	comp=Z,1.2nm,0.8s,mb4.0,baz=77,slow=6.7,SNR=10.0						
TXAR	**Lajitas Array**	**64.56**	**288**	P	**P**	**10 42 22.6**	**+1.5**
	comp=Z,3.5nm,0.9s,mb4.4,baz=80,slow=7.0,SNR=20						
TXAR	**Lajitas Array**	**64.56**	**288**	P	**P**	**10 42 22.6**	**+1.4**
KMBO	**Kilima Mbogo**	**68.85**	**109**	LR	LR	11 10 51.3	
	comp=Z,199nm,19.6s,MS4.4,baz=83,slow=34						
KURK	**Kurchatov**	**69.60**	**41**	*e*P	**P**	**10 42 53.9**	**+1.1**
KURK	**Kurchatov**	**69.60**	**41**	*e*P	**P**	**10 42 53.9**	**+1.1**
ZAA0	**Zalesovo Array**

*ISCJB **06** 10:40:35.1±0.5,37.17N×008×24.93W×007,h10km,mb3.6/5, Error ellipse: s-maj=13.4km s-min=4.1km az=32.9*
*SVSA **06** 10:40:36.3±1.1,37.18N×24.53W,h5km,MD4.1,ML3.7, Error ellipse: s-maj=7.0km s-min=4.7km az=83.0*
*PDA **06** 10:40:36.3±1.1,37.18N×24.53W,h5km,MD4.1,ML3.7, Error ellipse: s-maj=7.0km s-min=4.7km az=83.0*
*CSEM **06** 10:40:37.1±0.1,37.17N×24.92W,h30km,ML3.7, Error ellipse: s-maj=3.1km s-min=2.0km az=32.0*
ISC 06 10:40:38.2±0.8,3727N±005×2488W±006,h22km±6km,n25, σ0:77/42,mb3.6/5,Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSMN	**Pico de Norte,**	**0.30**	**209**	*eP*	**Pb**	**10 40 44.5**	**-0.6**
PSMN				*eS*	**Sb**	**10 40 50.4**	**+0.7**
PDA	**Ponta Delgada**	**0.79**	**308**	*eP*	**Pb**	**10 40 52.9**	**-0.3**
PDA				*eS*	**Sb**	**10 41 04.3**	**+0.9**
PSET	**Sete Cidades**	**0.87**	**310**	*eP*	**Pb**	**10 40 53.6**	**-1.0**
PSET				*eS*	**Sb**	**10 41 07.3**	**+1.5**
PSET				A		10 41 08.9	
	500nm,0.4s						
PSET	**Sete Cidades**	**0.87**	**310**	*eP*	**Pb**	**10 40 53.6**	**-1.0**
PSET				*eS*	**Sb**	**10 41 07.3**	**+1.5**
ADH	**Angra Heroismo**	**2.32**	**307**	*eP*	**Pn**	**10 41 13.9**	**-1.1**
ADH				*eS*	**Sn**	**10 41 43.1**	**+0.2**
PID	**Ribeirinha**	**2.82**	**296**	*eP*	**Pn**	**10 41 21.6**	**-0.3**
PMAN	**Manadas**	**2.88**	**299**	*eP*	**Pn**	**10 41 22.6**	**-0.1**
PMAN				*eS*	**Sn**	**10 41 56.7**	**0.0**
PMAN				A		10 41 58.5	
	46nm,0.4s						
PMAN	**Manadas**	**2.88**	**299**	*eP*	**Pn**	**10 41 22.6**	**-0.1**
PMAN				*eS*	**Sn**	**10 41 56.7**	**0.0**
PGRA	**Graciosa**	**3.01**	**307**	*eP*	**Pn**	**10 41 24.1**	**-0.4**
PGRA				*eS*	**Sn**	**10 41 59.6**	**-0.3**
PGRA				A		10 42 06.3	
	63nm,0.4s						
PGRA	**Graciosa**	**3.01**	**307**	*eP*	**Pn**	**10 41 24.1**	**-0.4**
PGRA				*eS*	**Sn**	**10 41 59.6**	**-0.3**
ROSA	**Rosais**	**3.02**	**300**	*eP*	**Pn**	**10 41 24.6**	**-0.1**
ROSA				*eS*	**Sn**	**10 42 00.9**	**+0.6**
PICO	**Pico**	**3.06**	**295**	*eP*	**Pn**	**10 41 25.3**	**0.0**
PICO				*eS*	**Sn**	**10 42 01.6**	**+0.4**
HOR	**Horta**	**3.22**	**294**	*eP*	**Pn**	**10 41 26.9**	**-0.5**
CALA	**Caldeira**	**3.29**	**295**	*eP*	**Pn**	**10 41 28.2**	**-0.2**
CALA				*eS*	**Sn**	**10 42 06.5**	**-0.4**
PCED	**Cedros**	**3.31**	**295**	*eP*	**Pn**	**10 41 28.1**	**-0.6**
PCED				*eS*	**Sn**	**10 42 07.3**	**0.0**
PCED				A		10 42 09.0	
	34nm,0.3s						
PCED	**Cedros**	**3.31**	**295**	*eP*	**Pn**	**10 41 28.1**	**-0.6**
PCED				*eS*	**Sn**	**10 42 07.3**	**0.0**
EGOM	**La Gomera**	**11.14**	**142**	P	**Pn**	**10 43 10.0**	**-6.2**
	4.7nm,0.2s						
EGOM				S	**Sn**	**10 45 21.4**	**+1.4**
EBAJ	**Bajamar**	**11.27**	**138**	P	**Pn**	**10 43 14.1**	**-3.9**
	3.4nm,0.4s						
EBAJ				S	**Sn**	**10 45 32.9**	**+10**
CCAN	**Las Canadas**	**11.39**	**140**	P	**Pn**	**10 43 15.6**	**-4.0**
	0.8nm,0.2s						
CCAN				S	**Sn**	**10 45 31.6**	**+5.4**
ESDC	**Sonseca Array**	**16.56**	**75**	Pn	**Pn**	**10 44 29.4**	**+0.5**
	0.2nm,0.3s,baz=275,slow=11,SNR=5.7						
EKA	**Eskdalemuir Ar**	**23.32**	**32**	P	**P**	**10 45 44.3**	**-0.3**
	0.9nm,0.8s,mb3.3,baz=228,slow=7.4,SNR=4.0						
TORD	**Torodi Ar. Bea**	**33.77**	**128**	P	**P**	**10 47 17.0**	**-1.4**
	0.9nm,0.7s,mb3.8,baz=322,slow=6.4,SNR=4.8						
YKA	**Yellowknife Ar**	**57.60**	**327**	P	**P**	**10 50 25.9**	**0.0**
	0.2nm,0.7s,mb3.3,baz=67,slow=7.0,SNR=3.9						
TXAR	**Lajitas Array**	**64.57**	**288**	P	**P**	**10 51 14.5**	**+0.7**
	2.4nm,0.9s,mb4.2,baz=80,slow=7.0,SNR=10						
ZALV	**Zalesovo Beam**	**70.89**	**36**	P	**P**	**10 51 55.0**	**+1.8**
	0.3nm,0.5s,mb3.5,baz=323,slow=9.3,SNR=4.0						

*ISCJB **06** 10:49:56.9±0.7,3841N±002×2046E±006,h3km, Error ellipse: s-maj=6.4km s-min=3.1km az=167.0*
*CSEM **06** 10:49:57.1±0.2,3840N×2041E,h2km,MD3.4, Error ellipse: s-maj=4.0km s-min=1.6km az=79.0*
*THE **06** 10:49:57.6,3841N×2047E,h3km,ML3.3*
*NEIC **06** 10:49:57.6,3841N×2047E,h0km,MD3.4(ATH), ML3.3(THE),After THE.*
*ATH **06** 10:49:57.3,3838N×2046E,h9km±5km,MD3.4/5*
ISC 06 10:49:57.0±0.8,3839N±003×2043E±006,h5km±5km,n16, σ0:93/28,Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.25**	**149**	*eP*G	**Pg**	**10 50 01.8**	**0.0**
VLS				*eS*G	**Sg**	**10 50 06.2**	**+1.2**
LKD	**Levkas**	**0.36**	**29**	*eP*g	**Pg**	**10 50 03.5**	**-0.5**
LKD				*eS*g	**Sg**	**10 50 09.1**	**+0.4**
LKD	**Levkas**	**0.36**	**29**	*eP*g	**Pg**	**10 50 03.5**	**-0.5**
LKD				*eS*g	**Sg**	**10 50 09.1**	**+0.3**
KFL	**Anninata**	**0.40**	**134**	*eP*g	**Pg**	**10 50 04.5**	**-0.1**
KFL				*eS*g	**Sg**	**10 50 10.8**	**+1.0**
RLS	**Riolos of Patr**	**0.88**	**112**	*eP*B	**Pb**	**10 50 13.9**	**-0.9**
IGT	**Igoumenitsa**	**1.14**	**356**	*eP*g	**Pg**	**10 50 18.4**	**-0.6**
IGT				*eS*g	**Sg**	**10 50 35.5**	**+1.7**
SELA	**Sela**	**1.16**	**95**	*eP*g	**Pg**	**10 50 18.0**	**-1.2**
SELA				*eS*g	**Sg**	**10 50 35.2**	**+1.0**
EVR	**Evrytania**	**1.20**	**64**	*eP*N	**Pn**	**10 50 18.9**	**-1.6**
EVR				*eS*B	**Sb**	**10 50 36.0**	**-0.1**
KEK	**Kerkira**	**1.41**	**340**	*eP*B	**Pb**	**10 50 24.5**	**+0.7**
MEV	**Metsovon**	**1.53**	**24**	*eP*g	**Pg**	**10 50 25.4**	**-0.9**
MEV				*eS*g	**Sg**	**10 50 46.1**	**0.0**
AGG	**Agios Georgios**	**1.62**	**66**	*eP*g	**Pg**	**10 50 25.9**	**-2.1**
AGG				*eS*g	**Sg**	**10 50 49.1**	**+0.1**
THL	**Klokotos Trika**	**1.71**	**46**	*eP*N	**Pn**	**10 50 29.1**	**+1.7**
PYL	**PYLOS**	**1.82**	**145**	*eP*b	**Pb**	**10 50 29.8**	**-1.0**
PYL				*eS*b	**Sb**	**10 50 53.8**	**0.0**
VLX	**Vlachokerasia**	**1.85**	**123**	*eP*b	**Pb**	**10 50 30.5**	**-0.8**
VLX				*eS*b	**Sb**	**10 50 54.5**	**-0.2**
LTK	**Loutraki**	**2.03**	**100**	*eP*n	**Pn**	**10 50 31.9**	**+0.1**
LTK				*eS*n	**Sn**	**10 50 58.4**	**+0.8**
DID	**Didima**	**2.39**	**111**	*eP*n	**Pn**	**10 50 37.8**	**+1.0**

*IDC **06** 11:00:19.3±0.8,081N×12738E,h0km,mb4.0/9, mb1 4.1/10,mb1mx4.0/17,mbtmp4.0/10,ML3.7/1, Error ellipse: s-maj=49.5km s-min=14.1km az=73.0*
*NEIC **06** 11:00:21.0±0.5,088N×12757E,h10km,mb4.3/2, Error ellipse: s-maj=29.1km s-min=7.8km az=73.0*
NEIC Felt [II] on Ternate.
*ISCJB **06** 11:00:22.3±0.6,082N±009×1275E±02,h33km,mb4.1/10, Error ellipse: s-maj=34.6km s-min=9.5km az=165.3*
ISC 06 11:00:24.7±0.6,081N±009×1275E±02,h35km,n16, σ0:57/16,mb4.1/10,Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**18.88**	**185**	*eP*	**Pn**	**11 04 43.5**	**+0.6**
	5.6nm,1.0s						
FITZ	**Fitzroy Crossi**	**18.88**	**185**	Pn	**Pn**	**11 04 43.2**	**+0.3**
	0.2nm,0.3s,baz=26,slow=11,SNR=5.9						
WRA	**Warramunga Arr**	**21.69**	**162**	P	**P**	**11 05 12.6**	**-0.1**
	2.5nm,0.5s,mb3.9,baz=340,slow=11,SNR=38						
WB2	**Warramunga Arr**	**21.69**	**162**	*eP*	**P**	**11 05 12.7**	**0.0**
ASAR	**Alice Springs**	**25.11**	**166**	P	**P**	**11 05 46.4**	**0.0**
	2.8nm,0.7s,mb3.9,baz=350,slow=13,SNR=19						
CTA	**Charters Tower**	**27.74**	**139**	P	**P**	**11 06 09.5**	**-0.6**
	5.3nm,1.1s,mb4.1,baz=299,slow=10,SNR=2.8						
STKA	**Stephens Creek**	**35.15**	**159**	P	**P**	**11 07 15.4**	**+0.3**
	1.5nm,0.7s,mb4.0,baz=342,slow=13,SNR=3.4						
KSRS	**Korea Array**	**36.47**	**1**	P	**P**	**11 07 27.0**	**+0.7**
	0.8nm,0.6s,mb3.8,baz=175,slow=9.2,SNR=5.8						
MJAR	**Matsushiro Arr**	**36.91**	**14**	P	**P**	**11 07 30.2**	**0.0**
MJAR	**Matsushiro Arr**	**36.91**	**14**	P	**P**	**11 07 30.2**	**0.0**
	0.7nm,0.6s,mb3.7,baz=186,slow=9.8,SNR=2.9						
ULN	**Ulaanbaatar**	**50.11**	**342**	*eP*	**P**	**11 09 17.2**	**+0.9**
	4.5nm,0.4s,mb4.8						
SONM	**Songino Array**	**50.29**	**342**	P	**P**	**11 09 17.9**	**+0.2**
	1.3nm,0.8s,mb4.0,baz=150,slow=8.6,SNR=8.3						
MK31	**Makanchi Array**	**60.38**	**326**	*eP*	**P**	**11 10 30.3**	**-0.1**
MKAR	**Makanchi Array**	**60.38**	**326**	P	**P**	**11 10 29.9**	**-0.4**
MKAR	**Makanchi Array**	**60.38**	**326**	P	**P**	**11 10 29.9**	**-0.4**
	2.4nm,0.4s,mb4.5,baz=119,slow=8.8,SNR=10						
ZALV	**Zalesovo Beam**	**63.52**	**333**	P	**P**	**11 10 49.9**	**-1.4**
	0.3nm,0.3s,mb3.8,baz=90,slow=5.8,SNR=1.9						

*ISCJB **06** 11:11:46.7±0.2,2340S±003×6853W±005,h100km, mb4.5/46,Error ellipse: s-maj=6.1km s-min=3.5km az=8.7*
*GUC **06** 11:11:47.8±0.9,2347S×6868W,h110km,MD4.5,ML4.7*
*NEIC **06** 11:11:48.6±0.2,2316S×6848W,mb4.6/35,Error ellipse: s-maj=8.5km s-min=6.0km az=74.0*
*IDC **06** 11:11:48.6±0.5,2308S×6852W,h101km±3km,mb4.2/15, mb1 4.3/18,mb1mx4.2/21,mbtmp4.1/18,Error ellipse: s-maj=15.9km s-min=12.2km az=57.0*
*BJI **06** 11:11:49.6,2320S×6850W,h101km,mB4.7*
ISC 06 11:11:48.8±0.2,2341S±002×6860W±005,h102km, h102km±.9km:pP-P,n326,σ0:72/317,mb4.5/46,64C-81D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEN1	**Los Morros**	**1.47**	**270**	⇓*i*P	**Pn**	**11 12 15.4**	**+0.6**
CEN1				*i* S	**Sn**	**11 12 36.5**	**+1.9**
CEN1				AML	AML	11 12 40.5	
	comp=E,12μm,0.4s						
ANCH	**Antofagasta**	**1.69**	**260**	*eP*	**Pn**	**11 12 16.5**	**-0.9**
ANCH				*eS*	**Sn**	**11 12 38.5**	**-0.8**
ANCH	**Antofagasta**	**1.69**	**260**	⇑*eP*	**Pn**	**11 12 16.4**	**-1.1**
ANCH				*i* S	**Sn**	**11 12 38.1**	**-1.2**
CPN1	**Cerro Paranal**	**2.05**	**233**	*eP*	**Pn**	**11 12 22.2**	**+0.1**
CPN1				*i* S	**Sn**	**11 12 46.8**	**-0.8**
CPCH	**Copiapo**	**4.24**	**202**	*eP*	**Pn**	**11 12 50.5**	**-0.7**
CPCH				*i* S	**Sn**	**11 13 38.8**	**-0.9**
CPCH	**Copiapo**	**4.24**	**202**	⇓*eP*	**Pn**	**11 12 50.4**	**-0.8**
CPCH				*i* S	**Sn**	**11 13 39.0**	**-0.8**
VACH	**Vallenar**	**5.50**	**200**	*eP*	**Pn**	**11 13 07.0**	**-1.3**
VACH				*i* S	**Sn**	**11 14 08.8**	**-1.4**
LCO	**Las Campanas**	**5.89**	**198**	*eP*	**Pn**	**11 13 12.4**	**-1.2**
	comp=E,241nm,0.6s						
TLL	**Tololo Astrono**	**7.01**	**196**	⇓*eP*	**Pn**	**11 13 27.5**	**-1.4**
TLL				*i* S	**Sn**	**11 14 46.0**	**-1.1**
LPAZ	**La Paz**	**7.10**	**4**	*eP*	**Pn**	**11 13 26.9**	**-3.1**
	comp=E,13nm,0.6s						
LPAZ	**La Paz**	**7.10**	**4**	P	**Pn**	**11 13 27.0**	**-3.1**
	comp=E,1.5nm,0.3s,baz=185,slow=5.3,SNR=44						
ARE	**Arequipa**	**7.43**	**338**	*eP*	**Pn**	**11 13 38.0**	**+3.5**
ARE				*eS*	**Sn**	**11 14 46.0**	**-11**
CFAA	**Coronel Fontan**	**8.17**	**178**	P	**Pn**	**11 13 44.9**	**+0.3**
CFAA				S	**Sn**	**11 15 13.5**	**-1.7**
CFAA	**Coronel Fontan**	**8.17**	**178**	P	**Pn**	**11 13 44.9**	**+0.4**
	comp=E,0.5nm,0.3s,baz=356,slow=13,SNR=41						
CFAA				S	**Sn**	**11 15 13.5**	**-1.7**
	comp=E,0.6nm,0.3s,baz=215,slow=13,SNR=3.6						
SIV	**San Ignacio**	**10.23**	**45**	P	**Pn**	**11 14 07.1**	**-5.6**
	comp=E,49nm,0.3s,baz=241,slow=11,SNR=29						
SIV				S	**Sn**	**11 15 54.5**	**-11**
	comp=E,0.8nm,0.3s,baz=204,slow=10,SNR=2.9						
NNA	**Nana**	**13.80**	**324**	P	**Pn**	**11 15 01.5**	**+1.4**
NNA	**Nana**	**13.80**	**324**	P	**Pn**	**11 15 01.5**	**+1.4**
	comp=E,1.1nm,0.3s,baz=150,slow=7.6,SNR=5.1						
TRQA	**Tornquist**	**15.66**	**160**	*eP*	**Pn**	**11 15 27.2**	**+3.6**
	comp=E,18nm,0.8s						
PLCA	**Paso Flores**	**17.35**	**185**	P	**Pn**	**11 15 47.8**	**+3.4**
	comp=E,0.2nm,0.3s,baz=30,slow=11,SNR=6.0						
PLCA				PcP	PcP	11 20 21.7	+1.1
	comp=E,0.1nm,0.3s,baz=248,slow=1.0,SNR=6.4						
ATAH	**Atahualpa**	**18.84**	**328**	P	**P**	**11 15 57.8**	**-2.9**
	comp=E,0.3nm,0.3s,baz=86,slow=15,SNR=2.6						
BDFB	**Brasilia**	**20.86**	**72**	P	**P**	**11 16 20.7**	**-2.0**
	comp=E,18nm,0.8s,baz=233,slow=14,SNR=32						
SDV	**Santo Domingo**	**32.16**	**356**	*eP*	**P**	**11 18 02.4**	**-4.5**
	comp=E,8.8nm,1.1s,mb4.4						
SJG	**San Juan**	**41.33**	**4**	*eP*	**P**	**11 19 19.0**	**-5.6**
	comp=E,8.6nm,0.6s,mb4.8						
TEIG	**Tepich**	**47.42**	**335**	P	**P**	**11 20 10.7**	**-2.4**
TEIG	**Tepich**	**47.42**	**335**	P	**P**	**11 20 10.7**	**-2.4**
	comp=E,7.6nm,0.6s,mb4.6,baz=341,slow=3.2,SNR=8.9						
CMIG	**Matias Romero**	**47.75**	**325**	P	**P**	**11 20 14.3**	**-1.4**
CMIG	**Matias Romero**	**47.75**	**325**	P	**P**	**11 20 14.3**	**-1.4**
	comp=E,2.3nm,0.8s,mb4.1,baz=124,slow=7.2,SNR=3.7						
VNA3	**Neumayer Olymp**	**58.19**	**161**	*eP*	**P**	**11 21 33.8**	**+2.2**
VNA3				*e*		11 21 43.4	
VNA3				*e*		11 21 49.2	
VNA3				*e*		11 21 52.9	
VNA3				*e*	pP	11 21 58.2	+1.5
VNA1	**Neumayer--Stat**	**58.40**	**160**	*eP*	**P**	**11 21 35.7**	**+2.6**
VNA1				*e*		11 21 45.8	
VNA1				*e*		11 21 50.8	
VNA1				*e*		11 21 53.9	
VNA1				*e*	pP	11 21 59.1	+0.9
VNA2	**Neumayer--Watz**	**58.77**	**160**	*eP*	**P**	**11 21 37.9**	**+2.2**
VNA2				*e*		11 21 46.7	
VNA2				*e*		11 21 53.1	
VNA2				*e*		11 21 55.7	
VNA2				*e*	pP	11 22 01.5	+0.7
SNAA	**Sanae**	**60.39**	**161**	*eP*	**P**	**11 21 48.6**	**+1.8**
SNAA				*e*		11 21 59.3	
SNAA				*e*		11 22 04.0	
SNAA				*e*		11 22 06.5	
SNAA				*e*	pP	11 22 14.0	+2.0
SWET	**Sewanee**	**60.58**	**344**	*eP*	**P**	**11 21 45.8**	**-2.7**
WVT	**Waverly**	**61.94**	**342**	*eP*	**P**	**11 21 54.5**	**-3.2**
	comp=E,9.5nm,1.1s,mb4.7						
TXAR	**Lajitas Array**	**62.35**	**326**	P	**P**	**11 21 58.8**	**-1.8**
	comp=E,0.5nm,0.6s,mb3.7,baz=148,slow=10,SNR=5.2						
TXAR				pP	pP	11 22 23.6	-2.4
	comp=E,0.5nm,0.7s,baz=131,slow=5.8,SNR=2.3						
QSPA	**South Pole Qui**	**66.79**	**180**	*eP*	**P**	**11 22 31.3**	**+2.5**
	comp=E,5.9nm,0.5s,mb4.7						
319A	**Douglas**	**66.97**	**323**	⇓P	**P**	**11 22 30.1**	**-0.5**
	baz=67,SNR=7.2						
318A	**Bisbee**	**67.42**	**322**	P	**P**	**11 22 33.4**	**0.0**
	baz=68,SNR=9.3						
BNM	**Barren Site**	**67.70**	**326**	*eP*	**P**	**11 22 35.1**	**0.0**
218A	**Dragoon**	**67.85**	**323**	⇑P	**P**	**11 22 36.1**	**0.0**
	baz=68,SNR=12						
119A	**Ashpeak Ranch,**	**68.04**	**324**	⇓P	**P**	**11 22 36.6**	**-0.6**
	baz=68						
217A	**Green Valley**	**68.13**	**322**	P	**P**	**11 22 37.9**	**+0.1**
	baz=68,SNR=13						
LAZ	**Ladron**	**68.16**	**326**	*eP*	**P**	**11 22 38.1**	**+0.1**
ANMO	**Albuquerque**	**68.25**	**327**	*eP*	**P**	**11 22 38.1**	**-0.4**
	comp=E,3.7nm,0.8s,mb4.3						
ANMO				*e*	pP	11 23 03.2	-1.1
TUC	**Tucson**	**68.51**	**322**	*eP*	**P**	**11 22 39.7**	**-0.5**
	comp=E,8.9nm,1.3s,mb4.4						
TUC				*e*	pP	11 23 03.9	-2.1
216A	**Three Points,**	**68.67**	**322**	⇓P	**P**	**11 22 41.3**	**+0.1**
	baz=69						
Z18A	**Geronimo**	**68.68**	**323**	⇑P	**P**	**11 22 40.8**	**-0.4**
	baz=69						
DBIC	**Dimbokro**	**69.01**	**73**	P	**P**	**11 22 42.9**	**-0.9**
	comp=E,6.2nm,0.7s,mb4.5,baz=213,slow=7.2,SNR=8.1						
DBIC				pP	pP	11 23 08.4	-1.1
	comp=E,3.0nm,0.7s,baz=211,slow=8.2,SNR=2.5						
116A	**Eloy**	**69.22**	**322**	⇑P	**P**	**11 22 44.8**	**+0.2**
	baz=69						
115A	**Sonoran Desert**	**69.62**	**322**	⇑P	**P**	**11 22 47.9**	**+0.8**
	baz=70						
Z16A	**Peralta Trail,**	**69.64**	**323**	⇑P	**P**	**11 22 47.4**	**+0.2**
	baz=70						
SDCO	**Great Sand Dun**	**70.03**	**330**	*eP*	**P**	**11 22 49.0**	**-0.5**
	comp=E,10.0nm,1.4s,mb4.5						
SDCO				*e*	pP	11 23 14.9	-0.4
Y16A	**Circle Bar Ran**	**70.07**	**323**	P	**P**	**11 22 50.2**	**+0.4**
	baz=70,SNR=8.1						
X16A	**Lo Mia Camp, P**	**70.45**	**323**	⇓P	**P**	**11 22 52.2**	**+0.1**
	baz=71,SNR=12						
Z14A	**Wintersburg**	**70.51**	**322**	⇑P	**P**	**11 22 52.7**	**+0.2**
	baz=71						
Y15A	**Casa Rosa Ranc**	**70.60**	**322**	⇓P	**P**	**11 22 52.9**	**-0.2**
	baz=71,SNR=7.4						
X15A	**Humboldt**	**70.94**	**323**	P	**P**	**11 22 55.5**	**+0.4**
	baz=71,SNR=5.8						
Y14A	**Wickenburg**	**70.97**	**322**	⇓P	**P**	**11 22 55.0**	**-0.2**
	baz=71						
MVCO	**Mesa Verde**	**71.05**	**327**	*eP*	**P**	**11 22 55.0**	**-0.6**
	comp=E,5.5nm,0.9s,mb4.4						
MVCO				*e*	pP	11 23 21.8	+0.2
MVCO	**Mesa Verde**	**71.05**	**327**	⇓P	**P**	**11 22 55.0**	**-0.6**
	baz=71,SNR=8.5						
WUAZ	**Wupatki**	**71.24**	**324**	*eP*	**P**	**11 22 56.9**	**+0.1**
	comp=E,8.6nm,0.9s,mb4.6						
WUAZ				*e*	pP	11 23 23.1	+0.3
WUAZ	**Wupatki**	**71.24**	**324**	⇑P	**P**	**11 22 56.9**	**+0.1**
	baz=71,SNR=9.1						
X14A	**Yava**	**71.29**	**322**	⇑P	**P**	**11 22 57.2**	**-0.1**
	baz=71						
Y13A	**Salome**	**71.35**	**321**	⇑P	**P**	**11 22 57.8**	**+0.3**
	baz=72						
GLA	**Glamis**	**71.38**	**320**	⇓P	**P**	**11 22 58.0**	**+0.2**
	baz=72						
W15A	**Williams**	**71.47**	**323**	⇑P	**P**	**11 22 58.7**	**+0.5**
	baz=72						
Y12C	**Blythe**	**71.70**	**321**	⇑P	**P**	**11 23 00.3**	**+0.6**
	baz=72						
SMCO	**Snowmass**	**71.87**	**329**	*eP*	**P**	**11 23 00.5**	**0.0**
	comp=E,20nm,1.6s,mb4.7						
PDMCI	**Parker Dam,Lak**	**71.88**	**322**	⇑P	**P**	**11 23 01.2**	**+0.4**
	baz=72						
X13A	**Yucca**	**71.91**	**322**	P	**P**	**11 23 01.1**	**+0.2**
	baz=72,SNR=5.4						
W14A	**Seligman**	**71.95**	**323**	⇑P	**P**	**11 23 01.4**	**+0.3**
	baz=72						
BC3	**Big Chuckw Mtn**	**72.17**	**320**	⇑P	**P**	**11 23 02.9**	**+0.3**
	baz=72						
MONP	**Monument Peak**	**72.21**	**319**	⇓P	**P**	**11 23 03.5**	**+0.7**
	baz=72						
V14A	**Boquillas Ranc**	**72.27**	**323**	⇑P	**P**	**11 23 03.5**	**+0.5**
	baz=72,SNR=6.1						
W13A	**Hualapai Mount**	**72.31**	**322**	⇓P	**P**	**11 23 03.7**	**+0.4**
	baz=72						
IRM	**Iron Mountain**	**72.36**	**321**	⇓P	**P**	**11 23 03.5**	**-0.1**
	baz=72						
T16A	**Glen Canyon Da**	**72.41**	**325**	⇑P	**P**	**11 23 04.1**	**+0.2**
	baz=72						
PFO	**Pinyon Flat Ob**	**72.74**	**320**	⇑P	**P**	**11 23 06.6**	**+0.8**
	baz=73						
BELC	**Belle Mtn.**	**72.74**	**320**	⇓P	**P**	**11 23 06.3**	**+0.4**
	baz=73						
U14A	**Mt Trumbull**	**72.89**	**324**	⇓P	**P**	**11 23 07.0**	**+0.3**
	baz=73,SNR=7.7						
T15A	**Red Dirt Ranch**	**72.90**	**325**	⇓P	**P**	**11 23 06.0**	**-0.8**
	baz=73,SNR=6.1						
GMRC	**Granite Mounta**	**73.09**	**321**	P	**P**	**11 23 08.4**	**+0.5**
	baz=73,SNR=5.9						
T14A	**Hurricane**	**73.31**	**324**	⇑P	**P**	**11 23 09.2**	**0.0**
	baz=73						
V12A	**Nelson**	**73.31**	**322**	⇓P	**P**	**11 23 09.6**	**+0.4**
	baz=73						
U13A	**Pakoon Wash**	**73.31**	**323**	⇑P	**P**	**11 23 09.1**	**-0.1**
	baz=73						
BBRC	**Big Bear Sol-O**	**73.47**	**320**	⇑P	**P**	**11 23 10.7**	**+0.5**
	baz=74						
HEC	**Hector,Ludlow**	**73.52**	**321**	⇑P	**P**	**11 23 11.1**	**+0.7**
	baz=74						
SRU	**San Rafael**	**73.53**	**327**	*eP*	**P**	**11 23 09.5**	**-0.8**
	comp=E,4.1nm,0.9s,mb4.2						
SRU				*e*	pP	11 23 36.3	-0.2
U12A	**Valley of Fire**	**73.64**	**323**	⇑P	**P**	**11 23 11.2**	**+0.1**
	baz=74						
TUQ	**Turquoise Mtn.**	**73.71**	**321**	⇓P	**P**	**11 23 11.7**	**+0.1**
	baz=74						
T13A	**Saint George**	**73.72**	**324**	⇓P	**P**	**11 23 11.8**	**+0.2**
	baz=74						
CCUT	**Cedar City**	**73.82**	**324**	*eP*	**P**	**11 23 12.2**	**+0.1**
CCUT				*e*	pP	11 23 38.2	0.0
S14A	**Cedar City**	**73.87**	**325**	⇓P	**P**	**11 23 12.6**	**+0.2**
	baz=74						
BFSC	**Mount Baldy St**	**73.89**	**319**	⇑P	**P**	**11 23 12.7**	**+0.1**
	baz=74						
ARUT	**Antelope Range**	**74.03**	**324**	*eP*	**P**	**11 23 12.8**	**-0.6**
ARUT				*e*	pP	11 23 40.1	+0.7
S13A	**Holt Ranch, En**	**74.11**	**324**	⇓P	**P**	**11 23 14.5**	**+0.7**
	baz=74						
GSC	**Goldstone**	**74.13**	**321**	⇓P	**P**	**11 23 14.3**	**+0.4**
	baz=74						
EDW2	**Edwards Air Fo**	**74.53**	**320**	⇑P	**P**	**11 23 16.1**	**-0.3**
	baz=75						
T11A	**Corn Creek, Al**	**74.60**	**323**	P	**P**	**11 23 17.2**	**+0.5**
	baz=75,SNR=6.3						
SYO	**Syowa Base**	**74.62**	**159**	⇓*eP*	**P**	**11 23 16.8**	**+0.4**
SYO	**Syowa Base**	**74.62**	**159**	⇓*e*PcP	PcP	11 23 27.2	-3.1
SYO	**Syowa Base**	**74.62**	**159**	⇓*e*pP	pP	11 23 42.8	+0.3
RSSD	**Black Hills**	**74.63**	**334**	*eP*	**P**	**11 23 16.1**	**-0.6**
	comp=E,9.4nm,1.0s,mb4.5						
U10A	**Ash Meadows, A**	**74.64**	**322**	⇑P	**P**	**11 23 17.3**	**+0.4**
	baz=75						
FURC	**Furnace Creek,**	**74.98**	**321**	P	**P**	**11 23 19.3**	**+0.4**
	baz=75,SNR=6.8						
VNDA	**Vanda**	**75.03**	**190**	P	**P

comp=E,1.2nm,1.0s,baz=137,slow=6.6,SNR=3.1
U04C Hernandez Rese 77.21 319 ⇓P **P 11 23 32.5 +0.9**
baz=77
MOOW Moose Ponds 77.21 330 *e*P **P 11 23 30.4 -0.9**
comp=E,4.0nm,0.9s,mb4.2
ULM Lac du Bonnet 77.21 342 P **P 11 23 29.3 -1.9**
comp=E,8.9nm,0.6s,mb4.7,baz=152,slow=6.7,SNR=18
Q08A Gabbs 77.26 323 P **P 11 23 31.6 -0.1**
baz=77,SNR=5.9
P09A Austin 77.31 324 ⇑P **P 11 23 32.3 +0.3**
baz=77
R07C Lee Vining 77.36 321 P **P 11 23 33.2 +0.9**
baz=78,SNR=5.1
IMW Indian Meadow 77.41 330 *e*P **P 11 23 32.6 +0.2**
comp=E,17nm,1.3s,mb4.6
K14A Jones Ranch, D 77.44 328 ⇓P **P 11 23 32.4 -0.3**
baz=78
FLWY Flagg Ranch 77.45 330 *e*P **P 11 23 33.0 +0.4**
comp=E,16nm,0.9s,mb4.7
M12A Wells 77.47 326 ⇓P **P 11 23 32.9 0.0**
baz=78
L13A Double Diamond 77.48 327 P **P 11 23 33.1 +0.2**
baz=78,SNR=8.4
T05C Eagle Field, D 77.50 320 ⇓P **P 11 23 34.0 +0.9**
baz=78
S05C Merced 77.59 320 P **P 11 23 34.7 +1.1**
baz=78,SNR=6.5
LAO LASA Array 77.62 335 *e*P **P 11 23 32.6 -1.0**
comp=E,17nm,1.0s,mb4.7
RLMT Red Lodge 77.62 332 *e*P **P 11 23 33.5 -0.1**
comp=E,6.3nm,0.9s,mb4.3
LKWY Lake 77.69 331 *e*P **P 11 23 35.2 +1.2**
comp=E,4.8nm,1.0s,mb4.2
TOA0 Torodi Ar. Sit 77.73 70 *e*P **P 11 23 34.1 -0.8**
TORD Torodi Ar. Bea 77.73 70 P **P 11 23 34.2 -0.7**
comp=E,18nm,0.7s,mb4.9,baz=258,slow=5.3,SNR=107
TORD pP pP 11 24 00.0 -1.2
comp=E,3.9nm,0.8s,baz=251,slow=5.2,SNR=2.5
O09A Fish Creek Ran 77.77 324 ⇓P **P 11 23 35.4 +0.9**
baz=78
R06C Coleville 77.88 322 ⇑P **P 11 23 36.2 +1.0**
baz=78
SCHQ Schefferville 77.93 1 P **P 11 23 33.3 -1.8**
comp=E,4.0nm,0.7s,mb4.2,baz=101,slow=16,SNR=5.6
M11A Holland Ranch, 77.94 326 P **P 11 23 35.7 +0.3**
baz=78,SNR=8.7
K13A Stover Farm, H 77.96 327 ⇑P **P 11 23 34.7 -0.8**
baz=78
YMR Madison River 78.02 331 *e*P **P 11 23 36.5 +0.7**
comp=E,23nm,1.3s,mb4.8
L12A House Creek Ra 78.06 327 P **P 11 23 36.4 +0.3**
baz=78,SNR=7.0
GCMT Greycliff 78.32 332 *e*P **P 11 23 37.1 -0.3**
DGMT Dagmar 78.33 337 *e*P **P 11 23 37.2 -0.2**
comp=E,30nm,1.0s,mb5.0
K12A Draper Farm, C 78.36 327 P **P 11 23 38.2 +0.5**
baz=78,SNR=13
R05C Kirkwood Meado 78.36 321 ⇑P **P 11 23 38.5 +0.6**
baz=78
R04C Big Horse Ranc 78.56 321 ⇓P **P 11 23 39.7 +0.8**
baz=79
J13A Cove Ranch, Pi 78.56 328 P **P 11 23 39.1 +0.3**
baz=79,SNR=8.6
WCN Washoe City 78.59 322 ⇓P **P 11 23 39.7 +0.6**
baz=79
WENL Wente Brothers 78.62 320 ⇑P **P 11 23 40.2 +0.9**
baz=79
L10A Juniper Basin 78.75 326 P **P 11 23 40.2 +0.3**
baz=79,SNR=15
LAVA Lava Cap Winer 78.78 321 ⇓P **P 11 23 40.2 0.0**
baz=79
M09A Marrel Ranch, 78.80 325 ⇓P **P 11 23 40.4 +0.2**
baz=79
HLID Hailey 78.80 328 *e*P **P 11 23 40.4 +0.2**
comp=E,10nm,1.0s,mb4.6
HLID *e* pP 11 24 06.2 -0.3
HLID Hailey 78.80 328 P **P 11 23 40.7 +0.5**
baz=79,SNR=16
J12A Stokes Ranch, 78.91 327 P **P 11 23 41.0 +0.2**
baz=79,SNR=9.3
I13A Wildhorse Cree 78.92 328 ⇓P **P 11 23 41.1 +0.2**
baz=79
MCMT McKenzie Canyo 79.00 330 *e*P **P 11 23 41.5 +0.3**
K11A Parker Ranch, 79.03 326 P **P 11 23 41.5 +0.1**
baz=79,SNR=7.1
BOZ Bozeman (W) 79.08 331 P **P 11 23 41.1 -0.5**
baz=79,SNR=5.4
P05C Yuba Gap, Truc 79.08 321 ⇓P **P 11 23 41.7 0.0**
baz=79
G15A Dillon 79.10 330 P **P 11 23 41.8 0.0**
baz=79,SNR=8.0
N07B Gerlach 79.17 323 P **P 11 23 42.2 0.0**
baz=79,SNR=8.7
O06A Flanigan 79.22 323 ⇑P **P 11 23 42.5 -0.1**
baz=79
M08A Happy Creek Ra 79.31 324 ⇓P **P 11 23 42.4 -0.6**
baz=79
BEKR Beckwourth 79.31 322 P **P 11 23 43.6 +0.5**
baz=79,SNR=5.2
L09A Wilkinson Ranc 79.34 325 ⇓P **P 11 23 43.5 +0.3**
baz=79
MFID Camas Ranch 79.39 327 P **P 11 23 43.9 +0.5**
baz=80,SNR=5.7
K10A MacKenzie Ranc 79.46 326 ⇓P **P 11 23 43.8 0.0**
baz=80
H13A Challis 79.47 329 ⇑P **P 11 23 44.2 +0.4**
baz=80,SNR=21
G14A Jackson 79.60 330 ⇑P **P 11 23 44.2 -0.3**
baz=80
F15A Butte 79.61 330 P **P 11 23 44.9 +0.4**
baz=80,SNR=7.5
N06A Buffalo Meadow 79.62 323 P **P 11 23 44.6 -0.1**
baz=80,SNR=6.0
O05C Quincy 79.69 322 ⇑P **P 11 23 45.6 +0.4**
baz=80
M07A Soldier Meadow 79.70 324 ⇓P **P 11 23 44.8 -0.3**
baz=80
H12A Diamond D Ranc 79.75 328 P **P 11 23 45.8 +0.5**
baz=80,SNR=8.5
ORV Oroville 79.76 321 P **P 11 23 45.5 0.0**
baz=80,SNR=8.0
L08A Fields 79.81 325 P **P 11 23 45.7 0.0**
baz=80,SNR=6.3
K09A Rome 79.85 326 ⇑P **P 11 23 45.9 +0.1**
baz=80
G13A Cobalt 79.85 329 P **P 11 23 46.1 +0.3**
baz=80,SNR=41
F14A Wisdom 79.99 330 P **P 11 23 47.0 +0.5**
baz=80,SNR=12
ELFS Eagle Lake Fie 80.03 322 P **P 11 23 47.4 +0.5**
baz=80,SNR=7.0
O04C Chester 80.03 322 P **P 11 23 47.0 +0.1**
baz=80,SNR=6.2
EGMT Eagleton 80.12 333 *e*P **P 11 23 46.5 -0.7**
comp=E,9.6nm,1.1s,mb4.5
EGMT Eagleton 80.12 333 ⇑P **P 11 23 46.6 -0.6**
baz=80
E15A Deer Lodge 80.12 331 P **P 11 23 47.1 -0.2**
baz=80,SNR=6.6
L07A Adell 80.23 324 P **P 11 23 48.2 +0.3**
baz=80,SNR=6.1
K08A Mann Creek Ran 80.27 325 ⇑P **P 11 23 48.0 -0.2**
baz=80
M06C Likely Place G 80.29 323 P **P 11 23 48.7 +0.4**
baz=80,SNR=6.6
J09A Fry Pan Ranch, 80.32 326 ⇓P **P 11 23 48.5 +0.1**
baz=80
F13A Darby 80.42 329 P **P 11 23 48.9 +0.1**
baz=80,SNR=16
H11A Donnelly 80.42 328 ⇓P **P 11 23 48.6 -0.3**
baz=80
E14A Clinton 80.50 330 ⇓P **P 11 23 49.1 -0.2**
baz=81,SNR=5.5
GASB Alder Springs 80.53 321 ⇓P **P 11 23 50.1 +0.5**
baz=81
D15A Lincoln 80.54 331 P **P 11 23 49.6 +0.1**
baz=81,SNR=6.8
HATC Hat Creek Radi 80.58 322 ⇓P **P 11 23 49.8 0.0**
baz=81
K07A Rock Creek Ran 80.64 325 P **P 11 23 50.6 +0.5**
baz=81,SNR=5.0
MOD Modoc 80.67 324 *e*P **P 11 23 49.0 -1.3**
comp=E,6.3nm,1.0s,mb4.4
MOD Modoc 80.67 324 P **P 11 23 50.6 +0.3**
baz=81,SNR=6.4
H10A Noah's Angus R 80.70 327 ⇓P **P 11 23 50.5 +0.1**
baz=81
J08A Circle Bar Ran 80.70 326 P **P 11 23 50.4 -0.1**
baz=81,SNR=6.0
I09A Lost Marbles R 80.76 326 P **P 11 23 50.6 -0.1**
baz=81,SNR=6.3
M05C Lookout 80.76 323 ⇑P **P 11 23 50.8 0.0**
baz=81
E13A Victor 80.84 330 P **P 11 23 51.3 +0.2**
baz=81,SNR=11
D14A Greenough 81.01 331 ⇓P **P 11 23 51.8 -0.2**
baz=81
WDC Whiskeytown Da 81.03 321 ⇓P **P 11 23 50.9 -1.4**
baz=81
G11A Walters Elk Ra 81.05 328 P **P 11 23 52.5 +0.2**
baz=81,SNR=9.9
L05A Lakeview 81.06 323 ⇓P **P 11 23 52.7 +0.4**
baz=81
I08A Drewsey 81.14 326 P **P 11 23 53.2 +0.4**
baz=81,SNR=12
J07A Hines 81.15 325 P **P 11 23 53.0 +0.1**
baz=81,SNR=7.0
BMO Blue Mountains 81.17 327 *e*P **P 11 23 52.5 -0.3**
comp=E,9.4nm,1.2s,mb4.5
K06A Valley Falls 81.25 324 P **P 11 23 53.9 +0.5**
baz=81,SNR=6.9
M03C McCloud 81.25 322 ⇓P **P 11 23 53.4 0.0**
baz=81
F11A Grangeville 81.35 329 P **P 11 23 53.3 -0.5**
baz=81,SNR=5.1
G10A Bishop Farm, J 81.39 328 P **P 11 23 54.6 +0.6**
baz=82,SNR=8.6
M04C Macdoel 81.43 323 ⇓P **P 11 23 54.3 0.0**
baz=82
D13A Huson 81.45 330 P **P 11 23 54.2 -0.1**
baz=82,SNR=8.1
J06A Christmas Vall 81.51 325 P **P 11 23 54.7 -0.1**
baz=82,SNR=8.1
K05A Summer Lake 81.55 324 P **P 11 23 55.7 +0.8**
baz=82,SNR=6.3
H08A Prairie City 81.62 326 ⇑P **P 11 23 55.4 +0.1**
baz=82
N02C Big Bar 81.63 321 ⇓P **P 11 23 55.8 +0.4**
baz=82
C14A Swan Lake 81.64 331 ⇓P **P 11 23 54.9 -0.4**
baz=82
E11A Bogner Ranch, 81.72 329 ⇓P **P 11 23 55.1 -0.7**
baz=82
I07A Izee 81.74 326 ⇑P **P 11 23 56.0 +0.1**
baz=82,SNR=6.2
D12A Red Ives Fores 81.83 330 ⇑P **P 11 23 56.1 -0.2**
baz=82
F10A Beach Ranch, E 81.93 328 P **P 11 23 56.5 -0.4**
baz=82,SNR=6.5
C13A Hot Springs 81.94 331 P **P 11 23 57.1 +0.2**
baz=82,SNR=6.7
I06A Prineville 82.02 325 P **P 11 23 57.8 +0.4**
baz=82,SNR=7.8
F09A S2 Ranch, Elgi 82.08 328 ⇓P **P 11 23 57.3 -0.3**
baz=82
J05A Fort Rock 82.11 324 ⇑P **P 11 23 58.0 +0.1**
baz=82
H07A Lands Inn, Kim 82.13 326 ⇑P **P 11 23 58.2 +0.3**
baz=82
E10A Myers Farm, Un 82.24 329 P **P 11 23 58.2 -0.3**
baz=82,SNR=9.2
BOSA Boshof 82.30 118 P **P 11 24 00.1 +0.7**
BOSA pP pP 11 24 27.2 +1.2
BOSA Boshof 82.30 118 P **P 11 24 00.1 +0.7**
comp=E,5.7nm,0.9s,mb4.4,baz=157,slow=3.6,SNR=5.7
BOSA pP pP 11 24 27.2 +1.2
comp=E,5.4nm,0.9s,baz=312,slow=6.9,SNR=3.2
G08A Pilot Rock 82.31 327 ⇓P **P 11 23 58.6 -0.2**
baz=82
B13A Whitefish 82.41 331 P **P 11 23 59.0 -0.2**
baz=82,SNR=6.7
MAW Mawson 82.43 163 P **P 11 24 00.3 +1.0**
comp=E,8.9nm,0.8s,mb4.6,baz=208,slow=5.3,SNR=13
MAW pP pP 11 24 27.7 +1.9
comp=E,3.7nm,0.5s,baz=206,slow=5.2,SNR=4.5
H06A Lindquist Farm 82.62 326 ⇓P **P 11 24 00.5 0.0**
baz=83
G07A Ruggs Ranch, H 82.65 326 P **P 11 24 00.8 +0.2**
baz=83,SNR=5.8
WALA Waterton Lakes 82.68 332 *e*P **P 11 23 59.9 -0.8**
comp=E,10nm,1.0s,mb4.6
I05A Bend 82.72 325 P **P 11 24 01.6 +0.6**
baz=83,SNR=5.8
D10A Wagner Farm, O 82.73 329 ⇓P **P 11 24 00.4 -0.6**
baz=83
A13A Flathead Natio 82.80 332 ⇑P **P 11 24 01.5 +0.2**
baz=83
B12A Libby 82.98 331 P **P 11 24 02.2 0.0**
baz=83,SNR=9.0
G06A Carlson Farm, 83.12 326 ⇓P **P 11 24 03.8 +0.7**
baz=83
D09A Jones Farm, Ri 83.23 328 ⇑P **P 11 24 03.3 -0.3**
baz=83
C10A Spilker Farm, 83.30 329 ⇓P **P 11 24 03.7 -0.2**
baz=83
B11A Sandpoint 83.31 330 ⇓P **P 11 24 03.4 -0.6**
baz=83
A12A Yaak River Ran 83.35 331 ⇑P **P 11 24 03.8 -0.3**
baz=83
J02A Umpqua 83.44 323 ⇑P **P 11 24 05.2 +0.4**
baz=84
G05A Wamic 83.48 326 ⇓P **P 11 24 05.1 +0.2**
baz=84
D08A Wollman Farm, 83.53 328 ⇑P **P 11 24 04.9 -0.2**
baz=84
F06A Goldendale 83.56 326 ⇑P **P 11 24 05.7 +0.4**
baz=84
H04A Detroit Lake 83.56 325 ⇓P **P 11 24 05.0 -0.3**
baz=84
I03A Eugene 83.68 324 ⇓P **P 11 24 06.3 +0.3**
baz=84
A11A Hall Mountain, 83.69 331 P **P 11 24 05.6 -0.3**
baz=84,SNR=8.1
C09A Chrisman Ranch 83.74 329 P **P 11 24 06.1 -0.1**
baz=84,SNR=6.0
H03A Soap Creek Ran 84.15 324 ⇓P **P 11 24 08.7 +0.4**
baz=84
E06A Yakima 84.19 327 ⇑P **P 11 24 08.5 0.0**
baz=84
A10A Northport 84.25 330 ⇑P **P 11 24 08.0 -0.7**
baz=84
C07A Waterville 84.52 328 P **P 11 24 09.6 -0.6**
baz=85,SNR=6.2
B08A Colville Reser 84.64 329 ⇓P **P 11 24 09.8 -0.9**
baz=85
A09A Danville 84.72 330 ⇓P **P 11 24 10.2 -0.9**
baz=85
A08A Turner Farm, O 85.03 329 P **P 11 24 12.0 -0.6**
baz=85,SNR=8.5
B07A Winthrop 85.08 328 P **P 11 24 12.3 -0.6**
baz=85,SNR=5.1
D05A Enumclaw 85.14 327 ⇓P **P 11 24 12.9 -0.4**
baz=85
EDM Edmonton 85.60 335 *e*P **P 11 24 12.9 -2.5**
A07A Ashnola River, 85.62 329 P **P 11 24 15.2 -0.3**
baz=86,SNR=8.1
B06A Marblemount 85.78 328 ⇑P **P 11 24 15.2 -1.3**
baz=86
B05A Bryant 85.91 327 ⇑P **P 11 24 15.8 -1.3**
baz=86
C04A Brinnon 85.99 327 ⇓P **P 11 24 16.8 -0.6**
baz=86
NLWA Neilton Lookou 86.23 326 ⇑P **P 11 24 18.8 +0.2**
baz=86
A05A Maple Falls 86.40 328 ⇑P **P 11 24 19.0 -0.4**
baz=86
ESDC Sonseca Array 86.99 44 P **P 11 24 22.0 -0.5**
comp=E,0.1nm,0.3s,baz=234,slow=5.3,SNR=7.8
ESDC pP pP 11 24 47.6 -1.7
comp=E,1.0nm,0.8s,baz=254,slow=4.7,SNR=1.9
YKA Yellowknife Ar 93.07 340 P **P 11 24 49.1 -1.3**
YKA pP pP 11 25 15.9 -1.5
YKA sP sP 11 25 26.1 -2.2
YKA Yellowknife Ar 93.07 340 P **P 11 24 49.1 -1.3**
comp=E,5.2nm,0.8s,mb4.9,baz=135,slow=4.5,SNR=109
YKA pP pP 11 25 15.9 -1.5
comp=E,2.3nm,0.8s,baz=134,slow=4.7,SNR=5.5
YKA sP sP 11 25 26.1 -2.2
comp=E,1.3nm,0.7s,baz=134,slow=4.5,SNR=3.5
ASAR Alice Springs 128.35 207 PKP PKPdf 11 30 44.3 +0.2
comp=E,3.1nm,0.8s,baz=139,slow=2.1,SNR=24
ASAR pPKP pPKPdf 11 31 12.3 +0.2
comp=E,3.0nm,0.8s,baz=141,slow=2.3,SNR=9.7
ARU Arti 129.55 35 PKPdf PKPdf 11 30 45.9 +0.7
WRA Warramunga Arr 131.45 209 PKP PKPdf 11 30 50.2 +0.2
comp=E,1.4nm,0.5s,baz=159,slow=1.6,SNR=8.9
WRA pPKP pPKPdf 11 31 17.3 -0.8
comp=E,2.1nm,0.9s,baz=166,slow=1.6,SNR=4.4
ZALV Zalesovo Beam 143.54 26 PKP PKPdf 11 31 08.3 -2.7
comp=E,3.0nm,0.6s,baz=303,slow=4.3,SNR=14
ZALV pPKP pPKPdf 11 31 36.6 -2.6
comp=E,3.2nm,0.8s,baz=329,slow=1.7,SNR=3.9
AML Almayashu 143.57 50 *e*PKPdf PKPdf 11 31 10.5 -1.1
UCH Uchtor 144.12 50 *e*PKPdf PKPdf 11 31 12.2 -0.4
YSS Yuzh-Sakhalins 145.61 321 *e*PKPdf PKPdf 11 31 15.3 +0.4
MK31 Makanchi Array 146.98 38 *e*PKPdf PKPdf 11 31 17.8 +0.6
MK31 epPKPdf pPKPdf 11 31 45.5 +0.1
MKAR Makanchi Array 146.98 38 PKPbc PKPbc 11 31 17.3 -2.1
comp=E,8.9nm,0.8s,baz=348,slow=1.3,SNR=31
MKAR pPKPbc pPKPbc 11 31 44.8 -2.4
comp=E,3.7nm,0.7s,baz=347,slow=1.8,SNR=4.3
WMQ Urumqi 151.81 38 *e*PKP PKPdf 11 31 26.2 +1.2
MJAR Matsushiro Arr 153.45 306 PKP PKPdf 11 31 27.4 -0.3
comp=E,0.3nm,0.3s,baz=143,slow=10,SNR=2.7
MJAR PKPbc PKPbc 11 31 32.8 -2.6
comp=E,2.5nm,0.8s,baz=78,slow=1.4,SNR=7.0
MJAR PKPab PKPab 11 31 47.6 -0.5
comp=E,3.7nm,0.9s,baz=66,slow=1.7,SNR=7.8
SONM Songino Array 155.30 8 PKP PKPdf 11 31 29.5 -0.4
comp=E,0.3nm,0.6s,baz=266,slow=1.4,SNR=9.7
SONM PKPbc PKPdf 11 31 37.8 +7.9
comp=E,1.9nm,0.8s,baz=315,slow=1.2,SNR=9.5
SONM PKPab PKPab 11 31 55.0 -0.4
comp=E,2.0nm,0.7s,baz=326,slow=4.1,SNR=11
SONM pPKPab pPKPab 11 32 21.9 -0.7
comp=E,0.3nm,0.4s,baz=97,slow=36,SNR=1.9
ULN Ulaanbaatar 155.35 7 *e*PKPab PKPab 11 31 54.6 -1.0
KSRS Korea Array 160.07 318 PKP PKPdf 11 31 35.4 -0.8
comp=E,1.9nm,0.9s,baz=91,slow=0.9,SNR=9.9
KSRS pPKP pPKPdf 11 32 04.2 -0.2
comp=E,0.3nm,0.4s,baz=271,slow=12,SNR=2.3
KSRS PKPab PKPab 11 32 15.7 -0.8
comp=E,1.8nm,0.7s,baz=60,slow=5.3,SNR=8.3
HHC Hu-ho-hao-te 162.61 360 *e*PKP PKPdf 11 31 35.3 -3.4
HHC APKP 11 32 02.1
HHC XPKP 11 32 12.8
HHC PKS 11 35 09.6
HHC PP PP 11 36 09.8 -1.2
HHC SKS SKSdf 11 38 27.8 -6.3
HHC SKKS SKKSac 11 42 49.3 -1.1
HHC SS SS 11 56 21.7 -2.6
HHC PP PP
comp=Z,167nm,5.5s
HHC LR LR
comp=N,171nm,17.2s
HHC LR LR
comp=E,177nm,11.8s
HHC LR LR
comp=Z,117nm,7.1s
NJ2 Nanjing 169.16 324 *e*PKP PKPdf 11 31 44.4 +0.1
CD2 Chengdu 169.90 41 *e*PKP PKPdf 11 31 44.1 -0.6
KMI Kunming 171.91 76 PKP PKPdf 11 31 43.5 -2.5
GYA Guiyang 174.73 54 *e*PKP PKPdf 11 31 45.7 -1.3
GYA APKP 11 32 14.6
GYA XPKP 11 32 25.0
GYA PKP2 PKPab 11 33 20.8 -0.8
GYA PKS 11 35 17.0
GYA PP PP 11 37 13.7 -0.2
GYA PP PP
comp=Z,80nm,7.8s

CASC 06 11:14:03.7±4.2, 1385N×9099W, h20km±15km, MD3.5, 1D,
Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FUG	**Fuego 3**	**0.61**	**14**	*e*P	Pb	11 14 15.4	-0.3
FUG				*e*S	Sb	11 14 26.9	+3.0
PCG	**Pacaya**	**0.66**	**35**	*e*P	Pb	11 14 14.8	-1.7
PCG				*e*S	Sb	11 14 27.1	+1.9
JAT	**Jato**	**0.78**	**307**	⇓*e*P	Pb	11 14 18.2	-0.3
JAT				*e*S	Sb	11 14 28.2	-0.4
RTR	**El Retiro**	**1.31**	**88**	*e*P	x	11 14 31.1	
RTR				*e*S	x	11 14 48.7	
SBLS	**San Blas**	**1.33**	**90**	*e*P	x	11 14 30.7	
SBLS				*e*S	x	11 14 47.4	
SNJE	**San Jose**	**1.35**	**89**	*e*P	x	11 14 31.3	
SNJE				*e*S	x	11 14 48.5	
LFRS	**El Faro**	**1.89**	**97**	*e*P	x	11 14 38.6	
LFRS				*e*S	x	11 15 01.5	
LCBS	**La Ceiba**	**1.97**	**95**	*e*S	x	11 15 02.9	

CASC 06 11:25:25.7±2.4, 849N×8292W, h0km±15km, MD3.8, 5C,
Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DVD	**David**	**0.47**	**97**	*e*S	Sg	11 25 01.9	-39
DVD				*e*P		11 25 04.9	
BAR1		**0.84**	**333**	⇑*e*P	Pg	11 25 42.4	+0.6
BAR1				*e*S	Sg	11 25 55.0	+2.3
CNI	**Changuinola**	**1.00**	**24**	*e*P	Pg	11 25 45.4	+0.5
CNI				*e*S	Sg	11 26 00.4	+2.5
URSC	**Urasca**	**1.58**	**328**	⇑*e*P	Pn	11 25 54.5	-0.5
URSC				*e*S	Sn	11 26 15.8	-0.3
LCR2	**La Lucha 2**	**1.64**	**319**	⇑*e*P	Pn	11 25 54.7	-1.1
LCR2				*e*S	Sn	11 26 20.3	+2.8
LAJ	**Bijagual**	**1.80**	**319**	*e*P	Pn	11 26 01.1	+3.0
PRS1	**Puriscal**	**2.02**	**317**	*e*P	Pn	11 25 59.9	-1.1
PRS1				*e*S	Sn	11 26 28.5	+1.5
CGA2	**Cerro Gallo 2**	**2.15**	**315**	⇑*e*P	Pn	11 26 04.3	+1.5
CGA2				*e*S	Sn	11 26 33.3	+3.1
PTP	**Ponta Puerca**	**19.41**	**58**	⇑*i*P		11 25 01.8	

*PDA **06** 11:28:25.3±0.7, 3739N×2464W, h15km, MD4.0, ML3.3,*
Error ellipse: s-maj=6.6km s-min=2.5km az=74.0
*CSEM **06** 11:28:25.3±0.7, 3739N×2464W, h15km, ML3.3, Error ellipse: s-maj=6.6km s-min=2.5km az=74.0, After PDA*
SVSA 06 11:28:25.3±0.7, 3739N×2464W, h15km, MD4.0, ML3.3,
Error ellipse: s-maj=6.6km s-min=2.5km az=74.0,
Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSMN	**Pico do Norte,**	**0.52**	**222**	*e*P	Pg	11 28 33.7	-1.8
PSMN				*e*S	Sg	11 28 40.0	-2.4
PDA	**Ponta Delgada**	**0.89**	**294**	*e*P	Pb	11 28 38.6	-3.8
PDA				*e*S	Sb	11 28 48.6	-5.5
PID	**Ribeirinha**	**2.95**	**292**	*e*P	Pn	11 29 07.9	-3.6
PID				*e*S	Sn	11 29 39.4	-7.2
PMAN	**Manadas**	**3.00**	**296**	*e*S	Sn	11 29 40.4	-7.4
PMAN				A		11 29 43.4	
	41nm,0.2s						
PGRA	**Graciosa**	**3.10**	**303**	*e*S	Sn	11 29 42.8	-7.6
ROSA	**Rosais**	**3.14**	**296**	*e*P	Pn	11 29 10.2	-4.0
ROSA				*e*S	Sn	11 29 44.4	-7.0
PICO	**Pico**	**3.19**	**291**	*e*P	Pn	11 29 11.2	-3.7
PICO				*e*S	Sn	11 29 45.4	-7.3
CALA	**Caldeira**	**3.42**	**292**	*e*P	Pn	11 29 14.1	-4.0
CALA				*e*S	Sn	11 29 50.7	-7.7

MOS 06 11:30:57.4±1.3, 4427N×4189E, h10km, mb3.6/1, 1D,
Error ellipse: s-maj=16.6km s-min=8.6km az=132.0,
Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIV	**Kislovodsk**	**0.66**	**118**	PG	Pg	11 31 09.4	-0.7
KIV				pmax	pmax		
	comp=Z,23nm,0.3s						
KIV0	**Kislovodsk Arr**	**0.66**	**118**	PG	Pg	11 31 09.6	-0.6
KIV0				S	Sg	11 31 16.1	-2.8
BEYR	**Belyy Ugol+**	**0.72**	**111**	PG	Pg	11 31 11.0	-0.3
BEYR				S	Sg	11 31 18.7	-2.0
BEYR				pmax	pmax		
	comp=Z,669nm,0.2s						
PYA	**Pyatigorsk**	**0.88**	**105**	PG	Pg	11 31 14.5	+0.2
PYA				S	Sg	11 31 24.9	-0.8
PYA				pmax	pmax		
	comp=Z,399nm,0.3s						
KUBR	**Kubataba**	**1.20**	**113**	PG	Pg	11 31 19.4	-1.0
KUBR				S	Sb	11 31 33.5	-2.1
KUBR				pmax	pmax		
	comp=Z,13nm,0.2s						
KUBR				smax			
	comp=N,12nm,0.2s						

LSNR	**Lesken**	**1.72 125**	*e*PN	Pn	11 31 29.6	+2.3
DIGR	**Digorskoe uzhe**	**1.84 138**	⇓*i*PN	Pn	11 31 30.1	+1.0
KMSR	**Komsomolskaya**	**1.96 117**	*e*PN	Pn	11 31 34.0	+3.3
ONI	**Oni**	**2.04 145**	P	Pn	11 31 42.9	+11
ONI			S	Sn	11 31 44.6	-13
ZEI	**Tsey**	**2.10 135**	*e*PN	Pn	11 31 34.2	+1.7
LACR	**Lac**	**2.27 129**	*e*PN	Pn	11 31 37.6	+2.7
LACR			*e*S	Sn	11 32 03.5	+0.5

NEIC ***06*** *11:34:21.1, 3171S×7198W, h30km, ML3.2(GUC), After GUC.*

GUC 06 11:34:21.1±0.8, 3171S×7198W, h30km±3km, MD4.0, ML3.2, 6C-6D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHNG	**Los Chungos**	**0.44**	**113**	⇓*i*P	Pb	11 34 12.3	-18
CHNG				*i*S	Sb	11 34 18.7	-18
PACH	**Papudo**	**0.94**	**151**	*e*P	Pn	11 34 38.0	-0.3
PACH				*i*S	Sn	11 34 50.6	-0.1
CMCH	**Combarbala**	**0.99**	**57**	⇑*i*P	Pn	11 34 38.8	-0.2
CMCH				*i*S	Sn	11 34 52.3	+0.3
CMCH	**Combarbala**	**0.99**	**57**	⇑*i*P	Pn	11 34 38.8	-0.2
CMCH				*i*S	Sn	11 34 52.3	+0.3
CMCH				AML	AML	11 34 53.8	
	comp=E,2μm,0.5s						
PTCH	**Petorca**	**1.04**	**122**	⇓*i*P	Pn	11 34 39.8	+0.1
PTCH				*i*S	Sn	11 34 53.6	+0.4
PTCH	**Petorca**	**1.04**	**122**	⇓*i*P	Pn	11 34 39.8	+0.1
PTCH				*i*S	Sn	11 34 53.6	+0.4
PTCH				AML	AML	11 34 55.2	
	comp=E,332nm,0.1s						
OVCH	**Ovalle**	**1.29**	**31**	⇓*i*P	Pn	11 34 43.5	+0.5
OVCH				*i*S	Sn	11 35 00.7	+1.4
ROCH	**El Roble**	**1.50**	**147**	⇑*i*P	Pn	11 34 47.1	+1.1
ROCH				*i*S	Sn	11 35 07.4	+2.9
JACH	**Jahuel**	**1.52**	**130**	⇓*i*P	Pn	11 34 47.6	+1.4
JACH				*i*S	Sn	11 35 07.3	+2.3
LCCH	**Las Cruces**	**1.79**	**169**	⇑*i*P	Pn	11 34 51.2	+1.2
PEL	**Peldehue**	**1.79**	**143**	⇓*i*P	Pn	11 34 51.3	+1.2
PEL				*i*S	Sn	11 35 15.2	+3.3
PEL				AML	AML	11 35 24.3	
	comp=E,526nm,0.6s						
TLL	**Tololo Astrono**	**1.84**	**33**	P	Pn	11 34 51.8	+1.1
TLL				S	Sn	11 35 16.9	+3.9
TLL	**Tololo Astrono**	**1.84**	**33**	*e*P	Pn	11 34 51.8	+1.1
TLL				*i*S	Sn	11 35 16.9	+3.9
TLL				AML	AML	11 35 27.1	
	comp=E,224nm,0.4s						
CLCH	**Cerro Calan**	**2.07**	**144**	⇑*i*P	Pn	11 34 55.2	+1.3
CLCH				*i*S	Sn	11 35 21.5	+2.9
CLCH				AML	AML	11 35 28.6	
	comp=N,388nm,0.6s						
TACH	**Talagante**	**2.12**	**156**	*e*P	Pn	11 34 56.0	+1.4
FCH	**Farellones**	**2.15**	**139**	⇑*i*P	Pn	11 34 56.8	+1.8
FCH				*i*S	Sn	11 35 24.0	+3.4
FCH				AML	AML	11 35 28.4	
	comp=N,145nm,0.3s						
ANTU	**Antumapu**	**2.17**	**149**	*i*S	Sn	11 35 24.0	+2.9
ANTU				AML	AML	11 35 31.9	
	comp=E,221nm,0.4s						
PCH	**Pirque**	**2.27**	**147**	*e*P	Pn	11 34 58.1	+1.5
PCH				*i*S	Sn	11 35 25.8	+2.3
CHCH	**Chadas Angostu**	**2.48**	**154**	*e*P	Pn	11 35 00.4	+1.0
LMEL	**Las Melosas**	**2.60**	**145**	*e*P	Pn	11 35 02.8	+1.7
LMEL				*i*S	Sn	11 35 34.5	+2.8
LMEL	**Las Melosas**	**2.60**	**145**	*e*P	Pn	11 35 02.8	+1.7
LMEL				*i*S	Sn	11 35 34.5	+2.8
LMEL				AML	AML	11 35 47.2	
	comp=N,166nm,0.5s						
LCO	**Las Campanas**	**2.91**	**23**	*e*Pn	Pn	11 35 05.7	+0.3

ISCJB ***06*** *11:40:07.6±0.6, 3843N±002×2035E±003, h5km±3km, mb3.4/7, Error ellipse: s-maj=4.9km s-min=2.8km az=147.8*

NEIC ***06*** *11:40:07.9, 3833N×2031E, h12km, ML4.1(THE), ML3.7(PDG), ML3.3(ATH), After ATH.*

ATH ***06*** *11:40:07.8, 3833N×2030E, h12km±2km, MD3.9/13*

THE ***06*** *11:40:09.6, 3842N×2048E, h3km, ML4.1*

CSEM ***06*** *11:40:10.0±0.1, 3837N×2051E, h2km, MD3.9, Error ellipse: s-maj=2.0km s-min=0.9km az=58.0*

PDG ***06*** *11:40:10.9±0.6, 3855N×2052E, h19km±2km, ML3.7/10, Error ellipse: s-maj=2.0km s-min=3.1km az=0.0*

IDC ***06*** *11:40:12.2±1.8, 3907N×2104E, h0km, mb3.4/7, mb1 3.6/9, mb1mx3.5/25, mbtmp3.5/9, ML3.6/2, Error ellipse: s-maj=32.0km s-min=19.5km az=35.0*

ISC 06 11:40:08.6±0.5, 3842N±002×2038E±003, h3km±3km, n77, σ1§34/120, mb3.4/7, 9C-3D, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VLS	**Valsamata**	**0.29**	**146**	*e*PG	**Pg**	**11 40 14.0**	**-0.2**
VLS				*e*SG	**Sg**	**11 40 18.4**	**+0.4**
LKD	**Levkas**	**0.36**	**36**	*e*Pg	**Pg**	**11 40 15.4**	**-0.1**
LKD				*e*Sg	**Sg**	**11 40 20.2**	**+0.1**
KFL	**Anninata**	**0.44**	**134**	*e*Pg	**Pg**	**11 40 16.6**	**-0.5**
KFL				*e*Sg	**Sg**	**11 40 22.4**	**-0.4**
RLS	**Riolos of Patr**	**0.93**	**113**	*e*PG	**Pg**	**11 40 25.4**	**-1.0**
RLS				*e*SB	**Sb**	**11 40 39.4**	**-0.5**
IGT	**Igoumenitsa**	**1.11**	**358**	*e*Pg	**Pg**	**11 40 29.8**	**-0.2**
IGT				*e*Sg	**Sg**	**11 40 46.8**	**+2.3**
SELA	**Sela**	**1.20**	**96**	*e*Pg	**Pg**	**11 40 29.9**	**-1.6**
SELA				*e*Sg	**Sg**	**11 40 47.4**	**+0.4**
EVR	**Evrytania**	**1.22**	**66**	*e*PN	**Pn**	**11 40 32.0**	**-0.5**
EVR				*e*SB	**Sb**	**11 40 50.9**	**+2.4**
JAN	**Janina**	**1.29**	**16**	*e*PN	**Pn**	**11 40 33.2**	**-0.3**
JAN				*e*SB	**Sb**	**11 40 53.7**	**+3.3**
KEK	**Kerkira**	**1.37**	**341**	*e*PB	**Pb**	**11 40 35.0**	**+0.1**
MEV	**Metsovon**	**1.52**	**25**	*e*Pg	**Pg**	**11 40 36.9**	**-0.8**
MEV				*e*Sg	**Sg**	**11 40 58.3**	**+1.0**
AGG	**Agios Georgios**	**1.64**	**68**	*e*Pg	**Pg**	**11 40 38.0**	**-2.0**
AGG				*e*Sg	**Sg**	**11 40 59.9**	**-1.4**
THL	**Klokotos Trika**	**1.71**	**47**	*e*PN	**Pn**	**11 40 40.8**	**+1.5**
ITM	**Ithomi**	**1.74**	**135**	*e*PG	**Pg**	**11 40 40.5**	**-1.4**
PYL	**PYLOS**	**1.86**	**144**	*e*Pb	**Pb**	**11 40 41.4**	**-1.9**
PYL	**PYLOS**	**1.86**	**144**	*e*Pb	**Pb**	**11 40 41.3**	**-2.0**
VLX	**Vlachokerasia**	**1.89**	**123**	*e*Pb	**Pb**	**11 40 41.5**	**-2.3**
VLX				*e*Sb	**Sb**	**11 41 06.8**	**-1.0**
LKR	**Lokris**	**2.06**	**83**	*e*PN	**Pn**	**11 40 45.7**	**+1.6**
LTK	**Loutraki**	**2.07**	**100**	*e*Pn	**Pn**	**11 40 44.5**	**+0.3**
KZN	**Kozani**	**2.17**	**29**	*e*PN	**Pn**	**11 40 48.4**	**+2.8**
KBN	**Korca**	**2.23**	**8**	*i* PN	**Pn**	**11 40 52.9**	**+6.6**
KBN				*i* SN	**Sn**	**11 41 24.0**	**+10**
LIT	**Litokhoron**	**2.34**	**44**	*e*Pn	**Pn**	**11 40 48.6**	**+0.6**
LIT				*e*Sn	**Sn**	**11 41 18.2**	**+1.0**
NEO	**Neokhori**	**2.39**	**67**	*e*PB	**Pb**	**11 40 50.0**	**-2.2**
DID	**Didima**	**2.43**	**111**	*e*Pn	**Pn**	**11 40 49.1**	**0.0**
DID				*e*Sn	**Sn**	**11 41 19.5**	**+0.1**
FNA	**Florina**	**2.48**	**18**	*e*Pn	**Pn**	**11 40 51.1**	**+1.2**
NAIG	**Nisos Aigina**	**2.54**	**104**	*e*PN	**Pn**	**11 40 52.0**	**+1.4**
BIA	**Bitola**	**2.70**	**15**	*e*Pn	**Pn**	**11 40 55.3**	**+2.5**
BIA				*e*Sn	**Sn**	**11 41 28.8**	**+2.8**
BIA	**Bitola**	**2.70**	**15**	*e*Pn	**Pn**	**11 40 55.3**	**+2.5**
BIA				*e*Sn	**Sn**	**11 41 28.7**	**+2.7**
OHR	**Ohrid**	**2.71**	**7**	*e*Pn	**Pn**	**11 40 56.7**	**+3.7**
OHR				*e*Sn	**Sn**	**11 41 28.4**	**+2.2**
OHR	**Ohrid**	**2.71**	**7**	*e*Pn	**Pn**	**11 40 56.6**	**+3.6**
OHR				*e*Sn	**Sn**	**11 41 28.4**	**+2.2**
PTL	**Penteli**	**2.77**	**97**	*e*PB	**Pb**	**11 40 55.5**	**-3.2**
AOS	**Alonnisos**	**2.83**	**74**	*e*Pn	**Pn**	**11 40 54.7**	**0.0**
TIP	**Timpagrande**	**2.93**	**286**	P	**Pn**	**11 40 59.4**	**+3.3**
TIR	**Tirane**	**2.95**	**352**	*i* PN	**Pn**	**11 41 01.2**	**+4.8**
TIR				*i* SN	**Sg**	**11 41 49.2**	**+5.7**
PAIG	**Paliouri**	**2.97**	**59**	*e*Pn	**Pn**	**11 40 56.9**	**+0.3**
KRUS	**Krusevo**	**3.02**	**12**	*e*Pn	**Pn**	**11 40 58.0**	**+0.8**
KRUS				*e*Sn	**Sn**	**11 41 30.0**	**-4.0**
KRUS	**Krusevo**	**3.02**	**12**	*e*Pn	**Pn**	**11 40 58.0**	**+0.7**
KRUS				*e*Sn	**Sn**	**11 41 29.9**	**-4.0**
HORT	**Hortiatis**	**3.02**	**43**	*e*Pn	**Pn**	**11 40 57.3**	**0.0**
PLG	**Polygyros**	**3.07**	**50**	*e*Pn	**Pn**	**11 40 58.4**	**+0.4**
PLG	**Polygyros**	**3.07**	**50**	*e*Pn	**Pn**	**11 40 59.0**	**+1.0**
SOH	**Sokhos**	**3.32**	**43**	*e*Pn	**Pn**	**11 41 02.5**	**+1.1**
VAY	**Valandovo**	**3.35**	**29**	*e*Pn	**Pn**	**11 41 04.5**	**+2.7**
VAY				*e*Sn	**Sn**	**11 41 38.7**	**-3.4**
STIP	**Stip**	**3.55**	**22**	*e*Pn	**Pn**	**11 41 06.3**	**+1.7**
STIP	**Stip**	**3.55**	**22**	*e*Pn	**Pn**	**11 41 06.2**	**+1.6**
PUK	**Puka**	**3.64**	**354**	*i* PN	**Pn**	**11 41 06.0**	**+0.2**
PUK				*i* SN	**Sn**	**11 41 50.4**	**+1.2**
ULC	**Ulcinj**	**3.65**	**347**	⇑*i*Pn	**Pn**	**11 41 06.1**	**+0.2**
ULC				*e*Sn	**Sn**	**11 41 48.2**	**-1.2**
SG1	**Sgolgore (BA)**	**3.75**	**311**	*e*Pn	**Pn**	**11 41 08.9**	**+1.6**
BUM	**Brajici-Budva**	**4.04**	**344**	⇓*i*Pn	**Pn**	**11 41 11.1**	**-0.2**
BUM				*e*Sn	**Sn**	**11 41 57.7**	**-1.4**
PDG	**Podgorica**	**4.10**	**348**	⇑*i*Pn	**Pn**	**11 41 12.2**	**+0.1**
PDG				*e*Sn	**Sn**	**11 41 59.2**	**-1.3**
TTG	**Podgorica**	**4.10**	**348**	⇑*i*Pn	**Pn**	**11 41 12.2**	**+0.1**
TTG				*e*Sn	**Sn**	**11 41 59.2**	**-1.3**
KARN	**Karanos**	**4.13**	**136**	*e*Pn	**Pn**	**11 41 13.9**	**+1.3**
PVY	**Plav**	**4.18**	**356**	⇑*i*Pn	**Pn**	**11 41 14.0**	**+0.7**
PVY				*e*Sn	**Sn**	**11 42 01.4**	**-1.2**
HCY	**Herceg Novi**	**4.27**	**341**	⇑*i*Pn	**Pn**	**11 41 14.8**	**+0.3**
HCY				*e*Sn	**Sn**	**11 42 04.3**	**-0.5**
CHOS	**Chios island**	**4.46**	**89**	*e*Pn	**Pn**	**11 41 18.4**	**+1.4**
BEY	**Berane**	**4.46**	**355**	⇓*i*Pn	**Pn**	**11 41 17.8**	**+0.7**
BEY				*e*Sn	**Sn**	**11 42 08.0**	**-1.5**
IVA	**Berane**	**4.46**	**355**	⇓*i*Pn	**Pn**	**11 41 17.8**	**+0.7**
IVA				*e*Sn	**Sn**	**11 42 08.0**	**-1.5**
NKY	**Niksic**	**4.51**	**347**	⇑*i*Pn	**Pn**	**11 41 18.4**	**+0.6**
NKY				*e*Sn	**Sn**	**11 42 09.4**	**-1.4**
BRY	**Bratogost**	**4.69**	**343**	⇑*i*Pn	**Pn**	**11 41 20.3**	**+0.1**
BRY				*e*Sn	**Sn**	**11 42 13.4**	**-1.7**
VAE	**Valguarnera**	**4.81**	**261**	Pn	**Pb**	**11 41 35.3**	**+1.7**
	1.6nm,0.3s,baz=277,slow=6.5,SNR=4.1						
VAE				Sn	**Sn**	**11 42 20.4**	**+2.2**
	2.7nm,0.3s,baz=217,slow=9.3,SNR=4.5						
VAE	**Valguarnera**	**4.81**	**261**	Sn	**Sn**	**11 42 20.4**	**+2.3**
UPM	**Unac-Piva**	**4.91**	**347**	⇑*i*Pn	**Pn**	**11 41 23.7**	**+0.5**
UPM				*e*Sn	**Sn**	**11 42 18.9**	**-1.6**
PLE	**Pljevlja**	**4.96**	**352**	⇑*i*Pn	**Pn**	**11 41 24.7**	**+0.7**
PLE				*e*Sn	**Sn**	**11 42 20.4**	**-1.4**
ALN	**Alexandroupoli**	**5.02**	**59**	*e*Pn	**Pn**	**11 41 25.3**	**+0.6**
NVLJ	**Novalja**	**7.40**	**328**	*e*Pn	**Pn**	**11 41 58.0**	**+0.6**
NVLJ				Sn	**Sn**	**11 43 18.6**	**-3.3**
BOJS	**Bojanci**	**8.04**	**333**	*i* Pn	**Pn**	**11 42 06.2**	**-0.1**
BOJS				*i* Sn	**Sn**	**11 43 34.4**	**-3.3**
MLR	**Muntele Rosu**	**8.19**	**29**	Pn	**Pn**	**11 42 14.0**	**+5.8**
	0.2nm,0.3s,baz=259,slow=8.2,SNR=3.0						
VNDS	**Vrh nad Dolski**	**8.76**	**333**	*e*Pn	**Pn**	**11 42 16.4**	**+0.4**
VNDS				*i* Sn	**Sn**	**11 43 52.8**	**-2.4**
VOY	**Vojsko**	**9.00**	**330**	*e*Pn	**Pn**	**11 42 19.1**	**-0.3**
VOY				*e*		11 42 20.3	
VOY				*e*Sn	**Sn**	**11 43 59.8**	**-1.3**
PERS	**Pernice**	**9.08**	**336**	*i* Pn	**Pn**	**11 42 19.7**	**-0.8**
PERS				*i* Sn	**Sn**	**11 43 57.6**	**-5.6**
DAVOX	**Davos/Dischmat**	**11.38**	**321**	Pn	**Pn**	**11 42 58.0**	**+6.0**
	0.2nm,0.3s,baz=135,slow=13,SNR=2.1						
DAVOX				Sn	**Sn**	**11 44 57.1**	**-2.5**
	0.4nm,0.3s,baz=316,slow=16,SNR=3.2						
GERES	**GERESS Array B**	**11.49**	**337**	Pn	**Pn**	**11 42 51.9**	**-1.5**
	0.2nm,0.3s,baz=160,slow=12,SNR=5.4						
GERES				Sn	**Sn**	**11 44 55.9**	**-6.2**
	0.2nm,0.3s,baz=166,slow=25,SNR=4.2						
HFS	**Hagfors**	**22.15**	**351**	P	**P**	**11 45 04.1**	**-1.1**
	1.5nm,0.6s,mb3.6,baz=172,slow=12,SNR=4.8						
EKA	**Eskdalemuir Ar**	**23.17**	**325**	P	**P**	**11 45 17.9**	**+1.9**
	1.1nm,0.8s,mb3.4,baz=135,slow=8.3,SNR=3.8						
FINES	**FINESS Array B**	**23.32**	**7**	P	**P**	**11 45 15.6**	**-2.0**
	0.7nm,0.4s,mb3.4,baz=189,slow=11,SNR=6.4						
NOA	**NORSAR Array B**	**23.36**	**349**	P	**P**	**11 45 17.8**	**-0.3**
	0.3nm,0.5s,mb3.0,baz=157,slow=9.0,SNR=2.9						
MKAR	**Makanchi Array**	**45.27**	**59**	P	**P**	**11 48 23.6**	**-3.6**
	0.2nm,0.4s,mb3.3,baz=255,slow=4.3,SNR=2.7						
ZALV	**Zalesovo Beam**	**45.61**	**48**	P	**P**	**11 48 27.9**	**-1.9**
	1.5nm,0.5s,mb4.2,baz=276,slow=8.2,SNR=8.5						
YKA	**Yellowknife Ar**	**73.13**	**340**	P	**P**	**11 51 42.3**	**+2.4**
	0.1nm,0.4s,mb3.1,baz=34,slow=5.9,SNR=4.0						

ISCJB ***06*** *11:46:16.0±1.8, 07N±02×999E±02, h163km±11km, mb3.8/8, Error ellipse: s-maj=44.6km s-min=17.8km az=144.0*

IDC ***06*** *11:46:17.0±1.6, 065N×9990E, h157km±11km, mb3.6/7, mb1 3.6/8, mb1mx3.4/20, mbtmp3.6/8, Error ellipse: s-maj=37.2km s-min=14.5km az=57.0*

NEIC ***06*** *11:46:17.1±1.3, 061N×9986E, h161km±9km, mb4.1/1, Error ellipse: s-maj=26.9km s-min=12.1km az=57.0*

ISC 06 11:46:16.7±1.8, 07N±02×999E±02, h154km±11km, n14, σ0§52/14, mb3.8/8, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**2.34**	**336**	P	**Pn**	**11 46 56.4**	**+0.4**
	11nm,0.3s,baz=154,slow=8.5,SNR=42						
PSI				S	**Sn**	**11 47 25.7**	**-0.7**
	1.5nm,0.3s,baz=261,slow=22,SNR=8.3						
KULM	**Kulim**	**4.67**	**9**	*e*P	**Pn**	**11 47 26.6**	**+0.7**
WRA	**Warramunga Arr**	**39.48**	**123**	P	**P**	**11 53 31.8**	**-0.7**
	0.5nm,0.4s,mb3.5,baz=303,slow=8.9,SNR=12						
ASAR	**Alice Springs**	**40.94**	**128**	P	**P**	**11 53 44.9**	**+0.4**
	0.1nm,0.4s,mb2.8,baz=297,slow=7.0,SNR=4.6						
KSRS	**Karasburg Array**	**44.83**	**32**	P	**P**	**11 54 14.8**	**-0.6**
	0.6nm,0.5s,mb3.5,baz=228,slow=8.1,SNR=4.9						
SONM	**Songino Array**	**47.33**	**6**	P	**P**	**11 54 34.7**	**-0.1**
	0.9nm,0.6s,mb3.6,baz=188,slow=9.9,SNR=7.6						
MK31	**Makanchi Array**	**48.46**	**344**	*e*P	**P**	**11 54 44.3**	**+0.8**
MKAR	**Makanchi Array**	**48.46**	**344**	P	**P**	**11 54 43.9**	**+0.4**
MKAR	**Makanchi Array**	**48.46**	**344**	P	**P**	**11 54 43.9**	**+0.4**
	2.4nm,0.3s,mb4.3,baz=149,slow=7.9,SNR=18						
KURK	**Kurchatov**	**53.05**	**343**	*e*P	**P**	**11 55 17.3**	**-0.5**
	2.6nm,0.8s,mb4.0						
ZALV	**Zalesovo Beam**	**54.56**	**349**	P	**P**	**11 55 28.6**	**-0.1**
	3.4nm,0.6s,mb4.2,baz=178,slow=6.0,SNR=19						
ARCES	**ARCESS Array B**	**83.95**	**340**	P	**P**	**11 58 29.2**	**0.0**
ARCES	**ARCESS Array B**	**83.95**	**340**	P	**P**	**11 58 29.2**	**0.0**
	7.0nm,1.1s,mb4.3,baz=76,slow=5.1,SNR=7.1						
BDFB	**Brasilia**	**144.99**	**243**	PKPbc	PKPdf	12 05 35.1	-1.6
	3.1nm,0.6s,baz=121,slow=2.2,SNR=7.9						

SOF ***06*** *11:46:27.5, 3988N×2579E, h3km, MD2.7*

ISCJB ***06*** *11:46:27.2±0.6, 3951N±003×2520E±004, h2km±6km, Error ellipse: s-maj=5.1km s-min=4.4km az=42.8*

NEIC ***06*** *11:46:29.0, 3963N×2518E, h5km, MD3.4(ATH), ML3.3(THE), After ATH.*

ATH ***06*** *11:46:29.0, 3963N×2518E, h5km±4km, MD3.4/5*

THE ***06*** *11:46:29.4, 3946N×2516E, h8km, ML3.3*

CSEM ***06*** *11:46:29.7±0.1, 3947N×2521E, h20km, MD3.4, Error ellipse: s-maj=2.4km s-min=2.0km az=102.0*

ISC 06 11:46:28.4±0.5, 3951N±003×2519E±003, h8km±5km, n24, σ1§20/34, 1D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LIA	**Limnos Island**	**0.39**	**359**	*e*PG	**Pg**	**11 46 33.8**	**-2.2**
LOS	**Limnos**	**0.43**	**349**	*e*Pg	**Pg**	**11 46 39.4**	**+2.5**
LOS				*e*Sg	**Sg**	**11 46 46.1**	**+3.5**
PRK	**Paraskevi**	**0.88**	**107**	⇓*i*PG	**Pg**	**11 46 46.3**	**+1.0**
PRK				*e*SB	**Sb**	**11 47 00.7**	**+2.9**
AOS	**Alonnisos**	**1.07**	**252**	*e*Pg	**Pg**	**11 46 48.8**	**-0.1**
AOS				*e*Sg	**Sg**	**11 47 03.8**	**+0.9**
PAIG	**Paliouri**	**1.24**	**290**	*e*Pg	**Pg**	**11 46 51.7**	**-0.5**
PAIG				*e*Sg	**Sg**	**11 47 09.6**	**+1.3**
OUR	**Ouranopolis**	**1.24**	**312**	*e*Pg	**Pg**	**11 46 52.4**	**+0.2**
OUR				*e*Sg	**Sg**	**11 47 09.7**	**+1.3**
CHOS	**Chios island**	**1.31**	**149**	*e*Pg	**Pg**	**11 46 52.8**	**-0.7**
CHOS				*e*Sg	**Sg**	**11 47 10.8**	**+0.3**
ALN	**Alexandroupoli**	**1.53**	**25**	*e*Pg	**Pg**	**11 46 56.7**	**-1.1**
ALN				*e*Sg	**Sg**	**11 47 17.9**	**+0.2**
NEO	**Neokhori**	**1.54**	**263**	*e*PB	**Pb**	**11 46 58.4**	**+1.3**
PLG	**Polygyros**	**1.59**	**303**	*e*Pg	**Pg**	**11 46 57.2**	**-1.8**
PLG				*e*Sg	**Sg**	**11 47 18.8**	**-0.8**
PLG	**Polygyros**	**1.59**	**303**	*e*Pb	**Pb**	**11 46 57.9**	**-0.2**
PLG				*e*Sg	**Sg**	**11 47 18.8**	**-0.9**
RDO	**Rodhopi**	**1.66**	**9**	*e*PB	**Pb**	**11 46 58.4**	**-0.8**
SOH	**Sokhos**	**1.92**	**314**	*e*Pb	**Pb**	**11 47 02.4**	**-1.3**
HORT	**Hortiatis**	**1.94**	**305**	*e*Pb	**Pb**	**11 47 02.4**	**-1.6**
HORT	**Hortiatis**	**1.94**	**305**	*e*Pb	**Pb**	**11 47 02.3**	**-1.7**
KDZ	**Kurdzhali**	**2.15**	**5**	*i* P	**Pn**	**11 47 01.0**	**-3.5**
LIT	**Litokhoron**	**2.16**	**287**	*e*Pn	**Pn**	**11 47 05.4**	**+0.6**
RZN	**Rozhen**	**2.21**	**351**	P	**Pn**	**11 47 06.9**	**+1.6**
AGG	**Agios Georgios**	**2.27**	**259**	*e*Pn	**Pn**	**11 47 06.0**	**-0.2**
AGG				*e*Sn	**Sn**	**11 47 34.5**	**+0.1**
LTK	**Loutraki**	**2.29**	**230**	*e*Pn	**Pn**	**11 47 06.1**	**-0.3**
MMB	**Musomiste**	**2.36**	**332**	*i* P	**Pn**	**11 47 07.4**	**0.0**
APE	**Apeiranthos**	**2.45**	**174**	*e*Pn	**Pn**	**11 47 07.6**	**-1.1**
DID	**Didima**	**2.52**	**218**	*e*Pn	**Pn**	**11 47 08.8**	**-0.9**
KKB	**Krupnik**	**2.85**	**326**	*i* P	**Pn**	**11 47 15.9**	**+1.7**

ISCJB ***06*** *11:54:51.1±0.8, 5315S±01×2555E±04, h10km, mb3.8/7, MS3.9/4, Error ellipse: s-maj=31.5km s-min=14.9km az=168.5*

IDC ***06*** *11:54:51.1±0.8, 5310S×2562E, h0km, mb4.0/7, mb1 4.1/7, mb1mx3.9/17, mbtmp4.0/7, MS3.9/4, Ms1 3.9/4, ms1mx3.5/26, Error ellipse: s-maj=35.7km s-min=18.5km az=73.0*

NEIC ***06*** *11:54:52.7±0.7, 5311S×2561E, h10km, Error ellipse: s-maj=29.5km s-min=14.8km az=76.0*

ISC 06 11:54:52.9±0.8, 5315S±01×257E±03, h10km, n14, σ0§81/10, mb3.9/8, MS3.9/4, South of Africa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SUR	**Sutherland**	**21.02**	**349**	P	**P**	**11 59 37.2**	**+0.7**
	15nm,1.1s,mb4.2,baz=178,slow=14,SNR=3.9						
SNAA	**Sanae**	**22.40**	**203**	P	**P**	**11 59 51.4**	**+0.3**
	2.1nm,1.0s,mb3.5,baz=40,slow=7.6,SNR=5.2						
SNAA				LR	LR	12 06 52.1	
	comp=Z,69nm,18.9s,MS3.1,baz=100,slow=32						
MAW	**Mawson**	**22.94**	**144**	P	**P**	**11 59 56.5**	**-0.2**
	1.9nm,0.8s,mb3.6,baz=289,slow=7.6,SNR=2.1						
QSPA	**South Pole Qui**	**37.10**	**180**	P	**P**	**12 02 02.4**	**-0.4**
	7.0nm,0.8s,mb4.6,baz=244,slow=4.6,SNR=24						
QSPA				LR	LR	12 16 31.8	
	comp=Z,218nm,19.3s,MS4.0,baz=251,slow=35						
VNDA	**Vanda**	**46.83**	**168**	P	**P**	**12 03 22.7**	**+0.5**
VNDA	**Vanda**	**46.83**	**168**	P	**P**	**12 03 22.7**	**+0.5**
	1.0nm,0.7s,mb3.9,baz=238,slow=9.5,SNR=7.5						
USHA	**Ushuaia**	**51.25**	**228**	LR	LR	12 20 39.1	
	comp=Z,395nm,20.8s,MS4.4,baz=314,slow=30						
TORD	**Torodi Ar. Bea**	**69.13**	**335**	P	**P**	**12 05 58.1**	**-1.1**
TORD	**Torodi Ar. Bea**	**69.13**	**335**	P	**P**	**12 05 58.1**	**-1.1**
	0.2nm,0.5s,mb3.3,baz=177,slow=8.2,SNR=4.4						
ASAR	**Alice Springs**	**81.64**	**118**	P	**P**	**12 07 10.1**	**-1.1**
	0.9nm,0.9s,mb3.7,baz=209,slow=5.2,SNR=5.1						
WRA	**Warramunga Arr**	**84.90**	**117**	P	**P**	**12 07 29.4**	**+1.3**
	1.7nm,0.9s,mb4.2,baz=212,slow=4.3,SNR=9.0						
KEST	**Kesra**	**89.61**	**347**	LR	LR	12 52 58.1	
	comp=Z,58nm,18.7s,MS4.0,baz=235,slow=39						
PDAR	**Pinedale Array**	**148.74**	**269**	PKPbc	PKPbc	12 14 41.4	+1.7
	0.5nm,0.8s,baz=110,slow=6.8,SNR=2.7						
NVAR	**Mina Array Bea**	**151.24**	**254**	PKPbc	PKPbc	12 14 44.0	-1.9
	0.3nm,0.7s,baz=161,slow=3.6,SNR=3.8						

IDC 06 11:56:16.4±2.0, 701S×15524E, h0km, mb3.5/4, mb1 3.8/4, mb1mx3.6/13, mbtmp3.5/4, Error ellipse: s-maj=76.8km s-min=29.3km az=123.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.01**	**236**	P	P	12 01 33.4	+0.2
	0.7nm,0.8s,ba

FGSL Fruska Gora 1.61 62⇑*e*Pn Pn 12 03 21.1 -1.1
NKY Niksic 1.82 151⇓*i*Pn Pn 12 03 23.5 -1.6
NKY *e*Sn Sn 12 03 50.0 +1.6
PKSM Moragy 1.89 18 ⇑P Pn 12 03 25.3 -0.7
PKSM S Sg 12 03 53.0 -1.1
PKSM Moragy 1.89 18 *e*Pn Pn 12 03 25.1 -0.9
PKSM Moragy 1.89 18⇑*i*P Pn 12 03 25.3 -0.7
PKSM Moragy 1.89 18⇓*e*Pn Pn 12 03 25.3 -0.7
PKSM S Sg 12 03 53.0 -1.1
HCY Herceg Novi 2.03 165⇓*i*Pn Pn 12 03 26.7 -1.2
HCY *e*Sn Sn 12 03 55.1 +1.6
NVLJ Novalja 2.10 275 *e*Pn Pn 12 03 28.3 -0.6
NVLJ Sn Sn 12 03 55.2 0.0
NVLJ Novalja 2.10 275 *e*Pn Pn 12 03 28.2 -0.7
BOJS Bojanci 2.11 302 *e*Pn Pn 12 03 28.8 -0.2
BOJS *e*Sn Sn 12 03 55.0 -0.6
BOJS Bojanci 2.11 302 *e*Pn Pn 12 03 28.8 -0.2
BOJS *e*Sn Sn 12 03 55.0 -0.6
BOJS
comp=Z,72nm,0.4s
GRUS Gruza 2.16 103 *e*Pn Pn 12 03 27.9 -1.8
BEY Berane 2.17 135⇓*i*Pn Pn 12 03 29.6 -0.2
BEY *e*Sn Sn 12 03 59.3 +2.4
IVA Berane 2.17 135⇓*i*Pn Pn 12 03 29.6 -0.2
IVA *e*Sn Sn 12 03 59.3 +2.4
CRES Cresnjev 2.18 311 *i* Pn Pn 12 03 29.0 -0.9
PDG Podgorica 2.25 151⇓*i*Pn Pn 12 03 30.7 -0.3
PDG *e*Sn Sn 12 04 00.1 +1.1
TTG Podgorica 2.25 151⇓*i*Pn Pn 12 03 30.7 -0.3
TTG *e*Sn Sn 12 04 00.1 +1.1
BUM Brajici-Budva 2.26 159⇓*i*Pn Pn 12 03 31.0 -0.1
BUM *e*Sn Sn 12 04 01.0 +1.8
PVY Plav 2.41 138⇑*i*Pn Pn 12 03 32.5 -0.6
PVY *e*Sn Sn 12 04 04.6 +1.7
PDKS Podkum 2.58 311 *i* Pn Pn 12 03 35.0 -0.4
ULC Ulcinj 2.67 156⇓*i*Pn Pn 12 03 36.7 0.0
ULC *e*Sn Sn 12 04 10.9 +1.6
LJU Ljubljana 2.83 306 *i* Pn Pn 12 03 39.9 +1.0
PERS Pernice 2.91 321 *i* Pn Pn 12 03 39.5 -0.5
PERS *i* Sn Sn 12 04 13.2 -2.1
PERS Pernice 2.91 321 *i* Pn Pn 12 03 39.5 -0.5
PERS *i* Sn Sn 12 04 13.2 -2.1
PERS
comp=Z,32nm,0.3s
PERS Pernice 2.91 321 *i* Pn Pn 12 03 39.5 -0.6
PERS *i* Sn Sn 12 04 13.1 -2.2
BZS Buzias 2.96 65 *e*Pn Pn 12 03 39.2 -1.5
BZS Buzias 2.96 65 *e*Pn Pn 12 03 39.7 -1.0
BZS Buzias 2.96 65⇑*i*P Pn 12 03 39.4 -1.3
PKSG 3.00 8⇓*e*Pn Pn 12 03 41.4 +0.1
OBKA Obir 3.10 314⇑*i*Pn Pn 12 03 42.3 -0.4
OBKA *i* Sn Sn 12 04 19.9 -0.1
OBKA *i* Sg Sg 12 04 35.6 +2.7
OBKA Obir 3.10 314⇑*i*Pn Pn 12 03 42.3 -0.4
OBKA ⇑*i*Sn Sn 12 04 19.9 -0.1
OBKA ⇑*i*Sg Sg 12 04 35.6 +2.7
comp=Z,60nm,0.5s
OBKA Obir 3.10 314 Pn Pn 12 03 42.3 -0.3
OBKA Sn Sn 12 04 19.9 0.0
VOY Vojsko 3.20 302 *e*Pn Pn 12 03 43.9 -0.1
VOY *e* 12 03 46.3
VOY *e*Sn Sn 12 04 24.1 +1.8
ARSA Arzberg 3.25 331 *i* Pn Pn 12 03 44.5 -0.2
SNR=32
ARSA ⇑*i*Sn Sn 12 04 21.7 -1.9
ARSA Arzberg 3.25 331 Pn Pn 12 03 44.5 -0.2
comp=Z,31nm,5.0s
ARSA Sn Sn 12 04 21.7 -1.9
GORS Gorjuse 3.29 307 *i* Pn Pg 12 03 53.6 -2.7
GORS *i* Sn Sn 12 04 23.9 -0.6
SOP Sopron 3.38 346⇓*e*Pn Pn 12 03 46.3 -0.2
SOP *e*Sn Sn 12 04 23.6 -3.2
GZR Gura Zlata 3.67 73 ⇑P Pn 12 03 49.9 -0.5
GZR Gura Zlata 3.67 73⇑*i*P Pn 12 03 49.9 -0.5
CONA Conrad Observa 3.76 340⇑*i*Pn Pn 12 03 51.6 -0.1
SNR=11
PSZ Piszkesteto 3.79 22 ⇑P Pn 12 03 51.4 -0.7
PSZ Piszkesteto 3.79 22⇑*i*P Pn 12 03 51.4 -0.7
PSZ Piszkesteto 3.79 22⇑*e*Pn Pn 12 03 51.8 -0.3
ZST Bratislava 3.81 353 *i* PN Pn 12 03 52.8 +0.4
ZST *e*SN Sn 12 04 38.5 +1.1
MODS Modra-Piesok 3.98 355 *i* PN Pn 12 03 54.8 +0.2
MODS *e*SN Sn 12 04 43.7 +2.3
VYHS Vyhne 4.14 10 *e*PN Pn 12 03 57.0 +0.1
VYHS *e*SN Sn 12 04 46.3 +0.8
DRGR 4.18 54⇑*i*P Pb 12 04 06.4 -0.8
KOLL Kolacno 4.18 5 *i* PN Pn 12 03 57.8 +0.3
KOLL *e*SN Sn 12 04 47.1 +0.5
MOA Molln 4.22 326⇓*i*Sn Sn 12 04 47.3 -0.2
MOA Molln 4.22 326⇓*i*Pn Pn 12 03 57.9 -0.2
SNR=8.5
MOA ⇓*i*Sn Sn 12 04 47.3 -0.2
MOA Molln 4.22 326 Pn Pn 12 03 57.9 -0.1
comp=Z,8.0nm,5.0s
KECS Kecovo 4.47 24 *e*PN Pn 12 04 01.7 +0.3
VRAC Vranov 4.96 351 ⇑P Pn 12 04 09.9 +1.7
VRAC Vranov 4.96 351⇑*i*P Pn 12 04 09.9 +1.7
GEC2 GERESS Array S 5.25 329 *e*Pn Pn 12 04 12.5 +0.3
GEC2 *e*Sn Sn 12 05 10.9 -2.0
MORC Moravsky Berou 5.37 358 ⇑P Pn 12 04 14.1 +0.3
MORC S Sn 12 05 18.4 +2.7
MORC Moravsky Berou 5.37 358⇑*i*P Pn 12 04 14.1 +0.4
MORC S Sn 12 05 18.4 +2.7
MORC Moravsky Berou 5.37 358 *e*Pn Pn 12 04 14.1 +0.4
MORC S Sn 12 05 18.4 +2.7
KOLS Kolonicke sedl 5.46 33 *e*SN Sn 12 05 07.4 -11
STHS Stebnicka Huta 5.53 24 *e*PN Pn 12 04 18.0 +2.0
KHC Kasperske Hory 5.54 330 *e*PN Pn 12 04 16.3 +0.2
KHC *ex* x 12 04 25.5
KHC *e*SN Sn 12 05 18.2 -1.7
KHC *ex* x 12 05 32.5
WET Wettzell 5.81 326 *e*Pn Pn 12 04 28.5 +8.6
WET *e*Sn Sn 12 05 24.7 -2.0
PRU Pruhonice 6.00 339 *e*PN Pn 12 04 23.4 +1.0
DPC Dobruska-Polom 6.02 351 *e*PN Pn 12 04 23.4 +0.7
CLL Collm 7.61 337 *e*(Sn) Sb 12 06 38.0 +1.6

CSEM ***06*** *12:03:16.9±1.6, 3854N×39.12E, h30km, MD2.9, Error ellipse: s-maj=34.4km s-min=18.6km az=36.0*
ISCJB ***06*** *12:03:18.9±1.5, 3842N±008×392E±0.1, h4km±17km, Error ellipse: s-maj=13.5km s-min=12.6km az=22.7*
DDA ***06*** *12:03:19.0, 3858N×3917E, h10km±1km, Md2.9*
ISC 06 12:03:18.8±1.9, 3848N±010×392E±01, h5km±17km, n6, σ0§59/10, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ELZG	**Elazig**	**0.17**	**275**	*i* P	**Pg**	**12 03 22.8**	**+0.6**
ELZG				*i* S	**Sg**	**12 03 24.8**	**+0.2**
MYA	**Malataya**	**0.63**	**256**	*i* PG	**Pg**	12 03 30.6	-0.3
MYA				*i* SG	**Sg**	12 03 38.7	-0.5
MALT	**Malatya**	**0.64**	**255**	*i* PG	**Pg**	12 03 29.8	-1.2
URFA	**Urfa**	**1.08**	**196**	PG	**Pg**	12 03 39.7	+0.2
MARD	**Mardin**	**1.71**	**133**	*i* P	**Pn**	12 03 49.8	+0.6
MARD				*i* S	**Sn**	12 04 10.7	-0.7
GZT	**Gaziantep**	**1.72**	**230**	*i* P	**Pn**	12 03 49.9	+0.5
GZT				*i* S	**Sg**	12 04 14.5	+0.5

BJI ***06*** *12:38:14.7, 5201N×17990W, h5km, mB5.2, mb4.7, Ms4.6, Msz4.1*
NEIC ***06*** *12:38:16.8, 5112N×17933W, h14km, mb4.3/7, ML3.9(AEIC), After AEIC.*
IDC ***06*** *12:38:16.5±4.0, 5128N×17942W, h33km±29km, mb4.0/19, mb1 4.2/19, mb1mx4.1/25, mbtmp4.0/19, Error ellipse: s-maj=22.7km s-min=12.8km az=168.0*
ISCJB ***06*** *12:38:17.2±0.9, 513N±0.1×17938W±006, h51km±6km, mb4.3/31, MS4.1/2, Error ellipse: s-maj=17.2km s-min=5.7km az=168.3*
ISC 06 12:38:18.0±0.9, 513N±01×17938W±006, h45km±7km, n50, σ0§98/49, mb4.3/31, MS4.1/2, 1C, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMKA	**Amchitka**	**0.83**	**278**	P	**Pn**	**12 38 31.5**	**-1.8**
AMKA				S	**Sn**	**12 38 45.0**	**+0.6**
ADK	**Adak**	**1.79**	**69**	P	**Pn**	**12 38 45.6**	**-0.7**
ADK				S	**Sn**	**12 39 09.0**	**+1.3**

SMY Shemya 4.28 292 P Pn 12 39 20.5 0.0
SPIA Saint Paul Isl 7.97 39 P Pn 12 40 10.9 -0.1
SVW2 Sparrevohn 16.40 44 *e*P Pn 12 42 07.2 +2.6
BILL Bilibino 18.22 343 *e*P Pn 12 42 27.3 +0.2
7.6nm,0.9s
SLKM Skilak Lake 18.63 49 *e*P Pn 12 42 32.5 +0.4
IMA2 Indian Mountai 19.73 32 *e*P Pn 12 42 44.1 -1.1
COLA College 21.22 38 *e*P P 12 42 59.5 0.0
4.6nm,0.5s,mb4.1
EGAK Eagle 23.86 41 *e*P P 12 43 26.1 -0.7
11nm,0.8s,mb4.3
DAWY Dawson 24.43 43 *e*P P 12 43 30.7 -1.2
YSS Yuzh-Sakhalins 24.97 275 *e*P P 12 43 37.6 +0.7
7.3nm,0.8s,mb4.3
ASAJ Asahikawa 26.34 269 P P 12 43 49.2 -0.2
6.3nm,1.0s,mb4.1,baz=60,slow=8.1,SNR=3.9
INK Inuvik 27.75 35 P P 12 44 01.3 -0.6
INK Inuvik 27.75 35 P P 12 44 01.3 -0.6
1.9nm,0.9s,mb3.7,baz=207,slow=5.5,SNR=14
YKA Yellowknife Ar 35.57 46 P P 12 45 09.7 -0.7
YKA PcP PcP 12 47 38.6 +0.3
YKA ScP ScP 12 51 20.9 +0.6
YKA Yellowknife Ar 35.57 46 P P 12 45 09.7 -0.7
2.2nm,0.4s,mb4.4,baz=282,slow=7.5,SNR=73
YKA PcP PcP 12 47 38.6 +0.3
0.3nm,0.6s,baz=290,slow=3.5,SNR=4.2
YKA ScP ScP 12 51 20.9 +0.6
0.2nm,0.6s,baz=292,slow=3.6,SNR=5.2
CN2 Changchun 37.21 281 *e*P P 12 45 23.7 -0.9
NEW Newport 39.26 69 P P 12 45 41.5 -0.4
1.8nm,0.5s,mb4.0,baz=279,slow=13,SNR=3.6
KSRS Korea Array 39.27 270 P P 12 45 41.7 -0.4
2.8nm,0.8s,mb4.1,baz=51,slow=10.0,SNR=3.3
MCMT McKenzie Canyo 43.56 71 *e*P P 12 46 16.9 -0.2
BOZ Bozeman (W) 43.83 70 *e*P P 12 46 19.3 0.0
3.3nm,1.0s,mb4.0
NVAR Mina Array Bea 43.93 82 P P 12 46 20.4 +0.2
0.6nm,0.6s,mb3.5,baz=305,slow=6.3,SNR=6.0
RLMT Red Lodge 45.51 69 *e*P P 12 46 33.1 +0.5
7.8nm,1.0s,mb4.6
SONM Songino Array 46.37 296 P P 12 46 40.4 +1.0
1.5nm,0.5s,mb4.2,baz=60,slow=8.3,SNR=12
PDAR Pinedale Array 46.69 72 P P 12 46 42.3 +0.4
3.1nm,0.6s,mb4.4,baz=300,slow=3.9,SNR=34
NJ2 Nanjing 48.45 271 *e*P P 12 46 59.2 +3.4
NJ2 AMB AMB
comp=Z,40nm,0.7s,mb5.6
ZALV Zalesovo Beam 53.84 313 PcP PcP 12 48 41.6 +0.6
comp=Z,0.9nm,0.5s,baz=31,slow=3,5,SNR=6.8
LZH Lanzhou 55.06 286 ⇑P P 12 47 48.0 +3.0
LZH AP pP 12 47 54.5 -3.1
LZH XP sP 12 47 58.0 -4.8
LZH AMB AMB
comp=Z,23nm,1.3s,mb5.0
LZH AMB AMB
comp=Z,65nm,6.7s
LZH LR LR
comp=E,315nm,16.1s
LZH LR LR
comp=Z,437nm,18.0s,MS4.6
ARCES ARCESS Array B 58.13 350 P P 12 48 06.6 +0.3
comp=Z,4.5nm,0.8s,mb4.5,baz=10,slow=7.4,SNR=4.2
KURK Kurhatov 58.83 313 *e*P P 12 48 11.1 -0.4
comp=Z,4.5nm,1.0s,mb4.5
TXAR Lajitas Array 59.03 81 P P 12 48 15.1 +2.0
comp=Z,1.1nm,0.6s,mb4.1,baz=304,slow=5.0,SNR=11
MKAR Makanchi Array 59.81 308 P P 12 48 18.1 -0.1
comp=Z,1.8nm,0.4s,mb4.5,baz=52,slow=6.2,SNR=13
GYA Guiyang 59.97 276 P P 12 48 23.6 +3.9
GYA AMB AMB
comp=Z,10.0nm,0.8s,mb4.9
SCHQ Schefferville 60.31 38 P P 12 48 20.5 -1.1
comp=Z,3.2nm,0.7s,mb4.5,baz=340,slow=7.8,SNR=12
KMI Kunming 63.38 278 P P 12 48 47.5 +4.9
KMI AMB AMB
comp=Z,7.0nm,1.0s,mb4.8
KMI LR LR
comp=Z,44nm,17.2s,MS3.7
FINES FINESS Array B 65.80 347 P P 12 48 57.3 -0.5
comp=Z,2.4nm,0.8s,mb4.3,baz=11,slow=7.4,SNR=7.4
NB2 NORSAR Subarra 67.72 354 P P 12 49 09.6 -0.4
comp=Z,1.0nm,0.5s,mb4.1,baz=18,slow=6.5
NOA NORSAR Array B 67.72 354 P P 12 49 10.2 +0.1
comp=Z,1.4nm,0.6s,mb4.2,baz=7.2,slow=6.3,SNR=4.8
JIRN Jiri 71.56 291 *e*P P 12 49 37.4 +3.1
KKN Kakani 72.00 292 *e*P P 12 49 37.9 +1.0
comp=Z,18nm,0.5s,mb5.2
GKN Gorkha 72.21 293 *e*P P 12 49 39.0 +0.8
comp=Z,12nm,0.5s,mb5.1
KOLN Koldanda 72.99 293 *e*P P 12 49 43.7 +0.9
AKASG Malin Array Be 75.53 342 P P 12 49 56.6 -0.6
comp=Z,3.5nm,0.5s,mb4.5,baz=20,slow=6.1,SNR=11
GERES GERESS Array B 79.63 351 P P 12 50 20.1 -0.1
comp=Z,0.8nm,0.5s,mb3.9,baz=31,slow=6.2,SNR=8.0
WRA Warramunga Arr 81.69 223 P P 12 50 30.1 -1.2
comp=Z,0.6nm,0.7s,mb3.6,baz=32,slow=6.0,SNR=6.8
ASAR Alice Springs 85.16 222 P P 12 50 48.0 -1.2
comp=Z,0.5nm,0.6s,mb3.8,baz=28,slow=5.5,SNR=7.0
ESDC Sonseca Array 89.34 4 P P 12 51 08.0 -1.3
comp=Z,0.5nm,0.6s,mb4.0,baz=352,slow=4.2,SNR=4.3
LBTB Lobatse 147.54 314 PKPbc PKPbc 12 57 57.0 +0.1
comp=Z,2.9nm,0.6s,baz=343,slow=2.9,SNR=8.3
BOSA Boshof 150.77 311 PKPbc PKPbc 12 58 06.3 +1.3
comp=Z,3.9nm,0.9s,baz=112,slow=11,SNR=4.3

NIED ***06*** *12:42:00, 37.10N×136.40E, h5km, Mw4.6 Best double couple: M0 8.02000×10^15 NP1:φs16.00000°, δ62.00000°, λ85.00000°. NP2:φs207.00000°, δ29.00000°, λ99.00000°.*
BJI ***06*** *12:42:02.6, 3682N×13739E, h10km, mB4.7, mb4.4, Ms4.2, Msz4.0*
ISCJB ***06*** *12:42:09.6±0.8, 3711N±003×13636E±003, h6km±5km, mb4.5/60, MS4.1/11, Error ellipse: s-maj=4.7km s-min=3.8km az=28.2*
IDC ***06*** *12:42:09.8±0.5, 3707N×13633E, h0km, mb4.3/19, mb1 4.5/21, mb1mx4.4/28, mbtmp4.3/21, ML3.7/2, MS4.0/9, Ms1 4.0/9, ms1mx3.6/30, Error ellipse: s-maj=14.9km s-min=10.2km az=23.0*
JMA ***06*** *12:42:10.7±0.1, 3710N×13643E, h7km±2km, M4.7*
JMA Felt III J1.
NEIC ***06*** *12:42:11.5±0.2, 3706N×13637E, h10km, mb4.8/29, MW4.5(NIED), Error ellipse: s-maj=7.1km s-min=5.6km az=191.0*
NEIC Recorded [3 JMA] in Ishikawa and [1 JMA] in Fukui, Gifu and Toyama Prefectures.
SZGRF ***06*** *12:42:13.0, 3751N×13793E, h33km, mb4.8, Near west coast of eastern Honshu, Japan*
MOS ***06*** *12:42:13.7±0.9, 3718N×13643E, h33km, mb4.9/35, MS4.2/6, Error ellipse: s-maj=9.6km s-min=5.4km az=104.6*
ISC 06 12:42:10.7±0.6, 3708N±003×13639E±003, h4km±4km, n188, σ1§02/198, mb4.5/60, MS4.1/11, 11C-11D, Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JJH	**Hakui**	**0.35**	**117**	⇓P	**Pg**	**12 42 17.5**	**+0.1**
JJH				S	**Sg**	**12 42 22.2**	**+0.2**
JKG	**Kaga**	**0.81**	**183**	⇑P	**Pg**	**12 42 26.5**	**+0.4**
JKG				*e*S	**Sg**	**12 42 37.8**	**+1.2**
JSZ	**Suzu**	**0.86**	**65**	⇑P	**Pg**	**12 42 26.4**	**-0.7**
JSZ				*e*S	**Sg**	**12 42 38.0**	**-0.2**
JHG	**Hegura jima**	**0.87**	**29**	⇑P	**Pg**	**12 42 26.9**	**-0.5**
JTT	**Ttatey**	**0.89**	**122**	⇓P	**Pg**	**12 42 27.6**	**-0.2**
JTT				*e*S	**Sg**	**12 42 40.0**	**+0.6**
JGN	**Niukaw**	**1.14**	**139**	⇓P	**Pg**	**12 42 31.4**	**-1.0**
JGN				S	**Sg**	**12 42 46.6**	**-0.5**
MAJO	**Matsushiro**	**1.55**	**110**	*e*P	**Pn**	**12 42 37.9**	**-1.2**
MAT	**Matsushiro**	**1.55**	**110**	P	**Pn**	**12 42 38.1**	**-1.0**
MAT				*e*S	**Sn**	**12 43 00.0**	**+0.4**
MJAR	**Matsushiro Arr**	**1.56**	**110**	Pg	**Pg**	**12 42 38.5**	**-2.0**
MJAR	347nm,0.3s,baz=293,slow=14,SNR=798						
				Lg		12 43 00.4	
MJAR	211nm,0.3s,baz=284,slow=26,SNR=13						
				LR	LR	12 43 24.1	
MJAR	comp=Z,5μm,20.6s,baz=275,slow=46						
JHJ	**Hachijo jima 2**	**4.83**	**144**	Pn	**Pn**	**12 43 31.6**	**+7.4**
JHJ	20nm,0.3s,baz=261,slow=1.4,SNR=6.7						
				LR	LR	12 45 26.9	
JHJ	comp=Z,2μm,18.8s,baz=289,slow=40						
JNU	**Nakatsue**	**6.00**	**230**	Pn	**Pn**	**12 43 42.6**	**+2.3**
	3.0nm,0.3s,baz=28,slow=12,SNR=33						

KSRS Korea Array 6.76 276 Pn Pn 12 43 52.0 +1.3
1.9nm,0.3s,baz=91,slow=14,SNR=17
KSRS Sn Sn 12 45 08.2 0.0
0.7nm,0.3s,baz=83,slow=24,SNR=4.6
KSRS LR LR 12 46 18.4
comp=Z,1μm,19.2s,baz=123,slow=37
VLA Vladivostok 6.95 332 *i* P Pn 12 43 53.4 +0.2
ERM Erimo 7.18 45 *e*P Pn 12 43 58.4 +2.0
94nm,1.0s
ERM Erimo 7.18 45⇓*i*P Pn 12 43 57.4 +1.0
ASAJ Asahikawa 8.46 32 Pn Pn 12 44 15.8 +1.8
0.9nm,0.3s,baz=227,slow=14,SNR=20
ASAJ LR LR 12 47 33.2
comp=Z,254nm,18.0s,baz=207,slow=38
MDJ Mudanjiang 9.12 328 P Pn 12 44 24.2 +1.3
MDJ S Sn 12 46 19.1 +13
MDJ SS 12 46 31.0
MDJ AMB AMB
comp=Z,12nm,0.5s
MDJ LR LR
comp=E,913nm,13.8s
MDJ LR LR
comp=Z,1μm,13.6s
YUK Yuzh-Kuril'sk 10.00 43 *e*P Pn 12 44 36.1 +1.0
CN2 Changchun 10.70 312 *e*P Pn 12 44 50.0 +5.4
CN2 AMB AMB
comp=Z,20nm,1.2s
CN2 AMB AMB
comp=Z,200nm,5.0s
CN2 LR LR
comp=N,500nm,13.0s
CN2 LR LR
comp=E,800nm,13.0s
CN2 LR LR
comp=Z,700nm,17.0s
YSS Yuzh-Sakhalins 10.94 24 *e*P Pn 12 44 50.9 +3.0
comp=Z,128nm,1.1s
YSS Yuzh-Sakhalins 10.94 24*ωe*P Pn 12 44 51.0 +3.2
YSS pmax pmax
comp=E,90nm,1.0s
YSS pmax pmax
comp=Z,100nm,1.0s
YSS MLR MLR
comp=Z,300nm,14.0s
YSS MLR MLR
comp=N,300nm,12.0s
CBIJ Chichi jima 11.10 152 LR LR 12 48 08.1
comp=N,117nm,20.9s,baz=358,slow=32
DL2 Dalian 11.79 283 P Pn 12 45 03.4 +3.8
DL2 S Sn 12 47 17.8 +6.2
DL2 AMB AMB
comp=Z,10.0nm,1.0s
DL2 AMB AMB
comp=Z,110nm,5.0s
DL2 LR LR
comp=N,320nm,11.1s
DL2 LR LR
comp=E,510nm,14.4s
DL2 LR LR
comp=Z,660nm,16.0s
KLR Kul'dur 12.60 346 *e*P Pn 12 45 11.2 +0.6
KLR pmax pmax
comp=E,40nm,1.6s
KLR pmax pmax
comp=Z,97nm,1.6s
SSE Sheshan 13.94 249 P Pn 12 45 27.8 -1.2
SSE AMB AMB
comp=Z,28nm,0.7s
SSE AMB AMB
comp=Z,63nm,4.3s
SSE LR LR
comp=N,171nm,16.7s
SSE LR LR
comp=E,309nm,16.7s
SSE LR LR
comp=Z,259nm,15.4s
NJ2 Nanjing 15.29 256 *e*P Pn 12 45 47.5 +0.2
NJ2 AP pP 12 45 51.1 -2.3
NJ2 XP sP 12 45 54.3 +0.4
NJ2 PP 12 45 59.4
NJ2 AMB AMB
comp=Z,40nm,0.7s
NJ2 AMB AMB
comp=Z,150nm,7.7s
NJ2 LR LR
comp=N,710nm,12.1s
NJ2 LR LR
comp=E,920nm,12.0s
TIA Tai'an 15.49 273 *e*P Pn 12 45 57.8 +7.8
BJI Beijing 16.09 287 P Pn 12 46 01.6 +4.0
BJI S Sn 12 48 59.9 +3.5
BJI AMB AMB
comp=Z,14nm,1.6s
BJI LR LR
comp=N,505nm,12.2s
BJI LR LR
comp=E,524nm,11.8s
BJI LR LR
comp=Z,321nm,19.0s
HIA Hailar 17.15 320 *e*P Pn 12 46 11.7 +0.6
comp=Z,40nm,1.1s
HIA Hailar 17.15 320 *e*P Pn 12 46 11.7 +0.6
HIA pmax pmax
comp=Z,40nm,1.1s
TIY Taiyuan 19.04 279⇑*i*P Pn 12 46 39.0 +4.6
TIY S Sn 12 50 14.0 +6.1
TIY LR LR
comp=N,559nm,13.6s
TIY LR LR
comp=E,941nm,14.6s
TIY LR LR
comp=Z,954nm,14.9s
WHN Wuhan 19.42 257 ⇑P Pn 12 46 42.5 +3.5
WHN LR LR
comp=Z,1μm,15.0s
CIT Chita 21.96 320 *e*P P 12 47 06.2 +1.0
CIT pmax pmax
comp=Z,55nm,2.0s,mb4.6
PET Petropavlovsk 22.25 37⇑*e*P P 12 47 06.3 -2.0
PET pmax pmax
comp=Z,37nm,1.3s,mb4.7
XAN Xi'an 22.52 270 P P 12 47 08.2 -3.2
XAN AP 12 47 15.9
XAN S S 12 51 10.5 -8.8
XAN AMB AMB
comp=Z,3.0nm,1.3s,mb3.6
XAN AMB AMB
comp=Z,93nm,6.2s
XAN LR LR
comp=N,431nm,15.3s,MS4.1
XAN LR LR
comp=E,338nm,17.0s,MS4.1
XAN LR LR
comp=Z,462nm,13.6s,MS4.1
ULN Ulaanbaatar 24.04 306 *e*P P 12 47 27.0 +0.4
comp=Z,4.2nm,0.4s,mb4.2
ULN Ulaanbaatar 24.04 306 *e*P P 12 47 27.0 +0.4
ULN pmax pmax
comp=Z,4.0nm,0.4s,mb4.2
MA2 Magadan 24.34 18 *e*P P 12 47 28.7 -0.6
comp=Z,36nm,1.0s,mb4.8
MA2 Magadan 24.34 18*c i*P P 12 47 28.7 -0.6
MA2 *e* 12 48 02.5
MA2 *e*S S 12 51 42.2 -6.7
MA2 pmax pmax
comp=N,30nm,0.9s
MA2 pmax pmax
comp=Z,60nm,0.9s,mb5.0
SONM Songino Array 24.45 306 P P 12 47 30.6 +0.2
SONM pmax pmax
comp=Z,4.0nm,0.7s
SONM MLR MLR
comp=Z,732nm,19.4s
SONM Songino Array 24.45 306 P P 12 47 30.6 +0.2
comp=Z,3.7nm,0.7s,mb3.9,baz=111,slow=9.4,SNR=18
SONM LR LR 12 57 19.1
comp=Z,732nm,19.4s,MS4.2,baz=98,slow=37
YAK Yakutsk 25.32 353 *e*P P 12 47 37.2 -0.9
comp=Z,37nm,0.9s,mb4.9
YAK Yakutsk 25.32 353 *e*P P 12 47 37.2 -0.9
YAK pmax pmax
comp=Z,66nm,1.4s,mb5.0
YAK pmax pmax
comp=N,39nm,1.6s
YAK pmax pmax
comp=E,10.0nm,1.6s

BOD Bodaibo 25.46 332 *e*P **P 12 47 37.2 -2.2**
BOD pmax pmax
comp=Z,6.0nm,1.5s,mb3.9
ZAK Zakamensk 27.12 310 *e*P **P 12 47 54.7 +0.2**
ZAK pmax pmax
comp=Z,6.0nm,1.2s,mb4.0
IRK Irkutsk 27.14 314 *e*P **P 12 47 56.5 +1.9**
IRK pmax pmax
comp=Z,18nm,1.6s,mb4.3
TLY Talaya 27.30 313 *e*P **P 12 47 56.4 +0.2**
comp=Z,12nm,0.8s,mb4.5
TLY Talaya 27.30 313 *e*P **P 12 48 00.5 +4.3**
TLY pmax pmax
comp=Z,25nm,1.5s,mb4.5
TLY MLR MLR
comp=Z,422nm,15.0s,MS4.1
SEY Seymchan 27.68 16⇑*e*P **P 12 47 59.2 -0.2**
QIZ Qiongzhong 29.38 240 P **P 12 48 13.5 -1.5**
QIZ S **S 12 53 08.8 -0.6**
QIZ LR LR
comp=E,372nm,13.0s
QIZ LR LR
comp=Z,373nm,16.3s,MS4.1
TIXI Tiksi 34.85 356 *e*P **P 12 49 01.3 -1.2**
comp=Z,19nm,1.1s,mb4.9
TIXI Tiksi 34.85 356 *e*P **P 12 49 01.5 -0.9**
TIXI pmax pmax
comp=Z,18nm,1.2s,mb4.9
TIXI MLR MLR
comp=Z,133nm,12.0s,MS3.9
BILL Bilibino 35.20 19 *e*P **P 12 49 05.0 -0.4**
comp=Z,24nm,1.1s,mb5.0
BILL Bilibino 35.20 19κ *i*P **P 12 49 05.7 +0.2**
BILL *e* 12 49 10.8
BILL 12 50 29.0
BILL 12 51 37.0
BILL pmax pmax
comp=Z,28nm,1.2s,mb5.1
WMQ Urumqi 37.22 296 *e*P **P 12 49 25.0 +2.0**
WMQ AP pP 12 49 35.0 +11
WMQ *e*S **S 12 55 08.0 -2.5**
WMQ AMB AMB
comp=Z,7.0nm,1.2s,mb4.4
WMQ AMB AMB
comp=Z,158nm,4.6s
WMQ LR LR
comp=N,150nm,18.4s,MS4.0
WMQ LR LR
comp=E,198nm,18.4s,MS4.0
WMQ LR LR
comp=Z,337nm,19.6s,MS4.1
ZALV Zalesovo Beam 38.92 313 P **P 12 49 35.6 -1.6**
comp=Z,0.6nm,0.4s,mb3.7,baz=72,slow=4.8,SNR=6.1
ZALV PcP PcP 12 51 47.4 -0.5
comp=Z,1.3nm,0.6s,baz=107,slow=3.2,SNR=4.9
ZALV LR LR 13 06 12.8
comp=Z,109nm,19.6s,MS3.7,baz=305,slow=37
ZAL Zalesovo 38.93 312 P **P 12 49 35.6 -1.7**
ZAL 12 51 47.4
NVS Novosibirsk 39.90 314 *e*P **P 12 49 43.6 -1.8**
NVS pmax pmax
comp=E,8.0nm,1.6s
NVS pmax pmax
comp=Z,11nm,1.6s,mb4.3
NVS pmax pmax
comp=N,4.0nm,1.2s
MKAR Makanchi Array 40.68 301 P **P 12 49 50.8 -1.2**
MKAR pmax pmax
comp=Z,1.0nm,0.6s
MKAR MLR MLR
comp=Z,362nm,18.2s
MKAR Makanchi Array 40.68 301 P **P 12 49 50.8 -1.2**
comp=Z,0.9nm,0.6s,mb3.6,baz=90,slow=9.8,SNR=5.3
MKAR LR LR 13 07 11.7
comp=Z,362nm,18.2s,MS4.3,baz=352,slow=37
KURK Kurchatov 42.73 308 *e*P **P 12 50 07.3 -1.4**
comp=Z,7.9nm,0.8s,mb4.5
KURK Kurchatov 42.73 308⇑*e*P **P 12 50 07.8 -0.9**
TKM2 Tokmak 2 46.05 297 *e*P **P 12 50 36.0 +0.6**
comp=Z,5.8nm,1.0s,mb4.5
TKM2 Tokmak 2 46.05 297 *e*P **P 12 50 36.0 +0.6**
TKM2 pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
AML Almayashu 47.62 297 *e*P **P 12 50 48.1 +0.5**
comp=Z,10nm,1.0s,mb4.8
IMA2 Indian Mountai 48.69 31 *e*P **P 12 50 56.2 +0.6**
COLA College 51.18 32 *i*P **P 12 51 14.9 +0.4**
ARU Arti 53.64 318 *d*/P **P 12 51 31.8 -1.1**
ARU *e* 12 52 32.8
ARU *e*S **S 12 59 02.2 -4.7**
ARU pmax pmax
comp=Z,13nm,1.7s,mb4.6
EGAK Eagle 54.02 32 *e*P **P 12 51 35.3 -0.3**
comp=Z,12nm,1.1s,mb4.7
FITZ Fitzroy Crossi 55.82 192 P **P 12 51 48.5 -0.6**
comp=Z,3.9nm,0.8s,mb4.5,baz=38,slow=5.4
INK Inuvik 56.16 27 *e*P **P 12 51 50.9 -0.1**
comp=Z,356nm,1.0s,mb6.3
INK Inuvik 56.16 27 P **P 12 51 51.4 +0.4**
INK pmax pmax
comp=Z,9.0nm,0.9s
INK Inuvik 56.16 27 P **P 12 51 51.4 +0.4**
comp=Z,9.4nm,0.8s,mb4.8,baz=289,slow=6.4,SNR=51
WRAB Tennant Creek 56.74 182 *e*P **P 12 51 56.8 +1.2**
comp=Z,15nm,0.6s,mb5.2
WRAB Tennant Creek 56.74 182 *e*P **P 12 51 56.8 +1.2**
WRAB pmax pmax
comp=Z,15nm,0.6s,mb5.2
WRA Warramunga Arr 56.75 182 P **P 12 51 54.2 -1.5**
WRA pmax pmax
comp=Z,2.0nm,0.6s
WRA Warramunga Arr 56.75 182 P **P 12 51 54.2 -1.4**
comp=Z,2.3nm,0.6s,mb4.4,baz=359,slow=7.7,SNR=26
ASAR Alice Springs 60.47 183 P **P 12 52 22.7 +1.2**
ASAR pmax pmax
comp=Z,1.0nm,0.6s
ASAR Alice Springs 60.47 183 P **P 12 52 22.7 +1.1**
comp=Z,0.8nm,0.6s,mb3.9,baz=1.9,slow=7.7,SNR=7.3
DLBC Dease Lake 61.03 37 P **P 12 52 25.7 +0.7**
baz=349,slow=5.2
ARCES ARCESS Array B 62.50 338 LR LR 13 23 31.5
comp=Z,204nm,18.7s,MS4.3,baz=36,slow=40
YKA Yellowknife Ar 65.74 29 P **P 12 52 55.1 -1.1**
YKA pmax pmax
comp=Z,4.0nm,0.9s
YKA Yellowknife Ar 65.74 29 P **P 12 52 55.1 -1.1**
comp=Z,3.6nm,0.9s,mb4.4,baz=308,slow=6.6,SNR=21
FINES FINESS Array B 66.85 331 *i*P **P 12 53 01.3 -2.0**
FINES pmax pmax
comp=Z,6.0nm,0.8s
FINES FINESS Array B 66.85 331 P **P 12 53 02.6 -0.7**
comp=Z,5.7nm,0.8s,mb4.7,baz=91,slow=7.6,SNR=13
KIV Kislovodsk 67.79 309⇓*e*P **P 12 53 09.9 +0.3**
KIV *e* 13 03 08.7
KIV pmax pmax
comp=Z,14nm,1.2s,mb4.9
KIV MLR MLR
comp=Z,200nm,15.0s,MS4.5
SOC Sochi 69.83 310 *i*P **P 12 53 13.3 -9.0**
JCW Jim Creek 70.25 44 P **P 12 53 26.1 +1.3**
ANN Anapa 70.55 312 *e*P **P 12 53 23.1 -3.6**
ANN pmax pmax
comp=Z,94nm,1.3s,mb5.6
EBG Ellensburg 71.74 45 P **P 12 53 35.2 +1.3**
AKASG Malin Array Be 71.75 320 P **P 12 53 32.9 -0.9**
AKASG pmax pmax
comp=Z,2.0nm,0.6s
AKASG MLR MLR
comp=Z,184nm,18.8s
AKASG Malin Array Be 71.75 320 P **P 12 53 32.9 -0.9**
comp=Z,2.1nm,0.6s,mb4.3,baz=48,slow=6.3,SNR=14
AKASG LR LR 13 27 38.2
comp=Z,184nm,18.8s,MS4.4,baz=280,slow=38
KEBM Edson Butte 71.80 50 *e*P **P 12 53 35.8 +1.5**
VFP Flag Point 72.14 46 P **P 12 53 37.8 +1.5**
NB2 NORSAR Subarra 72.53 335 P **P 12 53 37.6 -0.7**
comp=Z,22nm,1.7s,mb4.8,baz=46,slow=5.9
NOA NORSAR Array B 72.53 335 P **P 12 53 37.5 -0.8**
NOA pmax pmax
comp=Z,1.0nm,0.8s
NOA NORSAR Array B 72.53 335 P **P 12 53 37.5 -0.9**
comp=Z,1.4nm,0.8s,mb4.0,baz=43,slow=5.8,SNR=3.7
BBOR Butler Butte 72.80 49 P **P 12 53 41.9 +1.6**
NEW Newport 72.84 42 P **P 12 53 40.8 +0.4**
NEW pmax pmax
comp=Z,1.0nm,0.5s
NEW Newport 72.84 42 P **P 12 53 40.8 +0.3**
comp=Z,1.1nm,0.5s,mb4.0,baz=170,slow=18,SNR=2.2
VIPM Ingram Point 73.09 47 P **P 12 53 43.5 +1.5**
LBCM Butte Creek Ri 74.80 50 P **P 12 53 53.2 +1.2**
WVOR Wild Horse Val 75.48 48 *e*P **P 12 53 56.7 +0.7**
comp=Z,8.4nm,1.4s,mb4.5
WVOR Wild Horse Val 75.48 48 *e*P **P 12 53 56.7 +0.7**
WVOR pmax pmax
comp=Z,8.0nm,1.4s,mb4.5
FFC Flin Flon 75.77 31 *e*P **P 12 53 57.2 -0.1**
comp=Z,7.3nm,1.1s,mb4.5
FFC Flin Flon 75.77 31 *e*P **P 12 53 57.3 -0.1**
FFC pmax pmax
comp=Z,7.0nm,1.1s,mb4.5
STHS Stebnicka Huta 76.54 323 *e*P **P 12 54 03.9 +2.0**
comp=Z,5.0nm,1.1s,mb4.4
STHS Stebnicka Huta 76.54 323 *e*P **P 12 54 03.9 +2.0**
STHS pmax pmax
comp=Z,5.0nm,1.1s,mb4.4
OJC Ojcow 76.69 324 *e*P **P 12 54 02.8 +0.1**
NVAR Mina Array Bea 78.12 51 P **P 12 54 12.3 +1.4**
NVAR Mina Array Bea 78.12 51 P **P 12 54 12.3 +1.4**
comp=Z,2.4nm,0.7s,mb4.2,baz=310,slow=3.9,SNR=21
DPC Dobruska-Polom 78.21 326 *e*P **P 12 54 11.9 +0.7**
VYHS Vyhne 78.33 323 *e*P **P 12 54 13.0 +1.1**
PVCC Panska Ves 78.87 326 *e*P **P 12 54 14.2 -0.6**
BRG Berggiesshubel 78.89 327 *e*P **P 12 54 15.2 +0.2**
BRG pmax pmax
comp=Z,2.0nm,0.8s,mb4.1
BRG Berggiesshubel 78.89 327 *e*P **P 12 54 15.3 +0.3**
comp=Z,5.0nm,0.9s,mb4.4
BRG Berggiesshubel 78.89 327 *e*(P) **P 12 54 15.2 +0.3**
comp=Z,2.5nm,0.8s,mb4.2
CLL Collm 78.98 328⇓*i*P **P 12 54 15.3 -0.1**
CLL pmax pmax
comp=Z,11nm,1.1s,mb4.7
CLL Collm 78.98 328 *e*P **P 12 54 15.3 -0.1**
comp=Z,10.0nm,1.1s,mb4.7
CLL Collm 78.98 328⇓*i*P **P 12 54 15.3 -0.1**
comp=Z,11nm,1.1s,mb4.7
MODS Modra-Piesok 79.16 324 *e*P **P 12 54 17.2 +0.7**
CLZ Clausthal 79.68 329 *e*P **P 12 54 19.6 +0.4**
CLZ pmax pmax
comp=Z,12nm,1.2s,mb4.7
CLZ Clausthal 79.68 329 *e*P **P 12 54 19.6 +0.4**
comp=Z,12nm,1.2s,mb4.7
NKC Novy Kostel 80.01 327 *e*P **P 12 54 21.3 +0.2**
MOX Moxa 80.06 328 *e*P **P 12 54 20.4 -0.9**
comp=Z,14nm,1.6s,mb4.6
KHC Kasperske Hory 80.33 326 *e*P **P 12 54 22.9 +0.1**
KHC Kasperske Hory 80.33 326⇓*i*P **P 12 54 23.1 +0.3**
PDAR Pinedale Array 80.43 43 P **P 12 54 24.1 +0.6**
comp=Z,2.6nm,0.9s,mb4.2,baz=298,slow=2.5,SNR=18
ROTZ Rotzenmuhle 80.46 327 *e*P **P 12 54 24.0 +0.5**
comp=Z,31nm,1.9s,mb4.9
GEC2 GERESS Array S 80.48 326 *e*P **P 12 54 23.5 -0.1**
GEC2 pmax pmax
comp=Z,5.0nm,1.3s,mb4.3
GEC2 GERESS Array S 80.48 326 *e*P **P 12 54 23.5 -0.1**
comp=Z,5.0nm,1.3s,mb4.3
GERES GERESS Array B 80.48 326 P **P 12 54 23.7 +0.1**
GERES pmax pmax
comp=Z,1.0nm,0.8s
GERES GERESS Array B 80.48 326 P **P 12 54 23.7 +0.1**
comp=Z,1.0nm,0.8s,mb3.8,baz=35,slow=3.3,SNR=6.4
WET Wettzell 80.63 326 *e*P **P 12 54 25.0 +0.6**
WET pmax pmax
comp=Z,26nm,2.1s,mb4.8
WET Wettzell 80.63 326 *e*P **P 12 54 25.0 +0.6**
comp=Z,26nm,2.1s,mb4.8
GRA1 Grafenberg Arr 80.94 327 *e*P **P 12 54 26.5 +0.4**
comp=Z,11nm,1.0s,mb4.7
GRF Grafenberg Arr 80.94 327 *e*P **P 12 54 26.5 +0.4**
GRF pmax pmax
comp=Z,11nm,1.0s,mb4.7
GRF Grafenberg Arr 80.94 327 *e*P **P 12 54 26.5 +0.4**
comp=Z,11nm,1.0s,mb4.7
ULM Lac du Bonnet 81.60 31 P **P 12 54 28.8 -0.7**
comp=Z,4.6nm,0.9s,mb4.4,baz=312,slow=7.0,SNR=4.3
PFO Pinyon Flat Ob 82.30 54 P **P 12 54 32.8 -0.8**
PFO pmax pmax
comp=Z,5.0nm,1.0s,mb4.4
PFO Pinyon Flat Ob 82.30 54 P **P 12 54 32.8 -0.8**
comp=Z,4.7nm,1.0s,mb4.4,baz=338,slow=3.7,SNR=4.7
BFO Black Forest 83.22 328 *e*P **P 12 54 37.6 -0.4**
BFO pmax pmax
comp=Z,12nm,1.1s,mb4.8
BFO Black Forest 83.22 328 *e*P **P 12 54 37.6 -0.4**
comp=Z,12nm,1.1s,mb4.8
CDF Champ du Feu 83.59 329 *e*P **P 12 54 39.5 -0.5**
comp=Z,29nm,1.3s,mb5.0
CDF Champ du Feu 83.59 329 *e*P **P 12 54 39.5 -0.5**
comp=Z,15nm,1.3s,mb5.0
CDF Champ du Feu 83.59 329 *e*P **P 12 54 39.5 -0.5**
CDF pmax pmax
comp=Z,15nm,1.3s,mb5.0
CABF La Chapelle 85.51 328 *e*P **P 12 54 49.2 -0.5**
LOR Lormes 85.90 330 *e*P **P 12 54 50.7 -1.0**
comp=Z,14nm,0.9s,mb4.9
LOR Lormes 85.90 330 *e*P **P 12 54 50.7 -1.0**
comp=Z,7.1nm,0.9s,mb4.9
LOR Lormes 85.90 330 *e*P **P 12 54 50.7 -1.0**
LOR pmax pmax
comp=Z,7.0nm,0.9s,mb4.9
LPL La Plagne 86.10 327 *e*P **P 12 54 52.4 -0.3**
LPG La Plagne 86.10 327 *e*P **P 12 54 52.5 -0.2**
SSF Saint Saulge 86.21 330 *e*P **P 12 54 52.5 -0.7**
SMF Signal de Mont 86.41 329 *e*P **P 12 54 53.3 -0.9**
AVF Avril sur Loir 86.49 330 *e*P **P 12 54 53.6 -1.0**
comp=Z,17nm,1.0s,mb4.9
AVF Avril sur Loir 86.49 330 *e*P **P 12 54 53.6 -1.0**
comp=Z,8.4nm,1.0s,mb4.9
AVF Avril sur Loir 86.49 330 *e*P **P 12 54 53.6 -1.0**
AVF pmax pmax
comp=Z,8.0nm,1.0s,mb4.9
MBDF Montbardon 86.70 327 *e*P **P 12 54 55.2 -0.4**
GRR Gorron 86.78 333 *e*P **P 12 54 55.3 -0.7**
SBF Sospel 87.08 326 *e*P **P 12 54 56.7 -0.8**
comp=Z,23nm,1.0s,mb5.1
SBF Sospel 87.08 326 *e*P **P 12 54 56.7 -0.8**
comp=Z,12nm,1.0s,mb5.1
SBF Sospel 87.08 326 *e*P **P 12 54 56.7 -0.8**
SBF pmax pmax
comp=Z,12nm,1.0s,mb5.1
TCF Toulx Ste Croi 87.36 330 *e*P **P 12 54 58.4 -0.4**
PGF Pioggiola 87.39 324 *e*P **P 12 54 58.3 -0.7**
comp=Z,23nm,1.4s,mb4.9
PGF Pioggiola 87.39 324 *e*P **P 12 54 58.3 -0.7**
comp=Z,12nm,1.4s,mb4.9
PGF Pioggiola 87.39 324 *e*P **P 12 54 58.3 -0.7**
PGF pmax pmax
comp=Z,12nm,1.4s,mb4.9
ANMO Albuquerque 87.56 47⇑*e*P **P 12 55 00.9 +0.9**
ANMO Albuquerque 87.56 47 P **P 12 55 01.3 +1.3**
comp=Z,0.5nm,0.4s,mb4.1,baz=7.1,slow=8.1,SNR=3.2
ROSF Rostrenen 87.68 334 *e*P **P 12 54 59.6 -0.7**
comp=Z,29nm,1.1s,mb5.1
ROSF Rostrenen 87.68 334 *e*P **P 12 54 59.6 -0.7**
comp=Z,15nm,1.1s,mb5.1
ROSF Rostrenen 87.68 334 *e*P **P 12 54 59.6 -0.7**
ROSF pmax pmax
comp=Z,15nm,1.1s,mb5.1
SMRF Simiane la Rot 87.82 327 *e*P **P 12 55 00.3 -0.8**
LMR La Mourre 87.92 326 *e*P **P 12 55 00.8 -0.7**
comp=Z,62nm,1.5s,mb5.3
LMR La Mourre 87.92 326 *e*P **P 12 55 00.8 -0.7**
comp=Z,31nm,1.5s,mb5.3
LMR La Mourre 87.92 326 *e*P **P 12 55 00.8 -0.7**
LMR pmax pmax
comp=Z,31nm,1.5s,mb5.3
RJF Les Rejaudoux 88.44 330 *e*P **P 12 55 03.7 -0.3**
LASF Ste Croix 88.48 328 *e*P **P 12 55 03.8 -0.4**
CAF Calviac 88.53 329 *e*P **P 12 55 04.1 -0.3**
MTLF Montolieu 89.77 328 *e*P **P 12 55 09.7 -0.6**
comp=Z,5.6nm,0.8s,mb4.7
MTLF Montolieu 89.77 328 *e*P **P 12 55 09.7 -0.6**
comp=Z,2.8nm,0.8s,mb4.6
MTLF Montolieu 89.77 328 *e*P **P 12 55 09.7 -0.6**
MTLF pmax pmax
comp=Z,3.0nm,0.8s,mb4.7
TXAR Lajitas Array 93.20 49 P **P 12 55 27.2 +0.7**
TXAR pmax pmax
comp=Z,2.0nm,0.6s
TXAR Lajitas Array 93.20 49 P **P 12 55 27.2 +0.7**
comp=Z,1.5nm,0.6s,mb4.6,baz=281,slow=2.6,SNR=11
KMBO Kilima Mbogo 97.97 275 *i*P **P 12 55 41.7 -6.7**
KMBO pmax pmax
comp=Z,1.0nm,0.2s
QSPA South Pole Qui 126.83 180 PKP PKPdf 13 01 14.3 +0.1
comp=Z,5.2nm,1.2s,baz=74,slow=3.7,SNR=3.6
SDV Santo Domingo 127.72 35 *e*P PKPdf 13 01 17.4 -0.5
LPAZ La Paz 150.01 53 *e*P PKPdf 13 02 00.2 +2.2
LPAZ La Paz 150.01 53 PKP PKPdf 13 01 59.0 +1.1
comp=Z,2.7nm,0.8s,baz=291,slow=2.6,SNR=9.0
LPAZ PKPbc PKPbc 13 02 04.0 +1.1
comp=Z,2.7nm,0.8s,baz=16,slow=7.4,SNR=8.9

NEIC ***06*** *12:44:03.8±5.6, 1909S×175.11W, h300km, mb4.6/5, Error ellipse: s-maj=108.0km s-min=22.5km az=66.0*
IDC ***06*** *12:44:18.3±3.1, 2003S×17699W, h294km±63km, mb4.3/6, mb1 4.3/7, mb1mx3.8/18, mbtmp4.2/7, Error ellipse: s-maj=95.5km s-min=34.2km az=79.0*

ISC 06 12:44:17.0±3.8, 196S±03×1770W±05, h288km±53km, n18, σ1°±12/19, mb4.5/9, 1C-1D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUZ	**Puketiti**	**18.88**	**192**	*e*PN	**P**	**12 48 15.0**	**-1.7**
URZ	**Urewera**	**19.30**	**194**	P	**P**	**12 48 16.9**	**-4.2**
2.6nm,0.3s,baz=265,slow=9.2,SNR=18							
URZ	**Urewera**	**19.30**	**194**	*e*PN	**P**	**12 48 18.0**	**-3.1**
BFZ	**Birch Farm**	**21.81**	**194**	*e*PN	**P**	**12 48 46.8**	**+0.7**
LTZ	**Lake Taylor**	**24.84**	**199**	PN	**P**	**12 49 15.0**	**+1.4**
ARMA	**Armidale**	**30.34**	**243**	*e*P	**P**	**12 50 04.2**	**+1.7**
CNB	**Canberra Magne**	**33.54**	**235**	*e*P	**P**	**12 50 31.3**	**+1.1**
52nm,1.6s,mb4.8							
CTA	**Charters Tower**	**34.55**	**263**	*e*P	**P**	**12 50 39.6**	**+0.5**
20nm,0.6s,mb4.8							
CTA	**Charters Tower**	**34.55**	**263**	P	**P**	**12 50 39.4**	**+0.3**
25nm,0.6s,mb5.0,baz=95,slow=10,SNR=39							
STKA	**Stephens Creek**	**39.06**	**243**	P	**P**	**12 51 17.4**	**+0.7**
3.7nm,0.4s,mb4.1,baz=95,slow=9.1,SNR=6.9							
ASAR	**Alice Springs**	**45.68**	**256**	P	**P**	**12 52 09.6**	**-0.3**
24nm,0.7s,mb4.7,baz=88,slow=8.6,SNR=252							
ASAR				S	**S**	**12 58 29.6**	**-1.0**
1.0nm,0.9s,baz=90,slow=16,SNR=4.8							
WB2	**Warramunga Arr**	**45.68**	**261**	⇓*i*P	**P**	**12 52 08.9**	**-1.0**
WRA	**Warramunga Arr**	**45.69**	**261**	P	**P**	**12 52 09.1**	**-0.9**
15nm,0.5s,mb4.6,baz=96,slow=8.7,SNR=7.4							
KAKA	**Kakadu**	**48.93**	**270**	⇑*i*P	**P**	**12 52 34.0**	**-0.9**
15nm,0.6s,mb4.5							
FORT	**Forrest**	**50.55**	**246**	*e*P	**P**	**12 52 46.3**	**-0.5**
11nm,0.6s,mb4.3							
FITZ	**Fitzroy Crossi**	**54.12**	**261**	*e*P	**P**	**12 53 12.4**	**-0.7**
5.2nm,0.5s,mb4.1							
FITZ	**Fitzroy Crossi**	**54.12**	**261**	P	**P**	**12 53 12.5**	**-0.6**
2.2nm,0.5s,mb3.8,baz=108,slow=13,SNR=19							
BATI	**Kupang**	**57.89**	**270**	P	**P**	**12 53 41.3**	**+1.5**
26nm,0.5s,mb4.9,baz=194,slow=1.8,SNR=7.6							

CASC 06 12:44:24.7±2.6, 1353N×9072W, h34km±29km, MD3.5, 6C-3D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCG	**Pacaya**	**0.87**	**7**	*e*P	Pn	12 44 41.5	+1.0
FUG	**Fuego 3**	**0.92**	**353**	*e*P	Pn	12 44 41.5	+0.2
FUG				*e*S	Sn	12 44 55.0	+1.8
SBLS	**San Blas**	**1.11**	**74**⇑	*e*P	x	12 44 54.1	
SBLS				*e*S	x	12 45 09.1	
SNJE	**San Jose**	**1.14**	**73**⇑	*e*P	x	12 44 54.5	
SNJE				*e*S	x	12 45 08.6	
RBDL	**Robledal**	**1.16**	**60**⇑	*e*P	x	12 44 55.2	
RBDL				*e*S	x	12 45 10.9	
JAT	**Jato**	**1.19**	**312**	*e*P	Pn	12 44 45.0	+0.2
BOQS	**Boqueron**	**1.42**	**82**⇑	*e*P	x	12 44 58.9	
BOQS				*e*S	x	12 45 16.9	
SNET	**Serv Nac Est T**	**1.46**	**84**⇓	*e*P	x	12 44 48.7	
SNET				*e*S	x	12 45 07.3	
MTO2	**Montecristo 2**	**1.58**	**57**	*e*P	x	12 45 00.7	
MTO2				*e*S	x	12 45 22.4	
LFRS	**El Faro**	**1.62**	**86**⇓	*e*P	x	12 45 01.8	
LFRS				*e*S	x	12 45 21.9	
LBRS	**Las Brisas**	**1.65**	**83**⇑	*e*P	x	12 45 02.3	
LBRS				*e*S	x	12 45 23.5	
LCBS	**La Ceiba**	**1.70**	**86**⇓	*e*P	x	12 45 03.2	
LCBS				*e*S	x	12 45 23.5	
SNVI	**San Vicente**	**1.83**	**87**⇑	*e*P	x	12 45 05.5	
SNVI				*e*S	x	12 45 28.0	

ISCJB ***06*** *12:47:32.2±0.8, 4301N±003×12631W±006, h10km, mb3.3/2, MS3.4/4, Error ellipse: s-maj=6.9km s-min=4.0km az=165.1*
IDC ***06*** *12:47:34.5±4.4, 4318N×12620W, h0km, mb3.3/3, mb1 3.6/6, mb1mx3.5/24, mbtmp3.3/6, ML3.1/3, MS3.6/9, Ms1 3.6/9, ms1mx3.3/17, Error ellipse: s-maj=65.1km s-min=23.8km az=73.0*
NEIC ***06*** *12:47:37.5±2.4, 4325N×12598W, h10km, ML2.8, Error ellipse: s-maj=32.1km s-min=12.8km az=76.0*

ISC 06 12:47:34.2±0.8, 4300N±003×12625W±006, h10km, n57, σ0°±84/68, mb3.3/2, MS3.4/4, 29C-26D, Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
K01A	**Sixes**	**1.32**	**98**	⇓P	**Pn**	**12 47 57.1**	**-1.5**
baz=1.7							
K01A				⇑S	**Sb**	**12 48 15.4**	**-0.6**
baz=1.7							
M01C	**Crescent City**	**1.95**	**126**	⇑P	**Pn**	**12 48 06.5**	**-0.8**
baz=2.3							
J02A	**Umpqua**	**1.99**	**78**	⇓P	**Pn**	**12 48 06.7**	**-1.1**
baz=2.4,SNR=30							
J02A				⇑S	**Sn**	**12 48 33.4**	**+0.6**
baz=2.4							
I02A	**Mapleton**	**2.02**	**59**	⇓P	**Pn**	**12 48 07.2**	**-1.2**
baz=2.4,SNR=29							
I02A				⇓S	**Sn**	**12 48 33.7**	**0.0**
baz=2.4							
K02A	**Glendale**	**2.04**	**96**	⇓P	**Pn**	**12 48 07.3**	**-1.2**
baz=2.4,SNR=12							
K02A				⇓S	**Sn**	**12 48 34.4**	**+0.4**
baz=2.4							
L02A	**Cave Junction**	**2.13**	**112**	⇑P	**Pn**	**12 48 08.7**	**-1.1**
baz=2.5							
L02A				⇑S	**Sn**	**12 48 36.6**	**+0.4**
baz=2.5							
H02A	**Toledo**	**2.33**	**43**	⇓S	**Sn**	**12 48 41.1**	**-0.2**
baz=2.6							
I03A	**Eugene**	**2.37**	**65**	⇓P	**Pn**	**12 48 12.2**	**-0.9**
baz=2.7,SNR=36							
I03A				⇓S	**Sn**	**12 48 42.0**	**-0.2**
baz=2.7							
J03A	**Ideyld Park**	**2.43**	**80**	⇓P	**Pn**	**12 48 13.2**	**-0.7**
baz=2.8,SNR=55							
J03A				⇓S	**Sn**	**12 48 44.1**	**+0.5**
baz=2.8							
HUMO	**Hull Mountain**	**2.45**	**98**	*e*P	**Pn**	**12 48 14.3**	**+0.1**
HUMO	**Hull Mountain**	**2.45**	**98**	⇓P	**Pn**	**12 48 14.2**	**0.0**
baz=2.8,SNR=16							
HUMO				⇓S	**Sn**	**12 48 44.0**	**-0.3**
baz=2.8							
COR	**Corvallis**	**2.66**	**52**	*e*P	**Pn**	**12 48 16.3**	**-0.7**
H03A	**Soap Creek Ran**	**2.72**	**51**	⇓P	**Pn**	**12 48 17.2**	**-0.7**
baz=3.1,SNR=17							
H03A				⇓S	**Sn**	**12 48 50.3**	**-0.5**
baz=3.1							
I04A	**Tendick Farm,**	**2.91**	**73**	⇑P	**Pn**	**12 48 20.3**	**-0.1**
baz=3.3							
I04A				⇓S	**Sn**	**12 48 57.1**	**+1.7**
baz=3.3							
YBH	**Yreka Blue Hor**	**2.91**	**115**	⇓P	**Pn**	**12 48 20.4**	**-0.1**
baz=3.3,SNR=10							
YBH				⇑S	**Sn**	**12 48 57.0**	**+1.5**
baz=3.3							
M02C	**Callahan**	**2.99**	**121**	⇑S	**Sn**	**12 48 56.6**	**-0.9**
baz=3.3							
G03A	**Yamhill**	**3.15**	**42**	⇑P	**Pn**	**12 48 23.4**	**-0.4**
baz=3.4,SNR=8.4							
G03A				⇑S	**Sn**	**12 49 01.4**	**0.0**
baz=3.4							
H04A	**Detroit Lake**	**3.38**	**59**	⇓P	**Pn**	**12 48 27.2**	**+0.1**
baz=3.7,SNR=37							
G04A	**Mulino**	**3.50**	**50**	⇑P	**Pn**	**12 48 28.9**	**+0.3**
baz=3.8,SNR=12							
G04A				⇑S	**Sn**	**12 49 11.8**	**+1.8**
baz=3.8							

F03A Seaside 3.50 32 ⇑P Pn 12 48 28.2 -0.5
baz=3.8
WDC Whiskeytown Da 3.68 130 ⇑S Sn 12 49 14.2 -0.2
baz=4.0
J05A Fort Rock 3.68 84 ⇑P Pn 12 48 31.0 -0.1
baz=4.1
H05A Madras 3.99 64 ⇓P Pn 12 48 35.4 +0.1
baz=4.4
H05A ⇑S **Sn 12 49 20.1 -2.0**
baz=4.4
F04A Amboy 4.01 42 ⇑P Pn 12 48 35.9 +0.3
baz=4.3,SNR=6.6
F04A ⇓S **Sn 12 49 23.3 +0.6**
baz=4.3
E03A Lebam 4.03 27 ⇑P Pn 12 48 35.7 -0.1
baz=4.3
E03A ⇑S **Sn 12 49 22.5 -0.6**
baz=4.3
L05A Lakeview 4.11 102 ⇓P Pn 12 48 37.6 +0.6
baz=4.5,SNR=11
L05A ⇑S **Sn 12 49 22.9 -2.3**
baz=4.5
G05A Wamic 4.20 56 ⇑P Pn 12 48 38.5 +0.3
baz=4.5
GASB Alder Springs 4.27 140 ⇑S Sn 12 49 30.5 +1.4
baz=4.5
J06A Christmas Vall 4.47 85 ⇓P Pn 12 48 41.9 0.0
baz=4.9
F05A White Salmon 4.48 48 ⇑P Pn 12 48 42.5 +0.4
baz=4.8,SNR=5.8
H06A Lindquist Farm 4.61 66 ⇓P Pn 12 48 44.2 +0.3
baz=5.0,SNR=26
G06A Carlson Farm, 4.62 59 ⇑P Pn 12 48 44.2 +0.2
baz=5.0,SNR=10
E05A Randle 4.78 40 ⇑P Pn 12 48 46.6 +0.3
baz=5.1,SNR=10
H07A Lands Inn, Kim 5.09 70 ⇑P Pn 12 48 51.4 +0.9
baz=5.5
K07A Rock Creek Ran 5.16 91 ⇓P Pn 12 48 51.5 +0.1
baz=5.5
E06A Yakima 5.16 45 ⇑P Pn 12 48 52.2 +0.8
baz=5.5
D05A Enumclaw 5.16 34 ⇑P Pn 12 48 52.1 +0.7
baz=5.4
L07A Adell 5.20 99 ⇓P Pn 12 48 52.3 +0.4
baz=5.6
G07A Ruggs Ranch, H 5.25 62 ⇓P Pn 12 48 53.1 +0.5
baz=5.6,SNR=22
WVOR Wild Horse Val 5.63 93 *eP* **Pn 12 48 57.5 -0.5**
5.3nm,1.0s
G08A Pilot Rock 5.72 64 ⇑P Pn 12 48 59.5 +0.4
baz=6.1,SNR=13
HAWA Hanford 5.86 52 *eP* **Pn 12 49 01.1 0.0**
5.2nm,0.5s
BMO Blue Mountains 6.72 71 *eP* **Pn 12 49 13.2 +0.4**
4.0nm,0.9s
NVAR Mina Array Bea 7.56 124 Pn **Pn 12 49 28.6 +4.2**
0.1nm,0.3s,baz=299,slow=13,SNR=4.5
NEW Newport 8.28 47 LR LR 12 52 52.0
comp=Z,279nm,19.1s,baz=236,slow=39
BBB Bella Bella 9.28 353 LR LR 12 52 42.3
comp=Z,190nm,18.4s,baz=282,slow=34
PFO Pinyon Flat Ob 12.12 137 LR LR 12 55 17.5
comp=Z,351nm,18.5s,baz=0.6,slow=38
PDAR Pinedale Array 12.25 85 Pn **Pn 12 50 33.9 +5.3**
0.0nm,0.3s,baz=270,slow=13,SNR=4.7
PDAR LR LR 12 55 41.5
comp=Z,345nm,18.0s,baz=347,slow=40
ANMO Albuquerque 17.33 111 P **Pn 12 51 39.2 +3.1**
0.2nm,0.3s,baz=325,slow=7.6,SNR=4.4
ANMO LR LR 12 58 56.0
comp=Z,453nm,18.3s,baz=267,slow=39
YKA Yellowknife Ar 20.70 15 P **P 12 52 13.4 -0.7**
YKA Yellowknife Ar 20.70 15 P **P 12 52 13.4 -0.7**
0.9nm,0.7s,baz=204,slow=11,SNR=12
ULM Lac du Bonnet 21.97 60 P **P 12 52 29.0 +1.0**
ULM Lac du Bonnet 21.97 60 P **P 12 52 29.0 +1.0**
3.3nm,0.9s,mb3.8,baz=270,slow=16,SNR=3.5
TXAR Lajitas Array 22.68 120 P **P 12 52 39.0 +3.3**
0.3nm,0.7s,mb2.9,baz=307,slow=6.7,SNR=2.7
TXAR LR LR 13 02 14.9
comp=Z,183nm,19.4s,MS3.5,baz=0.0,slow=39
LPIG La Paz 22.99 140 LR LR 13 01 00.4
comp=Z,132nm,19.7s,MS3.4,baz=4.2,slow=35
INK Inuvik 25.66 354 LR LR 13 02 49.5
comp=Z,90nm,21.0s,MS3.3,baz=126,slow=36
KSRS Korea Array 75.39 308 LR LR 13 29 37.1
comp=Z,21nm,18.9s,MS3.5,baz=250,slow=34

IDC 06 12:47:46.5±4.5,1873S×17534W,h0km,mb3.6/3, mb1 4.0/3,mb1mx3.7/14,mbtmp3.6/3,Error ellipse: s-maj=314.6km s-min=30.5km az=153.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**47.36**	**260**	P	P	12 56 23.1	+0.4
	0.5nm,0.5s,baz=97,slow=7.6,SNR=8.1						
ASAR	**Alice Springs**	**47.39**	**255**	P	P	12 56 22.3	-0.5
	0.6nm,0.8s,baz=92,slow=8.3,SNR=4.4						
NVAR	**Mina Array Bea**	**78.02**	**42**	P	P	12 59 47.4	+0.4
	0.6nm,0.6s,baz=219,slow=7.8,SNR=6.3						

NIED ***06*** *12:50:00,3350N×14130E,h35km,Mw4.1 Best double couple: M0 1.44000×10^15 NP1:φ=217.00000°,δ=76.00000°, λ=98.00000°; NP2:φ=8.00000°,δ=16.00000°,λ=62.00000°.*
MOS ***06*** *12:50:50.2±1.0,3345N×14152E,h33km,mb4.7/18,Error ellipse: s-maj=19.0km s-min=7.7km az=112.6*
ISCJB ***06*** *12:50:52.0±0.8,3341N±004×14133E±007,h44km±6km, mb4.4/30,Error ellipse: s-maj=10.2km s-min=5.9km az=3.8*
NEIC ***06*** *12:50:51.6±3.2,3339N×14135E,h26km±22km,mb4.5/10, MW4.0(NIED),Error ellipse: s-maj=13.3km s-min=8.3km az=90.0*
JMA ***06*** *12:50:52.5±0.2,3348N×14131E,h64km±5km,M4.2*
IDC ***06*** *12:50:54.9±1.9,3340N×14120E,h49km±17km,mb3.8/13, mb1 4.0/17,mb1mx3.9/25,mbtmp3.9/17,ML4.2/3,MS3.0/4, Ms1 3.0/4,ms1mx2.8/29,Error ellipse: s-maj=18.6km s-min=10.5km az=87.0*

ISC 06 12:50:52.9±1.6,3342N±003×14136E±006,h35km±11km, n86,σ0°78/96,mb4.4/30,2D,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**1.27**	**346**	P	**Pn**	12 51 13.5	-0.7
BSO1				*eS*	**Sn**	12 51 30.0	0.0
JHJ2	**Mitsune**	**1.32**	**257**	P	**Pn**	12 51 15.1	+0.2
JHJ2				*eS*	**Sn**	12 51 31.6	+0.3
JHJ	**Hachijo jima 2**	**1.35**	**258**	P	**Pn**	12 51 15.2	0.0
	913nm,0.3s,baz=81,slow=5.2,SNR=668						
JHJ				S	**Sn**	12 51 30.2	-1.8
	556nm,0.3s,baz=246,slow=22,SNR=5.1						
BSO3	**Boso 3**	**1.55**	**333**	P	**Pn**	12 51 17.5	-0.5
JMY	**Miyakejima3**	**1.67**	**293**	P	**Pn**	12 51 19.2	-0.4
BSO4	**Boso 4**	**1.78**	**332**	P	**Pn**	12 51 21.2	0.0
KTR	**Katsuura**	**1.93**	**334**	P	**Pn**	12 51 23.3	+0.1
KTR				*eS*	**Sn**	12 51 46.2	0.0
JKO	**Kozu shima**	**2.00**	**293**	P	**Pn**	12 51 24.1	-0.1
JIM2	**Oshima 3**	**2.06**	**310**	P	**Pn**	12 51 24.3	-0.7
JIZS	**Izushimoda**	**2.43**	**303**	P	**Pn**	12 51 30.2	+0.1
JOD2	**Odawara 2**	**2.63**	**315**	P	**Pn**	12 51 32.3	-0.5
TK04	**Tokai 4**	**3.05**	**289**	P	**Pn**	12 51 39.6	+0.9
SHZ3	**Shizuoka 3**	**3.08**	**303**	P	**Pn**	12 51 40.4	+1.3
JYN	**Shimob**	**3.11**	**313**	P	**Pn**	12 51 39.8	+0.3
JRY	**Ryogami san**	**3.29**	**323**	P	**Pn**	12 51 41.7	-0.2
MJAR	**Matsushiro Arr**	**4.05**	**321**	P	**Pn**	12 51 52.2	-0.1
MJAR				S	**Sn**	12 52 38.9	+0.4
MJAR				pmax	pmax		
	comp=Z,30nm,0.3s						
MJAR				smax			
	comp=N,6.0nm,0.3s						
MJAR				MLR	MLR		
	comp=Z,140nm,20.9s						
MJAR	**Matsushiro Arr**	**4.05**	**321**	P	**Pn**	12 51 52.2	-0.1
	comp=Z,30nm,0.3s,baz=155,slow=12,SNR=278						
MJAR				S	**Sn**	12 52 38.9	+0.4
	comp=Z,5.8nm,0.3s,baz=226,slow=17,SNR=4.4						
MJAR				LR	LR	12 52 39.6	
	comp=Z,140nm,20.9s,baz=75,slow=26						
MAJO	**Matsushiro**	**4.05**	**321**	*eP*	**Pn**	12 51 53.4	+1.0
MAT	**Matsushiro**	**4.05**	**321**	P	**Pn**	12 51 53.2	+0.8
MAT				S	**Sn**	12 52 38.8	+0.3
CBIJ	**Chichi jima**	**6.34**	**173**	P	**Pn**	12 52 24.4	+0.5
	comp=Z,30nm,0.3s,baz=320,slow=22,SNR=10						
CBIJ				S	**Sn**	12 53 29.9	-5.3
	comp=Z,47nm,0.3s,baz=279,slow=21,SNR=8.1						
JNU	**Nakatsue**	**8.78**	**271**	P	**Pn**	12 52 57.2	-0.1
	comp=Z,0.8nm,0.3s,baz=178,slow=9.1,SNR=7.5						
JNU				LR	LR	12 56 31.2	
	comp=Z,119nm,18.6s,baz=227,slow=39						
ASAJ	**Asahikawa**	**10.72**	**5**	P	**Pn**	12 53 22.2	-1.7
	comp=Z,2.3nm,0.3s,baz=224,slow=9.7,SNR=21						
ASAJ				S	**Sn**	12 55 14.0	-8.7
	comp=Z,0.4nm,0.3s,baz=267,slow=19,SNR=5.3						
ASAJ				LR	LR	12 58 14.6	
	comp=Z,94nm,18.9s,baz=174,slow=41						
KSRS	**Korea Array**	**11.67**	**294**	P	**Pn**	12 53 37.8	+0.9
	comp=Z,0.1nm,0.3s,baz=118,slow=13,SNR=6.6						
KSRS				LR	LR	12 58 11.9	
	comp=Z,97nm,19.2s,baz=166,slow=38						
YSS	**Yuzh-Sakhalins**	**13.56**	**4**	*eP*	**Pn**	12 54 00.4	-2.3
	comp=Z,6.7nm,0.6s						
YSS	**Yuzh-Sakhalins**	**13.56**	**4**	*eP*	**Pn**	12 54 00.4	-2.3
YSS				pmax	pmax		
	comp=Z,7.0nm,0.6s						
KLR	**Kul'dur**	**17.34**	**338**	*eP*	**Pn**	12 54 44.2	-7.9
HIA	**Hailar**	**22.55**	**321**	*eP*	**P**	12 55 50.8	+1.1
	comp=Z,10nm,0.6s,mb4.4						
HIA	**Hailar**	**22.55**	**321**	*eP*	**P**	12 55 50.8	+1.1
HIA				pmax	pmax		
	comp=Z,10.0nm,0.6s						
ULN	**Ulaanbaatar**	**29.48**	**310**	*eP*	**P**	12 56 54.0	+0.5
	comp=Z,7.2nm,0.8s,mb4.5						
ULN	**Ulaanbaatar**	**29.48**	**310**	*eP*	**P**	12 56 54.1	+0.6
ULN				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.4						
SONM	**Songino Array**	**29.90**	**309**	P	**P**	12 56 57.8	+0.6
SONM				pmax	pmax		
	comp=Z,4.0nm,0.6s						
SONM	**Songino Array**	**29.90**	**309**	P	**P**	12 56 57.8	+0.5
	comp=Z,3.5nm,0.6s,mb4.3,baz=110,slow=9.6,SNR=23						
BOD	**Bodaibo**	**30.61**	**331**	*eP*	**P**	12 57 03.3	-0.1
BOD				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.3						
ZAK	**Zakamensk**	**32.58**	**313**	*eP*	**P**	12 57 21.3	+0.5
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.4s,mb3.9						
TLY	**Talaya**	**32.76**	**315**	*eP*	**P**	12 57 23.3	+0.9
	comp=Z,4.0nm,0.6s,mb4.5						
TLY	**Talaya**	**32.76**	**315**	*eP*	**P**	12 57 23.6	+1.2
TLY				*e*	pP	12 57 36.1	+3.7
TLY				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.8						
TIXI	**Tiksi**	**38.87**	**354**	*eP*	**P**	12 58 14.7	+0.3
	comp=Z,2.3nm,0.4s,mb4.3						
TIXI	**Tiksi**	**38.87**	**354**	*eP*	**P**	12 58 14.7	+0.3
TIXI				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.2						
ZAA0	**Zalesovo Array**	**44.38**	**315**	*eP*	**P**	12 58 59.5	-0.3
ZALV	**Zalesovo Beam**	**44.38**	**315**	P	**P**	12 58 59.0	-0.7
	comp=Z,1.3nm,0.3s,mb4.1,baz=103,slow=8.1,SNR=11						
ZALV				PcP	PcP	13 00 42.9	-0.2
	comp=Z,1.6nm,0.5s,baz=87,slow=2.1,SNR=7.3						
ZAL	**Zalesovo**	**44.39**	**315**	P	**P**	12 58 59.1	-0.7
ZAL						13 00 42.9	
MK31	**Makanchi Array**	**46.08**	**305**	*eP*	**P**	12 59 13.2	-0.1
MKAR	**Makanchi Array**	**46.08**	**305**	P	**P**	12 59 13.0	-0.3
MKAR	**Makanchi Array**	**46.08**	**305**	P	**P**	12 59 13.0	-0.3
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.5s						
MKAR	**Makanchi Array**	**46.08**	**305**	P	**P**	12 59 13.0	-0.3
	comp=Z,2.4nm,0.5s,mb4.4,baz=87,slow=10,SNR=24						
KURK	**Kurchatov**	**48.19**	**311**	*eP*	**P**	12 59 29.0	-0.7
	comp=Z,7.7nm,0.8s,mb4.8						
KURK	**Kurchatov**	**48.19**	**311**	*eP*	**P**	12 59 29.0	-0.7
KURK				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.8						
AML	**Almayashu**	**52.93**	**300**	*eP*	**P**	13 00 06.1	+0.5
	comp=Z,6.2nm,0.7s,mb4.7						
BRVK	**Borovoye**	**53.07**	**314**	*eP*	**P**	13 00 06.1	-0.4
	comp=Z,3.2nm,0.8s,mb4.3						
BRVK	**Borovoye**	**53.07**	**314**	*eP*	**P**	13 00 06.1	-0.4
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3						
FITZ	**Fitzroy Crossi**	**53.38**	**199**	*eP*	**P**	13 00 10.2	+1.1
	comp=Z,1.9nm,0.4s,mb4.4						
FITZ	**Fitzroy Crossi**	**53.38**	**199**	P	**P**	13 00 09.5	+0.4
	comp=Z,1.1nm,0.5s,mb4.0,baz=31,slow=5.9,SNR=5.2						
WRAB	**Tennant Creek**	**53.47**	**188**	*eP*	**P**	13 00 09.5	-0.2
	comp=Z,6.4nm,0.6s,mb4.7						
WRAB	**Tennant Creek**	**53.47**	**188**	*eP*	**P**	13 00 09.5	-0.2
WRAB				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.7						
WB2	**Warramunga Arr**	**53.48**	**188**	*eP*	**P**	13 00 09.8	0.0
WB2	**Warramunga Arr**	**53.48**	**188**	*eP*	**P**	13 00 09.2	-0.5
WRA	**Warramunga Arr**	**53.48**	**188**	P	**P**	13 00 09.5	-0.3
WRA				pmax	pmax		
	comp=Z,9.0nm,0.4s						
WRA	**Warramunga Arr**	**53.48**	**188**	P	**P**	13 00 09.5	-0.3
	comp=Z,8.7nm,0.4s,mb5.0,baz=5.1,slow=7.6,SNR=238						
ASAR	**Alice Springs**	**57.21**	**188**	P	**P**	13 00 37.0	+0.4
ASAR				pmax	pmax		
	comp=Z,2.0nm,0.5s						
ASAR	**Alice Springs**	**57.21**	**188**	P	**P**	13 00 37.0	+0.4
	comp=Z,2.1nm,0.5s,mb4.5,baz=2.6,slow=6.6,SNR=44						
INK	**Inuvik**	**57.63**	**26**	P	**P**	13 00 40.0	+0.8
	comp=Z,0.7nm,0.9s,mb3.7,baz=120,slow=8.7,SNR=5.8						
MBWA	**Marble Bar**	**58.06**	**204**	*eP*	**P**	13 00 39.5	-3.1
ARU	**Arti**	**59.06**	**320**	*eP*	**P**	13 00 49.1	-0.2
	comp=Z,13nm,0.8s,mb5.0						
ARU	**Arti**	**59.06**	**320**	*eP*	**P**	13 00 49.1	-0.2
ARU				pmax	pmax		
	comp=Z,13nm,0.8s,mb5.0						
YKA	**Yellowknife Ar**	**66.97**	**29**	P	**P**	13 01 41.7	+0.1
YKA	**Yellowknife Ar**	**66.97**	**29**	P	**P**	13 01 41.7	+0.1
	comp=Z,0.1nm,0.4s,mb3.2,baz=298,slow=6.4,SNR=4.3						
NWAO	**Narrogin (SRO)**	**69.79**	**201**	P	**P**	13 01 59.7	+0.1
NWAO				pmax	pmax		
	comp=Z,4.0nm,0.5s						
NWAO	**Narrogin (SRO)**	**69.79**	**201**	P	**P**	13 01 59.7	+0.1
	comp=Z,3.6nm,0.5s,mb4.6,baz=240,slow=1.5,SNR=5.7						
FINES	**FINESS Array B**	**71.99**	**333**	P	**P**	13 02 12.8	+0.1
FINES	**FINESS Array B**	**71.99**	**333**	P	**P**	13 02 12.8	+0.1
FINES				pmax	pmax		
	comp=Z,2.0nm,0.7s						
FINES	**FINESS Array B**	**71.99**	**333**	P	**P**	13 02 12.8	+0.1
	comp=Z,2.0nm,0.7s,mb4.2,baz=58,slow=5.9,SNR=6.1						
KIV	**Kislovodsk**	**73.25**	**312**	*eP*	**P**	13 02 22.2	+1.7
KIV				pmax	pmax		
	comp=Z,8.0nm,0.6s,mb4.8						
AKASG	**Malin Array Be**	**77.13**	**323**	P	**P**	13 02 42.3	-0.4
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.5s						
AKASG	**Malin Array Be**	**77.13**	**323**	P	**P**	13 02 42.3	-0.4
	comp=Z,1.6nm,0.5s,mb4.2,baz=47,slow=5.6,SNR=9.3						
NVAR	**Mina Array Bea**	**77.21**	**52**	P	**P**	13 02 45.8	+2.5
	comp=Z,0.3nm,0.8s,mb3.3,baz=268,slow=2.3,SNR=2.8						
MIB	**Mutribah**	**77.28**	**297**	*eP*	**P**	13 02 43.2	-0.7
MIB				AMb	AMB	13 02 44.5	
	comp=Z,14nm,0.5s,mb5.1						
QRN	**Al-Qurain**	**77.39**	**296**	*eP*	**P**	13 02 44.0	-0.6
QRN				AMb	AMB	13 02 47.8	
	comp=Z,17nm,0.9s,mb5.0						
NB2	**NORSAR Subarra**	**77.50**	**338**	P	**P**	13 02 44.5	-0.1
	comp=Z,1.0nm,0.6s,mb3.9,baz=39,slow=5.6						
NOA	**NORSAR Array B**	**77.50**	**338**	P	**P**	13 02 44.2	-0.4
NOA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
NOA	**NORSAR Array B**	**77.50**	**338**	P	**P**	13 02 44.1	-0.4
	comp=Z,1.5nm,0.7s,mb4.0,baz=40,slow=5.6,SNR=5.7						
RDF	**Al-Radifah**	**77.58**	**296**	*eP*	**P**	13 02 45.1	-0.6
RDF				AMb	AMB	13 02 50.9	
	comp=Z,16nm,0.9s,mb5.0						
NAY	**Al-Naaiem**	**77.64**	**297**	*eP*	**P**	13 02 45.2	-0.8
NAY				AMb	AMB	13 02 46.6	
	comp=Z,7.0nm,0.5s,mb4.8						
CLL	**Collm**	**84.20**	**330**	*e*PKPbc	**P**	13 03 17.0	-3.5
CLL				*e*PKPab	**P**	13 03 20.0	-0.5
CLL	**Collm**	**84.20**	**330**	*e*(P)	**P**	13 03 24.0	+3.5
GERES	**GERESS Array B**	**85.75**	**328**	P	**P**	13 03 28.4	0.0
GERES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
GERES	**GERESS Array B**	**85.75**	**328**	P	**P**	13 03 28.4	0.0
	comp=Z,0.9nm,0.5s,mb4.3,baz=43,slow=6.2,SNR=9.4						

IDC 06 12:58:59.0±4.0,1743S×17775W,h0km,mb4.2/4, mb1 4.3/4,mb1mx3.9/16,mbtmp4.2/4,Error ellipse: s-maj=165.8km s-min=46.7km az=140.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**39.41**	**241**	P	P	13 06 31.3	+0.5
	1.0nm,0.4s,baz=67,slow=13,SNR=3.6						
WRA	**Warramunga Arr**	**45.34**	**259**	P	P	13 07 18.5	-0.7
	2.4nm,0.9s,baz=96,slow=8.3,SNR=12						
ASAR	**Alice Springs**	**45.52**	**254**	P	P	13 07 20.1	-0.5
	2.6nm,0.6s,baz=88,slow=8.1,SNR=36						
FITZ	**Fitzroy Crossi**	**53.73**	**260**	P	P	13 08 23.9	+0.6
	3.4nm,0.8s,baz=105,slow=8.8,SNR=4.9						
GERES	**GERESS Array B**	**147.31**	**346**	PKPbc	PKPbc	13 18 43.8	-0.6
	0.5nm,0.5s,baz=28,slow=3.8,SNR=5.3						

IDC ***06*** *13:01:56.4±0.7,672S×15484E,h0km,mb4.1/11, mb1 4.2/12,mb1mx4.1/18,mbtmp4.1/12,ML4.3/1,MS3.4/2, Ms1 3.4/2,ms1mx3.0/17,Error ellipse: s-maj=25.9km s-min=18.3km az=125.0*
ISCJB ***06*** *13:01:59.9±0.6,68S±0.1×15491E±0.10,h33km,mb3.9/12, Error ellipse: s-maj=16.3km s-min=12.6km az=150.4*
NEIC ***06*** *13:01:59.7±4.8,674S×15487E,h22km±33km,mb4.1/1, Error ellipse: s-maj=17.2km s-min=9.4km az=155.0*

ISC 06 13:02:01.7±0.6,68S±01×15489E±010,h35km,n19, σ0°67/16,mb3.9/12,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.67**	**118**	Pn	**Pn**	13 03 23.0	-0.5
	9.4nm,0.3s,baz=286,slow=22,SNR=12						
HNR				LR	LR	13 05 26.8	
	comp=Z,220nm,21.4s,baz=177,slow=37						
WRAB	**Tennant Creek**	**23.84**	**235**	*eP*	**P**	13 07 12.2	+0.3
	4.2nm,0.8s,mb3.9						
WB2	**Warramunga Arr**	**23.85**	**235**	*eP*	**P**	13 07 12.4	+0.5
WRA	**Warramunga Arr**	**23.86**	**235**	P	**P**	13 07 12.4	+0.4
WRA				PcP	PcP	13 10 54.5	-0.2
WRA	**Warramunga Arr**	**23.86**	**235**	P	**P**	13 07 12.4	+0.4
	4.6nm,0.7s,mb4.0,baz=58,slow=9.9,SNR=30						
WRA				PcP	PcP	13 10 54.5	-0.2
	0.5nm,0.6s,baz=57,slow=2.5,SNR=7.4						
ASAR	**Alice Springs**	**26.24**	**228**	P	**P**	13 07 33.6	-0.1
	2.7nm,0.9s,mb3.8,baz=60,slow=8.7,SNR=14						
STKA	**Stephens Creek**	**27.89**	**205**	P	**P**	13 07 47.2	-1.2
	2.8nm,1.0s,mb3.9,baz=18,slow=16,SNR=2.4						
STKA				LR	LR	13 17 26.9	
	comp=Z,132nm,19.9s,baz=24,slow=33						
FITZ	**Fitzroy Crossi**	**30.65**	**246**	P	**P**	13 08 12.8	-0.2
	1.2nm,0.7s,mb3.9,baz=80,slow=11,SNR=3.4						
SONM	**Songino Array**	**69.09**	**327**	P	**P**	13 13 03.9	-0.2
	0.3nm,0.4s,mb3.5,baz=126,slow=5.6,SNR=4.0						
MKAR	**Makanchi Array**	**83.17**	**319**	P	**P**	13 14 24.4	+0.2
MKAR	**Makanchi Array**	**83.17**	**319**	P	**P**	13 14 24.4	+0.2
	1.0nm,0.7s,mb4.0,baz=96,slow=5.0,SNR=5.6						
QSPA	**South Pole Qui**	**83.20**	**180**	P	**P**	13 14 25.0	+1.1
	1.3nm,0.6s,mb4.1,baz=62,slow=2.8,SNR=11						
ZALV	**Zalesovo Beam**	**83.94**	**326**	P	**P**	13 14 26.4	-1.6
	0.6nm,0.6s,mb3.9,baz=114,slow=5.5,SNR=3.9						
INK	**Inuvik**	**89.55**	**21**	P	**P**	13 14 55.4	+0.3
	0.4nm,0.7s,mb3.8,baz=230,slow=5.9,SNR=2.5						
NVAR	**Mina Array Bea**	**91.67**	**52**	P	**P**	13 15 06.1	+0.4
	0.5nm,0.7s,mb4.0,baz=254,slow=6.5,SNR=5.2						
YKA	**Yellowknife Ar**	**96.19**	**28**	P	**P**	13 15 26.4	+0.5
	1.2nm,0.8s,mb4.4,baz=267,slow=4.5,SNR=19						
GERES	**GERESS Array B**	**126.81**	**329**	PKP	PKPdf	13 21 02.5	+0.8
	0.4nm,0.6s,baz=66,slow=3.3,SNR=4.5						
BDFB	**Brasilia**	**148.21**	**135**	PKPbc	PKPbc	13 21 45.1	0.0
	1.9nm,0.9s,baz=147,slow=8.9,SNR=3.6						
TORD	**Torodi Ar. Bea**	**152.86**	**286**	PKPbc	PKPbc	13 21 56.0	-0.3
	1.9nm,0.8s,baz=60,slow=1.8,SNR=11						

IDC ***06*** *13:08:39.9±1.3,3722N×2468W,h0km,mb3.6/5,mb1 3.8/7, mb1mx3.6/25,mbtmp3.6/7,ML3.9/2,MS3.6/7,Ms1 3.6/7, ms1mx3.2/31,Error ellipse: s-maj=35.0km s-min=23.0km az=13.0*
ISCJB ***06*** *13:08:39.6±0.5,3740N±005×2469W±005,h10km,mb3.7/6, MS3.6/6,Error ellipse: s-maj=7.0km s-min=4.9km az=23.3*
NEIC ***06*** *13:08:41.4±0.9,3721N×2462W,h10km,Error ellipse: s-maj=22.5km s-min=13.7km az=197.0*
CSEM ***06*** *13:08:41.2±0.2,3722N×2480W,h30km,ML3.7,Error ellipse: s-maj=9.1km s-min=4.7km az=27.0*
SVSA ***06*** *13:08:42.8±0.9,3726N×2467W,h0km,MD4.1,ML3.7, Error ellipse: s-maj=6.7km s-min=3.0km az=89.0*
PDA ***06*** *13:08:42.8±0.9,3726N×2467W,h0km,MD4.1,ML3.7, Error ellipse: s-maj=6.7km s-min=3.0km az=89.0*

ISC 06 13:08:41.2±0.5,3738N±004×2476W±004,h10km,n26, σ1°28/34,mb3.7/6,MS3.6/6,Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSMN	**Pico do Norte,**	**0.45**	**213**	*eP*	**Pg**	13 08 49.8	-0.1
PSMN				*eS*	**Sg**	13 08 56.3	+0.5
PDA	**Ponta Delgada**	**0.80**	**297**	*eP*	**Pg**	13 08 58.2	+1.5
PDA				*eS*	**Sg**	13 09 09.4	+2.2
PSET	**Sete Cidades**	**0.88**	**301**	*eP*	**Pg**	13 08 59.1	+1.0
PSET				*eS*	**Sg**	13 09 11.7	+2.1
PSET				A		13 09 18.8	
	804nm,0.3s						
PSET	**Sete Cidades**	**0.88**	**301**	*eP*	**Pg**	13 08 59.1	+1.0
PSET				*eS*	**Sg**	13 09 11.7	+2.1
PSCM	**Serra do Cume**	**2.28**	**306**	*eP*	**Pn**	13 09 18.5	-0.3
PSCM				*eS*	**Sn**	13 09 45.4	-1.6
PSCM				A		13 09 53.9	
	241nm,0.3s						
PSCM	**Serra do Cume**	**2.28**	**306**	*eP*	**Pn**	13 09 18.5	-0.3
PSCM				*eS*	**Sn**	13 09 45.4	-1.6
ADH	**Angra Heroismo**	**2.33**	**304**	*eP*	**Pn**	13 09 19.9	+0.4

s-maj=51.9km s-min=7.5km az=131.0
*FUNV **06** 13:21:46.1, 687N×7320W, h172km, MW3.4*
ISC 06 13:21:45.9±0.7, 682N±008×7307W±009, h162km±8km, n17, σ0°56/21, 2C, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**1.28**	**36**	⇑*i*P	**Pn**	**13 22 15.1**	**+0.8**
CAPV				*e*S	**Sn**	**13 22 36.8**	**+0.8**
ROSC	**El Rosal**	**2.32**	**213**	P	**Pn**	**13 22 25.6**	**+0.2**
ROSC	12nm,0.3s,baz=99,slow=19,SNR=30			S	**Sn**	**13 22 55.3**	**-0.7**
VIGV	**El Vigia**	**2.62**	**40**	*e*P	**Pn**	**13 22 29.5**	**+0.4**
VIGV				*e*S	**Sn**	**13 23 01.7**	**-0.8**
SOCV	**Socops**	**2.63**	**56**	⇑*i*P	**Pn**	**13 22 30.1**	**+0.9**
SOCV				*e*S	**Sn**	**13 23 02.1**	**-0.6**
SDV	**Santo Domingo**	**3.17**	**49**	P	**Pn**	**13 22 36.6**	**+0.8**
SDV	2.5nm,0.3s,baz=239,slow=5.9,SNR=14			S	**Sn**	**13 23 14.3**	**-0.3**
ELOV	**Elorza**	**3.56**	**87**	*e*P	**Pn**	**13 22 41.2**	**+0.3**
VIRV	**Villa del Rosa**	**3.72**	**10**	*e*P	**Pn**	**13 22 41.9**	**-1.0**
VIRV				*e*S	**Sn**	**13 23 22.3**	**-4.9**
QARV	**Quebrada Arrib**	**4.20**	**37**	*e*P	**Pn**	**13 22 49.3**	**+0.2**
SANV	**Sanarito**	**4.40**	**52**	*e*P	**Pn**	**13 22 51.5**	**-0.1**
CURV	**Curarigua**	**4.42**	**44**	*e*P	**Pn**	**13 22 51.6**	**-0.2**
TEPV	**Terepaima**	**4.95**	**51**	*e*P	**Pn**	**13 22 58.7**	**-0.1**
SIQV	**Siquisique**	**4.99**	**40**	*e*P	**Pn**	**13 22 58.8**	**-0.5**
BAUV	**El Baul**	**5.41**	**67**	*e*P	**Pn**	**13 23 04.6**	**-0.3**
CAOV	**Caicara del Or**	**6.71**	**85**	*e*P	**Pn**	**13 23 22.0**	**-0.2**
YKA	**Yellowknife Ar**	**63.28**	**340**	P	**P**	**13 31 57.4**	**+0.4**
	0.4nm,0.6s,baz=131,slow=6.7,SNR=12						
ASAR	**Alice Springs**	**149.15**	**234**	PKPbc	PKPbc	13 41 14.7	-1.3
	0.2nm,0.5s,baz=119,slow=3.9,SNR=7.3						
WRA	**Warramunga Arr**	**150.38**	**241**	PKPbc	PKPbc	13 41 18.4	-0.6
	0.2nm,0.4s,baz=108,slow=2.6,SNR=14						

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*DDA **06** 13:23:59.6, 4141N×3503E, h1km±6km, Md2.7*
*CSEM **06** 13:24:00.1±0.1, 4155N×3471E, h2km, MD2.7, Error ellipse: s-maj=2.9km s-min=1.9km az=18.0*
*ISCJB **06** 13:24:01.1±1.1, 4142N±008×3488E±008, h4km±10km, Error ellipse: s-maj=13.2km s-min=9.3km az=23.3*
ISC 06 13:24:01.4±1.1, 4149N±008×3478E±009, h9km±5km, n6, σ1°11/10, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BYBT	**Boyabat**	**0.03**	**201**	*i*PG	**Pg**	**13 24 02.7**	**-0.3**
BYBT				*i*SG	**Sg**	**13 24 04.1**	**0.0**
DIKM	**Dikmen**	**0.39**	**66**	PG	**Pg**	**13 24 09.4**	**+0.4**
BALT	**Daday**	**1.05**	**273**	*i*P	**Pg**	**13 24 21.3**	**-0.2**
BALT				*i*S	**Sg**	**13 24 39.3**	**+4.2**
ELDT	**Eldivan**	**1.43**	**226**	*i*P	**Pn**	**13 24 27.3**	**-0.2**
ELDT				*i*S	**Sn**	**13 24 48.5**	**+2.0**
SAFT	**Safranbolu**	**1.59**	**262**	*e*PG	**Pg**	**13 24 30.7**	**-1.2**
CDAG	**Cicekdag**	**1.89**	**190**	*i*P	**Pg**	**13 24 38.9**	**+1.3**
CDAG				*e*S	**Sn**	**13 24 55.8**	**-2.0**

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*MAN **06** 13:45:52, 703N×12580E, h66km, mb4.8, ML3.7, MS3.7*
*ISCJB **06** 13:45:53.3±0.4, 704N±003×12578E±005, h81km±5km, mb4.3/9, Error ellipse: s-maj=7.7km s-min=5.5km az=167.7*
*IDC **06** 13:45:54.2±1.1, 625N×12654E, h0km, mb4.2/6, mb1 4.4/7, mb1mx4.1/18, mbtmp4.3/7, ML4.7/1, MS3.3/2, Ms1 3.3/2, ms1mx2.8/34, Error ellipse: s-maj=91.4km s-min=15.6km az=72.0*
*NEIC **06** 13:45:56.5±0.7, 590N×12576E, h10km, mb4.4/8, Error ellipse: s-maj=36.3km s-min=9.2km az=74.0*
ISC 06 13:45:54.2±0.4, 702N±003×12580E±004, h69km±5km, n40, σ0°71/41, mb4.3/9, 2C-3D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**0.22**	**284**	*e*P	**Pn**	**13 46 05.3**	**+0.4**
DAV	**Davao City (W)**	**0.22**	**284**	⇓*i*P	**Pn**	**13 46 05.7**	**+0.9**
MATI	**Mati**	**0.46**	**99**	*e*P	**Pn**	**13 46 06.9**	**+0.2**
MATI				*e*S	**Sn**	**13 46 14.0**	**-1.8**
BUKP	**Musuan**	**1.12**	**320**	*e*P	**Pn**	**13 46 14.4**	**+0.1**
GSPH	**General Santos**	**1.25**	**222**	*e*P	**Pn**	**13 46 15.9**	**0.0**
GSPH				*i*S	**Sn**	**13 46 32.9**	**+0.8**
BIPH	**Bislig**	**1.29**	**26**	*e*P	**Pn**	**13 46 16.8**	**+0.3**
BIPH				*e*S	**Sn**	**13 46 34.1**	**+1.1**
CTBH	**Cotabato--PC H**	**1.55**	**278**	⇓*i*P	**Pn**	**13 46 19.6**	**-0.3**
CTBH				*i*S	**Sn**	**13 46 38.5**	**-0.7**
CGP	**Cagayan de Oro**	**1.80**	**323**	⇑*e*P	**Pn**	**13 46 23.3**	**+0.2**
CGP				*e*S	**Sn**	**13 46 45.4**	**+0.3**
PAGZ	**Pagadian**	**2.53**	**289**	*e*P	**Pn**	**13 46 33.4**	**+0.3**
SCPH	**Surigao**	**2.76**	**354**	⇓*e*P	**Pn**	**13 46 35.2**	**-1.1**
MSLP	**Maasin**	**3.23**	**343**	*e*P	**Pn**	**13 46 42.2**	**-0.4**
TBP	**Tagbilaran**	**3.27**	**324**	*e*P	**Pn**	**13 46 43.1**	**-0.1**
TBP				*e*S	**Sn**	**13 47 18.6**	**-2.4**
SNPH	**Sibulan**	**3.43**	**313**	*e*P	**Pn**	**13 46 46.0**	**+0.7**
LLP	**Lapu-Lapu**	**3.74**	**331**	*e*P	**Pn**	**13 46 50.1**	**+0.5**
LLP				*e*S	**Sn**	**13 47 32.4**	**-0.1**
OCLP	**Ormoc**	**4.18**	**344**	*e*P	**Pn**	**13 46 56.0**	**+0.4**
PLP	**Palo**	**4.20**	**349**	*e*P	**Pn**	**13 46 56.2**	**+0.3**
GUIM	**Jordan**	**4.79**	**319**	*e*P	**Pn**	**13 47 03.3**	**-0.5**
BUSP	**Coron**	**7.42**	**312**	*e*P	**Pn**	**13 47 40.7**	**+0.8**
ENPP	**El Nido**	**7.54**	**304**	*e*P	**Pn**	**13 47 42.2**	**+0.6**
BATI	**Kupang**	**17.24**	**187**	Pn	**Pn**	**13 49 50.5**	**-0.1**
	2.5nm,0.3s,baz=139,slow=19,SNR=6.7						
KAKA	**Kakadu**	**20.68**	**161**	⇑*i*P	**P**	**13 50 29.9**	**+1.1**
	81nm,0.6s						
FITZ	**Fitzroy Crossi**	**24.96**	**180**	*e*P	**P**	**13 51 11.6**	**+0.2**
	9.2nm,0.7s,mb4.3						
FITZ	**Fitzroy Crossi**	**24.96**	**180**	P	**P**	**13 51 11.7**	**+0.3**
	3.4nm,0.4s,mb4.1,baz=4.8,slow=9.0,SNR=23						
PSI	**Prapat**	**27.09**	**262**	LR	LR	14 05 04.8	
	comp=Z,92nm,20.2s,baz=240,slow=42						
WRAB	**Tennant Creek**	**28.07**	**163**	*e*P	**P**	**13 51 38.8**	**-0.7**
	4.0nm,0.7s,mb4.1						
WRA	**Warramunga Arr**	**28.08**	**163**	P	**P**	**13 51 39.1**	**-0.4**
	2.6nm,0.6s,mb3.9,baz=343,slow=9.5,SNR=31						
WB2	**Warramunga Arr**	**28.08**	**163**	*e*P	**P**	**13 51 39.2**	**-0.3**
MBWA	**Marble Bar**	**28.63**	**192**	*e*P	**P**	**13 51 43.1**	**-1.2**
	2.6nm,0.6s,mb4.0						
KSRS	**Korea Array**	**30.36**	**3**	LR	LR	14 04 36.9	
	comp=Z,28nm,18.5s,baz=170,slow=36						
ASAR	**Alice Springs**	**31.51**	**166**	P	**P**	**13 52 09.9**	**+0.1**
	2.4nm,0.6s,mb4.1,baz=344,slow=7.3,SNR=63						
FORT	**Forrest**	**37.64**	**177**	*e*P	**P**	**13 53 03.0**	**+0.4**
	12nm,0.6s,mb4.9						
KLBR	**Kellerberrin**	**39.15**	**191**	*e*P	**P**	**13 53 14.6**	**-0.7**
	6.0nm,0.6s,mb4.6						
MUN	**Mundaring**	**39.84**	**193**	*e*P	**P**	**13 53 20.8**	**-0.2**
NWAO	**Narrogin (SRO)**	**40.55**	**191**	*e*P	**P**	**13 53 26.7**	**-0.1**
	12nm,1.0s,mb4.7						
STKA	**Stephens Creek**	**41.51**	**160**	*e*P	**P**	**13 53 35.8**	**+1.0**
	5.6nm,0.9s,mb4.3						
STKA	**Stephens Creek**	**41.51**	**160**	P	**P**	**13 53 35.8**	**+1.0**
	7.0nm,0.7s,mb4.5,baz=339,slow=9.2,SNR=24						
SONM	**Songino Array**	**43.91**	**341**	P	pP	13 54 10.5	-0.7
	0.2nm,0.6s,baz=140,slow=7.0,SNR=2.2						
MKAR	**Makanchi Array**	**54.35**	**324**	P	pP	13 55 31.1	-0.5
	1.2nm,0.7s,baz=123,slow=8.3,SNR=5.6						
ZALV	**Zalesovo Beam**	**57.26**	**333**	P	pP	13 55 49.9	-2.5
	0.6nm,0.6s,baz=141,slow=9.1,SNR=3.1						
KURK	**Kurchatov**	**58.49**	**327**	*e*P	pP	13 56 00.7	-0.4

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*IDC **06** 14:06:43.0±1.1, 804S×15630E, h0km, mb3.9/5, mb1 4.0/6, mb1mx3.8/15, mbtmp3.9/6, ML4.0/1, MS2.9/1, Ms1 2.9/1, ms1mx2.4/28, Error ellipse: s-maj=32.6km s-min=25.3km az=23.0*
*ISCJB **06** 14:06:44.9±7.0, 79S±02×1563E±01, h21km±52km, mb3.8/5, Error ellipse: s-maj=37.2km s-min=14.2km az=18.4*
ISC 06 14:06:45.8±7.2, 80S±02×1563E±01, h16km±45km, n7, σ0°75/7, mb3.8/5, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**3.87**	**112**	Pn	**Pn**	**14 07 44.7**	**0.0**
	10nm,0.3s,baz=260,slow=5.9,SNR=6.9						
HNR				Sn	**Sn**	**14 08 30.1**	**+0.2**
	13nm,0.3s,baz=90,slow=20,SNR=5.5						
CTA	**Charters Tower**	**15.50**	**218**	LR	LR	14 15 38.5	
	comp=Z,48nm,19.4s,baz=166,slow=35						
WRA	**Warramunga Arr**	**24.39**	**239**	P	**P**	**14 12 03.4**	**-0.1**
	2.5nm,0.9s,mb3.6,baz=65,slow=9.9,SNR=10						
WRA				PcP	PcP	14 15 42.2	-0.7
	0.6nm,0.9s,baz=79,slow=2.4,SNR=4.6						
KSRS	**Korea Array**	**52.41**	**331**	P	**P**	**14 15 57.8**	**+0.3**
	0.6nm,0.6s,mb3.7,baz=155,slow=6.6,SNR=4.6						
SONM	**Songino Array**	**70.86**	**327**	P	**P**	**14 18 02.8**	**+0.9**
	1.2nm,0.7s,mb3.9,baz=144,slow=7.0,SNR=12						
MKAR	**Makanchi Array**	**85.00**	**318**	P	**P**	**14 19 20.3**	**-0.3**
	0.6nm,0.6s,mb3.9,baz=104,slow=6.1,SNR=2.7						
YKA	**Yellowknife Ar**	**96.58**	**28**	P	**P**	**14 20 13.6**	**-1.0**
	0.2nm,0.6s,mb3.8,baz=268,slow=5.2,SNR=3.7						

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*MOS **06** 14:08:56.2±0.9, 1656S×7129W, h33km, mb5.5/80, MS4.5/7, Error ellipse: s-maj=9.2km s-min=6.3km az=87.5*
*ISCJB **06** 14:08:56.3±0.1, 1684S±003×7125W±003, h41km, mb5.3/208, MS4.5/33, Error ellipse: s-maj=5.2km s-min=3.1km az=36.7*
*GCMT **06** 14:08:57.8±0.5, 1657S×71.17W, h89km±3km, MW5.2/42, Moment Tensor Solution. s42,c48; s37,c43; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}3.22±.29; $M_{\theta\theta}$0.85±.24; $M_{\phi\phi}$-4.07±.32; $M_{r\theta}$3.53±.21; $M_{\theta\phi}$-4.40±.28; $M_{r\phi}$-2.48±.30; Best double couple: $M_0$7.14900×10^{16} NP1:ϕ_S66.00000°, δ58.00000°, λ147.00000°. NP2: ϕ_S175.00000°, δ62.00000°, λ36.00000°. Principal axes: T 7.6330, Plg44.0000°, Azm32.0000°; N -0.9620, Plg46.0000°, Azm207.0000°; P -6.6650, Plg3.0000°, Azm299.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*BJI **06** 14:08:57.1, 1590S×7151W, h35km, mB5.3, Ms5.3, Msz4.9*
*LDG **06** 14:08:57.0±0.3, 1650S×7130W, h39km, Mb5.3/29, Ms4.3/9, Error ellipse: s-maj=18.8km s-min=8.2km az=43.0*
*IDC **06** 14:08:57.8±0.4, 1682S×7126W, h39km±3km, mb4.9/24, mb1 5.0/27, mb1mx4.9/29, mbtmp4.9/27, ML4.5/3, MS4.3/21, Ms1 4.3/21, ms1mx4.2/32, Error ellipse: s-maj=13.6km s-min=10.1km az=70.0*
*NEIC **06** 14:08:57.8±0.1, 1681S×7127W, mb5.3/164, MS4.6/2, Error ellipse: s-maj=4.8km s-min=3.1km az=41.0*
NEIC Felt [IV] at Arequipa, Mollendo and Punta de Bombon.
*SZGRF **06** 14:08:58.1, 1752S×6955W, h33km, mb5.4, Peru-Bolivia border region*
ISC 06 14:08:58.3±0.1, 1686S±003×7118W±003, h43km, h43km±3km: pP-P, n844, σ0°72/732, mb5.3/208, MS4.5/33, 132C-113D, Southern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARE	**Arequipa**	**0.49**	**323**	⇓*i*P	**Pn**	**14 09 08.0**	**-1.0**
ARE				*e*S	**Sn**	**14 09 15.0**	**-1.6**
LPAZ	**La Paz**	**2.98**	**80**	⇓*i*Pn	**Pn**	**14 09 51.7**	**+8.6**
LPAZ	**La Paz**	**2.98**	**80**	Pn	**Pn**	**14 09 52.2**	**+9.2**
	103nm,0.3s,baz=258,slow=10,SNR=739						
CEN1	**Los Morros**	**6.56**	**172**	*e*P	**Pn**	**14 10 31.5**	**-0.8**
CEN1				*e*S	**Sn**	**14 11 43.9**	**-1.9**
ANCH	**Antofagasta**	**6.83**	**174**	*e*P	**Pn**	**14 10 33.1**	**-2.8**
ANCH				*i*S	**Sn**	**14 11 45.2**	**-7.2**
ANCH				*i*S	**Sn**	**14 11 46.5**	**-5.9**
NNA	**Nana**	**7.31**	**311**	Pn	**Pn**	**14 10 43.0**	**+0.4**
	2μm,0.7s,SNR=24						
NNA	**Nana**	**7.31**	**311**	*e*Pn	**Pn**	**14 10 41.5**	**-1.1**
NNA				*e*Sn	**Sn**	**14 12 05.4**	**+1.1**
NNA	**Nana**	**7.31**	**311**	Pn	**Pn**	**14 10 42.1**	**-0.4**
	6.1nm,0.3s,baz=153,slow=8.2,SNR=19						
NNA				Sn	**Sn**	**14 12 10.1**	**+5.8**
	42nm,0.3s,baz=231,slow=22,SNR=7.9						
NNA				LR	LR	14 13 46.3	
	comp=Z,2μm,19.1s,baz=144,slow=40						
CPN1	**Cerro Paranal**	**7.76**	**175**	*e*P	**Pn**	**14 10 45.6**	**-3.1**
CPN1				*i*S	**Sn**	**14 12 07.7**	**-7.6**
SIV	**San Ignacio**	**9.74**	**86**	Pn	**Pn**	**14 11 18.1**	**+2.2**
	22nm,0.3s,baz=270,slow=11,SNR=149						
ATAH	**Atahualpa**	**12.07**	**323**	Pn	**Pn**	**14 11 47.2**	**-0.5**
	0.5nm,0.3s,baz=90,slow=19,SNR=2.6						
LCO	**Las Campanas**	**12.11**	**178**	*e*Pn	**Pn**	**14 11 45.0**	**-3.1**
	27nm,0.6s						
LCO				*e*Sn	**Sn**	**14 13 56.2**	**-5.6**
TLL	**Tololo Astrono**	**13.26**	**179**	*e*P	**Pn**	**14 11 59.2**	**-4.6**
CMCH	**Combarbala**	**14.25**	**179**	*e*P	**Pn**	**14 12 16.0**	**-1.5**
CFAA	**Coronel Fontan**	**14.93**	**170**	Pn	**Pn**	**14 12 21.8**	**-4.6**
	0.2nm,0.3s,baz=351,slow=13,SNR=16						
ROSC	**El Rosal**	**21.80**	**352**	⇑*i*P	**P**	**14 13 46.5**	**-0.3**
ROSC	**El Rosal**	**21.80**	**352**	P	**P**	**14 13 46.8**	**0.0**
	37nm,0.6s,mb5.0,baz=1.9,slow=1.8,SNR=12						
ROSC				LR	LR	14 23 23.7	
	comp=Z,898nm,19.1s,MS4.2,baz=190,slow=40						
BDFB	**Brasilia**	**22.27**	**90**	P	**P**	**14 13 52.0**	**+0.1**
	19nm,0.8s,mb4.6,baz=252,slow=15,SNR=32						
TRQA	**Tornquist**	**22.62**	**161**	*e*P	**P**	**14 13 54.2**	**-1.1**
	25nm,0.8s,mb4.7						
TRQA				*e*pP		14 14 02.5	
PLCA	**Paso Flores**	**23.80**	**179**	⇑*e*Pn	**P**	**14 14 06.4**	**-0.6**
	166nm,1.1s,mb5.4						
PLCA				*e*pP		14 14 15.9	
PLCA				*e*sP	sP	14 14 21.4	-2.2
PLCA	**Paso Flores**	**23.80**	**179**	⇑*e*P	**P**	**14 14 06.4**	**-0.7**
PLCA				*e**PP		14 14 15.9	
PLCA				*e**SP	sP	14 14 21.4	-2.2
PLCA				pmax	pmax		
	comp=Z,166nm,1.1s						
PLCA	**Paso Flores**	**23.80**	**179**	P	**P**	**14 14 06.9**	**-0.2**
	comp=Z,17nm,0.7s,mb4.6,baz=352,slow=10,SNR=57						
PLCA				PcP	PcP	14 17 50.1	+0.5
	comp=Z,7.7nm,0.8s,baz=337,slow=3.8,SNR=5.1						
PLCA				LR	LR	14 24 00.3	
	comp=Z,573nm,18.1s,MS4.1,baz=67,slow=38						
SDV	**Santo Domingo**	**25.58**	**1**	⇑*i*P	**P**	**14 14 21.7**	**-1.8**
	comp=Z,115nm,0.9s,mb5.4						
SDV	**Santo Domingo**	**25.58**	**1**	P	**P**	**14 14 22.2**	**-1.3**
	comp=Z,148nm,1.0s,mb5.5,baz=180,slow=6.6,SNR=79						
SDV				LR	LR	14 25 42.0	
	comp=Z,767nm,19.7s,MS4.2,baz=37,slow=39						
PCRV	**Puerto La Cruz**	**27.63**	**14**	P	**P**	**14 14 42.6**	**+0.6**
	comp=Z,11nm,0.8s,mb4.5,baz=207,slow=2.3,SNR=6.8						
PCRV				LR	LR	14 26 47.6	
	comp=Z,2μm,18.0s,MS4.8,baz=195,slow=39						
GRGR	**Grenville**	**30.30**	**19**	*e*P	**P**	**14 15 05.5**	**-0.3**
	comp=Z,126nm,0.8s,mb5.7						
TGUH	**Tegucigalpa,Un**	**34.58**	**332**	⇑*e*P	**P**	**14 15 42.7**	**-0.5**
	comp=Z,62nm,1.2s,mb5.4						
TGUH				*e*pP	pP	14 15 51.5	-3.3
CPD	**Cerro la Pandu**	**35.06**	**9**	⇑*e*P	**P**	**14 15 43.3**	**-4.0**
	comp=Z,36nm,0.8s,mb5.3						
CPD	**Cerro la Pandu**	**35.06**	**9**	⇑*e*P	**P**	**14 15 43.3**	**-3.9**
CPD				pmax	pmax		
	comp=Z,36nm,0.8s,mb5.3						
SJG	**San Juan**	**35.10**	**8**	⇑*i*P	**P**	**14 15 44.6**	**-3.0**
	comp=Z,97nm,0.9s,mb5.7						
SJG	**San Juan**	**35.10**	**8**	⇑*i*P	**P**	**14 15 44.6**	**-3.0**
SJG				pmax	pmax		
	comp=Z,97nm,0.9s						
SJG	**San Juan**	**35.10**	**8**	LR	LR	14 31 10.2	
	comp=Z,363nm,19.1s,MS4.1,baz=272,slow=38						
MTP	**Monte Pirata**	**35.17**	**9**	⇑*i*P	**P**	**14 15 43.5**	**-4.7**
SDDR	**Presa de Saban**	**35.61**	**360**	⇑*i*P	**P**	**14 15 49.9**	**-2.1**
	comp=Z,25nm,0.8s,mb5.2						
RCBR	**Riachuelo**	**36.22**	**77**	⇓*e*P	**P**	**14 15 57.7**	**+0.3**
	comp=Z,35nm,0.9s,mb5.3						
EFI	**East Falkland**	**36.27**	**166**	*e*P	**P**	**14 15 57.1**	**-0.2**
	comp=Z,39nm,0.8s,mb5.4						
EFI				*e*pP	pP	14 16 07.9	-1.1
EFI	**East Falkland**	**36.27**	**166**	*e*P	**P**	**14 15 57.1**	**-0.2**
EFI				*e**PP	pP	14 16 07.9	-1.1
EFI				pmax	pmax		
	comp=Z,39nm,0.8s,mb5.4						
USHA	**Ushuaia**	**37.96**	**177**	P	**P**	**14 16 11.9**	**+0.3**
	comp=Z,15nm,0.6s,mb4.9,baz=342,slow=7.1,SNR=11						
CCCC	**Cccc**	**38.37**	**350**	*e*P	**P**	**14 16 15.7**	**+0.3**
TEIG	**Tepich**	**40.49**	**335**	*e*P	**P**	**14 16 32.5**	**-0.6**
	comp=Z,88nm,1.3s,mb5.3						
DWPF	**Disney**	**45.79**	**347**	⇓*e*P	**P**	**14 17 16.5**	**+0.7**
	comp=Z,55nm,0.7s,mb5.6						
PMSA	**Palmer Station**	**48.12**	**176**	P	**P**	**14 17 31.7**	**-1.8**
	comp=Z,133nm,1.3s,mb5.8						
BBSR	**BB Station**	**49.34**	**7**	*e*P	**P**	**14 17 41.4**	**-2.0**
	comp=Z,21nm,0.8s,mb5.2						
BBSR				*e*pP	pP	14 17 51.9	-3.4
BRAL	**Brewton**	**49.98**	**342**	*e*P	**P**	**14 17 46.6**	**-1.6**
	comp=Z,80nm,0.6s,mb5.9						
NHSC	**New Hope**	**50.42**	**350**	*e*P	**P**	**14 17 51.4**	**-0.1**
	comp=Z,682nm,1.6s,mb6.4						
NHSC				*e*pP	pP	14 18 02.6	-1.0
COW	**Cow Castle Cre**	**50.77**	**350**	*e*P	**P**	**14 17 53.7**	**-0.5**
COW				*e*pP	pP	14 18 06.3	0.0
LRAL	**Lakeview Retre**	**51.86**	**343**	*e*P	**P**	**14 18 00.7**	**-1.7**
	comp=Z,47nm,1.1s,mb5.3						
LRAL				*e*pP	pP	14 18 12.8	-1.7
LRAL				*e*sP	sP	14 18 18.5	-0.9
HKT	**Hockley**	**52.25**	**333**	*e*P	**P**	**14 18 04.7**	**-0.6**
	comp=Z,38nm,1.4s,mb5.1						
HKT				*e*pP	pP	14 18 15.5	-1.9
HKT	**Hockley**	**52.25**	**333**	*e*P	**P**	**14 18 04.7**	**-0.6**
HKT				*e**PP	pP	14 18 15.5	-1.9
HKT				pmax	pmax		
	comp=Z,38nm,1.4s,mb5.1						
NATX	**Nacogdoches**	**53.33**	**335**	*e*P	**P**	**14 18 11.6**	**-1.6**
	comp=Z,168nm,1.4s,mb5.8						
NATX				*e*pP	pP	14 18 24.9	-0.5
NATX				*e*sP	sP	14 18 29.4	-1.0
CPCT	**Cooper Cave**	**53.53**	**346**	*e*P	**P**	**14 18 12.8**	**-1.8**
CPCT				*e*pP	pP	14 18 23.1	-3.7
TKL	**Tuckaleechee C**	**53.57**	**347**	LR	LR	14 40 33.0	
	comp=Z,212nm,21.2s,MS4.2,baz=119,slow=35						
SWET	**Sewanee**	**53.64**	**345**	*e*P	**P**	**14 18 13.6**	**-1.8**
SWET				*e*pP	pP	14 18 26.0	-1.7
TZTN	**Tazewell**	**54.38**	**348**	P	**P**	**14 18 18.8**	**-2.0**
	comp=Z,36nm,1.1s,mb5.2						
TZTN				*e*pP	pP	14 18 30.9	-2.1
TZTN				*e*sP	sP	14 18 35.5	-2.4
URVA	**University of**	**54.46**	**354**	*e*P	**P**	**14 18 19.9**	**-1.5**
BLA	**Blacksburg**	**54.48**	**351**	*e*P	**P**	**14 18 20.6**	**-0.9**
	comp=Z,42nm,0.9s,mb5.4						
BLA				*e*pP	pP	14 18 33.8	+0.1
BLA	**Blacksburg**	**54.48**	**351**	*e*P	**P**	**14 18 20.6**	**-0.9**
BLA				*e**PP	pP	14 18 33.8	+0.1
BLA				pmax	pmax		
	comp=Z,42nm,0.9s,mb5.4						
JCT	**Junction City**	**54.53**	**329**	*e*P	**P**	**14 18 20.7**	**-1.3**
	comp=Z,31nm,1.0s,mb5.3						
JCT				*e*pP	pP	14 18 33.2	-1.1
JCT				*e*sP	sP	14 18 37.7	-1.5
JCT	**Junction City**	**54.53**	**329**	*e*P	**P**	**14 18 20.7**	**-1.4**
JCT				*e**PP	pP	14 18 33.2	-1.1
JCT				pmax	pmax		
	comp=Z,31nm,1.0s,mb5.3						
ELN	**Prospectdale**	**54.54**	**351**	*e*P	**P**	**14 18 21.9**	**-0.1**
ELN				*e*pP	pP	14 18 34.6	+0.4
ELN				*e*sP	sP	14 18 39.6	+0.5
WVT	**Waverly**	**55.00**	**344**	*e*P	**P**	**14 18 22.4**	**-3.0**
	comp=Z,38nm,1.2s,mb5.3						
WVT				*e*pP	pP	14 18 35.0	-2.5
WVT				*e*		14 18 39.9	
WVT	**Waverly**	**55.00**	**344**	*e*P	**P**	**14 18 22.4**	**-2.9**
WVT				*e**PP	pP	14 18 35.0	-2.5
WVT				pmax	pmax		
	comp=Z,38nm,1.2s,mb5.3						
UALR	**University of**	**55.15**	**339**	*e*P	**P**	**14 18 25.1**	**-1.2**
	comp=Z,64nm,1.0s,mb5.6						
UALR				*e*pP	pP	14 18 35.3	-3.3
HALT	**Halls**	**55.22**	**342**	*e*P	**P**	**14 18 25.5**	**-1.4**
HBAR	**Harrisburg**	**55.30**	**341**	P	**P**	**14 18 27.0**	**-0.5**
MIAR	**Mount Ida**	**55.38**	**338**	*e*P	**P**	**14 18 26.8**	**-1.3**
	comp=Z,106nm,1.1s,mb5.8						
MIAR				*e*pP	pP	14 18 38.6	-1.7
MIAR				*e*sP	sP	14 18 43.7	-1.5
MIAR	**Mount Ida**	**55.38**	**338**	*e*P	**P**	**14 18 26.8**	**-1.3**
MIAR				*e**PP	pP	14 18 38.6	-1.7
MIAR				*e**SP	sP	14 18 43.7	-1.5
MIAR				pmax	pmax		
	comp=Z,107nm,1.1s,mb5.8						
TXAR	**Lajitas Array**	**55.61**	**325**	P	**P**	**14 18 28.7**	**-1.1**
TXAR				*PP	pP	14 18 40.9	-1.2
TXAR	**Lajitas Array**	**55.61**	**325**	P	**P**	**14 18 28.7**	**-1.1**
	comp=Z,7.7nm,0.7s,mb4.9,baz=150,slow=8.2,SNR=59						
TXAR				pP	pP	14 18 40.9	-1.2
	comp=Z,7.3nm,0.9s,baz=138,slow=10,SNR=9.2						
TXAR				LR	LR	14 41 03.1	
	comp=Z,121nm,18.8s,MS4.0,baz=110,slow=35						
PARMO	**Parma**	**56.05**	**342**	*e*P	**P**	**14 18 31

LPM epP pP 14 19 18.5 -1.7
LPM esP sP 14 19 24.4 -0.6
LENM Lemitar 61.12 326 eP **P 14 19 07.7 -0.6**
LENM epP pP 14 19 19.7 -0.9
218A Dragoon 61.20 323 ⇓P **P 14 19 08.7 -0.1**
baz=61
LONY Lake Ozonia 61.25 357 eP **P 14 19 08.1 -0.8**
comp=Z,24nm,0.9s,mb5.3
LONY epP pP 14 19 19.3 -2.0
119A Ashpeak Ranch, 61.35 324 ⇑P **P 14 19 09.6 -0.2**
baz=62,SNR=5.5
LAZ Ladron 61.39 326 eP **P 14 19 09.7 -0.3**
LAZ epP pP 14 19 22.2 -0.2
FRNY Flat Rock 61.43 358 eP **P 14 19 09.5 -0.6**
comp=Z,36nm,1.1s,mb5.4
FRNY epP pP 14 19 21.2 -1.2
ANMO Albuquerque 61.46 327 eP **P 14 19 09.9 -0.6**
comp=Z,12nm,0.9s,mb5.0
ANMO epP pP 14 19 21.8 -1.0
ANMO esP sP 14 19 26.7 -1.0
ANMO Albuquerque 61.46 327 eP **P 14 19 09.9 -0.6**
ANMO e*PP pP 14 19 21.8 -1.1
ANMO e*SP sP 14 19 26.7 -1.1
ANMO pmax pmax
comp=Z,12nm,0.9s
CBKS Cedar Bluff 61.50 335 eP **P 14 19 09.9 -0.8**
comp=Z,52nm,0.8s,mb5.7
CBKS epP pP 14 19 21.7 -1.3
CBKS esP sP 14 19 26.5 -1.4
CBKS Cedar Bluff 61.50 335 eP **P 14 19 09.9 -0.8**
CBKS e*PP pP 14 19 21.7 -1.3
CBKS e*SP sP 14 19 26.5 -1.5
CBKS pmax pmax
comp=Z,52nm,0.8s,mb5.7
217A Green Valley 61.51 322 ⇓P **P 14 19 10.4 -0.5**
baz=62,SNR=16
MSNY Massena 61.65 357 eP **P 14 19 10.9 -0.7**
MSNY epP pP 14 19 23.1 -0.8
PKME Peaks-Kenny Pk 61.84 2 eP **P 14 19 11.5 -1.4**
comp=Z,42nm,1.0s,mb5.5
TUC Tucson 61.87 322 eP **P 14 19 12.5 -0.8**
comp=Z,7.0nm,0.9s,mb4.8
TUC epP pP 14 19 24.2 -1.5
TUC Tucson 61.87 322 eP **P 14 19 12.5 -0.8**
TUC e*PP pP 14 19 24.2 -1.5
TUC pmax pmax
comp=Z,7.0nm,0.9s,mb4.8
JFWS Jewell Farm 62.01 344 eP **P 14 19 11.7 -2.3**
comp=Z,85nm,1.3s,mb5.7
JFWS epP pP 14 19 24.4 -2.0
JFWS Jewell Farm 62.01 344 eP **P 14 19 11.7 -2.3**
JFWS e*PP pP 14 19 24.4 -2.0
JFWS pmax pmax
comp=Z,85nm,1.3s,mb5.7
216A Three Points, 62.05 322 ⇑P **P 14 19 14.1 -0.5**
baz=62,SNR=14
116A Eloy 62.59 322 ⇓P **P 14 19 18.0 -0.2**
baz=63
Z16A Peralta Trail, 62.99 323 ⇑P **P 14 19 20.6 -0.1**
baz=63
115A Sonoran Desert 63.00 322 ⇓P **P 14 19 20.9 0.0**
baz=63,SNR=5.3
SDCO Great Sand Dun 63.17 330 eP **P 14 19 21.4 -0.6**
comp=Z,56nm,1.1s,mb5.6
SDCO epP pP 14 19 33.7 -0.6
SDCO esP sP 14 19 38.6 -0.7
Y16A Circle Bar Ran 63.40 323 ⇓P **P 14 19 23.9 +0.4**
baz=64,SNR=36
X16A Lo Mia Camp, P 63.77 323 ⇓P **P 14 19 26.1 +0.1**
baz=64,SNR=28
Z14A Wintersburg 63.90 322 ⇓P **P 14 19 26.8 0.0**
baz=64
Y15A Casa Rosa Ranc 63.95 322 P **P 14 19 27.3 +0.2**
baz=64,SNR=19
MVCO Mesa Verde 64.25 327 eP **P 14 19 28.5 -0.5**
comp=Z,48nm,1.2s,mb5.4
MVCO epP pP 14 19 40.2 -1.2
MVCO esP sP 14 19 45.3 -1.0
MVCO Mesa Verde 64.25 327 ⇓P **P 14 19 29.1 +0.1**
baz=64
X15A Humboldt 64.28 323 P **P 14 19 29.6 +0.3**
baz=64,SNR=9.6
Y14A Wickenburg 64.33 322 ⇑P **P 14 19 29.5 -0.1**
baz=64,SNR=14
WUAZ Wupatki 64.53 324 eP **P 14 19 31.1 +0.2**
comp=Z,51nm,1.1s,mb5.5
WUAZ epP pP 14 19 43.2 -0.1
WUAZ epP pP 14 19 47.9 +4.6
WUAZ Wupatki 64.53 324 ⇓P **P 14 19 31.2 +0.3**
baz=65
ECSD EROS,Sioux Fal 64.64 340 eP **P 14 19 30.1 -1.3**
comp=Z,101nm,1.2s,mb5.7
ECSD epP pP 14 19 42.5 -1.4
ECSD esP sP 14 19 47.2 -1.6
X14A Yava 64.64 323 P **P 14 19 31.9 +0.3**
baz=65,SNR=13
Y13A Salome 64.74 321 ⇓P **P 14 19 32.3 0.0**
baz=65
W15A Williams 64.79 323 ⇑P **P 14 19 33.1 +0.5**
baz=65,SNR=8.4
GLA Glamis 64.82 320 ⇑P **P 14 19 32.7 -0.1**
baz=65,SNR=6.0
ISCO Idaho Springs 64.87 331 eP **P 14 19 32.5 -0.4**
comp=Z,23nm,1.1s,mb5.1
ISCO epP pP 14 19 45.0 -0.4
ISCO Idaho Springs 64.87 331 eP **P 14 19 32.5 -0.5**
ISCO e*PP pP 14 19 45.1 -0.3
ISCO pmax pmax
comp=Z,23nm,1.1s,mb5.1
SMCO Snowmass 65.01 330 eP **P 14 19 34.0 +0.1**
comp=Z,20nm,0.8s,mb5.2
SMCO epP pP 14 19 46.1 -0.3
Y12C Blythe 65.11 321 ⇑P **P 14 19 34.6 -0.1**
baz=65
VNA3 Neumayer Olymp 65.14 162 eP **P 14 19 34.7 +0.3**
VNA3 e 14 19 42.7
VNA3 e pP 14 19 46.4 -0.4
VNA3 e 14 20 02.0
VNA3 e 14 20 05.0
PDMCI Parker Dam,Lak 65.26 322 ⇑P **P 14 19 35.4 -0.3**
baz=66
W14A Seligman 65.28 323 ⇑P **P 14 19 36.2 +0.4**
baz=66,SNR=14
X13A Yucca 65.28 322 ⇑P **P 14 19 35.7 -0.1**
baz=66,SNR=7.9
SWSC Sam W. Stewart 65.34 319 ⇓P **P 14 19 36.2 0.0**
baz=66
VNA1 Neumayer--Stat 65.35 161 eP **P 14 19 36.4 +0.6**
VNA1 e 14 19 44.1
VNA1 e pP 14 19 48.0 -0.2
VNA1 e 14 20 04.7
VNA1 e 14 20 07.2
V14A Boquillas Ranc 65.59 323 P **P 14 19 38.4 +0.6**
baz=66,SNR=26
BC3 Big Chuckw Mtn 65.61 320 ⇓P **P 14 19 38.1 +0.2**
baz=66,SNR=8.8
W13A Hualapai Mount 65.67 322 ⇓P **P 14 19 38.6 +0.4**
baz=66,SNR=9.6
T16A Glen Canyon Da 65.67 325 ⇓P **P 14 19 38.4 +0.1**
baz=66,SNR=5.5
MONP Monument Peak 65.70 319 ⇑P **P 14 19 38.9 +0.4**
baz=66,SNR=9.1
VNA2 Neumayer--Watz 65.72 161 eP **P 14 19 38.3 +0.2**
baz=285,slow=9.1
VNA2 e 14 19 46.2
VNA2 e pP 14 19 49.9 -0.7
VNA2 e 14 20 04.5
VNA2 e 14 20 08.4
IRM Iron Mountain 65.77 321 P **P 14 19 39.1 +0.2**
baz=66,SNR=14
PHWY Pilot Hill 66.00 332 eP **P 14 19 39.7 -0.6**
PHWY epP pP 14 19 51.9 -0.9
PHWY esP sP 14 19 56.5 -1.2
BELC Belle Mtn. 66.18 320 ⇓P **P 14 19 41.8 +0.2**
baz=66,SNR=5.1
T15A Red Dirt Ranch 66.18 325 P **P 14 19 42.2 +0.7**
baz=66,SNR=21
U14A Mt Trumbull 66.19 324 P **P 14 19 42.4 +0.8**
baz=66,SNR=48
PFO Pinyon Flat Ob 66.20 320 ⇑P **P 14 19 42.1 +0.3**
baz=66,SNR=5.3
W12A Cal Nev Ari 66.38 322 ⇑P **P 14 19 42.9 0.0**
baz=67
GMRC Granite Mounta 66.50 321 ⇓P **P 14 19 43.8 +0.2**
baz=67,SNR=11
T14A Hurricane 66.60 324 ⇑P **P 14 19 44.9 +0.6**
baz=67
U13A Pakoon Wash 66.64 323 ⇑P **P 14 19 44.8 +0.3**
baz=67,SNR=9.0
MURC Murrieta 66.65 319 ⇑P **P 14 19 44.8 +0.1**
baz=67
V12A Nelson 66.67 322 ⇑P **P 14 19 44.6 -0.1**
baz=67,SNR=14
SRU San Rafael 66.73 328 eP **P 14 19 44.5 -0.5**
comp=Z,16nm,0.9s,mb5.0
SRU epP pP 14 19 56.8 -0.7
SRU esP sP 14 20 02.2 -0.2
SRU San Rafael 66.73 328 eP **P 14 19 44.5 -0.5**
SRU e*PP pP 14 19 56.8 -0.7
SRU pmax pmax
comp=Z,15nm,0.9s,mb5.0
BBRC Big Bear Sol-O 66.92 320 ⇓P **P 14 19 47.1 +0.7**
baz=67
HEC Hector,Ludlow 66.94 321 ⇓P **P 14 19 46.9 +0.5**
baz=67,SNR=19
U12A Valley of Fire 66.98 323 ⇑P **P 14 19 46.6 0.0**
baz=67,SNR=12
EYMN Ely 67.02 345 eP **P 14 19 45.1 -1.5**
comp=Z,76nm,1.4s,mb5.5
EYMN epP pP 14 19 57.4 -1.8
T13A Saint George 67.03 324 ⇑P **P 14 19 47.2 +0.3**
baz=67,SNR=6.1
V11A Goodsprings 67.08 322 ⇓P **P 14 19 47.5 +0.1**
baz=67,SNR=6.7
CCUT Cedar City 67.10 325 eP **P 14 19 48.0 +0.6**
CCUT epP pP 14 20 00.5 +0.6
RWWY Rawlins 67.10 331 eP **P 14 19 47.2 -0.1**
comp=Z,71nm,1.4s,mb5.5
RWWY epP pP 14 19 59.0 -0.9
TUQ Turquoise Mtn. 67.10 321 ⇑P **P 14 19 47.5 0.0**
baz=67,SNR=8.7
MSU Marysvale 67.15 326 eP **P 14 19 48.0 +0.3**
MSU epP pP 14 20 00.2 0.0
MSU esP sP 14 20 04.7 -0.4
MSU Marysvale 67.15 326 eP **P 14 19 48.0 +0.3**
MSU e*PP pP 14 20 00.2 0.0
TMUT Trail Mountain 67.22 327 eP **P 14 19 48.5 +0.3**
TMUT epP pP 14 20 00.0 -0.6
TMUT esP sP 14 20 06.1 +0.6
T12A Moapa 67.28 323 ⇑P **P 14 19 48.9 +0.3**
baz=68
ARUT Antelope Range 67.31 325 eP **P 14 19 49.2 +0.5**
SNAA Sanae 67.34 161 eP **P 14 19 48.4 -0.1**
SNAA e 14 19 56.2
SNAA e pP 14 20 00.2 -0.8
SNAA e 14 20 12.9
SNAA e 14 20 15.9
SNAA Sanae 67.34 161⇑eP **P 14 19 48.1 -0.4**
BFSC Mount Baldy St 67.36 319 ⇑P **P 14 19 49.1 0.0**
baz=68,SNR=5.8
RRX Edison Barstow 67.38 320 ⇑P **P 14 19 49.6 +0.4**
baz=68
S13A Holt Ranch, En 67.40 324 P **P 14 19 50.3 +1.0**
baz=68,SNR=51
TAOE Nuku Hiva Isla 67.44 267 eLR LR 14 40 11.2
comp=Z,12µm,27.5s
R14A James Farms, M 67.45 325 ⇓P **P 14 19 50.0 +0.4**
baz=68
GSC Goldstone 67.54 321 eP **P 14 19 50.2 -0.1**
comp=Z,20nm,1.3s,mb5.0
GSC epP pP 14 20 02.3 -0.5
GSC esP sP 14 20 07.1 -0.6
GSC Goldstone 67.54 321 eP **P 14 19 50.2 -0.1**
GSC e*PP pP 14 20 02.3 -0.5
GSC pmax pmax
comp=Z,20nm,1.3s,mb5.0
GSC Goldstone 67.54 321 P **P 14 19 50.7 +0.5**
baz=68,SNR=9.4
SHOC Shoshone 67.63 322 ⇑P **P 14 19 50.8 0.0**
baz=68
RSSD Black Hills 67.70 335 eP **P 14 19 50.4 -0.7**
comp=Z,11nm,0.9s,mb4.9
RSSD epP pP 14 20 02.8 -0.8
RSSD Black Hills 67.70 335 eP **P 14 19 50.4 -0.7**
RSSD e*PP pP 14 20 02.8 -0.8
RSSD pmax pmax
comp=Z,11nm,0.9s,mb4.9
DECC Green Verdugo 67.79 319 ⇑P **P 14 19 52.0 +0.2**
baz=68
T11A Corn Creek, Al 67.93 323 P **P 14 19 53.4 +0.7**
baz=68,SNR=26
MPU Maple Canyon 67.97 327 eP **P 14 19 52.5 -0.3**
comp=Z,29nm,1.2s,mb5.2
MPU epP pP 14 20 05.3 -0.1
S12A Delamar Landin 67.98 324 ⇓P **P 14 19 53.7 +0.7**
baz=68
EDW2 Edwards Air Fo 67.99 320 ⇑P **P 14 19 52.9 -0.2**
baz=68,SNR=8.9
U10A Ash Meadows, A 68.01 322 ⇓P **P 14 19 53.7 +0.5**
baz=68,SNR=9.2
DAU Daniels Canyon 68.08 328 eP **P 14 19 53.8 +0.3**
DAU epP pP 14 20 05.8 -0.2
DAU esP sP 14 20 10.8 -0.1
NLU North Lily Min 68.16 327 eP **P 14 19 54.3 +0.3**
NLU epP pP 14 20 06.4 -0.2
NLU esP sP 14 20 11.3 -0.1
LRMC Laurel Mountai 68.20 320 ⇓P **P 14 19 54.6 +0.3**
baz=68
JLU Jordanelle 68.31 328 eP **P 14 19 55.1 +0.1**
JLU epP pP 14 20 07.2 -0.3
JLU esP sP 14 20 13.1 +0.7
TPNV Topopah Spring 68.33 322 eP **P 14 19 55.7 +0.5**
comp=Z,30nm,1.0s,mb5.3
TPNV epP pP 14 20 09.2 +1.5
TPNV Topopah Spring 68.33 322 eP **P 14 19 55.7 +0.6**
TPNV e*PP pP 14 20 09.2 +1.5
TPNV pmax pmax
comp=Z,30nm,1.0s,mb5.3
TPNV Topopah Spring 68.33 322 ⇑P **P 14 19 56.1 +0.9**
baz=68
R12A Pony Springs, 68.35 324 P **P 14 19 56.2 +1.0**
baz=68,SNR=54
FURC Furnace Creek, 68.36 322 ⇓P **P 14 19 55.8 +0.4**
baz=69,SNR=15
BSC Santa Cruz Isl 68.45 318 ⇓P **P 14 19 56.3 +0.3**
baz=69
MPMC Manual Prospec 68.46 321 ⇑P **P 14 19 56.1 0.0**
baz=69,SNR=12
AGMN Agassiz Refuge 68.50 343 eP **P 14 19 54.8 -1.1**
comp=Z,42nm,0.8s,mb5.5
AGMN epP pP 14 20 07.0 -1.5
S11A Rachel 68.51 323 ⇓P **P 14 19 57.3 +1.0**
baz=69,SNR=11
ARVC Arvin 68.67 319 ⇑P **P 14 19 57.4 0.0**
baz=69
DUG Dugway 68.72 327 eP **P 14 19 57.9 +0.4**
comp=Z,41nm,0.6s,mb5.5
DUG epP pP 14 20 09.7 -0.4
DUG Dugway 68.72 327 eP **P 14 19 57.9 +0.4**
DUG e*PP pP 14 20 09.7 -0.4
DUG pmax pmax
comp=Z,41nm,0.6s,mb5.5
DUG Dugway 68.72 327 ⇑P **P 14 19 57.9 +0.3**
baz=69
ISA Isabella 68.80 320 eP **P 14 19 58.3 +0.1**
comp=Z,30nm,1.3s,mb5.1
ISA epP pP 14 20 10.5 -0.1
ISA esP sP 14 20 15.6 +0.1
ISA Isabella 68.80 320 eP **P 14 19 58.3 +0.2**
ISA e*PP pP 14 20 10.5 -0.2
ISA e*SP sP 14 20 15.6 0.0
ISA pmax pmax
comp=Z,30nm,1.3s,mb5.1
ISA Isabella 68.80 320 P **P 14 19 58.5 +0.4**
baz=69,SNR=16
P13A Bates Ranch, G 68.82 326 P **P 14 19 59.0 +0.8**
baz=69,SNR=25
R11A Troy Canyon, C 68.91 324 P **P 14 19 59.5 +0.7**
baz=69,SNR=34
Q12A Willow Creek R 68.97 325 ⇓P **P 14 19 59.4 +0.3**
baz=69,SNR=15
GRAC Grapevine Rang 69.02 322 ⇓P **P 14 19 60.0 +0.5**
baz=69,SNR=8.6
PDAR Pinedale Array 69.03 331 P **P 14 19 58.5 -1.0**
comp=Z,4.4nm,0.8s,mb4.5,baz=150,slow=6.3,SNR=35
PDAR PKPPKP 14 48 01.4
comp=Z,0.5nm,0.9s,baz=285,slow=5.8,SNR=3.7
PDAR LR LR 14 51 08.9
comp=Z,125nm,21.8s,MS4.1,baz=249,slow=37
CWC Cottonwood Cre 69.07 321 ⇑P **P 14 20 00.2 +0.4**
baz=69,SNR=11
N15A Stansbury Isla 69.07 328 ⇑P **P 14 19 59.4 -0.3**
baz=69
HWUT Hardware Ranch 69.12 329 eP **P 14 19 59.2 -0.8**
comp=Z,32nm,1.1s,mb5.2
HWUT epP pP 14 20 11.7 -0.9
HWUT esP sP 14 20 17.6 +0.1
PKM Peak Mountain 69.14 319 ⇑P **P 14 20 00.5 +0.2**
baz=69,SNR=7.8
S10A Tonopah Range, 69.19 323 P **P 14 20 01.1 +0.6**
baz=69,SNR=43
R10A Warm Springs 69.27 323 ⇑P **P 14 20 01.9 +0.9**
baz=70,SNR=29
O13A Hicks Ranch, I 69.29 326 ⇓P **P 14 20 01.3 +0.3**
baz=70,SNR=6.4
VES Vestal, Richgr 69.29 320 ⇑P **P 14 20 01.4 +0.3**
baz=70,SNR=6.2
Q11A Duckwater 69.29 324 P **P 14 20 01.8 +0.7**
baz=70,SNR=37
P12A McGill 69.32 325 P **P 14 20 02.0 +0.7**
baz=70,SNR=25
SPUT South Promonto 69.35 328 eP **P 14 20 00.6 -0.8**
SPUT epP pP 14 20 13.3 -0.6
SPUT esP sP 14 20 18.9 0.0
BGU Big Grassy Mou 69.36 327 eP **P 14 20 00.7 -0.8**
BGU epP pP 14 20 12.8 -1.2
BGU esP sP 14 20 17.9 -1.0
N14A Grayback Hills 69.39 327 P **P 14 20 01.7 0.0**
baz=70,SNR=10
S09A Goldfield 69.42 322 ⇓P **P 14 20 02.2 +0.2**
baz=70,SNR=8.7
M15A Larsen Ranch, 69.46 328 P **P 14 20 01.7 -0.4**
baz=70,SNR=17
SMMC Simmler 69.52 319 ⇓P **P 14 20 03.3 +0.6**
baz=70
TIN Tinemaha 69.57 321 ⇑P **P 14 20 03.5 +0.6**
baz=70
DBIC Dimbokro 69.59 76 eP **P 14 20 02.8 -0.7**
comp=Z,120nm,1.0s,mb5.8
DBIC epP pP 14 20 15.4 -0.7
DBIC Dimbokro 69.59 76 eP **P 14 20 02.8 -0.7**
DBIC e*PP pP 14 20 15.4 -0.7
DBIC pmax pmax
comp=Z,120nm,1.0s
DBIC Dimbokro 69.59 76 P **P 14 20 03.4 -0.2**
comp=Z,56nm,0.7s,mb5.6,baz=226,slow=6.2,SNR=67
DBIC pP pP 14 20 15.3 -0.7
comp=Z,52nm,0.9s,baz=218,slow=6.6,SNR=12
DBIC LR LR 14 48 50.6
comp=Z,527nm,20.1s,MS4.8,baz=220,slow=34
R09A Tonopah 69.68 323 ⇑P **P 14 20 03.9 +0.3**
baz=70,SNR=17
Q10A Clear Creek Ra 69.70 324 P **P 14 20 04.6 +1.0**
baz=70,SNR=15
O12A Currie 69.79 326 P **P 14 20 04.7 +0.5**
baz=70,SNR=41
HELL Mitchell Peak 69.80 321 ⇑P **P 14 20 04.4 0.0**
baz=70,SNR=19
S08C White Mtn Res 69.83 322 P **P 14 20 05.2 +0.7**
baz=70,SNR=13
HVU Hansel Valley 69.86 328 eP **P 14 20 03.8 -0.8**
comp=Z,16nm,0.8s,mb5.0
HVU Hansel Valley 69.86 328 eP **P 14 20 03.8 -0.7**
HVU pmax pmax
comp=Z,16nm,0.8s,mb5.0
N13A Wendover, West 69.93 327 ⇑P **P 14 20 04.8 -0.1**
baz=70,SNR=5.2
M14A Sheep Mountain 69.95 328 P **P 14 20 04.8 -0.2**
baz=70,SNR=34
MTUM Tungsten Hills 69.97 321 eP **P 14 20 05.1 -0.2**
MTUM epP pP 14 20 17.6 -0.3
MTUM esP sP 14 20 22.3 -0.4
REDW Red Top Meadow 70.10 330 eP **P 14 20 05.7 -0.3**
comp=Z,66nm,1.4s,mb5.4
Q09A Carvers 70.15 323 ⇓P **P 14 20 06.9 +0.5**
baz=70
LOHW Long Hollow 70.17 331 eP **P 14 20 06.2 -0.3**
comp=Z,19nm,1.0s,mb5.0
LOHW epP pP 14 20 18.2 -0.8
LOHW esP sP 14 20 23.5 -0.4
O11A Cowboy Ranch, 70.19 325 P **P 14 20 07.1 +0.5**
baz=70,SNR=23
TPAW Teton Pass 70.24 330 eP **P 14 20 06.7 -0.2**
comp=Z,37nm,1.3s,mb5.2
PKD Parkfield 70.27 319 ⇑P **P 14 20 07.2 0.0**
baz=70
M13A Montello 70.27 327 ⇑P **P 14 20 06.4 -0.6**
baz=70,SNR=7.3
ULM Lac du Bonnet 70.27 343 eP **P 14 20 04.5 -2.3**
comp=Z,29nm,0.9s,mb5.2
ULM epP pP 14 20 17.4 -2.0
ULM Lac du Bonnet 70.27 343 P **P 14 20 05.5 -1.3**
comp=Z,24nm,0.7s,mb5.2,baz=155,slow=5.8,SNR=40
ULM pP pP 14 20 17.9 -1.6
comp=Z,21nm,0.6s,baz=157,slow=3.7,SNR=10
ULM LR LR 14 50 30.5
comp=Z,109nm,18.1s,MS4.2,baz=345,slow=36
V04C Ramage Ranch, 70.28 319 ⇓P **P 14 20 07.7 +0.4**
baz=70
P10A Eureka 70.28 324 ⇑P **P 14 20 07.9 +0.7**
baz=70
MLAC Mammoth Lakes 70.31 321 ⇓P **P 14 20 08.0 +0.6**
baz=70
MOOW Moose Ponds 70.34 331 eP **P 14 20 06.7 -0.8**
comp=Z,29nm,1.4s,mb5.0
MOOW esP sP 14 20 19.4 -5.5
MOOW epP pP 14 20 23.7 +3.7
R08A Mina 70.36 322 ⇓P **P 14 20 08.1 +0.5**
baz=71
N12A Clover Valley, 70.37 326 ⇑P **P 14 20 07.3 -0.4**
baz=71
KCC Kaiser Creek 70.40 321 ⇓P **P 14 20 07.6 -0.4**
baz=71
DCID1 Drake Creek 70.43 330 eP **P 14 20 07.9 -0.1**
NVAR Mina Array Bea 70.53 322 P **P 14 20 09.3 +0.6**
NVAR pP pP 14 20 21.2 0.0
NVAR Mina Array Bea 70.53 322 P **P 14 20 09.3 +0.6**
comp=Z,8.5nm,0.8s,mb4.7,baz=135,slow=7.5,SNR=29
NVAR pP pP 14 20 21.2 0.0
comp=Z,3.3nm,0.7s,baz=133,slow=7.6,SNR=5.1
IMW Indian Meadow 70.55 331 eP **P 14 20 08.8 +0.1**
comp=Z,50nm,1.3s,mb5.3
IMW epP pP 14 20 20.9 -0.3
IMW esP sP 14 20 26.1 0.0
FLWY Flagg Ranch 70.58 331 eP **P 14 20 09.1 +0.2**
comp=Z,56nm,1.0s,mb5.5
FLWY epP pP 14 20 21.6 +0.2
Q08A Gabbs 70.60 323 ⇓P **P 14 20 09.1 0.0**
baz=71
P09A Austin 70.61 324 ⇓P **P 14 20 09.7 +0.4**
baz=71
K14A Jones Ranch, D 70.62 328 ⇑P **P 14 20 08.5 -0.7**
baz=71
L13A Double Diamond 70.68 328 ⇓P **P 14 20 09.5 0.0**
baz=71,SNR=11
U04C Hernandez Rese 70.68 319 ⇑P **P 14 20 09.9 +0.2**
baz=71,SNR=5.7
M12A Wells 70.70 327 ⇑P **P 14 20 09.5 -0.3**
baz=71,SNR=17
RLMT Red Lodge 70.73 332 eP **P 14 20 09.3 -0.5**
comp=Z,50nm,1.3s,mb5.3
RLMT epP pP 14 20 21.8 -0.6
R07C Lee Vining 70.74 322 ⇓P **P 14 20 10.7 +0.7**
baz=71,SNR=19
V03C Hunter Liggett 70.75 319 ⇓P **P 14 20 11.0 +0.9**
baz=71
O10A Cortez Mining, 70.77 325 ⇓P **P 14 20 10.6 +0.5**
baz=71,SNR=14
LKWY Lake 70.81 331 eP **P 14 20 11.4 +1.1**
comp=Z,22nm,1.0s,mb5.0
LKWY Lake 70.81 331 eP **P 14 20 11.4 +1.1**
LKWY pmax pmax
comp=Z,22nm,1.0s,mb5.0
YFT Old Faithful 70.92 331 eP **P 14 20 12.6 +1.7**
S05C Merced 71.03 320 ⇓P **P 14 20 12.3 +0.5**
baz=71,SNR=7.2
YNR Norris Junctio 71.05 331 eP **P 14 20 12.4 +0.6**
O09A Fish Creek Ran 71.07 324 ⇑P **P 14 20 12.0 +0.1**
baz=71
YMR Madison River 71.14 331 eP **P 14 20 13.0 +0.7**
comp=Z,50nm,1.3s,mb5.3
YMR epP pP 14 20 25.6 +0.7
K13A Stover Farm, H 71.16 328 ⇓P **P 14 20 12.3 -0.2**
baz=71
M11A Holland Ranch, 71.18 326 ⇓P **P 14 20 12.9 +0.3**
baz=71,SNR=16
HAST Hastings Reser 71.18 319 ⇑P **P 14 20 13.1 +0.4**

baz=71
P08A **Dixie Valley** 71.25 323 ⇓P P 14 20 13.6 +0.5
baz=71,SNR=8.3
R06C **Coleville** 71.26 322 ⇑P P 14 20 13.9 +0.7
baz=72,SNR=10
L12A **House Creek Ra** 71.27 327 ⇓P P 14 20 13.3 +0.1
baz=72,SNR=18
DGMT **Dagmar** 71.38 338 eP P 14 20 13.4 -0.2
comp=Z,56nm,0.9s,mb5.5
DGMT epP pP 14 20 25.9 -0.3
PACP **Pacheco Peak** 71.40 320 ⇑P P 14 20 14.6 +0.5
baz=72
GCMT **Greycliff** 71.42 333 eP P 14 20 13.3 -0.7
GCMT epP pP 14 20 26.0 -0.6
GCMT esP sP 14 20 31.9 +0.4
QLMT **Earthquake Lak** 71.48 331 eP P 14 20 15.0 +0.7
QLMT epP pP 14 20 27.4 +0.4
QLMT esP sP 14 20 34.5 +2.6
SCHQ **Schefferville** 71.50 3 eP P 14 20 13.4 -0.8
comp=Z,53nm,1.1s,mb5.4
SCHQ **Schefferville** 71.50 3 P P 14 20 13.8 -0.4
comp=Z,40nm,0.9s,mb5.3,baz=180,slow=5.0,SNR=23
SCHQ LR LR 14 49 48.4
comp=Z,151nm,18.8s,MS4.3,baz=85,slow=34
CMB **Columbia Colle** 71.50 321 eP P 14 20 14.4 -0.2
comp=Z,18nm,1.5s,mb4.8
CMB **Columbia Colle** 71.50 321 eP P 14 20 14.5 -0.2
CMB pmax pmax
comp=Z,18nm,1.5s,mb4.8
CMB **Columbia Colle** 71.50 321 P P 14 20 14.8 +0.1
baz=72,SNR=5.7
K12A **Draper Farm, C** 71.57 327 P P 14 20 15.6 +0.7
baz=72,SNR=30
M10A **I.L. Ranch, Tu** 71.64 326 ⇑P P 14 20 15.3 -0.1
baz=72,SNR=10.0
N09A **Rock Creek Ran** 71.72 325 ⇑P P 14 20 15.5 -0.3
baz=72
S04C **Ingram Canyon,** 71.74 320 ⇓P P 14 20 16.5 +0.4
baz=72
J13A **Cove Ranch, Pi** 71.75 328 P P 14 20 16.3 +0.3
baz=72,SNR=9.6
R05C **Kirkwood Meado** 71.75 322 ⇓P P 14 20 16.9 +0.7
baz=72,SNR=12
MAIT **Maitri** 71.88 160 eP P 14 20 16.4 -0.1
NVL **N'lazarevskaya** 71.91 160 i P P 14 20 18.3 +1.7
NVL pmax pmax
comp=N,20nm,1.6s
NVL pmax pmax
comp=E,21nm,1.6s
NVL pmax pmax
comp=Z,68nm,1.6s,mb5.3
NVL MLR MLR
comp=Z,5μm,19.1s,MS5.8
WCN **Washoe City** 71.95 322 ⇑P P 14 20 18.0 +0.7
baz=72,SNR=5.4
R04C **Big Horse Ranc** 71.98 321 ⇓P P 14 20 18.4 +0.9
baz=72
HLID **Hailey** 71.98 328 eP P 14 20 17.6 +0.2
comp=Z,18nm,1.0s,mb5.0
HLID epP pP 14 20 29.7 -0.3
HLID esP sP 14 20 34.4 -0.5
HLID **Hailey** 71.98 328 P P 14 20 17.9 +0.5
baz=72,SNR=19
L10A **Juniper Basin** 71.99 326 P P 14 20 18.0 +0.5
baz=72,SNR=29
N08A **GE Springer Mi** 72.01 324 P P 14 20 17.5 -0.1
baz=72,SNR=6.5
M09A **Marrel Ranch,** 72.07 325 ⇑P P 14 20 17.9 0.0
baz=72,SNR=5.5
I13A **Wildhorse Cree** 72.09 329 ⇑P P 14 20 18.7 +0.6
baz=72,SNR=31
J12A **Stokes Ranch,** 72.11 328 P P 14 20 18.4 +0.2
baz=72,SNR=15
MCMT **McKenzie Canyo** 72.15 330 eP P 14 20 18.9 +0.6
MCMT epP pP 14 20 31.2 +0.3
LAVA **Lava Cap Winer** 72.18 321 ⇓P P 14 20 18.7 0.0
baz=72
BOZ **Bozeman (W)** 72.19 331 eP P 14 20 18.1 -0.5
comp=Z,19nm,1.3s,mb4.9
BOZ epP pP 14 20 30.3 -1.0
BOZ esP sP 14 20 35.8 -0.3
BOZ **Bozeman (W)** 72.19 331 eP P 14 20 18.1 -0.5
BOZ e*PP pP 14 20 30.3 -0.9
BOZ e*SP sP 14 20 35.8 -0.3
BOZ pmax pmax
comp=Z,19nm,1.3s,mb4.9
BOZ **Bozeman (W)** 72.19 331 ⇓P P 14 20 18.2 -0.4
baz=72
G15A **Dillon** 72.23 331 ⇑P P 14 20 18.9 0.0
baz=72,SNR=9.2
K11A **Parker Ranch,** 72.25 327 ⇓P P 14 20 19.3 +0.3
baz=72,SNR=13
BDM **Black Diamond** 72.36 320 ⇓P P 14 20 20.6 +0.9
baz=72
DLMT **Dillon** 72.43 331 eP P 14 20 19.8 -0.2
comp=Z,26nm,1.3s,mb5.0
DLMT epP pP 14 20 31.9 -0.7
P05C **Yuba Gap, Truc** 72.45 322 ⇑P P 14 20 21.2 +0.9
baz=73,SNR=8.2
N07B **Gerlach** 72.48 324 P P 14 20 20.5 0.0
baz=73,SNR=25
O06A **Flanigan** 72.56 323 ⇑P P 14 20 21.2 +0.3
baz=73,SNR=6.8
L09A **Wilkinson Ranc** 72.59 326 P P 14 20 21.4 +0.3
baz=73,SNR=24
M08A **Happy Creek Ra** 72.60 325 P P 14 20 21.1 0.0
baz=73,SNR=7.7
MFID **Camas Ranch** 72.60 328 ⇑P P 14 20 21.5 +0.4
baz=73,SNR=19
Q04C **Lincoln** 72.62 321 ⇓P P 14 20 21.8 +0.5
baz=73
H13A **Challis** 72.63 329 P P 14 20 21.6 +0.4
baz=73,SNR=14
BEKR **Beckwourth** 72.67 322 P P 14 20 22.1 +0.5
baz=73,SNR=15
K10A **MacKenzie Ranc** 72.69 327 ⇑P P 14 20 21.9 +0.3
baz=73,SNR=6.4
F15A **Butte** 72.74 331 P P 14 20 21.9 0.0
baz=73,SNR=8.0
G14A **Jackson** 72.75 330 P P 14 20 22.0 +0.1
baz=73,SNR=6.3
H12A **Diamond D Ranc** 72.92 329 P P 14 20 23.4 +0.5
baz=73,SNR=14
N06A **Buffalo Meadow** 72.95 323 P P 14 20 23.5 +0.3
baz=73,SNR=41
CVS **Carmenet Viney** 72.96 320 ⇑P P 14 20 23.4 0.0
baz=73
M07A **Soldier Meadow** 73.00 324 ⇑P P 14 20 23.7 +0.2
baz=73
OHCM **Honcut** 73.00 321 eP P 14 20 23.7 +0.1
OHCM epP pP 14 20 35.7 -0.5
OHCM esP sP 14 20 41.6 +0.6
TBI **Tubuai** 73.00 250 eLR LR 14 42 48.9
comp=Z,425nm,30.8s
TBI **Tubuai** 73.00 250 eT 15 39 19.5
comp=Z,10nm,0.2s
G13A **Cobalt** 73.01 330 P P 14 20 23.9 +0.5
baz=73,SNR=31
O05C **Quincy** 73.06 322 ⇑P P 14 20 24.6 +0.7
baz=73
L08A **Fields** 73.08 325 ⇑P P 14 20 23.9 -0.1
baz=73,SNR=24
J10A **Berg Farm, Mel** 73.09 327 ⇓P P 14 20 23.2 -0.8
baz=73
HRY **Holter Researc** 73.09 332 eP P 14 20 24.0 +0.1
HRY epP pP 14 20 36.5 -0.1
K09A **Rome** 73.09 326 P P 14 20 24.3 +0.3
baz=73,SNR=42
SUTB **Sutter Butte** 73.11 321 ⇑P P 14 20 24.0 -0.2
baz=73
F14A **Wisdom** 73.12 331 ⇓P P 14 20 24.4 +0.3
baz=73
ORV **Oroville** 73.15 322 P P 14 20 24.9 +0.5
baz=73,SNR=33
NSHM **Saint Helena R** 73.16 320 eP P 14 20 24.9 +0.3
EGMT **Eagleton** 73.20 334 eP P 14 20 23.9 -0.7
comp=Z,29nm,0.9s,mb5.2
EGMT epP pP 14 20 36.0 -1.2
EGMT **Eagleton** 73.20 334 ⇓P P 14 20 24.2 -0.4
baz=73
E15A **Deer Lodge** 73.24 331 ⇓P P 14 20 24.9 +0.1
baz=74,SNR=9.6
MNRC **McLaughlin Nat** 73.29 321 ⇓P P 14 20 25.7 +0.5
baz=74
QSPA **South Pole Qui** 73.31 180 eP P 14 20 25.1 +0.3
comp=Z,56nm,1.0s,mb5.5
QSPA epP pP 14 20 36.7 -0.7

ELFS **Eagle Lake Fie** 73.38 323 P P 14 20 26.4 +0.6
baz=74,SNR=40
O04C **Chester** 73.39 322 ⇑P P 14 20 25.9 +0.1
baz=74,SNR=16
WVOR **Wild Horse Val** 73.41 325 eP P 14 20 25.4 -0.4
comp=Z,24nm,1.4s,mb4.9
WVOR epP pP 14 20 36.8 -1.7
WVOR **Wild Horse Val** 73.41 325 eP P 14 20 25.4 -0.5
WVOR e*PP pP 14 20 36.8 -1.7
WVOR pmax pmax
comp=Z,24nm,1.4s,mb4.9
L07A **Adell** 73.51 325 P P 14 20 26.9 +0.4
baz=74,SNR=13
K08A **Mann Creek Ran** 73.52 326 ⇑P P 14 20 26.6 0.0
baz=74,SNR=5.7
J09A **Fry Pan Ranch,** 73.55 326 ⇑P P 14 20 26.6 -0.2
baz=74,SNR=12
F13A **Darby** 73.56 330 P P 14 20 27.1 +0.4
baz=74,SNR=33
I10A **Payette** 73.57 328 ⇑P P 14 20 26.5 -0.3
baz=74
H11A **Donnelly** 73.61 328 ⇑P P 14 20 26.6 -0.3
baz=74
M06C **Likely Place G** 73.61 323 ⇑P P 14 20 27.4 +0.2
baz=74,SNR=10.0
E14A **Clinton** 73.63 331 P P 14 20 27.7 +0.6
baz=74,SNR=23
D15A **Lincoln** 73.65 332 ⇓P P 14 20 27.6 +0.4
baz=74,SNR=9.8
CHMT **Chamberlain Mo** 73.89 331 eP P 14 20 28.5 -0.1
CHMT epP pP 14 20 41.0 -0.2
H10A **Noah's Angus R** 73.89 328 ⇓P P 14 20 27.8 -0.9
baz=74
K07A **Rock Creek Ran** 73.91 325 ⇓P P 14 20 29.2 +0.3
baz=74,SNR=6.4
HATC **Hat Creek Radi** 73.93 323 ⇓P P 14 20 29.0 0.0
baz=74
GASB **Alder Springs** 73.94 321 ⇓P P 14 20 29.9 +0.8
baz=74,SNR=8.4
J08A **Circle Bar Ran** 73.94 326 ⇑P P 14 20 29.0 0.0
baz=74
MOD **Modoc** 73.97 324 eP P 14 20 28.6 -0.6
comp=Z,40nm,1.1s,mb5.3
MOD epP pP 14 20 40.0 -1.9
MOD **Modoc** 73.97 324 P P 14 20 29.6 +0.4
baz=74,SNR=24
TVO **Taravao** 73.97 256 eT 15 40 28.0
comp=Z,15nm,0.2s
E13A **Victor** 73.97 331 ⇓P P 14 20 29.5 +0.4
baz=74,SNR=11
I09A **Lost Marbles R** 73.98 327 ⇑P P 14 20 29.0 -0.2
baz=74,SNR=5.8
F12A **Elk City** 73.98 330 ⇑P P 14 20 29.3 +0.2
baz=74
M05C **Lookout** 74.10 323 ⇑P P 14 20 30.3 +0.3
baz=74,SNR=14
D14A **Greenough** 74.13 331 ⇑P P 14 20 30.1 +0.1
baz=74,SNR=6.5
MSO **Missoula** 74.14 331 eP P 14 20 30.2 +0.1
comp=Z,22nm,1.2s,mb5.0
MSO epP pP 14 20 42.5 -0.3
MSO esP sP 14 20 47.2 -0.4
P01C **Double 8 Ranch** 74.20 321 ⇓P P 14 20 31.2 +0.6
baz=74
G11A **Walters Elk Ra** 74.23 329 P P 14 20 30.6 0.0
baz=74,SNR=29
O02C **Red Bluff** 74.31 321 ⇓P P 14 20 30.5 -0.7
baz=74
PPT **Papeete** 74.32 256 eLR LR 14 43 24.9
comp=Z,249nm,22.5s
PPT **Papeete** 74.32 256 LR LR 14 45 04.1
comp=Z,269nm,19.1s,MS4.6,baz=90,slow=29
BMO **Blue Mountains** 74.36 328 eP P 14 20 31.1 -0.4
comp=Z,28nm,1.3s,mb5.0
BMO epP pP 14 20 43.4 -0.7
L05A **Lakeview** 74.37 324 P P 14 20 32.4 +0.9
baz=75,SNR=20
I08A **Drewsey** 74.37 326 P P 14 20 31.9 +0.5
baz=75,SNR=18
J07A **Hines** 74.40 326 P P 14 20 32.2 +0.6
baz=75,SNR=16
WDC **Whiskeytown Da** 74.41 322 eP P 14 20 29.8 -2.1
comp=Z,10.0nm,1.1s,mb4.7
WDC **Whiskeytown Da** 74.41 322 eP P 14 20 29.8 -2.0
WDC pmax pmax
comp=Z,10.0nm,1.1s,mb4.7
WDC **Whiskeytown Da** 74.41 322 ⇓P P 14 20 31.5 -0.3
baz=75,SNR=6.2
H09A **Durkee** 74.42 328 ⇓P P 14 20 31.4 -0.4
baz=75,SNR=5.3
F11A **Grangeville** 74.52 329 ⇓P P 14 20 32.0 -0.3
baz=75,SNR=16
K06A **Valley Falls** 74.53 325 P P 14 20 33.3 +0.9
baz=75,SNR=38
G10A **Bishop Farm, J** 74.58 328 P P 14 20 33.2 +0.6
baz=75,SNR=56
D13A **Huson** 74.58 331 P P 14 20 32.9 +0.2
baz=75,SNR=21
M03C **McCloud** 74.61 323 ⇑P P 14 20 32.1 -0.9
baz=75
C14A **Swan Lake** 74.75 332 ⇓P P 14 20 33.6 +0.1
baz=75
M04C **Macdoel** 74.77 323 P P 14 20 34.1 +0.2
baz=75,SNR=17
J06A **Christmas Vall** 74.78 325 P P 14 20 34.3 +0.4
baz=75,SNR=35
H08A **Prairie City** 74.84 327 P P 14 20 34.9 +0.7
baz=75,SNR=23
K05A **Summer Lake** 74.84 324 P P 14 20 35.2 +0.9
baz=75,SNR=16
E11A **Bogner Ranch,** 74.88 329 ⇓P P 14 20 34.0 -0.4
baz=75
LHEM **Herd Peak** 74.89 323 P P 14 20 34.6 0.0
G09A **Cove** 74.90 328 ⇑P P 14 20 35.0 +0.5
baz=75
D12A **Red Ives Fores** 74.97 330 ⇑P P 14 20 34.6 -0.3
baz=75
I07A **Izee** 74.98 326 P P 14 20 35.6 +0.6
baz=75,SNR=20
N02C **Big Bar** 75.02 322 P P 14 20 35.7 +0.4
baz=75,SNR=30
C13A **Hot Springs** 75.06 331 P P 14 20 35.8 +0.4
baz=75,SNR=16
F10A **Beach Ranch, E** 75.11 329 ⇓P P 14 20 35.9 +0.2
baz=75,SNR=12
M02C **Callahan** 75.11 322 ⇓P P 14 20 35.2 -0.6
baz=75,SNR=12
YBH **Yreka Blue Hor** 75.24 323 eP P 14 20 35.4 -1.1
comp=Z,11nm,1.0s,mb4.8
YBH epP pP 14 20 47.6 -1.7
YBH esP sP 14 20 53.3 -0.8
YBH **Yreka Blue Hor** 75.24 323 eP P 14 20 35.4 -1.2
YBH e*PP pP 14 20 47.6 -1.6
YBH e*SP sP 14 20 53.3 -0.8
YBH pmax pmax
comp=Z,11nm,1.0s
YBH **Yreka Blue Hor** 75.24 323 ⇓P P 14 20 35.6 -1.0
baz=75,SNR=16
K04A **Chilquin** 75.24 324 ⇑P P 14 20 36.8 +0.2
baz=75
F09A **S2 Ranch, Elgi** 75.27 328 ⇑P P 14 20 36.8 +0.2
baz=76,SNR=18
I06A **Prineville** 75.27 326 ⇓P P 14 20 37.7 +1.0
baz=76
H07A **Lands Inn, Kim** 75.36 326 ⇑P P 14 20 37.2 0.0
baz=76
J05A **Fort Rock** 75.40 325 P P 14 20 38.0 +0.5
baz=76,SNR=19
G08A **Pilot Rock** 75.52 327 P P 14 20 38.4 +0.4
baz=76,SNR=16
B13A **Whitefish** 75.52 332 ⇓P P 14 20 38.3 +0.2
baz=76
F08A **Pendleton** 75.77 328 ⇑P P 14 20 39.1 -0.4
baz=76,SNR=5.6
WALA **Waterton Lakes** 75.78 333 eP P 14 20 39.1 -0.4
comp=Z,16nm,0.9s,mb4.9
WALA epP pP 14 20 51.4 -0.7
KRMB **Red Mountain** 75.81 322 eP P 14 20 40.6 +0.8
KRMB epP pP 14 20 52.1 -0.5
KRMB esP sP 14 20 57.5 +0.2
J04A **Umpqua Nationa** 75.86 324 ⇓P P 14 20 40.3 +0.2
baz=76,SNR=8.1
H06A **Lindquist Farm** 75.86 326 P P 14 20 41.0 +0.9
baz=76,SNR=33
G07A **Ruggs Ranch, H** 75.87 327 P P 14 20 40.8 +0.7
baz=76,SNR=16
D10A **Wagner Farm, O** 75.89 329 ⇑P P 14 20 39.8 -0.4

baz=76
A13A **Flathead Natio** 75.91 332 ⇓P P 14 20 40.4 +0.1
baz=76
HUMO **Hull Mountain** 75.93 323 eP P 14 20 39.6 -1.0
comp=Z,11nm,1.1s,mb4.7
HUMO **Hull Mountain** 75.93 323 P P 14 20 40.1 -0.4
baz=76,SNR=5.9
E09A **Wood Farm, Sta** 75.94 329 ⇑P P 14 20 40.2 -0.3
baz=76,SNR=8.4
BBOR **Butler Butte** 75.95 324 P P 14 20 40.2 -0.4
FFC **Flin Flon** 75.97 342 eP P 14 20 39.0 -1.4
comp=Z,2.8nm,0.6s,mb4.4
FFC **Flin Flon** 75.97 342 eP P 14 20 39.0 -1.4
FFC pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
I05A **Bend** 75.99 325 ⇑P P 14 20 41.6 +0.8
baz=76
L02A **Cave Junction** 76.02 323 P P 14 20 41.2 +0.2
baz=76,SNR=9.9
B12A **Libby** 76.10 331 ⇑P P 14 20 41.5 +0.2
baz=76,SNR=6.4
M01C **Crescent City** 76.14 322 ⇓P P 14 20 42.0 +0.3
baz=76
H05A **Madras** 76.28 326 ⇑P P 14 20 43.0 +0.6
baz=76
K02A **Glendale** 76.34 323 ⇑P P 14 20 43.1 +0.3
baz=76,SNR=16
G06A **Carlson Farm,** 76.36 326 ⇑P P 14 20 43.5 +0.7
baz=77,SNR=10
I04A **Tendick Farm,** 76.38 324 ⇑P P 14 20 42.6 -0.4
baz=77,SNR=9.7
E08A **Dider Farm, El** 76.39 328 ⇑P P 14 20 42.6 -0.4
baz=77
D09A **Jones Farm, Ri** 76.40 329 ⇓P P 14 20 43.1 +0.1
baz=77,SNR=10
J03A **Ideyld Park** 76.42 324 ⇑P P 14 20 42.8 -0.5
baz=77
F07A **Phinny Hill Vi** 76.42 327 ⇓P P 14 20 43.9 +0.6
baz=77
B11A **Sandpoint** 76.44 331 ⇓P P 14 20 42.9 -0.3
baz=77
C10A **Spilker Farm,** 76.44 330 ⇑P P 14 20 43.2 -0.1
baz=77
A12A **Yaak River Ran** 76.47 332 ⇑P P 14 20 43.8 +0.4
baz=77
HAWA **Hanford** 76.56 328 eP P 14 20 44.1 +0.1
comp=Z,26nm,0.9s,mb5.2
HAWA epP pP 14 20 55.6 -1.1
HAWA esP sP 14 21 01.9 +0.4
GBL **Gable Mountain** 76.66 328 P P 14 20 45.3 +0.7
SNIWA **Snively Ranch** 76.67 328 P P 14 20 45.5 +0.9
D08A **Wollman Farm,** 76.70 329 ⇓P P 14 20 45.0 +0.2
baz=77,SNR=5.6
G05A **Wamic** 76.72 326 ⇑P P 14 20 45.8 +0.9
baz=77,SNR=8.1
J02A **Umpqua** 76.76 324 ⇓P P 14 20 45.7 +0.5
baz=77,SNR=12
F06A **Goldendale** 76.78 327 ⇑P P 14 20 45.8 +0.5
baz=77,SNR=5.3
A11A **Hall Mountain,** 76.81 331 ⇑P P 14 20 45.3 0.0
baz=77,SNR=8.5
H04A **Detroit Lake** 76.83 325 P P 14 20 45.4 -0.2
baz=77,SNR=16
OD2 **Odessa Site #2** 76.83 329 P P 14 20 46.2 +0.7
E07A **Sunnyside** 76.83 328 ⇓P P 14 20 46.2 +0.7
baz=77,SNR=8.3
VFP **Flag Point** 76.85 326 P P 14 20 46.4 +0.7
C09A **Chrisman Ranch** 76.90 330 ⇑P P 14 20 45.9 +0.1
baz=77,SNR=5.4
K01A **Sixes** 76.93 323 ⇑P P 14 20 46.7 +0.5
baz=77
I03A **Eugene** 76.98 324 ⇓P P 14 20 46.6 +0.2
baz=77,SNR=7.3
F05A **White Salmon** 77.22 327 ⇑P P 14 20 48.1 +0.4
baz=77
C08A **Higginbotham F** 77.26 329 ⇓P P 14 20 48.1 +0.2
baz=78
B09A **Rice** 77.27 330 ⇓P P 14 20 47.7 -0.2
baz=78,SNR=8.6
I02A **Mapleton** 77.31 324 ⇑P P 14 20 48.5 +0.2
baz=78
D07A **Quincy** 77.32 328 ⇓P P 14 20 48.6 +0.4
baz=78,SNR=8.0
G04A **Mulino** 77.32 326 ⇑P P 14 20 48.4 +0.1
baz=78,SNR=5.1
A10A **Northport** 77.38 331 ⇓P P 14 20 48.2 -0.4
baz=78
E06A **Yakima** 77.40 327 P P 14 20 49.2 +0.5
baz=78,SNR=7.7
H03A **Soap Creek Ran** 77.43 325 ⇓P P 14 20 49.5 +0.6
baz=78,SNR=10
WTV **Waterville** 77.65 329 P P 14 20 50.7 +0.6
FCC **Fort Churchill** 77.66 348 eP P 14 20 48.8 -1.0
comp=Z,26nm,1.0s,mb5.1
FCC epP pP 14 21 01.3 -1.3
FCC **Fort Churchill** 77.66 348 eP P 14 20 48.8 -1.1
FCC e*PP pP 14 21 01.3 -1.3
FCC pmax pmax
comp=Z,26nm,1.0s,mb5.1
C07A **Waterville** 77.70 329 P P 14 20 50.5 +0.1
baz=78,SNR=23
F04A **Amboy** 77.76 326 ⇓P P 14 20 50.8 +0.1
baz=78,SNR=8.6
D06A **Cle Elum** 77.76 328 ⇓P P 14 20 51.1 +0.4
baz=78,SNR=5.9
ETW **Entiat** 77.78 328 P P 14 20 51.8 +1.0
B08A **Colville Reser** 77.80 329 ⇑P P 14 20 50.4 -0.5
baz=78,SNR=6.9
E05A **Randle** 77.82 327 ⇑P P 14 20 50.9 -0.2
baz=78
H02A **Toledo** 77.82 324 ⇑P P 14 20 52.0 +0.9
baz=78
G03A **Yamhill** 77.83 325 ⇑P P 14 20 51.9 +0.7
baz=78
A09A **Danville** 77.86 330 P P 14 20 51.0 -0.2
baz=78,SNR=9.0
TOA0 **Torodi Ar. Sit** 77.91 72 ⇑i P P 14 20 51.3 -0.9
TOA0 epP pP 14 21 03.2 -1.7
TORD **Torodi Ar. Bea** 77.91 72 P P 14 20 51.6 -0.6
comp=Z,70nm,0.6s,mb5.8,baz=254,slow=5.9,SNR=1101
TORD pP pP 14 21 04.2 -0.8
comp=Z,34nm,0.6s,baz=255,slow=4.9,SNR=12
TORD LR LR 14 53 46.3
comp=Z,483nm,19.9s,MS4.8,baz=240,slow=34
A08A **Turner Farm, O** 78.17 330 P P 14 20 53.1 +0.2
baz=78,SNR=19
B07A **Winthrop** 78.25 329 ⇑P P 14 20 53.3 -0.1
baz=78,SNR=9.7
D05A **Enumclaw** 78.35 327 ⇑P P 14 20 53.9 -0.1
baz=78,SNR=7.6
F03A **Seaside** 78.37 326 ⇓P P 14 20 54.7 +0.6
baz=79
C05A **Tolt Reservoir** 78.53 328 ⇓P P 14 20 55.2 +0.2
baz=79
EDM **Edmonton** 78.67 336 eP P 14 20 54.1 -1.4
EDM epP pP 14 21 06.5 -1.8
E03A **Lebam** 78.76 326 ⇑P P 14 20 56.7 +0.4
baz=79,SNR=5.5
A07A **Ashnola River,** 78.78 329 ⇓P P 14 20 56.7 +0.5
baz=79,SNR=19
B06A **Marblemount** 78.97 329 ⇓P P 14 20 57.0 -0.3
baz=79,SNR=9.0
B05A **Bryant** 79.11 328 ⇓P P 14 20 57.6 -0.5
baz=79,SNR=6.8
C04A **Brinnon** 79.20 327 ⇓P P 14 20 58.9 +0.3
baz=79,SNR=7.6
D03A **Wishkah Elem.** 79.23 326 ⇓P P 14 20 59.7 +0.9
baz=79
A06A **Chilliwack** 79.35 329 ⇑P P 14 20 59.2 -0.2
baz=80
NLWA **Neilton Lookou** 79.46 327 ⇑P P 14 21 00.8 +0.7
baz=80,SNR=6.3
PFVI **Vila Bisbo** 79.52 46 eP P 14 21 00.7 0.0
comp=Z,25nm,0.8s,mb5.2
A05A **Maple Falls** 79.58 329 ⇓P P 14 21 00.4 -0.3
baz=80
B04A **Port Angeles** 79.69 327 ⇓P P 14 21 01.9 +0.6
baz=80
A04A **Legoe Bay, Lum** 79.71 328 ⇓P P 14 21 01.5 +0.1
baz=80
MORF **Marmelete** 79.73 46 eP P 14 21 02.7 +0.9
comp=Z,75nm,0.9s,mb5.6
MORF epP pP 14 21 14.6 0.0
PTEO **Sao Teotonio** 79.80 46 eP P 14 21 03.1 +0.9
comp=Z,107nm,1.2s,mb5.7
SBA **Scott Base** 79.98 191 eP P 14 21 02.8 +0.3
comp=Z,14nm,1.1s,mb4.8

SBA Scott Base 79.98 191 *e*P **P 14 21 02.8 +0.3**
SBA pmax pmax
comp=Z,15nm,1.1s,mb4.8
PGC Sidney 80.04 328 *e*P **P 14 21 03.4 +0.2**
comp=Z,224nm,1.6s,mb5.8
PGC *e*pP pP 14 21 15.5 -0.5
PGC *e*sP sP 14 21 21.7 +0.9
PMAFR Mafra 80.14 44 *e*LR LR 14 48 45.3
comp=Z,248nm,21.1s
C03A Quillayute Air 80.17 327 ⇓P **P 14 21 04.8 +0.9**
baz=80
PBDV Barranco-do-Ve 80.20 46 *e*P **P 14 21 04.9 +0.6**
comp=Z,67nm,1.4s,mb5.4
PVAQ Vaqueiros 80.42 46 *e*P **P 14 21 06.2 +0.7**
comp=Z,26nm,1.0s,mb5.1
PVAQ *e*pP pP 14 21 19.1 +0.8
PVAQ Vaqueiros 80.42 46 *e*LR LR 14 47 44.7
comp=Z,141nm,17.5s
MDT Midelt 80.49 52 P **P 14 21 07.0 +1.0**
comp=Z,17nm,1.0s,mb4.9,baz=251,slow=4.8,SNR=27
MDT LR LR 14 56 40.0
comp=Z,207nm,18.1s,MS4.5,baz=259,slow=36
PBEJ Beja 80.63 46 *e*P **P 14 21 07.5 +0.9**
comp=Z,33nm,0.9s,mb5.3
PBEJ *e*pP pP 14 21 19.3 -0.1
EGRO El Granado 80.65 46 P **P 14 21 07.6 +0.8**
comp=Z,38nm,1.0s,mb5.3
EVO Evora 80.78 45 *e*P **P 14 21 07.2 -0.2**
comp=Z,97nm,1.0s,mb5.4
EVO *e*MLR MLR
comp=Z,314nm,20.2s,MS4.4
VNDA Vanda 81.02 190 P **P 14 21 09.2 +1.0**
VNDA pP pP 14 21 20.4 -0.5
VNDA Vanda 81.02 190 P **P 14 21 09.2 +1.0**
comp=Z,9.2nm,0.8s,mb4.8,baz=137,slow=5.5
VNDA pP pP 14 21 20.4 -0.5
comp=Z,6.9nm,0.7s,baz=135,slow=4.1,SNR=4.9
PESTR Estremoz 81.23 45 *e*P **P 14 21 10.1 +0.3**
comp=Z,57nm,1.0s,mb5.5
PESTR *e*pP pP 14 21 22.9 +0.3
PESTR Estremoz 81.23 45 *e*LR LR 14 49 56.8
comp=Z,182nm,17.8s
PBAR Barrancos 81.27 46 *e*P **P 14 21 10.3 +0.3**
comp=Z,30nm,1.3s,mb5.1
PBAR *e*pP pP 14 21 23.0 +0.2
PBAR Barrancos 81.27 46 *e*LR LR 14 50 05.8
comp=Z,220nm,20.5s
EMIN Mina Concepcio 81.33 46 P **P 14 21 11.1 +0.8**
comp=Z,31nm,0.9s,mb5.2
ESPR Espera 81.47 47 P **P 14 21 11.6 +0.5**
comp=Z,21nm,0.9s,mb5.1
EBAD Badajoz 81.57 45 P **P 14 21 12.4 +0.8**
comp=Z,37nm,0.9s,mb5.3
SYO Syowa Base 81.58 160⇓*e*P **P 14 21 09.7 -1.5**
SYO Syowa Base 81.58 160⇓*e*pP pP 14 21 20.6 -3.4
PTO Porto 81.71 43 *e*P **P 14 21 12.8 +0.5**
PCBR Castelo Branco 81.79 44 *e*P **P 14 21 13.1 +0.3**
comp=Z,31nm,1.0s,mb5.2
PCBR *e*pP pP 14 21 24.8 -0.8
PVIS Viseu 81.96 43 *e*P **P 14 21 14.1 +0.5**
comp=Z,27nm,1.2s,mb5.0
MTE Manteigas 82.03 44 *e*P **P 14 21 14.0 0.0**
comp=Z,57nm,1.1s,mb5.4
MTE *e*pP pP 14 21 26.5 -0.3
MTE Manteigas 82.03 44 *e*LR LR 14 49 28.7
comp=Z,248nm,22.8s
MTE Manteigas 82.03 44 *e*P **P 14 21 14.0 0.0**
comp=Z,29nm,0.9s,mb5.2
MTE *e*pP pP 14 21 26.3 -0.5
ECAB El Cabril 82.34 47 P **P 14 21 16.7 +1.0**
comp=Z,8.4nm,0.8s,mb4.7
PVRL Vila Real 82.35 43 *e*P **P 14 21 16.1 +0.4**
comp=Z,33nm,1.5s,mb5.0
PVRL *e*pP pP 14 21 28.2 -0.3
PCAB Cabril 82.37 42 *e*P **P 14 21 15.7 0.0**
comp=Z,44nm,1.0s,mb5.3
PCAB *e*pP pP 14 21 28.2 -0.4
ELOB Lobios 82.43 42 P **P 14 21 16.2 +0.2**
comp=Z,21nm,1.0s,mb5.0
STS Santiago 82.64 41 P **P 14 21 16.3 -0.8**
comp=Z,36nm,2.8s,mb4.9
STS Santiago 82.64 41 P **P 14 21 16.3 -0.8**
STS pmax pmax
comp=Z,36nm,2.8s,mb4.9
MVO Moncorvo 82.75 43 *e*P **P 14 21 17.8 +0.1**
comp=Z,46nm,1.2s,mb5.4
MVO *e*pP pP 14 21 30.3 -0.2
MVO Moncorvo 82.75 43 *e*LR LR 14 50 06.9
comp=Z,207nm,19.7s
SUR Sutherland 82.80 122 *e*P **P 14 21 19.9 +1.5**
ELOJ Sierra Loja 82.80 48 P **P 14 21 19.3 +1.2**
comp=Z,16nm,0.8s,mb5.1
ELOJ Sierra Loja 82.80 48 P **P 14 21 19.3 +1.2**
ELOJ pmax pmax
comp=Z,17nm,0.8s,mb5.1
ELUQ Luque 82.91 47 P **P 14 21 19.9 +1.3**
comp=Z,13nm,0.8s,mb5.0
ELUQ Luque 82.91 47 P **P 14 21 19.9 +1.3**
ELUQ pmax pmax
comp=Z,13nm,0.8s,mb5.0
EADA Adamuz 82.97 47 P **P 14 21 19.4 +0.5**
comp=Z,8.5nm,0.8s,mb4.8
ERON Agron 82.99 48 P **P 14 21 19.6 +0.6**
comp=Z,5.8nm,0.6s,mb4.8
PBRG Braganca 83.25 43 *e*P **P 14 21 20.4 +0.1**
ECOG Cogollos-Vega 83.28 48 P **P 14 21 21.3 +0.7**
comp=Z,12nm,0.9s,mb4.9
ECOG Cogollos-Vega 83.28 48 P **P 14 21 21.3 +0.8**
ECOG pmax pmax
comp=Z,12nm,0.9s,mb4.9
ECAL Calabor 83.32 43 P **P 14 21 21.6 +1.0**
comp=Z,54nm,1.0s,mb5.5
TSUM Tsumeb 83.47 108 *e*P **P 14 21 22.8 +0.8**
comp=Z,48nm,0.9s,mb5.5
TSUM *e*pP pP 14 21 33.1 -1.8
TSUM *e*sP sP 14 21 40.2 +0.5
EBAN Banos Encina 83.52 47 P **P 14 21 22.8 +1.0**
comp=Z,18nm,0.8s,mb5.2
EBAN Banos Encina 83.52 47 P **P 14 21 22.8 +1.0**
EBAN pmax pmax
comp=Z,18nm,0.8s,mb5.2
EBER Berja 83.59 49 P **P 14 21 22.8 +0.6**
comp=Z,22nm,0.9s,mb5.3
EPON Pontenova 83.75 41 P **P 14 21 23.3 +0.5**
comp=Z,60nm,1.1s,mb5.6
PAB San Pablo 83.77 46 *e*P **P 14 21 23.2 +0.2**
comp=Z,53nm,1.1s,mb5.6
PAB *e*pP pP 14 21 34.9 -1.0
PAB San Pablo 83.77 46 *e*P **P 14 21 23.2 +0.2**
PAB *e*PP pP 14 21 34.9 -1.0
PAB pmax pmax
comp=Z,53nm,1.1s,mb5.6
EQES Quesada 83.86 48 P **P 14 21 23.7 +0.2**
comp=Z,22nm,1.0s,mb5.2
ESDC Sonseca Array 84.09 46 P **P 14 21 24.6 -0.1**
comp=Z,19nm,0.7s,mb5.3
ESDC Sonseca Array 84.09 46 P **P 14 21 25.3 +0.7**
comp=Z,27nm,0.8s,mb5.4,baz=253,slow=5.2,SNR=147
ESDC pP pP 14 21 37.8 +0.3
comp=Z,15nm,0.8s,baz=254,slow=5.0,SNR=14
ESDC LR LR 14 56 08.6
comp=Z,148nm,19.2s,MS4.4,baz=245,slow=34
ESLA Sonseca Array 84.09 46 *e*P **P 14 21 25.3 +0.7**
comp=Z,11nm,0.9s,mb5.0
ESLA *e*pP pP 14 21 37.5 0.0
ENIJ Nijar 84.11 49 P **P 14 21 24.7 -0.1**
comp=Z,14nm,0.8s,mb5.2
ENIJ Nijar 84.11 49 P **P 14 21 24.7 -0.1**
ENIJ pmax pmax
comp=Z,15nm,0.8s,mb5.2
GUD Guadarrama 84.41 45 P **P 14 21 26.4 +0.1**
comp=Z,53nm,1.8s,mb5.4
GUD Guadarrama 84.41 45 P **P 14 21 26.4 +0.1**
GUD pmax pmax
comp=Z,53nm,1.8s,mb5.4
EVIA Vianos 84.64 47 P **P 14 21 28.5 +1.0**
comp=Z,58nm,0.9s,mb5.7
EVIA Vianos 84.64 47 P **P 14 21 28.5 +1.0**
EVIA pmax pmax
comp=Z,58nm,0.9s,mb5.7
EARI Arriondas 84.97 42 P **P 14 21 29.9 +0.9**
comp=Z,16nm,0.8s,mb5.2
SFJD Kangerlussuaq 84.99 8 *e*P **P 14 21 27.2 -1.3**
comp=Z,46nm,1.4s,mb5.4
SFJD *e*pP pP 14 21 39.5 -1.9
SFJD Kangerlussuaq 84.99 8 *e*P **P 14 21 27.2 -1.3**
SFJD *e*PP pP 14 21 39.5 -1.9
SFJD pmax pmax
comp=Z,46nm,1.4s,mb5.4
SFJD Kangerlussuaq 84.99 8 *i* P **P 14 21 27.9 -0.6**
SFJD pmax pmax
comp=Z,21nm,0.9s,mb5.3
SFJD Kangerlussuaq 84.99 8 P **P 14 21 28.0 -0.6**
comp=Z,14nm,0.7s,mb5.2,baz=172,slow=2.2,SNR=7.6
SFJD Kangerlussuaq 84.99 8 *i* P **P 14 21 27.9 -0.6**
comp=Z,21nm,0.9s,mb5.3
ETOB Tobarra 85.31 47 P **P 14 21 31.6 +0.8**
comp=Z,51nm,0.9s,mb5.7
ETOR Torete 85.91 45 P **P 14 21 35.2 +1.5**
comp=Z,20nm,0.7s,mb5.5
ETOR Torete 85.91 45 P **P 14 21 35.3 +1.5**
ETOR pmax pmax
comp=Z,20nm,0.7s,mb5.5
ELAN Lanestosa 86.08 43 P **P 14 21 35.2 +0.7**
comp=Z,20nm,0.9s,mb5.3
YKA Yellowknife Ar 86.12 341 P **P 14 21 33.3 -1.0**
YKA pP pP 14 21 45.5 -1.7
YKA PKKP PKKPbc 14 39 32.9 -3.6
YKA LR LR 15 05 21.1
YKA Yellowknife Ar 86.12 341 P **P 14 21 33.3 -1.0**
YKA *PP pP 14 21 45.5 -1.6
YKA Yellowknife Ar 86.12 341 P **P 14 21 33.3 -1.0**
comp=Z,17nm,0.7s,mb5.4,baz=132,slow=4.9,SNR=252
YKA pP pP 14 21 45.5 -1.7
comp=Z,6.8nm,0.6s,baz=134,slow=5.0,SNR=8.2
YKA PKKP PKKPbc 14 39 32.9 -3.6
comp=Z,0.4nm,0.6s,baz=322,slow=3.2,SNR=5.6
YKA LR LR 15 05 21.1
comp=Z,75nm,19.0s,MS4.1,baz=0.0,slow=39
ECHE Chera 86.13 47 P **P 14 21 36.1 +1.2**
comp=Z,17nm,0.8s,mb5.3
ECHE Chera 86.13 47 P **P 14 21 36.1 +1.2**
ECHE pmax pmax
comp=Z,17nm,0.8s,mb5.3
ECRI Cripan 86.40 44 P **P 14 21 38.3 +2.1**
comp=Z,7.9nm,0.5s,mb5.2
ECRI Cripan 86.40 44 P **P 14 21 38.3 +2.2**
ECRI pmax pmax
comp=Z,8.0nm,0.5s,mb5.2
SJPF Ste Jean 87.47 44 *e*P **P 14 21 41.6 +0.3**
comp=Z,38nm,1.1s,mb5.2
SJPF *e*pP pP 14 21 51.7 -2.6
SJPF Ste Jean 87.47 44 *e*P **P 14 21 41.6 +0.3**
comp=Z,19nm,1.1s,mb5.2
SJPF *e*pP pP 14 21 51.7 -2.6
SJPF Ste Jean 87.47 44 *e*P **P 14 21 41.6 +0.3**
SJPF *e*PP pP 14 21 51.7 -2.6
SJPF pmax pmax
comp=Z,19nm,1.1s,mb5.2
BOSA Boshof 87.54 119 P **P 14 21 42.2 +0.1**
BOSA LR LR 14 57 05.2
BOSA Boshof 87.54 119 P **P 14 21 42.2 +0.1**
comp=Z,6.3nm,0.7s,mb5.0,baz=254,slow=3.5,SNR=8.8
BOSA LR LR 14 57 05.2
comp=Z,246nm,18.6s,MS4.6,baz=190,slow=33
ERTA Horta de San J 87.61 46 P **P 14 21 45.1 +3.1**
comp=Z,12nm,0.8s,mb5.2
ETSF Etsaut 87.82 44 *e*P **P 14 21 43.4 +0.4**
comp=Z,17nm,0.7s,mb5.1
ETSF Etsaut 87.82 44 *e*P **P 14 21 43.4 +0.4**
comp=Z,8.4nm,0.7s,mb5.1
ETSF Etsaut 87.82 44 *e*P **P 14 21 43.4 +0.4**
ETSF pmax pmax
comp=Z,8.0nm,0.7s,mb5.1
EBIE Bielsa 88.20 44 P **P 14 21 45.7 +0.9**
comp=Z,24nm,0.8s,mb5.5
VIEF Viey 88.20 44 *e*P **P 14 21 45.6 +0.8**
QUIF Quistinic 88.40 39 *e*P **P 14 21 44.7 -0.9**
comp=Z,48nm,1.1s,mb5.3
QUIF Quistinic 88.40 39 *e*P **P 14 21 44.7 -0.9**
comp=Z,24nm,1.1s,mb5.3
QUIF Quistinic 88.40 39 *e*P **P 14 21 44.7 -0.9**
QUIF pmax pmax
comp=Z,24nm,1.1s,mb5.3
EPF Esparros 88.48 44 *e*P **P 14 21 46.2 +0.1**
comp=Z,29nm,1.1s,mb5.1
EPF Esparros 88.48 44 *e*P **P 14 21 46.2 +0.1**
comp=Z,14nm,1.1s,mb5.1
EPF Esparros 88.48 44 *e*P **P 14 21 46.2 +0.1**
EPF pmax pmax
comp=Z,14nm,1.1s,mb5.1
ROSF Rostrenen 88.53 38 *e*P **P 14 21 45.4 -0.8**
comp=Z,52nm,1.1s,mb5.5
ROSF *e*pP pP 14 21 57.2 -2.0
ROSF Rostrenen 88.53 38 *e*P **P 14 21 45.4 -0.8**
comp=Z,26nm,1.1s,mb5.5
ROSF *e*pP pP 14 21 57.2 -2.0
ROSF Rostrenen 88.53 38 *e*P **P 14 21 45.4 -0.8**
ROSF *e*PP pP 14 21 57.2 -2.0
ROSF pmax pmax
comp=Z,26nm,1.1s,mb5.5
MELF Melles 88.69 44 *e*P **P 14 21 48.0 +0.9**
SGMF Saint Gilles 88.92 38 *e*P **P 14 21 47.1 -1.0**
LBTB Lobatse 88.93 116 *e*P **P 14 21 49.0 +0.2**
comp=Z,26nm,1.1s,mb5.5
LBTB *e*pP pP 14 22 01.2 -0.5
LBTB Lobatse 88.93 116 *e*P **P 14 21 49.0 +0.2**
LBTB *e*PP pP 14 22 01.2 -0.5
LBTB pmax pmax
comp=Z,26nm,1.1s,mb5.5
SALF Salau 88.93 45 *e*P **P 14 21 49.3 +1.0**
DLF Lyons Farm 89.11 33 *e*P **P 14 21 48.8 0.0**
DLBC Dease Lake 89.11 333 *e*P **P 14 21 48.7 0.0**
DLBC *e*pP pP 14 22 00.7 -0.9
DSB Dublin 89.16 33 *e*P **P 14 21 48.1 -1.0**
comp=Z,27nm,1.1s,mb5.5
MAW Mawson 89.37 164 P **P 14 21 50.3 +0.3**
MAW *PP pP 14 22 02.0 -0.9
MAW Mawson 89.37 164 P **P 14 21 50.3 +0.4**
comp=Z,31nm,0.8s,mb5.7,baz=213,slow=6.7,SNR=40
MAW pP pP 14 22 02.0 -0.9
comp=Z,9.4nm,0.7s,baz=203,slow=6.0,SNR=5.9
MAW LR LR 14 59 38.7
comp=Z,247nm,21.0s,MS4.6,baz=358,slow=34
CARF Carcanieres 89.53 45 *e*P **P 14 21 51.7 +0.6**
LFF La Frestale 89.53 42 *e*P **P 14 21 50.5 -0.5**
comp=Z,66nm,0.9s,mb5.7
LFF La Frestale 89.53 42 *e*P **P 14 21 50.5 -0.5**
comp=Z,33nm,0.9s,mb5.7
LFF La Frestale 89.53 42 *e*P **P 14 21 50.5 -0.5**
LFF pmax pmax
comp=Z,33nm,0.9s,mb5.7
MFF Saint Martin d 89.67 41 *e*P **P 14 21 50.9 -0.7**
comp=Z,22nm,0.7s,mb5.3
MFF *e*pP pP 14 22 02.8 -1.8
MFF Saint Martin d 89.67 41 *e*P **P 14 21 50.9 -0.7**
comp=Z,11nm,0.7s,mb5.3
MFF *e*pP pP 14 22 02.8 -1.8
MFF Saint Martin d 89.67 41 *e*P **P 14 21 50.9 -0.7**
MFF *e*PP pP 14 22 02.8 -1.8
MFF pmax pmax
comp=Z,11nm,0.7s,mb5.3
BORG Borgarnes 89.74 19 *e*P **P 14 21 53.1 +1.6**
comp=Z,126nm,1.8s,mb5.9
BORG *e*pP pP 14 22 05.5 +1.1
BORG Borgarnes 89.74 19 P **P 14 21 53.1 +1.6**
comp=Z,28nm,1.1s,mb5.5,baz=219,slow=2.4,SNR=4.4
BORG pP pP 14 22 05.1 +0.6
comp=Z,14nm,0.9s,baz=211,slow=6.6,SNR=3.8
BORG LR LR 14 58 19.3
comp=Z,138nm,20.8s,MS4.4,baz=189,slow=33
FILF Fillols 89.78 45 *e*P **P 14 21 52.5 +0.3**
MTLF Montolieu 89.86 44 *e*P **P 14 21 52.1 -0.5**
comp=Z,29nm,1.0s,mb5.3
MTLF *e*pP pP 14 22 03.6 -1.9
MTLF Montolieu 89.86 44 *e*P **P 14 21 52.1 -0.5**
comp=Z,14nm,1.0s,mb5.3
MTLF *e*pP pP 14 22 03.6 -1.9
MTLF Montolieu 89.86 44 *e*P **P 14 21 52.1 -0.5**
MTLF *e*PP pP 14 22 03.6 -1.9
MTLF pmax pmax
comp=Z,14nm,1.0s,mb5.2
GRR Gorron 89.99 39 *e*P **P 14 21 52.0 -1.1**
comp=Z,51nm,0.8s,mb5.6
GRR Gorron 89.99 39 *e*P **P 14 21 52.0 -1.1**
comp=Z,25nm,0.8s,mb5.6
GRR Gorron 89.99 39 *e*P **P 14 21 52.0 -1.1**
GRR pmax pmax
comp=Z,25nm,0.8s,mb5.6
RJF Les Rejaudoux 90.18 42 *e*P **P 14 21 53.3 -0.8**
comp=Z,42nm,1.1s,mb5.4
RJF *e*MLR MLR
comp=Z,237nm,17.8s,MS4.4
RJF Les Rejaudoux 90.18 42 *e*P **P 14 21 53.3 -0.8**
comp=Z,21nm,1.1s,mb5.4
RJF LR LR
comp=Z,240nm,17.8s,MS4.7
RJF Les Rejaudoux 90.18 42 *e*P **P 14 21 53.3 -0.8**
RJF pmax pmax
comp=Z,21nm,1.1s,mb5.4
RJF MLR MLR
comp=Z,240nm,17.8s,MS4.7
FLN La Foliniere 90.38 39 *e*P **P 14 21 54.1 -0.8**
comp=Z,34nm,0.8s,mb5.4
FLN *e*MLR MLR
comp=Z,245nm,20.8s,MS4.3
FLN La Foliniere 90.38 39 *e*P **P 14 21 54.1 -0.8**
comp=Z,17nm,0.8s,mb5.4
FLN LR LR
comp=Z,250nm,20.8s,MS4.6
FLN La Foliniere 90.38 39 *e*P **P 14 21 54.1 -0.8**
FLN pmax pmax
comp=Z,17nm,0.8s,mb5.4
FLN MLR MLR
comp=Z,250nm,20.8s,MS4.6
CAF Calviac 90.39 43 *e*P **P 14 21 54.6 -0.4**
comp=Z,14nm,0.7s,mb5.1
CAF Calviac 90.39 43 *e*P **P 14 21 54.6 -0.4**
comp=Z,6.9nm,0.7s,mb5.1
CAF Calviac 90.39 43 *e*P **P 14 21 54.6 -0.4**
CAF pmax pmax
comp=Z,7.0nm,0.7s,mb5.1
LDF La Druitiere 90.53 39 *e*P **P 14 21 54.7 -0.9**
comp=Z,46nm,0.9s,mb5.5
LDF La Druitiere 90.53 39 *e*P **P 14 21 54.7 -0.9**
comp=Z,23nm,0.9s,mb5.5
LDF La Druitiere 90.53 39 *e*P **P 14 21 54.7 -0.9**
LDF pmax pmax
comp=Z,23nm,0.9s,mb5.5
TCF Toulx Ste Croi 91.02 42 *e*P **P 14 21 57.0 -0.9**
comp=Z,24nm,0.9s,mb5.2
TCF *e*pP pP 14 22 09.0 -1.9
TCF Toulx Ste Croi 91.02 42 *e*P **P 14 21 57.0 -0.9**
comp=Z,12nm,0.9s,mb5.2
TCF *e*pP pP 14 22 09.0 -1.9
TCF Toulx Ste Croi 91.02 42 *e*P **P 14 21 57.0 -0.9**
TCF *e*PP pP 14 22 09.0 -1.9
TCF pmax pmax
comp=Z,12nm,0.9s,mb5.2
LASF Ste Croix 91.24 44 *e*P **P 14 21 58.9 -0.1**
comp=Z,34nm,1.2s,mb5.2
LBL Lubilhac 91.28 43 *e*P **P 14 21 59.7 +0.6**
AGO Saint Agoulin 91.52 42 *e*P **P 14 21 59.9 -0.3**
BGF Bois d'Agland 91.53 42 *e*P **P 14 21 59.5 -0.8**
comp=Z,49nm,0.9s,mb5.5
BGF Bois d'Agland 91.53 42 *e*P **P 14 21 59.5 -0.8**
comp=Z,24nm,0.9s,mb5.5
BGF Bois d'Agland 91.53 42 *e*P **P 14 21 59.5 -0.8**
BGF pmax pmax
comp=Z,25nm,0.9s,mb5.5
ESK Eskdalemuir 91.79 32 *e*P **P 14 22 00.4 -0.8**
ESK *e*pP pP 14 22 11.1 -3.1
PLDF La Plantade 91.80 42 *e*P **P 14 22 01.6 0.0**
EKA Eskdalemuir Ar 91.82 32 P **P 14 22 00.7 -0.7**
comp=Z,2.8nm,0.8s,mb4.7,baz=238,slow=5.8,SNR=11
AVF Avril sur Loir 91.94 42 *e*P **P 14 22 01.2 -1.0**
comp=Z,13nm,0.7s,mb5.0
AVF *e*pP pP 14 22 13.1 -2.1
AVF Avril sur Loir 91.94 42 *e*P **P 14 22 01.2 -1.0**
comp=Z,6.3nm,0.7s,mb5.0
AVF *e*pP pP 14 22 13.1 -2.1
AVF Avril sur Loir 91.94 42 *e*P **P 14 22 01.2 -1.0**
AVF *e*PP pP 14 22 13.1 -2.1
AVF pmax pmax
comp=Z,6.0nm,0.7s,mb5.0
VIVF Saint-Julien-l 92.07 44 *e*P **P 14 22 02.9 +0.1**
comp=Z,56nm,1.4s,mb5.4
VIVF Saint-Julien-l 92.07 44 *e*P **P 14 22 02.9 +0.1**
comp=Z,28nm,1.4s,mb5.4
VIVF Saint-Julien-l 92.07 44 *e*P **P 14 22 02.9 +0.1**
VIVF pmax pmax
comp=Z,28nm,1.4s,mb5.4
SSF Saint Saulge 92.14 41 *e*P **P 14 22 01.9 -1.2**
comp=Z,9.7nm,0.7s,mb4.9
SSF Saint Saulge 92.14 41 *e*P **P 14 22 01.9 -1.2**
comp=Z,4.8nm,0.7s,mb4.9
SSF Saint Saulge 92.14 41 *e*P **P 14 22 01.9 -1.2**
SSF pmax pmax
comp=Z,5.0nm,0.7s,mb5.0
SMF Signal de Mont 92.20 42 *e*P **P 14 22 02.6 -0.8**
comp=Z,38nm,0.9s,mb5.4
SMF Signal de Mont 92.20 42 *e*P **P 14 22 02.6 -0.8**
comp=Z,19nm,0.9s,mb5.4
SMF Signal de Mont 92.20 42 *e*P **P 14 22 02.6 -0.8**
SMF pmax pmax
comp=Z,19nm,0.9s,mb5.4
KEST Kesra 92.25 53 LR LR 15 00 09.3
comp=Z,112nm,21.7s,MS4.3,baz=191,slow=33
SMRF Simiane la Rot 92.35 45 *e*P **P 14 22 03.6 -0.6**
comp=Z,47nm,1.4s,mb5.3
SMRF Simiane la Rot 92.35 45 *e*P **P 14 22 03.6 -0.6**
comp=Z,47nm,1.4s,mb5.6
LOR Lormes 92.45 41 *e*P **P 14 22 03.4 -1.1**
comp=Z,10nm,0.8s,mb4.9
LOR *e*MLR MLR
comp=Z,168nm,17.5s,MS4.2
LOR Lormes 92.45 41 *e*P **P 14 22 03.4 -1.1**
comp=Z,5.3nm,0.8s,mb4.9
LOR LR LR
comp=Z,170nm,17.5s,MS4.5
LOR Lormes 92.45 41 *e*P **P 14 22 03.4 -1.1**
LOR pmax pmax
comp=Z,5.0nm,0.8s,mb4.9
LOR MLR MLR
comp=Z,170nm,17.5s,MS4.5
LMR La Mourre 92.76 46 *e*P **P 14 22 05.8 -0.2**
ORIF Oris-en-Rattie 92.89 44 *e*P **P 14 22 07.0 +0.4**
comp=Z,20nm,0.8s,mb5.3
ORIF *e*MLR MLR
comp=Z,421nm,22.5s,MS4.5
ORIF Oris-en-Rattie 92.89 44 *e*P **P 14 22 07.0 +0.4**
comp=Z,9.9nm,0.8s,mb5.3
ORIF Oris-en-Rattie 92.89 44 *e*P **P 14 22 07.0 +0.4**
ORIF pmax pmax
comp=Z,10.0nm,0.8s,mb5.3
FRF La Foret Royal 92.93 45 *e*P **P 14 22 06.7 -0.1**
MBDF Montbardon 93.42 44 *e*P **P 14 22 09.1 0.0**
CABF La Chapelle 93.63 42 *e*P **P 14 22 09.6 -0.4**
LPL La Plagne 93.67 44 *e*P **P 14 22 10.7 +0.5**
LPG La Plagne 93.67 44 *e*P **P 14 22 10.9 +0.7**
LPG *e*pP pP 14 22 22.7 -0.5
DOU Dourbes 93.95 39 P **P 14 22 11.0 -0.4**
comp=Z,11nm,2.2s,mb4.9
GIVF Givet 94.09 39 *e*P **P 14 22 11.4 -0.6**
HAU Haudompre 94.28 41 *e*P **P 14 22 12.1 -0.9**
HAU *e*MLR MLR
comp=Z,206nm,20.2s,MS4.3
HAU Haudompre 94.28 41 *e*P **P 14 22 12.1 -0.9**
HAU MLR MLR
comp=Z,210nm,20.3s,MS4.6
LSZ Lusaka 94.30 107 *e*P **P 14 22 14.9 +1.0**
LOMF Lomont 94.36 42 *e*P **P 14 22 13.7 +0.4**
HINF Hinteralfeld 94.54 41 *e*P **P 14 22 13.2 -0.9**
WLF Walferdange 94.74 40 P **P 14 22 14.1 -0.9**
comp=Z,7.1nm,1.1s,mb5.0
WLF Walferdange 94.74 40 *e*P **P 14 22 14.7 -0.3**
comp=Z,15nm,1.0s,mb5.4
ECH Echery 94.86 41 *e*P **P 14 22 15.2 -0.4**
CDF Champ du Feu 95.00 41 *e*P **P 14 22 15.4 -0.9**
comp=Z,31nm,1.3s,mb5.3
CDF Champ du Feu 95.00 41 *e*P **P 14 22 15.4 -0.9**
comp=Z,16nm,1.3s,mb5.3
CDF Champ du Feu 95.00 41 *e*P **P 14 22 15.4 -0.9**
CDF pmax pmax
comp=Z,16nm,1.3s,mb5.3
FELD Feldberg im Sc 95.29 42 *e*P **P 14 22 17.2 -0.4**
RUP Ruppelstein 95.31 40 *e*P **P 14 22 17.8 +0.2**
LANF Langenberg 95.53 41 *e*P **P 14 22 18.7 +0.1**
SPAK Spaichingen-Ko 95.86 42 *e*P **P 14 22 20.0 -0.2**
INK Inuvik 95.87 341 *e*P **P 14 22 18.4 -1.3**
comp=Z,238nm,1.1s,mb6.5
INK Inuvik 95.87 341 PKKP PKKPbc 14 39 08.9 -2.7
comp=Z,1.7nm,0.8s,baz=265,slow=0.9,SNR=8.2
DAWY Dawson 95.88 336 *e*P **P 14 22 18.7 -1.2**
DAWY *e*pP pP 14 22 31.6 -1.2
DAVOX Davos/Dischmat 96.15 43 P **P 14 22 21.7 +0.2**
comp=Z,7.3nm,1.1s,mb5.0,baz=226,slow=8.8,SNR=6.2
STU Stuttgart 96.33 41 *e*P **P 14 22 22.4 +0.1**

comp=Z,18nm,1.0s,mb5.5
IBBN Ibbenburen 96.58 37 *e*P **P 14 22 24.0 +0.7**
comp=Z,11nm,0.7s,mb5.4
UBBA Unterbreizbach 97.45 39 *e*P **P 14 22 27.4 +0.1**
comp=Z,4.0nm,1.0s,mb4.8
FUR Furstenfeldbru 97.47 42 *e*P **P 14 22 27.0 -0.4**
FUR pmax pmax
comp=Z,16nm,0.9s,mb5.5
FUR Furstenfeldbru 97.47 42 *e*P **P 14 22 27.0 -0.4**
comp=Z,16nm,0.9s,mb5.5
GRA1 Grafenberg Arr 97.87 41 *e*P **P 14 22 29.0 -0.2**
comp=Z,8.0nm,0.9s,mb5.2
GRF Grafenberg Arr 97.87 41 *e*P **P 14 22 29.0 -0.2**
GRF pmax pmax
comp=Z,8.0nm,0.9s,mb5.2
GRF Grafenberg Arr 97.87 41 *e*P **P 14 22 29.0 -0.2**
comp=Z,8.0nm,0.9s,mb5.2
CLZ Clausthal 97.98 38 *e*P **P 14 22 29.7 +0.1**
CLZ pmax pmax
comp=Z,12nm,1.2s,mb5.3
CLZ Clausthal 97.98 38 *e*P **P 14 22 29.7 +0.1**
comp=Z,12nm,1.2s,mb5.3
MOX Moxa 98.38 40 *e*P **P 14 22 30.9 -0.6**
comp=Z,11nm,1.6s,mb5.1
MANZ Manzenberg 98.50 40 *e*P **P 14 22 32.4 +0.3**
comp=Z,12nm,1.2s,mb5.3
ROTZ Rotzenmuhle 98.50 41 *e*P **P 14 22 32.0 -0.1**
comp=Z,12nm,1.2s,mb5.3
WET Wettzell 98.76 41 *e*P **P 14 22 33.0 -0.2**
WET pmax pmax
comp=Z,8.0nm,1.3s,mb5.1
WET Wettzell 98.76 41 *e*P **P 14 22 33.0 -0.2**
comp=Z,8.0nm,1.3s,mb5.1
TANN Tannenbergstha 98.84 40 *e*P **P 14 22 33.9 +0.3**
comp=Z,15nm,1.4s,mb5.3
GEC2 GERESS Array S 99.20 42 *e*P **P 14 22 34.8 -0.4**
GEC2 pmax pmax
comp=Z,10.0nm,1.5s,mb5.1
GEC2 GERESS Array S 99.20 42 *e*P **P 14 22 34.8 -0.4**
comp=Z,10.0nm,1.5s,mb5.1
GERES GERESS Array B 99.20 42 P **P 14 22 35.1 -0.1**
comp=Z,1.1nm,0.8s,mb4.5,baz=268,slow=3.5,SNR=11
GERES pP pP 14 22 47.4 -0.8
comp=Z,1.0nm,0.8s,baz=228,slow=3.4,SNR=4.9
CLL Collm 99.41 39 *i* P **P 14 22 36.0 -0.1**
comp=Z,16nm,1.6s,mb5.3
FBE Freiberg 99.52 40 *e*P **P 14 22 36.7 +0.1**
comp=Z,9.0nm,1.1s,mb5.1
BRG Berggiesshubel 99.87 40 *e*P Pdif 14 22 38.3 +0.1
BRG pmax pmax
comp=Z,6.0nm,1.3s,mb4.9
BRG Berggiesshubel 99.87 40 *e*P Pdif 14 22 38.3 +0.1
comp=Z,11nm,1.3s
ARCES ARCESS Array B 108.00 22 PKKPbc PKKPbc 14 38 32.7 -3.1
comp=Z,3.3nm,0.4s,baz=91,slow=3.6,SNR=28
APA Apatity 111.02 23 ⇑*i*PKIKP PKiKP 14 27 28.0 +1.7
APA pmax pmax
comp=Z,190nm,2.0s
MMAI Mount Meron Ar 112.70 61 PKiKP PKiKP 14 27 31.2 +0.6
comp=Z,1.8nm,0.4s,baz=276,slow=1.3,SNR=5.8
ASF Jabal al Asfar 113.87 62 PKiKP PKiKP 14 27 34.0 +1.1
comp=Z,3.3nm,0.7s,baz=33,slow=5.0,SNR=6.8
MALT Malatya 115.51 55 *e*PKPdf PKPdf 14 27 35.9 +0.1
KIV Kislovodsk 118.63 49 *i* PKIKP PKPdf 14 27 41.0 -0.6
KIV *e* 14 31 37.1
KIV 14 34 37.0
KIV pmax pmax
comp=Z,9.0nm,1.0s
KIV MLR MLR
comp=Z,100nm,16.0s,MS4.5
STKA Stephens Creek 122.24 213 *e*P PKPdf 14 27 48.2 -0.9
comp=Z,4.8nm,0.6s
STKA Stephens Creek 122.24 213 PKP PKPdf 14 27 48.3 -0.8
comp=Z,6.1nm,0.6s,baz=88,slow=2.8,SNR=26
RST Umm Al-Ruwaisa 122.37 65 *e*P PKPdf 14 27 49.1 -0.2
RST AMb AMB 14 27 50.5
comp=Z,38nm,0.7s
NAY Al-Naaiem 122.58 66 *e*P PKPdf 14 27 49.0 -0.6
NAY AMb AMB 14 27 50.8
comp=Z,8.1nm,0.8s
MIB Mutribah 122.68 65 *e*P PKPdf 14 27 49.3 -0.6
MIB AMb AMB 14 27 51.3
comp=Z,23nm,0.9s
RDF Al-Radifah 122.83 66 *e*P PKPdf 14 27 49.0 -1.2
RDF AMb AMB 14 27 51.4
comp=Z,32nm,1.1s
TIXI Tiksi 123.94 352 ⇑*i*PKIKP PKPdf 14 27 50.1 -0.9
TIXI MLR MLR
comp=Z,100nm,19.0s,MS4.5
SEY Seymchan 125.01 337 ⇑*i*PKIKP PKPdf 14 27 51.6 -1.7
ARU Arti 125.43 32 *i* PKIKP PKPdf 14 27 54.1 -0.2
ARU PPP 14 32 33.7
ARU 14 34 55.8
ARU SS SS 14 46 56.7 +16
AKTK Aktyubinsk 127.49 39 PKP PKPdf 14 27 59.2 +0.7
AKTO Aktyubinsk 127.49 39 PKP PKPdf 14 27 59.2 +0.7
comp=Z,8.3nm,0.8s,baz=209,slow=0.8,SNR=35
CTA Charters Tower 128.04 227 PKP PKPdf 14 28 00.1 -0.4
comp=Z,1.8nm,0.3s,baz=259,slow=5.4,SNR=6.3
FORT Forrest 129.15 201 *e*P PKPdf 14 28 01.5 -0.8
comp=Z,19nm,0.7s
MUN Mundaring 130.93 188 *e*P PKPdf 14 28 05.1 -0.6
KLBR Kellerberrin 131.07 190 *e*P PKPdf 14 28 04.5 -1.5
comp=Z,28nm,1.3s
YAK Yakutsk 132.53 347 ⇑*i*PKIKP PKPdf 14 28 08.0 +0.3
YAK MLR MLR
comp=Z,100nm,21.0s,MS4.5
ASAR Alice Springs 132.85 212 PKHKP 14 27 51.1
ASAR 14 28 08.3
ASAR 14 28 20.7
ASAR Alice Springs 132.85 212 PKhKP 14 27 51.0
comp=Z,0.3nm,0.7s,baz=134,slow=2.7,SNR=3.8
ASAR PKP PKPdf 14 28 08.3 -1.2
comp=Z,6.5nm,0.7s,baz=131,slow=1.6,SNR=4.8
ASAR pPKP pPKPdf 14 28 20.7 -2.2
comp=Z,3.7nm,0.7s,baz=168,slow=1.3,SNR=7.9
ASAR PKKP 14 38 00.1
comp=Z,0.3nm,0.6s,baz=7.6,slow=1.1,SNR=4.3
BRVK Borovoye 132.99 31 *e*PKPdf PKPdf 14 28 09.3 +0.5
WB2 Warramunga Arr 135.66 215 *e*P PKPdf 14 28 13.8 -1.1
WRA Warramunga Arr 135.66 215 PKHKP 14 27 58.3
WRA 14 28 13.4
WRA 14 28 26.4
WRA Warramunga Arr 135.66 215 PKhKP 14 27 58.3
comp=Z,0.5nm,0.5s,baz=140,slow=3.1,SNR=17
WRA PKP PKPdf 14 28 13.4 -1.4
comp=Z,12nm,0.6s,baz=145,slow=1.7,SNR=20
WRA pPKP pPKPdf 14 28 26.4 -1.8
comp=Z,8.7nm,0.8s,baz=152,slow=1.6,SNR=11
WRA SKPbc SKPbc 14 31 41.3 -1.7
comp=Z,1.8nm,0.9s,baz=139,slow=3.0,SNR=5.0
WRAB Tennant Creek 135.66 215 *e*PKPdf PKPdf 14 28 14.0 -0.9
WRAB *ep*PKPdf pPKPdf 14 28 26.1 -2.2
NVS Novosibirsk 137.28 22 *e*PKIKP PKPdf 14 28 16.5 -0.2
NVS pmax pmax
comp=N,8.0nm,1.0s
NVS pmax pmax
comp=Z,24nm,1.0s
KURK Kurchatov 138.47 29 *e*PKPdf PKPdf 14 28 18.7 -0.4
KURK Kurchatov 138.47 29 ⇑*i*PKIKP PKPdf 14 28 19.0 -0.1
ZAA0 Zalesovo Array 138.55 21 *e*PKPdf PKPdf 14 28 18.3 -0.8
ZAA0 *ep*PKPdf pPKPdf 14 28 31.5 -1.0
ZALV Zalesovo Beam 138.55 21 PKP PKPdf 14 28 19.4 +0.3
comp=Z,37nm,0.7s,baz=300,slow=1.3,SNR=48
ZAL Zalesovo 138.55 21 PKIKP PKPdf 14 28 19.5 +0.4
BOD Bodaibo 138.92 356 *e*PKHKP 14 28 05.7
BOD pmax pmax
comp=Z,4.0nm,1.3s
YSS Yuzh-Sakhalins 138.95 324 ⇑*i*PKIKP PKPdf 14 28 20.5 +0.4
EKS2 Erkin-Say 140.62 42 *e*PKPpre 14 28 18.9
EKS2 *e*PKPdf PKPdf 14 28 24.2 +0.9
ASAJ Asahikawa 140.64 321 PKhKP 14 28 13.8
comp=Z,3.8nm,0.8s,baz=63,slow=4.5,SNR=4.3
ASAJ PKP PKPdf 14 28 23.1 -0.1
comp=Z,5.9nm,0.9s,baz=344,slow=7.4,SNR=4.3
MBWA Marble Bar 140.74 196 *e*PKPpre 14 28 15.1
MBWA *e*PKPdf PKPdf 14 28 23.1 -1.1
AML Almayashu 140.82 43 *e*PKPpre 14 28 18.2
AML *e*PKPdf PKPdf 14 28 25.2 +1.5
UCH Uchtor 141.30 42 *e*PKPpre 14 28 20.8
UCH *e*PKPdf PKPdf 14 28 25.3 +0.8
FITZ Fitzroy Crossi 141.52 206 *e*P PKPdf 14 28 17.9 -7.7
comp=Z,11nm,0.6s
FITZ Fitzroy Crossi 141.52 206 *e*P PKPdf 14 28 17.9 -7.7
FITZ PKP PKPdf 14 28 25.4 -0.2

FITZ Fitzroy Crossi 141.52 206 PKP PKPdf 14 28 25.4 -0.2
comp=Z,7.2nm,0.7s,baz=183,slow=5.6,SNR=10.0
HABR Khabarovsk 141.88 332 *e*PKIKP PKPdf 14 28 21.5 -3.8
HABR *e* 14 31 29.9
HABR *e* 14 35 28.7
HABR *e*SS SS 14 49 50.8 -8.1
KAKA Kakadu 142.48 220 *e*P PKPdf 14 28 22.1 -5.3
comp=Z,7.4nm,0.6s
KLR Kul'dur 142.73 335 *e*PKHKP 14 28 17.2
MKAR Makanchi Array 142.94 31 PKhKP 14 28 23.9
comp=Z,6.5nm,0.6s,baz=336,slow=4.7,SNR=24
IRK Irkutsk 144.51 5 *e*PKIKP PKPdf 14 28 28.0 -1.8
IRK *e* 14 28 40.8
IRK *e* 14 31 43.7
IRK pmax pmax
comp=Z,87nm,1.6s
CIT Chita 144.72 355 *e*PKIKP PKPdf 14 28 30.0 -0.2
CIT *e* 14 28 42.2
CIT pmax pmax
comp=Z,99nm,1.5s
MOY Mondy 144.72 8 *e*PKIKP PKPdf 14 28 29.8 -0.4
MOY pmax pmax
comp=Z,101nm,1.9s
TLY Talaya 145.01 6 *e*PKPdf PKPdf 14 28 30.8 +0.1
TLY *ep*PKPdf pPKPdf 14 28 43.4 -0.7
TLY Talaya 145.01 6 *e*PKIKP PKPdf 14 28 30.6 -0.1
TLY *e* 14 28 43.5
TLY pmax pmax
comp=Z,77nm,1.0s
GUMO Guam 145.09 270 PKPbc PKPbc 14 28 30.5 -0.9
comp=Z,101nm,1.0s,baz=43,slow=3.4,SNR=4.4
ZAK Zakamensk 146.26 6 ⇑*i*PKP2 PKPab 14 28 33.6 -1.2
ZAK *e* 14 31 53.4
ZAK pmax pmax
comp=Z,4.0nm,1.6s
THN Thein Dam 146.32 56 *e*P PKPdf 14 28 33.6 0.0
HIA Hailar 146.48 347 *e*PKPdf PKPdf 14 28 32.9 -0.4
DLH Dalhousie 146.49 56 *e*P PKPdf 14 28 35.0 +1.1
POO Poona 146.67 82 *e*P PKPdf 14 28 34.0 -0.6
POO *e*P 14 28 34.6
AJM Ajmer 146.91 67 *e*P PKPdf 14 28 34.8 +0.1
AJM AMb AMB 14 28 39.4
comp=Z,42nm,1.7s
KAD Karad 146.92 84 *e*P PKPdf 14 28 34.0 -1.0
MDJ Mudanjiang 147.26 332 PKP PKPdf 14 28 35.7 +0.9
MDJ APKP 14 28 43.0
MDJ XPKP 14 28 47.9
VLA Vladivostok 147.28 328 *i* PKP2 PKPab 14 28 37.5 -1.5
MJAR Matsushiro Arr 147.43 313 PKPbc PKPbc 14 28 36.7 -1.2
MJAR Matsushiro Arr 147.43 313 PKPbc PKPbc 14 28 36.7 -1.2
comp=Z,110nm,0.8s,baz=97,slow=1.5,SNR=174
MAJO Matsushiro 147.43 313 *e*PKPdf PKPdf 14 28 35.5 +0.2
MAJO *ep*PKPdf pPKPdf 14 28 49.7 +1.0
WMQ Urumqi 147.71 29 PKP PKPdf 14 28 35.5 -0.1
WMQ XPKP 14 28 50.0
WMQ PP PP 14 32 09.0 +4.2
WMQ PP PP
comp=Z,210nm,7.9s
WMQ LR LR
comp=N,253nm,29.2s
WMQ LR LR
comp=E,198nm,23.4s
WMQ LR LR
comp=Z,221nm,23.3s
TRD Trivandrum 147.87 101 *e*P PKPdf 14 28 35.5 -1.2
SMLA Simla 147.92 58 *e*P PKPdf 14 28 36.7 +0.4
NDI New Delhi 148.67 62 *e*P PKPdf 14 28 35.8 -1.8
NDI *e*P 14 28 36.5
NDI *e*P 14 28 37.0
KOD Kodaikanal 148.85 98 *e*P PKPdf 14 28 38.9 +0.6
DDI Dehra Dun 148.90 59 *e*P PKPdf 14 28 33.8 -4.1
ULN Ulaanbaatar 149.04 2 *i* PKP2 PKPab 14 28 42.0 -3.9
SONM Songino Array 149.04 3 PKP PKPdf 14 28 37.9 +0.3
comp=Z,49nm,0.7s,baz=325,slow=0.6,SNR=41
SONM PKPbc PKPbc 14 28 42.1 +0.4
comp=Z,12nm,0.6s,baz=347,slow=1.4,SNR=5.1
SONM PP PP 14 32 07.1 -4.9
comp=Z,1.5nm,1.0s,baz=352,slow=7.3,SNR=3.7
LATR Latur 149.24 82 *e*P PKPdf 14 28 37.4 -1.3
BATI Kupang 149.36 210 PKPbc PKPbc 14 28 43.0 -0.6
comp=Z,51nm,0.7s,baz=218,slow=1.0,SNR=9.3
CN2 Changchun 149.67 336 *e*PKP PKPdf 14 28 37.2 -1.5
CN2 APKP 14 28 47.7
CN2 XPKP 14 28 51.2
CN2 PP PP 14 32 18.4 +2.4
CN2 LR LR
comp=Z,200nm,22.0s,MS4.9
AKL Akola 149.68 78 *ex* x 14 28 44.9
BHPL Bhopal 149.87 73 *e*P PKPdf 14 28 39.8 +0.1
LGTI Lohaghat 150.98 59 *ex* x 14 28 48.3
HYB Hyderabad 151.09 84 *e*P PKPdf 14 28 42.0 +0.3
HYB *e* 14 28 48.0
HYB Hyderabad 151.09 84 *i* PKP PKPdf 14 28 42.0 +0.3
HYB *e* 14 28 48.0
NGP Nagpur 151.56 77 *e*P PKPdf 14 28 40.8 -1.5
KSRS Korea Array 153.46 324 PKP PKPdf 14 28 44.9 +0.2
comp=Z,2.1nm,0.8s,baz=50,slow=1.2,SNR=15
KSRS PKPbc PKPbc 14 28 52.3 0.0
comp=Z,12nm,0.9s,baz=26,slow=1.6,SNR=30
KSRS PKPab PKPab 14 29 04.1 -0.5
comp=Z,9.5nm,1.0s,baz=62,slow=3.1,SNR=12
JNU Nakatsue 154.35 313 PKPbc PKPbc 14 28 53.0 -1.4
comp=Z,8.2nm,0.9s,baz=24,slow=5.1,SNR=5.1
HHC Hu-ho-hao-te 155.97 355 *e*PKP PKPdf 14 28 46.0 -2.0
HHC PKS 14 32 17.9
HHC PP PP
comp=Z,209nm,4.6s
HHC LR LR
comp=Z,115nm,12.3s,MS4.9
GTA Gaotai 156.19 17 *e*PKP PKPdf 14 28 48.7 +0.3
GTA APKP 14 28 58.4
GTA XPKP 14 29 03.1
GTA PKS 14 32 21.1
GTA SKS SKSdf 14 35 48.9 -2.4
GTA SKKS SKKSac 14 39 39.7 -0.1
GTA PP PP
comp=Z,95nm,8.8s
GTA LR LR
comp=N,116nm,9.6s
GTA LR LR
comp=E,108nm,11.5s
GTA LR LR
comp=Z,170nm,12.2s,MS5.1
BOK Bokaro 157.43 68 *ex* x 14 28 13.4
LSA Lhasa 159.38 49 *e*PKPdf PKPdf 14 28 53.7 +1.1
NJ2 Nanjing 162.34 331 *e*PKP PKPdf 14 28 54.7 -1.1
NJ2 PKS 14 32 27.0
NJ2 SKS SKSdf 14 35 55.0 -2.3
NJ2 PP PP
comp=Z,2μm,10.2s
XAN Xi'an 162.89 360 PKP PKPdf 14 28 55.9 -0.3
XAN APKP 14 29 02.8
PSI Prapat 162.98 144 PKP PKPdf 14 28 56.5 -0.5
PSI PKPab PKPab 14 29 46.5 +0.1
PSI Prapat 162.98 144 PKP PKPdf 14 28 56.5 -0.5
comp=Z,4.4nm,0.7s,baz=212,slow=4.5,SNR=6.7
PSI PKPab PKPab 14 29 46.5 +0.1
comp=Z,8.8nm,0.7s,baz=230,slow=3.9,SNR=9.6
CD2 Chengdu 165.27 17 *e*PKP PKPdf 14 28 57.3 -1.2
CD2 APKP 14 29 07.7
CD2 XPKP 14 29 11.8
CD2 PKP2 PKPab 14 29 56.8 +0.9
CD2 PP PP 14 33 44.5 +3.0
CD2 SKS SKSdf 14 35 56.2 -3.3
CD2 SKKS SKKSac 14 40 26.6 -0.4
CD2 PP PP
comp=Z,150nm,9.6s
CD2 LR LR
comp=N,110nm,20.2s
CD2 LR LR
comp=Z,130nm,19.0s
WHN Wuhan 165.47 341 *e*PKP PKPdf 14 29 00.1 +1.4
KMI Kunming 170.01 34 PKP PKPdf 14 29 00.0 -2.0
GYA Guiyang 170.24 11 *i* PKP PKPdf 14 28 59.8 -2.3
GYA APKP 14 29 10.6
GYA XPKP 14 29 15.2
GYA PKP2 PKPab 14 30 18.4 +0.5
GYA PKS 14 32 31.6
GYA PP PP 14 34 09.0 +2.2
GYA SKS SKSdf 14 35 59.2 -3.3
GYA SKKS SKKSac 14 40 51.7 +0.1
GYA PP PP
comp=Z,160nm,8.6s

QIZ Qiongzhong 177.63 336 PKP PKPdf 14 29 07.1 +2.2
QIZ PP PP 14 34 44.5 +1.5
QIZ LR LR
comp=Z,74nm,28.8s

NIED ***06*** *14:19:00,3590N×14150E,h23km,Mw4.2 Best double couple: M0=2.40000×10^15 NP1:φ=22.00000°,δ=69.00000°, λ=87.00000°. NP2:φ=210.00000°,δ=21.00000°,λ=98.00000°.*
IDC ***06*** *14:19:51.7±0.6,3585N×14141E,h0km,mb4.1/17, mb1 4.3/21,mb1mx4.2/28,mbtmp4.1/21,ML4.3/4,MS3.4/7, Ms1 3.4/7,ms1mx3.2/36,Error ellipse: s-maj=18.1km s-min=13.3km az=93.0*
MOS ***06*** *14:19:54.9±1.5,3605N×14147E,h33km,mb4.4/19,Error ellipse: s-maj=11.7km s-min=6.9km az=108.9*
BJI ***06*** *14:19:54.5,3602N×14147E,h36km,mB4.6,mb4.4,Ms4.2, Msz3.7*
ISCJB ***06*** *14:19:54.0±1.0,3594N±003×14156E±005,h30km±6km, mb4.3/33,MS3.7/8,Error ellipse: s-maj=7.3km s-min=5.5km az=13.3*
JMA ***06*** *14:19:55.2±0.2,3593N×14149E,h38km±2km,M4.3*
NEIC ***06*** *14:19:56.9±0.4,3591N×14143E,h35km,mb4.6/11, MW4.2(NIED),Error ellipse: s-maj=9.3km s-min=7.8km az=140.0*
ISC 06 14:19:53.9±1.8,3592N±003×14152E±005,h14km±11km, h36km±.7km:pP-P,n102,σ1°03/107,mb4.3/33,MS3.7/8,5D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.58**	**248**	⇓P	**Pb**	**14 20 06.5**	**+0.7**
CHOJ				S	**Sb**	**14 20 15.0**	**+1.2**
JHO	**Hitachi**	**1.03**	**312**	⇓P	**Pb**	**14 20 13.2**	**-0.2**
JHO				*e*S	**Sb**	**14 20 26.8**	**0.0**
JYT	**Yasato**	**1.12**	**286**	⇓P	**Pn**	**14 20 14.2**	**-0.8**
BSO1	**Boso 1**	**1.34**	**199**	P	**Pn**	**14 20 17.8**	**-0.3**
BSO1				S	**Sn**	**14 20 36.7**	**+1.0**
BSO3	**Boso 3**	**1.39**	**217**	P	**Pn**	**14 20 19.0**	**+0.2**
JFK	**Kawauchi**	**1.53**	**340**	P	**Pn**	**14 20 20.4**	**-0.3**
JAG	**Ashikaga**	**1.75**	**287**	⇓P	**Pn**	**14 20 23.3**	**-0.4**
JFT	**Otama**	**1.85**	**330**	⇓P	**Pn**	**14 20 26.2**	**+1.0**
MJAR	**Matsushiro Arr**	**2.75**	**284**	Pn	**Pn**	**14 20 37.4**	**-0.1**
	28nm,0.3s,baz=115,slow=7.1,SNR=240						
MJAR				LR	LR	14 21 48.1	
	comp=Z,872nm,19.8s,baz=90,slow=44						
MAJO	**Matsushiro**	**2.75**	**284**	*e*Pn	**Pn**	**14 20 38.4**	**+0.9**
MAT	**Matsushiro**	**2.75**	**284**	P	**Pn**	**14 20 38.2**	**+0.7**
MAT				*e*S	**Sn**	**14 21 09.0**	**-1.4**
JHJ	**Hachijo jima 2**	**3.14**	**208**	Pn	**Pn**	**14 20 42.8**	**-0.1**
	201nm,0.3s,baz=304,slow=1.2,SNR=68						
JHJ				Sn	**Sn**	**14 21 17.4**	**-2.8**
	168nm,0.3s,baz=260,slow=24,SNR=14						
ERM	**Erimo**	**6.21**	**11**	*e*Pn	**Pn**	**14 21 24.1**	**-1.0**
	23nm,0.6s						
ERM				*e*Sn	**Sn**	**14 22 30.4**	**-5.5**
ERM	**Erimo**	**6.21**	**11**	*e*P	**Pn**	**14 21 24.1**	**-1.0**
ERM				*e*		14 22 30.4	
ERM				pmax	pmax		
	comp=Z,23nm,0.6s						
ASAJ	**Asahikawa**	**8.22**	**5**	P	**Pn**	**14 21 51.6**	**-1.1**
ASAJ						14 23 19.4	
ASAJ				pmax	pmax		
	comp=Z,3.0nm,0.3s						
ASAJ				smax			
	comp=N,1.0nm,0.3s						
ASAJ	**Asahikawa**	**8.22**	**5**	Pn	**Pn**	**14 21 51.5**	**-1.1**
	comp=N,2.6nm,0.3s,baz=216,slow=13,SNR=23						
ASAJ				Sn	**Sn**	**14 23 19.4**	**-5.9**
	comp=N,1.3nm,0.3s,baz=294,slow=20,SNR=2.0						
ASAJ				LR	LR	14 25 45.1	
	comp=N,222nm,19.1s,baz=191,slow=43						
YUK	**Yuzh-Kuril'sk**	**8.76**	**21**	*e*P	**Pn**	**14 21 58.4**	**-1.6**
YUK				*e*S	**Sn**	**14 23 30.0**	**-8.4**
YUK				smax			
	comp=N,210nm,0.5s						
YUK				smax			
	comp=E,210nm,0.5s						
CBIJ	**Chichi jima**	**8.82**	**176**	Pn	**Pn**	**14 21 58.4**	**-2.5**
	comp=E,13nm,0.3s,baz=310,slow=17,SNR=9.0						
CBIJ				Sn	**Sn**	**14 23 28.1**	**-12**
	comp=E,7.1nm,0.3s,baz=286,slow=20,SNR=2.8						
JNU	**Nakatsue**	**9.21**	**255**	Pn	**Pn**	**14 22 08.7**	**+2.4**
	comp=E,0.3nm,0.3s,baz=67,slow=21,SNR=4.0						
JNU				LR	LR	14 25 29.4	
	comp=E,135nm,21.2s,baz=64,slow=37						
KSRS	**Korea Array**	**11.03**	**282**	Pn	**Pn**	**14 22 34.5**	**+3.5**
	comp=E,0.3nm,0.3s,baz=102,slow=14,SNR=9.9						
KSRS				LR	LR	14 26 34.3	
	comp=E,237nm,21.2s,baz=164,slow=37						
YSS	**Yuzh-Sakhalins**	**11.06**	**4**	*e*Pn	**Pn**	**14 22 29.3**	**-2.2**
	comp=E,5.8nm,0.4s						
YSS	**Yuzh-Sakhalins**	**11.06**	**4**	*e*P	**Pn**	**14 22 29.0**	**-2.5**
MDJ	**Mudanjiang**	**12.57**	**317**	P	**Pn**	**14 22 52.8**	**+0.6**
MDJ				AMB	AMB		
	comp=Z,5.0nm,0.9s						
MDJ				AMB	AMB		
	comp=Z,81nm,4.8s						
JOW	**Kunigami**	**14.48**	**235**	LR	LR	14 27 37.5	
	comp=Z,81nm,21.9s,baz=185,slow=32						
KLR	**Kul'dur**	**15.10**	**335**	*e*P	**Pn**	**14 23 27.5**	**+0.9**
NJ2	**Nanjing**	**19.18**	**265**	*e*P	**Pn**	**14 24 19.5**	**+1.6**
NJ2				AP	pP	14 24 26.9	+5.9
NJ2				XP	sP	14 24 32.5	+10
NJ2				PP		14 24 36.3	
NJ2				S	**Sn**	**14 27 49.0**	**-3.6**
NJ2				XS	sS	14 28 05.0	+4.6
NJ2				AMB	AMB		
	comp=Z,30nm,0.6s						
NJ2				AMB	AMB		
	comp=Z,60nm,4.0s						
NJ2				LR	LR		
	comp=N,190nm,13.1s						
NJ2				LR	LR		
	comp=E,210nm,16.9s						
NJ2				LR	LR		
	comp=Z,180nm,20.7s						
BJI	**Beijing**	**20.37**	**289**	P	**P**	**14 24 29.2**	**-0.8**
BJI				AMB	AMB		
	comp=Z,10.0nm,0.8s						
BJI				LR	LR		
	comp=Z,51nm,20.1s,MS2.9						
BJT	**Baijiatuau**	**20.38**	**289**	P	**P**	**14 24 29.2**	**-0.8**
	comp=Z,14nm,0.8s						
BJT	**Baijiatuau**	**20.38**	**289**	P	**P**	**14 24 29.2**	**-0.8**
BJT				pmax	pmax		
	comp=Z,14nm,0.8s						
YHNB	**Yeheng**	**20.65**	**243**	P	**P**	**14 24 31.2**	**-1.9**
HIA	**Hailar**	**20.76**	**317**	*e*P	**P**	**14 24 31.7**	**-2.3**
	comp=Z,3.6nm,0.6s						
HIA	**Hailar**	**20.76**	**317**	*e*P	**P**	**14 24 31.7**	**-2.3**
HIA				pmax	pmax		
	comp=Z,4.0nm,0.6s						
HHC	**Hu-ho-hao-te**	**23.93**	**291**	*e*P	**P**	**14 25 06.2**	**-1.1**
HHC				AP		14 25 15.5	
HHC				XP	sP	14 25 19.4	+6.0
HHC				PP		14 25 39.2	
HHC				AMB	AMB		
	comp=Z,20nm,0.5s,mb4.8						
HHC				AMB	AMB		
	comp=Z,88nm,4.8s						
HHC				LR	LR		
	comp=N,107nm,8.3s						
HHC				LR	LR		
	comp=E,212nm,5.3s						
HHC				LR	LR		
	comp=Z,120nm,12.7s,MS3.6						
MA2	**Magadan**	**24.42**	**11**	P	**P**	**14 25 13.2**	**+1.6**
	comp=Z,6.9nm,0.8s,mb4.1						
MA2	**Magadan**	**24.42**	**11**	P	**P**	**14 25 13.2**	**+1.6**
MA2				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.1						
XAN	**Xi'an**	**26.71**	**276**	P	**P**	**14 25 31.7**	**-1.0**
XAN				AMB	AMB		
	comp=Z,4.0nm,0.8s,mb4.0						
ULN	**Ulaanbaatar**	**28.06**	**306**	*e*P	**P**	**14 25 44.2**	**-0.5**
	comp=Z,6.3nm,0.9s,mb4.2						
ULN	**Ulaanbaatar**	**28.06**	**306**	*e*P	**P**	**14 25 44.2**	**-0.4**
ULN				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.2						
SONM	**Songino Array**	**28.49**	**306**	P	**P**	**14 25 48.0**	**-0.4**
SONM				pmax	pmax		
	comp=Z,2.0nm,0.7s						
SONM				MLR	MLR		

comp=Z,127nm,18.7s
SONM Songino Array 28.49 306 P **P 14 25 48.0 -0.4**
comp=Z,2.4nm,0.7s,mb4.0,baz=108,slow=8.5,SNR=21
SONM LR LR 14 37 51.5
comp=Z,127nm,18.7s,MS3.5,baz=79,slow=38
BOD Bodaibo 28.52 329 *e*P **P 14 25 47.7 -0.9**
BOD pmax pmax
comp=Z,8.0nm,1.0s,mb4.4
LZH Lanzhou 30.36 282 *e*P **P 14 26 04.6 -0.5**
LZH AP pP 14 26 14.7 +5.2
LZH XP sP 14 26 18.9 +7.6
LZH PP PP 14 27 03.5 -10
LZH AMB AMB
comp=Z,21nm,1.1s,mb4.8
LZH AMB AMB
comp=Z,57nm,4.6s
LZH LR LR
comp=E,435nm,12.8s
LZH LR LR
comp=Z,673nm,16.7s,MS4.4
ZAK Zakamensk 31.03 310 *e*P **P 14 26 09.8 -1.1**
TLY Talaya 31.13 312 P **P 14 26 11.9 +0.2**
CD2 Chengdu 31.78 272 *e*P **P 14 26 17.6 -0.1**
CD2 AP pP 14 26 27.1 +5.0
CD2 XP sP 14 26 31.2 +7.3
CD2 PP PP 14 27 23.4 -6.1
CD2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.8
CD2 AMB AMB
comp=Z,30nm,4.2s
CD2 LR LR
comp=N,210nm,15.6s,MS4.3
CD2 LR LR
comp=E,470nm,14.4s,MS4.3
CD2 LR LR
comp=Z,140nm,16.8s,MS3.7
GTA Gaotai 32.99 289 *e*P **P 14 26 28.5 +0.3**
GTA AMB AMB
comp=Z,8.0nm,1.2s,mb4.5
KMI Kunming 34.89 263 P **P 14 26 46.2 +1.3**
KMI XP sP 14 26 59.9 +8.8
KMI PP PP 14 28 03.9 -0.2
KMI AMB AMB
comp=Z,5.0nm,0.9s,mb4.4
KMI AMB AMB
comp=Z,86nm,4.5s
KMI LR LR
comp=N,146nm,16.1s
KMI LR LR
comp=E,74nm,10.9s
KMI LR LR
comp=Z,102nm,16.6s,MS3.6
TIXI Tiksi 36.40 353 *e*P **P 14 26 57.1 -0.2**
comp=Z,1.8nm,0.7s,mb4.1
TIXI Tiksi 36.40 353 *e*P **P 14 26 57.7 +0.4**
TIXI pmax pmax
comp=Z,3.0nm,1.0s,mb4.2
WMQ Urumqi 41.43 298 *e*P **P 14 27 40.7 +0.9**
WMQ AP pP 14 27 51.0 +6.8
WMQ AMB AMB
comp=Z,17nm,0.9s,mb4.7
WMQ AMB AMB
comp=Z,125nm,4.8s
WMQ LR LR
comp=N,122nm,16.2s,MS4.1
WMQ LR LR
comp=E,174nm,15.5s,MS4.1
WMQ LR LR
comp=Z,146nm,17.8s,MS3.9
LSA Lhasa 42.41 276 P **P 14 27 49.6 +1.6**
ZALV Zalesovo Beam 42.73 313 P **P 14 27 50.5 +0.3**
comp=Z,4.5nm,0.7s,mb4.3,baz=87,slow=7.0,SNR=25
ZAL Zalesovo 42.74 313 P **P 14 27 50.6 +0.2**
NVS Novosibirsk 43.67 315 *e*P **P 14 27 57.4 -0.5**
MK31 Makanchi Array 44.79 303 *e*P **P 14 28 07.0 0.0**
MK31 *e* 14 28 15.2
MK31 *e* 14 28 23.3
MKAR Makanchi Array 44.79 303 P **P 14 28 07.5 +0.6**
MKAR pmax pmax
comp=Z,3.0nm,0.5s
MKAR MLR MLR
comp=Z,101nm,18.9s
MKAR Makanchi Array 44.79 303 P **P 14 28 07.5 +0.5**
comp=Z,2.6nm,0.5s,mb4.3,baz=84,slow=10,SNR=12
MKAR LR LR 14 47 38.3
comp=Z,101nm,18.9s,MS3.8,baz=176,slow=37
KSM Kuching 44.85 227 P **P 14 28 07.8 0.0**
TKM2 Tokmak 2 50.24 299 P **P 14 28 50.2 +0.9**
comp=Z,6.4nm,0.7s,mb4.8
TKM2 Tokmak 2 50.24 299 P **P 14 28 50.3 +0.9**
TKM2 pmax pmax
comp=Z,6.0nm,0.7s,mb4.7
BRVK Borovoye 51.44 313 *e*P **P 14 28 58.0 -0.2**
comp=Z,5.3nm,0.8s,mb4.5
BRVK *e* 14 29 04.2
BRVK Borovoye 51.44 313 *e*P **P 14 28 58.0 -0.3**
BRVK *e* 14 29 04.2
BRVK pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
AML Almayashu 51.81 299 *e*P **P 14 29 02.0 +0.8**
comp=Z,11nm,0.9s,mb4.8
INK Inuvik 55.34 27 *e*P **P 14 29 27.0 +0.4**
comp=Z,48nm,0.8s,mb5.6
INK Inuvik 55.34 27 P **P 14 29 28.1 +1.4**
INK pmax pmax
comp=Z,1.0nm,0.5s
INK Inuvik 55.34 27 P **P 14 29 28.1 +1.4**
comp=Z,0.5nm,0.5s,mb3.8,baz=314,slow=9.6,SNR=6.4
FITZ Fitzroy Crossi 55.80 198 P **P 14 29 30.3 -0.1**
comp=Z,2.4nm,0.7s,mb4.3,baz=11,slow=5.7,SNR=2.6
WRA Warramunga Arr 55.97 188 P **P 14 29 31.0 -0.7**
WRA pmax pmax
comp=Z,2.0nm,0.6s
WRA Warramunga Arr 55.97 188 P **P 14 29 31.0 -0.8**
comp=Z,2.0nm,0.6s,mb4.3,baz=4.3,slow=7.4,SNR=8.2
ARU Arti 57.25 319 *e*P **P 14 29 39.9 -0.6**
comp=Z,14nm,0.9s,mb5.0
ARU Arti 57.25 319 *e*P **P 14 29 39.9 -0.6**
ARU pmax pmax
comp=Z,13nm,0.9s,mb5.0
AKTK Aktyubinsk 59.48 312 P **P 14 29 56.4 +0.2**
AKTO Aktyubinsk 59.48 312 P **P 14 29 56.4 +0.2**
AKTO pmax pmax
comp=Z,2.0nm,0.8s,mb4.2
AKTO Aktyubinsk 59.48 312 P **P 14 29 56.4 +0.2**
comp=Z,1.9nm,0.8s,mb4.2,baz=65,slow=13,SNR=4.4
ASAR Alice Springs 59.70 188 P **P 14 29 56.8 -1.0**
ASAR pmax pmax
comp=Z,1.0nm,0.7s
ASAR Alice Springs 59.70 188 P **P 14 29 56.8 -1.0**
comp=Z,0.7nm,0.7s,mb3.8,baz=17,slow=14,SNR=4.9
MBWA Marble Bar 60.40 203 P **P 14 30 01.5 -1.2**
comp=Z,11nm,1.1s,mb4.8
RES Resolute Bay 63.65 14 *e*P **P 14 30 24.2 +0.3**
comp=Z,74nm,0.6s
YKA Yellowknife Ar 64.73 30 P **P 14 30 31.9 +0.8**
YKA Yellowknife Ar 64.73 30 P **P 14 30 31.9 +0.8**
YKA pmax pmax
comp=Z,1.0nm,0.7s
YKA Yellowknife Ar 64.73 30 P **P 14 30 31.9 +0.8**
comp=Z,1.1nm,0.7s,mb4.0,baz=302,slow=6.7,SNR=16
FINES FINESS Array B 69.84 332 P **P 14 31 03.3 -0.2**
FINES pmax pmax
comp=Z,4.0nm,1.0s
FINES FINESS Array B 69.84 332 P **P 14 31 03.3 -0.2**
comp=Z,4.2nm,1.0s,mb4.3,baz=71,slow=8.3,SNR=5.4
HFS Hagfors 75.14 336 P **P 14 31 35.5 +0.4**
HFS pmax pmax
comp=Z,6.0nm,1.2s
HFS Hagfors 75.14 336 P **P 14 31 35.5 +0.4**
comp=Z,5.7nm,1.1s,mb4.4,baz=81,slow=8.9,SNR=2.9
AKASG Malin Array Be 75.23 323 P **P 14 31 35.7 -0.2**
AKASG Malin Array Be 75.23 323 P **P 14 31 35.7 -0.2**
AKASG pmax pmax
comp=Z,2.0nm,0.4s
AKASG Malin Array Be 75.23 323 P **P 14 31 35.7 -0.2**
comp=Z,2.2nm,0.4s,mb4.4,baz=47,slow=6.3,SNR=19
NB2 NORSAR Subarra 75.24 337 P **P 14 31 35.8 +0.1**
comp=Z,1.6nm,0.7s,mb4.1,baz=39,slow=5.9
NOA NORSAR Array B 75.24 337 P **P 14 31 35.7 -0.1**
NOA NORSAR Array B 75.24 337 P **P 14 31 35.7 0.0**
NOA pmax pmax
comp=Z,2.0nm,0.8s
NOA NORSAR Array B 75.24 337 P **P 14 31 35.7 -0.1**
comp=Z,2.4nm,0.8s,mb4.2,baz=39,slow=5.7,SNR=6.1
NVAR Mina Array Bea 75.59 53 P **P 14 31 40.4 +2.2**
comp=Z,0.5nm,0.7s,mb3.5,baz=298,slow=5.2,SNR=4.0
PDAR Pinedale Array 78.39 45 P **P 14 31 55.1 +1.3**
comp=Z,0.5nm,0.8s,mb3.5,baz=270,slow=1.5,SNR=3.8
CLL Collm 82.10 330 *e*P **P 14 32 14.0 +0.3**
GERES GERESS Array B 83.70 328 P **P 14 32 22.2 +0.2**
GERES pmax pmax
comp=Z,1.0nm,0.7s
GERES GERESS Array B 83.70 328 P **P 14 32 22.2 +0.1**
comp=Z,0.6nm,0.7s,mb3.8,baz=45,slow=4.3,SNR=5.3
TXAR Lajitas Array 90.73 52 P **P 14 32 58.4 +1.9**
comp=Z,0.2nm,0.5s,mb3.7,baz=263,slow=6.9,SNR=2.9
TORD Torodi Ar. Bea 118.17 315 PKP PKPdf 14 38 39.2 -1.8
comp=Z,0.5nm,0.9s,baz=33,slow=1.6,SNR=2.9
LPAZ La Paz 147.17 61 PKPbc PKPbc 14 39 37.7 +0.7
LPAZ La Paz 147.17 61 PKP2 PKPbc 14 39 37.7 +0.7
LPAZ pmax pmax
comp=Z,1.0nm,0.4s
LPAZ La Paz 147.17 61 PKPbc PKPbc 14 39 37.7 +0.7
comp=Z,0.8nm,0.4s,baz=266,slow=1.8,SNR=4.2

*NEIC **06** 14:29:46.2±1.2,21.16S×16880E,h10km,Error ellipse: s-maj=57.3km s-min=17.5km az=150.0*
*ISCJB **06** 14:29:48.9±0.9,209S±02×168.7E±0.1,h34km,mb3.9/5, MS3.3/2,Error ellipse: s-maj=32.0km s-min=11.4km az=151.3*
*IDC **06** 14:29:50.2±1.6,2126S×16882E,h35km±5km,mb3.8/5, mb1 4.0/5,mb1mx3.7/13,mbtmp3.8/5,MS3.4/2,Ms1 3.4/2, ms1mx2.8/23,Error ellipse: s-maj=72.3km s-min=21.0km az=151.0*
ISC 06 14:29:50.7±0.9,210S±02×1687E±01,h36km, h36km±.8km:pP-P,n14,σ0§73/10,mb3.9/5,MS3.3/2, Loyalty Islands
Code Station Name Δ° AZ° Phase ID Time Res
Op ISC h m s ISC
DZM Mont Dzumac 2.37 244 *e*P **Pn 14 30 25.7 -1.3**
DZM *e*S **Sn 14 30 56.0 +1.1**
CTA Charters Tower 21.07 269 LR LR 14 41 33.2
comp=Z,79nm,20.1s,MS3.1,baz=311,slow=33
STKA Stephens Creek 26.52 240 P **P 14 35 24.4 -0.5**
1.2nm,0.7s,mb3.6,baz=78,slow=9.3,SNR=3.6
STKA LR LR 14 45 40.7
comp=Z,114nm,18.0s,MS3.5,baz=28,slow=36
WRA Warramunga Arr 32.20 266 P **P 14 36 14.8 -0.7**
0.3nm,0.5s,mb3.4,baz=91,slow=8.6,SNR=5.2
ASAR Alice Springs 32.27 259 P **P 14 36 15.9 -0.2**
1.4nm,0.8s,mb3.9,baz=88,slow=9.1,SNR=16
ASAR pP pP 14 36 26.4 -0.1
2.8nm,0.7s,baz=83,slow=9.3,SNR=13
VNA3 Neumayer Olymp 87.97 181 *e* **P 14 42 36.3 -0.2**
VNA3 *e* pP 14 42 46.6 -1.3
VNA2 Neumayer--Watz 88.25 181 *e* **P 14 42 38.4 +0.6**
baz=193,slow=4.8
VNA2 *e* pP 14 42 49.4 +0.1
SONM Songino Array 88.36 323 P **P 14 42 39.4 +0.9**
1.4nm,0.8s,mb4.2,baz=152,slow=5.3,SNR=11
SONM pP pP 14 42 50.5 +0.6
1.8nm,1.0s,baz=148,slow=4.3,SNR=7.4
NVAR Mina Array Bea 90.34 49 P **P 14 42 48.2 +0.2**
NVAR pP pP 14 42 59.0 -0.5
NVAR Mina Array Bea 90.34 49 P **P 14 42 48.2 +0.2**
1.2nm,0.8s,mb4.2,baz=214,slow=6.0,SNR=6.4
NVAR pP pP 14 42 59.0 -0.5
0.8nm,0.7s,baz=211,slow=5.9,SNR=3.5
YKA Yellowknife Ar 102.47 28 P Pdif 14 43 41.9 -1.1
YKA Yellowknife Ar 102.47 28 P Pdif 14 43 41.9 -1.1
0.3nm,0.6s,baz=251,slow=5.0,SNR=5.2
KHC Kasperske Hory 145.67 331 *e*PKP PKPdf 14 49 24.5 -0.6
KHC *ex* x 14 49 37.0
GERES GERESS Array B 145.82 330 PKPbc PKPbc 14 49 26.5 +0.6
1.9nm,0.7s,baz=37,slow=3.3,SNR=16
GERES pPKPbc pPKPbc 14 49 37.4 -0.2
1.7nm,0.8s,baz=29,slow=3.0,SNR=6.6

IDC 06 14:36:07.8±4.5,767S×15545E,h0km,mb3.5/3,mb1 3.6/3, mb1mx3.4/14,mbtmp3.5/3,Error ellipse: s-maj=126.0km s-min=38.2km az=119.0,Bougainville - Solomon Islands region
Code Station Name Δ° AZ° Phase ID Time Res
Op ISC h m s ISC
WRA Warramunga Arr 23.82 237 P P 14 41 21.5 -1.2
1.2nm,1.0s,baz=60,slow=9.2,SNR=5.9
SONM Songino Array 70.15 327 P P 14 47 23.0 +0.8
0.3nm,0.6s,baz=132,slow=8.0,SNR=2.6
MKAR Makanchi Array 84.21 319 P P 14 48 41.4 +0.2
0.2nm,0.4s,baz=119,slow=6.1,SNR=2.9

IDC 06 14:45:11.8±1.4,598N×7421W,h102km±22km,mb3.5/1, mb1 3.7/2,mb1mx3.1/20,mbtmp3.3/2,Error ellipse: s-maj=57.0km s-min=11.1km az=126.0,Colombia
Code Station Name Δ° AZ° Phase ID Time Res
Op ISC h m s ISC
ROSC El Rosal 1.12 186 P Pn 14 45 33.9 +0.2
9.0nm,0.3s,baz=329,slow=1.3,SNR=13
ROSC S Sn 14 45 51.3 +1.1
65nm,0.3s,baz=49,slow=19,SNR=29
SDV Santo Domingo 4.57 51 P Pn 14 46 20.5 +1.8
2.0nm,0.3s,baz=225,slow=4.3,SNR=9.0
SDV S Sn 14 47 11.0 +0.3
9.9nm,0.3s,baz=80,slow=20,SNR=16
YKA Yellowknife Ar 63.68 340 P P 14 55 32.0 0.0
0.6nm,0.5s,baz=134,slow=6.8,SNR=13
ASAR Alice Springs 147.75 234 PKPbc PKPbc 15 04 45.1 -0.4
0.2nm,0.5s,baz=120,slow=3.9,SNR=7.3
WRA Warramunga Arr 148.99 241 PKPbc PKPbc 15 04 48.2 -0.7
0.2nm,0.5s,baz=106,slow=2.5,SNR=6.8

*NEIC **06** 14:45:09.5±1.2,2100S×16880E,h10km,mb4.9/2,Error ellipse: s-maj=51.5km s-min=16.6km az=149.0*
*ISCJB **06** 14:45:12.3±0.9,210S±02×168.7E±0.1,h36km,mb4.4/7, Error ellipse: s-maj=27.0km s-min=16.2km az=155.9*
*IDC **06** 14:45:13.2±1.3,2103S×16880E,h34km±5km,mb4.1/6, mb1 4.3/6,mb1mx4.0/14,mbtmp4.2/6,MS3.4/1,Ms1 3.4/1, ms1mx2.8/18,Error ellipse: s-maj=59.1km s-min=18.3km az=151.0*
ISC 06 14:45:13.8±0.9,211S±02×1687E±01,h38km, h38km±1.6km:pP-P,n18,σ0§93/11,mb4.4/8,Loyalty Islands
Code Station Name Δ° AZ° Phase ID Time Res
Op ISC h m s ISC
DZM Mont Dzumac 2.32 245 *e*P **Pn 14 45 48.2 -1.4**
CTA Charters Tower 21.05 269 P **P 14 49 56.3 +1.6**
7.5nm,0.8s,mb4.1,baz=115,slow=16,SNR=4.3
STKA Stephens Creek 26.47 240 P **P 14 50 49.0 +1.5**
3.7nm,0.7s,mb4.0,baz=73,slow=11,SNR=9.9
STKA pP pP 14 50 59.8 +1.8
4.1nm,0.8s,baz=58,slow=7.2,SNR=3.3
WRA Warramunga Arr 32.18 266 P **P 14 51 37.2 -1.1**
3.1nm,1.0s,mb4.1,baz=94,slow=9.1,SNR=12
WRA pP pP 14 51 47.6 -1.3
1.9nm,0.9s,baz=99,slow=7.8,SNR=6.4
ASAR Alice Springs 32.24 259 P **P 14 51 38.4 -0.5**
9.1nm,0.8s,mb4.7,baz=83,slow=9.0,SNR=82
ASAR pP pP 14 51 48.9 -0.6
9.9nm,0.8s,baz=85,slow=8.8,SNR=17
MBWA Marble Bar 45.54 261 *e*P **P 14 53 29.7 -0.4**
10nm,0.9s,mb4.8
VNA3 Neumayer Olymp 87.90 181 *e* **P 14 57 59.3 +0.2**
VNA3 *e* 14 58 04.9
VNA3 *e* pP 14 58 09.9 -1.0
VNA3 *e* pP 14 58 11.9 +1.0
ULN Ulaanbaatar 88.06 324 *e*P **P 14 58 00.5 +0.4**
11nm,1.4s,mb4.9
ULN *e* pP 14 58 11.3 -0.6
VNA2 Neumayer--Watz 88.18 181 *e* **P 14 58 00.8 +0.4**
baz=181,slow=4.5
VNA2 *e* 14 58 07.0
VNA2 *e* pP 14 58 12.0 -0.3
VNA2 *e* pP 14 58 13.8 +1.5
SONM Songino Array 88.41 323 P **P 14 58 02.1 +0.4**
2.4nm,0.8s,mb4.5,baz=148,slow=5.1,SNR=21
SONM pP pP 14 58 13.1 -0.4
1.1nm,0.7s,baz=139,slow=4.9,SNR=5.4
NVAR Mina Array Bea 90.40 49 P **P 14 58 10.3 -1.0**
0.7nm,0.7s,mb4.1,baz=213,slow=6.0,SNR=5.8
NVAR pP pP 14 58 20.2 -2.9
1.0nm,0.8s,baz=218,slow=5.3,SNR=5.2
KOLS Kolonicke sedl 141.46 324 *e*PKP PKPdf 15 04 46.7 +6.1
EKA Eskdalemuir Ar 145.28 352 PKP PKPdf 15 04 45.8 -1.4
1.4nm,0.9s,baz=359,slow=3.1,SNR=4.0
NKC Novy Kostel 145.42 333 *e*PKP PKPdf 15 04 47.8 +0.3
KHC Kasperske Hory 145.73 331 *e*PKP PKPdf 15 04 48.6 +0.5
KHC *ex* x 15 04 59.8
GEC2 GERESS Array S 145.87 330 *e*PKP PKPdf 15 04 49.3 +0.9
GERES GERESS Array B 145.87 330 PKPbc PKPbc 15 04 49.3 +0.3
2.3nm,0.7s,baz=35,slow=3.3,SNR=20
GERES pPKPbc pPKPbc 15 05 00.2 -0.9
1.2nm,0.7s,baz=46,slow=3.9,SNR=4.8
DAVOX Davos/Dischmat 149.14 331 PKPbc PKPbc 15 04 57.6 -0.5
3.9nm,0.7s,baz=123,slow=5.0,SNR=4.8

*ISCJB **06** 14:46:58.2±0.5,1681S±008×71.14W±0.10,h42km, mb4.3/14,Error ellipse: s-maj=16.2km s-min=7.7km az=141.5*
*BJI **06** 14:46:59.0,1680S×7120W,h39km,mB5.4,Ms5.2,Msz5.0*
*IDC **06** 14:46:59.3±0.7,1686S×7123W,h39km±5km,mb3.9/8, mb1 4.1/9,mb1mx3.9/18,mbtmp4.0/9,ML3.3/2,MS3.2/2, Ms1 3.2/2,ms1mx2.7/30,Error ellipse: s-maj=22.3km s-min=17.8km az=73.0*
*NEIC **06** 14:46:59.0±0.4,1678S×71.17W,mb4.5/6,Error ellipse: s-maj=15.4km s-min=8.9km az=59.0*
NEIC Felt [III] at Arequipa, Mollendo and Punta de Bombon.
ISC 06 14:46:60.0±0.5,1684S±007×713W±01,h44km, h44km±1.9km:pP-P,n40,σ1§12/31,mb4.3/14,1D,Southern Peru
Code Station Name Δ° AZ° Phase ID Time Res
Op ISC h m s ISC
ARE Arequipa 0.40 339 ||*i*P **Pn 14 47 10.0 +0.3**
ARE *i* S **Sn 14 47 17.5 +0.9**
LPAZ La Paz 3.13 80 *e*Pn **Pn 14 47 53.8 +7.0**
LPAZ La Paz 3.13 80 Pn **Pn 14 47 54.0 +7.2**
13nm,0.3s,baz=265,slow=9.3,SNR=107
LPAZ LR LR 14 49 04.4
comp=Z,188nm,20.4s,baz=249,slow=41
NNA Nana 7.19 311 *e*Pn **Pn 14 48 42.4 -0.2**
29nm,0.6s
NNA Nana 7.19 311 Pn **Pn 14 48 43.0 +0.5**
2.2nm,0.3s,baz=147,slow=10,SNR=6.0
NNA Sn **Sn 14 50 11.2 +8.3**
3.2nm,0.3s,baz=57,slow=16,SNR=2.9
SIV San Ignacio 9.89 87 Pn **Pn 14 49 21.7 +2.1**
2.3nm,0.3s,baz=267,slow=12,SNR=31
CFAA Coronel Fontan 14.97 170 Pn **Pn 14 50 28.8 +0.1**
CFAA Coronel Fontan 14.97 170 Pn **Pn 14 50 28.8 +0.1**
0.0nm,0.3s,baz=350,slow=13,SNR=4.9
ROSC El Rosal 21.76 352 P **P 14 51 54.6 +6.7**
3.8nm,0.4s,mb4.2,baz=121,slow=18,SNR=4.4
TRQA Tornquist 22.68 161 P **P 14 52 02.8 +5.2**
4.4nm,0.9s,mb3.9
PLCA Paso Flores 23.82 179 P **P 14 52 09.1 +0.2**
PLCA pP 14 52 18.7
PLCA Paso Flores 23.82 179 P **P 14 52 09.1 +0.3**
1.0nm,0.7s,mb3.4,baz=359,slow=14,SNR=3.8
PLCA pP 14 52 18.7
6.7nm,0.8s,baz=351,slow=12,SNR=10
SDV Santo Domingo 25.57 2 *e*P **P 14 52 23.5 -1.5**
12nm,0.9s,mb4.4
SDV Santo Domingo 25.57 2 P **P 14 52 24.1 -0.9**
9.8nm,0.7s,mb4.4,baz=262,slow=7.1,SNR=8.2
PCRV Puerto La Cruz 27.65 14 LR LR 15 04 58.4
comp=Z,88nm,18.4s,baz=185,slow=39
TXAR Lajitas Array 55.51 325 P **P 14 56 30.8 +0.2**
0.9nm,0.7s,mb3.9,baz=148,slow=9.7,SNR=5.2
SDCO Great Sand Dun 63.08 330 *e*P **P 14 57 21.2 -1.6**
5.5nm,1.2s,mb4.6
SDCO *e* 14 57 39.9
SNAA Sanae 67.41 161 *e* **P 14 57 50.3 -0.1**
SNAA *e* 14 57 56.5
SNAA *e* pP 14 58 01.5 -1.8
SNAA *e* pP 14 58 03.9 +0.6
PDAR Pinedale Array 68.94 331 P **P 14 58 01.5 +1.1**
0.6nm,0.9s,mb3.5,baz=116,slow=6.8,SNR=3.7
DBIC Dimbokro 69.74 76 *e*P **P 14 58 04.7 -1.3**
28nm,1.3s,mb5.0
DBIC *e*pP pP 14 58 16.8 -2.1
DBIC Dimbokro 69.74 76 P **P 14 58 05.2 -0.7**
3.4nm,0.5s,mb4.6,baz=212,slow=5.7,SNR=11
DBIC pP pP 14 58 17.1 -1.8
3.9nm,0.7s,baz=243,slow=3.0,SNR=4.1
ULM Lac du Bonnet 70.21 344 P **P 14 58 09.0 +1.0**
1.3nm,0.4s,mb4.3,baz=170,slow=6.4,SNR=5.9
QSPA South Pole Qui 73.33 180 P pP 14 58 38.1 -1.3
TOA0 Torodi Ar. Sit 78.05 72 *e*P **P 14 58 51.9 -2.6**
TOA0 *e*pP pP 14 59 05.2 -2.4
TOA0 *e*sP sP 14 59 10.4 -2.3
TORD Torodi Ar. Bea 78.05 72 P **P 14 58 53.5 -1.1**
TORD pP pP 14 59 05.7 -2.0
TORD Torodi Ar. Bea 78.05 72 P **P 14 58 53.5 -1.1**
4.7nm,0.5s,mb4.6,baz=257,slow=5.4,SNR=57
TORD pP pP 14 59 05.7 -2.0
4.3nm,0.6s,baz=251,slow=5.5,SNR=13
SUR Sutherland 82.94 122 P **P 14 59 23.3 +2.8**
65nm,1.6s,mb5.4
ESDC Sonseca Array 84.19 46 P **P 14 59 26.9 +0.2**
1.8nm,0.7s,mb4.3,baz=251,slow=5.2,SNR=13
ESDC pP pP 14 59 39.9 -0.1
1.4nm,0.8s,baz=252,slow=4.7,SNR=5.2
ESLA Sonseca Array 84.19 46 *e*P **P 14 59 25.9 -0.8**
1.7nm,1.0s,mb4.1
YKA Yellowknife Ar 86.05 341 P **P 14 59 35.0 -0.5**
YKA Yellowknife Ar 86.05 341 P **P 14 59 35.0 -0.5**
1.5nm,0.7s,mb4.4,baz=133,slow=4.8,SNR=24
ASAR Alice Springs 132.79 212 PKP PKPdf 15 06 09.7 -1.2
0.4nm,0.6s,baz=144,slow=1.7,SNR=7.2
ASAR pPKP pPKPdf 15 06 21.8 -2.9
0.4nm,0.7s,baz=124,slow=1.6,SNR=2.6
WRA Warramunga Arr 135.59 216 PKP PKPdf 15 06 15.7 -0.6
1.0nm,0.6s,baz=136,slow=1.6,SNR=14
WRA pPKP pPKPdf 15 06 28.2 -1.9
0.8nm,0.7s,baz=153,slow=1.5,SNR=3.5
MKAR Makanchi Array 143.00 30 PKhKP 15 06 24.8
0.4nm,0.4s,baz=331,slow=3.9,SNR=4.4
MJAR Matsushiro Arr 147.31 313 PKPbc PKPbc 15 06 39.1 0.0
7.2nm,0.7s,baz=95,slow=2.1,SNR=17
MAJO Matsushiro 147.31 313 *e*PKPdf PKPdf 15 06 38.8 +2.1
MAT Matsushiro 147.31 313 PKP PKPdf 15 06 38.8 +2.2
SONM Songino Array 149.03 3 PKPbc PKPbc 15 06 43.9 +0.7
3.1nm,0.6s,baz=324,slow=1.5,SNR=29
HHC Hu-ho-hao-te 155.94 355 *e*PKP PKPdf 15 06 46.5 -3.0
HHC APKP 15 06 56.5
HHC XPKP 15 07 00.8
HHC PKS 15 10 16.9
HHC SKS SKSdf 15 13 48.4 -3.9
HHC PP PP
comp=Z,160nm,5.0s
HHC LR LR
comp=N,133nm,13.7s
HHC LR LR
comp=E,178nm,7.5s
HHC LR LR
comp=Z,108nm,5.3s
LZH Lanzhou 160.36 12 *e*PKP PKPdf 15 06 55.2 +0.2
LZH APKP 15 07 07.6
LZH XPKP 15 07 13.9
LZH LR LR
comp=N,129nm,18.3s
LZH LR LR
comp=Z,181nm,20.5s

JMA 06 14:54:50.5,3708N×13647E,h0km,M1.4,Near west coast of eastern Honshu
Code Station Name Δ° AZ° Phase ID Time Res
Op ISC h m s ISC
JJH Hakui 0.29 122 P Pg 14 54 56.8 +0.7
JJH S Sg 14 55 01.6 +1.7

*ISCJB **06** 14:54:57.4±0.4,3746N±004×2473W±004,h10km, mb4.0/10,MS3.6/2,Error ellipse: s-maj=6.4km s-min=4.2km az=19.4*
*IDC **06** 14:54:57.9±0.9,3745N×2460W,h0km,mb3.9/8,mb1 4.2/8, mb1mx3.9/24,mbtmp3.9/8,MS3.7/2,Ms1 3.8/2, ms1mx2.9/32,Error ellipse: s-maj=28.6km s-min=19.0km az=172.0*
*CSEM **06** 14:54:58.9±0.1,3741N×2472W,h25km,ML4.2,Error ellipse: s-maj=6.7km s-min=2.3km az=20.0*

*NEIC **06** 14:54:59.2±0.6,3743N×2449W,h10km,mb4.5/2,Error ellipse: s-maj=15.4km s-min=10.7km az=181.0*
*SVSA **06** 14:55:01.0±1.1,3731N×2471W,h0km,MD4.0,ML4.2, Error ellipse: s-maj=7.4km s-min=3.2km az=84.0*
*PDA **06** 14:55:01.0±1.1,3731N×2471W,h0km,MD4.0,ML4.2, Error ellipse: s-maj=7.4km s-min=3.2km az=84.0*

ISC 06 14:54:59.0±0.4,3745N±004×2479W±004,h10km,n36, σ1§27/46,mb4.0/10,MS3.6/2,Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSMN	**Pico do Norte,**	**0.49**	**207**	*eP*	**Pg**	**14 55 08.5**	**-0.2**
PSMN				*eS*	**Sg**	**14 55 14.6**	**-0.6**
PDA	**Ponta Delgada**	**0.76**	**294**	*eP*	**Pg**	**14 55 15.2**	**+1.6**
PDA				*eS*	**Sg**	**14 55 26.5**	**+3.0**
PSET	**Sete Cidades**	**0.83**	**297**	*i* P	**Pg**	**14 55 16.1**	**+1.1**
PSET				*eS*	**Sg**	**14 55 28.8**	**+3.0**
PSET				A		14 55 34.5	
	3μm,0.2s						
PSCM	**Serra do Cume**	**2.22**	**305**	*i* P	**Pn**	**14 55 35.8**	**-0.1**
PSCM				*eS*	**Sn**	**14 56 02.8**	**-0.6**
PSCM				A		14 56 05.6	
	905nm,0.2s						
ADH	**Angra Heroismo**	**2.28**	**303**	*eP*	**Pn**	**14 55 36.7**	**+0.1**
ADH				*eS*	**Sn**	**14 56 04.2**	**-0.5**
PID	**Ribeirinha**	**2.81**	**292**	*eP*	**Pn**	**14 55 44.6**	**+0.6**
PID				*eS*	**Sn**	**14 56 16.6**	**-1.4**
PMAN	**Manadas**	**2.86**	**295**	*eP*	**Pn**	**14 55 45.0**	**+0.3**
PMAN				*eS*	**Sn**	**14 56 18.1**	**-1.1**
PMAN				A		14 56 19.2	
	80nm,0.4s						
PMAN	**Manadas**	**2.86**	**295**	*eP*	**Pn**	**14 55 45.0**	**+0.3**
PMAN				*eS*	**Sn**	**14 56 18.1**	**-1.1**
ROSA	**Rosais**	**3.00**	**296**	*eP*	**Pn**	**14 55 47.5**	**+0.8**
ROSA				*eS*	**Sn**	**14 56 21.5**	**-1.2**
PICO	**Pico**	**3.06**	**291**	*eP*	**Pn**	**14 55 48.1**	**+0.7**
PICO				*eS*	**Sn**	**14 56 22.2**	**-1.9**
HOR	**Horta**	**3.22**	**291**	*eP*	**Pn**	**14 55 49.9**	**+0.3**
HOR				*eS*	**Sn**	**14 56 26.0**	**-2.0**
CALA	**Caldeira**	**3.29**	**291**	*eP*	**Pn**	**14 55 51.0**	**+0.4**
CALA				*eS*	**Sn**	**14 56 27.9**	**-1.9**
ESDC	**Sonseca Array**	**16.44**	**76**	Pn	**Pn**	**14 58 45.5**	**-4.2**
	0.1nm,0.3s,baz=272,slow=13,SNR=3.5						
MDT	**Midelt**	**17.13**	**100**	Pn	**Pn**	**14 59 00.6**	**+2.1**
	0.2nm,0.3s,baz=287,slow=9.6,SNR=3.9						
EKA	**Eskdalemuir Ar**	**23.13**	**32**	P	**P**	**15 00 04.1**	**-1.0**
	2.0nm,0.9s,mb3.5,baz=234,slow=7.1,SNR=4.5						
WLF	**Walferdange**	**25.34**	**51**	P	**P**	**15 00 23.7**	**-2.2**
	8.4nm,0.6s,mb4.5						
WLF	**Walferdange**	**25.34**	**51**	P	**P**	**15 00 23.7**	**-2.2**
DAVOX	**Davos/Dischmat**	**27.17**	**59**	LR	LR	15 09 38.1	
	comp=Z,197nm,20.4s,MS3.5,baz=78,slow=33						
GERES	**GERESS Array B**	**30.00**	**55**	P	**P**	**15 01 07.9**	**+0.3**
	0.2nm,0.4s,mb3.2,baz=260,slow=5.9,SNR=4.0						
TIP	**Timpagrande**	**32.45**	**74**	P	**P**	**15 01 27.6**	**-1.7**
TIP	**Timpagrande**	**32.45**	**74**	P	**P**	**15 01 27.6**	**-1.7**
NOA	**NORSAR Array B**	**32.62**	**32**	LR	LR	15 14 27.0	
	comp=Z,136nm,18.2s,MS3.7,baz=90,slow=36						
TOA0	**Torodi Ar. Sit**	**33.82**	**129**	*eP*	**P**	**15 01 40.7**	**-0.8**
TOA0	**Torodi Ar. Sit**	**33.82**	**129**	*eP*	**P**	**15 01 40.7**	**-0.8**
TORD	**Torodi Ar. Bea**	**33.82**	**129**	P	**P**	**15 01 40.9**	**-0.6**
	2.0nm,0.7s,mb4.2,baz=317,slow=8.6,SNR=8.8						
AKASG	**Malin Array Be**	**40.12**	**53**	P	**P**	**15 02 33.3**	**-1.4**
	0.4nm,0.5s,mb3.4,baz=273,slow=8.2,SNR=4.3						
RES	**Resolute Bay**	**49.03**	**341**	*eP*	**P**	**15 03 47.6**	**+2.0**
	331nm,1.2s						
RES	**Resolute Bay**	**49.03**	**341**	*eP*	**P**	**15 03 47.6**	**+2.1**
SDV	**Santo Domingo**	**50.15**	**247**	*eP*	**P**	**15 03 55.9**	**+1.1**
	4.3nm,0.7s,mb4.6						
SDV	**Santo Domingo**	**50.15**	**247**	P	**P**	**15 03 56.2**	**+1.3**
	4.3nm,0.7s,mb4.6,baz=74,slow=10.0,SNR=6.6						
SDV	**Santo Domingo**	**50.15**	**247**	*eP*	**P**	**15 03 55.9**	**+1.1**
YKA	**Yellowknife Ar**	**57.49**	**327**	P	**P**	**15 04 49.0**	**+1.1**
YKA	**Yellowknife Ar**	**57.49**	**327**	P	**P**	**15 04 49.0**	**+1.1**
	1.0nm,0.8s,mb3.9,baz=69,slow=7.0,SNR=11						
PDAR	**Pinedale Array**	**62.42**	**304**	P	**P**	**15 05 23.4**	**+1.3**
	1.1nm,0.9s,mb4.0,baz=62,slow=6.9,SNR=6.7						
TXAR	**Lajitas Array**	**64.59**	**288**	P	**P**	**15 05 38.8**	**+2.1**
	2.0nm,0.7s,mb4.2,baz=74,slow=7.4,SNR=14						
ZALV	**Zalesovo Beam**	**70.70**	**36**	P	**P**	**15 06 15.1**	**+0.3**
	1.1nm,0.4s,mb4.1,baz=300,slow=6.5,SNR=5.9						

*NIED **06** 14:55:00,37.10N×136.40E,h5km,Mw4.2 Best double couple: M0=2.07000×10^15 NP1:φ=25.00000°,δ=56.00000°, λ=97.00000°. NP2:φ=193.00000°,δ=35.00000°,λ=80.00000°.*
*ISCJB **06** 14:55:36.0±0.7,37.10N±003×136.35E±003,h16km±6km, mb4.2/30,MS4.0/5,Error ellipse: s-maj=5.3km s-min=4.6km az=166.3*
*IDC **06** 14:55:35.2±0.6,3706N×13646E,h0km,mb3.9/11, mb1 4.1/13,mb1mx4.0/23,mbtmp3.9/13,ML3.3/2,MS3.5/6, Ms1 3.5/6,ms1mx3.2/39,Error ellipse: s-maj=18.9km s-min=15.2km az=23.0*
*JMA **06** 14:55:36.1,3709N×13643E,h7km±2km,M4.3*
JMA Felt III J1.
*MOS **06** 14:55:38.1±1.1,3703N×13636E,h33km,mb4.4/15,Error ellipse: s-maj=11.6km s-min=7.2km az=96.0*
*BJI **06** 14:55:38.0,3692N×13624E,h16km,mB4.7,mb4.4,Ms4.2, Msz3.8*
*NEIC **06** 14:55:40.2±0.8,3700N×13643E,h36km±8km,mb4.3/12, Error ellipse: s-maj=9.1km s-min=7.6km az=172.0*
NEIC Recorded [3 JMA] in Ishikawa Prefecture.

ISC 06 14:55:36.1±0.7,3709N±003×13640E±004,h5km±5km,n82, σ1§13/89,mb4.2/30,MS4.0/5,6C-3D,Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JJH	**Hakui**	**0.35**	**118**	⇓P	**Pg**	**14 55 42.6**	**-0.3**
JJH				S	**Sg**	**14 55 47.5**	**+0.1**
JKG	**Kaga**	**0.82**	**184**	⇓P	**Pg**	**14 55 52.0**	**+0.3**
JKG				*eS*	**Sg**	**14 56 03.4**	**+1.1**
JSZ	**Suzu**	**0.85**	**65**	P	**Pg**	**14 55 51.6**	**-0.8**
JSZ				*eS*	**Sg**	**14 56 03.1**	**-0.3**
JHG	**Hegura jima**	**0.86**	**29**	⇑P	**Pg**	**14 55 52.1**	**-0.5**
JTT	**Ttatey**	**0.90**	**123**	⇓P	**Pg**	**14 55 52.8**	**-0.5**
MAJO	**Matsushiro**	**1.55**	**110**	*e*Pn	**Pn**	**14 56 03.2**	**-1.1**
MAT	**Matsushiro**	**1.55**	**110**	P	**Pn**	**14 56 03.6**	**-0.7**
MAT				S	**Sn**	**14 56 24.8**	**0.0**
MJAR	**Matsushiro Arr**	**1.55**	**110**	Pn	**Pn**	**14 56 03.2**	**-1.1**
MJAR				Sn	**Sn**	**14 56 25.6**	**+0.7**
MJAR				LR	LR	14 56 37.6	
MJAR	**Matsushiro Arr**	**1.55**	**110**	P	**Pn**	**14 56 03.2**	**-1.1**
MJAR						14 56 25.6	
MJAR				pmax	pmax		
	comp=Z,129nm,0.3s						
MJAR				smax			
	comp=N,89nm,0.3s						
MJAR	**Matsushiro Arr**	**1.55**	**110**	Pn	**Pn**	**14 56 03.2**	**-1.1**
	comp=N,129nm,0.3s,baz=296,slow=15,SNR=319						
MJAR				Sn	**Sn**	**14 56 25.6**	**+0.7**
	comp=N,89nm,0.3s,baz=284,slow=26,SNR=14						
MJAR				LR	LR	14 56 37.6	
	comp=N,1μm,18.1s,baz=205,slow=41						
JHJ	**Hachijo jima 2**	**4.84**	**144**	LR	LR	14 58 51.9	
	comp=N,531nm,18.3s,baz=74,slow=41						
JNU	**Nakatsue**	**6.01**	**230**	Pn	**Pn**	**14 57 07.4**	**+1.8**
	comp=N,0.9nm,0.3s,baz=1.1,slow=6.4,SNR=13						
JNU				LR	LR	14 59 25.8	
	comp=N,205nm,21.2s,baz=42,slow=38						
KSRS	**Korea Array**	**6.77**	**276**	Pn	**Pn**	**14 57 18.5**	**+2.5**
	comp=N,0.5nm,0.3s,baz=90,slow=14,SNR=11						
KSRS				LR	LR	14 59 43.7	
	comp=N,392nm,18.9s,baz=155,slow=36						
ERM	**Erimo**	**7.17**	**45**	*e*Pn	**Pn**	**14 57 24.1**	**+2.6**
	comp=N,20nm,0.8s						
ERM	**Erimo**	**7.17**	**45**	*i* P	**Pn**	**14 57 24.4**	**+2.9**
ASAJ	**Asahikawa**	**8.45**	**32**	Pn	**Pn**	**14 57 42.1**	**+3.1**
	comp=N,0.3nm,0.3s,baz=243,slow=13,SNR=7.1						
ASAJ				LR	LR	15 01 08.9	
	comp=N,35nm,21.9s,baz=347,slow=40						
MDJ	**Mudanjiang**	**9.11**	**328**	P	**Pn**	**14 57 51.6**	**+3.5**
MDJ				XP		14 58 04.5	
MDJ				S	**Sn**	**14 59 36.7**	**+5.7**
MDJ				AMB	AMB		
	comp=Z,9.0nm,1.3s						
MDJ				AMB	AMB		
	comp=Z,51nm,5.3s						
MDJ				LR	LR		
	comp=N,232nm,12.7s						
MDJ				LR	LR		
	comp=E,299nm,13.4s						
MDJ				LR	LR		
	comp=Z,332nm,13.7s						
YSS	**Yuzh-Sakhalins**	**10.92**	**24**	*eP*	**Pn**	**14 58 16.0**	**+3.1**
	comp=Z,44nm,1.3s						
YSS	**Yuzh-Sakhalins**	**10.92**	**24**	*c i*P	**Pn**	**14 58 16.5**	**+3.6**
YSS				pmax	pmax		
	comp=Z,38nm,1.2s						
HABR	**Khabarovsk**	**11.42**	**355**	*eP*	**Pn**	**14 58 25.1**	**+5.4**
HABR				*eS*	**Sn**	**15 00 27.4**	**-0.1**
KLR	**Kul'dur**	**12.59**	**346**	*eP*	**Pn**	**14 58 36.3**	**+0.6**
KLR				pmax	pmax		
	comp=Z,30nm,1.6s						
KLR				MLR	MLR		
	comp=Z,1μm,12.5s						
NJ2	**Nanjing**	**15.30**	**256**	*eP*	**Pn**	**14 59 12.1**	**-0.5**
NJ2				AP	pP	14 59 20.8	+1.7
NJ2				PP		14 59 25.3	
NJ2				XP	sP	14 59 27.4	+7.6
NJ2				S	**Sn**	**15 01 59.0**	**-3.4**
NJ2				XS	sS	15 02 11.0	-11
NJ2				AMB	AMB		
	comp=Z,30nm,0.6s						
NJ2				AMB	AMB		
	comp=Z,64nm,3.5s						
NJ2				LR	LR		
	comp=N,1μm,13.1s						
NJ2				LR	LR		
	comp=E,1μm,12.9s						
NJ2				LR	LR		
	comp=Z,1μm,10.7s						
HIA	**Hailar**	**17.15**	**320**	*eP*	**Pn**	**14 59 38.8**	**+2.5**
	comp=Z,9.5nm,0.8s						
HIA	**Hailar**	**17.15**	**320**	*eP*	**Pn**	**14 59 38.8**	**+2.6**
HIA				pmax	pmax		
	comp=Z,9.0nm,0.8s						
WHN	**Wuhan**	**19.43**	**257**	P	**Pn**	**15 00 02.3**	**-2.0**
WHN				S	**Sn**	**15 03 28.1**	**-14**
WHN				LR	LR		
	comp=Z,444nm,8.4s						
HHC	**Hu-ho-hao-te**	**19.65**	**289**	*eP*	**Pn**	**15 00 04.9**	**-2.0**
HHC				AP	pP	15 00 14.9	+7.8
HHC				XP	sP	15 00 21.4	+14
HHC				PP		15 00 24.1	
HHC				S	**Sn**	**15 03 39.8**	**-8.0**
HHC				PCP	PcP	15 04 27.0	+2.2
HHC				AMB	AMB		
	comp=Z,11nm,0.3s						
HHC				AMB	AMB		
	comp=Z,199nm,5.3s						
HHC				LR	LR		
	comp=N,114nm,6.4s						
HHC				LR	LR		
	comp=E,121nm,5.6s						
HHC				LR	LR		
	comp=Z,165nm,9.2s						
ULN	**Ulaanbaatar**	**24.03**	**306**	*eP*	**P**	**15 00 51.7**	**0.0**
	comp=Z,3.8nm,0.8s,mb3.9						
ULN	**Ulaanbaatar**	**24.03**	**306**	⇑*eP*	**P**	**15 00 52.2**	**+0.4**
MA2	**Magadan**	**24.34**	**18**	*eP*	**P**	**15 00 54.3**	**-0.1**
	comp=Z,16nm,1.0s,mb4.4						
MA2	**Magadan**	**24.34**	**18**	*eP*	**P**	**15 00 54.7**	**+0.3**
MA2				*e*		15 01 07.1	
MA2				*e*		15 01 28.7	
MA2				*eS*	**S**	**15 05 08.6**	**-5.2**
MA2				pmax	pmax		
	comp=Z,20nm,0.9s,mb4.5						
SONM	**Songino Array**	**24.45**	**306**	P	**P**	**15 00 57.2**	**+1.6**
SONM				pmax	pmax		
	comp=Z,2.0nm,0.9s						
SONM				MLR	MLR		
	comp=Z,214nm,18.0s						
SONM	**Songino Array**	**24.45**	**306**	P	**P**	**15 00 57.2**	**+1.6**
	comp=Z,2.0nm,0.9s,mb3.5,baz=110,slow=9.0,SNR=10						
SONM				LR	LR	15 10 53.5	
	comp=Z,214nm,18.0s,MS3.7,baz=281,slow=38						
YAK	**Yakutsk**	**25.31**	**353**	*eP*	**P**	**15 01 03.2**	**-0.1**
YAK				pmax	pmax		
	comp=Z,13nm,0.8s,mb4.5						
YAK				pmax	pmax		
	comp=N,14nm,1.6s						
YAK				pmax	pmax		
	comp=E,3.0nm,1.2s						
BOD	**Bodaibo**	**25.45**	**332**	*eP*	**P**	**15 01 01.7**	**-2.9**
LZH	**Lanzhou**	**26.09**	**278**	*eP*	**P**	**15 01 09.5**	**-1.1**
LZH				AMB	AMB		
	comp=Z,16nm,1.0s,mb4.5						
LZH				AMB	AMB		
	comp=Z,85nm,5.1s						
LZH				LR	LR		
	comp=N,374nm,12.5s						
LZH				LR	LR		
	comp=Z,592nm,15.6s,MS4.2						
ZAK	**Zakamensk**	**27.12**	**310**	*eP*	**P**	**15 01 20.2**	**+0.5**
ZAK				*e*		15 02 05.1	
TLY	**Talaya**	**27.30**	**313**	P	**P**	**15 01 25.3**	**+4.0**
	comp=Z,14nm,1.2s,mb4.4						
TLY	**Talaya**	**27.30**	**313**	*eP*	**P**	**15 01 25.8**	**+4.5**
TLY				pmax	pmax		
	comp=Z,11nm,1.5s,mb4.2						
TLY				MLR	MLR		
	comp=Z,104nm,15.0s,MS3.5						
CD2	**Chengdu**	**27.66**	**267**	*eP*	**P**	**15 01 23.8**	**-1.0**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.6						
CD2				AMB	AMB		
	comp=Z,20nm,4.2s						
SEY	**Seymchan**	**27.67**	**16**	⇑*eP*	**P**	**15 01 24.1**	**-0.4**
GTA	**Gaotai**	**28.70**	**286**	*eP*	**P**	**15 01 35.6**	**+1.6**
GTA				AP	pP	15 01 39.7	+4.1
GTA				AMB	AMB		
	comp=Z,3.0nm,1.4s,mb3.8						
KMI	**Kunming**	**31.03**	**257**	P	**P**	**15 01 54.9**	**+0.1**
KMI				XP	sP	15 02 10.1	+13
KMI				PP	PP	15 02 58.5	-6.2
KMI				S	**S**	**15 06 54.9**	**-5.3**
KMI				XS	sS	15 07 14.0	+11
KMI				SS	SS	15 08 41.7	-31
KMI				AMB	AMB		
	comp=Z,6.0nm,1.0s,mb4.4						
KMI				AMB	AMB		
	comp=Z,121nm,4.9s						
KMI				LR	LR		
	comp=N,203nm,12.8s,MS4.0						
KMI				LR	LR		
	comp=E,101nm,13.2s,MS4.0						
KMI				LR	LR		
	comp=Z,121nm,15.4s,MS3.7						
TIXI	**Tiksi**	**34.85**	**356**	*eP*	**P**	**15 02 26.8**	**-0.8**
TIXI				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.4						
BILL	**Bilibino**	**35.19**	**19**	*eP*	**P**	**15 02 30.5**	**-0.1**
	comp=Z,9.1nm,1.3s,mb4.5						
BILL	**Bilibino**	**35.19**	**19**	P	**P**	**15 02 31.0**	**+0.4**
BILL				*e*		15 02 36.6	
BILL				pmax	pmax		
	comp=Z,11nm,1.6s,mb4.5						
WMQ	**Urumqi**	**37.22**	**296**	*eP*	**P**	**15 02 48.8**	**+0.6**
WMQ				AMB	AMB		
	comp=Z,7.0nm,0.9s,mb4.5						
MKAR	**Makanchi Array**	**40.67**	**301**	P	**P**	**15 03 16.8**	**-0.4**
	comp=Z,0.3nm,0.2s,mb3.5,baz=82,slow=11,SNR=3.1						
KURK	**Kurchatov**	**42.73**	**308**	*eP*	**P**	**15 03 32.8**	**-1.1**
	comp=Z,5.9nm,1.1s,mb4.2						
KURK	**Kurchatov**	**42.73**	**308**	⇑*eP*	**P**	**15 03 33.0**	**-0.9**
TKM2	**Tokmak 2**	**46.05**	**297**	P	**P**	**15 03 59.2**	**-1.4**
	comp=Z,4.3nm,0.7s,mb4.5						
TKM2	**Tokmak 2**	**46.05**	**297**	P	**P**	**15 03 59.2**	**-1.4**
TKM2				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.5						
BRVK	**Borovoye**	**47.61**	**312**	P	**P**	**15 04 12.2**	**-0.4**
	comp=Z,2.3nm,0.9s,mb4.2						
BRVK	**Borovoye**	**47.61**	**312**	P	**P**	**15 04 12.2**	**-0.4**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.2						
AML	**Almayashu**	**47.61**	**296**	*eP*	**P**	**15 04 14.2**	**+1.4**
	comp=Z,3.6nm,1.0s,mb4.4						
IMA2	**Indian Mountai**	**48.68**	**31**	*eP*	**P**	**15 04 20.7**	**0.0**
COLA	**College**	**51.17**	**32**	P	**P**	**15 04 41.1**	**+1.4**
	comp=Z,1.3nm,0.6s,mb4.0						
COLA	**College**	**51.17**	**32**	P	**P**	**15 04 41.1**	**+1.5**
COLA				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.9						
INK	**Inuvik**	**56.15**	**27**	*eP*	**P**	**15 05 16.2**	**+0.1**
	comp=Z,162nm,1.0s						
WRA	**Warramunga Arr**	**56.76**	**182**	*i* P	**P**	**15 05 22.5**	**+1.6**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
WRA	**Warramunga Arr**	**56.76**	**182**	P	**P**	**15 05 20.3**	**-0.7**
	comp=Z,0.9nm,0.6s,mb4.0,baz=358,slow=7.7,SNR=13						
ASAR	**Alice Springs**	**60.48**	**183**	P	**P**	**15 05 46.9**	**+0.1**
	comp=Z,0.3nm,0.6s,mb3.5,baz=12,slow=4.7,SNR=7.1						
RES	**Resolute Bay**	**63.51**	**13**	*eP*	**P**	**15 06 06.0**	**-0.7**
	comp=Z,309nm,1.4s						
YKA	**Yellowknife Ar**	**65.73**	**29**	⇑*i*P	**P**	**15 06 21.5**	**+0.2**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
YKA	**Yellowknife Ar**	**65.73**	**29**	P	**P**	**15 06 21.5**	**+0.2**
	comp=Z,0.9nm,0.8s,mb3.9,baz=308,slow=6.6,SNR=15						
FINES	**FINESS Array B**	**66.84**	**331**	*i* P	**P**	**15 06 28.6**	**+0.1**
FINES				pmax	pmax		
	comp=Z,3.0nm,0.8s						
FINES	**FINESS Array B**	**66.84**	**331**	P	**P**	**15 06 28.4**	**-0.1**
	comp=Z,2.6nm,0.8s,mb4.3,baz=76,slow=8.0,SNR=5.6						
KIV	**Kislovodsk**	**67.79**	**309**	P	**P**	**15 06 33.0**	**-1.8**
KIV						15 06 58.0	
KIV				*e*		15 15 56.6	
KIV				pmax	pmax		
	comp=Z,9.0nm,1.1s,mb4.7						
AKASG	**Malin Array Be**	**71.74**	**320**	*i* P	**P**	**15 06 58.5**	**-0.5**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.5s						
AKASG	**Malin Array Be**	**71.74**	**320**	P	**P**	**15 06 58.5**	**-0.4**
	comp=Z,0.8nm,0.5s,mb3.9,baz=48,slow=6.1,SNR=5.9						
FCC	**Fort Churchill**	**75.68**	**25**	*eP*	**P**	**15 07 21.2**	**-0.7**
	comp=Z,2.0nm,0.7s,mb4.2						
FCC	**Fort Churchill**	**75.68**	**25**	*eP*	**P**	**15 07 21.2**	**-0.8**
FCC				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.2						
FFC	**Flin Flon**	**75.76**	**31**	*eP*	**P**	**15 07 21.7**	**-0.8**
	comp=Z,5.7nm,1.2s,mb4.4						
FFC	**Flin Flon**	**75.76**	**31**	*eP*	**P**	**15 07 21.7**	**-0.8**
FFC				pmax	pmax		
	comp=Z,6.0nm,1.2s,mb4.4						
NVAR	**Mina Array Bea**	**78.11**	**51**	P	**P**	**15 07 37.9**	**+1.8**
	comp=Z,1.0nm,0.7s,mb3.9,baz=302,slow=5.2,SNR=7.3						
PDAR	**Pinedale Array**	**80.42**	**43**	P	**P**	**15 07 49.5**	**+0.9**
	comp=Z,1.0nm,0.8s,mb3.8,baz=287,slow=2.4,SNR=7.3						
ULM	**Lac du Bonnet**	**81.59**	**31**	P	**P**	**15 07 53.8**	**-0.9**
	comp=Z,3.9nm,1.1s,mb4.2,baz=259,slow=5.2,SNR=3.7						
RPZ	**Rata Peaks**	**86.37**	**156**	LR	LR	15 42 47.3	
	comp=Z,180nm,19.9s,MS4.5,baz=248,slow=33						
TXAR	**Lajitas Array**	**93.19**	**49**	P	**P**	**15 08 52.1**	**+0.5**
	comp=Z,0.4nm,0.7s,mb4.0,baz=300,slow=2.7,SNR=3.6						
SDV	**Santo Domingo**	**127.71**	**35**	PKP	PKPdf	15 14 42.2	-0.9
	comp=Z,1.0nm,0.3s,baz=330,slow=8.1,SNR=5.4						
LPAZ	**La Paz**	**150.00**	**53**	PKIKP	PKPbc	15 15 29.2	+1.2
LPAZ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
LPAZ	**La Paz**	**150.00**	**53**	PKPbc	PKPbc	15 15 29.2	+1.2
	comp=Z,0.6nm,0.3s,baz=325,slow=4.1,SNR=4.1						
SIV	**San Ignacio**	**153.90**	**41**	PKPbc	PKPbc	15 15 36.8	-0.1
	comp=Z,0.7nm,0.5s,baz=342,slow=6.4,SNR=3.7						

GUC 06 15:05:06.2±0.7,3141S×7161W,h12km±5km,MD3.7, ML2.8,5C-2D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHNG	**Los Chungos**	**0.48**	**169**	⇑*i*P	Pg	15 04 58.5	-17
CHNG				*i* S	Sg	15 05 05.9	-16
CHNG				AML	AML	15 05 06.6	
	comp=E,462nm,0.3s						
CMCH	**Combarbala**	**0.57**	**66**	⇑*i*P	Pg	15 05 17.3	+0.1
CMCH				*i* S	Sg	15 05 26.2	+1.4
CMCH				AML	AML	15 05 27.5	
	comp=E,3μm,0.6s						
OVCH	**Ovalle**	**0.87**	**24**	⇑*i*P	Pg	15 05 22.5	-0.5
OVCH				*i* S	Sg	15 05 34.3	0.0
OVCH				AML	AML	15 05 36.6	
	comp=N,704nm,0.3s						
PTCH	**Petorca**	**1.03**	**146**	*i* P	Pb	15 05 24.6	-1.4
PTCH				*i* S	Sb	15 05 38.8	-0.7
PTCH				AML	AML	15 05 40.6	
	comp=N,179nm,0.3s						
PACH	**Papudo**	**1.14**	**173**	*i* S	Sb	15 05 41.5	-1.0
TLL	**Tololo Astrono**	**1.41**	**29**	*eP*	Pn	15 05 30.5	-1.2
TLL				*i* S	Sn	15 05 49.2	-1.0
TLL				AML	AML	15 05 53.2	
	comp=N,211nm,0.8s						
JACH	**Jahuel**	**1.54**	**146**	⇑*i*P	Pn	15 05 33.0	-0.4
JACH				*i* S	Sn	15 05 52.8	-0.5
ROCH	**El Roble**	**1.64**	**162**	*eP*	Pn	15 05 34.6	-0.3
PEL	**Peldehue**	**1.90**	**156**	⇑*i*P	Pn	15 05 38.9	+0.5
PEL				*i* S	Sn	15 06 03.4	+1.1
PEL				AML	AML	15 06 05.1	
	comp=E,389nm,0.2s						
FCH	**Farellones**	**2.21**	**150**	*eP*	Pn	15 05 43.7	+0.9
FCH				*i* S	Sn	15 06 12.5	+2.4
FCH				AML	AML	15 06 16.3	
	comp=E,77nm,0.3s						
TACH	**Talagante**	**2.31**	**166**	⇓*i*P	Pn	15 05 45.1	+1.1
TACH				*i* S	Sn	15 06 14.8	+2.4
LMEL	**Las Melosas**	**2.71**	**154**	⇓*i*P	Pn	15 05 50.6	+1.1
LMEL				*i* S	Sn	15 06 25.4	+3.2
LMEL				AML	AML	15 06 29.7	
	comp=N,104nm,0.2s						

*IDC **06** 15:15:33.2±0.7,829S×157.19E,h0km,mb4.2/13, mb1 4.3/14,mb1mx4.2/17,mbtmp4.1/14,ML4.4/1,MS3.6/4, Ms1 3.6/4,ms1mx3.2/18,Error ellipse: s-maj=20.6km s-min=17.3km az=106.0*
*ISCJB **06** 15:15:35.0±2.9,835S±008×157.16E±008,h20km±21km, mb4.3/26,MS4.0/4,Error ellipse: s-maj=14.9km s-min=11.4km az=145.5*
*NEIC **06** 15:15:34.7±6.1,828S×15721E,h11km±38km,mb4.5/11, Error ellipse: s-maj=14.4km s-min=11.1km az=161.0*
*BJI **06** 15:15:36.9,775S×15707E,h10km,mB5.0,mb4

MDJ				AMB	AMB	
	comp=Z,116nm,5.7s					
KMI	**Kunming**	**62.59**	**304**	P	**P**	**15 26 02.4 +2.6**
KMI				AP	pP	15 26 06.0 -2.2
KMI				XP	sP	15 26 07.7 -3.6
KMI				AMB	AMB	
	comp=Z,6.0nm,0.7s,mb4.8					
CD2	**Chengdu**	**64.36**	**310**	*e*P	**P**	**15 26 12.2 +0.8**
CD2				AMB	AMB	
	comp=Z,10.0nm,0.8s,mb4.9					
CD2				AMB	AMB	
	comp=Z,20nm,5.8s					
HHC	**Hu-ho-hao-te**	**64.49**	**323**	*e*P	**P**	**15 26 13.5 +1.5**
HHC				AP	pP	15 26 17.9 -2.5
HHC				XP	sP	15 26 20.7 -2.9
HHC				PP	PP	15 28 37.4 +3.2
HHC				PCS		15 30 48.7
HHC				AMB	AMB	
	comp=Z,28nm,0.4s,mb5.7					
HHC				AMB	AMB	
	comp=Z,103nm,5.3s					
HHC				LR	LR	
	comp=N,112nm,4.6s					
HHC				LR	LR	
	comp=E,109nm,5.0s					
HHC				LR	LR	
	comp=Z,152nm,6.1s					
LZH	**Lanzhou**	**66.82**	**315**	*e*P	**P**	**15 26 28.7 +1.5**
LZH				AP	pP	15 26 33.5 -2.1
LZH				XP	sP	15 26 35.9 -2.9
LZH				*e*PP	PP	15 28 57.6 +2.9
LZH				AMB	AMB	
	comp=Z,19nm,1.4s,mb4.9					
LZH				AMB	AMB	
	comp=Z,58nm,7.5s					
LZH				LR	LR	
	comp=E,398nm,16.7s					
LZH				LR	LR	
	comp=Z,477nm,19.3s,MS4.7					
VNDA	**Vanda**	**69.16**	**179**	P	**P**	**15 26 41.8 +0.6**
	comp=Z,1.7nm,0.9s,mb4.0,baz=353,slow=6.1,SNR=8.8					
SBA	**Scott Base**	**69.63**	**178**	*e*P	**P**	**15 26 44.9 +0.8**
	comp=Z,5.0nm,1.1s,mb4.4					
ULN	**Ulaanbaatar**	**71.33**	**327**	*e*P	**P**	**15 26 56.2 +1.2**
	comp=Z,7.7nm,1.3s,mb4.5					
SONM	**Songino Array**	**71.67**	**327**	P	**P**	**15 26 57.5 +0.5**
	comp=Z,1.0nm,0.7s,mb3.9,baz=145,slow=6.7,SNR=9.6					
BILL	**Bilibino**	**76.50**	**3**	*e*P	**P**	**15 27 23.3 -1.4**
	comp=Z,6.4nm,1.1s,mb4.5					
BILL				*e*	pP	15 27 30.5 -2.8
QSPA	**South Pole Qui**	**81.61**	**180**	*e*P	**P**	**15 27 52.7 0.0**
	comp=Z,8.6nm,0.9s,mb4.7					
MK31	**Makanchi Array**	**85.88**	**318**	*e*P	**P**	**15 28 13.9 -1.1**
MKAR	**Makanchi Array**	**85.88**	**318**	P	**P**	**15 28 14.9 -0.1**
	comp=Z,1.0nm,0.6s,mb4.2,baz=106,slow=5.3,SNR=7.6					
ZALV	**Zalesovo Beam**	**86.54**	**326**	P	**P**	**15 28 17.6 -0.5**
	comp=Z,0.6nm,0.5s,mb4.1,baz=127,slow=7.5,SNR=3.3					
UCH	**Uchtor**	**90.19**	**313**	P	**P**	**15 28 40.1 +4.3**
	comp=Z,2.3nm,1.0s,mb4.5					
EKS2	**Erkin-Say**	**90.81**	**313**	*e*P	**P**	**15 28 38.8 +0.2**
	comp=Z,1.0nm,0.6s,mb4.3					
NVAR	**Mina Array Bea**	**90.86**	**51**	P	**P**	**15 28 39.9 +0.8**
	comp=Z,0.5nm,0.7s,mb3.9,baz=237,slow=6.0,SNR=4.5					
PFO	**Pinyon Flat Ob**	**91.55**	**56**	LR	LR	15 59 20.4
	comp=Z,170nm,21.0s,MS4.5,slow=29					
SYO	**Syowa Base**	**91.73**	**199‖**	*e*P	**P**	**15 28 42.5 0.0**
YKA	**Yellowknife Ar**	**96.53**	**28**	P	**P**	**15 29 04.4 0.0**
	comp=Z,0.6nm,0.8s,mb4.1,baz=267,slow=4.6,SNR=9.5					
PDAR	**Pinedale Array**	**98.00**	**48**	P	**P**	**15 29 09.7 -1.9**
	comp=Z,0.4nm,0.7s,mb4.1,baz=242,slow=1.9,SNR=3.1					
BDFB	**Brasília**	**145.46**	**134**	PKPbc	PKPbc	15 35 14.5 +0.2
	comp=Z,8.0nm,0.8s,baz=199,slow=3.8,SNR=14					

ISCJB ***06*** *15:17:24.8±0.9, 3836N±003×2042E±008, h1km±6km, Error ellipse: s-maj=10.5km s-min=4.3km az=162.4*
NEIC ***06*** *15:17:24.0, 3829N×2025E, h15km, MD3.7(ATH), ML3.7(THE), After ATH.*
ATH ***06*** *15:17:24.4, 3831N×2029E, h15km±2km, MD3.7/7*
CSEM ***06*** *15:17:26.3±0.3, 3840N×2050E, h1km±2km, MD3.7, Error ellipse: s-maj=4.8km s-min=2.6km az=83.0*
THE ***06*** *15:17:26.1, 3842N×2048E, h3km, ML3.7*

ISC 06 15:17:26.0±0.8, 3839N±003×2045E±008, h4km±5km, n22, σ1$08/33, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.23**	**152**	*e*PB	**Pg**	**15 17 30.6**	**0.0**
VLS				*e*SB	**Sg**	**15 17 35.1**	**+1.5**
LKD	**Levkas**	**0.36**	**26**	*e*Pg	**Pg**	**15 17 32.0**	**-0.9**
LKD				*e*Sg	**Sg**	**15 17 37.2**	**-0.4**
KFL	**Anninata**	**0.38**	**136**	*e*Pg	**Pg**	**15 17 33.2**	**-0.1**
KFL				*e*Sg	**Sg**	**15 17 39.6**	**+1.3**
KFL	**Anninata**	**0.38**	**136**	*e*Pg	**Pg**	**15 17 33.2**	**-0.2**
KFL				*e*Sg	**Sg**	**15 17 39.6**	**+1.3**
RLS	**Riolos of Patr**	**0.86**	**112**	*e*Pb	**Pb**	**15 17 42.1**	**-1.5**
RLS				*e*Sn	**Sn**	**15 17 57.1**	**-0.9**
RLS	**Riolos of Patr**	**0.86**	**112**	*e*PB	**Pb**	**15 17 42.1**	**-1.5**
RLS				*e*SN	**Sn**	**15 17 56.8**	**-1.2**
SELA	**Sela**	**1.14**	**95**	*e*Pg	**Pn**	**15 17 46.3**	**-2.5**
SELA				*e*Sg	**Sn**	**15 18 03.3**	**-1.5**
IGT	**Igoumenitsa**	**1.15**	**355**	*e*Pg	**Pg**	**15 17 46.3**	**-1.8**
IGT				*e*Sg	**Sg**	**15 18 03.7**	**+0.7**
EVR	**Evrytania**	**1.19**	**63**	*e*PN	**Pn**	**15 17 48.7**	**-0.7**
EVR				*e*SN	**Sn**	**15 18 07.3**	**+1.3**
JAN	**Janina**	**1.31**	**14**	*e*PN	**Pn**	**15 17 50.8**	**-0.3**
JAN				*e*SN	**Sn**	**15 18 10.6**	**+1.6**
KEK	**Kerkira**	**1.42**	**339**	*e*PN	**Pn**	**15 17 51.6**	**-1.0**
AGG	**Agios Georgios**	**1.60**	**66**	*e*Pg	**Pn**	**15 17 54.7**	**-0.4**
AGG				*e*Sg	**Sn**	**15 18 16.5**	**+0.3**
THL	**Klokotos Trika**	**1.69**	**45**	*e*PN	**Pn**	**15 17 57.8**	**+1.4**
PYL	**PYLOS**	**1.81**	**145**	*e*Pb	**Pn**	**15 17 58.1**	**+0.2**
VLX	**Vlachokerasia**	**1.83**	**123**	*e*Pb	**Pn**	**15 17 57.6**	**-0.6**
LTK	**Loutraki**	**2.01**	**100**	*e*Pn	**Pn**	**15 18 00.4**	**-0.4**
LIT	**Litokhoron**	**2.33**	**42**	*e*Pn	**Pn**	**15 18 05.2**	**0.0**
NEO	**Neokhori**	**2.35**	**66**	*e*PN	**Pn**	**15 18 06.9**	**+1.5**
DID	**Didima**	**2.37**	**111**	*e*Pn	**Pn**	**15 18 06.0**	**+0.4**
FNA	**Florina**	**2.50**	**16**	*e*Pn	**Pn**	**15 18 07.5**	**0.0**
AOS	**Alonnisos**	**2.79**	**73**	*e*Pn	**Pn**	**15 18 12.0**	**+0.5**
KRUS	**Krusevo**	**3.04**	**11**	*e*Pn	**Pn**	**15 18 17.2**	**+2.3**

CSEM ***06*** *15:21:37.9±0.1, 3727N×2476W, h20km, mb4.8/53, Ms4.3, Mw5.0, Error ellipse: s-maj=2.4km s-min=1.0km az=4.0*
BJI ***06*** *15:21:37.3, 3720N×2460W, h10km, mB5.5, mb5.1, Ms5.1, Msz5.0*
ISCJB ***06*** *15:21:37.5±0.8, 3731N±003×2471W±002, h8km±5km, mb4.7/128, MS4.5/51, Error ellipse: s-maj=5.4km s-min=2.9km az=2.0*
IDC ***06*** *15:21:38.2±0.4, 3733N×2466W, h0km, mb4.3/26, mb1 4.4/27, mb1mx4.4/31, mbtmp4.3/27, ML3.8/1, MS4.4/24, Ms1 4.4/24, ms1mx4.2/34, Error ellipse: s-maj=14.4km s-min=10.6km az=148.0*
NEIC ***06*** *15:21:39.3±0.2, 3723N×2465W, h10km, mb4.8/99, MS4.4/9, Error ellipse: s-maj=4.2km s-min=2.7km az=173.0*
GCMT ***06*** *15:21:39.3±0.3, 3738N×2435W, h12km, MW5.0/88, Moment Tensor Solution. s18,c23; s88,c132; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-3.79±.08; $M_{\theta\theta}$2.81±.09; $M_{\phi\phi}$0.98±.09; $M_{r\theta}$-0.32±.38; $M_{\theta\phi}$-1.12±.07; $M_{\phi r}$-1.42±.47; Best double couple: $M_0$3.79600×10^{16} NP1:ϕ_s100.00000°, δ45.00000°, λ-114.00000°. NP2: ϕ_s312.00000°, δ50.00000°, λ-68.00000°. Principal axes: T 3.3580, Plg3.0000°, Azm27.0000°; N 0.8790, Plg17.0000°, Azm118.0000°; P -4.2340, Plg73.0000°, Azm287.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
SFS ***06*** *15:21:39.0, 3720N×2560W, h10km, ML5.0*
SVSA ***06*** *15:21:40.1±0.8, 3719N×2469W, h0km, MD4.2, ML4.4, Error ellipse: s-maj=4.9km s-min=2.6km az=90.0*
PDA ***06*** *15:21:40.1±0.8, 3719N×2469W, h0km, MD4.2, ML4.4, Error ellipse: s-maj=4.9km s-min=2.6km az=90.0*
MOS ***06*** *15:21:41.6±1.0, 3735N×2464W, h33km, mb5.0/57, MS4.5/17, Error ellipse: s-maj=8.9km s-min=3.5km az=136.9*
CRAAG ***06*** *15:21:42.7, 3749N×2466W, Mb5.0*
SZGRF ***06*** *15:21:42.9, 3719N×2443W, h33km, mb4.9, MS4.2, Azores Islands region*

ISC 06 15:21:38.1±0.7, 3729N±003×2471W±002, h1km±4km, n480, σ1$08/508, mb4.8/129, MS4.5/51, 3C-5D, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSMN	**Pico de Norte,**	**0.40**	**225**	*e*P	**Pg**	**15 21 47.2**	**+1.4**
PSMN				*e*S	**Sg**	**15 21 51.4**	**+0.3**
PDA	**Ponta Delgada**	**0.89**	**301**	*e*P	**Pg**	**15 21 55.5**	**+0.3**
PDA				*e*S	**Sg**	**15 22 07.0**	**+0.3**
PSET	**Sete Cidades**	**0.97**	**304**	*e*P	**Pg**	**15 21 56.5**	**-0.2**
PSET				*e*S	**Sg**	**15 22 09.8**	**+0.6**
PSET				A		15 22 16.6	
	4μm,0.3s						
PSET	**Sete Cidades**	**0.97**	**304**	*e*P	**Pg**	**15 21 56.5**	**-0.2**
PSET				*e*S	**Sg**	**15 22 09.8**	**+0.6**
PSCM	**Serra do Cume**	**2.37**	**307**	*e*P	**Pn**	**15 22 16.3**	**-1.9**
PSCM				*e*S	**Sn**	**15 22 43.9**	**-4.0**
PSCM				A		15 22 47.4	
	1μm,0.2s						
PSCM	**Serra do Cume**	**2.37**	**307**	*e*P	**Pn**	**15 22 16.3**	**-1.9**
PSCM				*e*S	**Sn**	**15 22 43.9**	**-4.0**
ADH	**Angra Heroismo**	**2.42**	**305**	*e*P	**Pn**	**15 22 17.1**	**-1.8**
ADH				*e*S	**Sn**	**15 22 44.8**	**-4.3**
PID	**Ribeirinha**	**2.94**	**294**	*e*P	**Pn**	**15 22 24.2**	**-1.8**
PID				*e*S	**Sn**	**15 22 57.4**	**-4.5**
PMAN	**Manadas**	**2.99**	**298**	*e*P	**Pn**	**15 22 25.0**	**-1.7**
PMAN				*e*S	**Sn**	**15 22 58.6**	**-4.6**
PMAN				A		15 23 01.3	
	189nm,0.5s						
PMAN	**Manadas**	**2.99**	**298**	*e*P	**Pn**	**15 22 25.0**	**-1.7**
PMAN				*e*S	**Sn**	**15 22 58.6**	**-4.6**
ROSA	**Rosais**	**3.14**	**298**	*e*P	**Pn**	**15 22 27.0**	**-1.7**
ROSA				*e*S	**Sn**	**15 23 02.4**	**-4.4**
PICO	**Pico**	**3.18**	**294**	*e*P	**Pn**	**15 22 27.9**	**-1.4**
PICO				*e*S	**Sn**	**15 23 03.3**	**-4.6**
HOR	**Horta**	**3.34**	**293**	*e*P	**Pn**	**15 22 29.7**	**-1.8**
HOR				*e*S	**Sn**	**15 23 06.9**	**-5.0**
CALA	**Caldeira**	**3.41**	**293**	*e*P	**Pn**	**15 22 30.8**	**-1.7**
CALA				*e*S	**Sn**	**15 23 08.5**	**-5.1**
PMAR	**Madeira**	**7.85**	**123**	*e*Pn	**Pn**	**15 23 30.4**	**-3.0**
PMAR				*e*Sn	**Sn**	**15 24 51.3**	**-12**
PMAR				A		15 24 59.6	
	63nm,0.4s						
PMPS	**Porto Santo**	**8.05**	**119**	*e*Pn	**Pn**	**15 23 32.3**	**-3.9**
PMPS				*e*Sn	**Sn**	**15 24 53.9**	**-14**
PMPS				A		15 25 01.3	
	21nm,0.4s						
EHIG	**Higuera**	**10.46**	**144**	P	**Pn**	**15 24 07.1**	**-2.1**
EHIG	**Higuera**	**10.46**	**144**	P	**Pn**	**15 24 07.1**	**-2.1**
EGOM	**La Gomera**	**11.07**	**143**	P	**Pn**	**15 24 13.2**	**-4.4**
	100nm,0.5s						
EGOM				S	**Sn**	**15 26 06.5**	**-16**
EBAJ	**Bajamar**	**11.20**	**139**	P	**Pn**	**15 24 17.1**	**-2.2**
	23nm,0.6s						
CCAN	**Las Canadas**	**11.32**	**141**	P	**Pn**	**15 24 17.4**	**-3.6**
	16nm,0.5s						
EOSO	**Osorio**	**11.99**	**137**	P	**Pn**	**15 24 26.8**	**-3.4**
	26nm,1.3s						
EOSO				S	**Sn**	**15 26 27.8**	**-17**
PMAFR	**Mafra**	**12.26**	**77**	*e*S	**Sn**	**15 26 33.7**	**-18**
PMAFR				*e*T		15 36 09.3	
EFAM	**Famara**	**12.39**	**128**	P	**Pn**	**15 24 34.1**	**-1.6**
EFAM				S	**Sn**	**15 26 36.6**	**-18**
EFAM	**Famara**	**12.39**	**128**	P	**Pn**	**15 24 34.1**	**-1.6**
CFTV	**Fuerteventura**	**12.56**	**132**	P	**Pn**	**15 24 34.6**	**-3.5**
	7.8nm,0.7s						
CFTV				S	**Sn**	**15 26 40.5**	**-18**
PFVI	**Vila Bisbo**	**12.66**	**86**	*e*S	**Sn**	**15 26 43.9**	**-17**
PTEO	**Sao Teotonio**	**12.71**	**84**	*e*S	**Sn**	**15 26 44.2**	**-18**
MORF	**Marmelete**	**12.79**	**85**	*e*S	**Sn**	**15 26 46.7**	**-17**
EVOP	**Sao Brissos**	**13.16**	**80**	*e*Pn	**Pn**	**15 24 41.3**	**-4.8**
EVO	**Evora**	**13.24**	**80**	*e*Pn	**Pn**	**15 24 41.3**	**-6.0**
EVO				*e*Sn	**Sn**	**15 26 54.9**	**-20**
	30nm,0.5s						
EVO				*e*MLR	MLR		
	comp=Z,2μm,21.0s						
PBDV	**Barranco-do-Ve**	**13.37**	**85**	*e*S	**Sn**	**15 27 01.0**	**-17**
PBDV	**Barranco-do-Ve**	**13.37**	**85**	*e*T		15 37 10.9	
PBEJ	**Beja**	**13.37**	**82**	*e*S	**Sn**	**15 27 00.3**	**-18**
PBEJ				*e*T		15 36 54.5	
PVIS	**Viseu**	**13.52**	**70**	*e*S	**Sn**	**15 27 03.9**	**-18**
PVAQ	**Vaqueiros**	**13.52**	**84**	*e*S	**Sn**	**15 27 04.1**	**-18**
PVAQ				*e*T		15 36 53.6	
PESTR	**Estremoz**	**13.58**	**78**	*e*S	**Sn**	**15 27 05.6**	**-18**
PESTR				*e*T		15 36 53.6	
PCAB	**Cabril**	**13.61**	**66**	*e*S	**Sn**	**15 27 06.5**	**-18**
ELOB	**Lobios**	**13.63**	**65**	P	**Pn**	**15 24 54.9**	**+2.3**
	comp=Z,6.7nm,0.6s						
ELOB				S	**Sn**	**15 27 06.4**	**-18**
ELOB	**Lobios**	**13.63**	**65**	P	**Pn**	**15 24 54.8**	**+2.3**
	comp=Z,6.7nm,0.6s						
EGRO	**El Granado**	**13.70**	**84**	P	**Pn**	**15 24 54.4**	**+0.9**
	comp=Z,4.6nm,0.3s						
EGRO				S	**Sn**	**15 27 08.3**	**-18**
EGRO	**El Granado**	**13.70**	**84**	P	**Pn**	**15 24 54.4**	**+0.9**
	comp=Z,4.6nm,0.3s						
PCBR	**Castelo Branco**	**13.72**	**74**	*e*P	**Pn**	**15 24 51.2**	**-2.6**
PCBR				*e*S	**Sn**	**15 27 09.1**	**-18**
PCBR				*e*T		15 36 50.9	
MTE	**Manteigas**	**13.73**	**72**	*e*P	**Pn**	**15 24 57.5**	**+3.5**
MTE				*e*S	**Sn**	**15 27 09.0**	**-18**
MTE				*e*T		15 37 05.8	
MTE	**Manteigas**	**13.73**	**72**	*e*Pn	**Pn**	**15 24 48.4**	**-5.6**
	comp=Z,20nm,1.0s						
MTE				*e*Sn	**Sn**	**15 27 05.4**	**-22**
MTE	**Manteigas**	**13.73**	**72**	*e*Pn	**Pn**	**15 24 48.4**	**-5.6**
	comp=Z,20nm,1.0s						
PVRL	**Vila Real**	**13.75**	**68**	*e*P	**Pn**	**15 24 48.9**	**-5.3**
PVRL				*e*S	**Sn**	**15 27 08.7**	**-19**
PBAR	**Barrancos**	**14.02**	**81**	*e*P	**Pn**	**15 25 00.4**	**+2.6**
PBAR				*e*S	**Sn**	**15 27 16.1**	**-18**
PBAR				*e*T		15 36 52.0	
EBAD	**Badajoz**	**14.03**	**79**	P	**Pn**	**15 25 00.1**	**+2.1**
	comp=Z,4.7nm,0.9s						
EBAD				S	**Sn**	**15 27 19.2**	**-15**
EBAD	**Badajoz**	**14.03**	**79**	P	**Pn**	**15 25 00.2**	**+2.2**
	comp=Z,4.7nm,0.9s						
MVO	**Moncorvo**	**14.24**	**69**	*e*P	**Pn**	**15 24 56.5**	**-4.3**
MVO				*e*S	**Sn**	**15 27 20.4**	**-19**
MVO	**Moncorvo**	**14.24**	**69**	*e*T		15 37 31.0	
EMIN	**Mina Concepcio**	**14.32**	**83**	P	**Pn**	**15 25 04.6**	**+2.6**
	comp=Z,9.0nm,0.9s						
EMIN				S	**Sn**	**15 27 23.2**	**-18**
EMIN	**Mina Concepcio**	**14.32**	**83**	P	**Pn**	**15 25 04.6**	**+2.6**
	comp=Z,9.0nm,0.9s						
CIA	**Chichaoua**	**14.34**	**109**	*e*P	**Pn**	**15 25 01.0**	**-1.3**
PBRG	**Braganca**	**14.57**	**66**	*e*S	**Sn**	**15 27 29.0**	**-19**
ECAL	**Calabor**	**14.61**	**66**	P	**Pn**	**15 25 09.2**	**+3.3**
	comp=Z,9.5nm,0.8s						
ECAL				S	**Sn**	**15 27 29.0**	**-19**
EPON	**Pontenova**	**14.68**	**60**	P	**Pn**	**15 25 14.3**	**+7.4**
	comp=Z,27nm,0.8s						
EPON				S	**Sn**	**15 27 30.1**	**-20**
ESPR	**Espera**	**15.06**	**86**	P	**Pn**	**15 25 16.1**	**+4.1**
	comp=Z,22nm,1.0s						
ESPR				S	**Sn**	**15 27 45.1**	**-14**
OUK	**Oukaimeden**	**15.18**	**109**	*i* P	**Pn**	**15 25 13.0**	**-0.7**
ECAB	**El Cabril**	**15.30**	**81**	P	**Pn**	**15 25 19.1**	**+3.9**
	comp=Z,2.6nm,0.6s						
ECAB				S	**Sn**	**15 27 48.6**	**-17**
EADA	**Adamuz**	**15.95**	**81**	P	**Pn**	**15 25 26.4**	**+2.6**
	comp=Z,2.5nm,6.6s						
EMIJ	**Mijas**	**15.96**	**87**	P	**Pn**	**15 25 25.7**	**+1.8**
	comp=Z,87nm,2.9s						
EMIJ	**Mijas**	**15.96**	**87**	P	**Pn**	**15 25 25.7**	**+1.8**
	comp=Z,87nm,2.9s						
EARI	**Arriondas**	**16.03**	**62**	P	**Pn**	**15 25 28.8**	**+4.0**
	comp=Z,17nm,0.9s						
EARI				S	**Sn**	**15 28 08.4**	**-15**
PAB	**San Pablo**	**16.11**	**76**	*e*Pn	**Pn**	**15 25 20.4**	**-5.5**
	comp=Z,19nm,1.3s						
PAB				*e*Sn	**Sn**	**15 28 05.9**	**-19**
PAB	**San Pablo**	**16.11**	**76**	*e*P	**Pn**	**15 25 20.4**	**-5.5**
PAB				pmax	pmax		
	comp=Z,19nm,1.3s						
EMAL	**Malaga-Limoner**	**16.21**	**86**	*i* P	**Pn**	**15 25 26.0**	**-1.1**
TGT	**Taghat**	**16.29**	**95**	*i* P	**Pn**	**15 25 29.0**	**+0.9**
GUD	**Guadarrama**	**16.33**	**72**	P	**Pn**	**15 25 31.7**	**+3.1**
	comp=Z,476nm,4.4s						
GUD				S	**Sn**	**15 28 17.2**	**-13**
GUD	**Guadarrama**	**16.33**	**72**	P	**Pn**	**15 25 31.7**	**+3.1**
GUD				pmax	pmax		
	comp=Z,477nm,4.4s						
ELOJ	**Sierra Loja**	**16.38**	**84**	P	**Pn**	**15 25 31.1**	**+1.9**
ELOJ				pmax	pmax		
	comp=Z,6.0nm,0.8s						
ELOJ	**Sierra Loja**	**16.38**	**84**	P	**Pn**	**15 25 31.1**	**+1.9**
	comp=Z,5.5nm,0.8s						
ESDC	**Sonseca Array**	**16.42**	**75**	Pn	**Pn**	**15 25 24.3**	**-5.5**
ESDC				P		15 25 31.6	
ESDC				Sn	**Sn**	**15 28 15.6**	**-17**
ESDC	**Sonseca Array**	**16.42**	**75**	Pn	**Pn**	**15 25 24.3**	**-5.5**
	comp=Z,0.4nm,0.3s,baz=277,slow=13,SNR=12						
ESDC				Sn	**Sn**	**15 28 15.6**	**-17**
	comp=Z,0.5nm,0.3s,baz=278,slow=24,SNR=4.3						
ESDC	**Sonseca Array**	**16.42**	**75**	P	**Pn**	**15 25 31.6**	**+1.9**
ESLA	**Sonseca Array**	**16.42**	**75**	*e*Pn	**Pn**	**15 25 25.6**	**-4.1**
	comp=Z,8.3nm,1.1s						
ESLA				*e*Sn	**Sn**	**15 28 19.0**	**-14**
EBAN	**Banos Encina**	**16.58**	**81**	P	**Pn**	**15 25 33.3**	**+1.5**
	comp=Z,11nm,1.0s						
EBAN				S	**Sn**	**15 28 19.3**	**-17**
EBAN	**Banos Encina**	**16.58**	**81**	P	**Pn**	**15 25 33.3**	**+1.5**
EBAN				pmax	pmax		
	comp=Z,11nm,1.0s						
EBAN	**Banos Encina**	**16.58**	**81**	P	**Pn**	**15 25 33.3**	**+1.5**
	comp=Z,11nm,1.0s						
ERON	**Agron**	**16.67**	**85**	P	**Pn**	**15 25 38.4**	**+5.4**
	comp=Z,5.9nm,0.7s						
ECOG	**Cogollos-Vega**	**16.83**	**84**	P	**Pn**	**15 25 38.7**	**+3.8**
	comp=Z,3.2nm,0.6s						
ECOG	**Cogollos-Vega**	**16.83**	**84**	P	**Pn**	**15 25 38.7**	**+3.7**
ECOG				pmax	pmax		
	comp=Z,3.0nm,0.6s						
MDT	**Midelt**	**17.04**	**99**	P	**Pn**	**15 25 37.1**	**-0.6**
	comp=Z,0.3nm,0.3s,baz=290,slow=13,SNR=11						
MDT				S	**Sn**	**15 28 27.3**	**-20**
	comp=Z,0.2nm,0.3s,baz=9.6,slow=19,SNR=4.8						
EQES	**Quesada**	**17.17**	**82**	P	**Pn**	**15 25 43.4**	**+4.1**
	comp=Z,6.2nm,0.8s						
EQES				S	**Sn**	**15 28 30.6**	**-20**
ELAN	**Lanestosa**	**17.27**	**63**	P	**Pn**	**15 25 44.1**	**+3.6**
	comp=Z,20nm,0.9s						
ELAN				S	**Sn**	**15 28 36.5**	**-17**
EVIA	**Vianos**	**17.56**	**79**	P	**Pn**	**15 25 47.4**	**+3.3**
	comp=Z,12nm,0.8s						
EVIA	**Vianos**	**17.56**	**79**	P	**Pn**	**15 25 47.4**	**+3.3**
EVIA				pmax	pmax		
	comp=Z,13nm,0.8s						
ECRI	**Cripan**	**17.81**	**66**	P	**Pn**	**15 25 52.0**	**+4.7**
	comp=Z,4.7nm,0.7s						
ECRI	**Cripan**	**17.81**	**66**	P	**Pn**	**15 25 52.0**	**+4.8**
ECRI				pmax	pmax		
	comp=Z,5.0nm,0.7s						
ETOR	**Torete**	**17.93**	**72**	P	**Pn**	**15 25 54.3**	**+5.5**
	comp=Z,7.4nm,0.9s						
ETOR	**Torete**	**17.93**	**72**	P	**Pn**	**15 25 54.3**	**+5.5**
ETOR				pmax	pmax		
	comp=Z,7.0nm,0.9s						
ETOB	**Tobarra**	**18.31**	**79**	P	**Pn**	**15 25 57.8**	**+4.4**
	comp=Z,14nm,0.9s						
CART	**Cartagena**	**18.82**	**82**	*i* P	**Pn**	**15 25 57.1**	**-2.6**
SJPF	**Ste Jean**	**18.83**	**65**	*e*P	**Pn**	**15 25 59.2**	**-0.5**
	comp=Z,33nm,1.1s						
SJPF	**Ste Jean**	**18.83**	**65**	*e*P	**Pn**	**15 25 59.2**	**-0.5**
SJPF				pmax	pmax		
	comp=Z,17nm,1.1s						
SJPF	**Ste Jean**	**18.83**	**65**	*e*P	**Pn**	**15 25 59.2**	**-0.5**
	comp=Z,17nm,1.1s						
QUIF	**Quistinic**	**19.02**	**49**	*e*P	**Pn**	**15 26 01.4**	**-0.6**
	comp=Z,12nm,0.8s						
QUIF	**Quistinic**	**19.02**	**49**	*e*P	**Pn**	**15 26 01.4**	**-0.6**
QUIF				pmax	pmax		
	comp=Z,6.0nm,0.8s						
QUIF	**Quistinic**	**19.02**	**49**	*e*P	**Pn**	**15 26 01.4**	**-0.6**
	comp=Z,6.1nm,0.8s						
ROSF	**Rostrenen**	**19.15**	**48**	*e*P	**Pn**	**15 26 02.8**	**-0.7**
	comp=Z,28nm,1.0s						
ROSF	**Rostrenen**	**19.15**	**48**	*e*P	**Pn**	**15 26 02.8**	**-0.7**
ROSF				pmax	pmax		
	comp=Z,14nm,1.0s						
ROSF	**Rostrenen**	**19.15**	**48**	*e*P	**Pn**	**15 26 02.8**	**-0.7**
	comp=Z,14nm,1.0s						
ESAC	**San Caprasio**	**19.20**	**69**	P	**Pn**	**15 26 06.5**	**+2.3**
	comp=Z,26nm,0.8s						
ETSF	**Etsaut**	**19.28**	**66**	*e*P	**Pn**	**15 26 04.4**	**-0.7**
	comp=Z,34nm,0.9s						
ETSF	**Etsaut**	**19.28**	**66**	*e*P	**Pn**	**15 26 04.4**	**-0.7**
ETSF				pmax	pmax		
	comp=Z,17nm,0.9s						
ETSF	**Etsaut**	**19.28**	**66**	*e*P	**Pn**	**15 26 04.4**	**-0.7**
	comp=Z,17nm,0.9s						
SGMF	**Saint Gilles**	**19.54**	**49**	*e*P	**Pn**	**15 26 07.3**	**-0.9**
EBIE	**Bielsa**	**19.76**	**66**	P	**Pn**	**15 26 11.4**	**+0.6**
	comp=Z,10nm,1.0s						
EBIE	**Bielsa**	**19.76**	**66**	P	**Pn**	**15 26 11.4**	**+0.5**
	comp=Z,10nm,1.0s						
EPF	**Esparros**	**19.95**	**65**	*e*P	**Pn**

MTLF Montolieu 21.35 65 *eP* **P 15 26 26.7 0.0**
comp=Z,86nm,1.9s,mb4.8
CAF Calviac 21.50 61 *eP* **P 15 26 28.0 -0.3**
comp=Z,153nm,1.1s,mb5.0
CAF Calviac 21.50 61 *eP* **P 15 26 28.0 -0.3**
CAF pmax pmax
comp=Z,77nm,1.1s,mb5.0
CAF Calviac 21.50 61 *eP* **P 15 26 28.0 -0.3**
comp=Z,76nm,1.1s,mb5.0
TCF Toulx Ste Croi 21.91 57 *eP* **P 15 26 32.3 -0.4**
comp=Z,309nm,1.6s,mb5.2
TCF Toulx Ste Croi 21.91 57 *eP* **P 15 26 32.3 -0.4**
TCF pmax pmax
comp=Z,154nm,1.6s,mb5.2
TCF Toulx Ste Croi 21.91 57 *eP* **P 15 26 32.3 -0.4**
comp=Z,154nm,1.6s,mb5.2
EMHD Djebel Mahouad 22.16 84 P **P 15 26 38.5 +3.0**
PYM Petit Puy Mans 22.32 59 *eP* **P 15 26 37.5 +0.4**
LBL Lubilhac 22.38 60 *eP* **P 15 26 38.4 +0.7**
BGF Bois d'Agland 22.40 57 *eP* **P 15 26 37.2 -0.7**
comp=Z,39nm,0.9s,mb4.5
BGF Bois d'Agland 22.40 57 *eP* **P 15 26 37.2 -0.7**
BGF pmax pmax
comp=Z,19nm,0.9s,mb4.5
BGF Bois d'Agland 22.40 57 *eP* **P 15 26 37.2 -0.7**
comp=Z,19nm,0.9s,mb4.5
AGO Saint Agoulin 22.47 58 *eP* **P 15 26 39.4 +0.7**
LASF Ste Croix 22.63 64 *eP* **P 15 26 39.4 -0.9**
comp=Z,60nm,1.1s,mb4.7
LASF Ste Croix 22.63 64 *eP* **P 15 26 39.4 -0.9**
comp=Z,30nm,1.1s,mb4.7
PLDF La Plantade 22.79 59 *eP* **P 15 26 42.7 +0.7**
AVF Avril sur Loir 22.80 57 *eP* **P 15 26 41.1 -1.0**
comp=Z,70nm,1.6s,mb4.6
AVF Avril sur Loir 22.80 57 *eP* **P 15 26 41.1 -1.0**
AVF pmax pmax
comp=Z,35nm,1.6s,mb4.6
AVF Avril sur Loir 22.80 57 *eP* **P 15 26 41.1 -1.0**
comp=Z,35nm,1.6s,mb4.6
SSF Saint Saulge 22.97 56 *eP* **P 15 26 42.6 -1.3**
comp=Z,140nm,1.6s,mb5.0
SSF Saint Saulge 22.97 56 *eP* **P 15 26 42.6 -1.3**
SSF pmax pmax
comp=Z,70nm,1.6s,mb4.9
SSF Saint Saulge 22.97 56 *eP* **P 15 26 42.6 -1.3**
comp=Z,70nm,1.6s,mb5.0
SMF Signal de Mont 23.09 57 *eP* **P 15 26 43.9 -1.3**
comp=Z,292nm,1.7s,mb5.2
SMF Signal de Mont 23.09 57 *eP* **P 15 26 43.9 -1.3**
SMF pmax pmax
comp=Z,146nm,1.7s,mb5.2
SMF Signal de Mont 23.09 57 *eP* **P 15 26 43.9 -1.3**
comp=Z,146nm,1.7s,mb5.2
ESK Eskdalemuir 23.20 32 *eP* **P 15 26 46.0 -0.3**
comp=Z,18nm,1.0s,mb4.5
ESK Eskdalemuir 23.20 32 *eP* **P 15 26 46.0 -0.3**
ESK pmax pmax
comp=Z,18nm,1.0s,mb4.6
ESK Eskdalemuir 23.20 32 *eP* **P 15 26 46.0 -0.3**
comp=Z,18nm,1.0s,mb4.5
EKA Eskdalemuir Ar 23.23 32 P **P 15 26 45.9 -0.8**
comp=Z,5.1nm,0.7s,mb4.2,baz=227,slow=8.1,SNR=18
EKA Eskdalemuir Ar 23.23 32 P **P 15 26 45.8 -0.8**
LOR Lormes 23.25 56 *eP* **P 15 26 45.8 -1.1**
comp=Z,42nm,1.2s,mb4.6
LOR *e*MLR MLR
comp=Z,1µm,20.5s,MS4.1
LOR Lormes 23.25 56 *eP* **P 15 26 45.8 -1.1**
comp=Z,21nm,1.2s,mb4.5
LOR LR LR
comp=Z,1µm,20.5s,MS4.4
LOR Lormes 23.25 56 *eP* **P 15 26 45.8 -1.1**
LOR pmax pmax
comp=Z,21nm,1.2s,mb4.5
LOR MLR MLR
comp=Z,1µm,20.5s,MS4.4
MENF Mencas 23.30 47 *eP* **P 15 26 48.3 +0.9**
VIVF Saint-Julien-I 23.31 62 *eP* **P 15 26 46.2 -1.4**
comp=Z,140nm,1.4s,mb5.0
VIVF Saint-Julien-I 23.31 62 *eP* **P 15 26 46.2 -1.4**
VIVF pmax pmax
comp=Z,70nm,1.4s,mb5.0
VIVF Saint-Julien-I 23.31 62 *eP* **P 15 26 46.2 -1.4**
comp=Z,70nm,1.4s,mb5.0
BBTS Babate 23.68 160 P **P 15 26 52.5 +0.9**
comp=Z,14nm,0.8s,mb4.5,baz=325,slow=8.9,SNR=5.0
BBTS LR LR 15 34 25.6
comp=Z,771nm,18.8s,MS4.2,baz=144,slow=32
SMRF Simiane la Rot 23.84 64 *eP* **P 15 26 51.5 -1.4**
comp=Z,78nm,1.4s,mb4.8
SMRF Simiane la Rot 23.84 64 *eP* **P 15 26 51.5 -1.4**
comp=Z,39nm,1.4s,mb4.8
SET Setif 24.11 83 P **P 15 26 56.0 +0.7**
GRN Grenoble 24.12 61 *eP* **P 15 26 56.3 +0.9**
ORIF Oris-en-Rattie 24.17 62 *eP* **P 15 26 54.8 -1.0**
comp=Z,92nm,1.3s,mb4.8
ORIF *e*MLR MLR
comp=Z,2µm,21.2s,MS4.2
ORIF Oris-en-Rattie 24.17 62 *eP* **P 15 26 54.8 -1.0**
ORIF pmax pmax
comp=Z,46nm,1.3s,mb4.8
ORIF Oris-en-Rattie 24.17 62 *eP* **P 15 26 54.8 -1.0**
comp=Z,46nm,1.3s,mb4.8
BAIF Baives 24.33 49 *eP* **P 15 26 56.2 -1.0**
comp=Z,44nm,1.0s,mb4.6
BAIF Baives 24.33 49 *eP* **P 15 26 56.2 -1.0**
BAIF pmax pmax
comp=Z,22nm,1.0s,mb4.6
BAIF Baives 24.33 49 *eP* **P 15 26 56.2 -1.0**
comp=Z,22nm,1.0s,mb4.6
MEZF Maizieres J'vi 24.36 53 *eP* **P 15 26 56.4 -1.1**
LMR La Mourre 24.47 66 *eP* **P 15 26 57.1 -1.4**
SNF Seneffe 24.54 48 P **P 15 26 58.9 -0.2**
DOU Dourbes 24.58 49 P **P 15 26 59.4 -0.1**
comp=Z,23nm,1.9s,mb4.6
DOU Dourbes 24.58 49 P **P 15 26 59.3 -0.2**
comp=Z,23nm,1.9s,mb4.6
FRF La Foret Royal 24.58 65 *eP* **P 15 26 58.4 -1.2**
comp=Z,24nm,0.8s,mb4.7
FRF La Foret Royal 24.58 65 *eP* **P 15 26 58.4 -1.2**
FRF pmax pmax
comp=Z,12nm,0.8s,mb4.7
FRF La Foret Royal 24.58 65 *eP* **P 15 26 58.4 -1.2**
comp=Z,12nm,0.8s,mb4.7
CABF La Chapelle 24.59 58 *eP* **P 15 26 58.7 -0.9**
UCC Uccle 24.69 48 P **P 15 27 00.1 -0.3**
UCC Uccle 24.69 48 P **P 15 27 00.1 -0.4**
GIVF Givet 24.72 49 *eP* **P 15 26 59.8 -0.9**
comp=Z,104nm,1.2s,mb5.1
GIVF Givet 24.72 49 *eP* **P 15 26 59.8 -0.9**
GIVF pmax pmax
comp=Z,52nm,1.2s,mb5.1
GIVF Givet 24.72 49 *eP* **P 15 26 59.8 -0.9**
comp=Z,52nm,1.2s,mb5.1
BNI Bardonecchia 24.75 62 *eP* **P 15 27 02.2 +1.1**
comp=Z,31nm,1.4s,mb4.8
BNI Bardonecchia 24.75 62 *eP* **P 15 27 02.2 +1.1**
BNI pmax pmax
comp=Z,31nm,1.4s,mb4.8
BNI Bardonecchia 24.75 62 *eP* **P 15 27 02.2 +1.1**
comp=Z,31nm,1.4s,mb4.8
MBDF Montbardon 24.78 63 *eP* **P 15 27 00.3 -1.1**
SURF Saint Ours 24.78 63 *eP* **P 15 27 04.0 +2.6**
LPL La Plagne 24.85 61 *eP* **P 15 27 01.2 -0.8**
comp=Z,52nm,1.3s,mb4.8
LPL La Plagne 24.85 61 *eP* **P 15 27 01.2 -0.8**
LPL pmax pmax
comp=Z,26nm,1.3s,mb4.8
LPL La Plagne 24.85 61 *eP* **P 15 27 01.2 -0.8**
comp=Z,26nm,1.3s,mb4.8
LPG La Plagne 24.86 61 *eP* **P 15 27 01.4 -0.7**
comp=Z,57nm,1.3s,mb4.8
LPG La Plagne 24.86 61 *eP* **P 15 27 01.4 -0.7**
LPG pmax pmax
comp=Z,28nm,1.3s,mb4.8
LPG La Plagne 24.86 61 *eP* **P 15 27 01.4 -0.7**
comp=Z,28nm,1.3s,mb4.8
THEF They Montfort 24.89 54 *eP* **P 15 27 02.0 -0.3**
MVIF Mont Vial 24.97 65 *eP* **P 15 27 03.9 +0.8**
TOUF Mont Tournerai 25.05 64 *eP* **P 15 27 05.8 +1.9**
HAU Haudompre 25.07 55 *eP* **P 15 27 03.1 -0.9**
HAU *e*MLR MLR
comp=Z,1µm,21.2s,MS4.0
HAU Haudompre 25.07 55 *eP* **P 15 27 03.1 -0.9**
HAU MLR MLR
comp=Z,1µm,21.3s,MS4.3

LUCF Luceram 25.11 65 *eP* **P 15 27 06.5 +2.1**
BCLA Clavier 25.11 49 P **P 15 27 04.4 +0.1**
SBF Sospel 25.17 65 *eP* **P 15 27 04.1 -0.9**
comp=Z,40nm,1.0s,mb4.8
SBF Sospel 25.17 65 *eP* **P 15 27 04.1 -0.9**
SBF pmax pmax
comp=Z,20nm,1.0s,mb4.8
SBF Sospel 25.17 65 *eP* **P 15 27 04.1 -0.9**
comp=Z,20nm,1.0s,mb4.8
AUTN L'Aution 25.18 64 *eP* **P 15 27 07.4 +2.4**
LOMF Lomont 25.24 57 *eP* **P 15 27 05.5 0.0**
SAOF Saorge 25.27 65 *eP* **P 15 27 08.1 +2.3**
HINF Hinteralfeld 25.35 55 *eP* **P 15 27 05.8 -0.8**
comp=Z,32nm,1.1s,mb4.7
HINF Hinteralfeld 25.35 55 *eP* **P 15 27 05.8 -0.8**
HINF pmax pmax
comp=Z,16nm,1.1s,mb4.7
HINF Hinteralfeld 25.35 55 *eP* **P 15 27 05.8 -0.8**
comp=Z,16nm,1.1s,mb4.7
WLF Walferdange 25.39 51 *eP* **P 15 27 05.8 -1.1**
comp=Z,37nm,0.8s,mb5.2
WLF Walferdange 25.39 51 *eP* **P 15 27 05.8 -1.1**
WLF pmax pmax
comp=Z,37nm,0.8s,mb5.2
WLF Walferdange 25.39 51 P **P 15 27 06.6 -0.3**
comp=Z,28nm,1.0s,mb4.9
WLF Walferdange 25.39 51 *eP* **P 15 27 06.3 -0.6**
comp=Z,47nm,0.9s,mb5.2
WLF Walferdange 25.39 51 *eP* **P 15 27 05.8 -1.1**
comp=Z,37nm,0.8s,mb5.2
MOF Molkenrain 25.55 55 *eP* **P 15 27 08.1 -0.2**
MEM Membach 25.60 49 P **P 15 27 08.6 -0.2**
MEM Membach 25.60 49 P **P 15 27 08.5 -0.3**
HGN Heimansgroeve 25.61 48 *eP* **P 15 27 08.7 -0.1**
comp=Z,31nm,2.0s,mb4.6
ECH Echery 25.64 55 *eP* **P 15 27 08.9 -0.3**
CDF Champ du Feu 25.77 54 *eP* **P 15 27 09.6 -0.7**
comp=Z,25nm,0.9s,mb4.5
CDF Champ du Feu 25.77 54 *eP* **P 15 27 09.6 -0.7**
CDF pmax pmax
comp=Z,12nm,0.9s,mb4.5
CDF Champ du Feu 25.77 54 *eP* **P 15 27 09.6 -0.7**
comp=Z,12nm,0.9s,mb4.5
RUP Ruppelstein 25.96 51 *eP* **P 15 27 11.8 -0.3**
FELD Feldberg im Sc 26.12 56 *eP* **P 15 27 13.5 0.0**
PGF Pioggiola 26.27 68 *eP* **P 15 27 14.4 -0.5**
comp=Z,45nm,1.2s,mb4.7
PGF Pioggiola 26.27 68 *eP* **P 15 27 14.4 -0.5**
PGF pmax pmax
comp=Z,23nm,1.2s,mb4.7
PGF Pioggiola 26.27 68 *eP* **P 15 27 14.4 -0.5**
comp=Z,23nm,1.2s,mb4.7
ABH Alteburg 26.32 51 *eP* **P 15 27 15.7 +0.4**
BFO Black Forest 26.43 55 P **P 15 27 16.6 +0.3**
comp=Z,113nm,1.6s,mb5.2,SNR=12
BFO Black Forest 26.43 55 *eP* **P 15 27 15.9 -0.4**
BFO pmax pmax
comp=Z,86nm,1.7s,mb5.1
BFO Black Forest 26.43 55 *eP* **P 15 27 15.9 -0.4**
comp=Z,86nm,1.7s,mb5.1
WTSB Winterswijk 26.54 46 *eP* **P 15 27 17.4 +0.2**
comp=Z,56nm,1.9s,mb5.0
SPAK Spaichingen-Ko 26.68 55 *eP* **P 15 27 18.5 -0.1**
DAVOS Davos 27.14 58 P **P 15 27 24.4 +1.6**
DAVOX Davos/Dischmat 27.20 59 P **P 15 27 24.4 +1.2**
comp=Z,3.3nm,0.7s,mb4.2,baz=281,slow=16,SNR=6.4
DAVOX LR LR 15 37 53.7
comp=Z,1µm,18.3s,MS4.5,baz=264,slow=36
KEST Kesra 27.33 83 P **P 15 27 24.5 -0.1**
comp=Z,2.8nm,0.9s,mb4.0,baz=88,slow=3.9,SNR=6.6
KEST LR LR 15 35 16.1
comp=Z,98nm,21.4s,baz=183,slow=30
BORG Borgarnes 27.57 3 LR LR 15 35 16.8
comp=Z,2µm,18.7s,MS4.6,baz=353,slow=30
UBBA Unterbreizbach 28.09 50 *eP* **P 15 27 31.8 +0.6**
comp=Z,46nm,2.1s,mb4.9
GRFO Grafenberg 28.58 53 *eP* **P 15 27 34.8 -0.7**
comp=Z,53nm,1.4s,mb5.2
GRFO Grafenberg 28.58 53 *eP* **P 15 27 34.8 -0.8**
GRFO pmax pmax
comp=Z,53nm,1.4s,mb5.2
GRFO Grafenberg 28.58 53 *eP* **P 15 27 34.8 -0.8**
comp=Z,53nm,1.4s,mb5.2
GRA1 Grafenberg Arr 28.58 53 *eP* **P 15 27 35.7 +0.1**
comp=Z,110nm,2.0s,mb5.3
GRA1 LR LR
comp=Z,700nm,22.0s,MS4.2
GRF Grafenberg Arr 28.58 53 *eP* **P 15 27 35.7 +0.1**
GRF pmax pmax
comp=Z,110nm,2.0s,mb5.3
GRF MLR MLR
comp=Z,700nm,22.0s,MS4.2
GRF Grafenberg Arr 28.58 53 *eP* **P 15 27 35.7 +0.1**
comp=Z,110nm,2.0s,mb5.3
GRF *e*L 15 36 46.5
comp=Z,730nm,22.0s
CLZ Clausthal 28.59 48 *eP* **P 15 27 34.9 -0.8**
CLZ pmax pmax
comp=Z,70nm,2.5s,mb5.0
CLZ Clausthal 28.59 48 *eP* **P 15 27 34.9 -0.8**
comp=Z,70nm,2.5s,mb5.0
MOX Moxa 29.04 51 *e*(P) **P 15 27 40.1 +0.5**
MOX
comp=Z,1µm,19.0s
MOX Moxa 29.04 51 *eP* **P 15 27 39.9 +0.3**
comp=Z,64nm,2.1s,mb5.1
MANZ Manzenberg 29.20 52 *eP* **P 15 27 39.9 -1.2**
comp=Z,8.0nm,1.3s,mb4.4
ROTZ Rotzenmuhle 29.22 53 *eP* **P 15 27 40.9 -0.4**
comp=Z,10.0nm,1.1s,mb4.6
NKC Novy Kostel 29.47 52 *eP* **P 15 27 44.1 +0.7**
NKC AMS AMS 15 39 30.0
comp=Z,1µm,15.3s,MS4.6
TANN Tannenbergstha 29.51 52 *eP* **P 15 27 43.7 -0.2**
comp=Z,20nm,1.4s,mb4.8
WET Wettzell 29.54 54 *eP* **P 15 27 43.6 -0.5**
KHC Kasperske Hory 30.00 54 *eP* **P 15 27 48.8 +0.7**
KHC LR LR
comp=Z,800nm,13.4s,MS4.5
GEC2 GERESS Array S 30.03 55 *eP* **P 15 27 48.2 -0.3**
GEC2 pmax pmax
comp=Z,17nm,1.4s,mb4.7
GEC2 GERESS Array S 30.03 55 *eP* **P 15 27 48.2 -0.3**
comp=Z,17nm,1.4s,mb4.7
GERES GERESS Array B 30.03 55 P **P 15 27 48.2 -0.3**
comp=Z,1.8nm,0.8s,mb4.0,baz=265,slow=6.7,SNR=16
GERES LR LR 15 38 31.5
comp=Z,437nm,18.5s,MS4.1,baz=262,slow=34
CLL Collm 30.04 50 *eP* **P 15 27 48.0 -0.5**
comp=Z,13nm,1.5s,mb4.5
BRG Berggiesshubel 30.53 51 *i* P **P 15 27 52.9 +0.1**
BRG pmax pmax
comp=Z,11nm,1.5s,mb4.6
BRG Berggiesshubel 30.53 51 *eP* **P 15 27 52.6 -0.2**
comp=Z,16nm,1.4s,mb4.8
BRG Berggiesshubel 30.53 51 *i* P **P 15 27 52.9 +0.1**
comp=Z,18nm,1.5s,mb4.8
PRU Pruhonice 30.75 53 AMS AMS 15 41 20.0
comp=Z,800nm,15.5s,MS4.5
PVCC Panska Ves 30.86 52 *eP* **P 15 27 56.2 +0.5**
PVCC AMS AMS 15 38 40.0
comp=Z,1µm,19.5s,MS4.5
RGN Rugen 31.10 44 P **P 15 27 57.5 -0.3**
comp=Z,120nm,1.1s,mb5.7
UPC Upice 31.76 52 *eP* **P 15 28 03.2 -0.5**
DPC Dobruska-Polom 31.94 53 *eP* **P 15 28 05.4 +0.2**
DPC AMS AMS 15 41 20.0
comp=Z,700nm,18.7s,MS4.4
VRAC Vranov 31.98 55 P **P 15 28 05.4 -0.2**
comp=Z,5.1nm,0.7s,mb4.6,baz=266,slow=7.2,SNR=5.1
VRAC LR LR 15 39 29.2
comp=Z,289nm,19.2s,MS4.0,baz=262,slow=34
KSP Ksiaz 31.99 52 *eP* **P 15 28 05.3 -0.4**
KSP LR LR
comp=Z,2µm,19.8s,MS4.8
ZST Bratislava 32.21 57 *eP* **P 15 28 07.4 -0.3**
comp=Z,2.8nm,0.6s,mb4.4
ZST LR LR
comp=Z,700nm,15.9s,MS4.5
ZST Bratislava 32.21 57 *eP* **P 15 28 07.4 -0.3**
ZST pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
ZST MLR MLR
comp=Z,700nm,15.9s,MS4.5
MODS Modra-Piesok 32.34 56 *eP* **P 15 28 09.6 +0.8**
TIP Timpagrande 32.43 74 *eP* **P 15 28 08.6 -1.1**

comp=Z,39nm,1.4s,mb5.2
TIP Timpagrande 32.43 74 *eP* **P 15 28 08.6 -1.1**
comp=Z,39nm,1.4s,mb5.2
MORC Moravsky Berou 32.64 54 *eP* **P 15 28 10.6 -0.9**
comp=Z,5.3nm,1.1s,mb4.4
MORC Moravsky Berou 32.64 54 *eP* **P 15 28 10.6 -0.8**
MORC pmax pmax
comp=Z,5.0nm,1.1s,mb4.4
MORC Moravsky Berou 32.64 54 *eP* **P 15 28 10.6 -0.8**
comp=Z,5.3nm,1.1s,mb4.4
NOA NORSAR Array B 32.72 32 P **P 15 28 12.0 0.0**
NOA NORSAR Array B 32.72 32 P **P 15 28 12.0 0.0**
comp=Z,2.6nm,1.0s,mb4.1,baz=241,slow=9.1,SNR=3.6
PKSM Moragy 33.19 61⇑ *eP* **P 15 28 16.2 -0.1**
SFJD Kangerlussuaq 33.21 342 P **P 15 28 15.0 -1.2**
comp=Z,7.0nm,0.7s,mb4.7
SFJD Kangerlussuaq 33.21 342 P **P 15 28 15.0 -1.2**
SFJD pmax pmax
comp=Z,7.0nm,0.7s,mb4.7
SFJD Kangerlussuaq 33.21 342 LR LR 15 38 31.4
comp=Z,1µm,21.1s,MS4.7,baz=126,slow=30
SFJD Kangerlussuaq 33.21 342 P **P 15 28 15.0 -1.2**
comp=Z,7.0nm,0.7s,mb4.7
VYHS Vyhne 33.39 56 *eP* **P 15 28 16.6 -1.4**
VYHS pmax pmax
comp=Z,5.0nm,1.3s,mb4.3
VYHS Vyhne 33.39 56 *eP* **P 15 28 16.6 -1.4**
comp=Z,4.6nm,1.3s,mb4.2
SCHQ Schefferville 33.46 315 P **P 15 28 19.7 +1.2**
comp=Z,4.7nm,0.6s,mb4.6,baz=89,slow=12,SNR=4.5
SCHQ LR LR 15 39 36.5
comp=Z,524nm,18.9s,MS4.3,baz=251,slow=32
SCHQ Schefferville 33.46 315 *eP* **P 15 28 19.0 +0.5**
comp=Z,32nm,1.4s,mb5.1
TOA0 Torodi Ar. Sit 33.67 129 *eP* **P 15 28 20.0 -0.7**
TOA0 Torodi Ar. Sit 33.67 129 *eP* **P 15 28 20.0 -0.7**
TORD Torodi Ar. Bea 33.67 129 P **P 15 28 20.3 -0.5**
TORD LR LR 15 40 45.8
TORD Torodi Ar. Bea 33.67 129 P **P 15 28 20.3 -0.4**
comp=Z,5.2nm,0.8s,mb4.5,baz=311,slow=8.6,SNR=34
TORD LR LR 15 40 45.8
comp=Z,195nm,18.6s,MS3.9,baz=325,slow=34
PSZ Piszkesteto 34.07 57 *eP* **P 15 28 24.1 +0.2**
comp=Z,4.7nm,0.7s,mb4.5
PSZ Piszkesteto 34.07 57 *eP* **P 15 28 24.1 +0.2**
PSZ pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
PSZ Piszkesteto 34.07 57 *eP* **P 15 28 24.1 +0.2**
comp=Z,4.7nm,0.7s,mb4.5
OJC Ojcow 34.14 53 *eP* **P 15 28 24.9 +0.4**
KECS Kecovo 34.48 56 *eP* **P 15 28 27.2 -0.3**
comp=Z,10nm,1.9s,mb4.4
KECS Kecovo 34.48 56 *eP* **P 15 28 27.2 -0.3**
KECS pmax pmax
comp=Z,11nm,1.9s,mb4.5
STHS Stebnicka Huta 35.02 55 *eP* **P 15 28 34.1 +2.0**
STHS pmax pmax
comp=Z,5.0nm,1.1s,mb4.4
STHS Stebnicka Huta 35.02 55 *eP* **P 15 28 34.1 +2.0**
comp=Z,5.4nm,1.1s,mb4.4
CRVS Cervenica-Dubn 35.14 56 *eP* **P 15 28 32.2 -1.0**
CRVS Cervenica-Dubn 35.14 56 *eP* **P 15 28 32.3 -0.9**
DBIC Dimbokro 35.44 144 *eP* **P 15 28 36.1 +0.1**
comp=Z,26nm,1.5s,mb4.9
DBIC Dimbokro 35.44 144 *eP* **P 15 28 36.1 +0.1**
DBIC pmax pmax
comp=Z,26nm,1.5s
DBIC Dimbokro 35.44 144 P **P 15 28 36.3 +0.3**
comp=Z,3.8nm,0.8s,mb4.4,baz=306,slow=11,SNR=4.8
DBIC LR LR 15 42 14.5
comp=Z,637nm,18.8s,MS4.4,baz=325,slow=35
DBIC Dimbokro 35.44 144 *eP* **P 15 28 36.1 +0.1**
comp=Z,26nm,1.5s,mb4.9
KOLS Kolonicke sedl 35.68 56 *eP* **P 15 28 37.8 0.0**
UZH Uzhgorod 35.69 56 *eP* **P 15 28 39.0 +1.1**
UZH *e*S **S 15 34 11.0 -4.2**
UZH *e*SS SS 15 36 33.0 -17
LVV L'vov 36.84 54 *eP* **P 15 28 48.2 +0.5**
LVV MLR MLR
comp=N,350nm,16.3s,MS4.4
LVV MLR MLR
comp=Z,550nm,16.3s,MS4.4
LVV MLR MLR
comp=E,300nm,16.0s,MS4.4
MLR Muntele Rosu 38.33 61 LR LR 15 44 03.9
comp=E,498nm,19.9s,MS4.3,baz=281,slow=35
DAG Danmarks Havn 39.68 2⇓ *eP* **P 15 29 12.1 +0.8**
DAG pmax pmax
comp=Z,14nm,1.4s,mb4.4
DAG Danmarks Havn 39.68 2⇓ *i P* **P 15 29 12.1 +0.8**
comp=Z,14nm,1.4s,mb4.4
DAG Danmarks Havn 39.68 2 *eP* **P 15 29 12.1 +0.8**
comp=Z,14nm,1.4s,mb4.4
KIS Kishinev 40.15 59 *eP* **P 15 29 15.0 -0.6**
KIS MLR MLR
comp=Z,700nm,16.0s,MS4.6
KIS MLR MLR
comp=Z,800nm,16.0s
AKASG Malin Array Be 40.17 53 P **P 15 29 14.8 -0.9**
AKASG LR LR 15 45 02.0
AKASG Malin Array Be 40.17 53 *i* P **P 15 29 15.1 -0.6**
AKASG pmax pmax
comp=Z,4.0nm,0.8s
AKASG Malin Array Be 40.17 53 P **P 15 29 14.8 -0.9**
comp=Z,4.3nm,0.8s,mb4.1,baz=272,slow=7.9,SNR=14
AKASG LR LR 15 45 02.0
comp=Z,526nm,19.6s,MS4.4,baz=295,slow=35
AKBB Malin Array Si 40.17 53 *eP* **P 15 29 14.1 -1.6**
AKBB Malin Array Si 40.17 53 *eP* **P 15 29 14.1 -1.6**
SSPA Standing Stone 40.97 292 P **P 15 29 22.6 +0.2**
comp=Z,38nm,1.3s,mb5.0
ARCES ARCESS Array B 41.91 24 P **P 15 29 29.7 0.0**
comp=Z,5.5nm,0.8s,mb4.3,baz=241,slow=6.8,SNR=7.5
ARCES LR LR 15 45 20.5
comp=Z,726nm,18.8s,MS4.6,baz=234,slow=34
OBN Obninsk 44.44 46⇓ *eP* **P 15 29 50.6 +0.2**
OBN 15 31 34.0
OBN pmax pmax
comp=Z,62nm,2.3s,mb4.9
OBN MLR MLR
comp=Z,600nm,15.0s,MS4.6
OBN Obninsk 44.44 46 *eP* **P 15 29 50.6 +0.2**
comp=Z,62nm,2.3s,mb4.9
PCRV Puerto La Cruz 44.93 243 P **P 15 29 55.2 +0.4**
comp=Z,9.7nm,0.8s,mb4.8,baz=2.0,slow=8.3,SNR=3.5
MOS Moscow 45.01 45 *eP* **P 15 29 53.2 -1.8**
MOS *e* 15 32 14.9
ANN Anapa 46.45 60 *eP* **P 15 30 04.5 -2.0**
ANN MLR MLR
comp=Z,590nm,16.0s,MS4.6
ANN Anapa 46.45 60 *eP* **P 15 30 04.5 -2.0**
comp=Z,590nm,16.0s
SOC Sochi 48.35 61 *eP* **P 15 30 19.7 -1.6**
SOC *e**SP sP 15 30 35.3 +14
SOC *e* 15 32 09.4
SOC *e*PPP 15 33 05.9
SOC *e*S **S 15 37 19.2 -3.1**
SOC *e**SS sS 15 37 40.1 +17
SOC *e*SS SS 15 40 41.7 -10
SOC pmax pmax
comp=Z,77nm,1.2s,mb5.7
SOC MLR MLR
comp=Z,406nm,14.0s,MS4.6
SOC Sochi 48.35 61 *eP* **P 15 30 19.7 -1.6**
comp=Z,77nm,1.2s,mb5.7
FCC Fort Churchill 48.61 319 *eP* **P 15 30 23.0 -0.1**
comp=Z,80nm,1.9s,mb5.4
FCC Fort Churchill 48.61 319 *eP* **P 15 30 23.0 -0.1**
FCC pmax pmax
comp=Z,79nm,1.9s,mb5.4
FCC Fort Churchill 48.61 319 *eP* **P 15 30 23.0 -0.1**
comp=Z,80nm,1.9s,mb5.4
MALT Malatya 49.01 68 *eP* **P 15 30 25.8 -0.7**
MALT pmax pmax
comp=Z,31nm,1.8s,mb5.0
MALT Malatya 49.01 68 *eP* **P 15 30 25.8 -0.7**
comp=Z,31nm,1.8s,mb5.0
RES Resolute Bay 49.20 341 *eP* **P 15 30 27.2 -0.2**
comp=Z,612nm,0.8s
RES Resolute Bay 49.20 341 *eP* **P 15 30 27.2 -0.3**
comp=Z,612nm,0.8s
WVT Waverly 49.76 289 *eP* **P 15 30 31.8 -0.5**
comp=Z,7.2nm,0.8s,mb4.7
WVT Waverly 49.76 289 *eP* **P 15 30 31.8 -0.4**
WVT pmax pmax
comp=Z,7.0nm,0.8s,mb4.6

WVT Waverly 49.76 289 *eP* **P 15 30 31.8 -0.4**
comp=Z,7.2nm,0.8s,mb4.7
SDV Santo Domingo 50.15 248 *eP* **P 15 30 35.5 +0.1**
comp=Z,11nm,0.7s,mb4.9
ULM Lac du Bonnet 51.11 309 LR LR 15 50 40.1
comp=Z,535nm,18.4s,MS4.6,baz=27,slow=34
MIAR Mount Ida 54.70 289 *eP* **P 15 31 08.7 -0.3**
comp=Z,73nm,1.6s,mb5.5
MIAR Mount Ida 54.70 289 *eP* **P 15 31 08.7 -0.3**
MIAR pmax pmax
comp=Z,73nm,1.6s,mb5.5
ROSC El Rosal 55.56 247 P **P 15 31 17.0 +1.5**
comp=Z,4.2nm,0.5s,mb4.7,baz=102,slow=20,SNR=5.0
ROSC LR LR 15 52 17.0
comp=Z,377nm,19.4s,MS4.5,baz=199,slow=33
ARU Arti 56.39 41 *eP* **P 15 31 20.8 0.0**
comp=Z,79nm,1.9s,mb5.4
ARU Arti 56.39 41 *eP* **P 15 31 20.8 0.0**
ARU pmax pmax
comp=Z,79nm,1.9s,mb5.4
BDFB Brasilia 57.04 207 P **P 15 31 26.1 +0.3**
comp=Z,2.7nm,0.7s,mb4.4,baz=0.0,slow=8.9,SNR=6.6
BDFB LR LR 15 52 37.9
comp=Z,561nm,19.9s,MS4.7,baz=3.3,slow=33
YKA Yellowknife Ar 57.66 327 P **P 15 31 29.0 -0.7**
comp=Z,2.0nm,0.8s,mb4.2,baz=70,slow=7.1,SNR=20
YKA LR LR 15 52 51.8
comp=Z,114nm,18.2s,MS4.0,baz=90,slow=32
AKTK Aktyubinsk 58.10 48 P **P 15 31 32.9 -0.2**
AKTO Aktyubinsk 58.10 48 P **P 15 31 32.9 -0.2**
comp=Z,6.0nm,0.8s,mb4.7,baz=292,slow=8.8,SNR=19
HKT Hockley 58.43 285 *eP* **P 15 31 35.7 0.0**
comp=Z,41nm,1.8s,mb5.2
HKT Hockley 58.43 285 *eP* **P 15 31 35.7 +0.1**
HKT pmax pmax
comp=Z,41nm,1.8s,mb5.2
WMOK Wichita Mounta 58.51 292 P **P 15 31 33.5 -2.6**
comp=Z,13nm,1.2s,mb4.8
WMOK Wichita Mounta 58.51 292 P **P 15 31 33.5 -2.6**
WMOK pmax pmax
comp=Z,13nm,1.2s,mb4.8
EDM Edmonton 60.44 316 *eP* **P 15 31 48.9 -0.2**
AMTX Amarillo 60.58 293 *eP* **P 15 31 50.6 +0.1**
comp=Z,16nm,1.1s,mb5.1
JCT Junction City 61.22 288 *eP* **P 15 31 54.6 -0.2**
comp=Z,29nm,0.9s,mb5.4
JCT Junction City 61.22 288 *eP* **P 15 31 54.6 -0.2**
JCT pmax pmax
comp=Z,29nm,0.9s,mb5.4
GCMT Greycliff 61.32 307 *eP* **P 15 31 56.0 +0.7**
SDCO Great Sand Dun 62.04 298 *eP* **P 15 32 01.1 +0.8**
comp=Z,32nm,2.1s,mb5.2
INK Inuvik 62.33 337 *eP* **P 15 32 01.1 -0.6**
comp=Z,1μm,1.8s
INK *e*PcP PcP 15 32 37.9 -3.5
WALA Waterton Lakes 62.51 312 *eP* **P 15 32 02.4 -0.8**
comp=Z,15nm,1.5s,mb4.9
PDAR Pinedale Array 62.56 304 P **P 15 32 03.8 +0.1**
comp=Z,1.9nm,0.8s,mb4.3,baz=74,slow=7.3,SNR=17
PDAR LR LR 15 58 30.0
comp=Z,353nm,19.5s,MS4.5,baz=68,slow=35
YMR Madison River 62.63 307 *eP* **P 15 32 06.2 +2.1**
comp=Z,45nm,1.8s,mb5.3
FLWY Flagg Ranch 62.72 306 *eP* **P 15 32 04.3 -0.4**
comp=Z,12nm,1.2s,mb4.9
IMW Indian Meadow 62.96 306 *eP* **P 15 32 06.5 +0.3**
comp=Z,7.4nm,0.9s,mb4.8
CHMT Chamberlain Mo 63.06 310 *eP* **P 15 32 08.2 +1.3**
REDW Red Top Meadow 63.14 305 P **P 15 32 08.4 +0.9**
comp=Z,38nm,1.5s,mb5.3
BRVK Borovoye 63.95 42 *eP* **P 15 32 13.2 +0.5**
comp=Z,72nm,2.3s,mb5.5
BRVK Borovoye 63.95 42 *eP* **P 15 32 13.2 +0.5**
BRVK pmax pmax
comp=Z,72nm,2.3s,mb5.5
ANMO Albuquerque 64.03 295 *eP* **P 15 32 14.7 +1.2**
comp=Z,42nm,1.9s,mb5.3
ANMO Albuquerque 64.03 295 *eP* **P 15 32 14.7 +1.2**
ANMO pmax pmax
comp=Z,42nm,1.9s
MVCO Mesa Verde 64.40 298 *eP* **P 15 32 17.6 +1.7**
comp=Z,42nm,1.7s,mb5.4
HWUT Hardware Ranch 64.42 304 *eP* **P 15 32 16.1 +0.2**
comp=Z,47nm,1.8s,mb5.4
TXAR Lajitas Array 64.70 289 P **P 15 32 18.4 +0.4**
comp=Z,8.7nm,0.8s,mb5.0,baz=76,slow=6.3,SNR=47
TXAR LR LR 16 01 11.5
comp=Z,187nm,20.1s,MS4.3,baz=5.0,slow=37
NEW Newport 64.77 312 P **P 15 32 17.8 -0.4**
MNTX Cornudas Mount 64.81 292 P **P 15 32 18.1 -0.6**
comp=Z,7.7nm,1.2s,mb4.8
HLID Hailey 65.34 307 P **P 15 32 22.4 +0.4**
MSU Marysvale 66.32 301 *eP* **P 15 32 30.0 +1.6**
ATAH Atahualpa 66.69 241 P **P 15 32 33.0 +2.1**
comp=Z,10nm,1.0s,mb5.0,baz=250,slow=14,SNR=3.6
DAWY Dawson 66.72 334 *eP* **P 15 32 30.7 +0.2**
LPAZ La Paz 67.16 226 P **P 15 32 34.8 +1.0**
comp=Z,1.5nm,0.8s,mb4.3,baz=34,slow=7.0,SNR=4.5
LPAZ LR LR 15 57 56.3
comp=Z,327nm,21.6s,MS4.5,baz=219,slow=32
WUAZ Wupatki 67.25 298 *eP* **P 15 32 35.9 +1.6**
comp=Z,5.9nm,0.8s,mb4.9
TUC Tucson 68.47 295 *eP* **P 15 32 43.5 +1.4**
comp=Z,5.3nm,0.6s,mb5.0
TUC Tucson 68.47 295 *eP* **P 15 32 43.5 +1.5**
TUC pmax pmax
comp=Z,5.0nm,0.6s,mb4.9
KMBO Kilima Mbogo 68.71 109 *eP* **P 15 32 45.3 +1.5**
comp=Z,1.2nm,0.8s,mb4.2
KMBO Kilima Mbogo 68.71 109 *eP* **P 15 32 45.3 +1.5**
KMBO pmax pmax
comp=Z,1.0nm,0.8s
COLA College 68.94 337 *eP* **P 15 32 45.4 +1.0**
NVS Novosibirsk 69.52 36 *eP* **P 15 32 48.6 +0.4**
NVS pmax pmax
comp=N,19nm,2.1s
NVS pmax pmax
comp=E,18nm,2.1s
NVS pmax pmax
comp=Z,67nm,2.1s,mb5.4
KURK Kurchatov 69.59 41 P **P 15 32 49.9 +1.2**
comp=Z,35nm,2.0s,mb5.2,SNR=5.0
KURK Kurchatov 69.59 41 *eP* **P 15 32 47.5 -1.1**
comp=Z,44nm,1.9s,mb5.3
KURK Kurchatov 69.59 41 *eP* **P 15 32 47.6 -1.1**
KURK pmax pmax
comp=Z,44nm,1.9s,mb5.3
KURK Kurchatov 69.59 41⇓ *eP* **P 15 32 48.3 -0.4**
IMA2 Indian Mountai 69.75 340 *eP* **P 15 32 49.8 +0.3**
TIXI Tiksi 69.76 9 *eP* **P 15 32 49.7 +0.3**
comp=Z,52nm,1.8s,mb5.4
TIXI Tiksi 69.76 9 *eP* **P 15 32 50.5 +1.1**
TIXI *e* 15 33 15.4
TIXI *e*S S 15 41 58.2 -0.8
TIXI pmax pmax
comp=Z,26nm,1.8s,mb5.1
MCK McKinley 70.09 337 *eP* **P 15 32 51.6 0.0**
comp=Z,57nm,1.8s,mb5.4
MCK McKinley 70.09 337 *eP* **P 15 32 51.6 +0.1**
MCK pmax pmax
comp=Z,57nm,1.8s,mb5.4
NVAR Mina Array Bea 70.48 304 P **P 15 32 55.0 +0.6**
comp=Z,0.3nm,0.7s,mb3.5,baz=240,slow=1.3,SNR=3.5
ZAL Zalesovo 70.79 36 P **P 15 32 56.0 0.0**
ZAA0 Zalesovo Array 70.79 36 *eP* **P 15 32 55.9 -0.1**
ZALV Zalesovo Beam 70.79 36 P **P 15 32 56.0 0.0**
ZALV Zalesovo Beam 70.79 36 P **P 15 32 56.0 0.0**
comp=Z,3.9nm,0.8s,mb4.6,baz=308,slow=6.6,SNR=14
EKS2 Erkin-Say 71.31 50 *eP* **P 15 33 00.0 +0.7**
comp=Z,13nm,1.5s,mb4.8
UCH Uchtor 72.00 50 *eP* **P 15 33 05.2 +1.7**
comp=Z,51nm,2.0s,mb5.3
LSZ Lusaka 72.16 126 *eP* **P 15 33 04.5 -0.2**
comp=Z,6.0nm,1.0s,mb4.7
LSZ Lusaka 72.16 126 *eP* **P 15 33 04.5 -0.2**
LSZ pmax pmax
comp=Z,6.0nm,1.0s,mb4.7
TKM2 Tokmak 2 72.27 49 *eP* **P 15 33 06.1 +1.0**
comp=Z,8.1nm,1.4s,mb4.7
TKM2 Tokmak 2 72.27 49 *eP* **P 15 33 06.1 +1.0**
TKM2 pmax pmax
comp=Z,8.0nm,1.4s,mb4.7
MK31 Makanchi Array 73.85 43 *eP* **P 15 33 14.6 +0.1**
MKAR Makanchi Array 73.85 43 *i* P **P 15 33 15.3 +0.9**
MKAR pmax pmax
comp=Z,4.0nm,0.8s
MKAR Makanchi Array 73.85 43 P **P 15 33 14.6 +0.1**
comp=Z,4.0nm,0.8s,mb4.5,baz=316,slow=5.1,SNR=22
BILL Bilibino 74.67 356 *eP* **P 15 33 18.9 +0.1**
comp=Z,26nm,1.6s,mb5.0
BILL Bilibino 74.67 356⇑ *eP* **P 15 33 20.0 +1.2**
BILL SS SS 15 47 37.0 -4.2
BILL pmax pmax
comp=Z,19nm,1.7s,mb4.8
LBTB Lobatse 77.96 134 *eP* **P 15 33 37.5 -0.5**
WMQ Urumqi 78.69 43 *eP* **P 15 33 42.8 +0.8**
WMQ AP 15 33 48.0
WMQ S S 15 43 38.0 -2.1
WMQ AMB AMB
comp=Z,9.0nm,0.9s,mb4.8
WMQ AMB AMB
comp=Z,211nm,5.4s
WMQ LR LR
comp=Z,1μm,23.2s,MS5.2
YAK Yakutsk 78.88 12 *eP* **P 15 33 42.9 +0.2**
YAK Yakutsk 78.88 12 *eP* **P 15 33 43.2 +0.5**
YAK pmax pmax
comp=Z,11nm,0.9s,mb4.9
YAK pmax pmax
comp=N,11nm,1.5s
YAK pmax pmax
comp=E,6.0nm,1.7s
BOD Bodaibo 79.11 21⇓ *iP* **P 15 33 42.7 -1.3**
BOD pmax pmax
comp=Z,23nm,1.7s,mb4.9
MOY Mondy 79.51 31 *eP* **P 15 33 47.6 +1.3**
MOY pmax pmax
comp=Z,58nm,1.9s,mb5.2
CFAA Coronel Fontan 79.70 217 P **P 15 33 47.4 0.0**
CFAA LR LR 16 06 08.0
CFAA Coronel Fontan 79.70 217 P **P 15 33 47.4 0.0**
comp=Z,0.5nm,0.8s,mb3.5,baz=10,slow=5.4,SNR=6.0
CFAA LR LR 16 06 08.0
comp=Z,40nm,21.1s,MS3.7,baz=336,slow=34
SEY Seymchan 80.10 1 *i* P **P 15 33 50.3 +1.0**
IRK Irkutsk 80.37 29 *eP* **P 15 33 50.4 -0.6**
IRK pmax pmax
comp=Z,49nm,2.9s,mb4.9
TLY Talaya 80.56 30 P **P 15 33 51.9 -0.1**
comp=Z,25nm,1.6s,mb5.0
TLY Talaya 80.56 30 *eP* **P 15 33 53.0 +1.0**
TLY pmax pmax
comp=Z,18nm,1.8s,mb4.8
TLY MLR MLR
comp=Z,376nm,18.0s,MS4.8
BOSA Boshof 80.58 137 LR LR 16 07 37.5
comp=Z,419nm,18.3s,MS4.8,baz=357,slow=34
ZAK Zakamensk 81.42 31 *eP* **P 15 33 56.2 -0.4**
ZAK pmax pmax
comp=Z,5.0nm,2.1s,mb4.2
NDI New Delhi 81.76 60 *ex* x 15 33 58.0
MA2 Magadan 83.42 2 *eP* **P 15 34 07.7 +0.8**
MA2 pmax pmax
comp=Z,30nm,1.6s,mb5.3
SONM Songino Array 84.69 31 P **P 15 34 13.9 +0.3**
comp=Z,4.5nm,0.9s,mb4.7,baz=309,slow=4.5,SNR=30
SONM LR LR 16 12 59.2
comp=Z,489nm,19.9s,MS4.9,baz=315,slow=36
ULN Ulaanbaatar 84.94 30 *eP* **P 15 34 15.1 +0.3**
comp=Z,12nm,1.0s,mb5.1
ULN Ulaanbaatar 84.94 30 *eP* **P 15 34 15.1 +0.3**
ULN pmax pmax
comp=Z,12nm,1.0s,mb5.1
GTA Gaotai 88.21 40 *eP* **P 15 34 30.0 -1.0**
GTA AP 15 34 34.2
GTA XP sP 15 34 37.6 +6.3
GTA PP PP 15 38 01.3 +4.0
GTA SKS 15 44 56.7
GTA S S 15 45 13.9 -2.7
GTA XS sS 15 45 21.5 +4.6
GTA SS SS 15 51 07.4 +3.4
GTA AMB AMB
comp=Z,6.0nm,2.2s,mb4.5
GTA AMB AMB
comp=Z,163nm,6.9s
GTA LR LR
comp=N,526nm,17.2s,MS5.0
GTA LR LR
comp=E,316nm,19.9s,MS5.0
GTA LR LR
comp=Z,706nm,18.0s,MS5.1
PLCA Paso Flores 88.27 213 P **P 15 34 32.5 +1.5**
PLCA LR LR 16 14 42.0
PLCA Paso Flores 88.27 213 P **P 15 34 32.5 +1.5**
comp=Z,1.5nm,0.8s,mb4.4,baz=43,slow=2.4,SNR=4.8
PLCA LR LR 16 14 42.0
comp=Z,301nm,18.4s,MS4.7,baz=160,slow=36
HYB Hyderabad 89.72 68 *eP* **P 15 34 38.5 0.0**
HYB Hyderabad 89.72 68 *i* P **P 15 34 38.5 0.0**
KLR Kul'dur 91.36 15 *eP* **P 15 34 39.8 -5.8**
HHC Hu-ho-hao-te 92.53 32 *eP* **P 15 34 48.7 -2.5**
HHC AP 15 34 53.3
HHC AP 15 34 56.0
HHC PP PP 15 38 32.4 +1.0
HHC SKS 15 45 19.4
HHC S S 15 45 50.7 -5.7
HHC SS SS 15 52 02.2 -4.0
HHC AMB AMB
comp=Z,14nm,0.3s,mb5.9
HHC AMB AMB
comp=Z,165nm,5.3s
HHC LR LR
comp=N,229nm,18.6s,MS4.8
HHC LR LR
comp=E,249nm,18.6s,MS4.8
HHC LR LR
comp=Z,224nm,22.6s,MS4.6
LZH Lanzhou 92.80 39⇑ P **P 15 34 51.8 -0.7**
LZH AP 15 34 55.6
LZH XP sP 15 34 59.0 +6.2
LZH *e*PP PP 15 38 35.2 +1.4
LZH *e*S S 15 45 52.7 -6.3
LZH *e*SS SS 15 52 09.3 -1.1
LZH AMB AMB
comp=Z,20nm,1.4s,mb5.3
LZH AMB AMB
comp=Z,93nm,8.7s
LZH LR LR
comp=E,365nm,17.5s
LZH LR LR
comp=Z,674nm,19.6s,MS5.1
CN2 Changchun 94.87 21 *eP* **P 15 35 00.6 -1.2**
CN2 *e*AP 15 35 07.0
CN2 *e*S S 15 46 09.5 -7.3
CN2 AMB AMB
comp=Z,10.0nm,0.8s,mb5.3
CN2 LR LR
comp=N,200nm,18.0s,MS4.8
CN2 LR LR
comp=E,200nm,18.0s,MS4.8
CN2 LR LR
comp=Z,200nm,18.0s,MS4.6
MDJ Mudanjiang 95.22 18 P **P 15 34 59.8 -3.7**
MDJ AMB AMB
comp=Z,5.0nm,1.4s,mb4.8
MDJ AMB AMB
comp=Z,103nm,7.6s
MDJ LR LR
comp=N,150nm,22.6s
MDJ LR LR
comp=E,85nm,29.1s
MDJ LR LR
comp=Z,168nm,24.2s,MS4.4
YSS Yuzh-Sakhalins 95.39 9 *i* P **P 15 35 03.7 -0.5**
YSS pmax pmax
comp=Z,7.0nm,1.6s,mb4.8
CD2 Chengdu 96.78 43 *eP* **P 15 35 09.7 -1.1**
CD2 XP sP 15 35 16.5 +5.4
CD2 PP PP 15 39 06.2 +1.3
CD2 SKS 15 45 44.5
CD2 S S 15 46 26.1 -7.8
CD2 AMB AMB
comp=Z,10.0nm,0.8s,mb5.5
CD2 AMB AMB
comp=Z,30nm,5.8s
CD2 LR LR
comp=N,130nm,16.4s,MS4.7
CD2 LR LR
comp=E,120nm,14.4s,MS4.7
CD2 LR LR
comp=Z,160nm,15.6s,MS4.6
KMI Kunming 100.66 47 P Pdif 15 35 28.4 +0.4
KMI XP 15 35 32.9
KMI PP PP 15 39 38.9 +4.2
KMI SKS 15 46 06.7
KMI S Sdif 15 47 00.7 -5.6
KMI SS SS 15 54 02.3 +0.4
KMI AMB AMB
comp=Z,5.0nm,0.5s
KMI AMB AMB
comp=Z,82nm,4.6s
KMI LR LR
comp=N,279nm,18.8s,MS5.0
KMI LR LR
comp=E,315nm,17.6s,MS5.0
KMI LR LR
comp=Z,402nm,18.8s,MS5.0
GYA Guiyang 101.84 43 P Pdif 15 35 32.9 -0.4
GYA PP PP 15 39 46.8 +3.3
GYA SKS 15 46 11.6
GYA S Sdif 15 47 10.7 -5.5
GYA SS SS 15 54 16.4 -1.9
GYA AMB AMB
comp=Z,20nm,1.0s
GYA AMB AMB
comp=Z,120nm,6.6s
GYA LR LR
comp=Z,510nm,21.4s,MS5.0
WHN Wuhan 102.40 35 *eP* Pdif 15 35 37.5 +1.8
VNDA Vanda 139.56 182 PKP PKPdf 15 41 08.3 +2.1
comp=Z,1.5nm,0.8s,baz=244,slow=1.9,SNR=7.8
MBWA Marble Bar 145.29 72 *e*PKPdf PKPdf 15 41 16.9 -1.1
MUN Mundaring 147.57 92 *eP* PKPdf 15 41 23.8 +2.2
FITZ Fitzroy Crossi 147.73 62 PKPbc PKPbc 15 41 23.7 -1.3
comp=Z,2.6nm,0.9s,baz=314,slow=4.7,SNR=4.5
KLBR Kellerberrin 148.67 91 *eP* PKPdf 15 41 26.5 +3.1
comp=Z,8.3nm,0.7s
WRA Warramunga Arr 154.85 52 PKPbc PKPbc 15 41 41.5 -0.2
comp=Z,0.8nm,0.7s,baz=327,slow=2.2,SNR=6.2
WRA PKPab PKPab 15 41 56.4 -0.4
comp=Z,2.8nm,1.0s,baz=317,slow=4.5,SNR=10
ASAR Alice Springs 157.17 60 PKP PKPdf 15 41 36.0 -0.1
comp=Z,0.8nm,1.0s,baz=302,slow=0.7,SNR=6.9
ASAR PKPab PKPab 15 42 06.3 -0.4
comp=Z,1.1nm,0.9s,baz=325,slow=4.5,SNR=6.9

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*CSEM **06** 15:26:43.5±0.7,3725N×2456W,h0km,ML3.8,Error ellipse: s-maj=6.8km s-min=2.7km az=90.0,After PDA*
*PDA **06** 15:26:43.5±0.7,3725N×2456W,h0km,MD3.7,ML3.8, Error ellipse: s-maj=6.8km s-min=2.7km az=90.0*
SVSA 06 15:26:43.5±0.7,3725N×2456W,h0km,MD3.7,ML3.8, Error ellipse: s-maj=6.8km s-min=2.7km az=90.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSMN	**Pico do Norte,**	**0.47**	**239**	*eP*	Pg	15 26 52.1	-0.5
PSMN				*e*S	Sg	15 26 58.9	+0.2
PDA	**Ponta Delgada**	**1.01**	**300**	*eP*	Pg	15 27 00.0	-2.8
PDA				*e*S	Sg	15 27 11.8	-4.1
PSET	**Sete Cidades**	**1.09**	**302**	*eP*	Pg	15 27 00.7	-3.6
PSET				*e*S	Sg	15 27 14.3	-4.1
PSET				A		15 27 17.1	
	610nm,0.5s						
PSET	**Sete Cidades**	**1.09**	**302**	*eP*	Pg	15 27 00.7	-3.6
PSET				*e*S	Sg	15 27 14.3	-4.1
PSCM	**Serra do Cume**	**2.49**	**306**	*eP*	Pn	15 27 20.6	-4.6
PSCM				*e*S	Sn	15 27 48.4	-7.8
PSCM				A		15 27 52.8	
	288nm,0.2s						
PSCM	**Serra do Cume**	**2.49**	**306**	*eP*	Pn	15 27 20.6	-4.6
PSCM				*e*S	Sn	15 27 48.4	-7.8
ADH	**Angra Heroismo**	**2.54**	**304**	*eP*	Pn	15 27 21.3	-4.6
ADH				*e*S	Sn	15 27 49.4	-8.1

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*ISCJB **06** 15:31:55.6±0.5,6705N±003×209E±0.1,h0km,Error ellipse: s-maj=6.8km s-min=3.9km az=172.6*
*HEL **06** 15:31:57.1±0.1,6706N×2094E,h0km,ML1.5,ML1.8(UPP), Explosion*
*IDC **06** 15:31:57.2±1.5,6709N×2078E,h0km,mb1 3.1/3, mb1mx2.9/22,mbtmp2.9/3,ML2.1/3,Error ellipse: s-maj=24.1km s-min=11.1km az=105.0*
ISC 06 15:31:56.6±0.5,6706N±003×209E±01,h0km,n20, σ1$32/24,Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUNU	**Dundret**	**0.16**	**295**	*i* P	**Pg**	**15 31 59.5**	**-0.1**
ERTU	**Ertsjaerv**	**0.71**	**135**	*i* P	**Pg**	**15 32 09.4**	**-0.7**
PAJU	**Pajala**	**0.86**	**91**	*i* P	**Pg**	**15 32 12.1**	**-0.9**
HARU	**Harads**	**0.90**	**179**	*eP*	**Pg**	**15 32 13.5**	**-0.2**
KUA	**Kurravaara**	**0.93**	**346**	*eP*	**Pg**	**15 32 13.7**	**-0.7**
LANU	**Lannavaara**	**1.08**	**22**	*eP*	**Pg**	**15 32 16.4**	**-0.8**
NIKU	**Nikkaluokta**	**1.09**	**319**	*eP*	**Pg**	**15 32 17.0**	**-0.5**
SJUU	**Sjulsmark**	**1.58**	**170**	*eP*	**Pn**	**15 32 25.5**	**-0.3**
HEF	**Hetta**	**1.71**	**36**	*eP*	**Pn**	**15 32 27.2**	**-0.4**
HEF				*e*SN	**Sn**	**15 32 53.4**	**+3.3**
LILU	**Lilltraesk**	**1.83**	**194**	*eP*	**Pn**	**15 32 29.9**	**+0.6**
KIF	**Kilpisjarvi**	**1.96**	**359**	*e*PG	**Pg**	**15 32 32.5**	**-1.5**
KIF				*e*SG	**Sg**	**15 33 00.0**	**+0.6**
KIF				MSG		15 33 00.0	
	comp=Z,8.9nm,0.2s						
SGF	**Sodankyl**	**2.21**	**77**	*eP*	**Pn**	**15 32 35.4**	**+1.0**
SGF				MSG		15 33 10.8	
	comp=Z,2.1nm,0.4s						
SGF				*e*		15 33 10.8	
OUL	**Oulu**	**2.83**	**132**	*e*PB	**Pb**	**15 32 46.2**	**-1.8**
	baz=318						
OUL				*e*		15 33 30.6	
OUL				MSG		15 33 30.6	
	comp=Z,0.3nm,0.4s						
ARCES	**ARCESS Array B**	**3.01**	**32**	Pn	**Pn**	**15 32 45.4**	**-0.1**
	comp=Z,0.2nm,0.3s,baz=216,slow=14,SNR=1.7						
ARCES				Sn	**Sn**	**15 33 24.6**	**+2.4**
	comp=Z,0.7nm,0.3s,baz=212,slow=20,SNR=9.3						
MSF	**Maaselka**	**3.45**	**106**	*e*PG	**Pg**	**15 32 59.6**	**-2.9**
KEV	**Kevo**	**3.52**	**37**	*eP*	**Pn**	**15 32 54.6**	**+2.2**
KU6	**Riekki**	**3.73**	**102**	*e*PB	**Pb**	**15 33 00.3**	**-2.9**
	baz=282						
KU6				*e*		15 33 58.2	
VAF	**Ylistaro**	**4.10**	**169**	*eP*	**Pn**	**15 33 02.3**	**+1.9**
FINES	**FINESS Array B**	**6.06**	**156**	Pn	**Pn**	**15 33 28.9**	**+1.5**
	comp=Z,0.1nm,0.3s,baz=349,slow=12,SNR=2.8						
FINES				Sn	**Sn**	**15 34 39.0**	**+1.7**
	comp=Z,0.1nm,0.3s,baz=343,slow=21,SNR=3.1						
NOA	**NORSAR Array B**	**7.38**	**220**	Pn	**Pn**	**15 33 44.8**	**-0.6**
	comp=Z,0.1nm,0.3s,baz=130,slow=24,SNR=2.6						

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*ISCJB **06** 16:04:40.8±1.2,3170S±003×72.18W±007,h16km±8km, mb4.0/7,Error ellipse: s-maj=10.5km s-min=4.4km az=176.2*
*NEIC **06** 16:04:41.0±4.2,3167S×7195W,h9km±26km,mb4.0/2, Error ellipse: s-maj=20.6km s-min=9.1km az=90.0*
*GUC **06** 16:04:42.9±0.7,3171S×7202W,h33km±3km,MD4.1, ML3.8*
*IDC **06** 16:04:46.2±3.0,3177S×7193W,h47km±26km,mb3.8/5, mb1 3.8/9,mb1mx3.7/18,mbtmp3.6/9,ML3.6/4,Error ellipse: s-maj=30.6km s-min=28.1km az=81.0*
ISC 06 16:04:40.7±1.2,3169S±003×7209W±007,h4km±6km, h6km±.6km:pP-P,n42,σ0$90/49,mb4.0/7,5C-8D,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHNG	**Los Chungos**	**0.54**	**111**⇓	*iP*	**Pg**	**16 04 34.6**	**-16**
CHNG				*i* S	**Sg**	**16 04 41.6**	**-16**
CHNG				AML	AML	16 04 43.1	
	comp=E,3μm,0.6s						
PACH	**Papudo**	**1.01**	**147**⇑	*iP*	**Pg**	**16 05 00.1**	**+0.1**
PACH				*i* S	**Sg**	**16 05 13.9**	**+0.8**
CMCH	**Combarbala**	**1.06**	**61**⇑	*iP*	**Pg**	**16 05 01.2**	**+0.1**
CMCH				*i* S	**Sg**	**16 05 15.3**	**+0.4**
CMCH				AML	AML	16 05 19.2	
	comp=E,18μm,0.6s						
PTCH	**Petorca**	**1.14**	**120**⇑	*iP*	**Pg**	**16 05 02.1**	**-0.4**
PTCH				*i* S	**Sg**	**16 05 16.6**	**-0.7**
PTCH				AML	AML	16 05 18.1	
	comp=N,931nm,0.5s						
OVCH	**Ovalle**	**1.32**	**35**⇓	*iP*	**Pn**	**16 05 06.0**	**0.0**
OVCH				*i* S	**Sg**	**16 05 22.8**	**-0.4**

OVCH				AML	AML	16 05 25.9	
	comp=N,3μm,0.6s						
IHA	**Instituto Hidr**	**1.38**	**164**	*i* P	**Pn**	**16 05 06.0**	**-0.8**
JACH	**Jahuel**	**1.61**	**128**	⇓*i*P	**Pn**	**16 05 09.8**	**-0.1**
JACH				*i* S	**Sn**	**16 05 29.9**	**-1.1**
PEL	**Peldehue**	**1.87**	**141**	⇓*i*P	**Pn**	**16 05 13.2**	**-0.3**
PEL				*e*S	**Sn**	**16 05 36.9**	**-0.7**
PEL				AML	AML	16 05 41.6	
	comp=N,4μm,0.5s						
TLL	**Tololo Astrono**	**1.88**	**36**	*i* P	**Pn**	**16 05 14.0**	**+0.4**
TLL				AML	AML	16 05 49.0	
	comp=N,2μm,0.8s						
LSCH	**La Serena**	**1.92**	**22**	AML	AML	16 05 51.0	
	comp=N,388nm,0.5s						
CLCH	**Cerro Calan**	**2.15**	**143**	⇑*i*P	**Pn**	**16 05 17.2**	**0.0**
CLCH				*i* S	**Sn**	**16 05 45.8**	**+1.4**
CLCH				AML	AML	16 05 50.9	
	comp=E,3μm,0.7s						
FCH	**Farellones**	**2.23**	**138**	⇓*i*P	**Pn**	**16 05 18.7**	**+0.3**
FCH				AML	AML	16 05 56.9	
	comp=E,643nm,0.5s						
ANTU	**Antumapu**	**2.24**	**147**	AML	AML	16 05 52.4	
	comp=N,1μm,0.6s						
CHCH	**Chadas Angostu**	**2.54**	**152**	*i* P	**Pn**	**16 05 22.9**	**+0.2**
LMEL	**Las Melosas**	**2.67**	**144**	⇑*i*P	**Pn**	**16 05 24.9**	**+0.4**
LMEL				AML	AML	16 06 07.5	
	comp=E,536nm,0.4s						
CACH	**El Canelo**	**2.72**	**153**	⇓*i*P	**Pn**	**16 05 26.4**	**+1.2**
CACH				*i* S	**Sn**	**16 05 59.1**	**+0.5**
LCO	**Las Campanas**	**2.93**	**25**	*e*Pn	**Pn**	**16 05 28.0**	**-0.1**
LCO				*e*Sn	**Sn**	**16 06 06.1**	**+2.4**
CICH	**Cipreses**	**2.97**	**152**	⇓*i*P	**Pn**	**16 05 29.3**	**+0.6**
SFDO	**San Fernando**	**3.05**	**163**	⇓*i*P	**Pn**	**16 05 29.6**	**-0.1**
CFAA	**Coronel Fontan**	**3.29**	**89**	P	**Pn**	**16 05 35.2**	**+2.3**
CFAA				S	**Sn**	**16 06 19.7**	**+7.2**
CFAA	**Coronel Fontan**	**3.29**	**89**	P	**Pn**	**16 05 35.2**	**+2.3**
	comp=E,1.6nm,0.3s,baz=277,slow=11,SNR=31						
CFAA				S	**Sn**	**16 06 19.7**	**+7.2**
	comp=E,2.3nm,0.3s,baz=38,slow=17,SNR=4.1						
PLCA	**Paso Flores**	**9.11**	**173**	*e*Pn	**Pn**	**16 06 52.6**	**-0.3**
PLCA	**Paso Flores**	**9.11**	**173**	P	**Pn**	**16 06 52.8**	**0.0**
	comp=E,0.2nm,0.3s,baz=310,slow=11,SNR=7.1						
TRQA	**Tornquist**	**10.45**	**130**	*e*Pn	**Pn**	**16 07 10.2**	**-1.1**
	comp=E,5.8nm,0.7s						
LPAZ	**La Paz**	**15.75**	**14**	P	**Pn**	**16 08 21.0**	**-2.5**
	comp=E,2.2nm,0.8s						
LPAZ	**La Paz**	**15.75**	**14**	P	**Pn**	**16 08 24.8**	**+1.3**
	comp=E,0.1nm,0.3s,baz=208,slow=11,SNR=3.5						
SIV	**San Ignacio**	**18.57**	**35**	P	**Pn**	**16 08 58.7**	**-0.3**
	comp=E,0.2nm,0.3s,baz=245,slow=12,SNR=5.5						
BDFB	**Brasilia**	**27.14**	**60**	P	**P**	**16 10 23.5**	**-1.5**
	comp=E,3.1nm,0.8s,mb3.9,baz=230,slow=12,SNR=4.8						
VNA3	**Neumayer Olymp**	**51.51**	**159**	*e*	**P**	**16 13 47.6**	**+0.6**
VNA3				*e*	pP	16 13 49.8	+1.4
VNA3				*e*		16 13 54.1	
VNA2	**Neumayer--Watz**	**52.16**	**158**	*e*	**P**	**16 13 52.4**	**+0.5**
	baz=294,slow=9.2						
VNA2				*e*	pP	16 13 54.0	+0.8
VNA2				*e*		16 13 59.6	
SNAA	**Sanae**	**53.74**	**158**	*e*	**P**	**16 14 03.6**	**+0.1**
SNAA				*e*	pP	16 14 05.2	+0.4
SNAA				*e*		16 14 10.2	
QSPA	**South Pole Qui**	**58.54**	**180**	P	**P**	**16 14 37.9**	**+0.2**
	comp=E,7.4nm,1.2s,mb4.6						
DBIC	**Dimbokro**	**74.49**	**72**	P	**P**	**16 16 19.1**	**-1.7**
	comp=E,2.2nm,0.7s,mb4.2,baz=215,slow=3.7,SNR=3.5						
BOSA	**Boshof**	**81.18**	**118**	P	**P**	**16 16 56.0**	**-1.9**
	comp=E,1.6nm,0.7s,mb4.0,baz=270,slow=4.0,SNR=3.4						
PDAR	**Pinedale Array**	**81.69**	**333**	P	**P**	**16 17 01.0**	**+1.0**
	comp=E,0.3nm,0.6s,mb3.4,baz=84,slow=9.2,SNR=1.8						
NVAR	**Mina Array Bea**	**81.97**	**325**	P	**P**	**16 17 01.3**	**-0.3**
NVAR	**Mina Array Bea**	**81.97**	**325**	P	**P**	**16 17 01.3**	**-0.3**
	comp=E,0.4nm,0.6s,mb3.5,baz=145,slow=6.6,SNR=4.0						
TORD	**Torodi Ar. Bea**	**83.47**	**70**	P	**P**	**16 17 09.0**	**-0.9**
TORD	**Torodi Ar. Bea**	**83.47**	**70**	P	**P**	**16 17 09.0**	**-0.9**
	comp=E,2.4nm,0.8s,mb4.3,baz=260,slow=4.8,SNR=13						
ZAA0	**Zalesovo Array**	**152.28**	**30**	*e*PKPbc	PKPbc	16 24 36.1	-1.1
ZALV	**Zalesovo Beam**	**152.28**	**30**	PKPbc	PKPbc	16 24 37.0	-0.2
ZALV	**Zalesovo Beam**	**152.28**	**30**	PKPbc	PKPbc	16 24 37.0	-0.2
	comp=E,2.4nm,0.5s,baz=306,slow=4.0,SNR=14						

*IDC **06** 16:23:58.4±1.3, 743S×156.14E, h0km, mb4.0/6, mb1 4.1/7, mb1mx3.9/14, mbtmp4.0/7, ML3.3/1, Error ellipse: s-maj=35.1km s-min=25.1km az=100.0*
*ISCJB **06** 16:24:01.6±0.8, 75S±0.1×1562E±0.1, h33km, mb3.9/9, Error ellipse: s-maj=17.9km s-min=14.7km az=6.9*
*NEIC **06** 16:24:02.6±7.2, 748S×15621E, h30km±54km, mb4.0/3, Error ellipse: s-maj=23.8km s-min=14.6km az=149.0*

ISC 06 16:24:03.5±0.8, 75S±01×1562E±01, h35km, n12, σ0§78/12, mb3.9/9, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.16**	**118**	Pn		**Pn**	**16 25 04.2**	**-0.2**
	1.8nm,0.3s,baz=266,slow=15,SNR=2.9							
KAKA	**Kakadu**	**23.97**	**256**	*e*P		**P**	**16 29 15.3**	**+0.5**
	4.7nm,0.8s,mb4.0							
WRAB	**Tennant Creek**	**24.54**	**238**	*e*P		**P**	**16 29 19.8**	**-0.2**
	4.5nm,0.8s,mb4.0							
WB2	**Warramunga Arr**	**24.54**	**238**	*e*P		**P**	**16 29 19.6**	**-0.4**
WRA	**Warramunga Arr**	**24.55**	**238**	P		**P**	**16 29 20.0**	**-0.1**
	1.9nm,0.5s,mb3.9,baz=61,slow=9.8,SNR=12							
ASAR	**Alice Springs**	**26.77**	**231**	P		**P**	**16 29 39.1**	**-1.1**
	0.6nm,0.7s,mb3.2,baz=58,slow=9.9,SNR=10.0							
STKA	**Stephens Creek**	**27.83**	**207**	P		**P**	**16 29 51.1**	**+1.6**
	1.8nm,0.7s,mb3.8,baz=25,slow=15,SNR=2.8							
SONM	**Songino Array**	**70.41**	**327**	P		**P**	**16 35 14.9**	**+0.9**
	1.1nm,0.8s,mb3.9,baz=136,slow=5.9,SNR=9.3							
QSPA	**South Pole Qui**	**82.48**	**180**	*e*P		**P**	**16 36 22.0**	**+0.1**
	0.4nm,0.5s,mb3.6							
MK31	**Makanchi Array**	**84.58**	**318**	*e*P		**P**	**16 36 33.3**	**+0.1**
MKAR	**Makanchi Array**	**84.58**	**318**	P		**P**	**16 36 33.8**	**+0.6**
	1.8nm,0.6s,mb4.4,baz=101,slow=5.9,SNR=15							
ZALV	**Zalesovo Beam**	**85.27**	**326**	P		**P**	**16 36 35.0**	**-1.5**
	0.8nm,0.4s,mb4.2,baz=110,slow=5.8,SNR=6.2							

*MOS **06** 16:38:00.4±1.0, 56.11N×164.42E, h17km, mb4.3/2, Error ellipse: s-maj=20.6km s-min=10.8km az=52.8*
*ISCJB **06** 16:38:03.1±1.2, 5595N±005×16424E±009, h21km±9km, mb3.6/7, Error ellipse: s-maj=8.9km s-min=6.6km az=139.7*
*KRSC **06** 16:38:04.0±0.0, 5590N×16396E, h10km±10km, ML4.2*
*IDC **06** 16:38:23.1±7.9, 5600N×16271E, h159km±75km, mb3.1/7, mb1 3.4/8, mb1mx3.1/24, mbtmp3.2/8, Error ellipse: s-maj=29.2km s-min=20.8km az=122.0*

ISC 06 16:38:04.7±1.3, 5598N±004×16424E±009, h24km±11km, n34, σ1§25/52, mb3.6/7, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**0.82**	**286**	*i* P		**Pb**	**16 38 17.5**	**-2.8**
KBTR				*i* S		**Sb**	**16 38 27.8**	**-3.2**
SRKR	**Sorokina**	**1.84**	**293**	*i* P		**Pn**	**16 38 33.8**	**-0.9**
SRKR				*i* S		**Sn**	**16 38 55.5**	**-1.6**
ZLN	**Zelenaya**	**1.93**	**272**	*i* P		**Pn**	**16 38 36.2**	**+0.3**
ZLN				*i* S		**Sn**	**16 39 00.6**	**+1.2**
MKZ	**Mys Kozlova**	**2.03**	**226**	*e*P		**Pn**	**16 38 36.5**	**-0.8**
MKZ				*i* S		**Sn**	**16 39 01.1**	**-0.7**
KLY	**Klyuchi**	**2.03**	**281**	*i* P		**Pn**	**16 38 35.4**	**-2.0**
KLY				*i* S		**Sn**	**16 38 58.6**	**-3.4**
KRSR	**Krestovskiy**	**2.07**	**278**	*e*P		**Pn**	**16 38 37.2**	**-0.7**
KRSR				*e*S		**Sn**	**16 39 01.9**	**-1.0**
KPT	**Kopyto**	**2.26**	**271**	*i* P		**Pn**	**16 38 41.1**	**+0.7**
KPT				*i* S		**Sn**	**16 39 08.4**	**+0.9**
KMNR	**Kamenistaya**	**2.27**	**266**	*i* P		**Pn**	**16 38 41.4**	**+0.8**
KMNR				*i* S		**Sn**	**16 39 09.6**	**+1.9**
TUMR	**Tumrok**	**2.42**	**255**	*i* P		**Pn**	**16 38 43.6**	**+0.9**
TUMR				*i* S		**Sn**	**16 39 13.1**	**+1.5**
KOZR	**Kozyr**	**2.44**	**274**	PN		**Pn**	**16 38 43.9**	**+1.0**
KOZR				S		**Sn**	**16 39 13.4**	**+1.4**
KOZ	**Kozyrevsk**	**2.45**	**274**	*i* P		**Pn**	**16 38 43.9**	**+0.8**
KOZ				*i* S		**Sn**	**16 39 13.4**	**+1.1**
SRDR	**Sredinnyy**	**2.55**	**279**	*i* P		**Pn**	**16 38 44.9**	**+0.4**
SRDR				*i* S		**Sn**	**16 39 14.8**	**+0.1**
KII	**Karymskiy**	**3.38**	**237**	*e*P		**Pn**	**16 38 56.7**	**+0.8**
KII				*i* S		**Sn**	**16 39 34.2**	**-0.9**
SPN	**Mys Shipunski**	**3.79**	**222**	*e*P		**Pn**	**16 39 00.9**	**-0.7**
SPN				*i* S		**Sn**	**16 39 40.7**	**-4.7**
NLC	**Nalytchevo**	**4.00**	**227**	*e*P		**Pn**	**16 39 04.7**	**+0.2**
NLC				*i* S		**Sn**	**16 39 49.2**	**-1.4**
AVH	**Avacha**	**4.20**	**232**	*i* P		**Pn**	**16 39 08.3**	**+1.2**
AVH				*i* S		**Sn**	**16 39 54.9**	**-0.5**
GNL	**Ganaly**	**4.30**	**240**	*i* P		**Pn**	**16 39 09.8**	**+1.3**
PET	**Petropavlovsk**	**4.40**	**230**	*e*PN		**Pn**	**16 39 11.5**	**+1.6**
PET				pmax	pmax			
	comp=Z,19nm,0.4s							
PET	**Petropavlovsk**	**4.40**	**230**	P		**Pn**	**16 39 09.4**	**-0.5**
PET				*i* S		**Sn**	**16 39 58.0**	**-2.4**
RUS	**Russkaya**	**4.89**	**226**	*e*P		**Pn**	**16 39 17.2**	**+0.5**
RUS				*i* S		**Sn**	**16 40 10.2**	**-2.3**
GRL	**Gorelyy**	**4.99**	**229**	P		**Pn**	**16 39 19.5**	**+1.5**
MIPR	**Malaya Ipel'ka**	**5.75**	**233**	*e*P		**Pn**	**16 39 30.6**	**+2.1**
ASAJ	**Asahikawa**	**18.19**	**238**	P		**Pn**	**16 42 14.5**	**-0.8**
ASAJ				pmax	pmax			
	comp=Z,1.0nm,0.3s							
ASAJ	**Asahikawa**	**18.19**	**238**	P		**Pn**	**16 42 14.4**	**-0.9**
	comp=Z,0.5nm,0.3s,baz=56,slow=3.8,SNR=15							
MJAR	**Matsushiro Arr**	**26.23**	**233**	P		**P**	**16 43 37.8**	**+0.3**
MJAR				pmax	pmax			
	comp=Z,3.0nm,0.6s							
MJAR	**Matsushiro Arr**	**26.23**	**233**	P		**P**	**16 43 37.8**	**+0.3**
	comp=Z,2.6nm,0.6s,mb3.9,baz=34,slow=8.1,SNR=11							
SONM	**Songino Array**	**35.63**	**282**	P		**P**	**16 44 59.0**	**-1.3**
	comp=Z,0.3nm,0.4s,mb3.6,baz=45,slow=8.3,SNR=4.6							
YKA	**Yellowknife Ar**	**39.41**	**46**	P		**P**	**16 45 41.8**	**+10**
YKA	**Yellowknife Ar**	**39.41**	**46**	P		**P**	**16 45 41.8**	**+10**
	comp=Z,0.3nm,0.5s,mb3.2,baz=299,slow=8.3,SNR=4.4							
MKAR	**Makanchi Array**	**49.07**	**296**	P		**P**	**16 46 47.2**	**-2.3**
	comp=Z,0.2nm,0.4s,mb3.5,baz=39,slow=6.8,SNR=7.5							
AKTO	**Aktyubinsk**	**57.62**	**313**	P		**P**	**16 47 51.5**	**-0.8**
AKTO				pmax	pmax			
	comp=Z,1.0nm,0.6s,mb4.0							
AKTO	**Aktyubinsk**	**57.62**	**313**	P		**P**	**16 47 51.5**	**-0.8**
	comp=Z,0.9nm,0.6s,mb4.0,baz=49,slow=11,SNR=3.8							
WRA	**Warramunga Arr**	**79.75**	**208**	P		**P**	**16 50 10.7**	**+0.3**
	comp=Z,0.4nm,0.8s,mb3.4,baz=31,slow=6.2,SNR=3.9							
ASAR	**Alice Springs**	**83.42**	**208**	P		**P**	**16 50 30.7**	**+1.0**
	comp=Z,0.1nm,0.4s,mb3.2,baz=19,slow=4.7,SNR=4.1							

*ISCJB **06** 17:33:35.3±0.6, 75S±0.1×156.11E±006, h10km, mb3.9/9, Error ellipse: s-maj=16.6km s-min=7.4km az=21.2*
*IDC **06** 17:33:35.4±1.2, 753S×15601E, h0km, mb3.9/6, mb1 4.0/7, mb1mx3.8/16, mbtmp4.0/7, ML3.8/1, MS2.8/1, Ms1 2.8/1, ms1mx2.4/19, Error ellipse: s-maj=32.8km s-min=26.6km az=122.0*
*NEIC **06** 17:33:36.8±0.6, 754S×15608E, h10km, mb4.1/3, Error ellipse: s-maj=15.1km s-min=13.4km az=174.0*

ISC 06 17:33:36.7±0.6, 76S±01×15614E±007, h10km, n13, σ0§92/16, mb3.9/9, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.19**	**116**	Pn		**Pn**	**17 34 41.9**	**+1.2**
HNR				*e*Sn		**Sn**	**17 35 34.8**	**+5.0**
HNR				Sn		**Sb**	**17 35 40.2**	**-1.1**
HNR	**Honiara**	**4.19**	**116**	Pn		**Pn**	**17 34 41.9**	**+1.2**
	5.6nm,0.3s,baz=243,slow=3.1,SNR=3.8							
HNR				LR		LR	17 35 38.7	
	comp=Z,99nm,19.0s,baz=180,slow=28							
HNR				Sn		**Sb**	**17 35 40.2**	**-1.1**
	12nm,0.3s,baz=87,slow=19,SNR=2.5							
WRAB	**Tennant Creek**	**24.43**	**238**	*e*P		**P**	**17 38 56.3**	**+0.6**
	2.4nm,0.6s,mb3.8							
WB2	**Warramunga Arr**	**24.43**	**238**	*e*P		**P**	**17 38 56.3**	**+0.6**
WRA	**Warramunga Arr**	**24.44**	**238**	P		**P**	**17 38 56.6**	**+0.8**
	1.7nm,0.6s,mb3.7,baz=62,slow=9.4,SNR=24							
WRA				PcP		PcP	17 42 34.6	-0.3
	0.4nm,1.1s,baz=55,slow=2.7,SNR=4.7							
ASAR	**Alice Springs**	**26.66**	**231**	P		**P**	**17 39 15.2**	**-0.6**
	0.3nm,0.7s,mb3.0,baz=57,slow=9.4,SNR=4.4							
FITZ	**Fitzroy Crossi**	**31.47**	**248**	P		**P**	**17 39 57.3**	**-1.5**
	0.9nm,0.6s,mb3.8,baz=63,slow=11,SNR=3.6							
ULN	**Ulaanbaatar**	**70.10**	**327**	*e*P		**P**	**17 44 50.1**	**+0.9**
	1.0nm,0.6s,mb3.9							
SONM	**Songino Array**	**70.44**	**327**	P		**P**	**17 44 52.3**	**+1.1**
	1.1nm,0.7s,mb3.9,baz=133,slow=6.1,SNR=10							
MK31	**Makanchi Array**	**84.59**	**318**	*e*P		**P**	**17 46 10.0**	**-0.4**
MKAR	**Makanchi Array**	**84.59**	**318**	P		**P**	**17 46 10.2**	**-0.1**
	1.4nm,0.5s,mb4.3,baz=104,slow=5.8,SNR=14							
ZALV	**Zalesovo Beam**	**85.30**	**326**	P		**P**	**17 46 12.6**	**-1.1**
	1.0nm,0.5s,mb4.2,baz=114,slow=6.1,SNR=6.6							
KURK	**Kurchatov**	**87.99**	**322**	P		**P**	**17 46 26.0**	**-1.0**
	0.7nm,0.4s,mb4.2							

KRSC 06 17:33:40.0±0.1, 5585N×16352E, h10km±10km, ML3.7, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**0.53**	**313**	*i* P		Pg	17 33 50.3	0.0
KBTR				*e*S		Sg	17 33 57.4	+0.1
ZLN	**Zelenaya**	**1.54**	**277**	*e*P		Pn	17 34 08.9	+1.5
ZLN				S		Sn	17 34 29.8	+2.4
SRKR	**Sorokina**	**1.54**	**303**	*e*P		Pn	17 34 08.0	+0.5
SRKR				*e*S		Sn	17 34 28.6	+1.1
MKZ	**Mys Kozlova**	**1.65**	**219**	*e*P		Pn	17 34 08.9	-0.1
MKZ				S		Sn	17 34 29.1	-1.2
KLY	**Klyuchi**	**1.67**	**287**	*e*P		Pn	17 34 08.1	-1.2
KLY				*e*S		Sn	17 34 28.9	-1.9
KRSR	**Krestovskiy**	**1.70**	**284**	P		Pn	17 34 11.1	+1.5
KRSR				S		Sn	17 34 32.8	+1.4
KMNR	**Kamenistaya**	**1.86**	**268**	*e*P		Pn	17 34 13.7	+1.9
KMNR				*e*S		Sn	17 34 39.2	+3.9
KPT	**Kopyto**	**1.86**	**275**	*e*P		Pn	17 34 13.4	+1.5
KPT				*e*S		Sn	17 34 37.5	+2.1
TUMR	**Tumrok**	**2.00**	**255**	*e*P		Pn	17 34 15.7	+1.9
TUMR				*e*S		Sn	17 34 41.6	+2.8
KOZ	**Kozyrevsk**	**2.06**	**277**	*e*P		Pn	17 34 16.9	+2.3
KOZ				*e*S		Sn	17 34 43.2	+2.9
SRDR	**Sredinnyy**	**2.18**	**284**	*e*P		Pn	17 34 18.3	+2.0
SRDR				*e*S		Sn	17 34 45.8	+2.5
SPN	**Mys Shipunski**	**3.43**	**218**	P		Pn	17 34 33.4	0.0
SPN				*e*S		Sn	17 35 12.4	-1.7
NLC	**Nalytchevo**	**3.62**	**224**	S		Sn	17 35 18.7	-0.1
AVH	**Avacha**	**3.80**	**229**	*e*P		Pn	17 34 40.9	+2.4
GNL	**Ganaly**	**3.88**	**239**	*e*P		Pn	17 34 42.2	+2.5
PET	**Petropavlovsk**	**4.01**	**227**	P		Pn	17 34 42.9	+1.5
RUS	**Russkaya**	**4.51**	**223**	*e*P		Pn	17 34 49.9	+1.6

*DDA **06** 17:38:46.0, 3671N×3012E, h7km±2km, Md3.0*
*CSEM **06** 17:38:47.9±0.1, 3668N×2953E, h2km, MD3.0*
*ISK **06** 17:38:47.8, 3656N×2956E, h5km, ML2.5*
*ISCJB **06** 17:38:49.0±0.6, 3667N±005×2954E±004, h2km, Error ellipse: s-maj=7.0km s-min=4.4km az=169.2*

ISC 06 17:38:49.2±0.7, 3667N±005×2954E±005, h1km±9km, n10, σ0§78/15, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ELL	**Elmali**	**0.31**	**75**	PG		**Pg**	**17 38 54.5**	**-0.7**
ELL				SG		**Sg**	**17 39 00.2**	**+1.0**
FETY	**Fethiye**	**0.37**	**265**	PG		**Pg**	**17 38 55.5**	**-0.7**
FETY				SG		**Sg**	**17 39 01.8**	**+0.8**
AKAS	**Kas**	**0.44**	**173**	*i* P		**Pg**	**17 38 57.8**	**+0.1**
AKAS				*i* S		**Sg**	**17 39 07.9**	**+4.5**
GOLH	**Golhisar**	**0.56**	**2**	*i* P		**Pg**	**17 38 58.9**	**-1.2**
GOLH				*i* S		**Sg**	**17 39 08.5**	**+1.0**
ANTB	**Antalya**	**0.93**	**75**	PG		**Pg**	**17 39 06.7**	**-0.3**
YER	**Yerkesik**	**1.11**	**295**	PN		**Pn**	**17 39 11.1**	**-0.8**
MLSB	**Milas**	**1.54**	**294**	*e*PN		**Pn**	**17 39 17.1**	**-0.8**
DAT	**Datca**	**1.57**	**273**	*e*PN		**Pn**	**17 39 17.8**	**-0.5**
BDRM	**Kayabasi**	**1.72**	**284**	*i* P		**Pn**	**17 39 21.3**	**+0.9**
BDRM				*i* S		**Sn**	**17 39 43.9**	**+0.8**
BODT	**Bodrum**	**1.83**	**283**	*e*PN		**Pn**	**17 39 21.8**	**0.0**

*ISK **06** 17:45:38.7, 3937N×2826E, h5km, MD2.9*
*CSEM **06** 17:45:39.4±0.2, 3936N×2821E, h5km, MD2.6, Error ellipse: s-maj=4.7km s-min=3.3km az=53.0*
*ISCJB **06** 17:45:40.4±0.6, 3941N±003×2822E±005, h6km, 6km, Error ellipse: s-maj=7.1km s-min=4.4km az=147.4*
*DDA **06** 17:45:41.9, 3943N×2814E, h8km±1km, Md2.6*

ISC 06 17:45:41.1±0.5, 3942N±003×2823E±005, h10km±5km, n13, σ1§08/20, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
BALB	**Balikesir**	**0.35**	**309**	PG		**Pg**	**17 45 47.2**	**-0.8**
BALB				SG		**Sg**	**17 45 54.1**	**+1.5**
DST	**Dursunbey**	**0.36**	**59**	PG		**Pg**	**17 45 46.2**	**-2.0**
BTOK	**Tokmak**	**0.37**	**336**	*i* P		**Pg**	**17 45 48.7**	**+0.3**
BTOK				*i* S		**Sg**	**17 45 53.3**	**-0.2**
AKHS	**Akhisar**	**0.63**	**211**	*i* P		**Pg**	**17 45 53.2**	**-0.1**
AKHS				*e*S		**Sg**	**17 46 04.0**	**+2.5**
KCT	**Karacabey**	**0.85**	**7**	PG		**Pg**	**17 45 57.9**	**+0.5**
BNT	**Bandirma**	**0.96**	**346**	PG		**Pg**	**17 46 00.0**	**+0.4**
KULA	**Kula-Manisa**	**0.96**	**159**	PG		**Pg**	**17 45 56.9**	**-2.7**
KULA				SG		**Sg**	**17 46 11.4**	**-0.8**
EDC	**Edincik**	**0.97**	**343**	PG		**Pg**	**17 45 59.3**	**-0.4**
GDZ	**Gediz**	**1.03**	**108**	*i* P		**Pb**	**17 46 01.5**	**+0.6**
GDZ				*i* S		**Sb**	**17 46 16.0**	**+1.6**
IZI	**Iznik**	**1.32**	**46**	*e*PN		**Pn**	**17 46 06.0**	**+0.4**
YLV	**Yalova**	**1.44**	**37**	*e*PN		**Pn**	**17 46 07.3**	**+0.1**
RKY	**Sarkoy-Tekirda**	**1.50**	**328**	*e*PN		**Pn**	**17 46 07.9**	**-0.1**
BOZC	**Bozcaada**	**1.73**	**285**	*i* P		**Pn**	**17 46 11.3**	**+0.1**
BOZC				*i* S		**Sn**	**17 46 31.3**	**-2.0**
BOZC				*i* S		**Sn**	**17 46 32.2**	**-1.1**

MAN 06 17:50:22, 1055N×12538E, h10km, mb4.7, ML3.6, MS3.5, 2C, Leyte

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MSLP	**Maasin**	**0.66**	**232**	*e*P		Pg	17 50 35.3	+0.6
MSLP				*e*S		Sg	17 50 46.3	+3.0
PLP	**Palo**	**0.73**	**327**	*i* P		Pg	17 50 36.0	-0.2
PLP				*i* S		Sg	17 50 46.7	+1.0
SCPH	**Surigao**	**0.77**	**172**	⇑*e*P		Pg	17 50 38.0	+1.2
SCPH				*e*S		Sg	17 50 50.4	+3.6
OCLP	**Ormoc**	**0.91**	**304**	*e*P		Pg	17 50 39.8	+0.3
LLP	**Lapu-Lapu**	**1.41**	**261**	⇑*e*P		Pn	17 50 47.6	-0.1
LLP				*e*S		Sn	17 51 07.1	+0.7
TBP	**Tagbilaran**	**1.72**	**241**	*e*P		Pn	17 50 53.1	+1.1
TBP				*e*S		Sn	17 51 19.4	+5.3
BUKP	**Musuan**	**2.67**	**187**	*e*P		Pn	17 51 11.1	+6.1
GUIM	**Jordan**	**2.75**	**272**	*e*P		Pn	17 51 07.8	+1.6

*IDC **06** 18:01:44.9±1.1, 753S×15574E, h0km, mb4.2/7, mb1 4.3/8, mb1mx4.1/14, mbtmp4.2/8, ML4.2/1, MS3.2/1, Ms1 3.2/1, ms1mx2.7/32, Error ellipse: s-maj=27.8km s-min=21.6km az=91.0*
*NEIC **06** 18:01:46.6±0.5, 759S×15580E, h10km, mb4.5/6, Error ellipse: s-maj=13.1km s-min=11.7km az=154.0*
*ISCJB **06** 18:01:48.6±0.6, 757S±010×15576E±008, h33km, mb4.2/12, Error ellipse: s-maj=13.8km s-min=11.0km az=9.7*

ISC 06 18:01:51.2±0.6, 755S±009×15563E±007, h35km, n21, σ0§84/21, mb4.2/12, 1C-1D, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.67**	**114**	Pn		**Pn**	**18 02 54.7**	**-4.5**
	11nm,0.3s,baz=269,slow=5.5,SNR=6.3							
HNR				Sn		**Sn**	**18 03 52.3**	**+0.2**
	60nm,0.3s,baz=95,slow=17,SNR=8.7							
CTA	**Charters Tower**	**15.43**	**215**	LR		LR	18 10 08.2	
	comp=Z,80nm,18.4s,baz=60,slow=32							
KAKA	**Kakadu**	**23.39**	**255**	⇑*i*P		**P**	**18 06 58.6**	**+1.3**
	11nm,0.8s,mb4.3							
KAKA	**Kakadu**	**23.39**	**255**	*e*P		**P**	**18 06 58.0**	**+0.7**
	21nm,0.7s,mb4.7							
WRAB	**Tennant Creek**	**24.02**	**237**	*e*P		**P**	**18 07 03.2**	**+0.3**
	12nm,0.8s,mb4.4							
WB2	**Warramunga Arr**	**24.02**	**237**	⇓*i

LKR			*e*SN		**Sg**	**18 07 45.2**	**+2.3**
ATH	**Athens Observa**	**0.69 107**	P		**Pg**	**18 07 41.5**	**+1.2**
DID	**Didima**	**0.72 157**	*e*Pg		**Pg**	**18 07 40.5**	**-0.5**
DID			*e*Sg		**Sg**	**18 07 50.6**	**+0.3**
SELA	**Sela**	**0.78 278**	*e*Pg		**Pg**	**18 07 42.1**	**0.0**
SELA			*e*Sg		**Sg**	**18 07 53.9**	**+1.7**
AGG	**Agios Georgios**	**0.95 333**	*e*Pg		**Pg**	**18 07 44.9**	**-0.4**
AGG			*e*Sg		**Sg**	**18 07 58.6**	**+1.0**
RLS	**Riolos of Patr**	**1.12 265**	*e*PN		**Pn**	**18 07 47.0**	**-1.8**
RLS			*e*SN		**Sn**	**18 08 03.7**	**-0.5**
EVR	**Evrytania**	**1.12 312**	*e*PN		**Pn**	**18 07 47.5**	**-1.3**
EVR			*e*SN		**Sn**	**18 08 03.0**	**-1.3**
NEO	**Neokhori**	**1.16 13**	*e*PN		**Pn**	**18 07 48.8**	**-0.6**
NEO			*e*SN		**Sn**	**18 08 04.8**	**-0.6**
ITM	**Ithomi**	**1.25 218**	*e*PN		**Pn**	**18 07 49.4**	**-1.1**
ITM			*e*SN		**Sn**	**18 08 05.3**	**-2.1**
AOS	**Alonnisos**	**1.27 38**	*e*Pg		**Pg**	**18 07 49.5**	**-1.8**
AOS			*e*Sg		**Sg**	**18 08 07.2**	**-0.6**
AOS	**Alonnisos**	**1.27 38**	*e*Pg		**Pg**	**18 07 49.5**	**-1.8**
AOS			*e*Sg		**Sg**	**18 08 07.2**	**-0.6**
VLI	**Veliai**	**1.45 178**	*e*PN		**Pn**	**18 07 52.4**	**-1.0**
VLI			*e*SN		**Sn**	**18 08 10.6**	**-1.9**
THL	**Klokotos Trika**	**1.54 334**	*e*PN		**Pn**	**18 07 54.4**	**-0.2**
PYL	**PYLOS**	**1.56 216**	*e*Pg		**Pg**	**18 07 55.0**	**-1.9**
KFL	**Anninata**	**1.65 268**	*e*Pb		**Pb**	**18 07 57.0**	**-0.4**
KFL			*e*Sb		**Sb**	**18 08 19.9**	**+1.6**
KFL	**Anninata**	**1.65 268**	*e*Pb		**Pb**	**18 07 57.0**	**-0.5**
KFL			*e*Sb		**Sb**	**18 08 19.9**	**+1.6**
LKD	**Levkas**	**1.83 288**	*e*Pb		**Pb**	**18 08 00.1**	**-0.4**
LKD			*e*Sb		**Sb**	**18 08 24.7**	**+1.2**
PAIG	**Paliouri**	**1.86 19**	*e*Pb		**Pb**	**18 07 58.0**	**-3.1**
KYTH	**Kithira**	**1.89 176**	*e*PB		**Pb**	**18 07 58.5**	**-3.2**
LIT	**Litokhoron**	**1.95 351**	*e*Pb		**Pb**	**18 07 59.8**	**-2.9**
LIT			*e*Sb		**Sb**	**18 08 25.7**	**-1.3**
MEV	**Metsovon**	**2.06 322**	*e*Pn		**Pn**	**18 08 02.7**	**+1.0**
MEV			*e*Sn		**Sn**	**18 08 30.1**	**+2.7**
PLG	**Polygyros**	**2.24 11**	*e*Pn		**Pn**	**18 08 03.5**	**-0.7**
PLG	**Polygyros**	**2.24 11**	*e*Pn		**Pn**	**18 08 03.4**	**-0.8**
KZN	**Kozani**	**2.30 338**	*e*PN		**Pn**	**18 08 04.6**	**-0.4**
OUR	**Ouranopolis**	**2.32 21**	*e*Pn		**Pn**	**18 08 05.1**	**-0.2**
APE	**Apeiranthos**	**2.38 117**	*e*Pn		**Pn**	**18 08 05.5**	**-0.5**
APE	**Apeiranthos**	**2.38 117**	*e*Pn		**Pn**	**18 08 05.3**	**-0.8**
APE	**Apeiranthos**	**2.38 117** ⇊	*i*P		**Pn**	**18 08 05.7**	**-0.4**
IGT	**Igoumenitsa**	**2.41 305**	*e*Pn		**Pn**	**18 08 08.0**	**+1.5**
HORT	**Hortiatis**	**2.43 4**	*e*Pn		**Pn**	**18 08 06.1**	**-0.7**
LOS	**Limnos**	**2.46 44**	*e*Pn		**Pn**	**18 08 06.2**	**-0.9**
THE	**Thessaloniki**	**2.46 2**	*e*Pn		**Pn**	**18 08 06.3**	**-0.9**
CHOS	**Chios island**	**2.51 84**	*e*Pn		**Pn**	**18 08 07.9**	**0.0**
SOH	**Sokhos**	**2.67 8**	*e*Pn		**Pn**	**18 08 10.1**	**0.0**
THR1	**Thera Island**	**2.73 130**	*e*Pn		**Pn**	**18 08 11.3**	**+0.3**
KEK	**Kerkira**	**2.85 304**	*e*PN		**Pn**	**18 08 11.2**	**-1.4**
FNA	**Florina**	**2.85 336**	*e*Pn		**Pn**	**18 08 13.1**	**+0.4**
FNA			*e*Sn		**Sn**	**18 08 48.9**	**+1.8**
KARN	**Karanos**	**2.89 163**	*e*Pn		**Pn**	**18 08 12.9**	**-0.2**
KARN			*e*Sn		**Sn**	**18 08 48.9**	**+0.9**
VAM	**Vamos**	**2.96 159**	*e*PN		**Pn**	**18 08 13.9**	**-0.2**
KNT	**Kendrikon**	**2.98 0**	*e*Pn		**Pn**	**18 08 14.7**	**+0.3**
SRS	**Serrai**	**2.99 10**	*e*Pn		**Pn**	**18 08 14.2**	**-0.3**
VAY	**Valandovo**	**3.15 356**	*e*Pn		**Pn**	**18 08 16.6**	**-0.1**
VAY	**Valandovo**	**3.15 356**	*e*Pn		**Pn**	**18 08 16.5**	**-0.3**
SMG	**Samos**	**3.17 97**	P		**Pn**	**18 08 18.8**	**+1.9**
NVR	**Nevrokopi**	**3.26 13**	*e*PN		**Pn**	**18 08 17.7**	**-0.5**
KRUS	**Krusevo**	**3.43 339**	*e*Pn		**Pn**	**18 08 21.9**	**+1.4**
GVD	**Gavdhos**	**3.47 163**	*e*Pn		**Pn**	**18 08 21.8**	**+0.7**
GVD			*e*Sn		**Sn**	**18 09 04.9**	**+2.7**
STIP	**Stip**	**3.56 352**	*e*Pn		**Pn**	**18 08 23.2**	**+0.9**
STIP	**Stip**	**3.56 352**	*e*Pn		**Pn**	**18 08 23.1**	**+0.8**
NPS	**Neapolis**	**3.64 142**	P		**Pn**	**18 08 25.4**	**+1.9**
ALN	**Alexandroupoli**	**3.66 41**	*e*Pn		**Pn**	**18 08 23.8**	**+0.1**
LAST	**Lasithi**	**3.66 144**	*e*Pn		**Pn**	**18 08 23.6**	**-0.1**
LAST			*e*Sn		**Sn**	**18 09 08.6**	**+1.6**
ZKR	**Zakros**	**4.07 138**	*e*Pn		**Pn**	**18 08 30.2**	**+0.9**
KARP	**Karpathos**	**4.32 126**	P		**Pn**	**18 08 37.9**	**+5.1**
VTS	**Vitosha**	**4.42 3**	*e*Pn		**Pn**	**18 08 35.0**	**+0.9**
VTS	**Vitosha**	**4.42 3** ⇈	*i*P		**Pn**	**18 08 35.0**	**+0.8**
TIP	**Timpagrande**	**4.89 284**	P		**Pn**	**18 08 42.0**	**+1.4**
VOIR		**7.44 12** ⇊	*i*P		**Pn**	**18 09 16.4**	**+0.8**
MLR	**Muntele Rosu**	**7.66 16** ⇈	*i*P		**Pn**	**18 09 14.6**	**-4.0**

IDC 06 18:17:25.8±6.8, 1507N×14290E, h90km±92km, mb3.3/4, mb1 3.4/5, mb1mx3.2/18, mbtmp3.4/5, Error ellipse: s-maj=101.2km s-min=22.9km az=79.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**2.41**	**127**	P	Pn	18 18 05.0	+1.6
	14nm,0.3s,baz=178,slow=23,SNR=12						
GUMO				S	Sn	18 18 32.6	+0.4
	37nm,0.3s,baz=356,slow=22,SNR=13						
KSRS	**Korea Array**	**25.95**	**332**	P	P	18 22 49.5	-0.3
	0.7nm,0.6s,baz=139,slow=8.7,SNR=4.6						
WRA	**Warramunga Arr**	**35.80**	**194**	P	P	18 24 16.5	0.0
	0.4nm,1.1s,baz=12,slow=8.7,SNR=3.3						
SONM	**Songino Array**	**44.43**	**325**	P	P	18 25 27.8	+0.2
	0.3nm,0.3s,baz=140,slow=6.3,SNR=10						
MKAR	**Makanchi Array**	**59.10**	**316**	P	P	18 27 16.9	+0.1
	1.2nm,0.4s,baz=92,slow=8.5,SNR=30						

IDC 06 18:22:22.6±1.6, 6771N×1870W, h0km, mb3.3/2, mb1 3.5/5, mb1mx3.2/24, mbtmp3.3/5, ML2.8/3, MS3.3/7, Ms1 3.3/7, ms1mx3.0/31, Error ellipse: s-maj=38.0km s-min=26.0km az=33.0, Iceland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BORG	**Borgarnes**	**3.16**	**201**	Pn	Pn	18 23 13.5	0.0
	1.7nm,0.3s,baz=28,slow=5.8,SNR=9.2						
BORG				Sn	Sn	18 23 48.0	-3.8
	1.0nm,0.3s,baz=353,slow=15,SNR=3.4						
SFJD	**Kangerlussuaq**	**12.25**	**282**	LR	LR	18 29 27.9	
	comp=Z,73nm,21.6s,baz=62,slow=35						
EKA	**Eskdalemuir Ar**	**14.39**	**142**	Pn	Pn	18 25 48.7	+1.5
	0.0nm,0.3s,baz=359,slow=30,SNR=2.7						
HFS	**Hagfors**	**15.95**	**103**	Pn	Pn	18 26 10.0	+2.0
	0.2nm,0.3s,baz=303,slow=8.5,SNR=3.8						
HFS				LR	LR	18 30 47.1	
	comp=Z,172nm,19.6s,baz=64,slow=32						
FINES	**FINESS Array B**	**19.82**	**87**	P	Pn	18 26 54.5	-1.2
	0.1nm,0.3s,baz=316,slow=5.3,SNR=4.1						
GERES	**GERESS Array B**	**24.94**	**123**	P	P	18 27 46.8	-0.2
	1.0nm,0.8s,baz=324,slow=6.6,SNR=12						
VRAC	**Vranov**	**25.49**	**119**	LR	LR	18 37 45.6	
	comp=Z,52nm,21.6s,baz=148,slow=36						
DAVOX	**Davos/Dischmat**	**25.62**	**131**	LR	LR	18 37 29.1	
	comp=Z,95nm,18.1s,baz=265,slow=35						
SCHQ	**Schefferville**	**25.68**	**264**	LR	LR	18 38 36.5	
	comp=Z,44nm,20.5s,baz=117,slow=38						
YKA	**Yellowknife Ar**	**36.82**	**310**	P	P	18 29 31.6	0.0
	0.1nm,0.8s,baz=43,slow=8.4,SNR=4.1						
TKL	**Tuckaleechee C**	**48.13**	**263**	LR	LR	18 50 59.3	
	comp=Z,53nm,20.9s,baz=356,slow=36						
SJG	**San Juan**	**57.93**	**236**	LR	LR	18 55 10.4	
	comp=Z,54nm,18.7s,baz=229,slow=34						

*BJI **06** 18:23:51.6, 828S×13057E, h38km, mB5.0, mb4.8, Ms4.8, Msz4.2*

*IDC **06** 18:23:51.1±0.7, 786S×13040E, h0km, mb4.5/9, mb1 4.7/13, mb1mx4.6/17, mbtmp4.6/13, ML4.9/4, MS3.5/1, Ms1 3.5/1, ms1mx2.9/32, Error ellipse: s-maj=36.8km s-min=13.4km az=79.0*

*NEIC **06** 18:23:52.8±0.4, 792S×13032E, h10km, mb4.9/18, Error ellipse: s-maj=14.0km s-min=6.1km az=71.0*

*MOS **06** 18:23:53.8±1.4, 794S×13043E, h33km, mb4.9/13, Error ellipse: s-maj=19.9km s-min=7.9km az=110.6*

*ISCJB **06** 18:23:54.1±0.9, 799S±004×13051E±005, h38km±8km, mb4.8/53, MS4.1/7, Error ellipse: s-maj=9.3km s-min=5.7km az=154.9*

ISC 06 18:23:56.5±0.7, 799S±004×13041E±005, h37km±7km, h14km±5.8km: pP-P, n110, σ1§28/121, mb4.8/53, MS4.1/7, 3C-4D, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TLE	**Tual**	**3.28**	**45**	P	**Pn**	**18 24 52.4**	**+7.0**
	2μm,1.0s						
AAI	**Ambon**	**4.81**	**333**	P	**Pn**	**18 25 08.1**	**+1.7**
	272nm,0.5s						
KAKA	**Kakadu**	**5.10**	**157** ⇊	*i*P	**Pn**	**18 25 12.8**	**+2.4**
	136nm,0.2s						
KAKA				*e*S	**Sn**	**18 26 08.4**	**+0.4**
BATI	**Kupang**	**7.02**	**251**	Pn	**Pn**	**18 25 40.5**	**+3.6**
	45nm,0.3s,baz=96,slow=2.1,SNR=84						
BATI				Sn	**Sn**	**18 26 54.2**	**-1.2**
	31nm,0.3s,baz=6.3,slow=12,SNR=4.2						
BAKI	**Biak**	**8.82**	**40**	P	**Pn**	**18 26 03.0**	**+1.5**
	335nm,0.8s						
WSI	**Waingapu**	**10.14**	**260**	P	**Pn**	**18 26 21.9**	**+2.3**
	1μm,0.6s						
FITZ	**Fitzroy Crossi**	**11.07**	**204**	*e*P	**Pn**	**18 26 32.1**	**-0.3**
	158nm,0.4s						
FITZ				*e*S	**Sn**	**18 28 26.5**	**-8.5**
FITZ	**Fitzroy Crossi**	**11.07**	**204**	Pn	**Pn**	**18 26 32.3**	**-0.1**
	21nm,0.3s,baz=32,slow=13,SNR=314						
FITZ				Sn	**Sn**	**18 28 28.6**	**-6.4**
	8.6nm,0.3s,baz=240,slow=17,SNR=8.5						
WRAB	**Tennant Creek**	**12.47**	**163**	*e*Pn	**Pn**	**18 26 49.5**	**-2.0**
	270nm,2.6s						
WRAB				*e*Sn	**Sn**	**18 29 02.8**	**-6.4**
WRAB	**Tennant Creek**	**12.47**	**163**	*e*P	**Pn**	**18 26 49.5**	**-2.0**
WRAB				*e*		18 29 02.8	
WRAB				pmax	pmax		
	comp=Z,270nm,2.6s						
WRA	**Warramunga Arr**	**12.48**	**163**	*i* P	**Pn**	**18 26 49.5**	**-2.1**
WRA				pmax	pmax		
	comp=Z,25nm,0.4s						
WRA	**Warramunga Arr**	**12.48**	**163**	Pn	**Pn**	**18 26 50.3**	**-1.2**
	comp=Z,9.5nm,0.3s,baz=346,slow=13,SNR=132						
WRA				Sn	**Sn**	**18 29 01.9**	**-7.4**
	comp=Z,15nm,0.3s,baz=342,slow=23,SNR=20						
WB2	**Warramunga Arr**	**12.48**	**163** ⇊	*i*P	**Pn**	**18 26 49.5**	**-2.1**
WB2				*e*S	**Sn**	**18 28 59.3**	**-10**
ASAR	**Alice Springs**	**15.94**	**168**	Pn	**Pn**	**18 27 36.5**	**-1.5**
	comp=Z,5.7nm,0.3s,baz=339,slow=9.0,SNR=312						
ASAR				Sn	**Sn**	**18 30 25.6**	**-8.2**
	comp=Z,2.6nm,0.3s,baz=354,slow=26,SNR=7.3						
MBWA	**Marble Bar**	**16.67**	**217**	*e*P	**Pn**	**18 27 45.8**	**-1.5**
	comp=Z,34nm,0.9s						
MBWA				*e*Sn	**Sn**	**18 30 39.8**	**-12**
CTA	**Charters Tower**	**19.49**	**130**	*e*P	**Pn**	**18 28 23.5**	**+1.6**
	comp=Z,9.3nm,0.8s						
CTA	**Charters Tower**	**19.49**	**130**	*e*P	**Pn**	**18 28 23.5**	**+1.6**
CTA				pmax	pmax		
	comp=Z,9.0nm,0.8s						
CTA	**Charters Tower**	**19.49**	**130**	P	**Pn**	**18 28 22.1**	**+0.3**
	comp=Z,0.5nm,0.3s,baz=315,slow=12,SNR=7.7						
CTA				S	**S**	**18 31 50.8**	**-8.0**
	comp=Z,0.6nm,0.3s,baz=194,slow=23,SNR=2.7						
CTAO	**Charters Tower**	**19.49**	**130**	*e*P	**Pn**	**18 28 23.6**	**+1.7**
	comp=Z,18nm,0.9s						
CTAO	**Charters Tower**	**19.49**	**130**	*e*P	**Pn**	**18 28 23.6**	**+1.7**
CTAO				pmax	pmax		
	comp=Z,18nm,0.9s						
KKM	**Kota Kinabalu**	**19.87**	**314**	*e*P	**Pn**	**18 28 23.7**	**-2.8**
KSM	**Kuching**	**22.14**	**294**	*e*P	**P**	**18 28 47.7**	**-1.5**
LEM	**Lembang**	**22.64**	**271**	P	**P**	**18 28 55.8**	**+1.4**
	comp=Z,45nm,0.9s,mb4.9						
FORT	**Forrest**	**22.78**	**185**	*e*P	**P**	**18 28 56.8**	**+1.1**
	comp=Z,50nm,0.5s,mb5.2						
TPI	**Tanjungpandan**	**23.24**	**282**	P	**P**	**18 29 02.9**	**+2.1**
	comp=Z,22nm,0.9s,mb4.6						
CBJI	**Citeko**	**23.43**	**272**	P	**P**	**18 29 02.0**	**-0.7**
	comp=Z,93nm,0.9s,mb5.2						
STKA	**Stephens Creek**	**25.95**	**158** ⇊	*i*P	**P**	**18 29 26.9**	**+1.5**
	comp=Z,30nm,1.0s,mb4.8						
STKA	**Stephens Creek**	**25.95**	**158**	P	**P**	**18 29 27.0**	**+1.6**
	comp=Z,11nm,0.4s,mb4.7,baz=324,slow=9.1,SNR=38						
KLBR	**Kellerberrin**	**26.28**	**205**	*e*P	**P**	**18 29 29.0**	**+0.6**
	comp=Z,12nm,0.6s,mb4.6						
KLBR				*e*S	S	18 34 23.4	+25
MUN	**Mundaring**	**27.29**	**207**	*e*P	**P**	**18 29 39.3**	**+1.8**
MUN				*e*S	S	18 34 43.6	+29
NWAO	**Narrogin (SRO)**	**27.66**	**204**	*e*P	**P**	**18 29 42.2**	**+1.4**
	comp=Z,14nm,1.2s,mb4.5						
NWAO	**Narrogin (SRO)**	**27.66**	**204**	*e*P	**P**	**18 29 42.2**	**+1.4**
NWAO				pmax	pmax		
	comp=Z,14nm,1.2s						
NWAO	**Narrogin (SRO)**	**27.66**	**204**	P	**P**	**18 29 42.7**	**+1.9**
	comp=Z,3.5nm,0.7s,mb4.1,baz=23,slow=15,SNR=8.4						
NWAO				LR	LR	18 42 09.4	
	comp=Z,90nm,20.6s,MS3.3,baz=56,slow=40						
GYA	**Guiyang**	**41.28**	**327**	P	**P**	**18 31 39.4**	**+1.0**
GYA				AP	pP	18 31 43.8	-5.3
GYA				PP	PP	18 33 19.5	+5.3
GYA				PCP	PcP	18 33 39.6	+2.9
GYA				S	**S**	**18 37 54.6**	**+4.5**
GYA				SS	SS	18 40 52.0	-2.7
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.5						
GYA				AMB	AMB		
	comp=Z,110nm,4.9s						
GYA				LR	LR		
	comp=N,460nm,18.6s,MS4.6						
GYA				LR	LR		
	comp=E,540nm,17.2s,MS4.6						
GYA				LR	LR		
	comp=Z,490nm,18.8s,MS4.4						
NJ2	**Nanjing**	**41.32**	**345**	*e*P	**P**	**18 31 38.1**	**-0.5**
NJ2				AMB	AMB		
	comp=Z,40nm,1.0s,mb5.0						
KMI	**Kunming**	**42.54**	**321**	P	**P**	**18 31 50.4**	**+1.7**
KMI				AMB	AMB		
	comp=Z,3.0nm,0.7s,mb4.1						
MJAR	**Matsushiro Arr**	**44.90**	**9**	P	**P**	**18 32 05.7**	**-1.7**
	comp=Z,1.8nm,0.7s,mb4.0,baz=182,slow=8.7,SNR=5.5						
KSRS	**Korea Array**	**45.26**	**357**	P	**P**	**18 32 09.7**	**-0.7**
	comp=Z,0.6nm,0.7s,mb3.6,baz=176,slow=8.9,SNR=4.9						
CD2	**Chengdu**	**46.35**	**328**	*e*P	**P**	**18 32 20.1**	**+1.0**
CD2				AP	pP	18 32 24.6	-5.4
CD2				S	**S**	**18 39 06.5**	**+2.5**
CD2				SS	SS	18 42 24.6	-5.6
CD2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb5.0						
CD2				AMB	AMB		
	comp=Z,20nm,5.0s						
CD2				LR	LR		
	comp=N,510nm,13.1s						
CD2				LR	LR		
	comp=Z,110nm,14.3s,MS4.0						
XAN	**Xi'an**	**46.50**	**335**	P	**P**	**18 32 18.0**	**-2.2**
XAN				AP	pP	18 32 26.6	-4.5
XAN				AMB	AMB		
	comp=Z,6.0nm,0.9s,mb4.5						
BJI	**Beijing**	**49.57**	**346**	P	**P**	**18 32 42.5**	**-1.3**
BJI				AMB	AMB		
	comp=Z,13nm,0.8s,mb5.0						
LZH	**Lanzhou**	**50.47**	**332**	*e*P	**P**	**18 32 50.0**	**-0.7**
LZH				*e*PP	PP	18 34 46.5	-0.2
LZH				AMB	AMB		
	comp=Z,21nm,1.4s,mb5.0						
LZH				AMB	AMB		
	comp=Z,62nm,6.8s						
LZH				LR	LR		
	comp=E,476nm,15.4s						
LZH				LR	LR		
	comp=Z,613nm,18.7s,MS4.6						
HHC	**Hu-ho-hao-te**	**51.60**	**342**	*e*P	**P**	**18 33 00.5**	**+1.4**
HHC				AP	pP	18 33 05.1	-5.1
HHC				PCP	PcP	18 34 15.3	+2.7
HHC				PP	PP	18 34 56.8	-0.2
HHC				SCP	ScP	18 38 07.1	+0.5
HHC				PCS	PcS	18 38 13.1	+2.7
HHC				S	**S**	**18 40 14.3**	**-3.2**
HHC				SCS	ScS	18 42 46.6	+0.1
HHC				SS	SS	18 43 56.1	+1.7
HHC				AMB	AMB		
	comp=Z,22nm,0.5s,mb5.3						
HHC				AMB	AMB		
	comp=Z,142nm,5.1s						
HHC				LR	LR		
	comp=N,117nm,11.0s						
HHC				LR	LR		
	comp=E,124nm,5.7s						
HHC				LR	LR		
	comp=Z,92nm,10.0s,MS4.1						
CN2	**Changchun**	**51.74**	**355**	*e*P	**P**	**18 33 02.9**	**+2.8**
CN2				*e*XP	sP	18 33 10.0	-5.5
CN2				*e*S	**S**	**18 40 21.8**	**+2.5**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.8						
CN2				LR	LR		
	comp=N,200nm,12.0s,MS4.4						
CN2				LR	LR		
	comp=E,100nm,12.0s,MS4.4						
CN2				LR	LR		
	comp=Z,200nm,15.0s,MS4.3						
MDJ	**Mudanjiang**	**52.37**	**359**	P	**P**	**18 33 06.4**	**+1.7**
MDJ				AMB	AMB		
	comp=Z,4.0nm,1.5s,mb4.1						
MDJ				AMB	AMB		
	comp=Z,48nm,5.8s						
LSA	**Lhasa**	**53.19**	**317**	P	**P**	**18 33 10.9**	**-0.2**
LSA	**Lhasa**	**53.19**	**317**	*e*P	**P**	**18 33 10.7**	**-0.5**
	comp=Z,3.8nm,0.6s,mb4.5						
LSA	**Lhasa**	**53.19**	**317**	*e*P	**P**	**18 33 10.7**	**-0.4**
LSA				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.5						
GTA	**Gaotai**	**55.03**	**331**	*e*P	**P**	**18 33 23.9**	**-0.5**
GTA				PCP	PcP	18 34 25.6	-0.1
GTA				PP	PP	18 35 28.9	+1.0
GTA				S	**S**	**18 41 05.5**	**+1.4**
GTA				SCS	ScS	18 43 09.7	-1.0
GTA				SS	SS	18 44 48.0	-0.6
GTA				AMB	AMB		
	comp=Z,6.0nm,1.0s,mb4.6						
GTA				AMB	AMB		
	comp=Z,108nm,5.7s						
GTA				LR	LR		
	comp=N,107nm,7.3s						
GTA				LR	LR		
	comp=E,115nm,10.7s						
GTA				LR	LR		
	comp=Z,67nm,13.4s,MS3.9						
JIRN	**Jiri**	**55.54**	**311**	*e*P	**P**	**18 33 27.4**	**-0.9**
	comp=Z,5.3nm,0.3s,mb5.1						
KKN	**Kakani**	**56.29**	**311**	*e*P	**P**	**18 33 32.3**	**-1.3**
	comp=Z,8.0nm,0.5s,mb5.0						
HABR	**Khabarovsk**	**56.37**	**4**	*e*P	**P**	**18 33 29.8**	**-3.9**
HABR				*e*		18 35 35.6	
HABR				*e*S	**S**	**18 41 19.4**	**-2.2**
HABR				*e*SS	SS	18 45 07.7	-1.6
HABR				pmax	pmax		
	comp=Z,12nm,1.3s,mb4.8						
GKN	**Gorkha**	**56.89**	**311**	*e*P	**P**	**18 33 36.7**	**-1.2**
	comp=Z,23nm,0.4s,mb5.5						
KLR	**Kul'dur**	**56.99**	**1**	*e*P	**P**	**18 33 42.5**	**+4.4**
KOLN	**Koldanda**	**57.55**	**310**	*e*P	**P**	**18 33 41.5**	**-1.0**
	comp=Z,14nm,0.6s,mb5.2						
SONM	**Songino Array**	**59.50**	**341**	P	**P**	**18 33 56.2**	**+0.4**
	comp=Z,2.8nm,0.6s,mb4.5,baz=160,slow=7.4,SNR=43						
ZAK	**Zakamensk**	**62.73**	**341**	*e*	**P**	**18 34 16.5**	**-1.1**
ZAK				*e*		18 34 55.5	
TLY	**Talaya**	**63.74**	**342**	*e*P	**P**	**18 34 24.6**	**+0.4**
	comp=Z,1.9nm,0.6s,mb4.3						
TLY	**Talaya**	**63.74**	**342**	*e*P	**P**	**18 34 25.3**	**+1.1**
TLY				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.3						
WMQ	**Urumqi**	**64.44**	**327** ⇈	*i*P	**P**	**18 34 29.4**	**+0.4**
WMQ				AMB	AMB		
	comp=Z,25nm,0.7s,mb5.3						
WMQ				AMB	AMB		
	comp=Z,188nm,4.4s						
MOY	**Mondy**	**64.58**	**340**	*e*P	**P**	**18 34 30.8**	**+1.0**
BOD	**Bodaibo**	**66.93**	**351**	*e*P	**P**	**18 34 43.6**	**-1.2**
BOD				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.3						
MK31	**Makanchi Array**	**69.27**	**327**	*e*P	**P**	**18 34 59.6**	**-0.1**
MK31	**Makanchi Array**	**69.27**	**327**	*i* P	**P**	**18 34 59.4**	**-0.3**
MK31				pmax	pmax		
	comp=Z,28nm,0.6s,mb5.4						
MKAR	**Makanchi Array**	**69.27**	**327**	*i* P	**P**	**18 34 59.7**	**0.0**
MKAR				pmax	pmax		
	comp=Z,28nm,0.5s						
MKAR	**Makanchi Array**	**69.27**	**327**	P	**P**	**18 34 59.8**	**+0.1**
	comp=Z,28nm,0.5s,mb5.4,baz=116,slow=8.1,SNR=405						
YAK	**Yakutsk**	**69.81**	**360**	*e*P	**P**	**18 35 02.5**	**-0.2**
YAK				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.7						
KZA	**Kyzart**	**70.79**	**320**	P	**P**	**18 35 10.7**	**+1.6**
	SNR=15						
TKM2	**Tokmak 2**	**71.00**	**321**	*e*P	**P**	**18 35 10.9**	**+0.4**
	comp=Z,16nm,1.0s,mb4.9						
TKM2	**Tokmak 2**	**71.00**	**321**	*e*P	**P**	**18 35 10.9**	**+0.5**
TKM2				pmax	pmax		
	comp=Z,16nm,1.0s,mb4.9						
TKM2	**Tokmak 2**	**71.00**	**321**	P	**P**	**18 35 11.1**	**+0.6**
	SNR=12						
KBK	**Karagaybulak**	**71.28**	**320**	P	**P**	**18 35 13.2**	**+1.1**
	SNR=6.0						
UCH	**Uchtor**	**71.34**	**320**	*e*P	**P**	**18 35 13.8**	**+1.3**
	comp=Z,16nm,0.9s,mb4.9						
UCH	**Uchtor**	**71.34**	**320**	P	**P**	**18 35 13.6**	**+1.1**
	SNR=18						
VNDA	**Vanda**	**71.42**	**173**	P	**P**	**18 35 13.8**	**+1.4**
VNDA	**Vanda**	**71.42**	**173**	P	**P**	**18 35 13.8**	**+1.4**
	comp=Z,2.0nm,0.6s,mb4.3,baz=316,slow=6.8,SNR=9.1						
AAK	**Ala-Archa**	**71.56**	**320**	P	**P**	**18 35 14.4**	**+0.6**

comp=Z,3.3nm,1.0s,baz=48,slow=7.2,SNR=5.0
CLL Collm 113.19 323 *e*PKP PKiKP 18 42 27.0 -2.9
CLL *e*PP PP 18 43 12.0 -8.0
TORD Torodi Ar. Bea 129.40 280 PKP PKPdf 18 43 01.8 -0.3
comp=Z,1.1nm,0.6s,baz=50,slow=1.9,SNR=10.0
DBIC Dimbokro 135.63 271 PKP PKPdf 18 43 14.3 +0.4
DBIC Dimbokro 135.63 271 PKP PKPdf 18 43 14.3 +0.4
comp=Z,3.5nm,1.1s,baz=262,slow=5.2,SNR=4.2

IDC 06 18:31:42.6±0.8, 679S×15471E, h0km, mb4.3/12, mb1 4.4/12, mb1mx4.4/15, mbtmp4.2/12, MS4.3/2, Ms1 4.3/2, ms1mx3.8/28, Error ellipse: s-maj=31.3km s-min=17.6km az=116.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.81**	**117**	Pn	Pn	18 33 04.4	-5.7
	12nm,0.3s,baz=82,slow=23,SNR=6.8						
HNR				Sn	Sn	18 34 31.4	+14
	11nm,0.3s,baz=279,slow=14,SNR=3.5						
CTA	**Charters Tower**	**15.56**	**211**	LR	LR	18 40 19.1	
	comp=Z,853nm,18.7s,baz=32,slow=33						
WRA	**Warramunga Arr**	**23.70**	**235**	P	P	18 36 56.0	-0.5
	8.7nm,0.7s,baz=58,slow=9.6,SNR=26						
WRA				PcP	PcP	18 40 41.2	+0.3
	0.7nm,0.5s,baz=56,slow=2.5,SNR=4.7						
WRA				LR	LR	18 45 59.9	
	comp=Z,768nm,18.8s,baz=70,slow=36						
ASAR	**Alice Springs**	**26.10**	**228**	P	P	18 37 17.6	-0.6
	4.7nm,0.8s,baz=64,slow=9.1,SNR=9.9						
ASAR				ScP	ScP	18 44 26.8	-0.6
	0.9nm,0.9s,baz=56,slow=2.3,SNR=6.1						
STKA	**Stephens Creek**	**27.80**	**204**	P	P	18 37 34.6	+1.1
	12nm,0.9s,baz=40,slow=18,SNR=3.7						
FITZ	**Fitzroy Crossi**	**30.48**	**246**	P	P	18 37 57.5	0.0
	3.9nm,0.5s,baz=77,slow=9.3,SNR=10						
KSRS	**Korea Array**	**50.62**	**332**	P	P	18 40 43.0	-0.4
	1.6nm,1.1s,baz=89,slow=29,SNR=3.3						
SONM	**Songino Array**	**69.01**	**327**	P	P	18 42 51.1	+1.2
	1.1nm,0.8s,baz=146,slow=4.3,SNR=11						
MKAR	**Makanchi Array**	**83.06**	**319**	P	P	18 44 10.7	+0.6
	0.6nm,0.6s,baz=104,slow=6.9,SNR=9.9						
ZALV	**Zalesovo Beam**	**83.85**	**326**	P	P	18 44 13.0	-1.0
	0.7nm,0.5s,baz=128,slow=6.1,SNR=4.9						
MAW	**Mawson**	**84.48**	**203**	P	P	18 44 17.5	+0.5
	6.5nm,1.1s,baz=229,slow=5.1,SNR=3.8						
INK	**Inuvik**	**89.63**	**21**	P	P	18 44 41.7	-0.2
	1.1nm,0.5s,baz=283,slow=9.2,SNR=4.6						
NVAR	**Mina Array Bea**	**91.81**	**52**	P	P	18 44 53.3	+0.5
	0.4nm,0.6s,baz=238,slow=4.2,SNR=5.8						
YKA	**Yellowknife Ar**	**96.28**	**28**	P	P	18 45 12.6	-0.1
	0.9nm,0.5s,baz=266,slow=4.5,SNR=14						
AKASG	**Malin Array Be**	**117.21**	**324**	PKP	PKPdf	18 50 29.0	-0.8
	0.3nm,0.4s,baz=58,slow=2.0,SNR=5.2						
GERES	**GERESS Array B**	**126.73**	**329**	PKP	PKPdf	18 50 49.0	+0.8
	0.4nm,0.5s,baz=64,slow=3.1,SNR=4.9						
BDFB	**Brasilia**	**148.33**	**135**	PKPbc	PKPbc	18 51 30.2	-1.7
	3.8nm,0.8s,baz=20,slow=6.4,SNR=3.6						
TORD	**Torodi Ar. Bea**	**152.70**	**285**	PKPbc	PKPbc	18 51 41.9	-0.6
	4.2nm,0.9s,baz=49,slow=1.9,SNR=13						
TORD				PKPab	PKPab	18 51 52.4	-0.6
	4.8nm,0.9s,baz=60,slow=1.8,SNR=9.5						

*IDC **06** 18:34:59.6±2.5, 4377N×10523W, h0km, mb1 3.3/3, mb1mx3.1/23, mbtmp3.0/3, ML3.0/3, Error ellipse: s-maj=68.6km s-min=9.1km az=151.0*
*ISCJB **06** 18:35:00.0±0.7, 44.15N±004×10505W±008, h0km, Error ellipse: s-maj=8.3km s-min=6.2km az=14.1*
*NEIC **06** 18:35:02.2±0.7, 44.18N×10520W, h0km, ML2.9, Error ellipse: s-maj=9.8km s-min=8.6km az=151.0, Suspected Mining explosion.*
NEIC 25 km [15 miles] ESE of Gillette.

ISC 06 18:35:01.6±0.6, 4408N±004×10516W±007, h0km, n21, σ1§44/33, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**0.81**	**87**	*e*P	**Pg**	**18 35 19.7**	**+2.6**
LAO	**LASA Array**	**2.71**	**344**	*e*Pn	**Pn**	**18 35 45.0**	**-1.4**
LAO				*e*Sn	**Sn**	**18 36 20.5**	**+0.7**
PHWY	**Pilot Hill**	**2.79**	**185**	*e*Pn	**Pn**	**18 35 49.1**	**+1.7**
PHWY				*e*Sn	**Sn**	**18 36 18.6**	**-3.2**
RWWY	**Rawlins**	**2.83**	**213**	*e*Pn	**Pn**	**18 35 49.1**	**+1.2**
RLMT	**Red Lodge**	**3.11**	**291**	*e*Pn	**Pn**	**18 35 50.4**	**-1.4**
RLMT				*e*Pg	**Pg**	**18 36 05.1**	**+4.0**
RLMT				*e*Sn	**Sn**	**18 36 30.8**	**+1.1**
BW06	**Boulder Array**	**3.46**	**249**	*e*Pn	**Pn**	**18 35 56.4**	**-0.3**
BW06				*e*Sn	**Sn**	**18 36 43.9**	**+5.6**
PDAR	**Pinedale Array**	**3.46**	**249**	Pn	**Pn**	**18 35 56.1**	**-0.6**
PDAR				Pg	**Pg**	**18 36 02.8**	**-5.1**
PDAR				Sn	**Sn**	**18 36 37.2**	**-1.1**
PDAR				Lg		18 36 43.2	
PDAR	**Pinedale Array**	**3.46**	**249**	Pn	**Pn**	**18 35 56.1**	**-0.6**
	0.8nm,0.3s,baz=68,slow=15,SNR=26						
PDAR				Pg	**Pg**	**18 36 02.8**	**-5.1**
	2.7nm,0.3s,baz=59,slow=19,SNR=32						
PDAR				Sn	**Sn**	**18 36 37.2**	**-1.1**
	1.3nm,0.3s,baz=265,slow=33,SNR=4.8						
PDAR				Lg		18 36 43.2	
	7.7nm,0.3s,baz=70,slow=33,SNR=13						
GCMT	**Greycliff**	**3.62**	**300**	*e*Pn	**Pn**	**18 35 57.6**	**-1.3**
LOHW	**Long Hollow**	**3.96**	**265**	*e*Pn	**Pn**	**18 36 10.1**	**+6.5**
FLWY	**Flagg Ranch**	**3.99**	**272**	*e*Pn	**Pn**	**18 36 03.7**	**-0.2**
MOOW	**Moose Ponds**	**4.05**	**267**	*e*Pn	**Pn**	**18 36 12.2**	**+7.4**
SNOW	**Snow King Moun**	**4.10**	**263**	*e*Pn	**Pn**	**18 36 12.9**	**+7.5**
IMW	**Indian Meadow**	**4.17**	**269**	*e*Pn	**Pn**	**18 36 09.1**	**+2.7**
REDW	**Red Top Meadow**	**4.18**	**262**	*e*Pn	**Pn**	**18 36 10.5**	**+3.9**
TPAW	**Teton Pass**	**4.23**	**264**	*e*Pn	**Pn**	**18 36 08.8**	**+1.5**
ISCO	**Idaho Springs**	**4.29**	**185**	*e*Pn	**Pn**	**18 36 09.2**	**+1.1**
ISCO				*e*Pg	**Pg**	**18 36 21.2**	**-2.7**
ISCO				*e*S	**Sg**	**18 37 16.5**	**-2.9**
DGMT	**Dagmar**	**4.44**	**8**	*e*Pn	**Pn**	**18 36 08.7**	**-1.4**
DGMT				*e*S	**Sg**	**18 37 17.2**	**-6.9**
EGMT	**Eagleton**	**5.07**	**323**	*e*Pn	**Pn**	**18 36 18.9**	**+0.1**
ULM	**Lac du Bonnet**	**8.83**	**42**	Pn	**Pn**	**18 37 09.8**	**-0.5**
	0.5nm,0.3s,baz=234,slow=13,SNR=6.9						
YKA	**Yellowknife Ar**	**19.25**	**347**	P	**Pn**	**18 39 27.9**	**-0.2**
	0.1nm,0.3s,baz=153,slow=14,SNR=4.4						

MAN 06 18:39:11, 948N×12249E, h1km, mb3.7, ML2.4, MS2.0, Negros

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNPH	**Sibulan**	**0.75**	**100**	*i* P	Pg	18 39 25.5	0.0
SNPH				*i* S	Sg	18 39 32.5	-2.7
GUIM	**Jordan**	**1.14**	**5**	*e*P	Pg	18 39 34.2	+1.2
GUIM				*e*S	Sg	18 39 49.9	+2.0
PAGZ	**Pagadian**	**1.85**	**151**	*e*P	Pn	18 39 45.1	+1.3
MSLP	**Maasin**	**2.43**	**74**	*e*P	Pn	18 39 53.6	+1.7

IDC 06 18:41:13.9±1.6, 043N×12526E, h0km, mb4.0/4, mb1 4.2/4, mb1mx3.7/15, mbtmp4.0/4, Error ellipse: s-maj=171.6km s-min=22.7km az=63.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.11**	**157**	P	P	18 46 10.4	-0.6
	13nm,0.8s,baz=335,slow=12,SNR=24						
WB2	**Warramunga Arr**	**22.12**	**157**	*e*P	P	18 46 10.0	-1.1
ASAR	**Alice Springs**	**25.38**	**161**	P	P	18 46 43.9	+0.9
	2.0nm,0.3s,baz=346,slow=12,SNR=49						
STKA	**Stephens Creek**	**35.66**	**156**	P	P	18 48 13.5	-0.4
	2.8nm,0.8s,baz=326,slow=9.4,SNR=7.4						
MKAR	**Makanchi Array**	**59.46**	**327**	P	P	18 51 18.6	0.0
	0.3nm,0.4s,baz=119,slow=7.2,SNR=8.5						

*ORF **06** 18:48:03.1, 1443S×15830E, h30km, mb6.2*
*CRAAG **06** 18:48:10.8, 688S×15574E, Mw5.9*
*MOS **06** 18:48:15.1±1.1, 694S×15577E, h33km, mb6.1/60, MS5.2/45, Error ellipse: s-maj=19.7km s-min=10.2km az=118.7*
*BJI **06** 18:48:16.1, 681S×15600E, h47km, mB5.8, mb5.6, Ms5.2, Msz5.2*
*ISCJB **06** 18:48:16.4±0.1, 701S±002×15574E±002, h43km, mb5.9/143, MS5.4/220, Error ellipse: s-maj=3.4km s-min=2.8km az=21.3*
*NEIC **06** 18:48:17.6±0.1, 695S×15577E, h44km, mb5.9/70, ME5.5, MS5.5/169, MW5.9, Error ellipse: s-maj=3.8km s-min=3.5km az=104.0 Broadband fault plane solution: P waves. NP1:φs135.00000°, δ50.00000°, λ90.00000°. NP2:φs315.00000°, δ40.00000°, λ90.00000°. Principal axes: T Plg85.0000°, Azm45.0000°; N Plg0.0000°, Azm0.0000°; P Plg5.0000°, Azm225.0000°; Moment Tensor Solution. s34 Moment tensor: Scale 1017 Nm; Mrr7.18; Mθθ-2.13; Mφφ-5.06; Mrθ-1.67; Mθφ5.20; Mφr-1.28; Best double couple: M0 8.40000×1017 NP1:φs305.00000°, δ48.00000°, λ64.00000°. NP2:φs161.00000°, δ48.00000°, λ116.00000°. Principal axes: T 7.9100, Plg71.0000°, Azm143.0000°; N 1.0900, Plg19.0000°, Azm323.0000°; P -8.9900, Plg0.0000°, Azm233.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*
*GCMT **06** 18:48:17.6±0.1, 7.15S×15582E, h53km, MW5.8/108, Moment Tensor Solution. s108,c209; s107,c296; Duration: 29 Moment tensor: Scale 1017Nm; Mrr6.70±.07; Mθθ-4.81±.06; Mφφ-1.89±.06; Mrθ-0.92±.06; Mθφ4.14±.05; Mφr-0.36±.06; Best double couple: M0 7.29900×1017 NP1:φs133.00000°, δ43.00000°, λ102.00000°. NP2:φs297.00000°, δ48.00000°, λ79.00000°. Principal axes: T 6.8370, Plg82.0000°, Azm140.0000°; N 0.9240, Plg8.0000°, Azm305.0000°; P -7.7610, Plg2.0000°, Azm35.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
*IDC **06** 18:48:18.8±1.0, 701S×15573E, h52km±7km, mb5.5/27, mb1 5.4/29, mb1mx5.4/29, mbtmp5.5/29, MS5.1/25, Ms1 5.1/25, ms1mx5.0/29 Error ellipse: s-maj=8.9km s-min=8.4km az=50.0*

ISC 06 18:48:18.2±0.1, 701S±002×15577E±002, h45km, h45km±1.7km: pP-P, n1119, σ0§81/515, mb5.9/143, MS5.4/220, 157C-117D, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.78**	**120**	*e*Pn	**Pn**	**18 49 30.5**	**+2.8**
HNR				*e*Sn	**Sn**	**18 50 27.1**	**+5.2**
HNR	**Honiara**	**4.78**	**120**	P	**Pn**	**18 49 30.5**	**+2.8**
HNR				S	**Sn**	**18 50 25.3**	**+3.4**
HNR				pmax	pmax		
	comp=Z,166nm,0.3s						
HNR				smax			
	comp=N,377nm,0.3s						
HNR	**Honiara**	**4.78**	**120**	P	**Pn**	**18 49 30.5**	**+2.8**
	comp=N,166nm,0.3s,baz=254,slow=2.1,SNR=64						
HNR				S	**Sn**	**18 50 25.3**	**+3.4**
	comp=N,377nm,0.3s,baz=101,slow=15,SNR=4.5						
CTA	**Charters Tower**	**15.94**	**214**	*e*P	**Pn**	**18 52 01.4**	**+1.9**
	comp=N,76nm,0.8s						
CTA				*e*S	**S**	**18 55 05.0**	**-2.5**
CTA	**Charters Tower**	**15.94**	**214**	*e*P	**Pn**	**18 52 01.4**	**+1.9**
CTA				*e*S	**S**	**18 55 05.0**	**-2.5**
CTA				pmax	pmax		
	comp=Z,76nm,0.8s						
CTA	**Charters Tower**	**15.94**	**214**	P	**Pn**	**18 52 01.0**	**+1.5**
	comp=Z,3.3nm,0.3s,baz=33,slow=14,SNR=43						
CTA				LR	LR	18 56 04.0	
	comp=Z,6μm,21.3s,baz=48,slow=29						
CTAO	**Charters Tower**	**15.94**	**214**	*e*P	**Pn**	**18 52 02.0**	**+2.5**
	comp=Z,232nm,0.9s						
CTAO	**Charters Tower**	**15.94**	**214**	*e*P	**Pn**	**18 52 02.0**	**+2.5**
CTAO				pmax	pmax		
	comp=Z,230nm,0.9s						
DZM	**Mont Dzumac**	**18.17**	**147**	*e*P	**Pn**	**18 52 28.0**	**+0.8**
EIDS	**Eidsvold**	**18.79**	**193**	*e*P	**Pn**	**18 52 35.9**	**+1.1**
	comp=Z,59nm,0.8s						
EIDS				*e*PcP	PcP	18 56 59.5	-0.5
GUMO	**Guam**	**23.16**	**332**	*e*P	**P**	**18 53 21.9**	**+1.0**
	comp=Z,1μm,1.4s,mb6.1						
GUMO				LR	LR		
	comp=Z,4μm,21.0s,MS4.9						
GUMO	**Guam**	**23.16**	**332**	P	**P**	**18 53 21.2**	**+0.2**
GUMO				pmax	pmax		
	comp=Z,100nm,0.9s,mb5.2						
GUMO				MLR	MLR		
	comp=Z,4μm,21.8s,MS4.8						
GUMO	**Guam**	**23.16**	**332**	P	**P**	**18 53 21.2**	**+0.3**
	comp=Z,100nm,0.9s,mb5.2,baz=126,slow=8.7,SNR=3.0						
GUMO				LR	LR	19 01 13.7	
	comp=Z,4μm,21.8s,MS4.8,baz=147,slow=34						
FUNA	**Funafuti**	**23.26**	**95**	*e*P	**P**	**18 53 21.1**	**-1.0**
	comp=Z,1μm,1.6s,mb6.1						
FUNA				LR	LR		
	comp=Z,8μm,20.0s,MS5.2						
ARMA	**Armidale**	**23.61**	**189**	*e*P	**P**	**18 53 25.8**	**+0.7**
ARMA				*e*PCP	PcP	18 57 10.4	+1.2
ARMA				*i* S	**S**	**18 57 38.9**	**+2.6**
KAKA	**Kakadu**	**23.66**	**254**	⇑*i* P	**P**	**18 53 25.9**	**0.0**
	comp=Z,1μm,1.2s,mb6.2						
WRAB	**Tennant Creek**	**24.43**	**236**	P	**P**	**18 53 33.0**	**+0.2**
	comp=Z,2μm,0.7s,mb6.6						
WRAB	**Tennant Creek**	**24.43**	**236**	*e*P	**P**	**18 53 33.2**	**+0.4**
	comp=Z,326nm,1.0s,mb5.7						
WRAB				LR	LR		
	comp=Z,11μm,20.0s,MS5.3						
WRAB	**Tennant Creek**	**24.43**	**236**	*e*P	**P**	**18 53 33.2**	**+0.4**
WRAB				pmax	pmax		
	comp=Z,326nm,1.0s,mb5.7						
WRAB				MLR	MLR		
	comp=Z,11μm,20.0s,MS5.3						
WB2	**Warramunga Arr**	**24.43**	**236**	⇑*i* P	**P**	**18 53 33.6**	**+0.8**
WB2				*e*PCP	PcP	18 57 11.5	+0.4
WB2				*e*S	**S**	**18 57 50.0**	**+0.1**
WB2				*e*PCS	PcS	19 00 51.2	0.0
WB2				*e*SCS	ScS	19 04 33.2	-1.0
WRA	**Warramunga Arr**	**24.44**	**236**	P	**P**	**18 53 32.8**	**-0.1**
WRA				PcP	PcP	18 57 10.7	-0.5
WRA				S	**S**	**18 57 50.0**	**-0.1**
WRA				ScP	ScP	19 00 46.0	-0.4
WRA				LR	LR	19 03 03.9	
WRA	**Warramunga Arr**	**24.44**	**236**	P	**P**	**18 53 32.8**	**-0.1**
	comp=Z,239nm,0.9s,mb5.6,baz=59,slow=9.4,SNR=192						
WRA				PcP	PcP	18 57 10.7	-0.5
	comp=Z,100nm,0.9s,baz=56,slow=2.0,SNR=18						
WRA				S	**S**	**18 57 50.0**	**-0.1**
	comp=Z,10nm,1.0s,baz=56,slow=16,SNR=2.6						
WRA				ScP	ScP	19 00 46.0	-0.4
	comp=Z,19nm,0.8s,baz=54,slow=2.4,SNR=11						
WRA				LR	LR	19 03 03.9	
	comp=Z,9μm,19.3s,MS5.3,baz=55,slow=36						
WRA				PKiKP	PKiKP	19 04 51.6	-2.0
	comp=Z,2.3nm,0.6s,baz=340,slow=0.8,SNR=13						
ASAR	**Alice Springs**	**26.74**	**229**	P	**P**	**18 53 53.6**	**-0.1**
ASAR				PcP	PcP	18 57 16.5	+0.2
ASAR				S	**S**	**18 58 25.9**	**-0.6**
ASAR				ScP	ScP	19 00 53.3	+0.4
ASAR				ScS	ScS	19 04 39.0	-4.8
ASAR	**Alice Springs**	**26.74**	**229**	P	**P**	**18 53 53.7**	**0.0**
ASAR						18 57 16.5	
ASAR				S	**S**	**18 58 26.0**	**-0.5**
ASAR						19 04 39.0	
ASAR				pmax	pmax		
	comp=Z,51nm,0.9s						
ASAR				smax			
	comp=N,8.0nm,1.0s						
ASAR	**Alice Springs**	**26.74**	**229**	P	**P**	**18 53 53.6**	**-0.1**
	comp=N,51nm,0.9s,mb5.1,baz=58,slow=10.0,SNR=572						
ASAR				PcP	PcP	18 57 16.5	+0.2
	comp=N,80nm,0.9s,baz=60,slow=2.8,SNR=18						
ASAR				S	**S**	**18 58 26.0**	**-0.6**
	comp=N,7.6nm,1.0s,baz=48,slow=16,SNR=2.5						
ASAR				ScP	ScP	19 00 53.3	+0.4
	comp=N,19nm,0.8s,baz=46,slow=3.8,SNR=11						
ASAR				ScS	ScS	19 04 39.0	-4.8
	comp=N,4.5nm,1.0s,baz=40,slow=5.1,SNR=6.1						
ASAR				P3KP		19 27 34.1	
	comp=N,0.6nm,0.8s,baz=312,slow=1.7,SNR=4.2						
RIV	**Riverview**	**27.02**	**188**	*e*P	**P**	**18 53 57.2**	**+1.1**
STKA	**Stephens Creek**	**28.05**	**206**	*e*P	**P**	**18 54 04.9**	**-0.5**
	comp=N,40nm,0.6s,mb5.2						
STKA				*e*PCP	PcP	18 57 18.8	-0.5
STKA				*e*S	**S**	**18 58 43.0**	**-4.0**
STKA				*e*PCS	PcS	19 00 59.4	-2.1
STKA				*e*SCS	ScS	19 04 45.5	-3.8
STKA	**Stephens Creek**	**28.05**	**206**	P	**P**	**18 54 05.0**	**-0.4**
	comp=N,87nm,1.1s,mb5.3,baz=18,slow=9.2,SNR=42						
STKA				PcP	PcP	18 57 17.9	-1.4
	comp=N,88nm,0.9s,baz=356,slow=2.8,SNR=8.9						
STKA				LR	LR	19 05 11.1	
	comp=N,13μm,19.2s,MS5.5,baz=31,slow=36						
CNB	**Canberra Magne**	**28.77**	**191**	*e*P	**P**	**18 54 12.6**	**+0.8**
	comp=N,109nm,1.0s,mb5.5						
FITZ	**Fitzroy Crossi**	**31.35**	**247**	*e*P	**P**	**18 54 34.2**	**-0.6**
	comp=N,263nm,0.6s,mb6.2						
FITZ				*e*PCP	PcP	18 57 28.9	+0.9
FITZ				*e*S	**S**	**18 59 32.5**	**-6.6**
FITZ	**Fitzroy Crossi**	**31.35**	**247**	P	**P**	**18 54 34.8**	**0.0**
	comp=N,200nm,0.9s,mb6.0,baz=81,slow=8.7,SNR=269						
FITZ				PcP	PcP	18 57 27.2	-0.8
	comp=N,70nm,0.8s,baz=117,slow=2.7,SNR=7.2						
FITZ				LR	LR	19 07 34.7	
	comp=N,6μm,19.7s,MS5.2,baz=80,slow=37						
BATI	**Kupang**	**31.89**	**262**	P	**P**	**18 54 39.5**	**-0.1**
	comp=N,84nm,0.8s,mb5.6,baz=180,slow=1.0,SNR=19						
ADE	**Adelaide**	**31.95**	**207**	*e*P	**P**	**18 54 39.6**	**-0.2**
DAV	**Davao City (W)**	**33.21**	**294**	*e*P	**P**	**18 54 53.3**	**+2.2**
	comp=N,97nm,0.9s,mb5.7						
DAV				LR	LR		
	comp=Z,2μm,20.0s,MS4.8						
RAO	**Raoul Island**	**33.22**	**135**	*e*P	**P**	**18 54 50.7**	**-0.4**
	comp=Z,759nm,0.8s,mb6.7						
RAO				LR	LR		
	comp=Z,3μm,19.0s,MS5.0						
RAO	**Raoul Island**	**33.22**	**135**	P	**P**	**18 54 51.7**	**+0.6**
RAO						18 56 04.6	
RAO				pmax	pmax		
	comp=Z,276nm,0.3s,mb6.7						
RAO				pmax	pmax		
	comp=Z,665nm,0.3s,mb7.0						
RAO				MLR	MLR		
	comp=Z,2μm,21.5s,MS4.8						
RAO	**Raoul Island**	**33.22**	**135**	P	**P**	**18 54 51.7**	**+0.7**
	comp=Z,276nm,0.3s,mb6.7,baz=56,slow=23,SNR=7.6						
RAO				PP	PP	18 56 04.6	-2.2
	comp=Z,665nm,0.3s,baz=224,slow=23,SNR=4.4						
RAO				LR	LR	19 06 15.4	
	comp=Z,2μm,21.5s,MS4.8,baz=214,slow=32						
GSPH	**General Santos**	**33.40**	**292**	*e*P	**P**	**18 54 54.7**	**+2.0**
GSPH				*e*S	sP	18 55 14.4	+4.2
WCZ	**Waipu Caves**	**33.44**	**152**	PN	**P**	**18 54 53.4**	**+0.5**
SCPH	**Surigao**	**34.47**	**299**	⇑*e*P	**P**	**18 55 03.7**	**+1.6**
FORT	**Forrest**	**35.11**	**224**	⇑*i* P	**P**	**18 55 07.1**	**-0.3**
	comp=Z,217nm,0.6s,mb6.3						
FORT				*e*PCP	PcP	18 57 38.1	-0.2
MSLP	**Maasin**	**35.18**	**299**	*e*P	**P**	**18 55 07.3**	**-0.9**
PAGZ	**Pagadian**	**35.51**	**294**	*e*P	**P**	**18 55 12.5**	**+1.4**
OCLP	**Ormoc**	**35.83**	**300**	*e*P	**P**	**18 55 16.9**	**+3.1**
KAPI	**Kappang**	**35.87**	**271**	P	**P**	**18 55 13.8**	**-0.4**
	comp=Z,2μm,0.9s,mb7.0,SNR=79						
CBIJ	**Chichi jima**	**36.37**	**339**	P	**P**	**18 55 17.8**	**-0.5**
	comp=Z,93nm,0.6s,mb5.9,baz=329,slow=8.5,SNR=5.5						
TAU	**Tasmania Unive**	**36.52**	**190**	P	**P**	**18 55 20.2**	**+0.9**
	comp=Z,1μm,0.8s,mb6.9,SNR=22						
TAU	**Tasmania Unive**	**36.52**	**190**	*e*P	**P**	**18 55 20.6**	**+1.3**
	comp=Z,321nm,1.1s,mb6.1						
TAU				*e*PcP	PcP	18 57 42.4	+0.2
TAU				LR	LR		
	comp=Z,4μm,20.0s,MS5.2						
TAU	**Tasmania Unive**	**36.52**	**190**	P	**P**	**18 55 20.8**	**+1.5**
TAU				pmax	pmax		
	comp=Z,320nm,1.1s,mb6.1						
URZ	**Urewera**	**36.62**	**151**	P	**P**	**18 55 20.2**	**0.0**
	comp=Z,91nm,1.0s,mb5.5,baz=344,slow=5.4,SNR=17						
URZ				LR	LR	19 09 07.6	
	comp=Z,2μm,18.8s,MS5.0,baz=134,slow=34						
URZ	**Urewera**	**36.62**	**151**	PN	**P**	**18 55 20.2**	**0.0**
MWZ	**Matawai**	**36.88**	**151**	PN	**P**	**18 55 23.4**	**+1.0**
PUZ	**Puketiti**	**37.03**	**150**	PN	**P**	**18 55 23.2**	**-0.5**
BKZ	**Black Stump Fm**	**37.06**	**153**	PN	**P**	**18 55 23.4**	**-0.5**
DSZ	**Denniston Nort**	**37.40**	**160**	PN	**P**	**18 55 27.1**	**+0.2**
PVCP	**Virac**	**37.48**	**303**	*e*P	**P**	**18 55 27.6**	**-0.2**
KNZ	**Kokohu**	**37.49**	**151**	PN	**P**	**18 55 27.2**	**-0.4**
NNZ	**Nelson**	**37.50**	**158**	PN	**P**	**18 55 27.4**	**-0.2**
MBWA	**Marble Bar**	**37.56**	**244**	*e*P	**P**	**18 55 27.9**	**-0.5**
	comp=Z,117nm,0.5s,mb5.9						
MBWA				*e*PcP	PcP	18 57 45.4	-0.4
MBWA				LR	LR		
	comp=Z,6μm,20.0s,MS5.4						
THZ	**Tophouse**	**37.80**	**159**	PN	**P**	**18 55 29.9**	**-0.3**
TCW	**Tory Channel**	**37.83**	**157**	PN	**P**	**18 55 30.6**	**+0.1**
PXZ	**Pawanui**	**37.93**	**153**	PN	**P**	**18 55 30.6**	**-0.7**
SNZO	**South Karori**	**38.09**	**157**	*e*P	**P**	**18 55 32.4**	**-0.2**
	comp=Z,274nm,1.4s,mb5.8						
SNZO				LR	LR		
	comp=Z,3μm,20.0s,MS5.1						
SNZO	**South Karori**	**38.09**	**157**	PN	**P**	**18 55 32.9**	**+0.3**
BFZ	**Birch Farm**	**38.19**	**155**	PN	**P**	**18 55 32.6**	**-0.8**
WVZ	**Waitaha Valley**	**38.26**	**162**	PN	**P**	**18 55 33.7**	**-0.3**
MTW	**Mount Morrison**	**38.28**	**156**	PN	**P**	**18 55 33.2**	**-1.0**
LTZ	**Lake Taylor**	**38.48**	**160**	PN	**P**	**18 55 35.7**	**-0.2**
KHZ	**Kahutara**	**38.60**	**159**	PN	**P**	**18 55 35.9**	**-1.0**
OTRP	**Odiongan**	**38.68**	**300**	*e*P	**P**	**18 55 38.7**	**+0.7**
CUYO	**Cuyo Island**	**38.88**	**297**	*e*P	**P**	**18 55 40.9**	**+1.3**
RPZ	**Rata Peaks**	**38.94**	**162**	P	**P**	**18 55 39.8**	**+0.1**
	comp=Z,257nm,0.9s,mb5.9,baz=287,slow=1.0,SNR=64						
RPZ				LR	LR	19 10 03.8	
	comp=Z,4μm,20.5s,MS5.3,baz=324,slow=34						
RPZ	**Rata Peaks**	**38.94**	**162**	PN	**P**	**18 55 39.3**	**-0.5**
LBZ	**Lake

RAR LR LR 19 11 58.1
comp=Z,3μm,21.2s,MS5.2,baz=276,slow=31
NACB Ninganchiao 45.52 314 *e*P **P** **18 56 33.1 -0.5**
NACB *e*pP pP 18 56 45.5 -0.5
NACB *e*sP sP 18 56 52.3 +1.0
YHNB Yeheng 45.99 314 *e*P **P** **18 56 37.3 0.0**
TATO Taipei 46.10 315 PFAKE 18 56 50.0 +12
TATO LR LR
comp=Z,3μm,21.0s,MS5.2
KSM Kuching 46.14 279 *e*P **P** **18 56 38.9 +0.1**
KSM Kuching 46.14 279 ⇓P **P** **18 56 39.0 +0.3**
MJAR Matsushiro Arr 46.35 340 P **P** **18 56 39.5 -0.4**
MJAR PcP PcP 18 58 13.2 -1.2
MJAR ScP ScP 19 02 03.4 -1.0
MJAR LR LR 19 15 25.8
MJAR Matsushiro Arr 46.35 340 P **P** **18 56 39.5 -0.4**
comp=Z,39nm,0.7s,mb5.5,baz=168,slow=8.0,SNR=69
MJAR PcP PcP 18 58 13.2 -1.2
comp=Z,27nm,0.8s,baz=161,slow=4.4,SNR=7.1
MJAR ScP ScP 19 02 03.4 -1.0
comp=Z,10nm,1.0s,baz=161,slow=4.6,SNR=10.0
MJAR LR LR 19 15 25.8
comp=Z,709nm,19.1s,baz=170,slow=35
MAJO Matsushiro 46.35 340 *e*P **P** **18 56 38.9 -1.0**
comp=Z,66nm,0.6s,mb5.7
MAJO *e*PcP PcP 18 58 13.7 -0.8
MAJO *e*ScP ScP 19 02 03.9 -0.5
MAJO LR LR
comp=Z,1μm,22.0s,MS4.8
MAT Matsushiro 46.35 340 P **P** **18 56 38.9 -1.0**
MAT S **S** **19 03 19.0 -5.2**
JNU Nakatsue 46.40 331 LR LR 19 14 36.4
comp=Z,998nm,21.1s,MS4.7,baz=315,slow=34
QZH Quanzhou 48.16 313 ⇑*i*P **P** **18 56 54.7 +0.5**
QZH S **S** **19 03 49.1 -1.2**
QZH AMB AMB
comp=Z,170nm,0.7s,mb6.2
QZH AMB AMB
comp=Z,1μm,4.6s
QZH LR LR
comp=Z,4μm,25.5s,MS5.2
XMIS Christmas Isla 49.62 262 *e*P **P** **18 57 05.0 -0.6**
ERM Erimo 50.14 348 P **P** **18 57 10.6 +1.6**
comp=Z,398nm,0.6s,mb6.6,SNR=14
ERM Erimo 50.14 348 *e*P **P** **18 57 10.5 +1.5**
comp=Z,38nm,0.6s,mb5.6
ERM LR LR
comp=Z,2μm,20.0s,MS5.2
ERM Erimo 50.14 348 P **P** **18 57 10.8 +1.8**
ERM pmax pmax
comp=Z,38nm,0.7s,mb5.5
SSE Sheshan 50.31 321 P **P** **18 57 10.4 -0.1**
SSE S **S** **19 04 18.2 -2.0**
SSE AMB AMB
comp=Z,48nm,0.7s,mb5.6
SSE AMB AMB
comp=Z,398nm,5.9s
SSE LR LR
comp=N,760nm,25.1s,MS4.8
SSE LR LR
comp=E,989nm,24.5s,MS4.8
SSE LR LR
comp=Z,1μm,23.7s,MS4.9
GZH Guangzhou 51.14 307 P **P** **18 57 19.1 +2.1**
GZH S **S** **19 04 36.3 +4.2**
GZH LR LR
comp=N,673nm,28.1s,MS5.0
GZH LR LR
comp=E,2μm,24.3s,MS5.0
GZH LR LR
comp=Z,3μm,25.9s,MS5.2
KSRS Korea Array 51.32 332 P **P** **18 57 18.7 +0.7**
comp=Z,87nm,1.1s,mb5.6,baz=150,slow=8.3,SNR=142
KSRS PcP PcP 18 58 31.4 -1.1
comp=Z,13nm,0.6s,baz=142,slow=4.5,SNR=8.1
KSRS ScP ScP 19 02 25.4 0.0
comp=Z,5.0nm,0.9s,baz=135,slow=5.2,SNR=5.7
KSRS LR LR 19 19 01.1
comp=Z,612nm,19.2s,baz=143,slow=36
YUK Yuzh-Kuril'sk 51.59 351 *e*P **P** **18 57 20.2 +0.3**
YUK *e*S **S** **19 04 39.0 +1.4**
YUK *e* 19 07 06.8
YUK pmax pmax
comp=Z,350nm,0.8s,mb6.3
YUK pmax pmax
comp=E,570nm,1.0s
INCN Inchon 51.96 331 *e*P **P** **18 57 24.0 +1.2**
comp=E,219nm,1.2s,mb6.0
INCN *e* pP 18 57 35.5 0.0
INCN LR LR
comp=Z,2μm,21.0s,MS5.1
QIZ Qiongzhong 52.13 301 P **P** **18 57 25.6 +1.2**
QIZ AP pP 18 57 36.6 -0.5
QIZ S **S** **19 04 44.4 -1.4**
QIZ XS sS 19 05 05.1 -1.8
QIZ AMB AMB
comp=Z,133nm,0.8s,mb5.9
QIZ AMB AMB
comp=Z,715nm,8.1s
QIZ LR LR
comp=E,1μm,27.9s
QIZ LR LR
comp=Z,3μm,27.0s,MS5.2
QIZ Qiongzhong 52.13 301 *e*P **P** **18 57 25.8 +1.4**
comp=Z,104nm,0.8s,mb5.8
QIZ LR LR
comp=Z,2μm,22.0s,MS5.0
ASAJ Asahikawa 52.27 348 P **P** **18 57 26.2 +1.2**
ASAJ pmax pmax
comp=Z,95nm,0.6s
ASAJ MLR MLR
comp=Z,3μm,21.9s
ASAJ Asahikawa 52.27 348 P **P** **18 57 26.2 +1.2**
comp=Z,95nm,0.6s,mb5.9,baz=209,slow=8.3,SNR=201
ASAJ LR LR 19 16 50.2
comp=Z,3μm,21.9s,MS5.3,baz=177,slow=33
NJ2 Nanjing 52.42 320 *e*P **P** **18 57 27.9 +1.5**
NJ2 AP pP 18 57 38.5 -0.5
NJ2 XP sP 18 57 45.0 +0.7
NJ2 PP PP 18 59 26.6 +1.0
NJ2 AMB AMB
comp=Z,60nm,0.9s,mb5.5
NJ2 AMB AMB
comp=Z,1μm,5.2s
NJ2 LR LR
comp=N,3μm,23.0s
NJ2 LR LR
comp=E,2μm,17.9s
NJ2 LR LR
comp=Z,2μm,20.6s,MS5.2
MYKOM Kota Tinggi 52.55 278 ⇑P **P** **18 57 28.1 +0.4**
KGM Kluang 53.11 278 ⇑P **P** **18 57 32.2 +0.4**
KTGM Kuala Trenggan 53.94 282 ⇑P **P** **18 57 38.9 +1.0**
PPT Papeete 54.25 107 *e*P **P** **18 57 40.9 +0.8**
comp=Z,290nm,1.3s,mb6.0
PPT *e*S **S** **19 05 12.2 -2.6**
comp=Z,2μm,27.0s
PPT *e*LQ 19 11 05.3
comp=Z,3μm,25.2s
PPT *e*LR LR 19 13 26.6
comp=Z,3μm,22.5s,baz=279
PPT Papeete 54.25 107 *e*P **P** **18 57 40.5 +0.5**
PPT Papeete 54.25 107 P **P** **18 57 41.5 +1.4**
PPT pmax pmax
comp=Z,78nm,0.5s
PPT MLR MLR
comp=Z,2μm,18.9s
PPT Papeete 54.25 107 P **P** **18 57 41.5 +1.4**
comp=Z,78nm,0.5s,mb5.9,baz=268,slow=3.9,SNR=17
PPT LR LR 19 15 54.6
comp=Z,2μm,18.9s,MS5.1,baz=274,slow=30
PAE Paea 54.26 107 *e*P **P** **18 57 40.6 +0.5**
comp=Z,700nm,1.2s,mb6.5
PAE Paea 54.26 107 *e*P **P** **18 57 40.6 +0.5**
PAE pmax pmax
comp=Z,700nm,1.2s,mb6.5
VLA Vladivostok 54.41 339 *i*P **P** **18 57 40.7 0.0**
VLA Vladivostok 54.41 339 *i*P **P** **18 57 40.6 -0.1**
VLA pmax pmax
comp=Z,289nm,1.2s,mb6.1
WHN Wuhan 54.49 315 ⇓P **P** **18 57 42.5 +0.9**
WHN AP pP 18 57 53.5 -0.8
WHN S **S** **19 05 15.3 -2.2**
WHN AMB AMB
comp=Z,100nm,1.0s,mb5.7
WHN AMB AMB
comp=Z,862nm,8.3s
WHN LR LR
comp=Z,6μm,23.6s,MS5.6
KHU Kahuku 54.53 60 *e*P **P** **18 57 42.3 +0.3**
KHU Kahuku 54.53 60 P **P** **18 57 42.8 +0.8**
TVO Taravao 54.58 107 *e*P **P** **18 57 43.3 +0.9**
comp=Z,865nm,1.0s,mb6.7
TVO Taravao 54.58 107 *e*P **P** **18 57 43.3 +0.9**
TVO pmax pmax
comp=Z,865nm,1.0s,mb6.7
POHA Pohakuloa 54.81 60 PFAKE 18 58 00.0 +16
POHA LR LR
comp=Z,5μm,20.0s,MS5.5
YSS Yuzh-Sakhalins 54.96 349 *e*P **P** **18 57 45.0 +0.4**
comp=Z,138nm,0.8s,mb6.0
YSS LR LR
comp=Z,2μm,21.0s,MS5.2
YSS Yuzh-Sakhalins 54.96 349 ⇑*e*P **P** **18 57 45.5 +0.9**
YSS pmax pmax
comp=Z,168nm,0.9s,mb6.1
TBI Tubuai 54.96 114 *e*P **P** **18 57 45.6 +0.4**
comp=Z,1μm,1.1s,mb6.8
TBI *e*S **S** **19 05 23.1 -1.1**
comp=Z,1μm,29.8s
TBI *e*LQ 19 11 28.4
comp=Z,3μm,38.0s
TBI *e*LR LR 19 13 48.9
comp=Z,9μm,29.5s,baz=283
TBI Tubuai 54.96 114 *e*P **P** **18 57 45.6 +0.4**
comp=Z,1μm,1.1s,mb6.8
TBI *e*S **S** **19 05 23.1 -1.1**
TBI *e*LQ 19 11 28.4
FRIM Kepong 54.99 279 ⇓P **P** **18 57 45.0 -0.5**
DL2 Dalian 55.59 328 ⇑*i*P **P** **18 57 49.5 +0.2**
DL2 PCP PcP 18 58 49.0 +0.3
DL2 S **S** **19 05 34.9 +2.9**
DL2 AMB AMB
comp=Z,50nm,0.8s,mb5.6
DL2 AMB AMB
comp=Z,200nm,6.2s
DL2 LR LR
comp=N,440nm,24.1s,MS4.7
DL2 LR LR
comp=E,670nm,22.5s,MS4.7
DL2 LR LR
comp=Z,1μm,22.6s,MS5.0
MEH Mehetia 55.71 107 *e*P **P** **18 57 51.2 +0.6**
comp=Z,401nm,1.1s,mb6.4
PMOR Pomariorio Ree 55.74 103 *e*P **P** **18 57 51.4 +0.5**
comp=Z,685nm,1.2s,mb6.6
IPM Ipoh 55.82 280 ⇓P **P** **18 57 51.8 +0.3**
VAH Vaihoa 56.01 104 *e*P **P** **18 57 53.0 +0.2**
comp=Z,340nm,1.1s,mb6.3
TIA Tai'an 56.25 323 ⇓P **P** **18 57 54.2 +0.1**
TIA AMB AMB
comp=Z,110nm,1.6s,mb5.6
KULM Kulim 56.35 281 *e*P **P** **18 57 54.3 -1.0**
KULM *e*pP pP 18 58 06.7 -1.3
KULM Kulim 56.35 281 ⇑P **P** **18 57 55.8 +0.5**
MDJ Mudanjiang 56.55 338 P **P** **18 57 56.2 +0.2**
MDJ AMB AMB
comp=Z,92nm,1.3s,mb5.7
MDJ AMB AMB
comp=Z,565nm,10.0s
MDJ LR LR
comp=N,734nm,37.1s,MS4.7
MDJ LR LR
comp=E,942nm,39.2s,MS4.7
MDJ LR LR
comp=Z,1μm,29.1s
SNG Songkhla 56.79 283 P **P** **18 57 58.0 -0.4**
comp=Z,300nm,1.0s,mb6.3
SNY Shenyang 56.82 332 ⇑P **P** **18 57 58.1 0.0**
SNY AP pP 18 58 07.9 -3.0
SNY XP sP 18 58 12.4 -3.7
SNY S **S** **19 05 40.0 -8.2**
SNY SS SS 19 09 29.3 -7.9
SNY AMB AMB
comp=Z,43nm,1.3s,mb5.3
SNY AMB AMB
comp=Z,1μm,10.2s
SNY LR LR
comp=N,995nm,16.3s
SNY LR LR
comp=Z,2μm,33.8s
KKTK Khon Kaen 57.29 294 ⇑P **P** **18 58 02.5 +0.6**
comp=Z,2μm,0.4s
SKR Severo-Kuril's 57.46 0 *e*P **P** **18 58 02.0 -0.4**
SKR *e* 19 06 00.0
SKR pmax pmax
comp=Z,2μm,6.0s
SKR pmax pmax
comp=E,210nm,1.0s
SKR pmax pmax
comp=Z,240nm,1.0s,mb6.2
SKR pmax pmax
comp=N,480nm,1.5s
CN2 Changchun 57.54 334 *e*P **P** **18 58 03.0 -0.1**
CN2 PCP PcP 18 58 55.8 -0.3
CN2 AMB AMB
comp=Z,90nm,1.3s,mb5.6
CN2 AMB AMB
comp=Z,200nm,3.0s
CN2 LR LR
comp=N,1μm,23.0s,MS5.0
CN2 LR LR
comp=E,900nm,23.0s,MS5.0
CN2 LR LR
comp=Z,2μm,21.0s,MS5.2
PSI Prapat 57.57 278 P **P** **18 58 02.7 -1.2**
PSI pmax pmax
comp=Z,16nm,0.4s,mb5.4
PSI Prapat 57.57 278 P **P** **18 58 02.7 -1.2**
comp=Z,16nm,0.4s,mb5.4,baz=79,slow=3.0,SNR=27
GYA Guiyang 58.08 307 ⇑*i*P **P** **18 58 08.4 +1.2**
GYA PCP PcP 18 59 00.7 +2.0
GYA PP PP 19 00 20.2 +3.8
GYA AMB AMB
comp=Z,80nm,1.0s,mb5.7
GYA AMB AMB
comp=Z,390nm,6.9s
GYA LR LR
comp=N,11μm,21.6s,MS6.0
GYA LR LR
comp=E,10μm,23.2s,MS6.0
GYA LR LR
comp=Z,13μm,22.8s,MS6.0
HABR Khabarovsk 58.18 344 ⇑*i*P **P** **18 58 08.1 +0.6**
HABR *e*S **S** **19 06 07.7 +2.0**
HABR *e*SS SS 19 09 58.1 -0.1
HABR pmax pmax
comp=Z,411nm,1.8s,mb6.2
NNT Nongplab 59.00 289 P **P** **18 58 15.0 +1.2**
BJT Baijiatuau 59.36 325 *e*P **P** **18 58 15.5 -0.4**
comp=Z,29nm,0.8s,mb5.4
BJT LR LR
comp=Z,2μm,21.0s,MS5.2
BJT Baijiatuau 59.36 325 *e*P **P** **18 58 15.5 -0.4**
BJT pmax pmax
comp=Z,29nm,0.8s
BJT MLR MLR
comp=Z,2μm,21.0s
BJI Beijing 59.37 325 P **P** **18 58 15.6 -0.4**
BJI PP PP 19 00 31.0 +3.4
BJI S **S** **19 06 17.1 -4.5**
BJI AMB AMB
comp=Z,48nm,1.4s,mb5.3
BJI AMB AMB
comp=Z,720nm,6.4s
BJI LR LR
comp=N,865nm,20.5s,MS5.2
BJI LR LR
comp=E,1μm,19.7s,MS5.2
BJI LR LR
comp=Z,2μm,29.4s
NST Nakhon Sawan 59.53 293 ⇓P **P** **18 58 18.5 +1.0**
comp=Z,442nm,0.6s,mb6.7
KLR Kul'dur 59.82 342 *d*i P **P** **18 58 15.7 -3.1**
KLR *e*S **S** **19 06 20.5 -6.5**
KLR *e*SSS 19 12 53.0
KLR pmax pmax
comp=E,97nm,1.6s
KLR pmax pmax
comp=Z,260nm,1.6s,mb6.0
KLR smax
comp=E,800nm,9.5s
KLR smax
comp=Z,1μm,9.5s
KLR MLR MLR
comp=Z,2μm,12.5s,MS5.4
PET Petropavlovsk 59.86 2 *e*P **P** **18 58 19.2 +0.2**
comp=Z,142nm,1.2s,mb5.9
PET LR LR
comp=Z,2μm,22.0s,MS5.3
PET Petropavlovsk 59.86 2 *c e*P **P** **18 58 19.3 +0.3**
PET *e* 18 59 04.2
PET *i*S **S** **19 06 28.2 +0.9**
PET pmax pmax
comp=Z,93nm,0.8s,mb5.9
TIY Taiyuan 60.09 321 ⇑*i*P **P** **18 58 20.4 -0.5**
TIY S **S** **19 06 26.1 -4.8**
TIY LR LR
comp=N,492nm,15.1s,MS5.0
TIY LR LR
comp=E,584nm,14.7s,MS5.0
TIY LR LR
comp=Z,1μm,21.0s
XAN Xi'an 60.26 316 P **P** **18 58 21.7 -0.5**
XAN PP PP 19 00 35.0 -0.5
XAN S **S** **19 06 23.5 -10**
XAN AMB AMB
comp=Z,70nm,0.7s,mb5.8
XAN AMB AMB
comp=Z,468nm,9.2s
XAN LR LR
comp=E,1μm,23.7s
XAN LR LR
comp=Z,2μm,25.5s,MS5.2
DRV Dumont d'Urvil 60.54 187 P **P** **18 58 33.0 +9.5**
DRV S **S** **19 06 49.0 +13**
DRV R 19 18 00.0
KMI Kunming 60.67 304 ⇑P **P** **18 58 26.7 +1.6**
KMI PCP PcP 18 59 09.8 +0.8
KMI PP PP 19 00 43.0 +3.7
KMI AMB AMB
comp=Z,48nm,0.8s,mb5.7
KMI AMB AMB
comp=Z,576nm,3.7s
KMI LR LR
comp=N,790nm,18.4s
KMI LR LR
comp=E,2μm,24.3s
KMI LR LR
comp=Z,2μm,21.4s,MS5.3
BDT Bhumibol Dam 61.05 294 P **P** **18 58 29.0 +1.2**
comp=Z,20nm,1.0s,mb5.2
CHRT Chiangrai 61.21 297 ⇑P **P** **18 58 29.5 +0.6**
comp=Z,908nm,0.9s,mb6.9
CM31 Chiang Mai Arr 61.49 295 *e*P **P** **18 58 31.6 +0.8**
comp=Z,72nm,0.7s,mb5.9
CM31 *e*pP pP 18 58 43.9 +0.2
CM31 LR LR
comp=Z,717nm,20.0s,MS4.8
SMY Shemya 61.53 13 PFAKE 18 58 40.0 +10
SMY LR LR
comp=Z,4μm,21.0s,MS5.6
CHG Chiang Mai 61.60 296 ⇑P **P** **18 58 32.0 +0.4**
comp=Z,144nm,0.7s,mb6.2
CHTO Chiang Mai 61.60 296 *e*P **P** **18 58 31.8 +0.2**
comp=Z,316nm,1.5s,mb6.2
CHTO *e*pP pP 18 58 44.4 -0.1
CHTO LR LR
comp=Z,469nm,19.0s,MS4.7
CHTO Chiang Mai 61.60 296 P **P** **18 58 32.0 +0.4**
CHTO pmax pmax
comp=Z,320nm,1.5s,mb6.2
CD2 Chengdu 62.41 310 *e*P **P** **18 58 37.2 +0.4**
CD2 AMB AMB
comp=Z,180nm,0.6s,mb6.4
CD2 AMB AMB
comp=Z,780nm,5.9s
CD2 LR LR
comp=N,2μm,22.6s,MS5.4
CD2 LR LR
comp=E,2μm,25.0s,MS5.4
CD2 LR LR
comp=Z,2μm,26.2s,MS5.3
HHC Hu-ho-hao-te 62.57 323 *e*P **P** **18 58 38.2 +0.6**
HHC PP PP 19 00 56.7 +0.9
HHC SCP ScP 19 03 15.4 +0.4
HHC PCS PcS 19 03 17.6 -2.0
HHC SCS ScS 19 08 24.9 -1.5
HHC AMB AMB
comp=Z,55nm,1.4s,mb5.5
HHC AMB AMB
comp=Z,471nm,4.2s
HHC LR LR
comp=N,956nm,20.4s,MS5.1
HHC LR LR
comp=E,825nm,17.8s,MS5.1
HHC LR LR
comp=Z,2μm,25.0s
ADK Adak 63.24 19 *e*P **P** **18 58 41.4 -0.4**
comp=Z,259nm,0.9s,mb6.4
ADK *e* 18 59 06.4
ADK LR LR
comp=Z,5μm,21.0s,MS5.7
ADK Adak 63.24 19 P **P** **18 58 42.0 +0.2**
ADK pmax pmax
comp=Z,260nm,1.0s,mb6.3
BTO Baotou 63.34 322 *e*P **P** **18 58 43.5 +0.7**
TAOE Nuku Hiva Isla 63.43 96 *e*P **P** **18 58 44.1 +0.2**
comp=Z,7μm,1.0s
TAOE *e*S **S** **19 07 14.8 +0.8**
comp=Z,10μm,30.7s
TAOE Nuku Hiva Isla 63.43 96 *e*LR LR 19 17 44.9
comp=Z,70μm,22.4s
HIA Hailar 64.27 335 *e*P **P** **18 58 48.8 +0.2**
comp=Z,100nm,0.8s,mb5.9
HIA LR LR
comp=Z,1μm,22.0s,MS5.1
HIA Hailar 64.27 335 *e*P **P** **18 58 48.8 +0.1**
HIA pmax pmax
comp=Z,100nm,0.8s
HIA MLR MLR
comp=Z,1μm,22.0s
LZH Lanzhou 64.87 315 ⇑P **P** **18 58 53.8 +0.9**
LZH AMB AMB
comp=Z,172nm,1.4s,mb5.9
LZH AMB AMB
comp=Z,527nm,6.7s
LZH LR LR
comp=E,2μm,15.7s
LZH LR LR
comp=Z,3μm,18.6s,MS5.5
MA2 Magadan 66.49 357 *e*P **P** **18 59 02.5 -0.3**
comp=Z,73nm,1.0s,mb5.7
MA2 LR LR
comp=Z,1μm,21.0s,MS5.2
MA2 Magadan 66.49 357 *i*P **P** **18 59 02.7 -0.2**
MA2 *e* 18 59 31.6
MA2 *e* 19 07 49.1
MA2 *e* 19 08 46.1
MA2 *e*SS SS 19 12 04.8 -3.0
MA2 pmax pmax
comp=Z,100nm,1.0s,mb5.8
CASY Casey 66.81 198 *e*P **P** **18 59 04.3 -0.6**
IMP Imphal 67.96 300 *e*P **P** **18 59 12.0 -0.9**
RKT Rikitea 68.22 112 *e*P **P** **18 59 14.3 -0.3**
comp=Z,423nm,1.0s,mb6.4
RKT Rikitea 68.22 112 *e*LR LR 19 19 59.2
comp=Z,8μm,28.8s,baz=277
RKT Rikitea 68.22 112 *e*P **P** **18 59 14.3 -0.3**
RKT pmax pmax
comp=Z,423nm,1.0s,mb6.4
NRGR Nerungri 68.38 342 *e*P **P** **18 59 15.9 +1.1**
UNV Unalaska Valle 68.44 23 *e*P **P** **18 59 14.1 -1.2**
comp=Z,45nm,0.7s,mb5.6
UNV LR LR
comp=Z,8μm,21.0s,MS5.9
CLNS Chul'man 68.48 342 *e*P **P** **18 59 16.5 +1.0**
CLNS *e**PP pP 18 59 22.8 -5.7
CLNS *e* 18 59 39.2
CLNS *e*PPP 19 03 19.6
CLNS *e*S S 19 08 14.0 +0.1
CLNS *e* 19 08 50.7
CLNS pmax pmax
comp=N,43nm,0.8s
CLNS pmax pmax
comp=Z,104nm,0.8s,mb5.9
CLNS pmax pmax
comp=E,20nm,0.7s

CLNS smax
comp=N,224nm,10.7s
CLNS smax
comp=E,317nm,12.6s
CLNS smax
comp=Z,247nm,12.6s
CLNS MLR MLR
comp=Z,700nm,20.0s,MS4.9
CLNS MLR MLR
comp=N,300nm,16.0s,MS4.8
CLNS MLR MLR
comp=E,400nm,16.0s,MS4.8
AKUT Akutan 68.94 23 *e*P **P 18 59 17.5 -0.9**
comp=E,64nm,0.7s,mb5.7
AKUT *e* 18 59 42.0
CIT Chita 68.97 334 *e*P **P 18 59 19.2 +0.6**
CIT *e* pP 18 59 32.7 +1.0
CIT *e* 18 59 44.7
CIT pmax pmax
comp=Z,296nm,2.0s,mb5.9
GTA Gaotai 69.28 317 P **P 18 59 21.4 +0.5**
GTA PCP PcP 18 59 45.4 +1.1
GTA PP PP 19 01 57.1 +2.6
GTA SCP 19 03 44.3
GTA PCS 19 03 50.6
GTA S S 19 08 26.1 +2.0
GTA SS SS 19 12 55.1 +3.3
GTA AMB AMB
comp=Z,50nm,1.3s,mb5.3
GTA AMB AMB
comp=Z,684nm,7.3s
GTA LR LR
comp=N,749nm,19.9s
GTA LR LR
comp=E,971nm,28.3s
GTA LR LR
comp=Z,2μm,24.5s,MS5.2
ULN Ulaanbaatar 69.43 327 *e*P **P 18 59 22.5 +0.9**
comp=Z,137nm,0.7s,mb6.0
ULN LR LR
comp=Z,835nm,21.0s,MS5.0
ULN Ulaanbaatar 69.43 327 *e*P **P 18 59 22.5 +0.9**
ULN pmax pmax
comp=Z,137nm,0.7s,mb6.0
ULN MLR MLR
comp=Z,835nm,21.0s,MS5.0
SONM Songino Array 69.77 327 P **P 18 59 24.4 +0.7**
SONM pmax pmax
comp=Z,191nm,0.8s
SONM MLR MLR
comp=Z,1μm,21.4s
SONM Songino Array 69.77 327 P **P 18 59 24.4 +0.7**
comp=Z,190nm,0.8s,mb6.1,baz=137,slow=6.1,SNR=814
SONM LR LR 19 29 37.3
comp=Z,1μm,21.4s,MS5.1,baz=133,slow=36
SEY Seymchan 69.79 358⇑ *e*P **P 18 59 23.6 +0.1**
SHL Shillong 69.97 300 *e*P **P 18 59 22.7 -2.7**
SHL *e*S S 19 08 27.0 -5.7
FALS False Pass 70.40 24 *e*P **P 18 59 26.4 -1.0**
comp=Z,93nm,0.9s,mb5.7
VNDA Vanda 70.54 179 LR LR 19 24 40.5
comp=Z,2μm,21.5s,MS5.4,baz=0.8,slow=31
SBA Scott Base 71.04 178 *e*P **P 18 59 31.9 +0.9**
comp=Z,129nm,1.1s,mb5.8
SBA LR LR
comp=Z,2μm,20.0s,MS5.4
SBA Scott Base 71.04 178 P **P 18 59 32.2 +1.2**
SBA pmax pmax
comp=Z,130nm,1.1s,mb5.8
YAK Yakutsk 71.74 347 *e*P **P 18 59 35.5 +0.1**
comp=Z,84nm,0.8s,mb5.7
YAK *e*pP pP 18 59 49.3 +0.8
YAK LR LR
comp=Z,997nm,21.0s,MS5.1
YAK Yakutsk 71.74 347 *c i*P **P 18 59 35.0 -0.4**
YAK *e**PP pP 18 59 47.3 -1.2
YAK *e* 18 59 53.0
YAK *e* 19 02 18.3
YAK *e*PPP 19 03 58.8
YAK *e*S S 19 08 52.8 +0.9
YAK *e* 19 09 33.4
YAK *e*SS SS 19 13 30.4 +1.7
YAK pmax pmax
comp=Z,96nm,1.1s,mb5.6
YAK pmax pmax
comp=N,44nm,1.8s
YAK pmax pmax
comp=E,25nm,1.6s
YAK pmax pmax
comp=Z,38nm,1.4s,mb5.1
YAK pmax pmax
comp=N,22nm,1.2s
YAK smax
comp=N,1μm,6.9s
YAK smax
comp=Z,402nm,6.0s
YAK smax
comp=E,676nm,7.1s
LSA Lhasa 71.92 304 P **P 18 59 38.2 +1.1**
LSA AP pP 18 59 51.4 +1.1
LSA PP PP 19 02 13.6 -3.9
LSA S S 19 08 51.9 -3.3
LSA XS sS 19 09 16.8 -0.4
LSA LR LR
comp=N,400nm,27.9s,MS5.0
LSA LR LR
comp=E,960nm,28.3s,MS5.0
LSA LR LR
comp=Z,2μm,25.7s,MS5.2
LSA Lhasa 71.92 304 *e*P **P 18 59 37.6 +0.4**
comp=Z,63nm,0.8s,mb5.6
LSA LR LR
comp=Z,747nm,22.0s,MS4.9
LSA Lhasa 71.92 304 *e*P **P 18 59 37.6 +0.5**
LSA pmax pmax
comp=Z,63nm,0.8s,mb5.6
LSA MLR MLR
comp=Z,747nm,22.0s,MS4.9
PTCN Pitcairn Islan 72.71 114 PFAKE 18 59 50.0 +8.0
PTCN LR LR
comp=Z,5μm,20.0s,MS5.8
ZAK Zakamensk 72.92 328 *e*P **P 18 59 42.7 +0.1**
ZAK *e* 19 09 04.3
ZAK pmax pmax
comp=Z,103nm,1.2s,mb5.6
BOD Bodaibo 72.92 338⇓ *i*P **P 18 59 41.7 -0.8**
BOD pmax pmax
comp=Z,73nm,1.1s,mb5.5
MIR Mirnyy 72.96 202⇓ *i*P **P 18 59 37.0 -5.7**
MIR *i* pP 18 59 51.0 -4.8
MIR *i* 19 00 06.0
MIR pmax pmax
comp=Z,600nm,1.5s,mb6.3
TLY Talaya 73.47 329 P **P 18 59 46.1 +0.2**
comp=Z,605nm,1.0s,mb6.5,SNR=21
TLY Talaya 73.47 329 *e*P **P 18 59 46.3 +0.4**
comp=Z,92nm,0.9s,mb5.7
TLY LR LR
comp=Z,765nm,21.0s,MS5.0
TLY Talaya 73.47 329 *c i*P **P 18 59 45.7 -0.2**
TLY *e*S S 19 09 09.5 -2.5
TLY *e*SS SS 19 13 55.1 -0.5
TLY pmax pmax
comp=Z,122nm,1.0s,mb5.8
TLY MLR MLR
comp=Z,795nm,24.0s,MS4.9
IRK Irkutsk 73.48 330⇑ *i*P **P 18 59 45.9 0.0**
IRK *e*S S 19 09 12.8 +0.7
IRK pmax pmax
comp=Z,312nm,0.7s,mb6.3
BOK Bokaro 74.69 297⇑ *i*P **P 18 59 53.9 +0.2**
BOK AMb AMB 18 59 56.5
BOK *i* x x 19 00 02.9
GAMB Gambell 74.74 14 *e*P **P 18 59 53.2 +0.2**
comp=Z,79nm,1.1s,mb5.6
MOY Mondy 74.83 328 *e*P **P 18 59 54.9 +1.1**
MOY pmax pmax
comp=Z,195nm,1.5s,mb5.8
BILL Bilibino 75.24 4 *e*P **P 18 59 55.6 -0.2**
comp=Z,352nm,1.1s,mb6.2
BILL *e* 19 00 22.2
BILL LR LR
comp=Z,1μm,20.0s,MS5.2
BILL Bilibino 75.24 4α *i*P **P 18 59 56.1 +0.3**
BILL *i* pP 19 00 10.0 +0.9
BILL *i* S S 19 09 31.1 -0.2
BILL *e* 19 10 25.0
BILL pmax pmax
comp=Z,290nm,1.2s,mb6.1
BILL MLR MLR
comp=Z,1μm,18.0s,MS5.2
VIS Vishakhapatnam 75.60 290 *e*P **P 18 59 57.8 -1.1**
VIS AMb AMB 19 00 01.3
comp=Z,246nm,0.6s,mb6.3
VIS *i* x x 19 00 09.9
PALK Pallekele 76.20 279 P **P 19 00 03.7 +1.2**
comp=Z,649nm,0.9s,mb6.6,SNR=6.8
PALK Pallekele 76.20 279 *e*P **P 19 00 02.6 +0.1**
comp=Z,214nm,1.3s,mb5.9
PALK LR LR
comp=Z,577nm,20.0s,MS4.9
KDAK Kodiak Island 76.85 26 PFAKE 19 00 20.0 +15
KDAK LR LR
comp=Z,556nm,21.0s,MS4.8
TNA Tin City 77.14 15 *e*P **P 19 00 05.9 -0.8**
comp=Z,46nm,1.0s,mb5.4
TNA *e* 19 00 33.0
TNA LR LR
comp=Z,3μm,22.0s,MS5.5
MDRS Chennai 77.61 285⇑ *i*P **P 19 00 10.1 -0.3**
SVW2 Sparrevohn 77.73 22 *e*P **P 19 00 10.6 +0.6**
TTA Tatalina 78.77 20 *e*P **P 19 00 15.8 0.0**
WMQ Urumqi 79.36 317⇑ *i*P **P 19 00 19.6 +0.2**
WMQ PP PP 19 03 23.0 +3.0
WMQ S S 19 10 22.0 +5.1
WMQ AMB AMB
comp=Z,53nm,1.4s,mb5.3
WMQ AMB AMB
comp=Z,947nm,4.8s
WMQ LR LR
comp=N,2μm,28.4s
WMQ LR LR
comp=E,1μm,22.0s
WMQ LR LR
comp=Z,2μm,26.2s,MS5.2
SLKM Skilak Lake 79.44 24 *e*P **P 19 00 19.1 -0.4**
KOD Kodaikanal 79.83 282 *e*P **P 19 00 22.5 -0.1**
KOD AMb AMB 19 00 25.0
comp=Z,288nm,1.6s,mb6.0
HYB Hyderabad 80.00 289 *e*P **P 19 00 22.5 -1.0**
comp=Z,315nm,1.0s,mb6.2
HYB *e* pP 19 00 35.0 -1.8
HYB *e*S S 19 10 20.0 -4.7
HYB Hyderabad 80.00 289 *e*P **P 19 00 22.5 -1.0**
HYB *e* pP 19 00 35.0 -1.8
HYB *e*S S 19 10 20.0 -4.7
HYB pmax pmax
comp=Z,315nm,1.0s,mb6.2
HYB Hyderabad 80.00 289 *i* P **P 19 00 22.5 -1.0**
comp=Z,315nm,1.0s,mb6.2
HYB *e* pP 19 00 35.0 -1.8
HYB *e*S S 19 10 22.0 -2.7
TRD Trivandrum 80.06 280 *e*P **P 19 00 22.8 -1.1**
TRD AMb AMB 19 00 26.8
comp=Z,316nm,1.8s,mb5.9
TRD *i* x x 19 00 37.1
NGP Nagpur 80.25 293 *e*P **P 19 00 22.8 -2.0**
NGP *e*x x 19 00 24.7
comp=Z,316nm,1.4s
NGP *e*x x 19 10 22.6
TIXI Tiksi 80.48 352 *e*P **P 19 00 23.5 -1.4**
comp=Z,29nm,0.6s,mb5.4
TIXI LR LR
comp=Z,974nm,20.0s,MS5.2
TIXI Tiksi 80.48 352 *c i*P **P 19 00 23.8 -1.1**
TIXI *i* 19 00 30.2
TIXI *e*S S 19 10 23.6 -4.1
TIXI pmax pmax
comp=Z,69nm,1.3s,mb5.4
TIXI MLR MLR
comp=Z,551nm,18.0s,MS5.0
PMR Palmer 80.50 23 *e*P **P 19 00 24.8 -0.4**
comp=Z,144nm,1.5s,mb5.7
PMR LR LR
comp=Z,2μm,21.0s,MS5.4
PMR Palmer 80.50 23 *e*P **P 19 00 24.8 -0.4**
PMR pmax pmax
comp=Z,144nm,1.5s,mb5.7
PMR MLR MLR
comp=Z,2μm,21.0s,MS5.4
SML Sawmill 80.94 23 *e*P **P 19 00 26.8 -0.7**
SML Sawmill 80.94 23 P **P 19 00 26.9 -0.6**
LGTI Lohaghat 80.96 301 *e*P **P 19 00 29.7 +1.3**
IMA2 Indian Mountai 81.57 19 *e*P **P 19 00 30.2 -0.6**
MCK McKinley 81.79 22 *e*P **P 19 00 30.4 -1.6**
comp=Z,130nm,1.0s,mb5.8
MCK LR LR
comp=Z,2μm,22.0s,MS5.5
MCK McKinley 81.79 22 P **P 19 00 30.5 -1.5**
MCK pmax pmax
comp=Z,64nm,1.0s,mb5.5
AKL Akola 82.03 292⇓ *i*P **P 19 00 33.7 -0.5**
AKL *e*x x 19 00 35.4
comp=Z,443nm,1.5s
AKL *i* x x 19 01 24.1
LATR Latur 82.05 290 *e*P **P 19 00 32.8 -1.6**
LATR AMb AMB 19 00 35.5
comp=Z,249nm,1.9s,mb5.8
BHPL Bhopal 82.14 295 *e*P **P 19 00 33.9 -0.8**
BHPL AMb AMB 19 00 35.1
comp=Z,221nm,0.9s,mb6.1
BHPL *i* x x 19 00 46.8
MNGI Mangalore 82.81 284 *e*P **P 19 00 38.9 +0.6**
MNGI AMb AMB 19 00 41.6
comp=Z,227nm,1.8s,mb5.9
COLA College 82.82 21 *e*P **P 19 00 35.2 -2.2**
comp=Z,59nm,0.7s,mb5.7
COLA LR LR
comp=Z,3μm,21.0s,MS5.7
COLA College 82.82 21⇑ *e*P **P 19 00 36.1 -1.3**
QSPA South Pole Qui 82.96 180 P **P 19 00 38.2 +0.3**
comp=Z,427nm,1.0s,mb6.4,baz=349,slow=1.2,SNR=400
QSPA PKKPbc PKKPbc 19 19 00.2 -3.4
comp=Z,4.3nm,0.8s,baz=245,slow=2.5,SNR=11
DDI Dehra Dun 83.01 302 *e*P **P 19 00 37.3 -1.8**
NDI New Delhi 83.39 300 *e*P **P 19 00 39.7 -1.4**
NDI AMb AMB 19 00 42.9
comp=Z,266nm,2.1s,mb5.9
MK31 Makanchi Array 83.93 319 *e*P **P 19 00 43.6 +0.1**
MK31 Makanchi Array 83.93 319 *i* P **P 19 00 43.6 +0.1**
MK31 pmax pmax
comp=Z,226nm,0.7s,mb6.4
MKAR Makanchi Array 83.93 319 P **P 19 00 43.1 -0.3**
MKAR PKKPbc PKKPbc 19 18 58.6 -2.1
MKAR P'P' 19 27 05.0
MKAR LR LR 19 38 33.5
MKAR Makanchi Array 83.93 319 *i* P **P 19 00 43.2 -0.3**
MKAR pmax pmax
comp=Z,194nm,0.8s
MKAR Makanchi Array 83.93 319 P **P 19 00 43.1 -0.3**
comp=Z,194nm,0.8s,mb6.3,baz=101,slow=3.8,SNR=351
MKAR PKKPbc PKKPbc 19 18 58.6 -2.1
comp=Z,0.7nm,0.6s,baz=273,slow=2.5,SNR=4.5
MKAR PKPPKP 19 27 05.0
comp=Z,0.3nm,0.3s,baz=318,slow=1.6,SNR=5.0
MKAR LR LR 19 38 33.5
comp=Z,536nm,21.3s,MS4.9,baz=106,slow=36
SMLA Simla 83.93 302 *e*P **P 19 00 43.4 -0.4**
KAD Karad 84.10 288⇑ *i*P **P 19 00 44.2 -0.7**
KAD *i* x x 19 00 56.4
GOA Goa 84.15 286 *e*P **P 19 00 44.8 -0.5**
GOA AMb AMB 19 00 45.9
comp=Z,878nm,0.5s,mb7.1
POO Poona 84.61 289⇑ *i*P **P 19 00 46.0 -1.5**
comp=Z,570nm,1.0s,mb6.7
ZAA0 Zalesovo Array 84.63 326 *e*P **P 19 00 45.5 -1.4**
ZALV Zalesovo Beam 84.63 326 P **P 19 00 45.5 -1.3**
comp=Z,59nm,0.7s,mb5.9,baz=109,slow=5.7,SNR=244
ZALV PKKPbc PKKPbc 19 18 56.7 -2.7
comp=Z,1.2nm,0.6s,baz=311,slow=2.4,SNR=4.8
ZALV PKPPKP 19 27 02.0
comp=Z,0.8nm,0.7s,baz=288,slow=1.4,SNR=4.1
ZALV LR LR 19 40 28.3
comp=Z,398nm,19.3s,MS4.8,baz=105,slow=37
SIT Sitka 84.63 31 PFAKE 19 01 00.0 +13
SIT LR LR
comp=Z,3μm,19.0s,MS5.7
ZAL Zalesovo 84.64 326 P **P 19 00 45.5 -1.4**
MAW Mawson 84.67 203⇑ *i*P **P 19 00 46.9 0.0**
comp=Z,111nm,0.9s,mb6.0
MAW Mawson 84.67 203 P **P 19 00 46.9 0.0**
MAW pmax pmax
comp=Z,123nm,0.9s
MAW MLR MLR
comp=Z,987nm,19.0s
MAW Mawson 84.67 203 P **P 19 00 46.9 0.0**
comp=Z,122nm,0.9s,mb6.0,baz=93,slow=6.3,SNR=84
MAW LR LR 19 37 09.8
comp=Z,987nm,19.0s,MS5.2,baz=86,slow=35
DLH Dalhousie 85.21 303 *e*P **P 19 00 49.0 -1.3**
DLH *e*x x 19 00 54.0
AJM Ajmer 85.22 297 *e*P **P 19 00 49.0 -1.4**
EGAK Eagle 85.24 23 *e*P **P 19 00 49.0 -0.7**
comp=Z,40nm,0.9s,mb5.5
EGAK LR LR
comp=Z,2μm,21.0s,MS5.4
THN Thein Dam 85.40 303 *e*P **P 19 00 49.5 -1.7**
SKAG Skagway 85.52 29 *e*P **P 19 00 51.5 +0.3**
comp=Z,68nm,1.4s,mb5.7
SKAG LR LR
comp=Z,2μm,21.0s,MS5.5
DAWY Dawson 85.61 24 *e*P **P 19 00 51.4 -0.1**
NVS Novosibirsk 85.79 326⇑ *i*P **P 19 00 50.9 -1.7**
NVS *e*S S 19 11 07.1 -15
NVS pmax pmax
comp=N,85nm,1.7s
NVS pmax pmax
comp=E,173nm,1.7s
NVS pmax pmax
comp=Z,280nm,1.7s,mb6.2
NVS smax
comp=N,33nm,2.3s
NVS smax
comp=E,84nm,2.5s
WRAK Wrangell Islan 85.95 32 *e*P **P 19 00 53.7 +0.3**
comp=E,57nm,1.1s,mb5.7
WRAK LR LR
comp=Z,2μm,19.0s,MS5.6
KSH Kashi 86.61 310 P **P 19 00 58.8 +1.7**
KSH PP PP 19 04 24.7 +5.1
KSH S S 19 11 35.0 +4.2
KSH LR LR
comp=N,1μm,5.5s
KSH LR LR
comp=E,1μm,6.9s
KSH LR LR
comp=Z,2μm,23.4s,MS5.5
ULHL Ulahol 86.98 313 P **P 19 01 00.1 +1.3**
SNR=15
KURK Kurchatov 87.32 322 P **P 19 00 59.1 -1.1**
comp=Z,410nm,0.6s,mb6.8,SNR=48
KURK Kurchatov 87.32 322 *e*P **P 19 00 58.8 -1.4**
comp=Z,138nm,1.2s,mb6.1
KURK LR LR
comp=Z,618nm,20.0s,MS5.0
KURK Kurchatov 87.32 322 *e*P **P 19 00 58.8 -1.4**
KURK pmax pmax
comp=Z,138nm,1.2s,mb6.1
KURK MLR MLR
comp=Z,618nm,20.0s,MS5.0
MCCM Marconi Confer 87.53 51 PFAKE 19 01 10.0 +8.5
MCCM LR LR
comp=Z,2μm,21.0s,MS5.6
HOPS Hopland 87.54 50 PFAKE 19 01 10.0 +8.4
HOPS LR LR
comp=Z,3μm,21.0s,MS5.6
TKM2 Tokmak 2 87.59 314 *e*P **P 19 01 01.9 +0.2**
comp=Z,66nm,0.8s,mb5.9
TKM2 LR LR
comp=Z,856nm,22.0s,MS5.1
TKM2 Tokmak 2 87.59 314 P **P 19 01 02.2 +0.5**
TKM2 pmax pmax
comp=Z,66nm,0.8s,mb5.9
TKM2 Tokmak 2 87.59 314 P **P 19 01 02.3 +0.6**
SNR=70
KZA Kyzart 87.67 313 P **P 19 01 03.9 +1.8**
SNR=65
N02C Big Bar 87.72 49⇑ P **P 19 01 02.6 +0.2**
baz=88
DLBC Dease Lake 87.77 30 *e*P **P 19 01 02.3 +0.2**
GASB Alder Springs 87.94 50⇓ P **P 19 01 04.1 +0.7**
baz=88
I02A Mapleton 87.97 45⇑ P **P 19 01 04.2 +0.7**
baz=88
O02C Red Bluff 87.98 49⇓ P **P 19 01 04.2 +0.6**
baz=88
KBK Karagaybulak 88.00 313 P **P 19 01 04.3 +0.6**
SNR=64
M02C Callahan 88.16 48⇑ P **P 19 01 05.1 +0.6**
baz=88
CHMS Chumysh 88.21 314 P **P 19 01 04.9 +0.3**
SNR=73
UCH Uchtor 88.23 313 *e*P **P 19 01 05.4 +0.6**
comp=Z,46nm,0.8s,mb5.8
UCH LR LR
comp=Z,774nm,20.0s,MS5.1
UCH Uchtor 88.23 313 P **P 19 01 05.5 +0.7**
SNR=67
WDC Whiskeytown Da 88.24 49 PFAKE 19 01 20.0 +15
WDC LR LR
comp=Z,3μm,22.0s,MS5.7
WDC Whiskeytown Da 88.24 49⇓ P **P 19 01 05.0 +0.1**
baz=88
FRU Bishkek 88.28 313⇑ *i*P **P 19 01 04.0 -1.0**
FRU pmax pmax
comp=Z,209nm,1.8s,mb6.1
HUMO Hull Mountain 88.32 47 *e*P **P 19 01 05.6 +0.4**
comp=Z,14nm,1.1s,mb5.1
HUMO LR LR
comp=Z,3μm,22.0s,MS5.7
HUMO Hull Mountain 88.32 47⇓ P **P 19 01 05.3 +0.1**
baz=88
AAK Ala-Archa 88.33 313 P **P 19 01 04.5 -0.7**
comp=Z,504nm,0.6s,mb6.9,SNR=52
AAK Ala-Archa 88.33 313 P **P 19 01 05.2 0.0**
SNR=89
YBH Yreka Blue Hor 88.33 48 *e*P **P 19 01 04.8 -0.5**
comp=Z,32nm,1.5s,mb5.3
YBH LR LR
comp=Z,3μm,19.0s,MS5.8
YBH Yreka Blue Hor 88.33 48 P **P 19 01 07.1 +1.8**
YBH pmax pmax
comp=Z,32nm,1.4s
YBH Yreka Blue Hor 88.33 48⇑ P **P 19 01 05.6 +0.4**
baz=88
SAO San Andreas Ge 88.40 53 PFAKE 19 01 20.0 +14
SAO LR LR
comp=Z,2μm,21.0s,MS5.6
USP Ospenovka 88.44 314 P **P 19 01 06.0 +0.3**
SNR=94
COR Corvallis 88.45 45 PFAKE 19 01 20.0 +14
COR LR LR
comp=Z,2μm,19.0s,MS5.6
J03A Ideyld Park 88.46 46⇑ P **P 19 01 06.6 +0.8**
baz=88
PACP Pacheco Peak 88.57 53⇓ P **P 19 01 06.6 +0.1**
baz=89
S04C Ingram Canyon, 88.62 52⇓ P **P 19 01 06.5 -0.3**
baz=89
NLWA Neilton Lookou 88.63 42 PFAKE 19 01 20.0 +13
NLWA LR LR
comp=Z,3μm,20.0s,MS5.7
AML Almayashu 88.81 313 *e*P **P 19 01 08.6 +1.1**
comp=Z,96nm,0.8s,mb6.2
AML LR LR
comp=Z,856nm,22.0s,MS5.1
AML Almayashu 88.81 313 P **P 19 01 09.2 +1.6**
SNR=101
ORV Oroville 88.84 50⇑ P **P 19 01 07.7 -0.1**
baz=89
EKS2 Erkin-Say 88.85 313 *e*P **P 19 01 08.4 +0.7**
comp=Z,54nm,0.8s,mb5.9
EKS2 LR LR
comp=Z,944nm,21.0s,MS5.2
EKS2 Erkin-Say 88.85 313 P **P 19 01 08.7 +1.0**
SNR=32
U04C Hernandez Rese 88.86 53⇑ P **P 19 01 08.1 +0.2**
baz=89
I04A Tendick Farm, 88.93 46⇑ P **P 19 01 08.5 +0.4**
baz=89
M04C Macdoel 88.98 48⇑ P **P 19 01 08.7 +0.4**
baz=89
PKD Parkfield 88.99 54⇓ P **P 19 01 08.4 -0.1**
baz=89
BHJ Bhuj 89.19 293⇑ *i*P **P 19 01 09.5 -0.3**
BHJ AMb AMB 19 01 11.7

comp=Z,386nm,1.0s,mb6.7
BHJ *i* x x 19 01 21.9
O04C Chester 89.29 49 ⇑P **P 19 01 10.7 +0.9**
baz=89
C04A Brinnon 89.29 42 ⇓P **P 19 01 10.1 +0.5**
baz=89
SNCC San Nicolas Is 89.39 57 PFAKE 19 01 20.0 +10
SNCC LR LR
comp=Z,3μm,20.0s,MS5.7
PKM Peak Mountain 89.40 55 ⇑P **P 19 01 11.0 +0.5**
baz=89
BSC Santa Cruz Isl 89.42 56 ⇑P **P 19 01 11.4 +0.9**
baz=89
CMB Columbia Colle 89.45 52 PFAKE 19 01 20.0 +9.4
CMB LR LR
comp=Z,1μm,21.0s,MS5.3
CMB Columbia Colle 89.45 52 ⇑P **P 19 01 10.7 +0.1**
baz=89
INK Inuvik 89.47 21 *e*P **P 19 01 08.7 -1.3**
comp=Z,3μm,1.3s
INK Inuvik 89.47 21 P **P 19 01 08.8 -1.3**
comp=Z,44nm,1.1s,mb5.7,baz=241,slow=5.2,SNR=70
INK PKKPbc PKKPbc 19 18 44.2 -3.9
comp=Z,16nm,0.9s,baz=61,slow=5.0,SNR=8.5
INK PKPPKP 19 26 47.5
comp=Z,2.5nm,1.1s,baz=7.0,slow=5.4,SNR=3.1
INK LR LR 19 37 23.7
comp=Z,3μm,21.2s,MS5.6,baz=221,slow=33
P05C Yuba Gap, Truc 89.48 50 ⇓P **P 19 01 10.9 +0.1**
baz=90
ELFS Eagle Lake Fie 89.61 49 ⇓P **P 19 01 11.6 +0.3**
baz=90
J05A Fort Rock 89.68 46 ⇓P **P 19 01 11.3 -0.2**
baz=90
BEKR Beckwourth 89.76 50 ⇑P **P 19 01 12.1 0.0**
baz=90
L05A Lakeview 89.77 48 ⇓P **P 19 01 12.3 +0.3**
baz=90
R05C Kirkwood Meado 89.80 51 ⇑P **P 19 01 12.2 0.0**
baz=90
T06C Millerton Lake 89.82 53 ⇓P **P 19 01 12.6 +0.2**
baz=90
K05A Summer Lake 89.83 47 ⇓P **P 19 01 12.2 -0.1**
baz=90
D05A Enumclaw 89.84 43 ⇑P **P 19 01 12.6 +0.4**
baz=90
M06C Likely Place G 89.89 49 ⇑P **P 19 01 12.5 -0.1**
baz=90
MOD Modoc 90.13 48 *e*P **P 19 01 13.2 -0.5**
MOD
comp=Z,6.3nm,0.5s,mb5.2
MOD LR LR
comp=Z,4μm,20.0s,MS5.8
WCN Washoe City 90.13 51 ⇑P **P 19 01 14.4 +0.6**
baz=90
KCC Kaiser Creek 90.17 53 ⇑P **P 19 01 14.4 +0.3**
baz=90
R06C Coleville 90.25 51 ⇑P **P 19 01 14.3 0.0**
baz=90
N06A Buffalo Meadow 90.30 49 ⇑P **P 19 01 14.1 -0.5**
baz=90
HELL Mitchell Peak 90.31 53 ⇓P **P 19 01 14.2 -0.5**
baz=90,SNR=6.5
K06A Valley Falls 90.31 47 ⇑P **P 19 01 14.5 0.0**
baz=90
CIS Catalina Islan 90.35 57 ⇓P **P 19 01 14.4 -0.5**
baz=90
E06A Yakima 90.42 43 ⇑P **P 19 01 15.0 +0.1**
baz=90
J06A Christmas Vall 90.46 47 ⇑P **P 19 01 14.9 -0.3**
baz=90
R07C Lee Vining 90.50 52 ⇑P **P 19 01 15.5 0.0**
baz=90
I06A Prineville 90.53 46 ⇓P **P 19 01 15.3 -0.2**
baz=90
H06A Lindquist Farm 90.56 45 ⇓P **P 19 01 14.9 -0.7**
baz=91
ISA Isabella 90.61 54 PFAKE 19 01 30.0 +14
ISA LR LR
comp=Z,2μm,20.0s,MS5.5
ISA Isabella 90.61 54 ⇓P **P 19 01 16.2 +0.2**
baz=91
MTUM Tungsten Hills 90.77 53 *e*P **P 19 01 16.9 +0.1**
L07A Adell 90.86 48 ⇓P **P 19 01 17.3 +0.2**
baz=91
EDW2 Edwards Air Fo 90.89 55 P **P 19 01 18.0 +0.6**
baz=91,SNR=7.5
M07A Soldier Meadow 90.89 49 ⇓P **P 19 01 17.2 -0.1**
baz=91
K07A Rock Creek Ran 91.03 47 ⇓P **P 19 01 17.8 0.0**
baz=91
I07A Izee 91.05 46 ⇓P **P 19 01 17.3 -0.6**
baz=91
BFSC Mount Baldy St 91.07 56 ⇓P **P 19 01 18.1 -0.1**
baz=91
H07A Lands Inn, Kim 91.08 45 ⇑P **P 19 01 17.3 -0.7**
baz=91
S08C White Mtn Res 91.10 53 ⇑P **P 19 01 18.8 +0.4**
baz=91
G07A Ruggs Ranch, H 91.11 45 ⇑P **P 19 01 17.4 -0.8**
baz=91
NVAR Mina Array Bea 91.13 52 P **P 19 01 18.8 +0.4**
NVAR PP PP 19 04 59.2 +3.5
NVAR PKKPbc PKKPbc 19 18 43.5 +0.7
NVAR P'P' 19 26 49.7
NVAR Mina Array Bea 91.13 52 P **P 19 01 18.8 +0.4**
comp=Z,3.5nm,1.0s,baz=255,slow=4.8,SNR=16
NVAR PP PP 19 04 59.2 +3.5
comp=Z,0.6nm,0.7s,baz=254,slow=6.5,SNR=2.9
NVAR PKKPbc PKKPbc 19 18 43.5 +0.8
comp=Z,1.4nm,0.8s,baz=93,slow=5.0,SNR=6.7
NVAR PKPPKP 19 26 49.7
comp=Z,2.3nm,0.8s,baz=85,slow=5.2,SNR=13
E07A Sunnyside 91.18 43 ⇓P **P 19 01 18.1 -0.4**
baz=91
D07A Quincy 91.20 43 ⇑P **P 19 01 17.8 -0.8**
baz=91
LRMC Laurel Mountai 91.21 55 ⇓P **P 19 01 18.7 -0.2**
baz=91,SNR=7.6
C07A Waterville 91.22 42 ⇓P **P 19 01 18.1 -0.5**
baz=91
A07A Ashnola River, 91.22 41 ⇑P **P 19 01 17.7 -0.9**
baz=91
KBL Kabul 91.24 304 *e*P **P 19 01 17.5 -1.6**
comp=Z,79nm,0.8s,mb6.1
KK31 Karatay Array 91.29 313 *i* P **P 19 01 18.1 -1.0**
B07A Winthrop 91.30 41 ⇓P **P 19 01 18.4 -0.6**
baz=91
HAWA Hanford 91.38 44 PFAKE 19 01 30.0 +11
HAWA LR LR
comp=Z,3μm,22.0s,MS5.7
WVOR Wild Horse Val 91.44 48 *e*P **P 19 01 19.2 -0.6**
comp=Z,8.4nm,0.9s,mb5.1
WVOR LR LR
comp=Z,3μm,20.0s,MS5.7
MPMC Manual Prospec 91.45 54 ⇑P **P 19 01 20.1 +0.1**
baz=91
Q08A Gabbs 91.48 51 P **P 19 01 20.3 +0.3**
baz=92,SNR=7.6
M08A Happy Creek Ra 91.49 49 ⇑P **P 19 01 19.8 -0.2**
baz=92
N08A GE Springer Mi 91.58 49 ⇑P **P 19 01 20.6 +0.1**
baz=92
G08A Pilot Rock 91.61 45 ⇑P **P 19 01 20.3 -0.2**
baz=92
L08A Fields 91.62 48 ⇓P **P 19 01 20.3 -0.3**
baz=92
GRAC Grapevine Rang 91.67 53 ⇓P **P 19 01 21.0 +0.1**
baz=92
H08A Prairie City 91.71 46 ⇓P **P 19 01 20.7 -0.3**
baz=92
B08A Colville Reser 91.80 42 ⇑P **P 19 01 20.5 -0.8**
baz=92
F08A Pendleton 91.81 44 ⇑P **P 19 01 21.4 0.0**
baz=92
S09A Goldfield 91.88 52 ⇑P **P 19 01 22.2 +0.3**
baz=92
GSC Goldstone 91.91 55 *e*P **P 19 01 22.2 0.0**
comp=Z,13nm,1.2s,mb5.1
PFO Pinyon Flat Ob 91.99 57 PFAKE 19 01 30.0 +7.5
PFO LR LR
comp=Z,3μm,19.0s,MS5.7
PFO Pinyon Flat Ob 91.99 57 LR LR 19 38 37.4
comp=Z,3μm,18.1s,MS5.7,baz=305,slow=33
PFO Pinyon Flat Ob 91.99 57 ⇓P **P 19 01 22.8 +0.3**
baz=92
FURC Furnace Creek, 92.01 54 P **P 19 01 22.7 +0.1**
baz=92,SNR=7.0
N09A Rock Creek Ran 92.05 49 ⇑P **P 19 01 22.8 +0.1**
baz=92
Q09A Carvers 92.05 51 ⇑P **P 19 01 22.8 +0.1**
baz=92
R09A Tonopah 92.06 52 P **P 19 01 23.1 +0.4**
baz=92,SNR=12
L09A Wilkinson Ranc 92.09 48 ⇑P **P 19 01 22.7 -0.1**
baz=92
K09A Rome 92.14 47 P **P 19 01 23.0 0.0**
baz=92,SNR=5.2
HEC Hector,Ludlow 92.24 55 ⇑P **P 19 01 23.7 +0.1**
baz=92
A09A Danville 92.38 41 ⇑P **P 19 01 23.3 -0.7**
baz=92
S10A Tonopah Range, 92.40 52 P **P 19 01 24.9 +0.6**
baz=92,SNR=13
BELC Belle Mtn. 92.41 56 ⇓P **P 19 01 24.8 +0.3**
baz=92
U10A Ash Meadows, A 92.43 54 ⇑P **P 19 01 24.6 +0.1**
baz=92
TPNV Topopah Spring 92.56 53 *e*P **P 19 01 24.7 -0.4**
comp=Z,55nm,1.5s,mb5.8
TPNV LR LR
comp=Z,2μm,21.0s,MS5.6
TPNV Topopah Spring 92.56 53 *e*P **P 19 01 25.4 +0.3**
TPNV pmax pmax
comp=Z,55nm,1.5s,mb5.8
SYO Syowa Base 92.56 199⇑*e*P **P 19 01 21.0 -3.5**
SYO Syowa Base 92.56 199⇑*e*P **P 19 01 24.6 +0.1**
SYO Syowa Base 92.56 199⇑*e*pP pP 19 01 36.0 -2.0
B09A Rice 92.59 42 ⇓P **P 19 01 24.5 -0.4**
baz=93
TUQ Turquoise Mtn. 92.64 55 ⇑P **P 19 01 25.6 +0.1**
baz=93
Q10A Clear Creek Ra 92.66 51 ⇑P **P 19 01 25.6 +0.1**
baz=93
R10A Warm Springs 92.67 52 ⇓P **P 19 01 26.0 +0.4**
baz=93
P10A Eureka 92.70 51 ⇓P **P 19 01 26.1 +0.5**
baz=93
BMO Blue Mountains 92.72 45 PFAKE 19 01 40.0 +14
BMO LR LR
comp=Z,2μm,20.0s,MS5.5
CHKZ Chkalovo 92.73 324 *i* P **P 19 01 23.4 -2.1**
CHKZ pmax pmax
comp=Z,56nm,0.7s,mb6.1
K10A MacKenzie Ranc 92.78 47 ⇓P **P 19 01 25.9 -0.1**
baz=93
GMRC Granite Mounta 92.78 55 P **P 19 01 26.6 +0.4**
baz=93,SNR=6.3
BC3 Big Chuckw Mtn 92.82 57 ⇑P **P 19 01 26.3 -0.1**
baz=93
BRVK Borovoye 92.84 323 P **P 19 01 24.3 -1.7**
comp=Z,537nm,0.8s,mb7.0,SNR=69
BRVK Borovoye 92.84 323 *e*P **P 19 01 24.5 -1.5**
comp=Z,84nm,3.3s
BRVK LR LR
comp=Z,1μm,20.0s,MS5.3
BRVK Borovoye 92.84 323 P **P 19 01 24.6 -1.4**
BRVK pmax pmax
comp=Z,84nm,3.3s
G10A Bishop Farm, J 92.90 45 ⇑P **P 19 01 25.8 -0.7**
baz=93
F10A Beach Ranch, E 92.91 44 ⇓P **P 19 01 25.7 -0.8**
baz=93
L10A Juniper Basin 92.98 48 P **P 19 01 27.1 +0.1**
baz=93,SNR=7.1
D10A Wagner Farm, O 93.01 43 ⇑P **P 19 01 26.8 -0.1**
baz=93
H10A Noah's Angus R 93.08 46 ⇓P **P 19 01 26.9 -0.4**
baz=93
V11A Goodsprings 93.08 54 ⇑P **P 19 01 27.6 +0.1**
baz=93
IRM Iron Mountain 93.13 56 ⇑P **P 19 01 28.4 +0.6**
baz=93
R11A Troy Canyon, C 93.24 52 P **P 19 01 28.7 +0.5**
baz=93,SNR=6.6
Q11A Duckwater 93.24 51 P **P 19 01 28.8 +0.6**
baz=93,SNR=12
NEW Newport 93.25 42 P **P 19 01 27.0 -1.0**
NEW LR LR
comp=Z,4μm,22.0s,MS5.8
NEW Newport 93.25 42 P **P 19 01 27.0 -1.1**
comp=Z,4.4nm,0.9s,mb4.9,baz=177,slow=3.1,SNR=4.5
GLA Glamis 93.28 57 ⇓P **P 19 01 29.0 +0.5**
baz=93
K11A Parker Ranch, 93.39 48 ⇓P **P 19 01 28.9 +0.1**
baz=93
T11A Corn Creek, Al 93.41 53 ⇑P **P 19 01 29.6 +0.6**
baz=93
M11A Holland Ranch, 93.42 49 P **P 19 01 29.3 +0.3**
baz=93,SNR=7.3
G11A Walters Elk Ra 93.51 45 ⇓P **P 19 01 28.9 -0.4**
baz=94
Y12C Blythe 93.60 57 ⇑P **P 19 01 30.3 +0.3**
baz=94
MFID Camas Ranch 93.61 47 ⇓P **P 19 01 29.0 -0.7**
baz=94
E11A Bogner Ranch, 93.66 44 ⇓P **P 19 01 28.9 -1.0**
baz=94
B11A Sandpoint 93.77 42 ⇑P **P 19 01 30.4 0.0**
baz=94
A11A Hall Mountain, 93.83 41 P **P 19 01 30.6 -0.1**
baz=94,SNR=6.1
P12A McGill 93.88 51 P **P 19 01 31.9 +0.7**
baz=94,SNR=6.5
N12A Clover Valley, 93.92 49 P **P 19 01 31.5 +0.2**
baz=94,SNR=7.3
R12A Pony Springs, 94.00 52 ⇑P **P 19 01 32.0 +0.3**
baz=94
L12A House Creek Ra 94.07 48 ⇑P **P 19 01 31.9 0.0**
baz=94
M12A Wells 94.07 49 P **P 19 01 32.5 +0.5**
baz=94,SNR=7.2
O12A Currie 94.09 50 P **P 19 01 32.5 +0.4**
baz=94,SNR=11
J12A Stokes Ranch, 94.12 47 P **P 19 01 32.2 +0.1**
baz=94,SNR=6.8
K12A Draper Farm, C 94.20 48 ⇑P **P 19 01 32.3 -0.3**
baz=94
X13A Yucca 94.26 56 ⇑P **P 19 01 33.1 +0.2**
baz=94
W13A Hualapai Mount 94.26 55 ⇓P **P 19 01 32.8 -0.2**
baz=94
U13A Pakoon Wash 94.32 54 ⇓P **P 19 01 33.2 -0.1**
baz=94
H12A Diamond D Ranc 94.42 46 ⇓P **P 19 01 33.6 +0.1**
baz=94
S13A Holt Ranch, En 94.52 53 ⇑P **P 19 01 34.4 +0.3**
baz=94
N13A Wendover, West 94.55 50 ⇓P **P 19 01 34.4 +0.2**
baz=94
P13A Bates Ranch, G 94.57 51 P **P 19 01 34.9 +0.6**
baz=94,SNR=7.6
M13A Montello 94.63 49 P **P 19 01 34.8 +0.3**
baz=95,SNR=8.2
HLID Hailey 94.64 47 *e*P **P 19 01 34.1 -0.4**
comp=Z,3.4nm,0.9s,mb4.8
HLID LR LR
comp=Z,3μm,20.0s,MS5.7
O13A Hicks Ranch, I 94.66 50 ⇓P **P 19 01 34.8 +0.1**
baz=95
H13A Challis 94.85 46 ⇓P **P 19 01 35.0 -0.5**
baz=95
I13A Wildhorse Cree 94.89 46 ⇑P **P 19 01 35.0 -0.6**
baz=95
CCUT Cedar City 94.91 53 *e*P **P 19 01 36.1 +0.2**
G13A Cobalt 94.91 45 ⇓P **P 19 01 35.5 -0.2**
baz=95
V14A Boquillas Ranc 94.95 55 ⇑P **P 19 01 35.6 -0.5**
baz=95
U14A Mt Trumbull 94.95 54 ⇓P **P 19 01 36.1 -0.1**
baz=95
B13A Whitefish 95.03 42 ⇓P **P 19 01 35.9 -0.3**
baz=95
MSO Missoula 95.26 44 PFAKE 19 01 50.0 +13
MSO LR LR
comp=Z,2μm,22.0s,MS5.6
G14A Jackson 95.47 45 ⇓P **P 19 01 38.0 -0.3**
baz=95
DUG Dugway 95.55 50 PFAKE 19 01 50.0 +11
DUG LR LR
comp=Z,2μm,22.0s,MS5.5
MSU Marysvale 95.92 52 *e*P **P 19 01 42.0 +1.5**
YKA Yellowknife Ar 95.99 28 P **P 19 01 39.6 -0.6**
YKA PP PP 19 05 35.7 +2.6
YKA Yellowknife Ar 95.99 28 P **P 19 01 39.6 -0.6**
comp=Z,6.4nm,0.6s,mb5.2,baz=268,slow=4.6,SNR=73
YKA PP PP 19 05 35.7 +2.6
comp=Z,0.4nm,0.7s,baz=90,slow=32,SNR=5.2
YKA PKiKP PKiKP 19 06 16.4 -2.4
comp=Z,0.8nm,0.9s,baz=277,slow=4.9,SNR=2.7
YKA PKKPbc PKKPbc 19 18 26.4 -4.4
comp=Z,6.8nm,0.7s,baz=86,slow=2.9,SNR=36
YKA PKPPKP 19 26 29.9
comp=Z,0.3nm,0.7s,baz=44,slow=1.3,SNR=5.7
YKA LR LR 19 40 59.3
comp=Z,1μm,21.6s,MS5.4,baz=215,slow=33
EDM Edmonton 96.09 37 *e*P **P 19 01 39.3 -1.6**
EDM *e* 19 02 11.5
EDM Edmonton 96.09 37 P **P 19 01 40.1 -0.8**
WUAZ Wupatki 96.34 55 PFAKE 19 01 50.0 +7.5
WUAZ LR LR
comp=Z,2μm,19.0s,MS5.6
MPU Maple Canyon 96.44 51 PFAKE 19 01 50.0 +7.2
MPU LR LR
comp=Z,3μm,22.0s,MS5.7
HWUT Hardware Ranch 96.59 49 PFAKE 19 01 50.0 +6.5
HWUT LR LR
comp=Z,2μm,22.0s,MS5.5
TUC Tucson 96.61 58 PFAKE 19 01 50.0 +6.2
TUC LR LR
comp=Z,2μm,20.0s,MS5.6
TMUT Trail Mountain 96.72 51 *e*P **P 19 01 45.2 +1.1**
BOZ Bozeman (W) 96.78 45 PFAKE 19 02 00.0 +16
BOZ LR LR
comp=Z,2μm,22.0s,MS5.5
AHID Auburn Hatcher 97.00 48 PFAKE 19 02 00.0 +15
AHID LR LR
comp=Z,2μm,19.0s,MS5.6
YMR Madison River 97.20 46 PFAKE 19 02 00.0 +14
YMR LR LR
comp=Z,4μm,22.0s,MS5.8
LKWY Lake 97.60 46 PFAKE 19 02 00.0 +12
LKWY LR LR
comp=Z,3μm,21.0s,MS5.8
BW06 Boulder Array 98.14 48 PFAKE 19 02 00.0 +10
BW06 LR LR
comp=Z,2μm,20.0s,MS5.7
PDAR Pinedale Array 98.14 48 P **P 19 01 49.2 -1.2**
comp=Z,2.9nm,0.9s,mb4.8,baz=241,slow=2.7,SNR=12
PDAR PKKPbc PKKPbc 19 18 17.0 -7.3
comp=Z,0.7nm,0.6s,baz=96,slow=6.0,SNR=4.1
PDAR PKPPKP 19 26 34.7
comp=Z,1.8nm,1.0s,baz=81,slow=4.8,SNR=7.4
PDAR LR LR 19 43 54.4
comp=Z,2μm,18.6s,MS5.6,baz=282,slow=34
EGMT Eagleton 98.16 43 PFAKE 19 02 00.0 +10
EGMT LR LR
comp=Z,2μm,20.0s,MS5.6
RLMT Red Lodge 98.42 45 PFAKE 19 02 00.0 +8.4
RLMT LR LR
comp=Z,2μm,19.0s,MS5.5
SVE Sverdlovsk 98.64 326⇓*e*P **P 19 01 49.9 -2.4**
SVE pmax pmax
comp=Z,24nm,0.7s,mb5.8
SVE MLR MLR
comp=Z,1μm,23.0s,MS5.4
MVCO Mesa Verde 98.75 53 PFAKE 19 02 00.0 +6.7
MVCO LR LR
comp=Z,2μm,20.0s,MS5.5
AB31 Akbulak array 99.07 319 *i* P **P 19 01 52.2 -2.2**
ARU Arti 99.79 326 *e*P Pdif 19 01 55.0 -2.5
comp=Z,33nm,0.6s
ARU LR LR
comp=Z,1μm,20.0s,MS5.5
ARU Arti 99.79 326*c i*P Pdif 19 01 55.6 -1.9
ARU 19 06 01.4
ARU S SKSac 19 12 31.7 -0.6
ARU SS SS 19 20 23.4 +3.1
ARU pmax pmax
comp=Z,47nm,1.0s,mb5.9
SNAA Sanae 100.22 187 P Pdif 19 01 57.8 -1.6
SNAA PP PP 19 06 02.8 -1.8
SNAA Sanae 100.22 187 *e*Pdiff Pdif 19 01 58.8 -0.6
SNAA *e* 19 02 02.9
SNAA *e* 19 02 07.8
SNAA *e* 19 02 15.0
SNAA *e* 19 06 26.2
SNAA *e* 19 06 29.2
SNAA *e* 19 06 40.9
SNAA Sanae 100.22 187 P Pdif 19 01 57.8 -1.6
SNAA 19 06 02.8
SNAA pmax pmax
comp=Z,7.0nm,1.0s
SNAA pmax pmax
comp=Z,4.0nm,1.2s
SNAA Sanae 100.22 187 P Pdif 19 01 57.8 -1.6
comp=Z,6.7nm,1.0s,baz=214,slow=3.8,SNR=15
SNAA PP PP 19 06 02.8 -1.8
comp=Z,4.1nm,1.2s,baz=160,slow=3.8,SNR=3.9
SNAA PKiKP PKiKP 19 06 25.9 -0.3
comp=Z,4.4nm,0.9s,baz=137,slow=6.5,SNR=16
AKTK Aktyubinsk 100.31 320 P Pdif 19 01 58.2 -1.6
AKTO Aktyubinsk 100.31 320 P Pdif 19 01 58.2 -1.6
comp=Z,12nm,0.8s,baz=92,slow=6.0,SNR=36
AKTO PKiKP PKiKP 19 06 26.8 -0.1
comp=Z,4.0nm,0.8s,baz=85,slow=3.5,SNR=6.0
ANMO Albuquerque 100.33 56 PFAKE 19 02 10.0 +10
ANMO LR LR
comp=Z,1μm,22.0s,MS5.4
LAO LASA Array 100.55 44 PFAKE 19 02 10.0 +9.1
LAO LR LR
comp=Z,2μm,22.0s,MS5.6
ISCO Idaho Springs 101.06 51 PFAKE 19 02 10.0 +6.8
ISCO LR LR
comp=Z,1μm,21.0s,MS5.4
SDCO Great Sand Dun 101.15 53 PFAKE 19 02 20.0 +16
SDCO LR LR
comp=Z,2μm,21.0s,MS5.7
MNTX Cornudas Mount 101.16 59 PFAKE 19 02 20.0 +16
MNTX LR LR
comp=Z,4μm,22.0s,MS5.9
VNA3 Neumayer Olymp 101.30 185 *e*Pdiff Pdif 19 02 03.4 -0.9
VNA3 *e* 19 02 07.7
VNA3 *e* 19 02 13.3
VNA3 *e* 19 02 21.6
VNA3 *e* 19 02 27.6
VNA3 *e* 19 06 31.3
VNA3 *e* 19 06 42.3
VNA2 Neumayer--Watz 101.41 186 *e*Pdiff Pdif 19 02 04.2 -0.5
baz=148,slow=2.0
VNA2 *e* 19 02 08.2
VNA2 *e* 19 02 13.7
VNA2 *e* 19 02 22.7
VNA2 *e* 19 06 28.1
VNA2 *e* 19 06 31.2
VNA2 *e* 19 06 42.8
VNA1 Neumayer--Stat 101.75 185 *e*Pdiff Pdif 19 02 05.9 -0.4
VNA1 *e* 19 02 09.6
VNA1 *e* 19 02 17.4
VNA1 *e* 19 02 23.7
VNA1 *e* 19 06 29.4
VNA1 *e* 19 06 33.6
VNA1 *e* 19 06 43.7
RES Resolute Bay 101.79 15 *e*Pdif Pdif 19 02 04.9 -1.5
comp=Z,184nm,0.7s
RES Resolute Bay 101.79 15 *e*P Pdif 19 02 04.9 -1.5
RES pmax pmax
comp=Z,180nm,0.7s
DGMT Dagmar 101.87 42 PFAKE 19 02 20.0 +13
DGMT LR LR
comp=Z,2μm,20.0s,MS5.7
RSSD Black Hills 102.16 46 PFAKE 19 02 20.0 +12
RSSD LR LR
comp=Z,2μm,20.0s,MS5.7
PMSA Palmer Station 102.54 164 PFAKE 19 02 20.0 +10
PMSA LR LR
comp=Z,2μm,21.0s,MS5.6
TXAR Lajitas Array 102.59 62 PP PP 19 06 34.1 +10
comp=Z,1.1nm,1.0s,baz=232,slow=6.2,SNR=4.5
TXAR PKKPbc PKKPbc 19 18 09.6 -1.5
comp=Z,3.0nm,0.7s,baz=117,slow=3.5,SNR=17
TXAR PKPPKP 19 26 30.2
comp=Z,1.9nm,0.9s,baz=114,slow=3.0,SNR=7.7
FFC Flin Flon 102.77 36 PFAKE 19 02 20.0 +9.2
FFC LR LR
comp=Z,3μm,22.0s,MS5.8
AMTX Amarillo 104.26 56 PFAKE 19 02 30.0 +13
AMTX LR LR
comp=Z,1μm,22.0s,MS5.5
CBKS Cedar Bluff 105.65 52 PFAKE 19 06 50.0 +13
CBKS LR LR
comp=Z,1μm,20.0s,MS5.5

KBS Kingsbay 105.90 353 PFAKE 19 06 50.0 +14
KBS LR LR
comp=Z,2µm,21.0s,MS5.6
JCT Junction City 105.94 60 PFAKE 19 06 50.0 +12
JCT LR LR
comp=Z,2µm,20.0s,MS5.6
WMOK Wichita Mounta 106.65 56 PFAKE 19 06 50.0 +11
WMOK LR LR
comp=Z,2µm,20.0s,MS5.6
ULM Lac du Bonnet 107.08 40 PFAKE 19 06 50.0 +11
ULM LR LR
comp=Z,6µm,22.0s,MS6.1
AGMN Agassiz Refuge 107.41 42 PFAKE 19 06 50.0 +10
AGMN LR LR
comp=Z,2µm,21.0s,MS5.7
ECSD EROS,Sioux Fal 107.54 46 PFAKE 19 06 50.0 +10
ECSD LR LR
comp=Z,2µm,21.0s,MS5.7
KVTX Kingsville 107.68 63 PFAKE 19 06 50.0 +8.9
KVTX LR LR
comp=Z,2µm,19.0s,MS5.7
KSU1 Kansas State U 108.06 51 PFAKE 19 06 50.0 +8.5
KSU1 LR LR
comp=Z,2µm,22.0s,MS5.5
KEV Kevo 109.27 343 *ep* PKiKP 19 06 41.3 -1.5
comp=Z,1.5nm,0.4s
RDF Al-Radifah 109.30 298 *e*P Pdif 19 02 37.0 -2.8
RDF AML AML 19 02 46.5
comp=Z,5.4nm,0.5s
HKT Hockley 109.40 61 PFAKE 19 07 00.0 +16
HKT LR LR
comp=Z,2µm,20.0s,MS5.6
MIB Mutribah 109.44 299 *e*P Pdif 19 02 38.1 -2.4
MIB AMb AMB 19 02 51.6
comp=Z,14nm,0.7s
NAY Al-Naaiem 109.55 298 *e*P Pdif 19 02 39.7 -1.3
NAY AMb AMB 19 02 41.4
comp=Z,9.4nm,0.9s
NAY AML AML 19 02 47.3
comp=Z,4.5nm,0.5s
RST Umm Al-Ruwaisa 109.75 299 *e*P Pdif 19 02 40.5 -1.4
RST AMb AMB 19 02 52.9
comp=Z,26nm,0.6s
ARCES ARCESS Array B 109.83 343 Pdiff Pdif 19 02 39.6 -2.6
comp=Z,4.0nm,0.9s,baz=50,slow=6.5,SNR=5.0
ARCES PKiKP PKiKP 19 06 43.2 -0.6
comp=Z,5.8nm,0.4s,baz=80,slow=2.5,SNR=54
ARCES PKKPbc PKKPbc 19 17 46.3 -3.7
comp=Z,4.8nm,0.6s,baz=248,slow=2.3,SNR=11
DAG Danmarks Havn 110.22 359 *i* P PKiKP 19 06 34.0 -10
NATX Nacogdoches 110.29 59 PFAKE 19 07 00.0 +14
NATX LR LR
comp=Z,3µm,20.0s,MS5.8
EYMN Ely 110.35 41 PFAKE 19 07 00.0 +15
EYMN LR LR
comp=Z,2µm,22.0s,MS5.7
MIAR Mount Ida 110.95 56 PFAKE 19 07 00.0 +13
MIAR LR LR
comp=Z,2µm,22.0s,MS5.7
MOS Moscow 111.40 328 *e*P Pdif 19 02 45.7 -3.4
MOS *e* 19 07 26.8
JOF Joensuu 111.40 336 *ep* PKiKP 19 06 45.7 -1.3
comp=Z,14nm,0.7s
JOF Joensuu 111.40 336 *e*PKIKP PKiKP 19 06 45.7 -1.3
JOF pmax pmax
comp=Z,14nm,0.7s
KIV Kislovodsk 111.41 314 PFAKE 19 07 00.0 +12
KIV LR LR
comp=Z,535nm,22.0s,MS5.1
KIV Kislovodsk 111.41 314 ||P Pdif 19 03 00.0 +11
KIV *i* 19 06 47.3
KIV *e* 19 07 32.6
KIV *e*PS PS 19 16 58.8 -2.3
KIV SS SS 19 23 20.0 +21
KIV pmax pmax
comp=Z,6.0nm,0.8s
KIV pmax pmax
comp=Z,21nm,1.5s
KIV MLR MLR
comp=Z,800nm,27.0s,MS5.2
VRSR Storozhevoye 111.94 323 *e*PKIKP PKiKP 19 06 47.4 -1.0
VRSR pmax pmax
comp=Z,2.0nm,0.7s
VRSR pmax pmax
comp=N,2.0nm,0.9s
VRSR pmax pmax
comp=E,2.0nm,1.9s
OBN Obninsk 112.18 327⇑ *i*PKIKP PKiKP 19 06 48.1 -0.6
OBN 19 07 32.0
OBN pmax pmax
comp=Z,15nm,0.6s
OBN MLR MLR
comp=Z,700nm,20.0s,MS5.2
JFWS Jewell Farm 112.25 46 PFAKE 19 07 00.0 +11
JFWS LR LR
comp=Z,2µm,22.0s,MS5.6
COWI Conover 112.33 43 PFAKE 19 07 00.0 +11
COWI LR LR
comp=Z,2µm,20.0s,MS5.8
CCM Cathedral Cave 112.36 52 PFAKE 19 07 00.0 +10
CCM LR LR
comp=Z,453nm,19.0s,MS5.1
MSL Mosul 112.38 306 *ex* x 19 06 49.0
ERZM Erzurum 113.14 310 *i* P PKiKP 19 06 52.2 +1.1
HDIL Hopedale 113.42 49 PFAKE 19 07 00.0 +8.5
HDIL LR LR
comp=Z,2µm,22.0s,MS5.6
KAF Kangasniemi 113.81 337 *ep* PKiKP 19 06 50.0 -1.6
comp=Z,22nm,0.7s,baz=51,slow=1.9
KAF Kangasniemi 113.81 337 *e*PKIKP PKiKP 19 06 50.0 -1.6
KAF pmax pmax
comp=Z,22nm,0.7s
FIA1 FINESS Array S 114.27 336 *e*PKPdf PKiKP 19 06 50.6 -1.9
FINES FINESS Array B 114.27 336 PKIKP PKiKP 19 06 50.8 -1.7
FINES pmax pmax
comp=Z,21nm,0.8s
FINES FINESS Array B 114.27 336 Pdiff Pdif 19 03 00.6 -1.4
comp=Z,1.9nm,0.6s,baz=64,slow=6.9,SNR=13
FINES PKP PKiKP 19 06 50.8 -1.7
comp=Z,21nm,0.8s,baz=95,slow=3.3,SNR=47
FINES PKKPbc PKKPbc 19 17 31.9 -3.2
comp=Z,4.0nm,0.8s,baz=176,slow=3.8,SNR=9.4
EFI East Falkland 114.74 158 PFAKE 19 07 10.0 +16
EFI LR LR
comp=Z,1µm,20.0s,MS5.4
PLAL Pickwick Lake 115.37 55 PFAKE 19 07 10.0 +15
PLAL LR LR
comp=Z,2µm,20.0s,MS5.6
WVT Waverly 115.37 53 PFAKE 19 07 10.0 +15
WVT LR LR
comp=Z,2µm,22.0s,MS5.7
MALT Malatya 115.69 309 *e*PKPdf PKPdf 19 06 55.7 -0.3
MALT Malatya 115.69 309 ||*i*P PKPdf 19 06 55.9 -0.1
WCI Wyandotte Cave 116.17 51 PFAKE 19 07 10.0 +13
WCI LR LR
comp=Z,410nm,21.0s,MS5.0
PLCA Paso Flores 116.24 142 *e*PKPdf PKPdf 19 06 56.0 -1.0
PLCA *e*PP PP 19 08 02.6 +0.3
PLCA Paso Flores 116.24 142 PKIKP PKPdf 19 06 56.4 -0.6
PLCA 19 08 02.3
PLCA pmax pmax
comp=Z,4.0nm,0.5s
PLCA Paso Flores 116.24 142 PKP PKPdf 19 06 56.4 -0.6
comp=Z,3.9nm,0.5s,baz=220,slow=3.7,SNR=23
PLCA PP PP 19 08 02.3 0.0
comp=Z,7.0nm,1.2s,baz=256,slow=6.8,SNR=2.9
PLCA PKKPbc PKKPbc 19 17 27.1 -0.5
comp=Z,13nm,0.7s,baz=48,slow=4.1,SNR=14
PLCA SKKP 19 21 22.0
comp=Z,2.4nm,0.9s,baz=50,slow=9.9,SNR=3.3
GZT Gaziantep 116.56 308 *i* P PKPdf 19 06 57.8 +0.1
LRAL Lakeview Retre 116.57 57 PFAKE 19 07 10.0 +12
LRAL LR LR
comp=Z,3µm,22.0s,MS5.8
TEIG Tepich 116.72 71 PFAKE 19 07 10.0 +12
TEIG LR LR
comp=Z,1µm,21.0s,MS5.5
BRAL Brewton 116.83 59 PFAKE 19 07 10.0 +12
BRAL LR LR
comp=Z,2µm,22.0s,MS5.7
SIM Simferopol' 117.09 317*c* *i*PKIKP PKPdf 19 06 58.0 -0.5
SIM pmax pmax
comp=Z,23nm,0.7s
AAM Ann Arbor 117.12 46 PFAKE 19 07 10.0 +11
AAM LR LR
comp=Z,2µm,22.0s,MS5.6
SFJD Kangerlussuaq 117.45 11 PFAKE 19 07 10.0 +11
SFJD LR LR
comp=Z,2µm,20.0s,MS5.6
ANDN Andirin 117.46 309 *i* P PKPdf 19 06 58.9 -0.5
BOYT Boyabat 117.58 313 *i* P PKPdf 19 06 59.3 -0.2
TGUH Tegucigalpa,Un 117.77 78 PFAKE 19 07 10.0 +9.4
TGUH LR LR
comp=Z,927nm,20.0s,MS5.4
CTKT Corum 117.88 312 *i* P PKPdf 19 07 00.0 -0.1
AKASG Malin Array Be 118.00 325 Pdif Pdif 19 03 17.4 -1.1
AKASG PKP PKPdf 19 06 58.7 -1.4
AKASG PP PP 19 08 14.4 -0.2
AKASG PKKPbc PKKPbc 19 17 18.6 -3.0
AKASG SKKP 19 21 15.5
AKASG Malin Array Be 118.00 325 PKIKP PKPdf 19 06 58.7 -1.3
AKASG 19 08 14.4
AKASG pmax pmax
comp=Z,44nm,0.6s
AKASG Malin Array Be 118.00 325 Pdiff Pdif 19 03 17.4 -1.1
comp=Z,2.0nm,0.7s,baz=52,slow=4.8,SNR=16
AKASG PKP PKPdf 19 06 58.7 -1.4
comp=Z,44nm,0.6s,baz=52,slow=2.4,SNR=269
AKASG PP PP 19 08 14.4 -0.2
comp=Z,2.2nm,0.9s,baz=54,slow=6.8,SNR=5.7
AKASG PKKPbc PKKPbc 19 17 18.6 -3.0
comp=Z,3.0nm,0.7s,baz=256,slow=4.1,SNR=12
AKASG SKKP 19 21 15.5
comp=Z,0.8nm,0.7s,baz=241,slow=5.6,SNR=7.5
AKBB Malin Array Si 118.00 325 *e*PKPdf PKPdf 19 06 58.4 -1.6
AKBB Malin Array Si 118.00 325 PKIKP PKPdf 19 06 59.0 -1.0
KIEV Kiev 118.01 325 *e*PKPdf PKPdf 19 06 58.5 -1.5
KIEV LR LR
comp=Z,1µm,21.0s,MS5.6
KMBO Kilima Mbogo 118.13 265 *e*PKPdf PKPdf 19 07 01.2 -0.2
KMBO LR LR
comp=Z,672nm,20.0s,MS5.3
KMBO Kilima Mbogo 118.13 265 PKIKP PKPdf 19 07 01.6 +0.2
KMBO Kilima Mbogo 118.13 265 PKP PKPdf 19 07 01.4 0.0
comp=Z,14nm,0.8s,baz=51,slow=5.2,SNR=54
ACSO Alum Creek Sta 118.18 48 PFAKE 19 07 10.0 +9.3
ACSO LR LR
comp=Z,2µm,19.0s,MS5.7
AVNT Avonos 118.31 310 *i* P PKPdf 19 07 00.7 -0.3
CDAG Cicekdag 118.46 311 *i* P PKPdf 19 06 59.5 -1.8
BALT Daday 118.64 314 *i* P PKPdf 19 07 00.6 -1.0
TZTN Tazewell 118.67 52 PFAKE 19 07 10.0 +8.2
TZTN LR LR
comp=Z,3µm,20.0s,MS5.8
ELDT Eldivan 118.91 313 *i* P PKPdf 19 07 01.8 -0.3
GOGA Godfrey 119.42 56 PFAKE 19 07 10.0 +6.7
GOGA LR LR
comp=Z,2µm,22.0s,MS5.8
ANTO Ankara 119.56 312 *e*PKPdf PKPdf 19 07 03.0 -0.3
ANTO LR LR
comp=Z,337nm,21.0s,MS5.0
ANTO Ankara 119.56 312 PKIKP PKPdf 19 07 03.5 +0.1
ANTO Ankara 119.56 312⇑ *i*P PKPdf 19 07 03.3 -0.1
SUW Suwalki 119.63 330 *e*PKP PKPdf 19 07 02.7 -0.4
SUW LMZ 19 57 11.4
comp=Z,1µm,24.3s
ERPA Erie 119.78 45 PFAKE 19 07 10.0 +6.3
ERPA LR LR
comp=Z,3µm,21.0s,MS5.9
HFS Hagfors 119.80 339 PKIKP PKPdf 19 07 01.7 -1.5
HFS pmax pmax
comp=Z,17nm,0.7s
HFS Hagfors 119.80 339 PKP PKPdf 19 07 01.7 -1.5
comp=Z,16nm,0.7s,baz=47,slow=2.6,SNR=41
NOA NORSAR Array B 119.97 341 PKP PKPdf 19 07 02.3 -1.2
comp=Z,15nm,0.8s,baz=45,slow=1.9,SNR=42
NOA PKKPbc PKKPbc 19 17 12.6 -2.1
comp=Z,11nm,0.8s,baz=44,slow=3.7,SNR=29
EIL Elat 120.16 300 PKKPbc PKKPbc 19 17 12.3 -0.8
comp=Z,3.4nm,0.8s,baz=8.7,slow=8.7,SNR=4.4
NAO01 NORSAR Array S 120.22 341 *e*PKPdf PKPdf 19 07 03.1 -0.9
ERMK Ermenek 120.35 308 *e*P PKPdf 19 07 06.1 +1.1
CSS Prodhromos 120.43 306 *e*P PKPdf 19 07 04.4 -0.8
KDHN Kadinhani 120.45 311 *i* P PKPdf 19 07 03.8 -1.3
BOSA Boshof 120.61 231 *e*PKPdf PKPdf 19 07 05.2 -0.6
BOSA LR LR
comp=Z,2µm,21.0s,MS5.7
BOSA Boshof 120.61 231 PKIKP PKPdf 19 07 05.7 -0.1
BOSA Boshof 120.61 231 PKP PKPdf 19 07 05.3 -0.5
comp=Z,73nm,0.7s,baz=114,slow=1.7,SNR=120
HENT Hendek 120.64 314 *i* P PKPdf 19 07 04.8 -0.6
MCWV Mont Chateau 120.65 48 PFAKE 19 07 20.0 +15
MCWV LR LR
comp=Z,2µm,21.0s,MS5.8
BLA Blacksburg 120.93 51 PFAKE 19 07 20.0 +14
BLA LR LR
comp=Z,2µm,22.0s,MS5.8
CFR Carcaliu 120.96 319 P PKPdf 19 07 07.2 +1.3
TIRR Tirgusor 121.06 318 P PKPdf 19 07 06.1 -0.1
TIRR Tirgusor 121.06 318 ||*i*P PKPdf 19 07 05.9 -0.2
ESKT Eskisehir 121.09 312 *i* P PKPdf 19 07 05.3 -1.0
HARR Harsova 121.29 319 P PKPdf 19 07 06.5 -0.1
HARR Harsova 121.29 319 ||*i*P PKPdf 19 07 06.8 +0.2
LVV L'vov 121.36 326 *e*PKIKP PKPdf 19 07 05.4 -1.1
LVV *e* 19 07 16.8
LVV MLR MLR
comp=Z,1µm,22.5s,MS5.5
SCHQ Schefferville 121.44 27 PKP PKPdf 19 07 05.5 -1.0
SCHQ PKKPbc PKKPbc 19 17 06.3 -2.7
SCHQ LR LR
comp=Z,3µm,20.0s,MS5.9
SCHQ Schefferville 121.44 27 PKP PKPdf 19 07 05.5 -1.0
comp=Z,1.7nm,0.5s,baz=280,slow=16,SNR=4.7
SCHQ PKKPbc PKKPbc 19 17 06.3 -2.7
comp=Z,9.9nm,0.8s,baz=145,slow=5.0,SNR=6.8
KONO Kongsberg 121.55 341 PFAKE 19 07 20.0 +13
KONO LR LR
comp=Z,2µm,21.0s,MS5.6
VRI Vrincioaia 121.58 320 P PKPdf 19 07 06.7 -0.4
VRI Vrincioaia 121.58 320 ||*i*P PKPdf 19 07 06.5 -0.6
PLOR Plostina 121.64 320⇑ *i*P PKPdf 19 07 06.7 -0.5
WAR Warsaw 121.69 329 *e*PKP PKPdf 19 07 07.5 +0.4
SSPA Standing Stone 121.76 46 PFAKE 19 07 20.0 +12
SSPA LR LR
comp=Z,464nm,20.0s,MS5.1
SUR Sutherland 121.93 225 *e*PKPdf PKPdf 19 07 08.7 +0.5
SUR LR LR
comp=Z,3µm,20.0s,MS5.9
SUR Sutherland 121.93 225 PKP PKPdf 19 07 09.1 +0.9
comp=Z,55nm,0.6s,baz=120,slow=3.3,SNR=65
LBTB Lobatse 122.00 235 *e*PKPdf PKPdf 19 07 08.0 -0.6
LBTB LR LR
comp=Z,2µm,19.0s,MS5.7
LBTB Lobatse 122.00 235 PKIKP PKPdf 19 07 08.5 -0.1
NHSC New Hope 122.17 55 PFAKE 19 07 20.0 +11
NHSC LR LR
comp=Z,2µm,22.0s,MS5.7
KWP Kalwaria 122.20 326 *e*PKP PKPdf 19 07 08.3 +0.1
KWP *e*PKiKP PKiKP 19 07 08.5 +0.2
KWP LMZ 19 59 06.0
comp=Z,1µm,23.9s
KWP Kalwaria 122.20 326 *e*PKP PKPdf 19 07 08.3 +0.2
KWP *e*PKPdf PKPdf 19 07 08.5 +0.4
KWP Kalwaria 122.20 326 *i* PKIKP PKPdf 19 07 08.5 +0.4
KWP MLR MLR
comp=Z,1µm,23.9s,MS5.4
KWP Kalwaria 122.20 326 ||*i*P PKPdf 19 07 08.0 -0.1
GDZ Gediz 122.23 312 *i* P PKPdf 19 07 07.3 -1.3
MLR Muntele Rosu 122.24 320 P PKPdf 19 07 08.3 0.0
MLR Muntele Rosu 122.24 320⇑ *i*P PKPdf 19 07 07.9 -0.4
BORG Borgarnes 122.33 359 PFAKE 19 07 20.0 +12
BORG LR LR
comp=Z,2µm,20.0s,MS5.7
LONY Lake Ozonia 122.49 41 PFAKE 19 07 20.0 +11
LONY LR LR
comp=Z,5µm,21.0s,MS6.1
BINY Binghamton 122.53 44 PFAKE 19 07 20.0 +11
BINY LR LR
comp=Z,2µm,20.0s,MS5.8
LCO Las Campanas 122.70 131 *e*PKPdf PKPdf 19 07 09.0 -0.8
LCO LR LR
comp=Z,734nm,21.0s,MS5.3
GOLH Golhisar 122.76 310 *i* P PKPdf 19 07 01.0 -8.6
BSD Bornholm Skovb 122.79 334⇑ *i*PKIKP PKPdf 19 07 08.6 -0.5
BSD pmax pmax
comp=Z,60nm,0.7s
BSD Bornholm Skovb 122.79 334⇑ *i*P PKPdf 19 07 08.6 -0.5
comp=Z,60nm,0.7s
KOLS Kolonicke sedl 122.80 325 *e*PKP PKPdf 19 07 09.6 +0.3
KOLS *e* 19 21 12.9
KOLS Kolonicke sedl 122.80 325 *e* PKKPbc 19 17 03.1 -0.6
VOIR 122.83 321⇑ *i*P PKPdf 19 07 09.2 -0.3
CBN Corbin 122.94 49 PFAKE 19 07 20.0 +10
CBN LR LR
comp=Z,1µm,21.0s,MS5.6
GKP Gorka Klasztor 122.94 332 *e*PKP PKPdf 19 07 09.3 -0.2
GKP *e*PKiKP PKiKP 19 07 09.9 +0.3
GKP LMZ 20 01 37.9
comp=Z,2µm,23.2s
GKP Gorka Klasztor 122.94 332 *e*PKP PKPdf 19 07 09.3 -0.1
GKP *e*PKPdf PKPdf 19 07 09.9 +0.5
GKP LR LR
comp=Z,2µm,23.2s,MS5.6
GKP Gorka Klasztor 122.94 332 *i* PKIKP PKPdf 19 07 09.9 +0.5
GKP MLR MLR
comp=Z,2µm,23.2s,MS5.6
UZH Uzhgorod 122.95 325⇑ *i*PKIKP PKPdf 19 07 08.0 -1.6
UZH *e* 19 07 15.0
UZH *e* 19 07 22.0
NCB Newcomb 123.00 41 PFAKE 19 07 20.0 +10
NCB LR LR
comp=Z,5µm,22.0s,MS6.1
TRQA Tornquist 123.03 145 PFAKE 19 07 20.0 +10
TRQA LR LR
comp=Z,9µm,21.0s,MS6.4
BTOK Tokmak 123.07 313 *i* P PKPdf 19 07 09.3 -0.9
JMB Yambol 123.07 317 *e*P PKPdf 19 07 09.6 -0.5
CFAA Coronel Fontan 123.09 135 PKP PKPdf 19 07 09.4 -1.1
comp=Z,1.5nm,0.7s,baz=246,slow=2.9,SNR=33
CFAA PP PP 19 08 46.9 -2.8
comp=Z,3.1nm,1.1s,baz=230,slow=4.8,SNR=14
CFAA PKKPbc PKKPbc 19 17 01.3 -0.9
comp=Z,0.5nm,0.7s,baz=47,slow=2.8,SNR=9.1
STHS Stebnicka Huta 123.12 326 *e*PKP PKPdf 19 07 10.0 +0.1
STHS Stebnicka Huta 123.12 326 *e* PKKPbc 19 17 01.6 -0.8
SZH Strazhica 123.19 318 *i* P PKPdf 19 07 10.0 -0.2
CRVS Cervenica-Dubn 123.28 326 *e*PKP PKPdf 19 07 10.2 0.0
CRVS *e* 19 17 00.2
SART Tekirdag 123.34 315 *i* P PKPdf 19 07 09.7 -0.9
ZIMR 123.40 319 P PKPdf 19 07 10.6 0.0
COP Copenhagen 123.43 336 *i* PKIKP PKPdf 19 07 10.6 +0.3
COP pmax pmax
comp=Z,32nm,0.7s
COP Copenhagen 123.43 336 *i* P PKPdf 19 07 10.6 +0.3
comp=Z,32nm,0.7s
CNNC Cliffs of the 123.45 52 PFAKE 19 07 20.0 +9.0
CNNC LR LR
comp=Z,2µm,20.0s,MS5.8
OJC Ojcow 123.47 328 *e*PKPdf PKPdf 19 07 10.1 -0.5
OJC *e*PP PP 19 08 49.9 -1.9
AKHS Akhisar 123.53 312 *i* P PKPdf 19 07 10.5 -0.5
DRGR 123.63 323 P PKPdf 19 07 10.9 -0.1
DRGR 123.63 323 ||*i*P PKPdf 19 07 10.9 -0.1
NIE Niedzica 123.63 327 *i* PKPdf PKPdf 19 07 11.8 +0.9
DIM Dimitrovgrad 123.95 317 *i* P PKPdf 19 07 11.3 -0.5
KECS Kecovo 124.05 326 *e*PKP PKPdf 19 07 11.3 -0.4
KECS Kecovo 124.05 326 *e* PKKPbc 19 16 57.2 -1.5
ALN Alexandroupoli 124.06 315 *e*P PKPdf 19 07 10.1 -1.9
KDAG Bornova 124.10 312 *i* P PKPdf 19 07 11.1 -1.1
MUD Monsted U'grnd 124.12 338 *i* PKIKP PKPdf 19 07 11.1 -0.5
MUD pmax pmax
comp=Z,28nm,0.9s
MUD Monsted U'grnd 124.12 338 *i* P PKPdf 19 07 11.1 -0.5
comp=Z,28nm,0.9s
ARG Arkhangelos 124.17 309 *e*P PKPdf 19 07 10.0 -2.4
LRW Lerwick 124.20 346 *e*P PKPdf 19 07 10.7 -1.0
GZR Gura Zlata 124.27 321 P PKPdf 19 07 11.6 -0.7
GZR Gura Zlata 124.27 321 ||*i*P PKPdf 19 07 12.2 0.0
RDO Rodhopi 124.31 316 *e*P PKPdf 19 07 10.0 -2.5
LBNH Lisbon 124.37 40 PFAKE 19 07 20.0 +7.5
LBNH LR LR
comp=Z,5µm,21.0s,MS6.1
BDRM Kayabasi 124.42 310 *i* P PKPdf 19 07 11.9 -0.9
BOZC Bozcaada 124.46 314 *i* P PKPdf 19 07 11.1 -1.7
PLD Plovdiv 124.49 317 *e*P PKPdf 19 07 11.6 -1.2
PRK Paraskevi 124.52 313 *e*P PKPdf 19 07 12.0 -0.9
OKC Ostrava-Krasne 124.56 328 *e*PKPdf PKPdf 19 07 12.6 -0.1
SMG Samos 124.65 311 *e*P PKPdf 19 07 12.5 -0.7
RZN Rozhen 124.66 317 *i* P PKPdf 19 07 11.3 -1.8
PSZ Piszkesteto 124.69 325 *e*PKPdf PKPdf 19 07 12.5 -0.4
PSZ Piszkesteto 124.69 325 PKIKP PKPdf 19 07 13.2 +0.2
PSZ Piszkesteto 124.69 325 ||*i*P PKPdf 19 07 13.0 0.0
PSZ Piszkesteto 124.69 325||*e*PKP PKPdf 19 07 13.1 +0.1
BZS Buzias 124.87 322 P PKPdf 19 07 12.9 -0.5
BZS Buzias 124.87 322 ||*i*P PKPdf 19 07 13.2 -0.2
KSP Ksiaz 124.90 330 *e*PKP PKPdf 19 07 13.7 +0.4
KSP LMZ 20 02 04.7
comp=Z,2µm,21.5s
KSP Ksiaz 124.90 330 *e*PKP PKPdf 19 07 13.2 -0.1
KSP *i* PKPdf PKPdf 19 07 13.8 +0.5
KSP *ep*PKP pPKPdf 19 07 26.7 -0.6
KSP *e*PP PP 19 09 01.5 +0.1
KSP LR LR
comp=Z,3µm,21.5s,MS5.9
KSP Ksiaz 124.90 330 *i* PKIKP PKPdf 19 07 13.8 +0.5
KSP *e* 19 07 26.7
KSP *e* 19 09 01.5
KSP MLR MLR
comp=Z,3µm,21.5s,MS5.9
MORC Moravsky Berou 124.91 328 *e*PKPdf PKPdf 19 07 13.3 0.0
MORC Moravsky Berou 124.91 328 PKIKP PKPdf 19 07 14.0 +0.7
MORC Moravsky Berou 124.91 328 ||*i*P PKPdf 19 07 13.8 +0.5
BCIP Isla Barro Col 124.95 84 PFAKE 19 07 30.0 +16
BCIP LR LR
comp=Z,964nm,19.0s,MS5.5
VYHS Vyhne 124.96 326 *e*PKP PKPdf 19 07 13.2 -0.3
VYHS Vyhne 124.96 326 *e* 19 20 44.6
RUE Ruedersdorf 125.05 333 *e*PKPdf PKPdf 19 07 13.4 -0.2
LIA Limnos Island 125.05 314 *e*P PKPdf 19 07 07.5 -6.4
LOS Limnos 125.11 315 *e*P PKPdf 19 07 12.9 -1.1
KARP Karpathos 125.12 309 *e*P PKPdf 19 07 14.0 -0.2
DPC Dobruska-Polom 125.19 329 *e*PKP PKPdf 19 07 13.7 -0.2
DPC *e* 19 07 26.8
DPC LR LR
comp=Z,1µm,22.9s,MS5.6
DPC Dobruska-Polom 125.19 329 *e*PKPdf PKPdf 19 07 13.7 -0.2
DPC *ep*PKP pPKPdf 19 07 26.8 -1.0
DPC *e*SKKP 19 20 38.7
DPC *ex* x 19 20 45.9
DPC AMS AMS 20 01 40.0
comp=Z,1µm,22.9s,MS5.6
UPC Upice 125.25 330 *e*PKP PKPdf 19 07 13.9 -0.1
UPC *e* 19 07 27.5
UPC Upice 125.25 330 *e*PKPdf PKPdf 19 07 13.9 -0.1
UPC *ep*PKP pPKPdf 19 07 27.5 -0.5
UPC *e*SKKP 19 20 40.1
UPC *ex* x 19 20 45.8
VTS Vitosha 125.28 318 *e*P PKPdf 19 07 14.1 -0.2
VTS Vitosha 125.28 318⇑ *i*P PKPdf 19 07 13.1 -1.2
VTS Vitosha 125.28 318 *i* P PKPdf 19 07 13.3 -1.0
MMB Musomiste 125.37 317 *i* P PKPdf 19 07 13.9 -0.6
NVR Nevrokopi 125.38 317 *e*P PKPdf 19 07 12.5 -2.0
HRV Adam Dziewonsk 125.39 42 PFAKE 19 07 30.0 +16
HRV LR LR
comp=Z,3µm,21.0s,MS5.9
BUD Budapest 125.42 325⇑ *e*PKP PKPdf 19 07 14.2 -0.2
PKME Peaks-Kenny Pk 125.52 38 PFAKE 19 07 30.0 +15
PKME LR LR
comp=Z,4µm,20.0s,MS6.1
WES Weston 125.60 42 PFAKE 19 07 30.0 +15
WES LR LR
comp=Z,2µm,21.0s,MS5.7
KKB Krupnik 125.69 317 *i* P PKPdf 19 07 14.5 -0.6
VRAC Vranov 125.69 328 P PKPdf 19 07 15.1 +0.2
VRAC Vranov 125.69 328 PKP PKPdf 19 07 14.5 -0.4
comp=Z,29nm,0.9s,baz=71,slow=1.3,SNR=29
VRAC Vranov 125.69 328 ||*i*P PKPdf 19 07 15.2 +0.4
OUR Ouranopolis 125.72 315 *e*P PKPdf 19 07 13.2 -2.0
APE Apeiranthos 125.85 311 ||P PKPdf 19 07 14.2 -1.4
APE Apeiranthos 125.85 311 *e*P PKPdf 19 07 15.0 -0.6
APE Apeiranthos 125.85 311 ||*i*P PKPdf 19 07 14.2 -1.4
MODS Modra-Piesok 125.88 327 *i* PKP PKPdf 19 07 15.2 0.0
SOH Sokhos 125.95 316 *e*P PKPdf 19 07 13.4 -2.2
PVCC Panska Ves 125.95 330 *e*PKPdf PKPdf 19 07 15.3 0.0
PVCC *ep*PKP pPKPdf 19 07 28.3 -1.0
PVCC AMS AMS 19 58 40.0
comp=Z,1µm,22.2s,MS5.5
BRG Berggiesshubel 126.03 331 ||*i*PKIKP PKPdf 19 07 15.2 -0.3
BRG *e* 19 09 10.1
BRG pmax pmax
comp=Z,55nm,0.9s

BRG pmax pmax
comp=Z,17nm,1.5s
BRG Berggiesshubel 126.03 331 *e*PKPdf PKPdf 19 07 15.0 -0.5
BRG *e*PP PP 19 09 10.1 +1.2
BRG Berggiesshubel 126.03 331⇓*i*PKP PKPdf 19 07 15.2 -0.2
comp=Z,92nm,0.9s
BRG *e* 19 09 10.1
comp=Z,29nm,1.5s
ZST Bratislava 126.08 327 *e*PKP PKPdf 19 07 15.9 +0.3
ZST LR LR
comp=Z,600nm,20.7s,MS5.2
PLG Polygyros 126.08 316 *e*P PKPdf 19 07 14.3 -1.6
PLG Polygyros 126.08 316 *e*P PKPdf 19 07 14.0 -1.9
PAIG Paliouri 126.10 315 *e*P PKPdf 19 07 13.6 -2.3
KNT Kendrikon 126.12 317 *e*P PKPdf 19 07 14.3 -1.6
CLL Collm 126.19 332⇓*i*PKP PKPdf 19 07 15.5 -0.2
CLL *e* 19 07 30.0
CLL *e*PP PP 19 09 15.0 +5.1
CLL *e*SKP 19 10 51.0
CLL Collm 126.19 332⇓*i*PKIKP PKPdf 19 07 15.5 -0.2
CLL *e* 19 07 30.0
CLL *e* 19 09 15.0
CLL pmax pmax
comp=Z,93nm,0.7s
CLL MLR MLR
comp=Z,1μm,25.8s,MS5.4
CLL Collm 126.19 332 *e*PKPdf PKPdf 19 07 15.2 -0.6
CLL *e*PP PP 19 09 10.3 +0.4
CLL Collm 126.19 332⇓*i*PKPdf PKPdf 19 07 15.5 -0.2
comp=Z,93nm,0.7s
CLL *e*pPKPdf pPKPdf 19 07 30.0 +0.3
CLL *e*PP PP 19 09 15.0 +5.1
comp=Z,200nm,20.6s
CLL *e*SKPdf SKPdf 19 10 51.0 +3.3
CLL *e*PPP 19 12 00.0
CLL *e*SKSP 19 19 02.0
CLL *e*pSKSP 19 19 21.0
CLL ⇓*i*PKKSbc 19 20 40.0
comp=Z,28nm,1.6s
CLL *e*PPS 19 20 51.0
CLL *e*SS SS 19 26 09.0 -0.2
CLL *e*SSS 19 31 06.0
ORE Reay 126.22 347 *e*P PKPdf 19 07 15.2 -0.4
HORT Hortiatis 126.22 316 *e*P PKPdf 19 07 14.1 -2.1
AOS Alonnisos 126.27 314 *e*P PKPdf 19 07 13.9 -2.4
TREC Trest 126.27 329 *e*PKPdf PKPdf 19 07 15.5 -0.5
TREC AMS AMS 20 05 20.0
comp=Z,1μm,18.6s,MS5.6
VAY Valandovo 126.27 317 *e*P PKPdf 19 07 14.1 -2.1
VAY Valandovo 126.27 317 *e*PKP PKPdf 19 07 13.6 -2.7
THE Thessaloniki 126.30 316 *e*P PKPdf 19 07 14.1 -2.2
PRU Pruhonice 126.31 330 *e*PKP PKPdf 19 07 15.9 -0.1
PRU *e* 19 07 28.8
PRU LR LR
comp=Z,800nm,16.7s,MS5.5
PRU Pruhonice 126.31 330 *e*PKPdf PKPdf 19 07 15.9 -0.1
PRU *e*pPKP pPKPdf 19 07 28.8 -1.2
PRU *e*SKKP 19 20 27.6
PRU *e*x x 19 20 40.0
PRU AMS AMS 20 04 50.0
comp=Z,800nm,16.7s,MS5.5
PRA Prague 126.31 330 PKPdf PKPdf 19 07 15.0 -1.0
PKSM Moragy 126.33 324 P PKPdf 19 07 16.1 -0.1
PKSM Moragy 126.33 324⇓*i*P PKPdf 19 07 15.9 -0.3
MLA1 Latheron 126.35 346⇓*e*P PKPdf 19 07 15.4 -0.4
STIP Stip 126.36 318 *e*PKP PKPdf 19 07 15.2 -1.2
NPS Neapolis 126.41 309 *e*P PKPdf 19 07 15.0 -1.7
LAST Lasithi 126.55 309 *e*P PKPdf 19 07 17.0 +0.1
DIVS Divibare 126.63 321 *e*P PKPdf 19 07 16.2 -0.6
SOP Sopron 126.67 327⇓*e*PKP PKPdf 19 07 16.9 +0.1
NEO Neokhori 126.68 315 *e*P PKPdf 19 07 16.0 -1.1
SKO Skopje 126.73 318 *e*P PKPdf 19 07 16.7 -0.4
SKO Skopje 126.73 318 *e*PKP PKPdf 19 07 16.5 -0.5
ATH Athens Observa 126.86 313 *e*P PKPdf 19 07 15.5 -1.9
LIT Litokhoron 126.86 316 *e*P PKPdf 19 07 15.5 -1.9
MVH1 Achvaich 126.88 347⇓*e*P PKPdf 19 07 16.1 -0.8
CONA Conrad Observa 126.91 327⇑*i*PKPdf PKPdf 19 07 15.6 -1.6
comp=Z,39nm,0.7s,SNR=29
MCD Coleburn Disti 126.97 346⇓*e*P PKPdf 19 07 16.1 -1.0
CLZ Clausthal 127.02 334 *e*PKPdf PKPdf 19 07 17.1 -0.2
TANN Tannenbergstha 127.05 331 *e*PKPdf PKPdf 19 07 16.9 -0.5
TANN *e*pPKPdf pPKPdf 19 07 31.2 -0.2
LKR Lokris 127.10 314 *e*P PKPdf 19 07 16.0 -1.9
SIVA Sivas 127.11 309 *e*P PKPdf 19 07 18.8 +0.8
KRUS Krusevo 127.14 318 *e*PKP PKPdf 19 07 17.2 -0.7
MME1 Meikle Cairn 127.14 346⇓*e*P PKPdf 19 07 16.4 -1.0
NKC Novy Kostel 127.17 331 *e*PKPdf PKPdf 19 07 17.7 0.0
NKC *e*pPKP pPKPdf 19 07 31.0 -0.6
BIA Bitola 127.25 317 *e*P PKPdf 19 07 16.5 -1.6
BIA Bitola 127.25 317 *e*PKP PKPdf 19 07 16.3 -1.8
KZN Kozani 127.26 316 *e*P PKPdf 19 07 14.5 -3.6
MOX Moxa 127.29 332⇓*i*P PKPdf 19 07 17.7 -0.2
comp=Z,59nm,1.4s
MOX *e* 19 07 33.0
MOX *e* 19 09 21.0
MOX
comp=Z,500nm,21.0s
MOX Moxa 127.29 332⇓*i*PKIKP PKPdf 19 07 17.7 -0.2
MOX *e* 19 07 33.0
MOX *e* 19 09 21.0
MOX pmax pmax
comp=Z,59nm,1.4s
MOX MLR MLR
comp=Z,500nm,21.0s,MS5.2
MOX Moxa 127.29 332 *e*PKPdf PKPdf 19 07 17.3 -0.6
IVA Berane 127.30 320⇓*i*PKP PKPdf 19 07 17.1 -1.0
FNA Florina 127.32 317 *e*P PKPdf 19 07 16.2 -2.0
KHC Kasperske Hory 127.34 330 *e*PKP PKPdf 19 07 17.7 -0.3
KHC *e* 19 07 31.2
KHC LR LR
comp=Z,1μm,19.4s,MS5.5
KHC Kasperske Hory 127.34 330 *e*PKPdf PKPdf 19 07 17.7 -0.3
KHC *e*pPKP pPKPdf 19 07 31.2 -0.8
KHC *e*SKKP 19 20 28.4
KHC AMS AMS 20 03 10.0
comp=Z,1μm,19.4s,MS5.5
MDO Dochfour 127.36 347⇓*e*P PKPdf 19 07 16.6 -1.2
LTK Loutraki 127.38 313 *e*P PKPdf 19 07 16.1 -2.4
DID Didima 127.39 312 *e*P PKPdf 19 07 16.2 -2.3
PVY Plav 127.39 320⇓*i*PKP PKPdf 19 07 17.7 -0.6
PLE Pljevlja 127.39 321⇓*i*PKP PKPdf 19 07 17.9 -0.4
THL Klokotos Trika 127.42 315 *e*P PKPdf 19 07 16.5 -2.0
AGG Agios Georgios 127.43 315 *e*P PKPdf 19 07 17.1 -1.4
VAM Vamos 127.45 310 *e*P PKPdf 19 07 18.0 -0.7
GEC2 GERESS Array S 127.47 329 *e*PKIKP PKPdf 19 07 18.0 -0.3
GEC2 GERESS Array S 127.47 329 *e*PKPdf PKPdf 19 07 17.7 -0.6
GERES GERESS Array B 127.47 329 PKP PKPdf 19 07 17.4 -0.9
comp=Z,41nm,0.6s,baz=184,slow=1.3,SNR=85
GERES PKKPbc 19 16 41.1
comp=Z,0.9nm,0.7s,baz=204,slow=2.9,SNR=5.8
ARSA Arzberg 127.50 327⇑*i*P PKPdf 19 07 17.5 -0.9
comp=Z,24nm,1.2s,SNR=9.5
MANZ Manzenberg 127.50 331 *e*PKPdf PKPdf 19 07 17.7 -0.6
MANZ *e*pPKPdf pPKPdf 19 07 31.2 -1.1
MANZ *e*PP PP 19 09 19.6 +1.0
KAC Achnashellach 127.52 347 *e*P PKPdf 19 07 17.4 -0.7
OHR Ohrid 127.56 318 *e*P PKPdf 19 07 16.7 -2.0
OHR Ohrid 127.56 318 *e*PKP PKPdf 19 07 17.2 -1.5
ROTZ Rotzenmuhle 127.60 331 *e*PKPdf PKPdf 19 07 17.9 -0.6
KARN Karanos 127.66 310 *e*P PKPdf 19 07 18.4 -0.7
WET Wettzell 127.69 330 *e*PKPdf PKPdf 19 07 18.5 -0.2
GVD Gavdhos 127.73 309 *e*P PKPdf 19 07 18.7 -0.5
KPL Plockton 127.74 347 *e*P PKPdf 19 07 17.7 -0.8
UPM Unac-Piva 127.76 321⇓*i*PKP PKPdf 19 07 18.2 -0.8
IBBN Ibbenburen 127.78 336 *e*PKPdf PKPdf 19 07 18.4 -0.4
MOA Molln 127.80 328⇑*i*P PKPdf 19 07 18.0 -0.9
comp=Z,21nm,0.7s,SNR=14
KSB Shell Bridge 127.81 347 *e*P PKPdf 19 07 17.5 -1.2
EVR Evrytania 127.84 315 *e*P PKPdf 19 07 19.0 -0.3
MEV Metsovon 127.87 316 *e*P PKPdf 19 07 18.5 -0.8
NKY Niksic 127.91 320⇓*i*PKP PKPdf 19 07 19.0 -0.3
UBBA Unterbreizbach 127.91 333 *e*PKPdf PKPdf 19 07 18.4 -0.6
VLI Veliai 127.91 312 *e*P PKPdf 19 07 19.0 -0.5
TTG Podgorica 127.93 320⇓*i*PKP PKPdf 19 07 18.6 -0.8
GRA3 Grafenberg Arr 128.03 331 *e*SKKPdf 19 20 26.1
SELA Sela 128.05 314 *e*P PKPdf 19 07 19.0 -0.7
TIR Tirane 128.07 318 *e*P PKPdf 19 07 18.9 -0.8
VLX Vlachokerasia 128.07 313 *e*P PKPdf 19 07 19.1 -0.7
GRA1 Grafenberg Arr 128.12 331 *e*PKPdf PKPdf 19 07 19.0 -0.5
GRA1 *e*PP PP 19 09 22.5 -0.2
GRA1 LR LR
comp=Z,900nm,22.0s,MS5.4
GRF Grafenberg Arr 128.12 331 *e*PKPdf PKPdf 19 07 19.0 -0.5
GRF *e*PP PP 19 09 22.5 -0.2
GRF *e*L 20 06 19.1
comp=Z,885nm,22.0s
GRFO Grafenberg 128.13 331 *e*PKPdf PKPdf 19 07 19.1 -0.3
GRFO LR LR
comp=Z,1μm,21.0s,MS5.5
BRY Bratogost 128.15 321⇓*i*PKP PKPdf 19 07 18.6 -1.2
KAR1 Arisaig 128.17 347 *e*P PKPdf 19 07 18.7 -0.6
ULC Ulcinj 128.17 319⇓*i*PKP PKPdf 19 07 19.3 -0.5
JAN Janina 128.19 316 *e*P PKPdf 19 07 19.5 -0.4
BUM Brajici-Budva 128.23 320⇓*i*PKP PKPdf 19 07 19.5 -0.4
EBH Black Hill 128.23 345 *e*P PKPdf 19 07 18.3 -1.2
ESY Stoneypath 128.30 345 *e*P PKPdf 19 07 18.9 -0.7
HCY Herceg Novi 128.41 320⇓*i*PKP PKPdf 19 07 19.4 -0.9
WTSB Winterswijk 128.43 336 *e*PKP PKPdf 19 07 18.8 -1.2
comp=Z,92nm,1.4s
EDI Edinburgh 128.44 345 *e*P PKPdf 19 07 18.7 -1.2
RLS Riolos of Patr 128.45 314 *e*P PKPdf 19 07 21.0 +0.5
ITM Ithomi 128.47 313 *e*P PKPdf 19 07 19.0 -1.6
OBKA Obir 128.48 326⇑*i*P PKPdf 19 07 19.1 -1.2
comp=Z,23nm,0.9s,SNR=9.6
EAB Aberfoyle 128.49 346 *e*P PKPdf 19 07 18.7 -1.2
EBL Broad Law 128.54 345 *e*P PKPdf 19 07 19.0 -1.1
EAU Auchinoon 128.58 345 *e*P PKPdf 19 07 19.6 -0.6
IGT Igoumenitsa 128.60 316 *e*P PKPdf 19 07 19.9 -0.8
BOJS Bojanci 128.69 325 *e*PKPdf PKPdf 19 07 20.2 -0.5
PYL PYLOS 128.72 312 *e*P PKPdf 19 07 20.2 -0.9
LKD Levkas 128.75 315 *e*P PKPdf 19 07 20.2 -0.8
LJU Ljubljana 128.77 326 *e*PKPdf PKPdf 19 07 20.0 -0.8
KBA Koelnbreinsper 128.77 328⇑*i*P PKPdf 19 07 19.5 -1.3
comp=Z,45nm,1.2s,SNR=13
PGBU Glenifferbraes 128.87 346 *e*P PKPdf 19 07 19.4 -1.3
KEK Kerkira 128.88 316 *e*P PKPdf 19 07 20.0 -1.3
KFL Anninata 128.91 314 *e*P PKPdf 19 07 20.8 -0.5
EKA Eskdalemuir Ar 128.96 345 PKIKP PKPdf 19 07 19.1 -1.8
EKA pmax pmax
comp=Z,6.0nm,0.5s
EKA Eskdalemuir Ar 128.96 345 PKP PKPdf 19 07 19.1 -1.8
comp=Z,6.1nm,0.5s,baz=14,slow=2.4,SNR=5.3
ESK Eskdalemuir 128.99 345 *e*P PKPdf 19 07 19.2 -1.7
ESK Eskdalemuir 128.99 345 *e*PKPdf PKPdf 19 07 20.1 -0.9
ESK LR LR
comp=Z,845nm,20.0s,MS5.4
ESK Eskdalemuir 128.99 345 PKIKP PKPdf 19 07 20.5 -0.5
VLS Valsamata 129.02 314 *e*P PKPdf 19 07 20.5 -1.1
XAL Allendale 129.12 344 *e*P PKPdf 19 07 20.5 -0.7
VOY Vojsko 129.13 326 *e*PKPdf PKPdf 19 07 20.7 -0.8
VOY *e* 19 07 35.5
VOY *e* 19 07 55.2
FUR Furstenfeldbru 129.13 330 *e*PKPdf PKPdf 19 07 21.1 -0.4
FUR *e*PP PP 19 09 28.6 -0.7
TOD Tromm 129.31 333 PKP PKPdf 19 07 21.7 -0.1
ABTA Abtafalersbach 129.43 328⇑*i*PKPdf PKPdf 19 07 20.6 -1.5
comp=Z,42nm,1.2s,SNR=16
WATA Walderalm 129.53 329⇑*i*P PKPdf 19 07 21.9 -0.3
comp=Z,33nm,0.5s,SNR=17
CKE Keswick 129.61 344 *e*P PKPdf 19 07 21.9 -0.3
ABH Alteburg 129.67 334 PKP PKPdf 19 07 23.0 +0.6
HGN Heimansgroeve 129.70 336 *e*PKP PKPdf 19 07 21.2 -1.2
comp=Z,20nm,1.4s
HGN Heimansgroeve 129.70 336 *e*PP SKPdf 19 10 40.0 -14
STU Stuttgart 129.72 332 *e*PKPdf PKPdf 19 07 22.4 -0.2
STU *e*pPKPdf pPKPdf 19 07 35.7 -0.8
MOTA Moosalm 129.76 329⇑*i*P PKPdf 19 07 22.4 -0.3
comp=Z,38nm,0.5s,SNR=22
BEBN Eben Emael 129.78 336 PKPdf PKPdf 19 07 22.9 +0.3
GAL1 Galloway 129.78 345 *e*P PKPdf 19 07 21.7 -0.8
MEM Membach 129.79 335 PKPdf PKPdf 19 07 22.5 -0.1
SQTA Sankt Quirin 129.79 329⇓*i*P PKPdf 19 07 22.6 -0.1
comp=Z,28nm,0.6s,SNR=11
KTD Kalmit 129.84 333 PKP PKPdf 19 07 22.8 0.0
RETA Reutte 129.84 330⇑*i*PKiKP PKiKP 19 07 22.3 -1.3
comp=Z,26nm,1.1s,SNR=11
AEU East Anglia Un 129.98 340 *e*P PKPdf 19 07 22.6 -0.3
RUP Ruppelstein 130.02 334 PKP PKPdf 19 07 23.7 +0.6
ROSC El Rosal 130.14 90 *e*PKPdf PKPdf 19 07 24.1 -0.3
ROSC El Rosal 130.14 90 PKP PKPdf 19 07 23.8 -0.6
comp=Z,9.5nm,0.5s,baz=285,slow=3.9,SNR=12
ROSC SKPbc 19 10 42.5
comp=Z,2.7nm,0.3s,baz=92,slow=20,SNR=5.2
FETA Feichten 130.17 329⇑*i*PKiKP PKiKP 19 07 23.0 -1.2
comp=Z,37nm,0.7s,SNR=15
LHO Holmfirth 130.18 343⇓*e*P PKPdf 19 07 22.8 -0.5
LANF Langenberg 130.21 333 PKP PKPdf 19 07 23.7 +0.2
BCLA Clavier 130.22 336 PKPdf PKPdf 19 07 23.4 -0.1
GIM North Isle of 130.24 345 *e*P PKPdf 19 07 22.0 -1.4
UCC Uccle 130.31 337 PKPdf PKPdf 19 07 23.8 +0.2
SPAK Spaichingen-Ko 130.39 331 PKP PKPdf 19 07 23.7 -0.1
DAVA Damuels 130.42 330⇑*i*P PKPdf 19 07 23.2 -0.7
comp=Z,28nm,0.6s,SNR=12
WLF Walferdange 130.44 334 *e*PKPdf PKPdf 19 07 23.9 0.0
WLF Walferdange 130.44 334 PKPdf PKPdf 19 07 24.6 +0.7
WLF Walferdange 130.44 334 *e*PKPdf PKPdf 19 07 23.8 -0.1
WLF *e*PP PP 19 09 37.7 0.0
BFO Black Forest 130.44 332 *e*PKPdf PKPdf 19 07 22.6 -1.3
BFO *e*pPKPdf pPKPdf 19 07 37.5 -0.4
BFO *e*PP PP 19 09 37.7 -0.1
STR Strasbourg 130.52 332 PKP PKPdf 19 07 24.5 +0.4
SNF Seneffe 130.56 336 PKPdf PKPdf 19 07 24.3 +0.2
LIENZ Kamor/St.Gall 130.61 330⇑*i*Pdiff SKPbc 19 10 44.0 -0.4
comp=Z,155nm,1.6s
KWE Weaver Farm 130.63 342 *e*P PKPdf 19 07 23.2 -0.9
GIVF Givet 130.66 336 *e*PKIKP PKPdf 19 07 23.6 -0.7
comp=Z,130nm,0.9s
FUORN Ofenpass-Fuorn 130.68 329⇑*i*Pdiff SKPbc 19 10 44.4 -0.3
comp=Z,300nm,1.4s
CWF Charnwood Fore 130.71 342 *e*P PKPdf 19 07 24.0 -0.3
DOU Dourbes 130.76 336 PKPdf PKPdf 19 07 24.4 -0.1
DAVOX Davos/Dischmat 130.76 329 PKP PKPdf 19 07 25.0 +0.4
DAVOX SKPbc SKPbc 19 10 44.2 -0.9
DAVOX Davos/Dischmat 130.76 329 PKhKP 19 07 11.6
comp=Z,4.3nm,0.6s,baz=357,slow=6.9,SNR=3.7
DAVOX PKP PKPdf 19 07 25.0 +0.4
comp=Z,59nm,0.6s,baz=202,slow=3.7,SNR=63
DAVOX SKPbc SKPbc 19 10 44.2 -0.9
comp=Z,29nm,1.1s,baz=181,slow=0.6,SNR=11
DAVOX Davos/Dischmat 130.76 329⇑*i*Pdiff SKPbc 19 10 45.0 0.0
comp=Z,218nm,1.9s
SLE Schleitheim 130.76 331⇑*i*Pdiff SKPbc 19 10 44.0 -1.0
comp=Z,191nm,1.7s
LPAZ La Paz 130.77 118 *e*PKPdf PKPdf 19 07 25.7 +0.2
LPAZ LR LR
comp=Z,704nm,20.0s,MS5.4
LPAZ La Paz 130.77 118 PKIKP PKPdf 19 07 26.1 +0.6
LPAZ 19 09 41.4
LPAZ pmax pmax
comp=Z,20nm,1.0s
LPAZ La Paz 130.77 118 PKhKP 19 07 16.6
comp=Z,1.6nm,0.7s,baz=291,slow=5.5,SNR=5.2
LPAZ PKP PKPdf 19 07 26.1 +0.6
comp=Z,20nm,1.0s,baz=358,slow=2.7,SNR=11
LPAZ PP PP 19 09 41.4 +0.2
comp=Z,5.5nm,1.1s,baz=245,slow=10,SNR=3.5
LPAZ SKPbc SKPbc 19 10 45.2 -0.8
comp=Z,10nm,1.0s,baz=266,slow=2.1,SNR=7.9
WILA Wila 130.81 331⇑*i*Pdiff SKPbc 19 10 44.5 -0.7
comp=Z,395nm,2.7s
FLACH Flaach 130.86 331⇑*i*Pdiff SKPbc 19 10 45.0 -0.4
comp=Z,367nm,3.1s
CDF Champ du Feu 130.87 333 *e*PKIKP PKPdf 19 07 23.8 -1.0
comp=Z,55nm,0.8s
FELD Feldberg im Sc 130.92 332 PKP PKPdf 19 07 24.7 -0.2
BERNI Berninapass 130.94 329⇑*i*Pdiff SKPbc 19 10 45.4 -0.3
comp=Z,326nm,1.5s
BAIF Baives 130.94 336 *e*PKIKP PKPdf 19 07 24.4 -0.4
comp=Z,52nm,0.8s
ZUR Degenried 131.00 331⇑*i*Pdiff SKPbc 19 10 45.1 -0.8
comp=Z,170nm,1.4s
ECH Echery 131.06 332 PKP PKPdf 19 07 24.7 -0.4
SULZ Cheisacher 131.11 331⇑*i*Pdiff SKPbc 19 10 45.8 -0.5
comp=Z,238nm,1.5s
SBD1 Bryn Du 131.14 343⇓*e*P PKPdf 19 07 24.6 -0.5
LLS Linth-Limmern 131.16 330⇑*i*Pdiff SKPbc 19 10 46.1 -0.4
comp=Z,344nm,2.9s
VDL Val di Lei 131.18 329⇑*i*Pdiff SKPbc 19 10 46.4 -0.2
comp=Z,270nm,2.0s
DMUB Kingscourt 131.19 346⇓*i*P PKPdf 19 07 24.9 -0.3
DMUB Kingscourt 131.19 346 *e*P SKPbc 19 10 45.1 -1.3
TIP Timpagrande 131.20 317 *e*PKPdf PKPdf 19 07 25.2 -0.5
MUO Muotathal 131.25 330⇑*i*Pdiff SKPbc 19 10 46.5 -0.4
comp=Z,302nm,1.6s
TSUM Tsumeb 131.26 237 *e*PKPdf PKPdf 19 07 26.2 -0.1
TSUM LR LR
comp=Z,2μm,20.0s,MS5.9
TSUM Tsumeb 131.26 237 PKhKP 19 07 10.5
comp=Z,5.6nm,0.9s,baz=82,slow=7.0,SNR=5.4
TSUM PKP PKPdf 19 07 26.8 +0.5
comp=Z,74nm,0.8s,baz=121,slow=2.6,SNR=65
TSUM SKPbc SKPbc 19 10 46.9 -0.9
comp=Z,17nm,1.0s,baz=118,slow=4.4,SNR=6.7
MOF Molkenrain 131.34 332 PKP PKPdf 19 07 25.6 -0.1
MENF Mencas 131.35 338 PKP PKPdf 19 07 25.7 +0.1
HLM1 Long Mynd 131.38 343 *e*P PKPdf 19 07 25.1 -0.5
SKP1 Kophill 131.42 341 *e*P PKPdf 19 07 24.7 -1.0
BNALP Bannalp 131.43 330⇑*i*Pdiff SKPbc 19 10 47.1 -0.4
comp=Z,419nm,2.1s
BALST Balsthal 131.45 331⇑*i*Pdiff SKPbc 19 10 46.8 -0.8
comp=Z,196nm,1.4s
HINF Hinteralfeld 131.50 332 *e*PKIKP PKPdf 19 07 25.2 -0.8
comp=Z,83nm,0.8s
SSW Stow on the Wo 131.54 342 *e*P PKPdf 19 07 26.1 +0.2
THEF They Montfort 131.59 333 PKP PKPdf 19 07 26.3 +0.2
HAU Haudompre 131.59 333 *e*PKIKP PKPdf 19 07 25.4 -0.7
comp=Z,108nm,0.7s
HAU *e*MLR MLR
comp=Z,741nm,21.5s,MS5.0
HAU Haudompre 131.59 333 *e*PKIKP PKPdf 19 07 25.4 -0.7
HAU MLR MLR
comp=Z,740nm,21.5s,MS5.3
FUSIO Fusio 131.60 330⇑*i*Pdiff SKPbc 19 10 47.6 -0.5
comp=Z,342nm,1.3s
AQU L'Aquila 131.62 323 *e*PKPdf PKPdf 19 07 26.0 -0.3
AQU *e*SKPbc SKPbc 19 10 48.8 +0.5
AQU L'Aquila 131.62 323⇑*i*P PKPdf 19 07 26.9 +0.5
BOURR Bourrignon 131.63 332⇑*i*Pdiff SKPbc 19 10 47.5 -0.7
comp=Z,337nm,2.6s
DLF Lyons Farm 131.66 346⇓*i*P PKPdf 19 07 25.7 -0.4
DSB Dublin 131.66 346 *e*PKPdf PKPdf 19 07 25.3 -0.8
MUGIO Muggio 131.77 329⇑*i*Pdiff SKPbc 19 10 47.9 -0.9
comp=Z,398nm,3.0s
DCN Croghan 131.79 346⇓*i*P PKPdf 19 07 25.8 -0.5
DCN Croghan 131.79 346 *e*P SKPbc 19 10 47.3 -1.3
MEZF Maizieres J'vi 131.79 334 *e*PKIKP PKPdf 19 07 26.2 -0.3
comp=Z,154nm,0.8s
LOMF Lomont 131.85 332 PKP PKPdf 19 07 26.7 +0.1
MCH1 Michaelchurch 131.87 343 *e*P PKPdf 19 07 25.4 -1.1
MCH1 *e*P 19 07 25.4
HTR Trewern Hill 131.88 343 *e*P PKPdf 19 07 25.9 -0.7
WOL Wolverton 131.91 341 *e*P PKPdf 19 07 26.4 -0.3
WIMIS Wimmis 131.96 331⇑*i*Pdiff SKPbc 19 10 48.8 -0.6
comp=Z,217nm,2.0s
LKBD Leukerbad 132.16 330⇑*i*Pdiff SKPbc 19 10 49.9 -0.2
comp=Z,124nm,1.1s
TORNY Torny/Romont 132.20 331⇑*i*Pdiff SKPbc 19 10 49.6 -0.7
comp=Z,289nm,1.9s
MMK Mattmark 132.23 330⇑*i*Pdiff SKPbc 19 10 50.5 +0.1
comp=Z,486nm,1.9s
BRANT Les Verrieres 132.31 332⇑*i*Pdiff SKPbc 19 10 50.4 -0.3
comp=Z,414nm,2.2s
SENIN Lac Senin/Sane 132.33 331⇑*i*Pdiff SKPbc 19 10 50.6 -0.1
comp=Z,324nm,2.4s
DIX Grande Dixence 132.48 330⇑*i*Pdiff SKPbc 19 10 51.4 +0.1
comp=Z,288nm,2.1s
GRYON Gryon 132.50 331⇑*i*Pdiff SKPbc 19 10 51.0 -0.4
comp=Z,130nm,1.2s
AIGLE Aigle 132.52 331⇑*i*Pdiff SKPbc 19 10 50.9 -0.5
comp=Z,466nm,2.3s
SALAN Lac Salanfe 132.65 331⇑*i*Pdiff SKPbc 19 10 51.9 0.0
comp=Z,195nm,2.0s
GIMEL St. Georges / 132.71 332⇑*i*Pdiff SKPbc 19 10 51.5 -0.5
comp=Z,357nm,3.6s
CABF La Chapelle 132.73 332 *e*PKIKP PKPdf 19 07 28.3 0.0
comp=Z,117nm,0.7s
EMV Vieux Emosson 132.74 331⇑*i*Pdiff SKPbc 19 10 52.0 -0.2
comp=Z,191nm,2.2s
SDDR Presa de Saban 132.78 71 PFAKE 19 07 40.0 +11
SDDR LR LR
comp=Z,861nm,21.0s,MS5.4
HEX Exmoor 132.93 342 *e*P PKPdf 19 07 27.8 -0.7
HTL Hartland 133.19 343 *e*P PKPdf 19 07 28.5 -0.5
LPL La Plagne 133.22 330 *e*PKIKP PKPdf 19 07 28.9 -0.4
comp=Z,92nm,0.7s
LPG La Plagne 133.22 330 *e*PKIKP PKPdf 19 07 29.0 -0.3
comp=Z,101nm,0.7s
LOR Lormes 133.25 334 *e*PKIKP PKPdf 19 07 28.7 -0.6
comp=Z,112nm,1.0s
LOR *e*MLR MLR
comp=Z,1μm,21.8s,MS5.2
LOR Lormes 133.25 334 *e*PKIKP PKPdf 19 07 28.7 -0.6
LOR MLR MLR
comp=Z,1μm,21.8s,MS5.5
DYA Yadsworthy 133.52 342 *e*P PKPdf 19 07 28.9 -0.8
SSF Saint Saulge 133.57 334 *e*PKIKP PKPdf 19 07 29.3 -0.6
comp=Z,83nm,0.8s
BNI Bardonecchia 133.57 330 *e*PKPdf PKPdf 19 07 30.0 +0.1
SMF Signal de Mont 133.74 333 *e*PKIKP PKPdf 19 07 29.5 -0.7
comp=Z,84nm,0.9s
GDM Grand'Maison 133.74 330 PKP PKPdf 19 07 30.8 +0.5
MBDF Montbardon 133.76 329 *e*PKIKP PKPdf 19 07 29.4 -0.9
comp=Z,36nm,0.8s
HYF Humbligny 133.78 335 *e*PKIKP PKPdf 19 07 30.1 -0.2
FLN La Foliniere 133.80 338 *e*PKIKP PKPdf 19 07 29.4 -0.9
comp=Z,122nm,0.9s
FLN *e*MLR MLR
comp=Z,1μm,21.5s,MS5.4
FLN La Foliniere 133.80 338 *e*PKIKP PKPdf 19 07 29.4 -0.9
FLN MLR MLR
comp=Z,1μm,21.5s,MS5.7
LDF La Druitiere 133.81 338 *e*PKIKP PKPdf 19 07 29.4 -0.9
comp=Z,49nm,0.9s
AVF Avril sur Loir 133.84 334 *e*PKIKP PKPdf 19 07 29.6 -0.8
comp=Z,39nm,0.9s
SAOF Saorge 133.87 328 PKP PKPdf 19 07 30.3 -0.3
GRN Grenoble 133.90 331 PKP PKPdf 19 07 31.1 +0.5
SURF Saint Ours 133.91 329 PKP PKPdf 19 07 31.2 +0.6
TOUF Mont Tournerai 134.01 328 PKP PKPdf 19 07 30.8 0.0
SBF Sospel 134.02 328 *e*PKIKP PKPdf 19 07 29.7 -1.1
comp=Z,101nm,0.9s
SDV Santo Domingo 134.03 84 *e*PKPdf PKPdf 19 07 30.5 -1.2
SDV LR LR
comp=Z,279nm,21.0s,MS5.0
SDV Santo Domingo 134.03 84 PKP PKPdf 19 07 30.9 -0.8
comp=Z,32nm,0.8s,baz=289,slow=4.7,SNR=37
SDV SKPbc SKPbc 19 10 55.1 -2.4
comp=Z,8.2nm,1.0s,baz=306,slow=6.3,SNR=6.2
LUCF Luceram 134.04 328 PKP PKPdf 19 07 30.5 -0.4
PGF Pioggiola 134.05 326 *e*PKIKP PKPdf 19 07 30.1 -0.8
comp=Z,234nm,0.9s
ORIF Oris-en-Rattie 134.06 330 *e*PKIKP PKPdf 19 07 30.1 -0.8
comp=Z,72nm,0.7s
ORIF *e*MLR MLR
comp=Z,1μm,23.0s,MS5.3
CCA1 Carnmenellis 134.13 343 *e*P PKPdf 19 07 30.3 -0.6
CRQ2 Rosemanowes 2 134.13 343 *e*P PKPdf 19 07 30.5 -0.3
CORF Corte 134.13 325 PKP PKPdf 19 07 31.3 +0.2
MVIF Mont Vial 134.14 328 PKP PKPdf 19 07 30.3 -0.8
CMA1 Manaccan 134.19 343 *e*P PKPdf 19 07 30.6 -0.3
BGF Bois d'Agland 134.24 334 *e*PKIKP PKPdf 19 07 30.6 -0.6
comp=Z,97nm,0.8s
GRR Gorron 134.25 338 *e*PKIKP PKPdf 19 07 30.4 -0.7
comp=Z,82nm,0.9s
PLDF La Plantade 134.35 333 PKP PKPdf 19 07 31.1 -0.3
CALN Calern 134.38 328 PKP PKPdf 19 07 30.5 -1.0
AGO Saint Agoulin 134.51 333 PKP PKPdf 19 07 31.5 -0.2
FRF La Foret Royal 134.64 328 *e*PKIKP PKPdf 19 07 31.0 -1.0
comp=Z,86nm,0.9s
VIVF Saint-Julien-l 134.70 331 *e*PKIKP PKPdf 19 07 31.5 -0.6
comp=Z,106nm,1.0s
STOF St-Etienne Org 134.71 329 PKP PKPdf 19 07 31.5 -0.6
BBSR BB Station 134.72 51 PFAKE 19 07 40.0 +7.5
BBSR LR LR
comp=Z,1μm,20.0s,MS5.6
TCF Toulx Ste Croi 134.73 334 *e*PKIKP PKPdf 19 07 31.5 -0.6
comp=Z,168nm,1.0s
PYM Petit Puy Mans 134.79 333 PKP PKPdf 19 07 32.2 0.0
LMR La Mourre 134.87 328 *e*PKIKP PKPdf 19 07 31.4 -1.1
comp=Z,114nm,0.9s
SMRF Simiane la Rot 134.89 330 *e*PKIKP PKPdf 19 07 32.2 -0.3
comp=Z,83nm,0.8s
TAVF Tavernes 134.90 329 PKP PKPdf 19 07 31.5 -1.0
SGMF Saint Gilles 134.97 340 *e*PKIKP PKPdf 19 07 31.5 -1.0
comp=Z,59nm,0.7s
LBL Lubilhac 135.08 333 PKP PKPdf 19 07 32.9 +0.1
ROSF Rostrenen 135.14 340 *e*PKIKP PKPdf 19 07 31.8 -1.0
comp=Z,44nm,1.0s
PRAF Pradon 135.22 330 PKP PKPdf 19 07 32.6 -0.5
GELF Grande-Etoile 135.39 329 PKP PKPdf 19 07 32.6 -0.8
MFF Saint Martin d 135.46 336 *e*PKIKP PKPdf 19 07 32.8 -0.6
comp=Z,73nm,0.8s

QUIF **Quistinic** 135.47 340 *e*PKIKP PKPdf 19 07 32.3 -1.1
LASF **Ste Croix** 135.67 331 *e*PKIKP PKPdf 19 07 33.4 -0.5
comp=Z,131nm,1.0s
VSL **Villasalto** 135.77 322 *e*PKPdf PKPdf 19 07 34.0 -0.3
RJF **Les Rejaudoux** 135.80 334 *e*PKIKP PKPdf 19 07 33.6 -0.5
comp=Z,31nm,0.8s
RJF *e*MLR MLR
comp=Z,868nm,22.0s,MS5.1
RJF **Les Rejaudoux** 135.80 334 *e*PKIKP PKPdf 19 07 33.6 -0.5
RJF MLR MLR
comp=Z,870nm,22.0s,MS5.4
CAF **Calviac** 135.85 333 *e*PKIKP PKPdf 19 07 33.2 -1.0
comp=Z,41nm,1.0s
LFF **La Frestale** 136.43 334 *e*PKIKP PKPdf 19 07 34.1 -1.2
comp=Z,42nm,1.0s
MTLF **Montolieu** 137.00 332 *e*PKIKP PKPdf 19 07 35.7 -0.7
comp=Z,36nm,0.6s
FILF **Fillols** 137.43 331 PKP PKPdf 19 07 37.1 -0.1
SJG **San Juan** 137.72 71 *e*PKPdf PKPdf 19 07 37.2 -1.2
SJG LR LR
comp=Z,619nm,21.0s,MS5.3
KEST **Kesra** 138.02 318 PKhKP 19 07 27.0
comp=Z,2.2nm,0.5s,baz=8.9,slow=4.0,SNR=15
KEST PKP PKPdf 19 07 40.2 +1.7
comp=Z,8.5nm,1.0s,baz=138,slow=4.7,SNR=18
KEST SKPbc SKPbc 19 11 08.7 -0.5
comp=Z,6.7nm,0.9s,baz=344,slow=6.1,SNR=5.9
EPF **Esparros** 138.11 333 *e*PKIKP PKPdf 19 07 38.0 -0.5
comp=Z,65nm,1.1s
ATE **Arette** 138.53 334 PKP PKPdf 19 07 41.2 +1.9
ETSF **Etsaut** 138.62 333 *e*PKIKP PKPdf 19 07 39.6 +0.2
comp=Z,109nm,0.7s
LARF **Larrau** 138.70 334 PKP PKPdf 19 07 40.6 +1.0
SJPF **Ste Jean** 138.74 334 *e*PKIKP PKPdf 19 07 39.4 -0.2
comp=Z,25nm,0.6s
CMAH **Djebel Manchou** 138.75 320 P PKPdf 19 07 40.0 +0.1
CAEH **'Ain El Ouahch** 139.01 321 P PKPdf 19 07 41.0 +0.7
CKFL **Kef-Lekhel** 139.33 320 P PKPdf 19 07 41.0 +0.1
CASM **Ain Smara** 139.56 320 P PKPdf 19 07 40.0 -1.4
CTEI **Djebel Teioual** 139.74 320 P PKPdf 19 07 42.0 +0.3
DFRA **Djebel Bou Aff** 139.77 321 P PKPdf 19 07 39.0 -2.7
SET **Setif** 140.28 321 P PKPdf 19 07 36.0 -6.7
SET P PKPdf 19 07 42.5 -0.2
CMER **Merouana** 140.34 320 P PKPdf 19 07 41.0 -1.8
EMHD **Djebel Mahouad** 141.77 323 P PKPdf 19 07 42.7 -2.6
PBRG **Braganca** 142.03 339 *e*PKP PKPdf 19 07 40.4 -5.2
EBNR **Beni Rached** 142.54 325 P PKPdf 19 07 42.8 -3.9
MVO **Moncorvo** 142.70 338 *e*PKP PKPdf 19 07 41.3 -5.5
MVO **Moncorvo** 142.70 338 *e*LQ 19 49 37.3
MVO *e*LR LR 19 57 22.1
comp=Z,602nm,20.0s
ECHA **Ech Chlef** 142.73 325 P PKPdf 19 07 43.0 -4.1
ESDC **Sonseca Array** 142.73 334 PKhKP 19 07 43.2
comp=Z,11nm,0.8s,baz=21,slow=3.0,SNR=46
ESDC PP PP 19 10 55.1 +0.4
comp=Z,1.8nm,0.7s,baz=29,slow=6.6,SNR=4.7
ESLA **Sonseca Array** 142.73 334 *e*PKPdf PKPdf 19 07 43.1 -3.8
PVRL **Vila Real** 142.85 339 *e*PKP PKPdf 19 07 43.0 -4.1
PAB **San Pablo** 143.01 334 *e*PKPdf PKPdf 19 07 44.0 -3.4
PAB LR LR
comp=Z,784nm,21.0s,MS5.5
EANR **'Ain N'Sour** 143.02 325 P PKPdf 19 07 44.0 -3.6
PVIS **Viseu** 143.41 339 *e*PKP PKPdf 19 07 45.0 -3.1
PVIS *ep*PKP pPKPdf 19 07 59.7 -2.4
MTE **Manteigas** 143.56 338 *e*PKP PKPdf 19 07 44.5 -3.9
MTE *ep*PKP pPKPdf 19 08 00.6 -1.8
MTE **Manteigas** 143.56 338 *e*LQ 19 49 36.6
MTE *e*LR LR 19 58 20.8
comp=Z,835nm,24.0s
MTE **Manteigas** 143.56 338 *e*PKPdf PKPdf 19 07 45.6 -2.8
PCBR **Castelo Branco** 144.02 338 *e*PKP PKPdf 19 07 46.5 -2.7
PCBR *ep*PKP pPKPdf 19 08 00.4 -2.8
USTO **Oran** 144.11 326 P PKPdf 19 07 50.0 +0.5
ODJA **Bouhanifia** 144.18 325 P PKPdf 19 07 48.0 -1.6
BBGH **Gun Hill** 144.71 77 PFAKE 19 08 00.0 +8.9
BBGH LR LR
comp=Z,1μm,19.0s,MS5.8
ODZI **Dzioua** 144.81 326 P PKPdf 19 07 52.0 +1.3
PESTR **Estremoz** 144.91 337 *i* PKP PKPdf 19 07 49.5 -1.3
PESTR *ep*PKP pPKPdf 19 08 02.4 -2.4
PESTR **Estremoz** 144.91 337 *e*LQ 19 49 17.4
PESTR **Estremoz** 144.91 337 *e*LR LR 19 59 19.8
comp=Z,951nm,20.0s
PBAR **Barrancos** 145.29 336 *i* PKP PKPdf 19 07 50.4 -1.1
PBAR *ep*PKP pPKPdf 19 08 03.6 -1.9
PBAR **Barrancos** 145.29 336 *e*LR LR 20 00 05.4
comp=Z,935nm,22.0s
EVO **Evora** 145.37 337⇑ *i*PKIKP PKPdf 19 07 51.1 -0.5
EVO *e*MLR MLR
comp=Z,757nm,22.0s,MS5.1
PMAFR **Mafra** 145.46 339 *i* PKP PKPdf 19 07 51.4 -0.3
PMAFR *ep*PKP pPKPdf 19 08 04.9 -0.8
PMAFR **Mafra** 145.46 339 *e*LR LR 19 59 44.0
comp=Z,634nm,18.0s
MOE **Montemor** 145.50 338 *e*PKP PKPdf 19 07 52.4 +0.6
CAM4 **Nova Friburgo** 145.73 149⇑ *i*P PKPdf 19 07 52.7 0.0
CAM4 *i* 19 08 06.2
PBEJ **Beja** 145.75 337 *e*PKP PKPdf 19 07 53.0 +0.7
PBEJ *ep*PKP pPKPdf 19 08 06.6 +0.3
PVAQ **Vaqueiros** 146.23 336 *e*PKP PKPdf 19 07 52.6 -0.5
PVAQ *ep*PKP pPKPdf 19 08 07.4 +0.3
PVAQ **Vaqueiros** 146.23 336 *e*LQ 19 51 05.0
PVAQ *e*LR LR 19 59 42.0
comp=Z,723nm,20.0s
SFS **San Fernando** 146.38 333 *e*PKPbc PKPbc 19 07 55.3 +0.6
PBDV **Barranco-do-Ve** 146.45 336 *e*PKP PKPdf 19 07 53.8 +0.3
PBDV *ep*PKP pPKPdf 19 08 08.6 +1.1
PBDV **Barranco-do-Ve** 146.45 336 *e*LQ 19 51 53.9
PBDV *e*LR LR 20 00 13.4
comp=Z,726nm,22.0s
PTEO **Sao Teotonio** 146.50 337 *e*PKP PKPdf 19 07 54.0 +0.5
PTEO *ep*PKP pPKPdf 19 08 08.0 +0.5
MORF **Marmelete** 146.68 337 *e*PKP PKPdf 19 07 55.3 +1.4
MORF *ep*PKP pPKPdf 19 08 08.3 +0.4
MORF **Marmelete** 146.68 337 *e*LR LR 20 02 27.0
comp=Z,1μm,22.0s
PFVI **Vila Bisbo** 146.90 337 *e*P PKPdf 19 07 54.7 +0.5
PFVI *ep*PKP pPKPdf 19 08 08.3 +0.1
PFVI **Vila Bisbo** 146.90 337 *e*LR LR 20 00 39.3
comp=Z,1μm,22.0s
BDFB **Brasilia** 147.41 134 PKIKP PKPdf 19 07 55.2 -0.5
BDFB pmax pmax
comp=Z,42nm,0.7s
BDFB **Brasilia** 147.41 134 PKPbc PKPbc 19 07 55.2 -3.0
comp=Z,42nm,0.7s,baz=237,slow=2.3,SNR=74
CAM3 **Guarapari** 148.12 150⇓ *i*P PKPdf 19 07 59.9 +3.2
CAM3 *i* 19 08 00.9
CAM3 *i* 19 08 03.9
MDT **Midelt** 148.51 327 PKP PKPdf 19 07 56.3 -0.8
comp=Z,29nm,0.7s,baz=85,slow=4.5,SNR=22
MDT PKPbc PKPbc 19 08 01.0 +0.4
comp=Z,84nm,0.8s,baz=49,slow=2.7,SNR=21
PMPS **Porto Santo** 153.07 345 *e*PKPbc PKPbc 19 08 11.1 -0.3
PMAR **Madeira** 153.53 346 *e*PKPbc PKPbc 19 08 12.8 +0.4
TOA0 **Torodi Ar. Sit** 153.77 285 *e*PKPdf PKPdf 19 08 04.6 -1.0
TOA0 *e*PKPbc PKPbc 19 08 13.0 -0.5
TORD **Torodi Ar. Bea** 153.77 285 PKP PKPdf 19 08 03.9 -1.7
TORD PKPbc PKPbc 19 08 12.4 -1.0
TORD PKPab PKPab 19 08 25.3 -1.2
TORD **Torodi Ar. Bea** 153.77 285 PKP PKPdf 19 08 03.9 -1.7
comp=Z,14nm,0.9s,baz=34,slow=1.4,SNR=62
TORD PKPbc PKPbc 19 08 12.4 -1.0
comp=Z,68nm,0.8s,baz=63,slow=2.0,SNR=56
TORD PKPab PKPab 19 08 25.3 -1.2
comp=Z,40nm,0.7s,baz=95,slow=3.3,SNR=14
DBIC **Dimbokro** 160.76 270 *e*PKPdf PKPdf 19 08 12.9 -1.5
DBIC **Dimbokro** 160.76 270 PKP2 PKPab 19 08 56.6 -0.1
DBIC 19 12 37.9
DBIC pmax pmax
comp=Z,173nm,0.7s
DBIC **Dimbokro** 160.76 270 PKP PKPdf 19 08 13.0 -1.4
comp=Z,30nm,1.0s,baz=61,slow=1.5,SNR=19
DBIC PKPab PKPab 19 08 56.6 -0.1
comp=Z,172nm,0.7s,baz=83,slow=5.2,SNR=41
DBIC PP PP 19 12 37.9 -1.9
comp=Z,7.0nm,1.1s,baz=29,slow=4.0,SNR=4.2
RCBR **Riachuelo** 162.73 137 *e*PKPdf PKPdf 19 08 15.3 -1.2
BBTS **Babate** 169.28 316 PKPab PKPab 19 09 34.8 +0.9
comp=Z,86nm,0.9s,baz=34,slow=1.3,SNR=6.7

REY ***06*** *18:49:01.2, 6843N×1832W, h10km, ML3.6, ML3.7*

CSEM ***06*** *18:49:08.6±0.0, 6779N×1866W, h6km, mb4.4/44, Ms3.7, Error ellipse: s-maj=1.5km s-min=1.0km az=52.0*
IDC ***06*** *18:49:10.8±0.5, 6791N×1871W, h0km, mb4.2/20, mb1 4.4/22, mb1mx4.3/28, mbtmp4.2/22, ML3.5/2, MS4.0/16, Ms1 4.0/16, ms1mx3.8/49, Error ellipse: s-maj=16.6km s-min=10.6km az=27.0*
BJI ***06*** *18:49:10.3, 6846N×1917W, h5km, mB5.1, mb4.9, Ms4.9, Msz4.7*
ISCJB ***06*** *18:49:10.5±0.1, 6773N±002×1864W±006, h10km, mb4.3/76, MS4.0/17, Error ellipse: s-maj=3.7km s-min=2.1km az=138.1*
NEIC ***06*** *18:49:11.9±0.2, 6775N×1876W, h10km, mb4.4/49, Error ellipse: s-maj=5.7km s-min=3.4km az=222.0*
SZGRF ***06*** *18:49:11.9, 6786N×1958W, h33km, mb4.5, Iceland region*
NAO ***06*** *18:49:12.9, 6783N×1896W, h33km, mb4.1*
ISC 06 18:49:12.4±0.1, 6770N±002×1857W±006, h10km, n355, σ0.98/352, mb4.3/76, MS4.0/17, 56C-45D, Iceland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILEI	**Leirhofn**	**1.53**	**147**	P	**Pn**	**18 49 36.1**	**-3.5**
IFLA	**Flatey**	**1.57**	**169**	P	**Pn**	**18 49 38.1**	**-2.1**
IBRE	**Brettingsstaoi**	**1.60**	**170**	P	**Pn**	**18 49 38.0**	**-2.6**
IHLA	**Hella**	**1.76**	**178**	P	**Pn**	**18 49 41.1**	**-1.7**
IGRA	**Granastaoir**	**1.83**	**167**	P	**Pn**	**18 49 41.4**	**-2.3**
IGIL	**Gilhagi**	**1.85**	**151**	P	**Pn**	**18 49 40.9**	**-3.1**
IKVO	**Krokottuvotn**	**2.10**	**161**	P	**Pn**	**18 49 45.0**	**-2.5**
IREN	**Reynihlio**	**2.16**	**161**	P	**Pn**	**18 49 46.1**	**-2.2**
IGRS	**Grimsstaoir**	**2.28**	**154**	P	**Pn**	**18 49 47.8**	**-2.2**
ISVA	**Svartarkot**	**2.43**	**167**	P	**Pn**	**18 49 50.5**	**-1.5**
IHVE	**Hveravellir**	**2.87**	**189**	P	**Pn**	**18 49 58.3**	**+0.3**
IADA	**Aoalbol**	**2.95**	**154**	P	**Pn**	**18 49 57.3**	**-1.8**
IHVA	**Hvannstoosfjol**	**2.96**	**157**	P	**Pn**	**18 49 57.5**	**-1.8**
IBRU	**Bruarjokull**	**3.05**	**160**	P	**Pn**	**18 49 59.0**	**-1.5**
IGLU	**Glumsstadir**	**3.07**	**151**	P	**Pn**	**18 49 58.8**	**-2.0**
IVSH	**V-Sauoahnukur**	**3.12**	**157**	P	**Pn**	**18 49 59.8**	**-1.7**
IASB	**`sbjarnarst**	**3.16**	**202**	P	**Pn**	**18 50 00.8**	**-1.3**
BORG	**Borgarnes**	**3.17**	**202**	*e*Pn	**Pn**	**18 50 01.0**	**-1.1**
BORG				*e*Sn	**Sn**	**18 50 39.3**	**-0.6**
BORG	**Borgarnes**	**3.17**	**202**	Pn	**Pn**	**18 50 00.9**	**-1.2**
25nm,0.3s,baz=18,slow=7.6,SNR=87							
BORG				Sn	**Sn**	**18 50 41.3**	**+1.4**
24nm,0.3s,baz=50,slow=22,SNR=10							
BORG				LR	LR	18 51 05.0	
comp=Z,833nm,19.1s,baz=247,slow=34							
BORG	**Borgarnes**	**3.17**	**202**	*e*Pn	**Pn**	**18 50 01.0**	**-1.1**
BORG				*e*Sn	**Sn**	**18 50 39.3**	**-0.5**
IGRF	**Grimsfjall**	**3.34**	**170**	P	**Pn**	**18 50 04.5**	**-0.1**
IGYG	**Gygjarholskot**	**3.50**	**192**	P	**Pn**	**18 50 06.8**	**+0.2**
IVAT	**Vatnsfell**	**3.53**	**183**	P	**Pn**	**18 50 07.8**	**+0.7**
IHEI	**Heioarbar**	**3.68**	**199**	P	**Pn**	**18 50 08.5**	**-0.6**
IKRO	**Krokur**	**3.76**	**197**	P	**Pn**	**18 50 10.1**	**-0.2**
IHAU	**Haukadalur**	**3.79**	**189**	P	**Pn**	**18 50 11.3**	**+0.7**
ISAU	**Saurbar**	**3.80**	**192**	P	**Pn**	**18 50 10.6**	**-0.2**
ISAN	**Sandskeio**	**3.86**	**200**	P	**Pn**	**18 50 10.9**	**-0.7**
IFAG	**Fagurholsmyri**	**3.92**	**168**	P	**Pn**	**18 50 13.0**	**+0.6**
IKAS	**Kald??rsel**	**3.93**	**202**	P	**Pn**	**18 50 12.0**	**-0.6**
IBJA	**Bjarnastaoir**	**3.93**	**198**	P	**Pn**	**18 50 12.6**	**0.0**
ISNB	**Snabyli**	**3.98**	**180**	P	**Pn**	**18 50 14.8**	**+1.5**
IHVO	**Lagu-Hvolar**	**4.19**	**182**	P	**Pn**	**18 50 18.4**	**+2.2**
IESK	**Eystri-Skogar**	**4.21**	**185**	P	**Pn**	**18 50 18.4**	**+2.0**
JMIC	**Jan Mayen**	**4.86**	**43**	LR	LR	18 51 41.1	
comp=Z,830nm,19.8s,baz=79,slow=32							
DAG	**Danmarks Havn**	**9.13**	**360**	⇓ *i*P	**Pn**	**18 51 22.1**	**-1.7**
2.1nm,0.7s							
DAG	**Danmarks Havn**	**9.13**	**360**	⇓ *e*P	**Pn**	**18 51 22.1**	**-1.7**
0.3nm,0.7s							
SFJD	**Kangerlussuaq**	**12.30**	**282**	LR	LR	18 56 15.3	
comp=Z,1μm,21.8s,baz=16,slow=35							
SPB4	**Spitsbergen Ar**	**14.31**	**29**	*e*Pn	**Pn**	**18 52 34.1**	**-0.5**
EKA	**Eskdalemuir Ar**	**14.35**	**142**	Pn	**Pn**	**18 52 38.0**	**+2.8**
0.1nm,0.3s,baz=331,slow=13,SNR=4.5							
ESK	**Eskdalemuir**	**14.35**	**142**	*e*Pn	**Pn**	**18 52 37.9**	**+2.6**
12nm,0.8s							
NB2	**NORSAR Subarra**	**14.38**	**103**	P	**Pn**	**18 52 36.3**	**+0.7**
comp=Z,10.0nm,0.8s,baz=311,slow=11							
NOA	**NORSAR Array B**	**14.38**	**103**	Pn	**Pn**	**18 52 39.2**	**+3.6**
NOA				LR	LR	18 57 07.0	
NOA	**NORSAR Array B**	**14.38**	**103**	Pn	**Pn**	**18 52 39.2**	**+3.6**
comp=Z,0.4nm,0.3s,baz=295,slow=9.8,SNR=12							
NOA				LR	LR	18 57 07.0	
comp=Z,569nm,21.8s,baz=300,slow=33							
DMUB	**Kingscourt**	**14.92**	**152**	⇑ *i*P	**Pn**	**18 52 50.1**	**+7.1**
DCN	**Croghan**	**15.39**	**154**	⇑ *i*P	**Pn**	**18 52 56.6**	**+7.4**
DLF	**Lyons Farm**	**15.56**	**152**	*e*P	**Pn**	**18 52 59.4**	**+7.9**
HFS	**Hagfors**	**15.90**	**103**	Pn	**Pn**	**18 52 58.7**	**+2.8**
comp=Z,0.6nm,0.3s,baz=316,slow=10,SNR=23							
HFS				LR	LR	18 59 08.7	
comp=Z,356nm,18.3s,baz=250,slow=37							
ARCES	**ARCESS Array B**	**15.91**	**63**	Pn	**Pn**	**18 52 58.2**	**+2.3**
comp=Z,0.2nm,0.3s,baz=318,slow=3.3,SNR=6.0							
ARCES				LR	LR	18 57 28.9	
comp=Z,735nm,19.2s,baz=254,slow=31							
KEV	**Kevo**	**16.36**	**62**	*e*p	**Pn**	**18 53 04.5**	**+2.8**
comp=Z,2.5nm,0.6s							
KAF	**Kangasniemi**	**19.45**	**85**	*e*p	**Pn**	**18 53 37.0**	**-2.8**
comp=Z,10nm,0.7s,baz=307,slow=11							
FINES	**FINESS Array B**	**19.77**	**87**	P	**Pn**	**18 53 42.2**	**-1.3**
comp=Z,0.5nm,0.3s,baz=308,slow=9.4,SNR=27							
FINES				LR	LR	19 00 35.3	
comp=Z,840nm,20.3s,baz=132,slow=35							
FINES	**FINESS Array B**	**19.77**	**87**	P	**Pn**	**18 53 42.2**	**-1.3**
WTSB	**Winterswijk**	**20.02**	**129**	*e*P	**P**	**18 53 48.4**	**+3.4**
comp=Z,15nm,0.7s							
HGN	**Heimansgroeve**	**20.84**	**132**	*e*P	**P**	**18 53 54.0**	**+0.2**
comp=Z,35nm,0.8s							
HGN	**Heimansgroeve**	**20.84**	**132**	*e*S	**S**	**18 57 57.9**	**+12**
JOF	**Joensuu**	**20.87**	**79**	*e*p	**P**	**18 53 52.0**	**-2.1**
comp=Z,15nm,0.6s							
ROSF	**Rostrenen**	**20.91**	**150**	*e*P	**P**	**18 53 55.4**	**+0.8**
comp=Z,37nm,1.1s							
ROSF	**Rostrenen**	**20.91**	**150**	*e*P	**P**	**18 53 55.4**	**+0.8**
comp=Z,18nm,1.1s							
MEM	**Membach**	**21.00**	**132**	P	**P**	**18 53 56.2**	**+0.7**
comp=Z,19nm,1.1s,mb4.3							
BAIF	**Baives**	**21.01**	**136**	*e*P	**P**	**18 53 56.3**	**+0.7**
comp=Z,16nm,1.0s,mb4.0							
BAIF	**Baives**	**21.01**	**136**	*e*P	**P**	**18 53 56.3**	**+0.7**
comp=Z,8.0nm,1.0s,mb4.0							
FLN	**La Foliniere**	**21.08**	**145**	*e*P	**P**	**18 53 57.0**	**+0.7**
comp=Z,18nm,0.9s,mb4.1							
FLN				*e*MLR	MLR		
comp=Z,380nm,19.2s,MS3.5							
FLN	**La Foliniere**	**21.08**	**145**	*e*P	**P**	**18 53 57.0**	**+0.7**
comp=Z,8.9nm,0.9s,mb4.1							
FLN				LR	LR		
comp=Z,380nm,19.3s,MS3.8							
DOU	**Dourbes**	**21.08**	**135**	P	**P**	**18 53 59.1**	**+2.7**
SGMF	**Saint Gilles**	**21.13**	**149**	*e*P	**P**	**18 53 57.7**	**+0.8**
comp=Z,24nm,0.8s,mb4.2							
SGMF	**Saint Gilles**	**21.13**	**149**	*e*P	**P**	**18 53 57.7**	**+0.8**
comp=Z,12nm,0.8s,mb4.2							
GIVF	**Givet**	**21.13**	**135**	*e*P	**P**	**18 53 58.0**	**+1.0**
LDF	**La Druitiere**	**21.31**	**145**	*e*P	**P**	**18 53 59.1**	**+0.2**
comp=Z,8.5nm,0.8s,mb3.8							
LDF	**La Druitiere**	**21.31**	**145**	*e*P	**P**	**18 53 59.1**	**+0.2**
comp=Z,4.2nm,0.8s,mb3.8							
QUIF	**Quistinic**	**21.34**	**151**	*e*P	**P**	**18 53 59.7**	**+0.5**
comp=Z,28nm,1.1s,mb4.2							
QUIF	**Quistinic**	**21.34**	**151**	*e*P	**P**	**18 53 59.7**	**+0.5**
comp=Z,14nm,1.1s,mb4.2							
GRR	**Gorron**	**21.35**	**146**	*e*P	**P**	**18 53 59.8**	**+0.5**
WLF	**Walferdange**	**21.89**	**133**	P	**P**	**18 54 05.1**	**0.0**
CLL	**Collm**	**22.53**	**121**	*i* P	**P**	**18 54 13.3**	**+1.4**
CLL				*e*		18 54 17.0	
CLL	**Collm**	**22.53**	**121**	*i* P	**P**	**18 54 13.3**	**+1.4**
comp=Z,8.0nm,1.2s,mb4.0							
CLL				*e*(pP)		18 54 17.0	
CLL				*ex*	x	18 54 24.0	
MEZF	**Maizieres J'vi**	**22.66**	**136**	*e*P	**P**	**18 54 12.8**	**-0.5**
MOX	**Moxa**	**22.66**	**124**	P	**P**	**18 54 14.3**	**+1.1**
comp=Z,50nm,1.6s,mb4.7							
MOX				*e*		18 54 20.0	
MOX	**Moxa**	**22.66**	**124**	*e*(P)	**P**	**18 54 14.3**	**+1.1**
MOX				*e*		18 54 20.0	
comp=Z,50nm,1.6s							
MFF	**Saint Martin d**	**23.20**	**146**	*e*P	**P**	**18 54 18.2**	**-0.8**
comp=Z,18nm,0.9s,mb4.2							
MFF	**Saint Martin d**	**23.20**	**146**	*e*P	**P**	**18 54 18.2**	**-0.8**
comp=Z,8.8nm,0.9s,mb4.2							
BRG	**Berggiesshubel**	**23.21**	**120**	*e*P	**P**	**18 54 20.0**	**+0.9**
comp=Z,5.2nm,1.1s,mb3.9							
BRG				*e*		18 54 28.3	
comp=Z,11nm,1.2s							
CDF	**Champ du Feu**	**23.34**	**133**	*e*P	**P**	**18 54 19.3**	**-1.2**
GRA1	**Grafenberg Arr**	**23.37**	**126**	*e*P	**P**	**18 54 21.2**	**+0.5**
comp=Z,20nm,1.4s,mb4.3							
GRF	**Grafenberg Arr**	**23.37**	**126**	*e*P	**P**	**18 54 21.2**	**+0.5**
comp=Z,20nm,1.4s,mb4.3							
GRFO	**Grafenberg**	**23.37**	**126**	*e*P	**P**	**18 54 22.8**	**+2.1**
comp=Z,10nm,0.8s,mb4.3							
HAU	**Haudompre**	**23.46**	**135**	*e*P	**P**	**18 54 20.9**	**-0.8**
HAU				*e*MLR	MLR		
comp=Z,397nm,19.5s,MS3.6							
HAU	**Haudompre**	**23.46**	**135**	*e*P	**P**	**18 54 20.9**	**-0.8**
HAU				LR	LR		
comp=Z,400nm,19.5s,MS3.9							
LOR	**Lormes**	**23.49**	**139**	*e*P	**P**	**18 54 20.9**	**-1.2**
comp=Z,7.9nm,0.7s,mb4.0							
LOR				*e*MLR	MLR		
comp=Z,642nm,21.5s,MS3.8							
LOR	**Lormes**	**23.49**	**139**	*e*P	**P**	**18 54 20.9**	**-1.2**
comp=Z,4.0nm,0.7s,mb4.0							
LOR				LR	LR		
comp=Z,640nm,21.5s,MS4.0							
SSF	**Saint Saulge**	**23.60**	**140**	*e*P	**P**	**18 54 22.0**	**-1.1**
BFO	**Black Forest**	**23.72**	**131**	*e*P	**P**	**18 54 27.3**	**+3.1**
comp=Z,14nm,1.3s,mb4.2							
HINF	**Hinteralfeld**	**23.77**	**134**	*e*P	**P**	**18 54 23.8**	**-0.9**
comp=Z,12nm,1.0s,mb4.0							
HINF	**Hinteralfeld**	**23.77**	**134**	*e*P	**P**	**18 54 23.8**	**-0.9**
comp=Z,6.0nm,1.0s,mb4.0							
RES	**Resolute Bay**	**23.79**	**320**	*e*P	**P**	**18 54 23.1**	**-1.5**
comp=Z,2μm,1.9s							
RES	**Resolute Bay**	**23.79**	**320**	*e*P	**P**	**18 54 23.1**	**-1.6**
comp=Z,2μm,1.9s							
AVF	**Avril sur Loir**	**23.81**	**141**	*e*P	**P**	**18 54 24.1**	**-1.0**
comp=Z,26nm,1.2s,mb4.2							
AVF	**Avril sur Loir**	**23.81**	**141**	*e*P	**P**	**18 54 24.1**	**-1.0**
comp=Z,13nm,1.2s,mb4.2							
BGF	**Bois d'Agland**	**23.91**	**142**	*e*P	**P**	**18 54 25.1**	**-0.9**
TCF	**Toulx Ste Croi**	**24.02**	**143**	*e*P	**P**	**18 54 26.0**	**-0.9**
KSP	**Ksiaz**	**24.03**	**117**	*e*P	**P**	**18 54 27.0**	**0.0**
KSP				*ep*P		18 54 28.7	
SMF	**Signal de Mont**	**24.07**	**140**	*e*P	**P**	**18 54 26.7**	**-0.7**
comp=Z,25nm,1.1s,mb4.2							
SMF	**Signal de Mont**	**24.07**	**140**	*e*P	**P**	**18 54 26.7**	**-0.7**
comp=Z,12nm,1.1s,mb4.2							
PRU	**Pruhonice**	**24.17**	**121**	*e*P	**P**	**18 54 29.6**	**+1.3**
UPC	**Upice**	**24.22**	**118**	*e*P	**P**	**18 54 28.6**	**-0.1**
DPC	**Dobruska-Polom**	**24.45**	**118**	*e*P	**P**	**18 54 31.1**	**+0.2**
DPC				AMS	AMS	19 05 20.0	
comp=Z,400nm,15.4s,MS4.0							
KHC	**Kasperske Hory**	**24.60**	**123**	*e*P	**P**	**18 54 33.4**	**+1.2**
KHC				AMS	AMS	19 07 00.0	
comp=Z,800nm,11.6s,MS4.5							
CABF	**La Chapelle**	**24.67**	**136**	*e*P	**P**	**18 54 32.6**	**-0.3**
comp=Z,9.9nm,0.9s,mb4.0							
CABF	**La Chapelle**	**24.67**	**136**	*e*P	**P**	**18 54 32.6**	**-0.3**
comp=Z,4.9nm,0.9s,mb4.0							
RJF	**Les Rejaudoux**	**24.79**	**145**	*e*P	**P**	**18 54 33.8**	**-0.2**
comp=Z,20nm,0.8s,mb4.4							
RJF				*e*MLR	MLR		
comp=Z,531nm,19.0s,MS3.8							
RJF	**Les Rejaudoux**	**24.79**	**145**	*e*P	**P**	**18 54 33.8**	**-0.2**
comp=Z,9.9nm,0.8s,mb4.4							
RJF				LR	LR		
comp=Z,530nm,19.0s,MS4.1							
GEC2	**GERESS Array S**	**24.89**	**123**	*e*P	**P**	**18 54 35.9**	**+1.0**
GEC2	**GERESS Array S**	**24.89**	**123**	*e*P	**P**	**18 54 35.9**	**+1.0**
GERES	**GERESS Array B**	**24.89**	**123**	P	**P**	**18 54 36.1**	**+1.2**
comp=Z,12nm,0.8s,mb4.5,baz=330,slow=7.7,SNR=76							
GERES				LR	LR	19 04 24.7	
comp=Z,237nm,20.0s,MS3.7,baz=318,slow=36							
LFF	**La Frestale**	**24.97**	**146**	*e*P	**P**	**18 54 35.4**	**-0.2**
comp=Z,8.6nm,0.6s,mb4.1							
LFF	**La Frestale**	**24.97**	**146**	*e*P	**P**	**18 54 35.4**	**-0.2**
comp=Z,4.3nm,0.6s,mb4.1							
CAF	**Calviac**	**25.27**	**144**	*e*P	**P**	**18 54 38.4**	**0.0**
comp=Z,7.4nm,0.8s,mb4.0							
CAF	**Calviac**	**25.27**	**144**	*e*P	**P**	**18 54 38.4**	**0.0**
comp=Z,3.7nm,0.8s,mb4.0							
MORC	**Moravsky Berou**	**25.36**	**117**	*e*P	**P**	**18 54 39.6**	**+0.5**
comp=Z,7.2nm,0.8s,mb4.2							
MORC	**Moravsky Berou**	**25.36**	**117**	*e*P	**P**	**18 54 39.6**	**+0.5**
comp=Z,7.2nm,0.8s,mb4.2							
VRAC	**Vranov**	**25.44**	**119**	P	**P**	**18 54 40.8**	**+0.9**
comp=Z,8.4nm,0.8s,mb4.3,baz=321,slow=9.8,SNR=7.1							
VRAC				LR	LR	19 03 57.6	
comp=Z,310nm,19.2s,MS3.8,baz=324,slow=35							
DAVOX	**Davos/Dischmat**	**25.57**	**131**	P	**P**	**18 54 43.3**	**+2.3**
comp=Z,5.0nm,0.8s,mb4.1,baz=318,slow=13,SNR=6.3							
DAVOX				LR	LR	19 05 51.6	
comp=Z,551nm,18.6s,MS4.1,baz=316,slow=39							
SCHQ	**Schefferville**	**25.73**	**264**	*e*P	**P**	**18 54 41.0**	**-1.4**
comp=Z,9.4nm,0.9s,mb4.3							
SCHQ	**Schefferville**	**25

comp=Z,3.2nm,1.1s,baz=171,slow=4.6,SNR=3.7
INK Inuvik 37.05 326 *eP* **P 18 56 19.1 -2.6**
comp=Z,510nm,1.4s
TIXI Tiksi 39.22 16 *eP* **P 18 56 39.7 -0.2**
comp=Z,23nm,1.8s,mb4.6
TIXI Tiksi 39.22 16 *eP* **P 18 56 39.7 -0.2**
comp=Z,23nm,1.8s,mb4.6
AKTK Aktyubinsk 39.90 76 P **P 18 56 46.6 +0.8**
AKTK Aktyubinsk 39.90 76 P **P 18 56 46.6 +0.8**
AKTO Aktyubinsk 39.90 76 P **P 18 56 46.6 +0.8**
comp=Z,2.4nm,0.9s,mb4.0,baz=313,slow=5.6,SNR=6.7
ULM Lac du Bonnet 40.31 285 *eP* **P 18 56 48.1 -1.2**
ULM Lac du Bonnet 40.31 285 P **P 18 56 47.7 -1.6**
comp=Z,3.6nm,0.7s,mb4.2,baz=30,slow=9.4,SNR=6.6
ULM LR LR 19 13 04.4
comp=Z,445nm,18.4s,MS4.3,baz=23,slow=36
ULM Lac du Bonnet 40.31 285 *eP* **P 18 56 48.1 -1.2**
EGAK Eagle 41.67 327 *eP* **P 18 56 58.9 -1.4**
comp=Z,12nm,1.2s,mb4.4
EGAK Eagle 41.67 327 *eP* **P 18 56 58.9 -1.4**
comp=Z,12nm,1.2s,mb4.4
DAWY Dawson 41.92 326 *eP* **P 18 57 01.4 -0.9**
DAWY Dawson 41.92 326 *eP* **P 18 57 01.4 -0.9**
AGMN Agassiz Refuge 41.92 283 P **P 18 57 02.2 -0.3**
comp=Z,5.2nm,0.7s,mb4.3
AGMN Agassiz Refuge 41.92 283 P **P 18 57 02.2 -0.3**
comp=Z,5.2nm,0.7s,mb4.3
MALT Malatya 42.76 104 *eP* **P 18 57 11.1 +1.6**
comp=Z,4.8nm,0.8s,mb4.3
MALT Malatya 42.76 104 *eP* **P 18 57 11.1 +1.6**
comp=Z,4.8nm,0.8s,mb4.3
IMA2 Indian Mountai 42.82 335 *eP* **P 18 57 08.9 -0.6**
IMA2 Indian Mountai 42.82 335 *eP* **P 18 57 08.9 -0.7**
COLA College 42.90 331 *eP* **P 18 57 07.5 -2.7**
comp=Z,9.5nm,1.0s,mb4.5
COLA College 42.90 331 *eP* **P 18 57 07.5 -2.8**
comp=Z,9.4nm,1.0s,mb4.5
MCK McKinley 44.13 331 *eP* **P 18 57 18.8 -1.4**
comp=Z,22nm,1.3s,mb4.7
MCK McKinley 44.13 331 *eP* **P 18 57 18.8 -1.4**
comp=Z,22nm,1.3s,mb4.7
BILL Bilibino 44.49 357 *eP* **P 18 57 22.0 -1.1**
comp=Z,16nm,1.4s,mb4.5
BILL Bilibino 44.49 357 *eP* **P 18 57 22.0 -1.1**
comp=Z,16nm,1.4s,mb4.5
TNA Tin City 45.26 343 *eP* **P 18 57 28.6 -0.7**
comp=Z,8.1nm,0.9s,mb4.5
TNA Tin City 45.26 343 *eP* **P 18 57 28.5 -0.7**
comp=Z,8.1nm,0.9s,mb4.5
ZALV Zalesovo Beam 46.11 53 P **P 18 57 35.4 -0.7**
comp=Z,0.9nm,0.7s,mb3.8,baz=326,slow=7.7,SNR=4.8
ZALV PcP PcP 18 59 11.1 -0.8
comp=Z,3.2nm,0.7s,baz=341,slow=4.1,SNR=14
KURK Kurchatov 46.91 60 *eP* **P 18 57 41.9 -0.5**
comp=Z,3.7nm,0.8s,mb4.4
KURK Kurchatov 46.91 60 *eP* **P 18 57 41.8 -0.6**
comp=Z,3.7nm,0.8s,mb4.4
EGMT Eagleton 47.18 294 *eP* **P 18 57 44.8 +0.3**
comp=Z,46nm,1.2s,mb5.3
EGMT Eagleton 47.18 294 *eP* **P 18 57 43.5 -1.0**
baz=47
EGMT Eagleton 47.18 294 *eP* **P 18 57 44.8 +0.3**
comp=Z,46nm,1.2s,mb5.3
YAK Yakutsk 48.54 19 *eP* **P 18 57 51.4 -3.4**
comp=Z,12nm,0.8s,mb5.0
A11A Hall Mountain, 48.63 300 ⇓P **P 18 57 55.6 -0.1**
baz=48,SNR=5.3
C14A Swan Lake 48.77 297 ⇓P **P 18 57 55.9 -0.9**
baz=48
D15A Lincoln 48.98 295 ⇑P **P 18 57 57.3 -1.2**
baz=49
GCMT Greycliff 49.06 292 *eP* **P 18 57 58.8 -0.3**
GCMT Greycliff 49.06 292 *eP* **P 18 57 58.8 -0.3**
B11A Sandpoint 49.08 299 ⇑P **P 18 57 58.7 -0.5**
baz=49
C13A Hot Springs 49.13 297 ⇑P **P 18 57 59.3 -0.3**
baz=49,SNR=6.1
EIL Elat 49.25 113 LR LR 19 18 27.2
comp=Z,123nm,19.4s,MS3.9,baz=286,slow=36
D14A Greenough 49.29 296 ⇑P **P 18 58 00.1 -0.6**
baz=49
A09A Danville 49.34 301 ⇑P **P 18 58 01.3 +0.1**
baz=49
SWET Sewanee 49.39 265 *eP* **P 18 58 05.6 +3.9**
E15A Deer Lodge 49.56 295 ⇑P **P 18 58 02.4 -0.4**
baz=49
A08A Turner Farm, O 49.59 302 ⇑P **P 18 58 02.5 -0.5**
baz=49
D13A Huson 49.60 297 P **P 18 58 03.1 0.0**
baz=49,SNR=5.7
MSO Missoula 49.65 296 *eP* **P 18 58 02.6 -0.9**
comp=Z,8.7nm,1.1s,mb4.7
MSO Missoula 49.65 296 *eP* **P 18 58 02.7 -0.9**
comp=Z,8.6nm,1.1s,mb4.7
B09A Rice 49.68 301 ⇑P **P 18 58 03.4 -0.4**
baz=49
A07A Ashnola River, 49.86 303 ⇑P **P 18 58 05.2 +0.1**
baz=50
BOZ Bozeman (W) 49.88 294 *eP* **P 18 58 04.4 -0.9**
comp=Z,4.6nm,0.8s,mb4.6
BOZ Bozeman (W) 49.88 294 *eP* **P 18 58 04.4 -0.9**
comp=Z,4.6nm,0.8s,mb4.6
F15A Butte 50.01 294 ⇓P **P 18 58 05.8 -0.5**
baz=50
E13A Victor 50.07 296 ⇑P **P 18 58 06.1 -0.7**
baz=50
B08A Colville Reser 50.13 301 ⇓P **P 18 58 07.1 -0.1**
baz=50
B07A Winthrop 50.29 302 ⇑P **P 18 58 08.7 +0.3**
baz=50
G15A Dillon 50.60 294 ⇑P **P 18 58 10.6 -0.1**
baz=50
E11A Bogner Ranch, 50.84 298 ⇑P **P 18 58 11.4 -1.1**
baz=50
MCMT McKenzie Canyo 51.02 294 *eP* **P 18 58 14.0 +0.1**
MCMT McKenzie Canyo 51.02 294 *eP* **P 18 58 14.0 +0.1**
D08A Wollman Farm, 51.13 300 ⇑P **P 18 58 14.0 -0.7**
baz=51
G13A Cobalt 51.27 295 ⇓P **P 18 58 14.9 -0.9**
baz=51,SNR=7.5
MK31 Makanchi Array 51.53 60 *eP* **P 18 58 17.1 -0.6**
MK31 Makanchi Array 51.53 60 *eP* **P 18 58 17.1 -0.6**
MKAR Makanchi Array 51.53 60 P **P 18 58 17.5 -0.2**
comp=Z,1.8nm,0.8s,mb4.1,baz=339,slow=6.5,SNR=9.0
PDAR Pinedale Array 51.59 290 P **P 18 58 18.1 -0.6**
comp=Z,2.0nm,0.8s,mb4.1,baz=40,slow=5.4,SNR=16
G11A Walters Elk Ra 51.69 297 ⇓P **P 18 58 18.3 -0.7**
baz=51
H13A Challis 51.73 295 ⇑P **P 18 58 19.4 +0.1**
baz=51
E07A Sunnyside 51.87 301 ⇑P **P 18 58 20.4 +0.1**
baz=52
H12A Diamond D Ranc 51.95 296 P **P 18 58 20.9 0.0**
baz=52,SNR=6.2
I13A Wildhorse Cree 52.26 295 ⇑P **P 18 58 22.9 -0.3**
baz=52
H10A Noah's Angus R 52.57 297 ⇑P **P 18 58 24.6 -0.9**
baz=52
D03A Wishkah Elem. 52.65 304 ⇓P **P 18 58 26.2 +0.2**
baz=52
HLID Hailey 52.67 295 ⇓P **P 18 58 26.2 -0.1**
baz=52
HLID Hailey 52.67 295 *eP* **P 18 58 25.9 -0.3**
comp=Z,5.2nm,1.3s,mb4.3
G08A Pilot Rock 52.70 299 ⇓P **P 18 58 26.1 -0.4**
baz=52
G07A Ruggs Ranch, H 52.95 300 P **P 18 58 28.2 -0.1**
baz=53,SNR=6.6
K14A Jones Ranch, D 53.13 293 ⇑P **P 18 58 30.0 +0.3**
baz=53
J12A Stokes Ranch, 53.18 295 ⇓P **P 18 58 30.0 0.0**
baz=53
K13A Stover Farm, H 53.36 294 ⇑P **P 18 58 31.4 0.0**
baz=53
I09A Lost Marbles R 53.45 297 ⇓P **P 18 58 31.6 -0.4**
baz=53
H07A Lands Inn, Kim 53.51 299 P **P 18 58 32.5 +0.1**
baz=53,SNR=5.8
H06A Lindquist Farm 53.64 300 ⇓P **P 18 58 33.7 +0.3**
baz=53
L13A Double Diamond 53.80 293 ⇓P **P 18 58 35.5 +0.9**
baz=54
M15A Larsen Ranch, 53.83 292 ⇑P **P 18 58 35.0 +0.3**
baz=54
K11A Parker Ranch, 53.92 295 P **P 18 58 35.7 +0.2**
baz=54,SNR=7.4
I07A Izee 53.95 299 ⇓P **P 18 58 35.9 +0.3**
baz=54
J09A Fry Pan Ranch, 54.01 297 P **P 18 58 35.8 -0.3**
baz=54,SNR=8.6
M14A Sheep Mountain 54.11 292 ⇑P **P 18 58 36.9 0.0**
baz=54
K10A MacKenzie Ranc 54.21 296 ⇓P **P 18 58 37.7 +0.2**
baz=54
H04A Detroit Lake 54.30 301 ⇓P **P 18 58 38.2 0.0**
baz=54
I06A Prineville 54.30 299 ⇓P **P 18 58 38.7 +0.4**
baz=54
K09A Rome 54.57 297 P **P 18 58 40.0 -0.2**
baz=54,SNR=16
N14A Grayback Hills 54.63 292 ⇓P **P 18 58 40.4 -0.3**
baz=54
L10A Juniper Basin 54.69 295 P **P 18 58 41.6 +0.6**
baz=54,SNR=9.9
WMOK Wichita Mounta 54.71 276 *eP* **P 18 58 40.7 -0.6**
comp=Z,9.9nm,1.4s,mb4.7
WMOK Wichita Mounta 54.71 276 *eP* **P 18 58 40.7 -0.6**
comp=Z,9.9nm,1.4s,mb4.7
J06A Christmas Vall 54.90 299 P **P 18 58 43.3 +0.7**
baz=54,SNR=16
M11A Holland Ranch, 55.03 294 ⇑P **P 18 58 43.6 +0.1**
baz=55
K07A Rock Creek Ran 55.09 298 ⇑P **P 18 58 44.1 +0.1**
baz=55
M10A I.L. Ranch, Tu 55.21 295 ⇑P **P 18 58 45.8 +1.0**
baz=55
J05A Fort Rock 55.23 300 ⇓P **P 18 58 45.6 +0.7**
baz=55,SNR=9.5
L08A Fields 55.23 297 P **P 18 58 45.1 +0.1**
baz=55,SNR=7.2
N12A Clover Valley, 55.28 294 ⇓P **P 18 58 46.1 +0.7**
baz=55
K06A Valley Falls 55.33 299 P **P 18 58 46.3 +0.6**
baz=55,SNR=5.5
J04A Umpqua Nationa 55.56 301 ⇓P **P 18 58 48.0 +0.7**
baz=55
K05A Summer Lake 55.61 299 ⇓P **P 18 58 48.8 +1.1**
baz=55
O12A Currie 55.69 293 ⇑P **P 18 58 48.5 +0.2**
baz=55
L07A Adell 55.72 298 ⇓P **P 18 58 49.3 +0.8**
baz=55
M08A Happy Creek Ra 55.90 297 P **P 18 58 50.7 +0.9**
baz=56,SNR=6.2
TOA0 Torodi Ar. Sit 56.10 156 *eP* **P 18 58 52.1 +0.6**
TOA0 Torodi Ar. Sit 56.10 156 *eP* **P 18 58 52.1 +0.6**
TORD Torodi Ar. Bea 56.10 156 P **P 18 58 52.4 +0.9**
TORD Torodi Ar. Bea 56.10 156 P **P 18 58 52.4 +0.9**
comp=Z,2.7nm,0.8s,mb4.3,baz=339,slow=8.9,SNR=15
MOD Modoc 56.15 298 *eP* **P 18 58 51.2 -0.4**
comp=Z,16nm,1.6s,mb4.8
MOD Modoc 56.15 298 ⇑P **P 18 58 52.0 +0.4**
baz=56
MOD Modoc 56.15 298 *eP* **P 18 58 51.2 -0.4**
comp=Z,16nm,1.6s,mb4.8
P13A Bates Ranch, G 56.16 292 ⇓P **P 18 58 52.8 +1.1**
baz=56
L05A Lakeview 56.20 299 ⇓P **P 18 58 52.6 +0.7**
baz=56
M07A Soldier Meadow 56.23 297 ⇑P **P 18 58 52.9 +0.8**
baz=56
MSU Marysvale 56.34 290 *eP* **P 18 58 53.9 +0.9**
N08A GE Springer Mi 56.41 296 ⇑P **P 18 58 54.0 +0.5**
baz=56
P12A McGill 56.46 293 ⇑P **P 18 58 54.7 +0.9**
baz=56
N07B Gerlach 56.70 297 ⇓P **P 18 58 56.2 +0.7**
baz=56
M04C Macdoel 56.77 300 ⇑P **P 18 58 56.5 +0.5**
baz=56
Q12A Willow Creek R 56.81 292 ⇑P **P 18 58 57.3 +0.9**
baz=56
M06C Likely Place G 56.83 298 ⇓P **P 18 58 56.7 +0.3**
baz=56
M05C Lookout 56.92 299 ⇑P **P 18 58 57.4 +0.4**
baz=57
N06A Buffalo Meadow 57.02 297 ⇑P **P 18 58 58.1 +0.3**
baz=57
YBH Yreka Blue Hor 57.10 300 ⇑P **P 18 58 57.1 -1.3**
baz=57
Q11A Duckwater 57.28 293 ⇓P **P 18 59 00.1 +0.5**
baz=57,SNR=8.2
R12A Pony Springs, 57.37 292 ⇓P **P 18 59 00.7 +0.4**
baz=57
ELFS Eagle Lake Fie 57.44 298 ⇑P **P 18 59 01.2 +0.4**
baz=57
M02C Callahan 57.46 300 ⇑P **P 18 59 00.3 -0.6**
baz=57
Q10A Clear Creek Ra 57.56 294 ⇑P **P 18 59 02.3 +0.7**
baz=57,SNR=10
SONM Songino Array 57.61 41 P **P 18 59 01.4 -0.5**
comp=Z,0.5nm,0.8s,mb3.6,baz=316,slow=6.8,SNR=3.8
R11A Troy Canyon, C 57.70 293 P **P 18 59 03.0 +0.4**
baz=57,SNR=15
ULN Ulaanbaatar 57.75 40 *eP* **P 18 59 02.6 -0.2**
comp=Z,1.8nm,0.9s,mb4.1
ULN Ulaanbaatar 57.75 40 *eP* **P 18 59 02.6 -0.2**
comp=Z,1.8nm,0.9s,mb4.1
Q09A Carvers 57.82 294 ⇓P **P 18 59 03.7 +0.2**
baz=58
O04C Chester 57.83 298 ⇓P **P 18 59 03.8 +0.3**
baz=58
T14A Hurricane 57.95 290 ⇓P **P 18 59 04.7 +0.3**
baz=58
BEKR Beckwourth 57.99 297 ⇑P **P 18 59 05.2 +0.5**
baz=58
R10A Warm Springs 58.00 293 P **P 18 59 05.8 +1.0**
baz=58,SNR=5.8
Q08A Gabbs 58.06 295 P **P 18 59 05.2 +0.1**
baz=58,SNR=9.1
N02C Big Bar 58.12 300 ⇓P **P 18 59 05.9 +0.3**
baz=58
T13A Saint George 58.29 290 ⇑P **P 18 59 07.0 +0.2**
baz=58
WCN Washoe City 58.29 297 ⇓P **P 18 59 07.4 +0.6**
baz=58
R09A Tonopah 58.31 294 ⇑P **P 18 59 06.6 -0.3**
baz=58
S10A Tonopah Range, 58.43 293 P **P 18 59 08.3 +0.5**
baz=58,SNR=9.4
T11A Corn Creek, Al 58.56 292 P **P 18 59 09.7 +1.1**
baz=58,SNR=6.2
NVAR Mina Array Bea 58.57 295 P **P 18 59 08.1 -0.7**
NVAR Mina Array Bea 58.57 295 P **P 18 59 08.1 -0.7**
comp=Z,1.9nm,1.1s,mb4.1,baz=45,slow=6.8,SNR=10
P05C Yuba Gap, Truc 58.58 297 ⇓P **P 18 59 09.4 +0.6**
baz=58
S09A Goldfield 58.83 294 ⇓P **P 18 59 11.1 +0.5**
baz=58
U13A Pakoon Wash 58.85 290 ⇓P **P 18 59 11.9 +1.2**
baz=58
R06C Coleville 58.89 296 ⇑P **P 18 59 11.6 +0.7**
baz=58
JCT Junction City 58.89 275 *eP* **P 18 59 10.4 -0.6**
comp=Z,9.6nm,1.0s,mb4.8
JCT Junction City 58.89 275 *eP* **P 18 59 10.4 -0.6**
comp=Z,9.6nm,1.0s,mb4.8
R05C Kirkwood Meado 58.94 296 ⇑P **P 18 59 11.9 +0.7**
baz=59
TPNV Topopah Spring 59.18 292 *eP* **P 18 59 12.4 -0.6**
comp=Z,21nm,1.6s,mb4.9
TPNV Topopah Spring 59.18 292 ⇑P **P 18 59 12.8 -0.1**
baz=59
TPNV Topopah Spring 59.18 292 *eP* **P 18 59 12.4 -0.6**
comp=Z,21nm,1.6s,mb4.9
V14A Boquillas Ranc 59.24 289 ⇓P **P 18 59 14.0 +0.6**
baz=59
S08C White Mtn Res 59.36 294 ⇑P **P 18 59 14.3 +0.1**
baz=59
KCC Kaiser Creek 59.92 295 ⇑P **P 18 59 18.7 +0.7**
baz=60
CVS Carmenet Viney 60.07 298 ⇓P **P 18 59 20.2 +1.1**
baz=60
HELL Mitchell Peak 60.40 295 ⇑P **P 18 59 22.0 +0.6**
baz=60
119A Ashpeak Ranch, 60.41 284 ⇑P **P 18 59 22.2 +0.7**
baz=60
MPMC Manual Prospec 60.42 293 ⇑P **P 18 59 22.3 +0.8**
baz=60
X13A Yucca 60.43 289 ⇑P **P 18 59 21.8 +0.2**
baz=60
GMRC Granite Mounta 60.92 291 ⇓P **P 18 59 25.4 +0.4**
baz=61
ISA Isabella 61.12 294 ⇓P **P 18 59 27.5 +1.3**
baz=61
TUC Tucson 61.37 285 *eP* **P 18 59 28.1 +0.1**
comp=Z,14nm,1.8s,mb4.8
TUC Tucson 61.37 285 *eP* **P 18 59 28.1 +0.1**
comp=Z,14nm,1.8s,mb4.8
TXAR Lajitas Array 61.38 278 P **P 18 59 27.4 -0.7**
comp=Z,3.6nm,1.1s,mb4.4,baz=37,slow=6.4,SNR=9.9
DBIC Dimbokro 61.64 164 P **P 18 59 32.1 +2.2**
comp=Z,2.8nm,0.9s,mb4.4,baz=317,slow=5.8,SNR=3.0
EDW2 Edwards Air Fo 61.66 293 ⇑P **P 18 59 30.8 +0.9**
baz=61
BELC Belle Mtn. 61.74 291 ⇑P **P 18 59 31.9 +1.4**
baz=61
BC3 Big Chuckw Mtn 61.86 290 ⇑P **P 18 59 32.5 +1.2**
baz=62
318A Bisbee 61.86 284 ⇑P **P 18 59 31.7 +0.4**
baz=62
217A Green Valley 61.86 285 ⇑P **P 18 59 31.8 +0.4**
baz=62
MDJ Mudanjiang 65.46 24 P **P 18 59 52.5 -2.4**
MDJ AMB AMB
comp=Z,11nm,1.4s,mb4.7
MDJ AMB AMB
comp=Z,176nm,5.7s
CN2 Changchun 65.55 28 *eP* **P 18 59 54.5 -1.0**
LZH Lanzhou 67.90 48 *eP* **P 19 00 10.1 -0.5**
LZH AP pP 19 00 14.8 +1.0
LZH XP sP 19 00 17.5 +2.5
LZH PP PP 19 02 41.2 +1.5
LZH AMB AMB
comp=Z,20nm,1.4s,mb5.0
LZH AMB AMB
comp=Z,136nm,6.6s
LZH LR LR
comp=N,251nm,16.5s
LZH LR LR
comp=Z,305nm,18.3s,MS4.6
CD2 Chengdu 72.72 50 *eP* **P 19 00 40.3 +0.1**
CD2 AMB AMB
comp=Z,20nm,0.8s,mb5.1
CD2 AMB AMB
comp=Z,30nm,8.4s
MAT Matsushiro 74.61 19 P **P 19 00 50.0 -1.2**
MJAR Matsushiro Arr 74.61 19 P **P 19 00 50.5 -0.7**
comp=Z,4.6nm,0.8s,mb4.5,baz=348,slow=5.1,SNR=4.9
NJ2 Nanjing 75.56 36 *eP* **P 19 00 59.4 +2.7**
NJ2 AMB AMB
comp=Z,20nm,0.8s,mb5.1
GYA Guiyang 77.75 49 P **P 19 01 08.2 -1.0**
GYA AMB AMB
comp=Z,10.0nm,1.0s,mb4.7
KMI Kunming 77.85 52 P **P 19 01 09.0 -0.7**
KMI AMB AMB
comp=Z,12nm,1.3s,mb4.7
SIV San Ignacio 88.99 221 P **P 19 02 08.1 +1.2**
comp=Z,4.3nm,1.1s,mb4.7,baz=346,slow=0.9,SNR=8.9
MAW Mawson 146.30 137 PKPbc PKPbc 19 08 51.8 +0.6
comp=Z,6.3nm,1.1s,baz=299,slow=6.1,SNR=4.2

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*CSEM **06** 18:51:22.7±0.6, 3726N×2464W, h0km, ML3.2, Error ellipse: s-maj=6.8km s-min=2.2km az=94.0, After PDA*
*PDA **06** 18:51:22.7±0.6, 3726N×2464W, h0km, MD3.8, ML3.2, Error ellipse: s-maj=6.8km s-min=2.2km az=94.0*
SVSA 06 18:51:22.7±0.6, 3726N×2464W, h0km, MD3.8, ML3.2, Error ellipse: s-maj=6.8km s-min=2.2km az=94.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSMN	**Pico do Norte,**	**0.43**	**233**	*eP*	Pg	18 51 30.5	-0.4
PSMN				*eS*	Sg	18 51 36.8	+0.3
PDA	**Ponta Delgada**	**0.95**	**301**	*eP*	Pg	18 51 38.4	-2.5
PDA				*eS*	Sg	18 51 49.7	-3.5
PSET	**Sete Cidades**	**1.03**	**303**	*eP*	Pg	18 51 39.4	-3.0
PSET				*eS*	Sg	18 51 52.2	-3.5
PSET				A		18 51 58.5	
	226nm,0.2s						
PSET	**Sete Cidades**	**1.03**	**303**	*eP*	Pg	18 51 39.4	-3.0
PSET				*eS*	Sg	18 51 52.2	-3.5
PSCM	**Serra do Cume**	**2.43**	**307**	*eP*	Pn	18 51 59.1	-4.5
PSCM				*eS*	Sn	18 52 26.2	-7.8
PSCM				A		18 52 31.0	
	58nm,0.2s						
PSCM	**Serra do Cume**	**2.43**	**307**	*eP*	Pn	18 51 59.1	-4.5
PSCM				*eS*	Sn	18 52 26.2	-7.8

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*IDC **06** 19:09:55.8±3.0, 3395S×17903W, h0km, mb3.7/2, mb1 4.0/3, mb1mx3.8/14, mbtmp3.8/3, ML4.1/1, Error ellipse: s-maj=71.2km s-min=36.1km az=118.0*
ISC 06 19:10:01.9±2.4, 342S±01×1792W±04, h35km, n10, σ0°92/14, mb3.5/2, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PUZ	**Puketiti**	**4.34**	**207**	*eP*N	**Pn**	**19 11 05.6**	**+0.2**
PUZ				SN	**Sn**	**19 12 01.7**	**+6.9**
URZ	**Urewera**	**5.00**	**215**	Pn	**Pn**	**19 11 16.9**	**+2.5**
	6.3nm,0.3s,baz=328,slow=2.1,SNR=42						
URZ				Sn	**Sn**	**19 12 18.1**	**+7.3**
	5.7nm,0.3s,baz=144,slow=22,SNR=15						
URZ	**Urewera**	**5.00**	**215**	*eP*N	**Pn**	**19 11 15.6**	**+1.2**
URZ				SN	**Sn**	**19 12 17.4**	**+6.6**
BKZ	**Black Stump Fm**	**6.01**	**214**	*eP*N	**Pn**	**19 11 28.8**	**+0.5**
MRZ	**Mangatainoka R**	**7.63**	**211**	*eP*N	**Pn**	**19 11 49.1**	**-1.5**
MRZ				SN	**Sn**	**19 13 16.4**	**+0.6**
THZ	**Tophouse**	**9.75**	**217**	*eP*N	**Pn**	**19 12 18.4**	**-1.2**
THZ				SN	**Sn**	**19 14 07.4**	**-0.4**
MQZ	**McQueen's Vall**	**11.38**	**211**	SN	**Sn**	**19 14 41.7**	**-5.9**
ASAR	**Alice Springs**	**42.03**	**272**	P	**P**	**19 17 50.5**	**+0.4**
	0.5nm,0.6s,mb3.3,baz=111,slow=7.6,SNR=9.3						
WRA	**Warramunga Arr**	**43.37**	**277**	P	**P**	**19 18 00.8**	**-0.2**
	0.6nm,0.4s,mb3.7,baz=118,slow=7.3,SNR=7.8						
FINES	**FINESS Array B**	**148.32**	**337**	PKPbc	PKPbc	19 29 42.0	-1.6
	3.1nm,0.9s,baz=35,slow=5.1,SNR=6.0						

IDC 06 19:13:55.8±1.4, 674S×15517E, h0km, mb3.9/4, mb1 4.1/5, mb1mx3.8/15, mbtmp4.0/5, ML4.2/1, Error ellipse: s-maj=30.3km s-min=26.7km az=4.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**5.43**	**120**	Pn	Pn	19 15 18.0	-0.1
	8.2nm,0.3s,baz=267,slow=5.5,SNR=3.2						
HNR				Sn	Sn	19 16 22.5	+1.2
	24nm,0.3s,baz=101,slow=4.8,SNR=4.7						
WB2	**Warramunga Arr**	**24.10**	**235**	*eP*	P	19 19 14.3	+1.0
WRA	**Warramunga Arr**	**24.11**	**235**	P	P	19 19 14.4	+1.0
	1.9nm,0.6s,baz=62,slow=9.6,SNR=12						
ASAR	**Alice Springs**	**26.47**	**228**	P	P	19 19 34.4	-0.5
	0.5nm,0.5s,baz=59,slow=9.9,SNR=14						
FITZ	**Fitzroy Crossi**	**30.92**	**246**	*eP*	P	19 20 15.2	+0.6
	2.4nm,0.4s						
FITZ	**Fitzroy Crossi**	**30.92**	**246**	P	P	19 20 14.8	+0.1
	1.6nm,0.5s,baz=67,slow=9.3,SNR=8.5						
SONM	**Songino Array**	**69.22**	**327**	P	P	19 25 04.5	0.0
	0.6nm,0.5s,baz=140,slow=6.5,SNR=9.5						

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*NEIC **06** 19:14:47.4, 1992N×69.12W, h127km, MD3.8(RSPR), After RSPR.*
RSPR 06 19:14:47.4, 1992N×6912W, h127km±38km, MD3.8/10, MD3.8/10, 9C, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STDO	**Santo Domingo**	**1.65**	**208**	*eS*	Sn	19 15 38.4	-1.3
AGPR	**Aguadilla, PR**	**2.38**	**127**	⇑*eP*	Pn	19 15 27.8	+1.8
AGPR				*eS*	Sn	19 15 56.1	+0.5
LSP	**Las Mesas**	**2.59**	**132**	*eS*	Sn	19 16 02.0	+1.7
CRPR	**Cabo Rojo, PR**	**2.69**	**135**	⇑*eP*	Pn	19 15 31.1	+1.2
CRPR				*eS*	Sn	19 16 04.4	+1.8
AOPR	**Arecibo Observ**	**2.73**	**125**	⇑*eP*	Pn	19 15 33.0	+2.7
AOPR				*eS*	Sn	19 16 03.6	+0.1
CELP	**Cerrillos**	**3.02**	**127**	⇑*eP*	Pn	19 15 34.0	-0.2
CELP				*eS*	Sn	19 16 10.5	+0.2
ICM	**Isla Caja Muer**	**3.18**	**129**	⇑*eP*	Pn	19 15 38.1	+1.8
ICM				*eS*	Sn	19 16 13.7	-0.3
SJG	**San Juan**	**3.33**	**122**	*eS*	Sn	19 16 17.1	-0.5
SJG	**San Juan**	**3.33**	**122**	⇑*eP*	Pn	19 15 38.2	-0.1
SJG				*eS*	Sn	19 16 16.8	-0.8
CBYP	**Canovanas**	**3.49**	**117**	⇑*eP*	Pn	19 15 41.9	+1.5
CBYP				*eS*	Sn	19 16 21.0	-0.3

HUMP	**Col San Antoni**	**3.56 119**⇑	*e*P	Pn	19 15 40.6	-0.7
HUMP			*e*S	Sn	19 16 22.7	-0.3
CPD	**Cerro la Pandu**	**3.56 121**	*e*S	Sn	19 16 22.0	-1.0
MTP	**Monte Pirata**	**3.83 118**⇑	*e*P	Pn	19 15 42.2	-2.6
MTP			*e*S	Sn	19 16 27.3	-2.0

*IDC **06** 19:21:47.9±3.5,2034S×16827E,h0km,mb4.1/5, mb1 4.3/5,mb1mx4.0/13,mbtmp4.1/5,Error ellipse: s-maj=105.7km s-min=35.4km az=136.0*

ISC 06 19:21:51.5±3.3,207S±04×1685E±05,h35km,n10,σ0§81/9, mb4.1/5,Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**2.37**	**235**	*e*P	**Pn**	**19 22 26.6**	**-1.3**
DZM				*e*S	**Sn**	**19 22 56.5**	**+0.6**
STKA	**Stephens Creek**	**26.52**	**240**	*e*P	**P**	**19 27 26.7**	**+0.8**
	2.7nm,0.8s,mb3.8						
STKA	**Stephens Creek**	**26.52**	**240**	P	**P**	**19 27 26.7**	**+0.8**
	3.6nm,0.8s,mb4.0,baz=87,slow=12,SNR=7.5						
WRA	**Warramunga Arr**	**32.04**	**265**	P	**P**	**19 28 14.0**	**-1.1**
	0.9nm,0.6s,mb3.8,baz=92,slow=8.5,SNR=18						
ASAR	**Alice Springs**	**32.15**	**258**	P	**P**	**19 28 15.9**	**-0.1**
	3.4nm,0.9s,mb4.2,baz=84,slow=9.2,SNR=31						
FITZ	**Fitzroy Crossi**	**40.46**	**266**	*e*P	**P**	**19 29 27.5**	**+0.5**
	6.3nm,0.9s,mb4.3						
FITZ	**Fitzroy Crossi**	**40.46**	**266**	P	**P**	**19 29 27.4**	**+0.4**
	2.9nm,0.6s,mb4.2,baz=109,slow=7.6,SNR=10						
SONM	**Songino Array**	**87.99**	**323**	P	**P**	**19 34 38.3**	**+0.5**
	1.3nm,0.9s,mb4.1,baz=144,slow=5.2,SNR=7.9						
KHC	**Kasperske Hory**	**145.30**	**331**	*e*P	PKPbc	19 41 24.0	-1.3
GERES	**GERESS Array B**	**145.45**	**330**	PKPbc	PKPbc	19 41 25.5	-0.2
	1.2nm,0.6s,baz=46,slow=3.9,SNR=14						

*ISCJB **06** 19:23:57.7±0.8,3673N±004×2220E±005,h10km,Error ellipse: s-maj=6.2km s-min=5.2km az=9.0*
*ATH **06** 19:23:57.0,37.19N×2255E,h31km,MD3.3/3*
*CSEM **06** 19:23:58.6±0.1,3675N×2215E,h2km,ML3.1,Error ellipse: s-maj=2.5km s-min=2.2km az=48.0*
*THE **06** 19:23:59.0,3676N×2218E,h3km,ML3.1*

ISC 06 19:23:58.2±0.8,3672N±004×2218E±005,h10km,n12, σ1§11/19,Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYL	**PYLOS**	**0.39**	**297**	*e*Pg	**Pg**	**19 24 05.0**	**-0.9**
PYL				*e*Sg	**Sg**	**19 24 11.8**	**+0.6**
ITM	**Ithomi**	**0.50**	**336**	*e*PB	**Pg**	**19 24 07.7**	**-0.3**
ITM				*e*SB	**Sg**	**19 24 15.7**	**+1.1**
VLI	**Veliai**	**0.61**	**90**	*e*PN	**Pg**	**19 24 08.9**	**-1.1**
VLX	**Vlachokerasia**	**0.67**	**14**	*e*Pg	**Pg**	**19 24 10.6**	**-0.6**
VLX				*e*Sg	**Sg**	**19 24 20.2**	**+0.3**
DID	**Didima**	**1.15**	**47**	*e*Pg	**Pg**	**19 24 18.9**	**-1.5**
DID				*e*Sg	**Sg**	**19 24 37.1**	**+1.7**
LTK	**Loutraki**	**1.44**	**26**	*e*Pg	**Pg**	**19 24 25.0**	**-1.0**
LTK				*e*Sg	**Sg**	**19 24 44.4**	**-0.3**
RLS	**Riolos of Patr**	**1.45**	**337**	*e*PN	**Pn**	**19 24 19.9**	**-4.6**
SELA	**Sela**	**1.57**	**352**	*e*Pg	**Pg**	**19 24 27.0**	**-1.4**
SELA				*e*Sg	**Sg**	**19 24 52.4**	**+3.6**
KFL	**Anninata**	**1.77**	**322**	*e*Pb	**Pn**	**19 24 29.7**	**+0.7**
KARN	**Karanos**	**1.93**	**133**	*e*Pb	**Pb**	**19 24 33.2**	**-0.2**
KARN				*e*Sb	**Sb**	**19 24 59.9**	**+2.4**
AOS	**Alonnisos**	**2.79**	**28**	*e*Pn	**Pn**	**19 24 43.9**	**+0.9**
AOS	**Alonnisos**	**2.79**	**28**	*e*Pn	**Pn**	**19 24 43.8**	**+0.9**

*ISCJB **06** 19:29:40.5±0.7,4076N±004×2741E±003,h5km±6km, Error ellipse: s-maj=7.5km s-min=4.0km az=1.2*
*CSEM **06** 19:29:40.0±0.1,4074N×2741E,h10km,MD2.9,Error ellipse: s-maj=3.7km s-min=1.8km az=12.0*
*ISK **06** 19:29:40.5,4070N×2740E,h8km,MD2.6*
*DDA **06** 19:29:40.5,4073N×2737E,h10km±2km,Md2.9*

ISC 06 19:29:40.9±0.6,4075N±004×2740E±003,h9km±5km,n11, σ0§39/19,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SART	**Tekirdag**	**0.18**	**252**	*i* P	**Pg**	**19 29 44.4**	**-0.3**
SART				*i* S	**Sg**	**19 29 47.2**	**+0.1**
RKY	**Sarkoy-Tekirda**	**0.18**	**251**	PG	**Pg**	**19 29 44.5**	**-0.2**
RKY				SG	**Sg**	**19 29 47.3**	**+0.1**
MRMT	**Marmara Adasi**	**0.20**	**134**	PG	**Pg**	**19 29 44.4**	**-0.7**
MRMT				SG	**Sg**	**19 29 48.0**	**0.0**
EDC	**Edincik**	**0.53**	**138**	PG	**Pg**	**19 29 51.1**	**-0.1**
EDC				SG	**Sg**	**19 29 58.1**	**-0.1**
KCT	**Karacabey**	**0.87**	**123**	PG	**Pg**	**19 29 57.1**	**-0.6**
KCT				SG	**Sg**	**19 30 09.3**	**+0.3**
ELBA	**Catalca**	**0.88**	**62**	*e*P	**Pg**	**19 29 57.6**	**-0.2**
ELBA				*i* S	**Sg**	**19 30 09.6**	**+0.3**
ENEZ	**Enez**	**0.95**	**270**	*e*PG	**Pg**	**19 30 00.0**	**+0.8**
BTOK	**Tokmak**	**1.09**	**154**	*i* P	**Pg**	**19 30 02.1**	**+0.2**
BTOK				*i* S	**Sg**	**19 30 16.8**	**+0.7**
GADA	**Gvkgeada**	**1.27**	**245**	*e*PN	**Pn**	**19 30 04.8**	**-0.1**
BOZC	**Bozcaada**	**1.37**	**229**	*i* P	**Pn**	**19 30 05.7**	**-0.5**
BOZC				*i* S	**Sb**	**19 30 24.3**	**0.0**
IZI	**Iznik**	**1.63**	**104**	*e*PN	**Pn**	**19 30 10.2**	**+0.4**

IDC 06 19:30:33.6±1.8,762S×15771E,h0km,mb3.2/3,mb1 3.4/4, mb1mx3.3/15,mbtmp3.3/4,ML3.9/1,MS2.9/1,Ms1 2.9/1, ms1mx2.8/16,Error ellipse: s-maj=39.5km s-min=26.5km az=30.0,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.86**	**129**	Pn	Pn	19 31 20.7	+0.3
	18nm,0.3s,baz=252,slow=1.5,SNR=5.7						
HNR				Sn	Sn	19 31 54.7	-0.8
	20nm,0.3s,baz=270,slow=22,SNR=8.5						
HNR				LR	LR	19 32 28.5	
	comp=Z,204nm,20.2s,baz=336,slow=40						
WRA	**Warramunga Arr**	**25.75**	**239**	P	P	19 36 05.5	-0.6
	0.3nm,0.7s,baz=63,slow=9.5,SNR=3.4						
ASAR	**Alice Springs**	**27.85**	**232**	P	P	19 36 25.8	+0.7
	0.2nm,0.7s,baz=62,slow=9.4,SNR=3.7						
SONM	**Songino Array**	**71.33**	**326**	P	P	19 41 55.5	+0.4
	0.4nm,0.7s,baz=131,slow=8.0,SNR=3.6						

*ISCJB **06** 19:36:35.9±0.6,3427N±004×14043E±005,h72km±5km, mb3.3/4,Error ellipse: s-maj=7.2km s-min=6.1km az=15.2*
*JMA **06** 19:36:35.8±0.2,3428N×14044E,h69km±2km,M3.2*
*IDC **06** 19:36:35.8±4.1,3430N×14062E,h62km±27km,mb3.2/4, mb1 3.4/5,mb1mx3.2/21,mbtmp3.2/5,ML3.7/1,MS3.0/1, Ms1 3.0/1,ms1mx2.8/14,Error ellipse: s-maj=52.9km s-min=7.7km az=81.0*

ISC 06 19:36:36.8±0.6,3426N±004×14043E±005,h64km±5km, n19,σ0§73/31,mb3.4/4,2C-4D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO3	**Boso 3**	**0.55**	**7**	⇑P	**Pn**	**19 36 48.9**	**-0.6**
BSO3				S	**Sn**	**19 36 59.4**	**+0.6**
BSO2	**Boso 2**	**0.56**	**28**	*e*S	**Sn**	**19 36 59.6**	**+0.5**
BSO1	**Boso 1**	**0.60**	**49**	⇓P	**Pn**	**19 36 49.0**	**-1.1**
BSO1				*e*S	**Sn**	**19 36 59.8**	**-0.1**
BSO4	**Boso 4**	**0.73**	**354**	P	**Pn**	**19 36 51.4**	**-0.3**
BSO4				*e*S	**Sn**	**19 37 03.7**	**+1.1**
JMY	**Miyakejima3**	**0.79**	**256**	P	**Pn**	**19 36 52.2**	**-0.1**
KTR	**Katsuura**	**0.89**	**354**	⇑P	**Pn**	**19 36 52.8**	**-0.8**
KTR				S	**Sn**	**19 37 05.5**	**-0.5**
TATJ	**Tateyama 2**	**0.89**	**330**	P	**Pn**	**19 36 53.6**	**0.0**
TATJ				*e*S	**Sn**	**19 37 07.0**	**+1.0**
JIM2	**Oshima 3**	**0.94**	**299**	⇓P	**Pn**	**19 36 53.7**	**-0.6**
JIM2				*e*S	**Sn**	**19 37 06.1**	**-1.1**
JKO	**Kozu shima**	**1.08**	**266**	P	**Pn**	**19 36 56.0**	**+0.1**
JKO				*e*S	**Sn**	**19 37 10.5**	**+0.3**
JHJ2	**Mitsune**	**1.25**	**204**	P	**Pn**	**19 36 58.4**	**+0.1**
JHJ	**Hachijo jima 2**	**1.26**	**206**	P	**Pn**	**19 36 58.6**	**+0.2**
	49nm,0.3s,baz=347,slow=9.1,SNR=62						
JHJ				S	**Sn**	**19 37 15.5**	**+1.0**
	102nm,0.3s,baz=59,slow=22,SNR=16						
KTJJ	**Kamata 2**	**1.31**	**301**	⇓P	**Pn**	**19 36 58.4**	**-0.6**
KTJJ				S	**Sn**	**19 37 14.2**	**-1.5**
JIZS	**Izushimoda**	**1.36**	**290**	⇓P	**Pn**	**19 36 59.6**	**-0.1**
JIZS				*e*S	**Sn**	**19 37 17.1**	**+0.2**
MJAR	**Matsushiro Arr**	**2.91**	**322**	P	**Pn**	**19 37 21.4**	**+0.7**
	9.9nm,0.3s,baz=130,slow=9.8,SNR=63						
MJAR				S	**Sn**	**19 37 54.2**	**-0.3**
	6.4nm,0.3s,baz=196,slow=21,SNR=11						
MJAR				LR	LR	19 38 38.3	
	comp=Z,257nm,21.8s,baz=95,slow=42						
MAT	**Matsushiro**	**2.91**	**322**	P	**Pn**	**19 37 21.8**	**+1.1**
MAT				S	**Sn**	**19 37 54.9**	**+0.3**
SONM	**Songino Array**	**28.78**	**308**	P	**P**	**19 42 29.3**	**+1.0**
	0.3nm,0.6s,mb3.2,baz=109,slow=8.6,SNR=2.8						
ZALV	**Zalesovo Beam**	**43.24**	**315**	P	**P**	**19 44 32.5**	**+1.0**
	0.4nm,0.5s,mb3.4,baz=48,slow=2.1,SNR=2.9						
MKAR	**Makanchi Array**	**44.97**	**304**	P	**P**	**19 44 45.2**	**-0.2**
	0.4nm,0.4s,mb3.6,baz=90,slow=9.7,SNR=4.3						
WRA	**Warramunga Arr**	**54.21**	**187**	P	**P**	**19 45 54.3**	**-1.5**
	0.1nm,0.3s,mb3.2,baz=3.1,slow=7.6,SNR=8.9						

*IDC **06** 19:40:49.2±0.6,783S×15574E,h0km,mb4.8/12, mb1 4.9/12,mb1mx4.8/14,mbtmp4.7/12,MS4.1/8, Ms1 4.1/8,ms1mx3.9/22,Error ellipse: s-maj=25.6km s-min=16.8km az=111.0*
*BJI **06** 19:40:50.3,777S×156.13E,h26km,mB5.2,mb4.9,Ms5.0, Msz4.5*
*ISCJB **06** 19:40:51.0±0.4,788S±005×15580E±007,h24km, mb5.0/67,MS4.3/13,Error ellipse: s-maj=10.3km s-min=6.3km az=28.3*
*NEIC **06** 19:40:52.6±2.1,790S×15577E,h24km±14km,mb5.0/28, Error ellipse: s-maj=7.7km s-min=5.9km az=134.0*
*GCMT **06** 19:40:52.6±0.4,813S×15583E,h19km±1km,MW5.0/55, Moment Tensor Solution. s19,c22; s55,c78; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-3.26±.24; $M_{\theta\theta}$2.57±.15; $M_{\phi\phi}$0.68±.15; $M_{r\theta}$-1.06±.30; $M_{\theta\phi}$-0.60±.10; $M_{r\phi}$0.53±.42; Best double couple: $M_0$3.22700×10^{16} NP1:ϕ_S284.00000°,δ34.00000°,λ-95.00000°. NP2: ϕ_S110.00000°,δ56.00000°,λ-87.00000°. Principal axes: T 2.9650, Plg11.0000°, Azm197.0000°; N 0.5210, Plg3.0000°, Azm288.0000°; P -3.4890, Plg79.0000°, Azm32.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*MOS **06** 19:40:54.0±0.9,771S×15550E,h33km,mb5.3/22 Error ellipse: s-maj=12.3km s-min=8.4km az=94.4*

ISC 06 19:40:52.5±2.0,794S±007×15585E±007,h24km±15km, h17km±1.8km:pP-P,n196,σ0§90/131,mb5.0/67,MS4.3/13, 3C-9D,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.32**	**110**	*e*Pn	**Pn**	**19 41 57.7**	**+1.0**
HNR				LR	LR	19 43 35.3	
HNR	**Honiara**	**4.32**	**110**	Pn	**Pn**	**19 42 02.4**	**+5.6**
	15nm,0.3s,baz=157,slow=1.7,SNR=4.6						
HNR				LR	LR	19 43 35.3	
	comp=Z,780nm,20.4s,baz=350,slow=37						
CTA	**Charters Tower**	**15.23**	**217**	*e*P	**Pn**	**19 44 24.9**	**-1.3**
	42nm,2.0s						
CTA	**Charters Tower**	**15.23**	**217**	*e*P	**Pn**	**19 44 24.9**	**-1.3**
CTA				pmax	pmax		
	comp=Z,42nm,2.0s						
CTA	**Charters Tower**	**15.23**	**217**	Pn	**Pn**	**19 44 28.7**	**+2.5**
	comp=Z,0.2nm,0.3s,baz=43,slow=13,SNR=7.0						
CTA				LR	LR	19 49 29.9	
	comp=Z,835nm,19.3s,baz=48,slow=34						
CTAO	**Charters Tower**	**15.23**	**217**	*e*P	**Pn**	**19 44 25.8**	**-0.5**
	comp=Z,122nm,1.5s						
CTAO	**Charters Tower**	**15.23**	**217**	*e*P	**Pn**	**19 44 25.8**	**-0.4**
CTAO				pmax	pmax		
	comp=Z,122nm,1.5s						
EIDS	**Eidsvold**	**17.92**	**194**	*e*P	**Pn**	**19 45 03.2**	**+3.0**
	comp=Z,53nm,1.6s						
KAKA	**Kakadu**	**23.50**	**256**	*e*P	**P**	**19 45 57.1**	**-4.0**
	comp=Z,18nm,0.6s,mb4.7						
KAKA	**Kakadu**	**23.50**	**256**	*e*P	**P**	**19 46 00.5**	**-0.7**
	comp=Z,38nm,0.7s,mb4.9						
WRAB	**Tennant Creek**	**23.99**	**238**	P	**P**	**19 46 06.6**	**+1.1**
	comp=Z,155nm,0.9s,mb5.4,SNR=8.5						
WRAB	**Tennant Creek**	**23.99**	**238**	*e*P	**P**	**19 46 05.5**	**0.0**
	comp=Z,30nm,1.0s,mb4.7						
WRAB	**Tennant Creek**	**23.99**	**238**	*e*P	**P**	**19 46 05.5**	**0.0**
WRAB				pmax	pmax		
	comp=Z,30nm,1.0s,mb4.7						
WB2	**Warramunga Arr**	**23.99**	**238**	⇓*i*P	**P**	**19 46 05.3**	**-0.3**
WRA	**Warramunga Arr**	**24.00**	**238**	P	**P**	**19 46 05.6**	**0.0**
WRA						19 49 47.4	
WRA	**Warramunga Arr**	**24.00**	**238**	P	**P**	**19 46 05.6**	**-0.1**
	comp=Z,11nm,0.6s,mb4.4,baz=60,slow=9.5,SNR=45						
WRA				PcP	PcP	19 49 47.4	-0.1
	comp=Z,4.1nm,0.9s,baz=62,slow=2.2,SNR=8.4						
WRA				LR	LR	19 55 10.6	
	comp=Z,499nm,18.7s,MS4.0,baz=85,slow=36						
GUMO	**Guam**	**24.01**	**333**	LR	LR	19 53 23.2	
	comp=Z,439nm,20.6s,MS3.9,baz=173,slow=32						
ASAR	**Alice Springs**	**26.21**	**231**	P	**P**	**19 46 25.1**	**-0.6**
	comp=Z,5.3nm,1.0s,mb4.0,baz=60,slow=10,SNR=32						
ASAR				PcP	PcP	19 49 52.5	+0.1
	comp=Z,1.4nm,0.9s,baz=45,slow=2.2,SNR=4.5						
STKA	**Stephens Creek**	**27.26**	**207**	*e*P	**P**	**19 46 34.8**	**-0.3**
	comp=Z,10.0nm,0.9s,mb4.3						
STKA	**Stephens Creek**	**27.26**	**207**	P	**P**	**19 46 37.3**	**+2.3**
	comp=Z,5.9nm,0.7s,mb4.2,baz=25,slow=11,SNR=9.0						
STKA				LR	LR	19 57 17.2	
	comp=Z,776nm,18.3s,MS4.3,baz=19,slow=36						
FITZ	**Fitzroy Crossi**	**31.07**	**248**	⇓*i*P	**P**	**19 47 08.6**	**-0.4**
	comp=Z,8.7nm,0.6s,mb4.8						
KAPI	**Kappang**	**35.97**	**272**	P	**P**	**19 47 51.6**	**-0.3**
	comp=Z,142nm,1.2s,mb5.8,SNR=7.6						
MBWA	**Marble Bar**	**37.24**	**245**	*e*P	**P**	**19 48 01.8**	**-0.7**
	comp=Z,22nm,1.2s,mb4.9						
KLBR	**Kellerberrin**	**42.54**	**231**	*e*P	**P**	**19 48 45.5**	**-1.0**
	comp=Z,12nm,0.9s,mb4.6						
NWAO	**Narrogin (SRO)**	**43.51**	**230**	*e*P	**P**	**19 48 53.9**	**-0.5**
	comp=Z,5.8nm,0.8s,mb4.4						
NWAO	**Narrogin (SRO)**	**43.51**	**230**	*e*P	**P**	**19 48 53.9**	**-0.5**
NWAO				pmax	pmax		
	comp=Z,6.0nm,0.8s						
NWAO	**Narrogin (SRO)**	**43.51**	**230**	P	**P**	**19 48 54.4**	**0.0**
	comp=Z,3.9nm,0.7s,mb4.3,baz=66,slow=15,SNR=6.1						
MUN	**Mundaring**	**43.90**	**231**	*e*P	**P**	**19 48 57.4**	**-0.1**
KSM	**Kuching**	**46.36**	**280**	*e*P	**P**	**19 49 17.7**	**+0.4**
JNU	**Nakatsue**	**47.24**	**331**	LR	LR	20 04 41.7	
	comp=Z,177nm,20.5s,MS4.0,baz=304,slow=30						
MJAR	**Matsushiro Arr**	**47.25**	**341**	P	**P**	**19 49 22.8**	**-1.0**
	comp=Z,27nm,0.7s,mb5.3,baz=164,slow=7.6,SNR=92						
MAJO	**Matsushiro**	**47.25**	**341**	*e*P	**P**	**19 49 22.7**	**-1.1**
	comp=Z,46nm,0.7s,mb5.5						
MAJO	**Matsushiro**	**47.25**	**341**	*e*P	**P**	**19 49 22.7**	**-1.1**
MAJO				pmax	pmax		
	comp=Z,46nm,0.7s,mb5.5						
MAT	**Matsushiro**	**47.25**	**341**	P	**P**	**19 49 22.5**	**-1.3**
KSRS	**Korea Array**	**52.16**	**332**	P	**P**	**19 50 00.7**	**-0.6**
	comp=Z,7.2nm,0.8s,mb4.7,baz=147,slow=7.5,SNR=36						
KSRS				LR	LR	20 09 02.2	
	comp=Z,127nm,21.3s,MS3.9,baz=130,slow=32						
INCN	**Inchon**	**52.80**	**331**	*e*P	**P**	**19 50 06.2**	**+0.3**
	comp=Z,38nm,1.1s,mb5.2						
NJ2	**Nanjing**	**53.18**	**320**	*e*P	**P**	**19 50 10.8**	**+1.9**
NJ2				AMB	AMB		
	comp=Z,30nm,1.0s,mb5.2						
ASAJ	**Asahikawa**	**53.18**	**348**	LR	LR	20 11 30.6	
	comp=Z,231nm,19.0s,MS4.2,baz=175,slow=35						
WHN	**Wuhan**	**55.20**	**316**	P	**P**	**19 50 26.1**	**+2.4**
VLA	**Vladivostok**	**55.30**	**339**	*e*P	**P**	**19 50 24.4**	**+0.3**
VLA	**Vladivostok**	**55.30**	**339**	*e*P	**P**	**19 50 24.3**	**+0.2**
VLA				pmax	pmax		
	comp=Z,105nm,1.9s,mb5.5						
YSS	**Yuzh-Sakhalins**	**55.88**	**349**	*e*P	**P**	**19 50 28.4**	**+0.2**
	comp=Z,19nm,0.8s,mb5.2						
YSS	**Yuzh-Sakhalins**	**55.88**	**349**	*e*P	**P**	**19 50 28.8**	**+0.6**
YSS				pmax	pmax		
	comp=Z,31nm,1.1s,mb5.2						
DL2	**Dalian**	**56.41**	**328**	P	**P**	**19 50 33.7**	**+1.5**
DL2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.8						
KULM	**Kulim**	**56.60**	**282**	*e*P	**P**	**19 50 32.9**	**-1.2**
MDJ	**Mudanjiang**	**57.43**	**338**	P	**P**	**19 50 39.3**	**0.0**
MDJ				AMB	AMB		
	comp=Z,16nm,1.4s,mb4.9						
MDJ				AMB	AMB		
	comp=Z,166nm,13.8s						
MDJ				LR	LR		
	comp=N,97nm,31.1s,MS3.9						
MDJ				LR	LR		
	comp=E,98nm,30.0s,MS3.9						
MDJ				LR	LR		
	comp=Z,112nm,28.9s,MS3.8						
KKTK	**Khon Kaen**	**57.74**	**295**	P	**P**	**19 50 42.5**	**+0.5**
CN2	**Changchun**	**58.40**	**335**	*e*P	**P**	**19 50 46.0**	**-0.1**
CN2				*e*S	**S**	**19 58 47.5**	**-0.2**
CN2				AMB	AMB		
	comp=Z,20nm,1.2s,mb5.0						
CN2				LR	LR		
	comp=Z,200nm,17.0s,MS4.3						
GYA	**Guiyang**	**58.69**	**307**	P	**P**	**19 50 50.4**	**+1.9**
GYA				AP	pP	19 50 54.2	-1.8
GYA				XP	sP	19 50 57.8	-1.0
GYA				PCP	PcP	19 51 40.6	+2.3
GYA				PP	PP	19 53 02.9	+4.3
GYA				SCP	ScP	19 55 39.7	+2.1
GYA				S	**S**	**19 58 54.2**	**+2.0**
GYA				SCS	ScS	20 00 37.4	0.0
GYA				SS	SS	20 02 48.6	+3.0
GYA				AMB	AMB		
	comp=Z,20nm,1.0s,mb5.1						
GYA				AMB	AMB		
	comp=Z,130nm,6.9s						
GYA				LR	LR		
	comp=N,490nm,22.6s,MS4.7						
GYA				LR	LR		
	comp=E,520nm,23.2s,MS4.7						
GYA				LR	LR		
	comp=Z,410nm,21.8s,MS4.5						
HABR	**Khabarovsk**	**59.08**	**344**	*e*P	**P**	**19 50 50.4**	**-0.4**
HABR				*e*		19 52 58.9	
HABR				*e*S	**S**	**19 58 56.1**	**-0.3**
HABR				*e*SS	SS	20 02 50.3	-0.7
HABR				pmax	pmax		
	comp=Z,61nm,1.5s,mb5.4						
NST	**Nakhon Sawan**	**59.95**	**293**	P	**P**	**19 50 58.5**	**+1.1**
BJI	**Beijing**	**60.17**	**326**	P	**P**	**19 50 58.6**	**+0.1**
BJI				AMB	AMB		
	comp=Z,8.0nm,1.6s,mb4.5						
KLR	**Kul'dur**	**60.72**	**342**	*e*P	**P**	**19 50 58.0**	**-4.0**
KLR				pmax	pmax		
	comp=Z,52nm,1.4s,mb5.5						
PET	**Petropavlovsk**	**60.77**	**2**⇑	*e*P	**P**	**19 51 02.4**	**+0.1**
PET	**Petropavlovsk**	**60.77**	**2**	*e*P	**P**	**19 51 02.1**	**-0.2**
PET				pmax	pmax		
	comp=Z,31nm,0.8s,mb5.5						
XAN	**Xi'an**	**60.97**	**316**	P	**P**	**19 51 02.2**	**-1.8**
XAN				AP	pP	19 51 09.4	-2.1
XAN				XP	sP	19 51 12.3	-2.0
XAN				AMB	AMB		
	comp=Z,4.0nm,0.9s,mb4.5						
KMI	**Kunming**	**61.24**	**304**	P	**P**	**19 51 07.7**	**+1.6**
KMI				AP	pP	19 51 10.9	-2.6
KMI				PP	PP	19 53 25.5	+4.3
KMI				S	**S**	**19 59 26.3**	**+1.3**
KMI				SS	SS	20 03 28.6	+2.9
KMI				AMB	AMB		
	comp=Z,15nm,1.0s,mb5.1						
KMI				AMB	AMB		
	comp=Z,41nm,3.1s						
KMI				LR	LR		
	comp=N,137nm,14.6s,MS4.5						
KMI				LR	LR		
	comp=E,225nm,13.7s,MS4.5						
KMI				LR	LR		
	comp=Z,176nm,16.5s,MS4.3						
CHRT	**Chiangrai**	**61.70**	**298**	⇑P	**P**	**19 51 10.0**	**+0.8**
	comp=Z,153nm,0.8s						
CM31	**Chiang Mai Arr**	**61.95**	**296**	*e*P	**P**	**19 51 11.8**	**+0.9**
	comp=Z,14nm,1.0s,mb5.1						
CHG	**Chiang Mai**	**62.07**	**296**	⇓P	**P**	**19 51 12.1**	**+0.3**
	comp=Z,12nm,0.9s,mb5.0						
CHTO	**Chiang Mai**	**62.07**	**296**	*e*P	**P**	**19 51 11.9**	**+0.2**
	comp=Z,7.0nm,0.9s,mb4.8						
CHTO	**Chiang Mai**	**62.07**	**296**	*e*P	**P**	**19 51 11.9**	**+0.1**
CHTO				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.8						
CD2	**Chengdu**	**63.07**	**310**	*e*P	**P**	**19 51 18.6**	**+0.4**
CD2				AP	pP	19 51 23.4	-2.3
CD2				PP	PP	19 53 38.7	+1.5
CD2				S	**S**	**19 59 46.8**	**-1.0**
CD2				SS	SS	20 03 54.3	+0.2
CD2				AMB	AMB		
	comp=Z,20nm,1.2s,mb5.1						
CD2				AMB	AMB		
	comp=Z,50nm,5.8s						
CD2				LR	LR		
	comp=N,210nm,20.2s						
CD2				LR	LR		
	comp=Z,210nm,13.1s						
HHC	**Hu-ho-hao-te**	**63.35**	**324**	*e*P	**P**	**19 51 20.4**	**+0.5**
HHC				AP	pP	19 51 24.6	-2.8
HHC				XP	sP	19 51 27.7	-2.5
HHC				PP	PP	19 53 41.5	+2.0
HHC				SCP	ScP	19 55 56.8	-1.1
HHC				S	**S**	**19 59 57.0**	**+6.0**
HHC				XS	sS	20 00 00.5	-2.8
HHC				SCS	ScS	20 01 09.6	-2.1
HHC				SS	SS	20 04 01.3	+3.1
HHC				AMB	AMB		
	comp=Z,16nm,0.3s,mb5.6						
HHC				AMB	AMB		
	comp=Z,219nm,4.8s						
HHC				LR	LR		
	comp=N,204nm,8.4s						
HHC				LR	LR		
	comp=E,247nm,12.5s						
HHC				LR	LR		
	comp=Z,151nm,14.2s,MS4.3						
HIA	**Hailar**	**65.13**	**335**	*e*P	**P**	**19 51 31.6**	**+0.3**
	comp=Z,11nm,0.8s,mb4.9						
HIA	**Hailar**	**65.13**	**335**	*e*P	**P**	**19 51 31.6**	**+0.3**
H

BOD pmax pmax
comp=Z,10.0nm,1.4s,mb4.5
TLY Talaya 74.30 329 *i* P **P 19 52 27.7 -0.1**
TLY Talaya 74.30 329 *e*P **P 19 52 28.4 +0.6**
TLY *e* 19 52 48.1
TLY pmax pmax
comp=Z,7.0nm,1.2s,mb4.5
IRK Irkutsk 74.32 330 *e*P **P 19 52 27.7 -0.2**
IRK pmax pmax
comp=Z,25nm,0.6s,mb5.3
BOK Bokaro 75.18 297 *e*P **P 19 52 34.6 +1.1**
BOK AMb AMB 19 52 37.4
comp=Z,24nm,1.1s,mb5.0
MOY Mondy 75.66 328 *e*P **P 19 52 36.2 +0.6**
MOY pmax pmax
comp=Z,33nm,1.3s,mb5.1
BILL Bilibino 76.16 4 *e*P **P 19 52 38.1 0.0**
comp=Z,57nm,1.0s,mb5.5
BILL Bilibino 76.16 4κ *i*P **P 19 52 38.5 +0.3**
BILL *e* pP 19 52 46.0 +0.2
BILL *e* 19 52 50.0
BILL pmax pmax
comp=Z,46nm,0.8s,mb5.5
SVW2 Sparrevohn 78.55 22 *e*P **P 19 52 52.1 +0.4**
TTA Tatalina 79.61 20 *e*P **P 19 52 57.7 +0.3**
comp=Z,15nm,1.1s,mb4.8
TTA Tatalina 79.61 20 *e*P **P 19 52 57.7 +0.2**
TTA pmax pmax
comp=Z,15nm,1.1s,mb4.8
KOD Kodaikanal 80.09 282 *e*P **P 19 53 01.5 +0.4**
KOD AMb AMB 19 53 03.9
comp=Z,21nm,1.1s,mb5.0
WMQ Urumqi 80.09 317⇓ *i*P **P 19 53 01.0 +0.5**
WMQ AMB AMB
comp=Z,7.0nm,1.5s,mb4.4
WMQ AMB AMB
comp=Z,152nm,4.5s
WMQ LR LR
comp=Z,268nm,22.6s,MS4.5
HYB Hyderabad 80.38 289 *e*P **P 19 53 02.5 -0.1**
HYB Hyderabad 80.38 289 *i* P **P 19 53 02.5 -0.1**
NGP Nagpur 80.68 293 *ex* **P 19 52 59.1 -5.1**
NGP AMb AMB 19 53 04.0
comp=Z,14nm,1.5s,mb4.7
TIXI Tiksi 81.41 352 *e*P **P 19 53 06.3 -0.7**
comp=Z,9.7nm,1.0s,mb4.7
TIXI Tiksi 81.41 352 *e*P **P 19 53 06.7 -0.3**
TIXI pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
IMA2 Indian Mountai 82.42 19 *e*P **P 19 53 12.1 -0.3**
LATR Latur 82.43 290 *e*P **P 19 53 12.6 -0.9**
LATR AMb AMB 19 53 13.2
comp=Z,15nm,3.4s
AKL Akola 82.45 292 *e*P **P 19 53 12.7 -0.9**
AKL AMb AMB 19 53 13.9
comp=Z,23nm,1.0s,mb5.1
BHPL Bhopal 82.59 295 *e*P **P 19 53 14.4 +0.1**
MCK McKinley 82.62 22 *e*P **P 19 53 12.7 -0.8**
comp=Z,24nm,0.9s,mb5.2
MCK McKinley 82.62 22 *e*P **P 19 53 12.7 -0.8**
MCK pmax pmax
comp=Z,24nm,0.9s,mb5.2
COLA College 83.65 21 *e*P **P 19 53 17.4 -1.4**
comp=Z,11nm,0.8s,mb5.0
COLA College 83.65 21⇓ *e*P **P 19 53 17.5 -1.3**
NDI New Delhi 83.91 300 *e*P **P 19 53 19.9 -1.1**
NDI AMb AMB 19 53 23.8
comp=Z,39nm,1.2s,mb5.4
KAD Karad 84.45 288 *e*P **P 19 53 23.6 -0.3**
KAD AMb AMB 19 53 24.6
comp=Z,27nm,0.8s,mb5.4
SMLA Simla 84.48 302 *e*P **P 19 53 23.5 -0.3**
SMLA AMb AMB 19 53 24.5
comp=Z,32nm,0.3s,mb5.9
MK31 Makanchi Array 84.67 319 *e*P **P 19 53 24.5 +0.1**
MKAR Makanchi Array 84.67 319 P **P 19 53 24.4 +0.1**
comp=Z,21nm,0.8s,mb5.3,baz=105,slow=5.7,SNR=119
ZAA0 Zalesovo Array 85.43 326 *e*P **P 19 53 26.6 -1.4**
ZALV Zalesovo Beam 85.43 326 P **P 19 53 26.9 -1.1**
ZALV Zalesovo Beam 85.43 326 P **P 19 53 26.9 -1.1**
comp=Z,8.6nm,0.7s,mb5.0,baz=112,slow=5.7,SNR=44
ZAL Zalesovo 85.44 326 P **P 19 53 26.9 -1.2**
AJM Ajmer 85.70 297 *e*P **P 19 53 29.8 -0.3**
EGAK Eagle 86.06 22 *e*P **P 19 53 31.0 +0.1**
comp=Z,6.8nm,0.9s,mb4.9
DAWY Dawson 86.42 23 *e*P **P 19 53 33.5 +0.8**
NVS Novosibirsk 86.60 326 *e*P **P 19 53 32.4 -1.4**
NVS pmax pmax
comp=Z,11nm,1.5s,mb4.9
NVS pmax pmax
comp=N,18nm,2.5s
NVS pmax pmax
comp=E,10.0nm,1.9s
KURK Kurchatov 88.09 322 *e*P **P 19 53 40.1 -1.0**
comp=E,6.5nm,1.3s,mb4.7
KURK Kurchatov 88.09 322 *e*P **P 19 53 40.1 -1.0**
KURK pmax pmax
comp=Z,7.0nm,1.3s,mb4.7
AML Almayashu 89.49 313 *e*P **P 19 53 49.8 +1.9**
comp=Z,10nm,1.0s,mb5.1
INK Inuvik 90.30 21 *e*P **P 19 53 50.6 -0.4**
comp=Z,247nm,1.1s
NVAR Mina Array Bea 91.64 52 P **P 19 54 00.0 +2.0**
comp=Z,1.5nm,0.9s,mb4.3,baz=245,slow=3.8,SNR=8.9
KBL Kabul 91.83 304 *e*P **P 19 53 57.7 -1.3**
comp=Z,4.5nm,0.8s,mb4.8
BRVK Borovoye 93.62 323⇓ *e*P **P 19 54 05.8 -1.0**
YKA Yellowknife Ar 96.77 28 P **P 19 54 20.8 -0.2**
comp=Z,4.8nm,0.9s,mb4.9,baz=267,slow=4.6,SNR=49
PDAR Pinedale Array 98.70 48 P **P 19 54 30.4 +0.3**
comp=Z,0.8nm,0.9s,mb4.2,baz=240,slow=2.9,SNR=5.7
FINES FINESS Array B 115.14 336 PKP PKiKP 19 59 31.6 +0.1
comp=Z,1.8nm,0.7s,baz=197,slow=2.0,SNR=4.4
PLCA Paso Flores 115.46 142 PKP PKPdf 19 59 34.1 +1.3
comp=Z,1.2nm,0.9s,baz=27,slow=4.5,SNR=2.9
AKASG Malin Array Be 118.80 324 PKP PKPdf 19 59 38.1 -0.7
comp=Z,1.6nm,0.6s,baz=67,slow=2.1,SNR=11
NB2 NORSAR Subarra120.86 341 PKPdf PKPdf 19 59 41.5 -1.0
comp=Z,1.9nm,0.8s,baz=39,slow=1.9
NOA NORSAR Array B 120.86 341 PKP PKPdf 19 59 42.5 -0.1
NOA NORSAR Array B 120.86 341 PKP PKPdf 19 59 42.5 0.0
comp=Z,3.2nm,0.9s,baz=44,slow=1.9,SNR=5.6
CFAA Coronel Fontan 122.38 135 PKP PKPdf 19 59 46.6 +0.2
comp=Z,0.2nm,0.7s,baz=352,slow=1.6,SNR=4.6
KONO Kongsberg 122.44 340 *i* PKIKP PKPdf 19 59 44.3 -1.3
MLR Muntele Rosu 122.99 320 PKP PKPdf 19 59 46.2 -0.9
comp=Z,1.9nm,0.8s,baz=97,slow=6.5,SNR=3.5
KOLS Kolonicke sedl 123.60 325 *e*PKP PKPdf 19 59 48.7 +0.5
STHS Stebnicka Huta 123.93 326 *e*PKP PKPdf 19 59 49.5 +0.7
CRVS Cervenica-Dubn 124.08 325 *e*PKP PKPdf 19 59 49.5 +0.4
OKC Ostrava-Krasne 125.38 328 *e*PKPdf PKPdf 19 59 51.3 -0.2
VYHS Vyhne 125.76 326 *e*PKP PKPdf 19 59 52.6 +0.3
KOLL Kolacno 125.96 326 *e*PKP PKPdf 19 59 53.1 +0.4
DPC Dobruska-Polom 126.02 329 *e*PKPdf PKPdf 19 59 53.6 +0.9
DPC *ep*PKP pPKPdf 20 00 02.3 +1.6
UPC Upice 126.08 329 *e*PKPdf PKPdf 19 59 53.5 +0.6
MODS Modra-Piesok 126.69 327 *e*PKP PKPdf 19 59 53.8 -0.3
PVCC Panska Ves 126.79 330 *e*PKPdf PKPdf 19 59 54.3 +0.1
BRG Berggiesshubel 126.88 331 *e*PKIKP PKPdf 19 59 54.8 +0.4
BRG *e* 20 00 10.0
BRG pmax pmax
comp=Z,5.0nm,1.0s
BRG Berggiesshubel 126.88 331 *e*PKP PKPdf 19 59 54.8 +0.5
comp=Z,8.3nm,1.0s
BRG *e* 20 00 10.0
comp=Z,9.0nm,1.4s
CLL Collm 127.04 332 *i* PKIKP PKPdf 19 59 55.3 +0.6
CLL pmax pmax
comp=Z,11nm,1.1s
CLL Collm 127.04 332 *i* PKPdf PKPdf 19 59 55.3 +0.6
comp=Z,11nm,1.1s
CLL *ex* x 20 00 21.0
CLL *e*PP PP 20 01 56.0 +3.4
TREC Trest 127.09 328 *e*PKPdf PKPdf 19 59 56.0 +1.2
PRU Pruhonice 127.15 330 *e*PKPdf PKPdf 19 59 55.5 +0.6
NKC Novy Kostel 128.02 331 *e*PKPdf PKPdf 19 59 57.0 +0.4
KHC Kasperske Hory 128.18 329 *e*PKPdf PKPdf 19 59 57.6 +0.7
KHC *ep*PKP pPKPdf 20 00 06.3 +1.4
GEC2 GERESS Array S 128.29 329 *e*PKPdf PKPdf 19 59 57.5 +0.4
GERES GERESS Array B 128.29 329 PKP PKPdf 19 59 57.5 +0.4
comp=Z,3.8nm,1.0s,baz=90,slow=1.3,SNR=23
GRA1 Grafenberg Arr 128.97 331 *e*PKP PKPdf 19 59 59.0 +0.6
GRF Grafenberg Arr 128.97 331 *e*PKIKP PKPdf 19 59 59.0 +0.6
LPAZ La Paz 130.26 119 *e*PKPdf PKPdf 20 00 03.1 +1.2
LPAZ La Paz 130.26 119 PKP PKPdf 20 00 03.5 +1.6
comp=Z,1.7nm,0.9s,baz=229,slow=0.7,SNR=5.3
HAU Haudompre 132.44 332 *e*PKIKP 19 59 52.8
comp=Z,7.6nm,0.7s
SDV Santo Domingo 134.03 85 *e*PKPdf PKPdf 20 00 09.2 +0.2
LPG La Plagne 134.05 330 *e*PKIKP 19 59 56.2
comp=Z,11nm,1.0s
BNI Bardonecchia 134.40 329 *e*PKPdf PKPdf 20 00 09.4 +0.6
SSF Saint Saulge 134.43 334 *e*PKIKP 19 59 56.7
comp=Z,13nm,1.0s
ETSF Etsaut 139.47 333 *e*PKIKP 20 00 06.1
comp=Z,8.8nm,0.8s
GUD Guadarrama 142.88 334 PKP PKPdf 20 00 25.7 +1.2
MVO Moncorvo 143.58 338 *e*PKP PKPdf 20 00 24.2 -1.5
ESDC Sonseca Array 143.59 333 PKP PKPdf 20 00 23.6 -2.2
comp=Z,1.7nm,0.8s,baz=25,slow=2.4,SNR=11
EVIA Vianos 143.74 331 PKP PKPdf 20 00 26.3 +0.2
PVIS Viseu 144.29 339 *e*PKP PKPdf 20 00 25.9 -1.1
MTE Manteigas 144.44 338 *e*PKP PKPdf 20 00 26.4 -0.8
MTE Manteigas 144.44 338 *e*PKPdf PKPdf 20 00 25.6 -1.6
EQES Quesada 144.67 330 PKP PKPdf 20 00 25.7 -2.0
EBAN Banos Encina 144.73 332 PKP PKPdf 20 00 27.3 -0.5
ENIJ Nijar 144.88 329 PKP PKPdf 20 00 32.9 +4.8
PCBR Castelo Branco 144.90 337 *e*PKP PKPdf 20 00 27.6 -0.4
EADA Adamuz 145.09 333 PKP PKPdf 20 00 27.4 -1.1
EBER Berja 145.29 329 PKP PKPdf 20 00 28.5 -0.3
ELUQ Luque 145.44 332 PKP PKPdf 20 00 29.3 +0.3
ERON Agron 145.65 330 PKP PKPdf 20 00 27.9 -1.5
EBAD Badajoz 145.65 336 PKP PKPdf 20 00 29.0 -0.4
EGUA Guajares 145.68 330 PKP PKPdf 20 00 28.0 -1.4
ELOJ Sierra Loja 145.72 331 PKP PKPdf 20 00 29.3 -0.3
PESTR Estremoz 145.79 337 *e*PKP PKPdf 20 00 30.2 +0.6
PBAR Barrancos 146.16 335 *e*PKP PKPdf 20 00 31.7 +1.5
EMIN Mina Concepcio 146.35 335 PKP PKPdf 20 00 31.0 +0.4
PBEJ Beja 146.62 336 *e*PKP PKPdf 20 00 33.0 +2.0
BDFB Brasilia 146.72 135 PKPbc PKPbc 20 00 34.0 +0.6
comp=Z,23nm,1.0s,baz=216,slow=2.4,SNR=23
ESPR Espera 146.74 333 PKP PKPdf 20 00 32.5 +1.3
EGRO El Granado 146.89 335 PKP PKPdf 20 00 33.1 +1.6
PVAQ Vaqueiros 147.10 335 *e*PKP PKPdf 20 00 34.4 +2.5
TORD Torodi Ar. Bea 154.08 284 PKP PKPdf 20 00 44.6 +1.3
TORD PKPbc PKPbc 20 00 51.0 -0.4
TORD PP PP 20 04 40.1 +0.3
TORD Torodi Ar. Bea 154.08 284 PKP PKPdf 20 00 44.6 +1.3
comp=Z,2.0nm,1.0s,baz=123,slow=0.5,SNR=4.8
TORD PKPbc PKPbc 20 00 51.0 -0.4
comp=Z,4.0nm,0.9s,baz=75,slow=2.0,SNR=13
TORD PP PP 20 04 40.1 +0.3
comp=Z,1.4nm,1.1s,baz=102,slow=3.9,SNR=4.4
DBIC Dimbokro 160.82 267 PKP PKPdf 20 00 52.0 +0.3
comp=Z,5.0nm,1.0s,baz=69,slow=3.9,SNR=4.2
DBIC PKPab PKPab 20 01 34.4 +0.2
comp=Z,4.1nm,0.8s,baz=81,slow=6.3,SNR=4.8

TRN 06 19:53:05.0,1847N×6294W,h20km,MD3.2,M4.1(FDF), Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STMA	**St. Maarten, A**	**0.46**	**201**	*e*P	Pb	19 53 15.8	+1.4
STMA				*e*S	Sb	19 53 24.9	+4.1
SKI	**Saint Kitts**	**1.15**	**170**	*e*P	Pn	19 53 22.3	-3.7
SKI				*e*S	Sb	19 53 43.5	+2.8
BPA	**Boggy Peak**	**1.75**	**144**	*e*P	Pn	19 53 36.2	+1.9
BPA				*e*S	Sn	19 53 59.2	+3.1
LZG	**Guadaloupe-1**	**2.57**	**154**	*e*P	Pn	19 53 48.6	+3.0
DEG	**La Desirade**	**2.80**	**140**	*e*P	Pn	19 53 50.1	+1.5

*MOS **06** 19:53:20.3±1.3,4400N×14881E,h33km,mb4.2/3,Error ellipse: s-maj=35.0km s-min=20.7km az=122.1*
*JMA **06** 19:53:20.1±0.4,4430N×14922E,h30km,M4.0*
*ISCJB **06** 19:53:22.0±1.5,4396N±008×1490E±01,h49km±12km, mb3.7/6,Error ellipse: s-maj=16.8km s-min=10.0km az=36.8*
*IDC **06** 19:53:28.2±10.0,4582N×14825E,h0km,mb3.8/6, mb1 3.9/6,mb1mx3.6/21,mbtmp3.8/6,Error ellipse: s-maj=259.1km s-min=35.3km az=162.0*
ISC 06 19:53:24.2±1.5,4400N±008×1490E±01,h48km±13km,n33, σ0°91/35,mb3.7/6,1D,East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.47**	**327**	⇓*i*PN	**Pn**	**19 53 43.9**	**-4.3**
KUR				*e*S	**Sn**	**19 54 05.0**	**-1.3**
KUR				pmax	pmax		
	comp=N,110nm,0.5s						
KUR				pmax	pmax		
	comp=E,80nm,0.5s						
KUR				pmax	pmax		
	comp=Z,230nm,0.5s						
KUR				smax			
	comp=N,520nm,0.5s						
KUR				smax			
	comp=E,230nm,0.5s						
YUK	**Yuzh-Kuril'sk**	**2.25**	**272**	PN	**Pn**	**19 53 53.3**	**-5.6**
YUK				*e*S	**Sn**	**19 54 26.9**	**+1.4**
YUK				smax			
	comp=N,410nm,0.5s						
YUK				smax			
	comp=E,230nm,0.5s						
NEM2	**Nemuro 2**	**2.44**	**256**	P	**Pn**	**19 54 00.4**	**-1.0**
NEM2				*e*S	**Sn**	**19 54 29.9**	**-0.1**
JRA	**Rausu**	**2.79**	**270**	P	**Pn**	**19 54 06.5**	**+0.2**
JNK	**Nakash**	**3.12**	**264**	P	**Pn**	**19 54 10.5**	**-0.3**
JAK	**Akkeshi**	**3.28**	**254**	P	**Pn**	**19 54 12.1**	**-0.9**
JAK				*e*S	**Sn**	**19 54 50.1**	**-0.6**
JTKR	**Abashiri--Toko**	**3.67**	**271**	P	**Pn**	**19 54 19.0**	**+0.7**
JAR	**Ashorobuto**	**3.85**	**261**	P	**Pn**	**19 54 21.3**	**+0.5**
JOB	**Onbets**	**3.91**	**256**	P	**Pn**	**19 54 21.4**	**-0.2**
JOB				*e*S	**Sn**	**19 55 06.2**	**0.0**
JMP	**Maruseppu**	**4.06**	**272**	P	**Pn**	**19 54 25.1**	**+1.4**
JCH	**Churui**	**4.33**	**253**	P	**Pn**	**19 54 27.3**	**-0.1**
JFR	**Furan**	**4.72**	**262**	P	**Pn**	**19 54 34.3**	**+1.6**
JNBK	**Urakawa-nobuka**	**4.87**	**252**	P	**Pn**	**19 54 34.5**	**-0.4**
JNBK				*e*S	**Sn**	**19 55 28.3**	**-1.7**
JBT2	**Biratori 2**	**4.98**	**258**	P	**Pn**	**19 54 36.4**	**+0.1**
JEW	**Eniwo**	**5.61**	**261**	P	**Pn**	**19 54 46.8**	**+1.8**
JNB	**Noboribetsu**	**6.00**	**258**	P	**Pn**	**19 54 50.8**	**+0.4**
JKB	**Kayabe**	**6.21**	**253**	P	**Pn**	**19 54 53.0**	**-0.1**
JANG	**Nango**	**6.62**	**239**	P	**Pn**	**19 54 57.0**	**-1.9**
JANG				*e*S	Sx	19 56 08.6	
JTH	**Tanohata**	**6.68**	**235**	*e*S	Sx	19 56 07.8	
JTM	**Tenmabayashi**	**6.68**	**244**	*e*S	Sx	19 56 10.4	
JOSM	**Okushiri--Mats**	**7.23**	**258**	P	**Pn**	**19 55 07.7**	**+0.6**
JRG	**Rokugo**	**7.76**	**237**	*e*S	Sx	19 56 38.2	
JIO	**Ouri**	**7.99**	**229**	*e*S	Sx	19 56 37.3	
SONM	**Songino Array**	**29.60**	**293**	P	**P**	**19 59 25.0**	**+0.6**
	comp=E,0.3nm,0.5s,mb3.2,baz=82,slow=8.6,SNR=4.4						
INK	**Inuvik**	**45.52**	**31**	P	**P**	**20 01 39.0**	**+0.6**
	comp=E,0.3nm,0.4s,mb3.6,baz=256,slow=4.2,SNR=4.6						
MKAR	**Makanchi Array**	**45.64**	**298**	P	**P**	**20 01 40.2**	**+0.6**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
MKAR	**Makanchi Array**	**45.64**	**298**	P	**P**	**20 01 40.2**	**+0.6**
	comp=Z,0.6nm,0.4s,mb3.8,baz=79,slow=7.6,SNR=7.9						
FINES	**FINESS Array B**	**65.25**	**334**	P	**P**	**20 03 59.0**	**-1.2**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
FINES	**FINESS Array B**	**65.25**	**334**	P	**P**	**20 03 59.0**	**-1.2**
	comp=Z,1.1nm,0.6s,mb4.1,baz=51,slow=7.7,SNR=11						
NB2	**NORSAR Subarra**	**69.84**	**340**	P	**P**	**20 04 28.6**	**-0.6**
	comp=Z,1.5nm,0.5s,mb4.2,baz=31,slow=6.5						
NOA	**NORSAR Array B**	**69.84**	**340**	P	**P**	**20 04 28.2**	**-1.0**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
NOA	**NORSAR Array B**	**69.84**	**340**	P	**P**	**20 04 28.2**	**-1.0**
	comp=Z,1.0nm,0.6s,mb3.9,baz=29,slow=6.4,SNR=3.9						
GERES	**GERESS Array B**	**79.58**	**332**	P	**P**	**20 05 26.0**	**+0.2**
	comp=Z,0.2nm,0.3s,mb3.5,baz=29,slow=6.2,SNR=3.4						

IDC 06 20:10:18.2±8.7,1092N×9206E,h0km,mb3.5/4,mb1 3.7/4, mb1mx3.4/21,mbtmp3.5/4,Error ellipse: s-maj=436.1km s-min=23.9km az=61.0,Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.00**	**43**	*e*P	x	20 10 42.4	
PBA				*e*S	x	20 10 52.2	
PBA				*ex*	x	20 10 53.6	
	comp=E,7μm,0.3s						
PBA				*ex*	x	20 10 54.8	
	comp=N,3μm,0.5s						
MKAR	**Makanchi Array**	**36.70**	**349**	P	P	20 17 26.8	-0.1
	comp=N,0.2nm,0.3s,baz=168,slow=7.4,SNR=4.1						
ZALV	**Zalesovo Beam**	**43.30**	**354**	P	P	20 18 21.6	-0.1
	comp=N,0.5nm,0.6s,baz=177,slow=10,SNR=3.9						
WRA	**Warramunga Arr**	**51.70**	**126**	P	P	20 19 27.3	-0.2
	comp=N,0.6nm,0.3s,baz=304,slow=8.7,SNR=22						
ASAR	**Alice Springs**	**53.44**	**130**	P	P	20 19 40.5	+0.2
	comp=N,0.2nm,0.4s,baz=307,slow=7.7,SNR=6.9						

*NAO **06** 20:13:53.4±1.9,6671N×1301E,ML2.4*
*IDC **06** 20:13:53.7±1.6,6664N×1317E,h0km,mb1 3.2/4, mb1mx3.0/23,mbtmp3.2/4,ML2.2/4,Error ellipse: s-maj=19.0km s-min=7.6km az=118.0*
*UPP **06** 20:13:54.9,6666N×1326E,h1km,ML2.1*
*CSEM **06** 20:13:54.7±0.2,6663N×1284E,h35km,ML2.2,Error ellipse: s-maj=4.2km s-min=1.9km az=124.0*
*ISCJB **06** 20:13:55.3±0.4,6655N±003×1392E±005,h10km,Error ellipse: s-maj=3.9km s-min=2.8km az=149.3*
*HEL **06** 20:13:56.3±0.1,6668N×1352E,h10km,ML2.2, ML2.1(UPP),ML2.4(BER)*
*BER **06** 20:13:56.1±4.4,6674N×1301E,h8km±12km,MD2.4,ML2.4, ML2.4(NAO)*
ISC 06 20:13:56.6±0.4,6660N±002×1375E±006,h10km,n74, σ1°27/112,1C,Northern Norway

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STOK1	**Konsvik**	**0.27**	**249**⇑	*i*P	**Pg**	**20 14 00.8**	**-1.2**
STOK1	**Konsvik**	**0.27**	**249**	*i* S	**Sg**	**20 14 05.2**	**-0.5**
STOK1	**Konsvik**	**0.27**	**249**	*e*S	**Sg**	**20 14 05.2**	**-0.5**
STOK2	**Flostrand**	**0.30**	**211**	*i* P	**Pg**	**20 14 03.6**	**+1.0**
STOK2	**Flostrand**	**0.30**	**211**	*i* S	**Sg**	**20 14 09.7**	**+3.1**
STOK2				AML	AML	20 14 10.2	
	comp=Z,363nm,0.1s						
STOK2	**Flostrand**	**0.30**	**211**	*e*P	**Pg**	**20 14 03.6**	**+1.0**
STOK2	**Flostrand**	**0.30**	**211**	*e*S	**Sg**	**20 14 09.7**	**+3.1**
STOK2				AML	AML	20 14 10.2	
	comp=Z,363nm,0.1s						
STOK	**Stokkvaagen**	**0.39**	**228**	*i* P	**Pg**	**20 14 03.1**	**-1.2**
STOK	**Stokkvaagen**	**0.39**	**228**	*i* S	**Sg**	**20 14 08.8**	**-0.8**
STOK				AML	AML	20 14 09.2	
	comp=Z,416nm,0.1s						
STOK	**Stokkvaagen**	**0.39**	**228**	*e*P	**Pg**	**20 14 03.1**	**-1.2**
STOK	**Stokkvaagen**	**0.39**	**228**	*e*S	**Sg**	**20 14 08.8**	**-0.8**
STOK				AML	AML	20 14 09.2	
	comp=Z,416nm,0.1s						
STOK	**Stokkvaagen**	**0.39**	**228**	P	**Pg**	**20 14 03.6**	**-0.7**
STOK				S	**Sg**	**20 14 09.6**	**+0.1**
	comp=Z,363nm,0.1s						
MOR8	**Moi Rana**	**0.51**	**146**	*i* P	**Pg**	**20 14 10.1**	**+3.5**
MOR8				*i* S	**Sg**	**20 14 21.3**	**+8.1**
MOR8				AML	AML	20 14 22.7	
	comp=Z,119nm,0.1s						
MOR8	**Moi Rana**	**0.51**	**146**	*e*P	**Pg**	**20 14 10.1**	**+3.5**
MOR8				*e*S	**Sg**	**20 14 21.3**	**+8.1**
MOR8				AML	AML	20 14 22.7	
	comp=Z,119nm,0.1s						
MOR8	**Moi Rana**	**0.51**	**146**	P	**Pg**	**20 14 10.0**	**+3.5**
MOR8				S	**Sg**	**20 14 21.2**	**+8.0**
	comp=Z,119nm,0.1s						
LOF	**Lofoten**	**1.54**	**357**	*e*P	**Pn**	**20 14 21.0**	**-3.2**
LOF	**Lofoten**	**1.54**	**357**	P	**Pn**	**20 14 20.9**	**-3.2**
NSS	**Namsos**	**2.20**	**200**	*e*P	**Pn**	**20 14 30.9**	**-2.2**
NSS				*e*S	**Sn**	**20 14 59.8**	**-0.6**
NSS	**Namsos**	**2.20**	**200**	P	**Pn**	**20 14 30.9**	**-2.3**
NIKU	**Nikkaluokta**	**2.42**	**56**	*e*P	**Pn**	**20 14 37.1**	**+0.9**
DUNU	**Dundret**	**2.75**	**76**	*e*P	**Pn**	**20 14 42.5**	**+1.9**
DUNU				*e*S	**Sn**	**20 15 18.8**	**+5.0**
LILU	**Lilltraesk**	**2.83**	**115**	*e*P	**Pn**	**20 14 43.8**	**+2.0**
LILU	**Lilltraesk**	**2.83**	**115**	P	**Pn**	**20 14 43.7**	**+2.0**
KUA	**Kurravaara**	**2.90**	**59**	*e*P	**Pn**	**20 14 43.9**	**+1.1**
HARU	**Harads**	**2.94**	**95**	*e*P	**Pn**	**20 14 45.5**	**+2.2**
HARU				*e*S	**Sn**	**20 15 23.7**	**+5.1**
HARU	**Harads**	**2.94**	**95**	P	**Pn**	**20 14 45.5**	**+2.2**
HARU				S	**Sn**	**20 15 23.7**	**+5.0**
NOD	**Norderasen**	**3.20**	**171**	*e*P	**Pn**	**20 14 47.6**	**+0.8**
SVAU	**Svanoeiden**	**3.21**	**128**	*e*P	**Pn**	**20 14 48.7**	**+1.6**
SVAU	**Svanoeiden**	**3.21**	**128**	P	**Pn**	**20 14 48.6**	**+1.6**
ERTU	**Ertsjaerv**	**3.37**	**87**	*e*P	**Pn**	**20 14 50.9**	**+1.7**
SJUU	**Sjulsmark**	**3.39**	**105**	*e*P	**Pn**	**20 14 51.3**	**+1.9**
BREU	**Bredtraesk**	**3.39**	**141**	*e*P	**Pn**	**20 14 50.7**	**+1.2**
BREU				*e*S	**Sn**	**20 15 33.2**	**+3.5**
BREU	**Bredtraesk**	**3.39**	**141**	P	**Pn**	**20 14 50.6**	**+1.1**
BREU				S	**Sn**	**20 15 33.1**	**+3.4**
LANU	**Lannavaara**	**3.51**	**62**	*e*P	**Pn**	**20 14 52.6**	**+1.5**
KIF	**Kilpisjarvi**	**3.61**	**45**	*e*P	**Pn**	**20 14 52.2**	**-0.2**
KIF				*e*S	**Sn**	**20 15 35.0**	**0.0**
KIF				MSG		20 15 56.9	
	comp=Z,4.9nm,0.2s						
SOLU	**Sollefteaa**	**3.68**	**154**	*e*P	**Pn**	**20 14 54.7**	**+1.2**
PAJU	**Pajala**	**3.73**	**79**	*e*P	**Pn**	**20 14 55.8**	**+1.7**
BURU	**Burvik**	**3.76**	**119**	*e*P	**Pn**	**20 14 56.4**	**+1.9**
HEF	**Hetta**	**4.22**	**60**	*e*P	**Pn**	**20 15 01.5**	**+0.6**
HEF				*e*S	**Sn**	**20 15 50.1**	**0.0**
HEF				MSG		20 15 55.9	
	comp=Z,2.1nm,0.2s						
KTK1	**Kautokeino**	**4.34**	**52**	*e*P	**Pn**	**20 15 03.1**	**+0.6**
HEMU	**Hemsoen**	**4.35**	**153**	*e*P	**Pn**	**20 15 04.0**	**+1.4**
HEMU	**Hemsoen**	**4.35**	**153**	P	**Pn**	**20 15 03.9**	**+1.3**
HASU	**Hassela**	**4.63**	**163**	*e*P	**Pn**	**20 15 06.8**	**+0.3**
SGF	**Sodankyl**	**5.08**	**75**	*e*P	**Pn**	**20 15 12.7**	**0.0**
SGF				*e*S	**Sn**	**20 16 10.7**	**-0.5**
SGF				MSG		20 16 18.3	
	comp=Z,4.8nm,0.2s						
ARNU	**Arnoeviken**	**5.17**	**160**	*e*P	**Pn**	**20 15 14.1**	**+0.1**
OUL	**Oulu**	**5.22**	**101**	*e*P	**Pn**	**20 15 15.3**	**+0.7**
OUL				*e*S	**Sn**	**20 16 14.5**	**-0.1**
OUL				MSG		20 16 17.7	
	comp=Z,2.3nm,0.2s						
OUL	**Oulu**	**5.22**	**101**	P	**Pn**	**20 15 15.2**	**+0.7**
VAF	**Ylistaro**	**5.22**	**129**	*e*P	**Pn**	**20 15 15.5**	**+1.0**
VAF				*e*S	**Sn**	**20 16 13.7**	**-1.0**
VAF				MSG		20 16 18.1	
ARA0	**ARCESS Array S**	**5.30**	**51**	Pn	**Pn**	**20 15 14.8**	**-0.9**
	baz=241,slow=14						
ARA0				Sn	**Sn**	**20 16 15.0**	**-1.7**
	baz=238,slow=22						
ARA0				Lg		20 16 45.6	
	baz=232,slow=28						
ARA0	**ARCESS Array S**	**5.30**	**51**	*e*P	**Pn**	**20 15 14.8**	**-0.9**
ARA0				*e*S	**Sn**	**20 16 15.0**	**-1.7**
ARA0				*e*		20 16 45.6	
ARCES	**ARCESS Array B**	**5.30**	**51**	Pn	**Pn**	**20 15 14.7**	**-1.0**
	comp=Z,0.1nm,0.3s,baz=241,slow=14,SNR=8.0						
ARCES				Sn	**Sn**	**20 16 14.6**	**-2.2**
	comp=Z,0.7nm,0.3s,baz=239,sl

comp=Z,0.6nm,0.3s,baz=354,slow=27,SNR=6.8
HFS Hagfors 6.49 180 P **Pn 20 15 30.9 -1.1**
HFS S **Sn 20 16 45.6 -0.3**
KU6 Riekki 6.53 88 eP **Pn 20 15 32.1 -0.5**
KU6 eS **Sn 20 16 45.3 -1.6**
KEF Keuruu 6.55 127 eP **Pn 20 15 33.5 +0.7**
KEF eS **Sn 20 16 46.8 -0.7**
SUF Sumiainen 6.59 120 eP **Pn 20 15 34.1 +0.7**
SUF eS **Sn 20 16 47.1 -1.3**
RAF Rauma 6.62 144 eP **Pn 20 15 34.1 +0.3**
RAF eS **Sn 20 16 47.3 -1.8**
KAF Kangasniemi 7.06 124 eP **Pn 20 15 40.4 +0.6**
KAF eS **Sn 20 16 59.6 -0.4**
FIA0 FINESS Array S 7.48 128 eP **Pn 20 15 46.7 +1.1**
FIA0 eS **Sn 20 17 09.6 -0.7**
FIA0 FINESS Array S 7.48 128 Pn **Pn 20 15 46.8 +1.2**
baz=318,slow=12
FIA0 Sn **Sn 20 17 11.6 +1.3**
baz=333,slow=28
FIA0 Lg 20 17 57.0
baz=321,slow=28
FIA0 FINESS Array S 7.48 128 P **Pn 20 15 46.6 +1.1**
FINES FINESS Array B 7.48 128 Pn **Pn 20 15 46.4 +0.9**
comp=Z,0.1nm,0.3s,baz=314,slow=10,SNR=3.7
FINES Sn **Sn 20 17 09.7 -0.6**
comp=Z,0.3nm,0.3s,baz=331,slow=22,SNR=6.4
FINES Lg 20 17 56.0
comp=Z,0.2nm,0.3s,baz=323,slow=25,SNR=3.7
MEF Metsahovi 7.98 138 eP **Pn 20 15 52.7 +0.3**
MEF eS **Sn 20 17 21.1 -1.4**
MEF Metsahovi 7.98 138 P **Pn 20 15 52.6 +0.2**
PVF Pernaja 8.12 133 eS **Sn 20 17 24.0 -1.9**
JOF Joensuu 8.35 108 eP **Pn 20 15 57.4 -0.1**
JOF eS **Sn 20 17 28.6 -3.1**

*CSEM **06** 20:14:19.3±0.1, 4022N×4212E, h2km, MD3.3, Error ellipse: s-maj=2.8km s-min=1.9km az=8.0*
*ISK **06** 20:14:19.6, 4023N×4209E, h3km, MD3.4*
*ISCJB **06** 20:14:20.6±0.4, 4023N±003×4210E±003, h2km, Error ellipse: s-maj=4.0km s-min=3.0km az=163.0*
*DDA **06** 20:14:20.5, 4019N×4212E, h8km±3km, Md3.3*
ISC 06 21:14:21.0±0.5, 4025N±003×4209E±003, h2km±6km, n20, σ1º08/30, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOMI	**Horasan**	**0.25**	**215**	*i* P	**Pg**	**20 14 25.0**	**-0.8**
HOMI				*i* S	**Sg**	**20 14 28.9**	**-0.2**
ERZM	**Erzurum**	**0.66**	**239**	*i* P	**Pg**	**20 14 33.3**	**-0.3**
ERZM				*i* S	**Sg**	**20 14 41.5**	**-0.6**
EZM	**Erzurum**	**0.66**	**239**	*i* PG	**Pg**	**20 14 33.3**	**-0.3**
EZM				*i* SG	**Sg**	**20 14 42.0**	**-0.2**
KARS	**Kars**	**0.84**	**64**	*i* PG	**Pg**	**20 14 36.7**	**-0.5**
KARS				*i* SG	**Sg**	**20 14 49.8**	**+1.7**
ARTV	**Artvin**	**0.94**	**352**	*i* P	**Pg**	**20 14 39.3**	**+0.2**
ARTV				*i* S	**Sg**	**20 14 54.9**	**+3.6**
AGRB	**Hanur-Agry**	**0.97**	**134**	PG	**Pg**	**20 14 37.9**	**-1.6**
AGRB				SG	**Sg**	**20 14 52.3**	**+0.3**
DIGO	**Kars**	**0.99**	**80**	*i* P	**Pg**	**20 14 38.6**	**-1.4**
DIGO				*i* S	**Sg**	**20 14 54.0**	**+1.0**
TUTA	**Tutak**	**1.01**	**147**	*i* P	**Pg**	**20 14 39.0**	**-1.4**
TUTA				*i* S	**Sg**	**20 14 54.6**	**+1.0**
BCA	**Borcka**	**1.25**	**343**	PN	**Pn**	**20 14 43.9**	**-1.5**
KOPT	**Kop Dagi**	**1.25**	**260**	*i* P	**Pg**	**20 14 44.4**	**-0.5**
KOPT				*i* S	**Sg**	**20 15 03.4**	**+2.3**
PZAR	**Pazar-Rize**	**1.30**	**316**	*e*PN	**Pn**	**20 14 45.2**	**-0.9**
BNGL	**BINGOL**	**1.49**	**210**	*i* P	**Pn**	**20 14 47.7**	**-1.0**
BNGL				*i* S	**Sb**	**20 15 10.7**	**+2.0**
CLDR	**Caldiran**	**1.79**	**128**	*e*PN	**Pn**	**20 14 52.4**	**-0.5**
EZC	**Erzincan**	**1.82**	**255**	*e*PN	**Pg**	**20 14 57.8**	**+1.9**
BINT	**Bingol**	**1.85**	**223**	*e*PN	**Pn**	**20 14 53.4**	**-0.3**
VANB	**Van**	**1.93**	**148**	*e*PN	**Pn**	**20 14 54.8**	**-0.1**
TVAN	**Van**	**2.00**	**149**	*e*P	**Pn**	**20 14 57.4**	**+1.7**
GUMT	**Gumushane**	**2.01**	**277**	*e*PN	**Pn**	**20 14 55.8**	**-0.1**
ESPY	**Espiye-Giresun**	**2.65**	**286**	*e*PN	**Pn**	**20 15 05.1**	**+0.4**
SIRT	**Sirnak**	**2.76**	**174**	*e*PN	**Pn**	**20 15 06.6**	**+0.4**

IDC 06 20:27:48.8±1.6, 190S×9965E, h0km, mb3.8/6, mb1 3.9/7, mb1mx3.7/19, mbtmp3.8/7, ML3.1/1, Error ellipse: s-maj=81.0km s-min=18.2km az=58.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**4.72**	**351**	Pn	Pn	20 29 00.7	-0.6
	1.0nm,0.3s,baz=168,slow=14,SNR=5.5						
WRA	**Warramunga Arr**	**38.34**	**120**	P	P	20 35 11.7	0.0
	0.5nm,0.4s,baz=304,slow=9.0,SNR=8.7						
WRA				PcP	PcP	20 37 25.5	-0.3
	0.2nm,0.5s,baz=318,slow=2.7,SNR=5.5						
ASAR	**Alice Springs**	**39.59**	**126**	P	P	20 35 22.1	-0.1
	0.3nm,0.7s,baz=304,slow=8.0,SNR=3.4						
ASAR				PcP	PcP	20 37 30.0	+0.3
	0.4nm,0.7s,baz=310,slow=2.6,SNR=4.9						
SONM	**Songino Array**	**49.88**	**6**	P	P	20 36 43.8	0.0
	0.6nm,0.7s,baz=188,slow=9.1,SNR=6.9						
MKAR	**Makanchi Array**	**50.84**	**345**	P	P	20 36 51.4	+0.2
	1.6nm,0.6s,baz=149,slow=7.9,SNR=15						
ZALV	**Zalesovo Beam**	**57.01**	**350**	P	P	20 37 35.9	-0.2
	1.7nm,0.4s,baz=172,slow=5.4,SNR=19						
FINES	**FINESS Array B**	**83.86**	**332**	P	P	20 40 20.1	-0.1
	1.4nm,0.7s,baz=110,slow=5.2,SNR=9.5						
TXAR	**Lajitas Array**	**144.83**	**37**	PKP	PKPdf	20 47 27.8	-0.7
	0.7nm,0.5s,baz=267,slow=1.3,SNR=6.0						

*ISCJB **06** 20:36:39.8±0.8, 238S±0.1×1799E±0.1, h500km, mb4.1/13, Error ellipse: s-maj=21.0km s-min=15.3km az=149.1*
*IDC **06** 20:36:40.9±2.0, 2389S×17991W, h508km±17km, mb3.6/9, mb1 3.8/10, mb1mx3.7/14, mbtmp3.6/10, Error ellipse: s-maj=32.7km s-min=18.5km az=152.0*
*NEIC **06** 20:36:43.5±4.0, 2397S×18000E, h544km±52km, mb4.6/7, Error ellipse: s-maj=43.9km s-min=15.8km az=184.0*
ISC 06 20:36:40.8±0.8, 238S±01×1800E±01, h500km, n24, σ0º72/21, mb4.1/13, 1D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**14.61**	**189**	P	**P**	**20 39 46.5**	**-0.2**
	0.9nm,0.3s,baz=288,slow=2.7,SNR=8.1						
ARMA	**Armidale**	**26.04**	**249**	*e*P	**P**	**20 41 35.1**	**+1.7**
CTA	**Charters Tower**	**31.46**	**270**	*e*P	**P**	**20 42 21.7**	**+0.9**
	15nm,0.6s,mb4.6						
CTA	**Charters Tower**	**31.46**	**270**	P	**P**	**20 42 21.8**	**+1.0**
	20nm,0.5s,mb4.8,baz=97,slow=9.9,SNR=20						
CTAO	**Charters Tower**	**31.46**	**270**	*e*P	**P**	**20 42 21.5**	**+0.7**
	19nm,0.5s,mb4.8						
STKA	**Stephens Creek**	**34.74**	**248**	*e*P	**P**	**20 42 48.8**	**+0.3**
	2.7nm,0.8s,mb3.7						
STKA	**Stephens Creek**	**34.74**	**248**	*e*P	**P**	**20 42 48.6**	**+0.2**
	2.4nm,0.6s,mb3.8						
STKA	**Stephens Creek**	**34.74**	**248**	P	**P**	**20 42 49.0**	**+0.6**
	3.4nm,0.8s,mb3.8,baz=91,slow=8.1,SNR=5.9						
ASAR	**Alice Springs**	**42.03**	**261**	P	**P**	**20 43 47.9**	**-0.1**
	8.3nm,0.8s,mb4.2,baz=101,slow=6.8,SNR=82						
ASAR				ScP	ScP	20 48 33.2	-1.0
	2.6nm,0.9s,baz=106,slow=4.5,SNR=16						
WB2	**Warramunga Arr**	**42.38**	**266**	||*i*P	**P**	**20 43 50.2**	**-0.6**
WRAB	**Tennant Creek**	**42.39**	**266**	*e*P	**P**	**20 43 49.9**	**-0.9**
	20nm,1.0s,mb4.5						
WRA	**Warramunga Arr**	**42.39**	**266**	P	**P**	**20 43 50.4**	**-0.5**
	6.3nm,0.4s,mb4.4,baz=96,slow=8.4,SNR=329						
WRA				ScP	ScP	20 48 35.4	-0.3
	2.2nm,0.9s,baz=95,slow=3.9,SNR=8.8						
KAKA	**Kakadu**	**46.28**	**275**	*e*P	**P**	**20 44 20.1**	**-1.0**
	7.4nm,0.6s,mb4.3						
FORT	**Forrest**	**46.33**	**250**	*e*P	**P**	**20 44 20.3**	**-0.9**
	30nm,0.6s,mb4.9						
FITZ	**Fitzroy Crossi**	**50.82**	**266**	*e*P	**P**	**20 44 54.7**	**-0.1**
	8.5nm,0.6s,mb4.2						
FITZ	**Fitzroy Crossi**	**50.82**	**266**	*e*P	**P**	**20 44 55.2**	**+0.4**
	9.4nm,0.6s,mb4.3						
BATI	**Kupang**	**55.20**	**274**	P	**P**	**20 45 26.9**	**+0.6**
	9.1nm,0.6s,mb4.3,baz=143,slow=5.1,SNR=5.7						
MJAR	**Matsushiro Arr**	**71.81**	**326**	P	**P**	**20 47 11.9**	**-0.3**
	0.7nm,0.8s,mb3.2,baz=152,slow=4.8,SNR=2.8						
KSRS	**Korea Array**	**78.17**	**320**	P	**P**	**20 47 48.6**	**+0.8**
	1.1nm,0.8s,mb3.4,baz=122,slow=5.6,SNR=4.9						
TXAR	**Lajitas Array**	**90.40**	**58**	P	**P**	**20 48 49.0**	**+0.5**
	1.2nm,0.7s,mb3.8,baz=210,slow=7.4,SNR=7.7						
PDAR	**Pinedale Array**	**92.64**	**44**	P	**P**	**20 48 58.0**	**-0.5**

0.6nm,0.7s,mb3.7,baz=244,slow=3.0,SNR=5.4
FINES FINESS Array B 138.36 341 SKPbc SKPbc 20 57 52.3 -3.1
3.0nm,1.1s,baz=351,slow=2.5,SNR=4.0
AKASG Malin Array Be 144.89 327 PKPbc PKPdf 20 55 18.5 -1.7
0.4nm,0.3s,baz=44,slow=4.4,SNR=5.5
AKASG SKPbc SKPbc 20 58 09.1 -3.0
1.1nm,0.7s,baz=46,slow=2.8,SNR=6.8
CLL Collm 150.76 343 *e*PKPbc PKPbc 20 55 35.0 -0.9

*PDA **06** 21:04:31.7±0.4, 3731N×2459W, h0km, ML3.5, Error ellipse: s-maj=4.7km s-min=1.5km az=90.0*
*CSEM **06** 21:04:31.7±0.4, 3731N×2459W, h0km, ML3.5, Error ellipse: s-maj=4.7km s-min=1.5km az=90.0, After PDA*
SVSA 06 21:04:31.7±0.4, 3731N×2459W, h0km, ML3.5, Error ellipse: s-maj=4.7km s-min=1.5km az=90.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSMN	**Pico do Norte,**	**0.48**	**231**	*e*P	Pg	21 04 40.6	-0.4
PSMN				*e*S	Sg	21 04 47.2	-0.1
PDA	**Ponta Delgada**	**0.96**	**298**	*e*P	Pg	21 04 47.5	-2.6
PDA				*e*S	Sg	21 04 59.4	-3.1
PSCM	**Serra do Cume**	**2.43**	**306**	*e*P	Pn	21 05 07.8	-4.9
PSCM				*e*S	Sn	21 05 35.0	-8.1
PSCM				A		21 05 39.0	
	69nm,0.3s						
PSCM	**Serra do Cume**	**2.43**	**306**	*e*P	Pn	21 05 07.8	-4.9
PSCM				*e*S	Sn	21 05 35.0	-8.1

*CSEM **06** 21:21:05.7, 1256N×4558E, h8km, ML3.5, After DHMR*
DHMR 06 21:21:05.7±1.6, 1256N×4558E, h9km±9km, ML3.5, Western Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ADEN	**Aden**	**0.62**	**290**	*e*P	Pg	21 21 17.6	0.0
ADEN				AML	AML	21 21 33.4	
	comp=E,2μm,0.2s						
LBOS		**1.34**	**346**	*i* P	Pn	21 21 29.8	-0.8
LBOS				*i* S	Sb	21 21 50.0	+1.6
BDHA	**Al Bayda'**	**1.41**	**360**	*i* P	Pn	21 21 31.8	+0.3
BDHA				*i* S	Sb	21 21 52.4	+2.2
BDHA				AML	AML	21 21 52.7	
	comp=E,3μm,0.5s						
BDHA	**Al Bayda'**	**1.41**	**360**	*i* P	Pn	21 21 31.8	+0.3
BDHA				*i* S	Sb	21 21 52.4	+2.2
	comp=E,1μm,0.5s						
TRBA	**At Turbah**	**1.57**	**295**	*i* P	Pn	21 21 33.8	-0.1
TRBA				*i* S	Sn	21 21 57.3	+2.9
TRBA				AML	AML	21 21 58.7	
	comp=N,715nm,0.3s						
UDYN	**Al 'Udayn**	**2.10**	**312**	*i* P	Pn	21 21 42.3	+1.2
UDYN				*i* S	Sn	21 22 10.5	+3.1
UDYN				AML	AML	21 22 31.1	
	comp=E,163nm,0.5s						
DHBB	**Dhamar BB**	**2.31**	**330**	*i* P	Pn	21 21 46.8	+2.9
DHBB				*i* S	Sn	21 22 16.8	+4.3
HAJJ	**Hajjah**	**3.66**	**329**	*i* P	Pn	21 22 05.1	+2.5
HAJJ				*i* S	Sn	21 22 52.3	+6.4

MAN 06 21:25:13, 1587N×11994E, h29km, mb3.9, ML2.7, MS2.3, 1C-1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCZP	**Santa Cruz**	**0.10**	**198**	*e*P	Pb	21 25 20.5	+2.3
SCZP				*e*S	Sb	21 25 24.8	+3.1
BOLP	**Bolinao**	**0.51**	**357**	*e*P	Pb	21 25 24.5	+1.0
BOLP				*e*S	Sb	21 25 31.4	+0.8
BCPH	**Baguio City Da**	**0.80**	**50**	⇑*i*P	Pn	21 25 28.5	+0.2
BCPH				*i* S	Sb	21 25 39.5	+0.7
PCPH	**Palayan**	**1.15**	**105**	⇓*e*P	Pn	21 25 33.3	+0.1
PCPH				*e*S	Sn	21 25 46.8	-1.2
BALP	**Baler**	**1.58**	**94**	*e*P	Pn	21 25 40.4	+1.3
ABRA	**Dolores**	**1.92**	**23**	*e*P	Pn	21 25 45.4	+1.7
CAUP	**Cauayan**	**2.10**	**59**	*e*P	Pn	21 25 49.7	+3.5
LUBP	**Lubang**	**2.15**	**172**	*e*P	Pn	21 25 49.3	+2.4
APYP	**Conner**	**2.34**	**32**	*e*P	Pn	21 25 51.5	+1.9
BUSP	**Coron**	**3.85**	**176**	*e*P	Pn	21 26 11.4	+1.1
ENPP	**El Nido**	**4.66**	**186**	*e*P	Pn	21 26 23.8	+2.3

IDC 06 21:27:59.2±1.1, 499S×15360E, h0km, mb4.0/8, mb1 4.1/8, mb1mx4.0/14, mbtmp4.0/8, Error ellipse: s-maj=40.9km s-min=19.7km az=101.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WB2	**Warramunga Arr**	**23.91**	**230**	*e*P	P	21 33 13.8	-1.2
WRA	**Warramunga Arr**	**23.92**	**230**	P	P	21 33 15.4	+0.3
	2.2nm,0.7s,baz=54,slow=9.4,SNR=25						
WRA				PcP	PcP	21 36 58.5	+0.5
	0.2nm,0.7s,baz=55,slow=2.1,SNR=6.5						
ASAR	**Alice Springs**	**26.55**	**224**	P	P	21 33 39.3	+0.3
	0.6nm,0.5s,baz=57,slow=8.8,SNR=12						
ASAR				PcP	PcP	21 37 04.0	+0.2
	0.6nm,0.8s,baz=51,slow=3.6,SNR=5.1						
STKA	**Stephens Creek**	**29.02**	**201**	P	P	21 34 00.9	-0.1
	1.4nm,0.8s,baz=45,slow=13,SNR=4.2						
FITZ	**Fitzroy Crossi**	**30.27**	**242**	*e*P	P	21 34 11.6	-0.6
	4.9nm,0.8s						
FITZ	**Fitzroy Crossi**	**30.27**	**242**	P	P	21 34 11.7	-0.5
	1.6nm,0.6s,baz=92,slow=5.9,SNR=5.4						
KSRS	**Korea Array**	**48.52**	**333**	P	P	21 36 44.4	+0.4
	0.3nm,0.3s,baz=143,slow=7.6,SNR=4.5						
SONM	**Songino Array**	**66.91**	**327**	P	P	21 38 53.8	+0.5
	0.8nm,0.6s,baz=144,slow=5.7,SNR=14						
MKAR	**Makanchi Array**	**80.99**	**319**	P	P	21 40 15.6	-0.2
	1.9nm,0.9s,baz=103,slow=5.5,SNR=6.5						
ZALV	**Zalesovo Beam**	**81.75**	**326**	P	P	21 40 18.9	-0.7
	1.2nm,0.6s,baz=104,slow=6.3,SNR=6.2						
MATP	**Matopo**	**120.48**	**243**	PKP	PKPdf	21 46 53.3	-0.4
	1.7nm,0.8s,baz=53,slow=5.1,SNR=3.7						
MDT	**Midelt**	**145.64**	**326**	PKPbc	PKPbc	21 47 40.8	+0.3
	0.8nm,0.6s,baz=7.4,slow=2.9,SNR=4.1						
BDFB	**Brasilia**	**150.37**	**134**	PKPbc	PKPbc	21 47 53.1	-0.5
	2.3nm,1.0s,baz=256,slow=4.2,SNR=2.8						
TORD	**Torodi Ar. Bea**	**151.12**	**288**	PKPbc	PKPbc	21 47 54.8	-0.7
	3.7nm,0.7s,baz=76,slow=1.5,SNR=42						

*ISCJB **06** 21:29:51.4±0.6, 1224N±005×4584E±005, h10km, mb3.9/8, MS3.3/5, Error ellipse: s-maj=7.0km s-min=6.1km az=42.9*
*IDC **06** 21:29:51.0±0.9, 1208N×4594E, h0km, mb3.9/7, mb1 4.1/9, mb1mx3.8/21, mbtmp3.9/9, ML3.6/2, MS3.4/6, Ms1 3.4/6, ms1mx3.1/34, Error ellipse: s-maj=32.9km s-min=20.7km az=159.0*
*DHMR **06** 21:29:56.1±1.1, 1251N×4562E, h10km±12km, ML3.9*
*CSEM **06** 21:29:56.1, 1251N×4562E, h10km, ML3.9, After DHMR*
ISC 06 21:29:51.8±1.6, 1225N±005×4581E±005, h3km±9km, n26, σ1º12/29, mb3.9/8, MS3.3/5, 7C, Western Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ADEN	**Aden**	**0.96**	**303**	⇑*i*P	**Pg**	**21 30 09.2**	**-1.0**
LBOS		**1.70**	**341**	⇑*i*P	**Pn**	**21 30 21.9**	**-0.4**
LBOS				*i* S	**Sn**	**21 30 42.3**	**-2.4**
BDHA	**Al Bayda'**	**1.73**	**352**	⇑*i*P	**Pn**	**21 30 22.1**	**-0.7**
BDHA				*i* S	**Sn**	**21 30 44.1**	**-1.2**
BDHA				AML	AML	21 30 44.9	
	comp=E,8μm,0.5s						
BDHA	**Al Bayda'**	**1.73**	**352**	⇑*i*P	**Pn**	**21 30 22.1**	**-0.7**
BDHA				*i* S	**Sn**	**21 30 44.2**	**-1.2**
	comp=E,4μm,0.5s						
TRBA	**At Turbah**	**1.92**	**301**	⇑*i*P	**Pn**	**21 30 25.7**	**+0.3**
TRBA				*i* S	**Sn**	**21 30 49.5**	**-0.4**
TRBA				AML	AML	21 30 50.5	
	comp=N,2μm,0.3s						
UDYN	**Al 'Udayn**	**2.48**	**314**	*i* P	**Pn**	**21 30 33.6**	**+0.6**
UDYN				*i* S	**Sn**	**21 31 02.5**	**-1.3**
UDYN				AML	AML	21 31 23.6	
	comp=E,424nm,0.5s						
DHBB	**Dhamar BB**	**2.69**	**329**	⇑*i*P	**Pn**	**21 30 37.7**	**+1.8**
DHBB				*i* S	**Sn**	**21 31 09.5**	**+0.5**
ATD	**Arta Tunnel**	**2.98**	**256**	Pn	**Pn**	**21 30 39.1**	**-0.9**
	comp=E,28nm,0.3s,baz=249,slow=24,SNR=44						
ATD				Sn	**Sn**	**21 31 16.8**	**+0.5**
	comp=E,12nm,0.3s,baz=92,slow=23,SNR=9.5						
HAJJ	**Hajjah**	**4.05**	**328**	⇑*i*P	**Pn**	**21 30 56.3**	**+1.7**
HAJJ				*i* S	**Sn**	**21 31 43.8**	**+1.3**

KMBO Kilima Mbogo 15.77 213 Pn **Pn 21 33 31.9 -3.0**
comp=E,0.1nm,0.3s,baz=51,slow=12,SNR=9.2
KMBO LR LR 21 38 46.3
comp=E,93nm,20.6s,baz=95,slow=34
NAY Al-Naaiem 16.97 4 *e*P **Pn 21 33 51.5 +1.3**
NAY AMb AMB 21 34 01.0
comp=Z,12nm,1.3s
RST Umm Al-Ruwaisa 17.20 4 *e*P **Pn 21 33 53.4 +0.2**
RST AMb AMB 21 34 06.6
comp=Z,15nm,0.9s
MIB Mutribah 17.53 4 *e*P **Pn 21 33 51.5 -5.7**
MIB AMb AMB 21 34 05.6
comp=Z,15nm,0.9s
EIL Elat 20.06 331 LR LR 21 40 34.6
comp=Z,88nm,20.1s,MS3.1,baz=275,slow=32
ASF Jabal al Asfar 21.46 339 LR LR 21 41 30.8
comp=Z,32nm,21.3s,MS2.7,baz=273,slow=32
MMAI Mount Meron Ar 22.76 337 LR LR 21 43 40.0
comp=Z,85nm,18.9s,MS3.2,baz=195,slow=36
MLR Muntele Rosu 37.20 337 LR LR 21 51 46.9
comp=Z,166nm,19.8s,MS3.8,baz=139,slow=35
AKTO Aktyubinsk 39.37 12 LR LR 21 56 25.2
comp=Z,95nm,18.5s,MS3.7,baz=18,slow=40
TORD Torodi Ar. Bea 43.00 276 P **P 21 37 54.4 +1.5**
comp=Z,0.8nm,1.0s,mb3.4,baz=93,slow=6.3,SNR=3.9
TORD PcP PcP 21 39 44.4 +1.0
comp=Z,0.5nm,0.9s,baz=101,slow=1.5,SNR=3.1
GERES GERESS Array B 45.15 330 P **P 21 38 11.6 +2.0**
comp=Z,0.3nm,0.6s,mb3.3,baz=131,slow=7.3,SNR=4.8
MKAR Makanchi Array 46.12 35 P **P 21 38 17.2 -0.1**
comp=Z,0.8nm,0.6s,mb3.8,baz=229,slow=9.3,SNR=5.4
ZALV Zalesovo Beam 51.76 28 P **P 21 38 59.4 -1.0**
comp=Z,0.6nm,0.5s,mb3.8,baz=226,slow=7.7,SNR=3.8
SONM Songino Array 61.37 42 P **P 21 40 09.3 +0.3**
comp=Z,1.0nm,0.9s,mb4.0,baz=233,slow=8.0,SNR=7.3
MJAR Matsushiro Arr 84.72 54 P **P 21 42 27.9 +0.4**
comp=Z,0.4nm,0.3s,mb4.0,baz=281,slow=7.3,SNR=2.6
WRA Warramunga Arr 92.75 110 P **P 21 43 05.3 -0.8**
comp=Z,1.2nm,0.8s,mb4.4,baz=296,slow=3.5,SNR=7.1
ASAR Alice Springs 93.12 113 P **P 21 43 06.9 -0.8**
comp=Z,0.6nm,0.7s,mb4.1,baz=285,slow=4.4,SNR=5.9

MAN 06 21:32:33, 1074N×12647E, h15km, mb4.6, ML3.5, MS3.5, 4C, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**1.35**	**226**	⇑*e*P	Pn	21 32 56.0	-1.3
SCPH				*e*S	Sn	21 33 13.2	-1.9
PLP	**Palo**	**1.52**	**286**	*e*P	Pn	21 32 59.7	0.0
PLP				*e*S	Sn	21 33 18.8	-0.5
MSLP	**Maasin**	**1.69**	**249**	*e*P	Pn	21 33 01.7	-0.3
MSLP				*e*S	Sn	21 33 25.3	+1.8
OCLP	**Ormoc**	**1.85**	**280**	*e*P	Pn	21 33 06.7	+2.5
LLP	**Lapu-Lapu**	**2.50**	**261**	⇑*e*P	Pn	21 33 15.1	+2.0
LLP				*e*S	Sn	21 33 44.3	+1.0
CNP	**Catarman**	**2.50**	**315**	*e*P	Pn	21 33 14.4	+1.3
TBP	**Tagbilaran**	**2.77**	**248**	⇑*e*P	Pn	21 33 18.7	+1.8
TBP				*e*S	Sn	21 33 60.0	+10
BUKP	**Musuan**	**3.16**	**206**	*e*P	Pn	21 33 23.2	+1.0
PVCP	**Virac**	**3.63**	**322**	⇑*e*P	Pn	21 33 29.9	+1.2
PVCP	**Virac**	**3.63**	**322**	*e*P	Pn	21 33 28.9	+0.1
RCP	**Roxas**	**3.74**	**283**	*e*P	Pn	21 33 32.5	+2.3
GUIM	**Jordan**	**3.81**	**269**	*e*P	Pn	21 33 32.8	+1.5
OTRP	**Odiongan**	**4.65**	**291**	*e*P	Pn	21 33 47.2	+4.5

*IDC **06** 21:32:50.1±0.7, 127N×12622E, h0km, mb4.2/11, mb1 4.3/12, mb1mx4.1/18, mbtmp4.2/12, ML4.0/1, Error ellipse: s-maj=43.3km s-min=13.3km az=76.0*
*NEIC **06** 21:32:51.5±0.4, 125N×12627E, h10km, mb4.3/11, Error ellipse: s-maj=21.7km s-min=6.2km az=76.0*
*ISCJB **06** 21:32:53.0±0.5, 124N±007×1262E±02, h33km, mb4.3/20, Error ellipse: s-maj=26.2km s-min=7.5km az=166.0*
ISC 06 21:32:55.1±0.5, 122N±007×1263E±02, h35km, n30, σ0º88/29, mb4.3/20, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**19.21**	**182**	*e*P	**Pn**	**21 37 15.6**	**-1.7**
	5.5nm,0.6s						
FITZ				*e*		21 41 26.1	
FITZ	**Fitzroy Crossi**	**19.21**	**182**	P	**Pn**	**21 37 15.8**	**-1.6**
	0.4nm,0.3s,baz=25,slow=9.2,SNR=6.5						
WRAB	**Tennant Creek**	**22.47**	**160**	*e*P	**P**	**21 37 51.2**	**-0.1**
	5.4nm,0.4s,mb4.3						
WRA	**Warramunga Arr**	**22.47**	**160**	P	**P**	**21 37 51.3**	**-0.2**
	3.9nm,0.4s,mb4.2,baz=339,slow=11,SNR=27						
WB2	**Warramunga Arr**	**22.48**	**160**	*e*P	**P**	**21 37 51.5**	**0.0**
WB2	**Warramunga Arr**	**22.48**	**160**	*e*P	**P**	**21 37 51.4**	**0.0**
MBWA	**Marble Bar**	**23.14**	**196**	*e*P	**P**	**21 37 57.2**	**-1.3**
	4.1nm,0.7s,mb4.0						
ASAR	**Alice Springs**	**25.83**	**164**	P	**P**	**21 38 23.5**	**+0.2**
	1.7nm,0.5s,mb3.9,baz=344,slow=6.4,SNR=30						
FORT	**Forrest**	**31.87**	**177**	*e*P	**P**	**21 39 17.9**	**+0.9**
	6.8nm,0.5s,mb4.7						
KLBR	**Kellerberrin**	**33.62**	**193**	*e*P	**P**	**21 39 33.2**	**+0.9**
	6.0nm,0.4s,mb4.9						
MUN	**Mundaring**	**34.37**	**195**	*e*P	**P**	**21 39 39.6**	**+0.8**
NWAO	**Narrogin (SRO)**	**35.02**	**193**	P	**P**	**21 39 45.2**	**+0.8**
	4.4nm,0.5s,mb4.7,baz=20,slow=7.7,SNR=18						
STKA	**Stephens Creek**	**35.98**	**158**	*e*P	**P**	**21 39 53.1**	**+0.4**
	3.1nm,1.1s,mb4.2						
STKA	**Stephens Creek**	**35.98**	**158**	*e*P	**P**

8.0nm,0.7s,baz=282,slow=22,SNR=4.5
URZ Urewera 21.88 196 PN P 21 44 49.0 -1.5
BKZ Black Stump Fm 22.89 197 ePN P 21 44 59.2 -0.6
PXZ Pawanui 23.61 195 ePN P 21 45 05.7 -0.5
BFZ Birch Farm 24.38 196 ePN P 21 45 13.5 +0.3
HNR Honiara 25.41 285 eP P 21 45 25.6 +2.8
131nm,1.1s,mb5.5
HNR Honiara 25.41 285 P P 21 45 26.3 +3.5
60nm,0.6s,mb5.4,baz=92,slow=0.4,SNR=5.0
THZ Tophouse 26.36 200 PN P 21 45 30.7 -0.4
RPZ Rata Peaks 28.72 201 P P 21 45 51.6 -0.4
6.1nm,0.6s,mb4.4,baz=7.1,slow=8.1,SNR=5.4
ARMA Armidale 32.86 241 eP P 21 46 29.9 +1.4
CTA Charters Tower 36.55 260 eP P 21 47 00.3 +0.1
16nm,0.8s,mb4.6
CTA Charters Tower 36.55 260 P P 21 47 00.4 +0.2
21nm,0.8s,mb4.7,baz=86,slow=9.4,SNR=16
CTAO Charters Tower 36.55 260 eP P 21 47 00.3 +0.1
10nm,0.8s,mb4.4
STKA Stephens Creek 41.57 241 ⇓iP P 21 47 42.3 +0.7
30nm,0.9s,mb4.7
STKA Stephens Creek 41.57 241 P P 21 47 42.4 +0.9
53nm,0.9s,mb5.0,baz=88,slow=9.2,SNR=143
WB2 Warramunga Arr 47.73 259 ⇓iP P 21 48 29.6 -0.7
WRAB Tennant Creek 47.73 259 eP P 21 48 29.4 -0.8
10nm,0.6s,mb4.3
WRA Warramunga Arr 47.74 259 P P 21 48 29.7 -0.7
11nm,0.5s,mb4.5,baz=96,slow=6.9,SNR=273
ASAR Alice Springs 47.88 254 P P 21 48 31.6 +0.2
90nm,0.6s,mb5.2,baz=87,slow=8.6,SNR=1195
ASAR ScP ScP 21 53 27.6 -1.6
0.3nm,0.7s,baz=107,slow=4.3,SNR=4.2
KAKA Kakadu 50.66 268 eP P 21 48 51.9 -0.6
15nm,0.4s,mb4.8
FORT Forrest 53.00 244 eP P 21 49 09.0 -0.6
14nm,0.7s,mb4.5
FITZ Fitzroy Crossi 56.14 260 eP P 21 49 32.5 +0.2
3.8nm,0.5s,mb4.2
FITZ Fitzroy Crossi 56.14 260 P P 21 49 32.4 +0.1
2.1nm,0.5s,mb3.9,baz=141,slow=6.8,SNR=8.3
SBA Scott Base 61.16 184 eP P 21 50 08.0 +2.1
11nm,0.8s,mb4.5
MBWA Marble Bar 61.17 255 eP P 21 50 06.0 -0.9
7.5nm,0.7s,mb4.4
KLBR Kellerberrin 61.80 243 eP P 21 50 10.3 -0.7
12nm,0.7s,mb4.6
MUN Mundaring 63.09 243 eP P 21 50 18.6 -0.9
QSPA South Pole Qui 72.68 180 eP P 21 51 19.1 +0.8
40nm,0.6s,mb5.2
ISA Isabella 75.26 45 eP P 21 51 34.3 +0.4
1.9nm,0.8s,mb3.8
GSC Goldstone 76.19 46 eP P 21 51 39.1 -0.1
8.3nm,1.3s,mb4.2
KSRS Korea Array 76.38 317 P P 21 51 41.8 +1.6
1.3nm,1.0s,mb3.5,baz=20,slow=37,SNR=4.0
NVAR Mina Array Bea 76.94 42 P P 21 51 44.1 +0.8
2.1nm,0.7s,mb3.9,baz=216,slow=7.8,SNR=15
MDJ Mudanjiang 79.55 323 P P 21 51 58.8 +1.4
MDJ AMB AMB
comp=Z,4.0nm,0.9s,mb4.0
MDJ AMB AMB
comp=Z,59nm,8.2s
NJ2 Nanjing 79.99 308 eP P 21 52 03.5 +3.4
NJ2 AMB AMB
comp=Z,20nm,0.6s,mb4.9
SRU San Rafael 82.45 45 eP P 21 52 13.2 +0.3
HWUT Hardware Ranch 83.01 43 eP P 21 52 15.7 0.0
comp=Z,2.3nm,0.5s,mb4.2
TXAR Lajitas Array 83.14 57 P P 21 52 17.6 +1.0
comp=Z,2.2nm,1.0s,mb3.9,baz=236,slow=5.9,SNR=7.0
MCK McKinley 83.38 11 eP P 21 52 16.9 -0.2
ANMO Albuquerque 83.38 50 eP P 21 52 18.4 +0.7
ANMO Albuquerque 83.38 50 P P 21 52 18.2 +0.5
comp=Z,2.4nm,0.6s,mb4.1,baz=191,slow=2.0,SNR=5.7
COLA College 84.62 11 eP P 21 52 22.2 -1.0
comp=Z,12nm,0.9s,mb4.6
PDAR Pinedale Array 84.88 42 P P 21 52 24.8 -0.4
comp=Z,2.0nm,0.9s,mb3.8,baz=212,slow=3.5,SNR=9.4
MAW Mawson 85.38 199 P P 21 52 27.0 -0.3
comp=Z,6.4nm,0.8s,mb4.4,baz=144,slow=3.1,SNR=4.7
WALA Waterton Lakes 85.51 35 eP P 21 52 27.8 -0.3
comp=Z,9.4nm,1.8s,mb4.2
KMI Kunming 90.33 296 P P 21 52 51.3 -0.3
KMI AP pP 21 53 52.9 +6.4
KMI AMB AMB
comp=Z,6.0nm,1.0s,mb4.4
SYO Syowa Base 90.33 192⇑ePP PP 21 56 28.0 +0.5
INK Inuvik 90.59 14 P P 21 52 50.9 -0.9
comp=Z,1.6nm,0.8s,mb4.0,baz=221,slow=3.1,SNR=5.1
SNAA Sanae 91.03 178 e P 21 52 53.1 -0.9
SNAA e 21 52 56.0
VNA3 Neumayer Olymp 91.05 175 e P 21 52 53.9 -0.2
VNA3 e 21 52 56.6
CD2 Chengdu 91.37 302 eP P 21 52 55.6 -0.7
CD2 AMB AMB
comp=Z,10.0nm,0.9s,mb4.8
CD2 AMB AMB
comp=Z,20nm,9.4s
VNA2 Neumayer--Watz 91.53 176 e P 21 52 56.5 +0.2
baz=208,slow=4.2
VNA2 e 21 52 59.7
VNA1 Neumayer--Stat 91.74 176 e P 21 52 57.1 -0.1
VNA1 e 21 53 00.1
YKA Yellowknife Ar 92.58 24 P P 21 53 00.2 -0.8
comp=Z,0.2nm,0.6s,baz=244,slow=4.0,SNR=5.5
ZALV Zalesovo Beam 109.71 322 PKiKP PKiKP 21 58 18.1 -1.3
comp=Z,0.4nm,0.5s,baz=120,slow=5.2,SNR=3.2
MKAR Makanchi Array 110.96 314 PKiKP PKiKP 21 58 21.3 -0.8
comp=Z,0.3nm,0.4s,baz=228,slow=1.7,SNR=2.7
ARCES ARCESS Array B 126.30 351 PKP PKPdf 21 58 50.1 -0.7
comp=Z,4.9nm,1.0s,baz=3.8,slow=3.6,SNR=6.9
MALT Malatya 143.97 312 ePKPdf PKPdf 21 59 23.7 -0.8
MALT Malatya 143.97 312⇑iP PKPdf 21 59 25.8 +1.3
KWP Kalwaria 144.72 340 ePKP PKPdf 21 59 25.3 -0.1
GZT Gaziantep 145.00 311 iP PKPbc 21 59 27.4 +1.3
KSP Ksiaz 145.37 347 ePKP PKPdf 21 59 27.3 +0.8
STHS Stebnicka Huta 145.37 341 ePKP PKPdf 21 59 29.1 +2.6
CLL Collm 145.52 351 ⇓iPKPbc PKPbc 21 59 27.3 0.0
comp=Z,14nm,1.0s
UPC Upice 145.74 347 ePKP PKPdf 21 59 28.2 +1.1
BRG Berggiesshubel 145.79 350 eP PKPdf 21 59 27.8 +0.6
comp=Z,8.5nm,1.1s
DPC Dobruska-Polom 145.82 347 ePKP PKPdf 21 59 28.8 +1.5
DPC ex x 21 59 50.6
PVCC Panska Ves 146.01 349 ePKP PKPdf 21 59 29.3 +1.7
ELDT Eldivan 146.22 319 iP PKPdf 21 59 30.8 +2.5
KECS Kecovo 146.43 341 ePKP PKPdf 21 59 30.3 +1.9
KECS e 21 43 06.2
PRU Pruhonice 146.53 349 ePKP PKPdf 21 59 30.5 +2.0
PRU ex x 21 59 49.7
MEM Membach 146.83 359 PKP PKPdf 21 59 30.9 +2.0
MLR Muntele Rosu 146.87 332 PKPbc PKPbc 21 59 31.5 +0.1
comp=Z,4.4nm,1.1s,baz=61,slow=5.3,SNR=5.6
MLR Muntele Rosu 146.87 332⇑iP PKPdf 21 59 30.3 +1.1
VYHS Vyhne 146.91 343 ePKP PKPdf 21 59 31.7 +2.5
DRGR 147.14 337⇑iP PKPbc 21 59 32.8 +0.7
GIVF Givet 147.35 360 ePKP1 PKPbc 21 59 32.3 -0.3
DOU Dourbes 147.35 0 PKP PKPdf 21 59 32.7 +2.9
BAIF Baives 147.39 1⇑iPKP1 PKPbc 21 59 32.7 0.0
comp=Z,8.0nm,0.8s
MODS Modra-Piesok 147.44 344 ePKP PKPdf 21 59 33.8 +3.7
MODS e 21 43 05.3
ASF Jabal al Asfar 147.49 303 PKPbc PKPbc 21 59 33.6 +0.1
comp=Z,1.7nm,0.8s,baz=224,slow=2.0,SNR=4.2
KHC Kasperske Hory 147.53 349 ePKP PKPbc 21 59 33.4 +0.3
KHC ex x 21 59 54.9
GERES GERESS Array B 147.78 349 PKPbc PKPbc 21 59 33.7 0.0
comp=Z,3.1nm,0.8s,baz=22,slow=2.4,SNR=24
MMAI Mount Meron Ar 148.38 305 PKPbc PKPbc 21 59 36.6 +0.7
comp=Z,2.1nm,0.5s,baz=72,slow=8.1,SNR=12
FLN La Foliniere 148.40 7⇑iPKP1 PKPbc 21 59 34.7 -0.7
comp=Z,13nm,0.6s
ROSF Rostrenen 148.42 10⇑iPKP1 PKPbc 21 59 34.7 -0.7
LDF La Druitiere 148.60 6⇑iPKP1 PKPbc 21 59 34.9 -1.0
comp=Z,5.9nm,0.6s
SGMF Saint Gilles 148.62 9⇑iPKP1 PKPbc 21 59 35.2 -0.7
comp=Z,9.3nm,0.8s
GRR Gorron 148.72 7⇑iPKP1 PKPbc 21 59 35.6 -0.6
comp=Z,15nm,0.6s
CDF Champ du Feu 148.97 357 ePKP1 PKPbc 21 59 36.7 -0.1
comp=Z,9.8nm,0.8s
PKSM Moragy 149.03 341⇑iP PKPbc 21 59 36.9 -0.1
HAU Haudompre 149.42 358⇑iPKP1 PKPbc 21 59 37.5 -0.5
comp=Z,5.8nm,0.6s
HINF Hinteralfeld 149.59 357⇑iPKP1 PKPbc 21 59 37.9 -0.5

HYF Humbligny 150.13 3 ePKP1 PKPbc 21 59 39.8 +0.1
LOR Lormes 150.18 1⇑iPKP1 PKPbc 21 59 39.7 -0.1
comp=Z,13nm,1.0s
VTS Vitosha 150.37 332⇑iP PKPbc 21 59 41.9 +1.5
SSF Saint Saulge 150.37 2⇑iPKP1 PKPbc 21 59 40.2 -0.1
comp=Z,17nm,1.0s
MFF Saint Martin d 150.56 7⇑iPKP1 PKPbc 21 59 40.2 -0.5
AVF Avril sur Loir 150.64 2⇑iPKP1 PKPbc 21 59 40.4 -0.5
comp=Z,11nm,1.0s
SMF Signal de Mont 150.80 1 ePKP1 PKPbc 21 59 40.9 -0.4
CABF La Chapelle 150.82 358⇑iPKP1 PKPbc 21 59 41.7 +0.3
comp=Z,19nm,0.9s
BGF Bois d'Agland 150.85 3⇑iPKP1 PKPbc 21 59 41.2 -0.2
comp=Z,12nm,0.7s
TCF Toulx Ste Croi 151.09 4⇑iPKP1 PKPbc 21 59 41.5 -0.5
comp=Z,4.6nm,0.6s
LPL La Plagne 151.89 357 ePKP1 PKPbc 21 59 44.4 +0.6
comp=Z,4.9nm,0.8s
LPG La Plagne 151.91 357 ePKP1 PKPbc 21 59 44.6 +0.7
ORIF Oris-en-Rattie 152.52 358 ePKP1 PKPbc 21 59 45.3 0.0
VIVF Saint-Julien-l 152.60 0⇑iPKP1 PKPbc 21 59 45.4 0.0
comp=Z,7.0nm,1.0s
MBDF Montbardon 152.68 357 ePKP1 PKPbc 21 59 45.5 -0.1
comp=Z,4.6nm,0.7s
LASF Ste Croix 153.37 2 ePKP1 PKPbc 21 59 47.2 +0.1
SBF Sospel 153.50 356 ePKP1 PKPbc 21 59 47.2 -0.2
comp=Z,6.6nm,0.7s
ESDC Sonseca Array 156.51 17 PKPab PKPab 22 00 13.6 0.0
comp=Z,1.6nm,1.0s,baz=332,slow=4.7,SNR=5.8
TORD Torodi Ar. Bea 174.84 144 PKP PKPdf 21 59 57.0 -2.3
comp=Z,0.6nm,0.9s,baz=315,slow=1.3,SNR=6.9
TORD PKPab PKPab 22 01 32.1 -2.7
comp=Z,1.2nm,1.0s,baz=219,slow=4.0,SNR=4.1
TORD PP PP 22 05 25.4 -1.2
comp=Z,0.6nm,1.1s,baz=228,slow=5.6,SNR=2.9

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*LDG **06** 21:43:13.9±0.1,3823N×2050E,h10km,Mb4.0/22,Ms2.9/5, Error ellipse: s-maj=5.7km s-min=2.9km az=23.0*
*ISCJB **06** 21:43:16.8±0.2,3780N±002×1977E±002,h10km, mb3.9/13,Error ellipse: s-maj=2.6km s-min=2.0km az=15.8*
*THE **06** 21:43:17.8,3774N×1983E,h2km,ML4.4*
*CSEM **06** 21:43:17.1±0.1,3786N×1971E,h10km,mb4.2/3,Ms2.9, Error ellipse: s-maj=2.4km s-min=1.2km az=26.0*
*MOS **06** 21:43:19.1±0.9,3783N×1980E,h27km,mb4.1/7,Error ellipse: s-maj=6.3km s-min=3.6km az=83.6*
*PDG **06** 21:43:20.3±0.6,3795N×1989E,h15km±3km,ML4.0/10, Error ellipse: s-maj=2.3km s-min=2.3km az=90.0*
*ATH **06** 21:43:21.6,3784N×2022E,h21km±2km,MD4.0/19*
*IDC **06** 21:43:21.3±3.6,3780N×2000E,h32km±28km,mb3.8/10, mb1 3.8/18,mb1mx3.7/30,mbtmp3.7/18,ML3.8/8,MS3.3/1, Ms1 3.3/1,ms1mx2.5/30,Error ellipse: s-maj=19.2km s-min=14.6km az=154.0*
*NEIC **06** 21:43:22.4,3789N×2026E,h25km,mb3.5/6,MD4.0(ATH), ML4.5(THE),ML4.0(PDG),After ATH.*

ISC 06 21:43:20.1±0.6,**3779N**±002×**1982E**±002,**h22**km±5km, **n222**,σ1§**15**/278,**mb3.9**/13,**23C-13D**,**Ionian Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.73**	**57**	*e*PB	**Pb**	**21 43 31.0**	**-3.0**
VLS	**Valsamata**	**0.73**	**57**	*e*Pb	**Pb**	**21 43 31.1**	**-2.9**
KFL	**Anninata**	**0.83**	**67**	*e*Pg	**Pb**	**21 43 33.0**	**-2.9**
LKD	**Levkas**	**1.13**	**35**	*e*Pg	**Pn**	**21 43 39.8**	**-0.8**
LKD				*e*Sg	**Sb**	**21 43 56.4**	**+1.3**
RLS	**Riolos of Patr**	**1.33**	**78**	*e*PN	**Pn**	**21 43 41.7**	**-1.6**
RLS				*e*SN	**Sn**	**21 43 54.4**	**-6.0**
SELA	**Sela**	**1.71**	**73**	*e*Pb	**Pb**	**21 43 49.2**	**-1.6**
SELA				*e*Sb	**Sb**	**21 44 12.0**	**+0.2**
PYL	**PYLOS**	**1.77**	**119**	*e*Pb	**Pn**	**21 43 47.7**	**-1.7**
ITM	**Ithomi**	**1.78**	**109**	*e*PN	**Pn**	**21 43 49.3**	**-0.2**
ITM				*e*SN	**Sn**	**21 44 09.3**	**-2.2**
IGT	**Igoumenitsa**	**1.79**	**13**	*e*Pb	**Pn**	**21 43 49.3**	**-0.3**
IGT				*e*Sb	**Sb**	**21 44 14.4**	**+0.2**
KEK	**Kerkira**	**1.93**	**360**	*e*PB	**Pb**	**21 43 54.3**	**-0.1**
KEK				*e*SN	**Sn**	**21 44 19.7**	**+4.7**
EVR	**Evrytania**	**1.93**	**54**	*e*PN	**Pn**	**21 43 51.9**	**+0.3**
EVR				*e*SN	**Sn**	**21 44 13.7**	**-1.5**
JAN	**Janina**	**2.04**	**23**	*e*PB	**Pb**	**21 43 53.9**	**-2.4**
JAN				*e*SN	**Sn**	**21 44 19.1**	**+1.3**
VLX	**Vlachokerasia**	**2.08**	**101**	*e*Pn	**Pn**	**21 43 53.2**	**-0.4**
VLX				*e*Sn	**Sn**	**21 44 19.3**	**+0.5**
SRN	**Sarande**	**2.10**	**4**	*i* PN	**Pn**	**21 43 54.3**	**+0.5**
SRN				*i* SN	**Sb**	**21 44 23.4**	**+0.4**
MEV	**Metsovon**	**2.28**	**28**	P	**Pn**	**21 43 56.2**	**-0.2**
MEV	**Metsovon**	**2.28**	**28**	*e*Pn	**Pn**	**21 43 58.1**	**+1.7**
AGG	**Agios Georgios**	**2.33**	**57**	*e*Pn	**Pn**	**21 43 57.7**	**+0.7**
AGG				*e*Sn	**Sn**	**21 44 27.6**	**+2.6**
AGG	**Agios Georgios**	**2.33**	**57**	P	**Pn**	**21 43 57.4**	**+0.4**
AGG				S	**Sn**	**21 44 27.5**	**+2.5**
THL	**Klokotos Trika**	**2.47**	**43**	*e*PB	**Pb**	**21 43 59.4**	**-4.4**
LTK	**Loutraki**	**2.50**	**84**	*e*Pn	**Pn**	**21 43 59.0**	**-0.4**
LTK				*e*Sn	**Sn**	**21 44 31.0**	**+1.7**
LKR	**Lokris**	**2.65**	**70**	*e*PN	**Pn**	**21 44 01.0**	**-0.5**
VLI	**Veliai**	**2.71**	**112**	*e*PB	**Pb**	**21 44 03.6**	**-4.2**
DID	**Didima**	**2.73**	**95**	*e*Pn	**Pn**	**21 44 01.7**	**-0.8**
DID				*e*Sn	**Sn**	**21 44 35.7**	**+0.8**
TIP	**Timpagrande**	**2.77**	**301**	P	**Pn**	**21 44 04.8**	**+1.6**
NAIG	**Nisos Aigina**	**2.91**	**89**	*e*PN	**Pn**	**21 44 04.0**	**-1.0**
KBN	**Korca**	**2.93**	**15**	*i* PN	**Pn**	**21 44 13.8**	**+8.5**
KZN	**Kozani**	**2.94**	**31**	⇓*i*PN	**Pn**	**21 44 06.7**	**+1.2**
KYTH	**Kithira**	**2.98**	**119**	*e*PB	**Pb**	**21 44 07.5**	**-5.0**
NEO	**Neokhori**	**3.07**	**59**	*e*PN	**Pn**	**21 44 07.1**	**-0.2**
LIT	**Litokhoron**	**3.11**	**41**	*e*Pn	**Pn**	**21 44 08.6**	**+0.8**
LIT				*e*Sn	**Sn**	**21 44 47.8**	**+3.5**
LIT	**Litokhoron**	**3.11**	**41**	*e*Pn	**Pn**	**21 44 08.6**	**+0.8**
LIT				S	**Sn**	**21 44 47.3**	**+3.0**
KVR	**Kavouri**	**3.13**	**88**	*e*PB	**Pb**	**21 44 09.0**	**-6.0**
PTL	**Penteli**	**3.21**	**84**	*e*PN	**Pn**	**21 44 09.0**	**-0.2**
FNA	**Florina**	**3.23**	**22**	*e*Pn	**Pn**	**21 44 10.2**	**+0.7**
FNA				*e*Sn	**Sn**	**21 44 50.2**	**+3.0**
FNA	**Florina**	**3.23**	**22**	*e*Pn	**Pn**	**21 44 10.1**	**+0.7**
FNA				S	**Sn**	**21 44 50.2**	**+3.0**
TA1	**Taranto**	**3.28**	**324**	*e*Pn	**Pn**	**21 44 11.7**	**+1.6**
OHR	**Ohrid**	**3.41**	**13**	*e*Pn	**Pn**	**21 44 13.0**	**+1.1**
OHR				*e*Sn	**Sn**	**21 44 52.6**	**+1.1**
OHR	**Ohrid**	**3.41**	**13**	*e*Pn	**Pn**	**21 44 12.5**	**+0.6**
BIA	**Bitola**	**3.43**	**19**	*e*Pn	**Pn**	**21 44 12.1**	**-0.2**
BIA				*e*Sn	**Sn**	**21 44 54.7**	**+2.4**
BIA	**Bitola**	**3.43**	**19**	*e*Pn	**Pn**	**21 44 13.1**	**+0.9**
BIA				*e*Sn	**Sn**	**21 44 54.2**	**+2.0**
AOS	**Alonnisos**	**3.48**	**65**	P	**Pn**	**21 44 12.0**	**-0.8**
AOS	**Alonnisos**	**3.48**	**65**	*e*Pn	**Pn**	**21 44 12.0**	**-0.8**
PE1	**Pezze di Greco**	**3.54**	**329**	*e*Pn	**Pn**	**21 44 14.0**	**+0.3**
TIR	**Tirane**	**3.56**	**1**	*e*Pn	**Pn**	**21 44 15.3**	**+1.4**
TIR				*e*Sn	**Sn**	**21 44 57.6**	**+2.3**
TIR	**Tirane**	**3.56**	**1**	P	**Pn**	**21 44 14.9**	**+1.0**
TIR	**Tirane**	**3.56**	**1**	*i* PN	**Pn**	**21 44 15.4**	**+1.5**
TIR				*i* SN	**Sn**	**21 44 57.6**	**+2.3**
PAIG	**Paliouri**	**3.70**	**53**	*e*Pn	**Pn**	**21 44 15.2**	**-0.6**
PAIG				*e*Sn	**Sn**	**21 44 58.1**	**-0.6**
KRUS	**Krusevo**	**3.75**	**17**	*e*Pn	**Pn**	**21 44 17.6**	**+1.1**
KRUS				*e*Sn	**Sn**	**21 44 59.1**	**-0.8**
THE	**Thessaloniki**	**3.75**	**40**	*e*Pn	**Pn**	**21 44 17.1**	**+0.5**
HORT	**Hortiatis**	**3.79**	**41**	P	**Pn**	**21 44 17.2**	**+0.1**
HORT				S	**Sn**	**21 45 03.2**	**+2.1**
HORT	**Hortiatis**	**3.79**	**41**	*e*Pn	**Pn**	**21 44 17.2**	**+0.1**
HORT				*e*Sn	**Sn**	**21 45 02.6**	**+1.5**
HORT	**Hortiatis**	**3.79**	**41**	*e*Pn	**Pn**	**21 44 17.2**	**0.0**
HORT				S	**Sn**	**21 45 03.2**	**+2.1**
PLG	**Polygyros**	**3.83**	**46**	*e*Pn	**Pn**	**21 44 17.3**	**-0.3**
PLG	**Polygyros**	**3.83**	**46**	*e*PN	**Pn**	**21 44 17.4**	**-0.2**
SG1	**Sgolgore (BA)**	**3.90**	**322**	*e*Pn	**Pn**	**21 44 18.9**	**+0.2**
KARN	**Karanos**	**4.07**	**125**	*e*Pn	**Pn**	**21 44 21.0**	**+0.1**
SOH	**Sokhos**	**4.09**	**41**	*e*Pn	**Pn**	**21 44 22.1**	**+0.9**
SOH				*e*Sn	**Sn**	**21 45 08.0**	**-0.4**
SOH	**Sokhos**	**4.09**	**41**	P	**Pn**	**21 44 21.8**	**+0.6**
OUR	**Ouranopolis**	**4.12**	**51**	*e*Pn	**Pn**	**21 44 21.8**	**+0.1**
VAY	**Valandovo**	**4.12**	**30**	*e*Pn	**Pn**	**21 44 21.3**	**-0.4**
VAY	**Valandovo**	**4.12**	**30**	*e*Pn	**Pn**	**21 44 21.3**	**-0.4**
VAY				*e*Sn	**Sn**	**21 45 07.0**	**-2.3**
VAY	**Valandovo**	**4.12**	**30**	*e*Pn	**Pn**	**21 44 21.3**	**-0.4**
VAY				*e*Sn	**Sn**	**21 45 06.9**	**-2.3**
KNT	**Kendrikon**	**4.13**	**34**	*e*Pn	**Pn**	**21 44 21.7**	**0.0**
ULC	**Ulcinj**	**4.20**	**354**	⇓*i*Pn	**Pn**	**21 44 22.9**	**+0.2**
ULC				*e*Sn	**Sn**	**21 45 10.0**	**-1.0**
VAM	**Vamos**	**4.25**	**123**	*e*PN	**Pn**	**21 44 24.5**	**+1.0**
PUK	**Puka**	**4.25**	**1**	*i* PN	**Pn**	**21 44 23.8**	**+0.3**
PUK				*i* SN	**Sn**	**21 45 14.0**	**+1.6**
VAE	**Valguarnera**	**4.30**	**268**	Pn	**Pn**	**21 44 27.2**	**+3.0**
1.2nm,0.3s,baz=162,slow=23,SNR=4.1							
VAE				Sn	**Sn**	**21 45 12.3**	**-1.4**
1.1nm,0.3s,baz=303,slow=16,SNR=2.6							
STIP	**Stip**	**4.31**	**24**	*e*Pn	**Pn**	**21 44 24.6**	**+0.3**
STIP	**Stip**	**4.31**	**24**	*e*Pn	**Pn**	**21 44 24.5**	**+0.3**
STIP				*e*Sn	**Sn**	**21 45 12.8**	**-1.1**
STIP	**Stip**	**4.31**	**24**	*e*Pn	**Pn**	**21 44 24.5**	**+0.2**
STIP				*e*Sn	**Sn**	**21 45 12.7**	**-1.1**
GVD	**Gavdhos**	**4.53**	**129**	*e*Pn	**Pn**	**21 44 27.1**	**-0.2**
BUM	**Brajici-Budva**	**4.56**	**351**	⇑*i*Pn	**Pn**	**21 44 27.6**	**-0.2**
BUM				*e*Sn	**Sn**	**21 45 19.6**	**-0.5**
APE	**Apeiranthos**	**4.60**	**97**	*e*Pn	**Pn**	**21 44 27.8**	**-0.5**
APE	**Apeiranthos**	**4.60**	**97**	⇑*i*P	**Pn**	**21 44 37.3**	**+9.0**
LOS	**Limnos**	**4.64**	**61**	*e*Pn	**Pn**	**21 44 28.1**	**-0.7**
PDG	**Podgorica**	**4.66**	**355**	⇓*i*Pn	**Pn**	**21 44 29.1**	**+0.1**
TTG	**Podgorica**	**4.66**	**355**	⇓*i*Pn	**Pn**	**21 44 29.1**	**+0.1**
TTG				*e*Sn	**Sn**	**21 45 21.9**	**-0.5**
WDD	**Wield Dalam**	**4.66**	**247**	P	**Pn**	**21 44 30.5**	**+1.4**
LIA	**Limnos Island**	**4.69**	**62**	P	**Pn**	**21 44 35.1**	**+5.6**
NVR	**Nevrokopi**	**4.74**	**40**	*e*PN	**Pn**	**21 44 30.4**	**+0.3**
HCY	**Herceg Novi**	**4.76**	**348**	⇓*i*Pn	**Pn**	**21 44 30.5**	**0.0**
HCY				*e*Sn	**Sn**	**21 45 23.9**	**-1.1**
PVY	**Plav**	**4.81**	**1**	⇑*i*Pn	**Pn**	**21 44 32.3**	**+1.2**
PVY				*e*Sn	**Sn**	**21 45 25.0**	**-1.0**
MS1	**Monte Sant'Ang**	**4.92**	**324**	*e*Pn	**Pn**	**21 44 33.7**	**+1.0**
CHOS	**Chios island**	**4.96**	**81**	*e*Pn	**Pn**	**21 44 32.4**	**-0.8**
NKY	**Niksic**	**5.06**	**355**	⇓*i*Pn	**Pn**	**21 44 34.4**	**-0.2**
NKY				*e*Sn	**Sn**	**21 45 30.9**	**-1.4**
BEY	**Berane**	**5.08**	**1**	⇑*i*Pn	**Pn**	**21 44 36.0**	**+1.2**
IVA	**Berane**	**5.08**	**1**	⇑*i*Pn	**Pn**	**21 44 36.0**	**+1.2**
IVA				*e*Sn	**Sn**	**21 45 31.7**	**-1.1**
BRY	**Bratogost**	**5.20**	**350**	⇑*i*Pn	**Pn**	**21 44 36.3**	**-0.2**
BRY				*e*Sn	**Sn**	**21 45 34.8**	**-1.0**
LAST	**Lasithi**	**5.26**	**118**	*e*Pn	**Pn**	**21 44 38.0**	**+0.6**
LAST				*e*Sn	**Sn**	**21 45 39.0**	**+1.7**
STON	**Ston**	**5.33**	**343**	*e*Pn	**Pn**	**21 44 37.3**	**-1.0**
STON	**Ston**	**5.33**	**343**	*e*Pn	**Pn**	**21 44 37.2**	**-1.1**
UPM	**Unac-Piva**	**5.46**	**353**	⇑*i*Pn	**Pn**	**21 44 39.9**	**-0.1**
UPM				*e*Sn	**Sn**	**21 45 42.1**	**0.0**
VTS	**Vitosha**	**5.46**	**27**	⇓P	**Pn**	**21 44 41.0**	**+1.0**
VTS	**Vitosha**	**5.46**	**27**	⇓*i*P	**Pn**	**21 44 41.0**	**+1.0**
PLE	**Pljevlja**	**5.55**	**357**	⇑*i*Pn	**Pn**	**21 44 42.3**	**+1.0**
PLE				*e*Sn	**Sn**	**21 45 42.3**	**-2.0**
RDO	**Rodhopi**	**5.55**	**51**	*e*PN	**Pn**	**21 44 41.4**	**0.0**
ALN	**Alexandroupoli**	**5.74**	**55**	*e*Pn	**Pn**	**21 44 43.5**	**-0.4**
ZKR	**Zakros**	**5.81**	**115**	*e*Pn	**Pn**	**21 44 45.8**	**+1.0**
AQU	**L'Aquila**	**6.71**	**315**	*e*Pn	**Pn**	**21 44 59.9**	**+2.7**
13nm,0.8s							
AQU	**L'Aquila**	**6.71**	**315**	⇑*i*P	**Pn**	**21 45 00.2**	**+3.0**
NVLJ	**Novalja**	**7.73**	**333**	*e*Pn	**Pn**	**21 45 11.1**	**-0.1**
NVLJ	**Novalja**	**7.73**	**333**	*e*Pn	**Pn**	**21 45 11.0**	**-0.2**
GZR	**Gura Zlata**	**7.92**	**15**	⇑P	**Pn**	**21 45 16.6**	**+2.8**
GZR	**Gura Zlata**	**7.92**	**15**	⇑*i*P	**Pn**	**21 45 16.6**	**+2.8**
BZS	**Buzias**	**7.94**	**9**	⇓P	**Pn**	**21 45 14.5**	**+0.4**
BZS	**Buzias**	**7.94**	**9**	⇓*i*P	**Pn**	**21 45 14.5**	**+0.4**
BOJS	**Bojanci**	**8.43**	**338**	*i* Pn	**Pn**	**21 45 21.1**	**+0.2**
BOJS				*e*Sn	**Sn**	**21 46 51.2**	**-4.1**
PKSM	**Moragy**	**8.47**	**354**	⇑P	**Pn**	**21 45 19.8**	**-1.5**
PKSM	**Moragy**	**8.47**	**354**	⇑*i*P	**Pn**	**21 45 19.8**	**-1.5**
VOIR		**8.59**	**25**	⇑P	**Pn**	**21 45 24.5**	**+1.5**
VOIR		**8.59**	**25**	⇑*i*P	**Pn**	**21 45 24.5**	**+1.5**
KEST	**Kesra**	**8.65**	**259**	Pn	**Pn**	**21 45 25.3**	**+1.5**
0.1nm,0.3s,baz=336,slow=3.9,SNR=7.6							
KEST				Sn	**Sn**	**21 46 59.7**	**-1.0**
0.0nm,0.3s,baz=46,slow=21,SNR=2.2							
CRES	**Cresnjev**	**8.67**	**339**	*i* Pn	**Pn**	**21 45 23.8**	**-0.3**
CRES				*e*Sn	**Sn**	**21 46 55.4**	**-5.6**
LEGS	**Legarje**	**8.82**	**339**	*i* Pn	**Pn**	**21 45 25.8**	**-0.4**
MLR	**Muntele Rosu**	**8.96**	**29**	⇑P	**Pn**	**21 45 29.6**	**+1.6**
MLR	**Muntele Rosu**	**8.96**	**29**	Pn	**Pn**	**21 45 29.2**	**+1.1**
0.8nm,0.3s,baz=176,slow=6.2,SNR=26							
MLR				Sn	**Sn**	**21 47 09.3**	**+1.1**
baz=265,slow=23,SNR=1.8							
MLR	**Muntele Rosu**	**8.96**	**29**	⇑*i*P	**Pn**	**21 45 29.6**	**+1.5**
PDKS	**Podkum**	**9.01**	**338**	*i* Pn	**Pn**	**21 45 28.6**	**-0.2**
VNDS	**Vrh nad Dolski**	**9.14**	**337**	*i* Pn	**Pn**	**21 45 30.7**	**+0.1**
VNDS				*i* Sn	**Sn**	**21 47 09.0**	**-3.6**
LJU	**Ljubljana**	**9.14**	**336**	*i* Pn	**Pn**	**21 45 31.1**	**+0.5**
LJU				*i* Sn	**Sn**	**21 47 09.5**	**-3.2

AKASG	Malin Array Be	14.55	24	P	Pn	21 46 42.9	-1.5
AKASG				pmax	pmax		
comp=Z,1.0nm,0.3s							
AKASG	Malin Array Be	14.55	24	Pn	Pn	21 46 42.9	-1.6
comp=Z,0.6nm,0.3s,baz=210,slow=12,SNR=8.0							
SMF	Signal de Mont	14.76	312	eP	Pn	21 46 46.3	-1.0
EIL	Elat	14.96	118	Pn	Pn	21 46 48.1	-2.0
comp=Z,0.3nm,0.3s,baz=324,slow=18,SNR=4.0							
EIL				Sn	Sn	21 49 16.6	-19
comp=Z,0.2nm,0.3s,baz=297,slow=6.0,SNR=2.6							
LOR	Lormes	15.08	314	eP	Pn	21 46 50.1	-1.5
comp=Z,2.4nm,0.5s							
LOR				eMLR	MLR		
comp=Z,106nm,17.5s							
LOR	Lormes	15.08	314	eP	Pn	21 46 50.1	-1.5
comp=Z,1.2nm,0.5s							
CAF	Calviac	15.10	304	eP	Pn	21 46 52.0	+0.1
AVF	Avril sur Loir	15.12	312	eP	Pn	21 46 51.0	-1.2
MEZF	Maizieres J'vi	15.16	320	eP	Pn	21 46 50.7	-2.0
comp=Z,5.4nm,0.6s							
MEZF	Maizieres J'vi	15.16	320	eP	Pn	21 46 50.7	-2.0
comp=Z,2.7nm,0.6s							
SSF	Saint Saulge	15.17	313	eP	Pn	21 46 51.4	-1.4
comp=Z,4.8nm,0.7s							
SSF	Saint Saulge	15.17	313	eP	Pn	21 46 51.4	-1.4
comp=Z,2.4nm,0.7s							
TCF	Toulx Ste Croi	15.57	309	eP	Pn	21 46 57.2	-0.9
comp=Z,4.7nm,0.9s							
TCF	Toulx Ste Croi	15.57	309	eP	Pn	21 46 57.2	-0.9
comp=Z,2.3nm,0.9s							
EPF	Esparros	15.72	296	eP	Pn	21 47 00.9	+0.8
ETSF	Etsaut	16.34	295	eP	Pn	21 47 09.0	+1.0
comp=Z,3.8nm,0.6s							
ETSF	Etsaut	16.34	295	eP	Pn	21 47 09.0	+1.0
ETSF				pmax	pmax		
comp=Z,2.0nm,0.6s							
ETSF	Etsaut	16.34	295	eP	Pn	21 47 09.0	+1.0
comp=Z,1.9nm,0.6s							
SJPF	Ste Jean	16.86	295	eP	Pn	21 47 15.5	+0.9
comp=Z,6.6nm,0.8s							
SJPF	Ste Jean	16.86	295	eP	Pn	21 47 15.5	+0.9
SJPF				pmax	pmax		
comp=Z,3.0nm,0.8s							
SJPF	Ste Jean	16.86	295	eP	Pn	21 47 15.5	+0.9
comp=Z,3.3nm,0.8s							
MFF	Saint Martin d	17.18	307	eP	Pn	21 47 17.9	-0.7
comp=Z,4.9nm,0.9s							
MFF	Saint Martin d	17.18	307	eP	Pn	21 47 17.9	-0.7
MFF				pmax	pmax		
comp=Z,2.0nm,0.9s							
MFF	Saint Martin d	17.18	307	eP	Pn	21 47 17.9	-0.7
comp=Z,2.5nm,0.9s							
LDF	La Druitiere	18.06	313	eP	Pn	21 47 27.7	-1.7
comp=Z,4.7nm,0.8s							
LDF	La Druitiere	18.06	313	eP	Pn	21 47 27.7	-1.7
LDF				pmax	pmax		
comp=Z,2.0nm,0.8s							
LDF	La Druitiere	18.06	313	eP	Pn	21 47 27.7	-1.7
comp=Z,2.3nm,0.8s							
FLN	La Foliniere	18.35	313	eP	Pn	21 47 31.2	-1.7
FLN				eMLR	MLR		
comp=Z,99nm,18.2s							
GRR	Gorron	18.39	312	eP	Pn	21 47 31.6	-1.9
ESDC	Sonseca Array	18.64	283	P	Pn	21 47 37.9	+1.4
comp=Z,0.1nm,0.3s,baz=71,slow=12,SNR=5.2							
SGMF	Saint Gilles	19.35	310	eP	Pn	21 47 42.9	-2.2
QUIF	Quistinic	19.59	308	eP	Pn	21 47 45.9	-2.0
comp=Z,9.3nm,0.8s							
QUIF	Quistinic	19.59	308	eP	Pn	21 47 45.9	-2.0
QUIF				pmax	pmax		
comp=Z,5.0nm,0.8s							
QUIF	Quistinic	19.59	308	eP	Pn	21 47 45.9	-2.0
comp=Z,4.7nm,0.8s							
ROSF	Rostrenen	19.82	309	eP	Pn	21 47 48.5	-2.2
comp=Z,22nm,1.3s							
ROSF	Rostrenen	19.82	309	eP	Pn	21 47 48.5	-2.2
comp=Z,11nm,1.3s							
HFS	Hagfors	22.71	352	P	P	21 48 20.1	+0.2
HFS				pmax	pmax		
comp=Z,3.0nm,0.7s							
HFS	Hagfors	22.71	352	P	P	21 48 20.1	+0.1
comp=Z,2.6nm,0.7s,mb3.8,baz=155,slow=11,SNR=8.3							
EKA	Eskdalemuir Ar	23.43	326	P	P	21 48 28.3	+0.6
EKA				pmax	pmax		
comp=Z,5.0nm,0.8s							
EKA	Eskdalemuir Ar	23.43	326	P	P	21 48 28.3	+0.6
comp=Z,5.1nm,0.8s,mb4.0,baz=129,slow=12,SNR=25							
NB2	NORSAR Subarra	23.90	350	P	P	21 48 31.6	-0.3
comp=Z,5.4nm,1.1s,mb3.9,baz=160,slow=9.3							
NOA	NORSAR Array B	23.90	350	P	P	21 48 32.2	+0.3
NOA				pmax	pmax		
comp=Z,3.0nm,1.0s							
NOA	NORSAR Array B	23.90	350	P	P	21 48 32.1	+0.2
comp=Z,3.3nm,1.0s,mb3.7,baz=160,slow=9.1,SNR=4.5							
FINES	FINESS Array B	24.00	7	P	P	21 48 32.1	-0.8
FINES				pmax	pmax		
comp=Z,4.0nm,0.9s							
FINES	FINESS Array B	24.00	7	P	P	21 48 32.1	-0.7
comp=Z,3.5nm,0.9s,mb3.8,baz=168,slow=10,SNR=20							
KAF	Kangasniemi	24.68	7	ep	P	21 48 39.2	+0.1
comp=Z,0.8nm,0.3s,mb3.7,baz=189,slow=9.3							
KAF	Kangasniemi	24.68	7	eP	P	21 48 39.2	+0.1
KAF				pmax	pmax		
comp=Z,1.0nm,0.3s,mb3.8							
JOF	Joensuu	26.13	12	ep	P	21 48 51.6	-0.5
comp=Z,0.2nm,0.3s,mb3.1							
TORD	Torodi Ar. Bea	29.38	218	P	P	21 49 23.1	+1.5
comp=Z,0.7nm,0.8s,mb3.5,baz=33,slow=8.5,SNR=6.8							
ARCES	ARCESS Array B	31.96	4	P	P	21 49 43.5	-0.4
ARCES				pmax	pmax		
comp=Z,3.0nm,0.9s							
ARCES	ARCESS Array B	31.96	4	P	P	21 49 43.5	-0.4
comp=Z,2.6nm,0.9s,mb4.1,baz=189,slow=11,SNR=12							
DBIC	Dimbokro	38.23	222	LR	LR	22 07 20.0	
comp=Z,45nm,20.6s,baz=311,slow=38							
MKAR	Makanchi Array	45.98	58	P	P	21 51 40.3	-1.1
MKAR				pmax	pmax		
comp=Z,2.0nm,0.3s							
MKAR	Makanchi Array	45.98	58	P	P	21 51 40.3	-1.1
comp=Z,1.6nm,0.3s,mb4.4,baz=276,slow=7.4,SNR=21							
ZALV	Zalesovo Beam	46.37	48	P	P	21 51 43.4	-1.0
comp=Z,3.4nm,0.4s,mb4.6,baz=272,slow=8.7,SNR=20							
SCHQ	Schefferville	58.37	317	P	P	21 53 14.4	+1.0
comp=Z,3.6nm,0.8s,mb4.4,baz=327,slow=7.4,SNR=7.6							
SONM	Songino Array	61.14	50	P	P	21 53 32.5	0.0
comp=Z,0.3nm,0.6s,mb3.6,baz=276,slow=7.2,SNR=5.1							
YKA	Yellowknife Ar	73.57	340	P	P	21 54 49.8	-1.1
comp=Z,0.2nm,0.4s,mb3.4,baz=33,slow=5.5,SNR=5.3							
YKA	Yellowknife Ar	73.57	340	P	P	21 54 49.8	-1.1
WRA	Warramunga Arr	121.08	92	PKIKP	PKPdf	22 02 10.1	-1.2
WRA	Warramunga Arr	121.08	92	PKP	PKPdf	22 02 10.1	-1.1
comp=Z,0.4nm,0.9s,baz=212,slow=2.2,SNR=2.8							

*ISCJB **06** 21:49:39.5±2.4, 242S±006×1390E±0.1, h38km±22km, mb4.0/11, Error ellipse: s-maj=21.9km s-min=10.0km az=12.9*
*IDC **06** 21:49:40.9±4.9, 238S×13904E, h33km±36km, mb3.8/10, mb1 4.0/12, mb1mx4.0/15, mbtmp3.9/12, ML4.4/2, MS3.4/1, Ms1 3.4/1, ms1mx2.9/17, Error ellipse: s-maj=31.9km s-min=11.7km az=94.0*
*NEIC **06** 21:49:42.1±0.6, 237S×13900E, h45km, mb4.1/4, Error ellipse: s-maj=19.5km s-min=8.0km az=95.0*
ISC 06 21:49:39.5±3.5, 234S±006×1391E±01, h24km±25km, n23, σ0°79/26, mb4.0/11, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KAKA	Kakadu	12.22	212	eP	Pn	21 52 30.6	-1.5
15nm,0.5s							
KAKA	Kakadu	12.22	212	ePn	Pn	21 52 31.9	-0.2
KAKA				eSn	Sn	21 54 47.3	-0.3
BATI	Kupang	17.18	242	P	Pn	21 53 39.0	+0.9
1.7nm,0.3s,baz=240,slow=12,SNR=2.3							
WRAB	Tennant Creek	18.08	194	eP	Pn	21 53 49.5	+0.3
7.3nm,0.6s							
WB2	Warramunga Arr	18.09	194	eP	Pn	21 53 50.0	+0.7
WB2				eS	Sn	21 57 03.1	-7.5
WRA	Warramunga Arr	18.09	194	P	Pn	21 53 47.6	-1.7
1.0nm,0.3s,baz=16,slow=12,SNR=24							
WRA				S	Sn	21 56 59.7	-11
0.1nm,0.3s,baz=13,slow=22,SNR=3.7							
WRA				LR	LR	22 02 11.4	
comp=Z,110nm,18.1s,baz=325,slow=42							
FITZ	Fitzroy Crossi	20.47	219	P	P	21 54 15.6	0.0
1.9nm,0.7s,baz=60,slow=12,SNR=3.3							
FITZ				S	S	21 57 57.9	-5.8
3.1nm,0.8s,baz=219,slow=12,SNR=3.6							
ASAR	Alice Springs	21.78	193	P	P	21 54 30.4	+0.6
5.2nm,0.8s,mb4.0,baz=22,slow=10,SNR=32							
ASAR				S	S	21 58 28.5	-1.0
1.8nm,0.9s,baz=13,slow=25,SNR=3.1							
MBWA	Marble Bar	26.55	224	eP	P	21 55 16.8	+1.1
8.6nm,0.9s,mb4.3							
STKA	Stephens Creek	29.47	176	eP	P	21 55 42.7	+1.0
2.0nm,0.8s,mb3.9							
STKA	Stephens Creek	29.47	176	P	P	21 55 41.9	+0.2
1.9nm,0.6s,mb4.0,baz=16,slow=9.8,SNR=7.6							
MJAR	Matsushiro Arr	38.69	359	P	P	21 56 59.9	-1.6
1.1nm,0.6s,mb3.8,baz=176,slow=8.4,SNR=5.0							
KULM	Kulim	39.12	281	eP	P	21 57 04.4	-1.0
PSI	Prapat	40.46	277	P	P	21 57 16.4	-0.1
5.1nm,0.7s,mb4.4,baz=103,slow=8.3,SNR=10.0							
SONM	Songino Array	57.54	334	P	P	21 59 27.3	+0.4
0.3nm,0.5s,mb3.6,baz=146,slow=6.9,SNR=7.3							
SONM				PcP	PcP	22 00 20.9	+0.7
0.2nm,0.6s,baz=140,slow=5.6,SNR=2.5							
MKAR	Makanchi Array	69.72	322	P	P	22 00 47.9	+0.5
1.8nm,0.7s,mb4.1,baz=96,slow=9.2,SNR=11							
ZALV	Zalesovo Beam	71.80	330	P	P	22 00 59.3	-0.6
0.6nm,0.5s,mb3.8,baz=115,slow=6.6,SNR=4.4							
BRVK	Borovoye	79.29	325	eP	P	22 01 43.0	+0.1
2.8nm,0.6s,mb4.4							
AKTK	Aktyubinsk	86.09	321	P	P	22 02 18.9	+0.6
AKTO	Aktyubinsk	86.09	321	P	P	22 02 18.9	+0.6
0.7nm,0.7s,mb4.0,baz=90,slow=5.1,SNR=3.0							
YKA	Yellowknife Ar	99.58	27	P	P	22 03 20.4	-0.1
0.2nm,0.5s,mb3.8,baz=288,slow=5.2,SNR=3.2							
TORD	Torodi Ar. Bea	136.50	287	PKP	PKPdf	22 09 01.6	+1.1
0.5nm,0.4s,baz=89,slow=2.0,SNR=23							
LPAZ	La Paz	147.37	126	PKPbc	PKPbc	22 09 23.1	+0.9
0.9nm,0.8s,baz=252,slow=3.2,SNR=3.7							

*NEIC **06** 22:00:05.1±1.5, 3161S×7258W, h10km, mb3.3/1, Error ellipse: s-maj=37.9km s-min=12.7km az=89.0*
*IDC **06** 22:00:05.6±2.8, 3174S×7197W, h0km, mb1 3.8/2, mb1mx3.6/16, mbtmp3.5/2, ML3.7/2, MS3.5/1, Ms1 3.4/1, ms1mx3.0/19, Error ellipse: s-maj=117.8km s-min=38.8km az=94.0*
*ISCJB **06** 22:00:08.3±0.8, 3167S±003×7220W±008, h33km, Error ellipse: s-maj=9.4km s-min=4.7km az=1.4*
*GUC **06** 22:00:08.3±0.9, 3170S×72.10W, h34km±5km, MD4.1, ML3.9*
ISC 06 22:00:09.9±0.7, 3167S±003×7213W±008, h35km, n29, σ1°06/35, 3C-5D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHNG	Los Chungos	0.58	111	⇓iP	Px	22 00 01.0	
CHNG				i S	Sx	22 00 08.9	
CHNG				AML	AML	22 00 09.6	
comp=E,4μm,0.2s							
PACH	Papudo	1.04	146	⇑iP	Pn	22 00 26.4	-1.6
PACH				i S	Sn	22 00 40.5	-0.9
CMCH	Combarbala	1.09	63	⇓iP	Pn	22 00 27.5	-1.1
CMCH				i S	Sn	22 00 42.2	-0.3
CMCH				AML	AML	22 00 44.1	
comp=E,17μm,0.6s							
PTCH	Petorca	1.18	120	i P	Pn	22 00 28.6	-1.3
PTCH				i S	Sn	22 00 44.0	-0.7
PTCH				AML	AML	22 00 44.8	
comp=N,1μm,0.3s							
OVCH	Ovalle	1.33	37	⇓iP	Pn	22 00 31.7	-0.2
OVCH				i S	Sn	22 00 49.3	+0.9
OVCH				AML	AML	22 01 03.4	
comp=E,7μm,0.6s							
IHA	Instituto Hidr	1.41	163	⇓iP	Pn	22 00 31.9	-1.1
TLL	Tololo Astrono	1.89	38	i P	Pn	22 00 40.1	+0.5
TLL				i S	Sn	22 01 08.6	+6.4
TLL				AML	AML	22 01 11.8	
comp=N,2μm,0.7s							
PEL	Peldehue	1.91	141	⇓iP	Pn	22 00 39.4	-0.5
PEL				AML	AML	22 01 10.8	
comp=N,3μm,0.7s							
CLCH	Cerro Calan	2.18	142	⇑iP	Pn	22 00 43.4	-0.3
CLCH				i S	Sn	22 01 14.9	+5.4
CLCH				AML	AML	22 01 22.3	
comp=E,2μm,0.6s							
CLCH				AML	AML	22 01 27.0	
comp=E,2μm,0.8s							
FCH	Farellones	2.27	137	eP	Pn	22 00 44.9	0.0
FCH				i S	Sn	22 01 13.0	+1.4
FCH				AML	AML	22 01 22.4	
comp=N,852nm,0.6s							
ANTU	Antumapu	2.27	147	eP	Pn	22 00 44.8	-0.1
ANTU				AML	AML	22 01 24.2	
comp=E,909nm,0.6s							
LNV	Longovilo	2.36	165	eP	Pn	22 00 44.8	-1.2
CHCH	Chadas Angostu	2.58	151	eP	Pn	22 00 49.2	+0.1
LMEL	Las Melosas	2.71	144	eP	Pn	22 00 51.1	+0.2
LMEL				i S	Sn	22 01 24.6	+2.2
LMEL				AML	AML	22 01 37.1	
comp=N,615nm,0.3s							
CACH	El Canelo	2.76	153	eP	Pn	22 00 52.1	+0.5
LCO	Las Campanas	2.93	25	ePn	Pn	22 00 53.3	-0.6
LCO				eSn	Sn	22 01 37.1	+9.3
CICH	Cipreses	3.01	152	⇑iP	Pn	22 00 55.6	+0.6
PLCA	Paso Flores	9.13	172	ePn	Pn	22 02 17.6	-1.5
comp=N,1.0nm,0.6s							
PLCA	Paso Flores	9.13	172	Pn	Pn	22 02 17.4	-1.7
comp=N,0.3nm,0.3s,baz=337,slow=12,SNR=3.8							
TRQA	Tornquist	10.49	130	ePn	Pn	22 02 40.9	+3.2
comp=N,15nm,1.0s							
LPAZ	La Paz	15.74	14	ePn	Pn	22 03 47.6	-1.4
comp=N,1.9nm,1.0s							
LPAZ	La Paz	15.74	14	Pn	Pn	22 03 49.3	+0.3
comp=N,0.1nm,0.3s,baz=209,slow=8.7,SNR=3.3							
BDFB	Brasilia	27.16	60	LR	LR	22 17 45.7	
comp=N,93nm,20.1s,baz=279,slow=39							
VNA3	Neumayer Olymp	51.54	159	e	P	22 09 13.7	+1.9
VNA3				e		22 09 18.4	
VNA3				e	pP	22 09 25.3	+3.0
VNA2	Neumayer--Watz	52.19	158	e	P	22 09 18.3	+1.7
baz=296,slow=7.9							
VNA2				e		22 09 24.1	
VNA2				e		22 09 32.6	
SNAA	Sanae	53.77	158	e	P	22 09 29.3	+1.0
SNAA				e		22 09 34.2	
SNAA				e	pP	22 09 41.4	+2.6
TORD	Torodi Ar. Bea	83.50	70	P	P	22 12 35.2	+0.8
TORD	Torodi Ar. Bea	83.50	70	P	P	22 12 35.2	+0.8
comp=N,1.4nm,0.7s,baz=255,slow=5.1,SNR=16							
ZALV	Zalesovo Beam	152.28	30	PKPbc	PKPbc	22 20 02.8	+1.4
comp=N,1.2nm,0.5s,baz=317,slow=2.3,SNR=6.8							

*PDA **06** 22:28:52.3±0.9, 3725N×2469W, h0km, MD4.0, ML3.5, Error ellipse: s-maj=5.9km s-min=2.8km az=87.0*
*CSEM **06** 22:28:52.3±0.9, 3725N×2469W, h0km, ML3.5, Error ellipse: s-maj=5.9km s-min=2.8km az=87.0, After PDA*
SVSA 06 22:28:52.3±0.9, 3725N×2469W, h0km, MD4.0, ML3.5, Error ellipse: s-maj=5.9km s-min=2.8km az=87.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSMN	Pico do Norte,	0.39	231	eP	Pg	22 28 59.1	-0.7
PSMN				eS	Sg	22 29 05.1	+0.2
PDA	Ponta Delgada	0.92	303	eP	Pg	22 29 07.3	-2.6
PDA				eS	Sg	22 29 18.3	-3.6
PSCM	Serra do Cume	2.40	308	eP	Pn	22 29 28.1	-4.8
PSCM				eS	Sn	22 29 55.0	-8.0
PSCM				A		22 30 00.0	
199nm,0.3s							
PSCM	Serra do Cume	2.40	308	eP	Pn	22 29 28.1	-4.8
PSCM				eS	Sn	22 29 55.0	-8.0
ADH	Angra Heroismo	2.45	306	eP	Pn	22 29 28.9	-4.7
ADH				eS	Sn	22 29 55.7	-8.5
PID	Ribeirinha	2.96	295	eP	Pn	22 29 36.2	-4.4
PID				eS	Sn	22 30 08.6	-8.3
PMAN	Manadas	3.02	298	eP	Pn	22 29 36.5	-4.9
PMAN				eS	Sn	22 30 10.1	-8.2
PMAN				A		22 30 15.4	
37nm,0.3s							
PMAN	Manadas	3.02	298	eP	Pn	22 29 36.5	-4.9
PMAN				eS	Sn	22 30 10.1	-8.2
ROSA	Rosais	3.17	299	eP	Pn	22 29 39.0	-4.4
ROSA				eS	Sn	22 30 13.5	-8.4
PICO	Pico	3.21	294	eP	Pn	22 29 39.6	-4.4
PICO				eS	Sn	22 30 15.2	-7.7
HOR	Horta	3.37	293	eS	Sn	22 30 18.6	-8.2
CALA	Caldeira	3.44	294	eP	Pn	22 29 42.8	-4.3
CALA				eS	Sn	22 30 20.9	-7.7
PCED	Cedros	3.46	295	eP	Pn	22 29 43.0	-4.4

*IDC **06** 22:29:53.3±5.7, 701S×15580E, h0km, mb3.8/6, mb1 3.9/6, mb1mx3.8/14, mbtmp3.8/6, Error ellipse: s-maj=168.7km s-min=27.7km az=114.0*
NEIC 06 22:29:52.4±4.9, 726S×15629E, h10km, Error ellipse: s-maj=151.0km s-min=19.5km az=115.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	24.74	237	P	P	22 35 14.7	+0.5
0.3nm,0.3s,baz=60,slow=9.1,SNR=3.6							
ASAR	Alice Springs	26.98	230	P	P	22 35 34.4	-0.1
0.4nm,0.3s,baz=57,slow=10.0,SNR=7.2							
FITZ	Fitzroy Crossi	31.73	247	P	P	22 36 16.5	-0.3
0.9nm,0.5s,baz=75,slow=10,SNR=3.9							
SONM	Songino Array	70.26	327	P	P	22 41 06.0	+0.3
0.3nm,0.4s,baz=135,slow=6.9,SNR=4.2							
MKAR	Makanchi Array	84.45	318	P	P	22 42 26.1	+0.7
0.9nm,0.6s,baz=105,slow=6.1,SNR=6.3							
ZALV	Zalesovo Beam	85.12	326	P	P	22 42 28.0	-0.6
0.3nm,0.4s,baz=160,slow=4.6,SNR=2.9							

*NEIC **06** 22:35:56.1, 38.19N×2031E, h29km, MD3.5(ATH), After ATH.*
*ATH **06** 22:35:56.5, 3820N×2035E, h30km±1km, MD3.5/7*
*ISCJB **06** 22:35:57.4±0.9, 3835N±004×2033E±008, h17km±6km, Error ellipse: s-maj=10.8km s-min=4.8km az=155.6*
*CSEM **06** 22:35:57.9±0.2, 3841N×2041E, h2km, MD3.5, Error ellipse: s-maj=5.6km s-min=2.5km az=69.0*
*THE **06** 22:35:57.7, 3842N×2041E, h3km, ML3.1*
ISC 06 22:35:57.1±0.9, 3838N±003×2034E±007, h8km±4km, n17, σ1°08/27, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VLS	Valsamata	0.28	136	ePB	Pg	22 36 03.1	+0.3
VLS				eSB	Sg	22 36 07.6	+1.0
LKD	Levkas	0.40	37	ePg	Pg	22 36 04.1	-0.9
LKD				eSg	Sg	22 36 09.7	-0.7
KFL	Anninata	0.45	128	ePg	Pg	22 36 05.7	-0.1
KFL				eSg	Sg	22 36 12.9	+1.2
RLS	Riolos of Patr	0.94	110	ePN	Pn	22 36 14.2	-2.4
RLS				eSN	Sn	22 36 27.1	-3.2
IGT	Igoumenitsa	1.15	360	ePg	Pg	22 36 18.8	-0.3
IGT				eSg	Sg	22 36 35.0	+1.0
SELA	Sela	1.23	95	ePg	Pg	22 36 19.2	-1.4
SELA				eSg	Sg	22 36 37.2	+0.6
EVR	Evrytania	1.27	65	ePB	Pb	22 36 20.3	-0.9
EVR				eSN	Sn	22 36 38.8	+0.6
JAN	Janina	1.33	17	ePN	Pn	22 36 23.6	+1.6
KEK	Kerkira	1.39	343	ePB	Pb	22 36 24.0	+0.7
AGG	Agios Georgios	1.68	67	ePg	Pn	22 36 26.7	-0.1
AGG				eSg	Sn	22 36 48.7	+0.2
ITM	Ithomi	1.74	133	ePN	Pn	22 36 24.9	-2.7
THL	Klokotos Trika	1.76	47	ePB	Pb	22 36 29.0	-0.6
PYL	PYLOS	1.86	143	ePb	Pb	22 36 30.4	-0.9
PYL				eSb	Sb	22 36 54.8	+0.2
VLX	Vlachokerasia	1.91	121	ePb	Pn	22 36 29.6	-0.3
VLX				eSb	Sn	22 36 56.4	+2.5
LIT	Litokhoron	2.39	44	ePn	Pn	22 36 37.2	+0.7
DID	Didima	2.45	110	ePn	Pn	22 36 37.9	+0.5
FNA	Florina	2.53	18	ePn	Pn	22 36 38.8	+0.4

*ISCJB **06** 22:40:38.0±0.7, 1733S±009×6979W±006, h147km±5km, mb4.1/14, Error ellipse: s-maj=14.5km s-min=8.8km az=9.4*
*NEIC **06** 22:40:38.3±0.8, 1731S×6974W, h132km±8km, mb4.1/3, Error ellipse: s-maj=13.3km s-min=10.3km az=211.0*
*IDC **06** 22:40:41.0±0.7, 1718S×6965W, h150km±5km, mb4.0/12, mb1 4.2/12, mb1mx4.1/17, mbtmp4.0/12, Error ellipse: s-maj=16.3km s-min=11.2km az=171.0*
ISC 06 22:40:38.7±0.7, 1738S±008×6978W±006, h139km±6km, h148km±4.1km: pP-P, n30, σ1°19/30, mb4.1/14, 1C, Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ARE	Arequipa	1.88	299	⇑iP	Pn	22 41 11.6	-0.2
ARE				i S	Sn	22 41 37.2	+0.1
LPAZ	La Paz	1.92	56	P	Pn	22 41 14.0	+1.8
LPAZ				S	Sn	22 41 38.9	+1.0
LPAZ	La Paz	1.92	56	P	Pn	22 41 14.0	+1.8
34nm,0.3s,baz=266,slow=8.1,SNR=678							
LPAZ				S	Sn	22 41 38.9	+1.0
31nm,0.3s,baz=353,slow=24,SNR=22							
SIV	San Ignacio	8.46	82	P	Pn	22 42 36.2	-2.2
66nm,0.3s,baz=267,slow=10,SNR=272							
NNA	Nana	8.69	307	P	Pn	22 42 38.9	-2.5
NNA				S	Sn	22 44 06.7	-11
NNA	Nana	8.69	307	P	Pn	22 42 38.9	-2.5
12nm,0.3s,baz=129,slow=11,SNR=29							
NNA				S	Sn	22 44 06.7	-11
1.9nm,0.3s,baz=219,slow=12,SNR=2.8							
CFAA	Coronel Fontan	14.23	175	P	Pn	22 43 52.5	-1.3
0.1nm,0.3s,baz=348,slow=15,SNR=8.4							
BDFB	Brasilia	20.94	88	P	P	22 45 09.7	-0.9
9.3nm,0.5s,baz=257,slow=14,SNR=21							
TRQA	Tornquist	21.70	163	eP	P	22 45 18.9	+0.4
1.8nm,0.7s,mb3.6							
PLCA	Paso Flores	23.28	181	P	P	22 45 37.1	+3.3
9.3nm,0.7s,mb4.3,baz=353,slow=11,SNR=22							
RCBR	Riachuelo	35.05	75	eP	P	22 47 17.1	-1.3
4.0nm,0.6s,mb4.2							
TXAR

*NEIC **06** 22:45:00.4, 1563N×9445W, h18km, MD4.1(MEX), After MEX.*

MEX 06 22:45:00.4±0.5, 1563N×9445W, h18km±40km, MD4.1, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**1.60**	**275**	*i* P	Pn	22 45 24.9	-3.0
HUIG				*i* S	Sn	22 45 43.1	-5.0
SCX	**San Cristobal**	**2.06**	**58**	*i* P	Pn	22 45 31.8	-2.3
CCIG	**Comitan**	**2.31**	**74**	*e* P	Pn	22 45 34.8	-2.8
CCIG				*i* S	Sn	22 46 01.8	-3.9
VHO	**Vista Hermosa**	**2.62**	**303**	*i* P	Pn	22 45 39.6	-2.2
VHO				*i* S	Sn	22 46 09.7	-3.5
UTMO	**Huajuapan**	**3.89**	**305**	*e* P	Pn	22 45 57.5	-1.8
UTMO				*i* S	Sn	22 46 41.0	-3.5
NATX	**Nacogdoches**	**16.05**	**359**	*e* Pn	Pn	22 48 40.8	-4.6
	70nm,0.4s						

CASC 06 22:55:41.5±4.7, 1427N×9108W, h0km±11km, MD3.7, 2D, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FUG	**Fuego 3**	**0.29**	**52**	⇓ *e* P	Pg	22 55 49.9	+2.7
PCG	**Pacaya**	**0.48**	**74**	*e* P	Pg	22 55 49.8	-0.8
JAT	**Jato**	**0.54**	**276**	*e* P	Pg	22 55 51.1	-0.8
JAT				*e* S	Sg	22 56 03.6	+4.7
RBDL	**Robledal**	**1.36**	**96**	*e* P	x	22 56 07.5	
SNJE	**San Jose**	**1.48**	**105**	⇓ *e* P	x	22 56 06.5	
SNJE				*e* S	x	22 56 28.8	
LFRS	**El Faro**	**2.06**	**108**	*e* P	x	22 56 12.5	
LFRS				*e* S	x	22 56 38.2	
LCBS	**La Ceiba**	**2.13**	**106**	*e* S	x	22 56 49.0	

*NEIC **06** 23:00:09.3, 3076S×7156W, h28km, ML3.3(GUC), After GUC.*

GUC 06 23:00:09.3±0.7, 3076S×7156W, h28km±4km, MD4.0, ML3.3, 4C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OVCH	**Ovalle**	**0.34**	**64**	⇑ *i* P	Pb	23 00 17.4	+0.2
OVCH				*i* S	Sb	23 00 23.3	+0.8
CMCH	**Combarbala**	**0.63**	**131**	⇓ *i* P	Pb	23 00 21.3	-0.6
CMCH				*i* S	Sb	23 00 30.7	+0.3
CMCH	**Combarbala**	**0.63**	**131**	⇓ *i* P	Pb	23 00 21.3	-0.6
CMCH				*i* S	Sb	23 00 30.7	+0.3
CMCH				AML	AML	23 00 31.5	
	comp=N,5μm,0.5s						
TLL	**Tololo Astrono**	**0.88**	**48**	*e* P	Pn	23 00 25.6	-0.1
TLL				*i* S	Sb	23 00 38.2	+0.9
TLL	**Tololo Astrono**	**0.88**	**48**	*e* P	Pn	23 00 25.6	-0.1
TLL				*i* S	Sb	23 00 38.2	+0.9
TLL				AML	AML	23 00 41.2	
	comp=E,2μm,0.4s						
LSCH	**La Serena**	**0.89**	**18**	⇑ *i* P	Pn	23 00 25.1	-0.8
LSCH				*i* S	Sb	23 00 37.3	-0.3
LSCH	**La Serena**	**0.89**	**18**	⇑ *i* P	Pn	23 00 25.1	-0.8
LSCH				*i* S	Sb	23 00 37.3	-0.3
LSCH				AML	AML	23 00 42.1	
	comp=N,239nm,0.3s						
CHNG	**Los Chungos**	**1.12**	**177**	⇑ *i* P	Pn	23 00 10.4	-19
CHNG				*i* S	Sn	23 00 24.7	-19
PACH	**Papudo**	**1.78**	**177**	*e* P	Pn	23 00 39.6	+1.5
LCO	**Las Campanas**	**1.89**	**23**	*e* Pn	Pn	23 00 40.6	+0.9
LCO				*e* Sn	Sn	23 01 05.0	+2.4
JACH	**Jahuel**	**2.09**	**157**	*e* P	Pn	23 00 44.4	+2.0
JACH				*i* S	Sn	23 01 11.5	+4.1
PEL	**Peldehue**	**2.49**	**163**	*e* P	Pn	23 00 49.5	+1.5
PEL				*e* S	Sn	23 01 19.9	+2.5
PEL				AML	AML	23 01 29.4	
	comp=E,292nm,0.3s						
CLCH	**Cerro Calan**	**2.77**	**162**	*e* P	Pn	23 00 53.5	+1.7
CLCH				*i* S	Sn	23 01 26.4	+2.2
CLCH				AML	AML	23 01 36.6	
	comp=E,202nm,0.5s						
FCH	**Farellones**	**2.78**	**158**	*e* P	Pn	23 00 54.4	+2.5
FCH				*i* S	Sn	23 01 27.9	+3.4
FCH				AML	AML	23 01 36.8	
	comp=E,111nm,0.2s						
TACH	**Talagante**	**2.94**	**170**	*e* P	Pn	23 00 55.4	+1.4
TACH				*i* S	Sn	23 01 30.8	+2.4
LMEL	**Las Melosas**	**3.29**	**160**	*e* S	Sn	23 01 39.4	+2.4
LMEL				AML	AML	23 01 51.6	
	comp=N,98nm,0.6s						

*NEIC **06** 23:15:43.0±0.5, 7.13S×155.67E, h10km, mb4.8/26, Error ellipse: s-maj=15.2km s-min=6.8km az=118.0*
*BJI **06** 23:15:44.2, 6.60S×155.43E, h5km, mB5.0, mb4.8, Ms4.7, Msz4.3*
*MOS **06** 23:15:46.4±1.0, 7.00S×155.39E, h33km, mb4.9/16, Error ellipse: s-maj=11.4km s-min=9.4km az=90.2*
*ISCJB **06** 23:15:49.4±2.2, 7.20S±0.08×155.55E±0.07, h69km±22km, mb4.6/49, Error ellipse: s-maj=14.9km s-min=9.3km az=144.5*
*IDC **06** 23:15:51.3±2.6, 7.23S×155.62E, h75km±25km, mb4.2/12, mb1 4.2/14, mb1mx4.1/19, mbtmp4.2/14, MS3.9/5, Ms1 3.9/5, ms1mx3.4/28, Error ellipse: s-maj=17.9km s-min=14.5km az=142.0*

ISC 06 23:15:52.5±1.8, 7.27S±0.08×155.57E±0.08, h83km±19km, h10km±5.8km: pP-P, n104, σ0.98/86, mb4.6/49, 1C-1D, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.83**	**117**	*e* Pn	**Pn**	**23 17 04.8**	**+2.0**
HNR				*e* Sn	**Sn**	**23 17 59.6**	**+2.1**
HNR	**Honiara**	**4.83**	**117**	P	**Pn**	**23 17 03.2**	**+0.5**
	14nm,0.3s,baz=196,slow=1.4,SNR=7.8						
HNR				S	**Sn**	**23 17 56.0**	**-1.5**
	39nm,0.3s,baz=92,slow=21,SNR=5.9						
CTA	**Charters Tower**	**15.62**	**214**	P	**Pn**	**23 19 27.8**	**0.0**
	0.3nm,0.3s,baz=50,slow=10,SNR=5.1						
CTA				LR	LR	23 24 46.8	
	comp=Z,194nm,20.1s,baz=216,slow=34						
CTAO	**Charters Tower**	**15.62**	**214**	*e* Pn	**Pn**	**23 19 27.4**	**-0.5**
	7.7nm,0.8s						
CTAO	**Charters Tower**	**15.62**	**214**	*e* P	**Pn**	**23 19 27.4**	**-0.4**
CTAO				pmax	pmax		
	comp=Z,8.0nm,0.8s						
GUMO	**Guam**	**23.29**	**333**	LR	LR	23 28 59.1	
	comp=Z,145nm,18.5s,baz=116,slow=34						
KAKA	**Kakadu**	**23.40**	**255**	*e* P	**P**	**23 20 53.7**	**-0.5**
	comp=Z,19nm,0.6s,mb4.6						
WRAB	**Tennant Creek**	**24.12**	**236**	*e* P	**P**	**23 21 00.9**	**+0.3**
	comp=Z,56nm,1.6s,mb4.6						
WRAB	**Tennant Creek**	**24.12**	**236**	*e* P	**P**	**23 21 01.0**	**+0.3**
WRAB				pmax	pmax		
	comp=Z,55nm,1.6s,mb4.6						
WB2	**Warramunga Arr**	**24.13**	**236**	*e* P	**P**	**23 21 00.8**	**+0.1**
WRA	**Warramunga Arr**	**24.14**	**236**	P	**P**	**23 21 00.9**	**+0.1**
	comp=Z,6.4nm,0.8s,mb4.0,baz=62,slow=9.9,SNR=13						
WRA				PcP	PcP	23 24 40.7	+0.7
	comp=Z,0.5nm,0.4s,baz=64,slow=3.5,SNR=3.4						
ASAR	**Alice Springs**	**26.42**	**230**	P	**P**	**23 21 21.1**	**-0.5**
	comp=Z,0.7nm,0.5s,mb3.3,baz=59,slow=9.7,SNR=13						
ASAR				PcP	PcP	23 24 45.4	+0.2
	comp=Z,0.6nm,0.5s,baz=70,slow=2.0,SNR=6.1						
STKA	**Stephens Creek**	**27.73**	**206**	*e* P	**P**	**23 21 32.8**	**-0.4**
	comp=Z,4.8nm,1.0s,mb4.0						
STKA	**Stephens Creek**	**27.73**	**206**	P	**P**	**23 21 33.0**	**-0.2**
	comp=Z,3.3nm,0.7s,mb4.0,baz=51,slow=11,SNR=6.7						
STKA				LR	LR	23 32 54.5	
	comp=Z,302nm,18.2s,baz=27,slow=37						
FITZ	**Fitzroy Crossi**	**31.07**	**247**	*e* P	**P**	**23 22 02.7**	**-0.2**
	comp=Z,13nm,0.6s,mb4.8						
FITZ	**Fitzroy Crossi**	**31.07**	**247**	P	**P**	**23 22 03.2**	**+0.3**
	comp=Z,8.3nm,0.8s,mb4.5,baz=78,slow=9.6,SNR=14						
URZ	**Urewera**	**36.49**	**151**	LR	LR	23 36 50.8	
	comp=Z,205nm,18.5s,baz=224,slow=34						
MBWA	**Marble Bar**	**37.27**	**244**	*e* P	**P**	**23 22 56.2**	**-0.3**
	comp=Z,4.1nm,0.6s,mb4.5						
KKM	**Kota Kinabalu**	**41.43**	**288**	P	**P**	**23 23 28.8**	**-2.5**
KLBR	**Kellerberrin**	**42.75**	**230**	*e* P	**P**	**23 23 40.8**	**-0.9**
	comp=Z,7.1nm,0.5s,mb4.7						
NWAO	**Narrogin (SRO)**	**43.74**	**229**	P	**P**	**23 23 49.7**	**0.0**
	comp=Z,2.4nm,0.6s,mb4.1						
NWAO	**Narrogin (SRO)**	**43.74**	**229**	P	**P**	**23 23 49.7**	**0.0**
NWAO				pmax	pmax		
	comp=Z,2.0nm,0.6s						
NWAO	**Narrogin (SRO)**	**43.74**	**229**	P	**P**	**23 23 49.6**	**-0.1**
	comp=Z,3.6nm,0.7s,mb4.2,baz=89,slow=4.5,SNR=3.8						
YHNB	**Yeheng**	**46.02**	**315**	*e* P	**P**	**23 24 06.6**	**-1.3**
MJAR	**Matsushiro Arr**	**46.53**	**341**	P	**P**	**23 24 09.6**	**-2.0**
	comp=Z,4.1nm,0.7s,mb4.2,baz=162,slow=7.0,SNR=14						
MAJO	**Matsushiro**	**46.53**	**341**	*e* P	**P**	**23 24 10.3**	**-1.3**
	comp=Z,4.1nm,0.2s,mb4.8						
MAJO	**Matsushiro**	**46.53**	**341**	*e* P	**P**	**23 24 10.3**	**-1.3**
MAJO				pmax	pmax		
	comp=Z,4.0nm,0.2s,mb4.8						
KSRS	**Korea Array**	**51.45**	**332**	P	**P**	**23 24 49.2**	**0.0**
	comp=Z,3.7nm,0.6s,mb4.6,baz=152,slow=8.0,SNR=17						
NJ2	**Nanjing**	**52.49**	**320**	*e* P	**P**	**23 24 56.1**	**-1.0**
NJ2				AMB	AMB		
	comp=Z,30nm,0.6s,mb5.5						
YSS	**Yuzh-Sakhalins**	**55.17**	**349**	P	**P**	**23 25 14.3**	**-2.1**
	comp=Z,8.8nm,0.4s,mb5.1						
YSS	**Yuzh-Sakhalins**	**55.17**	**349**	*e* P	**P**	**23 25 17.0**	**+0.6**
MDJ	**Mudanjiang**	**56.71**	**338**	P	**P**	**23 25 27.3**	**-0.1**
MDJ				AMB	AMB		
	comp=Z,8.0nm,1.3s,mb4.6						
MDJ				AMB	AMB		
	comp=Z,115nm,6.8s						
MDJ				LR	LR		
	comp=N,55nm,26.6s						
MDJ				LR	LR		
	comp=Z,55nm,19.8s						
CN2	**Changchun**	**57.68**	**335**	*e* P	**P**	**23 25 33.9**	**-0.4**
CN2				AMB	AMB		
	comp=Z,10.0nm,1.3s,mb4.7						
KLR	**Kul'dur**	**60.00**	**342**	*e* P	**P**	**23 25 45.8**	**-4.4**
KMI	**Kunming**	**60.64**	**304**	P	**P**	**23 25 56.6**	**+1.5**
KMI				AP	pP	23 26 00.0	-16
KMI				XP	sP	23 26 02.2	-23
KMI				PP	PP	23 28 11.8	+2.0
KMI				S	**S**	**23 34 09.8**	**+4.4**
KMI				AMB	AMB		
	comp=Z,11nm,1.2s,mb4.8						
KMI				AMB	AMB		
	comp=Z,44nm,3.1s						
KMI				LR	LR		
	comp=N,89nm,21.7s						
KMI				LR	LR		
	comp=E,160nm,22.2s						
KMI				LR	LR		
	comp=Z,174nm,20.7s						
CM31	**Chiang Mai Arr**	**61.42**	**295**	*e* P	**P**	**23 26 00.2**	**-0.2**
	comp=Z,10nm,0.8s,mb4.9						
CHTO	**Chiang Mai**	**61.53**	**296**	*e* P	**P**	**23 26 01.4**	**+0.2**
	comp=Z,24nm,1.4s,mb5.0						
CHTO	**Chiang Mai**	**61.53**	**296**	*e* P	**P**	**23 26 01.4**	**+0.2**
CHTO				pmax	pmax		
	comp=Z,24nm,1.4s,mb5.0						
CD2	**Chengdu**	**62.43**	**310**	*e* P	**P**	**23 26 08.4**	**+1.4**
CD2				AP	pP	23 26 12.8	-15
CD2				XP	sP	23 26 15.9	-22
CD2				PP	PP	23 28 27.7	+2.3
CD2				S	**S**	**23 34 33.1**	**+5.3**
CD2				XS	sS	23 34 40.8	-23
CD2				SS	SS	23 38 38.5	+5.3
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.9						
CD2				AMB	AMB		
	comp=Z,30nm,5.8s						
CD2				LR	LR		
	comp=N,200nm,13.2s						
CD2				LR	LR		
	comp=Z,190nm,10.8s						
HIA	**Hailar**	**64.41**	**335**	*e* P	**P**	**23 26 19.9**	**+0.2**
	comp=Z,11nm,0.9s,mb4.7						
HIA	**Hailar**	**64.41**	**335**	*e* P	**P**	**23 26 19.9**	**+0.2**
HIA				pmax	pmax		
	comp=Z,11nm,0.9s						
LZH	**Lanzhou**	**64.91**	**315**	⇓ P	**P**	**23 26 24.6**	**+1.4**
LZH				AP	pP	23 26 32.0	-13
LZH				XP	sP	23 26 35.2	-19
LZH				AMB	AMB		
	comp=Z,20nm,1.3s,mb4.8						
LZH				AMB	AMB		
	comp=Z,85nm,5.1s						
GTA	**Gaotai**	**69.33**	**317**	*e* P	**P**	**23 26 52.0**	**+0.8**
GTA				AP	pP	23 26 56.3	-16
GTA				XP	sP	23 26 59.4	-22
GTA				AMB	AMB		
	comp=Z,5.0nm,1.4s,mb4.2						
ULN	**Ulaanbaatar**	**69.54**	**327**	*e* P	**P**	**23 26 52.9**	**+0.6**
	comp=Z,16nm,1.1s,mb4.8						
ULN	**Ulaanbaatar**	**69.54**	**327**	*e* P	**P**	**23 26 52.9**	**+0.6**
ULN				pmax	pmax		
	comp=Z,16nm,1.1s,mb4.8						
SONM	**Songino Array**	**69.88**	**327**	P	**P**	**23 26 55.1**	**+0.8**
	comp=Z,13nm,0.9s,mb4.7,baz=143,slow=6.2,SNR=72						
SHL	**Shillong**	**69.93**	**300**	*e* P	**P**	**23 26 57.5**	**+2.4**
LSA	**Lhasa**	**71.90**	**304**	*e* P	**P**	**23 27 09.3**	**+2.3**
	comp=Z,2.1nm,0.4s,mb4.3						
LSA	**Lhasa**	**71.90**	**304**	*e* P	**P**	**23 27 09.3**	**+2.3**
LSA				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.3						
ZAK	**Zakamensk**	**73.03**	**328**	⇑ *i* P	**P**	**23 27 13.7**	**+0.5**
ZAK				pmax	pmax		
	comp=Z,7.0nm,1.2s,mb4.4						
BOD	**Bodaibo**	**73.08**	**338**	*e* P	**P**	**23 27 12.5**	**-0.9**
BOD				pmax	pmax		
	comp=Z,7.0nm,1.2s,mb4.4						
TLY	**Talaya**	**73.59**	**329**	*e* P	**P**	**23 27 16.2**	**-0.3**
	comp=Z,4.4nm,0.9s,mb4.2						
TLY	**Talaya**	**73.59**	**329**	*e* P	**P**	**23 27 17.3**	**+0.8**
TLY				*e*	pP	23 27 36.4	-1.9
TLY				pmax	pmax		
	comp=Z,9.0nm,1.1s,mb4.4						
JIRN	**Jiri**	**75.41**	**301**	*e* P	**P**	**23 27 29.1**	**+1.5**
	comp=Z,2.8nm,0.3s,mb4.5						
BILL	**Bilibino**	**75.51**	**4**	*e* P	**P**	**23 27 27.0**	**-0.3**
	comp=Z,4.6nm,0.5s,mb4.5						
BILL	**Bilibino**	**75.51**	**4**	*e* P	**P**	**23 27 27.0**	**-0.3**
BILL				pmax	pmax		
	comp=Z,5.0nm,0.5s,mb4.5						
KKN	**Kakani**	**76.22**	**301**	*e* P	**P**	**23 27 32.8**	**+0.5**
	comp=Z,24nm,0.7s,mb5.0						
GKN	**Gorkha**	**76.83**	**301**	*e* P	**P**	**23 27 36.3**	**+0.6**
	comp=Z,70nm,1.0s,mb5.4						
KOLN	**Koldanda**	**77.65**	**300**	*e* P	**P**	**23 27 40.6**	**+0.3**
	comp=Z,48nm,1.0s,mb5.2						
WMQ	**Urumqi**	**79.42**	**317**	P	**P**	**23 27 50.6**	**+1.0**
WMQ				XP	sP	23 27 58.0	-23
WMQ				*e* S	S	23 37 49.0	+5.0
WMQ				AMB	AMB		
	comp=Z,9.0nm,1.7s,mb4.3						
WMQ				AMB	AMB		
	comp=Z,308nm,5.0s						
WMQ				LR	LR		
	comp=N,148nm,17.2s						
WMQ				LR	LR		
	comp=E,126nm,19.7s						
WMQ				LR	LR		
	comp=Z,132nm,16.8s						
PMR	**Palmer**	**80.81**	**23**	*e* P	**P**	**23 27 57.5**	**+0.8**
	comp=Z,5.3nm,0.8s,mb4.4						
PMR	**Palmer**	**80.81**	**23**	*e* P	**P**	**23 27 57.5**	**+0.8**
PMR				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.4						
MCK	**McKinley**	**82.10**	**22**	*e* P	**P**	**23 28 03.9**	**+0.4**
	comp=Z,7.2nm,1.0s,mb4.5						
MCK	**McKinley**	**82.10**	**22**	*e* P	**P**	**23 28 03.9**	**+0.4**
MCK				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.5						
QSPA	**South Pole Qui**	**82.71**	**180**	*e* P	**P**	**23 28 06.0**	**-0.4**
	comp=Z,13nm,1.3s,mb4.6						
COLA	**College**	**83.13**	**21**	*e* P	**P**	**23 28 08.8**	**0.0**
	comp=Z,3.5nm,0.7s,mb4.3						
COLA	**College**	**83.13**	**21**	*e* P	**P**	**23 28 08.8**	**0.0**
COLA				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.2						
MK31	**Makanchi Array**	**83.99**	**319**	*e* P	**P**	**23 28 14.3**	**+0.8**
MKAR	**Makanchi Array**	**83.99**	**319**	P	**P**	**23 28 14.3**	**+0.7**
MKAR	**Makanchi Array**	**83.99**	**319**	P	**P**	**23 28 14.3**	**+0.7**
	comp=Z,11nm,0.7s,mb4.8,baz=103,slow=5.7,SNR=91						
ZAA0	**Zalesovo Array**	**84.73**	**326**	*e* P	**P**	**23 28 16.3**	**-0.8**
ZALV	**Zalesovo Beam**	**84.73**	**326**	P	**P**	**23 28 16.8**	**-0.4**
	comp=Z,5.6nm,0.6s,mb4.7,baz=109,slow=5.5,SNR=37						
ZAL	**Zalesovo**	**84.73**	**326**	P	**P**	**23 28 16.8**	**-0.4**
NVS	**Novosibirsk**	**85.90**	**326**	*e* P	**P**	**23 28 21.3**	**-1.7**
NVS				pmax	pmax		
	comp=N,8.0nm,1.5s						
NVS				pmax	pmax		
	comp=E,14nm,1.5s						
NVS				pmax	pmax		
	comp=Z,21nm,1.5s,mb4.8						
KURK	**Kurchatov**	**87.40**	**322**	*e* P	**P**	**23 28 29.7**	**-0.7**
	comp=Z,2.8nm,0.5s,mb4.5						
KURK	**Kurchatov**	**87.40**	**322**	*e* P	**P**	**23 28 29.7**	**-0.7**
KURK				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.5						
TKM2	**Tokmak 2**	**87.62**	**314**	*e* P	**P**	**23 28 31.9**	**+0.3**
	comp=Z,2.6nm,0.6s,mb4.4						
TKM2	**Tokmak 2**	**87.62**	**314**	*e* P	**P**	**23 28 31.9**	**+0.3**
TKM2				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.5						
UCH	**Uchtor**	**88.26**	**313**	*e* P	**P**	**23 28 35.1**	**+0.4**
	comp=Z,2.8nm,0.9s,mb4.3						
EKS2	**Erkin-Say**	**88.88**	**313**	*e* P	**P**	**23 28 38.1**	**+0.5**
	comp=Z,2.7nm,0.8s,mb4.3						
INK	**Inuvik**	**89.78**	**21**	P	**P**	**23 28 39.4**	**-1.9**
	comp=Z,1.3nm,0.9s,mb4.1,baz=263,slow=4.3,SNR=3.8						
INK				LR	LR	00 07 29.8	
	comp=Z,99nm,18.0s,baz=80,slow=34						
BRVK	**Borovoye**	**92.93**	**323**	*e* P	**P**	**23 28 54.6**	**-1.6**
	comp=Z,28nm,1.8s,mb5.3						
BRVK	**Borovoye**	**92.93**	**323**	*e* P	**P**	**23 28 54.6**	**-1.6**
BRVK				pmax	pmax		
	comp=Z,28nm,1.8s,mb5.3						
YKA	**Yellowknife Ar**	**96.31**	**28**	P	**P**	**23 29 11.0**	**-0.4**
	comp=Z,0.3nm,0.7s,mb3.9,baz=265,slow=5.0,SNR=7.5						
ARCES	**ARCESS Array B**	**110.02**	**343**	PKiKP	PKiKP	23 34 13.9	+0.1
	comp=Z,5.1nm,1.0s,baz=25,slow=4.0,SNR=5.0						
NB2	**NORSAR Subarra**	**120.15**	**341**	PKPdf	PKPdf	23 34 33.0	-0.4
	comp=Z,1.0nm,0.5s,baz=39,slow=1.8						
NOA	**NORSAR Array B**	**120.15**	**341**	PKP	PKPdf	23 34 32.9	-0.5
	comp=Z,0.9nm,0.6s,baz=44,slow=1.8,SNR=3.8						
BRG	**Berggiesshubel**	**126.16**	**331**	*e* P	PKPdf	23 34 46.2	+1.0
	comp=Z,3.2nm,0.9s						
CLL	**Collm**	**126.33**	**332**	*e* PKPdf	PKPdf	23 34 46.0	+0.5
CLL	**Collm**	**126.33**	**332**	*e* PKPdf	PKPdf	23 34 47.0	+1.5
GERES	**GERESS Array B**	**127.58**	**329**	PKP	PKPdf	23 34 48.5	+0.5
	comp=Z,0.9nm,0.5s,baz=77,slow=1.4,SNR=14						
LPAZ	**La Paz**	**130.82**	**119**	PKP	PKPdf	23 34 55.5	+0.3
LPAZ	**La Paz**	**130.82**	**119**	PKP	PKPdf	23 34 55.5	+0.4
	comp=Z,0.6nm,0.5s,baz=274,slow=2.0,SNR=4.7						
HAU	**Haudompre**	**131.72**	**333**	*e* PKIKP	PKPdf	23 34 55.4	-0.5
	comp=Z,1.1nm,0.3s						
LPG	**La Plagne**	**133.34**	**330**	*e* PKIKP	PKPdf	23 34 58.7	-0.3
	comp=Z,1.6nm,0.5s						
SSF	**Saint Saulge**	**133.71**	**334**	*e* PKIKP	PKPdf	23 34 58.6	-1.1
	comp=Z,3.5nm,0.6s						
ETSF	**Etsaut**	**138.76**	**333**	*e* PKIKP	PKPdf	23 35 08.8	-0.4
	comp=Z,3.2nm,0.6s						
ESDC	**Sonseca Array**	**142.87**	**333**	PKP	PKPdf	23 35 14.1	-2.6
	comp=Z,0.4nm,0.6s,baz=57,slow=3.1,SNR=5.1						
MTE	**Manteigas**	**143.72**	**338**	*e* PKP	PKPdf	23 35 18.3	+0.1
PESTR	**Estremoz**	**145.07**	**337**	*e* PKP	PKPdf	23 35 20.1	-0.5
PBAR	**Barrancos**	**145.44**	**335**	*e* PKP	PKPdf	23 35 21.4	+0.2
BDFB	**Brasilia**	**147.38**	**134**	PKPbc	PKPbc	23 35 26.7	-1.0
	comp=Z,3.8nm,0.6s,baz=181,slow=4.7,SNR=7.0						
TORD	**Torodi Ar. Bea**	**153.65**	**285**	PKPbc	PKPbc	23 35 41.8	-0.9
	comp=Z,0.4nm,0.5s,baz=86,slow=1.6,SNR=14						
DBIC	**Dimbokro**	**160.56**	**269**	PKPab	PKPab	23 36 26.3	+0.8
	comp=Z,2.2nm,0.9s,baz=94,slow=5.6,SNR=3.9						

*ISCJB **06** 23:28:09.8±0.3, 2.44S±0.05×128.2E±0.1, h31km, mb4.5/25, MS3.8/9, Error ellipse: s-maj=16.8km s-min=5.4km az=161.2*
*BJI **06** 23:28:10.2, 2.91S×128.38E, h59km, mB5.0, mb4.7, Ms4.7, Msz4.4*
*NEIC **06** 23:28:11.6±0.4, 2.36S×128.15E, h30km, mb4.6/11, Error ellipse: s-maj=18.9km s-min=6.8km az=73.0*
*IDC **06** 23:28:11.4±0.7, 2.44S×128.12E, h30km±4km, mb4.1/11, mb1 4.2/12, mb1mx4.1/18, mbtmp4.1/12, ML4.4/1, MS3.8/8, Ms1 3.8/8, ms1mx3.6/24, Error ellipse: s-maj=30.6km s-min=13.6km az=77.0*

ISC 06 23:28:12.2±0.4, 2.43S±0.05×128.2E±0.1, h33km, h33km±.9km: pP-P, n44, σ1.9±0.5/46, mb4.5/25, MS3.8/9, 2C-1D, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Kupang**	**8.94**	**210**	Pn	**Pn**	**23 30 26.7**	**+7.5**
	1.5nm,0.3s,baz=86,slow=9.7,SNR=2.1						
BATI				LR	LR	23 34 00.2	
	comp=Z,430nm,20.4s,baz=227,slow=39						
KAKA	**Kakadu**	**11.05**	**158**	*e* Pn	**Pn**	**23 30 50.4**	**+2.4**
	48nm,0.7s						
FITZ	**Fitzroy Crossi**	**15.78**	**189**	*e* P	**Pn**	**23 31 55.3**	**+3.2**
	23nm,1.0s						
FITZ	**Fitzroy Crossi**	**15.78**	**189**	Pn	**Pn**	**23 31 55.0**	**+3.0**
	0.3nm,0.3s,baz=28,slow=8.0,SNR=8.8						
WRAB	**Tennant Creek**	**18.41**	**161**	*e* P	**Pn**	**23 32 25.4**	**+0.4**
	18nm,0.9s						
WRAB				*e* S	**Sn**	**23 35 42.9**	**-7.0**
WRA	**Warramunga Arr**	**18.42**	**161**	P	**Pn**	**23 32 24.5**	**-0.5**
	1.2nm,0.3s,baz=342,slow=12,SNR=19						
WB2	**Warramunga Arr**	**18.42**	**161**	*e* P	**Pn**	**23 32 25.3**	**+0.2**
MBWA	**Marble Bar**	**20.36**	**203**	*e* P	**P**	**23 32 44.5**	**-1.6**
	14nm,0.9s						
ASAR	**Alice Springs**	**21.83**	**166**	P	**P**	**23 33 02.1**	**+0.3**
	8.0nm,0.4s,mb4.5,baz=346,slow=10.0,SNR=85						
ASAR				S	**S**	**23 36 57.5**	**-4.0**
	8.4nm,0.9s,baz=345,

SHL	**Shillong**	**44.83**	**311**	*eP*		**P**		**23 36 25.0**	**+1.5**
MDJ	**Mudanjiang**	**46.85**	**1**	P		**P**		**23 36 40.3**	**+1.2**
MDJ				S		**S**		**23 43 27.6**	**+0.1**
MDJ				AMB	AMB				
	comp=Z,10.0nm,1.3s,mb4.6								
MDJ				AMB	AMB				
	comp=Z,94nm,7.3s								
MDJ				LR	LR				
	comp=N,81nm,28.7s								
LSA	**Lhasa**	**47.69**	**315**	*eP*		**P**		**23 36 46.8**	**+0.9**
	comp=N,8.0nm,0.8s,mb4.8								
GTA	**Gaotai**	**49.12**	**331**	*eP*		**P**		**23 36 56.9**	**+0.2**
GTA				AMB	AMB				
	comp=Z,7.0nm,1.0s,mb4.7								
HYB	**Hyderabad**	**52.75**	**294**	*eP*		**P**		**23 37 33.0**	**+8.6**
HYB	**Hyderabad**	**52.75**	**294**	*i P*		**P**		**23 37 25.5**	**+1.1**
ULN	**Ulaanbaatar**	**53.39**	**342**	*eP*		**P**		**23 37 28.6**	**0.0**
	comp=Z,16nm,1.3s,mb4.8								
SONM	**Songino Array**	**53.56**	**342**	P		**P**		**23 37 29.4**	**-0.4**
	comp=Z,5.8nm,1.1s,mb4.4,baz=162,slow=7.7,SNR=26								
SONM				pP		pP		23 37 39.2	-0.6
	comp=Z,9.5nm,0.9s,baz=150,slow=9.0,SNR=27								
WMQ	**Urumqi**	**58.60**	**327**	⇓*i P*		**P**		**23 38 06.2**	**+0.2**
WMQ				AMB	AMB				
	comp=Z,28nm,0.8s,mb5.3								
WMQ				AMB	AMB				
	comp=Z,150nm,5.7s								
MKAR	**Makanchi Array**	**63.44**	**327**	P		**P**		**23 38 38.0**	**-0.8**
	comp=Z,2.8nm,1.0s,mb4.4,baz=119,slow=9.9,SNR=11								
MKAR				pP		pP		23 38 47.6	-1.2
	comp=Z,9.8nm,0.8s,baz=125,slow=7.9,SNR=37								
TKM2	**Tokmak 2**	**65.33**	**320**	*eP*		**P**		**23 38 50.1**	**-1.1**
	comp=Z,5.3nm,0.8s,mb4.6								
TKM2				*e*		pP		23 39 00.1	-1.3
UCH	**Uchtor**	**65.71**	**319**	*eP*		**P**		**23 38 52.6**	**-1.0**
	comp=Z,4.2nm,0.8s,mb4.5								
UCH				*e*		pP		23 39 03.2	-0.7
ZAA0	**Zalesovo Array**	**66.71**	**334**	*eP*		**P**		**23 38 58.7**	**-1.1**
ZAA0				*e*		pP		23 39 07.2	-2.8
ZALV	**Zalesovo Beam**	**66.71**	**334**	P		**P**		**23 38 58.5**	**-1.4**
	comp=Z,0.3nm,0.3s,mb3.8,baz=108,slow=4.8,SNR=9.1								
ZALV				pP		pP		23 39 07.9	-2.1
	comp=Z,2.9nm,0.8s,baz=106,slow=5.3,SNR=8.9								
ZALV				LR		LR		00 07 10.1	
	comp=Z,48nm,19.9s,MS3.7,baz=339,slow=35								
KURK	**Kurchatov**	**67.70**	**328**	*eP*		**P**		**23 39 05.6**	**-0.6**
	comp=Z,18nm,0.9s,mb5.1								
KURK				*e*		pP		23 39 14.3	-2.0
VNDA	**Vanda**	**77.18**	**173**	P		**P**		**23 40 00.5**	**-1.7**
VNDA	**Vanda**	**77.18**	**173**	P		**P**		**23 40 00.5**	**-1.7**
	comp=Z,1.3nm,0.9s,mb3.9,baz=314,slow=4.5								
INK	**Inuvik**	**95.31**	**22**	P		**P**		**23 41 32.1**	**-0.5**
	comp=Z,1.2nm,1.0s,mb4.3,baz=230,slow=7.9,SNR=2.9								
INK				pP		pP		23 41 42.4	-0.7
	comp=Z,0.9nm,0.7s,baz=299,slow=3.9,SNR=3.0								
TORD	**Torodi Ar. Bea**	**126.04**	**284**	PKP		PKPdf		23 47 12.6	+0.5
	comp=Z,0.8nm,0.8s,baz=31,slow=2.3,SNR=5.5								
TORD				pPKP		pPKPdf		23 47 22.8	-0.1
	comp=Z,1.8nm,1.0s,baz=95,slow=1.5,SNR=7.6								

IDC 06 23:39:12.0±4.8, 669S×15515E, h0km, mb3.5/4, mb1 3.6/4, mb1mx3.5/13, mbtmp3.5/4, Error ellipse: s-maj=143.7km s-min=30.8km az=112.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.12**	**235**	P	P	23 44 30.8	+1.0
	0.5nm,0.4s,baz=60,slow=9.5,SNR=4.3						
ASAR	**Alice Springs**	**26.49**	**228**	P	P	23 44 50.5	-0.8
	0.2nm,0.5s,baz=57,slow=10,SNR=4.8						
SONM	**Songino Array**	**69.17**	**327**	P	P	23 50 20.6	+0.2
	0.6nm,0.7s,baz=142,slow=6.5,SNR=6.3						
MKAR	**Makanchi Array**	**83.28**	**319**	P	P	23 51 40.8	+0.1
	0.2nm,0.4s,baz=98,slow=5.8,SNR=3.1						

MAN 06 23:44:11, 922N×12660E, h15km, mb4.4, ML3.3, MS3.1, 2C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BIPH	**Bislig**	**1.05**	**193**	⇑*eP*	Pb	23 44 28.6	-2.3
BIPH				*eS*	Sb	23 44 41.9	-2.7
SCPH	**Surigao**	**1.23**	**297**	⇑*eP*	Pn	23 44 33.3	-0.4
SCPH				*eS*	Sb	23 44 51.1	+1.3
BUKP	**Musuan**	**2.02**	**229**	*eP*	Pn	23 44 45.9	+1.3
TBP	**Tagbilaran**	**2.75**	**280**	*eP*	Pn	23 44 56.1	+1.6
TBP				*eS*	Sn	23 45 23.9	-3.6

*IDC **07** 00:17:45.3±1.6, 778N×9270E, h0km, mb3.7/5, mb1 3.9/6, mb1mx3.6/22, mbtmp3.7/6, ML3.5/1, MS3.3/2, Ms1 3.3/2, ms1mx3.0/28, Error ellipse: s-maj=111.2km s-min=21.0km az=49.0*
*ISCJB **07** 00:17:49.5±2.8, 77N±02×927E±02, h45km±29km, mb3.8/6, Error ellipse: s-maj=43.5km s-min=14.7km az=30.0*
*NEIC **07** 00:17:50.0±0.5, 784N×9279E, h30km, mb4.3/1, Error ellipse: s-maj=21.0km s-min=9.3km az=213.0*
ISC 07 00:17:52.0±2.1, 78N±02×927E±02, h49km±23km, n12, σ0°58/8, mb3.8/6, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**7.90**	**128**	Pn	**Pn**	**00 19 44.6**	**+0.3**
	0.6nm,0.3s,baz=314,slow=15,SNR=4.0						
PSI				LR	LR	00 22 23.2	
	comp=Z,49nm,21.1s,baz=129,slow=35						
PALK	**Pallekele**	**11.91**	**269**	*e*Pn	**Pn**	**00 20 39.1**	**-0.2**
	6.0nm,0.5s						
JIRN	**Jiri**	**20.75**	**343**	*eP*	pP	00 22 39.4	-0.7
	11nm,0.2s						
KKN	**Kakani**	**21.14**	**341**	*eP*	pP	00 22 44.9	+0.5
	11nm,0.4s						
GKN	**Gorkha**	**21.55**	**340**	*eP*	pP	00 22 48.6	-0.2
	36nm,0.3s						
KOLN	**Koldanda**	**21.70**	**338**	*eP*	pP	00 22 51.1	+0.7
	10.0nm,0.2s						
MKAR	**Makanchi Array**	**39.92**	**349**	P	**P**	**00 25 20.9**	**-0.3**
	0.4nm,0.4s,mb3.5,baz=168,slow=8.7,SNR=4.1						
WRA	**Warramunga Arr**	**49.35**	**125**	P	**P**	**00 26 36.4**	**-0.4**
	0.5nm,0.4s,mb3.9,baz=302,slow=9.7,SNR=5.3						
WRAB	**Tennant Creek**	**49.35**	**125**	*eP*	**P**	**00 26 36.5**	**-0.3**
	1.5nm,0.5s,mb4.3						
ASAR	**Alice Springs**	**50.93**	**129**	P	**P**	**00 26 48.9**	**+0.2**
	0.3nm,0.4s,mb3.6,baz=303,slow=7.3,SNR=8.0						
FINES	**FINESS Array B**	**72.16**	**332**	P	**P**	**00 29 11.1**	**-0.2**
	2.5nm,0.9s,mb4.1,baz=134,slow=11,SNR=3.5						
GERES	**GERESS Array B**	**76.98**	**318**	P	**P**	**00 29 40.4**	**+0.9**
	0.3nm,0.5s,mb3.5,baz=100,slow=4.1,SNR=5.0						

*NEIC **07** 00:24:44.0, 5904N×137.11W, h1km, ML3.2(PGC), After PGC.*
PGC 07 00:24:44.0±1.9, 5904N×13711W, h1km, ML3.2/4, 107km west of Haines, Ak Southeastern Alaska, Southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKAG	**Skagway**	**1.00**	**65**	*eP*	Pg	00 25 01.6	-1.5
SKAG				*eS*	Sg	00 25 17.1	+0.9
HYT	**Haines Junctio**	**1.80**	**354**	Pn	Pn	00 25 15.5	-0.5
HYT				Sg	Sg	00 25 39.0	-2.7
WHY	**Whitehorse**	**1.97**	**34**	P	Pn	00 25 17.6	-0.9
WHY				S	Sn	00 25 41.6	-2.2
WHY	**Whitehorse**	**1.97**	**34**	Pn	Pn	00 25 18.6	+0.1
WHY				Sg	Sg	00 25 43.5	-3.8
SIT	**Sitka**	**2.21**	**154**	P	Pn	00 25 23.9	+2.2
SIT				S	Sn	00 25 51.6	+2.1
DLBC	**Dease Lake**	**3.74**	**96**	P	Pn	00 25 42.1	-0.7
DLBC	**Dease Lake**	**3.74**	**96**	Pn	Pn	00 25 42.0	-0.7
DLBC				Pg	Pg	00 25 51.9	-3.7
DLBC				Sg	Sg	00 26 39.6	-4.4
DAWY	**Dawson**	**5.16**	**349**	*e*Pn	Pn	00 26 01.9	-0.2
DAWY	**Dawson**	**5.16**	**349**	Pn	Pn	00 26 02.3	+0.2
DAWY				Sn	Sn	00 27 00.5	-1.7
DAWY				Sg	Sg	00 27 24.9	-4.5
EGAK	**Eagle**	**6.06**	**343**	*e*Pn	Pn	00 26 14.2	-0.3
	30nm,0.5s						
EGAK				*e*Sn	Sn	00 27 52.1	+28

*IDC **07** 00:40:20.9±1.6, 3890N×7151E, h0km, mb3.8/2, mb1 3.8/5, mb1mx3.4/23, mbtmp3.7/5, ML3.4/3, Error ellipse: s-maj=28.4km s-min=21.4km az=162.0*
*NNC **07** 00:40:24.3±1.5, 3923N×7130E, h0km, mb4.1, mpv3.7, Error ellipse: s-maj=14.3km s-min=10.5km az=51.0*
*ISCJB **07** 00:40:27.7±2.7, 392N±02×713E±0.1, h56km±22km, mb3.7/3, Error ellipse: s-maj=30.7km s-min=13.0km az=23.6*
ISC 07 00:40:27.8±2.8, 391N±02×713E±01, h41km±23km, n19, σ0°63/22, mb3.7/3, 2C-2D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res
AML	**Almayashu**	**3.54**	**30**	P	**Pn**	**00 41 20.1**	**0.0**
	SNR=68						
UCH	**Uchtor**	**3.97**	**37**	P	**Pn**	**00 41 26.3**	**+0.2**
	SNR=77						
EKS2	**Erkin-Say**	**4.03**	**27**	P	**Pn**	**00 41 27.1**	**+0.2**
	SNR=30						
KK31	**Karatay Array**	**4.04**	**352**	Pn	**Pn**	**00 41 28.4**	**+1.3**
	5.4nm,0.3s,baz=139,slow=11,SNR=129						
KK31				⇑Sn	**Sn**	**00 42 18.9**	**+5.8**
	7.6nm,0.3s,baz=165,slow=23,SNR=5.9						
KK31				⇓Lg		00 42 28.3	
	46nm,0.6s,baz=175,slow=31,SNR=5.8						
KZA	**Kyzart**	**4.24**	**44**	P	**Pn**	**00 41 29.5**	**-0.2**
	SNR=73						
AAK	**Ala-Archa**	**4.29**	**34**	P	**Pn**	**00 41 30.5**	**+0.1**
	SNR=30						
KBK	**Karagaybulak**	**4.51**	**37**	P	**Pn**	**00 41 34.2**	**+0.8**
	SNR=27						
CHMS	**Chumysh**	**4.70**	**33**	P	**Pn**	**00 41 36.6**	**+0.6**
	SNR=23						
USP	**Ospenovka**	**4.82**	**29**	P	**Pn**	**00 41 37.7**	**0.0**
	SNR=41						
ULHL	**Ulahol**	**4.91**	**49**	P	**Pn**	**00 41 38.2**	**-0.7**
	SNR=15						
TKM2	**Tokmak 2**	**5.02**	**39**	⇓Pn	**Pn**	**00 41 39.9**	**-0.6**
	5.9nm,0.4s						
TKM2				⇑Lg		00 42 58.4	
	10nm,0.5s						
TKM2	**Tokmak 2**	**5.02**	**39**	P	**Pn**	**00 41 40.9**	**+0.4**
	SNR=14						
MKAR	**Makanchi Array**	**11.13**	**43**	Pn	**Pn**	**00 43 03.6**	**-0.7**
	0.1nm,0.3s,baz=234,slow=14,SNR=4.8						
AB31	**Akbulak array**	**13.00**	**325**	Pn	**Pn**	**00 43 28.4**	**-1.3**
	1.2nm,0.5s,baz=130,slow=13,SNR=34						
AB31				Sn	**Sn**	**00 45 52.9**	**+0.1**
	4.2nm,0.8s,baz=132,slow=22,SNR=6.1						
AKTO	**Aktyubinsk**	**14.71**	**325**	Pn	**Pn**	**00 43 52.3**	**-0.6**
	0.2nm,0.3s,baz=122,slow=15,SNR=4.1						
AKTO				Sn	**Sn**	**00 46 30.0**	**-4.6**
	0.2nm,0.3s,baz=53,slow=19,SNR=3.6						
ZALV	**Zalesovo Beam**	**17.48**	**27**	P	**Pn**	**00 44 27.8**	**-0.4**
	0.2nm,0.3s,baz=206,slow=9.9,SNR=5.5						
FINES	**FINESS Array B**	**35.49**	**324**	P	**P**	**00 47 20.5**	**+0.5**
	2.1nm,0.9s,mb4.1,baz=117,slow=8.6,SNR=3.3						
TORD	**Torodi Ar. Bea**	**66.03**	**268**	P	**P**	**00 51 11.2**	**+0.7**
	0.4nm,0.6s,mb3.6,baz=54,slow=5.4,SNR=14						
YKA	**Yellowknife Ar**	**78.64**	**3**	P	**P**	**00 52 24.3**	**-0.6**
	0.3nm,0.4s,mb3.5,baz=350,slow=5.5,SNR=8.7						

*NEIC **07** 00:42:04.3, 6095N×13826W, h15km, ML3.4(PGC), After PGC.*
PGC 07 00:42:04.3±5.8, 6095N×13826W, h15km, ML3.4/4, 45km Wnw of Haines Jct., Yt Southern Yukon Territory, Canada, Southern Yukon Territory

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HYT	**Haines Junctio**	**0.39**	**108**	P	Pg	00 42 11.7	-0.5
HYT				S	Sg	00 42 17.9	+0.3
PNL	**Peninsula**	**1.40**	**204**	P	Pn	00 42 27.0	-2.4
PNL				S	Sn	00 42 44.7	-2.8
WHY	**Whitehorse**	**1.68**	**98**	P	Pn	00 42 31.4	-1.7
WHY	**Whitehorse**	**1.68**	**98**	Pn	Pn	00 42 33.4	+0.3
WHY				Sg	Sg	00 42 58.4	0.0
SKAG	**Skagway**	**2.09**	**134**	*e*Pn	Pn	00 42 39.8	+1.0
SKAG				*e*Sn	Sn	00 43 08.9	+4.5
DAWY	**Dawson**	**3.17**	**351**	P	Pn	00 42 52.9	-0.7
DAWY	**Dawson**	**3.17**	**351**	Pn	Pn	00 42 52.8	-0.8
DAWY				Pg	Pg	00 43 01.3	-3.7
DAWY				Sg	Sg	00 43 42.0	-4.1
EGAK	**Eagle**	**4.07**	**342**	*e*Pn	Pn	00 43 04.8	-1.1
EGAK				*e*Sn	Sn	00 44 04.4	+11
DLBC	**Dease Lake**	**4.87**	**118**	Pn	Pn	00 43 17.6	+0.6
DLBC				Sg	Sg	00 44 37.9	-2.6
MCK	**McKinley**	**5.70**	**304**	*e*Pn	Pn	00 43 29.0	+0.7
	8.2nm,0.8s						
MCK				*e*Sn	Sn	00 44 32.5	-0.9
INK	**Inuvik**	**7.66**	**13**	*e*Pn	Pn	00 43 54.0	-1.1
	111nm,0.8s						
INK				*e*Sn	Sn	00 45 24.3	+2.7
INK	**Inuvik**	**7.66**	**13**	Pn	Pn	00 43 53.9	-1.3
YKW3	**Yellowknife Ar**	**11.30**	**71**	Pn	Pn	00 44 45.0	+0.1

*MOS **07** 01:09:57.1±1.2, 6.15S×131.10E, h33km, mb4.8/6, Error ellipse: s-maj=22.2km s-min=8.2km az=105.0*
*NEIC **07** 01:09:58.6±0.4, 6.11S×131.12E, h30km, mb4.5/10, Error ellipse: s-maj=17.9km s-min=7.4km az=76.0*
*ISCJB **07** 01:10:00.2±1.6, 638S±005×13105E±006, h71km±16km, mb4.5/28, Error ellipse: s-maj=10.6km s-min=8.2km az=169.5*
*IDC **07** 01:10:00.7±3.1, 6.18S×13124E, h48km±29km, mb4.1/10, mb1 4.2/12, mb1mx4.2/14, mbtmp4.1/12, ML4.8/3, Error ellipse: s-maj=31.1km s-min=15.4km az=77.0*
*BJI **07** 01:10:03.0, 536S×13028E, h30km, mB4.8, mb4.7*
ISC 07 01:09:59.9±1.9, 626S±008×13115E±007, h45km±20km, h17km±6.6km: pP-P, n85, σ1°±04/68, mb4.6/28, 3C-1D, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**6.54**	**169**	*eP*	**Pn**	**01 11 39.1**	**+5.6**
	250nm,0.5s						
KAKA				*e*S	**Sn**	**01 12 45.6**	**-1.2**
BATI	**Kupang**	**8.38**	**242**	P	**Pn**	**01 12 04.5**	**+5.6**
	96nm,0.3s,baz=127,slow=3.9,SNR=46						
BATI				S	**Sn**	**01 13 31.3**	**-0.9**
	4.7nm,0.3s,baz=142,slow=17,SNR=1.6						
FITZ	**Fitzroy Crossi**	**12.94**	**204**	*eP*	**Pn**	**01 13 01.6**	**+0.4**
	58nm,0.3s						
FITZ				*e*S	**Sn**	**01 15 15.5**	**-8.4**
FITZ	**Fitzroy Crossi**	**12.94**	**204**	P	**Pn**	**01 13 01.8**	**+0.6**
	8.2nm,0.3s,baz=32,slow=12,SNR=101						
FITZ				S	**Sn**	**01 15 15.1**	**-8.8**
	4.7nm,0.3s,baz=112,slow=19,SNR=4.8						
WRAB	**Tennant Creek**	**13.94**	**167**	*eP*	**Pn**	**01 13 14.5**	**-0.3**
	4.5nm,1.2s						
WRAB				*e*Sn	**Sn**	**01 15 40.2**	**-8.1**
WRAB	**Tennant Creek**	**13.94**	**167**	*eP*	**Pn**	**01 13 14.5**	**-0.4**
WRAB				pmax	pmax		
	comp=Z,5.0nm,1.2s						
WRA	**Warramunga Arr**	**13.95**	**167**	P	**Pn**	**01 13 14.9**	**0.0**
	comp=Z,3.9nm,0.3s,baz=340,slow=14,SNR=24						
WRA				S	**Sn**	**01 15 42.7**	**-5.7**
	comp=Z,7.3nm,0.3s,baz=355,slow=23,SNR=8.5						
WB2	**Warramunga Arr**	**13.95**	**167**	*eP*	**Pn**	**01 13 14.7**	**-0.3**
WB2				*e*S	**Sn**	**01 15 39.3**	**-9.2**
ASAR	**Alice Springs**	**17.51**	**172**	P	**Pn**	**01 14 02.2**	**+1.5**
	comp=Z,2.4nm,0.3s,baz=346,slow=10,SNR=85						
ASAR				S	**Sn**	**01 17 08.0**	**-13**
	comp=Z,2.7nm,0.3s,baz=11,slow=26,SNR=6.4						
MBWA	**Marble Bar**	**18.49**	**216**	*eP*	**Pn**	**01 14 13.6**	**+0.9**
	comp=Z,15nm,0.5s						
MBWA				*e*Sn	**Sn**	**01 17 28.4**	**-10**
KKM	**Kota Kinabalu**	**19.28**	**309**	*e*Pn	**Pn**	**01 14 20.0**	**-2.4**
CTA	**Charters Tower**	**20.10**	**135**	*eP*	**P**	**01 14 34.4**	**+4.5**
	comp=Z,6.5nm,0.8s						
CTA	**Charters Tower**	**20.10**	**135**	P	**P**	**01 14 34.4**	**+4.5**
	comp=Z,5.6nm,0.7s,baz=295,slow=16,SNR=5.2						
FORT	**Forrest**	**24.56**	**186**	*eP*	**P**	**01 15 18.6**	**+3.1**
	comp=Z,27nm,0.9s,mb4.8						
STKA	**Stephens Creek**	**27.29**	**160**	*eP*	**P**	**01 15 42.1**	**+1.9**
	comp=Z,4.9nm,1.2s,mb3.9						
STKA	**Stephens Creek**	**27.29**	**160**	P	**P**	**01 15 42.2**	**+2.0**
	comp=Z,1.2nm,0.6s,mb3.6,baz=343,slow=11,SNR=5.6						
QIZ	**Qiongzhong**	**32.75**	**321**	*eP*	**P**	**01 16 28.9**	**+0.3**
	comp=Z,280nm,2.2s,mb5.8						
PSI	**Prapat**	**33.41**	**285**	P	**P**	**01 16 37.0**	**+2.4**
PSI	**Prapat**	**33.41**	**285**	P	**P**	**01 16 37.0**	**+2.4**
	comp=Z,4.9nm,0.9s,mb4.4,baz=63,slow=2.3,SNR=5.4						
MAJO	**Matsushiro**	**43.09**	**8**	*eP*	**P**	**01 17 55.2**	**-0.3**
	comp=Z,8.5nm,0.8s,mb4.5						
MAJO	**Matsushiro**	**43.09**	**8**	*eP*	**P**	**01 17 55.2**	**-0.3**
MAJO				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.5						
MJAR	**Matsushiro Arr**	**43.09**	**8**	P	**P**	**01 17 55.2**	**-0.3**
	comp=Z,5.3nm,0.8s,mb4.3,baz=186,slow=9.3,SNR=12						
KSRS	**Korea Array**	**43.59**	**356**	P	**P**	**01 18 00.6**	**+1.0**
	comp=Z,1.7nm,0.5s,mb4.0,baz=176,slow=9.1,SNR=7.1						
KSRS				PcP	PcP	01 19 47.0	+0.4
	comp=Z,1.0nm,0.4s,baz=173,slow=2.8,SNR=4.6						
VLA	**Vladivostok**	**49.15**	**1**	*i P*	**P**	**01 18 44.8**	**+1.7**
LZH	**Lanzhou**	**49.31**	**331**	*eP*	**P**	**01 18 46.1**	**+1.6**
LZH				AP	pP	01 18 51.3	-5.8
LZH				XP	sP	01 18 53.5	-8.9
LZH				AMB	AMB		
	comp=Z,17nm,1.3s,mb4.9						
LZH				AMB	AMB		
	comp=Z,69nm,4.1s						
GTA	**Gaotai**	**53.89**	**330**	*eP*	**P**	**01 19 18.7**	**+0.1**
GTA				AP	pP	01 19 22.5	-8.9
GTA				XP	sP	01 19 25.4	-11
GTA				AMB	AMB		
	comp=Z,3.0nm,0.8s,mb4.3						
HABR	**Khabarovsk**	**54.61**	**3**	*eP*	**P**	**01 19 23.8**	**+0.1**
HABR				*e*S	**S**	**01 26 59.0**	**-1.0**
KLR	**Kul'dur**	**55.26**	**0**	*eP*	**P**	**01 19 24.7**	**-3.7**
GUN	**Gumba**	**55.34**	**310**	*eP*	**P**	**01 19 29.6**	**+0.2**
KKN	**Kakani**	**55.74**	**310**	*eP*	**P**	**01 19 32.1**	**-0.1**
	comp=Z,15nm,0.8s,mb5.1						
GKN	**Gorkha**	**56.34**	**310**	*eP*	**P**	**01 19 36.5**	**0.0**
	comp=Z,26nm,0.7s,mb5.4						
KOLN	**Koldanda**	**57.02**	**309**	*eP*	**P**	**01 19 41.5**	**+0.1**
	comp=Z,20nm,0.9s,mb5.2						
ULN	**Ulaanbaatar**	**57.93**	**341**	*eP*	**P**	**01 19 48.6**	**+1.2**
	comp=Z,4.8nm,0.8s,mb4.6						
ULN	**Ulaanbaatar**	**57.93**	**341**	*eP*	**P**	**01 19 48.6**	**+1.2**
ULN				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.6						
SONM	**Songino Array**	**58.12**	**341**	P	**P**	**01 19 49.7**	**+1.0**
	comp=Z,2.9nm,0.8s,mb4.3,baz=162,slow=6.1,SNR=17						
ZAK	**Zakamensk**	**61.35**	**340**	*eP*	**P**	**01 20 09.4**	**-1.5**
ZAK				pmax	pmax		
	comp=Z,2.0nm,2.0s,mb3.9						
BOD	**Bodaibo**	**65.36**	**350**	*eP*	**P**	**01 20 37.3**	**0.0**
BOD				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.6						
YAK	**Yakutsk**	**68.10**	**359**	*ceP*	**P**	**01 20 54.9**	**+0.3**
YAK				pmax	pmax		
	comp=Z,44nm,0.7s,mb5.6						
MKAR	**Makanchi Array**	**68.24**	**326**	P	**P**	**01 20 56.5**	**+0.7**
	comp=Z,5.8nm,0.7s,mb4.7,baz=125,slow=7.8,SNR=25						
UCH	**Uchtor**	**70.52**	**319**	*eP*	**P**	**01 21 10.9**	**+0.9**
	comp=Z,3.9nm,0.8s,mb4.4						
SEY	**Seymchan**	**70.88**	**10**	⇑*eP*	**P**	**01 21 13.0**	**+1.3**
AML	**Almayashu**	**71.01**	**318**	*eP*	**P**	**01 21 13.3**	**+0.3**
	comp=Z,3.7nm,0.7s,mb4.4						
ZAA0	**Zalesovo Array**	**71.44**	**333**	*eP*	**P**	**01 21 14.6**	**-0.7**
ZALV	**Zalesovo Beam**	**71.44**	**333**	P	**P**	**01 21 14.5**	**-0.8**
	comp=Z,3.2nm,0.6s,mb4.4,baz=108,slow=4.8,SNR=18						
ZAL	**Zalesovo**	**71.44**	**333**	P	**P**	**01 21 14.5**	**-0.8**
KURK	**Kurchatov**	**72.49**	**328**	⇑*eP*	**P**	**01 21 21.1**	**-0.6**
NVS	**Novosibirsk**	**72.72**	**333**	*eP*	**P**	**01 21 22.0**	**-1.0**
MAW	**Mawson**	**76.05**	**202**	P	**P**	**01 21 43.5**	**+1.3**
	comp=Z,1.5nm,0.6s,mb4.1,baz=83,slow=8.1,SNR=3.7						
TIXI	**Tiksi**	**77.77**	**359**	*eP*	**P**	**01 21 51.9**	**+0.3**
	comp=Z,8.7nm,0.8s,mb4.7						
TIXI	**Tiksi**	**77.77**	**359**	*eP*	**P**	**01 21 51.2**	**-0.5**
TIXI				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.7						
BRVK	**Borovoye**	**78.13**	**327**	*eP*	**P**	**01 21 53.1**	**-0.9**
	comp=Z,3.0nm,0.8s,mb4.3						
BRVK	**Borovoye**	**78.13**	**327**	*eP*	**P**	**01 21 53.2**	**-0.9**
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3						
BILL	**Bilibino**	**78.14**	**13**	*eP*	**P**	**01 21 52.8**	**-1.0**
BILL				*e*	pP	01 22 01.9	-5.3
AKTK	**Aktyubinsk**	**84.19**	**322**	P	**P**	**01 22 25.8**	**-0.6**
AKTO	**Aktyubinsk**	**84.19**	**322**	P	**P**	**01 22 25.8**	**-0.6**
	comp=Z,1.3nm,0.6s,mb4.2,baz=119,slow=8.5,SNR=5.7						
ARU	**Arti**	**85.69**	**328**	*d i P*	**P**	**01 22 32.7**	**-1.0**
ARU				*e*		01 25 51.8	
ARU				*e*S	S	01 32 49.0	-14
ARU				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.8						
OBN	**Obninsk**	**97.72**	**325**	*eP*	**P**	**01 23 27.9**	**-1.9**
OBN				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb5.0						
INK	**Inuvik**	**97.75**	**22**	P	**P**	**01 23 28.7**	**-1.0**
	comp=Z,1.5nm,1.1s,mb4.4,baz=222,slow=2.7,SNR=3.4						
FINES	**FINESS Array B**	**102.66**	**332**	*i P*	Pdif	01 23 51.2	-0.7

PMAN	**Manadas**	**3.06 298**	*e*P	Pn	01 13 48.4	-4.7
PMAN			*e*S	Sn	01 14 21.3	-8.7
ROSA	**Rosais**	**3.20 298**	*e*P	Pn	01 13 50.3	-4.8
ROSA			*e*S	Sn	01 14 25.4	-8.2
PICO	**Pico**	**3.25 293**	*e*P	Pn	01 13 51.2	-4.5
PICO			*e*S	Sn	01 14 26.8	-7.9
CALA	**Caldeira**	**3.48 293**	*e*P	Pn	01 13 54.3	-4.6
CALA			*e*S	Sn	01 14 32.5	-7.9
PMAR	**Madeira**	**7.78 123**	*e*Pn	Pn	01 14 52.9	-5.1
PMAR			*e*Sn	Sn	01 16 12.5	-14
PMAR			*e*T		01 22 20.7	
PMPS	**Porto Santo**	**7.98 119**	*e*Pn	Pn	01 14 54.8	-6.0
PMPS			*e*Sn	Sn	01 16 15.7	-16
PMPS			*e*T		01 22 45.1	

ISCJB ***07*** *01:13:40.1±0.5, 58.64N±0.06×155.52W±0.1, h141km±7km, mb4.2/5, Error ellipse: s-maj=11.5km s-min=6.1km az=138.1*
IDC ***07*** *01:13:41.6±3.4, 58.68N×155.32W, h133km±27km, mb3.9/6, mb1 3.9/7, mb1mx3.5/22, mbtmp3.9/7, Error ellipse: s-maj=34.1km s-min=16.4km az=5.0*
NEIC ***07*** *01:13:43.0, 58.56N×155.09W, h126km, MG3.8(AEIC), After AEIC.*
ISC 07 01:13:41.4±0.5, 58.65N±0.05×155.23W±0.09, h132km±6km, n44, σ0.90/44, mb4.2/5, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AUL	**Augustine Lava**	**1.18**	**51**	P	**Pn**	**01 14 07.2**	**+1.1**
KDAK	**Kodiak Island**	**1.65**	**121**	P	**Pn**	**01 14 10.1**	**-1.1**
SVW2	**Sparrevohn**	**2.46**	**356**	P	**Pn**	**01 14 22.0**	**+1.1**
CHGN	**Chignik**	**2.92**	**217**	P	**Pn**	**01 14 26.4**	**-0.5**
SLKM	**Skilak Lake**	**3.16**	**52**	P	**Pn**	**01 14 30.4**	**+0.5**
SEW	**Seward**	**3.30**	**61**	P	**Pn**	**01 14 32.0**	**+0.2**
FIB	**Fire Island**	**3.58**	**43**	P	**Pn**	**01 14 36.4**	**+0.8**
RC01	**Rabbit Creek A**	**3.69**	**46**	P	**Pn**	**01 14 37.0**	**+0.1**
PMR	**Palmer**	**4.24**	**43**	*e*Pn	**Pn**	**01 14 43.3**	**-1.0**
PMR				*e*Sn	**Sn**	**01 15 31.5**	**-1.5**
TTA	**Tatalina**	**4.31**	**355**	P	**Pn**	**01 14 46.3**	**+1.2**
SDPT	**Sand Point**	**4.38**	**223**	*e*P	**Pn**	**01 14 46.6**	**+0.5**
SML	**Sawmill**	**4.67**	**44**	*e*Pn	**Pn**	**01 14 48.8**	**-1.2**
EYAK	**Cordova Ski Ar**	**5.18**	**64**	P	**Pn**	**01 14 56.1**	**-0.6**
KTH	**Kantishna Hill**	**5.34**	**21**	P	**Pn**	**01 14 59.4**	**+0.6**
TRF	**Thorofare Moun**	**5.38**	**24**	P	**Pn**	**01 14 59.4**	**0.0**
FALS	**False Pass**	**5.89**	**233**	P	**Pn**	**01 15 06.9**	**+0.6**
MCK	**McKinley**	**5.93**	**28**	P	**Pn**	**01 15 06.6**	**-0.2**
PAX	**Paxson**	**6.44**	**44**	P	**Pn**	**01 15 13.3**	**-0.4**
MENT	**Mentasta**	**7.08**	**48**	*e*P	**Pn**	**01 15 22.7**	**+0.5**
COLA	**College**	**7.15**	**26**	*e*Pn	**Pn**	**01 15 21.6**	**-1.6**
	61nm,0.6s						
DOT	**Dot Lake**	**7.36**	**42**	P	**Pn**	**01 15 25.7**	**-0.4**
IM3	**Indian Mountai**	**7.39**	**5**	P	**Pn**	**01 15 27.1**	**+0.8**
IMA2	**Indian Mountai**	**7.48**	**5**	P	**Pn**	**01 15 28.2**	**+0.6**
UNV	**Unalaska Valle**	**7.91**	**237**	P	**Pn**	**01 15 32.4**	**-1.1**
BCA3	**Beaver Creek A**	**7.91**	**50**	P	**Pn**	**01 15 33.2**	**-0.2**
PNL	**Peninsula**	**8.20**	**76**	P	**Pn**	**01 15 37.0**	**-0.3**
EGAK	**Eagle**	**9.06**	**41**	*e*Pn	**Pn**	**01 15 46.8**	**-2.0**
	8.3nm,0.5s						
DAWY	**Dawson**	**9.33**	**48**	*e*Pn	**Pn**	**01 15 52.9**	**+0.5**
SKAG	**Skagway**	**10.28**	**77**	*e*P	**Pn**	**01 16 09.0**	**+3.9**
	16nm,0.6s						
DLBC	**Dease Lake**	**13.14**	**80**	P	**Pn**	**01 16 44.5**	**+1.8**
DLBC				S	**Sn**	**01 19 09.7**	**+2.2**
DLBC	**Dease Lake**	**13.14**	**80**	P	**Pn**	**01 16 44.5**	**+1.8**
	baz=247,slow=9.4						
DLBC				S	**Sn**	**01 19 09.7**	**+2.2**
	baz=192,slow=19						
INK	**Inuvik**	**13.61**	**36**	P	**Pn**	**01 16 47.5**	**-1.1**
	0.5nm,0.3s,baz=228,slow=13,SNR=53						
INK				S	**Sn**	**01 19 27.4**	**+8.8**
	0.2nm,0.3s,baz=35,slow=30,SNR=17						
BILL	**Bilibino**	**19.31**	**315**	*e*P	**P**	**01 17 56.3**	**+0.7**
	3.0nm,0.6s						
YKA	**Yellowknife Ar**	**20.08**	**62**	P	**P**	**01 18 04.5**	**+0.4**
YKA				PcP	PcP	01 22 13.4	0.0
YKA				ScP	ScP	01 25 36.8	-0.3
YKA	**Yellowknife Ar**	**20.08**	**62**	P	**P**	**01 18 04.4**	**+0.4**
	5.2nm,0.7s,baz=276,slow=9.8,SNR=80						
YKA				PcP	PcP	01 22 13.4	0.0
	0.4nm,0.5s,baz=286,slow=1.7,SNR=10						
YKA				ScP	ScP	01 25 36.8	-0.3
	0.4nm,0.7s,baz=286,slow=2.2,SNR=4.9						
SCHQ	**Schefferville**	**45.27**	**54**	P	**P**	**01 21 45.3**	**+0.2**
	1.1nm,0.5s,mb3.7,baz=319,slow=14,SNR=3.8						
KSRS	**Korea Array**	**52.35**	**282**	P	**P**	**01 22 39.0**	**-0.4**
	1.8nm,0.5s,mb4.0,baz=40,slow=6.6,SNR=5.8						
SONM	**Songino Array**	**54.64**	**305**	P	**P**	**01 22 56.5**	**+0.6**
	7.1nm,0.6s,mb4.6,baz=43,slow=6.7,SNR=48						
ZALV	**Zalesovo Beam**	**57.77**	**323**	P	**P**	**01 23 17.7**	**-0.3**
	3.8nm,0.5s,mb4.5,baz=38,slow=6.4,SNR=12						
MKAR	**Makanchi Array**	**64.75**	**320**	P	**P**	**01 24 04.4**	**-0.8**
	1.5nm,0.5s,mb4.1,baz=38,slow=6.1,SNR=4.6						
LBTB	**Lobatse**	**146.38**	**359**	PKPbc	PKPbc	01 33 06.2	-0.1
	2.3nm,0.9s,baz=4.0,slow=5.3,SNR=4.7						
QSPA	**South Pole Qui**	**148.44**	**180**	PKP	PKPdf	01 33 06.7	+0.1
QSPA				PKPbc	PKPbc	01 33 10.0	-0.3
QSPA	**South Pole Qui**	**148.44**	**180**	PKP	PKPdf	01 33 06.7	+0.1
	4.8nm,0.9s,baz=151,slow=2.7,SNR=9.4						
QSPA				PKPbc	PKPbc	01 33 10.0	-0.3
	3.2nm,0.6s,baz=341,slow=0.6,SNR=17						
BOSA	**Boshof**	**149.97**	**359**	PKPbc	PKPbc	01 33 14.4	-1.2
	1.3nm,0.6s,baz=38,slow=0.7,SNR=4.3						

ISCJB ***07*** *01:15:36.1±1.4, 36.80N±0.06×21.48E±0.07, h15km±6km, Error ellipse: s-maj=11.1km s-min=8.9km az=22.5*
CSEM ***07*** *01:15:37.2±0.4, 36.86N×21.47E, h12km, MD3.3, Error ellipse: s-maj=6.4km s-min=5.7km az=44.0*
THE ***07*** *01:15:38.9, 36.84N×21.55E, h3km, ML3.0*
NEIC ***07*** *01:15:40.4, 37.16N×22.10E, h35km, MD3.3(ATH), After ATH.*
ATH ***07*** *01:15:40.4, 37.16N×22.10E, h35km±6km, MD3.3/6*
ISC 07 01:15:35.2±1.6, 36.72N±0.08×21.45E±0.08, h16km±7km, n12, σ1.9/28/18, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYL	**PYLOS**	**0.29**	**52**	*e*Pg	**Pg**	**01 15 41.6**	**+0.1**
PYL				*e*Sg	**Sg**	**01 15 45.6**	**-0.1**
ITM	**Ithomi**	**0.60**	**39**	*e*PB	**Pb**	**01 15 46.0**	**-1.3**
ITM				*e*SB	**Sb**	**01 15 52.2**	**-3.3**
VLX	**Vlachokerasia**	**0.99**	**48**	*e*Pg	**Pg**	**01 15 55.3**	**+1.0**
VLX				*e*Sg	**Sg**	**01 16 05.4**	**-1.9**
VLI	**Veliai**	**1.19**	**90**	*e*PN	**Pn**	**01 15 56.0**	**-1.2**
RLS	**Riolos of Patr**	**1.34**	**0**	*e*PN	**Pn**	**01 15 59.5**	**+0.3**
KYTH	**Kithira**	**1.35**	**108**	*e*PN	**Pn**	**01 16 02.5**	**+3.2**
KFL	**Anninata**	**1.49**	**339**	*e*Pg	**Pg**	**01 16 04.4**	**+0.6**
SELA	**Sela**	**1.59**	**13**	*e*Pg	**Pg**	**01 16 04.8**	**-1.1**
SELA				*e*Sg	**Sg**	**01 16 27.7**	**+1.1**
DID	**Didima**	**1.63**	**61**	*e*Pg	**Pg**	**01 16 06.4**	**-0.2**
DID				*e*Sg	**Sg**	**01 16 28.3**	**+0.5**
LTK	**Loutraki**	**1.78**	**42**	*e*Pb	**Pb**	**01 16 08.7**	**+1.3**
LTK				*e*Sb	**Sb**	**01 16 31.3**	**+2.0**
EVR	**Evrytania**	**2.21**	**7**	*e*PN	**Pn**	**01 16 10.5**	**-0.7**
LKR	**Lokris**	**2.29**	**32**	*e*PB	**Pn**	**01 16 09.4**	**-2.8**

IDC ***07*** *01:20:44.8±1.3, 732S×155.72E, h0km, mb4.3/6, mb1 4.4/7, mb1mx4.2/16, mbtmp4.3/7, ML4.2/1, MS3.2/1, Ms1 3.2/1, ms1mx3.0/21, Error ellipse: s-maj=26.5km s-min=26.2km az=77.0*
NEIC ***07*** *01:20:46.6±0.8, 735S×155.72E, h10km, mb4.4/2, Error ellipse: s-maj=16.9km s-min=14.7km az=219.0*
ISCJB ***07*** *01:20:51.1±3.1, 74S±0.1×155.8E±0.1, h62km±34km, mb4.2/7, Error ellipse: s-maj=21.8km s-min=20.4km az=30.5*
ISC 07 01:20:52.3±2.9, 74S±0.1×158.1E±0.1, h59km±34km, n12, σ0.61/12, mb4.2/7, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.60**	**117**	Pn	**Pn**	**01 21 58.2**	**-1.1**
	9.6nm,0.3s,baz=236,slow=7.3,SNR=4.3						
HNR				Sn	**Sn**	**01 22 52.4**	**+0.9**
	14nm,0.3s,baz=17,slow=0.8,SNR=4.0						
CTA	**Charters Tower**	**15.64**	**215**	LR	LR	01 29 12.2	
	comp=Z,85nm,21.4s,baz=230,slow=32						
GUMO	**Guam**	**23.48**	**332**	*e*P	**P**	**01 25 57.2**	**+0.2**
	981nm,1.7s						
WB2	**Warramunga Arr**	**24.23**	**237**	*e*P	**P**	**01 26 04.5**	**+0.7**
WRA	**Warramunga Arr**	**24.24**	**237**	P	**P**	**01 26 04.5**	**+0.6**
	6.0nm,0.6s,mb4.2,baz=64,slow=9.4,SNR=20						
ASAR	**Alice Springs**	**26.51**	**230**	P	**P**	**01 26 23.9**	**-0.6**
	0.8nm,0.7s,mb3.4,baz=64,slow=8.1,SNR=7.6						
STKA	**Stephens Creek**	**27.72**	**207**	*e*P	**P**	**01 26 35.8**	**+0.6**
	3.2nm,0.9s,mb4.0						
STKA	**Stephens Creek**	**27.72**	**207**	P	**P**	**01 26 34.6**	**-0.6**
	3.4nm,0.6s,mb4.1,baz=16,slow=6.6,SNR=4.4						
FITZ	**Fitzroy Crossi**	**31.21**	**247**	P	**P**	**01 27 06.3**	**0.0**
	1.6nm,0.7s,mb4.0,baz=97,slow=11,SNR=3.5						
SONM	**Songino Array**	**70.08**	**327**	P	**P**	**01 31 58.3**	**+0.1**
	7.0nm,0.9s,mb4.6,baz=139,slow=6.6,SNR=8.5						
QSPA	**South Pole Qui**	**82.59**	**180**	*e*P	**P**	**01 33 07.8**	**-0.7**
	3.5nm,0.7s,mb4.5						
MKAR	**Makanchi Array**	**84.21**	**319**	P	**P**	**01 33 17.3**	**-0.1**
	3.5nm,0.7s,mb4.6,baz=120,slow=4.3,SNR=3.9						

NIED ***07*** *01:21:00, 30.90N×142.10E, h5km, Mw5.2 Best double couple: M0 6.01000×10^16 NP1:φs=173.00000°, δ51.00000°, λ63.00000°. NP2:φs=32.00000°, δ46.00000°, λ119.00000°.*
IDC ***07*** *01:21:36.6±0.4, 30.85N×141.92E, h0km, mb4.7/30, mb1 4.8/35, mb1mx4.7/38, mbtmp4.7/35, ML4.3/5, MS4.8/27, Ms1 4.8/27, ms1mx4.7/33, Error ellipse: s-maj=14.2km s-min=9.5km az=77.0*
JMA ***07*** *01:21:37.5±0.2, 30.90N×142.13E, h30km, M4.9*
ISCJB ***07*** *01:21:37.7±0.8, 30.83N±0.02×141.79E±0.02, h14km±4km, mb5.1/145, MS4.9/189, Error ellipse: s-maj=3.9km s-min=2.9km az=33.4*
BJI ***07*** *01:21:39.2, 30.96N×141.88E, h32km, mB5.1, mb4.9, Ms5.1, Msz4.9*
MOS ***07*** *01:21:40.3±1.0, 30.89N×141.87E, h33km, mb5.4/75, MS4.9/41, Error ellipse: s-maj=10.4km s-min=4.1km az=112.4*
NEIC ***07*** *01:21:42.0±0.2, 30.85N×141.85E, h35km, mb5.2/80, MS4.9/149, MW5.1(NIED), Error ellipse: s-maj=5.2km s-min=4.8km az=104.0*
GCMT ***07*** *01:21:42.0±0.2, 30.84N×142.10E, h12km, MW5.2/89, Moment Tensor Solution. s56,c83; s89,c173; Duration: 1s0 Moment tensor: Scale 10^17Nm; Mrr0.75±.01; Mθθ0.06±.01; Mφφ-0.80±.01; Mrθ0.09±.04; Mφθ-0.00±.01; Mφr0.47±.03; Best double couple: M0 0.91700×10^17 NP1:φs=173.00000°, δ30.00000°, λ79.00000°. NP2: φs=6.00000°, δ61.00000°, λ96.00000°. Principal axes: T 0.8930, Plg73.0000°, Azm292.0000°; N 0.0480, Plg5.0000°, Azm183.0000°; P -0.9410, Plg16.0000°, Azm92.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
SZGRF ***07*** *01:21:43.8, 30.94N×141.63E, h33km, mb5.4, MS4.7, Southeast of Honshu, Japan*
ISC 07 01:21:41.0±0.8, 30.83N±0.02×141.80E±0.02, h26km±5km, h35km±.9km: pP-P, n642, σ1.90/560, mb5.1/145, MS4.9/189, 83C-72D, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**2.83**	**324**	P	**Pn**	**01 22 24.3**	**-0.3**
JHJ2				S	**Sn**	**01 22 58.5**	**+0.6**
JHJ	**Hachijo jima 2**	**2.85**	**324**	Pn	**Pn**	**01 22 24.6**	**-0.2**
	64nm,0.3s,baz=247,slow=14,SNR=34						
JHJ				Sn	**Sn**	**01 22 57.5**	**-0.9**
	194nm,0.3s,baz=49,slow=24,SNR=6.8						
JHJ				LR	LR	01 23 28.1	
	comp=Z,12μm,21.8s,baz=159,slow=39						
CBIJ	**Chichi jima**	**3.74**	**175**	P	**Pn**	**01 22 36.0**	**-1.0**
CBIJ	**Chichi jima**	**3.74**	**175**	Pn	**Pn**	**01 22 35.5**	**-1.5**
	51nm,0.3s,baz=294,slow=18,SNR=32						
CBIJ				Sn	**Sn**	**01 23 17.8**	**-2.4**
	125nm,0.3s,baz=272,slow=20,SNR=5.8						
BSO1	**Boso 1**	**3.88**	**350**	P	**Pn**	**01 22 36.0**	**-2.9**
JKO	**Kozu shima**	**4.03**	**327**	S	**Sn**	**01 23 27.3**	**-0.2**
BSO3	**Boso 3**	**4.11**	**345**	P	**Pn**	**01 22 42.6**	**+0.5**
JHHJ	**Haha-jima-NKT**	**4.20**	**175**	P	**Pn**	**01 22 41.9**	**-1.5**
BSO4	**Boso 4**	**4.33**	**344**	P	**Pn**	**01 22 43.8**	**-1.3**
BSO4				S	**Sn**	**01 23 34.2**	**-0.5**
JOD2	**Odawara 2**	**4.97**	**333**	P	**Pn**	**01 22 54.3**	**+0.3**
JOD2				S	**Sn**	**01 23 52.4**	**+1.7**
JIE	**Ise**	**5.58**	**311**	P	**Pn**	**01 23 03.9**	**+1.6**
JRY	**Ryogami san**	**5.71**	**336**	P	**Pn**	**01 23 03.9**	**-0.3**
JRY				S	**Sn**	**01 24 10.1**	**+1.2**
JWZ	**Kozaga**	**5.82**	**299**	P	**Pn**	**01 23 07.3**	**+1.7**
MJAR	**Matsushiro Arr**	**6.43**	**333**	P	**Pn**	**01 23 14.6**	**+0.5**
MJAR						01 24 29.7	
MJAR				pmax	pmax		
	comp=Z,19nm,0.3s						
MJAR				smax			
	comp=N,6.0nm,0.3s						
MJAR	**Matsushiro Arr**	**6.43**	**333**	Pn	**Pn**	**01 23 14.6**	**+0.5**
	comp=N,19nm,0.3s,baz=156,slow=11,SNR=96						
MJAR				Sn	**Sn**	**01 24 29.7**	**+3.0**
	comp=N,5.5nm,0.3s,baz=162,slow=17,SNR=7.1						
MAJO	**Matsushiro**	**6.44**	**333**	*e*Pn	**Pn**	**01 23 14.7**	**+0.6**
	comp=N,117nm,0.6s						
MAJO				*e*Sn	**Sn**	**01 24 28.1**	**+1.4**
MAJO	**Matsushiro**	**6.44**	**333**	*e*P	**Pn**	**01 23 14.7**	**+0.6**
MAJO				*e*		01 24 28.1	
MAJO				pmax	pmax		
	comp=Z,117nm,0.6s						
MAT	**Matsushiro**	**6.44**	**333**	P	**Pn**	**01 23 14.5**	**+0.4**
MAT				S	**Sn**	**01 24 25.8**	**-0.9**
JTO	**Tosashimizu**	**7.92**	**287**	P	**Pn**	**01 23 39.0**	**+4.5**
JMK	**Ichinoseki**	**8.12**	**357**	P	**Pn**	**01 23 33.8**	**-3.4**
JHS	**Saijyo**	**8.40**	**302**	P	**Pn**	**01 23 44.7**	**+3.6**
JNU	**Nakatsue**	**9.55**	**287**	Pn	**Pn**	**01 24 01.8**	**+4.9**
	comp=Z,0.6nm,0.3s,baz=76,slow=16,SNR=9.5						
JNU				LR	LR	01 27 35.2	
	comp=Z,4μm,18.7s,baz=92,slow=37						
ERM	**Erimo**	**11.22**	**5**	Pn	**Pn**	**01 24 15.0**	**-4.6**
	comp=Z,281nm,0.4s,SNR=8.2						
ERM	**Erimo**	**11.22**	**5**	*e*Pn	**Pn**	**01 24 14.2**	**-5.4**
	comp=Z,48nm,0.9s						
ERM	**Erimo**	**11.22**	**5**	*e*P	**Pn**	**01 24 14.4**	**-5.2**
JOW	**Kunigami**	**12.51**	**255**	Pn	**Pn**	**01 24 42.8**	**+5.4**
	comp=Z,1.4nm,0.3s,baz=115,slow=12,SNR=4.8						
JOW				LR	LR	01 28 49.7	
	comp=Z,3μm,20.3s,baz=80,slow=34						
KSRS	**Korea Array**	**13.25**	**304**	Pn	**Pn**	**01 24 49.3**	**+1.8**
	comp=Z,0.3nm,0.3s,baz=117,slow=13,SNR=16						
KSRS				LR	LR	01 29 43.7	
	comp=Z,4μm,19.9s,baz=109,slow=36						
ASAJ	**Asahikawa**	**13.28**	**2**	Pn	**Pn**	**01 24 44.2**	**-3.6**
	comp=Z,1.9nm,0.3s,baz=218,slow=15,SNR=12						
ASAJ				Sn	**Sn**	**01 27 03.1**	**-11**
	comp=Z,1.8nm,0.3s,baz=29,slow=25,SNR=3.7						
ASAJ				LR	LR	01 30 32.2	
	comp=Z,4μm,19.2s,baz=180,slow=40						
INCN	**Inchon**	**14.20**	**302**	*e*Pn	**Pn**	**01 25 04.2**	**+3.9**
	comp=Z,132nm,1.3s						
VLA	**Vladivostok**	**14.59**	**330**	*e*P	**Pn**	**01 25 03.7**	**-1.9**
VLA				pmax	pmax		
	comp=Z,46nm,1.2s						
YSS	**Yuzh-Sakhalins**	**16.12**	**2**	*e*Pn	**Pn**	**01 25 21.3**	**-4.4**
	comp=Z,161nm,1.4s						
YSS	**Yuzh-Sakhalins**	**16.12**	**2**	*e*P	**Pn**	**01 25 22.0**	**-3.7**
YSS				*e*S	**Sn**	**01 28 12.0**	**-12**
YSS				pmax	pmax		
	comp=Z,70nm,1.1s						
YSS				MLR	MLR		
	comp=Z,3μm,15.0s						
YSS				MLR	MLR		
	comp=N,3μm,16.0s						
YSS				MLR	MLR		
	comp=E,2μm,14.0s						
MDJ	**Mudanjiang**	**16.79**	**328**	P	**Pn**	**01 25 31.9**	**-2.3**
MDJ				XP	sP	01 25 46.4	-0.1
MDJ				S	**Sn**	**01 28 34.5**	**-5.3**
MDJ				PCP	PcP	01 30 21.8	+0.2
MDJ				SCP	ScP	01 33 56.3	+1.7
MDJ				SCS	ScS	01 37 32.4	-1.5
MDJ				AMB	AMB		
	comp=Z,29nm,1.6s						
MDJ				AMB	AMB		
	comp=Z,191nm,4.3s						
MDJ				LR	LR		
	comp=N,3μm,15.9s						
MDJ				LR	LR		
	comp=E,3μm,14.4s						
MDJ				LR	LR		
	comp=Z,4μm,18.2s						
GUMO	**Guam**	**17.39**	**170**	*e*Pn	**Pn**	**01 25 43.3**	**+1.3**
	comp=Z,981nm,1.7s						
GUMO				LR	LR	01 32 15.4	
GUMO	**Guam**	**17.39**	**170**	*e*P	**Pn**	**01 25 43.3**	**+1.4**
GUMO				pmax	pmax		
	comp=Z,981nm,1.7s						
GUMO	**Guam**	**17.39**	**170**	P	**Pn**	**01 25 44.4**	**+2.4**
	comp=Z,4.8nm,0.3s,baz=215,slow=12,SNR=5.3						
GUMO				LR	LR	01 32 15.4	
	comp=Z,2μm,18.8s,baz=355,slow=37						
SSE	**Sheshan**	**17.68**	**276**	⇑P	**Pn**	**01 25 47.0**	**+1.5**
SSE				XP	sP	01 26 02.2	+5.6
SSE				S	**Sn**	**01 29 03.5**	**+1.7**
SSE				AMB	AMB		
	comp=Z,29nm,0.7s						
SSE				AMB	AMB		
	comp=Z,571nm,6.1s						
SSE				LR	LR		
	comp=N,750nm,16.5s						
SSE				LR	LR		
	comp=E,3μm,16.6s						
SSE				LR	LR		
	comp=Z,3μm,17.4s						
SNY	**Shenyang**	**18.29**	**312**	⇓P	**Pn**	**01 25 52.9**	**0.0**
SNY				S	**Sn**	**01 29 20.4**	**+4.0**
SNY				AMB	AMB		
	comp=Z,41nm,1.6s						
SNY				LR	LR		
	comp=N,4μm,16.8s						
SNY				LR	LR		
	comp=E,1μm,14.4s						
SNY				LR	LR		
	comp=Z,3μm,15.9s						
CN2	**Changchun**	**18.31**	**320**	⇓*i*P	**Pn**	**01 25 51.0**	**-2.1**
CN2				*e*AP	pP	01 26 00.7	+0.6
CN2				*e*S	**Sn**	**01 29 10.0**	**-6.7**
CN2				AMB	AMB		
	comp=Z,80nm,1.2s						
CN2				AMB	AMB		
	comp=Z,200nm,6.0s						
CN2				LR	LR		
	comp=N,4μm,15.0s						
CN2				LR	LR		
	comp=E,3μm,15.0s						
CN2				LR	LR		
	comp=Z,4μm,19.0s						
HABR	**Khabarovsk**	**18.36**	**346**	*e*P	**Pn**	**01 25 51.9**	**-1.7**
HABR				*e*S	**Sn**	**01 29 16.7**	**-1.1**
HABR				pmax	pmax		
	comp=Z,207nm,1.6s						
DL2	**Dalian**	**18.39**	**301**	⇑*i*P	**Pn**	**01 25 52.6**	**-1.5**
DL2				S	**Sn**	**01 29 13.1**	**-5.6**
DL2				AMB	AMB		
	comp=Z,20nm,0.9s						
DL2				AMB	AMB		
	comp=Z,280nm,6.4s						
DL2				LR	LR		
	comp=N,2μm,14.5s						
DL2				LR	LR		
	comp=E,1μm,15.1s						
DL2				LR	LR		
	comp=Z,2μm,13.3s						
TATO	**Taipei**	**18.87**	**257**	*e*Pn	**Pn**	**01 26 01.1**	**+1.0**
	comp=Z,128nm,1.0s						
YHNB	**Yeheng**	**19.08**	**256**	*e*P	**Pn**	**01 26 02.6**	**0.0**
NACB	**Ninganchiao**	**19.10**	**255**	*e*P	**Pn**	**01 26 02.9**	**+0.1**
NJ2	**Nanjing**	**19.61**	**280**	*e*P	**Pn**	**01 26 09.5**	**+0.6**
NJ2				AP	pP	01 26 16.8	+2.3
NJ2				XP	sP	01 26 21.8	+4.0
NJ2				PP		01 26 27.6	
NJ2				S	**Sn**	**01 29 44.0**	**-4.5**
NJ2				AMB	AMB		
	comp=Z,320nm,1.2s						
NJ2				AMB	AMB		
	comp=Z,2μm,8.2s						
NJ2				LR	LR		
	comp=N,4μm,12.3s						
NJ2				LR	LR		
	comp=E,3μm,11.6s						
NJ2				LR	LR		
	comp=Z,2μm,17.6s						
KLR	**Kul'dur**	**19.89**	**340**	*e*P	**Pn**	**01 26 03.2**	**-8.9**
KLR				*e*S	**Sn**	**01 29 49.5**	**-5.3**
KLR				pmax	pmax		
	comp=E,57nm,1.6s						
KLR				pmax	pmax		
	comp=Z,85nm,1.6s						
KLR				smax			
	comp=N,1μm,9.5s						
KLR				smax			
	comp=E,1μm,9.5s						
KLR				MLR	MLR		
	comp=N,2μm,13.5s						
KLR				MLR	MLR		
	comp=Z,7μm,13.5s						
TIA	**Tai'an**	**21.24**	**291**	⇑P	**P**	**01 26 25.2**	**+0.1**
TIA				LR	LR		
	comp=N,2μm,13.0s						
QZH	**Quanzhou**	**21.32**	**260**	⇑P	**P**	**01 26 25.8**	**-0.2**
QZH				S	**S**	**01 30 17.0**	**-4.6**
QZH				LR	LR		
	comp=N,2μm,12.7s,MS4.9						
QZH				LR	LR		
	comp=E,2μm,11.0s,MS4.9						
QZH				LR	LR		
	comp=Z,3μm,14.2s,MS4.9						
BJI	**Beijing**	**22.75**	**301**	P	**P**	**01 26 39.6**	**-1.6**
BJI				XP	sP	01 26 54.6	+3.0
BJI				AMB	AMB		
	comp=Z,80nm,1.3s,mb5.0						
BJI				AMB	AMB		
	comp=Z,496nm,5.4s						
BJI				LR	LR		
	comp=N,2μm,13.8s						
BJI				LR	LR		
	comp=E,3μm,18.9s						
BJI				LR	LR		
	comp=Z,3μm,20.4s						
BJT	**Baijiatuau**	**22.75**	**301**	*e*P	**P**	**01 26 39.4**	**-1.8**
	comp=Z,142nm,1.3s,mb5.2						
BJT				LR	LR		
	comp=Z,4μm,20.0s,MS4.9						
BJT	**Baijiatuau**	**22.75**	**301**	*e*P	**P**	**01 26 39.4**	**-1.7**
BJT				pmax	pmax		
	comp=Z,142nm,1.3s						
BJT				MLR	MLR		
	comp=Z,4μm,20.0s						
WHN	**Wuhan**	**23.59**	**276**	⇑P	**P**	**01

comp=Z,439nm,6.9s
HHC LR LR
comp=N,3μm,13.1s,MS5.0
HHC LR LR
comp=E,3μm,17.6s,MS5.0
HHC LR LR
comp=Z,3μm,16.7s,MS5.0
BTO Baotou 27.46 300 *e*P **P** **01 27 24.4 -0.5**
ENH Enshi 27.79 277 PFAKE 01 27 40.0 +12
ENH LR LR
comp=Z,5.0nm,20.0s
XAN Xi'an 27.87 285 P **P** **01 27 27.7 -0.9**
XAN AP pP 01 27 35.0 -1.3
XAN XP sP 01 27 38.1 -1.4
XAN S **S** **01 32 12.8 +2.3**
XAN AMB AMB
comp=Z,20nm,1.4s,mb4.5
XAN AMB AMB
comp=Z,183nm,8.9s
XAN LR LR
comp=N,1μm,14.8s
XAN LR LR
comp=Z,2μm,13.6s,MS4.7
DAV Davao City (W) 28.10 216 PFAKE 01 27 40.0 +9.2
DAV LR LR
comp=Z,2μm,20.0s,MS4.7
NRGR Nerungri 28.45 340 *e*P **P** **01 27 34.6 +1.1**
CLNS Chul'man 28.55 340 *e*P **P** **01 27 33.0 -1.5**
CLNS *e**PP pP 01 27 39.0 -3.1
CLNS *e*PPP 01 28 21.4
CLNS *e* 01 30 44.6
CLNS *e*S **S** **01 32 15.3 -5.5**
CLNS pmax pmax
comp=Z,76nm,1.2s,mb5.3
CLNS pmax pmax
comp=N,53nm,1.0s
CLNS pmax pmax
comp=E,20nm,1.0s
CLNS smax
comp=N,433nm,12.6s
CLNS smax
comp=Z,291nm,12.5s
CLNS smax
comp=E,468nm,12.8s
MA2 Magadan 29.38 9 *e*P **P** **01 27 39.7 -2.0**
MA2 LR LR
comp=Z,781nm,19.0s,MS4.3
MA2 Magadan 29.38 9 *e*P **P** **01 27 41.1 -0.6**
MA2 *e*S **S** **01 32 31.2 -2.5**
MA2 pmax pmax
comp=Z,20nm,0.9s,mb4.8
CIT Chita 29.64 324 *e*P **P** **01 27 44.5 +0.4**
CIT *e* 01 30 49.2
CIT *e* 01 32 45.1
CIT *e* 01 38 22.6
CIT pmax pmax
comp=Z,209nm,2.3s,mb5.5
GYA Guiyang 31.06 271⇑ *i*P **P** **01 27 58.6 +1.6**
GYA AP pP 01 28 09.7 +5.0
GYA XP sP 01 28 13.8 +5.9
GYA PP PP 01 29 01.7 -5.6
GYA PCP PcP 01 30 54.8 +2.4
GYA S **S** **01 33 01.2 +0.4**
GYA XS sS 01 33 17.3 +3.8
GYA SCP ScP 01 34 33.6 +0.1
GYA PCS PcS 01 34 37.9 +1.3
GYA SS SS 01 34 45.2 -29
GYA SCS ScS 01 38 29.0 -1.7
GYA AMB AMB
comp=Z,30nm,0.8s,mb5.2
GYA AMB AMB
comp=Z,160nm,5.2s
GYA LR LR
comp=N,840nm,17.8s,MS4.6
GYA LR LR
comp=E,830nm,17.2s,MS4.6
GYA LR LR
comp=Z,730nm,18.4s,MS4.4
QIZ Qiongzhong 31.16 255 P **P** **01 27 58.2 +0.2**
QIZ AP pP 01 28 07.2 +1.6
QIZ S **S** **01 33 04.5 +2.0**
QIZ XS sS 01 33 21.7 +6.6
QIZ LR LR
comp=E,941nm,14.7s
QIZ LR LR
comp=Z,1μm,18.4s,MS4.5
QIZ Qiongzhong 31.16 255 PFAKE 01 28 10.0 +12
QIZ LR LR
comp=Z,1μm,19.0s,MS4.5
ULN Ulaanbaatar 31.47 313 *e*P **P** **01 28 00.8 +0.5**
comp=Z,136nm,1.4s,mb5.6
ULN LR LR
comp=Z,1μm,19.0s,MS4.6
ULN Ulaanbaatar 31.47 313 *c i*P **P** **01 28 01.3 +1.0**
SONM Songino Array 31.87 312 P **P** **01 28 04.9 +1.0**
SONM pmax pmax
comp=Z,26nm,1.1s
SONM MLR MLR
comp=Z,3μm,18.3s
SONM Songino Array 31.87 312 P **P** **01 28 04.9 +1.0**
comp=Z,26nm,1.1s,mb5.0,baz=118,slow=7.7,SNR=105
SONM LR LR 01 41 39.4
comp=Z,3μm,18.3s,MS5.0,baz=108,slow=38
LZH Lanzhou 31.96 290 *e*P **P** **01 28 04.3 -0.5**
LZH AP pP 01 28 14.0 +1.5
LZH XP sP 01 28 17.5 +1.8
LZH PP PP 01 29 15.0 -2.2
LZH PCP PcP 01 30 54.5 -0.1
LZH *e*S **S** **01 33 16.0 +1.4**
LZH XS sS 01 33 33.0 +5.7
LZH SS SS 01 35 04.0 -28
LZH AMB AMB
comp=Z,27nm,1.3s,mb4.9
LZH AMB AMB
comp=Z,78nm,4.1s
LZH LR LR
comp=N,2μm,13.4s
LZH LR LR
comp=Z,2μm,14.6s,MS4.9
SMY Shemya 32.11 38 PFAKE 01 28 20.0 +14
SMY LR LR
comp=Z,2μm,20.0s,MS4.8
YAK Yakutsk 32.20 349 P **P** **01 28 05.5 -1.0**
comp=Z,23nm,0.7s,mb5.1
YAK LR LR
comp=Z,2μm,21.0s,MS4.7
YAK Yakutsk 32.20 349 *e*P **P** **01 28 05.1 -1.5**
YAK *e**PP pP 01 28 14.2 0.0
YAK *e* 01 29 08.7
YAK *e* 01 30 53.7
YAK *e*S **S** **01 33 12.5 -5.2**
YAK *e* 01 38 33.8
YAK pmax pmax
comp=Z,48nm,1.4s,mb5.1
YAK pmax pmax
comp=N,27nm,1.3s
YAK pmax pmax
comp=E,9.0nm,1.1s
YAK pmax pmax
comp=Z,31nm,1.9s,mb4.8
YAK pmax pmax
comp=N,28nm,1.1s
YAK pmax pmax
comp=E,31nm,1.8s
YAK smax
comp=E,139nm,2.6s
YAK smax
comp=N,88nm,2.3s
YAK MLR MLR
comp=N,2μm,21.0s,MS4.8
YAK MLR MLR
comp=Z,2μm,21.0s,MS4.8
YAK MLR MLR
comp=E,667nm,18.0s,MS4.8
CD2 Chengdu 32.55 280⇑ *i*P **P** **01 28 10.4 +0.3**
CD2 AP pP 01 28 19.9 +2.2
CD2 XP sP 01 28 24.1 +3.2
CD2 PP PP 01 29 19.6 -4.2
CD2 S **S** **01 33 22.7 -1.3**
CD2 XS sS 01 33 38.7 +2.1
CD2 SS SS 01 35 20.6 -24
CD2 SCS ScS 01 38 34.5 -3.6
CD2 AMB AMB
comp=Z,20nm,0.8s,mb5.1
CD2 AMB AMB
comp=Z,180nm,7.1s
CD2 LR LR
comp=N,2μm,13.2s,MS5.2
CD2 LR LR
comp=E,3μm,15.6s,MS5.2
CD2 LR LR
comp=Z,3μm,14.4s,MS5.2
SEY Seymchan 32.83 9⇑ *e*P **P** **01 28 11.6 -0.5**
BOD Bodaibo 33.07 333 *e*P **P** **01 28 13.6 -0.7**
BOD pmax pmax
comp=Z,22nm,1.7s,mb4.8
ZAK Zakamensk 34.65 315 *e*P **P** **01 28 28.6 +0.5**
ZAK pmax pmax
comp=Z,44nm,1.5s,mb5.2
IRK Irkutsk 34.75 319⇑ *i*P **P** **01 28 29.8 +0.8**
IRK pmax pmax
comp=Z,112nm,1.9s,mb5.5
KMI Kunming 34.84 270 P **P** **01 28 31.6 +1.6**
KMI AP pP 01 28 41.6 +3.9
KMI XP sP 01 28 45.6 +4.7
KMI PP PP 01 29 48.7 -0.5
KMI S **S** **01 33 58.7 -0.8**
KMI XS sS 01 34 16.2 +4.0
KMI SS SS 01 36 12.4 -19
KMI AMB AMB
comp=Z,6.0nm,0.9s,mb4.5
KMI AMB AMB
comp=Z,106nm,5.3s
KMI LR LR
comp=N,656nm,14.9s,MS4.9
KMI LR LR
comp=E,1μm,14.9s,MS4.9
KMI LR LR
comp=Z,2μm,12.3s,MS5.0
TLY Talaya 34.90 318 P **P** **01 28 32.3 +2.1**
comp=Z,296nm,1.4s,mb6.0,SNR=13
TLY Talaya 34.90 318 *e*P **P** **01 28 31.3 +1.1**
comp=Z,149nm,1.5s,mb5.7
TLY LR LR
comp=Z,3μm,19.0s,MS5.1
TLY Talaya 34.90 318 *c i*P **P** **01 28 31.6 +1.4**
TLY *e*S **S** **01 34 00.6 +0.8**
TLY pmax pmax
comp=Z,104nm,1.4s,mb5.6
TLY MLR MLR
comp=Z,3μm,16.0s,MS5.1
GTA Gaotai 35.14 296⇑ P **P** **01 28 31.7 -0.7**
GTA AP pP 01 28 40.3 +0.1
GTA XP sP 01 28 43.5 +0.2
GTA PP PP 01 29 49.7 -2.6
GTA AMB AMB
comp=Z,12nm,0.9s,mb4.8
GTA AMB AMB
comp=Z,141nm,4.6s
GTA LR LR
comp=N,2μm,15.6s,MS5.2
GTA LR LR
comp=E,2μm,14.8s,MS5.2
GTA LR LR
comp=Z,3μm,15.6s,MS5.1
MOY Mondy 36.44 317 *e*P **P** **01 28 44.6 +1.1**
MOY pmax pmax
comp=Z,126nm,2.7s,mb5.4
ADK Adak 36.93 43 PFAKE 01 29 00.0 +12
ADK LR LR
comp=Z,2μm,20.0s,MS4.9
BILL Bilibino 39.91 14 *e*P **P** **01 29 11.2 -1.3**
comp=Z,12nm,0.9s,mb4.6
BILL LR LR
comp=Z,1μm,19.0s,MS4.7
BILL Bilibino 39.91 14⇑ *e*P **P** **01 29 11.7 -0.8**
BILL pmax pmax
comp=Z,31nm,1.8s,mb4.7
CHTO Chiang Mai 40.47 263 PFAKE 01 29 30.0 +12
CHTO LR LR
comp=Z,804nm,21.0s,MS4.5
TIXI Tiksi 41.48 354 *e*P **P** **01 29 24.1 -1.3**
comp=Z,4.2nm,0.8s,mb4.1
TIXI LR LR
comp=Z,861nm,19.0s,MS4.6
TIXI Tiksi 41.48 354 *e*P **P** **01 29 23.7 -1.6**
TIXI *e* 01 31 08.0
TIXI *e*S **S** **01 35 33.2 -5.6**
TIXI *e*SS SS 01 38 39.5 -3.8
TIXI pmax pmax
comp=Z,17nm,2.1s,mb4.3
TIXI MLR MLR
comp=Z,1μm,14.0s,MS4.9
UNV Unalaska Valle 43.39 43 PFAKE 01 29 50.0 +8.9
UNV LR LR
comp=Z,5μm,20.0s,MS5.4
LSA Lhasa 43.45 282 PFAKE 01 29 50.0 +8.0
LSA LR LR
comp=Z,2μm,20.0s,MS4.9
WMQ Urumqi 44.20 303⇑ *i*P **P** **01 29 48.4 +0.6**
WMQ AP pP 01 29 58.0 +2.3
WMQ XP sP 01 30 02.5 +3.7
WMQ PP PP 01 31 34.0 +3.1
WMQ SCP ScP 01 35 22.0 -0.5
WMQ S **S** **01 36 19.0 -0.5**
WMQ XS sS 01 36 35.0 +2.5
WMQ SCS ScS 01 39 42.0 -2.5
WMQ AMB AMB
comp=Z,51nm,1.5s,mb5.0
WMQ AMB AMB
comp=Z,261nm,3.7s
WMQ LR LR
comp=N,2μm,20.2s,MS5.1
WMQ LR LR
comp=E,1μm,16.2s,MS5.1
WMQ LR LR
comp=Z,2μm,25.4s
KAKA Kakadu 44.22 193⇓ *i*P **P** **01 29 47.3 -0.8**
comp=Z,19nm,0.7s,mb4.9
KAKA Kakadu 44.22 193 *e*P **P** **01 29 47.2 -0.9**
BATI Kupang 44.36 206 P **P** **01 29 50.5 +1.2**
comp=Z,26nm,0.4s,mb5.3,baz=24,slow=1.8,SNR=5.3
TNA Tin City 46.18 26 PFAKE 01 30 10.0 +6.8
TNA LR LR
comp=Z,494nm,22.0s,MS4.4
ZAA0 Zalesovo Array 46.50 317 *e*P **P** **01 30 05.5 -0.3**
ZALV Zalesovo Beam 46.50 317 P **P** **01 30 05.7 -0.1**
ZALV PcP PcP 01 31 40.2 +0.2
ZALV LR LR 01 50 27.6
ZALV Zalesovo Beam 46.50 317 P **P** **01 30 05.7 -0.1**
comp=Z,11nm,0.9s,mb4.8,baz=97,slow=6.1,SNR=49
ZALV PcP PcP 01 31 40.2 +0.2
comp=Z,3.6nm,0.7s,baz=114,slow=3.5,SNR=3.6
ZALV LR LR 01 50 27.6
comp=Z,1μm,18.3s,MS5.0,baz=324,slow=37
ZAL Zalesovo 46.51 317 P **P** **01 30 05.7 -0.2**
ZAL 01 31 40.2
NVS Novosibirsk 47.51 318⇑ *i*P **P** **01 30 13.7 0.0**
NVS *e*S **S** **01 37 03.7 -3.1**
NVS pmax pmax
comp=N,20nm,1.5s
NVS pmax pmax
comp=E,89nm,1.5s
NVS pmax pmax
comp=Z,94nm,1.5s,mb5.6
NVS smax
comp=E,74nm,2.4s
NVS smax
comp=N,37nm,2.0s
MK31 Makanchi Array 47.90 307 *i* P **P** **01 30 17.3 +0.4**
MK31 pmax pmax
comp=Z,50nm,1.1s,mb5.5
MKAR Makanchi Array 47.90 307 P **P** **01 30 17.5 +0.6**
MKAR S **S** **01 37 14.8 +2.1**
MKAR LR LR 01 51 30.1
MKAR Makanchi Array 47.90 307 *i* P **P** **01 30 17.5 +0.6**
MKAR pmax pmax
comp=Z,15nm,0.8s
MKAR Makanchi Array 47.90 307 P **P** **01 30 17.5 +0.6**
comp=Z,15nm,0.8s,mb5.1,baz=90,slow=9.8,SNR=59
MKAR S **S** **01 37 14.8 +2.1**
comp=Z,0.5nm,0.8s,baz=90,slow=17,SNR=2.4
MKAR LR LR 01 51 30.1
comp=Z,1μm,19.1s,MS4.8,baz=94,slow=37
PSI Prapat 49.13 244 P **P** **01 30 27.3 +0.5**
PSI 01 31 54.6
PSI pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
PSI MLR MLR
comp=Z,396nm,18.4s,MS4.4
PSI Prapat 49.13 244 P **P** **01 30 27.3 +0.5**
comp=Z,7.8nm,0.9s,mb4.7,baz=38,slow=4.6,SNR=6.2
PSI PcP PcP 01 31 54.6 +4.5
comp=Z,6.8nm,0.9s,baz=351,slow=4.5,SNR=4.0
PSI LR LR 01 51 09.1
comp=Z,396nm,18.4s,MS4.4,baz=235,slow=36
KURK Kurchatov 50.18 312 LR **P** **01 30 34.3 0.0**
comp=Z,215nm,1.4s,mb6.0,SNR=36
KURK Kurchatov 50.18 312⇑ *i*P **P** **01 30 34.0 -0.3**
comp=Z,46nm,0.9s,mb5.5
KURK LR LR
comp=Z,2μm,22.0s,MS5.0
KURK Kurchatov 50.18 312 *c i*P **P** **01 30 34.2 -0.1**
SVW2 Sparrevohn 50.36 34 *e*P **P** **01 30 37.1 +1.6**
TTA Tatalina 50.43 32 *e*P **P** **01 30 37.0 +1.0**
comp=Z,22nm,1.4s,mb5.0
TTA Tatalina 50.43 32 *e*P **P** **01 30 37.0 +1.0**
TTA pmax pmax
comp=Z,22nm,1.4s,mb5.0
CTA Charters Tower 50.80 175⇓ *i*P **P** **01 30 40.8 +1.5**
comp=Z,6.9nm,0.6s,mb4.8
CTA Charters Tower 50.80 175⇓ *i*P **P** **01 30 40.8 +1.5**
CTA pmax pmax
comp=Z,7.0nm,0.6s
CTA Charters Tower 50.80 175 P **P** **01 30 39.1 -0.1**
comp=Z,7.2nm,0.6s,mb4.8,baz=5.0,slow=9.6,SNR=13
CTA LR LR 01 50 58.6
comp=Z,460nm,19.2s,MS4.5,baz=20,slow=35
CTAO Charters Tower 50.80 175 PFAKE 01 30 50.0 +11
CTAO LR LR
comp=Z,526nm,20.0s,MS4.5
WRAB Tennant Creek 50.98 189 P **P** **01 30 40.0 -0.6**
comp=Z,163nm,0.4s,mb6.3,SNR=22
WRAB Tennant Creek 50.98 189⇑ *e*P **P** **01 30 39.7 -0.9**
comp=Z,179nm,1.8s,mb5.7
WRAB Tennant Creek 50.98 189 *i* P **P** **01 30 39.9 -0.7**
WB2 Warramunga Arr 50.98 189⇑ *i*P **P** **01 30 39.7 -0.9**
WB2 Warramunga Arr 50.98 189 *e*P **P** **01 30 39.9 -0.7**
WRA Warramunga Arr 50.99 189 *i* P **P** **01 30 39.9 -0.7**
WRA pmax pmax
comp=Z,16nm,0.4s
WRA Warramunga Arr 50.99 189 P **P** **01 30 39.9 -0.7**
comp=Z,16nm,0.4s,mb5.3,baz=4.4,slow=7.6,SNR=49
WRA LR LR 01 51 39.0
comp=Z,750nm,19.8s,MS4.7,baz=5.0,slow=35
FITZ Fitzroy Crossi 51.07 200⇓ *i*P **P** **01 30 41.2 -0.1**
comp=Z,14nm,0.9s,mb4.9
FITZ Fitzroy Crossi 51.07 200 P **P** **01 30 40.5 -0.8**
comp=Z,2.7nm,0.4s,mb4.5,baz=29,slow=12,SNR=8.9
KDAK Kodiak Island 51.62 38 PFAKE 01 31 00.0 +15
KDAK LR LR
comp=Z,559nm,20.0s,MS4.6
IMA2 Indian Mountai 51.93 28 *e*P **P** **01 30 48.3 +1.1**
ULHL Ulahol 52.71 302 P **P** **01 30 53.6 +0.2**
SNR=8.9
TKM2 Tokmak 2 53.06 303 *e*P **P** **01 30 56.8 +0.8**
comp=Z,64nm,1.5s,mb5.3
TKM2 LR LR
comp=Z,1μm,20.0s,MS5.0
TKM2 Tokmak 2 53.06 303 *e*P **P** **01 30 56.8 +0.8**
TKM2 pmax pmax
comp=Z,64nm,1.5s,mb5.3
TKM2 MLR MLR
comp=Z,1μm,20.0s,MS5.0
TKM2 Tokmak 2 53.06 303 P **P** **01 30 57.8 +1.8**
SNR=21
FUNA Funafuti 53.07 131 PFAKE 01 31 10.0 +14
FUNA LR LR
comp=Z,7μm,20.0s,MS5.7
KSH Kashi 53.44 299 *e*P **P** **01 31 00.7 +1.9**
KSH *e*AP pP 01 31 11.8 +5.0
KSH *e*XP sP 01 31 15.1 +5.2
KSH PCP PcP 01 32 08.2 +2.5
KSH *e*PP PP 01 33 02.8 +3.6
KSH *e*SCP ScP 01 36 01.3 -0.5
KSH PCS PcS 01 36 05.2 +0.5
KSH S **S** **01 38 28.9 -0.8**
KSH XS sS 01 38 46.5 +3.6
KSH SCS ScS 01 40 44.5 -2.2
KSH AMB AMB
comp=Z,107nm,1.1s,mb5.7
KSH AMB AMB
comp=Z,883nm,3.2s
KSH LR LR
comp=N,3μm,10.3s
KSH LR LR
comp=E,2μm,7.8s
KSH LR LR
comp=Z,3μm,15.3s,MS5.4
KZA Kyzart 53.47 302 P **P** **01 31 01.6 +2.6**
SNR=10
PMR Palmer 53.50 34 PFAKE 01 31 10.0 +11
PMR LR LR
comp=Z,790nm,20.0s,MS4.8
KBK Karagaybulak 53.58 303 P **P** **01 31 01.2 +1.4**
SNR=16
CHMS Chumysh 53.66 303 P **P** **01 31 00.9 +0.6**
SNR=8.3
MCK McKinley 53.69 31 *e*P **P** **01 31 00.3 +0.1**
comp=Z,55nm,1.3s,mb5.3
MCK LR LR
comp=Z,339nm,22.0s,MS4.4
MCK McKinley 53.69 31 *e*P **P** **01 31 00.3 +0.1**
MCK pmax pmax
comp=Z,55nm,1.3s,mb5.3
MCK MLR MLR
comp=Z,339nm,22.0s,MS4.4
FRU Bishkek 53.79 303 *e*P **P** **01 31 01.8 +0.5**
FRU pmax pmax
comp=Z,98nm,1.8s,mb5.4
USP Ospenovka 53.79 303 P **P** **01 31 02.5 +1.2**
SNR=9.7
AAK Ala-Archa 53.91 303 P **P** **01 31 02.1 -0.1**
comp=Z,65nm,0.8s,mb5.6,SNR=9.9
AAK Ala-Archa 53.91 303 P **P** **01 31 03.1 +0.9**
SNR=7.7
UCH Uchtor 53.98 302 *e*P **P** **01 31 04.4 +1.8**
comp=Z,58nm,1.6s,mb5.3
UCH LR LR
comp=Z,1μm,22.0s,MS4.8
UCH Uchtor 53.98 302 P **P** **01 31 04.5 +1.8**
SNR=21
COLA College 54.22 30 *e*P **P** **01 31 04.4 +0.3**
comp=Z,8.9nm,0.3s,mb5.2
COLA LR LR
comp=Z,456nm,21.0s,MS4.5
COLA College 54.22 30 *e*P **P** **01 31 04.4 +0.3**
COLA pmax pmax
comp=Z,9.0nm,0.3s,mb5.2
COLA MLR MLR
comp=Z,456nm,21.0s,MS4.5
EKS2 Erkin-Say 54.42 303 *e*P **P** **01 31 06.2 +0.2**
comp=Z,40nm,1.7s,mb5.1
EKS2 LR LR
comp=Z,1μm,20.0s,MS5.0
EKS2 Erkin-Say 54.42 303 P **P** **01 31 06.8 +0.8**
SNR=11
AML Almayashu 54.59 302 *e*P **P** **01 31 08.9 +1.7**
comp=Z,45nm,1.1s,mb5.4
AML LR LR
comp=Z,1μm,19.0s,MS5.0
AML Almayashu 54.59 302 P **P** **01 31 09.1 +1.9**
SNR=26
ASAR Alice Springs 54.71 189 P **P** **01 31 07.2 -0.9**
ASAR pmax pmax
comp=Z,8.0nm,0.5s
ASAR Alice Springs 54.71 189 P **P** **01 31 07.2 -0.9**
comp=Z,7.9nm,0.5s,mb5.0,baz=357,slow=5.1,SNR=70
CHKZ Chkalovo 54.91 317 *i* P **P** **01 31 08.5 -0.8**
CHKZ pmax pmax
comp=Z,24nm,1.5s,mb5.0
BRVK Borovoye 55.17 316 P **P** **01 31 11.8 +0.6**
comp=Z,74nm,1.5s,mb5.5,SNR=8.6
BRVK Borovoye 55.17 316 *e*P **P** **01 31 11.3 +0.2**
comp=Z,70nm,1.8s,mb5.4
BRVK LR LR
comp=Z,2μm,19.0s,MS5.2
BRVK Borovoye 55.17 316 *e*P **P** **01 31 11.4 +0.2**
BRVK pmax pmax
comp=Z,70nm,1.8s,mb5.4
BRVK MLR MLR
comp=Z,2μm,19.0s,MS5.2
MBWA Marble Bar 55.87 205 *e*P **P** **01 31 15.5 -0.9**
comp=Z,12nm,0.8s,mb5.0
MBWA LR LR
comp=Z,352nm,21.0s,MS4.4

KK31 Karatay Array 56.68 304 *i* P **P 01 31 22.6 +0.4**
KK31 pmax pmax
comp=Z,145nm,1.5s,mb5.8
EGAK Eagle 57.08 30 *e*P **P 01 31 23.6 -1.1**
comp=Z,11nm,1.1s,mb4.8
EGAK LR LR
comp=Z,415nm,20.0s,MS4.5
DAWY Dawson 57.90 31 *e*P **P 01 31 29.8 -0.6**
INK Inuvik 59.80 25 P **P 01 31 42.8 -0.7**
INK pmax pmax
comp=Z,10.0nm,1.1s
INK Inuvik 59.80 25 P **P 01 31 42.8 -0.7**
comp=Z,10nm,1.1s,mb4.8,baz=273,slow=8.0,SNR=15
SVE Sverdlovsk 60.09 321⇓*e*P **P 01 31 46.1 +0.4**
SVE *e* 01 41 37.3
SVE pmax pmax
comp=Z,63nm,1.2s,mb5.5
SVE MLR MLR
comp=Z,1μm,16.0s,MS5.2
KBL Kabul 60.11 295 *e*P **P 01 31 46.1 -0.2**
comp=Z,56nm,1.4s,mb5.4
SIT Sitka 60.96 38 PFAKE 01 32 00.0 +8.3
SIT LR LR
comp=Z,2μm,20.0s,MS5.3
ARU Arti 61.30 321 P **P 01 31 54.8 +0.9**
comp=Z,215nm,1.1s,mb6.2,SNR=16
ARU Arti 61.30 321 *e*P **P 01 31 54.0 0.0**
comp=Z,85nm,1.3s,mb5.7
ARU LR LR
comp=Z,1μm,20.0s,MS5.1
ARU Arti 61.30 321 *d i*P **P 01 31 53.9 0.0**
ARU *e* 01 32 38.5
ARU *e* 01 34 07.0
ARU *e*S **S 01 40 10.7 -1.7**
ARU *e*SS SS 01 44 07.8 -4.6
ARU pmax pmax
comp=Z,91nm,1.7s,mb5.6
ARU MLR MLR
comp=Z,1μm,17.0s,MS5.0
SOKR Solikamsk 61.51 325⇑*i*P **P 01 31 55.2 -0.1**
SOKR S **S 01 40 23.1 +8.1**
SOKR pmax pmax
comp=Z,40nm,1.5s,mb5.3
SOKR MLR MLR
comp=Z,2μm,22.0s,MS5.1
PALK Pallekele 61.54 261 PFAKE 01 32 10.0 +14
PALK LR LR
comp=Z,341nm,19.0s,MS4.5
STKA Stephens Creek 62.36 180 *e*P **P 01 32 02.2 +0.9**
comp=Z,6.1nm,0.9s,mb4.7
STKA Stephens Creek 62.36 180 *e*P **P 01 32 00.8 -0.5**
STKA Stephens Creek 62.36 180 P **P 01 32 00.9 -0.4**
comp=Z,7.4nm,0.8s,mb4.8,baz=336,slow=6.2,SNR=12
STKA LR LR 01 58 44.1
comp=Z,1μm,20.0s,MS5.0,baz=16,slow=36
FORT Forrest 62.65 193 *e*P **P 01 32 03.5 +0.3**
comp=Z,40nm,0.4s,mb5.9
AKTK Aktyubinsk 63.15 315 P **P 01 32 06.8 +0.3**
AKTK LR LR 02 00 25.3
AKTO Aktyubinsk 63.15 315 P **P 01 32 06.8 +0.3**
AKTO pmax pmax
comp=Z,10.0nm,0.8s,mb5.0
AKTO MLR MLR
comp=Z,848nm,20.0s,MS4.9
AKTO Aktyubinsk 63.15 315 P **P 01 32 06.8 +0.3**
comp=Z,10.0nm,0.8s,mb5.0,baz=74,slow=9.9,SNR=28
AKTO LR LR 02 00 25.3
comp=Z,848nm,20.0s,MS4.9,baz=225,slow=37
KLBR Kellerberrin 66.14 202 *e*P **P 01 32 25.6 -0.5**
comp=Z,23nm,1.4s,mb5.0
ABKT Ailbek 67.23 302 P **P 01 32 34.1 +0.9**
comp=Z,84nm,1.6s,mb5.5,SNR=5.2
NWAO Narrogin (SRO) 67.54 202 P **P 01 32 35.2 +0.2**
NWAO LR LR
comp=Z,210nm,21.0s,MS4.3
NWAO Narrogin (SRO) 67.54 202 P **P 01 32 35.2 +0.2**
comp=Z,8.9nm,0.8s,mb4.9,baz=51,slow=9.3,SNR=6.7
TMCR Tamitsa 68.36 333 *e*P **P 01 32 32.4 -7.4**
RES Resolute Bay 68.53 14 *e*P **P 01 32 39.4 -1.3**
comp=Z,224nm,0.9s,mb6.1
YKA Yellowknife Ar 69.04 29 P **P 01 32 42.7 -1.3**
YKA Yellowknife Ar 69.04 29 P **P 01 32 42.7 -1.4**
YKA pmax pmax
comp=Z,3.0nm,0.9s
YKA Yellowknife Ar 69.04 29 P **P 01 32 42.7 -1.3**
comp=Z,3.1nm,0.8s,mb4.3,baz=294,slow=6.0,SNR=32
ARCES ARCESS Array B 69.92 340 LR LR 02 10 52.3
comp=Z,686nm,19.8s,MS4.9,baz=69,slow=42
B04A Port Angeles 70.67 45 ⇓P **P 01 32 56.4 +2.0**
baz=70
NLWA Neilton Lookou 70.73 46 PFAKE 01 33 10.0 +15
NLWA LR LR
comp=Z,651nm,22.0s,MS4.8
NLWA Neilton Lookou 70.73 46 ⇑P **P 01 32 56.8 +2.1**
baz=71
RAO Raoul Island 71.00 143 LR LR 02 01 55.9
comp=Z,372nm,19.2s,MS4.7,baz=109,slow=34
JOF Joensuu 71.60 333 *e*p **P 01 32 52.4 -7.3**
comp=Z,6.1nm,0.7s,mb4.6
JOF Joensuu 71.60 333 *e*P **P 01 32 52.4 -7.3**
JOF pmax pmax
comp=Z,6.0nm,0.7s,mb4.6
DAG Danmarks Havn 71.97 355 *e*P **P 01 33 00.8 -1.0**
DAG pmax pmax
comp=Z,46nm,1.7s,mb5.1
DAG Danmarks Havn 71.97 355 *i*P **P 01 33 00.8 -1.0**
comp=Z,46nm,1.7s,mb5.1
D05A Enumclaw 71.97 45 ⇓P **P 01 33 02.4 +0.1**
baz=72
A07A Ashnola River, 72.12 43 ⇓P **P 01 33 02.8 -0.3**
baz=72,SNR=5.6
F04A Amboy 72.26 47 ⇑P **P 01 33 05.4 +1.4**
baz=72
COR Corvallis 72.28 48 PFAKE 01 33 20.0 +16
COR LR LR
comp=Z,723nm,21.0s,MS4.9
E05A Randle 72.39 46 ⇑P **P 01 33 04.7 0.0**
baz=72
MOS Moscow 72.46 325 *e*P **P 01 33 04.9 -0.1**
MOS *e* 01 33 24.4
MOS pmax pmax
comp=Z,63nm,1.3s,mb5.4
B07A Winthrop 72.54 44 ⇑P **P 01 33 05.9 +0.3**
baz=72,SNR=5.8
J02A Umpqua 72.64 50 ⇑P **P 01 33 06.6 +0.3**
baz=72
A08A Turner Farm, O 72.81 43 P **P 01 33 07.8 +0.6**
baz=73,SNR=5.8
E06A Yakima 72.88 46 ⇓P **P 01 33 09.3 +1.7**
baz=73,SNR=6.3
H04A Detroit Lake 72.96 48 ⇑P **P 01 33 10.2 +2.1**
baz=73,SNR=5.2
B08A Colville Reser 73.05 44 P **P 01 33 10.2 +1.6**
baz=73,SNR=5.5
I04A Tendick Farm, 73.21 49 ⇑P **P 01 33 11.7 +2.0**
baz=73
OBN Obninsk 73.29 325 PFAKE 01 33 20.0 +10
OBN LR LR
comp=Z,2μm,20.0s,MS5.4
OBN Obninsk 73.29 325⇓*e*P **P 01 33 09.5 -0.4**
OBN *e* 01 33 22.0
OBN pmax pmax
comp=Z,41nm,1.2s,mb5.2
HUMO Hull Mountain 73.39 50 PFAKE 01 33 20.0 +9.2
HUMO LR LR
comp=Z,855nm,21.0s,MS5.0
C08A Higginbotham F 73.49 44 ⇓P **P 01 33 12.9 +1.6**
baz=73
TAU Tasmania Unive 73.55 176 PFAKE 01 33 20.0 +8.6
TAU LR LR
comp=Z,566nm,19.0s,MS4.9
G06A Carlson Farm, 73.69 47 ⇓P **P 01 33 14.1 +1.6**
baz=74,SNR=5.6
B09A Rice 73.72 43 ⇑P **P 01 33 13.4 +0.8**
baz=74
HAWA Hanford 73.84 45 PFAKE 01 33 20.0 +6.7
HAWA LR LR
comp=Z,653nm,20.0s,MS4.9
VRSR Storozhevoye 73.84 320 *e*P **P 01 33 13.3 +0.1**
VRSR pmax pmax
comp=E,8.0nm,1.3s
VRSR pmax pmax
comp=Z,8.0nm,1.3s,mb4.5
VRSR pmax pmax
comp=N,4.0nm,1.1s
D08A Wollman Farm, 73.90 45 ⇑P **P 01 33 13.2 -0.5**
baz=74
VORD Divnogorie 73.90 320 *e*P **P 01 33 13.1 -0.5**
VORD pmax pmax
comp=Z,30nm,1.4s,mb5.0
VORD pmax pmax
comp=N,9.0nm,0.8s
VORD pmax pmax
comp=E,10.0nm,0.9s
YBH Yreka Blue Hor 73.94 51 PFAKE 01 33 30.0 +16
YBH LR LR
comp=Z,940nm,19.0s,MS5.1
KAF Kangasniemi 73.98 334 *e*p **P 01 33 10.2 -3.7**
EDM Edmonton 74.04 37 *e*P **P 01 33 14.6 +0.2**
H06A Lindquist Farm 74.11 47 ⇓P **P 01 33 15.6 +0.7**
baz=74
J05A Fort Rock 74.20 49 ⇑P **P 01 33 16.3 +0.8**
baz=74
D09A Jones Farm, Ri 74.27 44 ⇓P **P 01 33 16.6 +0.8**
baz=74
G07A Ruggs Ranch, H 74.28 47 ⇓P **P 01 33 16.3 +0.4**
baz=74
NEW Newport 74.40 43 P **P 01 33 15.0 -1.6**
NEW LR LR
comp=Z,276nm,21.0s,MS4.5
NEW Newport 74.40 43 P **P 01 33 15.0 -1.6**
comp=Z,7.6nm,1.0s,mb4.6,baz=276,slow=6.0,SNR=8.9
FINES FINESS Array B 74.47 333 *i* P **P 01 33 17.0 +0.3**
FINES pmax pmax
comp=Z,3.0nm,0.5s
FINES FINESS Array B 74.47 333 P **P 01 33 16.5 -0.2**
comp=Z,2.8nm,0.5s,mb4.4,baz=114,slow=2.0,SNR=22
M04C Macdoel 74.50 50 ⇓P **P 01 33 16.9 -0.4**
baz=74
M03C McCloud 74.55 51 ⇑P **P 01 33 16.9 -0.7**
baz=74
P01C Double 8 Ranch 74.55 53 ⇓P **P 01 33 19.0 +1.4**
baz=74
I06A Prineville 74.56 48 ⇑P **P 01 33 18.2 +0.6**
baz=74
F08A Pendleton 74.58 46 ⇓P **P 01 33 20.1 +2.4**
baz=74
WDC Whiskeytown Da 74.58 52 PFAKE 01 33 30.0 +12
WDC LR LR
comp=Z,875nm,20.0s,MS5.0
WDC Whiskeytown Da 74.58 52 ⇑P **P 01 33 18.3 +0.5**
baz=74
O02C Red Bluff 74.60 52 ⇓P **P 01 33 19.0 +1.1**
baz=74
H07A Lands Inn, Kim 74.66 47 ⇑P **P 01 33 18.0 -0.2**
baz=74
K05A Summer Lake 74.69 49 ⇓P **P 01 33 18.5 +0.1**
baz=74,SNR=6.4
G08A Pilot Rock 74.71 46 ⇓P **P 01 33 18.6 +0.1**
baz=74,SNR=5.2
B11A Sandpoint 74.75 42 ⇓P **P 01 33 18.9 +0.2**
baz=75
GASB Alder Springs 74.89 53 ⇑P **P 01 33 19.4 -0.1**
baz=75
J06A Christmas Vall 74.92 49 ⇑P **P 01 33 19.3 -0.3**
baz=75
I07A Izee 74.94 48 ⇑P **P 01 33 19.8 0.0**
baz=75
HOPS Hopland 74.95 53 PFAKE 01 33 30.0 +10
HOPS LR LR
comp=Z,922nm,19.0s,MS5.1
K06A Valley Falls 75.07 49 ⇑P **P 01 33 21.1 +0.6**
baz=75
H08A Prairie City 75.26 47 ⇑P **P 01 33 22.1 +0.5**
baz=75,SNR=7.2
KIV Kislovodsk 75.27 312 P **P 01 33 23.4 +1.7**
comp=Z,202nm,1.5s,mb5.8,SNR=7.4
KIV Kislovodsk 75.27 312 *e*P **P 01 33 22.7 +1.0**
comp=Z,72nm,1.3s,mb5.4
KIV LR LR
comp=Z,566nm,20.0s,MS4.9
KIV Kislovodsk 75.27 312⇑*e*P **P 01 33 22.9 +1.2**
KIV *e* 01 33 35.5
KIV pmax pmax
comp=Z,70nm,1.4s,mb5.4
KIV Kislovodsk 75.27 312 *i*P **P 01 33 22.7 +1.0**
J07A Hines 75.40 48 ⇑P **P 01 33 23.0 +0.5**
baz=75
ONI Oni 75.43 311 P **P 01 33 24.4 +1.7**
ONI S S 01 43 04.1 +2.9
MOD Modoc 75.46 50 PFAKE 01 33 30.0 +7.2
MOD LR LR
comp=Z,749nm,19.0s,MS5.0
MCCM Marconi Confer 75.48 54 PFAKE 01 33 30.0 +7.0
MCCM LR LR
comp=Z,790nm,20.0s,MS5.0
ORV Oroville 75.77 52 ⇓P **P 01 33 24.0 -0.7**
baz=76,SNR=5.3
K07A Rock Creek Ran 75.77 49 ⇑P **P 01 33 24.6 0.0**
baz=76,SNR=8.2
G10A Bishop Farm, J 75.85 46 ⇓P **P 01 33 24.3 -0.6**
baz=76,SNR=5.9
E11A Bogner Ranch, 75.87 44 ⇑P **P 01 33 26.0 +0.9**
baz=76,SNR=5.9
B13A Whitefish 75.88 42 ⇓P **P 01 33 26.2 +1.1**
baz=76,SNR=8.2
BMO Blue Mountains 75.95 46 PFAKE 01 33 40.0 +14
BMO LR LR
comp=Z,433nm,19.0s,MS4.8
L07A Adell 76.03 49 ⇓P **P 01 33 26.7 +0.6**
baz=76,SNR=6.1
F11A Grangeville 76.14 45 ⇑P **P 01 33 26.7 0.0**
baz=76,SNR=6.8
C13A Hot Springs 76.17 43 P **P 01 33 27.0 +0.2**
baz=76,SNR=9.4
URZ Urewera 76.22 152 LR LR 02 02 15.9
comp=Z,428nm,20.4s,MS4.8,baz=320,slow=32
WVOR Wild Horse Val 76.29 49 PFAKE 01 33 40.0 +12
WVOR LR LR
comp=Z,823nm,21.0s,MS5.0
RAR Rarotonga 76.30 125 PFAKE 01 33 40.0 +12
RAR LR LR
comp=Z,2.0nm,20.0s
RAR Rarotonga 76.30 125 LR LR 02 01 33.0
comp=Z,590nm,20.3s,MS4.9,baz=243,slow=31
G11A Walters Elk Ra 76.31 45 ⇑P **P 01 33 26.5 -1.1**
baz=76,SNR=10
N06A Buffalo Meadow 76.32 51 ⇑P **P 01 33 29.4 +1.6**
baz=76,SNR=5.3
BEKR Beckwourth 76.39 52 P **P 01 33 29.8 +1.7**
baz=76,SNR=5.3
J09A Fry Pan Ranch, 76.41 48 ⇓P **P 01 33 28.5 +0.3**
baz=76
L08A Fields 76.60 49 ⇓P **P 01 33 29.4 +0.1**
baz=76,SNR=7.5
K09A Rome 76.75 48 ⇑P **P 01 33 29.9 -0.2**
baz=77,SNR=6.9
H11A Donnelly 76.82 46 ⇓P **P 01 33 31.6 +1.1**
baz=77,SNR=5.1
D14A Greenough 77.11 43 ⇑P **P 01 33 32.7 +0.7**
baz=77,SNR=7.3
SAO San Andreas Ge 77.13 55 PFAKE 01 33 40.0 +7.6
SAO LR LR
comp=Z,1μm,20.0s,MS5.2
K10A MacKenzie Ranc 77.25 48 ⇓P **P 01 33 33.3 +0.4**
baz=77,SNR=7.6
CMB Columbia Colle 77.26 53 PFAKE 01 33 40.0 +6.9
CMB LR LR
comp=Z,576nm,20.0s,MS4.9
CMB Columbia Colle 77.26 53 ⇑P **P 01 33 33.3 +0.2**
baz=77,SNR=5.3
CHMT Chamberlain Mo 77.34 43 *e*P **P 01 33 33.4 0.0**
MFID Camas Ranch 77.59 47 ⇑P **P 01 33 34.8 0.0**
baz=77,SNR=7.7
H12A Diamond D Ranc 77.61 45 ⇓P **P 01 33 35.3 +0.4**
baz=77,SNR=5.9
G13A Cobalt 77.71 45 P **P 01 33 35.0 -0.5**
baz=78,SNR=10
K11A Parker Ranch, 77.79 47 ⇓P **P 01 33 35.6 -0.4**
baz=78,SNR=6.9
N09A Rock Creek Ran 77.80 50 ⇓P **P 01 33 35.6 -0.4**
baz=78
MNK Minsk 77.86 327 *e*P **P 01 33 36.0 -0.1**
E15A Deer Lodge 77.96 43 ⇑P **P 01 33 37.1 +0.3**
baz=78,SNR=8.3
H13A Challis 77.97 45 ⇓P **P 01 33 36.7 -0.3**
baz=78,SNR=9.7
ANN Anapa 78.10 315 *e*P **P 01 33 31.4 -6.3**
ANN *e**PP pP 01 33 41.4 -4.6
ANN pmax pmax
comp=Z,110nm,1.7s,mb5.5
T06C Millerton Lake 78.23 54 ⇓P **P 01 33 37.6 -1.0**
baz=78
F15A Butte 78.35 43 ⇓P **P 01 33 39.1 +0.1**
baz=78,SNR=14
I13A Wildhorse Cree 78.39 46 ⇑P **P 01 33 39.4 +0.1**
baz=78,SNR=7.5
HLID Hailey 78.39 46 PFAKE 01 33 50.0 +11
HLID LR LR
comp=Z,317nm,19.0s,MS4.7
HLID Hailey 78.39 46 ⇓P **P 01 33 39.0 -0.3**
baz=78
NVAR Mina Array Bea 78.49 52 P **P 01 33 39.3 -0.7**
comp=Z,2.9nm,0.7s,mb4.3,baz=289,slow=6.5,SNR=14
DLMT Dillon 78.55 44 *e*P **P 01 33 41.3 +1.2**
comp=Z,32nm,1.5s,mb5.0
K12A Draper Farm, C 78.57 47 ⇑P **P 01 33 40.8 +0.5**
baz=78
J13A Cove Ranch, Pi 78.63 46 ⇑P **P 01 33 40.9 +0.2**
baz=78,SNR=5.4
G15A Dillon 78.72 44 ⇓P **P 01 33 41.1 0.0**
baz=78,SNR=7.2
EGMT Eagleton 78.74 40 *e*P **P 01 33 40.6 -0.6**
comp=Z,46nm,1.6s,mb5.2
EGMT LR LR
comp=Z,476nm,19.0s,MS4.8
EGMT Eagleton 78.74 40 ⇑P **P 01 33 40.8 -0.4**
baz=78
L12A House Creek Ra 78.75 48 ⇑P **P 01 33 42.0 +0.7**
baz=79,SNR=7.2
FFC Flin Flon 78.76 32 *e*P **P 01 33 40.3 -0.8**
comp=Z,15nm,1.3s,mb4.8
FFC LR LR
comp=Z,433nm,19.0s,MS4.8
FFC Flin Flon 78.76 32 *e*P **P 01 33 40.3 -0.8**
FFC pmax pmax
comp=Z,15nm,1.3s,mb4.8
FFC MLR MLR
comp=Z,433nm,19.0s,MS4.8
RPZ Rata Peaks 78.87 159 P **P 01 33 42.3 +0.6**
RPZ LR LR 02 06 12.0
RPZ Rata Peaks 78.87 159 P **P 01 33 42.3 +0.6**
comp=Z,7.4nm,0.9s,mb4.6,baz=219,slow=6.5,SNR=2.5
RPZ LR LR 02 06 12.0
comp=Z,585nm,19.3s,MS4.9,baz=113,slow=34
BOZ Bozeman (W) 78.97 43 *e*P **P 01 33 42.0 -0.4**
comp=Z,25nm,1.7s,mb4.9
BOZ LR LR
comp=Z,208nm,20.0s,MS4.5
BOZ Bozeman (W) 78.97 43 *e*P **P 01 33 42.0 -0.4**
BOZ pmax pmax
comp=Z,25nm,1.7s,mb4.9
BOZ MLR MLR
comp=Z,208nm,20.0s,MS4.5
BOZ Bozeman (W) 78.97 43 ⇑P **P 01 33 42.2 -0.2**
baz=79
S08C White Mtn Res 79.05 53 ⇓P **P 01 33 43.0 0.0**
baz=79
K13A Stover Farm, H 79.08 47 P **P 01 33 45.5 +2.3**
baz=79,SNR=5.3
M12A Wells 79.20 48 ⇓P **P 01 33 44.2 +0.4**
baz=79,SNR=9.2
ELK Elko 79.34 49 PFAKE 01 34 00.0 +15
ELK LR LR
comp=Z,35nm,20.0s,MS3.7
FCC Fort Churchill 79.41 26 *e*P **P 01 33 42.8 -1.8**
comp=Z,29nm,1.8s,mb4.9
FCC Fort Churchill 79.41 26 *e*P **P 01 33 42.8 -1.8**
FCC pmax pmax
comp=Z,29nm,1.8s,mb4.9
R09A Tonopah 79.42 52 ⇑P **P 01 33 44.6 -0.4**
baz=79,SNR=8.3
AKASG Malin Array Be 79.42 323 P **P 01 33 44.5 -0.3**
AKASG pmax pmax
comp=Z,9.0nm,0.7s
AKASG MLR MLR
comp=Z,2μm,18.8s
AKASG Malin Array Be 79.42 323 P **P 01 33 44.5 -0.3**
comp=Z,9.1nm,0.7s,mb4.8,baz=45,slow=5.5,SNR=44
AKASG LR LR 02 12 05.0
comp=Z,2μm,18.8s,MS5.4,baz=35,slow=38
KIEV Kiev 79.44 323 *e*P **P 01 33 44.3 -0.6**
comp=Z,14nm,0.7s,mb5.0
KIEV LR LR
comp=Z,2μm,20.0s,MS5.4
KIEV Kiev 79.44 323 *e*P **P 01 33 44.3 -0.6**
KIEV pmax pmax
comp=Z,14nm,0.7s,mb5.0
KIEV MLR MLR
comp=Z,2μm,20.0s,MS5.4
L13A Double Diamond 79.46 47 ⇓P **P 01 33 46.3 +1.1**
baz=79
QLMT Earthquake Lak 79.53 44 *e*P **P 01 33 45.8 +0.3**
S09A Goldfield 79.58 52 ⇑P **P 01 33 45.5 -0.4**
baz=79,SNR=6.0
K14A Jones Ranch, D 79.70 47 ⇓P **P 01 33 47.1 +0.6**
baz=80
M13A Montello 79.71 48 ⇓P **P 01 33 46.6 +0.1**
baz=80,SNR=5.8
ISA Isabella 79.77 55 PFAKE 01 34 00.0 +13
ISA LR LR
comp=Z,1μm,19.0s,MS5.2
HFS Hagfors 79.88 336 P **P 01 33 46.5 -0.6**
HFS pmax pmax
comp=Z,4.0nm,0.6s
HFS Hagfors 79.88 336 P **P 01 33 46.5 -0.6**
comp=Z,3.5nm,0.6s,mb4.4,baz=73,slow=9.9,SNR=10
YMR Madison River 79.90 44 *e*P **P 01 33 47.9 +0.4**
comp=Z,7.9nm,0.8s,mb4.7
S10A Tonopah Range, 79.91 52 ⇓P **P 01 33 47.5 -0.2**
baz=80,SNR=7.8
O12A Currie 79.91 49 ⇓P **P 01 33 48.0 +0.3**
baz=80,SNR=5.3
SIM Simferopol' 80.01 317 *e*P **P 01 33 48.5 +0.4**
SIM pmax pmax
comp=Z,19nm,1.0s,mb5.0
NOA NORSAR Array B 80.03 338 P **P 01 33 47.7 -0.2**
NOA LR LR 02 15 31.2
NOA NORSAR Array B 80.03 338 P **P 01 33 47.7 -0.2**
comp=Z,3.7nm,0.9s,mb4.3,baz=41,slow=5.3,SNR=6.5
NOA LR LR 02 15 31.2
comp=Z,564nm,19.4s,MS4.9,baz=35,slow=40
YNR Norris Junctio 80.04 44 *e*P **P 01 33 48.4 +0.1**
YFT Old Faithful 80.09 44 *e*P **P 01 33 51.5 +2.9**
M14A Sheep Mountain 80.15 47 ⇓P **P 01 33 48.9 -0.1**
baz=80,SNR=9.3
SNCC San Nicolas Is 80.24 57 PFAKE 01 34 00.0 +10
SNCC LR LR
comp=Z,683nm,19.0s,MS5.0
MPMC Manual Prospec 80.25 54 ⇓P **P 01 33 49.7 +0.1**
baz=80,SNR=5.1
LKWY Lake 80.29 44 *e*P **P 01 33 51.7 +2.0**
comp=Z,14nm,1.2s,mb4.8
LKWY LR LR
comp=Z,557nm,20.0s,MS4.9
LKWY Lake 80.29 44 *e*P **P 01 33 51.7 +2.1**
LKWY pmax pmax
comp=Z,14nm,1.2s,mb4.8
LKWY MLR MLR
comp=Z,557nm,20.0s,MS4.9
SUW Suwalki 80.30 328 *e*P **P 01 33 50.2 +0.7**
SUW LMZ 02 18 24.9
comp=Z,600nm,19.0s
IMW Indian Meadow 80.34 44 *e*P **P 01 33 52.1 +2.2**
comp=Z,17nm,1.2s,mb4.9
R11A Troy Canyon, C 80.36 51 ⇓P **P 01 33 50.0 -0.1**
baz=80,SNR=6.9
FLWY Flagg Ranch 80.38 44 *e*P **P 01 33 50.7 +0.5**
comp=Z,28nm,1.3s,mb5.0
EDW2 Edwards Air Fo 80.51 55 ⇑P **P 01 33 51.5 +0.5**
baz=80
TPAW Teton Pass 80.56 45 *e*P **P 01 33 50.4 -0.7**
comp=Z,18nm,1.2s,mb4.9
N14A Grayback Hills 80.61 48 ⇓P **P 01 33 52.8 +1.4**
baz=80,SNR=8.2
RLMT Red Lodge 80.64 43 *e*P **P 01 33 51.3 -0.3**
comp=Z,38nm,1.6s,mb5.1
RLMT LR LR
comp=Z,346nm,20.0s,MS4.7
TPNV Topopah Spring 80.65 53 *e*P **P 01 33 50.8 -0.9**
comp=Z,13nm,1.1s,mb4.8
TPNV LR LR
comp=Z,603nm,19.0s,MS5.0
TPNV Topopah Spring 80.65 53 *e*P **P 01 33 50.8 -0.9**
TPNV pmax pmax
comp=Z,13nm,1.1s,mb4.8
TPNV MLR MLR
comp=Z,603nm,19.0s,MS5.0
TPNV Topopah Spring 80.65 53 ⇑P **P 01 33 51.0 -0.7**
baz=80

BGU Big Grassy Mou 80.67 48 *eP* **P 01 33 53.0 +1.2**
M15A Larsen Ranch, 80.74 47 ⇑P **P 01 33 51.9 -0.2**
baz=81,SNR=7.1
P13A Bates Ranch, G 80.82 49 ⇓P **P 01 33 52.4 -0.2**
baz=81
AHID Auburn Hatcher 80.87 45 PFAKE 01 34 00.0 +7.2
AHID LR LR
comp=Z,493nm,21.0s,MS4.8
MALT Malatya 80.89 309 P **P 01 33 55.1 +2.1**
MALT Malatya 80.89 309 ⇑*iP* **P 01 33 54.8 +1.8**
N15A Stansbury Isla 81.01 48 ⇑P **P 01 33 53.6 +0.1**
baz=81,SNR=7.2
R12A Pony Springs, 81.03 51 ⇓P **P 01 33 54.0 +0.2**
baz=81
GSC Goldstone 81.12 54 PFAKE 01 34 10.0 +16
GSC LR LR
comp=Z,791nm,21.0s,MS5.0
DUG Dugway 81.20 48 *eP* **P 01 33 54.1 -0.5**
comp=Z,17nm,1.2s,mb4.9
DUG LR LR
comp=Z,648nm,20.0s,MS5.0
DUG Dugway 81.20 48 *eP* **P 01 33 54.2 -0.4**
DUG pmax pmax
comp=Z,17nm,1.2s,mb4.8
DUG MLR MLR
comp=Z,648nm,20.0s,MS5.0
DUG Dugway 81.20 48 ⇓P **P 01 33 54.5 -0.1**
baz=81
HWUT Hardware Ranch 81.22 47 *eP* **P 01 33 53.8 -0.9**
comp=Z,42nm,1.5s,mb5.2
HWUT LR LR
comp=Z,399nm,19.0s,MS4.8
LAO LASA Array 81.47 40 *eP* **P 01 33 55.7 -0.2**
comp=Z,168nm,2.3s,mb5.6
LAO LR LR
comp=Z,347nm,19.0s,MS4.7
DGMT Dagmar 81.50 38 PFAKE 01 34 10.0 +14
DGMT LR LR
comp=Z,245nm,19.0s,MS4.6
PPT Papeete 81.60 116 LR LR 02 04 20.2
comp=Z,455nm,19.8s,MS4.8,baz=210,slow=32
KONO Kongsberg 81.61 338 PFAKE 01 34 10.0 +14
KONO LR LR
comp=Z,887nm,20.0s,MS5.1
TUQ Turquoise Mtn. 81.66 54 ⇓P **P 01 33 57.2 +0.1**
baz=82,SNR=5.8
BW06 Boulder Array 81.81 45 PFAKE 01 34 10.0 +12
BW06 LR LR
comp=Z,424nm,19.0s,MS4.8
PDAR Pinedale Array 81.81 45 P **P 01 33 57.2 -0.6**
comp=Z,3.8nm,1.0s,mb4.3,baz=276,slow=2.0,SNR=22
PDAR LR LR 02 05 02.5
comp=Z,288nm,20.1s,MS4.6,baz=317,slow=32
JLU Jordanelle 81.85 47 *eP* **P 01 33 57.2 -0.8**
S13A Holt Ranch, En 81.93 51 P **P 01 34 00.5 +2.0**
baz=82,SNR=5.6
SFJD Kangerlussuaq 82.03 5 P **P 01 33 58.7 +0.2**
SFJD LR LR
comp=Z,457nm,20.0s,MS4.8
SFJD Kangerlussuaq 82.03 5 P **P 01 33 58.7 +0.2**
comp=Z,5.2nm,0.9s,mb4.5,baz=316,slow=7.5,SNR=5.4
MPU Maple Canyon 82.05 48 PFAKE 01 34 10.0 +11
MPU LR LR
comp=Z,956nm,22.0s,MS5.1
DAU Daniels Canyon 82.07 48 *eP* **P 01 33 59.3 0.0**
GMRC Granite Mounta 82.19 54 ⇑P **P 01 33 59.4 -0.5**
baz=82
T13A Saint George 82.20 52 ⇑P **P 01 34 01.0 +1.1**
baz=82
PFO Pinyon Flat Ob 82.25 56 PFAKE 01 34 10.0 +10
PFO LR LR
comp=Z,1μm,20.0s,MS5.2
PFO Pinyon Flat Ob 82.25 56 ⇓P **P 01 34 00.3 0.0**
baz=82
BELC Belle Mtn. 82.37 55 ⇓P **P 01 34 00.1 -0.7**
baz=82
IAS Iasi 82.41 321 P **P 01 34 01.2 +0.4**
U13A Pakoon Wash 82.48 52 ⇑P **P 01 34 01.1 -0.3**
baz=82,SNR=5.2
MSU Marysvale 82.53 50 *eP* **P 01 34 00.7 -1.0**
LVV L'vov 82.59 325 *iP* **P 01 34 01.5 -0.2**
T14A Hurricane 82.73 51 ⇑P **P 01 34 05.1 +2.4**
baz=83
BC3 Big Chuckw Mtn 82.94 55 ⇑P **P 01 34 03.5 -0.3**
baz=83
U14A Mt Trumbull 83.01 52 ⇑P **P 01 34 04.0 -0.2**
baz=83
SRU San Rafael 83.27 48 *eP* **P 01 34 02.9 -2.6**
comp=Z,6.7nm,0.9s,mb4.7
SRU San Rafael 83.27 48 *eP* **P 01 34 02.9 -2.6**
SRU pmax pmax
comp=Z,7.0nm,0.9s,mb4.7
KWP Kalwaria 83.37 325 *eP* **P 01 34 06.6 +0.8**
KWP LMZ 02 14 04.6
comp=Z,2μm,19.1s
KWP Kalwaria 83.37 325 ⇓*iP* **P 01 34 06.4 +0.6**
GKP Gorka Klasztor 83.42 330 *eP* **P 01 34 06.3 +0.4**
TIRR Tirgusor 83.60 319 ⇓P **P 01 34 07.2 +0.2**
TIRR Tirgusor 83.60 319 ⇓*iP* **P 01 34 07.3 +0.2**
VRI Vrincioaia 83.68 320 P **P 01 34 08.8 +1.3**
VRI Vrincioaia 83.68 320 ⇓*iP* **P 01 34 08.6 +1.2**
ANTO Ankara 83.69 313 P **P 01 34 08.8 +1.2**
ANTO LR LR
comp=Z,439nm,19.0s,MS4.9
ANTO Ankara 83.69 313 ⇓*iP* **P 01 34 08.4 +0.8**
GLA Glamis 83.70 55 PFAKE 01 34 20.0 +12
GLA LR LR
comp=Z,938nm,20.0s,MS5.2
HARR Harsova 83.74 319 P **P 01 34 08.8 +1.1**
KOLS Kolonicke sedl 84.04 325 *eP* **P 01 34 09.5 +0.3**
STHS Stebnicka Huta 84.23 326 *eP* **P 01 34 10.7 +0.5**
comp=Z,19nm,1.5s,mb5.0
STHS *e* 01 34 22.3
STHS Stebnicka Huta 84.23 326 *eP* **P 01 34 10.7 +0.5**
STHS *e* 01 34 22.3
STHS pmax pmax
comp=Z,19nm,1.5s,mb5.0
UZH Uzhgorod 84.23 325 ⇑*iP* **P 01 34 08.8 -1.4**
UZH *i* 01 34 20.0
UZH *e*S S 01 44 30.0 -3.8
UZH *e*SSS 01 53 32.0
UZH MLR MLR
comp=Z,800nm,18.0s,MS5.1
RSSD Black Hills 84.25 41 PFAKE 01 34 20.0 +10
RSSD LR LR
comp=Z,1μm,20.0s,MS5.4
MLR Muntele Rosu 84.34 320 P **P 01 34 11.9 +1.0**
MLR Muntele Rosu 84.34 320 P **P 01 34 11.5 +0.7**
comp=Z,7.0nm,1.2s,mb4.7,baz=18,slow=3.8,SNR=8.1
MLR Muntele Rosu 84.34 320 ⇑*iP* **P 01 34 10.9 +0.1**
TAOE Nuku Hiva Isla 84.38 104 *e*S S 01 44 32.6 -3.6
comp=Z,5μm,28.4s
OJC Ojcow 84.38 327 *eP* **P 01 34 11.3 +0.4**
TRPA Tarpa 84.44 324 ⇑*iP* **P 01 34 11.7 +0.4**
CRVS Cervenica-Dubn 84.47 325 *eP* **P 01 34 11.7 +0.3**
ULM Lac du Bonnet 84.51 33 P **P 01 34 11.5 -0.1**
comp=Z,0.7nm,0.4s,mb4.2,baz=315,slow=5.7,SNR=4.0
ULM LR LR 02 10 55.1
comp=Z,465nm,19.6s,MS4.9,baz=262,slow=35
NIE Niedzica 84.68 326 *eP* **P 01 34 13.4 +1.0**
X15A Humboldt 84.72 53 ⇓P **P 01 34 12.6 -0.3**
baz=85,SNR=5.4
WUAZ Wupatki 84.73 52 *eP* **P 01 34 14.0 +1.0**
comp=Z,13nm,1.1s,mb5.0
WUAZ LR LR
comp=Z,511nm,20.0s,MS4.9
VOIR 84.86 321 ⇑P **P 01 34 14.3 +0.8**
VOIR 84.86 321 ⇑*iP* **P 01 34 14.3 +0.8**
Y15A Casa Rosa Ranc 84.95 53 ⇑P **P 01 34 13.9 -0.2**
baz=85
KECS Kecovo 85.23 325 *eP* **P 01 34 14.9 -0.3**
comp=Z,7.5nm,1.4s,mb4.6
KECS Kecovo 85.23 325 *eP* **P 01 34 14.9 -0.3**
KECS pmax pmax
comp=Z,8.0nm,1.4s,mb4.7
DRGR 85.23 323 P **P 01 34 15.9 +0.6**
DRGR 85.23 323 ⇓*iP* **P 01 34 15.5 +0.2**
X16A Lo Mia Camp, P 85.30 53 ⇑P **P 01 34 15.9 0.0**
baz=85,SNR=6.6
OKC Ostrava-Krasne 85.41 327 *eP* **P 01 34 16.4 +0.3**
OKC *ep*P pP 01 34 25.0 +0.5
SMCO Snowmass 85.48 47 *eP* **P 01 34 16.0 -0.7**
comp=Z,23nm,1.3s,mb5.2
KSP Ksiaz 85.55 329 *eP* **P 01 34 17.4 +0.6**
KSP LMZ 02 16 47.3
comp=Z,2μm,17.2s
KSP Ksiaz 85.55 329 ⇑*eP* **P 01 34 16.7 -0.1**
KSP *e**PP pP 01 34 28.4 +3.3
KSP *e*S S 01 44 50.0 +3.2
Y16A Circle Bar Ran 85.58 53 ⇑P **P 01 34 17.9 +0.7**
baz=85
MVCO Mesa Verde 85.67 49 *eP* **P 01 34 17.3 -0.4**
comp=Z,14nm,1.3s,mb5.0
MVCO LR LR
comp=Z,499nm,21.0s,MS4.9
MVCO Mesa Verde 85.67 49 ⇓P **P 01 34 18.1 +0.4**
baz=86
MORC Moravsky Berou 85.74 327 P **P 01 34 17.9 +0.2**
MORC Moravsky Berou 85.74 327 ⇓*iP* **P 01 34 17.6 -0.1**
AGMN Agassiz Refuge 85.85 34 PFAKE 01 34 30.0 +12
AGMN LR LR
comp=Z,486nm,20.0s,MS4.9
DPC Dobruska-Polom 85.89 328 *eP* **P 01 34 18.9 +0.4**
DPC *ep*P pP 01 34 30.6 +3.8
DPC *e*S S 01 44 51.4 +1.3
DPC AMS AMS 02 16 20.0
comp=Z,800nm,20.3s,MS5.1
PSZ Piszkesteto 85.90 325 *eP* **P 01 34 18.4 -0.2**
comp=Z,36nm,1.5s,mb5.4
PSZ Piszkesteto 85.90 325 *eP* **P 01 34 18.4 -0.2**
PSZ pmax pmax
comp=Z,36nm,1.5s,mb5.4
UPC Upice 85.92 329 *eP* **P 01 34 19.0 +0.4**
UPC *ep*P pP 01 34 30.8 +3.8
ISCO Idaho Springs 85.95 45 *eP* **P 01 34 18.4 -0.6**
comp=Z,14nm,1.5s,mb5.0
ISCO LR LR
comp=Z,494nm,21.0s,MS4.9
ISCO Idaho Springs 85.95 45 *eP* **P 01 34 18.4 -0.6**
ISCO pmax pmax
comp=Z,14nm,1.5s,mb5.0
ISCO MLR MLR
comp=Z,494nm,21.0s,MS4.9
VYHS Vyhne 86.02 326 *eP* **P 01 34 19.5 +0.3**
comp=Z,13nm,1.3s,mb5.0
VYHS *ep*PP PP 01 37 40.1 +1.4
VYHS Vyhne 86.02 326 *eP* **P 01 34 19.5 +0.3**
VYHS pmax pmax
comp=Z,13nm,1.3s,mb5.0
KOLL Kolacno 86.17 326 *eP* **P 01 34 20.2 +0.3**
VRAC Vranov 86.51 328 P **P 01 34 22.3 +0.7**
VRAC Vranov 86.51 328 P **P 01 34 21.8 +0.2**
comp=Z,7.4nm,1.1s,mb4.8,baz=60,slow=4.6,SNR=11
VRAC Vranov 86.51 328 ⇓*iP* **P 01 34 21.4 -0.1**
PVCC Panska Ves 86.54 329 *eP* **P 01 34 22.0 +0.3**
PVCC *ep*P pP 01 34 33.3 +3.3
PVCC *e*S S 01 44 53.8 -2.7
BRG Berggiesshubel 86.56 330 *eP* **P 01 34 21.4 -0.4**
BZS Buzias 86.58 323 ⇑P **P 01 34 21.2 -0.7**
BZS Buzias 86.58 323 ⇑*iP* **P 01 34 21.2 -0.8**
CLL Collm 86.64 331 ⇓*iP* **P 01 34 22.0 -0.1**
CLL *i* 01 34 33.6
CLL *e*S S 01 45 00.0 +2.6
CLL Collm 86.64 331 ⇓*iP* **P 01 34 22.0 -0.1**
CLL *i* 01 34 33.6
CLL *e*S S 01 45 00.0 +2.6
CLL pmax pmax
comp=Z,50nm,1.6s,mb5.5
CLL MLR MLR
comp=Z,500nm,17.8s,MS5.0
CLL Collm 86.64 331 *eP* **P 01 34 21.8 -0.3**
comp=Z,51nm,1.6s,mb5.5
CLL Collm 86.64 331 ⇓*iP* **P 01 34 22.0 -0.1**
comp=Z,50nm,1.6s,mb5.5
CLL *i*P pP 01 34 33.6 +3.1
CLL *ep*S sP 01 34 39.0 +5.5
CLL *ep*PP PP 01 37 41.0 -2.5
CLL *e*S S 01 45 00.0 +2.6
CLL comp=N,200nm,17.0s
CLL *e*S S 01 45 00.0 +2.6
CLL comp=E,300nm,19.5s
CLL *e*PS 01 45 58.0
CLL *e*SS SS 01 50 36.0 -1.3
CLL *ex* x 01 55 06.0
MODS Modra-Piesok 86.85 327 *eP* **P 01 34 24.1 +0.9**
PRU Pruhonice 86.94 329 *eP* **P 01 34 23.5 -0.2**
PRU *ep*P pP 01 34 35.5 +3.5
PRU *e*S S 01 45 00.6 +0.2
PRU AMS AMS 02 18 10.0
comp=Z,1μm,18.4s,MS5.2
TUC Tucson 86.95 54 PFAKE 01 34 30.0 +6.0
TUC LR LR
comp=Z,980nm,19.0s,MS5.2
TREC Trest 87.02 328 *eP* **P 01 34 24.2 +0.1**
TREC *ep*P pP 01 34 35.7 +3.3
TREC *e*S S 01 44 59.9 -1.3
TREC AMS AMS 02 15 30.0
comp=Z,1μm,19.5s,MS5.3
ZST Bratislava 87.06 327 *eP* **P 01 34 25.3 +1.1**
ZST LR LR
comp=Z,700nm,16.7s,MS5.1
SDCO Great Sand Dun 87.27 47 PFAKE 01 34 40.0 +15
SDCO LR LR
comp=Z,412nm,20.0s,MS4.8
CLZ Clausthal 87.32 332 *eP* **P 01 34 25.2 -0.2**
CLZ pmax pmax
comp=Z,36nm,1.5s,mb5.4
CLZ Clausthal 87.32 332 *eP* **P 01 34 25.2 -0.2**
comp=Z,36nm,1.5s,mb5.4
NKC Novy Kostel 87.67 330 *eP* **P 01 34 27.2 0.0**
PKSM Moragy 87.70 324 P **P 01 34 26.7 -0.7**
PKSM Moragy 87.70 324 ⇑*iP* **P 01 34 26.5 -0.9**
MOX Moxa 87.72 331 *eP* **P 01 34 27.6 +0.2**
comp=Z,22nm,1.9s,mb5.1
MOX *e* 01 34 39.2
MOX
comp=Z,400nm,20.0s
MOX Moxa 87.72 331 *eP* **P 01 34 27.6 +0.2**
MOX *e* 01 34 39.2
MOX pmax pmax
comp=Z,22nm,1.9s,mb5.1
MOX MLR MLR
comp=Z,400nm,20.0s,MS4.8
MOX Moxa 87.72 331 *eP* **P 01 34 27.2 -0.2**
comp=Z,46nm,2.1s,mb5.3
IBBN Ibbenburen 87.98 334 *eP* **P 01 34 28.3 -0.3**
comp=Z,71nm,1.8s,mb5.6
KHC Kasperske Hory 88.00 329 *eP* **P 01 34 28.1 -0.7**
KHC *ep*P pP 01 34 38.3 +1.1
KHC *e*PP PP 01 37 55.0 +0.5
KHC *e*S S 01 45 10.7 +0.1
KHC AMS AMS 02 18 00.0
comp=Z,800nm,12.1s,MS5.3
ROTZ Rotzenmuhle 88.13 330 *eP* **P 01 34 29.4 +0.1**
comp=Z,26nm,1.8s,mb5.2
GEC2 GERESS Array S 88.16 329 *eP* **P 01 34 29.4 -0.1**
GEC2 pmax pmax
comp=Z,12nm,1.6s,mb4.9
GEC2 GERESS Array S 88.16 329 *eP* **P 01 34 29.4 -0.1**
comp=Z,12nm,1.6s,mb4.9
GERES GERESS Array B 88.16 329 P **P 01 34 29.5 0.0**
comp=Z,0.8nm,0.8s,mb4.0,baz=29,slow=3.0,SNR=9.7
GERES LR LR 02 18 37.1
comp=Z,661nm,18.1s,MS5.1,baz=49,slow=39
EYMN Ely 88.17 33 PFAKE 01 34 40.0 +10
EYMN LR LR
comp=Z,531nm,20.0s,MS5.0
UBBA Unterbreizbach 88.25 332 *eP* **P 01 34 30.7 +0.8**
comp=Z,26nm,1.8s,mb5.2
ANMO Albuquerque 88.33 50 PFAKE 01 34 40.0 +9.4
ANMO LR LR
comp=Z,1μm,19.0s,MS5.3
ANMO Albuquerque 88.33 50 ⇑*eP* **P 01 34 31.3 +0.7**
ECSD EROS,Sioux Fal 88.58 38 PFAKE 01 34 40.0 +8.4
ECSD LR LR
comp=Z,630nm,19.0s,MS5.0
GRA1 Grafenberg Arr 88.60 330 *eP* **P 01 34 31.6 0.0**
comp=Z,41nm,1.7s,mb5.5
GRA1 LR LR
comp=Z,300nm,19.7s,MS4.7
GRF Grafenberg Arr 88.60 330 *eP* **P 01 34 31.6 0.0**
GRF pmax pmax
comp=Z,41nm,1.7s,mb5.5
GRF MLR MLR
comp=Z,300nm,19.7s,MS4.7
GRF Grafenberg Arr 88.60 330 *eP* **P 01 34 31.6 0.0**
comp=Z,41nm,1.7s,mb5.5
GRF *e*L 02 23 11.9
comp=Z,294nm,19.7s
GRFO Grafenberg 88.61 330 PFAKE 01 34 40.0 +8.4
GRFO LR LR
comp=Z,504nm,19.0s,MS5.0
EKA Eskdalemuir Ar 89.08 341 P **P 01 34 35.3 +1.6**
EKA pmax pmax
comp=Z,2.0nm,1.1s
EKA Eskdalemuir Ar 89.08 341 P **P 01 34 35.3 +1.6**
comp=Z,2.0nm,1.1s,mb4.4,baz=30,slow=5.8,SNR=3.7
CRES Cresnjev 89.54 326 *eP* **P 01 34 35.0 -1.1**
FUR Furstenfeldbru 89.74 329 *eP* **P 01 34 37.1 +0.2**
FUR pmax pmax
comp=Z,38nm,1.7s,mb5.5
FUR Furstenfeldbru 89.74 329 *eP* **P 01 34 37.1 +0.2**
comp=Z,38nm,1.7s,mb5.5
CEY Cerknica 90.10 326 *eP* **P 01 34 37.7 -1.0**
CBKS Cedar Bluff 90.11 43 PFAKE 01 34 50.0 +11
CBKS LR LR
comp=Z,311nm,20.0s,MS4.7
STU Stuttgart 90.16 331 *eP* **P 01 34 38.4 -0.5**
comp=Z,41nm,1.8s,mb5.5
ABTA Abfaltersbach 90.25 328 *i* PcP PcP 01 34 38.6 -1.9
SNR=6.0
RETA Reutte 90.48 329 *i* PcP PcP 01 34 40.6 -0.9
SNR=7.4
COWI Conover 90.63 33 PFAKE 01 34 50.0 +8.9
COWI LR LR
comp=Z,536nm,20.0s,MS5.0
WLF Walferdange 90.69 333 *eP* **P 01 34 41.5 +0.1**
comp=Z,71nm,2.2s,mb5.6
FETA Feichten 90.85 329 *i* PcP PcP 01 34 42.5 -0.7
SNR=5.8
GIVF Givet 90.85 334 *eP* **P 01 34 40.3 -1.8**
BFO Black Forest 90.87 331 P **P 01 34 42.3 +0.1**
comp=Z,65nm,1.3s,mb5.8,SNR=7.0
BFO Black Forest 90.87 331 *eP* **P 01 34 41.7 -0.5**
comp=Z,23nm,1.4s,mb5.3
BFO LR LR
comp=Z,596nm,19.0s,MS5.0
BFO Black Forest 90.87 331 *eP* **P 01 34 41.7 -0.5**
comp=Z,23nm,1.4s,mb5.3
MNTX Cornudas Mount 91.01 52 PFAKE 01 34 50.0 +6.8
MNTX LR LR
comp=Z,436nm,19.0s,MS4.9
BAIF Baives 91.12 334 *eP* **P 01 34 41.6 -1.7**
SCHQ Schefferville 91.20 16 LR LR 02 22 42.2
comp=Z,388nm,18.7s,MS4.9,baz=86,slow=40
CDF Champ du Feu 91.24 332 *eP* **P 01 34 42.5 -1.4**
comp=Z,26nm,1.3s,mb5.1
CDF Champ du Feu 91.24 332 *eP* **P 01 34 42.5 -1.4**
comp=Z,13nm,1.3s,mb5.1
CDF Champ du Feu 91.24 332 *eP* **P 01 34 42.5 -1.4**
CDF pmax pmax
comp=Z,13nm,1.3s,mb5.1
DAVOX Davos/Dischmat 91.41 329 P **P 01 34 45.2 +0.4**
comp=Z,4.7nm,0.9s,mb4.8,baz=130,slow=1.4,SNR=8.6
AMTX Amarillo 91.46 47 PFAKE 01 35 00.0 +15
AMTX LR LR
comp=Z,539nm,20.0s,MS5.0
KSU1 Kansas State U 91.74 42 PFAKE 01 35 00.0 +14
KSU1 LR LR
comp=Z,434nm,22.0s,MS4.8
HINF Hinteralfeld 91.88 331 *eP* **P 01 34 45.1 -1.8**
HAU Haudompre 91.94 332 *eP* **P 01 34 45.4 -1.8**
HAU *e*MLR MLR
comp=Z,736nm,18.0s,MS4.9
HAU Haudompre 91.94 332 *eP* **P 01 34 45.4 -1.8**
HAU MLR MLR
comp=Z,740nm,18.0s,MS5.2
MEZF Maizieres J'vi 92.06 333 *eP* **P 01 34 46.6 -1.1**
comp=Z,52nm,1.4s,mb5.4
MEZF Maizieres J'vi 92.06 333 *eP* **P 01 34 46.6 -1.1**
comp=Z,52nm,1.4s,mb5.7
JFWS Jewell Farm 92.45 35 PFAKE 01 35 00.0 +10
JFWS LR LR
comp=Z,380nm,19.0s,MS4.9
CABF La Chapelle 93.16 331 *eP* **P 01 34 51.4 -1.5**
comp=Z,41nm,1.5s,mb5.3
CABF La Chapelle 93.16 331 *eP* **P 01 34 51.4 -1.5**
comp=Z,20nm,1.5s,mb5.3
CABF La Chapelle 93.16 331 *eP* **P 01 34 51.4 -1.5**
CABF pmax pmax
comp=Z,20nm,1.5s,mb5.3
WMOK Wichita Mounta 93.37 46 PFAKE 01 35 00.0 +5.9
WMOK LR LR
comp=Z,648nm,20.0s,MS5.1
LOR Lormes 93.53 333 *eP* **P 01 34 52.9 -1.6**
comp=Z,15nm,0.9s,mb5.1
LOR *e*MLR MLR
comp=Z,544nm,18.0s,MS4.8
LOR Lormes 93.53 333 *eP* **P 01 34 52.9 -1.6**
comp=Z,7.7nm,0.9s,mb5.1
LOR LR LR
comp=Z,540nm,18.0s,MS5.0
LOR Lormes 93.53 333 *eP* **P 01 34 52.9 -1.6**
LOR pmax pmax
comp=Z,8.0nm,0.9s,mb5.2
LOR MLR MLR
comp=Z,540nm,18.0s,MS5.0
LTX Lajitas 93.63 53 PFAKE 01 35 10.0 +15
LTX LR LR
comp=Z,108nm,22.0s,MS4.3
TXAR Lajitas Array 93.63 53 P **P 01 34 55.5 +0.1**
comp=Z,4.5nm,0.8s,mb4.9,baz=283,slow=2.2,SNR=16
TXAR LR LR 02 13 46.2
comp=Z,703nm,18.9s,MS5.1,baz=5.0,slow=34
GLMI Grayling 93.66 31 PFAKE 01 35 10.0 +15
GLMI LR LR
comp=Z,402nm,20.0s,MS4.9
LPL La Plagne 93.76 330 *eP* **P 01 34 54.5 -1.1**
comp=Z,38nm,1.5s,mb5.3
LPL La Plagne 93.76 330 *eP* **P 01 34 54.5 -1.1**
comp=Z,19nm,1.5s,mb5.3
LPL La Plagne 93.76 330 *eP* **P 01 34 54.5 -1.1**
LPL pmax pmax
comp=Z,19nm,1.5s,mb5.3
LPG La Plagne 93.77 330 *eP* **P 01 34 54.5 -1.2**
comp=Z,28nm,1.3s,mb5.2
LPG La Plagne 93.77 330 *eP* **P 01 34 54.5 -1.2**
comp=Z,14nm,1.3s,mb5.2
LPG La Plagne 93.77 330 *eP* **P 01 34 54.5 -1.2**
LPG pmax pmax
comp=Z,14nm,1.3s,mb5.2
SSF Saint Saulge 93.84 333 *eP* **P 01 34 54.3 -1.7**
comp=Z,11nm,0.9s,mb5.0
SSF Saint Saulge 93.84 333 *eP* **P 01 34 54.3 -1.7**
comp=Z,5.4nm,0.9s,mb5.0
SSF Saint Saulge 93.84 333 *eP* **P 01 34 54.3 -1.7**
SSF pmax pmax
comp=Z,5.0nm,0.9s,mb4.9
FLN La Foliniere 93.89 336 *eP* **P 01 34 54.5 -1.7**
comp=Z,26nm,1.1s,mb5.3
FLN *e*MLR MLR
comp=Z,757nm,17.5s,MS4.9
FLN La Foliniere 93.89 336 *eP* **P 01 34 54.5 -1.7**
comp=Z,13nm,1.1s,mb5.3
FLN LR LR
comp=Z,760nm,17.5s,MS5.2
FLN La Foliniere 93.89 336 *eP* **P 01 34 54.5 -1.7**
FLN pmax pmax
comp=Z,13nm,1.1s,mb5.3
FLN MLR MLR
comp=Z,760nm,17.5s,MS5.2
LDF La Druitiere 93.91 336 *eP* **P 01 34 54.6 -1.7**
comp=Z,37nm,1.5s,mb5.3
LDF La Druitiere 93.91 336 *eP* **P 01 34 54.6 -1.7**
comp=Z,18nm,1.5s,mb5.3
LDF La Druitiere 93.91 336 *eP* **P 01 34 54.6 -1.7**
LDF pmax pmax
comp=Z,18nm,1.5s,mb5.3
SMF Signal de Mont 94.05 332 *eP* **P 01 34 55.3 -1.6**
comp=Z,29nm,1.3s,mb5.2
SMF Signal de Mont 94.05 332 *eP* **P 01 34 55.3 -1.6**
comp=Z,14nm,1.3s,mb5.2
SMF Signal de Mont 94.05 332 *eP* **P 01 34 55.3 -1.6**
SMF pmax pmax
comp=Z,14nm,1.3s,mb5.2
AVF Avril sur Loir 94.12 333 *eP* **P 01 34 55.7 -1.6**
comp=Z,52nm,1.4s,mb5.5
AVF Avril sur Loir 94.12 333 *eP* **P 01 34 55.7 -1.6**
comp=Z,26nm,1.4s,mb5.5
AVF Avril sur Loir 94.12 333 *eP* **P 01 34 55.7 -1.6**
AVF pmax pmax
comp=Z,26nm,1.4s,mb5.5
BNI Bardonecchia 94.15 330 *eP* **P 01 34 56.4 -1.0**
comp=Z,14nm,1.4s,mb5.2
BNI Bardonecchia 94.15 330 *eP* **P 01 34 56.4 -1.0**
BNI pmax pmax
comp=Z,14nm,1.4s,mb5.2

GRR	**Gorron**	**94.34**	**336**	*e*P	**P**	**01 34 56.6**	**-1.7**
BGF	**Bois d'Agland**	**94.51**	**333**	*e*P	**P**	**01 34 57.6**	**-1.5**
ORIF	**Oris-en-Rattie**	**94.60**	**330**	*e*P	**P**	**01 34 58.1**	**-1.4**
	comp=Z,43nm,1.6s,mb5.3						
ORIF				*e*MLR	MLR		
	comp=Z,737nm,18.8s,MS4.9						
ORIF	**Oris-en-Rattie**	**94.60**	**330**	*e*P	**P**	**01 34 58.1**	**-1.4**
	comp=Z,21nm,1.6s,mb5.3						
ORIF	**Oris-en-Rattie**	**94.60**	**330**	*e*P	**P**	**01 34 58.1**	**-1.4**
ORIF				pmax	pmax		
	comp=Z,21nm,1.6s,mb5.3						
HDIL	**Hopedale**	**94.67**	**37**	PFAKE		01 35 10.0	+10
HDIL				LR	LR		
	comp=Z,495nm,20.0s,MS5.0						
SBF	**Sospel**	**94.76**	**329**	*e*P	**P**	**01 34 58.0**	**-2.3**
TCF	**Toulx Ste Croi**	**94.98**	**333**	*e*P	**P**	**01 34 59.9**	**-1.3**
SGMF	**Saint Gilles**	**95.04**	**337**	*e*P	**P**	**01 35 00.0**	**-1.5**
PGF	**Pioggiola**	**95.07**	**327**	*e*P	**P**	**01 34 59.9**	**-1.8**
VIVF	**Saint-Julien-l**	**95.16**	**331**	*e*P	**P**	**01 35 00.5**	**-1.6**
	comp=Z,44nm,1.6s,mb5.3						
VIVF	**Saint-Julien-l**	**95.16**	**331**	*e*P	**P**	**01 35 00.5**	**-1.6**
	comp=Z,22nm,1.6s,mb5.3						
VIVF	**Saint-Julien-l**	**95.16**	**331**	*e*P	**P**	**01 35 00.5**	**-1.6**
VIVF				pmax	pmax		
	comp=Z,22nm,1.6s,mb5.3						
ROSF	**Rostrenen**	**95.21**	**337**	*e*P	**P**	**01 35 00.8**	**-1.4**
FRF	**La Foret Royal**	**95.35**	**329**	*e*P	**P**	**01 35 00.6**	**-2.4**
CCM	**Cathedral Cave**	**95.46**	**39**	PFAKE		01 35 10.0	+6.4
CCM				LR	LR		
	comp=Z,339nm,21.0s,MS4.8						
JCT	**Junction City**	**95.50**	**50**	PFAKE		01 35 10.0	+6.1
JCT				LR	LR		
	comp=Z,606nm,19.0s,MS5.1						
QUIF	**Quistinic**	**95.54**	**337**	*e*P	**P**	**01 35 01.8**	**-1.9**
	comp=Z,61nm,1.5s,mb5.5						
QUIF	**Quistinic**	**95.54**	**337**	*e*P	**P**	**01 35 01.8**	**-1.9**
	comp=Z,30nm,1.5s,mb5.5						
QUIF	**Quistinic**	**95.54**	**337**	*e*P	**P**	**01 35 01.8**	**-1.9**
QUIF				pmax	pmax		
	comp=Z,31nm,1.5s,mb5.5						
LMR	**La Mourre**	**95.59**	**329**	*e*P	**P**	**01 35 02.0**	**-2.1**
	comp=Z,35nm,1.6s,mb5.2						
LMR	**La Mourre**	**95.59**	**329**	*e*P	**P**	**01 35 02.0**	**-2.1**
	comp=Z,18nm,1.6s,mb5.2						
LMR	**La Mourre**	**95.59**	**329**	*e*P	**P**	**01 35 02.0**	**-2.1**
LMR				pmax	pmax		
	comp=Z,18nm,1.6s,mb5.2						
MFF	**Saint Martin d**	**95.61**	**335**	*e*P	**P**	**01 35 02.8**	**-1.3**
RJF	**Les Rejaudoux**	**96.07**	**333**	*e*P	**P**	**01 35 05.1**	**-1.1**
RJF				*e*MLR	MLR		
	comp=Z,662nm,18.0s,MS4.9						
RJF	**Les Rejaudoux**	**96.07**	**333**	*e*P	**P**	**01 35 05.1**	**-1.1**
RJF				MLR	MLR		
	comp=Z,660nm,18.0s,MS5.2						
LASF	**Ste Croix**	**96.13**	**331**	*e*P	**P**	**01 35 05.2**	**-1.3**
	comp=Z,40nm,1.7s,mb5.3						
CAF	**Calviac**	**96.17**	**332**	*e*P	**P**	**01 35 05.8**	**-0.9**
	comp=Z,33nm,1.6s,mb5.2						
CAF	**Calviac**	**96.17**	**332**	*e*P	**P**	**01 35 05.8**	**-0.9**
	comp=Z,16nm,1.6s,mb5.2						
CAF	**Calviac**	**96.17**	**332**	*e*P	**P**	**01 35 05.8**	**-0.9**
CAF				pmax	pmax		
	comp=Z,16nm,1.6s,mb5.2						
MIAR	**Mount Ida**	**96.64**	**43**	PFAKE		01 35 20.0	+11
MIAR				LR	LR		
	comp=Z,410nm,20.0s,MS4.9						
MTLF	**Montolieu**	**97.42**	**332**	*e*P	**P**	**01 35 11.2**	**-1.2**
	comp=Z,33nm,1.8s,mb5.2						
MTLF	**Montolieu**	**97.42**	**332**	*e*P	**P**	**01 35 11.2**	**-1.2**
	comp=Z,16nm,1.8s,mb5.2						
MTLF	**Montolieu**	**97.42**	**332**	*e*P	**P**	**01 35 11.2**	**-1.2**
MTLF				pmax	pmax		
	comp=Z,17nm,1.8s,mb5.2						
ERPA	**Erie**	**97.84**	**30**	PFAKE		01 35 30.0	+16
ERPA				LR	LR		
	comp=Z,624nm,20.0s,MS5.1						
LONY	**Lake Ozonia**	**97.91**	**25**	PFAKE		01 35 30.0	+15
LONY				LR	LR		
	comp=Z,440nm,20.0s,MS5.0						
NATX	**Nacogdoches**	**97.92**	**46**	PFAKE		01 35 30.0	+15
NATX				LR	LR		
	comp=Z,623nm,19.0s,MS5.1						
WCI	**Wyandotte Cave**	**97.95**	**36**	PFAKE		01 35 30.0	+15
WCI				LR	LR		
	comp=Z,418nm,21.0s,MS4.9						
ACSO	**Alum Creek Sta**	**98.01**	**33**	PFAKE		01 35 30.0	+15
ACSO				LR	LR		
	comp=Z,425nm,20.0s,MS4.9						
HKT	**Hockley**	**98.42**	**48**	PFAKE		01 35 30.0	+13
HKT				LR	LR		
	comp=Z,508nm,20.0s,MS5.0						
EPF	**Esparros**	**98.43**	**332**	*e*P	**P**	**01 35 15.5**	**-1.4**
NCB	**Newcomb**	**98.60**	**25**	PFAKE		01 35 30.0	+12
NCB				LR	LR		
	comp=Z,531nm,19.0s,MS5.1						
KVTX	**Kingsville**	**98.68**	**51**	PFAKE		01 35 30.0	+12
KVTX				LR	LR		
	comp=Z,654nm,19.0s,MS5.2						
WVT	**Waverly**	**98.73**	**39**	PFAKE		01 35 30.0	+12
WVT				LR	LR		
	comp=Z,473nm,20.0s,MS5.0						
PKME	**Peaks-Kenny Pk**	**99.16**	**22**	PFAKE		01 35 30.0	+10
PKME				LR	LR		
	comp=Z,543nm,19.0s,MS5.1						
BINY	**Binghamton**	**99.43**	**27**	PFAKE		01 35 30.0	+8.6
BINY				LR	LR		
	comp=Z,286nm,20.0s,MS4.8						
PLAL	**Pickwick Lake**	**99.45**	**40**	PFAKE		01 35 30.0	+8.4
PLAL				LR	LR		
	comp=Z,358nm,21.0s,MS4.8						
CASY	**Casey**	**99.72**	**192**	PFAKE		01 35 30.0	+7.4
CASY				LR	LR		
	comp=Z,1μm,20.0s,MS5.5						
MCWV	**Mont Chateau**	**99.91**	**31**	PFAKE		01 35 30.0	+6.6
MCWV				LR	LR		
	comp=Z,600nm,19.0s,MS5.1						
SSPA	**Standing Stone**	**99.96**	**30**	PFAKE		01 35 30.0	+6.3
SSPA				LR	LR		
	comp=Z,500nm,20.0s,MS5.0						
TZTN	**Tazewell**	**100.63**	**36**	PFAKE		01 35 40.0	+13
TZTN				LR	LR		
	comp=Z,408nm,20.0s,MS4.9						
WES	**Weston**	**101.03**	**24**	PFAKE		01 35 40.0	+12
WES				LR	LR		
	comp=Z,1μm,21.0s,MS5.5						
LRAL	**Lakeview Retre**	**101.50**	**40**	PFAKE		01 35 40.0	+9.5
LRAL				LR	LR		
	comp=Z,416nm,20.0s,MS5.0						
BLA	**Blacksburg**	**101.62**	**33**	PFAKE		01 35 40.0	+8.9
BLA				LR	LR		
	comp=Z,390nm,20.0s,MS4.9						
CBN	**Corbin**	**102.20**	**31**	PFAKE		01 35 40.0	+6.4
CBN				LR	LR		
	comp=Z,471nm,21.0s,MS5.0						
BRAL	**Brewton**	**102.97**	**42**	PFAKE		01 35 50.0	+13
BRAL				LR	LR		
	comp=Z,456nm,22.0s,MS5.0						
KMBO	**Kilima Mbogo**	**103.06**	**277**	PFAKE		01 35 50.0	+13
KMBO				LR	LR		
	comp=Z,175nm,21.0s,MS4.6						
GOGA	**Godfrey**	**103.11**	**38**	PFAKE		01 35 50.0	+12
GOGA				LR	LR		
	comp=Z,437nm,20.0s,MS5.0						
PAB	**San Pablo**	**103.24**	**334**	PFAKE		01 35 50.0	+12
PAB				LR	LR		
	comp=Z,514nm,20.0s,MS5.0						
CNNC	**Cliffs of the**	**104.41**	**33**	PFAKE		01 35 50.0	+6.5
CNNC				LR	LR		
	comp=Z,460nm,20.0s,MS5.0						
NHSC	**New Hope**	**105.04**	**36**	PFAKE		01 40 10.0	+8.8
NHSC				LR	LR		
	comp=Z,350nm,20.0s,MS4.9						
DWPF	**Disney**	**108.34**	**40**	PFAKE		01 40 20.0	+13
DWPF				LR	LR		
	comp=Z,515nm,20.0s,MS5.1						
TEIG	**Tepich**	**110.07**	**50**	PFAKE		01 40 20.0	+9.1
TEIG				LR	LR		
	comp=Z,447nm,21.0s,MS5.0						
TGUH	**Tegucigalpa,Un**	**115.07**	**54**	PFAKE		01 40 30.0	+10
TGUH				LR	LR		
	comp=Z,357nm,20.0s,MS5.0						
LSZ	**Lusaka**	**117.78**	**268**	PFAKE		01 40 40.0	+14
LSZ				LR	LR		
	comp=Z,394nm,19.0s,MS5.0						
QSPA	**South Pole Qui**	**120.59**	**180**	PKP	PKPdf	01 40 33.8	+4.6
QSPA				LR	LR		
	comp=Z,350nm,19.0s,MS5.0						
QSPA	**South Pole Qui**	**120.59**	**180**	PKP	PKPdf	01 40 33.8	+4.6
	comp=Z,0.9nm,0.5s,baz=346,slow=4.8,SNR=8.0						
SDDR	**Presa de Saban**	**121.14**	**37**	PFAKE		01 40 40.0	+7.9
SDDR				LR	LR		
	comp=Z,397nm,19.0s,MS5.1						
TORD	**Torodi Ar. Bea**	**121.85**	**313**	PKP	PKPdf	01 40 32.7	-0.9
TORD	**Torodi Ar. Bea**	**121.85**	**313**	PKP	PKPdf	01 40 32.7	-0.9
	comp=Z,0.4nm,0.5s,baz=23,slow=0.9,SNR=8.4						
MSKU	**Masuku**	**123.11**	**290**	PFAKE		01 40 50.0	+14
MSKU				LR	LR		
	comp=Z,4.0nm,21.0s						
SJG	**San Juan**	**124.41**	**33**	PFAKE		01 40 50.0	+12
SJG				LR	LR		
	comp=Z,237nm,20.0s,MS4.8						
TSUM	**Tsumeb**	**128.60**	**269**	PFAKE		01 41 00.0	+14
TSUM				LR	LR		
	comp=Z,371nm,20.0s,MS5.1						
SDV	**Santo Domingo**	**129.73**	**44**	*e*PKPdf	PKPdf	01 40 48.4	-0.2
SDV				LR	LR		
	comp=Z,78nm,20.0s,MS4.4						
DBIC	**Dimbokro**	**130.92**	**314**	PFAKE		01 41 00.0	+9.1
DBIC				LR	LR		
	comp=Z,137nm,19.0s,MS4.7						
ASCN	**Ascension**	**148.14**	**311**	PFAKE		01 41 30.0	+8.0
ASCN				LR	LR		
	comp=Z,717nm,21.0s,MS5.4						
LPAZ	**La Paz**	**149.10**	**69**	PKPbc	PKPbc	01 41 27.0	-0.6
LPAZ				LR	LR		
	comp=Z,158nm,20.0s,MS4.8						
LPAZ	**La Paz**	**149.10**	**69**	PKPbc	PKPbc	01 41 27.0	-0.6
	comp=Z,4.6nm,0.8s,baz=18,slow=4.7,SNR=18						
PLCA	**Paso Flores**	**152.09**	**120**	PKPbc	PKPbc	01 41 33.2	-0.7
	comp=Z,1.2nm,0.7s,baz=236,slow=3.3,SNR=4.6						
PLCA				PKPab	PKPab	01 41 44.5	+0.9
	comp=Z,1.7nm,0.7s,baz=240,slow=5.1,SNR=4.4						
RCBR	**Riachuelo**	**155.03**	**355**	PFAKE		01 41 40.0	+7.6
RCBR				LR	LR		
	comp=Z,251nm,20.0s,MS5.0						
HOPE	**Hope Point**	**156.53**	**183**	PFAKE		01 41 40.0	+6.9
HOPE				LR	LR		
	comp=Z,6.0nm,19.0s						
TRQA	**Tornquist**	**159.14**	**117**	PFAKE		01 41 50.0	+13
TRQA				LR	LR		
	comp=Z,447nm,19.0s,MS5.3						

*ISCJB **07** 01:25:07.2±1.8, 1358N×005×9404E±004, h15km±14km, mb4.3/20, Error ellipse: s-maj=8.3km s-min=5.5km az=30.5*
*NEIC **07** 01:25:11.8±0.6, 1364N×9396E, h30km, mb4.0/1, Error ellipse: s-maj=13.6km s-min=9.1km az=73.0*
*IDC **07** 01:25:15.7±4.8, 1365N×9409E, h66km±44km, mb3.8/14, mb1 3.9/15, mb1mx3.7/25, mbtmp3.8/15, ML3.5/1, MS3.7/2, Ms1 3.7/2, ms1mx3.4/30, Error ellipse: s-maj=27.5km s-min=13.5km az=60.0*

ISC 07 01:25:10.3±1.8, 1360N±005×9399E±004, h20km±14km, n43, σ0°89/52, mb4.3/20, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**2.28**	**212**	*e*P	**Pn**	**01 26 01.8**	**+15**
PBA				*e*S	**Sn**	**01 26 31.4**	**+17**
NNT	**Nongplab**	**5.69**	**99**	P	**Pn**	**01 26 33.0**	**-0.7**
BDT	**Bhumibol Dam**	**6.04**	**52**	P	**Pn**	**01 26 38.8**	**+0.2**
NST	**Nakhon Sawan**	**6.29**	**70**	P	**Pn**	**01 26 42.0**	**0.0**
	58nm,0.5s						
CHTO	**Chiang Mai**	**7.04**	**42**	*e*Pn	**Pn**	**01 26 52.0**	**-0.3**
	28nm,0.7s						
CHTO				*e*Sn	**Sn**	**01 28 12.3**	**+0.6**
KULM	**Kulim**	**10.55**	**141**	*e*Pn	**Pn**	**01 27 41.0**	**+0.5**
KULM				Sn	**Sn**	**01 29 37.8**	**-0.3**
VIS	**Vishakhapatnam**	**11.05**	**293**	*i* P	**Pn**	**01 27 46.4**	**-1.0**
VIS				*i* S	**Sn**	**01 29 39.9**	**-11**
IMP	**Imphal**	**11.13**	**360**	*ex*	**Pn**	**01 27 54.0**	**+5.7**
PSI	**Prapat**	**11.78**	**155**	P	**Pn**	**01 28 01.9**	**+4.5**
	0.3nm,0.3s,baz=334,slow=12,SNR=5.0						
PSI				LR	LR	01 32 38.8	
	comp=Z,263nm,21.3s,baz=324,slow=37						
SHL	**Shillong**	**12.07**	**351**	*e*P	**Pn**	**01 28 00.4**	**-0.8**
SHL				*ex*	**Sn**	**01 30 10.0**	**-5.3**
BOK	**Bokaro**	**12.71**	**324**	*e*P	**Pn**	**01 28 08.7**	**-1.3**
BOK				*e*S	**Sn**	**01 30 16.4**	**-15**
PALK	**Pallekele**	**14.50**	**246**	Pn	**Pn**	**01 28 34.1**	**-0.3**
	17nm,0.9s						
PALK				*e*Sn	**Sn**	**01 31 06.1**	**-8.6**
HYB	**Hyderabad**	**15.35**	**286**	*i* P	**Pn**	**01 28 48.5**	**+2.6**
HYB				*e*S	**Sn**	**01 31 38.0**	**+2.5**
JIRN	**Jiri**	**15.77**	**334**	*e*P	**Pn**	**01 28 51.8**	**+0.5**
NGP	**Nagpur**	**16.11**	**300**	*e*P	**Pn**	**01 28 55.0**	**-0.7**
NGP				*ex*	**Sn**	**01 31 39.6**	**-14**
LSA	**Lhasa**	**16.24**	**351**	*e*Pn	**Pn**	**01 28 58.4**	**+1.1**
	7.5nm,0.6s						
KKN	**Kakani**	**16.29**	**331**	*e*P	**Pn**	**01 28 58.3**	**+0.3**
	44nm,0.8s						
GKN	**Gorkha**	**16.78**	**330**	*e*P	**Pn**	**01 29 05.1**	**+1.0**
	29nm,0.3s						
KOLN	**Koldanda**	**17.11**	**327**	*e*P	**Pn**	**01 29 08.9**	**+0.6**
	48nm,0.7s						
BHPL	**Bhopal**	**18.39**	**304**	*e*P	**Pn**	**01 29 22.9**	**-1.3**
BHPL				AMb	AMB	01 29 28.0	
	comp=Z,16nm,1.2s						
BHPL				*e*S	**Sn**	**01 32 46.9**	**-2.4**
NDI	**New Delhi**	**21.64**	**317**	*e*P	**P**	**01 29 58.8**	**-0.7**
NDI				AMb	AMB	01 30 11.8	
	comp=Z,30nm,1.6s,mb4.5						
NDI				*ex*	x	01 31 25.7	
DDI	**Dehra Dun**	**22.21**	**321**	*e*P	**P**	**01 30 07.4**	**+1.8**
DDI				*ex*	x	01 31 04.4	
MKAR	**Makanchi Array**	**34.52**	**346**	P	**P**	**01 31 57.6**	**+0.5**
	comp=Z,1.7nm,0.6s,mb4.1,baz=171,slow=9.1,SNR=3.1						
ZALV	**Zalesovo Beam**	**40.90**	**352**	P	**P**	**01 32 51.1**	**+0.1**
	comp=Z,4.4nm,0.6s,mb4.3,baz=174,slow=8.1,SNR=5.3						
FITZ	**Fitzroy Crossi**	**44.35**	**134**	P	**P**	**01 33 20.3**	**+0.9**
	comp=Z,1.1nm,0.6s,mb3.8,baz=315,slow=4.3,SNR=2.2						
KBD	**Kabd**	**45.51**	**298**	*e*P	**P**	**01 33 29.0**	**+0.3**
KBD				AMb	AMB	01 33 46.2	
	comp=Z,158nm,0.9s						
RDF	**Al-Radifah**	**45.59**	**297**	*e*P	**P**	**01 33 29.4**	**+0.1**
RDF				AMb	AMB	01 33 49.7	
	comp=Z,51nm,0.9s,mb5.4						
NAY	**Al-Naaiem**	**45.91**	**298**	*e*P	**P**	**01 33 31.8**	**0.0**
NAY				AMb	AMB	01 33 49.0	
	comp=Z,42nm,1.0s,mb5.3						
MIB	**Mutribah**	**45.92**	**298**	*e*P	**P**	**01 33 32.1**	**+0.3**
MIB				AMb	AMB	01 33 45.6	
	comp=Z,33nm,0.7s,mb5.4						
RST	**Umm Al-Ruwaisa**	**46.16**	**298**	*e*P	**P**	**01 33 33.8**	**0.0**
RST				AMb	AMB	01 33 49.1	
	comp=Z,43nm,0.9s,mb5.4						
WRA	**Warramunga Arr**	**51.84**	**129**	P	**P**	**01 34 17.1**	**-0.2**
	comp=Z,0.8nm,0.6s,mb3.8,baz=312,slow=7.6,SNR=4.0						
ASAR	**Alice Springs**	**53.80**	**133**	P	**P**	**01 34 31.9**	**0.0**
	comp=Z,0.4nm,0.5s,mb3.6,baz=315,slow=7.3,SNR=4.1						
EIL	**Elat**	**56.60**	**297**	LR	LR	01 59 07.5	
	comp=Z,120nm,19.5s,baz=293,slow=36						
STKA	**Stephens Creek**	**64.22**	**136**	P	**P**	**01 35 42.6**	**-1.3**
	comp=Z,1.0nm,0.3s,mb4.3,baz=321,slow=6.5,SNR=1.6						
FINES	**FINESS Array B**	**67.63**	**331**	P	**P**	**01 36 04.8**	**-0.7**
	comp=Z,1.1nm,0.7s,mb4.0,baz=118,slow=9.2,SNR=3.7						
ARCES	**ARCESS Array B**	**69.87**	**340**	P	**P**	**01 36 19.8**	**+0.5**
	comp=Z,3.2nm,0.6s,mb4.4,baz=87,slow=6.5,SNR=11						
HFS	**Hagfors**	**73.48**	**329**	P	**P**	**01 36 41.3**	**+0.1**
	comp=Z,2.8nm,0.8s,mb4.3,baz=105,slow=5.0,SNR=4.4						
GERES	**GERESS Array B**	**73.52**	**317**	P	**P**	**01 36 41.7**	**+0.1**
	comp=Z,0.5nm,0.5s,mb3.7,baz=90,slow=5.3,SNR=6.4						
NOA	**NORSAR Array B**	**74.72**	**330**	P	**P**	**01 36 47.8**	**-0.6**
	comp=Z,0.8nm,0.7s,mb3.8,baz=90,slow=5.8,SNR=2.8						
LBTB	**Lobatse**	**76.90**	**240**	P	**P**	**01 37 01.9**	**+0.4**
	comp=Z,1.1nm,0.6s,mb4.0,baz=93,slow=7.8,SNR=6.0						
BOSA	**Boshof**	**78.53**	**237**	P	**P**	**01 37 11.6**	**+1.0**
	comp=Z,5.3nm,1.1s,mb4.4,baz=337,slow=1.1,SNR=6.8						
TORD	**Torodi Ar. Bea**	**89.15**	**283**	P	**P**	**01 38 05.0**	**-0.2**
	comp=Z,0.2nm,0.6s,mb3.6,baz=84,slow=4.2,SNR=7.8						
INK	**Inuvik**	**91.57**	**16**	P	**P**	**01 38 14.0**	**-1.3**
	comp=Z,1.2nm,1.1s,mb4.1,baz=22,slow=5.4,SNR=3.4						

*JMA **07** 01:25:18.6±0.3, 3090N×14232E, h48km, M4.2*
*MOS **07** 01:25:20.9±1.3, 3077N×14184E, h33km, mb4.9/21, Error ellipse: s-maj=17.1km s-min=7.1km az=113.1*
*BJI **07** 01:25:20.3, 3097N×14191E, h24km, mB5.0, mb4.5, Msz4.2*
*ISCJB **07** 01:25:21.2±0.3, 3078N±004×14184E±007, h35km, mb4.7/33, MS4.4/2, Error ellipse: s-maj=9.5km s-min=4.8km az=160.0*
*NEIC **07** 01:25:23.1±0.4, 3082N×14192E, h35km, mb4.9/8, Error ellipse: s-maj=11.8km s-min=8.5km az=54.0*
*IDC **07** 01:25:23.5±0.6, 3077N×14191E, h38km±4km, mb4.1/13, mb1 4.3/17, mb1mx4.1/25, mbtmp4.1/17, ML4.0/4, Error ellipse: s-maj=17.1km s-min=14.5km az=59.0*

ISC 07 01:25:23.3±0.3, 3079N±004×14183E±007, h37km, h37km±1.7km: pP-P, n92, σ1°16/96, mb4.7/33, MS4.4/2, 4C, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**2.88**	**324**	P	**Pn**	**01 26 06.1**	**-0.6**
JHJ	**Hachijo jima 2**	**2.90**	**324**	Pn	**Pn**	**01 26 06.2**	**-0.7**
	11nm,0.3s,baz=81,slow=19,SNR=6.5						
JHJ				Sn	**Sn**	**01 26 39.5**	**-1.1**
	17nm,0.3s,baz=255,slow=20,SNR=3.3						
CBIJ	**Chichi jima**	**3.69**	**175**	P	**Pn**	**01 26 16.3**	**-1.6**
CBIJ				S	**Sn**	**01 26 58.3**	**-1.9**
CBIJ	**Chichi jima**	**3.69**	**175**	Pn	**Pn**	**01 26 16.6**	**-1.3**
	46nm,0.3s,baz=287,slow=14,SNR=5.4						
CBIJ				Sn	**Sn**	**01 26 58.6**	**-1.6**
	55nm,0.3s,baz=330,slow=19,SNR=5.3						
JOD2	**Odawara 2**	**5.02**	**333**	P	**Pn**	**01 26 36.4**	**+0.3**
JRY	**Ryogami san**	**5.76**	**336**	P	**Pn**	**01 26 46.2**	**0.0**
JRY				S	**Sn**	**01 27 50.3**	**-0.7**
MJAR	**Matsushiro Arr**	**6.48**	**333**	P	**Pn**	**01 26 55.8**	**-0.3**
MJAR				pmax	pmax		
	comp=Z,5.0nm,0.3s						
MJAR	**Matsushiro Arr**	**6.48**	**333**	Pn	**Pn**	**01 26 55.8**	**-0.3**
	comp=Z,5.2nm,0.3s,baz=158,slow=12,SNR=9.0						
MAJO	**Matsushiro**	**6.48**	**333**	*e*Pn	**Pn**	**01 26 56.1**	**0.0**
JMK	**Ichinoseki**	**8.16**	**357**	P	**Pn**	**01 27 15.6**	**-3.5**
JMK				*e*S	**Sn**	**01 28 41.0**	**-9.0**
KSRS	**Korea Array**	**13.29**	**304**	Pn	**Pn**	**01 28 32.6**	**+3.2**
	comp=Z,0.3nm,0.3s,baz=111,slow=13,SNR=6.0						
YSS	**Yuzh-Sakhalins**	**16.16**	**2**	*e*P	**Pn**	**01 29 10.0**	**+2.6**
YSS				MLR	MLR		
	comp=Z,3μm,16.0s						
YSS				MLR	MLR		
	comp=N,3μm,15.0s						
CN2	**Changchun**	**18.35**	**320**	*e*P	**Pn**	**01 29 33.7**	**-1.1**
CN2				AMB	AMB		
	comp=Z,30nm,1.2s						
HABR	**Khabarovsk**	**18.40**	**346**	*e*P	**Pn**	**01 29 34.0**	**-1.3**
HABR				*e*S	**S**	**01 33 00.8**	**-2.4**
DL2	**Dalian**	**18.43**	**302**	P	**Pn**	**01 29 37.4**	**+1.7**
DL2				AMB	AMB		
	comp=Z,10.0nm,0.7s						
NJ2	**Nanjing**	**19.64**	**280**	*e*P	**Pn**	**01 29 48.2**	**-2.2**
NJ2				AMB	AMB		
	comp=Z,30nm,0.5s						
BJT	**Baijiatuau**	**22.79**	**301**	*e*P	**P**	**01 30 21.3**	**-1.3**
	comp=Z,85nm,1.4s,mb5.0						
BJT	**Baijiatuau**	**22.79**	**301**	*e*P	**P**	**01 30 21.3**	**-1.3**
BJT				pmax	pmax		
	comp=Z,85nm,1.4s						
BJI	**Beijing**	**22.79**	**301**	P	**P**	**01 30 21.1**	**-1.5**
BJI				AMB	AMB		
	comp=Z,31nm,1.4s,mb4.5						
BJI				LR	LR		
	comp=Z,617nm,16.6s,MS4.1						
WHN	**Wuhan**	**23.62**	**276**	*e*P	**P**	**01 30 31.0**	**-0.1**
HIA	**Hailar**	**24.88**	**324**	*e*P	**P**	**01 30 42.2**	**-0.1**
	comp=Z,25nm,1.0s,mb4.7						
HIA	**Hailar**	**24.88**	**324**	*e*P	**P**	**01 30 42.3**	**0.0**
HIA				pmax	pmax		
	comp=Z,25nm,1.0s						
ULN	**Ulaanbaatar**	**31.51**	**313**	*e*P	**P**	**01 31 42.8**	**+1.2**
ULN	**Ulaanbaatar**	**31.51**	**313**	*e*P	**P**	**01 31 43.7**	**+2.1**
SONM	**Songino Array**	**31.92**	**312**	P	**P**	**01 31 47.3**	**+2.1**
SONM				pmax	pmax		
	comp=Z,6.0nm,0.9s						
SONM	**Songino Array**	**31.92**	**312**	P	**P**	**01 31 47.3**	**+2.1**
	comp=Z,5.9nm,0.8s,mb4.4,baz=114,slow=7.3,SNR=10						
SEY	**Seymchan**	**32.86**	**9**	*e*P	**P**	**01 31 52.9**	**-0.4**
BOD	**Bodaibo**	**33.12**	**333**	*e*P	**P**	**01 31 54.2**	**-1.3**
BOD				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.5						
ZAK	**Zakamensk**	**34.70**	**316**	*e*P	**P**	**01 32 10.6**	**+1.3**
ZAK				pmax	pmax		
	comp=Z,13nm,17.0s						
IRK	**Irkutsk**	**34.80**	**319**	*e*P	**P**	**01 32 11.3**	**+1.1**
IRK				pmax	pmax		
	comp=Z,38nm,1.0s,mb5.3						
TLY	**Talaya**	**34.94**	**318**	*e*P	**P**	**01 32 13.1**	**+1.7**
	comp=Z,44nm,1.4s,mb5.2						
TLY	**Talaya**	**34.94**	**318**	*e*P	**P**	**01 32 13.0**	**+1.6**
TLY				*e*	pP	01 32 24.7	+2.6
TLY				pmax	pmax		
	comp=Z,38nm,1.7s,mb5.0						
TLY				MLR	MLR		
	comp=Z,862nm,14.0s,MS4.7						
GTA	**Gaotai**	**35.17**	**296**	*e*P	**P**	**01 32 13.7**	**+0.1**
GTA				AP	pP

OBN e pP 01 37 03.9 +1.5
OBN e 01 39 34.3
OBN eSS SS 01 51 01.5 +3.1
OBN pmax pmax
comp=Z,6.0nm,1.1s,mb4.4
KIV Kislovodsk 75.31 313 eP **P 01 37 04.0 +1.3**
comp=Z,12nm,1.1s,mb4.7
KIV Kislovodsk 75.31 312⇑ eP **P 01 37 01.2 -1.4**
KIV e 01 37 17.6
KIV pmax pmax
comp=Z,29nm,1.7s,mb4.9
ANN Anapa 78.15 315 eP **P 01 37 11.7 -6.9**
ANN e*PP pP 01 37 22.5 -7.7
ANN eS S 01 47 00.2 -10
ANN pmax pmax
comp=Z,74nm,1.1s,mb5.5
NVAR Mina Array Bea 78.50 52 P **P 01 37 21.0 +0.4**
NVAR Mina Array Bea 78.50 52 P **P 01 37 21.0 +0.4**
comp=Z,0.7nm,0.7s,mb3.7,baz=296,slow=4.1,SNR=4.0
MIB Mutribah 78.85 298 eP **P 01 37 22.2 -0.6**
MIB AMb AMB 01 37 23.9
comp=Z,10.0nm,0.9s,mb4.8
RDF Al-Radifah 79.12 297 eP **P 01 37 24.2 -0.1**
RDF AMb AMB 01 37 25.6
comp=Z,28nm,1.0s,mb5.1
NAY Al-Naaiem 79.19 298 eP **P 01 37 24.1 -0.6**
NAY AMb AMB 01 37 26.9
comp=Z,15nm,1.0s,mb4.9
RST Umm Al-Ruwaisa 79.26 298 eP **P 01 37 24.4 -0.6**
RST AMb AMB 01 37 30.2
comp=Z,14nm,1.0s,mb4.8
AKASG Malin Array Be 79.47 323 P **P 01 37 26.3 +0.5**
AKASG *PP pP 01 37 37.9 +0.6
AKASG pmax pmax
comp=Z,5.0nm,0.8s
AKASG Malin Array Be 79.47 323 P **P 01 37 26.2 +0.5**
comp=Z,4.6nm,0.8s,mb4.5,baz=49,slow=5.6,SNR=11
AKASG pP pP 01 37 37.9 +0.5
comp=Z,2.6nm,0.6s,baz=48,slow=5.6,SNR=7.1
NOA NORSAR Array B 80.08 338 P **P 01 37 28.7 -0.1**
NOA pmax pmax
comp=Z,2.0nm,1.0s
NOA NORSAR Array B 80.08 338 P **P 01 37 28.7 -0.1**
comp=Z,2.3nm,1.0s,mb4.1,baz=42,slow=5.5,SNR=2.7
IMW Indian Meadow 80.35 44 eP **P 01 37 31.5 +0.9**
DUG Dugway 81.21 48 eP **P 01 37 33.2 -2.1**
PDAR Pinedale Array 81.82 45 P **P 01 37 38.2 -0.3**
comp=Z,0.7nm,0.8s,mb3.6,baz=316,slow=2.5,SNR=3.6
PDAR pP pP 01 37 50.0 0.0
comp=Z,1.4nm,1.0s,baz=315,slow=2.7,SNR=4.2
KWP Kalwaria 83.42 325 eP **P 01 37 46.6 -0.1**
comp=Z,23nm,1.1s,mb5.1
KWP Kalwaria 83.42 325 eP **P 01 37 46.6 -0.1**
KWP pmax pmax
comp=Z,23nm,1.1s,mb5.1
KOLS Kolonicke sedl 84.09 325 eP **P 01 37 46.9 -3.2**
comp=Z,22nm,1.7s,mb5.0
KOLS Kolonicke sedl 84.09 325 eP **P 01 37 46.9 -3.2**
KOLS pmax pmax
comp=Z,22nm,1.7s,mb5.0
KOLS Kolonicke sedl 84.09 325 eP **P 01 37 46.9 -3.2**
STHS Stebnicka Huta 84.27 326 eP **P 01 37 54.4 +3.3**
comp=Z,4.0nm,1.0s,mb4.5
STHS Stebnicka Huta 84.27 326 eP **P 01 37 54.4 +3.3**
STHS pmax pmax
comp=Z,4.0nm,1.0s,mb4.5
STHS Stebnicka Huta 84.27 326 eP **P 01 37 54.4 +3.3**
STHS e 03 21 54.4
CLL Collm 86.68 331 eP **P 01 38 05.0 +2.0**
BFO Black Forest 90.91 331 eP **P 01 38 22.0 -1.1**
comp=Z,9.4nm,1.4s,mb4.9
BFO Black Forest 90.91 331 eP **P 01 38 22.0 -1.1**
BFO pmax pmax
comp=Z,9.0nm,1.4s,mb4.9
TXAR Lajitas Array 93.64 53 P **P 01 38 37.3 +1.3**
TXAR *PP pP 01 38 47.8 0.0
TXAR pmax pmax
comp=Z,1.0nm,0.8s
TXAR Lajitas Array 93.64 53 P **P 01 38 37.3 +1.3**
comp=Z,1.3nm,0.8s,mb4.4,baz=212,slow=1.2,SNR=4.5
TXAR pP pP 01 38 47.8 0.0
comp=Z,2.7nm,0.9s,baz=224,slow=3.5,SNR=5.6
LPAZ La Paz 149.09 69 PKPbc PKPbc 01 45 09.3 +1.2
comp=Z,1.3nm,0.7s,baz=6.1,slow=3.6,SNR=4.4
LPAZ pPKPbc pPKPbc 01 45 22.1 +2.0
comp=Z,3.0nm,0.8s,baz=357,slow=5.4,SNR=6.9
PLCA Paso Flores 152.05 120 PKIKP PKPbc 01 45 14.1 -0.4
PLCA 01 45 25.8
PLCA pmax pmax
comp=Z,2.0nm,1.0s
PLCA Paso Flores 152.05 120 PKPbc PKPbc 01 45 14.1 -0.4
comp=Z,1.6nm,1.0s,baz=188,slow=4.9,SNR=3.2
PLCA pPKPbc pPKPbc 01 45 25.8 -0.7
comp=Z,3.0nm,0.9s,baz=152,slow=9.0,SNR=4.0

IDC 07 01:27:53.0±1.3, 695S×15498E, h0km, mb4.2/4, mb1 4.3/5, mb1mx4.0/15, mbtmp4.3/5, ML4.0/1, MS4.5/1, Ms1 4.5/1, ms1mx3.1/21, Error ellipse: s-maj=37.4km s-min=28.0km az=31.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.51**	**117**	Pn	Pn	01 29 17.0	+0.8
	4.9nm,0.3s,baz=252,slow=5.9,SNR=3.6						
HNR				Sn	Sn	01 30 21.6	+1.3
	5.6nm,0.3s,baz=256,slow=2.4,SNR=4.1						
WRA	**Warramunga Arr**	**23.83**	**235**	P	P	01 33 07.4	-0.6
	2.7nm,0.6s,baz=61,slow=9.3,SNR=5.1						
MJAR	**Matsushiro Arr**	**46.03**	**341**	LR	LR	01 52 37.1	
	comp=Z,488nm,18.1s,baz=165,slow=32						
SONM	**Songino Array**	**69.28**	**327**	P	P	01 39 03.0	+1.0
	1.1nm,0.6s,baz=138,slow=6.4,SNR=10						
MKAR	**Makanchi Array**	**83.35**	**319**	P	P	01 40 22.3	+0.3
	2.1nm,0.6s,baz=99,slow=5.9,SNR=12						
ZALV	**Zalesovo Beam**	**84.13**	**326**	P	P	01 40 24.9	-0.9
	1.4nm,0.5s,baz=110,slow=5.8,SNR=7.4						

*BJI **07** 01:33:36.8, 893S×120.42E, h167km, mB4.9, mb4.6*
*ISCJB **07** 01:33:44.6±0.8, 8.12S±006×119.78E±006, h177km±8km, mb4.5/19, Error ellipse: s-maj=12.7km s-min=5.7km az=135.4*
*NEIC **07** 01:33:44.5±2.0, 8.17S×119.58E, h167km±18km, mb4.6/9, Error ellipse: s-maj=17.1km s-min=10.8km az=77.0*
NEIC Felt [III] at Labuhan Bajo.
*IDC **07** 01:33:47.9±0.7, 8.14S×119.82E, h195km±6km, mb4.0/10, mb1 4.1/13, mb1mx4.0/20, mbtmp4.0/13, Error ellipse: s-maj=21.3km s-min=8.0km az=60.0*

ISC 07 01:33:47.3±0.8, 825S±006×119.70E±007, h191km±8km, h198km±4.0km; pP-P, n56, σ1§06/53, mb4.5/19, 4C-1D, Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSI	**Waingapu**	**1.52**	**157**	P	**Pn**	**01 34 28.6**	**+8.2**
	43μm,0.6s						
BATI	**Kupang**	**4.37**	**117**	P	**Pn**	**01 34 54.5**	**+1.1**
	85nm,0.3s,baz=292,slow=3.9,SNR=46						
BATI				S	**Sn**	**01 35 40.2**	**-5.0**
	70nm,0.3s,baz=259,slow=5.2,SNR=3.5						
DNP	**Denpasar**	**4.46**	**264**	P	**Pn**	**01 34 59.2**	**+4.5**
	928nm,0.5s						
NBBI	**Negara**	**5.03**	**268**	P	**Pn**	**01 35 01.1**	**-0.8**
	395nm,0.7s						
KMMI	**Kalianget**	**5.81**	**281**	P	**Pn**	**01 35 11.9**	**-0.1**
	197nm,1.0s						
KRKI	**Karangkates**	**7.18**	**270**	P	**Pn**	**01 35 30.1**	**+0.3**
	266nm,0.5s						
FITZ	**Fitzroy Crossi**	**11.37**	**150**	eP	**Pn**	**01 36 23.4**	**-0.9**
	32nm,0.7s						
FITZ				eS	**Sn**	**01 38 23.3**	**-7.6**
FITZ	**Fitzroy Crossi**	**11.37**	**150**	ePn	**Pn**	**01 36 23.8**	**-0.6**
	38nm,0.7s						
FITZ				eSn	**Sn**	**01 38 24.5**	**-6.4**
FITZ	**Fitzroy Crossi**	**11.37**	**150**	P	**Pn**	**01 36 23.8**	**-0.6**
	4.9nm,0.3s,baz=345,slow=9.7,SNR=36						
FITZ				S	**Sn**	**01 38 23.7**	**-7.3**
	7.2nm,0.3s,baz=191,slow=20,SNR=10.0						
MBWA	**Marble Bar**	**12.83**	**180**	ePn	**Pn**	**01 36 41.4**	**-1.6**
	9.1nm,0.5s						
KAKA	**Kakadu**	**13.28**	**111**	eP	**Pn**	**01 36 48.3**	**-0.4**
	26nm,0.4s						
KAKA				eS	**Sn**	**01 39 02.3**	**-15**
KAKA	**Kakadu**	**13.28**	**111**	ePn	**Pn**	**01 36 48.3**	**-0.4**
	52nm,0.4s						
KAKA				eSn	**Sn**	**01 39 03.4**	**-13**
WRA	**Warramunga Arr**	**18.33**	**131**	P	**P**	**01 37 47.8**	**+0.5**
	6.7nm,0.3s,baz=302,slow=13,SNR=46						
WRA				S	**S**	**01 41 05.8**	**-1.1**
	2.2nm,0.3s,baz=307,slow=24,SNR=17						
WRAB	**Tennant Creek**	**18.33**	**131⇑**	eP	**P**	**01 37 47.8**	**+0.5**
	14nm,3.4s						
WRAB				eS	**S**	**01 41 08.4**	**+1.5**
WB2	**Warramunga Arr**	**18.34**	**131⇑**	iP	**P**	**01 37 47.9**	**+0.5**
WB2				eS	**S**	**01 41 05.6**	**-1.5**
ASAR	**Alice Springs**	**20.50**	**140**	P	**P**	**01 38 11.6**	**+0.9**
	20nm,0.4s,baz=315,slow=9.9,SNR=258						
ASAR				S	**S**	**01 41 46.4**	**-3.0**
	6.1nm,0.7s,baz=310,slow=18,SNR=16						
ASAR				ScP	ScP	01 45 32.6	-0.2
	1.5nm,0.5s,baz=325,slow=2.2,SNR=6.6						
KLBR	**Kellerberrin**	**23.29**	**184⇑**	iP	**P**	**01 38 38.2**	**+0.1**
	13nm,0.5s,mb4.6						
KLBR				eS	S	01 42 57.7	+22
FORT	**Forrest**	**23.73**	**162**	eP	**P**	**01 38 42.9**	**+0.8**
	76nm,0.7s,mb5.3						
FORT	**Forrest**	**23.73**	**162**	eP	**P**	**01 38 42.7**	**+0.6**
	10nm,0.6s,mb4.5						
NWAO	**Narrogin (SRO)**	**24.66**	**185**	eP	**P**	**01 38 49.5**	**-1.0**
	12nm,0.8s,mb4.5						
NWAO				eS	S	01 43 30.5	+33
NWAO	**Narrogin (SRO)**	**24.66**	**185**	P	**P**	**01 38 50.8**	**+0.3**
	3.7nm,0.5s,mb4.2,baz=359,slow=13,SNR=7.3						
STKA	**Stephens Creek**	**31.10**	**142**	eP	**P**	**01 39 49.3**	**+1.5**
	15nm,0.5s,mb5.0						
STKA	**Stephens Creek**	**31.10**	**142⇑**	iP	**P**	**01 39 49.2**	**+1.5**
	14nm,0.6s,mb4.9						
STKA	**Stephens Creek**	**31.10**	**142**	P	**P**	**01 39 49.4**	**+1.6**
	18nm,0.5s,mb5.0,baz=313,slow=9.1,SNR=30						
STKA				ScP	ScP	01 46 03.0	-0.4
	2.2nm,0.6s,baz=272,slow=4.1,SNR=4.8						
KMI	**Kunming**	**37.06**	**334**	P	**P**	**01 40 41.9**	**+2.8**
KMI				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.5						
NJ2	**Nanjing**	**40.08**	**359**	eP	**P**	**01 41 03.1**	**-1.1**
NJ2				AMB	AMB		
	comp=Z,30nm,0.5s,mb5.2						
CD2	**Chengdu**	**41.83**	**339⇓**	iP	**P**	**01 41 18.9**	**+0.4**
CD2				PP	PP	01 43 01.6	+2.1
CD2				S	**S**	**01 47 25.1**	**+3.3**
CD2				AMB	AMB		
	comp=Z,40nm,0.5s,mb5.3						
XAN	**Xi'an**	**43.28**	**347**	P	**P**	**01 41 29.8**	**-0.3**
XAN				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.5						
KSRS	**Korea Array**	**46.11**	**9**	P	**P**	**01 41 52.4**	**0.0**
	comp=Z,1.8nm,0.7s,mb3.8,baz=188,slow=9.9,SNR=7.5						
KSRS				pP	pP	01 42 32.1	-2.0
	comp=Z,0.6nm,0.3s,baz=171,slow=9.5,SNR=2.2						
KSRS				PcP	PcP	01 43 25.7	+0.4
	comp=Z,1.7nm,0.5s,baz=191,slow=3.4,SNR=5.6						
LZH	**Lanzhou**	**46.56**	**342**	eP	**P**	**01 41 56.5**	**+0.6**
LZH				AMB	AMB		
	comp=Z,18nm,1.3s,mb4.5						
LZH				AMB	AMB		
	comp=Z,84nm,4.2s						
MJAR	**Matsushiro Arr**	**47.83**	**20**	P	**P**	**01 42 03.8**	**-1.9**
	comp=Z,2.7nm,0.9s,mb3.9,baz=192,slow=8.4,SNR=6.7						
GTA	**Gaotai**	**50.88**	**340**	eP	**P**	**01 42 29.9**	**+1.1**
GTA				AMB	AMB		
	comp=Z,16nm,1.0s,mb4.6						
ULN	**Ulaanbaatar**	**56.98**	**350**	eP	**P**	**01 43 13.6**	**+0.9**
	comp=Z,1.8nm,0.5s,mb4.2						
SONM	**Songino Array**	**57.07**	**349**	P	**P**	**01 43 13.7**	**+0.3**
	comp=Z,3.7nm,0.5s,mb4.4,baz=169,slow=7.9,SNR=28						
SONM				pP	pP	01 43 56.3	-0.6
	comp=Z,2.2nm,1.1s,baz=165,slow=8.1,SNR=2.9						
WMQ	**Urumqi**	**59.39**	**334**	eP	**P**	**01 43 30.4**	**+0.8**
MKAR	**Makanchi Array**	**64.12**	**332**	P	**P**	**01 44 00.8**	**-0.3**
	comp=Z,1.6nm,0.4s,mb4.2,baz=148,slow=7.6,SNR=16						
MKAR				pP	pP	01 44 45.6	+0.1
	comp=Z,1.3nm,0.6s,baz=142,slow=8.6,SNR=3.0						
ZAA0	**Zalesovo Array**	**68.60**	**339**	eP	**P**	**01 44 27.7**	**-1.6**
ZALV	**Zalesovo Beam**	**68.60**	**339**	P	**P**	**01 44 28.2**	**-1.1**
	comp=Z,4.4nm,0.4s,mb4.5,baz=140,slow=5.5,SNR=30						
ZALV				pP	pP	01 45 16.1	+1.7
	comp=Z,1.3nm,0.6s,baz=135,slow=4.6,SNR=2.1						
VNDA	**Vanda**	**72.61**	**171**	P	**P**	**01 44 55.3**	**+2.0**
	comp=Z,2.0nm,0.5s,mb4.2,baz=315,slow=7.8						
AKTK	**Aktyubinsk**	**79.01**	**325**	P	**P**	**01 45 29.4**	**-0.5**
AKTK				pP	pP	01 46 18.8	+2.5
AKTO	**Aktyubinsk**	**79.01**	**325**	P	**P**	**01 45 29.4**	**-0.5**
	comp=Z,0.9nm,0.5s,mb3.7,baz=75,slow=12,SNR=5.3						
AKTO				pP	pP	01 46 18.8	+2.5
	comp=Z,1.2nm,0.7s,baz=74,slow=7.4,SNR=2.9						
TIXI	**Tiksi**	**79.96**	**3**	P	**P**	**01 45 33.3**	**-1.3**
	comp=Z,5.6nm,0.8s,mb4.2						
TORD	**Torodi Ar. Bea**	**119.01**	**280**	PKP	PKPdf	01 52 13.5	-0.7
	comp=Z,0.7nm,0.5s,baz=42,slow=2.4,SNR=29						
PDAR	**Pinedale Array**	**124.90**	**43**	PKP	PKPdf	01 52 25.4	+0.7
	comp=Z,0.4nm,0.4s,baz=93,slow=1.8,SNR=5.3						
DBIC	**Dimbokro**	**125.04**	**272**	PKP	PKPdf	01 52 25.9	0.0
	comp=Z,5.3nm,1.1s,baz=120,slow=1.7,SNR=4.4						
SCHQ	**Schefferville**	**133.25**	**5**	PKP	PKPdf	01 52 39.6	-0.6
	comp=Z,2.2nm,0.8s,baz=270,slow=5.1,SNR=5.3						
TXAR	**Lajitas Array**	**134.25**	**57**	PKP	PKPdf	01 52 45.0	+2.1
	comp=Z,0.4nm,0.5s,baz=318,slow=1.7,SNR=3.6						
WVT	**Waverly**	**142.59**	**38**	ePKPdf	PKPdf	01 52 53.6	-4.4
SSPA	**Standing Stone**	**144.15**	**23**	ePKPdf	PKPdf	01 52 58.5	-2.1
TZTN	**Tazewell**	**144.77**	**33**	ePKPdf	PKPdf	01 53 00.8	-1.0
CPCT	**Cooper Cave**	**145.01**	**36**	ePKPdf	PKPdf	01 53 01.1	-1.1
LRAL	**Lakeview Retre**	**145.10**	**41**	ePKPdf	PKPdf	01 53 01.9	-0.6
MVL	**Millersville**	**145.28**	**22**	ePKPdf	PKPdf	01 53 02.3	-0.3
ELN	**Prospectdale**	**145.70**	**30**	ePKPdf	PKPdf	01 53 03.4	0.0
BRAL	**Brewton**	**146.29**	**44**	ePKPdf	PKPdf	01 53 06.1	+1.6
GOGA	**Godfrey**	**147.06**	**37**	ePKPdf	PKPdf	01 53 07.8	+2.1

*IDC **07** 01:48:22.9±0.8, 730S×155.36E, h0km, mb4.3/9, mb1 4.4/11, mb1mx4.3/15, mbtmp4.3/11, ML3.5/2, MS3.6/1, Ms1 3.6/1, ms1mx3.0/17, Error ellipse: s-maj=27.8km s-min=18.5km az=101.0*
*NEIC **07** 01:48:24.2±0.4, 731S×155.40E, h10km, mb4.5/7, Error ellipse: s-maj=11.8km s-min=9.6km az=123.0*
*ISCJB **07** 01:48:27.8±2.5, 74S±0.1×155.50E±0.10, h52km±25km, mb4.3/14, Error ellipse: s-maj=19.4km s-min=13.0km az=138.4*

ISC 07 01:48:29.3±2.1, 742S±010×155.45E±010, h50km±22km, n29, σ0§79/24, mb4.3/14, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.88**	**115**	Pn	**Pn**	**01 49 40.3**	**+0.1**
	4.4nm,0.3s,baz=269,slow=4.6,SNR=9.5						
HNR				LR	LR	01 50 45.3	
	comp=Z,726nm,20.7s,baz=351,slow=28						
CTA	**Charters Tower**	**15.43**	**214**	eP	**Pn**	**01 52 08.5**	**+4.7**
	10.0nm,1.0s						
CTA	**Charters Tower**	**15.43**	**214**	Pn	**Pn**	**01 52 03.6**	**-0.2**
	0.1nm,0.3s,baz=66,slow=18,SNR=2.3						
CTAO	**Charters Tower**	**15.43**	**214**	eP	**Pn**	**01 52 03.5**	**-0.3**
	26nm,1.2s						
KAKA	**Kakadu**	**23.25**	**255**	eP	**P**	**01 53 32.9**	**+0.2**
	65nm,1.0s,mb5.0						
WRAB	**Tennant Creek**	**23.94**	**237**	eP	**P**	**01 53 39.0**	**+0.1**
	14nm,0.9s,mb4.4						
WB2	**Warramunga Arr**	**23.95**	**237**	eP	**P**	**01 53 39.0**	**0.0**
WRA	**Warramunga Arr**	**23.95**	**237**	P	**P**	**01 53 39.7**	**+0.5**
	10nm,1.0s,mb4.2,baz=62,slow=10,SNR=16						
ASAR	**Alice Springs**	**26.24**	**230**	P	**P**	**01 53 59.5**	**-0.4**
	3.9nm,1.0s,mb3.9,baz=58,slow=9.4,SNR=17						
STKA	**Stephens Creek**	**27.55**	**206**	eP	**P**	**01 54 10.8**	**-0.7**
	6.9nm,0.9s,mb4.3						
STKA	**Stephens Creek**	**27.55**	**206**	P	**P**	**01 54 11.6**	**+0.1**
	9.7nm,0.9s,mb4.4,baz=31,slow=9.4,SNR=7.4						
AFI	**Afiamalu**	**32.82**	**104**	eP	**P**	**01 54 58.5**	**+0.1**
TAU	**Tasmania Unive**	**36.07**	**190**	eP	**P**	**01 55 25.7**	**-0.3**
	10nm,0.9s,mb4.8						
MJAR	**Matsushiro Arr**	**46.63**	**341**	P	**P**	**01 56 51.2**	**-1.4**
MJAR	**Matsushiro Arr**	**46.63**	**341**	P	**P**	**01 56 51.2**	**-1.4**
	1.8nm,0.7s,mb4.1,baz=168,slow=7.5,SNR=3.8						
KSRS	**Korea Array**	**51.52**	**332**	P	**P**	**01 57 30.1**	**0.0**
	1.3nm,0.6s,mb4.1,baz=155,slow=9.7,SNR=5.5						
PPT	**Papeete**	**54.45**	**106**	eLR	LR	01 58 35.8	
	783nm,28.0s						
ULN	**Ulaanbaatar**	**69.60**	**328**	eP	**P**	**01 59 34.1**	**+0.9**
	2.4nm,0.9s,mb4.1						
SONM	**Songino Array**	**69.93**	**327**	P	**P**	**01 59 36.4**	**+1.1**
	2.5nm,0.8s,mb4.2,baz=136,slow=6.7,SNR=21						
BILL	**Bilibino**	**75.67**	**4**	eP	**P**	**02 00 10.5**	**+1.7**
	5.4nm,0.7s,mb4.6						
QSPA	**South Pole Qui**	**82.56**	**180**	eP	**P**	**02 00 47.0**	**+0.6**
MKAR	**Makanchi Array**	**84.02**	**319**	P	**P**	**02 00 55.0**	**+0.5**
	4.6nm,0.8s,mb4.7,baz=101,slow=6.3,SNR=21						
ZAA0	**Zalesovo Array**	**84.78**	**326**	eP	**P**	**02 00 56.7**	**-1.4**
ZALV	**Zalesovo Beam**	**84.78**	**326**	P	**P**	**02 00 57.7**	**-0.4**
	1.3nm,0.6s,mb4.2,baz=104,slow=6.3,SNR=7.7						
YKA	**Yellowknife Ar**	**96.50**	**28**	P	**P**	**02 01 51.6**	**-1.4**
	0.4nm,0.8s,mb3.9,baz=261,slow=4.5,SNR=5.4						
GERES	**GERESS Array B**	**127.65**	**329**	PKP	PKPdf	02 07 29.2	+0.1
	0.3nm,0.7s,baz=93,slow=2.0,SNR=3.4						
BDFB	**Brasilia**	**147.36**	**135**	PKPbc	PKPbc	02 08 11.2	+2.8
	2.8nm,0.7s,baz=173,slow=7.7,SNR=6.4						
TORD	**Torodi Ar. Bea**	**153.57**	**285**	PKPbc	PKPbc	02 08 22.7	-0.8
TORD	**Torodi Ar. Bea**	**153.57**	**285**	PKPbc	PKPbc	02 08 22.7	-0.8
	0.4nm,0.8s,baz=20,slow=1.9,SNR=4.1						

WEL 07 01:48:35.5±0.2, 3693S×177.42E, h169km±2km, ML3.6/16, Error ellipse: s-maj=3.1km s-min=3.0km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.95**	**132**	ePN	Pn	01 49 01.3	-0.4
MXZ				SN	Sn	01 49 22.1	+0.3
PUZ	**Puketiti**	**1.32**	**150**	PN	Pn	01 49 04.9	+0.1
PUZ				SN	Sn	01 49 26.9	-0.5
URZ	**Urewera**	**1.35**	**190**	PN	Pn	01 49 05.4	+0.3
URZ				SN	Sn	01 49 27.8	-0.2
MWZ	**Matawai**	**1.41**	**177**	PN	Pn	01 49 05.8	+0.2
MWZ				SN	Sn	01 49 29.0	+0.1
KNZ	**Kokohu**	**2.10**	**175**	PN	Pn	01 49 12.8	-0.1
BKZ	**Black Stump Fm**	**2.35**	**198**	PN	Pn	01 49 15.5	-0.3
TUVZ	**Tukino**	**2.72**	**210**	ePN	Pn	01 49 21.1	+1.0
FWVZ	**Far West T-bar**	**2.75**	**212**	PN	Pn	01 49 21.1	+0.5
WNVZ	**Wahianoa**	**2.79**	**210**	ePN	Pn	01 49 21.3	+0.2
MTVZ	**Mangateitei**	**2.90**	**211**	PN	Pn	01 49 22.5	+0.2
PXZ	**Pawanui**	**3.13**	**188**	PN	Pn	01 49 24.3	-0.9
WPHZ	**Waipukurau**	**3.23**	**194**	ePN	Pn	01 49 25.2	-1.2
WAZ	**Wangaui**	**3.41**	**213**	ePN	Pn	01 49 28.4	-0.4
BFZ	**Birch Farm**	**3.86**	**193**	PN	Pn	01 49 32.6	-1.8
MRZ	**Mangatainoka R**	**4.00**	**201**	PN	Pn	01 49 33.9	-2.3
MRZ				SN	Sn	01 50 20.1	-3.5
TIWZ	**Tintock**	**4.03**	**197**	PN	Pn	01 49 34.7	-1.8
KIW	**Kapiti Island**	**4.39**	**206**	PN	Pn	01 49 38.7	-2.5
MTW	**Mount Morrison**	**4.48**	**199**	PN	Pn	01 49 39.6	-2.8
CAW	**Cannon Point**	**4.56**	**203**	PN	Pn	01 49 40.4	-3.0
MRW	**Makara Radio**	**4.79**	**205**	PN	Pn	01 49 44.1	-2.4
MSWZ	**Moikau Station**	**4.79**	**200**	PN	Pn	01 49 43.2	-3.3
SNZO	**South Karori**	**4.86**	**205**	PN	Pn	01 49 43.9	-3.4
THZ	**Tophouse**	**5.96**	**215**	PN	Pn	01 49 59.1	-2.7
LTZ	**Lake Taylor**	**7.06**	**213**	PN	Pn	01 50 12.3	-4.0
MQZ	**McQueen's Vall**	**7.69**	**207**	SN	Sn	01 51 41.8	-8.9

*ISCJB **07** 01:48:46.9±0.5, 3422N±003×139.40E±003, h15km±4km, Error ellipse: s-maj=5.2km s-min=4.3km az=39.7*
*JMA **07** 01:48:46.5, 3423N×139.39E, h21km±1km, M3.6 Broadband fault plane solution: P waves. NP1: φs247.00000°, δ64.00000°, λ-171.00000°. NP2: φs153.00000°, δ82.00000°, λ-26.00000°. Principal axes: T Plg12.0000°, Azm203.0000°; N Plg63.0000°, Azm317.0000°; P Plg24.0000°, Azm107.0000°;*
JMA Felt I J1.

ISC 07 01:48:46.7±0.5, 3423N±003×139.39E±004, h22km±5km, n13, σ0§79/24, 4C-4D, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMY	**Miyakejima3**	**0.18**	**146**	⇓P	**Pb**	**01 48 51.5**	**-0.2**
JMY				S	**Sb**	**01 48 54.9**	**-0.3**
NJJJ	**Nii jima 2**	**0.20**	**334**	⇓P	**Pb**	**01 48 51.9**	**0.0**
NJJJ				S	**Sb**	**01 48 55.1**	**-0.4**
JKO	**Kozu shima**	**0.21**	**260**	⇓P	**Pb**	**01 48 52.0**	**-0.1**
JKO				S	**Sb**	**01 48 55.7**	**-0.1**
JIM2	**Oshima 3**	**0.49**	**4**	⇑P	**Pb**	**01 48 56.4**	**-0.3**
JIZS	**Izushimoda**	**0.65**	**320**	⇓P	**Pb**	**01 48 58.8**	**-0.5**
JIZS				S	**Sb**	**01 49 07.8**	**-0.1**
KTJJ	**Kamata 2**	**0.75**	**339**	⇑P	**Pb**	**01 49 00.1**	**-0.9**
KTJJ				S	**Sb**	**01 49 10.5**	**-0.3**
JOD2	**Odawara 2**	**1.06**	**347**	⇑P	**Pn**	**01 49 05.6**	**-0.7**
JOD2				S	**Sb**	**01 49 19.9**	**0.0**
BSO3	**Boso 3**	**1.09**	**58**	⇑P	**Pn**	**01 49 05.9**	**-0.7**
BSO3				S	**Sb**	**01 49 21.8**	**+1.2**
BSO4	**Boso 4**	**1.09**	**45**	P	**Pn**	**01 49 06.3**	**-0.4**
BSO4				S	**Sb**	**01 49 22.5**	**+1.8**
JHJ2	**Mitsune**	**1.17**	**162**	P	**Pn**	**01 49 07.3**	**-0.4**
JHJ2				S	**Sb**	**01 49 23.0**	**+0.2**
TK03	**Tokai 3**	**1.18**	**268**	P	**Pn**	**01 49 08.3**	**+0.4**
TK03				S	**Sb**	**01 49 25.0**	**+1.8**
BSO2	**Boso 2**	**1.24**	**65**	eS	**Sn**	**01 49 24.2**	**-0.7**
MAT	**Matsushiro**	**2.51**	**338**	P	**Pn**	**01 49 29.3**	**+3.2**
MAT				S	**Sn**	**01 50 01.3**	**+5.3**

*NEIC **07** 01:50:03.1±10.0, 768S×121.12E, h106km±37km, mb4.5/2, Error ellipse: s-maj=116.0km s-min=21.8km az=150.0*
*IDC **07** 01:50:22.9±4.6, 885S×121.82E, h190km±21km, mb3.4/1, mb1 3.6/5, mb1mx3.4/15, mbtmp3.5/5, MS3.1/1, Ms1 3.1/1, ms1mx3.0/9, Error ellipse: s-maj=62.1km s-min=45.1km az=

*CSEM **07** 02:17:35.6±0.3,3674N×2216E,h15km,ML2.8,Error ellipse: s-maj=5.9km s-min=2.9km az=176.0*
*THE **07** 02:17:36.4,3681N×2217E,h5km,ML2.8*
*NEIC **07** 02:17:37.2,3708N×2249E,h11km,MD3.3(ATH),After ATH.*

ISC 07 02:17:35.7±0.9,**3677N**±005×**2219E**±004,**h10**km±8km,**n11**, σ0:**93**/18,**Southern Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYL	**PYLOS**	**0.38**	**289**	*e*Pg	**Pg**	**02 17 42.7**	**-0.5**
PYL				*e*Sg	**Sg**	**02 17 48.6**	**+0.2**
ITM	**Ithomi**	**0.46**	**332**	*e*PN	**Pg**	**02 17 45.3**	**+0.6**
ITM				*e*SN	**Sg**	**02 17 53.3**	**+2.5**
VLI	**Veliai**	**0.60**	**95**	*e*PN	**Pg**	**02 17 46.7**	**-0.6**
VLI				*e*SN	**Sg**	**02 17 55.1**	**-0.1**
VLX	**Vlachokerasia**	**0.61**	**14**	*e*Pg	**Pg**	**02 17 48.1**	**+0.5**
VLX				*e*Sg	**Sg**	**02 17 56.0**	**+0.3**
KYTH	**Kithira**	**0.84**	**126**	*e*PN	**Pn**	**02 17 49.0**	**-4.5**
DID	**Didima**	**1.11**	**48**	*e*Pg	**Pg**	**02 17 56.5**	**-0.6**
DID				*e*Sg	**Sg**	**02 18 12.9**	**+1.4**
LTK	**Loutraki**	**1.39**	**26**	*e*Pg	**Pg**	**02 18 01.6**	**-0.8**
LTK				*e*Sg	**Sg**	**02 18 20.5**	**0.0**
RLS	**Riolos of Patr**	**1.41**	**336**	*e*PN	**Pn**	**02 18 01.1**	**-0.3**
SELA	**Sela**	**1.52**	**351**	*e*Pg	**Pg**	**02 18 03.4**	**-1.4**
SELA				*e*Sg	**Sg**	**02 18 22.9**	**-1.7**
KARN	**Karanos**	**1.95**	**134**	*e*Pn	**Pn**	**02 18 09.9**	**+1.1**
EVR	**Evrytania**	**2.16**	**352**	*e*PN	**Pn**	**02 18 11.8**	**+0.1**

*MOS **07** 02:23:30.4±0.6,4343N×4379E,h15km,mb3.6/1,Error ellipse: s-maj=15.0km s-min=8.5km az=115.7*
*ISCJB **07** 02:23:31.4±0.4,4344N±002×4375E±004,h2km±7km, Error ellipse: s-maj=5.0km s-min=3.6km az=154.4*

ISC 07 02:23:31.7±0.5,**4344N**±003×**4380E**±004,**h24**km±7km,**n13**, σ0:**81**/26,**1C-1D,Western Caucasus**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSNR	**Lesken**	**0.17**	**176⇑**	*e*PG	**Pb**	**02 23 35.1**	**-1.7**
LSNR				*e*S	**Sb**	**02 23 39.8**	**-0.5**
KMSR	**Komsomolskaya**	**0.37**	**101⇓**	*i*PG	**Pb**	**02 23 39.0**	**-0.6**
KMSR				*e*S	**Sb**	**02 23 44.9**	**-0.1**
ARNR	**Ardon**	**0.43**	**125**	*e*PG	**Pb**	**02 23 40.2**	**-0.5**
ARNR				*e*S	**Sb**	**02 23 47.1**	**+0.3**
KUBR	**Kubataba**	**0.46**	**322**	PG	**Pb**	**02 23 40.2**	**-0.9**
KUBR				S	**Sb**	**02 23 48.2**	**+0.6**
KUBR				pmax	pmax		
	comp=Z,11nm,0.1s						
KUBR				smax			
	comp=N,71nm,0.3s						
PRTR	**Priterechnaya**	**0.47**	**48**	*e*PG	**Pb**	**02 23 41.1**	**-0.2**
PRTR				*e*S	**Sb**	**02 23 48.4**	**+0.5**
BTKR	**Batakoyurt**	**0.55**	**97**	*e*PG	**Pb**	**02 23 42.7**	**+0.1**
BTKR				*e*S	**Sb**	**02 23 51.1**	**+1.1**
DIGR	**Digorskoe uzhe**	**0.56**	**197**	*i*PG	**Pb**	**02 23 42.2**	**-0.7**
DIGR				*e*S	**Sb**	**02 23 50.3**	**-0.2**
ZEI	**Tsey**	**0.67**	**174**	*e*PG	**Pb**	**02 23 44.0**	**-0.7**
ZEI				*e*S	**Sb**	**02 23 53.6**	**0.0**
LACR	**Lac**	**0.71**	**149**	*e*PG	**Pb**	**02 23 45.7**	**+0.3**
LACR				*e*S	**Sb**	**02 23 56.0**	**+1.2**
ONI	**Oni**	**0.90**	**197**	P	**Pb**	**02 23 48.8**	**+0.2**
ONI				S	**Sb**	**02 24 02.2**	**+2.2**
BEYR	**Belyy Ugol+**	**0.91**	**309**	PG	**Pb**	**02 23 48.7**	**-0.1**
BEYR				S	**Sb**	**02 24 01.2**	**+0.7**
BEYR				pmax	pmax		
	comp=Z,268nm,0.1s						
BEYR				smax			
	comp=N,198nm,0.2s						
KIV0	**Kislovodsk Arr**	**0.95**	**303**	PG	**Pn**	**02 23 48.4**	**-1.1**
KIV0				S	**Sb**	**02 24 02.9**	**+1.2**
KIV	**Kislovodsk**	**0.96**	**303**	PG	**Pn**	**02 23 48.8**	**-0.8**
KIV				S	**Sb**	**02 24 02.1**	**+0.3**
KIV				pmax	pmax		
	comp=Z,12nm,0.3s						
KIV				smax			
	comp=N,23nm,0.5s						

*ISCJB **07** 02:32:02.8±0.5,3837N±003×2201E±004,h18km±6km, Error ellipse: s-maj=5.5km s-min=5.0km az=144.3*
*CSEM **07** 02:32:02.8±0.1,3835N×2203E,h12km,ML2.6,Error ellipse: s-maj=2.0km s-min=1.5km az=13.0*
*THE **07** 02:32:02.6,3833N×2206E,h3km,ML2.6*
*NEIC **07** 02:32:02.1,3832N×2203E,h31km,MD3.2(ATH), ML2.6(THE),After ATH.*
*ATH **07** 02:32:02.1,3832N×2203E,h31km±2km,MD3.2/7*

ISC 07 02:32:02.5±0.4,**3833N**±003×**2205E**±003,**h17**km±4km,**n16**, σ0:**99**/27,**Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SELA	**Sela**	**0.13**	**246**	*e*Pg	**Pg**	**02 32 05.6**	**-0.8**
SELA				*e*Sg	**Sg**	**02 32 07.9**	**-1.2**
RLS	**Riolos of Patr**	**0.53**	**240**	*e*PN	**Pg**	**02 32 13.0**	**-0.1**
EVR	**Evrytania**	**0.62**	**342**	*e*PN	**Pn**	**02 32 14.2**	**-2.3**
EVR				*e*SN	**Sb**	**02 32 25.1**	**+1.9**
AGG	**Agios Georgios**	**0.73**	**18**	*e*Pg	**Pg**	**02 32 15.6**	**-1.2**
AGG				*e*Sg	**Sg**	**02 32 27.2**	**+0.8**
LTK	**Loutraki**	**0.79**	**113**	*e*Pg	**Pg**	**02 32 17.9**	**0.0**
LTK				*e*Sg	**Sg**	**02 32 29.6**	**+1.4**
LKR	**Lokris**	**0.81**	**66**	*e*PN	**Pn**	**02 32 19.0**	**-0.2**
LKR				*e*SN	**Sn**	**02 32 30.1**	**-0.7**
VLX	**Vlachokerasia**	**0.99**	**165**	*e*Pg	**Pg**	**02 32 20.6**	**-1.1**
VLX				*e*Sg	**Sg**	**02 32 35.8**	**+1.0**
VLX	**Vlachokerasia**	**0.99**	**165**	*e*Pg	**Pg**	**02 32 20.6**	**-1.2**
VLX				*e*Sg	**Sg**	**02 32 35.8**	**+1.0**
KFL	**Anninata**	**1.02**	**258**	*e*Pg	**Pg**	**02 32 21.8**	**-0.5**
KFL				*e*Sg	**Sg**	**02 32 37.2**	**+1.6**
ITM	**Ithomi**	**1.15**	**185**	*e*PN	**Pn**	**02 32 23.8**	**-0.1**
VLS	**Valsamata**	**1.16**	**263**	*e*PN	**Pn**	**02 32 23.8**	**-0.2**
LKD	**Levkas**	**1.16**	**289**	*e*Pg	**Pg**	**02 32 24.4**	**-0.5**
LKD				*e*Sg	**Sg**	**02 32 41.8**	**+1.6**
THL	**Klokotos Trika**	**1.23**	**359**	*e*PN	**Pn**	**02 32 24.9**	**-0.1**
DID	**Didima**	**1.25**	**131**	*e*Pg	**Pg**	**02 32 26.4**	**-0.2**
DID				*e*Sg	**Sg**	**02 32 43.7**	**+0.8**
NEO	**Neokhori**	**1.34**	**43**	*e*PN	**Pn**	**02 32 27.0**	**+0.6**
PYL	**PYLOS**	**1.45**	**190**	*e*Pg	**Pg**	**02 32 29.4**	**-1.1**
PYL				*e*Sg	**Sg**	**02 32 50.0**	**+0.6**

*NEIC **07** 02:58:57.6±0.4,2111S×1687E,h10km,mb4.6/9,Error ellipse: s-maj=19.0km s-min=10.0km az=150.0*
*ISCJB **07** 02:58:59.8±0.6,2105S±0.1×1686E±0.1,h34km,mb4.4/13, MS3.6/7,Error ellipse: s-maj=17.9km s-min=10.3km az=149.0*
*SZGRF **07** 02:59:02.9,2013S×1701E,h35km, Vanuatu Islands*
*IDC **07** 02:59:02.1±0.8,2105S×1685E,h34km±4km,mb4.1/10, mb1 4.2/10,mb1mx4.1/16,mbtmp4.1/10,MS3.6/8, Ms1 3.6/8,ms1mx3.4/22,Error ellipse: s-maj=22.8km s-min=19.1km az=127.0*

ISC 07 02:59:01.6±0.6,**211S**±01×**1686E**±009,**h36**km, **h36**km±.7km:**pP-P**,**n61**,σ0:**95**/25,**mb4.4**/14,**MS3.6**/7, **Loyalty Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**2.30**	**244**	*e*P	**Pn**	**02 59 35.4**	**-1.6**
DZM				*e*S	**Sn**	**03 00 05.5**	**+1.3**
HNR	**Honiara**	**14.31**	**323**	LR	LR	03 06 01.7	
	comp=Z,74nm,21.2s,baz=179,slow=30						
CTA	**Charters Tower**	**21.02**	**269**	*e*P	**P**	**03 03 44.2**	**+2.0**
	9.0nm,1.0s,mb4.0						
CTA				*e*		03 03 53.6	
CTA	**Charters Tower**	**21.02**	**269**	P	**P**	**03 03 43.5**	**+1.3**
	10.0nm,0.9s,mb4.1,baz=87,slow=14,SNR=3.1						
CTA				LR	LR	03 10 51.9	
	comp=Z,208nm,21.6s,MS3.5,baz=53,slow=34						
CTAO	**Charters Tower**	**21.02**	**269**	*e*P	**P**	**03 03 43.3**	**+1.1**
	33nm,1.2s,mb4.5						
STKA	**Stephens Creek**	**26.45**	**240**	*e*P	**P**	**03 04 36.2**	**+0.9**
	3.0nm,0.9s,mb3.8						
STKA				*e*	pP	03 04 46.6	+1.1
STKA	**Stephens Creek**	**26.45**	**240**	P	**P**	**03 04 36.3**	**+1.1**
	3.7nm,0.8s,mb3.9,baz=40,slow=12,SNR=7.0						
STKA				LR	LR	03 14 51.1	
	comp=Z,200nm,19.4s,MS3.7,baz=22,slow=36						
RAR	**Rarotonga**	**29.40**	**96**	LR	LR	03 13 19.3	
	comp=Z,19nm,18.2s,MS2.8,baz=101,slow=29						
WRA	**Warramunga Arr**	**32.15**	**266**	P	**P**	**03 05 24.0**	**-2.0**
	1.0nm,0.5s,mb3.9,baz=96,slow=9.2,SNR=4.9						
WRA				pP	pP	03 05 34.2	-2.2
	3.8nm,1.0s,baz=96,slow=8.9,SNR=5.7						
WRA				LR	LR	03 18 28.7	
	comp=Z,185nm,18.4s,MS3.8,baz=95,slow=36						
ASAR	**Alice Springs**	**32.21**	**259**	P	**P**	**03 05 26.0**	**-0.5**
	9.7nm,0.8s,mb4.7,baz=83,slow=9.1,SNR=60						
ASAR				pP	pP	03 05 36.1	-0.7
	9.5nm,0.7s,baz=84,slow=9.3,SNR=20						
PPT	**Papeete**	**39.47**	**92**	LR	LR	03 21 13.4	
	comp=Z,279nm,18.2s,MS4.1,baz=253,slow=34						
FITZ	**Fitzroy Crossi**	**40.57**	**266**	*e*P	**P**	**03 06 37.8**	**-0.1**
	9.4nm,0.9s,mb4.4						
FITZ				*e*	pP	03 06 47.6	-0.8
FITZ	**Fitzroy Crossi**	**40.57**	**266**	P	**P**	**03 06 38.2**	**+0.3**
	4.3nm,0.8s,mb4.1,baz=134,slow=9.5,SNR=6.5						
FITZ				pP	pP	03 06 48.4	0.0
	12nm,1.0s,baz=105,slow=9.6,SNR=9.6						
MBWA	**Marble Bar**	**45.51**	**261**	*e*P	**P**	**03 07 17.9**	**+0.1**
	15nm,1.3s,mb4.8						
MBWA				*e*pP	pP	03 07 28.2	-0.2
KLBR	**Kellerberrin**	**46.47**	**246**	*e*P	**P**	**03 07 24.8**	**-0.5**
	24nm,1.2s,mb5.0						
KLBR				*e*	pP	03 07 34.8	-1.1
NWAO	**Narrogin (SRO)**	**46.92**	**244**	P	**P**	**03 07 27.1**	**-1.7**
	11nm,0.9s,mb4.8,baz=108,slow=6.7,SNR=5.3						
NWAO				LR	LR	03 27 11.7	
	comp=Z,193nm,18.5s,MS4.1,baz=294,slow=36						
MJAR	**Matsushiro Arr**	**64.13**	**333**	P	**P**	**03 09 32.2**	**-0.1**
MJAR				pP	pP	03 09 41.8	-1.5
MJAR	**Matsushiro Arr**	**64.13**	**333**	P	**P**	**03 09 32.2**	**-0.1**
	1.4nm,0.8s,mb4.0,baz=172,slow=8.8,SNR=3.6						
MJAR				pP	pP	03 09 41.8	-1.5
	1.9nm,0.9s,baz=156,slow=7.5,SNR=2.4						
QSPA	**South Pole Qui**	**68.98**	**180**	*e*P	**P**	**03 10 04.2**	**+1.5**
	9.3nm,1.1s,mb4.6						
QSPA				*e*pP	pP	03 10 14.2	+0.3
QSPA				*e*pP	pP	03 10 14.6	+0.8
QSPA	**South Pole Qui**	**68.98**	**180**	P	**P**	**03 10 04.0**	**+1.3**
	3.7nm,1.0s,mb4.3,baz=23,slow=2.7,SNR=7.8						
QSPA				pP	pP	03 10 14.6	+0.8
	6.3nm,1.0s,baz=96,slow=0.7,SNR=6.7						
KSRS	**Korea Array**	**69.73**	**326**	LR	LR	03 37 05.2	
	comp=Z,23nm,18.8s,MS3.5,baz=105,slow=33						
CHTO	**Chiang Mai**	**78.94**	**295**	*e*P	**P**	**03 11 02.0**	**+0.1**
	5.2nm,0.9s,mb4.5						
SNAA	**Sanae**	**87.31**	**183**	*e*	**P**	**03 11 43.8**	**-0.4**
SNAA				*e*		03 11 47.9	
SNAA				*e*	pP	03 11 55.3	-0.3
VNA3	**Neumayer Olymp**	**87.92**	**181**	*e*	**P**	**03 11 47.2**	**0.0**
VNA3				*e*		03 11 50.7	
VNA3				*e*	pP	03 11 57.9	-0.7
ULN	**Ulaanbaatar**	**88.02**	**324**	*e*P	**P**	**03 11 48.2**	**+0.3**
	4.8nm,1.2s,mb4.6						
ULN				*e*pP	pP	03 11 58.9	-0.4
VNA2	**Neumayer--Watz**	**88.20**	**181**	*e*	**P**	**03 11 48.2**	**-0.3**
	baz=189,slow=5.5						
VNA2				*e*		03 11 52.4	
VNA2				*e*	pP	03 11 59.0	-0.9
SONM	**Songino Array**	**88.37**	**323**	P	**P**	**03 11 49.9**	**+0.3**
	1.6nm,0.9s,mb4.2,baz=143,slow=5.5,SNR=7.2						
SONM				pP	pP	03 12 00.6	-0.4
	2.2nm,0.8s,baz=148,slow=5.7,SNR=9.6						
NVAR	**Mina Array Bea**	**90.41**	**49**	pP	pP	03 12 10.2	-0.5
	1.6nm,0.7s,baz=212,slow=6.6,SNR=7.9						
INK	**Inuvik**	**98.45**	**19**	P	**P**	**03 12 36.3**	**+0.8**
	0.9nm,1.0s,mb4.2,baz=234,slow=5.5,SNR=4.4						
MORC	**Moravsky Berou**	**143.37**	**328**	*e*PKPdf	PKPdf	03 18 31.9	-0.1
PVCC	**Panska Ves**	**144.24**	**332**	*e*PKP	PKPdf	03 18 32.7	-0.8
PVCC				*ex*	x	03 18 43.0	
BRG	**Berggiesshubel**	**144.27**	**332**	*e*PKPbc	PKPdf	03 18 32.0	-1.5
BRG	**Berggiesshubel**	**144.27**	**332**	*e*P	PKPdf	03 18 32.4	-1.2
	5.8nm,1.2s						
BRG				*e*		03 18 42.4	
	12nm,1.6s						
CLL	**Collm**	**144.34**	**334**	*e*PKPdf	PKPdf	03 18 32.0	-1.7
	comp=Z,4.0nm,1.1s						
CLL				*e*(pPKPdf)		03 18 43.0	
MODS	**Modra-Piesok**	**144.41**	**327**	*e*PKP	PKPdf	03 18 34.3	+0.4
MODS				*e*		03 18 45.0	
PRU	**Pruhonice**	**144.64**	**331**	*e*PKP	PKPdf	03 18 33.8	-0.4
PRU				*ex*	x	03 18 43.7	
CLZ	**Clausthal**	**144.96**	**336**	*e*PKPbc	PKPdf	03 18 34.5	-0.2
TANN	**Tannenbergstha**	**145.24**	**333**	*e*PKPbc	PKPbc	03 18 35.5	+0.5
NKC	**Novy Kostel**	**145.38**	**333**	*e*PKP	PKPdf	03 18 36.0	+0.5
NKC				*ex*	x	03 18 46.5	
MOX	**Moxa**	**145.42**	**334**	*e*P	PKPbc	03 18 35.8	+0.3
MOX				*e*		03 18 46.8	
	comp=Z,14nm,1.5s						
IBBN	**Ibbenburen**	**145.50**	**339**	*e*PKPbc	PKPbc	03 18 36.2	+0.5
KHC	**Kasperske Hory**	**145.69**	**331**	*e*PKP	PKPdf	03 18 36.8	+0.7
KHC				*ex*	x	03 18 47.5	
ROTZ	**Rotzenmuhle**	**145.84**	**333**	*e*PKPbc	PKPbc	03 18 37.9	+1.0
ROTZ				*ep*PKPbc	pPKPbc	03 18 48.1	-0.4
GEC2	**GERESS Array S**	**145.84**	**330**	*e*PKPbc	PKPbc	03 18 37.6	+0.7
GEC2				*ep*PKPbc	pPKPbc	03 18 48.0	-0.6
GERES	**GERESS Array B**	**145.84**	**330**	PKPbc	PKPbc	03 18 37.5	+0.6
	comp=Z,4.4nm,0.9s,baz=60,slow=3.2,SNR=32						
GERES				pPKPbc	pPKPbc	03 18 48.1	-0.5
	comp=Z,5.2nm,0.8s,baz=35,slow=3.3,SNR=18						
WET	**Wettzell**	**146.00**	**331**	*e*PKPbc	PKPbc	03 18 38.2	+0.8
GVD	**Gavdhos**	**146.04**	**301**	*e*PKPbc	PKPbc	03 18 37.9	-0.1
GRA1	**Grafenberg Arr**	**146.31**	**333**	*e*PKPbc	PKPbc	03 18 38.8	+0.5
GRA1				*ep*PKPbc	pPKPbc	03 18 49.4	-0.6
GRF	**Grafenberg Arr**	**146.31**	**333**	*e*PKPbc	PKPbc	03 18 38.8	+0.5
GRF				*ep*PKPbc	pPKPbc	03 18 49.4	-0.6
PERS	**Pernice**	**146.65**	**326**	*i*PKPbc	PKPbc	03 18 39.7	+0.3
PERS				*ep*PKPbc	pPKPbc	03 18 50.2	-0.9
BOJS	**Bojanci**	**147.31**	**324**	*e*PKPbc	PKPbc	03 18 42.0	+0.7
BOJS				*ep*PKPbc	pPKPbc	03 18 52.8	-0.2
LJU	**Ljubljana**	**147.35**	**326**	*e*PKPbc	PKPbc	03 18 42.0	+0.6
LJU				*ep*PKPbc	pPKPbc	03 18 52.4	-0.7
FUR	**Furstenfeldbru**	**147.44**	**331**	*e*PKPbc	PKPbc	03 18 42.7	+1.1
CEY	**Cerknica**	**147.60**	**325**	*e*PKPbc	PKPbc	03 18 42.5	+0.5
STU	**Stuttgart**	**147.86**	**334**	*e*PKPbc	PKPbc	03 18 43.3	+0.6
WLF	**Walferdange**	**148.28**	**338**	*e*PKPbc	PKPbc	03 18 44.8	+1.0
BFO	**Black Forest**	**148.56**	**335**	*e*PKPbc	PKPbc	03 18 45.1	+0.6
TIP	**Timpagrande**	**149.93**	**313**	*e*PKPbc	PKPbc	03 18 48.6	+0.4
AQU	**L'Aquila**	**150.32**	**321**	*e*PKPbc	PKPbc	03 18 50.2	+1.1
BNI	**Bardonecchia**	**151.86**	**332**	*e*PKPbc	PKPbc	03 18 52.6	+0.1
BNI				*e*PKPab	PKPab	03 19 02.4	+0.7
TORD	**Torodi Ar. Bea**	**165.28**	**240**	PKP	PKPdf	03 19 03.0	+0.1
	comp=Z,2.0nm,1.3s,baz=153,slow=1.6,SNR=4.5						

*DDA **07** 03:02:38.5,3792N×4468E,h14km,Md3.6*

CSEM 07 03:02:36.7±0.7,**3794N×4462E**,**h2**km,**MD3.6**,**Error ellipse: s-maj=20.4km s-min=9.7km az=98.0, Turkey-Iran border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HAKT	**HAKKARI**	**0.82**	**243**	*i*P	Pg	03 02 53.7	+1.3
HAKT				*i*S	Sg	03 03 08.0	+5.0
TVAN	**Van**	**1.12**	**302**	*i*P	Pg	03 02 58.8	+0.5
TVAN				*i*S	Sg	03 03 16.7	+3.9
DYDN	**Diyadin**	**1.76**	**336**	*i*P	Pn	03 03 08.7	+0.5
DYDN				*i*S	Sn	03 03 36.1	+4.9
TUTA	**Tutak**	**2.03**	**316**	*i*P	Pn	03 03 13.9	+2.0
TUTA				*i*S	Sn	03 03 46.6	+8.7
MSL	**Mosul**	**2.05**	**217**	*ex*	x	03 03 09.5	
MSL				*ex*	x	03 03 43.5	

KRSC 07 03:07:31.5±1.2,**5568N**×**15363E**,**h42**km±41km,**ML4.2**, **Sea of Okhotsk**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GNL	**Ganaly**	**3.20**	**127**	*e*P	Pn	03 08 20.4	+1.3
GNL				*e*S	Sn	03 08 56.6	+0.6
SRDR	**Sredinnyy**	**3.48**	**77**	P	Pn	03 08 25.3	+2.3
SRDR				*i*S	Sn	03 09 03.9	+1.0
KOZ	**Kozyrevsk**	**3.54**	**81**	P	Pn	03 08 26.6	+2.8
TUMR	**Tumrok**	**3.73**	**93**	*e*P	Pn	03 08 30.7	+4.3
TUMR				*i*S	Sn	03 09 13.3	+4.2
KPT	**Kopyto**	**3.73**	**83**	P	Pn	03 08 30.9	+4.4
KMNR	**Kamenistaya**	**3.74**	**86**	P	Pn	03 08 30.4	+3.8
AVH	**Avacha**	**3.84**	**127**	P	Pn	03 08 31.7	+3.7
BDR	**Baidarnaya**	**4.33**	**75**	P	Pn	03 08 38.2	+3.5
RUS	**Russkaya**	**4.34**	**137**	P	Pn	03 08 37.9	+3.0

*ISCJB **07** 03:50:44.6±0.8,3837N±002×2046E±006,h2km±4km, Error ellipse: s-maj=8.2km s-min=3.4km az=161.1*
*CSEM **07** 03:50:45.6±0.2,3839N×2049E,h0km±1km,MD3.7,Error ellipse: s-maj=3.7km s-min=1.4km az=78.0*
*THE **07** 03:50:45.7,3841N×2046E,h3km,ML3.4*
*NEIC **07** 03:50:45.6,3833N×2051E,h17km,MD3.7(ATH), ML3.4(THE),After ATH.*
*ATH **07** 03:50:45.7,3835N×2055E,h15km±1km,MD3.7/10*

ISC 07 03:50:45.7±0.7,**3838N**±002×**2048E**±006,**h4**km±4km,**n29**, σ0:**79**/42,**Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.22**	**158**	*e*PB	**Pg**	**03 50 49.7**	**-0.4**
VLS				*e*SB	**Sg**	**03 50 54.0**	**+1.0**
LKD	**Levkas**	**0.35**	**22**	*e*Pg	**Pg**	**03 50 51.5**	**-0.9**
LKD				*e*Sg	**Sg**	**03 50 57.2**	**+0.2**
KFL	**Anninata**	**0.36**	**139**	*e*Pg	**Pg**	**03 50 52.4**	**-0.4**
KFL				*e*Sg	**Sg**	**03 50 59.0**	**+1.5**
RLS	**Riolos of Patr**	**0.84**	**113**	*e*PN	**Pg**	**03 51 01.0**	**-0.9**
RLS				*e*SN	**Sg**	**03 51 11.6**	**-1.2**
SELA	**Sela**	**1.11**	**95**	*e*Pg	**Pg**	**03 51 06.1**	**-1.0**
SELA				*e*Sg	**Sg**	**03 51 23.9**	**+2.3**
IGT	**Igoumenitsa**	**1.15**	**354**	*e*Pg	**Pg**	**03 51 06.9**	**-1.0**
IGT				*e*Sg	**Sg**	**03 51 24.0**	**+1.2**
EVR	**Evrytania**	**1.17**	**62**	*e*PN	**Pn**	**03 51 07.6**	**-1.2**
JAN	**Janina**	**1.30**	**13**	*e*PN	**Pn**	**03 51 11.1**	**+0.4**
JAN				*e*SN	**Sn**	**03 51 28.2**	**-0.3**
JAN	**Janina**	**1.30**	**13**	*e*Pn	**Pn**	**03 51 11.8**	**+1.1**
KEK	**Kerkira**	**1.43**	**338**	*e*PN	**Pg**	**03 51 13.7**	**+0.6**
MEV	**Metsovon**	**1.51**	**22**	*e*Pg	**Pn**	**03 51 13.2**	**-0.4**
MEV				*e*Sg	**Sg**	**03 51 34.2**	**-0.2**
MEV	**Metsovon**	**1.51**	**22**	*e*Pg	**Pn**	**03 51 13.1**	**-0.5**
MEV				*e*Sg	**Sg**	**03 51 34.2**	**-0.2**
AGG	**Agios Georgios**	**1.58**	**66**	*e*Pg	**Pn**	**03 51 13.9**	**-0.6**
ITM	**Ithomi**	**1.66**	**136**	*e*PN	**Pn**	**03 51 15.8**	**+0.2**
THL	**Klokotos Trika**	**1.68**	**45**	*e*PN	**Pn**	**03 51 16.7**	**+0.9**
PYL	**PYLOS**	**1.79**	**146**	*e*Pb	**Pn**	**03 51 16.9**	**-0.4**
PYL				*e*Sb	**Sg**	**03 51 43.3**	**0.0**
VLX	**Vlachokerasia**	**1.81**	**123**	*e*Pb	**Pb**	**03 51 18.1**	**-1.3**
LTK	**Loutraki**	**1.99**	**100**	*e*Pn	**Pn**	**03 51 20.6**	**+0.6**
LTK	**Loutraki**	**1.99**	**100**	*e*Pn	**Pn**	**03 51 20.6**	**+0.5**
LKR	**Lokris**	**1.99**	**82**	*e*PN	**Pn**	**03 51 20.6**	**+0.5**
LIT	**Litokhoron**	**2.32**	**42**	*e*Pn	**Pn**	**03 51 24.0**	**-0.6**
NEO	**Neokhori**	**2.33**	**66**	*e*PB	**Pn**	**03 51 25.0**	**+0.2**
DID	**Didima**	**2.35**	**111**	*e*Pn	**Pn**	**03 51 25.5**	**+0.5**
DID				*e*Sn	**Sb**	**03 51 56.9**	**-0.9**
FNA	**Florina**	**2.49**	**16**	*e*Pn	**Pn**	**03 51 26.9**	**-0.1**
FNA				*e*Sn	**Sn**	**03 51 57.9**	**0.0**
VLI	**Veliai**	**2.56**	**130**	*e*PB	**Pn**	**03 51 28.2**	**+0.2**
AOS	**Alonnisos**	**2.77**	**72**	*e*Pn	**Pn**	**03 51 30.6**	**-0.2**
AOS				*e*Sn	**Sn**	**03 52 05.7**	**+1.1**
PAIG	**Paliouri**	**2.92**	**57**	*e*Pn	**Pn**	**03 51 33.4**	**+0.4**
PAIG	**Paliouri**	**2.92**	**57**	*e*Pn	**Pn**	**03 51 33.3**	**+0.4**
PLG	**Polygyros**	**3.04**	**48**	*e*Pn	**Pn**	**03 51 34.7**	**+0.2**

MAN 07 04:18:16,934N×12563E,h38km,mb4.2,ML3.0,MS2.8, 2C,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**0.47**	**343⇑**	*e*P	Pn	04 18 26.8	+0.6
SCPH				*e*S	Sn	04 18 36.6	+3.2
MSLP	**Maasin**	**1.10**	**316**	*e*P	Pn	04 18 35.5	+0.6
MSLP				*e*S	Sn	04 18 53.8	+5.0
CGP	**Cagayan de Oro**	**1.27**	**227⇑**	*i*P	Pn	04 18 37.2	-0.1
CGP				*i*S	Sn	04 18 51.0	-2.1
BUKP	**Musuan**	**1.55**	**201**	*e*P	Pn	04 18 42.5	+1.3
BUKP				*e*S	Sn	04 19 03.9	+3.8

GUC 07 04:20:03.1±0.8,**3144S**×**7170W**,**h27**km±4km,**MD3.6, ML3.0,2C-5D,Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHNG	**Los Chungos**	**0.47**	**159⇓**	*i*P	Pb	04 19 54.3	-19
CHNG				*i*S	Sb	04 20 01.5	-18
C

az=46.3
*NEIC **07** 04:41:24.8±0.2,2798S×17673W,mb5.2/44,Error ellipse: s-maj=9.6km s-min=4.9km az=155.0*
*IDC **07** 04:41:26.1±3.1,2798S×17670W,h49km±27km,mb4.4/13, mb1 4.6/13,mb1mx4.6/15,mbtmp4.4/13,MS4.8/12, Ms1 4.8/12,ms1mx4.6/21,Error ellipse: s-maj=20.2km s-min=17.7km az=25.0*
ISC 07 04:41:24.2±0.2,2847S±004×17669W±006,h39km, h39km±1.1km:pP-P,n342,σ1§11/156,mb5.2/67,MS4.9/27, 28C-16D,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.33**	**234**	*e*Pn	**Pn**	**04 41 53.0**	**+6.7**
RAO				*e*Sn	**Sn**	**04 42 12.5**	**+10**
RAO	**Raoul Island**	**1.33**	**234**	P	**Pn**	**04 41 53.3**	**+7.0**
	968nm,0.3s,baz=90,slow=19,SNR=19						
RAO				S	**Sn**	**04 42 16.7**	**+14**
	2μm,0.3s,baz=96,slow=19,SNR=18						
PUZ	**Puketiti**	**10.47**	**203**	*e*PN	**Pn**	**04 43 49.1**	**-2.6**
URZ	**Urewera**	**11.05**	**206**	P	**Pn**	**04 43 58.9**	**-0.7**
	1.1nm,0.3s,baz=134,slow=9.3,SNR=3.6						
URZ				S	**Sn**	**04 46 04.2**	**+2.3**
	4.6nm,0.3s,baz=127,slow=20,SNR=15						
URZ	**Urewera**	**11.05**	**206**	*e*PN	**Pn**	**04 43 58.5**	**-1.1**
BKZ	**Black Stump Fm**	**12.08**	**206**	*e*PN	**Pn**	**04 44 14.7**	**+1.0**
BFZ	**Birch Farm**	**13.49**	**204**	*e*PN	**Pn**	**04 44 29.1**	**-3.9**
BFZ				SN	**Sn**	**04 46 59.2**	**-2.3**
TIWZ	**Tintock**	**13.71**	**204**	SN	**Sn**	**04 47 04.2**	**-2.6**
MRZ	**Mangatainoka R**	**13.72**	**206**	*e*PN	**Pn**	**04 44 30.4**	**-5.7**
MRZ				SN	**Sn**	**04 47 03.6**	**-3.5**
SNZO	**South Karori**	**14.62**	**207**	*e*Pn	**Pn**	**04 44 48.9**	**+0.7**
	29nm,0.7s						
SNZO				*e*Sn	**Sn**	**04 47 24.6**	**-4.3**
TCW	**Tory Channel**	**14.71**	**208**	SN	**Sn**	**04 47 25.0**	**-6.1**
TUWZ	**Tuamarina**	**15.03**	**208**	SN	**Sn**	**04 47 33.7**	**-5.2**
AFI	**Afiamalu**	**15.19**	**18**	*e*Pn	**Pn**	**04 44 41.9**	**-14**
	63nm,0.6s						
AFI	**Afiamalu**	**15.19**	**18**	*e*P	**Pn**	**04 44 41.9**	**-14**
AFI				pmax	pmax		
	comp=Z,63nm,0.6s						
THZ	**Tophouse**	**15.74**	**210**	*e*PN	**Pn**	**04 45 05.2**	**+2.2**
THZ				SN	**Sn**	**04 47 51.1**	**-5.2**
DZM	**Mont Dzumac**	**16.53**	**289**	*e*P	**Pn**	**04 45 17.4**	**+4.2**
RAR	**Rarotonga**	**16.96**	**69**	P	**Pn**	**04 45 08.2**	**-10**
	comp=Z,4.9nm,0.3s,baz=242,slow=4.0,SNR=13						
RAR				S	S	04 47 53.7	-41
	comp=Z,1.7nm,0.3s,baz=66,slow=13,SNR=3.7						
RAR				LR	LR	04 50 31.9	
	comp=Z,2μm,19.2s,baz=249,slow=32						
MQZ	**McQueen's Vall**	**17.45**	**207**	SN	**Sn**	**04 48 28.0**	**-10**
RPZ	**Rata Peaks**	**18.12**	**210**	P	**Pn**	**04 45 34.8**	**+2.0**
	comp=Z,1.8nm,0.3s,baz=173,slow=2.2,SNR=12						
RPZ				S	**S**	**04 48 43.8**	**-15**
	comp=Z,1.1nm,0.3s,baz=21,slow=22,SNR=6.1						
JCZ	**Jackson Bay**	**19.45**	**213**	PN	**Pn**	**04 45 48.1**	**-0.7**
TBI	**Tubuai**	**24.99**	**84**	*e*LR	LR	04 52 41.8	
	comp=Z,5μm,29.5s,baz=250						
PAE	**Paea**	**27.10**	**72**	*e*P	**P**	**04 47 07.8**	**+4.3**
	comp=Z,161nm,1.3s,mb5.4						
PAE	**Paea**	**27.10**	**72**	*e*P	**P**	**04 47 07.8**	**+4.3**
PAE				pmax	pmax		
	comp=Z,161nm,1.3s,mb5.4						
PPT	**Papeete**	**27.15**	**72**	*e*P	**P**	**04 47 08.5**	**+4.6**
	comp=Z,61nm,1.3s,mb5.0						
PPT				*e*LR	LR	04 53 37.4	
	comp=Z,5μm,28.2s,baz=237						
PPT	**Papeete**	**27.15**	**72**	LR	LR	04 54 31.0	
	comp=Z,1μm,21.0s,MS4.5,baz=253,slow=29						
ARMA	**Armidale**	**27.61**	**258**	*e*P	**P**	**04 47 10.3**	**+2.3**
EIDS	**Eidsvold**	**28.86**	**269**	*e*P	**P**	**04 47 21.5**	**+2.4**
	comp=Z,19nm,1.2s,mb4.7						
HNR	**Honiara**	**29.00**	**306**	LR	LR	04 57 34.3	
	comp=Z,3μm,18.7s,MS5.0,baz=172,slow=34						
CNB	**Canberra Magne**	**29.52**	**248**	*e*P	**P**	**04 47 29.3**	**+4.4**
	comp=Z,50nm,1.3s,mb5.1						
CTA	**Charters Tower**	**34.69**	**276**	*e*P	**P**	**04 48 11.7**	**+1.3**
	comp=Z,10nm,0.6s,mb4.9						
CTA				*e*S	S	04 54 06.5	+29
CTA	**Charters Tower**	**34.69**	**276**	*e*P	**P**	**04 48 11.7**	**+1.3**
CTA				pmax	pmax		
	comp=Z,10.0nm,0.6s						
CTA	**Charters Tower**	**34.69**	**276**	P	**P**	**04 48 12.0**	**+1.6**
	comp=Z,12nm,0.6s,mb5.0,baz=96,slow=11,SNR=15						
CTAO	**Charters Tower**	**34.69**	**276**	*e*P	**P**	**04 48 11.7**	**+1.3**
	comp=Z,14nm,0.6s,mb5.1						
CTAO	**Charters Tower**	**34.69**	**276**	*e*P	**P**	**04 48 11.7**	**+1.3**
CTAO				pmax	pmax		
	comp=Z,14nm,0.6s,mb5.1						
STKA	**Stephens Creek**	**36.07**	**254**	*e*P	**P**	**04 48 24.4**	**+2.3**
	comp=Z,12nm,1.1s,mb4.8						
STKA				*e*PCP	PcP	04 50 52.5	+4.7
STKA				*e*S	**S**	**04 53 59.9**	**+1.1**
STKA	**Stephens Creek**	**36.07**	**254**	P	**P**	**04 48 23.9**	**+1.8**
	comp=Z,14nm,0.9s,mb4.9,baz=81,slow=10,SNR=16						
STKA				PcP	PcP	04 50 50.2	+2.4
	comp=Z,3.2nm,0.6s,baz=104,slow=4.1,SNR=3.9						
STKA				LR	LR	05 02 11.1	
	comp=Z,3μm,18.1s,MS5.1,baz=92,slow=34						
RKT	**Rikitea**	**37.80**	**92**	*e*LR	LR	04 58 39.5	
	comp=Z,3μm,29.5s,baz=253						
TAOE	**Nuku Hiva Isla**	**39.51**	**68**	*e*LR	LR	04 59 15.7	
	comp=Z,53μm,27.5s,baz=244						
ASAR	**Alice Springs**	**44.40**	**264**	P	**P**	**04 49 31.5**	**+0.3**
	comp=Z,19nm,0.9s,mb4.8,baz=94,slow=7.0,SNR=90						
ASAR				PcP	PcP	04 51 15.7	+1.1
	comp=Z,1.3nm,0.5s,baz=112,slow=4.4,SNR=4.4						
WB2	**Warramunga Arr**	**45.20**	**270**	*e*P	**P**	**04 49 37.4**	**-0.3**
WB2				*e*PCP	PcP	04 51 30.8	+13
WB2				*e*S	**S**	**04 56 13.1**	**-2.0**
WB2	**Warramunga Arr**	**45.20**	**270**	*e*P	**P**	**04 49 37.0**	**-0.6**
WB2				*e*PcP	PcP	04 51 30.8	+13
WB2				*e*S	**S**	**04 56 13.1**	**-2.0**
WRAB	**Tennant Creek**	**45.21**	**270**	P	**P**	**04 49 37.8**	**+0.1**
	comp=Z,132nm,0.9s,mb5.8,SNR=6.9						
WRAB	**Tennant Creek**	**45.21**	**270**	*e*P	**P**	**04 49 37.6**	**-0.1**
	comp=Z,84nm,1.5s,mb5.3						
WRAB				*e*PcP	PcP	04 51 19.7	+2.2
WRAB	**Tennant Creek**	**45.21**	**270**	*e*P	**P**	**04 49 37.6**	**-0.1**
WRAB				*e*		04 51 19.7	
WRAB				pmax	pmax		
	comp=Z,84nm,1.5s,mb5.3						
WRA	**Warramunga Arr**	**45.22**	**270**	P	**P**	**04 49 37.6**	**-0.2**
WRA						04 51 19.1	
WRA	**Warramunga Arr**	**45.22**	**270**	P	**P**	**04 49 37.6**	**-0.2**
	comp=Z,15nm,0.9s,mb4.8,baz=106,slow=7.9,SNR=36						
WRA				PcP	PcP	04 51 19.1	+1.6
	comp=Z,2.4nm,0.6s,baz=102,slow=3.6,SNR=4.8						
WRA				LR	LR	05 07 20.3	
	comp=Z,1μm,18.3s,MS4.8,baz=95,slow=34						
FORT	**Forrest**	**47.68**	**253**	*e*P	**P**	**04 49 55.2**	**-1.8**
	comp=Z,40nm,0.7s,mb5.6						
KAKA	**Kakadu**	**49.77**	**277**	*e*P	**P**	**04 50 12.6**	**-0.6**
	comp=Z,16nm,0.6s,mb5.2						
KAKA				*e*PCP	PcP	04 51 45.7	+12
FITZ	**Fitzroy Crossi**	**53.54**	**268**	*e*P	**P**	**04 50 41.1**	**-0.3**
	comp=Z,26nm,1.9s,mb4.8						
FITZ				*e*PCP	PcP	04 51 49.6	+1.8
FITZ				*e*S	**S**	**04 58 25.5**	**+14**
FITZ	**Fitzroy Crossi**	**53.54**	**268**	P	**P**	**04 50 40.8**	**-0.6**
	comp=Z,9.9nm,0.9s,mb4.8,baz=137,slow=10,SNR=12						
KLBR	**Kellerberrin**	**56.08**	**249**	*e*P	**P**	**04 50 59.7**	**+0.1**
	comp=Z,32nm,1.1s,mb5.3						
NWAO	**Narrogin (SRO)**	**56.17**	**248**	LR	LR	05 15 15.8	
	comp=Z,1μm,18.3s,MS5.0,baz=109,slow=36						
CASY	**Casey**	**57.37**	**207**	*e*P	**P**	**04 51 12.3**	**+4.1**
MBWA	**Marble Bar**	**57.60**	**262**	*e*P	**P**	**04 51 10.7**	**+0.2**
	comp=Z,16nm,0.9s,mb5.0						
QSPA	**South Pole Qui**	**61.63**	**180**	*e*P	**P**	**04 51 41.9**	**+4.6**
	comp=Z,68nm,1.4s,mb5.6						
QSPA	**South Pole Qui**	**61.63**	**180**	P	**P**	**04 51 41.8**	**+4.4**
	comp=Z,6.8nm,0.8s,mb4.8,baz=349,slow=0.4,SNR=34						
QSPA				LR	LR	05 15 50.3	
	comp=Z,1μm,19.5s,MS5.1,baz=226,slow=33						
MIR	**Mirnyy**	**64.36**	**206**	⇑*i*P	**P**	**04 51 52.0**	**-3.6**
MIR				*i*	pP	04 52 02.0	-5.2
MIR				pmax	pmax		
	comp=Z,200nm,1.0s,mb6.1						
KKM	**Kota Kinabalu**	**73.08**	**287**	*e*P	**P**	**04 52 50.6**	**-0.1**
PMSA	**Palmer Station**	**73.55**	**156**	LR	LR	05 17 30.2	
	comp=Z,610nm,20.4s,MS4.9,baz=158,slow=29						
MAW	**Mawson**	**74.51**	**200**	P	**P**	**04 53 02.9**	**+4.6**
	comp=Z,6.2nm,0.9s,mb4.5,baz=115,slow=7.4,SNR=7.0						
KSM	**Kuching**	**75.81**	**280**	*e*P	**P**	**04 53 06.6**	**-0.1**
KSM				*e*pP	pP	04 53 18.3	-0.2
MJAR	**Matsushiro Arr**	**77.33**	**324**	P	**P**	**04 53 13.4**	**-1.3**
	comp=Z,22nm,0.8s,mb5.1,baz=161,slow=5.6,SNR=41						
MJAR				LR	LR	05 22 42.1	
	comp=Z,576nm,21.2s,MS4.9,baz=200,slow=32						
MAJO	**Matsushiro**	**77.33**	**324**	*e*P	**P**	**04 53 13.2**	**-1.6**
	comp=Z,41nm,0.9s,mb5.4						
MAJO				*e*pP	pP	04 53 24.9	-1.7
MAJO	**Matsushiro**	**77.33**	**324**	*e*P	**P**	**04 53 13.2**	**-1.5**
MAJO				*e**PP	pP	04 53 24.9	-1.7
MAJO				pmax	pmax		
	comp=Z,41nm,0.9s,mb5.4						
MAT	**Matsushiro**	**77.33**	**324**	P	**P**	**04 53 13.1**	**-1.6**
MAT				S	S	05 02 56.0	-6.1
SYO	**Syowa Base**	**79.24**	**193**	⇑*e*X	**P**	**04 53 23.2**	**-1.7**
SYO	**Syowa Base**	**79.24**	**193**	⇓*e*sP	sP	04 53 43.2	+2.0
SNAA	**Sanae**	**80.04**	**178**	*e*P	**P**	**04 53 32.2**	**+3.0**
SNAA				*e*		04 53 38.5	
SNAA				*e*	pP	04 53 42.5	+1.4
SNAA				*e*	pP	04 53 45.0	+3.9
SNAA				*e*		04 53 48.8	
SNAA				*e*		04 53 53.2	
SNAA				*e*		04 53 59.9	
SNAA				*e*		04 54 03.0	
SNAA	**Sanae**	**80.04**	**178**	⇑*e*P	**P**	**04 53 35.1**	**+5.9**
VNA3	**Neumayer Olymp**	**80.14**	**176**	*e*P	**P**	**04 53 32.2**	**+2.4**
VNA3				*e*		04 53 39.4	
VNA3				*e*	pP	04 53 42.7	+1.1
VNA3				*e*	pP	04 53 45.6	+4.0
VNA3				*e*		04 53 49.0	
VNA3				*e*		04 53 54.0	
VNA3				*e*		04 54 00.1	
VNA3				*e*		04 54 03.6	
VNA2	**Neumayer--Watz**	**80.59**	**176**	*e*P	**P**	**04 53 35.7**	**+3.5**
VNA2				*e*		04 53 41.7	
VNA2				*e*	pP	04 53 44.2	+0.1
VNA2				*e*	pP	04 53 48.2	+4.1
VNA2				*e*		04 53 51.9	
VNA2				*e*		04 53 56.6	
VNA2				*e*		04 54 03.4	
VNA2				*e*		04 54 07.4	
VNA1	**Neumayer--Stat**	**80.81**	**176**	*e*P	**P**	**04 53 33.1**	**-0.3**
VNA1				*e*		04 53 39.0	
VNA1				*e*	pP	04 53 42.6	-2.7
VNA1				*e*	pP	04 53 45.7	+0.4
VNA1				*e*		04 53 49.3	
VNA1				*e*		04 53 54.3	
VNA1				*e*		04 54 06.5	
QZH	**Quanzhou**	**81.81**	**304**	⇑*i*P	**P**	**04 53 37.9**	**-1.5**
PLCA	**Paso Flores**	**82.97**	**133**	*e*P	**P**	**04 53 47.7**	**+2.4**
	comp=Z,15nm,1.1s,mb4.9						
PLCA	**Paso Flores**	**82.97**	**133**	*e*P	**P**	**04 53 47.7**	**+2.4**
PLCA				pmax	pmax		
	comp=Z,15nm,1.1s						
PLCA	**Paso Flores**	**82.97**	**133**	P	**P**	**04 53 47.0**	**+1.7**
	comp=Z,2.9nm,0.7s,mb4.4,baz=234,slow=6.1,SNR=8.5						
YSS	**Yuzh-Sakhalins**	**83.53**	**333**	*e*P	**P**	**04 53 47.2**	**-0.5**
	comp=Z,30nm,0.7s,mb5.5						
YSS	**Yuzh-Sakhalins**	**83.53**	**333**	⇑*e*P	**P**	**04 53 47.5**	**-0.2**
YSS				*e*	pP	04 53 59.5	-0.2
YSS				*e*S	S	05 04 06.0	-0.5
YSS				pmax	pmax		
	comp=Z,50nm,1.0s,mb5.6						
KSRS	**Korea Array**	**83.64**	**319**	P	**P**	**04 53 48.6**	**+0.1**
	comp=Z,16nm,1.1s,mb5.1,baz=142,slow=5.8,SNR=42						
KSRS				LR	LR	05 24 54.8	
	comp=Z,313nm,21.3s,MS4.7,baz=120,slow=31						
SSE	**Sheshan**	**83.72**	**310**	*e*P	**P**	**04 53 49.7**	**+0.6**
SSE				AP	pP	04 54 01.5	+0.4
SSE				XP	sP	04 54 06.6	+1.1
SSE				S	S	05 04 06.7	-2.5
SSE				XS	sS	05 04 26.6	-2.4
SSE				AMB	AMB		
	comp=Z,37nm,0.6s,mb5.7						
SSE				AMB	AMB		
	comp=Z,211nm,10.8s						
SSE				LR	LR		
	comp=N,192nm,26.5s,MS4.6						
SSE				LR	LR		
	comp=E,253nm,26.5s,MS4.6						
SSE				LR	LR		
	comp=Z,302nm,29.9s,MS4.5						
PET	**Petropavlovsk**	**83.95**	**345**	*e*P	**P**	**04 53 46.5**	**-3.2**
PET				*e*S	S	05 04 10.6	+0.1
PET				*e*SS	SS	05 09 30.9	-9.1
PET				pmax	pmax		
	comp=Z,300nm,10.0s						
ISA	**Isabella**	**84.12**	**44**	*e*P	**P**	**04 53 50.3**	**-0.8**
	comp=Z,73nm,2.0s,mb5.5						
ISA	**Isabella**	**84.12**	**44**	*e*P	**P**	**04 53 50.3**	**-0.8**
ISA				pmax	pmax		
	comp=Z,73nm,2.0s,mb5.5						
CMB	**Columbia Colle**	**84.56**	**41**	*e*P	**P**	**04 53 52.9**	**-0.3**
	comp=Z,9.4nm,1.3s,mb4.8						
CMB	**Columbia Colle**	**84.56**	**41**	*e*P	**P**	**04 53 52.9**	**-0.3**
CMB				pmax	pmax		
	comp=Z,9.0nm,1.3s,mb4.7						
WDC	**Whiskeytown Da**	**85.10**	**38**	*e*P	**P**	**04 53 56.1**	**+0.2**
	comp=Z,16nm,1.0s,mb5.1						
WDC	**Whiskeytown Da**	**85.10**	**38**	*e*P	**P**	**04 53 56.1**	**+0.2**
WDC				pmax	pmax		
	comp=Z,17nm,1.0s,mb5.1						
MTUM	**Tungsten Hills**	**85.18**	**43**	*e*P	**P**	**04 53 55.5**	**-0.9**
QIZ	**Qiongzhong**	**85.22**	**294**	P	**P**	**04 53 58.0**	**+1.0**
QIZ				S	S	05 04 28.5	+3.9
QIZ				XS	sS	05 04 46.3	+1.8
QIZ				AMB	AMB		
	comp=Z,258nm,7.5s						
QIZ				LR	LR		
	comp=E,261nm,18.1s						
QIZ				LR	LR		
	comp=Z,331nm,17.6s,MS4.8						
NJ2	**Nanjing**	**85.88**	**310**	*e*P	**P**	**04 54 01.3**	**+1.3**
NJ2				AMB	AMB		
	comp=Z,40nm,0.8s,mb5.7						
NVAR	**Mina Array Bea**	**86.05**	**42**	P	**P**	**04 53 59.5**	**-1.1**
	comp=Z,2.6nm,0.9s,mb4.5,baz=210,slow=5.8,SNR=16						
KULM	**Kulim**	**86.07**	**278**	*e*P	**P**	**04 54 02.2**	**+0.8**
KULM				*e*pP	pP	04 54 13.1	-0.3
HUMO	**Hull Mountain**	**86.29**	**37**	*e*P	**P**	**04 54 04.1**	**+2.3**
	comp=Z,37nm,1.6s,mb5.4						
TPNV	**Topopah Spring**	**86.32**	**44**	*e*P	**P**	**04 54 02.3**	**+0.2**
	comp=Z,29nm,1.6s,mb5.3						
TPNV	**Topopah Spring**	**86.32**	**44**	*e*P	**P**	**04 54 02.3**	**+0.3**
TPNV				pmax	pmax		
	comp=Z,29nm,1.6s,mb5.3						
TUC	**Tucson**	**87.01**	**51**	*e*P	**P**	**04 54 05.8**	**+0.2**
	comp=Z,22nm,1.6s,mb5.2						
TUC	**Tucson**	**87.01**	**51**	*e*P	**P**	**04 54 05.8**	**+0.3**
TUC				pmax	pmax		
	comp=Z,22nm,1.6s,mb5.1						
MDJ	**Mudanjiang**	**87.70**	**325**	P	**P**	**04 54 08.2**	**-0.3**
MDJ				AP	pP	04 54 17.8	-2.7
MDJ				XP	sP	04 54 21.4	-3.5
MDJ				PP	PP	04 57 31.3	-3.5
MDJ				S	S	05 04 45.1	-2.5
MDJ				XS	sS	05 05 02.3	-5.3
MDJ				SS	SS	05 10 29.5	-5.9
MDJ				AMB	AMB		
	comp=Z,22nm,1.5s,mb5.2						
MDJ				AMB	AMB		
	comp=Z,235nm,7.8s						
MDJ				LR	LR		
	comp=N,296nm,20.6s,MS4.8						
MDJ				LR	LR		
	comp=E,225nm,20.6s,MS4.8						
MDJ				LR	LR		
	comp=Z,418nm,22.2s,MS4.8						
MDJ	**Mudanjiang**	**87.70**	**325**	*e*P	**P**	**04 54 08.1**	**-0.5**
	comp=Z,26nm,0.9s,mb5.5						
HABR	**Khabarovsk**	**87.93**	**330**	*e*P	**P**	**04 54 09.5**	**0.0**
HABR				*e*		04 57 31.1	
HABR				*e*S	S	05 04 30.1	-20
HABR				*e*SS	SS	05 10 29.3	-9.4
HABR				pmax	pmax		
	comp=Z,96nm,2.0s,mb5.7						
HABR				MLR	MLR		
	comp=Z,300nm,18.0s,MS4.8						
WHN	**Wuhan**	**88.12**	**306**	P	**P**	**04 54 11.0**	**+0.1**
WHN				AMB	AMB		
	comp=Z,70nm,1.2s,mb5.8						
DL2	**Dalian**	**88.33**	**317**	⇑P	**P**	**04 54 11.8**	**+0.1**
DL2				AP	pP	04 54 23.2	-0.5
DL2				PP	PP	04 57 36.4	-3.6
DL2				S	S	05 04 53.1	-0.8
DL2				AMB	AMB		
	comp=Z,30nm,1.0s,mb5.5						
DL2				AMB	AMB		
	comp=Z,110nm,4.6s						
DL2				LR	LR		
	comp=N,220nm,17.2s,MS4.7						
DL2				LR	LR		
	comp=E,120nm,16.0s,MS4.7						
DL2				LR	LR		
	comp=Z,240nm,18.0s,MS4.7						
WVOR	**Wild Horse Val**	**88.50**	**39**	*e*P	**P**	**04 54 12.2**	**-0.3**
	comp=Z,4.4nm,1.3s,mb4.6						
WVOR				*e*pP	pP	04 54 24.4	0.0
WVOR	**Wild Horse Val**	**88.50**	**39**	*e*P	**P**	**04 54 12.2**	**-0.2**
WVOR				*e**PP	pP	04 54 24.4	0.0
WVOR				pmax	pmax		
	comp=Z,4.0nm,1.3s,mb4.6						
WUAZ	**Wupatki**	**88.53**	**48**	*e*P	**P**	**04 54 13.2**	**+0.5**
	comp=Z,16nm,1.3s,mb5.2						
WUAZ				*e*pP	pP	04 54 25.0	+0.3
SNY	**Shenyang**	**89.05**	**320**	⇑P	**P**	**04 54 14.2**	**-0.8**
SNY				AMB	AMB		
	comp=Z,24nm,1.2s,mb5.4						
SNY				LR	LR		
	comp=N,381nm,31.2s						
SNY				LR	LR		
	comp=Z,256nm,22.8s						
LCO	**Las Campanas**	**89.06**	**123**	*e*P	**P**	**04 54 17.9**	**+2.3**
	comp=Z,23nm,1.3s,mb5.3						
CN2	**Changchun**	**89.31**	**322**	*e*P	**P**	**04 54 15.9**	**-0.3**
CN2				*e*AP	pP	04 54 27.0	-1.2
CN2				*e*S	S	05 05 00.4	-2.5
CN2				AMB	AMB		
	comp=Z,40nm,1.2s,mb5.6						
CN2				AMB	AMB		
	comp=Z,200nm,4.0s						
CN2				LR	LR		
	comp=N,500nm,19.0s,MS5.0						
CN2				LR	LR		
	comp=E,300nm,19.0s,MS5.0						
CN2				LR	LR		
	comp=Z,500nm,21.0s,MS4.9						
TIA	**Tai'an**	**89.51**	**312**	⇑P	**P**	**04 54 16.4**	**-0.9**
TIA				AMB	AMB		
	comp=Z,110nm,1.2s,mb6.1						
MSU	**Marysvale**	**89.82**	**45**	*e*P	**P**	**04 54 19.6**	**+1.0**
TXAR	**Lajitas Array**	**90.38**	**57**	P	**P**	**04 54 21.7**	**+0.2**
	comp=Z,0.5nm,0.3s,mb4.3,baz=224,slow=5.2,SNR=5.7						
TXAR				LR	LR	05 29 30.7	
	comp=Z,417nm,18.6s,MS4.9,baz=120,slow=32						
MNTX	**Cornudas Mount**	**90.43**	**54**	*e*P	**P**	**04 54 21.8**	**+0.1**
DUG	**Dugway**	**90.45**	**43**	*e*P	**P**	**04 54 21.5**	**-0.1**
	comp=Z,2.1nm,0.9s,mb4.5						
DUG	**Dugway**	**90.45**	**43**	*e*P	**P**	**04 54 21.5**	**-0.1**
DUG				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.5						
LAZ	**Ladron**	**90.71**	**51**	*e*P	**P**	**04 54 23.4**	**+0.4**
BNM	**Barren Site**	**90.92**	**51**	*e*P	**P**	**04 54 24.3**	**+0.4**
SRU	**San Rafael**	**91.21**	**45**	*e*P	**P**	**04 54 25.2**	**+0.1**
	comp=Z,9.6nm,1.3s,mb5.0						
SRU	**San Rafael**	**91.21**	**45**	*e*P	**P**	**04 54 25.2**	**0.0**
SRU				pmax	pmax		
	comp=Z,10.0nm,1.3s,mb5.0						
ANMO	**Albuquerque**	**91.48**	**51**	*e*P	**P**	**04 54 27.0**	**+0.5**
	comp=Z,13nm,1.4s,mb5.1						
ANMO	**Albuquerque**	**91.48**	**51**	*e*P	**P**	**04 54 27.0**	**+0.5**
ANMO				pmax	pmax		
	comp=Z,13nm,1.4s						
JLU	**Jordanelle**	**91.53**	**44**	*e*P	**P**	**04 54 26.6**	**+0.1**
GYA	**Guiyang**	**91.60**	**299**	⇑*i*P	**P**	**04 54 27.8**	**+0.5**
GYA				AP	pP	04 54 40.6	+1.3
GYA				XP	sP	04 54 44.9	+1.2
GYA				PP	PP	04 58 08.6	+2.3
GYA				SKS		05 04 55.4	
GYA				S	S	05 05 21.8	-2.9
GYA				XS	sS	05 05 41.3	-3.5
GYA				SS	SS	05 11 31.2	-1.4
GYA				AMB	AMB		
	comp=Z,20nm,1.0s,mb5.4						
GYA				AMB	AMB		
	comp=Z,130nm,5.9s						
GYA				LR	LR		
	comp=N,540nm,22.8s,MS5.1						
GYA				LR	LR		
	comp=E,630nm,21.2s,MS5.1						
GYA				LR	LR		
	comp=Z,530nm,21.4s,MS5.0						
HLID	**Hailey**	**91.60**	**40**	*e*P	**P**	**04 54 25.5**	**-1.3**
	comp=Z,10nm,1.3s,mb5.0						
HWUT	**Hardware Ranch**	**92.06**	**43**	*e*P	**P**	**04 54 29.1**	**+0.1**
	comp=Z,5.5nm,1.4s,mb4.7						
BJT	**Baijiatuau**	**92.36**	**315**	*e*P	**P**	**04 54 30.8**	**+0.3**
	comp=Z,29nm,0.9s,mb5.6						
BJT	**Baijiatuau**	**92.36**	**315**	*e*P	**P**	**04 54 30.8**	**+0.4**
BJT				pmax	pmax		
	comp=Z,29nm,0.9s						
BJI	**Beijing**	**92.37**	**315**	P	**P**	**04 54 30.3**	**-0.2**
BJI				XP	sP	04 54 45.7	-1.2
BJI				PP	PP	04 58 11.8	-0.2
BJI				XS	sS	05 05 48.9	-2.2
BJI				AMB	AMB		
	comp=Z,26nm,1.4s,mb5.4						
BJI				AMB	AMB		
	comp=Z,302nm,4.0s						
BJI				LR	LR		
	comp=N,289nm,18.4s,MS5.0						
BJI				LR	LR		
	comp=E,348nm,17.6s,MS5.0						
BJI				LR

HHC			S	S	05 06 04.2	+3.7
HHC			SS	SS	05 12 29.0	-2.2
HHC			AMB	AMB		
	comp=Z,11nm,0.3s,mb5.8					
HHC			AMB	AMB		
	comp=Z,174nm,6.5s					
HHC			LR	LR		
	comp=N,376nm,19.2s,MS5.0					
HHC			LR	LR		
	comp=E,372nm,20.6s,MS5.0					
HHC			LR	LR		
	comp=Z,498nm,21.0s,MS5.0					
CD2	**Chengdu**	**96.04 302**	*i*P	**P**	**04 54 48.0**	**+0.4**
CD2			AP	pP	04 54 59.6	0.0
CD2			XP	sP	04 55 04.5	+0.5
CD2			PP	PP	04 58 42.5	+1.6
CD2			SKS		05 05 20.0	
CD2			S	S	05 06 00.2	-3.4
CD2			XS	sS	05 06 18.7	-5.1
CD2			SS	SS	05 12 34.2	-1.8
CD2			AMB	AMB		
	comp=Z,20nm,1.2s,mb5.4					
CD2			AMB	AMB		
	comp=Z,150nm,8.4s					
CD2			LR	LR		
	comp=N,450nm,16.8s,MS5.2					
CD2			LR	LR		
	comp=E,630nm,21.6s,MS5.2					
CD2			LR	LR		
	comp=Z,450nm,20.4s,MS4.9					
BILL	**Bilibino**	**97.05 354**	*e*P	**P**	**04 54 50.0**	**-1.2**
BILL	**Bilibino**	**97.05 354⇑**	*e*P	**P**	**04 54 50.7**	**-0.6**
BILL			pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.9					
BILL			MLR	MLR		
	comp=Z,500nm,19.0s,MS5.0					
RSSD	**Black Hills**	**98.04 44**	*e*P	**P**	**04 54 55.9**	**-0.4**
	comp=Z,5.8nm,0.9s,mb5.1					
RSSD			*e*pP	pP	04 55 08.1	-0.2
RSSD	**Black Hills**	**98.04 44**	*e*P	**P**	**04 54 55.9**	**-0.4**
RSSD			*e**PP	pP	04 55 08.1	-0.3
RSSD			pmax	pmax		
	comp=Z,6.0nm,0.9s,mb5.1					
LZH	**Lanzhou**	**98.50 306**	*e*P	**P**	**04 54 58.9**	**+0.3**
LZH			AP	pP	04 55 10.5	-0.1
LZH			XP	sP	04 55 13.5	-1.5
LZH			PP	PP	04 59 02.4	+2.7
LZH			AMB	AMB		
	comp=Z,13nm,1.0s,mb5.4					
LZH			AMB	AMB		
	comp=Z,95nm,4.0s					
LZH			LR	LR		
	comp=E,291nm,14.5s					
LZH			LR	LR		
	comp=Z,460nm,16.5s,MS5.0					
ULN	**Ulaanbaatar**	**102.11 318**	*i* P	Pdif	04 55 14.7	+0.1
SONM	**Songino Array**	**102.48 318**	P	Pdif	04 55 15.4	-0.9
	comp=Z,0.9nm,0.9s,baz=334,slow=2.4,SNR=6.4					
YKA	**Yellowknife Ar**	**103.22 25**	PKiKP	PKiKP	04 59 37.8	-0.3
	comp=Z,0.2nm,0.7s,baz=260,slow=2.4,SNR=3.8					
YKA			PKKPbc	PKKPbc	05 11 15.1	-0.9
	comp=Z,0.1nm,0.5s,baz=29,slow=2.9,SNR=4.5					
YKA			PKKP	PKKPbc	05 11 23.3	+7.2
	comp=Z,0.1nm,0.6s,baz=35,slow=2.7,SNR=5.7					
ZAK	**Zakamensk**	**105.47 319**	*e*P	Pdif	04 55 38.6	+9.1
ZAK			pmax	pmax		
	comp=Z,1.0nm,1.3s					
FCC	**Fort Churchill**	**110.22 33**	*e*PKP	PKiKP	04 59 49.8	-1.4
WMQ	**Urumqi**	**112.93 309**	*e*PKP	PKiKP	04 59 57.0	+0.2
WMQ			XPKP		05 00 11.0	
WMQ			*e*PP	PP	05 00 49.0	+2.8
WMQ			PP	PP		
	comp=Z,182nm,5.8s					
WMQ			LR	LR		
	comp=N,172nm,26.9s,MS4.8					
WMQ			LR	LR		
	comp=E,269nm,29.7s,MS4.8					
WMQ			LR	LR		
	comp=Z,301nm,25.6s,MS4.8					
BDFB	**Brasilia**	**113.76 125**	PKKP	PKKPbc	05 10 59.2	+18
	comp=Z,2.7nm,0.9s,baz=115,slow=7.5,SNR=4.0					
RES	**Resolute Bay**	**115.07 17**	*e*PKP	PKiKP	04 59 59.4	-0.7
MK31	**Makanchi Array**	**117.40 311**	*e*PKPdf	PKPdf	05 00 03.8	-1.5
MKAR	**Makanchi Array**	**117.40 311**	PKP	PKPdf	05 00 04.2	-1.1
MKAR	**Makanchi Array**	**117.40 311**	PKP	PKPdf	05 00 04.2	-1.1
	comp=Z,2.4nm,0.8s,baz=80,slow=1.4,SNR=15					
NVS	**Novosibirsk**	**118.42 320**	*e*PKIKP		04 59 52.5	
KURK	**Kurchatov**	**120.53 314**	*e*PKPdf	PKPdf	05 00 09.9	-1.3
KURK	**Kurchatov**	**120.53 314**	*i* PKIKP	PKPdf	05 00 10.4	-0.8
TKM2	**Tokmak 2**	**121.24 305**	*e*PKPdf	PKPdf	05 00 13.0	+0.2
UCH	**Uchtor**	**121.89 304**	*e*PKPdf	PKPdf	05 00 14.3	+0.2
AML	**Almayashu**	**122.47 304**	*e*PKPdf	PKPdf	05 00 15.1	-0.1
EKS2	**Erkin-Say**	**122.50 304**	*e*PKPdf	PKPdf	05 00 15.3	0.0
KBL	**Kabul**	**124.50 294**	*e*PKPdf	PKPdf	05 00 20.8	+1.4
BRVK	**Borovoye**	**125.87 317**	*e*PKPdf	PKPdf	05 00 20.8	-0.5
BRVK			*e*pPKPdf	pPKPdf	05 00 34.6	+0.9
KMBO	**Kilima Mbogo**	**136.14 234**	*e*PKPdf	PKPdf	05 00 45.0	+2.9
KMBO	**Kilima Mbogo**	**136.14 234**	PKP	PKPdf	05 00 45.1	+3.0
	comp=Z,1.7nm,0.8s,baz=345,slow=4.3,SNR=4.9					
ARCES	**ARCESS Array B**	**136.94 349**	PKhKP		05 00 37.1	
	comp=Z,3.9nm,0.8s,baz=37,slow=15,SNR=3.0					
ARCES			PKP	PKPdf	05 00 41.8	-0.1
	comp=Z,3.7nm,0.6s,baz=3.8,slow=1.4,SNR=14					
JOF	**Joensuu**	**141.03 340**	*e*pkp	PKPdf	05 00 40.7	-8.8
KAF	**Kangasniemi**	**143.09 342**	*e*pkp	PKPdf	05 00 47.1	-6.1
FINES	**FINESS Array B**	**143.71 342**	PKhKP		05 00 50.1	
	comp=Z,4.6nm,0.9s,baz=325,slow=2.3,SNR=10					
FINES			PKP	PKPdf	05 00 55.4	+1.1
	comp=Z,3.1nm,0.6s,baz=49,slow=4.2,SNR=13					
OBN	**Obninsk**	**144.21 327⇑**	*i*PKIKP	PKPdf	05 00 53.5	-1.8
OBN			pmax	pmax		
	comp=Z,17nm,0.9s					
ONI	**Oni**	**144.77 304**	P	PKPdf	05 00 56.1	-0.6
VRSR	**Storozhevoye**	**144.82 320**	*i* PKIKP	PKPdf	05 00 55.0	-1.5
VRSR			pmax	pmax		
	comp=N,2.0nm,0.9s					
VRSR			pmax	pmax		
	comp=E,3.0nm,0.9s					
VRSR			pmax	pmax		
	comp=Z,5.0nm,0.9s					
CLDR	**Caldiran**	**144.88 298**	*e*P	PKPdf	05 00 56.8	-0.2
KIV	**Kislovodsk**	**145.04 307**	*e*PKPdf	PKPdf	05 00 56.9	-0.3
KIV	**Kislovodsk**	**145.04 307***c*	*i*PKIKP	PKPdf	05 00 56.7	-0.5
KIV			pmax	pmax		
	comp=Z,10.0nm,0.5s					
HKR	**Hakkari**	**145.13 296**	*e*P	PKPbc	05 00 56.8	-0.3
CUKT	**Cukurca**	**145.25 295**	*e*P	PKPbc	05 00 57.7	+0.2
TVAN	**Van**	**145.33 297**	*i* P	PKPbc	05 00 58.5	+0.7
KARS	**Kars**	**145.34 301**	*e*P	PKPbc	05 00 57.3	-0.4
AGRB	**Hanur-Agry**	**145.55 299**	*e*P	PKPdf	05 00 59.5	+1.3
TUTA	**Tutak**	**145.71 299⇑**	*i*P	PKPdf	05 00 59.6	+1.2
VSU	**Vasula**	**145.90 338⇓**	*i*PKP2	PKPab	05 00 57.2	-2.2
ARTV	**Artvin**	**146.13 302⇑**	*i*P	PKPdf	05 01 00.6	+1.5
SIRT	**Sirnak**	**146.17 296**	*e*P	PKPbc	05 01 02.9	+2.5
BCA	**Borcka**	**146.31 303**	*e*P	PKPdf	05 01 00.1	+0.7
HOMI	**Horasan**	**146.32 300⇑**	*i*P	PKPbc	05 01 01.5	+0.8
ERZM	**Erzurum**	**146.75 300**	*i* P	PKPbc	05 01 02.2	+0.2
EZM	**Erzurum**	**146.75 300**	*e*P	PKPbc	05 01 03.3	+1.3
BTMT	**Batman**	**146.86 297**	*e*P	PKPdf	05 01 02.0	+1.5
NOA	**NORSAR Array B**	**147.00 353**	PKPbc	PKPbc	05 01 00.6	-1.5
	comp=Z,29nm,1.0s,baz=16,slow=4.6,SNR=33					
BNGL	**BINGOL**	**147.04 298⇑**	*i*P	PKPbc	05 01 04.2	+1.4
SOC	**Sochi**	**147.22 307**	*e*PKHKP		05 00 54.0	
SOC			MLR	MLR		
	comp=Z,820nm,22.0s,MS5.5					
NAO01	**NORSAR Array S**	**147.23 353**	*e*PKPdf	PKPdf	05 01 01.0	+0.6
KOPT	**Kop Dagi**	**147.40 301⇑**	*i*P	PKPbc	05 01 05.2	+1.4
MARD	**Mardin**	**147.50 295⇑**	*i*P	PKPbc	05 01 04.5	+0.3
BINT	**Bingol**	**147.56 298**	*e*P	PKPbc	05 01 06.6	+2.3
DIY	**Diyarbakir**	**147.88 297**	*e*P	PKPab	05 01 11.3	+3.5
EZC	**Erzincan**	**147.96 300**	*e*P	PKPbc	05 01 07.1	+1.8
GUMT	**Gumushane**	**148.09 302**	*e*P	PKPbc	05 01 06.6	+1.0
ANN	**Anapa**	**148.42 310**	*i* PKHKP		05 00 52.7	
ANN			pmax	pmax		
	comp=Z,131nm,1.2s					
KONO	**Kongsberg**	**148.53 354**	*e*PKPbc	PKPbc	05 01 05.4	-0.8
KONO	**Kongsberg**	**148.53 354⇑**	*i*PKP2	PKPbc	05 01 06.3	+0.1
ESPY	**Espiye-Giresun**	**148.56 303**	*e*P	PKPdf	05 01 04.3	+1.1
ELZG	**Elazig**	**148.78 298**	*i* P	PKPbc	05 01 08.7	+1.2
URFA	**Urfa**	**149.04 296**	*e*P	PKPbc	05 01 08.0	-0.2
MALT	**Malatya**	**149.24 298**	*e*P	PKPdf	05 01 07.9	+3.5
MALT	**Malatya**	**149.24 298**	*e*PKPbc	PKPbc	05 01 09.4	+0.8
MALT	**Malatya**	**149.24 298⇓**	*i*P	PKPbc	05 01 10.0	+1.3
MYA	**Malataya**	**149.24 298**	*e*P	PKPbc	05 01 09.9	+1.2
GZT	**Gaziantep**	**150.04 296**	*i* P	PKPbc	05 01 11.3	+0.6
GAZ	**Gaziantep**	**150.35 296**	*e*P	PKPbc	05 01 12.2	+0.8
AKASG	**Malin Array Be**	**150.41 326**	PKPbc	PKPbc	05 01 09.9	-1.1
	comp=Z,21nm,0.9s,baz=46,slow=2.4,SNR=13					
AKBB	**Malin Array Si**	**150.41 326**	*e*PKPbc	PKPbc	05 01 09.6	-1.5
KIEV	**Kiev**	**150.42 326**	*e*PKPbc	PKPbc	05 01 09.7	-1.4
KVT	**Kavak**	**150.49 304**	*e*P	PKPdf	05 01 08.9	+2.7
KMRS	**Kahramanmaras**	**150.55 297**	*e*P	PKPbc	05 01 11.3	-0.6
SUW	**Suwalki**	**150.63 336**	*e*PKP	PKPbc	05 01 11.6	+0.1
ANDN	**Andirin**	**150.97 297⇑**	*i*P	PKPbc	05 01 13.5	+0.6
BNN	**Bunyan**	**151.15 300**	*e*P	PKPbc	05 01 12.2	-1.0
BOYT	**Boyabat**	**151.23 305**	*i* P	PKPbc	05 01 13.3	-0.1
BYBT	**Boyabat**	**151.32 305**	*e*P	PKPbc	05 01 16.9	+3.3
KOZT	**Kozan**	**151.40 297**	*e*P	PKPbc	05 01 15.0	+1.1
CEYT	**Ceyhan**	**151.53 296**	*e*P	PKPdf	05 01 02.4	-5.5
CTKT	**Corum**	**151.53 304**	*i* P	PKPbc	05 01 13.9	-0.2
BZK	**Bozkurt**	**151.71 307**	*e*P	PKPbc	05 01 13.1	-1.3
AVNT	**Avonos**	**151.92 300⇑**	*i*P	PKPbc	05 01 14.5	-0.5
TOS	**Tosya**	**151.98 305**	*e*P	PKPbc	05 01 14.1	-1.0
KARA	**Karaisali**	**152.04 296**	*e*P	PKPbc	05 01 13.1	-2.2
CDAG	**Cicekdag**	**152.09 302**	*i* P	PKPbc	05 01 13.8	-1.6
NIG	**Nigde**	**152.24 298**	*e*P	PKPbc	05 01 13.6	-2.2
ELDT	**Eldivan**	**152.57 304**	*i* P	PKPbc	05 01 16.0	-0.4
ESK	**Eskdalemuir**	**152.76 8**	*e*PKPbc	PKPbc	05 01 15.2	-1.1
KIS	**Kishinev**	**152.83 320**	*e*P	PKPab	05 01 30.0	+2.2
EREN	**Erenkoy**	**152.98 293**	*e*P	PKPdf	05 01 12.7	+2.5
ANTO	**Ankara**	**153.21 303**	*e*PKPbc	PKPbc	05 01 17.4	-0.4
LVV	**L'vov**	**153.47 329**	*e*PKIKP	PKPbc	05 01 17.7	-0.4
DMUB	**Kingscourt**	**153.51 14**	*e*P	PKPbc	05 01 17.0	-1.0
DCN	**Croghan**	**153.95 15**	*e*P	PKPbc	05 01 17.9	-1.1
KDHN	**Kadinhani**	**154.07 300⇑**	*i*P	PKPab	05 01 32.4	-1.0
KWP	**Kalwaria**	**154.19 330**	*e*PKPbc	PKPbc	05 01 20.1	+0.4
KWP			*e*PKPab	PKPab	05 01 32.9	-0.6
HARR	**Harsova**	**154.59 316⇑**	*i*P	PKPab	05 01 35.1	-0.3
HARR	**Harsova**	**154.59 316⇑**	*i*P	PKPab	05 01 35.1	-0.3
VRI	**Vrincioaia**	**154.66 320⇓**	*i*P	PKPab	05 01 35.4	-0.2
VRI	**Vrincioaia**	**154.66 320⇓**	*i*P	PKPab	05 01 35.4	-0.2
PLOR	**Plostina**	**154.71 320⇓**	*i*P	PKPab	05 01 35.9	0.0
ESKT	**Eskisehir**	**154.74 303**	*i* P	PKPab	05 01 34.0	-2.2
KOLS	**Kolonicke sedl**	**154.90 330**	*e*	PKPbc	05 01 28.9	+7.7
OJC	**Ojcow**	**154.93 335**	*e*PKP	PKPbc	05 01 21.4	+0.2
STHS	**Stebnicka Huta**	**154.98 332**	*e*PKP	PKPbc	05 01 22.2	+0.9
STHS			*e*		05 01 35.0	
UZH	**Uzhgorod**	**155.12 329**	*e*PKIKP	PKPdf	05 01 14.8	+2.0
UZH			*e*		05 01 32.0	
CRVS	**Cervenica-Dubn**	**155.28 331**	*e*PKP	PKPab	05 01 36.4	-1.8
MLR	**Muntele Rosu**	**155.32 320⇑**	P	PKPab	05 01 36.9	-1.6
MLR	**Muntele Rosu**	**155.32 320⇑**	*i*P	PKPab	05 01 36.8	-1.7
TRPA	**Tarpa**	**155.37 328⇓**	*i*P	PKPab	05 01 39.0	+0.4
KSP	**Ksiaz**	**155.60 340**	*e*PKP	pPKPdf	05 01 22.9	-2.8
KSP	**Ksiaz**	**155.60 340**	*e*PKIKP	PKPdf	05 01 13.4	+0.1
KSP			*e*		05 01 22.2	
VOIR		**155.86 320**	⇓P	PKPab	05 01 40.5	-0.3
VOIR		**155.86 320⇓**	*i*P	PKPab	05 01 40.5	-0.3
UPC	**Upice**	**155.98 340**	*e*PKPab	PKPab	05 01 40.7	-0.4
DPC	**Dobruska-Polom**	**156.02 339**	*e*PKPab	PKPab	05 01 39.7	-1.6
KECS	**Kecovo**	**156.02 331**	*e*PKP	PKPab	05 01 41.0	-0.3
KECS	**Kecovo**	**156.02 331**	*e*PKP	PKPab	05 01 40.9	-0.4
CLL	**Collm**	**156.05 345⇓**	*i*PKIKP	PKPdf	05 01 12.8	-1.1
CLL			*i*		05 01 23.3	
CLL			*i*		05 01 39.7	
CLL			pmax	pmax		
	comp=Z,11nm,1.7s					
CLL			MLR	MLR		
	comp=Z,700nm,18.8s,MS5.5					
CLL	**Collm**	**156.05 345**	*e*PKPdf	pPKPdf	05 01 23.4	-2.9
CLL	**Collm**	**156.05 345**	*i* PKPdif	PKPdf	05 01 12.8	-1.1
	comp=Z,11nm,1.7s					
CLL			⇓*i*PKPdif		05 01 23.3	
	comp=Z,12nm,1.2s					
CLL			*i* PKPab	PKPab	05 01 39.7	-1.7
	comp=Z,11nm,1.0s					
CLL			*i* pPKPab	pPKPab	05 01 51.8	-1.6
CLZ	**Clausthal**	**156.06 349**	*e*P	pPKPdf	05 01 23.9	-2.4
CLZ	**Clausthal**	**156.06 349**	*e*PKPab	PKPab	05 01 40.8	-0.6
MORC	**Moravsky Berou**	**156.11 337**	*e*PKPdf	PKPdf	05 01 12.8	-1.2
MORC			*e*PKPab	PKPab	05 01 40.8	-0.9
BRG	**Berggiesshubel**	**156.23 343**	*e*PKP	pPKPdf	05 01 24.2	-2.4
	comp=Z,8.9nm,1.1s					
BRG			*e*		05 01 40.2	
	comp=Z,21nm,1.4s					
BRG			*e*		05 01 51.2	
	comp=Z,17nm,1.4s					
DRGR		**156.23 326**	⇑P	pPKPdf	05 01 24.8	-2.0
DRGR		**156.23 326⇑**	*i*P	pPKPdf	05 01 24.8	-1.9
PVCC	**Panska Ves**	**156.38 342**	*e*PKPab	PKPab	05 01 41.7	-1.1
SZH	**Strazhica**	**156.56 315**	*e*P	PKPab	05 01 44.6	+0.7
VYHS	**Vyhne**	**156.69 333**	*e*PKP	PKPab	05 01 43.5	-0.7
VYHS	**Vyhne**	**156.69 333**	*e*PKP	PKPab	05 01 43.4	-0.8
PSZ	**Piszkesteto**	**156.71 331**	*e*PKPab	PKPab	05 01 43.8	-0.5
PSZ	**Piszkesteto**	**156.71 331⇓**	*i*P	PKPab	05 01 44.3	0.0
BTOK	**Tokmak**	**156.72 305**	*i* P	PKPab	05 01 45.0	+0.3
VRAC	**Vranov**	**156.83 338⇓**	*i*P	PKPab	05 01 45.4	+0.6
PRU	**Pruhonice**	**156.87 341**	*e*PKPab	PKPab	05 01 44.5	-0.4
MOX	**Moxa**	**156.98 346**	*e*(P)	pPKPdf	05 01 26.2	-1.4
MOX			*e*		05 01 43.2	
NKC	**Novy Kostel**	**157.18 345**	*e*PKPab	PKPab	05 01 45.3	-1.0
MODS	**Modra-Piesok**	**157.38 335**	*e*PKP	PKPdf	05 01 16.1	+0.4
MODS			*e*		05 01 47.7	
DIM	**Dimitrovgrad**	**157.44 313**	*e*P	PKPab	05 01 48.5	+0.8
BZS	**Buzias**	**157.59 325**	⇓P	PKPab	05 01 44.6	-3.6
BZS	**Buzias**	**157.59 325⇓**	*i*P	PKPab	05 01 44.7	-3.5
KHC	**Kasperske Hory**	**157.91 342**	*e*PKIKP	PKPdf	05 01 16.1	-0.3
KHC			*e*		05 01 28.0	
KHC	**Kasperske Hory**	**157.91 342**	*e*PKPdf	PKPdf	05 01 16.1	-0.3
KHC			*e*pPKP	pPKPdf	05 01 28.0	-0.8
KHC			*e*PKPab	PKPab	05 01 48.3	-1.1
KHC			*e*x	x	05 02 02.5	
PLD	**Plovdiv**	**157.94 314**	*e*P	PKPab	05 01 49.7	-0.2
GRF	**Grafenberg Arr**	**157.96 346**	*e*PKP2	PKPab	05 01 48.4	-1.2
GRF	**Grafenberg Arr**	**157.96 346**	*e*PKPab	PKPab	05 01 47.3	-2.3
WET	**Wettzell**	**158.09 343**	*e*PKPab	PKPab	05 01 48.7	-1.5
GERES	**GERESS Array B**	**158.14 341**	PKPbc	PKPdf	05 01 28.5	+12
	comp=Z,0.4nm,0.6s,baz=256,slow=0.6,SNR=4.4					
GERES			PKPab	PKPab	05 01 47.9	-2.5
	comp=Z,1.5nm,0.9s,baz=45,slow=4.0,SNR=6.4					
GIVF	**Givet**	**158.37 357**	*e*PKIKP	PKPdf	05 01 16.4	-0.5
BAIF	**Baives**	**158.43 358**	*e*PKIKP	PKPdf	05 01 16.3	-0.7
VTS	**Vitosha**	**158.61 316⇓**	*i*P	PKPab	05 01 53.3	+0.5
VTS	**Vitosha**	**158.61 316**	*e*P	PKPab	05 01 53.3	+0.5
WLF	**Walferdange**	**158.72 355**	*e*PKPab	PKPab	05 01 52.0	-1.0
MMB	**Musomiste**	**158.84 314**	*e*P	PKPab	05 01 53.4	-0.4
KKB	**Krupnik**	**159.09 315**	*e*P	PKPab	05 01 53.9	-1.0
ROSF	**Rostrenen**	**159.52 13**	*e*PKIKP	PKPdf	05 01 17.6	-0.7
PERS	**Pernice**	**159.64 336**	*e*PKPab	PKPab	05 01 55.8	-1.2
VAY	**Valandovo**	**159.71 314**	*e*PKP	PKPab	05 01 57.0	-0.6
SGMF	**Saint Gilles**	**159.73 11**	*e*PKIKP	PKPdf	05 01 18.7	+0.1
QUIF	**Quistinic**	**159.94 13**	*e*PKIKP	PKPdf	05 01 19.8	+1.0
	comp=Z,33nm,1.2s					
MEZF	**Maizieres J'vi**	**159.96 357**	*e*PKIKP	PKPdf	05 01 18.5	-0.3
SKO	**Skopje**	**160.04 317**	*e*PKP	PKPab	05 02 00.3	+1.4
LEGS	**Legarje**	**160.15 335**	*e*PKPdf	PKPdf	05 01 18.8	-0.3
LEGS			*e*PKPab	PKPab	05 01 58.2	-1.0
HAU	**Haudompre**	**160.35 354**	*e*PKIKP	PKPdf	05 01 18.8	-0.8
LJU	**Ljubljana**	**160.35 336**	*e*PKPab	PKPab	05 01 59.0	+1.2
KRUS	**Krusevo**	**160.51 316**	*e*PKP	PKPab	05 02 01.5	+0.5
BOJS	**Bojanci**	**160.55 334**	*e*PKPdf	PKPdf	05 01 19.5	-0.1
CEY	**Cerknica**	**160.65 336**	*e*PKPab	PKPab	05 02 00.1	-1.4
LOR	**Lormes**	**161.23 359**	*e*PKIKP	PKPdf	05 01 19.7	-0.5
	comp=Z,2.9nm,0.6s					
SSF	**Saint Saulge**	**161.44 360**	*e*PKIKP	PKPdf	05 01 19.9	-0.6
	comp=Z,19nm,1.3s					
MFF	**Saint Martin d**	**161.70 8**	*e*PKIKP	PKPdf	05 01 19.9	-0.8
CABF	**La Chapelle**	**161.76 354**	*e*PKIKP	PKPdf	05 01 20.9	+0.1
	comp=Z,24nm,1.6s					
SMF	**Signal de Mont**	**161.85 359**	*e*PKIKP	PKPdf	05 01 20.1	-0.8
	comp=Z,9.9nm,1.1s					
BGF	**Bois d'Agland**	**161.94 1**	*e*PKIKP	PKPdf	05 01 20.7	-0.3
TCF	**Toulx Ste Croi**	**162.19 3**	*e*PKIKP	PKPdf	05 01 20.8	-0.5
LPL	**La Plagne**	**162.77 352**	*e*PKIKP	PKPdf	05 01 21.6	-0.3
LPG	**La Plagne**	**162.79 352**	*e*PKIKP	PKPdf	05 01 22.0	+0.1
RJF	**Les Rejaudoux**	**163.14 4**	*e*PKIKP	PKPdf	05 01 22.0	-0.2
	comp=Z,23nm,1.5s					
BNI	**Bardonecchia**	**163.24 352**	*e*PKPdf	PKPdf	05 01 22.9	+0.5
BNI			*e*PKPab	PKPab	05 02 11.7	-1.1
LFF	**La Frestale**	**163.44 6**	*e*PKIKP	PKPdf	05 01 22.3	-0.2
ORIF	**Oris-en-Rattie**	**163.46 354**	*e*PKIKP	PKPdf	05 01 22.1	-0.4
MBDF	**Montbardon**	**163.54 351**	*e*PKIKP	PKPdf	05 01 22.2	-0.4
	comp=Z,12nm,1.3s					
VIVF	**Saint-Julien-l**	**163.61 357**	*e*PKIKP	PKPdf	05 01 22.5	-0.2
	comp=Z,31nm,1.6s					
LASF	**Ste Croix**	**164.42 359**	*e*PKIKP	PKPdf	05 01 23.5	+0.1
	comp=Z,43nm,1.8s					
SMRF	**Simiane la Rot**	**164.42 354**	*e*PKIKP	PKPdf	05 01 23.6	+0.1
	comp=Z,8.3nm,1.1s					
TIP	**Timpagrande**	**164.56 317**	*e*PKPab	PKPab	05 02 18.8	-0.1
TORD	**Torodi Ar. Bea**	**164.68 174**	PKP	PKPdf	05 01 24.6	0.0
	comp=Z,2.8nm,1.1s,baz=4.3,slow=0.4,SNR=8.2					
TORD			PKPab	PKPab	05 02 21.8	+2.0
	comp=Z,3.1nm,0.9s,baz=193,slow=3.4,SNR=6.5					
ESDC	**Sonseca Array**	**167.31 26**	PKP	PKPdf	05 01 25.8	-0.1
	comp=Z,0.6nm,0.7s,baz=40,slow=2.2,SNR=7.2					
ESDC			PKPab	PKPab	05 02 29.9	-0.9
	comp=Z,0.2nm,0.4s,baz=327,slow=4.9,SNR=3.4					

*CSEM **07** 04:52:00.5±0.2,3934N×4064E,h1km±1km,MD3.0,Error ellipse: s-maj=2.2km s-min=2.1km az=95.0*
*ISK **07** 04:52:00.7,3935N×4065E,h5km,MD3.0*
*ISCJB **07** 04:52:01.9±0.7,3935N±003×4067E±005,h2km±6km, Error ellipse: s-maj=6.5km s-min=4.2km az=19.0*
*DDA **07** 04:52:02.0,3930N×4061E,h12km±6km,Md3.1*

ISC 07 04:52:02.3±0.7,3935N±003×4067E±005,h0km±6km,n13, σ1§04/22,Turkey

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
BINT	**Bingol**	**0.49**	**197**	*i*	PG	**Pg**	**04 52 11.4**	**-0.3**
BINT				*i*	SG	**Sg**	**04 52 19.1**	**+1.0**
BNGL	**BINGOL**	**0.54**	**137**	*i*	P	**Pg**	**04 52 11.6**	**-1.1**
BNGL				*i*	S	**Sg**	**04 52 20.7**	**+1.0**
KOPT	**Kop Dagi**	**0.68**	**349**	*i*	P	**Pg**	**04 52 15.4**	**+0.1**
KOPT				*i*	S	**Sg**	**04 52 26.0**	**+1.9**
EZM	**Erzurum**	**0.77**	**44**	PG		**Pg**	**04 52 16.2**	**-0.8**
EZM				SG		**Sg**	**04 52 28.6**	**+1.6**
ERZM	**Erzurum**	**0.77**	**44**	*i*	P	**Pg**	**04 52 16.2**	**-0.9**
ERZM				*i*	S	**Sg**	**04 52 27.9**	**+0.8**
EZC	**Erzincan**	**0.77**	**301**	PG		**Pg**	**04 52 22.4**	**+5.3**
HOMI	**Horasan**	**1.18**	**53**	*i*	P	**Pg**	**04 52 22.4**	**-2.5**
HOMI				*i*	S	**Sg**	**04 52 39.5**	**-0.6**
BTMT	**Batman**	**1.32**	**151**	PN		**Pn**	**04 52 27.3**	**-0.6**
GUMT	**Gumushane**	**1.44**	**321**	PN		**Pn**	**04 52 28.7**	**-0.8**
ELZG	**Elazig**	**1.57**	**238**	*i*	P	**Pn**	**04 52 31.0**	**-0.3**
ELZG				*i*	S	**Sn**	**04 52 47.2**	**-5.0**
TUTA	**Tutak**	**1.66**	**88**	*i*	P	**Pn**	**04 52 31.5**	**-1.1**
TUTA				*i*	S	**Sn**	**04 52 55.8**	**+1.2**
AGRB	**Hanur-Agry**	**1.81**	**82**	*e*	PN	**Pn**	**04 52 34.6**	**0.0**
MARD	**Mardin**	**2.03**	**178**	*i*	P	**Pn**	**04 52 37.2**	**-0.5**
MARD				*i*	S	**Sn**	**04 53

IDC 07 05:08:32.4±4.0, 4906S×12440E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.8/11, mbtmp3.8/3, MS3.8/2, Ms1 3.8/2, ms1mx3.4/28, Error ellipse: s-maj=115.4km s-min=70.2km az=110.0, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**21.50**	**43**	P	P	05 13 22.6	-0.1
	2.3nm,0.7s,baz=214,slow=13,SNR=5.1						
STKA				LR	LR	05 21 03.9	
	comp=Z,204nm,20.3s,baz=23,slow=35						
ASAR	**Alice Springs**	**26.43**	**20**	P	P	05 14 11.2	+0.4
	1.2nm,0.8s,baz=192,slow=9.2,SNR=9.0						
WRA	**Warramunga Arr**	**30.13**	**19**	P	P	05 14 43.8	0.0
	0.2nm,0.3s,baz=198,slow=9.7,SNR=2.8						
RPZ	**Rata Peaks**	**32.21**	**98**	LR	LR	05 24 04.6	
	comp=Z,222nm,19.1s,baz=181,slow=29						
YKA	**Yellowknife Ar**	**145.53**	**45**	PKPbc	PKPbc	05 28 10.3	-1.0
	0.2nm,0.7s,baz=269,slow=4.2,SNR=4.7						

GUC 07 05:15:31.0±0.8, 3145S×7176W, h19km±8km, MD3.6, ML2.7, 1C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHNG	**Los Chungos**	**0.48**	**153**	*i* P	Pg	05 15 23.0	-18
CHNG				*i* S	Sg	05 15 30.2	-17
CHNG				AML	AML	05 15 30.6	
	comp=E,251nm,0.6s						
CMCH	**Combarbala**	**0.70**	**67**	⇑*i* P	Pb	05 15 43.9	-0.7
CMCH				*i* S	Sb	05 15 53.9	0.0
CMCH				AML	AML	05 15 54.9	
	comp=N,1μm,0.3s						
TLL	**Tololo Astrono**	**1.52**	**33**	⇓*i* P	Pn	05 15 57.6	+0.5
TLL				*i* S	Sn	05 16 18.1	+1.7
TLL				AML	AML	05 16 19.8	
	comp=E,121nm,0.4s						
JACH	**Jahuel**	**1.57**	**141**	*e* P	Pn	05 15 57.9	0.0
JACH				*i* S	Sn	05 16 19.0	+1.3
CLCH	**Cerro Calan**	**2.20**	**152**	*e* P	Pn	05 16 07.2	+0.8
CLCH				*i* S	Sn	05 16 36.0	+2.9
CLCH				AML	AML	05 16 44.3	
	comp=N,85nm,0.5s						
FCH	**Farellones**	**2.24**	**147**	⇓*i* P	Pn	05 16 09.3	+2.2
FCH				*i* S	Sn	05 16 38.0	+3.8
FCH				AML	AML	05 16 44.9	
	comp=E,60nm,0.2s						
LMEL	**Las Melosas**	**2.73**	**152**	*e* P	Pn	05 16 15.3	+1.6
LMEL				*i* S	Sn	05 16 48.3	+2.3
LMEL				AML	AML	05 16 57.0	
	comp=N,54nm,0.1s						

*NEIC **07** 05:15:45.9, 1925N×6730W, h25km, MD3.2(RSPR), After RSPR.*

RSPR 07 05:15:45.9, 1925N×6730W, h25km±18km, MD3.2/17, MD3.2/17, 17C, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGPR	**Aguadilla, PR**	**0.79**	**167**	⇑*e* P	Pb	05 15 58.9	-2.1
AGPR				*e* S	Sb	05 16 09.4	-2.0
AOPR	**Arecibo Observ**	**1.03**	**150**	⇑*e* P	Pn	05 16 02.6	-2.1
AOPR				*e* S	Sb	05 16 15.2	-3.0
MPR	**Mayaguez**	**1.04**	**172**	⇑*e* P	Pn	05 16 02.2	-2.6
MPR				*e* S	Sb	05 16 15.6	-2.8
LRS	**Lares**	**1.04**	**156**	⇑*e* P	Pn	05 16 02.2	-2.6
LRS				*e* S	Sb	05 16 15.8	-2.7
LSP	**Las Mesas**	**1.08**	**169**	⇑*e* P	Pn	05 16 03.4	-2.0
LSP				*e* S	Sn	05 16 16.9	-2.8
CRPR	**Cabo Rojo, PR**	**1.25**	**172**	⇑*e* P	Pn	05 16 05.6	-2.0
CRPR				*e* S	Sn	05 16 20.9	-2.7
IMO	**Isla Mona**	**1.27**	**207**	⇑*e* P	Pn	05 16 06.2	-1.8
GBPR	**Guanica, Bosqu**	**1.32**	**162**	*e* S	Sn	05 16 23.1	-2.5
GBPR	**Guanica, Bosqu**	**1.32**	**162**	⇑*e* P	Pn	05 16 06.8	-2.0
CELP	**Cerrillos**	**1.35**	**150**	⇑*e* P	Pn	05 16 06.7	-2.4
CELP				*e* S	Sn	05 16 23.1	-3.1
OBIP	**Obispado Ponce**	**1.36**	**151**	⇑*e* P	Pn	05 16 07.1	-2.2
OBIP				*e* S	Sn	05 16 23.3	-3.2
ICM	**Isla Caja Muer**	**1.53**	**151**	⇑*e* P	Pn	05 16 09.8	-1.8
ICM				*e* S	Sn	05 16 27.8	-2.9
SJG	**San Juan**	**1.57**	**136**	⇑*e* P	Pn	05 16 10.2	-1.9
SJG				*e* S	Sn	05 16 29.3	-2.3
SJG	**San Juan**	**1.57**	**136**	⇑*e* P	Pn	05 16 10.2	-1.9
SJG				*e* S	Sn	05 16 28.4	-3.2
CBYP	**Canovanas**	**1.67**	**125**	⇑*e* P	Pn	05 16 11.2	-2.4
CBYP				*e* S	Sn	05 16 31.6	-2.6
HUMP	**Col San Antoni**	**1.76**	**128**	⇑*e* P	Pn	05 16 12.2	-2.5
HUMP				*e* S	Sn	05 16 34.0	-2.3
CPD	**Cerro la Pandu**	**1.78**	**132**	⇑*e* P	Pn	05 16 13.0	-2.0
CPD				*e* S	Sn	05 16 34.6	-2.2
MTP	**Monte Pirata**	**2.01**	**124**	⇑*e* P	Pn	05 16 14.6	-3.6
MTP				*e* S	Sn	05 16 40.4	-2.2
SDDR	**Presa de Saban**	**3.78**	**267**	*e* Pn	Pn	05 16 45.2	+2.6

*IDC **07** 05:20:24.8±9.7, 024S×12038E, h76km±99km, mb3.9/10, mb1 3.9/11, mb1mx3.8/20, mbtmp3.8/11, ML3.4/1, Error ellipse: s-maj=31.8km s-min=14.8km az=66.0*

*ISCJB **07** 05:20:27.5±1.6, 022S±007×1203E±01, h124km±17km, mb4.1/15, Error ellipse: s-maj=20.7km s-min=7.6km az=152.2*

*NEIC **07** 05:20:29.7±1.7, 024S×12029E, h128km±18km, mb4.3/9, Error ellipse: s-maj=17.4km s-min=7.3km az=62.0*

ISC 07 05:20:28.6±1.4, 024S±007×1203E±01, h117km±15km, n25, σ0=97/26, mb4.1/15, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKM	**Kota Kinabalu**	**7.46**	**327**	*e* Pn	**Pn**	**05 22 16.1**	**+1.3**
KKM				*e* Sn	**Sn**	**05 23 37.1**	**-0.8**
KAKA	**Kakadu**	**17.27**	**136**	*e* P	**Pn**	**05 24 22.2**	**-0.5**
	16nm,0.6s						
FITZ	**Fitzroy Crossi**	**18.51**	**164**	*e* P	**P**	**05 24 37.6**	**+1.7**
	4.7nm,1.1s						
FITZ	**Fitzroy Crossi**	**18.51**	**164**	P	**P**	**05 24 35.4**	**-0.5**
	0.1nm,0.3s,baz=9.6,slow=10,SNR=2.6						
KULM	**Kulim**	**20.38**	**286**	*e* P	**P**	**05 24 54.2**	**-2.1**
MBWA	**Marble Bar**	**20.80**	**182**	*e* P	**P**	**05 25 01.3**	**+0.6**
	9.4nm,0.9s						
PSI	**Prapat**	**21.58**	**278**	P	**P**	**05 25 09.6**	**+0.4**
	4.0nm,0.6s,mb3.9,baz=112,slow=16,SNR=4.9						
WRAB	**Tennant Creek**	**23.92**	**146**	*e* P	**P**	**05 25 31.8**	**-0.1**
	1.9nm,0.5s,mb3.7						
WRA	**Warramunga Arr**	**23.92**	**146**	P	**P**	**05 25 31.3**	**-0.6**
	1.6nm,0.4s,mb3.7,baz=335,slow=9.3,SNR=12						
WB2	**Warramunga Arr**	**23.93**	**146**	*e* P	**P**	**05 25 32.0**	**0.0**
ASAR	**Alice Springs**	**26.77**	**151**	P	**P**	**05 25 57.8**	**+0.2**
	1.7nm,0.6s,mb3.7,baz=339,slow=10,SNR=32						
JOW	**Kunigami**	**27.99**	**15**	P	**P**	**05 26 07.2**	**-1.3**
	3.5nm,0.5s,mb4.2,baz=117,slow=4.5,SNR=2.5						
CTA	**Charters Tower**	**32.16**	**129**	*e* P	**P**	**05 26 45.7**	**+0.3**
	5.9nm,0.8s,mb4.4						
NWAO	**Narrogin (SRO)**	**32.64**	**185**	P	**P**	**05 26 48.5**	**-1.0**
NWAO	**Narrogin (SRO)**	**32.64**	**185**	P	**P**	**05 26 48.5**	**-1.0**
	3.4nm,0.8s,mb4.2,baz=355,slow=12,SNR=4.0						
STKA	**Stephens Creek**	**37.36**	**149**	*e* P	**P**	**05 27 30.4**	**+0.4**
	3.8nm,0.7s,mb4.4						
STKA	**Stephens Creek**	**37.36**	**149**	P	**P**	**05 27 30.2**	**+0.3**
	4.0nm,0.6s,mb4.5,baz=321,slow=8.5,SNR=2.9						
KSRS	**Korea Array**	**38.16**	**10**	P	**P**	**05 27 36.9**	**+0.2**
	2.9nm,0.6s,mb4.3,baz=187,slow=9.0,SNR=12						
ULN	**Ulaanbaatar**	**49.28**	**348**	*e* P	**P**	**05 29 06.1**	**+0.7**
	4.1nm,0.7s,mb4.5						
SONM	**Songino Array**	**49.39**	**348**	P	**P**	**05 29 07.3**	**+1.0**
	2.7nm,0.7s,mb4.3,baz=167,slow=9.1,SNR=19						
MKAR	**Makanchi Array**	**57.43**	**330**	P	**P**	**05 30 06.6**	**+1.5**
MKAR	**Makanchi Array**	**57.43**	**330**	P	**P**	**05 30 06.6**	**+1.5**
	1.1nm,0.6s,mb4.0,baz=132,slow=7.6,SNR=6.3						
ZALV	**Zalesovo Beam**	**61.45**	**337**	P	**P**	**05 30 32.4**	**-0.1**
	0.8nm,0.5s,mb4.0,baz=131,slow=8.0,SNR=6.6						
KURK	**Kurchatov**	**61.86**	**331**	*e* P	**P**	**05 30 36.4**	**+1.0**
	3.1nm,0.8s,mb4.4						
TIXI	**Tiksi**	**71.98**	**3**	*e* P	**P**	**05 31 36.9**	**-2.2**
	2.8nm,0.6s,mb4.3						

*ISCJB **07** 05:20:48.3±0.2, 3979S±005×4615E±008, h10km, mb4.7/47, MS5.1/32, Error ellipse: s-maj=8.7km s-min=6.7km az=166.3*

*MOS **07** 05:20:48.4±1.0, 3974S×4627E, h10km, mb5.0/16, Error ellipse: s-maj=19.2km s-min=9.3km az=103.0*

*IDC **07** 05:20:48.0±0.4, 3975S×4623E, h0km, mb4.5/21, mb1 4.6/21, mb1mx4.5/24, mbtmp4.5/21, MS5.0/24, Ms1 5.0/24, ms1mx5.0/32, Error ellipse: s-maj=17.7km s-min=11.9km az=45.0*

*BJI **07** 05:20:49.6, 3980S×4620E, h10km, mB5.2, mb5.3, Ms5.3, Msz5.1*

*GCMT **07** 05:20:49.6±0.1, 3980S×46.19E, h19km, MW5.8/108, Moment Tensor Solution. s94,c171; s108,c299; Duration: 1s8 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.57±.05; $M_{\theta\theta}$1.69±.05; $M_{\phi\phi}$-1.12±.05; $M_{r\theta}$-0.60±.12; $M_{\theta\phi}$5.04±.05; $M_{\phi r}$0.52±.11; Best double couple: $M_0$5.28400×10^{17} NP1:ϕ_s278.00000°, δ84.00000°, λ5.00000°. NP2:ϕ_s188.00000°, δ85.00000°, λ174.00000°. Principal axes: T 5.6190, Plg7.0000°, Azm143.0000°; N -0.6690, Plg83.0000°, Azm328.0000°; P -4.9480, Plg1.0000°, Azm233.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

*NEIC **07** 05:20:49.6±0.2, 3979S×46.18E, h10km, mb4.9/28, MW5.9 Error ellipse: s-maj=7.6km s-min=6.1km az=54.0. Moment Tensor Solution. s3 Moment tensor: Scale 10^{17} Nm; M_{rr}0.28; $M_{\theta\theta}$-0.57; $M_{\phi\phi}$0.29; $M_{r\theta}$0.30; $M_{\theta\phi}$7.28; $M_{\phi r}$1.56; Best double couple: $M_0$7.50000×10^{17} NP1: ϕ_s89.00000°, δ78.00000°, λ3.00000°. NP2:ϕ_s358.00000°, δ87.00000°, λ168.00000°. Principal axes: T 7.4100, Plg11.0000°, Azm313.0000°; N 0.1200, Plg78.0000°, Azm164.0000°; P -7.5300, Plg6.0000°, Azm44.0000°;*

ISC 07 05:20:49.4±6.5, 3978S±005×4617E±009, h7km±40km, h15km±1.9km: pP-P, n167, σ0=85/118, mb4.7/47, MS5.1/32, 9C-3D, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOSA	**Boshof**	**20.52**	**296**	*e* P	**P**	**05 25 28.4**	**+0.1**
	109nm,1.0s						
BOSA	**Boshof**	**20.52**	**296**	*e* P	**P**	**05 25 28.4**	**+0.1**
BOSA				pmax	pmax		
	comp=Z,109nm,1.0s						
BOSA	**Boshof**	**20.52**	**296**	P	**P**	**05 25 28.8**	**+0.6**
	comp=Z,105nm,1.0s,baz=128,slow=12,SNR=35						
BOSA				LR	LR	05 31 48.1	
	comp=Z,10μm,20.5s,MS5.2,baz=135,slow=32						
OPO	**Ambohidratompo**	**21.15**	**3**	P	**P**	**05 25 36.1**	**+1.0**
	comp=Z,23nm,1.1s,mb4.4,baz=163,slow=8.2,SNR=6.7						
SUR	**Sutherland**	**21.74**	**282**	*e* P	**P**	**05 25 42.1**	**+0.8**
	comp=Z,137nm,1.4s,mb5.2						
SUR	**Sutherland**	**21.74**	**282**	P	**P**	**05 25 42.3**	**+1.0**
	comp=Z,43nm,0.9s,mb4.9,baz=120,slow=10,SNR=14						
SUR				LR	LR	05 32 36.3	
	comp=Z,6μm,18.9s,MS5.0,baz=119,slow=32						
LBTB	**Lobatse**	**22.70**	**304**	*e* P	**P**	**05 25 50.7**	**-0.9**
	comp=Z,256nm,1.0s,mb5.6						
LBTB	**Lobatse**	**22.70**	**304**	*e* P	**P**	**05 25 50.7**	**-0.9**
LBTB				pmax	pmax		
	comp=Z,256nm,1.0s,mb5.6						
LBTB	**Lobatse**	**22.70**	**304**	P	**P**	**05 25 50.7**	**-0.9**
	comp=Z,80nm,1.1s,mb5.1,baz=154,slow=8.0,SNR=27						
LBTB				LR	LR	05 33 03.9	
	comp=Z,9μm,21.9s,MS5.1,baz=141,slow=32						
MATP	**Matopo**	**24.53**	**317**	P	**P**	**05 26 07.8**	**-1.7**
	comp=Z,55nm,1.1s,mb5.0,baz=148,slow=10.0,SNR=27						
MATP				LR	LR	05 34 52.8	
	comp=Z,3μm,19.3s,MS4.8,baz=135,slow=34						
LSZ	**Lusaka**	**29.04**	**322**	P	**P**	**05 26 49.2**	**-1.0**
	comp=Z,27nm,1.1s,mb4.9,baz=150,slow=10,SNR=21						
LSZ				LR	LR	05 37 02.2	
	comp=Z,5μm,21.9s,MS5.1,baz=92,slow=34						
MAW	**Mawson**	**29.37**	**167**	LR	LR	05 35 40.0	
	comp=Z,6μm,20.6s,MS5.2,baz=338,slow=30						
SYO	**Syowa Base**	**29.51**	**185**	⇑*e* P	**P**	**05 26 53.8**	**-0.1**
TSUM	**Tsumeb**	**32.02**	**301**	*e* P	**P**	**05 27 15.4**	**-1.1**
	comp=Z,24nm,1.1s,mb4.9						
NVL	**N'lazarevskaya**	**35.70**	**199**	P	**P**	**05 27 44.0**	**-4.0**
NVL				*e*		05 33 26.0	
NVL				pmax	pmax		
	comp=E,6.0nm,1.4s						
NVL				pmax	pmax		
	comp=Z,16nm,1.4s,mb4.8						
NVL				pmax	pmax		
	comp=N,5.0nm,0.7s						
MAIT	**Maitri**	**35.73**	**199**	*e* P	**P**	**05 27 49.1**	**+0.9**
MIR	**Mirnyy**	**37.35**	**151**	*e* P	**P**	**05 28 02.0**	**-0.1**
MIR				pmax	pmax		
	comp=Z,100nm,3.0s						
KMBO	**Kilima Mbogo**	**39.32**	**346**	*e* P	**P**	**05 28 19.8**	**+0.6**
	comp=Z,2.6nm,1.0s,mb3.9						
KMBO	**Kilima Mbogo**	**39.32**	**346**	*e* P	**P**	**05 28 19.8**	**+0.6**
KMBO				pmax	pmax		
	comp=Z,3.0nm,1.0s						
KMBO	**Kilima Mbogo**	**39.32**	**346**	P	**P**	**05 28 19.9**	**+0.7**
	comp=Z,1.6nm,0.8s,mb3.8,baz=175,slow=12,SNR=5.9						
KMBO				LR	LR	05 43 05.8	
	comp=Z,906nm,19.7s,MS4.6,baz=156,slow=34						
SNAA	**Sanae**	**40.14**	**202**	*e* P	**P**	**05 28 25.6**	**+0.1**
SNAA				*e*		05 28 34.9	
SNAA				*e*		05 28 42.0	
SNAA				*e*		05 28 49.0	
SNAA				*e*		05 28 54.5	
SNAA				*e*		05 29 12.7	
SNAA	**Sanae**	**40.14**	**202**	P	**P**	**05 28 25.6**	**+0.1**
	comp=Z,2.8nm,0.9s,mb4.0,baz=74,slow=6.2,SNR=6.0						
VNA2	**Neumayer--Watz**	**41.21**	**204**	*e* P	**P**	**05 28 35.1**	**+0.8**
VNA2				*e*		05 28 43.6	
VNA2				*e*		05 28 51.6	
VNA2				*e*		05 28 58.9	
VNA2				*e*		05 29 05.2	
VNA2				*e*		05 29 22.0	
VNA1	**Neumayer--Stat**	**41.39**	**204**	*e* P	**P**	**05 28 36.7**	**+0.9**
VNA1				*e*		05 28 44.2	
VNA1				*e*		05 28 52.9	
VNA1				*e*		05 28 59.8	
VNA1				*e*		05 29 06.1	
VNA1				*e*		05 29 23.9	
VNA3	**Neumayer Olymp**	**42.02**	**204**	*e* P	**P**	**05 28 41.0**	**+0.1**
VNA3				*e*		05 28 49.6	
VNA3				*e*		05 28 57.0	
VNA3				*e*		05 29 04.8	
VNA3				*e*		05 29 11.2	
VNA3				*e*		05 29 28.5	
QSPA	**South Pole Qui**	**50.42**	**180**	*e* P	**P**	**05 29 46.3**	**-0.6**
	comp=Z,36nm,1.1s,mb5.3						
QSPA	**South Pole Qui**	**50.42**	**180**	P	**P**	**05 29 46.4**	**-0.5**
	comp=Z,10nm,0.9s,mb4.8,baz=259,slow=3.1,SNR=19						
PALK	**Pallekele**	**56.65**	**42**	*e* P	**P**	**05 30 33.8**	**+0.4**
	comp=Z,19nm,1.3s,mb5.0						
VNDA	**Vanda**	**56.68**	**166**	P	**P**	**05 30 31.9**	**-0.9**
	baz=239,slow=12						
SBA	**Scott Base**	**57.34**	**167**	*e* P	**P**	**05 30 38.4**	**+0.9**
	comp=Z,24nm,1.1s,mb5.1						
SBA	**Scott Base**	**57.34**	**167**	*e* P	**P**	**05 30 38.4**	**+0.9**
SBA				pmax	pmax		
	comp=Z,24nm,1.1s,mb5.1						
PSI	**Prapat**	**64.21**	**62**	P	**P**	**05 31 23.9**	**-1.3**
	comp=Z,5.4nm,0.9s,mb4.6,baz=210,slow=12,SNR=6.1						
DBIC	**Dimbokro**	**65.93**	**302**	*e* P	**P**	**05 31 35.7**	**-0.6**
	comp=Z,22nm,1.2s,mb5.1						
DBIC	**Dimbokro**	**65.93**	**302**	*e* P	**P**	**05 31 35.7**	**-0.6**
DBIC				pmax	pmax		
	comp=Z,22nm,1.2s						
DBIC	**Dimbokro**	**65.93**	**302**	P	**P**	**05 31 35.9**	**-0.4**
	comp=Z,7.1nm,0.8s,mb4.8,baz=103,slow=4.5,SNR=8.4						
DBIC				LR	LR	05 57 48.7	
	comp=Z,5μm,19.7s,MS5.7,baz=126,slow=34						
TOA0	**Torodi Ar. Sit**	**66.94**	**312**	*e* P	**P**	**05 31 42.5**	**-0.2**
TORD	**Torodi Ar. Bea**	**66.94**	**312**	P	**P**	**05 31 42.6**	**-0.1**
	comp=Z,11nm,1.0s,mb4.9,baz=143,slow=5.9,SNR=44						
TORD				LR	LR	06 00 03.6	
	comp=Z,1μm,18.6s,MS5.1,baz=150,slow=35						
FITZ	**Fitzroy Crossi**	**70.68**	**98**	*e* P	**P**	**05 32 07.0**	**+0.9**
	comp=Z,22nm,1.8s,mb4.8						
FITZ	**Fitzroy Crossi**	**70.68**	**98**	P	**P**	**05 32 06.7**	**+0.5**
	comp=Z,2.8nm,0.8s,mb4.3,baz=226,slow=6.8,SNR=4.4						
ASF	**Jabal al Asfar**	**72.10**	**352**	LR	LR	06 02 13.2	
	comp=Z,487nm,21.0s,MS4.8,baz=41,slow=34						
ASAR	**Alice Springs**	**73.60**	**107**	P	**P**	**05 32 22.9**	**-0.7**
	comp=Z,2.8nm,0.8s,mb4.2,baz=230,slow=5.6,SNR=26						
STKA	**Stephens Creek**	**74.16**	**118**	*e* P	**P**	**05 32 26.5**	**-0.2**
	comp=Z,3.0nm,0.6s,mb4.4						
STKA	**Stephens Creek**	**74.16**	**118**	P	**P**	**05 32 25.9**	**-0.8**
	comp=Z,4.4nm,0.7s,mb4.5,baz=239,slow=3.8,SNR=9.1						
STKA				LR	LR	05 57 39.0	
	comp=Z,1μm,21.6s,MS5.2,baz=224,slow=30						
CSS	**Prodhromos**	**75.31**	**349**	*e* P	**P**	**05 32 32.7**	**-0.2**
	comp=Z,16nm,1.0s,mb4.9						
WRA	**Warramunga Arr**	**76.16**	**104**	P	**P**	**05 32 38.5**	**+0.1**
	comp=Z,2.4nm,0.7s,mb4.2,baz=225,slow=4.8,SNR=13						
WRA				LR	LR	06 01 28.7	
	comp=Z,2μm,19.5s,MS5.4,baz=225,slow=32						
WB2	**Warramunga Arr**	**76.17**	**104**	*e* P	**P**	**05 32 37.5**	**-0.9**
CHTO	**Chiang Mai**	**76.27**	**51**	*e* P	**P**	**05 32 37.6**	**-1.2**
	comp=Z,9.4nm,1.3s,mb4.6						
CHTO	**Chiang Mai**	**76.27**	**51**	*e* P	**P**	**05 32 37.6**	**-1.2**
CHTO				pmax	pmax		
	comp=Z,9.0nm,1.3s,mb4.5						
KBL	**Kabul**	**76.91**	**19**	P	**P**	**05 32 42.6**	**+0.5**
	comp=Z,3.6nm,0.5s,mb4.6						
KBL	**Kabul**	**76.91**	**19**	P	**P**	**05 32 42.6**	**+0.5**
KBL				pmax	pmax		
	comp=Z,4.0nm,0.5s,mb4.6						
MALT	**Malatya**	**78.04**	**354**	*e* P	**P**	**05 32 48.5**	**+0.2**
	comp=Z,21nm,1.5s,mb4.8						
MALT	**Malatya**	**78.04**	**354**	⇑*i* P	**P**	**05 32 48.9**	**+0.6**
TRQA	**Tornquist**	**78.37**	**230**	*e* P	**P**	**05 32 50.0**	**-0.6**
	comp=Z,10nm,1.1s,mb4.7						
LSA	**Lhasa**	**80.78**	**39**	P	**P**	**05 33 05.2**	**+1.7**
LSA	**Lhasa**	**80.78**	**39**	*e* P	**P**	**05 33 03.8**	**+0.3**
	comp=Z,46nm,1.3s,mb5.2						
LSA	**Lhasa**	**80.78**	**39**	*e* P	**P**	**05 33 03.8**	**+0.3**
LSA				pmax	pmax		
	comp=Z,46nm,1.3s,mb5.2						
PLCA	**Paso Flores**	**81.33**	**223**	*e* P	**P**	**05 33 06.5**	**0.0**
	comp=Z,4.8nm,0.7s,mb4.5						
PLCA	**Paso Flores**	**81.33**	**223**	*e* P	**P**	**05 33 06.5**	**0.0**
PLCA				pmax	pmax		
	comp=Z,5.0nm,0.7s						
PLCA	**Paso Flores**	**81.33**	**223**	P	**P**	**05 33 06.5**	**0.0**
	comp=Z,2.9nm,0.8s,mb4.2,baz=140,slow=7.1,SNR=6.7						
PLCA				LR	LR	06 01 50.3	
	comp=Z,544nm,19.6s,MS4.9,baz=134,slow=30						
VAE	**Valguarnera**	**82.23**	**335**	LR	LR	06 07 44.5	
	comp=Z,1μm,20.6s,MS5.3,baz=310,slow=34						
KEST	**Kesra**	**82.45**	**331**	P	**P**	**05 33 13.5**	**+1.3**
	comp=Z,2.2nm,0.9s,mb4.1,baz=156,slow=3.3,SNR=6.6						
KEST				LR	LR	06 12 24.6	
	comp=Z,408nm,19.9s,MS4.8,baz=279,slow=38						
TIP	**Timpagrande**	**83.06**	**337**	*e* P	**P**	**05 33 15.6**	**+0.3**
	comp=Z,12nm,1.4s,mb4.7						
RPZ	**Rata Peaks**	**83.15**	**143**	LR	LR	06 05 58.0	
	comp=Z,1μm,19.0s,MS5.3,baz=222,slow=33						
QIZ	**Qiongzhong**	**83.29**	**59**	P	**P**	**05 33 18.9**	**+2.0**
QIZ				S	S	05 43 41.0	+2.9
QIZ				SS	SS	05 49 08.6	+5.1
QIZ				LR	LR		
	comp=N,351nm,24.2s,MS4.8						
QIZ				LR	LR		
	comp=E,373nm,25.4s,MS4.8						
QIZ				LR	LR		
	comp=Z,878nm,38.9s						
BDFB	**Brasilia**	**83.31**	**255**	P	**P**	**05 33 22.6**	**+5.3**
	comp=Z,3.2nm,0.9s,mb4.3,baz=134,slow=8.1,SNR=4.2						
BDFB				LR	LR	06 02 51.6	
	comp=Z,738nm,21.1s,MS5.0,baz=110,slow=30						
KMI	**Kunming**	**83.35**	**50**	P	**P**	**05 33 16.4**	**-0.7**
KMI				AP	pP	05 33 21.4	+2.1
KMI				XP	sP	05 33 24.5	+4.4
KMI				PP	PP	05 36 34.0	+4.7
KMI				S	S	05 43 40.6	+2.2
KMI				SS	SS	05 49 07.6	+3.4
KMI				AMB	AMB		
	comp=Z,18nm,0.9s,mb5.1						
KMI				AMB	AMB		
	comp=Z,107nm,5.4s						
KMI				LR	LR		
	comp=N,413nm,21.3s,MS5.0						
KMI				LR	LR		
	comp=E,526nm,21.3s,MS5.0						
KMI				LR	LR		
	comp=Z,790nm,21.3s,MS5.1						
KIV	**Kislovodsk**	**83.41**	**357**	*e* P	**P**	**05 33 17.1**	**+0.1**
	comp=Z,27nm,1.2s,mb5.2						
KIV	**Kislovodsk**	**83.41**	**357**	*e* P	**P**	**05 33 18.0**	**+1.1**
KIV				pmax	pmax		
	comp=Z,8.0nm,1.3s,mb4.6						
CTAO	**Charters Tower**	**84.79**	**112**	*e* P	**P**	**05 33 23.3**	**-1.5**
	comp=Z,17nm,1.2s,mb5.0						
CTAO	**Charters Tower**	**84.79**	**112**	*e* P	**P**	**05 33 23.3**	**-1.5**
CTAO				pmax	pmax		
	comp=Z,17nm,1.2s,mb5.0						
UCH	**Uchtor**	**85.58**	**21**	*e* P	**P**	**05 33 29.7**	**+1.8**
	comp=Z,3.6nm,1.2s,mb4.5						
GYA	**Guiyang**	**86.68**	**51**	⇑*i* P	**P**	**05 33 35.7**	**+1.9**
GYA				AP	pP	05 33 39.8	+3.8
GYA				XP	sP	05 33 42.6	+5.8
GYA				PP	PP	05 37 01.4	+5.0
GYA				SKS		05 44 00.7	
GYA				S	S	05 44 13.4	+2.0
GYA				SS	SS	05 49 58.7	+5.3
GYA				AMB	AMB		
	comp=Z,20nm,1.0s,mb5.3						
GYA				AMB	AMB		
	comp=Z,120nm,5.6

WMQ				*e*S	S	05 44 50.0	-3.7
WMQ				AMB	AMB		
	comp=Z,9.0nm,1.8s,mb4.8						
WMQ				AMB	AMB		
	comp=Z,162nm,5.0s						
WMQ				LR	LR		
	comp=N,740nm,38.6s,MS5.1						
WMQ				LR	LR		
	comp=E,1μm,34.8s,MS5.1						
WMQ				LR	LR		
	comp=Z,607nm,25.0s						
AKASG	**Malin Array Be**	**91.32**	**349**	P	**P**	**05 33 55.0**	**-0.1**
AKASG				LR	LR	06 17 08.7	
AKASG	**Malin Array Be**	**91.32**	**349**	P	**P**	**05 33 55.0**	**-0.1**
	comp=Z,0.1nm,0.3s,baz=167,slow=4.5,SNR=4.6						
AKASG				LR	LR	06 17 08.7	
	comp=Z,355nm,20.5s,MS4.8,baz=50,slow=37						
ESDC	**Sonseca Array**	**91.37**	**324**	P	**P**	**05 33 55.6**	**-0.1**
	comp=Z,0.5nm,0.8s,mb3.9,baz=169,slow=3.0,SNR=4.6						
ESDC				LR	LR	06 17 35.7	
	comp=Z,710nm,18.1s,MS5.2,baz=135,slow=37						
MODS	**Modra-Piesok**	**91.43**	**341**	*e*P	**P**	**05 33 55.8**	**+0.1**
STHS	**Stebnicka Huta**	**91.50**	**344**	*e*P	**P**	**05 33 56.5**	**+0.5**
	comp=Z,3.4nm,1.0s,mb4.6						
STHS	**Stebnicka Huta**	**91.50**	**344**	*e*P	**P**	**05 33 56.5**	**+0.5**
STHS				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.6						
BNI	**Bardonecchia**	**91.60**	**333**	*e*P	**P**	**05 33 56.9**	**+0.3**
	comp=Z,3.9nm,1.0s,mb4.7						
BNI	**Bardonecchia**	**91.60**	**333**	*e*P	**P**	**05 33 56.9**	**+0.3**
BNI				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.7						
MK31	**Makanchi Array**	**92.02**	**24**	*e*P	**P**	**05 33 58.0**	**-0.5**
MKAR	**Makanchi Array**	**92.02**	**24**	P	**P**	**05 33 56.2**	**-2.3**
	comp=Z,0.5nm,0.5s,mb4.1,baz=198,slow=3.6,SNR=4.7						
DAVOX	**Davos/Dischmat**	**92.06**	**336**	LR	LR	06 20 53.4	
	comp=Z,792nm,18.6s,MS5.2,baz=155,slow=39						
LZH	**Lanzhou**	**92.28**	**43**	*e*P	**P**	**05 34 02.5**	**+2.5**
LZH				AP	pP	05 34 05.0	+2.8
LZH				XP	sP	05 34 06.0	+3.1
LZH				PP	PP	05 37 46.0	+5.0
LZH				*e*S	S	05 45 04.1	+0.8
LZH				XS	sS	05 45 13.1	+6.2
LZH				SS	SS	05 51 14.2	-0.3
LZH				AMB	AMB		
	comp=Z,9.0nm,1.0s,mb5.0						
LZH				AMB	AMB		
	comp=Z,90nm,4.4s						
LZH				LR	LR		
	comp=N,498nm,16.7s						
LZH				LR	LR		
	comp=Z,602nm,17.3s,MS5.1						
MORC	**Moravsky Berou**	**92.67**	**342**	*e*P	**P**	**05 34 02.3**	**+0.9**
	comp=Z,3.0nm,1.0s,mb4.7						
MORC	**Moravsky Berou**	**92.67**	**342**	*e*P	**P**	**05 34 02.3**	**+0.9**
MORC				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.7						
GERES	**GERESS Array B**	**92.80**	**339**	LR	LR	06 21 46.3	
	comp=Z,440nm,18.9s,MS4.9,baz=146,slow=39						
KURK	**Kurchatov**	**94.50**	**20**	*e*P	**P**	**05 34 09.2**	**-0.6**
	comp=Z,1.8nm,0.9s,mb4.5						
KURK	**Kurchatov**	**94.50**	**20**	*e*P	**P**	**05 34 09.3**	**-0.5**
KURK				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.5						
BRVK	**Borovoye**	**94.79**	**14**	*e*P	**P**	**05 34 10.9**	**-0.1**
	comp=Z,1.1nm,0.6s,mb4.5						
BRVK	**Borovoye**	**94.79**	**14**	*e*P	**P**	**05 34 10.9**	**-0.2**
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb4.4						
CLL	**Collm**	**95.23**	**340**	*e*SKKSac	SKKSac	05 45 15.0	+3.2
CLL				LmV		05 23 00.0	
	comp=Z,700nm,18.8s						
CLL				*e*sS	sS	05 45 40.0	+7.9
CLL				*e*x	x	05 46 38.0	
CLL				*e*PS	PS	05 46 48.0	+1.2
CLL				*e*PPS		05 47 19.0	
CLL				*e*SS	SS	05 52 00.0	+3.9
LPAZ	**La Paz**	**97.30**	**242**	LR	LR	06 14 40.0	
	comp=Z,704nm,18.1s,MS5.2,baz=5.8,slow=33						
NJ2	**Nanjing**	**98.15**	**55**	*e*P	**P**	**05 34 27.2**	**+0.3**
NJ2				AP	pP	05 34 32.0	+2.9
NJ2				XP	sP	05 34 34.4	+4.6
NJ2				PP	PP	05 38 29.0	+2.3
NJ2				S	S	05 45 50.0	-4.5
NJ2				XS	sS	05 45 59.0	+0.8
NJ2				AMB	AMB		
	comp=Z,50nm,0.9s						
ZAL	**Zalesovo**	**99.08**	**22**	P	**P**	**05 34 29.3**	**-1.2**
ZALV	**Zalesovo Beam**	**99.10**	**22**	P	**P**	**05 34 29.3**	**-1.3**
ZALV				LR	LR	06 15 32.9	
ZALV	**Zalesovo Beam**	**99.10**	**22**	P	**P**	**05 34 29.3**	**-1.3**
	comp=Z,1.2nm,0.8s,mb4.5,baz=238,slow=4.9,SNR=4.6						
ZALV				LR	LR	06 15 32.9	
	comp=Z,270nm,20.5s,MS4.7,baz=33,slow=33						
HHC	**Hu-ho-hao-te**	**99.89**	**44**	*e*P	Pdif	05 34 35.8	+1.0
HHC				AP		05 34 40.4	
HHC				XP		05 34 43.5	
HHC				PP	PP	05 38 40.6	+0.8
HHC				SKS		05 45 10.3	
HHC				S	S	05 46 06.6	-2.2
HHC				XS	sS	05 46 14.5	+2.1
HHC				SS	SS	05 53 04.3	+2.1
HHC				AMB	AMB		
	comp=Z,14nm,0.3s						
HHC				AMB	AMB		
	comp=Z,275nm,9.0s						
HHC				LR	LR		
	comp=N,213nm,17.7s,MS5.1						
HHC				LR	LR		
	comp=E,508nm,21.1s,MS5.1						
HHC				LR	LR		
	comp=Z,230nm,19.0s,MS4.7						
BJI	**Beijing**	**101.89**	**47**	PDIF	Pdif	05 34 44.5	+0.8
BJI				PP	PP	05 38 58.2	+3.3
BJI				SS	SS	05 53 25.3	-4.7
BJI				LR	LR		
	comp=N,428nm,23.9s,MS5.1						
BJI				LR	LR		
	comp=E,584nm,24.6s,MS5.1						
BJI				LR	LR		
	comp=Z,855nm,24.0s,MS5.2						
TBI	**Tubuai**	**115.53**	**164**	*e*SS	SS	05 56 41.2	+10
	comp=Z,430nm,29.5s						
TBI	**Tubuai**	**115.53**	**164**	*e*LR	LR	06 14 26.8	
	comp=Z,2μm,26.0s,baz=193						
RKT	**Rikitea**	**117.42**	**179**	*e*SS	SS	05 57 04.6	+8.5
	comp=Z,522nm,28.8s						
RKT	**Rikitea**	**117.42**	**179**	*e*LR	LR	06 15 25.9	
	comp=Z,2μm,25.8s						
PPT	**Papeete**	**121.09**	**162**	*e*SS	SS	05 57 52.0	+8.3
	comp=Z,622nm,24.0s						
PPT	**Papeete**	**121.09**	**162**	*e*LR	LR	06 17 03.7	
	comp=Z,2μm,29.0s						
TAOE	**Nuku Hiva Isla**	**131.26**	**172**	*e*LR	LR	06 21 44.1	
	comp=Z,48μm,25.5s						
PET	**Petropavlovsk**	**133.30**	**50**	*e*PKPdf	PKPdf	05 40 02.6	-2.8
RES	**Resolute Bay**	**140.68**	**345**	*e*PKPdf	PKPdf	05 40 17.9	-0.5
WCI	**Wyandotte Cave**	**143.37**	**283**	*e*PKPdf	PKPdf	05 40 22.4	-2.0
WVT	**Waverly**	**143.85**	**279**	*e*PKPdf	PKPdf	05 40 25.3	+0.1
HALT	**Halls**	**144.93**	**278**	*e*PKPdf	PKPdf	05 40 25.4	-1.7
PARMO	**Parma**	**145.49**	**279**	*e*PKPdf	PKPdf	05 40 29.9	+1.8
HBAR	**Harrisburg**	**145.81**	**277**	*e*PKPdf	PKPdf	05 40 28.5	-0.1
FVM	**French Village**	**146.41**	**281**	*e*PKPdf	PKPdf	05 40 29.8	+0.2
CCM	**Cathedral Cave**	**147.05**	**281**	*e*PKPdf	PKPdf	05 40 30.8	+0.2
JFWS	**Jewell Farm**	**147.40**	**290**	*e*PKPdf	PKPdf	05 40 26.8	-4.3
HKT	**Hockley**	**147.53**	**264**	*e*PKPdf	PKPdf	05 40 31.5	-0.2
FCC	**Fort Churchill**	**148.51**	**320**	*e*PKPdf	PKPdf	05 40 31.8	-0.6
FCC				*e*PKPbc	PKPbc	05 40 35.3	-0.7
JCT	**Junction City**	**150.81**	**262**	*e*PKPdf	PKPdf	05 40 37.2	+0.2
JCT				*e*PKPbc	PKPbc	05 40 42.0	-0.6
JCT				*e*PKPab	PKPab	05 40 48.5	-1.3
KSU1	**Kansas State U**	**151.38**	**281**	*e*PKPdf	PKPdf	05 40 37.2	-0.4
KSU1				*e*PKPbc	PKPbc	05 40 43.1	-0.5
INK	**Inuvik**	**151.41**	**360**	*e*PKPbc	PKPbc	05 40 42.3	-0.5
INK				*e*PKPab	PKPab	05 40 51.2	+0.2
INK	**Inuvik**	**151.41**	**360**	PKPbc	PKPbc	05 40 42.4	-0.3
	comp=Z,6.2nm,0.9s,baz=4.6,slow=2.1,SNR=8.7						
ULM	**Lac du Bonnet**	**151.49**	**304**	PKPbc	PKPbc	05 40 44.6	+1.2
ULM				*e*PKPab	PKPab	05 40 53.7	+1.7
ULM	**Lac du Bonnet**	**151.49**	**304**	PKPbc	PKPbc	05 40 44.6	+1.2
	comp=Z,4.2nm,0.7s,baz=67,slow=4.9,SNR=7.7						
WMOK	**Wichita Mounta**	**151.77**	**271**	*e*PKPbc	PKPbc	05 40 45.8	+1.1
WMOK				*e*PKPab	PKPab	05 40 55.5	+1.9
ECSD	**EROS,Sioux Fal**	**152.11**	**290**	*e*PKPdf	PKPdf	05 40 37.4	-1.2
TXAR	**Lajitas Array**	**153.18**	**256**	PKPbc	PKPbc	05 40 49.0	+1.0
	comp=Z,2.3nm,0.9s,baz=146,slow=5.2,SNR=12						
TXAR				PKPab	PKPab	05 41 00.1	+0.4
	comp=Z,4.1nm,0.8s,baz=141,slow=5.8,SNR=11						
FFC	**Flin Flon**	**154.00**	**316**	*e*PKPab	PKPab	05 41 01.4	-1.0
YKA	**Yellowknife Ar**	**154.46**	**339**	PKP	PKPdf	05 40 40.9	-0.4
YKA				PKPbc	PKPbc	05 40 49.6	-0.1
YKA				PKPab	PKPab	05 41 00.9	-3.1
YKA	**Yellowknife Ar**	**154.46**	**339**	PKP	PKPdf	05 40 40.8	-0.4
	comp=Z,0.5nm,0.9s,baz=39,slow=1.3,SNR=3.9						
YKA				PKPbc	PKPbc	05 40 49.6	-0.1
	comp=Z,0.8nm,0.8s,baz=29,slow=1.8,SNR=8.2						
YKA				PKPab	PKPab	05 41 00.9	-3.1
	comp=Z,0.6nm,0.7s,baz=35,slow=2.8,SNR=9.1						
MNTX	**Cornudas Mount**	**155.62**	**260**	*e*PKPdf	PKPdf	05 40 43.5	-0.3
MNTX				*e*PKPab	PKPab	05 41 08.4	-1.7
RSSD	**Black Hills**	**157.49**	**291**	*e*PKPdf	PKPdf	05 40 45.5	-0.4
SDCO	**Great Sand Dun**	**157.85**	**274**	*e*PKPab	PKPab	05 41 19.1	-0.4
BW06	**Boulder Array**	**161.53**	**287**	*e*PKPdf	PKPdf	05 40 50.9	+0.3
PDAR	**Pinedale Array**	**161.53**	**287**	PKP	PKPdf	05 40 49.9	-0.7
	comp=Z,0.5nm,0.9s,baz=101,slow=2.8,SNR=3.6						
DUG	**Dugway**	**163.89**	**278**	*e*PKPdf	PKPdf	05 40 52.8	-0.2
NVAR	**Mina Array Bea**	**167.86**	**269**	PKP	PKPdf	05 40 57.9	+1.6
	comp=Z,0.4nm,0.8s,baz=101,slow=0.9,SNR=3.0						

KRSC 07 05:27:46.5±1.0, 5455N×16597E, h40km±40km, ML3.6, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**2.45**	**314**	*e*P	Pn	05 28 24.9	+1.0
KBTR				S	Sn	05 28 52.5	0.0
MKZ	**Mys Kozlova**	**2.47**	**272**	*e*P	Pn	05 28 26.6	+2.4
MKZ				*e*S	Sn	05 28 55.3	+2.3
KMNR	**Kamenistaya**	**3.50**	**293**	P	Pn	05 28 41.4	+3.0
KLY	**Klyuchi**	**3.51**	**302**	S	Sn	05 29 22.2	+3.6
SPN	**Mys Shipunski**	**3.81**	**250**	P	Pn	05 28 44.6	+2.0
SPN				S	Sn	05 29 28.0	+1.9
NLC	**Nalytchevo**	**4.16**	**253**	P	Pn	05 28 50.3	+2.9
NLC				*e*S	Sn	05 29 37.6	+3.0
AVH	**Avacha**	**4.47**	**256**	*e*P	Pn	05 28 55.7	+4.1
AVH				S	Sn	05 29 45.2	+3.0
PET	**Petropavlovsk**	**4.60**	**254**	P	Pn	05 28 57.4	+4.0
GNL	**Ganaly**	**4.80**	**263**	*e*P	Pn	05 29 00.5	+4.3
GNL				S	Sn	05 29 54.5	+4.1
RUS	**Russkaya**	**4.93**	**248**	P	Pn	05 29 02.0	+4.0
RUS				S	Sn	05 29 56.7	+3.0

*ISCJB **07** 05:29:34.9±0.3, 4649N±002×1489E±002, h8km, Error ellipse: s-maj=2.6km s-min=2.2km az=174.7*
*LJU **07** 05:29:34.9, 4649N×1489E, h11km, ML2.1*
*CSEM **07** 05:29:35.4±0.1, 4649N×1490E, h10km, ML2.8/4, Error ellipse: s-maj=1.0km s-min=0.8km az=6.0*
*VIE **07** 05:29:35.1±0.2, 4649N×1489E, h8km, mb1.8/3, ML2.3/4, Error ellipse: s-maj=1.4km s-min=1.1km az=150.0 14 km SSE of Bleiburg*
*NEIC **07** 05:29:35.4±0.4, 4650N×1489E, h10km, ML2.0(LJU), Error ellipse: s-maj=4.6km s-min=3.8km az=47.0*
NEIC Felt at Prevalje and in the Mezica area.

ISC 07 05:29:35.4±0.5, 4649N±002×1490E±002, h12km±7km, n37, σ0§47/67, 8C-23D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZAVS	**Zavodnje**	**0.10**	**122**	⇑*i*Pg	**Pg**	**05 29 38.1**	**-0.1**
ZAVS				*i* Sg	**Sg**	**05 29 39.8**	**-0.5**
PERS	**Pernice**	**0.21**	**46**	⇓*i*Pg	**Pg**	**05 29 40.1**	**+0.1**
PERS				*i* Sg	**Sg**	**05 29 43.0**	**-0.1**
PERS	**Pernice**	**0.21**	**46**	⇓*i*Pg	**Pg**	**05 29 40.1**	**+0.1**
PERS				*i* Sg	**Sg**	**05 29 43.0**	**-0.1**
PERS							
	comp=Z,458nm,0.1s						
PERS	**Pernice**	**0.21**	**46**	⇓*i*Pg	**Pg**	**05 29 40.1**	**+0.1**
PERS				*i* Sg	**Sg**	**05 29 43.0**	**0.0**
	comp=Z,458nm,0.1s						
BISS	**Bistriski jare**	**0.23**	**45**	⇓*i*Pg	**Pg**	**05 29 40.3**	**+0.1**
BISS				*i* Sg	**Sg**	**05 29 43.2**	**-0.2**
BISS							
	comp=Z,644nm,0.1s						
BISS	**Bistriski jare**	**0.23**	**45**	⇓*i*Pg	**Pg**	**05 29 40.3**	**+0.1**
BISS				*i* Sg	**Sg**	**05 29 43.2**	**-0.2**
	comp=Z,644nm,0.1s						
OBKA	**Obir**	**0.24**	**275**	⇑*e*Pg	**Pg**	**05 29 40.7**	**+0.2**
	comp=Z,14nm,0.1s,SNR=372						
OBKA				⇑*i*Sg	**Sg**	**05 29 44.4**	**+0.5**
	comp=Z,94nm,0.1s						
MOZS	**Mozjanca**	**0.37**	**239**	*i* Pg	**Pg**	**05 29 42.8**	**0.0**
MOZS				*i* Sg	**Sg**	**05 29 47.9**	**+0.2**
VNDS	**Vrh nad Dolski**	**0.41**	**199**	⇓*i*Pg	**Pg**	**05 29 43.8**	**+0.3**
VNDS				*i* Sg	**Sg**	**05 29 49.0**	**+0.1**
GROS	**Grobnik**	**0.42**	**93**	*i* Pg	**Pg**	**05 29 43.7**	**0.0**
GROS				*i* Sg	**Sg**	**05 29 49.4**	**+0.1**
GROS	**Grobnik**	**0.42**	**93**	*i* Pg	**Pg**	**05 29 43.7**	**0.0**
GROS				*i* Sg	**Sg**	**05 29 49.4**	**+0.1**
GROS							
	comp=Z,72nm,0.1s						
GROS	**Grobnik**	**0.42**	**93**	*i* Pg	**Pg**	**05 29 43.7**	**0.0**
GROS				*i* Sg	**Sg**	**05 29 49.3**	**0.0**
	comp=Z,72nm,0.1s						
PDKS	**Podkum**	**0.43**	**171**	⇓*i*Pg	**Pg**	**05 29 44.2**	**+0.3**
PDKS				*i* Sg	**Sg**	**05 29 50.0**	**+0.2**
PDKS	**Podkum**	**0.43**	**171**	⇓*i*Pg	**Pg**	**05 29 44.2**	**+0.3**
PDKS				*i* Sg	**Sg**	**05 29 50.0**	**+0.2**
PDKS							
	comp=Z,26nm,0.1s						
LJU	**Ljubljana**	**0.51**	**210**	⇓*i*Pg	**Pg**	**05 29 45.6**	**+0.1**
LJU				*i* Sg	**Sg**	**05 29 52.5**	**+0.2**
LJU	**Ljubljana**	**0.51**	**210**	⇓*i*Pg	**Pg**	**05 29 45.6**	**+0.1**
LJU				*i* Sg	**Sg**	**05 29 52.5**	**+0.2**
LJU							
	comp=Z,45nm,0.1s						
LJU	**Ljubljana**	**0.51**	**210**	⇓*i*Pg	**Pg**	**05 29 45.6**	**+0.1**
LJU				*i* Sg	**Sg**	**05 29 52.5**	**+0.3**
	comp=Z,45nm,0.1s						
DOBS	**Dobrina**	**0.52**	**130**	⇓*i*Pg	**Pg**	**05 29 45.5**	**-0.1**
DOBS				*i* Sg	**Sg**	**05 29 53.0**	**+0.5**
DOBS	**Dobrina**	**0.52**	**130**	⇓*i*Pg	**Pg**	**05 29 45.5**	**-0.1**
DOBS				*i* Sg	**Sg**	**05 29 53.0**	**+0.5**
DOBS							
	comp=Z,23nm,0.1s						
DOBS	**Dobrina**	**0.52**	**130**	⇓*i*Pg	**Pg**	**05 29 45.5**	**-0.1**
DOBS				*i* Sg	**Sg**	**05 29 53.0**	**+0.5**
	comp=Z,23nm,0.1s						
LEGS	**Legarje**	**0.61**	**151**	⇓*i*Pg	**Pg**	**05 29 47.5**	**+0.2**
LEGS				*i* Sg	**Sg**	**05 29 55.1**	**-0.2**
CESS	**Cesta pri Krsk**	**0.65**	**142**	*i* Pg	**Pg**	**05 29 48.2**	**+0.2**
GORS	**Gorjuse**	**0.65**	**255**	⇓*i*Pg	**Pg**	**05 29 47.8**	**-0.2**
GORS							
	comp=Z,13nm,0.1s						
GORS	**Gorjuse**	**0.65**	**255**	⇓*i*Pg	**Pg**	**05 29 47.8**	**-0.2**
	comp=Z,13nm,0.1s						
GOLS	**Golise**	**0.69**	**133**	⇓*i*Pg	**Pg**	**05 29 49.1**	**+0.2**
GOLS				*i* Sg	**Sg**	**05 29 57.3**	**-0.6**
GOLS	**Golise**	**0.69**	**133**	⇓*i*Pg	**Pg**	**05 29 49.1**	**+0.2**
GOLS				*i* Sg	**Sg**	**05 29 57.3**	**-0.6**
GOLS							
	comp=Z,18nm,0.1s						
GOLS	**Golise**	**0.69**	**133**	⇓*i*Pg	**Pg**	**05 29 49.1**	**+0.2**
GOLS				*i* Sg	**Sg**	**05 29 57.3**	**-0.7**
	comp=Z,18nm,0.1s						
CRES	**Cresnjev**	**0.77**	**149**	*i* Pg	**Pg**	**05 29 50.1**	**-0.2**
VOY	**Vojsko**	**0.83**	**237**	*e*Sg	**Sg**	**05 30 02.7**	**+0.3**
VOJS	**Vojsko**	**0.84**	**237**	*i* Pg	**Pg**	**05 29 51.1**	**-0.5**
ARSA	**Arzberg**	**0.88**	**29**	*e*Pg	**Pg**	**05 29 51.8**	**-0.6**
	comp=Z,3.2nm,0.1s,SNR=22						
ARSA				⇑*i*Sg	**Sg**	**05 30 03.0**	**-0.8**
	comp=Z,9.9nm,0.1s						
MYKA	**Terra Mystica**	**0.88**	**280**	⇓*i*Pg	**Pg**	**05 29 52.1**	**-0.3**
	comp=Z,1.5nm,0.1s						
MYKA				⇓*i*Sg	**Sg**	**05 30 04.0**	**+0.2**
	comp=Z,14nm,0.2s						
DRE	**Drenchia**	**0.93**	**251**	⇑*i*Pg	**Pg**	**05 29 52.3**	**-1.0**
DRE				*i* Sg	**Sg**	**05 30 05.7**	**+0.4**
KOGS	**Kog**	**0.94**	**92**	*i* Pg	**Pg**	**05 29 54.1**	**+0.6**
KOGS				*i* Sg	**Sg**	**05 30 06.7**	**+1.1**
SKDS	**Skadanscina**	**1.12**	**213**	*i* Pg	**Pg**	**05 29 55.8**	**-1.2**
SKDS				*i*		05 29 56.4	
KBA	**Koelnbreinsper**	**1.22**	**300**	⇓*e*Pg	**Pg**	**05 29 58.3**	**-0.5**
	comp=Z,1.2nm,0.1s,SNR=5.6						
KBA				⇑*i*Sg	**Sg**	**05 30 14.9**	**+0.2**
	comp=Z,6.4nm,0.1s						
MOA	**Molln**	**1.43**	**343**	⇑*e*Pg	**Pg**	**05 30 02.6**	**-0.2**
	comp=Z,1.1nm,0.1s,SNR=7.2						
MOA				⇑*i*Sg	**Sg**	**05 30 22.6**	**+1.2**
	comp=Z,4.3nm,0.3s						

*ISCJB **07** 05:37:42.9±0.8, 4219N±004×4812E±006, h110km±8km, Error ellipse: s-maj=7.4km s-min=6.3km az=16.8*
*TIF **07** 05:37:42.9, 4218N×4818E, h87km±3km*
*CSEM **07** 05:37:44.1±0.5, 4217N×4797E, h92km±8km, mb4.2, Error ellipse: s-maj=11.3km s-min=7.0km az=115.0*
*MOS **07** 05:37:48.8±0.9, 4216N×4757E, h19km, mb4.2/1, Error ellipse: s-maj=27.5km s-min=13.6km az=111.3*

ISC 07 05:37:43.8±0.8, 4219N±004×4813E±006, h105km±8km, n21, σ1§18/37, 4C-2D, Caspian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNSR	**Manas**	**0.59**	**330**	⇓*i*PG	**Pn**	**05 38 00.7**	**-0.1**
MNSR				*i* S	**Sn**	**05 38 12.7**	**-0.8**
MNSR				pmax	pmax		
	comp=Z,206nm,0.3s						
MNSR	**Manas**	**0.59**	**330**	*i* Pg	**Pn**	**05 38 00.7**	**-0.1**
	comp=Z,206nm,0.3s						
MNSR				*i* Sg	**Sn**	**05 38 12.7**	**-0.8**
GNBR	**Gunib**	**0.89**	**283**	⇓*i*PG	**Pn**	**05 38 01.0**	**-2.4**
GNBR				pmax	pmax		
	comp=Z,89nm,0.2s						
GNBR	**Gunib**	**0.89**	**283**	*i* Pg	**Pn**	**05 38 01.0**	**-2.4**
	comp=Z,89nm,0.2s						
MAK	**Makhachkala**	**0.90**	**329**	⇑*i*PG	**Pn**	**05 38 05.4**	**+1.9**
MAK				*e*		05 38 20.3	
MAK				pmax	pmax		
	comp=Z,323nm,0.2s						
MAK				smax			
	comp=N,4μm,0.4s						
MAK				smax			
	comp=E,1μm,0.3s						
MAK	**Makhachkala**	**0.90**	**329**	*i* Pg	**Pn**	**05 38 05.4**	**+1.9**
	comp=E,323nm,0.2s						
MAK				*e*Sg	**Sn**	**05 38 20.3**	**+2.0**
UNCR	**Uncukul**	**1.12**	**298**	⇑*i*PG	**Pn**	**05 38 04.8**	**-1.0**
UNCR				*i* S	**Sn**	**05 38 21.3**	**-1.2**
UNCR				pmax	pmax		
	comp=Z,47nm,0.2s						
UNCR	**Uncukul**	**1.12**	**298**	*i* Pg	**Pn**	**05 38 04.8**	**-1.0**
	comp=Z,47nm,0.2s						
UNCR				*i* Sg	**Sn**	**05 38 21.3**	**-1.2**
SEKA	**Sheki**	**1.20**	**216**	P	**Pn**	**05 38 06.8**	**0.0**
	SNR=83						
SEKA				S	**Sn**	**05 38 24.3**	**+0.1**
SIZA	**Siyzn**	**1.26**	**152**	S	**Sn**	**05 38 26.2**	**+0.9**
DBC	**Dubki**	**1.27**	**311**	*e*PG	**Pn**	**05 38 06.5**	**-1.0**
DBC				*i* S	**Sn**	**05 38 24.5**	**-1.0**
DBC				pmax	pmax		
	comp=Z,48nm,0.3s						
DBC	**Dubki**	**1.27**	**311**	*e*Pg	**Pn**	**05 38 06.5**	**-1.0**
	comp=Z,48nm,0.3s						
DBC				*i* Sg	**Sn**	**05 38 24.5**	**-1.0**
DLMR	**Dylym**	**1.41**	**309**	⇑*i*PG	**Pn**	**05 38 09.5**	**+0.3**
DLMR				*i* S	**Sn**	**05 38 30.3**	**+1.8**
DLMR				pmax	pmax		
	comp=Z,147nm,0.3s						
DLMR	**Dylym**	**1.41**	**309**	*i* Pg	**Pn**	**05 38 09.5**	**+0.3**
	comp=Z,147nm,0.3s						
DLMR				*i* Sg	**Sn**	**05 38 30.3**	**+1.8**
PQL	**Pirkuli**	**1.45**	**166**	P	**Pn**	**05 38 09.5**	**-0.1**
	SNR=7.0						
GANJ	**Ganja**	**2.06**	**222**	P	**Pn**	**05 38 16.4**	**-0.9**
	SNR=5.0						
GANJ				S	**Sn**	**05 38 40.0**	**-2.8**
DGRG	**David-gareji**	**2.19**	**251**	P	**Pn**	**05 38 20.1**	**+1.2**
DGRG				S	**Sn**	**05 38 48.0**	**+2.1**
MTA	**Mtatsminda**	**2.54**	**260**	P	**Pn**	**05 38 23.8**	**+0.3**
MTA				S	**Sn**	**05 38 53.3**	**-0.7**
TBLG	**Delisi**	**2.57**	**261**	P	**Pn**	**05 38 24.6**	**+0.7**
TBLG				S	**Sn**	**05 38 54.5**	**-0.2**
ONI	**Oni**	**3.49**	**278**	P	**Pn**	**05 38 36.1**	**0.0**
ONI				S	**Sn**	**05 39 32.1**	**+16**
AB31	**Akbulak array**	**10.86**	**45**	Pn	**Pn**	**05 40 17.1**	**+1.2**
	comp=Z,1.2nm,0.6s,baz=222,slow=11,SNR=20						
AB31				⇑Sn	**Sn**	**05 42 13.8**	**-1.5**
	comp=Z,0.5nm,0.3s,baz=224,slow=20,SNR=4.0						

*CSEM **07** 05:38:23.1±0.1, 37.12N×2452W, h25km, ML3.6, Error ellipse: s-maj=5.3km s-min=1.8km az=31.0*
*PDA **07** 05:38:26.6±0.8, 37.12N×2457W, h0km, MD4.0, ML3.6, Error ellipse: s-maj=5.0km s-min=3.6km az=98.0*

SVSA 07 05:38:26.6±0.8, 3712N×2457W, h0km, MD4.0, ML3.6, Error ellipse: s-maj=5.0km s-min=3.6km az=98.0, Azores Islands region

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

CDF				*e*Sg	**Sg**	**05 41 32.6 +0.4**
	62nm,0.2s,SNR=1.0					
CDF				*e*Sn	**Sg**	**05 41 35.9 +3.7**
CDF	**Champ du Feu**	**0.44**	**81**	*e*Pg	**Pg**	**05 41 26.7 +0.4**
	SNR=1.0					
CDF				*e*Sg	**Sg**	**05 41 32.6 +0.4**
	31nm,0.2s,SNR=1.0					
CDF				*e*Sn	**Sg**	**05 41 35.9 +3.7**
THEF	**They Montfort**	**0.44**	**255**	*e*Pg	**Pg**	**05 41 27.6 +1.3**
	SNR=72					
THEF	**They Montfort**	**0.44**	**255**	Pg	**Pg**	**05 41 27.7 +1.3**
THEF				Sg	**Sg**	**05 41 33.8 +1.5**
HINF	**Hinteralfeld**	**0.55**	**164**	*e*Pg	**Pg**	**05 41 29.1 +0.8**
	SNR=1.0					
HINF				*e*Sg	**Sg**	**05 41 35.9 +0.3**
	100nm,0.2s					
HINF				*e*Sn	**Sg**	**05 41 39.1 +3.5**
	SNR=1.0					
HINF	**Hinteralfeld**	**0.55**	**164**	*e*Pg	**Pg**	**05 41 29.1 +0.8**
	SNR=1.0					
HINF				*e*Sg	**Sg**	**05 41 35.9 +0.3**
	50nm,0.2s					
HINF				*e*Sn	**Sg**	**05 41 39.1 +3.5**
	SNR=1.0					
MOF	**Molkenrain**	**0.60**	**145**	*e*Pg	**Pg**	**05 41 30.0 +0.7**
	SNR=12					
RFYF	**Reffroy**	**0.82**	**291**	*e*Pg	**Pg**	**05 41 34.9 +1.5**
RFYF				*e*Sn	**Sn**	**05 41 46.9 +0.3**
	120nm,0.2s,baz=116					
RFYF	**Reffroy**	**0.82**	**291**	*e*Pg	**Pg**	**05 41 34.9 +1.5**
RFYF				*e*Sn	**Sn**	**05 41 46.9 +0.3**
	60nm,0.2s					
LOMF	**Lomont**	**1.00**	**172**	*e*Pg	**Pg**	**05 41 38.0 +1.1**
	SNR=25					
LOMF	**Lomont**	**1.00**	**172**	Pg	**Pg**	**05 41 38.0 +1.1**
LOMF				Sg	**Sg**	**05 41 50.7 +0.7**
LANF	**Langenberg**	**1.01**	**50**	*e*Pg	**Pg**	**05 41 36.3 -0.8**
	SNR=4.8					
LANF	**Langenberg**	**1.01**	**50**	Pg	**Pg**	**05 41 36.6 -0.5**
LANF				Sg	**Sg**	**05 41 50.1 -0.1**
BOURR	**Bourrignon**	**1.03**	**157**	*e*Pg	**Pg**	**05 41 38.5 +1.0**
	SNR=18					
BOURR				*e*Sg	**Sg**	**05 41 51.8 +0.8**
	SNR=2.3					
BOURR	**Bourrignon**	**1.03**	**157**	⇓*i*Pn	**Pn**	**05 41 38.5 +0.8**
	192nm,0.4s					
BOURR				*i* Sn	**Sn**	**05 41 51.9 0.0**
	192nm,0.4s					
FELD	**Feldberg im Sc**	**1.03**	**116**	*e*Pg	**Pg**	**05 41 37.8 +0.3**
	SNR=12					
FELD	**Feldberg im Sc**	**1.03**	**116**	Pg	**Pg**	**05 41 38.0 +0.5**
FELD				Sg	**Sg**	**05 41 51.1 +0.1**
MEZF	**Maizieres J'vi**	**1.06**	**279**	*e*Pg	**Pg**	**05 41 39.1 +1.1**
	baz=103,SNR=1.0					
MEZF				*e*Sg	**Sg**	**05 41 53.2 +1.4**
	44nm,0.2s,baz=109,SNR=1.0					
MEZF	**Maizieres J'vi**	**1.06**	**279**	*e*Pg	**Pg**	**05 41 39.1 +1.1**
	SNR=1.0					
MEZF				*e*Sg	**Sg**	**05 41 53.2 +1.4**
	22nm,0.2s,SNR=1.0					
SFTF	**Sexfontaines**	**1.07**	**263**	*e*Pg	**Pg**	**05 41 39.8 +1.6**
SFTF				*e*Sg	**Sg**	**05 41 54.0 +1.9**
	42nm,0.2s					
SFTF	**Sexfontaines**	**1.07**	**263**	*e*Pn	**Pn**	**05 41 39.1 +0.9**
SFTF				*e*Pg	**Pg**	**05 41 39.8 +1.6**
SFTF				*e*Sg	**Sg**	**05 41 54.0 +1.9**
SFTF	**Sexfontaines**	**1.07**	**263**	*e*Pg	**Pg**	**05 41 39.8 +1.6**
SFTF				*e*Sg	**Sg**	**05 41 54.0 +1.9**
	21nm,0.2s					
BFO	**Black Forest**	**1.14**	**90**	*e*Pn	**Pn**	**05 41 38.9 -0.2**
	SNR=1.6					
BFO				*e*Pg	**Pg**	**05 41 40.0 +0.5**
	SNR=17					
BFO				*e*Sn	**Sn**	**05 41 52.7 -1.7**
BFO				*e*Sg	**Sg**	**05 41 54.3 0.0**
	SNR=6.6					
BFO	**Black Forest**	**1.14**	**90**	*e*Pg	**Pg**	**05 41 39.9 +0.4**
BFO				*e*Sg	**Sg**	**05 41 52.9 -1.4**
BALST	**Balsthal**	**1.24**	**144**	*e*Pg	**Pg**	**05 41 41.8 +0.3**
	SNR=4.8					
BALST				*e*Sg	**Sg**	**05 41 57.7 +0.1**
	SNR=7.5					
BALST	**Balsthal**	**1.24**	**144**	⇓*i*Pn	**Pn**	**05 41 41.8 +1.3**
	125nm,0.3s					
BALST				*e*Sn	**Sn**	**05 41 57.8 +0.8**
	125nm,0.3s					
SULZ	**Cheisacher**	**1.29**	**129**	*e*Pg	**Pg**	**05 41 42.6 +0.2**
	SNR=2.1					
SULZ				*e*Sg	**Sg**	**05 41 59.2 +0.1**
	SNR=5.8					
SULZ	**Cheisacher**	**1.29**	**129**	*e*Pn	**Pn**	**05 41 42.4 +1.2**
	182nm,0.3s					
SULZ				*e*Sn	**Sn**	**05 41 59.3 +1.1**
	182nm,0.3s					
WLF	**Walferdange**	**1.36**	**347**	*e*Pg	**Pg**	**05 41 44.6 +0.9**
	SNR=7.2					
WLF				*e*Sg	**Sg**	**05 42 01.9 +0.5**
	SNR=3.9					
WLF	**Walferdange**	**1.36**	**347**	P	**Pn**	**05 41 44.9 +2.7**
SLE	**Schleitheim**	**1.38**	**114**	*e*Pn	**Pn**	**05 41 42.5 +0.1**
	SNR=2.9					
SLE				*e*Pg	**Pg**	**05 41 44.7 +0.6**
	SNR=20					
SLE				*e*Sn	**Sn**	**05 41 59.0 -1.5**
SLE				*e*Sg	**Sg**	**05 42 01.6 -0.4**
	SNR=7.7					
SLE	**Schleitheim**	**1.38**	**114**	*e*Pn	**Pn**	**05 41 42.7 +0.3**
	205nm,0.4s					
RUP	**Ruppelstein**	**1.39**	**12**	*e*Pg	**Pg**	**05 41 45.0 +0.7**
	SNR=7.0					
RUP	**Ruppelstein**	**1.39**	**12**	Pg	**Pg**	**05 41 44.3 0.0**
RUP				Sg	**Sg**	**05 42 02.7 +0.3**
SPAK	**Spaichingen-Ko**	**1.46**	**99**	*e*Pg	**Pg**	**05 41 46.5 +0.8**
	SNR=8.9					
SPAK	**Spaichingen-Ko**	**1.46**	**99**	Pg	**Pg**	**05 41 45.7 0.0**
ZUR	**Degenried**	**1.64**	**126**	*e*Sg	**Sg**	**05 42 10.3 0.0**
	SNR=6.7					
ABH	**Alteburg**	**1.66**	**21**	*e*Pg	**Pg**	**05 41 49.7 +0.3**
	SNR=3.4					
ABH				*e*Sg	**Sg**	**05 42 10.4 -0.4**
	SNR=3.7					
ABH	**Alteburg**	**1.66**	**21**	Pg	**Pg**	**05 41 49.3 -0.1**
STU	**Stuttgart**	**1.76**	**75**	*e*Pg	**Pg**	**05 41 51.0 -0.4**
	SNR=2.6					
STU				*e*Sg	**Sg**	**05 42 14.0 -0.2**
	SNR=3.5					
CABF	**La Chapelle**	**1.77**	**192**	*e*Pg	**Pg**	**05 41 52.2 +0.7**
CABF				*e*Sg	**Sg**	**05 42 14.6 +0.1**
	42nm,0.6s,SNR=1.0					
CABF	**La Chapelle**	**1.77**	**192**	*e*Pn	**Pn**	**05 41 48.4 +0.6**
CABF				*e*Pg	**Pg**	**05 41 52.2 +0.7**
CABF				*e*Sg	**Sg**	**05 42 14.6 +0.1**
CABF	**La Chapelle**	**1.77**	**192**	*e*Pg	**Pg**	**05 41 52.2 +0.7**
CABF				*e*Sg	**Sg**	**05 42 14.6 +0.1**
	21nm,0.6s,SNR=1.0					
WILA	**Wila**	**1.79**	**120**	*e*Sg	**Sg**	**05 42 14.9 -0.4**
	SNR=3.7					
TOD	**Tromm**	**1.91**	**48**	*e*Sg	**Sg**	**05 42 18.8 -0.2**
	SNR=4.0					
GIVF	**Givet**	**2.12**	**327**	*e*Pg	**Pg**	**05 41 58.4 +0.2**
GIVF				*e*Sg	**Sg**	**05 42 24.0 -1.7**
	17nm,0.2s,SNR=1.0					
GIVF	**Givet**	**2.12**	**327**	*e*Pg	**Pg**	**05 41 58.4 +0.2**
GIVF				*e*Sg	**Sg**	**05 42 24.0 -1.7**
	8.4nm,0.2s,SNR=1.0					
LOR	**Lormes**	**2.15**	**241**	*e*Pn	**Pn**	**05 41 53.3 +0.3**
	baz=64,SNR=1.0					
LOR	**Lormes**	**2.15**	**241**	*e*Pg	**Pg**	**05 41 59.1 +0.3**
	baz=65					
LOR				*e*Sn	**Sn**	**05 42 20.9 +1.4**
	baz=72,SNR=1.0					
LOR				*e*Sg	**Sg**	**05 42 26.2 -0.5**
	22nm,0.2s,SNR=1.0					
LOR	**Lormes**	**2.15**	**241**	*e*Pn	**Pn**	**05 41 53.3 +0.3**
LOR				*e*Pg	**Pg**	**05 41 59.1 +0.3**
LOR				*e*Sn	**Sn**	**05 42 20.9 +1.4**
LOR				*e*Sg	**Sg**	**05 42 26.2 -0.5**
LOR	**Lormes**	**2.15**	**241**	*e*Pg	**Pg**	**05 41 59.1 +0.3**
LOR				*e*Sn	**Sn**	**05 42 20.9 +1.4**
	SNR=1.0					
LOR				*e*Sg	**Sg**	**05 42 26.2 -0.5**
	11nm,0.2s,SNR=1.0					
LIENZ	**Kamor/St.Gall**	**2.20**	**117**	*e*Sg	**Sg**	**05 42 28.5 +0.3**
	SNR=1.7					
BAIF	**Baives**	**2.34**	**318**	*e*Pg	**Pg**	**05 42 02.4 0.0**
	SNR=1.0					
BAIF				*e*Sn	**Sn**	**05 42 22.7 -1.4**
	SNR=1.0					
BAIF				*e*Sg	**Sg**	**05 42 31.6 -1.1**
	8.7nm,0.4s,SNR=1.0					
BAIF	**Baives**	**2.34**	**318**	*e*Pn	**Pn**	**05 41 58.0 +2.4**
BAIF				*e*Pg	**Pg**	**05 42 02.4 0.0**
BAIF				*e*Sn	**Sn**	**05 42 22.7 -1.4**
BAIF				*e*Sg	**Sg**	**05 42 31.6 -1.1**
BAIF	**Baives**	**2.34**	**318**	*e*Pg	**Pg**	**05 42 02.4 0.0**
	SNR=1.0					
BAIF				*e*Sn	**Sn**	**05 42 22.7 -1.4**
	SNR=1.0					
BAIF				*e*Sg	**Sg**	**05 42 31.6 -1.1**
	4.3nm,0.4s,SNR=1.0					
SSF	**Saint Saulge**	**2.47**	**240**	*e*Pg	**Pg**	**05 42 04.5 -0.3**
	SNR=1.0					
SSF				*e*Sn	**Sn**	**05 42 26.5 -0.8**
	SNR=1.0					
SSF				*e*Sg	**Sg**	**05 42 35.4 -1.4**
	14nm,0.3s,SNR=1.0					
SSF	**Saint Saulge**	**2.47**	**240**	*e*Pn	**Pn**	**05 41 57.5 +0.1**
SSF				*e*Pg	**Pg**	**05 42 04.5 -0.3**
SSF				*e*Sn	**Sn**	**05 42 26.5 -0.8**
SSF				*e*Sg	**Sg**	**05 42 35.4 -1.4**
SSF	**Saint Saulge**	**2.47**	**240**	*e*Pg	**Pg**	**05 42 04.5 -0.3**
	SNR=1.0					
SSF				*e*Sn	**Sn**	**05 42 26.5 -0.8**
	SNR=1.0					
SSF				*e*Sg	**Sg**	**05 42 35.4 -1.4**
	6.8nm,0.3s,SNR=1.0					
SMF	**Signal de Mont**	**2.54**	**229**	*e*Pg	**Pg**	**05 42 05.4 -0.8**
	SNR=1.0					
SMF				*e*Sn	**Sn**	**05 42 31.0 +1.9**
	SNR=1.0					
SMF				*e*Sg	**Sg**	**05 42 38.0 -1.1**
	32nm,0.3s,SNR=1.0					
SMF	**Signal de Mont**	**2.54**	**229**	*e*Pn	**Pn**	**05 41 57.9 -0.5**
SMF				*e*Pg	**Pg**	**05 42 05.4 -0.8**
SMF				*e*Sn	**Sn**	**05 42 31.0 +1.9**
SMF				*e*Sg	**Sg**	**05 42 38.0 -1.1**
SMF	**Signal de Mont**	**2.54**	**229**	*e*Pg	**Pg**	**05 42 05.4 -0.8**
	SNR=1.0					
SMF				*e*Sn	**Sn**	**05 42 31.0 +1.9**
	SNR=1.0					
SMF				*e*Sg	**Sg**	**05 42 38.0 -1.1**
	16nm,0.3s,SNR=1.0					
AVF	**Avril sur Loir**	**2.71**	**236**	*e*Pg	**Pg**	**05 42 09.2 -0.2**
	SNR=1.0					
AVF				*e*Sn	**Sn**	**05 42 31.7 -1.5**
	SNR=1.0					
AVF				*e*Sg	**Sg**	**05 42 43.6 -0.9**
	7.3nm,0.2s,SNR=1.0					
AVF	**Avril sur Loir**	**2.71**	**236**	*e*Pn	**Pn**	**05 42 00.7 0.0**
AVF				*e*Pg	**Pg**	**05 42 09.2 -0.2**
AVF				*e*Sn	**Sn**	**05 42 31.7 -1.5**
AVF				*e*Sg	**Sg**	**05 42 43.6 -0.9**
AVF	**Avril sur Loir**	**2.71**	**236**	*e*Pg	**Pg**	**05 42 09.2 -0.2**
	SNR=1.0					
AVF				*e*Sn	**Sn**	**05 42 31.7 -1.5**
	SNR=1.0					
AVF				*e*Sg	**Sg**	**05 42 43.6 -0.9**
	3.7nm,0.2s,SNR=1.0					
LPL	**La Plagne**	**2.83**	**178**	*e*Pg	**Pg**	**05 42 11.9 +0.1**
	SNR=1.0					
LPL				*e*Sg	**Sg**	**05 42 48.0 -0.4**
	2.4nm,0.3s					
LPL	**La Plagne**	**2.83**	**178**	*e*Pg	**Pg**	**05 42 11.9 +0.1**
	SNR=1.0					
LPL				*e*Sg	**Sg**	**05 42 48.0 -0.4**
	1.2nm,0.3s					
LPG	**La Plagne**	**2.85**	**178**	*e*Pg	**Pg**	**05 42 11.4 -0.7**
	SNR=1.0					
LPG				*e*Sg	**Sg**	**05 42 47.6 -1.4**
	3.4nm,0.4s,SNR=1.0					
LPG	**La Plagne**	**2.85**	**178**	*e*Pg	**Pg**	**05 42 11.4 -0.7**
	SNR=1.0					
LPG				*e*Sg	**Sg**	**05 42 47.6 -1.4**
	1.7nm,0.4s,SNR=1.0					
HYF	**Humbligny**	**2.89**	**250**	*e*Pg	**Pg**	**05 42 13.8 +0.8**
HYF				*e*Sg	**Sg**	**05 42 51.6 +1.1**
BGF	**Bois d'Agland**	**3.12**	**237**	*e*Pg	**Pg**	**05 42 16.4 -1.0**
BGF				*e*Sg	**Sg**	**05 42 55.7 -2.2**
	17nm,0.3s,SNR=1.0					
BGF	**Bois d'Agland**	**3.12**	**237**	*e*Pn	**Pn**	**05 42 06.3 -0.1**
BGF				*e*Pg	**Pg**	**05 42 16.4 -1.0**
BGF				*e*Sg	**Sg**	**05 42 55.7 -2.2**
BGF	**Bois d'Agland**	**3.12**	**237**	*e*Pg	**Pg**	**05 42 16.4 -1.0**
BGF				*e*Sg	**Sg**	**05 42 55.7 -2.2**
	8.4nm,0.3s,SNR=1.0					
PLDF	**La Plantade**	**3.14**	**222**	Pg	**Pg**	**05 42 18.3 +0.6**
AGO	**Saint Agoulin**	**3.31**	**227**	Pg	**Pg**	**05 42 20.9 0.0**
GRF	**Grafenberg Arr**	**3.31**	**64**	*e*Sg	**Sg**	**05 43 01.7 -2.2**
	SNR=3.7					
ORIF	**Oris-en-Rattie**	**3.46**	**189**	*e*Pg	**Pg**	**05 42 22.5 -1.4**
	SNR=1.0					
ORIF				*e*Sg	**Sg**	**05 43 07.2 -1.6**
	3.7nm,0.2s,SNR=1.0					
ORIF	**Oris-en-Rattie**	**3.46**	**189**	*e*Pg	**Pg**	**05 42 22.5 -1.4**
	SNR=1.0					
ORIF				*e*Sg	**Sg**	**05 43 07.2 -1.6**
	1.9nm,0.2s,SNR=1.0					
PYM	**Petit Puy Mans**	**3.58**	**225**	Pg	**Pg**	**05 42 26.2 0.0**
TCF	**Toulx Ste Croi**	**3.64**	**237**	*e*Pn	**Pn**	**05 42 13.1 -0.4**
	SNR=1.0					
TCF				*e*Sg	**Sg**	**05 43 14.6 +0.2**
	5.3nm,0.2s					
TCF	**Toulx Ste Croi**	**3.64**	**237**	*e*Pn	**Pn**	**05 42 13.1 -0.4**
	SNR=1.0					
TCF				*e*Sg	**Sg**	**05 43 14.6 +0.2**
	2.7nm,0.2s					
VIVF	**Saint-Julien-l**	**3.74**	**202**	*e*Pg	**Pg**	**05 42 27.2 -2.0**
VIVF				*e*Sg	**Sg**	**05 43 14.6 -3.0**
	3.3nm,0.2s,SNR=1.0					
VIVF	**Saint-Julien-l**	**3.74**	**202**	*e*Pn	**Pn**	**05 42 14.3 -0.5**
VIVF				*e*Pg	**Pg**	**05 42 27.2 -2.0**
VIVF				*e*Sg	**Sg**	**05 43 14.6 -3.0**
VIVF	**Saint-Julien-l**	**3.74**	**202**	*e*Pg	**Pg**	**05 42 27.2 -2.0**
VIVF				*e*Sg	**Sg**	**05 43 14.6 -3.0**
	1.6nm,0.2s,SNR=1.0					
MOX	**Moxa**	**3.99**	**53**	*e*Sg	**Sg**	**05 43 23.8 -1.7**
	SNR=2.4					
WET	**Wettzell**	**4.21**	**77**	*e*Sn	**Sn**	**05 43 06.5 -3.9**
WET				*e*Sg	**Sg**	**05 43 30.1 -2.8**
	SNR=2.0					
SMRF	**Simiane la Rot**	**4.43**	**190**	*e*Sg	**Sg**	**05 43 39.3 -0.4**
	1.6nm,0.4s,SNR=1.0					
SMRF	**Simiane la Rot**	**4.43**	**190**	*e*Sg	**Sg**	**05 43 39.3 -0.4**
	0.8nm,0.4s,SNR=1.0					
LDF	**La Druitiere**	**4.50**	**276**	*e*Pn	**Pn**	**05 42 27.1 +1.9**
LDF				*e*Sg	**Sg**	**05 43 40.3 -1.6**
	3.2nm,0.3s,SNR=1.0					
LDF	**La Druitiere**	**4.50**	**276**	*e*Pn	**Pn**	**05 42 27.1 +1.9**
LDF				*e*Sg	**Sg**	**05 43 40.3 -1.6**
	1.6nm,0.3s,SNR=1.0					
RJF	**Les Rejaudoux**	**4.64**	**231**	*e*Sg	**Sg**	**05 43 45.3 -1.2**
	3.7nm,0.3s,SNR=1.0					
RJF	**Les Rejaudoux**	**4.64**	**231**	*e*Sg	**Sg**	**05 43 45.3 -1.2**
	1.9nm,0.3s,SNR=1.0					
CAF	**Calviac**	**4.64**	**224**	*e*Sg	**Sg**	**05 43 43.8 -2.7**
	2.9nm,0.3s,SNR=1.0					
CAF	**Calviac**	**4.64**	**224**	*e*Sg	**Sg**	**05 43 43.8 -2.7**
	1.5nm,0.3s,SNR=1.0					
LASF	**Ste Croix**	**4.68**	**205**	*e*Pn	**Pn**	**05 42 31.0 +3.2**
	SNR=1.0					
FLN	**La Foliniere**	**4.74**	**278**	*e*Pn	**Pn**	**05 42 29.5 +0.9**
	SNR=1.0					
FLN				*e*Sg	**Sg**	**05 43 48.3 -1.3**
	3.5nm,0.3s,SNR=1.0					
FLN	**La Foliniere**	**4.74**	**278**	*e*Pn	**Pn**	**05 42 29.5 +0.9**
	SNR=1.0					
FLN				*e*Sg	**Sg**	**05 43 48.3 -1.3**
	1.8nm,0.3s,SNR=1.0					
MFF	**Saint Martin d**	**4.91**	**252**	*e*Pn	**Pn**	**05 42 29.7 -1.2**
GRR	**Gorron**	**4.99**	**273**	*e*Pg	**Pg**	**05 42 51.1 -2.0**
	SNR=1.0					
GRR				*e*Sn	**Sn**	**05 43 25.7 -3.8**
	2.0nm,0.2s,SNR=1.0					
GRR	**Gorron**	**4.99**	**273**	*e*Pg	**Pg**	**05 42 51.1 -2.0**
	SNR=1.0					
GRR				*e*Sn	**Sn**	**05 43 25.7 -3.8**
	1.0nm,0.2s,SNR=1.0					
LFF	**La Frestale**	**5.29**	**232**	*e*Sg	**Sg**	**05 44 06.9 -0.5**
	4.8nm,0.4s,SNR=1.0					
LFF	**La Frestale**	**5.29**	**232**	*e*Sg	**Sg**	**05 44 06.9 -0.5**
	2.4nm,0.4s,SNR=1.0					
SGMF	**Saint Gilles**	**6.13**	**273**	*e*Pn	**Pn**	**05 42 47.6 -0.1**
	SNR=1.0					

*ISCJB **07** 05:43:57.7±5.4, 164S±02×178.1W±0.1, h372km±61km, mb3.5/7, Error ellipse: s-maj=34.5km s-min=16.2km az=178.4*
*IDC **07** 05:43:58.7±4.4, 16.33S×178.10W, h369km±47km, mb3.3/6, mb1 3.5/7, mb1mx3.3/17, mbtmp3.3/7, Error ellipse: s-maj=28.2km s-min=13.6km az=174.0*
*NEIC **07** 05:43:59.6±3.2, 16.34S×178.12W, h382km±35km, mb3.4/1, Error ellipse: s-maj=24.0km s-min=11.6km az=174.0*

ISC 07 05:43:58.5±4.4, 164S±02×1781W±01, h366km±50km, n13, σ0°62/10, mb3.5/7, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAR	**Rarotonga**	**18.03**	**108**	P	**P**	**05 47 45.2**	**+0.2**
	0.6nm,0.3s,baz=283,slow=10,SNR=3.0						
URZ	**Urewera**	**22.21**	**190**	P	**P**	**05 48 25.3**	**0.0**
	1.9nm,0.3s,mb3.8,baz=12,slow=10.0,SNR=3.8						
HNR	**Honiara**	**22.44**	**285**	P	**P**	**05 48 27.3**	**-0.5**
	114nm,0.9s,baz=83,slow=8.1,SNR=3.7						
STKA	**Stephens Creek**	**39.62**	**240**	P	**P**	**05 50 57.3**	**+1.1**
	3.9nm,0.8s,mb3.7,baz=68,slow=6.0,SNR=6.7						
WRA	**Warramunga Arr**	**45.20**	**258**	P	**P**	**05 51 40.6**	**-0.2**
	1.0nm,0.5s,mb3.2,baz=90,slow=6.9,SNR=7.8						
ASAR	**Alice Springs**	**45.48**	**253**	P	**P**	**05 51 43.1**	**+0.1**
	5.0nm,0.6s,mb3.8,baz=85,slow=8.0,SNR=66						
FORT	**Forrest**	**50.92**	**243**	*e*P	**P**	**05 52 23.6**	**-0.4**
	1.2nm,0.7s,mb3.2						
RPN	**Rapa Nui**	**64.12**	**113**	P	**P**	**05 53 54.2**	**-1.0**
	86nm,0.4s,baz=269,slow=3.8,SNR=3.6						
NVAR	**Mina Array Bea**	**78.13**	**44**	P	**P**	**05 55 17.9**	**-0.2**
	0.4nm,0.7s,mb3.3,baz=256,slow=6.1,SNR=3.6						
TXAR	**Lajitas Array**	**84.95**	**58**	P	**P**	**05 55 54.7**	**+1.1**
	0.3nm,0.7s,mb3.2,baz=246,slow=5.3,SNR=3.7						
MLR	**Muntele Rosu**	**144.65**	**330**	PKP	PKPdf	06 02 51.3	-0.8
	0.7nm,0.5s,baz=27,slow=2.3,SNR=3.5						
MMAI	**Mount Meron Ar**	**145.51**	**305**	PKPbc	PKPbc	06 02 54.4	-0.4
	0.7nm,0.3s,baz=65,slow=8.1,SNR=3.2						
GERES	**GERESS Array B**	**146.20**	**346**	PKPbc	PKPbc	06 02 54.6	-1.8
	0.1nm,0.3s,baz=46,slow=3.9,SNR=3.7						

*ISCJB **07** 05:55:11.2±1.3, 175S±01×1787W±0.1, h531km±17km, mb4.1/24, Error ellipse: s-maj=20.5km s-min=11.6km az=144.8*
*BJI **07** 05:55:12.3, 1740S×17870W, h537km, mB4.7, mb4.6*
*NEIC **07** 05:55:12.4±0.9, 1744S×17868W, h537km±11km, mb4.5/12, Error ellipse: s-maj=15.3km s-min=8.2km az=147.0*
*IDC **07** 05:55:13.1±4.0, 1750S×17867W, h545km±45km, mb3.4/13, mb1 3.6/13, mb1mx3.5/17, mbtmp3.4/13, Error ellipse: s-maj=18.1km s-min=17.3km az=96.0*

ISC 07 05:55:12.3±1.2, 175S±01×1787W±01, h533km±16km, n39, σ0°85/32, mb4.1/24, 2D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.54**	**63**	*e*Pn	**P**	**05 57 05.1**	**+0.1**
	41nm,0.6s						
AFI				*e*S	S	05 58 10.5	-27
URZ	**Urewera**	**21.00**	**189**	P	**P**	**05 59 16.6**	**-1.5**
	5.9nm,0.8s,baz=11,slow=8.8,SNR=4.1						
ARMA	**Armidale**	**29.93**	**239**	*e*P	**P**	**06 00 38.7**	**+1.6**
CTA	**Charters Tower**	**33.27**	**260**	*e*P	**P**	**06 01 06.0**	**+0.2**
	5.9nm,0.6s,mb4.3						
CTAO	**Charters Tower**	**33.27**	**260**	*e*P	**P**	**06 01 05.8**	**0.0**
	8.6nm,0.7s,mb4.4						
CNB	**Canberra Magne**	**33.47**	**232**	*e*P	**P**	**06 01 08.6**	**+1.3**
	11nm,0.5s,mb4.6						
STKA	**Stephens Creek**	**38.61**	**241**	⇓*i*P	**P**	**06 01 50.9**	**+1.1**
	8.1nm,0.5s,mb4.5						
STKA	**Stephens Creek**	**38.61**	**241**	P	**P**	**06 01 50.9**	**+1.1**
	10nm,0.5s,mb4.6,baz=92,slow=9.8,SNR=38						
WB2	**Warramunga Arr**	**44.45**	**259**	*e*P	**P**	**06 02 35.8**	**-0.5**
WRAB	**Tennant Creek**	**44.45**	**259**	*e*P	**P**	**06 02 35.7**	**-0.6**
	8.4nm,0.6s,mb4.5						
WRA	**Warramunga Arr**	**44.46**	**259**	P	**P**	**06 02 36.0**	**-0.4**
	7.8nm,0.5s,mb4.5,baz=93,slow=7.0,SNR=54						
WRA				PcP	PcP	06 04 07.5	-0.9
	1.0nm,0.6s,baz=93,slow=3.3,SNR=4.3						
ASAR	**Alice Springs**	**44.66**	**254**	P	**P**	**06 02 38.0**	**+0.2**
	65nm,0.6s,mb5.3,baz=88,slow=8.1,SNR=1086						
ASAR				PcP	PcP	06 04 08.5	-0.5
	1.3nm,0.7s,baz=118,slow=3.1,SNR=4.9						
KAKA	**Kakadu**	**47.35**	**269**	*e*P	**P**	**06 02 58.3**	**-0.1**
	15nm,0.4s,mb4.9						
FORT	**Forrest**	**49.95**	**244**	*e*P	**P**	**06 03 16.9**	**-0.6**
	24nm,0.5s,mb4.9						
FITZ	**Fitzroy Crossi**	**52.85**	**260**	*e*P	**P**	**06 03 38.7**	**0.0**
	4.2nm,0.4s,mb4.1						
MBWA	**Marble Bar**	**57.93**	**256**	*e*P	**P**	**06 04 13.2**	**-0.7**
	12nm,0.7s,mb4.2						
KLBR	**Kellerberrin**	**58.78**	**243**	⇓*i*P	**P**	**06 04 18.8**	**-0.8**
	15nm,0.6s,mb4.4						
NWAO	**Narrogin (SRO)**	**59.18**	**242**	P	**P**	**06 04 21.4**	**-0.8**
	4.5nm,0.7s,mb3.8,baz=92,slow=6.9,SNR=3.7						
MJAR	**Matsushiro Arr**	**67.45**	**323**	P	**P**	**06 05 14.0**	**-1.0**
	1.4nm,0.5s,mb3.7,baz=150,slow=6.2,SNR=3.5						
KKM	**Kota Kinabalu**	**68.41**	**284**

CEN1	**Los Morros**	**2.76 289**	⇓*i*P	Pn	05 59 40.1	+2.3
CEN1			*i* S	S	06 00 16.0	+1.1
CEN1			AML	AML	06 00 18.2	
	comp=N,294nm,0.6s					
CPN1	**Cerro Paranal**	**2.78 263**	⇓*i*P	Pn	05 59 40.3	+2.3
CPN1			AML	AML	06 00 19.4	
	comp=E,237nm,0.2s					
ANCH	**Antofagasta**	**2.86 283**	⇑*i*P	Pn	05 59 40.5	+1.7
ANCH			*i* S	S	06 00 18.6	+1.7
CPCH	**Copiapo**	**4.04 221**	⇑*i*P	Pn	05 59 55.4	+2.6

*IDC **07** 06:05:54.8±1.1, 2099S×16893E, h0km, mb4.0/8, mb1 4.2/8, mb1mx4.1/14, mbtmp4.0/8, Error ellipse: s-maj=35.5km s-min=23.7km az=146.0*
*ISCJB **07** 06:05:58.4±0.9, 210S±02×1688E±01, h33km, mb3.9/8, Error ellipse: s-maj=30.0km s-min=11.3km az=148.7*
ISC 07 06:06:00.5±1.0**, 210S**±02×**1688E**±01**, h35**km**, n13,** σ0§**85/11, mb3.9/8, Loyalty Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**2.43**	**244**		*e*P	**Pn**	**Pn**	**06 06 35.2**	**-2.5**
DZM					*e*S	**Sn**	**Sn**	**06 07 06.5**	**+0.2**
STKA	**Stephens Creek**	**26.58**	**240**	P		P	**P**	**06 11 36.2**	**+0.8**
	1.0nm,0.5s,mb3.6,baz=60,slow=11,SNR=5.0								
WRA	**Warramunga Arr**	**32.27**	**266**	P		P	**P**	**06 12 26.6**	**+0.6**
	0.5nm,0.6s,mb3.5,baz=90,slow=8.1,SNR=3.5								
ASAR	**Alice Springs**	**32.34**	**259**	P		P	**P**	**06 12 26.2**	**-0.4**
	2.9nm,1.0s,mb4.1,baz=79,slow=9.0,SNR=14								
FITZ	**Fitzroy Crossi**	**40.69**	**266**		*e*P		**P**	**06 13 38.8**	**+0.9**
	6.7nm,0.7s,mb4.4								
FITZ	**Fitzroy Crossi**	**40.69**	**266**	P		P	**P**	**06 13 38.5**	**+0.6**
	1.0nm,0.7s,mb3.6,baz=114,slow=7.5,SNR=7.2								
QSPA	**South Pole Qui**	**69.04**	**180**	P		P	**P**	**06 17 02.5**	**+0.4**
	2.2nm,1.1s,mb4.0,baz=137,slow=1.1,SNR=3.5								
KSRS	**Korea Array**	**69.75**	**326**	P		P	**P**	**06 17 07.4**	**+0.4**
	0.3nm,0.3s,mb3.8,baz=10,slow=36,SNR=3.7								
SONM	**Songino Array**	**88.40**	**323**	P		P	**P**	**06 18 48.3**	**-0.4**
	1.4nm,0.8s,mb4.2,baz=142,slow=7.3,SNR=9.1								
NVAR	**Mina Array Bea**	**90.28**	**49**	P		P	**P**	**06 18 57.1**	**-0.6**
	1.1nm,0.8s,mb4.3,baz=211,slow=6.3,SNR=10								
YKA	**Yellowknife Ar**	**102.43**	**28**	P		Pdif		06 19 52.6	-0.2
	0.2nm,0.6s,baz=257,slow=4.7,SNR=3.7								
KHC	**Kasperske Hory**	**145.70**	**331**		*e*P	PKPdf		06 25 35.0	-0.1
KHC					x	x		06 25 46.5	
GERES	**GERESS Array B**	**145.85**	**330**	PKPbc		PKPbc		06 25 35.4	-0.6
	1.4nm,0.7s,baz=35,slow=3.3,SNR=16								

*IDC **07** 06:07:44.4±0.8, 856S×15769E, h0km, mb4.0/8, mb1 4.2/9, mb1mx4.1/15, mbtmp4.0/9, ML4.5/1, MS3.5/2, Ms1 3.5/2, ms1mx3.0/20, Error ellipse: s-maj=32.4km s-min=20.8km az=147.0*
*ISCJB **07** 06:07:45.1±0.6, 84S±01×15745E±007, h10km, mb3.9/9, MS3.5/2, Error ellipse: s-maj=17.1km s-min=9.0km az=10.5*
*NEIC **07** 06:07:45.8±0.6, 857S×15771E, h10km, mb4.8/1, Error ellipse: s-maj=22.1km s-min=14.3km az=156.0*
ISC 07 06:07:46.4±0.6**, 84S**±01×**15751E**±007**, h10**km**, n14,** σ0§**92/13, mb3.9/9, MS3.5/2, Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.61**	**112**	Pn			**Pn**	**06 08 24.2**	**-4.4**
	116nm,0.3s,baz=278,slow=3.4,SNR=23								
HNR				Sn			**Sb**	**06 09 05.3**	**0.0**
	200nm,0.3s,baz=94,slow=22,SNR=9.1								
WB2	**Warramunga Arr**	**25.16**	**240**		*e*P		**P**	**06 13 11.8**	**-0.2**
WRA	**Warramunga Arr**	**25.17**	**241**	P			**P**	**06 13 11.3**	**-0.8**
	3.7nm,0.7s,mb4.0,baz=66,slow=9.5,SNR=10.0								
WRA				PcP		PcP		06 16 46.1	-0.1
	0.3nm,0.3s,baz=29,slow=33,SNR=5.1								
WRA				LR		LR		06 22 41.3	
	comp=Z,143nm,20.4s,MS3.5,baz=90,slow=36								
ASAR	**Alice Springs**	**27.20**	**233**	P			**P**	**06 13 32.5**	**+1.9**
	1.0nm,0.8s,mb3.4,baz=73,slow=8.2,SNR=2.8								
ASAR				PcP		PcP		06 16 50.5	-0.4
	0.3nm,0.5s,baz=58,slow=3.5,SNR=5.3								
STKA	**Stephens Creek**	**27.62**	**210**		*e*P		**P**	**06 13 39.1**	**+4.9**
	3.1nm,0.8s,mb4.0								
STKA	**Stephens Creek**	**27.62**	**210**	P			**P**	**06 13 34.6**	**+0.5**
	3.1nm,0.7s,mb4.1,baz=31,slow=13,SNR=7.2								
QSPA	**South Pole Qui**	**81.55**	**180**	P			**P**	**06 20 02.5**	**-1.3**
	1.3nm,0.6s,mb4.0,baz=228,slow=5.1,SNR=7.9								
MCK	**McKinley**	**82.47**	**21**		*e*P		**P**	**06 20 08.3**	**-0.5**
	6.4nm,0.9s,mb4.5								
MKAR	**Makanchi Array**	**86.13**	**318**	P			**P**	**06 20 27.3**	**-0.4**
	0.2nm,0.3s,mb3.8,baz=103,slow=5.2,SNR=3.7								
RPN	**Rapa Nui**	**89.00**	**117**	LR			LR	06 49 03.6	
	comp=Z,20nm,21.4s,MS3.5,baz=314,slow=28								
NVAR	**Mina Array Bea**	**90.66**	**51**	P			**P**	**06 20 50.6**	**+1.1**
	0.6nm,0.7s,mb4.0,baz=223,slow=5.4,SNR=4.5								
YKA	**Yellowknife Ar**	**96.44**	**28**	P			**P**	**06 21 14.9**	**-0.6**
	0.3nm,0.7s,mb3.8,baz=266,slow=4.8,SNR=5.6								
PDAR	**Pinedale Array**	**97.31**	**48**	P			**P**	**06 21 23.2**	**+0.9**
	0.2nm,0.8s,mb3.7,baz=287,slow=6.3,SNR=2.4								
BDFB	**Brasilia**	**145.19**	**133**	PKP		PKPdf		06 27 22.7	-2.6
	2.4nm,0.8s,baz=230,slow=7.4,SNR=5.1								

*ISCJB **07** 06:16:11.9±5.6, 209S±04×1687E±03, h5km±36km, mb3.8/6, Error ellipse: s-maj=81.4km s-min=15.2km az=144.7*
*IDC **07** 06:16:12.3±1.8, 2090S×16883E, h0km, mb3.9/6, mb1 4.1/6, mb1mx3.9/13, mbtmp3.9/6, Error ellipse: s-maj=83.2km s-min=25.3km az=152.0*
ISC 07 06:16:12.9±6.8**, 210S**±04×**1688E**±03**, h2**km±44km**, n9,** σ0§**84/8, mb3.8/6, Loyalty Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**2.41**	**243**		*e*P		**Pn**	**06 16 52.8**	**-0.5**
DZM					*e*S		**Sn**	**06 17 23.2**	**-0.3**
STKA	**Stephens Creek**	**26.57**	**240**	P			**P**	**06 21 53.5**	**+1.2**
	0.7nm,0.5s,mb3.4,baz=94,slow=14,SNR=2.5								
WRA	**Warramunga Arr**	**32.23**	**266**	P			**P**	**06 22 43.0**	**+0.1**
	0.4nm,0.4s,mb3.6,baz=88,slow=7.9,SNR=6.2								
ASAR	**Alice Springs**	**32.31**	**259**	P			**P**	**06 22 43.0**	**-0.5**
	1.0nm,0.7s,mb3.7,baz=87,slow=9.0,SNR=11								
FITZ	**Fitzroy Crossi**	**40.66**	**266**	P			**P**	**06 23 55.6**	**+0.8**
	1.2nm,0.6s,mb3.7,baz=98,slow=14,SNR=4.4								
SONM	**Songino Array**	**88.35**	**323**	P			**P**	**06 29 05.9**	**-0.1**
	0.9nm,0.8s,mb4.1,baz=154,slow=5.2,SNR=8.6								
NVAR	**Mina Array Bea**	**90.29**	**49**	P			**P**	**06 29 14.9**	**-0.5**
	0.7nm,0.7s,mb4.1,baz=209,slow=6.6,SNR=8.0								
EKA	**Eskdalemuir Ar**	**145.17**	**352**	PKP		PKPdf		06 35 50.1	-1.7
	1.0nm,0.7s,baz=358,slow=2.8,SNR=5.8								
GERES	**GERESS Array B**	**145.80**	**330**	PKPbc		PKPbc		06 35 53.1	-0.4
	1.3nm,0.7s,baz=36,slow=2.5,SNR=9.1								

*IDC **07** 06:29:03.0±4.0, 6414N×3849E, h0km, mb1 3.6/4, mb1mx3.2/23, mbtmp3.6/4, ML2.6/4, Error ellipse: s-maj=42.4km s-min=17.7km az=103.0*
*HEL **07** 06:29:07.3±0.5, 6416N×3739E, h0km, ML1.9, Explosion*
ISC 07 06:29:07.9±1.3**, 6420N**±004×**371E**±02**, h0**km**, n15,** σ1§**46/28, Baltic States - Belarus - Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JOF	**Joensuu**	**2.89**	**246**		*e*P		**Pn**	**06 29 55.7**	**+0.6**
JOF					*e*S		**Sn**	**06 30 30.8**	**+0.3**
JOF					MSG			06 30 35.2	
	comp=Z,6.0nm,0.1s								
KU6	**Riekki**	**3.55**	**304**		*e*P		**Pn**	**06 30 05.7**	**+1.4**
KU6					*e*S		**Sn**	**06 30 48.4**	**+1.6**
KU6					MSG			06 30 52.7	
	comp=Z,1.4nm,0.2s								
MSF	**Maaselka**	**3.82**	**300**		*e*P		**Pn**	**06 30 09.3**	**+1.4**
MSF					*e*S		**Sn**	**06 30 54.1**	**+0.7**
MSF					MSG			06 30 59.7	
	comp=Z,1.6nm,0.2s								
KJN	**Kajaani**	**4.11**	**273**		*e*P		**Pn**	**06 30 14.3**	**+2.4**
KJN					*e*S		**Sn**	**06 31 00.9**	**+0.3**
OUL	**Oulu**	**4.89**	**286**		*e*P		**Pn**	**06 30 25.0**	**+2.3**
OUL					*e*S		**Sn**	**06 31 20.4**	**+0.5**
SUF	**Sumiainen**	**5.13**	**258**		*e*P		**Pn**	**06 30 28.0**	**+2.2**
SUF					*e*S		**Sn**	**06 31 25.9**	**+0.3**
KAF	**Kangasniemi**	**5.32**	**252**		*e*P		**Pn**	**06 30 29.8**	**+1.4**
KAF					*e*S		**Sn**	**06 31 30.4**	**+0.2**
SGF	**Sodankyl**	**5.42**	**312**		*e*S		**Sn**	**06 31 32.9**	**-0.1**
FINES	**FINESS Array B**	**5.75**	**246**	Pn			**Pn**	**06 30 34.0**	**-0.4**
	comp=Z,0.2nm,0.3s,baz=60,slow=12,SNR=8.1								
FINES				Sn			**Sn**	**06 31 38.7**	**-2.3**
	comp=Z,0.2nm,0.3s,baz=58,slow=21,SNR=5.7								
VJF	**Virojoki**	**5.76**	**235**		*e*P		**Pn**	**06 30 33.9**	**-0.5**
VJF					*e*S		**Sn**	**06 31 38.9**	**-2.3**
VAF	**Ylistaro**	**6.53**	**266**		*e*P		**Pn**	**06 30 46.9**	**+1.8**
VAF					*e*S		**Sn**	**06 31 59.9**	**-0.2**
KEV	**Kevo**	**6.83**	**329**		*e*P		**Pn**	**06 30 48.0**	**-1.2**
KEV					*e*S		**Sn**	**06 32 04.6**	**-2.9**
ARCES	**ARCESS Array B**	**7.03**	**325**	Pn			**Pn**	**06 30 49.6**	**-2.3**
	comp=Z,0.2nm,0.3s,baz=131,slow=14,SNR=6.3								
ARCES				Sn			**Sn**	**06 32 10.8**	**-1.6**
	comp=Z,0.2nm,0.3s,baz=126,slow=22,SNR=3.3								
ARCES				Lg				06 32 46.6	
	comp=Z,0.5nm,0.3s,baz=121,slow=33,SNR=5.2								
HFS	**Hagfors**	**11.63**	**260**	Pn			**Pn**	**06 31 53.3**	**-1.7**
	comp=Z,0.1nm,0.3s,baz=63,slow=14,SNR=3.9								
HFS				Sn			**Sn**	**06 34 02.6**	**-2.7**
	comp=Z,0.2nm,0.3s,baz=57,slow=24,SNR=4.1								
NOA	**NORSAR Array B**	**12.28**	**267**	Pn			**Pn**	**06 32 02.3**	**-1.5**
	comp=Z,0.1nm,0.3s,baz=166,slow=16,SNR=3.1								

*IDC **07** 06:30:10.7±3.0, 2577S×17718W, h0km, mb3.6/2, mb1 3.9/2, mb1mx3.7/12, mbtmp3.6/2, ML5.2/1, Error ellipse: s-maj=65.2km s-min=46.0km az=88.0*
*ISCJB **07** 06:30:13.6±1.0, 2588S±006×1771W±02, h33km, mb3.8/3, Error ellipse: s-maj=25.7km s-min=8.6km az=8.8*
*NEIC **07** 06:30:16.1±1.4, 2596S×17686W, h59km±17km, mb4.3/1, Error ellipse: s-maj=32.8km s-min=13.0km az=111.0*
ISC 07 06:30:15.9±1.0**, 2589S**±007×**1771W**±02**, h35**km**, n14,** σ0§**35/8, mb3.8/3, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**3.42**	**192**	Pn			**Pn**	**06 31 06.7**	**0.0**
	190nm,0.3s,baz=90,slow=22,SNR=4.0								
RAO				Sn			**Sn**	**06 31 46.1**	**0.0**
	222nm,0.3s,baz=70,slow=22,SNR=3.6								
PUZ	**Puketiti**	**12.76**	**197**	SN			Sx	06 35 50.0	
AFI	**Afiamalu**	**12.93**	**24**	*e*Pn			**Pn**	**06 33 17.4**	**+0.2**
	29nm,0.5s								
AFI				*e*Sn			**Sn**	**06 35 33.6**	**-6.3**
BFZ	**Birch Farm**	**15.75**	**199**	SN			Sx	06 36 22.4	
MRZ	**Mangatainoka R**	**15.94**	**201**	SN			Sx	06 36 26.8	
TIWZ	**Tintock**	**15.95**	**200**	SN			Sx	06 36 27.4	
TCW	**Tory Channel**	**16.86**	**203**	SN			Sx	06 36 49.6	
FUNA	**Funafuti**	**17.61**	**348**	*e*P			**Pn**	**06 34 18.3**	**-0.3**
	126nm,1.1s								
CTAO	**Charters Tower**	**34.12**	**272**	*e*P			**P**	**06 36 58.1**	**+0.6**
	3.2nm,0.8s,mb4.3								
ASAR	**Alice Springs**	**44.31**	**262**	P			**P**	**06 38 22.0**	**-0.6**
	0.5nm,0.6s,mb3.4,baz=103,slow=6.7,SNR=7.1								
WRA	**Warramunga Arr**	**44.89**	**267**	P			**P**	**06 38 27.3**	**+0.1**
	0.7nm,0.6s,mb3.6,baz=102,slow=8.2,SNR=4.0								
NOA	**NORSAR Array B**	**144.40**	**353**	PKP				06 49 43.7	
NOA	**NORSAR Array B**	**144.40**	**353**	PKhKP				06 49 43.7	
	1.7nm,0.8s,baz=3.2,slow=2.4,SNR=3.4								
AKASG	**Malin Array Be**	**148.04**	**328**	PKPbc		PKPbc		06 49 57.0	-0.4
	0.4nm,0.4s,baz=44,slow=3.9,SNR=4.1								

*IDC **07** 06:34:25.4±2.2, 2079S×16853E, h0km, mb3.9/4, mb1 4.1/4, mb1mx3.9/12, mbtmp3.9/4, Error ellipse: s-maj=100.3km s-min=30.4km az=147.0*
*ISCJB **07** 06:34:29.1±1.7, 209S±04×1685E±04, h33km, mb3.7/4, Error ellipse: s-maj=78.0km s-min=19.9km az=141.4*
ISC 07 06:34:30.7±1.8**, 209S**±05×**1685E**±04**, h35**km**, n7,** σ0§**49/5, mb3.7/4, Loyalty Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**2.23**	**239**		*e*P		**Pn**	**06 35 04.7**	**-0.5**
STKA	**Stephens Creek**	**26.39**	**240**	P			**P**	**06 40 04.4**	**+0.5**
	1.4nm,0.9s,mb3.5,baz=50,slow=7.9,SNR=2.9								
ASAR	**Alice Springs**	**32.09**	**259**	P			**P**	**06 40 54.9**	**+0.2**
	2.5nm,0.9s,mb4.0,baz=87,slow=8.6,SNR=15								
SONM	**Songino Array**	**88.16**	**323**	P			**P**	**06 47 17.6**	**-0.2**
	0.2nm,0.4s,mb3.7,baz=134,slow=6.2,SNR=3.3								
NVAR	**Mina Array Bea**	**90.43**	**49**	P			**P**	**06 47 28.6**	**-0.1**
	0.2nm,0.6s,mb3.6,baz=214,slow=5.1,SNR=3.6								
YKA	**Yellowknife Ar**	**102.48**	**28**	P		Pdif		06 48 22.5	-0.6
	0.5nm,1.0s,baz=257,slow=5.5,SNR=4.4								
GERES	**GERESS Array B**	**145.63**	**330**	PKPbc		PKPbc		06 54 05.0	-0.5
	0.4nm,0.5s,baz=48,slow=2.0,SNR=7.3								

*STR **07** 06:39:41.9±0.2, 4834N×667E, h10km, Ml2.0, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
*ISCJB **07** 06:39:42.1±0.4, 4833N±003×667E±003, h23km, 6km, Error ellipse: s-maj=5.7km s-min=3.5km az=0.5*
*LDG **07** 06:39:42.3±0.1, 4833N×665E, h10km, Md2.5/4, Ml2.3/12, Error ellipse: s-maj=1.7km s-min=1.4km az=160.0*
ISC 07 06:39:41.5±0.4**, 4832N**±002×**663E**±003**, h17**km±4km**, n27,** σ0§**92/45, France**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HAU	**Haudompre**	**0.37**	**211**		*e*Pg		**Pg**	**06 39 50.0**	**+0.9**
HAU					*e*Sg		**Sg**	**06 39 54.6**	**+0.4**
	23nm,0.3s								
ECH	**Echery**	**0.37**	**106**		Pg		**Pg**	**06 39 49.3**	**+0.1**
ECH					Sg		**Sg**	**06 39 54.0**	**-0.3**
THEF	**They Montfort**	**0.44**	**258**		Pg		**Pg**	**06 39 51.0**	**+0.6**
THEF					Sg		**Sg**	**06 39 57.4**	**+1.0**
CDF	**Champ du Feu**	**0.44**	**78**		*e*Pg		**Pg**	**06 39 50.4**	**-0.1**
CDF					*e*Sg		**Sg**	**06 39 56.1**	**-0.4**
CDF					*e*Sn		**Sg**	**06 39 59.3**	**+2.8**
	10.0nm,0.2s								
HINF	**Hinteralfeld**	**0.53**	**163**		*e*Pg		**Pg**	**06 39 52.6**	**+0.6**
HINF					*e*Sg		**Sg**	**06 39 59.4**	**+0.3**
HINF					*e*Sn		**Sg**	**06 40 02.5**	**+3.4**
	13nm,0.2s								
MOF	**Molkenrain**	**0.58**	**144**	Pg			**Pg**	**06 39 53.5**	**+0.5**
RFYF	**Reffroy**	**0.83**	**292**	*e*Pg			**Pg**	**06 39 58.4**	**+0.8**
RFYF					*e*Sn		**Sn**	**06 40 10.3**	**+0.2**
	22nm,0.2s,baz=116								
LOMF	**Lomont**	**0.98**	**172**	Pg			**Pg**	**06 40 01.4**	**+0.9**
LOMF					Sg		**Sg**	**06 40 14.3**	**+1.0**
LANF	**Langenberg**	**1.02**	**49**	Pg			**Pg**	**06 40 00.7**	**-0.6**
MEZF	**Maizieres J'vi**	**1.06**	**280**	*e*Pg			**Pg**	**06 40 02.6**	**+0.5**
	baz=94								
MEZF					*e*Sg		**Sg**	**06 40 16.5**	**+0.4**
	12nm,0.3s,baz=112								
SFTF	**Sexfontaines**	**1.07**	**264**	*e*Pn			**Pn**	**06 40 02.6**	**+1.0**
SFTF	**Sexfontaines**	**1.07**	**264**	*e*Pg			**Pg**	**06 40 03.3**	**+1.1**
SFTF					*e*Sg		**Sg**	**06 40 17.4**	**+1.2**
	7.5nm,0.2s								
BFO	**Black Forest**	**1.14**	**89**	*e*Pg			**Pg**	**06 40 03.4**	**0.0**
	SNR=3.8								
BFO					*e*Sg		**Sg**	**06 40 16.2**	**-2.1**
	SNR=6.1								
CABF	**La Chapelle**	**1.75**	**192**	*e*Pn			**Pn**	**06 40 11.9**	**+0.9**
CABF	**La Chapelle**	**1.75**	**192**	*e*Pg			**Pg**	**06 40 15.6**	**+0.5**
CABF					*e*Sg		**Sg**	**06 40 38.2**	**+0.4**
	9.8nm,0.6s								
LOR	**Lormes**	**2.14**	**242**	*e*Pn			**Pn**	**06 40 16.7**	**+0.3**
	baz=68								
LOR	**Lormes**	**2.14**	**242**	*e*Pg			**Pg**	**06 40 22.4**	**-0.2**
	baz=65								
LOR					*e*Sg		**Sg**	**06 40 49.6**	**-0.8**
	3.4nm,0.2s,baz=73								
BAIF	**Baives**	**2.36**	**319**	*e*Sg			**Sg**	**06 40 55.1**	**-2.1**
	1.4nm,0.3s								
SSF	**Saint Saulge**	**2.46**	**240**	*e*Pn			**Pn**	**06 40 20.9**	**+0.2**
SSF	**Saint Saulge**	**2.46**	**240**	*e*Pg			**Pg**	**06 40 28.0**	**-0.6**
SSF					*e*Sg		**Sg**	**06 40 58.9**	**-1.5**
	2.0nm,0.3s								
SMF	**Signal de Mont**	**2.52**	**229**	*e*Pg			**Pg**	**06 40 28.8**	**-1.1**
SMF					*e*Sg		**Sg**	**06 41 01.4**	**-1.3**
	5.1nm,0.2s								
AVF	**Avril sur Loir**	**2.69**	**237**	*e*Pn			**Pn**	**06 40 24.2**	**+0.2**
AVF	**Avril sur Loir**	**2.69**	**237**	*e*Pg			**Pg**	**06 40 32.6**	**-0.6**
AVF					*e*Sg		**Sg**	**06 41 07.0**	**-1.1**
	1.6nm,0.2s								
LPL	**La Plagne**	**2.81**	**178**	*e*Pg			**Pg**	**06 40 35.0**	**-0.3**
LPL					*e*Sg		**Sg**	**06 41 11.5**	**-0.1**
	0.8nm,0.3s								
BGF	**Bois d'Agland**	**3.11**	**237**	*e*Pn			**Pn**	**06 40 29.8**	**0.0**
ORIF	**Oris-en-Rattie**	**3.44**	**189**	*e*Sg			**Sg**	**06 41 30.9**	**-1.1**
	1.2nm,0.2s								
VIVF	**Saint-Julien-l**	**3.72**	**202**	*e*Sg			**Sg**	**06 41 38.0**	**-2.9**
	0.9nm,0.2s								

*IDC **07** 06:43:01.2±1.8, 2069S×16843E, h0km, mb4.4/7, mb1 4.6/7, mb1mx4.4/13, mbtmp4.4/7, Error ellipse: s-maj=62.3km s-min=24.3km az=144.0*
*ISCJB **07** 06:43:04.7±1.4, 208S±02×1684E±02, h33km, mb4.4/9, Error ellipse: s-maj=44.3km s-min=10.5km az=136.1*
*NEIC **07** 06:43:12.1±1.0, 1997S×16727E, h25km, mb4.4/6, Error ellipse: s-maj=41.5km s-min=17.2km az=152.0*
ISC 07 06:43:03.4±6.3**, 208S**±02×**1684E**±02**, h14**km±39km**, n30,** σ0§**99/18, mb4.4/9, Loyalty Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**2.24**	**236**		*e*P		**Pn**	**06 43 39.7**	**-0.4**
DZM					*e*S		**Sn**	**06 44 07.0**	**-0.5**
CTA	**Charters Tower**	**20.80**	**268**		*e*P		**P**	**06 47 48.4**	**+4.0**
	7.0nm,1.0s								
CTA	**Charters Tower**	**20.80**	**268**	P			**P**	**06 47 48.3**	**+3.9**
	6.9nm,0.8s,baz=98,slow=16,SNR=4.7								
CTAO	**Charters Tower**	**20.80**	**268**		*e*P		**P**	**06 47 39.2**	**-5.2**
	6.4nm,0.9s								
STKA	**Stephens Creek**	**26.38**	**240**		*e*P		**P**	**06 48 41.0**	**+1.5**
	3.4nm,0.6s,mb4.0								
STKA	**Stephens Creek**	**26.38**	**240**	P			**P**	**06 48 39.9**	**+0.4**
	3.7nm,0.7s,mb4.1,baz=89,slow=9.5,SNR=15								
WB2	**Warramunga Arr**	**31.93**	**265**		*e*P		**P**	**06 49 29.0**	**+0.1**
WRA	**Warramunga Arr**	**31.94**	**265**	P			**P**	**06 49 27.6**	**-1.4**
	1.0nm,0.6s,mb3.8,baz=97,slow=8.2,SNR=9.9								
ASAR	**Alice Springs**	**32.04**	**258**	P			**P**	**06 49 30.2**	**+0.4**
	13nm,0.7s,mb4.9,baz=84,slow=9.1,SNR=186								
FITZ	**Fitzroy Crossi**	**40.36**	**266**		*e*P		**P**	**06 50 41.9**	**+0.9**
	12nm,0.9s,mb4.6								
FITZ	**Fitzroy Crossi**	**40.36**	**266**		*e*P		**P**	**06 50 37.3**	**-3.7**
	15nm,0.9s,mb4.7								
FITZ	**Fitzroy Crossi**	**40.36**	**266**	P			**P**	**06 50 41.5**	**+0.4**
	7.2nm,0.9s,mb4.4,baz=132,slow=8.9,SNR=8.5								
MBWA	**Marble Bar**	**45.33**	**260**		*e*P		**P**	**06 51 22.1**	**+0.7**
	32nm,1.5s,mb4.9								
MJAR	**Matsushiro Arr**	**63.80**	**333**	P			**P**	**06 53 33.3**	**-1.8**
	0.5nm,0.3s,mb4.0,baz=169,slow=6.7,SNR=4.5								
ULN	**Ulaanbaatar**	**87.67**	**324**		*e*P		**P**	**06 55 52.8**	**+1.4**
	5.0nm,1.1s,mb4.7								
SONM	**Songino Array**	**88.02**	**323**	P			**P**	**06 55 53.8**	**+0.7**
	2.2nm,0.8s,mb4.4,baz=148,slow=5.4,SNR=18								
NVAR	**Mina Array Bea**	**90.40**	**49**	P			**P**	**06 56 03.6**	**-0.9**
	0.6nm,0.6s,mb4.1,baz=216,slow=5.6,SNR=7.1								
BRG	**Berggiesshubel**	**143.93**	**332**		*e*P		PKPdf	07 02 36.4	-1.9
	5.0nm,1.2s								
BRG					*e*			07 02 46.8	
	4.5nm,1.2s								
BRG					*e*			07 08 32.9	
	8.3nm,1.4s								
KHC	**Kasperske Hory**	**145.35**	**331**		*e*P		PKPbc	07 02 41.0	+0.4
KHC					*e*			07 02 52.0	
KHC	**Kasperske Hory**	**145.35**	**331**		*e*PKP		PKPdf	07 02 41.0	+0.2
KHC					pPKP		pPKPdf	07 02 52.0	+6.5
GEC2	**GERESS Array S**	**145.50**	**330**		*e*PKPbc		PKPbc	07 02 41.7	+0.6
GERES	**GERESS Array B**	**145.50**	**330**		PKPbc		PKPbc	07 02 41.5	+0.4
	4.9nm,0.8s,baz=54,slow=3.4,SNR=35								
HAU	**Haudompre**	**149.26**	**336**		*e*PKP1		PKPbc	07 02 50.6	-1.0
TIP	**Timpagrande**	**149.58**	**313**		*e*PKPbc		PKPbc	07 02 53.2	+0.5
CABF	**La Chapelle**	**150.51**	**335**		*e*PKP1		PKPbc	07 02 53.6	-1.1
	2.9n

CFAA Coronel Fontan 23.52 164 P **P 07 02 54.7 +1.0**
CFAA Coronel Fontan 23.52 164 P **P 07 02 54.7 +1.0**
0.1nm,0.4s,baz=352,slow=8.6,SNR=4.8
BDFB Brasilia 27.69 107 P **P 07 03 30.6 -0.9**
2.6nm,0.6s,mb4.0,baz=256,slow=14,SNR=7.2
BDFB pP pP 07 03 58.3 -0.5
3.7nm,0.6s,baz=247,slow=16,SNR=3.4
SJG San Juan 28.47 19 P **P 07 03 37.6 -0.9**
6.5nm,0.4s,mb4.5,baz=275,slow=15,SNR=4.6
TXAR Lajitas Array 46.74 326 P **P 07 06 12.0 +0.2**
0.4nm,0.4s,mb3.5,baz=156,slow=9.6,SNR=4.8
TXAR pP pP 07 06 40.5 -0.3
0.4nm,0.4s,baz=148,slow=8.6,SNR=3.2
PKME Peaks-Kenny Pk 54.28 5 *eP* **P 07 07 08.9 +0.8**
16nm,0.7s,mb5.2
PDAR Pinedale Array 60.12 332 P **P 07 07 48.6 -0.6**
0.9nm,1.0s,mb3.8,baz=142,slow=7.5,SNR=6.7
PDAR pP pP 07 08 18.6 -1.0
0.5nm,0.7s,baz=152,slow=6.7,SNR=2.8
ULM Lac du Bonnet 61.59 345 P **P 07 07 57.4 -1.5**
ULM pP pP 07 08 28.1 -1.4
ULM Lac du Bonnet 61.59 345 P **P 07 07 57.4 -1.5**
5.7nm,0.8s,mb4.7,baz=173,slow=7.6,SNR=7.5
ULM pP pP 07 08 28.1 -1.4
2.4nm,0.5s,baz=190,slow=7.7,SNR=3.8
NVAR Mina Array Bea 61.72 323 P **P 07 08 00.9 +0.8**
0.3nm,0.6s,mb3.5,baz=132,slow=7.0,SNR=4.2
NVAR pP pP 07 08 30.4 -0.2
0.7nm,0.7s,baz=127,slow=7.6,SNR=5.0
GCMT Greycliff 62.52 334 *eP* **P 07 08 06.7 +1.5**
SCHQ Schefferville 63.99 6 P **P 07 08 14.1 -0.6**
4.6nm,1.1s,mb4.2,baz=117,slow=3.9,SNR=6.1
FCC Fort Churchill 69.16 350 *eP* **P 07 08 47.3 -0.2**
7.8nm,0.9s,mb4.5
EDM Edmonton 69.79 337 *eP* **P 07 08 51.6 +0.1**
DBIC Dimbokro 72.15 80 P **P 07 09 06.0 -0.7**
DBIC Dimbokro 72.15 80 P **P 07 09 06.0 -0.7**
8.4nm,0.8s,mb4.6,baz=218,slow=5.9,SNR=11
YKA Yellowknife Ar 77.36 343 P **P 07 09 34.8 -0.8**
0.8nm,0.4s,mb3.8,baz=140,slow=5.8,SNR=32
YKA pP pP 07 10 06.2 -1.2
0.7nm,0.5s,baz=139,slow=6.0,SNR=6.0
EVO Evora 78.47 48 *eP* **P 07 09 41.7 -0.6**
14nm,1.1s,mb4.3
MDT Midelt 79.16 54 P **P 07 09 47.2 +1.0**
2.6nm,1.0s,mb4.0,baz=305,slow=6.1,SNR=5.3
TORD Torodi Ar. Bea 79.78 75 P **P 07 09 48.9 -1.1**
5.2nm,1.0s,mb4.3,baz=287,slow=5.6,SNR=20
TORD pP pP 07 10 20.4 -1.4
2.5nm,0.9s,baz=264,slow=5.1,SNR=4.0
ESDC Sonseca Array 81.82 48 P **P 07 10 00.4 +0.2**
0.8nm,0.7s,mb3.7,baz=256,slow=5.3,SNR=8.5
ESDC pP pP 07 10 29.3 -3.0
0.5nm,0.6s,baz=262,slow=6.4,SNR=2.7
SJPF Ste Jean 84.84 45 *eP* **P 07 10 15.6 -0.1**
QUIF Quistinic 85.05 40 *eP* **P 07 10 16.7 +0.1**
ROSF Rostrenen 85.11 40 *eP* **P 07 10 17.1 +0.2**
25nm,1.2s,mb4.7
ROSF Rostrenen 85.11 40 *eP* **P 07 10 17.1 +0.2**
12nm,1.2s,mb4.7
ETSF Etsaut 85.25 45 *eP* **P 07 10 17.8 +0.1**
SGMF Saint Gilles 85.54 40 *eP* **P 07 10 19.2 +0.2**
EPF Esparros 85.92 45 *eP* **P 07 10 21.1 +0.1**
MFF Saint Martin d 86.60 42 *eP* **P 07 10 24.3 0.0**
10nm,0.7s,mb4.6
MFF Saint Martin d 86.60 42 *eP* **P 07 10 24.3 0.0**
5.1nm,0.7s,mb4.6
GRR Gorron 86.66 40 *eP* **P 07 10 24.9 +0.4**
LFF La Frestale 86.72 44 *eP* **P 07 10 25.0 +0.1**
FLN La Foliniere 87.01 40 *eP* **P 07 10 26.2 0.0**
14nm,0.8s,mb4.7
FLN La Foliniere 87.01 40 *eP* **P 07 10 26.2 0.0**
7.3nm,0.8s,mb4.7
LDF La Druitiere 87.19 40 *eP* **P 07 10 27.3 +0.2**
9.8nm,0.8s,mb4.5
LDF La Druitiere 87.19 40 *eP* **P 07 10 27.3 +0.2**
4.9nm,0.8s,mb4.5
MTLF Montolieu 87.33 46 *eP* **P 07 10 27.9 0.0**
RJF Les Rejaudoux 87.35 44 *eP* **P 07 10 28.0 +0.1**
10.0nm,0.8s,mb4.5
RJF Les Rejaudoux 87.35 44 *eP* **P 07 10 28.0 +0.1**
5.0nm,0.8s,mb4.5
EKA Eskdalemuir Ar 87.51 33 P **P 07 10 27.5 -1.0**
2.6nm,0.8s,mb4.3,baz=247,slow=5.3,SNR=10.0
CAF Calviac 87.63 44 *eP* **P 07 10 29.1 -0.2**
6.7nm,0.7s,mb4.5
CAF Calviac 87.63 44 *eP* **P 07 10 29.1 -0.2**
3.3nm,0.7s,mb4.5
TCF Toulx Ste Croi 88.08 43 *eP* **P 07 10 31.1 -0.3**
5.5nm,0.8s,mb4.3
TCF Toulx Ste Croi 88.08 43 *eP* **P 07 10 31.1 -0.3**
2.8nm,0.8s,mb4.3
BGF Bois d'Agland 88.57 43 *eP* **P 07 10 33.6 -0.1**
13nm,0.7s,mb4.8
BGF Bois d'Agland 88.57 43 *eP* **P 07 10 33.6 -0.1**
6.5nm,0.7s,mb4.8
LASF Ste Croix 88.66 45 *eP* **P 07 10 34.3 +0.1**
AVF Avril sur Loir 88.97 42 *eP* **P 07 10 35.2 -0.3**
6.0nm,0.7s,mb4.4
AVF Avril sur Loir 88.97 42 *eP* **P 07 10 35.2 -0.3**
3.0nm,0.7s,mb4.4
SMF Signal de Mont 89.26 43 *eP* **P 07 10 36.7 -0.2**
14nm,0.8s,mb4.7
SMF Signal de Mont 89.26 43 *eP* **P 07 10 36.7 -0.2**
6.8nm,0.8s,mb4.7
VIVF Saint-Julien-l 89.41 45 *eP* **P 07 10 37.7 0.0**
8.3nm,0.9s,mb4.5
VIVF Saint-Julien-l 89.41 45 *eP* **P 07 10 37.7 0.0**
4.2nm,0.9s,mb4.5
SMRF Simiane la Rot 89.84 46 *eP* **P 07 10 39.8 +0.1**
ORIF Oris-en-Rattie 90.26 45 *eP* **P 07 10 42.0 +0.4**
13nm,0.7s,mb4.9
ORIF Oris-en-Rattie 90.26 45 *eP* **P 07 10 42.0 +0.4**
6.5nm,0.7s,mb4.9
BAIF Baives 90.31 39 *eP* **P 07 10 41.8 +0.1**
8.5nm,0.9s,mb4.6
BAIF Baives 90.31 39 *eP* **P 07 10 41.8 +0.1**
4.3nm,0.9s,mb4.6
LMR La Mourre 90.37 46 *eP* **P 07 10 42.3 +0.1**
FRF La Foret Royal 90.51 46 *eP* **P 07 10 42.6 -0.2**
12nm,1.0s,mb4.7
FRF La Foret Royal 90.51 46 *eP* **P 07 10 42.6 -0.2**
6.0nm,1.0s,mb4.7
GIVF Givet 90.70 39 *eP* **P 07 10 43.9 +0.4**
22nm,0.8s,mb5.1
GIVF Givet 90.70 39 *eP* **P 07 10 43.9 +0.4**
11nm,0.8s,mb5.0
MBDF Montbardon 90.84 45 *eP* **P 07 10 44.5 +0.2**
LPL La Plagne 90.97 44 *eP* **P 07 10 45.1 +0.2**
8.8nm,0.8s,mb4.6
LPL La Plagne 90.97 44 *eP* **P 07 10 45.1 +0.2**
4.4nm,0.8s,mb4.6
LPG La Plagne 90.98 44 *eP* **P 07 10 45.7 +0.7**
9.4nm,0.8s,mb4.7
LPG La Plagne 90.98 44 *eP* **P 07 10 45.7 +0.7**
4.7nm,0.8s,mb4.7
CDF Champ du Feu 91.92 41 *eP* **P 07 10 49.1 -0.1**
4.3nm,0.7s,mb4.5
CDF Champ du Feu 91.92 41 *eP* **P 07 10 49.1 -0.1**
2.2nm,0.7s,mb4.5
PGF Pioggiola 92.01 47 *eP* **P 07 10 49.4 -0.4**
6.5nm,0.9s,mb4.6
PGF Pioggiola 92.01 47 *eP* **P 07 10 49.4 -0.4**
3.3nm,0.9s,mb4.6
STKA Stephens Creek 126.05 219 PKP PKPdf 07 16 41.3 -1.7
2.5nm,0.7s,baz=224,slow=3.4,SNR=5.5
CTA Charters Tower 129.73 235 PKP PKPdf 07 16 48.9 -1.4
1.8nm,0.3s,baz=114,slow=10,SNR=3.7
ZAA0 Zalesovo Array 132.46 16 *e*PKPdf PKPdf 07 16 55.1 +0.6
ZALV Zalesovo Beam 132.46 16 PKP PKPdf 07 16 54.2 -0.3
2.5nm,0.6s,baz=269,slow=2.1,SNR=15
ZALV pPKP pPKPdf 07 17 26.8 -1.7
3.5nm,0.7s,baz=277,slow=2.3,SNR=7.4
ASAR Alice Springs 136.62 221 PKP PKPdf 07 17 03.6 +0.4
2.6nm,1.0s,baz=131,slow=2.4,SNR=10
ASAR pPKP pPKPdf 07 17 36.1 -1.2
1.3nm,1.0s,baz=124,slow=2.5,SNR=3.1
MK31 Makanchi Array 137.84 23 *e*PKPdf PKPdf 07 17 05.2 +0.5
MKAR Makanchi Array 137.84 23 PKP PKPdf 07 17 04.5 -0.3
1.0nm,0.7s,baz=347,slow=1.9,SNR=6.3
MKAR pPKP pPKPdf 07 17 37.1 -1.7
1.2nm,0.7s,baz=334,slow=1.8,SNR=6.2
WB2 Warramunga Arr 138.86 225 *eP* PKPdf 07 17 08.4 +1.0
WRA Warramunga Arr 138.87 225 PKP PKPdf 07 17 06.9 -0.6
2.6nm,0.6s,baz=129,slow=1.9,SNR=12
WRA pPKP pPKPdf 07 17 39.7 -1.7
1.2nm,0.7s,baz=122,slow=1.9,SNR=3.7

SONM Songino Array 141.24 358 PKhKP 07 17 05.2
1.0nm,0.8s,baz=317,slow=1.2,SNR=4.3
SONM pPKP pPKPdf 07 17 40.9 -4.0
0.5nm,0.6s,baz=267,slow=2.7,SNR=2.6
KSRS Korea Array 144.59 327 PKP PKPdf 07 17 15.8 -1.4
4.3nm,0.8s,baz=58,slow=3.1,SNR=16
KSRS pPKP pPKPdf 07 17 48.9 -2.3
0.6nm,0.3s,baz=95,slow=11,SNR=2.1
KAKA Kakadu 144.82 233 *eP* PKPdf 07 17 18.2 0.0
14nm,0.6s
FITZ Fitzroy Crossi 145.91 218 *eP* PKPdf 07 17 22.2 +2.2
15nm,0.6s

JSN 07 07:01:01.6±0.9, 1965N×7624W, h0km±59km, MD3.6, 6C-4D, Cuba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNJ	**Bonny Gate**	**1.48**	**207**	↓*iP*	Pn	07 01 28.1	-1.5
CMJ	**Castle Mountai**	**1.51**	**185**	↓*iP*	Pn	07 01 28.7	-1.2
CMJ				*eS*	Sg	07 01 48.7	-1.5
BBJ	**Bamboo Saint A**	**1.59**	**218**	↑*iP*	Pn	07 01 29.4	-1.7
BBJ				*eS*	Sn	07 01 50.0	-2.4
GWJ	**Greenwich**	**1.64**	**197**	↑*iP*	Pn	07 01 29.9	-1.8
STH	**Stony Hill**	**1.66**	**199**	↑*iP*	Pn	07 01 30.0	-1.9
STH				↑*iP*		07 01 30.1	
STH				↑*eS*	Sn	07 01 51.2	-2.7
HOJ	**Hope**	**1.71**	**197**	↓*eP*	Pn	07 01 30.3	-2.3
HOJ				*eP*		07 01 30.5	
PCJ	**Portland Cotta**	**2.09**	**205**	↓*iP*	Pn	07 01 36.7	-1.2
PCJ				*eS*	Sn	07 02 03.0	-1.6
MCJ	**Malvern**	**2.20**	**219**	↑*eP*	Pn	07 01 38.3	-1.1
MCJ				*eS*	Sn	07 02 05.7	-1.6

ISCJB ***07*** *07:01:56.9±4.5, 2088S±009×16864E±008, h4km±28km, mb4.5/12, Error ellipse: s-maj=15.6km s-min=11.8km az=153.0*
BJI ***07*** *07:01:56.1, 2100S×16880E, h10km, mB5.0, mb4.6*
IDC ***07*** *07:01:58.1±0.8, 2088S×16861E, h0km, mb4.3/9, mb1 4.5/10, mb1mx4.4/14, mbtmp4.3/10, ML3.7/1, Error ellipse: s-maj=23.8km s-min=20.6km az=100.0*
NEIC ***07*** *07:01:59.1±1.0, 2101S×16878E, h10km, mb4.6/6, Error ellipse: s-maj=47.4km s-min=15.4km az=156.0*
ISC 07 07:02:00.1±5.3, 2093S±009×16864E±008, h13km±32km, n33, σ0§88/26, mb4.4/12, Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**2.34**	**241**	*eP*	**Pn**	**07 02 37.0**	**-1.2**
DZM				*eS*	**Sn**	**07 03 07.6**	**+0.8**
EIDS	**Eidsvold**	**16.74**	**251**	*e*Pn	**Pn**	**07 06 00.5**	**+6.2**
URZ	**Urewera**	**18.76**	**159**	P	**Pn**	**07 06 20.9**	**+1.7**
0.2nm,0.3s,baz=2.7,slow=6.4,SNR=7.3							
CTA	**Charters Tower**	**20.98**	**268**	*eP*	**Pn**	**07 06 45.5**	**+2.3**
11nm,1.0s							
CTA	**Charters Tower**	**20.98**	**268**	P	**P**	**07 06 44.8**	**+1.6**
11nm,0.9s,baz=73,slow=13,SNR=4.5							
CTAO	**Charters Tower**	**20.98**	**268**	*eP*	**P**	**07 06 45.3**	**+2.1**
39nm,1.4s							
STKA	**Stephens Creek**	**26.49**	**240**	*eP*	**P**	**07 07 38.2**	**+1.0**
3.6nm,0.6s,mb4.1							
STKA	**Stephens Creek**	**26.49**	**240**	P	**P**	**07 07 38.0**	**+0.7**
3.9nm,0.7s,mb4.1,baz=74,slow=7.5,SNR=16							
WB2	**Warramunga Arr**	**32.11**	**266**	*eP*	**P**	**07 08 26.4**	**-0.8**
WRA	**Warramunga Arr**	**32.12**	**266**	P	**P**	**07 08 26.1**	**-1.3**
3.2nm,0.9s,mb4.1,baz=96,slow=8.4,SNR=10.0							
ASAR	**Alice Springs**	**32.21**	**259**	P	**P**	**07 08 27.6**	**-0.5**
14nm,0.8s,mb4.9,baz=84,slow=9.2,SNR=145							
FITZ	**Fitzroy Crossi**	**40.54**	**266**	*eP*	**P**	**07 09 39.5**	**+0.1**
18nm,0.9s,mb4.7							
MBWA	**Marble Bar**	**45.50**	**261**	*eP*	**P**	**07 10 19.8**	**+0.3**
13nm,1.0s,mb4.7							
KLBR	**Kellerberrin**	**46.49**	**246**	*eP*	**P**	**07 10 26.5**	**-0.7**
28nm,1.1s,mb5.1							
VNDA	**Vanda**	**56.73**	**182**	P	**P**	**07 11 43.2**	**+0.1**
baz=11,slow=10							
KSM	**Kuching**	**61.21**	**284**	*eP*	**P**	**07 12 15.5**	**+0.3**
MJAR	**Matsushiro Arr**	**63.99**	**333**	P	**P**	**07 12 32.7**	**-0.5**
1.4nm,0.6s,mb4.2,baz=156,slow=7.1,SNR=5.4							
KSRS	**Korea Array**	**69.58**	**326**	P	**P**	**07 13 09.0**	**+0.1**
0.7nm,0.5s,mb3.8,baz=157,slow=9.8,SNR=2.7							
MAW	**Mawson**	**76.66**	**202**	P	**P**	**07 13 49.8**	**-0.6**
2.5nm,0.8s,mb4.2,baz=90,slow=15,SNR=3.6							
SNAA	**Sanae**	**87.45**	**183**	*e*	**P**	**07 14 45.8**	**-1.1**
SNAA				*e*		07 14 56.6	
SNAA				*e*		07 15 05.4	
SNAA				*e*		07 15 16.5	
GTA	**Gaotai**	**87.88**	**314**	*eP*	**P**	**07 14 50.8**	**+1.4**
GTA				AP	pP	07 14 55.4	+1.6
GTA				XP	sP	07 14 58.9	+3.6
GTA				AMB	AMB		
comp=Z,4.0nm,0.8s,mb4.7							
VNA3	**Neumayer Olymp**	**88.06**	**181**	*e*	**P**	**07 14 49.2**	**-0.7**
VNA3				*e*		07 14 59.5	
VNA3				*e*		07 15 07.8	
VNA3				*e*		07 15 18.4	
SONM	**Songino Array**	**88.23**	**323**	P	**P**	**07 14 51.2**	**+0.4**
comp=Z,2.1nm,0.8s,mb4.4,baz=143,slow=5.7,SNR=15							
VNA2	**Neumayer--Watz**	**88.35**	**181**	*e*	**P**	**07 14 50.5**	**-0.7**
baz=193,slow=4.4							
VNA2				*e*		07 15 00.8	
VNA2				*e*		07 15 09.6	
VNA2				*e*		07 15 20.6	
NVAR	**Mina Array Bea**	**90.34**	**49**	P	**P**	**07 15 01.4**	**+0.5**
comp=Z,1.6nm,0.9s,mb4.3,baz=209,slow=6.8,SNR=11							
CLL	**Collm**	**144.19**	**334**	*i* P	PKPdf	07 21 34.1	-1.4
CLL				*e*		07 21 44.0	
CLL				*e*		07 21 53.0	
CLL	**Collm**	**144.19**	**334**	*i* PKPdf	PKPdf	07 21 34.1	-1.4
CLL				*e*(pPKPdf)		07 21 44.0	
CLL				*ex*	x	07 21 53.0	
CLL				*ex*	x	07 22 04.0	
EKA	**Eskdalemuir Ar**	**145.10**	**352**	PKP	PKPdf	07 21 35.4	-1.5
comp=Z,1.1nm,0.8s,baz=347,slow=2.9,SNR=3.7							
GEC2	**GERESS Array S**	**145.69**	**330**	*e*PKPbc	PKPbc	07 21 39.3	+0.8
GERES	**GERESS Array B**	**145.69**	**330**	PKPbc	PKPbc	07 21 38.1	-0.4
comp=Z,7.1nm,0.9s,baz=46,slow=3.9,SNR=25							
WET	**Wettzell**	**145.85**	**331**	*e*PKPbc	PKPbc	07 21 39.6	+0.6
GRF	**Grafenberg Arr**	**146.16**	**333**	*e*PKP	PKPdf	07 21 41.1	+2.2
DAVOX	**Davos/Dischmat**	**148.96**	**331**	PKPbc	PKPbc	07 21 48.1	+0.4
comp=Z,4.9nm,0.9s,baz=90,slow=1.0,SNR=5.2							

IDC ***07*** *07:07:01.3±1.6, 2083S×16859E, h0km, mb4.3/7, mb1 4.5/7, mb1mx4.4/13, mbtmp4.3/7, MS3.6/1, Ms1 3.6/1, ms1mx3.0/26, Error ellipse: s-maj=56.9km s-min=23.3km az=147.0*
NEIC ***07*** *07:07:02.4±1.1, 2085S×16865E, h10km, Error ellipse: s-maj=47.3km s-min=18.1km az=152.0*
ISCJB ***07*** *07:07:04.4±0.8, 208S±0.1×1686E±0.1, h33km, mb4.3/6, Error ellipse: s-maj=25.1km s-min=10.7km az=144.3*
ISC 07 07:07:06.2±0.8, 209S±02×1686E±01, h35km, n19, σ0§84/12, mb4.3/6, Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**2.33**	**241**	*eP*	**Pn**	**07 07 40.4**	**-1.6**
DZM				*eS*	**Sn**	**07 08 10.3**	**+0.9**
CTA	**Charters Tower**	**20.98**	**268**	P	**P**	**07 11 47.0**	**+0.5**
CTA				LR	LR	07 19 08.9	
CTA	**Charters Tower**	**20.98**	**268**	P	**P**	**07 11 47.0**	**+0.5**
6.3nm,0.8s,baz=80,slow=14,SNR=3.7							
CTA				LR	LR	07 19 09.0	
comp=Z,167nm,20.9s,baz=299,slow=35							
STKA	**Stephens Creek**	**26.48**	**240**	P	**P**	**07 12 41.0**	**+0.8**
2.7nm,0.6s,mb3.9,baz=58,slow=10.0,SNR=12							
WRA	**Warramunga Arr**	**32.12**	**266**	P	**P**	**07 13 29.1**	**-1.3**
3.0nm,0.9s,mb4.1,baz=93,slow=9.0,SNR=7.6							
ASAR	**Alice Springs**	**32.20**	**259**	P	**P**	**07 13 30.9**	**-0.1**
10nm,0.8s,mb4.7,baz=84,slow=9.2,SNR=54							
MJAR	**Matsushiro Arr**	**63.99**	**333**	P	**P**	**07 17 35.4**	**-0.6**
2.1nm,0.8s,mb4.2,baz=166,slow=6.9,SNR=6.2							
VNA3	**Neumayer Olymp**	**88.06**	**181**	*e*	**P**	**07 19 52.2**	**-0.3**
VNA3				*e*	pP	07 20 03.9	+0.2
SONM	**Songino Array**	**88.23**	**323**	P	**P**	**07 19 54.6**	**+1.0**
2.8nm,0.8s,mb4.5,baz=147,slow=5.6,SNR=17							
VNA2	**Neumayer--Watz**	**88.34**	**181**	*e*	**P**	**07 19 53.8**	**-0.1**
baz=192,slow=5.1							
VNA2				*e*	pP	07 20 05.2	+0.2
NVAR	**Mina Array Bea**	**90.35**	**49**	P	**P**	**07 20 04.5**	**+0.7**
0.7nm,0.7s,mb4.1,baz=213,slow=6.2,SNR=9.6							

BRG Berggiesshubel 144.12 332 *eP* PKPdf 07 26 36.7 -1.3
7.7nm,1.1s
CLL Collm 144.20 334 *i* PKPdf PKPdf 07 26 36.2 -1.9
CLL *i* (pPKPdf) 07 26 47.8
EKA Eskdalemuir Ar 145.11 352 PKP PKPdf 07 26 38.2 -1.3
1.3nm,0.8s,baz=358,slow=2.0,SNR=5.8
GEC2 GERESS Array S 145.70 330 *e*PKPbc PKPbc 07 26 42.6 +1.4
GERES GERESS Array B 145.70 330 PKPbc PKPbc 07 26 41.5 +0.3
4.8nm,0.8s,baz=46,slow=3.9,SNR=25
GRA1 *e*PKPbc 07 21 41.1
GRA1 *e* 07 26 55.7
GRA1 Grafenberg Arr 146.17 333 *e*PKPbc PKPbc 07 26 44.0 +1.4
GRF Grafenberg Arr 146.17 333 *e*PKP PKPdf 07 26 44.0 +2.4
GRF *e* 07 26 55.7
DAVOX Davos/Dischmat 148.96 331 PKPbc PKPbc 07 26 50.9 +0.6
3.3nm,0.6s,baz=25,slow=4.1,SNR=5.8

BGS ***07*** *07:09:18.9, 3676N×2490W, h8km, mb5.6, MS6.0*
ISCJB ***07*** *07:09:22.7±0.5, 3735N±002×2455W±001, h2km±3km, mb5.8/370, MS5.9/264, Error ellipse: s-maj=3.9km s-min=1.4km az=176.6*
CSEM ***07*** *07:09:22.2±0.1, 3728N×2468W, h9km, mb5.9/99, Ms5.8, Mw6.1, Error ellipse: s-maj=2.2km s-min=1.2km az=18.0*
IDC ***07*** *07:09:23.8±0.3, 3748N×2445W, h0km, mb5.1/39, mb1 5.2/40, mb1mx5.2/40, mbtmp5.1/40, ML4.7/1, MS5.9/33, Ms1 5.9/33, ms1mx5.8/35, Error ellipse: s-maj=8.5km s-min=5.8km az=152.0*
CRAAG ***07*** *07:09:24.0, 3738N×2449W, Mb6.0*
NEIC ***07*** *07:09:25.4±0.1, 3731N×2449W, h8km, mb5.9/248, ME5.8, MS5.9/183, MW6.0, Error ellipse: s-maj=3.8km s-min=1.4km az=175.0 Broadband fault plane solution: P waves. NP1:φs325.00000°, δ55.00000°, λ-90.00000°. NP2:φs145.00000°, δ35.00000°, λ-90.00000°. Principal axes: T Plg10.0000°, Azm55.0000°; N Plg0.0000°, Azm0.0000°; P Plg80.0000°, Azm235.0000°; Moment Tensor Solution. s93 Moment tensor: Scale 10^18 Nm; Mrr-1.06; Mθθ0.18; Mφφ0.88; Mrθ0.01; Mθφ-0.41; Mφr0.42; Best double couple: M0 1.10000×10^18 NP1:φs326.00000°, δ36.00000°, λ-105.00000°. NP2:φs164.00000°, δ55.00000°, λ-79.00000°. Principal axes: T 1.1400, Plg10.0000°, Azm247.0000°; N 0.0100, Plg9.0000°, Azm338.0000°; P -1.1500, Plg77.0000°, Azm109.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*
NEIC Felt [II] at Praia da Vitoria, Terceira. Felt at Faja de Baixo, Ponta Delgada, Ribeira Grande and Vila Franca do Campo, Sao Miguel.
PDA ***07*** *07:09:25.7±1.0, 3722N×2456W, h5km, MD4.4, ML5.5 Error ellipse: s-maj=9.8km s-min=5.0km az=55.0*
GCMT ***07*** *07:09:25.4±0.1, 3740N×2438W, h12km, MW6.1/110, Moment Tensor Solution. s99,c191; s110,c423; Duration: 2≥6 Moment tensor: Scale 10^18 Nm; Mrr-1.69±.01; Mθθ0.91±.01; Mφφ0.77±.01; Mrθ0.08±.02; Mθφ-0.47±.01; Mφr0.02±.02; Best double couple: M0 1.50800×10^18 NP1:φs133.00000°, δ44.00000°, λ-87.00000°. NP2:φs309.00000°, δ46.00000°, λ-93.00000°. Principal axes: T 1.3230, Plg1.0000°, Azm41.0000°; N 0.3690, Plg2.0000°, Azm311.0000°; P -1.6930, Plg88.0000°, Azm155.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
BJI ***07*** *07:09:25.3, 3730N×2450W, h8km, mB6.6, mb5.6, Ms6.4, Msz6.2*
SVSA ***07*** *07:09:25.7±1.0, 3722N×2456W, h5km, MD4.4, ML5.5, Error ellipse: s-maj=9.8km s-min=5.0km az=55.0*
MOS ***07*** *07:09:26.9±0.9, 3727N×2450W, h33km, mb6.1/130, MS5.8/73, Error ellipse: s-maj=9.9km s-min=2.6km az=143.6*
SFS ***07*** *07:09:26.0, 3736N×2450W, h10km, ML6.0*
SZGRF ***07*** *07:09:40.1, 3835N×23.13W, h33km, mb6.1, MS5.7, Azores Islands region*
ISC 07 07:09:25.7±0.6, 3735N±002×2451W±001, h9km±3km, h14km±2.4km: pP-P, n1838, σ0§94/1917, mb5.8/369, MS5.9/264, 178C-218D, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSMN	**Pico do Norte,**	**0.56**	**232**	*eP*	**Pg**	**07 09 33.3**	**-3.2**
PDA	**Ponta Delgada**	**1.00**	**294**	*eP*	**Pb**	**07 09 41.2**	**-3.9**
PSCM	**Serra do Cume**	**2.46**	**304**	*eP*	**Pn**	**07 10 02.4**	**-3.6**
PSCM				*eS*	**Sn**	**07 10 29.6**	**-6.5**
ADH	**Angra Heroismo**	**2.52**	**302**	*eP*	**Pn**	**07 10 03.1**	**-3.6**
ADH				*eS*	**Sn**	**07 10 30.7**	**-6.8**
PID	**Ribeirinha**	**3.06**	**292**	*eP*	**Pn**	**07 10 10.4**	**-3.7**
PID				*eS*	**Sn**	**07 10 44.0**	**-6.8**
PMAN	**Manadas**	**3.10**	**296**	*eP*	**Pn**	**07 10 11.1**	**-3.7**
PMAN				*eS*	**Sn**	**07 10 45.1**	**-6.9**
PMAN				A		07 10 51.7	
4μm,0.2s							
ROSA	**Rosais**	**3.25**	**296**	*eP*	**Pn**	**07 10 13.2**	**-3.6**
ROSA				*eS*	**Sn**	**07 10 48.6**	**-6.9**
SRBC	**Serra Branca**	**3.25**	**302**	*eP*	**Pn**	**07 10 13.7**	**-3.1**
SRBC				*eS*	**Sn**	**07 10 48.4**	**-7.2**
PICO	**Pico**	**3.30**	**292**	*eP*	**Pn**	**07 10 14.3**	**-3.2**
PICO				*eS*	**Sn**	**07 10 50.1**	**-6.8**
HOR	**Horta**	**3.46**	**291**	*eP*	**Pn**	**07 10 15.6**	**-4.1**
HOR				*eS*	**Sn**	**07 10 54.0**	**-6.8**
CALA	**Caldeira**	**3.53**	**292**	*eP*	**Pn**	**07 10 17.0**	**-3.7**
CALA				*eS*	**Sn**	**07 10 55.2**	**-7.4**
PMAR	**Madeira**	**7.75**	**124**	*e*Pn	**Pn**	**07 11 15.7**	**-3.0**
PMAR				*eS*n	**Sn**	**07 12 37.4**	**-9.2**
PMAR				A		07 12 45.2	
1μm,0.5s							
PMAR				A		07 14 00.3	
18μm,18.6s							
PMAR				*eT*		07 18 45.0	
PMAR	**Madeira**	**7.75**	**124**	*e*Pn	**Pn**	**07 11 15.7**	**-3.0**
PMAR				*eS*n	**Sn**	**07 12 37.4**	**-9.2**
1μm,0.5s							
PMPS	**Porto Santo**	**7.95**	**120**	*e*Pn	**Pn**	**07 11 17.5**	**-3.8**
PMPS				*eS*n	**Sn**	**07 12 38.5**	**-13**
PMPS				A		07 12 49.6	
250nm,0.5s							
PMPS				A		07 14 05.9	
17μm,18.7s							
PMPS				*eT*		07 18 36.0	
EHIG	**Higuera**	**10.42**	**145**	P	**Pn**	**07 11 50.5**	**-4.7**
EHIG				S	**Sn**	**07 13 37.5**	**-15**
EGOM	**La Gomera**	**11.03**	**144**	P	**Pn**	**07 11 57.7**	**-5.9**
209nm,0.2s							
EGOM				S	**Sn**	**07 13 51.9**	**-15**
CHIE	**El Hierro**	**11.07**	**148**	P	**Pn**	**07 12 02.5**	**-1.6**
0.6nm,0.2s							
EBAJ	**Bajamar**	**11.14**	**140**	P	**Pn**	**07 12 00.7**	**-4.4**
198nm,0.3s							
EBAJ				S	**Sn**	**07 13 54.9**	**-15**
CCAN	**Las Canadas**	**11.27**	**142**	P	**Pn**	**07 12 01.9**	**-4.9**
373nm,0.6s							
CCAN				S	**Sn**	**07 13 58.2**	**-15**
EOSO	**Osorio**	**11.93**	**138**	P	**Pn**	**07 12 11.6**	**-4.3**
63nm,0.3s							
EOSO				S	**Sn**	**07 14 13.3**	**-16**
PMAFR	**Mafra**	**12.10**	**78**

PTEO A 07 12 40.9
451nm,1.7s
PTEO eS **Sn** **07 14 28.6 -16**
PTEO A 07 14 37.5
274nm,0.6s
PTEO A 07 16 25.1
37µm,18.5s
PTEO eT 07 24 09.5
MORF Marmelete 12.63 85 eP **Pn** **07 12 19.4 -6.0**
MORF eS **Sn** **07 14 31.9 -14**
MORF A 07 16 31.1
53µm,19.4s
MORF eT 07 24 14.8
MOE Montemor 12.82 80 eP **Pn** **07 12 23.9 -4.1**
MOE eS **Sn** **07 14 36.7 -14**
MOE eT 07 23 59.3
PTO Porto 12.90 68 eP **Pn** **07 12 23.8 -5.3**
PTO eS **Sn** **07 14 35.7 -17**
EVOP Sao Brissos 12.99 80 ePn **Pn** **07 12 24.9 -5.5**
EZAM Zamans 13.08 64 P **Pn** **07 12 26.0 -5.5**
70nm,0.7s
EZAM S **Sn** **07 14 43.3 -14**
EZAM Zamans 13.08 64 P **Pn** **07 12 26.0 -5.6**
EZAM pmax pmax
comp=Z,70nm,0.7s
EVO Evora 13.08 80 ePn **Pn** **07 12 24.9 -6.7**
EVO eSn **Sn** **07 14 38.7 -19**
comp=Z,378nm,0.5s
EVO eMLR MLR
comp=Z,99µm,21.8s
EMAZ Mazaricos 13.13 60 P **Pn** **07 12 25.5 -6.8**
comp=Z,7.3nm,0.2s
EMAZ S **Sn** **07 14 43.2 -15**
PBEJ Beja 13.21 82 eP **Pn** **07 12 28.9 -4.4**
PBEJ A 07 12 40.8
comp=Z,215nm,1.4s
PBEJ eS **Sn** **07 14 45.1 -15**
PBEJ A 07 16 43.7
comp=Z,20µm,20.5s
PBEJ eT 07 24 06.7
PBDV Barranco-do-Ve 13.21 85 eP **Pn** **07 12 28.3 -5.0**
PBDV A 07 12 55.3
comp=Z,265nm,2.6s
PBDV eS **Sn** **07 14 46.5 -14**
PBDV A 07 16 48.5
comp=Z,74µm,18.9s
PBDV eT 07 24 30.5
PVIS Viseu 13.35 70 eP **Pn** **07 12 32.9 -2.4**
PVIS eS **Sn** **07 14 48.9 -15**
PVIS A 07 17 08.3
comp=Z,45µm,19.2s
PVIS eT 07 24 27.9
PVAQ Vaqueiros 13.36 85 eP **Pn** **07 12 31.4 -4.1**
PVAQ A 07 12 49.9
comp=Z,325nm,1.8s
PVAQ eS **Sn** **07 14 50.2 -14**
PVAQ A 07 16 53.3
comp=Z,62µm,19.4s
PVAQ eT 07 24 34.3
STS Santiago 13.40 61 P **Pn** **07 12 29.8 -6.2**
comp=Z,42nm,0.4s
STS S **Sn** **07 14 50.0 -15**
STS Santiago 13.40 61 P **Pn** **07 12 29.8 -6.2**
STS pmax pmax
comp=Z,42nm,0.4s
PESTR Estremoz 13.42 78 eP **Pn** **07 12 31.8 -4.4**
PESTR A 07 12 48.7
comp=Z,310nm,1.6s
PESTR eS **Sn** **07 14 50.9 -14**
PESTR A 07 16 53.5
comp=Z,53µm,19.8s
PESTR eT 07 24 17.6
PCAB Cabril 13.45 66 eP **Pn** **07 12 33.4 -3.2**
PCAB A 07 12 40.1
comp=Z,225nm,0.9s
PCAB eS **Sn** **07 14 50.2 -16**
PCAB A 07 16 59.1
comp=Z,40µm,19.9s
PCAB eT 07 24 41.8
ELOB Lobios 13.46 65 P **Pn** **07 12 31.4 -5.4**
comp=Z,90nm,0.7s
ELOB S **Sn** **07 14 51.9 -15**
EGRO El Granado 13.54 84 P **Pn** **07 12 34.0 -3.9**
comp=Z,5.6nm,0.2s
EGRO S **Sn** **07 14 53.5 -15**
PCBR Castelo Branco 13.56 74 eP **Pn** **07 12 32.3 -5.8**
PCBR A 07 12 48.0
comp=Z,222nm,2.6s
PCBR eS **Sn** **07 14 53.1 -16**
PCBR A 07 17 15.6
comp=Z,31µm,19.8s
PCBR eT 07 24 15.4
MTE Manteigas 13.57 72 eP **Pn** **07 12 34.4 -3.9**
MTE A 07 12 53.3
comp=Z,411nm,1.5s
MTE eS **Sn** **07 14 53.4 -16**
MTE A 07 17 08.9
comp=Z,79µm,19.7s
MTE eT 07 24 11.9
MTE Manteigas 13.57 72 ePn **Pn** **07 12 33.6 -4.7**
comp=Z,324nm,1.4s
MTE eSn **Sn** **07 14 53.9 -15**
MTE Manteigas 13.57 72 ePn **Pn** **07 12 33.6 -4.7**
comp=Z,324nm,1.4s
PVRL Vila Real 13.58 68 eP **Pn** **07 12 34.2 -4.2**
PVRL A 07 12 52.1
comp=Z,382nm,1.8s
PVRL eS **Sn** **07 14 53.8 -16**
PBAR Barrancos 13.85 81 eP **Pn** **07 12 38.4 -3.7**
PBAR A 07 12 48.9
comp=Z,197nm,1.6s
PBAR eS **Sn** **07 15 00.6 -15**
PBAR A 07 17 07.2
comp=Z,42µm,20.4s
PBAR eT 07 24 22.2
EBAD Badajoz 13.87 79 P **Pn** **07 12 37.2 -5.1**
comp=Z,1.4nm,0.2s
EBAD S **Sn** **07 15 01.6 -15**
MVO Moncorvo 14.07 69 eP **Pn** **07 12 40.0 -5.1**
MVO A 07 12 59.1
comp=Z,520nm,1.4s
MVO eS **Sn** **07 15 05.3 -16**
MVO A 07 17 33.4
comp=Z,56µm,19.2s
MVO eT 07 24 45.3
EMIN Mina Concepcio 14.16 83 P **Pn** **07 12 43.8 -2.5**
comp=Z,0.9nm,0.2s
EMIN S **Sn** **07 15 08.1 -15**
CIA Chichaoua 14.21 109 *i* P **Pn** **07 12 47.0 -0.1**
PBRG Braganca 14.41 67 eP **Pn** **07 12 45.3 -4.4**
PBRG A 07 13 01.4
comp=Z,438nm,1.9s
PBRG eS **Sn** **07 15 12.7 -17**
PBRG A 07 17 39.2
comp=Z,29µm,20.2s
PBRG eT 07 24 55.8
ECAL Calabor 14.44 66 P **Pn** **07 12 44.6 -5.5**
comp=Z,40nm,0.6s
ECAL S **Sn** **07 15 14.9 -15**
EPON Pontenova 14.52 60 P **Pn** **07 12 47.3 -3.9**
comp=Z,4.6nm,0.2s
EPON S **Sn** **07 15 16.9 -15**
SFS San Fernando 14.68 88 *i* P **Pn** **07 12 53.4 0.0**
RTC Rabat Centre 14.74 98 *i* P **Pn** **07 12 54.0 -0.2**
CNIL Conil 14.81 88 eP **Pn** **07 12 55.0 -0.2**
GIBL Gibalbin 14.81 86 eP **Pn** **07 12 57.5 +2.2**
ESPR Espera 14.90 86 P **Pn** **07 12 53.6 -2.8**
comp=Z,4.4nm,0.4s
ESPR S **Sn** **07 15 27.4 -14**
OUK Oukaimeden 15.05 109 *i* P **Pn** **07 13 01.0 +2.4**
MOMI Momias 15.09 88 eP **Pn** **07 12 58.5 -0.5**
ECAB El Cabril 15.13 81 P **Pn** **07 12 56.7 -2.9**
comp=Z,44nm,0.7s
ECAB S **Sn** **07 15 30.5 -17**
EJIF Jimena Fronter 15.27 88 P **Pn** **07 13 00.8 -0.5**
comp=Z,1µm,1.8s
EJIF S **Sn** **07 15 42.1 -8.4**
EJIF Jimena Fronter 15.27 88 P **Pn** **07 13 00.8 -0.5**
EJIF S **Sn** **07 15 42.1 -8.4**
EJIF pmax pmax
comp=Z,1µm,1.8s
EJIF Jimena Fronter 15.27 88 P **Pn** **07 13 00.8 -0.5**
comp=Z,1µm,1.8s
REAL Reales 15.47 87 eP **Pn** **07 13 05.6 +1.6**

TIO Tiouine 15.64 109 P **Pn** **07 13 06.0 -0.3**
EADA Adamuz 15.79 81 P **Pn** **07 13 03.0 -5.2**
comp=Z,13nm,0.9s
EADA S **Sn** **07 15 47.6 -16**
EMIJ Mijas 15.80 87 P **Pn** **07 13 05.2 -3.2**
comp=Z,2µm,2.9s
EMIJ S **Sn** **07 15 48.9 -15**
EARI Arriondas 15.86 62 P **Pn** **07 13 02.5 -6.6**
comp=Z,874nm,1.6s
EARI S **Sn** **07 15 50.1 -15**
PAB San Pablo 15.95 76 ePn **Pn** **07 13 04.2 -6.0**
comp=Z,427nm,1.6s
PAB eSn **Sn** **07 15 50.8 -16**
PAB San Pablo 15.95 76 eP **Pn** **07 13 04.2 -6.0**
PAB pmax pmax
comp=Z,430nm,1.6s
ELUQ Luque 16.08 83 P **Pn** **07 13 10.9 -1.1**
comp=Z,84nm,1.1s
ELUQ S **Sn** **07 15 54.4 -16**
ELUQ Luque 16.08 83 P **Pn** **07 13 10.9 -1.0**
ELUQ pmax pmax
comp=Z,84nm,1.1s
ELUQ Luque 16.08 83 P **Pn** **07 13 10.9 -1.0**
comp=Z,84nm,1.1s
TGT Taghat 16.14 96 *i* P **Pn** **07 13 14.0 +1.3**
GUD Guadarrama 16.16 72 P **Pn** **07 13 06.4 -6.5**
comp=Z,19nm,0.5s
GUD S **Sn** **07 15 55.4 -17**
GUD Guadarrama 16.16 72 P **Pn** **07 13 06.4 -6.6**
GUD pmax pmax
comp=Z,19nm,0.5s
MIF Mishlifen 16.21 98 *i* P **Pn** **07 13 16.0 +2.4**
ELOJ Sierra Loja 16.22 85 P **Pn** **07 13 13.9 +0.2**
comp=Z,224nm,1.2s
ELOJ S **Sn** **07 15 57.6 -16**
ELOJ Sierra Loja 16.22 85 P **Pn** **07 13 13.9 +0.2**
ELOJ pmax pmax
comp=Z,224nm,1.2s
ELOJ Sierra Loja 16.22 85 P **Pn** **07 13 13.9 +0.2**
comp=Z,224nm,1.2s
ESDC Sonseca Array 16.25 75 P **Pn** **07 13 08.7 -5.4**
comp=Z,447nm,1.6s
ESDC S **Sn** **07 15 59.5 -15**
ESDC Sonseca Array 16.25 75 Pn **Pn** **07 13 07.9 -6.2**
comp=Z,4.9nm,0.3s,baz=271,slow=12,SNR=56
ESDC Sn **Sn** **07 15 59.6 -15**
comp=Z,7.3nm,0.3s,baz=265,slow=24,SNR=8.9
ESDC LR LR 07 18 36.2
comp=Z,35µm,19.1s,baz=275,slow=34
ESLA Sonseca Array 16.25 75 ePn **Pn** **07 13 10.3 -3.8**
comp=Z,190nm,1.4s
IFR Ifrane 16.25 98 P **Pn** **07 13 14.0 -0.2**
EBAN Banos Encina 16.41 81 P **Pn** **07 13 10.9 -5.3**
comp=Z,20nm,0.5s
EBAN S **Sn** **07 16 01.8 -17**
EBAN Banos Encina 16.41 81 P **Pn** **07 13 10.9 -5.3**
EBAN pmax pmax
comp=Z,20nm,0.5s
CZD Col de Zad 16.48 99 *i* P **Pn** **07 13 19.0 +1.9**
ERON Agron 16.51 85 P **Pn** **07 13 18.2 +0.8**
comp=Z,598nm,2.0s
ERON S **Sn** **07 16 08.6 -12**
ERON Agron 16.51 85 P **Pn** **07 13 18.2 +0.8**
comp=Z,598nm,2.0s
ECOG Cogollos-Vega 16.67 84 P **Pn** **07 13 18.0 -1.4**
comp=Z,283nm,2.0s
ECOG S **Sn** **07 16 09.1 -15**
ECOG Cogollos-Vega 16.67 84 P **Pn** **07 13 18.0 -1.4**
ECOG pmax pmax
comp=Z,283nm,2.0s
ECOG Cogollos-Vega 16.67 84 P **Pn** **07 13 18.0 -1.4**
comp=Z,283nm,2.0s
EGUA Guajares 16.72 85 P **Pn** **07 13 18.5 -1.6**
comp=Z,71nm,1.2s
EGUA S **Sn** **07 16 10.5 -15**
EGUA Guajares 16.72 85 P **Pn** **07 13 18.5 -1.6**
EGUA pmax pmax
comp=Z,71nm,1.2s
EGUA Guajares 16.72 85 P **Pn** **07 13 18.5 -1.6**
comp=Z,71nm,1.2s
MDT Midelt 16.90 100 Pn **Pn** **07 13 21.7 -0.6**
comp=Z,3.0nm,0.3s,baz=288,slow=13,SNR=59
MDT Sn **Sn** **07 16 13.8 -16**
comp=Z,3.3nm,0.3s,baz=11,slow=23,SNR=8.1
MDT LR LR 07 18 29.4
comp=Z,38µm,21.6s,baz=302,slow=32
EQES Quesada 17.00 82 P **Pn** **07 13 21.8 -1.8**
comp=Z,126nm,1.3s
EQES S **Sn** **07 16 17.1 -16**
EQES Quesada 17.00 82 P **Pn** **07 13 21.8 -1.9**
comp=Z,126nm,1.3s
EBER Berja 17.25 85 P **Pn** **07 13 27.4 +0.6**
comp=Z,4µm,3.3s
EBER S **Sn** **07 16 23.0 -16**
EBER Berja 17.25 85 P **Pn** **07 13 27.4 +0.6**
comp=Z,4µm,3.3s
EALB Alboran 17.30 88 P **Pn** **07 13 27.3 0.0**
comp=Z,5µm,2.4s
EALB Alboran 17.30 88 P **Pn** **07 13 27.3 0.0**
comp=Z,5µm,2.4s
EVIA Vianos 17.40 79 P **Pn** **07 13 25.8 -2.8**
comp=Z,179nm,1.1s
EVIA S **Sn** **07 16 26.3 -16**
EVIA Vianos 17.40 79 P **Pn** **07 13 25.8 -2.8**
EVIA pmax pmax
comp=Z,179nm,1.1s
ZFT Errachidia 17.40 102 *i* P **Pn** **07 13 29.0 +0.4**
MELI Melilla 17.51 90 *i* P **Pn** **07 13 29.3 -0.7**
ECRI Cripan 17.65 66 P **Pn** **07 13 29.8 -1.9**
comp=Z,25nm,0.8s
ECRI S **Sn** **07 16 31.7 -16**
ECRI Cripan 17.65 66 P **Pn** **07 13 29.8 -1.8**
ECRI pmax pmax
comp=Z,25nm,0.8s
ECRI Cripan 17.65 66 P **Pn** **07 13 29.8 -1.8**
comp=Z,25nm,0.8s
VAL Valentia 17.72 30 eP **Pn** **07 13 32.5 0.0**
ZAI Zaio 17.73 91 *i* P **Pn** **07 13 32.0 -0.8**
ETOR Torete 17.77 72 P **Pn** **07 13 32.2 -0.9**
comp=Z,340nm,2.2s
ETOR S **Sn** **07 16 34.5 -17**
ETOR Torete 17.77 72 P **Pn** **07 13 32.2 -0.9**
ETOR pmax pmax
comp=Z,340nm,2.2s
ENIJ Nijar 17.78 84 P **Pn** **07 13 33.2 -0.2**
comp=Z,404nm,1.7s
ENIJ S **Sn** **07 16 32.9 -19**
ENIJ Nijar 17.78 84 P **Pn** **07 13 33.2 -0.2**
ENIJ pmax pmax
comp=Z,404nm,1.7s
ETOB Tobarra 18.14 79 P **Pn** **07 13 37.4 -0.4**
comp=Z,1µm,2.8s
ETOB S **Sn** **07 16 46.7 -14**
ELIZ Elizondo 18.45 64 P **Pn** **07 13 42.3 +0.7**
comp=Z,99nm,1.2s
ELIZ S **Sn** **07 16 51.4 -16**
ELIZ Elizondo 18.45 64 P **Pn** **07 13 42.3 +0.7**
ELIZ pmax pmax
comp=Z,99nm,1.2s
ECHE Chera 18.56 76 P **Pn** **07 13 43.8 +0.9**
comp=Z,2µm,2.7s
ECHE S **Sn** **07 16 53.6 -17**
ECHE Chera 18.56 76 P **Pn** **07 13 43.8 +0.9**
ECHE pmax pmax
comp=Z,2µm,2.7s
CART Cartagena 18.66 82 eP **Pn** **07 13 45.0 +0.9**
comp=Z,344nm,1.4s
CART Cartagena 18.66 82 *i* P **Pn** **07 13 44.7 +0.6**
OSSF Osses 18.66 64 eP **Pn** **07 13 43.2 -0.9**
CPZ Penzance 18.66 41 eP **Pn** **07 13 44.3 +0.3**
SJPF Ste Jean 18.66 65 eP **Pn** **07 13 44.1 0.0**
comp=Z,398nm,1.2s
SJPF Ste Jean 18.66 65 eP **Pn** **07 13 44.1 0.0**
SJPF pmax pmax
comp=Z,199nm,1.2s
SJPF Ste Jean 18.66 65 eP **Pn** **07 13 44.1 0.0**
comp=Z,199nm,1.2s
LARF Larrau 18.82 65 eP **Pn** **07 13 47.2 +1.1**
CMA1 Manaccan 18.86 41 eP **Pn** **07 13 46.4 -0.1**
CMA1 Manaccan 18.86 41 eP **Pn** **07 13 46.3 -0.1**
QUIF Quistinic 18.87 49 eP **Pn** **07 13 46.9 +0.4**
comp=Z,364nm,1.1s
QUIF Quistinic 18.87 49 eP **Pn** **07 13 46.9 +0.4**
QUIF pmax pmax
comp=Z,182nm,1.1s

QUIF Quistinic 18.87 49 eP **Pn** **07 13 46.9 +0.4**
comp=Z,182nm,1.1s
CCA1 Carnmenellis 18.87 41 eP **Pn** **07 13 47.1 +0.6**
CRQ2 Rosemanowes 2 18.89 41 eP **Pn** **07 13 47.2 +0.4**
EMOS Mosqueruela 18.95 73 P **Pn** **07 13 48.4 +0.8**
comp=Z,16µm,7.5s
EMOS S **Sn** **07 17 02.4 -17**
EMOS Mosqueruela 18.95 73 P **Pn** **07 13 48.4 +0.8**
comp=Z,10µm,7.5s
ROSF Rostrenen 18.99 48 eP **Pn** **07 13 48.4 +0.4**
comp=Z,268nm,1.0s
ROSF Rostrenen 18.99 48 eP **Pn** **07 13 48.4 +0.4**
ROSF pmax pmax
comp=Z,134nm,1.0s
ROSF Rostrenen 18.99 48 eP **Pn** **07 13 48.4 +0.4**
comp=Z,134nm,1.0s
ESAC San Caprasio 19.03 69 P **Pn** **07 13 46.7 -1.9**
comp=Z,16µm,6.8s
ESAC S **Sn** **07 17 04.6 -17**
ESAC San Caprasio 19.03 69 P **Pn** **07 13 46.7 -1.9**
comp=Z,10µm,6.8s
ETSF Etsaut 19.11 66 eP **Pn** **07 13 49.3 -0.2**
comp=Z,280nm,1.0s
ETSF Etsaut 19.11 66 eP **Pn** **07 13 49.3 -0.2**
ETSF pmax pmax
comp=Z,140nm,1.0s
ETSF Etsaut 19.11 66 eP **Pn** **07 13 49.3 -0.2**
comp=Z,140nm,1.0s
CSA1 St Austell 19.14 41 eP **Pn** **07 13 49.3 -0.5**
CSA1 St Austell 19.14 41 eP **Pn** **07 13 49.3 -0.5**
comp=Z,517nm,1.5s
EBEN Beniarda 19.17 79 P **Pn** **07 13 50.5 +0.1**
comp=Z,4µm,3.6s
EBEN S **Sn** **07 17 09.3 -16**
EBEN Beniarda 19.17 79 P **Pn** **07 13 50.5 +0.2**
comp=Z,4µm,3.6s
REYF Montagne du Re 19.26 65 eP **Pn** **07 13 51.8 +0.5**
USTO Oran 19.31 88 P **Pn** **07 13 55.0 +3.0**
SGMF Saint Gilles 19.38 49 eP **Pn** **07 13 52.7 0.0**
VIEF Viey 19.53 66 eP **Pn** **07 13 54.6 0.0**
ERTA Horta de San J 19.58 72 P **Pn** **07 13 55.8 +0.6**
comp=Z,319nm,1.8s
ERTA S **Sn** **07 17 20.3 -15**
ERTA Horta de San J 19.58 72 P **Pn** **07 13 55.8 +0.6**
comp=Z,319nm,1.8s
EBIE Bielsa 19.59 67 P **Pn** **07 13 54.9 -0.4**
comp=Z,14µm,5.7s
EBIE S **Sn** **07 17 19.4 -16**
EBIE Bielsa 19.59 67 P **Pn** **07 13 54.9 -0.4**
comp=Z,10µm,5.7s
LABF Labassere 19.59 65 eP **Pn** **07 13 55.4 +0.1**
DYA Yadsworthy 19.69 42⇑ eP **Pn** **07 13 55.7 -0.7**
DYA AMb AMB 07 14 05.2
comp=Z,257nm,1.3s
ODJA Bouhanifia 19.72 88 P **Pn** **07 13 57.0 +0.1**
HTL Hartland 19.72 40⇑ eP **Pn** **07 13 56.7 -0.1**
HTL AMb AMB 07 14 01.1
comp=Z,517nm,1.5s
HTL AMS AMS 07 20 15.6
comp=Z,59µm,19.9s
RESF Ens 19.75 66 eP **Pn** **07 13 57.1 -0.1**
EPF Esparros 19.78 66 eP **Pn** **07 13 57.0 -0.6**
comp=Z,962nm,1.3s
EPF Esparros 19.78 66 eP **Pn** **07 13 57.0 -0.6**
EPF pmax pmax
comp=Z,481nm,1.3s
EPF Esparros 19.78 66 eP **Pn** **07 13 57.0 -0.6**
comp=Z,481nm,1.3s
MATF Mathat 19.95 57 eP **Pn** **07 13 59.0 -0.5**
MATF Mathat 19.95 57 eP **Pn** **07 13 59.6 +0.1**
MATF Mathat 19.95 57 eP **Pn** **07 13 59.6 +0.1**
DCN Croghan 19.98 31⇑ *i* P **Pn** **07 13 58.9 -0.9**
MELF Melles 20.07 66 eP **P** **07 14 00.9 +1.7**
HEX Exmoor 20.12 40⇑ eP **P** **07 14 00.3 +0.7**
EPOB Poblet 20.16 71 P **P** **07 14 01.3 +1.0**
comp=Z,12µm,5.9s
EPOB S **S** **07 17 30.8 -16**
EPOB Poblet 20.16 71 P **P** **07 14 01.3 +1.1**
comp=Z,10µm,5.9s
DLF Lyons Farm 20.26 32⇑ *i* P **P** **07 14 01.5 +0.4**
DLF eS **S** **07 17 58.0 +10**
MFF Saint Martin d 20.27 55 eP **P** **07 14 02.1 +0.7**
comp=Z,3µm,1.5s
MFF Saint Martin d 20.27 55 eP **P** **07 14 02.1 +0.7**
MFF pmax pmax
comp=Z,2µm,1.5s
MFF Saint Martin d 20.27 55 eP **P** **07 14 02.1 +0.7**
comp=Z,2µm,1.5s
DSB Dublin 20.29 33 eP **P** **07 14 01.3 -0.2**
comp=Z,966nm,1.8s
DSB Dublin 20.29 33 eP **P** **07 14 01.3 -0.2**
comp=Z,966nm,1.8s
MLS Moulis 20.32 66 eP **P** **07 14 02.7 +0.8**
SALF Salau 20.37 67 eP **P** **07 14 04.1 +1.7**
EIBI Ibiza 20.38 77 P **P** **07 14 04.5 +2.0**
comp=Z,390nm,1.8s
EIBI Ibiza 20.38 77 P **P** **07 14 04.5 +1.9**
comp=Z,390nm,1.8s
LFF La Frestale 20.42 60 eP **P** **07 14 03.7 +0.7**
comp=Z,2µm,1.4s
LFF La Frestale 20.42 60 eP **P** **07 14 03.7 +0.7**
LFF pmax pmax
comp=Z,957nm,1.4s
LFF La Frestale 20.42 60 eP **P** **07 14 03.7 +0.7**
comp=Z,957nm,1.4s
GRR Gorron 20.47 50 eP **P** **07 14 04.3 +0.9**
comp=Z,1µm,1.1s
GRR Gorron 20.47 50 eP **P** **07 14 04.3 +0.9**
GRR pmax pmax
comp=Z,734nm,1.1s
GRR Gorron 20.47 50 eP **P** **07 14 04.3 +0.9**
comp=Z,734nm,1.1s
DMUB Kingscourt 20.53 31⇑ *i* P **P** **07 14 04.8 +0.7**
EANR 'Ain N'Sour 20.58 86 P **P** **07 14 07.0 +2.2**
ECHA Ech Chlef 20.76 85 P **P** **07 14 09.1 +2.4**
FLN La Foliniere 20.85 49 eP **P** **07 14 08.1 +0.5**
comp=Z,614nm,1.1s,baz=242
FLN eMLR MLR
comp=Z,56µm,21.2s,MS5.6
FLN La Foliniere 20.85 49 eP **P** **07 14 08.1 +0.5**
comp=Z,307nm,1.1s
FLN LR LR
comp=Z,56µm,21.3s,MS5.9
FLN La Foliniere 20.85 49 eP **P** **07 14 08.1 +0.5**
FLN pmax pmax
comp=Z,307nm,1.1s
FLN MLR MLR
comp=Z,56µm,21.3s,MS5.9
EBNR Beni Rached 20.86 85 P **P** **07 14 11.0 +3.2**
ETRT Tiaret 20.86 88 P **P** **07 14 10.4 +2.6**
VALF Valcebollere 20.94 68 eP **P** **07 14 09.9 +1.3**
HGH Gray Hill 20.96 40⇑ eP **P** **07 14 08.5 -0.3**
HTR Trewern Hill 20.98 39 eP **P** **07 14 08.5 -0.4**
HTR Trewern Hill 20.98 39 eP **P** **07 14 08.5 -0.5**
comp=Z,542nm,1.6s
LDF La Druitiere 21.00 50 eP **P** **07 14 09.6 +0.4**
comp=Z,1µm,1.5s
LDF La Druitiere 21.00 50 eP **P** **07 14 09.6 +0.4**
LDF pmax pmax
comp=Z,648nm,1.5s
LDF La Druitiere 21.00 50 eP **P** **07 14 09.6 +0.4**
comp=Z,648nm,1.5s
CARF Carcanieres 21.03 67 eP **P** **07 14 10.7 +1.1**
RJF Les Rejaudoux 21.04 60 eP **P** **07 14 09.3 -0.4**
comp=Z,947nm,1.5s,mb5.6
RJF eMLR MLR
comp=Z,77µm,19.5s,MS5.8
RJF Les Rejaudoux 21.04 60 eP **P** **07 14 09.3 -0.4**
comp=Z,474nm,1.5s,mb5.6
RJF LR LR
comp=Z,77µm,19.5s,MS6.1
RJF Les Rejaudoux 21.04 60 eP **P** **07 14 09.3 -0.4**
RJF pmax pmax
comp=Z,474nm,1.5s,mb5.6
RJF MLR MLR
comp=Z,77µm,19.5s,MS6.1
MCH1 Michaelchurch 21.07 39 eP **P** **07 14 09.9 0.0**
MCH1 AMb AMB 07 14 24.0
comp=Z,542nm,1.6s,mb5.6
GMM Mts of Mourne 21.17 31⇑ eP **P** **07 14 10.8 -0.2**
MTLF Montolieu 21.19 65 eP **P** **07 14 12.1 +0.8**
comp=Z,1µm,1.7s,mb5.6
MTLF Montolieu 21.19 65 eP **P** **07 14 12.1 +0.8**
MTLF pmax pmax
comp=Z,507nm,1.7s,mb5.6
MTLF Montolieu 21.19 65 eP **P** **07 14 12.1 +0.8**

comp=Z,508nm,1.7s,mb5.6
HAE Alders End 21.32 39⇑ eP P 07 14 13.4 +0.8
HAE Alders End 21.32 39⇑ eP P 07 14 13.4 +0.8
comp=Z,2µm,2.0s,mb6.1
CAF Calviac 21.34 61 eP P 07 14 12.8 -0.1
comp=Z,2µm,1.5s,mb5.9
CAF Calviac 21.34 61 eP P 07 14 12.8 -0.1
CAF pmax pmax
comp=Z,1µm,1.5s,mb5.9
CAF Calviac 21.34 61 eP P 07 14 12.8 -0.1
comp=Z,1µm,1.5s,mb5.9
FILF Fillols 21.35 67 eP P 07 14 12.8 -0.3
LRDF Laroque-de-Fa 21.37 66 eP P 07 14 13.2 -0.1
SWN1 Swindon 21.41 41⇑ eP P 07 14 13.6 0.0
SWN1 AMb AMB 07 14 27.7
comp=Z,2µm,2.0s,mb6.1
HLM1 Long Mynd 21.43 38⇑ eP P 07 14 13.9 +0.1
ETOS Mallorca 21.48 75 P P 07 14 15.0 +0.5
comp=Z,1µm,2.1s,mb5.8
SBD1 Bryn Du 21.48 37⇑ eP P 07 14 14.8 +0.4
SJAF Saint Jean de 21.58 68 eP P 07 14 17.2 +1.6
EJON La Jonquera 21.59 68 P P 07 14 16.9 +1.3
comp=Z,2µm,2.2s,mb6.1
EJON S S 07 18 09.0 -5.7
EJON La Jonquera 21.59 68 P P 07 14 16.9 +1.3
comp=Z,2µm,2.2s,mb6.1
SSW Stow on the Wo 21.63 40⇑ eP P 07 14 17.0 +1.0
TCF Toulx Ste Croi 21.75 57 eP P 07 14 17.3 0.0
comp=Z,4µm,1.9s,mb6.2
TCF Toulx Ste Croi 21.75 57 eP P 07 14 17.3 0.0
TCF pmax pmax
comp=Z,2µm,1.9s,mb6.2
TCF Toulx Ste Croi 21.75 57 eP P 07 14 17.3 0.0
comp=Z,2µm,1.9s,mb6.2
FRNF Fournols 21.78 60 eP P 07 14 18.5 +0.9
VERF Verneugheol 21.80 59 eP P 07 14 18.5 +0.6
ABA Alger-Bouzarea 21.96 83 P P 07 14 21.5 +1.8
EMHD Djebel Mahouad 22.01 85 P P 07 14 22.0 +1.8
SKP1 Kophill 22.05 42⇑ eP P 07 14 20.1 -0.3
GMK Mull of Kintyr 22.11 29⇑ eP P 07 14 20.8 -0.3
GMK Mull of Kintyr 22.11 29⇑ eP P 07 14 20.8 -0.3
comp=Z,443nm,2.0s,mb5.5
GAL1 Galloway 22.13 31 eP P 07 14 22.1 +0.8
GAL1 AMb AMB 07 14 40.1
comp=Z,443nm,2.0s,mb5.5
GAL1 AMS AMS 07 21 25.7
comp=Z,44µm,20.9s,MS5.9
PYM Petit Puy Mans 22.16 59 eP P 07 14 22.5 +0.8
LBL Lubilhac 22.22 61 eP P 07 14 23.4 +1.1
KWE Weaver Farm 22.23 38 eP P 07 14 22.3 -0.2
KWE Weaver Farm 22.23 38 eP P 07 14 22.3 -0.1
comp=Z,347nm,1.7s,mb5.5
BGF Bois d'Agland 22.24 57 eP P 07 14 22.8 +0.3
comp=Z,481nm,0.9s,mb5.7
BGF Bois d'Agland 22.24 57 eP P 07 14 22.8 +0.3
BGF pmax pmax
comp=Z,241nm,0.9s,mb5.6
BGF Bois d'Agland 22.24 57 eP P 07 14 22.8 +0.3
comp=Z,241nm,0.9s,mb5.7
HYF Humbligny 22.29 55 eP P 07 14 23.2 +0.1
AGO Saint Agoulin 22.31 58 eP P 07 14 24.1 +0.8
CWF Charnwood Fore 22.34 39⇑ eP P 07 14 23.4 -0.2
CWF AMb AMB 07 14 33.9
comp=Z,347nm,1.7s,mb5.5
ADJB Djebel Djouab 22.40 85 P P 07 14 28.0 +3.7
GCD Castle Douglas 22.45 32⇑ eP P 07 14 25.3 +0.7
LASF Ste Croix 22.46 64 eP P 07 14 25.0 +0.1
comp=Z,1µm,1.5s,mb5.8
LASF Ste Croix 22.46 64 eP P 07 14 25.0 +0.1
comp=Z,636nm,1.5s,mb5.8
KBI1 Birley Grange 22.53 38⇑ eP P 07 14 26.0 +0.4
LHO Holmfirth 22.54 37⇑ eP P 07 14 26.9 +1.2
COLF Collangettes 22.58 60 eP P 07 14 28.2 +2.0
MAHO Mahon 22.59 75 i P P 07 14 26.5 +0.2
CKE Keswick 22.62 34⇑ eP P 07 14 26.3 -0.2
CKE Keswick 22.62 34⇑ eP P 07 14 26.3 -0.2
comp=Z,486nm,2.1s,mb5.6
PLDF La Plantade 22.62 59 eP P 07 14 28.7 +2.1
AVF Avril sur Loir 22.64 57 eP P 07 14 26.9 +0.2
comp=Z,509nm,1.2s,mb5.5
AVF Avril sur Loir 22.64 57 eP P 07 14 26.9 +0.2
AVF pmax pmax
comp=Z,254nm,1.2s,mb5.5
AVF Avril sur Loir 22.64 57 eP P 07 14 26.9 +0.2
comp=Z,254nm,1.2s,mb5.5
SSF Saint Saulge 22.81 56 eP P 07 14 28.5 -0.1
comp=Z,1µm,1.5s,mb5.9
SSF Saint Saulge 22.81 56 eP P 07 14 28.5 -0.1
SSF pmax pmax
comp=Z,677nm,1.5s,mb5.8
SSF Saint Saulge 22.81 56 eP P 07 14 28.5 -0.1
comp=Z,677nm,1.5s,mb5.9
PGBU Glenifferbraes 22.89 30⇑ eP P 07 14 30.2 +0.9
PGBU AMb AMB 07 14 38.7
comp=Z,374nm,1.7s,mb5.5
HPK Haverah Park 22.90 36 eP P 07 14 30.1 +0.7
HPK AMb AMB 07 14 35.1
comp=Z,486nm,2.1s,mb5.6
SMF Signal de Mont 22.93 57 eP P 07 14 29.3 -0.5
comp=Z,3µm,1.6s,mb6.1
SMF Signal de Mont 22.93 57 eP P 07 14 29.3 -0.5
SMF pmax pmax
comp=Z,1µm,1.6s,mb6.1
SMF Signal de Mont 22.93 57 eP P 07 14 29.3 -0.5
comp=Z,1µm,1.6s,mb6.1
ECK Cauldkaine Hil 23.01 32⇑ eP P 07 14 30.9 +0.3
ECK Cauldkaine Hil 23.01 32⇑ eP P 07 14 30.9 +0.3
comp=Z,227nm,1.9s,mb5.3
ESK Eskdalemuir 23.07 32 P P 07 14 31.2 0.0
comp=Z,616nm,1.8s,mb5.7,SNR=15
ESK Eskdalemuir 23.07 32⇑ eP P 07 14 31.5 +0.3
ESK AMb AMB 07 14 40.1
comp=Z,227nm,1.9s,mb5.3
ESK AMS AMS 07 22 04.5
comp=Z,46µm,20.5s,MS5.9
ESK Eskdalemuir 23.07 32 eP P 07 14 31.3 +0.1
comp=Z,413nm,1.5s,mb5.6
ESK LR LR
comp=Z,48µm,21.0s,MS5.9
ESK Eskdalemuir 23.07 32 eP P 07 14 31.3 +0.1
comp=Z,413nm,1.5s,mb5.6
LOR Lormes 23.09 56 eP P 07 14 31.4 -0.2
comp=Z,1µm,1.5s,mb5.8,baz=250
LOR eMLR MLR
comp=Z,56µm,23.0s,MS5.7
LOR Lormes 23.09 56 eP P 07 14 31.4 -0.2
comp=Z,619nm,1.5s,mb5.8
LOR LR LR
comp=Z,56µm,23.0s,MS6.0
LOR Lormes 23.09 56 eP P 07 14 31.4 -0.2
LOR pmax pmax
comp=Z,619nm,1.5s,mb5.8
LOR MLR MLR
comp=Z,56µm,23.0s,MS6.0
EKA Eskdalemuir Ar 23.10 32 P P 07 14 30.9 -0.7
comp=Z,27nm,0.7s,mb4.8,baz=228,slow=8.2,SNR=76
SSB Saint Sauveur 23.13 61 P P 07 14 30.8 -1.2
VIVF Saint-Julien-l 23.15 62 eP P 07 14 31.8 -0.4
comp=Z,527nm,1.1s,mb5.6
VIVF Saint-Julien-l 23.15 62 eP P 07 14 31.8 -0.4
VIVF pmax pmax
comp=Z,264nm,1.1s,mb5.6
VIVF Saint-Julien-l 23.15 62 eP P 07 14 31.8 -0.4
comp=Z,264nm,1.1s,mb5.6
MENF Mencas 23.15 47 eP P 07 14 32.9 +0.7
XAL Allendale 23.20 34⇑ eP P 07 14 32.1 -0.5
EAB Aberfoyle 23.21 29⇑ eP P 07 14 32.9 +0.1
EAU Auchinoon 23.33 31 eP P 07 14 33.6 -0.4
PRAF Pradon 23.37 65 eP P 07 14 35.1 +0.6
EBL Broad Law 23.44 31 eP P 07 14 34.4 -0.7
EBL Broad Law 23.44 31 eP P 07 14 34.4 -0.8
comp=Z,482nm,2.0s,mb5.6
EDI Edinburgh 23.49 31⇑ eP P 07 14 35.7 0.0
EDI AMb AMB 07 14 46.4
comp=Z,452nm,2.0s,mb5.6
EDI AMS AMS 07 22 16.8
comp=Z,46µm,20.7s,MS5.9
TREF Trevaresse 23.51 65 eP P 07 14 36.2 +0.2
GELF Grande-Etoile 23.52 66 eP P 07 14 36.2 +0.1
OCF Saint Nazaire 23.55 63 eP P 07 14 37.2 +0.7
OG26 St.-Nazaire-De 23.55 63 eP P 07 14 37.2 +0.7
EBH Black Hill 23.58 30⇑ eP P 07 14 36.0 -0.6
KPL Plockton 23.58 26⇑ eP P 07 14 36.5 -0.1
KPL AMb AMB 07 14 48.4
comp=Z,482nm,2.0s,mb5.6
KPL AMS AMS 07 22 15.6
comp=Z,57µm,19.7s,MS6.0
SMRF Simiane la Rot 23.68 64 eP P 07 14 37.8 +0.2
comp=Z,1µm,1.4s,mb5.8
SMRF Simiane la Rot 23.68 64 eP P 07 14 37.8 +0.2
comp=Z,550nm,1.4s,mb5.8
BBTS Babate 23.68 160 P P 07 14 36.6 -1.2
comp=Z,118nm,0.9s,mb5.3,baz=7.5,slow=1.3,SNR=16
BBTS S S 07 18 55.0 +2.4
comp=Z,8.1nm,0.4s,baz=285,slow=19,SNR=3.2
BBTS LR LR 07 22 03.9
comp=Z,18µm,19.8s,MS5.5,baz=146,slow=32
ESY Stoneypath 23.72 31⇑ eP P 07 14 37.3 -0.6
VILF Villemus 23.77 65 eP P 07 14 38.7 +0.3
AWI1 Witton 23.81 41 eP P 07 14 37.5 -1.2
KAC Achnashellach 23.83 26 eP P 07 14 38.1 -0.7
STOF St-Etienne Org 23.92 64 eP P 07 14 39.7 -0.1
SET Setif 23.95 84 P P 07 14 40.0 -0.1
GRN Grenoble 23.96 61 eP P 07 14 43.6 +3.4
TAVF Tavernes 24.00 65 eP P 07 14 40.9 +0.4
ORIF Oris-en-Rattie 24.01 62 eP P 07 14 41.1 +0.5
comp=Z,1µm,1.5s,mb5.8
ORIF eMLR MLR
comp=Z,59µm,22.8s,MS5.7
ORIF Oris-en-Rattie 24.01 62 eP P 07 14 41.1 +0.5
ORIF pmax pmax
comp=Z,646nm,1.5s,mb5.8
ORIF Oris-en-Rattie 24.01 62 eP P 07 14 41.1 +0.5
comp=Z,646nm,1.5s,mb5.8
CKHR Kef el Ahmar 24.07 84 P P 07 14 42.0 +0.7
MDO Dochfour 24.12 27⇑ eP P 07 14 40.8 -0.7
BAIF Baives 24.17 49 eP P 07 14 41.3 -0.8
comp=Z,2µm,1.6s,mb6.0
BAIF Baives 24.17 49 eP P 07 14 41.3 -0.8
BAIF pmax pmax
comp=Z,1µm,1.6s,mb6.0
BAIF Baives 24.17 49 eP P 07 14 41.3 -0.8
comp=Z,1µm,1.6s,mb6.0
MEZF Maizieres J'vi 24.20 53 eP P 07 14 42.0 -0.3
GDM Grand'Maison 24.21 61 eP P 07 14 44.2 +1.7
DFRA Djebel Bou Aff 24.25 83 P P 07 14 44.0 +1.1
LMR La Mourre 24.30 66 eP P 07 14 43.2 -0.1
comp=Z,565nm,1.5s,mb5.5
LMR La Mourre 24.30 66 eP P 07 14 43.2 -0.1
LMR pmax pmax
comp=Z,283nm,1.5s,mb5.5
LMR La Mourre 24.30 66 eP P 07 14 43.2 -0.1
comp=Z,283nm,1.5s,mb5.5
SNF Seneffe 24.38 48 P P 07 14 44.5 +0.6
comp=Z,540nm,2.6s,mb5.5
SNF Seneffe 24.38 48 P P 07 14 44.5 +0.6
comp=Z,540nm,2.6s,mb5.5
FRF La Foret Royal 24.42 65 eP P 07 14 43.9 -0.5
comp=Z,257nm,0.9s,mb5.3
FRF La Foret Royal 24.42 65 eP P 07 14 43.9 -0.5
FRF pmax pmax
comp=Z,128nm,0.9s,mb5.3
FRF La Foret Royal 24.42 65 eP P 07 14 43.9 -0.5
comp=Z,128nm,0.9s,mb5.3
DOU Dourbes 24.42 49 P P 07 14 44.1 -0.2
DOU Dourbes 24.42 49 P P 07 14 44.0 -0.3
CABF La Chapelle 24.43 58 eP P 07 14 44.4 0.0
comp=Z,2µm,1.9s,mb5.8
CABF La Chapelle 24.43 58 eP P 07 14 44.4 0.0
CABF pmax pmax
comp=Z,759nm,1.8s,mb5.8
CABF La Chapelle 24.43 58 eP P 07 14 44.4 0.0
comp=Z,759nm,1.9s,mb5.8
UCC Uccle 24.53 48 P P 07 14 44.9 -0.5
UCC Uccle 24.53 48 P P 07 14 44.8 -0.5
GIMEL St. Georges / 24.54 58⇓ iP P 07 14 45.7 +0.3
comp=Z,1µm,2.8s,mb6.0
MVH1 Achvaich 24.55 27 eP P 07 14 44.6 -0.8
GIVF Givet 24.56 49 eP P 07 14 45.0 -0.6
comp=Z,3µm,1.6s,mb6.2
GIVF Givet 24.56 49 eP P 07 14 45.0 -0.6
GIVF pmax pmax
comp=Z,1µm,1.6s,mb6.2
GIVF Givet 24.56 49 eP P 07 14 45.0 -0.6
comp=Z,1µm,1.6s,mb6.2
BNI Bardonecchia 24.59 62 eP P 07 14 46.6 +0.7
comp=Z,368nm,1.3s,mb5.8
BNI Bardonecchia 24.59 62 eP P 07 14 46.6 +0.7
BNI pmax pmax
comp=Z,370nm,1.3s,mb5.8
BNI Bardonecchia 24.59 62 eP P 07 14 46.6 +0.7
comp=Z,368nm,1.3s,mb5.8
CALN Calern 24.61 65 eP P 07 14 47.7 +1.6
MBDF Montbardon 24.61 63 eP P 07 14 46.4 +0.3
comp=Z,475nm,1.6s,mb5.5
MBDF Montbardon 24.61 63 eP P 07 14 46.4 +0.3
MBDF pmax pmax
comp=Z,238nm,1.6s,mb5.5
MBDF Montbardon 24.61 63 eP P 07 14 46.4 +0.3
comp=Z,238nm,1.6s,mb5.5
SURF Saint Ours 24.62 63 eP P 07 14 47.8 +1.6
MCD Coleburn Disti 24.63 28 eP P 07 14 45.4 -0.8
RRL Cesana Torines 24.64 62 P P 07 14 47.7 +1.3
LPL La Plagne 24.69 61 eP P 07 14 47.4 +0.6
comp=Z,579nm,1.3s,mb5.6
LPL La Plagne 24.69 61 eP P 07 14 47.4 +0.6
LPL pmax pmax
comp=Z,290nm,1.3s,mb5.7
LPL La Plagne 24.69 61 eP P 07 14 47.4 +0.6
comp=Z,290nm,1.3s,mb5.6
LPG La Plagne 24.70 61 eP P 07 14 47.7 +0.8
comp=Z,753nm,1.3s,mb5.8
LPG La Plagne 24.70 61 eP P 07 14 47.7 +0.8
LPG pmax pmax
comp=Z,376nm,1.3s,mb5.8
LPG La Plagne 24.70 61 eP P 07 14 47.7 +0.8
comp=Z,376nm,1.3s,mb5.8
THEF They Montfort 24.73 54 eP P 07 14 46.9 -0.2
BRANT Les Verrieres 24.75 57⇓ iP P 07 14 47.6 +0.2
comp=Z,2µm,2.7s,mb6.1
CTEI Djebel Teioual 24.77 84 P P 07 14 54.0 +6.3
CASM Ain Smara 24.80 83 P P 07 14 54.5 +6.6
MVIF Mont Vial 24.81 65 eP P 07 14 49.4 +1.5
PZZ Prazzo 24.82 63 P P 07 14 49.6 +1.5
EMV Vieux Emosson 24.89 60⇓ iP P 07 14 48.9 +0.3
comp=Z,522nm,1.4s,mb5.9
TOUF Mont Tournerai 24.89 64 eP P 07 14 50.2 +1.6
HAU Haudompre 24.91 55 eP P 07 14 48.3 -0.5
comp=Z,470nm,1.1s,mb5.6
HAU eMLR MLR
comp=Z,40µm,21.8s,MS5.6
HAU Haudompre 24.91 55 eP P 07 14 48.3 -0.5
comp=Z,235nm,1.1s,mb5.6
HAU LR LR
comp=Z,40µm,21.8s,MS5.9
HAU Haudompre 24.91 55 eP P 07 14 48.3 -0.5
HAU pmax pmax
comp=Z,235nm,1.1s,mb5.6
HAU MLR MLR
comp=Z,40µm,21.8s,MS5.9
DOI San Damiano 24.93 63 P P 07 14 49.7 +0.7
LUCF Luceram 24.95 65 eP P 07 14 50.6 +1.4
SALAN Lac Salanfe 24.95 59⇓ iP P 07 14 49.3 +0.1
comp=Z,449nm,1.4s,mb5.8
CKFL Kef-Lekhel 24.95 83 P P 07 14 51.0 +1.7
REVF Revere 24.95 65 eP P 07 14 50.1 +0.9
BCLA Clavier 24.96 49 P P 07 14 48.8 -0.4
comp=Z,221nm,2.5s,mb5.2
BCLA Clavier 24.96 49 P P 07 14 48.7 -0.5
comp=Z,221nm,2.5s,mb5.2
STV Sta Anna Valdi 24.96 64 P P 07 14 49.9 +0.6
AIGLE Aigle 24.97 59⇓ iP P 07 14 49.4 +0.1
comp=Z,831nm,1.4s,mb6.1
LSD Ceresole Reale 24.97 61 P P 07 14 50.4 +1.0
CAEH 'Ain El Ouahch 24.98 82 P P 07 14 56.0 +6.5
RSP Reno Superiore 25.01 62 P P 07 14 50.7 +1.0
SBF Sospel 25.01 65 eP P 07 14 49.8 +0.1
comp=Z,922nm,1.3s,mb5.8
SBF Sospel 25.01 65 eP P 07 14 49.8 +0.1
SBF pmax pmax
comp=Z,461nm,1.3s,mb5.8
SBF Sospel 25.01 65 eP P 07 14 49.8 +0.1
comp=Z,461nm,1.3s,mb5.8
AUTN L'Aution 25.01 65 eP P 07 14 50.4 +0.6
ENR Entracque 25.03 64 P P 07 14 50.7 +0.8
TORNY Torny/Romont 25.05 58⇓ iP P 07 14 50.4 +0.3
TORNY Torny/Romont 25.05 58⇓ iP P 07 14 50.3 +0.2
comp=Z,889nm,1.4s,mb6.1
GRYON Gryon 25.06 59⇓ iP P 07 14 50.4 +0.2
comp=Z,470nm,1.3s,mb5.9
GRYON Gryon 25.06 59⇓ iP P 07 14 50.3 +0.1
LOMF Lomont 25.07 57 eP P 07 14 50.8 +0.5
SAOF Saorge 25.10 65 eP P 07 14 51.2 +0.6
ORE Reay 25.16 26 eP P 07 14 50.8 -0.2
HINF Hinteralfeld 25.19 56 eP P 07 14 50.8 -0.6
comp=Z,492nm,1.1s,mb5.6
HINF Hinteralfeld 25.19 56 eP P 07 14 50.8 -0.6
HINF pmax pmax
comp=Z,246nm,1.1s,mb5.7
HINF Hinteralfeld 25.19 56 eP P 07 14 50.8 -0.6
comp=Z,246nm,1.1s,mb5.6
NEGI Negi 25.20 65 P P 07 14 52.2 +0.7
SENIN Lac Senin/Sane 25.21 59⇓ iP P 07 14 52.1 +0.6
comp=Z,762nm,2.3s,mb5.8
WLF Walferdange 25.23 51 eP P 07 14 51.4 -0.3
WLF pmax pmax
comp=Z,660nm,1.0s,mb6.1
WLF Walferdange 25.23 51 P P 07 14 51.7 0.0
comp=Z,540nm,1.3s,mb5.9
WLF Walferdange 25.23 51 eP P 07 14 51.2 -0.5
WLF Walferdange 25.23 51 eP P 07 14 51.4 -0.3
comp=Z,664nm,1.0s,mb6.1
DIX Grande Dixence 25.24 60⇓ iP P 07 14 52.5 +0.7
comp=Z,606nm,1.7s,mb5.9
MONE Monesi 25.25 64 P P 07 14 53.0 +1.0
BEBN Eben Emael 25.31 48 P P 07 14 53.4 +1.0
comp=Z,168nm,1.8s,mb5.3
BEBN Eben Emael 25.31 48 P P 07 14 53.3 +0.9
comp=Z,168nm,1.8s,mb5.3
IMI Imperia 25.34 65 P P 07 14 53.4 +0.7
BOURR Bourrignon 25.35 57⇓ iP P 07 14 52.8 0.0
comp=Z,547nm,0.8s,mb6.1
ROB Roburent 25.35 64 P P 07 14 53.0 +0.1
MOF Molkenrain 25.39 56 eP P 07 14 52.3 -0.8
TRAV 25.39 61 P P 07 14 54.5 +1.3
LKBD Leukerbad 25.44 59⇓ iP P 07 14 54.0 +0.4
comp=Z,256nm,1.1s,mb5.7
MEM Membach 25.45 49 P P 07 14 53.6 0.0
comp=Z,240nm,1.7s,mb5.5
HGN Heimansgroeve 25.45 48 eP P 07 14 53.1 -0.6
comp=Z,378nm,1.6s,mb5.7
HGN Heimansgroeve 25.45 48 eS S 07 19 24.4 +3.8
CMAH Djebel Manchou 25.46 82 P P 07 14 55.0 +1.1
WIMIS Wimmis 25.48 58⇓ iP P 07 14 54.3 +0.3
comp=Z,311nm,1.2s,mb5.7
RORO 25.48 64 P P 07 14 54.6 +0.6
ECH Echery 25.48 55 eP P 07 14 53.4 -0.6
BBS Basel-Blauen 25.55 57 P P 07 14 56.7 +2.1
ORX Oropa 25.57 61 P P 07 14 56.3 +1.5
ABSA Djebel Ababsia 25.57 83 P P 07 14 57.0 +2.0
FIN Finale Ligure 25.59 64 P P 07 14 54.8 -0.2
CDF Champ du Feu 25.61 54 eP P 07 14 54.6 -0.5
comp=Z,1µm,1.5s,mb5.8
CDF Champ du Feu 25.61 54 eP P 07 14 54.6 -0.5
CDF pmax pmax
comp=Z,538nm,1.5s,mb5.8
CDF Champ du Feu 25.61 54 eP P 07 14 54.6 -0.5
comp=Z,538nm,1.5s,mb5.8
MMK Mattmark 25.62 60⇓ iP P 07 14 56.5 +1.3
comp=Z,766nm,1.9s,mb5.9
BALST Balsthal 25.65 57⇓ iP P 07 14 55.4 -0.1
comp=Z,941nm,1.7s,mb6.0
QLNO Quiliano 25.70 64 P P 07 14 55.6 -0.4
RUP Ruppelstein 25.81 51 eP P 07 14 56.8 -0.1
PCP Pian Castagno 25.86 63 P P 07 14 57.2 -0.2
KIZ Kirchzarten 25.92 56 P P 07 14 59.0 +1.0
FELD Feldberg im Sc 25.96 56 eP P 07 14 57.9 -0.5
STR Strasbourg 25.96 54 eP P 07 14 59.2 +0.9
SULZ Cheisacher 25.96 57⇓ iP P 07 14 58.0 -0.4
comp=Z,696nm,1.9s,mb5.9
BNALP Bannalp 26.06 58⇓ iP P 07 14 59.6 +0.4
comp=Z,515nm,1.9s,mb5.7
LANF Langenberg 26.08 53 eP P 07 14 58.5 -0.9
PGF Pioggiola 26.10 68 eP P 07 14 58.5 -1.2
comp=Z,382nm,1.1s,mb5.6
PGF Pioggiola 26.10 68 eP P 07 14 58.5 -1.2
PGF pmax pmax
comp=Z,191nm,1.1s,mb5.5
PGF Pioggiola 26.10 68 eP P 07 14 58.5 -1.2
comp=Z,191nm,1.1s,mb5.6
GENL Genova Univers 26.15 64 P P 07 15 00.1 0.0
FUSIO Fusio 26.16 59⇓ iP P 07 15 01.2 +1.1
FUSIO Fusio 26.16 59⇓ iP P 07 15 00.5 +0.4
comp=Z,1µm,2.2s,mb6.0
ABH Alteburg 26.16 51 eP P 07 15 00.1 0.0
MUO Muotathal 26.22 58⇓ iP P 07 15 01.4 +0.7
MUO Muotathal 26.22 58⇓ iP P 07 15 00.9 +0.2
comp=Z,897nm,1.9s,mb6.0
CORF Corte 26.22 69 eP P 07 14 59.5 -1.2
ZUR Degenried 26.25 57⇓ iP P 07 15 01.0 +0.1
comp=Z,986nm,2.2s,mb5.9
OSPF L'Ospedale 26.26 70 eP P 07 14 59.7 -1.4
SLE Schleitheim 26.26 56⇓ iP P 07 15 00.5 -0.6
SLE Schleitheim 26.26 56⇓ iP P 07 15 01.2 +0.1
comp=Z,722nm,2.2s,mb5.8
BFO Black Forest 26.27 55 P P 07 15 00.3 -0.8
comp=Z,1µm,1.1s,mb6.3,SNR=44
BFO Black Forest 26.27 55 eP P 07 15 00.5 -0.6
BFO pmax pmax
comp=Z,2µm,2.2s,mb6.2
BFO Black Forest 26.27 55 eP P 07 15 00.5 -0.6
comp=Z,2µm,2.2s,mb6.2
FLACH Flaach 26.28 57⇓ iP P 07 15 00.9 -0.3
FLACH Flaach 26.28 57⇓ iP P 07 15 01.4 +0.2
comp=Z,827nm,1.9s,mb5.9
MUGIO Muggio 26.34 60⇓ iP P 07 15 01.9 +0.1
comp=Z,1µm,2.5s,mb6.0
KTD Kalmit 26.35 53 eP P 07 15 02.2 +0.4
TRULL Truellikon 26.37 56⇓ iP P 07 15 01.7 -0.3
comp=Z,854nm,1.8s,mb6.0
WTSB Winterswijk 26.39 46 eP P 07 15 01.7 -0.4
comp=Z,441nm,1.9s,mb5.7
LLS Linth-Limmern 26.45 58⇓ iP P 07 15 03.5 +0.7
LLS Linth-Limmern 26.45 58⇓ iP P 07 15 03.2 +0.4
comp=Z,579nm,2.3s,mb5.7
WILA Wila 26.47 57⇓ iP P 07 15 03.5 +0.5
comp=Z,1µm,2.3s,mb6.0
WILA Wila 26.47 57⇓ iP P 07 15 03.2 +0.2
SPAK Spaichingen-Ko 26.52 55 eP P 07 15 03.5 +0.1
VSL Villasalto 26.55 75 eP P 07 15 03.2 -0.5
comp=Z,465nm,1.5s,mb5.8
VSL Villasalto 26.55 75 eP P 07 15 03.2 -0.6
comp=Z,465nm,1.5s,mb5.8
SC2M Scurtabr 26.55 64 P P 07 15 03.2 -0.5
SISB Singen-Schiene 26.56 56 P P 07 15 06.1 +2.3
TUE Stuetta 26.63 59 P P 07 15 04.5 +0.1
LBG Lerchenberg 26.65 54 P P 07 15 05.2 +0.7
VDL Val di Lei 26.70 59⇓ iP P 07 15 05.7 +0.7
VDL Val di Lei 26.70 59⇓ iP P 07 15 05.6 +0.6
comp=Z,861nm,2.1s,mb5.9
PLONS Plons/SG 26.73 58⇓ iP P 07 15 05.6 +0.3
PLONS Plons/SG 26.73 58⇓ iP P 07 15 05.7 +0.4
comp=Z,862nm,2.1s,mb5.9
GUT Gutenstein 26.73 56 P P 07 15 05.4 +0.1
CODM 26.78 64 P P 07 15 04.0 -1.8
SWS Schriesheim-Wi 26.78 52 P P 07 15 07.2 +1.5
LIENZ Kamor/St.Gall 26.85 57⇓ iP P 07 15 06.7 +0.4
comp=Z,766nm,2.1s,mb5.9
TOD Tromm 26.87 52 eP P 07 15 06.1 -0.5
STU Stuttgart 26.93 54 eP P 07 15 06.3 -0.8
comp=Z,347nm,1.2s,mb5.8
BACM 26.93 64 P P 07 15 06.4 -0.7
BUCH Bad Urach 26.96 55 P P 07 15 08.8 +1.4
VINC Vinca 26.98 64 P P 07 15 06.8 -0.8
DAVOX Davos/Dischmat 27.03 59 P P 07 15 07.5 -0.5
comp=Z,14nm,0.7s,mb4.6,baz=266,slow=6.7,SNR=34
DAVOX S S 07 19 50.7 +5.1
comp=Z,1.4nm,0.6s,baz=105,slow=17,SNR=1.6
DAVOX LR LR 07 25 31.0
comp=Z,40µm,18.2s,MS6.0,baz=267,slow=36
DAVOX Davos/Dischmat 27.03 59⇓ iP P 07 15 08.7 +0.7
comp=Z,618nm,2.1s,mb5.8
IBBN Ibbenburen 27.06 46 eP P 07 15 07.5 -0.7
comp=Z,2µm,2.5s,mb6.3
VALM 27.06 64 P P 07 15 08.1 -0.2
BERNI Berninapass 27.08 59⇓ iP P 07 15 09.1 +0.6
comp=Z,680nm,2.5s,mb5.7
DAVA Damuels 27.11 58 i P P 07 15 09.6 +1.0
comp=Z,252nm,1.6s,mb5.5,SNR=89
DAVA Damuels 27.11 58 i pP pP 07 15 09.6 -1.8
comp=Z,252nm,1.6s,SNR=89
DAVA Damuels 27.11 58 i P P 07 15 09.6 +0.9
comp=Z,252nm,1.6s,mb5.5
SARO Sassorosso 27.16 64 P P 07 15 07.5 -1.7
KEST Kesra 27.17 83 P P 07 15 08.2 -1.2

comp=Z,14nm,1.1s,baz=185,slow=3.4,SNR=40
KEST S **S** **07 19 58.3 +10**
comp=Z,0.8nm,0.7s,baz=260,slow=14,SNR=2.1
MAIM **27.22** **65** P **P** **07 15 08.6 -1.1**
FUORN **Ofenpass-Fuorn** **27.27** **59**⇓*i*P **P** **07 15 10.9 +0.7**
comp=Z,902nm,2.3s,mb5.9
BDI **Bagni Di Lucca** **27.30** **65** P **P** **07 15 09.6 -0.9**
SIND **Sindeldorf** **27.32** **53** P **P** **07 15 11.1 +0.5**
BRMO **Bormio** **27.33** **59** P **P** **07 15 11.1 +0.4**
MABI **Malga Bissina** **27.38** **60** P **P** **07 15 14.3 +3.2**
MAGA **Magasa** **27.43** **61** P **P** **07 15 10.7 -0.9**
BORG **Borgarnes** **27.50** **3** P **P** **07 15 11.5 -0.5**
BORG LR LR 07 23 04.0
BORG **Borgarnes** **27.50** **3** P **P** **07 15 11.5 -0.5**
comp=Z,11nm,0.9s,mb4.5,baz=88,slow=6.5,SNR=2.2
BORG LR LR 07 23 04.0
comp=Z,36μm,18.8s,MS6.0,baz=180,slow=30
HDH **Heidenheim-Cha** **27.55** **55** P **P** **07 15 14.5 +1.9**
GRFL **Gerfalco** **27.56** **67** P **P** **07 15 13.1 +0.3**
ZCCA **Zocca** **27.58** **64** P **P** **07 15 13.8 +0.8**
FETA **Feichten** **27.64** **58** *i*pP pP 07 15 14.3 -1.9
comp=Z,194nm,1.6s,SNR=61
FNVD **Fontana Vidola** **27.68** **64** P **P** **07 15 13.6 -0.3**
RAVA **Ravarino** **27.70** **63** P **P** **07 15 14.2 +0.1**
RETA **Reutte** **27.73** **57**⇓*i*P **P** **07 15 14.2 -0.1**
comp=Z,194nm,1.6s,mb5.5,SNR=36
CSNT **Castellina Chi** **27.79** **66** P **P** **07 15 14.6 -0.2**
SEI **Scarperia** **27.85** **65** P **P** **07 15 15.9 +0.5**
APPI **Appiano** **27.92** **60** P **P** **07 15 17.9 +1.9**
MOTA **Moosalm** **27.94** **58**⇑*i*P **P** **07 15 15.1 -1.0**
comp=Z,502nm,1.7s,mb5.9,SNR=34
MOTA **Moosalm** **27.94** **58**⇑*i*P **P** **07 15 15.1 -1.0**
MOTA pmax pmax
comp=Z,503nm,1.7s,mb5.9
VMG **Vicchio** **27.98** **65** P **P** **07 15 16.0 -0.5**
SQTA **Sankt Quirin** **27.99** **58**⇑*i*P **P** **07 15 16.6 0.0**
comp=Z,872nm,2.0s,mb6.0,SNR=34
SQTA **Sankt Quirin** **27.99** **58**⇑*i*P **P** **07 15 16.6 0.0**
SQTA pmax pmax
comp=Z,872nm,2.0s,mb6.0
CTI **Castel Tesino** **28.17** **61** P **P** **07 15 17.7 -0.5**
FUR **Furstenfeldbru** **28.18** **56** *e*P **P** **07 15 18.4 +0.2**
FUR pmax pmax
comp=Z,1μm,2.3s,mb6.2
FUR **Furstenfeldbru** **28.18** **56** *e*P **P** **07 15 18.4 +0.2**
comp=Z,1μm,2.3s,mb6.2
SFI **Santa Sofia** **28.20** **65** P **P** **07 15 17.4 -1.1**
WATA **Walderalm** **28.25** **58**⇓*i*P **P** **07 15 19.3 +0.4**
comp=Z,583nm,1.9s,mb5.9,SNR=17
WATA **Walderalm** **28.25** **58**⇓*i*P **P** **07 15 19.3 +0.3**
WATA pmax pmax
comp=Z,583nm,1.9s,mb5.9
CRE **Caprese Michel** **28.27** **66** P **P** **07 15 17.9 -1.2**
WTTA **Wattenberg** **28.29** **58** *i*D 07 15 19.3
SNR=77
WTTA **Wattenberg** **28.29** **58**⇓*i*P **P** **07 15 19.5 +0.2**
SNR=77
TOLF **Tolfa** **28.34** **69** P **P** **07 15 19.1 -0.7**
GRFO **Grafenberg** **28.42** **53** *e*P **P** **07 15 20.3 -0.1**
comp=Z,539nm,1.4s,mb6.0
GRFO LR LR
comp=Z,23μm,22.0s,MS5.7
GRFO **Grafenberg** **28.42** **53** *e*P **P** **07 15 20.3 -0.1**
GRFO pmax pmax
comp=Z,539nm,1.4s,mb6.0
GRFO MLR MLR
comp=Z,23μm,22.0s,MS5.7
GRFO **Grafenberg** **28.42** **53** *e*P **P** **07 15 20.3 -0.1**
comp=Z,539nm,1.4s,mb6.0
GRA1 **Grafenberg Arr** **28.42** **53** *e*P **P** **07 15 20.0 -0.4**
comp=Z,2μm,2.1s,mb6.3
GRA1 LR LR
comp=Z,26μm,21.6s,MS5.8
GRF **Grafenberg Arr** **28.42** **53** *e*P **P** **07 15 20.0 -0.4**
GRF pmax pmax
comp=Z,2μm,2.1s,mb6.3
GRF MLR MLR
comp=Z,26μm,21.6s,MS5.8
GRF **Grafenberg Arr** **28.42** **53** *e*P **P** **07 15 20.0 -0.4**
comp=Z,2μm,2.1s,mb6.3
GRF *e*L 07 24 44.2
comp=Z,26μm,21.6s
CLZ **Clausthal** **28.44** **48** *e*P **P** **07 15 20.1 -0.4**
CLZ pmax pmax
comp=Z,575nm,2.2s,mb5.8
CLZ **Clausthal** **28.44** **48** *e*P **P** **07 15 20.1 -0.4**
comp=Z,575nm,2.2s,mb5.8
CDCA **Citt' di Caste** **28.48** **66** P **P** **07 15 21.4 +0.4**
BADI **Badiali** **28.48** **66** P **P** **07 15 19.5 -1.5**
SEST **Monte Rota** **28.62** **59** P **P** **07 15 22.8 +0.6**
RSM **Repubblica di** **28.63** **65** P **P** **07 15 20.7 -1.7**
ASS **Assisi** **28.79** **67** P **P** **07 15 23.9 +0.2**
ABTA **Abfaltersbach** **28.82** **59**⇑*i*P **P** **07 15 23.9 -0.2**
comp=Z,85nm,1.9s,mb5.2,SNR=37
FSSB **Fossombrone** **28.87** **66** P **P** **07 15 23.0 -1.5**
MOX **Moxa** **28.88** **51** *i*Pu **P** **07 15 25.5 +1.0**
comp=Z,893nm,2.5s,mb6.0
MOX *e* 07 15 31.5
MOX *e* 07 15 49.8
MOX *e* 07 16 17.0
MOX LR LR
comp=Z,18μm,17.0s,MS5.8
MOX **Moxa** **28.88** **51***c i*P **P** **07 15 25.5 +1.0**
MOX *e* 07 15 31.5
comp=Z,893nm,2.5s
MOX *e* 07 15 49.8
MOX *e* 07 16 17.0
MOX
comp=Z,18μm,17.0s
MOX **Moxa** **28.88** **51***c i*P **P** **07 15 25.5 +1.0**
MOX *e* 07 15 31.5
MOX *e* 07 16 17.0
MOX MLR MLR
comp=Z,18μm,17.0s,MS5.8
MOX **Moxa** **28.88** **51** *e*P **P** **07 15 24.6 +0.1**
comp=Z,882nm,2.3s,mb6.1
LAV9 **Lanuvio** **28.88** **70** P **P** **07 15 26.3 +1.7**
MTCE **Montecelio** **28.89** **69** P **P** **07 15 26.5 +1.8**
PESA **Pesaro** **28.91** **65** P **P** **07 15 25.0 +0.1**
SNTG **Esanatoglia** **28.99** **66** P **P** **07 15 24.7 -0.9**
PTS **Pantelleria** **29.02** **80** P **P** **07 15 26.4 +0.5**
ROTZ **Rotzenmuhle** **29.06** **53** *e*P **P** **07 15 25.8 -0.3**
comp=Z,1μm,2.8s,mb6.1
LGHD **Ghdames** **29.07** **94** *i*P **P** **07 15 26.8 +0.4**
comp=Z,628nm,2.4s,mb5.9,SNR=28
CERT **Cerreto** **29.08** **69** P **P** **07 15 25.6 -0.7**
NRCA **Norcia** **29.13** **67** P **P** **07 15 26.6 -0.2**
FIAM **Fiamignano** **29.16** **68** P **P** **07 15 26.7 -0.4**
CING **Cingoli** **29.18** **66** P **P** **07 15 25.7 -1.5**
ERC **Erice** **29.24** **77** P **P** **07 15 27.5 -0.4**
GMNA **Gemona** **29.28** **60** P **P** **07 15 27.2 -0.9**
NKC **Novy Kostel** **29.31** **52** *e*P **P** **07 15 28.8 +0.5**
NKC *e* 07 16 21.9
NKC *e*S **S** **07 20 21.8 +0.4**
NKC **Novy Kostel** **29.31** **52** *e*P **P** **07 15 28.8 +0.5**
NKC *ex* x 07 16 21.9
NKC *e*S **S** **07 20 21.8 +0.4**
NKC AMS AMS 07 27 00.0
comp=Z,21μm,13.5s,MS5.9
GUAR **Guarcino** **29.33** **69** P **P** **07 15 28.2 -0.4**
TANN **Tannenbergstha** **29.36** **52** *e*P **P** **07 15 29.0 +0.3**
AQU **L'Aquila** **29.36** **68** *e*P **P** **07 15 29.1 +0.2**
comp=Z,277nm,1.1s,mb5.9
AQU **L'Aquila** **29.36** **68** *e*P **P** **07 15 29.1 +0.2**
AQU pmax pmax
comp=Z,277nm,1.1s,mb5.9
AQU **L'Aquila** **29.36** **68**⇑*i*P **P** **07 15 30.4 +1.5**
AQU **L'Aquila** **29.36** **68** *e*P **P** **07 15 29.1 +0.2**
comp=Z,277nm,1.1s,mb5.9
WET **Wettzell** **29.38** **54** *e*P **P** **07 15 29.0 0.0**
comp=Z,443nm,2.3s,mb5.8
WET **Wettzell** **29.38** **54** *e*P **P** **07 15 29.0 0.0**
WET pmax pmax
comp=Z,443nm,2.3s,mb5.8
KBA **Koelnbreinsper** **29.43** **59**⇓*i*P **P** **07 15 29.1 -0.3**
comp=Z,113nm,1.4s,mb5.4,SNR=63
KBA **Koelnbreinsper** **29.43** **59**⇓*i*P **P** **07 15 29.1 -0.3**
comp=Z,113nm,1.4s,mb5.4
KBA **Koelnbreinsper** **29.43** **59**⇓*i*P **P** **07 15 29.1 -0.3**
KBA pmax pmax
comp=Z,113nm,1.4s,mb5.4
AOI **Ancona** **29.47** **66** P **P** **07 15 29.9 +0.1**
ROBS **Robic** **29.47** **60** *e*P **P** **07 15 29.1 -0.7**
MUD **Monsted U'grnd** **29.48** **39** *i*P **P** **07 15 24.4 -5.3**
MUD *i*S **S** **07 20 17.9 -6.0**
MUD pmax pmax
comp=Z,28nm,0.7s,mb5.1
MUD MLR MLR
comp=Z,52μm,19.0s,MS6.2
MUD **Monsted U'grnd** **29.48** **39** *i*P **P** **07 15 24.4 -5.3**
comp=Z,28nm,0.7s,mb5.1
MUD *i*S **S** **07 20 17.9 -6.0**
MUD
comp=Z,52μm,19.0s
VENT **Ventotene** **29.50** **71** P **P** **07 15 31.7 +1.6**
TERO **Teramo** **29.50** **68** P **P** **07 15 29.8 -0.3**
OFFI **Offida** **29.55** **67** P **P** **07 15 30.3 -0.2**
TAM **Tamanrasset** **29.62** **111** P **P** **07 15 31.3 0.0**
SDI **San Donato** **29.71** **70** P **P** **07 15 32.1 +0.1**
BLS5 **Blasjo** **29.71** **32** *e*P **P** **07 15 32.5 +0.7**
VOY **Vojsko** **29.72** **61** *e*P **P** **07 15 31.3 -0.7**
VOY *e* pP 07 15 33.4 -1.4
VOY *e* 07 15 53.2
VOY **Vojsko** **29.72** **61** *e*P **P** **07 15 31.3 -0.7**
VOY *e* pP 07 15 33.4 -1.4
VOY *e* 07 15 53.2
VOY *e* 07 16 38.7
BER **Bergen** **29.82** **30** *e*P **P** **07 15 34.3 +1.7**
BER *e* 07 16 15.6
BER **Bergen** **29.82** **30** AMS AMS 07 26 08.8
comp=Z,33μm,20.4s,MS6.0
BER **Bergen** **29.82** **30** *e*P **P** **07 15 34.3 +1.6**
BER MLR MLR
comp=Z,33μm,20.4s,MS6.0
BER **Bergen** **29.82** **30** *e*P **P** **07 15 34.3 +1.6**
SNR=31
BER *e*S **S** **07 20 28.7 -0.4**
SNR=32
KHC **Kasperske Hory** **29.83** **55** *e*P **P** **07 15 32.8 -0.2**
KHC *ex* x 07 16 27.1
KHC *e*S **S** **07 20 33.2 +3.5**
KHC AMS AMS 07 26 40.0
comp=Z,16μm,13.8s,MS5.8
GEC2 **GERESS Array S** **29.87** **55** *e*P **P** **07 15 32.9 -0.4**
comp=Z,720nm,2.1s,mb6.0
GEC2 **GERESS Array S** **29.87** **55** *e*P **P** **07 15 32.9 -0.4**
GEC2 pmax pmax
comp=Z,720nm,2.1s,mb6.0
GERES **GERESS Array B** **29.87** **55** P **P** **07 15 32.7 -0.6**
GERES S **S** **07 20 26.0 -4.3**
GERES **GERESS Array B** **29.87** **55** P **P** **07 15 32.7 -0.6**
comp=Z,22nm,1.0s,mb4.8,baz=264,slow=6.6,SNR=63
GERES S **S** **07 20 26.0 -4.2**
comp=Z,0.4nm,0.7s,baz=315,slow=19,SNR=2.2
GERES LR LR 07 26 55.7
comp=Z,14μm,18.4s,MS5.6,baz=260,slow=35
RFI **Roccamonfina** **29.88** **70** P **P** **07 15 33.8 +0.4**
CLL **Collm** **29.89** **50**⇑*i*P **P** **07 15 33.5 +0.1**
CLL *i* 07 15 40.3
CLL *e*S **S** **07 20 35.0 +4.6**
CLL **Collm** **29.89** **50**⇑*i*P **P** **07 15 33.5 +0.1**
CLL *i* 07 15 40.3
CLL *e*S **S** **07 20 35.0 +4.6**
CLL pmax pmax
comp=Z,432nm,2.5s,mb5.7
CLL MLR MLR
comp=Z,38μm,19.8s,MS6.0
CLL **Collm** **29.89** **50** *e*P **P** **07 15 33.0 -0.4**
comp=Z,462nm,2.1s,mb5.8
CLL **Collm** **29.89** **50**⇑*i*P **P** **07 15 33.5 +0.1**
comp=Z,432nm,2.5s,mb5.7
CLL *i* x x 07 15 40.3
comp=Z,464nm,2.1s
CLL *e*PP PP 07 16 29.0 -12
CLL *ex* x 07 19 46.0
CLL *i* x x 07 19 54.4
CLL *e*S **S** **07 20 35.0 +4.6**
CLL *e*SS SS 07 22 00.0 -37
RNI2 **Rionero Sannit** **29.97** **69** P **P** **07 15 34.4 +0.2**
MIDA **Miranda** **30.05** **70** P **P** **07 15 34.6 -0.3**
CEY **Cerknica** **30.08** **61** *e*P **P** **07 15 34.1 -1.1**
MOA **Molln** **30.12** **57**⇓*i*P **P** **07 15 34.9 -0.7**
comp=Z,217nm,1.8s,mb5.6,SNR=39
SGG **Gregorio Mates** **30.16** **70** P **P** **07 15 35.8 -0.2**
LJU **Ljubljana** **30.17** **61** *e*P **P** **07 15 36.0 +0.1**
LJU *e* 07 15 43.0
LJU *e*S **S** **07 20 37.4 +2.4**
LJU **Ljubljana** **30.17** **61** *e*P **P** **07 15 36.0 +0.1**
LJU *e*S **S** **07 20 37.3 +2.4**
OBKA **Obir** **30.20** **60**⇓*i*P **P** **07 15 35.6 -0.7**
comp=Z,160nm,0.9s,mb5.8,SNR=47
FAVR **Favara** **30.23** **78** P **P** **07 15 39.3 +2.7**
GIB **Gibilmanna** **30.37** **77** P **P** **07 15 37.6 -0.2**
BRG **Berggiesshubel** **30.37** **51** *i*P **P** **07 15 37.7 0.0**
comp=Z,39nm,1.1s,mb5.0
BRG *i* 07 15 44.6
BRG PP PP 07 16 30.0 -16
BRG S **S** **07 20 32.0 -6.1**
BRG *e*ScP ScP 07 21 49.0 -31
BRG **Berggiesshubel** **30.37** **51** *i*P **P** **07 15 37.7 0.0**
BRG *i* 07 15 44.6
BRG S **S** **07 20 32.0 -6.1**
BRG pmax pmax
comp=Z,39nm,1.1s,mb5.0
BRG smax
comp=N,5.0nm,1.1s
BRG MLR MLR
comp=N,4μm,12.3s
BRG MLR MLR
comp=E,15μm,18.9s
BRG **Berggiesshubel** **30.37** **51** *e*P **P** **07 15 37.4 -0.3**
comp=Z,972nm,2.5s,mb6.1
BRG **Berggiesshubel** **30.37** **51** *i*P **P** **07 15 37.7 0.0**
comp=Z,65nm,1.1s,mb5.3
BRG *i* 07 15 44.6
comp=Z,187nm,1.5s
BRG PP PP 07 16 30.0 -16
BRG S **S** **07 20 32.0 -6.1**
BRG *e*SCP ScP 07 21 49.0 -31
comp=Z,16nm,1.3s
BRG
comp=N,7μm,12.3s
BRG
comp=E,25μm,18.9s
NVLJ **Novalja** **30.38** **64** P **P** **07 15 36.2 -1.6**
CSLB **Castelbuono** **30.40** **77** P **P** **07 15 38.1 0.0**
PSB1 **Pescosannita** **30.50** **70** P **P** **07 15 38.7 -0.3**
CIGN **Sant'Elia a Pi** **30.53** **69** P **P** **07 15 40.2 +1.0**
PRA **Prague** **30.53** **53** P **P** **07 15 39.0 -0.1**
PRA AMS AMS 07 29 30.0
PRU **Pruhonice** **30.59** **53** *e*P **P** **07 15 40.1 +0.5**
PRU *ex* x 07 16 27.8
PRU *e*S **S** **07 20 43.1 +1.6**
PRU AMS AMS 07 25 30.0
comp=Z,18μm,21.6s,MS5.7
PRU **Pruhonice** **30.59** **53** *e*P **P** **07 15 40.1 +0.5**
PRU *e*S **S** **07 20 43.1 +1.6**
PERS **Pernice** **30.60** **60** *e*P **P** **07 15 39.0 -0.8**
RUE **Ruedersdorf** **30.63** **48** *e*P **P** **07 15 40.3 +0.3**
comp=Z,442nm,1.6s,mb6.0
MRB1 **Monte Rocchett** **30.63** **71** P **P** **07 15 39.8 -0.3**
PVCC **Panska Ves** **30.70** **52** *e*P **P** **07 15 40.9 +0.3**
PVCC *e*S **S** **07 20 43.3 +0.1**
PVCC AMS AMS 07 26 30.0
comp=Z,24μm,19.0s,MS5.9
PVCC **Panska Ves** **30.70** **52** *e*P **P** **07 15 40.9 +0.3**
PVCC *e*S **S** **07 20 43.3 +0.1**
CSSN **Cassano Irpino** **30.70** **71** P **P** **07 15 40.4 -0.3**
RAFF **Raffo Rosso** **30.78** **78** P **P** **07 15 42.8 +1.3**
CRES **Cresnjev** **30.81** **61** *e*P **P** **07 15 41.4 -0.2**
CRES *e*S **S** **07 20 47.3 +2.3**
COP **Copenhagen** **30.84** **42** *i*P **P** **07 15 47.8 +6.0**
COP *i*S **S** **07 20 49.2 +3.9**
COP
comp=Z,10μm,20.0s
SLNA **Salina** **30.89** **76** P **P** **07 15 42.1 -0.3**
ARSA **Arzberg** **30.92** **59**⇑*i*P **P** **07 15 41.7 -0.9**
comp=Z,140nm,2.2s,mb5.4,SNR=9.4
SGO **Sicignano** **30.95** **72** P **P** **07 15 42.9 0.0**
RGNG **Rignano Grg** **31.04** **69** P **P** **07 15 43.4 -0.3**
FG4 **Candela** **31.04** **70** P **P** **07 15 45.0 +1.3**
MRLC **Muro Lucano** **31.06** **71** P **P** **07 15 43.5 -0.4**
TREC **Trest** **31.10** **55** *e*P **P** **07 15 43.8 -0.3**
TREC *ex* x 07 16 42.0
TREC *e*S **S** **07 20 47.7 -1.8**
TREC AMS AMS 07 27 20.0
comp=Z,13μm,13.2s,MS5.8
HMDC **Modica** **31.17** **79** P **P** **07 15 46.0 +1.1**
KONO **Kongsberg** **31.19** **33** *e*P **P** **07 15 44.6 -0.1**
comp=Z,739nm,2.3s,mb6.1
KONO **Kongsberg** **31.19** **33** *e*P **P** **07 15 48.1 +3.3**
KONO *e*S **S** **07 20 50.1 -0.5**
KONO AMS AMS 07 27 15.0
comp=Z,37μm,20.7s,MS6.0
KONO **Kongsberg** **31.19** **33** *e*P **P** **07 15 44.7 -0.1**
KONO pmax pmax
comp=Z,739nm,2.3s,mb6.1
KONO **Kongsberg** **31.19** **33** *e*P **P** **07 15 48.1 +3.3**
SNR=31
KONO *e*S **S** **07 20 50.2 -0.5**
SNR=32
CONA **Conrad Observa** **31.20** **57**⇑*i*P **P** **07 15 44.6 -0.4**
comp=Z,66nm,1.8s,mb5.2,SNR=16
MSAG **Monte S. Angel** **31.28** **69** P **P** **07 15 45.9 +0.1**
SISC **Sisak** **31.44** **62** P **P** **07 15 47.2 0.0**
SISC **Sisak** **31.44** **62** *i*P **P** **07 15 47.1 -0.1**
UPC **Upice** **31.60** **52** *e*P **P** **07 15 48.7 +0.1**
SCLL **Scilla** **31.63** **76** P **P** **07 15 48.5 -0.4**
SOP **Sopron** **31.65** **58** P **P** **07 15 47.3 -1.7**
SOP **Sopron** **31.65** **58**⇑*e*P **P** **07 15 50.3 +1.3**
MTTG **Motta San Giov** **31.66** **76** P **P** **07 15 48.1 -1.1**
KRUC **Moravsky** **31.66** **55** P **P** **07 15 48.0 -1.1**
DPC **Dobruska-Polom** **31.78** **53** *e*P **P** **07 15 49.8 -0.3**
DPC *ex* x 07 16 39.1
VRAC **Vranov** **31.82** **55** P **P** **07 15 49.7 -0.8**
VRAC **Vranov** **31.82** **55**⇑*i*P **P** **07 15 51.8 +1.3**
VRAC **Vranov** **31.82** **55** *e*P **P** **07 15 49.8 -0.7**
KSP **Ksiaz** **31.83** **52** *e*P **P** **07 15 50.9 +0.3**
KSP *e*pP pP 07 15 53.4 0.0
KSP *e*sP sP 07 15 56.4 +1.9
KSP *e*S **S** **07 20 55.5 -5.4**
KSP *e*sS sS 07 21 04.3 -1.2
KSP LMZ 07 27 05.9
comp=Z,54μm,20.5s
KSP **Ksiaz** **31.83** **52**⇓*e*P **P** **07 15 50.4 -0.2**
KSP *e**PP pP 07 15 56.5 +3.1
KSP *e*S **S** **07 21 00.6 -0.3**
KSP MLR MLR
comp=Z,62μm,20.5s,MS6.3
KSP **Ksiaz** **31.83** **52**⇓*e*P **P** **07 15 50.4 -0.2**
KSP *e*S **S** **07 21 00.6 -0.3**
TDS **Terranova Siba** **31.86** **73** P **P** **07 15 50.5 -0.4**
BSD **Bornholm Skovb** **32.00** **44** *i*P **P** **07 15 53.8 +1.9**
BSD *i*S **S** **07 21 06.9 +3.5**
BSD pmax pmax
comp=Z,52nm,0.9s,mb5.4
BSD MLR MLR
comp=Z,49μm,18.0s,MS6.2
BSD **Bornholm Skovb** **32.00** **44** *i*P **P** **07 15 53.8 +1.9**
comp=Z,52nm,0.9s,mb5.4
BSD *i* 07 17 22.6
BSD *i*S **S** **07 21 06.9 +3.5**
BSD
comp=Z,49μm,18.0s
ZST **Bratislava** **32.05** **57** *e*P **P** **07 15 52.2 -0.3**
comp=Z,506nm,1.9s,mb6.0
ZST *e*S **S** **07 21 04.0 -0.4**
ZST LR LR
comp=Z,18μm,17.0s,MS5.8
ZST **Bratislava** **32.05** **57** *e*P **P** **07 15 52.2 -0.3**
comp=Z,506nm,1.9s,mb6.0
ZST *e*S **S** **07 21 04.0 -0.4**
MODS **Modra-Piesok** **32.18** **57** *e*P **P** **07 15 53.4 -0.3**
MODS *e*S **S** **07 21 08.2 +1.8**
MODS **Modra-Piesok** **32.18** **57** *e*P **P** **07 15 53.4 -0.3**
MODS *e*S **S** **07 21 08.3 +1.9**
TIP **Timpagrande** **32.26** **74** *e*P **P** **07 15 52.7 -1.8**
comp=Z,665nm,1.5s,mb6.2
NAO01 **NORSAR Array S** **32.35** **32** *e*P **P** **07 15 52.1 -2.9**
comp=Z,60nm,1.2s,mb5.3
NAO01 LR LR
comp=Z,39μm,20.0s,MS6.1
TA1 **Taranto** **32.47** **71** *e*P **P** **07 15 57.5 +1.3**
JAVC **Velka Javorina** **32.48** **56** P **P** **07 15 57.7 +1.4**
MORC **Moravsky Berou** **32.48** **54** *e*P **P** **07 15 56.1 -0.2**
comp=Z,214nm,1.8s,mb5.7
MORC **Moravsky Berou** **32.48** **54** P **P** **07 15 56.4 +0.1**
MORC **Moravsky Berou** **32.48** **54**⇑*i*P **P** **07 15 58.3 +2.0**
MORC **Moravsky Berou** **32.48** **54** *e*P **P** **07 15 56.3 0.0**
STON **Ston** **32.50** **67** P **P** **07 15 55.5 -1.0**
STON **Ston** **32.50** **67** P **P** **07 15 57.5 +1.0**
STON **Ston** **32.50** **67** *i*P **P** **07 15 55.5 -1.0**
NB2 **NORSAR Subarra** **32.59** **32** P **P** **07 15 56.6 -0.5**
comp=Z,660nm,2.5s,mb6.1,baz=242,slow=9.3
NOA **NORSAR Array B** **32.59** **32** P **P** **07 15 56.5 -0.6**
NOA 07 18 43.0
NOA **NORSAR Array B** **32.59** **32** P **P** **07 15 56.5 -0.6**
comp=Z,18nm,1.0s,mb5.0,baz=241,slow=9.0,SNR=18
NOA PcP PcP 07 18 43.0 -0.1
comp=Z,4.8nm,0.8s,baz=76,slow=3.6,SNR=4.9
NOA LR LR 07 27 23.2
comp=Z,39μm,21.9s,MS6.1,baz=260,slow=33
RHK3 **Tenkes** **32.76** **61** *e*P **P** **07 15 58.8 0.0**
PKS9 **Tamasi** **32.78** **60** *e*P **P** **07 16 00.0 +1.1**
GKP **Gorka Klasztor** **32.85** **48** *e*P **P** **07 15 58.6 -0.9**
GKP *e*pP pP 07 16 02.6 +0.3
GKP *e*sP sP 07 16 06.3 +2.9
GKP *e*S **S** **07 21 13.8 -2.9**
GKP *e*sS sS 07 21 20.3 -1.0
GKP *e*SS SS 07 23 34.8 -3.1
GKP LMZ 07 31 42.0
comp=Z,33μm,15.5s
GKP **Gorka Klasztor** **32.85** **48** *e*P **P** **07 15 58.6 -0.9**
GKP *e*pP pP 07 16 02.6 +0.3
GKP *e*sP sP 07 16 06.3 +2.9
GKP *e*S **S** **07 21 13.8 -2.9**
GKP *e*sS sS 07 21 20.3 -1.0
GKP *e*SS SS 07 23 34.8 -3.0
GKP LR LR
comp=Z,33μm,15.5s,MS6.2
GKP **Gorka Klasztor** **32.85** **48** *e*P **P** **07 15 58.6 -0.9**
GKP *e**SP sP 07 16 06.3 +2.9
GKP *e*S **S** **07 21 13.8 -2.9**
GKP *e*SS SS 07 23 34.8 -3.0
GKP MLR MLR
comp=Z,33μm,15.5s,MS6.2
GKP **Gorka Klasztor** **32.85** **48** *e*P **P** **07 15 58.6 -0.9**
GKP *e*pP pP 07 16 02.6 +0.3
PKSG **32.88** **58** *e*P **P** **07 15 59.9 +0.1**
OKC **Ostrava-Krasne** **32.88** **54** *e*P **P** **07 16 00.1 +0.3**
OKC *e* 07 16 58.6
OKC **Ostrava-Krasne** **32.88** **54** *e*P **P** **07 16 00.1 +0.3**
OKC *ex* x 07 16 58.6
OKC AMS AMS 07 29 50.0
comp=Z,11μm,11.9s,MS5.8
RAC **Raciborz** **32.94** **53** *e*P **P** **07 16 01.8 +1.5**
RAC MLR MLR
comp=Z,18μm,18.8s,MS5.8
RAC MLR MLR
comp=E,26μm,16.5s
KOLL **Kolacno** **32.94** **56** *e*P **P** **07 16 00.6 +0.3**
PKSM **Moragy** **33.03** **61** ⇓P **P** **07 16 00.4 -0.7**
PKSM **Moragy** **33.03** **61** P **P** **07 16 00.5 -0.6**
PKSM **Moragy** **33.03** **61**⇑*i*P **P** **07 16 02.5 +1.4**
LCI **Lecce** **33.10** **71** P **P** **07 16 02.5 +0.7**
BRY **Bratogost** **33.11** **67**⇓*i*P **P** **07 16 00.8 -1.1**
HCY **Herceg Novi** **33.12** **68**⇓*i*P **P** **07 16 01.0 -1.0**
BBSR **BB Station** **33.17** **274** PFAKE 07 16 10.0 +7.5
BBSR LR LR
comp=Z,17μm,20.0s,MS5.8
SFJD **Kangerlussuaq** **33.20** **342** *e*P **P** **07 16 01.6 -0.8**
comp=Z,258nm,1.4s,mb6.0
SFJD *e*PcP PcP 07 18 45.9 +1.2
SFJD LR LR
comp=Z,31μm,20.0s,MS6.0
SFJD **Kangerlussuaq** **33.20** **342** P **P** **07 16 02.2 -0.2**
SFJD pmax pmax
comp=Z,260nm,1.4s,mb6.0
SFJD **Kangerlussuaq** **33.20** **342** P **P** **07 16 00.9 -1.5**
comp=Z,15nm,0.6s,mb5.1,baz=114,slow=9.3,SNR=12
SFJD LR LR 07 26 28.8
comp=Z,31μm,18.4s,MS6.0,baz=125,slow=31
SFJD **Kangerlussuaq** **33.20** **342**⇓*i*P **P** **07 16 01.2 -1.2**
comp=Z,151nm,1.4s,mb5.7
SFJD *i*S **S** **07 21 22.5 +0.6**
SFJD
comp=Z,28μm,19.0s
VYHS **Vyhne** **33.22** **56** *e*P **P** **07 16 02.1 -0.7**
comp=Z,223nm,2.2s,mb5.7
VYHS *e*PcP PcP 07 18 46.4 +1.3

VYHS *eS* **S** **07 21 27.4 +4.8**
VYHS LR LR
comp=Z,8μm,23.6s,MS5.3
VYHS Vyhne 33.22 56 *eP* **P** **07 16 02.1 -0.7**
VYHS *ePCP* PcP 07 18 46.4 +1.3
VYHS *eS* **S** **07 21 27.4 +4.8**
VYHS Vyhne 33.22 56 *eP* **P** **07 16 02.1 -0.7**
comp=Z,223nm,2.2s,mb5.7
HFA0 Hagfors New Ar 33.24 34 P **P** **07 16 03.7 +0.9**
HFS Hagfors 33.24 34 PcP PcP 07 18 44.6 -0.3
comp=Z,5.2nm,0.8s,baz=228,slow=3.8,SNR=3.9
HFS LR LR 07 28 24.5
comp=Z,31μm,19.9s,MS6.0,baz=242,slow=34
BUD Budapest 33.31 58 P **P** **07 16 03.0 -0.5**
BUD Budapest 33.31 58⇑ *eP* **P** **07 16 05.4 +1.9**
UPM Unac-Piva 33.35 66⇓ *iP* **P** **07 16 04.4 +0.4**
BUM Brajici-Budva 33.43 68⇓ *iP* **P** **07 16 04.5 -0.2**
NKY Niksic 33.45 67⇓ *iP* **P** **07 16 04.5 -0.4**
PENC Penc 33.49 58 *eP* **P** **07 16 06.0 +0.9**
SCHQ Schefferville 33.53 315 *eP* **P** **07 16 04.7 -0.7**
comp=Z,632nm,1.8s,mb6.2
SCHQ LR LR
comp=Z,18μm,20.0s,MS5.8
SCHQ Schefferville 33.53 315 P **P** **07 16 04.0 -1.3**
comp=Z,32nm,0.7s,mb5.4,baz=100,slow=8.2,SNR=55
SCHQ S **S** **07 21 17.7 -10**
comp=Z,1.8nm,0.9s,baz=354,slow=18,SNR=1.8
SCHQ LR LR 07 27 25.5
comp=Z,15μm,19.4s,MS5.7,baz=99,slow=32
TOA0 Torodi Ar. Sit 33.59 129 *eP* **P** **07 16 05.4 -0.9**
TORD Torodi Ar. Bea 33.59 129 P **P** **07 16 05.4 -0.9**
comp=Z,61nm,0.7s,mb5.7,baz=318,slow=9.0,SNR=93
TORD S **S** **07 21 23.8 -5.0**
comp=Z,1.3nm,0.9s,baz=308,slow=24,SNR=2.5
TORD LR LR 07 29 25.4
comp=Z,8μm,19.5s,MS5.4,baz=310,slow=36
PDG Podgorica 33.69 67⇓ *iP* **P** **07 16 05.6 -1.3**
TTG Podgorica 33.69 67⇓ *iP* **P** **07 16 05.6 -1.3**
PLE Pljevlja 33.69 66⇓ *iP* **P** **07 16 08.2 +1.2**
ULC Ulcinj 33.73 68⇓ *iP* **P** **07 16 06.8 -0.5**
FGSL Fruska Gora 33.87 62⇑ *iP* **P** **07 16 08.6 +0.1**
PKSN Nyarlorinc 33.88 59 *eP* **P** **07 16 09.2 +0.7**
PSZ Piszkesteto 33.91 58 *eP* **P** **07 16 08.6 -0.1**
comp=Z,441nm,1.7s,mb6.1
PSZ Piszkesteto 33.91 58 P **P** **07 16 09.2 +0.5**
PSZ Piszkesteto 33.91 58 ⇑P **P** **07 16 09.9 +1.2**
PSZ Piszkesteto 33.91 58⇑ *iP* **P** **07 16 09.9 +1.2**
OJC Ojcow 33.98 53 *eP* **P** **07 16 08.9 -0.4**
OJC *epP* pP 07 16 11.7 -0.4
OJC *eS* **S** **07 21 35.2 +1.0**
OJC L 07 31 09.9
comp=Z,20nm,16.9s
OJC Ojcow 33.98 53 *eP* **P** **07 16 08.9 -0.4**
OJC *epP* pP 07 16 11.7 -0.4
OJC *eS* **S** **07 21 35.2 +1.0**
DIVS Divibare 34.06 64 *eP* **P** **07 16 09.2 -0.9**
BEY Berane 34.10 67⇓ *iP* **P** **07 16 10.1 -0.4**
IVA Berane 34.10 67⇓ *iP* **P** **07 16 10.1 -0.4**
SJES Sjenica 34.12 66⇑ *iP* **P** **07 16 11.9 +1.2**
PVY Plav 34.19 67⇓ *iP* **P** **07 16 10.9 -0.4**
PKME Peaks-Kenny Pk 34.19 298 PFAKE 07 16 20.0 +8.8
PKME LR LR
comp=Z,27μm,19.0s,MS6.0
PUK Puka 34.20 68 *i* PN **P** **07 16 13.5 +2.2**
NIE Niedzica 34.25 55 *eP* **P** **07 16 13.0 +1.3**
TIR Tirane 34.27 69 *eP* **P** **07 16 12.3 +0.3**
TIR Tirane 34.27 69 *i* PN **P** **07 16 15.0 +3.0**
KECS Kecovo 34.32 57 *eP* **P** **07 16 12.6 +0.3**
comp=Z,31nm,1.1s,mb5.2
KECS *eS* **S** **07 21 39.6 0.0**
KECS Kecovo 34.32 57 *eP* **P** **07 16 12.6 +0.3**
KECS pmax pmax
comp=Z,31nm,1.1s,mb5.2
KECS Kecovo 34.32 57 *eP* **P** **07 16 12.5 +0.2**
KECS *eS* **S** **07 21 39.6 0.0**
BEO Beograd 34.36 63 *eP* **P** **07 16 12.1 -0.6**
KEK Kerkira 34.48 72 *eP* **P** **07 16 13.7 -0.1**
GRUS Gruza 34.60 65⇑ *iP* **P** **07 16 14.5 -0.3**
PHP Peshkopia 34.65 69 *i* PN **P** **07 16 16.2 +0.9**
JMIC Jan Mayen 34.74 9 *eP* **P** **07 16 18.0 +2.4**
JMIC *e* 07 17 35.0
JMIC *i* 07 21 54.7
JMIC LR LR
comp=Z,17μm,18.8s,MS5.8
JMIC Jan Mayen 34.74 9 *eS* **S** **07 21 49.3 +3.8**
JMIC AMS AMS 07 27 19.2
comp=Z,17μm,18.8s,MS5.8
JMIC Jan Mayen 34.74 9 LR LR 07 27 41.0
comp=Z,17μm,19.2s,MS5.8,baz=20,slow=32
JMIC Jan Mayen 34.74 9 *eP* **P** **07 16 18.0 +2.3**
SNR=30
JMIC Jan Mayen 34.74 9 *e*PP PP 07 17 34.9 +0.7
SNR=47
JMIC *eS* **S** **07 21 49.3 +3.7**
SNR=31
NSS Namsos 34.74 27 *eP* **P** **07 16 15.5 -0.3**
NSS *i* 07 17 37.9
NSS LR LR
comp=Z,10μm,23.0s,MS5.5
NSS Namsos 34.74 27 *eP* **P** **07 16 15.7 -0.1**
NSS *e*PP PP 07 17 35.8 +1.5
NSS *eS* **S** **07 21 45.8 +0.1**
NSS *eS* **S** **07 21 46.4 +0.7**
NSS AMS AMS 07 28 08.5
comp=Z,10μm,23.0s,MS5.5
STHS Stebnicka Huta 34.86 55 *eP* **P** **07 16 18.3 +1.4**
STHS pmax pmax
comp=Z,423nm,2.4s,mb6.0
STHS Stebnicka Huta 34.86 55 *eP* **P** **07 16 18.3 +1.4**
comp=Z,423nm,2.4s,mb6.0
IGT Igoumenitsa 34.92 72 *eP* **P** **07 16 18.2 +0.5**
SVIS Svilajnac 34.93 64⇑ *iP* **P** **07 16 18.9 +1.3**
WAR Warsaw 34.95 50 *eP* **P** **07 16 19.4 +1.7**
WAR *epP* pP 07 16 19.9 -0.6
WAR LMZ 07 30 24.7
comp=Z,25μm,18.5s
WAR Warsaw 34.95 50 *eP* **P** **07 16 19.4 +1.7**
WAR *epP* pP 07 16 19.9 -0.7
WAR LR LR
comp=Z,25μm,18.5s,MS6.0
WAR Warsaw 34.95 50 *eP* **P** **07 16 19.4 +1.7**
WAR *epP* pP 07 16 19.9 -0.7
CRVS Cervenica-Dubn 34.98 56 *eP* **P** **07 16 18.6 +0.6**
CRVS *eS* **S** **07 21 50.8 +1.0**
OHR Ohrid 35.00 69 *eP* **P** **07 16 18.3 0.0**
OHR Ohrid 35.00 69 *eP* **P** **07 16 18.2 -0.1**
KBN Korca 35.07 70 *i* PN **P** **07 16 22.6 +3.7**
BZS Buzias 35.12 62 ⇓P **P** **07 16 19.3 0.0**
BZS Buzias 35.12 62⇓ *iP* **P** **07 16 19.3 0.0**
JAN Janina 35.29 72 *eP* **P** **07 16 21.6 +0.8**
KRUS Krusevo 35.30 69 *eP* **P** **07 16 21.6 +0.8**
LKD Levkas 35.33 74 *eP* **P** **07 16 20.3 -0.8**
SKO Skopje 35.35 68 *eP* **P** **07 16 21.3 0.0**
SKO Skopje 35.35 68 *eP* **P** **07 16 21.4 +0.1**
DBIC Dimbokro 35.40 145 *eP* **P** **07 16 21.1 -0.8**
comp=Z,126nm,1.4s,mb5.7
DBIC LR LR
comp=Z,18μm,19.0s,MS5.8
DBIC Dimbokro 35.40 145 *eP* **P** **07 16 21.1 -0.8**
DBIC pmax pmax
comp=Z,126nm,1.4s
DBIC MLR MLR
comp=Z,18μm,19.0s
DBIC Dimbokro 35.40 145 P **P** **07 16 20.8 -1.1**
comp=Z,19nm,0.7s,mb5.1,baz=316,slow=8.9,SNR=23
DBIC S **S** **07 21 50.8 -5.9**
comp=Z,3.2nm,0.7s,baz=16,slow=22,SNR=1.5
DBIC LR LR 07 30 02.1
comp=Z,18μm,19.0s,MS5.8,baz=312,slow=35
VLS Valsamata 35.40 75 *eP* **P** **07 16 22.7 +0.9**
BIA Bitola 35.41 70 *eP* **P** **07 16 20.8 -1.0**
BIA Bitola 35.41 70 *eP* **P** **07 16 21.9 +0.1**
FNA Florina 35.48 70 *eP* **P** **07 16 21.9 -0.5**
BARS Barje 35.51 66⇑ *iP* **P** **07 16 22.7 0.0**
KOLS Kolonicke sedl 35.52 56 *eP* **P** **07 16 24.7 +2.1**
KOLS *eS* **S** **07 21 55.5 -2.5**
UZH Uzhgorod 35.52 56 *i* P **P** **07 16 23.0 +0.3**
UZH Uzhgorod 35.52 56 *eP* **P** **07 16 23.0 +0.3**
UZH *e* 07 16 30.0
UZH *i* S **S** **07 22 00.0 +1.9**
UZH MLR MLR
comp=Z,11μm,13.0s,MS5.8
MEV Metsovon 35.55 72 *eP* **P** **07 16 24.0 +0.9**

KFL Anninata 35.57 75 *eP* **P** **07 16 20.5 -2.7**
TRPA Tarpa 35.69 57⇑ *iP* **P** **07 16 25.0 +0.9**
KWP Kalwaria 35.82 55 *eP* **P** **07 16 25.3 +0.1**
KWP *epP* pP 07 16 28.4 +0.3
KWP *esP* sP 07 16 31.4 +2.2
KWP *eS* **S** **07 22 10.1 +7.4**
KWP LMZ 07 35 28.2
comp=Z,12μm,17.1s
KWP Kalwaria 35.82 55 *eP* **P** **07 16 25.3 +0.1**
KWP *epP* pP 07 16 28.4 +0.4
KWP *esP* sP 07 16 31.4 +2.2
KWP *eS* **S** **07 22 10.1 +7.5**
KWP Kalwaria 35.82 55 *eP* **P** **07 16 25.3 +0.1**
KWP *e**SP sP 07 16 31.4 +2.2
KWP MLR MLR
comp=Z,12μm,17.1s,MS5.7
KWP Kalwaria 35.82 55⇑ *iP* **P** **07 16 26.7 +1.5**
KWP Kalwaria 35.82 55 *eP* **P** **07 16 25.3 +0.1**
KWP *epP* pP 07 16 28.4 +0.4
DJES Djerdap 35.83 63 *eP* **P** **07 16 24.4 -1.0**
DRGR 35.83 59 ⇓P **P** **07 16 24.9 -0.4**
DRGR 35.83 59⇓ *iP* **P** **07 16 24.9 -0.5**
KZN Kozani 35.86 71 *eP* **P** **07 16 26.1 +0.4**
WES Weston 35.92 293 *eP* **P** **07 16 26.5 +0.3**
comp=Z,841nm,1.7s,mb6.4
WES LR LR
comp=Z,6μm,19.0s,MS5.4
WES Weston 35.92 293 *eP* **P** **07 16 26.5 +0.3**
WES pmax pmax
comp=Z,841nm,1.7s,mb6.4
WES MLR MLR
comp=Z,6μm,19.0s,MS5.4
GZR Gura Zlata 35.95 62 ⇓P **P** **07 16 26.3 -0.1**
GZR Gura Zlata 35.95 62⇓ *iP* **P** **07 16 26.3 -0.1**
FFD Franklin Falls 36.02 295 *eP* **P** **07 16 26.9 -0.1**
comp=Z,2μm,2.3s,mb6.7
FFD *e*PP PP 07 17 48.2 -0.7
FFD *e*PcP PcP 07 18 56.8 +3.5
HRV Adam Dziewonsk 36.08 293 *eP* **P** **07 16 27.6 0.0**
comp=Z,377nm,1.7s,mb6.0
HRV LR LR
comp=Z,8μm,20.0s,MS5.5
HRV Adam Dziewonsk 36.08 293 *eP* **P** **07 16 27.6 +0.1**
HRV pmax pmax
comp=Z,377nm,1.7s,mb6.0
HRV MLR MLR
comp=Z,8μm,20.0s,MS5.5
RLS Riolos of Patr 36.10 74 *eP* **P** **07 16 28.3 +0.5**
LBNH Lisbon 36.14 296 *eP* **P** **07 16 28.3 +0.3**
comp=Z,512nm,1.9s,mb6.1
LBNH LR LR
comp=Z,16μm,22.0s,MS5.7
LBNH Lisbon 36.14 296 *eP* **P** **07 16 28.3 +0.3**
LBNH pmax pmax
comp=Z,512nm,1.9s,mb6.1
LBNH MLR MLR
comp=Z,16μm,22.0s,MS5.7
EVR Evrytania 36.17 73 *eP* **P** **07 16 29.4 +1.0**
THL Klokotos Trika 36.19 72 *eP* **P** **07 16 28.5 0.0**
VAY Valandovo 36.28 69 *eP* **P** **07 16 28.1 -1.2**
VAY Valandovo 36.28 69 *eP* **P** **07 16 27.9 -1.4**
VAY Valandovo 36.28 69 *eP* **P** **07 16 27.9 -1.4**
SELA Sela 36.38 74 *eP* **P** **07 16 30.3 +0.1**
LIT Litokhoron 36.44 71 *eP* **P** **07 16 30.1 -0.7**
LIT Litokhoron 36.44 71 *eP* **P** **07 16 30.0 -0.7**
HNH Hanover 36.45 295 P **P** **07 16 31.9 +1.2**
comp=Z,2μm,2.1s,mb6.8
SUW Suwalki 36.46 47 *eP* **P** **07 16 30.3 -0.4**
SUW *epP* pP 07 16 32.9 -0.6
SUW *esP* sP 07 16 36.2 +1.6
SUW *eS* **S** **07 22 11.9 -0.5**
SUW *esS* sS 07 22 20.0 +3.0
SUW *eSS* SS 07 24 44.5 -6.9
SUW LMZ 07 31 52.5
comp=Z,41μm,18.4s
SUW Suwalki 36.46 47 *eP* **P** **07 16 30.3 -0.4**
SUW *epP* pP 07 16 32.9 -0.6
SUW *esP* sP 07 16 36.2 +1.6
SUW *eS* **S** **07 22 11.9 -0.5**
SUW *esS* sS 07 22 20.0 +3.0
SUW *eSS* SS 07 24 44.5 -6.8
SUW Suwalki 36.46 47 *eP* **P** **07 16 30.3 -0.4**
SUW *e**SP sP 07 16 36.2 +1.6
SUW *eS* **S** **07 22 11.9 -0.5**
SUW MLR MLR
comp=Z,41μm,18.4s,MS6.2
SUW Suwalki 36.46 47 *eP* **P** **07 16 30.3 -0.4**
SUW *epP* pP 07 16 32.9 -0.6
SUW *eS* **S** **07 22 11.9 -0.5**
AGG Agios Georgios 36.54 73 *eP* **P** **07 16 31.5 -0.1**
KNT Kendrikon 36.56 69 *eP* **P** **07 16 30.6 -1.1**
VTS Vitosha 36.56 67 *eP* **P** **07 16 31.2 -0.4**
VTS Vitosha 36.56 67⇓ *iP* **P** **07 16 31.4 -0.3**
VTS Vitosha 36.56 67 *eP* **P** **07 16 31.6 -0.1**
KKB Krupnik 36.58 68 P **P** **07 16 32.3 +0.5**
KKB Krupnik 36.58 68 *eP* **P** **07 16 32.4 +0.6**
PYL PYLOS 36.60 76 *eP* **P** **07 16 31.2 -0.9**
ITM Ithomi 36.67 76 *eP* **P** **07 16 32.3 -0.3**
LVV L'vov 36.68 54 *eP* **P** **07 16 33.0 +0.4**
LVV *e* 07 18 00.0
LVV *eS* **S** **07 22 21.0 +5.2**
QUA2 Belchertown 36.69 293 *eP* **P** **07 16 32.9 +0.1**
comp=Z,1μm,1.7s,mb6.4
THE Thessaloniki 36.70 70 *eP* **P** **07 16 32.1 -0.8**
HORT Hortiatis 36.81 70 *eP* **P** **07 16 33.3 -0.5**
SOH Sokhos 36.96 69 *eP* **P** **07 16 35.0 0.0**
VLX Vlachokerasia 36.97 75 *eP* **P** **07 16 35.6 +0.4**
MMB Musomiste 37.10 68 P **P** **07 16 40.0 +3.7**
MMB Musomiste 37.10 68 *eP* **P** **07 16 36.6 +0.3**
PLG Polygyros 37.11 70 *eP* **P** **07 16 36.0 -0.3**
LKR Lokris 37.13 73 *eP* **P** **07 16 36.1 -0.5**
NEO Neokhori 37.16 72 *eP* **P** **07 16 36.6 -0.2**
NVR Nevrokopi 37.24 68 *eP* **P** **07 16 38.0 +0.5**
LTK Loutraki 37.26 74 *eP* **P** **07 16 36.9 -0.8**
FRNY Flat Rock 37.26 297 *eP* **P** **07 16 37.0 -0.6**
comp=Z,183nm,1.6s,mb5.7
PAIG Paliouri 37.37 71 *eP* **P** **07 16 37.0 -1.6**
ACCN Adirondack Com 37.49 295 *eP* **P** **07 16 39.9 +0.4**
comp=Z,540nm,2.0s,mb6.0
VOIR 37.54 62 ⇓P **P** **07 16 39.0 -1.0**
VOIR 37.54 62⇑ *iP* **P** **07 16 42.0 +2.0**
VLI Veliai 37.57 76 *eP* **P** **07 16 41.1 +0.8**
DID Didima 37.59 75 *eP* **P** **07 16 39.4 -1.1**
AOS Alonnisos 37.69 72 *eP* **P** **07 16 40.7 -0.6**
PLD Plovdiv 37.73 67 *eP* **P** **07 16 41.9 +0.3**
PLD Plovdiv 37.73 67 *eP* **P** **07 16 42.8 +1.2**
RZN Rozhen 37.81 68 P **P** **07 16 43.3 +1.0**
RZN Rozhen 37.81 68 *eP* **P** **07 16 43.0 +0.7**
NCB Newcomb 37.81 296 *eP* **P** **07 16 42.4 +0.2**
comp=Z,347nm,1.8s,mb5.8
NCB LR LR
comp=Z,9μm,22.0s,MS5.5
ATH Athens Observa 37.84 74 *eP* **P** **07 16 42.3 -0.3**
ZIMR 37.98 64 P **P** **07 16 44.7 +1.0**
LONY Lake Ozonia 37.99 297 *eP* **P** **07 16 45.1 +1.3**
comp=Z,236nm,1.8s,mb5.6
LONY LR LR
comp=Z,17μm,22.0s,MS5.8
PVL Pavlikeni 38.02 65 *eP* **P** **07 16 43.4 -0.6**
PAL Palisades 38.06 291 *eP* **P** **07 16 44.4 0.0**
comp=Z,186nm,1.4s,mb5.6
PAL Palisades 38.06 291 P **P** **07 16 44.4 0.0**
PAL pmax pmax
comp=Z,160nm,1.4s,mb5.6
CPNY Central Park 38.14 291 *eP* **P** **07 16 45.0 -0.1**
comp=Z,265nm,1.6s,mb5.7
MSNY Massena 38.14 298 *eP* **P** **07 16 45.7 +0.7**
MLR Muntele Rosu 38.16 61 ⇑P **P** **07 16 43.7 -1.6**
MLR Muntele Rosu 38.16 61 P **P** **07 16 45.4 +0.2**
comp=Z,8.3nm,0.7s,mb4.6,baz=290,slow=11,SNR=2.0
MLR S **S** **07 22 33.7 -4.7**
comp=Z,1.0nm,0.7s,baz=224,slow=18,SNR=2.4
MLR LR LR 07 32 37.8
comp=Z,15μm,18.4s,MS5.8,baz=272,slow=37
MLR Muntele Rosu 38.16 61⇓ *iP* **P** **07 16 47.1 +1.9**
KDZ Kurdzhali 38.33 68 P **P** **07 16 46.4 -0.3**
KDZ Kurdzhali 38.33 68 *eP* **P** **07 16 48.5 +1.8**
BUC1 Bucharest 38.36 63 P **P** **07 16 48.2 +1.3**
LOS Limnos 38.43 70 *eP* **P** **07 16 47.5 0.0**
SZH Strazhica 38.44 65 *eP* **P** **07 16 47.4 -0.2**
LIA Limnos Island 38.51 70 *eP* **P** **07 16 44.3 -3.9**
RDO Rodhopi 38.52 68 *eP* **P** **07 16 48.7 +0.4**
BRNJ Basking Ridge 38.61 291 *eP* **P** **07 16 49.1 0.0**

comp=Z,894nm,1.9s,mb6.2
PLOR Plostina 38.62 61 P **P** **07 16 50.0 +1.0**
PLOR Plostina 38.62 61⇑ *iP* **P** **07 16 50.2 +1.2**
NE53 Naroch' 38.66 46 *eP* **P** **07 16 47.0 -2.3**
NE53 Naroch' 38.66 46 *e*PP PP 07 18 18.0 +0.4
NE53 *eS* **S** **07 22 44.4 -1.3**
NE53 Naroch' 38.66 46 *e*PcS PcS 07 22 48.8 -1.3
VRI Vrincioaia 38.67 61 ⇑P **P** **07 16 51.3 +1.9**
VRI Vrincioaia 38.67 61 P **P** **07 16 50.2 +0.7**
VRI Vrincioaia 38.67 61⇑ *iP* **P** **07 16 49.6 +0.1**
KARN Karanos 38.71 78 *eP* **P** **07 16 49.9 0.0**
VAM Vamos 38.92 78 *eP* **P** **07 16 52.5 +0.8**
ALN Alexandroupoli 38.94 69 *eP* **P** **07 16 52.0 +0.2**
GADA Gukgeada 38.98 70 P **P** **07 16 52.5 +0.4**
GVD Gavdhos 39.01 79 *eP* **P** **07 16 52.9 +0.4**
comp=Z,853nm,1.6s,mb6.2
JMB Yambol 39.04 66 *eP* **P** **07 16 51.2 -1.5**
ENEZ Enez 39.06 69 P **P** **07 16 52.2 -0.5**
VSU Vasula 39.09 41 *i* P **P** **07 16 54.0 +1.1**
BOZC Bozcaada 39.17 70 *i* P **P** **07 16 52.9 -0.9**
MNK Minsk 39.23 47⇓ *eP* **P** **07 16 52.0 -2.0**
MNK *e*PPP 07 18 32.0
MNK *eS* **S** **07 22 52.0 -2.3**
MNK *e*SSS 07 25 32.0
MNK pmax pmax
comp=Z,240nm,1.5s,mb5.7
MNK smax
comp=E,20μm,12.0s
MNK MLR MLR
comp=N,24μm,16.0s,MS6.7
MNK MLR MLR
comp=E,85μm,18.0s,MS6.7
MNK MLR MLR
comp=Z,123μm,18.0s,MS6.8
BINY Binghamton 39.37 294 *eP* **P** **07 16 52.7 -2.7**
comp=Z,237nm,1.9s,mb5.6
BINY *e*PcP PcP 07 19 00.2 -3.5
BINY LR LR
comp=Z,8μm,20.0s,MS5.5
EZN Ezine 39.38 70 P **P** **07 16 55.7 +0.2**
FINES FINESS Array B 39.39 36 P **P** **07 16 54.8 -0.4**
FINES PcP PcP 07 19 03.1 -0.2
FINES S **S** **07 22 48.7 -7.8**
FINES LR LR 07 32 58.8
FINES FINESS Array B 39.39 36 P **P** **07 16 54.8 -0.5**
FINES 07 19 03.1
FINES S **S** **07 22 48.7 -7.8**
FINES FINESS Array B 39.39 36 P **P** **07 16 54.8 -0.4**
comp=Z,13nm,0.8s,mb4.7,baz=177,slow=9.5,SNR=12
FINES PcP PcP 07 19 03.1 -0.2
comp=Z,9.3nm,0.8s,baz=126,slow=2.6,SNR=6.6
FINES S **S** **07 22 48.7 -7.8**
comp=Z,2.2nm,1.0s,baz=294,slow=33,SNR=1.8
FINES LR LR 07 32 58.8
comp=Z,11μm,18.9s,MS5.7,baz=251,slow=36
FIA1 FINESS Array S 39.39 36 *eP* **P** **07 16 55.7 +0.4**
FIA1 *e*PcP PcP 07 19 03.3 0.0
BBGH Gun Hill 39.46 242 PFAKE 07 17 10.0 +14
BBGH LR LR
comp=Z,10μm,21.0s,MS5.6
APE Apeiranthos 39.47 75 *eP* **P** **07 16 55.7 -0.6**
APE Apeiranthos 39.47 75 *i* P **P** **07 16 55.4 -0.9**
APE Apeiranthos 39.47 75 *eP* **P** **07 16 56.2 -0.1**
APE Apeiranthos 39.47 75⇑ *iP* **P** **07 16 58.2 +1.9**
PRK Paraskevi 39.48 71 *eP* **P** **07 16 56.7 +0.4**
SIVA Sivas 39.52 78 *eP* **P** **07 16 56.9 +0.2**
CHOS Chios island 39.52 73 *eP* **P** **07 16 57.3 +0.6**
DAG Danmarks Havn 39.61 2⇑ *iP* **P** **07 16 56.3 -0.7**
DAG pmax pmax
comp=Z,65nm,1.3s,mb5.2
DAG MLR MLR
comp=Z,26μm,23.0s,MS6.0
DAG MLR MLR
comp=N,11μm,18.0s,MS5.8
DAG MLR MLR
comp=E,8μm,18.0s,MS5.8
DAG Danmarks Havn 39.61 2⇑ *iP* **P** **07 16 56.3 -0.7**
comp=E,65nm,1.3s,mb5.2
DAG
comp=Z,26μm,23.0s
HARR Harsova 39.66 62 ⇑P **P** **07 16 56.2 -1.5**
HARR Harsova 39.66 62⇓ *iP* **P** **07 16 57.7 -0.1**
KAF Kangasniemi 39.66 35 *ep* **P** **07 16 56.9 -0.6**
comp=Z,57nm,0.7s,mb5.4
KAF Kangasniemi 39.66 35 *eP* **P** **07 16 56.9 -0.6**
KAF pmax pmax
comp=Z,57nm,0.7s,mb5.4
CFR Carcaliu 39.73 62 P **P** **07 16 58.4 0.0**
TRO Tromso 39.79 22 *eP* **P** **07 17 01.2 +2.7**
TRO *e*PP PP 07 18 31.2 +1.5
TRO Tromso 39.79 22 *i* **S** **07 23 08.8 +6.5**
TRO AMS AMS 07 31 14.1
comp=Z,9μm,18.4s,MS5.6
TRO Tromso 39.79 22 *eP* **P** **07 17 01.2 +2.7**
TRO *e* 07 18 36.9
TRO *i* 07 23 08.8
TRO MLR MLR
comp=Z,9μm,18.4s,MS5.6
TRO Tromso 39.79 22 *e*PP PP 07 18 31.2 +1.5
SNR=40
TRO *eS* **S** **07 23 02.2 -0.1**
SNR=30
RKY Sarkoy-Tekirda 39.83 69 P **P** **07 16 57.5 -1.8**
SART Tekirdag 39.83 69 *i* P **P** **07 16 50.5 -8.8**
URLA Izmir 39.94 72 *i* P **P** **07 16 59.8 -0.4**
KIS Kishinev 39.99 59⇑ *iP* **P** **07 16 58.0 -2.5**
KIS *i* 07 18 38.0
KIS *i* S **S** **07 23 02.0 -3.9**
KIS pmax pmax
comp=Z,5μm,4.0s
KIS pmax pmax
comp=Z,6μm,6.0s
KIS smax
comp=E,6μm,12.0s
KIS MLR MLR
comp=Z,15μm,20.0s,MS5.8
KIS MLR MLR
comp=N,1μm,15.0s,MS5.8
KIS MLR MLR
comp=E,11μm,16.0s,MS5.8
KIS Kishinev 39.99 59 *i* PP PP 07 18 37.0 +4.8
comp=E,8μm,11.0s
KIS Kishinev 39.99 59 *i* PPP 07 19 00.0
KIS *e*ScP ScP 07 22 48.0 -6.7
KIS *i* S **S** **07 23 02.0 -3.9**
comp=E,3μm,12.0s
KIS *i* SS SS 07 26 05.0 +2.5
KIS *e*LQ 07 30 00.0
KIS LRM 07 33 44.0
comp=E,14μm,20.0s
KIS Kishinev 39.99 59⇑ *iP* **P** **07 16 58.0 -2.5**
comp=E,5μm,4.0s
KIS *i* SS SS 07 26 05.0 +2.5
PSN Preselentsi 39.99 64 P **P** **07 17 00.8 +0.3**
PSN Preselentsi 39.99 64 *eP* **P** **07 16 59.8 -0.7**
LAST Lasithi 39.99 78 *eP* **P** **07 17 00.8 +0.1**
KIEV Kiev 40.00 53 *eP* **P** **07 16 59.3 -1.2**
comp=E,502nm,1.7s,mb6.0
KIEV LR LR
comp=Z,15μm,20.0s,MS5.8
KIEV Kiev 40.00 53 *eP* **P** **07 16 59.3 -1.2**
KIEV pmax pmax
comp=Z,502nm,1.7s,mb6.0
KIEV MLR MLR
comp=Z,15μm,20.0s,MS5.8
AKASG Malin Array Be 40.01 53 P **P** **07 16 59.2 -1.3**
AKASG S **S** **07 23 01.6 -4.5**
AKASG Malin Array Be 40.01 53 P **P** **07 16 59.3 -1.3**
AKASG S **S** **07 23 01.6 -4.5**
AKASG Malin Array Be 40.01 53 P **P** **07 16 59.2 -1.3**
comp=Z,60nm,1.0s,mb5.3,baz=269,slow=8.3,SNR=89
AKASG S **S** **07 23 01.6 -4.5**
comp=Z,0.1nm,0.3s,baz=304,slow=20,SNR=3.6
AKASG PKiKP PKiKP 07 26 14.1 -1.9
comp=Z,0.3nm,0.4s,baz=293,slow=0.9,SNR=4.4
AKASG LR LR 07 32 48.4
comp=Z,15μm,20.2s,MS5.8,baz=275,slow=35
AKBB Malin Array Si 40.01 53 *eP* **P** **07 16 59.2 -1.3**
AKBB Malin Array Si 40.01 53 P **P** **07 16 59.4 -1.2**
TIRR Tirgusor 40.03 63 ⇓P **P** **07 16 59.5 -1.4**
TIRR Tirgusor 40.03 63⇑ *iP* **P** **07 17 01.5 +0.6**
SLB Belfond 40.05 244 *eP* **P** **07 17 02.9 +1.7**
MVL Millersville 40.09 290 *eP* **P** **07 17 01.1 -0.3**
comp=Z,226nm,1.6s,mb5.7

SMG	**Samos**	**40.30**	**73**	*e*P	**P**	**07 17 03.6**	**+0.4**
SSV	**Crater Summit**	**40.49**	**244**	*e*P	**P**	**07 17 07.5**	**+2.5**
SVB	**Belmont**	**40.57**	**244**	*e*P	**P**	**07 17 07.2**	**+1.5**
ZKR	**Zakros**	**40.58**	**77**	*e*P	**P**	**07 17 04.8**	**-0.7**
BALB	**Balikesir**	**40.59**	**70**	P	**P**	**07 17 05.8**	**+0.3**
SDMD	**Soldier's Deli**	**40.60**	**290**	*e*P	**P**	**07 17 05.9**	**+0.3**
	comp=Z,389nm,1.8s,mb5.7						
FCV	**Fort Charlotte**	**40.65**	**243**	*e*P	**P**	**07 17 08.6**	**+2.3**
ELBA	**Catalca**	**40.66**	**68**	*i* P	**P**	**07 17 06.0**	**-0.1**
BTOK	**Tokmak**	**40.68**	**70**	*i* P	**P**	**07 17 05.9**	**-0.3**
MTP	**Monte Pirata**	**40.69**	**253**	*e*P	**P**	**07 17 04.1**	**-2.5**
AKHS	**Akhisar**	**40.73**	**71**	*i* P	**P**	**07 17 04.7**	**-2.1**
BODT	**Bodrum**	**40.84**	**74**	P	**P**	**07 17 07.5**	**-0.2**
BDRM	**Kayabasi**	**40.94**	**74**	*i* P	**P**	**07 17 08.8**	**+0.3**
CPD	**Cerro la Pandu**	**41.01**	**254**	*e*P	**P**	**07 17 07.8**	**-1.4**
	comp=Z,180nm,1.0s,mb5.7						
CPD				*e*PcP	PcP	07 19 13.6	+4.4
CPD	**Cerro la Pandu**	**41.01**	**254**	P	**P**	**07 17 08.4**	**-0.8**
SSPA	**Standing Stone**	**41.09**	**292**	*e*P	**P**	**07 17 10.3**	**+0.6**
	comp=Z,358nm,1.8s,mb5.7						
SSPA				*e*PcP	PcP	07 19 13.4	+4.2
SSPA				LR	LR		
	comp=Z,9μm,22.0s,MS5.6						
MLSB	**Milas**	**41.13**	**74**	P	**P**	**07 17 09.7**	**-0.4**
ISK	**Istanbul-Kandi**	**41.14**	**68**	P	**P**	**07 17 08.0**	**-2.1**
SJG	**San Juan**	**41.14**	**254**	*e*P	**P**	**07 17 09.6**	**-0.7**
	comp=Z,72nm,0.9s,mb5.3						
SJG				*e*PcP	PcP	07 19 10.4	+0.7
SJG				LR	LR		
	comp=Z,18μm,22.0s,MS5.9						
SJG	**San Juan**	**41.14**	**254**	*e*P	**P**	**07 17 09.6**	**-0.7**
SJG				*e*		07 19 10.4	
SJG				pmax	pmax		
	comp=Z,72nm,0.9s						
SJG				MLR	MLR		
	comp=Z,18μm,22.0s						
SJG	**San Juan**	**41.14**	**254**	P	**P**	**07 17 09.8**	**-0.5**
	comp=Z,46nm,0.9s,mb5.1,baz=54,slow=6.1,SNR=16						
SJG				PcP	PcP	07 19 09.1	-0.6
	comp=Z,15nm,0.9s,baz=0.0,slow=0.0,SNR=3.4						
DAT	**Datca**	**41.14**	**74**	P	**P**	**07 17 08.4**	**-1.8**
KARP	**Karpathos**	**41.18**	**76**	*e*P	**P**	**07 17 09.7**	**-0.8**
CBN	**Corbin**	**41.31**	**288**	*e*P	**P**	**07 17 11.9**	**+0.4**
	comp=Z,181nm,1.6s,mb5.5						
CBN				LR	LR		
	comp=Z,9μm,21.0s,MS5.6						
GEMT	**Gemlik**	**41.38**	**69**	P	**P**	**07 17 10.9**	**-1.1**
KULA	**Kula-Manisa**	**41.47**	**71**	P	**P**	**07 17 12.9**	**+0.1**
YLV	**Yalova**	**41.48**	**68**	P	**P**	**07 17 13.2**	**+0.3**
YER	**Yerkesik**	**41.56**	**74**	P	**P**	**07 17 13.5**	**-0.1**
URVA	**University of**	**41.61**	**287**	*e*P	**P**	**07 17 14.7**	**+0.7**
GRGR	**Grenville**	**41.63**	**243**	PFAKE		07 17 30.0	+16
GRGR				LR	LR		
	comp=Z,11μm,21.0s,MS5.7						
ARG	**Arkhangelos**	**41.72**	**75**	*e*P	**P**	**07 17 14.0**	**-0.9**
ADVT	**Abdulvahap**	**41.79**	**68**	P	**P**	**07 17 12.1**	**-3.3**
ARCES	**ARCESS Array B**	**41.79**	**24**	P	**P**	**07 17 14.2**	**-0.8**
ARCES						07 19 10.4	
ARCES				S	**S**	**07 23 32.8**	**+0.6**
ARCES	**ARCESS Array B**	**41.79**	**24**	P	**P**	**07 17 14.2**	**-0.9**
	comp=Z,26nm,0.7s,mb5.0,baz=243,slow=6.2,SNR=40						
ARCES				PcP	PcP	07 19 10.4	-0.6
	comp=Z,3.8nm,0.6s,baz=264,slow=2.4,SNR=4.6						
ARCES				S	**S**	**07 23 32.8**	**+0.6**
	comp=Z,4.0nm,0.9s,baz=17,slow=19,SNR=2.5						
ARCES				LR	LR	07 32 57.9	
	comp=Z,19μm,19.1s,MS6.0,baz=242,slow=34						
ARE0	**ARCESS Array S**	**41.79**	**24**	*e*P	**P**	**07 17 15.0**	**0.0**
GDZ	**Gediz**	**41.93**	**70**	*i* P	**P**	**07 17 14.9**	**-1.6**
GDZ	**Gediz**	**41.93**	**70**	*i* P	**P**	**07 17 14.9**	**-1.7**
JOF	**Joensuu**	**42.10**	**34**	*e*p	**P**	**07 17 16.7**	**-0.9**
	comp=Z,32nm,0.9s,mb5.0						
JOF	**Joensuu**	**42.10**	**34**	*e*P	**P**	**07 17 16.7**	**-0.9**
JOF				pmax	pmax		
	comp=Z,32nm,0.9s,mb5.0						
ERPA	**Erie**	**42.30**	**294**	P	**P**	**07 17 20.2**	**+0.6**
	comp=Z,379nm,2.0s,mb5.7						
ERPA				LR	LR		
	comp=Z,6μm,19.0s,MS5.5						
FETY	**Fethiye**	**42.33**	**74**	P	**P**	**07 17 18.7**	**-1.1**
KEV	**Kevo**	**42.36**	**24**	PFAKE		07 17 30.0	+10
KEV				LR	LR		
	comp=Z,16μm,19.0s,MS5.9						
ALT	**Altintas**	**42.41**	**70**	P	**P**	**07 17 20.9**	**+0.4**
BORA	**Eskisehir**	**42.45**	**69**	*i* P	**P**	**07 17 18.5**	**-2.3**
TRN	**Trinidad (W)**	**42.49**	**241**	*e*P	**P**	**07 17 20.1**	**-1.2**
TRN	**Trinidad (W)**	**42.49**	**241**	*e*	**S**	**07 23 44.9**	**+1.3**
BJO1	**Bjornoya**	**42.50**	**16**	*e*P	**P**	**07 17 21.9**	**+1.1**
BJO1				*e*		07 19 02.3	
BJO1				*i*		07 23 49.0	
BJO1				LR	LR		
	comp=Z,16μm,20.5s,MS5.9						
GOLH	**Golhisar**	**42.51**	**73**	*i* P	**P**	**07 17 20.6**	**-0.8**
GOLH	**Golhisar**	**42.51**	**73**	*i* P	**P**	**07 17 20.5**	**-0.8**
ALLY	**Alegheny Colle**	**42.52**	**294**	*e*P	**P**	**07 17 22.8**	**+1.5**
	comp=Z,523nm,1.6s,mb6.0						
BJO	**Bjornoya**	**42.55**	**16**	*e*P	**P**	**07 17 21.9**	**+0.8**
BJO				*e*PP	PP	07 18 60.0	+0.4
BJO				*e*S	**S**	**07 23 43.7**	**+0.5**
BJO				AMS	AMS	07 31 27.1	
	comp=Z,16μm,20.5s,MS5.9						
BJO	**Bjornoya**	**42.55**	**16**	*e*PP	PP	07 19 00.0	+0.5
	SNR=39						
BJO				*e*S	**S**	**07 23 43.7**	**+0.4**
	SNR=30						
HENT	**Hendek**	**42.55**	**68**	*i* P	**P**	**07 17 20.9**	**-0.7**
CNNC	**Cliffs of the**	**42.60**	**284**	PFAKE		07 17 30.0	+7.9
CNNC				LR	LR		
	comp=Z,9μm,19.0s,MS5.7						
MCWV	**Mont Chateau**	**42.78**	**291**	*e*P	**P**	**07 17 24.4**	**+0.9**
	comp=Z,603nm,1.7s,mb6.0						
MCWV				LR	LR		
	comp=Z,12μm,22.0s,MS5.8						
KDZE	**Karadeniz Ereo**	**42.83**	**67**	P	**P**	**07 17 21.9**	**-1.9**
ESKT	**Eskisehir**	**42.84**	**69**	P	**P**	**07 17 25.0**	**+1.0**
ESKT	**Eskisehir**	**42.84**	**69**	*i* P	**P**	**07 17 22.9**	**-1.1**
SEYT	**Eskypehyr**	**42.84**	**69**	*i* P	**P**	**07 17 22.9**	**-1.1**
AKAS	**Kas**	**42.85**	**74**	*i* P	**P**	**07 17 18.9**	**-5.2**
SHUT	**Suhut-Afyon**	**42.88**	**71**	P	**P**	**07 17 25.6**	**+1.2**
ELL	**Elmali**	**42.92**	**74**	P	**P**	**07 17 26.5**	**+1.8**
ISP	**Isparta**	**43.05**	**72**	P	**P**	**07 17 24.7**	**-1.0**
ISP	**Isparta**	**43.05**	**72**	*e*P	**P**	**07 17 25.1**	**-0.6**
ISP	**Isparta**	**43.05**	**72**	*d*iP	**P**	**07 17 25.2**	**-0.5**
BCK	**Bucak**	**43.23**	**72**	P	**P**	**07 17 28.1**	**+0.9**
ANTB	**Antalya**	**43.45**	**73**	P	**P**	**07 17 30.8**	**+1.9**
KIZT	**Kizilcal**	**43.79**	**70**	P	**P**	**07 17 30.7**	**-1.0**
BLA	**Blacksburg**	**43.91**	**288**	*e*P	**P**	**07 17 33.3**	**+0.6**
	comp=Z,520nm,1.6s,mb6.0						
BLA				LR	LR		
	comp=Z,7μm,19.0s,MS5.6						
BLA	**Blacksburg**	**43.91**	**288**	*e*P	**P**	**07 17 33.3**	**+0.6**
BLA				pmax	pmax		
	comp=Z,520nm,1.6s,mb6.0						
BLA				MLR	MLR		
	comp=Z,7μm,19.0s,MS5.6						
APA	**Apatity**	**43.92**	**28**	⇑*i*P	**P**	**07 17 32.5**	**+0.2**
APA				*i* S	**S**	**07 24 00.0**	**-3.5**
APA				pmax	pmax		
	comp=Z,6μm,6.0s						
APA				pmax	pmax		
	comp=Z,1.0nm,2.6s						
APA				MLR	MLR		
	comp=Z,17μm,16.0s,MS6.0						
SIM	**Simferopol'**	**43.95**	**61**	*de*P	**P**	**07 17 33.0**	**+0.1**
SIM				*e*S	**S**	**07 24 06.0**	**+1.5**
SIM				pmax	pmax		
	comp=Z,2μm,14.0s						
SIM				MLR	MLR		
	comp=Z,16μm,17.0s,MS6.0						
KDHN	**Kadinhani**	**44.07**	**70**	*i* P	**P**	**07 17 29.9**	**-4.0**
ELN	**Prospectdale**	**44.16**	**288**	*e*P	**P**	**07 17 34.9**	**+0.3**
LOD	**Lodumlu**	**44.17**	**68**	P	**P**	**07 17 33.7**	**-0.9**
ANTO	**Ankara**	**44.19**	**68**	P	**P**	**07 17 34.8**	**-0.1**
ANTO	**Ankara**	**44.19**	**68**	*e*P	**P**	**07 17 35.5**	**+0.6**
	comp=Z,138nm,1.4s,mb5.5						
ANTO				LR	LR		
	comp=Z,13μm,19.0s,MS5.9						
ANTO	**Ankara**	**44.19**	**68**	*e*P	**P**	**07 17 35.5**	**+0.6**
ANTO				pmax	pmax		
	comp=Z,138nm,1.4s,mb5.5						
ANTO				MLR	MLR		
	comp=Z,13μm,19.0s,MS5.9						
ANTO	**Ankara**	**44.19**	**68**	P	**P**	**07 17 35.8**	**+0.9**
	SNR=38						
BALT	**Daday**	**44.19**	**66**	*i* P	**P**	**07 17 34.4**	**-0.4**
KBS	**Kingsbay**	**44.23**	**9**	*e*P	**P**	**07 17 39.1**	**+4.4**
KBS				*i*		07 24 15.5	
KBS	**Kingsbay**	**44.23**	**9**	AMS	AMS	07 32 10.3	
	comp=Z,8μm,20.1s,MS5.7						
KBS	**Kingsbay**	**44.23**	**9**	*i* P	**P**	**07 17 36.9**	**+2.2**
KBS	**Kingsbay**	**44.23**	**9**	*e*P	**P**	**07 17 39.1**	**+4.4**
	SNR=28						
KBS				*e*S	**S**	**07 24 08.4**	**+0.6**
	SNR=29						
RCBR	**Riachuelo**	**44.25**	**196**	*e*P	**P**	**07 17 36.9**	**+1.4**
	comp=Z,182nm,1.6s,mb5.6						
RCBR				LR	LR		
	comp=Z,18μm,22.0s,MS6.0						
OBN	**Obninsk**	**44.29**	**46**	P	**P**	**07 17 36.0**	**+0.6**
	comp=Z,857nm,1.9s,mb6.2,SNR=8.7						
OBN	**Obninsk**	**44.29**	**46**	*e*P	**P**	**07 17 35.5**	**0.0**
	comp=Z,1μm,1.9s,mb6.2						
OBN				*e*PcP	PcP	07 19 19.9	+0.4
OBN				LR	LR		
	comp=Z,23μm,20.0s,MS6.1						
OBN	**Obninsk**	**44.29**	**46**	*d*iP	**P**	**07 17 36.1**	**+0.7**
OBN				*e*		07 19 20.2	
OBN				*e*S	**S**	**07 24 11.3**	**+2.1**
OBN				*e*SS	SS	07 27 33.1	+6.1
OBN				pmax	pmax		
	comp=Z,455nm,2.1s,mb5.8						
OBN				MLR	MLR		
	comp=Z,25μm,23.0s,MS6.1						
SPB4	**Spitsbergen Ar**	**44.33**	**11**	*e*P	**P**	**07 17 38.5**	**+3.0**
KONT	**Konya--Tatoy**	**44.42**	**71**	P	**P**	**07 17 37.6**	**+0.8**
ELDT	**Eldivan**	**44.49**	**67**	*i* P	**P**	**07 17 35.8**	**-1.4**
BZK	**Bozkurt**	**44.54**	**65**	P	**P**	**07 17 39.8**	**+2.2**
CANT	**Cankiri**	**44.60**	**67**	P	**P**	**07 17 38.4**	**+0.2**
SDDR	**Presa de Saban**	**44.62**	**259**	*e*P	**P**	**07 17 38.9**	**+0.4**
	comp=Z,390nm,1.6s,mb6.0						
SDDR				*e*PcP	PcP	07 19 18.8	-2.6
SDDR				LR	LR		
	comp=Z,16μm,20.0s,MS5.9						
MOS	**Moscow**	**44.86**	**45**	*e*P	**P**	**07 17 37.0**	**-3.0**
MOS				*e*		07 19 21.8	
MOS				*e*PPP		07 20 02.8	
MOS				*e*S	**S**	**07 24 14.3**	**-3.1**
MOS				pmax	pmax		
	comp=Z,389nm,1.9s,mb5.9						
MOS				pmax	pmax		
	comp=N,192nm,1.6s						
MOS				smax			
	comp=E,8μm,8.1s						
MOS				MLR	MLR		
	comp=Z,14μm,18.5s,MS5.9						
AAM	**Ann Arbor**	**44.91**	**296**	*e*P	**P**	**07 17 43.1**	**+2.6**
	comp=Z,318nm,1.7s,mb5.9						
AAM	**Ann Arbor**	**44.91**	**296**	*e*P	**P**	**07 17 43.1**	**+2.6**
AAM				pmax	pmax		
	comp=Z,318nm,1.7s,mb5.9						
ACSO	**Alum Creek Sta**	**44.95**	**293**	*e*P	**P**	**07 17 41.2**	**+0.2**
	comp=Z,89nm,1.3s,mb5.4						
ACSO				LR	LR		
	comp=Z,9μm,20.0s,MS5.7						
GLMI	**Grayling**	**45.01**	**299**	PFAKE		07 17 50.0	+8.7
GLMI				LR	LR		
	comp=Z,16μm,22.0s,MS5.9						
KAMT	**Kaman**	**45.02**	**69**	P	**P**	**07 17 41.0**	**-0.4**
PCRV	**Puerto La Cruz**	**45.09**	**244**	P	**P**	**07 17 42.0**	**-0.3**
	comp=Z,37nm,0.7s,mb5.3,baz=53,slow=3.3,SNR=12						
LHS	**Liberty Hill**	**45.11**	**284**	*e*P	**P**	**07 17 43.2**	**+0.9**
LHS	**Liberty Hill**	**45.11**	**284**	P	**P**	**07 17 43.7**	**+1.4**
NHSC	**New Hope**	**45.12**	**282**	PFAKE		07 17 50.0	+7.6
NHSC				LR	LR		
	comp=Z,6μm,20.0s,MS5.5						
ERMK	**Ermenek**	**45.25**	**73**	*i* P	**P**	**07 17 42.0**	**-1.3**
TMCR	**Tamitsa**	**45.25**	**33**	⇑*i*P	**P**	**07 17 42.2**	**-0.8**
TMCR				*e*		07 19 23.8	
TMCR				pmax	pmax		
	comp=Z,107nm,1.4s,mb5.5						
BOYT	**Boyabat**	**45.33**	**66**	*i* P	**P**	**07 17 43.5**	**-0.5**
CDAG	**Cicekdag**	**45.43**	**68**	*i* P	**P**	**07 17 40.1**	**-4.6**
CTKT	**Corum**	**45.46**	**67**	*i* P	**P**	**07 17 45.0**	**0.0**
CORM	**Corum**	**45.46**	**67**	P	**P**	**07 17 46.5**	**+1.5**
DIKM	**Dikmen**	**45.52**	**65**	P	**P**	**07 17 46.3**	**+0.9**
JSC	**Jenkinsville**	**45.53**	**284**	*e*P	**P**	**07 17 46.6**	**+1.0**
LEF	**Lefka**	**45.74**	**75**	P	**P**	**07 17 44.8**	**-2.5**
IKL	**Isikli**	**45.97**	**73**	P	**P**	**07 17 47.3**	**-1.7**
ASCN	**Ascension**	**46.03**	**166**	PFAKE		07 18 00.0	+10
ASCN				LR	LR		
	comp=Z,7μm,20.0s,MS5.6						
AVNT	**Avonos**	**46.04**	**69**	*i* P	**P**	**07 17 48.9**	**-0.7**
CSS	**Prodhromos**	**46.13**	**75**	*e*P	**P**	**07 17 51.0**	**+0.6**
	comp=Z,263nm,1.4s,mb6.0						
CSS	**Prodhromos**	**46.13**	**75**	*e*P	**P**	**07 17 47.5**	**-2.8**
VOR	**Voronezh**	**46.17**	**51**	⇑*i*P	**P**	**07 17 49.0**	**-1.4**
VOR				pmax	pmax		
	comp=Z,600nm,2.2s,mb6.1						
LFK	**Lefkose**	**46.18**	**74**	P	**P**	**07 17 46.0**	**-4.7**
VRSR	**Storozhevoye**	**46.24**	**51**	*d*iP	**P**	**07 17 51.2**	**+0.3**
VRSR				*e*		07 19 27.3	
VRSR				*e*		07 19 34.7	
VRSR				*e*S	**S**	**07 24 37.1**	**-0.3**
VRSR				pmax	pmax		
	comp=Z,350nm,3.8s						
VRSR				pmax	pmax		
	comp=N,50nm,4.3s						
VRSR				pmax	pmax		
	comp=E,320nm,3.5s						
VRSR				smax			
	comp=Z,100nm,4.7s						
VRSR				smax			
	comp=N,220nm,5.6s						
VRSR				smax			
	comp=E,230nm,6.0s						
VRSR				MLR	MLR		
	comp=E,3μm,17.0s,MS5.3						
VRSR				MLR	MLR		
	comp=Z,4μm,17.0s,MS5.4						
VRSR				MLR	MLR		
	comp=N,1μm,16.0s,MS5.3						
KVT	**Kavak**	**46.25**	**66**	P	**P**	**07 17 51.4**	**+0.2**
MASC	**Masc**	**46.28**	**263**	*e*P	**P**	**07 17 53.1**	**+1.5**
ANN	**Anapa**	**46.29**	**60**	*e*P	**P**	**07 17 51.9**	**+0.5**
ANN	**Anapa**	**46.29**	**60**	*d*iP	**P**	**07 17 52.2**	**+0.8**
ANN				*e*		07 19 27.9	
ANN				*e*		07 19 41.8	
ANN				*e*S	**S**	**07 24 40.6**	**+2.3**
ANN				pmax	pmax		
	comp=Z,220nm,1.3s,mb5.9						
ANN				MLR	MLR		
	comp=N,10μm,18.0s,MS5.9						
ANN				MLR	MLR		
	comp=E,6μm,18.0s,MS5.9						
ANN				MLR	MLR		
	comp=Z,10μm,18.0s,MS5.8						
VORD	**Divnogorie**	**46.34**	**52**	*e*P	**P**	**07 17 51.0**	**-0.7**
VORD				*e*S	**S**	**07 24 34.5**	**-4.4**
VORD				pmax	pmax		
	comp=Z,130nm,1.6s,mb5.6						
VORD				pmax	pmax		
	comp=N,110nm,0.7s						
VORD				pmax	pmax		
	comp=E,270nm,1.8s						
VORD				MLR	MLR		
	comp=N,5μm,16.0s,MS6.0						
VORD				MLR	MLR		
	comp=Z,17μm,16.0s,MS6.1						
VORD				MLR	MLR		
	comp=E,11μm,15.0s,MS6.0						
MERS	**Mersin**	**46.39**	**72**	P	**P**	**07 17 51.1**	**-1.3**
TZTN	**Tazewell**	**46.50**	**288**	*e*P	**P**	**07 17 53.8**	**+0.5**
	comp=E,414nm,1.8s,mb6.1						
TZTN				LR	LR		
	comp=Z,6μm,20.0s,MS5.6						
EREN	**Erenkoy**	**46.58**	**74**	P	**P**	**07 17 54.3**	**+0.4**
KARA	**Karaisali**	**46.67**	**71**	P	**P**	**07 17 53.7**	**-0.8**
BNN	**Bunyan**	**46.75**	**69**	P	**P**	**07 17 55.9**	**+0.7**
ALE	**Alert**	**47.04**	**354**	P	**P**	**07 17 56.0**	**-0.9**
	comp=Z,253nm,1.4s,mb6.0,SNR=21						
KRTS	**Karatas**	**47.14**	**72**	P	**P**	**07 17 59.4**	**+1.2**
KOZT	**Kozan**	**47.18**	**70**	P	**P**	**07 17 59.3**	**+0.8**
CEYT	**Ceyhan**	**47.27**	**71**	P	**P**	**07 17 59.6**	**+0.3**
ANDN	**Andirin**	**47.53**	**70**	*i* P	**P**	**07 17 59.3**	**-2.0**
GOGA	**Godfrey**	**47.56**	**284**	*e*P	**P**	**07 18 02.4**	**+0.9**
	comp=Z,406nm,1.8s,mb6.2						
GOGA				LR	LR		
	comp=Z,9μm,20.0s,MS5.7						
GOGA	**Godfrey**	**47.56**	**284**	*e*P	**P**	**07 18 02.4**	**+0.9**
GOGA				pmax	pmax		
	comp=Z,406nm,1.8s,mb6.2						
GOGA				MLR	MLR		
	comp=Z,9μm,20.0s,MS5.7						
CPCT	**Cooper Cave**	**47.62**	**287**	*e*P	**P**	**07 18 02.9**	**+0.8**
VRHR	**Novokhopersk**	**47.77**	**51**	*e*P	**P**	**07 18 01.1**	**-1.8**
VRHR				*e*		07 19 48.5	
VRHR				*e*S	**S**	**07 24 55.3**	**-4.0**
VRHR				pmax	pmax		
	comp=Z,80nm,0.4s,mb6.1						
VRHR				pmax	pmax		
	comp=N,140nm,1.3s						
VRHR				pmax	pmax		
	comp=E,70nm,0.9s						
VRHR				pmax	pmax		
	comp=Z,2μm,10.3s						
VRHR				pmax	pmax		
	comp=N,600nm,14.1s						
VRHR				pmax	pmax		
	comp=E,2μm,14.9s						
VRHR				smax			
	comp=E,8μm,16.6s						
VRHR				smax			
	comp=Z,2μm,8.7s						
VRHR				smax			
	comp=N,1μm,9.8s						
COWI	**Conover**	**47.82**	**302**	PFAKE		07 18 20.0	+17
COWI				LR	LR		
	comp=Z,27μm,20.0s,MS6.2						
COBT	**Iskenderun**	**47.82**	**72**	*i* P	**P**	**07 18 03.0**	**-0.5**
BLO	**Bloomington**	**47.88**	**292**	*e*P	**P**	**07 18 04.0**	**+0.1**
	comp=Z,580nm,1.6s,mb6.4						
BLO	**Bloomington**	**47.88**	**292**	*e*P	**P**	**07 18 04.0**	**+0.1**
BLO				pmax	pmax		
	comp=Z,580nm,1.6s,mb6.4						
KMRS	**Kahramanmaras**	**47.97**	**70**	P	**P**	**07 18 05.0**	**+0.2**
WCI	**Wyandotte Cave**	**48.01**	**291**	*e*P	**P**	**07 18 05.7**	**+0.7**
	comp=Z,523nm,1.8s,mb6.3						
WCI				LR	LR		
	comp=Z,8μm,21.0s,MS5.7						
WCI	**Wyandotte Cave**	**48.01**	**291**	*e*P	**P**	**07 18 05.7**	**+0.7**
WCI				pmax	pmax		
	comp=Z,523nm,1.8s,mb6.3						
WCI				MLR	MLR		
	comp=Z,8μm,21.0s,MS5.7						
DWPF	**Disney**	**48.14**	**276**	PFAKE		07 18 20.0	+14
DWPF				LR	LR		
	comp=Z,12μm,20.0s,MS5.9						
SOC	**Sochi**	**48.18**	**61**	*i* P	**P**	**07 18 06.7**	**+0.5**
SOC	**Sochi**	**48.18**	**61**	*e*P	**P**	**07 18 05.8**	**-0.4**
SOC				*e*		07 18 15.8	
SOC				*e*		07 19 58.5	
SOC				*e*S	**S**	**07 25 05.8**	**+0.4**
SOC				*e**SS	sS	07 25 13.9	+3.8
SOC				*e*		07 25 26.7	
SOC				*e*		07 27 56.3	
SOC				pmax	pmax		
	comp=Z,143nm,1.8s,mb5.7						
SOC				pmax	pmax		
	comp=Z,3μm,5.7s						
SOC				MLR	MLR		
	comp=Z,10μm,20.0s,MS5.8						
ESPY	**Espiye-Giresun**	**48.24**	**65**	P	**P**	**07 18 07.1**	**+0.4**
BHL	**Bhannes**	**48.31**	**75**	*e*P	**P**	**07 18 06.4**	**-0.9**
GAZ	**Gaziantep**	**48.32**	**70**	P	**P**	**07 18 08.3**	**+0.9**
MMAI	**Mount Meron Ar**	**48.45**	**76**	P	**P**	**07 18 09.0**	**+0.5**
	comp=Z,16nm,0.6s,mb5.2,baz=294,slow=6.3,SNR=31						
MMAI				S	**S**	**07 25 03.9**	**-5.5**
	comp=Z,5.0nm,0.9s,baz=315,slow=57,SNR=2.1						
GZT	**Gaziantep**	**48.52**	**70**	*i* P	**P**	**07 18 08.1**	**-0.8**
LMGC	**Las Mercedes**	**48.54**	**264**	*e*P	**P**	**07 18 04.7**	**-4.6**
LMGC				*e*S	**S**	**07 25 10.3**	**-0.6**
	comp=N,7μm,13.9s						
LMGC				*e*			
	comp=E,9μm,18.5s						
FCC	**Fort Churchill**	**48.66**	**319**	*e*P	**P**	**07 18 10.1**	**+0.4**
	comp=E,506nm,1.4s,mb6.4						
FCC	**Fort Churchill**	**48.66**	**319**	P	**P**	**07 18 09.6**	**-0.1**
FCC				pmax	pmax		
	comp=Z,510nm,1.4s,mb6.4						
SWET	**Sewanee**	**48.78**	**287**	*e*P	**P**	**07 18 11.2**	**+0.2**
MYA	**Malataya**	**48.84**	**68**	P	**P**	**07 18 11.5**	**+0.2**
MALT	**Malatya**	**48.84**	**69**	P	**P**	**07 18 11.2**	**-0.2**
MALT	**Malatya**	**48.84**	**69**	*e*P	**P**	**07 18 11.2**	**-0.2**
	comp=Z,550nm,2.0s,mb6.2						
MALT	**Malatya**	**48.84**	**69**	P	**P**	**07 18 11.7**	**+0.3**
MALT	**Malatya**	**48.84**	**69**	‖*i*P	**P**	**07 18 11.4**	**0.0**
EYMN	**Ely**	**48.95**	**305**	*e*P	**P**	**07 18 11.3**	**-0.8**
	comp=Z,43nm,0.8s,mb5.5						
EYMN				*e*PcP	PcP	07 19 36.7	+0.5
EYMN				LR	LR		
	comp=Z,15μm,22.0s,MS5.9						
KTUT	**Trabzon**	**48.97**	**65**	P	**P**	**07 18 11.9**	**-0.4**
MACK	**Trabzon**	**48.98**	**65**	*i* P	**P**	**07 18 09.9**	**-2.6**
ATAB	**Bozova**	**49.03**	**70**	*i* P	**P**	**07 18 12.4**	**-0.4**
ATAB	**Bozova**	**49.03**	**70**	*i* P	**P**	**07 18 12.4**	**-0.4**
USIN	**University of**	**49.12**	**291**	*e*P	**P**	**07 18 14.2**	**+0.7**
	comp=Z,515nm,1.5s,mb6.3						
ELZG	**Elazig**	**49.19**	**68**	*i* P	**P**	**07 18 13.2**	**-0.9**
RES	**Resolute Bay**	**49.20**	**341**	*e*P	**P**	**07 18 13.4**	**-0.2**
	comp=Z,9μm,1.1s						
JFWS	**Jewell Farm**	**49.43**	**298**	*e*P	**P**	**07 18 15.9**	**+0.1**
	comp=Z,179nm,1.6s,mb5.8						
JFWS				LR	LR		
	comp=Z,10μm,20.0s,MS5.8						
URFA	**Urfa**	**49.43**	**69**	P	**P**	**07 18 14.6**	**-1.3**
HDIL	**Hopedale**	**49.46

comp=Z,782nm,1.4s,mb6.5
BNGL BINGOL 50.63 67 *i* P **P 07 18 23.9 -1.1**
SLM Saint Louis 50.79 293 *e*P **P 07 18 26.7 +0.5**
comp=Z,544nm,1.4s,mb6.3
SLM Saint Louis 50.79 293 P **P 07 18 26.8 +0.6**
SLM pmax pmax
comp=Z,540nm,1.4s,mb6.3
HOMI Horasan 50.81 65 *i* P **P 07 18 26.0 -0.4**
GLAT Glass 50.93 290 *e*P **P 07 18 27.7 +0.4**
MARD Mardin 50.94 69 *i* P **P 07 18 26.1 -1.2**
ONI Oni 51.09 62 P **P 07 18 28.5 +0.1**
ONI S **S 07 25 49.5 +3.4**
HALT Halls 51.10 289 *e*P **P 07 18 29.2 +0.6**
PARMO Parma 51.13 290 *e*P **P 07 18 28.4 -0.5**
FVM French Village 51.16 292 *e*P **P 07 18 28.5 -0.4**
comp=Z,214nm,1.0s,mb6.0
FVM French Village 51.16 292 P **P 07 18 28.6 -0.4**
FVM pmax pmax
comp=Z,210nm,1.0s,mb6.0
PVMO Portageville 51.19 290 *e*P **P 07 18 29.0 -0.2**
comp=Z,2μm,1.6s,mb6.7
ULM Lac du Bonnet 51.20 309 *e*P **P 07 18 28.9 -0.2**
comp=Z,160nm,1.6s,mb5.7
ULM *e*PcP PcP 07 19 36.0 -8.4
ULM *e*PP PP 07 20 27.3 +1.7
ULM LR LR
comp=Z,20μm,19.0s,MS6.2
ULM Lac du Bonnet 51.20 309 P **P 07 18 28.0 -1.1**
comp=Z,13nm,1.1s,mb4.8,baz=96,slow=8.4,SNR=11
ULM PP PP 07 20 25.2 -0.4
comp=Z,6.0nm,0.9s,baz=80,slow=5.4,SNR=5.4
ULM S **S 07 25 40.6 -6.7**
comp=Z,1.4nm,0.9s,baz=198,slow=11,SNR=2.1
ULM LR LR 07 38 29.2
comp=Z,17μm,18.6s,MS6.1,baz=81,slow=34
BRAL Brewton 51.31 283 *e*P **P 07 18 35.4 +5.2**
comp=Z,96nm,0.4s,mb6.1
BRAL LR LR
comp=Z,6μm,20.0s,MS5.6
KARS Kars 51.48 64 P **P 07 18 31.4 0.0**
GNAR Gosnell 51.59 290 *e*P **P 07 18 31.7 -0.6**
comp=Z,7μm,1.5s
TUTA Tutak 51.69 66 *i* P **P 07 18 32.9 -0.1**
TUTA Tutak 51.69 66 *i* P **P 07 18 32.8 -0.2**
AGMN Agassiz Refuge 51.70 306 *e*P **P 07 18 32.6 -0.3**
comp=Z,45nm,0.8s,mb5.5
AGMN *e*PcP PcP 07 19 49.0 +2.8
AGMN *e*PP PP 07 20 32.6 +2.4
AGMN LR LR
comp=Z,15μm,19.0s,MS6.0
CCM Cathedral Cave 51.73 293 *e*P **P 07 18 32.8 -0.5**
comp=Z,272nm,1.6s,mb5.9
CCM LR LR
comp=Z,10μm,19.0s,MS5.9
CCM Cathedral Cave 51.73 293 P **P 07 18 32.3 -1.0**
CCM pmax pmax
comp=Z,270nm,1.6s,mb5.9
DIGO Kars 51.75 64 *i* P **P 07 18 32.5 -0.9**
AGRB Hanur-Agry 51.76 65 P **P 07 18 33.4 -0.1**
MET Memphis--Engin 51.85 289 *e*P **P 07 18 35.3 +1.1**
SOR Soroa 51.90 271 *e*P **P 07 18 36.6 +1.9**
SIRT Sirnak 52.10 68 P **P 07 18 38.7 +2.6**
HBAR Harrisburg 52.23 289 *e*P **P 07 18 36.6 -0.4**
HBAR *e*PcP PcP 07 19 44.3 -4.2
TBLG Delisi 52.27 62 P **P 07 18 38.0 +0.7**
DYDN Diyadin 52.27 65 *i* P **P 07 18 36.5 -0.9**
MTA Mtatsminda 52.32 62 P **P 07 18 42.1 +4.4**
MTA S **S 07 26 08.6 +5.5**
CLDR Caldiran 52.58 66 P **P 07 18 41.7 +2.1**
DGRG David-gareji 52.82 62 P **P 07 18 44.8 +3.5**
DGRG S **S 07 26 17.5 +7.7**
HAKT HAKKARI 53.01 68 *i* P **P 07 18 38.1 -4.7**
MSL Mosul 53.04 69 *ex* x 07 18 42.5
MSL *ex* x 07 19 41.0
MSL *ex* x 07 26 16.0
CUKT Cukurca 53.05 68 P **P 07 18 42.0 -1.1**
ECSD EROS,Sioux Fal 53.58 301 *e*P **P 07 18 46.0 -0.9**
comp=Z,110nm,1.4s,mb5.6
ECSD LR LR
comp=Z,14μm,20.0s,MS6.0
FFC Flin Flon 53.67 315 P **P 07 18 47.5 +0.1**
comp=Z,554nm,1.3s,mb6.3,SNR=16
FFC Flin Flon 53.67 315 *e*P **P 07 18 46.5 -0.9**
comp=Z,265nm,1.4s,mb6.0
FFC LR LR
comp=Z,14μm,22.0s,MS6.0
NAX Nakhchivan 53.71 65 P **P 07 18 48.3 +0.4**
SNR=8.1
NAX S **S 07 26 25.7 +3.6**
GANJ Ganja 53.77 63 P **P 07 18 48.1 -0.2**
SNR=72
GANJ S **S 07 26 25.9 +3.1**
MAK Makhachkala 53.79 60⇑ *i* P **P 07 18 50.8 +2.4**
MAK Makhachkala 53.79 60 *e*P **P 07 18 43.0 -5.4**
MAK *e* 07 19 53.5
MAK *e* 07 20 43.8
MAK *e*PPP 07 22 00.3
MAK *e*S **S 07 26 13.8 -9.2**
MAK pmax pmax
comp=Z,492nm,2.1s,mb6.1
MAK MLR MLR
comp=Z,14μm,16.0s,MS6.1
UALR University of 53.81 289 *e*P **P 07 18 48.1 -0.6**
comp=Z,98nm,0.9s,mb5.7
SEKA Sheki 54.19 62 P **P 07 18 51.1 -0.3**
SNR=16
SEKA S **S 07 26 30.7 +2.3**
MRKH Merkhyat 54.42 97 *i* P **P 07 18 51.2 -2.2**
MRKH AMb AMB 07 19 02.0
comp=Z,239nm,1.3s,mb6.0
SOKR Solikamsk 54.46 38*c* *i* P **P 07 18 53.4 +0.3**
SOKR S **S 07 26 33.0 +1.4**
SOKR pmax pmax
comp=Z,340nm,2.3s,mb5.9
SOKR MLR MLR
comp=Z,22μm,19.0s,MS6.2
BRDA Brd 54.52 63 P **P 07 18 54.6 +0.8**
SNR=13
SLAT Slait 54.58 97 *i* P **P 07 18 52.4 -2.2**
SLAT AMb AMB 07 18 58.3
comp=Z,240nm,1.6s,mb6.0
SLAT *i* S **S 07 26 32.0 -2.4**
JAWL J.Aulia 54.78 98 *i* P **P 07 18 53.8 -2.1**
MIAR Mount Ida 54.83 289 PFAKE 07 19 10.0 +14
MIAR LR LR
comp=Z,4μm,21.0s,MS5.5
KSU1 Kansas State U 55.25 296 *e*P **P 07 18 58.0 -1.1**
comp=Z,183nm,1.4s,mb5.9
KSU1 LR LR
comp=Z,7μm,20.0s,MS5.7
PQL Pirkuli 55.32 62 P **P 07 19 00.0 +0.4**
SNR=13
PQL S **S 07 26 46.3 +2.6**
SIZA Siyzn 55.43 62 P **P 07 19 03.2 +2.8**
SNR=7.5
ROSC El Rosal 55.72 247 *e*P **P 07 19 01.7 -1.2**
ROSC El Rosal 55.72 247 P **P 07 19 02.5 -0.3**
comp=Z,27nm,0.8s,mb5.3,baz=119,slow=5.7,SNR=39
ROSC PcP PcP 07 20 02.3 +0.2
comp=Z,22nm,0.8s,baz=98,slow=7.0,SNR=4.6
ROSC S **S 07 26 53.6 +3.9**
comp=Z,0.9nm,0.4s,baz=100,slow=21,SNR=3.5
ROSC LR LR 07 40 06.3
comp=Z,13μm,21.0s,MS6.0,baz=15,slow=33
ALIB Ii-Bayraml 55.93 63 P **P 07 19 05.0 +1.0**
SNR=4.7
ALIB S **S 07 26 56.8 +4.9**
ARU Arti 56.24 42 P **P 07 19 05.5 -0.5**
comp=Z,727nm,1.8s,mb6.4,SNR=23
ARU Arti 56.24 42 *e*P **P 07 19 05.6 -0.4**
comp=Z,2μm,2.3s,mb6.8
ARU LR LR
comp=Z,39μm,19.0s,MS6.5
ARU Arti 56.24 42*d* *i*P **P 07 19 05.5 -0.5**
ARU *e* 07 19 58.5
ARU *e*S **S 07 26 54.3 -1.2**
ARU *e* 07 28 54.5
ARU *e*SSS 07 32 56.2
ARU pmax pmax
comp=Z,334nm,1.7s,mb6.1
ARU pmax pmax
comp=Z,3μm,12.5s
ARU smax
comp=E,21μm,23.8s
ARU MLR MLR

comp=Z,36μm,17.0s,MS6.5
NATX Nacogdoches 56.84 287 *e*P **P 07 19 11.1 +0.5**
comp=Z,899nm,1.6s,mb6.5
NATX LR LR
comp=Z,8μm,20.0s,MS5.8
DGMT Dagmar 56.92 309 *e*P **P 07 19 11.0 +0.1**
comp=Z,344nm,1.4s,mb6.2
DGMT LR LR
comp=Z,17μm,20.0s,MS6.1
BCIP Isla Barro Col 57.09 255 PFAKE 07 19 20.0 +7.4
BCIP LR LR
comp=Z,5μm,19.0s,MS5.7
BDFB Brasilia 57.16 207 P **P 07 19 12.2 -0.7**
BDFB S **S 07 27 01.5 -6.9**
BDFB Brasilia 57.16 207 P **P 07 19 12.2 -0.7**
comp=Z,26nm,0.8s,mb5.3,baz=21,slow=10,SNR=29
BDFB S **S 07 27 01.5 -6.9**
comp=Z,0.4nm,0.4s,baz=135,slow=27,SNR=1.5
BDFB LR LR 07 39 56.3
comp=Z,15μm,20.3s,MS6.1,baz=204,slow=32
SVE Sverdlovsk 57.20 41⇓ *e*P **P 07 19 12.7 -0.1**
SVE *e* 07 21 24.6
SVE *e*S **S 07 27 07.5 -0.7**
SVE *e*SS SS 07 30 51.0 -5.6
SVE pmax pmax
comp=Z,419nm,2.3s,mb6.1
TEIG Tepich 57.42 272 *e*P **P 07 19 15.5 +0.7**
comp=Z,39nm,0.9s,mb5.4
TEIG LR LR
comp=Z,10μm,20.0s,MS5.9
CBKS Cedar Bluff 57.60 297 *e*P **P 07 19 16.6 +0.8**
comp=Z,366nm,2.0s,mb6.1
CBKS *e*PcP PcP 07 20 09.8 +0.7
CBKS LR LR
comp=Z,10μm,21.0s,MS5.9
CBKS Cedar Bluff 57.60 297 *e*P **P 07 19 16.6 +0.7**
CBKS *e* 07 20 09.8
CBKS pmax pmax
comp=Z,366nm,2.0s,mb6.1
CBKS MLR MLR
comp=Z,10μm,21.0s,MS5.9
YKA Yellowknife Ar 57.70 327 P **P 07 19 14.4 -1.8**
YKA PcP PcP 07 20 07.9 -1.1
YKA LR LR 07 39 59.6
YKA P'P' 07 49 00.9
YKA Yellowknife Ar 57.70 327 P **P 07 19 14.4 -1.8**
YKA 07 20 07.9
YKA Yellowknife Ar 57.70 327 P **P 07 19 14.4 -1.8**
comp=Z,16nm,0.8s,mb5.1,baz=70,slow=7.2,SNR=74
YKA PcP PcP 07 20 07.9 -1.1
comp=Z,6.2nm,0.7s,baz=66,slow=5.5,SNR=5.3
YKA LR LR 07 39 59.6
comp=Z,3μm,19.6s,MS5.5,baz=140,slow=32
YKA PKPPKP 07 49 00.9
comp=Z,0.3nm,0.8s,baz=266,slow=0.9,SNR=4.6
AKTK Aktyubinsk 57.95 48 P **P 07 19 17.4 -0.7**
AKTK S **S 07 27 15.3 -2.9**
AKTO Aktyubinsk 57.95 48 P **P 07 19 17.4 -0.7**
comp=Z,31nm,0.8s,mb5.4,baz=297,slow=7.6,SNR=63
AKTO S **S 07 27 15.3 -2.9**
comp=Z,0.6nm,0.4s,baz=191,slow=22,SNR=2.3
RSSD Black Hills 58.44 304 *e*P **P 07 19 21.8 +0.1**
comp=Z,28nm,1.4s,mb5.1
RSSD *e*PcP PcP 07 20 13.0 +0.7
RSSD *e*PP PP 07 21 32.3 +1.6
RSSD LR LR
comp=Z,7μm,20.0s,MS5.8
RSSD Black Hills 58.44 304 *e*P **P 07 19 21.8 +0.1**
RSSD *e* 07 20 13.0
RSSD *e* 07 21 32.3
RSSD pmax pmax
comp=Z,28nm,1.4s,mb5.1
RSSD MLR MLR
comp=Z,7μm,20.0s,MS5.8
HKT Hockley 58.56 285 *e*P **P 07 19 22.4 -0.3**
comp=Z,514nm,1.9s,mb6.2
HKT LR LR
comp=Z,7μm,19.0s,MS5.8
WMOK Wichita Mounta 58.63 292 *e*P **P 07 19 22.1 -1.1**
comp=Z,230nm,1.5s,mb6.0
WMOK *e*PP PP 07 21 38.9 +6.3
WMOK LR LR
comp=Z,7μm,20.0s,MS5.8
WMOK Wichita Mounta 58.63 292 *e*P **P 07 19 22.1 -1.0**
WMOK *e* 07 21 38.9
WMOK pmax pmax
comp=Z,230nm,1.5s,mb6.0
WMOK MLR MLR
comp=Z,7μm,20.0s,MS5.8
LAO LASA Array 58.85 307 *e*P **P 07 19 24.6 +0.1**
comp=Z,389nm,1.6s,mb6.2
LAO *e*PP PP 07 21 35.3 +1.0
LAO LR LR
comp=Z,8μm,20.0s,MS5.8
RST Umm Al-Ruwaisa 58.92 75 *e*P **P 07 19 24.4 -0.8**
RST AMb AMB 07 19 29.1
comp=Z,216nm,1.3s,mb6.0
RST Umm Al-Ruwaisa 58.92 75 *e*P **P 07 19 24.4 -0.8**
comp=Z,216nm,1.3s,mb6.0
MIB Mutribah 59.04 74 *e*P **P 07 19 25.0 -1.1**
MIB AMb AMB 07 19 30.2
comp=Z,226nm,1.6s,mb6.0
MIB Mutribah 59.04 74 *e*P **P 07 19 25.0 -1.1**
comp=Z,226nm,1.6s,mb6.0
AB31 Akbulak array 59.55 49 *i* P **P 07 19 28.8 -0.5**
KBD Kabd 59.61 75 *e*P **P 07 19 29.6 -0.4**
KBD AMb AMB 07 19 34.6
comp=Z,1μm,1.6s,mb6.8
KBD Kabd 59.61 75 *e*P **P 07 19 29.6 -0.4**
comp=Z,1μm,1.6s,mb6.8
RDF Al-Radifah 59.61 75 *e*P **P 07 19 29.6 -0.5**
RDF AMb AMB 07 19 34.5
comp=Z,274nm,1.7s,mb6.0
RDF Al-Radifah 59.61 75 *e*P **P 07 19 29.6 -0.5**
comp=Z,274nm,1.7s,mb6.0
QRN Al-Qurain 59.98 75 *e*P **P 07 19 31.6 -1.0**
QRN AMb AMB 07 19 37.2
comp=Z,362nm,1.6s,mb6.2
TGUH Tegucigalpa,Un 60.02 265 *e*P **P 07 19 34.3 +1.3**
comp=Z,201nm,1.2s,mb6.0
TGUH LR LR
comp=Z,12μm,22.0s,MS6.0
EDM Edmonton 60.50 316 *e*P **P 07 19 35.5 -0.3**
EDM Edmonton 60.50 316 P **P 07 19 34.3 -1.5**
EGMT Eagleton 60.52 310 *e*P **P 07 19 36.9 +0.9**
comp=Z,190nm,1.3s,mb6.1
EGMT LR LR
comp=Z,15μm,20.0s,MS6.1
EGMT Eagleton 60.52 310⇑ P **P 07 19 36.7 +0.7**
baz=60
PHWY Pilot Hill 60.55 301 *e*P **P 07 19 36.5 +0.2**
AMTX Amarillo 60.70 293 *e*P **P 07 19 37.2 -0.2**
comp=Z,375nm,1.5s,mb6.3
AMTX LR LR
comp=Z,10μm,21.0s,MS6.0
KVTX Kingsville 61.30 284 PFAKE 07 19 50.0 +8.4
KVTX LR LR
comp=Z,4μm,19.0s,MS5.6
ISCO Idaho Springs 61.31 300 *e*P **P 07 19 41.9 +0.4**
comp=Z,192nm,1.8s,mb5.9
ISCO *e*PP PP 07 21 55.9 -0.2
ISCO LR LR
comp=Z,9μm,21.0s,MS5.9
ISCO Idaho Springs 61.31 300 P **P 07 19 42.0 +0.5**
ISCO pmax pmax
comp=Z,190nm,1.8s,mb5.9
JCT Junction City 61.34 288 *e*P **P 07 19 41.2 -0.7**
comp=Z,1μm,1.7s,mb6.7
JCT LR LR
comp=Z,8μm,19.0s,MS5.9
JCT Junction City 61.34 288 P **P 07 19 41.3 -0.5**
JCT pmax pmax
comp=Z,1μm,1.6s,mb6.8
GCMT Greycliff 61.40 307 *e*P **P 07 19 42.6 +0.6**
GCMT *e*PP PP 07 21 59.9 +3.0
RLMT Red Lodge 61.43 307 *e*P **P 07 19 42.2 0.0**
comp=Z,110nm,1.3s,mb5.8
RLMT LR LR
comp=Z,15μm,20.0s,MS6.1
RWWY Rawlins 61.57 302 *e*P **P 07 19 44.3 +1.1**
comp=Z,401nm,1.8s,mb6.2
SDCO Great Sand Dun 62.15 298 *e*P **P 07 19 47.5 +0.3**
comp=Z,212nm,2.1s,mb5.9
SDCO *e*PP PP 07 22 06.7 +3.1
SDCO LR LR
comp=Z,8μm,19.0s,MS5.9

INK Inuvik 62.34 337 S **S 07 28 07.9 -6.1**
comp=Z,0.8nm,0.9s,baz=273,slow=16,SNR=2.2
HRY Holter Researc 62.36 309 *e*P **P 07 19 48.7 +0.3**
LKWY Lake 62.40 306 *e*P **P 07 19 50.0 +1.3**
comp=Z,29nm,1.0s,mb5.4
LKWY LR LR
comp=Z,22μm,19.0s,MS6.3
LKWY Lake 62.40 306 P **P 07 19 50.2 +1.5**
LKWY pmax pmax
comp=Z,29nm,1.0s,mb5.4
YNR Norris Junctio 62.51 307 *e*P **P 07 19 51.3 +1.8**
SMCO Snowmass 62.53 300 *e*P **P 07 19 50.1 +0.4**
comp=Z,62nm,1.1s,mb5.7
WALA Waterton Lakes 62.58 312 *e*P **P 07 19 49.3 -0.6**
comp=Z,251nm,1.6s,mb6.1
CCIG Comitan 62.63 270 *i* P **P 07 19 50.4 -0.3**
D15A Lincoln 62.64 310⇓ P **P 07 19 50.1 -0.2**
baz=62,SNR=41
BW06 Boulder Array 62.65 304 *e*P **P 07 19 49.3 -1.1**
comp=Z,161nm,1.5s,mb5.9
BW06 LR LR
comp=Z,15μm,20.0s,MS6.2
PDAR Pinedale Array 62.65 304 P **P 07 19 49.4 -1.1**
comp=Z,16nm,0.9s,mb5.2,baz=68,slow=6.2,SNR=48
PDAR S **S 07 28 08.4 -10**
comp=Z,0.1nm,0.4s,baz=144,slow=35,SNR=2.2
PDAR LR LR 07 46 27.2
comp=Z,14μm,18.3s,MS6.2,baz=75,slow=36
PDAR PKPPKP 07 48 51.6
comp=Z,0.1nm,0.4s,baz=57,slow=3.3,SNR=3.9
BOZ Bozeman (W) 62.70 308 *e*P **P 07 19 50.4 -0.3**
comp=Z,105nm,1.5s,mb5.8
BOZ LR LR
comp=Z,13μm,19.0s,MS6.1
BOZ Bozeman (W) 62.70 308 P **P 07 19 50.5 -0.2**
BOZ pmax pmax
comp=Z,110nm,1.5s,mb5.8
BOZ Bozeman (W) 62.70 308⇑ P **P 07 19 50.6 -0.1**
baz=62
YMR Madison River 62.72 307 *e*P **P 07 19 51.1 +0.3**
comp=Z,404nm,1.6s,mb6.3
YMR LR LR
comp=Z,16μm,20.0s,MS6.2
YFT Old Faithful 62.73 306 *e*P **P 07 19 52.2 +1.2**
FLWY Flagg Ranch 62.81 306 *e*P **P 07 19 51.4 -0.1**
comp=Z,296nm,1.7s,mb6.1
FLWY *e*PP PP 07 22 15.7 +6.4
DESE Dese 62.82 97 *e*P **P 07 19 53.2 +1.3**
DESE S **S 07 28 28.5 +7.0**
A13A Flathead Natio 62.93 312⇓ P **P 07 19 51.5 -0.7**
baz=63
QLMT Earthquake Lak 62.94 307 *e*P **P 07 19 52.4 +0.1**
LOHW Long Hollow 62.96 306 *e*P **P 07 19 52.2 -0.2**
comp=Z,80nm,1.3s,mb5.7
E15A Deer Lodge 62.98 309⇑ P **P 07 19 52.1 -0.5**
baz=63,SNR=27
MOOW Moose Ponds 62.99 306 *e*P **P 07 19 51.9 -0.8**
comp=Z,131nm,1.5s,mb5.8
IMW Indian Meadow 63.05 306 *e*P **P 07 19 53.1 0.0**
comp=Z,171nm,1.5s,mb6.0
C14A Swan Lake 63.06 311⇓ P **P 07 19 52.3 -0.7**
baz=63
SNOW Snow King Moun 63.12 305 *e*P **P 07 19 53.4 -0.1**
comp=Z,207nm,1.5s,mb6.0
CHMT Chamberlain Mo 63.14 310 *e*P **P 07 19 53.2 -0.4**
F15A Butte 63.16 308⇑ P **P 07 19 53.2 -0.6**
baz=63,SNR=15
VAN Vannovskaya 63.20 61⇓ *i*P **P 07 19 53.8 -0.4**
VAN S **S 07 28 27.2 +1.4**
B13A Whitefish 63.22 312⇓ P **P 07 19 53.1 -1.0**
baz=63,SNR=5.5
ABKT Ailbek 63.22 61 P **P 07 19 55.3 +1.0**
comp=Z,270nm,1.1s,mb6.3,SNR=31
D14A Greenough 63.22 310⇑ P **P 07 19 53.8 -0.4**
baz=63,SNR=41
REDW Red Top Meadow 63.23 305 *e*P **P 07 19 53.9 -0.4**
comp=Z,410nm,1.5s,mb6.3
REDW *e*PP PP 07 22 12.9 -0.1
TPAW Teton Pass 63.24 306 *e*P **P 07 19 54.1 -0.2**
comp=Z,206nm,1.6s,mb6.0
TPAW *e*PP PP 07 22 12.8 -0.3
DCID1 Drake Creek 63.34 306 *e*P **P 07 19 55.6 +0.5**
DCID1 *e*PP PP 07 22 15.0 +1.0
MBAR Mbarara 63.39 113 P **P 07 19 57.2 +1.5**
SNR=8.8
DLMT Dillon 63.44 308 *e*P **P 07 19 55.7 +0.1**
comp=Z,202nm,1.5s,mb6.0
DLMT *e*PP PP 07 22 15.2 +0.5
G15A Dillon 63.46 308⇓ P **P 07 19 54.7 -1.1**
baz=63,SNR=55
E14A Clinton 63.51 309⇑ P **P 07 19 56.3 +0.2**
baz=63,SNR=37
C13A Hot Springs 63.60 311⇓ P **P 07 19 56.1 -0.5**
baz=63,SNR=34
MSO Missoula 63.60 310 *e*P **P 07 19 56.4 -0.3**
comp=Z,76nm,1.3s,mb5.6
MSO *e*PP PP 07 22 15.9 -0.2
MSO LR LR
comp=Z,9μm,20.0s,MS6.0
AHID Auburn Hatcher 63.67 305 *e*P **P 07 19 57.0 -0.1**
comp=Z,325nm,1.6s,mb6.1
AHID LR LR
comp=Z,14μm,19.0s,MS6.2
D13A Huson 63.80 310⇑ P **P 07 19 57.6 -0.3**
baz=64,SNR=43
BRVK Borovoye 63.81 42 P **P 07 19 58.9 +1.0**
comp=Z,504nm,1.6s,mb6.3,SNR=41
BRVK Borovoye 63.81 42 *e*P **P 07 19 57.9 0.0**
comp=Z,162nm,1.4s,mb5.9
BRVK LR LR
comp=Z,32μm,21.0s,MS6.5
BRVK Borovoye 63.81 42 P **P 07 19 58.3 +0.4**
SNR=78
B12A Libby 63.84 312⇑ P **P 07 19 58.5 +0.3**
baz=64,SNR=22
MCMT McKenzie Canyo 63.84 308 *e*P **P 07 19 59.1 +0.8**
MCMT *e*PP PP 07 22 17.6 -0.7
E13A Victor 63.93 310⇑ P **P 07 19 59.2 +0.3**
baz=64,SNR=18
G14A Jackson 64.03 308⇓ P **P 07 20 00.2 +0.6**
baz=64,SNR=31
A11A Hall Mountain, 64.07 313⇑ P **P 07 19 59.5 -0.2**
baz=64,SNR=39
ANMO Albuquerque 64.14 295 *e*P **P 07 20 01.4 +0.9**
comp=Z,190nm,1.7s,mb5.8
ANMO LR LR
comp=Z,11μm,21.0s,MS6.0
ANMO Albuquerque 64.14 295*d* *i*P **P 07 20 00.4 0.0**
F13A Darby 64.32 309⇓ P **P 07 20 00.6 -0.8**
baz=64,SNR=36
D12A Red Ives Fores 64.36 311⇓ P **P 07 20 01.0 -0.7**
baz=64
MVCO Mesa Verde 64.51 298 PFAKE 07 20 20.0 +17
MVCO LR LR
comp=Z,9μm,20.0s,MS6.0
HWUT Hardware Ranch 64.51 304 *e*P **P 07 20 02.5 -0.2**
comp=Z,327nm,1.7s,mb6.1
HWUT LR LR
comp=Z,11μm,20.0s,MS6.0
LPM Los Pinos Moun 64.57 295 *e*P **P 07 20 04.3 +1.0**
G13A Cobalt 64.59 308⇓ P **P 07 20 03.3 +0.2**
baz=64,SNR=29
BNM Barren Site 64.65 295 *e*P **P 07 20 04.2 +0.4**
TXAR Lajitas Array 64.83 289 P **P 07 20 04.2 -0.9**
TXAR S **S 07 28 40.2 -6.0**
TXAR P'P' 07 48 49.9
TXAR LR LR 07 48 50.4
TXAR Lajitas Array 64.83 289 P **P 07 20 04.2 -0.8**
TXAR S **S 07 28 40.2 -6.0**
TXAR Lajitas Array 64.83 289 P **P 07 20 04.2 -0.9**
comp=Z,60nm,0.8s,mb5.7,baz=73,slow=7.0,SNR=117
TXAR S **S 07 28 40.2 -6.0**
comp=Z,0.2nm,0.4s,baz=52,slow=20,SNR=2.6
TXAR PKPPKP 07 48 49.9
comp=Z,0.7nm,0.8s,baz=183,slow=7.5,SNR=4.1
TXAR LR LR 07 48 50.4
comp=Z,7μm,18.5s,MS5.9,baz=355,slow=36
NEW Newport 64.84 312 *e*P **P 07 20 03.8 -0.9**
comp=Z,308nm,1.6s,mb6.1
NEW LR LR
comp=Z,15μm,22.0s,MS6.1
NEW Newport 64.84 312 *e*P **P 07 20 03.8 -1.0**
NEW pmax pmax
comp=Z,308nm,1.6s
NEW MLR MLR
comp=Z,15μm,22.0s
H13A Challis 64.85 308⇓ P **P 07 20 04.1 -0.8**

baz=65,SNR=41
DAU Daniels Canyon 64.87 303 eP P 07 20 04.7 -0.4
B10A Chitwood Farm, 64.88 313 ⇓P P 07 20 05.1 0.0
baz=65,SNR=6.9
LENM Lemitar 64.89 295 eP P 07 20 06.4 +1.1
LAZ Ladron 64.89 295 eP P 07 20 06.6 +1.3
Y22C IRIS PASSCAL I 64.90 295 ⇓P P 07 20 05.7 +0.3
baz=65
F12A Elk City 64.91 309 ⇑P P 07 20 04.5 -0.7
baz=65
JLU Jordanelle 64.91 303 eP P 07 20 04.5 -0.9
MNTX Cornudas Mount 64.94 292 eP P 07 20 05.8 +0.1
comp=Z,91nm,1.6s,mb5.5
MNTX LR LR
comp=Z,4μm,21.0s,MS5.6
SRU San Rafael 65.00 301 eP P 07 20 05.8 -0.2
comp=Z,55nm,1.4s,mb5.4
SRU ePP PP 07 22 28.4 -0.3
SRU San Rafael 65.00 301 P P 07 20 05.7 -0.3
SRU pmax pmax
comp=Z,55nm,1.4s,mb5.4
CTU Camp Tracy 65.07 303 eP P 07 20 06.7 +0.2
comp=Z,150nm,1.8s,mb5.7
I13A Wildhorse Cree 65.07 307 ⇓P P 07 20 05.8 -0.5
baz=65,SNR=34
K14A Jones Ranch, D 65.12 305 P P 07 20 06.5 -0.2
baz=65,SNR=18
ATD Arta Tunnel 65.13 94 P P 07 20 07.7 +0.6
comp=Z,21nm,1.0s,mb5.1,baz=204,slow=19,SNR=22
ATD S S 07 28 55.1 +5.0
comp=Z,1.7nm,0.3s,baz=247,slow=21,SNR=1.6
C10A Spilker Farm, 65.16 312 ⇑P P 07 20 06.3 -0.6
baz=65,SNR=6.5
M15A Larsen Ranch, 65.16 304 ⇓P P 07 20 06.1 -0.9
baz=65,SNR=62
E11A Bogner Ranch, 65.20 310 ⇓P P 07 20 05.8 -1.4
baz=65,SNR=50
HVU Hansel Valley 65.23 305 eP P 07 20 06.7 -0.7
comp=Z,180nm,1.6s,mb5.8
HVU Hansel Valley 65.23 305 eP P 07 20 06.7 -0.7
HVU pmax pmax
comp=Z,180nm,1.6s,mb5.8
H12A Diamond D Ranc 65.23 308 ⇑P P 07 20 07.1 -0.3
baz=65,SNR=22
SPUT South Promonto 65.24 304 eP P 07 20 06.6 -0.9
SPUT ePP PP 07 22 30.5 -0.2
MPU Maple Canyon 65.32 302 eP P 07 20 07.3 -0.7
comp=Z,108nm,1.5s,mb5.7
MPU LR LR
comp=Z,26μm,21.0s,MS6.4
NOQ North Oquirrh 65.33 303 eP P 07 20 08.1 0.0
comp=Z,308nm,1.6s,mb6.1
NOQ ePP PP 07 22 30.1 -1.4
A09A Danville 65.35 314 ⇓P P 07 20 08.2 +0.1
baz=65,SNR=30
J13A Cove Ranch, Pi 65.36 307 ⇑P P 07 20 07.7 -0.5
baz=65,SNR=35
B09A Rice 65.36 313 ⇓P P 07 20 06.9 -1.2
baz=65,SNR=18
F11A Grangeville 65.40 310 ⇓P P 07 20 07.9 -0.5
baz=65,SNR=27
HLID Hailey 65.43 307 eP P 07 20 09.2 +0.5
comp=Z,62nm,1.4s,mb5.4
HLID LR LR
comp=Z,19μm,20.0s,MS6.3
HLID Hailey 65.43 307 ⇓P P 07 20 08.0 -0.7
baz=65
N15A Stansbury Isla 65.49 304 ⇑P P 07 20 08.9 -0.2
baz=65,SNR=20
D10A Wagner Farm, O 65.51 311 ⇑P P 07 20 08.1 -1.1
baz=65
NLU North Lily Min 65.64 303 eP P 07 20 10.4 +0.3
E10A Myers Farm, Un 65.69 311 ⇓P P 07 20 09.9 -0.4
baz=66,SNR=19
G11A Walters Elk Ra 65.70 309 ⇑P P 07 20 10.0 -0.4
baz=66
M14A Sheep Mountain 65.74 305 ⇓P P 07 20 09.7 -1.0
baz=66,SNR=52
C09A Chrisman Ranch 65.74 312 ⇑P P 07 20 09.9 -0.7
baz=66
A08A Turner Farm, O 65.75 314 ⇓P P 07 20 10.2 -0.5
baz=66,SNR=34
BGU Big Grassy Mou 65.81 304 eP P 07 20 11.0 -0.2
L13A Double Diamond 65.84 305 P P 07 20 11.6 +0.2
baz=66,SNR=33
VHO Vista Hermosa 65.86 274 i P P 07 20 07.6 -4.2
H11A Donnelly 65.88 309 ⇓P P 07 20 11.5 -0.1
baz=66,SNR=77
N14A Grayback Hills 65.95 304 ⇓P P 07 20 11.4 -0.7
baz=66,SNR=44
F10A Beach Ranch, E 66.01 310 ⇓P P 07 20 11.9 -0.5
baz=66,SNR=21
J12A Stokes Ranch, 66.02 307 ⇑P P 07 20 12.5 0.0
baz=66,SNR=64
DUG Dugway 66.02 303 eP P 07 20 12.5 -0.1
comp=Z,210nm,1.6s,mb5.9
DUG LR LR
comp=Z,11μm,19.0s,MS6.1
DUG Dugway 66.02 303 ⇑P P 07 20 12.1 -0.5
baz=66
B08A Colville Reser 66.08 313 ⇓P P 07 20 12.6 -0.2
baz=66,SNR=32
HUIG Huatulco 66.08 272 i P P 07 20 11.5 -1.8
K12A Draper Farm, C 66.19 306 ⇓P P 07 20 13.1 -0.5
baz=66,SNR=53
C08A Higginbotham F 66.20 313 ⇑P P 07 20 12.7 -0.9
baz=66
PPM Popocatepetl 66.27 276 i P P 07 20 10.7 -3.8
G10A Bishop Farm, J 66.28 310 ⇓P P 07 20 13.1 -1.1
baz=66,SNR=29
DLBC Dease Lake 66.32 326 eP P 07 20 14.4 +0.2
M13A Montello 66.34 305 ⇓P P 07 20 14.3 -0.3
baz=66,SNR=32
A07A Ashnola River, 66.34 314 ⇓P P 07 20 14.0 -0.5
baz=66,SNR=52
H10A Noah's Angus R 66.40 309 ⇓P P 07 20 13.8 -1.1
baz=66,SNR=16
MFID Camas Ranch 66.40 307 ⇑P P 07 20 14.2 -0.8
baz=66,SNR=15
MSU Marysvale 66.42 301 eP P 07 20 15.7 +0.5
MSU Marysvale 66.42 301 P P 07 20 15.1 -0.1
B07A Winthrop 66.49 314 ⇓P P 07 20 14.5 -0.9
baz=66,SNR=22
L12A House Creek Ra 66.51 306 ⇑P P 07 20 16.0 +0.3
baz=66,SNR=54
F09A S2 Ranch, Elgi 66.55 310 ⇑P P 07 20 15.6 -0.3
baz=66
BMO Blue Mountains 66.61 309 eP P 07 20 16.1 -0.2
comp=Z,30nm,1.0s,mb5.3
BMO ePP PP 07 22 43.5 +1.0
BMO LR LR
comp=Z,14μm,21.0s,MS6.2
N13A Wendover, West 66.62 304 ⇓P P 07 20 16.6 +0.2
baz=66,SNR=7.0
I10A Payette 66.68 308 ⇓P P 07 20 17.2 +0.5
baz=66,SNR=6.3
G09A Cove 66.69 310 ⇓P P 07 20 15.9 -0.9
baz=66
T16A Glen Canyon Da 66.72 299 ⇓P P 07 20 17.3 +0.2
baz=67,SNR=30
DAWY Dawson 66.73 334 eP P 07 20 16.3 -0.3
M12A Wells 66.80 305 ⇑P P 07 20 17.7 +0.1
baz=67,SNR=44
O13A Hicks Ranch, I 66.83 303 ⇑P P 07 20 17.2 -0.6
baz=67,SNR=11
C07A Waterville 66.84 313 ⇓P P 07 20 16.4 -1.3
baz=67,SNR=30
K11A Parker Ranch, 66.85 307 ⇑P P 07 20 16.8 -1.1
baz=67,SNR=43
EGAK Eagle 66.88 335 eP P 07 20 17.4 -0.2
comp=Z,230nm,1.5s,mb6.0
EGAK ePcP PcP 07 20 46.4 +0.2
EGAK LR LR
comp=Z,9μm,20.0s,MS6.0
F08A Pendleton 67.04 311 ⇑P P 07 20 18.2 -0.8
baz=67,SNR=18
D07A Quincy 67.04 312 ⇑P P 07 20 17.9 -1.1
baz=67,SNR=6.3
R14A James Farms, M 67.10 301 ⇓P P 07 20 19.0 -0.5
baz=67,SNR=12
N12A Clover Valley, 67.17 305 ⇑P P 07 20 19.5 -0.4
baz=67,SNR=21
HAWA Hanford 67.19 312 eP P 07 20 20.2 +0.3
comp=Z,32nm,1.3s,mb5.2
HAWA LR LR
comp=Z,9μm,20.0s,MS6.0
P13A Bates Ranch, G 67.19 303 ⇓P P 07 20 20.2 +0.1
baz=67,SNR=50
O12A Currie 67.27 304 ⇓P P 07 20 20.3 -0.2
baz=67,SNR=35
E07A Sunnyside 67.29 312 ⇑P P 07 20 19.5 -1.1
baz=67,SNR=6.2
T15A Red Dirt Ranch 67.30 300 ⇓P P 07 20 19.5 -1.3
baz=67,SNR=45
LPAZ La Paz 67.31 226 eP P 07 20 21.9 +0.9
comp=Z,132nm,1.7s,mb5.7
LPAZ LR LR
comp=Z,11μm,22.0s,MS6.0
LPAZ La Paz 67.31 226 P P 07 20 20.6 -0.4
LPAZ pmax pmax
comp=Z,130nm,1.7s
LPAZ La Paz 67.31 226 P P 07 20 21.5 +0.5
comp=Z,17nm,1.2s,mb5.0,baz=27,slow=7.7,SNR=19
LPAZ S S 07 29 11.8 -4.6
comp=Z,1.1nm,0.9s,baz=133,slow=8.4,SNR=2.6
LPAZ LR LR 07 45 55.8
comp=Z,9μm,21.2s,MS6.0,baz=354,slow=32
LPAZ PKPPKP 07 48 46.8
comp=Z,1.5nm,0.7s,baz=189,slow=5.0,SNR=6.0
I09A Lost Marbles R 67.32 309 ⇑P P 07 20 20.8 0.0
baz=67,SNR=48
WUAZ Wupatki 67.36 298 eP P 07 20 21.5 +0.3
comp=Z,277nm,1.7s,mb6.0
WUAZ ePP PP 07 22 52.5 +3.2
WUAZ LR LR
comp=Z,9μm,20.0s,MS6.0
WUAZ Wupatki 67.36 298 ⇑P P 07 20 21.7 +0.5
baz=67
M11A Holland Ranch, 67.37 305 ⇓P P 07 20 20.7 -0.5
baz=67,SNR=44
ZAIG Zacatecas 67.38 282 i P P 07 20 22.8 +1.3
K10A MacKenzie Ranc 67.38 307 ⇓P P 07 20 21.2 0.0
baz=67,SNR=13
G08A Pilot Rock 67.40 310 ⇓P P 07 20 20.9 -0.4
baz=67,SNR=8.6
TBM Table Mountain 67.42 313 P P 07 20 20.6 -0.8
S14A Cedar City 67.47 301 ⇓P P 07 20 22.5 +0.6
baz=67,SNR=43
L10A Juniper Basin 67.48 306 ⇑P P 07 20 22.4 +0.5
baz=67,SNR=10
EBG Ellensburg 67.54 312 P P 07 20 21.4 -0.8
D06A Cle Elum 67.55 313 ⇓P P 07 20 22.0 -0.2
baz=67,SNR=5.7
H08A Prairie City 67.62 310 ⇑P P 07 20 21.3 -1.4
baz=67,SNR=15
ARUT Antelope Range 67.64 301 eP P 07 20 22.5 -0.5
J09A Fry Pan Ranch, 67.65 308 ⇑P P 07 20 22.8 -0.1
baz=68,SNR=51
F07A Phinny Hill Vi 67.68 311 ⇓P P 07 20 22.8 -0.3
baz=68,SNR=10
CCUT Cedar City 67.71 301 eP P 07 20 24.0 +0.6
CCUT ePP PP 07 22 55.8 +3.5
T14A Hurricane 67.77 300 ⇓P P 07 20 23.1 -0.7
baz=68,SNR=11
ASUD Al Ashush, Dub 67.78 75 P P 07 20 24.0 0.0
SNR=6.0
P12A McGill 67.78 303 ⇓P P 07 20 24.2 +0.4
baz=68,SNR=25
NAZ Nazwa, Dubai 67.84 75 P P 07 20 24.7 +0.3
SNR=8.1
G07A Ruggs Ranch, H 67.85 311 ⇑P P 07 20 22.5 -1.6
baz=68,SNR=5.3
I08A Drewsey 67.87 309 ⇓P P 07 20 24.3 0.0
baz=68,SNR=24
O11A Cowboy Ranch, 67.94 304 ⇑P P 07 20 24.6 -0.2
baz=68,SNR=41
Q12A Willow Creek R 67.94 303 ⇓P P 07 20 24.0 -0.8
baz=68,SNR=42
MOIG Morelia 67.96 278 i P P 07 20 23.1 -2.1
K09A Rome 67.96 307 ⇓P P 07 20 25.1 +0.3
baz=68,SNR=62
X16A Lo Mia Camp, P 67.97 297 ⇓P P 07 20 25.3 +0.2
baz=68,SNR=42
E06A Yakima 67.97 312 ⇑P P 07 20 24.3 -0.5
baz=68,SNR=13
319A Douglas 67.97 293 ⇓P P 07 20 25.3 +0.2
baz=68,SNR=39
SKAG Skagway 67.99 329 eP P 07 20 24.3 -0.4
comp=Z,339nm,1.5s,mb6.2
S13A Holt Ranch, En 68.03 301 ⇓P P 07 20 25.2 -0.2
baz=68,SNR=50
J08A Circle Bar Ran 68.09 308 ⇓P P 07 20 25.6 -0.1
baz=68
H07A Lands Inn, Kim 68.13 310 ⇓P P 07 20 24.8 -1.1
baz=68
R12A Pony Springs, 68.16 302 ⇑P P 07 20 25.8 -0.4
baz=68,SNR=32
W15A Williams 68.16 298 ⇑P P 07 20 25.8 -0.4
baz=68,SNR=7.7
U14A Mt Trumbull 68.16 300 ⇓P P 07 20 26.4 +0.1
baz=68,SNR=49
218A Dragoon 68.22 294 ⇓P P 07 20 27.0 +0.3
baz=68,SNR=47
F06A Goldendale 68.25 311 ⇓P P 07 20 26.4 -0.3
baz=68
Y16A Circle Bar Ran 68.27 297 ⇓P P 07 20 28.3 +1.3
baz=68,SNR=36
L09A Wilkinson Ranc 68.27 307 ⇓P P 07 20 25.1 -1.8
baz=68
PGC Sidney 68.28 315 P P 07 20 25.9 -0.9
comp=Z,58nm,1.3s,mb5.5
HATD Hatta, Dubai 68.29 75 P P 07 20 25.9 -1.3
SNR=26
HATD Hatta, Dubai 68.29 75 P P 07 20 25.9 -1.3
SNR=26
T13A Saint George 68.35 301 ⇑P P 07 20 26.8 -0.6
baz=68,SNR=50
E05A Randle 68.42 313 ⇑P P 07 20 27.5 -0.1
baz=68,SNR=5.5
K08A Mann Creek Ran 68.43 308 ⇓P P 07 20 27.9 +0.1
baz=68,SNR=38
M09A Marrel Ranch, 68.44 306 ⇑P P 07 20 27.4 -0.5
baz=68,SNR=11
G06A Carlson Farm, 68.44 311 ⇑P P 07 20 27.3 -0.6
baz=68,SNR=8.1
318A Bisbee 68.45 294 ⇑P P 07 20 27.7 -0.5
baz=68,SNR=25
X15A Humboldt 68.49 297 ⇑P P 07 20 28.1 -0.3
baz=68,SNR=53
WRAK Wrangell Islan 68.50 325 P P 07 20 27.1 -0.9
comp=Z,68nm,1.3s,mb5.5
WRAK LR LR
comp=Z,5μm,19.0s,MS5.7
C04A Brinnon 68.51 314 ⇑P P 07 20 27.3 -0.9
baz=68,SNR=22
Z16A Peralta Trail, 68.51 296 ⇓P P 07 20 30.1 +1.7
baz=68,SNR=8.4
V14A Boquillas Ranc 68.51 299 ⇓P P 07 20 28.5 0.0
baz=68,SNR=28
H06A Lindquist Farm 68.53 310 ⇑P P 07 20 27.8 -0.6
baz=68,SNR=21
TUC Tucson 68.58 295 eP P 07 20 29.8 +0.9
comp=Z,132nm,1.6s,mb5.6
TUC LR LR
comp=Z,7μm,20.0s,MS5.9
TUC Tucson 68.58 295 P P 07 20 29.7 +0.8
TUC pmax pmax
comp=Z,130nm,1.6s,mb5.6
KMBO Kilima Mbogo 68.58 109 eP P 07 20 31.2 +2.1
comp=Z,412nm,2.3s,mb6.0
KMBO ePP PP 07 22 56.9 -3.8
KMBO LR LR
comp=Z,4μm,20.0s,MS5.6
KMBO Kilima Mbogo 68.58 109 P P 07 20 31.7 +2.5
SNR=50
KMBO Kilima Mbogo 68.58 109 P P 07 20 31.7 +2.5
SNR=50
KMBO Kilima Mbogo 68.58 109 P P 07 20 29.8 +0.7
comp=Z,18nm,1.2s,mb4.9,baz=315,slow=6.5,SNR=40
KMBO PP PP 07 22 57.8 -2.9
comp=Z,0.9nm,0.6s,baz=217,slow=20,SNR=2.4
KMBO S S 07 29 24.2 -7.8
comp=Z,0.3nm,0.3s,baz=109,slow=22,SNR=1.8
KMBO PKPPKP 07 48 46.7
comp=Z,1.0nm,0.8s,baz=153,slow=6.9,SNR=14
KMBO LR LR 07 52 31.7
comp=Z,6μm,18.3s,MS5.9,baz=305,slow=38
HDW Hoodsport 68.59 314 P P 07 20 28.3 -0.5
Q11A Duckwater 68.60 303 ⇓P P 07 20 28.7 -0.2
baz=68,SNR=13
J07A Hines 68.61 309 ⇓P P 07 20 28.3 -0.6
baz=68,SNR=8.6
L08A Fields 68.62 307 ⇑P P 07 20 27.0 -2.0
baz=68,SNR=14
WVOR Wild Horse Val 68.67 308 eP P 07 20 29.8 +0.4
comp=Z,238nm,1.7s,mb5.8
WVOR ePcP PcP 07 20 53.8 -0.4
WVOR ePP PP 07 22 57.1 -3.4
WVOR LR LR
comp=Z,12μm,20.0s,MS6.1
WVOR Wild Horse Val 68.67 308 eP P 07 20 29.8 +0.4
WVOR e 07 20 53.8
WVOR e 07 22 57.1
WVOR pmax pmax
comp=Z,238nm,1.7s,mb5.8
WVOR MLR MLR
comp=Z,12μm,20.0s,MS6.1
U13A Pakoon Wash 68.70 300 ⇑P P 07 20 29.1 -0.5
baz=68,SNR=20
W14A Seligman 68.71 299 ⇑P P 07 20 30.0 +0.2
baz=69,SNR=46
P10A Eureka 68.73 304 ⇑P P 07 20 29.8 0.0
baz=69,SNR=22
N09A Rock Creek Ran 68.79 306 ⇓P P 07 20 30.6 +0.5
baz=69,SNR=11
R11A Troy Canyon, C 68.81 303 ⇑P P 07 20 30.2 0.0
baz=69,SNR=37
TSUM Tsumeb 68.82 137 eP P 07 20 31.9 +1.5
comp=Z,62nm,1.5s,mb5.3
TSUM LR LR
comp=Z,11μm,22.0s,MS6.0
VIPM Ingram Point 68.82 310 P P 07 20 31.8 +1.6
Y15A Casa Rosa Ranc 68.84 297 ⇑P P 07 20 31.5 +1.0
baz=69,SNR=47
G05A Wamic 68.85 311 ⇑P P 07 20 30.9 +0.5
baz=69,SNR=7.6
I06A Prineville 68.86 310 ⇑P P 07 20 30.6 +0.1
baz=69,SNR=27
217A Green Valley 68.88 294 ⇑P P 07 20 30.8 0.0
baz=69,SNR=25
KK31 Karatay Array 68.89 51 i P P 07 20 30.5 -0.2
KK31 Karatay Array 68.89 51 i P P 07 20 30.4 -0.3
KK31 pmax pmax
comp=Z,154nm,1.5s,mb5.7
K07A Rock Creek Ran 68.92 308 ⇓P P 07 20 30.8 -0.1
baz=69,SNR=11
O09A Fish Creek Ran 68.92 305 ⇑P P 07 20 31.0 0.0
baz=69,SNR=24
MENT Mentasta 68.94 335 eP P 07 20 30.8 +0.2
COLA College 68.95 338 eP P 07 20 30.5 -0.2
comp=Z,192nm,1.7s,mb5.8
COLA LR LR
comp=Z,6μm,20.0s,MS5.8
COLA College 68.95 338⇑eP P 07 20 30.8 +0.2
X14A Yava 68.96 298 ⇓P P 07 20 32.0 +0.7
baz=69,SNR=32
M08A Happy Creek Ra 69.03 307 ⇑P P 07 20 32.2 +0.6
baz=69,SNR=11
U12A Valley of Fire 69.09 300 ⇑P P 07 20 32.8 +0.7
baz=69,SNR=19
Q10A Clear Creek Ra 69.11 303 ⇑P P 07 20 32.0 -0.1
baz=69,SNR=7.8
H05A Madras 69.11 311 ⇓P P 07 20 32.1 +0.1
baz=69,SNR=7.6
T11A Corn Creek, Al 69.14 301 ⇓P P 07 20 32.4 0.0
baz=69,SNR=45
J06A Christmas Vall 69.19 309 ⇓P P 07 20 32.6 +0.1
baz=69,SNR=16
NLWA Neilton Lookou 69.19 314 eP P 07 20 33.2 +0.7
comp=Z,200nm,1.5s,mb5.8
NLWA ePP PP 07 23 04.7 -0.2
NLWA LR LR
comp=Z,14μm,20.0s,MS6.2
N08A GE Springer Mi 69.22 306 ⇓P P 07 20 33.0 +0.3
baz=69,SNR=8.8
216A Three Points, 69.23 295 ⇓P P 07 20 33.7 +0.8
baz=69,SNR=17
S11A Rachel 69.28 302 ⇓P P 07 20 33.6 +0.4
baz=69,SNR=24
R10A Warm Springs 69.32 303 ⇑P P 07 20 34.2 +0.8
baz=69,SNR=16
BMW Boistfort Moun 69.32 313 P P 07 20 34.0 +0.7
Y14A Wickenburg 69.32 297 P P 07 20 34.5 +0.9
baz=69,SNR=37
W13A Hualapai Mount 69.33 299 ⇑P P 07 20 34.8 +1.2
baz=69,SNR=29
L07A Adell 69.34 307 ⇑P P 07 20 34.4 +0.9
baz=69,SNR=30
NVS Novosibirsk 69.38 36⇓iP P 07 20 33.5 0.0
NVS pmax pmax
comp=N,217nm,2.2s
NVS pmax pmax
comp=Z,810nm,2.2s,mb6.3
NVS pmax pmax
comp=E,52nm,1.8s
NVS pmax pmax
comp=E,52nm,1.8s
I05A Bend 69.39 310 ⇑P P 07 20 34.5 +0.7
baz=69,SNR=24
NNA Nana 69.40 236 eP P 07 20 34.0 -0.1
comp=E,249nm,1.3s,mb6.0
NNA LR LR
comp=Z,9μm,20.0s,MS6.0
115A Sonoran Desert 69.42 296 ⇓P P 07 20 35.1 +1.0
baz=69,SNR=15
SIT Sitka 69.44 327 PFAKE 07 20 50.0 +16
SIT LR LR
comp=Z,6μm,21.0s,MS5.8
KURK Kurchatov 69.44 41 P P 07 20 34.3 +0.4
comp=Z,373nm,1.5s,mb6.1,SNR=28
KURK Kurchatov 69.44 41 eP P 07 20 33.5 -0.5
comp=Z,293nm,1.6s,mb6.0
KURK LR LR
comp=Z,22μm,21.0s,MS6.4
KURK Kurchatov 69.44 41 P P 07 20 33.1 -0.8
KURK pmax pmax
comp=Z,290nm,1.6s,mb6.0
KURK Kurchatov 69.44 41 P P 07 20 33.0 -0.9
SNR=73
E03A Lebam 69.48 313 ⇓P P 07 20 33.8 -0.4
baz=69,SNR=8.8
K06A Valley Falls 69.50 309 ⇓P P 07 20 34.4 0.0
baz=69,SNR=9.5
X13A Yucca 69.56 298 ⇓P P 07 20 34.8 -0.2
baz=69,SNR=41
Z14A Wintersburg 69.58 297 ⇓P P 07 20 34.9 -0.3
baz=69,SNR=11
Q09A Carvers 69.62 304 ⇓P P 07 20 35.3 0.0
baz=69
H04A Detroit Lake 69.67 311 ⇓P P 07 20 34.9 -0.6
baz=70,SNR=5.4
U11A Corn Creek 69.68 301 ⇓P P 07 20 34.5 -1.2
baz=70
V12A Nelson 69.68 300 ⇓P P 07 20 35.1 -0.6
baz=70,SNR=38
TIXI Tiksi 69.68 9 i P P 07 20 35.5 +0.4
TIXI LR LR
comp=Z,5μm,20.0s,MS5.8
TIXI Tiksi 69.68 9d iP P 07 20 35.2 +0.1
TIXI e 07 23 11.1
TIXI ePPP 07 24 49.3
TIXI eS S 07 29 45.8 +2.5
TIXI pmax pmax
comp=Z,145nm,1.6s,mb5.7
TIXI pmax pmax
comp=N,34nm,1.2s
TIXI pmax pmax
comp=E,16nm,1.5s
TIXI pmax pmax
comp=Z,1μm,6.2s
TIXI MLR MLR
comp=Z,2μm,18.0s,MS5.5
S10A Tonopah Range, 69.71 303 ⇓P P 07 20 34.8 -1.1
baz=70,SNR=31
IMA2 Indian Mountai 69.75 340 eP P 07 20 36.0 +0.4
P08A Dixie Valley 69.76 305 ⇓P P 07 20 37.5 +1.4
baz=70
N07B Gerlach 69.76 306 ⇑P P 07 20 35.7 -0.4
baz=70,SNR=8.9
F03A Seaside 69.81 313 ⇓P P 07 20 36.9 +0.6
baz=70,SNR=5.8
J05A Fort Rock 69.85 309 ⇑P P 07 20 37.2 +0.6
baz=70,SNR=21
R09A Tonopah 69.86 303 ⇓P P 07 20 36.7 -0.1
baz=70,SNR=58
W12A Cal Nev Ari 69.91 299 ⇓P P 07 20 38.1 +0.9
baz=70
PDMCI Parker Dam,Lak 69.93 298 ⇑P P 07 20 38.0 +0.7
baz=70,SNR=14
K05A Summer Lake 69.93 309 ⇓P P 07 20 36.8 -0.3
baz=70,SNR=12
Y13A Salome 69.97 298 ⇓P P 07 20 38.5 +1.0

baz=70,SNR=14
G03A Yamhill 69.98 312 ⇑P **P 07 20 38.0 +0.6**
baz=70
TPNV Topopah Spring 69.99 302 *e*P **P 07 20 39.0 +1.4**
comp=Z,166nm,1.9s,mb5.6
TPNV LR LR
comp=Z,20μm,20.0s,MS6.4
TPNV Topopah Spring 69.99 302 *e*P **P 07 20 39.0 +1.4**
TPNV pmax pmax
comp=Z,166nm,1.9s,mb5.6
TPNV MLR MLR
comp=Z,20μm,20.0s,MS6.4
TPNV Topopah Spring 69.99 302 P **P 07 20 39.2 +1.6**
TPNV pmax pmax
comp=Z,170nm,1.9s,mb5.7
MOD Modoc 70.01 308 *e*P **P 07 20 39.3 +1.7**
comp=Z,112nm,1.5s,mb5.6
MOD LR LR
comp=Z,12μm,21.0s,MS6.1
MOD Modoc 70.01 308 ⇓P **P 07 20 38.4 +0.8**
baz=70,SNR=14
V11A Goodsprings 70.02 300 ⇓P **P 07 20 38.4 +0.7**
baz=70,SNR=27
NEE2 Needles Airpor 70.02 299 ⇓P **P 07 20 39.1 +1.3**
baz=70
MCK McKinley 70.09 337 *e*P **P 07 20 37.5 -0.3**
comp=Z,279nm,1.5s,mb6.0
MCK LR LR
comp=Z,3μm,19.0s,MS5.6
MCK McKinley 70.09 337 *e*P **P 07 20 37.5 -0.2**
MCK pmax pmax
comp=Z,279nm,1.5s,mb6.0
MCK MLR MLR
comp=Z,3μm,19.0s,MS5.6
Q08A Gabbs 70.10 304 P **P 07 20 37.5 -0.8**
baz=70,SNR=38
ABTO Aybut 70.14 83 P **P 07 20 38.5 -0.3**
SNR=93
MAIG Mazatlaan 70.14 284 *i* P **P 07 20 41.0 +2.2**
WHFO Wadi Hawf 70.20 82 P **P 07 20 37.9 -1.2**
SNR=55
BSY Bisya 70.23 76 P **P 07 20 39.1 -0.2**
SNR=10
BSY Bisya 70.23 76 P **P 07 20 39.1 -0.2**
SNR=10
S09A Goldfield 70.24 303 ⇑P **P 07 20 38.4 -0.7**
baz=70,SNR=49
L05A Lakeview 70.26 308 ⇓P **P 07 20 39.3 +0.1**
baz=70,SNR=25
BSYO Bisya 70.27 76 P **P 07 20 39.1 -0.4**
SNR=10
I04A Tendick Farm, 70.29 310 ⇓P **P 07 20 38.1 -1.2**
baz=70
U10A Ash Meadows, A 70.33 301 ⇓P **P 07 20 40.6 +1.0**
baz=70,SNR=24
N06A Buffalo Meadow 70.33 307 P **P 07 20 40.0 +0.4**
baz=70,SNR=30
H03A Soap Creek Ran 70.34 312 ⇓P **P 07 20 38.3 -1.3**
baz=70,SNR=6.1
COR Corvallis 70.39 311 PFAKE 07 20 50.0 +10
COR LR LR
comp=Z,9μm,19.0s,MS6.0
J04A Umpqua Nationa 70.41 310 ⇑P **P 07 20 40.2 +0.1**
baz=70
R08A Mina 70.49 304 ⇓P **P 07 20 40.4 -0.3**
baz=70,SNR=6.9
M06C Likely Place G 70.49 307 ⇑P **P 07 20 41.2 +0.6**
baz=70,SNR=10
Y12C Blythe 70.49 298 ⇓P **P 07 20 41.3 +0.5**
baz=70,SNR=6.3
K04A Chilquin 70.52 309 ⇑P **P 07 20 40.4 -0.3**
baz=70
BIDO Bidbid 70.52 75 P **P 07 20 42.2 +1.1**
SNR=11
SHOC Shoshone 70.57 301 ⇓P **P 07 20 41.4 +0.3**
baz=70,SNR=5.8
TUQ Turquoise Mtn. 70.57 300 ⇓P **P 07 20 41.8 +0.7**
baz=70,SNR=19
NVAR Mina Array Bea 70.58 304 P **P 07 20 41.7 +0.5**
NVAR PP PP 07 23 12.5 -4.6
NVAR S S 07 29 55.5 +0.6
NVAR P'P' 07 48 34.3
NVAR Mina Array Bea 70.58 304 P **P 07 20 41.7 +0.5**
comp=Z,2.9nm,0.8s,baz=59,slow=6.4,SNR=19
NVAR PP PP 07 23 12.5 -4.6
comp=Z,0.9nm,0.8s,baz=65,slow=6.4,SNR=3.0
NVAR S S 07 29 55.5 +0.6
comp=Z,0.1nm,0.3s,baz=39,slow=14,SNR=2.7
NVAR PKPPKP 07 48 34.3
comp=Z,0.9nm,1.1s,baz=224,slow=2.9,SNR=6.4
O06A Flanigan 70.64 306 ⇓P **P 07 20 41.7 +0.2**
baz=70,SNR=12
ZAL Zalesovo 70.65 36 P **P 07 20 40.8 -0.5**
ZAL S S 07 29 52.3 -2.9
ZALV Zalesovo Beam 70.65 36 P **P 07 20 40.8 -0.5**
comp=Z,30nm,0.7s,mb5.3,baz=310,slow=6.9,SNR=85
ZALV S S 07 29 52.2 -3.0
comp=Z,0.3nm,0.4s,baz=18,slow=35,SNR=2.0
ZALV LR LR 07 51 30.9
comp=Z,11μm,21.4s,MS6.1,baz=291,slow=36
FURC Furnace Creek, 70.66 301 ⇓P **P 07 20 42.7 +1.0**
baz=70,SNR=26
SMDO Samad 70.71 75 P **P 07 20 41.5 -0.7**
SNR=20
SMDO Samad 70.71 75 P **P 07 20 41.5 -0.7**
SNR=20
IRM Iron Mountain 70.72 299 ⇓P **P 07 20 42.0 -0.1**
baz=71,SNR=32
GRAC Grapevine Rang 70.72 302 ⇑P **P 07 20 42.7 +0.6**
baz=70,SNR=10
GMRC Granite Mounta 70.74 299 ⇓P **P 07 20 42.6 +0.4**
baz=71,SNR=23
M05C Lookout 70.83 308 ⇓P **P 07 20 42.1 -0.6**
baz=71,SNR=12
J03A Ideyld Park 70.86 310 ⇓P **P 07 20 42.7 -0.1**
baz=71,SNR=5.7
ELFS Eagle Lake Fie 70.97 307 ⇑P **P 07 20 43.2 -0.3**
baz=71,SNR=9.1
S08C White Mtn Res 70.99 303 P **P 07 20 44.0 +0.3**
baz=71,SNR=13
M04C Macdoel 71.04 308 ⇑P **P 07 20 44.3 +0.4**
baz=71,SNR=12
WCN Washoe City 71.06 305 ⇓P **P 07 20 44.3 +0.2**
baz=71,SNR=11
GLA Glamis 71.08 297 *e*P **P 07 20 45.1 +0.8**
comp=Z,236nm,1.6s,mb5.9
GLA Glamis 71.08 297 *e*P **P 07 20 45.1 +0.8**
GLA pmax pmax
comp=Z,236nm,1.6s,mb5.9
GLA Glamis 71.08 297 ⇑P **P 07 20 44.6 +0.3**
baz=71,SNR=29
JMDO Jabal Madar 71.13 76 P **P 07 20 43.8 -1.0**
SNR=26
BEKR Beckwourth 71.14 306 ⇓P **P 07 20 44.7 +0.2**
baz=71,SNR=24
EKS2 Erkin-Say 71.15 50 *e*P **P 07 20 45.1 +0.5**
comp=Z,189nm,1.4s,mb5.8
EKS2 *e*PP PP 07 23 15.9 -5.9
EKS2 LR LR
comp=Z,12μm,19.0s,MS6.2
EKS2 Erkin-Say 71.15 50 P **P 07 20 45.1 +0.6**
SNR=66
HEC Hector,Ludlow 71.18 300 ⇓P **P 07 20 46.2 +1.3**
baz=71
BC3 Big Chuckw Mtn 71.20 298 ⇑P **P 07 20 45.9 +0.8**
baz=71,SNR=17
GSC Goldstone 71.25 300 *e*P **P 07 20 46.1 +0.8**
comp=Z,148nm,1.7s,mb5.6
GSC *e*PcP PcP 07 21 05.1 -0.1
GSC Goldstone 71.25 300 *e*P **P 07 20 46.1 +0.8**
GSC *e* 07 21 05.1
GSC pmax pmax
comp=Z,149nm,1.7s,mb5.6
GSC Goldstone 71.25 300 ⇑P **P 07 20 46.2 +0.9**
baz=71,SNR=21
USP Ospenovka 71.25 50 P **P 07 20 49.6 +4.5**
SNR=14
HUMO Hull Mountain 71.27 310 *e*P **P 07 20 45.6 +0.3**
comp=Z,32nm,1.4s,mb5.1
HUMO LR LR
comp=Z,11μm,21.0s,MS6.1
SML Sawmill 71.28 335 *e*P **P 07 20 46.5 +1.5**
MPMC Manual Prospec 71.31 301 P **P 07 20 46.4 +0.8**
baz=71,SNR=43
O04C Chester 71.36 307 ⇓P **P 07 20 45.0 -0.9**
baz=71,SNR=11
AML Almayashu 71.39 51 *e*P **P 07 20 46.9 +0.9**
comp=Z,93nm,1.0s,mb5.7
AML LR LR
comp=Z,14μm,19.0s,MS6.2
AML Almayashu 71.39 51 P **P 07 20 48.3 +2.3**
SNR=52
BELC Belle Mtn. 71.39 299 P **P 07 20 47.4 +1.2**
baz=71,SNR=22
M03C McCloud 71.49 308 ⇓P **P 07 20 46.1 -0.6**
baz=71,SNR=9.5
CWC Cottonwood Cre 71.50 302 ⇑P **P 07 20 47.6 +0.8**
baz=71,SNR=5.3
CHMS Chumysh 71.56 50 P **P 07 20 49.4 +2.4**
SNR=19
FRU Bishkek 71.57 50 *e*P **P 07 20 47.0 -0.1**
FRU *e* 07 25 10.0
FRU pmax pmax
comp=Z,480nm,2.0s,mb6.1
FRU pmax pmax
comp=Z,4μm,6.0s
FRU MLR MLR
comp=Z,11μm,16.0s,MS6.2
AAK Ala-Archa 71.61 50 P **P 07 20 47.8 +0.5**
comp=Z,278nm,2.7s,mb5.7,SNR=24
AAK Ala-Archa 71.61 50 P **P 07 20 47.8 +0.5**
SNR=27
YBH Yreka Blue Hor 71.61 309 PFAKE 07 21 00.0 +13
YBH LR LR
comp=Z,7μm,21.0s,MS5.9
P05C Yuba Gap, Truc 71.61 306 ⇑P **P 07 20 46.7 -0.7**
baz=71,SNR=12
WBK Wadi Bani Khal 71.67 75 P **P 07 20 48.5 +0.5**
SNR=16
WBK Wadi Bani Khal 71.67 75 P **P 07 20 48.5 +0.5**
SNR=16
PMR Palmer 71.70 336 *e*P **P 07 20 47.1 -0.4**
comp=Z,348nm,1.4s,mb6.1
PMR Palmer 71.70 336 *e*P **P 07 20 47.1 -0.4**
PMR pmax pmax
comp=Z,348nm,1.4s,mb6.1
LRMC Laurel Mountai 71.76 301 ⇓P **P 07 20 48.4 0.0**
baz=72,SNR=5.8
SWSC Sam W. Stewart 71.83 298 ⇓P **P 07 20 49.7 +0.8**
baz=72,SNR=6.6
UCH Uchtor 71.84 51 *e*P **P 07 20 50.1 +1.3**
comp=Z,198nm,1.4s,mb5.8
UCH LR LR
comp=Z,14μm,20.0s,MS6.2
UCH Uchtor 71.84 51 P **P 07 20 49.9 +1.1**
SNR=58
KCC Kaiser Creek 71.85 303 ⇑P **P 07 20 49.6 +0.7**
baz=72,SNR=8.3
KBK Karagaybulak 71.87 50 P **P 07 20 51.8 +2.9**
SNR=25
PFO Pinyon Flat Ob 71.92 299 *e*P **P 07 20 50.4 +1.0**
comp=Z,164nm,1.6s,mb5.7
PFO LR LR
comp=Z,7μm,19.0s,MS5.9
PFO Pinyon Flat Ob 71.92 299 *e*P **P 07 20 50.4 +1.0**
PFO pmax pmax
comp=Z,164nm,1.6s,mb5.7
PFO MLR MLR
comp=Z,7μm,19.0s,MS5.9
PFO Pinyon Flat Ob 71.92 299 LR LR 07 50 28.8
comp=Z,1μm,19.6s,MS5.3,baz=62,slow=34
PFO Pinyon Flat Ob 71.92 299 ⇑P **P 07 20 50.5 +1.1**
baz=72,SNR=19
KEBM Edton Butte 71.97 310 P **P 07 20 51.0 +1.5**
HELL Mitchell Peak 72.01 303 P **P 07 20 49.9 0.0**
baz=72,SNR=46
ORV Oroville 72.05 306 P **P 07 20 50.7 +0.6**
baz=72,SNR=8.5
TKM2 Tokmak 2 72.11 49 *e*P **P 07 20 50.7 +0.4**
comp=Z,156nm,1.6s,mb5.7
TKM2 LR LR
comp=Z,9μm,22.0s,MS6.0
TKM2 Tokmak 2 72.11 49 *e*P **P 07 20 50.7 +0.3**
TKM2 pmax pmax
comp=Z,156nm,1.6s,mb5.7
TKM2 MLR MLR
comp=Z,9μm,22.0s,MS6.0
TKM2 Tokmak 2 72.11 49 P **P 07 20 53.1 +2.8**
SNR=28
WDC Whiskeytown Da 72.14 308 *e*P **P 07 20 50.0 -0.6**
comp=Z,14nm,1.4s,mb4.7
WDC *e*PP PP 07 23 30.7 +0.3
WDC LR LR
comp=Z,8μm,22.0s,MS6.0
WDC Whiskeytown Da 72.14 308 *e*P **P 07 20 50.0 -0.6**
WDC *e* 07 23 30.7
WDC pmax pmax
comp=Z,14nm,1.4s,mb4.7
WDC MLR MLR
comp=Z,8μm,22.0s,MS6.0
CMB Columbia Colle 72.17 304 *e*P **P 07 20 50.7 -0.1**
comp=Z,111nm,1.8s,mb5.5
CMB LR LR
comp=Z,4μm,19.0s,MS5.7
CMB Columbia Colle 72.17 304 *e*P **P 07 20 50.7 -0.1**
CMB pmax pmax
comp=Z,111nm,1.8s,mb5.5
CMB MLR MLR
comp=Z,4μm,19.0s,MS5.7
CMB Columbia Colle 72.17 304 ⇑P **P 07 20 50.4 -0.4**
baz=72,SNR=8.9
ISA Isabella 72.19 301 P **P 07 20 51.0 0.0**
comp=Z,163nm,1.9s,mb5.6
ISA LR LR
comp=Z,16μm,21.0s,MS6.3
ISA Isabella 72.19 301 P **P 07 20 51.0 0.0**
ISA pmax pmax
comp=Z,163nm,1.9s,mb5.6
ISA MLR MLR
comp=Z,16μm,21.0s,MS6.3
ISA Isabella 72.19 301 ⇑P **P 07 20 47.7 -3.3**
baz=72,SNR=7.4
KBO Bosley Butte 72.27 310 *e*P **P 07 20 54.3 +3.0**
T06C Millerton Lake 72.29 303 ⇓P **P 07 20 51.8 +0.3**
baz=72,SNR=11
MONP Monument Peak 72.29 298 ⇓P **P 07 20 52.6 +1.0**
baz=72,SNR=26
EDW2 Edwards Air Fo 72.29 301 ⇑P **P 07 20 52.4 +0.8**
baz=72,SNR=5.3
KZA Kyzart 72.38 50 P **P 07 20 52.8 +0.8**
SNR=23
BFSC Mount Baldy St 72.42 300 ⇑P **P 07 20 53.3 +1.0**
baz=72,SNR=6.2
KRMB Red Mountain 72.47 309 *e*P **P 07 20 53.6 +1.1**
VES Vestal, Richgr 72.51 302 ⇓P **P 07 20 53.5 +0.7**
baz=72,SNR=5.2
KBL Kabul 72.53 60 *e*P **P 07 20 52.0 -1.1**
comp=Z,10nm,0.5s,mb5.0
LPIG La Paz 72.62 287 *i* P **P 07 20 52.4 -1.3**
AAA Alma-Ata 72.73 49 *i* P **P 07 20 57.4 +3.4**
AAA *i* S S 07 30 21.1 +1.6
AAA pmax pmax
comp=Z,6μm,4.8s
AAA smax
comp=E,2μm,5.7s
109C Camp Elliot, M 72.78 298 ⇑P **P 07 20 55.7 +1.2**
baz=73
TTA Tatalina 72.81 339 *e*P **P 07 20 55.8 +1.7**
SLKM Skilak Lake 72.86 335 *e*P **P 07 20 55.6 +1.1**
ULHL Ulahol 72.89 50 P **P 07 20 55.6 +0.6**
SNR=18
KIPM Iron Peak 73.17 307 *e*P **P 07 20 58.2 +1.5**
KCPM Cahto Peak 73.31 307 *e*P **P 07 20 58.8 +1.3**
U04C Hernandez Rese 73.36 303 ⇑P **P 07 20 56.9 -1.0**
baz=73,SNR=5.3
HOPS Hopland 73.38 306 *e*P **P 07 20 58.5 +0.5**
comp=E,255nm,1.6s,mb5.9
HOPS LR LR
comp=Z,20μm,19.0s,MS6.4
HOPS Hopland 73.38 306 ⇑P **P 07 20 57.8 -0.1**
baz=73,SNR=7.0
PKM Peak Mountain 73.53 301 ⇓P **P 07 20 57.0 -2.0**
baz=73,SNR=12
TNA Tin City 73.56 345 *e*P **P 07 20 59.1 +0.6**
comp=Z,262nm,1.6s,mb5.9
TNA LR LR
comp=Z,6μm,21.0s,MS5.9
SAO San Andreas Ge 73.58 304 P **P 07 20 57.9 -1.3**
comp=Z,44nm,1.5s,mb5.2
SAO LR LR
comp=Z,8μm,19.0s,MS6.0
SAO San Andreas Ge 73.58 304 P **P 07 20 57.9 -1.3**
SAO pmax pmax
comp=Z,44nm,1.5s,mb5.2
SAO MLR MLR
comp=Z,8μm,19.0s,MS6.0
MK31 Makanchi Array 73.70 43 *e*P **P 07 20 59.1 -0.6**
MK31 *e*PP PP 07 23 42.3 -1.2
MK31 Makanchi Array 73.70 43 *i* P **P 07 20 58.5 -1.2**
MK31 pmax pmax
comp=Z,114nm,1.1s,mb5.7
MKAR Makanchi Array 73.70 43 P **P 07 20 58.8 -0.9**
MKAR PP PP 07 23 41.4 -2.1
MKAR S S 07 30 32.8 +2.3
MKAR PKKPbc PKKPbc 07 40 33.1 +0.4
MKAR LR LR 07 54 26.8
MKAR Makanchi Array 73.70 43 P **P 07 20 58.8 -0.9**
MKAR 07 23 41.4
MKAR S S 07 30 32.8 +2.3
MKAR Makanchi Array 73.70 43 P **P 07 20 58.8 -0.9**
comp=Z,22nm,0.7s,mb5.2,baz=314,slow=5.1,SNR=64
MKAR PP PP 07 23 41.4 -2.1
comp=Z,3.2nm,0.8s,baz=312,slow=6.4,SNR=3.8
MKAR S S 07 30 32.8 +2.3
comp=Z,0.2nm,0.6s,baz=205,slow=2.6,SNR=2.7
MKAR PKKPbc PKKPbc 07 40 33.1 +0.4
comp=Z,0.3nm,0.8s,baz=57,slow=5.3,SNR=2.8
MKAR LR LR 07 54 26.8
comp=Z,26μm,18.0s,MS6.5,baz=312,slow=37
MCCM Marconi Confer 73.73 306 PFAKE 07 21 10.0 +10
MCCM LR LR
comp=Z,8μm,19.0s,MS6.0
SVW2 Sparrevohn 74.12 338 *e*P **P 07 21 01.6 -0.3**
SNCC San Nicolas Is 74.26 300 PFAKE 07 21 20.0 +17
SNCC LR LR
comp=Z,6μm,19.0s,MS5.9
KSH Kashi 74.30 52 P **P 07 21 04.7 +1.4**
KSH *e*AP pP 07 21 09.3 +3.0
KSH *e*XP sP 07 21 11.6 +4.2
KSH PCP PcP 07 21 19.9 +1.7
KSH PP PP 07 23 56.1 +7.3
KSH S S 07 30 36.7 -0.7
KSH XS sS 07 30 44.7 +2.3
KSH SKS 07 31 06.8
KSH SCS ScS 07 31 11.3 -3.0
KSH SS SS 07 35 23.3 +0.9
KSH AMB AMB
comp=Z,750nm,1.2s,mb6.5
KSH AMB AMB
comp=Z,12μm,5.3s
BILL Bilibino 74.62 356 *e*P **P 07 21 04.7 0.0**
comp=Z,227nm,1.6s,mb5.8
BILL LR LR
comp=Z,8μm,19.0s,MS6.0
BILL Bilibino 74.62 356 *d i*P **P 07 21 04.4 -0.3**
BILL *e* 07 23 47.5
BILL *e*S S 07 30 42.0 +1.9
BILL *e*SS SS 07 35 30.3 +4.5
BILL pmax pmax
comp=Z,164nm,2.1s,mb5.6
TRIS Tristan da Cun 74.90 170 PFAKE 07 21 20.0 +13
TRIS LR LR
comp=Z,9μm,20.0s,MS6.0
KDAK Kodiak Island 75.71 334 PFAKE 07 21 20.0 +8.9
KDAK LR LR
comp=Z,2μm,20.0s,MS5.5
GAMB Gambell 75.90 346 *e*P **P 07 21 11.6 -0.5**
comp=Z,509nm,2.1s,mb6.1
LBTB Lobatse 77.90 135 *e*P **P 07 21 23.5 -0.3**
comp=Z,41nm,0.9s,mb5.4
LBTB LR LR
comp=Z,10μm,22.0s,MS6.1
LBTB Lobatse 77.90 135 *e*P **P 07 21 23.5 -0.3**
LBTB pmax pmax
comp=Z,41nm,0.9s,mb5.4
LBTB MLR MLR
comp=Z,10μm,22.0s,MS6.1
THN Thein Dam 78.30 58 *e*P **P 07 21 25.7 -0.5**
LPA La Plata 78.31 208 *de*P **P 07 21 27.0 +1.1**
LPA *e*S S 07 31 18.0 -3.2
LPA
comp=Z,10μm,22.0s
WMQ Urumqi 78.53 43 ⇓ *i*P **P 07 21 27.7 +0.4**
WMQ XP sP 07 21 35.0 +3.6
WMQ PP PP 07 24 27.0 +2.7
WMQ S S 07 31 23.0 -0.8
WMQ SKS 07 31 37.0
WMQ SS SS 07 36 27.0 +0.8
WMQ AMB AMB
comp=Z,96nm,1.8s,mb5.4
WMQ AMB AMB
comp=Z,5μm,7.4s
WMQ LR LR
comp=Z,21μm,26.8s,MS6.3
YAK Yakutsk 78.79 12 *e*P **P 07 21 28.7 +0.3**
comp=Z,242nm,1.4s,mb5.9
YAK LR LR
comp=Z,5μm,22.0s,MS5.8
YAK Yakutsk 78.79 12 *e*P **P 07 21 27.7 -0.6**
YAK *e* 07 21 33.8
YAK *e*S S 07 31 19.6 -6.2
YAK *e*SSS 07 39 56.2
YAK pmax pmax
comp=E,52nm,1.5s
YAK pmax pmax
comp=Z,149nm,1.5s,mb5.7
YAK pmax pmax
comp=N,92nm,1.4s
YAK smax
comp=N,1μm,6.0s
YAK smax
comp=Z,641nm,6.2s
YAK smax
comp=E,614nm,5.0s
YAK MLR MLR
comp=Z,5μm,24.0s,MS5.8
YAK MLR MLR
comp=N,4μm,21.0s
YAK MLR MLR
comp=E,3μm,27.0s
LCO Las Campanas 78.94 220 P **P 07 21 30.0 +0.5**
comp=E,229nm,1.4s,mb5.9
LCO LR LR
comp=Z,8μm,19.0s,MS6.1
BOD Bodaibo 79.00 21 *e*P **P 07 21 27.5 -2.1**
BOD pmax pmax
comp=Z,165nm,1.7s,mb5.7
MOY Mondy 79.38 31 *e*P **P 07 21 32.4 +0.6**
MOY pmax pmax
comp=Z,671nm,2.3s,mb6.2
BHJ Bhuj 79.40 69 *e*P **P 07 21 33.7 +1.2**
BHJ AMb AMB 07 21 37.4
comp=Z,278nm,1.3s,mb6.0
BHJ AMS AMS 08 07 23.0
comp=Z,4μm,17.7s,MS5.8
CFAA Coronel Fontan 79.84 217 P **P 07 21 34.1 -0.2**
comp=Z,4.2nm,1.0s,baz=31,slow=4.0,SNR=26
TLL Tololo Astrono 79.93 219 *e*P **P 07 21 36.6 +1.7**
SLR Silverton 79.99 133 *e*P **P 07 21 34.1 -1.2**
SLR *e*S pP 07 21 43.1 +4.7
SLR AML AML 07 21 53.7
comp=Z,13nm,0.8s
SEY Seymchan 80.03 1 ⇑ *e*P **P 07 21 35.5 +0.4**
SMLA Simla 80.07 58 *e*P **P 07 21 35.1 -0.8**
SMLA AMb AMB 07 21 38.6
comp=Z,316nm,1.5s,mb6.0
IRK Irkutsk 80.25 29 ⇑ *e*P **P 07 21 35.9 -0.5**
IRK *e*S S 07 31 47.9 +6.3
IRK pmax pmax
comp=Z,481nm,2.6s,mb6.0
SDPT Sand Point 80.29 336 *e*P **P 07 21 36.7 +0.1**
comp=Z,273nm,1.0s,mb6.1
TLY Talaya 80.44 30 P **P 07 21 38.0 +0.5**
comp=Z,238nm,1.2s,mb6.0,SNR=36
TLY Talaya 80.44 30 *e*P **P 07 21 38.2 +0.7**
comp=Z,149nm,1.6s,mb5.7
TLY LR LR
comp=Z,12μm,19.0s,MS6.3
TLY Talaya 80.44 30 *d i*P **P 07 21 37.1 -0.4**
TLY *e* 07 24 39.3
TLY *e*S S 07 31 46.2 +2.6
TLY *e*PS 07 32 37.7
TLY pmax pmax
comp=Z,114nm,1.8s,mb5.5
TLY MLR MLR
comp=Z,12μm,19.0s,MS6.2
TLY Talaya 80.44 30 P **P 07 21 38.5 +1.0**
SNR=50
BOSA Boshof 80.52 137 *e*P **P 07 21 38.8 +0.7**
comp=Z,132nm,1.4s,mb5.7

BOSA LR LR
comp=Z,9μm,20.0s,MS6.1
BOSA Boshof 80.52 137 *e*P **P 07 21 38.8 +0.7**
BOSA pmax pmax
comp=Z,132nm,1.4s,mb5.7
BOSA MLR MLR
comp=Z,9μm,20.0s,MS6.1
BOSA Boshof 80.52 137 P **P 07 21 38.3 +0.2**
comp=Z,34nm,1.0s,mb5.2,baz=326,slow=5.8,SNR=20
BOSA LR LR 07 55 26.7
comp=Z,10μm,20.6s,MS6.1,baz=323,slow=34
BOSA Boshof 80.52 137 *e*P **P 07 21 38.8 +0.7**
comp=Z,132nm,1.4s,mb5.7
AJM Ajmer 81.13 64 *e*P **P 07 21 41.4 -0.2**
AJM AMb AMB 07 21 45.8
comp=Z,159nm,1.6s,mb5.7
AJM AMS AMS 08 05 51.0
comp=Z,3μm,24.8s,MS5.6
DDI Dehra Dun 81.17 59 *e*P **P 07 21 39.7 -2.1**
DDI *e*x x 07 32 06.0
SUR Sutherland 81.25 142 *e*P **P 07 21 42.4 +0.5**
comp=Z,113nm,0.9s,mb5.8
SUR LR LR
comp=Z,5μm,21.0s,MS5.9
SUR Sutherland 81.25 142 *e*P **P 07 21 42.4 +0.5**
comp=Z,113nm,0.9s,mb5.8
ZAK Zakamensk 81.29 31 *e*P **P 07 21 42.1 0.0**
ZAK pmax pmax
comp=Z,44nm,2.7s,mb4.9
NDI New Delhi 81.60 60 *i*P **P 07 21 44.0 -0.1**
NDI *e*x x 07 31 45.0
FCH Farellones 82.24 217 *e*P **P 07 21 48.0 +0.9**
TRQA Tornquist 82.62 209 PFAKE 07 22 00.0 +11
TRQA LR LR
comp=Z,35μm,20.0s,MS6.7
CLNS Chul'man 82.67 16 *e*P **P 07 21 49.2 0.0**
CLNS *e**PP pP 07 21 55.5 +3.3
CLNS *e*PPP 07 26 51.8
CLNS *e*S S 07 32 03.1 -3.4
CLNS pmax pmax
comp=Z,58nm,1.1s,mb5.5
CLNS pmax pmax
comp=N,27nm,1.4s
CLNS pmax pmax
comp=E,8.0nm,0.8s
CLNS smax
comp=N,706nm,16.3s
CLNS smax
comp=Z,1μm,15.3s
CLNS smax
comp=E,1μm,13.4s
CLNS MLR MLR
comp=N,2μm,16.0s,MS5.8
CLNS MLR MLR
comp=E,3μm,16.0s,MS5.8
CLNS MLR MLR
comp=Z,5μm,16.0s,MS6.0
NRGR Nerungri 82.79 17 *e*P **P 07 21 50.3 +0.4**
MA2 Magadan 83.35 2 *e*P **P 07 21 53.2 +0.5**
comp=Z,573nm,2.3s,mb6.2
MA2 LR LR
comp=Z,3μm,19.0s,MS5.7
MA2 Magadan 83.35 2 *e*P **P 07 21 53.2 +0.5**
MA2 *e* 07 25 05.3
MA2 *e*S S 07 32 10.7 -2.7
MA2 pmax pmax
comp=Z,200nm,2.0s,mb5.8
MA2 Magadan 83.35 2 *e*P **P 07 21 53.2 +0.5**
comp=Z,573nm,2.3s,mb6.2
UNV Unalaska Valle 83.42 338 *e*P **P 07 21 52.7 -0.4**
UNV LR LR
comp=Z,16μm,19.0s,MS6.4
UNV Unalaska Valle 83.42 338 *e*P **P 07 21 52.7 -0.5**
CIT Chita 83.77 25 *e*P **P 07 21 53.6 -1.4**
CIT *e* 07 25 10.0
CIT pmax pmax
comp=Z,278nm,2.6s,mb5.9
SONM Songino Array 84.56 31 P **P 07 21 58.9 -0.2**
SONM S S 07 32 28.3 +2.3
SONM Songino Array 84.56 31 P **P 07 21 58.9 -0.2**
comp=Z,29nm,0.9s,mb5.4,baz=314,slow=3.0,SNR=74
SONM S S 07 32 28.3 +2.4
comp=Z,0.2nm,0.4s,baz=327,slow=28,SNR=4.4
SONM LR LR 08 00 35.9
comp=Z,14μm,20.7s,MS6.3,baz=323,slow=36
ULN Ulaanbaatar 84.80 30 PFAKE 07 22 10.0 +10
ULN LR LR
comp=Z,11μm,20.0s,MS6.3
BHPL Bhopal 85.10 65⇓ *e*P **P 07 22 01.5 -0.8**
BHPL AMb AMB 07 22 06.4
comp=Z,178nm,1.6s,mb6.0
BHPL AMS AMS 08 05 36.9
comp=Z,7μm,17.7s,MS6.1
POO Poona 85.36 70 *e*P **P 07 22 04.0 +0.3**
POO AMb AMB 07 22 08.0
comp=Z,86nm,1.6s,mb5.6
KAD Karad 86.36 71 *e*P **P 07 22 08.2 -0.3**
KAD AMb AMB 07 22 12.8
comp=Z,136nm,1.4s,mb6.0
KAD AMS AMS 08 10 19.8
comp=Z,4μm,14.1s,MS6.0
AKL Akola 86.38 67⇑ *i*P **P 07 22 08.9 +0.2**
AKL *e*x x 07 22 12.6
comp=Z,153nm,1.7s
AKL *i*x x 07 32 47.6
KOLN Koldanda 86.54 58 *e*P **P 07 22 07.9 -1.4**
comp=Z,468nm,1.8s,mb6.4
GKN Gorkha 87.08 57 *e*P **P 07 22 11.4 -0.6**
comp=Z,996nm,1.9s,mb6.7
GOA Goa 87.19 73 *e*P **P 07 22 13.2 +0.5**
GOA AMb AMB 07 22 16.0
comp=Z,121nm,2.8s,mb5.6
LATR Latur 87.46 69 *e*P **P 07 22 12.9 -1.0**
LATR AMb AMB 07 22 15.9
comp=Z,97nm,2.6s,mb5.6
NGP Nagpur 87.58 65 *e*P **P 07 22 12.9 -1.6**
NGP AMb AMB 07 22 15.8
comp=Z,214nm,2.6s,mb5.9
NGP *e*x x 07 33 00.6
NGP *e*x x 08 07 11.1
comp=Z,7μm,20.0s
KKN Kakani 87.65 57 *e*P **P 07 22 14.4 -0.3**
comp=Z,532nm,1.6s,mb6.5
ADK Adak 87.87 343 PFAKE 07 22 30.0 +15
ADK LR LR
comp=Z,6μm,22.0s,MS6.0
GTA Gaotai 88.06 40 *e*P **P 07 22 16.0 -0.5**
GTA AP pP 07 22 20.3 +0.8
GTA XP sP 07 22 23.3 +2.7
GTA PP PP 07 25 43.4 +1.1
GTA SKS 07 32 41.6
GTA S S 07 32 57.9 -2.5
GTA AMB AMB
comp=Z,39nm,1.7s,mb5.4
GTA AMB AMB
comp=Z,2μm,5.7s
GTA LR LR
comp=N,3μm,22.8s,MS5.9
GTA LR LR
comp=E,4μm,21.3s,MS5.9
GTA LR LR
comp=Z,4μm,25.9s,MS5.8
HIA Hailar 88.12 23 PFAKE 07 22 30.0 +13
HIA LR LR
comp=Z,10μm,20.0s,MS6.2
JIRN Jiri 88.33 56 *e*P **P 07 22 19.2 +1.2**
PLCA Paso Flores 88.41 213 *e*P **P 07 22 18.7 +1.0**
comp=Z,150nm,1.5s,mb6.0
PLCA LR LR
comp=Z,8μm,20.0s,MS6.1
PLCA Paso Flores 88.41 213 P **P 07 22 16.7 -1.0**
comp=Z,17nm,0.9s,mb5.2,baz=25,slow=5.9,SNR=24
PLCA S S 07 32 52.1 -11
comp=Z,1.2nm,0.8s,baz=177,slow=9.5,SNR=2.0
PLCA LR LR 08 02 59.0
comp=Z,8μm,18.6s,MS6.2,baz=43,slow=36
PLCA Paso Flores 88.41 213 *e*P **P 07 22 18.7 +1.0**
comp=Z,150nm,1.5s,mb6.0
SMY Shemya 88.84 349 PFAKE 07 22 30.0 +10
SMY LR LR
comp=Z,3μm,20.0s,MS5.7
BLSP Bilaspur 89.16 63 *e*P **P 07 22 21.3 -0.7**
BLSP AMb AMB 07 22 26.0
comp=Z,86nm,2.3s,mb5.7
BLSP AMS AMS 08 08 01.9
comp=Z,5μm,21.2s,MS5.9

MNGI Mangalore 89.52 74 *i*P **P 07 22 24.1 +0.4**
MNGI AMb AMB 07 22 27.5
comp=Z,147nm,2.6s,mb5.8
MNGI *i*x x 07 33 03.3
MNGI *e*x x 08 12 31.8
comp=Z,3μm,18.8s
HYB Hyderabad 89.56 68 *e*P **P 07 22 23.0 -0.9**
comp=Z,186nm,1.2s,mb6.3
HYB *e* 07 22 30.0
HYB *e*S S 07 33 12.0 -3.2
HYB Hyderabad 89.56 68 *e*P **P 07 22 23.0 -0.9**
HYB *e* 07 22 30.0
HYB *e*S S 07 33 12.0 -3.2
HYB pmax pmax
comp=Z,186nm,1.2s,mb6.3
HYB Hyderabad 89.56 68 *i*P **P 07 22 23.0 -0.9**
comp=Z,186nm,1.2s,mb6.3
HYB *e* 07 22 30.0
HYB *e*S S 07 33 12.0 -3.2
PET Petropavlovsk 89.96 358 *e*P **P 07 22 24.7 -0.4**
comp=Z,152nm,1.4s,mb6.1
PET LR LR
comp=Z,4μm,19.0s,MS5.9
PET Petropavlovsk 89.96 358 *e*P **P 07 22 25.3 +0.2**
PET *e* 07 26 01.4
PET *e* 07 32 56.4
PET *e*S S 07 33 12.2 -5.5
PET *e*PS PS 07 34 17.9 -5.9
PET *e*PPS 07 34 48.0
PET *e*SS SS 07 39 12.8 -0.9
PET pmax pmax
comp=Z,1μm,7.7s
PET pmax pmax
comp=Z,2μm,7.7s
PET pmax pmax
comp=Z,99nm,1.4s,mb6.0
PET MLR MLR
comp=Z,5μm,19.0s,MS5.9
PET MLR MLR
comp=Z,4μm,18.0s
PET Petropavlovsk 89.96 358 *e*P **P 07 22 24.7 -0.4**
comp=Z,152nm,1.4s,mb6.1
LSA Lhasa 90.14 52 P **P 07 22 29.0 +2.6**
LSA SS SS 07 39 20.7 +2.6
LSA LR LR
comp=N,4μm,18.3s,MS6.0
LSA LR LR
comp=E,4μm,23.0s,MS6.0
LSA LR LR
comp=Z,7μm,21.4s,MS6.0
LSA Lhasa 90.14 52 PFAKE 07 22 40.0 +14
LSA LR LR
comp=Z,7μm,20.0s,MS6.1
BOK Bokaro 90.69 59 *e*P **P 07 22 28.8 -0.3**
BOK AMb AMB 07 22 33.5
comp=Z,131nm,1.3s,mb6.1
BOK AMS AMS 08 07 05.3
comp=Z,5μm,28.3s,MS5.8
KLR Kul'dur 91.26 15 *e*P **P 07 22 25.1 -6.2**
KLR *e* 07 26 03.5
KLR *e*S S 07 33 05.5 -24
KLR *e* 07 34 43.0
KLR *e* 07 39 27.0
KLR pmax pmax
comp=Z,280nm,2.8s,mb6.1
KLR pmax pmax
comp=Z,2μm,7.0s
BTO Baotou 91.94 33 *e*P **P 07 22 34.9 +0.3**
SKR Severo-Kuril's 92.34 360 *e*P **P 07 22 35.0 -1.2**
HHC Hu-ho-hao-te 92.40 32 *e*P **P 07 22 37.7 +1.0**
HHC AP pP 07 22 42.1 +2.4
HHC XP sP 07 22 44.9 +4.1
HHC PP PP 07 26 19.7 +3.1
HHC SKS 07 33 13.1
HHC S S 07 33 42.6 +2.2
HHC SS SS 07 39 51.0 +1.4
HHC AMB AMB
comp=Z,2μm,6.0s
HHC LR LR
comp=N,8μm,18.2s,MS6.3
HHC LR LR
comp=E,6μm,16.5s,MS6.3
HHC LR LR
comp=Z,6μm,27.9s
HABR Khabarovsk 92.64 13⇓ *i*P **P 07 22 35.9 -1.7**
HABR *e* 07 26 16.7
HABR *e*S SKSac 07 33 08.7 -2.7
HABR *e*SS SS 07 39 47.8 -4.7
HABR pmax pmax
comp=Z,77nm,2.7s,mb5.7
HABR MLR MLR
comp=Z,4μm,23.0s,MS5.8
LZH Lanzhou 92.66 39 *e*P **P 07 22 40.7 +2.7**
LZH XP sP 07 22 44.9 +2.8
LZH SKS 07 33 13.0
LZH *e*S S 07 33 34.2 -8.7
LZH SS SS 07 39 53.1 -0.6
LZH AMB AMB
comp=Z,111nm,1.5s,mb6.1
LZH AMB AMB
comp=Z,2μm,7.0s
LZH LR LR
comp=E,6μm,16.1s
LZH LR LR
comp=Z,6μm,18.7s,MS6.1
VIS Vishakhapatnam 92.86 65 *e*P **P 07 22 38.3 -0.9**
VIS AMb AMB 07 22 41.8
comp=Z,33nm,1.3s,mb5.6
VIS AMS AMS 08 11 23.5
comp=Z,2μm,24.8s,MS5.6
KOD Kodaikanal 93.22 75 *e*P **P 07 22 41.6 +0.7**
KOD AMb AMB 07 22 50.7
comp=Z,53nm,1.6s,mb5.7
EFI East Falkland 93.39 200 PFAKE 07 22 50.0 +9.4
EFI LR LR
comp=Z,8μm,20.0s,MS6.2
SHL Shillong 93.48 54 *e*P **P 07 22 42.0 0.0**
SHL AMb AMB 07 22 48.0
comp=Z,481nm,1.4s,mb6.8
SHL *e*x x 07 34 06.0
MDRS Chennai 93.56 71 AMS AMS 08 11 34.1
comp=Z,4μm,24.8s,MS5.8
TRD Trivandrum 93.90 76 AMS AMS 08 15 55.9
comp=Z,3μm,17.7s,MS5.8
CN2 Changchun 94.75 21 *e*P **P 07 22 45.7 -1.8**
CN2 SKS 07 33 19.6
CN2 *e*S S 07 33 54.7 -6.3
CN2 AMB AMB
comp=Z,30nm,1.2s,mb5.6
CN2 AMB AMB
comp=Z,200nm,5.0s
CN2 LR LR
comp=N,5μm,19.0s,MS6.0
CN2 LR LR
comp=E,2μm,19.0s,MS6.0
BJI Beijing 94.95 29 P **P 07 22 48.7 +0.3**
BJI SS SS 07 40 26.1 +0.1
BJI AMB AMB
comp=Z,26nm,2.3s,mb5.2
BJI AMB AMB
comp=Z,1μm,7.3s
BJI LR LR
comp=N,3μm,31.3s
BJI LR LR
comp=E,4μm,26.0s
BJI LR LR
comp=Z,6μm,31.3s,MS5.8
BJT Baijiatuau 94.97 29 PFAKE 07 23 00.0 +11
BJT LR LR
comp=Z,15μm,20.0s,MS6.5
MDJ Mudanjiang 95.12 18 P **P 07 22 47.5 -1.6**
MDJ S S 07 33 59.1 -5.1
MDJ AMB AMB
comp=Z,12nm,1.5s,mb5.1
MDJ AMB AMB
comp=Z,644nm,7.3s
MDJ LR LR
comp=N,3μm,35.2s
MDJ LR LR
comp=E,2μm,25.8s
MDJ LR LR
comp=Z,3μm,34.3s,MS5.5
MDJ Mudanjiang 95.12 18 PFAKE 07 23 00.0 +11
MDJ LR LR
comp=Z,7μm,21.0s,MS6.1

YSS Yuzh-Sakhalins 95.30 9 *e*P **P 07 22 48.6 -1.3**
comp=Z,195nm,1.9s,mb6.2
YSS LR LR
comp=Z,4μm,20.0s,MS5.9
YSS Yuzh-Sakhalins 95.30 9⇑ *e*P **P 07 22 48.0 -1.9**
YSS *e* 07 22 59.5
YSS *e* 07 26 37.0
YSS *e*PPP 07 28 53.0
YSS *e* 07 33 23.0
YSS *e*S S 07 33 54.0 -12
YSS *e*PS PS 07 35 26.0 +3.0
YSS *e*SS SS 07 40 36.0 +5.5
YSS *e*SSS 07 44 20.0
YSS pmax pmax
comp=Z,50nm,1.0s,mb5.9
YSS pmax pmax
comp=Z,1μm,8.0s
YSS MLR MLR
comp=E,3μm,18.0s
YSS MLR MLR
comp=Z,4μm,18.0s,MS5.9
YSS Yuzh-Sakhalins 95.30 9 *e*P **P 07 22 48.6 -1.3**
comp=Z,195nm,1.9s,mb6.2
TIY Taiyuan 95.39 33⇑ *i*P **P 07 22 51.9 +1.4**
TIY PP PP 07 26 43.0 +3.0
TIY LR LR
comp=N,6μm,14.3s,MS6.3
TIY LR LR
comp=E,3μm,15.2s,MS6.3
TIY LR LR
comp=Z,5μm,14.3s,MS6.1
SNY Shenyang 95.98 23 P **P 07 22 51.5 -1.6**
SNY AMB AMB
comp=Z,676nm,7.2s
SNY LR LR
comp=N,1μm,34.2s
SNY LR LR
comp=E,3μm,25.8s
SNY LR LR
comp=Z,4μm,34.8s,MS5.7
CD2 Chengdu 96.63 43⇑ *i*P **P 07 22 56.4 +0.1**
CD2 AP pP 07 23 01.4 +2.1
CD2 XP sP 07 23 04.2 +3.8
CD2 PP PP 07 26 51.0 +1.1
CD2 SKS 07 33 31.2
CD2 S S 07 34 12.8 -5.0
CD2 AMB AMB
comp=Z,20nm,2.0s,mb5.2
CD2 AMB AMB
comp=Z,1μm,6.8s
CD2 LR LR
comp=N,12μm,20.2s,MS6.4
CD2 LR LR
comp=E,6μm,20.2s,MS6.4
CD2 LR LR
comp=Z,16μm,20.2s,MS6.5
XAN Xi'an 96.80 37 P **P 07 22 55.9 -1.1**
XAN AP pP 07 23 03.5 +3.5
XAN SS SS 07 40 51.7 -1.0
XAN AMB AMB
comp=Z,17nm,1.9s,mb5.2
XAN LR LR
comp=E,8μm,24.4s
XAN LR LR
comp=Z,11μm,25.7s,MS6.2
PALK Pallekele 97.56 75 PFAKE 07 23 10.0 +9.3
PALK LR LR
comp=Z,3μm,19.0s,MS5.8
DL2 Dalian 97.96 26 *i*P **P 07 23 00.4 -1.7**
DL2 SKS 07 33 39.9
DL2 *e*S S 07 34 24.5 -4.4
DL2 PPS 07 36 36.7
DL2 AMB AMB
comp=Z,10.0nm,1.2s,mb5.2
DL2 AMB AMB
comp=Z,260nm,6.0s
DL2 LR LR
comp=N,2μm,17.7s,MS5.9
DL2 LR LR
comp=E,2μm,17.1s,MS5.9
DL2 LR LR
comp=Z,4μm,18.1s,MS5.9
ASAJ Asahikawa 98.08 9 P **P 07 23 00.2 -2.3**
comp=Z,18nm,1.0s,mb5.6,baz=310,slow=7.7,SNR=13
ERM Erimo 100.22 9 PFAKE 07 23 20.0 +7.8
ERM LR LR
comp=Z,4μm,20.0s,MS5.9
KMI Kunming 100.50 47 P Pdif 07 23 14.2 +0.8
KMI AP 07 23 19.4
KMI XP 07 23 21.7
KMI PP PP 07 27 21.1 +1.4
KMI SKS 07 33 51.5
KMI S Sdif 07 34 46.4 -3.8
KMI SS SS 07 41 44.0 -1.1
KMI AMB AMB
comp=Z,10.0nm,1.1s
KMI AMB AMB
comp=Z,526nm,4.9s
KMI LR LR
comp=N,7μm,18.5s,MS6.4
KMI LR LR
comp=E,7μm,18.5s,MS6.4
KMI LR LR
comp=Z,11μm,19.8s,MS6.4
INCN Inchon 100.91 23 PFAKE 07 23 30.0 +15
INCN LR LR
comp=Z,5μm,22.0s,MS6.0
KSRS Korea Array 101.33 22 P Pdif 07 23 16.5 -0.6
comp=Z,1.3nm,0.8s,baz=331,slow=4.9,SNR=7.0
KSRS PP PP 07 27 24.6 -0.7
comp=Z,0.7nm,0.4s,baz=345,slow=7.6,SNR=5.7
GYA Guiyang 101.69 44⇑ *i*P Pdif 07 23 18.7 0.0
GYA PP PP 07 27 30.8 +2.2
GYA SKS 07 33 57.2
GYA S Sdif 07 34 55.6 -4.5
GYA SS SS 07 42 01.4 -0.1
GYA AMB AMB
comp=Z,90nm,1.1s
GYA AMB AMB
comp=Z,1μm,8.7s
GYA LR LR
comp=N,4μm,21.4s,MS6.2
GYA LR LR
comp=E,7μm,20.7s,MS6.2
GYA LR LR
comp=Z,4μm,22.0s,MS5.9
RPN Rapa Nui 102.11 245 PFAKE 07 23 30.0 +9.4
RPN LR LR
comp=Z,5μm,20.0s,MS6.0
CHTO Chiang Mai 102.86 54 PFAKE 07 23 40.0 +16
CHTO LR LR
comp=Z,7μm,22.0s,MS6.1
CM31 Chiang Mai Arr 103.12 54 PFAKE 07 23 40.0 +15
CM31 LR LR
comp=Z,5μm,22.0s,MS6.0
MAJO Matsushiro 104.76 14 PFAKE 07 23 40.0 +7.6
MAJO LR LR
comp=Z,4μm,20.0s,MS6.0
MAT Matsushiro 104.76 14 PDIF Pdif 07 23 31.2 -1.2
MJAR Matsushiro Arr 104.76 14 Pdiff Pdif 07 23 31.0 -1.4
comp=Z,0.8nm,0.3s,baz=345,slow=3.9,SNR=5.7
PMSA Palmer Station 106.40 197 PFAKE 07 28 00.0 +10
PMSA LR LR
comp=Z,4μm,20.0s,MS6.0
POHA Pohakuloa 106.84 312 PFAKE 07 28 00.0 +8.0
POHA LR LR
comp=Z,3μm,21.0s,MS5.8
KIP Kipapa 106.97 315 PFAKE 07 28 00.0 +7.7
KIP LR LR
comp=Z,4μm,19.0s,MS6.0
QZH Quanzhou 108.98 35 PDIF Pdif 07 23 51.6 +0.5
QZH PP PP
comp=Z,2μm,7.4s
QZH LR LR
comp=N,5μm,20.7s,MS6.2
QZH LR LR
comp=E,5μm,19.0s,MS6.2
QZH LR LR
comp=Z,7μm,31.0s
QIZ Qiongzhong 109.35 46 PDIF Pdif 07 23 48.6 -4.2
QIZ S Sdif 07 35 53.5 -10
QIZ PP PP
comp=Z,1μm,13.3s
QIZ LR LR
comp=N,5μm,18.2s,MS6.2

QIZ				LR	LR			
	comp=E,3μm,15.6s,MS6.2							
QIZ				LR	LR			
	comp=Z,8μm,19.1s,MS6.3							
QIZ	**Qiongzhong**	**109.35**	**46**	PFAKE		07 28 10.0	+13	
QIZ				LR	LR			
	comp=Z,8μm,20.0s,MS6.3							
TATO	**Taipei**	**110.24**	**33**	PFAKE		07 28 10.0	+12	
TATO				LR	LR			
	comp=Z,7μm,19.0s,MS6.3							
PSI	**Prapat**	**114.16**	**66**	PKP	PKiKP	07 28 05.7	-0.3	
	comp=Z,3.4nm,0.6s,baz=336,slow=11,SNR=4.7							
TAOE	**Nuku Hiva Isla**	**115.67**	**279**	*e*PP	PP	07 29 07.4	-4.0	
	comp=Z,8μm,22.5s							
TAOE	**Nuku Hiva Isla**	**115.67**	**279**	*e*PS	PS	07 38 49.3	-2.7	
	comp=Z,33μm,24.9s							
TAOE				*e*SS	SS	07 45 14.4	+2.5	
	comp=Z,122μm,26.6s							
TAOE	**Nuku Hiva Isla**	**115.67**	**279**	*e*LR	LR	08 03 04.5		
	comp=Z,58μm,25.8s							
SYO	**Syowa Base**	**115.98**	**159⇑**	*ep*Pdiff		07 24 25.6		
RKT	**Rikitea**	**119.49**	**262**	*e*PS	PS	07 39 28.1	+1.5	
	comp=Z,1μm,28.5s							
RKT				*e*SS	SS	07 46 02.4	+0.6	
	comp=Z,4μm,28.5s							
RKT	**Rikitea**	**119.49**	**262**	*e*LR	LR	08 04 51.2		
	comp=Z,3μm,35.8s							
MAW	**Mawson**	**122.96**	**153**	PKP	PKPdf	07 28 21.3	+0.1	
	comp=Z,9.3nm,0.7s,baz=290,slow=6.5,SNR=12							
QSPA	**South Pole Qui**	**127.23**	**180**	*e*PKPdf	PKPdf	07 28 29.4	+0.3	
QSPA				LR	LR			
	comp=Z,4μm,22.0s,MS6.0							
QSPA	**South Pole Qui**	**127.23**	**180**	*e*PKIKP	PKPdf	07 28 29.4	+0.3	
DAV	**Davao City (W)**	**127.72**	**39**	PFAKE		07 28 40.0	+7.9	
DAV				LR	LR			
	comp=Z,7μm,22.0s,MS6.3							
PPT	**Papeete**	**128.17**	**277**	*e*SS	SS	07 47 52.4	+0.9	
	comp=Z,5μm,31.5s							
PPT	**Papeete**	**128.17**	**277**	*e*LR	LR	08 08 50.9		
	comp=Z,5μm,28.2s							
GUMO	**Guam**	**128.36**	**13**	PFAKE		07 28 40.0	+6.8	
GUMO				LR	LR			
	comp=Z,2μm,20.0s,MS5.8							
TBI	**Tubuai**	**131.12**	**270**	*e*SS	SS	07 48 29.2	+1.3	
	comp=Z,2μm,33.2s							
TBI	**Tubuai**	**131.12**	**270**	*e*LR	LR	08 10 15.3		
	comp=Z,3μm,34.0s							
MIR	**Mirnyy**	**134.51**	**150⇑**	*i*PKIKP	PKPdf	07 28 38.0	-5.2	
MIR				pmax	pmax			
	comp=Z,200nm,2.0s							
SBA	**Scott Base**	**139.11**	**184**	*e*PKPdf	PKPdf	07 28 52.1	+0.6	
SBA				LR	LR			
	comp=Z,3μm,19.0s,MS6.0							
SBA	**Scott Base**	**139.11**	**184**	*e*PKIKP	PKPdf	07 28 52.1	+0.6	
BATI	**Kupang**	**140.62**	**55**	PKP	PKPdf	07 28 56.1	0.0	
	comp=Z,19nm,0.5s,baz=30,slow=9.5,SNR=2.4							
CASY	**Casey**	**141.31**	**153**	PFAKE		07 29 10.0	+14	
CASY				LR	LR			
	comp=Z,3μm,20.0s,MS6.0							
AFI	**Afiamalu**	**142.68**	**300**	PFAKE		07 29 10.0	+10	
AFI				LR	LR			
	comp=Z,3μm,20.0s,MS6.0							
FUNA	**Funafuti**	**144.16**	**317**	PFAKE		07 29 10.0	+7.6	
FUNA				LR	LR			
	comp=Z,10μm,19.0s,MS6.6							
MBWA	**Marble Bar**	**145.13**	**73**	*e*PKPdf	PKPdf	07 29 02.4	-1.4	
MBWA				LR	LR			
	comp=Z,2μm,20.0s,MS6.0							
MBWA	**Marble Bar**	**145.13**	**73**	PKPbc	PKPbc	07 29 02.1	-1.2	
	SNR=25							
MBWA	**Marble Bar**	**145.13**	**73**	*e*PKIKP	PKPdf	07 29 02.4	-1.5	
MUN	**Mundaring**	**147.42**	**92**	*e*PKP	PKPdf	07 29 08.2	+0.8	
FITZ	**Fitzroy Crossi**	**147.56**	**62**	*e*PKP	PKPdf	07 29 09.1	+1.0	
	comp=Z,64nm,1.1s							
FITZ	**Fitzroy Crossi**	**147.56**	**62**	PKPbc	PKPbc	07 29 08.2	-2.5	
	comp=Z,10.0nm,0.6s,baz=331,slow=3.7,SNR=23							
KAKA	**Kakadu**	**147.96**	**46**	*e*PKP	PKPdf	07 29 11.4	+2.6	
	comp=Z,229nm,1.5s							
KLBR	**Kellerberrin**	**148.51**	**91**	*e*PKP	PKPdf	07 29 11.4	+2.1	
	comp=Z,53nm,0.7s							
NWAO	**Narrogin (SRO)**	**148.55**	**94**	*e*PKPdf	PKPdf	07 29 09.9	+0.7	
NWAO				*e*PKPbc	PKPbc	07 29 13.7	+0.8	
NWAO				*e*PKPab	PKPab	07 29 17.8	+1.3	
NWAO				LR	LR			
	comp=Z,2μm,21.0s,MS6.0							
NWAO	**Narrogin (SRO)**	**148.55**	**94**	PKPdf	PKPdf	07 29 13.1	+3.8	
	SNR=15							
NWAO	**Narrogin (SRO)**	**148.55**	**94**	*e*PKIKP	PKPdf	07 29 09.9	+0.6	
NWAO	**Narrogin (SRO)**	**148.55**	**94**	*e*PKPbc	PKPbc	07 29 13.7	+0.8	
DRV	**Dumont d'Urvil**	**149.32**	**168**	PKP	PKPdf	07 29 12.0	+2.6	
DRV	**Dumont d'Urvil**	**149.32**	**168**	PP	PP	07 32 47.0	+1.1	
DRV				SS	SS	07 51 56.0	-2.4	
DRV				L		08 10 00.0		
DRV				R		08 19 00.0		
HNR	**Honiara**	**151.92**	**351**	PKP	PKPdf	07 29 12.9	-2.2	
HNR				LR	LR			
	comp=Z,2μm,20.0s,MS6.0							
HNR	**Honiara**	**151.92**	**351**	PKP	PKPdf	07 29 12.9	-2.2	
	comp=Z,37nm,0.4s,baz=238,slow=7.3,SNR=2.8							
WRA	**Warramunga Arr**	**154.69**	**53**	PKP	PKPdf	07 29 17.7	-1.2	
	comp=Z,2.3nm,0.7s,baz=320,slow=1.6,SNR=14							
WRA				PKPbc	PKPbc	07 29 26.6	-0.8	
	comp=Z,7.7nm,0.8s,baz=318,slow=2.1,SNR=15							
WRA				PKPab	PKPab	07 29 41.4	-0.9	
	comp=Z,12nm,0.9s,baz=325,slow=4.1,SNR=10							
WRA				PP	PP	07 33 19.4	+1.9	
	comp=Z,4.5nm,1.2s,baz=313,slow=6.0,SNR=5.7							
WRA	**Warramunga Arr**	**154.69**	**53**	PKPbc	PKPbc	07 29 26.6	-0.9	
WRAB	**Tennant Creek**	**154.69**	**53**	PFAKE		07 29 30.0	+11	
WRAB				LR	LR			
	comp=Z,3μm,20.0s,MS6.2							
WB2	**Warramunga Arr**	**154.70**	**53**	*e*PKP	PKPdf	07 29 19.2	+0.3	
WB2				*ep*PKP	PKPab	07 29 42.1	-0.2	
WB2				*e*		07 33 09.5		
FORT	**Forrest**	**156.40**	**82**	*e*PKP	PKPdf	07 29 21.1	+0.2	
	comp=Z,22nm,0.9s							
FORT				*ep*PKP	PKPab	07 29 49.5	+0.1	
RAO	**Raoul Island**	**156.41**	**282**	PFAKE		07 29 30.0	+9.0	
RAO				LR	LR			
	comp=Z,3μm,19.0s,MS6.1							
ASAR	**Alice Springs**	**157.01**	**60**	PKP	PKPdf	07 29 20.7	-1.2	
	comp=Z,3.9nm,0.9s,baz=318,slow=0.7,SNR=31							
ASAR				PKPab	PKPab	07 29 51.9	-0.2	
	comp=Z,9.1nm,1.1s,baz=314,slow=4.6,SNR=12							
ASAR	**Alice Springs**	**157.01**	**60**	PKPab	PKPab	07 29 51.9	-0.2	
CTA	**Charters Tower**	**161.01**	**28**	*e*PKP	PKPdf	07 29 28.2	+1.5	
	comp=Z,13nm,1.6s							
CTA	**Charters Tower**	**161.01**	**28**	PKP	PKPdf	07 29 26.6	-0.1	
	comp=Z,6.7nm,1.0s,baz=297,slow=5.9,SNR=3.0							
CTA				PKPab	PKPab	07 30 08.4	-1.0	
	comp=Z,21nm,1.3s,baz=63,slow=6.4,SNR=3.3							
CTAO	**Charters Tower**	**161.01**	**28**	PFAKE		07 29 40.0	+13	
CTAO				LR	LR			
	comp=Z,4μm,21.0s							
URZ	**Urewera**	**162.89**	**260**	PKP	PKPdf	07 29 28.0	0.0	
	comp=Z,7.4nm,0.8s,baz=214,slow=0.4,SNR=6.5							
SNZO	**South Karori**	**164.61**	**249**	PFAKE		07 29 40.0	+10	
SNZO				LR	LR			
	comp=Z,3μm,20.0s							
STKA	**Stephens Creek**	**167.33**	**69**	*e*PKP	PKPdf	07 29 31.8	-0.3	
	comp=Z,8.0nm,1.3s							
STKA				*ep*PKP	PKPab	07 30 37.7	+0.6	
STKA				*e*		07 34 23.8		
STKA	**Stephens Creek**	**167.33**	**69**	PKP	PKPdf	07 29 31.8	-0.3	
	comp=Z,6.3nm,1.0s,baz=60,slow=1.9,SNR=9.3							
STKA				PKPab	PKPab	07 30 35.6	-1.5	
	comp=Z,12nm,1.2s,baz=288,slow=3.1,SNR=6.1							
TAU	**Tasmania Unive**	**171.64**	**134**	PFAKE		07 29 40.0	+5.7	
TAU				LR	LR			
	comp=Z,4μm,20.0s							
ARMA	**Armidale**	**172.38**	**26**	*e*PKP	PKPdf	07 29 37.5	+2.4	
ARMA				*ep*PKP	PKPab	07 31 01.3	+2.0	
ARMA				*e*PP	PP	07 34 54.6	+4.6	

PDA ***07*** *07:13:41.5±0.9, 3725N×2463W, h5km, MD3.9, ML3.8, Error ellipse: s-maj=7.8km s-min=3.4km az=83.0*
CSEM ***07*** *07:13:41.5±0.9, 3725N×2463W, h5km, ML3.8, Error ellipse: s-maj=7.8km s-min=3.4km az=83.0, After PDA*
SVSA 07 07:13:41.5±0.9, 3725N×2463W, h5km, MD3.9, ML3.8, Error ellipse: s-maj=7.8km s-min=3.4km az=83.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSMN	**Pico do Norte,**	**0.43**	**234**	*e*P	Pg	07 13 48.9	-0.8
PSMN				*e*S	Sg	07 13 54.7	-0.5
PID	**Ribeirinha**	**3.00**	**294**	*e*P	Pn	07 14 24.9	-4.8
PID				*e*S	Sn	07 14 57.6	-8.5
PMAN	**Manadas**	**3.06**	**298**	*e*S	Sn	07 14 58.7	-8.7
PMAN				A		07 15 00.7	
	210nm,0.2s						
ROSA	**Rosais**	**3.20**	**298**	*e*P	Pn	07 14 27.9	-4.6
ROSA				*e*S	Sn	07 15 03.1	-7.9
PICO	**Pico**	**3.25**	**294**	*e*P	Pn	07 14 29.1	-4.0
PICO				*e*S	Sn	07 15 04.0	-8.1
HOR	**Horta**	**3.41**	**293**	*e*P	Pn	07 14 30.8	-4.5
HOR				*e*S	Sn	07 15 08.3	-7.7
CALA	**Caldeira**	**3.48**	**294**	*e*S	Sn	07 15 09.4	-8.4

IDC ***07*** *07:19:15.0±0.9, 795S×15604E, h0km, mb4.2/13, mb1 4.3/13, mb1mx4.3/16, mbtmp4.2/13, MS3.1/2, Ms1 3.1/2, ms1mx2.6/26, Error ellipse: s-maj=34.1km s-min=17.6km az=110.0*
ISCJB ***07*** *07:19:15.5±0.4, 781S±007×15600E±005, h10km, mb4.2/17, Error ellipse: s-maj=10.2km s-min=5.9km az=18.5*
NEIC ***07*** *07:19:18.1±0.5, 766S×15575E, h10km, mb4.5/5, Error ellipse: s-maj=14.8km s-min=10.9km az=129.0*
ISC 07 07:19:16.9±0.4, 788S±007×15601E±005, h10km, n27, σ1º01/26, mb4.2/17, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.18**	**112**	*e*Pn	**Pb**	**07 20 28.1**	**-2.5**
HNR				*e*Sn	**Sb**	**07 21 20.8**	**-0.5**
HNR	**Honiara**	**4.18**	**112**	Pn	**Pb**	**07 20 28.1**	**-2.6**
	8.2nm,0.3s,baz=127,slow=1.6,SNR=2.3						
HNR				Sn	**Sn**	**07 21 12.9**	**+3.1**
	2.1nm,0.3s,baz=299,slow=4.7,SNR=2.5						
HNR				LR	LR	07 21 52.4	
	comp=Z,249nm,21.2s,baz=351,slow=38						
CTA	**Charters Tower**	**15.38**	**217**	Pn	**Pn**	**07 22 57.4**	**+3.2**
CTA	**Charters Tower**	**15.38**	**217**	Pn	**Pn**	**07 22 57.4**	**+3.2**
	0.2nm,0.3s,baz=35,slow=11,SNR=5.4						
KAKA	**Kakadu**	**23.68**	**256**	*e*P	**P**	**07 24 29.4**	**+0.3**
	9.4nm,0.6s,mb4.4						
WRAB	**Tennant Creek**	**24.16**	**238**	*e*P	**P**	**07 24 33.4**	**-0.1**
	9.0nm,0.8s,mb4.2						
WB2	**Warramunga Arr**	**24.17**	**238**	*e*P	**P**	**07 24 33.7**	**+0.2**
WRA	**Warramunga Arr**	**24.18**	**238**	P	**P**	**07 24 33.5**	**-0.2**
	10nm,1.0s,mb4.2,baz=65,slow=9.4,SNR=22						
WRA				PcP	PcP	07 28 15.0	+0.4
	2.1nm,0.9s,baz=58,slow=2.0,SNR=6.8						
ASAR	**Alice Springs**	**26.38**	**231**	P	**P**	**07 24 52.4**	**-1.2**
	1.8nm,0.8s,mb3.6,baz=63,slow=9.3,SNR=12						
ASAR				PcP	PcP	07 28 20.0	+0.6
	0.6nm,0.9s,baz=58,slow=3.3,SNR=4.2						
STKA	**Stephens Creek**	**27.39**	**207**	*e*P	**P**	**07 25 04.3**	**+1.7**
	4.3nm,1.0s,mb3.9						
STKA	**Stephens Creek**	**27.39**	**207**	P	**P**	**07 25 01.8**	**-0.8**
	6.3nm,1.0s,mb4.1,baz=10,slow=12,SNR=8.8						
FITZ	**Fitzroy Crossi**	**31.24**	**248**	*e*P	**P**	**07 25 36.6**	**-0.4**
	3.8nm,0.6s,mb4.4						
MJAR	**Matsushiro Arr**	**47.24**	**340**	P	**P**	**07 27 50.0**	**-0.3**
	2.7nm,0.6s,mb4.3,baz=160,slow=7.5,SNR=9.0						
MAJO	**Matsushiro**	**47.24**	**340**	*e*P	**P**	**07 27 50.0**	**-0.2**
	5.4nm,0.5s,mb4.7						
JNU	**Nakatsue**	**47.27**	**331**	P	**P**	**07 27 50.9**	**+0.4**
	6.6nm,0.8s,mb4.6,baz=120,slow=4.5,SNR=4.7						
KSRS	**Korea Array**	**52.19**	**332**	P	**P**	**07 28 28.2**	**+0.3**
	2.5nm,0.9s,mb4.1,baz=146,slow=8.9,SNR=7.2						
ASAJ	**Asahikawa**	**53.16**	**348**	P	**P**	**07 28 36.0**	**+1.0**
	3.1nm,0.8s,mb4.3,baz=268,slow=34,SNR=3.6						
SONM	**Songino Array**	**70.62**	**327**	P	**P**	**07 30 33.8**	**+1.2**
	1.7nm,0.8s,mb4.0,baz=136,slow=5.6,SNR=8.5						
MKAR	**Makanchi Array**	**84.73**	**319**	P	**P**	**07 31 51.2**	**-0.1**
	1.5nm,0.6s,mb4.3,baz=99,slow=6.0,SNR=22						
ZALV	**Zalesovo Beam**	**85.47**	**326**	P	**P**	**07 31 53.6**	**-1.2**
	0.9nm,0.6s,mb4.1,baz=108,slow=4.8,SNR=4.9						
INK	**Inuvik**	**90.19**	**21**	P	**P**	**07 32 16.2**	**-0.9**
	0.4nm,0.5s,mb4.0,baz=247,slow=4.4,SNR=9.1						
NVAR	**Mina Array Bea**	**91.47**	**52**	P	**P**	**07 32 24.8**	**+1.0**
NVAR	**Mina Array Bea**	**91.47**	**52**	P	**P**	**07 32 24.8**	**+1.0**
	0.5nm,0.9s,mb3.9,baz=232,slow=4.4,SNR=3.6						
YKA	**Yellowknife Ar**	**96.64**	**28**	P	**P**	**07 32 46.3**	**-0.6**
	0.3nm,0.6s,mb3.9,baz=267,slow=4.4,SNR=7.5						
AKASG	**Malin Array Be**	**118.84**	**324**	PKP	PKPdf	07 38 05.2	-0.4
	0.2nm,0.3s,baz=32,slow=2.4,SNR=3.4						
GERES	**GERESS Array B**	**128.33**	**329**	PKP	PKPdf	07 38 21.7	-2.1
	0.6nm,0.6s,baz=70,slow=4.4,SNR=5.0						
MDT	**Midelt**	**149.37**	**327**	PKPbc	PKPbc	07 39 07.2	+0.5
	2.1nm,0.9s,baz=33,slow=7.7,SNR=5.5						

IDC 07 07:28:05.6±2.0, 158S×12811E, h0km, mb3.6/2, mb1 3.9/3, mb1mx3.6/14, mbtmp3.7/3, ML3.8/1, Error ellipse: s-maj=150.7km s-min=25.1km az=67.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.24**	**162**	P	Pn	07 32 31.2	-1.3
	0.3nm,0.3s,baz=341,slow=12,SNR=7.7						
ASAR	**Alice Springs**	**22.66**	**166**	P	P	07 33 09.2	+0.6
	1.7nm,0.3s,baz=344,slow=12,SNR=24						
MKAR	**Makanchi Array**	**62.69**	**326**	P	P	07 38 32.3	0.0
	0.3nm,0.7s,baz=122,slow=4.4,SNR=3.0						

IDC 07 07:28:41.7±1.4, 2000S×16800E, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.8/12, mbtmp3.9/3, Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**26.45**	**238**	P	P	07 34 18.7	-1.8
	1.6nm,0.6s,baz=66,slow=6.0,SNR=3.2						
WRA	**Warramunga Arr**	**31.61**	**264**	P	P	07 35 07.9	+1.4
	1.4nm,1.0s,baz=108,slow=8.0,SNR=3.0						
ASAR	**Alice Springs**	**31.82**	**257**	P	P	07 35 08.2	0.0
	1.6nm,0.7s,baz=80,slow=9.5,SNR=12						
GERES	**GERESS Array B**	**144.59**	**330**	PKP	PKPdf	07 48 19.8	-0.3
	0.8nm,0.8s,baz=35,slow=3.3,SNR=6.9						

IDC ***07*** *07:35:16.7±0.8, 3740N×2444W, h0km, mb3.9/11, mb1 4.1/11, mb1mx3.9/23, mbtmp3.9/11, Error ellipse: s-maj=23.6km s-min=19.5km az=160.0*
ISCJB ***07*** *07:35:17.2±0.8, 3743N±006×2467W±003, h24km±8km, mb4.1/33, Error ellipse: s-maj=10.2km s-min=3.7km az=11.3*
CSEM ***07*** *07:35:17.1±0.1, 3732N×2467W, h30km, mb4.3/21, Error ellipse: s-maj=3.4km s-min=1.3km az=1.0*
PDA ***07*** *07:35:18.2±1.1, 3728N×2445W, h10km, ML3.9, Error ellipse: s-maj=8.0km s-min=4.5km az=76.0*
NEIC ***07*** *07:35:18.2±0.6, 3736N×2441W, h10km, mb4.3/26, Error ellipse: s-maj=13.6km s-min=8.9km az=155.0*
SVSA ***07*** *07:35:18.2±1.1, 3728N×2445W, h10km, ML3.9, Error ellipse: s-maj=8.0km s-min=4.5km az=76.0*
ISC 07 07:35:17.5±0.8, 3744N±005×2469W±003, h14km±6km, n88, σ0º92/100, mb4.1/33, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSMN	**Pico do Norte,**	**0.53**	**215**	*e*P	**Pg**	**07 35 27.6**	**-0.3**
PSMN				*e*S	**Sg**	**07 35 34.5**	**-0.5**
PDA	**Ponta Delgada**	**0.83**	**292**	*e*P	**Pg**	**07 35 34.1**	**+0.4**
PDA				*e*S	**Sg**	**07 35 44.7**	**+0.1**
ADH	**Angra Heroismo**	**2.35**	**302**	*e*P	**Pn**	**07 35 55.1**	**-0.5**
ADH				*e*S	**Sn**	**07 36 24.1**	**-0.1**
PID	**Ribeirinha**	**2.89**	**291**	*e*P	**Pn**	**07 36 03.5**	**+0.4**
PID				*e*S	**Sn**	**07 36 37.1**	**-0.5**
PMAN	**Manadas**	**2.94**	**295**	*e*P	**Pn**	**07 36 04.0**	**+0.3**
PMAN				*e*S	**Sn**	**07 36 38.7**	**-0.1**
PMAN				A		07 36 42.4	
	70nm,0.3s						
PMAN	**Manadas**	**2.94**	**295**	*e*P	**Pn**	**07 36 04.0**	**+0.3**
PMAN				*e*S	**Sn**	**07 36 38.7**	**-0.1**
ROSA	**Rosais**	**3.08**	**296**	*e*P	**Pn**	**07 36 06.0**	**+0.3**
ROSA				*e*S	**Sn**	**07 36 41.4**	**-0.9**
PICO	**Pico**	**3.14**	**291**	*e*P	**Pn**	**07 36 06.7**	**+0.2**
PICO				*e*S	**Sn**	**07 36 42.9**	**-0.8**
HOR	**Horta**	**3.30**	**290**	*e*P	**Pn**	**07 36 09.3**	**+0.6**
HOR				*e*S	**Sn**	**07 36 47.0**	**-0.7**
CALA	**Caldeira**	**3.37**	**291**	*e*P	**Pn**	**07 36 10.1**	**+0.4**
CALA				*e*S	**Sn**	**07 36 48.2**	**-1.2**
PMAR	**Madeira**	**7.92**	**124**	*e*Pn	**Pn**	**07 37 07.7**	**-4.5**
PMAR				A		07 38 33.6	
	26nm,0.3s						
PMAR				*e*T		07 44 39.0	
EVOP	**Sao Brissos**	**13.12**	**80**	*e*Pn	**Pn**	**07 38 16.6**	**-6.7**
EVOP				*e*Sn	**Sn**	**07 40 31.7**	**-17**
EVO	**Evora**	**13.20**	**80**	*e*Pn	**Pn**	**07 38 16.6**	**-7.9**
EVO				*e*Sn	**Sn**	**07 40 31.7**	**-19**
ESDC	**Sonseca Array**	**16.36**	**76**	Pn	**Pn**	**07 39 01.8**	**-4.9**
	0.1nm,0.3s,baz=277,slow=12,SNR=4.3						
SJPF	**Ste Jean**	**18.75**	**65**	*e*P	**Pn**	**07 39 35.7**	**-0.6**
	12nm,1.0s						
SJPF	**Ste Jean**	**18.75**	**65**	*e*P	**Pn**	**07 39 35.7**	**-0.6**
	6.2nm,1.0s						
ETSF	**Etsaut**	**19.20**	**66**	*e*P	**Pn**	**07 39 41.1**	**-0.7**
	6.4nm,0.7s						
ETSF	**Etsaut**	**19.20**	**66**	*e*P	**Pn**	**07 39 41.1**	**-0.7**
	3.2nm,0.7s						
EPF	**Esparros**	**19.87**	**66**	*e*P	**Pn**	**07 39 48.4**	**-1.4**
MFF	**Saint Martin d**	**20.34**	**55**	*e*P	**P**	**07 39 54.2**	**+1.0**
	53nm,1.3s						
MFF	**Saint Martin d**	**20.34**	**55**	*e*P	**P**	**07 39 54.2**	**+1.0**
	26nm,1.3s						
LFF	**La Frestale**	**20.50**	**61**	*e*P	**P**	**07 39 55.3**	**+0.4**
	56nm,1.0s						
LFF	**La Frestale**	**20.50**	**61**	*e*P	**P**	**07 39 55.3**	**+0.4**
	28nm,1.0s						
GRR	**Gorron**	**20.52**	**50**	*e*P	**P**	**07 39 56.3**	**+1.2**
	54nm,1.3s						
GRR	**Gorron**	**20.52**	**50**	*e*P	**P**	**07 39 56.3**	**+1.2**
	27nm,1.3s						
FLN	**La Foliniere**	**20.89**	**50**	*e*P	**P**	**07 40 00.2**	**+1.0**
	17nm,0.8s						
FLN	**La Foliniere**	**20.89**	**50**	*e*P	**P**	**07 40 00.2**	**+1.0**
	8.4nm,0.8s						
LDF	**La Druitiere**	**21.05**	**50**	*e*P	**P**	**07 40 01.9**	**+1.1**
	32nm,1.2s,mb4.2						
LDF	**La Druitiere**	**21.05**	**50**	*e*P	**P**	**07 40 01.9**	**+1.1**
	16nm,1.2s,mb4.2						
RJF	**Les Rejaudoux**	**21.11**	**60**	*e*P	**P**	**07 40 02.0**	**+0.4**
MTLF	**Montolieu**	**21.28**	**65**	*e*P	**P**	**07 40 03.4**	**0.0**
	11nm,1.1s,mb3.8						
MTLF	**Montolieu**	**21.28**	**65**	*e*P	**P**	**07 40 03.4**	**0.0**
	5.3nm,1.1s,mb3.8						
CAF	**Calviac**	**21.41**	**61**	*e*P	**P**	**07 40 05.2**	**+0.4**
	27nm,1.0s,mb4.2						
CAF	**Calviac**	**21.41**	**61**	*e*P	**P**	**07 40 05.2**	**+0.4**
	13nm,1.0s,mb4.2						
TCF	**Toulx Ste Croi**	**21.81**	**58**	*e*P	**P**	**07 40 09.1**	**0.0**
	46nm,1.1s,mb4.5						
TCF	**Toulx Ste Croi**	**21.81**	**58**	*e*P	**P**	**07 40 09.1**	**0.0**
	23nm,1.1s,mb4.5						
BGF	**Bois d'Agland**	**22.31**	**57**	*e*P	**P**	**07 40 14.0**	**-0.4**
	23nm,1.1s,mb4.2						
BGF	**Bois d'Agland**	**22.31**	**57**	*e*P	**P**	**07 40 14.0**	**-0.4**
	12nm,1.1s,mb4.2						
LASF	**Ste Croix**	**22.55**	**64**	*e*P	**P**	**07 40 16.3**	**-0.6**
	18nm,1.1s,mb4.1						
LASF	**Ste Croix**	**22.55**	**64**	*e*P	**P**	**07 40 16.3**	**-0.6**
	8.8nm,1.1s,mb4.1						
AVF	**Avril sur Loir**	**22.70**	**57**	*e*P	**P**	**07 40 18.0**	**-0.6**
	17nm,1.1s,mb4.1						
AVF	**Avril sur Loir**	**22.70**	**57**	*e*P	**P**	**07 40 18.0**	**-0.6**
	8.6nm,1.1s,mb4.1						
SSF	**Saint Saulge**	**22.87**	**56**	*e*P	**P**	**07 40 19.5**	**-0.8**
	20nm,1.0s,mb4.2						
SSF	**Saint Saulge**	**22.87**	**56**	*e*P	**P**	**07 40 19.5**	**-0.8**
	9.9nm,1.0s,mb4.2						
SMF	**Signal de Mont**	**22.99**	**57**	*e*P	**P**	**07 40 20.9**	**-0.7**
	33nm,1.0s,mb4.4						
SMF	**Signal de Mont**	**22.99**	**57**	*e*P	**P**	**07 40 20.9**	**-0.7**
	16nm,1.0s,mb4.4						
EKA	**Eskdalemuir Ar**	**23.09**	**32**	P	**P**	**07 40 22.8**	**+0.1**
	1.5nm,0.8s,mb3.5,baz=230,slow=8.5,SNR=6.0						
LOR	**Lormes**	**23.16**	**56**	*e*P	**P**	**07 40 22.9**	**-0.5**
	17nm,1.1s,mb4.1						
LOR	**Lormes**	**23.16**	**56**	*e*P	**P**	**07 40 22.9**	**-0.5**
	8.4nm,1.1s,mb4.1						
VIVF	**Saint-Julien-l**	**23.23**	**62**	*e*P	**P**	**07 40 23.0**	**-1.2**
	14nm,0.9s,mb4.1						
VIVF	**Saint-Julien-l**	**23.23**	**62**	*e*P	**P**	**07 40 23.0**	**-1.2**
	7.2nm,0.9s,mb4.1						
SMRF	**Simiane la Rot**	**23.77**	**65**	*e*

ADH	**Angra Heroismo**	**2.55 306**	*e*P	Pn	07 43 26.4	-5.1
ADH			*e*S	Sn	07 43 54.9	-8.1
PID	**Ribeirinha**	**3.06 295**	*e*P	Pn	07 43 34.2	-4.3
PID			*e*S	Sn	07 44 07.7	-7.8
PMAN	**Manadas**	**3.12 299**	*e*P	Pn	07 43 34.7	-4.6
PMAN			*e*S	Sn	07 44 08.6	-8.4
PMAN			A		07 44 13.4	
	43nm,0.3s					
PMAN	**Manadas**	**3.12 299**	*e*P	Pn	07 43 34.7	-4.6
PMAN			*e*S	Sn	07 44 08.6	-8.4
ROSA	**Rosais**	**3.27 299**	*e*P	Pn	07 43 37.0	-4.3
ROSA			*e*S	Sn	07 44 11.8	-8.8
PICO	**Pico**	**3.31 295**	*e*P	Pn	07 43 37.8	-4.1
PICO			*e*S	Sn	07 44 13.5	-8.0
HOR	**Horta**	**3.46 294**	*e*S	Sn	07 44 17.3	-8.2
CALA	**Caldeira**	**3.54 294**	*e*P	Pn	07 43 40.8	-4.3
CALA			*e*S	Sn	07 44 19.0	-8.2

*IDC **07** 07:47:16.2±1.2, 4635N×15542E, h0km, mb3.9/10, mb1 4.0/11, mb1mx3.8/22, mbtmp3.9/11, ML3.6/1, Error ellipse: s-maj=29.9km s-min=24.8km az=165.0*
*NEIC **07** 07:47:17.7±1.0, 4638N×15534E, h10km, Error ellipse: s-maj=25.8km s-min=14.2km az=135.0*
*ISCJB **07** 07:47:19.3±0.9, 465N±01×1552E±02, h33km, mb3.9/14, Error ellipse: s-maj=21.1km s-min=12.1km az=141.5*
*MOS **07** 07:47:19.7±3.1, 4661N×15509E, h33km, mb4.4/7, Error ellipse: s-maj=14.6km s-min=10.4km az=84.0*

ISC 07 07:47:21.4±0.9, 465N±01×1552E±02, h35km, n36, σ1$34/37, mb3.9/14, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**4.26**	**8**	*e*PN	**Pn**	**07 48 19.5**	**-4.2**
KUR	**Kuril'sk**	**5.27**	**259**	*e*PN	**Pn**	**07 48 34.2**	**-3.3**
KUR				pmax	pmax		
	comp=Z,100nm,0.7s						
PET	**Petropavlovsk**	**6.93**	**18**	*e*Pn	**Pn**	**07 48 58.8**	**-1.6**
PET				*e*Sn	**Sn**	**07 50 08.2**	**-10**
PET	**Petropavlovsk**	**6.93**	**18**	*i* PN	**Pn**	**07 48 55.1**	**-5.3**
YSS	**Yuzh-Sakhalins**	**8.56**	**278**	*e*PN	**Pn**	**07 49 28.0**	**+5.2**
YSS				pmax	pmax		
	comp=Z,20nm,0.9s						
ASAJ	**Asahikawa**	**9.19**	**260**	PN	**Pn**	**07 49 30.9**	**-0.4**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ	**Asahikawa**	**9.19**	**260**	Pn	**Pn**	**07 49 30.9**	**-0.5**
	comp=Z,0.7nm,0.3s,baz=90,slow=15,SNR=6.0						
ERM	**Erimo**	**9.71**	**247**	*e*Pn	**Pn**	**07 49 37.0**	**-1.6**
	comp=Z,7.1nm,0.7s						
ERM	**Erimo**	**9.71**	**247**	*i* PN	**Pn**	**07 49 37.2**	**-1.4**
BILL	**Bilibino**	**22.37**	**11**	*i* P	**P**	**07 52 15.1**	**-0.9**
BILL				*e*		07 52 33.0	
BILL				pmax	pmax		
	comp=Z,8.0nm,1.5s,mb3.9						
BOD	**Bodaibo**	**27.27**	**310**	*e*P	**P**	**07 52 56.2**	**-5.9**
TIXI	**Tiksi**	**28.15**	**343**	*e*P	**P**	**07 53 08.0**	**-1.8**
TIXI				pmax	pmax		
	comp=Z,6.0nm,1.4s,mb4.0						
ULN	**Ulaanbaatar**	**32.34**	**290**	*i* P	**P**	**07 53 46.6**	**-0.5**
ZALV	**Zalesovo Beam**	**43.94**	**307**	P	**P**	**07 55 24.8**	**+0.3**
	comp=Z,0.9nm,0.5s,mb3.8,baz=61,slow=7.0,SNR=5.9						
ZAL	**Zalesovo**	**43.95**	**307**	P	**P**	**07 55 24.8**	**+0.2**
MKAR	**Makanchi Array**	**48.34**	**298**	P	**P**	**07 55 59.7**	**+0.5**
	comp=Z,0.3nm,0.5s,mb3.6,baz=63,slow=6.8,SNR=6.1						
YKA	**Yellowknife Ar**	**50.29**	**37**	P	**P**	**07 56 12.7**	**-1.2**
	comp=Z,0.3nm,0.9s,mb3.3,baz=293,slow=6.6,SNR=2.4						
ARCES	**ARCESS Array B**	**58.58**	**342**	P	**P**	**07 57 14.3**	**+0.3**
ARCES	**ARCESS Array B**	**58.58**	**342**	P	**P**	**07 57 14.3**	**+0.3**
ARCES				pmax	pmax		
	comp=Z,7.0nm,1.1s						
ARCES	**ARCESS Array B**	**58.58**	**342**	P	**P**	**07 57 14.3**	**+0.3**
	comp=Z,6.7nm,1.1s,mb4.6,baz=347,slow=10.0,SNR=2.7						
FINES	**FINESS Array B**	**64.90**	**336**	*e*P	**P**	**07 57 58.4**	**+1.8**
FINES	**FINESS Array B**	**64.90**	**336**	P	**P**	**07 57 57.7**	**+1.1**
	comp=Z,1.3nm,0.4s,mb4.3,baz=42,slow=7.1,SNR=25						
NB2	**NORSAR Subarra**	**68.95**	**342**	P	**P**	**07 58 25.0**	**+2.6**
	comp=Z,1.7nm,0.6s,mb4.2,baz=30,slow=6.5						
NOA	**NORSAR Array B**	**68.95**	**342**	P	**P**	**07 58 25.2**	**+2.8**
NOA	**NORSAR Array B**	**68.95**	**342**	P	**P**	**07 58 25.2**	**+2.8**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
NOA	**NORSAR Array B**	**68.95**	**342**	P	**P**	**07 58 25.2**	**+2.8**
	comp=Z,0.8nm,0.5s,mb3.9,baz=26,slow=6.4,SNR=4.1						
HFS	**Hagfors**	**69.21**	**341**	P	**P**	**07 58 26.7**	**+2.7**
HFS				pmax	pmax		
	comp=Z,2.0nm,0.4s						
HFS	**Hagfors**	**69.21**	**341**	P	**P**	**07 58 26.7**	**+2.7**
	comp=Z,2.1nm,0.4s,mb4.4,baz=71,slow=6.4,SNR=17						
ASAR	**Alice Springs**	**72.42**	**200**	P	**P**	**07 58 44.2**	**+0.4**
	comp=Z,0.2nm,0.8s,mb3.1,baz=10,slow=5.5,SNR=4.1						
AKASG	**Malin Array Be**	**72.57**	**327**	P	**P**	**07 58 46.8**	**+2.2**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
AKASG	**Malin Array Be**	**72.57**	**327**	P	**P**	**07 58 46.8**	**+2.2**
	comp=Z,0.5nm,0.4s,mb3.8,baz=35,slow=6.1,SNR=3.4						
TXAR	**Lajitas Array**	**76.37**	**62**	P	**P**	**07 59 06.7**	**-0.3**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
TXAR	**Lajitas Array**	**76.37**	**62**	P	**P**	**07 59 06.7**	**-0.3**
	comp=Z,1.0nm,0.5s,mb4.0,baz=311,slow=5.0,SNR=6.9						
EKA	**Eskdalemuir Ar**	**76.94**	**348**	P	**P**	**07 59 14.5**	**+4.7**
EKA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
EKA	**Eskdalemuir Ar**	**76.94**	**348**	P	**P**	**07 59 14.5**	**+4.7**
	comp=Z,0.7nm,0.5s,mb3.8,baz=20,slow=5.1,SNR=5.7						
GERES	**GERESS Array B**	**79.33**	**335**	P	**P**	**07 59 27.1**	**+4.0**
	comp=Z,0.2nm,0.4s,mb3.4,baz=52,slow=6.9,SNR=4.1						

IDC 07 07:50:10.5±2.2, 158N×12698E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.4/14, mbtmp3.4/3, MS4.4/1, Ms1 4.3/1, ms1mx3.7/16, Error ellipse: s-maj=185.2km s-min=26.0km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.57**	**162**	P	P	07 55 13.0	+0.4
	1.2nm,0.7s,baz=341,slow=11,SNR=11						
ASAR	**Alice Springs**	**25.98**	**165**	P	P	07 55 44.9	-0.2
	0.2nm,0.3s,baz=346,slow=12,SNR=7.2						
STKA	**Stephens Creek**	**36.05**	**159**	LR	LR	08 12 18.1	
	comp=Z,593nm,21.4s,baz=33,slow=37						
MKAR	**Makanchi Array**	**59.46**	**326**	P	P	08 00 15.2	+0.1
	0.2nm,0.5s,baz=134,slow=8.0,SNR=5.2						

IDC 07 07:50:39.7±2.2, 2079S×16854E, h0km, mb3.9/6, mb1 4.1/6, mb1mx3.9/14, mbtmp3.9/6, Error ellipse: s-maj=92.9km s-min=29.0km az=149.0, Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**26.48**	**240**	P	P	07 56 18.0	-0.7
	1.8nm,0.9s,baz=100,slow=8.8,SNR=4.6						
WRA	**Warramunga Arr**	**32.04**	**265**	P	P	07 57 08.1	-0.2
	0.8nm,1.0s,baz=91,slow=9.0,SNR=4.2						
ASAR	**Alice Springs**	**32.14**	**258**	P	P	07 57 09.3	+0.2
	2.9nm,0.7s,baz=84,slow=9.3,SNR=33						
FITZ	**Fitzroy Crossi**	**40.45**	**266**	P	P	07 58 21.1	+0.9
	1.9nm,0.7s,baz=166,slow=4.1,SNR=3.7						
SONM	**Songino Array**	**88.06**	**323**	P	P	08 03 30.6	-1.2
	0.7nm,0.8s,baz=149,slow=4.1,SNR=5.3						
NVAR	**Mina Array Bea**	**90.32**	**49**	P	P	08 03 42.9	+0.2
	0.3nm,0.7s,baz=207,slow=10,SNR=3.0						
GERES	**GERESS Array B**	**145.53**	**330**	PKPbc	PKPbc	08 10 20.5	+0.7
	0.8nm,0.6s,baz=50,slow=3.2,SNR=6.8						

*ISCJB **07** 07:52:48.9±0.3, 3744N±004×2467W±003, h10km, mb3.9/20, Error ellipse: s-maj=6.3km s-min=2.9km az=3.5*
*CSEM **07** 07:52:50.1±0.1, 3725N×2468W, h30km, mb4.2/9*
*IDC **07** 07:52:50.1±1.1, 3734N×2442W, h0km, mb3.8/10, mb1 4.0/11, mb1mx3.8/24, mbtmp3.8/11, ML3.5/1, Error ellipse: s-maj=28.4km s-min=19.8km az=15.0*
*NEIC **07** 07:52:51.0±0.9, 3728N×2444W, h10km, mb4.2/12, Error ellipse: s-maj=14.8km s-min=11.0km az=211.0*
*PDA **07** 07:52:51.7±0.8, 3726N×2453W, h5km, MD4.0, ML4.0, Error ellipse: s-maj=5.7km s-min=3.1km az=84.0*
*SVSA **07** 07:52:51.7±0.8, 3726N×2453W, h5km, MD4.0, ML4.0, Error ellipse: s-maj=5.7km s-min=3.1km az=84.0*

ISC 07 07:52:50.1±0.3, 3742N±004×2469W±003, h10km, n71, σ0$95/84, mb4.0/20, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSMN	**Pico do Norte,**	**0.51**	**216**	*e*P	**Pg**	**07 53 00.2**	**+0.2**
PSMN				*e*S	**Sg**	**07 53 06.8**	**+0.1**
PDA	**Ponta Delgada**	**0.84**	**293**	*e*P	**Pg**	**07 53 07.7**	**+1.4**
PDA				*e*S	**Sg**	**07 53 19.4**	**+2.1**
PSCM	**Serra do Cume**	**2.31**	**305**	*e*P	**Pn**	**07 53 28.1**	**0.0**
PSCM				*e*S	**Sn**	**07 53 55.7**	**-0.8**
PSCM				A		07 54 03.2	
	725nm,0.3s						
PSCM	**Serra do Cume**	**2.31**	**305**	*e*P	**Pn**	**07 53 28.1**	**0.0**
PSCM				*e*S	**Sn**	**07 53 55.7**	**-0.8**
ADH	**Angra Heroismo**	**2.36**	**302**	*e*P	**Pn**	**07 53 29.1**	**+0.3**
ADH				*e*S	**Sn**	**07 53 57.1**	**-0.8**
PID	**Ribeirinha**	**2.90**	**292**	*e*P	**Pn**	**07 53 36.6**	**+0.3**
PID				*e*S	**Sn**	**07 54 09.9**	**-1.3**
PMAN	**Manadas**	**2.95**	**295**	*e*P	**Pn**	**07 53 37.1**	**+0.2**
PMAN				*e*S	**Sn**	**07 54 10.8**	**-1.5**
PMAN				A		07 54 14.7	
	40nm,0.2s						
PMAN	**Manadas**	**2.95**	**295**	*e*P	**Pn**	**07 53 37.1**	**+0.2**
PMAN				*e*S	**Sn**	**07 54 10.8**	**-1.5**
ROSA	**Rosais**	**3.09**	**296**	*e*P	**Pn**	**07 53 39.3**	**+0.4**
ROSA				*e*S	**Sn**	**07 54 14.6**	**-1.3**
PICO	**Pico**	**3.15**	**291**	*e*P	**Pn**	**07 53 40.1**	**+0.5**
PICO				*e*S	**Sn**	**07 54 16.3**	**-0.9**
HOR	**Horta**	**3.31**	**291**	*e*P	**Sn**	**07 54 20.9**	**-0.3**
CALA	**Caldeira**	**3.38**	**291**	*e*P	**Pn**	**07 53 43.1**	**+0.3**
CALA				*e*S	**Sn**	**07 54 22.0**	**-0.9**
PMAR	**Madeira**	**7.91**	**124**	*e*Pn	**Pn**	**07 54 41.4**	**-3.7**
PMAR				A		07 56 11.3	
	57nm,0.3s						
PMAR				*e*T		08 02 12.3	
PMAR	**Madeira**	**7.91**	**124**	*e*Pn	**Pn**	**07 54 41.4**	**-3.7**
	57nm,0.3s						
EVOP	**Sao Brissos**	**13.12**	**80**	*e*Pn	**Pn**	**07 55 50.1**	**-6.3**
EVOP				*e*Sn	**Sn**	**07 58 05.5**	**-17**
EVO	**Evora**	**13.21**	**80**	*e*Pn	**Pn**	**07 55 50.1**	**-7.5**
EVO				*e*Sn	**Sn**	**07 58 05.5**	**-19**
	7.5nm,0.6s						
ESDC	**Sonseca Array**	**16.37**	**76**	Pn	**Pn**	**07 56 33.2**	**-6.7**
	0.2nm,0.3s,baz=266,slow=13,SNR=3.4						
MDT	**Midelt**	**17.05**	**100**	Pn	**Pn**	**07 56 47.2**	**-1.3**
	0.2nm,0.3s,baz=281,slow=12,SNR=4.4						
SJPF	**Ste Jean**	**18.76**	**65**	*e*P	**Pn**	**07 57 09.2**	**-0.4**
ROSF	**Rostrenen**	**19.05**	**48**	*e*P	**Pn**	**07 57 13.6**	**+0.6**
ETSF	**Etsaut**	**19.21**	**66**	*e*P	**Pn**	**07 57 14.6**	**-0.4**
SGMF	**Saint Gilles**	**19.44**	**49**	*e*P	**Pn**	**07 57 17.2**	**-0.5**
EPF	**Esparros**	**19.88**	**66**	*e*P	**Pn**	**07 57 22.4**	**-0.6**
	25nm,1.4s						
EPF	**Esparros**	**19.88**	**66**	*e*P	**Pn**	**07 57 22.4**	**-0.6**
	13nm,1.4s						
MFF	**Saint Martin d**	**20.35**	**55**	*e*P	**P**	**07 57 27.2**	**+0.8**
	44nm,1.3s						
MFF	**Saint Martin d**	**20.35**	**55**	*e*P	**P**	**07 57 27.2**	**+0.8**
	22nm,1.3s						
LFF	**La Frestale**	**20.51**	**61**	*e*P	**P**	**07 57 28.8**	**+0.6**
	29nm,0.8s						
LFF	**La Frestale**	**20.51**	**61**	*e*P	**P**	**07 57 28.8**	**+0.6**
	14nm,0.8s						
GRR	**Gorron**	**20.53**	**50**	*e*P	**P**	**07 57 29.9**	**+1.5**
	12nm,0.8s						
GRR	**Gorron**	**20.53**	**50**	*e*P	**P**	**07 57 29.9**	**+1.5**
	6.2nm,0.8s						
RJF	**Les Rejaudoux**	**21.12**	**60**	*e*P	**P**	**07 57 34.6**	**-0.2**
MTLF	**Montolieu**	**21.29**	**65**	*e*P	**P**	**07 57 36.9**	**+0.3**
CAF	**Calviac**	**21.43**	**61**	*e*P	**P**	**07 57 38.0**	**-0.1**
	11nm,0.7s,mb4.0						
CAF	**Calviac**	**21.43**	**61**	*e*P	**P**	**07 57 38.0**	**-0.1**
	5.4nm,0.7s,mb4.0						
TCF	**Toulx Ste Croi**	**21.83**	**58**	*e*P	**P**	**07 57 43.0**	**+0.6**
	16nm,0.9s,mb4.2						
TCF	**Toulx Ste Croi**	**21.83**	**58**	*e*P	**P**	**07 57 43.0**	**+0.6**
	7.9nm,0.9s,mb4.2						
LASF	**Ste Croix**	**22.56**	**64**	*e*P	**P**	**07 57 49.8**	**-0.4**
	21nm,1.3s,mb4.1						
LASF	**Ste Croix**	**22.56**	**64**	*e*P	**P**	**07 57 49.8**	**-0.4**
	10nm,1.3s,mb4.1						
AVF	**Avril sur Loir**	**22.71**	**57**	*e*P	**P**	**07 57 51.5**	**-0.3**
SSF	**Saint Saulge**	**22.88**	**56**	*e*P	**P**	**07 57 53.3**	**-0.3**
	19nm,1.1s,mb4.2						
SSF	**Saint Saulge**	**22.88**	**56**	*e*P	**P**	**07 57 53.3**	**-0.3**
	9.4nm,1.1s,mb4.2						
SMF	**Signal de Mont**	**23.01**	**57**	*e*P	**P**	**07 57 54.4**	**-0.5**
	25nm,1.0s,mb4.3						
SMF	**Signal de Mont**	**23.01**	**57**	*e*P	**P**	**07 57 54.4**	**-0.5**
	12nm,1.0s,mb4.3						
EKA	**Eskdalemuir Ar**	**23.11**	**32**	P	**P**	**07 57 56.4**	**+0.4**
	0.7nm,0.6s,mb3.3,baz=229,slow=8.4,SNR=6.3						
EKA	**Eskdalemuir Ar**	**23.11**	**32**	P	**P**	**07 57 56.3**	**+0.3**
LOR	**Lormes**	**23.17**	**56**	*e*P	**P**	**07 57 56.2**	**-0.4**
VIVF	**Saint-Julien-l**	**23.24**	**62**	*e*P	**P**	**07 57 56.7**	**-0.7**
	9.7nm,0.9s,mb3.9						
VIVF	**Saint-Julien-l**	**23.24**	**62**	*e*P	**P**	**07 57 56.7**	**-0.7**
	4.8nm,0.9s,mb3.9						
SMRF	**Simiane la Rot**	**23.78**	**64**	*e*P	**P**	**07 58 01.7**	**-1.0**
ORIF	**Oris-en-Rattie**	**24.10**	**62**	*e*P	**P**	**07 58 05.0**	**-0.7**
	11nm,0.9s,mb4.0						
ORIF	**Oris-en-Rattie**	**24.10**	**62**	*e*P	**P**	**07 58 05.0**	**-0.7**
	5.3nm,0.9s,mb4.0						
BAIF	**Baives**	**24.23**	**49**	*e*P	**P**	**07 58 06.5**	**-0.3**
LMR	**La Mourre**	**24.40**	**66**	*e*P	**P**	**07 58 07.5**	**-1.0**
FRF	**La Foret Royal**	**24.52**	**66**	*e*P	**P**	**07 58 08.9**	**-0.6**
	9.5nm,0.9s,mb4.0						
FRF	**La Foret Royal**	**24.52**	**66**	*e*P	**P**	**07 58 08.9**	**-0.6**
	4.8nm,0.9s,mb4.0						
GIVF	**Givet**	**24.62**	**50**	*e*P	**P**	**07 58 10.1**	**-0.3**
LPG	**La Plagne**	**24.79**	**61**	*e*P	**P**	**07 58 11.8**	**-0.1**
SBF	**Sospel**	**25.11**	**65**	*e*P	**P**	**07 58 14.5**	**-0.4**
	19nm,0.9s,mb4.3						
SBF	**Sospel**	**25.11**	**65**	*e*P	**P**	**07 58 14.5**	**-0.4**
	9.3nm,0.9s,mb4.3						
CDF	**Champ du Feu**	**25.68**	**54**	*e*P	**P**	**07 58 20.2**	**+0.2**
PGF	**Pioggiola**	**26.21**	**68**	*e*P	**P**	**07 58 24.8**	**-0.1**
NOA	**NORSAR Array B**	**32.60**	**32**	P	**P**	**07 59 24.5**	**+3.1**
	0.8nm,0.8s,mb3.7,baz=234,slow=4.5,SNR=2.5						
SCHQ	**Schefferville**	**33.38**	**315**	P	**P**	**07 59 32.0**	**+3.7**
	3.5nm,1.0s,mb4.2,baz=128,slow=8.4,SNR=4.4						
TORD	**Torodi Ar. Bea**	**33.74**	**129**	P	**P**	**07 59 31.3**	**-0.5**
	2.1nm,0.7s,mb4.2,baz=316,slow=8.0,SNR=15						
ARCES	**ARCESS Array B**	**41.79**	**24**	P	**P**	**08 00 39.6**	**+0.4**
	4.3nm,1.0s,mb4.0,baz=337,slow=18,SNR=2.5						
YKA	**Yellowknife Ar**	**57.56**	**327**	P	**P**	**08 02 41.5**	**+2.1**
	0.9nm,0.9s,mb3.8,baz=69,slow=7.3,SNR=8.0						
PDAR	**Pinedale Array**	**62.50**	**304**	P	**P**	**08 03 16.6**	**+2.9**
	0.5nm,1.0s,mb3.6,baz=104,slow=6.3,SNR=3.7						
TXAR	**Lajitas Array**	**64.67**	**289**	P	**P**	**08 03 32.2**	**+4.0**
	1.6nm,0.7s,mb4.2,baz=78,slow=7.4,SNR=7.4						
ZALV	**Zalesovo Beam**	**70.68**	**36**	P	**P**	**08 04 07.4**	**+1.7**
	0.5nm,0.4s,mb3.8,baz=316,slow=8.4,SNR=4.4						
MKAR	**Makanchi Array**	**73.75**	**43**	P	**P**	**08 04 25.0**	**+0.8**
	0.5nm,0.7s,mb3.5,baz=299,slow=7.3,SNR=5.9						
SONM	**Songino Array**	**84.58**	**31**	P	**P**	**08 05 26.1**	**+2.7**
	0.5nm,0.9s,mb3.7,baz=335,slow=6.6,SNR=4.2						

*IDC **07** 07:56:19.5±1.0, 1455S×16701E, h0km, mb4.3/8, mb1 4.3/8, mb1mx4.1/15, mbtmp4.2/8, MS3.9/1, Ms1 3.9/1, ms1mx3.1/24, Error ellipse: s-maj=35.1km s-min=22.5km az=156.0*
*ISCJB **07** 07:56:23.0±0.9, 147S±02×1669E±02, h33km, mb4.1/8, MS3.8/1, Error ellipse: s-maj=30.9km s-min=17.7km az=150.5*
*NEIC **07** 07:56:39.4±5.2, 1480S×16679E, h167km±45km, mb4.3/3, Error ellipse: s-maj=26.8km s-min=18.3km az=197.0*

ISC 07 07:56:25.0±0.9, 146S±02×1670E±02, h35km, n31, σ0$82/17, mb4.1/8, MS3.8/1, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EIDS	**Eidsvold**	**18.39**	**232**	*e*Pn	**Pn**	**08 00 40.4**	**+3.2**
	4.6nm,1.0s						
URZ	**Urewera**	**25.27**	**161**	LR	LR	08 08 10.2	
	comp=Z,317nm,22.0s,MS3.8,baz=8.8,slow=28						
STKA	**Stephens Creek**	**28.89**	**229**	*e*P	**P**	**08 02 20.3**	**-0.3**
	3.6nm,0.4s,mb4.5						
STKA	**Stephens Creek**	**28.89**	**229**	P	**P**	**08 02 20.4**	**-0.2**
	4.8nm,0.5s,mb4.5,baz=38,slow=8.3,SNR=22						
WB2	**Warramunga Arr**	**31.58**	**256**	*e*P	**P**	**08 02 44.4**	**-0.1**
WRA	**Warramunga Arr**	**31.59**	**256**	P	**P**	**08 02 44.5**	**0.0**
	1.1nm,0.5s,mb4.0,baz=85,slow=8.8,SNR=13						
ASAR	**Alice Springs**	**32.47**	**249**	P	**P**	**08 02 51.8**	**-0.5**
	3.7nm,0.6s,mb4.4,baz=78,slow=9.3,SNR=49						
FITZ	**Fitzroy Crossi**	**39.77**	**259**	*e*P	**P**	**08 03 54.7**	**0.0**
	6.3nm,0.8s,mb4.4						
FITZ	**Fitzroy Crossi**	**39.77**	**259**	P	**P**	**08 03 55.3**	**+0.5**
	1.2nm,0.4s,mb4.0,baz=86,slow=8.1,SNR=9.3						
RPN	**Rapa Nui**	**78.00**	**115**	P	**P**	**08 08 20.1**	**-0.1**
	85nm,0.6s,baz=108,slow=6.4,SNR=3.7						
SONM	**Songino Array**	**82.18**	**324**	P	**P**	**08 08 43.3**	**+1.1**
	1.1nm,0.8s,mb3.9,baz=139,slow=5.8,SNR=8.7						
VNA3	**Neumayer Olymp**	**94.39**	**181**	*e*	**P**	**08 09 34.9**	**-5.9**
VNA3				*e*		08 09 36.6	
VNA2	**Neumayer--Watz**	**94.65**	**182**	*e*	**P**	**08 09 36.3**	**-5.7**
	baz=186,slow=5.5						
VNA2				*e*		08 09 37.9	
MKAR	**Makanchi Array**	**96.87**	**316**	P	**P**	**08 09 52.2**	**-0.2**
MKAR	**Makanchi Array**	**96.87**	**316**	P	**P**	**08 09 52.2**	**-0.2**
	0.5nm,0.5s,mb4.2,baz=88,slow=6.1,SNR=9.4						
ZALV	**Zalesovo Beam**	**97.07**	**324**	P	**P**	**08 09 51.9**	**-1.3**
	0.5nm,0.6s,mb4.2,baz=123,slow=5.3,SNR=3.2						
YKA	**Yellowknife Ar**	**97.52**	**27**	P	**P**	**08 09 55.5**	**+0.6**
YKA	**Yellowknife Ar**	**97.52**	**27**	P	**P**	**08 09 55.5**	**+0.6**
	0.2nm,0.9s,mb3.7,baz=265,slow=7.4,SNR=3.1						
CABF	**La Chapelle**	**144.25**	**337**	*e*PKP1	PKPdf	08 15 54.6	-2.7
	10.0nm,1.1s						
LOR	**Lormes**	**144.47**	**340**	*e*PKP1	PKPdf	08 15 54.9	-2.7
SSF	**Saint Saulge**	**144.76**	**340**	*e*PKP1	PKPdf	08 15 56.0	-2.2
LPL	**La Plagne**	**144.91**	**336**	*e*PKP1	PKPdf	08 15 57.0	-1.5
	6.5nm,0.7s						
LPG	**La Plagne**	**144.91**	**336**	*e*PKP1	PKPdf	08 15 57.1	-1.4
AVF	**Avril sur Loir**	**145.05**	**340**	*e*PKP1	PKPbc	08 15 57.1	-1.0
SGMF	**Saint Gilles**	**145.29**	**348**	*e*PKP1	PKPbc	08 15 57.1	-1.7
	7.7nm,0.6s						
ROSF	**Rostrenen**	**145.35**	**349**	*e*PKP1	PKPbc	08 15 56.4	-2.6
MBDF	**Montbardon**	**145.54**	**335**	*e*PKP1	PKPbc	08 15 58.8	-0.9
	5.3nm,0.7s						
ORIF	**Oris-en-Rattie**	**145.74**	**336**	*e*PKP1	PKPbc	08 15 59.8	-0.5
	8.3nm,0.8s						
TCF	**Toulx Ste Croi**	**145.87**	**341**	*e*PKP1	PKPbc	08 15 59.1	-1.6
PGF	**Pioggiola**	**146.25**	**330**	*e*PKP1	PKPbc	08 16 00.1	-1.9
MFF	**Saint Martin d**	**146.27**	**344**	*e*PKP1	PKPbc	08 16 00.1	-1.8

*PDA **07** 07:59:48.8±0.7, 3724N×2463W, h0km, MD4.0, ML3.3, Error ellipse: s-maj=6.1km s-min=2.5km az=91.0*
*CSEM **07** 07:59:48.8±0.7, 3724N×2463W, h0km, ML3.3, Error ellipse: s-maj=6.1km s-min=2.5km az=91.0, After PDA*

SVSA 07 07:59:48.8±0.7, 3724N×2463W, h0km, MD4.0, ML3.3, Error ellipse: s-maj=6.1km s-min=2.5km az=91.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSMN	**Pico do Norte,**	**0.42**	**236**	*e*P	Pg	07 59 56.2	-0.6
PSMN				*e*S	Sg	08 00 02.5	+0.3
PDA	**Ponta Delgada**	**0.97**	**302**	*e*P	Pg	08 00 04.6	-2.7
PDA				*e*S	Sg	08 00 16.4	-3.5
ADH	**Angra Heroismo**	**2.50**	**305**	*e*S	Sn	08 00 54.1	-7.8
PMAN	**Manadas**	**3.07**	**298**	*e*S	Sn	08 01 07.3	-8.6
PMAN				A		08 01 11.1	
	21nm,0.2s						
ROSA	**Rosais**	**3.21**	**299**	*e*P	Pn	08 00 36.2	-4.3
ROSA				*e*S	Sn	08 01 11.2	-8.3
PICO	**Pico**	**3.26**	**294**	*e*P	Pn	08 00 36.5	-4.6
PICO				*e*S	Sn	08 01 12.6	-8.0
CALA	**Caldeira**	**3.49**	**294**	*e*P	Pn	08 00 40.0	-4.3
CALA				*e*S	Sn	08 01 17.9	-8.4

*ISCJB **07** 08:01:25.8±0.3, 3699N±004×2446W±004, h10km, mb4.4/61, MS4.4/11, Error ellipse: s-maj=5.7km s-min=4.4km az=174.3*
*CSEM **07** 08:01:26.1±0.1, 3

EGRO S Sn 08 06 56.2 -14
ELOB Lobios 13.54 64 P Pn 08 04 34.8 -5.1
comp=Z,0.5nm,0.2s
ELOB S Sn 08 06 53.9 -17
PCBR Castelo Branco 13.59 73 *e*S Sn 08 06 57.1 -15
PCBR *e*T 08 16 46.1
MTE Manteigas 13.62 71 *e*S Sn 08 06 56.3 -16
MTE *e*T 08 16 53.9
PVRL Vila Real 13.65 67 *e*S Sn 08 06 59.2 -14
PBAR Barrancos 13.85 80 *e*S Sn 08 07 03.5 -15
PBAR *e*T 08 16 54.2
MVO Moncorvo 14.13 68 *e*S Sn 08 07 06.8 -18
MVO Moncorvo 14.13 68 *e*T 08 17 18.9
EMIN Mina Concepcio 14.16 82 P Pn 08 04 44.3 -3.9
EMIN S Sn 08 07 10.5 -15
PBRG Braganca 14.48 65 *e*S Sn 08 07 16.7 -17
PBRG Braganca 14.48 65 *e*T 08 17 41.8
ECAL Calabor 14.52 65 P Pn 08 04 48.1 -5.0
comp=Z,0.3nm,0.4s
ECAL S Sn 08 07 18.1 -16
EPON Pontenova 14.62 59 P Pn 08 04 50.0 -4.6
comp=Z,0.2nm,0.4s
EPON S Sn 08 07 19.7 -17
EARI Arriondas 15.96 61 P Pn 08 05 06.1 -6.2
EARI S Sn 08 07 52.5 -17
ESDC Sonseca Array 16.28 75 Pn Pn 08 05 10.8 -5.7
comp=Z,0.2nm,0.3s,baz=270,slow=13,SNR=6.9
ESDC Sn Sn 08 08 10.9 -6.6
comp=Z,0.4nm,0.3s,baz=265,slow=24,SNR=4.8
ESDC LR LR 08 09 11.0
comp=Z,215nm,20.5s,baz=275,slow=28
MDT Midelt 16.81 99 Pn Pn 08 05 23.3 0.0
comp=Z,0.7nm,0.3s,baz=274,slow=5.2,SNR=18
MDT Sn Sn 08 08 15.9 -14
comp=Z,0.3nm,0.3s,baz=29,slow=22,SNR=4.2
MDT LR LR 08 10 19.0
comp=Z,1μm,18.9s,baz=130,slow=32
SJPF Ste Jean 18.75 64 *e*P Pn 08 05 48.0 +0.9
QUIF Quistinic 19.02 49 *e*P Pn 08 05 49.6 -0.8
ROSF Rostrenen 19.15 47 *e*P Pn 08 05 51.1 -0.8
ETSF Etsaut 19.19 65 *e*P Pn 08 05 52.7 +0.2
comp=Z,18nm,1.1s
ETSF Etsaut 19.19 65 *e*P Pn 08 05 52.7 +0.2
ETSF pmax pmax
comp=Z,9.0nm,1.1s
ETSF Etsaut 19.19 65 *e*P Pn 08 05 52.7 +0.2
comp=Z,9.1nm,1.1s
SGMF Saint Gilles 19.53 48 *e*P Pn 08 05 55.6 -1.0
EPF Esparros 19.86 65 *e*P Pn 08 06 00.7 +0.2
comp=Z,44nm,1.3s
EPF Esparros 19.86 65 *e*P Pn 08 06 00.7 +0.2
EPF pmax pmax
comp=Z,22nm,1.3s
EPF Esparros 19.86 65 *e*P Pn 08 06 00.7 +0.2
comp=Z,22nm,1.3s
DCN Croghan 20.20 31 *e*P P 08 06 00.8 -1.7
DCN Croghan 20.20 31 *e*P P 08 06 01.8 -0.7
MFF Saint Martin d 20.40 55 *e*P P 08 06 04.5 -0.3
comp=Z,220nm,1.4s
MFF Saint Martin d 20.40 55 *e*P P 08 06 04.5 -0.3
MFF pmax pmax
comp=Z,110nm,1.4s
MFF Saint Martin d 20.40 55 *e*P P 08 06 04.5 -0.3
comp=Z,110nm,1.4s
SALF Salau 20.44 66 *e*P P 08 06 07.4 +2.1
DLF Lyons Farm 20.47 32 *e*P P 08 06 05.5 0.0
DLF Lyons Farm 20.47 32 *e*P P 08 06 06.3 +0.8
LFF La Frestale 20.52 60 *e*P P 08 06 06.7 +0.5
comp=Z,50nm,0.8s
LFF La Frestale 20.52 60 *e*P P 08 06 06.7 +0.5
LFF pmax pmax
comp=Z,25nm,0.8s
LFF La Frestale 20.52 60 *e*P P 08 06 06.7 +0.5
comp=Z,25nm,0.8s
GRR Gorron 20.61 49 *e*P P 08 06 07.6 +0.5
comp=Z,141nm,1.1s
GRR Gorron 20.61 49 *e*P P 08 06 07.6 +0.5
GRR pmax pmax
comp=Z,71nm,1.1s
GRR Gorron 20.61 49 *e*P P 08 06 07.6 +0.5
comp=Z,71nm,1.1s
DMUB Kingscourt 20.75 30 *e*P P 08 06 07.0 -1.6
DMUB Kingscourt 20.75 30 *e*P P 08 06 07.8 -0.8
FLN La Foliniere 21.00 49 *e*P P 08 06 11.4 +0.1
comp=Z,15nm,0.7s
FLN *e*MLR MLR
comp=Z,1μm,18.2s,MS4.0
FLN La Foliniere 21.00 49 *e*P P 08 06 11.4 +0.1
comp=Z,7.3nm,0.7s
FLN LR LR
comp=Z,1μm,18.3s,MS4.3
FLN La Foliniere 21.00 49 *e*P P 08 06 11.4 +0.1
FLN pmax pmax
comp=Z,7.0nm,0.7s
FLN MLR MLR
comp=Z,1μm,18.3s,MS4.3
RJF Les Rejaudoux 21.14 59 *e*P P 08 06 13.1 +0.2
RJF *e*MLR MLR
comp=Z,2μm,20.5s,MS4.2
RJF Les Rejaudoux 21.14 59 *e*P P 08 06 13.1 +0.2
RJF MLR MLR
comp=Z,2μm,20.5s,MS4.5
LDF La Druitiere 21.14 49 *e*P P 08 06 13.0 +0.1
comp=Z,77nm,1.4s,mb4.5
LDF La Druitiere 21.14 49 *e*P P 08 06 13.0 +0.1
LDF pmax pmax
comp=Z,38nm,1.4s,mb4.5
LDF La Druitiere 21.14 49 *e*P P 08 06 13.0 +0.1
comp=Z,38nm,1.4s,mb4.5
MTLF Montolieu 21.26 65 *e*P P 08 06 14.7 +0.5
comp=Z,52nm,1.5s,mb4.3
MTLF Montolieu 21.26 65 *e*P P 08 06 14.7 +0.5
MTLF pmax pmax
comp=Z,26nm,1.5s,mb4.3
MTLF Montolieu 21.26 65 *e*P P 08 06 14.7 +0.5
comp=Z,26nm,1.5s,mb4.3
CAF Calviac 21.43 60 *e*P P 08 06 15.9 -0.1
comp=Z,106nm,1.2s,mb4.7
CAF Calviac 21.43 60 *e*P P 08 06 15.9 -0.1
CAF pmax pmax
comp=Z,53nm,1.2s,mb4.8
CAF Calviac 21.43 60 *e*P P 08 06 15.9 -0.1
comp=Z,53nm,1.2s,mb4.7
TCF Toulx Ste Croi 21.86 57 *e*P P 08 06 21.0 +0.4
comp=Z,193nm,1.6s,mb5.0
TCF Toulx Ste Croi 21.86 57 *e*P P 08 06 21.0 +0.4
TCF pmax pmax
comp=Z,97nm,1.6s,mb5.0
TCF Toulx Ste Croi 21.86 57 *e*P P 08 06 21.0 +0.4
comp=Z,96nm,1.6s,mb5.0
VERF Verneugheol 21.91 58 *e*P P 08 06 23.5 +2.4
PYM Petit Puy Mans 22.27 58 *e*P P 08 06 25.9 +1.0
LBL Lubilhac 22.32 60 *e*P P 08 06 26.6 +1.1
BGF Bois d'Agland 22.36 56 *e*P P 08 06 25.8 -0.1
comp=Z,34nm,1.0s,mb4.4
BGF Bois d'Agland 22.36 56 *e*P P 08 06 25.8 -0.1
BGF pmax pmax
comp=Z,17nm,1.0s,mb4.4
BGF Bois d'Agland 22.36 56 *e*P P 08 06 25.8 -0.1
comp=Z,17nm,1.0s,mb4.4
AGO Saint Agoulin 22.42 58 *e*P P 08 06 26.4 -0.1
LASF Ste Croix 22.55 63 *e*P P 08 06 28.1 +0.2
comp=Z,64nm,1.3s,mb4.6
LASF Ste Croix 22.55 63 *e*P P 08 06 28.1 +0.2
comp=Z,32nm,1.3s,mb4.6
PLDF La Plantade 22.73 58 *e*P P 08 06 30.3 +0.4
AVF Avril sur Loir 22.75 56 *e*P P 08 06 29.7 -0.4
comp=Z,32nm,1.2s,mb4.3
AVF Avril sur Loir 22.75 56 *e*P P 08 06 29.7 -0.4
AVF pmax pmax
comp=Z,16nm,1.2s,mb4.3
AVF Avril sur Loir 22.75 56 *e*P P 08 06 29.7 -0.4
comp=Z,16nm,1.2s,mb4.3
SSF Saint Saulge 22.93 55 *e*P P 08 06 31.5 -0.4
comp=Z,43nm,0.9s,mb4.6
SSF Saint Saulge 22.93 55 *e*P P 08 06 31.5 -0.4
SSF pmax pmax
comp=Z,21nm,0.9s,mb4.6
SSF Saint Saulge 22.93 55 *e*P P 08 06 31.5 -0.4
comp=Z,21nm,0.9s,mb4.6
SMF Signal de Mont 23.04 57 *e*P P 08 06 32.7 -0.4
comp=Z,134nm,1.3s,mb4.9
SMF Signal de Mont 23.04 57 *e*P P 08 06 32.7 -0.4
SMF pmax pmax
comp=Z,67nm,1.3s,mb4.9
SMF Signal de Mont 23.04 57 *e*P P 08 06 32.7 -0.4
comp=Z,67nm,1.3s,mb4.9
LOR Lormes 23.21 55 *e*P P 08 06 34.2 -0.8
comp=Z,68nm,1.4s,mb4.6
LOR *e*MLR MLR
comp=Z,1μm,17.2s,MS4.1
LOR Lormes 23.21 55 *e*P P 08 06 34.2 -0.8
comp=Z,34nm,1.4s,mb4.6
LOR LR LR
comp=Z,1μm,17.3s,MS4.4
LOR Lormes 23.21 55 *e*P P 08 06 34.2 -0.8
LOR pmax pmax
comp=Z,34nm,1.4s,mb4.6
LOR MLR MLR
comp=Z,1μm,17.3s,MS4.4
VIVF Saint-Julien-l 23.24 61 *e*P P 08 06 34.9 -0.4
comp=Z,80nm,1.5s,mb4.6
VIVF Saint-Julien-l 23.24 61 *e*P P 08 06 34.9 -0.4
VIVF pmax pmax
comp=Z,40nm,1.5s,mb4.6
VIVF Saint-Julien-l 23.24 61 *e*P P 08 06 34.9 -0.4
comp=Z,40nm,1.5s,mb4.6
EKA Eskdalemuir Ar 23.31 32 P P 08 06 34.6 -1.2
comp=Z,7.9nm,1.0s,mb4.1,baz=232,slow=8.1,SNR=13
MENF Mencas 23.31 46 *e*P P 08 06 36.0 +0.1
PRAF Pradon 23.45 64 *e*P P 08 06 38.0 +0.5
GELF Grande-Etoile 23.59 65 *e*P P 08 06 39.1 +0.1
SMRF Simiane la Rot 23.76 64 *e*P P 08 06 40.1 -0.4
comp=Z,49nm,1.3s,mb4.5
SMRF Simiane la Rot 23.76 64 *e*P P 08 06 40.1 -0.4
comp=Z,24nm,1.3s,mb4.5
STOF St-Etienne Org 24.00 64 *e*P P 08 06 42.5 -0.2
TAVF Tavernes 24.07 65 *e*P P 08 06 44.3 +1.0
ORIF Oris-en-Rattie 24.10 62 *e*P P 08 06 43.6 0.0
comp=Z,65nm,1.5s,mb4.5
ORIF *e*MLR MLR
comp=Z,2μm,21.0s,MS4.3
ORIF Oris-en-Rattie 24.10 62 *e*P P 08 06 43.6 0.0
ORIF pmax pmax
comp=Z,33nm,1.5s,mb4.5
ORIF Oris-en-Rattie 24.10 62 *e*P P 08 06 43.6 0.0
comp=Z,32nm,1.5s,mb4.5
BAIF Baives 24.32 49 *e*P P 08 06 44.3 -1.2
comp=Z,38nm,0.9s,mb4.5
BAIF Baives 24.32 49 *e*P P 08 06 44.3 -1.2
BAIF pmax pmax
comp=Z,19nm,0.9s,mb4.5
BAIF Baives 24.32 49 *e*P P 08 06 44.3 -1.2
comp=Z,19nm,0.9s,mb4.5
MEZF Maizieres J'vi 24.33 53 *e*P P 08 06 45.1 -0.5
LMR La Mourre 24.38 65 *e*P P 08 06 46.3 +0.2
FRF La Foret Royal 24.49 65 *e*P P 08 06 47.4 +0.2
comp=Z,23nm,1.1s,mb4.2
FRF La Foret Royal 24.49 65 *e*P P 08 06 47.4 +0.2
FRF pmax pmax
comp=Z,12nm,1.1s,mb4.2
FRF La Foret Royal 24.49 65 *e*P P 08 06 47.4 +0.2
comp=Z,12nm,1.1s,mb4.2
CABF La Chapelle 24.54 58 *e*P P 08 06 47.2 -0.4
comp=Z,43nm,1.4s,mb4.5
CABF La Chapelle 24.54 58 *e*P P 08 06 47.2 -0.4
CABF pmax pmax
comp=Z,21nm,1.4s,mb4.5
CABF La Chapelle 24.54 58 *e*P P 08 06 47.2 -0.4
comp=Z,21nm,1.4s,mb4.5
MBDF Montbardon 24.70 62 *e*P P 08 06 49.2 +0.1
comp=Z,24nm,1.3s,mb4.3
MBDF Montbardon 24.70 62 *e*P P 08 06 49.2 +0.1
MBDF pmax pmax
comp=Z,12nm,1.3s,mb4.3
MBDF Montbardon 24.70 62 *e*P P 08 06 49.2 +0.1
comp=Z,12nm,1.3s,mb4.3
GIVF Givet 24.71 49 *e*P P 08 06 48.4 -0.7
comp=Z,168nm,1.4s,mb5.1
GIVF Givet 24.71 49 *e*P P 08 06 48.4 -0.7
GIVF pmax pmax
comp=Z,84nm,1.4s,mb5.1
GIVF Givet 24.71 49 *e*P P 08 06 48.4 -0.7
comp=Z,84nm,1.4s,mb5.1
LPL La Plagne 24.79 60 *e*P P 08 06 49.8 0.0
LPG La Plagne 24.80 60 *e*P P 08 06 50.1 +0.2
THEF They Montfort 24.86 54 *e*P P 08 06 51.8 +1.4
TOUF Mont Tournerai 24.97 64 *e*P P 08 06 53.3 +1.8
HAU Haudompre 25.03 54 *e*P P 08 06 51.8 -0.2
comp=Z,33nm,1.2s,mb4.4
HAU *e*MLR MLR
comp=Z,1μm,18.2s,MS4.2
HAU Haudompre 25.03 54 *e*P P 08 06 51.8 -0.2
comp=Z,16nm,1.2s,mb4.4
HAU LR LR
comp=Z,1μm,18.3s,MS4.5
HAU Haudompre 25.03 54 *e*P P 08 06 51.8 -0.2
HAU pmax pmax
comp=Z,16nm,1.2s,mb4.4
HAU MLR MLR
comp=Z,1μm,18.3s,MS4.5
SBF Sospel 25.09 64 *e*P P 08 06 53.0 +0.4
comp=Z,43nm,1.1s,mb4.6
SBF Sospel 25.09 64 *e*P P 08 06 53.0 +0.4
SBF pmax pmax
comp=Z,21nm,1.1s,mb4.6
SBF Sospel 25.09 64 *e*P P 08 06 53.0 +0.4
comp=Z,21nm,1.1s,mb4.6
AUTN L'Aution 25.09 64 *e*P P 08 06 54.8 +2.2
LOMF Lomont 25.19 56 *e*P P 08 06 53.9 +0.4
HINF Hinteralfeld 25.32 55 *e*P P 08 06 54.6 0.0
comp=Z,16nm,0.8s,mb4.3
HINF Hinteralfeld 25.32 55 *e*P P 08 06 54.6 0.0
HINF pmax pmax
comp=Z,8.0nm,0.8s,mb4.3
HINF Hinteralfeld 25.32 55 *e*P P 08 06 54.6 0.0
comp=Z,7.8nm,0.8s,mb4.3
WLF Walferdange 25.37 51 *e*P P 08 06 54.1 -1.1
comp=Z,76nm,1.1s,mb5.1
WLF Walferdange 25.37 51 *e*P P 08 06 54.1 -1.0
WLF pmax pmax
comp=Z,76nm,1.1s,mb5.1
WLF Walferdange 25.37 51 *e*P P 08 06 53.4 -1.7
WLF Walferdange 25.37 51 *e*P P 08 06 54.1 -1.0
comp=Z,76nm,1.1s,mb5.1
MOF Molkenrain 25.51 55 *e*P P 08 06 56.3 0.0
HGN Heimansgroeve 25.61 48 *e*P P 08 07 00.2 +3.0
comp=Z,27nm,1.4s,mb4.6
CDF Champ du Feu 25.73 54 *e*P P 08 06 58.4 0.0
comp=Z,95nm,1.5s,mb4.8
CDF Champ du Feu 25.73 54 *e*P P 08 06 58.4 0.0
CDF pmax pmax
comp=Z,48nm,1.5s,mb4.8
CDF Champ du Feu 25.73 54 *e*P P 08 06 58.4 0.0
comp=Z,48nm,1.5s,mb4.8
RUP Ruppelstein 25.95 51 *e*P P 08 07 00.0 -0.3
FELD Feldberg im Sc 26.08 55 *e*P P 08 07 01.7 +0.1
PGF Pioggiola 26.17 67 *e*P P 08 07 01.7 -0.7
comp=Z,17nm,0.9s,mb4.2
PGF Pioggiola 26.17 67 *e*P P 08 07 01.7 -0.7
PGF pmax pmax
comp=Z,8.0nm,0.9s,mb4.2
PGF Pioggiola 26.17 67 *e*P P 08 07 01.7 -0.7
comp=Z,8.3nm,0.9s,mb4.2
ABH Alteburg 26.30 51 *e*P P 08 07 03.2 -0.3
BFO Black Forest 26.40 54 *e*P P 08 07 03.7 -0.7
WTSB Winterswijk 26.55 46 *e*P P 08 07 05.3 -0.4
comp=Z,36nm,1.4s,mb4.7
SPAK Spaichingen-Ko 26.64 55 *e*P P 08 07 07.1 +0.5
DAVOX Davos/Dischmat 27.14 58 LR LR 08 16 41.0
comp=Z,1μm,18.3s,MS4.5,baz=332,slow=34
KEST Kesra 27.16 83 P P 08 07 10.7 -0.7
comp=Z,0.4nm,0.4s,mb3.3,baz=79,slow=5.2,SNR=2.9
KEST LR LR 08 17 21.0
comp=Z,374nm,18.3s,MS4.0,baz=332,slow=35
IBBN Ibbenburen 27.22 46 *e*P P 08 07 14.3 +2.5
GRA1 Grafenberg Arr 28.56 52 *e*P P 08 07 23.1 -0.6
comp=Z,40nm,1.5s,mb4.9
GRF Grafenberg Arr 28.56 52 *e*P P 08 07 23.1 -0.6
GRF pmax pmax
comp=Z,40nm,1.5s,mb4.9
GRF Grafenberg Arr 28.56 52 *e*P P 08 07 23.1 -0.6
GRF pmax pmax
comp=Z,40nm,1.5s,mb4.9
GRF Grafenberg Arr 28.56 52 *e*P P 08 07 23.1 -0.6
comp=Z,40nm,1.5s,mb4.9
CLZ Clausthal 28.59 48 *e*P P 08 07 26.5 +2.5
MOX Moxa 29.02 51 *e*P P 08 07 30.0 +2.1
ROTZ Rotzenmuhle 29.20 53 *e*P P 08 07 29.7 +0.3
NKC Novy Kostel 29.45 52 *e*P P 08 07 32.0 +0.4
TANN Tannenbergstha 29.50 51 *e*P P 08 07 32.2 +0.1
KHC Kasperske Hory 29.96 54 *e*P P 08 07 36.7 +0.5
GERES GERESS Array B 30.00 55 P P 08 07 35.7 -0.9
comp=Z,0.7nm,0.5s,mb3.6,baz=255,slow=10.0,SNR=7.6
CLL Collm 30.03 50 *e*P P 08 07 36.0 -0.8
comp=Z,14nm,1.6s,mb4.4
MOZS Mozjanca 30.22 60 *e*P P 08 07 41.5 +2.9
BRG Berggiesshubel 30.51 51 *e*P P 08 07 40.3 -0.8
BRG Berggiesshubel 30.51 51 *e*P P 08 07 40.5 -0.6
comp=Z,2.8nm,0.8s,mb4.2
BRG *e* 08 07 44.2
comp=Z,10.0nm,1.2s
PRU Pruhonice 30.72 53 *e*pP pP 08 07 46.9 +2.7
LEGS Legarje 30.81 61 *e*P P 08 07 43.3 -0.4
PVCC Panska Ves 30.84 52 *e*P P 08 07 43.9 0.0
PVCC *e*pP pP 08 07 47.5 +2.3
TREC Trest 31.22 54 *e*P P 08 07 47.8 +0.4
TREC *e*pP pP 08 07 50.5 +1.8
UPC Upice 31.74 52 *e*P P 08 07 51.0 -0.9
UPC *e*pP pP 08 07 54.8 +1.6
DPC Dobruska-Polom 31.91 52 *e*P P 08 07 56.1 +2.7
TIP Timpagrande 32.30 73 *e*P P 08 07 56.5 -0.4
comp=Z,30nm,1.3s,mb5.0
TIP Timpagrande 32.30 73 *e*P P 08 07 56.5 -0.4
comp=Z,30nm,1.3s,mb5.0
MORC Moravsky Berou 32.61 54 *e*P P 08 07 59.7 +0.2
comp=Z,10nm,1.5s,mb4.5
MORC Moravsky Berou 32.61 54 *e*P P 08 07 59.7 +0.1
MORC pmax pmax
comp=Z,10.0nm,1.5s,mb4.5
MORC Moravsky Berou 32.61 54 *e*P P 08 07 59.7 +0.1
comp=Z,10nm,1.5s,mb4.5
NOA NORSAR Array B 32.80 32 P P 08 08 01.7 +0.6
comp=Z,1.0nm,0.8s,mb3.8,baz=26,slow=13,SNR=3.2
NOA LR LR 08 19 04.8
comp=Z,717nm,19.7s,MS4.4,baz=245,slow=32
VYHS Vyhne 33.34 56 *e*P P 08 08 08.3 +2.4
TORD Torodi Ar. Bea 33.38 129 P P 08 08 08.9 +2.3
comp=Z,3.5nm,0.6s,mb4.4,baz=318,slow=8.5,SNR=22
OJC Ojcow 34.11 53 *e*P P 08 08 12.5 -0.1
KECS Kecovo 34.44 56 *e*P P 08 08 18.5 +3.0
comp=Z,5.9nm,1.4s,mb4.3
KECS Kecovo 34.44 56 *e*P P 08 08 18.5 +3.0
KECS pmax pmax
comp=Z,6.0nm,1.4s,mb4.3
STHS Stebnicka Huta 34.98 55 *e*P P 08 08 24.9 +4.7
comp=Z,8.5nm,1.4s,mb4.5
STHS Stebnicka Huta 34.98 55 *e*P P 08 08 24.9 +4.7
STHS pmax pmax
comp=Z,9.0nm,1.4s,mb4.5
LVV L'vov 36.81 54 *e*P P 08 08 36.5 +0.7
AKASG Malin Array Be 40.14 53 P P 08 09 02.6 -1.2
comp=Z,3.5nm,0.8s,mb4.1,baz=269,slow=8.3,SNR=11
AKASG LR LR 08 24 17.2
comp=Z,602nm,18.3s,MS4.5,baz=270,slow=34
CPD Cerro la Pandu 40.97 254 *e*P P 08 09 04.7 -6.3
comp=Z,6.8nm,0.8s,mb4.3
CPD Cerro la Pandu 40.97 254 *e*P P 08 09 04.7 -6.3
CPD pmax pmax
comp=Z,7.0nm,0.8s,mb4.3
SJG San Juan 41.11 254 *e*P P 08 09 03.8 -8.4
comp=Z,16nm,0.3s,mb5.1
SJG San Juan 41.11 254 *e*P P 08 09 03.8 -8.4
SJG pmax pmax
comp=Z,16nm,0.3s
ARCES ARCESS Array B 42.03 24 P P 08 09 17.3 -1.8
comp=Z,5.0nm,0.9s,mb4.1,baz=245,slow=7.9,SNR=5.9
OBN Obninsk 44.45 46 *e*P P 08 09 41.6 +2.7
OBN *e* 08 11 26.0
OBN *e*S S 08 16 14.2 +0.1
OBN pmax pmax
comp=Z,5.0nm,0.4s,mb4.6
MALT Malatya 48.90 68 P P 08 10 12.4 -1.6
comp=Z,1.0nm,0.4s,mb4.2
MALT Malatya 48.90 68 P P 08 10 12.4 -1.6
MALT pmax pmax
comp=Z,1.0nm,0.4s,mb4.2
MALT Malatya 48.90 68 P P 08 10 12.4 -1.6
comp=Z,1.0nm,0.4s,mb4.2
SDV Santo Domingo 50.25 248 *e*P P 08 10 25.5 +0.9
comp=Z,2.2nm,0.6s,mb4.4
SDV Santo Domingo 50.25 248 *e*P P 08 10 25.5 +0.9
comp=Z,2.2nm,0.6s,mb4.4
ARU Arti 56.42 41 *c i*P P 08 11 12.3 +2.9
ARU *e* 08 13 15.9
ARU *e*S S 08 19 01.0 +0.4
ARU pmax pmax
comp=Z,29nm,1.7s,mb5.0
BDFB Brasilia 56.94 207 P P 08 11 15.0 +1.6
comp=Z,2.6nm,0.9s,mb4.2,baz=26,slow=11,SNR=4.4
YKA Yellowknife Ar 57.95 327 P P 08 11 17.8 -2.3
comp=Z,0.3nm,0.7s,mb3.4,baz=69,slow=6.6,SNR=4.1
JCT Junction City 61.47 288 *e*P P 08 11 44.3 -0.6
comp=Z,8.9nm,1.0s,mb4.8
JCT Junction City 61.47 288 *e*P P 08 11 44.3 -0.6
JCT pmax pmax
comp=Z,9.0nm,1.0s,mb4.8
JCT Junction City 61.47 288 *e*P P 08 11 44.3 -0.6
comp=Z,8.9nm,1.0s,mb4.8
PDAR Pinedale Array 62.85 304 P P 08 11 52.5 -1.4
comp=Z,0.7nm,0.8s,mb3.9,baz=60,slow=8.8,SNR=7.0
ANMO Albuquerque 64.30 295 *e*P P 08 12 08.4 +4.7
HWUT Hardware Ranch 64.70 304 *e*P P 08 12 06.1 -0.1
comp=Z,1.5nm,0.7s,mb4.1
HWUT Hardware Ranch 64.70 304 *e*P P 08 12 06.1 -0.1
comp=Z,1.5nm,0.7s,mb4.1
TXAR Lajitas Array 64.96 289 P P 08 12 07.7 -0.4
comp=Z,2.3nm,0.7s,mb4.3,baz=70,slow=6.8,SNR=10
NVS Novosibirsk 69.58 36 *e*P P 08 12 36.7 -0.2
NVS pmax pmax
comp=N,10.0nm,1.7s
NVS pmax pmax
comp=Z,27nm,1.7s,mb4.9
NVS pmax pmax
comp=E,4.0nm,1.4s
KURK Kurchatov 69.62 41 *i*P P 08 12 41.1 +3.9
TIXI Tiksi 69.95 9 *i*P P 08 12 41.7 +2.8
TIXI pmax pmax
comp=Z,22nm,2.6s,mb4.6
ZAL Zalesovo 70.85 36 P P 08 12 44.0 -0.7
ZALV Zalesovo Beam 70.85 36 P P 08 12 44.0 -0.7
comp=Z,1.3nm,0.6s,mb4.1,baz=317,slow=7.5,SNR=11
ZALV LR LR 08 44 12.6
comp=Z,478nm,18.4s,MS4.8,baz=45,slow=36
MKAR Makanchi Array 73.88 43 P P 08 13 02.6 -0.3
comp=Z,0.9nm,0.7s,mb3.8,baz=336,slow=4.5,SNR=8.7
MKAR LR LR 08 46 37.6
comp=Z,807nm,18.1s,MS5.0,baz=3.7,slow=37
BILL Bilibino 74.90 356 *e*P P 08 13 12.1 +3.6
BILL pmax pmax
comp=Z,5.0nm,1.5s,mb4.2
BOD Bodaibo 79.25 21 *e*P P 08 13 31.0 -2.1
BOD pmax pmax
comp=Z,12nm,1.8s,mb4.5
BOD Bodaibo 79.25 21 *e*P P 08 13 31.0 -2.1
comp=Z,12nm,1.8s,mb4.5
TLY Talaya 80.66 30 *e*P P 08 13 44.3 +3.4
TLY pmax pmax
comp=Z,11nm,1.9s,mb4.5
ZAK Zakamensk 81.51 31 *e*P P 08 13 42.3 -3.1
SONM Songino Array 84.78 31 P P 08 14 02.3 -0.1
comp=Z,1.6nm,0.8s,mb4.2,baz=302,slow=5.1,SNR=10
ULN Ulaanbaatar 85.02 30 *e*P P 08 14 05.4 +1.8

*ISCJB **07** 08:03:00.1±0.9, 3840N±003×2043E±008, h10km, Error ellipse: s-maj=9.0km s-min=4.0km az=160.4*
*CSEM **07** 08:03:00.4±0.2, 3841N×2042E, h0km±2km, MD3.4, Error ellipse: s-maj=5.4km s-min=2.3km az=75.0*
*THE **07** 08:03:00.9, 3841N×2046E, h6km, ML3.1*
*NEIC **07** 08:03:00.9, 3841N×2046E, h7km, MD3.4(ATH), ML3.1(THE), After THE.*
*ATH **07** 08:03:01.0, 3826N×2046E, h21km, MD3.4/5*
ISC 07 08:03:00.9±1.0, 3840N±004×2044E±008, h4km±8km, n11, σ0991/18, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.25**	**152**	*e*PB	**Pg**	**08 03 05.6**	**-0.1**
VLS				*e*SB	**Sg**	**08 03 09.3**	**+0.3**
LKD	**Levkas**	**0.35**	**28**	*e*Pg	**Pg**	**08 03 06.7**	**-1.0**
LKD				*e*Sg	**Sg**	**08 03 12.3**	**+0.1**
KFL	**Anninata**	**0.40**	**137**	*e*Pg	**Pg**	**08 03 08.3**	**-0.3**
KFL				*e*Sg	**Sg**	**08 03 15.0**	**+1.3**
RLS	**Riolos of Patr**	**0.88**	**113**	*e*PN	**Pg**	**08 03 16.8**	**-0.9**
IGT	**Igoumenitsa**	**1.14**	**356**	*e*Pg	**Pg**	**08 03 21.4**	**-1.3**

IGT *e*Sg **Sg** **08 03 38.9 +1.4**
SELA Sela 1.15 96 *e*Pg **Pg** **08 03 21.8 -1.1**
SELA *e*Sg **Sg** **08 03 38.5 +0.8**
SELA Sela 1.15 96 *e*Pg **Pg** **08 03 21.8 -1.1**
SELA *e*Sg **Sg** **08 03 38.5 +0.8**
EVR Evrytania 1.19 64 *e*PN **Pn** **08 03 24.5 +0.2**
EVR *e*SN **Sn** **08 03 41.7 +0.8**
KEK Kerkira 1.41 339 *e*PN **Pg** **08 03 29.2 +1.3**
AGG Agios Georgios 1.60 67 *e*Pg **Pn** **08 03 28.7 -1.3**
THL Klokotos Trika 1.69 46 *e*PN **Pg** **08 03 32.8 -0.5**

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*BJI **07** 08:09:03.8, 2090S×16860E, h10km, mB5.2, mb5.0, Ms5.3, Msz4.9*
*IDC **07** 08:09:04.2±0.7, 2087S×16863E, h0km, mb4.5/14, mb1 4.6/15, mb1mx4.6/19, mbtmp4.5/15, ML3.6/1, Error ellipse: s-maj=20.0km s-min=17.6km az=84.0*
*NEIC **07** 08:09:05.8±0.3, 2087S×16859E, h10km, mb4.8/6, Error ellipse: s-maj=11.7km s-min=10.6km az=135.0*
*LDG **07** 08:09:06.9±0.2, 2047S×16824E, h10km, Mb4.9/2, Error ellipse: s-maj=20.9km s-min=3.4km az=126.0*
*ISCJB **07** 08:09:07.9±0.5, 2096S±008×16848E±010, h31km, mb4.7/24, Error ellipse: s-maj=13.0km s-min=10.9km az=173.2*
*MOS **07** 08:09:09.1±1.6, 2082S×16833E, h33km, mb4.9/5, Error ellipse: s-maj=17.5km s-min=14.9km az=25.6*
*SZGRF **07** 08:09:10.8, 20.17S×17001E, h33km, Vanuatu Islands*
ISC 07 08:09:09.7±0.5, 2095S±007×16853E±010, h33km, h33km±1.4km: pP-P, n111, σ1°04/41, mb4.7/24, 4C-4D, Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**18.78 159**		P	**Pn**	**08 13 26.6**	**-0.2**
	0.2nm,0.3s,baz=354,slow=15,SNR=4.4						
CTA	**Charters Tower**	**20.88 268**		*e*P	**P**	**08 13 47.1**	**-2.2**
	12nm,0.9s						
CTA	**Charters Tower**	**20.88 268**		P	**P**	**08 13 50.9**	**+1.7**
	12nm,0.9s						
CTA	**Charters Tower**	**20.88 268**		P	**P**	**08 13 50.9**	**+1.6**
CTA				pmax	pmax		
	comp=Z,12nm,0.9s						
CTA	**Charters Tower**	**20.88 268**		P	**P**	**08 13 50.9**	**+1.7**
	comp=Z,9.8nm,0.9s,baz=110,slow=15,SNR=4.5						
RPZ	**Rata Peaks**	**22.80 175**		P	**P**	**08 14 11.1**	**+1.6**
	comp=Z,16nm,1.1s,mb4.4,baz=4.8,slow=12,SNR=3.2						
STKA	**Stephens Creek**	**26.40 240**		*e*P	**P**	**08 14 44.2**	**+0.9**
	comp=Z,5.2nm,0.7s,mb4.2						
STKA	**Stephens Creek**	**26.40 240**		P	**P**	**08 14 44.3**	**+1.0**
	comp=Z,5.8nm,0.7s,mb4.2,baz=80,slow=8.5,SNR=14						
WB2	**Warramunga Arr**	**32.01 266**		*e*P	**P**	**08 15 32.3**	**-1.0**
WRAB	**Tennant Creek**	**32.01 266**		*e*P	**P**	**08 15 32.3**	**-1.0**
WRAB				*e*pP	pP	08 15 42.1	-0.7
WRAB	**Tennant Creek**	**32.01 266**		*i* P	**P**	**08 15 33.0**	**-0.3**
WRA	**Warramunga Arr**	**32.02 266**		P	**P**	**08 15 32.2**	**-1.2**
	comp=Z,4.8nm,0.9s,mb4.3,baz=96,slow=8.8,SNR=17						
ASAR	**Alice Springs**	**32.10 259**		P	**P**	**08 15 34.1**	**0.0**
	comp=Z,18nm,0.8s,mb5.0,baz=82,slow=9.1,SNR=143						
FORT	**Forrest**	**37.54 246**		*e*P	**P**	**08 16 21.1**	**+0.2**
	comp=Z,17nm,0.8s,mb4.8						
FORT				*e*	pP	08 16 30.1	-0.5
FITZ	**Fitzroy Crossi**	**40.44 266**		*e*P	**P**	**08 16 45.2**	**-0.2**
	comp=Z,19nm,0.9s,mb4.8						
FITZ				*e*	pP	08 16 55.7	+0.6
FITZ	**Fitzroy Crossi**	**40.44 266**		P	**P**	**08 16 45.3**	**-0.1**
	comp=Z,10nm,0.9s,mb4.6,baz=116,slow=9.9,SNR=15						
MBWA	**Marble Bar**	**45.40 261**		*e*P	**P**	**08 17 25.7**	**+0.2**
	comp=Z,30nm,1.1s,mb5.0						
MBWA				*e*pP	pP	08 17 35.7	+0.4
KLBR	**Kellerberrin**	**46.40 246**		*e*P	**P**	**08 17 32.4**	**-0.8**
	comp=Z,23nm,1.0s,mb5.1						
KLBR				*e*	pP	08 17 42.8	-0.3
KLBR				*e*		08 18 03.8	
NWAO	**Narrogin (SRO)**	**46.86 244**		P	**P**	**08 17 36.9**	**0.0**
	comp=Z,18nm,0.9s,mb5.0,baz=84,slow=8.9,SNR=8.3						
KSM	**Kuching**	**61.12 284**		*e*P	**P**	**08 19 21.5**	**+0.2**
KSM				*e*pP	pP	08 19 31.7	+0.3
MJAR	**Matsushiro Arr**	**63.95 333**		P	**P**	**08 19 37.6**	**-2.1**
	comp=Z,2.7nm,0.9s,mb4.3,baz=163,slow=6.3,SNR=7.4						
QSPA	**South Pole Qui**	**69.11 180**		P	**P**	**08 20 11.5**	**-0.6**
QSPA	**South Pole Qui**	**69.11 180**		P	**P**	**08 20 11.5**	**-0.6**
	comp=Z,8.0nm,0.9s,mb4.6,baz=19,slow=2.6,SNR=15						
KSRS	**Korea Array**	**69.54 326**		P	**P**	**08 20 15.3**	**+0.1**
	comp=Z,0.5nm,0.3s,mb3.9,baz=126,slow=6.4,SNR=4.0						
NJ2	**Nanjing**	**70.98 317**		*e*P	**P**	**08 20 25.2**	**+1.0**
NJ2				AMB	AMB		
	comp=Z,30nm,1.0s,mb5.2						
YSS	**Yuzh-Sakhalins**	**71.48 342**	⇓	*e*P	**P**	**08 20 27.7**	**+0.8**
YSS				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb4.6						
MAW	**Mawson**	**76.61 202**		P	**P**	**08 20 56.8**	**+0.1**
	comp=Z,3.6nm,0.9s,mb4.3,baz=127,slow=11,SNR=3.7						
KLR	**Kul'dur**	**77.15 336**		*e*P	**P**	**08 20 56.8**	**-3.0**
HIA	**Hailar**	**82.25 330**		*i* P	**P**	**08 21 27.5**	**0.0**
LZH	**Lanzhou**	**83.38 313**		*e*P	**P**	**08 21 36.0**	**+2.3**
LZH				AMB	AMB		
	comp=Z,27nm,1.0s,mb5.2						
LZH				AMB	AMB		
	comp=Z,155nm,5.1s						
SNAA	**Sanae**	**87.43 183**		*e*PKiKP	**P**	**08 21 52.3**	**-1.1**
SNAA				*e*		08 21 54.6	
SNAA				*e*	pP	08 22 02.9	-1.0
SNAA				*e*		08 22 07.4	
SNAA				*e*		08 22 25.2	
SNAA				*e*		08 22 35.5	
SNAA	**Sanae**	**87.43 183**	⇓	*e*P	**P**	**08 21 51.8**	**-1.6**
SNAA	**Sanae**	**87.43 183**		P	**P**	**08 21 52.1**	**-1.3**
	comp=Z,3.0nm,1.0s,mb4.5,baz=194,slow=13,SNR=6.5						
GTA	**Gaotai**	**87.82 314**		*e*P	**P**	**08 21 56.9**	**+1.2**
GTA				AP	pP	08 22 03.3	-2.9
GTA				XP	sP	08 22 06.8	-3.2
GTA				AMB	AMB		
	comp=Z,4.0nm,0.9s,mb4.7						
ULN	**Ulaanbaatar**	**87.84 324**		*e*P	**P**	**08 21 56.4**	**+0.8**
	comp=Z,226nm,1.6s						
SONM	**Songino Array**	**88.18 323**		P	**P**	**08 21 57.6**	**+0.4**
	comp=Z,4.0nm,0.9s,mb4.7,baz=147,slow=5.1,SNR=27						
BILL	**Bilibino**	**88.74 359**		*i* P	**P**	**08 22 00.3**	**+0.9**
BILL				*e*	pP	08 22 09.0	-0.9
BILL				pmax	pmax		
	comp=Z,3.0nm,1.3s,mb4.5						
NVAR	**Mina Array Bea**	**90.42 49**		P	**P**	**08 22 07.2**	**-0.8**
	comp=Z,2.0nm,0.8s,mb4.5,baz=233,slow=11,SNR=16						
BOD	**Bodaibo**	**90.57 334**		*e*P	**P**	**08 22 05.0**	**-3.2**
BOD				pmax	pmax		
	comp=Z,5.0nm,1.2s,mb4.7						
ZAK	**Zakamensk**	**91.29 324**		*e*P	**P**	**08 22 10.9**	**-0.8**
ZAK				pmax	pmax		
	comp=Z,6.0nm,1.3s,mb4.8						
TLY	**Talaya**	**91.78 326**		*e*P	**P**	**08 22 14.4**	**+0.4**
TLY				*e*	pP	08 22 24.1	-0.4
TLY				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.8						
YKA	**Yellowknife Ar**	**102.48 28**		P	Pdif	08 23 01.4	-1.1
	comp=Z,0.2nm,0.7s,baz=249,slow=5.0,SNR=3.1						
AKASG	**Malin Array Be**	**136.47 323**		PKP	PKPdf	08 28 26.0	-2.0
AKASG	**Malin Array Be**	**136.47 323**		PKP	PKPdf	08 28 26.0	-2.0
	comp=Z,0.7nm,0.6s,baz=67,slow=2.2,SNR=4.6						
PSZ	**Piszkesteto**	**143.12 324**	⇑	*es*PKP/p	PKPdf	08 28 39.0	-1.2
DPC	**Dobruska-Polom**	**143.38 330**		*e*PKP	PKPdf	08 28 37.7	-2.9
DPC				*ex*	x	08 28 48.5	
UPC	**Upice**	**143.42 330**		*e*PKP	PKPdf	08 28 41.5	+0.8
UPC				*ex*	x	08 28 48.7	
VTS	**Vitosha**	**143.83 315**		*e*P	PKPdf	08 28 38.7	-2.9
BUD	**Budapest**	**143.85 324**	⇑	*es*PKP/D	PKiKP	08 28 50.2	+5.2
MMB	**Musomiste**	**143.90 313**		*e*P	PKPdf	08 28 39.4	-2.4
PVCC	**Panska Ves**	**144.06 331**		*e*PKP	PKPdf	08 28 40.2	-1.6
PVCC				*ex*	x	08 28 50.9	
BRG	**Berggiesshubel**	**144.09 332**		*e*PKIKP	PKPdf	08 28 39.7	-2.1
BRG				*e*		08 28 49.9	
BRG	**Berggiesshubel**	**144.09 332**		*e*PKPbc	PKPdf	08 28 39.8	-2.0
BRG	**Berggiesshubel**	**144.09 332**		*e*PKP	PKPdf	08 28 39.7	-2.1
	comp=Z,14nm,1.3s						
BRG				*e*		08 28 49.9	
	comp=Z,15nm,1.1s						
BRG				*e*		08 29 22.7	
	comp=Z,15nm,1.1s						
CLL	**Collm**	**144.16 334**		*e*PKPbc	PKPdf	08 28 40.1	-1.8
CLL	**Collm**	**144.16 334**	⇑	/PKPdf	PKPdf	08 28 39.9	-2.0
	comp=Z,9.0nm,1.1s						
CLL				*i* (pPKPdf)		08 28 50.4	
	comp=Z,16nm,1.3s						
MODS	**Modra-Piesok**	**144.22 327**		*e*PKP	PKPdf	08 28 41.2	-0.9
MODS				*e*		08 28 51.8	
KKB	**Krupnik**	**144.23 314**		*e*P	PKPdf	08 28 39.7	-2.7
PRU	**Pruhonice**	**144.46 331**		*e*PKP	PKPdf	08 28 41.3	-1.2
PRU				*ex*	x	08 28 51.9	
CLZ	**Clausthal**	**144.79 336**		*e*PKPbc	PKPdf	08 28 42.5	-0.5
SOP	**Sopron**	**145.04 326**	⇑	*e*PKP	PKPdf	08 28 43.9	+0.3
TANN	**Tannenbergstha**	**145.06 333**		*e*PKPbc	PKPbc	08 28 43.2	+0.2
NKC	**Novy Kostel**	**145.20 333**		*e*PKP	PKPdf	08 28 43.8	0.0
NKC				*ex*	x	08 28 53.9	
CONA	**Conrad Observa**	**145.24 327**		*i* pPKPbc	PKPbc	08 28 44.4	+0.8
	comp=Z,30nm,1.5s,SNR=11						
MOX	**Moxa**	**145.24 334**		*e*P	PKPbc	08 28 43.7	+0.2
MOX				*e*		08 28 54.3	
	comp=Z,30nm,1.3s						
MOX				*e*		08 29 16.3	
MOX				*e*		08 29 27.1	
MOX	**Moxa**	**145.24 334**		*e*PKIKP	PKPdf	08 28 43.7	-0.1
MOX				*e*		08 28 54.3	
MOX	**Moxa**	**145.24 334**		*e*PKPbc	PKPbc	08 28 43.8	+0.3
IBBN	**Ibbenburen**	**145.33 339**		*e*PKPbc	PKPbc	08 28 44.0	+0.2
KHC	**Kasperske Hory**	**145.51 331**	⇓	*i*PKIKP	PKPdf	08 28 43.8	-0.5
KHC	**Kasperske Hory**	**145.51 331**		*e*PKP	PKPdf	08 28 44.6	+0.3
KHC				*ex*	x	08 28 55.4	
ROTZ	**Rotzenmuhle**	**145.66 333**		*e*PKPbc	PKPbc	08 28 45.5	+0.6
GEC2	**GERESS Array S**	**145.66 330**		*e*PKPbc	PKPbc	08 28 45.3	+0.4
GERES	**GERESS Array B**	**145.66 330**		PKPbc	PKPbc	08 28 45.4	+0.4
	comp=Z,8.9nm,0.8s,baz=46,slow=3.9,SNR=67						
UBBA	**Unterbreizbach**	**145.75 336**		*e*PKPbc	PKPbc	08 28 45.0	-0.1
WET	**Wettzell**	**145.82 331**		*e*PKPbc	PKPbc	08 28 46.0	+0.6
MOA	**Molln**	**146.08 328**	⇓	*i*P	PKPdf	08 28 46.5	+1.1
	comp=Z,13nm,1.2s,SNR=7.2						
GRA1				*e*		08 28 57.5	
GRA1				*e*		08 29 30.5	
GRA1	**Grafenberg Arr**	**146.13 333**		*e*PKPbc	PKPbc	08 28 46.7	+0.4
GRF	**Grafenberg Arr**	**146.13 333**		*e*PKPbc	PKPbc	08 28 46.7	+0.4
GRF				*e*		08 28 57.5	
GRF				*e*		08 29 30.5	
CRES	**Cresnjev**	**146.81 325**		*i* PKPbc	PKPbc	08 28 48.6	+0.2
BOJS	**Bojanci**	**147.12 324**		*e*PKPbc	PKPbc	08 28 49.7	+0.4
BOJS				*e*		08 29 00.5	
LJU	**Ljubljana**	**147.16 326**		*e*PKPbc	PKPbc	08 28 49.5	0.0
LJU				*e*		08 29 00.3	
LJU	**Ljubljana**	**147.16 326**		*e*PKPbc	PKPbc	08 28 49.5	0.0
LJU				*e*		08 29 00.3	
FUR	**Furstenfeldbru**	**147.26 331**		*e*PKPbc	PKPbc	08 28 50.7	+1.1
CEY	**Cerknica**	**147.41 325**		*i* PKPbc	PKPbc	08 28 50.1	0.0
CEY				*e*		08 29 01.0	
CEY	**Cerknica**	**147.41 325**		*i* PKPbc	PKPbc	08 28 50.1	0.0
CEY				*e*		08 29 01.0	
WLF	**Walferdange**	**148.11 338**		*e*PKPbc	PKPbc	08 28 52.7	+0.8
WLF	**Walferdange**	**148.11 338**		*e*PKPbc	PKPbc	08 28 52.6	+0.7
GIVF	**Givet**	**148.18 340**		*e*PKP1	PKPbc	08 28 51.4	-0.7
FETA	**Feichten**	**148.36 330**		*i* PKiKP	PKiKP	08 28 53.1	-1.1
	comp=Z,10nm,1.2s,SNR=5.2						
BFO	**Black Forest**	**148.39 334**		*e*PKPdf	PKPdf	08 28 49.4	+0.2
BFO	**Black Forest**	**148.39 334**		*e*PKPbc	PKPbc	08 28 52.5	-0.2
BAIF	**Baives**	**148.41 341**		*e*PKP1	PKPbc	08 28 51.9	-0.8
CDF	**Champ du Feu**	**148.74 336**		*e*PKP1	PKPbc	08 28 52.8	-0.8
	comp=Z,19nm,1.1s						
DAVOX	**Davos/Dischmat**	**148.92 331**		PKPbc	PKPbc	08 28 54.7	+0.6
	comp=Z,6.1nm,0.7s,baz=29,slow=5.8,SNR=9.6						
HINF	**Hinteralfeld**	**149.38 335**		*e*PKP1	PKPbc	08 28 54.2	-1.0
HAU	**Haudompre**	**149.42 336**		*e*PKP1	PKPbc	08 28 54.5	-0.8
	comp=Z,11nm,0.8s						
MEZF	**Maizieres J'vi**	**149.48 338**		*e*PKP1	PKPbc	08 28 55.0	-0.4
TIP	**Timpagrande**	**149.74 313**		*e*PKPbc	PKPbc	08 28 57.0	+0.6
CABF	**La Chapelle**	**150.67 335**		*e*PKP1	PKPbc	08 28 58.1	-0.3
	comp=Z,12nm,0.9s						
LOR	**Lormes**	**150.95 338**		*e*PKP1	PKPbc	08 28 58.1	-0.9
SSF	**Saint Saulge**	**151.25 338**		*e*PKP1	PKPbc	08 28 58.8	-0.9
LPL	**La Plagne**	**151.29 333**		*e*PKP1	PKPbc	08 28 59.6	-0.3
LPG	**La Plagne**	**151.29 333**		*e*PKP1	PKPbc	08 28 59.8	-0.1
BNI	**Bardonecchia**	**151.68 332**		*e*PKPbc	PKPbc	08 29 00.7	0.0
BNI				*e*PKPab	PKPab	08 29 10.6	+1.1
MBDF	**Montbardon**	**151.90 332**		*e*PKP1	PKPbc	08 29 00.2	-1.1
	comp=Z,5.5nm,0.9s						
ORIF	**Oris-en-Rattie**	**152.13 333**		*e*PKP1	PKPbc	08 29 01.0	-0.8
PGF	**Pioggiola**	**152.45 326**		*e*PKP1	PKPbc	08 29 01.7	-0.9
VIVF	**Saint-Julien-l**	**152.68 334**		*e*PKP1	PKPbc	08 29 02.3	-0.7
SMRF	**Simiane la Rot**	**153.01 332**		*e*PKP1	PKPbc	08 29 03.2	-0.6
	comp=Z,18nm,1.3s						
LASF	**Ste Croix**	**153.65 335**		*e*PKP1	PKPbc	08 29 04.4	-0.8
TORD	**Torodi Ar. Bea**	**165.22 240**		PKP	PKPdf	08 29 10.6	-0.9
	comp=Z,1.6nm,1.1s,baz=160,slow=1.2,SNR=4.6						

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*CSEM **07** 08:09:11.6±0.7, 3721N×2457W, h5km, ML3.6, Error ellipse: s-maj=5.5km s-min=3.0km az=84.0, After PDA*
*PDA **07** 08:09:11.6±0.7, 3721N×2457W, h5km, MD4.1, ML3.6, Error ellipse: s-maj=5.5km s-min=3.0km az=84.0*
SVSA 07 08:09:11.6±0.7, 3721N×2457W, h5km, MD4.1, ML3.6, Error ellipse: s-maj=5.5km s-min=3.0km az=84.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSMN	**Pico do Norte,**	**0.44 243**		*i* P	Pg	08 09 19.1	-1.1
PSMN				*e*S	Sg	08 09 25.3	-0.6
PSMN	**Pico do Norte,**	**0.44 243**		*e*S	Sg	08 09 25.3	-0.6
PDA	**Ponta Delgada**	**1.02 302**		*e*P	Pg	08 09 27.7	-3.5
PDA				*e*S	Sg	08 09 39.1	-5.3
ADH	**Angra Heroismo**	**2.55 305**		*e*S	Sn	08 10 16.6	-8.5
PID	**Ribeirinha**	**3.07 295**		*e*P	Pn	08 09 56.3	-4.4
PID				*e*S	Sn	08 10 29.6	-8.1
PMAN	**Manadas**	**3.12 298**		*e*P	Pn	08 09 56.5	-5.0
PMAN				*e*S	Sn	08 10 30.8	-8.3
PMAN				A		08 10 34.2	
	42nm,0.2s						
PMAN	**Manadas**	**3.12 298**		*e*P	Pn	08 09 56.5	-5.0
PMAN				*e*S	Sn	08 10 30.8	-8.3
ROSA	**Rosais**	**3.27 299**		*e*P	Pn	08 09 59.1	-4.4
ROSA				*e*S	Sn	08 10 34.7	-8.0
PICO	**Pico**	**3.31 294**		*e*P	Pn	08 09 59.7	-4.4
PICO				*e*S	Sn	08 10 35.8	-8.0
HOR	**Horta**	**3.47 294**		*e*P	Pn	08 10 01.6	-4.6
CALA	**Caldeira**	**3.54 294**		*e*P	Pn	08 10 03.1	-4.1
CALA				*e*S	Sn	08 10 41.5	-8.0

IDC 07 08:09:36.3±2.0, 2114S×16872E, h0km, mb4.4/5, mb1 4.6/5, mb1mx4.3/13, mbtmp4.4/5, 1C, Error ellipse: s-maj=108.3km s-min=26.5km az=159.0, Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**32.19 266**		P	P	08 16 05.1	-1.1
	3.9nm,1.0s,baz=95,slow=8.6,SNR=6.2						
ASAR	**Alice Springs**	**32.24 259**		P	P	08 16 06.8	+0.1
	8.6nm,0.8s,baz=78,slow=8.4,SNR=11						
FITZ	**Fitzroy Crossi**	**40.61 267**		P	P	08 17 18.4	+0.2
	5.5nm,0.9s,baz=133,slow=11,SNR=2.8						
SONM	**Songino Array**	**88.44 323**		P	P	08 22 30.4	+0.1
	2.0nm,0.8s,baz=147,slow=6.1,SNR=4.8						
NVAR	**Mina Array Bea**	**90.41 49**		P	P	08 22 39.3	-0.5
	0.8nm,0.8s,baz=230,slow=4.4,SNR=2.4						
YKA	**Yellowknife Ar**	**102.57 28**		P	Pdif	08 23 33.8	-1.0
	0.3nm,0.9s,baz=245,slow=4.9,SNR=2.5						
AKASG	**Malin Array Be**	**136.73 323**		PKP	PKPdf	08 28 59.9	-0.6
	0.1nm,0.3s,baz=55,slow=4.8,SNR=3.0						
CLL	**Collm**	**144.42 334**	⇑	/PKPdf	PKPdf	08 29 12.3	-2.0
	comp=Z,7.0nm,1.1s						
CLL				*i* (pPKPdf)	PKiKP	08 29 22.9	+4.9
	comp=Z,12nm,1.0s						
PRU	**Pruhonice**	**144.71 331**		*e*P	PKPdf	08 29 14.0	-0.9
PRU				*ex*	x	08 29 24.7	
NKC	**Novy Kostel**	**145.46 333**		*e*P	PKPbc	08 29 16.3	+0.1
NKC				*ex*	x	08 29 27.3	
KHC	**Kasperske Hory**	**145.76 331**		*e*P	PKPdf	08 29 17.9	+1.1
KHC				*ex*	x	08 29 28.2	
GERES	**GERESS Array B**	**145.91 330**		PKPbc	PKPbc	08 29 18.3	+0.7
	comp=Z,5.7nm,0.9s,baz=45,slow=2.5,SNR=5.6						
BOJS	**Bojanci**	**147.38 324**		*e*PKP	PKPbc	08 29 22.4	+0.4
BOJS				*e*		08 29 33.1	
LJU	**Ljubljana**	**147.42 326**		*e*PKP	PKPbc	08 29 22.4	+0.2
LJU				*e*		08 29 33.0	
LJU	**Ljubljana**	**147.42 326**		*e*	PKPbc	08 29 22.4	+0.2
CEY	**Cerknica**	**147.68 325**		*e*PKP	PKPbc	08 29 22.9	+0.1
CEY				*i*		08 29 33.7	
CEY				*i*		08 29 33.7	
CEY	**Cerknica**	**147.68 325**		*e*	PKPbc	08 29 22.9	+0.1
TORD	**Torodi Ar. Bea**	**165.28 239**		PKP	PKPdf	08 29 43.8	+0.2
	comp=Z,0.6nm,0.9s,baz=173,slow=1.2,SNR=2.1						

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*IDC **07** 08:14:34.3±0.9, 6875S×15587E, h0km, mb4.1/11, mb1 4.2/11, mb1mx4.1/15, mbtmp4.1/11, Error ellipse: s-maj=36.5km s-min=18.7km az=105.0*
*NEIC **07** 08:14:37.2±0.6, 6705S×15553E, h10km, mb4.4/4, Error ellipse: s-maj=17.1km s-min=15.6km az=128.0*
*ISCJB **07** 08:14:43.1±2.8, 6855±01×15557E±0.10, h68km±28km, mb3.9/14, Error ellipse: s-maj=20.6km s-min=14.6km az=153.3*
ISC 07 08:14:45.0±2.5, 6855±01×1556E±01, h72km±26km, n23, σ0°82/21, mb3.9/14, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.05 121**		Pn	**Pn**	**08 15 57.0**	**-1.3**
HNR				*e*Sn	**Sn**	**08 16 56.6**	**+1.2**
KAKA	**Kakadu**	**23.51 254**		P	**P**	**08 19 48.2**	**-0.6**
	11nm,0.6s,mb4.4						
WRAB	**Tennant Creek**	**24.35 236**		*e*P	**P**	**08 19 57.1**	**+0.6**
	5.7nm,0.9s,mb3.9						
WB2	**Warramunga Arr**	**24.36 236**		*e*P	**P**	**08 19 57.5**	**+1.0**
WRA	**Warramunga Arr**	**24.37 236**		P	**P**	**08 19 57.1**	**+0.5**
	1.6nm,0.6s,mb3.6,baz=61,slow=9.9,SNR=13						
WRA				PcP	PcP	08 23 34.8	+0.2
	0.6nm,0.8s,baz=61,slow=2.1,SNR=5.7						
ASAR	**Alice Springs**	**26.70 229**		P	**P**	**08 20 17.0**	**-0.6**
ASAR	**Alice Springs**	**26.70 229**		P	**P**	**08 20 17.0**	**-0.6**
	0.4nm,0.4s,mb3.3,baz=59,slow=9.5,SNR=8.6						
STKA	**Stephens Creek**	**28.12 206**		P	**P**	**08 20 30.1**	**-0.2**
	1.2nm,0.7s,mb3.5,baz=29,slow=6.3,SNR=2.4						
FITZ	**Fitzroy Crossi**	**31.23 246**		*e*P	**P**	**08 20 57.7**	**-0.3**
	6.2nm,0.7s,mb4.5						
FITZ	**Fitzroy Crossi**	**31.23 246**		P	**P**	**08 20 57.6**	**-0.4**
	3.5nm,0.7s,mb4.2,baz=83,slow=7.8,SNR=5.5						
MJAR	**Matsushiro Arr**	**46.11 341**		P	**P**	**08 23 01.3**	**-0.8**
	0.9nm,0.6s,mb3.7,baz=161,slow=8.6,SNR=4.4						
SONM	**Songino Array**	**69.50 327**		P	**P**	**08 25 47.1**	**+1.2**
	0.8nm,0.5s,mb3.8,baz=134,slow=5.0,SNR=11						
QSPA	**South Pole Qui**	**83.14 180**		P	**P**	**08 27 02.2**	**-0.4**
QSPA	**South Pole Qui**	**83.14 180**		P	**P**	**08 27 02.2**	**-0.4**
	2.3nm,0.7s,mb4.1,baz=354,slow=3.1,SNR=11						
MKAR	**Makanchi Array**	**83.66 319**		P	**P**	**08 27 06.2**	**+0.4**
	0.4nm,0.3s,mb3.7,baz=103,slow=6.2,SNR=7.9						
ZALV	**Zalesovo Beam**	**84.36 326**		P	**P**	**08 27 09.2**	**0.0**
	0.6nm,0.4s,mb3.7,baz=137,slow=7.7,SNR=4.2						
MAW	**Mawson**	**84.76 203**		P	**P**	**08 27 10.1**	**-0.9**
	4.3nm,1.1s,mb4.3,baz=26,slow=11,SNR=4.1						
KURK	**Kurchatov**	**87.05 322**		*e*P	**P**	**08 27 23.9**	**+1.3**
	1.2nm,0.6s,mb4.0						
YKA	**Yellowknife Ar**	**95.94 28**		P	**P**	**08 28 02.7**	**-1.0**
YKA	**Yellowknife Ar**	**95.94 28**		P	**P**	**08 28 02.7**	**-1.0**
	0.6nm,0.8s,mb4.1,baz=268,slow=4.1,SNR=9.4						
FINES	**FINESS Array B**	**114.02 336**		PKP	PKiKP	08 33 13.9	-1.7
	4.1nm,1.0s,baz=38,slow=3.4,SNR=4.6						
GERES	**GERESS Array B**	**127.20 329**		PKP	PKPdf	08 33 41.3	0.0
	0.1nm,0.3s,baz=64,slow=2.3,SNR=3.5						
TORD	**Torodi Ar. Bea**	**153.52 286**		PKP	PKPdf	08 34 27.6	-1.1
	0.3nm,0.7s,baz=45,slow=4.6,SNR=2.7						
TORD				PKPbc	PKPbc	08 34 35.6	-0.9
	0.8nm,0.7s,baz=26,slow=2.0,SNR=6.4						
TORD				PKPab	PKPab	08 34 48.9	-0.2
	1.3nm,0.7s,baz=84,slow=3.5,SNR=8.2						

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*CSEM **07** 08:19:37.7±

FORT *e*pP pP 08 27 41.5 -0.6
FITZ Fitzroy Crossi 40.53 266 *e*P **P** **08 27 56.2 -0.2**
comp=Z,22nm,1.0s,mb4.8
FITZ *e*pP pP 08 28 06.1 -0.8
FITZ Fitzroy Crossi 40.53 266 P **P** **08 27 56.4 +0.1**
comp=Z,12nm,0.9s,mb4.5,baz=120,slow=8.4,SNR=13
MBWA Marble Bar 45.47 261 *e*P **P** **08 28 36.3 0.0**
comp=Z,48nm,1.1s,mb5.2
MBWA *e*pP pP 08 28 46.8 -0.2
KLBR Kellerberrin 46.45 246 *e*P **P** **08 28 43.3 -0.6**
comp=Z,29nm,1.0s,mb5.2
KLBR *e*pP pP 08 28 53.5 -1.1
NWAO Narrogin (SRO) 46.91 244 *e*P **P** **08 28 47.2 -0.2**
comp=Z,15nm,0.9s,mb4.9
NWAO *e*pP pP 08 28 57.7 -0.4
NWAO Narrogin (SRO) 46.91 244 *e*P **P** **08 28 47.3 -0.2**
NWAO *e**PP pP 08 28 57.7 -0.5
NWAO pmax pmax
comp=Z,15nm,0.9s
NWAO Narrogin (SRO) 46.91 244 P **P** **08 28 47.1 -0.4**
comp=Z,21nm,1.0s,mb5.0,baz=90,slow=7.5,SNR=5.9
MUN Mundaring 47.76 245 *e*P **P** **08 28 53.7 -0.5**
MUN *e*pP pP 08 29 01.8 -3.1
SBA Scott Base 56.88 180 *e*P **P** **08 30 02.7 +1.6**
comp=Z,19nm,1.1s,mb5.0
SBA *e*pP pP 08 30 13.6 +1.6
SBA Scott Base 56.88 180 *e*P **P** **08 30 02.7 +1.6**
SBA *e**PP pP 08 30 13.6 +1.6
SBA pmax pmax
comp=Z,19nm,1.1s,mb5.0
KKM Kota Kinabalu 58.04 292 *e*P **P** **08 30 10.4 +0.1**
KKM *e*pP pP 08 30 20.0 -1.1
KSM Kuching 61.23 284 *e*P **P** **08 30 32.0 -0.3**
KSM *e*pP pP 08 30 42.4 -0.8
MJAR Matsushiro Arr 64.07 333 P **P** **08 30 49.1 -1.6**
comp=Z,3.9nm,0.9s,mb4.4,baz=164,slow=6.9,SNR=9.2
MAJO Matsushiro 64.07 333 *e*P **P** **08 30 49.7 -1.0**
comp=Z,3.9nm,0.8s,mb4.5
MAJO *e*pP pP 08 31 00.5 -1.2
MAJO Matsushiro 64.07 333 *e*P **P** **08 30 49.7 -1.0**
MAJO *e**PP pP 08 31 00.5 -1.2
MAJO pmax pmax
comp=Z,4.0nm,0.8s,mb4.5
QSPA South Pole Qui 69.03 180 *e*P **P** **08 31 22.8 +0.9**
comp=Z,20nm,1.0s,mb5.0
QSPA *e*pP pP 08 31 33.5 +0.5
KSRS Korea Array 69.66 326 P **P** **08 31 26.1 -0.2**
comp=Z,0.8nm,0.7s,mb3.8,baz=124,slow=8.2,SNR=3.6
NJ2 Nanjing 71.10 317 *e*P **P** **08 31 37.8 +2.6**
NJ2 AMB AMB
comp=Z,30nm,1.0s,mb5.2
YSS Yuzh-Sakhalins 71.58 342⇑ *e*P **P** **08 31 38.3 +0.6**
YSS pmax pmax
comp=Z,7.0nm,0.7s,mb4.7
PSI Prapat 72.16 280 P **P** **08 31 41.1 -0.9**
comp=Z,1.3nm,0.3s,mb4.3,baz=181,slow=15,SNR=4.6
MDJ Mudanjiang 74.42 332 P **P** **08 31 54.6 0.0**
MDJ AP pP 08 32 04.0 -1.8
MDJ XP sP 08 32 07.8 -2.2
MDJ AMB AMB
comp=Z,12nm,1.1s,mb4.7
MDJ AMB AMB
comp=Z,270nm,12.5s
MDJ Mudanjiang 74.42 332 *e*P **P** **08 31 54.8 +0.2**
comp=Z,5.6nm,0.8s,mb4.5
MDJ *e*pP pP 08 32 05.7 -0.1
CN2 Changchun 75.69 329 *e*P **P** **08 32 06.5 +4.6**
GYA Guiyang 76.38 305⇑ *i*P **P** **08 32 08.6 +2.3**
GYA AP pP 08 32 20.4 +2.9
GYA PP PP 08 35 03.2 +4.8
GYA S S 08 41 51.4 +2.3
GYA AMB AMB
comp=Z,20nm,1.0s,mb5.0
GYA AMB AMB
comp=Z,120nm,6.4s
GYA LR LR
comp=N,490nm,22.6s,MS5.0
GYA LR LR
comp=E,580nm,20.8s,MS5.0
GYA LR LR
comp=Z,410nm,22.4s,MS4.7
MAW Mawson 76.57 202 P **P** **08 32 07.5 +0.8**
comp=Z,2.3nm,0.8s,mb4.2,baz=80,slow=7.4,SNR=3.6
KLR Kul'dur 77.26 336 *e*P **P** **08 32 05.9 -4.8**
KMI Kunming 78.74 302 P **P** **08 32 19.8 +0.3**
KMI AP pP 08 32 29.9 -0.9
KMI AMB AMB
comp=Z,13nm,1.2s,mb4.7
CHTO Chiang Mai 78.88 295 *e*P **P** **08 32 21.2 +0.8**
comp=Z,1.8nm,0.4s,mb4.3
CHTO *e*pP pP 08 32 32.2 +0.6
CHTO Chiang Mai 78.88 295 *e*P **P** **08 32 21.2 +0.8**
CHTO *e**PP pP 08 32 32.3 +0.6
CHTO pmax pmax
comp=Z,2.0nm,0.4s,mb4.4
CD2 Chengdu 80.87 308 *e*P **P** **08 32 31.4 +0.5**
CD2 AP pP 08 32 41.8 -0.4
CD2 XP sP 08 32 46.2 -0.2
CD2 PP PP 08 35 38.5 +2.6
CD2 AMB AMB
comp=Z,10.0nm,1.6s,mb4.5
CD2 AMB AMB
comp=Z,30nm,6.8s
HHC Hu-ho-hao-te 81.20 320 *e*P **P** **08 32 33.4 +0.9**
HHC AP pP 08 32 44.3 +0.5
HHC XP sP 08 32 47.8 -0.1
HHC PP PP 08 35 42.4 +3.9
HHC AMB AMB
comp=Z,13nm,0.3s,mb5.3
HHC AMB AMB
comp=Z,356nm,14.5s
HHC LR LR
comp=N,335nm,19.1s,MS4.9
HHC LR LR
comp=E,366nm,17.2s,MS4.9
HHC LR LR
comp=Z,312nm,17.2s,MS4.7
MA2 Magadan 81.63 351 *e*P **P** **08 32 33.0 -1.3**
comp=Z,24nm,1.6s,mb4.9
MA2 Magadan 81.63 351 *e*P **P** **08 32 33.0 -1.3**
MA2 pmax pmax
comp=Z,24nm,1.6s,mb4.9
HIA Hailar 82.36 330 *e*P **P** **08 32 38.3 -0.1**
HIA *e*pP pP 08 32 49.0 -0.7
SYO Syowa Base 83.07 196‖ *e*PcP PcP 08 32 44.4 -2.1
LZH Lanzhou 83.50 312 *e*P **P** **08 32 46.3 +1.7**
LZH AP pP 08 32 56.5 +0.6
LZH AMB AMB
comp=Z,27nm,1.3s,mb5.2
LZH AMB AMB
comp=Z,264nm,7.8s
LZH LR LR
comp=Z,457nm,15.5s,MS5.0
SNAA Sanae 87.36 183 *e*P **P** **08 33 02.7 -0.6**
SNAA *e* 08 33 05.1
SNAA *e* 08 33 08.1
SNAA *e* pP 08 33 13.7 -1.0
SNAA *e* 08 33 36.4
SNAA Sanae 87.36 183 P **P** **08 33 02.7 -0.6**
comp=Z,2.1nm,1.0s,mb4.3,baz=135,slow=2.0,SNR=6.5
GTA Gaotai 87.94 314 *e*P **P** **08 33 06.9 +0.4**
GTA AP pP 08 33 17.8 -0.1
GTA XP sP 08 33 21.2 -0.9
GTA AMB AMB
comp=Z,5.0nm,1.2s,mb4.6
GTA LR LR
comp=N,284nm,16.7s,MS4.9
GTA LR LR
comp=E,338nm,17.1s,MS4.9
GTA LR LR
comp=Z,296nm,16.0s,MS4.8
ULN Ulaanbaatar 87.95 324 *e*P **P** **08 33 06.7 +0.3**
comp=Z,29nm,1.2s,mb5.4
ULN *e*pP pP 08 33 17.5 -0.3
ULN Ulaanbaatar 87.95 324 *e*P **P** **08 33 06.7 +0.3**
ULN *e**PP pP 08 33 17.5 -0.3
ULN pmax pmax
comp=Z,29nm,1.2s,mb5.4
VNA3 Neumayer Olymp 87.97 181 *e*P **P** **08 33 05.7 -0.5**
VNA3 *e* 08 33 07.8
VNA3 *e* 08 33 11.6
VNA3 *e* pP 08 33 16.8 -0.8
VNA3 *e* 08 33 23.7
VNA3 *e* 08 33 38.4
VNA2 Neumayer--Watz 88.25 181 *e*P **P** **08 33 07.4 -0.2**
baz=190,slow=4.3
VNA2 *e* 08 33 09.2
VNA2 *e* 08 33 13.2
VNA2 *e* pP 08 33 18.3 -0.7
VNA2 *e* 08 33 24.4
VNA2 *e* 08 33 39.7
SONM Songino Array 88.30 323 P **P** **08 33 08.1 +0.1**
comp=Z,4.5nm,0.9s,mb4.7,baz=146,slow=5.6,SNR=26
YAK Yakutsk 88.40 343 *i* P **P** **08 33 07.7 -0.4**
YAK pmax pmax
comp=Z,14nm,0.6s,mb5.4
BILL Bilibino 88.82 359‖ *e*P **P** **08 33 08.8 -1.2**
BILL *e* 08 36 41.1
BILL pmax pmax
comp=Z,8.0nm,1.7s,mb4.8
NVAR Mina Array Bea 90.41 49 P **P** **08 33 18.0 -0.1**
NVAR Mina Array Bea 90.41 49 P **P** **08 33 18.0 -0.1**
comp=Z,2.1nm,0.8s,mb4.5,baz=210,slow=6.9,SNR=20
BOD Bodaibo 90.68 334 *e*P **P** **08 33 17.3 -1.6**
BOD *e* pP 08 33 29.1 -1.3
BOD pmax pmax
comp=Z,4.0nm,1.3s,mb4.6
TPNV Topopah Spring 91.22 51 *e*P **P** **08 33 21.7 -0.3**
comp=Z,9.3nm,0.9s,mb5.1
TPNV *e*pP pP 08 33 32.8 -0.6
TPNV Topopah Spring 91.22 51 *e*P **P** **08 33 21.7 -0.3**
TPNV *e**PP pP 08 33 32.8 -0.6
TPNV pmax pmax
comp=Z,9.0nm,0.9s,mb5.1
ZAK Zakamensk 91.41 324 *e*P **P** **08 33 21.8 -0.7**
ZAK pmax pmax
comp=Z,8.0nm,1.3s,mb4.9
TLY Talaya 91.90 326 *e*P **P** **08 33 24.8 +0.1**
TLY *e* pP 08 33 35.3 -0.9
TLY pmax pmax
comp=Z,9.0nm,1.4s,mb4.9
DAU Daniels Canyon 96.19 49 *e*P **P** **08 33 46.0 +1.2**
WMQ Urumqi 98.02 314 *e*P **P** **08 33 54.0 +1.1**
WMQ AMB AMB
comp=Z,7.0nm,0.6s,mb5.4
TXAR Lajitas Array 98.12 62 P **P** **08 33 52.6 -1.1**
comp=Z,0.3nm,0.6s,mb4.0,baz=293,slow=6.0,SNR=4.2
PDAR Pinedale Array 98.24 47 P **P** **08 33 54.0 0.0**
comp=Z,0.3nm,0.8s,mb3.9,baz=270,slow=5.3,SNR=2.3
YKA Yellowknife Ar 102.51 28 P Pdif 08 34 12.2 -0.7
YKA Yellowknife Ar 102.51 28 P Pdif 08 34 12.2 -0.7
comp=Z,0.2nm,0.7s,baz=256,slow=4.9,SNR=3.5
MKAR Makanchi Array 102.60 315 P Pdif 08 34 13.2 -0.1
comp=Z,0.3nm,0.3s,baz=88,slow=5.3,SNR=2.3
AGMN Agassiz Refuge 108.99 45 *e*PKPdf PKiKP 08 38 49.0 +3.0
URVA University of 121.10 58 *e*PKPdf PKPdf 08 39 08.3 -1.2
AKASG Malin Array Be 136.59 323 PKP PKPdf 08 39 38.2 -0.3
AKASG Malin Array Be 136.59 323 PKP PKPdf 08 39 38.2 -0.3
comp=Z,0.5nm,0.5s,baz=60,slow=2.3,SNR=5.7
KOLS Kolonicke sedl 141.35 324 *e*PKP PKPdf 08 39 49.0 +1.7
STHS Stebnicka Huta 141.63 325 *e*PKP PKPdf 08 39 42.0 -5.7
STHS *e* 08 39 54.2
KSP Ksiaz 143.17 331 *e*PKP PKiKP 08 39 57.7 +4.0
PSZ Piszkesteto 143.24 324 *e*pPKP/A PKPdf 08 39 50.9 +0.3
VYHS Vyhne 143.46 326 *e*PKP PKPdf 08 39 48.7 -2.3
VYHS *e* 08 39 58.5
DPC Dobruska-Polom 143.50 330 *e*PKP PKPdf 08 39 48.1 -2.9
DPC *e*x x 08 39 58.9
UPC Upice 143.53 330 *e*PKP PKPdf 08 39 48.5 -2.6
UPC *e*pPKP pPKPdf 08 39 58.7 -4.2
PVCC Panska Ves 144.17 332 *e*PKP PKPdf 08 39 50.4 -1.8
PVCC *e*x x 08 40 01.8
BRG Berggiesshubel 144.20 332 *e*PKPbc PKPdf 08 39 50.6 -1.6
BRG Berggiesshubel 144.20 332 *e*PKP PKPdf 08 39 50.2 -2.0
comp=Z,12nm,1.2s
BRG *e* 08 40 01.2
comp=Z,18nm,1.0s
CLL Collm 144.28 334⇑ *i*PKP PKPdf 08 39 50.5 -1.9
CLL *i* 08 39 56.1
CLL *i* pPKP pPKPdf 08 40 01.2 -2.9
CLL Collm 144.28 334 *e*PKPbc PKPdf 08 39 50.8 -1.6
CLL Collm 144.28 334⇑ *i*PKPdf PKPdf 08 39 50.5 -1.9
comp=Z,15nm,1.2s
CLL *i* PKiKP PKiKP 08 39 56.1 +0.2
CLL *i* (pPKPdf) 08 40 01.2
comp=Z,15nm,1.0s
CLL *i* (pPKiKP) 08 40 06.5
MODS Modra-Piesok 144.34 327 *e*PKP PKPdf 08 39 52.0 -0.6
MODS *e* 08 40 02.7
ZST Bratislava 144.54 327 *e*PKP PKPdf 08 39 52.5 -0.4
ZST *e* 08 40 02.9
PRU Pruhonice 144.57 331 *e*PKP PKPdf 08 39 51.8 -1.1
PRU *e*pPKP pPKPdf 08 39 57.1 -7.6
PRU *e*x x 08 40 02.5
TREC Trest 144.62 329 *e*PKP PKPdf 08 39 51.8 -1.2
TREC *e*x x 08 40 02.9
PLG Polygyros 144.70 311 *e*P PKPdf 08 39 50.8 -2.6
PAIG Paliouri 144.70 310 *e*P PKPdf 08 39 51.1 -2.4
KNT Kendrikon 144.77 313 *e*P PKPdf 08 39 51.8 -1.8
HORT Hortiatis 144.85 312 *e*P PKPdf 08 39 51.6 -2.1
CLZ Clausthal 144.90 336 *e*PKPbc PKPdf 08 39 53.1 -0.3
VAY Valandovo 144.93 313 *e*PKP PKPdf 08 39 51.9 -1.9
SOP Sopron 145.15 326‖ *e*PKP PKPdf 08 39 54.0 0.0
TANN Tannenbergstha 145.17 333 *e*PKPbc PKPbc 08 39 53.9 +0.3
NKC Novy Kostel 145.31 333 *e*PKP PKPdf 08 39 54.2 0.0
NKC *e*pPKP pPKPdf 08 40 00.0 -6.0
NKC *e*x x 08 40 05.2
CONA Conrad Observa 145.35 327 *i* PKPdf PKPdf 08 39 54.9 +0.6
comp=Z,35nm,1.5s,SNR=13
MOX Moxa 145.35 334 *e*P PKPbc 08 39 54.3 +0.2
MOX *e* 08 40 05.1
comp=Z,42nm,1.3s
MOX Moxa 145.35 334 *e*PKPbc PKPbc 08 39 54.2 +0.1
IBBN Ibbenburen 145.44 339 *e*PKPbc PKPbc 08 39 54.3 0.0
KHC Kasperske Hory 145.62 331 *e*PKP PKPdf 08 39 55.2 +0.4
KHC *e*pPKP pPKPdf 08 40 01.1 -5.4
KHC *e*x x 08 40 06.2
ROTZ Rotzenmuhle 145.77 333 *e*PKPbc PKPbc 08 39 56.1 +0.6
GEC2 GERESS Array S 145.77 330 *e*PKPdf PKPdf 08 39 55.6 +0.6
GEC2 GERESS Array S 145.77 330 *e*PKPbc PKPbc 08 39 55.8 +0.3
GERES GERESS Array B 145.77 330 PKPbc PKPbc 08 39 55.8 +0.3
comp=Z,11nm,0.9s,baz=46,slow=3.9,SNR=66
DID Didima 145.87 306 *e*P PKPdf 08 39 53.4 -2.1
LTK Loutraki 145.90 307 *e*P PKPdf 08 39 54.4 -1.2
WET Wettzell 145.93 331 *e*PKPbc PKPbc 08 39 56.5 +0.5
ARSA Arzberg 145.97 327⇑ *i*P PKPdf 08 39 54.5 -0.9
comp=Z,14nm,1.3s,SNR=6.5
ARSA Arzberg 145.97 327⇑ *i*P PKPdf 08 39 54.5 -0.9
FNA Florina 145.97 313 *e*P PKPdf 08 39 55.4 -0.2
AGG Agios Georgios 146.01 309 *e*P PKPdf 08 39 55.3 -0.4
MOA Molln 146.20 328 *i* P PKPdf 08 39 57.4 +1.6
comp=Z,14nm,1.1s,SNR=7.8
OHR Ohrid 146.22 314 *e*PKP PKPdf 08 39 50.5 -5.5
GRF Grafenberg Arr 146.24 333 *e*PKPbc PKPbc 08 39 57.6 +0.7
GRF *e* 08 40 08.3
MEV Metsovon 146.49 311 *e*P PKPdf 08 39 57.2 +0.6
SELA Sela 146.60 308 *e*P PKPdf 08 39 58.9 +2.1
CRES Cresnjev 146.92 325 *i* PKPbc PKPbc 08 39 59.1 +0.1
CRES *e*pPKPbc pPKPbc 08 40 09.9 -0.8
DMUB Kingscourt 147.01 355 *e*P pPKPdf 08 40 11.0 +2.3
IGT Igoumenitsa 147.23 311 *e*P PKPdf 08 39 59.3 +1.5
BOJS Bojanci 147.24 324 *e*PKPbc PKPbc 08 40 00.1 +0.2
LJU Ljubljana 147.28 326 *i* PKPbc PKPbc 08 40 00.1 +0.1
LJU *i* pPKPbc pPKPbc 08 40 10.8 -0.9
LKD Levkas 147.34 310 *e*P PKPdf 08 39 59.3 +1.3
ABH Alteburg 147.53 337 PKP PKPdf 08 40 00.7 +2.7
DCN Croghan 147.59 355 *e*P pPKPdf 08 40 12.0 +2.3
VOY Vojsko 147.62 326 *e*PKPbc PKPbc 08 40 00.3 -0.6
VOY *e* 08 40 11.4
STU Stuttgart 147.79 334 *e*PKPbc PKPbc 08 40 02.2 +0.9
RUP Ruppelstein 147.86 337 PKP PKPbc 08 40 01.8 +0.3
LANF Langenberg 148.18 336 PKP PKPbc 08 40 02.5 +0.2
LANF Langenberg 148.18 336 PKP2 PKPbc 08 40 00.9 -1.4
WLF Walferdange 148.21 338 PKP PKPbc 08 40 03.2 +0.8
WLF Walferdange 148.21 338 *e*PKPbc PKPbc 08 40 03.3 +0.9
GIVF Givet 148.28 340 *e*PKP1 PKPbc 08 40 01.9 -0.7
comp=Z,27nm,1.1s
DOU Dourbes 148.36 340 PKP PKPdf 08 40 02.8 +3.5
FETA Feichten 148.47 331 *i* PKiKP PKiKP 08 40 03.3 -1.4
comp=Z,12nm,1.0s,SNR=9.6
BFO Black Forest 148.50 334 *e*PKPbc PKPbc 08 40 02.9 -0.3
BFO Black Forest 148.50 334 *e*PKPbc PKPbc 08 40 03.2 0.0
BAIF Baives 148.51 341 *e*PKP1 PKPbc 08 40 02.7 -0.5
comp=Z,6.8nm,0.7s
DAVA Damuels 148.65 332‖ *i*P PKPdf 08 40 01.1 +1.3
comp=Z,8.6nm,0.9s
DAVA Damuels 148.65 332‖ *i*pPKPdf PKPdf 08 40 01.1 +1.3
comp=Z,8.6nm,0.9s
CDF Champ du Feu 148.84 336 *e*PKP1 PKPbc 08 40 03.4 -0.7
comp=Z,15nm,1.0s
FELD Feldberg im Sc 148.99 334 PKP PKPbc 08 40 04.2 -0.3
MOF Molkenrain 149.36 335 PKP PKPbc 08 40 05.1 -0.3
HINF Hinteralfeld 149.50 335 *e*PKP1 PKPbc 08 40 04.7 -1.0
HAU Haudompre 149.53 336 *e*PKP1 PKPbc 08 40 05.0 -0.8
MEZF Maizieres J'vi 149.58 338 *e*PKP1 PKPbc 08 40 05.6 -0.3
TIP Timpagrande 149.86 313 *e*PKPbc PKPbc 08 40 07.3 +0.4
LOMF Lomont 149.88 335 PKP PKPdf 08 40 07.0 +5.2
AQU L'Aquila 150.25 321 *e*PKPbc PKPbc 08 40 08.7 +0.9
CABF La Chapelle 150.78 335 *e*PKP1 PKPbc 08 40 08.6 -0.3
comp=Z,8.6nm,0.7s
LOR Lormes 151.06 338 *e*PKP1 PKPbc 08 40 08.7 -0.8
comp=Z,7.9nm,0.9s
SSF Saint Saulge 151.35 339 *e*PKP1 PKPbc 08 40 09.5 -0.7
comp=Z,7.5nm,0.8s
LPL La Plagne 151.40 333 *e*PKP1 PKPbc 08 40 10.2 -0.1
LPG La Plagne 151.41 333 *e*PKP1 PKPbc 08 40 10.3 -0.1
comp=Z,9.9nm,0.8s
BNI Bardonecchia 151.79 332 *e*PKPbc PKPbc 08 40 11.7 +0.5
MBDF Montbardon 152.01 332 *e*PKP1 PKPbc 08 40 11.0 -0.8
comp=Z,2.7nm,0.7s
SAOF Saorge 152.22 330 PKP PKPbc 08 40 11.8 -0.5
ORIF Oris-en-Rattie 152.24 333 *e*PKP1 PKPbc 08 40 11.6 -0.7
comp=Z,6.9nm,0.8s
AUTN L'Aution 152.28 330 PKP PKPbc 08 40 10.9 -1.5
TOUF Mont Tournerai 152.34 330 PKP PKPbc 08 40 12.5 0.0
SBF Sospel 152.37 330 *e*PKP1 PKPbc 08 40 11.6 -1.0
comp=Z,19nm,1.0s
PGF Pioggiola 152.56 326 *e*PKP1 PKPbc 08 40 12.3 -0.8
comp=Z,31nm,1.0s
VIVF Saint-Julien-l 152.79 335 *e*PKP1 PKPbc 08 40 12.8 -0.7
comp=Z,5.0nm,0.7s
FRF La Foret Royal 152.97 330 *e*PKP1 PKPbc 08 40 12.9 -1.1
SMRF Simiane la Rot 153.13 332 *e*PKP1 PKPbc 08 40 13.9 -0.4
LMR La Mourre 153.21 330 *e*PKP1 PKPbc 08 40 13.5 -1.0
comp=Z,10nm,1.0s
LASF Ste Croix 153.76 335 *e*PKP1 PKPbc 08 40 15.0 -0.7
ETSF Etsaut 156.38 340 *e*PKP1 PKPdf 08 40 19.2 +7.8
SJPF Ste Jean 156.40 341 *e*PKP1 PKPdf 08 40 19.5 +8.1
TORD Torodi Ar. Bea 165.26 240 PKP PKPdf 08 40 21.6 -0.2
TORD PKPab PKPab 08 41 20.4 +1.1
TORD Torodi Ar. Bea 165.26 240 PKP PKPdf 08 40 21.6 -0.2
comp=Z,1.0nm,0.9s,baz=300,slow=2.4,SNR=4.8
TORD PKPab PKPab 08 41 20.4 +1.1
comp=Z,0.7nm,0.9s,baz=116,slow=4.1,SNR=2.6

CSEM ***07*** *08:24:04.8±0.9,3724N×2473W, h0km, ML3.5, Error ellipse: s-maj=7.2km s-min=2.9km az=87.0, After PDA*
PDA ***07*** *08:24:04.8±0.9,3724N×2473W, h0km, MD4.1, ML3.5, Error ellipse: s-maj=7.2km s-min=2.9km az=87.0*
SVSA 07 08:24:04.8±0.9, 3724N×2473W, h0km, MD4.1, ML3.5, Error ellipse: s-maj=7.2km s-min=2.9km az=87.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSMN	**Pico do Norte,**	**0.35**	**229**	*e*P	Pg	08 24 10.9	-0.7
PSMN				*e*S	Sg	08 24 16.7	+0.6
PDA	**Ponta Delgada**	**0.90**	**305**	*e*P	Pg	08 24 19.6	-2.4
PDA				*e*S	Sg	08 24 30.3	-3.3
ADH	**Angra Heroismo**	**2.43**	**306**	*e*S	Sn	08 25 08.7	-7.5
PID	**Ribeirinha**	**2.94**	**295**	*e*P	Pn	08 24 48.1	-4.6
PID				*e*S	Sn	08 25 20.6	-8.1
PMAN	**Manadas**	**3.00**	**299**	*e*P	Pn	08 24 49.1	-4.4
PMAN				*e*S	Sn	08 25 21.9	-8.2
PMAN				A		08 25 24.2	
42nm,0.2s							
PMAN	**Manadas**	**3.00**	**299**	*e*P	Pn	08 24 49.1	-4.4
PMAN				*e*S	Sn	08 25 21.9	-8.2
ROSA	**Rosais**	**3.14**	**299**	*e*P	Pn	08 24 51.1	-4.4
ROSA				*e*S	Sn	08 25 25.7	-8.0
PICO	**Pico**	**3.18**	**294**	*e*P	Pn	08 24 51.8	-4.3
PICO				*e*S	Sn	08 25 26.3	-8.4
CALA	**Caldeira**	**3.41**	**294**	*e*P	Pn	08 24 54.8	-4.5
CALA				*e*S	Sn	08 25 32.3	-8.1

ISCJB ***07*** *08:27:10.2±4.8, 209S×02×1685E±0.1, h5km±29km, mb3.9/7, Error ellipse: s-maj=31.0km s-min=12.6km az=144.5*
NEIC ***07*** *08:27:11.4±0.8, 2168S×16878E, h10km, Error ellipse: s-maj=26.4km s-min=17.3km az=161.0*
IDC ***07*** *08:27:11.3±2.0, 2087S×16858E, h0km, mb4.0/7, mb1 4.2/7, mb1mx4.1/13, mbtmp4.0/7, Error ellipse: s-maj=65.2km s-min=25.9km az=143.0*
ISC 07 08:27:10.8±5.7, 210S±02×1686E±01, h0km±34km, n21, σ0°79/15, mb4.0/7, Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**2.28**	**241**	*e*P	**Pn**	**08 27 50.2**	**+0.5**
DZM				*e*S	**Sn**	**08 28 18.2**	**-0.3**
HNR	**Honiara**	**14.17**	**323**	*e*P	**Pn**	**08 30 42.1**	**+9.2**
EIDS	**Eidsvold**	**16.68**	**251**	*e*Pn	**Pn**	**08 31 04.6**	**-1.5**
STKA	**Stephens Creek**	**26.43**	**240**	P	**P**	**08 32 51.4**	**+2.0**
STKA	**Stephens Creek**	**26.43**	**240**	P	**P**	**08 32 51.4**	**+2.0**
1.7nm,0.6s,mb3.9,baz=78,slow=8.9,SNR=4.4							
WRA	**Warramunga Arr**	**32.07**	**266**	P	**P**	**08 33 39.3**	**-0.4**
1.1nm,0.9s,mb3.8,baz=95,slow=8.2,SNR=3.8							
ASAR	**Alice Springs**	**32.15**	**259**	P	**P**	**08 33 40.8**	**+0.5**
5.6nm,0.7s,mb4.6,baz=85,slow=9.4,SNR=46							
FITZ	**Fitzroy Crossi**	**40.49**	**266**	P	**P**	**08 34 51.4**	**-0.3**
1.1nm,0.7s,mb3.6,baz=110,slow=5.9,SNR=4.1							
MJAR	**Matsushiro Arr**	**64.00**	**333**	P	**P**	**08 37 46.1**	**0.0**
0.9nm,0.8s,mb4.0,baz=165,slow=5.4,SNR=4.1							
VNA3	**Neumayer Olymp**	**88.03**	**181**	*e*	**P**	**08 40 02.2**	**-0.4**
VNA3				*e*		08 40 09.4	
VNA3				*e*		08 40 14.0	
SONM	**Songino Array**	**88.23**	**323**	P	**P**	**08 40 04.4**	**+0.7**
1.1nm,0.8s,mb4.2,baz=144,slow=5.6,SNR=7.8							
VNA2	**Neumayer--Watz**	**88.31**	**181**	*e*	**P**	**08 40 03.8**	**-0.1**
baz=194,slow=2.5							
VNA2				*e*		08 40 11.7	
VNA2				*e*		08 40 15.7	
NVAR	**Mina Array Bea**	**90.40**	**49**	P	**P**	**08 40 13.5**	**-0.6**
NVAR	**Mina Array Bea**	**90.40**	**49**	P	**P**	**08 40 13.5**	**-0.6**
0.3nm,0.7s,mb3.7,baz=211,slow=5.9,SNR=3.9							
CLL	**Collm**	**144.21**	**334**	*e*PKPdf	PKPdf	08 46 47.0	-1.5
CLL				*i* (pPKPdf)		08 46 58.4	
KHC	**Kasperske Hory**	**145.55**	**331**	*e*PKP	PKPdf	08 46 51.5	+0.6
GEC2	**GERESS Array S**	**145.70**	**330**	*e*PKP	PKPdf	08 46 52.5	+1.4
GEC2				*e*		08 47 03.6	
GERES	**GERESS Array B**	**145.70**	**330**	PKPbc	PKPbc	08 46 52.2	+0.8
3.3nm,0.9s,baz=46,slow=3.9,SNR=17							
WET	**Wettzell**	**145.86**	**331**	*e*PKP	PKPdf	08 46 53.2	+1.8
GRA1	**Grafenberg Arr**	**146.17**	**333**	*e*PKP	PKPdf	08 46 53.4	+1.5
GRF	**Grafenberg Arr**	**146.17**	**333**	*e*PKP	PKPdf	08 46 53.4	+1.5

BJI ***07*** *08:30:08.8, 2055S×16903E, h11km, mB5.5, mb5.2, Ms5.2, Msz4.8*
NEIC ***07*** *08:30:10.2±0.2, 2083S×16868E, h10km, mb5.2/25, Error ellipse: s-maj=9.3km s-min=7.3km az=151.0*
LDG ***07*** *08:30:11.1±0.2, 2054S×16827E, h10km, Mb5.7/2, Error ellipse: s-maj=18.1km s-min=3.1km az=128.0*
ISCJB ***07*** *08:30:13.1±1.6, 2096S±005×16856E±004, h40km±14km, mb5.2/52, MS4.8/12, Error ellipse: s-maj=8.3km s-min=6.9km az=174.3*
MOS ***07*** *08:30:13.1±1.3, 2088S×16845E, h33km, mb5.5/26, Error ellipse: s-maj=10.9km s-min=8.6km az=37.1*
SZGRF ***07*** *08:30:14.7, 1987S×17071E, h40km, Vanuatu Islands*
IDC ***07*** *08:30:16.1±4.2, 2093S×16853E, h51km±36km, mb4.7/14, mb1 4.8/16, mb1mx4.8/19, mbtmp4.7/16, ML4.5/2, MS4.7/3, Ms1 4.7/3, ms1mx3.9/27, Error ellipse: s-maj=20.1km s-min=17.3km az=63.0*
ISC 07 08:30:14.3±1.3, 2097S±005×16861E±004, h36km±11km, h37km±1.4km: pP-P, n425, σ0°66/220, mb5.2/52, MS4.8/12, 91C-61D, Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**2.30**	**241**	*e*P	**Pn**	**08 30 48.0**	**-1.7**
DZM				*e*S	**Sn**	**08 31 16.0**	**-0.7**
HNR	**Honiara**	**14.19**	**323**	*e*Pn	**Pn**	**08 33 31.7**	**-1.0**
HNR	**Honiara**	**14.19**	**323**	P	**Pn**	**08 33 33.6**	**+0.9**

EIDS Eidsvold 16.70 251 *e*P **Pn 08 34 08.0 +2.4**
12nm,1.2s
ARMA Armidale 17.95 235 *e*P **Pn 08 34 24.3 +3.3**
URZ Urewera 18.73 159 P **Pn 08 34 31.5 +1.0**
0.5nm,0.3s,baz=313,slow=5.8,SNR=13
AFI Afiamalu 19.97 73 *e*P **Pn 08 34 40.8 -4.8**
47nm,0.8s
AFI *ep*P pP 08 34 52.5 -0.4
AFI Afiamalu 19.97 73 *e*P **Pn 08 34 40.8 -4.7**
AFI *e**PP pP 08 34 52.5 -0.5
AFI pmax pmax
comp=Z,47nm,0.8s
SNZO South Karori 20.93 167 *e*P **P 08 34 54.6 +0.8**
comp=Z,63nm,1.1s
SNZO *ep*P 08 35 03.6
CTA Charters Tower 20.96 268 *e*P **P 08 34 54.4 +0.1**
comp=Z,42nm,1.0s
CTA Charters Tower 20.96 268 *e*P **P 08 34 54.4 +0.1**
CTA pmax pmax
comp=Z,42nm,1.0s
CTA Charters Tower 20.96 268 P **P 08 34 55.1 +0.9**
comp=Z,57nm,1.1s,baz=86,slow=11,SNR=15
CTAO Charters Tower 20.96 268 *e*P **P 08 34 54.8 +0.5**
comp=Z,110nm,1.3s
CTAO Charters Tower 20.96 268 *e*P **P 08 34 54.8 +0.5**
CTAO pmax pmax
comp=Z,110nm,1.3s
CNB Canberra Magne 22.13 226 *e*P **P 08 35 09.0 +2.2**
comp=Z,64nm,1.0s,mb5.0
RPZ Rata Peaks 22.78 175 P **P 08 35 14.5 +1.0**
comp=Z,33nm,1.0s,mb4.7,baz=30,slow=5.3,SNR=7.5
STKA Stephens Creek 26.45 240 *e*P **P 08 35 48.8 +0.8**
comp=Z,26nm,1.5s,mb4.5
STKA Stephens Creek 26.45 240 P **P 08 35 49.0 +1.0**
comp=Z,23nm,0.9s,mb4.7,baz=76,slow=9.1,SNR=35
TAU Tasmania Unive 28.23 214 P **P 08 36 04.8 +1.1**
comp=Z,53nm,1.4s,mb5.0
TAU Tasmania Unive 28.23 214 P **P 08 36 04.8 +1.1**
TAU pmax pmax
comp=Z,53nm,1.4s,mb5.0
WB2 Warramunga Arr 32.08 266 *e*P **P 08 36 37.0 -1.1**
WRAB Tennant Creek 32.09 266 P **P 08 36 36.9 -1.2**
comp=Z,130nm,1.1s,mb5.7,SNR=7.1
WRAB Tennant Creek 32.09 266 *e*P **P 08 36 36.4 -1.7**
comp=Z,34nm,1.2s,mb5.0
WRAB Tennant Creek 32.09 266*d i*P **P 08 36 36.7 -1.4**
WRA Warramunga Arr 32.09 266 P **P 08 36 36.7 -1.5**
WRA 08 39 26.8
WRA Warramunga Arr 32.09 266 P **P 08 36 36.7 -1.5**
comp=Z,19nm,1.0s,mb4.9,baz=92,slow=9.0,SNR=45
WRA PcP PcP 08 39 26.8 -0.4
comp=Z,1.9nm,0.8s,baz=96,slow=3.3,SNR=5.2
WRA LR LR 08 50 04.9
comp=Z,2μm,18.1s,MS4.8,baz=125,slow=37
ASAR Alice Springs 32.17 259 P **P 08 36 38.2 -0.7**
comp=Z,53nm,0.9s,mb5.4,baz=82,slow=9.0,SNR=202
KAKA Kakadu 35.52 278 *e*P **P 08 37 07.3 -0.7**
comp=Z,27nm,1.3s,mb5.0
FORT Forrest 37.60 247 *e*P **P 08 37 25.4 -0.2**
comp=Z,50nm,0.8s,mb5.3
FITZ Fitzroy Crossi 40.51 266⇓*i*P **P 08 37 49.8 -0.3**
comp=Z,68nm,0.9s,mb5.3
FITZ Fitzroy Crossi 40.51 266 P **P 08 37 50.0 -0.1**
comp=Z,38nm,0.9s,mb5.0,baz=102,slow=10,SNR=41
AAI Ambon 42.88 288 P **P 08 38 10.9 +1.4**
BATI Kupang 44.46 277 P **P 08 38 21.8 -0.5**
comp=Z,71nm,1.0s,mb5.4,baz=171,slow=6.7,SNR=5.6
KLBR Kellerberrin 46.46 246 *e*P **P 08 38 36.8 -1.1**
comp=Z,116nm,1.1s,mb5.7
NWAO Narrogin (SRO) 46.92 244 *e*P **P 08 38 41.0 -0.5**
comp=Z,70nm,1.0s,mb5.5
NWAO *ep*P pP 08 38 51.7 -0.3
NWAO Narrogin (SRO) 46.92 244 *e*P **P 08 38 41.0 -0.5**
NWAO *e**PP pP 08 38 51.7 -0.3
NWAO pmax pmax
comp=Z,70nm,1.0s
MUN Mundaring 47.77 245 *e*P **P 08 38 47.4 -0.8**
KAPI Kappang 49.95 281 P **P 08 39 04.3 -0.8**
comp=Z,383nm,1.1s,SNR=7.1
PCI Palu 51.58 286 P **P 08 39 18.9 +1.5**
SBA Scott Base 56.94 180 *e*P **P 08 39 56.3 +0.8**
comp=Z,45nm,1.1s,mb5.4
SBA *ep*P pP 08 40 08.2 +2.0
SBA Scott Base 56.94 180 *e*P **P 08 39 56.3 +0.9**
SBA *e**PP pP 08 40 08.2 +2.0
SBA pmax pmax
comp=Z,45nm,1.1s,mb5.4
LEM Lembang 60.53 274 P **P 08 40 22.0 +0.6**
KSM Kuching 61.20 284 *e*P **P 08 40 26.1 +0.2**
TPI Tanjungpandan 61.96 278 P **P 08 40 30.8 -0.3**
MJAR Matsushiro Arr 64.01 333 P **P 08 40 43.2 -0.9**
comp=Z,16nm,1.0s,mb5.0,baz=167,slow=6.6,SNR=31
MAJO Matsushiro 64.01 333 *e*P **P 08 40 43.2 -0.9**
comp=Z,35nm,1.1s,mb5.3
MAJO *ep*P pP 08 40 54.3 -0.8
MAJO Matsushiro 64.01 333 *e*P **P 08 40 43.3 -0.8**
MAJO *e**PP pP 08 40 54.3 -0.8
MAJO pmax pmax
comp=Z,35nm,1.1s,mb5.3
MAT Matsushiro 64.01 333 P **P 08 40 44.1 0.0**
MAT *e*S **S 08 49 20.6 +2.7**
JNU Nakatsue 64.73 325 LR LR 09 06 49.1
comp=Z,329nm,18.4s,MS4.6,baz=216,slow=34
KSI Kapahiang 66.32 275 P **P 08 40 58.7 -1.0**
QSPA South Pole Qui 69.09 180 *e*P **P 08 41 16.4 +0.3**
comp=Z,45nm,1.0s,mb5.3
KSRS Korea Array 69.60 326 P **P 08 41 20.2 +0.4**
comp=Z,3.5nm,0.8s,mb4.3,baz=143,slow=6.1,SNR=15
NJ2 Nanjing 71.05 317 *e*P **P 08 41 30.3 +1.6**
NJ2 AMB AMB
comp=Z,30nm,1.0s,mb5.2
YSS Yuzh-Sakhalins 71.52 342 *e*P **P 08 41 32.2 +1.0**
comp=Z,19nm,0.9s,mb5.0
YSS *ep*P pP 08 41 44.4 +2.1
YSS Yuzh-Sakhalins 71.52 342*d i*P **P 08 41 32.2 +1.0**
YSS pmax pmax
comp=Z,34nm,1.5s,mb5.1
PSI Prapat 72.14 280 P **P 08 41 34.5 -1.2**
comp=Z,12nm,1.0s,mb4.8,baz=181,slow=7.1,SNR=14
VLA Vladivostok 72.17 333 *i*P **P 08 41 35.7 +0.5**
VLA pmax pmax
comp=Z,61nm,1.4s,mb5.3
GSI Gunungsitoli 72.81 278 P **P 08 41 39.7 -0.1**
WHN Wuhan 73.08 313 *e*P **P 08 41 40.5 -0.4**
WHN S S 08 51 08.5 +2.5
WHN LR LR
comp=Z,818nm,20.2s,MS5.0
DL2 Dalian 74.04 324 P **P 08 41 47.1 +0.7**
DL2 AMB AMB
comp=Z,20nm,0.9s,mb5.0
MDJ Mudanjiang 74.36 332 P **P 08 41 48.5 +0.4**
MDJ AMB AMB
comp=Z,44nm,1.1s,mb5.3
MDJ AMB AMB
comp=Z,250nm,11.5s
HABR Khabarovsk 75.36 338 *e*P **P 08 41 53.5 -0.3**
HABR *e*S S 08 51 31.0 +0.2
CN2 Changchun 75.63 329 ⇓P **P 08 41 55.9 +0.4**
CN2 *e*AP pP 08 42 06.8 +0.2
CN2 *e*S S 08 51 33.4 -0.6
CN2 AMB AMB
comp=Z,50nm,1.0s,mb5.4
CN2 AMB AMB
comp=Z,200nm,3.0s
CN2 LR LR
comp=N,300nm,20.0s,MS4.8
CN2 LR LR
comp=E,300nm,20.0s,MS4.8
GYA Guiyang 76.33 305⇑*i*P **P 08 42 00.9 +1.0**
GYA PP PP 08 44 55.4 +3.5
GYA S S 08 51 43.2 +0.7
GYA SKS 08 52 05.6
GYA SCS ScS 08 52 11.4 -1.4
GYA SS SS 08 56 40.8 +3.2
GYA AMB AMB
comp=Z,20nm,1.0s,mb5.0
GYA AMB AMB
comp=Z,140nm,6.6s
GYA LR LR
comp=N,690nm,22.0s,MS5.0
GYA LR LR
comp=E,580nm,23.8s,MS5.0
GYA LR LR
comp=Z,510nm,20.4s,MS4.8
MAW Mawson 76.62 202 P **P 08 42 01.3 +0.4**
comp=Z,17nm,1.1s,mb4.9,baz=111,slow=7.8,SNR=13

KLR Kul'dur 77.20 336 *e*P **P 08 42 00.0 -4.2**
KLR pmax pmax
comp=Z,80nm,1.8s,mb5.3
BJI Beijing 77.91 322 P **P 08 42 08.3 -0.1**
BJI AMB AMB
comp=Z,13nm,2.3s,mb4.5
BJI AMB AMB
comp=Z,764nm,10.2s
KMI Kunming 78.69 302 P **P 08 42 14.6 +1.5**
KMI AP pP 08 42 25.5 +1.2
KMI AMB AMB
comp=Z,48nm,1.3s,mb5.3
KMI LR LR
comp=Z,627nm,25.7s,MS4.8
CHTO Chiang Mai 78.84 295 *e*P **P 08 42 15.0 +0.9**
comp=Z,33nm,1.0s,mb5.2
CHTO *ep*P pP 08 42 26.2 +1.0
CHTO Chiang Mai 78.84 295 *e*P **P 08 42 15.0 +1.0**
CHTO *e**PP pP 08 42 26.2 +1.0
CHTO pmax pmax
comp=Z,33nm,1.0s,mb5.2
XAN Xi'an 78.84 313 P **P 08 42 13.6 -0.2**
XAN AP pP 08 42 21.5 -3.4
XAN XP sP 08 42 25.8 -3.3
XAN AMB AMB
comp=Z,13nm,1.6s,mb4.6
CD2 Chengdu 80.82 308⇑*i*P **P 08 42 25.4 +0.9**
CD2 AP pP 08 42 35.8 0.0
CD2 XP sP 08 42 40.0 +0.1
CD2 PP PP 08 45 32.5 +3.1
CD2 S S 08 52 30.7 +0.3
CD2 XS sS 08 52 48.1 -0.9
CD2 SS SS 08 57 48.5 +3.4
CD2 AMB AMB
comp=Z,20nm,1.2s,mb4.9
CD2 AMB AMB
comp=Z,120nm,5.8s
CD2 LR LR
comp=N,580nm,26.2s,MS4.9
CD2 LR LR
comp=E,420nm,24.0s,MS4.9
CD2 LR LR
comp=Z,590nm,26.2s,MS4.8
HHC Hu-ho-hao-te 81.15 320 *e*P **P 08 42 27.4 +1.4**
HHC AP pP 08 42 38.2 +0.9
HHC PP PP 08 45 32.9 +1.0
HHC S S 08 52 38.7 +5.3
HHC SKS 08 52 44.0
HHC XS sS 08 52 49.7 -2.2
HHC SS SS 08 57 51.6 +2.0
HHC AMB AMB
comp=Z,26nm,0.9s,mb5.2
HHC AMB AMB
comp=Z,386nm,11.0s
HHC LR LR
comp=N,229nm,14.7s
HHC LR LR
comp=E,266nm,22.5s
HIA Hailar 82.30 330 *i*P **P 08 42 32.0 +0.1**
SYO Syowa Base 83.12 196⇓*e*P **P 08 42 34.0 -2.0**
SYO Syowa Base 83.12 196⇓*e*PcP PcP 08 42 39.0 -1.6
LZH Lanzhou 83.45 312 *e*P **P 08 42 39.3 +1.1**
LZH PP PP 08 45 51.0 +0.1
LZH *e*S S 08 53 00.1 +2.9
LZH SS SS 08 58 26.0 +2.1
LZH AMB AMB
comp=Z,68nm,1.4s,mb5.5
LZH AMB AMB
comp=Z,246nm,5.6s
LZH LR LR
comp=N,389nm,13.8s
LZH LR LR
comp=Z,548nm,16.2s,MS5.0
SEY Seymchan 84.59 353 *i*P **P 08 42 42.9 -0.5**
MAIT Maitri 87.08 187 *e*P **P 08 42 54.1 -1.7**
SNAA Sanae 87.42 183 *e*P **P 08 42 56.7 -0.8**
SNAA *e* 08 42 59.2
SNAA *e* pP 08 43 04.5 -4.3
SNAA *e* pP 08 43 07.7 -1.1
SNAA Sanae 87.42 183*d i*P **P 08 42 56.6 -0.9**
SNAA Sanae 87.42 183 LR LR 09 22 45.9
comp=Z,301nm,18.6s,MS4.7,baz=51,slow=36
O01C Eel River Cons 87.42 45 ⇓P **P 08 42 57.5 -0.4**
baz=88
GTA Gaotai 87.88 314 ⇓P **P 08 43 00.9 +0.8**
GTA AP pP 08 43 11.0 -0.5
GTA SKS 08 53 25.2
GTA AMB AMB
comp=Z,19nm,1.0s,mb5.3
GTA AMB AMB
comp=Z,244nm,5.3s
GTA LR LR
comp=N,210nm,17.5s,MS4.8
GTA LR LR
comp=E,234nm,19.0s,MS4.8
GTA LR LR
comp=Z,302nm,19.4s,MS4.7
ULN Ulaanbaatar 87.90 324 *e*P **P 08 43 00.7 +0.7**
comp=Z,46nm,1.0s,mb5.7
ULN *ep*P pP 08 43 12.3 +1.0
ULN Ulaanbaatar 87.90 324 *e*P **P 08 43 00.7 +0.7**
ULN *e**PP pP 08 43 12.3 +1.0
ULN pmax pmax
comp=Z,46nm,1.0s,mb5.7
GASB Alder Springs 87.92 46 ⇓P **P 08 43 01.3 +1.0**
baz=88
VNA3 Neumayer Olymp 88.03 181 *e*P **P 08 42 59.6 -0.8**
VNA3 *e* 08 43 02.3
VNA3 *e* pP 08 43 11.5 -0.2
VNA3 *e* 08 43 19.5
O02C Red Bluff 88.13 46 ⇓P **P 08 43 02.1 +0.9**
baz=88
SONM Songino Array 88.24 323 P **P 08 43 02.1 +0.4**
comp=Z,19nm,0.9s,mb5.3,baz=143,slow=5.4,SNR=116
VNA2 Neumayer--Watz 88.31 181 *e*P **P 08 43 01.2 -0.5**
baz=193,slow=4.4
VNA2 *e* 08 43 03.5
VNA2 *e* pP 08 43 09.3 -3.8
VNA2 *e* pP 08 43 12.3 -0.8
VNA2 *e* 08 43 20.3
YAK Yakutsk 88.33 343 *e*P **P 08 43 01.8 +0.1**
YAK *e* 08 43 16.0
YAK pmax pmax
comp=Z,13nm,0.9s,mb5.2
YAK pmax pmax
comp=N,4.0nm,0.8s
SUTB Sutter Butte 88.34 47⇑P **P 08 43 02.0 -0.3**
baz=88
WDC Whiskeytown Da 88.49 45 ⇓P **P 08 43 03.1 +0.2**
baz=89
VNA1 Neumayer--Stat 88.61 181 *e*P **P 08 43 03.1 0.0**
VNA1 *e* 08 43 05.0
VNA1 *e* pP 08 43 12.0 -2.4
VNA1 *e* pP 08 43 14.7 +0.3
VNA1 *e* 08 43 22.9
M02C Callahan 88.68 44⇑P **P 08 43 04.6 +0.8**
baz=89
ORV Oroville 88.69 47⇑P **P 08 43 03.5 -0.4**
baz=89
CMB Columbia Colle 88.74 48 *e*P **P 08 43 03.8 -0.4**
comp=N,9.8nm,1.1s,mb5.0
CMB *ep*P pP 08 43 15.1 -0.5
CMB Columbia Colle 88.74 48 *e*P **P 08 43 03.8 -0.4**
CMB *e**PP pP 08 43 15.1 -0.5
CMB pmax pmax
comp=Z,10.0nm,1.1s,mb5.1
CMB Columbia Colle 88.74 48 ⇓P **P 08 43 04.0 -0.3**
baz=89,SNR=7.8
T06C Millerton Lake 88.74 49 P **P 08 43 04.1 -0.2**
baz=89,SNR=9.3
BILL Bilibino 88.76 359 *e*P **P 08 43 03.2 -0.4**
comp=Z,28nm,1.5s,mb5.4
BILL *ep*P pP 08 43 15.8 +0.9
BILL Bilibino 88.76 359⇓*e*P **P 08 43 02.9 -0.7**
BILL pmax pmax
comp=Z,24nm,1.7s,mb5.2
LAVA Lava Cap Winer 88.83 48 ⇓P **P 08 43 03.7 -0.9**
baz=89
YBH Yreka Blue Hor 88.94 44⇑P **P 08 43 05.4 +0.4**
baz=89
K02A Glendale 88.95 43 ⇓P **P 08 43 05.0 -0.1**
baz=89
HELL Mitchell Peak 89.08 50 ⇓P **P 08 43 05.5 -0.4**
baz=89,SNR=5.3
M03C McCloud 89.10 45 ⇓P **P 08 43 06.3 +0.4**
baz=89
KCC Kaiser Creek 89.16 49 ⇓P **P 08 43 06.2 -0.1**
baz=89
P05C Yuba Gap, Truc 89.18 47⇑P **P 08 43 06.4 +0.2**
baz=89,SNR=6.0
J02A Umpqua 89.20 42 ⇓P **P 08 43 06.5 +0.3**
baz=89
HUMO Hull Mountain 89.21 43⇑P **P 08 43 06.7 +0.4**
baz=89
R05C Kirkwood Meado 89.27 48 ⇓P **P 08 43 06.8 +0.1**
baz=89,SNR=6.5
O05C Quincy 89.28 46⇑P **P 08 43 07.0 +0.3**
baz=89
HATC Hat Creek Radi 89.32 45 ⇓P **P 08 43 07.2 +0.3**
baz=89
J03A Ideyld Park 89.59 43⇑P **P 08 43 07.6 -0.4**
baz=90
BEKR Beckwourth 89.61 47⇑P **P 08 43 08.2 -0.1**
baz=90,SNR=8.3
R06C Coleville 89.62 48⇑P **P 08 43 08.5 +0.2**
baz=90,SNR=5.5
MTUM Tungsten Hills 89.71 50 *e*P **P 08 43 09.2 +0.4**
MTUM *ep*P pP 08 43 20.2 +0.1
M05C Lookout 89.79 45⇑P **P 08 43 09.1 0.0**
baz=90
MPMC Manual Prospec 89.91 51⇑P **P 08 43 09.5 -0.3**
baz=90
S08C White Mtn Res 90.06 50⇑P **P 08 43 10.9 +0.5**
baz=90,SNR=9.5
J04A Umpqua Nationa 90.07 43⇑P **P 08 43 10.7 +0.4**
baz=90
O06A Flanigan 90.11 47 P **P 08 43 10.7 +0.1**
baz=90,SNR=7.2
BELC Belle Mtn. 90.12 54⇑P **P 08 43 11.0 +0.2**
baz=90
I04A Tendick Farm, 90.14 43⇑P **P 08 43 10.4 -0.2**
baz=90
M06C Likely Place G 90.16 45⇑P **P 08 43 11.1 +0.3**
baz=90
L05A Lakeview 90.32 45 ⇓P **P 08 43 11.5 -0.1**
baz=90
N06A Buffalo Meadow 90.38 46⇑P **P 08 43 11.8 0.0**
baz=90,SNR=6.0
NVAR Mina Array Bea 90.38 49 P **P 08 43 12.0 +0.1**
comp=Z,3.9nm,0.7s,mb4.8,baz=214,slow=6.3,SNR=37
GRAC Grapevine Rang 90.41 50 ⇓P **P 08 43 12.0 0.0**
baz=90
R08A Mina 90.48 49⇑P **P 08 43 12.4 0.0**
baz=91,SNR=5.8
FURC Furnace Creek, 90.55 51 ⇓P **P 08 43 12.4 -0.3**
baz=91
K05A Summer Lake 90.60 44 ⇓P **P 08 43 12.9 0.0**
baz=91,SNR=5.5
MOD Modoc 90.60 45⇑P **P 08 43 12.8 0.0**
baz=91,SNR=5.9
GLA Glamis 90.61 55 *e*P **P 08 43 13.6 +0.5**
comp=Z,19nm,1.0s,mb5.4
GLA *ep*P pP 08 43 26.1 +1.7
GLA Glamis 90.61 55 *e*P **P 08 43 13.6 +0.5**
GLA *e**PP pP 08 43 26.1 +1.7
GLA pmax pmax
comp=Z,19nm,1.0s,mb5.4
GLA Glamis 90.61 55⇑P **P 08 43 12.9 -0.2**
baz=91
BOD Bodaibo 90.62 334 *e*P **P 08 43 11.3 -1.2**
BOD pmax pmax
comp=Z,15nm,1.5s,mb5.1
J05A Fort Rock 90.65 43⇑P **P 08 43 13.1 +0.1**
baz=91,SNR=16
H04A Detroit Lake 90.72 42 ⇓P **P 08 43 12.9 -0.4**
baz=91,SNR=5.6
SHOC Shoshone 90.72 52⇑P **P 08 43 13.6 0.0**
baz=91
TUQ Turquoise Mtn. 90.79 52 ⇓P **P 08 43 13.6 -0.3**
baz=91
E03A Lebam 90.80 40 ⇓P **P 08 43 13.4 -0.2**
baz=91,SNR=6.6
IRM Iron Mountain 90.83 54⇑P **P 08 43 14.1 0.0**
baz=91
Q08A Gabbs 90.83 48⇑P **P 08 43 13.9 -0.1**
baz=91,SNR=8.5
S09A Goldfield 90.83 50 ⇓P **P 08 43 13.7 -0.3**
baz=91
U10A Ash Meadows, A 90.91 51⇑P **P 08 43 14.2 -0.2**
baz=91
N07B Gerlach 90.98 46⇑P **P 08 43 14.9 +0.3**
baz=91
NLWA Neilton Lookou 91.04 39 ⇓P **P 08 43 15.2 +0.4**
baz=91
I05A Bend 91.05 43 ⇓P **P 08 43 14.9 +0.1**
baz=91,SNR=5.5
K06A Valley Falls 91.06 44⇑P **P 08 43 14.9 -0.1**
baz=91,SNR=6.5
M07A Soldier Meadow 91.12 46⇑P **P 08 43 15.3 0.0**
baz=91,SNR=8.1
R09A Tonopah 91.16 49⇑P **P 08 43 15.5 -0.1**
baz=91
F04A Amboy 91.19 41 ⇓P **P 08 43 15.5 +0.1**
baz=91
TPNV Topopah Spring 91.20 51 *e*P **P 08 43 15.5 -0.2**
comp=Z,16nm,1.1s,mb5.3
TPNV *ep*P pP 08 43 27.9 +0.8
TPNV Topopah Spring 91.20 51 *e*P **P 08 43 15.5 -0.2**
TPNV *e**PP pP 08 43 27.9 +0.8
TPNV pmax pmax
comp=Z,16nm,1.1s,mb5.3
TPNV Topopah Spring 91.20 51 ⇓P **P 08 43 15.8 +0.1**
baz=91
L07A Adell 91.29 45⇑P **P 08 43 15.9 -0.2**
baz=91,SNR=10
V11A Goodsprings 91.32 52⇑P **P 08 43 15.8 -0.6**
baz=91
J06A Christmas Vall 91.33 44 ⇓P **P 08 43 15.8 -0.3**
baz=92,SNR=5.8
ZAK Zakamensk 91.35 324 *e*P **P 08 43 16.0 -0.1**
ZAK pmax pmax
comp=Z,19nm,1.3s,mb5.3
S10A Tonopah Range, 91.37 50⇑P **P 08 43 16.4 -0.1**
baz=92
G05A Wamic 91.53 42⇑P **P 08 43 16.7 -0.4**
baz=92
N08A GE Springer Mi 91.55 47 ⇓P **P 08 43 17.3 0.0**
baz=92
B04A Port Angeles 91.59 38⇑P **P 08 43 17.6 +0.3**
baz=92
I06A Prineville 91.61 43 P **P 08 43 17.9 +0.4**
baz=92,SNR=11
PDMCI Parker Dam,Lak 91.65 54 ⇓P **P 08 43 18.0 +0.1**
baz=92
K07A Rock Creek Ran 91.66 45⇑P **P 08 43 17.9 +0.1**
baz=92,SNR=8.0
Y13A Salome 91.69 54⇑P **P 08 43 18.2 +0.1**
baz=92
V12A Nelson 91.70 52⇑P **P 08 43 18.1 0.0**
baz=92
C04A Brinnon 91.73 39⇑P **P 08 43 18.2 +0.3**
baz=92
R10A Warm Springs 91.73 50 ⇓P **P 08 43 18.3 +0.1**
baz=92
F05A White Salmon 91.75 41 ⇓P **P 08 43 18.3 +0.2**
baz=92
IRK Irkutsk 91.82 326 *e*P **P 08 43 16.8 -1.4**
IRK pmax pmax
comp=Z,29nm,1.6s,mb5.4
TLY Talaya 91.84 326 P **P 08 43 18.0 -0.3**
TLY Talaya 91.84 326 *e*P **P 08 43 18.8 +0.5**
TLY *e* pP 08 43 28.2 -1.5
TLY pmax pmax
comp=Z,25nm,1.1s,mb5.5
S11A Rachel 91.85 50 ⇓P **P 08 43 18.6 -0.1**
baz=92
COLA College 91.86 17 *i*P **P 08 43 17.2 -0.9**
E05A Randle 91.89 40 ⇓P **P 08 43 17.3 -1.4**
baz=92
H06A Lindquist Farm 91.90 42 ⇓P **P 08 43 18.5 -0.3**
baz=92,SNR=14
J07A Hines 91.93 44⇑P **P 08 43 19.0 0.0**
baz=92
WVOR Wild Horse Val 91.95 45 *e*P **P 08 43 19.0 0.0**
comp=Z,14nm,1.2s,mb5.2
WVOR Wild Horse Val 91.95 45 *e*P **P 08 43 19.0 -0.1**
WVOR pmax pmax
comp=Z,14nm,1.2s,mb5.2
G06A Carlson Farm, 91.95 42 ⇓P **P 08 43 18.6 -0.4**
baz=92
N09A Rock Creek Ran 91.99 47⇑P **P 08 43 19.2 -0.1**
baz=92
X13A Yucca 92.00 54 ⇓P **P 08 43 19.2 -0.3**

baz=92
L08A Fields 92.03 45 ⇑P P 08 43 19.6 +0.2
baz=92,SNR=9.0
D05A Enumclaw 92.06 40 ⇓P P 08 43 20.0 +0.5
baz=92,SNR=5.8
T11A Corn Creek, Al 92.06 51 ⇑P P 08 43 19.9 +0.1
baz=92
F06A Goldendale 92.11 41 ⇑P P 08 43 19.5 -0.3
baz=92
I07A Izee 92.13 43 ⇓P P 08 43 19.9 0.0
baz=92,SNR=5.9
W13A Hualapai Mount 92.17 53 ⇑P P 08 43 20.5 +0.2
baz=92
K08A Mann Creek Ran 92.18 45 ⇑P P 08 43 20.2 +0.1
baz=92,SNR=7.3
R11A Troy Canyon, C 92.27 50 ⇑P P 08 43 20.5 -0.1
baz=92
H07A Lands Inn, Kim 92.33 43 ⇓P P 08 43 20.6 -0.2
baz=92,SNR=8.5
E06A Yakima 92.36 41 ⇑P P 08 43 20.9 +0.1
baz=92
Y14A Wickenburg 92.36 55 ⇓P P 08 43 20.9 -0.3
baz=92
A04A Legoe Bay, Lum 92.38 38 ⇑P P 08 43 21.1 +0.1
baz=92,SNR=7.2
L09A Wilkinson Ranc 92.41 46 ⇑P P 08 43 21.2 0.0
baz=92
Q11A Duckwater 92.43 49 ⇓P P 08 43 21.2 -0.2
baz=92
O10A Cortez Mining, 92.45 48 ⇓P P 08 43 21.4 0.0
baz=93
J08A Circle Bar Ran 92.47 44 ⇑P P 08 43 21.3 -0.1
baz=93,SNR=7.0
C05A Tolt Reservoir 92.48 39 ⇑P P 08 43 22.0 +0.6
baz=93
S12A Delamar Landin 92.49 51 ⇑P P 08 43 22.2 +0.5
baz=93
B05A Bryant 92.51 39 P P 08 43 21.6 +0.1
baz=93,SNR=5.3
G07A Ruggs Ranch, H 92.57 42 ⇑P P 08 43 21.5 -0.3
baz=93
I08A Drewsey 92.65 44 ⇑P P 08 43 22.1 -0.2
baz=93
K09A Rome 92.67 45 ⇑P P 08 43 21.9 -0.5
baz=93,SNR=7.7
F07A Phinny Hill Vi 92.70 42 ⇑P P 08 43 22.6 +0.1
baz=93
D06A Cle Elum 92.74 40 ⇑P P 08 43 22.4 -0.3
baz=93
W14A Seligman 92.81 53 ⇑P P 08 43 23.2 0.0
baz=93
J09A Fry Pan Ranch, 92.93 44 ⇓P P 08 43 23.5 -0.1
baz=93,SNR=8.6
G08A Pilot Rock 93.03 42 ⇓P P 08 43 23.6 -0.4
baz=93,SNR=7.4
Q12A Willow Creek R 93.09 49 ⇓P P 08 43 23.7 -0.8
baz=93
I09A Lost Marbles R 93.22 44 ⇓P P 08 43 24.8 -0.1
baz=93
MOY Mondy 93.25 325 *e*P **P 08 43 24.9 +0.1**
MOY pmax pmax
comp=Z,36nm,2.3s,mb5.4
K10A MacKenzie Ranc 93.27 45 ⇑P P 08 43 25.1 -0.1
baz=93
EGAK Eagle 93.74 19 *e*P **P 08 43 26.1 -0.7**
comp=Z,13nm,1.3s,mb5.2
WMQ Urumqi 97.97 314 *e*P **P 08 43 47.0 +0.4**
WMQ AMB AMB
comp=Z,9.0nm,0.6s,mb5.5
WMQ AMB AMB
comp=Z,153nm,5.6s
WMQ LR LR
comp=Z,339nm,25.6s,MS4.7
PDAR Pinedale Array 98.21 47 P P 08 43 47.8 +0.1
comp=Z,0.5nm,1.0s,baz=237,slow=6.6,SNR=4.2
YKA Yellowknife Ar 102.47 28 P Pdif 08 44 04.9 -1.6
comp=Z,0.6nm,0.7s,baz=255,slow=4.7,SNR=11
MKAR Makanchi Array 102.55 315 P Pdif 08 44 07.2 +0.3
comp=Z,1.4nm,0.7s,baz=99,slow=6.3,SNR=10
ZALV Zalesovo Beam 103.13 323 Pdiff Pdif 08 44 08.6 -1.0
comp=Z,1.4nm,0.7s,baz=117,slow=5.6,SNR=5.3
ZAL Zalesovo 103.14 323 P Pdif 08 44 08.6 -1.0
ARU Arti 118.28 324 *i* PKIKP PKPdf 08 48 57.5 +0.2
ARU 08 50 09.9
ARU PPP 08 52 40.7
ARU 08 55 48.2
ARU SS SS 09 06 26.7 -0.3
AKTK Aktyubinsk 118.93 317 PKP PKPdf 08 48 58.4 -0.4
AKTO Aktyubinsk 118.93 317 PKP PKPdf 08 48 58.4 -0.4
comp=Z,5.3nm,0.8s,baz=81,slow=1.2,SNR=22
QRN Al-Qurain 126.09 291 *e*P PKPdf 08 49 13.0 -0.2
QRN AMb AMB 08 49 14.5
comp=Z,59nm,1.0s
RDF Al-Radifah 126.43 291 *e*P PKPdf 08 49 13.7 -0.1
RDF AMb AMB 08 49 15.8
comp=Z,46nm,1.1s
ARCES ARCESS Array B 126.58 345 PKP PKPdf 08 49 11.7 -1.3
comp=Z,3.6nm,0.8s,baz=27,slow=3.0,SNR=6.4
MIB Mutribah 126.70 292 *e*P PKPdf 08 49 14.6 +0.2
MIB AMb AMB 08 49 16.7
comp=Z,33nm,1.1s
NAY Al-Naaiem 126.73 291 *e*P PKPdf 08 49 14.0 -0.4
NAY AMb AMB 08 49 15.5
comp=Z,13nm,1.2s
RST Umm Al-Ruwaisa 126.97 292 *e*P PKPdf 08 49 14.4 -0.5
RST AMb AMB 08 49 16.4
comp=Z,37nm,0.9s
KMBO Kilima Mbogo 127.63 251 P PKPdf 08 49 18.0 +1.4
KIV Kislovodsk 129.95 310 *i* PKIKP PKPdf 08 49 20.5 +0.4
KIV *e* 08 51 33.3
KIV pmax pmax
comp=Z,3.0nm,0.5s
MSL Mosul 130.42 300 *ex* x 08 49 22.0
OBN Obninsk 130.60 326 *i* PKIKP PKPdf 08 49 21.5 +0.5
OBN pmax pmax
comp=Z,9.0nm,1.0s
MALT Malatya 133.95 303 *e*PKPdf PKPdf 08 49 28.7 +0.8
MALT Malatya 133.95 303 ⇑*i*P PKPdf 08 49 28.8 +0.9
AKASG Malin Array Be 136.53 323 PKP PKPdf 08 49 31.6 -0.7
comp=Z,1.6nm,0.7s,baz=75,slow=2.6,SNR=4.1
NOA NORSAR Array B 136.94 344 PKP PKPdf 08 49 34.1 +1.4
comp=Z,1.1nm,0.8s,baz=36,slow=2.0,SNR=3.4
ANTO Ankara 137.98 307 *e*PKPdf PKPdf 08 49 36.4 +1.1
KOLS Kolonicke sedl 141.30 324 *e*PKP PKPdf 08 49 41.9 +0.9
CRVS Cervenica-Dubn 141.76 325 *e*PKP PKPdf 08 49 37.9 -4.0
SZH Strazhica 141.80 314 *e*P PKPdf 08 49 45.0 +2.9
DRGR 142.21 321 P PKPdf 08 49 43.2 +0.5
DRGR 142.21 321 ⇓*i*P PKPdf 08 49 38.8 -3.9
KECS Kecovo 142.53 325 *e*PKP PKPdf 08 49 40.1 -3.1
GZR Gura Zlata 142.87 319 P PKPdf 08 49 40.8 -3.2
GZR Gura Zlata 142.87 319 ⇓*i*P PKPdf 08 49 40.6 -3.4
KSP Ksiaz 143.11 331 *e*PKP PKPdf 08 49 41.6 -2.6
KSP Ksiaz 143.11 331 ⇑*e*PKIKP PKPdf 08 49 41.1 -3.1
PSZ Piszkesteto 143.18 324 *e*PKPdf PKPdf 08 49 41.6 -2.9
PSZ Piszkesteto 143.18 324 ⇑*e*PKP PKPdf 08 49 41.8 -2.6
MORC Moravsky Berou 143.24 328 *e*PKPdf PKPdf 08 49 42.4 -2.0
MORC Moravsky Berou 143.24 328 ⇑*i*P PKPdf 08 49 41.4 -3.1
RZN Rozhen 143.25 312 *e*P PKPdf 08 49 41.2 -3.6
VYHS Vyhne 143.40 326 *e*PKP PKPdf 08 49 42.4 -2.4
VYHS *e* 08 49 51.8
DPC Dobruska-Polom 143.44 330 *e*PKP PKPdf 08 49 42.2 -2.6
DPC *ex* x 08 49 53.3
BZS Buzias 143.47 320 P PKPdf 08 49 42.7 -2.3
BZS Buzias 143.47 320 ⇓*i*P PKPdf 08 49 42.2 -2.8
UPC Upice 143.47 330 *e*PKP PKPdf 08 49 42.2 -2.7
UPC *ep*PKP pPKPdf 08 49 51.1 -5.4
KOLL Kolacno 143.57 326 *e*PKP PKPdf 08 49 43.7 -1.4
VTS Vitosha 143.90 315 P PKPdf 08 49 44.6 -1.2
VTS Vitosha 143.90 315 ⇓*i*P PKPdf 08 49 44.6 -1.3
VTS Vitosha 143.90 315 *e*P PKPdf 08 49 43.4 -2.5
BUD Budapest 143.91 324 ⇑*e*PKP PKPdf 08 49 44.4 -1.3
MMB Musomiste 143.97 313 *e*P PKPdf 08 49 44.1 -1.9
VRAC Vranov 144.01 328 P PKPdf 08 49 44.3 -1.5
VRAC Vranov 144.01 328 ⇑*i*P PKPdf 08 49 45.1 -0.7
PVCC Panska Ves 144.11 332 *e*PKP PKPdf 08 49 44.6 -1.4
PVCC *ex* x 08 49 56.2
BRG Berggiesshubel 144.14 332 ⇑*i*PKIKP PKPdf 08 49 44.2 -1.8
BRG *e* 08 49 56.8
BRG pmax pmax
comp=Z,27nm,1.1s
BRG Berggiesshubel 144.14 332 *e*PKPbc PKPdf 08 49 43.5 -2.5
BRG Berggiesshubel 144.14 332 ⇑*i*PKP PKPdf 08 49 44.2 -1.8
comp=Z,45nm,1.1s
BRG *e* 08 49 56.9
comp=Z,37nm,1.5s

CLL Collm 144.21 334 *i* PKIKP PKPdf 08 49 44.0 -2.1
CLL *i* 08 49 56.6
CLL pmax pmax
comp=Z,34nm,1.0s
CLL MLR MLR
comp=Z,400nm,22.7s,MS5.1
CLL Collm 144.21 334 *e*PKPbc PKPdf 08 49 43.5 -2.6
CLL Collm 144.21 334 *i* PKPdf PKPdf 08 49 44.0 -2.1
comp=Z,34nm,1.0s
CLL *e*PKiKP PKiKP 08 49 49.0 -0.7
CLL *i* (pPKPdf) 08 49 56.6
MODS Modra-Piesok 144.28 327 *e*PKP PKPdf 08 49 46.0 -0.3
MODS *e* 08 49 56.0
MODS Modra-Piesok 144.28 327 *e*PKP PKPdf 08 49 46.0 -0.3
MODS *e* 08 49 56.0
OUR Ouranopolis 144.28 311 *e*P PKPdf 08 49 44.4 -2.3
KKB Krupnik 144.29 314 *e*P PKPdf 08 49 44.8 -1.8
ZST Bratislava 144.49 327 *e*PKP PKPdf 08 49 46.3 -0.4
PRU Pruhonice 144.51 331 *e*PKP PKPdf 08 49 45.7 -1.0
SOH Sokhos 144.54 312 *e*P PKPdf 08 49 44.7 -2.3
TREC Trest 144.56 329 *e*PKP PKPdf 08 49 45.8 -1.0
PAIG Paliouri 144.65 310 *e*P PKPdf 08 49 45.1 -2.2
KNT Kendrikon 144.72 313 *e*P PKPdf 08 49 45.5 -1.8
CLZ Clausthal 144.84 336 *e*PKPbc PKPdf 08 49 46.1 -1.1
PKSM Moragy 144.87 323 P PKPdf 08 49 46.9 -0.6
PKSM Moragy 144.87 323 ⇑*i*P PKPdf 08 49 46.7 -0.7
VAY Valandovo 144.87 313 *e*P PKPdf 08 49 45.6 -2.0
VAY Valandovo 144.87 313 *e*PKP PKPdf 08 49 45.7 -1.9
THE Thessaloniki 144.88 312 *e*P PKPdf 08 49 45.5 -2.2
SOP Sopron 145.09 326 ⇑*e*PKP PKPdf 08 49 48.4 +0.6
TANN Tannenbergstha 145.11 333 *e*PKPbc PKPbc 08 49 47.0 -0.2
NKC Novy Kostel 145.25 333 *e*PKP PKPdf 08 49 48.2 +0.2
NKC *ex* x 08 49 59.2
MOX Moxa 145.29 334 ⇑*i*P PKPbc 08 49 48.3 +0.5
comp=Z,89nm,1.4s
MOX *e* 08 49 59.7
MOX Moxa 145.29 334 ⇑*i*PKIKP PKPdf 08 49 48.3 +0.3
MOX *e* 08 49 59.7
MOX pmax pmax
comp=Z,89nm,1.4s
MOX Moxa 145.29 334 *e*PKPbc PKPbc 08 49 47.4 -0.4
CONA Conrad Observa 145.29 327 ⇓*i*PKPbc PKPbc 08 49 45.6 -2.3
comp=Z,138nm,1.6s,SNR=55
SKO Skopje 145.35 315 *e*PKP PKPdf 08 49 49.3 +0.9
IBBN Ibbenburen 145.38 339 *e*PKPbc PKPbc 08 49 47.5 -0.5
LIT Litokhoron 145.43 311 *e*P PKPdf 08 49 47.5 -1.1
KHC Kasperske Hory 145.56 331 *e*PKP PKPdf 08 49 49.0 +0.5
KHC *ex* x 08 50 02.1
ROTZ Rotzenmuhle 145.71 333 *e*PKPbc PKPbc 08 49 49.2 0.0
GEC2 GERESS Array S 145.71 330 *e*PKPdf PKPdf 08 49 48.8 0.0
GEC2 GERESS Array S 145.71 330 *e*PKPbc PKPbc 08 49 49.0 -0.2
GERES GERESS Array B 145.71 330 PKPbc PKPbc 08 49 49.7 +0.5
comp=Z,39nm,0.9s,baz=46,slow=3.9,SNR=184
KRUS Krusevo 145.75 314 *e*PKP PKPdf 08 49 49.7 +0.6
UBBA Unterbreizbach 145.79 336 *e*PKPbc PKPbc 08 49 49.2 -0.2
LTK Loutraki 145.85 307 *e*P PKPdf 08 49 48.4 -1.0
WET Wettzell 145.87 331 P PKPdf 08 49 49.3 +0.2
WET Wettzell 145.87 331 *e*PKPbc PKPbc 08 49 49.7 0.0
ARSA Arzberg 145.91 327 ⇓*i*P PKPdf 08 49 49.7 +0.5
comp=Z,59nm,1.4s,SNR=12
IVA Berane 145.93 317 ⇑*i*PKP PKPdf 08 49 50.7 +1.3
AGG Agios Georgios 145.96 309 *e*P PKPdf 08 49 49.2 -0.4
WTSB Winterswijk 145.98 340 *e*PKP PKPdf 08 49 50.0 +0.9
comp=Z,67nm,1.9s
PLE Pljevlja 146.01 318 ⇑*i*PKP PKPdf 08 49 51.3 +1.8
PVY Plav 146.01 317 ⇑*i*PKP PKPdf 08 49 50.9 +1.4
MOA Molln 146.14 328 ⇑*i*P PKPdf 08 49 50.3 +0.7
comp=Z,79nm,1.4s,SNR=15
OHR Ohrid 146.17 314 *e*P PKPdf 08 49 50.0 +0.2
OHR Ohrid 146.17 314 *e*PKP PKPdf 08 49 50.2 +0.3
GRF Grafenberg Arr 146.18 333 *e*PKPbc PKPbc 08 49 50.6 0.0
GRF *ep*PKPbc pPKPbc 08 50 02.7 +0.5
GRFO Grafenberg 146.18 333 *e*PKPdf PKPdf 08 49 51.4 +1.8
UPM Unac-Piva 146.38 318 ⇑*i*PKP PKPdf 08 49 51.1 +1.0
PERS Pernice 146.52 326 *e*PKPbc PKPbc 08 49 51.6 -0.1
NKY Niksic 146.53 318 ⇑*i*PKP PKPdf 08 49 51.6 +1.2
SELA Sela 146.55 308 *e*P PKPdf 08 49 50.5 0.0
TTG Podgorica 146.55 317 ⇑*i*PKP PKPdf 08 49 50.8 +0.4
BRY Bratogost 146.77 318 ⇑*i*PKP PKPdf 08 49 51.9 +1.1
ULC Ulcinj 146.79 316 ⇑*i*PKP PKPdf 08 49 52.0 +1.1
BUM Brajici-Budva 146.85 317 ⇑*i*PKP PKPdf 08 49 52.0 +1.1
CRES Cresnjev 146.87 325 *e*PKPbc PKPbc 08 49 53.2 +0.4
CRES *ep*PKPbc pPKPbc 08 50 04.2 -0.1
OBKA Obir 146.90 326 ⇓*i*P PKPdf 08 49 50.1 -0.8
comp=Z,21nm,1.1s,SNR=11
DMUB Kingscourt 146.94 355 *e*P PKPdf 08 49 52.1 +1.4
HCY Herceg Novi 147.03 317 ⇑*i*PKP PKPdf 08 49 52.4 +1.2
KBA Koelnbreinsper 147.12 328 ⇑*i*P PKPdf 08 49 49.2 -2.0
comp=Z,33nm,1.1s,SNR=15
KBA Koelnbreinsper 147.12 328 PKP2 PKPbc 08 49 52.9 -0.5
IGT Igoumenitsa 147.18 311 *e*P PKPdf 08 49 53.5 +1.9
LJU Ljubljana 147.22 326 *e*PKPdf PKPdf 08 49 51.4 0.0
LJU *e*PKPbc PKPbc 08 49 54.0 +0.3
LJU *ep*PKPbc pPKPbc 08 50 05.2 -0.1
TOD Tromm 147.23 335 PKP PKPbc 08 49 53.6 0.0
LKD Levkas 147.29 310 *e*P PKPbc 08 49 54.3 +0.1
HGN Heimansgroeve 147.29 340 *e*PKP PKPbc 08 49 53.5 -0.2
comp=Z,42nm,3.0s
STON Ston 147.31 319 P PKPdf 08 49 49.0 -2.7
FUR Furstenfeldbru 147.31 331 *e*PKPbc PKPbc 08 49 55.4 +1.5
MEM Membach 147.40 339 PKP PKPbc 08 49 54.3 +0.3
CEY Cerknica 147.47 325 *e*PKPdf PKPdf 08 49 51.8 0.0
CEY *e*PKPbc PKPbc 08 49 54.4 0.0
ABH Alteburg 147.47 337 PKP PKPbc 08 49 54.5 +0.2
DCN Croghan 147.53 355 *e*P PKPbc 08 49 54.0 -0.3
VOY Vojsko 147.56 326 *e*PKPdf PKPdf 08 49 51.3 -0.7
VOY *e*PKPbc PKPbc 08 49 54.5 -0.2
VOY *ep*PKPbc pPKPbc 08 50 05.5 -0.8
GMNA Gemona 147.73 327 P PKPdf 08 49 52.2 -0.1
STU Stuttgart 147.74 334 *e*PKPbc PKPbc 08 49 54.7 -0.3
UCC Uccle 147.75 341 PKP PKPbc 08 49 54.6 -0.5
ABTA Abfaltersbach 147.76 329 ⇑*i*PKPdf PKPdf 08 49 51.8 -0.5
comp=Z,39nm,1.1s,SNR=17
BCLA Clavier 147.79 340 PKP PKPbc 08 49 55.3 +0.2
RUP Ruppelstein 147.80 337 PKP PKPbc 08 49 55.5 +0.3
NVLJ Novalja 147.98 323 P PKPdf 08 49 51.7 -1.0
SQTA Sankt Quirin 148.04 330 ⇑*i*P PKPdf 08 49 53.0 +0.2
comp=Z,46nm,1.2s,SNR=9.4
LANF Langenberg 148.12 336 PKP PKPbc 08 49 56.2 +0.1
WLF Walferdange 148.15 338 *e*PKPbc PKPbc 08 49 57.0 +0.8
WLF Walferdange 148.15 338 PKP PKPbc 08 49 57.2 +1.1
WLF Walferdange 148.15 338 *e*PKPbc PKPbc 08 49 56.3 +0.2
GIVF Givet 148.22 340 *e*PKP1 PKPbc 08 49 56.0 -0.3
comp=Z,50nm,1.0s
DOU Dourbes 148.30 340 PKP PKPbc 08 49 56.4 -0.1
FETA Feichten 148.41 331 ⇑*i*PKPdf PKPdf 08 49 53.4 +0.1
comp=Z,43nm,1.1s,SNR=21
SPAK Spaichingen-Ko 148.43 334 PKP PKPbc 08 49 56.6 -0.3
BFO Black Forest 148.44 335 *e*PKPbc PKPbc 08 49 56.2 -0.7
BAIF Baives 148.45 341 *e*PKP1 PKPbc 08 49 56.6 -0.3
comp=Z,43nm,1.2s
DAVA Damuels 148.59 332 ⇑*i*P PKPdf 08 49 53.5 -0.1
comp=Z,32nm,1.3s,SNR=12
CTI Castel Tesino 148.68 328 P PKPdf 08 49 54.0 +0.2
CDF Champ du Feu 148.78 336 *e*PKP1 PKPbc 08 49 57.6 -0.2
comp=Z,58nm,1.1s
FELD Feldberg im Sc 148.93 334 PKP PKPbc 08 49 57.7 -0.5
ECH Echery 148.99 336 PKP PKPbc 08 49 57.7 -0.6
MOF Molkenrain 149.30 335 PKP PKPbc 08 49 59.0 -0.1
THEF They Montfort 149.42 337 PKP PKPbc 08 49 59.2 -0.2
HINF Hinteralfeld 149.43 335 *e*PKP1 PKPbc 08 49 58.9 -0.6
comp=Z,95nm,1.5s
HAU Haudompre 149.47 336 *e*PKP1 PKPbc 08 49 59.1 -0.4
comp=Z,36nm,0.9s
PESA Pesaro 149.50 324 P PKPdf 08 49 57.0 +1.8
MEZF Maizieres J'vi 149.52 338 *e*PKP1 PKPbc 08 49 59.3 -0.3
CING Cingoli 149.67 323 P PKPdf 08 49 55.9 +0.4
FSSB Fossombrone 149.70 324 P PKPdf 08 49 56.0 +0.4
RSM Repubblica di 149.72 325 P PKPdf 08 49 56.9 +1.3
TIP Timpagrande 149.81 313 *e*PKPdf PKPdf 08 49 56.0 +0.1
TIP *e*PKPbc PKPbc 08 50 01.7 +1.0
TIP *e*PKPab PKPab 08 50 07.6 +1.5
LOMF Lomont 149.82 335 PKP PKPbc 08 50 00.5 +0.1
SNTG Esanatoglia 149.89 323 P PKPdf 08 49 57.0 +1.1
CSSN Cassano Irpino 150.08 317 P PKPdf 08 49 55.6 -0.7
AQU L'Aquila 150.19 321 P PKPdf 08 49 56.9 +0.5
AQU *e*PKPbc PKPbc 08 50 01.6 +0.1
AQU L'Aquila 150.19 321 ⇓*i*P PKPbc 08 50 03.2 +1.7
CABF La Chapelle 150.72 335 *e*PKP1 PKPbc 08 50 02.1 -0.5
comp=Z,62nm,1.1s
FLN La Foliniere 150.92 345 *e*PKP1 PKPbc 08 50 02.3 -0.7
comp=Z,28nm,1.0s

LOR Lormes 150.99 338 *e*PKP1 PKPbc 08 50 02.7 -0.5
comp=Z,46nm,1.2s
SSF Saint Saulge 151.29 339 *e*PKP1 PKPbc 08 50 02.9 -1.0
comp=Z,28nm,1.0s
LPL La Plagne 151.34 333 *e*PKP1 PKPbc 08 50 04.0 -0.1
comp=Z,17nm,0.7s
LPG La Plagne 151.35 333 *e*PKP1 PKPbc 08 50 04.5 +0.4
SMF Signal de Mont 151.54 338 *e*PKP1 PKPbc 08 50 03.9 -0.6
AVF Avril sur Loir 151.58 338 *e*PKP1 PKPbc 08 50 03.9 -0.7
BNI Bardonecchia 151.73 332 *e*PKPdf PKPdf 08 49 58.8 +0.1
BNI *e*PKPbc PKPbc 08 50 05.4 +0.4
MBDF Montbardon 151.95 332 *e*PKP1 PKPbc 08 50 05.0 -0.5
comp=Z,18nm,1.1s
BGF Bois d'Agland 151.96 339 *e*PKP1 PKPbc 08 50 05.1 -0.4
comp=Z,14nm,0.8s
SAOF Saorge 152.16 330 PKP PKPbc 08 50 05.5 -0.5
ORIF Oris-en-Rattie 152.18 333 *e*PKP1 PKPbc 08 50 05.8 -0.2
comp=Z,20nm,0.8s
PLDF La Plantade 152.19 337 PKP PKPbc 08 50 06.5 +0.5
AUTN L'Aution 152.22 330 PKP PKPbc 08 50 06.8 +0.7
TOUF Mont Tournerai 152.28 330 PKP PKPbc 08 50 06.3 0.0
AGO Saint Agoulin 152.30 338 PKP PKPbc 08 50 06.5 +0.3
SBF Sospel 152.31 330 *e*PKP1 PKPbc 08 50 05.7 -0.7
comp=Z,76nm,1.3s
LUCF Luceram 152.33 330 PKP PKPbc 08 50 06.0 -0.4
TCF Toulx Ste Croi 152.40 339 *e*PKP1 PKPbc 08 50 05.9 -0.6
MVIF Mont Vial 152.42 330 PKP PKPbc 08 50 06.0 -0.6
REVF Revere 152.44 330 PKP PKPbc 08 50 05.8 -0.8
PGF Pioggiola 152.50 326 *e*PKP1 PKPbc 08 50 06.6 -0.2
comp=Z,126nm,1.1s
PYM Petit Puy Mans 152.60 338 PKP PKPbc 08 50 07.6 +0.7
CALN Calern 152.65 330 PKP PKPbc 08 50 06.6 -0.5
VIVF Saint-Julien-l 152.73 335 *e*PKP1 PKPbc 08 50 06.9 -0.4
comp=Z,20nm,1.0s
MFF Saint Martin d 152.83 343 *e*PKP1 PKPbc 08 50 07.1 -0.3
FRF La Foret Royal 152.91 330 *e*PKP1 PKPbc 08 50 07.1 -0.6
comp=Z,70nm,1.5s
LBL Lubilhac 152.96 337 PKP PKPbc 08 50 07.9 +0.1
SMRF Simiane la Rot 153.07 332 *e*PKP1 PKPbc 08 50 08.1 +0.1
LMR La Mourre 153.15 330 *e*PKP1 PKPbc 08 50 07.7 -0.5
comp=Z,42nm,1.2s
PRAF Pradon 153.38 333 PKP PKPbc 08 50 08.8 +0.1
RJF Les Rejaudoux 153.50 339 *e*PKP1 PKPbc 08 50 08.5 -0.4
LASF Ste Croix 153.70 335 *e*PKP1 PKPbc 08 50 09.1 -0.3
LFF La Frestale 154.08 340 *e*PKP1 PKPbc 08 50 09.8 -0.4
TORD Torodi Ar. Bea 165.28 240 PKP PKPdf 08 50 15.1 -0.6
comp=Z,4.8nm,0.9s,baz=335,slow=1.5,SNR=21
TORD PKPab PKPab 08 51 12.3 -0.9

IDC 07 08:36:02.3±2.2,1289S×11446E,h0km,mb3.7/5,
mb1 4.0/7,mb1mx3.9/15,mbtmp4.0/7,ML4.1/2,Error
ellipse: s-maj=64.2km s-min=21.1km az=43.0,
Northwest of Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Kupang**	**9.41**	**74**	Pn	Pn	08 38 19.1	-0.1
	3.9nm,0.3s,baz=270,slow=5.1,SNR=3.6						
BATI				Sn	Sn	08 39 57.7	-8.1
	3.0nm,0.3s,baz=18,slow=20,SNR=2.6						
FITZ	**Fitzroy Crossi**	**11.95**	**117**	Pn	Pn	08 38 52.7	-1.4
	0.6nm,0.3s,baz=294,slow=17,SNR=27						
FITZ				Sn	Sn	08 40 52.4	-16
	0.1nm,0.3s,baz=131,slow=19,SNR=2.8						
WRA	**Warramunga Arr**	**20.30**	**113**	P	P	08 40 40.6	+0.6
	0.8nm,0.4s,baz=287,slow=14,SNR=5.2						
WRA				S	S	08 44 09.8	-19
	0.8nm,0.6s,baz=280,slow=25,SNR=5.1						
ASAR	**Alice Springs**	**21.32**	**123**	P	P	08 40 51.2	+0.2
	1.9nm,0.8s,baz=300,slow=9.9,SNR=9.7						
ASAR				S	S	08 44 41.4	-7.3
	1.5nm,0.7s,baz=294,slow=22,SNR=4.5						
KSRS	**Korea Array**	**51.65**	**14**	P	P	08 45 10.9	+0.1
	1.3nm,0.5s,baz=197,slow=7.5,SNR=5.9						
SONM	**Songino Array**	**60.88**	**354**	P	P	08 46 17.0	+0.4
	0.6nm,0.8s,baz=181,slow=8.5,SNR=3.6						
MKAR	**Makanchi Array**	**66.04**	**336**	P	P	08 46 50.5	-0.3
	0.6nm,0.5s,baz=128,slow=6.3,SNR=4.4						

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*BJI **07** 08:46:37.6,2060S×16892E,h7km,mB5.2,mb4.9,Ms5.1,*
Msz4.8
*IDC **07** 08:46:37.9±0.8,2091S×16865E,h0km,mb4.5/10,*
mb1 4.6/11,mb1mx4.5/16,mbtmp4.5/11,ML3.5/1,MS4.4/1,
Ms1 4.3/1,ms1mx3.3/23,Error ellipse: s-maj=26.9km
s-min=19.4km az=141.0
*NEIC **07** 08:46:39.2±0.3,2087S×16869E,h10km,mb4.9/14,Error*
ellipse: s-maj=13.3km s-min=9.0km az=150.0
*LDG **07** 08:46:40.5±0.2,2046S×16827E,h10km,Mb5.0/2,Error*
ellipse: s-maj=20.2km s-min=3.4km az=126.0
*ISCJB **07** 08:46:41.9±0.5,2100S±007×16858E±008,h36km,*
mb4.7/24,MS4.6/3,Error ellipse: s-maj=11.0km
s-min=10.3km az=174.3
*SZGRF **07** 08:46:42.7,2062S×17023E,h40km, Vanuatu Islands*

ISC 07 08:46:43.8±0.5,2101S±007×16863E±008,h38km,
h38km±1.2km:pP-P,n128,σ1.9 04/41,mb4.7/24,MS4.6/3,8C,
Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EIDS	**Eidsvold**	**16.70**	**252**	*e*P	**Pn**	**08 50 37.0**	**+2.0**
	7.6nm,1.1s						
ARMA	**Armidale**	**17.94**	**235**	*e*Pn	**Pn**	**08 50 50.7**	**+0.4**
	0.3nm,0.9s						
URZ	**Urewera**	**18.69**	**159**	P	**Pn**	**08 50 59.8**	**+0.4**
	0.2nm,0.3s,baz=315,slow=20,SNR=2.2						
CTA	**Charters Tower**	**20.97**	**269**	*e*P	**P**	**08 51 25.2**	**+1.4**
	9.0nm,0.9s						
CTA	**Charters Tower**	**20.97**	**269**	P	**P**	**08 51 24.9**	**+1.1**
	14nm,1.0s,baz=98,slow=13,SNR=5.8						
CTAO	**Charters Tower**	**20.97**	**269**	*e*P	**P**	**08 51 25.2**	**+1.4**
	12nm,0.8s						
CNB	**Canberra Magne**	**22.11**	**226**	*e*P	**P**	**08 51 39.4**	**+3.5**
	16nm,0.9s,mb4.5						
CNB				*ep*P		08 51 49.3	
	29nm,1.2s						
STKA	**Stephens Creek**	**26.45**	**240**	*e*P	**P**	**08 52 18.1**	**+0.9**
	5.6nm,0.6s,mb4.3						
STKA				*ep*P	pP	08 52 29.9	+2.1
STKA	**Stephens Creek**	**26.45**	**240**	P	**P**	**08 52 18.2**	**+1.0**
	5.9nm,0.6s,mb4.3,baz=71,slow=11,SNR=28						
STKA				LR	LR	09 03 04.2	
	comp=Z,747nm,18.5s,MS4.3,baz=304,slow=37						
WB2	**Warramunga Arr**	**32.10**	**266**	*e*P	**P**	**08 53 05.7**	**-1.8**
WRAB	**Tennant Creek**	**32.10**	**266**	*e*P	**P**	**08 53 05.8**	**-1.7**
	8.7nm,1.0s,mb4.5						
WRA	**Warramunga Arr**	**32.11**	**266**	P	**P**	**08 53 05.9**	**-1.7**
	5.6nm,0.9s,mb4.4,baz=95,slow=8.7,SNR=19						
WRA				PcP	PcP	08 55 55.5	-0.8
	0.6nm,0.7s,baz=96,slow=2.4,SNR=3.1						
ASAR	**Alice Springs**	**32.18**	**259**	P	**P**	**08 53 07.5**	**-0.7**
	20nm,0.8s,mb5.0,baz=84,slow=9.3,SNR=210						
FORT	**Forrest**	**37.60**	**247**	*e*P	**P**	**08 53 54.8**	**-0.1**
	14nm,0.7s,mb4.8						
FORT				*ep*P	pP	08 54 05.0	-0.7
FITZ	**Fitzroy Crossi**	**40.53**	**266**	*e*P	**P**	**08 54 19.0**	**-0.5**
	17nm,0.7s,mb4.8						
FITZ				*ep*P	pP	08 54 29.6	-0.8
FITZ	**Fitzroy Crossi**	**40.53**	**266**	P	**P**	**08 54 19.1**	**-0.4**
	13nm,0.9s,mb4.6,baz=119,slow=8.0,SNR=18						
MBWA	**Marble Bar**	**45.48**	**261**	*e*P	**P**	**08 54 59.5**	**-0.1**
	24nm,1.1s,mb4.9						
MBWA				*ep*P	pP	08 55 09.4	-1.2
KLBR	**Kellerberrin**	**46.45**	**246**	*e*P	**P**	**08 55 06.1**	**-1.0**
	21nm,1.0s,mb5.0						
KLBR				*ep*P	pP	08 55 16.9	-1.3
MUN	**Mundaring**	**47.77**	**245**	*e*P	**P**	**08 55 17.0**	**-0.4**
MUN				*e*	pP	08 55 25.3	-3.2
SBA	**Scott Base**	**56.90**	**180**	*e*P	**P**	**08 56 25.6**

MDJ	**Mudanjiang**	**74.41**	**332**	*e*P	**P**	**08 58 17.9**	**+0.3**
	4.4nm,0.5s,mb4.6						
MDJ				*e*pP	pP	08 58 29.3	0.0
CN2	**Changchun**	**75.67**	**329**	*e*P	**P**	**08 58 24.8**	**-0.1**
CN2				AMB	AMB		
	comp=Z,20nm,0.9s,mb5.0						
CHTO	**Chiang Mai**	**78.87**	**295**	*e*P	**P**	**08 58 44.5**	**+1.0**
	comp=Z,8.5nm,1.0s,mb4.6						
CHTO				*e*pP	pP	08 58 55.5	+0.3
CD2	**Chengdu**	**80.86**	**308**	*e*P	**P**	**08 58 56.4**	**+2.4**
CD2				PP	PP	09 02 03.5	+4.5
CD2				S	S	09 09 01.7	+1.9
CD2				SS	SS	09 14 19.5	+4.8
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.8						
CD2				AMB	AMB		
	comp=Z,30nm,5.2s						
CD2				LR	LR		
	comp=N,190nm,18.4s,MS4.7						
CD2				LR	LR		
	comp=E,210nm,16.4s,MS4.7						
CD2				LR	LR		
	comp=Z,150nm,14.6s,MS4.5						
HHC	**Hu-ho-hao-te**	**81.19**	**320**	*e*P	**P**	**08 58 58.4**	**+2.9**
HHC				PP	PP	09 02 05.0	+3.5
HHC				SKS		09 09 06.2	
HHC				S	S	09 09 08.6	+5.8
HHC				XS	sS	09 09 19.0	-3.4
HHC				AMB	AMB		
	comp=Z,21nm,0.4s,mb5.4						
HHC				LR	LR		
	comp=N,366nm,18.8s,MS4.9						
HHC				LR	LR		
	comp=E,350nm,17.8s,MS4.9						
HHC				LR	LR		
	comp=Z,428nm,24.0s						
SYO	**Syowa Base**	**83.08**	**196⇑**	*e*P	**P**	**08 59 02.6**	**-2.4**
SYO	**Syowa Base**	**83.08**	**196⇑**	*e*PcP	PcP	08 59 07.0	-2.6
LZH	**Lanzhou**	**83.49**	**312**	*e*P	**P**	**08 59 07.5**	**-0.1**
LZH				AP	pP	08 59 10.5	-9.0
LZH				AMB	AMB		
	comp=Z,22nm,1.5s,mb5.0						
LZH				AMB	AMB		
	comp=Z,87nm,4.1s						
SNAA	**Sanae**	**87.38**	**183**	*e*	**P**	**08 59 25.9**	**-0.6**
SNAA				*e*		08 59 27.4	
SNAA				*e*		08 59 28.4	
SNAA				*e*	pP	08 59 37.4	-1.0
GTA	**Gaotai**	**87.93**	**314**	*e*P	**P**	**08 59 30.2**	**+0.6**
GTA				AP	pP	08 59 37.8	-3.7
GTA				XP	sP	08 59 41.5	-4.3
GTA				AMB	AMB		
	comp=Z,6.0nm,1.1s,mb4.7						
ULN	**Ulaanbaatar**	**87.94**	**324**	*e*P	**P**	**08 59 29.6**	**+0.2**
	comp=Z,16nm,1.3s,mb5.1						
ULN				*e*pP	pP	08 59 41.4	+0.1
VNA3	**Neumayer Olymp**	**87.99**	**181**	*e*	**P**	**08 59 28.7**	**-0.7**
VNA3				*e*		08 59 29.8	
VNA3				*e*		08 59 31.6	
VNA3				*e*	pP	08 59 40.4	-0.9
VNA2	**Neumayer--Watz**	**88.27**	**181**	*e*	**P**	**08 59 30.3**	**-0.4**
VNA2				*e*		08 59 31.8	
VNA2				*e*		08 59 33.6	
VNA2				*e*	pP	08 59 42.1	-0.6
SONM	**Songino Array**	**88.29**	**323**	P	**P**	**08 59 31.0**	**0.0**
	comp=Z,5.8nm,0.8s,mb4.8,baz=144,slow=5.2,SNR=46						
VNA1	**Neumayer--Stat**	**88.56**	**181**	*e*	**P**	**08 59 32.2**	**+0.1**
VNA1				*e*		08 59 33.4	
VNA1				*e*		08 59 34.8	
VNA1				*e*	pP	08 59 43.6	-0.5
MTUM	**Tungsten Hills**	**89.73**	**50**	P	**P**	**08 59 38.1**	**0.0**
MTUM				*e*pP	pP	08 59 50.0	0.0
NVAR	**Mina Array Bea**	**90.39**	**49**	P	**P**	**08 59 40.9**	**-0.3**
	comp=Z,1.3nm,0.7s,mb4.4,baz=213,slow=6.2,SNR=17						
YKA	**Yellowknife Ar**	**102.50**	**28**	P	Pdif	09 00 34.2	-1.8
	comp=Z,0.3nm,0.6s,baz=256,slow=4.7,SNR=10.0						
MKAR	**Makanchi Array**	**102.59**	**315**	P	Pdif	09 00 36.3	-0.1
	comp=Z,0.7nm,0.7s,baz=105,slow=4.9,SNR=5.0						
ZALV	**Zalesovo Beam**	**103.18**	**323**	Pdiff	Pdif	09 00 37.9	-1.1
	comp=Z,0.4nm,0.4s,baz=106,slow=4.7,SNR=3.3						
AKTK	**Aktyubinsk**	**118.97**	**317**	PKP	PKPdf	09 05 27.6	-0.4
AKTO	**Aktyubinsk**	**118.97**	**317**	PKP	PKPdf	09 05 27.6	-0.4
	comp=Z,1.5nm,0.8s,baz=42,slow=0.6,SNR=6.3						
MALT	**Malatya**	**133.99**	**303**	*e*PKPdf	PKPdf	09 05 57.1	0.0
AKASG	**Malin Array Be**	**136.57**	**323**	PKP	PKPdf	09 05 59.9	-1.6
AKASG	**Malin Array Be**	**136.57**	**323**	PKP	PKPdf	09 05 59.9	-1.6
	comp=Z,0.8nm,0.6s,baz=60,slow=2.2,SNR=5.5						
PSZ	**Piszkesteto**	**143.22**	**324⇑**	*e*PKP	PKPdf	09 06 12.4	-1.3
DPC	**Dobruska-Polom**	**143.48**	**330**	*e*PKP	PKPdf	09 06 11.0	-3.1
DPC				*ex*	x	09 06 23.2	
UPC	**Upice**	**143.52**	**330**	*e*PKP	PKPdf	09 06 11.2	-2.9
UPC				*ex*	x	09 06 23.1	
VRAC	**Vranov**	**144.06**	**328**	PKP	PKPdf	09 06 14.1	-1.0
	comp=Z,1.8nm,0.5s,baz=72,slow=6.1,SNR=3.3						
PVCC	**Panska Ves**	**144.16**	**332**	*e*PKP	PKPdf	09 06 13.4	-1.9
PVCC				*ex*	x	09 06 25.4	
BRG	**Berggiesshubel**	**144.18**	**332**	*e*PKPbc	PKPdf	09 06 13.5	-1.8
BRG	**Berggiesshubel**	**144.18**	**332**	*e*(P)	PKPdf	09 06 13.1	-2.2
	comp=Z,16nm,1.2s						
BRG				*i*		09 06 24.8	
	comp=Z,18nm,1.2s						
BRG	**Berggiesshubel**	**144.18**	**332**	*e*PKP	PKPdf	09 06 13.4	-1.9
	comp=Z,16nm,1.2s						
BRG				*i*		09 06 25.2	
	comp=Z,13nm,1.0s						
CLL	**Collm**	**144.26**	**334⇑**	*i*PKP	PKPdf	09 06 13.3	-2.1
CLL				*i* pPKP	pPKPdf	09 06 25.0	-2.7
CLL	**Collm**	**144.26**	**334⇑**	*e*PKPbc	PKPdf	09 06 13.4	-2.0
CLL	**Collm**	**144.26**	**334⇑**	*i*PKPdf	PKPdf	09 06 13.3	-2.1
	comp=Z,8.0nm,0.9s						
CLL				*i* (pPKPdf)		09 06 25.0	
	comp=Z,14nm,1.0s						
CLL				*i* (pPKiKP)		09 06 30.1	
CLL	**Collm**	**144.26**	**334**	*i* (PKP)	pPKPdf	09 06 33.6	+5.9
	comp=Z,8.0nm,0.9s						
MODS	**Modra-Piesok**	**144.33**	**327**	*e*PKP	PKPdf	09 06 15.0	-0.6
MODS				*e*		09 06 26.6	
ZST	**Bratislava**	**144.53**	**327**	*e*PKP	PKPdf	09 06 15.3	-0.7
ZST				*e*		09 06 26.4	
PRU	**Pruhonice**	**144.56**	**331**	*e*PKP	PKPdf	09 06 14.7	-1.3
PRU				*ex*	x	09 06 25.7	
CLZ	**Clausthal**	**144.88**	**336**	*e*PKPbc	PKPdf	09 06 15.7	-0.8
SOP	**Sopron**	**145.14**	**326⇑**	*e*PKP	PKPdf	09 06 17.3	+0.3
TANN	**Tannenbergstha**	**145.16**	**333**	*e*PKPbc	PKPbc	09 06 16.8	+0.2
TANN				*ep*PKPbc	pPKPbc	09 06 28.5	-0.3
NKC	**Novy Kostel**	**145.30**	**333**	*e*PKP	PKPdf	09 06 17.2	0.0
NKC				*ex*	x	09 06 28.8	
MOX	**Moxa**	**145.34**	**334**	*e*P	PKPbc	09 06 17.2	0.0
MOX				*e*		09 06 28.9	
MOX	**Moxa**	**145.34**	**334**	*e*P	PKPbc	09 06 17.2	0.0
MOX				*e*		09 06 28.9	
	comp=Z,45nm,1.3s						
CONA	**Conrad Observa**	**145.34**	**327**	*i* PKPdf	PKPdf	09 06 17.8	+0.5
	comp=Z,21nm,0.9s,SNR=14						
IBBN	**Ibbenburen**	**145.42**	**339**	*e*PKPbc	PKPbc	09 06 17.2	-0.2
KHC	**Kasperske Hory**	**145.61**	**331**	*e*PKP	PKPdf	09 06 18.0	+0.2
KHC				*e*		09 06 29.9	
KHC	**Kasperske Hory**	**145.61**	**331**	*e*PKP	PKPdf	09 06 18.0	+0.2
KHC				*ex*	x	09 06 29.9	
ROTZ	**Rotzenmuhle**	**145.75**	**333**	*e*PKPbc	PKPbc	09 06 19.1	+0.6
ROTZ				*ep*PKPbc	pPKPbc	09 06 30.7	0.0
GEC2	**GERESS Array S**	**145.76**	**330**	*e*PKPdf	PKPdf	09 06 18.4	+0.4
GEC2	**GERESS Array S**	**145.76**	**330**	*e*PKPbc	PKPbc	09 06 18.4	-0.1
GEC2				*ep*PKPbc	pPKPbc	09 06 30.5	-0.2
GERES	**GERESS Array B**	**145.76**	**330**	PKPbc	PKPbc	09 06 18.5	0.0
	comp=Z,10nm,0.8s,baz=35,slow=3.3,SNR=80						
UBBA	**Unterbreizbach**	**145.84**	**336**	*e*PKPbc	PKPbc	09 06 18.7	0.0
WET	**Wettzell**	**145.92**	**331**	*e*PKPbc	PKPbc	09 06 19.3	+0.3
MOA	**Molln**	**146.18**	**328⇑**	*i*P	PKPdf	09 06 20.4	+1.6
	comp=Z,17nm,1.2s,SNR=8.6						
MOA	**Molln**	**146.18**	**328⇑**	*i*pPKPdf	PKPbc	09 06 20.4	+0.6
	comp=Z,17nm,1.2s,SNR=8.6						
GRF	**Grafenberg Arr**	**146.23**	**333**	*e*PKPbc	PKPbc	09 06 20.0	+0.1
GRF				*ep*PKPbc	pPKPbc	09 06 32.3	+0.2
PERS	**Pernice**	**146.57**	**326**	*e*PKPbc	PKPbc	09 06 20.7	-0.4
PERS				*i* pPKPbc	pPKPbc	09 06 32.3	-1.0
CRES	**Cresnjev**	**146.91**	**325**	*e*PKPbc	PKPbc	09 06 22.0	0.0
DMUB	**Kingscourt**	**146.99**	**355**	*e*P	pPKPdf	09 06 33.9	+1.6
BOJS	**Bojanci**	**147.23**	**324**	*e*PKPbc	PKPbc	09 06 23.1	+0.1
LJU	**Ljubljana**	**147.26**	**326**	*e*PKPbc	PKPbc	09 06 23.0	-0.1
LJU				*i* pPKPbc	pPKPbc	09 06 34.6	-0.7
MEM	**Membach**	**147.44**	**339**	PKP	PKPbc	09 06 23.1	-0.3
CEY	**Cerknica**	**147.52**	**325**	*e*PKPbc	PKPbc	09 06 23.7	-0.1
CEY				*i* pPKPbc	pPKPbc	09 06 35.3	-0.7
VOY	**Vojsko**	**147.60**	**326**	*e*PKPbc	PKPbc	09 06 23.4	-0.6
VOY				*ep*PKPbc	pPKPbc	09 06 35.1	-1.1
STU	**Stuttgart**	**147.78**	**334**	*e*PKPbc	PKPbc	09 06 24.5	+0.1
WLF	**Walferdange**	**148.20**	**338**	*e*PKPbc	PKPbc	09 06 26.1	+0.6
WLF	**Walferdange**	**148.20**	**338**	PKP	PKPbc	09 06 26.1	+0.6
GIVF	**Givet**	**148.26**	**340**	*e*PKP1	PKPbc	09 06 24.9	-0.7
	comp=Z,18nm,0.9s						
DOU	**Dourbes**	**148.34**	**340**	PKP	PKPbc	09 06 25.7	-0.1
FETA	**Feichten**	**148.46**	**331**	*i* PKiKP	PKiKP	09 06 26.3	-1.5
	comp=Z,9.9nm,0.9s,SNR=6.1						
BFO	**Black Forest**	**148.48**	**335**	*e*PKPbc	PKPbc	09 06 25.5	-0.7
BFO	**Black Forest**	**148.48**	**335**	*e*PKPbc	PKPbc	09 06 25.9	-0.3
BAIF	**Baives**	**148.50**	**341**	*e*PKP1	PKPbc	09 06 25.6	-0.6
CDF	**Champ du Feu**	**148.83**	**336**	*e*PKP1	PKPbc	09 06 26.4	-0.7
	comp=Z,18nm,1.2s						
DAVOX	**Davos/Dischmat**	**149.02**	**331**	PKPbc	PKPbc	09 06 27.8	+0.1
	comp=Z,9.0nm,0.7s,baz=81,slow=0.1,SNR=16						
HINF	**Hinteralfeld**	**149.48**	**335**	*e*PKP1	PKPbc	09 06 27.8	-1.0
HAU	**Haudompre**	**149.52**	**336**	*e*PKP1	PKPbc	09 06 28.0	-0.9
	comp=Z,15nm,0.9s						
MEZF	**Maizieres J'vi**	**149.57**	**338**	*e*PKP1	PKPbc	09 06 28.6	-0.4
	comp=Z,19nm,0.8s						
TIP	**Timpagrande**	**149.85**	**313**	*e*PKPbc	PKPbc	09 06 30.4	+0.4
AQU	**L'Aquila**	**150.24**	**321**	*e*PKPbc	PKPbc	09 06 31.1	+0.3
CABF	**La Chapelle**	**150.77**	**335**	*e*PKP1	PKPbc	09 06 31.6	-0.3
	comp=Z,14nm,0.9s						
LOR	**Lormes**	**151.04**	**338**	*e*PKP1	PKPbc	09 06 31.7	-0.8
	comp=Z,4.2nm,0.6s						
SSF	**Saint Saulge**	**151.34**	**339**	*e*PKP1	PKPbc	09 06 32.5	-0.7
	comp=Z,9.1nm,0.8s						
LPL	**La Plagne**	**151.39**	**333**	*e*PKP1	PKPbc	09 06 33.2	-0.2
LPG	**La Plagne**	**151.39**	**333**	*e*PKP1	PKPbc	09 06 33.3	-0.1
SMF	**Signal de Mont**	**151.58**	**338**	*e*PKP1	PKPbc	09 06 33.6	-0.2
AVF	**Avril sur Loir**	**151.63**	**338**	*e*PKP1	PKPbc	09 06 33.4	-0.5
BNI	**Bardonecchia**	**151.78**	**332**	*e*PKPbc	PKPbc	09 06 34.2	-0.1
MBDF	**Montbardon**	**151.99**	**332**	*e*PKP1	PKPbc	09 06 34.6	-0.2
	comp=Z,3.3nm,0.7s						
BGF	**Bois d'Agland**	**152.00**	**339**	*e*PKP1	PKPbc	09 06 34.7	-0.1
ORIF	**Oris-en-Rattie**	**152.23**	**333**	*e*PKP1	PKPbc	09 06 35.3	0.0
	comp=Z,7.1nm,0.7s						
SBF	**Sospel**	**152.36**	**330**	*e*PKP1	PKPbc	09 06 34.5	-1.2
TCF	**Toulx Ste Croi**	**152.45**	**339**	*e*PKP1	PKPbc	09 06 35.0	-0.8
PGF	**Pioggiola**	**152.55**	**326**	*e*PKP1	PKPbc	09 06 35.4	-0.7
	comp=Z,20nm,0.9s						
VIVF	**Saint-Julien-l**	**152.77**	**335**	*e*PKP1	PKPbc	09 06 36.6	0.0
FRF	**La Foret Royal**	**152.96**	**330**	*e*PKP1	PKPbc	09 06 35.8	-1.2
SMRF	**Simiane la Rot**	**153.11**	**332**	*e*PKP1	PKPbc	09 06 36.8	-0.5
	comp=Z,12nm,1.1s						
LMR	**La Mourre**	**153.20**	**330**	*e*PKP1	PKPbc	09 06 36.3	-1.2
VSL	**Villasalto**	**154.40**	**321**	*e*PKPbc	PKPbc	09 06 38.9	-1.4
VSL				*e*PKPab	PKPab	09 06 51.7	-2.9
TORD	**Torodi Ar. Bea**	**165.27**	**240**	PKP	PKPdf	09 06 44.7	-0.2
	comp=Z,1.1nm,0.8s,baz=334,slow=1.5,SNR=6.2						
TORD				PKPab	PKPab	09 07 41.9	-0.6
	comp=Z,0.4nm,0.7s,baz=140,slow=5.5,SNR=2.2						

CSEM ***07*** *08:49:37.0±0.1, 3937N×3041E, h15km, MD2.7, Error ellipse: s-maj=4.9km s-min=2.8km az=144.0*
ISK ***07*** *08:49:37.3, 3931N×3046E, h3km, MD2.7*
ISCJB ***07*** *08:49:38.2±0.7, 3931N±005×3045E±006, h8km±10km, Error ellipse: s-maj=10.7km s-min=5.0km az=141.4*
DDA ***07*** *08:49:38.3, 3928N×3046E, h7km±5km, Md2.7*
ISC 07 08:49:38.6±0.7, 3930N±006×3046E±007, h8km±12km, n8, σ0°84/16, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALT	**Altintas**	**0.37**	**229**	*e*PG	**Pg**	**08 49 45.5**	**-0.2**
ALT				*e*SG	**Sg**	**08 49 50.8**	**+0.2**
ESKT	**Eskisehir**	**0.37**	**53**	PG	**Pg**	**08 49 45.5**	**-0.4**
ESKT				SG	**Sg**	**08 49 51.3**	**+0.5**
ESKT	**Eskisehir**	**0.37**	**53**	*i* P	**Pg**	**08 49 45.2**	**-0.7**
ESKT				*i* S	**Sg**	**08 49 51.8**	**+1.0**
SEYT	**Eskypehyr**	**0.37**	**53**	*i* P	**Pg**	**08 49 45.2**	**-0.7**
SEYT				*i* S	**Sg**	**08 49 51.8**	**+1.0**
BORA	**Eskisehir**	**0.58**	**359**	*i* P	**Pg**	**08 49 48.5**	**-1.3**
BORA				*i* S	**Sg**	**08 49 58.3**	**+0.8**
BORA	**Eskisehir**	**0.58**	**359**	*i* P	**Pg**	**08 49 48.5**	**-1.4**
BORA				*i* S	**Sg**	**08 49 58.3**	**+0.8**
GDZ	**Gediz**	**0.79**	**255**	*i* P	**Pg**	**08 49 53.2**	**-0.6**
GDZ				*i* S	**Sg**	**08 50 05.1**	**+0.9**
KIZT	**Kizilcal**	**1.18**	**110**	*e*PN	**Pn**	**08 50 00.2**	**-1.1**
KIZT				*e*SN	**Sn**	**08 50 18.5**	**+1.0**

PDA ***07*** *08:50:59.4±0.8, 3728N×2465W, h5km, MD4.0, ML3.4, Error ellipse: s-maj=7.4km s-min=2.9km az=84.0*
CSEM ***07*** *08:50:59.4±0.8, 3728N×2465W, h5km, ML3.4, Error ellipse: s-maj=7.4km s-min=2.9km az=84.0, After PDA*
SVSA 07 08:50:59.4±0.8, 3728N×2465W, h5km, MD4.0, ML3.4, Error ellipse: s-maj=7.4km s-min=2.9km az=84.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSMN	**Pico do Norte,**	**0.43**	**231**	*e*P	Pg	08 51 06.6	-1.1
PSMN				*e*S	Sg	08 51 12.8	-0.5
PDA	**Ponta Delgada**	**0.94**	**301**	*e*S	Sg	08 51 25.0	-4.5
ADH	**Angra Heroismo**	**2.47**	**305**	*e*S	Sn	08 52 02.5	-8.2
PID	**Ribeirinha**	**2.98**	**294**	*e*P	Pn	08 51 42.8	-4.6
PMAN	**Manadas**	**3.04**	**298**	*e*P	Pn	08 51 43.3	-4.8
PMAN				*e*S	Sn	08 52 16.6	-8.3
PMAN				A		08 52 18.8	
	25nm,0.1s						
PMAN	**Manadas**	**3.04**	**298**	*e*P	Pn	08 51 43.3	-4.8
PMAN				*e*S	Sn	08 52 16.6	-8.3
ROSA	**Rosais**	**3.19**	**298**	*e*P	Pn	08 51 45.5	-4.6
PICO	**Pico**	**3.23**	**293**	*e*P	Pn	08 51 46.9	-3.8
PICO				*e*S	Sn	08 52 21.6	-8.0
CALA	**Caldeira**	**3.46**	**293**	*e*P	Pn	08 51 49.5	-4.4
CALA				*e*S	Sn	08 52 26.9	-8.4

NEIC ***07*** *08:54:35.8, 18.18N×99.43W, h59km, MD3.7(MEX), After MEX.*
MEX 07 08:54:35.8±0.3, 1818N×9943W, h59km±4km, MD3.7, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLIG	**Platanillo**	**0.22**	**341**	*i* P	Pn	08 54 44.0	-1.2
PLIG				*i* S	Sn	08 54 50.5	-1.5
MEIG	**Mezcala**	**0.31**	**216**	*i* P	Pn	08 54 44.6	-1.3
MEIG				*i* S	Sn	08 54 51.6	-1.5
YAIG	**Yautepec**	**0.76**	**27**	*i* P	Pn	08 54 49.5	-1.2
YAIG				*i* S	Sn	08 55 00.1	-1.5
PPM	**Popocatepetl**	**1.16**	**41**	*i* P	Pn	08 54 54.6	-1.3
PPM				*i* S	Sn	08 55 09.4	-1.5
ACX	**Acapulco**	**1.39**	**200**	*i* P	Pn	08 54 57.8	-1.2
ACX				*i* S	Sn	08 55 14.7	-1.6
UTMO	**Huajuapan**	**1.58**	**103**	*e*P	Pn	08 55 01.1	-0.5
UTMO				*i* S	Sn	08 55 19.3	-1.7

ISCJB ***07*** *08:55:11.8±2.7, 405N±0.1×26.1E±0.2, h37km±34km, Error ellipse: s-maj=34.3km s-min=8.1km az=37.5*
CSEM ***07*** *08:55:11.5, 4049N×2614E, h32km, MD2.6, After ISK*
ISK ***07*** *08:55:11.5, 4049N×2614E, h32km, MD2.6, ML2.3*
ISC 07 08:55:11.8±2.1, 405N±01×261E±02, h38km±24km, n6, σ0°31/10, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENEZ	**Enez**	**0.24**	**7**	PG	**Pn**	**08 55 19.5**	**+0.3**
ENEZ				SG	**Sn**	**08 55 24.0**	**-0.3**
GADA	**Gvkgeada**	**0.35**	**208**	PG	**Pn**	**08 55 20.6**	**+0.2**
GADA				SG	**Sn**	**08 55 26.5**	**+0.1**
BOZC	**Bozcaada**	**0.66**	**184**	*i* P	**Pn**	**08 55 24.4**	**-0.2**
RKY	**Sarkoy-Tekirda**	**0.83**	**77**	*e*PG	**Pn**	**08 55 26.4**	**-0.5**
RKY				*e*SG	**Sn**	**08 55 37.8**	**-0.2**
SART	**Tekirdag**	**0.83**	**77**	*i* P	**Pn**	**08 55 26.8**	**-0.2**
MFT	**Murefte**	**0.93**	**72**	*e*PG	**Pn**	**08 55 28.6**	**+0.3**
MFT				*e*SG	**Sn**	**08 55 41.0**	**+0.5**

ISCJB ***07*** *09:07:41.8±0.7, 685N±006×73.05W±008, h174km±7km, mb3.3/2, Error ellipse: s-maj=15.5km s-min=7.1km az=34.6*
FUNV ***07*** *09:07:42.3, 672N×73.18W, h164km, MW3.1*
IDC ***07*** *09:07:42.4±0.8, 660N×72.80W, h169km±8km, mb3.0/2, mb1 3.3/4, mb1mx3.0/21, mbtmp3.1/4, MS2.9/1, Ms1 2.9/1, ms1mx2.7/8, Error ellipse: s-maj=32.1km s-min=7.6km az=130.0*
ISC 07 09:07:42.8±0.7, 684N±007×7303W±008, h169km±7km, n15, σ0°90/20, mb3.3/2, 3C-4D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**1.25**	**35⇓**	*i*P	**Pn**	**09 08 12.0**	**+0.6**
CAPV				*e*S	**Sn**	**09 08 33.2**	**-0.3**
ROSC	**El Rosal**	**2.35**	**213**	P	**Pn**	**09 08 23.9**	**+0.8**
	16nm,0.3s,baz=286,slow=13,SNR=82						
ROSC				S	**Sn**	**09 08 54.0**	**-0.4**
	17nm,0.3s,baz=104,slow=15,SNR=12						
VIGV	**El Vigia**	**2.59**	**40⇓**	*e*P	**Pn**	**09 08 26.3**	**+0.4**
VIGV				*e*S	**Sn**	**09 08 59.8**	**+0.5**
SOCV	**Socops**	**2.59**	**56⇓**	*e*P	**Pn**	**09 08 26.7**	**+0.7**
SOCV				*e*S	**Sn**	**09 08 58.4**	**-1.0**
SDV	**Santo Domingo**	**3.13**	**49**	P	**Pn**	**09 08 33.5**	**+1.0**
	9.9nm,0.3s,baz=249,slow=2.7,SNR=52						
SDV				S	**Sn**	**09 09 11.1**	**-0.1**
	9.1nm,0.3s,baz=85,slow=20,SNR=20						
SDV				LR	LR	09 09 52.1	
	comp=Z,203nm,21.9s,baz=330,slow=42						
ELOV	**Elorza**	**3.53**	**87⇓**	*i*P	**Pn**	**09 08 37.9**	**+0.4**
VIRV	**Villa del Rosa**	**3.69**	**10⇑**	*e*P	**Pn**	**09 08 38.9**	**-0.8**
VIRV				*e*S	**Sn**	**09 09 22.0**	**-2.0**
QARV	**Quebrada Arrib**	**4.17**	**36⇑**	*i*P	**Pn**	**09 08 46.3**	**+0.6**
SANV	**Sanarito**	**4.36**	**52**	*e*P	**Pn**	**09 08 49.0**	**+0.9**
CURV	**Curarigua**	**4.38**	**44**	*e*P	**Pn**	**09 08 48.5**	**0.0**
SIQV	**Siquisique**	**4.95**	**40**	*e*P	**Pn**	**09 08 56.0**	**+0.2**
CAOV	**Caicara del Or**	**6.68**	**85⇑**	*e*P	**Pn**	**09 09 17.6**	**-1.1**
LPAZ	**La Paz**	**23.48**	**168**	P	**P**	**09 12 34.7**	**-2.7**
	0.5nm,0.3s,mb3.4,baz=333,slow=5.8,SNR=7.0						
YKA	**Yellowknife Ar**	**63.28**	**340**	P	**P**	**09 17 54.2**	**+1.0**
	0.2nm,0.6s,mb3.1,baz=137,slow=6.5,SNR=4.7						
WRA	**Warramunga Arr**	**150.42**	**241**	PKPbc	PKPbc	09 27 15.4	+0.2
	0.2nm,0.6s,baz=110,slow=2.4,SNR=5.2						

IDC 07 09:08:28.5±37.0, 2033S×16948E, h0km, mb3.9/4, mb1 4.1/4, mb1mx3.8/13, mbtmp3.9/4, Error ellipse: s-maj=632.5km s-min=106.8km az=80.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**27.48**	**240**	P	P	09 14 16.6	+0.1
	1.9nm,0.8s,baz=76,slow=8.3,SNR=4.8						
WRA	**Warramunga Arr**	**32.96**	**264**	P	P	09 15 05.4	+0.2
	0.4nm,0.7s,baz=98,slow=9.2,SNR=7.9						
ASAR	**Alice Springs**	**33.10**	**258**	P	P	09 15 06.6	+0.2
	2.4nm,0.7s,baz=85,slow=9.3,SNR=27						
FITZ	**Fitzroy Crossi**	**41.37**	**265**	P	P	09 16 16.2	-0.5
	2.0nm,0.6s,baz=133,slow=10,SNR=4.7						

CSEM ***07*** *09:12:59.0±0.7, 3723N×2464W, h0km, MD4.1, Error ellipse: s-maj=5.7km s-min=2.8km az=92.0, After PDA*
PDA ***07*** *09:12:59.0±0.7, 3723N×2464W, h0km, MD4.1, Error ellipse: s-maj=5.7km s-min=2.8km az=92.0*
SVSA 07 09:12:59.0±0.7, 3723N×2464W, h0km, MD4.1, Error ellipse: s-maj=5.7km s-min=2.8km az=92.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSMN	**Pico do Norte,**	**0.41**	**236**	*e*P	Pg	09 13 06.7	-0.2
PSMN				*e*S	Sg	09 13 12.3	0.0
PDA	**Ponta Delgada**	**0.96**	**302**	*e*P	Pg	09 13 13.3	-4.2
PDA				*e*S	Sg	09 13 25.1	-4.9
ADH	**Angra Heroismo**	**2.50**	**305**	*e*S	Sn	09 14 03.1	-8.9
PID	**Ribeirinha**	**3.01**	**295**	*e*P	Pn	09 13 43.5	-4.4
ROSA	**Rosais**	**3.21**	**299**	*e*P	Pn	09 13 45.8	-4.9
ROSA				*e*S	Sn	09 14 21.1	-8.6
PICO

3.7nm,0.3s

EVO				*e*MLR	MLR		
	comp=Z,271nm,19.5s						
ESDC	**Sonseca Array**	**16.32**	**76**	Pn	**Pn**	**09 30 54.1**	**+6.1**
	baz=271,slow=11,SNR=9.4						
QUIF	**Quistinic**	**18.91**	**49**	*e*P	**Pn**	**09 31 20.1**	**+0.1**
ROSF	**Rostrenen**	**19.03**	**48**	*e*P	**Pn**	**09 31 21.4**	**-0.1**
ETSF	**Etsaut**	**19.17**	**66**	*e*P	**Pn**	**09 31 22.7**	**-0.5**
SGMF	**Saint Gilles**	**19.42**	**49**	*e*P	**Pn**	**09 31 25.6**	**-0.6**
EPF	**Esparros**	**19.84**	**66**	*e*P	**Pn**	**09 31 30.2**	**-1.0**
	comp=Z,3.7nm,0.9s						
EPF	**Esparros**	**19.84**	**66**	*e*P	**Pn**	**09 31 30.2**	**-1.0**
	comp=Z,1.9nm,0.9s						
MFF	**Saint Martin d**	**20.32**	**55**	*e*P	**P**	**09 31 35.1**	**+0.3**
	comp=Z,32nm,1.2s						
MFF	**Saint Martin d**	**20.32**	**55**	*e*P	**P**	**09 31 35.1**	**+0.3**
	comp=Z,16nm,1.2s						
LFF	**La Frestale**	**20.47**	**60**	*e*P	**P**	**09 31 36.8**	**+0.3**
	comp=Z,17nm,0.8s						
LFF	**La Frestale**	**20.47**	**60**	*e*P	**P**	**09 31 36.8**	**+0.3**
	comp=Z,8.3nm,0.8s						
GRR	**Gorron**	**20.51**	**50**	*e*P	**P**	**09 31 37.3**	**+0.5**
	comp=Z,35nm,1.1s						
GRR	**Gorron**	**20.51**	**50**	*e*P	**P**	**09 31 37.3**	**+0.5**
	comp=Z,17nm,1.1s						
FLN	**La Foliniere**	**20.89**	**49**	*e*P	**P**	**09 31 41.4**	**+0.4**
	comp=Z,37nm,1.2s						
FLN	**La Foliniere**	**20.89**	**49**	*e*P	**P**	**09 31 41.4**	**+0.4**
	comp=Z,18nm,1.2s						
LDF	**La Druitiere**	**21.04**	**50**	*e*P	**P**	**09 31 42.8**	**+0.2**
CAF	**Calviac**	**21.39**	**61**	*e*P	**P**	**09 31 46.4**	**0.0**
	comp=Z,17nm,1.1s,mb4.0						
CAF	**Calviac**	**21.39**	**61**	*e*P	**P**	**09 31 46.4**	**0.0**
	comp=Z,8.4nm,1.1s,mb4.0						
TCF	**Toulx Ste Croi**	**21.79**	**57**	*e*P	**P**	**09 31 50.5**	**-0.2**
	comp=Z,7.0nm,0.9s,mb3.8						
TCF	**Toulx Ste Croi**	**21.79**	**57**	*e*P	**P**	**09 31 50.5**	**-0.2**
	comp=Z,3.5nm,0.9s,mb3.8						
BGF	**Bois d'Agland**	**22.29**	**57**	*e*P	**P**	**09 31 55.1**	**-0.9**
LASF	**Ste Croix**	**22.52**	**64**	*e*P	**P**	**09 31 57.3**	**-1.2**
	comp=Z,9.3nm,1.0s,mb3.9						
LASF	**Ste Croix**	**22.52**	**64**	*e*P	**P**	**09 31 57.3**	**-1.2**
	comp=Z,4.7nm,1.0s,mb3.9						
SMF	**Signal de Mont**	**22.97**	**57**	*e*P	**P**	**09 32 02.7**	**-0.6**
	comp=Z,20nm,1.3s,mb4.1						
SMF	**Signal de Mont**	**22.97**	**57**	*e*P	**P**	**09 32 02.7**	**-0.6**
	comp=Z,10.0nm,1.3s,mb4.1						
EKA	**Eskdalemuir Ar**	**23.11**	**32**	P	**P**	**09 32 08.0**	**+3.3**
	comp=Z,1.1nm,1.0s,mb3.2,baz=321,slow=24,SNR=3.7						
VIVF	**Saint-Julien-l**	**23.20**	**62**	*e*P	**P**	**09 32 04.2**	**-1.5**
	comp=Z,7.5nm,0.9s,mb3.8						
VIVF	**Saint-Julien-l**	**23.20**	**62**	*e*P	**P**	**09 32 04.2**	**-1.5**
	comp=Z,3.8nm,0.9s,mb3.8						
SMRF	**Simiane la Rot**	**23.74**	**64**	*e*P	**P**	**09 32 09.1**	**-2.0**
ORIF	**Oris-en-Rattie**	**24.06**	**62**	*e*P	**P**	**09 32 12.4**	**-1.7**
LMR	**La Mourre**	**24.36**	**66**	*e*P	**P**	**09 32 15.3**	**-1.5**
PGF	**Pioggiola**	**26.16**	**68**	*e*P	**P**	**09 32 32.2**	**-1.0**
NOA	**NORSAR Array B**	**32.60**	**32**	LR	LR	09 46 22.1	
	comp=Z,11.3nm,18.5s,baz=355,slow=36						
TORD	**Torodi Ar. Bea**	**33.67**	**129**	P	**P**	**09 33 41.9**	**+2.0**
TORD	**Torodi Ar. Bea**	**33.67**	**129**	P	**P**	**09 33 41.9**	**+2.0**
	comp=Z,1.4nm,0.7s,mb4.0,baz=312,slow=11,SNR=12						
AKASG	**Malin Array Be**	**40.05**	**53**	P	**P**	**09 34 35.7**	**+1.8**
	comp=Z,0.1nm,0.3s,mb3.1,baz=279,slow=7.6,SNR=4.4						
YKA	**Yellowknife Ar**	**57.63**	**327**	P	**P**	**09 36 49.4**	**+0.8**
	comp=Z,0.5nm,0.8s,mb3.6,baz=68,slow=7.0,SNR=6.1						
JCT	**Junction City**	**61.26**	**288**	*e*P	**P**	**09 37 14.8**	**+0.6**
	comp=Z,3.7nm,0.7s,mb4.6						
JCT	**Junction City**	**61.26**	**288**	*e*P	**P**	**09 37 14.8**	**+0.6**
	comp=Z,3.7nm,0.7s,mb4.6						
PDAR	**Pinedale Array**	**62.57**	**304**	P	**P**	**09 37 24.8**	**+1.9**
	comp=Z,0.6nm,0.8s,mb3.8,baz=72,slow=5.3,SNR=5.1						
TXAR	**Lajitas Array**	**64.74**	**289**	P	**P**	**09 37 39.4**	**+2.0**
TXAR	**Lajitas Array**	**64.74**	**289**	P	**P**	**09 37 39.4**	**+2.0**
	comp=Z,2.4nm,0.8s,mb4.2,baz=92,slow=7.6,SNR=8.6						
ZALV	**Zalesovo Beam**	**70.67**	**36**	P	**P**	**09 38 16.6**	**+2.2**
	comp=Z,0.6nm,0.5s,mb3.8,baz=305,slow=5.2,SNR=4.9						
MKAR	**Makanchi Array**	**73.73**	**43**	P	**P**	**09 38 34.6**	**+1.8**
	comp=Z,0.3nm,0.4s,mb3.6,baz=298,slow=5.2,SNR=5.2						
SONM	**Songino Array**	**84.58**	**31**	P	**P**	**09 39 34.5**	**+2.4**
	comp=Z,1.4nm,1.0s,mb4.1,baz=317,slow=5.0,SNR=7.4						

IDC 07 09:30:40.7±27.0, 2127S×17343W, h0km, mb3.9/4, mb1 4.0/4, mb1mx3.7/16, mbtmp3.9/4, Error ellipse: s-maj=506.6km s-min=158.6km az=76.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**37.66**	**264**	P	P	09 37 58.7	+0.8
	6.0nm,1.0s,baz=97,slow=13,SNR=3.9						
STKA	**Stephens Creek**	**41.33**	**246**	P	P	09 38 27.1	-1.3
	1.1nm,0.8s,baz=90,slow=8.1,SNR=4.0						
ASAR	**Alice Springs**	**48.50**	**257**	P	P	09 39 25.4	-0.2
	0.5nm,0.6s,baz=95,slow=7.6,SNR=10.0						
WRA	**Warramunga Arr**	**48.72**	**262**	P	P	09 39 27.7	+0.3
	0.3nm,0.3s,baz=94,slow=8.3,SNR=46						

WEL 07 09:41:22.0±0.8, 3573S×17867E, h106km±35km, ML3.6/10, Error ellipse: s-maj=15.0km s-min=14.9km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.86**	**189**	PN	Pn	09 41 52.7	-0.3
MXZ				SN	Sn	09 42 15.9	-0.7
PUZ	**Puketiti**	**2.37**	**188**	PN	Pn	09 41 59.6	+0.1
PUZ				SN	Sn	09 42 27.3	-1.0
MWZ	**Matawai**	**2.76**	**199**	PN	Pn	09 42 05.3	+0.6
MWZ				SN	Sn	09 42 37.7	+0.2
URZ	**Urewera**	**2.82**	**206**	PN	Pn	09 42 05.7	+0.2
URZ				SN	Sn	09 42 39.3	+0.3
KNZ	**Kokohu**	**3.38**	**193**	PN	Pn	09 42 11.4	-1.5
BKZ	**Black Stump Fm**	**3.85**	**206**	PN	Pn	09 42 18.4	-0.8
PXZ	**Pawanui**	**4.53**	**198**	PN	Pn	09 42 25.0	-3.3
PXZ				SN	Sn	09 43 15.9	-4.1
TSZ	**Takapari Road**	**4.83**	**206**	*e*PN	Pn	09 42 29.2	-3.2
BFZ	**Birch Farm**	**5.30**	**200**	PN	Pn	09 42 35.5	-3.3
MRZ	**Mangatainoka R**	**5.50**	**205**	*e*PN	Pn	09 42 37.4	-4.0
TIWZ	**Tintock**	**5.50**	**203**	PN	Pn	09 42 38.0	-3.4
KIW	**Kapiti Island**	**5.92**	**209**	*e*PN	Pn	09 42 43.4	-3.8

*BJI **07** 09:51:49.0, 288N×9567E, h31km, mB6.0, mb5.7, Ms6.4, Msz6.3*

*ISCJB **07** 09:51:49.8±0.1, 293N±002×9573E±002, h29km, mb5.6/212, MS6.1/247, Error ellipse: s-maj=3.6km s-min=2.4km az=20.9*

*MOS **07** 09:51:50.6±1.1, 302N×9583E, h33km, mb5.8/106, MS6.0/50, Error ellipse: s-maj=7.7km s-min=3.8km az=117.9*

*NEIC **07** 09:51:51.6±0.1, 292N×9570E, h30km, mb5.6/121, MS6.1/180, MW6.0, Error ellipse: s-maj=5.3km s-min=3.5km az=211.0, Moment Tensor Solution. s39 Moment tensor: Scale 10^18^Nm; Mrr0.00; Mθθ0.00; Mφφ0.00; Mrθ0.00; Mrφ0.00; Mθφ0.00; Best double couple: M0=1.20000×10^18^ NP1:φs292.00000°, δ17.00000°, λ76.00000°. NP2:φs126.00000°, δ73.00000°, λ94.00000°. Principal axes: T 1.0700, Plg62.0000°, Azm43.0000°; N 0.2300, Plg4.0000°, Azm305.0000°; P -1.3100, Plg28.0000°, Azm213.0000°;*

NEIC Felt [IV] at Sinabang. Also felt [IV] at Meulaboh; felt at Banda Aceh, Sumatra.

*GCMT **07** 09:51:51.6±0.1, 274N×9548E, h12km, MW6.1/108, Moment Tensor Solution. s108,c240; s101,c259; Duration: 28 Moment tensor: Scale 10^18^Nm; Mrr0.39±.01; Mθθ-0.27±.01; Mφφ-0.12±.01; Mrθ1.18±.02; Mrφ0.29±.01; Mθφ-1.31±.02; Best double couple: M0=1.81700×10^18^ NP1:φs293.00000°, δ8.00000°, λ65.00000°. NP2:φs138.00000°, δ83.00000°, λ93.00000°. Principal axes: T 1.7750, Plg52.0000°, Azm51.0000°; N 0.0850, Plg3.0000°, Azm317.0000°; P -1.8600, Plg38.0000°, Azm225.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

*CRAAG **07** 09:51:52.0, 308N×9599E, Mb5.5*

*IDC **07** 09:51:54.9±1.9, 295N×9576E, h61km±16km, mb4.9/23, mb1 4.9/24, mb1mx4.9/24, mbtmp4.9/24, MS5.8/27, Ms1 5.8/27, ms1mx5.8/32, Error ellipse: s-maj=14.8km s-min=8.9km az=39.0*

*SZGRF **07** 09:51:54.9, 327N×9530E, h33km, mb5.9, MS5.8, Off west coast of northern Sumatera, Indonesia*

ISC 07 09:51:51.9±0.1, 292N±002×9569E±002, h31km, h31km±1.2km: pP-P, n873, σ1°04/733, mb5.6/212, MS6.1/247, 68C-29D, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TSI	**Tuntungan**	**2.93**	**79**	P	**Pn**	**09 52 38.0**	**+1.7**
	11μm,0.9s						
PSI	**Prapat**	**3.23**	**92**	P	**Pn**	**09 52 41.6**	**+1.1**
PSI				S	**Sn**	**09 53 19.6**	**+1.7**
PSI	**Prapat**	**3.23**	**92**	P	**Pn**	**09 52 41.5**	**+1.1**
	76nm,0.3s,baz=275,slow=8.6,SNR=256						
PSI				S	**Sn**	**09 53 19.6**	**+1.6**
	179nm,0.3s,baz=295,slow=14,SNR=6.5						
PSI				LR	LR	09 53 48.9	
	comp=Z,56μm,20.0s,baz=268,slow=36						
KULM	**Kulim**	**5.48**	**64**	*e*Pn	**Pn**	**09 53 12.5**	**+1.1**
KULM	**Kulim**	**5.48**	**64**	⇑P	**Pn**	**09 53 13.0**	**+1.6**
IPM	**Ipoh**	**5.54**	**74**	⇑P	**Pn**	**09 53 13.8**	**+1.5**
FRIM	**Kepong**	**5.93**	**87**	⇑P	**Pn**	**09 53 18.7**	**+1.1**
SNG	**Songkhla**	**6.48**	**49**	P	**Pn**	**09 53 25.5**	**+0.4**
	2μm,1.0s						
KGM	**Kluang**	**7.67**	**97**	⇑P	**Pn**	**09 53 42.6**	**+1.1**
KTGM	**Kuala Trenggan**	**7.80**	**72**	⇓P	**Pn**	**09 53 44.7**	**+1.4**
MYKOM	**Kota Tinggi**	**8.23**	**98**	⇓P	**Pn**	**09 53 50.0**	**+0.9**
PBA	**Port Blair**	**9.16**	**342**	*e*P	**Pn**	**09 54 01.6**	**-0.3**
PBA				*ex*	x	09 57 12.4	
KSI	**Kapahiang**	**9.50**	**133**	P	**Pn**	**09 54 06.2**	**-0.4**
	2μm,1.1s						
NNT	**Nongplab**	**10.41**	**22**	P	**Pn**	**09 54 25.0**	**+6.0**
KLI	**Kotabumi**	**11.98**	**130**	P	**Pn**	**09 54 41.9**	**+1.2**
	778nm,1.1s						
TPI	**Tanjungpandan**	**13.22**	**115**	P	**Pn**	**09 54 56.8**	**-0.8**
	234nm,1.9s						
NST	**Nakhon Sawan**	**13.40**	**19**	P	**Pn**	**09 55 00.0**	**-0.1**
	192nm,1.8s						
SBJI	**Serang**	**13.76**	**131**	P	**Pn**	**09 55 09.8**	**+4.9**
	379nm,0.9s						
BDT	**Bhumibol Dam**	**14.60**	**13**	P	**Pn**	**09 55 16.0**	**-0.4**
	36nm,1.2s						
KSM	**Kuching**	**14.68**	**95**	*e*Pn	**Pn**	**09 55 17.2**	**-0.3**
KSM	**Kuching**	**14.68**	**95**	⇑P	**Pn**	**09 55 18.6**	**+1.1**
LEM	**Lembang**	**15.35**	**129**	P	**Pn**	**09 55 31.1**	**+4.8**
	180nm,1.2s						
PALK	**Pallekele**	**15.54**	**287**	*e*Pn	**Pn**	**09 55 30.0**	**+1.2**
	236nm,1.0s						
PALK				*e*Sn	**Sn**	**09 58 03.5**	**-17**
PALK	**Pallekele**	**15.54**	**287**	Pn	**Pn**	**09 55 36.9**	**+8.1**
	SNR=14						
JCJI	**Jatiwangi**	**15.66**	**127**	P	**Pn**	**09 55 36.2**	**+5.8**
	346nm,1.1s						
CM31	**Ching Mai Arr**	**15.77**	**11**	*e*Pn	**Pn**	**09 55 31.6**	**-0.1**
CHG	**Chiang Mai**	**16.11**	**11**	⇑P	**Pn**	**09 55 35.2**	**-1.0**
	150nm,0.8s						
CHTO	**Chiang Mai**	**16.11**	**11**	*e*Pn	**Pn**	**09 55 35.1**	**-1.1**
	826nm,1.6s						
CHTO	**Chiang Mai**	**16.11**	**11**	*e*P	**Pn**	**09 55 35.1**	**-1.1**
CHTO				pmax	pmax		
	comp=Z,830nm,1.6s						
CHTO	**Chiang Mai**	**16.11**	**11**	Pn	**Pn**	**09 55 35.4**	**-0.8**
	SNR=168						
SBUM	**Sibu**	**16.52**	**91**	⇓P	**Pn**	**09 55 42.3**	**+0.9**
CHRT	**Chiangrai**	**17.31**	**13**	⇑P	**Pn**	**09 55 51.5**	**+0.2**
	comp=Z,855nm,1.0s						
BTM	**Bintulu**	**17.37**	**89**	⇓P	**Pn**	**09 55 53.9**	**+1.8**
MDRS	**Chennai**	**18.30**	**304**	*e*P	**Pn**	**09 56 03.9**	**+0.3**
MDRS				*ex*	x	10 00 56.5	
VIS	**Vishakhapatnam**	**19.06**	**321**	*e*P	**Pn**	**09 56 12.5**	**-0.3**
VIS				AMb	AMB	09 56 36.7	
	comp=Z,678nm,1.4s						
VIS				*ex*	x	09 59 30.7	
SALM	**Salem**	**19.38**	**297**	*ex*	**Pn**	**09 56 20.0**	**+3.4**
SALM				*ex*	x	09 59 41.0	
KOD	**Kodaikanal**	**19.50**	**293**	*e*P	**Pn**	**09 56 17.9**	**-0.1**
KOD				AMb	AMB	09 56 34.3	
	comp=Z,318nm,2.2s						
KKM	**Kota Kinabalu**	**20.69**	**81**	*e*P	**P**	**09 56 30.1**	**+0.4**
KKM	**Kota Kinabalu**	**20.69**	**81**	⇑P	**P**	**09 56 30.9**	**+1.2**
KMMI	**Kalianget**	**20.76**	**119**	P	**P**	**09 56 29.2**	**-1.1**
	comp=Z,454nm,1.1s						
QIZ	**Qiongzhong**	**21.17**	**40**	P	**P**	**09 56 35.0**	**+0.3**
QIZ				AP		09 56 43.7	
QIZ				S	**S**	**10 00 31.7**	**+3.1**
QIZ				XS	sS	10 00 41.8	-0.1
QIZ				AMB	AMB		
	comp=Z,183nm,1.9s,mb5.1						
QIZ				LR	LR		
	comp=N,84μm,16.7s						
QIZ				LR	LR		
	comp=Z,63μm,18.1s,MS6.0						
QIZ	**Qiongzhong**	**21.17**	**40**	*e*P	**P**	**09 56 34.2**	**-0.4**
	comp=Z,186nm,1.0s,mb5.4						
QIZ				LR	LR		
	comp=Z,63μm,19.0s,MS6.0						
AGT	**Agartala**	**21.28**	**349**	*i* P	**P**	**09 56 37.0**	**+1.2**
AGT				*i* x	x	09 57 11.0	
KDM	**Kudat**	**21.43**	**79**	⇓P	**P**	**09 56 38.5**	**+0.8**
SDKM	**Sandakan**	**21.61**	**82**	⇓P	**P**	**09 56 40.3**	**+0.8**
IMP	**Imphal**	**21.80**	**356**	*e*P	**P**	**09 56 40.0**	**-1.4**
IMP				*e*S	**S**	**10 00 41.0**	**+0.1**
HYB	**Hyderabad**	**22.15**	**312**	*e*P	**P**	**09 56 47.0**	**+1.8**
	comp=Z,240nm,1.0s,mb5.6						
HYB				*e*S	**S**	**10 00 44.0**	**-3.8**
HYB				*e*		10 02 28.0	
HYB	**Hyderabad**	**22.15**	**312**	*e*P	**P**	**09 56 47.0**	**+1.8**
HYB				*e*S	**S**	**10 00 44.0**	**-3.8**
HYB				pmax	pmax		
	comp=Z,240nm,1.0s,mb5.6						
HYB	**Hyderabad**	**22.15**	**312**	*i* P	**P**	**09 56 47.0**	**+1.8**
	comp=Z,240nm,1.0s,mb5.6						
HYB				*e*S	**S**	**10 00 44.0**	**-3.8**
HYB				LR	LR	10 02 28.0	
	comp=Z,56nm,20.0s						
TSM	**Tawau**	**22.18**	**86**	⇓P	**P**	**09 56 46.0**	**+0.4**
SHL	**Shillong**	**22.81**	**351**	*e*P	**P**	**09 56 53.0**	**+0.9**
SHL				*e*S	**S**	**10 01 01.0**	**+1.3**
BOK	**Bokaro**	**22.82**	**336**	*e*P	**P**	**09 56 51.0**	**-1.3**
BOK				AMb	AMB	09 57 01.2	
	comp=Z,643nm,1.1s,mb6.0						
BOK				*ex*	x	10 00 56.8	
MNGI	**Mangalore**	**22.92**	**297**	*i* P	**P**	**09 56 53.9**	**+0.4**
MNGI				*ex*	x	09 57 09.9	
	comp=Z,249nm,1.4s						
MNGI				*i* S	**S**	**10 01 03.2**	**+1.6**
KMI	**Kunming**	**23.09**	**16**	P	**P**	**09 56 55.2**	**0.0**
KMI				XP	sP	09 57 06.4	-1.2
KMI				S	**S**	**10 00 59.4**	**-4.9**
KMI				AMB	AMB		
	comp=Z,202nm,1.3s,mb5.4						
KMI				LR	LR		
	comp=N,102μm,13.8s,MS6.4						
KMI				LR	LR		
	comp=E,26μm,14.7s,MS6.4						
KMI				LR	LR		
	comp=Z,112μm,14.1s,MS6.5						
BLSP	**Bilaspur**	**23.19**	**326**	*e*P	**P**	**09 56 55.4**	**-0.9**
BLSP				AMb	AMB	09 57 05.0	
	comp=Z,682nm,1.2s,mb6.0						
BLSP				*e*S	**S**	**10 01 05.6**	**-0.4**
SHBG	**Sahibganj**	**23.48**	**341**	*e*P	**P**	**09 57 01.0**	**+1.9**
PPR	**Puerto Princes**	**23.88**	**72**	⇑*e*P	**P**	**09 57 11.0**	**+8.1**
LATR	**Latur**	**24.25**	**311**	*e*P	**P**	**09 57 06.4**	**+0.1**
LATR				AMb	AMB	09 57 25.7	
	comp=Z,219nm,2.0s,mb5.2						
NGP	**Nagpur**	**24.30**	**319**	*e*P	**P**	**09 57 06.2**	**-0.5**
NGP				*ex*	x	09 57 29.2	
	comp=Z,428nm,1.8s						
NGP				*e*S	**S**	**10 01 22.8**	**-1.2**
PCI	**Palu**	**24.43**	**99**	P	**P**	**09 57 07.7**	**-0.3**
	comp=Z,942nm,1.8s,mb5.9						
GOA	**Goa**	**24.90**	**301**	*ex*	x	09 57 21.5	
GOA				AMb	AMB	09 57 26.2	
	comp=Z,121nm,1.1s,mb5.3						
JBP	**Jabalpur**	**25.23**	**324**	⇑*e*P	**P**	**09 57 15.6**	**+0.5**
JBP				*ex*	x	09 57 38.2	
	comp=Z,251nm,1.3s						
JBP				*e*S	**S**	**10 01 40.8**	**+2.0**
KAPI	**Kappang**	**25.30**	**108**	P	**P**	**09 57 14.7**	**-1.2**
	comp=Z,1μm,1.0s,mb6.4,SNR=33						
AKL	**Akola**	**25.37**	**316**	*e*P	**P**	**09 57 16.8**	**+0.3**
AKL				*ex*	x	09 57 41.0	
	comp=Z,366nm,1.6s						
AKL				*i* x	x	10 01 46.9	
KAD	**Karad**	**25.50**	**306**	*e*P	**P**	**09 57 17.9**	**+0.3**
KAD				*e*S	**S**	**10 01 44.1**	**+0.9**
GYA	**Guiyang**	**25.66**	**23**	⇑*i*P	**P**	**09 57 18.5**	**-0.5**
GYA				AP	pP	09 57 28.2	+0.1
GYA				XP	sP	09 57 32.0	+0.2
GYA				PCP	PcP	10 00 52.2	+2.9
GYA				S	**S**	**10 01 46.9**	**+1.3**
GYA				XS	sS	10 02 01.3	+0.8
GYA				SS		10 02 51.4	
GYA				SCP	ScP	10 04 27.8	+1.2
GYA				AMB	AMB		
	comp=Z,180nm,1.0s,mb5.6						
GYA				AMB	AMB		
	comp=Z,4μm,14.1s						
GYA				LR	LR		
	comp=N,35μm,18.3s,MS6.0						
GYA				LR	LR		
	comp=E,11μm,16.8s,MS6.0						
GYA				LR	LR		
	comp=Z,37μm,21.6s,MS5.9						
JIRN	**Jiri**	**26.22**	**341**	*e*P	**P**	**09 57 24.9**	**+0.8**
	comp=Z,533nm,0.6s,mb6.2						
HKC	**Hong Kong Obse**	**26.33**	**41**	⇑*i*P	**P**	**09 57 26.0**	**+0.9**
HKC				*i* S	**S**	**10 02 08.0**	**+12**
CUYO	**Cuyo Island**	**26.33**	**71**	*e*P	**P**	**09 57 25.1**	**-0.1**
POO	**Poona**	**26.42**	**308**	*e*P	**P**	**09 57 26.4**	**+0.4**
POO				AMb	AMB	09 57 45.8	
	comp=Z,194nm,1.4s,mb5.5						
POO				*e*S	**S**	**10 01 60.0**	**+2.2**
POO				*i* SCS	ScS	10 08 18.5	-0.9
LUBP	**Lubang**	**26.53**	**65**	*e*P	**P**	**09 57 25.6**	**-1.4**
KKN	**Kakani**	**26.66**	**339**	*e*P	**P**	**09 57 27.8**	**-0.2**
BHPL	**Bhopal**	**26.85**	**320**	*e*P	**P**	**09 57 30.3**	**+0.5**
BHPL				AMb	AMB	09 57 53.6	
	comp=Z,205nm,1.2s,mb5.5						
BHPL				*e*S	**S**	**10 02 04.5**	**0.0**
LSA	**Lhasa**	**26.98**	**351**	P	**P**	**09 57 31.5**	**+0.6**
LSA				S	**S**	**10 02 01.8**	**-4.5**
LSA				XS	sS	10 02 19.3	-2.0
LSA				LR	LR		
	comp=N,24μm,22.3s,MS5.9						
LSA				LR	LR		
	comp=E,32μm,22.9s,MS5.9						
LSA				LR	LR		
	comp=Z,38μm,23.4s,MS5.9						
LSA	**Lhasa**	**26.98**	**351**	*e*P	**P**	**09 57 31.2**	**+0.3**
	comp=Z,200nm,0.7s,mb5.8						
LSA				LR	LR		
	comp=Z,32μm,20.0s,MS5.9						
LSA	**Lhasa**	**26.98**	**351**	*e*P	**P**	**09 57 31.2**	**+0.3**
LSA				pmax	pmax		
	comp=Z,200nm,0.7s,mb5.8						
LSA				MLR	MLR		
	comp=Z,32μm,20.0s,MS5.9						
GKN	**Gorkha**	**27.08**	**338**	*e*P	**P**	**09 57 31.6**	**-0.2**
	comp=Z,808nm,1.0s,mb6.2						
KOLN	**Koldanda**	**27.28**	**336**	*e*P	**P**	**09 57 33.5**	**-0.1**
	comp=Z,608nm,0.8s,mb6.2						
BOLP	**Bolinao**	**27.32**	**59**	*e*P	**P**	**09 57 33.4**	**-0.7**
BOM	**Bombay**	**27.44**	**307**	*ex*	x	09 57 14.3	
BOM				*ex*	x	09 57 15.2	
	comp=Z,88nm,0.6s						
BOM				*e*S	**S**	**10 02 13.8**	**-0.1**
OTRP	**Odiongan**	**27.70**	**69**	*e*P	**P**	**09 57 36.9**	**-0.7**
BCPH	**Baguio City Da**	**27.89**	**60**	⇑*e*P	**P**	**09 57 38.0**	**-1.3**
	comp=Z,1492μm,1.0s						
RCP	**Roxas**	**28.15**	**71**	⇑*e*P	**P**	**09 57 41.9**	**+0.3**
BALP	**Baler**	**28.49**	**62**	*e*P	**P**	**09 57 47.1**	**+2.5**
TBP	**Tagbilaran**	**28.78**	**75**	*e*P	**P**	**09 57 46.2**	**-1.0**
CD2	**Chengdu**	**28.86**	**14**	⇑*i*P	**P**	**09 57 46.6**	**-1.1**
CD2				XP	sP	09 58 00.8	+0.2
CD2				PP	PP	09 58 41.8	-11
CD2				PCP	PcP	10 00 54.9	-1.9
CD2				S	**S**	**10 02 34.1**	**-1.9**
CD2				XS	sS	10 02 50.1	-0.9
CD2				AMB	AMB		
	comp=Z,350nm,0.7s,mb6.2						
CD2				AMB	AMB		
	comp=Z,4μm,12.0s						
CD2				LR	LR		
	comp=N,83μm,13.2s,MS6.5						
CD2				LR	LR		
	comp=E,50μm,16.8s,MS6.5						
CD2				LR	LR		
	comp=Z,69μm,14.4s,MS6.4						
LLP	**Lapu-Lapu**	**29.01**	**74**	⇑*e*P	**P**	**09 57 49.0**	**-0.2**
	comp=Z,332μm,1.0s						
CAUP	**Cauayan**	**29.21**	**60**	*e*P	**P**	**09 57 52.7**	**+1.8**
BUKP	**Musuan**	**29.64**	**79**	*e*P	**P**	**09 57 55.4**	**+0.5**
MSLP	**Maasin**	**29.83**	**75**	*e*P	**P**	**09 57 53.1**	**-3.4**
DAV	**Davao City (W)**	**30.05**	**81**	*e*P	**P**	**09 58 01.1**	**+2.6**
	comp=Z,231nm,0.8s,mb6.0						
DAV				LR	LR		
	comp=Z,14μm,20.0s,MS5.6						
DAV	**Davao City (W)**	**30.05**	**81**	P	**P**	**09 58 00.9**	**+2.4**
	SNR=24						
DAV	**Davao City (W)**	**30.05**	**81**	P	**P**	**09 58 00.9**	**+2.4**
	SNR=24						
DAV	**Davao City (W)**	**30.05**	**81**	*e*P	**P**	**09 58 00.0**	**+1.5**
PVCP	**Virac**	**30.06**	**68**	*e*P	**P**	**09 57 55.9**	**-2.6**
ENH	**Enshi**	**30.18**	**24**	PFAKE		09 58 10.0	+11
ENH				LR	LR	

comp=Z,15μm,22.0s,MS5.7
BHK Bhakra 33.67 329 *e*P **P 09 58 31.2 +1.1**
LZH Lanzhou 33.85 12 *e*P **P 09 58 30.8 -0.8**
LZH AP pP 09 58 41.6 +0.9
LZH XP sP 09 58 45.0 +0.5
LZH PP PP 09 59 42.4 -6.2
LZH *e*S **S 10 03 53.0 -0.9**
LZH XS sS 10 04 10.1 +1.2
LZH SS SS 10 06 04.1 -17
LZH AMB AMB
comp=Z,166nm,1.4s,mb5.8
LZH AMB AMB
comp=Z,1μm,4.2s
LZH LR LR
comp=E,23μm,12.6s
LZH LR LR
comp=Z,27μm,16.8s,MS6.0
DLH Dalhousie 34.80 330 *e*P **P 09 58 41.0 +1.2**
DLH *e*x x 09 58 53.0
THN Thein Dam 34.84 330 *e*P **P 09 58 38.4 -1.8**
THN *e*x x 10 04 17.5
FITZ Fitzroy Crossi 36.15 126⇑*i*P **P 09 58 49.6 -2.1**
comp=Z,60nm,0.8s,mb5.6
FITZ *e*S **S 10 04 21.2 -8.5**
FITZ Fitzroy Crossi 36.15 126 LR LR 10 16 36.4
comp=Z,8μm,18.3s,MS5.5,baz=173,slow=41
NJ2 Nanjing 36.25 34 *e*P **P 09 58 53.1 +0.8**
NJ2 AP pP 09 59 02.8 +1.3
NJ2 XP sP 09 59 07.4 +2.2
NJ2 PP PP 10 00 17.2 +2.1
NJ2 S **S 10 04 30.0 -0.9**
NJ2 XS sS 10 04 46.0 0.0
NJ2 AMB AMB
comp=Z,1μm,1.2s,mb6.7
NJ2 AMB AMB
comp=Z,3μm,4.6s
NJ2 LR LR
comp=N,60μm,20.0s,MS6.4
NJ2 LR LR
comp=E,32μm,20.0s,MS6.4
NJ2 LR LR
comp=Z,39μm,26.0s
GTA Gaotai 36.51 5⇑P **P 09 58 53.6 -0.8**
GTA AP pP 09 59 03.4 -0.2
GTA XP sP 09 59 06.9 -0.5
GTA PP PP 10 00 20.4 +2.5
GTA PCP PcP 10 01 19.9 +2.1
GTA S **S 10 04 33.3 -1.4**
GTA XS sS 10 04 50.0 +0.2
GTA SS SS 10 07 00.8 -14
GTA SCS ScS 10 09 06.4 -2.3
GTA AMB AMB
comp=Z,23nm,1.4s,mb4.8
GTA AMB AMB
comp=Z,1μm,3.8s
GTA LR LR
comp=N,21μm,14.1s,MS6.0
GTA LR LR
comp=E,9μm,19.0s,MS6.0
GTA LR LR
comp=Z,29μm,14.1s,MS6.2
SSE Sheshan 36.94 38⇑P **P 09 58 58.2 0.0**
SSE XP sP 09 59 09.5 -1.6
SSE S **S 10 04 42.1 +0.7**
SSE XS sS 10 04 56.9 +0.4
SSE AMB AMB
comp=Z,41nm,1.1s,mb5.2
SSE AMB AMB
comp=Z,519nm,4.3s
SSE LR LR
comp=N,30μm,16.5s,MS6.3
SSE LR LR
comp=E,24μm,16.5s,MS6.3
SSE LR LR
comp=Z,58μm,16.3s,MS6.5
TIY Taiyuan 37.88 22 P **P 09 59 05.6 -0.5**
TIY PP PP 10 00 35.0 +2.0
TIY S **S 10 04 52.6 -2.9**
TIY LR LR
comp=N,81μm,15.6s,MS6.8
TIY LR LR
comp=E,68μm,14.8s,MS6.8
TIY LR LR
comp=Z,103μm,15.6s,MS6.7
TIA Tai'an 38.59 28⇑P **P 09 59 11.3 -0.8**
TIA AMB AMB
comp=Z,52nm,1.1s,mb5.2
TIA AMB AMB
comp=Z,942nm,3.0s
TIA LR LR
comp=N,22μm,15.0s,MS6.1
TIA LR LR
comp=E,10μm,15.0s,MS6.1
JOW Kunigami 39.23 50 LR LR 10 16 22.6
comp=E,7μm,19.5s,MS5.5,baz=250,slow=38
KAKA Kakadu 39.66 114⇑*i*P **P 09 59 19.0 -2.4**
comp=E,73nm,0.7s,mb5.5
BTO Baotou 39.69 17 *e*P **P 09 59 21.0 -0.2**
BTO S **S 10 05 19.8 -2.9**
BTO LR LR
comp=N,28μm,13.7s,MS6.2
BTO LR LR
comp=E,15μm,18.6s,MS6.2
MUN Mundaring 39.80 152 *e*P **P 09 59 22.3 0.0**
MUN *i*S **S 10 05 24.2 -0.5**
KBL Kabul 40.05 325 *e*P **P 09 59 24.9 +0.5**
comp=E,35nm,0.9s,mb5.1
KLBR Kellerberrin 40.23 150 *e*P **P 09 59 29.0 +3.2**
comp=E,48nm,1.0s,mb5.2
HHC Hu-ho-hao-te 40.38 19⇑*i*P **P 09 59 28.0 +1.0**
HHC AP pP 09 59 37.9 +1.7
HHC XP sP 09 59 41.7 +1.7
HHC PP PP 10 01 06.6 +6.3
HHC SCP ScP 10 05 17.8 +0.7
HHC PCS PcS 10 05 20.3 +0.1
HHC S **S 10 05 35.7 +2.6**
HHC XS sS 10 05 51.6 +3.3
HHC SCS ScS 10 09 30.8 -0.1
HHC AMB AMB
comp=Z,169nm,0.8s,mb5.8
HHC LR LR
comp=N,19μm,18.0s,MS6.4
HHC LR LR
comp=E,46μm,18.6s,MS6.4
HHC LR LR
comp=Z,64μm,16.0s,MS6.6
KSH Kashi 40.59 336 *e*P **P 09 59 29.5 +0.8**
KSH *e*AP pP 09 59 38.6 +0.6
KSH XP sP 09 59 42.6 +0.9
KSH PP PP 10 01 06.8 +4.2
KSH PCP PcP 10 01 32.2 +1.7
KSH SCP ScP 10 05 17.6 -0.3
KSH PCS PcS 10 05 21.4 +0.3
KSH S **S 10 05 34.7 -1.6**
KSH XS sS 10 05 50.2 -1.3
KSH SS SS 10 08 28.7 -8.5
KSH SCS ScS 10 09 30.1 -2.2
KSH AMB AMB
comp=Z,2μm,4.8s
KSH LR LR
comp=N,60μm,18.7s,MS6.7
KSH LR LR
comp=E,65μm,18.2s,MS6.7
KSH LR LR
comp=Z,56μm,21.0s,MS6.4
NWAO Narrogin (SRO) 41.07 152 *e*P **P 09 59 32.5 -0.3**
comp=Z,79nm,1.1s,mb5.3
NWAO LR LR
comp=Z,8μm,20.0s,MS5.6
NWAO Narrogin (SRO) 41.07 152 P **P 09 59 33.1 +0.3**
comp=Z,29nm,0.7s,mb5.0,baz=328,slow=8.6,SNR=12
BJT Baijiatuau 41.33 24 *e*P **P 09 59 35.7 +0.9**
comp=Z,383nm,0.8s,mb6.1
BJT LR LR
comp=Z,18μm,19.0s,MS6.0
BJT Baijiatuau 41.33 24 *e*P **P 09 59 35.7 +0.9**
BJT pmax pmax
comp=Z,383nm,0.8s
BJT MLR MLR
comp=Z,18μm,19.0s
WMQ Urumqi 41.34 351⇑*i*P **P 09 59 34.8 0.0**
WMQ AP pP 09 59 44.5 +0.5
WMQ XP sP 09 59 49.0 +1.2
WMQ PP PP 10 01 16.0 +5.3
WMQ S **S 10 05 47.0 -0.3**
WMQ XS sS 10 06 03.0 +0.5
WMQ SS SS 10 08 48.0 -3.8
WMQ AMB AMB
comp=Z,218nm,1.4s,mb5.6
WMQ AMB AMB
comp=Z,2μm,3.7s
WMQ LR LR
comp=N,16μm,19.0s,MS6.1
WMQ LR LR
comp=E,23μm,22.3s,MS6.1
WMQ LR LR
comp=Z,14μm,23.0s,MS5.8
BJI Beijing 41.35 24 P **P 09 59 35.9 +1.0**
BJI XP sP 09 59 48.6 +0.6
BJI S **S 10 05 51.0 +3.5**
BJI AMB AMB
comp=Z,524nm,0.7s,mb6.3
BJI AMB AMB
comp=Z,3μm,4.4s
BJI LR LR
comp=N,15μm,16.0s,MS6.4
BJI LR LR
comp=E,35μm,16.0s,MS6.4
BJI LR LR
comp=Z,19μm,16.6s,MS6.0
SMDO Samad 41.57 302 P **P 09 59 45.0 +7.9**
SNR=14
BIDO Bidbid 41.69 303 P **P 09 59 40.0 +2.0**
SNR=17
BIDO Bidbid 41.69 303 P **P 09 59 40.0 +2.0**
SNR=17
ULHL Ulahol 42.85 339 P **P 09 59 47.4 +0.3**
SNR=33
DL2 Dalian 42.91 30⇑*i*P **P 09 59 47.8 +0.1**
DL2 XP sP 09 59 59.4 -1.3
DL2 S **S 10 06 12.2 +1.6**
DL2 XS sS 10 06 30.1 +4.2
DL2 AMB AMB
comp=Z,310nm,0.6s,mb6.2
DL2 AMB AMB
comp=Z,1μm,6.4s
DL2 LR LR
comp=N,15μm,16.7s,MS6.0
DL2 LR LR
comp=E,8μm,15.4s,MS6.0
DL2 LR LR
comp=Z,16μm,16.4s,MS6.0
KZA Kyzart 43.07 338 P **P 09 59 49.7 +0.8**
SNR=17
UCH Uchtor 43.48 337 *e*P **P 09 59 53.1 +0.8**
comp=Z,111nm,0.9s,mb5.6
UCH LR LR
comp=Z,16μm,21.0s,MS5.9
UCH Uchtor 43.48 337 P **P 09 59 53.2 +0.9**
SNR=93
AAA Alma-Ata 43.50 340 *i*P **P 09 59 52.9 +0.5**
AAA *i*S **S 10 06 21.2 +2.1**
AAA pmax pmax
comp=Z,2μm,2.6s,mb6.4
AAA smax
comp=E,12μm,5.4s
AAA MLR MLR
comp=Z,13μm,14.1s,MS6.0
TKM2 Tokmak 2 43.67 339 *e*P **P 09 59 54.1 +0.4**
comp=Z,344nm,1.5s,mb5.9
TKM2 LR LR
comp=Z,19μm,19.0s,MS6.0
TKM2 Tokmak 2 43.67 339 P **P 09 59 54.3 +0.5**
TKM2 pmax pmax
comp=Z,340nm,1.4s,mb5.9
TKM2 Tokmak 2 43.67 339 P **P 09 59 54.3 +0.5**
SNR=33
KBK Karagaybulak 43.68 338 P **P 09 59 55.0 +1.1**
SNR=47
WHFO Wadi Hawf 43.70 293 P **P 09 59 55.6 +1.3**
SNR=17
AML Almayashu 43.73 336 *e*P **P 09 59 55.0 +0.8**
comp=Z,164nm,0.9s,mb5.8
AML LR LR
comp=Z,18μm,20.0s,MS6.0
AML Almayashu 43.73 336 P **P 09 59 55.2 +1.0**
SNR=95
AAK Ala-Archa 43.84 337 P **P 09 59 55.0 -0.1**
comp=Z,262nm,0.9s,mb6.0,SNR=25
AAK Ala-Archa 43.84 337 P **P 09 59 58.8 +3.7**
SNR=25
HATD Hatta, Dubai 43.88 303 P **P 09 59 59.7 +4.0**
SNR=16
FRU Bishkek 43.96 338 *i*P **P 09 59 56.0 -0.1**
FRU *e* 10 06 28.0
FRU pmax pmax
comp=Z,360nm,2.0s,mb5.8
FRU MLR MLR
comp=E,20μm,18.0s
FRU MLR MLR
comp=Z,21μm,18.0s,MS6.1
ABTO Aybut 43.99 292 P **P 10 00 00.0 +3.3**
SNR=9.8
ABTO Aybut 43.99 292 P **P 10 00 00.0 +3.3**
SNR=9.8
CHMS Chumysh 44.05 338 P **P 09 59 57.1 +0.3**
SNR=14
EKS2 Erkin-Say 44.14 337 *e*P **P 09 59 58.1 +0.6**
comp=Z,79nm,0.8s,mb5.5
EKS2 LR LR
comp=Z,19μm,20.0s,MS6.0
EKS2 Erkin-Say 44.14 337 P **P 09 59 58.4 +0.9**
SNR=40
WRA Warramunga Arr 44.22 123 P **P 09 59 57.5 -1.0**
WRA S **S 10 06 26.5 -3.8**
WRA LR LR 10 19 18.6
WRA Warramunga Arr 44.22 123 P **P 09 59 57.5 -1.1**
WRA S **S 10 06 26.5 -3.8**
WRA Warramunga Arr 44.22 123 P **P 09 59 57.5 -1.0**
comp=Z,47nm,0.8s,mb5.3,baz=299,slow=9.3,SNR=140
WRA S **S 10 06 26.5 -3.8**
comp=Z,2.2nm,1.2s,baz=283,slow=15,SNR=3.9
WRA LR LR 10 19 18.6
comp=Z,17μm,20.8s,MS5.9,baz=280,slow=37
WRAB Tennant Creek 44.23 123 P **P 09 59 57.0 -1.6**
comp=Z,384nm,0.9s,mb6.1,SNR=24
WRAB Tennant Creek 44.23 123 *e*P **P 09 59 57.5 -1.1**
comp=Z,98nm,1.1s,mb5.5
WRAB LR LR
comp=Z,21μm,21.0s,MS6.0
WRAB Tennant Creek 44.23 123*c i*P **P 09 59 57.6 -1.0**
WB2 Warramunga Arr 44.23 123⇑*i*P **P 09 59 57.2 -1.4**
WB2 *e*S **S 10 06 24.9 -5.6**
USP Ospenovka 44.38 338 P **P 09 59 59.6 +0.2**
SNR=104
JNU Nakatsue 44.56 44 LR LR 10 19 25.6
comp=Z,12μm,20.8s,MS5.8,baz=220,slow=37
INCN Inchon 44.59 36 *e*P **P 10 00 00.7 -0.5**
comp=Z,315nm,1.6s,mb5.9
INCN LR LR
comp=Z,21μm,19.0s,MS6.1
INCN Inchon 44.59 36 P **P 10 00 00.9 -0.4**
SNR=18
INCN Inchon 44.59 36 P **P 10 00 00.9 -0.4**
SNR=18
MK31 Makanchi Array 45.23 347 *e*P **P 10 00 06.0 -0.1**
MKAR Makanchi Array 45.23 347 *i*P **P 10 00 06.0 -0.1**
MKAR pmax pmax
comp=Z,207nm,0.9s
MKAR Makanchi Array 45.23 347 P **P 10 00 06.0 -0.2**
comp=Z,206nm,0.8s,mb6.0,baz=166,slow=7.5,SNR=460
MKAR LR LR 10 21 53.8
comp=Z,14μm,21.7s,MS5.8,baz=161,slow=40
KSRS Korea Array 45.34 37 P **P 10 00 06.2 -0.9**
comp=Z,23nm,0.8s,mb5.0,baz=217,slow=8.8,SNR=43
KSRS LR LR 10 21 39.6
comp=Z,25μm,18.5s,MS6.2,baz=234,slow=40
FORT Forrest 45.55 140⇑*i*P **P 10 00 08.9 -0.1**
comp=Z,107nm,0.7s,mb5.9
ASAR Alice Springs 45.63 127 P **P 10 00 08.8 -0.9**
comp=Z,18nm,0.9s,mb5.0,baz=297,slow=7.7,SNR=106
SONM Songino Array 45.69 10 P **P 10 00 09.8 0.0**
SONM 10 01 47.9
SONM Songino Array 45.69 10 P **P 10 00 09.8 +0.1**
comp=Z,7.8nm,0.7s,mb4.8,baz=96,slow=30,SNR=110
SONM PcP PcP 10 01 47.9 +0.4
comp=Z,24nm,0.8s,baz=188,slow=3.9,SNR=4.9
SONM LR LR 10 21 08.8
comp=Z,34μm,21.4s,MS6.2,baz=190,slow=38
ULN Ulaanbaatar 45.83 11 *e*P **P 10 00 10.5 -0.4**
comp=Z,158nm,1.1s,mb5.9
ULN *e*PcP PcP 10 01 48.5 +0.5
ULN LR LR
comp=Z,24μm,21.0s,MS6.1
ULN Ulaanbaatar 45.83 11 P **P 10 00 10.6 -0.3**
ULN pmax pmax
comp=Z,160nm,1.1s,mb5.9
ULN Ulaanbaatar 45.83 11 P **P 10 00 10.6 -0.3**
SNR=92
ULN Ulaanbaatar 45.83 11 P **P 10 00 10.6 -0.3**
SNR=92
KK31 Karatay Array 45.86 334 *i*P **P 10 00 10.9 -0.3**
KK31 pmax pmax
comp=Z,36nm,0.5s,mb5.6
SNY Shenyang 46.10 29⇑P **P 10 00 12.3 -0.9**
SNY PP PP 10 02 02.9 +1.2
SNY S **S 10 06 59.7 +2.8**
SNY AMB AMB
comp=Z,166nm,1.5s,mb5.7
SNY LR LR
comp=N,21μm,16.2s,MS6.4
SNY LR LR
comp=E,27μm,15.9s,MS6.4
SNY LR LR
comp=Z,36μm,16.1s,MS6.4
ZAK Zakamensk 47.73 7⇓*i*P **P 10 00 25.0 -0.7**
ZAK pmax pmax
comp=Z,56nm,1.9s,mb5.3
CN2 Changchun 48.49 29⇑P **P 10 00 31.0 -0.7**
CN2 *e*XP sP 10 00 43.8 -1.1
CN2 AMB AMB
comp=Z,20nm,0.8s,mb5.2
CN2 AMB AMB
comp=Z,200nm,3.0s
CN2 LR LR
comp=N,23μm,17.0s,MS6.5
CN2 LR LR
comp=E,30μm,17.0s,MS6.5
CN2 LR LR
comp=Z,27μm,19.0s,MS6.2
MOY Mondy 48.78 4 *e*P **P 10 00 33.7 -0.1**
MOY pmax pmax
comp=Z,226nm,1.5s,mb6.0
ABKT Ailbek 48.93 320 P **P 10 00 36.9 +1.7**
comp=Z,337nm,0.8s,mb6.4,SNR=7.6
VAN Vannovskaya 48.95 320 P **P 10 00 36.7 +1.3**
VAN S **S 10 07 36.1 -1.5**
TLY Talaya 49.05 7 P **P 10 00 36.7 +0.9**
comp=Z,541nm,0.8s,mb6.6,SNR=32
TLY Talaya 49.05 7 *e*P **P 10 00 36.1 +0.2**
comp=Z,76nm,0.8s,mb5.8
TLY LR LR
comp=Z,27μm,20.0s,MS6.2
TLY Talaya 49.05 7*c i*P **P 10 00 36.2 +0.4**
TLY *e* 10 02 32.1
TLY *e*S **S 10 07 38.8 +0.4**
TLY *e*PS 10 07 45.2
TLY *e* 10 10 26.1
TLY pmax pmax
comp=Z,94nm,0.9s,mb5.8
TLY MLR MLR
comp=Z,25μm,19.0s,MS6.2
TLY Talaya 49.05 7 P **P 10 00 36.5 +0.6**
SNR=81
TLY Talaya 49.05 7 P **P 10 00 36.5 +0.6**
SNR=81
IRK Irkutsk 49.67 7⇓*i*P **P 10 00 40.3 -0.3**
IRK *e* 10 10 26.7
IRK pmax pmax
comp=Z,504nm,2.2s,mb6.2
GUMO Guam 49.71 75 P **P 10 00 41.8 +0.2**
comp=Z,39nm,0.7s,mb5.6,baz=306,slow=17,SNR=2.4
GUMO LR LR 10 20 53.9
comp=Z,11μm,20.9s,MS5.8,baz=259,slow=35
KURK Kurchatov 49.76 346 P **P 10 00 41.2 -0.1**
comp=Z,840nm,0.9s,mb6.8,SNR=54
KURK Kurchatov 49.76 346 *e*P **P 10 00 41.1 -0.1**
comp=Z,119nm,0.8s,mb6.0
KURK *e*S **S 10 07 48.3 -0.2**
KURK LR LR
comp=Z,24μm,21.0s,MS6.2
KURK Kurchatov 49.76 346*c i*P **P 10 00 40.9 -0.4**
KURK pmax pmax
comp=Z,372nm,2.4s,mb6.0
KURK Kurchatov 49.76 346 P **P 10 00 41.5 +0.2**
SNR=119
HIA Hailar 50.53 20 *e*P **P 10 00 47.0 -0.2**
comp=Z,90nm,0.9s,mb5.7
HIA LR LR
comp=Z,32μm,21.0s,MS6.3
HIA Hailar 50.53 20 *e*P **P 10 00 47.0 -0.2**
HIA pmax pmax
comp=Z,90nm,0.9s
HIA MLR MLR
comp=Z,32μm,21.0s
MDJ Mudanjiang 51.14 31 P **P 10 00 51.8 0.0**
MDJ AP pP 10 01 00.8 -0.5
MDJ XP sP 10 01 04.7 -0.3
MDJ PP PP 10 02 48.5 -0.3
MDJ PCS PcS 10 06 04.5 -0.2
MDJ S **S 10 08 08.5 +0.7**
MDJ AMB AMB
comp=Z,2μm,9.8s
MDJ LR LR
comp=N,11μm,17.6s,MS6.2
MDJ LR LR
comp=E,20μm,18.4s,MS6.2
MDJ LR LR
comp=Z,15μm,21.2s,MS6.0
MDJ Mudanjiang 51.14 31 *e*P **P 10 00 52.7 +0.8**
comp=Z,360nm,1.5s,mb6.1
MDJ LR LR
comp=Z,17μm,21.0s,MS6.0
CIT Chita 51.16 14 *e*P **P 10 00 51.3 -0.5**
CIT *e* 10 01 03.5
CIT *e* 10 02 08.0
CIT *e* 10 02 43.2
CIT *e* 10 08 11.8
CIT pmax pmax
comp=Z,554nm,2.3s,mb6.1
VLA Vladivostok 51.35 34 *i*P **P 10 00 53.4 -0.1**
VLA Vladivostok 51.35 34*d i*P **P 10 00 53.3 -0.2**
VLA pmax pmax
comp=Z,107nm,1.8s,mb5.5
VLA MLR MLR
comp=Z,17μm,14.0s,MS6.2
MAJO Matsushiro 51.48 44 *e*P **P 10 00 53.1 -1.4**
comp=Z,130nm,1.4s,mb5.7
MAJO *e*PcP PcP 10 02 09.7 +1.1
MAJO LR LR
comp=Z,14μm,22.0s,MS5.9
MAJO Matsushiro 51.48 44 P **P 10 00 53.7 -0.8**
MAJO pmax pmax
comp=Z,130nm,1.4s,mb5.7
MAT Matsushiro 51.48 44 P **P 10 00 52.7 -1.8**
MAT S **S 10 08 18.0 +5.2**
MJAR Matsushiro Arr 51.48 44 P **P 10 00 53.9 -0.6**
comp=Z,4.3nm,0.7s,baz=243,slow=7.0,SNR=13
MJAR LR LR 10 25 44.7
comp=Z,12μm,18.2s,MS6.0,baz=250,slow=40
ZAL Zalesovo 51.63 352 P **P 10 00 55.1 -0.3**
ZAA0 Zalesovo Array 51.64 352 *e*P **P 10 00 55.1 -0.3**
ZALV Zalesovo Beam 51.64 352 P **P 10 00 55.1 -0.4**
comp=Z,141nm,0.6s,mb6.1,baz=181,slow=7.6,SNR=440
DHBB Dhamar BB 51.88 286 *e*P **P 10 01 00.5 +2.6**
TRBA At Turbah 51.98 284 *e*P **P 10 00 58.3 -0.4**
QRN Al-Qurain 52.15 305 *e*P **P 10 00 58.8 -0.9**
QRN AMb AMB 10 01 19.7
comp=Z,273nm,1.2s,mb6.0
KBD Kabd 52.48 305 *e*P **P 10 01 01.1 -1.1**
KBD AMb AMB 10 01 21.6
comp=Z,784nm,1.7s,mb6.4
RDF Al-Radifah 52.51 305 *e*P **P 10 01 01.8 -0.6**
RDF AMb AMB 10 01 17.5
comp=Z,208nm,1.0s,mb6.0
NVS Novosibirsk 52.74 351⇑*i*P **P 10 01 02.6 -1.0**
NVS *e*S **S 10 08 30.8 +1.3**
NVS pmax pmax
comp=E,180nm,1.6s
NVS pmax pmax
comp=Z,330nm,1.6s,mb6.0
NVS pmax pmax
comp=N,420nm,1.9s
NVS smax
comp=N,280nm,1.8s
NVS smax
comp=E,592nm,1.8s
NAY Al-Naaiem 52.88 305 *e*P **P 10 01 04.4 -0.7**

NAY AMb AMB 10 01 19.9
comp=Z,111nm,0.7s,mb5.9
MIB Mutribah 52.99 306 *e*P **P** **10 01 05.4 -0.5**
MIB AMb AMB 10 01 19.7
comp=Z,386nm,0.8s,mb6.4
RST Umm Al-Ruwaisa 53.17 305 *e*P **P** **10 01 06.5 -0.7**
RST AMb AMB 10 01 27.1
comp=Z,210nm,1.7s,mb5.8
BRVK Borovoye 54.21 341 P **P** **10 01 13.3 -1.1**
comp=Z,656nm,1.0s,mb6.5,SNR=32
BRVK Borovoye 54.21 341 *e*P **P** **10 01 13.6 -0.8**
comp=Z,103nm,0.8s,mb5.8
BRVK LR LR
comp=Z,15μm,20.0s,MS6.0
BRVK Borovoye 54.21 341 *e*P **P** **10 01 13.6 -0.8**
BRVK pmax pmax
comp=Z,103nm,0.8s,mb5.8
BRVK MLR MLR
comp=Z,15μm,20.0s,MS6.0
BRVK Borovoye 54.21 341 P **P** **10 01 13.9 -0.5**
SNR=49
CTA Charters Tower 54.62 117 *e*P **P** **10 01 16.7 -1.3**
comp=Z,35nm,0.9s,mb5.4
CTA *e*S **S** **10 08 55.7 -0.4**
CTA Charters Tower 54.62 117 *e*P **P** **10 01 16.7 -1.3**
CTA *e*S **S** **10 08 55.7 -0.4**
CTA pmax pmax
comp=Z,35nm,0.9s
CTA Charters Tower 54.62 117 LR LR 10 27 51.2
comp=Z,10μm,20.4s,MS5.9,baz=284,slow=40
CTAO Charters Tower 54.62 117 *e*P **P** **10 01 17.8 -0.2**
comp=Z,197nm,1.4s,mb6.0
CTAO LR LR
comp=Z,10μm,20.0s,MS5.9
CTAO Charters Tower 54.62 117 P **P** **10 01 17.9 -0.1**
CTAO pmax pmax
comp=Z,200nm,1.4s,mb6.0
AB31 Akbulak array 55.30 332 *i* P **P** **10 01 21.7 -0.7**
KLR Kul'dur 55.42 26⇓ *i*P **P** **10 01 19.0 -4.3**
KLR *e* 10 03 26.5
KLR *e*S **S** **10 09 04.5 -1.4**
KLR smax
comp=N,2μm,14.0s
KLR smax
comp=E,2μm,14.0s
KLR MLR MLR
comp=Z,84μm,13.0s,MS7.0
STKA Stephens Creek 55.62 132 *e*P **P** **10 01 23.9 -1.1**
comp=Z,34nm,0.9s,mb5.4
STKA *i* S **S** **10 09 07.1 -2.0**
STKA Stephens Creek 55.62 132 P **P** **10 01 24.1 -0.9**
comp=Z,13nm,0.9s,mb5.0,baz=307,slow=6.6,SNR=20
STKA LR LR 10 28 32.5
comp=Z,5μm,20.5s,MS5.6,baz=304,slow=40
DESE Dese 56.15 281 *e*P **P** **10 01 33.7 +4.6**
DESE S **S** **10 09 24.0 +7.3**
HABR Khabarovsk 56.52 30⇑ *i*P **P** **10 01 30.2 -0.9**
HABR *e* 10 03 33.9
HABR *e*S **S** **10 09 19.3 -1.2**
HABR *e*SS SS 10 13 08.3 0.0
HABR pmax pmax
comp=Z,299nm,2.4s,mb5.9
HABR MLR MLR
comp=Z,14μm,21.0s,MS6.0
BOD Bodaibo 56.62 12 *e*P **P** **10 01 30.7 -1.0**
BOD *e* 10 09 24.4
BOD pmax pmax
comp=Z,130nm,1.9s,mb5.6
AKTK Aktyubinsk 57.01 332 P **P** **10 01 33.7 -0.9**
AKTO Aktyubinsk 57.01 332 P **P** **10 01 33.7 -0.9**
comp=Z,63nm,0.9s,mb5.7,baz=133,slow=7.2,SNR=36
ERM Erimo 57.53 41 *e*P **P** **10 01 38.4 0.0**
comp=Z,30nm,0.9s,mb5.3
ERM LR LR
comp=Z,16μm,19.0s,MS6.1
ERM Erimo 57.53 41 *i* P **P** **10 01 39.1 +0.7**
NRGR Nerungri 58.37 18 *e*P **P** **10 01 44.2 +0.2**
NRGR S **S** **10 09 47.5 +2.9**
NRGR smax
comp=N,21nm,0.5s
MAK Makhachkala 58.45 320 *i* P **P** **10 01 43.8 -1.1**
MAK Makhachkala 58.45 320 *e*P **P** **10 01 41.1 -3.8**
MAK *i* 10 03 56.0
MAK *i* PPP 10 05 18.6
MAK *i* S **S** **10 09 40.0 -6.2**
MAK *i* 10 11 33.7
MAK *e*SS SS 10 13 39.3 +0.4
MAK pmax pmax
comp=Z,301nm,2.2s,mb5.9
KMBO Kilima Mbogo 58.56 267 *e*P **P** **10 01 46.2 0.0**
comp=Z,53nm,1.3s,mb5.4
KMBO *e*pP pP 10 01 55.2 -0.6
KMBO LR LR
comp=Z,26μm,20.0s,MS6.3
KMBO Kilima Mbogo 58.56 267 P **P** **10 01 47.1 +0.9**
SNR=35
KMBO Kilima Mbogo 58.56 267 P **P** **10 01 46.2 +0.1**
comp=Z,15nm,0.9s,mb5.0,baz=54,slow=7.6,SNR=37
KMBO LR LR 10 24 21.3
comp=Z,28μm,19.2s,MS6.4,baz=80,slow=33
CLNS Chul'man 58.57 18 *e*P **P** **10 01 45.2 -0.2**
CLNS *e**PP pP 10 01 52.1 -2.9
CLNS *e* 10 02 39.1
CLNS *e*S **S** **10 09 50.3 +3.1**
CLNS pmax pmax
comp=N,42nm,0.6s
CLNS pmax pmax
comp=E,27nm,0.6s
CLNS pmax pmax
comp=Z,74nm,0.6s,mb5.9
CLNS smax
comp=N,1μm,12.6s
CLNS smax
comp=Z,1μm,14.1s
CLNS smax
comp=E,2μm,17.6s
CLNS MLR MLR
comp=E,44μm,16.0s,MS6.8
CLNS MLR MLR
comp=Z,83μm,16.0s,MS7.0
CLNS MLR MLR
comp=N,54μm,20.0s,MS6.8
HAKT HAKKARI 58.70 313 *e*P **P** **10 01 46.6 -0.1**
DGRG David-gareji 59.15 318 P **P** **10 01 48.7 -1.1**
DGRG S **S** **10 10 13.6 +18**
MTA Mtatsminda 59.65 318 P **P** **10 01 51.0 -2.2**
TBLG Delisi 59.70 318 P **P** **10 01 53.1 -0.5**
YSS Yuzh-Sakhalins 59.81 35 *e*P **P** **10 01 53.9 -0.3**
comp=N,280nm,1.4s,mb6.1
YSS LR LR
comp=Z,13μm,20.0s,MS6.1
YSS Yuzh-Sakhalins 59.81 35 *oe*P **P** **10 01 53.5 -0.7**
YSS *e* 10 02 09.0
YSS *e*PPP 10 05 28.0
YSS *e*S **S** **10 10 02.0 -1.5**
YSS *e*PS 10 10 18.0
YSS pmax pmax
comp=Z,30nm,1.0s,mb5.3
YSS MLR MLR
comp=N,16μm,17.0s,MS6.3
YSS MLR MLR
comp=E,8μm,17.0s,MS6.3
YSS MLR MLR
comp=Z,13μm,17.0s,MS6.1
YUK Yuzh-Kuril'sk 60.24 40 *e*P **P** **10 01 57.0 -0.2**
YUK *e* 10 04 15.0
YUK *e*S S 10 10 31.8 +23
YUK MLR MLR
comp=Z,19μm,24.0s,MS6.2
YUK MLR MLR
comp=N,6μm,21.0s,MS5.9
YUK MLR MLR
comp=E,6μm,22.0s,MS5.9
SVE Sverdlovsk 60.55 339⇓ *e*P **P** **10 01 58.4 -0.6**
SVE *e* 10 04 20.9
SVE *e*S **S** **10 10 17.0 +4.4**
SVE *e* 10 11 39.3
SVE pmax pmax
comp=Z,375nm,1.4s,mb6.3
SVE MLR MLR
comp=Z,14μm,21.0s,MS6.1
EIDS Eidsvold 60.55 121 *e*P **P** **10 01 59.7 0.0**
comp=Z,26nm,1.3s,mb5.2
EIDS *e*pP pP 10 02 07.2 -2.1
MARD Mardin 60.77 312 *e*P **P** **10 01 55.5 -5.5**

ONI Oni 60.93 318 P **P** **10 02 00.5 -1.5**
ONI S **S** **10 10 17.7 -0.5**
HOMI Horasan 60.96 315 *e*P **P** **10 02 05.8 +3.6**
ARU Arti 61.02 337 P **P** **10 02 01.9 -0.4**
comp=Z,561nm,0.9s,mb6.7,SNR=23
ARU Arti 61.02 337 *e*P **P** **10 02 01.1 -1.2**
comp=Z,348nm,1.4s,mb6.3
ARU LR LR
comp=Z,16μm,21.0s,MS6.1
ARU Arti 61.02 337 *c i*P **P** **10 02 01.1 -1.2**
ARU *e* 10 02 44.5
ARU *e*PPP 10 05 46.1
ARU *e*S **S** **10 10 20.7 +1.9**
ARU *e* 10 11 45.4
ARU *e*SS SS 10 14 14.0 -4.7
ARU *e*SSS 10 16 58.5
ARU pmax pmax
comp=Z,100nm,1.0s,mb5.9
ARU MLR MLR
comp=Z,13μm,18.0s,MS6.1
BNGL BINGOL 61.09 313 *i* P **P** **10 02 06.6 +3.5**
ERZM Erzurum 61.29 315 *i* P **P** **10 02 03.0 -1.4**
ARTV Artvin 61.39 316 *i* P **P** **10 02 05.9 +0.8**
KOPT Kop Dagi 61.95 314 *e*P **P** **10 02 14.2 +5.3**
KIV Kislovodsk 62.03 319 P **P** **10 02 10.5 +1.2**
comp=Z,249nm,0.8s,mb6.4,SNR=5.6
KIV Kislovodsk 62.03 319 *e*P **P** **10 02 10.2 +0.8**
comp=Z,36nm,0.8s,mb5.6
KIV *e*pP pP 10 02 18.4 -0.6
KIV LR LR
comp=Z,4μm,20.0s,MS5.6
KIV Kislovodsk 62.03 319 *d i*P **P** **10 02 09.8 +0.5**
KIV *e* 10 02 50.4
KIV pmax pmax
comp=Z,40nm,1.2s,mb5.4
KIV MLR MLR
comp=Z,5μm,22.0s,MS5.6
KIV Kislovodsk 62.03 319 P **P** **10 02 10.2 +0.9**
SNR=15
KIV Kislovodsk 62.03 319 P **P** **10 02 10.2 +0.9**
SNR=15
KIV Kislovodsk 62.03 319⇓ *i*P **P** **10 02 09.7 +0.4**
GOF Gofitskoye 62.28 320 *e*P **P** **10 02 08.6 -2.4**
GOF pmax pmax
comp=Z,70nm,1.7s,mb5.5
ELZG Elazig 62.51 312 *i* P **P** **10 02 12.9 +0.2**
ARMA Armidale 62.76 126 *e*P **P** **10 02 16.4 +1.9**
ARMA *e*S **S** **10 10 43.5 +1.8**
MALT Malatya 62.86 312 *e*P **P** **10 02 14.7 -0.3**
comp=Z,94nm,1.4s,mb5.7
MALT Malatya 62.86 312 P **P** **10 02 14.7 -0.3**
MALT pmax pmax
comp=Z,94nm,1.4s,mb5.7
MALT Malatya 62.86 312⇑ *i*P **P** **10 02 14.7 -0.3**
CNB Canberra Magne 62.95 132 *e*P **P** **10 02 16.9 +1.2**
comp=Z,51nm,1.3s,mb5.5
GZT Gaziantep 63.20 311 *e*P **P** **10 02 18.3 +1.0**
SLAT Slait 63.26 286 *i* P **P** **10 02 23.1 +5.0**
SLAT AMb AMB 10 02 33.6
comp=Z,43nm,1.7s,mb5.3
SLAT *e* 10 03 26.0
baz=94,slow=4.4
SLAT *i* S **S** **10 10 52.1 +3.8**
BHL Bhannes 63.71 307 *e*P **P** **10 02 22.3 +1.6**
SOC Sochi 63.84 318 *i* P **P** **10 02 19.0 -2.4**
SOC Sochi 63.84 318 *e*P **P** **10 02 20.5 -0.9**
SOC *e**SP sP 10 02 26.2 -8.5
SOC *e*PPP 10 06 22.8
SOC *e*S **S** **10 10 50.3 -4.4**
SOC *e* 10 12 05.9
SOC *e*SS SS 10 15 00.5 -2.8
SOC pmax pmax
comp=Z,47nm,1.0s,mb5.5
SOC pmax pmax
comp=Z,561nm,4.6s
GRSN GIRESUNGRSN 63.86 315 *e*P **P** **10 02 17.0 -4.6**
SOKR Solikamsk 63.95 339 *d i*P **P** **10 02 22.6 +0.8**
SOKR S **S** **10 10 52.8 -2.6**
SOKR pmax pmax
comp=Z,170nm,0.9s,mb6.1
SOKR MLR MLR
comp=Z,13μm,21.0s,MS6.1
ANDN Andirin 64.20 311 *i* P **P** **10 02 23.9 0.0**
YAK Yakutsk 64.21 17 *e*P **P** **10 02 22.5 -1.0**
comp=Z,428nm,0.8s,mb6.5
YAK LR LR
comp=Z,29μm,20.0s,MS6.5
YAK Yakutsk 64.21 17 *c i*P **P** **10 02 22.4 -1.1**
YAK *e**PP pP 10 02 32.2 -0.9
YAK *e* 10 02 57.0
YAK *e*S **S** **10 10 57.1 -1.5**
YAK *e**SS sS 10 11 17.8 +3.2
YAK *e* 10 12 13.5
YAK *e*SS SS 10 15 00.6 -7.8
YAK pmax pmax
comp=Z,350nm,0.8s,mb6.4
YAK pmax pmax
comp=N,157nm,1.3s
YAK pmax pmax
comp=E,111nm,1.1s
YAK smax
comp=E,513nm,2.9s
YAK smax
comp=Z,217nm,3.1s
YAK smax
comp=N,397nm,2.2s
YAK MLR MLR
comp=Z,51μm,19.0s,MS6.7
YAK MLR MLR
comp=N,29μm,18.0s,MS6.6
YAK MLR MLR
comp=E,24μm,18.0s,MS6.6
TAU Tasmania Unive 65.09 141 PFAKE 10 02 40.0 +10
TAU LR LR
comp=Z,6μm,21.0s,MS5.8
HNR Honiara 65.18 102 P **P** **10 02 29.6 -1.1**
comp=Z,230nm,1.1s,mb6.1
HNR LR LR
comp=Z,2μm,20.0s,MS5.4
HNR Honiara 65.18 102 P **P** **10 02 29.8 -0.9**
HNR pmax pmax
comp=Z,230nm,1.1s,mb6.1
HNR Honiara 65.18 102 P **P** **10 02 29.8 -0.9**
comp=Z,59nm,0.7s,mb5.7,baz=106,slow=3.6,SNR=4.8
AVNT Avonos 65.67 311 *i* P **P** **10 02 34.0 +0.6**
CSS Prodhromos 65.83 307 *e*P **P** **10 02 35.0 +0.4**
comp=Z,90nm,1.2s,mb5.7
CTKT Corum 66.26 313 *i* P **P** **10 02 36.2 -1.0**
CDAG Cicekdag 66.28 312 *i* P **P** **10 02 34.7 -2.6**
BOYT Boyabat 66.42 314 *i* P **P** **10 02 36.9 -1.4**
ELDT Eldivan 67.22 313 *i* P **P** **10 02 43.2 -0.1**
VRSR Storozhevoye 67.29 325 *e*P **P** **10 02 43.0 -0.5**
VRSR pmax pmax
comp=N,4.0nm,1.0s
VRSR pmax pmax
comp=Z,8.0nm,1.0s,mb4.7
VRSR pmax pmax
comp=E,10.0nm,0.9s
VOR Voronezh 67.51 326 *e*P **P** **10 02 45.0 +0.1**
VOR pmax pmax
comp=Z,180nm,1.6s,mb5.8
ANTO Ankara 67.51 312 *e*P **P** **10 02 45.1 -0.1**
comp=Z,14nm,0.6s,mb5.2
ANTO LR LR
comp=Z,3μm,19.0s,MS5.6
ANTO Ankara 67.51 312 *e*P **P** **10 02 45.4 +0.2**
ANTO *e* 10 02 52.3
ANTO pmax pmax
comp=Z,39nm,1.0s,mb5.4
ANTO Ankara 67.51 312 P **P** **10 02 46.2 +1.0**
SNR=15
ANTO Ankara 67.51 312 P **P** **10 02 46.2 +1.0**
SNR=15
ANTO Ankara 67.51 312⇓ *i*P **P** **10 02 45.1 -0.1**
BALT Daday 67.55 314 *i* P **P** **10 02 45.4 +0.1**
KDHN Kadinhani 67.66 311 *i* P **P** **10 02 46.1 -0.1**
SIMI Simferopol' 68.08 318 *e*P **P** **10 02 49.0 +0.3**
SIMI Simferopol' 68.08 318 *e*P **P** **10 02 49.1 +0.4**
SIM *e*S S 10 11 42.0 -4.4
SIM pmax pmax
comp=Z,71nm,1.0s,mb5.7
ESKT Eskisehir 68.87 311 *e*P **P** **10 02 49.2 -4.5**
HENT Hendek 69.16 313 *i* P **P** **10 02 53.5 -2.0**
LSZ Lusaka 69.17 253 PFAKE 10 03 10.0 +14
LSZ LR LR
comp=Z,14μm,20.0s,MS6.2
GOLH Golhisar 69.33 309 *i* P **P** **10 02 55.0 -1.6**
SKR Severo-Kuril's 69.35 36 *e*P **P** **10 02 54.0 -2.5**
SKR *e* 10 03 10.5
SKR *e*PPP 10 07 15.0
SKR *e*S S 10 12 05.0 +3.8
SKR *e* 10 12 25.0
SKR pmax pmax
comp=E,80nm,0.5s
SKR pmax pmax
comp=Z,90nm,0.5s,mb6.0
SKR pmax pmax
comp=Z,3μm,8.0s
SKR smax
comp=N,3μm,20.0s
SKR smax
comp=E,4μm,16.0s
SKR MLR MLR
comp=N,13μm,20.0s,MS6.2
SKR MLR MLR
comp=E,3μm,20.0s,MS6.2
SKR MLR MLR
comp=Z,13μm,20.0s,MS6.2
GDZ Gediz 69.80 311 *i* P **P** **10 02 57.6 -1.9**
CASY Casey 69.86 174 *e*P **P** **10 02 58.3 -0.9**
comp=Z,68nm,1.3s,mb5.4
CASY LR LR
comp=Z,10μm,21.0s,MS6.0
MOS Moscow 70.09 329 *e*P **P** **10 03 01.2 +0.3**
MOS Moscow 70.09 329 *e*P **P** **10 03 00.9 0.0**
MOS *e* 10 03 19.5
MOS *e* 10 05 35.1
MOS *e*S S 10 12 08.2 -1.5
MOS *e* 10 12 33.3
MOS pmax pmax
comp=Z,94nm,1.0s,mb5.7
MOS smax
comp=E,2μm,4.5s
MOS MLR MLR
comp=E,12μm,21.9s
MOS MLR MLR
comp=Z,13μm,21.9s,MS6.1
OBN Obninsk 70.37 328 *e*P **P** **10 03 02.6 0.0**
comp=Z,329nm,1.5s,mb6.0
OBN LR LR
comp=Z,9μm,19.0s,MS6.0
OBN Obninsk 70.37 328 *i* P **P** **10 03 01.8 -0.8**
OBN *e* 10 03 20.8
OBN *e* 10 05 34.6
OBN pmax pmax
comp=Z,89nm,1.5s,mb5.5
MA2 Magadan 70.45 26 *e*P **P** **10 03 02.3 -0.7**
comp=Z,549nm,1.8s,mb6.2
MA2 LR LR
comp=Z,9μm,20.0s,MS6.0
MA2 Magadan 70.45 26 *c i*P **P** **10 03 02.3 -0.7**
MA2 *e* 10 03 23.8
MA2 *e* 10 05 38.3
MA2 *i* S S 10 12 12.8 -1.0
MA2 pmax pmax
comp=Z,200nm,1.4s,mb5.8
MA2 MLR MLR
comp=N,15μm,18.3s
BDRM Kayabasi 70.95 308 *i* P **P** **10 03 07.0 +0.4**
AKHS Akhisar 71.02 310 *e*P **P** **10 03 05.5 -1.4**
BTOK Tokmak 71.04 311 *i* P **P** **10 03 05.8 -1.2**
KDAG Bornova 71.34 310 *i* P **P** **10 03 10.4 +1.5**
PET Petropavlovsk 71.67 35 *e*P **P** **10 03 09.6 -0.9**
comp=N,59nm,0.6s,mb5.7
PET LR LR
comp=Z,13μm,21.0s,MS6.2
PET Petropavlovsk 71.67 35 *ce*P **P** **10 03 07.8 -2.7**
PET *e* 10 03 23.1
PET *e* 10 05 46.4
PET *e*PPP 10 07 27.1
PET *i* S S 10 12 25.3 -2.8
PET *e*PS 10 13 08.2
PET pmax pmax
comp=Z,96nm,0.6s,mb5.9
PET MLR MLR
comp=Z,11μm,19.0s,MS6.2
PET MLR MLR
comp=Z,14μm,21.0s
TIXI Tiksi 71.77 11 *e*P **P** **10 03 09.2 -1.6**
comp=Z,87nm,0.9s,mb5.7
TIXI LR LR
comp=Z,14μm,20.0s,MS6.2
TIXI Tiksi 71.77 11 *c i*P **P** **10 03 09.2 -1.6**
TIXI *e* 10 05 51.2
TIXI *e*PPP 10 07 35.9
TIXI *e*S S 10 12 25.2 -3.5
TIXI pmax pmax
comp=N,51nm,1.5s
TIXI pmax pmax
comp=Z,219nm,1.5s,mb5.9
TIXI pmax pmax
comp=E,49nm,1.7s
TIXI pmax pmax
comp=Z,2μm,15.6s
TIXI smax
comp=N,3μm,18.9s
TIXI smax
comp=E,2μm,19.0s
TIXI MLR MLR
comp=Z,18μm,17.0s,MS6.4
TIXI MLR MLR
comp=N,11μm,18.0s,MS6.2
TIXI MLR MLR
comp=E,8μm,20.0s,MS6.2
TIRR Tirgusor 71.85 316⇑ *i*P **P** **10 03 12.4 +0.7**
TIRR Tirgusor 71.85 316⇑ *i*P **P** **10 03 12.4 +0.6**
URLA Izmir 71.86 309 *i* P **P** **10 03 12.8 +0.9**
CFR Carcaliu 72.21 317 P **P** **10 03 18.6 +4.7**
KIS Kishinev 72.22 319 *e*P **P** **10 03 13.0 -1.0**
KIS *e* 10 03 29.0
KIS *e* 10 07 38.0
KIS *i* S S 10 12 34.0 -0.7
KIS *e*SS SS 10 17 20.0 +7.3
KIS MLR MLR
comp=Z,6μm,18.0s,MS5.9
KIS MLR MLR
comp=N,3μm,19.0s,MS5.7
KIS MLR MLR
comp=E,3μm,17.0s,MS5.7
KIS MLR MLR
comp=Z,6μm,20.0s
KIS Kishinev 72.22 319 *e*P **P** **10 03 13.0 -1.0**
KIS *i* S S 10 12 34.0 -0.7
HARR Harsova 72.24 316 P **P** **10 03 15.1 +1.0**
HARR Harsova 72.24 316⇓ *i*P **P** **10 03 13.4 -0.7**
APE Apeiranthos 72.45 308⇑ *e*P **P** **10 03 15.9 +0.3**
APE Apeiranthos 72.45 308⇑ *i*P **P** **10 03 15.9 +0.3**
BOZC Bozcaada 72.55 311 *i* P **P** **10 03 15.0 -1.1**
SEY Seymchan 72.79 24⇓ *e*P **P** **10 03 16.9 -0.1**
AKASG Malin Array Be 72.98 322 *i* P **P** **10 03 16.5 -1.9**
AKASG pmax pmax
comp=Z,18nm,0.7s
AKASG Malin Array Be 72.98 322 P **P** **10 03 16.7 -1.7**
comp=Z,18nm,0.7s,mb5.1,baz=90,slow=4.8,SNR=41
AKASG LR LR 10 41 57.5
comp=Z,4μm,19.9s,MS5.7,baz=110,slow=41
AKBB Malin Array Si 72.98 322 *e*P **P** **10 03 16.7 -1.8**
KIEV Kiev 72.99 322 *e*P **P** **10 03 16.3 -2.2**
comp=Z,26nm,0.8s,mb5.2
KIEV LR LR
comp=Z,5μm,20.0s,MS5.8
KIEV Kiev 72.99 322 *e*P **P** **10 03 16.3 -2.2**
KIEV pmax pmax
comp=Z,26nm,0.8s,mb5.2
KIEV MLR MLR
comp=Z,5μm,20.0s,MS5.8
LBTB Lobatse 73.31 243 *e*P **P** **10 03 20.4 -0.4**
comp=Z,56nm,0.9s,mb5.5
LBTB LR LR
comp=Z,20μm,20.0s,MS6.4
VRI Vrincioaia 73.34 317 P **P** **10 03 22.6 +1.9**
VRI Vrincioaia 73.34 317⇓ *i*P **P** **10 03 20.4 -0.3**
PLOR Plostina 73.39 317 P **P** **10 03 22.9 +2.0**
PLOR Plostina 73.39 317⇑ *i*P **P** **10 03 21.3 +0.4**
PVL Pavlikeni 73.74 314 *e*P **P** **10 03 23.6 +0.5**
TMCR Tamitsa 73.76 337 *e*P **P** **10 03 21.5 -1.3**
TMCR pmax pmax
comp=Z,99nm,0.9s,mb5.7
MLR Muntele Rosu 73.79 317 P **P** **10 03 24.8 +1.5**
MLR Muntele Rosu 73.79 317⇓ *i*P **P** **10 03 24.2 +0.9**

ZIMR 73.81 315 P **P** 10 03 24.7 +1.2
ZIMR 73.81 315⇑ *i*P **P** 10 03 25.3 +1.8
RZN Rozhen 73.90 313 *e*P **P** 10 03 24.0 0.0
MAW Mawson 74.05 192 P **P** 10 03 25.3 +1.0
comp=Z,3.7nm,0.8s,baz=339,slow=6.2,SNR=4.2
MAW LR LR 10 32 34.4
comp=Z,4μm,18.0s,MS5.8,baz=30,slow=33
BOSA Boshof 74.34 239 *e*P **P** 10 03 27.6 +0.8
comp=Z,99nm,1.4s,mb5.5
BOSA LR LR
comp=Z,16μm,19.0s,MS6.3
BOSA Boshof 74.34 239 P **P** 10 03 28.3 +1.4
BOSA pmax pmax
comp=Z,99nm,1.4s,mb5.5
BOSA Boshof 74.34 239 P **P** 10 03 26.9 0.0
comp=Z,19nm,0.9s,mb5.0,baz=73,slow=8.3,SNR=8.0
BOSA LR LR 10 33 50.7
comp=Z,16μm,18.6s,MS6.3,baz=60,slow=34
VOIR 74.39 316 P **P** 10 03 29.4 +2.6
VOIR 74.39 316⇓ *i*P **P** 10 03 29.5 +2.7
MNK Minsk 74.89 326 *e*P **P** 10 03 29.0 -0.5
KKB Krupnik 75.13 312 *e*P **P** 10 03 31.6 +0.4
VTS Vitosha 75.16 313 P **P** 10 03 32.3 +0.9
VTS Vitosha 75.16 313⇑ *i*P **P** 10 03 31.9 +0.6
VTS Vitosha 75.16 313 *e*P **P** 10 03 29.1 -2.2
PUL Pulkovo 75.27 332 *i* P **P** 10 03 32.2 +0.6
VAY Valandovo 75.42 312 *e*P **P** 10 03 31.1 -1.8
GZR Gura Zlata 75.96 316 P **P** 10 03 37.0 +1.1
GZR Gura Zlata 75.96 316⇑ *i*P **P** 10 03 36.8 +1.0
JOF Joensuu 75.96 335 *e*p **P** 10 03 33.9 -1.6
comp=Z,39nm,1.0s,mb5.3
JOF Joensuu 75.96 335 *e*P **P** 10 03 33.9 -1.6
JOF pmax pmax
comp=Z,39nm,1.0s,mb5.3
LVV L'vov 75.99 321 *e*P pP 10 03 46.7 +0.9
LVV *e* 10 03 52.1
LVV *e*PPP 10 08 13.5
LVV *i* S S 10 13 15.5 -1.4
LVV *i* PS 10 13 55.3
LVV MLR MLR
comp=Z,2μm,17.0s,MS5.5
LVV MLR MLR
comp=E,2μm,19.0s,MS5.6
LVV MLR MLR
comp=N,300nm,15.0s,MS5.6
DRV Dumont d'Urvil 76.22 163 P pP 10 03 49.0 +2.3
DRV S S 10 13 23.0 +4.2
DRV SS SS 10 18 17.0 +4.1
DRV R 10 27 00.0
DRGR 76.25 317 P **P** 10 03 38.9 +1.3
DRGR 76.25 317⇑ *i*P **P** 10 03 36.9 -0.6
KRUS Krusevo 76.41 312 *e*P **P** 10 03 34.5 -4.0
VSU Vasula 76.61 330 *i* P **P** 10 03 40.0 +0.7
TRPA Tarpa 76.61 319⇓ *i*P **P** 10 03 41.3 +1.8
LVZ Lovozero 76.71 340 PFAKE 10 03 50.0 +10
LVZ LR LR
comp=Z,17μm,21.0s,MS6.3
LVZ Lovozero 76.71 340⇑ *e*P **P** 10 03 42.1 +2.4
LVZ pmax pmax
comp=Z,162nm,2.5s,mb5.5
KWP Kalwaria 76.79 320 *e*P **P** 10 03 36.7 -3.8
KWP pmax pmax
comp=Z,58nm,0.5s,mb5.8
BZS Buzias 76.80 316 ⇑P **P** 10 03 41.3 +0.7
BZS Buzias 76.80 316⇑ *i*P **P** 10 03 41.3 +0.7
UZH Uzhgorod 76.87 319 *e*P **P** 10 03 43.8 +2.9
UZH *e* 10 03 47.6
UZH *e* 10 04 02.8
UZH *i* S S 10 13 31.0 +4.4
UZH *i* SP 10 13 50.0
UZH *e*SS SS 10 18 30.0 +6.6
KOLS Kolonicke sedl 76.94 320 *e*P **P** 10 03 41.3 0.0
KOLS *e*S S 10 13 25.7 -1.7
APA Apatity 77.00 340⇓ *i*P **P** 10 03 40.0 -1.3
APA *i* pP 10 03 50.0 -1.1
APA *i* S S 10 13 25.0 -2.3
APA *i* SS SS 10 18 28.0 +3.5
APA pmax pmax
comp=Z,61nm,1.2s,mb5.4
SUW Suwalki 77.41 325 *e*P **P** 10 03 44.1 +0.2
CRVS Cervenica-Dubn 77.46 319 *e*P **P** 10 03 45.4 +1.1
CRVS *e*pP pP 10 03 52.4 -1.7
CRVS *e*S S 10 13 34.3 +1.3
STHS Stebnicka Huta 77.69 320 *e*P **P** 10 03 46.1 +0.6
comp=Z,38nm,0.9s,mb5.3
STHS *e* pP 10 03 54.9 -0.5
STHS Stebnicka Huta 77.69 320 *e*P **P** 10 03 46.1 +0.6
STHS *e* pP 10 03 54.9 -0.5
STHS pmax pmax
comp=Z,39nm,0.9s,mb5.3
FIA1 FINESS Array S 77.79 333 *e*P **P** 10 03 45.1 -0.7
FINES FINESS Array B 77.79 333 P **P** 10 03 44.8 -1.0
comp=Z,7.9nm,0.6s,mb4.8,baz=106,slow=6.0,SNR=25
FINES LR LR 10 43 26.2
comp=Z,10μm,20.6s,MS6.1,baz=113,slow=40
KAF Kangasniemi 77.88 333 *e*p **P** 10 03 44.6 -1.7
comp=Z,43nm,1.0s,mb5.3
KAF Kangasniemi 77.88 333 *e*P **P** 10 03 44.6 -1.7
KAF pmax pmax
comp=Z,43nm,1.0s,mb5.3
KECS Kecovo 78.03 319 *e*P **P** 10 03 46.5 -0.9
comp=Z,18nm,0.9s,mb5.0
KECS *e* pP 10 03 56.2 -1.1
KECS Kecovo 78.03 319 *e*P **P** 10 03 46.5 -0.9
KECS *e* pP 10 03 56.2 -1.1
KECS pmax pmax
comp=Z,18nm,0.9s,mb5.0
PSZ Piszkesteto 78.33 318 P **P** 10 03 50.5 +1.4
comp=Z,2.2nm,0.8s
PSZ Piszkesteto 78.33 318⇓ *i*P **P** 10 03 48.4 -0.7
PSZ Piszkesteto 78.33 318 *e*P **P** 10 03 49.8 +0.7
OJC Ojcow 78.75 321 *e*P **P** 10 03 52.2 +0.8
OJC *e*PcP PcP 10 04 00.7 +0.6
OJC *e*S S 10 13 48.6 +1.8
OJC L 10 43 48.8
comp=Z,4.2nm,20.5s
OJC Ojcow 78.75 321 *e*P **P** 10 03 52.2 +0.8
OJC *e* pP 10 04 00.7 -0.5
OJC *e*S S 10 13 48.6 +1.8
SUR Sutherland 78.84 236 *e*P **P** 10 03 52.9 +0.6
comp=Z,221nm,1.6s,mb5.8
SUR LR LR
comp=Z,14μm,20.0s,MS6.3
BUD Budapest 78.85 318 *e*P **P** 10 03 52.8 +0.8
PKSM Moragy 78.94 316 P **P** 10 03 53.6 +1.1
PKSM Moragy 78.94 316⇑ *i*P **P** 10 03 51.3 -1.2
VYHS Vyhne 79.11 319 *e*P **P** 10 03 54.2 +0.8
comp=Z,63nm,1.6s,mb5.3
VYHS *e* 10 04 10.1
VYHS *e*S S 10 13 49.0 -1.8
VYHS LR LR
comp=Z,2μm,22.3s,MS5.4
VYHS Vyhne 79.11 319 *e*P **P** 10 03 54.2 +0.8
VYHS *e*pP pP 10 04 10.0 +6.7
VYHS *e*S S 10 13 49.0 -1.8
TIP Timpagrande 79.58 309 *e*P **P** 10 03 55.8 -0.4
comp=Z,27nm,0.9s,mb5.2
OKC Ostrava-Krasne 79.74 320 *e*P **P** 10 03 58.1 +1.3
OKC *e* 10 04 14.1
OKC *e*S S 10 13 55.7 -1.8
OKC Ostrava-Krasne 79.74 320 *e*P **P** 10 03 58.1 +1.3
OKC *e*x x 10 04 14.1
OKC *e*S S 10 13 55.7 -1.8
OKC AMS AMS 10 46 00.0
comp=Z,2μm,20.2s,MS5.5
TSUM Tsumeb 79.75 250 *e*P **P** 10 03 57.9 +0.4
comp=Z,110nm,1.9s,mb5.5
TSUM LR LR
comp=Z,7μm,19.0s,MS6.0
KEV Kevo 79.99 341 PFAKE 10 04 10.0 +12
KEV LR LR
comp=Z,11μm,21.0s,MS6.2
BILL Bilibino 80.11 21 *e*P **P** 10 03 57.8 -0.6
comp=Z,143nm,1.6s,mb5.7
BILL LR LR
comp=Z,22μm,19.0s,MS6.5
BILL Bilibino 80.11 21*c* *i*P **P** 10 03 56.9 -1.5
BILL pmax pmax
comp=Z,44nm,2.4s,mb5.0
BILL MLR MLR
comp=Z,20μm,14.0s,MS6.6
MORC Moravsky Berou 80.12 320 *e*P **P** 10 03 58.6 -0.3
comp=Z,216nm,1.7s,mb5.8
MORC Moravsky Berou 80.12 320 P **P** 10 04 00.6 +1.7
MORC Moravsky Berou 80.12 320⇓ *i*P **P** 10 03 58.4 -0.5
MODS Modra-Piesok 80.13 318 *e*P **P** 10 04 00.3 +1.4
MODS *e* 10 04 19.1
MODS *e*S S 10 14 00.5 -1.1
ZST Bratislava 80.22 318 *e*P **P** 10 04 00.6 +1.2
comp=Z,46nm,0.9s,mb5.4
ZST *e* 10 04 20.8
ZST *e*S S 10 14 01.4 -1.2
ZST LR LR
comp=Z,3μm,18.1s,MS5.7
ZST Bratislava 80.22 318 *e*P **P** 10 04 00.6 +1.2
ZST *e* 10 04 20.8
ZST *e*S S 10 14 01.4 -1.2
ARCES ARCESS Array B 80.42 340 P **P** 10 04 00.1 0.0
comp=Z,16nm,0.9s,mb5.0,baz=93,slow=4.8,SNR=33
ARCES LR LR 10 45 14.9
comp=Z,14μm,20.1s,MS6.3,baz=117,slow=40
ARE0 ARCESS Array S 80.42 340 *e*P **P** 10 03 59.0 -1.0
SOP Sopron 80.53 318 *e*P **P** 10 03 59.6 -1.5
KOGS Kog 80.61 316 *e*P **P** 10 04 01.9 +0.3
SMY Shemya 80.66 37 PFAKE 10 04 10.0 +8.3
SMY LR LR
comp=Z,4μm,21.0s,MS5.7
VRAC Vranov 80.68 319⇓ *i*P **P** 10 04 10.0 +8.1
DPC Dobruska-Polom 80.97 320 *e*P **P** 10 04 02.9 -0.5
DPC *e*S S 10 14 10.8 +0.5
DPC AMS AMS 10 46 30.0
comp=Z,4μm,20.4s,MS5.8
KSP Ksiaz 81.05 321 *e*P **P** 10 04 05.2 +1.4
KSP Ksiaz 81.05 321 *e*P **P** 10 04 03.0 -0.8
KSP *e*PcP PcP 10 04 07.7 -2.4
KSP *e*pP pP 10 04 19.3 +5.6
KSP *e*S S 10 14 09.3 -1.8
KSP *e*SS SS 10 19 27.0 +1.0
KSP LR LR
comp=Z,7μm,25.1s,MS5.9
CRES Cresnjev 81.10 316 *e*P **P** 10 04 05.2 +0.9
SYO Syowa Base 81.17 198⇓ *e*P **P** 10 04 03.3 -0.7
ARSA Arzberg 81.19 317⇑ *i*P **P** 10 04 03.9 -0.7
comp=Z,40nm,1.7s,mb5.1,SNR=17
UPC Upice 81.19 321 *e*P **P** 10 04 04.4 -0.2
TREC Trest 81.40 319 *e*S S 10 14 12.8 -2.0
TREC AMS AMS 10 48 30.0
comp=Z,3μm,18.7s,MS5.7
PERS Pernice 81.41 317 *e*P **P** 10 04 06.2 +0.4
RPZ Rata Peaks 81.48 135 LR LR 10 42 53.9
comp=Z,7μm,19.3s,MS6.0,baz=285,slow=38
LJU Ljubljana 81.77 316 *e*P **P** 10 04 08.5 +0.8
LJU *e*S S 10 14 15.2 -3.5
OBKA Obir 81.79 316⇑ *i*P **P** 10 04 07.2 -0.7
comp=Z,32nm,1.7s,mb5.0
OBKA Obir 81.79 316⇑ *i*P **P** 10 04 07.2 -0.7
comp=Z,32nm,1.7s,mb5.0
PRU Pruhonice 82.08 320 *e*P **P** 10 04 10.6 +1.3
PRU *e*x x 10 04 29.2
PRU *e*S S 10 14 21.7 -0.1
PRU AMS AMS 10 47 20.0
comp=Z,4μm,17.7s,MS5.8
MOA Molln 82.08 318⇑ *i*P **P** 10 04 09.2 -0.1
comp=Z,15nm,1.4s,mb4.7
PVCC Panska Ves 82.11 320 *e*P **P** 10 04 10.6 +1.2
PVCC *e*S S 10 14 22.1 0.0
PVCC AMS AMS 10 47 10.0
comp=Z,4μm,18.7s,MS5.8
PRA Prague 82.15 320 P **P** 10 04 13.0 +3.3
VOY Vojsko 82.21 316 *e*P **P** 10 04 10.2 +0.1
VOY *e* 10 04 13.4
VOY *e* pP 10 04 17.9 -2.1
VOY *e* 10 04 31.8
VOY Vojsko 82.21 316 *e*P **P** 10 04 10.2 +0.1
VOY *e* 10 04 13.4
VOY *e* pP 10 04 17.9 -2.1
VOY *e* 10 04 31.8
VOY *e* 10 04 36.3
BSD Bornholm Skovb 82.33 325 *i* P **P** 10 04 11.5 +1.0
BSD *i* S S 10 14 19.9 -4.3
BSD pmax pmax
comp=Z,48nm,0.9s,mb5.4
BSD MLR MLR
comp=Z,4μm,19.0s,MS5.8
BSD Bornholm Skovb 82.33 325 *i* P **P** 10 04 11.5 +1.0
comp=Z,48nm,0.9s,mb5.4
BSD *i* S S 10 14 19.9 -4.3
BSD
comp=Z,4μm,19.0s
AQU L'Aquila 82.34 312 *e*P **P** 10 04 11.1 +0.3
comp=Z,95nm,1.0s,mb5.7
AQU L'Aquila 82.34 312 P **P** 10 04 12.5 +1.7
AQU L'Aquila 82.34 312⇑ *i*P **P** 10 04 10.7 -0.1
BRG Berggiesshubel 82.53 321 *e*P **P** 10 04 12.5 +0.9
comp=Z,11nm,1.4s,mb4.7
BRG *e* 10 04 16.1
BRG *i* 10 04 31.4
BRG S S 10 14 26.0 -0.4
BRG SS SS 10 19 54.0 +5.9
BRG LR LR
comp=Z,2μm,18.0s,MS5.5
BRG Berggiesshubel 82.53 321 *e*P **P** 10 04 12.5 +0.9
BRG *i* 10 04 31.4
BRG S S 10 14 26.0 -0.4
BRG SS SS 10 19 54.0 +5.9
BRG pmax pmax
comp=Z,11nm,1.4s,mb4.7
BRG MLR MLR
comp=N,4μm,20.6s,MS5.8
BRG MLR MLR
comp=E,2μm,19.1s,MS5.8
BRG MLR MLR
comp=Z,2μm,18.0s,MS5.5
BRG Berggiesshubel 82.53 321 *e*P **P** 10 04 12.8 +1.2
comp=Z,228nm,1.9s,mb5.9
BRG Berggiesshubel 82.53 321 *e*P **P** 10 04 12.5 +0.9
comp=Z,18nm,1.4s,mb4.9
BRG *e* 10 04 16.1
comp=Z,46nm,1.5s
BRG *i* 10 04 31.4
comp=Z,227nm,1.9s
BRG S S 10 14 26.0 -0.4
BRG SS SS 10 19 54.0 +5.9
BRG
comp=N,6μm,20.6s
BRG
comp=E,3μm,19.1s
BRG
comp=Z,3μm,18.0s
GEC2 GERESS Array S 82.53 319 *e*P **P** 10 04 12.2 +0.5
GEC2 pmax pmax
comp=Z,114nm,1.3s,mb5.7
GEC2 GERESS Array S 82.53 319 *e*P **P** 10 04 12.2 +0.5
comp=Z,114nm,1.3s,mb5.7
GERES GERESS Array B 82.53 319 P **P** 10 04 11.6 -0.1
comp=Z,9.3nm,0.7s,mb4.9,baz=97,slow=5.6,SNR=46
GERES LR LR 10 47 13.6
comp=Z,5μm,20.6s,MS5.8,baz=90,slow=40
KHC Kasperske Hory 82.64 319 *e*P **P** 10 04 13.1 +0.9
KHC *e*S S 10 14 28.2 +0.7
KHC AMS AMS 10 46 40.0
comp=Z,4μm,20.0s,MS5.7
KBA Koelnbreinsper 82.65 317⇑ *i*P **P** 10 04 11.2 -1.2
comp=Z,16nm,1.2s,mb5.0
KBA Koelnbreinsper 82.65 317⇑ *i*P **P** 10 04 11.2 -1.2
KBA pmax pmax
comp=Z,16nm,1.2s,mb4.9
TRO Tromso 82.68 340 *e*P **P** 10 04 11.7 -0.3
TRO *e* 10 07 21.8
TRO *i* 10 15 06.0
TRO LR LR
comp=Z,10μm,20.3s,MS6.2
TRO Tromso 82.68 340 *e*P **P** 10 04 11.7 -0.3
TRO *e* 10 07 21.8
TRO *e*S S 10 14 27.0 -0.2
TRO *i* 10 15 06.0
TRO *e*SS SS 10 19 49.6 +0.3
TRO AMS AMS 10 46 56.4
comp=Z,10μm,20.3s,MS6.2
TRO Tromso 82.68 340 *e*P **P** 10 04 11.7 -0.3
TRO *e* 10 07 21.8
TRO MLR MLR
comp=Z,10μm,20.3s,MS6.2
WET Wettzell 83.09 319 *e*P **P** 10 04 14.7 +0.1
WET pmax pmax
comp=Z,181nm,1.9s,mb5.8
WET Wettzell 83.09 319 *e*P **P** 10 04 14.7 +0.1
comp=Z,181nm,1.9s,mb5.8
CLL Collm 83.16 321 *e*P **P** 10 04 14.0 -0.9
CLL *i* 10 04 18.4
CLL *i* 10 04 35.8
CLL *e*S S 10 14 36.0 +3.3
CLL Collm 83.16 321 *e*P **P** 10 04 14.0 -0.9
CLL *e*S S 10 14 36.0 +3.3
CLL pmax pmax
comp=Z,24nm,1.3s,mb5.1
CLL MLR MLR
comp=Z,5μm,19.0s,MS5.9
CLL Collm 83.16 321 *e*P **P** 10 04 14.0 -0.9
comp=Z,24nm,1.3s,mb5.1
CLL *i* PcP PcP 10 04 18.4 -1.0
CLL *i* x x 10 04 35.8
comp=Z,140nm,2.1s
CLL *e*PP PP 10 07 33.0 +6.8
CLL *e*S S 10 14 36.0 +3.3
comp=N,4μm,22.9s
CLL *e*S S 10 14 36.0 +3.3
comp=E,600nm,24.0s
CLL *e*PPS 10 15 47.0
CLL *e*SS SS 10 20 04.0 +6.7
CLL *e*SSS 10 23 30.0
CLL *e*x x 10 25 17.0
CLL LmV 10 48 00.0
comp=Z,5μm,19.0s
NKC Novy Kostel 83.44 320 *e*P **P** 10 04 15.5 -0.8
NKC *e*S S 10 14 37.9 +2.2
NKC Novy Kostel 83.44 320 *e*P **P** 10 04 15.5 -0.8
NKC *e*S S 10 14 37.9 +2.2
NKC AMS AMS 10 48 00.0
comp=Z,5μm,18.3s,MS5.9
TANN Tannenbergstha 83.44 320 *e*P **P** 10 04 16.9 +0.6
ROTZ Rotzenmuhle 83.57 320 *e*P **P** 10 04 17.2 +0.2
comp=Z,197nm,2.0s,mb5.9
BJO Bjornoya 83.60 345 *e*P **P** 10 04 17.2 +0.5
BJO *e*S S 10 14 36.6 +0.1
BJO *e*SS SS 10 20 06.6 +3.7
BJO AMS AMS 10 46 45.9
comp=Z,6μm,22.2s,MS5.9
SNZO South Karori 83.68 132 PFAKE 10 04 30.0 +12
SNZO LR LR
comp=Z,6μm,21.0s,MS5.9
COP Copenhagen 83.79 326 *i* P **P** 10 04 20.7 +2.7
COP *i* S S 10 14 39.0 0.0
COP
comp=Z,2μm,19.0s
MOR8 Moi Rana 83.80 336 *e*P **P** 10 04 15.2 -2.7
WTTA Wattenberg 83.83 317 *i* P **P** 10 04 19.1 +0.7
SNR=7.2
MOX Moxa 83.99 320 *e*P **P** 10 04 20.3 +1.1
comp=Z,114nm,1.9s,mb5.7
MOX *e* 10 04 41.0
MOX LR LR
comp=Z,3μm,21.0s,MS5.7
MOX Moxa 83.99 320 *e*P **P** 10 04 20.3 +1.1
MOX *e* 10 04 41.0
comp=Z,114nm,1.9s
MOX
comp=Z,3μm,21.0s
MOX Moxa 83.99 320 *e*P **P** 10 04 19.4 +0.2
comp=Z,85nm,1.6s,mb5.6
FUR Furstenfeldbru 84.11 318 *e*P **P** 10 04 20.7 +0.9
FUR pmax pmax
comp=Z,277nm,2.3s,mb6.0
FUR Furstenfeldbru 84.11 318 *e*P **P** 10 04 20.7 +0.9
comp=Z,277nm,2.3s,mb6.0
MOTA Moosalm 84.19 317⇓ *i*P **P** 10 04 19.5 -0.8
comp=Z,54nm,1.5s,mb5.5,SNR=11
MOTA Moosalm 84.19 317⇓ *i*P **P** 10 04 19.5 -0.8
MOTA pmax pmax
comp=Z,54nm,1.5s,mb5.5
GRA1 Grafenberg Arr 84.20 319 *e*P **P** 10 04 20.6 +0.3
comp=Z,197nm,1.7s,mb6.0
GRA1 *e*S S 10 14 41.2 -2.2
GRA1 LR LR
comp=Z,4μm,19.6s,MS5.9
GRF Grafenberg Arr 84.20 319 *e*P **P** 10 04 20.6 +0.3
GRF *e*S S 10 14 41.2 -2.2
GRF pmax pmax
comp=Z,197nm,1.7s,mb6.0
GRF MLR MLR
comp=Z,4μm,19.6s,MS5.9
GRF Grafenberg Arr 84.20 319 *e*P **P** 10 04 20.6 +0.3
comp=Z,197nm,1.7s,mb6.0
GRF *e*S S 10 14 41.2 -2.2
GRF *e*L 10 48 58.4
comp=Z,4μm,19.6s
GRFO Grafenberg 84.20 319 *e*P **P** 10 04 21.0 +0.7
comp=Z,90nm,1.3s,mb5.7
GRFO LR LR
comp=Z,4μm,19.0s,MS5.8
GRFO Grafenberg 84.20 319 P **P** 10 04 21.5 +1.2
GRFO pmax pmax
comp=Z,88nm,1.2s,mb5.8
RETA Reutte 84.43 317⇑ *i*P **P** 10 04 20.2 -1.2
comp=Z,21nm,0.8s,mb5.3,SNR=13
FETA Feichten 84.44 317⇑ *i*P **P** 10 04 20.4 -1.1
comp=Z,25nm,1.3s,mb5.2,SNR=10.0
NSS Namsos 84.67 334 *e* PP 10 07 38.4 +0.2
NSS *e*SKS 10 14 42.8
NB2 NORSAR Subarra 84.78 331 P **P** 10 04 21.5 -1.4
comp=Z,46nm,1.2s,mb5.5,baz=96,slow=5.6
NOA NORSAR Array B 84.78 331 P **P** 10 04 22.1 -0.8
NOA 10 07 37.8
NOA NORSAR Array B 84.78 331 P **P** 10 04 22.1 -0.8
comp=Z,11nm,1.0s,mb4.9,baz=94,slow=5.3,SNR=12
NOA PP PP 10 07 37.8 -1.4
comp=Z,3.1nm,0.8s,baz=93,slow=8.2,SNR=3.7
NOA LR LR 10 46 46.5
comp=Z,5μm,21.3s,MS5.8,baz=65,slow=39
CLZ Clausthal 84.82 322 *e*P **P** 10 04 24.1 +0.8
CLZ pmax pmax
comp=Z,127nm,1.8s,mb5.8
CLZ Clausthal 84.82 322 *e*P **P** 10 04 24.1 +0.8
comp=Z,127nm,1.8s,mb5.8
NAO01 NORSAR Array S 84.93 331 PFAKE 10 04 30.0 +6.3
NAO01 LR LR
comp=Z,7μm,22.0s,MS6.0
SPB4 Spitsbergen Ar 84.97 348 *e*P **P** 10 04 23.5 -0.2
DAVOX Davos/Dischmat 85.02 317 LR LR 10 44 19.9
comp=Z,3μm,21.4s,MS5.6,baz=354,slow=37
DAVA Damuels 85.02 317⇑ *i*P **P** 10 04 23.8 -0.7
comp=Z,49nm,1.2s,mb5.5,SNR=13
UBBA Unterbreizbach 85.02 321 *e*P **P** 10 04 26.6 +2.2
URZ Urewera 85.06 129 LR LR 10 43 03.0
comp=Z,6μm,19.9s,MS6.0,baz=291,slow=36
VSL Villasalto 85.31 309 *e*P **P** 10 04 26.0 -0.1
comp=Z,53nm,1.0s,mb5.6
KEST Kesra 85.34 305 P **P** 10 04 26.6 +0.3
comp=Z,5.7nm,0.9s,mb4.7,baz=287,slow=2.3,SNR=8.7
KEST LR LR 10 44 31.2
comp=Z,3μm,18.8s,MS5.7,baz=38,slow=37
STU Stuttgart 85.51 319 *e*P **P** 10 04 28.2 +1.4
KONO Kongsberg 85.52 329 *e*P **P** 10 04 26.2 -0.5
comp=Z,216nm,1.7s,mb6.1
KONO LR LR
comp=Z,7μm,20.0s,MS6.0
KONO Kongsberg 85.52 329 *e*SKS SKSac 10 14 48.0 -1.5
KONO *e*SS SS 10 20 32.9 +1.2
KONO AMS AMS 10 48 20.1
comp=Z,6μm,19.8s,MS6.0
KONO Kongsberg 85.52 329 *i* P **P** 10 04 27.5 +0.9
PGF Pioggiola 85.60 312 *e*P **P** 10 04 27.0 -0.5
comp=Z,138nm,1.7s,mb5.6
PGF Pioggiola 85.60 312 *e*P **P** 10 04 27.0 -0.5
comp=Z,69nm,1.7s,mb5.6
PGF Pioggiola 85.60 312 *e*P **P** 10 04 27.0 -0.5
PGF pmax pmax
comp=Z,69nm,1.7s,mb5.6
MUD Monsted U'grnd 85.65 326 *e*P **P** 10 04 29.4 +2.0
MUD MLR MLR
comp=Z,4μm,20.0s,MS5.8
MUD Monsted U'grnd 85.65 326 *i* P **P** 10 04 29.4 +2.0
MUD
comp=Z,4μm,20.0s
SPAK Spaichingen-Ko 85.77 318 *e*P **P** 10 04 28.1 -0.1
KBS Kingsbay 85.95 349 *e*P **P** 10 04 27.1 -1.4
KBS *e*PP PP 10 07 48.4 +0.1
KBS *e*SKS 10 14 48.0
KBS AMS AMS 10 49 15.9
comp=Z,6μm,20.0s,MS6.0
KBS Kingsbay 85.95 349 *e*P **P** 10 04 27.1 -1.4
KBS *e* 10 07 51.2
KBS *i* 10 14 56.1

BFO Black Forest 86.08 318 P **P 10 04 30.1 +0.4**
comp=Z,73nm,0.7s,mb6.0,SNR=6.0
BFO Black Forest 86.08 318 *e*P **P 10 04 29.7 0.0**
BFO pmax pmax
comp=Z,32nm,1.1s,mb5.5
BFO Black Forest 86.08 318 *e*P **P 10 04 29.7 0.0**
comp=Z,32nm,1.1s,mb5.5
ADK Adak 86.25 38 PFAKE 10 04 40.0 +10
ADK LR LR
comp=Z,4µm,22.0s,MS5.8
FELD Feldberg im Sc 86.30 318 *e*P **P 10 04 32.2 +1.4**
LANF Langenberg 86.42 319 *e*P **P 10 04 31.7 +0.3**
IBBN Ibbenburen 86.44 322 *e*P **P 10 04 31.9 +0.5**
comp=Z,155nm,1.7s,mb6.0
ABH Alteburg 86.59 320 *e*P **P 10 04 32.4 +0.2**
SAOF Saorge 86.65 314 *e*P **P 10 04 28.3 -4.3**
SBF Sospel 86.74 314 *e*P **P 10 04 32.3 -0.7**
comp=Z,65nm,0.9s,mb5.6
SBF Sospel 86.74 314 *e*P **P 10 04 32.3 -0.7**
comp=Z,32nm,0.9s,mb5.6
SBF Sospel 86.74 314 *e*P **P 10 04 32.3 -0.7**
SBF pmax pmax
comp=Z,33nm,0.9s,mb5.6
AUTN L'Aution 86.74 314 *e*P **P 10 04 32.1 -0.9**
CDF Champ du Feu 86.78 318 *e*P **P 10 04 32.2 -0.9**
comp=Z,24nm,0.9s,mb5.1
CDF Champ du Feu 86.78 318 *e*P **P 10 04 32.2 -0.9**
comp=Z,12nm,0.9s,mb5.1
CDF Champ du Feu 86.78 318 *e*P **P 10 04 32.2 -0.9**
CDF pmax pmax
comp=Z,12nm,0.9s,mb5.1
LUCF Luceram 86.80 314 *e*P **P 10 04 31.1 -2.2**
ECH Echery 86.86 318 *e*P **P 10 04 31.9 -1.6**
TOUF Mont Tournerai 86.87 314 *e*P **P 10 04 31.1 -2.6**
RUP Ruppelstein 86.91 319 *e*P **P 10 04 34.5 +0.8**
HINF Hinteralfeld 87.07 318 *e*P **P 10 04 33.4 -1.2**
LOMF Lomont 87.10 317 *e*P **P 10 04 35.8 +1.1**
BLS5 Blasjo 87.12 329 *e*P **P 10 04 33.7 -0.9**
LPG La Plagne 87.19 315 *e*P **P 10 04 34.9 -0.3**
comp=Z,50nm,0.8s,mb5.5
LPG La Plagne 87.19 315 *e*P **P 10 04 34.9 -0.3**
comp=Z,25nm,0.8s,mb5.5
LPG La Plagne 87.19 315 *e*P **P 10 04 34.9 -0.3**
LPG pmax pmax
comp=Z,25nm,0.8s,mb5.5
MBDF Montbardon 87.20 314 *e*P **P 10 04 35.2 -0.1**
comp=Z,44nm,1.0s,mb5.3
MBDF Montbardon 87.20 314 *e*P **P 10 04 35.2 -0.1**
comp=Z,22nm,1.0s,mb5.3
MBDF Montbardon 87.20 314 *e*P **P 10 04 35.2 -0.1**
MBDF pmax pmax
comp=Z,22nm,1.0s,mb5.3
LPL La Plagne 87.21 315 *e*P **P 10 04 34.9 -0.4**
comp=Z,76nm,1.0s,mb5.6
LPL La Plagne 87.21 315 *e*P **P 10 04 34.9 -0.4**
comp=Z,38nm,1.0s,mb5.6
LPL La Plagne 87.21 315 *e*P **P 10 04 34.9 -0.4**
LPL pmax pmax
comp=Z,38nm,1.0s,mb5.6
BNI Bardonecchia 87.25 315 *e*P **P 10 04 35.9 +0.4**
comp=Z,24nm,1.0s,mb5.4
BNI Bardonecchia 87.25 315 *e*P **P 10 04 35.9 +0.4**
BNI pmax pmax
comp=Z,24nm,1.0s,mb5.4
FRF La Foret Royal 87.31 313 *e*P **P 10 04 35.4 -0.5**
comp=Z,40nm,1.1s,mb5.3
FRF La Foret Royal 87.31 313 *e*P **P 10 04 35.4 -0.5**
comp=Z,20nm,1.1s,mb5.3
FRF La Foret Royal 87.31 313 *e*P **P 10 04 35.4 -0.5**
FRF pmax pmax
comp=Z,20nm,1.1s,mb5.3
HAU Haudompre 87.41 318 *e*P **P 10 04 35.3 -0.9**
comp=Z,39nm,0.8s,mb5.4
HAU *e*MLR MLR
comp=Z,3µm,19.2s,MS5.5
HAU Haudompre 87.41 318 *e*P **P 10 04 35.3 -0.9**
comp=Z,20nm,0.8s,mb5.4
HAU LR LR
comp=Z,3µm,19.3s,MS5.8
HAU Haudompre 87.41 318 *e*P **P 10 04 35.3 -0.9**
HAU pmax pmax
comp=Z,20nm,0.8s,mb5.4
HAU MLR MLR
comp=Z,3µm,19.3s,MS5.8
LMR La Mourre 87.42 313 *e*P **P 10 04 35.8 -0.6**
comp=Z,75nm,1.4s,mb5.4
LMR La Mourre 87.42 313 *e*P **P 10 04 35.8 -0.6**
comp=Z,38nm,1.4s,mb5.4
LMR La Mourre 87.42 313 *e*P **P 10 04 35.8 -0.6**
LMR pmax pmax
comp=Z,38nm,1.4s,mb5.4
WLF Walferdange 87.50 319 *e*P **P 10 04 38.0 +1.5**
comp=Z,83nm,1.4s,mb5.8
WLF Walferdange 87.50 319 *e*P **P 10 04 38.0 +1.4**
WLF pmax pmax
comp=Z,83nm,1.4s,mb5.8
WLF Walferdange 87.50 319 *e*P **P 10 04 37.2 +0.6**
MEM Membach 87.56 320 P **P 10 04 38.0 +1.1**
comp=Z,14nm,1.3s,mb5.0
CABF La Chapelle 87.63 316 *e*P **P 10 04 37.0 -0.3**
comp=Z,85nm,1.2s,mb5.6
CABF La Chapelle 87.63 316 *e*P **P 10 04 37.0 -0.3**
comp=Z,43nm,1.2s,mb5.5
CABF La Chapelle 87.63 316 *e*P **P 10 04 37.0 -0.3**
CABF pmax pmax
comp=Z,43nm,1.2s,mb5.5
BER Bergen 87.66 330 *e*P **P 10 04 37.4 +0.3**
BER *e* 10 04 40.9
BER *e* 10 15 16.7
BER *e*SS SS 10 21 04.1 +1.1
BER AMS AMS 10 50 47.0
comp=Z,6µm,19.8s,MS6.0
BER Bergen 87.66 330 *e*P **P 10 04 40.9 +3.8**
BER MLR MLR
comp=Z,6µm,19.8s,MS6.0
TAVF Tavernes 87.74 313 *e*P **P 10 04 41.8 +3.9**
BEBN Eben Emael 87.77 321 P **P 10 04 38.7 +0.8**
comp=Z,11nm,2.2s,mb4.7
ORIF Oris-en-Rattie 87.83 315 *e*P **P 10 04 38.5 +0.2**
comp=Z,60nm,1.1s,mb5.4
ORIF *e*MLR MLR
comp=Z,5µm,21.8s,MS5.6
ORIF Oris-en-Rattie 87.83 315 *e*P **P 10 04 38.5 +0.2**
comp=Z,30nm,1.1s,mb5.4
ORIF Oris-en-Rattie 87.83 315 *e*P **P 10 04 38.5 +0.2**
ORIF pmax pmax
comp=Z,30nm,1.1s,mb5.4
SMRF Simiane la Rot 88.08 314 *e*P **P 10 04 39.7 +0.2**
comp=Z,82nm,1.5s,mb5.4
SMRF Simiane la Rot 88.08 314 *e*P **P 10 04 39.7 +0.2**
comp=Z,82nm,1.5s,mb5.7
GELF Grande-Etoile 88.21 313 *e*P **P 10 04 41.4 +1.3**
MEZF Maizieres J'vi 88.26 318 *e*P **P 10 04 39.7 -0.5**
comp=Z,25nm,0.8s,mb5.2
MEZF Maizieres J'vi 88.26 318 *e*P **P 10 04 39.7 -0.5**
comp=Z,25nm,0.8s,mb5.5
RAO Raoul Island 88.26 119 PFAKE 10 04 50.0 +9.3
RAO LR LR
comp=Z,5µm,21.0s,MS5.9
RAO Raoul Island 88.26 119 LR LR 10 46 06.4
comp=Z,4µm,20.4s,MS5.8,baz=86,slow=37
GIVF Givet 88.34 320 *e*P **P 10 04 40.2 -0.4**
PRAF Pradon 88.38 314 *e*P **P 10 04 41.8 +0.9**
DOU Dourbes 88.49 320 P **P 10 04 42.2 +0.9**
comp=Z,20nm,1.9s,mb5.0
GAMB Gambell 88.56 26 *e*P **P 10 04 41.3 0.0**
comp=Z,20nm,0.6s,mb5.6
VIVF Saint-Julien-l 88.69 315 *e*P **P 10 04 42.0 -0.3**
comp=Z,54nm,1.3s,mb5.4
VIVF Saint-Julien-l 88.69 315 *e*P **P 10 04 42.0 -0.3**
comp=Z,27nm,1.3s,mb5.4
VIVF Saint-Julien-l 88.69 315 *e*P **P 10 04 42.0 -0.3**
VIVF pmax pmax
comp=Z,27nm,1.3s,mb5.4
BAIF Baives 88.74 320 *e*P **P 10 04 42.4 -0.1**
comp=Z,46nm,0.9s,mb5.5
BAIF Baives 88.74 320 *e*P **P 10 04 42.4 -0.1**
comp=Z,23nm,0.9s,mb5.5
BAIF Baives 88.74 320 *e*P **P 10 04 42.4 -0.1**
BAIF pmax pmax
comp=Z,23nm,0.9s,mb5.5
SBA Scott Base 88.90 168 *e*P **P 10 04 43.7 +1.0**
comp=Z,135nm,1.8s,mb6.0
SBA LR LR
comp=Z,3µm,19.0s,MS5.8
LOR Lormes 89.12 317 *e*P **P 10 04 43.9 -0.4**
comp=Z,100nm,1.3s,mb5.7
LOR *e*MLR MLR
comp=Z,3µm,20.5s,MS5.5
LOR Lormes 89.12 317 *e*P **P 10 04 43.9 -0.4**
comp=Z,50nm,1.3s,mb5.7
LOR LR LR
comp=Z,3µm,20.5s,MS5.8
LOR Lormes 89.12 317 *e*P **P 10 04 43.9 -0.4**
LOR pmax pmax
comp=Z,50nm,1.3s,mb5.7
LOR MLR MLR
comp=Z,3µm,20.5s,MS5.8
SMF Signal de Mont 89.17 316 *e*P **P 10 04 44.0 -0.6**
comp=Z,79nm,1.3s,mb5.6
SMF Signal de Mont 89.17 316 *e*P **P 10 04 44.0 -0.6**
comp=Z,39nm,1.3s,mb5.6
SMF Signal de Mont 89.17 316 *e*P **P 10 04 44.0 -0.6**
SMF pmax pmax
comp=Z,39nm,1.3s,mb5.6
LASF Ste Croix 89.31 314 *e*P **P 10 04 45.3 0.0**
comp=Z,40nm,1.2s,mb5.3
PLDF La Plantade 89.36 316 *e*P **P 10 04 46.1 +0.6**
SSF Saint Saulge 89.38 317 *e*P **P 10 04 45.2 -0.3**
comp=Z,28nm,1.0s,mb5.3
SSF Saint Saulge 89.38 317 *e*P **P 10 04 45.2 -0.3**
comp=Z,14nm,1.0s,mb5.2
SSF Saint Saulge 89.38 317 *e*P **P 10 04 45.2 -0.3**
SSF pmax pmax
comp=Z,14nm,1.0s,mb5.2
AVF Avril sur Loir 89.50 317 *e*P **P 10 04 45.6 -0.5**
comp=Z,79nm,1.3s,mb5.6
AVF Avril sur Loir 89.50 317 *e*P **P 10 04 45.6 -0.5**
comp=Z,40nm,1.3s,mb5.6
AVF Avril sur Loir 89.50 317 *e*P **P 10 04 45.6 -0.5**
AVF pmax pmax
comp=Z,40nm,1.3s,mb5.6
LBL Lubilhac 89.67 315 *e*P **P 10 04 47.4 +0.4**
BGF Bois d'Agland 89.86 316 *e*P **P 10 04 47.8 0.0**
comp=Z,56nm,1.0s,mb5.5
BGF Bois d'Agland 89.86 316 *e*P **P 10 04 47.8 0.0**
comp=Z,28nm,1.0s,mb5.5
BGF Bois d'Agland 89.86 316 *e*P **P 10 04 47.8 0.0**
BGF pmax pmax
comp=Z,28nm,1.0s,mb5.5
TNA Tin City 90.01 24 *e*P **P 10 04 48.5 +0.4**
comp=Z,13nm,0.8s,mb5.3
TNA LR LR
comp=Z,4µm,19.0s,MS5.9
TCF Toulx Ste Croi 90.32 316 *e*P **P 10 04 50.0 0.0**
comp=Z,40nm,1.2s,mb5.3
TCF Toulx Ste Croi 90.32 316 *e*P **P 10 04 50.0 0.0**
comp=Z,20nm,1.2s,mb5.3
TCF Toulx Ste Croi 90.32 316 *e*P **P 10 04 50.0 0.0**
TCF pmax pmax
comp=Z,20nm,1.2s,mb5.3
LRDF Laroque-de-Fa 90.34 313 *e*P **P 10 04 49.9 -0.3**
FILF Fillols 90.36 312 *e*P **P 10 04 51.6 +1.4**
CAF Calviac 90.53 315 *e*P **P 10 04 51.1 +0.1**
comp=Z,80nm,1.5s,mb5.5
CAF Calviac 90.53 315 *e*P **P 10 04 51.1 +0.1**
comp=Z,40nm,1.5s,mb5.5
CAF Calviac 90.53 315 *e*P **P 10 04 51.1 +0.1**
CAF pmax pmax
comp=Z,40nm,1.5s,mb5.5
MTLF Montolieu 90.55 313 *e*P **P 10 04 51.1 0.0**
comp=Z,73nm,1.4s,mb5.5
MTLF Montolieu 90.55 313 *e*P **P 10 04 51.1 0.0**
comp=Z,37nm,1.4s,mb5.5
MTLF Montolieu 90.55 313 *e*P **P 10 04 51.1 0.0**
MTLF pmax pmax
comp=Z,37nm,1.4s,mb5.5
NVL N'lazarevskaya 90.71 199 *i*P **P 10 04 56.4 +5.2**
NVL S S 10 15 14.9 -30
NVL 10 15 50.3
NVL pmax pmax
comp=N,4.0nm,1.3s
NVL pmax pmax
comp=E,11nm,1.3s
NVL pmax pmax
comp=Z,34nm,1.3s,mb5.5
MAIT Maitri 90.74 199 *e*P **P 10 04 51.5 +0.1**
RJF Les Rejaudoux 90.89 315 *e*P **P 10 04 52.9 +0.3**
comp=Z,65nm,1.2s,mb5.5
RJF *e*MLR MLR
comp=Z,5µm,21.0s,MS5.7
RJF Les Rejaudoux 90.89 315 *e*P **P 10 04 52.9 +0.3**
comp=Z,32nm,1.2s,mb5.5
RJF LR LR
comp=Z,5µm,21.0s,MS6.0
RJF Les Rejaudoux 90.89 315 *e*P **P 10 04 52.9 +0.3**
RJF pmax pmax
comp=Z,32nm,1.2s,mb5.5
RJF MLR MLR
comp=Z,5µm,21.0s,MS6.0
LFF La Frestale 91.47 315 *e*P **P 10 04 55.6 +0.3**
comp=Z,84nm,1.4s,mb5.6
LFF La Frestale 91.47 315 *e*P **P 10 04 55.6 +0.3**
comp=Z,42nm,1.4s,mb5.6
LFF La Frestale 91.47 315 *e*P **P 10 04 55.6 +0.3**
LFF pmax pmax
comp=Z,42nm,1.4s,mb5.6
LDF La Druitiere 91.68 319 *e*P **P 10 04 56.0 -0.2**
comp=Z,116nm,1.2s,mb5.8
LDF La Druitiere 91.68 319 *e*P **P 10 04 56.0 -0.2**
comp=Z,58nm,1.2s,mb5.8
LDF La Druitiere 91.68 319 *e*P **P 10 04 56.0 -0.2**
LDF pmax pmax
comp=Z,58nm,1.2s,mb5.8
JMIC Jan Mayen 91.86 341 *e*P **P 10 04 52.6 -4.0**
JMIC *e* 10 08 39.4
JMIC *i* 10 17 17.9
JMIC LR LR
comp=Z,7µm,21.1s,MS6.1
JMIC Jan Mayen 91.86 341 *e*P **P 10 04 52.6 -4.0**
JMIC *e* 10 08 39.4
JMIC *e*SKS 10 15 26.4
JMIC *i* 10 17 17.9
JMIC *e*SS SS 10 22 01.1 -2.3
JMIC AMS AMS 10 51 31.9
comp=Z,7µm,21.1s,MS6.1
FLN La Foliniere 91.90 319 *e*P **P 10 04 57.1 -0.1**
comp=Z,74nm,1.0s,mb5.7
FLN *e*MLR MLR
comp=Z,6µm,21.5s,MS5.7
FLN La Foliniere 91.90 319 *e*P **P 10 04 57.1 -0.1**
comp=Z,37nm,1.0s,mb5.7
FLN LR LR
comp=Z,6µm,21.5s,MS6.0
FLN La Foliniere 91.90 319 *e*P **P 10 04 57.1 -0.1**
FLN pmax pmax
comp=Z,37nm,1.0s,mb5.7
FLN MLR MLR
comp=Z,6µm,21.5s,MS6.0
ETRT Tiaret 91.91 305 P pP 10 05 08.0 +0.4
MFF Saint Martin d 91.91 317 *e*P **P 10 04 57.2 -0.2**
comp=Z,82nm,1.3s,mb5.6
MFF Saint Martin d 91.91 317 *e*P **P 10 04 57.2 -0.2**
comp=Z,41nm,1.3s,mb5.6
MFF Saint Martin d 91.91 317 *e*P **P 10 04 57.2 -0.2**
MFF pmax pmax
comp=Z,41nm,1.3s,mb5.6
EPF Esparros 91.94 313 *e*P **P 10 04 57.2 -0.4**
comp=Z,53nm,1.5s,mb5.4
EPF Esparros 91.94 313 *e*P **P 10 04 57.2 -0.4**
comp=Z,26nm,1.5s,mb5.3
EPF Esparros 91.94 313 *e*P **P 10 04 57.2 -0.4**
EPF pmax pmax
comp=Z,26nm,1.5s,mb5.3
EANR 'Ain N'Sour 92.02 306 P **P 10 05 06.0 +7.9**
GRR Gorron 92.19 318 *e*P **P 10 04 58.5 -0.1**
comp=Z,75nm,1.2s,mb5.6
GRR Gorron 92.19 318 *e*P **P 10 04 58.5 -0.1**
comp=Z,38nm,1.2s,mb5.6
GRR Gorron 92.19 318 *e*P **P 10 04 58.5 -0.1**
GRR pmax pmax
comp=Z,38nm,1.2s,mb5.6
UNV Unalaska Valle 92.27 36 PFAKE 10 05 10.0 +11
UNV LR LR
comp=Z,12µm,21.0s,MS6.3
DAG Danmarks Havn 92.61 348⇑ *i*P **P 10 04 59.3 -0.7**
DAG pmax pmax
comp=Z,6.0nm,0.5s,mb5.3
DAG MLR MLR
comp=Z,9µm,21.0s,MS6.2
DAG MLR MLR
comp=E,4µm,22.0s
DAG Danmarks Havn 92.61 348⇑ *i*P **P 10 04 59.3 -0.7**
comp=E,5.6nm,0.5s,mb5.2
DAG
comp=Z,9µm,21.0s
ETSF Etsaut 92.61 313 *e*P **P 10 05 00.9 +0.2**
comp=Z,65nm,1.1s,mb5.7
ETSF Etsaut 92.61 313 *e*P **P 10 05 00.9 +0.2**
comp=Z,33nm,1.1s,mb5.7
ETSF Etsaut 92.61 313 *e*P **P 10 05 00.9 +0.2**
ETSF pmax pmax
comp=Z,33nm,1.1s,mb5.7
ESK Eskdalemuir 92.68 326 PFAKE 10 05 10.0 +9.3
ESK LR LR
comp=Z,4µm,19.0s,MS5.9
QSPA South Pole Qui 92.85 180 *e*P **P 10 05 01.7 +0.7**
comp=Z,9.7nm,0.7s,mb5.3
QSPA LR LR
comp=Z,12µm,20.0s,MS6.4
SJPF Ste Jean 93.07 313 *e*P **P 10 05 02.3 -0.5**
comp=Z,34nm,1.0s,mb5.4
SJPF Ste Jean 93.07 313 *e*P **P 10 05 02.3 -0.5**
comp=Z,17nm,1.0s,mb5.4
SJPF Ste Jean 93.07 313 *e*P **P 10 05 02.3 -0.5**
SJPF pmax pmax
comp=Z,17nm,1.0s,mb5.4
AFI Afiamalu 93.15 104 PFAKE 10 05 10.0 +6.3
AFI LR LR
comp=Z,2µm,21.0s,MS5.6
TOA0 Torodi Ar. Sit 93.23 283 *e*P **P 10 05 07.9 +3.8**
TORD Torodi Ar. Bea 93.23 283 P **P 10 05 03.5 -0.6**
comp=Z,1.6nm,0.8s,baz=66,slow=3.6,SNR=4.8
TORD LR LR 10 47 24.6
comp=Z,6µm,19.1s,MS6.1,baz=85,slow=36
SGMF Saint Gilles 93.33 319 *e*P **P 10 05 03.5 -0.4**
comp=Z,38nm,1.0s,mb5.5
SGMF Saint Gilles 93.33 319 *e*P **P 10 05 03.5 -0.4**
comp=Z,19nm,1.0s,mb5.5
SGMF Saint Gilles 93.33 319 *e*P **P 10 05 03.5 -0.4**
SGMF pmax pmax
comp=Z,19nm,1.0s,mb5.5
QUIF Quistinic 93.78 318 *e*P **P 10 05 05.4 -0.6**
comp=Z,73nm,1.3s,mb5.7
QUIF Quistinic 93.78 318 *e*P **P 10 05 05.4 -0.6**
comp=Z,36nm,1.3s,mb5.7
QUIF Quistinic 93.78 318 *e*P **P 10 05 05.4 -0.6**
QUIF pmax pmax
comp=Z,37nm,1.3s,mb5.7
ROSF Rostrenen 93.79 319 *e*P **P 10 05 05.7 -0.3**
comp=Z,41nm,1.1s,mb5.5
ROSF Rostrenen 93.79 319 *e*P **P 10 05 05.7 -0.3**
comp=Z,20nm,1.1s,mb5.5
ROSF Rostrenen 93.79 319 *e*P **P 10 05 05.7 -0.3**
ROSF pmax pmax
comp=Z,21nm,1.1s,mb5.5
ALE Alert 94.10 357 P **P 10 05 06.1 -0.7**
comp=Z,105nm,1.4s,mb6.1,SNR=9.3
DMUB Kingscourt 95.06 325 *e*P pP 10 05 23.0 +1.3
SNAA Sanae 95.44 198 *i*P **P 10 05 17.0 +4.0**
ESDC Sonseca Array 95.57 310 P **P 10 05 13.6 -0.7**
comp=Z,1.2nm,0.8s,baz=65,slow=3.1,SNR=5.4
ESDC LR LR 10 51 35.9
comp=Z,3µm,20.0s,MS5.8,baz=125,slow=38
ESLA Sonseca Array 95.57 310 PFAKE 10 05 30.0 +16
ESLA LR LR
comp=Z,23µm,20.0s,MS6.6
IMA2 Indian Mountai 95.58 23 *e*P **P 10 05 16.5 +2.7**
TTA Tatalina 95.65 26 *e*P **P 10 05 16.5 +2.3**
PAB San Pablo 95.88 310 PFAKE 10 05 30.0 +14
PAB LR LR
comp=Z,4µm,20.0s,MS5.8
SVW2 Sparrevohn 96.41 28 *e*P **P 10 05 19.3 +1.6**
COLA College 98.29 23 PFAKE 10 05 40.0 +14
COLA LR LR
comp=Z,5µm,19.0s,MS6.0
MCK McKinley 98.34 24 *e*P **P 10 05 26.5 +0.2**
comp=Z,4.4nm,0.7s,mb5.1
MCK LR LR
comp=Z,4µm,21.0s,MS5.9
MCK McKinley 98.34 24 *e*P **P 10 05 26.5 +0.2**
MCK pmax pmax
comp=Z,4.0nm,0.7s,mb5.1
MCK MLR MLR
comp=Z,4µm,21.0s,MS5.9
BORG Borgarnes 98.56 337 PFAKE 10 05 40.0 +13
BORG LR LR
comp=Z,7µm,21.0s,MS6.2
KDAK Kodiak Island 98.94 30 PFAKE 10 05 40.0 +11
KDAK LR LR
comp=Z,2µm,22.0s,MS5.5
DBIC Dimbokro 100.12 277 PFAKE 10 05 50.0 +16
DBIC LR LR
comp=Z,7µm,21.0s,MS6.1
EGAK Eagle 100.85 21 PFAKE 10 05 50.0 +12
EGAK LR LR
comp=Z,9µm,19.0s,MS6.3
INK Inuvik 101.28 17 *e*Pdif Pdif 10 05 39.0 -0.6
comp=Z,118nm,0.8s
INK Inuvik 101.28 17 P Pdif 10 05 40.6 +1.0
INK pmax pmax
comp=Z,120nm,0.9s
RES Resolute Bay 102.25 3 *e*Pdif Pdif 10 05 45.3 +1.4
comp=Z,874nm,1.7s
RES Resolute Bay 102.25 3 *e*P Pdif 10 05 45.3 +1.4
RES pmax pmax
comp=Z,874nm,1.7s
KIP Kipapa 104.05 67 PFAKE 10 06 00.0 +8.1
KIP LR LR
comp=Z,6µm,21.0s,MS6.1
SFJD Kangerlussuaq 106.27 347 PFAKE 10 10 20.0 +7.2
SFJD LR LR
comp=Z,5µm,22.0s,MS6.0
SFJD Kangerlussuaq 106.27 347 *i*P PKiKP 10 10 06.2 -6.6
SFJD *i* 10 16 43.0
SFJD *i* 10 17 45.8
SFJD *e* 10 19 25.0
SFJD
comp=Z,4µm,22.0s
POHA Pohakuloa 106.61 69 PFAKE 10 10 30.0 +15
POHA LR LR
comp=Z,3µm,19.0s,MS5.9
SIT Sitka 107.51 26 PFAKE 10 10 30.0 +15
SIT LR LR
comp=Z,10µm,19.0s,MS6.4
WRAK Wrangell Islan 109.21 26 PFAKE 10 10 30.0 +11
WRAK LR LR
comp=Z,7µm,21.0s,MS6.2
ASCN Ascension 110.25 263 PFAKE 10 10 30.0 +8.2
ASCN LR LR
comp=Z,5µm,21.0s,MS6.1
YKA Yellowknife Ar 110.83 15 Pdif Pdif 10 06 21.2 -0.8
YKA PP PP 10 10 56.8 -1.7
YKA PKKPbc PKKPbc 10 21 22.6 +0.6
YKA Yellowknife Ar 110.83 15 P Pdif 10 06 21.3 -0.7
YKA 10 10 56.8
YKA Yellowknife Ar 110.83 15 Pdiff Pdif 10 06 21.2 -0.8
comp=Z,0.1nm,0.8s,baz=330,slow=5.9,SNR=2.4
YKA PP PP 10 10 56.8 -1.7
comp=Z,3.6nm,0.7s,baz=332,slow=7.4,SNR=14
YKA PKKPbc PKKPbc 10 21 22.6 +0.6
comp=Z,0.8nm,0.8s,baz=144,slow=2.9,SNR=8.9
TBI Tubuai 113.93 114 *e*PP PP 10 11 19.2 -3.3
comp=Z,485nm,27.2s
TBI Tubuai 113.93 114 *e*PS PS 10 20 58.2 -2.0
comp=Z,2µm,27.0s
TBI *e*SS SS 10 27 07.4 -3.2
comp=Z,3µm,28.2s
TBI Tubuai 113.93 114 *e*LR LR 10 44 41.9
comp=Z,5µm,27.2s
PPT Papeete 114.44 108 *e*PP PP 10 11 19.6 -6.7
comp=Z,621nm,25.5s
PPT Papeete 114.44 108 *e*PS PS 10 21 05.6 +0.5
comp=Z,4µm,27.0s
PPT Papeete 114.44 108 *e*LR LR 10 44 55.8
comp=Z,6µm,26.8s
PMSA Palmer Station 116.57 190 PFAKE 10 10 40.0 +7.6
PMSA LR LR
comp=Z,5µm,22.0s,MS6.1
FCC Fort Churchill 118.02 6 *e*PKPdf PKPdf 10 10 35.0 -0.4
EDM Edmonton 118.99 19 *e*PKPdf PKPdf 10 10 37.3 -0.1
NLWA Neilton Lookou 119.08 30 PFAKE 10 10 50.0 +12
NLWA LR LR
comp=Z,4µm,21.0s,MS6.0
SCHQ Schefferville 120.66 348 PKP PKPdf 10 10 39.8 -0.8
SCHQ PP PP 10 12 08.6 +1.2
SCHQ LR LR
comp=Z,6µm,22.0s,MS6.2

SCHQ	Schefferville	120.66	348	PKP	PKPdf	10 10 39.8	-0.8	
	comp=Z,3.8nm,0.8s,baz=317,slow=3.5,SNR=5.8							
SCHQ				PP	PP	10 12 08.6	+1.2	
	comp=Z,6.5nm,0.9s,baz=40,slow=10.0,SNR=5.0							
FFC	Flin Flon	120.72	12	ePKPdf	PKPdf	10 10 39.3	-1.4	
FFC				LR	LR			
	comp=Z,7μm,19.0s,MS6.3							
FFC	Flin Flon	120.72	12	PKIKP	PKPdf	10 10 39.6	-1.1	
COR	Corvallis	121.28	32	PFAKE		10 10 50.0	+7.9	
COR				LR	LR			
	comp=Z,5μm,21.0s,MS6.1							
NEW	Newport	121.55	25	PFAKE		10 10 50.0	+7.5	
NEW				LR	LR			
	comp=Z,5μm,21.0s,MS6.2							
HAWA	Hanford	121.88	28	PFAKE		10 10 50.0	+6.8	
HAWA				LR	LR			
	comp=Z,5μm,22.0s,MS6.1							
HUMO	Hull Mountain	122.80	33	ePKPdf	PKPdf	10 10 45.5	+0.4	
HUMO				LR	LR			
	comp=Z,4μm,20.0s,MS6.1							
YBH	Yreka Blue Hor	123.52	34	PFAKE		10 11 00.0	+14	
YBH				LR	LR			
	comp=Z,4μm,21.0s,MS6.1							
MSO	Missoula	124.00	24	ePKPdf	PKPdf	10 10 46.2	-1.0	
MSO				LR	LR			
	comp=Z,3μm,19.0s,MS6.0							
BMO	Blue Mountains	124.07	28	PFAKE		10 11 00.0	+13	
BMO				LR	LR			
	comp=Z,6μm,21.0s,MS6.2							
TAOE	Nuku Hiva Isla	124.19	99	ePP	PP	10 12 23.8	-10	
	comp=Z,18μm,25.9s							
TAOE	Nuku Hiva Isla	124.19	99	ePS	PS	10 22 29.5	-3.4	
TAOE				eSS	SS	10 29 20.5	-3.2	
	comp=Z,63μm,26.8s							
TAOE	Nuku Hiva Isla	124.19	99	eLR	LR	10 49 30.1		
	comp=Z,110μm,25.0s							
CHMT	Chamberlain Mo	124.22	24	ePKPdf	PKPdf	10 10 47.6	-0.1	
WDC	Whiskeytown Da	124.38	35	PFAKE		10 11 00.0	+12	
WDC				LR	LR			
	comp=Z,3μm,20.0s,MS6.0							
EGMT	Eagleton	124.60	21	PFAKE		10 11 00.0	+12	
EGMT				LR	LR			
	comp=Z,6μm,19.0s,MS6.2							
MOD	Modoc	124.72	32	ePKPdf	PKPdf	10 10 50.1	+1.3	
MOD				LR	LR			
	comp=Z,3μm,21.0s,MS6.0							
HOPS	Hopland	125.11	37	PFAKE		10 11 00.0	+10	
HOPS				LR	LR			
	comp=Z,3μm,19.0s,MS6.0							
WVOR	Wild Horse Val	125.21	31	ePKPdf	PKPdf	10 10 49.9	+0.1	
WVOR				LR	LR			
	comp=Z,4μm,20.0s,MS6.1							
NSHM	Saint Helena R	125.69	37	ePKPdf	PKPdf	10 10 52.4	+1.7	
DLMT	Dillon	125.74	24	ePKPdf	PKPdf	10 10 50.5	-0.1	
MCCM	Marconi Confer	125.77	37	PFAKE		10 11 00.0	+9.1	
MCCM				LR	LR			
	comp=Z,3μm,20.0s,MS6.0							
BOZ	Bozeman (W)	125.90	23	ePKPdf	PKPdf	10 10 52.0	+1.0	
BOZ				LR	LR			
	comp=Z,8μm,19.0s,MS6.4							
DGMT	Dagmar	125.96	16	ePKPdf	PKPdf	10 10 50.3	-0.7	
DGMT				LR	LR			
	comp=Z,6μm,19.0s,MS6.3							
MCMT	McKenzie Canyo	126.07	25	ePKPdf	PKPdf	10 10 52.0	+0.7	
MCMT				ePP	PP	10 12 45.8	+1.5	
ULM	Lac du Bonnet	126.11	9	ePKPdf	PKPdf	10 10 51.0	-0.2	
ULM				LR	LR			
	comp=Z,12μm,21.0s,MS6.5							
ULM	Lac du Bonnet	126.11	9	PKP	PKPdf	10 10 50.0	-1.2	
	comp=Z,8.9nm,0.9s,baz=13,slow=2.6,SNR=12							
HLID	Hailey	126.39	27	ePKPdf	PKPdf	10 10 53.6	+1.6	
HLID				LR	LR			
	comp=Z,5μm,19.0s,MS6.2							
GCMT	Greycliff	126.53	22	ePKPdf	PKPdf	10 10 53.5	+1.4	
QLMT	Earthquake Lak	126.65	24	ePKPdf	PKPdf	10 10 52.7	+0.3	
EFI	East Falkland	126.68	200	PFAKE		10 11 00.0	+7.8	
EFI				LR	LR			
	comp=Z,4μm,21.0s,MS6.1							
LAO	LASA Array	126.95	19	ePKPdf	PKPdf	10 10 53.3	+0.4	
LAO				LR	LR			
	comp=Z,6μm,19.0s,MS6.3							
YMR	Madison River	126.97	24	ePKPdf	PKPdf	10 10 55.4	+2.3	
YMR				LR	LR			
	comp=Z,10μm,19.0s,MS6.5							
RKT	Rikitea	127.05	117	ePS	PS	10 22 56.9	-0.7	
RKT				eSS	SS	10 29 59.3	+0.4	
	comp=Z,1μm,27.5s							
	comp=Z,3μm,28.8s							
RKT	Rikitea	127.05	117	eLR	LR	10 50 32.5		
	comp=Z,4μm,23.5s							
YFT	Old Faithful	127.20	24	ePKPdf	PKPdf	10 10 54.3	+0.9	
RLMT	Red Lodge	127.25	22	PFAKE		10 11 10.0	+16	
RLMT				LR	LR			
	comp=Z,6μm,19.0s,MS6.3							
LKWY	Lake	127.28	23	ePKPdf	PKPdf	10 10 54.6	+0.9	
LKWY				LR	LR			
	comp=Z,12μm,20.0s,MS6.6							
CMB	Columbia Colle	127.33	36	PFAKE		10 11 10.0	+16	
CMB				LR	LR			
	comp=Z,2μm,20.0s,MS5.8							
SAO	San Andreas Ge	127.53	38	PFAKE		10 11 10.0	+16	
SAO				LR	LR			
	comp=Z,3μm,21.0s,MS5.9							
DCID1	Drake Creek	127.77	25	ePKPdf	PKPdf	10 10 52.0	-2.6	
TPAW	Teton Pass	127.95	24	ePKPdf	PKPdf	10 10 55.5	+0.6	
AGMN	Agassiz Refuge	128.00	10	PFAKE		10 11 10.0	+15	
AGMN				LR	LR			
	comp=Z,7μm,20.0s,MS6.3							
SNOW	Snow King Moun	128.06	24	ePKPdf	PKPdf	10 10 56.0	+0.9	
REDW	Red Top Meadow	128.10	24	ePKPdf	PKPdf	10 10 55.1	-0.1	
ELK	Elko	128.17	30	PFAKE		10 11 10.0	+15	
ELK				LR	LR			
	comp=Z,76nm,22.0s							
NVAR	Mina Array Bea	128.24	34	PKP	PKPdf	10 10 55.5	-0.1	
	comp=Z,3.4nm,0.8s,baz=291,slow=0.6,SNR=21							
AHID	Auburn Hatcher	128.48	25	PFAKE		10 11 10.0	+14	
AHID				LR	LR			
	comp=Z,6μm,20.0s,MS6.3							
MTUM	Tungsten Hills	128.85	35	ePKPdf	PKPdf	10 10 57.2	+0.4	
EYMN	Ely	128.96	6	PFAKE		10 11 10.0	+13	
EYMN				LR	LR			
	comp=Z,9μm,19.0s,MS6.5							
PTRM	Twissleman Ran	129.01	38	ePdif	Pdif	10 07 39.2	-3.7	
BW06	Boulder Array	129.12	24	PFAKE		10 11 10.0	+13	
BW06				LR	LR			
	comp=Z,6μm,19.0s,MS6.3							
PDAR	Pinedale Array	129.12	24	PKP	PKPdf	10 10 56.0	-1.1	
	comp=Z,1.0nm,0.6s,baz=324,slow=4.0,SNR=11							
HWUT	Hardware Ranch	129.22	26	PFAKE		10 11 10.0	+13	
HWUT				LR	LR			
	comp=Z,5μm,19.0s,MS6.2							
NOQ	North Oquirrh	129.74	27	ePKPdf	PKPdf	10 10 57.9	-0.5	
DUG	Dugway	129.77	28	ePKPdf	PKPdf	10 10 59.1	+0.6	
DUG				LR	LR			
	comp=Z,5μm,21.0s,MS6.1							
RSSD	Black Hills	129.94	18	ePKPdf	PKPdf	10 10 59.5	+0.9	
RSSD				LR	LR			
	comp=Z,6μm,20.0s,MS6.2							
ISA	Isabella	130.06	37	PFAKE		10 11 10.0	+11	
ISA				LR	LR			
	comp=Z,3μm,19.0s,MS6.0							
PKME	Peaks-Kenny Pk	130.20	346	PFAKE		10 11 10.0	+11	
PKME				LR	LR			
	comp=Z,5μm,22.0s,MS6.2							
NLU	North Lily Min	130.31	28	ePKPdf	PKPdf	10 11 00.6	+1.1	
DAU	Daniels Canyon	130.32	27	ePKIKP	PKPdf	10 11 02.5	+3.0	
TPNV	Topopah Spring	130.44	34	PFAKE		10 11 10.0	+10	
TPNV				LR	LR			
	comp=Z,4μm,21.0s,MS6.1							
MPU	Maple Canyon	130.47	28	PFAKE		10 11 10.0	+10	
MPU				LR	LR			
	comp=Z,5μm,20.0s,MS6.2							
RWWY	Rawlins	130.96	23	ePKPdf	PKPdf	10 11 02.5	+1.8	
COWI	Conover	131.00	4	PFAKE		10 11 10.0	+9.4	
COWI				LR	LR			
	comp=Z,7μm,22.0s,MS6.3							
SNCC	San Nicolas Is	131.01	40	PFAKE		10 11 10.0	+9.0	
SNCC				LR	LR			
	comp=Z,3μm,21.0s,MS5.9							
ARUT	Antelope Range	131.32	31	ePKPdf	PKPdf	10 11 02.3	+0.8	
MSU	Marysvale	131.40	29	ePKPdf	PKPdf	10 11 03.7	+2.1	
CCUT	Cedar City	131.54	31	ePKPdf	PKPdf	10 11 03.2	+1.2	
SRU	San Rafael	131.71	27	ePKPdf	PKPdf	10 11 02.5	+0.4	
LBNH	Lisbon	131.76	348	PFAKE		10 11 10.0	+7.9	
LBNH				LR	LR			
	comp=Z,8μm,19.0s,MS6.4							
LONY	Lake Ozonia	131.88	351	PFAKE		10 11 10.0	+7.7	
LONY				LR	LR			
	comp=Z,6μm,20.0s,MS6.3							
ECSD	EROS,Sioux Fal	132.26	12	ePKPdf	PKPdf	10 10 56.6	-6.5	
ECSD				LR	LR			
	comp=Z,7μm,21.0s,MS6.4							
NCB	Newcomb	132.45	350	PFAKE		10 11 20.0	+17	
NCB				LR	LR			
	comp=Z,5μm,20.0s,MS6.2							
PFO	Pinyon Flat Ob	132.67	37	PFAKE		10 11 20.0	+16	
PFO				LR	LR			
	comp=Z,3μm,20.0s,MS6.0							
ISCO	Idaho Springs	133.20	23	PFAKE		10 11 20.0	+15	
ISCO				LR	LR			
	comp=Z,5μm,20.0s,MS6.2							
HRV	Adam Dziewonsk	133.33	347	PFAKE		10 11 20.0	+15	
HRV				LR	LR			
	comp=Z,4μm,20.0s,MS6.2							
WES	Weston	133.40	347	PFAKE		10 11 20.0	+15	
WES				LR	LR			
	comp=Z,5μm,20.0s,MS6.2							
GLA	Glamis	134.04	36	ePKPdf	PKPdf	10 11 00.4	-6.4	
JFWS	Jewell Farm	134.06	6	PFAKE		10 11 20.0	+13	
JFWS				LR	LR			
	comp=Z,6μm,20.0s,MS6.3							
WUAZ	Wupatki	134.13	31	ePKPdf	PKPdf	10 11 06.4	-0.4	
WUAZ				LR	LR			
	comp=Z,3μm,21.0s,MS6.0							
MVCO	Mesa Verde	134.18	27	ePKPdf	PKPdf	10 11 09.1	+2.2	
MVCO				LR	LR			
	comp=Z,4μm,20.0s,MS6.2							
BINY	Binghamton	134.46	351	PFAKE		10 11 20.0	+13	
BINY				LR	LR			
	comp=Z,7μm,22.0s,MS6.3							
AAM	Ann Arbor	134.99	359	PFAKE		10 11 20.0	+12	
AAM				LR	LR			
	comp=Z,6μm,20.0s,MS6.3							
ERPA	Erie	135.00	355	PFAKE		10 11 20.0	+12	
ERPA				LR	LR			
	comp=Z,9μm,20.0s,MS6.5							
SDCO	Great Sand Dun	135.02	24	PFAKE		10 11 20.0	+12	
SDCO				LR	LR			
	comp=Z,4μm,20.0s,MS6.2							
CBKS	Cedar Bluff	136.10	17	PFAKE		10 11 20.0	+10	
CBKS				LR	LR			
	comp=Z,5μm,20.0s,MS6.2							
SSPA	Standing Stone	136.26	353	PFAKE		10 11 20.0	+9.3	
SSPA				LR	LR			
	comp=Z,5μm,20.0s,MS6.2							
HDIL	Hopedale	136.49	6	PFAKE		10 11 20.0	+8.9	
HDIL				LR	LR			
	comp=Z,5μm,20.0s,MS6.3							
KSU1	Kansas State U	136.68	14	ePKPdf	PKPdf	10 11 11.7	+0.2	
KSU1				LR	LR			
	comp=Z,9μm,19.0s,MS6.5							
TUC	Tucson	136.90	34	PFAKE		10 11 20.0	+7.9	
TUC				LR	LR			
	comp=Z,3μm,22.0s,MS6.0							
ANMO	Albuquerque	136.97	27	ePKPdf	PKPdf	10 11 07.1	-5.1	
ANMO				LR	LR			
	comp=Z,4μm,20.0s,MS6.1							
ANMO	Albuquerque	136.97	27	PKIKP	PKPdf	10 11 08.0	-4.2	
ACSO	Alum Creek Sta	137.04	359	PFAKE		10 11 20.0	+7.8	
ACSO				LR	LR			
	comp=Z,5μm,20.0s,MS6.3							
LAZ	Ladron	137.11	28	ePKPdf	PKPdf	10 11 12.6	+0.1	
LENM	Lemitar	137.38	28	ePKPdf	PKPdf	10 11 04.8	-8.2	
MCWV	Mont Chateau	137.43	355	PFAKE		10 11 20.0	+7.1	
MCWV				LR	LR			
	comp=Z,5μm,21.0s,MS6.2							
BNM	Barren Site	137.56	28	ePKPdf	PKPdf	10 11 10.1	-3.2	
CBN	Corbin	138.58	352	PFAKE		10 11 30.0	+15	
CBN				LR	LR			
	comp=Z,7μm,20.0s,MS6.4							
CCM	Cathedral Cave	138.73	8	PFAKE		10 11 30.0	+15	
CCM				LR	LR			
	comp=Z,7μm,22.0s,MS6.4							
AMTX	Amarillo	139.01	22	PFAKE		10 11 30.0	+14	
AMTX				LR	LR			
	comp=Z,5μm,21.0s,MS6.2							
WCI	Wyandotte Cave	139.02	2	PFAKE		10 11 30.0	+14	
WCI				LR	LR			
	comp=Z,5μm,20.0s,MS6.2							
TRQA	Tornquist	139.50	208	PFAKE		10 11 30.0	+13	
TRQA				LR	LR			
	comp=Z,4μm,21.0s,MS6.2							
BLA	Blacksburg	139.91	355	PFAKE		10 11 30.0	+12	
BLA				LR	LR			
	comp=Z,7μm,19.0s,MS6.4							
WMOK	Wichita Mounta	140.15	19	ePKPdf	PKPdf	10 11 10.2	-7.8	
WMOK				LR	LR			
	comp=Z,7μm,19.0s,MS6.4							
MNTX	Cornudas Mount	140.17	29	ePKPdf	PKPdf	10 11 12.3	-5.8	
MNTX				LR	LR			
	comp=Z,4μm,19.0s,MS6.2							
BBSR	BB Station	140.28	334	PFAKE		10 11 30.0	+12	
BBSR				LR	LR			
	comp=Z,4μm,19.0s,MS6.2							
PARMO	Parma	140.29	7	ePKPdf	PKPdf	10 11 19.5	+1.3	
PLCA	Paso Flores	140.36	196	PKP	PKPdf	10 11 15.9	-2.3	
PLCA				LR	LR			
	comp=Z,4μm,20.0s,MS6.2							
PLCA	Paso Flores	140.36	196	PKP	PKPdf	10 11 15.9	-2.3	
	comp=Z,2.3nm,0.8s,baz=188,slow=4.5,SNR=6.2							
TZTN	Tazewell	140.73	359	ePKPdf	PKPdf	10 11 19.9	+0.9	
TZTN				LR	LR			
	comp=Z,9μm,22.0s,MS6.5							
WVT	Waverly	141.01	5	ePKPdf	PKPdf	10 11 13.9	-5.7	
WVT				LR	LR			
	comp=Z,8μm,22.0s,MS6.4							
CNNC	Cliffs of the	141.57	352	PFAKE		10 11 30.0	+9.4	
CNNC				LR	LR			
	comp=Z,9μm,20.0s,MS6.5							
MIAR	Mount Ida	141.73	12	ePKPdf	PKPdf	10 11 14.8	-6.1	
MIAR				LR	LR			
	comp=Z,7μm,20.0s,MS6.4							
UALR	University of	141.75	11	ePKPdf	PKPdf	10 11 21.7	+0.8	
BDFB	Brasilia	142.10	248	PKP	PKPdf	10 11 22.1	+0.1	
BDFB	Brasilia	142.10	248	PKhKP		10 11 15.7		
	comp=Z,0.7nm,0.4s,baz=185,slow=0.5,SNR=2.2							
BDFB				PKP	PKPdf	10 11 22.1	+0.1	
	comp=Z,7.7nm,1.0s,baz=159,slow=2.8,SNR=5.4							
PLAL	Pickwick Lake	142.13	5	ePKPdf	PKPdf	10 11 15.1	-6.4	
PLAL				LR	LR			
	comp=Z,7μm,21.0s,MS6.4							
TXAR	Lajitas Array	142.95	29	PKP	PKPdf	10 11 19.5	-3.7	
TXAR				PKP	PKPdf	10 11 22.6	-0.6	
TXAR	Lajitas Array	142.95	29	PKhKP		10 11 19.5		
	comp=Z,1.5nm,0.6s,baz=251,slow=3.6,SNR=11							
TXAR				PKP	PKPdf	10 11 22.6	-0.6	
	comp=Z,4.0nm,0.7s,baz=338,slow=1.0,SNR=15							
JCT	Junction City	143.64	23	ePKPdf	PKPdf	10 11 21.3	-3.1	
JCT				LR	LR			
	comp=Z,5μm,22.0s,MS6.2							
GOGA	Godfrey	143.86	359	PFAKE		10 11 40.0	+15	
GOGA				LR	LR			
	comp=Z,7μm,22.0s,MS6.4							
NHSC	New Hope	143.96	354	PFAKE		10 11 40.0	+15	
NHSC				LR	LR			
	comp=Z,4μm,21.0s,MS6.2							
LRAL	Lakeview Retre	144.15	4	ePKPdf	PKPdf	10 11 22.0	-3.2	
LRAL				LR	LR			
	comp=Z,7μm,20.0s,MS6.4							
HKT	Hockley	145.51	18	ePKPdf	PKPdf	10 11 26.7	-0.9	
HKT				LR	LR			
	comp=Z,2μm,21.0s,MS5.9							
BRAL	Brewton	146.16	4	ePKPdf	PKPdf	10 11 28.9	+0.2	
BRAL				LR	LR			
	comp=Z,6μm,20.0s,MS6.3							
MAIG	Mazatlaan	146.26	39	i P	PKPdf	10 11 29.8	+0.7	
KVTX	Kingsville	147.00	23	ePKPab	PKPab	10 11 35.0	+1.4	
KVTX				LR	LR			
	comp=Z,4μm,21.0s,MS6.2							
ZAIG	Zacatecas	148.86	34	eP	PKPdf	10 11 29.3	-4.2	
DWPF	Disney	149.03	355	PFAKE		10 11 40.0	+6.4	
DWPF				LR	LR			
	comp=Z,2μm,20.0s,MS5.8							
BBGH	Gun Hill	150.70	304	PFAKE		10 11 50.0	+13	
BBGH				LR	LR			
	comp=Z,5μm,21.0s,MS6.3							
LCO	Las Campanas	151.00	205	PFAKE		10 11 50.0	+13	
LCO				LR	LR			
	comp=Z,5μm,19.0s,MS6.3							
MOIG	Morelia	152.08	36	i P	PKPdf	10 11 35.9	-2.6	
MTP	Monte Pirata	152.11	319	ePKPbc	PKPbc	10 11 46.0	+0.8	
CPD	Cerro la Pandu	152.39	320	ePKPbc	PKPbc	10 11 44.0	-1.9	
SJG	San Juan	152.49	320	PFAKE		10 11 50.0	+11	
SJG				LR	LR			
	comp=Z,3μm,20.0s,MS6.1							
GRGR	Grenville	152.97	304	PFAKE		10 11 50.0	+10	
GRGR				LR	LR			
	comp=Z,4μm,20.0s,MS6.2							
IIO	Organos	153.52	32	i P	PKPbc	10 11 45.5	-2.8	
PPM	Popocatepetl	154.00	32	i P	PKPbc	10 11 46.6	-2.8	
SDDR	Presa de Saban	154.74	330	ePKPab	PKPab	10 12 07.8	+2.1	
SDDR				LR	LR			
	comp=Z,5μm,20.0s,MS6.4							
TEIG	Tepich	156.67	9	PFAKE		10 12 00.0	+15	
TEIG				LR	LR			
	comp=Z,7μm,21.0s,MS6.5							
LPAZ	La Paz	159.27	229	ePKPdf	PKPdf	10 11 50.0	+1.8	
LPAZ				LR	LR			
	comp=Z,6μm,21.0s,MS6.4							
LPAZ	La Paz	159.27	229	PKP	PKPdf	10 11 48.5	+0.4	
	comp=Z,1.3nm,0.8s,baz=87,slow=7.9,SNR=4.7							
SDV	Santo Domingo	162.02	311	PFAKE		10 12 00.0	+8.7	
SDV				LR	LR			
	comp=Z,3μm,19.0s							
TGUH	Tegucigalpa,Un	162.88	10	PFAKE		10 12 00.0	+7.9	
TGUH				LR	LR			
	comp=Z,3μm,22.0s							
BCIP	Isla Barro Col	167.19	340	PFAKE		10 12 10.0	+14	
BCIP				LR	LR			
	comp=Z,4μm,20.0s							
ROSC	El Rosal	167.39	308	PKP	PKPdf	10 11 56.5	+0.5	
	comp=Z,2.9nm,0.3s,baz=102,slow=20,SNR=3.6							
NNA	Nana	168.34	219	PFAKE		10 12 10.0	+13	
NNA				LR	LR			
	comp=Z,4μm,20.0s							

CASC 07 09:53:15.5±2.0, 838N×8283W, h0km±6km, MD3.9, 1C-2D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DVD	David	0.38	81	eP	Pg	09 53 24.1	+1.3
DVD				eS	Sg	09 53 30.8	+3.1
BAR1		0.98	331	eP	Pg	09 53 34.4	-0.1
BAR1				eS	Sg	09 53 49.2	+2.0
CNI	Changuinola	1.08	17⇓	i P	Pg	09 53 36.6	+0.4
URSC	Urasca	1.73	327⇓	eP	Pn	09 53 46.4	-0.4
URSC				eS	Sn	09 54 09.8	+0.3
LCR2	La Lucha 2	1.79	320	eP	Pn	09 53 46.5	-1.1
LCR2				eS	Sn	09 54 13.2	+2.2
LAJ	Bijagual	1.95	319	eP	Pn	09 53 54.1	+4.1
LAJ				eS	Sn	09 54 22.6	+7.4
PRS1	Puriscal	2.17	318⇑	eP	Pn	09 53 51.9	-1.0
PRS1				eS	Sn	09 54 21.4	+1.0
CGA2	Cerro Gallo 2	2.30	315	eP	Pn	09 53 56.0	+1.4
CGA2				eS	Sn	09 54 26.4	+2.8

JMA 07 10:06:16.5±0.6, 3117N×14189E, h0km, M3.8, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	Mitsune	2.62	318	P	Pn	10 07 01.0	+1.0
JHJ2				eS	Sn	10 07 34.3	+1.8
BSO1	Boso 1	3.56	348	P	Pn	10 07 14.1	+1.1
BSO1				eS	Sn	10 07 57.1	+1.4
BSO3	Boso 3	3.80	343	P	Pn	10 07 19.2	+2.9
JOD2	Odawara 2	4.71	331	P	Pn	10 07 32.4	+3.6
JHU	Hanno	5.15	336	P	Pn	10 07 37.5	+2.6
JHU				eS	Sn	10 08 37.8	+2.8
JRY	Ryogami san	5.44	334	P	Pn	10 07 41.9	+3.1
JRY				eS	Sn	10 08 43.7	+1.6
JHO	Hitachi	5.54	349	P	Pn	10 07 41.2	+1.0
JHO				eS	Sn	10 08 42.5	-2.0
JAG	Ashikaga	5.62	340	P	Pn	10 07 42.9	+1.6
JAG				eS	Sn	10 08 47.1	+0.5
MAT	Matsushiro	6.17	331	P	Pn	10 07 51.9	+3.0
MAT				S	Sn	10 09 02.2	+2.0
JFK	Kawauchi	6.24	353	P	Pn	10 07 50.3	+0.5

*PDA **07** 10:10:02.1±0.6, 3728N×2465W, h0km, MD3.9, ML3.3, Error ellipse: s-maj=4.6km s-min=2.0km az=91.0*
*CSEM **07** 10:10:02.1±0.6, 3728N×2465W, h0km, ML3.3, Error ellipse: s-maj=4.6km s-min=2.0km az=91.0, After PDA*

SVSA 07 10:10:02.1±0.6, 3728N×2465W, h0km, MD3.9, ML3.3, Error ellipse: s-maj=4.6km s-min=2.0km az=91.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSMN	Pico do Norte,	0.43	231	eP	Pg	10 10 09.8	-0.6
PSMN				eS	Sg	10 10 16.2	+0.3
PDA	Ponta Delgada	0.94	300	eP	Pg	10 10 17.2	-2.8
PDA				eS	Sg	10 10 29.0	-3.1
ADH	Angra Heroismo	2.46	305	eP	Pn	10 10 38.8	-4.7
ADH				eS	Sn	10 11 06.6	-7.7
PID	Ribeirinha	2.98	294	eP	Pn	10 10 45.9	-4.8
PMAN	Manadas	3.04	298	eP	Pn	10 10 46.8	-4.6
PMAN				eS	Sn	10 11 20.1	-8.4
PMAN				A		10 11 21.8	
	18nm,0.1s						
PMAN	Manadas	3.04	298	eP	Pn	10 10 46.8	-4.6
PMAN				eS	Sn	10 11 20.1	-8.4
ROSA	Rosais	3.18	298	eP	Pn	10 10 49.0	-4.4
PICO	Pico	3.23	293	eP	Pn	10 10 49.6	-4.4
PICO				eS	Sn	10 11 25.0	-8.2
CALA	Caldeira	3.46	293	eP	Pn	10 10 52.8	-4.4
CALA				eS	Sn	10 11 30.3	-8.6
PMAR	Madeira	7.80	123	ePn	Pn	10 11 51.6	-5.3
PMAR				eT		10 19 29.8	
PMPS	Porto Santo	8.00	119	ePn	Pn	10 11 52.9	-6.7
PMPS				eT		10 19 42.3	

IDC 07 10:10:54.8±1.1, 248S×12794E, h0km, mb3.9/5, mb1 4.0/6, mb1mx3.9/15, mbtmp3.9/6, ML3.7/1, Error ellipse: s-maj=108.4km s-min=18.4km az=72.0, Ceram Sea

PTCH				AML	AML	10 13 17.8	
	comp=E,246nm,0.4s						
PACH	**Papudo**	**1.75**	**165**	*eP*	Pn	10 12 53.0	+1.2
JACH	**Jahuel**	**2.18**	**148**	*eP*	Pn	10 12 59.7	+2.0
VACH	**Vallenar**	**2.48**	**25**	*eP*	Pn	10 13 03.4	+1.5
VACH				*i* S	Sn	10 13 32.9	+1.8
PEL	**Peldehue**	**2.54**	**155**	AML	AML	10 13 44.0	
	comp=E,1μm,0.4s						
CLCH	**Cerro Calan**	**2.83**	**155**	AML	AML	10 14 02.0	
	comp=E,601nm,0.3s						
CLCH				AML	AML	10 14 02.7	
	comp=E,785nm,0.3s						
FCH	**Farellones**	**2.86**	**151**	AML	AML	10 14 01.9	
	comp=E,164nm,0.5s						
ANTU	**Antumapu**	**2.95**	**158**	AML	AML	10 13 59.4	
	comp=N,350nm,0.7s						
LMEL	**Las Melosas**	**3.35**	**154**	AML	AML	10 14 12.8	
	comp=N,170nm,0.6s						

*IDC **07** 10:15:03.2±1.3,3716N×2465W,h0km,mb3.8/5,mb1 3.9/6, mb1mx3.6/24,mbtmp3.7/6,ML3.8/1,Error ellipse: s-maj=35.7km s-min=28.2km az=6.0*
*ISCJB **07** 10:15:05.7±0.8,3720N±008×2492W±007,h33km±7km, mb3.7/6,Error ellipse: s-maj=15.6km s-min=6.1km az=29.7*
*PDA **07** 10:15:05.6±1.0,3720N×2468W,h0km,MD4.1,ML3.7, Error ellipse: s-maj=6.6km s-min=3.2km az=91.0*
*CSEM **07** 10:15:05.6±1.0,3720N×2468W,h0km,ML3.7,Error ellipse: s-maj=6.6km s-min=3.2km az=91.0,After PDA*
*SVSA **07** 10:15:05.6±1.0,3720N×2468W,h0km,MD4.1,ML3.7, Error ellipse: s-maj=6.6km s-min=3.2km az=91.0*

ISC 07 10:15:05.8±0.9,3725N±007×2487W±006,h23km±7km,n27, σ0°89/31,mb3.7/6,Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSMN	**Pico do Norte,**	**0.29**	**212**	*eP*	**Pb**	**10 15 12.0**	**-0.6**
PSMN				*eS*	**Sb**	**10 15 17.7**	**+0.5**
PDA	**Ponta Delgada**	**0.80**	**308**	*eP*	**Pb**	**10 15 20.9**	**-0.2**
PDA				*eS*	**Sb**	**10 15 32.4**	**+1.0**
PSCM	**Serra do Cume**	**2.29**	**310**	*eP*	**Pn**	**10 15 41.7**	**-0.4**
PSCM				*eS*	**Sn**	**10 16 09.6**	**0.0**
PSCM				A		10 16 13.8	
	241nm,0.2s						
PSCM	**Serra do Cume**	**2.29**	**310**	*eP*	**Pn**	**10 15 41.7**	**-0.4**
PSCM				*eS*	**Sn**	**10 16 09.6**	**0.0**
ADH	**Angra Heroismo**	**2.33**	**308**	*eP*	**Pn**	**10 15 42.7**	**-0.1**
ADH				*eS*	**Sn**	**10 16 09.9**	**-0.8**
PID	**Ribeirinha**	**2.83**	**296**	*eP*	**Pn**	**10 15 49.7**	**+0.1**
PID				*eS*	**Sn**	**10 16 23.0**	**0.0**
PMAN	**Manadas**	**2.89**	**299**	*eP*	**Pn**	**10 15 50.5**	**+0.1**
PMAN				*eS*	**Sn**	**10 16 23.6**	**-0.9**
PMAN				A		10 16 28.6	
	45nm,0.3s						
PMAN	**Manadas**	**2.89**	**299**	*eP*	**Pn**	**10 15 50.5**	**+0.1**
PMAN				*eS*	**Sn**	**10 16 23.6**	**-0.9**
ROSA	**Rosais**	**3.04**	**300**	*eP*	**Pn**	**10 15 52.6**	**+0.2**
ROSA				*eS*	**Sn**	**10 16 27.3**	**-0.8**
PICO	**Pico**	**3.08**	**295**	*eP*	**Pn**	**10 15 53.5**	**+0.5**
PICO				*eS*	**Sn**	**10 16 28.6**	**-0.4**
CALA	**Caldeira**	**3.31**	**295**	*eP*	**Pn**	**10 15 56.2**	**+0.1**
CALA				*eS*	**Sn**	**10 16 34.6**	**-0.1**
PMAR	**Madeira**	**7.94**	**122**	*e*Pn	**Pn**	**10 16 55.8**	**-4.0**
PMAR				*eT*		10 24 28.1	
PMPS	**Porto Santo**	**8.15**	**118**	*e*Pn	**Pn**	**10 16 56.5**	**-6.2**
PTEO	**Sao Teotonio**	**12.85**	**84**	*e*S	Sx	10 20 11.0	
MORF	**Marmelete**	**12.92**	**85**	*e*S	Sx	10 20 13.1	
PBDV	**Barranco-do-Ve**	**13.50**	**85**	*e*S	Sx	10 20 27.3	
PBEJ	**Beja**	**13.50**	**82**	*e*S	Sx	10 20 25.3	
PVAQ	**Vaqueiros**	**13.66**	**84**	*e*P	Px	10 18 06.1	
PVAQ				*e*S	Sx	10 20 30.7	
PCBR	**Castelo Branco**	**13.86**	**74**	*e*S	Sx	10 20 33.4	
PBAR	**Barrancos**	**14.15**	**81**	*e*S	Sx	10 20 40.6	
ESDC	**Sonseca Array**	**16.55**	**75**	Pn	**Pn**	**10 18 54.1**	**-2.3**
	0.1nm,0.3s,baz=271,slow=9.7,SNR=4.5						
EKA	**Eskdalemuir Ar**	**23.33**	**32**	P	**P**	**10 20 12.2**	**0.0**
	0.6nm,0.8s,mb3.1,baz=233,slow=9.3,SNR=4.8						
TORD	**Torodi Ar. Bea**	**33.75**	**128**	P	**P**	**10 21 44.8**	**-1.0**
	0.8nm,0.7s,mb3.8,baz=316,slow=5.9,SNR=7.0						
TXAR	**Lajitas Array**	**64.59**	**289**	P	**P**	**10 25 43.8**	**+2.4**
	1.7nm,0.7s,mb4.2,baz=80,slow=6.7,SNR=7.9						
ZALV	**Zalesovo Beam**	**70.90**	**36**	P	**P**	**10 26 21.6**	**+0.9**
	0.7nm,0.7s,mb3.7,baz=293,slow=4.5,SNR=4.3						
MKAR	**Makanchi Array**	**73.97**	**43**	P	**P**	**10 26 40.7**	**+1.6**
	0.3nm,0.3s,mb3.7,baz=316,slow=5.1,SNR=6.3						
SONM	**Songino Array**	**84.79**	**31**	P	**P**	**10 27 39.5**	**+1.4**
	0.9nm,1.0s,mb3.9,baz=329,slow=5.2,SNR=4.9						

GUC 07 10:20:15.0±0.6,3088S×7209W,h29km±4km,MD4.0, ML4.1,2C-4D,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OVCH	**Ovalle**	**0.81**	**70**	⇓*i*P	Pn	10 20 29.6	-0.8
OVCH				*i* S	Sb	10 20 41.0	0.0
OVCH				AML	AML	10 20 41.4	
	comp=N,15μm,0.4s						
CMCH	**Combarbala**	**0.97**	**108**	⇑*i*P	Pn	10 20 32.5	-0.2
CMCH				*i* S	Sn	10 20 46.1	+0.5
CMCH				AML	AML	10 20 46.8	
	comp=N,26μm,0.2s						
CHNG	**Los Chungos**	**1.11**	**153**	⇓*i*P	Pn	10 20 17.9	-17
CHNG				*i* S	Sn	10 20 32.4	-17
CHNG				AML	AML	10 20 37.2	
	comp=N,3μm,0.4s						
LSCH	**La Serena**	**1.21**	**37**	⇓*i*P	Pn	10 20 36.4	+0.4
LSCH				*i* S	Sn	10 20 52.0	+0.6
TLL	**Tololo Astrono**	**1.31**	**57**	⇓*i*P	Pn	10 20 38.2	+0.8
TLL				*i* S	Sn	10 20 56.0	+2.0
TLL				AML	AML	10 20 58.5	
	comp=E,7μm,0.5s						
PTCH	**Petorca**	**1.69**	**145**	*i* P	Pn	10 20 44.7	+2.1
PTCH				*i* S	Sn	10 21 06.7	+3.4
PTCH				AML	AML	10 21 10.9	
	comp=E,1μm,0.2s						
PACH	**Papudo**	**1.74**	**162**	*i* P	Pn	10 20 44.5	+1.2
PACH				*i* S	Sn	10 21 07.1	+2.7
VACH	**Vallenar**	**2.57**	**27**	⇑*i*P	Pn	10 20 56.1	+1.4
VACH				*i* S	Sn	10 21 27.2	+2.2
VACH				AML	AML	10 21 45.1	
	comp=N,2μm,0.4s						
STL	**Santa Lucia**	**2.83**	**155**	*e*P	Pn	10 21 02.7	+4.5
STL				*i* S	Sn	10 21 38.1	+6.8

*SZGRF **07** 10:19:19.4,1887S×17756W,h33km,Fiji Islands region*
*PRU **07** 10:19:25.1,1670S×17575W,h30km*
*ISCJB **07** 10:20:15.9±1.0,176S±02×1786W±02,h500km,mb3.7/10, Error ellipse: s-maj=35.2km s-min=15.6km az=151.0*
*IDC **07** 10:20:19.2±5.5,1773S×17855W,h532km±61km,mb3.3/10, mb1 3.6/10,mb1mx3.6/14,mbtmp3.3/10,Error ellipse: s-maj=33.4km s-min=21.5km az=153.0*

ISC 07 10:20:16.7±1.0,177S±02×1785W±02,h500km,n80, σ0°71/11,mb3.7/10,7C-4D,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**38.64**	**241**	P	**P**	**10 26 57.1**	**+0.5**
	0.9nm,0.4s,mb3.5,baz=119,slow=12,SNR=9.7						
WRA	**Warramunga Arr**	**44.56**	**259**	P	**P**	**10 27 43.1**	**-0.6**
	0.4nm,0.4s,mb3.2,baz=93,slow=7.3,SNR=9.1						
ASAR	**Alice Springs**	**44.74**	**254**	P	**P**	**10 27 44.9**	**-0.3**
	2.7nm,0.5s,mb3.9,baz=89,slow=8.1,SNR=64						
ASAR				PcP	PcP	10 29 15.8	-1.1
	0.6nm,0.5s,baz=98,slow=4.4,SNR=4.2						
MJAR	**Matsushiro Arr**	**67.63**	**323**	P	**P**	**10 30 23.0**	**-0.3**
	3.4nm,0.5s,mb4.2,baz=153,slow=5.8,SNR=24						
MAT	**Matsushiro**	**67.63**	**323**	P	**P**	**10 30 23.2**	**-0.1**
KSRS	**Korea Array**	**74.43**	**318**	P	**P**	**10 31 04.6**	**+1.3**
	1.0nm,0.6s,mb3.5,baz=134,slow=6.3,SNR=6.0						
NVAR	**Mina Array Bea**	**79.33**	**44**	P	**P**	**10 31 30.5**	**+0.4**
	1.9nm,0.7s,mb3.7,baz=212,slow=6.9,SNR=22						
TXAR	**Lajitas Array**	**85.97**	**58**	P	**P**	**10 32 04.8**	**+0.9**
	1.9nm,0.7s,mb3.8,baz=212,slow=4.4,SNR=10						
PDAR	**Pinedale Array**	**87.25**	**43**	P	**P**	**10 32 09.0**	**-0.6**
	1.2nm,0.7s,mb3.7,baz=210,slow=2.9,SNR=9.2						
SONM	**Songino Array**	**93.28**	**319**	P	**P**	**10 32 37.5**	**+0.2**
	0.5nm,0.6s,mb3.8,baz=138,slow=5.2,SNR=3.8						
YKA	**Yellowknife Ar**	**94.15**	**25**	P	**P**	**10 32 39.6**	**-1.4**
	0.8nm,0.8s,mb3.8,baz=244,slow=4.5,SNR=12						

ARCES	**ARCESS Array B**	**126.05**	**350**	PKP	PKPdf	10 38 19.4	-1.5
	3.4nm,0.8s,baz=25,slow=3.2,SNR=7.0						
FINES	**FINESS Array B**	**132.91**	**344**	PKP	PKPdf	10 38 31.3	-2.9
	2.9nm,0.9s,baz=108,slow=4.2,SNR=5.8						
AKASG	**Malin Array Be**	**140.28**	**332**	PKhKP		10 38 42.8	
	1.3nm,0.5s,baz=42,slow=3.6,SNR=7.9						
EKA	**Eskdalemuir Ar**	**142.23**	**4**	PKhKP		10 38 46.5	
	1.0nm,0.8s,baz=352,slow=2.6,SNR=5.7						
CTKT	**Corum**	**143.31**	**316**	*e*P	PKPdf	10 38 52.5	-1.4
KWP	**Kalwaria**	**143.79**	**336**	⇓*i*P	PKPdf	10 38 52.9	-1.5
ELDT	**Eldivan**	**144.28**	**316**	*e*P	PKPdf	10 38 55.2	-0.4
STHS	**Stebnicka Huta**	**144.51**	**338**	*e*P	PKPdf	10 38 55.5	-0.2
KOLS	**Kolonicke sedl**	**144.52**	**336**	*e*P	PKPdf	10 38 55.5	-0.2
CRVS	**Cervenica-Dubn**	**144.86**	**337**	*e*P	PKPdf	10 38 56.1	-0.2
VRI	**Vrincioaia**	**144.90**	**329**	⇑*i*P	PKPdf	10 38 56.6	+0.2
PLOR	**Plostina**	**144.95**	**329**	⇑*i*P	PKPdf	10 38 55.6	-0.9
IBBN	**Ibbenburen**	**145.07**	**353**	*e*PKPbc	PKPbc	10 38 56.3	-0.9
CLZ	**Clausthal**	**145.17**	**350**	*e*PKPbc	PKPbc	10 38 56.9	-0.6
CLL	**Collm**	**145.19**	**347**	*e*PKPbc	PKPbc	10 38 56.7	-0.9
CLL	**Collm**	**145.19**	**347**	⇓*i*PKP	PKPdf	10 38 56.8	0.0
	comp=Z,14nm,0.7s						
UPC	**Upice**	**145.21**	**344**	*e*PKP	PKPdf	10 38 57.5	+0.7
DPC	**Dobruska-Polom**	**145.27**	**343**	*e*PKP	PKPdf	10 38 57.8	+0.9
BRG	**Berggiesshubel**	**145.39**	**346**	*e*PKPbc	PKPbc	10 38 57.5	-0.7
MORC	**Moravsky Berou**	**145.43**	**342**	⇑*i*P	PKPdf	10 38 57.5	+0.3
MLR	**Muntele Rosu**	**145.55**	**329**	⇓*i*P	PKPbc	10 38 59.0	+0.1
PVCC	**Panska Ves**	**145.56**	**345**	*e*PKP	PKPdf	10 38 58.5	+1.1
KECS	**Kecovo**	**145.57**	**337**	*e*P	PKPdf	10 38 51.5	-6.0
KECS				*e*		10 38 58.4	
VOIR		**146.03**	**330**	⇑*i*P	PKPbc	10 39 00.5	+0.3
DRGR		**146.06**	**334**	⇑*i*P	PKPbc	10 38 59.9	-0.4
PRU	**Pruhonice**	**146.07**	**345**	*e*PKP	PKPbc	10 38 59.5	-0.7
VRAC	**Vranov**	**146.13**	**342**	⇑*i*P	PKPdf	10 38 59.3	+0.9
VYHS	**Vyhne**	**146.14**	**339**	*e*P	PKPbc	10 39 00.0	-0.4
TANN	**Tannenbergstha**	**146.15**	**347**	*e*PKPbc	PKPbc	10 38 59.7	-0.7
NKC	**Novy Kostel**	**146.32**	**347**	*e*PKP	PKPbc	10 39 01.0	+0.1
ROTZ	**Rotzenmuhle**	**146.81**	**347**	*e*PKPbc	PKPbc	10 39 01.6	-0.6
GRF	**Grafenberg Arr**	**147.09**	**348**	*e*PKPbc	PKPbc	10 39 02.1	-0.9
KHC	**Kasperske Hory**	**147.10**	**345**	*e*PKP	PKPbc	10 39 02.6	-0.4
KHC				*ex*	x	10 39 05.9	
GEC2	**GERESS Array S**	**147.34**	**345**	*e*PKPbc	PKPbc	10 39 02.8	-0.9
GERES	**GERESS Array B**	**147.34**	**345**	PKPbc	PKPbc	10 39 03.4	-0.2
	comp=Z,3.4nm,0.5s,baz=224,slow=9.3,SNR=9.5						
GIVF	**Givet**	**147.52**	**356**	*e*PKP1	PKPbc	10 39 02.7	-1.4
	comp=Z,27nm,0.7s						
BAIF	**Baives**	**147.60**	**357**	*e*PKP1	PKPbc	10 39 03.0	-1.3
	comp=Z,15nm,0.7s						
WLF	**Walferdange**	**147.85**	**354**	*e*PKPbc	PKPbc	10 39 04.6	-0.3
PKSM	**Moragy**	**148.16**	**337**	⇓*i*P	PKPbc	10 39 04.4	-1.4
BFO	**Black Forest**	**148.90**	**351**	*e*PKPbc	PKPbc	10 39 06.6	-1.0
FLN	**La Foliniere**	**148.93**	**2**	*e*PKP1	PKPbc	10 39 05.9	-1.8
	comp=Z,27nm,0.8s						
CDF	**Champ du Feu**	**148.96**	**352**	*e*PKP1	PKPbc	10 39 06.4	-1.4
	comp=Z,11nm,0.5s						
PERS	**Pernice**	**148.97**	**342**	*i* PKPbc	PKPbc	10 39 06.6	-1.3
VTS	**Vitosha**	**149.01**	**328**	⇑*i*P	PKPdf	10 39 04.4	+1.0
MEZF	**Maizieres J'vi**	**149.09**	**355**	*e*PKP1	PKPbc	10 39 06.9	-1.2
	comp=Z,11nm,0.6s						
LDF	**La Druitiere**	**149.12**	**2**	*e*PKP1	PKPbc	10 39 06.3	-1.8
	comp=Z,6.4nm,0.5s						
ROSF	**Rostrenen**	**149.16**	**6**	*e*PKP1	PKPbc	10 39 06.1	-2.1
GRR	**Gorron**	**149.29**	**3**	*e*PKP1	PKPbc	10 39 06.9	-1.7
	comp=Z,10.0nm,0.5s						
SGMF	**Saint Gilles**	**149.31**	**5**	*e*PKP1	PKPbc	10 39 06.7	-1.9
	comp=Z,21nm,0.8s						
HAU	**Haudompre**	**149.47**	**354**	*e*PKP1	PKPbc	10 39 07.4	-1.6
	comp=Z,9.6nm,0.6s						
VNDS	**Vrh nad Dolski**	**149.58**	**342**	*i* PKPbc	PKPbc	10 39 08.2	-1.1
CRES	**Cresnjev**	**149.59**	**340**	*i* PKPbc	PKPbc	10 39 08.5	-0.9
HINF	**Hinteralfeld**	**149.60**	**353**	*e*PKP1	PKPbc	10 39 07.6	-1.7
	comp=Z,6.8nm,0.7s						
BOJS	**Bojanci**	**149.94**	**340**	*i* PKPbc	PKPbc	10 39 09.6	-0.6
DAVOX	**Davos/Dischmat**	**150.13**	**348**	PKPbc	PKPbc	10 39 10.2	-0.4
	comp=Z,15nm,0.6s,baz=231,slow=3.1,SNR=30						
LOR	**Lormes**	**150.40**	**357**	*e*PKP1	PKPbc	10 39 09.8	-1.4
	comp=Z,18nm,0.6s						
SSF	**Saint Saulge**	**150.63**	**357**	*e*PKP1	PKPbc	10 39 10.4	-1.4
	comp=Z,13nm,0.6s						
CABF	**La Chapelle**	**150.87**	**353**	*e*PKP1	PKPbc	10 39 11.4	-0.9
	comp=Z,12nm,0.8s						
AVF	**Avril sur Loir**	**150.90**	**357**	*e*PKP1	PKPbc	10 39 10.5	-1.9
	comp=Z,4.0nm,0.5s						
MFF	**Saint Martin d**	**151.10**	**2**	*e*PKP1	PKPbc	10 39 11.0	-1.9
	comp=Z,9.0nm,0.6s						
BGF	**Bois d'Agland**	**151.16**	**358**	*e*PKP1	PKPbc	10 39 12.1	-0.9
	comp=Z,14nm,0.6s						
TCF	**Toulx Ste Croi**	**151.44**	**359**	*e*PKP1	PKPbc	10 39 11.9	-1.7
	comp=Z,8.2nm,0.8s						
LPG	**La Plagne**	**151.89**	**352**	*e*PKP1	PKPbc	10 39 13.9	-0.8
RJF	**Les Rejaudoux**	**152.43**	**360**	*e*PKP1	PKPbc	10 39 14.1	-1.8
	comp=Z,3.8nm,0.6s						
ORIF	**Oris-en-Rattie**	**152.57**	**353**	*e*PKP1	PKPbc	10 39 14.7	-1.5
	comp=Z,3.0nm,0.4s						
MBDF	**Montbardon**	**152.64**	**352**	*e*PKP1	PKPbc	10 39 15.0	-1.4
	comp=Z,10nm,0.8s						
VIVF	**Saint-Julien-l**	**152.75**	**355**	*e*PKP1	PKPbc	10 39 15.2	-1.4
	comp=Z,3.2nm,0.5s						
CAF	**Calviac**	**152.81**	**359**	*e*PKP1	PKPbc	10 39 15.2	-1.5
	comp=Z,3.7nm,0.6s						
LASF	**Ste Croix**	**153.58**	**356**	*e*PKP1	PKPbc	10 39 17.1	-1.3
	comp=Z,1.8nm,0.6s						

IDC 07 10:21:24.2±4.2,691S×15530E,h0km,mb3.6/3,mb1 3.7/3, mb1mx3.5/13,mbtmp3.6/3,Error ellipse: s-maj=125.0km s-min=37.2km az=115.0,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.11**	**235**	P	P	10 26 42.5	+0.6
	0.4nm,0.4s,baz=61,slow=9.5,SNR=12						
ASAR	**Alice Springs**	**26.45**	**229**	P	P	10 27 02.9	-0.2
	0.3nm,0.3s,baz=63,slow=9.6,SNR=8.8						
MKAR	**Makanchi Array**	**83.53**	**319**	P	P	10 33 54.2	0.0
	0.4nm,0.3s,baz=103,slow=6.4,SNR=2.4						

*IDC **07** 10:28:05.8±1.5,3812S×17742E,h121km±4km,mb3.4/3, mb1 3.6/4,mb1mx3.5/12,mbtmp3.4/4,Error ellipse: s-maj=42.3km s-min=23.5km az=129.0*
*ISCJB **07** 10:28:06.8±0.6,3796S±005×17751E±007,h100km, mb3.7/3,Error ellipse: s-maj=8.1km s-min=6.4km az=171.1*
*WEL **07** 10:28:06.6±0.2,3762S×17741E,h102km±1km,ML4.4/22, Error ellipse: s-maj=1.4km s-min=1.4km az=90.0*
WEL Felt in the Bay of Plenty region, maximum reported intensity MM 4.
*NEIC **07** 10:28:06.5,3764S×17741E,h105km,MG4.4(WEL),After WEL.*
NEIC Felt at Ohope and Te Kaha.

ISC 07 10:28:04.7±0.8,3788S±005×17754E±008,h133km±4km, n160,σ1°43/165,mb3.5/3,5C-9D,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WIZ	**White Island**	**0.44**	**321**	P	**Pn**	**10 28 20.9**	**-2.9**
WIZ	**White Island**	**0.44**	**321**	PN	**Pn**	**10 28 20.6**	**-3.2**
MWZ	**Matawai**	**0.46**	**181**	P	**Pn**	**10 28 24.5**	**+0.6**
MWZ				S	**Sn**	**10 28 38.4**	**-0.1**
MWZ	**Matawai**	**0.46**	**181**	⇑PN	**Pn**	**10 28 24.5**	**+0.6**
MWZ				SN	**Sn**	**10 28 38.3**	**-0.2**
URZ	**Urewera**	**0.51**	**221**	P	**Pn**	**10 28 23.9**	**-0.2**
URZ	**Urewera**	**0.51**	**221**	P	**Pn**	**10 28 23.7**	**-0.4**
	399nm,0.3s,baz=280,slow=2.7,SNR=1512						
URZ				S	**Sn**	**10 28 37.1**	**-1.8**
	682nm,0.3s,baz=213,slow=23,SNR=124						
URZ	**Urewera**	**0.51**	**221**	⇑PN	**Pn**	**10 28 23.9**	**-0.2**
URZ				SN	**Sn**	**10 28 37.0**	**-1.9**
PUZ	**Puketiti**	**0.60**	**109**	P	**Pn**	**10 28 25.4**	**+0.7**
PUZ	**Puketiti**	**0.60**	**109**	⇑PN	**Pn**	**10 28 25.4**	**+0.7**
EDRZ	**Edgecumbe**	**0.67**	**250**	P	**Pn**	**10 28 24.6**	**-0.6**
EDRZ	**Edgecumbe**	**0.67**	**250**	⇓PN	**Pn**	**10 28 24.6**	**-0.6**
MXZ	**Matakaoa Point**	**0.68**	**63**	P	**Pn**	**10 28 25.1**	**-0.2**
MXZ	**Matakaoa Point**	**0.68**	**63**	⇑PN	**Pn**	**10 28 25.0**	**-0.2**
MARZ	**Manawahe**	**0.69**	**260**	P	**Pn**	**10 28 24.1**	**-1.2**
MARZ	**Manawahe**	**0.69**	**260**	⇓PN	**Pn**	**10 28 24.1**	**-1.2**
OPRZ	**Ohinepanea**	**0.78**	**272**	⇓PN	**Pn**	**10 28 24.2**	**-1.7**
OPRZ				SN	**Sn**	**10 28 37.5**	**-4.6**
MKRZ	**Makatiti**	**0.89**	**252**	P	**Pn**	**10 28 26.8**	**0.0**
MKRZ	**Makatiti**	**0.89**	**252**	PN	**Pn**	**10 28 26.8**	**-0.1**

TAZ	**Tarawera**	**0.89**	**246**	P	**Pn**	**10 28 27.1**	**+0.3**
TAZ	**Tarawera**	**0.89**	**246**	PN	**Pn**	**10 28 27.1**	**+0.2**
LIRZ	**Lichensteins R**	**0.92**	**262**	P	**Pn**	**10 28 26.2**	**-0.9**
LIRZ	**Lichensteins R**	**0.92**	**262**	PN	**Pn**	**10 28 26.1**	**-1.0**
OMRZ	**Omania**	**0.95**	**256**	⇓PN	**Pn**	**10 28 26.8**	**-0.5**
TGRZ	**Tauranga**	**1.02**	**278**	P	**Pn**	**10 28 26.2**	**-1.8**
TGRZ	**Tauranga**	**1.02**	**278**	⇓PN	**Pn**	**10 28 26.2**	**-1.8**
KARZ	**Kaharoa**	**1.03**	**261**	P	**Pn**	**10 28 27.3**	**-0.8**
KARZ	**Kaharoa**	**1.03**	**261**	PN	**Pn**	**10 28 27.2**	**-0.9**
UTU	**Utuhina**	**1.10**	**254**	P	**Pn**	**10 28 29.0**	**+0.2**
UTU	**Utuhina**	**1.10**	**254**	PN	**Pn**	**10 28 28.7**	**-0.1**
HRRZ	**Handcock Road**	**1.11**	**242**	PN	**Pn**	**10 28 29.1**	**+0.2**
KNZ	**Kokohu**	**1.15**	**175**	P	**Pn**	**10 28 31.2**	**+1.9**
KNZ	**Kokohu**	**1.15**	**175**	PN	**Pn**	**10 28 31.2**	**+2.0**
MYRZ	**Mayor Island**	**1.19**	**300**	PN	**Pn**	**10 28 27.2**	**-2.5**
WHTZ	**Whakaora**	**1.47**	**237**	P	**Pn**	**10 28 34.1**	**+1.4**
WHTZ	**Whakaora**	**1.47**	**237**	PN	**Pn**	**10 28 34.1**	**+1.4**
HATZ	**Hinemaiaia**	**1.52**	**228**	P	**Pn**	**10 28 34.4**	**+1.2**
HATZ	**Hinemaiaia**	**1.52**	**228**	PN	**Pn**	**10 28 34.3**	**+1.0**
BKZ	**Black Stump Fm**	**1.53**	**212**	P	**Pn**	**10 28 34.5**	**+1.2**
BKZ	**Black Stump Fm**	**1.53**	**212**	⇓PN	**Pn**	**10 28 34.5**	**+1.3**
TOZ	**Tahuroa Road**	**1.62**	**274**	P	**Pn**	**10 28 33.4**	**-0.9**
TOZ	**Tahuroa Road**	**1.62**	**274**	⇑PN	**Pn**	**10 28 33.4**	**-0.9**
WATZ	**Wairara**	**1.65**	**239**	P	**Pn**	**10 28 35.7**	**+1.1**
WATZ	**Wairara**	**1.65**	**239**	PN	**Pn**	**10 28 35.7**	**+1.1**
RATZ	**Rangitukua**	**1.71**	**234**	P	**Pn**	**10 28 36.7**	**+1.4**
RATZ	**Rangitukua**	**1.71**	**234**	PN	**Pn**	**10 28 36.6**	**+1.3**
RITZ	**Rihia Road**	**1.72**	**230**	P	**Pn**	**10 28 35.8**	**+0.4**
RITZ	**Rihia Road**	**1.72**	**230**	PN	**Pn**	**10 28 37.0**	**+1.6**
KATZ	**Kakaramea**	**1.82**	**232**	P	**Pn**	**10 28 37.9**	**+1.3**
KATZ	**Kakaramea**	**1.82**	**232**	PN	**Pn**	**10 28 37.8**	**+1.2**
KUZ	**Kuaotunu**	**1.83**	**307**	P	**Pn**	**10 28 34.0**	**-2.8**
KUZ	**Kuaotunu**	**1.83**	**307**	⇓PN	**Pn**	**10 28 34.0**	**-2.8**
KRVZ	**Karewarewa**	**1.92**	**230**	PN	**Pn**	**10 28 39.4**	**+1.5**
OTVZ	**Oturere**	**1.95**	**228**	PN	**Pn**	**10 28 39.7**	**+1.5**
WTVZ	**West Tongariro**	**1.97**	**230**	P	**Pn**	**10 28 39.9**	**+1.5**
WTVZ	**West Tongariro**	**1.97**	**230**	⇓PN	**Pn**	**10 28 39.9**	**+1.5**
NGZ	**Ngauruhoe**	**2.00**	**229**	P	**Pn**	**10 28 40.4**	**+1.6**
NGZ	**Ngauruhoe**	**2.00**	**229**	PN	**Pn**	**10 28 40.4**	**+1.7**
TUVZ	**Tukino**	**2.03**	**226**	P	**Pn**	**10 28 40.5**	**+1.4**
TUVZ	**Tukino**	**2.03**	**226**	PN	**Pn**	**10 28 40.5**	**+1.4**
TWVZ	**Taurewa**	**2.04**	**233**	P	**Pn**	**10 28 40.6**	**+1.4**
TWVZ	**Taurewa**	**2.04**	**233**	PN	**Pn**	**10 28 40.6**	**+1.4**
WPVZ	**Whakapapa**	**2.05**	**229**	P	**Pn**	**10 28 41.0**	**+1.6**
WPVZ	**Whakapapa**	**2.05**	**229**	PN	**Pn**	**10 28 41.0**	**+1.6**
MOVZ	**Moawhango**	**2.07**	**222**	P	**Pn**	**10 28 40.6**	**+0.9**
MOVZ	**Moawhango**	**2.07**	**222**	PN	**Pn**	**10 28 40.5**	**+0.8**
FWVZ	**Far West T-bar**	**2.08**	**228**	P	**Pn**	**10 28 41.4**	**+1.7**
FWVZ	**

Error ellipse: s-maj=15.4km s-min=13.9km az=145.4

ISC 07 10:33:05.1±0.6,**74S**±01×**1556E**±01,**h35**km,**n17**,σ0°**62**/16,
mb4.1/9,**1C,Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.77**	**116**	Pn	**Pn**	**10 34 15.0**	**+0.6**
	9.5nm,0.3s,baz=278,slow=4.7,SNR=4.0						
HNR				Sn	**Sn**	**10 35 19.6**	**+11**
	15nm,0.3s,baz=274,slow=18,SNR=4.9						
KAKA	**Kakadu**	**23.40**	**255**	*e*P	**P**	**10 38 11.6**	**+0.4**
	13nm,0.6s,mb4.5						
WB2	**Warramunga Arr**	**24.09**	**237**	⇑*i*P	**P**	**10 38 17.7**	**+0.2**
WRA	**Warramunga Arr**	**24.10**	**237**	P	**P**	**10 38 17.9**	**+0.4**
	4.8nm,0.9s,mb3.9,baz=59,slow=9.3,SNR=26						
ASAR	**Alice Springs**	**26.37**	**230**	P	**P**	**10 38 38.0**	**-0.3**
	1.1nm,0.8s,mb3.5,baz=59,slow=9.7,SNR=12						
STKA	**Stephens Creek**	**27.65**	**206**	*e*P	**P**	**10 38 49.0**	**-0.6**
	2.5nm,1.1s,mb3.8						
STKA	**Stephens Creek**	**27.65**	**206**	P	**P**	**10 38 49.1**	**-0.5**
	4.6nm,0.8s,mb4.2,baz=26,slow=16,SNR=10						
ASAJ	**Asahikawa**	**52.58**	**348**	P	**P**	**10 42 16.1**	**+0.9**
	3.0nm,0.7s,mb4.3,baz=202,slow=8.5,SNR=5.3						
SONM	**Songino Array**	**69.97**	**327**	P	**P**	**10 44 13.7**	**+0.8**
	1.5nm,0.7s,mb4.0,baz=137,slow=6.6,SNR=4.2						
MK31	**Makanchi Array**	**84.08**	**319**	*e*P	**P**	**10 45 32.3**	**0.0**
MKAR	**Makanchi Array**	**84.08**	**319**	P	**P**	**10 45 32.4**	**+0.2**
MKAR	**Makanchi Array**	**84.08**	**319**	P	**P**	**10 45 32.4**	**+0.2**
	3.2nm,0.7s,mb4.6,baz=102,slow=5.8,SNR=36						
ZAA0	**Zalesovo Array**	**84.82**	**326**	*e*P	**P**	**10 45 35.2**	**-0.6**
ZALV	**Zalesovo Beam**	**84.82**	**326**	P	**P**	**10 45 35.0**	**-0.8**
	1.9nm,0.5s,mb4.5,baz=114,slow=5.8,SNR=11						
YKA	**Yellowknife Ar**	**96.39**	**28**	P	**P**	**10 46 28.9**	**-1.2**
	0.4nm,0.8s,mb3.9,baz=264,slow=4.4,SNR=8.5						
BDFB	**Brasilia**	**147.29**	**134**	PKPbc	PKPbc	10 52 45.3	-0.6
	4.3nm,0.s,baz=224,slow=3.8,SNR=7.0						
TORD	**Torodi Ar. Bea**	**153.69**	**285**	PKPbc	PKPbc	10 53 00.6	-0.7
	0.3nm,0.6s,baz=66,slow=2.0,SNR=3.9						

*IDC **07** 10:47:17.7±1.0,886S×15756E,h0km,mb3.8/6,mb1 4.0/7, mb1mx3.8/14,mbtmp3.8/7,ML3.8/1,MS3.3/1,Ms1 3.3/1, ms1mx2.9/28,Error ellipse: s-maj=33.0km s-min=22.9km az=147.0*

*NEIC **07** 10:47:19.6±0.7,893S×15754E,h10km,mb4.1/1,Error ellipse: s-maj=23.1km s-min=14.7km az=168.0*

*ISCJB **07** 10:47:21.5±0.8,90S±02×1576E±01,h33km,mb3.7/6, Error ellipse: s-maj=24.1km s-min=14.7km az=168.0*

ISC 07 10:47:23.5±0.8,**90S**±02×**1575E**±01,**h35**km,**n11**,σ0°**94**/11,
mb3.7/6,**Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.44**	**101**	Pn	**Pn**	**10 47 59.7**	**-1.1**
	23nm,0.3s,baz=243,slow=2.0,SNR=5.9						
HNR				Sn	**Sn**	**10 48 34.7**	**+5.4**
	51nm,0.3s,baz=265,slow=22,SNR=8.1						
HNR				LR	LR	10 48 57.2	
	comp=Z,660nm,19.9s,baz=207,slow=41						
WRA	**Warramunga Arr**	**24.93**	**241**	P	**P**	**10 52 43.4**	**-0.1**
	1.9nm,0.6s,mb3.8,baz=67,slow=9.5,SNR=19						
ASAR	**Alice Springs**	**26.91**	**234**	P	**P**	**10 53 00.3**	**-1.1**
	0.6nm,0.8s,mb3.2,baz=68,slow=9.3,SNR=4.7						
STKA	**Stephens Creek**	**27.18**	**211**	*e*P	**P**	**10 53 04.6**	**+0.8**
	3.4nm,0.8s,mb3.9						
STKA	**Stephens Creek**	**27.18**	**211**	P	**P**	**10 53 05.1**	**+1.3**
	3.6nm,0.7s,mb4.0,baz=34,slow=13,SNR=7.3						
SONM	**Songino Array**	**72.34**	**327**	P	**P**	**10 58 46.0**	**+0.4**
	0.4nm,0.6s,mb3.5,baz=142,slow=5.0,SNR=3.6						
MKAR	**Makanchi Array**	**86.53**	**318**	P	**P**	**11 00 04.0**	**+1.1**
MKAR	**Makanchi Array**	**86.53**	**318**	P	**P**	**11 00 04.0**	**+1.1**
	0.2nm,0.3s,mb3.8,baz=96,slow=6.2,SNR=4.8						
NVAR	**Mina Array Bea**	**90.97**	**51**	P	**P**	**11 00 23.0**	**-1.1**
NVAR	**Mina Array Bea**	**90.97**	**51**	P	**P**	**11 00 23.0**	**-1.1**
	0.5nm,0.9s,mb3.9,baz=234,slow=7.7,SNR=4.1						
GERES	**GERESS Array B**	**130.02**	**329**	PKP	PKPdf	11 06 27.0	-2.6
	0.7nm,0.7s,baz=38,slow=5.0,SNR=4.6						

*ISCJB **07** 10:55:50.3±1.5,28N±02×954E±02,h28km,mb3.7/5,Error ellipse: s-maj=38.0km s-min=16.0km az=135.4*

*NEIC **07** 10:55:52.5±1.2,278N×9544E,Error ellipse: s-maj=33.5km s-min=13.2km az=46.0*

*IDC **07** 10:55:52.7±2.0,280N×9547E,h27km±6km,mb3.5/5, mb1 3.6/6,mb1mx3.4/21,mbtmp3.5/6,ML3.3/1,MS3.7/1, Ms1 3.7/1,ms1mx3.6/26,Error ellipse: s-maj=63.3km s-min=19.8km az=55.0*

ISC 07 10:55:52.7±1.5,**28N**±02×**954E**±02,**h29**km,
h29km±1.8km:**pP-P,n10,**σ0°**60**/10,**mb3.7**/5,**Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**3.48**	**89**	Pn	**Pn**	**10 56 44.9**	**0.0**
PSI				LR	LR	10 58 30.0	
PSI	**Prapat**	**3.48**	**89**	Pn	**Pn**	**10 56 44.9**	**0.0**
	2.8nm,0.3s,baz=178,slow=2.0,SNR=12						
PSI				LR	LR	10 58 30.0	
	comp=Z,1μm,18.2s,baz=328,slow=46						
WRA	**Warramunga Arr**	**44.35**	**122**	P	**P**	**11 04 00.9**	**+0.2**
	1.0nm,0.5s,mb3.8,baz=300,slow=9.2,SNR=16						
MKAR	**Makanchi Array**	**45.32**	**347**	P	**P**	**11 04 07.5**	**-0.4**
MKAR				pP	pP	11 04 16.7	-0.1
MKAR	**Makanchi Array**	**45.32**	**347**	P	**P**	**11 04 07.5**	**-0.4**
	0.5nm,0.4s,mb3.7,baz=153,slow=8.6,SNR=4.1						
MKAR				pP	pP	11 04 16.7	-0.1
	1.6nm,0.5s,baz=159,slow=7.8,SNR=7.0						
ASAR	**Alice Springs**	**45.74**	**127**	P	**P**	**11 04 11.8**	**+0.1**
	0.4nm,0.6s,mb3.5,baz=300,slow=8.0,SNR=11						
SONM	**Songino Array**	**45.88**	**10**	P	**P**	**11 04 12.6**	**+0.3**
	0.4nm,0.4s,mb3.7,baz=191,slow=6.8,SNR=4.6						
SONM				pP	pP	11 04 20.3	-0.9
	0.7nm,0.5s,baz=182,slow=9.7,SNR=5.2						
ZALV	**Zalesovo Beam**	**51.76**	**352**	P	**P**	**11 04 57.7**	**+0.3**
ZALV				pP	pP	11 05 05.9	-0.4
ZALV	**Zalesovo Beam**	**51.76**	**352**	P	**P**	**11 04 57.7**	**+0.3**
	0.7nm,0.4s,mb3.9,baz=164,slow=7.5,SNR=5.6						
ZALV				pP	pP	11 05 05.9	-0.4
	3.8nm,0.8s,baz=174,slow=6.5,SNR=9.4						
HNR	**Honiara**	**65.40**	**102**	*e*P	**P**	**11 06 29.6**	**-3.6**

*ISCJB **07** 10:59:23.2±2.0,67S±02×1556E±03,h10km,mb4.2/11, Error ellipse: s-maj=51.8km s-min=16.5km az=17.4*

*IDC **07** 10:59:24.0±3.5,677S×15540E,h0km,mb4.2/6,mb1 4.4/7, mb1mx4.1/15,mbtmp4.2/7,ML4.1/1,Error ellipse: s-maj=100.8km s-min=23.6km az=112.0*

*NEIC **07** 10:59:27.6±1.2,670S×155.15E,h10km,mb4.4/5,Error ellipse: s-maj=25.3km s-min=17.0km az=185.0*

ISC 07 10:59:25.2±1.9,**67S**±01×**1555E**±03,**h10**km,**n15**,σ1°**18**/15,
mb4.2/11,**Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**16.05**	**213**	Pn	**Pn**	**11 03 11.9**	**+0.8**
	0.5nm,0.3s,baz=49,slow=14,SNR=6.6						
KAKA	**Kakadu**	**23.52**	**254**	*e*P	**P**	**11 04 37.4**	**+1.5**
	9.8nm,0.4s,mb4.6						
KAKA	**Kakadu**	**23.52**	**254**	*e*P	**P**	**11 04 37.2**	**+1.3**
	22nm,0.6s,mb4.8						
WRAB	**Tennant Creek**	**24.40**	**235**	*e*P	**P**	**11 04 43.8**	**-0.1**
	8.4nm,0.8s,mb4.2						
WB2	**Warramunga Arr**	**24.40**	**235**	*e*P	**P**	**11 04 43.7**	**-0.2**
WRA	**Warramunga Arr**	**24.41**	**235**	P	**P**	**11 04 43.7**	**-0.3**
	7.5nm,0.8s,mb4.2,baz=61,slow=9.6,SNR=34						
ASAR	**Alice Springs**	**26.75**	**229**	P	**P**	**11 05 03.5**	**-1.7**
	0.8nm,0.4s,mb3.6,baz=60,slow=9.7,SNR=16						
STKA	**Stephens Creek**	**28.21**	**206**	*e*P	**P**	**11 05 19.8**	**+1.6**
	1.4nm,0.7s,mb3.7						
FITZ	**Fitzroy Crossi**	**31.26**	**246**	*e*P	**P**	**11 05 45.3**	**-0.1**
	5.5nm,0.8s,mb4.4						
FITZ	**Fitzroy Crossi**	**31.26**	**246**	P	**P**	**11 05 45.2**	**-0.2**
	2.9nm,0.7s,mb4.2,baz=95,slow=9.3,SNR=6.4						
FORT	**Forrest**	**35.16**	**224**	*e*P	**P**	**11 06 13.3**	**-6.0**
	11nm,0.8s,mb4.8						
KLBR	**Kellerberrin**	**43.07**	**230**	*e*P	**P**	**11 07 23.1**	**-2.4**
	7.1nm,0.8s,mb4.5						
SONM	**Songino Array**	**69.40**	**327**	P	**P**	**11 10 34.4**	**+1.1**
	3.6nm,0.8s,mb4.3,baz=142,slow=5.0,SNR=21						
MKAR	**Makanchi Array**	**83.56**	**319**	P	**P**	**11 11 54.3**	**+0.8**
	1.6nm,0.6s,mb4.3,baz=100,slow=5.5,SNR=12						
ZALV	**Zalesovo Beam**	**84.26**	**326**	P	**P**	**11 11 55.4**	**-1.5**
	0.7nm,0.5s,mb4.0,baz=115,slow=6.7,SNR=4.8						

*IDC **07** 10:59:35.8±1.0,701S×15573E,h0km,mb4.4/9, mb1 4.5/11,mb1mx4.3/16,mbtmp4.4/11,ML4.0/2,Error ellipse: s-maj=30.1km s-min=20.1km az=111.0*

*ISCJB **07** 10:59:39.1±3.5,71S±02×1558E±01,h34km±35km, mb4.2/9,Error ellipse: s-maj=34.3km s-min=16.6km az=142.3*

ISC 07 10:59:41.0±3.0,**71S**±02×**1558E**±01,**h36**km±31km,**n17**,
σ0°**73**/16,**mb4.2**/9,**Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.74**	**120**	Pn	**Pn**	**11 00 49.7**	**-0.3**
	19nm,0.3s,baz=312,slow=1.1,SNR=6.1						
CTA	**Charters Tower**	**15.90**	**215**	Pn	**Pn**	**11 03 22.9**	**+0.8**
	0.2nm,0.3s,baz=27,slow=18,SNR=3.2						
KAKA	**Kakadu**	**23.66**	**254**	*e*pP	**P**	**11 04 48.8**	**-0.7**
WRA	**Warramunga Arr**	**24.42**	**236**	P	**P**	**11 04 56.9**	**+0.5**
	4.9nm,0.6s,mb4.1,baz=60,slow=9.2,SNR=8.4						
ASAR	**Alice Springs**	**26.71**	**229**	P	**P**	**11 05 15.9**	**-1.2**
	1.2nm,0.7s,mb3.5,baz=60,slow=9.4,SNR=7.1						
STKA	**Stephens Creek**	**28.01**	**206**	P	**P**	**11 05 30.1**	**+1.5**
	2.3nm,0.6s,mb4.0,baz=17,slow=12,SNR=10						
STKA	**Stephens Creek**	**28.01**	**206**	*e*	**P**	**11 05 29.9**	**+1.3**
FITZ	**Fitzroy Crossi**	**31.34**	**247**	P	**P**	**11 05 57.2**	**-1.1**
	5.9nm,0.6s,mb4.6,baz=94,slow=8.8,SNR=24						
FITZ	**Fitzroy Crossi**	**31.34**	**247**	*e*	**P**	**11 05 58.3**	**-0.1**
FORT	**Forrest**	**35.08**	**224**	*e*	**P**	**11 06 30.4**	**-0.4**
KLBR	**Kellerberrin**	**43.04**	**230**	*e*	**P**	**11 07 37.2**	**-0.2**
SONM	**Songino Array**	**69.82**	**327**	P	**P**	**11 10 47.5**	**-0.3**
	2.3nm,0.7s,mb4.2,baz=144,slow=5.8,SNR=9.5						
MKAR	**Makanchi Array**	**83.98**	**319**	P	**P**	**11 12 08.8**	**+1.2**
	3.7nm,0.8s,mb4.6,baz=102,slow=5.4,SNR=9.5						
MAW	**Mawson**	**84.63**	**203**	P	**P**	**11 12 10.1**	**-0.4**
	4.0nm,1.0s,mb4.5,baz=93,slow=10,SNR=4.8						
ZALV	**Zalesovo Beam**	**84.68**	**326**	P	**P**	**11 12 11.4**	**+0.5**
	1.8nm,0.6s,mb4.4,baz=110,slow=6.1,SNR=6.6						
YKA	**Yellowknife Ar**	**96.04**	**28**	P	**P**	**11 13 04.0**	**-0.3**
	0.3nm,0.7s,mb3.8,baz=265,slow=4.5,SNR=6.9						
GERES	**GERESS Array B**	**127.52**	**329**	PKP	PKPdf	11 18 42.7	+0.4
	0.5nm,0.5s,baz=48,slow=2.0,SNR=5.0						

*IDC **07** 10:59:58.1±1.3,3724N×2492W,h0km,mb3.7/6,mb1 3.9/7, mb1mx3.6/24,mbtmp3.6/7,ML4.2/1,Error ellipse: s-maj=37.2km s-min=23.9km az=9.0*

*ISCJB **07** 10:59:59.0±0.6,3741N±004×2495W±006,h10km,mb3.7/7, Error ellipse: s-maj=7.4km s-min=5.1km az=44.6*

*CSEM **07** 11:00:01.1±0.6,3729N×2475W,h0km,ML3.5,Error ellipse: s-maj=4.2km s-min=1.6km az=86.0,After PDA*

*PDA **07** 11:00:01.1±0.6,3729N×2475W,h0km,ML3.5,Error ellipse: s-maj=4.2km s-min=1.6km az=86.0*

*SVSA **07** 11:00:01.1±0.6,3729N×2475W,h0km,ML3.5,Error ellipse: s-maj=4.2km s-min=1.6km az=86.0*

ISC 07 11:00:00.3±0.5,**3739N**±004×**2496W**±006,**h10**km,**n19**,
σ0°**67**/27,**mb3.7**/7,**Azores Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSMN	**Pico do Norte,**	**0.39**	**192**	*e*P	**Pg**	**11 00 08.1**	**+0.1**
PSMN				*e*S	**Sg**	**11 00 13.4**	**+0.2**
PDA	**Ponta Delgada**	**0.66**	**303**	*e*P	**Pg**	**11 00 15.3**	**+2.2**
PDA				*e*S	**Sg**	**11 00 25.9**	**+4.1**
ADH	**Angra Heroismo**	**2.19**	**306**	*e*P	**Pn**	**11 00 36.9**	**+0.1**
ADH				*e*S	**Sn**	**11 01 03.3**	**-0.7**
PID	**Ribeirinha**	**2.71**	**294**	*e*P	**Pn**	**11 00 44.1**	**+0.2**
PMAN	**Manadas**	**2.76**	**298**	*e*P	**Pn**	**11 00 44.7**	**+0.1**
PMAN				*e*S	**Sn**	**11 01 17.4**	**-0.6**
PMAN				A		11 01 20.2	
	66nm,0.3s						
PMAN	**Manadas**	**2.76**	**298**	*e*P	**Pn**	**11 00 44.7**	**+0.1**
PMAN				*e*S	**Sn**	**11 01 17.4**	**-0.6**
PGRA	**Graciosa**	**2.89**	**305**	*e*P	**Pn**	**11 00 46.1**	**-0.2**
ROSA	**Rosais**	**2.91**	**298**	*e*P	**Pn**	**11 00 47.0**	**+0.4**
ROSA				*e*S	**Sn**	**11 01 21.2**	**-0.4**
PICO	**Pico**	**2.95**	**293**	*e*P	**Pn**	**11 00 47.5**	**+0.3**
PICO				*e*S	**Sn**	**11 01 22.3**	**-0.4**
HOR	**Horta**	**3.11**	**293**	*e*P	**Pn**	**11 00 49.6**	**+0.2**
CALA	**Caldeira**	**3.19**	**293**	*e*P	**Pn**	**11 00 50.6**	**+0.2**
CALA				*e*S	**Sn**	**11 01 27.7**	**-0.7**
ESDC	**Sonseca Array**	**16.59**	**76**	Pn	**Pn**	**11 03 53.1**	**+0.2**
	0.2nm,0.3s,baz=273,slow=8.8,SNR=5.6						
EKA	**Eskdalemuir Ar**	**23.25**	**33**	P	**P**	**11 05 07.2**	**-0.4**
	1.4nm,0.8s,mb3.4,baz=226,slow=8.0,SNR=5.1						
TORD	**Torodi Ar. Bea**	**33.89**	**128**	P	**P**	**11 06 41.5**	**-1.8**
	0.4nm,0.6s,mb3.5,baz=327,slow=9.9,SNR=4.0						
YKA	**Yellowknife Ar**	**57.47**	**327**	P	**P**	**11 09 49.8**	**+0.8**
	0.4nm,0.9s,mb3.5,baz=76,slow=6.8,SNR=4.1						
PDAR	**Pinedale Array**	**62.33**	**304**	P	**P**	**11 10 23.1**	**+0.3**
	0.5nm,0.8s,mb3.7,baz=93,slow=5.9,SNR=4.3						
TXAR	**Lajitas Array**	**64.47**	**288**	P	**P**	**11 10 37.1**	**0.0**
	1.6nm,0.8s,mb4.1,baz=104,slow=5.3,SNR=7.4						
ZALV	**Zalesovo Beam**	**70.83**	**36**	P	**P**	**11 11 17.3**	**+0.4**
	0.4nm,0.3s,mb3.8,baz=308,slow=7.1,SNR=3.2						
SONM	**Songino Array**	**84.71**	**31**	P	**P**	**11 12 34.3**	**0.0**
	0.8nm,1.0s,mb3.8,baz=325,slow=5.2,SNR=4.0						

*THE **07** 11:10:56.9,3840N×2204E,h2km,ML3.9*

*CSEM **07** 11:10:56.7±0.1,3841N×2205E,h2km,ML3.9,Error ellipse: s-maj=1.4km s-min=0.9km az=77.0*

*IDC **07** 11:10:56.5±1.3,3850N×2222E,h0km,mb3.6/8, mb1 3.8/10,mb1mx3.6/24,mbtmp3.6/10,ML3.5/2,Error ellipse: s-maj=23.9km s-min=19.0km az=131.0*

*ISCJB **07** 11:10:56.2±0.4,3839N±002×2204E±003,h6km±4km, mb3.7/8,Error ellipse: s-maj=3.6km s-min=2.9km az=141.7*

*NEIC **07** 11:10:56.2,3837N×2198E,h10km,ML3.5(ATH),After ATH.*

*ATH **07** 11:10:56.2,3837N×2198E,h10km±3km,MD3.7/11,ML3.5*

*NAO **07** 11:10:59.9,3821N×2141E,h33km,mb3.9*

ISC 07 11:10:56.8±0.4,**3840N**±002×**2205E**±003,**h0**km±4km,**n93**,
σ1°**13**/108,**mb3.8**/8,**1C-2D,Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SELA	**Sela**	**0.17**	**225**	*e*Pg	**Pg**	**11 11 00.2**	**+0.1**
SELA				*e*Sg	**Sg**	**11 11 02.7**	**+0.3**
EVR	**Evrytania**	**0.55**	**340**	*e*PG	**Pg**	**11 11 07.0**	**-0.4**
RLS	**Riolos of Patr**	**0.57**	**234**	P	**Pg**	**11 11 07.4**	**-0.4**
AGG	**Agios Georgios**	**0.66**	**19**	*e*Pg	**Pg**	**11 11 08.9**	**-0.6**
AGG				*e*Sg	**Sg**	**11 11 19.2**	**+1.2**
LKR	**Lokris**	**0.79**	**71**	P	**Pg**	**11 11 12.4**	**+0.5**
LTK	**Loutraki**	**0.81**	**117**	*e*Pg	**Pg**	**11 11 12.6**	**+0.2**
LTK				*e*Sg	**Sg**	**11 11 25.0**	**+2.1**
VLX	**Vlachokerasia**	**1.06**	**166**	*e*Pg	**Pg**	**11 11 15.8**	**-1.3**
VLX				*e*Sg	**Sg**	**11 11 32.2**	**+1.4**
LKD	**Levkas**	**1.14**	**286**	*e*Pg	**Pg**	**11 11 17.1**	**-1.6**
LKD				*e*Sg	**Sg**	**11 11 35.4**	**+1.9**
VLS	**Valsamata**	**1.17**	**260**	*e*PG	**Pg**	**11 11 17.0**	**-2.2**
ITM	**Ithomi**	**1.22**	**185**	*e*PB	**Pb**	**11 11 19.0**	**-1.7**
NEO	**Neokhori**	**1.29**	**45**	P	**Pg**	**11 11 21.8**	**+0.3**
DID	**Didima**	**1.29**	**133**	*e*Pg	**Pg**	**11 11 20.8**	**-0.8**
DID				*e*Sg	**Sg**	**11 11 39.8**	**+1.5**
NAIG	**Nisos Aigina**	**1.30**	**119**	*e*PB	**Pb**	**11 11 21.5**	**-0.6**
ATH	**Athens Observa**	**1.38**	**107**	*e*PB	**Pb**	**11 11 23.0**	**-0.4**
KVR	**Kavouri**	**1.47**	**112**	*e*PG	**Pg**	**11 11 24.0**	**-1.0**
PYL	**PYLOS**	**1.52**	**189**	*e*Pg	**Pn**	**11 11 23.8**	**-1.4**
PYL				*e*Sg	**Sg**	**11 11 45.4**	**-0.2**
MEV	**Metsovon**	**1.52**	**335**	*e*Pg	**Pn**	**11 11 24.7**	**-0.5**
MEV				*e*Sg	**Sn**	**11 11 45.1**	**-0.7**
JAN	**Janina**	**1.57**	**324**	*e*PB	**Pb**	**11 11 26.0**	**-0.6**
AOS	**Alonnisos**	**1.62**	**61**	*e*Pb	**Pn**	**11 11 25.4**	**-1.2**
LIT	**Litokhoron**	**1.73**	**11**	*e*Pb	**Pn**	**11 11 27.2**	**-1.0**
LIT				*e*Sb	**Sb**	**11 11 51.6**	**-0.2**
IGT	**Igoumenitsa**	**1.75**	**311**	*e*Pb	**Pn**	**11 11 27.8**	**-0.6**
VLI	**Veliai**	**1.82**	**157**	*e*PN	**Pn**	**11 11 28.8**	**-0.5**
VLI	**Veliai**	**1.82**	**157**	*e*Pn	**Pn**	**11 11 28.5**	**-0.8**
KZN	**Kozani**	**1.92**	**354**	*e*PN	**Pn**	**11 11 31.0**	**+0.4**
PAIG	**Paliouri**	**1.98**	**39**	*e*Pn	**Pn**	**11 11 30.1**	**-1.4**
SRN	**Sarande**	**2.17**	**313**	*i* Pn	**Pn**	**11 11 35.5**	**+1.3**
SRN				*i* Sn	**Sg**	**11 12 05.1**	**-1.6**
KEK	**Kerkira**	**2.19**	**308**	*e*PN	**Pn**	**11 11 35.0**	**+0.6**
PLG	**Polygyros**	**2.25**	**28**	*e*Pn	**Pn**	**11 11 34.0**	**-1.2**
PLG	**Polygyros**	**2.25**	**28**	P	**Pn**	**11 11 35.3**	**+0.1**
KYTH	**Kithira**	**2.25**	**159**	*e*PN	**Pn**	**11 11 36.5**	**+1.2**
THE	**Thessaloniki**	**2.34**	**17**	*e*Pn	**Pn**	**11 11 35.8**	**-0.6**
HORT	**Hortiatis**	**2.34**	**20**	*e*Pn	**Pn**	**11 11 35.6**	**-0.9**
FNA	**Florina**	**2.44**	**348**	*e*Pn	**Pn**	**11 11 37.9**	**+0.1**
OUR	**Ouranopolis**	**2.44**	**37**	*e*Pn	**Pn**	**11 11 36.9**	**-1.0**
SOH	**Sokhos**	**2.62**	**22**	*e*Pn	**Pn**	**11 11 40.0**	**-0.3**
BIA	**Bitola**	**2.68**	**348**	*e*Pn	**Pn**	**11 11 41.2**	**+0.2**
BIA	**Bitola**	**2.68**	**348**	*e*Pn	**Pn**	**11 11 42.4**	**+1.3**
BIA				*e*Sn	**Sn**	**11 12 13.4**	**-0.8**
BIA	**Bitola**	**2.68**	**348**	*e*Pn	**Pn**	**11 11 41.2**	**+0.1**
BIA				*e*Sn	**Sn**	**11 12 13.3**	**-0.9**
LOS	**Limnos**	**2.81**	**56**	*e*Pn	**Pn**	**11 11 41.9**	**-1.1**
OHR	**Ohrid**	**2.88**	**341**	*e*Pn	**Pn**	**11 11 46.7**	**+2.9**
OHR				*e*Sn	**Sn**	**11 12 22.8**	**+3.7**
OHR	**Ohrid**	**2.88**	**341**	*e*Pn	**Pn**	**11 11 46.7**	**+2.9**
OHR				*e*Sn	**Sn**	**11 12 22.7**	**+3.6**
VAY	**Valandovo**	**2.95**	**8**	*e*Pn	**Pn**	**11 11 44.7**	**0.0**
VAY	**Valandovo**	**2.95**	**8**	*e*Pn	**Pn**	**11 11 43.1**	**-1.7**
KRUS	**Krusevo**	**3.03**	**349**	*e*Pn	**Pn**	**11 11 47.3**	**+1.4**
KRUS	**Krusevo**	**3.03**	**349**	*e*Pn	**Pn**	**11 11 47.2**	**+1.3**
APE	**Apeiranthos**	**3.06**	**115**	*e*Pn	**Pn**	**11 11 46.5**	**+0.1**
APE	**Apeiranthos**	**3.06**	**115**	P	**Pn**	**11 11 47.2**	**+0.8**
CHOS	**Chios island**	**3.15**	**89**	*e*Pn	**Pn**	**11 11 47.9**	**+0.3**
KARN	**Karanos**	**3.34**	**153**	*e*Pn	**Pn**	**11 11 50.2**	**-0.1**
MMB	**Musomiste**	**3.44**	**21**	*i* P	**Pn**	**11 11 51.0**	**-0.5**
KKB	**Krupnik**	**3.55**	**13**	*i* P	**Pn**	**11 11 53.7**	**+0.6**
SMG	**Samos**	**3.84**	**99**	P	**Pn**	**11 11 58.3**	**+1.2**
RZN	**Rozhen**	**3.87**	**31**	*i* P	**Pn**	**11 11 57.4**	**-0.1**
ALN	**Alexandroupoli**	**3.97**	**50**	*e*Pn	**Pn**	**11 11 57.8**	**-1.0**
TIP	**Timpagrande**	**4.21**	**282**	P	**Pn**	**11 12 02.4**	**+0.3**
NPS	**Neapolis**	**4.24**	**137**	P	**Pn**	**11 12 04.2**	**+1.7**
LAST	**Lasithi**	**4.24**	**139**	*e*Pn	**Pn**	**11 12 02.0**	**-0.6**
VTS	**Vitosha**	**4.28**	**12**	P	**Pn**	**11 12 08.3**	**+5.2**
VTS	**Vitosha**	**4.28**	**12**	*i* P	**Pn**	**11 12 04.3**	**+1.2**
PE1	**Pezze di Greco**	**4.31**	**305**	*e*Pn	**Pn**	**11 12 03.7**	**+0.2**
BARS	**Barje**	**4.42**	**358**	*e*Pn	**Pn**	**11 12 06.3**	**+1.3**
SG1	**Sgolgore (BA)**	**4.81**	**302**	*e*Pn	**Pn**	**11 12 10.3**	**-0.1**
CDT	**Castel del Mon**	**5.20**	**303**	*e*Pn	**Pn**	**11 12 16.0**	**+0.3**
GRUS	**Gruza**	**5.58**	**350**	*e*Pn	**Pn**	**11 12 20.8**	**-0.1**
MS1	**Monte Sant'Ang**	**5.73**	**307**	*e*Pn	**Pn**	**11 12 22.7**	**-0.4**
DIVS	**Divibare**	**5.90**	**345**	*e*Pn	**Pn**	**11 12 25.7**	**+0.3**
FGSL	**Fruska Gora**	**6.96**	**347**	*e*Pn	**Pn**	**11 12 40.4**	**+0.5**
MLR	**Muntele Rosu**	**7.66**	**21**	Pn	**Pn**	**11 12 48.9**	**-0.6**
	0.3nm,0.3s,baz=169,slow=14,SNR=3.0						
MLR	**Muntele Rosu**	**7.66**	**21**	⇑*i*P	**Pn**	**11 12 56.1**	**+6.6**
PLOR	**Plostina**	**8.19**	**23**	⇓*i*P	**Pn**	**11 12 59.0**	**+2.2**
VRI	**Vrincioaia**	**8.23**	**23**	⇓*i*P	**Pn**	**11 12 58.6**	**+1.3**
KECS	**Kecovo**	**10.14**	**354**	*e*PN	**Pn**	**11 13 26.5**	**+3.0**
VYHS	**Vyhne**	**10.36**	**348**	*e*PN	**Pn**	**11 13 29.7**	**+3.2**
VYHS				*e*SN	**Sn**	**11 15 24.2**	**+1.0**
GERES	**GERESS Array B**	**12.06**	**333**	Pn	**Pn**	**11 13 51.9**	**+2.1**
	0.1nm,0.3s,

*ISCJB **07** 11:30:09.5±0.9, 3768N±004×2092E±008, h10km, Error ellipse: s-maj=9.4km s-min=5.0km az=150.8*
*NEIC **07** 11:30:10.6, 3768N×2092E, h20km, MD3.3(ATH), After ATH.*
*ATH **07** 11:30:10.6, 3770N×2092E, h20km±1km, MD3.3/4*
*CSEM **07** 11:30:11.7±0.1, 3772N×2093E, h20km, MD3.3, Error ellipse: s-maj=2.5km s-min=1.6km az=51.0*
*THE **07** 11:30:11.7, 3773N×2104E, h3km, ML3.2*

ISC 07 11:30:10.6±1.0, 3767N±004×2100E±007, h5km±7km, n12, σ0§85/17, 1D, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RLS	**Riolos of Patr**	**0.54**	**43**	⇓*i* PN	**Pg**	**11 30 21.7**	**+0.7**
VLS	**Valsamata**	**0.60**	**328**	*e*PN	**Pg**	**11 30 21.7**	**-0.5**
VLS				*e*SN	**Sg**	**11 30 29.5**	**-0.5**
ITM	**Ithomi**	**0.89**	**123**	*e*PN	**Pn**	**11 30 29.4**	**-0.3**
ITM				*e*SN	**Sn**	**11 30 41.8**	**-1.1**
SELA	**Sela**	**0.93**	**49**	*e*Pg	**Pg**	**11 30 28.3**	**-0.2**
SELA				*e*Sg	**Sg**	**11 30 40.4**	**-0.3**
PYL	**PYLOS**	**0.97**	**142**	*e*Pg	**Pg**	**11 30 30.0**	**+0.7**
LKD	**Levkas**	**1.07**	**345**	*e*Pg	**Pg**	**11 30 30.1**	**-1.1**
LKD				*e*Sg	**Sg**	**11 30 46.5**	**+1.4**
VLX	**Vlachokerasia**	**1.14**	**105**	*e*Pg	**Pg**	**11 30 33.0**	**+0.5**
EVR	**Evrytania**	**1.40**	**27**	*e*PN	**Pn**	**11 30 37.7**	**+0.9**
EVR				*e*SN	**Sn**	**11 30 56.5**	**+0.8**
AGG	**Agios Georgios**	**1.71**	**37**	*e*Pb	**Pb**	**11 30 42.0**	**-0.6**
DID	**Didima**	**1.79**	**94**	*e*Pb	**Pb**	**11 30 43.4**	**-0.4**
VLI	**Veliai**	**1.82**	**121**	*e*PN	**Pn**	**11 30 44.0**	**+1.5**
LKR	**Lokris**	**1.86**	**57**	*e*PB	**Pb**	**11 30 43.6**	**-1.5**

MAN 07 11:35:23, 804N×12324E, h28km, mb4.5, ML3.3, MS3.2, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAGZ	**Pagadian**	**0.23**	**144**	*e*P	Pb	11 35 32.1	+2.7
PAGZ				*e*S	Sb	11 35 37.8	+4.1
SNPH	**Sibulan**	**1.30**	**360**	⇑*i* P	Pn	11 35 45.0	-0.3
SNPH				*i* S	Sn	11 36 03.0	+1.3
TBP	**Tagbilaran**	**1.75**	**20**	*e*P	Pn	11 35 51.7	+0.1
TBP				*e*S	Sn	11 36 12.2	-0.7
BUKP	**Musuan**	**1.81**	**95**	*e*P	Pn	11 35 54.5	+2.2
GUIM	**Jordan**	**2.65**	**346**	*e*P	Pn	11 36 05.6	+1.6
GUIM				*e*S	Sn	11 36 37.7	+2.5

*CSEM **07** 11:35:52.7±0.3, 3942N×2815E, h5km, MD2.8, Error ellipse: s-maj=9.0km s-min=7.5km az=84.0*
*DDA **07** 11:35:53.7, 3948N×2818E, h7km±5km, Md2.8*
*ISCJB **07** 11:35:54.1±0.8, 3948N±005×2816E±007, h7km, Error ellipse: s-maj=8.4km s-min=7.1km az=15.1*

ISC 07 11:35:54.2±1.1, 3949N±006×2817E±007, h4km±16km, n5, σ0§84/7, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTOK	**Tokmak**	**0.29**	**338**	*i* P	**Pg**	**11 36 00.0**	**+0.2**
AKHS	**Akhisar**	**0.68**	**205**	*i* P	**Pg**	**11 36 05.8**	**-1.3**
AKHS				*i* S	**Sg**	**11 36 16.8**	**+0.9**
GDZ	**Gediz**	**1.09**	**111**	*i* P	**Pg**	**11 36 15.2**	**+0.1**
GDZ				*i* S	**Sg**	**11 36 29.3**	**0.0**
YLV	**Yalova**	**1.41**	**40**	*e*PN	**Pn**	**11 36 20.8**	**+0.1**
RKY	**Sarkoy-Tekirda**	**1.42**	**328**	*e*PN	**Pn**	**11 36 20.8**	**0.0**

GUC 07 11:44:10.9±1.5, 3161S×7191W, h1km±20km, MD3.5, ML2.6, 1C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHNG	**Los Chungos**	**0.45**	**128**	⇑*i* P	Pg	11 44 03.7	-16
CHNG				*i* S	Sg	11 44 11.5	-14
CHNG				AML	AML	11 44 12.2	
	comp=E,253nm,0.4s						
CMCH	**Combarbala**	**0.89**	**61**	*e*P	Pg	11 44 28.2	+0.2
CMCH				*i* S	Sg	11 44 41.9	+2.3
CMCH				AML	AML	11 44 48.8	
	comp=E,640nm,0.6s						
TLL	**Tololo Astrono**	**1.73**	**34**	*e*P	Pn	11 44 42.5	+0.5
TLL				*i* S	Sn	11 45 06.5	+1.7
TLL				AML	AML	11 45 12.6	
	comp=E,101nm,0.5s						
PEL	**Peldehue**	**1.85**	**146**	*e*P	Pn	11 44 43.7	-0.1
PEL				*i* S	Sn	11 45 09.1	+1.3
PEL				AML	AML	11 45 14.9	
	comp=N,215nm,0.6s						

*IDC **07** 11:46:26.5±2.8, 2828N×9625E, h0km, mb4.0/9, mb1 4.1/9, mb1mx3.9/23, mbtmp4.1/9, Error ellipse: s-maj=64.2km s-min=29.3km az=8.0*
*ISCJB **07** 11:46:28.2±0.4, 2852N±005×9644E±004, h10km, mb4.0/12, Error ellipse: s-maj=6.8km s-min=5.0km az=171.7*
*NEIC **07** 11:46:33.4±1.7, 2861N×9642E, h30km, mb4.0/3, Error ellipse: s-maj=30.6km s-min=16.4km az=130.0*
*BJI **07** 11:46:34.0, 2882N×9641E, h24km, mB4.7, mb4.5, ML3.7, Ms3.5, Msz3.4*

ISC 07 11:46:31.1±0.4, 2863N±005×9636E±004, h10km, n31, σ1§24/39, mb4.0/12, Eastern Xizang-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IMP	**Imphal**	**4.40**	**210**	*e*P	**Pn**	**11 47 38.0**	**0.0**
IMP				*e*S	**Sg**	**11 48 43.0**	**-9.5**
LSA	**Lhasa**	**4.68**	**284**	P	**Pn**	**11 47 45.3**	**+3.5**
LSA				S	**Sn**	**11 48 39.0**	**+2.9**
LSA				Smax			
	comp=N,60nm,0.4s						
LSA				Smax			
	comp=E,100nm,0.6s						
SHL	**Shillong**	**5.02**	**234**	*e*PN	**Pn**	**11 47 46.0**	**-0.5**
SHL				*e*PG	**Pg**	**11 48 08.5**	**+1.2**
AGT	**Agartala**	**6.58**	**225**	*e*P	**Pg**	**11 48 39.0**	**+1.8**
KMI	**Kunming**	**6.68**	**120**	PG	**Pg**	**11 48 33.6**	**-5.5**
KMI				SG	**Sg**	**11 50 06.1**	**+0.4**
KMI				Smax			
	comp=N,48nm,1.7s						
KMI				Smax			
	comp=E,29nm,1.1s						
JIRN	**Jiri**	**9.03**	**266**	*e*Pn	**Pn**	**11 48 42.5**	**+1.0**
JIRN				*e*Sn	**Sn**	**11 50 18.4**	**-4.8**
	comp=E,58nm,0.3s						
LZH	**Lanzhou**	**9.76**	**38**	*e*P	**Pn**	**11 48 54.0**	**+2.5**
LZH				AP		11 49 03.0	
LZH				XP		11 49 06.5	
LZH				AMB	AMB		
	comp=Z,22nm,1.0s						
LZH				AMB	AMB		
	comp=Z,106nm,5.1s						
KKN	**Kakani**	**9.81**	**268**	*e*Pn	**Pn**	**11 48 53.0**	**+0.8**
KKN				*e*Sn	**Sn**	**11 50 36.9**	**-5.5**
	comp=Z,109nm,0.5s						
GKN	**Gorkha**	**10.35**	**269**	*e*Pn	**Pn**	**11 48 58.9**	**-0.7**
GKN				*e*Sn	**Sn**	**11 50 49.2**	**-6.5**
	comp=Z,57nm,0.4s						
GTA	**Gaotai**	**11.13**	**14**	*e*P	**Pn**	**11 49 11.0**	**+0.8**
GTA				AMB	AMB		
	comp=Z,2.0nm,0.7s						
KOLN	**Koldanda**	**11.29**	**269**	*e*Pn	**Pn**	**11 49 10.5**	**-2.0**
KOLN				*e*Sn	**Sn**	**11 51 06.7**	**-12**
	comp=Z,88nm,0.7s						
XAN	**Xi'an**	**12.02**	**60**	P	**Pn**	**11 49 23.3**	**+0.9**
XAN				AP		11 49 29.4	
XAN				AMB	AMB		
	comp=Z,5.0nm,1.0s						
WMQ	**Urumqi**	**16.68**	**338**	P	**Pn**	**11 50 28.1**	**+3.3**
WMQ				AMB	AMB		
	comp=Z,11nm,0.6s						
HYB	**Hyderabad**	**19.80**	**240**	*e*P	**Pn**	**11 51 02.5**	**-0.8**
HYB	**Hyderabad**	**19.80**	**240**	*i* P	**Pn**	**11 51 03.0**	**-0.3**
SONM	**Songino Array**	**20.70**	**19**	P	**P**	**11 51 11.6**	**+0.3**
	comp=Z,2.9nm,0.5s,baz=197,slow=9.1,SNR=24						
MK31	**Makanchi Array**	**21.22**	**333**	*e*P	**P**	**11 51 17.2**	**+0.3**
MKAR	**Makanchi Array**	**21.22**	**333**	P	**P**	**11 51 16.9**	**0.0**
	comp=Z,3.7nm,0.5s,mb4.0,baz=145,slow=11,SNR=26						
TKM2	**Tokmak 2**	**21.99**	**316**	*e*P	**P**	**11 51 26.1**	**+0.9**
	comp=Z,2.7nm,0.6s,mb3.9						
UCH	**Uchtor**	**22.30**	**313**	*e*P	**P**	**11 51 29.8**	**+1.2**
	comp=Z,5.3nm,1.0s,mb3.9						
ZALV	**Zalesovo Beam**	**26.67**	**345**	P	**P**	**11 52 10.3**	**+0.3**
	comp=Z,3.1nm,0.5s,mb4.1,baz=210,slow=37,SNR=3.4						
CN2	**Changchun**	**27.75**	**49**	*e*P	**P**	**11 52 18.8**	**-1.0**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.5						
KSRS	**Korea Array**	**27.78**	**63**	P	**P**	**11 52 18.6**	**-1.6**
	comp=Z,0.7nm,0.5s,mb3.5,baz=258,slow=9.5,SNR=5.1						
TIXI	**Tiksi**	**46.61**	**14**	*e*P	**P**	**11 54 58.2**	**-0.8**
	comp=Z,1.7nm,0.5s,mb4.2						
AKASG	**Malin Array Be**	**54.19**	**314**	P	**P**	**11 55 54.0**	**-2.6**
AKASG	**Malin Array Be**	**54.19**	**314**	P	**P**	**11 55 54.0**	**-2.6**
	comp=Z,0.5nm,0.4s,mb3.8,baz=77,slow=6.7,SNR=4.1						
FINES	**FINESS Array B**	**55.91**	**327**	P	**P**	**11 56 06.8**	**-2.1**
	comp=Z,1.9nm,0.9s,mb4.1,baz=116,slow=11,SNR=3.9						
NB2	**NORSAR Subarra**	**63.09**	**327**	P	**P**	**11 56 57.5**	**-0.9**
	comp=Z,1.3nm,0.6s,mb4.2,baz=79,slow=6.9						
NOA	**NORSAR Array B**	**63.09**	**327**	P	**P**	**11 56 57.8**	**-0.6**
	comp=Z,1.7nm,0.7s,mb4.3,baz=79,slow=6.6,SNR=7.1						
INK	**Inuvik**	**76.59**	**17**	P	**P**	**11 58 21.1**	**-0.3**
	comp=Z,1.4nm,0.7s,mb4.0,baz=349,slow=8.8,SNR=9.9						
YKA	**Yellowknife Ar**	**85.86**	**14**	P	**P**	**11 59 09.8**	**-0.9**
	comp=Z,0.3nm,0.7s,mb3.6,baz=332,slow=4.7,SNR=4.4						

*ISCJB **07** 11:50:19.5±0.4, 5558N±002×16205E±007, h73km±4km, mb3.8/10, Error ellipse: s-maj=6.7km s-min=3.9km az=16.1*
*MOS **07** 11:50:19.0±0.8, 5562N×16202E, h72km, mb4.0/5, Error ellipse: s-maj=24.5km s-min=8.6km az=72.4*
*KRSC **07** 11:50:19.0±0.7, 5558N×16201E, h62km±62km, ML4.2*
*NEIC **07** 11:50:21.8±1.8, 5568N×16171E, h77km±21km, Error ellipse: s-maj=21.3km s-min=13.4km az=161.0*
*IDC **07** 11:50:22.9±7.1, 5567N×16169E, h88km±70km, mb3.5/10, mb1 3.8/11, mb1mx3.5/25, mbtmp3.5/11, ML3.3/1, Error ellipse: s-maj=28.2km s-min=18.5km az=169.0*

ISC 07 11:50:20.6±0.4, 5559N±002×16205E±007, h65km±5km, n45, σ0§88/65, mb3.8/10, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**0.75**	**35**	*i* P	**Pn**	**11 50 35.5**	**-0.3**
KBTR				*i* S	**Sn**	**11 50 47.4**	**+0.5**
ZLN	**Zelenaya**	**0.82**	**302**	*i* P	**Pn**	**11 50 36.7**	**+0.1**
ZLN				*i* S	**Sn**	**11 50 49.1**	**+0.7**
KMNR	**Kamenistaya**	**1.04**	**280**	*i* P	**Pn**	**11 50 39.2**	**-0.1**
KMNR				*i* S	**Sn**	**11 50 54.0**	**+0.8**
KRSR	**Krestovskiy**	**1.04**	**307**	*i* P	**Pn**	**11 50 38.7**	**-0.7**
KRSR				*e*S	**Sn**	**11 50 52.5**	**-0.8**
MKZ	**Mys Kozlova**	**1.05**	**190**	*i* P	**Pn**	**11 50 38.7**	**-0.8**
MKZ				*i* S	**Sn**	**11 50 52.8**	**-0.8**
KLY	**Klyuchi**	**1.07**	**313**	*i* P	**Pn**	**11 50 37.9**	**-1.8**
KLY				*i* S	**Sn**	**11 50 51.9**	**-2.0**
KPT	**Kopyto**	**1.10**	**291**	*i* P	**Pn**	**11 50 39.9**	**-0.2**
KPT				*i* S	**Sn**	**11 50 54.5**	**-0.1**
TUMR	**Tumrok**	**1.13**	**255**	*i* P	**Pn**	**11 50 40.4**	**0.0**
TUMR				*i* S	**Sn**	**11 50 55.8**	**+0.5**
SRKR	**Sorokina**	**1.17**	**335**	*i* P	**Pn**	**11 50 40.9**	**-0.1**
SRKR				*i* S	**Sn**	**11 50 56.8**	**+0.5**
KOZR	**Kozyr**	**1.30**	**292**	PN	**Pn**	**11 50 42.8**	**+0.1**
KOZR				S	**Sn**	**11 51 00.1**	**+0.7**
KOZ	**Kozyrevsk**	**1.31**	**292**	*i* P	**Pn**	**11 50 42.8**	**-0.1**
KOZ				*i* S	**Sn**	**11 51 00.1**	**+0.5**
SRDR	**Sredinnyy**	**1.50**	**300**	*e*P	**Pn**	**11 50 45.0**	**-0.3**
SRDR				*i* S	**Sn**	**11 51 04.5**	**+0.5**
KII	**Karymskiy**	**2.17**	**225**	*e*P	**Pn**	**11 50 54.1**	**-0.2**
KII				*i* S	**Sn**	**11 51 19.8**	**-0.3**
SPN	**Mys Shipunski**	**2.77**	**206**	*e*P	**Pn**	**11 51 01.9**	**-0.6**
SPN				*i* S	**Sn**	**11 51 32.9**	**-1.8**
NLC	**Nalytchevo**	**2.90**	**214**	*i* P	**Pn**	**11 51 04.3**	**0.0**
NLC				*i* S	**Sn**	**11 51 36.4**	**-1.5**
AVH	**Avacha**	**3.03**	**221**	*e*P	**Pn**	**11 51 07.3**	**+1.2**
AVH				*e*S	**Sn**	**11 51 42.5**	**+1.4**
GNL	**Ganaly**	**3.05**	**233**	*e*P	**Pn**	**11 51 07.5**	**+1.1**
GNL				*e*S	**Sn**	**11 51 43.4**	**+1.7**
PET	**Petropavlovsk**	**3.25**	**219**	*e*Pn	**Pn**	**11 51 09.8**	**+0.6**
PET	**Petropavlovsk**	**3.25**	**219**	*e*PN	**Pn**	**11 51 09.8**	**+0.7**
PET				*e*S	**Sn**	**11 51 47.1**	**+0.5**
PET				pmax	pmax		
	comp=Z,62nm,0.6s						
PET				smax			
	comp=E,400nm,1.4s						
PET				smax			
	comp=E,205nm,0.5s						
PET	**Petropavlovsk**	**3.25**	**219**	*e*P	**Pn**	**11 51 09.9**	**+0.8**
PET				*i* S	**Sn**	**11 51 46.2**	**-0.4**
RUS	**Russkaya**	**3.79**	**215**	*e*P	**Pn**	**11 51 16.6**	**+0.1**
RUS				*i* S	**Sn**	**11 51 59.5**	**-0.3**
GRL	**Gorelyy**	**3.84**	**219**	P	**Pn**	**11 51 17.5**	**+0.3**
MIPR	**Malaya Ipel'ka**	**4.56**	**225**	P	**Pn**	**11 51 28.6**	**+1.6**
BILL	**Bilibino**	**12.64**	**7**	*e*PN	**Pn**	**11 53 21.4**	**+4.2**
BILL				pmax	pmax		
	comp=Z,3.0nm,1.1s						
ASAJ	**Asahikawa**	**16.94**	**235**	P	**Pn**	**11 54 12.6**	**-0.5**
	comp=Z,0.2nm,0.3s,baz=61,slow=24,SNR=3.7						
ERM	**Erimo**	**18.34**	**230**	*i* P	**Pn**	**11 54 29.5**	**-0.6**
MJAR	**Matsushiro Arr**	**25.02**	**230**	P	**P**	**11 55 37.5**	**-0.7**
MJAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
MJAR	**Matsushiro Arr**	**25.02**	**230**	P	**P**	**11 55 37.5**	**-0.7**
	comp=Z,2.1nm,0.8s,mb3.6,baz=32,slow=8.8,SNR=6.4						
INK	**Inuvik**	**31.20**	**40**	P	**P**	**11 56 33.6**	**+0.6**
INK				pmax	pmax		
	comp=Z,1.0nm,0.7s						
INK	**Inuvik**	**31.20**	**40**	P	**P**	**11 56 33.6**	**+0.5**
	comp=Z,0.7nm,0.7s,mb3.5,baz=292,slow=8.8,SNR=5.9						
YKA	**Yellowknife Ar**	**40.56**	**45**	P	**P**	**11 57 53.5**	**+0.5**
YKA				PcP	PcP	11 59 53.1	-0.7
YKA	**Yellowknife Ar**	**40.56**	**45**	P	**P**	**11 57 53.5**	**+0.6**
	comp=Z,0.6nm,0.7s,mb3.5,baz=301,slow=8.1,SNR=11						
YKA				PcP	PcP	11 59 53.1	-0.7
	comp=Z,0.5nm,0.8s,baz=316,slow=4.9,SNR=6.6						
NVAR	**Mina Array Bea**	**53.86**	**73**	P	**P**	**11 59 38.9**	**+2.3**
NVAR	**Mina Array Bea**	**53.86**	**73**	P	**P**	**11 59 38.9**	**+2.3**
	comp=Z,1.2nm,0.7s,mb4.0,baz=312,slow=5.9,SNR=14						
PDAR	**Pinedale Array**	**55.34**	**63**	P	**P**	**11 59 48.9**	**+1.6**
	comp=Z,0.7nm,0.6s,mb3.9,baz=316,slow=3.4,SNR=8.0						
FINES	**FINESS Array B**	**58.27**	**337**	P	**P**	**12 00 06.7**	**-1.0**
FINES	**FINESS Array B**	**58.27**	**337**	*e*P	**P**	**12 00 06.7**	**-1.1**
FINES	**FINESS Array B**	**58.27**	**337**	P	**P**	**12 00 06.7**	**-1.0**
	comp=Z,2.1nm,0.7s,mb4.3,baz=49,slow=6.8,SNR=8.0						
NB2	**NORSAR Subarra**	**61.45**	**344**	P	**P**	**12 00 28.2**	**-1.3**
	comp=Z,1.2nm,0.6s,mb4.1,baz=18,slow=6.9						
NOA	**NORSAR Array B**	**61.45**	**344**	P	**P**	**12 00 28.5**	**-1.0**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
NOA	**NORSAR Array B**	**61.45**	**344**	P	**P**	**12 00 28.5**	**-1.1**
	comp=Z,1.3nm,0.6s,mb4.1,baz=18,slow=6.9,SNR=7.3						
TXAR	**Lajitas Array**	**68.64**	**69**	P	**P**	**12 01 16.6**	**0.0**
	comp=Z,0.4nm,0.6s,mb3.4,baz=332,slow=9.3,SNR=3.1						
EKA	**Eskdalemuir Ar**	**68.78**	**351**	P	**P**	**12 01 16.1**	**-1.0**
EKA				pmax	pmax		
	comp=Z,1.0nm,0.4s						
EKA	**Eskdalemuir Ar**	**68.78**	**351**	P	**P**	**12 01 16.1**	**-1.0**
	comp=Z,0.6nm,0.4s,mb3.8,baz=16,slow=5.4,SNR=7.9						
GERES	**GERESS Array B**	**72.61**	**339**	P	**P**	**12 01 40.0**	**-0.5**
	comp=Z,0.3nm,0.4s,mb3.5,baz=18,slow=5.6,SNR=4.2						

*CSEM **07** 11:52:38.3±0.9, 3722N×2467W, h0km, ML3.7, Error ellipse: s-maj=7.0km s-min=3.1km az=91.0, After PDA*
*PDA **07** 11:52:38.3±0.9, 3722N×2467W, h0km, ML3.7, Error ellipse: s-maj=7.0km s-min=3.1km az=91.0*

SVSA 07 11:52:38.3±0.9, 3722N×2467W, h0km, ML3.7, Error ellipse: s-maj=7.0km s-min=3.1km az=91.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSMN	**Pico do Norte,**	**0.38**	**235**	*i* P	Pg	11 52 45.0	-0.6
PSMN				*e*S	Sg	11 52 50.9	+0.3
PSMN	**Pico do Norte,**	**0.38**	**235**	*e*S	Sg	11 52 50.9	+0.3
PDA	**Ponta Delgada**	**0.94**	**304**	*e*P	Pg	11 52 53.7	-2.7
PDA				*e*S	Sg	11 53 04.7	-4.0
ADH	**Angra Heroismo**	**2.48**	**306**	*e*S	Sn	11 53 42.7	-8.1
PID	**Ribeirinha**	**2.99**	**295**	*e*P	Pn	11 53 22.4	-4.5
PMAN	**Manadas**	**3.04**	**299**	*e*P	Pn	11 53 23.1	-4.6
PMAN				*e*S	Sn	11 53 56.5	-8.3
PMAN				A		11 53 57.8	
	50nm,0.1s						
PMAN	**Manadas**	**3.04**	**299**	*e*P	Pn	11 53 23.1	-4.6
PMAN				*e*S	Sn	11 53 56.5	-8.3
PGRA	**Graciosa**	**3.17**	**306**	*e*P	Pn	11 53 26.5	-2.9
ROSA	**Rosais**	**3.19**	**299**	*e*P	Pn	11 53 25.3	-4.4
ROSA				*e*S	Sn	11 54 00.6	-7.8
PICO	**Pico**	**3.23**	**294**	*e*P	Pn	11 53 25.8	-4.4
PICO				*e*S	Sn	11 54 01.6	-7.8
CALA	**Caldeira**	**3.46**	**294**	*e*P	Pn	11 53 29.1	-4.3
CALA				*e*S	Sn	11 54 07.0	-8.1

IDC 07 11:55:26.5±4.1, 1013N×12137E, h0km, mb3.9/4, mb1 4.2/4, mb1mx3.7/17, mbtmp3.9/4, Error ellipse: s-maj=186.5km s-min=23.6km az=89.0, Panay

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSRS	**Korea Array**	**27.84**	**11**	P	P	12 01 16.9	-0.7
	0.7nm,0.7s,baz=198,slow=7.9,SNR=4.6						
MJAR	**Matsushiro Arr**	**30.40**	**27**	P	P	12 01 41.2	+0.8
	0.8nm,0.2s,baz=187,slow=9.3,SNR=4.3						
WRA	**Warramunga Arr**	**32.49**	**157**	P	P	12 01 59.0	0.0
	1.8nm,0.5s,baz=338,slow=9.4,SNR=4.9						
ASAR	**Alice Springs**	**35.75**	**160**	P	P	12 02 27.2	0.0
	1.2nm,0.4s,baz=346,slow=11,SNR=4.3						

*ISCJB **07** 11:57:49.8±1.0, 696S±008×12753E±008, h360km±10km, mb3.5/4, Error ellipse: s-maj=15.4km s-min=10.4km az=136.0*
*IDC **07** 11:57:50.6±1.8, 696S×12751E, h348km±20km, mb3.3/3, mb1 3.4/6, mb1mx3.2/14, mbtmp3.3/6, Error ellipse: s-maj=30.5km s-min=13.2km az=84.0*

ISC 07 11:57:50.8±1.0, 699S±008×12755E±008, h347km±10km, n12, σ1§12/17, mb3.5/4, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Kupang**	**5.00**	**230**	P	**Pn**	**11 59 10.6**	**+0.3**
	107nm,0.3s,baz=65,slow=2.7,SNR=120						
BATI				S	**S**	**12 00 13.4**	**-1.1**
	60nm,0.3s,baz=291,slow=12,SNR=12						
KAKA	**Kakadu**	**7.45**	**140**	*e*P	**Pn**	**11 59 39.4**	**+1.0**
	2.7nm,0.2s						
KAKA				*e*S	**S**	**12 01 04.4**	**-1.6**
FITZ	**Fitzroy Crossi**	**11.20**	**189**	*e*P	**Pn**	**12 00 24.9**	**+1.8**
	13nm,0.9s						
FITZ	**Fitzroy Crossi**	**11.20**	**189**	P	**Pn**	**12 00 23.6**	**+0.5**
	1.4nm,0.3s,baz=24,slow=11,SNR=9.8						
WRA	**Warramunga Arr**	**14.46**	**154**	P	**P**	**12 01 00.9**	**+1.2**
	0.8nm,0.3s,baz=329,slow=12,SNR=16						
WRA				S	**S**	**12 03 35.3**	**-1.1**
	0.3nm,0.3s,baz=332,slow=21,SNR=5.5						
WB2	**Warramunga Arr**	**14.47**	**154**	*e*P	**P**	**12 01 01.1**	**+1.3**
WB2				*e*S	**S**	**12 03 32.7**	**-3.8**
ASAR	**Alice Springs**	**17.67**	**160**	P	**P**	**12 01 36.2**	**+1.8**
	1.0nm,0.3s,baz=344,slow=13,SNR=34						
ASAR				S	**S**	**12 04 39.5**	**-0.3**
	0.2nm,0.3s,baz=344,slow=24,SNR=8.9						
ASAR				ScP	ScP	12 08 55.8	-0.6
	0.0nm,0.3s,baz=352,slow=2.1,SNR=4.5						
KLBR	**Kellerberrin**	**26.13**	**199**	*e*P	**P**	**12 02 54.5**	**+0.1**
	3.5nm,0.4s,mb3.9						
MUN	**Mundaring**	**27.02**	**202**	*e*P	**P**	**12 03 01.6**	**-0.7**
NWAO	**Narrogin (SRO)**	**27.53**	**199**	P	**P**	**12 03 06.8**	**0.0**
	3.5nm,0.5s,mb3.8,baz=352,slow=6.0,SNR=7.4						
KSRS	**Korea Array**	**44.21**	**0**	P	**P**	**12 05 26.9**	**+0.2**
	0.6nm,0.5s,mb3.0,baz=184,slow=8.8,SNR=5.2						
MJAR	**Matsushiro Arr**	**44.44**	**12**	P	**P**	**12 05 26.5**	**-2.0**
	1.5nm,0.7s,mb3.2,baz=187,slow=8.6,SNR=5.1						

*ISCJB **07** 12:11:12.6±0.8, 209S±02×1685E±01, h37km, mb4.0/7, Error ellipse: s-maj=23.7km s-min=10.8km az=152.9*
*IDC **07** 12:11:14.5±0.8, 2094S×16854E, h37km±5km, mb3.9/7, mb1 4.0/7, mb1mx3.9/14, mbtmp3.9/7, Error ellipse: s-maj=26.8km s-min=19.0km az=158.0*

ISC 07 12:11:14.4±0.8, 209S±02×1685E±01, h39km, h39km±5km: pP-P, n13, σ0§66/12, mb4.0/7, Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**2.26**	**240**	*e*P	**Pn**	**12 11 47.8**	**-1.4**
DZM				*e*S	**Sn**	**12 12 16.0**	**+0.2**
STKA	**Stephens Creek**	**26.41**	**240**	P	**P**	**12 16 48.9**	**+1.5**
	1.5nm,0.6s,mb3.7,baz=79,slow=13,SNR=2.9						
WRA	**Warramunga Arr**	**32.03**	**266**	P	**P**	**12 17 37.0**	**-0.5**
	0.9nm,0.9s,mb3.6,baz=92,slow=8.4,SNR=8.3						
WRA				pP	pP	12 17 47.1	-1.1
	0.9nm,0.8s,baz=96,slow=9.4,SNR=4.9						
ASAR	**Alice Springs**	**32.12**	**259**	P	**P**	**12 17 38.4**	**+0.2**
	3.0nm,0.6s,mb4.3,baz=84,slow=9.1,SNR=63						
ASAR				pP	pP	12 17 49.1	+0.2
	3.5nm,0.7s,baz=87,slow=9.0,SNR=17						
FITZ	**Fitzroy Crossi**	**40.45**	**266**	P	**P**	**12 18 49.8**	**+0.4**
	1.5nm,0.6s,mb3.9,baz=118,slow=9.1,SNR=4.7						
FITZ				pP	pP	12 19 00.1	-0.3
	3.5nm,0.7s,baz=107,slow=13,SNR=4.5						
QSPA	**South Pole Qui**	**69.12**	**180**	P	**P**	**12 22 16.6**	**+0.5**
	2.4nm,0.9s,mb4.1,baz=335,slow=2.0,SNR=5.6						
QSPA				pP	p

STKA				LR	LR	12 34 38.9	
	comp=Z,378nm,18.8s,MS4.0,baz=133,slow=37						
FITZ	**Fitzroy Crossi**	**30.84**	**246**	*eP*	**P**	**12 23 42.7**	**-0.1**
	8.8nm,0.7s,mb4.7						
FITZ	**Fitzroy Crossi**	**30.84**	**246**	P	**P**	**12 23 42.3**	**-0.5**
	5.1nm,0.7s,mb4.5,baz=102,slow=7.3,SNR=13						
RAO	**Raoul Island**	**33.50**	**134**	LR	LR	12 34 43.6	
	comp=Z,1μm,20.3s,MS4.7,baz=59,slow=31						
MBWA	**Marble Bar**	**37.06**	**244**	*eP*	**P**	**12 24 36.1**	**-0.6**
	4.8nm,0.7s,mb4.4						
KSRS	**Korea Array**	**51.18**	**332**	P	**P**	**12 26 29.1**	**-0.5**
	0.5nm,0.6s,mb3.6,baz=154,slow=11,SNR=4.9						
SONM	**Songino Array**	**69.59**	**327**	P	**P**	**12 28 36.1**	**+0.9**
	0.9nm,0.8s,mb3.8,baz=134,slow=6.0,SNR=11						
MKAR	**Makanchi Array**	**83.68**	**319**	P	**P**	**12 29 54.8**	**-0.1**
	0.8nm,0.7s,mb3.9,baz=100,slow=6.3,SNR=5.2						
INK	**Inuvik**	**89.75**	**21**	*eP*	**P**	**12 30 24.5**	**+0.4**
	36nm,0.5s						
YKA	**Yellowknife Ar**	**96.33**	**28**	P	**P**	**12 30 54.4**	**-0.1**
	0.2nm,0.6s,mb3.7,baz=266,slow=4.4,SNR=5.3						
BDFB	**Brasilia**	**147.69**	**135**	PKPbc	PKPbc	12 37 11.9	+0.2
	2.0nm,0.7s,baz=16,slow=6.5,SNR=3.7						
TORD	**Torodi Ar. Bea**	**153.32**	**285**	PKPbc	PKPbc	12 37 24.2	-1.0
	0.4nm,0.8s,baz=34,slow=2.9,SNR=2.7						

*ISCJB **07** 12:23:22.2±0.5, 243S±008×1279E±02, h30km, mb4.0/9, Error ellipse: s-maj=34.8km s-min=6.9km az=164.1*
*NEIC **07** 12:23:23.9±0.4, 242S×128.10E, mb4.2/5, Error ellipse: s-maj=27.4km s-min=6.6km az=76.0*
*IDC **07** 12:23:24.3±0.7, 246S×12802E, h31km±5km, mb3.7/7, mb1 3.8/9, mb1mx3.8/15, mbtmp3.7/9, ML3.6/2, MS4.0/1, Ms1 4.0/1, ms1mx3.2/28, Error ellipse: s-maj=47.8km s-min=10.3km az=74.0*

ISC 07 12:23:24.4±0.5, 247S±008×1280E±02, h32km, h32km±.1km: pP-P, n20, σ0§76/20, mb4.0/9, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**11.07**	**157**	*e*Pn	**Pn**	**12 26 05.4**	**+4.7**
FITZ	**Fitzroy Crossi**	**15.72**	**188**	*e*P	**Pn**	**12 27 03.7**	**+0.1**
	4.0nm,0.7s						
FITZ	**Fitzroy Crossi**	**15.72**	**188**	Pn	**Pn**	**12 27 03.0**	**-0.5**
	0.1nm,0.3s,baz=18,slow=9.6,SNR=2.1						
WRAB	**Tennant Creek**	**18.42**	**161**	*e*P	**Pn**	**12 27 36.9**	**-0.5**
	15nm,1.2s						
WRA	**Warramunga Arr**	**18.43**	**161**	P	**Pn**	**12 27 37.0**	**-0.5**
	0.5nm,0.3s,baz=340,slow=11,SNR=21						
WRA				S	**Sn**	**12 31 02.9**	**+0.3**
	0.2nm,0.3s,baz=345,slow=22,SNR=4.8						
WB2	**Warramunga Arr**	**18.43**	**161**	*e*P	**Pn**	**12 27 38.1**	**+0.6**
WB2	**Warramunga Arr**	**18.43**	**161**	*e*P	**Pn**	**12 27 37.2**	**-0.3**
ASAR	**Alice Springs**	**21.83**	**165**	P	**P**	**12 28 14.3**	**+0.2**
	2.8nm,0.4s,mb4.1,baz=346,slow=11,SNR=87						
ASAR				S	**S**	**12 32 11.0**	**-2.9**
	1.6nm,0.8s,baz=345,slow=19,SNR=9.1						
STKA	**Stephens Creek**	**31.92**	**158**	*e*P	**P**	**12 29 49.2**	**+2.0**
	1.4nm,0.6s,mb4.0						
STKA	**Stephens Creek**	**31.92**	**158**	*e*P	**P**	**12 29 48.7**	**+1.5**
	2.4nm,0.8s,mb4.1						
STKA	**Stephens Creek**	**31.92**	**158**	P	**P**	**12 29 49.1**	**+2.0**
	1.5nm,0.6s,mb4.0,baz=335,slow=11,SNR=5.4						
KSRS	**Korea Array**	**39.72**	**360**	P	**P**	**12 30 54.7**	**+0.8**
	0.8nm,0.7s,mb3.5,baz=174,slow=9.7,SNR=5.3						
KSRS				pP	pP	12 31 03.6	+0.4
	0.9nm,0.6s,baz=178,slow=10,SNR=4.4						
MJAR	**Matsushiro Arr**	**39.95**	**13**	P	**P**	**12 30 54.6**	**-1.2**
	0.9nm,0.6s,mb3.7,baz=195,slow=8.8,SNR=4.0						
ULN	**Ulaanbaatar**	**53.38**	**343**	*e*P	**P**	**12 32 40.9**	**+0.1**
	4.0nm,1.0s,mb4.3						
ULN				*e*pP	pP	12 32 50.1	-0.3
SONM	**Songino Array**	**53.55**	**342**	P	**P**	**12 32 42.1**	**0.0**
	1.0nm,0.6s,mb3.9,baz=152,slow=8.0,SNR=7.5						
SONM				pP	pP	12 32 51.3	-0.4
	2.3nm,0.8s,baz=147,slow=8.3,SNR=12						
MKAR	**Makanchi Array**	**63.39**	**327**	P	**P**	**12 33 50.7**	**0.0**
	0.4nm,0.5s,mb3.8,baz=125,slow=7.9,SNR=5.6						
MKAR				pP	pP	12 33 60.0	-0.6
	2.5nm,0.7s,baz=110,slow=7.1,SNR=17						
ZALV	**Zalesovo Beam**	**66.68**	**334**	P	**P**	**12 34 11.9**	**0.0**
	0.2nm,0.3s,mb3.6,baz=79,slow=10,SNR=1.9						
KURK	**Kurchatov**	**67.65**	**329**	*e*P	**P**	**12 34 18.1**	**-0.1**
	4.6nm,0.8s,mb4.6						
KURK				*e*pP	pP	12 34 27.5	-0.6
TORD	**Torodi Ar. Bea**	**125.91**	**284**	PKP	PKPdf	12 42 24.1	-0.1
TORD				pPKP	pPKPdf	12 42 35.2	+0.5
TORD	**Torodi Ar. Bea**	**125.91**	**284**	PKP	PKPdf	12 42 24.1	-0.1
	0.4nm,1.0s,baz=242,slow=3.1,SNR=3.3						
TORD				pPKP	pPKPdf	12 42 35.2	+0.5
	0.7nm,0.8s,baz=41,slow=2.4,SNR=3.9						

*ISCJB **07** 12:25:00.9±0.5, 683N±005×7292W±006, h181km±5km, mb3.3/6, Error ellipse: s-maj=11.5km s-min=6.0km az=39.1*
*FUNV **07** 12:25:00.8, 667N×73.10W, h176km, MW4.1*
*IDC **07** 12:25:01.3±0.6, 674N×7289W, h170km±6km, mb3.2/6, mb1 3.4/8, mb1mx3.3/22, mbtmp3.2/8, Error ellipse: s-maj=15.2km s-min=7.4km az=129.0*

ISC 07 12:25:01.9±0.5, 682N±005×7290W±006, h174km±5km, n24, σ0§88/32, mb3.3/6, 2D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**1.19**	**29**	*e*P	**Pn**	**12 25 31.6**	**+0.9**
CAPV				*e*S	**Sn**	**12 25 53.3**	**+0.5**
ROSC	**El Rosal**	**2.41**	**216**	P	**Pn**	**12 25 42.9**	**-0.4**
	9.8nm,0.3s,baz=94,slow=16,SNR=18						
ROSC				S	**Sn**	**12 26 14.0**	**-1.3**
	46nm,0.3s,baz=100,slow=12,SNR=16						
SOCV	**Socops**	**2.50**	**54**	||*e*P	**Pn**	**12 25 45.9**	**+1.6**
SOCV				*e*S	**Sn**	**12 26 18.2**	**+1.1**
VIGV	**El Vigia**	**2.52**	**37**	||*e*P	**Pn**	**12 25 45.6**	**+1.1**
VIGV				*e*S	**Sn**	**12 26 17.5**	**-0.2**
SDV	**Santo Domingo**	**3.05**	**47**	P	**Pn**	**12 25 52.4**	**+1.5**
	44nm,0.3s,baz=232,slow=4.2,SNR=264						
SDV				S	**Sn**	**12 26 29.1**	**+0.1**
	37nm,0.3s,baz=72,slow=20,SNR=26						
VIRV	**Villa del Rosa**	**3.69**	**8**	*e*P	**Pn**	**12 25 58.2**	**-0.8**
VIRV				*e*S	**Sn**	**12 26 42.2**	**-1.4**
QARV	**Quebrada Arrib**	**4.11**	**35**	*e*P	**Pn**	**12 26 04.9**	**+0.6**
QARV				*e*S	**Sn**	**12 26 52.4**	**-0.7**
SANV	**Sanarito**	**4.27**	**51**	*e*P	**Pn**	**12 26 07.0**	**+0.7**
SANV				*e*S	**Sn**	**12 26 56.2**	**-0.5**
CURV	**Curarigua**	**4.31**	**42**	*e*P	**Pn**	**12 26 07.6**	**+0.7**
CURV				*e*S	**Sn**	**12 26 57.2**	**-0.4**
TEPV	**Terepaima**	**4.82**	**49**	*e*P	**Pn**	**12 26 14.2**	**+0.7**
TEPV				*e*S	**Sn**	**12 27 08.3**	**-1.2**
SIQV	**Siquisique**	**4.88**	**39**	*e*P	**Pn**	**12 26 14.1**	**-0.2**
SIQV				*e*S	**Sn**	**12 27 09.1**	**-1.9**
TURV	**Turiamo**	**6.17**	**54**	*e*P	**Pn**	**12 26 31.0**	**-0.1**
CAOV	**Caicara del Or**	**6.55**	**85**	*e*P	**Pn**	**12 26 35.6**	**-0.5**
CAOV				*e*S	**Sn**	**12 27 45.8**	**-4.5**
TEIG	**Tepich**	**20.00**	**313**	P	**P**	**12 29 21.6**	**+0.4**
	14nm,1.0s,baz=68,slow=1.1,SNR=6.0						
LPAZ	**La Paz**	**23.44**	**168**	P	**P**	**12 29 56.3**	**+0.7**
	0.9nm,0.5s,mb3.4,baz=326,slow=16,SNR=6.2						
SIV	**San Ignacio**	**25.51**	**153**	P	**P**	**12 30 13.0**	**-1.4**
	0.4nm,0.3s,mb3.5,baz=324,slow=20,SNR=4.7						
TXAR	**Lajitas Array**	**36.62**	**312**	P	**P**	**12 31 51.9**	**+0.2**
	0.7nm,0.7s,mb3.4,baz=122,slow=9.5,SNR=4.6						
NVAR	**Mina Array Bea**	**51.64**	**315**	P	**P**	**12 33 51.0**	**+0.2**
	0.3nm,0.6s,mb3.1,baz=132,slow=6.3,SNR=3.3						
YKA	**Yellowknife Ar**	**63.34**	**340**	P	**P**	**12 35 12.7**	**+0.6**
	0.3nm,0.5s,mb3.4,baz=134,slow=6.6,SNR=11						
YKA				pP	pP	12 35 53.6	+0.6
	0.2nm,0.5s,baz=132,slow=6.8,SNR=7.2						
TORD	**Torodi Ar. Bea**	**73.53**	**78**	P	**P**	**12 36 15.7**	**-0.6**
	0.2nm,0.3s,mb3.3,baz=280,slow=6.3,SNR=6.6						
MKAR	**Makanchi Array**	**122.25**	**20**	PKP	PKPdf	12 43 36.2	0.0
	0.2nm,0.3s,baz=344,slow=3.9,SNR=2.3						
SONM	**Songino Array**	**125.58**	**1**	PKP	PKPdf	12 43 44.1	+1.5
	0.3nm,0.5s,baz=343,slow=1.1,SNR=2.9						
ASAR	**Alice Springs**	**149.28**	**234**	PKPbc	PKPbc	12 44 29.4	-1.5
	0.5nm,0.5s,baz=119,slow=3.5,SNR=16						
WRA	**Warramunga Arr**	**150.52**	**241**	PKPbc	PKPbc	12 44 33.1	-0.8
	0.4nm,0.4s,baz=106,slow=2.6,SNR=4.7						

IDC 07 12:34:02.4±1.9, 2433S×6716W, h164km±21km, mb5.0/1, mb1 3.8/4, mb1mx3.4/17, mbtmp3.8/4, Error ellipse: s-maj=44.4km s-min=17.3km az=101.0, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**7.31**	**187**	P	Pn	12 35 47.3	+0.7
	0.1nm,0.3s,baz=348,slow=9.5,SNR=7.9						
CFAA				S	Sn	12 37 08.5	-0.1
	0.1nm,0.3s,baz=88,slow=22,SNR=3.7						
LPAZ	**La Paz**	**8.05**	**353**	P	Pn	12 35 56.7	+0.3
	2.6nm,0.3s,baz=158,slow=9.1,SNR=65						
SIV	**San Ignacio**	**10.07**	**36**	P	Pn	12 36 23.4	+0.3
	0.4nm,0.3s,baz=202,slow=18,SNR=7.4						
BDFB	**Brasilia**	**19.94**	**68**	P	P	12 38 22.1	+0.4
	0.4nm,0.3s,baz=236,slow=12,SNR=4.7						
TORD	**Torodi Ar. Bea**	**76.82**	**69**	P	P	12 45 36.2	-0.2
	0.3nm,0.4s,baz=257,slow=5.7,SNR=10						
MKAR	**Makanchi Array**	**146.87**	**40**	PKPbc	PKPbc	12 53 24.9	-0.2
	0.3nm,0.4s,baz=290,slow=3.1,SNR=4.8						

IDC 07 12:35:58.7±1.8, 803S×15612E, h0km, mb3.5/3, mb1 3.7/4, mb1mx3.5/14, mbtmp3.6/4, ML4.2/1, Error ellipse: s-maj=45.5km s-min=32.2km az=167.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.03**	**111**	Pn	Pn	12 37 01.7	0.0
	14nm,0.3s,baz=265,slow=13,SNR=5.0						
WRA	**Warramunga Arr**	**24.19**	**238**	P	P	12 41 17.8	+0.7
	1.5nm,0.8s,baz=64,slow=9.4,SNR=8.9						
ASAR	**Alice Springs**	**26.37**	**231**	P	P	12 41 36.4	-0.4
	0.3nm,0.8s,baz=64,slow=8.9,SNR=3.1						
MKAR	**Makanchi Array**	**84.91**	**319**	P	P	12 48 35.6	0.0
	0.4nm,0.6s,baz=97,slow=5.3,SNR=4.9						

IDC 07 12:38:52.4±0.9, 5397S×11950W, h0km, mb4.3/5, mb1 4.5/5, mb1mx4.1/16, mbtmp4.3/5, Error ellipse: s-maj=40.7km s-min=26.3km az=144.0, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**35.63**	**201**	P	P	12 45 51.8	+0.5
	baz=87,slow=10						
QSPA	**South Pole Qui**	**36.22**	**180**	P	P	12 45 55.9	-0.4
	3.0nm,1.0s,baz=108,slow=4.3,SNR=5.2						
SIV	**San Ignacio**	**58.77**	**73**	P	P	12 48 52.5	+0.3
	1.9nm,0.9s,baz=210,slow=14,SNR=6.8						
ASAR	**Alice Springs**	**80.37**	**243**	P	P	12 51 05.9	+0.3
	1.3nm,0.9s,baz=145,slow=5.2,SNR=8.2						
WRA	**Warramunga Arr**	**83.18**	**246**	P	P	12 51 21.4	+1.0
	5.6nm,0.8s,baz=145,slow=4.6,SNR=35						
FITZ	**Fitzroy Crossi**	**89.26**	**240**	P	P	12 51 50.5	+0.1
	2.9nm,0.8s,baz=191,slow=3.2,SNR=5.6						
GERES	**GERESS Array B**	**150.79**	**81**	PKPbc	PKPbc	12 58 45.6	-0.1
	0.3nm,0.4s,baz=232,slow=2.4,SNR=3.9						
SONM	**Songino Array**	**150.84**	**277**	PKP	PKPdf	12 58 39.8	-0.3
	0.1nm,0.5s,baz=129,slow=3.9,SNR=2.5						
SONM				PKPbc	PKPbc	12 58 45.1	-0.7
	0.5nm,0.7s,baz=88,slow=1.8,SNR=4.1						
MKAR	**Makanchi Array**	**164.40**	**251**	PKPab	PKPab	12 59 49.4	-2.2
	0.7nm,0.9s,baz=134,slow=4.2,SNR=5.2						

IDC 07 12:41:12.6±1.5, 254S×12792E, h0km, mb3.5/3, mb1 3.7/4, mb1mx3.6/15, mbtmp3.6/4, ML3.5/1, Error ellipse: s-maj=123.5km s-min=15.3km az=72.0, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.40**	**161**	P	Pn	12 45 30.4	+1.1
	0.1nm,0.3s,baz=340,slow=12,SNR=12						
ASAR	**Alice Springs**	**21.79**	**165**	P	P	12 46 07.9	+1.6
	2.4nm,0.7s,baz=346,slow=11,SNR=31						
ASAR				S	S	12 50 08.3	+0.1
	1.2nm,1.1s,baz=338,slow=18,SNR=5.2						
SONM	**Songino Array**	**53.58**	**342**	P	P	12 50 35.2	-0.1
	0.5nm,0.9s,baz=153,slow=8.3,SNR=3.9						
MKAR	**Makanchi Array**	**63.38**	**327**	P	P	12 51 43.8	-0.1
	0.2nm,0.5s,baz=120,slow=7.2,SNR=4.5						

IDC 07 12:45:23.8±1.7, 238N×9567E, h0km, mb3.8/7, mb1 3.9/8, mb1mx3.7/21, mbtmp3.8/8, ML3.3/1, MS2.9/1, Ms1 2.9/1, ms1mx2.8/42, Error ellipse: s-maj=58.9km s-min=17.4km az=58.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**3.28**	**83**	Pn	Pn	12 46 16.3	-0.2
	3.5nm,0.3s,baz=296,slow=7.3,SNR=22						
PSI				Sn	Sn	12 46 47.5	-8.8
	2.6nm,0.3s,baz=303,slow=10,SNR=4.6						
PSI				LR	LR	12 47 44.7	
	comp=Z,212nm,21.3s,baz=276,slow=43						
FITZ	**Fitzroy Crossi**	**35.86**	**126**	P	P	12 52 26.4	+0.8
	0.7nm,0.4s,baz=207,slow=16,SNR=4.0						
WRA	**Warramunga Arr**	**43.96**	**122**	P	P	12 53 33.6	+0.5
	0.3nm,0.6s,baz=298,slow=9.4,SNR=4.0						
ASAR	**Alice Springs**	**45.33**	**127**	P	P	12 53 44.0	+0.1
	0.3nm,0.9s,baz=309,slow=8.2,SNR=2.5						
MKAR	**Makanchi Array**	**45.74**	**347**	P	P	12 53 47.2	+0.3
	1.0nm,0.4s,baz=157,slow=8.2,SNR=17						
SONM	**Songino Array**	**46.22**	**10**	P	P	12 53 50.2	-0.4
	0.9nm,0.4s,baz=191,slow=9.2,SNR=15						
ZALV	**Zalesovo Beam**	**52.17**	**352**	P	P	12 54 36.1	+0.1
	2.5nm,0.6s,baz=181,slow=7.5,SNR=14						
STKA	**Stephens Creek**	**55.28**	**132**	P	P	12 54 57.4	-1.9
	2.3nm,0.9s,baz=328,slow=19,SNR=3.7						

*IDC **07** 12:45:52.2±1.1, 3728N×2484W, h0km, mb3.8/8, mb1 4.0/10, mb1mx3.8/26, mbtmp3.8/10, ML3.8/2, Error ellipse: s-maj=33.7km s-min=18.1km az=8.0*
*CSEM **07** 12:45:52.7±0.1, 3735N×2477W, h20km, mb4.2/14, Ms2.9, Error ellipse: s-maj=3.0km s-min=1.2km az=178.0*
*NEIC **07** 12:45:53.3±0.6, 3730N×2473W, h10km, mb4.2/18, Error ellipse: s-maj=14.0km s-min=6.9km az=176.0*
*ISCJB **07** 12:45:54.0±0.6, 3734N±006×2483W±003, h30km±6km, mb4.0/23, Error ellipse: s-maj=11.0km s-min=3.5km az=14.2*
*SVSA **07** 12:45:55.8±1.0, 3728N×2472W, h5km, MD4.0, ML3.9, Error ellipse: s-maj=7.4km s-min=3.1km az=81.0*
*PDA **07** 12:45:55.8±1.0, 3728N×2472W, h5km, MD4.0, ML3.9, Error ellipse: s-maj=7.4km s-min=3.1km az=81.0*

ISC 07 12:45:54.6±0.7, 3734N±005×2484W±003, h23km±6km, n86, σ0§94/102, mb4.0/23, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSMN	**Pico do Norte,**	**0.38**	**209**	*e*P	**Pb**	**12 46 02.5**	**-0.3**
PSMN				*e*S	**Sb**	**12 46 08.2**	**-0.1**
PDA	**Ponta Delgada**	**0.77**	**302**	*e*P	**Pb**	**12 46 09.5**	**+0.1**
PDA				*e*S	**Sb**	**12 46 20.0**	**+0.5**
PSET	**Sete Cidades**	**0.85**	**305**	*i*P	**Pb**	**12 46 10.7**	**-0.1**
PSET				*e*S	**Sb**	**12 46 22.5**	**+0.7**
PSET				A		12 46 32.2	
	2μm,0.5s						
PSCM	**Serra do Cume**	**2.26**	**308**	*e*P	**Pn**	**12 46 30.5**	**0.0**
PSCM				*e*S	**Sn**	**12 46 57.0**	**-0.7**
PSCM				A		12 47 04.1	
	406nm,0.4s						
PSCM	**Serra do Cume**	**2.26**	**308**	*e*P	**Pn**	**12 46 30.5**	**0.0**
PSCM				*e*S	**Sn**	**12 46 57.0**	**-0.7**
PID	**Ribeirinha**	**2.82**	**294**	*e*P	**Pn**	**12 46 38.6**	**+0.3**
PID				*e*S	**Sn**	**12 47 10.3**	**-1.3**
PMAN	**Manadas**	**2.88**	**298**	*e*P	**Pn**	**12 46 39.4**	**+0.3**
PMAN				*e*S	**Sn**	**12 47 12.0**	**-0.9**
PMAN				A		12 47 14.7	
	66nm,0.2s						
PMAN	**Manadas**	**2.88**	**298**	*e*P	**Pn**	**12 46 39.4**	**+0.3**
PMAN				*e*S	**Sn**	**12 47 12.0**	**-0.9**
ROSA	**Rosais**	**3.02**	**298**	*e*P	**Pn**	**12 46 41.6**	**+0.5**
ROSA				*e*S	**Sn**	**12 47 15.1**	**-1.4**
PICO	**Pico**	**3.07**	**293**	*e*P	**Pn**	**12 46 42.5**	**+0.8**
PICO				*e*S	**Sn**	**12 47 16.4**	**-1.2**
HOR	**Horta**	**3.23**	**293**	*e*P	**Pn**	**12 46 44.2**	**+0.3**
HOR				*e*S	**Sn**	**12 47 20.6**	**-0.9**
CALA	**Caldeira**	**3.30**	**293**	*e*P	**Pn**	**12 46 45.3**	**+0.5**
CALA				*e*S	**Sn**	**12 47 22.6**	**-0.7**
PMAR	**Madeira**	**7.96**	**123**	*e*Pn	**Pn**	**12 47 46.7**	**-2.3**
PMAR				*e*Sn	**Sn**	**12 49 06.7**	**-12**
PMAR				A		12 49 14.4	
	20nm,0.3s						
PMPS	**Porto Santo**	**8.16**	**119**	*e*Pn	**Pn**	**12 47 48.0**	**-3.7**
PMPS				*e*Sn	**Sn**	**12 49 11.9**	**-11**
MORF	**Marmelete**	**12.89**	**85**	*e*S	**Sn**	**12 51 04.4**	**-15**
EVOP	**Sao Brissos**	**13.25**	**80**	*e*Pn	**Pn**	**12 48 57.0**	**-4.3**
EVOP				*e*Sn	**Sn**	**12 51 10.0**	**-18**
EVO	**Evora**	**13.34**	**80**	*e*Pn	**Pn**	**12 48 57.0**	**-5.5**
EVO				*e*Sn	**Sn**	**12 51 10.0**	**-20**
	4.4nm,0.4s						
EVO				*e*MLR	MLR		
	comp=Z,140nm,18.2s						
PVAQ	**Vaqueiros**	**13.62**	**85**	*e*S	**Sn**	**12 51 20.5**	**-16**
PESTR	**Estremoz**	**13.67**	**78**	*e*S	**Sn**	**12 51 22.1**	**-16**
PBAR	**Barrancos**	**14.11**	**81**	*e*S	**Sn**	**12 51 31.0**	**-18**
MVO	**Moncorvo**	**14.32**	**69**	*e*S	**Sn**	**12 51 35.4**	**-18**
ESDC	**Sonseca Array**	**16.50**	**75**	Pn	**Pn**	**12 49 45.6**	**+1.0**
	comp=Z,0.1nm,0.3s,baz=272,slow=11,SNR=10						
MDT	**Midelt**	**17.15**	**99**	P	**Pn**	**12 49 51.5**	**-1.3**
	comp=Z,0.1nm,0.3s,baz=281,slow=12,SNR=4.4						
SJPF	**Ste Jean**	**18.90**	**65**	*e*P	**Pn**	**12 50 14.2**	**0.0**
QUIF	**Quistinic**	**19.07**	**49**	*e*P	**Pn**	**12 50 15.8**	**-0.4**
ROSF	**Rostrenen**	**19.19**	**48**	*e*P	**Pn**	**12 50 17.2**	**-0.4**
	comp=Z,39nm,1.3s						
ROSF	**Rostrenen**	**19.19**	**48**	*e*P	**Pn**	**12 50 17.2**	**-0.4**
	comp=Z,19nm,1.3s						
ETSF	**Etsaut**	**19.35**	**66**	*e*P	**Pn**	**12 50 19.5**	**-0.1**
	comp=Z,5.2nm,0.6s						
ETSF	**Etsaut**	**19.35**	**66**	*e*P	**Pn**	**12 50 19.5**	**-0.1**
	comp=Z,2.6nm,0.6s						
SGMF	**Saint Gilles**	**19.58**	**49**	*e*P	**Pn**	**12 50 21.5**	**-0.8**
EPF	**Esparros**	**20.02**	**66**	*e*P	**P**	**12 50 26.6**	**+0.8**
MFF	**Saint Martin d**	**20.49**	**55**	*e*P	**P**	**12 50 31.2**	**+0.4**
	comp=Z,33nm,1.0s						
MFF	**Saint Martin d**	**20.49**	**55**	*e*P	**P**	**12 50 31.2**	**+0.4**
	comp=Z,16nm,1.0s						
LFF	**La Frestale**	**20.65**	**60**	*e*P	**P**	**12 50 33.5**	**+0.9**
	comp=Z,39nm,0.8s						
LFF	**La Frestale**	**20.65**	**60**	*e*P	**P**	**12 50 33.5**	**+0.9**
	comp=Z,19nm,0.8s						
GRR	**Gorron**	**20.67**	**50**	*e*P	**P**	**12 50 33.4**	**+0.7**
	comp=Z,45nm,1.0s						
GRR	**Gorron**	**20.67**	**50**	*e*P	**P**	**12 50 33.4**	**+0.7**
	comp=Z,23nm,1.0s						
FLN	**La Foliniere**	**21.05**	**49**	*e*P	**P**	**12 50 37.5**	**+0.7**
LDF	**La Druitiere**	**21.20**	**50**	*e*P	**P**	**12 50 38.9**	**+0.4**
	comp=Z,9.6nm,0.9s,mb3.8						
LDF	**La Druitiere**	**21.20**	**50**	*e*P	**P**	**12 50 38.9**	**+0.4**
	comp=Z,4.8nm,0.9s,mb3.8						
MTLF	**Montolieu**	**21.43**	**65**	*e*P	**P**	**12 50 41.0**	**+0.1**
CAF	**Calviac**	**21.57**	**61**	*e*P	**P**	**12 50 42.5**	**+0.1**
	comp=Z,30nm,1.0s,mb4.4						
CAF	**Calviac**	**21.57**	**61**	*e*P	**P**	**12 50 42.5**	**+0.1**
	comp=Z,15nm,1.0s,mb4.4						
TCF	**Toulx Ste Croi**	**21.97**	**57**	*e*P	**P**	**12 50 46.9**	**+0.2**
	comp=Z,26nm,1.2s,mb4.2						
TCF	**Toulx Ste Croi**	**21.97**	**57**	*e*P	**P**	**12 50 46.9**	**+0.2**
	comp=Z,13nm,1.2s,mb4.2						
BGF	**Bois d'Agland**	**22.46**	**57**	*e*P	**P**	**12 50 51.8**	**-0.2**
	comp=Z,12nm,0.8s,mb4.1						
BGF	**Bois d'Agland**	**22.46**	**57**	*e*P	**P**	**12 50 51.8**	**-0.2**
	comp=Z,5.8nm,0.8s,mb4.1						
LASF	**Ste Croix**	**22.70**	**64**	*e*P	**P**	**12 50 54.1**	**-0.4**
	comp=Z,14nm,1.0s,mb4.0						
LASF	**Ste Croix**	**22.70**	**64**	*e*P	**P**	**12 50 54.1**	**-0.4**
	comp=Z,7.2nm,1.0s,mb4.0						
AVF	**Avril sur Loir**	**22.86**	**57**	*e*P	**P**	**12 50 55.5**	**-0.7**
	comp=Z,13nm,1.1s,mb4.0						
AVF	**Avril sur Loir**	**22.86**	**57**	*e*P	**P**	**12 50 55.5**	**-0.7**
	comp=Z,6.3nm,1.1s,mb4.0						
SSF	**Saint Saulge**	**23.03**	**56**	*e*P	**P**	**12 50 56.8**	**-1.1**
	comp=Z,12nm,1.0s,mb4.0						
SSF	**Saint Saulge**	**23.03**	**56**	*e*P	**P**	**12 50 56.8**	**-1.1**
	comp=Z,5.8nm,1.0s,mb4.0						
SMF	**Signal de Mont**	**23.15**	**57**	*e*P	**P**	**12 50 58.4**	**-0.8**
	comp=Z,17nm,1.1s,mb4.1						
SMF	**Signal de Mont**	**23.15**	**57**	*e*P	**P**	**12 50 58.4**	**-0.8**
	comp=Z,8.6nm,1.1s,mb4.1			

Error ellipse: s-maj=18.6km s-min=5.8km az=47.0
*CSEM **07** 13:02:33.0±0.9, 3872N×2900W, h5km±8km, ML2.6, Error ellipse: s-maj=18.6km s-min=5.8km az=47.0, After PDA*
SVSA 07 13:02:33.0±0.9, 3872N×2900W, h5km±8km, MD3.5, ML2.6, Error ellipse: s-maj=18.6km s-min=5.8km az=47.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CALA	**Caldeira**	**0.27**	**121**	*i* P	Pg	13 02 38.0	-0.2
CALA				*e*S	Sg	13 02 41.6	-0.1
CALA	**Caldeira**	**0.27**	**121**	*e*S	Sg	13 02 41.6	-0.1
HOR	**Horta**	**0.34**	**124**	*e*P	Pg	13 02 39.0	-0.7
HOR				*e*S	Sg	13 02 44.2	0.0
PICO	**Pico**	**0.50**	**116**	*e*P	Pg	13 02 42.0	-0.6
PICO				*e*S	Sg	13 02 48.2	-0.8
ROSA	**Rosais**	**0.59**	**90**	*e*P	Pg	13 02 43.4	-0.9
PMAN	**Manadas**	**0.71**	**97**	*e*P	Pg	13 02 44.5	-2.2
PMAN				*e*S	Sg	13 02 53.6	-2.4
PMAN	159nm,0.2s			A		13 02 59.8	
PMAN	**Manadas**	**0.71**	**97**	*e*P	Pg	13 02 44.5	-2.2
PMAN				*e*S	Sg	13 02 53.6	-2.4
PID	**Ribeirinha**	**0.74**	**112**	*e*P	Pg	13 02 41.9	-5.3

*BJI **07** 13:08:39.4, 21.11S×16967E, h8km, mB5.2, mb4.6*
*NEIC **07** 13:08:44.7±0.5, 2098S×16866E, h10km, mb4.8/6, Error ellipse: s-maj=19.6km s-min=12.3km az=142.0*
*LDG **07** 13:08:46.6±0.2, 2045S×16819E, h10km, Mb4.6/2, Error ellipse: s-maj=21.3km s-min=3.3km az=124.0*
*ISCJB **07** 13:08:47.4±0.6, 210S±0.1×16856E±0.10, h37km, mb4.3/16, Error ellipse: s-maj=17.6km s-min=9.0km az=140.8*
*IDC **07** 13:08:49.1±0.8, 2097S×16857E, h39km±4km, mb4.1/11, mb1 4.2/11, mb1mx4.2/15, mbtmp4.1/11, Error ellipse: s-maj=27.0km s-min=15.0km az=138.0*
*SZGRF **07** 13:08:50.2, 2020S×16996E, h38km, Vanuatu Islands*
ISC 07 13:08:49.2±0.6, 210S±01×16856E±010, h39km, h39km±1.2km: pP-P, n67, σ0.9±81/25, mb4.3/16, Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**2.24**	**241**	*e*P	**Pn**	**13 09 22.8**	**-1.0**
DZM				*e*S	**Sn**	**13 09 50.3**	**0.0**
RPZ	**Rata Peaks**	**22.75**	**175**	pP	pP	13 13 59.8	+1.9
	9.2nm,0.8s,baz=49,slow=10,SNR=3.4						
STKA	**Stephens Creek**	**26.40**	**240**	*e*P	**P**	**13 14 23.8**	**+1.7**
	2.6nm,0.6s,mb3.9						
STKA				*e*	pP	13 14 34.4	+1.6
STKA	**Stephens Creek**	**26.40**	**240**	P	**P**	**13 14 23.9**	**+1.8**
	2.8nm,0.6s,mb4.0,baz=81,slow=11,SNR=16						
STKA				pP	pP	13 14 34.9	+2.0
	3.6nm,0.8s,baz=61,slow=5.5,SNR=4.3						
WRA	**Warramunga Arr**	**32.05**	**266**	P	**P**	**13 15 11.4**	**-1.0**
	1.1nm,0.7s,mb3.8,baz=102,slow=7.9,SNR=9.7						
WRA				pP	pP	13 15 21.9	-1.3
	1.1nm,0.6s,baz=89,slow=7.7,SNR=5.2						
ASAR	**Alice Springs**	**32.12**	**259**	P	**P**	**13 15 13.2**	**+0.1**
	8.6nm,0.7s,mb4.7,baz=84,slow=9.1,SNR=120						
ASAR				pP	pP	13 15 23.4	-0.5
	6.8nm,0.7s,baz=74,slow=8.3,SNR=16						
FITZ	**Fitzroy Crossi**	**40.47**	**266**	*e*P	**P**	**13 16 25.0**	**+0.6**
	9.3nm,0.8s,mb4.6						
FITZ				*e*	pP	13 16 35.3	-0.1
FITZ	**Fitzroy Crossi**	**40.47**	**266**	*e*P	**P**	**13 16 24.9**	**+0.5**
	9.9nm,0.7s,mb4.7						
FITZ				*e*pP	pP	13 16 35.0	-0.5
FITZ				*e*	pP	13 16 35.3	-0.1
FITZ	**Fitzroy Crossi**	**40.47**	**266**	P	**P**	**13 16 24.1**	**-0.3**
	5.5nm,0.8s,mb4.3,baz=126,slow=9.7,SNR=8.8						
FITZ				pP	pP	13 16 34.8	-0.6
	4.0nm,0.7s,baz=143,slow=10.0,SNR=5.3						
MBWA	**Marble Bar**	**45.42**	**261**	*e*P	**P**	**13 17 04.9**	**+0.4**
	11nm,1.0s,mb4.6						
MBWA				*e*pP	pP	13 17 14.7	-0.9
KLBR	**Kellerberrin**	**46.40**	**246**	*e*P	**P**	**13 17 11.9**	**-0.2**
	15nm,1.1s,mb4.8						
KLBR				*e*	pP	13 17 22.3	-1.0
MJAR	**Matsushiro Arr**	**64.02**	**333**	P	**P**	**13 19 17.4**	**-1.4**
	1.7nm,0.8s,mb4.1,baz=164,slow=7.4,SNR=6.2						
MJAR				pP	pP	13 19 29.4	-1.0
	2.7nm,0.8s,baz=168,slow=6.6,SNR=9.0						
ASAJ	**Asahikawa**	**69.03**	**340**	P	**P**	**13 19 51.0**	**+0.3**
	2.7nm,0.9s,mb4.2,baz=271,slow=12,SNR=3.6						
ASAJ				pP	pP	13 20 03.5	+1.1
	6.9nm,1.0s,baz=243,slow=13,SNR=5.4						
QSPA	**South Pole Qui**	**69.06**	**180**	*e*P	**P**	**13 19 51.2**	**+0.7**
	7.4nm,1.0s,mb4.6						
QSPA				*e*pP	pP	13 20 02.2	0.0
KSRS	**Korea Array**	**69.60**	**326**	P	**P**	**13 19 54.2**	**-0.2**
	0.7nm,0.8s,mb3.7,baz=148,slow=5.7,SNR=3.4						
MAW	**Mawson**	**76.57**	**202**	P	**P**	**13 20 34.1**	**-1.1**
	1.8nm,0.8s,mb4.1,baz=55,slow=12,SNR=3.0						
MAW				pP	pP	13 20 47.0	-0.1
	3.1nm,0.8s,baz=81,slow=10,SNR=3.4						
SNAA	**Sanae**	**87.38**	**183**	*e*	pP	13 21 43.1	-0.8
SNAA				*e*		13 21 44.8	
SNAA				*e*		13 21 51.4	
GTA	**Gaotai**	**87.88**	**314**	*e*P	**P**	**13 21 36.0**	**+1.3**
GTA				AP	pP	13 21 42.9	-3.8
GTA				XP	sP	13 21 46.9	-4.2
GTA	comp=Z,3.0nm,1.1s,mb4.4			AMB	AMB		
ULN	**Ulaanbaatar**	**87.90**	**324**	*e*P	**P**	**13 21 35.3**	**+0.7**
	comp=Z,16nm,1.6s,mb5.0						
ULN				*e*pP	pP	13 21 46.7	+0.1
VNA3	**Neumayer Olymp**	**88.00**	**181**	*e*	**P**	**13 21 34.5**	**-0.3**
VNA3				*e*		13 21 36.0	
VNA3				*e*		13 21 41.4	
VNA3				*e*	pP	13 21 46.2	-0.6
SONM	**Songino Array**	**88.24**	**323**	P	**P**	**13 21 36.9**	**+0.7**
	comp=Z,2.2nm,0.8s,mb4.4,baz=150,slow=5.1,SNR=17						
SONM				pP	pP	13 21 48.2	-0.1
	comp=Z,4.0nm,0.8s,baz=144,slow=5.5,SNR=18						
VNA2	**Neumayer--Watz**	**88.28**	**181**	*e*	**P**	**13 21 36.2**	**+0.1**
	baz=183,slow=4.7						
VNA2				*e*		13 21 37.6	
VNA2				*e*		13 21 43.6	
VNA2				*e*	pP	13 21 47.6	-0.6
NVAR	**Mina Array Bea**	**90.44**	**49**	P	**P**	**13 21 46.7**	**0.0**
NVAR				pP	pP	13 21 58.3	-0.5
NVAR	**Mina Array Bea**	**90.44**	**49**	P	**P**	**13 21 46.7**	**0.0**
	comp=Z,0.9nm,0.8s,mb4.2,baz=212,slow=5.8,SNR=7.8						
NVAR				pP	pP	13 21 58.3	-0.5
	comp=Z,1.0nm,0.7s,baz=218,slow=5.2,SNR=6.2						
INK	**Inuvik**	**98.41**	**19**	P	**P**	**13 22 21.4**	**-1.1**
INK	**Inuvik**	**98.41**	**19**	P	**P**	**13 22 21.4**	**-1.1**
	comp=Z,2.1nm,1.2s,mb4.5,baz=192,slow=5.2,SNR=3.2						
YKA	**Yellowknife Ar**	**102.52**	**28**	P	Pdif	13 22 40.3	-1.1
YKA				pP		13 22 52.9	
YKA	**Yellowknife Ar**	**102.52**	**28**	P	Pdif	13 22 40.3	-1.1
	comp=Z,0.1nm,0.6s,baz=256,slow=7.9,SNR=2.7						
YKA				pP		13 22 52.9	
	comp=Z,0.2nm,0.4s,baz=257,slow=4.7,SNR=3.0						
MKAR	**Makanchi Array**	**102.54**	**315**	P	Pdif	13 22 41.6	+0.1
	comp=Z,0.3nm,0.7s,baz=108,slow=5.8,SNR=3.8						
MKAR				pP		13 22 52.6	
	comp=Z,0.5nm,0.9s,baz=110,slow=6.6,SNR=3.5						
URVA	**University of**	**121.14**	**58**	*e*PKPdf	PKPdf	13 27 37.6	-0.4
AKASG	**Malin Array Be**	**136.53**	**323**	pPKP	pPKPdf	13 28 18.5	-0.8
	comp=Z,1.1nm,0.6s,baz=73,slow=1.7,SNR=3.5						
DPC	**Dobruska-Polom**	**143.44**	**330**	*e*PKP	PKPdf	13 28 19.7	+0.3
DPC				*ex*	x	13 28 28.1	
UPC	**Upice**	**143.48**	**330**	*e*PKP	PKPdf	13 28 17.0	-2.4
UPC				*ex*	x	13 28 28.6	
BRG	**Berggiesshubel**	**144.15**	**332**	*e*PKPbc	PKPdf	13 28 19.1	-1.5
BRG	**Berggiesshubel**	**144.15**	**332**	*e*P	PKPdf	13 28 19.2	-1.4
	comp=Z,4.0nm,1.1s						
BRG				*e*		13 28 30.4	
	comp=Z,7.7nm,1.0s						
CLL	**Collm**	**144.22**	**334**	*e*PKPdf	PKPdf	13 28 19.0	-1.7
	comp=Z,7.0nm,1.1s						
CLL				*e*(pPKPdf)		13 28 31.0	
CLZ	**Clausthal**	**144.85**	**336**	*e*PKPbc	PKPdf	13 28 21.8	0.0
TANN	**Tannenbergstha**	**145.12**	**333**	*e*PKPbc	PKPbc	13 28 22.6	+0.8
NKC	**Novy Kostel**	**145.26**	**333**	*e*PKP	PKPdf	13 28 23.3	+0.8
NKC				*ex*	x	13 28 33.9	
MOX	**Moxa**	**145.30**	**334**	*e*P	PKPbc	13 28 23.0	+0.6
MOX				*e*		13 28 34.3	
	comp=Z,14nm,1.1s						
IBBN	**Ibbenburen**	**145.39**	**339**	*e*PKPbc	PKPbc	13 28 23.2	+0.6
IBBN				*e*pPKPbc	pPKPbc	13 28 34.7	-0.2
KHC	**Kasperske Hory**	**145.57**	**331**	*e*PKP	PKPdf	13 28 24.1	+1.0
KHC				*ex*	x	13 28 35.0	
ROTZ	**Rotzenmuhle**	**145.72**	**333**	*e*PKPbc	PKPbc	13 28 24.8	+1.1
GEC2	**GERESS Array S**	**145.72**	**330**	*e*PKPbc	PKPbc	13 28 24.7	+0.9
GEC2				*e*pPKPbc	pPKPbc	13 28 36.0	-0.1
GERES	**GERESS Array B**	**145.72**	**330**	PKPbc	PKPbc	13 28 24.1	+0.3
	comp=Z,3.6nm,0.7s,baz=44,slow=4.1,SNR=24						
GERES				pPKPbc	pPKPbc	13 28 35.9	-0.2
	comp=Z,10nm,0.8s,baz=37,slow=3.3,SNR=28						
WET	**Wettzell**	**145.88**	**331**	*e*PKPbc	PKPbc	13 28 25.2	+0.9
GRA1	**Grafenberg Arr**	**146.19**	**333**	*e*PKPbc	PKPbc	13 28 26.0	+0.8
GRF	**Grafenberg Arr**	**146.19**	**333**	*e*PKPbc	PKPbc	13 28 26.0	+0.8
CRES	**Cresnjev**	**146.87**	**325**	*i* PKPbc	PKPbc	13 28 27.9	+0.6
CRES				*i* pPKPbc	pPKPbc	13 28 39.1	-0.5
BOJS	**Bojanci**	**147.18**	**324**	*i* PKPbc	PKPbc	13 28 29.0	+0.8
BOJS				*i* pPKPbc	pPKPbc	13 28 40.3	-0.2
LJU	**Ljubljana**	**147.22**	**326**	*i* PKPbc	PKPbc	13 28 28.8	+0.5
LJU				*i* pPKPbc	pPKPbc	13 28 40.0	-0.6
WLF	**Walferdange**	**148.17**	**338**	*e*PKPbc	PKPbc	13 28 32.0	+1.3
GIVF	**Givet**	**148.24**	**340**	*e*PKP1	PKPbc	13 28 31.0	+0.1
BAIF	**Baives**	**148.47**	**341**	*e*PKP1	PKPbc	13 28 31.7	+0.2
CDF	**Champ du Feu**	**148.80**	**336**	*e*PKP1	PKPbc	13 28 32.4	0.0
HAU	**Haudompre**	**149.48**	**336**	*e*PKP1	PKPbc	13 28 34.0	-0.1
TIP	**Timpagrande**	**149.80**	**313**	*e*PKPdf	PKPdf	13 28 30.1	-0.3
TIP				*e*PKPbc	PKPbc	13 28 35.9	+0.7
AQU	**L'Aquila**	**150.19**	**321**	*e*PKPbc	PKPbc	13 28 37.4	+1.4
CABF	**La Chapelle**	**150.73**	**335**	*e*PKP1	PKPbc	13 28 37.7	+0.5
	comp=Z,9.5nm,1.0s						
LOR	**Lormes**	**151.01**	**338**	*e*PKP1	PKPbc	13 28 37.7	-0.1
	comp=Z,4.2nm,0.7s						
SSF	**Saint Saulge**	**151.31**	**338**	*e*PKP1	PKPbc	13 28 38.5	0.0
LPL	**La Plagne**	**151.35**	**333**	*e*PKP1	PKPbc	13 28 39.2	+0.5
LPG	**La Plagne**	**151.36**	**333**	*e*PKP1	PKPbc	13 28 39.2	+0.5
SMF	**Signal de Mont**	**151.55**	**338**	*e*PKP1	PKPbc	13 28 38.7	-0.4
PGF	**Pioggiola**	**152.51**	**326**	*e*PKP1	PKPbc	13 28 41.4	0.0
	comp=Z,11nm,0.9s						
VIVF	**Saint-Julien-l**	**152.74**	**334**	*e*PKP1	PKPbc	13 28 41.9	+0.1
	comp=Z,2.3nm,0.6s						
TORD	**Torodi Ar. Bea**	**165.22**	**240**	PKP	PKPdf	13 28 49.8	-0.4
	comp=Z,0.5nm,0.8s,baz=135,slow=0.6,SNR=2.7						
TORD				pPKP	pPKPdf	13 29 01.5	-1.2
	comp=Z,0.8nm,0.8s,baz=303,slow=1.1,SNR=4.5						

MAN 07 13:09:02, 1569N×12212E, h27km, mb4.3, ML3.2, MS3.0, 1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BALP	**Baler**	**0.52**	**275**	*e*P	Pb	13 09 08.8	-3.8
BALP				*e*S	Sb	13 09 16.0	-3.9
POLP	**Polilio Island**	**0.97**	**190**	*e*P	Pn	13 09 20.0	0.0
POLP				*e*S	Sb	13 09 36.3	+3.5
CAUP	**Cauayan**	**1.27**	**347**	*e*P	Pn	13 09 23.1	-1.0
CAUP				*e*S	Sn	13 09 42.2	+2.0
PALP	**Palanan**	**1.39**	**12**	*e*P	Pn	13 09 25.6	0.0
BCPH	**Baguio City Da**	**1.63**	**295**	||*i* P	Pn	13 09 27.9	-0.9
BCPH				*i* S	Sn	13 09 51.4	+2.4
CVP	**Callao Caves**	**2.02**	**352**	*e*P	Pn	13 09 34.2	-0.1
BOLP	**Bolinao**	**2.23**	**288**	*e*P	Pn	13 09 38.3	+1.2
APYP	**Conner**	**2.31**	**339**	*e*P	Pn	13 09 38.7	+0.3
APYP				*e*S	Sn	13 10 07.3	+1.4
ABRA	**Dolores**	**2.36**	**326**	*e*P	Pn	13 09 40.3	+1.3
PVCP	**Virac**	**2.87**	**136**	*e*P	Pn	13 09 46.7	+0.7

CASC 07 13:17:09.0±1.9, 553N×8271W, h35km±999km, MD4.5, 2C-2D, South of Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DVD	**David**	**2.90**	**5**	*e*P	Pn	13 17 52.8	+0.2
AZU	**Azuero**	**3.30**	**47**	*e*P	Pn	13 17 56.2	-2.1
AZU				*e*S	Sn	13 18 37.0	+0.7
BAR1		**3.73**	**351**	||*e*P	Pn	13 18 04.7	+0.6
BAR1				*e*S	Sn	13 18 47.7	+0.8
CNI	**Changuinola**	**3.86**	**3**	*e*P	Pn	13 18 08.2	+2.3
BUS	**Buena Vista**	**4.13**	**346**	*e*P	Pn	13 18 11.2	+1.6
LCR2	**La Lucha 2**	**4.37**	**343**	||*i* P	Pn	13 18 14.1	+1.1
URSC	**Urasca**	**4.40**	**346**	||*e*P	Pn	13 18 14.7	+1.3
LAJ	**Bijagual**	**4.52**	**342**	*e*P	Pn	13 18 15.3	+0.2
LAJ				*e*S	Sn	13 19 06.4	0.0
SJS	**Escuela Geolog**	**4.58**	**343**	*e*P	Pn	13 18 17.1	+1.4
PRS1	**Puriscal**	**4.70**	**340**	||*e*P	Pn	13 18 17.0	-0.4
CGA2	**Cerro Gallo 2**	**4.78**	**339**	*e*P	Pn	13 18 19.5	+0.9
JCR	**Jicaral**	**4.90**	**331**	*e*P	Pn	13 18 20.0	-0.2

*ISCJB **07** 13:24:11.1±0.5, 1630S±008×6970W±006, h194km±4km, mb4.0/17, Error ellipse: s-maj=13.4km s-min=8.9km az=9.0*
*NEIC **07** 13:24:12.7±0.5, 1634S×6967W, mb4.4/7, Error ellipse: s-maj=14.9km s-min=11.3km az=205.0*
*IDC **07** 13:24:12.8±0.9, 1624S×6959W, h193km±6km, mb3.8/14, mb1 3.9/16, mb1mx3.8/23, mbtmp3.8/16, Error ellipse: s-maj=17.5km s-min=12.5km az=38.0*
ISC 07 13:24:12.1±0.5, 1633S±008×6970W±006, h191km±4km, n36, σ0.9±92/33, mb4.0/17, 1C-1D, Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**1.51**	**89**	||*i* Pn	**Pn**	**13 24 47.0**	**+1.9**
LPAZ	**La Paz**	**1.51**	**89**	P	**Pn**	**13 24 47.0**	**+1.9**
	370nm,0.3s,baz=278,slow=7.5,SNR=8069						
LPAZ				S	**Sn**	**13 25 11.2**	**+0.7**
	18nm,0.3s,baz=54,slow=19,SNR=2.7						
ARE	**Arequipa**	**1.72**	**265**	||*i* P	**Pn**	**13 24 46.2**	**-0.9**
ARE				*i* S	**Sn**	**13 25 13.5**	**-0.7**
NNA	**Nana**	**8.16**	**301**	*e*Pn	**Pn**	**13 26 07.5**	**-0.1**
	39nm,0.7s						
NNA				*e*Sn	**Sn**	**13 27 31.5**	**-7.7**
NNA	**Nana**	**8.16**	**301**	P	**Pn**	**13 26 07.7**	**+0.2**
	5.8nm,0.3s,baz=129,slow=10,SNR=14						
NNA				S	**Sn**	**13 27 28.8**	**-10**
	1.5nm,0.3s,baz=135,slow=11,SNR=3.0						
SIV	**San Ignacio**	**8.30**	**89**	P	**Pn**	**13 26 08.0**	**-1.4**
	4.0nm,0.3s,baz=270,slow=12,SNR=31						
CFAA	**Coronel Fontan**	**15.27**	**175**	P	**Pn**	**13 27 37.9**	**-0.1**
	0.1nm,0.3s,baz=3.1,slow=12,SNR=3.5						
BDFB	**Brasilia**	**20.86**	**91**	P	**P**	**13 28 38.7**	**-0.8**
	6.7nm,0.5s,baz=248,slow=14,SNR=15						
TRQA	**Tornquist**	**22.69**	**164**	*e*P	**P**	**13 28 56.6**	**-0.8**
	6.1nm,0.5s,mb4.3						
PLCA	**Paso Flores**	**24.33**	**182**	*e*P	**P**	**13 29 13.8**	**+1.5**
	2.9nm,0.9s,mb3.8						
PLCA	**Paso Flores**	**24.33**	**182**	P	**P**	**13 29 13.5**	**+1.2**
	2.5nm,0.9s,mb3.7,baz=2.9,slow=12,SNR=4.8						
RCBR	**Riachuelo**	**34.71**	**76**	*e*P	**P**	**13 30 43.6**	**-0.6**
	18nm,0.9s,mb4.7						
SDCO	**Great Sand Dun**	**63.45**	**329**	*e*P	**P**	**13 34 24.1**	**+2.4**
	0.5nm,0.6s,mb3.5						
SDCO				*e*pP	pP	13 35 08.6	+2.6
DBIC	**Dimbokro**	**68.09**	**76**	*e*P	**P**	**13 34 51.0**	**-0.8**
	6.0nm,0.5s,mb4.6						
DBIC	**Dimbokro**	**68.09**	**76**	P	**P**	**13 34 50.6**	**-1.3**
	5.3nm,0.4s,mb4.6,baz=236,slow=6.7,SNR=16						
PDAR	**Pinedale Array**	**69.28**	**330**	P	**P**	**13 34 59.8**	**+1.2**
	0.4nm,0.4s,mb3.5,baz=134,slow=10,SNR=3.8						
ULM	**Lac du Bonnet**	**70.18**	**342**	P	**P**	**13 35 03.3**	**-0.6**
	3.8nm,0.5s,mb4.4,baz=155,slow=6.3,SNR=13						
SCHQ	**Schefferville**	**70.92**	**2**	P	**P**	**13 35 07.7**	**-0.6**
	1.5nm,0.6s,mb3.9,baz=233,slow=5.1,SNR=3.6						
TOA0	**Torodi Ar. Sit**	**76.39**	**72**	*e*P	**P**	**13 35 39.9**	**-1.1**
TORD	**Torodi Ar. Bea**	**76.39**	**72**	P	**P**	**13 35 40.2**	**-0.8**
	10nm,0.8s,mb4.5,baz=252,slow=4.6,SNR=66						
MDT	**Midelt**	**79.05**	**51**	P	**P**	**13 35 55.6**	**+0.3**
	1.6nm,0.8s,mb3.7,baz=259,slow=3.1,SNR=5.4						
TSUM	**Tsumeb**	**82.28**	**108**	*e*P	**P**	**13 36 13.3**	**+0.4**
	3.5nm,0.8s,mb4.0						
TSUM				*e*pP	pP	13 37 03.8	+4.4
TSUM	**Tsumeb**	**82.28**	**108**	P	**P**	**13 36 13.4**	**+0.6**
	3.7nm,0.7s,mb4.1,baz=193,slow=5.6,SNR=8.6						
ESDC	**Sonseca Array**	**82.71**	**45**	P	**P**	**13 36 15.1**	**+0.5**
	0.5nm,0.5s,mb3.5,baz=246,slow=5.7,SNR=7.5						
YKA	**Yellowknife Ar**	**86.08**	**341**	P	**P**	**13 36 31.0**	**0.0**
	1.5nm,0.7s,mb3.8,baz=134,slow=4.8,SNR=26						
BOSA	**Boshof**	**86.55**	**119**	P	**P**	**13 36 34.0**	**-0.1**
	2.8nm,0.9s,mb4.1,baz=248,slow=5.4,SNR=6.2						
LBTB	**Lobatse**	**87.88**	**115**	P	**P**	**13 36 40.6**	**0.0**
	3.4nm,0.9s,mb4.2,baz=277,slow=6.5,SNR=3.3						
MAW	**Mawson**	**89.48**	**164**	P	**P**	**13 36 47.6**	**+0.4**
	1.3nm,0.6s,mb4.0,baz=179,slow=11,SNR=5.2						
MATP	**Matopo**	**91.81**	**112**	P	**P**	**13 37 00.1**	**+1.1**
	3.5nm,1.0s,mb4.3,baz=268,slow=2.7,SNR=3.5						
ASAR	**Alice Springs**	**134.04**	**211**	PKP	PKPdf	13 43 07.8	+0.2
	0.2nm,0.9s,baz=130,slow=1.8,SNR=2.7						
WRA	**Warramunga Arr**	**136.91**	**214**	PKP	PKPdf	13 43 14.3	+1.4
	0.4nm,0.6s,baz=149,slow=1.9,SNR=7.0						
ZAA0	**Zalesovo Array**	**137.54**	**22**	*e*PKPdf	PKPdf	13 43 13.8	+0.8
ZALV	**Zalesovo Beam**	**137.54**	**22**	PKP	PKPdf	13 43 12.5	-0.6
	3.1nm,0.6s,baz=45,slow=0.4,SNR=17						
ZALV				SKPbc	SKPbc	13 46 29.4	+0.7
	1.3nm,0.6s,baz=321,slow=3.8,SNR=6.9						
MKAR	**Makanchi Array**	**141.76**	**31**	PKhKP		13 43 16.8	
	0.3nm,0.5s,baz=341,slow=2.8,SNR=5.4						
MKAR				SKPbc	SKPbc	13 46 39.7	-0.7
	1.0nm,0.7s,baz=329,slow=2.8,SNR=9.8						
SONM	**Songino Array**	**148.42**	**5**	PKP	PKPdf	13 43 32.7	+0.4
	1.7nm,0.4s,baz=5.7,slow=2.9,SNR=5.9						
SONM				PKPbc	PKPbc	13 43 37.7	+1.6
	3.2nm,0.4s,baz=314,slow=2.0,SNR=54						
ULN	**Ulaanbaatar**	**148.44**	**4**	*e*PKPbc	PKPbc	13 43 37.9	+1.8

*ISCJB **07** 13:27:07.8±0.9, 4341N±006×41.19E±006, h10km, Error ellipse: s-maj=8.9km s-min=6.3km az=157.1*
*TIF **07** 13:27:07.2, 4333N×4132E, h8km±3km*
*MOS **07** 13:27:08.4±1.1, 4332N×4127E, h11km, mb4.0/1, Error ellipse: s-maj=13.9km s-min=9.5km az=168.3*
ISC 07 13:27:08.7±0.9, 4343N±006×4123E±006, h10km, n13, σ0.9±97/21, 1D, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOC	**Sochi**	**1.11**	**279**	*e*PG	**Pg**	**13 27 29.5**	**-0.5**
SOC				*e*		13 27 47.2	
SOC				pmax	pmax		
	comp=Z,33nm,0.6s						
SOC				smax			
	comp=N,58nm,0.6s						
KIV	**Kislovodsk**	**1.18**	**63**	PG	**Pg**	**13 27 30.5**	**-0.9**
KIV				S	**Sb**	**13 27 46.5**	**-0.1**
KIV				pmax	pmax		
	comp=Z,115nm,0.3s						
KIV				smax			
	comp=N,81nm,0.2s						
KIV0	**Kislovodsk Arr**	**1.19**	**63**	PG	**Pg**	**13 27 30.6**	**-0.9**
KIV0				S	**Sb**	**13 27 46.7**	**-0.1**
BEYR	**Belyy Ugol+**	**1.29**	**63**	PG	**Pg**	**13 27 32.5**	**-1.0**
BEYR				S	**Sb**	**13 27 49.4**	**-0.3**
BEYR				pmax	pmax		
	comp=Z,866nm,0.2s						
BEYR				smax			
	comp=N,925nm,0.2s						
PYA	**Pyatigorsk**	**1.46**	**65**	PG	**Pg**	**13 27 36.4**	**-0.3**
PYA				S	**Sn**	**13 27 55.7**	**+1.4**
KUBR	**Kubataba**	**1.63**	**76**	PN	**Pn**	**13 27 38.5**	**+1.1**
KUBR				S	**Sn**	**13 27 59.9**	**+1.5**
KUBR				pmax	pmax		
	comp=Z,11nm,0.2s						
KUBR				smax			
	comp=N,58nm,0.3s						
DIGR	**Digorskoe uzhe**	**1.80**	**106**	*e*PN	**Pn**	**13 27 39.7**	**-0.1**
ONI	**Oni**	**1.84**	**117**	P	**Pn**	**13 27 39.0**	**-1.2**
ONI				S	**Sn**	**13 28 03.3**	**-0.3**
LSNR	**Lesken**	**1.90**	**94**	*e*PN	**Pn**	**13 27 41.9**	**+0.8**
ZEI	**Tsey**	**2.06**	**108**	||*i* PN	**Pn**	**13 27 44.1**	**+0.7**
LACR	**Lac**	**2.33**	**104**	*e*PN	**Pn**	**13 27 47.4**	**+0.4**
LACR				*e*S	**Sn**	**13 28 14.2**	**-1.4**
ANN	**Anapa**	**3.06**	**298**	*e*PN	**Pn**	**13 28 01.2**	**+4.2**
ANN				*e*		13 28 43.6	
ANN				pmax	pmax		
	comp=Z,15nm,0.4s						
ANN				smax			
	comp=N,22nm,0.4s						
ANN				smax			
	comp=E,28nm,0.9s						
DGRG	**David-gareji**	**3.

3.1nm,0.7s,mb4.2,baz=84,slow=8.2,SNR=46
ASAR pP pP 14 00 44.2 +0.2
5.2nm,0.8s,baz=82,slow=9.0,SNR=14
FITZ Fitzroy Crossi 40.46 266 P **P 14 01 45.0 +0.1**
0.9nm,0.6s,mb3.7,baz=130,slow=7.9,SNR=2.4
FITZ pP pP 14 01 55.1 -0.3
4.4nm,0.9s,baz=111,slow=12,SNR=5.7
VNA3 Neumayer Olymp 88.07 181 *e* **P 14 06 55.7 -0.2**
VNA3 *e* 14 06 58.6
VNA3 *e* pP 14 07 05.8 -1.5
SONM Songino Array 88.17 323 P **P 14 06 57.2 +0.6**
0.2nm,0.5s,mb3.6,baz=142,slow=4.9,SNR=3.5
SONM pP pP 14 07 07.9 -0.1
1.2nm,0.8s,baz=134,slow=5.2,SNR=7.4
VNA2 Neumayer--Watz 88.36 181 *e* **P 14 06 57.4 +0.2**
baz=189,slow=4.8
VNA2 *e* 14 07 00.2
VNA2 *e* pP 14 07 07.4 -1.2
NVAR Mina Array Bea 90.39 49 P **P 14 07 06.9 -0.3**
0.2nm,0.6s,mb3.6,baz=232,slow=8.7,SNR=2.3
NVAR pP pP 14 07 18.4 -0.2
0.7nm,0.6s,baz=215,slow=5.9,SNR=4.4
KHC Kasperske Hory 145.50 331 *e*P PKPdf 14 13 45.5 +1.8
KHC x pPKPbc 14 13 55.5 +0.1
GERES GERESS Array B 145.64 330 PKPbc PKPbc 14 13 44.8 +0.5
1.3nm,0.8s,baz=46,slow=3.9,SNR=8.4
GERES pPKPbc pPKPbc 14 13 55.8 -0.1
2.8nm,0.8s,baz=46,slow=3.9,SNR=8.3

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*ISCJB **07** 13:56:58.3±0.9, 210S±02×1685E±0.1, h34km, mb4.0/6, Error ellipse: s-maj=26.6km s-min=19.0km az=6.5*
*IDC **07** 13:56:59.9±0.8, 2101S×16863E, h34km±5km, mb4.0/7, mb1 4.2/7, mb1mx4.0/14, mbtmp4.0/7, Error ellipse: s-maj=26.8km s-min=20.7km az=153.0*
ISC 07 13:56:60.0±0.9, 210S±02×1686E±01, h36km, h36km±.7km: pP-P, n12, σ0§72/10, mb4.0/6, Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**20.97**	**268**	P	**P**	**14 01 40.5**	**+0.3**
	12nm,1.2s,baz=113,slow=15,SNR=2.5						
STKA	**Stephens Creek**	**26.47**	**240**	P	**P**	**14 02 34.7**	**+0.9**
	1.3nm,0.5s,mb3.7,baz=85,slow=8.5,SNR=8.3						
WRA	**Warramunga Arr**	**32.11**	**266**	P	**P**	**14 03 22.9**	**-1.1**
	1.9nm,0.9s,mb3.9,baz=94,slow=8.6,SNR=5.0						
ASAR	**Alice Springs**	**32.19**	**259**	P	**P**	**14 03 24.1**	**-0.6**
	6.7nm,0.8s,mb4.5,baz=84,slow=9.2,SNR=45						
ASAR				pP	pP	14 03 34.5	-0.5
	2.6nm,0.8s,baz=82,slow=9.2,SNR=9.5						
QSPA	**South Pole Qui**	**69.10**	**180**	P	**P**	**14 08 02.1**	**+0.2**
	1.9nm,1.0s,mb4.0,baz=277,slow=16,SNR=3.2						
QSPA				pP	pP	14 08 13.1	+0.2
	1.5nm,0.8s,baz=309,slow=7.0,SNR=3.7						
VNA3	**Neumayer Olymp**	**88.04**	**181**	*e*	**P**	**14 09 45.4**	**-0.7**
VNA3				*e*		14 09 48.2	
VNA3				*e*	pP	14 09 56.0	-1.5
SONM	**Songino Array**	**88.24**	**323**	P	**P**	**14 09 48.3**	**+0.9**
	1.5nm,0.8s,mb4.3,baz=140,slow=5.3,SNR=12						
SONM				pP	pP	14 09 58.5	-0.2
	1.1nm,0.9s,baz=140,slow=4.6,SNR=5.5						
VNA2	**Neumayer--Watz**	**88.32**	**181**	*e*	**P**	**14 09 47.0**	**-0.5**
	baz=196,slow=4.1						
VNA2				*e*		14 09 49.4	
VNA2				*e*	pP	14 09 57.7	-1.1
VNA1	**Neumayer--Stat**	**88.61**	**181**	*e*	**P**	**14 09 49.8**	**+0.9**
VNA1				*e*		14 09 53.0	
VNA1				*e*	pP	14 10 00.2	0.0
NVAR	**Mina Array Bea**	**90.37**	**49**	P	**P**	**14 09 57.1**	**-0.4**
	0.2nm,0.5s,mb3.7,baz=221,slow=4.8,SNR=6.0						
NVAR				pP	pP	14 10 08.3	-0.6
	0.7nm,0.8s,baz=211,slow=6.2,SNR=5.7						
KHC	**Kasperske Hory**	**145.56**	**331**	*e*P	PKPdf	14 16 34.5	+0.3
KHC				x	x	14 16 45.5	
GERES	**GERESS Array B**	**145.71**	**330**	PKPbc	PKPbc	14 16 35.7	+0.8
	2.6nm,0.7s,baz=37,slow=3.3,SNR=17						
GERES				pPKPbc	pPKPbc	14 16 46.4	-0.1
	2.8nm,0.8s,baz=33,slow=3.2,SNR=6.8						

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*IDC **07** 13:58:08.1±2.3, 5189N×17159W, h0km, mb3.4/5, mb1 3.8/5, mb1mx3.5/24, mbtmp3.4/5, Error ellipse: s-maj=59.4km s-min=26.9km az=10.0*
*NEIC **07** 13:58:14.5, 5172N×17107W, h10km, ML3.4(AEIC), After AEIC.*
*ISCJB **07** 13:58:16.4±1.7, 522N±03×1713W±0.1, h62km±17km, mb3.4/5, Error ellipse: s-maj=46.8km s-min=11.4km az=168.0*
ISC 07 13:58:17.4±1.5, 523N±03×1712W±01, h51km±15km, n11, σ1§09/12, mb3.4/5, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UNV	**Unalaska Valle**	**3.27**	**59**	P	**Pn**	**13 59 06.9**	**+0.8**
ADK	**Adak**	**3.38**	**266**	P	**Pn**	**13 59 07.6**	**0.0**
ADK				S	**Sn**	**13 59 46.8**	**+0.4**
KDAK	**Kodiak Island**	**12.03**	**55**	Pn	**Pn**	**14 01 03.7**	**-2.3**
KDAK	**Kodiak Island**	**12.03**	**55**	Pn	**Pn**	**14 01 03.7**	**-2.3**
	0.2nm,0.3s,baz=324,slow=19,SNR=3.5						
DLBC	**Dease Lake**	**23.93**	**59**	P	**P**	**14 03 28.4**	**+2.1**
	baz=292,slow=5.4						
INK	**Inuvik**	**24.08**	**34**	P	**P**	**14 03 28.0**	**+0.4**
	1.0nm,0.4s,mb3.6,baz=248,slow=6.8,SNR=39						
YKA	**Yellowknife Ar**	**31.18**	**49**	P	**P**	**14 04 31.7**	**+0.6**
YKA	**Yellowknife Ar**	**31.18**	**49**	P	**P**	**14 04 31.7**	**+0.6**
	0.4nm,0.4s,mb3.6,baz=274,slow=7.7,SNR=11						
NVAR	**Mina Array Bea**	**36.81**	**89**	P	**P**	**14 05 36.3**	**-0.7**
	0.2nm,0.5s,mb3.1,baz=302,slow=7.3,SNR=3.8						
PDAR	**Pinedale Array**	**41.55**	**78**	P	**P**	**14 05 59.6**	**-0.1**
	0.3nm,0.6s,mb3.1,baz=316,slow=5.0,SNR=3.2						
MKAR	**Makanchi Array**	**63.04**	**312**	P	**P**	**14 08 37.4**	**-1.5**
	0.1nm,0.4s,mb3.3,baz=52,slow=8.2,SNR=2.9						

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*ISCJB **07** 14:08:13.5±0.4, 8.17S±008×15666E±005, h10km, mb4.4/18, Error ellipse: s-maj=11.6km s-min=7.6km az=11.3*
*IDC **07** 14:08:13.1±0.7, 807S×15662E, h0km, mb4.3/10, mb1 4.4/11, mb1mx4.3/15, mbtmp4.3/11, ML4.3/1, MS3.2/1, Ms1 3.2/1, ms1mx2.7/25, Error ellipse: s-maj=22.3km s-min=19.0km az=106.0*
*BJI **07** 14:08:14.7, 8.10S×15670E, h10km, mB5.0, mb4.6, Ms4.8, Msz4.4*
*NEIC **07** 14:08:14.8±0.4, 8.14S×15667E, h10km, mb4.6/7, Error ellipse: s-maj=12.4km s-min=9.1km az=142.0*
ISC 07 14:08:14.9±0.4, 818S±008×15668E±006, h10km, n30, σ1§08/29, mb4.4/18, 1D, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**3.46**	**111**	*e*Pn	**Pn**	**14 09 09.2**	**+0.4**
HNR				*e*S	**Sb**	**14 09 59.4**	**+1.1**
HNR	**Honiara**	**3.46**	**111**	Pn	**Pn**	**14 09 09.5**	**+0.7**
	29nm,0.3s,baz=274,slow=3.6,SNR=29						
HNR				Sn	**Sb**	**14 09 55.5**	**-2.9**
	46nm,0.3s,baz=90,slow=19,SNR=5.2						
HNR				LR	LR	14 10 34.0	
	comp=Z,328nm,18.4s,baz=359,slow=40						
WRAB	**Tennant Creek**	**24.57**	**239**	*e*P	**P**	**14 13 35.3**	**+0.1**
	23nm,0.8s,mb4.8						
WB2	**Warramunga Arr**	**24.58**	**239**	⇓*i*P	**P**	**14 13 35.4**	**+0.1**
WRA	**Warramunga Arr**	**24.59**	**239**	P	**P**	**14 13 35.7**	**+0.3**
	20nm,0.7s,mb4.8,baz=66,slow=9.9,SNR=69						
WRA				PcP	PcP	14 17 13.3	-0.1
	1.7nm,0.9s,baz=69,slow=2.5,SNR=8.0						
ASAR	**Alice Springs**	**26.71**	**232**	P	**P**	**14 13 53.6**	**-1.0**
	2.4nm,0.8s,mb3.8,baz=63,slow=9.6,SNR=27						
ASAR				PcP	PcP	14 17 17.0	-1.2
	0.4nm,0.6s,baz=67,slow=2.1,SNR=4.3						
STKA	**Stephens Creek**	**27.44**	**209**	*e*P	**P**	**14 14 03.0**	**+1.9**
	3.3nm,1.0s,mb3.8						
STKA	**Stephens Creek**	**27.44**	**209**	P	**P**	**14 14 02.5**	**+1.4**
	2.6nm,0.7s,mb3.9,baz=29,slow=14,SNR=11						
STKA				PcP	PcP	14 17 18.6	-1.2
	1.4nm,0.8s,baz=358,slow=6.6,SNR=3.1						
FITZ	**Fitzroy Crossi**	**31.75**	**249**	*e*P	**P**	**14 14 38.6**	**-0.9**
	3.5nm,0.5s,mb4.5						
MBWA	**Marble Bar**	**37.89**	**246**	*e*P	**P**	**14 15 32.1**	**-0.4**
	9.6nm,1.1s,mb4.4						
KLBR	**Kellerberrin**	**43.04**	**232**	*e*P	**P**	**14 16 14.3**	**-0.7**
	6.4nm,0.6s,mb4.5						
KSRS	**Korea Array**	**52.77**	**331**	P	**P**	**14 17 28.2**	**-2.0**

	0.9nm,0.7s,mb3.8,baz=138,slow=8.7,SNR=6.7						
HHC	**Hu-ho-hao-te**	**64.04**	**323**	*e*P	**P**	**14 18 51.8**	**+2.9**
HHC				AP	pP	14 18 56.0	+3.8
HHC				XP	sP	14 18 58.9	+5.5
HHC				PP	PP	14 21 14.4	+4.5
HHC				SCP		14 23 25.9	
HHC				PCS		14 23 29.9	
HHC				S	**S**	**14 27 29.0**	**+3.6**
HHC				XS	sS	14 27 34.1	+3.3
HHC				SCS	ScS	14 28 40.9	-2.1
HHC				SS	SS	14 31 35.7	+1.1
HHC				AMB	AMB		
	comp=Z,14nm,0.5s,mb5.2						
HHC				AMB	AMB		
	comp=Z,102nm,4.9s						
HHC				LR	LR		
	comp=N,115nm,5.7s						
HHC				LR	LR		
	comp=E,127nm,5.0s						
HHC				LR	LR		
	comp=Z,118nm,6.9s						
HIA	**Hailar**	**65.70**	**334**	*e*P	**P**	**14 19 00.1**	**+0.5**
	comp=Z,5.8nm,0.8s,mb4.7						
LZH	**Lanzhou**	**66.33**	**315**	*e*P	**P**	**14 19 06.5**	**+2.6**
LZH				AP	pP	14 19 13.3	+6.1
LZH				XP	sP	14 19 16.5	+8.1
LZH				AMB	AMB		
	comp=Z,15nm,1.4s,mb4.8						
LZH				AMB	AMB		
	comp=Z,65nm,4.1s						
SONM	**Songino Array**	**71.23**	**327**	P	**P**	**14 19 34.4**	**+0.2**
	comp=Z,1.9nm,0.9s,mb4.0,baz=139,slow=6.7,SNR=13						
MCK	**McKinley**	**82.53**	**21**	*e*P	**P**	**14 20 37.2**	**-0.4**
	comp=Z,25nm,1.4s,mb5.0						
MAW	**Mawson**	**83.95**	**203**	P	**P**	**14 20 44.8**	**-0.1**
	comp=Z,4.1nm,1.0s,mb4.5,baz=283,slow=1.2,SNR=3.7						
MK31	**Makanchi Array**	**85.40**	**318**	*e*P	**P**	**14 20 53.2**	**+0.6**
MKAR	**Makanchi Array**	**85.40**	**318**	P	**P**	**14 20 52.8**	**+0.1**
	comp=Z,3.8nm,0.9s,mb4.5,baz=101,slow=6.3,SNR=18						
ZALV	**Zalesovo Beam**	**86.09**	**326**	P	**P**	**14 20 55.4**	**-0.5**
ZALV	**Zalesovo Beam**	**86.09**	**326**	P	**P**	**14 20 55.4**	**-0.5**
	comp=Z,0.6nm,0.4s,mb4.1,baz=57,slow=5.5,SNR=4.7						
INK	**Inuvik**	**90.24**	**20**	P	**P**	**14 21 13.8**	**-1.6**
INK	**Inuvik**	**90.24**	**20**	P	**P**	**14 21 13.8**	**-1.6**
	comp=Z,0.5nm,0.8s,mb3.9,baz=240,slow=8.1,SNR=2.5						
YKA	**Yellowknife Ar**	**96.60**	**28**	P	**P**	**14 21 44.5**	**-0.2**
YKA	**Yellowknife Ar**	**96.60**	**28**	P	**P**	**14 21 44.5**	**-0.2**
	comp=Z,0.9nm,0.7s,mb4.3,baz=266,slow=4.6,SNR=16						
GERES	**GERESS Array B**	**128.93**	**329**	PKP	PKPdf	14 27 22.8	-0.2
	comp=Z,0.2nm,0.4s,baz=57,slow=3.6,SNR=3.2						
ESDC	**Sonseca Array**	**144.17**	**334**	PKP	PKPdf	14 27 50.3	-1.1
	comp=Z,0.5nm,0.7s,baz=29,slow=3.2,SNR=4.3						
BDFB	**Brasília**	**145.96**	**134**	PKPbc	PKPbc	14 27 56.0	+0.1
	comp=Z,2.4nm,0.6s,baz=227,slow=16,SNR=4.4						
TORD	**Torodi Ar. Bea**	**154.94**	**284**	PKPbc	PKPbc	14 28 16.3	-1.6
	comp=Z,0.8nm,0.9s,baz=137,slow=2.6,SNR=3.6						
TORD				PKPab	PKPab	14 28 32.4	-0.8
	comp=Z,0.7nm,0.7s,baz=86,slow=2.8,SNR=4.2						

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*PDA **07** 14:12:03.0±0.7, 3731N×2466W, h0km, MD3.9, ML3.2, Error ellipse: s-maj=5.4km s-min=2.2km az=88.0*
*CSEM **07** 14:12:03.0±0.7, 3731N×2466W, h0km, ML3.2, Error ellipse: s-maj=5.4km s-min=2.2km az=88.0, After PDA*
SVSA 07 14:12:03.0±0.7, 3731N×2466W, h0km, MD3.9, ML3.2, Error ellipse: s-maj=5.4km s-min=2.2km az=88.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSMN	**Pico do Norte,**	**0.45**	**227**	*i*P	Pg	14 12 11.1	-0.5
PSMN				*e*S	Sg	14 12 17.6	+0.2
PSMN	**Pico do Norte,**	**0.45**	**227**	*e*S	Sg	14 12 17.6	+0.2
PDA	**Ponta Delgada**	**0.91**	**299**	*e*P	Pg	14 12 18.0	-2.4
PDA				*e*S	Sg	14 12 29.7	-2.5
PSET	**Sete Cidades**	**0.99**	**301**	*e*P	Pg	14 12 19.0	-2.9
PSET				*e*S	Sg	14 12 31.7	-3.0
PSET				A		14 12 34.2	
	158nm,0.1s						
PSET	**Sete Cidades**	**0.99**	**301**	*e*P	Pg	14 12 19.0	-2.9
PSET				*e*S	Sg	14 12 31.7	-3.0
PSCM	**Serra do Cume**	**2.38**	**306**	*e*P	Pn	14 12 38.5	-4.8
PSCM				*e*S	Sn	14 13 05.1	-8.2
PSCM				A		14 13 07.1	
	57nm,0.2s						
PSCM	**Serra do Cume**	**2.38**	**306**	*e*P	Pn	14 12 38.5	-4.8
PSCM				*e*S	Sn	14 13 05.1	-8.2
PID	**Ribeirinha**	**2.96**	**293**	*e*P	Pn	14 12 46.9	-4.3
ROSA	**Rosais**	**3.16**	**297**	*e*P	Pn	14 12 49.6	-4.4
ROSA				*e*S	Sn	14 13 24.2	-8.1
PICO	**Pico**	**3.21**	**293**	*e*P	Pn	14 12 50.0	-4.6
PICO				*e*S	Sn	14 13 25.1	-8.4
CALA	**Caldeira**	**3.44**	**293**	*e*P	Pn	14 12 53.5	-4.3
CALA				*e*S	Sn	14 13 30.9	-8.3

GUC 07 14:16:43.1±0.6, 3249S×7167W, h32km±1km, MD3.6, ML2.7, 10C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PACH	**Papudo**	**0.20**	**103**	⇓*i*P	Pb	14 16 49.7	+0.1
PACH				*i*S	Sb	14 16 54.3	+0.2
CHNG	**Los Chungos**	**0.62**	**14**	⇓*i*P	Pb	14 16 37.4	-18
CHNG				*i*S	Sb	14 16 46.6	-18
CHNG				AML	AML	14 16 48.7	
	comp=E,271nm,0.2s						
ROCH	**El Roble**	**0.74**	**131**	⇑*i*P	Pn	14 16 57.1	-0.1
ROCH				*i*S	Sb	14 17 08.1	+0.7
JACH	**Jahuel**	**0.93**	**102**	⇑*i*P	Pn	14 17 00.2	+0.3
JACH				*i*S	Sn	14 17 13.3	+1.2
PEL	**Peldehue**	**1.06**	**128**	⇑*i*P	Pn	14 17 02.2	+0.6
PEL				*i*S	Sn	14 17 16.5	+1.3
PEL				AML	AML	14 17 17.3	
	comp=E,985nm,0.4s						
TACH	**Talagante**	**1.31**	**152**	⇑*e*P	Pn	14 17 06.0	+0.9
TACH				*i*S	Sn	14 17 23.1	+1.6
CLCH	**Cerro Calan**	**1.31**	**134**	⇑*i*P	Pn	14 17 05.9	+0.7
CLCH				*i*S	Sn	14 17 23.6	+2.0
CLCH				AML	AML	14 17 31.2	
	comp=E,156nm,0.5s						
ANTU	**Antumapu**	**1.39**	**141**	⇑*i*P	Pn	14 17 07.1	+0.9
ANTU				*i*S	Sn	14 17 25.4	+2.1
ANTU				AML	AML	14 17 30.0	
	comp=N,179nm,0.5s						
FCH	**Farellones**	**1.43**	**126**	*e*P	Pn	14 17 08.0	+1.2
FCH				*i*S	Sn	14 17 27.1	+2.7
FCH				AML	AML	14 17 28.0	
	comp=N,180nm,0.2s						
CMCH	**Combarbala**	**1.43**	**24**	*e*P	Pn	14 17 07.9	+1.1
CMCH				*i*S	Sn	14 17 26.8	+2.3
CMCH				AML	AML	14 17 31.1	
	comp=N,505nm,0.5s						
PCH	**Pirque**	**1.49**	**139**	⇑*i*P	Pn	14 17 08.8	+1.2
PCH				*i*S	Sn	14 17 28.6	+2.7
CHCH	**Chadas Angostu**	**1.67**	**150**	⇑*i*P	Pn	14 17 11.9	+1.8
CHCH				*i*S	Sn	14 17 33.0	+2.5
LMEL	**Las Melosas**	**1.83**	**138**	⇑*i*P	Pn	14 17 14.2	+2.0
LMEL				*i*S	Sn	14 17 37.4	+3.0
LMEL				AML	AML	14 17 39.4	
	comp=N,146nm,0.2s						
TLL	**Tololo Astrono**	**2.43**	**18**	⇑*i*P	Pn	14 17 22.7	+2.1
TLL				*i*S	Sn	14 17 52.2	+3.0
TLL				AML	AML	14 18 02.7	
	comp=N,38nm,0.4s						

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*ISCJB **07** 14:41:50.8±1.3, 3160S±003×7223W±006, h9km±5km, n35, σ0§74/48, mb4.0/5, 6C-5D, Off coast of central Chile*

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHNG	**Los Chungos**	**0.60**	**118**	⇓*i*P	**Pg**	**14 41 45.7**	**-17**
CHNG				*i*S	**Sg**	**14 41 54.5**	**-16**
CHNG				AML	AML	14 41 55.3	
	comp=E,7μm,0.3s						
CMCH	**Combarbala**	**1.05**	**66**	⇑*i*P	**Pg**	**14 42 10.7**	**-0.4**
CMCH				*i*S	**Sg**	**14 42 25.3**	**+0.5**
CMCH				AML	AML	14 42 38.4	
	comp=N,15μm,0.8s						
PACH	**Papudo**	**1.10**	**148**	⇑*i*P	**Pg**	**14 42 11.5**	**-0.5**
PACH				*i*S	**Sg**	**14 42 26.6**	**+0.3**
PTCH	**Petorca**	**1.21**	**123**	⇓*i*P	**Pb**	**14 42 13.4**	**-0.5**
PTCH				*i*S	**Sb**	**14 42 29.7**	**0.0**
PTCH				AML	AML	14 42 30.4	
	comp=N,2μm,0.3s						
OVCH	**Ovalle**	**1.27**	**39**	⇓*i*P	**Pn**	**14 42 14.8**	**+0.1**
OVCH				*i*S	**Sb**	**14 42 31.2**	**-0.2**
OVCH				AML	AML	14 42 32.9	
	comp=N,5μm,0.5s						
ROCH	**El Roble**	**1.66**	**146**	*e*P	**Pn**	**14 42 20.0**	**-0.2**
JACH	**Jahuel**	**1.69**	**130**	⇑*i*P	**Pn**	**14 42 20.9**	**+0.4**
JACH				*i*S	**Sn**	**14 42 42.3**	**0.0**
TLL	**Tololo Astrono**	**1.83**	**39**	*e*P	**Pn**	**14 42 22.2**	**-0.2**
TLL				AML	AML	14 43 00.1	
	comp=N,2μm,0.6s						
LSCH	**La Serena**	**1.85**	**24**	AML	AML	14 42 58.8	
	comp=N,399nm,0.6s						
PEL	**Peldehue**	**1.96**	**142**	⇓*i*P	**Pn**	**14 42 24.4**	**+0.1**
PEL				*i*S	**Sn**	**14 42 49.1**	**+0.1**
PEL				AML	AML	14 43 04.1	
	comp=E,3μm,0.8s						
STL	**Santa Lucia**	**2.22**	**146**	*e*P	**Pn**	**14 42 27.5**	**-0.3**
STL				*i*S	**Sn**	**14 42 54.8**	**-0.6**
STL				AML	AML	14 43 07.5	
	comp=N,160nm,0.4s						
DSCH	**Colegio Aleman**	**2.22**	**144**	*e*P	**Pn**	**14 42 27.3**	**-0.6**
DSCH				*e*S	**Sn**	**14 42 54.6**	**-0.8**
DSCH				AML	AML	14 43 04.5	
	comp=E,428nm,0.6s						
CLCH	**Cerro Calan**	**2.24**	**144**	⇑*i*P	**Pn**	**14 42 28.3**	**+0.2**
CLCH				AML	AML	14 43 06.8	
	comp=E,2μm,0.6s						
CLCH				AML	AML	14 43 07.8	
	comp=E,2μm,0.8s						
TACH	**Talagante**	**2.28**	**154**	*e*P	**Pn**	**14 42 28.7**	**+0.1**
TACH				*e*S	**Sn**	**14 42 56.5**	**-0.3**
FSR	**Penalolen**	**2.31**	**145**	*e*P	**Pn**	**14 42 29.1**	**0.0**
FSR				*e*S	**Sn**	**14 42 57.5**	**0.0**
FSR				AML	AML	14 43 10.5	
	comp=N,1μm,0.6s						
FCH	**Farellones**	**2.32**	**138**	⇑*i*P	**Pn**	**14 42 29.5**	**+0.4**
FCH				*i*S	**Sn**	**14 42 58.8**	**+1.0**
FCH				AML	AML	14 43 04.1	
	comp=E,690nm,0.6s						
ANTU	**Antumapu**	**2.33**	**148**	*e*P	**Pn**	**14 42 28.9**	**-0.5**
ANTU				*i*S	**Sn**	**14 42 57.6**	**-0.5**
ANTU				AML	AML	14 43 13.3	
	comp=E,858nm,0.3s						
PCH	**Pirque**	**2.43**	**146**	*e*P	**Pn**	**14 42 30.8**	**+0.1**
LMEL	**Las Melosas**	**2.76**	**145**	⇑*i*P	**Pn**	**14 42 36.1**	**+0.8**
LMEL				*e*S	**Sn**	**14 43 09.2**	**+0.4**
LMEL				AML	AML	14 43 23.9	
	comp=N,655nm,0.3s						
CACH	**El Canelo**	**2.82**	**153**	*e*P	**Pn**	**14 42 36.9**	**+0.8**
CACH				*e*S	**Sn**	**14 43 10.6**	**+0.5**
SFDO	**San Fernando**	**3.15**	**163**	⇓*i*P	**Pn**	**14 42 40.7**	**+0.2**
CFAA	**Coronel Fontan**	**3.32**	**91**	P	**Pn**	**14 42 46.0**	**+3.1**
	comp=N,0.9nm,0.3s,baz=261,slow=13,SNR=74						
CFAA				S	**Sn**	**14 43 32.1**	**+10**
	comp=N,1.9nm,0.3s,baz=325,slow=5.4,SNR=4.5						
PLCA	**Paso Flores**	**9.20**	**172**	P	**Pn**	**14 44 02.8**	**-0.9**
	comp=N,0.3nm,0.3s,baz=353,slow=18,SNR=8.6						
LPAZ	**La Paz**	**15.67**	**14**	P	**Pn**	**14 45 32.5**	**+0.6**
	comp=N,0.1nm,0.3s,baz=193,slow=7.6,SNR=2.8						
SIV	**San Ignacio**	**18.52**	**35**	P	**Pn**	**14 46 06.5**	**-1.2**
	comp=N,0.3nm,0.3s,baz=217,slow=11,SNR=8.4						
BDFB	**Brasilia**	**27.12**	**60**	P	**P**	**14 47 30.6**	**-3.6**
	comp=N,4.8nm,1.0s,mb4.0,baz=230,slow=7.5,SNR=4.5						
VNA3	**Neumayer Olymp**	**51.61**	**159**	*e*	**P**	**14 50 58.2**	**+1.1**
VNA3				*e*		14 51 07.1	
VNA3				*e*		14 51 13.9	
VNA2	**Neumayer--Watz**	**52.25**	**158**	*e*	**P**	**14 51 02.6**	**+0.7**
	baz=282,slow=9.6						
VNA2				*e*		14 51 11.5	
VNA2				*e*		14 51 17.4	
SNAA	**Sanae**	**53.83**	**158**	*e*	**P**	**14 51 13.8**	**+0.2**
SNAA				*e*		14 51 23.6	
SNAA				*e*		14 51 28.7	
SNAA	**Sanae**	**53.83**	**158**	P	**P**	**14 51 11.2**	**-2.4**
	comp=N,1.7nm,1.0s,mb3.9,baz=272,slow=6.6,SNR=8.8						
TXAR	**Lajitas Array**	**67.61**	**330**	P	**P**	**14 52 50.9**	**+3.0**
	comp=N,0.4nm,0.7s,mb3.5,baz=156,slow=8.9,SNR=3.1						
DBIC	**Dimbokro**	**74.49**	**72**	P	**P**	**14 53 29.2**	**-0.8**
	comp=N,3.4nm,0.6s,mb4.5,baz=206,slow=5.2,SNR=5.6						
TORD	**Torodi Ar. Bea**	**83.47**	**70**	P	**P**	**14 54 18.2**	**-1.0**
	comp=N,2.9nm,0.8s,mb4.3,baz=284,slow=5.8,SNR=17						
ZALV	**Zalesovo Beam**	**152.21**	**30**	PKPbc	PKPbc	15 01 45.9	-0.5
	comp=N,2.9nm,0.7s,baz=300,slow=3.5,SNR=16						
ZALV				PKPab	PKPab	15 01 55.3	-0.9
	comp=N,3.3nm,0.6s,baz=299,slow=3.3,SNR=12						
MKAR	**Makanchi Array**	**155.19**	**45**	PKPbc	PKPdf	15 01 52.1	+8.0
	comp=N,0.1nm,0.4s,baz=269,slow=4.9,SNR=3.3						

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*ISCJB **07** 14:42:12.6±0.5, 4080N±002×3479E±004, h6km±5km, Error ellipse: s-maj=5.4km s-min=4.0km az=11.1*
*CSEM **07** 14:42:12.2±0.1, 4080N×3479E, h10km, MD3.0, Error ellipse: s-maj=1.8km s-min=1.6km az=28.0*
*ISK **07** 14:42:12.5, 4081N×3478E, h7km, MD3.3*
*DDA **07** 14:42:12.8, 4080N×3482E, h11km, Md3.0*
ISC 07 14:42:13.2±0.5, 4081N±002×3478E±004, h9km±5km, n22, σ0§60/28, 1C, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTKT	**Corum**	**0.18**	**178**	⇑*i*P	**Pg**	**14 42 17.2**	**+0.1**
TOS	**Tosya**	**0.62**	**292**	*i*PG	**Pg**	**14 42 25.1**	**-0.1**
BOYT	**Boyabat**	**0.62**	**8**	*i*P	**Pg**	**

JHJ Sn **Sn** **14 56 33.2 +1.1**
61nm,0.3s,baz=100,slow=23,SNR=15
JHJ2 Mitsune 0.91 162 P **Pn** **14 56 13.4 +0.2**
BSO3 Boso 3 1.18 46 P **Pn** **14 56 15.3 -0.1**
JOD2 Odawara 2 1.32 346 P **Pn** **14 56 16.6 -0.1**
JOD2 *e*S **Sn** **14 56 38.3 -0.4**
TK04 Tokai 4 1.39 287 P **Pn** **14 56 17.6 +0.2**
TK04 S **Sn** **14 56 40.3 +0.5**
BSO1 Boso 1 1.41 61 P **Pn** **14 56 17.1 -0.4**
SHZ3 Shizuoka 3 1.51 316 P **Pn** **14 56 18.8 +0.3**
SHZ3 S **Sn** **14 56 41.9 -0.1**
JYN Shimob 1.70 333 P **Pn** **14 56 21.1 +0.6**
JRY Ryogami san 2.09 347 P **Pn** **14 56 25.4 +0.6**
JRY S **Sn** **14 56 53.2 0.0**
JIE Ise 2.34 281 P **Pn** **14 56 27.8 +0.1**
JIE S **Sn** **14 56 57.4 -0.9**
JAG Ashikaga 2.44 359 P **Pn** **14 56 28.3 -0.6**
MJAR Matsushiro Arr 2.76 338 Pn **Pn** **14 56 33.0 +0.2**
1.6nm,0.3s,baz=168,slow=11,SNR=11
MAT Matsushiro 2.76 338 P **Pn** **14 56 33.7 +0.9**
MAT S **Sn** **14 57 08.1 +0.5**
ASAJ Asahikawa 10.41 13 LR LR 15 03 17.3
comp=Z,29nm,19.0s,baz=182,slow=39
MKAR Makanchi Array 44.47 304 P **P** **15 03 44.2 +1.1**
0.2nm,0.3s,mb3.3,baz=97,slow=9.1,SNR=3.0
WRA Warramunga Arr 53.84 186 P **P** **15 04 52.2 -2.2**
0.2nm,0.3s,mb3.3,baz=0.2,slow=7.6,SNR=17
ASAR Alice Springs 57.57 186 P **P** **15 05 21.1 +0.2**
0.2nm,0.5s,mb3.2,baz=7.9,slow=5.9,SNR=6.0

IDC 07 14:56:45.6±6.4, 2044S×16810E, h0km, mb3.8/2, mb1 4.1/2, mb1mx3.6/12, mbtmp3.8/2, Error ellipse: s-maj=260.1km s-min=53.1km az=149.0, Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**31.66**	**265**	P	P	15 03 09.9	-1.0
	0.7nm,0.9s,baz=96,slow=8.5,SNR=4.0						
ASAR	**Alice Springs**	**31.82**	**258**	P	P	15 03 13.1	+0.9
	1.6nm,0.8s,baz=86,slow=9.3,SNR=19						
GERES	**GERESS Array B**	**145.02**	**330**	PKPbc	PKPbc	15 16 23.6	-0.5
	1.1nm,0.9s,baz=48,slow=4.2,SNR=7.6						

MAN 07 15:11:53, 1180N×12595E, h6km, mb4.6, ML3.5, MS3.4, 4C, Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BESP	**Borongan**	**0.54**	**248**	*e*P	Pg	15 12 04.5	+1.1
BESP				*e*S	Sg	15 12 10.5	+0.1
PLP	**Palo**	**1.14**	**237**	*e*P	Pg	15 12 13.9	-1.0
PLP				*e*S	Sg	15 12 25.2	-4.6
CNP	**Catarman**	**1.44**	**299**	*e*P	Pn	15 12 20.8	+1.1
CNP				*e*S	Sb	15 12 40.0	+1.0
OCLP	**Ormoc**	**1.51**	**241**	*e*P	Pn	15 12 20.6	0.0
MSLP	**Maasin**	**1.97**	**213**	*e*P	Pn	15 12 29.0	+2.0
MSLP				*e*S	Sn	15 12 54.2	+2.1
SCPH	**Surigao**	**2.06**	**193**∥	*e*P	Pn	15 12 29.0	+0.8
LLP	**Lapu-Lapu**	**2.44**	**233**∥	*e*P	Pn	15 12 36.3	+2.9
LLP				*i* S	Sn	15 13 06.0	+2.4
PVCP	**Virac**	**2.50**	**316**∥	*i*P	Pn	15 12 35.5	+1.3
PVCP	**Virac**	**2.50**	**316**	*e*P	Pn	15 12 35.4	+1.1
RCP	**Roxas**	**3.15**	**266**∥	*e*P	Pn	15 12 45.0	+1.8
GUIM	**Jordan**	**3.50**	**251**	*e*P	Pn	15 12 49.2	+1.2
OTRP	**Odiongan**	**3.88**	**279**	*e*P	Pn	15 12 54.7	+1.5

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*IDC **07** 15:19:34.3±0.6, 696S×155.17E, h0km, mb4.3/14, mb1 4.4/15, mb1mx4.3/18, mbtmp4.3/15, ML4.1/1, MS3.8/9, Ms1 3.8/9, ms1mx3.5/27, Error ellipse: s-maj=20.8km s-min=15.5km az=86.0*
*ISCJB **07** 15:19:35.8±0.3, 708S±006×155.17E±005, h10km, mb4.5/32, MS3.8/10, Error ellipse: s-maj=8.5km s-min=7.2km az=36.7*
*BJI **07** 15:19:37.0, 700S×155.10E, h10km, mB4.9, mb4.6, Ms4.7, Msz4.3*
*NEIC **07** 15:19:37.0±0.4, 704S×155.15E, h10km, mb4.7/13, Error ellipse: s-maj=12.2km s-min=9.8km az=128.0*
*MOS **07** 15:19:40.1±2.7, 694S×155.10E, h33km, mb4.9/8, Error ellipse: s-maj=14.5km s-min=10.3km az=71.1*
ISC 07 15:19:37.0±5.0, 711S±006×15514E±006, h6km±31km, n70, σ1°26/65, mb4.5/32, MS3.8/10, 1C-2D, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.29**	**116**	*e*Pn	**Pn**	**15 20 57.7**	**+1.2**
HNR	562nm,1.0s						
				*e*Sn	**Sn**	**15 21 59.0**	**+1.2**
HNR	**Honiara**	**5.29**	**116**	*e*P	**Pn**	**15 20 57.7**	**+1.2**
HNR				*e*		15 21 59.0	
HNR				pmax	pmax		
	comp=Z,562nm,1.0s						
HNR	**Honiara**	**5.29**	**116**	Pn	**Pn**	**15 20 55.9**	**-0.6**
	comp=Z,6.1nm,0.3s,baz=280,slow=19,SNR=4.3						
HNR				Sn	**Sn**	**15 21 58.7**	**+1.0**
	comp=Z,23nm,0.3s,baz=270,slow=11,SNR=4.6						
HNR				LR	LR	15 22 43.0	
	comp=Z,678nm,20.7s,baz=359,slow=35						
CTA	**Charters Tower**	**15.52**	**213**	*e*P	**Pn**	**15 23 23.3**	**+6.9**
	comp=Z,18nm,0.9s						
CTA	**Charters Tower**	**15.52**	**213**	*e*P	**Pn**	**15 23 23.3**	**+6.9**
CTA				pmax	pmax		
	comp=Z,18nm,0.9s						
CTA	**Charters Tower**	**15.52**	**213**	Pn	**Pn**	**15 23 22.1**	**+5.7**
	comp=Z,0.2nm,0.3s,baz=36,slow=13,SNR=8.6						
CTAO	**Charters Tower**	**15.52**	**213**	*e*P	**Pn**	**15 23 23.1**	**+6.7**
	comp=Z,36nm,1.0s						
CTAO	**Charters Tower**	**15.52**	**213**	*e*P	**Pn**	**15 23 23.1**	**+6.7**
CTAO				pmax	pmax		
	comp=Z,37nm,1.0s						
KAKA	**Kakadu**	**23.04**	**254**	*e*P	**P**	**15 24 42.7**	**-0.4**
	comp=Z,13nm,0.6s,mb4.5						
ARMA	**Armidale**	**23.42**	**188**	*e*P	**P**	**15 24 47.3**	**+0.3**
WRAB	**Tennant Creek**	**23.86**	**236**	*e*P	**P**	**15 24 52.3**	**+1.0**
	comp=Z,82nm,1.4s,mb5.0						
WRAB	**Tennant Creek**	**23.86**	**236**	*e*P	**P**	**15 24 52.3**	**+1.0**
WRAB				pmax	pmax		
	comp=Z,82nm,1.4s,mb5.0						
WB2	**Warramunga Arr**	**23.86**	**236**	*e*P	**P**	**15 24 52.2**	**+0.9**
WRA	**Warramunga Arr**	**23.87**	**236**	P	**P**	**15 24 52.1**	**+0.7**
WRA				LR	LR	15 34 00.6	
WRA	**Warramunga Arr**	**23.87**	**236**	P	**P**	**15 24 52.1**	**+0.7**
	comp=Z,26nm,0.9s,mb4.7,baz=62,slow=9.5,SNR=62						
WRA				LR	LR	15 34 00.6	
	comp=Z,121nm,18.0s,MS3.4,baz=85,slow=36						
ASAR	**Alice Springs**	**26.21**	**229**	P	**P**	**15 25 11.8**	**-0.8**
	comp=Z,2.8nm,0.8s,mb3.8,baz=58,slow=9.6,SNR=28						
STKA	**Stephens Creek**	**27.69**	**205**	*e*P	**P**	**15 25 25.4**	**-0.5**
	comp=Z,10nm,0.9s,mb4.5						
STKA	**Stephens Creek**	**27.69**	**205**	P	**P**	**15 25 24.4**	**-1.5**
	comp=Z,13nm,0.9s,mb4.6,baz=352,slow=6.3,SNR=14						
STKA				LR	LR	15 36 31.4	
	comp=Z,364nm,19.1s,MS4.0,baz=32,slow=36						
FITZ	**Fitzroy Crossi**	**30.74**	**246**∥	*i*P	**P**	**15 25 53.8**	**+0.6**
	comp=Z,11nm,0.7s,mb4.8						
FITZ	**Fitzroy Crossi**	**30.74**	**246**	P	**P**	**15 25 53.5**	**+0.3**
	comp=Z,6.4nm,0.7s,mb4.5,baz=98,slow=8.1,SNR=13						
BATI	**Kupang**	**31.26**	**262**	LR	LR	15 37 54.6	
	comp=Z,133nm,18.1s,MS3.6,baz=109,slow=35						
MBWA	**Marble Bar**	**36.96**	**244**	*e*P	**P**	**15 26 47.2**	**0.0**
	comp=Z,5.2nm,0.8s,mb4.4						
RPZ	**Rata Peaks**	**39.04**	**162**	P	**P**	**15 27 02.9**	**-1.6**
	comp=Z,11nm,0.8s,mb4.6,baz=332,slow=10.0,SNR=5.4						
RPZ				LR	LR	15 40 19.5	
	comp=Z,306nm,18.9s,MS4.2,baz=150,slow=32						
KLBR	**Kellerberrin**	**42.52**	**230**	*e*P	**P**	**15 27 33.0**	**-0.4**
	comp=Z,8.6nm,0.7s,mb4.6						
JOW	**Kunigami**	**42.62**	**323**	LR	LR	15 45 11.1	
	comp=Z,67nm,18.2s,MS3.6,baz=66,slow=36						
MUN	**Mundaring**	**43.87**	**230**	*e*P	**P**	**15 27 44.6**	**+0.2**
MJAR	**Matsushiro Arr**	**46.23**	**341**	P	**P**	**15 27 59.3**	**-3.7**
	comp=Z,0.7nm,0.8s,mb3.7,baz=145,slow=9.8,SNR=3.0						
KSRS	**Korea Array**	**51.11**	**332**	P	**P**	**15 28 37.4**	**-3.1**
	comp=Z,0.8nm,0.7s,mb3.7,baz=152,slow=7.7,SNR=4.7						
KSRS				LR	LR	15 47 01.1	
	comp=Z,36nm,18.6s,MS3.4,baz=160,slow=32						
NJ2	**Nanjing**	**52.09**	**320**	*e*P	**P**	**15 28 50.4**	**+2.4**
NJ2				AMB	AMB		
	comp=Z,30nm,1.1s,mb5.1						
ASAJ	**Asahikawa**	**52.23**	**349**	P	**P**	**15 28 49.4**	**+0.6**
	comp=Z,2.7nm,0.8s,mb4.2,baz=225,slow=16,SNR=2.9						
YSS	**Yuzh-Sakhalins**	**54.94**	**350**	*e*P	**P**	**15 29 11.6**	**+3.0**
	comp=Z,5.2nm,0.9s,mb4.6						
YSS	**Yuzh-Sakhalins**	**54.94**	**350**	*i* P	**P**	**15 29 13.6**	**+5.0**
YSS				pmax	pmax		
	comp=Z,9.0nm,1.5s,mb4.6						
CN2	**Changchun**	**57.35**	**335**	*e*P	**P**	**15 29 25.3**	**-0.6**
KLR	**Kul'dur**	**59.72**	**342**	*e*P	**P**	**15 29 38.2**	**-4.1**
PET	**Petropavlovsk**	**59.98**	**2**	*i* P	**P**	**15 29 49.2**	**+5.2**
PET				pmax	pmax		
	comp=Z,63nm,2.7s,mb5.2						
KMI	**Kunming**	**60.20**	**304**	P	**P**	**15 29 50.6**	**+4.5**
KMI				AMB	AMB		
	comp=Z,8.0nm,1.4s,mb4.6						
KMI				LR	LR		
	comp=Z,36nm,35.1s,MS3.3						
CM31	**Chiang Mai Arr**	**60.96**	**296**	*e*P	**P**	**15 29 54.2**	**+2.7**
	comp=Z,8.9nm,0.9s,mb4.9						
CD2	**Chengdu**	**62.00**	**310**	*e*P	**P**	**15 30 00.6**	**+2.4**
CD2				XP	sP	15 30 07.8	+6.7
CD2				PP	PP	15 32 19.6	+4.8
CD2				XS	sS	15 38 31.8	+5.1
CD2				SS	SS	15 42 28.9	+2.9
CD2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb5.0						
CD2				AMB	AMB		
	comp=Z,30nm,4.8s						
CD2				LR	LR		
	comp=N,140nm,10.4s						
CD2				LR	LR		
	comp=Z,70nm,12.0s,MS4.0						
HHC	**Hu-ho-hao-te**	**62.27**	**324**	*e*P	**P**	**15 30 01.1**	**+1.3**
HHC				AP	pP	15 30 05.8	+3.9
HHC				XP	sP	15 30 08.3	+5.6
HHC				PP	PP	15 32 19.8	+2.8
HHC				SCP	ScP	15 34 40.9	-1.5
HHC				PCS	PcS	15 34 45.0	+2.2
HHC				S	**S**	**15 38 29.6**	**+3.2**
HHC				XS	sS	15 38 36.0	+6.2
HHC				SCS	ScS	15 39 48.4	-4.3
HHC				SS	SS	15 42 32.9	+3.0
HHC				AMB	AMB		
	comp=Z,24nm,0.3s,mb5.8						
HHC				AMB	AMB		
	comp=Z,76nm,4.6s						
HHC				LR	LR		
	comp=N,135nm,8.8s						
HHC				LR	LR		
	comp=E,115nm,4.5s						
HHC				LR	LR		
	comp=Z,141nm,5.7s						
MA2	**Magadan**	**66.56**	**358**∥	*e*P	**P**	**15 30 35.1**	**+7.6**
GTA	**Gaotai**	**68.92**	**317**	*e*P	**P**	**15 30 42.4**	**-0.5**
GTA				AP	pP	15 30 46.5	+1.5
GTA				XP	sP	15 30 49.4	+3.6
GTA				AMB	AMB		
	comp=Z,3.0nm,0.7s,mb4.3						
ULN	**Ulaanbaatar**	**69.18**	**328**∥	*e*P	**P**	**15 30 35.5**	**-8.8**
SONM	**Songino Array**	**69.51**	**327**	P	**P**	**15 30 44.0**	**-2.4**
	comp=Z,1.3nm,0.8s,mb3.9,baz=138,slow=6.3,SNR=11						
SEY	**Seymchan**	**69.87**	**359**	*i* P	**P**	**15 30 52.6**	**+4.4**
LSA	**Lhasa**	**71.45**	**304**	P	**P**	**15 30 58.2**	**-0.4**
YAK	**Yakutsk**	**71.70**	**348**	*i* P	**P**	**15 30 59.4**	**0.0**
YAK				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.8						
ZAK	**Zakamensk**	**72.67**	**328**	*e*P	**P**	**15 31 05.3**	**-0.1**
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.2						
BILL	**Bilibino**	**75.38**	**4**	*e*P	**P**	**15 31 22.3**	**+1.3**
	comp=Z,7.8nm,1.1s,mb4.5						
BILL	**Bilibino**	**75.38**	**4**	*i* P	**P**	**15 31 23.5**	**+2.5**
BILL				*e*		15 31 30.6	
BILL				pmax	pmax		
	comp=Z,4.0nm,1.4s,mb4.2						
TIXI	**Tiksi**	**80.49**	**352**	*e*P	**P**	**15 31 50.3**	**+1.0**
TIXI				pmax	pmax		
	comp=Z,5.0nm,1.5s,mb4.2						
IMA2	**Indian Mountai**	**81.86**	**19**	*e*P	**P**	**15 31 56.6**	**-0.1**
MCK	**McKinley**	**82.11**	**22**	*e*P	**P**	**15 31 56.8**	**-1.2**
	comp=Z,14nm,1.1s,mb4.8						
MCK	**McKinley**	**82.11**	**22**	*e*P	**P**	**15 31 56.8**	**-1.2**
MCK				pmax	pmax		
	comp=Z,14nm,1.1s,mb4.8						
QSPA	**South Pole Qui**	**82.87**	**180**	*e*P	**P**	**15 32 01.3**	**-0.6**
	comp=Z,9.4nm,1.1s,mb4.7						
QSPA	**South Pole Qui**	**82.87**	**180**	P	**P**	**15 32 01.5**	**-0.3**
	comp=Z,6.5nm,1.0s,mb4.6,baz=357,slow=2.1,SNR=9.0						
MK31	**Makanchi Array**	**83.58**	**319**	*e*P	**P**	**15 32 06.8**	**+0.7**
MKAR	**Makanchi Array**	**83.58**	**319**	P	**P**	**15 32 05.0**	**-1.1**
	comp=Z,1.7nm,0.7s,mb4.3,baz=108,slow=5.1,SNR=6.6						
MAW	**Mawson**	**84.35**	**203**	P	**P**	**15 32 09.3**	**-0.4**
	comp=Z,4.5nm,0.8s,mb4.6,baz=70,slow=6.1,SNR=6.4						
ZALV	**Zalesovo Beam**	**84.35**	**326**	P	**P**	**15 32 06.9**	**-3.0**
	comp=Z,0.7nm,0.3s,mb4.2,baz=133,slow=6.3,SNR=3.6						
ZAL	**Zalesovo**	**84.36**	**326**	P	**P**	**15 32 06.9**	**-3.0**
INK	**Inuvik**	**89.78**	**21**	*e*P	**P**	**15 32 35.2**	**-0.7**
	comp=Z,163nm,1.0s,mb6.3						
INK	**Inuvik**	**89.78**	**21**	P	**P**	**15 32 34.7**	**-1.2**
	comp=Z,4.0nm,1.1s,mb4.7,baz=265,slow=5.0,SNR=3.9						
PFO	**Pinyon Flat Ob**	**92.56**	**57**	LR	LR	16 07 57.9	
	comp=Z,114nm,18.1s,MS4.4,baz=294,slow=31						
YKA	**Yellowknife Ar**	**96.37**	**28**	P	**P**	**15 33 05.1**	**-1.3**
YKA	**Yellowknife Ar**	**96.37**	**28**	P	**P**	**15 33 05.1**	**-1.3**
	comp=Z,0.4nm,0.8s,mb3.9,baz=263,slow=4.7,SNR=5.5						
PDAR	**Pinedale Array**	**98.67**	**48**	LR	LR	16 11 20.0	
	comp=Z,77nm,19.4s,MS4.2,baz=155,slow=32						
GERES	**GERESS Array B**	**127.22**	**329**	PKP	PKPdf	15 38 40.7	-1.7
	comp=Z,0.3nm,0.8s,baz=101,slow=1.0,SNR=3.3						
ESDC	**Sonseca Array**	**142.54**	**333**	PKP	PKPdf	15 39 11.3	+0.1
	comp=Z,0.4nm,0.7s,baz=0.0,slow=3.8,SNR=2.3						
BDFB	**Brasilia**	**147.80**	**135**	PKPbc	PKPbc	15 39 21.9	-1.9
	comp=Z,6.0nm,0.7s,baz=198,slow=4.4,SNR=9.6						
TORD	**Torodi Ar. Bea**	**153.19**	**285**	PKPbc	PKPbc	15 39 35.0	-1.8
	comp=Z,0.5nm,0.8s,baz=67,slow=1.4,SNR=4.2						
TORD				PKPab	PKPab	15 39 45.0	-3.5
	comp=Z,1.0nm,0.8s,baz=60,slow=1.0,SNR=4.5						

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*ISCJB **07** 15:24:50.3±2.3, 206S±02×1786W±03, h500km, mb4.1/7, Error ellipse: s-maj=44.4km s-min=24.3km az=164.7*
*IDC **07** 15:24:55.8±7.5, 2080S×17844W, h576km±81km, mb3.5/5, mb1 3.6/6, mb1mx3.2/15, mbtmp3.4/6, Error ellipse: s-maj=53.9km s-min=31.8km az=54.0*
ISC 07 15:24:51.0±2.3, 2075S±02×1785W±03, h500km, n12, σ0°47/11, mb4.1/7, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**17.95**	**191**	P	**P**	**15 28 30.7**	**0.0**
	0.5nm,0.3s,baz=170,slow=17,SNR=4.4						
CTA	**Charters Tower**	**32.99**	**265**	*e*P	**P**	**15 30 45.1**	**+1.0**
	6.9nm,0.4s,mb4.4						
CTA	**Charters Tower**	**32.99**	**265**	P	**P**	**15 30 45.1**	**+1.0**
	8.6nm,0.4s,mb4.5,baz=91,slow=9.1,SNR=25						
STKA	**Stephens Creek**	**37.28**	**244**	*e*P	**P**	**15 31 20.3**	**+0.5**
	1.6nm,0.4s,mb3.8						
STKA	**Stephens Creek**	**37.28**	**244**	P	**P**	**15 31 19.9**	**+0.2**
	2.0nm,0.4s,mb3.9,baz=90,slow=9.9,SNR=18						
ASAR	**Alice Springs**	**44.01**	**257**	P	**P**	**15 32 13.6**	**-0.1**
	6.5nm,0.8s,mb4.1,baz=96,slow=7.7,SNR=85						
ASAR				PcP	PcP	15 33 47.1	-1.4
	0.5nm,0.5s,baz=114,slow=3.4,SNR=5.2						
WB2	**Warramunga Arr**	**44.08**	**262**	*e*P	**P**	**15 32 13.7**	**-0.6**
WRA	**Warramunga Arr**	**44.09**	**262**	P	**P**	**15 32 13.8**	**-0.6**
	4.5nm,0.3s,mb4.4,baz=96,slow=7.3,SNR=380						
KAKA	**Kakadu**	**47.49**	**272**	*e*P	**P**	**15 32 40.3**	**-0.1**
	6.2nm,0.3s,mb4.5						
FITZ	**Fitzroy Crossi**	**52.52**	**263**	*e*P	**P**	**15 33 17.3**	**-0.1**
	6.2nm,1.4s,mb3.8						
MJAR	**Matsushiro Arr**	**70.04**	**324**	P	**P**	**15 35 12.2**	**+0.1**
	0.5nm,0.4s,mb3.4,baz=163,slow=6.0,SNR=4.0						
AKASG	**Malin Array Be**	**142.91**	**331**	PKhKP		15 43 16.4	
	1.2nm,0.4s,baz=40,slow=4.7,SNR=4.0						
AKASG				PKP	PKPdf	15 43 22.3	-4.7
	1.1nm,0.4s,baz=41,slow=4.4,SNR=13						

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*NIED **07** 15:29:00, 4440N×14920E, h17km, Mw3.8 Best double couple: M0:6.63000×10^14 NP1:φs=56.00000°, δ=87.00000°, λ=131.00000°. NP2:φs=150.00000°, δ=41.00000°, λ=5.00000°.*
*ISCJB **07** 15:29:22.0±0.8, 4427N±009×14929E±009, h33km, mb3.8/8, Error ellipse: s-maj=14.3km s-min=6.4km az=150.7*
*JMA **07** 15:29:23.8±0.7, 4436N×14921E, h30km, M4.0*
*MOS **07** 15:29:24.3±0.9, 4440N×149.11E, h51km, mb4.3/5, Error ellipse: s-maj=20.4km s-min=16.8km az=18.1*
*IDC **07** 15:29:24.4±1.3, 4529N×14891E, h0km, mb3.9/8, mb1 4.1/9, mb1mx3.8/20, mbtmp3.9/9, ML3.1/2, MS3.6/2, Ms1 3.6/2, ms1mx2.8/37, Error ellipse: s-maj=32.4km s-min=23.4km az=124.0*
ISC 07 15:29:23.8±1.8, 4438N±009×14922E±010, h30km±12km, n44, σ0°95/41, mb3.8/8, 1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.29**	**312**	*i* PN	**Pn**	**15 29 45.5**	**-0.3**
KUR				pmax	pmax		
	comp=N,210nm,0.5s						
KUR				pmax	pmax		
	comp=E,110nm,0.5s						
KUR				pmax	pmax		
	comp=Z,340nm,0.5s						
YUK	**Yuzh-Kuril'sk**	**2.44**	**263**	PN	**Pn**	**15 30 00.5**	**-1.1**
YUK				*e*S	**Sn**	**15 30 30.0**	**-0.4**
YUK				smax			
	comp=E,100nm,0.4s						
YUK				smax			
	comp=N,500nm,0.5s						
YUK				smax			
	comp=N,2μm,1.0s						
YUK				smax			
	comp=E,2μm,1.0s						
NEM2	**Nemuro 2**	**2.71**	**249**	P	**Pn**	**15 30 04.0**	**-1.3**
JRA	**Rausu**	**2.98**	**263**	P	**Pn**	**15 30 10.4**	**+1.3**
JNK	**Nakash**	**3.34**	**258**	P	**Pn**	**15 30 14.2**	**+0.2**
JNK				*e*S	**Sn**	**15 30 53.2**	**+0.5**
JAK	**Akkeshi**	**3.56**	**249**	P	**Pn**	**15 30 16.2**	**-0.8**
JTKR	**Abashiri--Toko**	**3.84**	**266**	P	**Pn**	**15 30 22.3**	**+1.4**
JAR	**Ashorobuto**	**4.09**	**257**	P	**Pn**	**15 30 24.9**	**+0.6**
JOB	**Onbets**	**4.18**	**251**	P	**Pn**	**15 30 25.2**	**-0.3**
JMP	**Maruseppu**	**4.23**	**267**	P	**Pn**	**15 30 28.2**	**+2.0**
JCH	**Churui**	**4.61**	**250**	P	**Pn**	**15 30 30.9**	**-0.5**
ASAJ	**Asahikawa**	**4.77**	**269**	Pn	**Pn**	**15 30 36.2**	**+2.6**
	comp=E,0.6nm,0.3s,baz=133,slow=26,SNR=7.1						
ASAJ				LR	LR	15 32 52.4	
	comp=E,239nm,18.1s,baz=358,slow=45						
JFR	**Furan**	**4.95**	**258**	P	**Pn**	**15 30 38.0**	**+1.9**
ERM	**Erimo**	**5.02**	**244**∥	*e*PN	**Pn**	**15 30 38.1**	**+1.0**
JEM	**Erimo**	**5.02**	**244**	P	**Pn**	**15 30 37.2**	**+0.1**
JNBK	**Urakawa-nobuka**	**5.16**	**248**	P	**Pn**	**15 30 38.3**	**-0.7**
YSS	**Yuzh-Sakhalins**	**5.21**	**302**	*e*PN	**Pb**	**15 30 53.0**	**-1.2**
JBT2	**Biratori 2**	**5.23**	**255**	P	**Pn**	**15 30 40.0**	**0.0**
JNB	**Noboribetsu**	**6.26**	**255**	P	**Pn**	**15 30 54.4**	**+0.4**
JNB				*e*S	**Sn**	**15 32 03.5**	**-1.0**
JKB	**Kayabe**	**6.49**	**250**	P	**Pn**	**15 30 56.7**	**-0.5**
JKB				*e*S	**Sn**	**15 32 06.0**	**-4.2**
JYM2	**Yakumo 2**	**6.85**	**254**	P	**Pn**	**15 31 01.9**	**-0.2**
JANG	**Nango**	**6.97**	**238**	*e*S	Sx	15 32 13.1	
JTM	**Tenmabayashi**	**7.00**	**242**	P	**Pn**	**15 31 02.6**	**-1.7**
JTM				*e*S	Sx	15 32 15.9	
JTH	**Tanohata**	**7.04**	**233**	*e*S	Sx	15 32 12.9	
JOSM	**Okushiri--Mats**	**7.48**	**256**	P	**Pn**	**15 31 11.4**	**+0.6**
OFUJ	**Ofunato**	**7.74**	**229**	*e*S	Sx	15 32 30.0	
JRG	**Rokugo**	**8.11**	**235**	*e*S	Sx	15 32 42.3	
JIO	**Ouri**	**8.36**	**228**	*e*S	Sx	15 32 43.6	
MJAR	**Matsushiro Arr**	**11.46**	**231**	Pn		15 32 16.9	
	comp=E,0.2nm,0.3s,baz=336,slow=26,SNR=4.6						
SONM	**Songino Array**	**29.61**	**292**	P	**P**	**15 35 25.3**	**-0.9**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.6s						
SONM	**Songino Array**	**29.61**	**292**	P	**P**	**15 35 25.3**	**-0.9**
	comp=Z,0.6nm,0.6s,mb3.5,baz=86,slow=8.9,SNR=4.6						
MKAR	**Makanchi Array**	**45.62**	**298**	P	**P**	**15 37 41.7**	**+0.6**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
MKAR	**Makanchi Array**	**45.62**	**298**	P	**P**	**15 37 41.7**	**+0.6**
	comp=Z,2.0nm,0.7s,mb4.1,baz=74,slow=9.0,SNR=16						
YKA	**Yellowknife Ar**	**54.45**	**35**	P	**P**	**15 38 48.5**	**+0.6**
	comp=Z,0.2nm,0.5s,mb3.3,baz=289,slow=6.4,SNR=3.5						
FINES	**FINESS Array B**	**64.99**	**334**	P	**P**	**15 40 00.5**	**+0.1**
FINES				pmax	pmax		
	comp=Z,4.0nm,0.8s						
FINES	**FINESS Array B**	**64.99**	**334**	P	**P**	**15 40 00.5**	**+0.1**
	comp=Z,3.7nm,0.8s,mb4.5,baz=36,slow=7.1,SNR=7.7						
WRA	**Warramunga Arr**	**65.44**	**195**	P	pP	15 40 13.9	+1.0
	comp=Z,0.9nm,0.9s,baz=14,slow=7.0,SNR=5.0						
NB2	**NORSAR Subarra**	**69.55**	**340**	P	**P**	**15 40 29.5**	**+0.2**
	comp=Z,8.2nm,0.9s,mb4.7,baz=31,slow=6.5						
NOA	**NORSAR Array B**	**69.55**	**340**	P	**P**	**15 40 29.3**	**0.0**
NOA				pmax	pmax		
	comp=Z,3.0nm,0.7s						
NOA	**NORSAR Array B**	**69.55**	**340**	P	**P**	**15 40 29.3**	**0.0**
	comp=Z,2.8nm,0.7s,mb4.3,baz=31,slow=6.3,SNR=11						
AKASG	**Malin Array Be**	**71.95**	**325**	P	**P**	**15 40 43.2**	**-0.9**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.6s						
AKASG

BKZ	**Black Stump Fm**	**15.07 198**	*e*PN	**Pn**	**16 51 56.4**	**+1.5**
BKZ			SN	**Sn**	**16 54 37.5**	**-3.2**
WPHZ	**Waipukurau**	**15.92 197**	SN	**Sn**	**16 54 54.2**	**-7.2**
TSZ	**Takapari Road**	**16.05 199**	*e*PN	**Pn**	**16 52 08.0**	**+0.6**
BFZ	**Birch Farm**	**16.55 197**	SN	**Sn**	**16 55 06.2**	**-10**
FUNA	**Funafuti**	**16.64 348**	P	**Pn**	**16 52 10.1**	**-4.8**
167nm,1.1s						
MRZ	**Mangatainoka R**	**16.71 199**	PN	**Pn**	**16 52 15.4**	**-0.3**
MRZ			SN	**Sn**	**16 55 09.7**	**-11**
TIWZ	**Tintock**	**16.73 198**	SN	**Sn**	**16 55 10.3**	**-11**
TCW	**Tory Channel**	**17.62 201**	SN	**Sn**	**16 55 31.0**	**-11**
QRZ	**Quartz Range**	**17.91 205**	*e*PN	**Pn**	**16 52 32.4**	**+2.1**
NNZ	**Nelson**	**17.93 203**	*e*PN	**Pn**	**16 52 35.2**	**+4.7**
NNZ			SN	**Sn**	**16 55 39.8**	**-10**
THZ	**Tophouse**	**18.58 203**	*e*PN	**Pn**	**16 52 38.6**	**+0.3**
THZ			SN	**Sn**	**16 55 53.4**	**-12**
KHZ	**Kahutara**	**18.94 201**	SN	**Sn**	**16 56 02.4**	**-12**
DSZ	**Denniston Nort**	**18.98 205**	*e*PN	**Pn**	**16 52 47.9**	**+4.8**
LTZ	**Lake Taylor**	**19.70 203**	PN	**Pn**	**16 52 55.4**	**+3.8**
LTZ			SN	**Sn**	**16 56 15.8**	**-17**
MQZ	**McQueen's Vall**	**20.39 201**	SN	**S**	**16 56 29.9**	**-11**
WVZ	**Waitaha Valley**	**20.52 205**	PN	**P**	**16 53 02.2**	**+3.8**
RPZ	**Rata Peaks**	**20.95 204**	P	**P**	**16 53 07.8**	**+4.7**
5.0nm,0.5s,baz=340,slow=4.5,SNR=6.9						
JCZ	**Jackson Bay**	**22.15 207**	PN	**P**	**16 53 18.1**	**+2.2**
EAZ	**Earnscleugh**	**22.89 205**	*e*PN	**P**	**16 53 25.5**	**+1.8**
EIDS	**Eidsvold**	**28.45 262**	*e*P	**P**	**16 54 16.7**	**+2.3**
14nm,0.8s,mb4.6						
CTA	**Charters Tower**	**33.81 271**	*e*P	**P**	**16 55 02.6**	**+1.0**
20nm,0.6s,mb5.1						
CTA	**Charters Tower**	**33.81 271**	P	**P**	**16 55 02.7**	**+1.2**
23nm,0.6s,mb5.2,baz=101,slow=12,SNR=33						
CTAO	**Charters Tower**	**33.81 271**	*e*P	**P**	**16 55 03.5**	**+2.0**
26nm,0.6s,mb5.2						
STKA	**Stephens Creek**	**36.51 250**	*e*P	**P**	**16 55 26.8**	**+2.1**
3.1nm,0.6s,mb4.4						
STKA	**Stephens Creek**	**36.51 250**	P	**P**	**16 55 26.2**	**+1.5**
3.2nm,0.5s,mb4.5,baz=94,slow=11,SNR=21						
STKA			PcP	PcP	16 57 45.2	-1.9
1.6nm,0.6s,baz=97,slow=11,SNR=5.6						
ASAR	**Alice Springs**	**44.16 261**	P	**P**	**16 56 28.4**	**+0.4**
11nm,0.7s,mb4.7,baz=91,slow=6.3,SNR=116						
WB2	**Warramunga Arr**	**44.64 266**	*e*P	**P**	**16 56 31.0**	**-0.9**
WRAB	**Tennant Creek**	**44.65 266**	*e*P	**P**	**16 56 31.2**	**-0.7**
20nm,0.6s,mb5.0						
WRA	**Warramunga Arr**	**44.66 266**	P	**P**	**16 56 32.1**	**+0.1**
19nm,0.5s,mb5.1,baz=101,slow=8.2,SNR=185						
FORT	**Forrest**	**48.13 250**	*e*P	**P**	**16 56 58.2**	**-0.9**
15nm,0.7s,mb4.9						
KAKA	**Kakadu**	**48.71 275**	*e*P	**P**	**16 57 02.5**	**-1.2**
5.9nm,0.4s,mb4.9						
FITZ	**Fitzroy Crossi**	**53.06 266**	*e*P	**P**	**16 57 36.6**	**+0.2**
27nm,0.9s,mb5.3						
FITZ	**Fitzroy Crossi**	**53.06 266**	P	**P**	**16 57 36.6**	**+0.3**
15nm,0.9s,mb5.0,baz=119,slow=7.1,SNR=16						
SBA	**Scott Base**	**53.48 184**	*e*P	**P**	**16 57 43.3**	**+4.7**
3.9nm,0.7s,mb4.5						
KLBR	**Kellerberrin**	**56.73 247**	*e*P	**P**	**16 58 01.7**	**-1.0**
5.8nm,0.6s,mb4.8						
NWAO	**Narrogin (SRO)**	**56.92 246**	P	**P**	**16 58 04.1**	**+0.1**
9.7nm,1.1s,mb4.8						
MBWA	**Marble Bar**	**57.48 260**	*e*P	**P**	**16 58 06.5**	**-1.7**
17nm,1.0s,mb5.0						
CASY	**Casey**	**60.19 206**	*e*P	**P**	**16 58 27.0**	**+0.8**
22nm,1.0s,mb5.1						
QSPA	**South Pole Qui**	**65.14 180**	*e*P	**P**	**16 59 01.5**	**+2.6**
8.3nm,0.9s,mb4.6						
KSM	**Kuching**	**74.57 279**	*e*P	**P**	**16 59 57.1**	**-0.8**
ADK	**Adak**	**76.50 0**	*e*P	**P**	**17 00 03.7**	**-4.3**
MAW	**Mawson**	**77.57 200**	P	**P**	**17 00 15.6**	**+1.6**
5.6nm,0.5s,mb4.5,baz=133,slow=7.3,SNR=27						
ISA	**Isabella**	**82.10 45**	*e*P	**P**	**17 00 39.1**	**+0.3**
4.0nm,1.0s,mb4.2						
SYO	**Syowa Base**	**82.52 193⇑**	*e*P	**P**	**17 00 39.5**	**-1.1**
NVAR	**Mina Array Bea**	**83.92 43**	P	**P**	**17 00 48.3**	**+0.1**
1.2nm,0.8s,mb3.8,baz=231,slow=11,SNR=8.8						
KULM	**Kulim**	**84.89 278**	*e*P	**P**	**17 00 52.2**	**-1.6**
MA2	**Magadan**	**88.19 344**	*e*P	**P**	**17 01 03.6**	**-5.1**
2.4nm,0.7s,mb4.3						
TXAR	**Lajitas Array**	**89.03 57**	P	**P**	**17 01 12.7**	**-0.7**
1.9nm,1.0s,mb4.1,baz=194,slow=4.8,SNR=4.5						
ANMO	**Albuquerque**	**89.79 51**	*e*P	**P**	**17 01 17.0**	**+0.2**
2.0nm,1.0s,mb4.2						
PDAR	**Pinedale Array**	**91.85 43**	P	**P**	**17 01 24.7**	**-1.5**
1.0nm,0.8s,mb4.1,baz=212,slow=2.6,SNR=8.1						
MKAR	**Makanchi Array**	**114.57 312**	PKP	PKiKP	17 06 55.0	-2.9
0.2nm,0.3s,baz=172,slow=1.0,SNR=4.5						
ARCES	**ARCESS Array B**	**133.37 349**	PKP	PKPdf	17 07 29.5	-3.6
ARCES	**ARCESS Array B**	**133.37 349**	PKP	PKPdf	17 07 29.5	-3.6
3.4nm,0.9s,baz=87,slow=6.2,SNR=6.1						
FINES	**FINESS Array B**	**140.16 343**	PKP	PKPdf	17 07 45.9	-0.1
3.0nm,0.9s,baz=165,slow=23,SNR=6.8						
NB2	**NORSAR Subarra**	**143.44 353**	PKP	PKPdf	17 07 52.8	+1.0
comp=Z,1.2nm,0.7s,baz=16,slow=3.0						
NOA	**NORSAR Array B**	**143.44 353**	PKP	PKPdf	17 07 52.2	+0.4
NOA	**NORSAR Array B**	**143.44 353**	PKP	PKPdf	17 07 52.2	+0.4
comp=Z,1.6nm,0.7s,baz=16,slow=4.6,SNR=5.0						
AKASG	**Malin Array Be**	**147.09 328**	PKPbc	PKPbc	17 07 57.2	-3.4
comp=Z,4.7nm,0.6s,baz=42,slow=4.4,SNR=46						
EKA	**Eskdalemuir Ar**	**149.36 6**	PKPbc	PKPbc	17 08 04.6	-1.8
comp=Z,1.5nm,1.0s,baz=0.0,slow=3.7,SNR=3.8						
EKA			PKPab	PKPab	17 08 11.3	+0.1
comp=Z,3.4nm,0.8s,baz=352,slow=2.9,SNR=17						
KSP	**Ksiaz**	**152.06 341**	*e*P	PKPdf	17 08 11.8	+5.5
KSP			*e*		17 08 17.4	
OKC	**Ostrava-Krasne**	**152.35 338**	*e*PKPab	PKPab	17 08 18.3	-5.5
UPC	**Upice**	**152.44 341**	*e*PKPab	PKPab	17 08 18.2	-6.0
CLL	**Collm**	**152.49 346**	⇓*i*P	PKPdf	17 08 12.1	+5.2
CLL			*i*		17 08 18.1	
CLL	**Collm**	**152.49 346**	⇓*i*PKPbc	PKPbc	17 08 12.1	-1.8
comp=Z,4.0nm,0.8s						
CLL			*i* PKPab	PKPab	17 08 18.1	-6.2
comp=Z,8.0nm,1.1s						
CLL			*e*PKPab	pPKPab	17 09 02.0	+18
DPC	**Dobruska-Polom**	**152.49 341**	*e*PKPab	PKPab	17 08 18.4	-6.0
BRG	**Berggiesshubel**	**152.67 344**	*i* P	PKPbc	17 08 13.0	-1.3
comp=Z,2.8nm,0.7s						
BRG			*i*	PKPab	17 08 19.2	-5.9
comp=Z,3.3nm,0.5s						
BRG			*e*		17 08 18.6	
comp=Z,2.8nm,0.7s						
BRG	**Berggiesshubel**	**152.67 344**	*e*	PKPbc	17 08 12.8	-1.5
comp=Z,3.7nm,0.4s						
KHC	**Kasperske Hory**	**154.37 343**	*e*PKPab	PKPab	17 08 31.0	-1.4
GERES	**GERESS Array B**	**154.59 343**	PKPbc	PKPbc	17 08 20.4	+1.9
comp=Z,0.1nm,0.4s,baz=262,slow=40,SNR=2.5						
GERES			PKPab	PKPab	17 08 30.6	-2.7
comp=Z,0.6nm,0.7s,baz=27,slow=3.3,SNR=5.8						

IDC 07 16:49:51.0±1.1, 730S×15596E, h0km, mb4.1/5, mb1 4.2/6, mb1mx3.9/14, mbtmp4.1/6, ML4.3/1, MS3.0/3, Ms1 3.0/3, ms1mx2.8/18, Error ellipse: s-maj=28.0km s-min=26.3km az=63.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.48**	**118**	Pn	Pn	16 51 00.3	+0.1
17nm,0.3s,baz=240,slow=2.6,SNR=11							
HNR				Sn	Sn	16 51 56.1	+3.1
8.4nm,0.3s,baz=164,slow=4.5,SNR=2.3							
HNR				LR	LR	16 52 36.6	
comp=Z,129nm,21.3s,baz=182,slow=37							
CTA	**Charters Tower**	**15.81**	**216**	LR	LR	16 58 10.0	
comp=Z,74nm,20.0s,baz=61,slow=32							
GUMO	**Guam**	**23.50**	**332**	LR	LR	17 02 33.1	
comp=Z,45nm,19.5s,baz=210,slow=32							
WRA	**Warramunga Arr**	**24.44**	**237**	P	P	16 55 12.7	+1.1
3.1nm,0.6s,baz=65,slow=9.4,SNR=37							
ASAR	**Alice Springs**	**26.69**	**230**	P	P	16 55 31.6	-0.4
0.9nm,0.6s,baz=63,slow=9.0,SNR=20							
SONM	**Songino Array**	**70.11**	**327**	P	P	17 01 05.6	+0.5
1.2nm,0.8s,baz=135,slow=6.2,SNR=12							
MKAR	**Makanchi Array**	**84.27**	**318**	P	P	17 02 24.7	0.0
3.0nm,0.7s,baz=102,slow=6.2,SNR=28							
ZALV	**Zalesovo Beam**	**84.97**	**326**	P	P	17 02 27.4	-0.6
1.6nm,0.7s,baz=125,slow=4.7,SNR=8.2							

*IDC **07** 16:52:55.2±3.9, 2039S×168.16E, h0km, mb4.0/4, mb1 4.2/4, mb1mx3.9/13, mbtmp4.0/4, Error ellipse: s-maj=125.1km s-min=38.1km az=134.0*
*ISCJB **07** 16:52:56.3±1.5, 209S±03×1685E±02, h33km, mb3.9/4, Error ellipse: s-maj=40.6km s-min=30.7km az=21.4*

ISC 07 16:52:57.6±1.5, 209S±03×1687E±02, h35km, n7, σ1§17/6, mb3.9/4, Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**26.50**	**240**	P	**P**	**16 58 33.2**	**+1.4**
1.7nm,0.8s,mb3.6,baz=66,slow=11,SNR=5.3							
WRA	**Warramunga Arr**	**32.13**	**266**	P	**P**	**16 59 20.7**	**-1.3**
0.8nm,0.9s,mb3.6,baz=91,slow=8.1,SNR=2.9							
ASAR	**Alice Springs**	**32.22**	**259**	P	**P**	**16 59 22.6**	**-0.1**
3.6nm,0.8s,mb4.3,baz=82,slow=9.2,SNR=12							
VNA3	**Neumayer Olymp**	**88.06**	**181**	*e*	**P**	**17 05 43.6**	**-0.3**
VNA3				*e*	pP	17 05 56.6	+1.5
SONM	**Songino Array**	**88.24**	**323**	P	**P**	**17 05 45.7**	**+0.6**
0.8nm,0.8s,mb4.0,baz=144,slow=5.7,SNR=7.0							
VNA2	**Neumayer--Watz**	**88.34**	**181**	*e*	**P**	**17 05 45.1**	**-0.2**
baz=189,slow=4.3							
VNA2				*e*	pP	17 05 57.9	+1.5
GERES	**GERESS Array B**	**145.71**	**330**	PKPbc	PKPbc	17 12 32.5	-0.1
0.6nm,0.8s,baz=44,slow=4.1,SNR=6.8							

IDC 07 16:56:40.1±4.6, 2025S×16812E, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.8/12, mbtmp3.9/3, Error ellipse: s-maj=160.7km s-min=46.8km az=145.0, Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**31.70**	**265**	P	P	17 03 05.6	0.0
0.6nm,0.7s,baz=93,slow=9.7,SNR=3.6							
ASAR	**Alice Springs**	**31.87**	**258**	P	P	17 03 07.2	+0.1
2.3nm,0.8s,baz=81,slow=9.0,SNR=14							
SONM	**Songino Array**	**87.39**	**324**	P	P	17 09 29.8	+0.7
0.6nm,0.8s,baz=132,slow=4.5,SNR=6.9							
VNA3	**Neumayer Olymp**	**88.74**	**181**	*e*	P	17 09 28.1	-7.1
VNA3				*e*		17 09 34.5	
VNA3				*e*		17 09 38.8	
VNA2	**Neumayer--Watz**	**89.02**	**181**	*e*	P	17 09 32.0	-4.5
baz=197,slow=5.2							
VNA2				*e*		17 09 37.3	
VNA2				*e*		17 09 40.9	
GERES	**GERESS Array B**	**144.86**	**330**	PKP	PKPdf	17 16 17.6	-1.3
0.4nm,0.7s,baz=63,slow=3.6,SNR=6.2							

*BJI **07** 17:01:20.3, 3730N×2460W, h10km, mB4.7, mb4.6, Ms4.6, Msz4.3*
*CSEM **07** 17:01:20.5±0.1, 3727N×2468W, h12km, mb4.4/36, Ms3.5, Error ellipse: s-maj=2.9km s-min=1.8km az=7.0*
*IDC **07** 17:01:20.7±0.9, 3734N×2461W, h0km, mb4.1/14, mb1 4.2/15, mb1mx4.0/26, mbtmp4.1/15, ML3.7/1, MS3.7/23, Ms1 3.7/23, ms1mx3.6/34, Error ellipse: s-maj=24.4km s-min=16.1km az=2.0*
*SVSA **07** 17:01:22.6±0.8, 3732N×2459W, h0km, MD4.1, ML4.3, Error ellipse: s-maj=7.5km s-min=2.7km az=87.0*
*ISCJB **07** 17:01:22.2±0.8, 3735N±005×2468W±004, h18km±6km, mb4.2/53, MS3.7/28, Error ellipse: s-maj=7.6km s-min=4.9km az=1.2*
*PDA **07** 17:01:22.6±0.8, 3732N×2459W, h0km, MD4.1, ML4.3, Error ellipse: s-maj=7.5km s-min=2.7km az=87.0*
*NEIC **07** 17:01:22.3±0.3, 3726N×2464W, h10km, mb4.4/41, Error ellipse: s-maj=9.3km s-min=4.3km az=174.0*
*MOS **07** 17:01:25.0±0.9, 3746N×2464W, h33km, mb4.5/32, Error ellipse: s-maj=13.3km s-min=4.7km az=137.6*
ISC 07 17:01:21.6±0.9, 3735N±004×2465W±004, h2km±6km, n225, σ0§95/221, mb4.2/53, MS3.7/28, 2D, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSMN	**Pico do Norte,**	**0.48**	**223**	*e*P	**Pg**	**17 01 31.7**	**+0.9**
PSMN				*e*S	**Sg**	**17 01 38.6**	**+1.6**
PDA	**Ponta Delgada**	**0.89**	**296**	*e*P	**Pg**	**17 01 38.6**	**-0.1**
PDA				*e*S	**Sg**	**17 01 49.8**	**-0.5**
PSET	**Sete Cidades**	**0.97**	**299**	*i* P	**Pg**	**17 01 39.4**	**-0.7**
PSET				*e*S	**Sg**	**17 01 52.2**	**-0.5**
PSET				A		17 01 57.7	
3μm,0.4s							
PSCM	**Serra do Cume**	**2.37**	**305**	*e*P	**Pn**	**17 01 59.1**	**-2.2**
PSCM				*e*S	**Sn**	**17 02 26.2**	**-4.7**
PSCM				A		17 02 30.0	
962nm,0.3s							
PMAR	**Madeira**	**7.85**	**124**	*e*Pn	**Pn**	**17 03 14.1**	**-2.6**
PMAR				*e*Sn	**Sn**	**17 04 35.8**	**-10**
PMAR				A		17 04 44.1	
33nm,0.2s							
PMAR				*e*T		17 10 48.4	
PMAR	**Madeira**	**7.85**	**124**	*e*Pn	**Pn**	**17 03 14.1**	**-2.6**
PMAR				*e*Sn	**Sn**	**17 04 35.8**	**-10**
PMPS	**Porto Santo**	**8.04**	**120**	*e*Pn	**Pn**	**17 03 16.0**	**-3.4**
PMPS				*e*Sn	**Sn**	**17 04 34.2**	**-17**
PMPS				A		17 04 45.3	
8.9nm,0.2s							
EVOP	**Sao Brissos**	**13.10**	**80**	*e*Pn	**Pn**	**17 04 24.5**	**-4.1**
EVOP				*e*Sn	**Sn**	**17 06 38.7**	**-16**
EVO	**Evora**	**13.19**	**80**	*e*Pn	**Pn**	**17 04 24.5**	**-5.3**
EVO				*e*Sn	**Sn**	**17 06 38.7**	**-18**
4.6nm,0.5s							
EVO				*e*MLR	MLR		
comp=Z,429nm,18.8s							
PBEJ	**Beja**	**13.32**	**82**	*e*S	**Sn**	**17 06 43.5**	**-17**
PVAQ	**Vaqueiros**	**13.47**	**85**	*e*S	**Sn**	**17 06 48.6**	**-15**
PESTR	**Estremoz**	**13.52**	**78**	*e*S	**Sn**	**17 06 49.5**	**-16**
PCBR	**Castelo Branco**	**13.66**	**74**	*e*S	**Sn**	**17 06 52.8**	**-16**
PBRG	**Braganca**	**14.51**	**67**	*e*S	**Sn**	**17 07 13.6**	**-16**
ESDC	**Sonseca Array**	**16.36**	**76**	Pn	**Pn**	**17 05 07.4**	**-4.8**
comp=Z,0.2nm,0.3s,baz=261,slow=12,SNR=3.2							
ESDC				LR	LR	17 10 41.7	
comp=Z,234nm,18.9s,baz=265,slow=34							
ESLA	**Sonseca Array**	**16.36**	**76**	*e*P	**Pn**	**17 05 15.0**	**+2.7**
comp=Z,0.5nm,0.7s							
MDT	**Midelt**	**17.01**	**99**	Pn	**Pn**	**17 05 19.2**	**-1.3**
comp=Z,0.3nm,0.3s,baz=290,slow=12,SNR=8.2							
MDT				LR	LR	17 10 46.4	
comp=Z,163nm,19.0s,baz=309,slow=33							
SJPF	**Ste Jean**	**18.76**	**65**	*e*P	**Pn**	**17 05 42.2**	**+0.1**
comp=Z,19nm,1.2s							
SJPF	**Ste Jean**	**18.76**	**65**	*e*P	**Pn**	**17 05 42.2**	**+0.1**
SJPF				pmax	pmax		
comp=Z,10.0nm,1.3s							
SJPF	**Ste Jean**	**18.76**	**65**	*e*P	**Pn**	**17 05 42.2**	**+0.1**
comp=Z,9.5nm,1.2s							
QUIF	**Quistinic**	**18.95**	**49**	*e*P	**Pn**	**17 05 44.6**	**+0.3**
ROSF	**Rostrenen**	**19.07**	**48**	*e*P	**Pn**	**17 05 46.3**	**+0.5**
ETSF	**Etsaut**	**19.21**	**66**	*e*P	**Pn**	**17 05 47.6**	**+0.1**
comp=Z,18nm,1.1s							
ETSF	**Etsaut**	**19.21**	**66**	*e*P	**Pn**	**17 05 47.6**	**+0.1**
ETSF				pmax	pmax		
comp=Z,9.0nm,1.1s							
ETSF	**Etsaut**	**19.21**	**66**	*e*P	**Pn**	**17 05 47.6**	**+0.1**
comp=Z,8.9nm,1.1s							
SGMF	**Saint Gilles**	**19.46**	**49**	*e*P	**Pn**	**17 05 50.7**	**+0.2**
EPF	**Esparros**	**19.88**	**66**	*e*P	**Pn**	**17 05 55.3**	**-0.3**
comp=Z,34nm,1.4s							
EPF	**Esparros**	**19.88**	**66**	*e*P	**Pn**	**17 05 55.3**	**-0.3**
EPF				pmax	pmax		
comp=Z,17nm,1.4s							
EPF	**Esparros**	**19.88**	**66**	*e*P	**Pn**	**17 05 55.3**	**-0.3**
comp=Z,17nm,1.4s							
DCN	**Croghan**	**20.03**	**32**	*e*P	**P**	**17 05 58.7**	**+3.2**
DSB	**Dublin**	**20.34**	**33**	*e*P	**P**	**17 06 02.0**	**+3.1**
comp=Z,62nm,1.9s							
MFF	**Saint Martin d**	**20.36**	**55**	*e*P	**P**	**17 05 59.9**	**+0.7**
comp=Z,49nm,1.4s							
MFF	**Saint Martin d**	**20.36**	**55**	*e*P	**P**	**17 05 59.9**	**+0.7**
MFF				pmax	pmax		
comp=Z,25nm,1.4s							
MFF	**Saint Martin d**	**20.36**	**55**	*e*P	**P**	**17 05 59.9**	**+0.7**
comp=Z,25nm,1.4s							
LFF	**La Frestale**	**20.51**	**60**	*e*P	**P**	**17 06 01.6**	**+0.8**
comp=Z,53nm,1.3s							
LFF	**La Frestale**	**20.51**	**60**	*e*P	**P**	**17 06 01.6**	**+0.8**
LFF				pmax	pmax		
comp=Z,27nm,1.3s							
LFF	**La Frestale**	**20.51**	**60**	*e*P	**P**	**17 06 01.6**	**+0.8**
comp=Z,26nm,1.3s							
GRR	**Gorron**	**20.55**	**50**	*e*P	**P**	**17 06 01.7**	**+0.5**
comp=Z,76nm,1.3s							
GRR	**Gorron**	**20.55**	**50**	*e*P	**P**	**17 06 01.7**	**+0.5**
GRR				pmax	pmax		
comp=Z,38nm,1.3s							
GRR	**Gorron**	**20.55**	**50**	*e*P	**P**	**17 06 01.7**	**+0.5**
comp=Z,38nm,1.3s							
FLN	**La Foliniere**	**20.93**	**49**	*e*P	**P**	**17 06 06.4**	**+1.1**
comp=Z,36nm,1.2s							
FLN				*e*MLR	MLR		
comp=Z,318nm,20.2s,MS3.4							
FLN	**La Foliniere**	**20.93**	**49**	*e*P	**P**	**17 06 06.4**	**+1.1**
comp=Z,18nm,1.2s							
FLN				LR	LR		
comp=Z,320nm,20.3s,MS3.7							
FLN	**La Foliniere**	**20.93**	**49**	*e*P	**P**	**17 06 06.4**	**+1.1**
FLN				pmax	pmax		
comp=Z,18nm,1.2s							
FLN				MLR	MLR		
comp=Z,320nm,20.3s,MS3.7							
LDF	**La Druitiere**	**21.08**	**50**	*e*P	**P**	**17 06 07.6**	**+0.7**
RJF	**Les Rejaudoux**	**21.13**	**60**	*e*P	**P**	**17 06 07.5**	**0.0**
RJF				*e*MLR	MLR		
comp=Z,470nm,19.0s,MS3.6							
RJF	**Les Rejaudoux**	**21.13**	**60**	*e*P	**P**	**17 06 07.5**	**0.0**
RJF				MLR	MLR		
comp=Z,470nm,19.0s,MS3.9							
MTLF	**Montolieu**	**21.29**	**65**	*e*P	**P**	**17 06 08.9**	**-0.3**
comp=Z,14nm,1.2s,mb3.9							
MTLF	**Montolieu**	**21.29**	**65**	*e*P	**P**	**17 06 08.9**	**-0.3**
MTLF				pmax	pmax		
comp=Z,7.0nm,1.2s,mb3.9							
MTLF	**Montolieu**	**21.29**	**65**	*e*P	**P**	**17 06 08.9**	**-0.3**
comp=Z,7.2nm,1.2s,mb3.9							
CAF	**Calviac**	**21.43**	**61**	*e*P	**P**	**17 06 10.7**	**0.0**
comp=Z,20nm,1.1s,mb4.1							
CAF	**Calviac**	**21.43**	**61**	*e*P	**P**	**17 06 10.7**	**0.0**
CAF				pmax	pmax		
comp=Z,10.0nm,1.1s,mb4.1							
CAF	**Calviac**	**21.43**	**61**	*e*P	**P**	**17 06 10.7**	**0.0**
comp=Z,9.9nm,1.1s,mb4.1							
TCF	**Toulx Ste Croi**	**21.84**	**57**	*e*P	**P**	**17 06 15.5**	**+0.4**
comp=Z,11nm,0.8s,mb4.0							
TCF	**Toulx Ste Croi**	**21.84**	**57**	*e*P	**P**	**17 06 15.5**	**+0.4**
TCF				pmax	pmax		
comp=Z,5.0nm,0.8s,mb4.0							
TCF	**Toulx Ste Croi**	**21.84**	**57**	*e*P	**P**	**17 06 15.5**	**+0.4**
comp=Z,5.4nm,0.8s,mb4.0							
PYM	**Petit Puy Mans**	**22.25**	**59**	*e*P	**P**	**17 06 21.5**	**+2.0**
AGO	**Saint Agoulin**	**22.40**	**58**	*e*P	**P**	**17 06 22.7**	**+1.6**
LASF	**Ste Croix**	**22.56**	**64**	*e*P	**P**	**17 06 22.2**	**-0.6**
comp=Z,29nm,1.3s,mb4.3							
LASF	**Ste Croix**	**22.56**	**64**	*e*P	**P**	**17 06 22.2**	**-0.6**
comp=Z,14nm,1.3s,mb4.3							
PLDF	**La Plantade**	**22.72**	**59**	*e*P	**P**	**17 06 25.9**	**+1.4**
AVF	**Avril sur Loir**	**22.73**	**57**	*e*P	**P**	**17 06 24.4**	**-0.2**
comp=Z,4.1nm,0.7s,mb3.7							
AVF	**Avril sur Loir**	**22.73**	**57**	*e*P	**P**	**17 06 24.4**	**-0.2**
AVF				pmax	pmax		
comp=Z,2.0nm,0.6s,mb3.7							
AVF	**Avril sur Loir**	**22.73**	**57**	*e*P	**P**	**17 06 24.4**	**-0.2**
comp=Z,2.0nm,0.7s,mb3.7							
SSF	**Saint Saulge**	**22.89**	**56**	*e*P	**P**	**17 06 26.2**	**-0.2**
comp=Z,36nm,1.3s,mb4.3							
SSF	**Saint Saulge**	**22.89**	**56**	*e*P	**P**	**17 06 26.2**	**-0.2**
SSF				pmax	pmax		
comp=Z,18nm,1.3s,mb4.3							
SSF	**Saint Saulge**	**22.89**	**56**	*e*P	**P**	**17 06 26.2**	**-0.2**
comp=Z,18nm,1.3s,mb4.3							
SMF	**Signal de Mont**	**23.02**	**57**	*e*P	**P**	**17 06 27.5**	**-0.1**
comp=Z,50nm,1.3s,mb4.5							
SMF	**Signal de Mont**	**23.02**	**57**	*e*P	**P**	**17 06 27.5**	**-0.1**
SMF				pmax	pmax		
comp=Z,25nm,1.3s,mb4.5							
SMF	**Signal de Mont**	**23.02**	**57**	*e*P	**P**	**17 06 27.5**	**-0.1**
comp=Z,25nm,1.3s,mb4.5							
EKA	**Eskdalemuir Ar**	**23.15**	**32**	P	**P**	**17 06 28.9**	**-0.1**
comp=Z,1.7nm,0.7s,mb3.6,baz=223,slow=7.4,SNR=7.7							
LOR	**Lormes**	**23.18**	**56**	*e*P	**P**	**17 06 29.1**	**-0.3**
LOR				*e*MLR	MLR		
comp=Z,279nm,21.0s,MS3.4							
LOR	**Lormes**	**23.18**	**56**	*e*P	**P**	**17 06 29.1**	**-0.3**
LOR				MLR	MLR		
comp=Z,280nm,21.0s,MS3.7							
VIVF	**Saint-Julien-l**	**23.25**	**62**	*e*P	**P**	**17 06 28.8**	**-1.3**
BBTS	**Babate**	**23.73**	**160**	LR	LR	17 13 39.1	
comp=Z,92nm,20.6s,MS3.2,baz=37,slow=31							
SMRF	**Simiane la Rot**	**23.78**	**64**	*e*

TIP Timpagrande 32.37 74 *eP* **P 17 07 50.6 -1.7**
comp=Z,12nm,1.3s,mb4.6
TIP Timpagrande 32.37 74 *eP* **P 17 07 50.6 -1.7**
comp=Z,12nm,1.3s,mb4.6
MORC Moravsky Berou 32.57 54 P **P 17 07 50.8 -3.2**
comp=Z,2.3nm,0.9s,mb4.1
MORC Moravsky Berou 32.57 54 P **P 17 07 50.8 -3.2**
MORC pmax pmax
comp=Z,2.0nm,0.9s,mb4.0
NOA NORSAR Array B 32.64 32 LR LR 17 19 05.9
comp=Z,234nm,18.4s,MS3.9,baz=260,slow=33
SFJD Kangerlussuaq 33.16 342 LR LR 17 18 11.2
comp=Z,110nm,18.1s,MS3.6,baz=117,slow=30
SCHQ Schefferville 33.45 315 *eP* **P 17 07 57.2 -4.4**
comp=Z,15nm,1.3s,mb4.8
SCHQ LR LR 17 18 26.2
SCHQ Schefferville 33.45 315 P **P 17 08 01.8 +0.2**
comp=Z,5.6nm,1.1s,mb4.4,baz=90,slow=11,SNR=3.3
SCHQ LR LR 17 18 26.2
comp=Z,80nm,18.9s,MS3.5,baz=105,slow=31
TOA0 Torodi Ar. Sit 33.68 129 *eP* **P 17 08 03.7 -0.3**
TOA0 Torodi Ar. Sit 33.68 129 *eP* **P 17 08 03.7 -0.3**
TORD Torodi Ar. Bea 33.68 129 P **P 17 08 03.1 -0.9**
comp=Z,2.9nm,0.8s,mb4.3,baz=318,slow=8.4,SNR=19
TORD LR LR 17 22 43.4
comp=Z,49nm,20.7s,MS3.2,baz=325,slow=38
OJC Ojcow 34.06 53 *eP* **P 17 08 06.7 -0.3**
KECS Kecovo 34.41 57 *eP* **P 17 08 07.2 -2.8**
comp=Z,2.4nm,1.1s,mb4.0
KECS Kecovo 34.41 57 *eP* **P 17 08 07.2 -2.8**
KECS pmax pmax
comp=Z,2.0nm,1.1s,mb4.0
STHS Stebnicka Huta 34.95 55 *eP* **P 17 08 16.6 +2.0**
CRVS Cervenica-Dubn 35.07 56 *eP* **P 17 08 19.6 +3.9**
DBIC Dimbokro 35.46 145 LR LR 17 21 16.0
comp=Z,60nm,20.1s,MS3.4,baz=200,slow=34
FINES FINESS Array B 39.45 36 LR LR 17 22 17.8
comp=Z,108nm,19.7s,MS3.7,baz=328,slow=32
AKASG Malin Array Be 40.09 53 P **P 17 08 57.0 -1.2**
AKASG Malin Array Be 40.09 53 P **P 17 08 57.0 -1.2**
comp=Z,1.5nm,0.7s,mb3.8,baz=269,slow=8.5,SNR=10
AKASG Malin Array Be 40.09 53 P **P 17 08 57.0 -1.2**
ARCES ARCESS Array B 41.83 24 P **P 17 09 12.6 +0.3**
comp=Z,4.3nm,0.8s,mb4.1,baz=238,slow=7.0,SNR=6.0
ARCES LR LR 17 24 53.5
comp=Z,131nm,18.3s,MS3.9,baz=208,slow=34
FCC Fort Churchill 48.59 319 *eP* **P 17 10 06.5 +0.5**
comp=Z,15nm,1.3s,mb4.9
FCC Fort Churchill 48.59 319 *eP* **P 17 10 06.5 +0.4**
FCC pmax pmax
comp=Z,15nm,1.3s,mb4.9
FCC Fort Churchill 48.59 319 *eP* **P 17 10 06.5 +0.4**
comp=Z,15nm,1.3s,mb4.9
RES Resolute Bay 49.16 341 *eP* **P 17 10 10.5 +0.3**
comp=Z,424nm,1.0s
RES Resolute Bay 49.16 341 *eP* **P 17 10 10.5 +0.3**
comp=Z,424nm,1.0s
SDV Santo Domingo 50.22 248 LR LR 17 27 17.8
comp=Z,111nm,21.2s,MS3.8,baz=175,slow=31
SDV Santo Domingo 50.22 248 *eP* **P 17 10 18.5 -0.6**
comp=Z,7.7nm,1.0s,mb4.7
ULM Lac du Bonnet 51.11 309 P **P 17 10 21.9 -3.4**
comp=Z,5.0nm,1.1s,mb4.4
ULM Lac du Bonnet 51.11 309 LR LR 17 29 54.0
comp=Z,100nm,20.1s,MS3.8,baz=311,slow=34
ROSC El Rosal 55.62 247 LR LR 17 31 08.3
comp=Z,122nm,19.0s,MS4.0,baz=30,slow=32
ARU Arti 56.31 42 *eP* **P 17 10 59.5 -4.0**
comp=Z,4.1nm,1.0s,mb4.4
ARU Arti 56.31 42 *d iP* **P 17 11 03.7 +0.3**
ARU *e* 17 11 54.3
ARU *e* 17 13 10.6
ARU *eS* **S 17 19 05.2 +11**
ARU pmax pmax
comp=Z,20nm,2.5s,mb4.7
ARU Arti 56.31 42 *i P* **P 17 11 03.7 +0.3**
comp=Z,20nm,2.5s,mb4.7
BDFB Brasilia 57.12 207 LR LR 17 32 02.8
comp=Z,102nm,18.6s,MS4.0,baz=119,slow=32
TEIG Tepich 57.31 271 LR LR 17 31 01.8
comp=Z,78nm,18.8s,MS3.8,baz=62,slow=31
YKA Yellowknife Ar 57.63 327 P **P 17 11 12.2 -0.4**
YKA Yellowknife Ar 57.63 327 *i P* **P 17 11 12.1 -0.5**
YKA pmax pmax
comp=Z,2.0nm,1.0s
YKA Yellowknife Ar 57.63 327 P **P 17 11 12.2 -0.4**
comp=Z,2.0nm,1.0s,mb4.1,baz=70,slow=7.1,SNR=14
AKTK Aktyubinsk 58.03 48 P **P 17 11 15.3 -0.3**
AKTK Aktyubinsk 58.03 48 P **P 17 11 15.3 -0.4**
AKTO Aktyubinsk 58.03 48 P **P 17 11 15.3 -0.3**
comp=Z,3.5nm,0.9s,mb4.4,baz=283,slow=8.0,SNR=8.6
WMOK Wichita Mounta 58.52 292 *eP* **P 17 11 18.7 -0.6**
comp=Z,7.8nm,1.2s,mb4.6
WMOK Wichita Mounta 58.52 292 *eP* **P 17 11 18.7 -0.7**
WMOK pmax pmax
comp=Z,8.0nm,1.2s,mb4.6
WMOK Wichita Mounta 58.52 292 *eP* **P 17 11 18.7 -0.7**
comp=Z,7.8nm,1.2s,mb4.6
JCT Junction City 61.23 288 *eP* **P 17 11 38.2 +0.1**
comp=Z,32nm,1.3s,mb5.3
JCT Junction City 61.23 288 *eP* **P 17 11 38.2 +0.1**
JCT pmax pmax
comp=Z,32nm,1.3s,mb5.3
JCT Junction City 61.23 288 *eP* **P 17 11 38.2 +0.1**
comp=Z,32nm,1.3s,mb5.3
INK Inuvik 62.29 337 *eP* **P 17 11 43.3 -1.2**
comp=Z,310nm,1.2s
INK Inuvik 62.29 337 *eP* **P 17 11 43.3 -1.3**
comp=Z,310nm,1.2s
PDAR Pinedale Array 62.56 304 P **P 17 11 45.9 -0.9**
comp=Z,1.6nm,1.0s,mb4.1,baz=70,slow=6.6,SNR=7.6
PDAR LR LR 17 38 00.5
comp=Z,55nm,20.3s,MS3.7,baz=258,slow=35
CHMT Chamberlain Mo 63.05 310 *eP* **P 17 11 50.3 +0.3**
CHMT Chamberlain Mo 63.05 310 *eP* **P 17 11 50.3 +0.3**
ANMO Albuquerque 64.04 295 *i P* **P 17 11 48.4 -8.3**
CMIG Matias Romero 64.26 272 LR LR 17 35 48.8
comp=Z,68nm,18.6s,MS3.9,baz=353,slow=32
TXAR Lajitas Array 64.72 289 P **P 17 12 01.1 -0.1**
comp=Z,2.8nm,0.9s,mb4.3,baz=69,slow=6.9,SNR=9.7
TXAR LR LR 17 40 52.6
comp=Z,75nm,18.6s,MS3.9,baz=185,slow=37
TXAR Lajitas Array 64.72 289 P **P 17 12 01.1 -0.2**
NEW Newport 64.75 312 *eP* **P 17 12 01.7 +0.5**
comp=Z,6.5nm,1.2s,mb4.5
NEW Newport 64.75 312 *eP* **P 17 12 01.7 +0.5**
NEW pmax pmax
comp=Z,6.0nm,1.2s
NEW Newport 64.75 312 *eP* **P 17 12 01.7 +0.5**
comp=Z,6.5nm,1.2s,mb4.5
HLID Hailey 65.34 307 *eP* **P 17 12 06.1 +1.0**
comp=Z,3.5nm,1.3s,mb4.2
MSU Marysvale 66.32 301 P **P 17 12 12.8 +1.3**
MSU Marysvale 66.32 301 P **P 17 12 12.8 +1.3**
DAWY Dawson 66.67 334 *eP* **P 17 12 13.5 +0.2**
DAWY Dawson 66.67 334 *eP* **P 17 12 13.5 +0.2**
LPAZ La Paz 67.24 226 LR LR 17 39 45.0
comp=Z,76nm,19.2s,MS3.9,baz=85,slow=34
NVS Novosibirsk 69.44 36 *eP* **P 17 12 23.6 -7.2**
NVS pmax pmax
comp=Z,12nm,1.6s,mb4.6
KURK Kurchatov 69.51 41 *i P* **P 17 12 31.8 +0.4**
TIXI Tiksi 69.69 9 *eP* **P 17 12 32.9 +0.8**
TIXI pmax pmax
comp=Z,6.0nm,1.4s,mb4.3
TIXI Tiksi 69.69 9 *eP* **P 17 12 32.7 +0.6**
comp=Z,4.5nm,1.1s,mb4.3
MCK McKinley 70.04 337 P **P 17 12 34.9 +0.4**
comp=Z,4.1nm,0.9s,mb4.4
MCK McKinley 70.04 337 P **P 17 12 34.9 +0.5**
MCK pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
MCK McKinley 70.04 337 P **P 17 12 34.9 +0.5**
comp=Z,4.0nm,0.9s,mb4.3
ZAL Zalesovo 70.71 36 P **P 17 12 38.4 -0.3**
ZAA0 Zalesovo Array 70.71 36 *eP* **P 17 12 37.9 -0.8**
ZAA0 Zalesovo Array 70.71 36 *eP* **P 17 12 37.9 -0.8**
ZALV Zalesovo Beam 70.71 36 P **P 17 12 38.4 -0.3**
comp=Z,2.4nm,0.7s,mb4.2,baz=308,slow=7.3,SNR=8.1
EKS2 Erkin-Say 71.23 50 *eP* **P 17 12 42.8 +0.8**
comp=Z,6.4nm,1.4s,mb4.4
EKS2 Erkin-Say 71.23 50 *eP* **P 17 12 42.8 +0.8**
comp=Z,6.4nm,1.4s,mb4.4
UCH Uchtor 71.93 50 *eP* **P 17 12 47.4 +1.1**
comp=Z,5.6nm,1.4s,mb4.3
UCH Uchtor 71.93 50 *eP* **P 17 12 47.4 +1.2**
comp=Z,5.6nm,1.4s,mb4.3
TKM2 Tokmak 2 72.20 49 *eP* **P 17 12 49.4 +1.5**
comp=Z,4.9nm,1.2s,mb4.3
TKM2 Tokmak 2 72.20 49 *eP* **P 17 12 49.4 +1.6**
TKM2 pmax pmax
comp=Z,5.0nm,1.2s,mb4.3
TKM2 Tokmak 2 72.20 49 *eP* **P 17 12 49.4 +1.6**
comp=Z,4.9nm,1.2s,mb4.3
MK31 Makanchi Array 73.78 43 *eP* **P 17 12 56.8 -0.4**
MK31 Makanchi Array 73.78 43 *eP* **P 17 12 56.8 -0.3**
MKAR Makanchi Array 73.78 43 *i P* **P 17 12 57.2 +0.1**
MKAR pmax pmax
comp=Z,1.0nm,0.7s
MKAR Makanchi Array 73.78 43 P **P 17 12 56.8 -0.3**
comp=Z,0.9nm,0.7s,mb3.8,baz=313,slow=6.1,SNR=6.1
MKAR LR LR 17 46 21.8
comp=Z,126nm,18.2s,MS4.2,baz=334,slow=37
BILL Bilibino 74.61 356 *i P* **P 17 13 02.5 +0.9**
BILL *e* 17 15 49.7
BILL pmax pmax
comp=Z,8.0nm,2.0s,mb4.3
BILL Bilibino 74.61 356 *eP* **P 17 13 02.0 +0.4**
comp=Z,7.5nm,1.4s,mb4.4
YAK Yakutsk 78.80 12 *i P* **P 17 13 26.0 +0.6**
YAK pmax pmax
comp=Z,13nm,1.1s,mb4.8
YAK Yakutsk 78.80 12 *i P* **P 17 13 26.0 +0.6**
comp=Z,13nm,1.1s,mb4.8
BOD Bodaibo 79.04 21 ⇓ *i P* **P 17 13 25.9 -0.9**
BOD pmax pmax
comp=Z,7.0nm,1.2s,mb4.5
BOD Bodaibo 79.04 21 *i P* **P 17 13 25.9 -0.9**
comp=Z,7.0nm,1.2s,mb4.5
TLY Talaya 80.49 30 *eP* **P 17 13 35.5 +0.7**
TLY *e* 17 24 18.1
TLY pmax pmax
comp=Z,6.0nm,1.9s,mb4.2
TLY MLR MLR
comp=Z,37nm,13.0s,MS3.9
TLY Talaya 80.49 30 *eP* **P 17 13 35.5 +0.7**
comp=Z,6.0nm,1.9s,mb4.2
BOSA Boshof 80.60 137 LR LR 17 51 04.5
comp=Z,82nm,19.9s,MS4.1,baz=194,slow=37
ZAK Zakamensk 81.35 31 *eP* **P 17 13 35.8 -3.6**
ZAK pmax pmax
comp=Z,2.0nm,1.6s,mb3.8
SONM Songino Array 84.61 31 P **P 17 13 56.3 -0.1**
comp=Z,1.9nm,1.1s,mb4.1,baz=324,slow=5.1,SNR=13
ULN Ulaanbaatar 84.86 30 *eP* **P 17 13 58.2 +0.6**
comp=Z,5.0nm,1.2s,mb4.5
ULN Ulaanbaatar 84.86 30 *i P* **P 17 13 58.3 +0.7**
ULN Ulaanbaatar 84.86 30 *eP* **P 17 13 58.2 +0.6**
comp=Z,5.0nm,1.2s,mb4.5
PLCA Paso Flores 88.35 213 P **P 17 14 15.2 +0.7**
comp=Z,2.4nm,0.9s,mb4.4,baz=348,slow=9.3,SNR=3.1
HHC Hu-ho-hao-te 92.45 32 *eP* **P 17 14 33.0 -1.0**
HHC AP pP 17 14 37.6 +2.9
HHC XP sP 17 14 40.4 +5.4
HHC S S 17 25 33.5 -5.2
HHC LR LR
comp=N,102nm,6.5s
HHC LR LR
comp=E,150nm,5.3s
HHC LR LR
comp=Z,80nm,5.1s
CD2 Chengdu 96.70 43 *eP* **P 17 14 53.5 -0.1**
CD2 AMB AMB
comp=Z,20nm,5.8s
KMI Kunming 100.58 47 P Pdif 17 15 12.2 +1.4
KMI AP 17 15 17.7
KMI XP 17 15 20.8
KMI S Sdif 17 26 45.9 -2.7
KMI LR LR
comp=N,86nm,20.6s,MS4.3
KMI LR LR
comp=E,69nm,23.3s,MS4.3
KMI LR LR
comp=Z,91nm,22.4s,MS4.2

*LDG **07** 17:01:29.2±0.1, 4065N×984E, h10km, Ml2.7/3, Error ellipse: s-maj=3.6km s-min=2.5km az=69.0*
*NEIC **07** 17:01:29.2, 4065N×984E, h10km, ML2.7(LDG), After LDG.*
*CSEM **07** 17:01:31.9±0.6, 4082N×1006E, h30km, ML2.6/4, Error ellipse: s-maj=15.6km s-min=6.1km az=90.0*
ROM 07 17:01:30.9±0.3, 4091N×1015E, h32km±2km, Md2.8/3, Ml2.2/3, Error ellipse: s-maj=5.5km s-min=3.2km az=151.0, Tyrrhenian Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
DGI	**Dorgali Grotta**	**0.72**	**215**	Pg	Pn		17 01 45.1	+0.3
DGI				Sg	Sb		17 01 55.6	+1.1
58nm,0.4s								
OSKI	**Oschiri**	**0.79**	**264**	Pg	Pn		17 01 46.3	+0.4
OSKI				Sg	Sn		17 01 57.2	+0.6
65nm,0.2s								
SMPL	**Sampolo**	**1.35**	**332**	Pg	Pn		17 01 54.1	+0.5
SMPL				Sg	Sn		17 02 12.1	+1.7
VSL	**Villasalto**	**1.53**	**203**	*e*Pg	Pn		17 01 56.2	+0.2
VSL				*e*Sg	Sn		17 02 14.5	-0.2
VSL	**Villasalto**	**1.53**	**203**	Pg	Pn		17 01 56.8	+0.8
VSL				Sg	Sn		17 02 15.7	+1.0
25nm,0.2s								
PGF	**Pioggiola**	**1.85**	**333**	*e*Pn	Pn		17 02 01.4	+1.0
PGF				*e*Sn	Sn		17 02 25.0	+2.3
12nm,0.3s								
PGF	**Pioggiola**	**1.85**	**333**	*e*Pn	Pn		17 02 01.4	+1.0
PGF				*e*Sn	Sn		17 02 25.0	+2.3
5.9nm,0.3s								
SBF	**Sospel**	**3.57**	**327**	*e*Pn	Pn		17 02 23.2	-0.9
SBF				*e*Sn	Sn		17 03 04.9	-0.3
5.6nm,0.4s								
SBF	**Sospel**	**3.57**	**327**	*e*Pn	Pn		17 02 23.2	-0.9
SBF				*e*Sn	Sn		17 03 04.9	-0.3
2.8nm,0.4s								
LMR	**La Mourre**	**3.63**	**313**	*e*Pn	Pn		17 02 23.9	-1.0
LMR				*e*Sn	Sn		17 03 04.4	-2.3
0.9nm,0.2s								
LMR	**La Mourre**	**3.63**	**313**	*e*Pn	Pn		17 02 23.9	-1.0
LMR				*e*Sn	Sn		17 03 04.4	-2.3
0.4nm,0.2s								
FRF	**La Foret Royal**	**3.71**	**317**	*e*Pn	Pn		17 02 25.2	-0.8
LASF	**Ste Croix**	**5.63**	**306**	*e*Pn	Pn		17 02 51.5	-0.8

*NEIC **07** 17:08:20.1±0.6, 837S×1570E, h10km, mb4.5/7, Error ellipse: s-maj=15.2km s-min=12.0km az=172.0*
*IDC **07** 17:08:20.1±1.0, 826S×1568E, h0km, mb4.3/5, mb1 4.4/6, mb1mx4.1/14, mbtmp4.3/6, ML4.8/1, MS3.1/2, Ms1 3.1/2, ms1mx2.8/17, Error ellipse: s-maj=26.9km s-min=23.8km az=180.0*
*ISCJB **07** 17:08:23.9±0.6, 84S±0.1×1568E±0.06, h33km, mb4.2/10, Error ellipse: s-maj=16.0km s-min=8.8km az=8.5*
ISC 07 17:08:25.9±0.6, 84S±0.1×15678E±0.07, h35km, n24, σ0990/24, mb4.2/10, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**3.31**	**109**	*e*Pn	**Pn**		**17 09 08.6**	**-6.6**
HNR				*e*Sn	**Sn**		**17 09 53.1**	**-0.1**
HNR	**Honiara**	**3.31**	**109**	Pn	**Pn**		**17 09 11.9**	**-3.2**
100nm,0.3s,baz=267,slow=3.3,SNR=45								
HNR				Sn	**Sn**		**17 09 54.0**	**+0.8**
44nm,0.3s,baz=275,slow=21,SNR=7.5								
CTA	**Charters Tower**	**15.49**	**220**	*e*P	**Pn**		**17 12 08.1**	**+6.4**
15nm,1.2s								
CTA	**Charters Tower**	**15.49**	**220**	Pn	**Pn**		**17 12 05.0**	**+3.3**
CTA				*e*P			17 12 08.1	
CTA				LR	LR		17 16 27.0	
CTA	**Charters Tower**	**15.49**	**220**	Pn	**Pn**		**17 12 05.0**	**+3.3**
0.2nm,0.3s,baz=53,slow=8.3,SNR=5.3								
CTA				LR	LR		17 16 27.0	
comp=Z,46nm,19.5s,baz=230,slow=31								
CTAO	**Charters Tower**	**15.49**	**220**	P	**Pn**		**17 12 05.1**	**+3.4**
44nm,1.3s								
KAKA	**Kakadu**	**24.31**	**258**	*e*P	**P**		**17 13 41.0**	**+0.6**
5.9nm,0.5s,mb4.3								
WRAB	**Tennant Creek**	**24.57**	**240**	*e*P	**P**		**17 13 42.7**	**0.0**
9.0nm,0.8s,mb4.3								
WB2	**Warramunga Arr**	**24.57**	**240**	*e*P	**P**		**17 13 42.6**	**-0.1**
WRA	**Warramunga Arr**	**24.58**	**240**	P	**P**		**17 13 43.1**	**+0.3**
7.5nm,0.7s,mb4.3,baz=66,slow=10,SNR=52								
WRA				PcP	PcP		17 17 19.3	-1.1
0.7nm,0.7s,baz=75,slow=3.0,SNR=5.6								
ASAR	**Alice Springs**	**26.68**	**233**	P	**P**		**17 14 00.5**	**-1.3**
2.6nm,0.9s,mb3.8,baz=64,slow=9.5,SNR=19								
ASAR				PcP	PcP		17 17 24.7	-0.4
0.3nm,1.0s,baz=71,slow=2.3,SNR=4.9								
STKA	**Stephens Creek**	**27.34**	**209**	*e*P	**P**		**17 14 07.7**	**+0.1**
8.0nm,0.6s,mb4.4								
STKA	**Stephens Creek**	**27.34**	**209**	*e*P	**P**		**17 14 07.7**	**+0.1**
17nm,0.9s,mb4.6								
STKA	**Stephens Creek**	**27.34**	**209**	P	**P**		**17 14 08.6**	**+1.0**
10nm,0.7s,mb4.4,baz=39,slow=14,SNR=24								
STKA				LR	LR		17 25 42.2	
comp=Z,56nm,19.8s,baz=290,slow=38								
KLBR	**Kellerberrin**	**43.01**	**232**	*e*P	**P**		**17 16 21.4**	**-0.7**
6.8nm,0.6s,mb4.5								
NWAO	**Narrogin (SRO)**	**43.96**	**230**	*e*P	**P**		**17 16 29.4**	**-0.4**
KSM	**Kuching**	**47.35**	**280**	P	**P**		**17 16 57.2**	**+0.4**
SONM	**Songino Array**	**71.43**	**327**	P	**P**		**17 19 42.4**	**-0.2**
0.8nm,0.9s,mb3.6,baz=148,slow=5.7,SNR=5.1								
MK31	**Makanchi Array**	**85.59**	**318**	*e*P	**P**		**17 20 59.9**	**-0.8**
MKAR	**Makanchi Array**	**85.59**	**318**	P	**P**		**17 21 00.1**	**-0.6**
1.4nm,0.7s,mb4.3,baz=98,slow=6.2,SNR=19								
EKS2	**Erkin-Say**	**90.49**	**313**	*e*P	**P**		**17 21 24.2**	**0.0**
1.1nm,0.7s,mb4.3								
BRVK	**Borovoye**	**94.51**	**323**	P	**P**		**17 21 44.8**	**+2.3**
0.9nm,0.6s,mb4.4								
BDFB	**Brasilia**	**145.77**	**134**	PKPbc	PKPbc		17 28 03.2	+1.0
1.4nm,0.5s,baz=280,slow=7.2,SNR=3.8								
TORD	**Torodi Ar. Bea**	**155.07**	**283**	PKPbc	PKPdf		17 28 21.9	+5.6
0.6nm,1.1s,baz=146,slow=2.8,SNR=2.7								

*NEIC **07** 17:12:14.9, 3869S×17647E, h100km, ML4.1(WEL), After WEL.*
WEL 07 17:12:14.9±0.2, 3869S×17647E, h100km±1km, ML4.1/23, 8C-8D, Error ellipse: s-maj=0.9km s-min=0.6km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
HRRZ	**Handcock Road**	**0.33**	**334**	⇓P	**Pn**		17 12 29.6	0.0
HRRZ				SN	Sn		17 12 41.1	+0.5
HATZ	**Hinemaiaia**	**0.36**	**236**	P	Pn		17 12 29.6	-0.2
HATZ				S	Sn		17 12 40.0	-0.9
HATZ	**Hinemaiaia**	**0.36**	**236**	PN	Pn		17 12 29.6	-0.1
HATZ				SN	Sn		17 12 40.0	-0.8
WHTZ	**Whakaora**	**0.40**	**273**	P	Pn		17 12 30.3	+0.3
WHTZ	**Whakaora**	**0.40**	**273**	⇓PN	Pn		17 12 30.3	+0.3
TAZ	**Tarawera**	**0.46**	**4**	P	Pn		17 12 30.7	+0.3
TAZ	**Tarawera**	**0.46**	**4**	PN	Pn		17 12 30.7	+0.3
BKZ	**Black Stump Fm**	**0.48**	**178**	P	Pn		17 12 30.7	+0.2
BKZ				S	Sn		17 12 42.7	+0.5
BKZ	**Black Stump Fm**	**0.48**	**178**	⇑PN	Pn		17 12 30.7	+0.2
BKZ				SN	Sn		17 12 42.7	+0.6
MKRZ	**Makatiti**	**0.55**	**360**	P	Pn		17 12 31.6	+0.5
MKRZ	**Makatiti**	**0.55**	**360**	PN	Pn		17 12 31.6	+0.5
RITZ	**Rihia Road**	**0.56**	**239**	P	Pn		17 12 31.4	+0.3
RITZ	**Rihia Road**	**0.56**	**239**	PN	Pn		17 12 31.4	+0.3
UTU	**Utuhina**	**0.56**	**337**	P	Pn		17 12 31.4	+0.3
UTU	**Utuhina**	**0.56**	**337**	⇓PN	Pn		17 12 31.4	+0.2
RATZ	**Rangitukua**	**0.57**	**252**	P	Pn		17 12 31.1	-0.1
RATZ	**Rangitukua**	**0.57**	**252**	⇓PN	Pn		17 12 31.1	-0.1
WATZ	**Wairara**	**0.58**	**268**	P	Pn		17 12 31.1	-0.1
WATZ	**Wairara**	**0.58**	**268**	⇓PN	Pn		17 12 31.1	-0.1
OMRZ	**Omania**	**0.59**	**353**	⇓PN	Pn		17 12 31.3	-0.1
EDRZ	**Edgecumbe**	**0.62**	**20**	P	Pn		17 12 31.4	-0.2
EDRZ	**Edgecumbe**	**0.62**	**20**	PN	Pn		17 12 31.3	-0.3
URZ	**Urewera**	**0.66**	**50**	P	Pn		17 12 31.8	-0.2
URZ	**Urewera**	**0.66**	**50**	PN	Pn		17 12 31.8	-0.2
URZ				SN	Sn		17 12 44.2	-0.6
KATZ	**Kakaramea**	**0.67**	**245**	P	Pn		17 12 32.1	+0.1
KATZ	**Kakaramea**	**0.67**	**245**	PN	Pn		17 12 32.1	+0.1
LIRZ	**Lichensteins R**	**0.69**	**354**	P	Pn		17 12 32.1	-0.1
LIRZ	**Lichensteins R**	**0.69**	**354**	PN	Pn		17 12 32.2	0.0
KARZ	**Kaharoa**	**0.69**	**345**	P	Pn		17 12 32.2	0.0
KARZ	**Kaharoa**	**0.69**	**345**	PN	Pn		17 12 32.2	0.0
MARZ	**Manawahe**	**0.72**	**13**	P	Pn		17 12 32.3	-0.2
MARZ	**Manawahe**	**0.72**	**13**	PN	Pn		17 12 32.3	-0.2
KRVZ	**Karewarewa**	**0.76**	**238**	PN	Pn		17 12 33.0	+0.1
OTVZ	**Oturere**	**0.79**	**233**	⇑PN	Pn		17 12 33.4	+0.3
OTVZ				SN	Sn		17 12 46.8	+0.1
WTVZ	**West Tongariro**	**0.81**	**238**	P	Pn		17 12 33.4	+0.1
WTVZ	**West Tongariro**	**0.81**	**238**	PN	Pn		17 12 33.4	+0.1
NGZ	**Ngauruhoe**	**0.83**	**234**	P	Pn		17 12 33.8	+0.2
NGZ	**Ngauruhoe**	**0.83**	**234**	PN	Pn		17 12 33.8	+0.2
OPRZ	**Ohinepanea**	**0.85**	**5**	PN	Pn		17 12 33.4	-0.3
TUVZ	**Tukino**	**0.86**	**227**	P	Pn		17 12 34.0	+0.2
TUVZ	**Tukino**	**0.86**	**227**	PN	Pn		17 12 34.0	+0.2
WPVZ	**Whakapapa**	**0.88**	**234**	P	Pn		17 12 34.2	+0.1
WPVZ	**Whakapapa**	**0.88**	**234**	PN	Pn		17 12 34.0	-0.1
TWVZ	**Taurewa**	**0.89**	**244**	P	Pn		17 12 34.1	0.0
TWVZ	**Taurewa**	**0.89**	**244**	⇓PN	Pn		17 12 34.1	-0.1
MWZ	**Matawai**	**0.90**	**67**	P	Pn		17 12 34.6	+0.3
MWZ	**Matawai**	**0.90**	**67**	⇑PN	Pn		17 12 34.5	+0.3
MOVZ	**Moawhango**	**0.91**	**218**	P	Pn		17 12 34.1	-0.2
MOVZ	**Moawhango**	**0.91**	**218**	⇑PN	Pn		17 12 34.1	-0.2
FWVZ	**Far West T-bar**	**0.91**	**231**	P	Pn		17 12 34.5	+0.1
FWVZ	**Far West T-bar**	**0.91**	**231**	PN	Pn		17 12 34.4	0.0
DRZ	**Dome Shelter**	**0.92**	**230**	P	Pn		17 12 34.7	+0.3
DRZ	**Dome Shelter**	**0.92**	**230**	PN	Pn		17 12 34.7	+0.3
WNVZ	**Wahianoa**	**0.93**	**227**	P	Pn		17 12 34.6	0.0
WNVZ	**Wahianoa**	**0.93**	**227**	⇑PN	Pn		17 12 34.6	+0.1
TRVZ	**Turoa**	**0.94**	**229**	PN	Pn		17 12 34.9	+0.2
TGRZ	**Tauranga**	**0.97**	**350**	P	Pn		17 12 35.1	+0.1
TGRZ	**Tauranga**	**0.97**	**350**	PN	Pn		17 12 35.1	+0.1
KNZ	**Kokohu**	**1.00**	**110**	P	Pn		17 12 35.7	+0.4
KNZ	**Kokohu**	**1.00**	**110**	PN	Pn		17 12 35.7	+0.4
MTVZ	**Mangateitei**	**1.04**	**228**	⇑PN	Pn		17 12 35.8	+0.1
PKVZ	**Pokaka**	**1.06**	**235**	PN	Pn		17 12 36.0	0.0
TOZ	**Tahuroa Road**	**1.22**	**321**	P	Pn		17 12 38.0	+0.1
TOZ	**Tahuroa Road**	**1.22**	**321**	⇑PN	Pn		17 12 38.0	+0.2
HIZ	**Hauiti**	**1.28**	**277**	P	Pn		17 12 38.6	+0.2
HIZ	**Hauiti**	**1.28**	**277**	⇓PN	Pn		17 12 38.6	+0.2
WPHZ	**Waipukurau**	**1.37**	**181**	PN	Pn		17 12 39.3	-0.3
PXZ	**Pawanui**	**1.37**	**167**	PN	Pn		17 12 39.6	-0.1
VRZ	**Vera Road**	**1.40**	**251**	P	Pn		17 12 40.0	0.0
VRZ	**Vera Road**	**1.40**	**251**	PN	Pn		17 12 40.0	0.0
MYRZ	**Mayor Island**	**1.42**	**353**	PN	Pn		17 12 40.6	+0.4
TSZ	**Takapari Road**	**1.42**	**196**	P	Pn		17 12 39.6	-0.6
TSZ	**Takapari Road**	**1.42**	**196**	⇑PN	Pn		17 12 39.6	-0.6
PUZ	**Puketiti**	**1.54**	**67**	*e*P	Pn		17 12 41.6	0.0
PUZ	**Puketiti**	**1.54**	**67**	PN	Pn		17 12 41.6	0.0
WAZ	**Wanganui**	**1.57**	**227**	P	Pn		17 12 42.1	+0.1
WAZ	**Wanganui**	**1.57**	**227**	PN	Pn		17 12 42.1	+0.1
RAEZ	**Rainy Point**	**1.72**	**249**	P	Pn		17 12 44.6	+0.7

BHW	**Baring Head**	**2.98 204**	PN	Pn	17 12 57.4	-2.9
TCW	**Tory Channel**	**3.03 213**	P	Pn	17 12 58.2	-2.8
TCW	**Tory Channel**	**3.03 213**	PN	Pn	17 12 58.2	-2.8
TUWZ	**Tuamarina**	**3.35 215**	PN	Pn	17 13 02.4	-3.0
NNZ	**Nelson**	**3.47 222** *eP*	Pn	Pn	17 13 03.6	-3.2
NNZ	**Nelson**	**3.47 222**	PN	Pn	17 13 03.6	-3.2
CMWZ	**Cape Campbell**	**3.51 209**	SN	Sn	17 13 44.7	-3.3
BSWZ	**Blackbirch Sta**	**3.62 212**	P	Pn	17 13 05.8	-3.0
BSWZ	**Blackbirch Sta**	**3.62 212**	PN	Pn	17 13 05.4	-3.5
QRZ	**Quartz Range**	**3.71 234** *eP*	Pn	Pn	17 13 07.7	-2.4
QRZ	**Quartz Range**	**3.71 234**	PN	Pn	17 13 07.7	-2.4
THZ	**Tophouse**	**4.11 221** *eP*	Pn	Pn	17 13 12.3	-3.2
THZ	**Tophouse**	**4.11 221**	PN	Pn	17 13 12.3	-3.1
KHZ	**Kahutara**	**4.34 210** *eP*	Pn	Pn	17 13 14.8	-3.8
KHZ	**Kahutara**	**4.34 210**	PN	Pn	17 13 14.5	-4.1
DSZ	**Denniston Nort**	**4.70 228** *eP*	Pn	Pn	17 13 20.1	-3.4
DSZ	**Denniston Nort**	**4.70 228**	PN	Pn	17 13 19.3	-4.2
LTZ	**Lake Taylor**	**5.18 217** *eP*	Pn	Pn	17 13 25.5	-4.6
LTZ	**Lake Taylor**	**5.18 217**	PN	Pn	17 13 25.5	-4.5
CRLZ	**Canterbury Las**	**5.68 210** *eP*	Pn	Pn	17 13 31.7	-5.1
CRLZ	**Canterbury Las**	**5.68 210** *eP*	PN	Pn	17 13 30.6	-6.1
MQZ	**McQueen's Vall**	**5.78 209** *eP*	Pn	Pn	17 13 32.2	-5.9
WVZ	**Waitaha Valley**	**6.17 223** *eP*	Pn	Pn	17 13 41.9	-1.5
WVZ	**Waitaha Valley**	**6.17 223** *e*PN	Pn	Pn	17 13 41.9	-1.6
RPZ	**Rata Peaks**	**6.47 217** *eP*	Pn	Pn	17 13 43.0	-4.5
RPZ	**Rata Peaks**	**6.47 217** *e*PN	Pn	Pn	17 13 42.9	-4.7
FOZ	**Fox Glacier**	**7.06 224** *e*PN	Pn	Pn	17 13 50.5	-5.0
FOZ		SN	Sn	Sn	17 15 01.9	-12
ODZ	**Otahua Downs**	**7.69 213** *eP*	Pn	Pn	17 13 58.7	-5.4
ODZ	**Otahua Downs**	**7.69 213** *e*PN	Pn	Pn	17 13 58.2	-5.9
WKZ	**Wanaka**	**8.28 220** SN	Sn	Sn	17 15 33.3	-11
EAZ	**Earnscleugh**	**8.43 217** *e*PN	Pn	Pn	17 14 09.4	-4.8
MSZ	**Milford Sound**	**8.75 224** SN	Sn	Sn	17 15 44.9	-10
TUZ	**Tuapeka**	**8.85 213** *e*PN	Pn	Pn	17 14 14.6	-5.2
TUZ		SN	Sn	Sn	17 15 46.5	-11
MLZ	**Mavora Lakes**	**9.07 220** SN	Sn	Sn	17 15 52.8	-10
WHZ	**Wether Hill Ro**	**9.57 218** SN	Sn	Sn	17 16 02.8	-12

IDC 07 17:28:18.3±1.2, 750N×7749W, h0km, mb3.4/1, mb1 3.9/4, mb1mx3.5/22, mbtmp3.9/4, ML3.0/3, Error ellipse: s-maj=39.0km s-min=25.4km az=25.0, Panama-Colombia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSC	**El Rosal**	**4.10**	**130**	Pn	Pn	17 29 23.5	+1.3
	1.3nm,0.3s,baz=264,slow=18,SNR=3.2						
ROSC				Sn	Sn	17 30 11.4	+0.5
	2.5nm,0.3s,baz=78,slow=22,SNR=4.1						
SDV	**Santo Domingo**	**6.93**	**78**	Pn	Pn	17 30 01.2	0.0
	1.8nm,0.3s,baz=308,slow=9.3,SNR=9.5						
SDV				Sn	Sn	17 31 13.3	-7.4
	6.7nm,0.3s,baz=20,slow=16,SNR=9.4						
PCRV	**Puerto La Cruz**	**12.98**	**77**	Pn	Pn	17 31 24.9	+0.7
	0.5nm,0.3s,baz=270,slow=3.0,SNR=2.7						
YKA	**Yellowknife Ar**	**61.18**	**341**	P	P	17 38 34.5	0.0
	0.2nm,0.5s,baz=132,slow=7.1,SNR=5.8						
ASAR	**Alice Springs**	**145.87**	**238**	PKPbc	PKPbc	17 47 59.9	-0.6
	0.4nm,0.4s,baz=119,slow=3.8,SNR=22						
WRA	**Warramunga Arr**	**146.77**	**245**	PKPbc	PKPbc	17 48 02.3	-1.0
	0.3nm,0.8s,baz=103,slow=3.5,SNR=4.1						

*CSEM **07** 17:42:11.1±0.3, 3007N×3006E, h10km, ML3.7, Error ellipse: s-maj=6.8km s-min=5.0km az=85.0*
*GII **07** 17:42:15.7±0.0, 3015N×3055E, h0km, mb4.0/3, ML3.7/9*
ISC 07 17:42:15.4±1.4, 3025N±007×3034E±009, h10km, n17, σ0§90/25, Egypt

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KZIT	**Kziot**	**3.56**	**78**	Pn	**Pn**	**17 43 10.2**	**-0.4**
KZIT				Sn	**Sn**	**17 43 52.1**	**-0.7**
KRMI	**Paran Flat**	**3.80**	**91**	Pn	**Pn**	**17 43 13.3**	**-0.6**
PRNI	**Paran**	**4.04**	**87**	Pn	**Pn**	**17 43 15.4**	**-1.8**
EIL	**Elat**	**4.04**	**97**	Pn	**Pn**	**17 43 16.5**	**-0.8**
HRFI	**Mount Harif**	**4.07**	**92**	Pn	**Pn**	**17 43 17.0**	**-0.7**
HRFI				Sn	**Sn**	**17 44 05.1**	**-0.4**
ZFRI	**Zfri**	**4.19**	**85**	Pn	**Pn**	**17 43 18.6**	**-0.7**
ZFRI				Sn	**Sn**	**17 44 06.6**	**-1.7**
HQLS		**4.21**	**102**	P	**Pn**	**17 43 19.9**	**+0.3**
HQLS				S	**Sn**	**17 44 08.8**	**-0.1**
RSHS		**4.35**	**115**	S	**Sn**	**17 44 13.3**	**+1.1**
RSHS		**4.35**	**115**	P	**Pn**	**17 43 23.8**	**+2.3**
MZDA	**Masada**	**4.45**	**75**	Pn	**Pn**	**17 43 22.3**	**-0.6**
SLTI	**Sal'it**	**4.49**	**63**	Pn	**Pn**	**17 43 23.4**	**-0.1**
SLTI				Sn	**Sn**	**17 44 16.4**	**+0.7**
DSI	**Dead Sea**	**4.53**	**72**	Pn	**Pn**	**17 43 24.2**	**+0.2**
JLOS		**4.74**	**107**	P	**Pn**	**17 43 28.7**	**+1.9**
MMLI	**Mount Malkishu**	**4.86**	**62**	Pn	**Pn**	**17 43 28.5**	**-0.1**
MMLI				Sn	**Sn**	**17 44 25.9**	**+0.9**
HMDT	**Nahal Hemdat**	**4.87**	**64**	Pn	**Pn**	**17 43 28.7**	**+0.1**
HMDT				Sn	**Sn**	**17 44 26.0**	**+0.9**
MMC6	**Mount Meron ar**	**5.11**	**56**	Pn	**Pn**	**17 43 32.1**	**0.0**
MMA4	**Mount Meron ar**	**5.12**	**56**	Pn	**Pn**	**17 43 32.4**	**+0.3**
MMA4				Sn	**Sn**	**17 44 31.7**	**+0.5**

*IDC **07** 17:56:25.3±1.2, 3167S×7203W, h0km, mb4.0/4, mb1 4.1/7, mb1mx4.0/16, mbtmp3.9/7, ML3.9/3, MS3.1/2, Ms1 3.1/2, ms1mx2.7/33, Error ellipse: s-maj=32.6km s-min=30.0km az=43.0*
*ISCJB **07** 17:56:28.8±0.8, 3171S±003×7217W±007, h35km±8km, mb3.9/5, Error ellipse: s-maj=10.4km s-min=4.4km az=1.3*
*GUC **07** 17:56:28.9±1.0, 3172S×7204W, h32km±3km, MD4.2, ML4.0*
*NEIC **07** 17:56:31.0±1.7, 3171S×7209W, h38km±15km, Error ellipse: s-maj=21.0km s-min=13.5km az=103.0*
ISC 07 17:56:27.2±1.1, 3171S±002×7209W±006, h7km±5km, n43, σ0§89/49, mb3.9/5, 6C-4D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHNG	**Los Chungos**	**0.53**	**109**	AML	AML	17 56 28.9	
	comp=E,3μm,0.7s						
PACH	**Papudo**	**0.99**	**146**	⇑*iP*	**Pg**	**17 56 46.3**	**+0.1**
PACH				*i* S	**Sg**	**17 56 59.0**	**-0.1**
CMCH	**Combarbala**	**1.08**	**60**	⇑*iP*	**Pg**	**17 56 47.7**	**-0.1**
CMCH				*i* S	**Sg**	**17 57 02.2**	**+0.4**
CMCH				AML	AML	17 57 04.2	
	comp=E,21μm,0.7s						
PTCH	**Petorca**	**1.13**	**119**	⇑*iP*	**Pg**	**17 56 48.4**	**-0.5**
PTCH				*i* S	**Sg**	**17 57 03.1**	**-0.5**
PTCH				AML	AML	17 57 04.6	
	comp=N,3μm,0.5s						
OVCH	**Ovalle**	**1.34**	**35**	⇓*iP*	**Pn**	**17 56 52.2**	**0.0**
OVCH				*i* S	**Sb**	**17 57 08.9**	**-1.0**
OVCH				AML	AML	17 57 22.2	
	comp=N,5μm,0.4s						
IHA	**Instituto Hidr**	**1.36**	**164**	⇑*iP*	**Pn**	**17 56 51.7**	**-0.9**
IHA				*i* S	**Sb**	**17 57 07.9**	**-2.8**
PEL	**Peldehue**	**1.86**	**141**	⇓*iP*	**Pn**	**17 56 59.4**	**0.0**
PEL				*i* S	**Sn**	**17 57 23.1**	**0.0**
PEL				AML	AML	17 57 28.1	
	comp=E,6μm,0.4s						
TLL	**Tololo Astrono**	**1.90**	**36**	*eP*	**Pn**	**17 57 00.5**	**+0.6**
TLL				*i* S	**Sn**	**17 57 24.7**	**+0.7**
TLL				AML	AML	17 57 36.4	
	comp=N,4μm,0.5s						
LSCH	**La Serena**	**1.94**	**22**	AML	AML	17 57 37.9	
	comp=N,887nm,0.4s						
STL	**Santa Lucia**	**2.11**	**145**	*eP*	**Pn**	**17 57 02.8**	**-0.1**
STL				*i* S	**Sn**	**17 57 29.2**	**-0.2**
STL				AML	AML	17 57 38.9	
	comp=E,432nm,0.6s						
DSCH	**Colegio Aleman**	**2.12**	**143**	AML	AML	17 57 35.2	
	comp=E,572nm,0.5s						
CLCH	**Cerro Calan**	**2.13**	**142**	⇑*iP*	**Pn**	**17 57 03.2**	**+0.1**
CLCH				*i* S	**Sn**	**17 57 32.0**	**+2.1**
CLCH				AML	AML	17 57 39.6	
	comp=N,4μm,0.4s						
CLCH				AML	AML	17 57 40.1	
	comp=N,5μm,0.4s						
TACH	**Talagante**	**2.17**	**154**	⇑*iP*	**Pn**	**17 57 04.0**	**+0.4**
TACH				*i* S	**Sn**	**17 57 29.7**	**-1.0**
FCH	**Farellones**	**2.22**	**137**	*eP*	**Pn**	**17 57 04.7**	**+0.3**
FCH				*i* S	**Sn**	**17 57 32.0**	**0.0**
FCH				AML	AML	17 57 39.2	
	comp=E,1μm,0.6s						
ANTU	**Antumapu**	**2.22**	**147**	⇓*iP*	**Pn**	**17 57 04.0**	**-0.4**
ANTU				AML	AML	17 57 46.3	
	comp=E,2μm,0.5s						
PCH	**Pirque**	**2.32**	**145**	*eP*	**Pn**	**17 57 06.1**	**+0.3**
PCH				*i* S	**Sn**	**17 57 33.8**	**-0.8**
SJCH	**San Jose de Ma**	**2.42**	**143**	AML	AML	17 57 45.2	
	comp=N,2μm,0.6s						
CHCH	**Chadas Angostu**	**2.53**	**152**	*iP*	**Pn**	**17 57 09.1**	**+0.5**
LMEL	**Las Melosas**	**2.66**	**144**	*iP*	**Pn**	**17 57 10.9**	**+0.5**
LMEL				*i* S	**Sn**	**17 57 43.2**	**+0.3**
LMEL				AML	AML	17 57 56.5	
	comp=N,1μm,0.5s						
CACH	**El Canelo**	**2.71**	**153**	⇓*iP*	**Pn**	**17 57 12.5**	**+1.4**
CICH	**Cipreses**	**2.96**	**152**	*iP*	**Pn**	**17 57 15.3**	**+0.8**
CFAA	**Coronel Fontan**	**3.29**	**89**	Pn	**Pn**	**17 57 21.5**	**+2.4**
CFAA				Sn	**Sn**	**17 58 04.8**	**+6.4**
CFAA	**Coronel Fontan**	**3.29**	**89**	Pn	**Pn**	**17 57 21.5**	**+2.4**
	comp=N,1.3nm,0.3s,baz=251,slow=11,SNR=32						
CFAA				Sn	**Sn**	**17 58 04.8**	**+6.4**
	comp=N,7.1nm,0.3s,baz=12,slow=9.7,SNR=8.5						
NICH	**Los Niches**	**3.36**	**168**	*eP*	**Pn**	**17 57 20.6**	**+0.5**
PLCA	**Paso Flores**	**9.09**	**173**	Pn	**Pn**	**17 58 38.9**	**+0.2**
	comp=N,0.5nm,0.3s,baz=340,slow=9.3,SNR=7.5						
PLCA				LR	LR	18 02 36.2	
	comp=N,152nm,18.8s,baz=343,slow=41						
LPAZ	**La Paz**	**15.77**	**14**	Pn	**Pn**	**18 00 10.8**	**+1.0**
LPAZ	**La Paz**	**15.77**	**14**	Pn	**Pn**	**18 00 10.8**	**+1.0**
	comp=N,0.1nm,0.3s,baz=173,slow=5.8,SNR=6.6						
SIV	**San Ignacio**	**18.59**	**35**	P	**Pn**	**18 00 44.2**	**-1.0**
	comp=N,0.1nm,0.3s,baz=224,slow=13,SNR=7.1						
BDFB	**Brasilia**	**27.15**	**59**	P	**P**	**18 02 09.5**	**-1.7**
BDFB				LR	LR	18 14 54.6	
BDFB	**Brasilia**	**27.15**	**59**	P	**P**	**18 02 09.5**	**-1.7**
	comp=N,3.7nm,0.6s,mb4.1,baz=208,slow=11,SNR=7.1						
BDFB				LR	LR	18 14 54.6	
	comp=N,32nm,21.5s,baz=202,slow=41						
VNA3	**Neumayer Olymp**	**51.49**	**159**	*e*	**P**	**18 05 33.4**	**+0.5**
VNA3				*e*		18 05 38.9	
VNA3				*e*		18 05 41.0	
VNA3				*e*		18 05 46.8	
VNA2	**Neumayer--Watz**	**52.14**	**158**	*e*	**P**	**18 05 38.4**	**+0.7**
	baz=284,slow=9.3						
VNA2				*e*		18 05 43.7	
VNA2				*e*		18 05 45.8	
VNA2				*e*		18 05 51.4	
TXAR	**Lajitas Array**	**67.72**	**330**	P	**P**	**18 07 23.6**	**-1.6**
	comp=N,0.3nm,0.6s,mb3.5,baz=158,slow=9.7,SNR=2.9						
DBIC	**Dimbokro**	**74.50**	**72**	P	**P**	**18 08 05.7**	**-1.0**
DBIC	**Dimbokro**	**74.50**	**72**	P	**P**	**18 08 05.7**	**-1.0**
	comp=N,3.2nm,0.8s,mb4.3,baz=179,slow=6.5,SNR=4.4						
NVAR	**Mina Array Bea**	**81.98**	**325**	P	**P**	**18 08 48.7**	**+1.1**
NVAR	**Mina Array Bea**	**81.98**	**325**	P	**P**	**18 08 48.7**	**+1.1**
	comp=N,0.2nm,0.6s,mb3.2,baz=179,slow=7.2,SNR=3.8						
TORD	**Torodi Ar. Bea**	**83.48**	**70**	P	**P**	**18 08 54.8**	**-1.2**
	comp=N,2.9nm,0.7s,mb4.4,baz=256,slow=4.6,SNR=14						
BRVK	**Borovoye**	**145.54**	**41**	*e*PKPdf	PKPdf	18 16 05.5	0.0
ZAA0	**Zalesovo Array**	**152.29**	**30**	*e*PKPbc	PKPbc	18 16 22.7	-0.5
ZAA0				*e*PKPab	PKPab	18 16 32.6	-0.5
ZALV	**Zalesovo Beam**	**152.29**	**30**	PKPbc	PKPbc	18 16 22.3	-0.9
ZALV				PKPab	PKPab	18 16 31.4	-1.7
ZALV	**Zalesovo Beam**	**152.29**	**30**	PKPbc	PKPbc	18 16 22.3	-0.9
	comp=N,2.2nm,0.6s,baz=300,slow=3.5,SNR=12						
ZALV				PKPab	PKPab	18 16 31.4	-1.7
	comp=N,3.1nm,0.6s,baz=321,slow=4.2,SNR=7.2						
MKAR	**Makanchi Array**	**155.24**	**45**	PKPab	PKPab	18 16 45.0	-0.9
	comp=N,0.6nm,0.8s,baz=296,slow=2.3,SNR=6.0						

*MOS **07** 18:01:58.5±0.5, 4154N×4545E, h15km, mb3.6/1, Error ellipse: s-maj=43.4km s-min=10.6km az=117.2*
*CSEM **07** 18:01:58.0, 4154N×4545E, h15km, mb3.6, Error ellipse: s-maj=43.4km s-min=10.6km az=272.0, After OBN*
*TIF **07** 18:02:02.4, 4182N×4520E, h19km±2km*
*ISCJB **07** 18:02:04.1±0.7, 4182N±004×4517E±006, h19km, Error ellipse: s-maj=7.0km s-min=5.6km az=151.3*
ISC 07 18:02:03.3±0.9, 4191N±004×4521E±006, h0km±10km, n12, σ0§55/17, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTA	**Mtatsminda**	**0.38**	**236**	P	**Pg**	**18 02 09.8**	**-0.7**
MTA				S	**Sg**	**18 02 15.5**	**+0.1**
TBLG	**Delisi**	**0.39**	**244**	Pg	**Pg**	**18 02 10.4**	**-0.4**
TBLG				Sg	**Sg**	**18 02 16.6**	**+0.8**
DGRG	**David-gareji**	**0.47**	**165**	P	**Pg**	**18 02 11.6**	**-0.7**
DGRG				S	**Sg**	**18 02 19.3**	**+0.9**
GOR	**Gori**	**0.82**	**276**	P	**Pg**	**18 02 18.1**	**-0.9**
GOR				S	**Sg**	**18 02 29.8**	**+0.1**
LACR	**Lac**	**1.14**	**324**	*i* Pg	**Pg**	**18 02 25.2**	**+0.1**
SNJR	**Sundja**	**1.20**	**346**	*e*Pg	**Pg**	**18 02 26.3**	**+0.1**
VLKR	**Vladikavkaz**	**1.21**	**341**	*e*Pg	**Pg**	**18 02 26.6**	**+0.2**
ZEI	**Tsey**	**1.30**	**312**	*i* Pn	**Pn**	**18 02 27.9**	**-0.7**
ARNR	**Ardon**	**1.45**	**332**	*i* Pn	**Pn**	**18 02 31.5**	**+0.7**
ONI	**Oni**	**1.47**	**298**	P	**Pn**	**18 02 30.5**	**-0.5**
ONI				S	**Sg**	**18 02 50.9**	**+0.5**
DIGR	**Digorskoe uzhe**	**1.56**	**310**	*i* Pn	**Pn**	**18 02 32.2**	**0.0**
LSNR	**Lesken**	**1.71**	**324**	*e*Pn	**Pn**	**18 02 34.8**	**+0.5**

IDC 07 18:02:35.5±1.3, 754S×15588E, h0km, mb3.9/5, mb1 4.0/6, mb1mx3.8/14, mbtmp4.0/6, ML4.1/1, MS3.0/1, Ms1 3.0/1, ms1mx2.4/25, Error ellipse: s-maj=34.1km s-min=28.4km az=113.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.44**	**115**	Pn	Pn	18 03 43.6	-0.5
	8.6nm,0.3s,baz=200,slow=0.9,SNR=6.4						
HNR				Sn	Sn	18 04 42.0	+5.5
	18nm,0.3s,baz=271,slow=20,SNR=13						
CTA	**Charters Tower**	**15.58**	**216**	LR	LR	18 11 25.9	
	comp=Z,58nm,19.4s,baz=232,slow=34						
WRA	**Warramunga Arr**	**24.25**	**237**	P	P	18 07 55.4	+1.0
	1.8nm,0.6s,baz=62,slow=9.5,SNR=19						
ASAR	**Alice Springs**	**26.49**	**230**	P	P	18 08 13.8	-0.9
	0.6nm,0.9s,baz=60,slow=8.5,SNR=4.7						
SONM	**Songino Array**	**70.27**	**327**	P	P	18 13 51.5	+1.0
	1.9nm,0.9s,baz=135,slow=5.8,SNR=15						
MKAR	**Makanchi Array**	**84.39**	**319**	P	P	18 15 10.1	+0.3
	1.6nm,0.6s,baz=99,slow=6.2,SNR=24						
ZALV	**Zalesovo Beam**	**85.12**	**326**	P	P	18 15 11.9	-1.4
	0.8nm,0.6s,baz=107,slow=4.8,SNR=5.9						

IDC 07 18:07:49.6±1.8, 674S×13113E, h0km, mb3.6/1, mb1 4.2/5, mb1mx3.8/13, mbtmp4.0/5, ML3.9/4, Error ellipse: s-maj=37.5km s-min=20.1km az=82.0, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Kupang**	**8.15**	**245**	Pn	Pn	18 09 49.0	-0.2
	1.9nm,0.3s,baz=196,slow=20,SNR=5.7						
BATI				Sn	Sn	18 11 23.1	+0.9
	3.7nm,0.3s,baz=95,slow=19,SNR=4.8						
FITZ	**Fitzroy Crossi**	**12.50**	**205**	Pn	Pn	18 10 48.7	-0.2
	0.6nm,0.3s,baz=36,slow=16,SNR=22						
FITZ				Sn	Sn	18 13 09.1	+0.3
	1.0nm,0.3s,baz=189,slow=19,SNR=12						
WRA	**Warramunga Arr**	**13.48**	**167**	Pn	Pn	18 11 02.7	+0.4
	0.4nm,0.3s,baz=350,slow=13,SNR=22						
WRA				Sn	Sn	18 13 34.0	+0.9
	0.8nm,0.3s,baz=348,slow=23,SNR=7.7						
ASAR	**Alice Springs**	**17.04**	**171**	P	Pn	18 11 50.8	+1.4
	0.6nm,0.3s,baz=344,slow=8.2,SNR=57						
ASAR				S	Sn	18 15 00.2	+0.7
	0.1nm,0.3s,baz=356,slow=28,SNR=4.5						
ARMA	**Armidale**	**30.41**	**143**	*e*P	S	18 19 06.2	+0.5
MKAR	**Makanchi Array**	**68.63**	**326**	P	P	18 18 54.7	+0.1
	0.3nm,0.5s,baz=108,slow=7.8,SNR=9.6						

IDC 07 18:14:42.0±59.0, 1770S×16899E, h0km, mb4.5/3, mb1 4.7/3, mb1mx4.0/13, mbtmp4.5/3, MS2.8/1, Ms1 2.8/1, ms1mx2.5/29, Error ellipse: s-maj=1007.0km s-min=106.9km az=72.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.96**	**208**	*e*P	Pn	18 16 07.1	+9.3
DZM				*e*S	Sn	18 17 02.3	+6.4
HNR	**Honiara**	**12.03**	**312**	LR	LR	18 20 45.9	
	comp=Z,40nm,19.5s,baz=177,slow=30						
STKA	**Stephens Creek**	**28.49**	**235**	*e*P	P	18 20 39.8	+0.7
	13nm,0.9s						
STKA	**Stephens Creek**	**28.49**	**235**	P	P	18 20 39.2	+0.2
	9.9nm,0.9s,baz=61,slow=12,SNR=12						
WB2	**Warramunga Arr**	**32.83**	**261**	*e*P	P	18 21 18.6	+1.1
WRA	**Warramunga Arr**	**32.84**	**261**	P	P	18 21 17.6	0.0
	5.0nm,0.6s,baz=90,slow=9.0,SNR=54						
ASAR	**Alice Springs**	**33.30**	**254**	P	P	18 21 21.5	-0.1
	2.1nm,0.8s,baz=83,slow=9.2,SNR=30						

*ISCJB **07** 18:15:09.4±0.5, 2402S±003×6679W±005, h196km±5km, mb4.1/36, Error ellipse: s-maj=7.9km s-min=5.3km az=178.1*
*NEIC **07** 18:15:09.5±0.9, 2400S×6678W, h185km±8km, mb4.2/29, Error ellipse: s-maj=10.7km s-min=6.9km az=80.0*
*IDC **07** 18:15:10.2±1.4, 2399S×6677W, h186km±12km, mb3.9/13, mb1 4.1/17, mb1mx4.0/21, mbtmp3.9/17, MS4.3/1, Ms1 4.3/1, ms1mx2.7/35, Error ellipse: s-maj=15.1km s-min=9.7km az=82.0*
*BJI **07** 18:15:12.5, 2400S×6680W, h184km, mB4.9*
*GUC **07** 18:15:13.2±0.5, 2428S×6727W, h220km, ML5.0*
ISC 07 18:15:10.0±0.5, 2400S±004×6674W±005, h185km±5km, n83, σ1§11/75, mb4.2/36, 3C-3D, Salta Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEN1	**Los Morros**	**3.23**	**280**	⇓*iP*	**Pn**	**18 16 04.5**	**+2.9**
CEN1				*i* S	**Sn**	**18 16 43.3**	**+1.4**
CEN1				AML	AML	18 16 47.2	
	comp=N,2μm,0.6s						
ANCH	**Antofagasta**	**3.38**	**275**	⇑*iP*	**Pn**	**18 16 05.0**	**+1.6**
ANCH				*i* S	**Sn**	**18 16 44.1**	**-1.0**
ANCH				AML	AML	18 16 47.7	
	comp=N,2μm,0.4s						
CPN1	**Cerro Paranal**	**3.40**	**259**	⇑*iP*	**Pn**	**18 16 05.0**	**+1.3**
CPN1				*i* S	**Sn**	**18 16 44.9**	**-0.7**
CPN1				AML	AML	18 16 47.8	
	comp=E,2μm,0.4s						
CDCH	**Caldera**	**4.79**	**230**	*eP*	**Pn**	**18 16 20.2**	**-1.1**
CDCH				*i* S	**Sn**	**18 17 13.2**	**-4.2**
LCO	**Las Campanas**	**6.12**	**215**	*e*Pn	**Pn**	**18 16 37.7**	**-0.9**
	comp=E,42nm,0.6s						
LCO				*e*Sn	**Sn**	**18 17 37.2**	**-11**
CFAA	**Coronel Fontan**	**7.69**	**190**	P	**Pn**	**18 16 58.2**	**-0.9**
	comp=E,0.3nm,0.3s,baz=2.1,slow=15,SNR=56						
CFAA				S	**Sn**	**18 18 20.1**	**-5.5**
	comp=E,1.5nm,0.3s,baz=136,slow=24,SNR=20						
LPAZ	**La Paz**	**7.79**	**350**	*e*Pn	**Pn**	**18 17 02.2**	**+1.7**
	comp=E,7.9nm,0.6s						
LPAZ				*e*Sn	**Sn**	**18 18 27.9**	**-0.3**
LPAZ	**La Paz**	**7.79**	**350**	P	**Pn**	**18 17 02.2**	**+1.7**
	comp=E,1.4nm,0.3s,baz=150,slow=6.8,SNR=36						
LPAZ				S	**Sn**	**18 18 28.7**	**+0.6**
	comp=E,1.3nm,0.3s,baz=289,slow=15,SNR=7.0						
ARE	**Arequipa**	**8.73**	**328**	P	**Pn**	**18 17 19.0**	**+6.1**
SIV	**San Ignacio**	**9.59**	**35**	P	**Pn**	**18 17 24.2**	**0.0**
	comp=E,2.0nm,0.3s,baz=218,slow=13,SNR=47						
SIV				S	**Sn**	**18 19 10.6**	**-0.5**
	baz=243,slow=18,SNR=3.7						
TRQA	**Tornquist**	**14.59**	**165**	*e*Pn	**Pn**	**18 18 26.0**	**-1.7**
	comp=E,7.5nm,0.6s						
TRQA				*e*S	**Sn**	**18 21 05.0**	**-5.3**
NNA	**Nana**	**15.32**	**320**	*e*Pn	**Pn**	**18 18 35.8**	**-1.1**
	comp=E,28nm,1.1s						
PLCA	**Paso Flores**	**16.98**	**190**	*e*P	**Pn**	**18 18 54.9**	**-1.8**
	comp=E,15nm,0.7s						
PLCA	**Paso Flores**	**16.98**	**190**	P	**Pn**	**18 18 56.1**	**-0.6**
	comp=E,0.9nm,0.3s,baz=6.2,slow=10,SNR=23						
BDFB	**Brasilia**	**19.47**	**68**	P	**P**	**18 19 23.7**	**+0.9**
	comp=E,3.4nm,0.3s,baz=234,slow=14,SNR=48						
USHA	**Ushuaia**	**30.82**	**182**	P	**P**	**18 21 08.7**	**+0.6**
	comp=E,7.3nm,0.8s,mb4.5,baz=348,slow=9.3,SNR=4.1						
USHA				LR	LR	18 35 29.1	
	comp=E,525nm,18.1s,baz=343,slow=40						
SDV	**Santo Domingo**	**32.91**	**353**	P	**P**	**18 21 25.4**	**-1.5**
	comp=E,2.7nm,0.7s,mb4.1						
RCBR	**Riachuelo**	**34.71**	**64**	*e*P	**P**	**18 21 42.2**	**-0.4**
	comp=E,7.8nm,0.5s,mb4.6						
SDDR	**Presa de Saban**	**42.95**	**354**	P	**P**	**18 22 49.9**	**-0.9**
	comp=E,2.9nm,0.5s,mb4.2						
TEIG	**Tepich**	**48.71**	**333**	*e*P	**P**	**18 23 35.3**	**-0.6**
	comp=E

comp=E,0.8nm,0.4s,mb3.8,baz=243,slow=5.9,SNR=11
LSZ Lusaka 88.28 106 *e*P **P 18 27 42.1 +1.1**
comp=E,3.8nm,0.9s,mb4.2
YKA Yellowknife Ar 94.21 340 P **P 18 28 07.1 -0.2**
YKA Yellowknife Ar 94.21 340 P **P 18 28 07.1 -0.2**
comp=E,2.5nm,0.5s,mb4.6,baz=135,slow=4.4,SNR=54
AKASG Malin Array Be 111.88 43 PKiKP PKiKP 18 33 21.7 -0.9
comp=E,0.2nm,0.4s,baz=264,slow=1.1,SNR=4.3
ASAR Alice Springs 128.55 204 PKP PKPdf 18 33 55.0 -0.5
comp=E,3.2nm,0.7s,baz=135,slow=1.9,SNR=40
WRA Warramunga Arr 131.73 207 PKP PKPdf 18 34 01.6 0.0
comp=E,2.6nm,0.4s,baz=158,slow=1.8,SNR=56
ZAA0 Zalesovo Array 143.29 28 *e*PKPdf PKPdf 18 34 18.5 -3.3
ZALV Zalesovo Beam 143.29 28 PKP PKPdf 18 34 19.3 -2.5
ZALV SKPbc SKPbc 18 37 41.9 -0.8
ZALV Zalesovo Beam 143.29 28 PKP PKPdf 18 34 19.3 -2.5
comp=E,5.3nm,0.6s,baz=302,slow=4.3,SNR=34
ZALV SKPbc SKPbc 18 37 41.9 -0.8
comp=E,0.8nm,0.7s,baz=302,slow=2.8,SNR=4.4
MK31 Makanchi Array 146.38 40 *e*PKPdf PKPdf 18 34 27.5 +0.2
MKAR Makanchi Array 146.38 40 PKPbc PKPbc 18 34 28.1 -0.9
comp=E,9.1nm,0.6s,baz=332,slow=2.0,SNR=92
HYB Hyderabad 146.94 95 *e*P PKPdf 18 34 31.5 +2.4
HYB Hyderabad 146.94 95 *i* PKP PKPbc 18 34 34.0 +2.6
YSS Yuzh-Sakhalins 147.14 322 *e*PKPdf PKPdf 18 34 28.0 -0.6
ASAJ Asahikawa 148.74 317 PKPbc PKPbc 18 34 32.9 -2.5
comp=E,6.7nm,1.1s,baz=0.0,slow=0.0,SNR=5.1
WMQ Urumqi 151.20 40 PKP PKPbc 18 34 42.0 +0.7
MJAR Matsushiro Arr 155.17 306 PKPbc PKPdf 18 34 49.7 +8.6
comp=E,0.6nm,0.4s,baz=64,slow=1.4,SNR=4.8
MJAR PKPab PKPab 18 35 06.9 0.0
comp=E,0.8nm,0.6s,baz=53,slow=3.6,SNR=4.6
SONM Songino Array 155.60 11 PKP PKPdf 18 34 42.3 +0.9
comp=E,0.6nm,0.8s,baz=325,slow=0.8,SNR=5.8
SONM PKPab PKPab 18 35 08.7 +0.5
comp=E,1.4nm,0.7s,baz=325,slow=4.1,SNR=12
HHC Hu-ho-hao-te 163.14 4 *e*PKP PKPdf 18 34 48.2 -2.1
HHC PKS 18 38 20.3
HHC PP PP 18 39 28.1 +2.4

*ISCJB **07** 18:20:03.1±1.0,3170S±002×7209W±005,h24km±6km, mb4.5/33,MS4.3/5,Error ellipse: s-maj=7.7km s-min=3.2km az=165.3*
*GUC **07** 18:20:04.0±0.9,3171S×7203W,h34km±4km,MD4.4, ML4.8*
*BJI **07** 18:20:05.1,3170S×7200W,h27km,mB5.0,Ms5.1,Msz4.8*
*NEIC **07** 18:20:05.1±0.2,3170S×7200W,mb4.7/24,Error ellipse: s-maj=7.8km s-min=4.9km az=70.0*
*IDC **07** 18:20:05.3±0.5,3173S×7195W,h27km±3km,mb4.3/13, mb1 4.4/17,mb1mx4.3/21,mbtmp4.2/17,ML4.2/4,MS4.1/6, Ms1 4.1/6,ms1mx3.6/29,Error ellipse: s-maj=19.5km s-min=13.8km az=71.0*
ISC 07 18:20:03.2±0.9,3170S±002×7203W±004,h12km±5km, n107,σ0°84/94,mb4.5/32,MS4.3/5,9C-5D,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHNG	**Los Chungos**	**0.48**	**112**	⇓*i*P	**Pg**	**18 19 55.8**	**-17**
CHNG				*i* S	**Sg**	**18 20 03.2**	**-16**
CHNG				AML	AML	18 20 04.6	
comp=E,24μm,0.8s							
PACH	**Papudo**	**0.97**	**149**	⇑*i*P	**Pg**	**18 20 21.4**	**-0.5**
CMCH	**Combarbala**	**1.02**	**59**	⇑*i*P	**Pg**	**18 20 22.5**	**-0.4**
CMCH				*i* S	**Sg**	**18 20 36.9**	**+0.7**
CMCH				AML	AML	18 20 39.1	
comp=E,114μm,0.7s							
PTCH	**Petorca**	**1.09**	**121**	⇓*i*P	**Pb**	**18 20 23.3**	**-0.6**
PTCH				*i* S	**Sb**	**18 20 37.8**	**-0.3**
PTCH				AML	AML	18 20 39.4	
comp=N,12μm,0.3s							
OVCH	**Ovalle**	**1.30**	**33**	⇓*i*P	**Pn**	**18 20 27.3**	**+0.2**
OVCH				*e*S	**Sb**	**18 20 43.4**	**-0.8**
OVCH				AML	AML	18 20 58.1	
comp=N,28μm,0.7s							
IHA	**Instituto Hidr**	**1.36**	**166**	*e*P	**Pn**	**18 20 27.0**	**-1.0**
PEL	**Peldehue**	**1.83**	**142**	*e*P	**Pn**	**18 20 32.7**	**-1.8**
PEL				*i* S	**Sn**	**18 20 55.8**	**-1.8**
PEL				AML	AML	18 21 02.6	
comp=E,33μm,0.8s							
TLL	**Tololo Astrono**	**1.85**	**35**	⇑*i*P	**Pn**	**18 20 35.3**	**+0.5**
TLL				*i* S	**Sn**	**18 21 00.9**	**+2.8**
TLL				AML	AML	18 21 11.4	
comp=N,22μm,0.5s							
LSCH	**La Serena**	**1.91**	**21**	*e*P	**Pn**	**18 20 35.8**	**+0.3**
LSCH				AML	AML	18 21 12.8	
comp=N,3μm,0.5s							
STL	**Santa Lucia**	**2.09**	**146**	*e*P	**Pn**	**18 20 37.8**	**-0.2**
STL				*e*S	**Sn**	**18 21 04.1**	**+0.2**
STL				AML	AML	18 21 13.4	
comp=E,2μm,0.7s							
DSCH	**Colegio Aleman**	**2.09**	**144**	*e*P	**Pn**	**18 20 38.4**	**+0.3**
DSCH				*i* S	**Sn**	**18 21 03.7**	**-0.4**
DSCH				AML	AML	18 21 18.3	
comp=N,3μm,0.9s							
CLCH	**Cerro Calan**	**2.11**	**144**	⇑*i*P	**Pn**	**18 20 38.4**	**+0.1**
CLCH				*i* S	**Sn**	**18 21 05.3**	**+0.9**
CLCH				AML	AML	18 21 12.2	
comp=E,23μm,0.4s							
CLCH				AML	AML	18 21 12.8	
comp=E,27μm,0.5s							
TACH	**Talagante**	**2.15**	**155**	⇑*i*P	**Pn**	**18 20 39.1**	**+0.2**
TACH				*e*S	**Sn**	**18 21 05.0**	**-0.5**
FCH	**Farellones**	**2.19**	**138**	⇑*i*P	**Pn**	**18 20 39.7**	**+0.3**
FCH				*e*S	**Sn**	**18 21 06.9**	**+0.5**
FCH				AML	AML	18 21 13.3	
comp=E,6μm,0.1s							
ANTU	**Antumapu**	**2.20**	**148**	*e*P	**Pn**	**18 20 40.0**	**+0.4**
ANTU				*i* S	**Sn**	**18 21 07.0**	**+0.2**
ANTU				AML	AML	18 21 15.0	
comp=N,12μm,0.6s							
PCH	**Pirque**	**2.30**	**147**	⇑*i*P	**Pn**	**18 20 41.2**	**+0.3**
SJCH	**San Jose de Ma**	**2.39**	**144**	*e*P	**Pn**	**18 20 41.8**	**-0.5**
SJCH				*i* S	**Sn**	**18 21 11.1**	**-0.4**
SJCH				AML	AML	18 21 21.0	
comp=N,7μm,0.4s							
CHCH	**Chadas Ángostu**	**2.51**	**153**	*e*P	**Pn**	**18 20 44.1**	**+0.3**
YECH	**El Yeso**	**2.55**	**141**	*e*P	**Pn**	**18 20 44.6**	**+0.2**
YECH				*i* S	**Sn**	**18 21 16.5**	**+1.1**
YECH				AML	AML	18 21 31.6	
comp=N,8μm,0.4s							
LMEL	**Las Melosas**	**2.63**	**145**	⇑*i*P	**Pn**	**18 20 46.1**	**+0.6**
LMEL				*i* S	**Sn**	**18 21 17.8**	**+0.3**
LMEL				AML	AML	18 21 29.7	
comp=N,5μm,0.3s							
CACH	**El Canelo**	**2.69**	**154**	*i* P	**Pn**	**18 20 47.3**	**+1.0**
LCO	**Las Campanas**	**2.92**	**23**	*e*Pn	**Pn**	**18 20 49.1**	**-0.2**
LCO				*e*Sn	**Sn**	**18 21 21.4**	**-2.9**
CICH	**Cipreses**	**2.94**	**153**	⇓*i*P	**Pn**	**18 20 50.5**	**+0.7**
CFAA	**Coronel Fontan**	**3.23**	**89**	Pn	**Pn**	**18 20 55.5**	**+1.8**
comp=N,5.3nm,0.3s,baz=254,slow=10,SNR=45							
CFAA				Lg		18 21 41.2	
comp=N,21nm,0.3s,baz=356,slow=12,SNR=8.8							
CFAA				LR	LR	18 22 26.4	
comp=N,496nm,18.8s,baz=336,slow=44							
NICH	**Los Niches**	**3.36**	**169**	*e*P	**Pn**	**18 20 55.2**	**-0.3**
PLCA	**Paso Flores**	**9.09**	**173**	*e*Pn	**Pn**	**18 22 13.7**	**-0.5**
comp=N,5.5nm,0.4s							
PLCA	**Paso Flores**	**9.09**	**173**	Pn	**Pn**	**18 22 13.9**	**-0.2**
comp=N,2.4nm,0.3s,baz=340,slow=14,SNR=17							
TRQA	**Tornquist**	**10.40**	**130**	*e*Pn	**Pn**	**18 22 31.5**	**-0.7**
ARE	**Arequipa**	**15.18**	**2**	*e*P	**Pn**	**18 23 45.0**	**+7.6**
LPAZ	**La Paz**	**15.75**	**14**	*e*Pn	**Pn**	**18 23 45.6**	**+0.7**
comp=N,14nm,0.8s							
LPAZ	**La Paz**	**15.75**	**14**	Pn	**Pn**	**18 23 45.9**	**+1.0**
comp=N,0.2nm,0.3s,baz=189,slow=8.2,SNR=13							
SIV	**San Ignacio**	**18.55**	**35**	P	**Pn**	**18 24 19.6**	**-0.4**
comp=N,0.3nm,0.3s,baz=223,slow=12,SNR=16							
NNA	**Nana**	**20.11**	**346**	P	**P**	**18 24 37.7**	**+0.7**
comp=N,61nm,1.4s							
USHA	**Ushuaia**	**23.26**	**175**	P	**P**	**18 25 11.3**	**+0.9**
comp=N,13nm,0.9s,mb4.4,baz=333,slow=4.5,SNR=2.6							
BDFB	**Brasilia**	**27.09**	**59**	P	**P**	**18 25 45.3**	**-0.7**
comp=N,30nm,1.0s,mb4.8,baz=223,slow=11,SNR=21							
BDFB				LR	LR	18 38 13.4	
comp=N,512nm,19.7s,MS4.1,baz=217,slow=40							
ROSC	**El Rosal**	**36.42**	**356**	P	**P**	**18 27 12.3**	**+4.5**
SDV	**Santo Domingo**	**40.38**	**2**	*e*P	**P**	**18 27 40.3**	**-0.8**
comp=N,5.1nm,0.8s,mb4.3							
SDV	**Santo Domingo**	**40.38**	**2**	P	**P**	**18 27 40.8**	**-0.3**
comp=N,5.0nm,0.8s,mb4.3,baz=131,slow=9.3,SNR=5.9							
PCRV	**Puerto La Cruz**	**42.23**	**11**	LR	LR	18 47 16.8	
comp=N,271nm,19.4s,MS4.1,baz=300,slow=39							
SJG	**San Juan**	**49.85**	**7**	*e*P	**P**	**18 28 53.8**	**-2.5**
comp=N,16nm,1.0s,mb5.0							
VNA3	**Neumayer Olymp**	**51.48**	**159**	*e*	**P**	**18 29 08.4**	**+0.3**
VNA3				*e*		18 29 14.9	
VNA3				*e*		18 29 19.7	
VNA1	**Neumayer--Stat**	**51.78**	**158**	*e*	**P**	**18 29 11.9**	**+1.6**
VNA1				*e*		18 29 19.0	
VNA1				*e*		18 29 24.5	
VNA2	**Neumayer--Watz**	**52.13**	**158**	*e*	**P**	**18 29 13.0**	**+0.1**
VNA2				*e*		18 29 19.6	
VNA2				*e*		18 29 24.5	
SNAA	**Sanae**	**53.71**	**158**	P	**P**	**18 29 24.6**	**0.0**
comp=N,7.0nm,0.8s,mb4.6,baz=282,slow=7.2,SNR=25							
RKT	**Rikitea**	**55.87**	**262**	*e*T		19 30 35.1	
comp=N,1.6nm,0.2s							
QSPA	**South Pole Qui**	**58.53**	**180**	*e*P	**P**	**18 29 58.7**	**-0.2**
comp=N,13nm,0.9s,mb5.0							
TXAR	**Lajitas Array**	**67.74**	**330**	P	**P**	**18 31 01.0**	**+0.4**
TXAR				pP	pP	18 31 10.6	+6.1
TXAR	**Lajitas Array**	**67.74**	**330**	P	**P**	**18 31 01.0**	**+0.4**
comp=N,1.0nm,0.9s,mb3.9,baz=134,slow=7.2,SNR=5.8							
TXAR				pP	pP	18 31 10.6	+6.1
comp=N,2.0nm,0.8s,baz=152,slow=8.2,SNR=8.3							
TBI	**Tubuai**	**67.88**	**256**	*e*LR	LR	18 51 48.3	
comp=N,217nm,25.0s							
SYO	**Syowa Base**	**68.00**	**159**	⇑*e*P	**P**	**18 31 00.0**	**-1.8**
SYO	**Syowa Base**	**68.00**	**159**	⇓*e*pP	pP	18 31 02.0	-3.6
WVT	**Waverly**	**69.08**	**346**	*e*P	**P**	**18 31 08.2**	**-0.6**
comp=N,11nm,1.1s,mb4.7							
MNTX	**Cornudas Mount**	**70.52**	**330**	*e*P	**P**	**18 31 17.6**	**-0.2**
comp=N,6.6nm,0.9s,mb4.6							
MNTX				*e*		18 31 27.0	
WMOK	**Wichita Mounta**	**70.72**	**337**	P	**P**	**18 31 19.1**	**+0.2**
comp=N,2.7nm,0.9s,mb4.2							
ANMO	**Albuquerque**	**73.78**	**331**	P	**P**	**18 31 36.0**	**-1.3**
comp=N,3.4nm,1.1s,mb4.2							
DBIC	**Dimbokro**	**74.44**	**72**	*e*P	**P**	**18 31 41.0**	**-0.7**
comp=N,23nm,0.9s,mb5.1							
DBIC				*e*		18 31 47.7	
DBIC				*e*		18 31 50.8	
DBIC	**Dimbokro**	**74.44**	**72**	P	**P**	**18 31 41.0**	**-0.6**
comp=N,16nm,0.8s,mb5.0,baz=214,slow=6.5,SNR=16							
DBIC				LR	LR	19 01 15.3	
comp=N,195nm,20.6s,MS4.4,baz=249,slow=33							
SDCO	**Great Sand Dun**	**75.83**	**333**	*e*P	**P**	**18 31 49.4**	**+0.4**
comp=N,4.0nm,0.9s,mb4.3							
SDCO				*e*		18 31 59.9	
SUR	**Sutherland**	**75.94**	**119**	P	**P**	**18 31 51.0**	**+0.9**
comp=N,33nm,1.2s,mb5.1							
SMCO	**Snowmass**	**77.64**	**333**	P	**P**	**18 31 59.5**	**+0.3**
comp=N,12nm,0.9s,mb4.8							
ECSD	**EROS,Sioux Fal**	**78.37**	**342**	*e*P	**P**	**18 32 02.6**	**-0.5**
comp=N,12nm,1.0s,mb4.8							
ECSD				*e*		18 32 10.4	
TSUM	**Tsumeb**	**79.84**	**106**	*e*P	**P**	**18 32 11.3**	**-0.7**
comp=N,15nm,1.4s,mb4.7							
TSUM	**Tsumeb**	**79.84**	**106**	P	**P**	**18 32 11.7**	**-0.2**
comp=N,5.5nm,0.9s,mb4.5,baz=212,slow=3.3,SNR=7.6							
ISA	**Isabella**	**79.94**	**323**	*e*P	**P**	**18 32 11.9**	**-0.1**
comp=N,6.3nm,0.7s,mb4.7							
ISA				*e*		18 32 23.3	
RSSD	**Black Hills**	**80.92**	**337**	*e*P	**P**	**18 32 17.0**	**-0.1**
comp=N,2.6nm,0.8s,mb4.2							
BOSA	**Boshof**	**81.13**	**118**	P	**P**	**18 32 18.8**	**0.0**
BOSA				pP	pP	18 32 26.3	+3.5
BOSA				LR	LR	19 04 41.3	
BOSA	**Boshof**	**81.13**	**118**	P	**P**	**18 32 18.8**	**0.0**
comp=N,8.9nm,0.9s,mb4.7,baz=260,slow=6.1,SNR=8.7							
BOSA				pP	pP	18 32 26.3	+3.5
comp=N,10nm,0.9s,baz=263,slow=6.9,SNR=5.8							
BOSA				LR	LR	19 04 41.3	
comp=N,128nm,18.6s,MS4.3,baz=88,slow=33							
HWUT	**Hardware Ranch**	**81.54**	**331**	*e*P	**P**	**18 32 20.2**	**-0.2**
comp=N,4.5nm,0.8s,mb4.5							
HWUT				*e*		18 32 31.1	
PDAR	**Pinedale Array**	**81.72**	**333**	P	**P**	**18 32 21.4**	**+0.1**
comp=N,0.9nm,1.1s,mb3.6,baz=131,slow=3.7,SNR=3.6							
NVAR	**Mina Array Bea**	**82.01**	**325**	P	**P**	**18 32 24.5**	**+1.5**
comp=N,1.5nm,0.8s,mb4.0,baz=142,slow=6.6,SNR=8.9							
CMB	**Columbia Colle**	**82.74**	**323**	*e*P	**P**	**18 32 29.1**	**+2.3**
comp=N,1.4nm,0.6s,mb4.2							
LBTB	**Lobatse**	**83.26**	**115**	*e*P	**P**	**18 32 29.0**	**-1.0**
comp=N,11nm,0.8s,mb5.0							
LBTB				*e*		18 32 35.7	
TOA0	**Torodi Ar. Sit**	**83.42**	**70**	*e*P	**P**	**18 32 30.4**	**-0.5**
TOA0				*e*		18 32 36.8	
TORD	**Torodi Ar. Bea**	**83.42**	**70**	P	**P**	**18 32 30.4**	**-0.4**
TORD	**Torodi Ar. Bea**	**83.42**	**70**	P	**P**	**18 32 30.4**	**-0.4**
comp=N,12nm,0.8s,mb5.0,baz=254,slow=4.6,SNR=52							
ULM	**Lac du Bonnet**	**84.28**	**345**	P	**P**	**18 32 33.5**	**-1.0**
comp=N,2.8nm,0.9s,mb4.4,baz=188,slow=1.9,SNR=5.1							
HLID	**Hailey**	**84.34**	**330**	*e*P	**P**	**18 32 35.9**	**+1.0**
comp=N,2.9nm,0.9s,mb4.4							
SCHQ	**Schefferville**	**86.29**	**3**	*e*P	**P**	**18 32 43.7**	**-0.6**
WALA	**Waterton Lakes**	**88.65**	**334**	*e*P	**P**	**18 32 55.1**	**-0.7**
comp=N,5.8nm,1.0s,mb4.9							
NEW	**Newport**	**89.25**	**332**	*e*P	**P**	**18 33 00.2**	**+1.5**
comp=N,3.8nm,1.1s,mb4.6							
LSZ	**Lusaka**	**90.51**	**108**	*e*P	**P**	**18 33 05.7**	**+0.1**
comp=N,7.1nm,0.9s,mb5.0							
ESDC	**Sonseca Array**	**94.98**	**46**	P	**P**	**18 33 25.6**	**+0.2**
comp=N,0.1nm,0.3s,mb3.7,baz=251,slow=4.1,SNR=3.1							
ESDC				LR	LR	19 14 57.6	
comp=N,112nm,19.1s,MS4.3,baz=245,slow=35							
YKA	**Yellowknife Ar**	**99.89**	**341**	P	Pdif	18 33 45.7	-2.0
YKA	**Yellowknife Ar**	**99.89**	**341**	P	Pdif	18 33 45.7	-2.0
comp=N,0.2nm,0.6s,baz=137,slow=4.1,SNR=5.6							
ASAR	**Alice Springs**	**119.61**	**207**	PKP	PKPdf	18 38 53.5	0.0
comp=N,0.3nm,0.8s,baz=152,slow=4.2,SNR=3.0							
ASAR				pPKP	pPKPdf	18 39 02.1	+4.5
comp=N,1.2nm,0.8s,baz=149,slow=2.2,SNR=8.6							
AKASG	**Malin Array Be**	**120.62**	**46**	PKP	PKPdf	18 38 53.3	-1.1
comp=N,0.1nm,0.2s,baz=265,slow=1.8,SNR=4.6							
WRA	**Warramunga Arr**	**122.77**	**210**	PKP	PKPdf	18 38 58.4	-1.2
comp=N,0.4nm,0.6s,baz=161,slow=1.6,SNR=8.5							
WRA				pPKP	pPKPdf	18 39 08.5	+4.8
comp=N,2.7nm,0.8s,baz=159,slow=1.7,SNR=11							
FITZ	**Fitzroy Crossi**	**127.66**	**201**	pPKP	pPKPdf	18 39 18.5	+5.4
comp=N,3.1nm,0.8s,baz=192,slow=1.7,SNR=4.2							
TIXI	**Tiksi**	**138.44**	**350**	*e*PKPdf	PKPdf	18 39 36.7	+9.1
BRVK	**Borovoye**	**145.49**	**41**	*e*PKPdf	PKPdf	18 39 40.8	+0.2
BRVK				*e*		18 39 48.0	
BRVK				*e*		18 39 51.0	
KBL	**Kabul**	**147.41**	**74**	*e*PKPdf	PKPdf	18 39 43.5	-1.0
KBL				*e*		18 39 54.5	
HYB	**Hyderabad**	**149.81**	**111**	*e*P	PKPbc	18 39 53.5	-0.2
HYB	**Hyderabad**	**149.81**	**111**	*i* PKP	PKPdf	18 39 48.0	-0.9
PSI	**Prapat**	**150.02**	**162**	PKPbc	PKPbc	18 39 52.4	-2.0
comp=N,7.8nm,0.8s,baz=196,slow=5.5,SNR=9.7							
PSI				pPKPbc	pPKPbc	18 40 00.8	+2.3
comp=N,7.5nm,0.8s,baz=350,slow=9.2,SNR=4.5							
EKS2	**Erkin-Say**	**150.82**	**58**	*e*PKPdf	PKPdf	18 39 51.6	+1.8
EKS2				*e*PKPbc	PKPbc	18 39 55.7	+0.3
EKS2				*e*PKPab	PKPab	18 40 01.8	-0.8
AML	**Almayashu**	**150.86**	**59**	*e*PKPbc	PKPbc	18 39 55.4	-0.1
KURK	**Kurchatov**	**151.16**	**40**	*e*PKPbc	PKPbc	18 39 55.5	-0.3
UCH	**Uchtor**	**151.44**	**59**	*e*PKPbc	PKPbc	18 39 57.6	+0.7
TKM2	**Tokmak 2**	**152.08**	**57**	*e*PKPbc	PKPbc	18 39 58.1	-0.2
ZAA0	**Zalesovo Array**	**152.26**	**30**	*e*PKPbc	PKPbc	18 39 57.8	-0.5
ZAA0				*e*PKPab	PKPab	18 40 07.3	-0.9
ZALV	**Zalesovo Beam**	**152.26**	**30**	PKPbc	PKPbc	18 39 58.0	-0.3
comp=N,9.7nm,0.8s,baz=301,slow=3.3,SNR=40							
ZALV				pPKPbc	pPKPbc	18 40 07.4	+5.0
comp=N,13nm,0.6s,baz=300,slow=3.1,SNR=19							
MK31	**Makanchi Array**	**155.19**	**45**	*e*PKPbc	PKPdf	18 40 04.1	+8.1
MK31				*e*PKPab	PKPab	18 40 20.9	0.0
MKAR	**Makanchi Array**	**155.19**	**45**	PKP	PKPdf	18 39 55.8	-0.2
MKAR				PKPbc	PKPdf	18 40 04.3	+8.3
MKAR				PKPab	PKPab	18 40 20.9	+0.1
MKAR	**Makanchi Array**	**155.19**	**45**	PKP	PKPdf	18 39 55.8	-0.2
comp=N,0.2nm,0.7s,baz=17,slow=1.6,SNR=3.7							
MKAR				PKPbc	PKPdf	18 40 04.3	+8.3
comp=N,0.9nm,0.8s,baz=311,slow=2.1,SNR=7.5							
MKAR				PKPab	PKPab	18 40 20.9	+0.1
comp=N,2.9nm,0.8s,baz=289,slow=3.7,SNR=13							
SONM	**Songino Array**	**163.84**	**4**	PKPab	PKPab	18 40 58.7	+0.4
comp=N,0.8nm,0.9s,baz=338,slow=3.3,SNR=6.9							
HHC	**Hu-ho-hao-te**	**170.42**	**343**	*e*PKP	PKPdf	18 40 07.3	-3.6
HHC				PKS		18 43 36.0	
HHC				PP	PP	18 45 16.5	-0.6
HHC				PP	PP		
comp=Z,158nm,4.9s							
HHC				LR	LR		
comp=N,105nm,8.4s							
HHC				LR	LR		
comp=E,135nm,4.3s							
HHC				LR	LR		
comp=Z,93nm,6.4s							
KMI Kunming 171.99 144 PKP PKPdf 18 40 14.6 +2.4							

KRSC 07 18:24:53.0±0.7,5510N×16224E,h22km±22km,ML3.8, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**0.62**	**209**	*i* P	Pb	18 25 05.5	+0.4
MKZ				*i* S	Sb	18 25 14.1	+0.7
KBTR	**Krutoberegovo**	**1.16**	**16**	*e*P	Pn	18 25 15.0	+1.2
KBTR				*i* S	Sb	18 25 30.3	+1.4
TUMR	**Tumrok**	**1.22**	**280**	*e*P	Pn	18 25 16.0	+1.4
TUMR				*i* S	Sn	18 25 32.7	+2.4
ZLN	**Zelenaya**	**1.23**	**319**	P	Pn	18 25 16.3	+1.5
ZLN				*i* S	Sn	18 25 33.0	+2.3
KMNR	**Kamenistaya**	**1.32**	**301**	*e*P	Pn	18 25 17.3	+1.3
KMNR				*i* S	Sn	18 25 35.7	+2.8
KPT	**Kopyto**	**1.44**	**308**	P	Pn	18 25 18.2	+0.5
KPT				*i* S	Sn	18 25 36.3	+0.4
KRSR	**Krestovskiy**	**1.47**	**320**	P	Pn	18 25 18.8	+0.7
KRSR				*i* S	Sn	18 25 37.4	+0.8
KLY	**Klyuchi**	**1.51**	**324**	*e*P	Pn	18 25 18.9	+0.2
KLY				*i* S	Sn	18 25 38.2	+0.5
KOZ	**Kozyrevsk**	**1.65**	**307**	*e*P	Pn	18 25 22.1	+1.5
KOZ				*i* S	Sn	18 25 43.1	+2.0
SRKR	**Sorokina**	**1.67**	**339**	P	Pn	18 25 23.2	+2.3
SRDR	**Sredinnyy**	**1.88**	**312**	*e*P	Pn	18 25 24.7	+1.0
SRDR				*e*S	Sn	18 25 47.6	+0.9
NLC	**Nalytchevo**	**2.58**	**223**	*e*P	Pn	18 25 34.0	+0.7
NLC				*i* S	Sn	18 26 04.7	+0.8
AVH	**Avacha**	**2.76**	**230**	*e*P	Pn	18 25 38.4	+2.6
AVH				*i* S	Sn	18 26 11.8	+3.4
GNL	**Ganaly**	**2.88**	**242**	*e*P	Pn	18 25 39.4	+1.9
GNL				*e*S	Sn	18 26 14.0	+2.6
PET	**Petropavlovsk**	**2.97**	**227**	P	Pn	18 25 40.6	+1.9
RUS	**Russkaya**	**3.47**	**221**	P	Pn	18 25 47.6	+2.0
RUS				*i* S	Sn	18 26 27.6	+1.7
GRL	**Gorelyy**	**3.55**	**226**	P	Pn	18 25 48.4	+1.7
MIPR	**Malaya Ipel'ka**	**4.32**	**231**	P	Pn	18 26 00.5	+3.3

IDC 07 18:34:34.7±4.4,700S×15503E,h0km,mb3.6/3,mb1 3.7/3, mb1mx3.5/14,mbtmp3.6/3,Error ellipse: s-maj=123.5km s-min=37.7km az=118.0,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.84**	**235**	P	P	18 39 50.1	+0.2
0.3nm,0.5s,baz=61,slow=9.8,SNR=5.9							
SONM	**Songino Array**	**69.36**	**327**	P	P	18 45 45.1	+0.8
0.8nm,0.8s,baz=127,slow=5.3,SNR=6.8							
MKAR	**Makanchi Array**	**83.44**	**319**	P	P	18 47 03.6	-0.5
0.7nm,0.6s,baz=94,slow=6.2,SNR=12							

*BJI **07** 18:39:48.8,1386N×14479E,h188km,mB4.8,mb4.6*
*ISCJB **07** 18:39:50.2±0.5,1390N±004×14462E±006,h194km±4km, mb4.2/60,Error ellipse: s-maj=9.3km s-min=7.2km az=1.6*
*MOS **07** 18:39:50.0±0.9,1396N×14459E,h193km,mb4.5/17,Error ellipse: s-maj=14.5km s-min=8.2km az=102.1*
*NEIC **07** 18:39:50.0±0.2,1393N×14466E,mb4.4/31,Error ellipse: s-maj=6.9km s-min=5.4km az=97.0*
*IDC **07** 18:39:51.0±0.3,1394N×14464E,h184km±2km,mb3.9/21, mb1 4.0/23,mb1mx4.0/29,mbtmp3.9/23,Error ellipse: s-maj=13.8km s-min=8.3km az=88.0*
ISC 07 18:39:51.2±0.5,1390N±004×14468E±006,h190km±4km, h180km±2.6km:pP-P,n120,σ0°93/116,mb4.4/60,2C-3D, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**0.36**	**149**	*e*Pn	**Pn**	**18 40 17.1**	**+0.4**
GUMO				*e*Sn	**Sn**	**18 40 36.2**	**-0.1

HHC AMB AMB
comp=Z,99nm,4.5s
HHC LR LR
comp=N,121nm,5.5s
HHC LR LR
comp=E,91nm,5.2s
HHC LR LR
comp=Z,127nm,5.4s
PET Petropavlovsk 40.58 13 *e*P **P 18 47 14.5 +2.4**
comp=Z,29nm,1.1s,mb4.8
PET Petropavlovsk 40.58 13 *e*P **P 18 47 14.5 +2.4**
PET pmax pmax
comp=Z,29nm,1.1s,mb4.8
HIA Hailar 40.78 335 *e*P **P 18 47 13.8 0.0**
comp=Z,4.7nm,0.8s,mb4.2
HIA Hailar 40.78 335 *e*P **P 18 47 13.8 0.0**
HIA pmax pmax
comp=Z,5.0nm,0.8s
KMI Kunming 40.92 292 P **P 18 47 16.5 +1.2**
KMI AMB AMB
comp=Z,8.0nm,1.1s,mb4.3
CD2 Chengdu 41.18 301 *e*P **P 18 47 17.8 +0.5**
CD2 AMB AMB
comp=Z,10.0nm,0.7s,mb4.5
CD2 AMB AMB
comp=Z,20nm,4.8s
MBWA Marble Bar 42.59 216 *e*P **P 18 47 28.0 -0.8**
comp=Z,2.5nm,0.5s,mb4.1
LZH Lanzhou 42.68 309 *e*P **P 18 47 31.5 +2.1**
LZH AMB AMB
comp=Z,42nm,1.5s,mb4.8
LZH AMB AMB
comp=Z,203nm,5.1s
CM31 Chiang Mai Arr 44.07 282 P **P 18 47 40.9 +0.1**
KULM Kulim 44.18 263 *e*P **P 18 47 41.5 -0.2**
STKA Stephens Creek 45.61 184 *e*P **P 18 47 52.7 +0.1**
comp=Z,1.9nm,0.7s,mb3.8
STKA Stephens Creek 45.61 184 *e*P **P 18 47 52.5 0.0**
comp=Z,3.0nm,0.8s,mb4.0
STKA Stephens Creek 45.61 184 P **P 18 47 53.0 +0.5**
comp=Z,2.3nm,0.7s,mb3.9,baz=352,slow=10.0,SNR=12
MA2 Magadan 45.82 4 *e*P **P 18 47 53.4 -0.5**
comp=Z,5.9nm,0.7s,mb4.3
MA2 Magadan 45.82 4 *e*P **P 18 47 53.4 -0.5**
MA2 pmax pmax
comp=Z,6.0nm,0.7s,mb4.3
ULN Ulaanbaatar 46.02 325 *e*P **P 18 47 56.2 +0.6**
comp=Z,88nm,1.1s,mb5.3
ULN Ulaanbaatar 46.02 325⇑ *e*P **P 18 47 56.6 +0.9**
SONM Songino Array 46.37 325 P **P 18 47 59.2 +0.8**
SONM *PP pP 18 48 38.4 -1.6
SONM Songino Array 46.37 325 P **P 18 47 59.2 +0.8**
comp=Z,2.3nm,0.6s,mb4.0,baz=136,slow=7.0,SNR=26
SONM pP pP 18 48 38.4 -1.5
comp=Z,1.0nm,1.0s,baz=150,slow=9.3,SNR=1.6
SONM ScP ScP 18 53 04.1 -1.5
comp=Z,0.3nm,0.5s,baz=124,slow=3.6,SNR=3.3
PSI Prapat 46.50 261 P **P 18 47 59.4 -0.6**
comp=Z,3.9nm,0.3s,mb4.5,baz=164,slow=6.3,SNR=6.0
GTA Gaotai 46.83 311 *e*P **P 18 48 03.5 +1.4**
GTA AMB AMB
comp=Z,13nm,0.9s,mb4.6
FORT Forrest 47.21 200 *e*P **P 18 48 04.9 -0.1**
comp=Z,9.2nm,0.5s,mb4.7
YAK Yakutsk 49.25 351 *e*P **P 18 48 18.8 -1.5**
YAK pmax pmax
comp=Z,13nm,0.9s,mb4.6
YAK pmax pmax
comp=N,5.0nm,1.1s
YAK pmax pmax
comp=E,2.0nm,1.0s
SEY Seymchan 49.27 5 *i*P **P 18 48 20.3 -0.1**
ZAK Zakamensk 49.48 326 *e*P **P 18 48 21.6 -0.6**
ZAK pmax pmax
comp=Z,4.0nm,1.0s,mb4.0
TLY Talaya 50.00 328 *e*P **P 18 48 26.1 +0.1**
comp=Z,5.2nm,0.8s,mb4.2
TLY Talaya 50.00 328 *d i*P **P 18 48 26.9 +0.8**
LSA Lhasa 51.69 297 P **P 18 48 40.2 +1.1**
LSA Lhasa 51.69 297 *e*P **P 18 48 40.4 +1.3**
comp=Z,14nm,0.6s,mb4.8
LSA Lhasa 51.69 297 *e*P **P 18 48 40.4 +1.3**
LSA pmax pmax
comp=Z,14nm,0.6s,mb4.8
KLBR Kellerberrin 52.09 209 *e*P **P 18 48 40.7 -1.2**
comp=Z,29nm,1.4s,mb4.7
BILL Bilibino 55.89 10 *e*P **P 18 49 07.4 -1.5**
BILL Bilibino 55.89 10⇑ *e*P **P 18 49 08.9 0.0**
BILL pmax pmax
comp=Z,1.0nm,0.4s,mb4.0
WMQ Urumqi 56.79 313 P **P 18 49 16.8 +1.1**
WMQ AMB AMB
comp=Z,16nm,1.2s,mb4.7
WMQ AMB AMB
comp=Z,94nm,4.9s
TIXI Tiksi 58.51 354 *e*P **P 18 49 25.6 -1.6**
comp=Z,1.4nm,0.6s,mb4.0
TIXI Tiksi 58.51 354⇓ *e*P **P 18 49 25.7 -1.5**
TIXI pmax pmax
comp=Z,2.0nm,1.2s,mb3.8
MK31 Makanchi Array 61.14 316 *e*P **P 18 49 45.5 0.0**
MKAR Makanchi Array 61.14 316 P **P 18 49 45.9 +0.4**
comp=Z,2.3nm,0.4s,mb4.3,baz=94,slow=8.8,SNR=62
MKAR pP pP 18 50 29.6 +0.3
comp=Z,0.2nm,0.4s,baz=101,slow=7.5,SNR=1.1
ZALV Zalesovo Beam 61.27 324 P **P 18 49 45.7 -0.5**
comp=Z,0.5nm,0.3s,mb3.8,baz=108,slow=5.1,SNR=5.7
ZAL Zalesovo 61.27 324 P **P 18 49 45.7 -0.6**
NVS Novosibirsk 62.41 325 *e*P **P 18 49 51.5 -2.3**
KURK Kurchatov 64.23 320 *e*P **P 18 50 05.6 -0.3**
comp=Z,10nm,0.9s,mb4.7
KURK Kurchatov 64.23 320⇓ *e*P **P 18 50 06.0 +0.1**
TKM2 Tokmak 2 65.38 311 *e*P **P 18 50 12.9 -0.6**
comp=Z,1.7nm,0.6s,mb4.0
TKM2 Tokmak 2 65.38 311 *e*P **P 18 50 12.9 -0.5**
TKM2 pmax pmax
comp=Z,2.0nm,0.6s,mb4.1
UCH Uchtor 66.14 310 *e*P **P 18 50 18.9 +0.6**
comp=Z,2.9nm,1.2s,mb4.0
AML Almayashu 66.74 310 *e*P **P 18 50 22.7 +0.6**
comp=Z,1.6nm,0.7s,mb4.0
SML Sawmill 67.03 28 *e*P **P 18 50 22.3 -1.2**
BRVK Borovoye 69.64 322 *e*P **P 18 50 39.5 -0.4**
comp=Z,4.7nm,0.7s,mb4.3
BRVK Borovoye 69.64 322 *e*P **P 18 50 39.5 -0.4**
BRVK pmax pmax
comp=Z,5.0nm,0.7s,mb4.3
KBL Kabul 70.51 302 *e*P **P 18 50 45.6 -0.1**
comp=Z,5.6nm,1.2s,mb4.2
INK Inuvik 74.16 22 *e*P **P 18 51 06.2 -0.3**
comp=Z,123nm,1.1s,mb5.5
INK Inuvik 74.16 22 P **P 18 51 05.6 -0.9**
comp=Z,0.8nm,0.5s,mb3.7,baz=287,slow=9.2,SNR=6.1
YKA Yellowknife Ar 82.67 27 P **P 18 51 52.2 -1.0**
YKA Yellowknife Ar 82.67 27 P **P 18 51 52.2 -1.0**
comp=Z,1.1nm,0.5s,mb3.8,baz=285,slow=5.1,SNR=18
RES Resolute Bay 84.30 13 *e*P **P 18 52 00.3 -1.0**
comp=Z,38nm,0.7s,mb5.2
NEW Newport 85.12 42 *e*P **P 18 52 05.5 -0.4**
comp=Z,4.1nm,0.9s,mb4.2
NEW Newport 85.12 42 *e*P **P 18 52 05.6 -0.3**
NEW pmax pmax
comp=Z,4.0nm,0.9s
NEW Newport 85.12 42 P **P 18 52 05.7 -0.3**
comp=Z,1.4nm,0.4s,mb4.0,baz=302,slow=3.6,SNR=5.1
CMB Columbia Colle 85.39 52 *e*P **P 18 52 08.5 +1.0**
comp=Z,3.7nm,0.8s,mb4.2
CMB Columbia Colle 85.39 52 *e*P **P 18 52 08.5 +1.0**
CMB pmax pmax
comp=Z,4.0nm,0.8s,mb4.2
BMO Blue Mountains 85.90 45 *e*P **P 18 52 09.1 -0.7**
comp=Z,7.0nm,1.0s,mb4.3
BMO *e*pP pP 18 52 54.8 -1.8
BMO Blue Mountains 85.90 45 *e*P **P 18 52 09.1 -0.8**
BMO *e*PP pP 18 52 54.8 -1.8
BMO pmax pmax
comp=Z,7.0nm,1.0s,mb4.3
NVAR Mina Array Bea 86.87 51 P **P 18 52 16.4 +1.6**
comp=Z,3.5nm,0.6s,mb4.4,baz=268,slow=4.7,SNR=29
WALA Waterton Lakes 86.94 40 P **P 18 52 15.6 +0.8**
HLID Hailey 88.26 46 *e*P **P 18 52 22.5 +1.3**
HLID *e*pP pP 18 53 05.8 -2.4
TPNV Topopah Spring 88.84 52 *e*P **P 18 52 24.9 +0.8**
comp=Z,7.9nm,0.6s,mb4.8
TPNV Topopah Spring 88.84 52 *e*P **P 18 52 24.9 +0.8**
TPNV pmax pmax
comp=Z,8.0nm,0.6s,mb4.8
GSC Goldstone 88.87 54 *e*P **P 18 52 24.7 +0.4**
comp=Z,5.3nm,0.8s,mb4.5
GSC Goldstone 88.87 54 *e*P **P 18 52 24.7 +0.4**
GSC pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
PFO Pinyon Flat Ob 89.62 56 P **P 18 52 28.5 +0.7**
comp=Z,1.0nm,0.4s,mb4.1,baz=309,slow=9.6,SNR=4.0
DUG Dugway 90.44 48 *e*P **P 18 52 32.2 +0.7**
comp=Z,1.6nm,0.6s,mb4.1
DUG Dugway 90.44 48 *e*P **P 18 52 32.2 +0.7**
DUG pmax pmax
comp=Z,2.0nm,0.6s,mb4.2
FINES FINESS Array B 90.81 335 P **P 18 52 31.1 -1.5**
comp=Z,2.0nm,0.8s,mb4.2,baz=89,slow=2.5,SNR=7.8
HWUT Hardware Ranch 90.88 47 *e*P **P 18 52 33.9 +0.5**
comp=Z,3.2nm,0.5s,mb4.6
VNDA Vanda 91.78 176 P **P 18 52 37.2 +0.4**
VNDA Vanda 91.78 176 P **P 18 52 37.2 +0.5**
comp=Z,1.9nm,0.9s,mb4.1,baz=6.2,slow=7.2,SNR=4.7
PDAR Pinedale Array 91.88 45 P **P 18 52 38.7 +0.6**
comp=Z,1.0nm,0.6s,mb4.1,baz=229,slow=2.9,SNR=12
FCC Fort Churchill 93.37 27 *e*P **P 18 52 43.5 -1.1**
comp=Z,1.5nm,0.7s,mb4.2
FCC Fort Churchill 93.37 27 *e*P **P 18 52 43.5 -1.1**
FCC pmax pmax
comp=Z,2.0nm,0.7s,mb4.4
RSSD Black Hills 95.07 42 *e*P **P 18 52 51.9 -0.8**
comp=Z,1.6nm,0.7s,mb4.4
RSSD Black Hills 95.07 42 *e*P **P 18 52 51.9 -0.8**
RSSD pmax pmax
comp=Z,2.0nm,0.7s,mb4.5
VNA2 Neumayer--Watz 120.50 190 *e*PKPdf PKPdf 18 58 20.3 +0.8
baz=192,slow=1.5
VNA3 Neumayer Olymp 120.60 189 *e*PKPdf PKPdf 18 58 19.9 +0.2
VNA1 Neumayer--Stat 120.88 190 *e*PKPdf PKPdf 18 58 20.1 -0.1
TORD Torodi Ar. Bea 134.54 305 PKP PKPdf 18 58 48.5 +0.6
TORD SKPbc SKPbc 19 01 58.9 -1.2
TORD Torodi Ar. Bea 134.54 305 PKP PKPdf 18 58 48.5 +0.6
comp=Z,0.4nm,0.6s,baz=31,slow=1.4,SNR=4.3
TORD SKPbc SKPbc 19 01 58.9 -1.2
comp=Z,1.1nm,0.9s,baz=44,slow=2.6,SNR=3.9
DBIC Dimbokro 143.50 302 PKhKP 18 59 01.1
comp=Z,1.4nm,0.5s,baz=9.0,slow=4.3,SNR=4.5
LPAZ La Paz 148.25 99 *e*PKPdf PKPdf 18 59 14.3 +2.1
LPAZ *e*PKPbc PKPbc 18 59 18.3 +2.5
LPAZ La Paz 148.25 99 PKP PKPdf 18 59 14.8 +2.6
comp=Z,3.1nm,0.7s,baz=331,slow=3.4,SNR=4.0
LPAZ PKPbc PKPbc 18 59 18.2 +2.4
comp=Z,3.1nm,0.7s,baz=345,slow=4.9,SNR=12

IDC 07 18:54:48.6±3.0, 606S×14820E, h0km, mb4.0/3, mb1 4.2/4, mb1mx3.7/13, mbtmp4.0/4, ML3.9/1, MS3.4/1, Ms1 3.4/1, ms1mx2.7/23, Error ellipse: s-maj=62.7km s-min=45.4km az=95.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WB2	**Warramunga Arr**	**19.28**	**223**	*e*P	Pn	18 59 05.9	-10
WRA	**Warramunga Arr**	**19.29**	**223**	P	Pn	18 59 14.5	-1.6
0.4nm,0.3s,baz=51,slow=11,SNR=9.7							
ASAR	**Alice Springs**	**22.27**	**217**	P	P	18 59 47.3	-0.1
1.7nm,0.5s,baz=53,slow=9.0,SNR=60							
BATI	**Kupang**	**24.63**	**259**	LR	LR	19 10 54.7	
comp=Z,79nm,19.9s,baz=159,slow=39							
FITZ	**Fitzroy Crossi**	**25.06**	**239**	*e*P	P	19 00 15.5	+0.6
7.4nm,0.6s							
FITZ	**Fitzroy Crossi**	**25.06**	**239**	P	P	19 00 14.5	-0.4
2.3nm,0.4s,baz=58,slow=8.7,SNR=22							
STKA	**Stephens Creek**	**26.42**	**193**	*e*P	P	19 00 28.5	+1.4
2.1nm,0.7s,baz=16,slow=8.7,SNR=11							
STKA	**Stephens Creek**	**26.42**	**193**	P	P	19 00 28.0	+0.9
1.1nm,0.5s							
TORD	**Torodi Ar. Bea**	**146.26**	**285**	PKPbc	PKPbc	19 14 31.4	-0.8
0.2nm,0.4s,baz=71,slow=2.8,SNR=4.2							

IDC 07 18:57:08.0±1.9, 103N×12627E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.5/14, mbtmp3.6/4, Error ellipse: s-maj=172.8km s-min=24.9km az=64.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.30**	**160**	P	P	19 02 06.2	-1.0
1.2nm,0.5s,baz=338,slow=10,SNR=9.5							
ASAR	**Alice Springs**	**25.65**	**164**	P	P	19 02 40.1	+0.6
0.5nm,0.3s,baz=345,slow=11,SNR=7.5							
STKA	**Stephens Creek**	**35.81**	**157**	P	P	19 04 09.5	+0.3
2.0nm,0.8s,baz=328,slow=10,SNR=4.8							
MKAR	**Makanchi Array**	**59.51**	**326**	P	P	19 07 13.1	0.0
0.2nm,0.4s,baz=106,slow=8.3,SNR=4.9							

BJI ***07*** *18:57:30.5, 3720N×2460W, h10km, mB5.0, mb4.6, Ms4.5, Msz4.4*
CSEM ***07*** *18:57:32.9±0.1, 3732N×2464W, h10km, mb4.3/37, Error ellipse: s-maj=3.5km s-min=1.3km az=7.0*
ISCJB ***07*** *18:57:32.4±0.4, 37.16N±006×2466W±003, h10km, mb4.1/50, MS3.7/6, Error ellipse: s-maj=9.0km s-min=3.1km az=14.2*
NEIC ***07*** *18:57:34.5±0.5, 37.17N×2460W, h10km, mb4.3/40, Error ellipse: s-maj=9.2km s-min=7.8km az=189.0*
IDC ***07*** *18:57:34.5±1.2, 3738N×2454W, h0km, mb3.7/10, mb1 3.9/11, mb1mx3.8/25, mbtmp3.7/11, ML4.2/1, MS3.6/7, Ms1 3.6/7, ms1mx3.1/35, Error ellipse: s-maj=33.0km s-min=20.0km az=3.0*
PDA ***07*** *18:57:35.9±1.1, 3726N×2456W, h0km, MD4.1, ML4.1, Error ellipse: s-maj=5.8km s-min=3.6km az=72.0*
SVSA ***07*** *18:57:35.9±1.1, 3726N×2456W, h0km, MD4.1, ML4.1, Error ellipse: s-maj=5.8km s-min=3.6km az=72.0*
MOS ***07*** *18:57:38.3±0.8, 3744N×2444W, h33km, mb4.4/36, Error ellipse: s-maj=20.6km s-min=4.6km az=138.8*
SZGRF ***07*** *18:57:45.3, 3748N×2343W, h33km, mb4.6, Azores Islands region*

ISC 07 18:57:34.6±0.3, 3731N±005×2470W±002, h10km, n212, σ1§17/227, mb4.1/49, MS3.7/6, 3C-1D, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSMN	**Pico do Norte,**	**0.43**	**224**	*e*P	**Pg**	**18 57 44.7**	**+1.7**
PSMN				*e*S	**Sg**	**18 57 51.3**	**+2.6**
PDA	**Ponta Delgada**	**0.88**	**300**	*e*P	**Pg**	**18 57 52.0**	**+0.4**
PDA				*e*S	**Sg**	**18 58 04.7**	**+1.6**
PSET	**Sete Cidades**	**0.96**	**302**	*e*P	**Pg**	**18 57 53.3**	**+0.2**
PSET				*e*S	**Sg**	**18 58 06.6**	**+1.0**
PSET				A		18 58 11.2	
934nm,0.3s							
PSET	**Sete Cidades**	**0.96**	**302**	*e*P	**Pg**	**18 57 53.3**	**+0.2**
PSET				*e*S	**Sg**	**18 58 06.6**	**+1.0**
PSCM	**Serra do Cume**	**2.36**	**307**	*e*P	**Pn**	**18 58 13.1**	**-0.3**
PSCM				*e*S	**Sn**	**18 58 40.9**	**-1.6**
PSCM				A		18 58 48.0	
676nm,0.5s							
PSCM	**Serra do Cume**	**2.36**	**307**	*e*P	**Pn**	**18 58 13.1**	**-0.3**
PSCM				*e*S	**Sn**	**18 58 40.9**	**-1.6**
PID	**Ribeirinha**	**2.93**	**294**	*e*P	**Pn**	**18 58 21.5**	**+0.2**
PID				*e*S	**Sn**	**18 58 55.4**	**-1.2**
PMAN	**Manadas**	**2.99**	**297**	*e*P	**Pn**	**18 58 22.6**	**+0.6**
PMAN				*e*S	**Sn**	**18 58 56.7**	**-1.2**
PMAN				A		18 58 58.7	
82nm,0.2s							
PMAN	**Manadas**	**2.99**	**297**	*e*P	**Pn**	**18 58 22.6**	**+0.6**
PMAN				*e*S	**Sn**	**18 58 56.7**	**-1.2**
ROSA	**Rosais**	**3.13**	**298**	*e*P	**Pn**	**18 58 24.7**	**+0.7**
ROSA				*e*S	**Sn**	**18 58 59.9**	**-1.6**
PICO	**Pico**	**3.18**	**293**	*e*P	**Pn**	**18 58 24.6**	**-0.1**
PICO				*e*S	**Sn**	**18 59 00.5**	**-2.1**
HOR	**Horta**	**3.34**	**292**	*e*P	**Pn**	**18 58 26.8**	**-0.1**
HOR				*e*S	**Sn**	**18 59 04.7**	**-1.9**
CALA	**Caldeira**	**3.41**	**293**	*e*P	**Pn**	**18 58 27.9**	**+0.1**
CALA				*e*S	**Sn**	**18 59 06.8**	**-1.5**
PMAR	**Madeira**	**7.86**	**123**	*e*Pn	**Pn**	**18 59 26.5**	**-2.4**
PMAR				*e*Sn	**Sn**	**19 00 45.5**	**-12**
PMAR				A		19 00 51.2	
46nm,0.2s							
PMAR				*e*P		19 06 55.7	
PMPS	**Porto Santo**	**8.05**	**119**	*e*Pn	**Pn**	**18 59 28.1**	**-3.6**
PMPS				*e*Sn	**Sn**	**19 00 48.9**	**-14**
PMPS				A		19 00 56.6	
14nm,0.5s							
EGOM	**La Gomera**	**11.09**	**143**	P	**Pn**	**19 00 10.1**	**-3.2**
7.0nm,0.3s							
EGOM				S	**Sn**	**19 01 59.4**	**-18**
CCAN	**Las Canadas**	**11.33**	**141**	P	**Pn**	**19 00 12.8**	**-3.8**
0.8nm,0.2s							
CCAN				S	**Sn**	**19 02 03.9**	**-19**
EVOP	**Sao Brissos**	**13.14**	**80**	*e*Pn	**Pn**	**19 00 35.5**	**-5.8**
EVOP				*e*Sn	**Sn**	**19 02 50.3**	**-17**
EVO	**Evora**	**13.23**	**80**	*e*Pn	**Pn**	**19 00 35.5**	**-7.0**
EVO				*e*Sn	**Sn**	**19 02 50.3**	**-19**
2.1nm,0.3s							
PBEJ	**Beja**	**13.36**	**82**	*e*S	**Sn**	**19 02 53.5**	**-19**
PVAQ	**Vaqueiros**	**13.51**	**84**	*e*S	**Sn**	**19 03 00.2**	**-16**
PESTR	**Estremoz**	**13.57**	**78**	*e*S	**Sn**	**19 02 59.9**	**-18**
PCBR	**Castelo Branco**	**13.71**	**74**	*e*S	**Sn**	**19 03 04.1**	**-17**
PBAR	**Barrancos**	**14.00**	**81**	*e*S	**Sn**	**19 03 10.1**	**-18**
MVO	**Moncorvo**	**14.22**	**69**	*e*S	**Sn**	**19 03 13.4**	**-20**
ESDC	**Sonseca Array**	**16.40**	**75**	Pn	**Pn**	**19 01 26.3**	**+1.4**
0.2nm,0.3s,baz=275,slow=11,SNR=10							
ESLA	**Sonseca Array**	**16.40**	**75**	*e*Pn	**Pn**	**19 01 27.9**	**+3.1**
1.0nm,1.0s							
ESLA				*e*		19 01 39.9	
MDT	**Midelt**	**17.04**	**99**	LR	LR	19 06 49.5	
comp=Z,116nm,20.4s,baz=346,slow=33							
SJPF	**Ste Jean**	**18.81**	**65**	*e*P	**Pn**	**19 01 54.1**	**-0.6**
QUIF	**Quistinic**	**19.00**	**49**	*e*P	**Pn**	**19 01 56.8**	**-0.2**
ROSF	**Rostrenen**	**19.12**	**48**	*e*P	**Pn**	**19 01 58.4**	**-0.1**
52nm,1.3s							
ROSF	**Rostrenen**	**19.12**	**48**	*e*P	**Pn**	**19 01 58.4**	**-0.1**
ROSF				pmax	pmax		
comp=Z,26nm,1.3s							
ROSF	**Rostrenen**	**19.12**	**48**	*e*P	**Pn**	**19 01 58.4**	**-0.1**
comp=Z,26nm,1.3s							
ETSF	**Etsaut**	**19.26**	**66**	*e*P	**Pn**	**19 01 59.5**	**-0.6**
SGMF	**Saint Gilles**	**19.52**	**49**	*e*P	**Pn**	**19 02 02.5**	**-0.7**
EPF	**Esparros**	**19.93**	**66**	*e*P	**Pn**	**19 02 06.4**	**-1.8**
comp=Z,5.9nm,0.8s							
EPF	**Esparros**	**19.93**	**66**	*e*P	**Pn**	**19 02 06.4**	**-1.8**
EPF				pmax	pmax		
comp=Z,3.0nm,0.8s							
EPF	**Esparros**	**19.93**	**66**	*e*P	**Pn**	**19 02 06.4**	**-1.8**
comp=Z,3.0nm,0.8s							
MFF	**Saint Martin d**	**20.41**	**55**	*e*P	**P**	**19 02 12.3**	**+0.6**
comp=Z,57nm,1.4s							
MFF	**Saint Martin d**	**20.41**	**55**	*e*P	**P**	**19 02 12.3**	**+0.6**
MFF				pmax	pmax		
comp=Z,29nm,1.4s							
MFF	**Saint Martin d**	**20.41**	**55**	*e*P	**P**	**19 02 12.3**	**+0.6**
comp=Z,29nm,1.4s							
LFF	**La Frestale**	**20.57**	**60**	*e*P	**P**	**19 02 13.5**	**+0.1**
comp=Z,43nm,1.1s							
LFF	**La Frestale**	**20.57**	**60**	*e*P	**P**	**19 02 13.5**	**+0.1**
LFF				pmax	pmax		
comp=Z,22nm,1.1s							
LFF	**La Frestale**	**20.57**	**60**	*e*P	**P**	**19 02 13.5**	**+0.1**
comp=Z,22nm,1.1s							
GRR	**Gorron**	**20.60**	**50**	*e*P	**P**	**19 02 14.5**	**+0.8**
comp=Z,25nm,0.9s							
GRR	**Gorron**	**20.60**	**50**	*e*P	**P**	**19 02 14.5**	**+0.8**
GRR				pmax	pmax		
comp=Z,13nm,0.9s							
GRR	**Gorron**	**20.60**	**50**	*e*P	**P**	**19 02 14.5**	**+0.8**
comp=Z,12nm,0.9s							
FLN	**La Foliniere**	**20.98**	**49**	*e*P	**P**	**19 02 18.9**	**+1.1**
comp=Z,20nm,0.9s							
FLN	**La Foliniere**	**20.98**	**49**	*e*P	**P**	**19 02 18.9**	**+1.1**
FLN				pmax	pmax		
comp=Z,10.0nm,0.9s							
FLN	**La Foliniere**	**20.98**	**49**	*e*P	**P**	**19 02 18.9**	**+1.1**
comp=Z,10nm,0.9s							
LDF	**La Druitiere**	**21.13**	**50**	*e*P	**P**	**19 02 20.3**	**+0.8**
RJF	**Les Rejaudoux**	**21.18**	**60**	*e*P	**P**	**19 02 20.1**	**+0.1**
comp=Z,38nm,1.5s,mb4.2							
RJF	**Les Rejaudoux**	**21.18**	**60**	*e*P	**P**	**19 02 20.1**	**+0.1**
RJF				pmax	pmax		
comp=Z,19nm,1.5s,mb4.2							
RJF	**Les Rejaudoux**	**21.18**	**60**	*e*P	**P**	**19 02 20.1**	**+0.1**
comp=Z,19nm,1.5s,mb4.2							
MTLF	**Montolieu**	**21.33**	**65**	*e*P	**P**	**19 02 21.6**	**-0.1**
CAF	**Calviac**	**21.48**	**61**	*e*P	**P**	**19 02 23.4**	**+0.1**
comp=Z,19nm,1.0s,mb4.1							
CAF	**Calviac**	**21.48**	**61**	*e*P	**P**	**19 02 23.4**	**+0.1**
CAF				pmax	pmax		
comp=Z,10.0nm,1.0s,mb4.1							
CAF	**Calviac**	**21.48**	**61**	*e*P	**P**	**19 02 23.4**	**+0.1**
comp=Z,9.6nm,1.0s,mb4.1							
TCF	**Toulx Ste Croi**	**21.89**	**57**	*e*P	**P**	**19 02 27.2**	**-0.4**
comp=Z,33nm,1.2s,mb4.3							
TCF	**Toulx Ste Croi**	**21.89**	**57**	*e*P	**P**	**19 02 27.2**	**-0.4**
TCF				pmax	pmax		
comp=Z,16nm,1.2s,mb4.3							
TCF	**Toulx Ste Croi**	**21.89**	**57**	*e*P	**P**	**19 02 27.2**	**-0.4**
comp=Z,16nm,1.2s,mb4.3							
PYM	**Petit Puy Mans**	**22.30**	**59**	*e*P	**P**	**19 02 34.3**	**+2.3**
LBL	**Lubilhac**	**22.36**	**60**	*e*P	**P**	**19 02 34.8**	**+2.1**
BGF	**Bois d'Agland**	**22.38**	**57**	*e*P	**P**	**19 02 32.4**	**-0.5**
comp=Z,20nm,1.0s,mb4.2							
BGF	**Bois d'Agland**	**22.38**	**57**	*e*P	**P**	**19 02 32.4**	**-0.5**
BGF				pmax	pmax		
comp=Z,10.0nm,1.0s,mb4.2							
BGF	**Bois d'Agland**	**22.38**	**57**	*e*P	**P**	**19 02 32.4**	**-0.5**
comp=Z,10nm,1.0s,mb4.2							
AGO	**Saint Agoulin**	**22.45**	**58**	*e*P	**P**	**19 02 35.5**	**+1.9**
LASF	**Ste Croix**	**22.61**	**64**	*e*P	**P**	**19 02 34.6**	**-0.7**
comp=Z,13nm,1.0s,mb4.0							
LASF	**Ste Croix**	**22.61**	**64**	*e*P	**P**	**19 02 34.6**	**-0.7**
comp=Z,6.5nm,1.0s,mb4.0							
PLDF	**La Plantade**	**22.77**	**59**	*e*P	**P**	**19 02 38.5**	**+1.5**
AVF	**Avril sur Loir**	**22.78**	**57**	*e*P	**P**	**19 02 36.5**	**-0.6**
comp=Z,20nm,1.4s,mb4.1							
AVF	**Avril sur Loir**	**22.78**	**57**	*e*P	**P**	**19 02 36.5**	**-0.6**
AVF				pmax	pmax		
comp=Z,10.0nm,1.4s,mb4.0							
AVF	**Avril sur Loir**	**22.78**	**57**	*e*P	**P**	**19 02 36.5**	**-0.6**
comp=Z,9.9nm,1.4s,mb4.1							
SSF	**Saint Saulge**	**22.95**	**56**	*e*P	**P**	**19 02 38.2**	**-0.7**
comp=Z,36nm,1.3s,mb4.3							
SSF	**Saint Saulge**	**22.95**	**56**	*e*P	**P**	**19 02 38.2**	**-0.7**
SSF				pmax	pmax		
comp=Z,18nm,1.3s,mb4.3							
SSF	**Saint Saulge**	**22.95**	**56**	*e*P	**P**	**19 02 38.2**	**-0.7**
comp=Z,18nm,1.3s,mb4.3							
SMF	**Signal de Mont**	**23.07**	**57**	*e*P	**P**	**19 02 39.2**	**-0.9**
comp=Z,45nm,1.2s,mb4.5							
SMF	**Signal de Mont**	**23.07**	**57**	*e*P	**P**	**19 02 39.2**	**-0.9**
SMF				pmax	pmax		
comp=Z,23nm,1.2s,mb4.5							
SMF	**Signal de Mont**	**23.07**	**57**	*e*P	**P**	**19 02 39.2**	**-0.9**
comp=Z,23nm,1.2s,mb4.5							
EKA	**Eskdalemuir Ar**	**23.20**	**32**	P	**P**	**19 02 40.5**	**-1.0**
comp=Z,1.2nm,0.8s,mb3.4,baz=230,slow=7.3,SNR=4.9							
LOR	**Lormes**	**23.23**	**56**	*e*P	**P**	**19 02 41.0**	**-0.9**
comp=Z,6.5nm,0.8s,mb3.8							
LOR	**Lormes**	**23.23**	**56**	*e*P	**P**	**19 02 41.0**	**-0.9**
LOR				pmax	pmax		
comp=Z,3.0nm,0.8s,mb3.8							
LOR	**Lormes**	**23.23**	**56**	*e*P	**P**	**19 02 41.0**	**-0.9**
comp=Z,3.2nm,0.8s,mb3.8							
VIVF	**Saint-Julien-l**	**23.30**	**62**	*e*P	**P**	**19 02 41.4**	**-1.2**
comp=Z,14nm,1.1s,mb4.0							
VIVF	**Saint-Julien-l**	**23.30**	**62**	*e*P	**P**	**19 02 41.4**	**-1.2**
VIVF				pmax	pmax		
comp=Z,7.0nm,1.1s,mb4.0							
VIVF	**Saint-Julien-l**	**23.30**	**62**

DOU Dourbes 24.55 49 P **P 19 02 54.9 +0.6**
FRF La Foret Royal 24.57 65 *eP* **P 19 02 53.3 -1.2**
comp=Z,8.3nm,1.0s,mb3.9
FRF La Foret Royal 24.57 65 *eP* **P 19 02 53.3 -1.2**
FRF pmax pmax
comp=Z,4.0nm,1.0s,mb3.9
FRF La Foret Royal 24.57 65 *eP* **P 19 02 53.3 -1.2**
comp=Z,4.2nm,1.0s,mb3.9
CABF La Chapelle 24.57 58 *eP* **P 19 02 53.8 -0.7**
GIVF Givet 24.59 49 *eP* **P 19 02 55.3 -0.3**
BNI Bardonecchia 24.73 62 P **P 19 02 53.2 -2.8**
comp=Z,8.8nm,1.3s,mb4.1
BNI Bardonecchia 24.73 62 P **P 19 02 53.2 -2.8**
BNI pmax pmax
comp=Z,9.0nm,1.3s,mb4.1
BNI Bardonecchia 24.73 62 P **P 19 02 53.2 -2.8**
comp=Z,8.8nm,1.3s,mb4.1
MBDF Montbardon 24.76 63 *eP* **P 19 02 55.6 -0.7**
LPL La Plagne 24.83 61 *eP* **P 19 02 56.6 -0.3**
LPG La Plagne 24.84 61 *eP* **P 19 02 56.7 -0.3**
comp=Z,24nm,1.4s,mb4.2
LPG La Plagne 24.84 61 *eP* **P 19 02 56.7 -0.3**
LPG pmax pmax
comp=Z,12nm,1.4s,mb4.2
LPG La Plagne 24.84 61 *eP* **P 19 02 56.7 -0.3**
comp=Z,12nm,1.4s,mb4.2
HAU Haudompre 25.05 55 *eP* **P 19 02 58.4 -0.4**
SBF Sospel 25.16 65 *eP* **P 19 02 59.3 -0.6**
comp=Z,12nm,0.8s,mb4.2
SBF Sospel 25.16 65 *eP* **P 19 02 59.3 -0.6**
SBF pmax pmax
comp=Z,6.0nm,0.8s,mb4.2
SBF Sospel 25.16 65 *eP* **P 19 02 59.3 -0.6**
comp=Z,5.8nm,0.8s,mb4.2
LOMF Lomont 25.22 57 *eP* **P 19 03 06.7 +6.3**
HINF Hinteralfeld 25.33 56 *eP* **P 19 03 01.2 -0.3**
WLF Walferdange 25.37 51 *eP* **P 19 03 01.8 0.0**
comp=Z,28nm,1.2s,mb4.7
WLF Walferdange 25.37 51 *eP* **P 19 03 01.8 +0.1**
WLF pmax pmax
comp=Z,28nm,1.2s,mb4.7
WLF Walferdange 25.37 51 P **P 19 03 02.3 +0.6**
comp=Z,14nm,1.3s,mb4.3
WLF Walferdange 25.37 51 *eP* **P 19 03 01.3 -0.4**
WLF Walferdange 25.37 51 *eP* **P 19 03 01.8 +0.1**
comp=Z,28nm,1.2s,mb4.7
CDF Champ du Feu 25.75 54 *eP* **P 19 03 05.2 0.0**
comp=Z,17nm,1.2s,mb4.2
CDF Champ du Feu 25.75 54 *eP* **P 19 03 05.2 0.0**
CDF pmax pmax
comp=Z,8.0nm,1.2s,mb4.1
CDF Champ du Feu 25.75 54 *eP* **P 19 03 05.2 0.0**
comp=Z,8.4nm,1.2s,mb4.2
RUP Ruppelstein 25.94 51 *eP* **P 19 03 07.4 +0.4**
PGF Pioggiola 26.25 68 *eP* **P 19 03 09.6 -0.2**
BFO Black Forest 26.41 55 *eP* **P 19 03 10.1 -1.1**
GRA1 Grafenberg Arr 28.56 53 *eP* **P 19 03 29.8 -0.7**
comp=Z,12nm,1.3s,mb4.5
GRF Grafenberg Arr 28.56 53 *eP* **P 19 03 29.8 -0.7**
GRF pmax pmax
comp=Z,12nm,1.3s,mb4.5
GRF Grafenberg Arr 28.56 53 *eP* **P 19 03 29.8 -0.7**
GRF pmax pmax
comp=Z,12nm,1.3s,mb4.5
GRF Grafenberg Arr 28.56 53 *eP* **P 19 03 29.8 -0.7**
comp=Z,12nm,1.3s,mb4.5
ROTZ Rotzenmuhle 29.20 53 *eP* **P 19 03 36.1 -0.1**
TANN Tannenbergstha 29.49 52 *eP* **P 19 03 38.1 -0.6**
AQU L'Aquila 29.52 68 P **P 19 03 39.5 +0.5**
comp=Z,8.8nm,0.9s,mb4.5
AQU L'Aquila 29.52 68 P **P 19 03 39.5 +0.5**
AQU pmax pmax
comp=Z,9.0nm,0.9s,mb4.5
AQU L'Aquila 29.52 68 P **P 19 03 39.5 +0.5**
comp=Z,8.8nm,0.9s,mb4.5
KHC Kasperske Hory 29.97 55[] *eP* **P 19 03 45.4 +2.4**
KHC Kasperske Hory 29.97 55 *eP* **P 19 03 44.6 +1.6**
GERES GERESS Array B 30.01 55 P **P 19 03 43.2 -0.2**
comp=Z,1.3nm,1.1s,mb3.6,baz=252,slow=6.9,SNR=5.8
CLL Collm 30.02 50 *eP* **P 19 03 40.1 -3.3**
PVCC Panska Ves 30.84 52 *eP* **P 19 03 50.7 +0.1**
UPC Upice 31.74 52 *eP* **P 19 03 56.1 -2.5**
DPC Dobruska-Polom 31.91 53 *eP* **P 19 04 00.4 +0.3**
TIP Timpagrande 32.41 74 *eP* **P 19 04 03.0 -1.6**
comp=Z,9.3nm,1.2s,mb4.5
TIP Timpagrande 32.41 74 *eP* **P 19 04 03.0 -1.6**
comp=Z,9.3nm,1.2s,mb4.5
VYHS Vyhne 33.37 56 *i P* **P 19 04 15.0 +2.2**
VYHS pmax pmax
comp=Z,4.0nm,1.4s,mb4.2
VYHS Vyhne 33.37 56 *i P* **P 19 04 15.0 +2.2**
VYHS *i* 19 01 55.0
VYHS Vyhne 33.37 56 *i P* **P 19 04 15.0 +2.2**
comp=Z,3.5nm,1.4s,mb4.1
SCHQ Schefferville 33.45 315 P **P 19 04 12.0 -1.5**
comp=Z,15nm,1.5s,mb4.7
SCHQ Schefferville 33.45 315 LR LR 19 15 30.9
comp=Z,94nm,18.7s,MS3.5,baz=21,slow=32
SCHQ Schefferville 33.45 315 P **P 19 04 12.0 -1.5**
comp=Z,15nm,1.5s,mb4.7
TOA0 Torodi Ar. Sit 33.68 129 *eP* **P 19 04 15.9 0.0**
TORD Torodi Ar. Bea 33.68 129 P **P 19 04 16.3 +0.4**
comp=Z,2.1nm,1.0s,mb4.0,baz=320,slow=6.9,SNR=7.4
TORD LR LR 19 16 17.2
comp=Z,62nm,19.1s,MS3.4,baz=180,slow=33
STHS Stebnicka Huta 35.00 55 *eP* **P 19 04 27.5 +0.5**
STHS pmax pmax
comp=Z,3.0nm,1.2s,mb4.1
STHS Stebnicka Huta 35.00 55 *eP* **P 19 04 27.5 +0.5**
STHS Stebnicka Huta 35.00 55 *eP* **P 19 04 27.5 +0.5**
comp=Z,3.4nm,1.2s,mb4.2
DBIC Dimbokro 35.45 144 LR LR 19 17 16.2
comp=Z,76nm,20.7s,MS3.4,baz=285,slow=33
AKASG Malin Array Be 40.15 53 P **P 19 05 10.0 -0.5**
AKASG Malin Array Be 40.15 53 P **P 19 05 10.0 -0.5**
comp=Z,0.8nm,0.7s,mb3.6,baz=268,slow=8.5,SNR=9.8
AKASG Malin Array Be 40.15 53 *i P* **P 19 05 10.1 -0.4**
KEV Kevo 42.45 24 P **P 19 05 29.2 0.0**
comp=Z,39nm,1.3s,mb4.9
KEV Kevo 42.45 24 P **P 19 05 29.2 0.0**
KEV pmax pmax
comp=Z,39nm,1.3s,mb4.9
KEV Kevo 42.45 24 P **P 19 05 29.2 0.0**
comp=Z,39nm,1.3s,mb4.9
OBN Obninsk 44.42 46 *eP* **P 19 05 45.7 +0.4**
OBN pmax pmax
comp=Z,7.0nm,1.3s,mb4.2
OBN Obninsk 44.42 46 *eP* **P 19 05 45.7 +0.4**
comp=Z,7.0nm,1.3s,mb4.2
FCC Fort Churchill 48.59 319 P **P 19 06 17.1 -0.9**
comp=Z,8.5nm,1.3s,mb4.6
FCC Fort Churchill 48.59 319 P **P 19 06 17.1 -0.9**
FCC pmax pmax
comp=Z,8.0nm,1.3s,mb4.6
FCC Fort Churchill 48.59 319 P **P 19 06 17.1 -0.9**
comp=Z,8.5nm,1.3s,mb4.6
MALT Malatya 48.99 68 P **P 19 06 21.7 +0.3**
comp=Z,6.2nm,1.4s,mb4.5
MALT Malatya 48.99 68 P **P 19 06 21.7 +0.4**
MALT pmax pmax
comp=Z,6.0nm,1.4s,mb4.4
MALT Malatya 48.99 68 P **P 19 06 21.7 +0.4**
comp=Z,6.2nm,1.4s,mb4.5
RES Resolute Bay 49.18 341 *eP* **P 19 06 24.1 +1.8**
comp=Z,171nm,1.1s
KIV Kislovodsk 50.29 60 *eP* **P 19 06 32.9 +1.7**
KIV *e* 19 08 27.2
KIV pmax pmax
comp=Z,2.0nm,1.1s,mb4.1
KIV Kislovodsk 50.29 60 *eP* **P 19 06 32.9 +1.7**
comp=Z,2.0nm,1.1s,mb4.1
ULM Lac du Bonnet 51.10 309 LR LR 19 27 22.9
comp=Z,92nm,18.4s,MS3.8,baz=282,slow=35
ARU Arti 56.37 42 *eP* **P 19 07 16.3 +0.6**
comp=Z,6.1nm,1.1s,mb4.5
ARU Arti 56.37 42 *d i P* **P 19 07 16.9 +1.3**
ARU *e* 19 09 19.5
ARU *eS* **S 19 15 06.3 +0.4**
ARU *eSS* SS 19 18 49.2 -3.0
ARU pmax pmax
comp=Z,11nm,1.2s,mb4.8
ARU Arti 56.37 42 *eP* **P 19 07 16.3 +0.7**
comp=Z,6.1nm,1.1s,mb4.5
ARU *eS* **S 19 15 06.3 +0.4**
YKA Yellowknife Ar 57.65 327 P **P 19 07 26.0 +1.4**
comp=Z,0.3nm,0.6s,mb3.5,baz=66,slow=6.3,SNR=4.9

AKTK Aktyubinsk 58.08 48 P **P 19 07 28.9 +1.0**
AKTO Aktyubinsk 58.08 48 P **P 19 07 28.9 +1.0**
comp=Z,2.8nm,0.9s,mb4.3,baz=282,slow=9.0,SNR=4.8
PDAR Pinedale Array 62.55 304 P **P 19 08 00.7 +2.1**
comp=Z,0.6nm,0.9s,mb3.7,baz=60,slow=5.8,SNR=3.8
PDAR LR LR 19 34 15.3
comp=Z,74nm,18.1s,MS3.9,baz=325,slow=35
PDAR Pinedale Array 62.55 304 P **P 19 08 00.6 +2.0**
BRVK Borovoye 63.93 42 P **P 19 08 09.2 +1.7**
comp=Z,2.1nm,1.0s,mb4.1
BRVK Borovoye 63.93 42 P **P 19 08 09.2 +1.7**
BRVK pmax pmax
comp=Z,2.0nm,1.0s,mb4.1
BRVK Borovoye 63.93 42 P **P 19 08 09.2 +1.7**
comp=Z,2.1nm,1.0s,mb4.1
ANMO Albuquerque 64.02 295[] *eP* **P 19 08 17.0 +8.5**
TXAR Lajitas Array 64.70 289 P **P 19 08 15.3 +2.3**
comp=Z,1.0nm,0.7s,mb4.0,baz=72,slow=8.0,SNR=6.5
DAWV Dawson 66.69 334 P **P 19 08 29.2 +3.9**
KURK Kurchatov 69.56 41 P **P 19 08 44.0 +0.5**
comp=Z,3.2nm,1.1s,mb4.2
KURK Kurchatov 69.56 41 P **P 19 08 44.0 +0.5**
KURK pmax pmax
comp=Z,3.0nm,1.1s,mb4.1
KURK Kurchatov 69.56 41 P **P 19 08 44.0 +0.5**
comp=Z,3.2nm,1.1s,mb4.2
TIXI Tiksi 69.73 9[] *eP* **P 19 08 48.6 +4.4**
TIXI pmax pmax
comp=Z,3.0nm,1.4s,mb4.0
ZAL Zalesovo 70.77 36 P **P 19 08 51.9 +1.1**
ZALV Zalesovo Beam 70.77 36 P **P 19 08 51.9 +1.1**
comp=Z,0.9nm,0.6s,mb3.9,baz=313,slow=5.2,SNR=5.5
EKS2 Erkin-Say 71.28 50 *eP* **P 19 08 55.2 +1.1**
comp=Z,2.7nm,1.0s,mb4.1
EKS2 Erkin-Say 71.28 50 *eP* **P 19 08 55.2 +1.0**
comp=Z,2.7nm,1.0s,mb4.1
UCH Uchtor 71.98 50 P **P 19 09 00.8 +2.4**
comp=Z,3.2nm,1.2s,mb4.1
UCH Uchtor 71.98 50 P **P 19 09 00.8 +2.4**
comp=Z,3.2nm,1.2s,mb4.1
MK31 Makanchi Array 73.83 43 *eP* **P 19 09 10.6 +1.3**
MK31 Makanchi Array 73.83 43 *eP* **P 19 09 10.6 +1.3**
MKAR Makanchi Array 73.83 43 P **P 19 09 11.3 +2.0**
comp=Z,0.6nm,0.9s,mb3.5,baz=300,slow=5.1,SNR=5.5
YAK Yakutsk 78.85 12 *i P* **P 19 09 42.1 +4.6**
BOD Bodaibo 79.09 21 *eP* **P 19 09 36.8 -2.0**
BOD pmax pmax
comp=Z,5.0nm,1.4s,mb4.2
BOD Bodaibo 79.09 21 *eP* **P 19 09 36.8 -2.0**
comp=Z,5.0nm,1.4s,mb4.2
BOSA Boshof 80.59 137 LR LR 19 43 23.5
comp=Z,59nm,21.5s,MS3.9,baz=278,slow=34
SONM Songino Array 84.67 31 P **P 19 10 09.8 +1.4**
comp=Z,1.3nm,1.2s,mb3.9,baz=293,slow=2.9,SNR=5.1
ULN Ulaanbaatar 84.91 30 P **P 19 10 11.0 +1.3**
comp=Z,7.0nm,1.4s,mb4.6
ULN Ulaanbaatar 84.91 30 P **P 19 10 11.0 +1.4**
ULN pmax pmax
comp=Z,7.0nm,1.4s,mb4.6
ULN Ulaanbaatar 84.91 30 P **P 19 10 11.0 +1.4**
comp=Z,6.9nm,1.4s,mb4.6
CD2 Chengdu 96.76 43 *eP* **P 19 11 05.6 0.0**
CD2 AMB AMB
comp=Z,30nm,9.2s
KMI Kunming 100.63 47 P Pdif 19 11 21.4 -1.4
KMI AP 19 11 28.0

*IDC **07** 19:05:00.5±0.6,2862N×14044E,h0km,mb4.2/9,*
mb1 4.5/10,mb1mx4.3/17,mbtmp4.2/10,ML3.9/2,MS3.2/4,
Ms1 3.2/4,ms1mx2.9/34,Error ellipse: s-maj=24.4km
s-min=16.4km az=71.0
*NIED **07** 19:05:00,2850N×14060E,h11km,Mw4.2 Best double*
couple: M₀2.00000×10¹⁵ NP1:φ₀175.00000°,δ82.00000°,
λ-93.00000°. NP2:φ₀13.00000°,δ9.00000°,λ-72.00000°.
*MOS **07** 19:05:03.6±0.7,2866N×140.31E,h33km,mb4.6/17,Error*
ellipse: s-maj=20.4km s-min=9.9km az=88.4
*ISCJB **07** 19:05:04.1±0.6,2852N±004×14051E±006,h37km±6km,*
mb4.3/31,Error ellipse: s-maj=8.6km s-min=5.1km
az=154.5
*JMA **07** 19:05:04.1±0.5,2854N×14059E,h40km,M3.9*
*BJI **07** 19:05:09.0,2893N×14061E,h70km,mB4.6,mb4.2,Ms3.8,*
Msz3.6
*NEIC **07** 19:05:10.5±1.3,2865N×14037E,h79km±11km,mb4.4/18,*
Error ellipse: s-maj=11.0km s-min=7.8km az=105.0

ISC 07 19:05:06.5±0.5,2851N±003×14058E±006,h42km±5km,
n92,σ1°23/90,mb4.3/31,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**2.00**	**134**	*e*S		**Sn**	**Sn**	**19 06 00.9**	**-0.7**
CBIJ	**Chichi jima**	**2.00**	**134**	Pn		**Pn**	**Pn**	**19 05 36.6**	**-1.1**
53nm,0.3s,baz=312,slow=4.2,SNR=40									
CBIJ				Sn			**Sn**	**19 06 00.4**	**-1.2**
158nm,0.3s,baz=300,slow=23,SNR=13									
JHHJ	**Haha-jima-NKT**	**2.35**	**143**	*e*S		**Sn**	**Sn**	**19 06 09.2**	**-1.0**
JHJ2	**Mitsune**	**4.63**	**352**	P		**Pn**	**Pn**	**19 06 13.7**	**-0.2**
JHJ2				*e*S		**Sn**	**Sn**	**19 07 04.2**	**-2.2**
JHJ	**Hachijo jima 2**	**4.64**	**352**	Pn		**Pn**	**Pn**	**19 06 12.2**	**-1.9**
6.1nm,0.3s,baz=53,slow=20,SNR=4.4									
JHJ				Sn			**Sn**	**19 07 00.6**	**-6.1**
10nm,0.3s,baz=218,slow=18,SNR=2.8									
BSO1	**Boso 1**	**6.13**	**3**	P		**Pn**	**Pn**	**19 06 34.2**	**-0.3**
BSO1				*e*S		**Sn**	**Sn**	**19 07 41.2**	**-2.1**
BSO3	**Boso 3**	**6.27**	**359**	P		**Pn**	**Pn**	**19 06 37.3**	**+0.9**
BSO4	**Boso 4**	**6.46**	**358**	P		**Pn**	**Pn**	**19 06 39.4**	**+0.4**
JOD2	**Odawara 2**	**6.85**	**350**	P		**Pn**	**Pn**	**19 06 46.4**	**+2.1**
JNY	**Yasuok**	**7.21**	**342**	P		**Pn**	**Pn**	**19 06 51.3**	**+2.1**
JHU	**Hanano**	**7.40**	**352**	P		**Pn**	**Pn**	**19 06 51.1**	**-0.8**
JRY	**Ryogami san**	**7.62**	**350**	P		**Pn**	**Pn**	**19 06 56.3**	**+1.5**
JAG	**Ashikaga**	**7.95**	**353**	P		**Pn**	**Pn**	**19 07 00.3**	**+0.9**
JHO	**Hitachi**	**8.07**	**360**	*e*S		**Sn**	**Sn**	**19 08 23.1**	**-8.0**
MJAR	**Matsushiro Arr**	**8.25**	**347**	P		**Pn**	**Pn**	**19 07 05.0**	**+1.4**
MJAR				pmax		pmax			
comp=Z,1.0nm,0.3s									
MJAR	**Matsushiro Arr**	**8.25**	**347**	Pn		**Pn**	**Pn**	**19 07 05.0**	**+1.4**
comp=Z,0.7nm,0.3s,baz=166,slow=12,SNR=9.9									
MAJO	**Matsushiro**	**8.25**	**347**	*e*Pn		**Pn**	**Pn**	**19 07 05.6**	**+2.1**
comp=Z,9.3nm,0.8s									
MAJO	**Matsushiro**	**8.25**	**347**	*e*P		**Pn**	**Pn**	**19 07 05.6**	**+2.0**
MAJO				pmax		pmax			
comp=Z,9.0nm,0.8s									
MAT	**Matsushiro**	**8.25**	**347**	P		**Pn**	**Pn**	**19 07 05.1**	**+1.5**
MAT				*e*S		Sn		19 09 03.0	+28
JMZ	**Minamidaito 2**	**8.76**	**254**	P		**Pn**	**Pn**	**19 07 09.3**	**-1.3**
JNU	**Nakatsue**	**9.52**	**301**	LR		LR		19 10 26.3	
comp=Z,142nm,20.6s,baz=307,slow=35									
JAM	**Amami Oshima**	**9.66**	**272**	P		**Pn**	**Pn**	**19 07 22.8**	**-0.1**
JOW	**Kunigami**	**11.04**	**264**	LR		LR		19 11 20.4	
comp=Z,208nm,21.6s,baz=34,slow=35									
KSRS	**Korea Array**	**13.86**	**313**	Pn		**Pn**	**Pn**	**19 08 23.4**	**+3.2**
comp=Z,0.1nm,0.3s,baz=129,slow=13,SNR=7.2									
INCN	**Inchon**	**14.72**	**311**	P		**Pn**	**Pn**	**19 08 38.2**	**+6.4**
comp=Z,20nm,0.7s									
GUMO	**Guam**	**15.38**	**164**	LR		LR		19 13 30.1	
comp=Z,50nm,18.6s,baz=68,slow=33									
ASAJ	**Asahikawa**	**15.66**	**5**	LR		LR		19 15 14.5	
comp=Z,81nm,19.6s,baz=152,slow=40									
YSS	**Yuzh-Sakhalins**	**18.49**	**5**	P		**Pn**	**Pn**	**19 09 17.6**	**-1.6**
comp=Z,13nm,0.9s									
YSS	**Yuzh-Sakhalins**	**18.49**	**5**	*e*P		**Pn**	**Pn**	**19 09 17.2**	**-2.0**
KLR	**Kul'dur**	**21.77**	**344**	*e*P		**P**	**P**	**19 09 51.0**	**-3.4**
HHC	**Hu-ho-hao-te**	**26.72**	**305**	*e*P		**P**	**P**	**19 10 40.1**	**-1.7**
HHC				AP		pP		19 10 57.8	+4.6
HHC				XP		sP		19 11 06.6	+8.3
HHC				PCP		PcP		19 14 05.5	+1.2
HHC				S		**S**		**19 15 05.1**	**-9.4**
HHC				XS		sS		19 15 37.4	+3.8
HHC				SS				19 16 21.0	
HHC				SCP		ScP		19 17 35.5	-5.5
HHC				PCS		PcS		19 17 46.8	+1.2
HHC				SCS		ScS		19 21 24.6	-7.0
HHC				AMB		AMB			
comp=Z,16nm,0.4s,mb4.9									
HHC				AMB		AMB			
comp=Z,89nm,5.1s									
HHC				LR		LR			
comp=N,67nm,6.1s									
HHC				LR		LR			
comp=E,110nm,7.8s									
HHC				LR		LR			
comp=Z,60nm,6.1s									
XAN	**Xi'an**	**27.55**	**290**	P		**P**		**19 10 48.8**	**-0.5**
XAN				S		**S**		**19 15 31.9**	**+4.2**
XAN				AMB		AMB			
comp=Z,5.0nm,1.1s,mb4.1									
XAN				AMB		AMB			
comp=Z,108nm,6.7s									
XAN				LR		LR			
comp=E,73nm,12.3s									
XAN				LR		LR			
comp=Z,90nm,11.9s									
MA2	**Magadan**	**31.83**	**10**	*e*P		**P**		**19 11 26.4**	**-0.5**
comp=Z,7.3nm,0.9s,mb4.5									
MA2	**Magadan**	**31.83**	**10**	*e*P		**P**		**19 11 26.4**	**-0.5**
MA2				pmax		pmax			
comp=Z,7.0nm,0.9s,mb4.5									
CD2	**Chengdu**	**31.98**	**283**	*e*P		**P**		**19 11 28.4**	**-0.2**
CD2				AMB		AMB			
comp=Z,10.0nm,0.6s,mb4.8									
CD2				AMB		AMB			
comp=Z,20nm,4.6s									
SONM	**Songino Array**	**32.71**	**316**	P		**P**		**19 11 34.7**	**-0.1**
comp=Z,0.2nm,0.8s,baz=115,slow=6.5,SNR=2.6									
GTA	**Gaotai**	**35.25**	**299**	*e*P		**P**		**19 11 57.2**	**+0.3**
GTA				AMB		AMB			
comp=Z,3.0nm,0.7s,mb4.3									
TLY	**Talaya**	**35.95**	**320**	P		**P**		**19 12 05.2**	**+2.5**
TIXI	**Tiksi**	**43.67**	**355**	*e*P		**P**		**19 13 05.0**	**-1.5**
comp=Z,3.7nm,0.8s,mb4.2									
TIXI	**Tiksi**	**43.67**	**355**	*e*P		**P**		**19 13 05.0**	**-1.6**
TIXI				pmax		pmax			
comp=Z,4.0nm,0.8s,mb4.2									
MK31	**Makanchi Array**	**48.48**	**309**	*e*P		**P**		**19 13 44.0**	**-0.8**
MKAR	**Makanchi Array**	**48.48**	**309**	P		**P**		**19 13 44.0**	**-0.8**
comp=Z,0.3nm,0.7s,mb3.5,baz=92,slow=11,SNR=4.9									
MKAR				PcP		PcP		19 15 09.7	-0.8
comp=Z,0.5nm,0.6s,baz=86,slow=7.5,SNR=3.9									
WRAB	**Tennant Creek**	**48.54**	**188**	*e*P		**P**		**19 13 46.7**	**+1.2**
comp=Z,15nm,0.9s,mb5.0									
WRAB	**Tennant Creek**	**48.54**	**188**	*e*P		**P**		**19 13 46.7**	**+1.3**
WRAB				pmax		pmax			
comp=Z,15nm,0.9s,mb5.0									
WB2	**Warramunga Arr**	**48.55**	**188**	*e*P		**P**		**19 13 46.5**	**+1.0**
WRA	**Warramunga Arr**	**48.55**	**188**	P		**P**		**19 13 46.7**	**+1.2**
WRA				pmax		pmax			
comp=Z,13nm,0.9s									
WRA	**Warramunga Arr**	**48.55**	**188**	P		**P**		**19 13 46.7**	**+1.2**
comp=Z,13nm,0.9s,mb5.0,baz=6.4,slow=7.8,SNR=95									
ASAR	**Alice Springs**	**52.27**	**188**	P		**P**		**19 14 14.4**	**+0.8**
ASAR				pmax		pmax			
comp=Z,2.0nm,0.9s									
ASAR	**Alice Springs**	**52.27**	**188**	P		**P**		**19 14 14.3**	**+0.7**
comp=Z,1.7nm,0.9s,mb4.0,baz=3.3,slow=5.4,SNR=14									
UCH	**Uchtor**	**54.33**	**303**	P		**P**		**19 14 30.6**	**+1.9**
comp=Z,0.8nm,0.6s,mb3.8									
AML	**Almayashu**	**54.95**	**303**	P		**P**		**19 14 32.7**	**-0.4**
comp=Z,5.5nm,1.0s,mb4.5									
BRVK	**Borovoye**	**56.10**	**317**	*e*P		**P**		**19 14 38.3**	**-3.0**
comp=Z,3.0nm,1.0s,mb4.3									
BRVK	**Borovoye**	**56.10**	**317**	*e*P		**P**		**19 14 38.3**	**-3.0**
BRVK				pmax		pmax			
comp=Z,3.0nm,1.0s,mb4.3									
SML	**Sawmill**	**56.40**	**33**	P		**P**		**19 14 44.5**	**+1.3**
KBL	**Kabul**	**60.13**	**295**	P		**P**		**19 15 08.6**	**-1.1**
comp=Z,3.2nm,0.9s,mb4.3									
INK	**Inuvik**	**62.34**	**25**	*e*P		**P**		**19 15 23.8**	**-0.3**
comp=Z,87nm,0.9s									
INK				*e*				19 15 30.8	
ARU	**Arti**	**62.44**	**322**	P		**P**		**19 15 20.4**	**-4.6**
comp=Z,6.1nm,1.1s,mb4.6									
ARU	**Arti**	**62.44**	**322**	P		**P**		**19 15 20.4**	**-4.6**
ARU				pmax		pmax			
comp=Z,6.0nm,1.1s,mb4.6									
RES	**Resolute Bay**	**71.02**	**13**	*e*P		**P**		**19 16 18.3**	**-1.1**
comp=Z,69nm,0.8s									
YKA	**Yellowknife Ar**	**71.57**	**28**	P		**P**		**19 16 22.7**	**-0.2**
YKA				pmax		pmax			
comp=Z,1.0nm,0.6s									
YKA	**Yellowknife Ar**	**71.57**	**28**	P		**P**		**19 16 22.7**	**-0.1**
comp=Z,1.2nm,0.6s,mb4.0,baz=296,slow=6.1,SNR=15									
FINES	**FINESS Array B**	**76.05**	**333**	P		**P**		**19 16 47.8**	**-1.3**
FINES				pmax		pmax			
comp=Z,1.0nm,0.5s									
FINES	**FINESS Array B**	**76.05**	**333**	P		**P**		**19 16 47.8**	**-1.3**
comp=Z,0.9nm,0.5s,mb4.0,baz=67,slow=6.2,SNR=14									
NEW	**Newport**	**76.82**	**42**	*e*P		**P**		**19 16 53.7**	**0.0**
comp=Z,3.5nm,0.9s,mb4.3									
NEW	**Newport**	**76.82**	**42**	*e*P		**P**		**19 16 53.7**	**0.0**
NEW				pmax		pmax			
comp=Z,3.0nm,0.9s									
WALA	**Waterton Lakes**	**78.29**	**40**	*e*P		**P**		**19 17 03.0**	**+1.1**
comp=Z,5.1nm,0.6s,mb4.6									
CMB	**Columbia Colle**	**79.50**	**52**	*e*P		**P**		**19 17 09.1**	**+0.4**
comp=Z,2.1nm,0.7s,mb4.2									
CMB	**Columbia Colle**	**79.50**	**52**	*e*P		**P**		**19 17 09.1**	**+0.3**
CMB				pmax		pmax			
comp=Z,2.0nm,0.7s,mb4.2									
AKASG	**Malin Array Be**	**80.64**	**323**	P		**P**		**19 17 13.3**	**-1.4**
AKASG				pmax		pmax			
comp=Z,1.0nm,0.7s									
AKASG	**Malin Array Be**	**80.64**	**323**	P		**P**		**19 17 13.2**	**-1.4**
comp=Z,0.6nm,0.7s,mb3.6,baz=48,slow=5.7,SNR=5.0									
NVAR	**Mina Array Bea**	**80.75**	**51**	P		**P**		**19 17 17.2**	**+1.7**
comp=Z,3.2nm,0.6s,mb4.5,baz=310,slow=4.5,SNR=34									
FFC	**Flin Flon**	**81.28**	**31**	*e*P		**P**		**19 17 17.3**	**-0.7**
comp=Z,2.6nm,0.7s,mb4.3									
FFC	**Flin Flon**	**81.28**	**31**	*e*P		**P**		**19 17 17.3**	**-0.7**
FFC				pmax		pmax			
comp=Z,3.0nm,0.7s,mb4.3									
NB2	**NORSAR Subarra**	**81.77**	**338**	P		**P**		**19 17 18.8**	**-1.7**
comp=Z,1.2nm,0.6s,mb4.0,baz=43,slow=5.3									
NOA	**NORSAR Array B**	**81.77**	**338**	P		**P**		**19 17 19.5**	**-1.0**
NOA				pmax		pmax			
comp=Z,1.0nm,0.6s									
NOA	**NORSAR Array B**	**81.77**	**338**	P		**P**		**19 17 19.4**	**-1.0**
comp=Z,1.2nm,0.6s,mb4.0,baz=49,slow=4.8,SNR=5.2									
FCC	**Fort Churchill**	**81.95**	**25**	P		**P**		**19 17 20.7**	**-0.7**
comp=Z,1.3nm,0.8s,mb3.9									
FCC	**Fort Churchill**	**81.95**	**25**	P		**P**		**19 17 20.7**	**-0.7**
FCC				pmax		pmax			
comp=Z,1.0nm,0.8s,mb3.8									
TPNV	**Topopah Spring**	**82.90**	**52**	*e*P		**P**		**19 17 27.5**	**+0.6**
comp=Z,4.7nm,0.7s,mb4.6									
TPNV	**Topopah Spring**	**82.90**	**52**	*e*P		**P**		**19 17 27.5**	**+0.6**
TPNV				pmax		pmax			
comp=Z,5.0nm,0.7s,mb4.7									
DUG	**Dugway**	**83.53**	**48**	*e*P		**P**		**19 17 30.3**	**+0.2**
comp=Z,2.7nm,0.8s,mb4.4									
DUG	**Dugway**	**83.53**	**48**	*e*P		**P**		**19 17 30.3**	**+0.2**
DUG				pmax		pmax			
comp=

ISC 07 19:11:19.9±1.0, 3611N±003×14129E±007, h25km±6km, n28, σ0°91/35, mb3.8/12, 1C-4D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.54**	**221**	⇑P	**Pb**	**19 11 30.5**	**-0.2**
CHOJ				eS	**Sb**	19 11 37.8	-0.2
JHO	**Hitachi**	**0.77**	**311**	⇓P	**Pb**	**19 11 34.6**	**+0.1**
JYT	**Yasato**	**0.89**	**278**	⇓P	**Pb**	**19 11 35.8**	**-0.9**
ONAJ	**Iwakimizuishiy**	**1.06**	**338**	eS	**Sb**	**19 11 53.7**	**+0.6**
JFK	**Kawauchi**	**1.30**	**345**	⇓P	**Pn**	**19 11 42.4**	**0.0**
BSO3	**Boso 3**	**1.45**	**206**	P	**Pn**	**19 11 44.9**	**+0.4**
BSO1	**Boso 1**	**1.48**	**190**	P	**Pn**	**19 11 45.2**	**+0.4**
BSO1				eS	**Sn**	19 12 03.6	+0.3
JAG	**Ashikaga**	**1.52**	**282**	⇓P	**Pn**	**19 11 44.8**	**-0.6**
JAG				eS	**Sn**	19 12 02.5	-1.8
MJAR	**Matsushiro Arr**	**2.52**	**281**	Pn	**Pn**	**19 11 59.0**	**-0.2**
	5.8nm,0.3s,baz=113,slow=7.1,SNR=99						
MJAR				Sn	**Sn**	19 12 32.4	+3.2
	7.3nm,0.3s,baz=89,slow=7.8,SNR=5.2						
MAJO	**Matsushiro**	**2.53**	**281**	ePn	**Pn**	**19 11 59.8**	**+0.5**
MAT	**Matsushiro**	**2.53**	**281**	P	**Pn**	**19 12 00.0**	**+0.8**
MAT				eS	**Sn**	19 12 29.4	+0.2
JHJ	**Hachijo jima 2**	**3.23**	**203**	Pn	**Pn**	**19 12 10.4**	**+1.4**
	15nm,0.3s,baz=237,slow=12,SNR=14						
JHJ				Sn	**Sn**	19 12 45.2	-1.4
	37nm,0.3s,baz=102,slow=22,SNR=8.8						
ASAJ	**Asahikawa**	**8.06**	**7**	Pn	**Pn**	**19 13 14.8**	**-0.5**
	1.0nm,0.3s,baz=231,slow=8.8,SNR=16						
ASAJ				Sn	**Sn**	19 14 45.1	-0.4
	0.3nm,0.3s,baz=73,slow=15,SNR=2.9						
KSRS	**Korea Array**	**10.81**	**281**	Pn	**Pn**	**19 14 00.8**	**+7.9**
	0.1nm,0.3s,baz=95,slow=14,SNR=4.1						
KSRS				LR	LR	19 17 39.6	
	comp=Z,58nm,19.4s,baz=90,slow=35						
YHNB	**Yeheng**	**20.58**	**242**	P	**P**	**19 16 00.4**	**+3.6**
ULN	**Ulaanbaatar**	**27.80**	**306**	P	**P**	**19 17 03.8**	**-3.0**
	0.5nm,0.6s,mb3.3						
SONM	**Songino Array**	**28.23**	**305**	P	**P**	**19 17 10.0**	**-0.5**
	0.4nm,0.5s,mb3.5,baz=110,slow=9.1,SNR=5.3						
ZALV	**Zalesovo Beam**	**42.47**	**313**	P	**P**	**19 19 13.1**	**+0.5**
	0.5nm,0.5s,mb3.5,baz=92,slow=8.9,SNR=4.3						
ZALV				PcP	PcP	19 21 04.1	-1.0
	0.4nm,0.4s,baz=101,slow=3.1,SNR=2.8						
MKAR	**Makanchi Array**	**44.53**	**303**	P	**P**	**19 19 30.0**	**+0.7**
	0.8nm,0.6s,mb3.7,baz=89,slow=10,SNR=14						
KURK	**Kurchatov**	**46.43**	**309**	eP	**P**	**19 19 40.5**	**-3.8**
	7.4nm,1.1s,mb4.5						
KULM	**Kulim**	**48.27**	**240**	P	**P**	**19 19 52.9**	**-6.1**
BRVK	**Borovoye**	**51.18**	**313**	eP	**P**	**19 20 21.4**	**+0.8**
	1.2nm,0.6s,mb4.0						
AML	**Almayashu**	**51.56**	**299**	eP	**P**	**19 20 25.1**	**+1.4**
	1.5nm,0.5s,mb4.2						
WRA	**Warramunga Arr**	**56.13**	**188**	P	**P**	**19 20 56.2**	**-1.0**
	0.4nm,0.5s,mb3.7,baz=7.0,slow=7.6,SNR=9.3						
ARU	**Arti**	**56.99**	**319**	eP	**P**	**19 21 02.8**	**-0.2**
	2.1nm,0.5s,mb4.4						
ASAR	**Alice Springs**	**59.86**	**188**	P	**P**	**19 21 23.4**	**+0.1**
	0.4nm,1.1s,mb3.4,baz=15,slow=7.4,SNR=4.8						
YKA	**Yellowknife Ar**	**64.66**	**30**	P	**P**	**19 21 54.7**	**-0.3**
	0.1nm,0.4s,mb3.2,baz=293,slow=7.2,SNR=3.1						
FINES	**FINESS Array B**	**69.58**	**332**	P	**P**	**19 22 25.8**	**-0.5**
	3.5nm,1.0s,mb4.2,baz=99,slow=6.0,SNR=4.4						

*ISCJB **07** 19:17:19.7±0.9, 2334N±008×1438E±02, h10km, mb3.9/12, Error ellipse: s-maj=31.9km s-min=8.7km az=167.8*
*IDC **07** 19:17:20.4±1.2, 2324N×14370E, h0km, mb3.7/6, mb1 3.7/9, mb1mx3.7/21, mbtmp3.7/9, ML3.4/2, MS3.1/4, Ms1 3.2/4, ms1mx2.8/34, Error ellipse: s-maj=43.0km s-min=18.4km az=80.0*
*NEIC **07** 19:17:21.6±0.7, 2332N×14380E, h10km, mb4.4/6, Error ellipse: s-maj=26.7km s-min=8.7km az=79.0*

ISC 07 19:17:23.1±4.8, 2336N±008×1438E±02, h18km±30km, n20, σ0°96/18, mb3.9/12, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**4.00**	**339**	Pn	**Pn**	**19 18 24.3**	**+0.8**
	4.8nm,0.3s,baz=168,slow=18,SNR=5.5						
CBIJ				Sn	**Sn**	19 19 07.9	-2.1
	4.4nm,0.3s,baz=270,slow=20,SNR=4.7						
GUMO	**Guam**	**9.77**	**174**	LR	LR	19 22 50.2	
	comp=Z,66nm,21.5s,baz=148,slow=34						
MJAR	**Matsushiro Arr**	**14.01**	**341**	Pn	**Pn**	**19 20 40.6**	**0.0**
	0.2nm,0.3s,baz=167,slow=12,SNR=6.0						
MAJO	**Matsushiro**	**14.01**	**341**	Pn	**Pn**	**19 20 39.0**	**-1.5**
JNU	**Nakatsue**	**14.97**	**313**	LR	LR	19 25 45.2	
	comp=Z,35nm,21.4s,baz=233,slow=34						
KSRS	**Korea Array**	**19.59**	**319**	P	**Pn**	**19 21 51.6**	**+0.1**
	baz=132,slow=12,SNR=7.6						
KSRS				LR	LR	19 28 52.5	
	comp=Z,36nm,18.1s,baz=120,slow=35						
SONM	**Songino Array**	**38.46**	**319**	P	**P**	**19 24 43.1**	**-0.7**
	0.5nm,0.8s,mb3.3,baz=128,slow=9.3,SNR=3.7						
WRAB	**Tennant Creek**	**44.01**	**193**	eP	**P**	**19 25 29.1**	**-0.4**
	10.0nm,1.3s,mb4.4						
WRA	**Warramunga Arr**	**44.02**	**193**	P	**P**	**19 25 29.0**	**-0.7**
	0.3nm,0.4s,mb3.4,baz=8.0,slow=7.9,SNR=11						
LSA	**Lhasa**	**47.22**	**290**	eP	**P**	**19 25 56.9**	**+1.8**
	2.1nm,0.6s,mb4.2						
ASAR	**Alice Springs**	**47.72**	**192**	P	**P**	**19 25 57.5**	**-1.3**
	0.2nm,0.7s,mb3.3,baz=14,slow=9.7,SNR=3.9						
ZALV	**Zalesovo Beam**	**53.29**	**321**	P	**P**	**19 26 40.6**	**-0.1**
	1.5nm,0.5s,mb4.2,baz=104,slow=7.5,SNR=7.6						
MK31	**Makanchi Array**	**54.02**	**312**	eP	**P**	**19 26 46.6**	**+0.4**
MK31				e	pP	19 26 52.4	+0.4
MKAR	**Makanchi Array**	**54.02**	**312**	P	**P**	**19 26 47.1**	**+0.9**
	1.0nm,0.7s,mb3.9,baz=92,slow=9.0,SNR=15						
STKA	**Stephens Creek**	**54.96**	**182**	P	**P**	**19 26 52.5**	**-0.5**
	3.5nm,1.1s,mb4.3						
AML	**Almayashu**	**60.27**	**306**	P	**P**	**19 27 31.2**	**+0.8**
	3.3nm,1.0s,mb4.3						
BRVK	**Borovoye**	**61.87**	**319**	P	**P**	**19 27 41.3**	**+0.2**
	1.7nm,0.7s,mb4.3						
KBL	**Kabul**	**65.06**	**299**	P	**P**	**19 28 02.9**	**+0.4**
	2.0nm,0.8s,mb4.2						
KBL				e		19 28 11.5	
YKA	**Yellowknife Ar**	**74.72**	**28**	P	**P**	**19 29 02.8**	**+1.4**
	0.6nm,0.8s,mb3.6,baz=293,slow=5.7,SNR=7.3						
PDAR	**Pinedale Array**	**85.81**	**45**	LR	LR	20 03 18.4	
	comp=Z,67nm,19.0s,baz=73,slow=32						

CASC 07 19:19:22.8±1.8, 836N×8285W, h3km±13km, MD3.9, 1C-1D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DVD	**David**	**0.40**	**79**	eS	Sg	19 19 37.9	+2.2
BAR1		**0.99**	**332**	eP	Pg	19 19 41.0	-0.8
BAR1				eS	Sg	19 19 56.0	+1.3
CNI	**Changuinola**	**1.10**	**17**	eP	Pg	19 19 43.4	-0.5
URSC	**Urasca**	**1.73**	**328**	⇓eP	Pn	19 19 53.1	-0.7
LCR2	**La Lucha 2**	**1.79**	**320**	eP	Pn	19 19 54.3	-0.3
LCR2				eS	Sn	19 20 18.9	+1.0
LAJ	**Bijagual**	**1.96**	**320**	eP	Pn	19 20 01.5	+4.6
PRS1	**Puriscal**	**2.17**	**318**	eP	Pn	19 19 58.7	-1.1
CGA2	**Cerro Gallo 2**	**2.30**	**316**	eP	Pn	19 20 02.3	+0.7
CGA2				eS	Sn	19 20 31.7	+1.3
PTP	**Ponta Puerca**	**19.41**	**58**	⇑iP		19 19 26.3	

MAN 07 19:49:03, 909N×12648E, h1km, mb3.9, ML2.6, MS2.2, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**1.19**	**305**	⇓eP	Pg	19 49 24.9	-1.0
SCPH						19 49 39.1	
BUKP	**Musuan**	**1.85**	**229**	eP	Pn	19 49 36.5	+0.7
BUKP				eS	Sn	19 50 00.5	+0.7
MSLP	**Maasin**	**1.90**	**303**	eP	Pn	19 49 36.6	+0.1
MSLP				eS	Sn	19 50 01.8	+0.6

*ISCJB **07** 19:50:20.5±1.0, 186N±03×69.13W±005, h125km±12km, Error ellipse: s-maj=42.0km s-min=5.0km az=9.2*
*RSPR **07** 19:50:21.4, 1859N×6913W, h121km±1km, MD3.8/13, MD3.8/13*
*NEIC **07** 19:50:21.5, 1863N×6911W, h120km, MD3.8(RSPR), After RSPR.*

ISC 07 19:50:21.2±1.1, 186N±03×6913W±006, h123km±14km, n55, σ0°65/72, 36C-1D, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STDO	**Santo Domingo**	**0.76**	**261**	eP	**Pn**	**19 50 42.1**	**+0.8**
STDO	**Santo Domingo**	**0.76**	**261**	eS	**Sn**	**19 50 56.0**	**-0.5**
STDO	**Santo Domingo**	**0.76**	**261**	eP	**Pn**	**19 50 41.4**	**+0.1**
STDO	**Santo Domingo**	**0.76**	**261**	eS	**Sn**	**19 50 56.0**	**-0.5**
STDO	**Santo Domingo**	**0.76**	**261**	eP	**Pn**	**19 50 41.4**	**+0.1**
STDO				eS	**Sn**	19 50 56.0	-0.5
IMO	**Isla Mona**	**1.25**	**111**	eP	**Pn**	**19 50 46.0**	**-0.1**
IMO	**Isla Mona**	**1.25**	**111**	eS	**Sn**	**19 51 06.2**	**+1.3**
IMO	**Isla Mona**	**1.25**	**111**	eP	**Pn**	**19 50 45.8**	**-0.3**
IMO	**Isla Mona**	**1.25**	**111**	eS	**Sn**	**19 51 05.4**	**+0.5**
IMO	**Isla Mona**	**1.25**	**111**	eP	**Pn**	**19 50 45.8**	**-0.3**
IMO				eS	**Sn**	19 51 05.4	+0.5
AGPR	**Aguadilla, PR**	**1.92**	**93**	eP	**Pn**	**19 50 53.9**	**+0.1**
AGPR	**Aguadilla, PR**	**1.92**	**93**	eS	**Sn**	**19 51 18.9**	**+0.1**
AGPR	**Aguadilla, PR**	**1.92**	**93**	eP	**Pn**	**19 50 53.9**	**+0.1**
AGPR	**Aguadilla, PR**	**1.92**	**93**	eS	**Sn**	**19 51 18.9**	**+0.1**
AGPR	**Aguadilla, PR**	**1.92**	**93**	eP	**Pn**	**19 50 53.9**	**+0.1**
AGPR				eS	**Sn**	19 51 18.9	+0.1
LSP	**Las Mesas**	**1.98**	**101**	eP	**Pn**	**19 50 54.5**	**-0.1**
LSP				eS	**Sn**	19 51 20.0	-0.1
CRPR	**Cabo Rojo, PR**	**2.00**	**106**	eP	**Pn**	**19 50 53.3**	**-1.6**
CRPR	**Cabo Rojo, PR**	**2.00**	**106**	eS	**Sn**	**19 51 20.4**	**-0.2**
CRPR	**Cabo Rojo, PR**	**2.00**	**106**	eP	**Pn**	**19 50 54.8**	**0.0**
CRPR	**Cabo Rojo, PR**	**2.00**	**106**	eS	**Sn**	**19 51 20.4**	**-0.2**
CRPR	**Cabo Rojo, PR**	**2.00**	**106**	eP	**Pn**	**19 50 54.8**	**0.0**
CRPR				eS	**Sn**	19 51 20.4	-0.2
SDDR	**Presa de Saban**	**2.08**	**282**	eP	**Pn**	**19 50 56.1**	**+0.3**
SDDR	**Presa de Saban**	**2.08**	**282**	eS	**Sn**	**19 51 21.8**	**-0.5**
SDDR	**Presa de Saban**	**2.08**	**282**	eP	**Pn**	**19 50 56.1**	**+0.3**
SDDR	**Presa de Saban**	**2.08**	**282**	eS	**Sn**	**19 51 22.2**	**-0.1**
SDDR	**Presa de Saban**	**2.08**	**282**	eP	**Pn**	**19 50 56.1**	**+0.3**
SDDR				eS	**Sn**	19 51 22.2	-0.1
LRS	**Lares**	**2.19**	**97**	eP	**Pn**	**19 50 57.8**	**+0.7**
LRS				eS	**Sn**	19 51 25.8	+1.1
LRS	**Lares**	**2.19**	**97**	eP	**Pn**	**19 50 57.4**	**+0.2**
LRS				eS	**Sn**	19 51 24.4	-0.3
LRS	**Lares**	**2.19**	**97**	eP	**Pn**	**19 50 57.4**	**+0.2**
LRS				eS	**Sn**	19 51 24.4	-0.3
GBPR	**Guanica, Bosqu**	**2.22**	**105**	eS	**Sn**	**19 51 25.9**	**+0.4**
GBPR	**Guanica, Bosqu**	**2.22**	**105**	eS	**Sn**	**19 51 26.2**	**+0.8**
AOPR	**Arecibo Observ**	**2.27**	**95**	eP	**Pn**	**19 50 58.9**	**+0.7**
AOPR	**Arecibo Observ**	**2.27**	**95**	eS	**Sn**	**19 51 25.4**	**-1.1**
AOPR	**Arecibo Observ**	**2.27**	**95**	eP	**Pn**	**19 50 58.4**	**+0.2**
AOPR	**Arecibo Observ**	**2.27**	**95**	eS	**Sn**	**19 51 27.1**	**+0.6**
AOPR	**Arecibo Observ**	**2.27**	**95**	eP	**Pn**	**19 50 58.4**	**+0.2**
AOPR				eS	**Sn**	19 51 27.1	+0.6
OBIP	**Obispado Ponce**	**2.46**	**102**	eS	**Sn**	**19 51 31.1**	**+0.3**
CELP	**Cerrillos**	**2.48**	**101**	eP	**Pn**	**19 51 02.0**	**+1.2**
CELP				eS	**Sn**	19 51 30.4	-0.8
CELP	**Cerrillos**	**2.48**	**101**	eP	**Pn**	**19 51 00.3**	**-0.5**
CELP				eS	**Sn**	19 51 31.7	+0.5
CELP	**Cerrillos**	**2.48**	**101**	eP	**Pn**	**19 51 00.3**	**-0.5**
CELP				eS	**Sn**	19 51 31.7	+0.5
ICM	**Isla Caja Muer**	**2.57**	**105**	⇓eP	**Pn**	**19 51 03.0**	**+1.0**
ICM	**Isla Caja Muer**	**2.57**	**105**	eS	**Sn**	**19 51 32.0**	**-1.4**
ICM	**Isla Caja Muer**	**2.57**	**105**	eP	**Pn**	**19 51 02.0**	**-0.1**
ICM	**Isla Caja Muer**	**2.57**	**105**	eS	**Sn**	**19 51 33.3**	**-0.1**
ICM	**Isla Caja Muer**	**2.57**	**105**	eP	**Pn**	**19 51 02.0**	**-0.1**
ICM				eS	**Sn**	19 51 33.3	-0.1
SJG	**San Juan**	**2.87**	**99**	eP	**Pn**	**19 51 05.8**	**-0.1**
SJG	**San Juan**	**2.87**	**99**	eP	**Pn**	**19 51 05.9**	**0.0**
SJG				eS	**Sn**	19 51 40.5	+0.2
SJG	**San Juan**	**2.87**	**99**	eP	**Pn**	**19 51 06.0**	**+0.1**
SJG	**San Juan**	**2.87**	**99**	eP	**Pn**	**19 51 05.9**	**0.0**
SJG				eS	**Sn**	19 51 40.9	+0.6
SJG	**San Juan**	**2.87**	**99**	eP	**Pn**	**19 51 06.0**	**+0.1**
SJG				eS	**Sn**	19 51 40.4	0.0
HUMP	**Col San Antoni**	**3.15**	**97**	eS	**Sn**	**19 51 44.2**	**-2.6**
HUMP	**Col San Antoni**	**3.15**	**97**	eP	**Pn**	**19 51 08.6**	**-0.9**
HUMP	**Col San Antoni**	**3.15**	**97**	eP	**Pn**	**19 51 09.1**	**-0.4**
HUMP	**Col San Antoni**	**3.15**	**97**	eP	**Pn**	**19 51 09.1**	**-0.4**
TBVI	**Tortola**	**4.29**	**91**	eP	**Pn**	**19 51 25.2**	**+0.6**

*ISK **07** 19:59:15.2, 3696N×2792E, h8km, MD3.4, ML3.3*
*CSEM **07** 19:59:15.1±0.1, 3698N×2793E, h5km, MD3.4, Error ellipse: s-maj=1.8km s-min=1.4km az=31.0*
*ISCJB **07** 19:59:15.5±0.5, 3693N±002×2790E±003, h10km±4km, Error ellipse: s-maj=4.2km s-min=3.8km az=26.1*
*ATH **07** 19:59:16.2, 3686N×2787E, h21km±2km, MD3.4/6*
*NEIC **07** 19:59:16.1, 3692N×2786E, h24km, MD3.4(ATH), After ATH.*
*DDA **07** 19:59:17.2, 3708N×2789E, h7km±4km, Md3.4*

ISC 07 19:59:16.2±0.5, 3695N±002×2788E±003, h9km±4km, n37, σ0°92/50, 2D, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAT	**Datca**	**0.33**	**228**	PG	**Pg**	**19 59 22.2**	**-0.4**
MLSB	**Milas**	**0.36**	**346**	PG	**Pg**	**19 59 22.5**	**-0.7**
MLSB				SG	**Sg**	19 59 28.7	+0.7
BDRM	**Kayabasi**	**0.37**	**289**	iP	**Pg**	**19 59 23.1**	**-0.4**
BDRM				iS	**Sg**	19 59 29.6	+1.2
YER	**Yerkesik**	**0.37**	**59**	PG	**Pg**	**19 59 22.5**	**-1.0**
YER				SG	**Sg**	19 59 28.0	-0.4
BODT	**Bodrum**	**0.47**	**284**	PG	**Pg**	**19 59 25.4**	**0.0**
BODT				SG	**Sg**	19 59 33.2	+1.6
NISR	**Nisiros**	**0.69**	**241**	ePN	**Pn**	**19 59 29.5**	**-2.6**
NISR	**Nisiros**	**0.69**	**241**	ePn	**Pn**	**19 59 30.0**	**-2.1**
ARG	**Arkhangelos**	**0.76**	**165**	ePb	**Pb**	**19 59 29.6**	**-1.8**
ARG				eSn	**Sg**	19 59 41.2	+0.6
FETY	**Fethiye**	**1.01**	**107**	PG	**Pg**	**19 59 34.9**	**-0.7**
SMG	**Samos**	**1.13**	**313**	⇓iPN	**Pn**	**19 59 37.9**	**-0.2**
SMG				eSN	**Sn**	19 59 54.7	+1.0
SMG	**Samos**	**1.13**	**313**	⇓ePn	**Pn**	**19 59 37.9**	**-0.2**
SMG				eSn	**Sn**	19 59 53.3	-0.4
DENT	**Denizli**	**1.22**	**48**	PN	**Pn**	**19 59 37.6**	**-1.8**
GOLH	**Golhisar**	**1.37**	**77**	iP	**Pn**	**19 59 41.7**	**+0.2**
GOLH				iS	**Sb**	20 00 01.4	+1.8
KARP	**Karpathos**	**1.51**	**203**	ePN	**Pn**	**19 59 42.7**	**-0.7**
KARP				eSN	**Sn**	20 00 03.0	-0.2
KDAG	**Bornova**	**1.53**	**342**	iP	**Pn**	**19 59 42.3**	**-1.4**
KDAG				iS	**Sn**	20 00 04.7	+1.0
AKAS	**Kas**	**1.56**	**117**	iP	**Pn**	**19 59 45.4**	**+1.4**
AKAS				iS	**Sn**	20 00 09.0	+4.7
KSL	**Kastellorizon**	**1.58**	**120**	ePN	**Pn**	**19 59 45.0**	**+0.6**
ELL	**Elmali**	**1.64**	**96**	PN	**Pn**	**19 59 44.8**	**-0.3**
KULA	**Kula-Manisa**	**1.68**	**21**	PN	**Pn**	**19 59 45.2**	**-0.5**
URLA	**Izmir**	**1.74**	**325**	iP	**Pn**	**19 59 46.4**	**-0.1**
URLA				iS	**Sn**	20 00 15.5	+6.7
KHL	**Karahalli**	**1.89**	**43**	PN	**Pn**	**19 59 47.9**	**-0.7**
AKHS	**Akhisar**	**1.93**	**358**	iP	**Pn**	**19 59 48.0**	**-1.2**
AKHS				iS	**Sn**	20 00 12.9	-0.6
AKS	**Akhisar**	**1.93**	**358**	PN	**Pn**	**19 59 48.1**	**-1.0**
ANTB	**Antalya**	**2.22**	**90**	ePN	**Pn**	**19 59 53.1**	**0.0**
BCK	**Bucak**	**2.22**	**76**	PN	**Pn**	**19 59 53.8**	**+0.7**
NPS	**Neapolis**	**2.49**	**228**	ePN	**Pn**	**19 59 57.0**	**+0.2**
SHUT	**Suhut-Afyon**	**2.66**	**52**	ePN	**Pn**	**19 59 59.3**	**+0.2**
BALB	**Balikesir**	**2.69**	**360**	ePN	**Pn**	**19 59 59.6**	**0.0**
DST	**Dursunbey**	**2.72**	**12**	ePN	**Pn**	**20 00 00.0**	**0.0**
ALT	**Altintas**	**2.74**	**39**	ePN	**Pn**	**19 59 59.6**	**-0.7**
GADA	**Gvkgeada**	**3.59**	**335**	ePN	**Pn**	**20 00 12.7**	**+0.7**
KONT	**Konya--Tatoy**	**3.70**	**73**	ePN	**Pn**	**20 00 14.7**	**+1.2**
KIZT	**Kizilcal**	**3.70**	**57**	ePN	**Pn**	**20 00 13.4**	**-0.1**
RKY	**Sarkoy-Tekirda**	**3.78**	**352**	ePN	**Pn**	**20 00 15.8**	**+1.3**
LEF	**Lefka**	**4.45**	**113**	ePN	**Pn**	**20 00 24.7**	**+0.9**
IKL	**Isikli**	**4.72**	**97**	ePN	**Pn**	**20 00 28.5**	**+1.0**
LFK	**Lefkose**	**4.87**	**108**	ePN	**Pn**	**20 00 30.6**	**+1.1**

CASC 07 20:19:36.5±4.8, 1157N×8262W, h36km±76km, MD4.3, ML4.3, 3C-2D, North of Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URSC	**Urasca**	**2.07**	**214**	eP	Pn	20 20 08.4	-0.4
CNI	**Changuinola**	**2.14**	**177**	eP	Pn	20 20 11.4	+1.6
SJS	**Escuela Geolog**	**2.15**	**221**	eP	Pn	20 20 10.3	+0.4
LAJ	**Bijagual**	**2.25**	**221**	eP	Pn	20 20 17.1	+5.8
LAJ				eS	Sn	20 20 50.8	+13
LCR2	**La Lucha 2**	**2.27**	**217**	⇓iP	Pn	20 20 11.7	+0.2
PRS1	**Puriscal**	**2.29**	**227**	eP	Pn	20 20 12.5	+0.6
BUS	**Buena Vista**	**2.30**	**209**	eP	Pn	20 20 11.6	-0.3
CGA2	**Cerro Gallo 2**	**2.39**	**230**	eP	Pn	20 20 12.6	-0.6
BAR1		**2.41**	**197**	eP	Pn	20 20 14.2	+0.7
MADN	**Villa Maderas**	**2.87**	**267**	eP	Pn	20 20 20.4	+0.7
MADN				eS	Sn	20 20 53.5	+0.5
CONN	**Concepcion**	**2.95**	**270**	eP	Pn	20 20 20.3	-0.6
CONN				eS	Sn	20 20 56.3	+1.2
JCR	**Jicaral**	**2.99**	**235**	eP	Pn	20 20 20.5	-0.9
SSN	**San Juan del S**	**3.19**	**265**	eP	Pn	20 20 23.5	-0.6
SSN				eS	Sn	20 21 01.4	+0.5
VCR	**Vista de Mar**	**3.29**	**244**	eP	Pn	20 20 25.0	-0.6
APON	**Apoyo**	**3.40**	**276**	eP	Pn	20 20 29.7	+2.7
HUEN		**3.56**	**283**	eP	Pn	20 20 30.9	+1.5
HUEN				eS	Sn	20 21 09.2	-1.0
HUEN				eS	Sn	20 21 10.5	+0.3
TICN	**Ticuantepe**	**3.57**	**278**	eS	Sn	20 21 13.2	+2.8
MGAN	**Managua**	**3.60**	**279**	eP	Pn	20 20 30.3	+0.4
MGAN				i		20 21 15.8	
	comp=N,1μm,0.3s						
TISN	**Laguna Tiscapa**	**3.62**	**279**	⇑eP	Pn	20 20 33.1	+2.9
TISN				eS	Sn	20 21 13.8	+2.1
CRUN	**El Crucero**	**3.63**	**277**	⇓iP	Pn	20 20 36.6	+6.4
CRUN				eS	Sn	20 21 18.4	+6.4
XAVN	**Gruta Xavier**	**3.68**	**279**	⇑eP	Pn	20 20 33.7	+2.8
XAVN				eS	Sn	20 21 14.5	+1.5
CSAN		**3.78**	**280**	eP	Pn	20 20 35.3	+3.1
CSAN				eS	Sn	20 21 16.8	+1.3
COPN	**Copaltepe**	**3.94**	**279**	eP	Pn	20 20 35.1	+0.7
COPN				eS	Sn	20 21 20.9	+1.4
CNGN	**Cerro Negro**	**4.10**	**283**	eS	Sn	20 21 25.1	+1.6
LEON	**Leon**	**4.27**	**282**	eS	Sn	20 21 29.8	+2.1
LAPE	**La Pedrera**	**11.59**	**109**	eP		20 20 17.3	
LAPE				eS		20 20 53.7	

*IDC **07** 20:30:03.5±0.9, 1.10N×12601E, h0km, mb3.8/6, mb1 4.0/7, mb1mx3.8/16, mbtmp3.8/7, ML3.6/1, Error ellipse: s-maj=78.7km s-min=15.9km az=74.0*
*NEIC **07** 20:30:04.8±0.5, 129N×12654E, h10km, mb4.2/9, Error ellipse: s-maj=18.8km s-min=7.4km az=68.0*
*ISCJB **07** 20:30:14.7±4.6, 1.1N±01×1263E±02, h114km±46km, mb3.9/13, Error ellipse: s-maj=33.6km s-min=11.2km az=151.5*

ISC 07 20:30:11.8±4.4, 11N±01×1264E±02, h68km±44km, n22, σ0°71/22, mb3.9/13, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSM	**Kuching**	**16.07**	**271**	P	**Pn**	**20 33 54.3**	**+0.6**
FITZ	**Fitzroy Crossi**	**19.12**	**182**	eP	**Pn**	**20 34 29.8**	**-1.1**
	5.6nm,0.9s						
FITZ	**Fitzroy Crossi**	**19.12**	**182**	P	**Pn**	**20 34 27.5**	**-3.4**
	0.2nm,0.3s,baz=11,slow=9.3,SNR=4.4						
WRAB	**Tennant Creek**	**22.34**	**160**	eP	**P**	**20 35 04.0**	**-0.1**
	23nm,1.1s,mb4.4						
WRA	**Warramunga Arr**	**22.34**	**160**	P	**P**	**20 35 03.8**	**-0.3**
	3.5nm,0.5s,mb3.9,baz=339,slow=11,SNR=52						
WB2	**Warramunga Arr**	**22.35**	**160**	eP	**P**	**20 35 04.3**	**+0.1**
MBWA	**Marble Bar**	**23.08**	**196**	P	**P**	**20 35 07.0**	**-4.9**
	2.2nm,0.7s,mb3.6						
YHNB	**Yeheng**	**23.90**	**349**	P	**P**	**20 35 19.3**	**-0.1**
ASAR	**Alice Springs**	**25.70**	**164**	P	**P**	**20 35 37.0**	**+1.2**
	1.5nm,0.5s,mb3.7,baz=352,slow=15,SNR=27						
STKA	**Stephens Creek**	**35.85**	**158**	eP	**P**	**20 37 06.1**	**+1.0**
	1.9nm,0.6s,mb4.2						
STKA	**Stephens Creek**	**35.85**	**158**	P	**P**	**20 37 02.0**	**-3.0**
	2.8nm,0.6s,mb4.4						
STKA	**Stephens Creek**	**35.85**	**158**	P	**

STKA LR LR 20 47 44.3
comp=Z,88nm,18.4s,MS3.4,baz=24,slow=35
FITZ Fitzroy Crossi 31.31 247 P **P 20 37 47.0 +0.5**
5.6nm,0.6s,mb4.6,baz=90,slow=9.5,SNR=19
FORT Forrest 35.07 224 *eP* **P 20 38 19.1 -0.2**
11nm,0.6s,mb5.0
TAU Tasmania Unive 36.51 190 P **P 20 38 32.3 +1.0**
16nm,1.0s,mb4.8
MBWA Marble Bar 37.52 244 *eP* **P 20 38 39.9 -0.3**
5.5nm,0.8s,mb4.3
MBWA *e* 20 38 46.7
RPZ Rata Peaks 38.95 162 P **P 20 38 51.5 -0.5**
11nm,0.8s,mb4.7,baz=41,slow=9.3,SNR=5.1
KSM Kuching 46.09 279 *eP* **P 20 39 50.4 0.0**
MJAR Matsushiro Arr 46.34 340 pP pP 20 40 03.5 -3.7
0.7nm,0.6s,baz=160,slow=8.2,SNR=3.1
KSRS Korea Array 51.29 332 pP pP 20 40 42.0 -3.4
0.6nm,0.6s,baz=148,slow=7.8,SNR=3.5
ULN Ulaanbaatar 69.41 327 *eP* **P 20 42 33.8 +0.4**
2.1nm,0.9s,mb4.1
SONM Songino Array 69.74 327 P **P 20 42 35.8 +0.3**
2.2nm,0.9s,mb4.1,baz=137,slow=6.7,SNR=17
SONM pP pP 20 42 48.8 -2.9
0.5nm,0.5s,baz=136,slow=4.5,SNR=4.2
QSPA South Pole Qui 82.96 180 *eP* **P 20 43 49.4 -0.4**
4.2nm,0.6s,mb4.7
MK31 Makanchi Array 83.89 319 *eP* **P 20 43 55.4 +0.2**
MK31 *e* pP 20 44 08.4 -3.5
MKAR Makanchi Array 83.89 319 P **P 20 43 54.7 -0.5**
1.0nm,0.7s,mb4.1,baz=104,slow=6.6,SNR=12
MKAR pP pP 20 44 09.6 -2.3
1.4nm,0.7s,baz=101,slow=5.8,SNR=5.5
ZALV Zalesovo Beam 84.60 326 P **P 20 43 57.9 -0.8**
0.8nm,0.4s,mb4.2,baz=126,slow=6.5,SNR=5.3
GERES GERESS Array B 127.44 329 PKP PKPdf 20 50 29.9 -0.1
0.6nm,0.6s,baz=84,slow=1.4,SNR=8.5
GERES pPKP pPKPdf 20 50 44.4 -3.1
0.6nm,0.8s,baz=49,slow=2.5,SNR=3.8
TORD Torodi Ar. Bea 153.72 285 PKPbc PKPbc 20 51 23.9 -1.2
TORD PKPab PKPab 20 51 37.5 -0.6
TORD pPKPab pPKPab 20 51 51.2 -3.9
TORD Torodi Ar. Bea 153.72 285 PKPbc PKPbc 20 51 23.9 -1.2
0.3nm,0.4s,baz=27,slow=2.0,SNR=10
TORD PKPab PKPab 20 51 37.5 -0.6
0.9nm,0.5s,baz=61,slow=3.4,SNR=9.0
TORD pPKPab pPKPab 20 51 51.2 -3.9
0.7nm,0.5s,baz=60,slow=4.2,SNR=4.8
DBIC Dimbokro 160.71 270 PKPab PKPab 20 52 08.1 -0.3
5.4nm,1.1s,baz=59,slow=3.2,SNR=4.8

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*ISCJB **07** 20:41:30.2±0.6, 4194N±003×23.14E±005, h14km±10km, Error ellipse: s-maj=6.3km s-min=4.1km az=30.7*
*CSEM **07** 20:41:30.6±0.1, 4199N×2310E, h15km, ML2.6, Error ellipse: s-maj=3.0km s-min=1.9km az=106.0*
*SOF **07** 20:41:30.7, 4196N×2321E, h9km, MD2.5*
*SKO **07** 20:41:30.7, 4193N×2318E, h15km, M1.7, ML1.6*
*THE **07** 20:41:31.2, 4196N×2311E, h2km, ML2.6*

ISC 07 20:41:31.0±0.6, 4195N±003×2313E±005, h13km±10km, n17, σ0°79/27, Greece-Bulgaria border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKB	**Krupnik**	**0.09**	**201**	*i* Pg	**Pg**	**20 41 33.9**	**0.0**
MMB	**Musomiste**	**0.58**	**129**	*i* Pg	**Pg**	**20 41 42.4**	**+0.1**
VTS	**Vitosha**	**0.64**	**5**	*e*Pg	**Pg**	**20 41 43.8**	**+0.3**
VTS				*e*Sg	**Sg**	**20 41 51.9**	**-0.1**
VTS	**Vitosha**	**0.64**	**5**	*i* Pg	**Pg**	**20 41 43.7**	**+0.2**
VTS				*e*Sg	**Sg**	**20 41 51.9**	**-0.1**
STIP	**Stip**	**0.75**	**250**	*e*Pg	**Pg**	**20 41 46.2**	**+0.7**
STIP				*e*Sg	**Sg**	**20 41 55.6**	**+0.3**
STIP				*e*Lg		20 41 56.3	
	comp=E,11nm,0.2s						
STIP				*e*Lg		20 41 56.4	
	comp=N,11nm,0.3s						
STIP	**Stip**	**0.75**	**250**	*e*Pg	**Pg**	**20 41 44.9**	**-0.6**
STIP				*e*Sg	**Sg**	**20 41 56.1**	**+0.8**
VAY	**Valandovo**	**0.76**	**214**	*e*Pg	**Pg**	**20 41 45.9**	**+0.3**
VAY				*e*Sg	**Sg**	**20 41 55.5**	**-0.1**
VAY				*e*Lg		20 41 59.8	
	comp=E,25nm,0.2s						
VAY				*e*Lg		20 41 59.8	
	comp=N,39nm,0.3s						
VAY	**Valandovo**	**0.76**	**214**	*e*Pg	**Pg**	**20 41 45.6**	**0.0**
VAY				*e*Sg	**Sg**	**20 41 55.9**	**+0.3**
KNT	**Kendrikon**	**0.81**	**192**	*e*Pg	**Pg**	**20 41 46.5**	**-0.2**
PGB	**Panagyurishte**	**0.98**	**52**	*i* Pg	**Pg**	**20 41 48.7**	**-1.1**
SOH	**Sokhos**	**1.14**	**171**	*e*Pg	**Pg**	**20 41 52.2**	**-0.8**
PLD	**Plovdiv**	**1.18**	**82**	*e*Pg	**Pg**	**20 41 54.4**	**+0.6**
PLD				*e*Sg	**Sg**	**20 42 10.6**	**+1.4**
RZN	**Rozhen**	**1.22**	**102**	*i* Pg	**Pg**	**20 41 54.0**	**-0.4**
THE	**Thessaloniki**	**1.32**	**185**	*e*Pg	**Pg**	**20 41 56.0**	**-0.5**
THE				*e*Sg	**Sg**	**20 42 14.5**	**+0.8**
HORT	**Hortiatis**	**1.35**	**181**	*e*Pg	**Pg**	**20 41 56.8**	**-0.2**
HORT				*e*Sg	**Sg**	**20 42 16.2**	**+1.6**
PLG	**Polygyros**	**1.60**	**171**	*e*Pg	**Pg**	**20 41 59.7**	**-1.9**
PLG				*e*Sg	**Sg**	**20 42 21.4**	**-1.0**
PAIG	**Paliouri**	**2.07**	**168**	*e*Pn	**Pn**	**20 42 05.8**	**+0.5**

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*MAN **07** 21:00:29, 445N×12555E, h137km, mb4.6, ML3.5, MS3.4*
*ISCJB **07** 21:00:31.9±0.5, 472N±006×12557E±009, h173km±7km, mb4.0/8, Error ellipse: s-maj=15.5km s-min=9.1km az=168.2*
*IDC **07** 21:00:32.9±14.0, 475N×12556E, h166km±141km, mb3.6/5, mb1 3.8/6, mb1mx3.4/19, mbtmp3.7/6, ML4.9/1, Error ellipse: s-maj=104.1km s-min=21.1km az=59.0*
*NEIC **07** 21:00:33.6±0.8, 474N×12559E, h176km±10km, mb4.2/6, Error ellipse: s-maj=14.2km s-min=7.1km az=68.0*

ISC 07 21:00:33.2±0.5, 476N±005×12557E±009, h169km±6km, n25, σ0°88/30, mb4.0/8, 1C-1D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSPH	**General Santos**	**1.46**	**335**	‖*e*P	**Pn**	**21 01 02.8**	**-1.1**
GSPH				*i* S	**Sn**	**21 01 25.9**	**-1.6**
MATI	**Mati**	**2.27**	**17**	*e*P	**Pn**	**21 01 12.4**	**-0.4**
MATI				*e*S	**Sn**	**21 01 43.6**	**+0.2**
DAV	**Davao City (W)**	**2.29**	**0**	*e*Pn	**Pn**	**21 01 13.8**	**+0.8**
DAV				*e*Sn	**Sn**	**21 01 43.4**	**-0.4**
BUKP	**Musuan**	**3.14**	**351**	*e*P	**Pn**	**21 01 23.2**	**+0.1**
BUKP				*e*S	**Sn**	**21 02 04.6**	**+2.7**
PAGZ	**Pagadian**	**3.76**	**325**	*e*P	**Pn**	**21 01 30.1**	**-0.9**
SCPH	**Surigao**	**4.99**	**359**	↑*e*P	**Pn**	**21 01 48.1**	**+1.2**
MSLP	**Maasin**	**5.38**	**353**	*e*P	**Pn**	**21 01 52.1**	**+0.1**
BATI	**Kupang**	**14.99**	**187**	P	**Pn**	**21 03 57.0**	**+0.2**
BATI				S	**Sn**	**21 06 46.0**	**+2.0**
	5.3nm,0.3s,baz=340,slow=0.6,SNR=17						
KSM	**Kuching**	**15.58**	**258**	*e*Pn	**Pn**	**21 04 05.1**	**+1.0**
KSM				*e*		21 04 14.8	
KAKA	**Kakadu**	**18.65**	**159**	*e*P	**P**	**21 04 38.8**	**+0.4**
	7.3nm,0.6s						
YHNB	**Yeheng**	**20.20**	**349**	*e*P	**P**	**21 04 54.9**	**-0.1**
FITZ	**Fitzroy Crossi**	**22.72**	**180**	*e*P	**P**	**21 05 20.5**	**-0.3**
	7.9nm,0.3s,mb4.6						
FITZ	**Fitzroy Crossi**	**22.72**	**180**	P	**P**	**21 05 20.5**	**-0.3**
	5.4nm,0.4s,mb4.3,baz=8.2,slow=11,SNR=42						
KULM	**Kulim**	**24.83**	**272**	*e*P	**P**	**21 05 39.6**	**-0.6**
WRAB	**Tennant Creek**	**26.01**	**161**	*e*P	**P**	**21 05 50.1**	**-0.6**
	4.9nm,0.9s,mb4.1						
WRA	**Warramunga Arr**	**26.02**	**161**	P	**P**	**21 05 50.1**	**-0.7**
	1.3nm,0.4s,mb3.9,baz=339,slow=10,SNR=25						
WB2	**Warramunga Arr**	**26.02**	**161**	*e*P	**P**	**21 05 50.0**	**-0.8**
WB2	**Warramunga Arr**	**26.02**	**161**	*e*P	**P**	**21 05 49.6**	**-1.2**
MBWA	**Marble Bar**	**26.39**	**192**	*e*P	**P**	**21 05 52.8**	**-1.2**
	7.1nm,0.9s,mb4.3						
ASAR	**Alice Springs**	**29.40**	**164**	P	**P**	**21 06 20.5**	**-0.3**
	0.4nm,0.3s,mb3.6,baz=343,slow=7.3,SNR=16						
STKA	**Stephens Creek**	**39.50**	**158**	*e*P	**P**	**21 07 48.0**	**+0.6**
	1.3nm,0.4s,mb3.9						
STKA	**Stephens Creek**	**39.50**	**158**	P	**P**	**21 07 48.1**	**+0.7**
	1.5nm,0.4s,mb4.0,baz=347,slow=11,SNR=14						
TLY	**Talaya**	**50.20**	**342**	*e*P	**P**	**21 09 12.3**	**+0.7**
	1.7nm,0.4s,mb4.0						
MK31	**Makanchi Array**	**56.05**	**325**	*e*P	**P**	**21 09 54.4**	**-0.1**
MKAR	**Makanchi Array**	**56.05**	**325**	P	**P**	**21 09 54.6**	**+0.1**
	0.5nm,0.5s,mb3.6,baz=118,slow=8.1,SNR=8.1						

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*IDC **07** 21:12:53.2±1.2, 7.14S×155.14E, h0km, mb4.1/8, mb1 4.2/8, mb1mx4.1/14, mbtmp4.0/8, MS3.5/5, Ms1 3.5/5, ms1mx3.2/29, Error ellipse: s-maj=43.1km s-min=21.0km az=107.0*
*NEIC **07** 21:12:58.4±2.4, 7.25S×155.16E, h38km±24km, mb4.4/9, Error ellipse: s-maj=18.5km s-min=12.8km az=137.0*
*ISCJB **07** 21:13:04.0±2.7, 73S±01×155.14E±009, h103km±28km, mb4.0/15, Error ellipse: s-maj=21.0km s-min=12.7km az=148.1*

ISC 07 21:13:05.9±2.4, 73S±01×1552E±01, h108km±26km, n32, σ0°99/29, mb4.0/15, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.18**	**114**	*e*Pn	**Pn**	**21 14 14.1**	**-7.2**
	160nm,0.9s						
HNR				Sn	**Sn**	**21 15 21.3**	**+1.4**
HNR				LR	LR	21 15 56.0	
HNR	**Honiara**	**5.18**	**114**	Pn	**Pn**	**21 14 18.9**	**-2.4**
	4.4nm,0.3s,baz=260,slow=7.7,SNR=3.9						
HNR				Sn	**Sn**	**21 15 21.3**	**+1.4**
	7.8nm,0.3s,baz=279,slow=12,SNR=4.3						
HNR				LR	LR	21 15 56.0	
	comp=Z,293nm,21.1s,baz=2.1,slow=35						
CTA	**Charters Tower**	**15.37**	**213**	*e*P	**Pn**	**21 16 39.3**	**+2.3**
	12nm,0.9s						
CTA	**Charters Tower**	**15.37**	**213**	Pn	**Pn**	**21 16 38.3**	**+1.3**
	0.2nm,0.3s,baz=52,slow=8.8,SNR=6.6						
CTA				LR	LR	21 21 41.1	
	comp=Z,153nm,19.8s,baz=45,slow=34						
CTAO	**Charters Tower**	**15.37**	**213**	*e*Pn	**Pn**	**21 16 38.9**	**+1.9**
ARMA	**Armidale**	**23.23**	**188**	*e*P	**P**	**21 18 03.1**	**-0.5**
WRAB	**Tennant Creek**	**23.77**	**236**	*e*P	**P**	**21 18 08.7**	**+0.1**
	22nm,1.3s,mb4.3						
WB2	**Warramunga Arr**	**23.77**	**236**	*e*P	**P**	**21 18 09.1**	**+0.4**
WB2	**Warramunga Arr**	**23.77**	**236**	*e*P	**P**	**21 18 06.9**	**-1.8**
WRA	**Warramunga Arr**	**23.78**	**236**	P	**P**	**21 18 09.0**	**+0.2**
	6.7nm,0.8s,mb4.0,baz=58,slow=9.2,SNR=18						
ASAR	**Alice Springs**	**26.10**	**229**	P	**P**	**21 18 29.3**	**-0.4**
	2.1nm,1.0s,mb3.5,baz=62,slow=9.6,SNR=8.3						
STKA	**Stephens Creek**	**27.53**	**206**	*e*P	**P**	**21 18 41.7**	**-0.8**
	5.9nm,0.9s,mb4.1						
STKA	**Stephens Creek**	**27.53**	**206**	*e*P	**P**	**21 18 41.2**	**-1.3**
	11nm,0.9s,mb4.4						
STKA	**Stephens Creek**	**27.53**	**206**	P	**P**	**21 18 42.2**	**-0.3**
	7.7nm,0.9s,mb4.2,baz=20,slow=13,SNR=13						
STKA				LR	LR	21 29 13.6	
	comp=Z,184nm,19.9s,baz=215,slow=35						
FITZ	**Fitzroy Crossi**	**30.68**	**247**	*e*P	**P**	**21 19 11.5**	**+0.9**
	4.2nm,0.8s,mb4.2						
MBWA	**Marble Bar**	**36.89**	**244**	P	**P**	**21 20 02.2**	**-2.1**
	5.6nm,1.0s,mb4.5						
JOW	**Kunigami**	**42.79**	**323**	LR	LR	21 34 31.0	
	comp=Z,54nm,20.0s,baz=57,slow=30						
KSRS	**Korea Array**	**51.29**	**332**	P	**P**	**21 21 57.9**	**-1.1**
	0.3nm,0.3s,mb3.8,baz=149,slow=7.4,SNR=4.1						
ASAJ	**Asahikawa**	**52.43**	**349**	LR	LR	21 41 12.3	
	comp=Z,68nm,18.9s,baz=180,slow=32						
CM31	**Chiang Mai Arr**	**61.07**	**296**	P	**P**	**21 23 09.4**	**+0.6**
	4.1nm,0.8s,mb4.5						
ULN	**Ulaanbaatar**	**69.35**	**328**	*e*P	**P**	**21 24 01.4**	**-0.4**
	2.4nm,1.0s,mb4.0						
SONM	**Songino Array**	**69.68**	**327**	P	**P**	**21 24 04.3**	**+0.4**
	1.2nm,0.7s,mb3.8,baz=139,slow=6.4,SNR=12						
LSA	**Lhasa**	**71.58**	**304**	*e*P	**P**	**21 24 17.1**	**+1.3**
	2.0nm,0.7s,mb4.1						
QSPA	**South Pole Qui**	**82.67**	**180**	*e*P	**P**	**21 25 17.5**	**+0.6**
	8.0nm,1.3s,mb4.4						
MK31	**Makanchi Array**	**83.74**	**319**	*e*P	**P**	**21 25 22.8**	**-0.2**
MKAR	**Makanchi Array**	**83.74**	**319**	P	**P**	**21 25 22.9**	**-0.1**
MKAR	**Makanchi Array**	**83.74**	**319**	P	**P**	**21 25 22.9**	**-0.1**
	0.9nm,0.7s,mb3.7,baz=105,slow=5.4,SNR=4.9						
ZALV	**Zalesovo Beam**	**84.53**	**326**	P	**P**	**21 25 27.9**	**+1.1**
	0.9nm,0.6s,mb3.9,baz=100,slow=5.6,SNR=4.3						
YKA	**Yellowknife Ar**	**96.53**	**28**	P	**P**	**21 26 22.6**	**-0.4**
	0.3nm,0.7s,mb3.8,baz=265,slow=4.5,SNR=4.4						
NOA	**NORSAR Array B**	**120.04**	**341**	PKP	PKPdf	21 31 43.0	-0.6
	1.1nm,0.9s,baz=26,slow=1.9,SNR=3.3						
BDFB	**Brasilia**	**147.65**	**135**	PKPbc	PKPbc	21 32 42.3	+3.5
	3.4nm,0.9s,baz=48,slow=2.4,SNR=3.7						
TORD	**Torodi Ar. Bea**	**153.27**	**285**	PKPbc	PKPbc	21 32 55.5	+3.2
	0.5nm,0.8s,baz=80,slow=1.6,SNR=4.2						

IDC 07 21:29:46.7±4.7, 729S×15552E, h0km, mb3.4/3, mb1 3.5/3, mb1mx3.3/14, mbtmp3.4/3, Error ellipse: s-maj=131.8km s-min=39.9km az=118.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.08**	**236**	P	P	21 35 03.7	-0.4
	0.5nm,0.7s,baz=61,slow=9.2,SNR=5.5						
SONM	**Songino Array**	**69.86**	**327**	P	P	21 40 59.8	+0.5
	0.3nm,0.5s,baz=136,slow=6.4,SNR=4.8						
MKAR	**Makanchi Array**	**83.96**	**319**	P	P	21 42 19.1	+0.2
	0.2nm,0.4s,baz=106,slow=6.5,SNR=4.1						

IDC 07 21:41:40.4±32.0, 3215N×8519E, h0km, mb3.2/2, mb1 3.3/3, mb1mx3.1/22, mbtmp3.3/3, ML2.9/1, Error ellipse: s-maj=459.6km s-min=70.7km az=25.0, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**14.79**	**352**	Pn	Pn	21 45 09.9	-0.7
	0.1nm,0.3s,baz=174,slow=12,SNR=7.1						
ZALV	**Zalesovo Beam**	**21.79**	**359**	P	P	21 46 33.6	-0.1
	0.9nm,0.6s,baz=177,slow=12,SNR=6.9						
SONM	**Songino Array**	**22.46**	**40**	P	P	21 46 41.1	+0.2
	0.7nm,0.9s,baz=238,slow=12,SNR=6.3						

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*IDC **07** 21:50:11.3±2.5, 3556N×7129E, h0km, mb3.8/6, mb1 3.9/8, mb1mx3.6/24, mbtmp3.9/8, ML3.6/2, Error ellipse: s-maj=54.2km s-min=28.1km az=143.0*
*ISCJB **07** 21:50:26.5±0.5, 3618N±003×7121E±005, h113km±8km, mb3.9/8, Error ellipse: s-maj=7.6km s-min=5.0km az=156.4*
*NEIC **07** 21:50:28.0±0.9, 3624N×7113E, h106km±9km, mb4.1/7, Error ellipse: s-maj=14.8km s-min=9.7km az=130.0*

ISC 07 21:50:27.7±0.4, 3617N±003×7121E±005, h112km±7km, n43, σ1°16/55, mb3.9/8, 1C, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**2.40**	**228**	*e*Pn	**Pn**	**21 51 06.4**	**+0.5**
KBL				*e*Sn	**Sn**	**21 51 34.7**	**-0.5**
JMU	**Jammu**	**4.60**	**137**	*e*S	**Sn**	**21 52 26.5**	**-1.0**
THN	**Thein Dam**	**5.27**	**134**	*e*P	**Pn**	**21 51 45.5**	**+1.3**
THN				*e*S	**Sn**	**21 52 44.9**	**+1.1**
DLH	**Dalhousie**	**5.34**	**131**	*e*S	**Sn**	**21 52 48.0**	**+2.5**
AML	**Almayashu**	**6.26**	**17**	*e*Pn	**Pn**	**21 51 57.3**	**-0.2**
	32nm,0.4s						
AML				*e*Sn	**Sn**	**21 53 04.1**	**-3.6**
AML	**Almayashu**	**6.26**	**17**	P	**Pn**	**21 51 57.8**	**+0.2**
	SNR=46						
UCH	**Uchtor**	**6.58**	**22**	*e*Pn	**Pn**	**21 52 02.0**	**+0.3**
	5.7nm,0.4s						
UCH				*e*Sn	**Sn**	**21 53 08.8**	**-6.4**
UCH	**Uchtor**	**6.58**	**22**	P	**Pn**	**21 52 02.3**	**+0.5**
	SNR=16						
SDNR	**Sundarnagar**	**6.68**	**132**	*e*P	**Pn**	**21 52 03.5**	**+0.2**
SDNR				*e*S	**Sn**	**21 53 15.5**	**-2.4**
KZA	**Kyzart**	**6.69**	**27**	P	**Pn**	**21 52 03.5**	**+0.2**
	SNR=14						
EKS2	**Erkin-Say**	**6.79**	**16**	*e*Pn	**Pn**	**21 52 04.9**	**+0.2**
	6.9nm,0.5s						
EKS2				*e*Sn	**Sn**	**21 53 14.5**	**-5.9**
EKS2	**Erkin-Say**	**6.79**	**16**	P	**Pn**	**21 52 05.5**	**+0.9**
	SNR=15						
AAK	**Ala-Archa**	**6.94**	**21**	P	**Pn**	**21 52 07.3**	**+0.6**
	SNR=14						
KK31	**Karatay Array**	**6.95**	**356**	P	**Pn**	**21 52 05.8**	**-1.1**
	2.7nm,0.2s,baz=176,slow=13,SNR=120						
KK31				↑S	**Sn**	**21 53 18.0**	**-6.3**
	7.6nm,0.3s,baz=143,slow=19,SNR=9.4						
KBK	**Karagaybulak**	**7.10**	**23**	P	**Pn**	**21 52 09.7**	**+0.8**
	SNR=9.6						
CHMS	**Chumysh**	**7.35**	**21**	P	**Pn**	**21 52 12.7**	**+0.4**
	SNR=6.3						
USP	**Ospenovka**	**7.53**	**19**	P	**Pn**	**21 52 14.5**	**-0.2**
	SNR=11						
TKM2	**Tokmak 2**	**7.55**	**25**	*e*Pn	**Pn**	**21 52 14.6**	**-0.4**
	9.4nm,0.6s						
TKM2	**Tokmak 2**	**7.55**	**25**	P	**Pn**	**21 52 15.4**	**+0.5**
	SNR=11						
JOSI	**Joshimath**	**8.95**	**126**	*e*P	**Pn**	**21 52 35.1**	**+1.1**
JOSI				*e*S	**Sn**	**21 54 09.4**	**-3.6**
JOSI				AML	AML	21 54 16.6	
	comp=E,105nm,0.6s						
JOSI				AML	AML	21 54 17.1	
	comp=N,110nm,0.9s						
KUDL	**Kundal**	**9.16**	**149**	*e*P	**Pn**	**21 52 36.3**	**-0.7**
KUDL				*e*S	**Sn**	**21 54 11.3**	**-6.9**
KUDL				AML	AML	21 54 16.2	
	comp=N,8.6nm,0.1s						
KUDL				AML	AML	21 54 17.0	
	comp=E,11nm,0.3s						
SONA	**Sohna**	**9.33**	**146**	*e*P	**Pn**	**21 52 41.5**	**+2.2**
SONA				*e*S	**Sn**	**21 54 16.1**	**-6.2**
SONA				AML	AML	21 54 18.7	
	comp=E,31nm,0.3s						
SONA				AML	AML	21 54 19.8	
	comp=N,14nm,0.3s						
MK31	**Makanchi Array**	**13.47**	**35**	*e*Pn	**Pn**	**21 53 32.3**	**-1.8**
MKAR	**Makanchi Array**	**13.47**	**35**	Pn	**Pn**	**21 53 32.8**	**-1.3**
	comp=N,0.1nm,0.3s,baz=224,slow=13,SNR=5.7						
GKN	**Gorkha**	**13.98**	**122**	*e*P	**Pn**	**21 53 38.4**	**-2.5**
	comp=N,8.1nm,0.5s						
GKN				*e*S	**Sn**	**21 56 04.3**	**-11**
	comp=N,41nm,0.5s						
JIRN	**Jiri**	**15.28**	**119**	*e*P	**Pn**	**21 53 56.3**	**-1.0**
JIRN				*e*S	**S**	**21 56 35.6**	**-19**
	comp=N,6.2nm,0.2s						
AB31	**Akbulak array**	**15.46**	**331**	P	**Pn**	**21 53 57.5**	**-1.9**
	comp=N,0.9nm,0.5s,baz=135,slow=13,SNR=24						
AB31				S	S	21 56 35.2	-23
	comp=N,2.0nm,0.5s,baz=151,slow=23,SNR=11						
KURK	**Kurchatov**	**15.50**	**18**	*e*Pn	**Pn**	**21 54 01.2**	**+1.4**
	comp=N,1.2nm,0.7s						
AKTK	**Aktyubinsk**	**17.15**	**330**	P	**Pn**	**21 54 20.1**	**-0.1**
AKTO	**Aktyubinsk**	**17.15**	**330**	P	**Pn**	**21 54 20.1**	**-0.1**
	comp=N,0.9nm,0.3s,baz=148,slow=7.0,SNR=21						
LSA	**Lhasa**	**17.93**	**105**	*e*P	**Pn**	**21 54 32.4**	**+2.6**
	comp=N,1.8nm,0.5s						
ZALV	**Zalesovo Beam**	**20.15**	**24**	P	**P**	**21 54 53.1**	**+0.3**
	comp=N,1.2nm,0.3s,baz=212,slow=9.5,SNR=8.1						
ARU	**Arti**	**22.00**	**341**	*e*P	**P**	**21 55 12.8**	**+0.3**
	comp=N,1.7nm,0.6s,mb3.5						
FINES	**FINESS Array B**	**37.85**	**326**	P	**P**	**21 57 33.8**	**+0.6**
	comp=N,1.8nm,0.9s,mb3.9,baz=128,slow=12,SNR=7.6						
GVD	**Gavdhos**	**38.09**	**282**	P	**P**	**21 57 30.8**	**-4.8**
	comp=N,45nm,1.0s,mb5.2						
ARCES	**ARCESS Array B**	**41.52**	**338**	P	**P**	**21 58 04.3**	**+0.9**
ARCES	**ARCESS Array B**	**41.52**	**338**	P	**P**	**21 58 04.3**	**+0.9**
	comp=N,2.7nm,0.8s,mb4.0,baz=114,slow=8.3,SNR=9.5						
HFS	**Hagfors**	**43.43**	**322**	P	**P**	**21 58 19.6**	**+0.5**
	comp=N,3.1nm,1.0s,mb4.0,baz=91,slow=14,SNR=7.2						
TORD	**Torodi Ar. Bea**	**65.88**	**269**	P	**P**	**22 01 00.2**	**-1.4**
	comp=N,0.5nm,0.5s,mb3.6,baz=49,slow=6.2,SNR=7.7						
INK	**Inuvik**	**74.21**	**9**	P	**P**	**22 01 52.2**	**+0.5**
INK	**Inuvik**	**74.21**	**9**	P	**P**	**22 01 52.2**	**+0.5**
	comp=N,0.3nm,0.5s,mb3.3,baz=330,slow=8.1,SNR=4.0						
YKA	**Yellowknife Ar**	**81.57**	**3**	P	**P**	**22 02 33.0**	**+0.4**
YKA	**Yellowknife Ar**	**81.57**	**3**	P	**P**	**22 02 33.0**	**+0.4**
	comp=N,0.2nm,0.4s,mb3.3,baz=350,slow=5.5,SNR=4.5						

MAN 07 21:56:13, 961N×12196E, h44km, mb3.7, ML2.4, MS1.9, 1D, Sulu Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIM	**Jordan**	**1.19**	**32**	*e*P	Pn	21 56 33.6	+0.4
GUIM				*e*S	Sn	21 56 49.9	+1.7
SNPH	**Sibulan**	**1.29**	**102**	‖*i*P	Pn	21 56 36.0	+1.4
CUYO	**Cuyo Island**	**1.54**	**323**	*e*P	Pn	21 56 39.4	+1.4
CUYO				*e*S	Sn	21 56 58.1	+1.3
PAGZ	**Pagadian**	**2.25**	**141**	*e*P	Pn	21 56 49.5	+1.8
PAGZ				*e*S	Sn	21 57 15.4	+1.2
BUSP	**Coron**	**2.94**	**324**	*e*P	Pn	21 56 58.6	+1.4
BUSP				*e*S	Sn	21 57 31.7	+0.4
ENPP	**El Nido**	**2.95**	**303**	*e*P	Pn	21 56 59.2	+1.8

IDC 07 21:56:50.1±1.3, 683S×15562E, h0km, mb3.9/4, mb1 4.0/5, mb1mx3.7/15, mbtmp4.0/5, ML4.2/1, MS3.1/1, Ms1 3.1/1, ms1mx2.6/19, Error ellipse: s-maj=31.7km s-min=28.7km az=34.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.00**	**121**	Pn	Pn	21 58 06.9	+0.5
	10nm,0.3s,baz=266,slow=4.5,SNR=4.0						
HNR				Sn	Sn	21 59 04.5	-0.4
	12nm,0.3s,baz=271,slow=16,SNR=4.2						
CTA	**Charters Tower**	**16.01**	**214**	LR	LR	22 05 31.4	
	comp=Z,68nm,20.3s,baz=231,slow=33						
WRA	**Warramunga Arr**	**24.42**	**236**	P	P	22 02 11.3	+0.7
	3.2nm,0.7s,baz=60,slow=9.3,SNR=20						
ASAR	**Alice Springs**	**26.75**	**229**	P	P	22 02 31.0	-0.6
	0.3nm,0.5s,baz=61,slow=9.6,SNR=8.6						
MKAR	**Makanchi Array**	**83.70**	**319**	P	P	22

comp=N,1.1nm,0.3s,baz=166,slow=17,SNR=5.9
MAJO Matsushiro 6.46 332 *e*Pn **Pn 22 07 49.9 +0.3**
comp=N,28nm,0.6s
MAJO *e*Sn **Sn 22 09 01.1 -1.2**
MAJO Matsushiro 6.46 332 *e*P **Pn 22 07 49.9 +0.4**
MAJO *e* 22 09 01.1
MAJO pmax pmax
comp=Z,28nm,0.6s
MAT Matsushiro 6.46 332 P **Pn 22 07 49.9 +0.4**
MAT S **Sn 22 09 01.8 -0.5**
JNU Nakatsue 9.71 286 LR LR 22 12 09.5
comp=Z,156nm,18.4s,baz=303,slow=37
JOW Kunigami 12.69 255 LR LR 22 13 43.5
comp=Z,113nm,19.0s,baz=149,slow=36
ASAJ Asahikawa 13.21 2 Pn **Pn 22 09 19.8 -2.2**
comp=Z,0.4nm,0.3s,baz=217,slow=14,SNR=8.5
ASAJ LR LR 22 15 08.1
comp=Z,109nm,19.3s,baz=179,slow=40
KSRS Korea Array 13.36 303 Pn **Pn 22 09 26.0 +1.9**
comp=Z,0.2nm,0.3s,baz=113,slow=13,SNR=7.4
KSRS LR LR 22 14 38.9
comp=Z,113nm,18.8s,baz=349,slow=38
YSS Yuzh-Sakhalins 16.05 2 *i*P **Pn 22 09 58.2 -1.7**
YSS pmax pmax
comp=Z,9.0nm,0.7s
HABR Khabarovsk 18.34 345 *e*P **Pn 22 10 24.8 -3.7**
CN2 Changchun 18.38 319 *e*P **Pn 22 10 29.4 +0.5**
CN2 LR LR
comp=N,200nm,16.0s
CN2 LR LR
comp=E,200nm,16.0s
CN2 LR LR
comp=Z,200nm,18.0s
NJ2 Nanjing 19.78 279 *e*P **Pn 22 10 45.0 -0.9**
NJ2 AMB AMB
comp=Z,30nm,1.0s
KLR Kul'dur 19.89 340 *e*P **Pn 22 10 41.2 -5.9**
BJI Beijing 22.87 301 P **P 22 11 16.2 -1.2**
BJI AMB AMB
comp=Z,8.0nm,1.5s,mb3.9
BJI LR LR
comp=N,116nm,13.7s,MS3.8
BJI LR LR
comp=E,198nm,13.4s,MS3.8
BJI LR LR
comp=Z,128nm,23.1s
ULN Ulaanbaatar 31.55 313 *i*P **P 22 12 38.1 +2.0**
SONM Songino Array 31.96 312 P **P 22 12 41.4 +1.7**
SONM pmax pmax
comp=Z,1.0nm,0.7s
SONM MLR MLR
comp=Z,77nm,18.9s
SONM Songino Array 31.96 312 P **P 22 12 41.4 +1.7**
comp=Z,1.1nm,0.7s,mb3.8,baz=114,slow=7.8,SNR=14
SONM LR LR 22 26 15.2
comp=Z,77nm,18.9s,MS3.4,baz=274,slow=38
YAK Yakutsk 32.17 349⇑*e*P **P 22 12 41.2 -0.1**
YAK pmax pmax
comp=Z,14nm,1.1s,mb4.7
BOD Bodaibo 33.09 333 *e*P **P 22 12 48.9 -0.6**
BOD pmax pmax
comp=Z,3.0nm,0.9s,mb4.2
ZAK Zakamensk 34.73 315 *e*P **P 22 13 02.8 -1.0**
TLY Talaya 34.97 318 *e* PP 22 14 38.6 +13
TLY *e*S **S 22 18 43.3 +7.6**
TLY MLR MLR
comp=Z,114nm,17.0s,MS3.7
GTA Gaotai 35.27 296 *e*P **P 22 13 06.5 -2.0**
GTA AMB AMB
comp=Z,2.0nm,1.2s,mb3.9
BILL Bilibino 39.81 14 *e*P **P 22 13 46.7 +0.1**
BILL pmax pmax
comp=Z,1.0nm,0.7s,mb3.6
LSA Lhasa 43.61 282 *e*P **P 22 14 21.4 +3.1**
comp=Z,1.1nm,0.4s,mb3.9
LSA Lhasa 43.61 282 *e*P **P 22 14 21.4 +3.2**
LSA pmax pmax
comp=Z,1.0nm,0.4s,mb3.9
ZALV Zalesovo Beam 46.57 317 P **P 22 14 42.1 +0.7**
comp=Z,0.5nm,0.3s,mb3.9,baz=94,slow=6.5,SNR=5.5
ZALV PcP PcP 22 16 16.4 +1.2
comp=Z,0.8nm,0.7s,baz=76,slow=2.4,SNR=3.4
ZALV LR LR 22 35 03.2
comp=Z,50nm,18.4s,MS3.5,baz=310,slow=37
ZAL Zalesovo 46.58 317 P **P 22 14 42.1 +0.6**
ZAL 22 16 16.4
MK31 Makanchi Array 48.01 307 *e*P **P 22 14 53.2 +0.5**
MKAR Makanchi Array 48.01 307 *i*P **P 22 14 53.2 +0.5**
MKAR pmax pmax
comp=Z,2.0nm,0.7s
MKAR Makanchi Array 48.01 307 P **P 22 14 53.3 +0.7**
comp=Z,2.2nm,0.7s,mb4.3,baz=90,slow=9.4,SNR=30
KURK Kurchatov 50.27 312 *e*P **P 22 15 09.8 -0.2**
comp=Z,5.5nm,0.9s,mb4.6
KURK Kurchatov 50.27 312 *i*P **P 22 15 10.0 +0.1**
WB2 Warramunga Arr 51.07 189 *e*P **P 22 15 15.3 -0.9**
WRA Warramunga Arr 51.07 189 P **P 22 15 15.7 -0.5**
WRA pmax pmax
comp=Z,3.0nm,0.4s
WRA Warramunga Arr 51.07 189 P **P 22 15 15.7 -0.5**
comp=Z,3.4nm,0.4s,mb4.6,baz=5.0,slow=7.5,SNR=64
AML Almayashu 54.71 302 *e*P **P 22 15 44.4 +1.4**
comp=Z,2.5nm,0.7s,mb4.3
ASAR Alice Springs 54.80 189 P **P 22 15 43.6 -0.1**
ASAR pmax pmax
comp=Z,1.0nm,0.5s
ASAR Alice Springs 54.80 189 P **P 22 15 43.6 -0.1**
comp=Z,1.1nm,0.5s,mb4.2,baz=358,slow=4.4,SNR=33
INK Inuvik 59.67 25 P **P 22 16 18.3 +0.7**
INK pmax pmax
comp=Z,1.0nm,0.6s
INK Inuvik 59.67 25 P **P 22 16 18.3 +0.7**
comp=Z,0.8nm,0.6s,mb3.9,baz=93,slow=3.0,SNR=4.4
KBL Kabul 60.25 295 *e*P **P 22 16 23.4 +1.3**
comp=Z,1.8nm,0.4s,mb4.5
ARU Arti 61.36 321c *i*P **P 22 16 29.7 +0.4**
ARU *e* 22 17 07.8
ARU *e*S **S 22 24 46.2 -1.7**
ARU pmax pmax
comp=Z,12nm,1.7s,mb4.8
STKA Stephens Creek 62.43 180 P **P 22 16 35.9 -0.7**
STKA Stephens Creek 62.43 180 P **P 22 16 35.9 -0.7**
comp=Z,1.3nm,0.8s,mb4.1,baz=343,slow=7.5,SNR=2.8
AKTO Aktyubinsk 63.23 315 LR LR 22 45 36.7
comp=Z,40nm,18.8s,MS3.6,baz=160,slow=37
YKA Yellowknife Ar 68.90 29 *i*P **P 22 17 19.5 +1.4**
YKA pmax pmax
comp=Z,1.0nm,0.7s
YKA Yellowknife Ar 68.90 29 P **P 22 17 18.0 -0.1**
comp=Z,0.5nm,0.7s,mb3.5,baz=292,slow=6.7,SNR=7.5
FINES FINESS Array B 74.49 333 *i*P **P 22 17 54.5 +2.7**
FINES pmax pmax
comp=Z,2.0nm,0.9s
FINES FINESS Array B 74.49 333 P **P 22 17 51.5 -0.2**
comp=Z,2.1nm,0.9s,mb4.1,baz=111,slow=8.4,SNR=6.6
NVAR Mina Array Bea 78.31 52 P **P 22 18 14.5 +0.6**
comp=Z,0.7nm,0.5s,mb3.9,baz=282,slow=7.5,SNR=6.4
AKASG Malin Array Be 79.48 323 P **P 22 18 20.4 +0.3**
AKASG pmax pmax
comp=Z,1.0nm,0.5s
AKASG Malin Array Be 79.48 323 P **P 22 18 20.4 +0.3**
comp=Z,1.1nm,0.5s,mb4.1,baz=48,slow=5.8,SNR=14
PDAR Pinedale Array 81.64 45 P **P 22 18 31.8 -0.1**
comp=Z,0.6nm,0.6s,mb3.7,baz=0.0,slow=0.3,SNR=5.9
TXAR Lajitas Array 93.45 53 P **P 22 19 30.3 +0.8**
TXAR pmax pmax
comp=Z,1.0nm,0.7s
TXAR Lajitas Array 93.45 53 P **P 22 19 30.3 +0.8**
comp=Z,1.0nm,0.7s,mb4.4,baz=270,slow=2.5,SNR=6.2
LPAZ La Paz 148.91 69 PKP2 PKPab 22 26 04.7 -1.3
LPAZ pmax pmax
comp=Z,1.0nm,0.7s
LPAZ La Paz 148.91 69 PKPbc PKPbc 22 26 04.7 +2.7
comp=Z,1.2nm,0.7s,baz=335,slow=3.4,SNR=7.3
BDFB Brasilia 162.27 33 PKP2 PKPab 22 27 05.1 +2.4
BDFB pmax pmax
comp=Z,1.0nm,0.5s
BDFB Brasilia 162.27 33 PKPab PKPab 22 27 05.1 +2.3
comp=Z,1.0nm,0.5s,baz=200,slow=4.4,SNR=3.3

*ISCJB **07** 22:46:27.0±1.0,4181N±006×3243E±005,h5km, Error ellipse: s-maj=8.9km s-min=5.0km az=167.7*
*CSEM **07** 22:46:26.9,4176N×3247E,h5km,MD3.0, After ISK*
*ISK **07** 22:46:26.9,4176N×3247E,h5km,MD3.0*

*DDA **07** 22:46:42.5,4124N×3341E,h12km±4km,Md2.6*
ISC 07 22:46:27.3±1.4,4182N±007×3244E±005,h3km±8km,n8, σ0§92/14,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAFT	**Safranbolu**	**0.61**	**162**	*i* PG	**Pg**	**22 46 38.4**	**-0.5**
SAFT				*i* SG	**Sg**	**22 46 45.9**	**-0.9**
BALT	**Daday**	**0.77**	**112**	*i* P	**Pg**	**22 46 41.9**	**0.0**
BALT				*i* S	**Sg**	**22 46 52.8**	**+1.0**
KDZE	**Karadeniz Ereo**	**0.90**	**236**	*e*PG	**Pg**	**22 46 44.4**	**-0.2**
KDZE				*e*SG	**Sg**	**22 46 56.5**	**+0.2**
BZK	**Bozkurt**	**1.18**	**83**	*e*PN	**Pn**	**22 46 49.3**	**-1.3**
BZK				*e*SN	**Sn**	**22 47 05.8**	**-1.4**
ELDT	**Eldivan**	**1.52**	**150**	*i* P	**Pn**	**22 46 56.2**	**+0.8**
ELDT				*e*S	**Sn**	**22 47 15.9**	**+0.1**
BOYT	**Boyabat**	**1.89**	**101**	*i* P	**Pn**	**22 47 02.6**	**+2.2**
BOYT				*i* S	**Sn**	**22 47 28.9**	**+4.1**
GULT	**Gulveren**	**2.01**	**227**	*e*PN	**Pn**	**22 47 02.1**	**0.0**
KAMT	**Kaman**	**2.63**	**158**	*e*PN	**Pn**	**22 47 10.7**	**0.0**

IDC 07 22:57:54.7±12.0,355S×1161W,h0km,mb4.0/4, mb1 4.2/4,mb1mx3.6/23,mbtmp4.1/4,MS3.3/3,Ms1 3.3/3, ms1mx2.9/26,Error ellipse: s-maj=401.5km s-min=97.7km az=152.0,North of Ascension Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DBIC	**Dimbokro**	**12.19**	**34**	LR	LR	23 04 29.3	
	comp=Z,107nm,21.8s,baz=215,slow=32						
TORD	**Torodi Ar. Bea**	**21.20**	**38**	P	P	23 02 42.0	-0.2
	2.3nm,0.8s,baz=224,slow=9.6,SNR=12						
TORD				LR	LR	23 09 06.4	
	comp=Z,68nm,20.6s,baz=190,slow=32						
KMBO	**Kilima Mbogo**	**48.88**	**88**	LR	LR	23 24 45.9	
	comp=Z,64nm,19.9s,baz=54,slow=33						
GERES	**GERESS Array B**	**56.64**	**20**	P	P	23 07 40.0	+0.4
	0.8nm,0.7s,baz=191,slow=6.4,SNR=11						
AKASG	**Malin Array Be**	**64.36**	**27**	P	P	23 08 32.6	+0.4
	0.2nm,0.2s,baz=226,slow=6.7,SNR=4.4						
FINES	**FINESS Array B**	**71.00**	**18**	P	P	23 09 13.4	-0.6
	2.4nm,1.0s,baz=222,slow=10,SNR=4.0						

GUC 07 23:08:43.4±1.0,3082S×7198W,h25km±7km,MD4.0, ML3.6,4C,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OVCH	**Ovalle**	**0.70**	**72**⇑	*i*P	Pb	23 08 56.7	-0.2
OVCH				*i* S	Sb	23 09 06.4	+0.2
OVCH				AML	AML	23 09 08.8	
	comp=N,3μm,0.6s						
CMCH	**Combarbala**	**0.91**	**113**⇑	*i*P	Pb	23 08 59.4	-1.0
CMCH				*i* S	Sb	23 09 12.1	0.0
CMCH				AML	AML	23 09 13.8	
	comp=N,9μm,0.3s						
LSCH	**La Serena**	**1.11**	**35**	AML	AML	23 09 21.1	
	comp=N,324nm,0.8s						
CHNG	**Los Chungos**	**1.13**	**159**⇑	*i*P	Pn	23 08 44.9	-19
CHNG				*i* S	Sn	23 09 00.2	-18
CHNG				AML	AML	23 09 04.8	
	comp=E,1μm,0.5s						
TLL	**Tololo Astrono**	**1.20**	**57**⇑	*i*P	Pn	23 09 05.4	+0.8
TLL				*i* S	Sn	23 09 22.5	+2.4
TLL				AML	AML	23 09 30.3	
	comp=N,1μm,0.6s						
JACH	**Jahuel**	**2.19**	**148**	*e*P	Pn	23 09 19.6	+1.4
JACH				*e*S	Sn	23 09 47.3	+2.7
VACH	**Vallenar**	**2.48**	**26**	*i* S	Sn	23 09 53.6	+2.0
PEL	**Peldehue**	**2.56**	**155**	*e*P	Pn	23 09 24.2	+1.0
PEL				*i* S	Sn	23 09 59.4	+5.8
PEL				AML	AML	23 10 03.8	
	comp=E,1μm,0.3s						
CLCH	**Cerro Calan**	**2.84**	**155**	AML	AML	23 10 19.9	
	comp=E,913nm,0.7s						
FCH	**Farellones**	**2.88**	**151**	*e*P	Pn	23 09 30.1	+2.5
FCH				*i* S	Sn	23 10 05.3	+3.9
FCH				AML	AML	23 10 15.3	
	comp=E,242nm,0.3s						
LMEL	**Las Melosas**	**3.37**	**154**	*e*P	Pn	23 09 35.9	+1.5
LMEL				*i* S	Sn	23 10 15.8	+2.3
LMEL				AML	AML	23 10 33.8	
	comp=N,232nm,0.6s						

*ISCJB **07** 23:33:21.2±0.4,6267N±004×12532W±008,h10km, mb3.8/6,Error ellipse: s-maj=6.1km s-min=4.9km az=28.3*
*PGC **07** 23:33:23.1,6267N×12542W,h1km,ML4.2/4,238km Wnw of Fort Simpson, Nt Northwest Territories, Canada*
*NEIC **07** 23:33:23.1,6267N×12542W,h1km,mb4.0/11, ML4.2(PGC),After PGC.*
*IDC **07** 23:33:23.5±0.7,6278N×12562W,h0km,mb3.7/6, mb1 4.0/8,mb1mx3.7/25,mbtmp3.8/8,ML3.7/2,Error ellipse: s-maj=12.4km s-min=9.7km az=153.0*
ISC 07 23:33:23.4±0.4,6269N±004×12529W±007,h10km,n40, σ1§38/60,mb3.8/6,Northwest Territories

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FNBB	**Fort Nelson**	**3.97**	**163**	Pn	**Pn**	**23 34 24.2**	**0.0**
FNBB				Sn	**Sn**	**23 35 09.0**	**-1.7**
FNBB				Sg	**Sg**	**23 35 25.9**	**-4.8**
DLBC	**Dease Lake**	**4.86**	**211**	Pn	**Pn**	**23 34 37.6**	**+1.1**
DLBC				Pg	**Pg**	**23 34 51.8**	**-4.6**
DLBC				Lg		23 35 50.6	
DLBC	**Dease Lake**	**4.86**	**211**	Pn	**Pn**	**23 34 36.0**	**-0.5**
DLBC				Pg	**Pg**	**23 34 49.9**	**-6.5**
DLBC				Sg	**Sg**	**23 35 53.2**	**-6.1**
YKW3	**Yellowknife Ar**	**4.93**	**87**	Pn	**Pn**	**23 34 38.5**	**+1.1**
YKW3				Sn	**Sn**	**23 35 33.3**	**-1.0**
YKW3				Sg	**Sg**	**23 35 58.0**	**-3.4**
YKA	**Yelloknife Ar**	**4.94**	**88**	Pn	**Pn**	**23 34 39.5**	**+2.0**
YKA				Pg	**Pg**	**23 34 56.2**	**-1.7**
YKA				Sn	**Sn**	**23 35 44.9**	**+10**
YKA				Lg		23 35 58.8	
YKA	**Yellowknife Ar**	**4.94**	**88**	Pn	**Pn**	**23 34 39.5**	**+2.0**
	2.5nm,0.3s,baz=271,slow=13,SNR=83						
YKA				Pg	**Pg**	**23 34 56.2**	**-1.7**
	9.0nm,0.3s,baz=274,slow=16,SNR=22						
YKA				Sn	**Sn**	**23 35 44.8**	**+10**
	10nm,0.3s,baz=277,slow=21,SNR=6.4						
YKA				Lg		23 35 58.8	
	12nm,0.3s,baz=275,slow=29,SNR=11						
WHY	**Whitehorse**	**5.00**	**250**	Pn	**Pn**	**23 34 37.4**	**-1.0**
WHY				Sg	**Sg**	**23 35 54.9**	**-8.9**
SKAG	**Skagway**	**5.85**	**241**	*e*P	**Pn**	**23 34 47.9**	**-2.1**
HYT	**Haines Junctio**	**6.09**	**258**	Pn	**Pn**	**23 34 52.8**	**-0.5**
DAWY	**Dawson**	**6.49**	**289**	*e*Pn	**Pn**	**23 34 58.3**	**-0.5**
DAWY	**Dawson**	**6.49**	**289**	Pn	**Pn**	**23 34 58.3**	**-0.4**
DAWY				Sg	**Sg**	**23 36 43.1**	**-8.2**
INK	**Inuvik**	**6.59**	**332**	*e*Pn	**Pn**	**23 34 59.6**	**-0.6**
INK	**Inuvik**	**6.59**	**332**	Pn	**Pn**	**23 34 59.7**	**-0.5**
	2.5nm,0.3s,baz=145,slow=11,SNR=39						
INK				Sn	**Sn**	**23 36 11.6**	**-3.7**
	5.3nm,0.3s,baz=10,slow=28,SNR=3.6						
INK	**Inuvik**	**6.59**	**332**	Pn	**Pn**	**23 34 59.7**	**-0.5**
INK				Sn	**Sn**	**23 36 09.9**	**-5.3**
INK				Sg	**Sg**	**23 36 47.3**	**-7.4**
WRAK	**Wrangell Islan**	**7.24**	**213**	*e*Pn	**Pn**	**23 35 08.7**	**-0.3**
	26nm,0.4s						
EGAK	**Eagle**	**7.34**	**294**	*e*Pn	**Pn**	**23 35 10.6**	**+0.1**
	11nm,0.8s						
SIT	**Sitka**	**7.57**	**226**	*e*P	**Pn**	**23 35 14.4**	**+0.8**
EDM	**Edmonton**	**11.39**	**141**	*e*Pn	**Pn**	**23 36 04.7**	**-1.2**
EDM				*e*Sn	**Sn**	**23 38 13.4**	**+0.4**
FFC	**Flin Flon**	**14.43**	**113**	*e*Pn	**Pn**	**23 36 43.1**	**-4.2**
	5.9nm,0.6s						
WALA	**Waterton Lakes**	**15.04**	**150**	*e*Pn	**Pn**	**23 36 52.6**	**-3.1**
	5.7nm,0.8s						
WALA				*e*Sn	**Sn**	**23 39 34.6**	**-7.5**
NEW	**Newport**	**15.16**	**159**	*e*Pn	**Pn**	**23 36 57.1**	**-0.1**
	12nm,1.0s						
NEW	**Newport**	**15.16**	**159**	Pn	**Pn**	**23 37 04.5**	**+7.3**
	0.4nm,0.3s,baz=347,slow=10,SNR=12						
FCC	**Fort Churchill**	**15.66**	**90**	*e*Pn	**Pn**	**23 37 00.2**	**-3.5**
	4.4nm,0.4s						
FCC				*e*Sn	**Sn**	**23 39 43.7**	**-13**
RES	**Resolute Bay**	**16.03**	**29**	*e*Pn	**Pn**	**23 37 05.8**	**-2.7**
	231nm,0.4s						
RES				*e*Sn	**Sn**	**23 39 53.0**	**-13**
MSO	**Missoula**	**17.14**	**153**	*e*Pn	**Pn**	**23 37 22.6**	**-0.1**
	3.8nm,0.9s						
CHMT	**Chamberlain Mo**	**17.21**	**151**	*e*Pn	**Pn**	**23 37 22.4**	**-1.2**
BOZ	**Bozeman (W)**	**18.78**	**149**	*e*P	**Pn**	**23 37 44.7**	**+1.8**
	5.1nm,0.7s						
MCMT	**McKenzie Canyo**	**19.28**	**152**	*e*P	**Pn**	**23 37 50.0**	**+1.0**
RLMT	**Red Lodge**	**19.86**	**145**	*e*P	**Pn**	**23 37 55.8**	**-0.1**
	2.9nm,0.5s						
HLID	**Hailey**	**20.18**	**157**	*e*P	**P**	**23 38 01.0**	**+3.2**
	4.0nm,0.8s						
ULM	**Lac du Bonnet**	**20.24**	**114**	P	**P**	**23 38 02.3**	**+3.9**
	3.5nm,0.6s,baz=317,slow=11,SNR=4.7						
IMW	**Indian Meadow**	**20.59**	**149**	*e*P	**P**	**23 38 06.9**	**+4.7**
	5.1nm,0.9s						
LOHW	**Long Hollow**	**20.94**	**149**	*e*P	**P**	**23 38 07.7**	**+1.7**
	10nm,1.1s						
TPAW	**Teton Pass**	**20.98**	**150**	*e*P	**P**	**23 38 08.6**	**+2.2**
	8.7nm,1.1s						
PDAR	**Pinedale Array**	**21.99**	**148**	P	**P**	**23 38 22.3**	**+5.0**
	1.8nm,0.7s,mb3.6,baz=356,slow=7.9,SNR=10						
EYMN	**Ely**	**23.86**	**112**	*e*P	**P**	**23 38 37.4**	**+0.9**
	5.7nm,0.8s,mb4.0						
FINES	**FINESS Array B**	**54.30**	**16**	P	**P**	**23 42 52.0**	**+2.9**
	1.8nm,0.9s,mb4.0,baz=35,slow=7.0,SNR=6.0						
ZALV	**Zalesovo Beam**	**61.33**	**340**	P	**P**	**23 43 39.4**	**+0.9**
	0.8nm,0.5s,mb4.1,baz=18,slow=7.1,SNR=4.6						
ESDC	**Sonseca Array**	**67.72**	**45**	P	**P**	**23 44 21.9**	**+1.4**
	0.2nm,0.5s,mb3.4,baz=334,slow=6.6,SNR=5.1						
MKAR	**Makanchi Array**	**68.67**	**340**	P	**P**	**23 44 27.2**	**+0.9**
	0.2nm,0.3s,mb3.6,baz=33,slow=4.4,SNR=3.1						

GUC 07 23:38:40.6±0.7,3084S×7186W,h4km±4km,MD3.5,ML2.9, 1C,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OVCH	**Ovalle**	**0.61**	**68**	*e*P	Pg	23 38 53.0	+0.7
OVCH				*i* S	Sg	23 39 02.6	+2.5
OVCH				AML	AML	23 39 08.6	
	comp=N,618nm,0.2s						
CMCH	**Combarbala**	**0.81**	**115**	*e*P	Pg	23 38 55.7	-0.4
CMCH				*e*S	Sg	23 39 08.7	+2.2
CMCH				AML	AML	23 39 13.4	
	comp=N,2μm,0.3s						
CHNG	**Los Chungos**	**1.08**	**164**	*i* P	Pg	23 38 40.8	-21
CHNG				*i* S	Sg	23 38 56.1	-19
CHNG				AML	AML	23 39 03.9	
	comp=N,198nm,0.4s						
TLL	**Tololo Astrono**	**1.13**	**54**	*e*P	Pg	23 39 02.0	-0.2
TLL				*i* S	Sg	23 39 18.5	+1.7
TLL				AML	AML	23 39 27.2	
	comp=N,260nm,0.5s						
PEL	**Peldehue**	**2.50**	**157**	*e*P	Pn	23 39 24.1	+1.9
PEL				*i* S	Sn	23 39 56.8	+3.6
PEL				AML	AML	23 40 03.4	
	comp=E,210nm,0.4s						
CLCH	**Cerro Calan**	**2.79**	**157**	*e*P	Pn	23 39 27.3	+1.3
CLCH				AML	AML	23 40 09.7	
	comp=E,167nm,0.6s						
FCH	**Farellones**	**2.81**	**152**⇑	*i*P	Pn	23 39 28.6	+2.2
FCH				AML	AML	23 40 11.9	
	comp=E,47nm,0.4s						

*NNC **07** 23:42:37.7±3.1,4103N×7339E,h22km±12km,mb4.0, mpv3.5,Error ellipse: s-maj=28.0km s-min=8.9km az=170.0*
ISC 07 23:42:36.7±3.7,409N±03×731E±01,h10km,n15,σ0§96/14, 5C-2D,Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**1.31**	**18**	P	**Pn**	**23 42 59.6**	**-1.5**
	SNR=131						
UCH	**Uchtor**	**1.69**	**37**	P	**Pn**	**23 43 05.5**	**-0.7**
	SNR=211						
EKS2	**Erkin-Say**	**1.84**	**15**	P	**Pn**	**23 43 09.1**	**+0.8**
	SNR=177						
KZA	**Kyzart**	**1.98**	**52**	P	**Pn**	**23 43 09.8**	**-0.5**
	SNR=95						
AAK	**Ala-Archa**	**2.02**	**30**	P	**Pn**	**23 43 11.1**	**+0.3**
	SNR=185						
KBK	**Karagaybulak**	**2.23**	**37**	P	**Pn**	**23 43 14.4**	**+0.7**
	SNR=53						
CHMS	**Chumysh**	**2.43**	**29**	P	**Pn**	**23 43 17.4**	**+0.9**
	SNR=16						
USP	**Ospenovka**	**2.58**	**23**	P	**Pn**	**23 43 19.1**	**+0.5**
	SNR=32						
ULHL	**Ulahol**	**2.69**	**59**	P	**Pn**	**23 43 19.5**	**-0.6**
	SNR=9.8						
TKM2	**Tokmak 2**	**2.74**	**41**	⇓Pn	**Pn**	**23 43 20.5**	**-0.1**
	26nm,0.6s						
TKM2				⇓Lg		23 43 57.4	
	24nm,0.5s						
TKM2	**Tokmak 2**	**2.74**	**41**	P	**Pn**	**23 43 20.8**	**+0.1**
	SNR=18						
KK31	**Karatay Array**	**2.96**	**319**	Pn	**Pn**	**23 43 26.4**	**+2.6**
	1.9nm,0.3s,baz=126,slow=13,SNR=309						
KK31				⇑Pg	**Pg**	**23 43 32.2**	**-1.2**
	12nm,0.2s,baz=135,slow=17,SNR=27						
KK31				⇑Lg		23 44 13.2	
	53nm,0.4s,baz=133,slow=30,SNR=15						
KNDC	**Almaty**	**3.68**	**49**	⇑Lg		23 44 26.2	
	44nm,0.4s						
KURK	**Kurchatov**	**10.54**	**19**	⇑Lg		23 48 08.9	
	5.5nm,0.9s						
AB31	**Akbulak array**	**12.52**	**316**	⇑Pn	**Pn**	**23 45 34.4**	**-0.4**
	1.1nm,0.5s,baz=122,slow=13,SNR=16						

*IDC **07** 23:44:54.9±1.7,409S×14320E,h0km,mb4.0/5,mb1 4.2/6, mb1mx3.9/14,mbtmp4.2/6,ML4.4/1,MS3.0/1,Ms1 3.0/1, ms1mx2.6/19,Error ellipse: s-maj=54.5km s-min=23.3km az=91.0*
*ISCJB **07** 23:45:00.1±3.0,423S±009×1428E±02,h40km±26km, mb3.8/5,Error ellipse: s-maj=36.6km s-min=12.9km az=12.4*
*NEIC **07** 23:45:00.8±0.8,4185N×14289E,h35km,mb4.5/2,Error ellipse: s-maj=26.4km s-min=10.8km az=103.0*
ISC 07 23:45:02.7±4.6,435S±01×1427E±03,h42km±38km,n16, σ0§79/14,mb3.8/5,New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**13.20**	**230**	*e*Pn	**Pn**	**23 48 07.3**	**-0.4**
	48nm,0.6s						
WRAB	**Tennant Creek**	**17.60**	**207**	*e*Pn	**Pn**	**23 49 04.3**	**-0.7**
	39nm,1.1s						
WRAB				*e*Sn	**Sn**	**23 52 15.9**	**-4.2**
WB2	**Warramunga Arr**	**17.61**	**207**	*e*Pn	**Pn**	**23 49 05.6**	**+0.6**
WB2				*e*Sn	**Sn**	**23 52 19.3**	**-1.0**
WRA	**Warramunga Arr**	**17.61**	**207**	P	**Pn**	**23 49 05.6**	**+0.5**
	1.2nm,0.3s,baz=29,slow=13,SNR=20						
BATI	**Kupang**	**19.82**	**252**	P	**Pn**	**23 49 32.6**	**+0.8**
	50nm,0.6s,baz=358,slow=0.8,SNR=13						
ASAR	**Alice Springs**	**21.10**	**203**	P	**P**	**23 49 45.5**	**+1.7**
	1.7nm,0.7s,mb3.5,baz=29,slow=12,SNR=11						
STKA	**Stephens Creek**	**27.50**	**182**	*e*P	**P**	**23 50 44.8**	**-0.4**
STKA	**Stephens Creek**	**27.50**	**182**	P	**P**	**23 50 44.8**	**-0.5**
	1.1nm,0.6s,mb3.7,baz=339,slow=2.9,SNR=4.7						
MBWA	**Marble Bar**	**27.97**	**231**	*e*P	**P**	**23 50 50.0**	**+0.5**
	17nm,1.3s,mb4.5						
JNU	**Nakatsue**	**38.83**	**344**	LR	LR	00 04 55.4	
	comp=Z,24nm,20.6s,baz=166,slow=31						
MK31	**Makanchi Array**	**73.48**	**321**	*e*P	**P**	**23 56 30.5**	**-0.3**
MKAR	**Makanchi Array**	**73.48**	**321**	P	**P**	**23 56 30.6**	**-0.2**
	0.9nm,0.7s,mb3.8,baz=103,slow=7.1,SNR=15						
ZALV	**Zalesovo Beam**	**75.31**	**329**	P	**P**	**23 56 40.5**	**-0.8**
	0.3nm,0.4s,mb3.6,baz=106,slow=5.3,SNR=3.7						
LPAZ	**La Paz**	**143.28**	**124**	PKP	PKPdf	00 04 31.9	-1.5
LPAZ	**La Paz**	**143.28**	**124**	PKP	PKPdf	00 04 31.9	-1.5
	1.1nm,0.8s,baz=277,slow=0.9,SNR=4.5						
DBIC	**Dimbokro**	**147.66**	**276**	PKPbc	PKPbc	00 04 42.6	-1.2
	3

Azm315.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.
*IDC **07** 23:46:15.9±6.0, 4030S×8990W, h0km, mb3.9/3, mb1 4.2/4, mb1mx4.0/16, mbtmp3.9/4, ML3.3/1, MS4.4/12, Ms1 4.4/12, ms1mx4.3/20 Error ellipse: s-maj=141.7km s-min=43.4km az=20.0*

NEIC 07 23:46:16.3±4.0, 4053S×8990W, h10km, Error ellipse: s-maj=92.6km s-min=23.6km az=29.0, West Chile Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**14.70**	**97**	Pn	Pn	23 49 43.8	-0.3
	0.0nm,0.3s,baz=273,slow=13,SNR=4.4						
PLCA				LR	LR	23 54 11.0	
	comp=Z,2µm,18.4s,baz=262,slow=32						
LPAZ	**La Paz**	**30.65**	**44**	P	P	23 52 31.2	+0.3
	0.9nm,0.6s,baz=215,slow=5.6,SNR=4.1						
LPAZ				LR	LR	00 02 23.4	
	comp=Z,1µm,18.4s,baz=170,slow=32						
RKT	**Rikitea**	**41.56**	**281**	*e*LQ		00 03 36.4	
	1µm,29.8s						
RKT				*e*LR	LR	00 05 11.1	
	609nm,27.5s,baz=125						
BDFB	**Brasilia**	**43.93**	**68**	P	P	23 54 24.7	+1.3
	1.9nm,0.7s,baz=112,slow=6.2,SNR=3.2						
BDFB				LR	LR	00 12 06.7	
	comp=Z,1µm,18.8s,baz=39,slow=35						
ROSC	**El Rosal**	**47.37**	**21**	LR	LR	00 13 37.6	
	comp=Z,385nm,18.5s,baz=189,slow=35						
QSPA	**South Pole Qui**	**49.71**	**180**	LR	LR	00 13 03.0	
	comp=Z,333nm,19.5s,baz=132,slow=32						
SNAA	**Sanae**	**51.22**	**156**	LR	LR	00 13 31.4	
	comp=Z,146nm,18.4s,baz=359,slow=32						
TBI	**Tubuai**	**52.41**	**270**	*e*S	S	00 02 35.3	-20
	342nm,22.8s						
TBI				*e*LQ		00 08 09.0	
	600nm,31.5s						
TBI				*e*LR	LR	00 10 12.0	
	501nm,29.0s,baz=124						
TAOE	**Nuku Hiva Isla**	**54.50**	**291**	*e*S	S	00 02 58.7	-25
	4µm,24.9s						
TAOE				*e*LR	LR	00 11 10.6	
	11µm,24.9s						
PCRV	**Puerto La Cruz**	**55.59**	**31**	LR	LR	00 17 40.0	
	comp=Z,604nm,20.7s,baz=22,slow=34						
PPT	**Papeete**	**55.85**	**276**	*e*LR	LR	00 11 19.1	
	150nm,22.8s						
SJG	**San Juan**	**62.38**	**26**	LR	LR	00 22 55.0	
	comp=Z,404nm,18.2s,baz=98,slow=35						
MAW	**Mawson**	**70.24**	**169**	LR	LR	00 25 34.0	
	comp=Z,290nm,18.4s,baz=349,slow=34						
TXAR	**Lajitas Array**	**70.67**	**347**	P	P	23 57 31.9	-0.1
TXAR	**Lajitas Array**	**70.67**	**347**	P	P	23 57 31.9	-0.1
	1.3nm,0.8s,baz=172,slow=10,SNR=4.0						
TKL	**Tuckaleechee C**	**76.02**	**5**	LR	LR	00 26 18.1	
	comp=Z,179nm,18.3s,baz=208,slow=32						
SCHQ	**Schefferville**	**97.02**	**13**	LR	LR	00 44 28.4	
	comp=Z,130nm,18.0s,baz=278,slow=36						
TORD	**Torodi Ar. Bea**	**99.61**	**81**	LR	LR	00 44 30.2	
	comp=Z,146nm,19.4s,baz=245,slow=35						

*BJI **07** 23:54:59.0, 4060N×12480W, h7km, mB4.9, Ms4.6, Msz4.3*
*IDC **07** 23:54:59.7±2.4, 4043N×125.13W, h0km, mb3.6/3, mb1 4.1/6, mb1mx3.7/24, mbtmp3.8/6, ML4.1/3, MS3.4/10, Ms1 3.4/10, ms1mx3.1/33, Error ellipse: s-maj=33.4km s-min=17.6km az=60.0*
*ISCJB **07** 23:55:01.7±0.4, 4060N±002×12472W±004, h10km, mb3.4/2, MS3.6/8, Error ellipse: s-maj=4.8km s-min=2.3km az=174.5*
*NEIC **07** 23:55:03.0, 4062N×124.75W, h8km, mb4.3/2, MW4.1(BRK), After NCEDC.*
NEIC Felt [III] at Eureka. Felt at Arcata, Ferndale and San Jose.

ISC 07 23:55:03.3±0.4, 4061N±002×12472W±004, h10km, n177, σ1§33/191, mb3.4/2, MS3.6/8, 68C-71D, Near coast of northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCC	**Jacoby Creek**	**0.56**	**68**	P	Pg	23 55 15.0	+0.8
	baz=0.6,SNR=1000						
O01C	**Eel River Cons**	**0.83**	**124**	P	Pg	23 55 19.9	+0.6
	baz=0.9,SNR=102						
N02C	**Big Bar**	**1.10**	**78**	⇑P	Pb	23 55 23.0	-1.3
	baz=1.1,SNR=1000						
N02C				⇓S	Sg	23 55 37.6	-0.9
	baz=1.1						
KRMB	**Red Mountain**	**1.10**	**34**	⇓*i*P	Pb	23 55 22.7	-1.7
KIPM	**Iron Peak**	**1.24**	**130**	*e*Pn	Pn	23 55 25.4	-1.3
KCPM	**Cahto Peak**	**1.27**	**136**	*e*Pn	Pn	23 55 25.2	-1.8
M01C	**Crescent City**	**1.32**	**20**	⇓P	Pn	23 55 25.3	-2.4
	baz=1.3,SNR=261						
O02C	**Red Bluff**	**1.54**	**106**	⇓P	Pn	23 55 29.5	-1.2
	baz=1.6,SNR=1000						
P01C	**Double 8 Ranch**	**1.56**	**137**	P	Pn	23 55 29.2	-1.8
	baz=1.6,SNR=237						
P01C				⇑S	Sn	23 55 47.5	-3.7
	baz=1.6						
M02C	**Callahan**	**1.61**	**60**	⇑P	Pn	23 55 30.3	-1.5
	baz=1.6						
M02C				⇑S	Sn	23 55 49.5	-3.2
	baz=1.6						
KBO	**Bosley Butte**	**1.64**	**13**	*e*Pn	Pn	23 55 29.7	-2.5
KBO				*e*Sn	Sn	23 55 48.9	-4.5
WDC	**Whiskeytown Da**	**1.66**	**90**	⇑*i*Pn	Pn	23 55 31.1	-1.3
WDC	**Whiskeytown Da**	**1.66**	**90**	⇓P	Pn	23 55 31.2	-1.2
	baz=1.7,SNR=1000						
L02A	**Cave Junction**	**1.76**	**28**	⇓P	Pn	23 55 32.1	-1.7
	baz=1.8,SNR=78						
GASB	**Alder Springs**	**1.81**	**121**	P	Pn	23 55 33.4	-1.1
	baz=1.8,SNR=422						
YBH	**Yreka Blue Hor**	**1.89**	**53**	⇓*e*Pn	Pn	23 55 34.5	-1.1
YBH	**Yreka Blue Hor**	**1.89**	**53**	P	Pn	23 55 34.5	-1.0
	baz=1.9,SNR=435						
YBH				⇓S	Sn	23 55 57.4	-2.0
	baz=1.9						
HOPS	**Hopland**	**2.05**	**141**	*e*Pn	Pn	23 55 35.0	-2.8
HOPS				*e*Sn	Sn	23 55 57.9	-5.6
HOPS	**Hopland**	**2.05**	**141**	⇑P	Pn	23 55 35.7	-2.1
	baz=2.1,SNR=92						
M03C	**McCloud**	**2.08**	**70**	⇑P	Pn	23 55 37.9	-0.3
	baz=2.1						
M03C				⇓Sn	Sn	23 56 03.7	-0.4
	baz=2.1						
O03C	**Acorn Hollow,**	**2.15**	**106**	⇓P	Pn	23 55 38.1	-1.0
	baz=2.2,SNR=9.8						
K01A	**Sixes**	**2.21**	**5**	⇑Sn	Sn	23 56 01.6	-5.7
	baz=2.2						
KEBM	**Edson Butte**	**2.28**	**7**	*e*Pn	Pn	23 55 39.2	-1.8
K02A	**Glendale**	**2.34**	**23**	⇓P	Pn	23 55 40.5	-1.4
	baz=2.3,SNR=121						
K02A				⇑Sn	Sn	23 56 07.2	-3.4
	baz=2.3						
HUMO	**Hull Mountain**	**2.39**	**33**	*e*Pn	Pn	23 55 41.1	-1.4
HUMO	**Hull Mountain**	**2.39**	**33**	P	Pn	23 55 41.2	-1.4
	baz=2.4,SNR=191						
MNRC	**McLaughlin Nat**	**2.46**	**134**	⇑P	Pn	23 55 42.8	-0.6
	baz=2.5,SNR=45						
M04C	**Macdoel**	**2.47**	**61**	⇓P	Pn	23 55 43.4	-0.1
	baz=2.5,SNR=17						
M04C				⇓Sn	Sn	23 56 11.4	-2.4
	baz=2.5						
HATC	**Hat Creek Radi**	**2.49**	**84**	⇑P	Pn	23 55 43.4	-0.3
	baz=2.5,SNR=62						
SUTB	**Sutter Butte**	**2.64**	**120**	P	Pn	23 55 44.2	-1.8
	baz=2.7,SNR=26						
NSHM	**Saint Helena R**	**2.65**	**141**	*e*Pn	Pn	23 55 44.9	-1.1
NSHM				*e*Sn	Sn	23 56 17.4	-0.8
ORV	**Oroville**	**2.69**	**112**	⇓P	Pn	23 55 45.1	-1.5
	baz=2.7,SNR=42						
O04C	**Chester**	**2.79**	**95**	⇓P	Pn	23 55 47.7	-0.3
	baz=2.8,SNR=307						
M05C	**Lookout**	**2.81**	**73**	⇓P	Pn	23 55 47.3	-0.9
	baz=2.8						
MCCM	**Marconi Confer**	**2.84**	**149**	⇓P	Pn	23 55 47.3	-1.4
	baz=2.9,SNR=13						
CVS	**Carmenet Viney**	**2.86**	**142**	P	Pn	23 55 48.0	-1.0
	baz=2.9,SNR=16						
Q03C	**Winters**	**2.87**	**132**	⇓P	Pn	23 55 49.1	0.0
	baz=2.9						
J02A	**Umpqua**	**2.88**	**17**	P	Pn	23 55 47.9	-1.3
	baz=2.9,SNR=11						
J02A				⇑Sn	Sn	23 56 20.2	-3.8
	baz=2.9						
O05C	**Quincy**	**2.98**	**101**	⇑P	Pn	23 55 50.8	+0.3
	baz=3.0,SNR=211						
K04A	**Chilquin**	**3.00**	**47**	⇑P	Pn	23 55 51.0	+0.1
	baz=3.0						
ELFS	**Eagle Lake Fie**	**3.04**	**89**	⇑P	Pn	23 55 51.1	-0.3
	baz=3.1,SNR=16						
J03A	**Ideyld Park**	**3.06**	**25**	⇑P	Pn	23 55 51.4	-0.2
	baz=3.1,SNR=32						
Q04C	**Lincoln**	**3.13**	**123**	⇓P	Pn	23 55 51.3	-1.3
	baz=3.1,SNR=9.0						
FARB	**Farallon Islan**	**3.20**	**155**	⇓P	Pn	23 55 52.6	-1.0
	baz=3.2,SNR=6.8						
L05A	**Lakeview**	**3.26**	**63**	⇑P	Pn	23 55 54.0	-0.4
	baz=3.3,SNR=29						
M06C	**Likely Place G**	**3.27**	**78**	⇑P	Pn	23 55 53.4	-1.2
	baz=3.3,SNR=24						
J04A	**Umpqua Nationa**	**3.27**	**36**	⇓P	Pn	23 55 54.8	+0.2
	baz=3.3,SNR=7.2						
P05C	**Yuba Gap, Truc**	**3.42**	**111**	⇑P	Pn	23 55 56.9	+0.3
	baz=3.4,SNR=443						
BEKR	**Beckwourth**	**3.42**	**101**	⇑P	Pn	23 55 56.4	-0.2
	baz=3.4,SNR=89						
I02A	**Mapleton**	**3.46**	**11**	⇑P	Pn	23 55 56.8	-0.3
	baz=3.5						
I02A				⇑Sn	Sn	23 56 33.5	-4.6
	baz=3.5						
K05A	**Summer Lake**	**3.56**	**52**	⇓P	Pn	23 55 58.7	+0.1
	baz=3.6						
MOD	**Modoc**	**3.57**	**67**	*e*Pn	Pn	23 55 58.1	-0.6
MOD	**Modoc**	**3.57**	**67**	⇓P	Pn	23 55 58.2	-0.5
	baz=3.6,SNR=8.0						
LAVA	**Lava Cap Winer**	**3.59**	**120**	⇓P	Pn	23 55 58.8	-0.1
	baz=3.6,SNR=29						
I04A	**Tendick Farm,**	**3.62**	**28**	⇓P	Pn	23 55 59.7	+0.4
	baz=3.6,SNR=21						
I04A				⇓Sn	Sn	23 56 40.0	-2.0
	baz=3.6						
N06A	**Buffalo Meadow**	**3.72**	**86**	⇑P	Pn	23 55 59.6	-1.1
	baz=3.7,SNR=36						
J05A	**Fort Rock**	**3.73**	**43**	⇑P	Pn	23 56 01.0	+0.2
	baz=3.7,SNR=74						
JRSC	**Jasper Ridge**	**3.74**	**148**	⇑P	Pn	23 55 59.2	-1.9
	baz=3.8,SNR=21						
R04C	**Big Horse Ranc**	**3.75**	**128**	⇑P	Pn	23 56 00.7	-0.6
	baz=3.8,SNR=7.2						
O06A	**Flanigan**	**3.76**	**95**	⇑P	Pn	23 56 00.3	-1.1
	baz=3.8						
WENL	**Wente Brothers**	**3.77**	**141**	⇑P	Pn	23 56 01.3	-0.1
	baz=3.8						
P06A	**Stead Airport,**	**3.81**	**103**	⇓P	Pn	23 56 01.7	-0.3
	baz=3.8						
K06A	**Valley Falls**	**4.00**	**55**	P	Pn	23 56 04.2	-0.4
	baz=4.0,SNR=44						
BNLO	**Ben Lomond (Sa**	**4.00**	**149**	⇓P	Pn	23 56 02.8	-1.9
	baz=4.0,SNR=33						
BNLO				⇓Sn	Sn	23 56 47.6	-3.9
	baz=4.0						
WCN	**Washoe City**	**4.03**	**107**	⇑P	Pn	23 56 05.1	0.0
	baz=4.0,SNR=86						
R05C	**Kirkwood Meado**	**4.06**	**116**	⇓P	Pn	23 56 05.6	+0.2
	baz=4.1,SNR=24						
S04C	**Ingram Canyon,**	**4.07**	**138**	⇓P	Pn	23 56 05.5	-0.1
	baz=4.1						
H03A	**Soap Creek Ran**	**4.20**	**14**	⇓P	Pn	23 56 08.5	+1.2
	baz=4.2						
H03A				⇓Sn	Sn	23 56 52.9	-3.5
	baz=4.2						
CMB	**Columbia Colle**	**4.23**	**126**	*e*Pn	Pn	23 56 08.0	+0.2
CMB	**Columbia Colle**	**4.23**	**126**	⇑P	Pn	23 56 08.0	+0.2
	baz=4.2,SNR=38						
M07A	**Soldier Meadow**	**4.27**	**78**	⇓P	Pn	23 56 06.9	-1.4
	baz=4.3,SNR=40						
L07A	**Adell**	**4.29**	**69**	⇑P	Pn	23 56 08.1	-0.5
	baz=4.3						
J06A	**Christmas Vall**	**4.31**	**51**	⇑P	Pn	23 56 08.7	-0.1
	baz=4.3						
J06A				⇓Sn	Sn	23 56 58.1	-1.0
	baz=4.3						
N07B	**Gerlach**	**4.37**	**86**	⇓P	Pn	23 56 08.6	-1.1
	baz=4.4						
H04A	**Detroit Lake**	**4.48**	**24**	⇓P	Pn	23 56 11.3	+0.1
	baz=4.5						
PACP	**Pacheco Peak**	**4.49**	**142**	⇑P	Pn	23 56 10.4	-0.9
	baz=4.5						
R06C	**Coleville**	**4.57**	**115**	⇓P	Pn	23 56 13.3	+0.8
	baz=4.6						
K07A	**Rock Creek Ran**	**4.60**	**61**	⇑P	Pn	23 56 12.2	-0.6
	baz=4.6,SNR=29						
K07A				⇓Sn	Sn	23 57 05.1	-1.2
	baz=4.6						
P07A	**Fallon**	**4.60**	**102**	⇓P	Pn	23 56 13.0	+0.1
	baz=4.6						
SAO	**San Andreas Ge**	**4.61**	**145**	*e*Pn	Pn	23 56 11.7	-1.4
SAO				*e*Sn	Sn	23 57 06.0	-0.7
I06A	**Prineville**	**4.72**	**44**	⇓P	Pn	23 56 15.5	+1.0
	baz=4.7						
S05C	**Merced**	**4.72**	**132**	⇓P	Pn	23 56 15.2	+0.6
	baz=4.7						
M08A	**Happy Creek Ra**	**4.87**	**78**	⇓P	Pn	23 56 15.7	-0.8
	baz=4.9						
HAST	**Hastings Reser**	**4.89**	**148**	⇓P	Pn	23 56 14.7	-2.1
	baz=4.9,SNR=42						
N08A	**GE Springer Mi**	**5.01**	**86**	⇑P	Pn	23 56 16.5	-2.0
	baz=5.0						
I07A	**Izee**	**5.19**	**46**	⇑P	Pn	23 56 22.2	+1.2
	baz=5.2						
H06A	**Lindquist Farm**	**5.24**	**37**	P	Pn	23 56 23.3	+1.7
	baz=5.2,SNR=7.5						
G05A	**Wamic**	**5.26**	**27**	⇓P	Pn	23 56 22.7	+0.8
	baz=5.3						
T06C	**Millerton Lake**	**5.32**	**131**	⇓P	Pn	23 56 23.5	+0.9
	baz=5.3,SNR=8.6						
KCC	**Kaiser Creek**	**5.34**	**126**	⇓P	Pn	23 56 23.8	+0.8
	baz=5.4						
V03C	**Hunter Liggett**	**5.34**	**148**	⇑P	Pn	23 56 20.9	-2.1
	baz=5.4						
J08A	**Circle Bar Ran**	**5.40**	**57**	⇑Sn	Sn	23 57 25.0	-1.1
	baz=5.4						
NVAR	**Mina Array Bea**	**5.42**	**112**	Pn	Pn	23 56 24.5	+0.4
	10nm,0.3s,baz=290,slow=15,SNR=174						
NVAR				Pg	Pg	23 56 34.0	-13
	4.6nm,0.3s,baz=288,slow=16,SNR=15						
NVAR				Lg		23 57 58.4	
	baz=302,slow=26,SNR=1.2						
N09A	**Rock Creek Ran**	**5.47**	**85**	⇑P	Pn	23 56 25.3	+0.5
	baz=5.5						
L09A	**Wilkinson Ranc**	**5.50**	**73**	⇓P	Pn	23 56 25.8	+0.6
	baz=5.5						
H07A	**Lands Inn, Kim**	**5.50**	**42**	⇑P	Pn	23 56 26.5	+1.2
	baz=5.5						
G06A	**Carlson Farm,**	**5.51**	**32**	⇑P	Pn	23 56 27.0	+1.6
	baz=5.5,SNR=6.3						
Q08A	**Gabbs**	**5.52**	**106**	⇓P	Pn	23 56 25.3	-0.1
	baz=5.5						
R08A	**Mina**	**5.59**	**112**	⇑P	Pn	23 56 27.0	+0.5
	baz=5.6						
PKD	**Parkfield**	**5.70**	**143**	⇓P	Pn	23 56 26.6	-1.4
	baz=5.7						
MTUM	**Tungsten Hills**	**5.79**	**122**	*e*Pn	Pn	23 56 31.8	+2.6
P09A	**Austin**	**5.91**	**98**	⇓P	Pn	23 56 31.2	+0.4
	baz=5.9,SNR=16						
HELL	**Mitchell Peak**	**5.94**	**130**	⇓P	Pn	23 56 32.3	+1.1
	baz=6.0						
G07A	**Ruggs Ranch, H**	**5.95**	**37**	⇓P	Pn	23 56 32.1	+0.8
	baz=6.0,SNR=9.3						
S08C	**White Mtn Res**	**5.97**	**119**	⇓P	Pn	23 56 32.3	+0.7
	baz=6.0						
E03A	**Lebam**	**5.99**	**8**	⇓P	Pn	23 56 32.7	+0.8
	baz=6.0						
RCTC	**Rector, Farmer**	**6.08**	**133**	⇑P	Pn	23 56 34.8	+1.7
	baz=6.1						
G08A	**Pilot Rock**	**6.30**	**40**	⇑P	Pn	23 56 39.3	+3.1
	baz=6.3						
R09A	**Tonopah**	**6.38**	**109**	⇑P	Pn	23 56 37.4	+0.2
	baz=6.4						
P10A	**Eureka**	**6.41**	**96**	⇑P	Pn	23 56 37.9	+0.2
	baz=6.4						
S09A	**Goldfield**	**6.50**	**114**	⇑P	Pn	23 56 39.6	+0.6
	baz=6.5						
VES	**Vestal, Richgr**	**6.51**	**135**	⇓P	Pn	23 56 39.6	+0.5
	baz=6.5						
E06A	**Yakima**	**6.52**	**23**	⇓P	Pn	23 56 40.3	+1.1
	baz=6.5,SNR=16						
Q10A	**Clear Creek Ra**	**6.66**	**103**	⇓P	Pn	23 56 42.4	+1.3
	baz=6.7						
F08A	**Pendleton**	**6.76**	**38**	⇓P	Pn	23 56 44.7	+2.1
	baz=6.8						
S10A	**Tonopah Range,**	**6.85**	**110**	⇓P	Pn	23 56 44.4	+0.6
	baz=6.9						
BMO	**Blue Mountains**	**6.91**	**50**	*e*Pn	Pn	23 56 46.3	+1.7
	7.6nm,0.7s						
R10A	**Warm Springs**	**6.91**	**107**	⇓P	Pn	23 56 45.6	+0.9
	baz=6.9						
ISA	**Isabella**	**6.97**	**133**	*e*Pn	Pn	23 56 46.8	+1.3
	29nm,0.9s						
ISA	**Isabella**	**6.97**	**133**	⇓P	Pn	23 56 47.1	+1.7
	baz=7.0						
H10A	**Noah's Angus R**	**7.10**	**53**	⇑P	Pn	23 56 49.2	+2.1
	baz=7.1						
ARVC	**Arvin**	**7.19**	**138**	⇑P	Pn	23 56 49.2	+0.8
	baz=7.2						
Q11A	**Duckwater**	**7.21**	**101**	⇑P	Pn	23 56 49.9	+1.2
	baz=7.2,SNR=12						
G10A	**Bishop Farm, J**	**7.28**	**47**	⇑P	Pn	23 56 52.3	+2.7
	baz=7.3						
R11A	**Troy Canyon, C**	**7.42**	**105**	⇑P	Pn	23 56 51.9	+0.3
	baz=7.4,SNR=9.1						
TPNV	**Topopah Spring**	**7.56**	**116**	*e*Pn	Pn	23 56 54.9	+1.4
	4.0nm,0.7s						
H11A	**Donnelly**	**7.61**	**55**	⇑P	Pn	23 56 55.7	+1.5
	baz=7.6						
P12A	**McGill**	**7.61**	**95**	⇑P	Pn	23 56 55.8	+1.6
	baz=7.6,SNR=6.5						
O12A	**Currie**	**7.62**	**89**	⇓P	Pn	23 56 55.0	+0.7
	baz=7.6						
Q12A	**Willow Creek R**	**7.77**	**98**	⇓P	Pn	23 56 57.6	+1.2
	baz=7.8,SNR=19						
EDW2	**Edwards Air Fo**	**7.82**	**135**	⇑P	Pn	23 56 58.5	+1.4
	baz=7.8						
G11A	**Walters Elk Ra**	**7.83**	**50**	⇑P	Pn	23 56 59.9	+2.8
	baz=7.8						
C07A	**Waterville**	**7.83**	**24**	⇑P	Pn	23 56 59.6	+2.4
	baz=7.8						
T11A	**Corn Creek, Al**	**8.13**	**111**	⇑P	Pn	23 57 02.7	+1.4
	baz=8.1						
F11A	**Grangeville**	**8.18**	**47**	⇓P	Pn	23 57 05.0	+3.0
	baz=8.2						
GSC	**Goldstone**	**8.19**	**128**	*e*Pn	Pn	23 57 03.6	+1.4
	8.0nm,1.0s						
H12A	**Diamond D Ranc**	**8.27**	**58**	⇓P	Pn	23 57 05.9	+2.6
	baz=8.3						
P13A	**Bates Ranch, G**	**8.29**	**95**	⇑P	Pn	23 57 04.9	+1.3
	baz=8.3,SNR=9.6						
BFSC	**Mount Baldy St**	**8.48**	**136**	⇓P	Pn	23 57 07.4	+1.3
	baz=8.5						
B08A	**Colville Reser**	**8.65**	**25**	⇑P	Pn	23 57 09.9	+1.5
	baz=8.6						
N14A	**Grayback Hills**	**8.76**	**85**	⇑P	Pn	23 57 12.3	+2.3
	baz=8.8						
HEC	**Hector,Ludlow**	**8.80**	**128**	⇑P	Pn	23 57 13.5	+3.0
	baz=8.8						
DUG	**Dugway**	**9.10**	**89**	*e*Pn	Pn	23 57 16.2	+1.6
	11nm,1.0s						
D12A	**Red Ives Fores**	**9.34**	**43**	⇑P	Pn	23 57 21.0	+3.1
	baz=9.3						
NEW	**Newport**	**9.38**	**33**	LR	LR	00 01 17.4	
	comp=Z,151nm,19.4s,baz=184,slow=39						
U13A	**Pakoon Wash**	**9.41**	**113**	⇓P	Pn	23 57 21.8	+2.9
	baz=9.4						
A09A	**Danville**	**9.43**	**25**	⇑P	Pn	23 57 21.6	+2.6
	baz=9.4						
BELC	**Belle Mtn.**	**9.58**	**131**	⇓P	Pn	23 57 22.5	+1.3
	baz=9.6						
PFO	**Pinyon Flat Ob**	**9.61**	**134**	*e*Pn	Pn	23 57 22.3	+0.7
	10nm,0.8s						
PFO	**Pinyon Flat Ob**	**9.61**	**134**	Pn	Pn	23 57 22.5	+0.9
	1.4nm,0.3s,baz=315,slow=8.2,SNR=13						
PFO				LR	LR	00 01 07.0	
	comp=Z,106nm,20.0s,baz=170,slow=38						
PFO	**Pinyon Flat Ob**	**9.61**	**134**	⇑P	Pn	23 57 22.7	+1.1
	baz=9.6						
MCMT	**McKenzie Canyo**	**9.70**	**60**	*e*Pn	Pn	23 57 25.2	+2.4
MSU	**Marysvale**	**9.91**	**98**	*e*Pn	Pn	23 57 27.7	+2.0
U14A	**Mt Trumbull**	**9.96**	**111**	⇓P	Pn	23 57 30.6	+4.1
	baz=10.0						
MSO	**Missoula**	**9.97**	**48**	*e*Pn	Pn	23 57 23.3	-3.2
	7.6nm,1.0s						
T15A	**Red Dirt Ranch**	**10.27**	**106**	⇑P	Pn	23 57 33.8	+3.1
	baz=10						
D14A	**Greenough**	**10.36**	**48**	⇓P	Pn	23 57 34.3	+2.5
	baz=10						
V14A	**Boquillas Ranc**	**10.41**	**115**	⇑P	Pn	23 57 36.6	+4.0
	baz=10						
CHMT	**Chamberlain Mo**	**10.41**	**49**	*e*Pn	Pn	23 57 30.0	-2.5
BOZ	**Bozeman (W)**	**10.81**	**58**	Pn	Pn	23 57 37.4	-0.6
	9.1nm,2.1s						
D15A	**Lincoln**	**10.90**	**50**	⇑P	Pn	23 57 41.9	+2.7
	baz=11						
SRU	**San Rafael**	**11.02**	**93**	*e*Pn	Pn	23 57 44.9	+4.1
	6.1nm,0.8s						
PDAR	**Pinedale Array**	**11.54**	**74**	Pn	Pn	23 57 55.0	+7.0
	0.1nm,0.3s,baz=258,slow=13,SNR=3.6						
SDCO	**Great Sand Dun**	**15.18**	**95**	*e*Pn	Pn	23 58 39.5	+1.8
	21nm,1.5s						
ANMO	**Albuquerque**	**15.49**	**106**	Pn	Pn	23 58 46.7	+4.9
ANMO				LR	LR	00 05 18.2	
ANMO	**Albuquerque**	**15.49**	**106**	Pn	Pn	23 58 46.7	+4.9
	0.1nm,0.3s,baz=311,slow=12,SNR=3.2						
ANMO				LR	LR	00 05 18.2	
	comp=Z,64nm,20.9s,baz=277,slow=39						
CBKS	**Cedar Bluff**	**19.29**	**87**	*e*Pn	Pn	23 59 28.2	-0.9
	14nm,0.8s						
TXAR	**Lajitas Array**	**20.54**	**117**	P	P	23 59 43.5	+1.7
	4.5nm,0.9s,baz=305,slow=8.7,SNR=14						
TXAR				LR	LR	00 08 22.4	
	comp

ISC 07 23:56:15.4±0.5,3548S±008×534E±01,h10km,n23, σ0°78/17,mb4.1/12,MS3.9/5,Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPO	**Ambohidratompo**	**17.72**	**340**	P	**Pn**	**00 00 22.5**	**+0.2**
	0.8nm,0.3s,baz=173,slow=11,SNR=9.8						
BOSA	**Boshof**	**24.77**	**278**	P	**P**	**00 01 36.4**	**-0.9**
	5.9nm,0.7s,mb4.2,baz=132,slow=14,SNR=12						
BOSA				LR	LR	00 08 54.9	
	comp=Z,112nm,18.9s,MS3.4,baz=229,slow=31						
LBTB	**Lobatse**	**26.11**	**286**	P	**P**	**00 01 48.0**	**-1.4**
	6.4nm,0.8s,mb4.2,baz=153,slow=8.8,SNR=7.0						
LBTB				LR	LR	00 10 39.8	
	comp=Z,115nm,19.6s,MS3.4,baz=297,slow=33						
SUR	**Sutherland**	**27.15**	**267**	LR	LR	00 10 42.0	
	comp=Z,116nm,20.7s,MS3.4,baz=176,slow=32						
SNAA	**Sanae**	**46.24**	**201**	P	**P**	**00 04 40.2**	**0.0**
	1.6nm,0.8s,mb4.0,baz=72,slow=5.6,SNR=11						
VNA2	**Neumayer--Watz**	**47.42**	**203**	*e*	**P**	**00 04 50.9**	**+1.4**
	baz=64,slow=6.1						
VNA2				*e*	pP	00 04 55.6	+3.0
VNA2				*e*		00 05 00.8	
VNA2				*e*		00 05 03.6	
VNA1	**Neumayer--Stat**	**47.63**	**203**	*e*	**P**	**00 04 51.4**	**+0.3**
VNA1				*e*	pP	00 04 56.0	+1.7
VNA1				*e*		00 05 01.0	
VNA1				*e*		00 05 04.5	
VNA3	**Neumayer Olymp**	**48.22**	**203**	*e*	**P**	**00 04 56.0**	**+0.3**
VNA3				*e*		00 05 01.1	
VNA3				*e*		00 05 05.4	
VNA3				*e*		00 05 08.0	
QSPA	**South Pole Qui**	**54.70**	**180**	P	**P**	**00 05 43.7**	**-0.4**
	1.8nm,0.7s,mb4.2,baz=291,slow=5.0,SNR=5.4						
TORD	**Torodi Ar. Bea**	**68.78**	**305**	P	**P**	**00 07 20.1**	**+0.3**
	2.9nm,0.8s,mb4.2,baz=122,slow=5.5,SNR=20						
ASAR	**Alice Springs**	**69.26**	**105**	P	**P**	**00 07 22.1**	**-0.8**
	1.0nm,0.7s,mb3.9,baz=232,slow=5.8,SNR=11						
WRA	**Warramunga Arr**	**71.52**	**102**	P	**P**	**00 07 36.0**	**-0.7**
	2.5nm,1.0s,mb4.1,baz=231,slow=4.7,SNR=6.4						
WRAB	**Tennant Creek**	**71.54**	**102**	P	**P**	**00 07 36.5**	**-0.3**
	5.4nm,1.0s,mb4.4						
KEST	**Kesra**	**81.88**	**325**	P	**P**	**00 08 36.0**	**+1.2**
	0.7nm,0.9s,mb3.6,baz=150,slow=20,SNR=3.7						
AKTK	**Aktyubinsk**	**85.64**	**3**	P	**P**	**00 08 53.6**	**0.0**
AKTO	**Aktyubinsk**	**85.64**	**3**	P	**P**	**00 08 53.6**	**0.0**
	0.9nm,0.7s,mb4.1,baz=178,slow=2.4,SNR=4.0						
MKAR	**Makanchi Array**	**85.92**	**19**	P	**P**	**00 08 56.6**	**+1.5**
	0.4nm,0.7s,mb3.7,baz=213,slow=4.8,SNR=3.9						
AKASG	**Malin Array Be**	**88.42**	**345**	P	**P**	**00 09 06.5**	**-0.6**
	0.5nm,0.5s,mb4.0,baz=165,slow=4.5,SNR=8.7						
BDFB	**Brasilia**	**90.05**	**251**	LR	LR	00 41 28.7	
	comp=Z,165nm,19.2s,MS4.5,baz=122,slow=30						
ESDC	**Sonseca Array**	**91.59**	**319**	LR	LR	00 49 51.8	
	comp=Z,189nm,18.2s,MS4.6,baz=235,slow=35						
INK	**Inuvik**	**146.89**	**5**	PKPbc	PKPbc	00 15 56.1	-0.8
	1.4nm,0.8s,baz=346,slow=3.3,SNR=8.3						
YKA	**Yellowknife Ar**	**151.94**	**348**	PKPbc	PKPbc	00 16 08.2	-1.5
YKA	**Yellowknife Ar**	**151.94**	**348**	PKPbc	PKPbc	00 16 08.2	-1.5
	0.5nm,0.8s,baz=23,slow=2.0,SNR=8.8						

IDC 07 23:58:00.3±4.5,752S×6718E,h0km,mb3.7/3,mb1 3.7/3, mb1mx3.3/21,mbtmp3.7/3,MS4.4/1,Ms1 4.4/1, ms1mx3.2/33,Error ellipse: s-maj=205.7km s-min=101.9km az=111.0,Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBTB	**Lobatse**	**43.32**	**241**	LR	LR	00 23 28.0	
	comp=Z,453nm,18.4s,baz=122,slow=35						
MKAR	**Makanchi Array**	**55.72**	**13**	P	P	00 07 38.1	-0.4
	0.4nm,0.4s,baz=203,slow=7.9,SNR=7.8						
ZALV	**Zalesovo Beam**	**63.02**	**12**	P	P	00 08 29.3	+0.4
	0.3nm,0.4s,baz=224,slow=5.8,SNR=3.0						
SONM	**Songino Array**	**65.07**	**28**	P	P	00 08 42.7	+0.2
	0.7nm,0.8s,baz=227,slow=4.9,SNR=5.3						
PDAR	**Pinedale Array**	**144.78**	**356**	PKP	PKPdf	00 17 39.1	-0.3
	0.5nm,0.6s,baz=84,slow=2.8,SNR=4.9						

ISCJB ***08*** *00:01:56.7±0.3, 1565S±006×8796E±006, h10km, mb4.5/50, MS4.1/11, Error ellipse: s-maj=8.9km s-min=8.5km az=31.0*
MOS ***08*** *00:01:56.7±1.1, 1561S×8801E, h10km, mb5.0/8, Error ellipse: s-maj=15.0km s-min=10.8km az=113.7*
IDC ***08*** *00:01:56.8±0.4, 1558S×8799E, h0km, mb4.2/22, mb1 4.3/22, mb1mx4.3/25, mbtmp4.2/22, MS4.1/6, Ms1 4.1/6, ms1mx3.7/27, Error ellipse: s-maj=15.1km s-min=13.6km az=123.0*
NEIC ***08*** *00:01:58.6±0.2, 1562S×8798E, h10km, mb4.8/17, Error ellipse: s-maj=8.8km s-min=8.0km az=222.0*
BJI ***08*** *00:02:02.8, 1469S×8720E, h5km, mB5.0, mb4.6, Ms4.3, Msz4.0*

ISC 08 00:01:58.5±0.3,1562S±006×8797E±006,h10km, (h23km±4.1km:pP-P),n135,σ1°07/103,mb4.5/50,MS4.1/11, 9C-7D,South Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**21.27**	**32**	P	**P**	**00 06 49.5**	**+4.2**
	5.1nm,0.9s,mb3.9,baz=181,slow=13,SNR=4.3						
PSI				LR	LR	00 13 50.1	
	comp=Z,410nm,18.3s,MS3.9,baz=221,slow=34						
PALK	**Pallekele**	**23.86**	**342**	*e*P	**P**	**00 07 17.5**	**+5.2**
	9.1nm,0.7s,mb4.3						
KULM	**Kulim**	**24.28**	**32**	*e*P	**P**	**00 07 18.2**	**+2.1**
NWAO	**Narrogin (SRO)**	**31.60**	**128**	LR	LR	00 19 22.3	
	comp=Z,131nm,19.8s,MS3.6,baz=341,slow=33						
FITZ	**Fitzroy Crossi**	**36.09**	**99**	*e*P	**P**	**00 09 06.5**	**+5.6**
	6.4nm,0.9s,mb4.5						
OPO	**Ambohidratompo**	**39.03**	**260**	P	**P**	**00 09 26.6**	**+0.8**
	7.4nm,0.8s,mb4.5,baz=99,slow=7.1,SNR=12						
FORT	**Forrest**	**39.58**	**120**	*e*P	**P**	**00 09 27.6**	**-2.6**
	24nm,0.7s,mb5.0						
QIZ	**Qiongzhong**	**40.61**	**33**	P	**P**	**00 09 41.6**	**+2.8**
QIZ				*e*S	**S**	**00 15 50.0**	**+1.4**
QIZ				LR	LR		
	comp=Z,200nm,17.5s,MS4.0						
ASAR	**Alice Springs**	**43.84**	**108**	P	**P**	**00 10 05.2**	**0.0**
	comp=Z,2.3nm,0.8s,mb4.0,baz=278,slow=7.6,SNR=18						
WRA	**Warramunga Arr**	**44.26**	**103**	P	**P**	**00 10 08.2**	**-0.4**
	comp=Z,2.8nm,0.8s,mb4.1,baz=273,slow=8.8,SNR=9.0						
WB2	**Warramunga Arr**	**44.27**	**103**	*e*P	**P**	**00 10 08.7**	**0.0**
WRAB	**Tennant Creek**	**44.27**	**103**	*e*P	**P**	**00 10 07.6**	**-1.1**
LSA	**Lhasa**	**45.16**	**4**	P	**P**	**00 10 16.4**	**+0.9**
STKA	**Stephens Creek**	**51.19**	**118**	*e*P	**P**	**00 11 07.2**	**+5.0**
	comp=Z,3.1nm,0.7s,mb4.3						
STKA	**Stephens Creek**	**51.19**	**118**	P	**P**	**00 11 02.3**	**0.0**
	comp=Z,1.7nm,0.8s,mb4.0,baz=336,slow=4.1,SNR=3.1						
KMBO	**Kilima Mbogo**	**52.04**	**281**	*e*P	**P**	**00 11 09.4**	**+0.5**
	comp=Z,3.0nm,0.8s,mb4.3						
KMBO	**Kilima Mbogo**	**52.04**	**281⇑**	*e*P	**P**	**00 11 10.3**	**+1.4**
KMBO	**Kilima Mbogo**	**52.04**	**281**	P	**P**	**00 11 09.7**	**+0.9**
	comp=Z,1.3nm,0.7s,mb4.0,baz=76,slow=19,SNR=9.3						
XAN	**Xi'an**	**53.27**	**22**	P	**P**	**00 11 22.1**	**+4.6**
XAN				AP	pP	00 11 31.1	+10
XAN				S	**S**	**00 18 46.5**	**-2.4**
XAN				AMB	AMB		
	comp=Z,8.0nm,1.2s,mb4.5						
XAN				AMB	AMB		
	comp=Z,70nm,5.8s						
XAN				LR	LR		
	comp=N,124nm,19.3s,MS4.1						
XAN				LR	LR		
	comp=E,130nm,19.3s,MS4.1						
XAN				LR	LR		
	comp=Z,180nm,17.5s,MS4.2						
MAW	**Mawson**	**54.44**	**192**	P	**P**	**00 11 26.2**	**+0.5**
	comp=Z,4.1nm,0.7s,mb4.5,baz=11,slow=7.4,SNR=5.6						
GTA	**Gaotai**	**55.85**	**11**	*e*P	**P**	**00 11 42.1**	**+5.9**
GTA				AP	pP	00 11 44.9	+5.5
GTA				XP	sP	00 11 47.7	+7.1
GTA				AMB	AMB		
	comp=Z,6.0nm,1.1s,mb4.5						
GTA				AMB	AMB		
	comp=Z,104nm,4.9s						
GTA				LR	LR		
	comp=N,99nm,19.0s,MS4.1						
GTA				LR	LR		
	comp=E,90nm,16.7s,MS4.1						
GTA				LR	LR		
	comp=Z,96nm,14.8s,MS4.0						
NJ2	**Nanjing**	**55.89**	**32**	*e*P	**P**	**00 11 41.3**	**+4.7**
NJ2				AMB	AMB		
	comp=Z,30nm,1.0s,mb5.3						
LSZ	**Lusaka**	**57.45**	**262**	*e*P	**P**	**00 11 47.8**	**-0.3**
	comp=Z,5.7nm,1.0s,mb4.6						
LSZ	**Lusaka**	**57.45**	**262**	*e*P	**P**	**00 11 47.8**	**-0.3**
LSZ				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.6						
QRN	**Al-Qurain**	**58.69**	**319**	*e*P	**P**	**00 11 54.9**	**-1.7**
QRN				AMb	AMB	00 12 08.2	
	comp=Z,25nm,0.7s,mb5.3						
LBTB	**Lobatse**	**58.81**	**250**	P	**P**	**00 11 57.7**	**+0.2**
LBTB	**Lobatse**	**58.81**	**250**	P	**P**	**00 11 57.7**	**+0.2**
	comp=Z,5.1nm,1.0s,mb4.5,baz=116,slow=11,SNR=4.5						
BOSA	**Boshof**	**58.94**	**246**	P	**P**	**00 11 58.0**	**-0.4**
	comp=Z,9.1nm,0.7s,mb5.0,baz=90,slow=5.7,SNR=26						
BOSA				LR	LR	00 30 22.7	
	comp=Z,167nm,20.5s,MS4.2,baz=156,slow=29						
AML	**Almayashu**	**58.95**	**348**	*e*P	**P**	**00 11 58.3**	**+0.3**
	comp=Z,6.0nm,0.9s,mb4.6						
RDF	**Al-Radifah**	**59.05**	**318**	*e*P	**P**	**00 11 57.0**	**-2.0**
RDF				AMb	AMB	00 12 11.2	
	comp=Z,24nm,0.8s,mb5.3						
WMQ	**Urumqi**	**59.15**	**360**	*e*P	**P**	**00 12 05.0**	**+5.6**
WMQ				AMB	AMB		
	comp=Z,5.0nm,0.8s,mb4.6						
EKS2	**Erkin-Say**	**59.45**	**348**	*e*P	**P**	**00 12 01.2**	**-0.2**
	comp=Z,3.8nm,0.8s,mb4.5						
NAY	**Al-Naaiem**	**59.47**	**319**	*e*P	**P**	**00 12 00.1**	**-1.8**
NAY				AMb	AMB	00 12 13.1	
	comp=Z,16nm,0.7s,mb5.2						
MIB	**Mutribah**	**59.79**	**319**	*e*P	**P**	**00 12 02.2**	**-1.9**
MIB				AMb	AMB	00 12 15.5	
	comp=Z,24nm,0.7s,mb5.3						
RST	**Umm Al-Ruwaisa**	**59.80**	**319**	*e*P	**P**	**00 12 02.8**	**-1.3**
RST				AMb	AMB	00 12 16.6	
	comp=Z,26nm,0.7s,mb5.4						
BJI	**Beijing**	**61.29**	**24**	P	**P**	**00 12 20.3**	**+6.2**
BJI				AMB	AMB		
	comp=Z,11nm,1.2s,mb4.9						
BJI				LR	LR		
	comp=N,102nm,21.6s,MS4.1						
BJI				LR	LR		
	comp=E,131nm,25.5s,MS4.1						
BJI				LR	LR		
	comp=Z,83nm,29.5s,MS3.7						
SYO	**Syowa Base**	**61.30**	**198⇓**	*e*P	**P**	**00 12 20.0**	**+6.2**
MK31	**Makanchi Array**	**62.33**	**356**	*e*P	**P**	**00 12 20.2**	**-0.8**
MKAR	**Makanchi Array**	**62.33**	**356**	P	**P**	**00 12 20.0**	**-1.0**
	comp=Z,0.4nm,0.4s,mb3.9,baz=178,slow=7.5,SNR=9.4						
SUR	**Sutherland**	**62.67**	**241**	P	**P**	**00 12 24.8**	**+1.0**
SUR	**Sutherland**	**62.67**	**241**	P	**P**	**00 12 24.8**	**+1.0**
	comp=Z,1.3nm,0.7s,mb5.2,baz=101,slow=8.8,SNR=11						
KSRS	**Korea Array**	**64.80**	**34**	P	**P**	**00 12 37.8**	**+0.3**
	comp=Z,1.9nm,0.7s,mb4.2,baz=229,slow=6.4,SNR=11						
SONM	**Songino Array**	**65.28**	**14**	P	**P**	**00 12 40.8**	**+0.4**
	comp=Z,0.9nm,0.6s,mb4.0,baz=197,slow=6.9,SNR=11						
ULN	**Ulaanbaatar**	**65.46**	**14**	*e*P	**P**	**00 12 38.7**	**-2.9**
	comp=Z,8.2nm,0.9s,mb4.8						
ULN	**Ulaanbaatar**	**65.46**	**14**	*i*P	**P**	**00 12 42.0**	**+0.4**
KURK	**Kurchatov**	**66.56**	**354**	*e*P	**P**	**00 12 47.8**	**-0.7**
	comp=Z,1.4nm,1.0s,mb5.0						
KURK	**Kurchatov**	**66.56**	**354**	*d*P	**P**	**00 12 47.6**	**-1.0**
ZAK	**Zakamensk**	**67.08**	**11**	*e*P	**P**	**00 12 52.2**	**+0.3**
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.0s,mb4.1						
ZAL	**Zalesovo**	**69.33**	**358**	P	**P**	**00 13 05.5**	**-0.4**
ZAA0	**Zalesovo Array**	**69.34**	**358**	*e*P	**P**	**00 13 05.3**	**-0.7**
ZALV	**Zalesovo Beam**	**69.34**	**358**	P	**P**	**00 13 05.5**	**-0.5**
ZALV	**Zalesovo Beam**	**69.34**	**358**	P	**P**	**00 13 05.5**	**-0.5**
	comp=Z,4.9nm,0.6s,mb4.6,baz=187,slow=3.6,SNR=30						
MAT	**Matsushiro**	**70.27**	**41**	P	**P**	**00 13 17.0**	**+4.9**
MJAR	**Matsushiro Arr**	**70.27**	**41**	P	**P**	**00 13 11.9**	**-0.3**
	comp=Z,1.0nm,0.8s,mb3.8,baz=236,slow=6.9,SNR=5.4						
AKTK	**Aktyubinsk**	**70.84**	**340**	P	**P**	**00 13 14.0**	**-1.3**
AKTO	**Aktyubinsk**	**70.84**	**340**	P	**P**	**00 13 14.0**	**-1.4**
	comp=Z,1.2nm,0.7s,mb3.9,baz=34,slow=3.6,SNR=3.8						
MALT	**Malatya**	**70.94**	**321**	*e*P	**P**	**00 13 17.0**	**+0.8**
	comp=Z,5.9nm,0.8s,mb4.6						
MALT	**Malatya**	**70.94**	**321**	*e*P	**P**	**00 13 17.0**	**+0.8**
MALT				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.6						
MALT	**Malatya**	**70.94**	**321⇓**	*i*P	**P**	**00 13 25.2**	**+9.0**
VNDA	**Vanda**	**71.37**	**167**	P	**P**	**00 13 17.9**	**-0.4**
	comp=Z,1.0nm,0.8s,mb3.8,baz=306,slow=7.4						
KIV	**Kislovodsk**	**72.27**	**327**	*e*P	**P**	**00 13 24.1**	**0.0**
	comp=Z,20nm,1.1s,mb5.0						
KIV	**Kislovodsk**	**72.27**	**327**	*e*P	**P**	**00 13 24.4**	**+0.3**
KIV				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.7						
KIV				MLR	MLR		
	comp=Z,157nm,18.0s,MS4.3						
QSPA	**South Pole Qui**	**74.44**	**180**	*e*P	**P**	**00 13 36.7**	**+0.3**
	comp=Z,14nm,1.1s,mb4.8						
QSPA	**South Pole Qui**	**74.44**	**180**	P	**P**	**00 13 36.7**	**+0.3**
	comp=Z,6.6nm,0.7s,mb4.7,baz=290,slow=1.9,SNR=22						
KLR	**Kul'dur**	**75.29**	**28**	*e*P	**P**	**00 13 36.8**	**-4.9**
SNAA	**Sanae**	**75.55**	**199**	P	**P**	**00 13 43.1**	**+0.1**
	comp=Z,1.1nm,0.7s,mb3.9,baz=123,slow=8.3,SNR=6.8						
SVE	**Sverdlovsk**	**75.70**	**345⇑**	*e*P	**P**	**00 13 47.0**	**+3.1**
SVE				pmax	pmax		
	comp=Z,15nm,1.2s,mb4.8						
ARU	**Arti**	**75.89**	**344**	*e*P	**P**	**00 13 43.4**	**-1.5**
	comp=Z,6.5nm,0.8s,mb4.6						
ARU	**Arti**	**75.89**	**344**	*e*P	**P**	**00 13 44.0**	**-1.0**
ARU				*e*		00 13 52.8	
BOD	**Bodaibo**	**76.28**	**14**	*e*P	**P**	**00 13 52.1**	**+5.0**
YSS	**Yuzh-Sakhalins**	**79.30**	**35**	*i*P	**P**	**00 14 10.5**	**+6.3**
YSS				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb4.6						
TIRR	**Tirgusor**	**80.63**	**321⇑**	*i*P	**P**	**00 14 14.6**	**+3.1**
HARR	**Harsova**	**81.05**	**321⇑**	*i*P	**P**	**00 14 22.6**	**+8.9**
VRI	**Vrincioaia**	**82.39**	**322⇑**	*i*P	**P**	**00 14 21.5**	**+0.7**
PLOR	**Plostina**	**82.43**	**322⇑**	*i*P	**P**	**00 14 22.0**	**+1.0**
MLR	**Muntele Rosu**	**82.66**	**321⇓**	*i*P	**P**	**00 14 23.3**	**+1.1**
AKASG	**Malin Array Be**	**83.61**	**327**	*i*P	**P**	**00 14 26.8**	**-0.2**
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.8s						
AKASG	**Malin Array Be**	**83.61**	**327**	P	**P**	**00 14 26.4**	**-0.6**
	comp=Z,1.7nm,0.8s,mb4.2,baz=118,slow=3.9,SNR=13						
YAK	**Yakutsk**	**84.08**	**18**	*i*P	**P**	**00 14 35.2**	**+6.1**
YAK				pmax	pmax		
	comp=Z,16nm,0.9s,mb5.2						
DRGR		**85.26**	**321⇑**	*i*P	**P**	**00 14 40.4**	**+4.9**
BZS	**Buzias**	**85.38**	**320⇓**	*i*P	**P**	**00 14 36.6**	**+0.5**
BZS	**Buzias**	**85.38**	**320⇑**	*i*P	**P**	**00 14 44.9**	**+8.8**
STHS	**Stebnicka Huta**	**87.36**	**323**	*e*P	**P**	**00 14 52.4**	**+6.6**
STHS	**Stebnicka Huta**	**87.36**	**323**	*e*pP	pP	00 14 52.4	+3.3
KECS	**Kecovo**	**87.38**	**322**	*e*P	**P**	**00 14 45.2**	**-0.7**
PKSM	**Moragy**	**87.50**	**319**	*i*P	**P**	**00 14 54.5**	**+8.0**
VYHS	**Vyhne**	**88.37**	**322**	*e*P	**P**	**00 14 51.3**	**+0.7**
VYHS				*e*pP	pP	00 15 00.4	+6.5
KOLL	**Kolacno**	**88.67**	**322**	*e*P	**P**	**00 14 53.5**	**+1.5**
KOLL				*e*pP	pP	00 15 01.1	+5.8
MORC	**Moravsky Berou**	**89.69**	**322**	*e*P	**P**	**00 14 56.8**	**+0.1**
	comp=Z,4.0nm,0.8s,mb4.8						
MORC	**Moravsky Berou**	**89.69**	**322**	*e*P	**P**	**00 14 56.8**	**+0.1**
MORC				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.8						
MORC	**Moravsky Berou**	**89.69**	**322⇓**	*i*P	**P**	**00 15 06.3**	**+10**
TORD	**Torodi Ar. Bea**	**89.97**	**284**	P	**P**	**00 14 59.0**	**+0.1**
TORD	**Torodi Ar. Bea**	**89.97**	**284**	P	**P**	**00 14 59.0**	**+0.1**
	comp=Z,1.1nm,0.8s,mb4.2,baz=104,slow=3.3,SNR=5.7						
KEST	**Kesra**	**90.06**	**307**	P	**P**	**00 14 59.3**	**+0.5**
	comp=Z,0.5nm,0.7s,mb3.9,baz=170,slow=11,SNR=2.1						
KEST				LR	LR	00 54 40.1	
	comp=Z,156nm,19.3s,MS4.5,baz=202,slow=35						
DPC	**Dobruska-Polom**	**90.64**	**323**	*e*P	**P**	**00 15 02.3**	**+1.1**
DPC				*ex*	x	00 15 10.9	
UPC	**Upice**	**90.88**	**323**	*e*P	**P**	**00 15 13.1**	**+11**
FINES	**FINESS Array B**	**90.95**	**335**	P	**P**	**00 15 01.6**	**-0.7**
	comp=Z,2.2nm,0.9s,mb4.5,baz=153,slow=7.3,SNR=2.9						
TIXI	**Tiksi**	**91.33**	**12**	*i*P	**P**	**00 15 09.3**	**+5.4**
GERES	**GERESS Array B**	**91.62**	**320**	P	**P**	**00 15 06.2**	**+0.4**
	comp=Z,0.3nm,0.6s,mb3.8,baz=111,slow=7.3,SNR=5.0						
GERES				LR	LR	00 54 08.9	
	comp=Z,147nm,19.1s,MS4.4,baz=81,slow=34						
KHC	**Kasperske Hory**	**91.81**	**321**	*e*P	**P**	**00 15 15.2**	**+8.6**
KHC				*e*	pP	00 15 19.5	+10
KHC	**Kasperske Hory**	**91.81**	**321⇑**	*e*P	**P**	**00 15 07.3**	**+0.7**
KHC	**Kasperske Hory**	**91.81**	**321**	*e*P	**P**	**00 15 15.2**	**+8.6**
KHC				x	x	00 15 19.5	
SEY	**Seymchan**	**92.73**	**24**	*i*P	**P**	**00 15 17.2**	**+6.6**
NOA	**NORSAR Array B**	**97.26**	**331**	LR	LR	01 01 37.9	
	comp=Z,74nm,18.5s,MS4.2,baz=0.0,slow=37						
MSO	**Missoula**	**143.94**	**26**	*e*PKPdf	PKPdf	00 21 36.2	+1.9
ULM	**Lac du Bonnet**	**145.32**	**4**	PKPbc	PKPbc	00 21 35.1	-1.3
	comp=Z,5.9nm,0.7s,baz=356,slow=3.6,SNR=11						
DLMT	**Dillon**	**145.67**	**26**	*e*PKPdf	PKPdf	00 21 37.8	+0.5
DGMT	**Dagmar**	**145.75**	**14**	*e*PKPdf	PKPdf	00 21 37.5	+0.1
BOZ	**Bozeman (W)**	**145.84**	**25**	*e*PKPdf	PKPdf	00 21 37.9	+0.3
MCMT	**McKenzie Canyo**	**145.99**	**27**	*e*PKPdf	PKPdf	00 21 38.8	+0.9
HLID	**Hailey**	**146.25**	**30**	*e*PKPdf	PKPdf	00 21 40.0	+1.6
GCMT	**Greycliff**	**146.48**	**23**	*e*PKPdf	PKPdf	00 21 37.1	-1.6
CMB	**Columbia Colle**	**146.49**	**43**	*e*PKPdf	PKPdf	00 21 39.3	+0.3
QLMT	**Earthquake Lak**	**146.59**	**25**	*e*PKPdf	PKPdf	00 21 39.9	+0.9
LAO	**LASA Array**	**146.84**	**18**	*e*PKPdf	PKPdf	00 21 39.6	+0.3
YMR	**Madison River**	**146.91**	**25**	*e*PKPdf	PKPdf	00 21 41.3	+1.8
YFT	**Old Faithful**	**147.14**	**25**	*e*PKPbc	PKPbc	00 21 43.9	+1.9
RLMT	**Red Lodge**	**147.20**	**23**	*e*PKPdf	PKPdf	00 21 41.9	+2.0
FLWY	**Flagg Ranch**	**147.50**	**25**	*e*PKPdf	PKPbc	00 21 44.7	+1.6
IMW	**Indian Meadow**	**147.55**	**26**	*e*PKPbc	PKPbc	00 21 44.1	+0.9
NVAR	**Mina Array Bea**	**147.59**	**40**	PKPbc	PKPbc	00 21 44.6	+1.2
	comp=Z,3.0nm,0.8s,baz=299,slow=0.8,SNR=5.5						
MOOW	**Moose Ponds**	**147.75**	**26**	*e*PKPbc	PKPbc	00 21 45.5	+1.8
EYMN	**Ely**	**147.77**	**359**	*e*PKPdf	PKPdf	00 21 42.0	+1.1
TPAW	**Teton Pass**	**147.88**	**26**	*e*PKPbc	PKPbc	00 21 44.7	+0.6
LOHW	**Long Hollow**	**147.92**	**26**	*e*PKPbc	PKPbc	00 21 44.5	+0.3
SNOW	**Snow King Moun**	**147.98**	**26**	*e*PKPbc	PKPbc	00 21 45.4	+1.0
MTUM	**Tungsten Hills**	**148.06**	**42**	*e*PKPbc	PKPbc	00 21 45.2	+0.4
BGU	**Big Grassy Mou**	**148.90**	**32**	*e*PKPbc	PKPbc	00 21 47.0	+0.2
PDAR	**Pinedale Array**	**149.06**	**26**	PKPbc	PKPbc	00 21 46.5	-0.6
PDAR	**Pinedale Array**	**149.06**	**26**	PKPbc	PKPbc	00 21 46.5	-0.6
	comp=Z,2.3nm,0.8s,baz=125,slow=0.9,SNR=7.0						
DUG	**Dugway**	**149.55**	**32**	*e*PKPbc	PKPbc	00 21 49.3	+0.8
NLU	**North Lily Min**	**150.11**	**32**	*e*PKPdf	PKPbc	00 21 50.2	+0.3
RWWY	**Rawlins**	**150.91**	**24**	*e*PKPbc	PKPbc	00 21 51.2	-0.5
MSU	**Marysvale**	**151.12**	**34**	*e*PKPdf	PKPdf	00 21 47.8	+1.3
ECSD	**EROS,Sioux Fal**	**151.71**	**7**	*e*PKPbc	PKPbc	00 21 52.5	-1.0
ECSD				*e*PKPab	PKPab	00 22 01.6	-0.6

CSEM ***08*** *00:10:48.0±0.1, 3719N×2445W, h2km, mb4.5/45, Ms4.0, Mw4.8, Error ellipse: s-maj=2.9km s-min=1.5km az=5.0*
CRAAG ***08*** *00:10:50.0, 3733N×2462W, Mb5.5*
IDC ***08*** *00:10:50.1±0.7, 3713N×2448W, h0km, mb4.0/15, mb1 4.2/16, mb1mx4.1/24, mbtmp4.0/16, ML4.0/1, MS4.1/20, Ms1 4.1/20, ms1mx3.9/29, Error ellipse: s-maj=18.0km s-min=17.1km az=15.0*
NEIC ***08*** *00:10:51.5±0.3, 3705N×2430W, h10km, mb4.4/48, MS4.1/4, Error ellipse: s-maj=6.2km s-min=5.3km az=94.0*
GCMT ***08*** *00:10:51.5±0.4, 3735N×2440W, h12km, MW4.8/66, Moment Tensor Solution. s12,c12; s66,c89; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.09±.08; $M_{\theta\theta}$0.84±.09; $M_{\phi\phi}$1.26±.07; $M_{r\theta}$-0.25±.44; $M_{\theta\phi}$-0.84±.07; $M_{\phi r}$-0.22±.32; Best double couple: $M_0$2.02800×10^{16} NP1:ϕ_s134.00000°, δ45.00000°, λ-101.00000°. NP2: ϕ_s330.00000°, δ46.00000°, λ-79.00000°. Principal axes: T 1.9

MOE Montemor 12.83 79 *e*S **Sn 00 16 03.1 -13**
MOE *e*T 00 25 40.9
EVOP Sao Brissos 13.01 79 *e*Pn **Pn 00 13 51.2 -4.1**
EVOP *e*Sn **Sn 00 16 07.2 -13**
EVO Evora 13.10 79 *e*Pn **Pn 00 13 51.2 -5.3**
EVO *e*Sn **Sn 00 16 07.2 -15**
16nm,0.5s
EVO *e*MLR MLR
comp=Z,2µm,22.2s
PBEJ Beja 13.21 81 *e*P **Pn 00 14 06.2 +8.1**
PBEJ *e*S **Sn 00 16 10.2 -15**
PBEJ *e*T 00 25 41.4
EMAZ Mazaricos 13.23 59 P **Pn 00 13 54.1 -4.2**
EMAZ S **Sn 00 16 08.1 -17**
PVAQ Vaqueiros 13.36 84 *e*S **Sn 00 16 13.0 -16**
PVAQ *e*T 00 26 08.4
PVIS Viseu 13.41 69 *e*P **Pn 00 13 55.4 -5.3**
PVIS *e*S **Sn 00 16 13.8 -16**
PVIS *e*T 00 25 56.1
PESTR Estremoz 13.44 77 *e*S **Sn 00 16 16.0 -15**
PESTR *e*T 00 25 38.2
STS Santiago 13.50 60 P **Pn 00 13 56.6 -5.4**
STS S **Sn 00 16 16.8 -15**
PCAB Cabril 13.52 65 *e*S **Sn 00 16 16.8 -16**
EGRO El Granado 13.53 83 P **Pn 00 14 00.6 -1.9**
EGRO S **Sn 00 16 16.0 -17**
ELOB Lobios 13.54 64 P **Pn 00 13 58.3 -4.3**
comp=Z,5.8nm,0.6s
ELOB S **Sn 00 16 17.3 -16**
PCBR Castelo Branco 13.60 73 *e*P **Pn 00 13 58.6 -4.7**
PCBR *e*S **Sn 00 16 19.0 -15**
PCBR *e*T 00 25 40.5
MTE Manteigas 13.62 71 *e*S **Sn 00 16 19.2 -16**
MTE *e*T 00 25 53.7
PVRL Vila Real 13.65 67 *e*P **Pn 00 13 58.5 -5.5**
PVRL *e*S **Sn 00 16 18.9 -17**
PBAR Barrancos 13.86 80 *e*P **Pn 00 14 07.1 +0.2**
PBAR *e*S **Sn 00 16 25.3 -16**
PBAR *e*T 00 25 51.1
EBAD Badajoz 13.88 78 P **Pn 00 14 02.9 -4.3**
comp=Z,0.1nm,0.1s
EBAD S **Sn 00 16 25.0 -16**
MVO Moncorvo 14.13 68 *e*P **Pn 00 14 06.5 -4.1**
MVO *e*S **Sn 00 16 31.9 -16**
MVO *e*T 00 26 13.8
EMIN Mina Concepcio 14.16 82 P **Pn 00 14 08.3 -2.7**
EMIN S **Sn 00 16 31.8 -16**
PBRG Braganca 14.48 66 *e*P **Pn 00 14 10.7 -4.6**
PBRG *e*S **Sn 00 16 37.1 -19**
ECAL Calabor 14.52 65 P **Pn 00 14 11.9 -3.9**
comp=Z,0.7nm,0.2s
ECAL S **Sn 00 16 42.1 -15**
EPON Pontenova 14.62 59 P **Pn 00 14 13.7 -3.5**
comp=Z,0.4nm,0.1s
EPON S **Sn 00 16 43.6 -16**
ESPR Espera 14.88 85 P **Pn 00 14 16.4 -4.5**
comp=Z,0.4nm,0.2s
ESPR S **Sn 00 16 50.4 -15**
EARI Arriondas 15.96 61 P **Pn 00 14 31.4 -3.6**
comp=Z,0.3nm,0.2s
EARI S **Sn 00 17 14.6 -17**
GUD Guadarrama 16.21 71 P **Pn 00 14 34.7 -3.5**
comp=Z,0.3nm,0.2s
GUD S **Sn 00 17 19.3 -19**
ESDC Sonseca Array 16.29 75 Pn **Pn 00 14 34.4 -4.8**
comp=Z,0.4nm,0.3s,baz=268,slow=13,SNR=9.5
ESDC Sn **Sn 00 17 27.7 -12**
comp=Z,0.4nm,0.3s,baz=267,slow=23,SNR=9.8
ESDC LR LR 00 19 51.3
comp=Z,545nm,19.9s,baz=280,slow=33
ESLA Sonseca Array 16.29 75 *e*Pn **Pn 00 14 37.1 -2.1**
ESLA Sonseca Array 16.29 75 *e*Pn **Pn 00 14 37.2 -2.0**
MDT Midelt 16.82 99 Pn **Pn 00 14 46.6 +0.5**
comp=Z,0.6nm,0.3s,baz=331,slow=9.7,SNR=17
MDT Sn **Sn 00 17 37.6 -15**
comp=Z,0.2nm,0.3s,baz=158,slow=19,SNR=3.9
MDT LR LR 00 19 51.6
comp=Z,597nm,21.1s,baz=306,slow=32
ELAN Lanestosa 17.19 63 P **Pn 00 14 48.9 -1.7**
comp=Z,5.9nm,0.7s
ELAN S **Sn 00 17 44.8 -17**
ELAN Lanestosa 17.19 63 P **Pn 00 14 48.9 -1.7**
comp=Z,5.9nm,0.7s
ETOR Torete 17.82 71 P **Pn 00 14 59.7 +1.3**
comp=Z,4.2nm,1.0s
ETOR S **Sn 00 17 58.0 -19**
ETOR Torete 17.82 71 P **Pn 00 14 59.7 +1.3**
ETOR pmax pmax
comp=Z,4.0nm,1.0s
ETOR Torete 17.82 71 P **Pn 00 14 59.7 +1.3**
comp=Z,4.2nm,1.0s
SJPF Ste Jean 18.74 64 *e*P **Pn 00 15 10.2 +0.4**
comp=Z,7.2nm,0.7s
SJPF Ste Jean 18.74 64 *e*P **Pn 00 15 10.2 +0.4**
SJPF pmax pmax
comp=Z,4.0nm,0.7s
SJPF Ste Jean 18.74 64 *e*P **Pn 00 15 10.2 +0.4**
comp=Z,3.6nm,0.7s
QUIF Quistinic 19.01 49 *e*P **Pn 00 15 12.2 -0.7**
comp=Z,30nm,1.0s
QUIF Quistinic 19.01 49 *e*P **Pn 00 15 12.2 -0.7**
QUIF pmax pmax
comp=Z,15nm,1.0s
QUIF Quistinic 19.01 49 *e*P **Pn 00 15 12.2 -0.7**
comp=Z,15nm,1.0s
ROSF Rostrenen 19.14 47 *e*P **Pn 00 15 13.8 -0.7**
comp=Z,23nm,1.0s
ROSF Rostrenen 19.14 47 *e*P **Pn 00 15 13.8 -0.7**
ROSF pmax pmax
comp=Z,12nm,1.0s
ROSF Rostrenen 19.14 47 *e*P **Pn 00 15 13.8 -0.7**
comp=Z,12nm,1.0s
ETSF Etsaut 19.19 65 *e*P **Pn 00 15 15.0 -0.1**
SGMF Saint Gilles 19.52 48 *e*P **Pn 00 15 18.1 -1.0**
comp=Z,60nm,1.4s
SGMF Saint Gilles 19.52 48 *e*P **Pn 00 15 18.1 -1.0**
SGMF pmax pmax
comp=Z,30nm,1.4s
SGMF Saint Gilles 19.52 48 *e*P **Pn 00 15 18.1 -1.0**
comp=Z,30nm,1.4s
EBIE Bielsa 19.66 66 P **Pn 00 15 22.7 +1.9**
comp=Z,4.3nm,0.8s
EBIE S **Sn 00 18 43.4 -18**
EBIE Bielsa 19.66 66 P **Pn 00 15 22.7 +1.9**
comp=Z,4.3nm,0.8s
EPF Esparros 19.86 65 *e*P **Pn 00 15 22.8 -0.3**
comp=Z,10nm,0.8s
EPF Esparros 19.86 65 *e*P **Pn 00 15 22.8 -0.3**
EPF pmax pmax
comp=Z,5.0nm,0.8s
EPF Esparros 19.86 65 *e*P **Pn 00 15 22.8 -0.3**
comp=Z,5.2nm,0.8s
LCHF La Chataignera 20.03 54 *e*P **Pn 00 15 25.3 +0.2**
DCN Croghan 20.18 31 *e*P **P 00 15 26.1 +1.2**
MFF Saint Martin d 20.39 55 *e*P **P 00 15 28.2 +0.9**
comp=Z,30nm,0.8s
MFF Saint Martin d 20.39 55 *e*P **P 00 15 28.2 +0.9**
MFF pmax pmax
comp=Z,15nm,0.8s
MFF Saint Martin d 20.39 55 *e*P **P 00 15 28.2 +0.9**
comp=Z,15nm,0.8s
LFF La Frestale 20.52 60 *e*P **P 00 15 29.6 +0.9**
comp=Z,35nm,0.7s
LFF La Frestale 20.52 60 *e*P **P 00 15 29.6 +0.9**
LFF pmax pmax
comp=Z,17nm,0.7s
LFF La Frestale 20.52 60 *e*P **P 00 15 29.6 +0.9**
comp=Z,17nm,0.7s
EANR `Ain N'Sour 20.57 85 P **P 00 15 33.0 +3.7**
GRR Gorron 20.61 49 *e*P **P 00 15 30.1 +0.5**
comp=Z,59nm,0.9s
GRR Gorron 20.61 49 *e*P **P 00 15 30.1 +0.5**
comp=Z,29nm,0.9s
GRR Gorron 20.61 49 *e*P **P 00 15 30.1 +0.5**
comp=Z,29nm,0.9s
DMUB Kingscourt 20.74 30 *e*P **P 00 15 32.1 +1.1**
ECHA Ech Chlef 20.75 85 P **P 00 15 43.0 +12**
ETRT Tiaret 20.84 87 P **P 00 15 36.8 +4.5**
EBNR Beni Rached 20.85 84 P **P 00 15 40.0 +7.6**
FLN La Foliniere 20.99 49 *e*P **P 00 15 34.1 +0.3**
comp=Z,24nm,0.8s
FLN *e*MLR MLR
comp=Z,783nm,21.8s,MS3.8
FLN La Foliniere 20.99 49 *e*P **P 00 15 34.1 +0.3**
comp=Z,12nm,0.8s
FLN LR LR
comp=Z,780nm,21.8s,MS4.0
FLN La Foliniere 20.99 49 *e*P **P 00 15 34.1 +0.3**
comp=Z,12nm,0.8s
LDF La Druitiere 21.14 49 *e*P **P 00 15 35.8 +0.5**
comp=Z,35nm,1.1s,mb4.3
LDF La Druitiere 21.14 49 *e*P **P 00 15 35.8 +0.5**
LDF pmax pmax
comp=Z,18nm,1.1s,mb4.3
LDF La Druitiere 21.14 49 *e*P **P 00 15 35.8 +0.5**
comp=Z,18nm,1.1s,mb4.3
RJF Les Rejaudoux 21.14 59 *e*P **P 00 15 36.1 +0.7**
comp=Z,27nm,1.3s,mb4.1
RJF *e*MLR MLR
comp=Z,1µm,19.2s,MS4.0
RJF Les Rejaudoux 21.14 59 *e*P **P 00 15 36.1 +0.7**
comp=Z,14nm,1.3s,mb4.1
RJF LR LR
comp=Z,1µm,19.3s,MS4.3
RJF Les Rejaudoux 21.14 59 *e*P **P 00 15 36.1 +0.7**
comp=Z,14nm,1.3s,mb4.1
MTLF Montolieu 21.26 65 *e*P **P 00 15 37.7 +0.9**
comp=Z,16nm,1.2s,mb3.9
MTLF Montolieu 21.26 65 *e*P **P 00 15 37.7 +0.9**
comp=Z,7.9nm,1.2s,mb3.9
CAF Calviac 21.43 60 *e*P **P 00 15 39.1 +0.5**
comp=Z,36nm,1.1s,mb4.3
CAF Calviac 21.43 60 *e*P **P 00 15 39.1 +0.5**
comp=Z,18nm,1.1s,mb4.3
TCF Toulx Ste Croi 21.86 57 *e*P **P 00 15 43.2 +0.1**
comp=Z,43nm,1.2s,mb4.5
TCF Toulx Ste Croi 21.86 57 *e*P **P 00 15 43.2 +0.1**
comp=Z,22nm,1.2s,mb4.5
EMHD Djebel Mahouad 22.00 84 P **P 00 15 48.0 +3.3**
PYM Petit Puy Mans 22.26 59 *e*P **P 00 15 49.7 +2.3**
LBL Lubilhac 22.32 60 *e*P **P 00 15 56.0 +8.0**
BGF Bois d'Agland 22.35 56 *e*P **P 00 15 47.4 -1.0**
comp=Z,36nm,1.0s,mb4.5
BGF Bois d'Agland 22.35 56 *e*P **P 00 15 47.4 -1.0**
BGF pmax pmax
comp=Z,18nm,1.0s,mb4.5
BGF Bois d'Agland 22.35 56 *e*P **P 00 15 47.4 -1.0**
comp=Z,18nm,1.0s,mb4.5
AGO Saint Agoulin 22.42 58 *e*P **P 00 15 57.4 +8.3**
LASF Ste Croix 22.55 63 *e*P **P 00 15 50.1 -0.4**
comp=Z,50nm,1.3s,mb4.5
LASF Ste Croix 22.55 63 *e*P **P 00 15 50.1 -0.4**
comp=Z,25nm,1.3s,mb4.5
PLDF La Plantade 22.73 58 *e*P **P 00 15 55.3 +2.9**
AVF Avril sur Loir 22.75 56 *e*P **P 00 15 52.0 -0.6**
comp=Z,15nm,1.2s,mb4.0
AVF Avril sur Loir 22.75 56 *e*P **P 00 15 52.0 -0.6**
AVF pmax pmax
comp=Z,7.0nm,1.2s,mb4.0
AVF Avril sur Loir 22.75 56 *e*P **P 00 15 52.0 -0.6**
comp=Z,7.4nm,1.2s,mb4.0
SSF Saint Saulge 22.92 55 *e*P **P 00 15 53.7 -0.7**
comp=Z,23nm,1.0s,mb4.3
SSF Saint Saulge 22.92 55 *e*P **P 00 15 53.7 -0.7**
SSF pmax pmax
comp=Z,12nm,1.0s,mb4.3
SSF Saint Saulge 22.92 55 *e*P **P 00 15 53.7 -0.7**
comp=Z,12nm,1.0s,mb4.3
SMF Signal de Mont 23.04 57 *e*P **P 00 15 54.9 -0.8**
comp=Z,41nm,1.2s,mb4.4
SMF Signal de Mont 23.04 57 *e*P **P 00 15 54.9 -0.8**
SMF pmax pmax
comp=Z,21nm,1.2s,mb4.4
SMF Signal de Mont 23.04 57 *e*P **P 00 15 54.9 -0.8**
comp=Z,21nm,1.2s,mb4.4
LOR Lormes 23.21 55 *e*P **P 00 15 56.2 -1.3**
comp=Z,50nm,1.5s,mb4.4
LOR *e*MLR MLR
comp=Z,747nm,21.2s,MS3.8
LOR Lormes 23.21 55 *e*P **P 00 15 56.2 -1.3**
comp=Z,25nm,1.5s,mb4.4
LOR LR LR
comp=Z,750nm,21.3s,MS4.1
LOR Lormes 23.21 55 *e*P **P 00 15 56.2 -1.3**
LOR pmax pmax
comp=Z,25nm,1.5s,mb4.4
LOR MLR MLR
comp=Z,750nm,21.3s,MS4.1
VIVF Saint-Julien-l 23.24 61 *e*P **P 00 15 56.7 -1.1**
comp=Z,16nm,1.0s,mb4.1
VIVF Saint-Julien-l 23.24 61 *e*P **P 00 15 56.7 -1.1**
VIVF pmax pmax
comp=Z,8.0nm,1.0s,mb4.1
VIVF Saint-Julien-l 23.24 61 *e*P **P 00 15 56.7 -1.1**
comp=Z,7.9nm,1.0s,mb4.1
EKA Eskdalemuir Ar 23.29 32 P **P 00 15 57.9 -0.4**
EKA Eskdalemuir Ar 23.29 32 P **P 00 15 57.9 -0.4**
comp=Z,4.8nm,0.9s,mb3.9,baz=229,slow=7.6,SNR=8.0
EKA Eskdalemuir Ar 23.29 32 P **P 00 15 57.9 -0.4**
SMRF Simiane la Rot 23.76 64 *e*P **P 00 16 02.1 -0.9**
comp=Z,16nm,1.1s,mb4.0
SMRF Simiane la Rot 23.76 64 *e*P **P 00 16 02.1 -0.9**
comp=Z,7.9nm,1.1s,mb4.0
ORIF Oris-en-Rattie 24.10 62 *e*P **P 00 16 05.4 -0.7**
comp=Z,16nm,0.8s,mb4.2
ORIF *e*MLR MLR
comp=Z,983nm,21.5s,MS4.0
ORIF Oris-en-Rattie 24.10 62 *e*P **P 00 16 05.4 -0.7**
ORIF pmax pmax
comp=Z,8.0nm,0.8s,mb4.2
ORIF Oris-en-Rattie 24.10 62 *e*P **P 00 16 05.4 -0.7**
comp=Z,8.1nm,0.8s,mb4.2
BAIF Baives 24.32 49 *e*P **P 00 16 06.8 -1.2**
comp=Z,25nm,1.0s,mb4.3
BAIF Baives 24.32 49 *e*P **P 00 16 06.8 -1.2**
BAIF pmax pmax
comp=Z,13nm,1.0s,mb4.3
BAIF Baives 24.32 49 *e*P **P 00 16 06.8 -1.2**
comp=Z,13nm,1.0s,mb4.3
MEZF Maizieres J'vi 24.33 53 *e*P **P 00 16 07.2 -0.9**
LMR La Mourre 24.38 66 *e*P **P 00 16 08.2 -0.4**
FRF La Foret Royal 24.49 65 *e*P **P 00 16 09.3 -0.4**
comp=Z,20nm,0.9s,mb4.2
FRF La Foret Royal 24.49 65 *e*P **P 00 16 09.3 -0.4**
FRF pmax pmax
comp=Z,10.0nm,0.9s,mb4.2
FRF La Foret Royal 24.49 65 *e*P **P 00 16 09.3 -0.4**
comp=Z,9.8nm,0.9s,mb4.2
CABF La Chapelle 24.54 58 *e*P **P 00 16 09.4 -0.7**
comp=Z,13nm,1.1s,mb4.1
CABF La Chapelle 24.54 58 *e*P **P 00 16 09.4 -0.7**
CABF pmax pmax
comp=Z,7.0nm,1.1s,mb4.1
CABF La Chapelle 24.54 58 *e*P **P 00 16 09.4 -0.7**
comp=Z,6.6nm,1.1s,mb4.1
GIVF Givet 24.70 49 *e*P **P 00 16 10.9 -0.6**
comp=Z,24nm,0.7s,mb4.5
GIVF Givet 24.70 49 *e*P **P 00 16 10.9 -0.6**
GIVF pmax pmax
comp=Z,12nm,0.7s,mb4.5
GIVF Givet 24.70 49 *e*P **P 00 16 10.9 -0.6**
comp=Z,12nm,0.7s,mb4.5
MBDF Montbardon 24.70 62 *e*P **P 00 16 11.7 +0.1**
comp=Z,7.9nm,0.9s,mb3.9
MBDF Montbardon 24.70 62 *e*P **P 00 16 11.7 +0.1**
MBDF pmax pmax
comp=Z,4.0nm,0.9s,mb4.0
MBDF Montbardon 24.70 62 *e*P **P 00 16 11.7 +0.1**
comp=Z,4.0nm,0.9s,mb4.0
LPL La Plagne 24.78 60 *e*P **P 00 16 12.2 -0.1**
comp=Z,22nm,1.4s,mb4.2
LPL La Plagne 24.78 60 *e*P **P 00 16 12.2 -0.1**
LPL pmax pmax
comp=Z,11nm,1.4s,mb4.2
LPL La Plagne 24.78 60 *e*P **P 00 16 12.2 -0.1**
comp=Z,11nm,1.4s,mb4.2
LPG La Plagne 24.79 60 *e*P **P 00 16 12.1 -0.3**
comp=Z,13nm,1.0s,mb4.1
LPG La Plagne 24.79 60 *e*P **P 00 16 12.1 -0.3**
LPG pmax pmax
comp=Z,6.0nm,1.0s,mb4.1
LPG La Plagne 24.79 60 *e*P **P 00 16 12.1 -0.3**
comp=Z,6.3nm,1.0s,mb4.1
TOUF Mont Tournerai 24.97 64 *e*P **P 00 16 21.9 +7.9**
HAU Haudompre 25.03 54 *e*P **P 00 16 14.2 -0.3**
comp=Z,12nm,0.9s,mb4.1
HAU *e*MLR MLR
comp=Z,581nm,21.0s,MS3.8
HAU Haudompre 25.03 54 *e*P **P 00 16 14.2 -0.3**
comp=Z,5.9nm,0.9s,mb4.1
HAU LR LR
comp=Z,580nm,21.0s,MS4.1
HAU Haudompre 25.03 54 *e*P **P 00 16 14.2 -0.3**
HAU pmax pmax
comp=Z,6.0nm,0.9s,mb4.1
HAU MLR MLR
comp=Z,580nm,21.0s,MS4.1
LUCF Luceram 25.03 64 *e*P **P 00 16 22.8 +8.3**
SBF Sospel 25.09 64 *e*P **P 00 16 15.1 0.0**
comp=Z,22nm,0.9s,mb4.4
SBF Sospel 25.09 64 *e*P **P 00 16 15.1 0.0**
SBF pmax pmax
comp=Z,11nm,0.9s,mb4.4
SBF Sospel 25.09 64 *e*P **P 00 16 15.1 0.0**
comp=Z,11nm,0.9s,mb4.4
LOMF Lomont 25.19 56 *e*P **P 00 16 20.4 +4.4**
HINF Hinteralfeld 25.31 55 *e*P **P 00 16 16.7 -0.4**
comp=Z,2.7nm,0.5s,mb3.7
HINF Hinteralfeld 25.31 55 *e*P **P 00 16 16.7 -0.4**
HINF pmax pmax
comp=Z,1.0nm,0.5s,mb3.6
HINF Hinteralfeld 25.31 55 *e*P **P 00 16 16.7 -0.4**
comp=Z,1.4nm,0.5s,mb3.7
WLF Walferdange 25.37 51 *e*P **P 00 16 19.5 +1.9**
comp=Z,15nm,0.8s,mb4.6
WLF Walferdange 25.37 51 *e*P **P 00 16 19.5 +1.9**
WLF pmax pmax
comp=Z,15nm,0.8s,mb4.6
WLF Walferdange 25.37 51 *e*P **P 00 16 19.5 +1.9**
comp=Z,15nm,0.8s,mb4.6
CDF Champ du Feu 25.73 54 *e*P **P 00 16 20.7 -0.2**
comp=Z,5.9nm,0.8s,mb3.9
CDF Champ du Feu 25.73 54 *e*P **P 00 16 20.7 -0.2**
CDF pmax pmax
comp=Z,3.0nm,0.8s,mb3.9
CDF Champ du Feu 25.73 54 *e*P **P 00 16 20.7 -0.2**
comp=Z,3.0nm,0.8s,mb3.9
RUP Ruppelstein 25.94 51 *e*P **P 00 16 25.2 +2.4**
FELD Feldberg im Sc 26.08 55 *e*P **P 00 16 26.5 +2.5**
PGF Pioggiola 26.17 68 *e*P **P 00 16 25.0 +0.1**
comp=Z,19nm,1.0s,mb4.3
PGF Pioggiola 26.17 68 *e*P **P 00 16 25.0 +0.1**
PGF pmax pmax
comp=Z,10.0nm,1.0s,mb4.3
PGF Pioggiola 26.17 68 *e*P **P 00 16 25.0 +0.1**
comp=Z,9.7nm,1.0s,mb4.3
BFO Black Forest 26.39 54 *e*P **P 00 16 27.3 +0.4**
comp=Z,7.1nm,1.1s,mb4.1
BFO Black Forest 26.39 54 *e*P **P 00 16 27.3 +0.4**
BFO pmax pmax
comp=Z,7.0nm,1.1s,mb4.1
BFO Black Forest 26.39 54 *e*P **P 00 16 27.3 +0.4**
comp=Z,7.1nm,1.1s,mb4.1
DAVOX Davos/Dischmat 27.14 58 LR LR 00 26 47.4
comp=Z,604nm,18.2s,MS4.2,baz=250,slow=35
KEST Kesra 27.17 83 P **P 00 16 35.0 +0.9**
comp=Z,1.3nm,1.0s,mb3.4,baz=302,slow=9.5,SNR=2.7
BORG Borgarnes 27.75 3 LR LR 00 25 09.5
comp=Z,391nm,18.2s,MS4.0,baz=258,slow=31
GRA1 Grafenberg Arr 28.55 52 *e*P **P 00 16 47.1 +0.9**
comp=Z,45nm,2.2s,mb4.8
GRF Grafenberg Arr 28.55 52 *e*P **P 00 16 47.1 +0.9**
GRF pmax pmax
comp=Z,45nm,2.2s,mb4.8
GRF Grafenberg Arr 28.55 52 *e*P **P 00 16 47.1 +0.9**
GRF pmax pmax
comp=Z,45nm,2.2s,mb4.8
GRF Grafenberg Arr 28.55 52 *e*P **P 00 16 47.1 +0.9**
comp=Z,45nm,2.2s,mb4.8
GERES GERESS Array B 29.99 55 P **P 00 17 00.7 +1.7**
comp=Z,0.3nm,0.6s,mb3.2,baz=251,slow=2.7,SNR=3.2
GERES LR LR 00 27 53.6
comp=Z,234nm,19.1s,MS3.8,baz=257,slow=34
CLL Collm 30.02 50 *e*SS SS 00 23 30.0 -35
CLL Lm 00 58 00.0
comp=N,100nm,18.6s
CLL Lm 00 58 00.0
comp=E,100nm,20.2s
CLL Lm 00 58 00.0
comp=Z,200nm,18.8s
NOA NORSAR Array B 32.79 32 LR LR 00 28 39.5
comp=Z,514nm,21.7s,MS4.2,baz=255,slow=33
VYHS Vyhne 33.34 56 *e*P **P 00 17 33.6 +5.2**
TOA0 Torodi Ar. Sit 33.40 129 *e*P **P 00 17 30.6 +1.4**
TOA0 Torodi Ar. Sit 33.40 129 *e*P **P 00 17 30.6 +1.3**
TORD Torodi Ar. Bea 33.40 129 P **P 00 17 30.8 +1.5**
TORD Torodi Ar. Bea 33.40 129 P **P 00 17 30.8 +1.5**
comp=Z,4.5nm,0.8s,mb4.5,baz=315,slow=8.4,SNR=28
SFJD Kangerlussuaq 33.46 342 LR LR 00 27 37.1
comp=Z,186nm,20.8s,MS3.8,baz=217,slow=30
OJC Ojcow 34.10 53 *e*P **P 00 17 41.2 +6.2**
STHS Stebnicka Huta 34.98 55 *e*P **P 00 17 47.0 +4.4**
comp=Z,3.0nm,1.0s,mb4.2
STHS Stebnicka Huta 34.98 55 *e*P **P 00 17 47.0 +4.4**
STHS pmax pmax
comp=Z,3.0nm,1.0s,mb4.2
DBIC Dimbokro 35.17 145 P **P 00 17 45.7 +1.1**
DBIC Dimbokro 35.17 145 P **P 00 17 45.7 +1.1**
comp=Z,5.0nm,0.8s,mb4.5,baz=347,slow=9.6,SNR=4.4
FINES FINESS Array B 39.57 36 LR LR 00 34 34.3
comp=Z,195nm,18.6s,MS4.0,baz=258,slow=36
AKASG Malin Array Be 40.14 53 P **P 00 18 27.0 +0.7**
comp=Z,0.6nm,0.6s,mb3.5,baz=278,slow=7.3,SNR=5.5
AKASG LR LR 00 34 44.3
comp=Z,181nm,18.6s,MS4.0,baz=275,slow=36
ARCES ARCESS Array B 42.01 24 P **P 00 18 41.5 +0.1**
comp=Z,3.9nm,0.8s,mb4.1,baz=243,slow=8.0,SNR=5.8
OBN Obninsk 44.44 46‖ *e*P **P 00 19 01.4 +0.1**
OBN *e* 00 20 42.0
OBN *i*S **S 00 25 42.1 +6.2**
OBN pmax pmax
comp=Z,26nm,2.0s,mb4.6
OBN MLR MLR
comp=Z,300nm,17.0s,MS4.3
OBN Obninsk 44.44 46 *e*P **P 00 19 01.4 +0.1**
comp=Z,26nm,2.0s,mb4.6
OBN Obninsk 44.44 46 *e*PcP PcP 00 20 42.0 -2.7
comp=Z,300nm,17.0s
ANN Anapa 46.38 60 *e*P **P 00 19 13.5 -3.4**
ANN *e*S **S 00 25 57.6 -6.7**
ANN pmax pmax
comp=Z,82nm,1.2s,mb5.5
ANN MLR MLR
comp=Z,220nm,12.0s,MS4.3
MALT Malatya 48.91 68 *e*P **P 00 19 38.0 +1.5**
comp=Z,8.7nm,1.5s,mb4.6
MALT Malatya 48.91 68 *e*P **P 00 19 38.1 +1.6**
MALT pmax pmax
comp=Z,9.0nm,1.5s,mb4.6
MALT Malatya 48.91 68 *e*P **P 00 19 38.0 +1.5**
comp=Z,8.7nm,1.5s,mb4.6
RES Resolute Bay 49.45 341 *e*P **P 00 19 41.4 +1.2**
comp=Z,302nm,1.0s
RES Resolute Bay 49.45 341 *e*P **P 00 19 41.4 +1.2**
comp=Z,302nm,1.0s
KIV Kislovodsk 50.24 60 *e*P **P 00 19 49.8 +3.2**
KIV pmax pmax
comp=Z,2.0nm,0.6s,mb4.3
KIV Kislovodsk 50.24 60 *e*P **P 00 19 49.8 +3.2**
comp=Z,2.0nm,0.6s,mb4.3
SDV Santo Domingo 50.25 248 *e*P **P 00 19 49.2 +2.1**
comp=Z,3.5nm,0.6s,mb4.6
SDV Santo Domingo 50.25 248 *e*P **P 00 19 49.2 +2.2**
comp=Z,3.5nm,0.6s,mb4.6
ULM Lac du Bonnet 51.38 309 LR LR 00 41 24.8
comp=Z,154nm,19.6s,MS4.0,baz=22,slow=36
ROSC El Rosal 55.66 247 LR LR 00 39 33.8
comp=Z,238nm,21.1s,MS4.2,baz=13,slow=31
ARU Arti 56.41 41 *c i*P **P 00 20 34.6 +2.8**
ARU *e* 00 21 28.7
ARU *e* 00 22 37.5
ARU *e*PPP 00 23 56.6
ARU *e*S **S 00 28 23.1 +0.8**
ARU *e*SS SS 00 32 07.1 -1.7
ARU pmax pmax
comp=Z,7.0nm,1.2s,mb4.6
ARU MLR MLR
comp=Z,636nm,20.0s,MS4.7
ARU Arti 56.41 41 *e*P **P 00 20 32.9 +1.1**
comp=Z,11nm,1.3s,mb4.7
ARU Arti 56.41 41 *e*PcP PcP 00 21 28.7 0.0
BDFB Brasilia 56.95 207 P **P 00 20 36.9 +0.9**
BDFB Brasilia 56.95 207 P **P 00 20 36.9 +0.9**
comp=Z,6.2nm,0.7s,mb4.4,baz=20,slow=2.5,SNR=5.9
BDFB Brasilia 56.95 207 P **P 00 20 36.9 +0.9**
SVE Sverdlovsk 57.38 41 *e*P **P 00 20 40.1 +1.5**
YKA Yellowknife Ar 57.93 327 P **P 00 20 42.9 +0.5**
YKA LR LR 00 44 30.7

YKA Yellowknife Ar 57.93 327 P P 00 20 42.9 +0.5
YKA Yellowknife Ar 57.93 327 P P 00 20 42.9 +0.5
comp=Z,0.7nm,0.9s,mb3.7,baz=74,slow=7.1,SNR=7.6
YKA LR LR 00 44 30.7
comp=Z,65nm,18.8s,MS3.8,baz=180,slow=35
YKA Yellowknife Ar 57.93 327 P P 00 20 42.9 +0.5
AKTK Aktyubinsk 58.09 48 P P 00 20 45.1 +1.3
AKTO Aktyubinsk 58.09 48 P P 00 20 45.1 +1.3
comp=Z,2.1nm,0.9s,mb4.2,baz=295,slow=11,SNR=3.5
RST Umm Al-Ruwaisa 58.95 75 *eP* **P 00 20 50.8 +0.7**
RST AMb AMB 00 20 59.4
comp=Z,13nm,1.0s,mb4.9
RST Umm Al-Ruwaisa 58.95 75 *eP* **P 00 20 50.8 +0.7**
comp=Z,13nm,1.0s,mb4.9
MIB Mutribah 59.08 74 *eP* **P 00 20 51.4 +0.4**
MIB AMb AMB 00 20 59.1
comp=Z,12nm,0.8s,mb5.0
MIB Mutribah 59.08 74 *eP* **P 00 20 51.4 +0.4**
comp=Z,12nm,0.8s,mb5.0
NAY Al-Naaiem 59.26 75 *eP* **P 00 20 53.0 +0.7**
NAY AMb AMB 00 21 01.1
comp=Z,7.3nm,1.4s,mb4.5
NAY Al-Naaiem 59.26 75 *eP* **P 00 20 53.0 +0.8**
comp=Z,7.3nm,1.4s,mb4.5
QRN Al-Qurain 60.02 75 *eP* **P 00 20 59.0 +1.5**
QRN AMb AMB 00 21 00.8
comp=Z,25nm,0.7s,mb5.4
JCT Junction City 61.45 288 *eP* **P 00 21 08.6 +1.4**
JCT pmax pmax
comp=Z,17nm,1.0s,mb5.1
JCT Junction City 61.45 288 *eP* **P 00 21 08.6 +1.4**
comp=Z,17nm,1.0s,mb5.1
PDAR Pinedale Array 62.82 304 P **P 00 21 17.4 +1.2**
comp=Z,1.3nm,0.9s,mb4.0,baz=58,slow=5.4,SNR=4.2
PDAR LR LR 00 48 31.3
comp=Z,127nm,18.2s,MS4.1,baz=73,slow=36
ANMO Albuquerque 64.28 295 *iP* **P 00 21 33.6 +7.6**
TXAR Lajitas Array 64.94 289 P **P 00 21 32.0 +1.6**
comp=Z,3.3nm,0.8s,mb4.4,baz=71,slow=7.6,SNR=14
TXAR LR LR 00 47 53.1
comp=Z,109nm,20.4s,MS4.0,baz=5.0,slow=34
LAZ Ladron 65.03 295 *eP* **P 00 21 32.7 +1.8**
LAZ Ladron 65.03 295 *eP* **P 00 21 32.7 +1.8**
LPAZ La Paz 67.16 226 LR LR 00 47 28.0
comp=Z,132nm,18.3s,MS4.2,baz=207,slow=33
KURK Kurchatov 69.61 41 *eP* **P 00 22 00.3 +0.7**
comp=Z,2.9nm,0.9s,mb4.2
KURK Kurchatov 69.61 41 *eP* **P 00 22 00.3 +0.7**
KURK pmax pmax
comp=Z,3.0nm,0.9s,mb4.2
KURK Kurchatov 69.61 41 *eP* **P 00 22 00.3 +0.7**
comp=Z,2.9nm,0.9s,mb4.2
TIXI Tiksi 69.92 9 *eP* **P 00 22 04.0 +2.8**
comp=Z,6.8nm,0.8s,mb4.6
TIXI Tiksi 69.92 9 *eP* **P 00 22 03.5 +2.3**
TIXI *e* 00 22 09.1
TIXI pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
TIXI Tiksi 69.92 9 *eP* **P 00 22 03.5 +2.3**
comp=Z,5.0nm,0.8s,mb4.5
ZAL Zalesovo 70.83 36 P **P 00 22 08.5 +1.4**
ZAA0 Zalesovo Array 70.84 36 *eP* **P 00 22 08.6 +1.5**
ZAA0 Zalesovo Array 70.84 36 *eP* **P 00 22 08.6 +1.5**
ZALV Zalesovo Beam 70.84 36 P **P 00 22 08.4 +1.4**
comp=Z,1.8nm,0.7s,mb4.1,baz=306,slow=6.5,SNR=8.6
ZALV LR LR 00 52 47.5
comp=Z,151nm,20.8s,MS4.2,baz=60,slow=36
EKS2 Erkin-Say 71.29 50 *eP* **P 00 22 12.8 +2.8**
comp=Z,3.4nm,0.9s,mb4.3
EKS2 Erkin-Say 71.29 50 *eP* **P 00 22 12.8 +2.8**
comp=Z,3.4nm,0.9s,mb4.3
AML Almayashu 71.53 51 *eP* **P 00 22 14.1 +2.6**
comp=Z,6.2nm,1.0s,mb4.5
AML Almayashu 71.53 51 *eP* **P 00 22 14.1 +2.6**
comp=Z,6.2nm,1.0s,mb4.5
UCH Uchtor 71.98 50 *eP* **P 00 22 15.0 +0.8**
comp=Z,3.6nm,1.0s,mb4.3
UCH Uchtor 71.98 50 *eP* **P 00 22 15.0 +0.8**
comp=Z,3.6nm,1.0s,mb4.3
PFO Pinyon Flat Ob 72.08 299 LR LR 00 53 18.2
comp=Z,140nm,18.4s,MS4.3,baz=227,slow=35
LPIG La Paz 72.73 287 LR LR 00 50 04.0
comp=Z,86nm,20.4s,MS4.0,baz=205,slow=32
MK31 Makanchi Array 73.86 43 *eP* **P 00 22 26.5 +1.2**
MK31 Makanchi Array 73.86 43 *eP* **P 00 22 26.5 +1.2**
MKAR Makanchi Array 73.86 43 *iP* **P 00 22 26.8 +1.5**
MKAR pmax pmax
comp=Z,2.0nm,0.8s
MKAR Makanchi Array 73.86 43 P **P 00 22 26.9 +1.5**
comp=Z,1.8nm,0.8s,mb4.1,baz=309,slow=5.6,SNR=24
MKAR LR LR 00 55 45.1
comp=Z,349nm,18.8s,MS4.7,baz=340,slow=36
BILL Bilibino 74.88 356⇑ *eP* **P 00 22 36.2 +5.4**
BILL *e* 00 25 23.9
BILL *eS* S 00 32 26.0 +19
BILL pmax pmax
comp=Z,8.0nm,1.7s,mb4.4
BILL MLR MLR
comp=Z,100nm,17.0s,MS4.2
LBTB Lobatse 77.69 135 P **P 00 22 49.2 +1.8**
LBTB Lobatse 77.69 135 P **P 00 22 49.2 +1.8**
comp=Z,3.3nm,0.8s,mb4.3,baz=301,slow=7.6,SNR=3.6
YAK Yakutsk 79.03 12 *iP* **P 00 23 00.6 +6.3**
YAK pmax pmax
comp=Z,13nm,1.4s,mb4.7
BOD Bodaibo 79.23 21 *eP* **P 00 22 56.0 +0.6**
BOD pmax pmax
comp=Z,5.0nm,1.2s,mb4.3
ZAK Zakamensk 81.49 31 *eP* **P 00 23 08.5 +0.7**
ZAK pmax pmax
comp=Z,1.0nm,1.1s,mb3.7
SONM Songino Array 84.76 31 P **P 00 23 27.0 +2.3**
comp=Z,1.3nm,0.8s,mb4.1,baz=309,slow=4.9,SNR=14
ULN Ulaanbaatar 85.01 30 *iP* **P 00 23 28.8 +2.8**
PLCA Paso Flores 88.22 213 LR LR 01 02 03.6
comp=Z,144nm,18.4s,MS4.4,baz=32,slow=35
WRA Warramunga Arr 154.82 53 PKPab PKPab 00 31 08.7 +1.2
comp=Z,1.2nm,0.5s,baz=326,slow=3.8,SNR=5.4
ASAR Alice Springs 157.11 60 PKPab PKPab 00 31 18.2 +1.0
comp=Z,0.7nm,0.7s,baz=314,slow=3.3,SNR=9.6

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*CSEM **08** 00:16:23.0±0.2, 4373N×1324E, h6km±1km, MD2.5/12, ML1.5/2, Error ellipse: s-maj=2.6km s-min=1.7km az=20.0, After ROM*

ROM 08 00:16:23.0±0.2, 4373N×1324E, h6km±1km, Md2.5/12, Ml1.7/8, Error ellipse: s-maj=2.6km s-min=1.7km az=20.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SENI	**Senigallia**	**0.02**	**188**	Pg	Pg	00 16 24.8	+0.7
SENI				Sg	Sg	00 16 26.0	+1.2
340nm,0.1s							
ARVD	**Arcevia**	**0.32**	**223**	Pg	Pg	00 16 29.8	+0.7
ARVD				Sg	Sg	00 16 35.5	+2.3
46nm,0.6s							
AOI	**Ancona**	**0.32**	**124**	Pg	Pg	00 16 30.0	+0.8
AOI				Sg	Sg	00 16 36.1	+2.7
65nm,0.3s							
FSSB	**Fossombrone**	**0.34**	**264**	Pg	Pg	00 16 30.1	+0.6
FSSB				Sg	Sg	00 16 36.1	+2.2
160nm,0.2s							
CING	**Cingoli**	**0.35**	**185**	Pg	Pg	00 16 30.7	+0.9
CING				Sg	Sg	00 16 37.2	+2.7
38nm,0.3s							
PESA	**Pesaro**	**0.36**	**307**	Pg	Pg	00 16 31.1	+1.2
PESA				Sg	Sg	00 16 36.6	+2.0
123nm,0.3s							
SNTG	**Esanatoglia**	**0.52**	**205**	Pg	Pg	00 16 33.7	+0.7
SNTG				Sg	Sg	00 16 41.1	+1.3
26nm,0.3s							
RSM	**Repubblica di**	**0.60**	**290**	Pg	Pg	00 16 35.8	+1.2
RSM				Sg	Sg	00 16 45.8	+3.3
9.0nm,0.2s							
MURB	**Monte Urbino**	**0.70**	**228**	Pg	Pg	00 16 37.2	+0.8
MURB				Sg	Sg	00 16 48.7	+3.3
86nm,0.3s							
BADI	**Badiali**	**0.75**	**253**	Pg	Pg	00 16 37.8	+0.3
BADI				Sg	Sg	00 16 50.6	+3.3
15nm,0.3s							
CESI	**CESI - Serrava**	**0.76**	**199**	Pg	Pg	00 16 38.1	+0.5
CESI				Sg	Sg	00 16 50.2	+2.7
20nm,0.4s							
NRCA	**Norcia**	**0.90**	**186**	Pg	Pg	00 16 40.2	0.0
5.0nm,0.4s							

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*PDA **08** 00:23:30.8±1.4, 3715N×2437W, h10km, MD4.1, ML3.8, Error ellipse: s-maj=15.8km s-min=6.8km az=31.0*
*CSEM **08** 00:23:30.8±1.4, 3715N×2437W, h10km, ML3.8, Error ellipse: s-maj=15.8km s-min=6.8km az=31.0, After PDA*

SVSA 08 00:23:30.8±1.4, 3715N×2437W, h10km, MD4.1, ML3.8, Error ellipse: s-maj=15.8km s-min=6.8km az=31.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSMN	**Pico do Norte,**	**0.57**	**256**	*eP*	Pg	00 23 38.5	-3.5
PSMN				*eS*	Sg	00 23 44.8	-4.7
PDA	**Ponta Delgada**	**1.19**	**301**	*eP*	Pb	00 23 47.2	-6.3
PDA				*i S*	Sb	00 24 01.1	-7.8
PSET	**Sete Cidades**	**1.27**	**302**	*eP*	Pn	00 23 49.5	-5.1
PSET				*eS*	Sb	00 24 04.0	-7.2
PSET				A		00 24 09.8	
974nm,0.3s							
PSET	**Sete Cidades**	**1.27**	**302**	*eP*	Pn	00 23 49.5	-5.1
PSET				*eS*	Sb	00 24 04.0	-7.2
ADH	**Angra Heroismo**	**2.72**	**304**	*eP*	Pn	00 24 10.4	-4.1
ADH				*eS*	Sn	00 24 39.1	-8.4
PID	**Ribeirinha**	**3.24**	**295**	*eP*	Pn	00 24 17.3	-4.4
PID				*eS*	Sn	00 24 52.3	-8.0
PMAN	**Manadas**	**3.29**	**298**	*eP*	Pn	00 24 18.3	-4.1
PMAN				*eS*	Sn	00 24 53.8	-7.8
PMAN				A		00 24 56.1	
47nm,0.3s							
PMAN	**Manadas**	**3.29**	**298**	*eP*	Pn	00 24 18.3	-4.1
PMAN				*eS*	Sn	00 24 53.8	-7.8
ROSA	**Rosais**	**3.44**	**298**	*eP*	Pn	00 24 20.3	-4.1
ROSA				*eS*	Sn	00 24 57.8	-7.4
PICO	**Pico**	**3.48**	**294**	*eP*	Pn	00 24 21.0	-4.0
PICO				*eS*	Sn	00 24 58.3	-8.0
HOR	**Horta**	**3.64**	**293**	*eP*	Pn	00 24 22.6	-4.6
HOR				*eS*	Sn	00 25 01.9	-8.3
CALA	**Caldeira**	**3.71**	**294**	*eP*	Pn	00 24 24.1	-4.1
CALA				*eS*	Sn	00 25 04.0	-8.0
PCED	**Cedros**	**3.73**	**295**	*eP*	Pn	00 24 24.2	-4.2
PCED				*eS*	Sn	00 25 04.4	-8.0
PCED				A		00 25 08.3	
34nm,0.2s							
PCED	**Cedros**	**3.73**	**295**	*eP*	Pn	00 24 24.2	-4.2
PCED				*eS*	Sn	00 25 04.4	-8.0
PMAR	**Madeira**	**7.55**	**124**	*ePn*	Pn	00 25 18.9	-1.9
PMAR				*eSn*	Sn	00 26 38.5	-7.9
PMAR				A		00 26 49.1	
24nm,0.4s							
PMPS	**Porto Santo**	**7.75**	**119**	*ePn*	Pn	00 25 20.6	-3.0
PTEO	**Sao Teotonio**	**12.46**	**83**	*eT*		00 25 57.7	
PVRL	**Vila Real**	**13.55**	**67**	*eT*		00 26 21.5	
PBRG	**Braganca**	**14.38**	**66**	*eT*		00 26 49.3	

IDC 08 00:35:20.9±2.4, 651S×12958E, h0km, mb3.6/1, mb1 3.7/3, mb1mx3.4/13, mbtmp3.5/3, ML3.5/1, Error ellipse: s-maj=150.1km s-min=32.5km az=69.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.13**	**161**	Pn	Pn	00 38 41.3	-1.2
0.2nm,0.3s,baz=344,slow=13,SNR=3.8							
WRA				Sn	Sn	00 41 11.3	-8.9
0.2nm,0.3s,baz=333,slow=22,SNR=2.3							
ASAR	**Alice Springs**	**17.56**	**167**	P	Pn	00 39 28.2	+1.0
0.2nm,0.3s,baz=344,slow=9.7,SNR=13							
MKAR	**Makanchi Array**	**67.59**	**327**	P	P	00 46 19.5	+0.1
0.2nm,0.4s,baz=116,slow=8.3,SNR=3.9							

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*IDC **08** 00:51:36.0±1.2, 728S×15551E, h0km, mb4.0/9, mb1 4.1/9, mb1mx4.0/14, mbtmp4.0/9, MS3.3/1, Ms1 3.3/1, ms1mx2.8/23, Error ellipse: s-maj=42.7km s-min=20.6km az=105.0*
*NEIC **08** 00:51:38.4±0.5, 7.16S×15528E, h10km, mb4.0/1, Error ellipse: s-maj=15.0km s-min=14.3km az=120.0*
*ISCJB **08** 00:51:43.1±3.6, 73S±01×1554E±0.1, h63km±37km, mb3.9/9, Error ellipse: s-maj=26.7km s-min=15.7km az=142.4*

ISC 08 00:51:45.2±3.3, 73S±01×1554E±01, h68km±36km, n19, σ0§54/17, mb3.8/9, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.96**	**115**	Pn	Pn	00 52 57.1	-0.1
12nm,0.3s,baz=244,slow=5.2,SNR=2.8							
HNR				Sn	Sn	00 53 53.6	+0.3
9.7nm,0.3s,baz=96,slow=19,SNR=2.8							
CTA	**Charters Tower**	**15.49**	**214**	LR	LR	01 00 16.2	
comp=Z,123nm,21.0s,baz=50,slow=33							
WB2	**Warramunga Arr**	**23.97**	**236**	*eP*	P	00 56 53.5	0.0
WRA	**Warramunga Arr**	**23.98**	**236**	P	P	00 56 53.7	+0.1
3.2nm,0.8s,mb3.7,baz=61,slow=9.7,SNR=8.2							
ASAR	**Alice Springs**	**26.27**	**229**	P	P	00 57 14.1	-0.3
0.6nm,0.7s,mb3.1,baz=60,slow=9.4,SNR=6.7							
STKA	**Stephens Creek**	**27.63**	**206**	*eP*	P	00 57 26.1	-0.4
2.2nm,0.7s,mb3.8							
STKA	**Stephens Creek**	**27.63**	**206**	P	P	00 57 26.2	-0.2
3.4nm,0.8s,mb3.9,baz=22,slow=13,SNR=6.4							
MJAR	**Matsushiro Arr**	**46.51**	**341**	P	P	01 00 05.0	-0.9
MJAR	**Matsushiro Arr**	**46.51**	**341**	P	P	01 00 05.0	-0.9
1.1nm,0.8s,mb3.7,baz=177,slow=7.4,SNR=3.5							
KSRS	**Korea Array**	**51.41**	**332**	P	P	01 00 43.3	0.0
0.6nm,0.6s,mb3.8,baz=148,slow=7.2,SNR=2.9							
SONM	**Songino Array**	**69.82**	**327**	P	P	01 02 49.5	+1.1
1.1nm,0.6s,mb3.9,baz=140,slow=6.6,SNR=13							
IMA2	**Indian Mountai**	**81.97**	**19**	P	P	01 03 56.5	-0.8
MK31	**Makanchi Array**	**83.91**	**319**	*eP*	P	01 04 08.9	+1.1
MKAR	**Makanchi Array**	**83.91**	**319**	P	P	01 04 08.0	+0.2
1.6nm,0.7s,mb4.0,baz=104,slow=5.3,SNR=22							
ZALV	**Zalesovo Beam**	**84.67**	**326**	P	P	01 04 11.2	-0.2
1.2nm,0.6s,mb4.0,baz=111,slow=5.5,SNR=8.0							
YKA	**Yellowknife Ar**	**96.42**	**28**	P	P	01 05 06.3	-0.2
YKA	**Yellowknife Ar**	**96.42**	**28**	P	P	01 05 06.3	-0.2
0.3nm,0.7s,mb3.8,baz=263,slow=4.5,SNR=7.4							
BDFB	**Brasilia**	**147.47**	**135**	PKPbc	PKPbc	01 11 22.8	+0.3
3.0nm,0.8s,baz=262,slow=2.2,SNR=4.3							
TORD	**Torodi Ar. Bea**	**153.50**	**285**	PKPbc	PKPbc	01 11 36.9	-0.2
0.5nm,0.8s,baz=64,slow=3.4,SNR=2.6							

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*IDC **08** 01:00:18.0±1.1, 633S×15073E, h0km, mb4.7/4, mb1 4.9/4, mb1mx4.2/12, mbtmp4.7/4, MS3.4/5, Ms1 3.4/5, ms1mx3.2/23, Error ellipse: s-maj=38.6km s-min=24.0km az=110.0*
*ISCJB **08** 01:00:22.9±1.9, 63S±02×1503E±03, h33km, mb4.5/7, MS3.3/4, Error ellipse: s-maj=38.0km s-min=22.7km az=10.9*
*NEIC **08** 01:00:23.6±0.7, 631S×15051E, h35km, mb4.9/6, Error ellipse: s-maj=21.1km s-min=11.0km az=123.0*

ISC 08 01:00:25.1±1.8, 63S±02×1503E±03, h35km, n22, σ0§38/15, mb4.5/7, MS3.3/4, 1C, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**14.24**	**196**	LR	LR	01 08 51.4	
comp=Z,129nm,18.8s,baz=48,slow=36							
KAKA	**Kakadu**	**18.74**	**249**	*eP*	Pn	01 04 41.4	-0.3
24nm,1.1s							
KAKA	**Kakadu**	**18.74**	**249**	*eP*	Pn	01 04 41.2	-0.5
GUMO	**Guam**	**20.51**	**345**	LR	LR	01 11 41.3	
comp=Z,51nm,21.8s,MS2.9,baz=58,slow=33							
WRAB	**Tennant Creek**	**20.59**	**227**	*eP*	P	01 05 01.6	+0.4
44nm,0.8s							
WB2	**Warramunga Arr**	**20.59**	**227**	*eP*	P	01 05 01.3	0.0
WRA	**Warramunga Arr**	**20.60**	**227**	P	P	01 05 01.9	+0.5
44nm,0.8s,baz=51,slow=10,SNR=101							
WRA				LR	LR	01 13 07.2	
comp=Z,88nm,19.3s,MS3.1,baz=115,slow=37							
ASAR	**Alice Springs**	**23.38**	**221**	P	P	01 05 31.2	+0.2
9.7nm,0.9s,mb4.2,baz=56,slow=9.1,SNR=68							
STKA	**Stephens Creek**	**26.70**	**197**⇑	*iP*	P	01 06 00.9	-0.2
4.7nm,0.6s,mb4.2							
STKA	**Stephens Creek**	**26.70**	**197**	P	P	01 06 01.0	-0.1
8.8nm,0.7s,mb4.4,baz=1.2,slow=9.1,SNR=22							
STKA				LR	LR	01 17 15.6	
comp=Z,127nm,19.1s,MS3.5,baz=28,slow=38							
FITZ	**Fitzroy Crossi**	**26.77**	**242**	*eP*	P	01 06 02.1	+0.2
12nm,0.4s,mb4.8							
FITZ	**Fitzroy Crossi**	**26.77**	**242**	P	P	01 06 02.4	+0.5
6.9nm,0.4s,mb4.5,baz=58,slow=8.8,SNR=35							

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FORT	**Forrest**	**32.07**	**218**	*eP*	P	01 06 48.7	-0.1
23nm,0.7s,mb5.1							
MBWA	**Marble Bar**	**33.08**	**240**	*eP*	P	01 06 57.4	-0.4
16nm,1.0s,mb4.9							
KLBR	**Kellerberrin**	**39.48**	**226**	*eP*	P	01 07 51.5	-0.8
20nm,0.5s,mb5.1							
NWAO	**Narrogin (SRO)**	**40.57**	**225**	LR	LR	01 27 15.7	
comp=Z,81nm,20.3s,MS3.6,baz=122,slow=40							
MUN	**Mundaring**	**40.80**	**227**	*eP*	P	01 08 03.6	+0.3
SONM	**Songino Array**	**66.33**	**329**	P	P	01 11 10.3	+0.2
0.3nm,0.6s,mb3.5,baz=144,slow=5.4,SNR=3.4							
GERES	**GERESS Array B**	**124.02**	**327**	PKP	PKPdf	01 19 19.1	-0.7
0.3nm,0.6s,baz=45,slow=2.6,SNR=4.8							
TOA0	**Torodi Ar. Sit**	**148.37**	**285**	*e*PKPbc	PKPbc	01 20 07.7	-1.2
TORD	**Torodi Ar. Bea**	**148.37**	**285**	PKPbc	PKPbc	01 20 07.9	-1.0
2.0nm,0.6s,baz=87,slow=2.2,SNR=17							
BDFB	**Brasilia**	**151.61**	**140**	PKPbc	PKPbc	01 20 14.3	-2.5
1.4nm,0.8s,baz=201,slow=11,SNR=3.1							
BDFB				PKPab	PKPab	01 20 21.7	-3.6
1.4nm,0.5s,baz=162,slow=3.2,SNR=3.4							

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*JMA **08** 01:09:09.5±0.4, 3099N×14192E, h0km, M4.0*
*ISCJB **08** 01:09:10.2±1.0, 3090N±009×1422E±02, h33km, mb3.6/4, Error ellipse: s-maj=27.3km s-min=7.7km az=158.2*
*IDC **08** 01:09:10.6±4.0, 3055N×14126E, h0km, mb3.6/4, mb1 3.7/5, mb1mx3.5/19, mbtmp3.5/5, ML3.6/1, MS2.9/1, Ms1 2.9/1, ms1mx2.4/28, Error ellipse: s-maj=153.2km s-min=22.2km az=71.0*
*NEIC **08** 01:09:11.8±4.2, 3092N×14238E, h35km, MG4.0(JMA), Error ellipse: s-maj=168.0km s-min=11.8km az=72.0*

ISC 08 01:09:12.6±1.0, 3090N±009×1422E±02, h35km, n15, σ1§02/20, mb3.6/4, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**2.96**	**319**	P	**Pn**	01 09 56.0	-1.2
JHJ2				S	**Sn**	01 10 31.0	-0.5
BSO1	**Boso 1**	**3.87**	**345**	P	**Pn**	01 10 09.8	+0.2
BSO4	**Boso 4**	**4.35**	**340**	P	**Pn**	01 10 17.2	+1.0
JOD2	**Odawara 2**	**5.05**	**330**	P	**Pn**	01 10 26.1	+0.2
JOD2				S	**Sn**	01 11 24.6	+1.6
JHU	**Hanno**	**5.49**	**335**	P	**Pn**	01 10 32.0	+0.1
JHU				S	**Sn**	01 11 32.4	-1.3
JRY	**Ryogami san**	**5.78**	**333**	P	**Pn**	01 10 36.7	+0.9
JHO	**Hitachi**	**5.84**	**347**	P	**Pn**	01 10 34.9	-1.8
JHO				S	**Sn**	01 11 38.2	-4.3
MJAR	**Matsushiro Arr**	**6.51**	**331**	Pn	**Pn**	01 10 46.1	+0.2
1.2nm,0.3s,baz=154,slow=10,SNR=17							
MJAR				Sn	**Sn**	01 11 56.4	-2.6
0.2nm,0.3s,baz=160,slow=14,SNR=2.9							
MAJO	**Matsushiro**	**6.51**	**331**	*e*Pn	**Pn**	01 10 46.3	+0.4
5.7nm,0.4s							
MAT	**Matsushiro**	**6.51**	**331**	P	**Pn**	01 10 46.4	+0.5
MAT				S	**Sn**	01 12 00.3	+1.3
JNU	**Nakatsue**	**9.82**	**286**	LR	LR	01 14 54.9	
comp=Z,82nm,20.8s,baz=218,slow=38							
SONM	**Songino Array**	**32.05**	**312**	P	P	01 15 36.7	+0.8
0.6nm,0.7s,mb3.5,baz=111,slow=8.0,SNR=6.0							
MKAR	**Makanchi Array**	**48.10**	**307**	P	P	01 17 49.0	+0.2
0.8nm,0.6s,mb3.9,baz=94,slow=9.0,SNR=5.9							
WRA	**Warramunga Arr**	**51.11**	**189**	P	P	01 18 10.8	-1.1
0.3nm,0.3s,mb3.7,baz=5.1,slow=7.5,SNR=2.6							
ASAR	**Alice Springs**	**54.83**	**189**	P	P	01 18 39.6	+0.3
0.2nm,0.4s,mb3.5,baz=0.2,slow=5.5,SNR=5.0							

IDC 08 01:09:17.0±14.0, 2423S×17934E, h676km±196km, mb3.0/5, mb1 3.2/5, mb1mx3.0/13, mbtmp3.0/5, Error ellipse: s-maj=101.2km s-min=71.7km az=145.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**30.87**	**271**	P	P	01 14 42.9	+0.3
5.4nm,0.4s,baz=89,slow=12,SNR=15							
STKA	**Stephens Creek**	**34.04**	**248**	P	P	01 15 08.6	-0.3
0.8nm,0.5s,baz=99,slow=13,SNR=4.5							
ASAR	**Alice Springs**	**41.38**	**261**	P	P	01 16 08.2	+0.2
1.0nm,0.5s,baz=94,slow=6.9,SNR=20							
WB2	**Warramunga Arr**	**41.77**	**267**	*eP*	P	01 16 10.8	-0.3
WRA	**Warramunga Arr**	**41.78**	**267**	P	P	01 16 11.2	0.0
2.4nm,0.5s,baz=103,slow=8.3,SNR=8.9							
TXAR	**Lajitas Array**	**91.12**	**58**	P	P	01 21 12.6	+0.2
0.5nm,0.7s,baz=213,slow=4.3,SNR=5.4							

IDC 08 01:10:12.6±5.1, 708S×15590E, h0km, mb3.7/5, mb1 3.8/5, mb1mx3.7/14, mbtmp3.7/5, Error ellipse: s-maj=142.6km s-min=31.5km az=113.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.51**	**236**	P	P	01 15 34.3	+0.4
0.4nm,0.3s,baz=62,slow=9.3,SNR=3.4							
ASAR	**Alice Springs**	**26.80**	**230**	P	P	01 15 54.5	-0.1
0.2nm,0.3s,baz=61,slow=9.7,SNR=6.6							
FITZ	**Fitzroy Crossi**	**31.44**	**247**	P	P	01 16 35.9	0.0
1.4nm,0.6s,baz=75,slow=11,SNR=3.9							
SONM	**Songino Array**	**69.89**	**327**	P	P	01 21 25.6	+0.2
0.3nm,0.5s,baz=140,slow=6.7,SNR=4.2							
MKAR	**Makanchi Array**	**84.06**	**318**	P	P	01 22 45.2	0.0
0.3nm,0.3s,baz=103,slow=5.8,SNR=3.5							

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*NDI **08** 01:14:11.1±3.2, 3419N×7332E, h33km, ML3.3*

ISC 08 01:14:10.0±1.3, 338N±01×728E±01, h32km±10km, n11, σ1§08/15, 1C, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHCP	**Chirah Chowk**	**0.38**	**106**	⇑P	**Pb**	01 14 17.2	-1.4
CEP	**Cherat**	**0.77**	**275**	P	**Pn**	01 14 25.9	+1.4
THW	**Thamme Wali**	**1.33**	**223**	P	**Pn**	01 14 38.1	+5.8
JMU	**Jammu**	**2.03**	**120**	*eS*	**Sn**	01 15 07.0	+0.8
THN	**Thein Dam**	**2.77**	**118**	*eP*	**Pn**	01 14 52.4	+0.3
THN				*ex*	**Sb**	01 15 32.3	+0.1
DLH	**Dalhousie**	**2.90**	**114**	*eP*	**Pn**	01 14 54.0	0.0
DLH				*ex*	**Sb**	01 15 37.0	+0.9
SDNR	**Sundarnagar**	**4.16**	**122**	*eP*	**Pn**	01 15 09.5	-1.8
SDNR				*ex*	**Sb**	01 16 13.5	+1.2
KUDL	**Kundal**	**6.43**	**150**	*eS*	**Sn**	01 16 55.2	+0.6
KUDL				AML	AML	01 17 45.1	
comp=N,11nm,0.5s							
KUDL				AML	AML	01 17 45.4	
comp=E,14nm,0.5s							
JOSI	**Joshimath**	**6.54**	**117**	*eP*	**Pn**	01 15 43.

SVSA 08 01:15:47.9±1.1, 3705N×2474W, h5km, MD3.9, ML3.4, Error ellipse: s-maj=6.3km s-min=4.4km az=102.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSMN	**Pico do Norte,**	**0.26**	**260**	*i* P	Pg	01 15 52.5	-0.5
PSMN				*e*S	Sg	01 15 56.8	+0.4
PSMN	**Pico do Norte,**	**0.26**	**260**	*e*S	Sg	01 15 56.8	+0.4
PDA	**Ponta Delgada**	**1.01**	**314**	*e*P	Pg	01 16 03.7	-3.6
PDA				*i* S	Sg	01 16 15.9	-4.5
PSET	**Sete Cidades**	**1.10**	**315**	*i* P	Pg	01 16 04.8	-4.2
PSET				*e*S	Sg	01 16 18.2	-5.0
PSET				A		01 16 26.2	
	335nm,0.3s						
PSCM	**Serra do Cume**	**2.50**	**312**	*e*P	Pn	01 16 24.9	-4.3
PSCM				*e*S	Sn	01 16 53.0	-7.1
PSCM				A		01 16 55.1	
	99nm,0.4s						
PSCM	**Serra do Cume**	**2.50**	**312**	*e*P	Pn	01 16 24.9	-4.3
PSCM				*e*S	Sn	01 16 53.0	-7.1
ADH	**Angra Heroismo**	**2.54**	**310**	*e*P	Pn	01 16 25.4	-4.4
ADH				*e*S	Sn	01 16 53.0	-8.1
PID	**Ribeirinha**	**3.02**	**299**	*i* P	Pn	01 16 32.1	-4.2
PID				*e*S	Sn	01 17 03.9	-8.9
PMAN	**Manadas**	**3.08**	**302**	*i* P	Pn	01 16 32.8	-4.4
PMAN				*e*S	Sn	01 17 06.0	-8.5
PMAN				A		01 17 06.6	
	21nm,0.2s						
ROSA	**Rosais**	**3.23**	**302**	*e*P	Pn	01 16 34.5	-4.8
ROSA				*e*S	Sn	01 17 09.7	-8.4
PICO	**Pico**	**3.26**	**298**	*e*P	Pn	01 16 35.2	-4.4
PICO				*e*S	Sn	01 17 10.0	-8.8
HOR	**Horta**	**3.41**	**297**	*e*P	Pn	01 16 37.3	-4.5
CALA	**Caldeira**	**3.49**	**297**	*e*P	Pn	01 16 38.1	-4.7
CALA				*e*S	Sn	01 17 15.9	-8.5

*CSEM **08** 01:19:16.4±0.1, 2798N×5764E, h8km, ML3.8, Error ellipse: s-maj=4.3km s-min=2.9km az=117.0*
*ISCJB **08** 01:19:16.5±0.7, 28.18N±003×57.18E±005, h10km, Error ellipse: s-maj=6.9km s-min=4.7km az=165.8*
*KISR **08** 01:19:17.6±0.9, 2788N×5697E, h18km±999km, ML4.0*
*THR **08** 01:19:17.0±0.7, 2800N×5766E, h14km±12km, ML3.8*
*OMAN **08** 01:19:41.7, 2644N×5692E, h12km*
*TEH **08** 01:19:45.7, 2740N×5789E, h21km, ML3.5*

ISC 08 01:19:18.0±0.8, 2815N±003×5728E±005, h10km, n33, σ1§45/54, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDS	**Bandar-Abbas**	**1.24**	**233**	*e*Pg	**Pg**	**01 19 43.3**	**+1.5**
BNDS				*e*Sg	**Sg**	**01 20 03.5**	**+5.6**
BNDS				AML	AML	01 20 07.9	
	comp=N,1μm,0.6s						
BNDS	**Bandar-Abbas**	**1.24**	**233**	*e*Pg	**Pg**	**01 19 43.3**	**+1.5**
	SNR=90						
BNDS				*e*Sg	**Sg**	**01 20 03.5**	**+5.6**
	SNR=90						
KRBR	**Kerman**	**1.88**	**346**	*e*Pn	**Pg**	**01 19 54.3**	**+0.2**
KRBR				*e*Sg	**Sg**	**01 20 24.2**	**+5.8**
KRBR				AML	AML	01 20 29.7	
	comp=N,636nm,0.5s						
KRBR	**Kerman**	**1.88**	**346**	*e*Pn	**Pg**	**01 19 54.3**	**+0.2**
	SNR=52						
KRBR				*e*Sg	**Sg**	**01 20 24.2**	**+5.7**
	SNR=90						
BANOM	**Banah**	**2.39**	**202**	P	**Pn**	**01 19 56.4**	**-0.7**
	SNR=62						
BANOM	**Banah**	**2.39**	**202**	P	**Pn**	**01 19 56.4**	**-0.7**
	SNR=62						
BANOM	**Banah**	**2.39**	**202**	P	**Pn**	**01 19 56.4**	**-0.7**
	SNR=62						
BANOM				S	**Sn**	**01 20 26.5**	**+0.1**
ZHSF	**Zahedan**	**3.39**	**64**	*e*Pn	**Pn**	**01 20 08.8**	**-2.1**
HATD	**Hatta, Dubai**	**3.47**	**198**	P	**Pn**	**01 20 10.3**	**-1.7**
ASHO	**Ashiyiah**	**3.62**	**198**	P	**Pn**	**01 20 14.2**	**0.0**
	SNR=8.6						
IBAF	**Bafgh**	**3.74**	**337**	*e*Pn	**Pb**	**01 20 20.6**	**-3.5**
IBAF				*e*		01 20 33.4	
	comp=Z,474nm,0.2s						
IBAF				*e*Sn	**Sb**	**01 21 11.1**	**+1.7**
ISRV	**Sarvestan**	**3.86**	**290**	*e*Pn	**Pn**	**01 20 21.3**	**+3.9**
ISRV				*e*		01 21 15.6	
	comp=Z,516nm,0.1s						
ASUD	**Al Ashush, Dub**	**3.92**	**207**	P	**Pb**	**01 20 19.6**	**-7.7**
	SNR=10						
IMEH	**Mehriz**	**3.98**	**325**	*e*Pn	**Pb**	**01 20 24.4**	**-3.7**
IMEH				*e*		01 21 51.0	
	comp=Z,386nm,0.4s						
IPAR	**Pars**	**4.07**	**295**	*e*Pn	**Pb**	**01 20 24.5**	**-5.3**
IPAR				*e*		01 22 07.7	
	comp=Z,284nm,0.3s						
IMOK	**Mouk**	**4.12**	**284**	*e*Pn	**Pn**	**01 20 23.2**	**+2.3**
IMOK				*e*Sn	**Sn**	**01 21 16.6**	**+7.5**
IMOK				*e*		01 21 21.6	
	comp=Z,582nm,0.1s						
ICHK	**Chekchek**	**4.78**	**329**	*e*Pn	**Pb**	**01 20 34.8**	**-7.0**
ICHK				*e*		01 20 57.6	
	comp=Z,199nm,0.2s						
ICHK				*e*Sn	**Sb**	**01 21 37.1**	**-2.3**
ISAD	**Sadrabad**	**4.88**	**321**	*e*Pn	**Pb**	**01 20 37.2**	**-6.3**
ISAD				*e*Sn	**Sb**	**01 21 39.2**	**-3.0**
BTHS		**7.08**	**236**	P	**Pn**	**01 21 01.3**	**-0.4**
BTHS		**7.08**	**236**	P	**Pn**	**01 21 01.3**	**-0.4**
BTHS				S	**Sn**	**01 22 16.6**	**-5.8**
BOQSS		**7.41**	**254**	P	**Pn**	**01 21 06.7**	**+0.5**
KFJS		**8.25**	**272**	P	**Pn**	**01 21 18.8**	**+1.1**
KFJS				S	**Sn**	**01 22 49.6**	**-1.3**
KBD	**Kabd**	**8.49**	**279**	*e*P	**Pn**	**01 21 22.6**	**+1.6**
KBD				*e*S	**Sn**	**01 22 55.9**	**-1.0**
KBD				AML	AML	01 22 58.3	
	comp=Z,51nm,0.3s						
KBD	**Kabd**	**8.49**	**279**	*e*P	**Pn**	**01 21 22.6**	**+1.6**
KBD				*e*S	**Sn**	**01 22 55.9**	**-0.9**
	comp=Z,51nm,0.3s						
RDF	**Al-Radifah**	**8.60**	**277**	*e*P	**Pn**	**01 21 23.6**	**+1.1**
RDF				*e*S	**Sn**	**01 22 57.9**	**-1.7**
RDF				AML	AML	01 22 59.1	
	comp=Z,5.9nm,0.3s						
RDF	**Al-Radifah**	**8.60**	**277**	*e*P	**Pn**	**01 21 23.6**	**+1.1**
RDF				*e*S	**Sn**	**01 22 57.9**	**-1.6**
	comp=Z,5.9nm,0.3s						
MIB	**Mutribah**	**8.87**	**283**	*e*P	**Pn**	**01 21 27.8**	**+1.6**
MIB				*e*S	**Sn**	**01 23 05.4**	**-0.7**
MIB				AMb	AMB	01 23 07.7	
	comp=Z,22nm,0.7s						
MIB	**Mutribah**	**8.87**	**283**	*e*P	**Pn**	**01 21 27.8**	**+1.6**
MIB				*e*S	**Sn**	**01 23 05.4**	**-0.7**
NAY	**Al-Naaiem**	**8.89**	**279**	*e*P	**Pn**	**01 21 28.2**	**+1.7**
NAY				*e*S	**Sn**	**01 23 05.8**	**-0.8**
NAY				AML	AML	01 23 07.4	
	comp=Z,4.1nm,0.4s						
NAY	**Al-Naaiem**	**8.89**	**279**	*e*P	**Pn**	**01 21 28.2**	**+1.7**
NAY				*e*S	**Sn**	**01 23 05.8**	**-0.8**
RST	**Umm Al-Ruwaisa**	**9.12**	**281**	*e*P	**Pn**	**01 21 31.1**	**+1.4**
RST				*e*S	**Sn**	**01 23 12.2**	**-0.2**
RST				AML	AML	01 23 12.4	
	comp=Z,7.4nm,0.5s						
RST	**Umm Al-Ruwaisa**	**9.12**	**281**	*e*P	**Pn**	**01 21 31.1**	**+1.4**
RST				*e*S	**Sn**	**01 23 12.2**	**-0.2**
	comp=Z,7.4nm,0.5s						
LYLS		**10.94**	**238**	P	**Pn**	**01 21 51.6**	**-3.1**

*PDA **08** 01:31:04.9±0.9, 3717N×2449W, h5km, MD4.0, ML3.1, Error ellipse: s-maj=6.1km s-min=3.9km az=85.0*
*CSEM **08** 01:31:04.9±0.9, 3717N×2449W, h5km, ML3.1, Error ellipse: s-maj=6.1km s-min=3.9km az=85.0, After PDA*

SVSA 08 01:31:04.9±0.9, 3717N×2449W, h5km, MD4.0, ML3.1, Error ellipse: s-maj=6.1km s-min=3.9km az=85.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSMN	**Pico do Norte,**	**0.49**	**250**	*e*P	Pg	01 31 13.4	-0.9
PSMN				*e*S	Sg	01 31 19.8	-0.9
PDA	**Ponta Delgada**	**1.10**	**302**	*e*P	Pg	01 31 22.2	-3.8
PDA				*e*S	Sg	01 31 34.0	-6.2
PSET	**Sete Cidades**	**1.18**	**304**	*e*P	Pg	01 31 23.1	-4.4
PSET				*e*S	Sg	01 31 37.2	-5.6
PSET				A		01 31 40.7	
	240nm,0.3s						
PSET	**Sete Cidades**	**1.18**	**304**	*e*P	Pg	01 31 23.1	-4.4
PSET				*e*S	Sg	01 31 37.2	-5.6
ADH	**Angra Heroismo**	**2.63**	**305**	*e*S	Sn	01 32 12.1	-8.2
PID	**Ribeirinha**	**3.14**	**295**	*e*P	Pn	01 31 51.0	-4.1
PID				*e*S	Sn	01 32 25.2	-7.8
PMAN	**Manadas**	**3.20**	**298**	*e*S	Sn	01 32 25.6	-8.8
PMAN				A		01 32 26.3	
	35nm,0.5s						
ROSA	**Rosais**	**3.35**	**299**	*e*P	Pn	01 31 53.3	-4.5
ROSA				*e*S	Sn	01 32 29.4	-8.5
PICO	**Pico**	**3.39**	**294**	*e*P	Pn	01 31 53.5	-4.9
PICO				*e*S	Sn	01 32 30.8	-8.2
HOR	**Horta**	**3.55**	**294**	*e*S	Sn	01 32 34.6	-8.3
CALA	**Caldeira**	**3.62**	**294**	*e*P	Pn	01 31 57.4	-4.2
CALA				*e*S	Sn	01 32 36.4	-8.3
PMAR	**Madeira**	**7.64**	**123**	*e*Pn	Pn	01 32 55.9	-0.9

*NIED **08** 01:51:00, 4440N×149.30E, h26km, Mw4.0 Best double couple: M0 9.61000×10^14 NP1:ϕ0=41.00000°, δ60.00000°, λ124.00000°. NP2:ϕ0=168.00000°, δ44.00000°, λ46.00000°.*
*MOS **08** 01:51:53.9±2.1, 4388N×14937E, h40km, mb4.2/8, Error ellipse: s-maj=16.2km s-min=12.3km az=132.3*
*JMA **08** 01:51:53.5±0.6, 4435N×14933E, h30km, M3.9*
*ISCJB **08** 01:51:56.0±1.1, 4367N±009×149.19E±009, h65km±11km, mb3.8/11, Error ellipse: s-maj=15.4km s-min=10.4km az=159.6*
*NEIC **08** 01:51:56.3±1.2, 4400N×14920E, h35km, mb3.9/1, Error ellipse: s-maj=31.6km s-min=11.6km az=140.0*
*IDC **08** 01:51:58.7±3.7, 4388N×149.13E, h66km±40km, mb3.6/9, mb1 3.7/11, mb1mx3.5/22, mbtmp3.5/11, ML3.3/2, MS3.0/2, Ms1 3.0/2, ms1mx2.5/28, Error ellipse: s-maj=58.3km s-min=24.1km az=174.0*
*SZGRF **08** 01:51:58.2, 4559N×15371E, h33km, mb4.1, East of Kuril Islands, Russia*

ISC 08 01:51:57.6±1.1, 438N±01×14919E±009, h58km±11km, n56, σ0§88/59, mb3.9/11, 1C, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.74**	**328**	⇑*i*PN	**Pn**	**01 52 17.8**	**-7.7**
KUR				pmax	pmax		
	comp=N,190nm,1.0s						
KUR				pmax	pmax		
	comp=E,190nm,1.0s						
KUR				pmax	pmax		
	comp=Z,750nm,1.0s						
NEM2	**Nemuro 2**	**2.54**	**262**	P	**Pn**	**01 52 34.8**	**-1.5**
NEM2				*e*S	**Sn**	**01 53 05.4**	**-0.6**
JRA	**Rausu**	**2.94**	**275**	P	**Pn**	**01 52 40.6**	**-1.3**
JNK	**Nakash**	**3.25**	**268**	P	**Pn**	**01 52 45.0**	**-1.0**
JNK				*e*S	**Sn**	**01 53 21.6**	**-1.8**
JAK	**Akkeshi**	**3.36**	**258**	P	**Pn**	**01 52 46.7**	**-0.9**
JAK				*e*S	**Sn**	**01 53 26.8**	**+0.5**
JTKR	**Abashiri--Toko**	**3.82**	**275**	P	**Pn**	**01 52 53.4**	**-0.5**
JAR	**Ashorobuto**	**3.97**	**265**	P	**Pn**	**01 52 55.6**	**-0.3**
JOB	**Onbets**	**4.00**	**259**	P	**Pn**	**01 52 56.8**	**+0.5**
JOB				*e*S	**Sn**	**01 53 42.9**	**+1.0**
JMP	**Maruseppu**	**4.22**	**275**	P	**Pn**	**01 52 59.1**	**-0.2**
JCH	**Churui**	**4.41**	**257**	P	**Pn**	**01 53 02.1**	**+0.1**
JCH				*e*S	**Sn**	**01 53 51.8**	**-0.2**
JKK2	**Kamakawa 2**	**4.66**	**273**	P	**Pn**	**01 53 06.0**	**+0.7**
ERM	**Erimo**	**4.76**	**250**	*e*Pn	**Pn**	**01 53 08.1**	**+1.3**
JEM	**Erimo**	**4.76**	**250**	P	**Pn**	**01 53 08.3**	**+1.5**
ASAJ	**Asahikawa**	**4.77**	**276**	P	**Pn**	**01 53 08.0**	**+1.1**
ASAJ	**Asahikawa**	**4.77**	**276**	P	**Pn**	**01 53 08.1**	**+1.2**
	comp=Z,1.2nm,0.3s,baz=88,slow=13,SNR=13						
ASAJ				LR	LR	01 55 11.2	
	comp=Z,243nm,20.0s,baz=166,slow=41						
JFR	**Furan**	**4.84**	**265**	P	**Pn**	**01 53 08.5**	**+0.7**
JNBK	**Urakawa-nobuka**	**4.95**	**255**	P	**Pn**	**01 53 09.5**	**+0.2**
JNBK				*e*S	**Sn**	**01 54 06.5**	**+1.4**
JBT2	**Biratori 2**	**5.08**	**261**	P	**Pn**	**01 53 10.9**	**-0.2**
YSS	**Yuzh-Sakhalins**	**5.54**	**307**	*e*PN	**Pn**	**01 53 20.3**	**+3.0**
YSS				*e*		01 54 26.8	
JNB	**Noboribetsu**	**6.10**	**260**	P	**Pn**	**01 53 25.4**	**+0.3**
JNB				*e*S	**Sn**	**01 54 32.9**	**-0.6**
JKB	**Kayabe**	**6.28**	**255**	P	**Pn**	**01 53 27.1**	**-0.5**
JKB				*e*S	Sx	01 54 36.2	
JANG	**Nango**	**6.64**	**242**	P	**Pn**	**01 53 31.5**	**-1.0**
JANG				*e*S	Sx	01 54 42.7	
JTH	**Tanohata**	**6.67**	**237**	*e*S	Sx	01 54 42.7	
JYM2	**Yakumo 2**	**6.68**	**259**	P	**Pn**	**01 53 32.3**	**-0.7**
JYM2				*e*S	Sx	01 54 46.0	
JTM	**Tenmabayashi**	**6.72**	**246**	P	**Pn**	**01 53 33.0**	**-0.5**
JTM				*e*S	Sx	01 54 45.8	
JOSM	**Okushiri--Mats**	**7.33**	**260**	P	**Pn**	**01 53 42.3**	**+0.5**
OFUJ	**Ofunato**	**7.34**	**233**	P	**Pn**	**01 53 41.4**	**-0.6**
OFUJ				*e*S	Sx	01 55 00.3	
JRG	**Rokugo**	**7.76**	**239**	P	**Pn**	**01 53 48.3**	**+0.5**
JRG				*e*S	Sx	01 55 12.6	
JIO	**Ouri**	**7.95**	**231**	*e*S	Sx	01 55 15.2	
MJAR	**Matsushiro Arr**	**11.07**	**233**	P	**Pn**	**01 54 33.2**	**+0.1**
MJAR	**Matsushiro Arr**	**11.07**	**233**	P	**Pn**	**01 54 33.2**	**+0.1**
	comp=Z,0.2nm,0.3s,baz=25,slow=14,SNR=4.0						
KLR	**Kul'dur**	**13.19**	**301**	*e*PN	**Pn**	**01 55 04.3**	**+2.5**
KSRS	**Korea Array**	**17.31**	**256**	LR	LR	02 03 06.9	
	comp=Z,35nm,18.8s,baz=70,slow=39						
SONM	**Songino Array**	**29.82**	**293**	P	**P**	**01 57 59.1**	**+0.2**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.7s						
SONM	**Songino Array**	**29.82**	**293**	P	**P**	**01 57 59.1**	**+0.2**
	comp=Z,0.8nm,0.7s,mb3.5,baz=81,slow=8.1,SNR=7.3						
ZALV	**Zalesovo Beam**	**42.16**	**307**	PcP	PcP	02 01 38.5	+1.2
	comp=Z,0.7nm,0.5s,baz=104,slow=6.1,SNR=3.3						
INK	**Inuvik**	**45.64**	**30**	P	**P**	**02 00 11.3**	**-0.4**
INK				pmax	pmax		
	comp=Z,1.0nm,0.6s						
INK	**Inuvik**	**45.64**	**30**	P	**P**	**02 00 11.3**	**-0.4**
	comp=Z,0.8nm,0.6s,mb3.8,baz=300,slow=4.1,SNR=7.4						
MK31	**Makanchi Array**	**45.88**	**298**	*e*P	**P**	**02 00 13.8**	**-0.1**
MKAR	**Makanchi Array**	**45.88**	**298**	P	**P**	**02 00 14.3**	**+0.4**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
MKAR	**Makanchi Array**	**45.88**	**298**	P	**P**	**02 00 14.2**	**+0.4**
	comp=Z,1.9nm,0.7s,mb4.1,baz=72,slow=7.9,SNR=16						
EKS2	**Erkin-Say**	**53.13**	**297**	*e*P	**P**	**02 01 09.7**	**+0.6**
	comp=Z,0.6nm,0.4s,mb3.9						
YKA	**Yellowknife Ar**	**54.96**	**34**	P	**P**	**02 01 22.2**	**0.0**
YKA	**Yellowknife Ar**	**54.96**	**34**	P	**P**	**02 01 22.2**	**0.0**
	comp=Z,0.3nm,0.7s,mb3.4,baz=298,slow=6.7,SNR=5.5						
FINES	**FINESS Array B**	**65.52**	**334**	P	**P**	**02 02 33.0**	**-1.3**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.6s						
FINES	**FINESS Array B**	**65.52**	**334**	P	**P**	**02 02 33.0**	**-1.3**
	comp=Z,1.6nm,0.6s,mb4.3,baz=51,slow=7.8,SNR=16						
NB2	**NORSAR Subarra**	**70.11**	**340**	P	**P**	**02 03 02.1**	**-1.0**
	comp=Z,1.3nm,0.5s,mb4.1,baz=30,slow=6.5						
NOA	**NORSAR Array B**	**70.11**	**340**	P	**P**	**02 03 02.6**	**-0.5**
NOA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
NOA	**NORSAR Array B**	**70.11**	**340**	P	**P**	**02 03 02.6**	**-0.5**
	comp=Z,2.2nm,0.8s,mb4.2,baz=31,slow=6.3,SNR=8.1						
AKASG	**Malin Array Be**	**72.43**	**325**	P	**P**	**02 03 16.6**	**-0.7**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.6s						
AKASG	**Malin Array Be**	**72.43**	**325**	P	**P**	**02 03 16.6**	**-0.7**
	comp=Z,1.1nm,0.6s,mb4.0,baz=35,slow=6.2,SNR=7.9						
GERES	**GERESS Array B**	**79.85**	**332**	P	**P**	**02 03 59.3**	**-0.2**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
GERES	**GERESS Array B**	**79.85**	**332**	P	**P**	**02 03 59.3**	**-0.2**
	comp=Z,0.6nm,0.6s,mb3.7,baz=37,slow=6.1,SNR=10						
GRF	**Grafenberg Arr**	**79.94**	**334**	*e*P	**P**	**02 04 00.9**	**+0.9**
GRF				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.2						
GRF	**Grafenberg Arr**	**79.94**	**334**	*e*P	**P**	**02 04 00.9**	**+0.9**
	comp=Z,2.0nm,0.7s,mb4.2						
TXAR	**Lajitas Array**	**81.40**	**58**	P	**P**	**02 04 09.0**	**+0.8**
	comp=Z,0.2nm,0.4s,mb3.4,baz=263,slow=5.4,SNR=3.6						

*IDC **08** 01:54:00.8±1.2, 735S×15580E, h0km, mb4.1/5, mb1 4.2/6, mb1mx3.9/15, mbtmp4.2/6, ML4.4/1, MS3.6/2, Ms1 3.6/2, ms1mx2.8/25, Error ellipse: s-maj=29.9km s-min=27.6km az=39.0*
*NEIC **08** 01:54:02.1±0.7, 740S×15583E, h10km, mb4.3/1, Error ellipse: s-maj=19.1km s-min=14.9km az=194.0*
*ISCJB **08** 01:54:04.6±0.8, 74S±0.1×15572E±008, h33km, mb4.0/6, Error ellipse: s-maj=20.7km s-min=10.0km az=20.6*

ISC 08 01:54:06.7±0.8, 74S±01×15566E±009, h35km, n9, σ0§84/9, mb4.0/6, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.71**	**116**	P	**Pn**	**01 55 11.1**	**-4.2**
	16nm,0.3s,baz=259,slow=3.5,SNR=8.2						
HNR				Sn	**Sn**	**01 56 08.9**	**+0.1**
	12nm,0.3s,baz=99,slow=21,SNR=5.2						
HNR				LR	LR	01 56 40.0	
	comp=Z,515nm,19.2s,baz=354,slow=35						
WRAB	**Tennant Creek**	**24.14**	**237**	P	**P**	**01 59 18.9**	**-0.8**
	7.5nm,1.0s,mb4.1						
WRA	**Warramunga Arr**	**24.15**	**237**	P	**P**	**01 59 20.7**	**+1.0**
	7.0nm,1.1s,mb4.0,baz=63,slow=10,SNR=6.7						
ASAR	**Alice Springs**	**26.42**	**230**	P	**P**	**01 59 40.1**	**-0.2**
	0.8nm,0.7s,mb3.3,baz=63,slow=8.3,SNR=7.6						
RPZ	**Rata Peaks**	**38.63**	**162**	LR	LR	02 14 53.7	
	comp=Z,105nm,18.4s,baz=278,slow=32						
SONM	**Songino Array**	**70.01**	**327**	P	**P**	**02 05 15.8**	**+1.0**
	0.7nm,0.7s,mb3.7,baz=143,slow=6.1,SNR=6.0						
MK31	**Makanchi Array**	**84.12**	**319**	*e*P	**P**	**02 06 34.2**	**+0.1**
MKAR	**Makanchi Array**	**84.12**	**319**	P	**P**	**02 06 34.5**	**+0.4**
	3.1nm,0.8s,mb4.5,baz=101,slow=6.3,SNR=19						
ZALV	**Zalesovo Beam**	**84.86**	**326**	P	**P**	**02 06 36.1**	**-1.6**
	1.5nm,0.6s,mb4.3,baz=119,slow=5.7,SNR=8.1						

ISC 08 01:59:07.8±0.7, 4120N±005×4410E±009, h35km, n6, σ1§06/12, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TBLG	**Delisi**	**0.72**	**42**	P	**Pn**	**01 59 20.7**	**-0.7**
TBLG				S	**Sn**	**01 59 31.3**	**+0.1**
MTA	**Mtatsminda**	**0.72**	**46**	P	**Pn**	**01 59 20.7**	**-0.7**
MTA				S	**Sn**	**01 59 31.4**	**+0.2**
GOR	**Gori**	**0.79**	**1**	P	**Pn**	**01 59 20.4**	**-1.9**
GOR				S	**Sn**	**01 59 32.1**	**-0.8**
DIGO	**Kars**	**0.96**	**215**	*i* P	**Pn**	**01 59 24.3**	**-0.4**
DIGO				*i* S	**Sn**	**01 59 37.2**	**+0.1**
DGRG	**David-gareji**	**0.99**	**75**	P	**Pn**	**01 59 27.1**	**+1.9**
DGRG				S	**Sn**	**01 59 43.6**	**+5.6**
ONI	**Oni**	**1.46**	**341**	P	**Pn**	**01 59 32.1**	**+0.5**
ONI				S	**Sn**	**01 59 51.6**	**+2.0**

*NEIC **08** 02:01:08.0, 3064S×7058W, h3km, ML3.0(GUC), After GUC.*

GUC 08 02:01:08.0±0.6, 3064S×7058W, h3km±2km, MD3.6, ML3.0, 5C-1D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OVCH	**Ovalle**	**0.54**	**274**	⇑*i*P	Pg	02 01 18.6	+0.3
OVCH				*i* S	Sg	02 01 27.2	+1.9
OVCH	**Ovalle**	**0.54**	**274**	⇑*i*P	Pg	02 01 18.6	+0.3
OVCH				*i* S	Sg	02 01 27.2	+1.9
OVCH				AML	AML	02 01 30.2	
	comp=N,1μm,0.3s						
CMCH	**Combarbala**	**0.64**	**214**	⇑*i*P	Pg	02 01 21.4	+1.1
CMCH				*i* S	Sg	02 01 31.3	+2.7
CMCH	**Combarbala**	**0.64**	**214**	⇑*i*P	Pg	02 01 21.4	+1.1
CMCH				*i* S	Sg	02 01 31.3	+2.7
CMCH				AML	AML	02 01 35.7	
	comp=N,3μm,0.5s						
LSCH	**La Serena**	**0.93**	**322**	⇑*i*P	Pg	02 01 26.1	+0.2
LSCH				*i* S	Sg	02 01 39.5	+1.5
LCO	**Las Campanas**	**1.63**	**356**	*e*Pn	Pn	02 01 39.7	+2.1
LCO				*e*Sn	Sn	02 02 00.1	+1.0
JACH	**Jahuel**	**2.03**	**180**	*i* P	Pn	02 01 43.7	+0.6
JACH				*i* S	Sn	02 02 10.7	+1.7
FCH	**Farellones**	**2.69**	**175**	*i* P	Pn	02 01 53.8	+1.7
FCH				*i* S	Sn	02 02 28.5	+3.4
FCH				AML	AML	02 02 43.8	
	comp=N,59nm,0.7s						
PCH	**Pirque**	**2.97**	**179**	⇓*i*P	Pn	02 01 57.4	+1.4
PCH				*i* S	Sn	02 02 34.8	+2.7
TACH	**Talagante**	**3.02**	**186**	*i* S	Sn	02 02 35.9	+2.6

*ISCJB **08** 02:01:22.0±0.6, 3151S±006×1796W±02, h219km±9km, mb4.4/5, Error ellipse: s-maj=23.5km s-min=6.6km az=17.4*
*NEIC **08** 02:01:22.4±0.9, 3168S×179.15W, h238km±11km, mb4.3/2, Error ellipse: s-maj=25.4km s-min=10.1km az=107.0*
*IDC **08** 02:01:23.3±1.0, 3150S×17932W, h228km±11km, mb4.2/4, mb1 4.4/6, mb1mx3.9/15, mbtmp4.2/6, Error ellipse: s-maj=25.3km s-min=13.8km az=119.0*

ISC 08 02:01:22.9±0.6, 3153S±006×1795W±02, h217km±9km, n53, σ1§19/58, mb4.4/5, 1C, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.67**	**32**	P	**Pn**	**02 02 10.0**	**+0.2**
RAO				S	**S**	**02 02 46.5**	**0.0**
RAO	**Raoul Island**	**2.67**	**32**	P	**Pn**	**02 02 10.0**	**+0.2**
	211nm,0.3s,baz=81,slow=8.1,SNR=12						
RAO				S	**S**	**02 02 46.5**	**0.0**
	292nm,0.3s,baz=76,slow=19,SNR=3.7						
MXZ	**Matakaoa Point**	**6.27**	**196**	P	**Pn**	**02 02 59.0**	**+5.2**
MXZ				S	**S**	**02 04 08.5**	**+2.3**
MXZ	**Matakaoa Point**	**6.27**	**196**	PN	**Pn**	**02 02 53.5**	**-0.3**
MXZ				SN	**S**	**02 04 06.0**	**-0.2**
PUZ	**Puketiti**	**6.77**	**195**	*e*P	**Pn**	**02 03 00.

baz=192,slow=4.2
RCBR Riachuelo 129.17 130 *e*PKPdf PKPdf 02 20 02.6 -3.3
FINES FINESS Array B 145.73 338 PKPbc PKPbc 02 20 32.7 -2.8
FINES FINESS Array B 145.73 338 PKPbc PKPbc 02 20 32.7 -2.8
1.0nm,0.5s,baz=62,slow=3.4,SNR=17
TORD Torodi Ar. Bea 161.66 184 PKPab PKPab 02 21 44.4 0.0
3.9nm,1.2s,baz=161,slow=3.3,SNR=15

PDA ***08*** *02:07:59.3±0.9, 3720N×2457W, h5km, MD3.9, ML3.0, Error ellipse: s-maj=6.4km s-min=3.5km az=87.0*
CSEM ***08*** *02:07:59.3±0.9, 3720N×2457W, h5km, ML3.0, Error ellipse: s-maj=6.4km s-min=3.5km az=87.0, After PDA*
SVSA 08 02:07:59.3±0.9, 3720N×2457W, h5km, MD3.9, ML3.0, Error ellipse: s-maj=6.4km s-min=3.5km az=87.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PSMN	**Pico do Norte,**	**0.44**	**244**		*e*P	Pg	02 08 06.7	-1.1
PSMN					*e*S	Sg	02 08 13.0	-0.6
PDA	**Ponta Delgada**	**1.03**	**302**		*e*P	Pg	02 08 15.5	-3.5
PDA					*e*S	Sg	02 08 27.4	-4.9
PSET	**Sete Cidades**	**1.11**	**305**		*e*P	Pg	02 08 16.8	-3.7
PSET					*e*S	Sg	02 08 29.7	-5.2
PSET					*e*P		02 08 29.9	
PSET					A		02 08 34.5	
	193nm,0.2s							
PSET	**Sete Cidades**	**1.11**	**305**		*e*P	Pg	02 08 16.8	-3.7
PSET					*e*S	Sg	02 08 29.7	-5.2
PMAN	**Manadas**	**3.13**	**298**		*e*S	Sn	02 09 18.5	-8.5
PMAN					A		02 09 20.3	
	15nm,0.2s							
ROSA	**Rosais**	**3.27**	**299**		*e*P	Pn	02 08 46.7	-4.5
ROSA					*e*S	Sn	02 09 22.2	-8.4
PICO	**Pico**	**3.32**	**294**		*e*P	Pn	02 08 47.5	-4.3
PICO					*e*S	Sn	02 09 23.6	-8.0
HOR	**Horta**	**3.48**	**294**		*e*S	Sn	02 09 26.9	-8.6
CALA	**Caldeira**	**3.55**	**294**		*e*P	Pn	02 08 51.0	-4.0
CALA					*e*S	Sn	02 09 28.8	-8.5
PMAR	**Madeira**	**7.71**	**123**		*e*Pn	Pn	02 09 48.1	-4.1
PMPS	**Porto Santo**	**7.91**	**119**		*e*Pn	Pn	02 09 49.9	-5.1

KNET ***08*** *02:15:34.5±0.3, 4257N×7536E, h19km±3km, ml2.5, Error ellipse: s-maj=2.4km s-min=2.0km az=40.0*
ISCJB ***08*** *02:15:35.5±0.6, 4256N±003×7533E±004, h10km±5km, Error ellipse: s-maj=5.4km s-min=4.6km az=21.4*
NNC ***08*** *02:15:36.5±1.5, 4259N×7538E, h0km, mb3.1, mpv3.1, Error ellipse: s-maj=12.8km s-min=7.9km az=118.0*
ISC 08 02:15:35.8±0.5, 4256N±003×7538E±004, h8km±9km, n12, σ0≤53/21, 10C-9D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KBK	**Karagaybulak**	**0.30**	**288**		P	**Pg**	**02 15 42.2**	**+0.4**
	198nm,0.1s,SNR=274							
KBK				⇑S		**Sg**	**02 15 46.9**	**+1.1**
	1μm,0.2s							
TKM2	**Tokmak 2**	**0.40**	**28**	⇑P		**Pg**	**02 15 43.4**	**-0.2**
	62nm,0.3s							
TKM2				⇑S		**Sg**	**02 15 49.1**	**+0.2**
	344nm,0.3s							
TKM2	**Tokmak 2**	**0.40**	**28**	⇓P		**Pg**	**02 15 43.6**	**-0.1**
	105nm,0.1s,SNR=707							
TKM2				⇑S		**Sg**	**02 15 49.0**	**+0.1**
	516nm,0.1s							
KZA	**Kyzart**	**0.49**	**188**	P		**Pg**	**02 15 45.5**	**+0.3**
	133nm,0.1s,SNR=173							
KZA				⇑S		**Sg**	**02 15 52.2**	**+0.6**
	205nm,0.2s							
CHMS	**Chumysh**	**0.61**	**315**	⇓P		**Pg**	**02 15 47.3**	**-0.3**
	55nm,0.2s,SNR=105							
CHMS				⇑S		**Sg**	**02 15 55.7**	**+0.1**
	203nm,0.2s							
AAK	**Ala-Archa**	**0.63**	**277**	⇓P		**Pg**	**02 15 47.6**	**-0.3**
	21nm,0.1s,SNR=25							
AAK				⇓S		**Sg**	**02 15 56.3**	**+0.3**
	214nm,0.2s							
UCH	**Uchtor**	**0.70**	**241**	⇑P		**Pg**	**02 15 48.8**	**-0.4**
	14nm,0.1s,SNR=28							
ULHL	**Ulahol**	**0.74**	**115**	⇓P		**Pg**	**02 15 49.4**	**-0.6**
	29nm,0.1s,SNR=46							
ULHL				⇑S		**Sg**	**02 15 59.3**	**-0.3**
	122nm,0.3s							
USP	**Ospenovka**	**0.94**	**319**	⇓P		**Pg**	**02 15 53.0**	**-0.7**
	74nm,0.1s,SNR=590							
USP				⇓S		**Sg**	**02 16 05.8**	**-0.1**
	67nm,0.1s							
EKS2	**Erkin-Say**	**1.16**	**275**	⇑P		**Pg**	**02 15 57.8**	**-0.2**
	11nm,0.1s,SNR=72							
KNDC	**Almaty**	**1.36**	**61**	⇓P		**Pn**	**02 16 01.7**	**+0.6**
	7.2nm,0.2s							
KNDC				⇓S		**Sb**	**02 16 19.7**	**+0.7**
	30nm,0.2s							
KK31	**Karatay Array**	**3.59**	**280**	⇑Pn		**Pb**	**02 16 38.4**	**-1.1**
	0.7nm,0.3s,baz=98,slow=16,SNR=42							
KK31				Lg			02 17 28.9	
	3.2nm,0.3s,baz=102,slow=29,SNR=8.3							

CSEM ***08*** *02:47:02.1±0.9, 3742N×2483W, h0km, ML2.7, Error ellipse: s-maj=11.9km s-min=2.6km az=80.0, After PDA*
PDA ***08*** *02:47:02.1±0.9, 3742N×2483W, h0km, MD3.7, ML2.7, Error ellipse: s-maj=11.9km s-min=2.6km az=80.0*
SVSA 08 02:47:02.1±0.9, 3742N×2483W, h0km, MD3.7, ML2.7, Error ellipse: s-maj=11.9km s-min=2.6km az=80.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PSMN	**Pico do Norte,**	**0.46**	**205**		*e*P	Pg	02 47 10.8	0.0
PSMN					*e*S	Sg	02 47 16.5	-0.2
PDA	**Ponta Delgada**	**0.74**	**297**		*e*P	Pg	02 47 15.2	-1.1
PDA					*e*S	Sg	02 47 24.4	-1.5
PSET	**Sete Cidades**	**0.82**	**300**		*e*P	Pg	02 47 15.8	-2.0
PSET					*e*S	Sg	02 47 26.4	-2.0
PSET					A		02 47 32.2	
	174nm,0.4s							
PSET	**Sete Cidades**	**0.82**	**300**		*e*P	Pg	02 47 15.8	-2.0
PSET					*e*S	Sg	02 47 26.4	-2.0

CSEM ***08*** *02:54:25.5±0.1, 3714N×2466W, h33km±2km, ML2.9, Error ellipse: s-maj=7.7km s-min=2.7km az=37.0*
PDA ***08*** *02:54:26.9±0.9, 3722N×2451W, h5km, MD3.8, ML2.9, Error ellipse: s-maj=7.2km s-min=4.0km az=93.0*
SVSA 08 02:54:26.9±0.9, 3722N×2451W, h5km, MD3.8, ML2.9, Error ellipse: s-maj=7.2km s-min=4.0km az=93.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PSMN	**Pico do Norte,**	**0.50**	**245**		*e*P	Pg	02 54 35.3	-1.1
PSMN					*e*S	Sg	02 54 41.9	-1.0
PDA	**Ponta Delgada**	**1.06**	**300**		*e*P	Pg	02 54 43.5	-3.8
PDA					*e*S	Sg	02 54 55.7	-5.4
PSET	**Sete Cidades**	**1.14**	**302**		*e*P	Pg	02 54 44.6	-4.2
PSET					*e*S	Sg	02 54 57.8	-5.8
PSET					A		02 55 06.1	
	176nm,0.3s							
PSET	**Sete Cidades**	**1.14**	**302**		*e*P	Pg	02 54 44.6	-4.2
PSET					*e*S	Sg	02 54 57.8	-5.8
ADH	**Angra Heroismo**	**2.59**	**304**		*e*P	Sn	02 55 32.7	-8.6
PID	**Ribeirinha**	**3.11**	**294**		*e*P	Pn	02 55 12.2	-4.4
PMAN	**Manadas**	**3.17**	**298**		*e*S	Sn	02 55 47.4	-8.1
PMAN					A		02 55 48.2	
	15nm,0.2s							
ROSA	**Rosais**	**3.31**	**298**		*e*P	Pn	02 55 15.2	-4.2
PICO	**Pico**	**3.36**	**294**		*e*P	Pn	02 55 15.6	-4.4
PICO					*e*S	Sn	02 55 52.3	-7.9
CALA	**Caldeira**	**3.59**	**294**		*e*P	Pn	02 55 19.1	-4.1
PMAR	**Madeira**	**7.67**	**123**		*e*Pn	Pn	02 56 17.6	-1.7
PMPS	**Porto Santo**	**7.87**	**119**		*e*Pn	Pn	02 56 18.6	-3.5

IDC ***08*** *03:08:22.1±3.8, 738S×1566E, h0km, mb4.0/6, mb1 4.1/6, mb1mx3.9/14, mbtmp4.0/6, Error ellipse: s-maj=120.8km s-min=28.0km az=117.0*
NEIC 08 03:08:23.3±2.3, 741S×15670E, h10km, mb4.3/3, Error ellipse: s-maj=73.8km s-min=13.6km az=118.0,

Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
WRAB	**Tennant Creek**	**24.99**	**238**		*e*P	P	03 13 48.0	+0.6
	5.3nm,0.7s							
WB2	**Warramunga Arr**	**24.99**	**238**		*e*P	P	03 13 47.9	+0.5
WB2	**Warramunga Arr**	**24.99**	**238**		*e*P	P	03 13 47.5	+0.1
WRA	**Warramunga Arr**	**25.00**	**238**		P	P	03 13 48.2	+0.7
	3.8nm,0.6s,baz=61,slow=9.3,SNR=13							
ASAR	**Alice Springs**	**27.20**	**231**		P	P	03 14 07.5	+0.1
	0.5nm,0.5s,baz=61,slow=9.2,SNR=8.9							
FITZ	**Fitzroy Crossi**	**32.05**	**248**		P	P	03 14 49.1	-1.4
	2.5nm,0.8s,baz=89,slow=13,SNR=4.9							
SONM	**Songino Array**	**70.60**	**327**		P	P	03 19 39.7	+0.9
	0.5nm,0.6s,baz=142,slow=6.6,SNR=4.5							
MK31	**Makanchi Array**	**84.83**	**318**		*e*P	P	03 20 58.4	+0.2
MKAR	**Makanchi Array**	**84.83**	**318**		P	P	03 20 58.8	+0.7
	0.8nm,0.4s,baz=100,slow=5.9,SNR=5.7							
ZALV	**Zalesovo Beam**	**85.47**	**326**		P	P	03 21 00.2	-0.9
	0.5nm,0.4s,baz=117,slow=6.3,SNR=3.6							
AML	**Almayashu**	**89.76**	**312**		*e*P	P	03 21 23.0	+0.9
	1.0nm,0.6s							
BRVK	**Borovoye**	**93.71**	**323**		*e*P	P	03 21 39.8	-0.4
	0.9nm,0.6s							
TORD	**Torodi Ar. Bea**	**154.76**	**285**		PKPbc	PKPbc	03 28 26.0	+0.2
	0.4nm,1.0s,baz=94,slow=1.6,SNR=3.7							

MOS ***08*** *03:18:14.0±1.2, 5485N×11226E, h7km, mb4.3/1, Error ellipse: s-maj=22.9km s-min=12.9km az=95.9*
BYKL 08 03:18:14.9±0.3, 5484N×11226E, h13km±11km, 6C-7D, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
YLYR	**Ulyunkhan**	**0.64**	**274**		*e*PG	Pg	03 18 26.6	-0.7
YLYR					*e*		03 18 35.5	
YLYR					pmax	pmax		
	comp=Z,632nm,0.2s							
YLYR					smax			
	comp=E,2μm,0.2s							
YLYR	**Ulyunkhan**	**0.64**	**274**	⇓	*i*Pg	Pg	03 18 26.8	-0.5
	comp=E,79nm,0.3s							
YLYR				⇓	*i*Pg	Pg	03 18 26.8	-0.5
	comp=E,492nm,0.3s							
YLYR				⇑	*i*Pg	Pg	03 18 26.8	-0.5
	comp=E,579nm,0.3s							
YLYR					*e*Sg	Sg	03 18 35.6	-0.1
YLYR					Pmax			
	comp=E,597nm,0.2s							
YLYR					Smax			
	comp=E,2μm,0.3s							
UKT	**Uakit**	**1.02**	**50**		*e*PG	Pg	03 18 33.2	-1.3
UKT					*e*		03 18 46.8	
UKT					pmax	pmax		
	comp=Z,46nm,0.1s							
UKT					smax			
	comp=N,236nm,0.2s							
UKT	**Uakit**	**1.02**	**50**	⇓	*i*Pg	Pg	03 18 33.2	-1.3
UKT				⇓	*i*Pb	Pb	03 18 35.3	+0.9
UKT					*i* Sg	Sg	03 18 46.8	-1.0
UKT					*e*Sb	Sb	03 18 50.9	+3.3
UKT					max			
	comp=N,54nm,0.3s							
UKT					max			
	comp=N,228nm,0.2s							
KMO	**Kumora**	**1.21**	**330**	⇑	*i*PG	Pg	03 18 36.3	-1.9
KMO					*e*		03 18 51.3	
KMO					pmax	pmax		
	comp=Z,267nm,0.3s							
KMO					smax			
	comp=N,479nm,1.2s							
KMO	**Kumora**	**1.21**	**330**	⇑	*i*Pg	Pg	03 18 36.3	-1.9
	comp=N,41nm,0.5s							
KMO				⇓	*i*Pg	Pg	03 18 36.3	-1.9
	comp=N,15nm,0.5s							
KMO				⇑	*i*Pg	Pg	03 18 36.3	-1.9
	comp=N,263nm,0.5s							
KMO					*e*Sg	Sg	03 18 52.1	-1.8
KMO					Pmax			
	comp=N,270nm,0.4s							
KMO					Smax			
	comp=N,435nm,1.1s							
YOA	**Uoyan**	**1.33**	**347**	⇓	*i*Pg	Pg	03 18 38.8	-1.7
YOA					*i* Sg	Sg	03 18 57.5	-0.3
YOA					Pmax			
	comp=N,224nm,0.4s							
YOA					Smax			
	comp=N,1μm,0.6s							
SVKR	**Severomuysk**	**1.48**	**29**		*e*PG	Pg	03 18 42.7	-0.6
SVKR					*e*		03 19 02.4	
SVKR					pmax	pmax		
	comp=Z,325nm,0.4s							
SVKR					smax			
	comp=E,2μm,0.4s							
SVKR	**Severomuysk**	**1.48**	**29**		*e*Pg	Pg	03 18 42.7	-0.6
SVKR					*e*Sg	Sg	03 19 04.4	+1.9
SVKR					Pmax			
	comp=E,123nm,0.2s							
SVKR					Smax			
	comp=E,2μm,0.5s							
SYVR	**Suvo**	**1.78**	**229**		*e*Pg	Pg	03 18 47.0	-2.0
SYVR					*e*		03 18 52.4	
SYVR					*e*Sg	Sg	03 19 11.4	-0.6
SYVR					*e*		03 19 17.6	
SYVR					max			
	comp=E,49nm,0.5s							
SYVR					max			
	comp=E,180nm,0.7s							
NIZ	**Nizh Angarsk**	**1.81**	**302**		*e*PN	Pn	03 18 46.7	+0.9
NIZ					*e*		03 19 11.1	
NIZ					pmax	pmax		
	comp=Z,55nm,0.5s							
NIZ					smax			
	comp=N,198nm,0.4s							
NIZ	**Nizh Angarsk**	**1.81**	**302**	⇑	*i*Pg	Pg	03 18 46.7	-3.0
	comp=N,14nm,0.6s							
NIZ				⇓	*i*Pg	Pg	03 18 46.7	-3.0
	comp=N,9.0nm,0.6s							
NIZ				⇑	*i*Pg	Pg	03 18 46.7	-3.0
	comp=N,44nm,0.6s							
NIZ					*e*Sg	Sg	03 19 10.5	-2.7
NIZ					Pmax			
	comp=N,69nm,0.4s							
NIZ					Smax			
	comp=N,199nm,0.4s							
NLYR	**Nelyaty**	**2.56**	**48**		*e*Pn	Pn	03 18 56.2	+0.2
NLYR					*e*Pg	Pg	03 19 01.6	-2.3
NLYR					*e*Sg	Sg	03 19 34.1	-2.9
NLYR					Pmax			
	comp=N,33nm,0.4s							
NLYR					Smax			
	comp=N,136nm,0.9s							
MXMB	**Maximikha**	**2.61**	**234**		*e*Pn	Pn	03 18 58.6	+2.0
MXMB					*e*Pg	Pg	03 19 02.9	-1.9
MXMB					*e*Sg	Sg	03 19 36.7	-1.8
MXMB					Pmax			
	comp=N,20nm,0.4s							
MXMB					Smax			
	comp=N,489nm,0.8s							
CIT	**Chita**	**2.93**	**164**		*e*PN	Pn	03 19 03.8	+2.7
CIT					*e*		03 19 07.4	
CIT					*e*S	Sn	03 19 37.3	+1.2
CIT					*e*		03 19 45.9	
CIT					pmax	pmax		
	comp=Z,44nm,1.3s							
CIT					smax			
	comp=E,168nm,1.9s							
CIT	**Chita**	**2.93**	**164**		*e*Pn	Pn	03 19 01.3	+0.2
CIT					*e*Pg	Pg	03 19 06.8	-4.2
CIT					*e*Sg	Sg	03 19 45.8	-3.1
CIT					Pmax			
	comp=E,25nm,0.5s							
CIT					Smax			
	comp=E,142nm,1.0s							
OGRR	**Ongureny**	**2.99**	**248**		*e*Pn	Pn	03 19 02.3	+0.4
OGRR					*e*Pg	Pg	03 19 08.9	-3.2
OGRR					*e*Sn	Sn	03 19 38.3	+0.8
OGRR					*e*Sg	Sg	03 19 47.0	-3.8
OGRR					Pmax			
	comp=E,10.0nm,0.5s							
OGRR					Smax			
	comp=E,61nm,0.8s							
BOD	**Bodaibo**	**3.14**	**17**		*e*Pn	Pn	03 19 04.6	+0.6
BOD					*e*Pg	Pg	03 19 10.9	-4.1
BOD					*e*Sg	Sg	03 19 50.4	-5.3
BOD					Pmax			
	comp=E,11nm,0.4s							
BOD					Smax			
	comp=E,53nm,0.6s							
TRTB	**Turuntaevo**	**3.80**	**228**		*e*Pn	Pn	03 19 14.0	+0.9
TRTB					*e*Pg	Pg	03 19 23.6	-4.1
TRTB					*e*		03 19 59.6	
TRTB					*e*Sg	Sg	03 20 13.6	-3.3
TRTB					Pmax			
	comp=E,10.0nm,0.9s							
TRTB					Smax			
	comp=E,43nm,1.3s							
ZRHB	**Zarechye**	**3.80**	**235**		*e*Pg	Pg	03 19 23.5	-4.2
ZRHB					*e*Sg	Sg	03 20 12.6	-4.3
ZRHB					Pmax			
	comp=E,20nm,0.6s							
ZRHB					Smax			
	comp=E,73nm,1.3s							
CRS	**Chara**	**3.96**	**56**		*e*Pn	Pn	03 19 15.7	+0.4
CRS					*e*Pg	Pg	03 19 25.6	-5.2
CRS					*e*Sg	Sg	03 20 16.9	-5.2
CRS					Pmax			
	comp=E,27nm,1.0s							
CRS					Smax			
	comp=E,64nm,0.7s							
UUDB	**Ulan-Yde**	**4.06**	**225**		*e*Pg	Pg	03 19 29.0	-3.5
UUDB					*e*Sg	Sg	03 20 22.1	-2.9
UUDB					Pmax			
	comp=E,22nm,0.5s							
UUDB					Smax			
	comp=E,65nm,1.0s							
TRG	**Tyrgan**	**4.08**	**242**		*e*Pn	Pn	03 19 17.5	+0.6
TRG					*e*Pg	Pg	03 19 27.5	-5.4
TRG					*e*Sn	Sn	03 20 04.0	-0.4
TRG					*e*Sg	Sg	03 20 19.2	-6.5
TRG					Pmax			
	comp=E,5.0nm,0.8s							
TRG					Smax			
	comp=E,23nm,0.6s							
TUP	**Tupik**	**4.49**	**92**		*e*PN	Pn	03 19 22.7	+0.2
TUP					*e*		03 19 34.7	
TUP					*e*S	Sn	03 20 15.1	+0.5
TUP					*e*		03 20 34.2	
TUP					pmax	pmax		
	comp=Z,14nm,0.4s							
TUP					smax			
	comp=N,127nm,1.0s							
TUP	**Tupik**	**4.49**	**92**		*e*Pn	Pn	03 19 23.0	+0.5
TUP					*e*Pg	Pg	03 19 36.0	-4.8
TUP					*e*		03 20 12.1	
TUP					*e*Sg	Sg	03 20 34.5	-4.4
TUP					Pmax			
	comp=N,42nm,1.3s							
TUP					Smax			
	comp=N,125nm,0.7s							
KHNR	**Khani**	**4.82**	**61**		*e*Pg	Pg	03 19 40.3	-6.8
KHNR					*e*Sg	Sg	03 20 42.1	-7.4
KPC	**Khapcheranga**	**5.14**	**179**		*e*Pn	Pn	03 19 32.1	+0.6
KPC					*e*Pg	Pg	03 19 46.5	-6.9
KPC					*e*Sn	Sn	03 20 31.3	+0.6
KPC					*e*Sg	Sg	03 20 52.6	-7.3
KPC					Pmax			
	comp=N,3.0nm,0.5s							
KPC					Smax			
	comp=N,54nm,0.7s							
LSTR	**Listvyanka**	**5.35**	**239**		*e*Sg	Sg	03 20 59.9	-6.7
LSTR					Smax			
	comp=N,26nm,1.3s							
TLY	**Talaya**	**6.06**	**242**		*e*Sg	Sg	03 21 22.0	-7.3
TLY					Smax			
	comp=N,18nm,1.6s							
ARS	**Arshan**	**6.57**	**248**		*e*Sg	Sg	03 21 39.4	-6.2
ARS					Smax			
	comp=N,71nm,0.9s							
MOY	**Mondy**	**7.47**	**249**		*e*PG	Pn	03 20 31.3	+28
MOY	**Mondy**	**7.47**	**249**		*e*Sg	Sn	03 22 03.5	+36
MOY					Smax			
	comp=N,31nm,1.3s							
TDJR	**Todzha**	**9.91**	**262**		*e*Sg	Sn	03 23 19.6	+52

CSEM ***08*** *03:21:20.6±1.2, 3731N×2481W, h5km, ML3.9, Error ellipse: s-maj=8.7km s-min=3.2km az=77.0, After PDA*
PDA ***08*** *03:21:20.6±1.2, 3731N×2481W, h5km, MD4.0, ML3.9, Error ellipse: s-maj=8.7km s-min=3.2km az=77.0*
SVSA 08 03:21:20.6±1.2, 3731N×2481W, h5km, MD4.0, ML3.9, Error ellipse: s-maj=8.7km s-min=3.2km az=77.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PSMN	**Pico do Norte,**	**0.37**	**214**		*e*P	Pg	03 21 26.8	-0.8
PSMN					*e*S	Sg	03 21 32.2	-0.2
PDA	**Ponta Delgada**	**0.81**	**303**		*e*P	Pg	03 21 33.8	-2.3
PDA					*e*S	Sg	03 21 43.5	-3.1
PSET	**Sete Cidades**	**0.89**	**306**		*e*P	Pg	03 21 34.5	-3.2
PSET					*e*S	Sg	03 21 45.8	-3.4
PSET					A		03 21 51.6	
	2μm,0.3s							
PSET	**Sete Cidades**	**0.89**	**306**		*e*P	Pg	03 21 34.5	-3.2
PSET					*e*S	Sg	03 21 45.8	-3.4
PSCM	**Serra do Cume**	**2.29**	**308**		*e*P	Pn	03 21 54.4	-4.7
PSCM					*e*S	Sn	03 22 20.1	-7.6
PSCM					A		03 22 24.5	
	387nm,0.3s							
PSCM	**Serra do Cume**	**2.29**	**308**		*e*P	Pn	03 21 54.4	-4.7
PSCM					*e*S	Sn	03 22 20.1	-7.6
ADH	**Angra Heroismo**	**2.34**	**306**		*e*P	Pn	03 21 54.5	-5.2
ADH					*e*S	Sn	03 22 20.9	-7.9
PID	**Ribeirinha**	**2.85**	**294**		*e*P	Pn	03 22 02.4	-4.4
PID					*e*S	Sn	03 22 33.4	-8.1
PMAN	**Manadas**	**2.91**	**298**		*e*P	Pn	03 22 03.1	-4.4
PMAN					*e*S	Sn	03 22 34.5	-8.4
PMAN					A		03 22 35.1	
	92nm,0.4s							
PMAN	**Manadas**	**2.91**	**298**		*e*P	Pn	03 22 03.1	-4.4
PMAN					*e*S	Sn	03 22 34.5	-8.4
ROSA	**Rosais**	**3.06**	**299**		*e*P	Pn	03 22 05.2	-4.3
ROSA					*e*S	Sn	03 22 37.6	-8.9
PICO	**Pico**	**3.10**	**294**		*e*P	Pn	03 22 06.4	-3.7
PICO					*e*S	Sn	03 22 39.5	-8.0
HOR	**Horta**	**3.26**	**293**		*e*P	Pn	03 22 08.3	-4.0
HOR					*e*S	Sn	03 22 43.2	-8.2
CALA	**Caldeira**	**3.33**	**294**		*e*P	Pn	03 22 08.6	-4.7
CALA					*e*S	Sn	03 22 45.1	-8.1
PMAR	**Madeira**	**7.93**	**123**		*e*Pn	Pn	03 23 11.9	-4.6
PMAR					*e*Sn	Sn	03 24 33.5	-13
PMAR					A		03 24 37.7	
	12nm,0.3s							
PMAR					*e*T		03 30 46.2	
PMPS	**Porto Santo**	**8.13**	**119**		*e*Pn	Pn	03 23 13.5	-5.8
PMPS					*e*Sn	Sn	03 24 37.2	-14
PMAFR	**Mafra**	**12.34**	**78**		*e*S	Sn	03 26 20.1	-15
PBEJ	**Beja**	**13.45**	**82**		*e*S	Sn	03 26 42.0	-20
PVAQ	**Vaqueiros**	**13.60**	**84**		*e*S	Sn	03 26 47.6	-18
PCBR	**Castelo Branco**	**13.80**	**74**		*e*S	Sn	03 26 50.6	-20
PVRL	**Vila Real**	**13.82**	**68**		*e*S	Sn	03 26 49.3	-22
PBAR	**Barrancos**	**14.09**	**81**		*e*S	Sn	03 26 58.3	-19
MVO	**Moncorvo**	**14.31**	**69**		*e*S	Sn	03 26 59.2	-24

BGS ***08*** *03:21:57.6±1.5, 4941N×1584E, h10km, mb5.6*
BJI ***08*** *03:21:57.2, 4930N×1561E, h31km, mB4.8, mb4.9, Ms4.6, Msz4.4*
GCMT ***08*** *03:21:58.9±0.3, 4904N×1562E, h43km, MW5.0/75, Moment Tensor Solution. s47,c70; s75,c113; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}3.51±.16; $M_{\theta\theta}$-0.66±.12; $M_{\phi\phi}$-2.86±.12; $M_{r\theta}$0.62±.10; $M_{\theta\phi}$-1.88±.08; $M_{\phi r}$1.32±.09; Best double couple: $M_0$3.99900×10^{16} NP1:ϕ_s212.00000°, δ34.00000°, λ93.00000°. NP2

*MOS **08** 03:22:01.3±1.2, 49.11N×15581E, h56km, mb5.3/106, MS4.4/34, Error ellipse: s-maj=9.0km s-min=5.3km az=71.5*
MOS Felt (II) at Severo-Kuril'sk.
*ISCJB **08** 03:22:02.3±0.1, 4921N±002×15555E±002, h46km, mb5.2/327, MS4.4/56, Error ellipse: s-maj=3.1km s-min=1.8km az=160.7*
*IDC **08** 03:22:03.8±0.5, 4931N×15540E, h44km±4km, mb4.7/23, mb1 4.8/24, mb1mx4.8/26, mbtmp4.7/24, ML4.2/1, MS4.2/29, Ms1 4.2/29, ms1mx4.1/41, Error ellipse: s-maj=14.4km s-min=9.9km az=140.0*
*KRSC **08** 03:22:03.5±0.7, 4934N×15656E, h4km±5km, ML5.5*
*SZGRF **08** 03:22:10.3, 5024N×15465E, h33km, mb5.5, Kuril Islands, Russia*

ISC 08 03:22:04.4±0.1, 4926N±002×15545E±002, h48km, h48km±1.0km: pP-P, n1069, σ0°79/1079, mb5.2/327, MS4.4/56, 276C-65D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
				Op	ISC		
SKR	**Severo-Kuril's**	**1.49**	**16**	⇓*i*PN	**Pn**	**03 22 26.9**	**-1.9**
SKR				*i* S	**Sn**	**03 22 45.0**	**-2.1**
SKR				pmax	pmax		
	comp=N,460nm,0.5s						
SKR				pmax	pmax		
	comp=E,230nm,0.5s						
SKR				pmax	pmax		
	comp=Z,1μm,0.5s						
SKR				pmax	pmax		
	comp=N,2μm,1.0s						
SKR				pmax	pmax		
	comp=E,2μm,1.0s						
SKR				pmax	pmax		
	comp=Z,4μm,1.0s						
SKR				smax			
	comp=N,25μm,1.0s						
SKR				smax			
	comp=E,32μm,1.0s						
ALID	**Alaid**	**1.62**	**2**	*e*P	**Pn**	**03 22 31.9**	**+1.4**
ALID				*e*S	**Sn**	**03 22 52.2**	**+2.1**
MIPR	**Malaya Ipel'ka**	**3.14**	**15**	*e*P	**Pn**	**03 22 52.4**	**+1.1**
MIPR				*e*S	**Sn**	**03 23 28.2**	**+0.8**
GRL	**Gorelyy**	**3.69**	**26**	*e*P	**Pn**	**03 22 59.5**	**+0.6**
GRL				*e*S	**Sn**	**03 23 41.2**	**+0.1**
RUS	**Russkaya**	**3.73**	**30**	*e*P	**Pn**	**03 22 58.5**	**-0.8**
RUS				*e*S	**Sn**	**03 23 38.8**	**-3.1**
PET	**Petropavlovsk**	**4.28**	**27**	*e*Pn	**Pn**	**03 23 06.3**	**-0.6**
PET				*e*Sn	**Sn**	**03 23 49.1**	**-6.3**
PET	**Petropavlovsk**	**4.28**	**27**	⇑*i*PN	**Pn**	**03 23 06.9**	**0.0**
PET				*e*S	**Sn**	**03 23 56.3**	**+0.8**
PET				pmax	pmax		
	comp=Z,600nm,1.8s						
PET				pmax	pmax		
	comp=Z,522nm,0.6s						
PET				smax			
	comp=E,4μm,2.2s						
PET				smax			
	comp=E,2μm,0.6s						
PET				smax			
	comp=N,3μm,0.6s						
PET				MLR	MLR		
	comp=Z,2μm,17.0s						
PET				MLR	MLR		
	comp=Z,2μm,14.0s						
PET	**Petropavlovsk**	**4.28**	**27**	*e*P	**Pn**	**03 23 07.0**	**+0.1**
PET				*e*S	**Sn**	**03 23 54.5**	**-1.0**
INSR	**Institute**	**4.30**	**26**	*e*S	**Sn**	**03 23 54.9**	**-1.1**
AVH	**Avacha**	**4.51**	**26**	*e*P	**Pn**	**03 23 11.4**	**+1.3**
NLC	**Nalytchevo**	**4.62**	**30**	*e*P	**Pn**	**03 23 09.7**	**-1.9**
NLC				*e*S	**Sn**	**03 23 59.5**	**-4.4**
GNL	**Ganaly**	**4.71**	**18**	*e*P	**Pn**	**03 23 15.4**	**+2.6**
SPN	**Mys Shipunski**	**4.80**	**35**	*e*P	**Pn**	**03 23 13.0**	**-1.1**
SPN				*e*S	**Sn**	**03 24 04.7**	**-3.7**
KUR	**Kuril'sk**	**6.54**	**235**	*e*PN	**Pn**	**03 23 38.2**	**+0.2**
KUR				*i* S	**Sn**	**03 24 54.0**	**+2.8**
KUR				pmax	pmax		
	comp=N,150nm,1.0s						
KUR				pmax	pmax		
	comp=E,80nm,1.0s						
KUR				pmax	pmax		
	comp=Z,750nm,1.0s						
KUR				pmax	pmax		
	comp=Z,2μm,1.0s						
KUR				smax			
	comp=N,8μm,2.0s						
KUR				smax			
	comp=E,10μm,2.0s						
KUR				smax			
	comp=E,580nm,1.0s						
MKZ	**Mys Kozlova**	**6.58**	**34**	*e*P	**Pn**	**03 23 36.1**	**-2.3**
MKZ				*e*S	**Sn**	**03 24 43.8**	**-8.1**
TUMR	**Tumrok**	**6.69**	**24**	*e*P	**Pn**	**03 23 41.7**	**+1.8**
TUMR				*e*S	**Sn**	**03 24 54.2**	**-0.5**
KMNR	**Kamenistaya**	**7.13**	**22**	*e*P	**Pn**	**03 23 47.8**	**+1.8**
KPT	**Kopyto**	**7.32**	**22**	*e*P	**Pn**	**03 23 49.5**	**+0.9**
KOZ	**Kozyrevsk**	**7.32**	**20**	*e*P	**Pn**	**03 23 49.9**	**+1.3**
KOZR	**Kozyr**	**7.34**	**20**	PN	**Pn**	**03 23 49.9**	**+1.1**
KIRR	**Kirishev**	**7.34**	**22**	*e*P	**Pn**	**03 23 51.0**	**+2.2**
BZMR	**Bezymyannaya**	**7.36**	**23**	*e*P	**Pn**	**03 23 50.8**	**+1.7**
SRDR	**Sredinnyy**	**7.53**	**18**	*e*P	**Pn**	**03 23 52.9**	**+1.5**
KRSR	**Krestovskiy**	**7.63**	**22**	*e*P	**Pn**	**03 23 54.0**	**+1.2**
KLY	**Klyuchi**	**7.74**	**22**	*e*P	**Pn**	**03 23 56.3**	**+2.0**
BDR	**Baidarnaya**	**8.11**	**23**	*e*P	**Pn**	**03 24 00.3**	**+1.0**
KBTR	**Krutoberegovo**	**8.27**	**30**	*e*P	**Pn**	**03 24 00.2**	**-1.4**
KBTR				*e*S	**Sn**	**03 25 26.3**	**-7.2**
YUK	**Yuzh-Kuril'sk**	**8.41**	**235**	⇓*i*PN	**Pn**	**03 24 04.0**	**+0.4**
YUK				pmax	pmax		
	comp=Z,500nm,0.3s						
YUK				MLR	MLR		
	comp=Z,3μm,15.0s						
YUK				MLR	MLR		
	comp=N,3μm,20.0s						
YUK				MLR	MLR		
	comp=E,3μm,20.0s						
UGL	**Uglegorsk**	**8.78**	**274**	*i* PN	**Pn**	**03 24 13.6**	**+5.1**
UGL				*e*		03 26 00.0	
UGL				pmax	pmax		
	comp=Z,750nm,1.5s						
UGL				pmax	pmax		
	comp=Z,310nm,0.9s						
UGL				MLR	MLR		
	comp=N,1μm,15.0s						
UGL				MLR	MLR		
	comp=E,2μm,15.0s						
UGL				MLR	MLR		
	comp=Z,2μm,15.0s						
YSS	**Yuzh-Sakhalins**	**8.80**	**260**	*e*Pn	**Pn**	**03 24 12.1**	**+3.2**
	comp=Z,115nm,0.9s						
YSS	**Yuzh-Sakhalins**	**8.80**	**260**	⇑*i*PN	**Pn**	**03 24 13.1**	**+4.2**
YSS				pmax	pmax		
	comp=E,100nm,0.9s						
YSS				pmax	pmax		
	comp=Z,120nm,0.9s						
YSS				MLR	MLR		
	comp=E,1μm,19.0s						
YSS				MLR	MLR		
	comp=Z,2μm,19.0s						
OKH	**Okha**	**8.93**	**304**	*e*PN	**Pn**	**03 24 15.1**	**+4.5**
OKH				pmax	pmax		
	comp=Z,600nm,1.8s						
ASAJ	**Asahikawa**	**10.21**	**245**	PN	**Pn**	**03 24 31.9**	**+3.7**
ASAJ				S	**Sn**	**03 26 38.0**	**+17**
ASAJ				pmax	pmax		
	comp=Z,12nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,2μm,21.9s						
ASAJ	**Asahikawa**	**10.21**	**245**	P	**Pn**	**03 24 31.9**	**+3.6**
	comp=Z,12nm,0.3s,baz=78,slow=12,SNR=101						
ASAJ				S	**Sn**	**03 26 38.0**	**+17**
	baz=312,slow=32,SNR=6.4						
ASAJ				LR	LR	03 27 58.2	
	comp=Z,2μm,21.9s,baz=65,slow=35						
MA2	**Magadan**	**10.69**	**347**	*e*Pn	**Pn**	**03 24 36.1**	**+1.5**
	comp=Z,86nm,0.6s						
MA2	**Magadan**	**10.69**	**347**	*c i*PN	**Pn**	**03 24 36.3**	**+1.6**
MA2				pmax	pmax		
	comp=N,60nm,0.7s						
MA2				pmax	pmax		
	comp=Z,200nm,0.7s						
MA2				MLR	MLR		
	comp=Z,500nm,14.0s						
ERM	**Erimo**	**11.24**	**235**	Pn	**Pn**	**03 24 42.3**	**+0.1**
	comp=Z,511nm,0.6s,SNR=15						
ERM	**Erimo**	**11.24**	**235**	*e*Pn	**Pn**	**03 24 41.5**	**-0.7**
	comp=Z,81nm,0.7s						
ERM				*e*Sn	**Sn**	**03 26 42.6**	**-3.7**
ERM	**Erimo**	**11.24**	**235**	*e*PN	**Pn**	**03 24 41.5**	**-0.7**
ERM				pmax	pmax		
	comp=Z,81nm,0.7s						
SMY	**Shemya**	**12.25**	**66**	*e*P	**Pn**	**03 24 52.9**	**-3.1**
SMY	**Shemya**	**12.25**	**66**	*e*PN	**Pn**	**03 24 51.8**	**-4.2**
SMY				pmax	pmax		
	comp=Z,160nm,0.6s						
HABR	**Khabarovsk**	**13.45**	**274**	*e*P	**Pn**	**03 25 15.6**	**+3.2**
HABR				*e*S	**Sn**	**03 27 49.1**	**+8.8**
HABR				pmax	pmax		
	comp=Z,22nm,0.8s						
SEY	**Seymchan**	**13.82**	**354**	⇓*e*P	**Pn**	**03 25 18.5**	**+1.3**
KLR	**Kul'dur**	**15.47**	**279**	*e*P	**Pn**	**03 25 39.0**	**-0.2**
KLR				*e*		03 28 42.0	
KLR				pmax	pmax		
	comp=E,90nm,1.6s						
KLR				pmax	pmax		
	comp=Z,80nm,1.6s						
KLR				MLR	MLR		
	comp=E,800nm,12.5s						
KLR				MLR	MLR		
	comp=Z,4μm,12.5s						
VLA	**Vladivostok**	**17.39**	**258**	⇓*e*P	**Pn**	**03 26 03.9**	**+0.5**
VLA				pmax	pmax		
	comp=Z,36nm,1.6s						
VLA				MLR	MLR		
	comp=Z,400nm,19.0s						
MAJO	**Matsushiro**	**17.86**	**231**	*e*P	**Pn**	**03 26 07.4**	**-1.8**
MAJO	**Matsushiro**	**17.86**	**231**	*e*P	**Pn**	**03 26 07.7**	**-1.5**
MAT	**Matsushiro**	**17.86**	**231**	P	**Pn**	**03 26 07.1**	**-2.1**
MAT				S	**S**	**03 29 31.0**	**-1.0**
MJAR	**Matsushiro Arr**	**17.86**	**231**	P	**Pn**	**03 26 07.5**	**-1.8**
	comp=Z,0.7nm,0.3s,baz=26,slow=10,SNR=12						
MJAR				PcP	PcP	03 30 43.3	-0.1
	comp=Z,0.1nm,0.3s,baz=54,slow=0.8,SNR=4.2						
MJAR				LR	LR	03 33 46.8	
	comp=Z,507nm,20.1s,baz=55,slow=39						
MDJ	**Mudanjiang**	**18.22**	**265**	P	**Pn**	**03 26 11.3**	**-2.2**
MDJ				S	**S**	**03 29 33.2**	**-5.9**
MDJ				PCP	PcP	03 30 43.8	-0.1
MDJ				SCP	ScP	03 34 18.7	+3.7
MDJ				PCS	PcS	03 34 20.6	+0.3
MDJ				AMB	AMB		
	comp=Z,16nm,0.9s						
MDJ				AMB	AMB		
	comp=Z,126nm,6.2s						
MDJ				LR	LR		
	comp=N,344nm,20.2s						
MDJ				LR	LR		
	comp=E,581nm,19.3s						
MDJ				LR	LR		
	comp=Z,814nm,20.2s						
MDJ	**Mudanjiang**	**18.22**	**265**	*e*P	**Pn**	**03 26 13.5**	**0.0**
	comp=Z,51nm,1.3s						
YAK	**Yakutsk**	**19.20**	**321**	*e*P	**Pn**	**03 26 23.8**	**-1.3**
	comp=Z,89nm,0.6s						
YAK	**Yakutsk**	**19.20**	**321**	*e*P	**Pn**	**03 26 23.0**	**-2.1**
YAK				*e*S	**S**	**03 30 01.2**	**+2.7**
YAK				pmax	pmax		
	comp=N,21nm,1.1s						
YAK				pmax	pmax		
	comp=Z,75nm,1.1s						
YAK				pmax	pmax		
	comp=E,52nm,1.4s						
YAK				smax			
	comp=N,179nm,1.6s						
YAK				smax			
	comp=E,189nm,2.5s						
YAK				MLR	MLR		
	comp=Z,705nm,18.0s						
YAK				MLR	MLR		
	comp=N,440nm,19.0s						
YAK				MLR	MLR		
	comp=E,479nm,17.0s						
BILL	**Bilibino**	**19.60**	**12**	*e*P	**Pn**	**03 26 26.5**	**-3.4**
	comp=E,23nm,0.5s						
BILL	**Bilibino**	**19.60**	**12**	⇑*e*P	**Pn**	**03 26 26.8**	**-3.1**
BILL				*e*S	**S**	**03 30 01.4**	**-5.1**
BILL				pmax	pmax		
	comp=Z,15nm,0.5s						
BILL				MLR	MLR		
	comp=Z,1μm,22.0s						
CLNS	**Chul'man**	**19.74**	**304**	*e*P	**Pn**	**03 26 33.6**	**+1.9**
CLNS				*e*S	**S**	**03 30 05.6**	**-3.9**
CLNS				*e*SS		03 30 36.5	
CLNS				pmax	pmax		
	comp=Z,92nm,1.1s						
CLNS				pmax	pmax		
	comp=N,41nm,1.0s						
CLNS				pmax	pmax		
	comp=E,57nm,1.0s						
CLNS				smax			
	comp=N,13nm,1.0s						
CLNS				smax			
	comp=E,14nm,0.8s						
CLNS				smax			
	comp=Z,10.0nm,0.8s						
CLNS				MLR	MLR		
	comp=Z,1μm,14.0s						
CLNS				MLR	MLR		
	comp=N,300nm,15.0s						
CLNS				MLR	MLR		
	comp=E,900nm,15.0s						
JHJ	**Hachijo jima 2**	**19.91**	**222**	LR	LR	03 33 08.8	
	comp=E,224nm,19.3s,baz=99,slow=33						
CN2	**Changchun**	**21.27**	**267**	*e*P	**P**	**03 26 46.1**	**-0.3**
CN2				*e*XP	sP	03 26 56.0	-7.8
CN2				*e*S	**S**	**03 30 36.5**	**-3.3**
CN2				AMB	AMB		
	comp=Z,20nm,0.9s,mb4.5						
CN2				LR	LR		
	comp=N,600nm,18.0s,MS4.1						
CN2				LR	LR		
	comp=E,500nm,18.0s,MS4.1						
GAMB	**Gambell**	**22.88**	**38**	*e*P	**P**	**03 27 02.0**	**-1.3**
	comp=E,58nm,1.2s,mb4.9						
KSRS	**Korea Array**	**23.10**	**250**	P	**P**	**03 27 06.0**	**+0.1**
	comp=E,27nm,0.8s,mb4.7,baz=54,slow=7.3,SNR=27						
KSRS				PcP	PcP	03 30 53.9	+0.7
	comp=E,3.6nm,0.9s,baz=35,slow=0.7,SNR=9.8						
KSRS				LR	LR	03 35 31.4	
	comp=E,604nm,19.9s,MS4.0,baz=50,slow=35						
HIA	**Hailar**	**23.18**	**284**	*e*P	**P**	**03 27 05.6**	**-1.0**
	comp=E,35nm,1.2s,mb4.7						
HIA	**Hailar**	**23.18**	**284**	*e*P	**P**	**03 27 05.6**	**-1.0**
HIA				pmax	pmax		
	comp=Z,35nm,1.2s						
JNU	**Nakatsue**	**24.37**	**238**	P	**P**	**03 27 18.4**	**+0.6**
	comp=Z,73nm,0.9s,mb5.1,baz=45,slow=14,SNR=38						
JNU				LR	LR	03 37 42.8	
	comp=Z,173nm,19.8s,baz=33,slow=38						
CBIJ	**Chichi jima**	**24.39**	**210**	LR	LR	03 34 59.7	
	comp=Z,277nm,21.4s,baz=326,slow=32						
TNA	**Tin City**	**25.08**	**36**	*e*P	**P**	**03 27 23.6**	**-0.3**
	comp=Z,90nm,0.9s,mb5.3						
TIXI	**Tiksi**	**25.56**	**341**	*e*P	**P**	**03 27 26.0**	**-2.2**
	comp=Z,26nm,0.8s,mb4.8						
TIXI				*e*PcP	PcP	03 30 57.3	-0.7
TIXI	**Tiksi**	**25.56**	**341**	*e*P	**P**	**03 27 26.1**	**-2.1**
TIXI				*e*	pP	03 27 42.6	+1.9
TIXI				*e*S	**S**	**03 31 49.5**	**-2.7**
TIXI				pmax	pmax		
	comp=Z,14nm,0.5s,mb4.8						
TIXI				MLR	MLR		
	comp=Z,532nm,17.0s,MS4.1						
FALS	**False Pass**	**25.62**	**62**	*e*P	**P**	**03 27 27.6**	**-1.4**
	comp=Z,40nm,0.7s,mb5.1						
BOD	**Bodaibo**	**25.71**	**305**	*e*P	**P**	**03 27 30.2**	**+0.5**
BOD				*e*	pP	03 27 43.4	+1.2
BOD				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.3						
DL2	**Dalian**	**26.20**	**260**	P	**P**	**03 27 34.5**	**+0.1**
DL2				*e*S	**S**	**03 32 07.9**	**+5.0**
DL2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.4						
DL2				LR	LR		
	comp=N,220nm,17.1s,MS4.0						
DL2				LR	LR		
	comp=E,280nm,18.8s,MS4.0						
DL2				LR	LR		
	comp=Z,200nm,18.9s						
BJI	**Beijing**	**29.14**	**267**	P	**P**	**03 27 59.3**	**-1.3**
BJI				S	**S**	**03 32 53.8**	**+4.7**
BJI				AMB	AMB		
	comp=Z,5.0nm,0.7s,mb4.3						
BJI				LR	LR		
	comp=N,409nm,17.6s,MS4.1						
BJI				LR	LR		
	comp=E,176nm,17.6s,MS4.1						
BJI				LR	LR		
	comp=Z,361nm,20.2s,MS4.0						
TTA	**Tatalina**	**29.52**	**44**	*e*P	**P**	**03 28 03.6**	**-0.1**
SVW2	**Sparrevohn**	**29.63**	**48**	*e*P	**P**	**03 28 04.6**	**-0.1**
JOW	**Kunigami**	**30.68**	**233**	P	**P**	**03 28 14.8**	**+0.4**
	comp=Z,48nm,1.0s,mb5.3,baz=28,slow=5.6,SNR=5.3						
IMA2	**Indian Mountai**	**30.86**	**38**	*e*P	**P**	**03 28 14.9**	**-0.6**
SSE	**Sheshan**	**31.49**	**248**	*e*P	**P**	**03 28 19.9**	**-1.5**
SSE				S	**S**	**03 33 25.3**	**-0.8**
SSE				AMB	AMB		
	comp=Z,28nm,0.7s,mb5.2						
SSE				AMB	AMB		
	comp=Z,90nm,6.9s						
SSE				LR	LR		
	comp=N,205nm,18.7s,MS3.9						
SSE				LR	LR		
	comp=E,169nm,18.7s,MS3.9						
SSE				LR	LR		
	comp=Z,311nm,19.6s,MS4.0						
ULN	**Ulaanbaatar**	**31.63**	**286**	*e*P	**P**	**03 28 21.6**	**-0.9**
	comp=Z,1.4nm,0.6s,mb4.0						
ULN	**Ulaanbaatar**	**31.63**	**286**	*i* P	**P**	**03 28 23.2**	**+0.7**
HHC	**Hu-ho-hao-te**	**31.74**	**272**	*e*P	**P**	**03 28 23.6**	**0.0**
HHC				PP	PP	03 29 29.5	-6.2
HHC				PCP	PcP	03 31 16.3	+2.4
HHC				S	**S**	**03 33 33.4**	**+3.5**
HHC				SCP	ScP	03 34 57.7	+4.7
HHC				PCS	PcS	03 35 00.9	+2.5
HHC				SS	SS	03 35 21.5	-26
HHC				SCS	ScS	03 38 55.1	+4.0
HHC				AMB	AMB		
	comp=Z,19nm,0.4s,mb5.3						
HHC				AMB	AMB		
	comp=Z,93nm,4.7s						
HHC				LR	LR		
	comp=N,590nm,18.4s,MS4.4						
HHC				LR	LR		
	comp=E,495nm,19.8s,MS4.4						
HHC				LR	LR		
	comp=Z,563nm,20.2s,MS4.2						
IRK	**Irkutsk**	**31.97**	**295**	*e*P	**P**	**03 28 25.7**	**+0.2**
IRK				*e*	pP	03 28 39.8	+1.7
IRK				pmax	pmax		
	comp=Z,25nm,1.3s,mb4.9						
SONM	**Songino Array**	**32.06**	**286**	P	**P**	**03 28 25.7**	**-0.6**
SONM				PcP	PcP	03 31 14.9	+0.2
SONM				LR	LR	03 42 56.1	
SONM	**Songino Array**	**32.06**	**286**	P	**P**	**03 28 25.7**	**-0.6**
	comp=Z,0.5nm,0.6s,baz=50,slow=7.7,SNR=4.8						
SONM				PcP	PcP	03 31 14.9	+0.2
	comp=Z,2.7nm,0.9s,baz=73,slow=2.2,SNR=6.4						
SONM				LR	LR	03 42 56.1	
	comp=Z,764nm,18.6s,MS4.4,baz=61,slow=39						
NJ2	**Nanjing**	**32.26**	**252**	*e*P	**P**	**03 28 28.2**	**0.0**
NJ2				AMB	AMB		
	comp=Z,50nm,0.9s,mb5.3						
SLKM	**Skilak Lake**	**32.27**	**49**	*e*P	**P**	**03 28 27.1**	**-0.9**
SLKM	**Skilak Lake**	**32.27**	**49**	P	**P**	**03 28 31.7**	**+3.7**
TLY	**Talaya**	**32.50**	**294**	P	**P**	**03 28 31.8**	**+1.7**
	comp=Z,116nm,1.0s,mb5.8,SNR=14						
TLY	**Talaya**	**32.50**	**294**	*e*P	**P**	**03 28 30.3**	**+0.2**
	comp=Z,22nm,1.0s,mb5.0						
TLY				*e*PcP	PcP	03 31 16.1	+0.3
TLY	**Talaya**	**32.50**	**294**	*e*P	**P**	**03 28 30.4**	**+0.3**
TLY				*e*	pP	03 28 45.3	+2.6
TLY				pmax	pmax		
	comp=Z,22nm,1.0s,mb5.0						
TLY				MLR	MLR		
	comp=Z,484nm,17.0s,MS4.3						
TLY	**Talaya**	**32.50**	**294**	P	**P**	**03 28 30.9**	**+0.8**
	SNR=13						
TLY	**Talaya**	**32.50**	**294**	P	**P**	**03 28 30.9**	**+0.8**
	SNR=13						
MCK	**McKinley**	**32.73**	**43**	*e*P	**P**	**03 28 30.4**	**-1.6**
	comp=Z,45nm,1.0s,mb5.4						
MCK	**McKinley**	**32.73**	**43**	*e*P	**P**	**03 28 30.4**	**-1.6**
MCK				pmax	pmax		
	comp=Z,45nm,1.0s,mb5.3						
SML	**Sawmill**	**33.09**	**46**	*e*P	**P**	**03 28 34.5**	**-0.6**
ZAK	**Zakamensk**	**33.11**	**292**	*e*P	**P**	**03 28 35.4**	**-0.1**
ZAK				*e*	pP	03 28 46.0	-2.1
ZAK				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.5						
COLA	**College**	**33.20**	**41**	⇑*i*P	**P**	**03 28 35.9**	**-0.2**
	comp=Z,73nm,0.8s,mb5.7						
COLA	**College**	**33.20**	**41**	*c i*P	**P**	**03 28 35.9**	**-0.2**
MOY	**Mondy**	**34.08**	**295**	*e*P	**P**	**03 28 44.3**	**+0.5**
MOY				pmax	pmax		
	comp=Z,18nm,1.4s,mb4.8						
MENT	**Mentasta**	**35.13**	**44**	*e*P	**P**	**03 28 52.4**	**-0.4**
EGAK	**Eagle**	**36.07**	**41**	*e*P	**P**	**03 28 59.7**	**-1.1**
	comp=Z,51nm,1.0s,mb5.4						
WHN	**Wuhan**	**36.10**	**254**	⇓P	**P**	**03 29 01.6**	**+0.1**
GUMO	**Guam**	**36.62**	**197**	LR	LR	03 43 19.6	
	comp=Z,186nm,18.3s,MS3.9,baz=94,slow=35						
DAWY	**Dawson**	**36.91**	**42**	*e*P	**P**	**03 29 07.7**	**-0.4**
XAN	**Xi'an**	**37.32**	**264**	P	**P**	**03 29 10.1**	**-1.7**
XAN				AMB	AMB		
	comp=Z,3.0nm,1.2s,mb4.0						
XAN				LR	LR		
	comp=E,353nm,20.6s						
XAN				LR	LR		
	comp=Z,370nm,25.3s,MS4.1						
INK	**Inuvik**	**38.70**	**34**	⇑*i*P	**P**	**03 29 23.1**	**+0.2**
	comp=Z,1μm,1.0s,mb6.6						
INK	**Inuvik**	**38.70**	**34**	P	**P**	**03 29 23.3**	**+0.3**
	comp=Z,26nm,0.9s,mb5.0,baz=293,slow=6.9,SNR=147						
LZH	**Lanzhou**	**39.41**	**270**	*e*P	**P**	**03 29 30.0**	**+0.7**
LZH				PP	PP	03 31 04.2	+3.9
LZH				PCP	PcP	03 31 38.7	+2.1
LZH				*e*S	**S**	**03 35 28.0**	**+0.6**
LZH				SS	SS	03 38 17.5	-5.1
LZH				AMB	AMB		
	comp=Z,42nm,1.5s,mb5.0						
LZH				AMB	AMB		
	comp=Z,83nm,5.2s						
LZH				LR	LR		
	comp=N,499nm,14.4s						
LZH				LR	LR		
	comp=Z,609nm,14.6s,MS4.6						
SKAG	**Skagway**	**39.81**	**48**	*e*P	**P**	**03 29 32.3**	**0.0**
	comp=Z,31nm,1.2s,mb4.9						
GTA	**Gaotai**	**40.16**	**277**	*e*P	**P**	**03 29 36.3**	**+0.7**
GTA				PP	PP	03 31 14.0	+5.5
GTA				S	**S**	**03 35 44.9**	**+6.2**
GTA				SS	SS	03 38 37.1	-0.5
GTA				AMB	AMB		
	comp=Z,12nm,1.3s,mb4.5						
GTA				AMB	AMB		
	comp=Z,58nm,3.8s						
GTA				LR	LR		
	comp=N,208nm,14.1s,MS4.5						
GTA				LR	LR		
	comp=E,514nm,14.8s,MS4.5						
GTA				LR	LR		
	comp=Z,786nm,15.2s,MS4.7						
ZAA0	**Zalesovo Array**	**42.46**	**304**	*e*P	**P**	**03 29 53.4**	**-0.8**
ZAA0				*e*PcP	PcP	03 31 46.7	+0.5
ZALV	**Zalesovo Beam**	**42.46**	**304**	P	**P**	**03 29 53.7**	**-0.5**
ZALV				PcP	PcP	03 31 46.8	+0.6
ZALV				LR	LR	03 48 37.8	
ZALV	**Zalesovo Beam**	**42.46**	**304**	P	**P**	**03 29 53.7**	**-0.5**
	comp=Z,4.9nm,0.7s,mb4.2,baz=64,slow=7.1,SNR=25						
ZALV				PcP	PcP	03 31 46.8	+0.6
	comp=Z,13nm,0.9s,baz=64,slow=3.4,SNR=18						
ZALV				LR	LR	03 48 37.8	
	comp=Z,240nm,18.2s,MS4.1,baz=60,slow=38						
ZAL	**Zalesovo**	**42.47**	**304**	P	**P**	**03 29 53.7**	**-0.6**
ZAL						03 31 46.8	
CD2	**Chengdu**	**42.67**	**264**	P	**P**	**03 29 56.2**	**0.0**
CD2				AP	pP	03 30 00.7	-8.5
CD2				PP	PP	03 31 37.9	+2.2
CD2				PCP	PcP	03 31 48.9	+1.6
CD2				S	**S**	**03 36 18.3**	**+2.3**
CD2				SS

CD2 LR LR
comp=N,370nm,19.2s,MS4.4
CD2 LR LR
comp=E,430nm,22.8s,MS4.4
CD2 LR LR
comp=Z,460nm,21.6s,MS4.3
DLBC Dease Lake 42.74 48 *eP* **P 03 29 57.3 +0.9**
NVS Novosibirsk 42.95 306⇑ *iP* **P 03 29 56.4 -1.7**
NVS *i* 03 31 42.4
NVS *e* 03 39 54.9
NVS pmax pmax
comp=N,9.0nm,1.3s
NVS pmax pmax
comp=Z,18nm,1.3s,mb4.6
NVS pmax pmax
comp=E,13nm,1.4s
GYA Guiyang 43.80 257⇑ *iP* **P 03 30 04.8 -0.5**
GYA PP PP 03 31 50.2 +2.3
GYA PCP PcP 03 31 53.6 +2.4
GYA S **S 03 36 36.5 +4.0**
GYA SS SS 03 39 44.7 -4.9
GYA SCS ScS 03 40 03.6 +3.5
GYA AMB AMB
comp=Z,30nm,0.7s,mb5.1
GYA AMB AMB
comp=Z,140nm,4.9s
GYA LR LR
comp=N,690nm,17.0s,MS4.8
GYA LR LR
comp=E,680nm,16.8s,MS4.8
GYA LR LR
comp=Z,710nm,17.4s,MS4.6
WMQ Urumqi 45.51 290 *eP* **P 03 30 19.3 +0.5**
WMQ AP pP 03 30 24.0 -7.9
WMQ PP PP 03 32 07.0 +1.3
WMQ S **S 03 37 00.0 +3.0**
WMQ SS SS 03 40 14.0 -6.9
WMQ AMB AMB
comp=Z,11nm,1.0s,mb4.7
WMQ AMB AMB
comp=Z,149nm,4.5s
WMQ LR LR
comp=N,754nm,13.3s,MS4.8
WMQ LR LR
comp=E,452nm,15.4s,MS4.8
WMQ LR LR
comp=Z,688nm,16.2s,MS4.7
ALE Alert 47.09 6 P **P 03 30 30.9 +0.2**
comp=Z,123nm,0.6s,mb6.0,SNR=8.2
MK31 Makanchi Array 47.21 296 *eP* **P 03 30 31.6 -0.5**
MK31 *e*PcP PcP 03 32 02.7 0.0
MK31 Makanchi Array 47.21 296 P **P 03 30 32.3 +0.2**
MKAR Makanchi Array 47.21 296 P **P 03 30 32.2 +0.1**
comp=Z,9.4nm,0.7s,mb4.8,baz=64,slow=8.0,SNR=64
MKAR PcP PcP 03 32 03.3 +0.6
comp=Z,5.4nm,0.9s,baz=47,slow=5.5,SNR=4.4
MKAR ScP ScP 03 35 55.1 +2.7
comp=Z,0.3nm,0.3s,baz=66,slow=3.9,SNR=4.1
MKAR LR LR 03 51 55.6
comp=Z,782nm,18.3s,MS4.7,baz=38,slow=38
KMI Kunming 47.25 259 P **P 03 30 31.2 -1.4**
KMI PP PP 03 32 24.2 +0.4
KMI S **S 03 37 22.9 +0.6**
KMI SS SS 03 40 46.3 -3.6
KMI AMB AMB
comp=Z,22nm,1.0s,mb5.0
KMI LR LR
comp=N,230nm,16.0s,MS4.4
KMI LR LR
comp=E,205nm,15.6s,MS4.4
KMI LR LR
comp=Z,217nm,21.0s
QIZ Qiongzhong 47.28 247 P **P 03 30 32.3 -0.6**
QIZ S **S 03 37 26.9 +4.2**
QIZ LR LR
comp=N,249nm,16.6s,MS4.5
QIZ LR LR
comp=E,256nm,13.8s,MS4.5
QIZ LR LR
comp=Z,245nm,19.4s
KURK Kurchatov 47.31 303 P **P 03 30 32.6 -0.2**
comp=Z,194nm,0.8s,mb6.1,SNR=28
KURK Kurchatov 47.31 303 *eP* **P 03 30 32.5 -0.2**
comp=Z,26nm,0.8s,mb5.2
KURK *e*PcP PcP 03 32 03.0 -0.1
KURK Kurchatov 47.31 303 *eP* **P 03 30 32.5 -0.3**
KURK *e* 03 32 03.0
KURK pmax pmax
comp=Z,26nm,0.9s,mb5.2
KURK Kurchatov 47.31 303 P **P 03 30 32.4 -0.4**
SNR=16
KURK Kurchatov 47.31 303 P **P 03 30 32.4 -0.4**
SNR=16
RES Resolute Bay 47.95 20⇑ *iP* **P 03 30 37.0 -0.5**
comp=Z,387nm,0.8s,mb6.5
RES *e*PcP PcP 03 32 04.8 -0.1
RES Resolute Bay 47.95 20 P **P 03 30 37.3 -0.2**
YKA Yellowknife Ar 47.98 39 P **P 03 30 37.6 -0.2**
YKA pP pP 03 30 50.0 -0.9
YKA PcP PcP 03 32 05.1 -0.1
YKA LR LR 03 51 52.8
YKA Yellowknife Ar 47.98 39 P **P 03 30 37.7 -0.1**
YKA *PP pP 03 30 50.0 -1.0
YKA 03 32 05.1
YKA Yellowknife Ar 47.98 39 P **P 03 30 37.6 -0.2**
comp=Z,6.3nm,0.6s,mb4.8,baz=297,slow=7.3,SNR=113
YKA pP pP 03 30 50.0 -0.9
comp=Z,5.8nm,0.6s,baz=296,slow=7.4,SNR=12
YKA PcP PcP 03 32 05.1 -0.1
comp=Z,3.1nm,0.9s,baz=300,slow=3.3,SNR=7.3
YKA LR LR 03 51 52.8
comp=Z,67nm,20.8s,baz=195,slow=37
BRVK Borovoye 50.53 309 P **P 03 30 57.9 +0.5**
comp=Z,205nm,0.8s,mb6.1,SNR=20
BRVK Borovoye 50.53 309⇓ *iP* **P 03 30 57.0 -0.5**
comp=Z,26nm,0.8s,mb5.2
BRVK *e*PcP PcP 03 32 14.4 -0.2
BRVK Borovoye 50.53 309 P **P 03 30 56.7 -0.7**
BRVK pmax pmax
comp=Z,26nm,0.8s,mb5.2
BRVK Borovoye 50.53 309 P **P 03 30 57.7 +0.2**
SNR=8.8
BRVK Borovoye 50.53 309 P **P 03 30 57.7 +0.2**
SNR=8.8
ZRNK Zerenda 51.24 309 *iP* **P 03 31 01.7 -1.1**
ZRNK pmax pmax
comp=Z,18nm,0.7s,mb5.1
LSA Lhasa 51.71 273 P **P 03 31 08.1 +1.5**
LSA Lhasa 51.71 273 *eP* **P 03 31 07.0 +0.4**
comp=Z,10nm,0.8s,mb4.8
LSA Lhasa 51.71 273 *eP* **P 03 31 07.0 +0.4**
LSA pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
A07A Ashnola River, 52.21 56⇑P **P 03 31 09.6 -0.5**
baz=52,SNR=6.4
B07A Winthrop 52.69 56 P **P 03 31 13.3 -0.3**
baz=52,SNR=5.3
A08A Turner Farm, O 52.87 55⇑P **P 03 31 14.4 -0.5**
baz=53,SNR=9.6
SVE Sverdlovsk 53.07 317⇑ *eP* **P 03 31 16.2 -0.1**
SVE *e* 03 33 21.0
SVE *e*S **S 03 38 43.9 +1.4**
SVE pmax pmax
comp=Z,82nm,1.2s,mb5.5
SVE MLR MLR
comp=Z,469nm,24.0s,MS4.5
B08A Colville Reser 53.18 56⇓P **P 03 31 16.8 -0.4**
baz=53,SNR=9.6
A09A Danville 53.23 55 P **P 03 31 17.2 -0.3**
baz=53,SNR=13
TKM2 Tokmak 2 53.32 296 *eP* **P 03 31 19.0 +0.7**
comp=Z,2.7nm,0.7s,mb4.3
TKM2 *e*PcP PcP 03 32 25.6 +0.3
TKM2 Tokmak 2 53.32 296 P **P 03 31 19.2 +0.9**
TKM2 pmax pmax
comp=Z,3.0nm,0.7s,mb4.3
ULHL Ulahol 53.34 295 P **P 03 31 19.5 +1.1**
SNR=15
EDM Edmonton 53.46 48⇑ *iP* **P 03 31 18.9 -0.3**
KKTK Khon Kaen 53.63 251 P **P 03 31 22.1 +1.2**
comp=Z,988nm,0.7s
H04A Detroit Lake 53.73 61⇓P **P 03 31 21.2 -0.1**
baz=54
USP Ospenovka 53.76 297 P **P 03 31 22.3 +0.8**
SNR=18
B09A Rice 53.78 55 P **P 03 31 21.7 +0.1**
baz=54,SNR=6.1
SHL Shillong 54.01 268 *eP* **P 03 31 23.5 -0.1**
KZA Kyzart 54.03 295 P **P 03 31 24.4 +0.9**
SNR=8.3
AAK Ala-Archa 54.14 296 P **P 03 31 24.2 -0.1**
comp=Z,47nm,0.7s,mb5.5,SNR=8.8
AAK Ala-Archa 54.14 296 P **P 03 31 25.2 +0.9**
SNR=8.3
DAG Danmarks Havn 54.20 358 *eP* **P 03 31 24.0 -0.2**
DAG pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
DAG Danmarks Havn 54.20 358 *iP* **P 03 31 24.0 -0.2**
comp=Z,3.7nm,0.8s,mb4.4
DAG Danmarks Havn 54.20 358⇑ *iP* PcP 03 32 28.2 +0.1
comp=Z,7.0nm,1.0s
CHG Chiang Mai 54.22 257⇑P **P 03 31 26.3 +1.1**
comp=Z,80nm,0.8s,mb5.7
CHTO Chiang Mai 54.22 257⇑ *iP* **P 03 31 26.2 +1.0**
comp=Z,64nm,0.9s,mb5.5
CHTO Chiang Mai 54.22 257 P **P 03 31 26.4 +1.2**
CHTO pmax pmax
comp=Z,64nm,0.9s,mb5.5
CHTO Chiang Mai 54.22 257 P **P 03 31 26.6 +1.4**
SNR=28
CHTO Chiang Mai 54.22 257 P **P 03 31 26.6 +1.4**
SNR=28
ARU Arti 54.23 317 P **P 03 31 23.5 -1.3**
comp=Z,558nm,1.1s,mb6.4,SNR=26
ARU Arti 54.23 317 *eP* **P 03 31 23.7 -1.1**
comp=Z,79nm,0.8s,mb5.7
ARU *e*PcP PcP 03 32 28.2 -0.3
ARU Arti 54.23 317 *eP* **P 03 31 24.3 -0.5**
ARU *e* 03 32 25.5
ARU *e*S **S 03 39 03.3 +5.1**
ARU *e*SS SS 03 42 44.6 +4.8
ARU SSS 03 44 48.4
ARU MLR MLR
comp=Z,306nm,22.0s,MS4.3
KKM Kota Kinabalu 54.29 231 *eP* **P 03 31 25.8 +0.1**
L02A Cave Junction 54.42 65⇓P **P 03 31 27.1 +0.8**
baz=54
A11A Hall Mountain, 54.42 54 P **P 03 31 26.7 +0.4**
baz=54,SNR=5.6
NEW Newport 54.43 55 *eP* **P 03 31 25.5 -0.9**
comp=Z,9.3nm,1.0s,mb4.7
NEW *e*PcP PcP 03 32 29.5 +0.1
NEW Newport 54.43 55 P **P 03 31 25.7 -0.6**
NEW pmax pmax
comp=Z,9.0nm,1.0s
CM31 Chiang Mai Arr 54.48 257 *eP* **P 03 31 28.1 +1.0**
comp=Z,48nm,0.9s,mb5.4
HUMO Hull Mountain 54.53 64⇓P **P 03 31 27.6 +0.5**
baz=54
EKS2 Erkin-Say 54.55 296⇓ *iP* **P 03 31 27.4 +0.2**
comp=Z,11nm,1.0s,mb4.8
EKS2 *e*PcP PcP 03 32 30.9 +0.9
EKS2 Erkin-Say 54.55 296 P **P 03 31 28.3 +1.0**
SNR=11
J04A Umpqua Nationa 54.64 63⇑P **P 03 31 28.4 +0.5**
baz=54
B11A Sandpoint 54.73 55 P **P 03 31 28.6 0.0**
baz=54,SNR=5.2
AML Almayashu 54.92 296 *eP* **P 03 31 30.7 +0.8**
comp=Z,7.7nm,1.1s,mb4.7
AML Almayashu 54.92 296 P **P 03 31 31.4 +1.4**
SNR=6.5
J05A Fort Rock 55.12 62 P **P 03 31 32.5 +1.0**
baz=55,SNR=9.2
G08A Pilot Rock 55.20 59⇑P **P 03 31 31.9 -0.1**
baz=55
YBH Yreka Blue Hor 55.21 64 *eP* **P 03 31 32.5 +0.4**
comp=Z,7.1nm,0.7s,mb4.8
YBH *e*PcP PcP 03 32 35.8 +3.3
YBH Yreka Blue Hor 55.21 64 P **P 03 31 33.2 +1.1**
YBH pmax pmax
comp=Z,7.0nm,0.7s
YBH Yreka Blue Hor 55.21 64⇑P **P 03 31 32.8 +0.8**
baz=55,SNR=6.0
M02C Callahan 55.33 65⇑P **P 03 31 33.7 +0.8**
baz=55
A13A Flathead Natio 55.47 53⇓P **P 03 31 33.8 0.0**
baz=55,SNR=13
KEV Kevo 55.50 341 *ep* **P 03 31 32.6 -1.1**
comp=Z,5.8nm,0.7s,mb4.7
KEV Kevo 55.50 341 *eP* **P 03 31 32.6 -1.1**
KEV pmax pmax
comp=Z,6.0nm,0.7s,mb4.7
E10A Myers Farm, Un 55.51 57⇓P **P 03 31 34.0 -0.1**
baz=55
WALA Waterton Lakes 55.65 53 *eP* **P 03 31 34.9 -0.2**
comp=Z,14nm,0.8s,mb5.0
WALA *e* pP 03 31 47.3 -1.3
K05A Summer Lake 55.66 62 P **P 03 31 36.4 +1.1**
baz=55,SNR=5.6
M04C Macdoel 55.69 64⇑P **P 03 31 35.6 0.0**
baz=56
J06A Christmas Vall 55.77 62⇓P **P 03 31 36.6 +0.5**
baz=56,SNR=8.7
B13A Whitefish 55.78 54⇑P **P 03 31 36.1 +0.1**
baz=56,SNR=9.6
H08A Prairie City 55.84 60⇓P **P 03 31 37.0 +0.4**
baz=56
M03C McCloud 55.84 65⇓P **P 03 31 37.1 +0.5**
baz=56
K06A Valley Falls 55.99 62 P **P 03 31 38.6 +0.9**
baz=56,SNR=7.4
ARCES ARCESS Array B 56.00 341 P **P 03 31 35.2 -2.1**
ARCES PcP PcP 03 32 35.5 +0.4
ARCES LR LR 03 59 10.2
ARCES ARCESS Array B 56.00 341 P **P 03 31 35.2 -2.1**
ARCES 03 32 35.5
ARCES pmax pmax
comp=Z,7.0nm,0.8s
ARCES MLR MLR
comp=Z,314nm,18.7s
ARCES ARCESS Array B 56.00 341 P **P 03 31 35.2 -2.1**
comp=Z,7.0nm,0.8s,mb4.8,baz=32,slow=7.9,SNR=14
ARCES PcP PcP 03 32 35.5 +0.4
comp=Z,5.4nm,0.7s,baz=352,slow=3.7,SNR=6.5
ARCES LR LR 03 59 10.2
comp=Z,314nm,18.7s,MS4.4,baz=26,slow=40
E11A Bogner Ranch, 56.08 57⇑P **P 03 31 37.4 -0.8**
baz=56
L05A Lakeview 56.12 63⇑P **P 03 31 39.0 +0.5**
baz=56
O02C Red Bluff 56.12 66⇑P **P 03 31 39.5 +0.9**
baz=56
C13A Hot Springs 56.15 54⇑P **P 03 31 38.7 0.0**
baz=56,SNR=5.2
KK31 Karatay Array 56.17 299 *iP* **P 03 31 38.8 -0.2**
KK31 pmax pmax
comp=Z,1.0nm,0.3s,mb4.3
J07A Hines 56.18 61⇑P **P 03 31 39.8 +0.9**
baz=56
G10A Bishop Farm, J 56.23 58⇑P **P 03 31 39.2 -0.1**
baz=56,SNR=7.8
I08A Drewsey 56.27 60⇓P **P 03 31 40.1 +0.5**
baz=56
H09A Durkee 56.31 59⇑P **P 03 31 40.6 +0.6**
baz=56,SNR=7.0
JIRN Jiri 56.31 274 *eP* **P 03 31 42.3 +2.1**
comp=Z,5.8nm,0.2s,mb5.3
M05C Lookout 56.36 64⇓P **P 03 31 40.8 +0.5**
baz=56,SNR=6.0
F11A Grangeville 56.40 57⇑P **P 03 31 40.3 -0.2**
baz=56,SNR=7.0
BMO Blue Mountains 56.40 59 *eP* **P 03 31 40.3 -0.2**
comp=Z,6.8nm,1.1s,mb4.6
BMO *e* pP 03 31 51.5 -2.5
GASB Alder Springs 56.49 66⇓P **P 03 31 42.1 +0.8**
baz=56
HATC Hat Creek Radi 56.52 65⇑P **P 03 31 41.9 +0.5**
baz=56
C14A Swan Lake 56.53 54⇓P **P 03 31 41.5 +0.1**
baz=56
D13A Huson 56.57 55⇑P **P 03 31 41.4 -0.3**
baz=56
K07A Rock Creek Ran 56.64 62⇑P **P 03 31 42.6 +0.3**
baz=56,SNR=5.4
J08A Circle Bar Ran 56.67 61⇓P **P 03 31 42.8 +0.3**
baz=56,SNR=5.4
I09A Lost Marbles R 56.70 60 P **P 03 31 43.0 +0.4**
baz=56,SNR=8.6
KKN Kakani 56.82 275 *eP* **P 03 31 44.6 +0.8**
comp=Z,33nm,0.7s,mb5.5
TMCR Tamitsa 56.85 332 *eP* **P 03 31 41.3 -2.1**
TMCR *e* 03 32 36.5
TMCR pmax pmax
comp=Z,28nm,0.7s,mb5.4
H10A Noah's Angus R 56.88 58 P **P 03 31 44.0 +0.1**
baz=57,SNR=6.6
F12A Elk City 56.97 57 P **P 03 31 44.9 +0.3**
baz=57,SNR=6.9
L07A Adell 57.01 62 P **P 03 31 45.5 +0.7**
baz=57,SNR=5.1
MSO Missoula 57.01 55 *eP* **P 03 31 44.3 -0.5**
comp=Z,12nm,1.1s,mb4.8
O04C Chester 57.05 65 P **P 03 31 45.7 +0.5**
baz=57,SNR=6.7
K08A Mann Creek Ran 57.05 61 P **P 03 31 45.8 +0.6**
baz=57,SNR=6.1
J09A Fry Pan Ranch, 57.08 60⇑P **P 03 31 45.9 +0.5**
baz=57,SNR=9.1
D14A Greenough 57.09 54 P **P 03 31 45.3 -0.1**
baz=57,SNR=20
GKN Gorkha 57.10 276 *eP* **P 03 31 46.4 +0.7**
comp=Z,32nm,0.7s,mb5.5
E13A Victor 57.12 55⇑P **P 03 31 45.5 -0.1**
baz=57,SNR=5.9
WVOR Wild Horse Val 57.15 62 *eP* **P 03 31 45.4 -0.5**
comp=Z,27nm,1.1s,mb5.2
WVOR Wild Horse Val 57.15 62 *eP* **P 03 31 45.4 -0.5**
WVOR pmax pmax
comp=Z,27nm,1.1s,mb5.2
I10A Payette 57.16 59⇓P **P 03 31 46.9 +1.0**
baz=57,SNR=6.3
H11A Donnelly 57.21 58 P **P 03 31 46.3 0.0**
baz=57,SNR=22
CHMT Chamberlain Mo 57.33 55 *eP* **P 03 31 46.4 -0.7**
O05C Quincy 57.38 65⇑P **P 03 31 47.8 +0.3**
baz=57
OHCM Honcut 57.43 66 *eP* **P 03 31 47.0 -1.0**
OHCM *e* pP 03 32 00.4 -1.1
F13A Darby 57.45 56⇑P **P 03 31 47.8 -0.1**
baz=57
L08A Fields 57.47 62 P **P 03 31 48.5 +0.3**
baz=57,SNR=6.7
M07A Soldier Meadow 57.50 63⇓P **P 03 31 49.1 +0.7**
baz=57,SNR=11
K09A Rome 57.51 61⇑P **P 03 31 48.9 +0.5**
baz=57,SNR=5.0
E14A Clinton 57.51 55 P **P 03 31 48.5 +0.1**
baz=57,SNR=14
N06A Buffalo Meadow 57.52 64⇓P **P 03 31 48.8 +0.3**
baz=57,SNR=6.3
J10A Berg Farm, Mel 57.59 60⇑P **P 03 31 49.4 +0.4**
baz=57
D15A Lincoln 57.64 54 P **P 03 31 49.4 +0.1**
baz=57,SNR=7.8
BEKR Beckwourth 57.77 65 P **P 03 31 50.2 -0.1**
baz=58,SNR=7.8
FFC Flin Flon 57.82 42 P **P 03 31 50.1 -0.3**
comp=Z,121nm,0.8s,mb6.0,SNR=9.8
FFC Flin Flon 57.82 42 *eP* **P 03 31 50.3 -0.1**
comp=Z,26nm,1.1s,mb5.2
FFC *e*PcP PcP 03 32 41.9 -0.6
FFC Flin Flon 57.82 42 P **P 03 31 50.5 +0.1**
FFC pmax pmax
comp=Z,26nm,1.1s,mb5.2
KOLN Koldanda 57.93 276 *eP* **P 03 31 51.8 +0.2**
comp=Z,27nm,0.9s,mb5.3
K10A MacKenzie Ranc 57.95 60⇑P **P 03 31 51.8 +0.4**
baz=58,SNR=7.9
G13A Cobalt 57.95 57 P **P 03 31 51.4 -0.1**
baz=58,SNR=20
H12A Diamond D Ranc 57.95 58⇑P **P 03 31 51.3 -0.2**
baz=58
E15A Deer Lodge 57.96 55⇓P **P 03 31 51.4 -0.1**
baz=58,SNR=10
HRY Holter Researc 58.21 54 *eP* **P 03 31 53.3 +0.1**
AKTK Aktyubinsk 58.23 312 P **P 03 31 52.9 -0.5**
AKTK PcP PcP 03 32 44.0 -0.1
AKTO Aktyubinsk 58.23 312 P **P 03 31 52.9 -0.4**
AKTO 03 32 44.1
AKTO pmax pmax
comp=Z,6.0nm,0.5s,mb4.9
AKTO Aktyubinsk 58.23 312 P **P 03 31 52.9 -0.5**
comp=Z,5.8nm,0.5s,mb4.9,baz=66,slow=8.9,SNR=20
AKTO PcP PcP 03 32 44.0 -0.1
comp=Z,9.6nm,0.9s,baz=59,slow=5.2,SNR=5.6
LAVA Lava Cap Winer 58.25 66 P **P 03 31 53.5 -0.2**
baz=58,SNR=6.1
H13A Challis 58.27 57⇑P **P 03 31 53.6 -0.2**
baz=58
FCC Fort Churchill 58.31 35⇑ *eP* **P 03 31 53.2 -0.6**
comp=Z,13nm,0.6s,mb5.1
FCC *e* pP 03 32 05.1 -2.1
FCC Fort Churchill 58.31 35 P **P 03 31 53.3 -0.5**
FCC pmax pmax
comp=Z,13nm,0.6s,mb5.1
F15A Butte 58.42 55 P **P 03 31 55.2 +0.5**
baz=58,SNR=5.6
K11A Parker Ranch, 58.42 60⇑P **P 03 31 55.4 +0.6**
baz=58
M09A Marrel Ranch, 58.48 62⇓P **P 03 31 55.5 +0.2**
baz=58
N08A GE Springer Mi 58.49 63⇓P **P 03 31 55.4 +0.1**
baz=58,SNR=6.1
L10A Juniper Basin 58.62 61⇑P **P 03 31 56.5 +0.3**
baz=58,SNR=6.0
J12A Stokes Ranch, 58.64 59 P **P 03 31 57.0 +0.7**
baz=58,SNR=9.4
DLMT Dillon 58.67 56 *eP* **P 03 31 57.1 +0.6**
comp=Z,20nm,1.2s,mb5.0
DLMT *e* pP 03 32 11.2 +1.2
I13A Wildhorse Cree 58.77 58⇑P **P 03 31 57.7 +0.6**
baz=58,SNR=17
N09A Rock Creek Ran 58.80 62 P **P 03 31 58.1 +0.7**
baz=59,SNR=5.8
HLID Hailey 58.83 58 *eP* **P 03 31 57.9 +0.2**
comp=Z,12nm,1.0s,mb4.9
HLID *e* pP 03 32 09.0 -2.1
HLID Hailey 58.83 58 P **P 03 31 58.0 +0.4**
baz=59,SNR=9.5
G15A Dillon 58.85 56 P **P 03 31 57.6 -0.1**
baz=59,SNR=7.2
MCMT McKenzie Canyo 58.87 56 *eP* **P 03 31 57.5 -0.4**
MCMT *e* pP 03 32 11.2 -0.3
CMB Columbia Colle 58.93 67 P **P 03 31 58.1 -0.3**
baz=59,SNR=5.2
M10A I.L. Ranch, Tu 58.94 61 P **P 03 31 59.5 +1.1**
baz=59,SNR=7.7
BOZ Bozeman (W) 59.00 55 *eP* **P 03 31 59.3 +0.5**
comp=Z,11nm,0.8s,mb4.9
BOZ *e* pP 03 32 12.1 -0.2
BOZ Bozeman (W) 59.00 55 *eP* **P 03 31 59.3 +0.5**
BOZ *e* pP 03 32 12.1 -0.2
BOZ pmax pmax
comp=Z,11nm,0.8s,mb4.9
J13A Cove Ranch, Pi 59.06 58 P **P 03 31 59.9 +0.7**
baz=59,SNR=8.0
K12A Draper Farm, C 59.15 59⇑P **P 03 32 00.1 +0.3**
baz=59
R06C Colville 59.17 66 P **P 03 32 00.7 +0.6**
baz=59,SNR=5.7
L12A House Creek Ra 59.40 60 P **P 03 32 02.3 +0.7**
baz=59,SNR=9.0
O09A Fish Creek Ran 59.44 63⇓P **P 03 32 02.6 +0.7**
baz=59
QLMT Earthquake Lak 59.64 55 *eP* **P 03 32 03.9 +0.7**
JOF Joensuu 59.78 334 *ep* **P 03 32 02.4 -1.5**
comp=Z,3.6nm,0.5s,mb4.7
JOF Joensuu 59.78 334 *eP* **P 03 32 02.4 -1.5**
JOF pmax pmax
comp=Z,4.0nm,0.5s,mb4.7
SMLA Simla 59.82 284 *eP* **P 03 32 04.6 -0.1**
SMLA AMb AMB 03 32 08.0
comp=Z,32nm,1.0s,mb5.3
Q08A Gabbs 59.85 64 P **P 03 32 05.2 +0.4**
baz=60,SNR=9.5
NVAR Mina Array Bea 59.91 65 P **P 03 32 05.4 +0.2**
comp=Z,4.7nm,0.7s,mb4.7,baz=306,slow=5.8,SNR=30
NVAR pP pP 03 32 18.8 +0.1
comp=Z,6.6nm,0.7s,baz=307,slow=5.7,SNR=12
M12A Wells 59.94 60⇓P **P 03 32 05.9 +0.6**
baz=60,SNR=6.7
GCMT Greycliff 59.95 54 *eP* **P 03 32 05.8 +0.5**
YMR Madison River 60.00 55 *eP* **P 03 32 06.1 +0.5**
comp=Z,27nm,1.0s,mb5.2
YMR *e* pP 03 32 21.2 +2.0
L13A Double Diamond 60.05 59⇑P **P 03 32 07.0 +1.0**
baz=60,SNR=6.0
YNR Norris Junctio 60.12 55 *eP* **P 03 32 06.7 +0.1**
K14A Jones Ranch, D 60.18 58 P **P 03 32 08.0 +1.1**

baz=60,SNR=5.7
YFT Old Faithful 60.21 55 *e*P **P 03 32 09.0 +1.9**
YFT *e* pP 03 32 22.3 +1.6
N12A Clover Valley, 60.23 61 ⇑P **P 03 32 07.9 +0.5**
baz=60
Q09A Carvers 60.31 64 ⇓P **P 03 32 08.6 +0.6**
baz=60
O11A Cowboy Ranch, 60.35 62 ⇑P **P 03 32 08.6 +0.5**
baz=60,SNR=5.4
LKWY Lake 60.37 55 *e*P **P 03 32 10.0 +1.8**
comp=Z,18nm,1.0s,mb5.0
LKWY *e* pP 03 32 23.4 +1.6
LKWY Lake 60.37 55 P **P 03 32 10.4 +2.2**
LKWY pmax pmax
comp=Z,18nm,1.0s,mb5.1
IMW Indian Meadow 60.52 56 *e*P **P 03 32 09.8 +0.5**
comp=Z,31nm,1.2s,mb5.3
IMW *e* pP 03 32 23.4 +0.6
FLWY Flagg Ranch 60.53 56 *e*P **P 03 32 10.5 +1.2**
comp=Z,21nm,1.0s,mb5.2
FLWY *e* pP 03 32 25.2 +2.3
S08C White Mtn Res 60.60 66 ⇓P **P 03 32 10.3 +0.4**
baz=60
RLMT Red Lodge 60.61 54 *e*P **P 03 32 10.6 +0.7**
comp=Z,37nm,1.1s,mb5.4
RLMT *e* pP 03 32 21.1 -2.3
HELL Mitchell Peak 60.63 67 ⇑P **P 03 32 09.4 -0.8**
baz=60,SNR=10.0
V05C Boulder Hill, 60.64 68 ⇓P **P 03 32 10.1 -0.1**
baz=60
MOOW Moose Ponds 60.72 56 *e*P **P 03 32 11.3 +0.7**
comp=Z,12nm,0.9s,mb5.0
MOOW *e* pP 03 32 24.6 +0.4
R09A Tonopah 60.77 64 ⇑P **P 03 32 11.1 0.0**
baz=60,SNR=8.5
Q10A Clear Creek Ra 60.78 63 ⇑P **P 03 32 11.1 0.0**
baz=60,SNR=6.9
TPAW Teton Pass 60.78 56 *e*P **P 03 32 11.6 +0.6**
comp=Z,24nm,0.9s,mb5.3
TPAW *e* pP 03 32 23.2 -1.4
O12A Currie 60.78 61 ⇑P **P 03 32 11.2 +0.1**
baz=60,SNR=10
LOHW Long Hollow 60.89 56⇑*i*P **P 03 32 12.6 +0.8**
comp=Z,32nm,1.3s,mb5.3
LOHW *e* pP 03 32 26.6 +1.2
SNOW Snow King Moun 60.91 56 *e*P **P 03 32 12.5 +0.6**
comp=Z,36nm,1.1s,mb5.4
SNOW *e* pP 03 32 27.0 +1.5
REDW Red Top Meadow 60.92 56 *e*P **P 03 32 12.2 +0.3**
comp=Z,59nm,1.4s,mb5.5
REDW *e* pP 03 32 26.3 +0.8
DGMT Dagmar 60.96 48⇑*i*P **P 03 32 11.8 -0.3**
comp=Z,58nm,1.0s,mb5.7
DGMT *e* pP 03 32 22.5 -3.2
S09A Goldfield 61.02 65 P **P 03 32 12.8 +0.1**
baz=61,SNR=6.7
LAO LASA Array 61.14 51⇑*e*P **P 03 32 13.9 +0.5**
comp=Z,55nm,1.0s,mb5.6
Q11A Duckwater 61.20 63 ⇓P **P 03 32 13.9 -0.1**
baz=61,SNR=5.7
P12A McGill 61.22 62 ⇑P **P 03 32 14.3 +0.2**
baz=61
KSM Kuching 61.23 234 *e*P **P 03 32 15.2 +0.8**
S10A Tonopah Range, 61.26 64 ⇓P **P 03 32 14.3 -0.1**
baz=61,SNR=7.3
N14A Grayback Hills 61.29 60 P **P 03 32 14.8 +0.3**
baz=61,SNR=5.7
M15A Larsen Ranch, 61.30 59 P **P 03 32 15.0 +0.5**
baz=61,SNR=14
O13A Hicks Ranch, I 61.31 61 ⇑P **P 03 32 15.2 +0.5**
baz=61
CWC Cottonwood Cre 61.36 66 ⇓P **P 03 32 15.0 0.0**
baz=61
SPUT South Promonto 61.40 59 *e*P **P 03 32 15.7 +0.4**
SPUT *e* pP 03 32 29.1 +0.2
GRAC Grapevine Rang 61.41 66 ⇓P **P 03 32 15.7 +0.3**
baz=61,SNR=8.2
Q12A Willow Creek R 61.55 62 ⇑P **P 03 32 16.6 +0.3**
baz=61,SNR=5.0
R11A Troy Canyon, C 61.57 63 P **P 03 32 16.2 -0.2**
baz=61,SNR=11
N15A Stansbury Isla 61.64 59 P **P 03 32 17.4 +0.5**
baz=61,SNR=6.7
HWUT Hardware Ranch 61.70 58 *e*P **P 03 32 17.1 -0.2**
comp=Z,14nm,1.0s,mb5.0
HWUT *e* pP 03 32 30.9 0.0
P13A Bates Ranch, G 61.74 62 ⇑P **P 03 32 17.8 +0.2**
baz=62,SNR=5.7
KAF Kangasniemi 61.82 336 *e*p **P 03 32 15.9 -1.9**
comp=Z,2.5nm,0.5s,mb4.6,baz=35,slow=6.3
KAF Kangasniemi 61.82 336 *e*P **P 03 32 15.9 -1.9**
KAF pmax pmax
comp=Z,3.0nm,0.5s,mb4.7
DUG Dugway 61.94 60 *e*P **P 03 32 18.9 0.0**
comp=Z,19nm,1.0s,mb5.2
DUG *e* pP 03 32 32.6 +0.1
DUG Dugway 61.94 60 P **P 03 32 19.3 +0.4**
DUG pmax pmax
comp=Z,19nm,1.0s,mb5.2
S11A Rachel 61.95 64 ⇑P **P 03 32 19.5 +0.5**
baz=62
MPMC Manual Prospec 61.97 66 P **P 03 32 19.0 -0.2**
baz=62,SNR=6.2
BW06 Boulder Array 62.02 56⇑*i*P **P 03 32 19.4 0.0**
comp=Z,22nm,1.0s,mb5.2
BW06 *e* pP 03 32 32.8 -0.3
NOQ North Oquirrh 62.02 59 *e*P **P 03 32 19.6 +0.1**
comp=Z,17nm,0.7s,mb5.3
NOQ *e* pP 03 32 33.1 0.0
PDAR Pinedale Array 62.02 56 P **P 03 32 19.6 +0.2**
comp=Z,13nm,1.0s,mb5.0,baz=300,slow=2.9,SNR=55
PDAR pP pP 03 32 32.5 -0.5
comp=Z,6.9nm,0.9s,baz=270,slow=1.5,SNR=15
PDAR LR LR 03 57 38.3
comp=Z,69nm,20.2s,MS3.8,baz=330,slow=34
FURC Furnace Creek, 62.07 66 ⇓P **P 03 32 19.9 0.0**
baz=62,SNR=5.3
TPNV Topopah Spring 62.11 65 *e*P **P 03 32 19.6 -0.6**
comp=Z,16nm,1.0s,mb5.1
TPNV *e* pP 03 32 33.4 -0.3
TPNV Topopah Spring 62.11 65 P **P 03 32 20.4 +0.3**
TPNV pmax pmax
comp=Z,16nm,1.0s,mb5.1
R12A Pony Springs, 62.16 63 ⇓P **P 03 32 20.7 +0.3**
baz=62,SNR=7.8
SFJD Kangerlussuaq 62.40 11 *e*P **P 03 32 20.2 -1.4**
comp=Z,16nm,0.6s,mb5.3
SFJD Kangerlussuaq 62.40 11⇑*i*P **P 03 32 20.6 -0.9**
SFJD pmax pmax
comp=Z,20nm,0.7s,mb5.4
SFJD MLR MLR
comp=Z,70nm,25.0s
SFJD Kangerlussuaq 62.40 11⇑*i*P **P 03 32 20.6 -0.9**
comp=Z,20nm,0.7s,mb5.3
SFJD
comp=Z,70nm,25.0s
FINES FINESS Array B 62.43 335 *i*P **P 03 32 20.3 -1.6**
FINES pmax pmax
comp=Z,4.0nm,0.5s
FINES FINESS Array B 62.43 335 P **P 03 32 20.4 -1.5**
comp=Z,3.8nm,0.5s,mb4.8,baz=42,slow=7.0,SNR=58
FINES LR LR 04 02 25.9
comp=Z,361nm,18.5s,MS4.6,baz=268,slow=39
S12A Delamar Landin 62.50 64 ⇑P **P 03 32 23.1 +0.4**
baz=62,SNR=9.8
NLU North Lily Min 62.52 60 *e*P **P 03 32 22.5 -0.3**
T11A Corn Creek, Al 62.53 64 ⇓P **P 03 32 23.0 +0.1**
baz=62,SNR=12
KBL Kabul 62.60 292 *e*P **P 03 32 22.4 -1.0**
comp=Z,12nm,1.0s,mb5.0
MPU Maple Canyon 62.73 60 *e*P **P 03 32 24.6 +0.4**
comp=Z,14nm,0.9s,mb5.1
MPU *e* pP 03 32 37.9 +0.1
GSC Goldstone 62.89 67 *e*P **P 03 32 24.7 -0.7**
comp=Z,8.5nm,0.9s,mb4.9
GSC *e* pP 03 32 38.0 -1.0
GSC Goldstone 62.89 67 P pP 03 32 38.5 -0.5
S13A Holt Ranch, En 63.09 63 P **P 03 32 26.9 +0.3**
baz=63,SNR=8.9
ARUT Antelope Range 63.20 63 *e*P **P 03 32 27.3 0.0**
ARUT *e* pP 03 32 40.7 -0.2
ARUT Antelope Range 63.20 63 P **P 03 32 27.8 +0.5**
V11A Goodsprings 63.35 65 ⇓P **P 03 32 28.5 +0.1**
baz=63
S14A Cedar City 63.38 62 ⇑P **P 03 32 28.8 +0.3**
baz=63
CCUT Cedar City 63.41 63 *e*P **P 03 32 28.6 -0.1**
CCUT *e* pP 03 32 42.4 0.0
MSU Marysvale 63.44 61 *e*P **P 03 32 29.3 +0.4**
MSU Marysvale 63.44 61 P **P 03 32 29.6 +0.7**
T13A Saint George 63.45 63 ⇑P **P 03 32 29.4 +0.4**
baz=63,SNR=8.5
KULM Kulim 63.56 245⇑*i*P **P 03 32 30.9 +0.9**
ULM Lac du Bonnet 63.61 43 *e*P **P 03 32 28.6 -1.2**
comp=Z,19nm,1.3s,mb5.0
ULM Lac du Bonnet 63.61 43 P **P 03 32 29.1 -0.7**
comp=Z,8.6nm,0.8s,mb4.8,baz=307,slow=7.1,SNR=17
ULM LR LR 04 03 14.7
comp=Z,162nm,18.0s,MS4.2,baz=352,slow=39
V12A Nelson 63.77 65 P **P 03 32 31.1 -0.1**
baz=64,SNR=5.9
U13A Pakoon Wash 63.83 64 P **P 03 32 31.9 +0.5**
baz=64,SNR=14
T14A Hurricane 63.90 63 ⇓P **P 03 32 32.6 +0.6**
baz=64
GMRC Granite Mounta 63.93 66 ⇓P **P 03 32 31.7 -0.6**
baz=64
SRU San Rafael 63.97 60 *e*P **P 03 32 32.3 -0.1**
comp=Z,18nm,1.0s,mb5.1
SRU *e* pP 03 32 46.3 +0.2
SRU San Rafael 63.97 60 P **P 03 32 32.5 +0.1**
SRU pmax pmax
comp=Z,18nm,1.0s,mb5.1
RSSD Black Hills 64.03 52⇑*i*P **P 03 32 32.6 -0.1**
comp=Z,26nm,0.8s,mb5.3
RSSD *e* pP 03 32 44.2 -2.1
RSSD Black Hills 64.03 52 P **P 03 32 32.9 +0.2**
RSSD pmax pmax
comp=Z,26nm,0.8s,mb5.3
RWWY Rawlins 64.03 56 *e*P **P 03 32 32.6 -0.2**
comp=Z,12nm,0.9s,mb4.9
RWWY *e* pP 03 32 46.3 -0.1
W12A Cal Nev Ari 64.05 65 ⇑P **P 03 32 32.6 -0.4**
baz=64
OBN Obninsk 64.12 326⇑*e*P **P 03 32 31.5 -1.6**
OBN *e*S **S 03 41 05.1 -0.9**
OBN pmax pmax
comp=Z,25nm,1.0s,mb5.2
OBN MLR MLR
comp=Z,200nm,18.0s,MS4.3
U14A Mt Trumbull 64.28 64 P **P 03 32 35.0 +0.5**
baz=64,SNR=15
T15A Red Dirt Ranch 64.34 63 ⇓P **P 03 32 35.1 +0.3**
baz=64,SNR=5.8
IRM Iron Mountain 64.66 67 ⇑P **P 03 32 36.9 -0.2**
baz=64
W13A Hualapai Mount 64.77 65 ⇑P **P 03 32 37.6 -0.1**
baz=64,SNR=5.0
V14A Boquillas Ranc 64.87 64 P **P 03 32 38.6 +0.3**
baz=65,SNR=10.0
AGMN Agassiz Refuge 65.03 44 *e*P **P 03 32 38.3 -0.9**
comp=Z,20nm,0.2s,mb5.8
BHPL Bhopal 65.08 277⇑*e*P **P 03 32 40.1 +0.2**
BHPL AMb AMB 03 32 43.5
comp=Z,13nm,1.0s,mb4.9
VIS Vishakhapatnam 65.15 269 *e*P **P 03 32 39.9 -0.4**
VIS AMb AMB 03 32 43.3
comp=Z,41nm,1.3s,mb5.3
X13A Yucca 65.16 65 ⇑P **P 03 32 39.7 -0.5**
baz=65,SNR=8.3
W14A Seligman 65.17 64 ⇑P **P 03 32 40.4 +0.1**
baz=65,SNR=12
PDMCI Parker Dam,Lak 65.17 66 ⇑P **P 03 32 40.1 -0.3**
baz=65,SNR=5.5
Y12C Blythe 65.32 66 ⇑P **P 03 32 41.3 0.0**
baz=65
NGP Nagpur 65.50 274 *e*P **P 03 32 42.7 +0.2**
GLA Glamis 65.62 67 *e*P **P 03 32 42.5 -0.7**
comp=Z,11nm,1.3s,mb4.7
GLA *e* pP 03 32 56.2 -0.8
GLA Glamis 65.62 67 P **P 03 32 43.0 -0.3**
GLA *e* pP 03 32 56.6 -0.4
Y13A Salome 65.69 66 ⇑P **P 03 32 43.3 -0.4**
baz=66
X14A Yava 65.80 65 ⇑P **P 03 32 44.6 +0.2**
baz=66,SNR=6.7
SMCO Snowmass 65.91 58 *e*P **P 03 32 44.9 -0.1**
comp=Z,19nm,1.0s,mb5.1
SMCO *e* pP 03 33 00.1 +1.4
Y14A Wickenburg 66.10 65 ⇓P **P 03 32 46.3 0.0**
baz=66
VRSR Storozhevoye 66.11 322 *e*P **P 03 32 45.3 -0.8**
VRSR pmax pmax
comp=Z,7.0nm,0.9s,mb4.7
VRSR pmax pmax
comp=N,8.0nm,0.8s
VRSR pmax pmax
comp=E,6.0nm,0.8s
X15A Humboldt 66.17 64 ⇓P **P 03 32 47.1 +0.4**
baz=66,SNR=13
ISCO Idaho Springs 66.22 56 *e*P **P 03 32 47.5 +0.5**
comp=E,34nm,1.1s,mb5.3
ISCO *e* pP 03 33 01.3 +0.6
ISCO Idaho Springs 66.22 56 P **P 03 32 47.7 +0.7**
ISCO pmax pmax
comp=Z,34nm,1.1s,mb5.3
VORD Divnogorie 66.26 322 *e*P **P 03 32 46.2 -0.9**
VORD pmax pmax
comp=Z,30nm,0.9s,mb5.3
VORD pmax pmax
comp=N,20nm,0.7s
VORD pmax pmax
comp=E,30nm,0.6s
NB2 NORSAR Subarra 66.35 342 P **P 03 32 45.8 -1.7**
comp=Z,1.9nm,0.6s,mb4.3,baz=26,slow=6.5
NOA NORSAR Array B 66.35 342 P **P 03 32 46.1 -1.4**
NOA pmax pmax
comp=Z,8.0nm,0.9s
NOA MLR MLR
comp=Z,290nm,19.2s
NOA NORSAR Array B 66.35 342 P **P 03 32 46.1 -1.4**
comp=Z,8.0nm,0.9s,mb4.7,baz=24,slow=6.3,SNR=10
NOA LR LR 04 06 11.6
comp=Z,290nm,19.1s,MS4.5,baz=20,slow=40
MVCO Mesa Verde 66.44 60 *e*P **P 03 32 48.5 +0.1**
comp=Z,21nm,1.1s,mb5.1
MVCO *e* pP 03 32 59.9 -2.2
Y15A Casa Rosa Ranc 66.49 65 P **P 03 32 48.9 +0.1**
baz=66,SNR=8.8
NAO01 NORSAR Array S 66.59 342 *e*P **P 03 32 48.6 -0.4**
comp=Z,30nm,1.2s,mb5.2
X16A Lo Mia Camp, P 66.69 64 P **P 03 32 50.6 +0.5**
baz=66,SNR=12
Y16A Circle Bar Ran 67.05 64 ⇓P **P 03 32 52.6 +0.3**
baz=67
115A Sonoran Desert 67.43 66 ⇓P **P 03 32 55.3 +0.5**
baz=67,SNR=8.4
Z16A Peralta Trail, 67.46 65 ⇑P **P 03 32 55.1 +0.2**
baz=67
SDCO Great Sand Dun 67.74 58 *e*P **P 03 32 56.4 -0.3**
comp=Z,12nm,1.2s,mb4.8
SDCO *e* pP 03 33 06.8 -3.6
ECSD EROS,Sioux Fal 68.03 48⇑*i*P **P 03 32 57.4 -1.0**
comp=Z,26nm,0.8s,mb5.3
ECSD *e* pP 03 33 08.0 -4.1
216A Three Points, 68.38 66 ⇑P **P 03 33 00.8 0.0**
baz=68,SNR=5.2
HYB Hyderabad 68.50 272 *e*P **P 03 33 02.0 +0.3**
HYB Hyderabad 68.50 272 *i*P **P 03 33 02.0 +0.3**
TUC Tucson 68.57 65 *e*P **P 03 33 01.6 -0.4**
comp=Z,2.2nm,1.0s,mb4.0
TUC *e* pP 03 33 13.2 -2.5
TUC Tucson 68.57 65 P **P 03 33 01.8 -0.1**
TUC pmax pmax
comp=Z,2.0nm,1.0s,mb4.0
LATR Latur 69.08 274 *e*P **P 03 33 05.7 +0.4**
LATR AMb AMB 03 33 07.4
comp=Z,53nm,0.2s,mb6.1
119A Ashpeak Ranch, 69.12 64 ⇓P **P 03 33 05.6 +0.2**
baz=69
ANMO Albuquerque 69.20 60 *e*P **P 03 33 05.7 -0.2**
comp=Z,7.0nm,0.9s,mb4.6
ANMO *e* pP 03 33 18.7 -0.9
ANMO Albuquerque 69.20 60 P **P 03 33 06.4 +0.6**
ANMO pmax pmax
comp=Z,7.0nm,0.9s
ANMO Albuquerque 69.20 60 LR LR 04 02 46.6
comp=Z,89nm,19.2s,MS4.0,baz=108,slow=35
LAZ Ladron 69.21 61 *e*P **P 03 33 06.0 +0.2**
LAZ *e* pP 03 33 19.7 0.0
SUW Suwalki 69.53 332 *e*P **P 03 33 05.7 -1.8**
318A Bisbee 69.66 65 P **P 03 33 08.8 +0.1**
baz=69,SNR=7.6
BNM Barren Site 69.68 61 *e*P **P 03 33 09.0 +0.1**
BNM *e* pP 03 33 24.2 +1.6
CBKS Cedar Bluff 70.08 53⇑*e*P **P 03 33 09.6 -1.6**
comp=Z,29nm,1.2s,mb5.1
CBKS **Cedar Bluff 70.08 53**⇑*e*P **P 03 33 09.6 -1.6**
CBKS pmax pmax
comp=Z,29nm,1.2s,mb5.1
319A Douglas 70.13 65 ⇑P **P 03 33 11.6 0.0**
baz=70,SNR=11
KIV Kislovodsk 70.16 315 P **P 03 33 12.2 +0.6**
comp=Z,273nm,0.8s,mb6.2,SNR=7.5
KIV Kislovodsk 70.16 315 *e*P **P 03 33 11.7 +0.1**
comp=Z,51nm,1.0s,mb5.4
KIV Kislovodsk 70.16 315 *e*P **P 03 33 12.5 +0.9**
KIV *e*S S 03 42 25.3 +6.3
KIV pmax pmax
comp=Z,14nm,4.5s
KIV pmax pmax
comp=Z,47nm,0.9s,mb5.4
KIV MLR MLR
comp=Z,120nm,18.0s,MS4.2
KIV Kislovodsk 70.16 315 P **P 03 33 13.2 +1.6**
SNR=12
KIV Kislovodsk 70.16 315 P **P 03 33 13.2 +1.6**
SNR=12
KIV Kislovodsk 70.16 315⇓*i*P **P 03 33 12.4 +0.8**
AKASG Malin Array Be 70.32 327 P **P 03 33 11.2 -1.2**
AKASG pmax pmax
comp=Z,8.0nm,0.6s
AKASG MLR MLR
comp=Z,212nm,18.8s
AKASG Malin Array Be 70.32 327 P **P 03 33 11.2 -1.2**
comp=Z,8.4nm,0.6s,mb4.9,baz=32,slow=6.2,SNR=41
AKASG LR LR 04 07 15.8
comp=Z,212nm,18.8s,MS4.4,baz=10.0,slow=39
AKBB Malin Array Si 70.32 327 *e*P **P 03 33 11.3 -1.1**
AKBB Malin Array Si 70.32 327 P **P 03 33 11.4 -1.0**
KIEV Kiev 70.33 327 *e*P **P 03 33 11.0 -1.5**
comp=Z,8.5nm,0.6s,mb4.8
KIEV Kiev 70.33 327 P **P 03 33 11.3 -1.2**
KIEV pmax pmax
comp=Z,9.0nm,0.7s,mb4.8
SCHQ Schefferville 70.39 24 *e*P **P 03 33 12.3 -0.5**
comp=Z,24nm,1.0s,mb5.1
SCHQ Schefferville 70.39 24 P **P 03 33 12.7 -0.1**
comp=Z,14nm,0.8s,mb5.0,baz=347,slow=5.2,SNR=42
SCHQ LR LR 04 04 12.8
comp=Z,111nm,19.9s,MS4.1,baz=60,slow=36
POO Poona 70.77 276⇓*i*P **P 03 33 16.0 +0.4**
comp=Z,70nm,1.0s,mb5.5
POO *e*P 03 33 16.7
POO AMb AMB 03 33 18.5
comp=Z,83nm,1.2s,mb5.5
DGRG David-gareji 70.79 312 P **P 03 33 17.0 +1.5**
ONI Oni 70.85 314 P **P 03 33 17.2 +1.3**
TBLG Delisi 70.88 312 P **P 03 33 17.1 +1.0**
MTA Mtatsminda 70.89 312 P **P 03 33 16.9 +0.8**
WRAB Tennant Creek 71.39 201⇓*e*P **P 03 33 18.2 -1.0**
WB2 Warramunga Arr 71.40 201 *e*P **P 03 33 18.0 -1.2**
WRA Warramunga Arr 71.40 201 P **P 03 33 18.4 -0.8**
WRA pmax pmax
comp=Z,9.0nm,0.9s
WRA Warramunga Arr 71.40 201 P **P 03 33 18.4 -0.8**
comp=Z,8.5nm,0.9s,mb4.7,baz=18,slow=6.6,SNR=18
KAD Karad 71.44 275 *e*P **P 03 33 20.6 +0.9**
KAD AMb AMB 03 33 22.4
comp=Z,113nm,1.0s,mb5.8
KSU1 Kansas State U 71.49 51 *e*P **P 03 33 17.8 -2.0**
comp=Z,6.8nm,0.6s,mb4.8
SOC Sochi 71.81 316 *e*P **P 03 33 21.6 0.0**
SOC *e* pP 03 33 39.6 +4.2
SOC *e* 03 35 59.9
SOC *e*PPP 03 37 45.6
SOC *e*S S 03 42 44.9 +6.8
SOC *e* 03 43 33.4
SOC pmax pmax
comp=Z,32nm,0.7s,mb5.4
ANN Anapa 71.86 319 *e*P **P 03 33 28.3 +6.4**
ANN pmax pmax
comp=Z,89nm,1.4s,mb5.5
AMTX Amarillo 71.93 57 *e*P **P 03 33 21.6 -0.9**
comp=Z,13nm,1.2s,mb4.7
FITZ Fitzroy Crossi 72.10 210 *e*P **P 03 33 23.5 +0.1**
comp=Z,8.0nm,0.9s,mb4.7
MNTX Cornudas Mount 72.18 62 *e*P **P 03 33 23.4 -0.6**
comp=Z,13nm,1.1s,mb4.8
MNTX *e* pP 03 33 37.3 -0.6
DIGO Kars 72.55 312 *i*P **P 03 33 27.6 +1.5**
ARTV Artvin 72.65 314 *i*P **P 03 33 27.5 +0.8**
LVV L'vov 72.86 329 *e*P **P 03 33 28.3 +0.6**
SIM Simferopol' 73.15 321 *e*P **P 03 33 29.6 +0.1**
SIM pmax pmax
comp=Z,16nm,0.8s,mb5.0
SIM MLR MLR
comp=Z,230nm,18.0s,MS4.5
KWP Kalwaria 73.45 330 *e*P **P 03 33 31.9 +0.7**
HOMI Horasan 73.55 313 *i*P **P 03 33 33.9 +1.9**
TUTA Tutak 73.61 312 *i*P **P 03 33 34.1 +1.8**
WMOK Wichita Mounta 73.63 56 *e*P **P 03 33 32.0 -0.6**
comp=Z,18nm,1.0s,mb5.0
WMOK *e* pP 03 33 44.4 -2.0
WMOK Wichita Mounta 73.63 56 P **P 03 33 32.0 -0.5**
WMOK pmax pmax
comp=Z,18nm,1.0s,mb5.0
OJC Ojcow 73.86 332 *e*P **P 03 33 33.4 -0.2**
ERZM Erzurum 73.92 313 *i*P **P 03 33 36.2 +2.1**
HDIL Hopedale 73.96 46 *e*P **P 03 33 33.4 -1.0**
comp=Z,39nm,0.9s,mb5.3
STHS Stebnicka Huta 74.11 331 *i*P **P 03 33 35.0 -0.1**
comp=Z,22nm,1.0s,mb5.0
STHS Stebnicka Huta 74.11 331 *i*P **P 03 33 35.0 -0.1**
STHS pmax pmax
comp=Z,22nm,1.0s,mb5.0
KOLS Kolonicke sedl 74.20 330 *e*P **P 03 33 35.4 -0.2**
KOPT Kop Dagi 74.24 314 *i*P **P 03 33 37.7 +1.7**
ESK Eskdalemuir 74.28 348 *e*P **P 03 33 35.5 -0.4**
ESK AMb AMB 03 33 36.0
comp=Z,63nm,1.4s,mb5.3
ESK Eskdalemuir 74.28 348 *e*P **P 03 33 35.1 -0.9**
comp=Z,14nm,1.0s,mb4.8
ESK Eskdalemuir 74.28 348 *e*P **P 03 33 35.1 -0.9**
ESK pmax pmax
comp=Z,14nm,1.0s,mb4.8
KSP Ksiaz 74.34 334 *e*P **P 03 33 36.9 +0.5**
KSP Ksiaz 74.34 334⇑*e*P **P 03 33 36.0 -0.4**
EIDS Eidsvold 74.39 184 *e*P **P 03 33 37.5 +0.7**
comp=Z,30nm,0.8s,mb5.3
NIE Niedzica 74.41 331 *e*P **P 03 33 37.7 +0.9**
RAC Raciborz 74.47 333 *e*P **P 03 33 37.4 +0.2**
RAC LR LR
comp=Z,500nm,22.4s,MS4.8
CRVS Cervenica-Dubn 74.49 330 *e*P **P 03 33 37.2 -0.1**
GRSN GIRESUNGRSN 74.57 316 *i*P **P 03 33 38.6 +0.7**
PALK Pallekele 74.57 263 *e*P **P 03 33 38.7 +0.4**
comp=Z,23nm,0.9s,mb5.1
XAL Allendale 74.57 347 *e*P **P 03 33 37.7 0.0**
HAKT HAKKARI 74.60 310 *i*P **P 03 33 39.3 +1.1**
OKC Ostrava-Krasne 74.70 333 *e*P **P 03 33 39.1 +0.6**
UPC Upice 74.72 335 *e*P **P 03 33 39.3 +0.7**
DPC Dobruska-Polom 74.77 334 *e*P **P 03 33 39.6 +0.7**
DPC *e*pP pP 03 33 46.4 -6.5
DPC AMS AMS 04 09 20.0
comp=Z,300nm,14.7s,MS4.7
LPIG La Paz 74.78 71 LR LR 03 59 17.9
comp=Z,89nm,21.2s,MS4.0,baz=233,slow=30
CLL Collm 74.81 337⇑*i*P **P 03 33 38.0 -1.1**
CLL *e*S S 03 43 14.0 +2.1
CLL Collm 74.81 337⇑*i*P **P 03 33 38.0 -1.1**
CLL *e*S S 03 43 14.0 +2.1
CLL pmax pmax
comp=Z,42nm,1.1s,mb5.3
CLL MLR MLR
comp=Z,200nm,19.6s,MS4.4
CLL Collm 74.81 337 *e*P **P 03 33 38.4 -0.7**
comp=Z,42nm,1.1s,mb5.3
CLL Collm 74.81 337⇑*i*P **P 03 33 38.0 -1.1**
comp=Z,42nm,1.1s,mb5.3
CLL *e*(PcP) PcP 03 33 51.0 -2.0
CLL *e*S S 03 43 14.0 +2.1
CLL *e*PS 03 43 51.0
CLL *e*SS SS 03 48 00.0 +0.9
CLL *e*x x 03 52 42.0
TRPA Tarpa 74.81 329⇑*i*P **P 03 33 39.1 -0.1**
TXAR Lajitas Array 74.92 63 P **P 03 33 39.9 -0.2**
TXAR pP pP 03 33 52.8 -1.3

TXAR **Lajitas Array** 74.92 63 P P 03 33 39.9 -0.2
TXAR *PP pP 03 33 52.8 -1.3
TXAR pmax pmax
comp=Z,11nm,0.6s
TXAR **Lajitas Array** 74.92 63 P P 03 33 39.9 -0.2
comp=Z,11nm,0.6s,mb5.0,baz=301,slow=4.2,SNR=140
TXAR pP pP 03 33 52.8 -1.3
comp=Z,16nm,0.8s,baz=296,slow=4.1,SNR=19
GAL1 **Galloway** 74.92 348 eP P 03 33 39.3 -0.4
GAL1 AMb AMB 03 33 39.9
comp=Z,60nm,1.5s,mb5.3
MORC **Moravsky Berou** 74.93 333 eP P 03 33 39.8 0.0
comp=Z,46nm,0.9s,mb5.4
MORC **Moravsky Berou** 74.93 333 P P 03 33 40.6 +0.7
MORC **Moravsky Berou** 74.93 333⇑iP P 03 33 40.0 +0.1
BRG **Berggiesshubel** 74.96 336 eP P 03 33 40.0 0.0
comp=Z,11nm,1.1s,mb4.7
BRG e 03 35 36.9
BRG LR LR
comp=Z,240nm,18.9s,MS4.5
BRG **Berggiesshubel** 74.96 336 eP P 03 33 39.4 -0.6
comp=Z,19nm,1.1s,mb4.9
BRG **Berggiesshubel** 74.96 336 eP P 03 33 40.0 0.0
comp=Z,19nm,1.1s,mb4.9
BRG e 03 35 36.9
comp=Z,10nm,1.4s
BRG
comp=N,394nm,18.9s
BRG
comp=E,339nm,26.2s
BRG
comp=Z,394nm,18.9s
CKE **Keswick** 74.97 347 eP P 03 33 39.6 -0.4
CLZ **Clausthal** 74.98 338 eP P 03 33 40.2 +0.1
CLZ pmax pmax
comp=Z,44nm,1.0s,mb5.3
CLZ **Clausthal** 74.98 338 eP P 03 33 40.2 +0.1
comp=Z,44nm,1.0s,mb5.3
CCM **Cathedral Cave** 74.98 49 eP P 03 33 38.8 -1.5
comp=Z,14nm,0.9s,mb4.9
CCM **Cathedral Cave** 74.98 49 eP P 03 33 38.8 -1.6
CCM pmax pmax
comp=Z,15nm,1.0s,mb4.9
ASAR **Alice Springs** 75.09 200 P P 03 33 40.9 0.0
ASAR *PP pP 03 33 53.8 -1.1
ASAR pmax pmax
comp=Z,3.0nm,0.6s
ASAR **Alice Springs** 75.09 200 P P 03 33 40.9 0.0
comp=Z,2.9nm,0.6s,mb4.4,baz=14,slow=5.4,SNR=37
ASAR pP pP 03 33 53.8 -1.1
comp=Z,3.0nm,0.7s,baz=14,slow=5.2,SNR=7.4
PVCC **Panska Ves** 75.10 335 eP P 03 33 41.2 +0.4
IBBN **Ibbenburen** 75.15 340 eP P 03 33 40.8 -0.3
comp=Z,34nm,0.8s,mb5.3
KECS **Kecovo** 75.17 331 eP P 03 33 41.1 -0.2
comp=Z,11nm,1.0s,mb4.7
KECS **Kecovo** 75.17 331 eP P 03 33 41.1 -0.2
KECS pmax pmax
comp=Z,11nm,1.0s,mb4.7
HPK **Haverah Park** 75.36 346 eP P 03 33 42.2 0.0
HPK AMb AMB 03 33 43.6
comp=Z,113nm,1.2s,mb5.7
FVM **French Village** 75.44 48⇑iP P 03 33 41.9 -1.1
comp=Z,12nm,0.6s,mb5.0
FVM **French Village** 75.44 48 P P 03 33 42.2 -0.8
FVM pmax pmax
comp=Z,12nm,0.6s,mb5.0
PRU **Pruhonice** 75.60 335 eP P 03 33 44.0 +0.3
VRAC **Vranov** 75.63 334 P P 03 33 44.4 +0.5
VRAC **Vranov** 75.63 334 LR LR 04 10 37.9
comp=Z,396nm,19.6s,MS4.7,baz=12,slow=39
VRAC **Vranov** 75.63 334⇑iP P 03 33 44.0 +0.1
BOYT **Boyabat** 75.67 318 iP P 03 33 45.7 +1.4
VYHS **Vyhne** 75.68 332 eP P 03 33 44.4 +0.2
comp=Z,14nm,0.9s,mb4.9
VYHS **Vyhne** 75.68 332 eP P 03 33 44.4 +0.2
VYHS pmax pmax
comp=Z,15nm,0.9s,mb4.9
WTSB **Winterswijk** 75.68 341 eP P 03 33 43.4 -0.8
comp=Z,46nm,1.0s,mb5.3
KOLL **Kolacno** 75.74 332 eP P 03 33 44.7 +0.2
KOLL **Kolacno** 75.74 332 eP P 03 33 44.6 +0.1
TANN **Tannenbergstha** 75.77 337 eP P 03 33 44.5 -0.1
MOX **Moxa** 75.77 337⇓iP P 03 33 44.9 +0.2
comp=Z,42nm,1.3s,mb5.2
MOX
comp=Z,200nm,19.0s
MOX **Moxa** 75.77 337⇓iP P 03 33 44.9 +0.2
MOX pmax pmax
comp=Z,42nm,1.3s,mb5.2
MOX MLR MLR
comp=Z,200nm,19.0s,MS4.4
MOX **Moxa** 75.77 337 eP P 03 33 44.4 -0.3
comp=Z,30nm,1.0s,mb5.2
LHO **Holmfirth** 75.79 346 eP P 03 33 44.1 -0.6
HARR **Harsova** 75.83 324 P P 03 33 45.4 +0.3
TIRR **Tirgusor** 75.84 324 P P 03 33 45.9 +0.7
TIRR **Tirgusor** 75.84 324⇓iP P 03 33 45.4 +0.2
PSZ **Piszkesteto** 75.86 331 eP P 03 33 45.0 -0.2
comp=Z,28nm,1.0s,mb5.1
PSZ **Piszkesteto** 75.86 331 P P 03 33 45.8 +0.6
PSZ pmax pmax
comp=Z,28nm,1.0s,mb5.2
PSZ **Piszkesteto** 75.86 331 P P 03 33 45.9 +0.7
PSZ **Piszkesteto** 75.86 331⇓iP P 03 33 45.7 +0.5
PSZ **Piszkesteto** 75.86 331⇓eP P 03 33 46.0 +0.8
MLR **Muntele Rosu** 75.89 326 P P 03 33 45.8 +0.4
MLR **Muntele Rosu** 75.89 326 P P 03 33 45.4 -0.1
comp=Z,31nm,0.7s,mb5.3,baz=185,slow=1.9,SNR=86
MLR LR LR 04 10 51.4
comp=Z,257nm,19.9s,MS4.5,baz=48,slow=39
MLR **Muntele Rosu** 75.89 326⇓iP P 03 33 45.7 +0.3
DRGR 75.92 329 P P 03 33 46.1 +0.5
DRGR 75.92 329⇑iP P 03 33 45.9 +0.3
NKC **Novy Kostel** 75.94 337 eP P 03 33 46.0 +0.4
TREC **Trest** 75.96 334 eP P 03 33 46.4 +0.6
TREC AMS AMS 04 08 50.0
comp=Z,400nm,22.2s,MS4.7
UBBA **Unterbreizbach** 76.02 338 eP P 03 33 45.7 -0.3
KBI1 **Birley Grange** 76.02 346 eP P 03 33 45.5 -0.5
TRD **Trivandrum** 76.09 267 eP P 03 33 46.6 -0.4
TRD AMb AMB 03 33 51.5
comp=Z,84nm,1.6s,mb5.4
DMUB **Kingscourt** 76.15 349⇑iP P 03 33 46.7 0.0
ELZG **Elazig** 76.16 314 iP P 03 33 49.6 +2.5
MARD **Mardin** 76.24 312 iP P 03 33 48.9 +1.4
BALT **Daday** 76.24 319 iP P 03 33 48.8 +1.4
VOIR 76.27 326 P P 03 33 48.1 +0.6
VOIR 76.27 326⇑iP P 03 33 48.8 +1.2
JCT **Junction City** 76.27 59 eP P 03 33 46.8 -1.1
comp=Z,24nm,1.2s,mb5.0
JCT **Junction City** 76.27 59 P P 03 33 47.4 -0.5
JCT pmax pmax
comp=Z,24nm,1.2s,mb5.0
KWE **Weaver Farm** 76.30 346 eP P 03 33 47.1 -0.6
CTKT **Corum** 76.37 318 iP P 03 33 49.5 +1.3
ROTZ **Rotzenmuhle** 76.43 336 eP P 03 33 48.4 0.0
comp=Z,36nm,1.1s,mb5.2
ZST **Bratislava** 76.47 333 eP P 03 33 49.3 +0.6
comp=Z,30nm,0.9s,mb5.2
ZST LR LR
comp=Z,200nm,18.4s,MS4.5
CWF **Charnwood Fore** 76.49 346 eP P 03 33 48.3 -0.4
CWF AMb AMB 03 33 51.1
comp=Z,88nm,1.4s,mb5.5
BUD **Budapest** 76.52 331 eP P 03 33 50.0 +1.0
MIAR **Mount Ida** 76.54 52 eP P 03 33 48.3 -1.0
comp=Z,24nm,1.0s,mb5.1
MIAR **Mount Ida** 76.54 52 P P 03 33 48.7 -0.6
MIAR pmax pmax
comp=Z,24nm,1.0s,mb5.1
MALT **Malatya** 76.57 314 eP P 03 33 50.5 +1.1
comp=Z,28nm,0.8s,mb5.2
MALT **Malatya** 76.57 314⇓iP P 03 33 51.2 +1.8
PSN **Preselentsi** 76.58 324 iP P 03 33 49.7 +0.3
SBD1 **Bryn Du** 76.63 347 eP P 03 33 49.4 -0.1
KHC **Kasperske Hory** 76.64 335 eP P 03 33 50.4 +0.8
KHC e 03 33 54.5
KHC e pP 03 34 05.0 +1.4
KHC LR LR
comp=Z,600nm,20.7s,MS4.9
KHC **Kasperske Hory** 76.64 335 eP P 03 33 50.4 +0.8
KHC pP pP 03 33 54.5 -9.1
KHC x x 03 34 05.0
KHC AMS AMS 04 11 00.0
comp=Z,600nm,20.7s,MS4.9
DLF **Lyons Farm** 76.69 349⇑iP P 03 33 49.8 0.0
DSB **Dublin** 76.72 349 eP P 03 33 49.6 -0.3
comp=Z,54nm,0.9s,mb5.5
DCN **Croghan** 76.74 349⇑iP P 03 33 50.0 -0.1
GRA1 **Grafenberg Arr** 76.75 337 eP P 03 33 50.5 +0.3
comp=Z,76nm,0.9s,mb5.6
GRF **Grafenberg Arr** 76.75 337 eP P 03 33 50.5 +0.3
GRF pmax pmax
comp=Z,76nm,0.9s,mb5.6
GRF **Grafenberg Arr** 76.75 337 eP P 03 33 50.5 +0.3
GRF pmax pmax
comp=Z,76nm,0.9s,mb5.6
GRF **Grafenberg Arr** 76.75 337 eP P 03 33 50.5 +0.3
comp=Z,76nm,0.9s,mb5.6
GRFO **Grafenberg** 76.75 337⇑iP P 03 33 50.2 0.0
comp=Z,69nm,0.9s,mb5.6
GRFO **Grafenberg** 76.75 337 P P 03 33 50.8 +0.6
GRFO pmax pmax
comp=Z,67nm,1.0s,mb5.5
USIN **University of** 76.78 46 eP P 03 33 50.0 -0.6
comp=Z,16nm,0.5s,mb5.2
PARMO **Parma** 76.81 49 eP P 03 33 50.1 -0.7
PARMO e pP 03 34 02.4 -2.4
WET **Wettzell** 76.82 336 eP P 03 33 50.8 +0.2
WET pmax pmax
comp=Z,46nm,0.9s,mb5.4
WET **Wettzell** 76.82 336 eP P 03 33 50.8 +0.2
comp=Z,46nm,0.9s,mb5.4
GEC2 **GERESS Array S** 76.87 335 P P 03 33 51.4 +0.5
GEC2 **GERESS Array S** 76.87 335 eP P 03 33 50.7 -0.2
comp=Z,21nm,0.8s,mb5.1
GERES **GERESS Array B** 76.87 335 P P 03 33 51.2 +0.3
GERES pmax pmax
comp=Z,16nm,0.7s
GERES MLR MLR
comp=Z,522nm,20.0s
GERES **GERESS Array B** 76.87 335 P P 03 33 51.2 +0.3
comp=Z,16nm,0.7s,mb5.0,baz=32,slow=5.1,SNR=193
GERES LR LR 04 11 16.8
comp=Z,522nm,20.0s,MS4.8,baz=20,slow=38
HLM1 **Long Mynd** 76.95 347 eP P 03 33 50.7 -0.5
MBWA **Marble Bar** 76.97 214 eP P 03 33 50.9 -0.8
comp=Z,10nm,0.9s,mb4.8
HGN **Heimansgroeve** 77.00 341 eP P 03 33 51.6 0.0
comp=Z,75nm,1.1s,mb5.5
BEBN **Eben Emael** 77.03 341 P P 03 33 52.2 +0.5
comp=Z,26nm,1.1s,mb5.1
ELDT **Eldivan** 77.08 318 iP P 03 33 54.0 +1.7
CONA **Conrad Observa** 77.08 333⇑iPP P 03 33 52.7 +0.6
comp=Z,62nm,1.1s,mb5.4,SNR=58
SOP **Sopron** 77.10 333⇑eP P 03 33 53.1 +0.9
GZR **Gura Zlata** 77.11 328 P P 03 33 52.5 +0.2
GZR **Gura Zlata** 77.11 328⇑iP P 03 33 52.4 +0.1
MEM **Membach** 77.13 341 P P 03 33 52.6 +0.3
comp=Z,57nm,1.0s,mb5.5
WCI **Wyandotte Cave** 77.22 45 eP P 03 33 52.4 -0.7
comp=Z,34nm,0.8s,mb5.3
WCI e pP 03 34 01.3 -5.8
WCI **Wyandotte Cave** 77.22 45 eP P 03 33 52.4 -0.7
WCI e pP 03 34 01.3 -5.8
WCI pmax pmax
comp=Z,34nm,0.8s,mb5.3
PRD **Provadia** 77.29 324 iP P 03 33 54.1 +0.7
UCC **Uccle** 77.30 342 P P 03 33 53.2 -0.1
ATAB **Bozova** 77.31 313 iP P 03 33 55.5 +1.9
BZS **Buzias** 77.31 329 P P 03 33 53.4 -0.1
BZS **Buzias** 77.31 329⇓iP P 03 33 53.2 -0.3
SSW **Stow on the Wo** 77.32 346 eP P 03 33 53.8 +0.4
HATD **Hatta, Dubai** 77.35 293 P P 03 33 54.9 +0.9
SNR=5.5
HATD **Hatta, Dubai** 77.35 293 P P 03 33 54.9 +0.9
SNR=5.5
HAE **Alders End** 77.36 346 eP P 03 33 53.1 -0.5
CDAG **Cicekdag** 77.37 317 iP P 03 33 53.2 -0.7
SKP1 **Kophill** 77.39 345 eP P 03 33 53.5 -0.3
TOD **Tromm** 77.43 339 eP P 03 33 53.8 -0.2
HTR **Trewern Hill** 77.43 347 eP P 03 33 53.2 -0.8
BCLA **Clavier** 77.46 341 P P 03 33 54.5 +0.3
comp=Z,36nm,1.2s,mb5.2
ABH **Alteburg** 77.47 339 eP P 03 33 54.0 -0.2
MCH1 **Michaelchurch** 77.47 347 eP P 03 33 53.8 -0.4
MCH1 eP 03 33 53.8
MCH1 AMb AMB 03 33 54.2
comp=Z,38nm,1.4s,mb5.1
ASHO **Ashiyiah** 77.50 293 P P 03 33 56.3 +1.4
SNR=7.5
ASHO **Ashiyiah** 77.50 293 P P 03 33 56.3 +1.4
SNR=7.5
HOQ **Hoqain** 77.56 292 P P 03 33 55.9 +0.7
SNR=8.6
HOQ **Hoqain** 77.56 292 P P 03 33 55.9 +0.7
SNR=8.6
SNF **Seneffe** 77.59 342 P P 03 33 55.1 +0.2
comp=Z,24nm,1.4s,mb4.9
MOA **Molln** 77.61 334 iP P 03 33 55.4 +0.3
comp=Z,34nm,1.1s,mb5.2,SNR=21
MOA **Molln** 77.61 334 iPP P 03 33 55.4 +0.3
comp=Z,34nm,1.1s,mb5.2,SNR=21
ZIMR 77.68 325 P P 03 33 55.1 -0.4
RUP **Ruppelstein** 77.75 340 eP P 03 33 55.5 -0.3
GZT **Gaziantep** 77.75 314 iP P 03 33 58.0 +1.9
SWN1 **Swindon** 77.75 346 eP P 03 33 56.0 +0.3
SWN1 AMb AMB 03 33 57.9
comp=Z,350nm,1.2s,mb6.2
PKSM **Moragy** 77.77 331 P P 03 33 55.6 -0.3
PKSM **Moragy** 77.77 331⇓iP P 03 33 55.7 -0.3
HGH **Gray Hill** 77.79 346 eP P 03 33 55.8 -0.2
ARSA **Arzberg** 77.79 333 iP P 03 33 56.8 +0.7
comp=Z,25nm,1.0s,mb5.1,SNR=28
ARSA **Arzberg** 77.79 333 iPP P 03 33 56.8 +0.7
comp=Z,25nm,1.0s,mb5.1,SNR=28
SZH **Strazhica** 77.80 325 iP P 03 33 55.5 -0.7
WOL **Wolverton** 77.85 345 eP P 03 33 56.4 +0.1
GIVF **Givet** 77.86 341⇑iP P 03 33 56.1 -0.3
comp=Z,82nm,1.0s,mb5.3
GIVF **Givet** 77.86 341⇑iP P 03 33 56.1 -0.3
comp=Z,41nm,1.0s,mb5.3
GIVF **Givet** 77.86 341⇑iP P 03 33 56.1 -0.3
GIVF pmax pmax
comp=Z,41nm,1.0s,mb5.3
ANTO **Ankara** 77.86 318⇑iP P 03 33 57.0 +0.3
comp=Z,53nm,1.2s,mb5.3
ANTO **Ankara** 77.86 318 P P 03 33 57.7 +1.1
ANTO pmax pmax
comp=Z,53nm,1.2s,mb5.3
ANTO **Ankara** 77.86 318 P P 03 33 57.6 +1.0
SNR=14
ANTO **Ankara** 77.86 318 P P 03 33 57.6 +1.0
SNR=14
ANTO **Ankara** 77.86 318⇑iP P 03 33 57.6 +1.0
DOU **Dourbes** 77.92 341 P P 03 33 57.0 +0.3
comp=Z,22nm,1.2s,mb5.0
MENF **Mencas** 77.97 343 eP P 03 33 56.8 -0.2
JMDO **Jabal Madar** 77.98 290 P P 03 33 58.5 +1.0
SNR=13
JMDO **Jabal Madar** 77.98 290 P P 03 33 58.5 +1.0
SNR=13
WLF **Walferdange** 77.99 340⇑iP P 03 33 57.0 -0.2
comp=Z,28nm,1.1s,mb5.1
WLF **Walferdange** 77.99 340 P P 03 33 57.8 +0.7
WLF pmax pmax
comp=Z,28nm,1.1s,mb5.1
WLF **Walferdange** 77.99 340 P P 03 33 57.7 +0.6
comp=Z,16nm,1.3s,mb4.8
WLF **Walferdange** 77.99 340 eP P 03 33 57.3 +0.2
BAIF **Baives** 78.03 342⇑iP P 03 33 57.2 -0.2
comp=Z,80nm,0.9s,mb5.3
BAIF **Baives** 78.03 342⇑iP P 03 33 57.2 -0.2
comp=Z,40nm,0.9s,mb5.3
BAIF **Baives** 78.03 342⇑iP P 03 33 57.2 -0.2
BAIF pmax pmax
comp=Z,40nm,0.9s,mb5.3
STU **Stuttgart** 78.11 338 eP P 03 33 57.6 -0.2
comp=Z,46nm,0.9s,mb5.4
ANDN **Andirin** 78.14 315 iP P 03 33 59.6 +1.4
FUR **Furstenfeldbru** 78.14 336 eP P 03 33 58.1 +0.1
FUR pmax pmax
comp=Z,67nm,1.0s,mb5.5
FUR **Furstenfeldbru** 78.14 336 eP P 03 33 58.1 +0.1
comp=Z,67nm,1.0s,mb5.5
WVT **Waverly** 78.17 48 eP P 03 33 57.6 -0.8
comp=Z,5.9nm,0.8s,mb4.6
WVT **Waverly** 78.17 48 P P 03 33 57.8 -0.6
WVT pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
SWK **Warminster** 78.18 346 eP P 03 33 58.4 +0.3
JMB **Yambol** 78.23 324 eP P 03 33 58.3 -0.3
JMB **Yambol** 78.23 324 iP P 03 33 57.8 -0.8
LANF **Langenberg** 78.25 339 eP P 03 33 58.6 0.0
BSY **Bisya** 78.25 291 P P 03 34 00.1 +1.1
SNR=15
BSY **Bisya** 78.25 291 P P 03 34 00.1 +1.1
SNR=15
PERS **Pernice** 78.47 333 iP P 03 34 00.1 +0.2
HEX **Exmoor** 78.50 347 eP P 03 33 59.8 -0.2
KBA **Koelnbreinsper** 78.58 335 iP P 03 34 01.2 +0.8
comp=Z,137nm,1.0s,mb5.8,SNR=183
KBA **Koelnbreinsper** 78.58 335 ipP P 03 34 01.2 +0.8
comp=Z,137nm,1.0s,mb5.8,SNR=183
KBA **Koelnbreinsper** 78.58 335 iP P 03 34 01.3 +0.9
KBA pmax pmax
comp=Z,137nm,1.0s,mb5.8
ELBA **Catalca** 78.62 322 iP P 03 34 01.2 +0.4
STR **Strasbourg** 78.63 339 eP P 03 34 01.2 +0.5
HTL **Hartland** 78.67 347 eP P 03 33 59.7 -1.1
HTL AMb AMB 03 34 02.2
comp=Z,89nm,1.0s,mb5.6
MIB **Mutribah** 78.67 303 eP P 03 34 01.4 +0.2
MIB AMb AMB 03 34 03.6
comp=Z,132nm,0.8s,mb5.9
BFO **Black Forest** 78.73 338 P P 03 34 01.7 +0.4
comp=Z,247nm,0.8s,mb6.2,SNR=26
BFO **Black Forest** 78.73 338 eP P 03 34 01.0 -0.3
BFO pmax pmax
comp=Z,41nm,0.9s,mb5.4
BFO **Black Forest** 78.73 338 eP P 03 34 01.0 -0.3
comp=Z,41nm,0.9s,mb5.4
OBKA **Obir** 78.75 334⇑iP P 03 34 01.6 +0.2
comp=Z,34nm,1.0s,mb5.2,SNR=24
OBKA **Obir** 78.75 334⇑ipP P 03 34 01.6 +0.2
comp=Z,34nm,1.0s,mb5.2,SNR=24
WATA **Walderalm** 78.83 336⇑iP P 03 34 02.4 +0.6
comp=Z,61nm,1.1s,mb5.4,SNR=31
WATA **Walderalm** 78.83 336⇑ipP P 03 34 02.4 +0.6
comp=Z,61nm,1.1s,mb5.4,SNR=31
WATA **Walderalm** 78.83 336⇑iP P 03 34 02.4 +0.6
WATA pmax pmax
comp=Z,61nm,1.1s,mb5.4
SPAK **Spaichingen-Ko** 78.83 338 eP P 03 34 01.8 0.0
BORA **Eskisehir** 78.86 320 iP P 03 34 02.4 +0.3
WTTA **Wattenberg** 78.88 336 iP P 03 34 02.8 +0.7
SNR=62
WTTA **Wattenberg** 78.88 336 ipP P 03 34 02.8 +0.7
SNR=62
MYKA **Terra Mystica** 78.90 334⇓ipP P 03 34 02.1 -0.1
comp=Z,56nm,1.1s,mb5.4
RETA **Reutte** 78.90 336⇑ipP P 03 34 02.5 +0.3
comp=Z,87nm,1.5s,mb5.5,SNR=36
CDF **Champ du Feu** 78.91 339⇑iP P 03 34 02.1 -0.1
comp=Z,126nm,0.9s,mb5.5
CDF **Champ du Feu** 78.91 339⇑iP P 03 34 02.1 -0.1
comp=Z,63nm,0.9s,mb5.5
CDF **Champ du Feu** 78.91 339⇑iP P 03 34 02.1 -0.1
CDF pmax pmax
comp=Z,63nm,0.9s,mb5.5
MCWV **Mont Chateau** 78.92 40 eP P 03 34 01.7 -0.8
comp=Z,12nm,0.9s,mb4.8
MOTA **Moosalm** 78.94 336⇑iP P 03 34 02.8 +0.4
comp=Z,91nm,1.1s,mb5.6,SNR=116
MOTA **Moosalm** 78.94 336⇑ipP P 03 34 02.8 +0.4
comp=Z,91nm,1.1s,mb5.6,SNR=116
MOTA **Moosalm** 78.94 336⇑iP P 03 34 02.8 +0.4
MOTA pmax pmax
comp=Z,91nm,1.1s,mb5.6
KBD **Kabd** 78.95 302 eP P 03 34 03.4 +0.5
KBD AMb AMB 03 34 05.4
comp=Z,280nm,1.0s,mb6.1
ESKT **Eskisehir** 78.99 320 iP P 03 34 03.1 +0.2
DIM **Dimitrovgrad** 78.99 324 iP P 03 34 03.3 +0.5
PDKS **Podkum** 79.02 333 eP P 03 34 02.6 -0.3
SQTA **Sankt Quirin** 79.03 336⇑iP P 03 34 03.6 +0.7
comp=Z,98nm,1.2s,mb5.6,SNR=84
SQTA **Sankt Quirin** 79.03 336⇑ipP P 03 34 03.6 +0.7
comp=Z,98nm,1.2s,mb5.6,SNR=84
SQTA **Sankt Quirin** 79.03 336⇑iP P 03 34 03.6 +0.7
SQTA pmax pmax
comp=Z,98nm,1.2s,mb5.6
COBT **Iskenderun** 79.04 314 iP P 03 34 04.6 +1.4
PGB **Panagyurishte** 79.08 326 iP P 03 34 02.9 -0.4
VNDS **Vrh nad Dolski** 79.08 333 iP P 03 34 02.7 -0.5
RST **Umm Al-Ruwaisa** 79.09 303 eP P 03 34 03.5 0.0
RST AMb AMB 03 34 05.0
comp=Z,185nm,0.8s,mb6.1
CRES **Cresnjev** 79.10 333 iP P 03 34 02.9 -0.4
ABTA **Abfaltersbach** 79.11 335⇓ipP P 03 34 03.3 -0.1
comp=Z,51nm,1.2s,mb5.3,SNR=74
ECH **Echery** 79.12 339 eP P 03 34 03.1 -0.3
DYA **Yadsworthy** 79.13 347 eP P 03 34 03.1 -0.3
DYA AMb AMB 03 34 05.1
comp=Z,129nm,1.3s,mb5.7
SISC **Sisak** 79.14 332 P P 03 34 04.2 +0.6
NAY **Al-Naaiem** 79.15 302 eP P 03 34 04.1 +0.2
NAY AMb AMB 03 34 05.7
comp=Z,84nm,0.8s,mb5.7
QRN **Al-Qurain** 79.16 302 eP P 03 34 04.5 +0.5
QRN AMb AMB 03 34 06.5
comp=Z,114nm,0.8s,mb5.9
LJU **Ljubljana** 79.18 333 iP P 03 34 03.4 -0.4
DIVS **Divibare** 79.20 329 eP P 03 34 03.4 -0.5
STEIN **Stein am Rhein** 79.22 338⇑iP P 03 34 04.0 +0.1
comp=Z,168nm,1.3s,mb5.8
SLE **Schleitheim** 79.22 338⇑iP P 03 34 03.6 -0.4
comp=Z,44nm,0.8s,mb5.4
RDF **Al-Radifah** 79.22 302 eP P 03 34 04.9 +0.6
RDF AMb AMB 03 34 07.0
comp=Z,301nm,0.9s,mb6.2
FELD **Feldberg im Sc** 79.23 338 eP P 03 34 03.5 -0.5
KDHN **Kadinhani** 79.28 318 iP P 03 34 04.8 +0.3
DAVA **Damuels** 79.31 337⇓iP P 03 34 04.9 +0.4
comp=Z,58nm,1.1s,mb5.4,SNR=51
DAVA **Damuels** 79.31 337⇓ipP P 03 34 04.9 +0.4
comp=Z,58nm,1.1s,mb5.4,SNR=51
WEIN **Weingarten** 79.32 338⇑iP P 03 34 04.6 +0.1
comp=Z,135nm,1.2s,mb5.8
MEZF **Maizieres J'vi** 79.33 340⇑iP P 03 34 04.6 +0.1
comp=Z,158nm,1.0s,mb5.6
MEZF **Maizieres J'vi** 79.33 340⇑iP P 03 34 04.6 +0.1
comp=Z,158nm,1.0s,mb5.9
FETA **Feichten** 79.34 336 iPP P 03 34 05.3 +0.7
comp=Z,72nm,1.3s,mb5.5,SNR=38
CSA1 **St Austell** 79.35 347 eP P 03 34 03.8 -0.8
VOY **Vojsko** 79.37 334 eP P 03 34 04.1 -0.7
VOY e pP 03 34 20.6 +1.7
THEF **They Montfort** 79.38 340 eP P 03 34 04.4 -0.4
KDZ **Kurdzhali** 79.38 324 iP P 03 34 04.1 -0.8
VTS **Vitosha** 79.39 326 eP P 03 34 05.0 0.0
VTS **Vitosha** 79.39 326⇑iP P 03 34 04.9 -0.1
VTS **Vitosha** 79.39 326 iP P 03 34 04.8 -0.2
LIENZ **Kamor/St.Gall** 79.41 337⇑iP P 03 34 05.3 +0.3
comp=Z,57nm,1.3s,mb5.3
WILA **Wila** 79.44 338⇑iP P 03 34 05.4 +0.2
comp=Z,135nm,1.1s,mb5.8
BOJS **Bojanci** 79.45 333 iP P 03 34 05.0 -0.3
MOF **Molkenrain** 79.47 339 eP P 03 34 05.1 -0.2
HAU **Haudompre** 79.50 339⇑iP P 03 34 05.2 -0.3
comp=Z,97nm,1.0s,mb5.4
HAU eMLR MLR
comp=Z,169nm,22.2s,MS4.0
HAU **Haudompre** 79.50 339⇑iP P 03 34 05.2 -0.3
comp=Z,48nm,1.0s,mb5.4
HAU LR LR
comp=Z,170nm,22.3s,MS4.3
HAU **Haudompre** 79.50 339⇑iP P 03 34 05.2 -0.3
HAU pmax pmax
comp=Z,49nm,1.0s,mb5.4
HAU MLR MLR
comp=Z,170nm,22.3s,MS4.3
SART **Tekirdag** 79.51 323 iP P 03 34 06.0 +0.3
SULZ **Cheisacher** 79.53 338⇑iP P 03 34 05.7 0.0
comp=Z,106nm,1.0s,mb5.7
CCA1 **Carnmenellis** 79.56 348 eP P 03 34 05.3 -0.5
HINF **Hinteralfeld** 79.56 339⇑iP P 03 34 05.3 -0.5
comp=Z,63nm,1.1s,mb5.1
HINF **Hinteralfeld** 79.56 339⇑iP P 03 34 05.3 -0.5
comp=Z,31nm,1.1s,mb5.2
HINF **Hinteralfeld** 79.56 339⇑iP P 03 34 05.3 -0.5
HINF pmax pmax
comp=Z,31nm,1.1s,mb5.2
ZUR **Degenried** 79.57 338⇑iP P 03 34 06.0 +0.2
comp=Z,116nm,0.9s,mb5.8

RZN Rozhen 79.61 325 *i* P P 03 34 06.2 0.0
CMA1 Manaccan 79.65 347 *eP* P 03 34 06.0 -0.2
PLONS Plons/SG 79.66 337⇑*iP* P 03 34 06.7 +0.3
comp=Z,82nm,0.8s,mb5.7
ALN Alexandroupoli 79.78 323 *eP* P 03 34 06.8 -0.4
DAVOX Davos/Dischmat 79.78 337⇑*iP* P 03 34 07.8 +0.8
DAVOX Davos/Dischmat 79.78 337 LR LR 04 14 54.7
comp=Z,230nm,18.7s,MS4.5,baz=14,slow=40
DAVOX Davos/Dischmat 79.78 337⇑*iP* P 03 34 07.4 +0.4
comp=Z,76nm,0.8s,mb5.7
BALST Balsthal 79.81 338⇑*iP* P 03 34 07.4 +0.2
BALST Balsthal 79.81 338⇑*iP* P 03 34 07.6 +0.4
comp=Z,176nm,1.2s,mb5.8
SWET Sewanee 79.82 47 *eP* P 03 34 06.4 -1.1
FUORN Ofenpass-Fuorn 79.83 336⇑*iP* P 03 34 08.3 +1.0
FUORN Ofenpass-Fuorn 79.83 336⇑*iP* P 03 34 07.8 +0.5
comp=Z,95nm,0.9s,mb5.7
BOURR Bourrignon 79.87 339⇑*iP* P 03 34 07.6 +0.1
BOURR Bourrignon 79.87 339⇑*iP* P 03 34 08.2 +0.7
comp=Z,70nm,0.9s,mb5.6
MUO Muotathal 79.93 338⇑*iP* P 03 34 08.2 +0.4
MUO Muotathal 79.93 338⇑*iP* P 03 34 08.3 +0.5
comp=Z,135nm,1.1s,mb5.8
GDZ Gediz 79.93 320 *i* P P 03 34 08.0 +0.1
LLS Linth-Limmern 79.95 337⇑*iP* P 03 34 08.3 +0.4
comp=Z,51nm,0.8s,mb5.5
BTOK Tokmak 79.96 322 *i* P P 03 34 08.5 +0.3
LOMF Lomont 80.01 339 *eP* P 03 34 08.1 -0.1
KKB Krupnik 80.07 326 *i* P P 03 34 08.3 -0.4
BNALP Bannalp 80.07 338⇑*iP* P 03 34 08.9 +0.3
comp=Z,52nm,0.9s,mb5.5
MMB Musomiste 80.07 325 *i* P P 03 34 08.5 -0.2
PLE Pljevlja 80.08 329⇑*iP* P 03 34 09.0 +0.3
BERNI Berninapass 80.09 337⇑*iP* P 03 34 09.5 +0.8
comp=Z,72nm,0.9s,mb5.6
VDL Val di Lei 80.17 337⇑*iP* P 03 34 09.9 +0.8
comp=Z,119nm,0.9s,mb5.8
FLN La Foliniere 80.18 344⇑*iP* P 03 34 08.9 -0.2
comp=Z,218nm,1.0s,mb5.7
FLN *e*MLR MLR
comp=Z,271nm,20.2s,MS4.3
FLN La Foliniere 80.18 344⇑*iP* P 03 34 08.9 -0.2
comp=Z,109nm,1.0s,mb5.7
FLN LR LR
comp=Z,270nm,20.3s,MS4.6
FLN La Foliniere 80.18 344⇑*iP* P 03 34 08.9 -0.2
FLN pmax pmax
comp=Z,109nm,1.0s,mb5.7
FLN MLR MLR
comp=Z,270nm,20.3s,MS4.6
LDF La Druitiere 80.28 344⇑*iP* P 03 34 09.3 -0.4
comp=Z,141nm,1.1s,mb5.5
LDF La Druitiere 80.28 344⇑*iP* P 03 34 09.3 -0.4
comp=Z,71nm,1.1s,mb5.5
LDF La Druitiere 80.28 344⇑*iP* P 03 34 09.3 -0.4
LDF pmax pmax
comp=Z,71nm,1.1s,mb5.5
IVA Berane 80.32 329⇑*iP* P 03 34 09.4 -0.6
UPM Unac-Piva 80.36 329⇑*iP* P 03 34 09.5 -0.7
FUSIO Fusio 80.40 337⇑*iP* P 03 34 11.0 +0.6
comp=Z,128nm,1.0s,mb5.8
NVLJ Novalja 80.42 333 P P 03 34 09.6 -0.9
BRANT Les Verrieres 80.48 339⇑*iP* P 03 34 11.1 +0.3
comp=Z,99nm,1.2s,mb5.6
TORNY Torny/Romont 80.52 339⇑*iP* P 03 34 11.3 +0.3
comp=Z,85nm,1.0s,mb5.6
PVY Plav 80.53 328⇑*iP* P 03 34 10.2 -1.0
ISP Isparta 80.54 319 *eP* P 03 34 10.7 -0.6
ISP Isparta 80.54 319⇓*iP* P 03 34 11.5 +0.2
STIP Stip 80.55 326 *eP* P 03 34 10.4 -0.8
STIP Stip 80.55 326 *eP* P 03 34 10.5 -0.7
TAOE Nuku Hiva Isla 80.55 115 *eS* S 03 44 25.4 +11
comp=Z,5μm,27.0s
TAOE Nuku Hiva Isla 80.55 115 *e*LR LR 03 59 07.9
comp=Z,13μm,22.4s
SKO Skopje 80.57 327 *eP* P 03 34 11.7 +0.3
SKO Skopje 80.57 327 *eP* P 03 34 11.9 +0.5
GRR Gorron 80.61 344⇑*iP* P 03 34 11.4 0.0
comp=Z,326nm,1.0s,mb5.9
GRR Gorron 80.61 344⇑*iP* P 03 34 11.4 0.0
comp=Z,163nm,1.0s,mb5.9
GRR Gorron 80.61 344⇑*iP* P 03 34 11.4 0.0
GRR pmax pmax
comp=Z,163nm,1.0s,mb5.9
NKY Niksic 80.67 329⇑*iP* P 03 34 11.0 -0.9
BOZC Bozcaada 80.69 323 *i* P P 03 34 11.6 -0.4
BLA Blacksburg 80.71 42 *eP* P 03 34 11.6 -0.6
comp=Z,17nm,0.9s,mb5.0
BLA Blacksburg 80.71 42 *eP* P 03 34 11.6 -0.6
BLA pmax pmax
comp=Z,17nm,0.9s,mb5.0
LKBD Leukerbad 80.72 338⇑*iP* P 03 34 12.4 +0.3
LKBD Leukerbad 80.72 338⇑*iP* P 03 34 12.3 +0.2
comp=Z,89nm,1.0s,mb5.6
VAY Valandovo 80.73 326 *eP* P 03 34 11.6 -0.6
VAY Valandovo 80.73 326 *eP* P 03 34 11.9 -0.4
BRY Bratogost 80.75 329⇑*iP* P 03 34 11.3 -1.0
KNT Kendrikon 80.75 326 *eP* P 03 34 12.2 -0.2
LOR Lormes 80.75 341⇑*iP* P 03 34 12.0 -0.2
comp=Z,135nm,1.0s,mb5.5
LOR *e*MLR MLR
comp=Z,301nm,20.8s,MS4.3
LOR Lormes 80.75 341⇑*iP* P 03 34 12.0 -0.2
comp=Z,67nm,1.0s,mb5.5
LOR LR LR
comp=Z,300nm,20.8s,MS4.6
LOR Lormes 80.75 341⇑*iP* P 03 34 12.0 -0.2
LOR pmax pmax
comp=Z,67nm,1.0s,mb5.5
LOR MLR MLR
comp=Z,300nm,20.8s,MS4.6
AKHS Akhisar 80.80 321 *i* P P 03 34 12.6 0.0
MUGIO Muggio 80.80 337⇑*iP* P 03 34 12.3 -0.2
MUGIO Muggio 80.80 337⇑*iP* P 03 34 12.4 -0.1
comp=Z,108nm,0.8s,mb5.8
SENIN Lac Senin/Sane 80.82 338⇑*iP* P 03 34 13.1 +0.5
comp=Z,41nm,1.1s,mb5.3
CABF La Chapelle 80.88 339⇑*iP* P 03 34 13.1 +0.2
comp=Z,110nm,1.1s,mb5.4
CABF La Chapelle 80.88 339⇑*iP* P 03 34 13.1 +0.2
comp=Z,55nm,1.1s,mb5.4
CABF La Chapelle 80.88 339⇑*iP* P 03 34 13.1 +0.2
CABF pmax pmax
comp=Z,55nm,1.1s,mb5.4
SOH Sokhos 80.88 325 *eP* P 03 34 12.3 -0.7
AYVA Ayvalik 80.89 322 *i* P P 03 34 13.1 0.0
AIGLE Aigle 80.92 338⇑*iP* P 03 34 13.3 +0.1
comp=Z,80nm,1.2s,mb5.5
TTG Podgorica 80.92 329⇑*iP* P 03 34 12.5 -0.8
MMK Mattmark 80.95 338⇑*iP* P 03 34 14.2 +0.9
comp=Z,94nm,0.9s,mb5.7
LOS Limnos 80.99 324 *eP* P 03 34 13.0 -0.6
HYF Humbligny 81.01 342⇑*iP* P 03 34 13.8 +0.2
SSF Saint Saulge 81.03 341⇑*iP* P 03 34 13.5 -0.2
comp=Z,68nm,0.9s,mb5.3
SSF Saint Saulge 81.03 341⇑*iP* P 03 34 13.5 -0.2
comp=Z,34nm,0.9s,mb5.3
SSF Saint Saulge 81.03 341⇑*iP* P 03 34 13.5 -0.2
SSF pmax pmax
comp=Z,34nm,0.9s,mb5.3
SGMF Saint Gilles 81.03 345⇑*iP* P 03 34 13.7 0.0
comp=Z,153nm,0.9s,mb5.6
SGMF Saint Gilles 81.03 345⇑*iP* P 03 34 13.7 0.0
comp=Z,77nm,0.9s,mb5.6
SGMF Saint Gilles 81.03 345⇑*iP* P 03 34 13.7 0.0
SGMF pmax pmax
comp=Z,77nm,0.9s,mb5.6
STON Ston 81.05 330 P P 03 34 12.4 -1.5
DIX Grande Dixence 81.06 338⇑*iP* P 03 34 14.9 +1.0
DIX Grande Dixence 81.06 338⇑*iP* P 03 34 14.6 +0.7
comp=Z,109nm,0.9s,mb5.8
OUR Ouranopolis 81.06 325 *eP* P 03 34 13.4 -0.6
ROSF Rostrenen 81.07 346⇑*iP* P 03 34 14.0 +0.1
comp=Z,226nm,1.1s,mb5.7
ROSF Rostrenen 81.07 346⇑*iP* P 03 34 14.0 +0.1
comp=Z,113nm,1.1s,mb5.7
ROSF Rostrenen 81.07 346⇑*iP* P 03 34 14.0 +0.1
ROSF pmax pmax
comp=Z,113nm,1.1s,mb5.7
SALAN Lac Salanfe 81.11 338⇑*iP* P 03 34 14.6 +0.5
SALAN Lac Salanfe 81.11 338⇑*iP* P 03 34 14.9 +0.8
comp=Z,38nm,0.9s,mb5.3
BUM Brajici-Budva 81.16 329⇑*iP* P 03 34 13.9 -0.6
HCY Herceg Novi 81.17 329⇑*iP* P 03 34 13.4 -1.1
HORT Hortiatis 81.17 325 *eP* P 03 34 13.6 -1.0

KRUS Krusevo 81.17 327 *eP* P 03 34 14.9 +0.3
EMV Vieux Emosson 81.20 338⇑*iP* P 03 34 15.3 +0.7
comp=Z,83nm,1.0s,mb5.6
PLG Polygyros 81.23 325 *eP* P 03 34 14.3 -0.6
AVF Avril sur Loir 81.32 341⇑*iP* P 03 34 15.1 -0.1
comp=Z,117nm,1.0s,mb5.5
AVF Avril sur Loir 81.32 341⇑*iP* P 03 34 15.1 -0.1
comp=Z,58nm,1.0s,mb5.5
AVF Avril sur Loir 81.32 341⇑*iP* P 03 34 15.1 -0.1
AVF pmax pmax
comp=Z,58nm,1.0s,mb5.5
ULC Ulcinj 81.34 329⇑*iP* P 03 34 15.0 -0.5
SMF Signal de Mont 81.35 341⇑*iP* P 03 34 15.4 0.0
comp=Z,170nm,1.1s,mb5.6
SMF Signal de Mont 81.35 341⇑*iP* P 03 34 15.4 0.0
comp=Z,85nm,1.1s,mb5.6
SMF Signal de Mont 81.35 341⇑*iP* P 03 34 15.4 0.0
SMF pmax pmax
comp=Z,85nm,1.1s,mb5.6
KDAG Bornova 81.43 321 *i* P P 03 34 15.9 -0.1
GOLH Golhisar 81.45 319 *i* P P 03 34 16.5 +0.3
QUIF Quistinic 81.46 346⇑*iP* P 03 34 15.8 -0.2
comp=Z,124nm,1.2s,mb5.4
QUIF Quistinic 81.46 346⇑*iP* P 03 34 15.8 -0.2
comp=Z,62nm,1.2s,mb5.4
QUIF Quistinic 81.46 346⇑*iP* P 03 34 15.8 -0.2
QUIF pmax pmax
comp=Z,62nm,1.2s,mb5.4
PAIG Paliouri 81.53 325 *eP* P 03 34 15.7 -0.9
MAMC Mammari 81.55 316 P P 03 34 17.1 +0.4
OHR Ohrid 81.56 327 *eP* P 03 34 15.5 -1.1
OHR Ohrid 81.56 327 *eP* P 03 34 15.6 -1.0
FNA Florina 81.64 327 *eP* P 03 34 16.2 -0.9
BGF Bois d'Agland 81.64 341⇑*iP* P 03 34 17.0 0.0
comp=Z,55nm,1.0s,mb5.1
BGF Bois d'Agland 81.64 341⇑*iP* P 03 34 17.0 0.0
comp=Z,27nm,1.0s,mb5.1
BGF Bois d'Agland 81.64 341⇑*iP* P 03 34 17.0 0.0
BGF pmax pmax
comp=Z,27nm,1.0s,mb5.1
CSS Prodhromos 81.67 315 P P 03 34 17.6 +0.2
CSS Prodhromos 81.67 315 *eP* P 03 34 17.5 +0.1
TIR Tirane 81.68 328 *eP* P 03 34 16.9 -0.3
STKA Stephens Creek 81.71 192 *eP* P 03 34 16.5 -0.7
URLA Izmir 81.74 322 *i* P P 03 34 17.5 -0.1
LPL La Plagne 81.75 338⇑*iP* P 03 34 18.4 +0.8
comp=Z,139nm,0.9s,mb5.6
LPL La Plagne 81.75 338⇑*iP* P 03 34 18.4 +0.8
comp=Z,69nm,0.9s,mb5.6
LPL La Plagne 81.75 338⇑*iP* P 03 34 18.4 +0.8
LPL pmax pmax
comp=Z,69nm,0.9s,mb5.6
LPG La Plagne 81.77 338⇑*iP* P 03 34 18.6 +1.0
comp=Z,164nm,0.9s,mb5.7
LPG La Plagne 81.77 338⇑*iP* P 03 34 18.6 +1.0
comp=Z,82nm,0.9s,mb5.7
LPG La Plagne 81.77 338⇑*iP* P 03 34 18.6 +1.0
LPG pmax pmax
comp=Z,82nm,0.9s,mb5.7
LIT Litokhoron 81.83 325 *eP* P 03 34 16.8 -1.3
ALFC Alevga 81.85 316 P P 03 34 17.6 -0.7
comp=Z,1.6nm,0.5s,mb4.2
CHOS Chios island 81.93 322 *eP* P 03 34 18.3 -0.4
TCF Toulx Ste Croi 82.03 342⇑*iP* P 03 34 19.2 +0.2
comp=Z,95nm,1.1s,mb5.3
TCF Toulx Ste Croi 82.03 342⇑*iP* P 03 34 19.2 +0.2
comp=Z,47nm,1.1s,mb5.3
TCF Toulx Ste Croi 82.03 342⇑*iP* P 03 34 19.2 +0.2
TCF pmax pmax
comp=Z,47nm,1.1s,mb5.3
PLDF La Plantade 82.04 341 *eP* P 03 34 19.5 +0.4
AGO Saint Agoulin 82.07 341 *eP* P 03 34 19.7 +0.5
VLC Villacollemand 82.08 335 *eP* P 03 34 18.8 -0.5
comp=Z,85nm,1.0s,mb5.6
AOS Alonnisos 82.11 324 *eP* P 03 34 18.6 -1.0
PPCY Paphos 82.19 316 P P 03 34 19.5 -0.6
GDM Grand'Maison 82.19 339 *eP* P 03 34 20.9 +1.0
MFF Saint Martin d 82.20 343⇑*iP* P 03 34 20.1 +0.2
comp=Z,129nm,1.1s,mb5.5
MFF Saint Martin d 82.20 343⇑*iP* P 03 34 20.1 +0.2
comp=Z,65nm,1.1s,mb5.5
MFF Saint Martin d 82.20 343⇑*iP* P 03 34 20.1 +0.2
MFF pmax pmax
comp=Z,65nm,1.1s,mb5.5
BNI Bardonecchia 82.20 338⇑*iP* P 03 34 20.8 +0.8
comp=Z,33nm,0.8s,mb5.3
BNI Bardonecchia 82.20 338 P P 03 34 20.8 +0.9
BNI pmax pmax
comp=Z,33nm,0.9s,mb5.3
GRN Grenoble 82.25 339 *eP* P 03 34 21.2 +1.0
ASF Jabal al Asfar 82.26 311 LR LR 04 14 28.3
comp=Z,93nm,20.2s,MS4.1,baz=261,slow=38
AKAS Kas 82.28 319 *i* P P 03 34 20.1 -0.4
MMAI Mount Meron Ar 82.30 313 LR LR 04 16 54.6
comp=Z,80nm,19.4s,MS4.1,baz=55,slow=40
PYM Petit Puy Mans 82.38 341 *eP* P 03 34 21.3 +0.4
PPT Papeete 82.41 128 *e*LR LR 04 00 20.2
comp=Z,258nm,24.5s
MBDF Montbardon 82.48 338⇑*iP* P 03 34 21.7 +0.3
comp=Z,78nm,1.0s,mb5.3
MBDF Montbardon 82.48 338⇑*iP* P 03 34 21.7 +0.3
comp=Z,39nm,1.0s,mb5.3
MBDF Montbardon 82.48 338⇑*iP* P 03 34 21.7 +0.3
MBDF pmax pmax
comp=Z,39nm,1.0s,mb5.3
BDRM Kayabasi 82.49 321 *i* P P 03 34 21.8 +0.1
ORIF Oris-en-Rattie 82.52 339⇑*iP* P 03 34 22.3 +0.7
comp=Z,101nm,1.0s,mb5.5
ORIF *e*MLR MLR
comp=Z,155nm,21.5s,MS4.0
ORIF Oris-en-Rattie 82.52 339⇑*iP* P 03 34 22.3 +0.7
comp=Z,51nm,1.0s,mb5.5
ORIF Oris-en-Rattie 82.52 339⇑*iP* P 03 34 22.3 +0.7
ORIF pmax pmax
comp=Z,51nm,1.0s,mb5.5
SURF Saint Ours 82.70 338 *eP* P 03 34 23.3 +0.7
LBL Lubilhac 82.82 341 *eP* P 03 34 23.8 +0.6
VIVF Saint-Julien-l 82.86 340⇑*iP* P 03 34 23.8 +0.4
comp=Z,115nm,1.0s,mb5.6
VIVF Saint-Julien-l 82.86 340⇑*iP* P 03 34 23.8 +0.4
comp=Z,58nm,1.0s,mb5.6
VIVF Saint-Julien-l 82.86 340⇑*iP* P 03 34 23.8 +0.4
VIVF pmax pmax
comp=Z,57nm,1.0s,mb5.6
AQU L'Aquila 82.87 333 *eP* P 03 34 23.8 +0.3
comp=Z,54nm,0.9s,mb5.6
AQU L'Aquila 82.87 333⇑*iP* P 03 34 24.1 +0.6
SAOF Saorge 82.98 337 *eP* P 03 34 23.8 -0.2
AUTN L'Aution 83.01 337 *eP* P 03 34 24.2 +0.1
TOUF Mont Tournerai 83.03 337 *eP* P 03 34 24.6 +0.3
IGT Igoumenitsa 83.12 327 *eP* P 03 34 23.9 -0.9
RJF Les Rejaudoux 83.12 342⇑*iP* P 03 34 24.8 +0.1
comp=Z,93nm,1.1s,mb5.4
RJF *e*MLR MLR
comp=Z,241nm,21.0s,MS4.2
RJF Les Rejaudoux 83.12 342⇑*iP* P 03 34 24.8 +0.1
comp=Z,46nm,1.1s,mb5.4
RJF LR LR
comp=Z,240nm,21.0s,MS4.5
RJF Les Rejaudoux 83.12 342⇑*iP* P 03 34 24.8 +0.1
RJF pmax pmax
comp=Z,46nm,1.1s,mb5.4
RJF MLR MLR
comp=Z,240nm,21.0s,MS4.5
LUCF Luceram 83.12 337 *eP* P 03 34 24.8 0.0
SBF Sospel 83.13 337⇑*iP* P 03 34 24.6 -0.2
comp=Z,235nm,1.0s,mb5.9
SBF Sospel 83.13 337⇑*iP* P 03 34 24.6 -0.2
comp=Z,117nm,1.0s,mb5.9
SBF Sospel 83.13 337⇑*iP* P 03 34 24.6 -0.2
SBF pmax pmax
comp=Z,117nm,1.0s,mb5.9
MVIF Mont Vial 83.17 338 *eP* P 03 34 25.3 +0.3
REVF Revere 83.26 337 *eP* P 03 34 25.6 +0.1
FORT Forrest 83.34 203 *eP* P 03 34 26.0 +0.3
comp=Z,32nm,0.7s,mb5.5
CAF Calviac 83.37 341⇑*iP* P 03 34 26.5 +0.5
comp=Z,103nm,1.2s,mb5.5
CAF Calviac 83.37 341⇑*iP* P 03 34 26.5 +0.5
comp=Z,52nm,1.2s,mb5.4
CAF Calviac 83.37 341⇑*iP* P 03 34 26.5 +0.5
CAF pmax pmax
comp=Z,52nm,1.2s,mb5.4
CALN Calern 83.37 338 *eP* P 03 34 26.1 +0.1
STOF St-Etienne Org 83.38 338 *eP* P 03 34 26.3 +0.2

SMRF Simiane la Rot 83.48 339⇑*iP* P 03 34 27.3 +0.7
comp=Z,119nm,1.2s,mb5.5
SMRF Simiane la Rot 83.48 339⇑*iP* P 03 34 27.3 +0.7
comp=Z,119nm,1.2s,mb5.8
VILF Villemus 83.56 338 *eP* P 03 34 27.2 +0.2
FRF La Foret Royal 83.61 338⇑*iP* P 03 34 27.0 -0.3
comp=Z,123nm,1.2s,mb5.6
FRF La Foret Royal 83.61 338⇑*iP* P 03 34 27.0 -0.3
comp=Z,61nm,1.2s,mb5.6
FRF La Foret Royal 83.61 338⇑*iP* P 03 34 27.0 -0.3
FRF pmax pmax
comp=Z,61nm,1.2s,mb5.6
LFF La Frestale 83.62 342 *eP* P 03 34 27.6 +0.3
comp=Z,64nm,0.9s,mb5.4
LFF La Frestale 83.62 342 *eP* P 03 34 27.6 +0.3
comp=Z,32nm,0.9s,mb5.5
LFF La Frestale 83.62 342 *eP* P 03 34 27.6 +0.3
LFF pmax pmax
comp=Z,32nm,0.9s,mb5.5
SELA Sela 83.65 325 *eP* P 03 34 28.3 +0.7
TAVF Tavernes 83.70 338 *eP* P 03 34 27.8 +0.1
PRAF Pradon 83.74 339 *eP* P 03 34 28.3 +0.4
LASF Ste Croix 83.78 340⇑*iP* P 03 34 28.7 +0.6
comp=Z,64nm,1.3s,mb5.3
LMR La Mourre 83.86 338⇑*iP* P 03 34 28.5 0.0
comp=Z,200nm,1.1s,mb5.9
LMR La Mourre 83.86 338⇑*iP* P 03 34 28.5 0.0
comp=Z,100nm,1.1s,mb5.9
LMR La Mourre 83.86 338⇑*iP* P 03 34 28.5 0.0
LMR pmax pmax
comp=Z,100nm,1.1s,mb5.9
TREF Trevaresse 83.86 339 *eP* P 03 34 29.0 +0.5
PUYF Puyloubier 83.87 338 *eP* P 03 34 28.8 +0.2
PGF Pioggiola 83.95 336⇑*iP* P 03 34 28.8 -0.2
comp=Z,123nm,0.9s,mb5.7
PGF Pioggiola 83.95 336⇑*iP* P 03 34 28.8 -0.2
comp=Z,62nm,0.9s,mb5.7
PGF Pioggiola 83.95 336⇑*iP* P 03 34 28.8 -0.2
PGF pmax pmax
comp=Z,61nm,0.9s,mb5.7
RBK Rabkut 84.04 290 P P 03 34 30.1 +0.3
SNR=8.2
RBK Rabkut 84.04 290 P P 03 34 30.1 +0.3
SNR=8.2
GELF Grande-Etoile 84.07 339 *eP* P 03 34 29.6 0.0
BERF Bertagne 84.08 338 *eP* P 03 34 29.0 -0.7
CORF Corte 84.14 336 *eP* P 03 34 30.1 +0.1
TIP Timpagrande 84.68 329⇑*iP* P 03 34 32.5 -0.2
comp=Z,86nm,1.1s,mb5.8
MTLF Montolieu 84.85 341 *eP* P 03 34 33.4 -0.1
comp=Z,31nm,1.0s,mb5.1
MTLF Montolieu 84.85 341 *eP* P 03 34 33.4 -0.1
comp=Z,16nm,1.0s,mb5.1
MTLF Montolieu 84.85 341 *eP* P 03 34 33.4 -0.1
MTLF pmax pmax
comp=Z,16nm,1.0s,mb5.1
LAST Lasithi 84.94 321 *eP* P 03 34 33.7 -0.5
EIL Elat 85.26 311 LR LR 04 16 23.0
comp=Z,142nm,19.8s,MS4.4,baz=95,slow=38
SIVA Sivas 85.34 321 *eP* P 03 34 35.2 -1.0
KARN Karanos 85.37 322 *eP* P 03 34 35.4 -0.9
MLS Moulis 85.45 341 *eP* P 03 34 36.4 -0.2
EPF Esparros 85.54 342⇑*iP* P 03 34 36.7 -0.3
comp=Z,20nm,0.8s,mb5.1
EPF Esparros 85.54 342⇑*iP* P 03 34 36.7 -0.3
comp=Z,9.9nm,0.8s,mb5.1
EPF Esparros 85.54 342⇑*iP* P 03 34 36.7 -0.3
EPF pmax pmax
comp=Z,10.0nm,0.8s,mb5.1
EJON La Jonquera 85.55 340 P P 03 34 35.8 -1.3
comp=Z,14nm,0.8s,mb5.2
RESF Ens 85.75 342 *eP* P 03 34 38.4 +0.3
SJPF Ste Jean 85.77 343⇑*iP* P 03 34 38.5 +0.4
comp=Z,24nm,1.1s,mb5.0
SJPF Ste Jean 85.77 343⇑*iP* P 03 34 38.5 +0.4
comp=Z,12nm,1.1s,mb5.0
SJPF Ste Jean 85.77 343⇑*iP* P 03 34 38.5 +0.4
SJPF pmax pmax
comp=Z,12nm,1.1s,mb5.0
ELIZ Elizondo 85.77 343 P P 03 34 38.2 0.0
comp=Z,5.4nm,0.7s,mb4.9
ELIZ Elizondo 85.77 343 P P 03 34 38.2 0.0
ELIZ pmax pmax
comp=Z,5.0nm,0.7s,mb4.8
ETSF Etsaut 85.84 343 *eP* P 03 34 38.1 -0.4
comp=Z,14nm,0.8s,mb5.0
ETSF Etsaut 85.84 343 *eP* P 03 34 38.1 -0.4
comp=Z,6.9nm,0.8s,mb4.9
ETSF Etsaut 85.84 343 *eP* P 03 34 38.1 -0.4
ETSF pmax pmax
comp=Z,7.0nm,0.8s,mb4.9
EBIE Bielsa 85.91 342 P P 03 34 38.9 0.0
comp=Z,16nm,0.8s,mb5.3
ELAN Lanestosa 86.05 345 P P 03 34 39.1 -0.4
comp=Z,36nm,1.0s,mb5.6
EARI Arriondas 86.28 346 P P 03 34 40.5 -0.2
comp=Z,17nm,0.9s,mb5.3
ECRI Cripan 86.49 344 P P 03 34 40.1 -1.6
comp=Z,3.7nm,0.7s,mb4.7
ECRI Cripan 86.49 344 P P 03 34 40.1 -1.6
ECRI pmax pmax
comp=Z,4.0nm,0.7s,mb4.8
EPON Pontenova 86.55 347 P P 03 34 39.3 -2.7
comp=Z,19nm,0.9s,mb5.3
VSL Villasalto 86.68 334⇑*iP* P 03 34 42.8 +0.1
comp=Z,77nm,1.1s,mb5.8
ESAC San Caprasio 86.96 342 P P 03 34 43.8 -0.3
comp=Z,4.0nm,0.4s,mb5.0
EPOB Poblet 86.99 341 P P 03 34 42.9 -1.3
comp=Z,18nm,1.0s,mb5.3
KLBR Kellerberrin 87.21 211 *eP* P 03 34 44.5 -0.6
comp=Z,33nm,0.7s,mb5.7
TBI Tubuai 87.31 131 *e*LR LR 04 01 53.5
comp=Z,300nm,31.5s,baz=326
PBRG Braganca 87.98 347 *eP* P 03 34 47.9 -1.0
comp=Z,10nm,1.1s,mb5.0
ETOS Mallorca 88.12 339 P P 03 34 50.5 +0.9
comp=Z,16nm,0.8s,mb5.3
ETOR Torete 88.14 343 P P 03 34 48.0 -1.7
comp=Z,9.4nm,0.9s,mb5.0
ETOR Torete 88.14 343 P P 03 34 48.0 -1.7
ETOR pmax pmax
comp=Z,9.0nm,0.9s,mb5.0
EMOS Mosqueruela 88.27 342 P P 03 34 48.7 -1.6
comp=Z,18nm,1.1s,mb5.2
PVRL Vila Real 88.64 347 *eP* P 03 34 51.3 -0.8
comp=Z,33nm,1.1s,mb5.6
MVO Moncorvo 88.65 347 *eP* P 03 34 50.9 -1.2
comp=Z,15nm,1.1s,mb5.2
GUD Guadarrama 88.69 345 P P 03 34 50.5 -1.9
comp=Z,6.0nm,1.2s,mb4.8
GUD Guadarrama 88.69 345 P P 03 34 50.5 -1.8
GUD pmax pmax
comp=Z,6.0nm,1.2s,mb4.8
PTO Porto 88.90 348 *eP* P 03 34 52.3 -1.0
PVIS Viseu 89.22 347 *eP* P 03 34 53.9 -0.9
comp=Z,10nm,0.9s,mb5.2
MTE Manteigas 89.47 347 *eP* P 03 34 54.8 -1.2
comp=Z,20nm,1.1s,mb5.3
ESDC Sonseca Array 89.60 344 P P 03 34 54.9 -1.7
comp=Z,11nm,0.8s,mb5.2
ESDC Sonseca Array 89.60 344 P P 03 34 55.9 -0.7
comp=Z,8.5nm,0.8s,mb5.1,baz=7.4,slow=4.2,SNR=68
ESDC LR LR 04 20 07.5
comp=Z,147nm,20.3s,MS4.4,baz=55,slow=39
ESLA Sonseca Array 89.60 344⇑*iP* P 03 34 55.5 -1.1
comp=Z,2.7nm,0.9s,mb4.6
PAB San Pablo 89.80 345⇑*iP* P 03 34 56.2 -1.3
comp=Z,9.6nm,0.9s,mb5.1
PAB San Pablo 89.80 345 P P 03 34 56.8 -0.7
PAB pmax pmax
comp=Z,10.0nm,0.9s,mb5.2
PCBR Castelo Branco 90.01 347 *eP* P 03 34 57.0 -1.5
comp=Z,9.1nm,1.1s,mb5.0
ETOB Tobarra 90.14 342 P P 03 34 58.4 -0.7
comp=Z,36nm,1.4s,mb5.5
KEST Kesra 90.19 333 P P 03 34 59.1 -0.3
comp=Z,6.2nm,0.7s,mb5.0,baz=312,slow=2.4,SNR=44
KEST LR LR 04 19 13.1
comp=Z,124nm,21.7s,MS4.3,baz=246,slow=38
EVIA Vianos 90.34 343 P P 03 34 59.4 -0.6
comp=Z,3.7nm,0.6s,mb4.9
EVIA Vianos 90.34 343 P P 03 34 59.4 -0.6
EVIA pmax pmax
comp=Z,4.0nm,0.6s,mb4.9
PESTR Estremoz 90.98 347 *eP* P 03 35 02.0 -1.0
comp=Z,7.6nm,1.2s,mb4.9

EBAD Badajoz 91.00 346 P **P 03 35 01.6 -1.6**
comp=Z,10.0nm,1.0s,mb5.1
EBAN Banos Encina 91.04 344 P **P 03 35 02.7 -0.6**
comp=Z,10nm,0.8s,mb5.2
EBAN Banos Encina 91.04 344 P **P 03 35 02.7 -0.6**
EBAN pmax pmax
comp=Z,10.0nm,0.8s,mb5.2
EADA Adamuz 91.18 344 P **P 03 35 02.8 -1.2**
comp=Z,2.9nm,0.5s,mb4.9
EQES Quesada 91.25 343 P **P 03 35 01.2 -3.1**
comp=Z,29nm,1.6s,mb5.4
ECAB El Cabril 91.41 345 P **P 03 35 03.0 -2.0**
comp=Z,10nm,0.5s,mb5.4
PBAR Barrancos 91.58 346 *eP* **P 03 35 04.9 -0.9**
comp=Z,15nm,1.3s,mb5.2
ELUQ Luque 91.71 344 P **P 03 35 05.1 -1.3**
comp=Z,7.3nm,1.0s,mb5.0
ELUQ Luque 91.71 344 P **P 03 35 05.1 -1.3**
ELUQ pmax pmax
comp=Z,7.0nm,1.0s,mb5.0
PBEJ Beja 91.85 347 *eP* **P 03 35 05.9 -1.2**
comp=Z,3.4nm,1.1s,mb4.6
ECOG Cogollos-Vega 91.86 343 P **P 03 35 05.7 -1.5**
comp=Z,4.6nm,0.9s,mb4.8
ECOG Cogollos-Vega 91.86 343 P **P 03 35 05.7 -1.4**
ECOG pmax pmax
comp=Z,5.0nm,0.9s,mb4.8
EMIN Mina Concepcio 91.92 346 P **P 03 35 05.6 -1.8**
comp=Z,16nm,1.4s,mb5.2
ELOJ Sierra Loja 92.09 344 P **P 03 35 06.6 -1.6**
comp=Z,3.7nm,0.8s,mb4.8
ELOJ Sierra Loja 92.09 344 P **P 03 35 06.6 -1.6**
ELOJ pmax pmax
comp=Z,4.0nm,0.8s,mb4.8
ERON Agron 92.15 344 P **P 03 35 07.2 -1.3**
comp=Z,0.8nm,0.4s,mb4.4
EGRO El Granado 92.27 346 P **P 03 35 07.8 -1.2**
comp=Z,22nm,1.4s,mb5.3
EGUA Guajares 92.29 343 P **P 03 35 06.7 -2.5**
comp=Z,1.4nm,1.0s,mb4.2
EGUA Guajares 92.29 343 P **P 03 35 06.7 -2.4**
EGUA pmax pmax
comp=Z,1.0nm,1.0s,mb4.1
PVAQ Vaqueiros 92.44 347 *eP* **P 03 35 08.8 -1.0**
comp=Z,10nm,1.3s,mb5.0
ESPR Espera 92.66 345 P **P 03 35 09.1 -1.8**
comp=Z,6.5nm,0.9s,mb5.1
EMIJ Mijas 92.77 344 P **P 03 35 09.8 -1.5**
comp=Z,10nm,0.8s,mb5.3
EJIF Jimena Fronter 93.00 345 P **P 03 35 11.6 -0.8**
comp=Z,14nm,0.7s,mb5.5
EJIF Jimena Fronter 93.00 345 P **P 03 35 11.6 -0.8**
EJIF pmax pmax
comp=Z,15nm,0.7s,mb5.5
TOA0 Torodi Ar. Sit 113.69 332 *e*PKP PKiKP 03 40 36.9 -0.7
TORD Torodi Ar. Bea 113.69 332 Pdif Pdif 03 36 44.9 -0.2
TORD PP PP 03 41 26.1 -3.3
TORD Torodi Ar. Bea 113.69 332 Pdiff Pdif 03 36 44.9 -0.2
comp=Z,0.4nm,0.8s,baz=23,slow=4.7,SNR=2.5
TORD PP PP 03 41 26.1 -3.3
comp=Z,1.0nm,0.8s,baz=14,slow=5.5,SNR=5.0
SBA Scott Base 127.03 177 *e*PKPdf PKPdf 03 41 01.5 +0.2
SBA Scott Base 127.03 177 PKIKP PKPdf 03 41 01.9 +0.6
PLCA Paso Flores 146.81 93 *e*PKPbc PKPbc 03 41 39.8 -0.7
PLCA Paso Flores 146.81 93 PKP2 PKPab 03 41 39.8 -2.1
PLCA pmax pmax
comp=Z,13nm,1.0s
PLCA Paso Flores 146.81 93 PKPbc PKPbc 03 41 39.8 -0.7
comp=Z,13nm,1.0s,baz=269,slow=3.2,SNR=18
TRQA Tornquist 150.98 82 *e*PKPbc PKPbc 03 41 49.7 -1.5
SNAA Sanae 155.40 196 PKP2 PKPab 03 42 16.4 -0.2
SNAA pmax pmax
comp=Z,6.0nm,1.0s
SNAA Sanae 155.40 196 PKPab PKPab 03 42 16.4 -0.2
comp=Z,5.6nm,1.0s,baz=77,slow=2.3,SNR=14
VNA2 Neumayer--Watz 156.82 194 *e*PKPdf PKPdf 03 42 02.2 +10
VNA2 *e* 03 42 20.1
VNA2 *e* 03 42 22.8
VNA2 *e* 03 42 28.4
VNA2 *e* 03 42 38.5
VNA3 Neumayer Olymp 156.88 192 *e*PKPdf PKPdf 03 42 02.6 +10
VNA3 *e* 03 42 20.2
VNA3 *e* 03 42 22.7
VNA3 *e* 03 42 28.9
VNA3 *e* 03 42 38.7

IDC ***08*** *03:31:25.5±1.6, 701S×15593E, h0km, mb4.0/5, mb1 4.1/5, mb1mx3.8/14, mbtmp4.0/5, Error ellipse: s-maj=55.7km s-min=29.6km az=111.0*
NEIC ***08*** *03:31:26.5±0.7, 721S×15602E, h10km, mb4.2/2, Error ellipse: s-maj=16.6km s-min=15.6km az=173.0*
ISCJB ***08*** *03:31:28.2±0.8, 73S±0.1×156.1E±0.1, h33km, mb3.9/6, Error ellipse: s-maj=18.8km s-min=16.3km az=13.4*
ISC 08 03:31:30.0±0.8, 73S±0.1×1561E±0.1, h35km, n11, σ0°92/9, mb3.9/6, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.38**	**120**	Pn	**Pn**	**03 32 34.2**	**+0.2**
CTAO	**Charters Tower**	**15.93**	**216**	*e*P	**Pn**	**03 35 08.9**	**-2.8**
	22nm,1.2s						
WRAB	**Tennant Creek**	**24.57**	**237**	*e*P	**P**	**03 36 47.2**	**+0.3**
	4.5nm,0.9s,mb4.0						
WRA	**Warramunga Arr**	**24.58**	**237**	P	**P**	**03 36 47.9**	**+0.9**
	0.6nm,0.3s,mb3.6,baz=59,slow=9.6,SNR=4.7						
ASAR	**Alice Springs**	**26.83**	**230**	P	**P**	**03 37 08.0**	**+0.6**
	0.7nm,0.3s,mb3.6,baz=60,slow=9.9,SNR=11						
SONM	**Songino Array**	**70.15**	**327**	P	**P**	**03 42 38.8**	**-0.2**
	1.1nm,0.9s,mb3.8,baz=141,slow=6.6,SNR=5.9						
MK31	**Makanchi Array**	**84.32**	**318**	*e*P	**P**	**03 43 59.0**	**+0.5**
MKAR	**Makanchi Array**	**84.32**	**318**	P	**P**	**03 43 58.6**	**+0.2**
	1.8nm,0.6s,mb4.3,baz=99,slow=6.0,SNR=8.6						
ZALV	**Zalesovo Beam**	**85.01**	**326**	P	**P**	**03 44 00.6**	**-1.2**
	0.7nm,0.4s,mb4.1,baz=123,slow=6.1,SNR=3.8						
BDFB	**Brasilia**	**147.01**	**134**	PKPbc	PKPbc	03 51 12.2	+2.1
	2.1nm,0.9s,baz=208,slow=13,SNR=3.7						
TORD	**Torodi Ar. Bea**	**154.15**	**285**	PKPbc	PKPbc	03 51 26.7	-0.6
	1.2nm,0.8s,baz=48,slow=2.5,SNR=6.3						

WEL 08 03:36:38.7±0.5, 3677S×17749E, h200km±5km, ML3.6/12, Error ellipse: s-maj=7.4km s-min=7.0km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.03**	**141**	PN	Pn	03 37 09.2	+0.6
MXZ				SN	Sn	03 37 30.9	-1.0
PUZ	**Puketiti**	**1.44**	**155**	PN	Pn	03 37 11.7	0.0
PUZ				SN	Sn	03 37 37.0	-0.6
URZ	**Urewera**	**1.51**	**191**	PN	Pn	03 37 12.5	0.0
URZ				SN	Sn	03 37 39.1	+0.1
MWZ	**Matawai**	**1.56**	**179**	PN	Pn	03 37 13.1	+0.2
MWZ				SN	Sn	03 37 39.9	+0.2
KNZ	**Kokohu**	**2.25**	**176**	PN	Pn	03 37 19.8	+0.1
BKZ	**Black Stump Fm**	**2.52**	**198**	PN	Pn	03 37 22.5	-0.2
WNVZ	**Wahianoa**	**2.96**	**210**	PN	Pn	03 37 27.7	0.0
WPHZ	**Waipukurau**	**3.39**	**194**	PN	Pn	03 37 32.0	-0.8
TSZ	**Takapari Road**	**3.49**	**200**	PN	Pn	03 37 33.1	-1.1
BFZ	**Birch Farm**	**4.02**	**194**	PN	Pn	03 37 39.2	-1.5
MRZ	**Mangatainoka R**	**4.16**	**200**	PN	Pn	03 37 40.4	-1.9
TIWZ	**Tintock**	**4.19**	**197**	PN	Pn	03 37 41.2	-1.6
KIW	**Kapiti Island**	**4.55**	**205**	PN	Pn	03 37 45.0	-2.3
TCW	**Tory Channel**	**5.09**	**208**	PN	Pn	03 37 51.4	-2.8
TUWZ	**Tuamarina**	**5.41**	**210**	PN	Pn	03 37 55.2	-3.0

BJI ***08*** *03:37:57.1, 515N×9242E, h30km, mB5.0, mb4.4, Ms4.3, Msz4.3*
IDC ***08*** *03:37:58.8±0.8, 564N×9313E, h0km, mb4.1/12, mb1 4.3/13, mb1mx4.1/21, mbtmp4.1/13, ML4.0/1, Error ellipse: s-maj=33.9km s-min=15.3km az=48.0*
ISCJB ***08*** *03:38:01.7±2.5, 561N±008×9323E±006, h33km±18km, mb4.3/28, Error ellipse: s-maj=14.8km s-min=7.5km az=36.8*
MOS ***08*** *03:38:01.5±0.9, 558N×9311E, h33km, mb4.5/6, Error ellipse: s-maj=14.7km s-min=8.8km az=109.9*
NEIC ***08*** *03:38:03.4±0.3, 566N×9321E, h30km, mb4.2/11, Error ellipse: s-maj=10.0km s-min=5.2km az=217.0*
ISC 08 03:38:04.7±1.1, 564N±008×9323E±007, h40km±10km, n55, σ0°82/56, mb4.3/28, 4C-2D, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**6.33**	**116**	Pn	**Pn**	**03 39 36.2**	**+0.6**
	3.5nm,0.3s,baz=318,slow=15,SNR=16						
PSI				Sn	**Sn**	**03 40 45.5**	**-1.3**
	1.7nm,0.3s,baz=357,slow=19,SNR=2.5						
KULM	**Kulim**	**7.39**	**92**	*e*Pn	**Pn**	**03 39 49.9**	**-0.2**
PALK	**Pallekele**	**12.56**	**278**	*e*Pn	**Pn**	**03 41 00.7**	**-0.2**
CHTO	**Chiang Mai**	**14.23**	**23**	*e*P	**Pn**	**03 41 26.3**	**+2.5**
	11nm,0.9s						
CHTO	**Chiang Mai**	**14.23**	**23**	*e*P	**Pn**	**03 41 26.3**	**+2.5**
CHTO				pmax	pmax		
	comp=Z,11nm,0.9s						
LSA	**Lhasa**	**24.02**	**356**	P	**P**	**03 43 15.5**	**-0.3**
UCH	**Uchtor**	**40.06**	**338**	*e*P	**P**	**03 45 36.8**	**+0.8**
	comp=Z,6.1nm,1.0s,mb4.3						
TKM2	**Tokmak 2**	**40.28**	**340**	*e*P	**P**	**03 45 38.0**	**+0.2**
	comp=Z,2.1nm,0.6s,mb4.0						
TKM2	**Tokmak 2**	**40.28**	**340**	*e*P	**P**	**03 45 38.1**	**+0.2**
TKM2				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.0						
AML	**Almayashu**	**40.28**	**337**	*e*P	**P**	**03 45 38.6**	**+0.7**
	comp=Z,8.4nm,0.7s,mb4.6						
EKS2	**Erkin-Say**	**40.71**	**338**	*e*P	**P**	**03 45 41.9**	**+0.5**
	comp=Z,3.1nm,0.7s,mb4.0						
MK31	**Makanchi Array**	**42.08**	**349**	*e*P	**P**	**03 45 51.9**	**-0.7**
MKAR	**Makanchi Array**	**42.08**	**349**⇑	*e*P	**P**	**03 45 52.2**	**-0.4**
MKAR	**Makanchi Array**	**42.08**	**349**	P	**P**	**03 45 52.1**	**-0.5**
	comp=Z,2.4nm,0.6s,mb4.0,baz=167,slow=8.3,SNR=13						
SONM	**Songino Array**	**43.53**	**13**	P	**P**	**03 46 04.5**	**+0.2**
	comp=Z,2.9nm,0.8s,mb4.1,baz=194,slow=8.0,SNR=17						
ULN	**Ulaanbaatar**	**43.71**	**13**	*e*P	**P**	**03 46 05.0**	**-0.7**
	comp=Z,2.0nm,0.7s,mb4.0						
ULN	**Ulaanbaatar**	**43.71**	**13**⇑	*e*P	**P**	**03 46 05.7**	**-0.1**
ZAK	**Zakamensk**	**45.39**	**9**	*e*P	**P**	**03 46 18.0**	**-1.1**
KURK	**Kurchatov**	**46.57**	**347**	*e*P	**P**	**03 46 28.0**	**-0.4**
	comp=Z,2.2nm,0.9s,mb4.1						
KURK	**Kurchatov**	**46.57**	**347**⇑	*e*P	**P**	**03 46 29.0**	**+0.6**
WRA	**Warramunga Arr**	**47.75**	**123**	P	**P**	**03 46 38.5**	**+0.4**
	comp=Z,6.2nm,0.6s,mb4.8,baz=302,slow=9.0,SNR=23						
WRAB	**Tennant Creek**	**47.75**	**123**	*e*P	**P**	**03 46 38.2**	**+0.1**
	comp=Z,11nm,0.9s,mb4.9						
WRAB	**Tennant Creek**	**47.75**	**123**	*e*P	**P**	**03 46 38.2**	**+0.1**
WRAB				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.9						
WB2	**Warramunga Arr**	**47.76**	**123**	*e*P	**P**	**03 46 38.5**	**+0.3**
ZAL	**Zalesovo**	**48.64**	**353**	P	**P**	**03 46 44.8**	**+0.3**
ZALV	**Zalesovo Beam**	**48.65**	**353**	P	**P**	**03 46 44.8**	**+0.3**
	comp=Z,5.0nm,0.6s,mb4.7,baz=168,slow=7.2,SNR=21						
ASAR	**Alice Springs**	**49.22**	**128**	P	**P**	**03 46 49.9**	**+0.5**
	comp=Z,2.1nm,0.7s,mb4.3,baz=299,slow=8.1,SNR=22						
NVS	**Novosibirsk**	**49.72**	**352**	*e*P	**P**	**03 46 50.8**	**-1.9**
MJAR	**Matsushiro Arr**	**51.33**	**47**	P	**P**	**03 47 06.0**	**+0.8**
	comp=Z,0.7nm,0.6s,mb3.8,baz=238,slow=6.4,SNR=4.3						
KMBO	**Kilima Mbogo**	**56.30**	**265**	*e*P	**P**	**03 47 42.3**	**+0.3**
SVE	**Sverdlovsk**	**57.15**	**339**	*e*P	**P**	**03 47 47.1**	**-0.1**
ARU	**Arti**	**57.60**	**338**	*d i*P	**P**	**03 47 49.6**	**-0.8**
ARU				*e*		03 48 39.3	
ARU				*e*S	**S**	**03 55 46.6**	**+1.1**
ARU				*e*SS	SS	03 59 29.7	-6.3
ARU				pmax	pmax		
	comp=Z,8.0nm,1.2s,mb4.6						
KIV	**Kislovodsk**	**58.39**	**319**	*e*P	**P**	**03 47 55.4**	**-0.7**
	comp=Z,5.2nm,0.7s,mb4.7						
KIV	**Kislovodsk**	**58.39**	**319**	*e*P	**P**	**03 47 55.8**	**-0.3**
KIV				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.6						
MALT	**Malatya**	**59.24**	**312**	*e*P	**P**	**03 48 02.6**	**+0.5**
	comp=Z,1.1nm,0.5s,mb4.1						
MALT	**Malatya**	**59.24**	**312**	*e*P	**P**	**03 48 02.6**	**+0.4**
MALT				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.1						
STKA	**Stephens Creek**	**59.25**	**132**	*e*P	**P**	**03 48 02.8**	**+0.5**
STKA	**Stephens Creek**	**59.25**	**132**	P	**P**	**03 48 02.4**	**+0.1**
	comp=Z,1.6nm,0.8s,mb4.1,baz=324,slow=8.7,SNR=3.7						
ANN	**Anapa**	**62.18**	**318**	*e*P	**P**	**03 48 16.6**	**-5.4**
ANN				pmax	pmax		
	comp=Z,72nm,1.2s,mb5.7						
OBN	**Obninsk**	**66.79**	**329**⇑	*e*P	**P**	**03 48 50.4**	**-1.6**
OBN				*e**PP	pP	03 49 27.7	+24
OBN				*e*		03 51 17.3	
OBN				*e*S	S	03 57 33.8	-7.5
OBN				pmax	pmax		
	comp=Z,26nm,1.7s,mb5.0						
AKASG	**Malin Array Be**	**69.35**	**322**	P	**P**	**03 49 06.6**	**-1.6**
AKASG	**Malin Array Be**	**69.35**	**322**	P	**P**	**03 49 06.6**	**-1.6**
	comp=Z,1.0nm,0.6s,mb3.9,baz=93,slow=5.2,SNR=7.4						
TIXI	**Tiksi**	**69.59**	**11**	*e*P	**P**	**03 49 08.2**	**-1.1**
	comp=Z,1.6nm,0.6s,mb4.1						
TIXI	**Tiksi**	**69.59**	**11**	*e*P	**P**	**03 49 08.2**	**-1.0**
TIXI				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
FINES	**FINESS Array B**	**74.27**	**333**	P	**P**	**03 49 36.9**	**-0.5**
	comp=Z,1.7nm,0.7s,mb4.1,baz=92,slow=9.5,SNR=7.5						
MORC	**Moravsky Berou**	**76.48**	**320**	*e*P	**P**	**03 49 49.8**	**-0.7**
	comp=Z,1.1nm,0.7s,mb3.9						
MORC	**Moravsky Berou**	**76.48**	**320**	*e*P	**P**	**03 49 49.8**	**-0.6**
MORC				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb3.9						
ARCES	**ARCESS Array B**	**77.06**	**340**	P	**P**	**03 49 53.5**	**+0.2**
ARCES	**ARCESS Array B**	**77.06**	**340**	P	**P**	**03 49 53.5**	**+0.2**
	comp=Z,3.0nm,0.8s,mb4.3,baz=100,slow=6.2,SNR=11						
BILL	**Bilibino**	**78.49**	**22**⇓	*e*P	**P**	**03 50 02.5**	**+1.3**
BILL				*e*		03 52 55.8	
BILL				*e*S	S	03 59 54.7	+0.4
BILL				pmax	pmax		
	comp=Z,2.0nm,1.1s,mb4.0						
GERES	**GERESS Array B**	**78.89**	**319**	P	**P**	**03 50 04.0**	**+0.1**
	comp=Z,1.7nm,0.7s,mb4.1,baz=87,slow=5.6,SNR=20						
CLL	**Collm**	**79.52**	**321**	*e*P	**P**	**03 49 59.0**	**-8.2**
TORD	**Torodi Ar. Bea**	**90.23**	**283**	P	**P**	**03 51 03.0**	**+1.1**
	comp=Z,1.3nm,1.2s,mb4.1,baz=138,slow=3.8,SNR=4.1						
ESDC	**Sonseca Array**	**91.96**	**310**	P	**P**	**03 51 10.3**	**+0.9**
	comp=Z,0.2nm,0.6s,mb3.6,baz=66,slow=5.0,SNR=4.3						
TRQA	**Tornquist**	**140.64**	**211**	*e*PKPdf	PKPdf	03 57 28.7	-1.6

BJI ***08*** *03:42:47.9, 722S×15586E, h3km, mB4.9, mb4.9, Ms4.9, Msz4.3*
NEIC ***08*** *03:42:49.2±0.2, 718S×15618E, h10km, mb4.8/19, Error ellipse: s-maj=9.4km s-min=5.8km az=116.0*
ISCJB ***08*** *03:42:52.8±2.0, 720S±006×15603E±007, h40km±18km, mb4.7/35, MS3.8/3, Error ellipse: s-maj=13.5km s-min=9.4km az=33.1*
MOS ***08*** *03:42:52.3±0.8, 714S×15598E, h33km, mb4.8/5, Error ellipse: s-maj=11.8km s-min=10.3km az=89.3*
IDC ***08*** *03:42:54.1±0.7, 721S×15605E, h40km±5km, mb4.4/16, mb1 4.4/17, mb1mx4.4/20, mbtmp4.4/17, ML4.4/1, MS3.6/3, Ms1 3.6/3, ms1mx3.3/16, Error ellipse: s-maj=17.8km s-min=12.8km az=95.0*
ISC 08 03:42:54.7±1.7, 721S±007×15605E±008, h43km±16km, h40km±3.1km; pP-P, n132, σ0°78/75, mb4.7/35, MS3.8/3, 9C-5D, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.44**	**120**	Pn	**Pn**	**03 44 00.3**	**+0.7**
HNR				*e*Sg	Sn	03 45 15.5	+25
HNR	**Honiara**	**4.44**	**120**	Pn	**Pn**	**03 44 00.2**	**+0.6**
	18nm,0.3s,baz=259,slow=1.4,SNR=18						
HNR				Sn	**Sn**	**03 44 58.4**	**+8.3**
	33nm,0.3s,baz=107,slow=11,SNR=6.5						
HNR				LR	LR	03 45 40.7	
	comp=Z,817nm,18.1s,baz=360,slow=38						
CTAO	**Charters Tower**	**15.94**	**216**	*e*P	**Pn**	**03 46 34.7**	**-1.4**
	16nm,1.1s						
CTAO	**Charters Tower**	**15.94**	**216**	*e*P	**Pn**	**03 46 34.7**	**-1.4**
CTAO				pmax	pmax		
	comp=Z,17nm,1.1s						
KAKA	**Kakadu**	**23.88**	**255**	*e*P	**P**	**03 48 05.2**	**+0.6**
	comp=Z,45nm,0.5s,mb5.2						
WRAB	**Tennant Creek**	**24.55**	**237**	*e*P	**P**	**03 48 11.1**	**+0.4**
	comp=Z,27nm,0.7s,mb4.9						
WRAB	**Tennant Creek**	**24.55**	**237**⇑	*e*P	**P**	**03 48 11.5**	**+0.8**
WB2	**Warramunga Arr**	**24.56**	**237**	*e*P	**P**	**03 48 11.6**	**+0.9**
WRA	**Warramunga Arr**	**24.57**	**237**	P	**P**	**03 48 11.7**	**+0.9**
	comp=Z,36nm,0.9s,mb4.9,baz=61,slow=9.6,SNR=57						
WRA				pP		03 48 20.2	
	comp=Z,19nm,0.8s,baz=62,slow=9.1,SNR=3.5						
WRA				PcP	PcP	03 51 48.1	-0.2
	comp=Z,0.8nm,0.4s,baz=70,slow=2.6,SNR=4.0						
ASAR	**Alice Springs**	**26.82**	**230**	P	**P**	**03 48 31.2**	**0.0**
	comp=Z,2.2nm,0.5s,mb4.0,baz=58,slow=9.7,SNR=26						
ASAR				pP	pP	03 48 41.0	-1.7
	comp=Z,2.5nm,0.3s,baz=59,slow=9.6,SNR=12						
ASAR				PcP	PcP	03 51 53.1	-0.2
	comp=Z,1.3nm,0.5s,baz=59,slow=2.4,SNR=6.8						
STKA	**Stephens Creek**	**28.00**	**207**	*e*P	**P**	**03 48 41.6**	**-0.1**
	comp=Z,3.9nm,0.6s,mb4.2						
STKA	**Stephens Creek**	**28.00**	**207**	P	**P**	**03 48 41.9**	**+0.2**
	comp=Z,3.4nm,0.8s,mb4.0,baz=29,slow=11,SNR=6.9						
STKA				PcP	PcP	03 51 55.1	-0.9
	comp=Z,2.0nm,0.8s,baz=37,slow=4.7,SNR=3.5						
STKA				LR	LR	03 59 53.8	
	comp=Z,244nm,18.2s,MS3.8,baz=27,slow=36						
CNB	**Canberra Magne**	**28.64**	**191**	*e*P	**P**	**03 48 48.2**	**+0.9**
	comp=Z,15nm,0.7s,mb4.8						
FITZ	**Fitzroy Crossi**	**31.53**	**247**	*e*P	**P**	**03 49 12.8**	**-0.3**
	comp=Z,29nm,0.6s,mb5.3						
FORT	**Forrest**	**35.16**	**225**	*e*P	**P**	**03 49 44.2**	**-0.4**
	comp=Z,9.2nm,0.6s,mb4.9						
FORT				*e*	pP	03 49 55.2	-1.1
MBWA	**Marble Bar**	**37.73**	**245**	*e*P	**P**	**03 50 06.0**	**-0.6**
	comp=Z,12nm,0.8s,mb4.7						
RPZ	**Rata Peaks**	**38.67**	**163**	P	**P**	**03 50 14.6**	**+0.4**
	comp=Z,16nm,0.9s,mb4.7,baz=356,slow=5.8,SNR=5.6						
KKM	**Kota Kinabalu**	**41.87**	**287**	*e*P	**P**	**03 50 40.0**	**-1.2**
KLBR	**Kellerberrin**	**43.15**	**231**	*e*P	**P**	**03 50 50.9**	**-0.5**
	comp=Z,27nm,0.5s,mb5.2						
KLBR				*e*	pP	03 51 04.7	+1.4
NWAO	**Narrogin (SRO)**	**44.14**	**229**	P	**P**	**03 50 59.0**	**-0.3**
	comp=Z,11nm,0.7s,mb4.7,baz=100,slow=6.1,SNR=4.6						
MUN	**Mundaring**	**44.51**	**231**	*e*P	**P**	**03 51 02.4**	**+0.1**
KSM	**Kuching**	**46.45**	**279**	*e*P	**P**	**03 51 17.3**	**-0.6**
MJAR	**Matsushiro Arr**	**46.63**	**340**	P	**P**	**03 51 18.5**	**-0.4**
	comp=Z,1.9nm,0.6s,mb4.2,baz=165,slow=8.3,SNR=10.0						
MAJO	**Matsushiro**	**46.63**	**340**	*e*P	**P**	**03 51 18.6**	**-0.3**
	comp=Z,5.2nm,0.7s,mb4.6						
MAJO	**Matsushiro**	**46.63**	**340**	*e*P	**P**	**03 51 18.6**	**-0.3**
MAJO				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.5						
JNU	**Nakatsue**	**46.70**	**331**	P	**P**	**03 51 19.9**	**+0.4**
	comp=Z,14nm,0.7s,mb5.0,baz=78,slow=12,SNR=19						
KSRS	**Korea Array**	**51.62**	**331**	P	**P**	**03 51 57.4**	**+0.3**
	comp=Z,3.8nm,0.7s,mb4.4,baz=148,slow=7.3,SNR=21						
KSRS				LR	LR	04 10 12.1	
	comp=Z,30nm,21.3s,MS3.3,baz=140,slow=32						
KULM	**Kulim**	**56.66**	**281**	*e*P	**P**	**03 52 34.7**	**+0.5**
KLR	**Kul'dur**	**60.09**	**342**	*e*P	**P**	**03 53 05.0**	**+7.5**
CHTO	**Chiang Mai**	**61.94**	**296**	*e*P	**P**	**03 53 10.9**	**+0.3**
	comp=Z,9.5nm,1.1s,mb4.8						
CHTO	**Chiang Mai**	**61.94**	**296**	*e*P	**P**	**03 53 10.9**	**+0.3**
CHTO				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.9						
CD2	**Chengdu**	**62.75**	**310**	*e*P	**P**	**03 53 17.4**	**+1.6**
CD2				XP	sP	03 53 25.2	-8.0
CD2				PP	PP	03 55 37.2	+2.8
CD2				S	**S**	**04 01 44.4**	**+2.5**
CD2				SS	SS	04 05 51.3	+3.8
CD2				AMB	AMB		
	comp=Z,20nm,0.8s,mb5.3						
CD2				AMB	AMB		
	comp=Z,40nm,5.8s						
CD2				LR	LR		
	comp=N,180nm,21.4s						
CD2				LR	LR		
	comp=Z,150nm,16.8s,MS4.2						
HIA	**Hailar**	**64.56**	**335**	*i* P	**P**	**03 53 28.8**	**+1.4**
GTA	**Gaotai**	**69.61**	**317**	*e*P	**P**	**03 54 01.2**	**+1.5**
GTA				AMB	AMB		
	comp=Z,4.0nm,1.1s,mb4.3						
ULN	**Ulaanbaatar**	**69.75**	**327**	*e*P	**P**	**03 54 01.0**	**+0.6**
	comp=Z,4.4nm,0.8s,mb4.4						
ULN	**Ulaanbaatar**	**69.75**	**327**	*c i*P	**P**	**03 54 01.3**	**+1.0**
SEY	**Seymchan**	**70.00**	**358**	*i* P	**P**	**03 54 01.4**	**-0.1**
SONM	**Songino Array**	**70.08**	**327**	P	**P**	**03 54 03.3**	**+0.9**
	comp=Z,5.5nm,0.8s,mb4.6,baz=138,slow=6.6,SNR=50						
ZAK	**Zakamensk**	**73.23**	**328**	*e*P	**P**	**03 54 21.2**	**-0.1**
ZAK				*e*	pP	03 54 31.8	-2.1
BILL	**Bilibino**	**75.42**	**4**	*e*P	**P**	**03 54 33.7**	**+0.1**
	comp=Z,2.4nm,0.4s,mb4.5						
BILL	**Bilibino**	**75.42**	**4**⇓	*e*P	**P**	**03 54 34.0**	**+0.4**
BILL				pmax	pmax		
	comp=Z,4.0nm,1.1s,mb4.3						
MCK	**McKinley**	**81.87**	**22**	*e*P	**P**	**03 55 08.4**	**-0.7**
	comp=Z,35nm,1.6s,mb5.0						
MCK	**McKinley**	**81.87**	**22**	*e*P	**P**	**03 55 08.5**	**-0.7**
MCK				pmax	pmax		
	comp=Z,35nm,1.6s,mb5.0						
QSPA	**South Pole Qui**	**82.77**	**180**	P	**P**	**03 55 13.8**	**+0.1**
	comp=Z,5.2nm,0.8s,mb4.6,baz=345,slow=1.1,SNR=39						
COLA	**College**	**82.90**	**21**	*e*P	**P**	**03 55 15.2**	**+0.6**
	comp=Z,3.3nm,0.8s,mb4.4						
COLA	**College**	**82.90**	**21**	*e*P	**P**	**03 55 15.2**	**+0.6**
COLA				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.4						
MK31	**Makanchi Array**	**84.26**	**318**	*e*P	**P**	**03 55 21.9**	**0.0**
MKAR	**Makanchi Array**	**84.26**	**318**⇑	*e*P	**P**	**03 55 22.1**	**+0.2**
MKAR	**Makanchi Array**	**84.26**	**318**	P	**P**	**03 55 21.5**	**-0

comp=Z,1.4nm,0.9s,baz=23,slow=2.5,SNR=3.6
LPAZ La Paz 130.44 118 PKP PKPdf 04 02 02.3 +0.6
comp=Z,1.8nm,0.8s,baz=319,slow=2.1,SNR=8.1
DAVOX Davos/Dischmat 131.07 330 PKP PKPdf 04 02 02.0 0.0
comp=Z,2.2nm,0.5s,baz=351,slow=8.9,SNR=13
DAVOS Davos 131.07 330 PKIKP PKPdf 04 02 02.0 0.0
TSUM Tsumeb 131.39 237 *e*PKPdf PKPdf 04 02 04.2 +0.8
HAU Haudompre 131.89 333 *e*PKIKP PKPdf 04 02 03.3 -0.2
comp=Z,4.7nm,0.7s
LPG La Plagne 133.53 330 *e*PKIKP PKPdf 04 02 06.3 -0.4
comp=Z,2.3nm,0.5s
SSF Saint Saulge 133.86 334 *e*PKIKP PKPdf 04 02 06.8 -0.5
comp=Z,1.5nm,0.6s
KEST Kesra 138.35 318 PKP PKPdf 04 02 17.2 +1.2
comp=Z,0.8nm,0.9s,baz=124,slow=7.3,SNR=4.1
ETSF Etsaut 138.92 334 *e*PKIKP PKPdf 04 02 16.3 -0.5
comp=Z,3.2nm,0.6s
GUD Guadarrama 142.31 335 P PKPdf 04 02 18.5 -4.5
ESDC Sonseca Array 143.03 334 P PKPdf 04 02 18.8 -5.5
EVIA Vianos 143.20 331 P PKPdf 04 02 21.4 -3.2
PVIS Viseu 143.69 339 *e*PKP PKPdf 04 02 22.9 -2.5
MTE Manteigas 143.84 339 *e*PKP PKPdf 04 02 22.9 -2.8
EQES Quesada 144.14 331 P PKPdf 04 02 24.1 -2.2
EBAN Banos Encina 144.18 332 ⇓P PKPdf 04 02 24.6 -1.8
PCBR Castelo Branco 144.31 338 *e*PKP PKPdf 04 02 24.8 -1.7
ENIJ Nijar 144.37 329 ⇑P PKPdf 04 02 24.8 -2.0
EBER Berja 144.76 330 P PKPdf 04 02 25.4 -2.1
ECOG Cogollos-Vega 144.79 331 ⇑P PKPdf 04 02 25.5 -2.0
ELUQ Luque 144.90 332 ⇑P PKPdf 04 02 26.6 -1.0
ECAB El Cabril 144.99 334 P PKPdf 04 02 27.5 -0.2
EBAD Badajoz 145.07 337 P PKPbc 04 02 27.2 -0.1
ERON Agron 145.12 331 P PKPbc 04 02 26.7 -0.9
EGUA Guajares 145.15 331 ⇑P PKPbc 04 02 27.0 -0.6
ELOJ Sierra Loja 145.18 332 P PKPbc 04 02 26.9 -0.8
PESTR Estremoz 145.20 337 *e*PKP PKPdf 04 02 27.6 -0.5
PBAR Barrancos 145.58 336 *e*PKP PKPdf 04 02 29.0 +0.2
PMAFR Mafra 145.74 339 *e*PKP PKPdf 04 02 29.8 +0.8
EMIN Mina Concepcio 145.78 335 P PKPdf 04 02 30.0 +0.8
EMIJ Mijas 145.94 332 P PKPdf 04 02 28.7 -0.7
PBEJ Beja 146.04 337 *e*PKP PKPdf 04 02 30.6 +1.0
ESPR Espera 146.18 333 P PKPdf 04 02 29.8 -0.1
EGRO El Granado 146.31 336 P PKPdf 04 02 31.1 +1.1
PVAQ Vaqueiros 146.52 336 *e*PKP PKPdf 04 02 32.8 +2.4
PTEO Sao Teotonio 146.78 338 *e*PKP PKPdf 04 02 32.5 +1.7
MORF Marmelete 146.97 337 *e*PKP PKPdf 04 02 33.5 +2.3
BDFB Brasilia 147.08 134 PKPbc PKPbc 04 02 32.1 -1.9
comp=Z,10.0nm,0.6s,baz=229,slow=1.6,SNR=26
BDFB pPKPbc pPKPbc 04 02 47.0 -0.3
comp=Z,8.5nm,0.6s,baz=203,slow=3.7,SNR=9.6
PFVI Vila Bisbo 147.19 337 *e*PKP PKPdf 04 02 33.5 +2.0
MDT Midelt 148.83 327 PKPbc PKPbc 04 02 38.5 +0.3
comp=Z,5.2nm,0.8s,baz=92,slow=3.8,SNR=22
TOA0 Torodi Ar. Sit 154.09 285 *e*PKPbc PKPbc 04 02 49.4 -1.5
TORD Torodi Ar. Bea 154.09 285 PKP PKPdf 04 02 41.7 -1.1
TORD PKPbc PKPbc 04 02 49.6 -1.3
TORD PKPab PKPab 04 03 02.6 -2.0
TORD Torodi Ar. Bea 154.09 285 PKP PKPdf 04 02 41.7 -1.1
comp=Z,1.4nm,1.0s,baz=83,slow=0.4,SNR=7.7
TORD PKPbc PKPbc 04 02 49.6 -1.3
comp=Z,3.7nm,0.7s,baz=80,slow=2.0,SNR=25
TORD PKPab PKPab 04 03 02.6 -2.0
comp=Z,2.4nm,0.8s,baz=60,slow=3.2,SNR=6.7
DBIC Dimbokro 161.04 270 *e*PKPab PKPab 04 03 34.4 -0.3
DBIC Dimbokro 161.04 270 PKPab PKPab 04 03 34.4 -0.3
comp=Z,5.6nm,0.7s,baz=106,slow=4.0,SNR=15
DBIC pPKPab pPKPab 04 03 49.5 +1.7
comp=Z,7.9nm,0.7s,baz=190,slow=3.6,SNR=5.4

*IDC **08** 03:49:12.4±0.7,2787S×17658W,h0km,mb4.1/10,*
mb1 4.3/10,mb1mx4.3/14,mbtmp4.1/10,MS3.9/2,
Ms1 3.9/2,ms1mx3.3/17,Error ellipse: s-maj=24.0km
s-min=16.9km az=140.0
*ISCJB **08** 03:49:22.8±1.8,2851S±0.10×1767W±0.1,h96km±15km,*
mb3.9/12,Error ellipse: s-maj=22.8km s-min=14.8km
az=23.5
*NEIC **08** 03:49:22.4±1.6,2835S×17671W,h84km±14km,mb4.3/2,*
Error ellipse: s-maj=17.3km s-min=13.7km az=163.0
ISC 08 03:49:23.0±1.9,285S±01×1767W±01,h85km±16km,n33,
σ1§08/28,mb3.9/12,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.34**	**234**	Pn	**Pn**	**03 49 46.8**	**+0.4**
RAO				Sn	**Sn**	**03 50 10.6**	**+6.5**
RAO	**Raoul Island**	**1.34**	**234**	Pn	**Pn**	**03 49 46.8**	**+0.4**
301nm,0.3s,baz=86,slow=7.5,SNR=19							
RAO				Sn	**Sn**	**03 50 10.6**	**+6.5**
1μm,0.3s,baz=70,slow=22,SNR=13							
URZ	**Urewera**	**11.05**	**206**	Pn	**Pn**	**03 51 50.5**	**-7.5**
1.0nm,0.3s,baz=126,slow=19,SNR=4.8							
URZ				Sn	**Sn**	**03 53 59.2**	**-0.5**
7.4nm,0.3s,baz=226,slow=14,SNR=17							
SNZO	**South Karori**	**14.62**	**207**	*e*Pn	**Pn**	**03 52 45.5**	**+0.2**
RAR	**Rarotonga**	**16.95**	**69**	Pn	**Pn**	**03 53 01.9**	**-13**
2.6nm,0.3s,baz=242,slow=6.7,SNR=5.3							
RPZ	**Rata Peaks**	**18.12**	**210**	P	**Pn**	**03 53 28.0**	**-0.9**
1.2nm,0.3s,baz=294,slow=19,SNR=6.3							
RPZ				S	**S**	**03 56 38.1**	**-13**
0.7nm,0.3s,baz=313,slow=18,SNR=5.9							
HNR	**Honiara**	**29.01**	**306**	LR	LR	04 05 28.7	
comp=Z,161nm,18.2s,baz=0.0,slow=34							
STKA	**Stephens Creek**	**36.08**	**254**	P	**P**	**03 56 18.9**	**+2.4**
0.8nm,0.5s,mb3.9,baz=100,slow=10,SNR=4.1							
STKA				LR	LR	04 09 17.1	
comp=Z,232nm,19.2s,baz=26,slow=33							
ASAR	**Alice Springs**	**44.41**	**264**	P	**P**	**03 57 26.6**	**+1.3**
1.2nm,0.5s,mb3.9,baz=105,slow=7.5,SNR=20							
WB2	**Warramunga Arr**	**45.21**	**270**	*e*P	**P**	**03 57 31.1**	**-0.7**
WB2	**Warramunga Arr**	**45.21**	**270**	*e*P	**P**	**03 57 30.7**	**-1.1**
WRA	**Warramunga Arr**	**45.22**	**270**	P	**P**	**03 57 31.3**	**-0.6**
1.6nm,0.5s,mb4.0,baz=108,slow=6.2,SNR=7.0							
FORT	**Forrest**	**47.69**	**253**	*e*P	**P**	**03 57 56.4**	**+5.4**
3.0nm,1.0s,mb4.1							
FITZ	**Fitzroy Crossi**	**53.55**	**268**	P	**P**	**03 58 34.6**	**-0.7**
1.0nm,0.7s,mb4.0,baz=132,slow=12,SNR=4.4							
QSPA	**South Pole Qui**	**61.63**	**180**	P	**P**	**03 59 35.5**	**+4.5**
1.5nm,0.7s,mb4.1,baz=19,slow=2.5,SNR=12							
MJAR	**Matsushiro Arr**	**77.34**	**324**	P	**P**	**04 01 06.7**	**-1.5**
MJAR	**Matsushiro Arr**	**77.34**	**324**	P	**P**	**04 01 06.7**	**-1.5**
1.5nm,0.8s,mb3.8,baz=151,slow=6.3,SNR=6.1							
PLCA	**Paso Flores**	**82.97**	**133**	*e*P	**P**	**04 01 40.3**	**+1.7**
6.1nm,1.0s,mb4.4							
PLCA	**Paso Flores**	**82.97**	**133**	P	**P**	**04 01 41.0**	**+2.3**
3.8nm,0.9s,mb4.2,baz=241,slow=5.8,SNR=5.3							
KSRS	**Korea Array**	**83.65**	**319**	P	**P**	**04 01 43.8**	**+1.8**
0.3nm,0.4s,mb3.4,baz=129,slow=6.9,SNR=2.9							
NVAR	**Mina Array Bea**	**86.04**	**42**	P	**P**	**04 01 53.7**	**-0.3**
NVAR	**Mina Array Bea**	**86.04**	**42**	P	**P**	**04 01 53.7**	**-0.3**
0.9nm,0.7s,mb3.8,baz=230,slow=9.5,SNR=6.4							
KULM	**Kulim**	**86.08**	**278**	*e*P	**P**	**04 01 54.4**	**-0.4**
ANMO	**Albuquerque**	**91.47**	**51**	P	**P**	**04 02 19.1**	**-0.6**
0.3nm,0.4s,mb3.7,baz=275,slow=5.8,SNR=4.5							
PDAR	**Pinedale Array**	**93.94**	**43**	P	**P**	**04 02 30.6**	**-0.4**
0.5nm,0.8s,mb3.9,baz=170,slow=6.0,SNR=4.0							
FINES	**FINESS Array B**	**143.71**	**342**	PKhKP		04 08 43.8	
0.5nm,0.4s,baz=47,slow=4.2,SNR=8.3							
NB2	**NORSAR Subarra**	**147.01**	**353**	PKP	PKPdf	04 08 54.1	+1.1
comp=Z,1.1nm,0.7s,baz=11,slow=3.0							
NOA	**NORSAR Array B**	**147.01**	**353**	PKPbc	PKPbc	04 08 54.0	-1.1
comp=Z,3.3nm,1.0s,baz=13,slow=4.5,SNR=4.6							
HFS	**Hagfors**	**147.57**	**350**	PKPbc	PKPbc	04 08 55.8	-0.8
comp=Z,3.3nm,0.7s,baz=72,slow=4.8,SNR=6.4							
AKASG	**Malin Array Be**	**150.42**	**326**	PKPbc	PKPbc	04 09 04.0	-0.2
AKASG	**Malin Array Be**	**150.42**	**326**	PKPbc	PKPbc	04 09 04.0	-0.2
comp=Z,1.0nm,0.6s,baz=46,slow=2.2,SNR=11							
EKA	**Eskdalemuir Ar**	**152.75**	**8**	PKPbc	PKPbc	04 09 08.5	-0.9
comp=Z,0.6nm,0.7s,baz=316,slow=2.0,SNR=4.0							
TORD	**Torodi Ar. Bea**	**164.68**	**174**	PKPab	PKPab	04 10 15.4	+2.4
comp=Z,0.8nm,0.8s,baz=197,slow=3.9,SNR=4.4							

*PDA **08** 03:50:10.6±0.6,3705N×2453W,h5km,ML3.1,Error*
ellipse: s-maj=5.2km s-min=3.4km az=91.0
*CSEM **08** 03:50:10.6±0.6,3705N×2453W,h5km,ML3.1,Error*
ellipse: s-maj=5.2km s-min=3.4km az=91.0,After PDA
SVSA 08 03:50:10.6±0.6,3705N×2453W,h5km,ML3.1,Error
ellipse: s-maj=5.2km s-min=3.4km az=91.0,Azores
Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSMN	**Pico do Norte,**	**0.43**	**264**	*e*P	Pg	03 50 18.1	-0.8
PSMN				*e*S	Sg	03 50 23.8	-0.6
PDA	**Ponta Delgada**	**1.14**	**308**	*e*P	Pg	03 50 28.2	-4.2
PDA				*e*S	Sg	03 50 41.2	-6.0
PSET	**Sete Cidades**	**1.22**	**310**	*e*P	Pg	03 50 29.3	-4.7
PSET				*e*S	Sg	03 50 43.8	-6.1
PSET				A		03 50 46.7	
137nm,0.2s							
PSET	**Sete Cidades**	**1.22**	**310**	*e*P	Pg	03 50 29.3	-4.7
PSET				*e*S	Sg	03 50 43.8	-6.1
PSCM	**Serra do Cume**	**2.63**	**310**	*e*P	Pn	03 50 49.2	-4.5
PSCM				*e*S	Sn	03 51 18.1	-7.8
PSCM				A		03 51 20.4	
44nm,0.2s							
PSCM	**Serra do Cume**	**2.63**	**310**	*e*P	Pn	03 50 49.2	-4.5
PSCM				*e*S	Sn	03 51 18.1	-7.8
PMAR	**Madeira**	**7.60**	**122**	*e*Pn	Pn	03 51 58.5	-3.5
PMAR				*e*Sn	Sn	03 53 15.7	-13
PMPS	**Porto Santo**	**7.81**	**118**	*e*Pn	Pn	03 52 00.5	-4.4

*NEIC **08** 04:00:49.6,3790N×2696E,h18km,MD3.6(ISK),*
ML3.7(ATH),After ATH.
*ISCJB **08** 04:00:49.9±0.6,3785N±002×2682E±003,h4km±5km,*
Error ellipse: s-maj=3.5km s-min=3.2km az=12.1
*ATH **08** 04:00:50.2,3785N×2686E,h21km±2km,MD3.7/9,ML3.7*
*CSEM **08** 04:00:50.3±0.1,3786N×2692E,h8km,ML3.7,Error*
ellipse: s-maj=2.7km s-min=2.1km az=32.0
*DDA **08** 04:00:51.9,3784N×2687E,h4km±2km,Md3.5*
*THE **08** 04:00:52.4,3788N×2678E,h9km,ML3.8*
ISC 08 04:00:51.3±0.4,3786N±002×2684E±003,h11km±3km,n42,
σ1§07/62,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMG	**Samos**	**0.15**	**180**	*e*PB	**Pg**	**04 00 55.3**	**+0.6**
SMG				*e*SB	**Sg**	**04 00 58.2**	**+1.2**
URLA	**Izmir**	**0.54**	**339**	*i* P	**Pg**	**04 01 02.2**	**+0.5**
URLA				*i* S	**Sg**	**04 01 10.2**	**+1.4**
KDAG	**Bornova**	**0.64**	**32**	*i* P	**Pg**	**04 01 03.6**	**-0.1**
KDAG				*i* S	**Sg**	**04 01 12.9**	**+0.8**
CHOS	**Chios island**	**0.81**	**311**	*e*Pg	**Pg**	**04 01 07.5**	**+0.6**
CHOS				*e*Sg	**Sg**	**04 01 17.6**	**+0.1**
BDRM	**Kayabasi**	**0.93**	**148**	*i* P	**Pg**	**04 01 08.6**	**-0.5**
BDRM				*i* S	**Sg**	**04 01 21.9**	**+0.7**
AKHS	**Akhisar**	**1.27**	**37**	*i* P	**Pn**	**04 01 13.9**	**-1.2**
AKHS				*i* S	**Sb**	**04 01 32.7**	**+1.0**
APE	**Apeiranthos**	**1.30**	**233**	*e*Pg	**Pg**	**04 01 14.4**	**-2.0**
APE				*e*Sg	**Sg**	**04 01 32.6**	**-0.7**
APE	**Apeiranthos**	**1.30**	**233**	*e*PN	**Pn**	**04 01 14.4**	**-1.0**
APE				*e*SN	**Sn**	**04 01 33.5**	**+0.6**
APE	**Apeiranthos**	**1.30**	**233**	*e*Pn	**Pn**	**04 01 16.8**	**+1.4**
APE				*e*Sg	**Sg**	**04 01 32.6**	**-0.7**
AYVA	**Ayvalik**	**1.45**	**355**	*i* P	**Pn**	**04 01 16.8**	**-0.7**
AYVA				*i* S	**Sn**	**04 01 38.8**	**+2.3**
PRK	**Paraskevi**	**1.46**	**342**	*e*PN	**Pn**	**04 01 16.8**	**-0.7**
PRK				*e*SN	**Sn**	**04 01 38.3**	**+1.7**
THR1	**Thera Island**	**1.85**	**217**	*e*Pb	**Pb**	**04 01 23.2**	**-1.9**
ARG	**Arkhangelos**	**1.94**	**147**	*e*PN	**Pn**	**04 01 24.0**	**-0.1**
ARG	**Arkhangelos**	**1.94**	**147**	*e*Pn	**Pn**	**04 01 23.8**	**-0.3**
BOZC	**Bozcaada**	**2.07**	**343**	*i* P	**Pn**	**04 01 25.9**	**-0.1**
BOZC				*i* S	**Sg**	**04 01 58.4**	**+0.5**
BTOK	**Tokmak**	**2.12**	**26**	*i* P	**Pn**	**04 01 29.0**	**+2.4**
BTOK				*i* S	**Sn**	**04 01 57.8**	**+4.9**
GOLH	**Golhisar**	**2.25**	**105**	*i* P	**Pn**	**04 01 29.1**	**+0.6**
GOLH				*i* S	**Sg**	**04 02 05.4**	**+1.8**
GOLH	**Golhisar**	**2.25**	**105**	*i* P	**Pn**	**04 01 29.0**	**+0.5**
PTL	**Penteli**	**2.36**	**276**	*e*PN	**Pn**	**04 01 30.0**	**+0.1**
GDZ	**Gediz**	**2.41**	**59**	*i* P	**Pn**	**04 01 30.3**	**-0.3**
GDZ				*i* S	**Sg**	**04 02 07.8**	**-0.9**
LIA	**Limnos Island**	**2.41**	**328**	*e*PN	**Pn**	**04 01 30.4**	**-0.3**
ATH	**Athens Observa**	**2.47**	**274**	*e*PB	**Pb**	**04 01 32.4**	**-3.3**
LOS	**Limnos**	**2.48**	**327**	*e*Pn	**Pn**	**04 01 31.3**	**-0.4**
AOS	**Alonnisos**	**2.66**	**300**	*e*Pn	**Pn**	**04 01 34.2**	**+0.1**
AKAS	**Kas**	**2.75**	**125**	*i* P	**Pn**	**04 01 37.3**	**+2.1**
AKAS				*i* S	**Sn**	**04 02 07.0**	**-1.4**
NPS	**Neapolis**	**2.77**	**201**	P	**Pn**	**04 01 35.6**	**0.0**
ZKR	**Zakros**	**2.78**	**191**	*e*Pn	**Pn**	**04 01 36.4**	**+0.6**
SART	**Tekirdag**	**2.84**	**5**	*i* P	**Pn**	**04 01 36.1**	**-0.4**
SART				*i* S	**Sg**	**04 02 19.5**	**-3.0**
DID	**Didima**	**2.88**	**264**	*e*Pn	**Pn**	**04 01 36.5**	**-0.5**
LAST	**Lasithi**	**2.91**	**203**	P	**Pn**	**04 01 38.8**	**+1.3**
ISP	**Isparta**	**2.91**	**89**	*e*Pn	**Pn**	**04 01 37.8**	**+0.3**
LTK	**Loutraki**	**3.06**	**274**	*e*Pn	**Pn**	**04 01 38.9**	**-0.7**
ALN	**Alexandroupoli**	**3.10**	**349**	*e*Pn	**Pn**	**04 01 39.9**	**-0.2**
PAIG	**Paliouri**	**3.21**	**311**	*e*Pn	**Pn**	**04 01 41.2**	**-0.5**
VLI	**Veliai**	**3.31**	**251**	*e*PB	**Pb**	**04 01 45.3**	**-4.7**
OUR	**Ouranopolis**	**3.32**	**319**	*e*Pn	**Pn**	**04 01 43.6**	**+0.4**
RDO	**Rodhopi**	**3.43**	**343**	*e*PN	**Pn**	**04 01 44.9**	**+0.2**
BORA	**Eskisehir**	**3.47**	**53**	*i* P	**Pg**	**04 01 55.0**	**-2.7**
BORA				*i* S	**Sg**	**04 02 40.6**	**-2.1**
ELBA	**Catalca**	**3.51**	**20**	*i* P	**Pn**	**04 01 44.5**	**-1.3**
ELBA				*i* S	**Sg**	**04 02 43.5**	**-0.4**
ESKT	**Eskisehir**	**3.55**	**61**	*i* P	**Pn**	**04 01 46.0**	**-0.3**
ESKT				*i* S	**Sb**	**04 02 37.2**	**0.0**
SEYT	**Eskypehyr**	**3.55**	**61**	*i* P	**Pn**	**04 01 46.0**	**-0.3**
AGG	**Agios Georgios**	**3.73**	**290**	*e*Pn	**Pn**	**04 01 49.2**	**+0.5**

*CSEM **08** 04:06:06.4±0.1,4015N×4065E,h2km,ML3.2,Error*
ellipse: s-maj=3.4km s-min=2.3km az=17.0
*ISK **08** 04:06:07.4,4013N×4065E,h4km,MD3.4*
*ISCJB **08** 04:06:07.6±0.4,4017N±003×4067E±003,h4km,Error*
ellipse: s-maj=4.6km s-min=3.3km az=23.1
*DDA **08** 04:06:07.7,4018N×4071E,h5km±4km,Md3.3,Ml3.2*
ISC 08 04:06:07.9±0.5,4017N±003×4068E±003,h2km±6km,n18,
σ1§08/28,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOPT	**Kop Dagi**	**0.21**	**223**	*i* P	**Pg**	**04 06 11.3**	**-0.6**
KOPT				*i* S	**Sg**	**04 06 15.2**	**+0.6**
EZM	**Erzurum**	**0.59**	**117**	PG	**Pg**	**04 06 18.7**	**-0.4**
ERZM	**Erzurum**	**0.59**	**117**	*i* P	**Pg**	**04 06 18.8**	**-0.3**
ERZM				*i* S	**Sg**	**04 06 29.2**	**+2.5**
EZC	**Erzincan**	**0.79**	**238**	*e*PG	**Pg**	**04 06 27.5**	**+4.5**
HOMI	**Horasan**	**0.95**	**97**	*i* P	**Pg**	**04 06 24.7**	**-1.3**
HOMI				*i* S	**Sg**	**04 06 39.2**	**+0.9**
GUMT	**Gumushane**	**0.96**	**288**	PG	**Pg**	**04 06 25.8**	**-0.6**
GUMT				*e*SG	**Sg**	**04 06 39.0**	**+0.2**
MACK	**Trabzon**	**1.04**	**318**	*i* P	**Pg**	**04 06 27.9**	**+0.1**
MACK				*i* S	**Sg**	**04 06 41.6**	**+0.3**
KTUT	**Trabzon**	**1.07**	**320**	*e*PN	**Pn**	**04 06 28.1**	**-1.8**
BNGL	**BINGOL**	**1.27**	**163**	*i* P	**Pg**	**04 06 30.3**	**-1.9**
BNGL				*i* S	**Sg**	**04 06 50.1**	**+1.4**
BINT	**Bingol**	**1.30**	**187**	*e*PN	**Pn**	**04 06 31.5**	**-1.6**
ARTV	**Artvin**	**1.39**	**43**	*i* P	**Pn**	**04 06 33.5**	**-0.7**
ARTV				*i* S	**Sg**	**04 06 53.0**	**+0.6**
ARTV	**Artvin**	**1.39**	**43**	*i* P	**Pn**	**04 06 33.5**	**-0.7**
ARTV				*i* S	**Sg**	**04 06 53.0**	**+0.6**
BCA	**Borcka**	**1.46**	**29**	*e*PN	**Pn**	**04 06 35.1**	**-0.1**
ESPY	**Espiye-Giresun**	**1.67**	**297**	*e*PN	**Pn**	**04 06 37.8**	**-0.3**
TUTA	**Tutak**	**1.81**	**114**	*i* P	**Pn**	**04 06 39.8**	**-0.3**
TUTA				*i* S	**Sn**	**04 07 07.8**	**+4.1**
GRSN	**GIRESUNGRSN**	**1.99**	**293**	*i* P	**Pn**	**04 06 43.9**	**+1.4**
GRSN				*i* S	**Sn**	**04 07 10.4**	**+2.4**
BTMT	**Batman**	**2.07**	**162**	*e*PN	**Pn**	**04 06 43.6**	**-0.1**
SVSK	**Karacayir**	**2.84**	**266**	*e*PN	**Pn**	**04 06 54.7**	**+0.5**

*NEIC **08** 04:13:12.2,3172S×7206W,h32km,ML2.9(GUC),After*
GUC.
GUC 08 04:13:12.2±0.6,3172S×7206W,h32km±2km,MD3.5,
ML2.9,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHNG	**Los Chungos**	**0.50**	**109**	*i* P	Pb	04 13 03.7	-19
CHNG				*i* S	Sb	04 13 11.4	-19
CMCH	**Combarbala**	**1.06**	**59**	*i* P	Pn	04 13 31.3	+0.5
CMCH				*i* S	Sn	04 13 45.5	+1.2
CMCH	**Combarbala**	**1.06**	**59**	*i* P	Pn	04 13 31.3	+0.5
CMCH				*i* S	Sn	04 13 45.5	+1.2
CMCH				AML	AML	04 13 48.7	
comp=E,939nm,0.3s							
ROCH	**El Roble**	**1.53**	**145**	*i* P	Pn	04 13 38.8	+1.5
ROCH				*i* S	Sn	04 13 59.7	+3.6
JACH	**Jahuel**	**1.57**	**128**	*i* P	Pn	04 13 39.2	+1.4
JACH				*i* S	Sn	04 13 59.8	+2.8
PEL	**Peldehue**	**1.83**	**141**	*e*P	Pn	04 13 42.9	+1.4
PEL				*i* S	Sn	04 14 06.1	+2.6
PEL				AML	AML	04 14 12.9	
comp=E,265nm,0.3s							
TLL	**Tololo Astrono**	**1.89**	**35**	*e*P	Pn	04 13 44.3	+2.1
TLL				*i* S	Sn	04 14 08.6	+3.7
TLL	**Tololo Astrono**	**1.89**	**35**	*e*P	Pn	04 13 44.3	+2.1
TLL				*i* S	Sn	04 14 08.6	+3.7
TLL				AML	AML	04 14 20.6	
comp=E,88nm,0.5s							
CLCH	**Cerro Calan**	**2.11**	**143**	*e*P	Pn	04 13 46.8	+1.6
CLCH				*i* S	Sn	04 14 13.3	+3.0
CLCH				AML	AML	04 14 24.4	
comp=E,165nm,0.5s							
FCH	**Farellones**	**2.19**	**137**	AML	AML	04 14 24.9	
comp=E,66nm,0.5s							

*IDC **08** 04:14:05.5±0.8,774S×15574E,h0km,mb4.5/10,*
mb1 4.6/11,mb1mx4.6/14,mbtmp4.5/11,ML3.4/1,MS3.9/13,
Ms1 3.9/13,ms1mx3.7/23,Error ellipse: s-maj=30.2km
s-min=17.5km az=107.0
*ISCJB **08** 04:14:06.1±0.3,769S±005×15562E±006,h10km,*
mb4.7/41,MS3.9/11,Error ellipse: s-maj=8.2km
s-min=7.3km az=10.6
*BJI **08** 04:14:07.6,770S×15560E,h10km,mB5.0,mb4.9,Ms4.9,*
Msz4.6
*NEIC **08** 04:14:07.7±0.3,767S×15557E,h10km,mb4.8/22,Error*
ellipse: s-maj=11.2km s-min=7.5km az=114.0
*MOS **08** 04:14:09.9±0.9,761S×15553E,h33km,mb5.0/16,Error*
ellipse: s-maj=13.1km s-min=9.9km az=100.4
ISC 08 04:14:08.7±4.1,771S±006×15560E±007,h16km±25km,
n93,σ0§98/79,mb4.7/41,MS3.9/11,1C-1D,Bougainville -
Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.62**	**112**	Pn	**Pb**	**04 15 21.3**	**-8.2**
HNR				Sn	**Sn**	**04 16 13.2**	**+1.7**
HNR				LR	LR	04 16 50.2	
HNR	**Honiara**	**4.62**	**112**	P	**Pb**	**04 15 21.3**	**-8.3**
HNR						04 16 13.2	
HNR	**Honiara**	**4.62**	**112**	Pn	**Pb**	**04 15 21.3**	**-8.2**
5.7nm,0.3s,baz=263,slow=9.6,SNR=2.4							
HNR				Sn	**Sn**	**04 16 13.1**	**+1.6**
20nm,0.3s,baz=262,slow=15,SNR=3.6							
HNR				LR	LR	04 16 50.2	
comp=Z,467nm,21.8s,baz=343,slow=37							
CTA	**Charters Tower**	**15.27**	**215**	*e*P	**Pn**	**04 17 52.3**	**+8.5**
28nm,1.0s							
CTA	**Charters Tower**	**15.27**	**215**	Pn	**Pn**	**04 17 44.6**	**+0.8**
0.1nm,0.3s,baz=23,slow=13,SNR=2.3							
CTA				LR	LR	04 22 58.3	
comp=Z,382nm,18.8s,baz=48,slow=35							
CTAO	**Charters Tower**	**15.27**	**215**	*e*P	**Pn**	**04 17 50.4**	**+6.5**
58nm,1.1s							
CTAO	**Charters Tower**	**15.27**	**215**	*e*P	**Pn**	**04 17 50.4**	**+6.6**
CTAO				pmax	pmax		
comp=Z,57nm,1.1s							
EIDS	**Eidsvold**	**18.08**	**193**	*e*P	**Pn**	**04 18 19.4**	**0.0**
comp=Z,50nm,1.4s							
KAKA	**Kakadu**	**23.32**	**256**	*e*P	**P**	**04 19 17.1**	**+0.6**
comp=Z,11nm,0.6s,mb4.5							
KAKA	**Kakadu**	**23.32**	**256**	*e*P	**P**	**04 19 11.5**	**-5.0**
comp=Z,69nm,1.2s,mb5.0							
GUMO	**Guam**	**23.70**	**333**	LR	LR	04 27 00.7	
comp=Z,141nm,18.7s,MS3.5,baz=165,slow=33							
WRAB	**Tennant Creek**	**23.91**	**237**	*e*P	**P**	**04 19 21.6**	**-0.4**
comp=Z,56nm,1.5s,mb4.8							
WRAB	**Tennant Creek**	**23.91**	**237**	*e*P	**P**	**04 19 21.7**	**-0.4**
WRAB				pmax	pmax		
comp=Z,56nm,1.5s,mb4.8							
WB2	**Warramunga Arr**	**23.91**	**237**	*e*P	**P**	**04 19 22.3**	**+0.2**
WRA	**Warramunga Arr**	**23.92**	**237**	P	**P**	**04 19 22.3**	**+0.1**
WRA						04 23 04.4	
WRA	**Warramunga Arr**	**23.92**	**237**	P	**P**	**04 19 22.3**	**+0.1**
comp=Z,12nm,0.9s,mb4.3,baz=63,slow=9.8,SNR=17							
WRA				PcP	PcP	04 23 04.4	-0.4
comp=Z,1.5nm,0.7s,baz=57,slow=2.4,SNR=4.6							
WRA				LR	LR	04 28 17.5	
comp=Z,145nm,18.3s,MS3.5,baz=50,slow=36							
ASAR	**Alice Springs**	**26.16**	**230**	P

comp=Z,16nm,0.8s,mb5.0
CLNS pmax pmax
comp=N,13nm,0.9s
CLNS pmax pmax
comp=E,10.0nm,1.0s
GTA Gaotai 69.67 317 *e*P **P 04 25 19.5 +1.7**
GTA AP pP 04 25 23.9 +1.0
GTA XP sP 04 25 27.1 +2.3
GTA AMB AMB
comp=Z,4.0nm,1.7s,mb4.1
ULN Ulaanbaatar 69.93 327 *e*P **P 04 25 20.6 +1.4**
comp=Z,6.9nm,1.0s,mb4.5
ULN Ulaanbaatar 69.93 327 *e*P **P 04 25 20.6 +1.4**
ULN pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
SHL Shillong 70.17 301 *e*P **P 04 25 24.0 +2.8**
SONM Songino Array 70.26 327 P **P 04 25 21.9 +0.7**
comp=Z,4.9nm,0.9s,mb4.5,baz=147,slow=5.5,SNR=19
SEY Seymchan 70.48 358⇑ *e*P **P 04 25 23.0 +0.8**
YAK Yakutsk 72.38 348 *e*P **P 04 25 32.1 -1.6**
YAK pmax pmax
comp=Z,22nm,0.8s,mb5.1
YAK pmax pmax
comp=N,7.0nm,1.3s
YAK pmax pmax
comp=E,5.0nm,1.3s
ZAK Zakamensk 73.42 328 *e*P **P 04 25 39.8 -0.3**
ZAK pmax pmax
comp=Z,3.0nm,1.6s,mb4.0
BOD Bodaibo 73.50 338 *e*P **P 04 25 40.0 -0.4**
BOD pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
BILL Bilibino 75.95 4 *e*P **P 04 25 54.2 -0.2**
comp=Z,18nm,0.8s,mb5.1
BILL Bilibino 75.95 4⇓ *i*P **P 04 25 54.5 +0.1**
BILL *i* 04 28 44.4
BILL pmax pmax
comp=Z,18nm,1.1s,mb4.9
TIXI Tiksi 81.15 352 *e*P **P 04 26 23.2 +0.2**
comp=Z,3.5nm,0.8s,mb4.3
TIXI Tiksi 81.15 352 *e*P **P 04 26 21.4 -1.6**
TIXI pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
QSPA South Pole Qui 82.27 180 *e*P **P 04 26 27.8 -1.2**
comp=Z,9.5nm,0.9s,mb4.7
IMA2 Indian Mountai 82.28 19 *e*P **P 04 26 29.1 0.0**
MCK McKinley 82.50 22 *e*P **P 04 26 28.4 -1.8**
comp=Z,9.1nm,0.9s,mb4.7
MCK McKinley 82.50 22 *e*P **P 04 26 28.5 -1.8**
MCK pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
COLA College 83.53 21 *e*P **P 04 26 33.7 -2.0**
comp=Z,4.6nm,0.8s,mb4.7
COLA College 83.53 21 *e*P **P 04 26 33.7 -1.9**
COLA pmax pmax
comp=Z,5.0nm,0.8s,mb4.7
MK31 Makanchi Array 84.34 319 *e*P **P 04 26 40.5 +0.3**
MKAR Makanchi Array 84.34 319 P **P 04 26 40.5 +0.4**
comp=Z,8.0nm,0.7s,mb5.0,baz=101,slow=6.3,SNR=8.2
ZAA0 Zalesovo Array 85.11 326 *e*P **P 04 26 43.1 -0.8**
ZALV Zalesovo Beam 85.11 326 P **P 04 26 43.2 -0.7**
comp=Z,3.4nm,0.6s,mb4.6,baz=114,slow=5.6,SNR=22
ZAL Zalesovo 85.11 326 P **P 04 26 43.2 -0.7**
EGAK Eagle 85.94 23 *e*P **P 04 26 49.8 +2.0**
comp=Z,3.8nm,0.9s,mb4.6
BBB Bella Bella 87.73 37 LR LR 04 57 30.1
comp=Z,120nm,21.7s,MS4.3,baz=246,slow=30
KURK Kurchatov 87.76 322 *e*P **P 04 26 56.2 -0.8**
comp=Z,2.0nm,0.8s,mb4.4
KURK Kurchatov 87.76 322 *e*P **P 04 26 56.2 -0.8**
KURK pmax pmax
comp=Z,2.0nm,0.8s,mb4.4
INK Inuvik 90.18 21 *e*P **P 04 27 06.9 -1.1**
comp=Z,143nm,1.1s
INK Inuvik 90.18 21 LR LR 05 07 49.9
comp=Z,99nm,18.1s,MS4.3,baz=236,slow=36
NVAR Mina Array Bea 91.69 52 P **P 04 27 14.4 -1.3**
comp=Z,0.7nm,1.0s,mb4.0,baz=245,slow=5.8,SNR=3.1
BRVK Borovoye 93.30 323 *e*P **P 04 27 21.9 -0.8**
comp=Z,2.0nm,1.0s,mb4.5
BRVK Borovoye 93.30 323 *e*P **P 04 27 22.0 -0.8**
BRVK pmax pmax
comp=Z,2.0nm,1.0s,mb4.5
NEW Newport 93.89 42 LR LR 05 02 30.1
comp=Z,55nm,19.6s,MS4.0,baz=74,slow=31
YKA Yellowknife Ar 96.69 28 P **P 04 27 37.1 -1.0**
comp=Z,1.4nm,0.8s,mb4.5,baz=266,slow=4.6,SNR=17
PDAR Pinedale Array 98.73 48 LR LR 05 07 40.3
comp=Z,74nm,19.5s,MS4.2,baz=262,slow=33
ANN Anapa 115.26 316 *i* PKIKP PKiKP 04 32 46.6 -3.1
ANN *e* 04 33 48.9
ANN *e*PPP 04 36 12.8
ANN pmax pmax
comp=Z,179nm,6.6s
CLL Collm 126.73 332 *e*PKPdf PKPdf 04 33 11.0 -0.6
CLL *e*pPKPdf pPKPdf 04 33 14.0 -2.9
CLL *e*(sPKiKP) 04 33 19.0
GERES GERESS Array B 127.97 329 PKP PKPdf 04 33 14.1 0.0
comp=Z,0.9nm,0.9s,baz=107,slow=1.4,SNR=8.8
LPAZ La Paz 130.59 119 PKP PKPdf 04 33 19.3 -0.6
comp=Z,0.7nm,0.8s,baz=306,slow=2.8,SNR=2.8
TSUM Tsumeb 130.74 237 *e*PKPdf PKPdf 04 33 20.8 +0.6
ESDC Sonseca Array 143.28 333 PKhKP 04 33 38.0
comp=Z,0.3nm,0.7s,baz=11,slow=1.5,SNR=4.0
ESDC PP PP 04 36 50.9 -1.6
comp=Z,0.2nm,0.6s,baz=32,slow=2.8,SNR=2.9
BDFB Brasilia 147.05 135 PKPbc PKPbc 04 33 50.8 -1.1
comp=Z,7.5nm,0.8s,baz=174,slow=5.6,SNR=14
TOA0 Torodi Ar. Sit 153.79 284 *e*PKPdf PKPdf 04 34 00.5 +0.2
TOA0 *e*PKPbc PKPbc 04 34 07.9 -0.4
TORD Torodi Ar. Bea 153.79 284 PKP PKPdf 04 33 59.2 -1.2
comp=Z,0.3nm,0.8s,baz=72,slow=4.7,SNR=3.2
TORD PKPbc PKPbc 04 34 07.4 -0.9
comp=Z,1.2nm,0.9s,baz=80,slow=3.1,SNR=4.4
TORD PKPab PKPab 04 34 21.1 0.0
comp=Z,2.0nm,1.0s,baz=64,slow=3.3,SNR=6.5
DBIC Dimbokro 160.58 268 PKPab PKPab 04 34 49.5 -1.1
comp=Z,6.5nm,1.0s,baz=56,slow=2.1,SNR=4.1

IDC 08 04:18:49.2±1.2,776S×15625E,h0km,mb3.8/4,mb1 3.9/5, mb1mx3.7/14,mbtmp3.9/5,ML3.6/1,Error ellipse: s-maj=39.0km s-min=27.2km az=28.0,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.01**	**115**	Pn	Pn	04 19 52.3	+0.3
	4.1nm,0.3s,baz=235,slow=6.0,SNR=3.9						
HNR				Sn	Sn	04 20 39.1	-0.6
	14nm,0.3s,baz=95,slow=21,SNR=2.6						
WRA	**Warramunga Arr**	**24.44**	**238**	P	P	04 24 10.1	+0.2
	1.3nm,0.7s,baz=63,slow=9.4,SNR=3.4						
SONM	**Songino Array**	**70.65**	**327**	P	P	04 30 07.6	+1.0
	1.5nm,0.8s,baz=139,slow=6.1,SNR=9.7						
MKAR	**Makanchi Array**	**84.80**	**318**	P	P	04 31 25.8	+0.2
	0.4nm,0.4s,baz=101,slow=6.2,SNR=4.0						
ZALV	**Zalesovo Beam**	**85.50**	**326**	P	P	04 31 28.0	-1.0
	0.2nm,0.3s,baz=115,slow=6.5,SNR=2.5						

*NNC **08** 04:24:57.2±3.8,3701N×7104E,h198km±52km,mb2.9, mpv3.8,Error ellipse: s-maj=42.4km s-min=25.8km az=26.0*

ISC 08 04:24:55.6±2.5,369N±01×707E±01,h35km,n9,σ§14/12, 3C-1D,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**5.74**	**23**	P	**Pn**	**04 26 18.9**	**+0.7**
	SNR=36						
UCH	**Uchtor**	**6.11**	**28**	P	**Pn**	**04 26 23.4**	**+0.1**
	SNR=12						
KK31	**Karatay Array**	**6.21**	**359**	⇑P	**Pn**	**04 26 25.8**	**+1.1**
	0.9nm,0.3s,baz=176,slow=13,SNR=47						
KK31				S	**Sn**	**04 27 35.8**	**+1.3**
	12nm,0.5s,baz=184,slow=20,SNR=23						
EKS2	**Erkin-Say**	**6.25**	**22**	P	**Sn**	**04 27 36.3**	**+1.0**
	SNR=6.8						
AAK	**Ala-Archa**	**6.45**	**26**	P	**Pn**	**04 26 27.9**	**-0.1**
	SNR=7.2						
KBK	**Karagaybulak**	**6.64**	**28**	P	**Pn**	**04 26 31.1**	**+0.5**
	SNR=5.9						
TKM2	**Tokmak 2**	**7.12**	**31**	⇓P	**Pn**	**04 26 35.9**	**-1.3**
	14nm,0.7s						
TKM2				⇑S	**Sn**	**04 27 53.6**	**-3.1**
	7.0nm,0.8s						
TKM2	**Tokmak 2**	**7.12**	**31**	P	**Pn**	**04 26 35.6**	**-1.5**
	SNR=18						
AB31	**Akbulak array**	**14.62**	**331**	P	**Pn**	**04 28 14.4**	**-5.4**
	2.0nm,0.6s,baz=142,slow=9.6,SNR=27						
AB31				⇑S	**Sn**	**04 30 58.9**	**-1.5**
	0.6nm,0.7s						

IDC 08 04:31:38.3±45.0,1524S×17139W,h0km,mb4.2/3, mb1 4.4/3,mb1mx3.9/16,mbtmp4.2/3,Error ellipse: s-maj=875.8km s-min=174.4km az=79.0,Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**45.80**	**240**	*e*P	P	04 40 02.0	0.0
	1.4nm,0.6s						
STKA	**Stephens Creek**	**45.80**	**240**	P	P	04 40 02.2	+0.2
	1.6nm,0.4s,baz=91,slow=11,SNR=12						
WB2	**Warramunga Arr**	**51.75**	**256**	*e*P	P	04 40 47.7	-0.3
WRA	**Warramunga Arr**	**51.77**	**256**	P	P	04 40 47.9	-0.2
	0.7nm,0.7s,baz=94,slow=6.9,SNR=6.3						
ASAR	**Alice Springs**	**52.00**	**252**	P	P	04 40 49.7	-0.1
	6.5nm,0.6s,baz=88,slow=8.1,SNR=109						

*ISCJB **08** 04:31:52.0±0.4,2637S±003×2743E±003,h2km,mb3.3/2, Error ellipse: s-maj=4.6km s-min=3.7km az=22.2*
*PRE **08** 04:31:52.9±0.6,2638S×2744E,h2km,ML3.0*
*IDC **08** 04:31:52.1±2.5,2645S×2762E,h0km,mb3.4/1,mb1 3.9/7, mb1mx3.7/24,mbtmp3.9/7,ML3.6/5,Error ellipse: s-maj=49.5km s-min=23.3km az=111.0*

ISC 08 04:31:53.5±0.6,2637S±003×2745E±004,h5km±5km,n16, σ0§76/28,mb3.3/2,South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRYS	**Parys**	**0.56**	**188**	*e*P	**Pg**	**04 32 03.3**	**-0.9**
PRYS				*e*S	**Sg**	**04 32 11.1**	**-0.3**
PRYS				AML	AML	04 32 20.5	
	comp=Z,148nm,0.3s						
KSR	**Koster**	**0.72**	**316**	*e*P	**Pg**	**04 32 06.9**	**-0.4**
KSR				*e*S	**Sg**	**04 32 16.6**	**0.0**
KSR				AML	AML	04 32 25.1	
	comp=Z,360nm,0.1s						
ERPM	**east rand prop**	**0.72**	**80**	*e*P	**Pg**	**04 32 07.2**	**-0.1**
ERPM				*e*S	**Sg**	**04 32 17.1**	**+0.4**
ERPM				AML	AML	04 32 17.4	
	comp=Z,207nm,0.6s						
SLR	**Silverton**	**0.98**	**50**	*e*P	**Pg**	**04 32 12.1**	**-0.2**
SLR				*e*S	**Sg**	**04 32 25.7**	**+0.7**
SLR				AML	AML	04 32 37.6	
	comp=Z,142nm,0.3s						
SEK	**Senekal**	**1.95**	**175**	*e*P	**Pn**	**04 32 27.7**	**+0.5**
SEK				*e*S	**Sn**	**04 32 52.7**	**+0.7**
SEK				AML	AML	04 32 57.8	
	comp=Z,188nm,0.3s						
SWZ	**Schweizer**	**2.06**	**247**	*e*P	**Pn**	**04 32 29.0**	**+0.3**
SWZ				*e*S	**Sn**	**04 32 55.4**	**+0.7**
SWZ				AML	AML	04 32 59.3	
	comp=Z,339nm,0.2s						
LBTB	**Lobatse**	**2.15**	**309**	Pn	**Pn**	**04 32 33.2**	**+3.2**
	comp=Z,44nm,0.3s,baz=139,slow=17,SNR=622						
LBTB				Lg		04 33 01.5	
	comp=Z,110nm,0.3s,baz=237,slow=18,SNR=41						
BOSA	**Boshof**	**2.96**	**221**	Pn	**Pn**	**04 32 41.1**	**0.0**
	comp=Z,2.8nm,0.3s,baz=43,slow=13,SNR=111						
BOSA				Lg		04 33 22.4	
	comp=Z,13nm,0.3s,baz=139,slow=18,SNR=14						
KSD	**Kokstad**	**4.50**	**158**	*e*P	**Pn**	**04 33 02.9**	**+0.7**
KSD				*e*S	**Sn**	**04 33 53.7**	**-1.2**
KSD				AML	AML	04 34 17.2	
	comp=Z,122nm,0.7s						
HVD	**Gariep Dam**	**4.55**	**202**	*e*P	**Pn**	**04 33 03.5**	**+0.5**
HVD				*e*S	**Sn**	**04 33 55.3**	**-1.0**
HVD				AML	AML	04 34 17.6	
	comp=Z,19nm,0.5s						
MATP	**Matopo**	**6.00**	**9**	Pn	**Pn**	**04 33 23.4**	**+0.5**
	comp=Z,2.8nm,0.3s,baz=186,slow=13,SNR=51						
MATP				Sn	**Sn**	**04 34 29.9**	**-2.1**
	comp=Z,2.8nm,0.3s,baz=238,slow=6.2,SNR=10						
MATP				Lg		04 34 57.6	
	comp=Z,4.8nm,0.3s,baz=109,slow=16,SNR=6.0						
SUR	**Sutherland**	**8.33**	**222**	Pn	**Pn**	**04 33 55.0**	**+0.1**
	comp=Z,0.7nm,0.3s,baz=35,slow=18,SNR=14						
SUR				Sn	**Sn**	**04 35 24.2**	**-5.0**
	comp=Z,0.6nm,0.3s,baz=303,slow=18,SNR=3.9						
SUR				Lg		04 36 11.4	
	comp=Z,2.2nm,0.3s,baz=136,slow=23,SNR=3.8						
LSZ	**Lusaka**	**11.06**	**4**	Pn	**Pn**	**04 34 32.0**	**-0.3**
	comp=Z,0.6nm,0.3s,baz=185,slow=13,SNR=6.4						
LSZ				Sn	**Sn**	**04 36 31.0**	**-5.5**
	comp=Z,0.3nm,0.3s,baz=106,slow=11,SNR=3.2						
LSZ				Lg		04 37 37.0	
	comp=Z,0.3nm,0.3s,baz=236,slow=17,SNR=3.5						
TSUM	**Tsumeb**	**11.56**	**306**	Pn	**Pn**	**04 34 38.8**	**-0.4**
	comp=Z,0.9nm,0.3s,baz=125,slow=12,SNR=38						
TSUM				Sn	**Sn**	**04 36 40.7**	**-8.1**
	comp=Z,0.1nm,0.3s,baz=31,slow=22,SNR=2.1						
TSUM				Lg		04 37 48.0	
	comp=Z,0.2nm,0.3s,baz=244,slow=22,SNR=2.9						
TORD	**Torodi Ar. Bea**	**46.59**	**324**	P	**P**	**04 40 22.6**	**0.0**
	comp=Z,0.4nm,0.6s,mb3.5,baz=141,slow=6.4,SNR=13						
ESDC	**Sonseca Array**	**71.94**	**335**	P	**P**	**04 43 18.5**	**+0.8**
	comp=Z,0.1nm,0.3s,mb3.2,baz=156,slow=6.0,SNR=4.8						

SVSA 08 04:36:19.5±0.4,3725N×2454W,h0km,ML3.1,Error ellipse: s-maj=3.8km s-min=1.7km az=89.0,Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSMN	**Pico do Norte,**	**0.48**	**240**	*e*P	Pg	04 36 28.5	-0.2
PSMN				*e*S	Sg	04 36 35.0	0.0
PDA	**Ponta Delgada**	**1.02**	**300**	*e*P	Pg	04 36 36.1	-3.0
PDA				*e*S	Sg	04 36 48.7	-3.7
PSET	**Sete Cidades**	**1.10**	**302**	*e*P	Pg	04 36 37.2	-3.4
PSET				*e*S	Sg	04 36 50.8	-4.1
PSET				A		04 36 53.1	
	196nm,0.3s						
PMAR	**Madeira**	**7.71**	**124**	*e*Pn	Pn	04 38 12.8	-0.3

*IDC **08** 04:45:29.0±2.3,5126N×17906W,h0km,mb3.7/8, mb1 4.0/8,mb1mx3.7/24,mbtmp3.7/8,Error ellipse: s-maj=63.4km s-min=23.5km az=6.0*
*NEIC **08** 04:45:30.5±1.6,5117N×17908W,h10km,mb3.9/1, ML3.8(AEIC),Error ellipse: s-maj=42.8km s-min=8.5km az=178.0*
*ISCJB **08** 04:45:32.7±1.9,5111N±03×17912W±008,h46km±10km, mb3.8/9,Error ellipse: s-maj=43.5km s-min=7.8km az=174.6*

ISC 08 04:45:34.2±1.8,512N±03×17913W±008,h39km±10km,n14, σ0§77/16,mb3.8/9,Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMKA	**Amchitka**	**1.00**	**281**	P	**Pn**	**04 45 50.3**	**-1.4**
AMKA				S	**Sn**	**04 46 04.3**	**-0.3**
ADK	**Adak**	**1.68**	**65**	P	**Pn**	**04 46 00.6**	**-0.4**
ADK				S	**Sn**	**04 46 21.5**	**+0.2**
SMY	**Shemya**	**4.46**	**293**	*e*Pn	**Pn**	**04 46 40.5**	**+1.3**
AKUT	**Akutan**	**8.64**	**65**	*e*Pn	**Pn**	**04 47 37.3**	**+0.8**
EGAK	**Eagle**	**23.83**	**41**	*e*P	**P**	**04 50 43.0**	**-0.2**
	2.2nm,0.6s,mb3.8						
DAWY	**Dawson**	**24.39**	**43**	*e*P	**P**	**04 50 47.1**	**-1.2**
INK	**Inuvik**	**27.73**	**35**	P	**P**	**04 51 18.7**	**+0.3**
	0.5nm,0.8s,mb3.2,baz=254,slow=6.3,SNR=3.3						
YKA	**Yellowknife Ar**	**35.51**	**46**	P	**P**	**04 52 26.2**	**-0.5**
	0.3nm,0.4s,mb3.6,baz=285,slow=7.4,SNR=9.5						
SONM	**Songino Array**	**46.54**	**297**	P	**P**	**04 53 59.3**	**+1.7**
	0.4nm,0.5s,mb3.6,baz=61,slow=6.4,SNR=4.1						
PDAR	**Pinedale Array**	**46.57**	**72**	P	**P**	**04 53 58.3**	**+0.5**
	1.5nm,0.7s,mb4.1,baz=305,slow=3.7,SNR=14						
ARCES	**ARCESS Array B**	**58.24**	**350**	P	**P**	**04 55 23.9**	**0.0**
	2.9nm,0.8s,mb4.3,baz=21,slow=7.7,SNR=2.6						
TXAR	**Lajitas Array**	**58.89**	**81**	P	**P**	**04 55 28.6**	**-0.4**
	0.2nm,0.6s,mb3.3,baz=300,slow=6.1,SNR=3.2						
MKAR	**Makanchi Array**	**59.99**	**308**	P	**P**	**04 55 36.3**	**0.0**
	0.3nm,0.4s,mb3.7,baz=60,slow=8.5,SNR=2.6						
FINES	**FINESS Array B**	**65.92**	**347**	P	**P**	**04 56 15.1**	**-0.4**
	3.4nm,1.1s,mb4.3,baz=347,slow=7.8,SNR=3.8						

*BJI **08** 04:48:10.0,558S×10268E,h24km,mB4.9,mb5.0,Ms4.5, Msz4.3*
*ISCJB **08** 04:48:17.4±0.2,457S±005×10274E±005,h19km, mb5.0/94,MS3.9/18,Error ellipse: s-maj=7.9km s-min=5.3km az=43.4*
*NEIC **08** 04:48:19.6±2.4,456S×10277E,h25km±16km,mb4.9/37, Error ellipse: s-maj=9.4km s-min=4.9km az=51.0*
NEIC Felt [II] at Bengkulu and Kapahiang.
*MOS **08** 04:48:20.1±1.0,438S×10284E,h33km,mb5.2/32,Error ellipse: s-maj=12.6km s-min=5.8km az=117.5*
*IDC **08** 04:48:24.3±1.6,455S×10280E,h61km±12km,mb4.4/21, mb1 4.5/22,mb1mx4.4/24,mbtmp4.4/22,MS3.7/10, Ms1 3.6/10,ms1mx3.5/25,Error ellipse: s-maj=17.8km s-min=9.6km az=46.0*

ISC 08 04:48:19.2±0.2,469S±004×10263E±004,h21km, h21km±1.7km:pP-P,n279,σ0§98/240,mb5.0/94,MS3.9/18, 32C-16D,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSI	**Kapahiang**	**1.03**	**358**	P	**Pb**	**04 48 40.8**	**+2.4**
	37μm,0.7s						
KLI	**Kotabumi**	**2.22**	**94**	P	**Pn**	**04 48 58.6**	**+3.7**
	3μm,1.1s						
SBJI	**Serang**	**3.76**	**112**	P	**Pn**	**04 49 23.7**	**+7.7**
	384nm,0.8s						
PPI	**Padang Panjang**	**4.76**	**332**	P	**Pn**	**04 49 34.2**	**+4.4**
	359nm,0.9s						
LEM	**Lembang**	**5.39**	**113**	P	**Pn**	**04 49 45.8**	**+7.3**
	205nm,0.8s						
XMIS	**Christmas Isla**	**6.48**	**153**	*e*Pn	**Pn**	**04 49 50.4**	**-3.1**
XMIS				*e*Sn	**Sn**	**04 50 58.7**	**-8.2**
MYKOM	**Kota Tinggi**	**6.55**	**11**	⇓P	**Pn**	**04 49 59.4**	**+4.9**
KGM	**Kluang**	**6.70**	**6**	⇑P	**Pn**	**04 50 01.3**	**+4.9**
FRIM	**Kepong**	**7.94**	**353**	⇓P	**Pn**	**04 50 18.2**	**+4.7**
PSI	**Prapat**	**8.31**	**333**	P	**Pn**	**04 50 19.1**	**+0.5**
	1.9nm,0.3s,baz=135,slow=7.7,SNR=12						
PSI				LR	LR	04 53 56.4	
	comp=Z,309nm,21.1s,baz=240,slow=41						
IPM	**Ipoh**	**9.25**	**350**	⇓P	**Pn**	**04 50 36.7**	**+5.3**
KTGM	**Kuala Trenggan**	**9.96**	**3**	⇑P	**Pn**	**04 50 48.2**	**+6.9**
KULM	**Kulim**	**10.11**	**349**	*e*Pn	**Pn**	**04 50 45.9**	**+2.6**
KULM	**Kulim**	**10.11**	**349**	⇓P	**Pn**	**04 50 48.5**	**+5.2**
SBUM	**Sibu**	**11.92**	**54**	⇑P	**Pn**	**04 51 14.2**	**+6.1**
BTM	**Bintulu**	**13.06**	**53**	⇑P	**Pn**	**04 51 30.9**	**+7.3**
PCI	**Palu**	**17.59**	**78**	P	**Pn**	**04 52 26.2**	**+3.0**
	70nm,1.1s						
TSM	**Tawau**	**17.65**	**60**	⇑P	**Pn**	**04 52 27.1**	**+3.1**
SDKM	**Sandakan**	**17.80**	**55**	⇓P	**Pn**	**04 52 29.1**	**+3.2**
KDM	**Kudat**	**18.27**	**51**	⇑P	**Pn**	**04 52 34.9**	**+3.3**
MYLDM	**Lahad Datu**	**18.64**	**58**	⇑P	**Pn**	**04 52 40.1**	**+4.0**
BATI	**Kupang**	**21.55**	**106**	P	**P**	**04 53 07.4**	**-0.1**
	28nm,0.5s,mb5.0,baz=38,slow=2.1,SNR=6.4						
BATI				S	**S**	**04 56 57.4**	**-8.3**
	12nm,0.5s,baz=135,slow=16,SNR=2.3						
BDT	**Bhumibol Dam**	**22.09**	**351**	P	**P**	**04 53 13.0**	**-0.1**
CM31	**Chiang Mai Arr**	**23.29**	**351**	*e*P	**P**	**04 53 26.5**	**+0.7**
	17nm,0.4s,mb4.8						
MBWA	**Marble Bar**	**23.32**	**136**	*e*P	**P**	**04 53 26.6**	**+0.4**
	14nm,1.1s,mb4.3						
CHG	**Chiang Mai**	**23.64**	**351**	⇑P	**P**	**04 53 28.1**	**-1.2**
	28nm,0.7s,mb4.8						
CHTO	**Chiang Mai**	**23.64**	**351**	*e*P	**P**	**04 53 28.2**	**-1.1**
	33nm,1.1s,mb4.7						
CHTO	**Chiang Mai**	**23.64**	**351**	*e*P	**P**	**04 53 28.2**	**-1.1**
CHTO				pmax	pmax		
	comp=Z,33nm,1.1s,mb4.7						
QIZ	**Qiongzhong**	**24.62**	**17**	P	**P**	**04 53 37.3**	**-1.0**
QIZ				*e*S	**S**	**04 58 02.5**	**+3.9**
QIZ				LR	LR		
	comp=Z,179nm,14.8s,MS3.7						
FITZ	**Fitzroy Crossi**	**26.15**	**122**	*e*P	**P**	**04 53 52.6**	**+0.4**
	comp=Z,13nm,0.7s,mb4.6						
FITZ	**Fitzroy Crossi**	**26.15**	**122**	P	**P**	**04 53 52.5**	**+0.3**
	comp=Z,9.3nm,0.8s,mb4.3,baz=326,slow=5.7,SNR=11						
VIS	**Vishakhapatnam**	**29.31**	**320**	*e*P	**P**	**04 54 20.9**	**+0.4**
VIS				AMb	AMB	04 54 25.5	
	comp=Z,26nm,1.2s,mb4.8						
KMI	**Kunming**	**29.64**	**0**	P	**P**	**04 54 25.1**	**+1.8**
KMI				AP	pP	04 54 31.4	+1.8
KMI				XP	sP	04 54 35.1	+3.0
KMI				PP	PP	04 55 23.5	-7.0
KMI				S	**S**	**04 59 21.7**	**+3.9**
KMI				AMB	AMB		
	comp=Z,9.0nm,1.0s,mb4.5						
KMI				AMB	AMB		
	comp=Z,68nm,4.0s						
KMI				LR	LR		
	comp=N,224nm,15.8s,MS3.9						
KMI				LR	LR		
	comp=E,105nm,16.7s,MS3.9						
KMI				LR	LR		
	comp=Z,178nm,15.0s,MS3.8						
GYA	**Guiyang**	**31.21**	**7**⇑	*i*P	**P**	**04 54 39.7**	**+2.5**
GYA				AP	pP	04 54 44.6	+1.1
GYA				XP	sP	04 54 47.2	+1.2
GYA				PP	PP	04 55 43.6	-4.4
GYA				S	**S**	**04 59 45.6**	**+3.1**
GYA				AMB	AMB		
	comp=Z,20nm,0.8s,mb5.0						
GYA				AMB	AMB		
	comp=Z,120nm,5.8s						
GYA				LR	LR		
	comp=N,540nm,17.6s,MS4.4						
GYA				LR	LR		
	comp=E,430nm,17.8s,MS4.4						
GYA				LR	LR		
	comp=Z,530nm,18.0s,MS4.2						
SHL	**Shillong**	**31.84**	**341**	*e*P	**P**	**04 54 42.0**	**-0.7**
BOK	**Bokaro**	**32.68**	**331**	*e*P	**P**	**04 54 51.1**	**+0.9**
WRA	**Warramunga Arr**	**34.39**	**119**	P	**P**	**04 55 05.4**	**+0.3**
	comp=Z,2.5nm,0.4s,mb4.5,baz=293,slow=10,SNR=18						
WRA				PcP	PcP	04 57 40.7	-0.2
	comp=Z,1.5nm,0.6s,baz=308,slow=2.0,SNR=5.0						
WRA				S	**S**	**05 00 27.9**	**-4.3**
	comp=Z,0.5nm,0.6s,baz=309,slow=15,SNR=3.3						
WRAB	**Tennant Creek**	**34.39**	**119**	*e*P	**P**	**04 55 05.1**	**-0.1**
	comp=Z,8.8nm,0.8s,mb4.7						
WRAB	**Tennant Creek**	**34.39**	**119**	*e*P	**P**	**04 55 05.1**	**-0.1**
WRAB				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.8						
WB2	**Warramunga Arr**	**34.40**	**119**	*e*P	**P**	**04 55 05.4**	**+0.2**
NGP	**Nagpur**	**34.56**	**319**	*e*P	**P**	**04 55 06.8**	**+0.2**
NGP				AMb	AMB	04 55 07.6	
	comp=Z,28nm,1.2s,mb5.1						
FORT	**Forrest**	**35.30**	**140**	*e*P	**P**	**04 55 14.6**	**+1.7**
	comp=Z,13nm,0.8s,mb4.9						
CD2	**Chengdu**	**35.42**	**2**	P	**P**	**04 55 13.0**	**-0.8**
CD2				AP	pP	04 55 20.1	-0.1
CD2				XP	sP	04 55 23.2	+0.5
CD2				PP	PP	04 56 36.1	+1.6
CD2				S	**S**	**05 00 50.5**	**+2.8**
CD2				AMB	AMB		
	comp=Z,20nm,1.0s,mb5.0						
CD2				AMB	AMB		
	comp=Z,70nm,7.2s						
CD2				LR	LR		
	comp=N,290nm,13.2s,MS4.4						
CD2				LR	LR		
	comp=E,330nm,15.6s,MS4.4						
CD2				LR	LR

GKN Gorkha 36.85 333 *eP* **P 04 55 26.5 +0.4**
comp=Z,148nm,0.8s,mb5.8
BHPL Bhopal 37.10 320 *eP* **P 04 55 28.4 +0.1**
BHPL AMb AMB 04 55 29.9
comp=Z,14nm,0.6s,mb5.0
KOLN Koldanda 37.13 331 *eP* **P 04 55 29.2 +0.6**
comp=Z,148nm,0.8s,mb5.9
DANN Dangsing 37.54 332 *eP* **P 04 55 32.6 +0.5**
comp=Z,1.5nm,0.6s,mb3.9
XAN Xi'an 38.98 8 P **P 04 55 43.1 -0.9**
XAN AP pP 04 55 50.2 -0.2
XAN AMB AMB
comp=Z,35nm,0.9s,mb5.1
XAN LR LR
comp=N,104nm,17.3s
XAN LR LR
comp=Z,155nm,16.7s,MS3.9
NJ2 Nanjing 39.67 22 *eP* **P 04 55 50.1 +0.3**
NJ2 AMB AMB
comp=Z,40nm,0.5s,mb5.4
JOW Kunigami 39.97 37 LR LR 05 11 29.5
comp=Z,74nm,18.7s,MS3.6,baz=100,slow=35
LZH Lanzhou 40.58 2 *eP* **P 04 55 57.8 +0.5**
LZH AMB AMB
comp=Z,41nm,1.4s,mb4.9
LZH AMB AMB
comp=Z,165nm,4.8s
NDI New Delhi 41.22 325 *eP* **P 04 56 02.9 +0.1**
SMLA Simla 43.12 327 *eP* **P 04 56 18.1 -0.1**
SMLA AMb AMB 04 56 19.3
comp=Z,43nm,1.2s,mb5.0
GTA Gaotai 43.96 357 P **P 04 56 25.0 +0.2**
GTA AP pP 04 56 29.5 -1.7
GTA XP sP 04 56 31.9 -1.9
GTA PP PP 04 58 08.4 +0.9
GTA PCP PcP 04 58 10.8 +0.3
GTA S **S 05 02 56.9 +1.4**
GTA AMB AMB
comp=Z,17nm,0.7s,mb4.9
GTA AMB AMB
comp=Z,67nm,4.6s
GTA LR LR
comp=N,143nm,15.2s,MS4.1
GTA LR LR
comp=E,71nm,14.1s,MS4.1
GTA LR LR
comp=Z,195nm,20.5s
CTA Charters Tower 45.10 114 *eP* **P 04 56 34.9 +0.6**
comp=Z,13nm,0.9s,mb4.8
CTA Charters Tower 45.10 114 *eP* **P 04 56 34.9 +0.6**
CTA pmax pmax
comp=Z,13nm,0.9s
CTAO Charters Tower 45.10 114 *eP* **P 04 56 34.6 +0.3**
comp=Z,23nm,0.9s,mb5.0
CTAO Charters Tower 45.10 114 *eP* **P 04 56 34.6 +0.3**
CTAO pmax pmax
comp=Z,23nm,0.9s,mb5.0
STKA Stephens Creek 45.41 131 *eP* **P 04 56 37.8 +1.2**
comp=Z,9.4nm,0.6s,mb4.8
STKA Stephens Creek 45.41 131 P **P 04 56 37.7 +1.1**
comp=Z,13nm,0.7s,mb4.9,baz=309,slow=8.1,SNR=37
STKA PcP PcP 04 58 15.8 +0.1
comp=Z,2.1nm,0.5s,baz=290,slow=5.8,SNR=2.7
STKA LR LR 05 17 58.1
comp=Z,84nm,18.7s,MS3.7,baz=206,slow=39
HHC Hu-ho-hao-te 46.05 9 *eP* **P 04 56 41.0 -0.5**
HHC AP pP 04 56 45.7 -2.2
HHC XP sP 04 56 48.6 -1.8
HHC PCP PcP 04 58 17.7 0.0
HHC PP PP 04 58 29.6 -0.2
HHC SCP ScP 05 02 06.8 -3.2
HHC PCS PcS 05 02 10.0 -2.0
HHC S **S 05 03 28.2 +2.4**
HHC SS SS 05 06 45.0 -6.2
HHC AMB AMB
comp=Z,26nm,0.5s,mb5.4
HHC AMB AMB
comp=Z,119nm,5.5s
HHC LR LR
comp=N,145nm,17.2s,MS4.2
HHC LR LR
comp=E,198nm,15.2s,MS4.2
HHC LR LR
comp=Z,95nm,12.7s,MS3.9
JNU Nakatsue 46.16 33 P **P 04 56 41.8 -0.7**
comp=Z,12nm,0.8s,mb4.9,baz=175,slow=5.8,SNR=9.6
JNU LR LR 05 15 07.2
comp=Z,38nm,18.0s,MS3.4,baz=33,slow=35
BJI Beijing 46.22 14 P **P 04 56 42.4 -0.4**
BJI PCP PcP 04 58 18.0 -0.3
BJI PP PP 04 58 34.2 +2.6
BJI S **S 05 03 29.9 +1.6**
BJI SS SS 05 06 55.2 +1.2
BJI AMB AMB
comp=Z,18nm,0.7s,mb5.1
BJI AMB AMB
comp=Z,145nm,7.3s
BJI LR LR
comp=N,148nm,18.0s,MS4.1
BJI LR LR
comp=E,79nm,16.2s,MS4.1
BJI LR LR
comp=Z,130nm,25.4s
KSRS Korea Array 48.09 27 P **P 04 56 56.7 -0.7**
comp=Z,7.7nm,0.9s,mb4.8,baz=227,slow=7.2,SNR=29
KSRS PcP PcP 04 58 23.8 -1.2
comp=Z,0.6nm,0.3s,baz=225,slow=2.5,SNR=4.6
WMQ Urumqi 50.13 346⇑*iP* **P 04 57 13.6 +0.6**
WMQ AMB AMB
comp=Z,43nm,0.9s,mb5.5
WMQ AMB AMB
comp=Z,127nm,5.0s
WMQ LR LR
comp=Z,179nm,17.0s,MS4.1
KBL Kabul 50.24 324 *eP* **P 04 57 13.8 -0.2**
comp=Z,7.2nm,0.8s,mb4.8
SONM Songino Array 52.41 3 P **P 04 57 30.1 +0.1**
SONM 04 58 40.0
SONM Songino Array 52.41 3 P **P 04 57 30.1 +0.2**
comp=Z,34nm,0.8s,mb5.3,baz=182,slow=8.9,SNR=255
SONM PcP PcP 04 58 40.0 -0.6
comp=Z,3.9nm,0.5s,baz=186,slow=3.9,SNR=9.4
SONM LR LR 05 21 55.1
comp=Z,54nm,20.3s,MS3.6,baz=172,slow=38
CN2 Changchun 52.47 21 *eP* **P 04 57 29.0 -1.5**
CN2 AMB AMB
comp=Z,30nm,0.9s,mb5.2
ULN Ulaanbaatar 52.48 4 *eP* **P 04 57 30.3 -0.1**
comp=Z,19nm,0.9s,mb5.0
ULN Ulaanbaatar 52.48 4*c iP* **P 04 57 30.6 +0.1**
ULHL Ulahol 52.52 335 P **P 04 57 30.9 0.0**
SNR=16
MAJO Matsushiro 52.79 36 *eP* **P 04 57 30.5 -2.5**
comp=Z,17nm,1.2s,mb4.8
MAJO Matsushiro 52.79 36 *eP* **P 04 57 30.5 -2.6**
MAJO pmax pmax
comp=Z,17nm,1.2s,mb4.8
MAT Matsushiro 52.79 36 P **P 04 57 31.1 -2.0**
MJAR Matsushiro Arr 52.80 36 P **P 04 57 31.3 -1.8**
MJAR 04 58 41.6
MJAR Matsushiro Arr 52.80 36 P **P 04 57 31.3 -1.8**
comp=Z,7.4nm,0.9s,mb4.6,baz=218,slow=7.4,SNR=29
MJAR PcP PcP 04 58 41.6 -0.8
comp=Z,2.2nm,0.9s,baz=205,slow=3.5,SNR=4.6
MJAR LR LR 05 19 58.0
comp=Z,38nm,20.1s,MS3.4,baz=225,slow=36
KZA Kyzart 52.80 335 P **P 04 57 33.2 +0.2**
SNR=22
UCH Uchtor 53.24 334 *eP* **P 04 57 36.1 -0.1**
comp=Z,7.9nm,0.8s,mb4.7
UCH Uchtor 53.24 334 P **P 04 57 36.5 +0.3**
SNR=17
TKM2 Tokmak 2 53.34 335 *eP* **P 04 57 36.6 -0.3**
comp=Z,32nm,0.8s,mb5.3
TKM2 Tokmak 2 53.34 335 *eP* **P 04 57 36.6 -0.4**
TKM2 pmax pmax
comp=Z,32nm,0.8s,mb5.3
TKM2 Tokmak 2 53.34 335 P **P 04 57 37.0 0.0**
SNR=40
KBK Karagaybulak 53.40 335 P **P 04 57 38.0 +0.6**
SNR=7.0
AML Almayashu 53.52 333 *eP* **P 04 57 38.0 -0.3**
comp=Z,20nm,0.8s,mb5.1
AML *e*PcP PcP 04 58 45.8 +0.8
AML Almayashu 53.52 333 P **P 04 57 38.5 +0.2**
SNR=28

AAK Ala-Archa 53.57 334 P **P 04 57 38.9 +0.2**
SNR=11
FRU Bishkek 53.68 335 *eP* **P 04 57 38.0 -1.5**
EKS2 Erkin-Say 53.91 334 *eP* **P 04 57 41.0 -0.1**
comp=Z,42nm,0.9s,mb5.4
EKS2 Erkin-Say 53.91 334 P **P 04 57 41.1 0.0**
SNR=65
USP Ospenovka 54.09 335 P **P 04 57 41.9 -0.5**
MK31 Makanchi Array 54.33 343 *eP* **P 04 57 43.2 -1.0**
MKAR Makanchi Array 54.33 343 P **P 04 57 43.4 -0.8**
comp=Z,28nm,0.6s,mb5.3,baz=144,slow=7.9,SNR=204
MKAR LR LR 05 22 33.4
comp=Z,38nm,18.6s,MS3.5,baz=176,slow=38
MDJ Mudanjiang 54.72 23 P **P 04 57 46.3 -0.7**
MDJ AMB AMB
comp=Z,6.0nm,0.9s,mb4.6
MDJ AMB AMB
comp=Z,38nm,5.1s
ZAK Zakamensk 54.85 1 *eP* **P 04 57 47.2 -0.7**
ZAK pmax pmax
comp=Z,6.0nm,0.9s,mb4.6
HIA Hailar 55.76 13 *eP* **P 04 57 52.9 -1.6**
comp=Z,15nm,1.1s,mb4.9
HIA Hailar 55.76 13 *i* P **P 04 57 53.3 -1.1**
MOY Mondy 56.16 359 *eP* **P 04 57 57.2 0.0**
TLY Talaya 56.16 1 *eP* **P 04 57 57.1 -0.1**
comp=Z,2.3nm,0.5s,mb4.5
TLY Talaya 56.16 1 *i* P **P 04 57 57.4 +0.2**
TLY pmax pmax
comp=Z,3.0nm,0.8s,mb4.4
KURK Kurchatov 58.93 342 *eP* **P 04 58 15.5 -1.3**
comp=Z,32nm,0.8s,mb5.4
KURK Kurchatov 58.93 342 *eP* **P 04 58 15.5 -1.3**
KURK pmax pmax
comp=Z,32nm,0.8s,mb5.4
KLR Kul'dur 59.37 22 *eP* **P 04 58 14.0 -5.9**
ZAL Zalesovo 60.30 348 P **P 04 58 25.0 -1.1**
ZAA0 Zalesovo Array 60.30 348 *eP* **P 04 58 24.7 -1.5**
ZALV Zalesovo Beam 60.30 348 P **P 04 58 25.0 -1.2**
ZALV LR LR 05 27 57.0
ZALV Zalesovo Beam 60.30 348 P **P 04 58 25.0 -1.2**
comp=Z,38nm,0.4s,mb5.8,baz=167,slow=5.0,SNR=239
ZALV LR LR 05 27 57.0
comp=Z,66nm,18.4s,MS3.8,baz=136,slow=39
ASAJ Asahikawa 60.41 32 P **P 04 58 26.5 -0.6**
comp=Z,10nm,0.6s,mb5.0,baz=238,slow=11,SNR=15
NVS Novosibirsk 61.48 347 *eP* **P 04 58 32.0 -2.1**
NVS pmax pmax
comp=Z,12nm,0.8s,mb5.1
NVS pmax pmax
comp=N,10.0nm,1.1s
NVS pmax pmax
comp=E,5.0nm,0.7s
YSS Yuzh-Sakhalins 62.42 30 *eP* **P 04 58 39.8 -0.9**
comp=E,42nm,1.2s,mb5.4
YSS Yuzh-Sakhalins 62.42 30⇓*eP* **P 04 58 40.0 -0.7**
YSS *e* 04 58 54.1
YSS pmax pmax
comp=Z,30nm,0.9s,mb5.4
KBD Kabd 62.53 306 *eP* **P 04 58 42.6 +0.9**
KBD AMb AMB 04 58 44.0
comp=Z,176nm,0.9s,mb6.2
RDF Al-Radifah 62.55 306 *eP* **P 04 58 42.2 +0.4**
RDF AMb AMB 04 58 44.0
comp=Z,85nm,0.8s,mb5.9
NAY Al-Naaiem 62.92 306 *eP* **P 04 58 44.9 +0.6**
NAY AMb AMB 04 58 46.3
comp=Z,36nm,0.9s,mb5.5
BOD Bodaibo 62.98 7 *eP* **P 04 58 42.9 -1.2**
BOD pmax pmax
comp=Z,12nm,0.9s,mb5.0
MIB Mutribah 63.06 307 *eP* **P 04 58 46.1 +0.8**
MIB AMb AMB 04 58 47.5
comp=Z,67nm,0.9s,mb5.8
RST Umm Al-Ruwaisa 63.21 306 *eP* **P 04 58 46.7 +0.3**
RST AMb AMB 04 58 48.0
comp=Z,71nm,0.7s,mb5.9
BRVK Borovoye 63.67 339 *eP* **P 04 58 47.3 -1.6**
comp=Z,9.8nm,0.6s,mb5.0
BRVK Borovoye 63.67 339 *eP* **P 04 58 47.3 -1.6**
BRVK pmax pmax
comp=Z,10.0nm,0.6s,mb5.0
KMBO Kilima Mbogo 65.37 271 P **P 04 59 03.0 +2.2**
comp=Z,1.8nm,0.8s,mb4.1,baz=51,slow=23,SNR=5.4
MAW Mawson 68.37 195 LR LR 05 23 21.7
comp=Z,156nm,19.1s,MS4.3,baz=64,slow=31
DGRG David-gareji 69.41 318 P **P 04 59 26.8 +1.0**
YAK Yakutsk 69.70 13 *eP* **P 04 59 25.4 -1.7**
comp=Z,28nm,0.6s,mb5.4
YAK Yakutsk 69.70 13 *eP* **P 04 59 23.6 -3.6**
YAK pmax pmax
comp=E,6.0nm,1.2s
YAK pmax pmax
comp=Z,31nm,1.2s,mb5.1
YAK pmax pmax
comp=N,12nm,1.3s
MTA Mtatsminda 69.91 318 P **P 04 59 29.2 +0.3**
TBLG Delisi 69.96 318 P **P 04 59 29.7 +0.5**
SVE Sverdlovsk 70.16 337 *eP* **P 04 59 29.5 -0.6**
ARU Arti 70.71 336 *eP* **P 04 59 31.9 -1.5**
comp=N,13nm,0.9s,mb4.8
ARU Arti 70.71 336*c iP* **P 04 59 32.4 -1.1**
ARU *e* 04 59 51.5
ARU *e* 05 02 05.0
ARU *e*S S 05 08 45.1 -1.5
ARU pmax pmax
comp=Z,19nm,1.0s,mb5.0
ONI Oni 71.19 318 P **P 04 59 37.7 +1.1**
KIV Kislovodsk 72.28 319 *eP* **P 04 59 42.7 -0.5**
comp=Z,26nm,1.2s,mb5.0
KIV Kislovodsk 72.28 319 *eP* **P 04 59 43.7 +0.5**
KIV pmax pmax
comp=Z,13nm,1.0s,mb4.8
MALT Malatya 73.08 312 *eP* **P 04 59 48.0 -0.1**
comp=Z,9.5nm,1.2s,mb4.6
MALT Malatya 73.08 312 *eP* **P 04 59 48.0 -0.1**
MALT pmax pmax
comp=Z,9.0nm,1.2s,mb4.6
MALT Malatya 73.08 312⇑*iP* **P 04 59 47.6 -0.5**
SOC Sochi 74.10 318*c iP* **P 04 59 52.9 -1.1**
SOC *e* 05 00 05.0
SOC *e* 05 02 34.9
SOC *e*PPP 05 04 26.4
SOC *e*S S 05 09 22.4 -3.5
SOC *e* 05 09 54.1
SOC *e*SS SS 05 14 05.9 -5.5
SOC pmax pmax
comp=Z,20nm,0.9s,mb5.0
PET Petropavlovsk 74.23 31 *eP* **P 04 59 53.1 -1.4**
ANN Anapa 76.08 318 *eP* pP 05 00 14.5 +2.4
ANN pmax pmax
comp=Z,40nm,0.8s,mb5.4
BOSA Boshof 76.69 242 LR LR 05 26 06.5
comp=Z,98nm,20.1s,MS4.1,baz=132,slow=29
SEY Seymchan 77.15 21⇑*eP* **P 05 00 10.5 -0.5**
VORD Divnogorie 77.30 325 *eP* **P 05 00 10.6 -1.5**
VORD pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
VORD pmax pmax
comp=N,10.0nm,0.6s
VORD pmax pmax
comp=E,10.0nm,0.7s
VRSR Storozhevoye 77.46 325 *eP* **P 05 00 11.8 -1.2**
VRSR pmax pmax
comp=N,3.0nm,0.8s
VRSR pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
VRSR pmax pmax
comp=E,7.0nm,0.9s
TIXI Tiksi 78.11 8 *eP* **P 05 00 13.3 -2.8**
comp=E,2.3nm,0.4s,mb4.5
TIXI Tiksi 78.11 8⇓*eP* **P 05 00 13.4 -2.8**
TIXI pmax pmax
comp=Z,8.0nm,1.5s,mb4.4
SIM Simferopol' 78.34 318*ceP* **P 05 00 18.1 0.0**
SIM pmax pmax
comp=Z,21nm,0.7s,mb5.2
VNDA Vanda 79.03 169 P **P 05 00 21.8 +0.5**
comp=Z,0.6nm,0.7s,baz=291,slow=7.1,SNR=3.7
OBN Obninsk 80.45 328⇑*eP* **P 05 00 27.8 -1.5**
OBN *e* 05 03 31.1
OBN *e*S S 05 10 38.5 +4.0
OBN pmax pmax
comp=Z,37nm,1.2s,mb5.2

PSN Preselentsi 82.07 315 *i* P **P 05 00 38.4 +0.2**
TIRR Tirgusor 82.10 316⇑P **P 05 00 38.2 -0.1**
TIRR Tirgusor 82.10 316⇑*iP* **P 05 00 38.2 -0.1**
KIS Kishinev 82.48 318 *eP* **P 05 00 40.0 -0.2**
HARR Harsova 82.49 316⇓P **P 05 00 40.7 +0.3**
HARR Harsova 82.49 316⇓*iP* **P 05 00 40.7 +0.3**
PRD Provadia 82.51 315 *i* P **P 05 00 40.3 -0.2**
JMB Yambol 82.92 314 *i* P **P 05 00 42.4 -0.3**
AKASG Malin Array Be 83.21 322 P **P 05 00 43.0 -0.9**
comp=Z,5.4nm,0.6s,mb4.8,baz=88,slow=4.8,SNR=31
AKBB Malin Array Si 83.21 322 *eP* **P 05 00 43.1 -0.8**
KIEV Kiev 83.21 322 *eP* **P 05 00 42.8 -1.2**
comp=Z,6.3nm,0.9s,mb4.7
KIEV Kiev 83.21 322 *eP* **P 05 00 42.8 -1.2**
KIEV pmax pmax
comp=Z,6.0nm,0.9s,mb4.6
SZH Strazhica 83.57 314 *i* P **P 05 00 45.6 -0.4**
VRI Vrincioaia 83.60 317⇑P **P 05 00 46.6 +0.6**
VRI Vrincioaia 83.60 317⇑*iP* **P 05 00 46.6 +0.5**
PLOR Plostina 83.65 317⇓*iP* **P 05 00 47.0 +0.7**
TSUM Tsumeb 83.81 251 P **P 05 00 48.8 +1.0**
comp=Z,2.0nm,0.9s,mb4.2,baz=65,slow=5.4,SNR=4.1
MLR Muntele Rosu 84.05 317⇑P **P 05 00 48.9 +0.5**
MLR Muntele Rosu 84.05 317⇑*iP* **P 05 00 48.9 +0.5**
MLR Muntele Rosu 84.05 317 S S 05 10 57.8 -14
RZN Rozhen 84.12 313 *i* P **P 05 00 49.1 +0.3**
PGB Panagyurishte 84.69 313 *i* P **P 05 00 51.5 -0.2**
BILL Bilibino 84.77 20⇑*eP* **P 05 00 50.5 -1.0**
BILL *e**PP pP 05 01 05.2 +6.8
BILL *e*S S 05 11 13.2 -4.9
BILL pmax pmax
comp=Z,2.0nm,0.7s,mb4.4
MMB Musomiste 84.83 312 *i* P **P 05 00 50.5 -1.9**
KKB Krupnik 85.35 313 *i* P **P 05 00 54.0 -1.1**
VTS Vitosha 85.39 313⇓P **P 05 00 55.2 -0.1**
VTS Vitosha 85.39 313⇓*iP* **P 05 00 55.2 0.0**
VTS Vitosha 85.39 313 *i* P **P 05 00 55.0 -0.2**
JOF Joensuu 85.76 334 *ep* **P 05 00 56.4 -0.2**
comp=Z,8.7nm,0.7s,mb5.1
DRGR 86.51 317⇑P **P 05 01 01.4 +0.8**
DRGR 86.51 317⇑*iP* **P 05 01 01.5 +0.8**
KRUS Krusevo 86.62 312 *eP* **P 05 01 01.1 -0.2**
BZS Buzias 87.06 316⇓*iP* **P 05 01 03.4 0.0**
KOLS Kolonicke sedl 87.19 319 *eP* **P 05 01 04.9 +1.0**
SUW Suwalki 87.59 324 *eP* **P 05 01 05.2 -0.6**
SUW Suwalki 87.59 324 *eP* **P 05 01 05.1 -0.6**
FINES FINESS Array B 87.70 332 P **P 05 01 05.9 -0.2**
comp=Z,5.0nm,0.7s,mb4.9,baz=113,slow=6.2,SNR=33
CRVS Cervenica-Dubn 87.71 319 *eP* **P 05 01 06.7 +0.2**
CRVS *e*PP PP 05 04 32.0 -0.1
KAF Kangasniemi 87.76 333 *ep* **P 05 01 05.7 -0.7**
comp=Z,11nm,0.6s,mb5.2,baz=99,slow=4.4
KAF Kangasniemi 87.76 333 *eP* **P 05 01 05.7 -0.7**
KAF pmax pmax
comp=Z,11nm,0.6s,mb5.3
STHS Stebnicka Huta 87.94 320 *i* P **P 05 01 08.3 +0.8**
comp=Z,12nm,0.8s,mb5.2
STHS Stebnicka Huta 87.94 320 *i* P **P 05 01 08.3 +0.8**
STHS pmax pmax
comp=Z,12nm,0.8s,mb5.2
STHS Stebnicka Huta 87.94 320 *i* P **P 05 01 08.2 +0.7**
KECS Kecovo 88.28 319 *i* P **P 05 01 09.4 +0.2**
comp=Z,4.0nm,0.8s,mb4.7
KECS Kecovo 88.28 319 *i* P **P 05 01 09.4 +0.2**
KECS pmax pmax
comp=Z,4.0nm,0.8s,mb4.7
PSZ Piszkesteto 88.59 318 *eP* **P 05 01 10.7 +0.1**
comp=Z,7.0nm,0.9s,mb5.0
PSZ Piszkesteto 88.59 318 *eP* **P 05 01 10.7 +0.1**
PSZ pmax pmax
comp=Z,7.0nm,0.9s,mb5.0
PSZ Piszkesteto 88.59 318⇓*iP* **P 05 01 10.4 -0.2**
PSZ Piszkesteto 88.59 318⇓*eP* **P 05 01 11.0 +0.4**
PKSM Moragy 89.20 316⇑P **P 05 01 13.7 +0.1**
PKSM Moragy 89.20 316⇑*iP* **P 05 01 13.7 +0.2**
VYHS Vyhne 89.37 319 *i* P **P 05 01 14.5 +0.2**
comp=Z,3.1nm,1.1s,mb4.5
VYHS Vyhne 89.37 319 *i* P **P 05 01 14.5 +0.2**
VYHS pmax pmax
comp=Z,3.0nm,1.1s,mb4.5
KOLL Kolacno 89.67 319 *eP* **P 05 01 16.0 +0.3**
TIP Timpagrande 89.73 309 *eP* **P 05 01 17.3 +1.0**
comp=Z,5.0nm,0.6s,mb5.0
ARCES ARCESS Array B 89.88 340 P **P 05 01 15.9 -0.4**
comp=Z,3.3nm,1.0s,mb4.6,baz=108,slow=4.5,SNR=7.5
OKC Ostrava-Krasne 89.99 320 *eP* **P 05 01 17.5 +0.3**
MORC Moravsky Berou 90.38 320 *eP* **P 05 01 19.0 +0.1**
comp=Z,7.4nm,0.8s,mb5.1
MORC Moravsky Berou 90.38 320 *eP* **P 05 01 19.0 0.0**
MORC pmax pmax
comp=Z,7.0nm,0.8s,mb5.0
MORC Moravsky Berou 90.38 320⇑*iP* **P 05 01 19.5 +0.5**
ZST Bratislava 90.48 318 *eP* **P 05 01 20.1 +0.6**
comp=Z,10nm,1.3s,mb5.0
ZST Bratislava 90.48 318 *eP* **P 05 01 20.1 +0.6**
ZST pmax pmax
comp=Z,10.0nm,1.3s,mb5.0
SOP Sopron 90.79 318⇓*eP* **P 05 01 21.1 +0.2**
DPC Dobruska-Polom 91.22 320 *eP* **P 05 01 23.6 +0.7**
KSP Ksiaz 91.29 321 *eP* **P 05 01 24.1 +1.0**
KSP Ksiaz 91.29 321 *eP* **P 05 01 24.1 +0.9**
UPC Upice 91.43 320 *eP* **P 05 01 24.9 +1.0**
AQU L'Aquila 92.56 312 *eP* **P 05 01 30.0 +0.7**
comp=Z,4.9nm,0.8s,mb5.0
AQU L'Aquila 92.56 312 *eP* **P 05 01 30.0 +0.7**
AQU pmax pmax
comp=Z,5.0nm,0.8s,mb5.0
AQU L'Aquila 92.56 312⇓*iP* **P 05 01 29.3 0.0**
BRG Berggiesshubel 92.77 321 *i* P **P 05 01 30.3 +0.2**
BRG pmax pmax
comp=Z,2.0nm,0.7s,mb4.7
BRG Berggiesshubel 92.77 321 *i* P **P 05 01 30.3 +0.3**
comp=Z,3.8nm,0.7s,mb5.0
GERES GERESS Array B 92.79 319 P **P 05 01 29.9 -0.3**
comp=Z,1.4nm,0.6s,mb4.6,baz=112,slow=3.4,SNR=16
KHC Kasperske Hory 92.89 319⇑*eP* **P 05 01 30.7 +0.1**
KHC Kasperske Hory 92.89 319 *eP* **P 05 01 30.6 0.0**
CLL Collm 93.39 321 *eP* **P 05 01 33.0 +0.1**
comp=Z,4.0nm,1.1s,mb4.8
GRA1 Grafenberg Arr 94.46 319 *e*PKP **P 05 01 38.0 +0.2**
GRF Grafenberg Arr 94.46 319 *e*PKP **P 05 01 38.0 +0.2**
NB2 NORSAR Subarra 94.76 331 P **P 05 01 37.8 -1.2**
comp=Z,3.6nm,0.8s,mb4.8,baz=94,slow=4.8
NOA NORSAR Array B 94.76 331 P **P 05 01 38.3 -0.7**
comp=Z,1.8nm,0.8s,mb4.6,baz=93,slow=4.7,SNR=4.8
KEST Kesra 95.38 305 P **P 05 01 44.1 +1.7**
comp=Z,1.2nm,0.8s,mb4.4,baz=148,slow=3.2,SNR=6.4
INK Inuvik 106.37 19 *e*PKP PKiKP 05 06 40.9 -1.0
YKA Yellowknife Ar 116.13 18 PKP PKPdf 05 06 58.9 -1.6
YKA Yellowknife Ar 116.13 18⇑*iP*KIKP PKPdf 05 06 59.0 -1.5
YKA Yellowknife Ar 116.13 18 PKP PKPdf 05 06 58.9 -1.6
comp=Z,0.9nm,0.8s,baz=320,slow=2.2,SNR=12
EDM Edmonton 123.36 25 *e*PKPdf PKPdf 05 07 14.0 -0.7
FCC Fort Churchill 124.53 10 *e*PKPdf PKPdf 05 07 15.3 -1.4
NEW Newport 124.92 31 *e*PKPdf PKPdf 05 07 16.8 -1.1
FFC Flin Flon 126.29 17 *e*PKPdf PKPdf 05 07 19.0 -1.2
WVOR Wild Horse Val 127.53 38 *e*PKPdf PKPdf 05 07 23.1 +0.1
SCHQ Schefferville 129.29 352 PKP PKPdf 05 07 24.5 -1.5
comp=Z,2.8nm,0.8s,baz=213,slow=5.9,SNR=3.9
HLID Hailey 129.35 34 *e*PKPdf PKPdf 05 07 26.9 +0.4
BOZ Bozeman (W) 129.48 31 *e*PKPdf PKPdf 05 07 26.7 +0.1
NVAR Mina Array Bea 129.92 42 PKP PKPdf 05 07 28.5 +0.8
NVAR Mina Array Bea 129.92 42 PKP PKPdf 05 07 28.5 +0.8
comp=Z,1.4nm,0.7s,baz=333,slow=1.5,SNR=9.5
GCMT Greycliff 130.35 29 *e*PKPdf PKPdf 05 07 28.5 +0.2
TPAW Teton Pass 131.30 32 *e*PKPdf PKPdf 05 07 30.5 +0.3
LOHW Long Hollow 131.40 32 *e*PKPdf PKPdf 05 07 30.4 +0.1
SNOW Snow King Moun 131.43 32 *e*PKPdf PKPdf 05 07 30.9 +0.5
ULM Lac du Bonnet 132.00 16 *e*PKPdf PKPdf 05 07 29.7 -1.6
ULM Lac du Bonnet 132.00 16 PKP PKPdf 05 07 29.7 -1.6
comp=Z,3.0nm,0.8s,baz=321,slow=0.8,SNR=6.4
DUG Dugway 132.39 37 *e*PKPdf PKPdf 05 07 32.7 +0.3
PDAR Pinedale Array 132.54 32 PKP PKPdf 05 07 31.9 -0.6
PDAR SKPbc SKPbc 05 10 54.0 -4.5
PDAR Pinedale Array 132.54 32 PKP PKPdf 05 07 31.9 -0.6
comp=Z,0.6nm,0.6s,baz=213,slow=1.0,SNR=6.2
PDAR SKPbc SKPbc 05 10 54.0 -4.5
comp=Z,0.7nm,0.6s,baz=130,slow=0.6,SNR=5.5
RSSD Black Hills 134.25 27 *e*PKPdf PKPdf 05 07 36.1 +0.4
SDCO Great Sand Dun 138.27 34 *e*PKPdf PKPdf 05 07 43.6 +0.2
TUC Tucson 138.39 45 *e*PKPdf PKPdf 05 07 44.7 +0.9
ANMO Albuquerque 139.62 38 *e*PKPdf PKPdf 05 07 46.1 +0.2
ANMO Albuquerque 139.62 38 PKP PKPdf 05 07 46.2 +0.3

comp=Z,2.0nm,0.9s,baz=15,slow=3.8,SNR=3.6
WMOK Wichita Mounta 144.12 31 *e*PKPdf PKPdf 05 07 50.1 -3.8
BDFB Brasilia 144.61 235 PKP PKPdf 05 07 54.8 -0.5
comp=Z,3.4nm,0.8s,baz=165,slow=6.2,SNR=7.7
BLO Bloomington 144.69 12 *e*PKPdf PKPdf 05 07 52.2 -2.7
TXAR Lajitas Array 145.07 43 PKP PKPdf 05 07 54.9 -0.9
comp=Z,8.8nm,0.7s,baz=284,slow=1.3,SNR=99
TXAR SKPbc SKPbc 05 11 29.3 -5.1
comp=Z,0.2nm,0.5s,baz=251,slow=2.8,SNR=3.4
MCWV Mont Chateau 145.12 3 *e*PKPdf PKPdf 05 07 53.9 -1.7
USIN University of 145.57 14 *e*PKPbc PKPbc 05 07 55.4 -1.1
WCI Wyandotte Cave 145.64 13 *e*PKPbc PKPbc 05 07 55.1 -1.6
PARMO Parma 146.21 18 *e*PKPbc PKPbc 05 07 57.9 -0.6
MIAR Mount Ida 146.71 25 *e*PKPbc PKPbc 05 07 59.3 -0.8
JCT Junction City 146.75 37 *e*PKPbc PKPbc 05 07 58.7 -1.6
UALR University of 147.01 23 *e*PKPbc PKPbc 05 07 59.0 -1.9
WVT Waverly 147.26 16 *e*PKPbc PKPbc 05 07 60.0 -1.6
ELN Prospectdale 147.47 5 *e*PKPdf PKPdf 05 07 58.3 -1.3
ELN *e*PKPbc PKPbc 05 08 00.5 -1.6
PLAL Pickwick Lake 148.27 17 *e*PKPbc PKPbc 05 08 02.6 -1.8
PLAL *e*PKPab PKPab 05 08 05.2 -2.2
SWET Sewanee 148.61 14 *e*PKPbc PKPbc 05 08 03.6 -1.6
CPCT Cooper Cave 148.69 11 *e*PKPbc PKPbc 05 08 04.0 -1.4
HKT Hockley 149.41 33 *e*PKPbc PKPbc 05 08 07.3 -0.1

KRSC 08 04:49:04.5±1.6, 5251N×15700E, h287km±46km, ML3.8, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MIPR	**Malaya Ipel'ka**	**0.28**	**212**	*e*P	Pn	04 49 41.7	+0.5
RUS	**Russkaya**	**0.93**	**94**	*e*P	Pn	04 49 44.3	+1.2
RUS				*i* S	S	04 50 13.4	-0.3
AVH	**Avacha**	**1.30**	**54**	*e*P	Pn	04 49 46.9	+1.9
GNL	**Ganaly**	**1.32**	**25**	*e*P	Pn	04 49 45.7	+0.7
NLC	**Nalytchevo**	**1.57**	**64**	*e*P	Pn	04 49 48.9	+2.2
NLC				*i* S	S	04 50 21.2	+0.9
ALID	**Alaid**	**1.88**	**209**	*e*P	Pn	04 49 50.1	+1.0
SPN	**Mys Shipunski**	**1.93**	**71**	*e*P	Pn	04 49 50.6	+1.2
SPN				*i* S	S	04 50 24.1	-1.0
TUMR	**Tumrok**	**3.34**	**33**	*e*P	Pn	04 50 04.8	+2.1
MKZ	**Mys Kozlova**	**3.49**	**52**	*e*P	Pn	04 50 05.5	+1.2
MKZ				*i* S	S	04 50 49.5	-2.5
KMNR	**Kamenistaya**	**3.77**	**29**	P	Pn	04 50 08.5	+1.2
SRDR	**Sredinnyy**	**4.13**	**22**	P	Pn	04 50 13.0	+1.7
KBTR	**Krutoberegovo**	**5.03**	**40**	*e*P	Pn	04 50 23.1	+1.4
KBTR				*i* S	S	04 51 20.9	-2.7

*NEIC **08** 04:51:45.3±0.9, 4607N×153.18E, h10km, mb4.1/2, Error ellipse: s-maj=27.0km s-min=11.0km az=157.0*
*ISCJB **08** 04:51:51.2±1.7, 465N±02×153.1E±02, h50km±13km, mb3.8/11, Error ellipse: s-maj=32.2km s-min=10.4km az=149.4*
*MOS **08** 04:51:51.7±1.0, 4650N×15297E, h56km, mb4.1/6, Error ellipse: s-maj=19.2km s-min=13.7km az=48.7*
*IDC **08** 04:51:53.1±4.4, 4660N×15323E, h49km±50km, mb3.5/9, mb1 3.7/10, mb1mx3.5/23, mbtmp3.5/10, ML3.3/1, Error ellipse: s-maj=59.8km s-min=24.7km az=171.0*
ISC 08 04:51:53.5±1.5, 465N±02×1531E±02, h54km±12km, n29, σ0=91/31, mb3.8/11, 1C, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.87**	**253**	*e*PN	**Pn**	**04 52 48.5**	**-1.9**
KUR				*i* S	**Sn**	**04 53 35.0**	**+0.5**
KUR				pmax	pmax		
comp=Z,150nm,0.5s
KUR smax
comp=N,2μm,0.8s
KUR smax
comp=E,580nm,0.8s
SKR Severo-Kuril's 4.63 25 *e*PN **Pn** **04 53 02.0 +1.2**
YSS Yuzh-Sakhalins 7.12 277 *e*PN **Pn** **04 53 34.0 -0.9**
ASAJ Asahikawa 7.78 256 P **Pn** **04 53 44.9 +0.9**
comp=E,0.4nm,0.3s,baz=112,slow=7.9,SNR=4.4
ERM Erimo 8.43 241 *e*Pn **Pn** **04 53 44.5 -8.3**
comp=E,18nm,0.8s
ERM Erimo 8.43 241 *e*PN **Pn** **04 53 52.0 -0.8**
KSRS Korea Array 20.71 253 P **P** **04 56 31.1 +2.0**
comp=E,1.0nm,0.7s,baz=58,slow=12,SNR=4.5
BILL Bilibino 22.63 13 *e*P **P** **04 56 44.3 -5.0**
BILL *e* 04 57 01.9
BILL *e*S **S** **05 00 38.1 -15**
BILL pmax pmax
comp=Z,4.0nm,1.3s,mb3.7
INK Inuvik 41.86 32 P **P** **04 59 37.4 -0.3**
comp=Z,0.3nm,0.4s,mb3.3,baz=284,slow=6.7,SNR=3.6
MK31 Makanchi Array 47.04 298 *e*P **P** **05 00 19.1 -0.2**
MKAR Makanchi Array 47.04 298 P **P** **05 00 19.8 +0.5**
MKAR pmax pmax
comp=Z,1.0nm,0.6s
MKAR Makanchi Array 47.04 298 P **P** **05 00 19.8 +0.5**
comp=Z,0.9nm,0.6s,mb3.9,baz=65,slow=7.2,SNR=3.9
YKA Yellowknife Ar 51.12 37 P **P** **05 00 49.5 -0.8**
YKA Yellowknife Ar 51.12 37 P **P** **05 00 49.1 -1.1**
comp=Z,0.4nm,0.6s,mb3.5,baz=294,slow=7.1,SNR=5.8
EKS2 Erkin-Say 54.36 297 *e*P **P** **05 01 14.6 +0.1**
comp=Z,1.0nm,0.5s,mb4.0
FINES FINESS Array B 64.25 335 P **P** **05 02 22.2 -0.2**
FINES pmax pmax
comp=Z,1.0nm,0.4s
FINES FINESS Array B 64.25 335 P **P** **05 02 22.1 -0.3**
comp=Z,1.4nm,0.4s,mb4.3,baz=37,slow=6.4,SNR=8.9
SRU San Rafael 66.76 57 *e*P **P** **05 02 38.8 -0.2**
comp=Z,0.8nm,0.6s,mb3.9
SRU San Rafael 66.76 57 *e*P **P** **05 02 38.8 -0.1**
SRU pmax pmax
comp=Z,1.0nm,0.6s,mb4.0
NB2 NORSAR Subarra 68.45 341 P **P** **05 02 49.3 +0.1**
comp=Z,1.0nm,0.6s,mb4.0,baz=28,slow=6.2
NOA NORSAR Array B 68.45 341 P **P** **05 02 49.2 0.0**
NOA NORSAR Array B 68.45 341 P **P** **05 02 49.2 0.0**
NOA pmax pmax
comp=Z,1.0nm,0.6s
NOA NORSAR Array B 68.45 341 P **P** **05 02 49.2 0.0**
comp=Z,1.3nm,0.6s,mb4.1,baz=28,slow=6.3,SNR=6.3
AKASG Malin Array Be 71.74 326 P **P** **05 03 09.6 0.0**
AKASG pmax pmax
comp=Z,2.0nm,0.5s
AKASG Malin Array Be 71.74 326 P **P** **05 03 09.6 0.0**
comp=Z,1.8nm,0.5s,mb4.3,baz=34,slow=6.2,SNR=13
CLL Collm 76.68 336 *e*P **P** **05 03 37.0 -1.3**
TXAR Lajitas Array 77.62 60 P **P** **05 03 45.8 +1.8**
TXAR Lajitas Array 77.62 60 P **P** **05 03 43.5 -0.4**
comp=Z,0.4nm,0.7s,mb3.5,baz=306,slow=4.9,SNR=5.7
GERES GERESS Array B 78.67 334 P **P** **05 03 50.0 +0.6**
comp=Z,0.4nm,0.6s,mb3.5,baz=35,slow=4.9,SNR=4.8

*IDC **08** 05:36:21.6±0.7, 3077N×14199E, h0km, mb3.8/10, mb1 3.9/15, mb1mx3.9/22, mbtmp3.8/15, ML3.4/5, MS2.9/2, Ms1 2.9/2, ms1mx2.5/36, Error ellipse: s-maj=25.8km s-min=15.1km az=75.0*
*NEIC **08** 05:36:23.5±5.2, 3075N×14194E, h13km±31km, mb4.1/4, Error ellipse: s-maj=14.3km s-min=9.4km az=80.0*
*ISCJB **08** 05:36:24.6±0.5, 3081N±006×1418E±01, h33km, mb3.9/14, Error ellipse: s-maj=15.7km s-min=5.3km az=156.3*
ISC 08 05:36:26.8±0.5, 3079N±005×1419E±01, h35km, n25, σ0=89/28, mb3.9/14, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ	**Hachijo jima 2 2.94 323**			Pn	**Pn**	**05 37 10.0**	**-0.9**
8.1nm,0.3s,baz=245,slow=23,SNR=2.9
JHJ Sn **Sn** **05 37 43.0 -1.9**
8.4nm,0.3s,baz=253,slow=23,SNR=2.4
CBIJ Chichi jima 3.69 176 Pn **Pn** **05 37 20.2 -1.0**
7.5nm,0.3s,baz=240,slow=23,SNR=4.7
CBIJ Sn **Sn** **05 37 59.5 -4.0**
24nm,0.3s,baz=85,slow=23,SNR=11
MJAR Matsushiro Arr 6.51 333 Pn **Pn** **05 37 59.8 -0.2**
1.6nm,0.3s,baz=151,slow=11,SNR=38
MJAR Sn **Sn** **05 39 13.4 +0.5**
0.5nm,0.3s,baz=108,slow=17,SNR=3.0
MAJO Matsushiro 6.51 333 *e*Pn **Pn** **05 37 59.5 -0.5**
14nm,0.6s
MAJO *e*Sn **Sn** **05 39 12.4 -0.6**
MAT Matsushiro 6.51 333 P **Pn** **05 37 59.8 -0.2**
MAT S **Sn** **05 39 13.6 +0.6**
JNU Nakatsue 9.64 287 LR LR 05 42 29.9
comp=Z,64nm,18.1s,baz=37,slow=38

ASAJ Asahikawa 13.32 2 Pn **Pn** **05 39 31.2 -2.0**
0.3nm,0.3s,baz=233,slow=18,SNR=4.1
KSRS Korea Array 13.34 304 Pn **Pn** **05 39 34.3 +0.8**
0.1nm,0.3s,baz=126,slow=14,SNR=3.2
KSRS LR LR 05 44 47.6
comp=Z,43nm,18.1s,baz=100,slow=38
ULN Ulaanbaatar 31.55 313 *e*P **P** **05 42 47.2 +1.5**
3.1nm,1.0s,mb4.1
SONM Songino Array 31.96 312 P **P** **05 42 50.7 +1.5**
1.0nm,0.8s,mb3.7,baz=114,slow=8.6,SNR=8.0
ZALV Zalesovo Beam 46.58 317 PcP PcP 05 46 24.0 -0.6
0.4nm,0.3s,baz=132,slow=4.1,SNR=2.8
MK31 Makanchi Array 47.99 307 *e*P **P** **05 45 02.3 +0.2**
MKAR Makanchi Array 47.99 307 P **P** **05 45 02.9 +0.8**
2.5nm,0.7s,mb4.4,baz=90,slow=9.7,SNR=16
KURK Kurchatov 50.27 312 *e*P **P** **05 45 18.7 -0.7**
1.7nm,0.7s,mb4.2
KURK *e* pP 05 45 31.4 +1.5
WB2 Warramunga Arr 50.96 189 *e*P **P** **05 45 24.3 -0.6**
WRA Warramunga Arr 50.96 189 P **P** **05 45 24.4 -0.5**
1.2nm,0.4s,mb4.2,baz=5.4,slow=7.5,SNR=36
UCH Uchtor 54.06 302 *e*P **P** **05 45 48.6 +0.8**
1.0nm,0.8s,mb3.8
ASAR Alice Springs 54.68 189 P **P** **05 45 52.8 +0.5**
0.3nm,0.5s,mb3.6,baz=356,slow=5.5,SNR=7.1
BRVK Borovoye 55.25 316 *e*P **P** **05 45 56.8 +0.5**
1.1nm,0.7s,mb4.0
STKA Stephens Creek 62.32 180 P **P** **05 46 45.0 -0.4**
1.3nm,0.8s,mb4.1,baz=16,slow=7.4,SNR=2.6
YKA Yellowknife Ar 69.03 29 P **P** **05 47 27.9 -0.6**
0.4nm,0.9s,mb3.3,baz=287,slow=6.3,SNR=3.3
NVAR Mina Array Bea 78.45 52 P **P** **05 48 24.9 +0.7**
0.3nm,0.3s,mb3.7,baz=317,slow=4.4,SNR=3.6
AKASG Malin Array Be 79.50 323 P **P** **05 48 29.4 -0.3**
0.6nm,0.5s,mb3.8,baz=43,slow=5.7,SNR=5.7
PDAR Pinedale Array 81.78 45 P **P** **05 48 43.2 +1.2**
0.2nm,0.5s,mb3.3,baz=318,slow=2.4,SNR=2.9
TXAR Lajitas Array 93.59 53 P **P** **05 49 40.1 +0.5**
0.6nm,0.7s,mb4.1,baz=284,slow=1.6,SNR=6.3

*NIED **08** 05:36:00,2280N×12130E, h8km, Mw3.7 Best double couple: M0=4.12000×10^14 NP1:φ0=334.00000°, δ62.00000°, λ62.00000°. NP2:φ0=203.00000°, δ39.00000°, λ131.00000°.*
*JMA **08** 05:36:22.6±0.5, 2278N×12133E, h0km, M3.5*
*IDC **08** 05:36:24.5±11.0, 2293N×12150E, h0km, mb3.8/3, mb1 3.8/4, mb1mx3.5/21, mbtmp3.9/4, ML3.2/1, Error ellipse: s-maj=235.9km s-min=43.6km az=176.0*
*ISCJB **08** 05:36:29.5±0.9, 2305N±009×12128E±005, h33km, mb3.6/5, Error ellipse: s-maj=13.3km s-min=5.7km az=167.9*
*NEIC **08** 05:36:30.7±1.5, 2314N×12157E, h35km, mb3.7/2, Error ellipse: s-maj=25.5km s-min=13.6km az=152.0*
ISC 08 05:36:31.4±0.9, 2310N±009×12134E±005, h35km, n17, σ1=55/23, mb3.6/5, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NACB	**Ninganchiao**	**1.10**	**12**	*e*Pn	**Pn**	**05 36 47.3**	**-3.0**
NACB *e*Sn **Sn** **05 37 03.0 -1.2**
YHNB Yeheng 1.56 1 *e*Pn **Pn** **05 36 56.4 -0.4**
TATO Taipei 1.87 4 *e*Pn **Pn** **05 37 03.0 +2.0**
YOJ Yonaguni jima 2.05 48 P **Pn** **05 37 02.5 -0.9**
YOJ *e*S **Sn** **05 37 31.0 +3.3**
HATJ Hateruma jima 2.45 67 P **Pn** **05 37 06.8 -2.2**
HATJ *e*S **Sn** **05 37 39.8 +2.0**
IRIF Iriomote-Funau 2.51 60 P **Pn** **05 37 08.7 -1.1**
IRIF *e*S **Sn** **05 37 42.5 +3.3**
JKRS Kuro-shima 2.70 65 P **Pn** **05 37 10.8 -1.5**
JKRS *e*S **Sn** **05 37 46.8 +3.0**
JIJ Ishigaki jima 2.86 63 P **Pn** **05 37 13.0 -1.6**
JIJ *e*S **Sn** **05 37 48.3 +0.5**
JTJ Tarama 3.44 63 *e*S **Sn** **05 38 06.8 +4.7**
JOW Kunigami 7.31 58 Pn **Pn** **05 38 12.3 -3.3**
1.0nm,0.3s,baz=195,slow=20,SNR=2.7
CHTO Chiang Mai 21.34 263 *e*P **P** **05 41 16.5 +0.9**
1.2nm,0.4s,mb3.6
SONM Songino Array 27.42 338 P **P** **05 42 14.2 +0.5**
0.9nm,0.8s,mb3.4,baz=147,slow=8.2,SNR=6.8
MK31 Makanchi Array 39.22 317 *e*P **P** **05 43 56.6 +0.3**
MKAR Makanchi Array 39.22 317 P **P** **05 43 56.7 +0.4**
MKAR Makanchi Array 39.22 317 P **P** **05 43 56.7 +0.4**
1.2nm,0.8s,mb3.6,baz=117,slow=9.5,SNR=9.9
ZALV Zalesovo Beam 41.23 328 P **P** **05 44 11.8 -1.1**
1.1nm,0.5s,mb3.7,baz=111,slow=8.1,SNR=6.8
TKM2 Tokmak 2 42.55 309 *e*P **P** **05 44 25.7 +2.0**
1.7nm,0.7s,mb3.9

MEX 08 05:38:42.0±0.4, 1513N×9243W, h133km±17km, MD4.0, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCIG	**Comitan**	**1.18**	**14**	*i* P	Pn	05 39 05.8	-1.1
CCIG *i* S Sn 05 39 24.4 -1.5
SCX San Cristobal 1.60 353 *i* P Pn 05 39 11.3 -0.2
SCX *i* S Sn 05 39 32.3 -1.8
TEIG Tepich 6.43 37 *i* P Pn 05 40 12.9 -1.4
TEIG *i* S Sn 05 41 24.9 -1.6

*NEIC **08** 05:51:23.3, 6977N×14476W, h7km, ML3.4(AEIC), After AEIC.*
*PGC **08** 05:51:27.9±1.2, 6957N×14454W, h1km, ML3.5/1, 163km east of Prudhoe Bay, Ak Alaska*
ISC 08 05:51:22.7±1.3, 6993N±009×1447W±01, h10km, n18, σ0=87/26, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BM3	**Burnt Mountain**	**2.52**	**179**	P	**Pn**	**05 52 02.6**	**-1.0**
BM3 S **Sn** **05 52 33.9 -0.5**
COLD Coldfoot 3.38 219 P **Pn** **05 52 15.1 -0.2**
COLD S **Sn** **05 52 56.0 +0.5**
INK Inuvik 4.33 107 Pn **Pn** **05 52 31.4 +3.0**
INK Sn **Sn** **05 53 19.1 +0.2**
IMA2 Indian Mountai 5.13 225 *e*P **Pn** **05 52 41.0 +1.5**
IM3 Indian Mountai 5.22 225 P **Pn** **05 52 40.8 +0.2**
COLA College 5.22 195 P **Pn** **05 52 40.2 -0.4**
COLA S **Sn** **05 53 42.0 +1.1**
IL1 Eielson Array 5.25 190 P **Pn** **05 52 40.3 -0.8**
EGAK Eagle 5.36 163 P **Pn** **05 52 41.1 -1.4**
EGAK S **Sn** **05 53 45.2 +1.0**
DAWY Dawson 6.25 158 P **Pn** **05 52 54.9 +0.1**
DAWY S **Sn** **05 54 06.0 -0.1**
DAWY Dawson 6.25 158 Pn **Pn** **05 52 55.2 +0.4**
DAWY Sn **Sn** **05 53 59.5 -6.6**
DOT Dot Lake 6.32 177 P **Pn** **05 52 56.2 +0.5**
MCK McKinley 6.44 197 P **Pn** **05 52 56.5 -0.9**
KTH Kantishna Hill 6.86 204 P **Pn** **05 53 03.3 +0.2**
TRF Thorofare Moun 6.87 201 P **Pn** **05 53 02.7 -0.6**
BCA3 Beaver Creek A 7.00 169 P **Pn** **05 53 05.0 +0.1**
MENT Mentasta 7.04 176 P **Pn** **05 53 05.0 -0.5**
HYT Haines Junctio 9.62 158 Pn **Pn** **05 53 41.6 +0.7**
HYT Sn **Sn** **05 55 18.5 -10**
WHY Whitehorse 10.16 151 Pn **Pn** **05 53 47.2 -1.1**

IDC 08 05:58:05.5±2.9, 3401S×17894W, h0km, mb4.0/2, mb1 4.3/3, mb1mx3.9/13, mbtmp4.1/3, ML4.0/1, Error ellipse: s-maj=67.9km s-min=35.2km az=120.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**5.31**	**216**	Pn	Pn	05 59 26.9	+0.8
5.5nm,0.3s,baz=317,slow=2.4,SNR=30
URZ Sn Sn 06 00 28.2 +0.1
5.0nm,0.3s,baz=156,slow=23,SNR=15
ASAR Alice Springs 42.26 271 P P 06 06 00.8 +0.1
1.6nm,0.7s,baz=114,slow=7.3,SNR=28
WB2 Warramunga Arr 43.56 276 *e*P P 06 06 10.9 -0.4
WRA Warramunga Arr 43.57 276 P P 06 06 11.0 -0.4
1.4nm,0.5s,baz=119,slow=7.3,SNR=22
FINES FINESS Array B 148.20 337 PKPbc PKPbc 06 17 52.0 -0.6
3.4nm,1.0s,baz=49,slow=6.3,SNR=9.3

IDC 08 06:00:05.8±3.9, 587N×9344E, h0km, mb3.5/5, mb1 3.6/5, mb1mx3.4/20, mbtmp3.5/5, MS3.0/1, Ms1 3.0/1, ms1mx2.5/24, Error ellipse: s-maj=155.3km s-min=24.1km az=62.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array 41.88 349**			P	P	06 07 57.4	-0.4
0.2nm,0.3s,baz=151,slow=6.3,SNR=3.1
MKAR LR LR 06 27 15.7
comp=Z,22nm,20.9s,baz=181,slow=39
SONM Songino Array 43.26 13 P P 06 08 09.4 +0.5
0.5nm,0.7s,baz=192,slow=7.3,SNR=4.7
WRA Warramunga Arr 47.71 124 P P 06 08 43.4 -1.2
0.2nm,0.7s,baz=300,slow=9.7,SNR=2.5
ZALV Zalesovo Beam 48.44 353 P P 06 08 49.5 -0.2
0.3nm,0.3s,baz=164,slow=5.9,SNR=3.6
ASAR Alice Springs 49.20 128 P P 06 08 57.6 +1.5
0.3nm,0.7s,baz=307,slow=8.2,SNR=3.7

*CSEM **08** 06:58:37.7±1.1, 3710N×2454W, h5km, ML3.4, Error ellipse: s-maj=6.9km s-min=4.8km az=83.0, After PDA*
*PDA **08** 06:58:37.7±1.1, 3710N×2454W, h5km, MD4.0, ML3.4, Error ellipse: s-maj=6.9km s-min=4.8km az=83.0*
SVSA 08 06:58:37.7±1.1, 3710N×2454W, h5km, MD4.0, ML3.4, Error ellipse: s-maj=6.9km s-min=4.8km az=83.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSMN	**Pico de Norte, 0.43 257**			*e*P	Pg	06 58 45.0	-1.0
PSMN *e*S Sg 06 58 51.2 -0.4
PDA Ponta Delgada 1.10 306 *e*P Pg 06 58 54.5 -4.3
PDA *e*S Sg 06 59 07.3 -5.8
PSET Sete Cidades 1.18 308 *e*P Pg 06 58 56.1 -4.3
PSET *e*S Sg 06 59 10.3 -5.4
PSET A 06 59 13.8
432nm,0.3s
PSET Sete Cidades 1.18 308 *e*P Pg 06 58 56.1 -4.3
PSET *e*S Sg 06 59 10.3 -5.4
PSCM Serra do Cume 2.59 309 *e*P Pn 06 59 15.8 -4.4
PSCM *e*S Sn 06 59 44.2 -7.8
PSCM A 06 59 46.8
118nm,0.2s
PSCM Serra do Cume 2.59 309 *e*P Pn 06 59 15.8 -4.4
PSCM *e*S Sn 06 59 44.2 -7.8
ADH Angra Heroismo 2.63 307 *e*S Sn 06 59 45.3 -7.9
PMAN Manadas 3.20 300 *e*P Pn 06 59 23.6 -5.0
PMAN *e*S Sn 06 59 58.8 -8.2
PMAN A 07 00 01.7
35nm,0.5s
PMAN Manadas 3.20 300 *e*P Pn 06 59 23.6 -5.0
PMAN *e*S Sn 06 59 58.8 -8.2
ROSA Rosais 3.34 300 *e*P Pn 06 59 26.1 -4.5
ROSA *e*S Sn 07 00 02.6 -8.0
PICO Pico 3.38 296 *e*P Pn 06 59 26.7 -4.4
PICO *e*S Sn 07 00 02.8 -8.7
HOR Horta 3.54 295 *e*P Pn 06 59 29.0 -4.2
HOR *e*S Sn 07 00 06.7 -8.7
CALA Caldeira 3.61 295 *e*P Pn 06 59 30.4 -3.8
CALA *e*S Sn 07 00 08.5 -8.7

*IDC **08** 07:13:15.6±0.8, 6895N×15495E, h0km, mb4.2/10, mb1 4.4/10, mb1mx4.2/14, mbtmp4.1/10, MS3.3/3, Ms1 3.2/3, ms1mx2.9/22, Error ellipse: s-maj=37.0km s-min=19.4km az=124.0*
*NEIC **08** 07:13:16.9±0.5, 6915N×15499E, h10km, Error ellipse: s-maj=23.4km s-min=11.2km az=127.0*
*ISCJB **08** 07:13:19.3±0.8, 69S±02×1549E±02, h33km, mb4.1/10, MS3.2/2, Error ellipse: s-maj=34.3km s-min=14.0km az=37.6*
ISC 08 07:13:21.0±0.8, 69S±02×1549E±02, h35km, n17, σ0=67/14, mb4.1/10, MS3.2/2, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara 5.55 117**			LR	LR	07 16 40.7	
comp=Z,167nm,20.1s,baz=173,slow=37
CTA Charters Tower 15.56 212 Pn **Pn** **07 17 03.4 +5.6**
0.2nm,0.3s,baz=12,slow=11,SNR=3.0
WB2 Warramunga Arr 23.80 235 *e*P **P** **07 18 31.1 +0.3**
WRA Warramunga Arr 23.80 235 P **P** **07 18 30.8 -0.1**
6.2nm,0.7s,mb4.2,baz=59,slow=9.9,SNR=44
WRA PcP PcP 07 22 14.6 +0.8
0.7nm,0.4s,baz=61,slow=2.5,SNR=12
WRA LR LR 07 26 43.3
comp=Z,53nm,20.6s,MS3.0,baz=240,slow=34
ASAR Alice Springs 26.17 228 P **P** **07 18 52.4 0.0**
2.2nm,0.7s,mb3.8,baz=62,slow=8.6,SNR=35
STKA Stephens Creek 27.77 205 P **P** **07 19 06.4 -0.2**
1.8nm,0.5s,mb4.0,baz=27,slow=12,SNR=5.8
STKA LR LR 07 30 51.0
comp=Z,105nm,18.9s,MS3.4,baz=26,slow=38
SONM Songino Array 69.25 327 P **P** **07 24 25.2 +0.8**
0.9nm,0.6s,mb3.9,baz=131,slow=6.5,SNR=7.2
MKAR Makanchi Array 83.32 319 P **P** **07 25 44.9 +0.6**
MKAR Makanchi Array 83.32 319 P **P** **07 25 44.9 +0.6**
0.8nm,0.6s,mb3.9,baz=101,slow=5.9,SNR=3.7
ZALV Zalesovo Beam 84.09 326 P **P** **07 25 46.4 -1.7**
0.5nm,0.4s,mb4.0,baz=103,slow=6.4,SNR=3.5
INK Inuvik 89.68 21 P **P** **07 26 14.8 -0.2**
1.3nm,0.5s,mb4.5,baz=263,slow=4.0,SNR=26
NVAR Mina Array Bea 91.73 52 P **P** **07 26 26.1 +0.9**
0.5nm,0.5s,mb4.1,baz=246,slow=6.8,SNR=3.3
YKA Yellowknife Ar 96.31 28 P **P** **07 26 45.4 -0.2**
YKA Yellowknife Ar 96.31 28 P **P** **07 26 45.4 -0.2**
1.0nm,0.7s,mb4.3,baz=265,slow=4.6,SNR=24
PDAR Pinedale Array 98.70 48 P **P** **07 26 56.6 -0.3**
0.3nm,0.7s,mb3.9,baz=263,slow=3.5,SNR=3.0
BDFB Brasilia 148.07 135 PKPbc PKPbc 07 33 03.7 -0.3
3.2nm,0.8s,baz=132,slow=4.6,SNR=6.4
TORD Torodi Ar. Bea 152.95 285 PKPbc PKPbc 07 33 15.5 -0.2
1.4nm,0.9s,baz=67,slow=2.0,SNR=8.7

MAN 08 07:27:45, 996N×12543E, h13km, mb4.1, ML2.9, MS2.6, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	**Surigao 0.18 160**			*i* P	Pg	07 27 51.0	+1.8
SCPH *i* S Sg 07 27 55.5 +3.4
MSLP Maasin 0.58 288 *e*P Pg 07 27 57.1 +0.7
MSLP *e*S Sg 07 28 06.9 +2.7
PLP Palo 1.28 340 *e*P Pn 07 28 07.5 -1.0
PLP *e*S Sb 07 28 26.8 +1.5
TBP Tagbilaran 1.56 260 *e*P Pn 07 28 12.4 -0.1
TBP *e*S Sn 07 28 31.5 -1.1
BUKP Musuan 2.10 190 *e*P Pn 07 28 27.6 +7.8

*IDC **08** 07:28:32.0±1.2, 7905N×15601E, h0km, mb4.0/9, mb1 4.1/10, mb1mx4.0/15, mbtmp4.0/10, ML4.1/1, MS3.0/1, Ms1 3.0/1, ms1mx2.7/14, Error ellipse: s-maj=31.7km s-min=22.7km az=121.0*
*NEIC **08** 07:28:33.4±0.6, 7935N×15598E, h10km, mb4.1/1, Error ellipse: s-maj=15.2km s-min=12.9km az=141.0*
*ISCJB **08** 07:28:35.0±3.7, 80S±02×156.1E±01, h33km±39km, mb3.9/9, Error ellipse: s-maj=29.3km s-min=18.0km az=156.8*
ISC 08 07:28:37.2±3.7, 80S±02×1561E±01, h38km±42km, n12, σ0=77/13, mb3.9/9, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara 4.09 111**			Pn	**Pn**	**07 29 37.7**	**+0.4**
10nm,0.3s,baz=262,slow=4.5,SNR=2.8
HNR Sn **Sn** **07 30 23.7 -0.3**
6.3nm,0.3s,baz=270,slow=20,SNR=3.8
WRA Warramunga Arr 24.19 238 P **P** **07 33 51.2 +0.9**
2.1nm,0.7s,mb3.7,baz=61,slow=9.6,SNR=6.4
ASAR Alice Springs 26.37 231 P **P** **07 34 09.4 -0.7**
0.6nm,0.8s,mb3.2,baz=36,slow=6.6,SNR=5.2
FITZ Fitzroy Crossi 31.27 248 P **P** **07 34 53.2 -0.6**
2.6nm,0.9s,mb4.1,baz=82,slow=12,SNR=2.5
MJAR Matsushiro Arr 47.34 340 P **P** **07 37 05.7 -1.7**
0.8nm,0.6s,mb3.8,baz=163,slow=8.0,SNR=5.5
KSRS Korea Array 52.29 332 P **P** **07 37 45.4 +0.3**
2.1nm,0.7s,mb4.2,baz=147,slow=7.8,SNR=8.5
KSRS LR LR 07 57 59.3
comp=Z,15nm,18.4s,baz=215,slow=34

SONM Songino Array 70.73 327 P P 07 39 50.7 +1.4
1.3nm,0.7s,mb4.0,baz=135,slow=6.8,SNR=7.3
MK31 Makanchi Array 84.84 319 *eP* **P 07 41 08.2 +0.3**
MKAR Makanchi Array 84.84 319 P **P 07 41 08.3 +0.4**
MKAR Makanchi Array 84.84 319 P **P 07 41 08.3 +0.4**
1.5nm,0.7s,mb4.2,baz=102,slow=5.8,SNR=12
ZALV Zalesovo Beam 85.58 326 P **P 07 41 10.8 -0.6**
0.5nm,0.5s,mb4.0,baz=140,slow=7.5,SNR=2.9
YKA Yellowknife Ar 96.69 28 P **P 07 42 03.2 0.0**
0.2nm,0.7s,mb3.7,baz=268,slow=4.3,SNR=4.2

IDC 08 07:29:04.7±9.6, 658S×14595E, h195km±89km, mb3.3/4, mb1 3.4/6, mb1mx3.2/14, mbtmp3.3/6, Error ellipse: s-maj=56.4km s-min=40.6km az=60.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**13.44 179**		P	Pn	07 32 08.6	+0.7
	1.4nm,0.3s,baz=0.9,slow=16,SNR=13						
WB2	**Warramunga Arr**	**17.42 219**		*eP*	Pn	07 32 53.2	-3.1
WRA	**Warramunga Arr**	**17.42 219**		P	Pn	07 32 53.4	-2.9
	0.3nm,0.3s,baz=39,slow=11,SNR=19						
WRA				S	S	07 35 49.9	-16
	0.1nm,0.3s,baz=330,slow=23,SNR=4.7						
ASAR	**Alice Springs**	**20.56 213**		P	P	07 33 28.4	-0.1
	0.6nm,0.4s,baz=38,slow=13,SNR=19						
FITZ	**Fitzroy Crossi**	**22.88 238**		P	P	07 33 52.4	+0.9
	1.5nm,0.4s,baz=39,slow=7.6,SNR=4.8						
STKA	**Stephens Creek**	**25.50 189**		*eP*	P	07 34 15.3	+0.1
	1.7nm,0.4s						
STKA	**Stephens Creek**	**25.50 189**		P	P	07 34 15.1	-0.1
	2.0nm,0.4s,baz=7.9,slow=11,SNR=13						
MKAR	**Makanchi Array**	**77.28 321**		P	P	07 40 37.5	0.0
	0.2nm,0.5s,baz=104,slow=7.5,SNR=3.1						

*KISR **08** 07:39:57.4±0.7, 3101N×5167E, h33km, ML2.8*
*ISCJB **08** 07:39:59.4±0.8, 3089N±008×5159E±007, h10km, Error ellipse: s-maj=13.4km s-min=4.6km az=141.7*
*CSEM **08** 07:40:00.0±0.1, 3082N×5160E, h16km, ML2.8, Error ellipse: s-maj=4.1km s-min=1.9km az=146.0*
*THR **08** 07:40:00.2±0.3, 3083N×5162E, h18km±13km, ML2.8*
ISC 08 07:40:01.0±0.8, 3087N±008×5160E±008, h10km, n15, σ0°78/27, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NASN	**Na'in**	**2.18**	**28**	*ePn*	**Pn**	**07 40 38.4**	**+1.1**
NASN				*eSg*	**Sg**	**07 41 10.0**	**-0.9**
NASN				AML	AML	07 41 13.3	
	comp=N,49nm,0.5s						
NASN	**Na'in**	**2.18**	**28**	*ePn*	**Pn**	**07 40 38.3**	**+1.0**
	SNR=52						
NASN				*eSg*	**Sg**	**07 41 10.0**	**-1.0**
	SNR=91						
KBD	**Kabd**	**3.79 244**		*eP*	**Pn**	**07 40 58.9**	**-0.6**
KBD				*eS*	**Sn**	**07 41 44.4**	**+0.4**
KBD				AML	AML	07 41 48.9	
	comp=Z,45nm,0.3s						
KBD	**Kabd**	**3.79 244**		*eP*	**Pn**	**07 40 58.8**	**-0.6**
KBD				*eS*	**Sn**	**07 41 44.4**	**+0.4**
MIB	**Mutribah**	**3.84 255**		*eP*	**Pn**	**07 40 59.4**	**-0.7**
MIB				*eS*	**Sn**	**07 41 45.1**	**-0.1**
MIB				AML	AML	07 41 50.6	
	comp=Z,10nm,0.4s						
MIB	**Mutribah**	**3.84 255**		*eP*	**Pn**	**07 40 59.4**	**-0.7**
MIB				*eS*	**Sn**	**07 41 45.1**	**-0.1**
ASAO	**Ashtian**	**3.90 340**		*ePn*	**Pn**	**07 41 02.2**	**+1.3**
ASAO				AML	AML	07 42 17.8	
	comp=N,16nm,0.7s						
ASAO	**Ashtian**	**3.90 340**		*ePn*	**Pn**	**07 41 02.2**	**+1.3**
	SNR=52						
RDF	**Al-Radifah**	**4.02 242**		*eP*	**Pn**	**07 41 02.0**	**-0.5**
RDF				*eS*	**Sn**	**07 41 50.5**	**+0.8**
RDF				AML	AML	07 41 52.5	
	comp=Z,13nm,0.4s						
RDF	**Al-Radifah**	**4.02 242**		*eP*	**Pn**	**07 41 02.0**	**-0.6**
RDF				*eS*	**Sn**	**07 41 50.5**	**+0.8**
	comp=Z,13nm,0.4s						
NAY	**Al-Naaiem**	**4.11 248**		*eP*	**Pn**	**07 41 02.9**	**-1.0**
NAY				*eS*	**Sn**	**07 41 52.3**	**+0.3**
NAY				AML	AML	07 41 57.0	
	comp=Z,4.6nm,0.5s						
NAY	**Al-Naaiem**	**4.11 248**		*eP*	**Pn**	**07 41 02.9**	**-1.0**
NAY				*eS*	**Sn**	**07 41 52.3**	**+0.3**
	comp=Z,4.6nm,0.5s						
RST	**Umm Al-Ruwaisa**	**4.22 252**		*eP*	**Pn**	**07 41 04.2**	**-1.1**
RST				*eS*	**Sn**	**07 41 55.2**	**+0.6**
RST				AML	AML	07 42 00.0	
	comp=Z,9.8nm,0.4s						
RST	**Umm Al-Ruwaisa**	**4.22 252**		*eP*	**Pn**	**07 41 04.2**	**-1.1**
RST				*eS*	**Sn**	**07 41 55.2**	**+0.6**
	comp=Z,9.8nm,0.4s						
KRBR	**Kerman**	**4.54 100**		*ePn*	**Pn**	**07 41 10.3**	**+0.6**

*CSEM **08** 07:46:09.6±0.8, 3735N×2458W, h15km, ML3.1, Error ellipse: s-maj=8.2km s-min=2.9km az=82.0, After PDA*
*PDA **08** 07:46:09.6±0.8, 3735N×2458W, h15km, MD3.8, ML3.1, Error ellipse: s-maj=8.2km s-min=2.9km az=82.0*
SVSA 08 07:46:09.6±0.8, 3735N×2458W, h15km, MD3.8, ML3.1, Error ellipse: s-maj=8.2km s-min=2.9km az=82.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSMN	**Pico do Norte,**	**0.52 229**		*eP*	Pg	07 46 18.0	-1.9
PSMN				*eS*	Sg	07 46 24.3	-2.5
PDA	**Ponta Delgada**	**0.95 295**		*eP*	Pb	07 46 24.5	-3.3
PDA				*eS*	Sb	07 46 35.1	-5.1
PSET	**Sete Cidades**	**1.03 298**		*eP*	Pb	07 46 25.2	-3.9
PSET				*eS*	Sb	07 46 36.5	-5.8
PSET				A		07 46 42.7	
	178nm,0.4s						
PSET	**Sete Cidades**	**1.03 298**		*eP*	Pb	07 46 25.2	-3.9
PSET				*eS*	Sb	07 46 36.5	-5.8
PSCM	**Serra do Cume**	**2.42 305**		*eP*	Pn	07 46 44.1	-4.5
PSCM				*eS*	Sn	07 47 10.8	-7.1
PSCM				A		07 47 13.8	
	47nm,0.3s						
PSCM	**Serra do Cume**	**2.42 305**		*eP*	Pn	07 46 44.1	-4.5
PSCM				*eS*	Sn	07 47 10.8	-7.1

*IDC **08** 07:54:19.6±1.2, 1260N×6024W, h0km, mb3.8/6, mb1 4.0/9, mb1mx3.8/24, mbtmp3.8/9, ML3.3/2, Error ellipse: s-maj=29.3km s-min=21.2km az=116.0*
*ISCJB **08** 07:54:20.9±0.7, 1221N±004×6010W±005, h33km, mb3.7/7, Error ellipse: s-maj=6.5km s-min=4.9km az=18.2*
*TRN **08** 07:54:21.2, 1239N×6000W, h35km, MD4.2*
*NEIC **08** 07:54:22.5±2.1, 1240N×6028W, h14km±21km, MD4.3(TRN), Error ellipse: s-maj=19.0km s-min=8.3km az=88.0*
ISC 08 07:54:23.0±1.7, 1232N±004×6016W±005, h28km±16km, n36, σ0°95/46, mb3.7/7, Windward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBGH	**Gun Hill**	**1.01**	**36**	*ePg*	**Pn**	**07 54 41.5**	**+0.2**
BBSP	**Saint Philip**	**1.04**	**41**	*eP*	**Pn**	**07 54 37.5**	**-4.2**
BBSP				*eS*	**Sn**	**07 54 47.5**	**-7.9**
TPR	**Prospect**	**1.28 208**		*eP*	**Pn**	**07 54 46.1**	**+1.2**
TPR	**Prospect**	**1.28 208**		*e*	**Sn**	**07 54 56.7**	**-4.4**
FCV	**Fort Charlotte**	**1.34 308**		*eP*	**Pn**	**07 54 46.6**	**+0.7**
FCV				*eS*	**Sn**	**07 55 04.5**	**+1.6**
BHS	**Barnard House**	**1.35 316**		*eP*	**Pn**	**07 54 46.8**	**+0.8**
BHS				*eS*	**Sn**	**07 55 03.4**	**+0.4**
SSV	**Crater Summit**	**1.42 315**		*eP*	**Pn**	**07 54 46.4**	**-0.6**
SSV				*eS*	**Sn**	**07 55 05.2**	**+0.5**
SVB	**Belmont**	**1.42 312**		*eP*	**Pn**	**07 54 47.4**	**+0.3**
SVB				*eS*	**Sn**	**07 55 05.2**	**+0.4**
SVV	**Soufriere Volc**	**1.43 314**		*eP*	**Pn**	**07 54 46.8**	**-0.3**
SVV				*eS*	**Sn**	**07 55 05.3**	**+0.3**
SVV	**Soufriere Volc**	**1.43 314**		*eP*	**Pn**	**07 54 46.8**	**-0.3**
SVV				*eS*	**Sn**	**07 55 05.3**	**+0.3**
SFAN	**Fancy Village**	**1.45 317**		*eP*	**Pn**	**07 54 47.5**	**+0.1**
SFAN				*eS*	**Sn**	**07 55 06.9**	**+1.5**
GRGR	**Grenville**	**1.47 263**		*ePn*	**Pn**	**07 54 46.2**	**-1.4**
GRW	**Mount Saint Ca**	**1.47 264**		*eP*	**Pn**	**07 54 46.6**	**-1.1**
GRW	**Mount Saint Ca**	**1.47 264**		*e*	**Sn**	**07 55 04.4**	**-1.6**
SLB	**Belfond**	**1.73 330**		*eP*	**Pn**	**07 54 51.3**	**+0.1**
TBH	**Brigand Hill**	**2.03 206**		*eP*	**Pn**	**07 54 56.4**	**+1.1**
TBH	**Brigand Hill**	**2.03 206**		*e*	**Sn**	**07 55 10.6**	**-9.1**
TRN	**Trinidad (W)**	**2.06 216**		*eP*	**Pn**	**07 54 56.9**	**+1.1**
TCE	**Chacachacare**	**2.24 224**		*eP*	**Pn**	**07 54 59.1**	**+0.8**
MVM	**Montagne Vaucl**	**2.33 342**		*eP*	**Pn**	**07 54 58.9**	**-0.6**
TPP	**Pointe-a-Pierr**	**2.36 213**		*eP*	**Pn**	**07 55 03.8**	**+3.9**
TPP	**Pointe-a-Pierr**	**2.36 213**		*e*	**Sn**	**07 55 17.8**	**-10**
BIM	**Bigot**	**2.36 338**		*eP*	**Pn**	**07 54 57.5**	**-2.4**
TBG	**Guadaloupe-3**	**3.80 338**		*eP*	**Pn**	**07 55 19.4**	**-0.3**
HMG	**Houelmont**	**3.94 338**		*eP*	**Pn**	**07 55 21.6**	**0.0**
SCG	**Saint Claude**	**3.97 338**		*eP*	**Pn**	**07 55 21.9**	**-0.1**
PCRV	**Puerto La Cruz**	**4.88 245**		Pn	**Pn**	**07 55 34.2**	**-0.4**
	1.9nm,0.3s,baz=61,slow=7.5,SNR=14						
PCRV				Sn	**Sn**	**07 56 29.8**	**-0.3**
	baz=321,slow=4.4,SNR=1.9						
SJG	**San Juan**	**8.16 316**		**Pn**	**Pn**	**07 56 15.3**	**-4.3**
	0.7nm,0.3s,baz=129,slow=8.5,SNR=2.6						
SDV	**Santo Domingo**	**10.84 253**		Pn	**Pn**	**07 56 56.1**	**-0.3**
	0.1nm,0.3s,baz=71,slow=16,SNR=2.5						
SDV				Sn	**Sn**	**07 58 56.4**	**-0.6**
	0.3nm,0.3s,baz=67,slow=18,SNR=3.6						
ATAH	**Atahualpa**	**26.40 224**		P	**P**	**08 00 01.4**	**+4.1**
	4.7nm,0.8s,mb4.1,baz=108,slow=23,SNR=4.4						
LPAZ	**La Paz**	**29.49 196**		P	**P**	**08 00 28.2**	**+3.3**
	1.0nm,0.8s,mb3.6,baz=347,slow=8.8,SNR=4.9						
TXAR	**Lajitas Array**	**43.76 300**		P	**P**	**08 02 24.9**	**-1.4**
	0.3nm,0.7s,mb3.1,baz=129,slow=8.3,SNR=3.4						
PDAR	**Pinedale Array**	**52.28 315**		P	**P**	**08 03 31.9**	**-0.1**
	1.4nm,0.6s,mb4.0,baz=114,slow=10.0,SNR=11						
ESDC	**Sonseca Array**	**56.33 50**		P	**P**	**08 04 01.5**	**-0.1**
	0.4nm,0.6s,mb3.6,baz=269,slow=6.6,SNR=6.5						
TORD	**Torodi Ar. Bea**	**60.20 82**		P	**P**	**08 04 33.5**	**+4.4**
	0.7nm,0.8s,mb3.8,baz=287,slow=7.3,SNR=4.7						
YKA	**Yellowknife Ar**	**63.15 335**		P	**P**	**08 04 47.0**	**-1.1**
	1.0nm,0.8s,mb4.0,baz=109,slow=7.5,SNR=16						

*CSEM **08** 07:57:02.1±0.7, 3737N×2480W, h5km, ML2.9, Error ellipse: s-maj=8.5km s-min=1.9km az=79.0, After PDA*
*PDA **08** 07:57:02.1±0.7, 3737N×2480W, h5km, MD3.9, ML2.9, Error ellipse: s-maj=8.5km s-min=1.9km az=79.0*
SVSA 08 07:57:02.1±0.7, 3737N×2480W, h5km, MD3.9, ML2.9, Error ellipse: s-maj=8.5km s-min=1.9km az=79.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSMN	**Pico do Norte,**	**0.42 210**		*eP*	Pg	07 57 09.4	-0.8
PSMN				*eS*	Sg	07 57 15.2	-0.4
PDA	**Ponta Delgada**	**0.78 299**		*eP*	Pg	07 57 14.7	-2.4
PDA				*eS*	Sg	07 57 24.3	-2.9
PSET	**Sete Cidades**	**0.86 302**		*eP*	Pg	07 57 15.7	-2.9
PSET				*eS*	Sg	07 57 26.3	-3.4
PSET				A		07 57 30.4	
	176nm,0.3s						
PSET	**Sete Cidades**	**0.86 302**		*eP*	Pg	07 57 15.7	-2.9
PSET				*eS*	Sg	07 57 26.3	-3.4
PSCM	**Serra do Cume**	**2.26 307**		*eP*	Pn	07 57 35.8	-4.3
PSCM				*eS*	Sn	07 58 00.3	-8.0
PSCM				A		07 58 04.1	
	20nm,0.2s						
PSCM	**Serra do Cume**	**2.26 307**		*eP*	Pn	07 57 35.8	-4.3
PSCM				*eS*	Sn	07 58 00.3	-8.0
PMAN	**Manadas**	**2.89 297**		*eS*	Sn	07 58 14.2	-10
PMAN				A		07 58 16.1	
	13nm,0.2s						
ROSA	**Rosais**	**3.03 297**		*eS*	Sn	07 58 11.2	-16
PICO	**Pico**	**3.08 293**		*eS*	Sn	07 58 08.6	-20
HOR	**Horta**	**3.24 292**		*eS*	Sn	07 58 03.5	-29
CALA	**Caldeira**	**3.31 293**		*eP*	Pn	07 57 55.7	+1.2

*NEIC **08** 08:02:14.9±0.6, 685S×15562E, h10km, mb4.6/7, Error ellipse: s-maj=14.1km s-min=13.2km az=80.0*
*ISCJB **08** 08:02:17.9±0.5, 689S±007×15571E±006, h48km, mb4.3/16, MS3.7/7, Error ellipse: s-maj=11.4km s-min=7.9km az=28.6*
*IDC **08** 08:02:19.1±0.7, 693S×15578E, h47km±4km, mb4.1/12, mb1 4.2/12, mb1mx4.2/15, mbtmp4.1/12, MS3.6/9, Ms1 3.6/9, ms1mx3.3/29, Error ellipse: s-maj=22.3km s-min=13.6km az=97.0*
ISC 08 08:02:19.9±0.5, 689S±008×15569E±006, h50km, h50km±.8km: pP-P, n39, σ0°81/26, mb4.3/16, MS3.7/7, 1C, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.91 121**		P	**Pn**	**08 03 32.5**	**+1.2**
	6.9nm,0.3s,baz=262,slow=6.3,SNR=4.2						
HNR				S	**Sn**	**08 04 26.9**	**+0.1**
	14nm,0.3s,baz=261,slow=15,SNR=2.9						
HNR				LR	LR	08 04 51.4	
	comp=Z,138nm,18.2s,baz=356,slow=32						
CTA	**Charters Tower**	**16.00 214**		*eP*	**Pn**	**08 06 05.2**	**+3.5**
	10.0nm,0.8s						
CTA	**Charters Tower**	**16.00 214**		P	**Pn**	**08 06 04.4**	**+2.7**
	0.8nm,0.3s,baz=23,slow=11,SNR=9.7						
CTA				LR	LR	08 10 56.3	
	comp=Z,273nm,20.8s,baz=48,slow=32						
GUMO	**Guam**	**23.01 332**		LR	LR	08 15 35.4	
	comp=Z,37nm,20.4s,MS2.8,baz=158,slow=34						
KAKA	**Kakadu**	**23.62 254**		*eP*	**P**	**08 07 26.4**	**-0.3**
	14nm,0.6s,mb4.6						
WRAB	**Tennant Creek**	**24.43 236**		*eP*	**P**	**08 07 34.9**	**+0.8**
	12nm,0.9s,mb4.3						
WB2	**Warramunga Arr**	**24.43 236**	⇑	*iP*	**P**	**08 07 34.7**	**+0.6**
WRA	**Warramunga Arr**	**24.44 236**		P	**P**	**08 07 34.4**	**+0.2**
	4.3nm,0.8s,mb4.0,baz=59,slow=9.2,SNR=30						
WRA				PcP	PcP	08 11 11.7	-0.6
	2.0nm,1.0s,baz=58,slow=1.8,SNR=5.7						
WRA				pPcP		08 11 26.0	
	0.4nm,0.6s,baz=66,slow=3.1,SNR=4.7						
ASAR	**Alice Springs**	**26.76 229**		P	**P**	**08 07 54.9**	**-0.3**
	2.1nm,0.6s,mb3.8,baz=60,slow=9.8,SNR=43						
ASAR				PcP	PcP	08 11 17.4	-0.1
	1.1nm,0.7s,baz=66,slow=2.9,SNR=5.4						
ASAR				pPcP		08 11 30.8	
	1.0nm,0.7s,baz=68,slow=2.4,SNR=5.2						
STKA	**Stephens Creek**	**28.12 206**		*eP*	**P**	**08 08 05.8**	**-1.5**
	3.8nm,0.6s,mb4.2						
STKA	**Stephens Creek**	**28.12 206**		P	**P**	**08 08 06.3**	**-1.0**
	4.8nm,0.8s,mb4.2,baz=26,slow=13,SNR=9.9						
STKA				LR	LR	08 19 10.8	
	comp=Z,209nm,18.5s,MS3.8,baz=26,slow=36						
FITZ	**Fitzroy Crossi**	**31.33 246**		*eP*	**P**	**08 08 35.5**	**-0.3**
	22nm,0.6s,mb5.2						
FITZ				*e*	pP	08 08 48.1	-0.7
FITZ	**Fitzroy Crossi**	**31.33 246**		P	**P**	**08 08 36.1**	**+0.2**
	11nm,0.6s,mb4.8,baz=85,slow=8.6,SNR=37						
FITZ				pP	pP	08 08 47.9	-0.9
	9.8nm,0.6s,baz=92,slow=7.9,SNR=8.9						
BATI	**Kupang**	**31.83 262**		LR	LR	08 20 32.4	
	comp=Z,234nm,18.8s,MS3.9,baz=137,slow=34						
FORT	**Forrest**	**35.14 224**		*eP*	**P**	**08 09 08.6**	**-0.3**
	17nm,0.5s,mb5.2						
URZ	**Urewera**	**36.76 151**		LR	LR	08 21 17.2	
	comp=Z,93nm,20.4s,MS3.6,baz=348,slow=31						
RPZ	**Rata Peaks**	**39.08 162**		P	**P**	**08 09 41.4**	**-0.7**
	16nm,0.8s,mb4.8,baz=164,slow=2.4,SNR=6.5						
MJAR	**Matsushiro Arr**	**46.21 340**		P	**P**	**08 10 40.1**	**0.0**
	0.6nm,0.3s,mb4.0,baz=141,slow=7.4,SNR=5.4						
MJAR				pP	pP	08 10 52.9	-0.6
	0.7nm,0.5s,baz=155,slow=8.2,SNR=2.8						
KSRS	**Korea Array**	**51.17 332**		P	**P**	**08 11 18.1**	**0.0**
	0.4nm,0.3s,mb3.9,baz=133,slow=8.7,SNR=3.7						
KSRS				pP	pP	08 11 31.4	-0.4
	1.6nm,0.6s,baz=139,slow=7.2,SNR=2.5						
KSRS				sP	sP	08 11 37.6	+0.1
	1.4nm,0.7s,baz=140,slow=6.8,SNR=2.8						
ASAJ	**Asahikawa**	**52.13 348**		LR	LR	08 30 39.3	
	comp=Z,48nm,19.7s,MS3.5,baz=163,slow=33						
ULN	**Ulaanbaatar**	**69.29 327**		*eP*	**P**	**08 13 23.6**	**+1.7**
	5.4nm,1.3s,mb4.3						
SONM	**Songino Array**	**69.62 327**		P	**P**	**08 13 24.3**	**+0.3**
	4.1nm,0.8s,mb4.4,baz=134,slow=6.4,SNR=17						
SONM				pP	pP	08 13 38.5	+0.3
	1.2nm,0.4s,baz=145,slow=5.4,SNR=5.0						
SONM				sP	sP	08 13 43.2	-0.5
	1.4nm,0.6s,baz=138,slow=5.8,SNR=3.9						
VNDA	**Vanda**	**70.67 179**		P	**P**	**08 13 29.6**	**-0.3**
	baz=331,slow=8.1						
MKAR	**Makanchi Array**	**83.78 319**		P	**P**	**08 14 43.9**	**0.0**
MKAR	**Makanchi Array**	**83.78 319**		P	**P**	**08 14 43.9**	**0.0**
	2.7nm,0.7s,mb4.5,baz=101,slow=5.9,SNR=37						
ZALV	**Zalesovo Beam**	**84.48 326**		P	**P**	**08 14 46.9**	**-0.4**
	1.6nm,0.6s,mb4.3,baz=120,slow=5.1,SNR=7.7						
MAW	**Mawson**	**84.76 203**		P	**P**	**08 14 47.7**	**-0.8**
	1.8nm,0.6s,mb4.4,baz=75,slow=6.1,SNR=6.3						
INK	**Inuvik**	**89.38 21**		LR	LR	08 50 28.7	
	comp=Z,93nm,19.2s,MS4.2,baz=271,slow=32						
YKA	**Yellowknife Ar**	**95.92 28**		P	**P**	**08 15 39.7**	**-1.4**
YKA				pP	pP	08 15 54.0	-1.8
YKA	**Yellowknife Ar**	**95.92 28**		P	**P**	**08 15 39.7**	**-1.4**
	0.3nm,0.8s,mb3.8,baz=262,slow=4.2,SNR=6.1						
YKA				pP	pP	08 15 54.0	-1.8
	0.6nm,0.9s,baz=269,slow=4.5,SNR=5.1						
PDAR	**Pinedale Array**	**98.12 48**		LR	LR	08 56 32.9	
	comp=Z,43nm,18.9s,MS4.0,baz=350,slow=33						
ARCES	**ARCESS Array B**	**109.69 343**		PKiKP	PKiKP	08 20 44.3	-0.5
	6.1nm,1.0s,baz=79,slow=1.9,SNR=4.2						
FINES	**FINESS Array B**	**114.12 336**		PKP	PKiKP	08 20 52.4	-1.0
	0.8nm,0.7s,baz=116,slow=3.2,SNR=3.2						
FINES				pPKP		08 21 06.1	
	2.3nm,1.0s,baz=174,slow=1.9,SNR=2.0						
GERES	**GERESS Array B**	**127.32 329**		PKP	PKPdf	08 21 18.1	-1.0
	1.1nm,0.7s,baz=76,slow=1.7,SNR=12						
GERES				pPKP	pPKPdf	08 21 32.6	-1.7
	0.8nm,0.6s,baz=90,slow=1.7,SNR=5.8						
SIV	**San Ignacio**	**137.09 122**		PKP	PKPdf	08 21 39.5	+1.0
	0.3nm,0.6s,baz=242,slow=6.9,SNR=3.7						
BDFB	**Brasilia**	**147.56 134**		PKPbc	PKPbc	08 21 58.4	-1.3
	4.7nm,0.8s,baz=224,slow=4.2,SNR=10.0						
MDT	**Midelt**	**148.37 327**		PKPbc	PKPbc	08 22 01.8	+0.4
	2.6nm,0.9s,baz=81,slow=8.0,SNR=8.0						
TORD	**Torodi Ar. Bea**	**153.66 286**		PKP	PKPdf	08 22 05.6	-0.9
	0.2nm,0.5s,baz=193,slow=5.9,SNR=2.3						
TORD				PKPbc	PKPbc	08 22 13.2	-1.1
	0.7nm,0.5s,baz=80,slow=1.0,SNR=10						
DBIC	**Dimbokro**	**160.68 271**		PKPab	PKPab	08 22 57.3	-0.2
	3.7nm,0.7s,baz=89,slow=1.1,SNR=4.4						

IDC 08 08:17:25.4±2.5, 638N×12590E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.4/18, mbtmp3.5/3, Error ellipse: s-maj=203.7km s-min=26.8km az=65.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**27.44 163**		P	P	08 23 13.1	-0.1
	0.2nm,0.4s,baz=344,slow=9.5,SNR=8.3						
ASAR	**Alice Springs**	**30.87 166**		P	P	08 23 43.8	+0.2
	0.6nm,0.5s,baz=341,slow=7.0,SNR=19						
MKAR	**Makanchi Array**	**54.92 325**		P	P	08 26 58.1	0.0
	0.1nm,0.3s,baz=109,slow=7.5,SNR=5.0						

IDC 08 08:24:26.0±2.0, 021N×9770E, h0km, mb3.7/5, mb1 3.8/6, mb1mx3.6/20, mbtmp3.7/6, ML2.9/1, MS3.5/1, Ms1 3.5/1, ms1mx2.7/27, Error ellipse: s-maj=65.5km s-min=21.5km az=62.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.85**	**26**	Pn	Pn	08 25 12.1	-0.7
	2.0nm,0.3s,baz=171,slow=7.5,SNR=8.9						
WRA	**Warramunga Arr**	**41.10 121**		P	P	08 32 11.5	-0.4
	0.3nm,0.5s,baz=304,slow=9.2,SNR=5.2						
ASAR	**Alice Springs**	**42.41 127**		P	P	08 32 22.8	+0.2
	0.5nm,0.5s,baz=298,slow=8.1,SNR=11						
SONM	**Songino Array**	**48.03**	**8**	P	P	08 33 07.4	+0.6
	0.8nm,0.6s,baz=186,slow=4.3,SNR=3.7						
MKAR	**Makanchi Array**	**48.31 346**		P	P	08 33 09.2	+0.1
	0.8nm,0.8s,baz=156,slow=8.2,SNR=6.5						
CBIJ	**Chichi jima**	**50.38**	**54**	LR	LR	08 54 27.9	
	comp=Z,46nm,19.0s,baz=160,slow=36						
ZALV	**Zalesovo Beam**	**54.60 351**		P	P	08 33 55.5	-0.6
	1.1nm,0.4s,baz=168,slow=5.4,SNR=6.0						

IDC 08 08:35:24.0±1.7, 019N×12586E, h0km, mb3.9/4, mb1 4.1/4, mb1mx3.7/14, mbtmp3.9/4, Error ellipse: s-maj=173.8km s-min=23.4km az=64.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.67 158**		P	P	08 40 16.4	+0.1
	2.8nm,0.4s,baz=336,slow=10,SNR=57						
ASAR	**Alice Springs**	**24.97 162**		P	P	08 40 50.1	+0.8
	1.6nm,0.3s,baz=344,slow=11,SNR=42						
STKA	**Stephens Creek**	**35.20 156**		P	P	08 42 19.2	-0.8
	0.4nm,0.3s,baz=337,slow=9.2,SNR=7.5						
MKAR	**Makanchi Array**	**59.98 327**		P	P	08 45 32.3	+0.1
	0.5nm,0.5s,baz=116,slow=8.7,SNR=7.1						

*NIED **08** 08:43:00, 3050N×13060E, h77km, Mw4.1 Best double couple: M0 1.63000×10^15 NP1:φ0 181.00000°, δ88.00000°, λ-55.00000°. NP2:φ0 274.00000°, δ35.00000°, λ-176.00000°.*
*ISCJB **08** 08:43:16.5±0.4, 3044N±004×13059E±005, h91km±3km, mb3.8/14, Error ellipse: s-maj=7.8km s-min=5.1km az=36.9*
*NEIC **08** 08:43:18.4±0.9, 3045N×13055E, h92km±10km, mb4.4/1,

0.5nm,0.6s,mb3.7,baz=8.2,slow=13,SNR=12
AKTK Aktyubinsk 56.40 313 P P 08 52 50.3 +0.1
AKTO Aktyubinsk 56.40 313 P P 08 52 50.3 +0.1
1.2nm,0.6s,mb4.1,baz=56,slow=8.8,SNR=5.2
STKA Stephens Creek 62.86 169 P P 08 53 35.4 +0.7
1.0nm,0.5s,mb4.0,baz=328,slow=12,SNR=3.6
INK Inuvik 64.22 24 pP pP 08 54 04.0 -0.9
0.7nm,0.6s,baz=303,slow=9.9,SNR=5.0
FINES FINESS Array B 70.22 330 P P 08 54 20.1 -1.2
1.7nm,0.4s,mb4.2,baz=75,slow=5.4,SNR=28
AKASG Malin Array Be 73.66 319 P P 08 54 40.7 -1.4
0.7nm,0.4s,mb3.8,baz=53,slow=6.9,SNR=5.3
YKA Yellowknife Ar 73.86 26 P P 08 54 41.2 -1.8
YKA pP pP 08 55 05.7 +0.7
YKA Yellowknife Ar 73.86 26 P P 08 54 41.2 -1.8
0.2nm,1.0s,mb2.8,baz=275,slow=6.7,SNR=2.6
YKA pP pP 08 55 05.7 +0.7
0.4nm,0.8s,baz=302,slow=5.6,SNR=7.2
NOA NORSAR Array B 76.44 334 P P 08 54 55.4 -2.5
1.0nm,0.9s,mb3.6,baz=66,slow=8.4,SNR=3.1
GERES GERESS Array B 83.06 324 P P 08 55 33.8 -0.1
0.3nm,0.6s,mb3.3,baz=67,slow=7.6,SNR=3.6

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*IDC **08** 08:45:03.5±2.3,5068N×17073W,h0km,mb3.8/9, mb1 4.0/9,mb1mx3.7/25,mbtmp3.8/9,Error ellipse: s-maj=57.0km s-min=27.2km az=22.0*
*ISCJB **08** 08:45:05.6±1.0,51.1N±0.1×17068W±007,h10km,mb3.7/9, Error ellipse: s-maj=18.2km s-min=6.0km az=175.2*
*NEIC **08** 08:45:05.7±1.2,5087N×17069W,h10km,mb3.7/1, ML3.1(AEIC),Error ellipse: s-maj=23.2km s-min=9.4km az=175.0*
ISC 08 08:45:08.5±3.4,511N±01×17070W±008,h18km±22km,n16, σ0°92/19,mb3.7/9,Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATKA	**Atka Island**	**2.44**	**298**	P	**Pn**	**08 45 46.9**	**-0.5**
ATKA				S	**Sn**	**08 46 16.3**	**-0.4**
UNV	**Unalaska Valle**	**3.75**	**41**	P	**Pn**	**08 46 05.2**	**-0.2**
UNV				S	**Sn**	**08 46 47.5**	**-1.7**
ADK	**Adak**	**3.82**	**284**	P	**Pn**	**08 46 05.4**	**-1.0**
ADK				S	**Sn**	**08 46 50.7**	**0.0**
AKUT	**Akutan**	**4.27**	**43**	*e*P	**Pn**	**08 46 13.0**	**+0.5**
FALS	**False Pass**	**5.78**	**47**	P	**Pn**	**08 46 32.6**	**-0.6**
EGAK	**Eagle**	**20.55**	**37**	*e*P	**P**	**08 49 47.0**	**+1.4**
	1.9nm,0.5s						
INK	**Inuvik**	**24.86**	**32**	P	**P**	**08 50 30.4**	**+0.9**
	1.3nm,0.4s,mb3.8,baz=224,slow=6.2,SNR=27						
YKA	**Yellowknife Ar**	**31.70**	**47**	P	**P**	**08 51 31.4**	**+0.8**
YKA				PcP	PcP	08 54 20.7	-1.0
YKA	**Yellowknife Ar**	**31.70**	**47**	P	**P**	**08 51 31.4**	**+0.8**
	0.7nm,0.6s,mb3.7,baz=273,slow=7.3,SNR=26						
YKA				PcP	PcP	08 54 20.7	-1.0
	0.4nm,1.1s,baz=280,slow=3.1,SNR=4.4						
PDAR	**Pinedale Array**	**41.47**	**77**	P	**P**	**08 52 53.5**	**-0.5**
	0.3nm,0.4s,mb3.3,baz=326,slow=2.5,SNR=4.0						
TXAR	**Lajitas Array**	**53.62**	**87**	P	**P**	**08 54 26.3**	**-2.2**
	0.2nm,0.5s,mb3.3,baz=294,slow=5.7,SNR=6.2						
ARCES	**ARCESS Array B**	**59.09**	**353**	P	**P**	**08 55 07.6**	**+0.6**
	2.9nm,0.8s,mb4.3,baz=8.5,slow=7.3,SNR=3.0						
FINES	**FINESS Array B**	**67.00**	**351**	P	**P**	**08 55 59.9**	**+0.4**
	1.6nm,0.8s,mb4.1,baz=22,slow=7.9,SNR=2.9						
NOA	**NORSAR Array B**	**68.19**	**359**	P	**P**	**08 56 08.5**	**+1.3**
	0.2nm,0.4s,mb3.5,baz=2.8,slow=4.5,SNR=2.6						
AKTO	**Aktyubinsk**	**70.69**	**329**	P	**P**	**08 56 23.3**	**+0.6**
	0.9nm,0.7s,mb3.8,baz=41,slow=11,SNR=3.9						
AKASG	**Malin Array Be**	**77.16**	**347**	P	**P**	**08 57 00.5**	**-0.1**
	0.4nm,0.4s,mb3.7,baz=21,slow=6.3,SNR=3.0						

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*SOF **08** 08:45:23.8,3994N×2496E,h9km,MD2.5*
*ATH **08** 08:45:23.4,3983N×2488E,h106km±4km*
*CSEM **08** 08:45:24.6±0.1,3983N×2494E,h20km,ML3.1,Error ellipse: s-maj=2.1km s-min=1.9km az=87.0*
*THE **08** 08:45:24.9,3982N×2485E,h8km,ML3.1*
*ISCJB **08** 08:45:25.3±0.4,3982N±003×2488E±003,h19km±6km, Error ellipse: s-maj=5.3km s-min=4.2km az=5.8*
ISC 08 08:45:24.4±0.5,3983N±003×2488E±003,h10km±4km,n19, σ0°96/31,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LOS	**Limnos**	**0.19**	**55**	*e*Pg	**Pg**	**08 45 29.3**	**+0.8**
LOS				*e*Sg	**Sg**	**08 45 32.6**	**+1.4**
OUR	**Ouranopolis**	**0.86**	**307**	*e*Pg	**Pg**	**08 45 41.4**	**+0.4**
OUR				*e*Sg	**Sg**	**08 45 52.6**	**+0.5**
PAIG	**Paliouri**	**0.93**	**277**	*e*Pg	**Pg**	**08 45 41.6**	**-0.8**
PAIG				*e*Sg	**Sg**	**08 45 55.4**	**+0.9**
AOS	**Alonnisos**	**1.01**	**230**	*e*Pg	**Pg**	**08 45 43.5**	**-0.4**
AOS				*e*Sg	**Sg**	**08 45 57.4**	**+0.3**
PRK	**Paraskevi**	**1.22**	**118**	*e*P	**Pn**	**08 45 47.6**	**+0.1**
PRK				*e*S	**Sb**	**08 46 05.0**	**+1.7**
PRK	**Paraskevi**	**1.22**	**118**	*e*Pb	**Pb**	**08 45 47.8**	**+0.3**
PLG	**Polygyros**	**1.23**	**297**	*e*Pg	**Pg**	**08 45 47.6**	**-0.5**
PLG				*e*Sg	**Sg**	**08 46 04.3**	**+0.3**
PLG	**Polygyros**	**1.23**	**297**	*e*P	**Pn**	**08 45 47.0**	**-0.6**
PLG				*e*S	**Sb**	**08 46 04.5**	**+0.9**
PLG	**Polygyros**	**1.23**	**297**	*e*Pb	**Pb**	**08 45 48.3**	**+0.6**
PLG				*e*Sg	**Sg**	**08 46 04.3**	**+0.2**
ALN	**Alexandroupoli**	**1.39**	**39**	*e*Pg	**Pg**	**08 45 49.8**	**-1.3**
ALN				*e*Sg	**Sg**	**08 46 09.1**	**-0.2**
RDO	**Rodhopi**	**1.41**	**21**	*e*P	**Pn**	**08 45 49.7**	**-0.4**
HORT	**Hortiatis**	**1.57**	**300**	*e*Pg	**Pg**	**08 45 51.8**	**-2.7**
CHOS	**Chios island**	**1.70**	**147**	*e*Pb	**Pb**	**08 45 54.3**	**-1.4**
CHOS				*e*Sb	**Sb**	**08 46 16.6**	**-0.6**
RZN	**Rozhen**	**1.86**	**356**	*i* P	**Pn**	**08 45 56.1**	**-0.3**
KDZ	**Kurdzhali**	**1.87**	**12**	*e*P	**Pn**	**08 45 56.1**	**-0.3**
KDZ				*e*Pg	**Pg**	**08 45 58.0**	**-2.2**
MMB	**Musomiste**	**1.97**	**334**	*i* P	**Pn**	**08 45 57.3**	**-0.5**
AGG	**Agios Georgios**	**2.13**	**249**	*e*Pn	**Pn**	**08 46 00.5**	**+0.4**
AGG				*e*Sn	**Sn**	**08 46 26.7**	**+0.1**
KKB	**Krupnik**	**2.45**	**327**	*i* P	**Pn**	**08 46 04.7**	**+0.3**
SZH	**Strazhica**	**3.53**	**13**	*i* P	**Pn**	**08 46 21.7**	**+2.5**

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*CSEM **08** 08:58:25.4±0.1,3954N×2704E,h8km,MD2.8,Error ellipse: s-maj=2.0km s-min=1.9km az=44.0*
*ISK **08** 08:58:25.4,3953N×2703E,h5km,MD2.9*
*DDA **08** 08:58:26.0,3952N×2701E,h16km±2km,Md2.8*
*ISCJB **08** 08:58:26.2±0.4,3955N±003×2702E±003,h8km,Error ellipse: s-maj=3.9km s-min=3.4km az=11.4*
ISC 08 08:58:26.4±0.5,3955N±003×2702E±003,h9km±5km,n22, σ0°88/32,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AYVA	**Ayvalik**	**0.35**	**227**	*i* P	**Pg**	**08 58 32.9**	**-0.3**
AYVA				*i* S	**Sg**	**08 58 38.5**	**+0.6**
EZN	**Ezine**	**0.61**	**298**	*e*PG	**Pg**	**08 58 38.1**	**0.0**
EZN				*e*SG	**Sg**	**08 58 46.1**	**+0.1**
BALB	**Balikesir**	**0.67**	**82**	*e*PG	**Pg**	**08 58 38.6**	**-0.7**
BOZC	**Bozcaada**	**0.80**	**292**	*i* P	**Pg**	**08 58 41.9**	**+0.1**
BOZC				*i* S	**Sg**	**08 58 53.0**	**+0.7**
BTOK	**Tokmak**	**0.81**	**74**	*i* P	**Pg**	**08 58 42.0**	**+0.1**
BTOK				*e*S	**Sg**	**08 58 54.1**	**+1.6**
BTOK	**Tokmak**	**0.81**	**74**	*i* P	**Pg**	**08 58 42.0**	**+0.1**
BTOK				*e*S	**Sg**	**08 58 54.1**	**+1.6**
AKHS	**Akhisar**	**0.91**	**137**	*i* P	**Pg**	**08 58 42.9**	**-0.9**
AKHS				*i* S	**Sg**	**08 58 55.6**	**+0.1**
AKS	**Akhisar**	**0.91**	**137**	*e*PG	**Pg**	**08 58 42.8**	**-0.9**
BNT	**Bandirma**	**1.06**	**40**	*e*PG	**Pg**	**08 58 45.9**	**-1.0**
GADA	**Gvkgeada**	**1.08**	**307**	*e*PN	**Pn**	**08 58 46.6**	**-1.0**
RKY	**Sarkoy-Tekirda**	**1.15**	**6**	*e*PN	**Pn**	**08 58 48.2**	**-0.5**
SART	**Tekirdag**	**1.15**	**6**	*i* P	**Pb**	**08 58 47.9**	**-0.6**
SART				*e*S	**Sg**	**08 59 04.2**	**+0.9**
SART	**Tekirdag**	**1.15**	**6**	*i* P	**Pb**	**08 58 47.9**	**-0.5**
SART				*e*S	**Sg**	**08 59 04.2**	**+0.8**
URLA	**Izmir**	**1.23**	**196**	*i* P	**Pn**	**08 58 49.0**	**-0.7**
URLA				*e*S	**Sb**	**08 59 06.6**	**+0.9**
DST	**Dursunbey**	**1.24**	**87**	*e*PN	**Pn**	**08 58 49.2**	**-0.8**
KCT	**Karacabey**	**1.25**	**55**	*e*PN	**Pn**	**08 58 48.6**	**-1.4**
MFT	**Murefte**	**1.26**	**9**	*e*PN	**Pn**	**08 58 50.3**	**+0.2**
ENEZ	**Enez**	**1.36**	**331**	*e*PN	**Pn**	**08 58 51.9**	**+0.3**
KULA	**Kula-Manisa**	**1.64**	**128**	*e*PN	**Pn**	**08 58 55.5**	**+0.1**
GDZ	**Gediz**	**1.96**	**103**	*e*P	**Pn**	**08 59 03.0**	**+3.2**
GDZ				*e*S	**Sn**	**08 59 27.7**	**+3.1**
IZI	**Iznik**	**2.04**	**66**	*e*PN	**Pn**	**08 59 00.8**	**-0.1**
YLV	**Yalova**	**2.07**	**60**	*e*PN	**Pn**	**08 59 02.5**	**+1.2**

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*THE **08** 09:14:56.9,3946N×2711E,h5km,ML3.5*
*CSEM **08** 09:14:56.5±0.3,3948N×2709E,h1km±2km,MD2.6,Error ellipse: s-maj=4.5km s-min=3.7km az=65.0*
*ISCJB **08** 09:14:57.4±0.4,3951N±002×2700E±003,h1km,Error ellipse: s-maj=4.1km s-min=3.3km az=146.2*
*DDA **08** 09:14:57.4,3952N×2703E,h7km±2km,Md2.6*
*ATH **08** 09:15:00.4,39.15N×2608E,h56km,MD3.1/4*
*NEIC **08** 09:15:00.4,39.15N×2608E,h55km,MD3.1(ATH),After ATH.*
ISC 08 09:14:57.8±0.6,3952N±003×2700E±004,h0km±7km,n17, σ1°30/27,2C,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AYVA	**Ayvalik**	**0.32**	**228**	*i* P	**Pg**	**09 15 04.4**	**+0.6**
AYVA				*i* S	**Sg**	**09 15 09.7**	**+1.8**
PRK	**Paraskevi**	**0.62**	**244**	‖P	**Pg**	**09 15 09.7**	**0.0**
PRK	**Paraskevi**	**0.62**	**244**	‖P	**Pg**	**09 15 09.6**	**-0.1**
BOZC	**Bozcaada**	**0.79**	**294**	*i* P	**Pg**	**09 15 13.5**	**+0.5**
BOZC				*i* S	**Sg**	**09 15 24.8**	**+1.5**
BTOK	**Tokmak**	**0.83**	**73**	*i* P	**Pg**	**09 15 13.3**	**-0.5**
AKHS	**Akhisar**	**0.90**	**135**	*i* P	**Pg**	**09 15 14.2**	**-0.9**
AKHS				*i* S	**Sg**	**09 15 27.0**	**+0.1**
KDAG	**Bornova**	**1.14**	**169**	*i* P	**Pg**	**09 15 19.1**	**-0.5**
KDAG				*i* S	**Sg**	**09 15 35.0**	**+0.7**
SART	**Tekirdag**	**1.17**	**7**	*i* P	**Pg**	**09 15 19.3**	**-1.0**
SART				*i* S	**Sg**	**09 15 36.8**	**+1.3**
URLA	**Izmir**	**1.20**	**195**	*i* P	**Pg**	**09 15 20.4**	**-0.4**
URLA				*i* S	**Sg**	**09 15 39.2**	**+2.8**
CHOS	**Chios island**	**1.35**	**213**	*e*Pg	**Pg**	**09 15 21.2**	**-2.5**
CHOS				*e*Sg	**Sg**	**09 15 39.9**	**-1.2**
LIA	**Limnos Island**	**1.45**	**286**	*e*P	**Pn**	**09 15 19.3**	**-5.9**
LIA	**Limnos Island**	**1.45**	**286**	*e*P	**Pn**	**09 15 19.4**	**-5.8**
LOS	**Limnos**	**1.53**	**286**	*e*Pb	**Pb**	**09 15 25.2**	**-1.8**
LOS				*e*Sb	**Sb**	**09 15 47.4**	**+0.4**
ALN	**Alexandroupoli**	**1.55**	**332**	*e*Pb	**Pb**	**09 15 25.0**	**-2.4**
ALN				*e*Sb	**Sb**	**09 15 47.0**	**-0.6**
SMG	**Samos**	**1.81**	**184**	*e*P	**Pn**	**09 15 27.0**	**-3.2**
RDO	**Rodhopi**	**1.97**	**326**	*e*P	**Pn**	**09 15 33.7**	**+1.4**
GDZ	**Gediz**	**1.98**	**102**	*e*P	**Pn**	**09 15 34.3**	**+1.8**
GDZ				*i* S	**Sn**	**09 15 59.1**	**+1.3**

IDC 08 09:17:15.6±1.4,224S×12829E,h0km,mb3.7/4,mb1 3.9/5, mb1mx3.7/14,mbtmp3.7/5,ML2.7/1,Error ellipse: s-maj=148.3km s-min=21.6km az=69.0,Ceram Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.56**	**162**	P	Pn	09 21 33.6	-0.7
	0.0nm,0.3s,baz=345,slow=12,SNR=6.4						
ASAR	**Alice Springs**	**21.98**	**166**	P	P	09 22 11.3	0.0
	5.2nm,0.8s,baz=346,slow=12,SNR=38						
ASAR				S	S	09 26 07.8	-7.1
	1.2nm,1.0s,baz=345,slow=18,SNR=6.1						
STKA	**Stephens Creek**	**32.03**	**158**	P	P	09 23 44.6	+0.6
	1.5nm,0.9s,baz=331,slow=8.2,SNR=3.1						
SONM	**Songino Array**	**53.42**	**342**	P	P	09 26 37.3	+0.2
	0.5nm,0.6s,baz=150,slow=7.7,SNR=3.6						
MKAR	**Makanchi Array**	**63.34**	**326**	P	P	09 27 46.3	-0.2
	0.2nm,0.5s,baz=126,slow=7.3,SNR=3.2						

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*CSEM **08** 09:22:22.6±0.1,4022N×4171E,h10km,MD3.1,Error ellipse: s-maj=2.8km s-min=1.9km az=165.0*
*ISK **08** 09:22:22.3,4027N×4172E,h5km,MD3.0*
*ISCJB **08** 09:22:23.2±1.0,4033N±004×4168E±005,h1km±10km, Error ellipse: s-maj=7.6km s-min=5.7km az=23.8*
*DDA **08** 09:22:23.8,4030N×4179E,h10km±9km,Md3.1*
ISC 08 09:22:24.1±0.6,4030N±003×4168E±005,h11km±6km,n15, σ1°12/23,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOMI	**Horasan**	**0.31**	**145**	*i* P	**Pg**	**09 22 28.9**	**-1.3**
HOMI				*i* S	**Sg**	**09 22 35.4**	**+1.1**
ERZM	**Erzurum**	**0.46**	**212**	*i* P	**Pg**	**09 22 32.3**	**-0.8**
ERZM				*i* S	**Sg**	**09 22 43.0**	**+3.8**
EZM	**Erzurum**	**0.46**	**212**	*e*PG	**Pg**	**09 22 32.2**	**-0.8**
EZM				*e*SG	**Sg**	**09 22 40.2**	**+1.0**
ARTV	**Artvin**	**0.91**	**12**	*i* P	**Pg**	**09 22 40.4**	**-1.1**
ARTV				*i* S	**Sg**	**09 22 54.7**	**+1.4**
KOPT	**Kop Dagi**	**0.95**	**253**	*i* P	**Pg**	**09 22 42.0**	**-0.3**
KOPT				*i* S	**Sg**	**09 22 59.8**	**+5.1**
PZAR	**Pazar-Rize**	**1.06**	**326**	*e*PN	**Pn**	**09 22 44.9**	**0.0**
KARS	**Kars**	**1.12**	**73**	*e*PN	**Pn**	**09 22 45.1**	**-0.7**
AGRB	**Hanur-Agry**	**1.24**	**125**	*e*PN	**Pn**	**09 22 46.0**	**-1.4**
TUTA	**Tutak**	**1.25**	**135**	*i* P	**Pn**	**09 22 46.5**	**-1.0**
TUTA				*i* S	**Sb**	**09 23 06.1**	**+2.3**
DIGO	**Kars**	**1.30**	**84**	*i* P	**Pn**	**09 22 46.9**	**-1.3**
DIGO				*i* S	**Sb**	**09 23 06.2**	**+1.0**
DIGO	**Kars**	**1.30**	**84**	*i* P	**Pn**	**09 22 46.9**	**-1.3**
DIGO				*i* S	**Sb**	**09 23 06.2**	**+0.9**
BNGL	**BINGOL**	**1.41**	**197**	*i* P	**Pn**	**09 22 49.0**	**-0.6**
KTUT	**Trabzon**	**1.61**	**296**	*e*PN	**Pn**	**09 22 53.0**	**+0.6**
CLDR	**Caldiran**	**2.08**	**123**	*e*PN	**Pn**	**09 22 59.7**	**+0.8**
ESPY	**Espiye-Giresun**	**2.33**	**286**	*e*PN	**Pn**	**09 23 03.9**	**+1.5**

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*CSEM **08** 09:24:17.4±0.1,4023N×4173E,h5km,MD3.0,Error ellipse: s-maj=5.4km s-min=2.6km az=161.0*
*ISCJB **08** 09:24:18.7±0.7,4036N±004×4172E±004,h5km,Error ellipse: s-maj=6.3km s-min=4.5km az=172.0*
*ISK **08** 09:24:18.5,4026N×4174E,h9km,MD3.0*
*DDA **08** 09:24:18.3,4038N×4177E,h7km±5km,Md2.8*
ISC 08 09:24:18.3±1.2,4039N±006×4176E±004,h1km±13km,n10, σ1°23/16,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOMI	**Horasan**	**0.36**	**162**	*i* P	**Pg**	**09 24 24.1**	**-1.1**
HOMI				*i* S	**Sg**	**09 24 31.5**	**+1.6**
ERZM	**Erzurum**	**0.57**	**212**	*i* P	**Pg**	**09 24 27.4**	**-1.8**
ERZM				*e*S	**Sg**	**09 24 38.2**	**+1.6**
EZM	**Erzurum**	**0.57**	**213**	*e*PG	**Pg**	**09 24 27.6**	**-1.6**
EZM				*e*SG	**Sg**	**09 24 35.4**	**-1.3**
KOPT	**Kop Dagi**	**1.04**	**250**	*e*P	**Pg**	**09 24 38.1**	**-0.1**
KOPT				*i* S	**Sg**	**09 24 53.2**	**+1.6**
KARS	**Kars**	**1.04**	**77**	*e*PN	**Pn**	**09 24 40.0**	**0.0**
DIGO	**Kars**	**1.23**	**88**	*e*P	**Pg**	**09 24 42.1**	**+0.1**
DIGO				*i* S	**Sg**	**09 25 01.5**	**+3.6**
AGRB	**Hanur-Agry**	**1.25**	**130**	*e*PN	**Pn**	**09 24 41.5**	**-1.4**
TUTA	**Tutak**	**1.27**	**140**	*i* P	**Pg**	**09 24 42.0**	**-0.8**
TUTA				*e*S	**Sg**	**09 25 00.4**	**+1.2**
KTUT	**Trabzon**	**1.63**	**292**	*e*PN	**Pn**	**09 24 48.1**	**0.0**
ESPY	**Espiye-Giresun**	**2.37**	**284**	*e*PN	**Pn**	**09 24 59.5**	**+1.2**

IDC 08 09:35:55.6±2.2,303S×12780E,h0km,mb3.5/2,mb1 3.6/3, mb1mx3.4/14,mbtmp3.5/3,ML3.4/1,Error ellipse: s-maj=177.5km s-min=27.3km az=67.0,Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**17.98**	**160**	P	Pn	09 40 06.8	-0.3
	0.1nm,0.3s,baz=342,slow=12,SNR=6.0						
ASAR	**Alice Springs**	**21.35**	**164**	P	P	09 40 44.8	+0.3
	0.5nm,0.3s,baz=345,slow=11,SNR=21						
MKAR	**Makanchi Array**	**63.72**	**327**	P	P	09 46 29.1	+0.1
	0.3nm,0.4s,baz=124,slow=7.2,SNR=4.8						

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*IDC **08** 09:39:56.9±0.6,004S×12493E,h0km,mb4.3/12, mb1 4.4/13,mb1mx4.3/18,mbtmp4.3/13,ML3.8/1,MS3.0/2, Ms1 3.0/2,ms1mx2.6/28,Error ellipse: s-maj=36.3km s-min=13.6km az=74.0*
*ISCJB **08** 09:39:58.1±3.6,004N±007×125.1E±02,h21km±26km, mb4.4/17,MS2.8/1,Error ellipse: s-maj=27.8km s-min=9.5km az=162.5*
*NEIC **08** 09:39:58.1±0.4,002N×12506E,h10km,mb4.5/6,Error ellipse: s-maj=22.4km s-min=6.9km az=70.0*
ISC 08 09:40:07.6±2.1,007S±009×1254E±01,h94km±22km,n28, σ0°98/28,mb4.3/17,1D,Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Kupang**	**10.20**	**189**	Pn	**Pn**	**09 42 31.6**	**+0.5**
	1.7nm,0.3s,baz=32,slow=5.7,SNR=4.2						
BATI				LR	LR	09 46 55.7	
	comp=Z,126nm,21.4s,baz=108,slow=41						

KAKA	**Kakadu**	**14.39**	**151**	*e*P	**Pn**	**09 43 25.7 -1.2**
	14nm,0.7s					
KSM	**Kuching**	**15.11**	**276**	*e*Pn	**Pn**	**09 43 37.2 +1.0**
FITZ	**Fitzroy Crossi**	**17.92**	**179**	*e*P	**Pn**	**09 44 09.7 -1.0**
	4.3nm,0.8s					
FITZ	**Fitzroy Crossi**	**17.92**	**179**	P	**Pn**	**09 44 08.8 -1.9**
	0.3nm,0.3s,baz=356,slow=11,SNR=7.2					
WRAB	**Tennant Creek**	**21.62**	**156**	*e*P	**P**	**09 44 50.1 -0.1**
	5.9nm,0.7s,mb4.0					
WRA	**Warramunga Arr**	**21.62**	**156**	P	**P**	**09 44 49.3 -0.9**
	2.8nm,0.4s,mb4.0,baz=333,slow=11,SNR=52					
WB2	**Warramunga Arr**	**21.63**	**156**	*e*P	**P**	**09 44 50.1 -0.2**
ASAR	**Alice Springs**	**24.88**	**161**	P	**P**	**09 45 23.3 +1.6**
	6.5nm,1.1s,mb4.0,baz=341,slow=7.3,SNR=55					
ASAR				PcP	PcP	09 48 58.2 +2.8
	0.6nm,0.5s,baz=344,slow=1.9,SNR=7.4					
ASAR				S	**S**	**09 49 44.6 +6.6**
	1.1nm,0.9s,baz=349,slow=24,SNR=5.7					
JNU	**Nakatsue**	**33.43**	**8**	P	**P**	**09 46 38.5 +1.1**
	3.7nm,0.8s,mb4.3,baz=225,slow=4.3,SNR=3.7					
STKA	**Stephens Creek**	**35.17**	**156**	‖*i*P	**P**	**09 46 55.0 +2.5**
	6.3nm,0.4s,mb4.8					
STKA	**Stephens Creek**	**35.17**	**156**	P	**P**	**09 46 54.6 +2.2**
	7.9nm,0.5s,mb4.8,baz=330,slow=8.2,SNR=63					
KSRS	**Korea Array**	**37.42**	**3**	P	**P**	**09 47 12.3 +0.8**
	2.5nm,0.8s,mb4.2,baz=179,slow=10.0,SNR=8.6					
KSRS				LR	LR	10 01 06.2
	comp=Z,16nm,20.8s,baz=170,slow=34					
MJAR	**Matsushiro Arr**	**38.34**	**17**	P	**P**	**09 47 20.3 +1.0**
	1.2nm,0.7s,mb3.8,baz=187,slow=9.0,SNR=5.5					
SONM	**Songino Array**	**50.48**	**344**	P	**P**	**09 48 54.6 -1.2**
	1.4nm,0.7s,mb4.0,baz=158,slow=8.8,SNR=6.7					
MK31	**Makanchi Array**	**59.93**	**327**	*e*P	**P**	**09 50 03.0 -0.7**
MKAR	**Makanchi Array**	**59.93**	**327**	P	**P**	**09 50 02.5 -1.3**
	3.6nm,0.6s,mb4.6,baz=119,slow=8.5,SNR=46					
MKAR				PcP	PcP	09 50 50.0 +0.8
	1.3nm,0.7s,baz=122,slow=5.4,SNR=6.0					
UCH	**Uchtor**	**62.08**	**319**	*e*P	**P**	**09 50 18.3 -0.2**
	2.7nm,0.9s,mb4.3					
AML	**Almayashu**	**62.57**	**319**	*e*P	**P**	**09 50 21.9 +0.2**
	7.3nm,1.2s,mb4.5					
ZALV	**Zalesovo Beam**	**63.37**	**335**	P	**P**	**09 50 26.6 -0.1**
	1.5nm,0.4s,mb4.2,baz=112,slow=6.6,SNR=6.7					
KURK	**Kurchatov**	**64.23**	**329**	*e*P	**P**	**09 50 31.3 -1.1**
	8.3nm,0.6s,mb4.7					
TIXI	**Tiksi**	**71.64**	**1**	*e*P	**P**	**09 51 19.4 +0.8**
AKTK	**Aktyubinsk**	**75.79**	**323**	P	**P**	**09 51 42.9 -0.3**
AKTO	**Aktyubinsk**	**75.79**	**323**	P	**P**	**09 51 42.9 -0.3**
	4.7nm,0.6s,mb4.4,baz=107,slow=7.4,SNR=24					
KMBO	**Kilima Mbogo**	**88.09**	**269**	P	**P**	**09 52 49.9 +1.4**
	3.8nm,0.8s,mb4.5,baz=56,slow=8.2,SNR=14					
INK	**Inuvik**	**94.19**	**21**	P	**P**	**09 53 14.9 -0.6**
	0.5nm,0.6s,mb4.0,baz=264,slow=9.2,SNR=5.5					
FINES	**FINESS Array B**	**94.50**	**332**	P	**P**	**09 53 16.5 -0.7**
	1.2nm,0.8s,mb4.4,baz=337,slow=6.7,SNR=3.7					
TORD	**Torodi Ar. Bea**	**122.69**	**286**	PKP	PKPdf	09 58 54.2 +0.8
	0.5nm,0.6s,baz=96,slow=1.6,SNR=4.6					

MAN 08 09:48:30,1370N×12054E,h86km,mb3.9,ML2.7,MS2.3, 1D,Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.29**	**276**	*e*P	Pn	09 48 45.8	+2.9
LUBP				*e*S	Sn	09 48 56.3	+3.9
TGY	**Tagaytay City**	**0.55**	**44**	‖*e*P	Pn	09 48 47.2	+2.5
TGY				*e*S	Sn	09 48 55.9	+0.2
BUSP	**Coron**	**1.72**	**191**	*e*P	Pn	09 49 00.1	+1.6
BUSP				*e*S	Sn	09 49 22.0	+2.0
OTRP	**Odiongan**	**1.96**	**133**	*e*P	Pn	09 49 03.2	+1.6
OTRP				*e*S	Sn	09 49 27.4	+1.7
BALP	**Baler**	**2.26**	**26**	*e*P	Pn	09 49 07.8	+2.2
ENPP	**El Nido**	**2.71**	**204**	*e*P	Pn	09 49 13.4	+1.8

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*NEIC **08** 09:59:11.9±0.6,458S×15333E,h15km,mb4.8/12,Error ellipse: s-maj=19.7km s-min=9.1km az=93.0*
*ISCJB **08** 09:59:13.4±3.7,460S±008×15325E±008,h33km±33km, mb4.4/24,MS3.6/4,Error ellipse: s-maj=13.8km s-min=13.1km az=167.4*
*IDC **08** 09:59:16.3±2.4,460S×15333E,h52km±19km,mb3.8/10, mb1 4.0/10,mb1mx3.9/13,mbtmp3.8/10,MS3.5/5, Ms1 3.5/5,ms1mx3.2/23,Error ellipse: s-maj=26.1km s-min=14.1km az=102.0*
**ISC 08 09:59:14.3±4.0,458S±006×15319E±007,h26km±28km, n43,σ1°08/40,mb

USP	**Ospenovka**	84.92	314	P		P	10 11 48.0 +0.8
	SNR=5.0						
AML	**Almayashu**	85.29	313	*e*P		P	10 11 50.6 +1.6
	14nm,1.0s,mb5.0						
AML	**Almayashu**	85.29	313	P		P	10 11 50.9 +1.8
	SNR=9.0						
EKS2	**Erkin-Say**	85.32	313	P		P	10 11 50.4 +1.2
	SNR=5.5						
QSPA	**South Pole Qui**	85.38	180	*e*P		P	10 11 47.6 -1.2
	24nm,1.3s,mb5.2						
MAW	**Mawson**	85.92	203	P		P	10 11 49.9 -1.9
	4.6nm,0.7s,mb4.8,baz=117,slow=4.6,SNR=10						
MAW				LR		LR	10 48 45.3
	comp=Z,87nm,18.2s,MS4.2,baz=247,slow=34						
BRVK	**Borovoye**	89.37	323	*e*P		P	10 12 07.2 -1.3
	5.6nm,0.9s,mb4.9						
YKA	**Yellowknife Ar**	95.05	28	P		P	10 12 34.4 -0.2
YKA	**Yellowknife Ar**	95.05	28	P		P	10 12 34.4 -0.2
	0.3nm,0.8s,mb3.8,baz=270,slow=5.1,SNR=5.8						
PMSA	**Palmer Station**	105.57	164	*e*PKP		PKiKP	10 17 30.0 -4.9
KMBO	**Kilima Mbogo**	115.75	267	*e*PKPdf		PKPdf	10 17 55.0 -0.5
EFI	**East Falkland**	117.94	159	*e*PKPdf		PKPdf	10 17 52.5 -6.2
TORD	**Torodi Ar. Bea**	150.61	289	PKPbc		PKPbc	10 19 03.1 -1.9
	5.4nm,0.6s,baz=75,slow=1.9,SNR=34						

ISCJB ***08*** *10:03:43.9±0.3,36.12N±002×485W±002,h81km±4km, Error ellipse: s-maj=3.3km s-min=2.5km az=24.2*
CSEM ***08*** *10:03:44.0±0.1,36.11N×481W,h57km±1km,mb3.9/13, Error ellipse: s-maj=1.4km s-min=1.2km az=13.0*
NEIC ***08*** *10:03:46.0,3608N×480W,h66km,MG3.9(MDD),After MDD.*
SFS ***08*** *10:03:45.0,3608N×480W,h0km,ML3.5*
LDG ***08*** *10:03:46.8±0.3,36.16N×501W,h10km,Ml3.5/1,Error ellipse: s-maj=6.2km s-min=2.6km az=167.0*
MDD ***08*** *10:03:46.2±0.4,3609N×481W,h64km±5km,mb4.1/12, Error ellipse: s-maj=3.5km s-min=3.0km az=16.0,PRXIMO*
INMG ***08*** *10:03:46.9±1.2,36.16N×492W,h55km±6km,ML2.5,Error ellipse: s-maj=4.0km s-min=3.1km az=177.0*
CNRM ***08*** *10:03:47.0,3600N×477W,h16km,MD3.2*
ISC 08 10:03:45.0±0.3,3612N±002×484W±002,h71km±5km,n113,σ1§37/207,8C-5D,Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMIJ	**Mijas**	0.45	7	⇓P	Pn	10 03 57.1	-0.4
	SNR=18						
EMIJ				S	Sn	10 04 06.5	0.0
	154nm,0.2s						
EMIJ	**Mijas**	0.45	7	P	Pn	10 03 57.1	-0.4
	7.2nm,0.1s,SNR=18						
EMIJ				S	Sn	10 04 06.6	0.0
REAL	**Reales**	0.47	321	⇓P	Pn	10 03 58.4	+0.8
REAL				S	Sn	10 04 07.2	+0.3
REAL	**Reales**	0.47	321	*i* P	Pn	10 03 58.4	+0.7
REAL				*i* S	Sn	10 04 07.2	+0.2
MDAL	**Dalia**	0.57	247	*i* P	Pn	10 03 58.0	-0.6
MDAL				*i* S	Sn	10 04 07.0	-1.5
EJIF	**Jimena Fronter**	0.61	303	⇑P	Pn	10 04 00.9	+1.9
	48nm,0.2s,SNR=18						
EMAL	**Malaga-Limoner**	0.72	27	P	Pn	10 04 01.9	+1.6
	8.8nm,0.1s,SNR=7.9						
EMAL				S	Sn	10 04 12.5	+1.0
	14nm,0.1s,SNR=7.9						
EMAL	**Malaga-Limoner**	0.72	27	*i* P	Pn	10 04 00.2	0.0
EMAL				S	Sn	10 04 12.4	+0.9
MOMI	**Momias**	0.74	287	P	Pn	10 04 02.9	+2.5
MOMI	**Momias**	0.74	287	*e*P	Pn	10 04 02.9	+2.4
LIJA	**Lijar**	0.91	330	⇓P	Pn	10 04 04.1	+1.7
LIJA				S	Sn	10 04 16.1	+0.7
LIJA	**Lijar**	0.91	330	*i* P	Pn	10 04 04.1	+1.7
LIJA				*e*S	Sn	10 04 16.1	+0.8
CNIL	**Conil**	1.01	285	P	Pn	10 04 05.2	+1.5
CNIL				S	Sn	10 04 19.6	+1.9
CNIL	**Conil**	1.01	285	*i* P	Pn	10 04 05.2	+1.5
CNIL				*e*S	Sn	10 04 19.6	+1.9
ESPR	**Espera**	1.11	313	⇑P	Pn	10 04 06.2	+1.3
	9.2nm,0.1s,SNR=18						
ESPR				S	Sn	10 04 19.9	+0.1
	38nm,0.2s,SNR=7.9						
ESPR	**Espera**	1.11	313	P	Pn	10 04 06.2	+1.3
	9.2nm,0.1s,SNR=18						
ESPR				S	Sn	10 04 19.9	+0.1
	38nm,0.2s,SNR=7.9						
GIBL	**Gibalbin**	1.15	308	P	Pn	10 04 06.7	+1.2
GIBL				S	Sn	10 04 27.0	+6.2
GIBL	**Gibalbin**	1.15	308	*i* P	Pn	10 04 06.7	+1.2
ELOJ	**Sierra Loja**	1.17	28	P	Pn	10 04 06.5	+0.8
ELOJ				S	Sn	10 04 25.1	+4.1
ELOJ	**Sierra Loja**	1.17	28	P	Pn	10 04 06.5	+0.8
	3.1nm,0.2s,SNR=8.4						
ELOJ				S	Sn	10 04 23.7	+2.6
	3.1nm,0.4s						
ERON	**Agron**	1.22	42	P	Pn	10 04 06.2	-0.2
ERON				S	Sn	10 04 21.0	-1.4
ERON	**Agron**	1.22	42	P	Pn	10 04 06.2	-0.2
	4.1nm,0.2s,SNR=12						
ERON				S	Sn	10 04 21.9	-0.4
	7.8nm,0.2s						
ERON	**Agron**	1.22	42	P	Pn	10 04 06.2	-0.2
	4.1nm,0.2s,SNR=12						
ERON				S	Sn	10 04 21.0	-1.4
	7.8nm,0.2s						
EGUA	**Guajares**	1.25	55	P	Pn	10 04 05.8	-0.8
	2.6nm,0.1s,SNR=7.9						
EGUA				S	Sn	10 04 22.1	-0.8
	10nm,0.2s,SNR=7.9						
EGUA	**Guajares**	1.25	55	P	Pn	10 04 05.8	-0.9
	2.6nm,0.1s,SNR=7.9						
EGUA				S	Sn	10 04 22.1	-0.9
	10nm,0.2s,SNR=7.9						
TOU	**Touzarine**	1.45	142	*e*P	Pn	10 04 10.0	+0.6
TOU				*i* S	Sn	10 04 26.0	-1.7
EALB	**Alboran**	1.47	96	P	Pn	10 04 08.9	-0.7
	4.5nm,0.1s,SNR=4.0						
EALB				S	Sn	10 04 25.7	-2.4
	67nm,0.3s,SNR=7.9						
EALB	**Alboran**	1.47	96	P	Pn	10 04 08.9	-0.7
	4.5nm,0.1s,SNR=4.0						
EALB				S	Sn	10 04 25.7	-2.5
	67nm,0.3s,SNR=7.9						
ELUQ	**Luque**	1.51	17	P	Pn	10 04 11.4	+1.3
	2.2nm,0.2s,SNR=9.9						
ELUQ				S	Sn	10 04 30.9	+1.9
	18nm,0.2s						
ECOG	**Cogollos-Vega**	1.54	41	P	Pn	10 04 11.5	+1.0
	1.3nm,0.1s,SNR=5.6						
ECOG				S	Sn	10 04 33.9	+4.1
	5.3nm,0.2s,SNR=6.6						
EQUE	**Quentar**	1.56	46	P	Pn	10 04 12.1	+1.3
	1.2nm,0.2s,SNR=7.9						
EQUE				S	Sn	10 04 32.8	+2.5
	7.1nm,0.3s,SNR=7.9						
EMEL	**Melilla**	1.73	118	P	Pn	10 04 12.5	-0.6
	48nm,0.1s,SNR=5.7						
EMEL				S	Sn	10 04 31.8	-2.6
	96nm,0.1s						
EMLI	**Melilla**	1.74	117	P	Pn	10 04 12.5	-0.7
	48nm,0.1s,SNR=5.7						
EMLI				S	Sn	10 04 31.8	-2.7
	96nm,0.1s						
EBER	**Berja**	1.75	63	⇓P	Pn	10 04 13.2	-0.1
	8.6nm,0.2s,SNR=18						
EBER				S	Sn	10 04 33.8	-0.9
	42nm,0.3s,SNR=7.9						
EBER	**Berja**	1.75	63	P	Pn	10 04 13.2	-0.1
	8.6nm,0.2s,SNR=18						
EBER				S	Sn	10 04 33.8	-1.0
	42nm,0.3s,SNR=7.9						
ECAB	**El Cabril**	2.01	347	P	Pn	10 04 17.4	+0.7
	3.0nm,0.1s,SNR=9.9						
ECAB				S	Sn	10 04 40.0	-0.9
	53nm,0.1s						
ECAB	**El Cabril**	2.01	347	P	Pn	10 04 17.4	+0.7
	3.0nm,0.1s,SNR=9.9						
ECAB				S	Sn	10 04 40.0	-0.9
	53nm,0.1s						
EADA	**Adamuz**	2.06	6	⇑P	Pn	10 04 18.7	+1.3
	0.6nm,0.0s,SNR=18						
EADA				S	Sn	10 04 42.0	0.0
	12nm,0.1s,SNR=11						
EADA	**Adamuz**	2.06	6	P	Pn	10 04 18.7	+1.3
	0.6nm,0.0s,SNR=18						
EADA				S	Sn	10 04 42.0	-0.1
	12nm,0.1s,SNR=11						
ZAI	**Zaio**	2.06	123	*i* P	Pn	10 04 18.0	+0.6
ZAI				*i* S	Sn	10 04 40.0	-2.1
TZK	**Tazeka**	2.10	165	*i* P	Pn	10 04 20.0	+2.1
TZK				*i* S	Sn	10 04 43.0	-0.1
EQES	**Quesada**	2.20	40	P	Pn	10 04 20.8	+1.5
	0.7nm,0.1s,SNR=13						
EQES				S	Sn	10 04 45.1	-0.4
	2.4nm,0.1s,SNR=8.0						
EQES	**Quesada**	2.20	40	P	Pn	10 04 20.8	+1.5
	0.7nm,0.1s,SNR=13						
EQES				S	Sn	10 04 45.1	-0.4
	2.4nm,0.1s,SNR=8.0						
EMIN	**Mina Concepcio**	2.21	319	⇑P	Pn	10 04 19.9	+0.5
	6.9nm,0.1s,SNR=18						
EMIN				S	Sn	10 04 44.3	-1.4
	8.4nm,0.1s,SNR=7.9						
EMIN	**Mina Concepcio**	2.21	319	P	Pn	10 04 19.9	+0.5
	6.9nm,0.1s,SNR=18						
EMIN				S	Sn	10 04 44.3	-1.4
	8.4nm,0.1s,SNR=7.9						
EBAN	**Banos Encina**	2.21	22	P	Pn	10 04 20.3	+0.9
	2.6nm,0.1s,SNR=6.3						
EBAN				S	Sn	10 04 45.1	-0.6
	4.4nm,0.1s,SNR=6.6						
EBAN	**Banos Encina**	2.21	22	P	Pn	10 04 20.3	+0.9
	2.6nm,0.1s,SNR=6.3						
EBAN				S	Sn	10 04 45.1	-0.6
	4.4nm,0.1s,SNR=6.6						
ENIJ	**Nijar**	2.28	67	P	Pn	10 04 20.2	-0.3
	1.1nm,0.1s,SNR=7.9						
ENIJ				S	Sn	10 04 46.1	-1.5
	4.1nm,0.2s,SNR=7.9						
ERIP	**Rio Piedras**	2.31	304	⇑P	Pn	10 04 21.3	+0.5
	138nm,0.1s,SNR=18						
ERIP				S	Sn	10 04 46.9	-1.3
	65nm,0.1s,SNR=7.9						
EGRO	**El Granado**	2.55	304	⇑P	Pn	10 04 24.6	+0.5
	58nm,0.1s,SNR=18						
EGRO				S	Sn	10 04 52.5	-1.6
	40nm,0.1s,SNR=25						
EGRO	**El Granado**	2.55	304	P	Pn	10 04 24.6	+0.6
	58nm,0.1s,SNR=18						
EGRO				S	Sn	10 04 52.5	-1.5
	40nm,0.1s,SNR=25						
PVAQ	**Vaqueiros**	2.64	300	*i* P	Pn	10 04 25.6	+0.3
PVAQ				*e*S	Sn	10 04 54.9	-1.4
PVAQ				A		10 04 57.0	
	34nm,0.1s						
PVAQ	**Vaqueiros**	2.64	300	⇑P	Pn	10 04 25.6	+0.3
PVAQ				S	Sn	10 04 54.9	-1.4
	17nm,0.1s						
PBAR	**Barrancos**	2.70	320	*e*P	Pn	10 04 26.6	+0.5
PBAR				*e*S	Sn	10 04 56.6	-1.1
PBAR				A		10 04 59.0	
	17nm,0.1s						
PBAR	**Barrancos**	2.70	320	*e*P	Pn	10 04 26.6	+0.5
PBAR				*e*S	Sn	10 04 56.6	-1.1
	17nm,0.1s						
MIF	**Mishlifen**	2.72	187	*e*P	Pn	10 04 26.5	+0.1
MIF				*i* S	Sn	10 04 56.0	-2.3
PBEJ	**Beja**	3.08	309	*e*P	Pn	10 04 31.8	+0.5
PBEJ				*e*S	Sn	10 05 05.4	-1.6
PBEJ				A		10 05 07.0	
	15nm,0.1s						
PBEJ	**Beja**	3.08	309	*e*P	Pn	10 04 31.8	+0.5
PBEJ				*e*S	Sn	10 05 05.4	-1.6
	15nm,0.1s						
CZD	**Col de Zad**	3.08	183	*i* P	Pn	10 04 32.0	+0.7
CZD				*i* S	Sn	10 05 05.0	-2.1
EVIA	**Vianos**	3.13	36	P	Pn	10 04 32.9	+1.0
	1.0nm,0.1s,SNR=7.9						
EVIA				S	Sn	10 05 06.3	-1.8
	3.4nm,0.1s,SNR=10						
EBAD	**Badajoz**	3.15	327	⇑P	Pn	10 04 32.9	+0.7
	6.4nm,0.1s,SNR=18						
EBAD				S	Sn	10 05 07.6	-1.1
	15nm,0.1s,SNR=15						
EBAD	**Badajoz**	3.15	327	P	Pn	10 04 32.9	+0.7
	6.4nm,0.1s,SNR=18						
EBAD				S	Sn	10 05 07.6	-1.0
	15nm,0.1s,SNR=15						
MORF	**Marmelete**	3.29	292	*e*P	Pn	10 04 34.3	+0.3
MORF				*e*S	Sn	10 05 09.7	-2.2
MORF				A		10 05 13.0	
	41nm,0.1s						
MORF	**Marmelete**	3.29	292	P	Pn	10 04 34.0	0.0
MORF				S	Sn	10 05 08.3	-3.6
MORF	**Marmelete**	3.29	292	*e*P	Pn	10 04 34.3	+0.3
MORF				*e*S	Sn	10 05 09.7	-2.2
	41nm,0.1s						
EMUR	**La Murta**	3.35	58	S	Sn	10 05 12.5	-1.1
	0.1nm,0.1s,SNR=7.9						
EMUR	**La Murta**	3.35	58	S	Sn	10 05 12.5	-1.1
	0.1nm,0.1s,SNR=7.9						
PFVI	**Vila Bisbo**	3.37	289	*e*P	Pn	10 04 35.2	+0.1
PFVI				*e*S	Sn	10 05 11.9	-2.0
PFVI				A		10 05 13.1	
	16nm,0.1s						
PFVI				A		10 05 15.9	
	18nm,0.1s						
PFVI	**Vila Bisbo**	3.37	289	*e*P	Pn	10 04 35.2	+0.1
PFVI				*e*S	Sn	10 05 11.9	-2.0
	18nm,0.1s						
PTEO	**Sao Teotonio**	3.43	296	*e*P	Pn	10 04 36.6	+0.6
PTEO				*e*S	Sn	10 05 13.7	-1.7
PTEO				A		10 05 18.4	
	14nm,0.2s						
PTEO	**Sao Teotonio**	3.43	296	*e*P	Pn	10 04 36.6	+0.6
PTEO				*e*S	Sn	10 05 13.7	-1.7
	14nm,0.2s						
EVO	**Evora**	3.49	315	*e*Pn	Pn	10 04 38.5	+1.6
EVO				*e*Sn	Sn	10 05 17.0	0.0
	20nm,0.2s						
PESTR	**Estremoz**	3.51	322	*e*P	Pn	10 04 38.0	+0.9
PESTR				*e*S	Sn	10 05 15.8	-1.6
PESTR				A		10 05 17.8	
	7.2nm,0.1s						
PESTR	**Estremoz**	3.51	322	*e*P	Pn	10 04 38.0	+0.9
PESTR				*e*S	Sn	10 05 15.8	-1.6
	7.2nm,0.1s						
EVOP	**Sao Brissos**	3.56	314	*e*Pn	Pn	10 04 38.5	+0.8
EVOP				*e*Sn	Sn	10 05 17.0	-1.5
	9.8nm,0.2s						
ESDC	**Sonseca Array**	3.62	11	P	Pn	10 04 39.4	+0.8
	1.4nm,0.1s,baz=194,slow=13,SNR=7.1						
ESDC				S	Sn	10 05 18.2	-1.8
	2.8nm,0.1s,baz=193,slow=23,SNR=5.9						
ESDC	**Sonseca Array**	3.62	11	P	Pn	10 04 39.4	+0.8
	1.4nm,0.1s,SNR=7.1						
ETOB	**Tobarra**	3.64	45	P	Pn	10 04 40.0	+1.2
	0.7nm,0.1s,SNR=13						
ETOB				S	Sn	10 05 19.2	-1.3
	1.2nm,0.1s,SNR=5.9						
ETOB	**Tobarra**	3.64	45	P	Pn	10 04 40.0	+1.2
	0.7nm,0.1s,SNR=13						
ETOB				S	Sn	10 05 19.2	-1.3
	1.2nm,0.1s,SNR=5.9						
MOE	**Montemor**	3.69	312	*e*P	Pn	10 04 40.7	+1.2
MOE				*e*S	Sn	10 05 21.0	-0.8
PCBR	**Castelo Branco**	4.26	331	*e*P	Pn	10 04 48.4	+1.1
PCBR				*e*S	Sn	10 05 33.3	-2.5
PCBR				A		10 05 33.7	
	6.3nm,0.2s						
PCBR	**Castelo Branco**	4.26	331	*e*P	Pn	10 04 48.4	+1.1
PCBR				*e*S	Sn	10 05 33.3	-2.5
	6.3nm,0.2s						
PMAFR	**Mafra**	4.53	310	*e*P	Pn	10 04 52.0	+1.0
PMAFR				*e*S	Sn	10 05 40.3	-2.0
PMAFR				A		10 05 41.4	
	11nm,0.2s						
PMAFR	**Mafra**	4.53	310	*e*P	Pn	10 04 52.0	+1.0
PMAFR				*e*S	Sn	10 05 40.3	-2.0
	11nm,0.2s						
GUD	**Guadarrama**	4.55	7	P	Pn	10 04 52.5	+1.2
GUD				S	Sn	10 05 40.2	-2.6
GUD	**Guadarrama**	4.55	7	P	Pn	10 04 52.5	+1.2
	0.5nm,0.1s,SNR=7.9						
GUD				S	Sn	10 05 40.2	-2.6
	0.4nm,0.1s,SNR=7.9						
MTE	**Manteigas**	4.77	334	*e*S	Sn	10 05 47.9	-0.4
MTE				A		10 05 51.0	
	4.7nm,0.2s						
MTE	**Manteigas**	4.77	334	S	Sn	10 05 47.9	-0.4
	2.3nm,0.2s						
ETOR	**Torete**	5.17	24	⇓P	Pn	10 05 01.0	+1.2
	7.9nm,0.1s,SNR=18						
ETOR				S	Sn	10 05 55.9	-2.2
	20nm,0.1s,SNR=9.4						
PVIS	**Viseu**	5.18	333	*e*P	Pn	10 05 01.2	+1.3
PVIS				*e*S	Sn	10 05 56.3	-1.9
PVIS				A		10 05 57.7	
	4.1nm,0.1s						
PVIS	**Viseu**	5.18	333	P	Pn	10 05 01.2	+1.3
PVIS				S	Sn	10 05 56.3	-1.9
	2.0nm,0.1s						
MVO	**Moncorvo**	5.32	342	*e*P	Pn	10 05 03.0	+1.2
MVO				*e*S	Sn	10 05 59.1	-2.6
MVO				A		10 06 02.7	
	3.3nm,0.1s						
MVO	**Moncorvo**	5.32	342	P	Pn	10 05 03.0	+1.2
MVO				S	Sn	10 05 59.1	-2.6
	1.7nm,0.1s						
EMOS	**Mosqueruela**	5.46	38	P	Pn	10 05 04.8	+1.1
	0.0nm,0.1s,SNR=4.0						
EMOS				S	Sn	10 06 00.9	-4.1
	0.1nm,0.1s,SNR=11						
EMOS	**Mosqueruela**	5.46	38	P	Pn	10 05 04.8	+1.1
	SNR=4.0						
PVRL	**Vila Real**	5.62	337	*e*P	Pn	10 05 07.2	+1.3
PVRL				*e*S	Sn	10 06 06.6	-2.4
PVRL				A		10 06 09.6	
	22nm,0.1s						
PVRL	**Vila Real**	5.62	337	P	Pn	10 05 07.2	+1.3
PVRL				S	Sn	10 06 06.6	-2.4
	11nm,0.1s						
PBRG	**Braganca**	5.87	346	*e*P	Pn	10 05 10.8	+1.5
PBRG				*e*S	Sn	10 06 12.6	-2.5
PBRG				A		10 06 14.2	
	2.9nm,0.2s						
PBRG	**Braganca**	5.87	346	P	Pn	10 05 10.8	+1.5
PBRG				S	Sn	10 06 12.6	-2.5
	1.4nm,0.2s						
ECAL	**Calabor**	6.00	346	P	Pn	10 05 12.0	+0.9
	0.7nm,0.1s,SNR=7.9						
ECAL				S	Sn	10 06 15.1	-3.2
	0.8nm,0.1s,SNR=7.9						
ECAL	**Calabor**	6.00	346	P	Pn	10 05 12.0	+0.9
	0.7nm,0.1s,SNR=7.9						
PCAB	**Cabril**	6.11	337	*e*P	Pn	10 05 14.1	+1.5
ELOB	**Lobios**	6.26	337	P	Pn	10 05 15.8	+1.1
ELOB				S	Sn	10 06 21.5	-3.3
ELOB	**Lobios**	6.26	337	P	Pn	10 05 15.8	+1.1
	0.5nm,0.1s,SNR=7.9						
ELOB				S	Sn	10 06 21.5	-3.3
	0.3nm,0.1s,SNR=5.9						
ELOB	**Lobios**	6.26	337	P	Pn	10 05 15.8	+1.1
	0.5nm,0.1s,SNR=7.9						
EARI	**Arriondas**	7.18	358	P	Pn	10 05 29.0	+1.8
	0.1nm,0.1s,SNR=7.9						
EARI				S	Sn	10 06 42.9	-4.3
	0.1nm,0.2s,SNR=7.9						
EARI	**Arriondas**	7.18	358	P	Pn	10 05 29.0	+1.8
	0.1nm,0.1s,SNR=7.9						
ELAN	**Lanestosa**	7.18	8	P	Pn	10 05 28.1	+0.8
	0.3nm,0.1s,SNR=7.9						
ELAN				S	Sn	10 06 41.7	-5.7
	0.2nm,0.2s,SNR=7.9						
ELAN	**Lanestosa**	7.18	8	P	Pn	10 05 28.1	+0.8
EPON	**Pontenova**	7.42	347	S	Sn	10 06 48.3	-4.7
	SNR=7.9						
SJPF	**Ste Jean**	7.52	21	*e*Pn	Pn	10 05 34.5	+2.6
ETSF	**Etsaut**	7.53	25	*e*Pn	Pn	10 05 34.7	+2.7
EPF	**Esparros**	7.97	28	*e*Pn	Pn	10 05 40.7	+2.6

ISCJB ***08*** *10:11:04.1±0.3,3643N±002×7033E±004,h219km±4km, mb3.8/15,Error ellipse: s-maj=5.7km s-min=3.4km az=167.4*
BJI ***08*** *10:11:04.8,3673N×7018E,h208km,mB4.3,mb3.9*
NEIC ***08*** *10:11:05.4±0.6,3654N×7025E,h207km±7km,mb4.0/6, Error ellipse: s-maj=9.3km s-min=7.2km az=130.0*
IDC ***08*** *10:11:05.8±0.9,3637N×7029E,h225km±8km,mb3.5/13, mb1 3.7/15,mb1mx3.5/21,mbtmp3.5/15,Error ellipse: s-maj=13.7km s-min=13.4km az=31.0*
NNC ***08*** *10:11:11.3±2.7,3707N×7052E,h199km±19km,mb3.1, mpv4.5,Error ellipse: s-maj=22.3km s-min=18.1km az=13.0*
ISC 08 10:11:04.9±0.3,3647N±002×7030E±005,h213km±4km, h225km±2.4km:pP-P,n77,σ1§14/102,mb3.8/15,9C-2D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	2.18	208	*e*Pn	Pn	10 11 47.1	+0.8
KBL				*e*Sn	S	10 12 17.3	-1.3
CHCP	**Chirah Chowk**	3.71	138	⇑P	Pn	10 12 06.1	+2.4
THW	**Thamme Wali**	3.86	162	P	Pn	10 12 07.2	+1.8
DRP	**Derazinda**	4.72	181	P	Pn	10 12 17.7	+1.6
DRP				S	S	10 13 10.0	-2.3
SARP	**Sargodha**	4.95	156	P	Pn	10 12 20.2	+1.2
JMU	**Jammu**	5.33	133	*e*S	S	10 13 22.0	-4.3
KSH	**Kashi**	5.42	54	P	Pn	10 12 26.5	+1.7
KSH				S	S	10 13 25.4	-2.7
KSH				Smax			
	comp=N,491nm,0.2s						
KSH				Smax			
	comp=E,1μm,0.6s						
THN	**Thein Dam**	6.02	130	*e*P	Pn	10 12 33.1	+0.5
THN				*e*S	S	10 13 40.4	-1.8
DLH	**Dalhousie**	6.10	128	*e*P	Pn	10 12 34.0	+0.3
DLH				*e*S	S	10 13 43.0	-1.1
AML	**Almayashu**	6.23	24	P	Pn	10 12 35.6	+0.4
	SNR=156						
UCH	**Uchtor**	6.61	28	P	Pn	10 12 40.7	+0.7
	SNR=36						
KK31	**Karatay Array**	6.63	1	P	Pn	10 12 39.5	-0.7
	comp=E,8.4nm,0.5s,baz=188,slow=12,SNR=84						
KK31				S	S	10 13 48.4	-7.8
	comp=E,8.7nm,0.4s,baz=183,slow=15,SNR=4.6						
EKS2	**Erkin-Say**	6.74	22	*e*Pn	Pn	10 12 42.0	+0.3
EKS2				*e*Sn	S	10 13 57.3	-1.6
EKS2	**Erkin-Say**	6.74	22	P	Pn	10 12 42.1	+0.4
	SNR=30						
KZA	**Kyzart**	6.79	33	P	Pn	10 12 42.9	+0.5
	SNR=43						
AAK	**Ala-Archa**	6.95	26	P	Pn	10 12 44.4	-0.1
	SNR=13						
KBK	**Karagaybulak**	7.14	29	P	Pn	10 12 47.9	+1.0
	SNR=19						
BHK	**Bhakra**	7.16	133	*ex*	x	10 13 36.6	
BHK				*e*S	S	10 14 03.4	-5.4
CHMS	**Chumysh**	7.37	26	P	Pn	10 12 50.1	+0.4
	SNR=13	

SONA AMb AMB 10 13 26.6
comp=Z,17nm,0.4s
SONA eS **S** **10 15 07.0 -9.0**
AJM Ajmer 10.63 158 eP **Pn** **10 13 31.3 -0.7**
AJM eS **S** **10 15 18.4 -13**
LGTI Lohaghat 10.90 127 eP **Pn** **10 13 35.0 -0.4**
LGTI ex x 10 15 32.0
AGRA Agra 11.27 143 eS **S** **10 15 36.1 -10**
BHJ Bhuj 13.19 183 eP **Pn** **10 14 03.4 -0.9**
BHJ ex x 10 16 20.8
MK31 Makanchi Array 13.65 37 P **Pn** **10 14 09.7 -0.1**
comp=Z,10nm,0.8s,baz=216,slow=11,SNR=44
MK31 ⇑S **S** **10 16 38.0 -3.5**
comp=Z,8.9nm,1.6s,baz=232,slow=15,SNR=4.0
MKAR Makanchi Array 13.65 37 P **Pn** **10 14 10.0 +0.2**
comp=Z,0.7nm,0.3s,baz=232,slow=12,SNR=53
MKAR S **S** **10 16 46.9 +5.4**
baz=241,slow=18,SNR=2.6
KOLN Koldanda 14.21 124 eP **Pn** **10 14 16.7 -0.2**
comp=Z,17nm,0.4s
BHPL Bhopal 14.55 153 eP **Pn** **10 14 19.0 -2.1**
BHPL AMb AMB 10 14 26.0
comp=Z,27nm,0.8s
BHPL ex x 10 16 57.2
GKN Gorkha 14.77 121 eP **Pn** **10 14 24.1 +0.4**
comp=Z,82nm,0.5s
GKN eS **S** **10 16 57.8 -10**
AB31 Akbulak array 14.84 333 Pn **Pn** **10 14 23.3 -1.1**
comp=Z,3.2nm,0.5s,baz=140,slow=11,SNR=94
AB31 ⇓Sn **S** **10 17 08.9 +0.1**
comp=Z,5.5nm,0.9s,baz=147,slow=21,SNR=4.5
WMQ Urumqi 15.18 56 P **Pn** **10 14 29.4 +0.9**
WMQ XP sP 10 15 23.0 -7.0
WMQ AMB AMB
comp=Z,9.0nm,0.9s
WMQ AMB AMB
comp=Z,123nm,4.8s
KKN Kakani 15.35 120 eP **Pn** **10 14 31.2 +0.5**
comp=Z,90nm,0.5s
KURK Kurchatov 15.45 20 ⇑P **Pn** **10 14 30.0 -1.7**
comp=Z,2.2nm,0.8s
KURK Kurchatov 15.45 20 eP **Pn** **10 14 30.5 -1.1**
comp=Z,4.3nm,0.8s
JIRN Jiri 16.07 119 eP **P** **10 14 40.7 +2.0**
comp=Z,21nm,0.2s
ZRNK Zerenda 16.50 357 ⇑P **P** **10 14 44.6 +1.4**
comp=Z,3.6nm,0.9s
ZRNK ⇑S **S** **10 17 42.9 -1.7**
comp=Z,3.1nm,0.8s
AKTK Aktyubinsk 16.53 331 P **P** **10 14 44.6 +1.1**
AKTK S **S** **10 17 43.3 -1.9**
AKTO Aktyubinsk 16.53 331 P **P** **10 14 44.6 +1.1**
comp=Z,1.0nm,0.3s,baz=141,slow=10,SNR=40
AKTO S **S** **10 17 43.3 -1.9**
baz=343,slow=19,SNR=3.7
BVA0 Borovoye Array 16.55 0 P **P** **10 14 45.1 +1.4**
comp=Z,0.5nm,0.8s,baz=160,slow=10,SNR=18
BVA0 ⇑S **S** **10 17 42.7 -2.9**
comp=Z,1.7nm,1.2s,baz=174,slow=19,SNR=4.6
BRVK Borovoye 16.59 360 eP **P** **10 14 45.0 +0.9**
comp=Z,3.6nm,0.7s
CHKZ Chkalovo 17.21 1 ⇓P **P** **10 14 51.1 +0.2**
comp=Z,1.6nm,0.6s
CHKZ ⇑S **S** **10 17 54.7 -4.0**
comp=Z,3.7nm,0.9s
LSA Lhasa 18.71 105 eP **P** **10 15 09.4 +1.9**
comp=Z,9.1nm,0.8s
ZAA0 Zalesovo Array 20.18 25 eP **P** **10 15 23.5 +0.6**
ZALV Zalesovo Beam 20.18 25 P **P** **10 15 23.7 +0.8**
ZALV S **S** **10 18 55.2 -2.0**
ZALV Zalesovo Beam 20.18 25 P **P** **10 15 23.7 +0.8**
comp=Z,5.0nm,0.4s,baz=214,slow=10,SNR=21
ZALV S **S** **10 18 55.2 -2.0**
comp=Z,1.0nm,0.7s,baz=219,slow=16,SNR=2.4
ARU Arti 21.48 342 eP **P** **10 15 36.6 0.0**
comp=Z,16nm,1.0s,mb4.5
SONM Songino Array 28.82 55 P **P** **10 16 45.2 +2.3**
comp=Z,1.0nm,0.8s,mb3.5,baz=258,slow=8.3,SNR=6.2
AKASG Malin Array Be 32.52 309 P **P** **10 17 15.8 +0.4**
AKASG Malin Array Be 32.52 309 P **P** **10 17 15.8 +0.4**
comp=Z,0.9nm,0.5s,mb3.6,baz=80,slow=7.2,SNR=7.7
FINES FINESS Array B 37.19 326 P **P** **10 17 56.0 +0.8**
comp=Z,1.2nm,0.7s,mb3.6,baz=112,slow=11,SNR=8.4
ARCES ARCESS Array B 40.96 338 P **P** **10 18 26.9 +0.7**
comp=Z,5.4nm,0.7s,mb4.1,baz=114,slow=8.1,SNR=18
HFS Hagfors 42.74 322 P **P** **10 18 40.9 +0.1**
comp=Z,5.4nm,0.9s,mb4.0,baz=64,slow=10,SNR=5.3
NB2 NORSAR Subarra 44.06 323 P **P** **10 18 51.1 -0.2**
comp=Z,7.0nm,1.0s,mb4.0,baz=96,slow=7.9
NOA NORSAR Array B 44.06 323 P **P** **10 18 51.5 +0.3**
comp=Z,4.0nm,0.9s,mb3.8,baz=96,slow=7.8,SNR=9.7
NOA pP pP 10 19 40.3 +3.5
comp=Z,1.1nm,0.7s,baz=98,slow=8.1,SNR=2.2
TIXI Tiksi 46.01 22 eP **P** **10 19 07.1 +0.6**
comp=Z,3.4nm,1.0s,mb3.6
KMBO Kilima Mbogo 48.40 227 eP **P** **10 19 27.0 +1.4**
comp=Z,1.8nm,0.6s,mb3.6
KMBO Kilima Mbogo 48.40 227 P **P** **10 19 26.4 +0.8**
comp=Z,1.6nm,0.6s,mb3.5,baz=43,slow=24,SNR=7.8
MJAR Matsushiro Arr 53.49 68 pP pP 10 20 55.8 +5.2
comp=Z,0.9nm,0.9s,baz=309,slow=6.3,SNR=3.2
ESDC Sonseca Array 56.97 298 P **P** **10 20 27.7 -0.4**
comp=Z,0.6nm,0.9s,mb3.2,baz=68,slow=8.5,SNR=4.5
TORD Torodi Ar. Bea 65.15 268 P **P** **10 21 21.9 -1.5**
comp=Z,1.5nm,0.6s,mb3.8,baz=46,slow=5.1,SNR=7.0
INK Inuvik 74.02 9 eP **P** **10 22 17.5 +0.9**
comp=Z,229nm,1.4s
YKA Yellowknife Ar 81.30 2 P **P** **10 22 57.5 +0.7**
comp=Z,1.7nm,0.8s,mb3.8,baz=349,slow=5.3,SNR=37
YKA pP pP 10 23 50.5 +2.3
comp=Z,1.8nm,0.6s,baz=351,slow=5.5,SNR=17
SCHQ Schefferville 81.90 337 P **P** **10 22 58.8 -1.4**
comp=Z,5.0nm,0.9s,mb4.1,baz=296,slow=3.8,SNR=3.8
WRA Warramunga Arr 82.46 121 P **P** **10 23 02.7 -0.8**
comp=Z,1.3nm,0.8s,mb3.6,baz=321,slow=5.1,SNR=8.8
WRA pP pP 10 23 56.9 +1.8
comp=Z,0.6nm,0.9s,baz=322,slow=4.9,SNR=2.9
ASAR Alice Springs 84.70 124 P **P** **10 23 13.2 -1.6**
comp=Z,0.8nm,0.8s,mb3.5,baz=304,slow=4.9,SNR=11
PLCA Paso Flores 149.29 250 PKPbc PKPbc 10 30 28.2 +0.2
comp=Z,1.1nm,0.7s,baz=148,slow=2.6,SNR=3.4

*CSEM **08** 10:12:14.8±0.9, 37.24N×24.57W, h10km, ML3.1, Error ellipse: s-maj=7.8km s-min=4.0km az=89.0, After PDA*
*PDA **08** 10:12:14.8±0.9, 37.24N×24.57W, h10km, MD4.0, ML3.1, Error ellipse: s-maj=7.8km s-min=4.0km az=89.0*
SVSA 08 10:12:14.8±0.9, 37.24N×24.57W, h10km, MD4.0, ML3.1, Error ellipse: s-maj=7.8km s-min=4.0km az=89.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSMN	**Pico do Norte,**	**0.46**	**240**	eP	Pg	10 12 22.9	-0.8
PSMN				eS	Sg	10 12 28.2	-1.5
PDA	**Ponta Delgada**	**1.00**	**301**	eP	Pg	10 12 29.6	-4.5
PDA				eS	Sg	10 12 39.8	-7.4
PID	**Ribeirinha**	**3.05**	**294**	eP	Pn	10 12 58.6	-4.5
PMAN	**Manadas**	**3.11**	**298**	eP	Pn	10 12 59.8	-4.1
PMAN				eS	Sn	10 13 32.8	-8.3
PMAN				A		10 13 35.3	
25nm,0.3s							
PMAN	**Manadas**	**3.11**	**298**	eP	Pn	10 12 59.8	-4.1
PMAN				eS	Sn	10 13 32.8	-8.3
ROSA	**Rosais**	**3.25**	**298**	eP	Pn	10 13 01.5	-4.4
ROSA				eS	Sn	10 13 36.6	-8.0
PICO	**Pico**	**3.30**	**294**	eP	Pn	10 13 02.7	-3.8
PICO				eS	Sn	10 13 38.0	-7.7
HOR	**Horta**	**3.46**	**293**	eS	Sn	10 13 41.7	-8.0
CALA	**Caldeira**	**3.53**	**294**	eP	Pn	10 13 05.4	-4.3
CALA				eS	Sn	10 13 43.6	-7.8

*CSEM **08** 10:24:02.4±0.1, 37.33N×24.73W, h5km, mb4.7/58, Ms3.3, Error ellipse: s-maj=4.1km s-min=1.0km az=1.0*
*BJI **08** 10:24:02.6, 36.92N×24.74W, h22km, mB5.4, mb5.3, Ms4.8, Msz4.4*
*ISCJB **08** 10:24:02.1±1.2, 37.13N±005×24.72W±003, h8km±8km, mb4.5/79, MS3.9/25, Error ellipse: s-maj=7.8km s-min=3.2km az=9.8*
*SVSA **08** 10:24:03.3±0.5, 37.19N×24.40W, h0km, MD4.0, ML3.8, Error ellipse: s-maj=3.6km s-min=2.5km az=86.0*
*PDA **08** 10:24:03.3±0.5, 37.19N×24.40W, h0km, MD4.0, ML3.8,*

Error ellipse: s-maj=3.6km s-min=2.5km az=86.0
*IDC **08** 10:24:03.6±0.8, 37.30N×24.62W, h0km, mb4.0/14, mb1 4.2/16, mb1mx4.0/25, mbtmp4.0/16, ML3.8/2, MS3.7/19, Ms1 3.7/19, ms1mx3.6/29, Error ellipse: s-maj=21.9km s-min=15.2km az=1.0*
*NEIC **08** 10:24:04.5±0.2, 37.08N×24.60W, h10km, mb4.7/70, Error ellipse: s-maj=5.1km s-min=3.8km az=181.0*
*SZGRF **08** 10:24:04.9, 37.26N×25.07W, h33km, mb5.1, Azores Islands, Portugal*
*MOS **08** 10:24:06.9±0.9, 37.23N×24.59W, h33km, mb4.8/48, Error ellipse: s-maj=11.9km s-min=4.1km az=138.5*
ISC 08 10:24:03.9±0.9, 37.18N±004×24.71W±003, h7km±6km, n340, σ1.9 08/345, mb4.5/79, MS3.9/25, 6C-1D, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSMN	**Pico do Norte,**	**0.33**	**239**	eP	Pg	10 24 13.2	+2.8
PSMN				eS	Sg	10 24 21.2	+6.4
PDA	**Ponta Delgada**	**0.95**	**307**	eP	Pb	10 24 21.5	-1.2
PDA				eS	Sb	10 24 33.8	-1.6
ADH	**Angra Heroismo**	**2.48**	**307**	eP	Pn	10 24 43.0	-1.7
ADH				eS	Sn	10 25 12.4	-2.9
PID	**Ribeirinha**	**2.98**	**296**	eP	Pn	10 24 50.5	-1.1
PID				eS	Sn	10 25 25.5	-2.1
PMAN	**Manadas**	**3.04**	**300**	eP	Pn	10 24 51.1	-1.3
PMAN				eS	Sn	10 25 26.7	-2.4
PMAN				A		10 25 28.6	
64nm,0.3s							
PMAN	**Manadas**	**3.04**	**300**	eP	Pn	10 24 51.1	-1.3
PMAN				eS	Sn	10 25 26.7	-2.4
ROSA	**Rosais**	**3.19**	**300**	eP	Pn	10 24 53.1	-1.3
ROSA				eS	Sn	10 25 30.6	-2.1
PICO	**Pico**	**3.23**	**295**	eP	Pn	10 24 53.8	-1.1
PICO				eS	Sn	10 25 31.7	-1.9
HOR	**Horta**	**3.38**	**295**	eP	Pn	10 24 55.9	-1.2
HOR				eS	Sn	10 25 35.1	-2.4
CALA	**Caldeira**	**3.46**	**295**	eP	Pn	10 24 56.9	-1.2
PMAR	**Madeira**	**7.79**	**122**	ePn	Pn	10 25 56.5	-1.1
PMAR				eSn	Sn	10 27 19.5	-6.5
PMAR				A		10 27 27.1	
25nm,0.3s							
PMPS	**Porto Santo**	**8.00**	**118**	ePn	Pn	10 25 58.6	-1.9
EHIG	**Higuera**	**10.37**	**144**	P	Pn	10 26 31.9	-1.1
EGOM	**La Gomera**	**10.98**	**143**	P	Pn	10 26 38.9	-2.6
46nm,0.5s							
EGOM				S	Sn	10 28 29.7	-15
EBAJ	**Bajamar**	**11.11**	**138**	P	Pn	10 26 41.7	-1.5
26nm,0.6s							
CCAN	**Las Canadas**	**11.23**	**140**	P	Pn	10 26 43.0	-1.8
16nm,0.5s							
EOSO	**Osorio**	**11.91**	**137**	P	Pn	10 26 52.0	-2.1
11nm,0.5s							
CFTV	**Fuerteventura**	**12.49**	**131**	P	Pn	10 26 59.3	-2.8
4.4nm,0.6s							
PFVI	**Vila Bisbo**	**12.67**	**85**	eS	Sn	10 29 09.5	-16
MORF	**Marmelete**	**12.80**	**85**	eS	Sn	10 29 13.1	-16
EVOP	**Sao Brissos**	**13.18**	**79**	ePn	Pn	10 27 07.8	-3.6
EVO	**Evora**	**13.27**	**79**	ePn	Pn	10 27 07.8	-4.8
EVO				eSn	Sn	10 29 20.7	-20
18nm,0.8s							
EVO				eMLR	MLR		
comp=Z,232nm,18.5s							
PBEJ	**Beja**	**13.38**	**81**	eS	Sn	10 29 26.2	-17
PVAQ	**Vaqueiros**	**13.54**	**84**	eS	Sn	10 29 31.7	-15
PESTR	**Estremoz**	**13.60**	**78**	eS	Sn	10 29 32.3	-16
ELOB	**Lobios**	**13.68**	**65**	P	Pn	10 27 14.3	-3.8
comp=Z,10nm,0.9s							
ELOB				S	Sn	10 29 30.5	-20
PCBR	**Castelo Branco**	**13.76**	**74**	eS	Sn	10 29 35.0	-17
PVRL	**Vila Real**	**13.79**	**68**	eP	Pn	10 27 15.3	-4.4
PVRL				eS	Sn	10 29 38.1	-15
PBAR	**Barrancos**	**14.03**	**81**	eS	Sn	10 29 40.9	-18
EBAD	**Badajoz**	**14.05**	**78**	P	Pn	10 27 22.3	-1.0
comp=Z,10nm,1.4s							
EBAD				S	Sn	10 29 42.5	-17
EMIN	**Mina Concepcio**	**14.34**	**82**	P	Pn	10 27 22.9	-4.3
comp=Z,26nm,1.6s							
EMIN				S	Sn	10 29 43.1	-23
ECAL	**Calabor**	**14.65**	**66**	P	Pn	10 27 29.3	-2.2
comp=Z,41nm,1.9s							
ECAL				S	Sn	10 29 55.7	-18
EARI	**Arriondas**	**16.08**	**62**	P	Pn	10 27 48.6	-1.7
comp=Z,94nm,2.0s							
EARI	**Arriondas**	**16.08**	**62**	P	Pn	10 27 48.6	-1.8
comp=Z,94nm,2.0s							
ESDC	**Soseca Array**	**16.45**	**75**	P	Pn	10 27 53.1	-2.0
comp=Z,12nm,1.1s							
ESDC	**Sonseca Array**	**16.45**	**75**	Pn	Pn	10 27 52.4	-2.6
comp=Z,0.1nm,0.3s,baz=265,slow=12,SNR=5.9							
ESDC				Sn	Sn	10 30 42.3	-15
comp=Z,0.2nm,0.3s,baz=265,slow=25,SNR=3.1							
ESDC				LR	LR	10 33 04.7	
comp=Z,187nm,18.5s,baz=285,slow=33							
ESDC	**Sonseca Array**	**16.45**	**75**	P	Pn	10 27 53.1	-1.9
comp=Z,12nm,1.1s							
ESLA	**Sonseca Array**	**16.45**	**75**	eP	Pn	10 27 55.4	+0.4
comp=Z,4.6nm,1.2s							
ESLA	**Sonseca Array**	**16.45**	**75**	eP	Pn	10 27 55.4	+0.4
comp=Z,4.6nm,1.2s							
ERON	**Agron**	**16.68**	**84**	P	Pn	10 27 55.8	-2.3
comp=Z,6.6nm,0.7s							
ECOG	**Cogollos-Vega**	**16.84**	**83**	P	Pn	10 27 59.0	-1.1
comp=Z,7.8nm,1.0s							
ECOG	**Cogollos-Vega**	**16.84**	**83**	P	Pn	10 27 59.0	-1.1
ECOG				pmax	pmax		
comp=Z,8.0nm,1.0s							
ECOG	**Cogollos-Vega**	**16.84**	**83**	P	Pn	10 27 59.0	-1.1
comp=Z,7.8nm,1.0s							
EGUA	**Guajares**	**16.89**	**85**	P	Pn	10 27 55.4	-5.4
comp=Z,1.4nm,0.7s							
EGUA	**Guajares**	**16.89**	**85**	P	Pn	10 27 55.4	-5.3
EGUA				pmax	pmax		
comp=Z,1.0nm,0.7s							
MDT	**Midelt**	**17.02**	**99**	Pn	Pn	10 28 02.3	-0.1
comp=Z,0.2nm,0.3s,baz=288,slow=12,SNR=8.1							
MDT				Sn	Sn	10 30 53.0	-19
comp=Z,0.2nm,0.3s,baz=196,slow=23,SNR=5.6							
MDT				LR	LR	10 33 07.1	
comp=Z,143nm,21.6s,baz=315,slow=32							
EQES	**Quesada**	**17.18**	**81**	P	Pn	10 28 01.2	-3.2
comp=Z,24nm,1.5s							
ELAN	**Lanestosa**	**17.32**	**63**	P	Pn	10 28 07.2	+1.2
comp=Z,48nm,1.7s							
ELAN	**Lanestosa**	**17.32**	**63**	P	Pn	10 28 07.2	+1.2
comp=Z,48nm,1.7s							
EVIA	**Vianos**	**17.58**	**78**	P	Pn	10 28 06.3	-3.0
comp=Z,10nm,0.9s							
EVIA	**Vianos**	**17.58**	**78**	P	Pn	10 28 06.3	-3.0
EVIA				pmax	pmax		
comp=Z,10.0nm,0.9s							
ECRI	**Cripan**	**17.86**	**65**	P	Pn	10 28 13.1	+0.3
comp=Z,9.0nm,1.0s							
ECRI	**Cripan**	**17.86**	**65**	P	Pn	10 28 13.1	+0.4
ECRI				pmax	pmax		
comp=Z,9.0nm,1.0s							
ECRI	**Cripan**	**17.86**	**65**	P	Pn	10 28 13.1	+0.4
comp=Z,9.0nm,1.0s							
ETOR	**Torete**	**17.97**	**71**	P	Pn	10 28 14.3	+0.2
comp=Z,8.9nm,1.4s							
ETOR	**Torete**	**17.97**	**71**	P	Pn	10 28 14.3	+0.2
ETOR				pmax	pmax		
comp=Z,9.0nm,1.4s							
ETOR	**Torete**	**17.97**	**71**	P	Pn	10 28 14.3	+0.2
comp=Z,8.9nm,1.4s							
SJPF	**Ste Jean**	**18.88**	**64**	eP	Pn	10 28 25.4	+0.2
comp=Z,26nm,1.3s							
SJPF	**Ste Jean**	**18.88**	**64**	eP	Pn	10 28 25.4	+0.2
SJPF				pmax	pmax		
comp=Z,13nm,1.3s							
SJPF	**Ste Jean**	**18.88**	**64**	eP	Pn	10 28 25.4	+0.2
comp=Z,13nm,1.3s							
QUIF	**Quistinic**	**19.10**	**49**	eP	Pn	10 28 27.7	-0.1
comp=Z,77nm,1.4s							
QUIF	**Quistinic**	**19.10**	**49**	eP	Pn	10 28 27.7	-0.1
QUIF				pmax	pmax		
comp=Z,39nm,1.4s							
QUIF	**Quistinic**	**19.10**	**49**	eP	Pn	10 28 27.7	-0.1
comp=Z,39nm,1.4s							
ETSF	**Etsaut**	**19.32**	**65**	eP	Pn	10 28 30.7	+0.1
comp=Z,15nm,1.0s							
ETSF	**Etsaut**	**19.32**	**65**	eP	Pn	10 28 30.7	+0.1
ETSF				pmax	pmax		
comp=Z,8.0nm,1.0s							
ETSF	**Etsaut**	**19.32**	**65**	eP	Pn	10 28 30.7	+0.1
comp=Z,7.6nm,1.0s							
SGMF	**Saint Gilles**	**19.61**	**49**	eP	Pn	10 28 33.6	-0.4
EBIE	**Bielsa**	**19.80**	**66**	P	Pn	10 28 35.7	-0.6
comp=Z,43nm,1.6s							
EBIE	**Bielsa**	**19.80**	**66**	P	Pn	10 28 35.7	-0.6
comp=Z,43nm,1.6s							
EPF	**Esparros**	**20.00**	**65**	eP	Pn	10 28 38.1	-0.5
comp=Z,90nm,1.5s							
EPF	**Esparros**	**20.00**	**65**	eP	Pn	10 28 38.1	-0.5
EPF				pmax	pmax		
comp=Z,45nm,1.5s							
EPF	**Esparros**	**20.00**	**65**	eP	Pn	10 28 38.1	-0.5
comp=Z,45nm,1.5s							
LCHF	**La Chataignera**	**20.13**	**54**	eP	P	10 28 39.1	+0.8
DCN	**Croghan**	**20.21**	**31**	eP	P	10 28 38.1	-1.0
EPOB	**Poblet**	**20.37**	**70**	P	P	10 28 41.9	+0.9
comp=Z,44nm,1.3s							
EPOB	**Poblet**	**20.37**	**70**	P	P	10 28 41.8	+0.9
comp=Z,44nm,1.3s							
DLF	**Lyons Farm**	**20.49**	**32**	eP	P	10 28 42.4	+0.3
MFF	**Saint Martin d**	**20.50**	**55**	eP	P	10 28 42.8	+0.5
comp=Z,173nm,1.3s							
MFF	**Saint Martin d**	**20.50**	**55**	eP	P	10 28 42.8	+0.5
MFF				pmax	pmax		
comp=Z,87nm,1.3s							
MFF	**Saint Martin d**	**20.50**	**55**	eP	P	10 28 42.8	+0.5
comp=Z,87nm,1.3s							
LFF	**La Frestale**	**20.64**	**60**	eP	P	10 28 44.3	+0.4
comp=Z,120nm,1.2s							
LFF	**La Frestale**	**20.64**	**60**	eP	P	10 28 44.3	+0.4
LFF				pmax	pmax		
comp=Z,60nm,1.2s							
LFF	**La Frestale**	**20.64**	**60**	eP	P	10 28 44.3	+0.4
comp=Z,60nm,1.2s							
GRR	**Gorron**	**20.70**	**50**	eP	P	10 28 45.2	+0.8
comp=Z,142nm,1.2s							
GRR	**Gorron**	**20.70**	**50**	eP	P	10 28 45.2	+0.8
GRR				pmax	pmax		
comp=Z,71nm,1.2s							
GRR	**Gorron**	**20.70**	**50**	eP	P	10 28 45.2	+0.8
comp=Z,71nm,1.2s							
DMUB	**Kingscourt**	**20.76**	**31**	eP	P	10 28 44.5	-0.6
FLN	**La Foliniere**	**21.08**	**49**	eP	P	10 28 49.3	+0.8
comp=Z,32nm,0.9s,mb4.3							
FLN				eMLR	MLR		
comp=Z,250nm,20.8s							
FLN	**La Foliniere**	**21.08**	**49**	eP	P	10 28 49.3	+0.8
comp=Z,16nm,0.9s,mb4.3							
FLN				LR	LR		
comp=Z,250nm,20.8s,MS3.6							
FLN	**La Foliniere**	**21.08**	**49**	eP	P	10 28 49.3	+0.8
FLN				pmax	pmax		
comp=Z,16nm,0.9s,mb4.3							
FLN				MLR	MLR		
comp=Z,250nm,20.8s,MS3.6							
LDF	**La Druitiere**	**21.23**	**50**	eP	P	10 28 50.5	+0.3
comp=Z,56nm,1.3s,mb4.4							
LDF	**La Druitiere**	**21.23**	**50**	eP	P	10 28 50.5	+0.3
LDF				pmax	pmax		
comp=Z,28nm,1.3s,mb4.4							
LDF	**La Druitiere**	**21.23**	**50**	eP	P	10 28 50.5	+0.3
comp=Z,28nm,1.3s,mb4.4							
RJF	**Les Rejaudoux**	**21.26**	**59**	eP	P	10 28 50.4	-0.1
comp=Z,67nm,1.5s,mb4.5							
RJF				eMLR	MLR		
comp=Z,388nm,18.8s,MS3.5							
RJF	**Les Rejaudoux**	**21.26**	**59**	eP	P	10 28 50.4	-0.1
comp=Z,33nm,1.5s,mb4.5							
RJF				LR	LR		
comp=Z,390nm,18.8s,MS3.8							
RJF	**Les Rejaudoux**	**21.26**	**59**	eP	P	10 28 50.4	-0.1
RJF				pmax	pmax		
comp=Z,33nm,1.5s,mb4.4							
RJF				MLR	MLR		
comp=Z,390nm,18.8s,MS3.8							
MTLF	**Montolieu**	**21.40**	**65**	eP	P	10 28 51.4	-0.7
comp=Z,29nm,1.3s,mb4.2							
MTLF	**Montolieu**	**21.40**	**65**	eP	P	10 28 51.4	-0.7
MTLF				pmax	pmax		
comp=Z,15nm,1.3s,mb4.2							
MTLF	**Montolieu**	**21.40**	**65**	eP	P	10 28 51.4	-0.7
comp=Z,15nm,1.3s,mb4.2							
CAF	**Calviac**	**21.56**	**61**	eP	P	10 28 53.8	+0.1
comp=Z,91nm,1.2s,mb4.8							
CAF	**Calviac**	**21.56**	**61**	eP	P	10 28 53.8	+0.1
CAF				pmax	pmax		
comp=Z,45nm,1.2s,mb4.8							
CAF	**Calviac**	**21.56**	**61**	eP	P	10 28 53.8	+0.1
comp=Z,46nm,1.2s,mb4.8							
ETOS	**Mallorca**	**21.67**	**75**	P	P	10 28 54.8	-0.2
comp=Z,89nm,1.7s,mb4.9							
ETOS	**Mallorca**	**21.67**	**75**	P	P	10 28 54.8	-0.2
comp=Z,89nm,1.7s,mb4.9							
EJON	**La Jonquera**	**21.80**	**67**	P	P	10 28 56.6	+0.3
comp=Z,31nm,1.4s,mb4.5							
EJON	**La Jonquera**	**21.80**	**67**	P	P	10 28 56.7	+0.4
comp=Z,31nm,1.4s,mb4.5							
TCF	**Toulx Ste Croi**	**21.97**	**57**	eP	P	10 28 58.2	+0.1
comp=Z,214nm,1.7s,mb5.0							
TCF	**Toulx Ste Croi**	**21.97**	**57**	eP	P	10 28 58.2	+0.1
TCF				pmax	pmax		
comp=Z,107nm,1.7s,mb5.0							
TCF	**Toulx Ste Croi**	**21.97**	**57**	eP	P	10 28 58.2	+0.1
comp=Z,107nm,1.7s,mb5.0							
FRNF	**Fournols**	**22.00**	**60**	eP	P	10 28 58.5	0.0
PYM	**Petit Puy Mans**	**22.38**	**59**	eP	P	10 29 03.4	+0.9
LBL	**Lubilhac**	**22.44**	**60**	eP	P	10 29 04.2	+1.0
BGF	**Bois d'Agland**	**22.46**	**57**	eP	P	10 29 03.4	0.0
comp=Z,49nm,1.1s,mb4.5							
BGF	**Bois d'Agland**	**22.46**	**57**	eP	P	10 29 03.4	0.0
BGF				pmax	pmax		
comp=Z,24nm,1.1s,mb4.5							
BGF	**Bois d'Agland**	**22.46**	**57**	eP	P	10 29 03.4	0.0
comp=Z,24nm,1.1s,mb4.5							
AGO	**Saint Agoulin**	**22.53**	**58**	eP	P	10 29 04.8	+0.6
LASF	**Ste Croix**	**22.68**	**63**	eP	P	10 29 05.1	-0.6
comp=Z,34nm,1.2s,mb4.4							
LASF	**Ste Croix**	**22.68**	**63**	eP	P	10 29 05.1	-0.6
comp=Z,17nm,1.2s,mb4.4							
PLDF	**La Plantade**	**22.85**	**58**	eP	P	10 29 08.3	+0.8
AVF	**Avril sur Loir**	**22.86**	**56**	eP	P	10 29 07.3	-0.3
comp=Z,45nm,1.4s,mb4.4							
AVF	**Avril sur Loir**	**22.86**	**56**	eP	P	10 29 07.3	-0.3
AVF				pmax	pmax		
comp=Z,23nm,1.4s,mb4.4							
AVF	**Avril sur Loir**	**22.86**	**56**	eP	P	10 29 07.3	-0.3
comp=Z,22nm,1.4s,mb4.4							
SSF	**Saint Saulge**	**23.03**	**56**	eP	P	10 29 09.3	-0.1
comp=Z,66nm,1.3s,mb4.6							
SSF	**Saint Saulge**	**23.03**	**56**	eP	P	10 29 09.3	-0.1
SSF				pmax	pmax		
comp=Z,33nm,1.3s,mb4.6							
SSF	**Saint Saulge**	**23.03**	**56**	eP	P	10 29 09.3	-0.1
comp=Z,33nm,1.3s

SMRF Simiane la Rot 23.89 64 *eP* **P 10 29 17.5 -0.6**
comp=Z,18nm,1.2s,mb4.3
ORIF Oris-en-Rattie 24.23 62 *eP* **P 10 29 20.8 -0.3**
comp=Z,58nm,1.3s,mb4.6
ORIF *e*MLR MLR
comp=Z,289nm,22.2s,MS3.4
ORIF Oris-en-Rattie 24.23 62 *eP* **P 10 29 20.8 -0.3**
ORIF pmax pmax
comp=Z,29nm,1.3s,mb4.5
ORIF Oris-en-Rattie 24.23 62 *eP* **P 10 29 20.8 -0.3**
comp=Z,29nm,1.3s,mb4.6
BAIF Baives 24.40 49 *eP* **P 10 29 21.9 -0.8**
comp=Z,55nm,1.3s,mb4.5
BAIF Baives 24.40 49 *eP* **P 10 29 21.9 -0.8**
BAIF pmax pmax
comp=Z,27nm,1.3s,mb4.5
BAIF Baives 24.40 49 *eP* **P 10 29 21.9 -0.8**
comp=Z,28nm,1.3s,mb4.5
MEZF Maizieres J'vi 24.43 53 *eP* **P 10 29 22.6 -0.3**
comp=Z,35nm,1.2s,mb4.4
MEZF Maizieres J'vi 24.43 53 *eP* **P 10 29 22.6 -0.3**
comp=Z,17nm,1.2s,mb4.4
LMR La Mourre 24.52 66 *eP* **P 10 29 23.5 -0.2**
FRF La Foret Royal 24.63 65 *eP* **P 10 29 24.4 -0.4**
comp=Z,19nm,1.1s,mb4.2
FRF La Foret Royal 24.63 65 *eP* **P 10 29 24.4 -0.4**
FRF pmax pmax
comp=Z,9.0nm,1.1s,mb4.2
FRF La Foret Royal 24.63 65 *eP* **P 10 29 24.4 -0.4**
comp=Z,9.4nm,1.1s,mb4.2
DOU Dourbes 24.65 49 P **P 10 29 24.7 -0.2**
CABF La Chapelle 24.65 58 *eP* **P 10 29 24.7 -0.3**
comp=Z,80nm,1.7s,mb4.7
CABF La Chapelle 24.65 58 *eP* **P 10 29 24.7 -0.3**
CABF pmax pmax
comp=Z,40nm,1.7s,mb4.7
CABF La Chapelle 24.65 58 *eP* **P 10 29 24.7 -0.3**
comp=Z,40nm,1.7s,mb4.7
GIVF Givet 24.79 49 *eP* **P 10 29 25.9 -0.3**
comp=Z,75nm,1.2s,mb4.8
GIVF Givet 24.79 49 *eP* **P 10 29 25.9 -0.3**
GIVF pmax pmax
comp=Z,38nm,1.2s,mb4.8
GIVF Givet 24.79 49 *eP* **P 10 29 25.9 -0.3**
comp=Z,38nm,1.2s,mb4.8
BNI Bardonecchia 24.81 62 *eP* **P 10 29 27.9 +1.5**
comp=Z,32nm,1.5s,mb4.6
BNI Bardonecchia 24.81 62 *eP* **P 10 29 27.9 +1.5**
BNI pmax pmax
comp=Z,32nm,1.5s,mb4.6
BNI Bardonecchia 24.81 62 *eP* **P 10 29 27.9 +1.5**
comp=Z,32nm,1.5s,mb4.6
MBDF Montbardon 24.83 62 *eP* **P 10 29 26.5 -0.1**
LPL La Plagne 24.91 61 *eP* **P 10 29 27.5 +0.2**
comp=Z,24nm,1.1s,mb4.3
LPL La Plagne 24.91 61 *eP* **P 10 29 27.5 +0.2**
LPL pmax pmax
comp=Z,12nm,1.1s,mb4.3
LPL La Plagne 24.91 61 *eP* **P 10 29 27.5 +0.2**
comp=Z,12nm,1.1s,mb4.3
LPG La Plagne 24.92 61 *eP* **P 10 29 27.7 +0.3**
comp=Z,58nm,1.4s,mb4.6
LPG La Plagne 24.92 61 *eP* **P 10 29 27.7 +0.3**
LPG pmax pmax
comp=Z,29nm,1.4s,mb4.6
LPG La Plagne 24.92 61 *eP* **P 10 29 27.7 +0.3**
comp=Z,29nm,1.4s,mb4.6
THEF They Montfort 24.95 54 *eP* **P 10 29 29.1 +1.4**
HAU Haudompre 25.13 55 *eP* **P 10 29 29.1 -0.2**
comp=Z,33nm,1.2s,mb4.5
HAU *e*MLR MLR
comp=Z,171nm,18.8s
HAU Haudompre 25.13 55 *eP* **P 10 29 29.1 -0.2**
comp=Z,16nm,1.2s,mb4.4
HAU LR LR
comp=Z,170nm,18.8s,MS3.6
HAU Haudompre 25.13 55 *eP* **P 10 29 29.1 -0.2**
HAU pmax pmax
comp=Z,17nm,1.2s,mb4.5
HAU MLR MLR
comp=Z,170nm,18.8s,MS3.6
BCLA Clavier 25.19 49 P **P 10 29 29.8 0.0**
comp=Z,11nm,1.8s,mb4.1
SBF Sospel 25.22 65 *eP* **P 10 29 30.5 +0.3**
comp=Z,132nm,1.5s,mb4.9
SBF Sospel 25.22 65 *eP* **P 10 29 30.5 +0.3**
SBF pmax pmax
comp=Z,66nm,1.5s,mb4.9
SBF Sospel 25.22 65 *eP* **P 10 29 30.5 +0.3**
comp=Z,66nm,1.5s,mb4.9
LOMF Lomont 25.30 56 *eP* **P 10 29 32.2 +1.4**
HINF Hinteralfeld 25.42 55 *eP* **P 10 29 31.9 0.0**
comp=Z,29nm,1.2s,mb4.4
HINF Hinteralfeld 25.42 55 *eP* **P 10 29 31.9 0.0**
HINF pmax pmax
comp=Z,15nm,1.2s,mb4.4
HINF Hinteralfeld 25.42 55 *eP* **P 10 29 31.9 0.0**
comp=Z,15nm,1.2s,mb4.4
WLF Walferdange 25.46 51 *eP* **P 10 29 32.3 0.0**
WLF pmax pmax
comp=Z,74nm,1.4s,mb5.0
WLF Walferdange 25.46 51 P **P 10 29 32.7 +0.4**
comp=Z,35nm,1.5s,mb4.7
WLF Walferdange 25.46 51 *eP* **P 10 29 32.3 0.0**
comp=Z,74nm,1.4s,mb5.0
BEBN Eben Emael 25.54 48 P **P 10 29 33.3 +0.3**
MOF Molkenrain 25.61 55 *eP* **P 10 29 34.3 +0.6**
MEM Membach 25.68 49 P **P 10 29 34.8 +0.5**
comp=Z,17nm,1.5s,mb4.4
HGN Heimansgroeve 25.68 48 *eP* **P 10 29 33.9 -0.4**
comp=Z,18nm,1.6s,mb4.3
CDF Champ du Feu 25.83 54 *eP* **P 10 29 36.1 +0.4**
comp=Z,100nm,1.6s,mb4.8
CDF Champ du Feu 25.83 54 *eP* **P 10 29 36.1 +0.4**
CDF pmax pmax
comp=Z,50nm,1.6s,mb4.8
CDF Champ du Feu 25.83 54 *eP* **P 10 29 36.1 +0.4**
comp=Z,50nm,1.6s,mb4.8
RUP Ruppelstein 26.04 51 *eP* **P 10 29 38.0 +0.5**
FELD Feldberg im Sc 26.19 56 *eP* **P 10 29 41.0 +2.1**
PGF Pioggiola 26.31 68 *eP* **P 10 29 40.3 +0.2**
ABH Alteburg 26.39 51 *eP* **P 10 29 43.0 +2.3**
BFO Black Forest 26.50 55 *eP* **P 10 29 41.6 0.0**
comp=Z,47nm,1.6s,mb4.8
BFO Black Forest 26.50 55 *eP* **P 10 29 41.6 -0.1**
BFO pmax pmax
comp=Z,47nm,1.6s,mb4.8
BFO Black Forest 26.50 55 *eP* **P 10 29 41.6 -0.1**
comp=Z,47nm,1.6s,mb4.8
SPAK Spaichingen-Ko 26.75 55 *eP* **P 10 29 44.9 +0.9**
DAVOS Davos 27.20 58 P **P 10 29 49.5 +1.4**
DAVOX Davos/Dischmat 27.25 58 P **P 10 29 49.5 +1.0**
comp=Z,2.0nm,0.8s,mb3.7,baz=162,slow=23,SNR=5.1
DAVOX LR LR 10 39 59.5
comp=Z,195nm,18.8s,MS3.7,baz=76,slow=35
KEST Kesra 27.35 83 P **P 10 29 49.8 +0.3**
comp=Z,1.9nm,0.8s,mb3.7,baz=261,slow=22,SNR=4.5
GRFO Grafenberg 28.65 53 *eP* **P 10 30 00.6 -0.4**
comp=Z,9.6nm,0.9s,mb4.5
GRFO Grafenberg 28.65 53 *eP* **P 10 30 00.6 -0.3**
GRFO pmax pmax
comp=Z,10.0nm,0.9s,mb4.5
GRFO Grafenberg 28.65 53 *eP* **P 10 30 00.6 -0.3**
comp=Z,9.6nm,0.9s,mb4.5
GRA1 Grafenberg Arr 28.65 53 *eP* **P 10 29 59.9 -1.1**
comp=Z,80nm,2.3s,mb5.0
GRF Grafenberg Arr 28.65 53 *eP* **P 10 29 59.9 -1.1**
GRF pmax pmax
comp=Z,80nm,2.3s,mb5.0
GRF Grafenberg Arr 28.65 53 *eP* **P 10 29 59.9 -1.1**
GRF pmax pmax
comp=Z,80nm,2.3s,mb5.0
GRF Grafenberg Arr 28.65 53 *eP* **P 10 29 59.9 -1.1**
comp=Z,80nm,2.3s,mb5.0
NKC Novy Kostel 29.54 52 *eP* **P 10 30 09.4 +0.6**
KHC Kasperske Hory 30.06 54 *eP* **P 10 30 15.4 +1.9**
KHC Kasperske Hory 30.06 54 *eP* **P 10 30 15.0 +1.5**
GERES GERESS Array B 30.10 55 P **P 10 30 13.0 -0.8**
comp=Z,0.9nm,0.7s,mb3.6,baz=260,slow=6.6,SNR=11
GERES LR LR 10 41 05.1
comp=Z,72nm,18.6s,baz=84,slow=34
CLL Collm 30.11 50 *eP* **P 10 30 14.0 +0.1**
BRG Berggiesshubel 30.60 51 *eP* **P 10 30 18.5 +0.3**
BRG pmax pmax
comp=Z,6.0nm,1.4s,mb4.2
BRG Berggiesshubel 30.60 51 *eP* **P 10 30 18.5 +0.3**
comp=Z,6.4nm,1.4s,mb4.3
PVCC Panska Ves 30.93 52 *eP* **P 10 30 21.3 +0.2**
UPC Upice 31.83 52 *eP* **P 10 30 29.6 +0.5**
DPC Dobruska-Polom 32.01 53 *eP* **P 10 30 30.8 +0.2**
VRAC Vranov 32.04 55 *eP* **P 10 30 30.7 -0.2**
TIP Timpagrande 32.46 74 *eP* **P 10 30 33.1 -1.6**
comp=Z,24nm,1.4s,mb4.8
MORC Moravsky Berou 32.71 54 *eP* **P 10 30 36.6 -0.2**
NOA NORSAR Array B 32.81 32 LR LR 10 41 49.8
comp=Z,174nm,20.1s,MS3.8,baz=260,slow=33
SFJD Kangerlussuaq 33.32 342 LR LR 10 40 56.1
comp=Z,167nm,18.5s,MS3.8,baz=146,slow=30
VYHS Vyhne 33.45 56 *eP* **P 10 30 42.8 -0.5**
SCHQ Schefferville 33.54 315 P **P 10 30 43.7 -0.2**
SCHQ Schefferville 33.54 315 P **P 10 30 43.7 -0.2**
comp=Z,2.6nm,0.8s,mb4.2,baz=81,slow=14,SNR=4.1
TOA0 Torodi Ar. Sit 33.60 128 *eP* **P 10 30 45.8 +0.9**
TOA0 Torodi Ar. Sit 33.60 128 *eP* **P 10 30 45.8 +0.9**
TORD Torodi Ar. Bea 33.60 128 P **P 10 30 45.8 +0.9**
comp=Z,3.5nm,0.7s,mb4.4,baz=323,slow=7.0,SNR=18
TORD LR LR 10 43 53.0
comp=Z,55nm,19.0s,baz=215,slow=35
PSZ Piszkesteto 34.13 57 *eP* **P 10 30 48.7 -0.5**
comp=Z,12nm,1.4s,mb4.6
PSZ Piszkesteto 34.13 57 *eP* **P 10 30 48.7 -0.5**
PSZ pmax pmax
comp=Z,12nm,1.4s,mb4.6
PSZ Piszkesteto 34.13 57 *eP* **P 10 30 48.7 -0.5**
comp=Z,12nm,1.4s,mb4.6
OJC Ojcow 34.20 53 *eP* **P 10 30 50.4 +0.6**
KECS Kecovo 34.55 56 *eP* **P 10 30 51.1 -1.7**
comp=Z,4.4nm,1.6s,mb4.1
KECS Kecovo 34.55 56 *eP* **P 10 30 51.1 -1.7**
KECS pmax pmax
comp=Z,4.0nm,1.6s,mb4.1
STHS Stebnicka Huta 35.08 55 *eP* **P 10 30 59.8 +2.4**
STHS pmax pmax
comp=Z,8.0nm,1.6s,mb4.4
STHS Stebnicka Huta 35.08 55 *eP* **P 10 30 59.8 +2.4**
STHS Stebnicka Huta 35.08 55 *eP* **P 10 30 59.8 +2.4**
comp=Z,8.1nm,1.6s,mb4.4
DBIC Dimbokro 35.35 144 LR LR 10 44 47.5
comp=Z,96nm,18.2s,MS3.6,baz=347,slow=35
FINES FINESS Array B 39.62 36 LR LR 10 45 16.6
comp=Z,73nm,20.7s,MS3.5,baz=157,slow=32
KIS Kishinev 40.21 58 *eP* **P 10 31 39.0 -1.8**
AKASG Malin Array Be 40.24 53 P **P 10 31 39.8 -1.2**
comp=Z,2.1nm,0.7s,mb4.0,baz=271,slow=8.1,SNR=16
ARCES ARCESS Array B 42.01 24 P **P 10 31 55.5 +0.1**
comp=Z,4.7nm,0.8s,mb4.1,baz=268,slow=13,SNR=4.8
ARCES LR LR 10 47 15.8
comp=Z,76nm,18.9s,MS3.6,baz=115,slow=33
OBN Obninsk 44.52 46⇓ *eP* **P 10 32 15.3 -0.5**
OBN *i* 10 33 59.6
OBN *e*S **S 10 38 58.2 +7.0**
OBN pmax pmax
comp=Z,18nm,1.4s,mb4.7
OBN MLR MLR
comp=Z,100nm,20.0s,MS3.7
OBN Obninsk 44.52 46 *eP* **P 10 32 15.3 -0.5**
comp=Z,18nm,1.4s,mb4.7
OBN Obninsk 44.52 46 *i* PcP PcP 10 33 59.6 +0.7
SOC Sochi 48.40 61 *eP* **P 10 32 48.2 +1.8**
SOC *e* 10 34 39.5
SOC *e*PPP 10 35 32.8
SOC *e*S **S 10 39 42.9 -4.3**
SOC pmax pmax
comp=Z,3.0nm,0.4s,mb4.7
SOC Sochi 48.40 61 *eP* **P 10 32 48.2 +1.8**
comp=Z,3.0nm,0.4s,mb4.7
FCC Fort Churchill 48.69 320 *eP* **P 10 32 49.7 +1.2**
comp=Z,11nm,1.4s,mb4.7
FCC Fort Churchill 48.69 320 *eP* **P 10 32 49.7 +1.3**
FCC pmax pmax
comp=Z,11nm,1.4s,mb4.7
FCC Fort Churchill 48.69 320 *eP* **P 10 32 49.7 +1.3**
comp=Z,11nm,1.4s,mb4.7
MALT Malatya 49.05 68 *eP* **P 10 32 51.6 +0.1**
comp=Z,1.3nm,0.8s,mb4.0
MALT Malatya 49.05 68 *eP* **P 10 32 51.6 +0.1**
MALT pmax pmax
comp=Z,1.0nm,0.8s,mb3.9
MALT Malatya 49.05 68 *eP* **P 10 32 51.6 +0.1**
comp=Z,1.3nm,0.8s,mb4.0
RES Resolute Bay 49.31 341 *eP* **P 10 32 53.5 +0.5**
comp=Z,311nm,0.9s
RES Resolute Bay 49.31 341 *eP* **P 10 32 53.5 +0.5**
comp=Z,311nm,0.9s
SDV Santo Domingo 50.11 248 *eP* **P 10 33 02.0 +2.2**
comp=Z,7.8nm,0.9s,mb4.7
SDV Santo Domingo 50.11 248 *eP* **P 10 33 02.0 +2.2**
comp=Z,7.8nm,0.9s,mb4.7
ULM Lac du Bonnet 51.18 309 LR LR 10 53 26.1
comp=Z,89nm,19.6s,MS3.8,baz=29,slow=34
MIAR Mount Ida 54.73 289 *eP* **P 10 33 34.8 +0.8**
comp=Z,11nm,1.1s,mb4.8
MIAR Mount Ida 54.73 289 *eP* **P 10 33 34.8 +0.8**
MIAR pmax pmax
comp=Z,11nm,1.1s,mb4.8
MIAR Mount Ida 54.73 289 *eP* **P 10 33 34.8 +0.8**
comp=Z,11nm,1.1s,mb4.8
ROSC El Rosal 55.51 247 LR LR 10 54 30.8
comp=Z,89nm,19.5s,MS3.9,baz=191,slow=33
ARU Arti 56.48 41 *eP* **P 10 33 46.9 +0.7**
comp=Z,19nm,1.3s,mb5.0
ARU Arti 56.48 41 *eP* **P 10 33 47.3 +1.2**
ARU *e* 10 34 48.2
ARU *e* 10 35 53.3
ARU *e*S **S 10 41 32.7 -4.6**
ARU SS SS 10 45 17.2 -6.7
ARU Arti 56.48 41 *eP* **P 10 33 46.9 +0.8**
comp=Z,19nm,1.3s,mb5.0
BDFB Brasilia 56.94 207 P **P 10 33 52.1 +2.3**
BDFB LR LR 10 54 22.2
BDFB Brasilia 56.94 207 P **P 10 33 52.1 +2.3**
comp=Z,1.9nm,0.9s,mb4.1,baz=51,slow=4.9,SNR=3.2
BDFB LR LR 10 54 22.2
comp=Z,74nm,19.7s,MS3.8,baz=271,slow=32
YKA Yellowknife Ar 57.75 327 P **P 10 33 55.5 +0.4**
YKA Yellowknife Ar 57.75 327 P **P 10 33 55.5 +0.4**
comp=Z,0.7nm,0.8s,mb3.8,baz=70,slow=7.1,SNR=9.2
WMOK Wichita Mounta 58.55 292 *eP* **P 10 34 01.7 +0.6**
comp=Z,7.0nm,1.2s,mb4.6
WMOK Wichita Mounta 58.55 292 *eP* **P 10 34 01.7 +0.6**
WMOK pmax pmax
comp=Z,7.0nm,1.2s,mb4.6
WMOK Wichita Mounta 58.55 292 *eP* **P 10 34 01.7 +0.6**
comp=Z,7.0nm,1.2s,mb4.6
EDM Edmonton 60.52 316 *eP* **P 10 34 15.1 +0.7**
EDM Edmonton 60.52 316 *eP* **P 10 34 15.1 +0.7**
JCT Junction City 61.25 288 *eP* **P 10 34 21.1 +1.4**
comp=Z,53nm,1.5s,mb5.5
JCT Junction City 61.25 288 *eP* **P 10 34 21.1 +1.4**
JCT pmax pmax
comp=Z,53nm,1.5s,mb5.5
JCT Junction City 61.25 288 *eP* **P 10 34 21.1 +1.4**
comp=Z,53nm,1.5s,mb5.5
INK Inuvik 62.43 337 *eP* **P 10 34 27.8 +0.7**
comp=Z,444nm,1.4s
INK Inuvik 62.43 337 *eP* **P 10 34 27.8 +0.7**
comp=Z,444nm,1.4s
BW06 Boulder Array 62.62 304 *eP* **P 10 34 29.5 +0.7**
comp=Z,7.1nm,1.5s,mb4.6
BW06 Boulder Array 62.62 304 *eP* **P 10 34 29.5 +0.7**
comp=Z,7.1nm,1.5s,mb4.6
PDAR Pinedale Array 62.62 304 P **P 10 34 29.9 +1.2**
comp=Z,1.2nm,1.0s,mb4.0,baz=72,slow=4.8,SNR=7.2
BRVK Borovoye 64.04 42 *eP* **P 10 34 38.5 +0.6**
comp=Z,12nm,1.6s,mb4.7
BRVK Borovoye 64.04 42 *eP* **P 10 34 38.5 +0.5**
BRVK pmax pmax
comp=Z,12nm,1.6s,mb4.7
BRVK Borovoye 64.04 42 *eP* **P 10 34 38.5 +0.5**
comp=Z,12nm,1.6s,mb4.7
ANMO Albuquerque 64.07 295⇑ *eP* **P 10 34 42.6 +4.1**
BNM Barren Site 64.58 295 *eP* **P 10 34 43.1 +1.3**
BNM Barren Site 64.58 295 *eP* **P 10 34 43.1 +1.3**
TXAR Lajitas Array 64.73 289 P **P 10 34 44.0 +1.0**
comp=Z,2.4nm,0.7s,mb4.3,baz=73,slow=6.6,SNR=29
LAZ Ladron 64.83 295 *eP* **P 10 34 44.1 +0.6**
LAZ Ladron 64.83 295 *eP* **P 10 34 44.1 +0.6**
NEW Newport 64.84 312 *eP* **P 10 34 44.4 +1.1**
comp=Z,22nm,1.9s,mb4.9
NEW Newport 64.84 312 *eP* **P 10 34 44.4 +1.1**
NEW pmax pmax
comp=Z,22nm,1.9s
NEW Newport 64.84 312 *eP* **P 10 34 44.4 +1.1**
comp=Z,22nm,1.9s,mb4.9
LPAZ La Paz 67.08 226 LR LR 11 04 01.1
comp=Z,61nm,19.7s,MS3.8,baz=301,slow=36
BBB Bella Bella 68.89 320 LR LR 11 02 07.3
comp=Z,70nm,18.2s,MS3.9,baz=261,slow=33
NVS Novosibirsk 69.61 36 *i P* **P 10 35 14.2 +0.8**
NVS pmax pmax
comp=N,7.0nm,1.6s
NVS pmax pmax
comp=E,8.0nm,1.6s
NVS pmax pmax
comp=Z,16nm,1.6s,mb4.7
KURK Kurchatov 69.67 41 *eP* **P 10 35 14.5 +0.6**
comp=Z,6.4nm,1.2s,mb4.4
KURK Kurchatov 69.67 41 *eP* **P 10 35 14.5 +0.6**
KURK pmax pmax
comp=Z,6.0nm,1.2s,mb4.4
KURK Kurchatov 69.67 41 *eP* **P 10 35 14.5 +0.6**
comp=Z,6.4nm,1.2s,mb4.4
IMA2 Indian Mountai 69.86 340 *eP* **P 10 35 15.4 +0.7**
IMA2 Indian Mountai 69.86 340 *eP* **P 10 35 15.4 +0.6**
TIXI Tiksi 69.87 9 *eP* **P 10 35 16.1 +1.4**
comp=Z,19nm,1.6s,mb4.8
TIXI Tiksi 69.87 9 *eP* **P 10 35 16.2 +1.4**
TIXI pmax pmax
comp=Z,19nm,1.6s,mb4.8
TIXI Tiksi 69.87 9 *eP* **P 10 35 16.1 +1.3**
comp=Z,19nm,1.6s,mb4.8
ZAL Zalesovo 70.88 36 P **P 10 35 21.3 +0.1**
ZAA0 Zalesovo Array 70.88 36 *eP* **P 10 35 21.5 +0.3**
ZAA0 Zalesovo Array 70.88 36 *eP* **P 10 35 21.5 +0.2**
ZALV Zalesovo Beam 70.88 36 P **P 10 35 21.3 0.0**
ZALV LR LR 11 06 29.3
ZALV Zalesovo Beam 70.88 36 P **P 10 35 21.3 0.0**
comp=Z,1.2nm,0.6s,mb4.0,baz=308,slow=7.2,SNR=10
ZALV LR LR 11 06 29.3
comp=Z,46nm,18.7s,MS3.8,baz=314,slow=36
MK31 Makanchi Array 73.94 43 *eP* **P 10 35 39.4 -0.2**
MK31 Makanchi Array 73.94 43 *eP* **P 10 35 39.4 -0.2**
MKAR Makanchi Array 73.94 43 P **P 10 35 40.0 +0.4**
comp=Z,1.6nm,0.8s,mb4.0,baz=302,slow=5.5,SNR=11
MKAR LR LR 11 08 17.5
comp=Z,118nm,18.8s,MS4.2,baz=350,slow=36
BILL Bilibino 74.78 356 *eP* **P 10 35 43.9 -0.2**
comp=Z,14nm,1.5s,mb4.7
BILL Bilibino 74.78 356⇑ *eP* **P 10 35 43.5 -0.6**
BILL *e* 10 38 28.4
BILL pmax pmax
comp=Z,8.0nm,1.5s,mb4.4
BILL Bilibino 74.78 356 *eP* **P 10 35 43.9 -0.2**
comp=Z,14nm,1.5s,mb4.7
WMQ Urumqi 78.77 43 *eP* **P 10 36 07.5 +0.4**
WMQ LR LR
comp=N,179nm,21.6s,MS4.5
WMQ LR LR
comp=E,141nm,22.6s,MS4.5
WMQ LR LR
comp=Z,186nm,25.4s,MS4.3
YAK Yakutsk 78.99 12⇑ *eP* **P 10 36 08.7 +0.7**
YAK pmax pmax
comp=Z,8.0nm,0.5s,mb4.9
YAK Yakutsk 78.99 12 *eP* **P 10 36 08.7 +0.7**
comp=Z,8.0nm,0.5s,mb4.9
BOD Bodaibo 79.22 21 *eP* **P 10 36 08.6 -0.7**
BOD pmax pmax
comp=Z,11nm,1.5s,mb4.6
BOD Bodaibo 79.22 21 *eP* **P 10 36 08.6 -0.7**
comp=Z,11nm,1.5s,mb4.6
MOY Mondy 79.60 31 *eP* **P 10 36 13.0 +1.5**
MOY pmax pmax
comp=Z,25nm,2.3s,mb4.7
MOY Mondy 79.60 31 *eP* **P 10 36 13.0 +1.5**
comp=Z,25nm,2.3s,mb4.7
SEY Seymchan 80.21 1⇑ *eP* **P 10 36 17.0 +2.4**
SONM Songino Array 84.79 31 P **P 10 36 39.5 +0.7**
comp=Z,2.2nm,0.9s,mb4.3,baz=328,slow=7.0,SNR=11
SONM LR LR 11 16 30.1
comp=Z,60nm,19.0s,MS4.0,baz=250,slow=37
ULN Ulaanbaatar 85.03 30⇑ *eP* **P 10 36 41.7 +1.7**
ULN Ulaanbaatar 85.03 30 *eP* **P 10 36 40.9 +0.9**
comp=Z,5.2nm,0.9s,mb4.7
PLCA Paso Flores 88.18 213 LR LR 11 16 05.4
comp=Z,96nm,19.3s,MS4.2,baz=18,slow=35
PET Petropavlovsk 90.12 358⇑ *eP* **P 10 37 06.3 +1.9**
PET pmax pmax
comp=Z,12nm,1.6s,mb5.0
PET Petropavlovsk 90.12 358 *eP* **P 10 37 06.3 +1.9**
comp=Z,12nm,1.6s,mb5.0
HHC Hu-ho-hao-te 92.63 32 *eP* **P 10 37 15.2 -1.1**
HHC AP pP 10 37 19.8 +1.1
HHC XP sP 10 37 22.4 +2.9
HHC PP PP 10 40 58.0 +1.1
HHC SKS 10 47 46.0
HHC S S 10 48 23.1 +1.9
HHC SS SS 10 54 29.9 -1.7
HHC AMB AMB
comp=Z,78nm,4.9s
HHC LR LR
comp=N,141nm,5.5s
HHC LR LR
comp=E,126nm,8.9s
HHC LR LR
comp=Z,101nm,9.6s
LZH Lanzhou 92.89 39 *eP* **P 10 37 14.0 -3.6**
LZH AMB AMB
comp=Z,15nm,1.0s,mb5.4
LZH AMB AMB
comp=Z,65nm,4.1s
CN2 Changchun 94.97 21 *eP* **P 10 37 25.5 -1.5**
CD2 Chengdu 96.86 43 *eP* **P 10 37 35.1 -0.8**
CD2 XP sP 10 37 43.0 +3.9
CD2 PP PP 10 41 32.1 +1.9
CD2 SKS 10 48 10.1
CD2 S S 10 48 51.5 -7.0
CD2 SS SS 10 55 28.4 -4.1
CD2 AMB AMB
comp=Z,10.0nm,0.8s,mb5.3
CD2 LR LR
comp=N,180nm,18.2s
CD2 LR LR
comp=Z,150nm,16.2s,MS4.6
KMI Kunming 100.73 47 P Pdif 10 37 53.2 +0.2
KMI AP 10 37 56.5
KMI AMB AMB
comp=Z,7.0nm,0.8s
KMI LR LR
comp=N,104nm,22.0s,MS4.5
KMI LR LR
comp=E,119nm,17.3s,MS4.5
KMI LR LR
comp=Z,94nm,15.3s,MS4.4
GYA Guiyang 101.92 43 P Pdif 10 37 58.2 -0.1
GYA PP PP 10 42 11.6 +2.7
GYA SKS 10 48 37.0
GYA S Sdif 10 49 36.2 -4.6
GYA SS SS 10 56 41.6 -1.9
GYA AMB AMB
comp=Z,70nm,8.8s
GYA LR LR
comp=N,380nm,21.8s
GYA LR LR
comp=E,470nm,20.4s
GYA LR LR
comp=Z,480nm,22.6s,MS5.0
MBWA Marble Bar 145.33 73 *e*PKPbc PKPbc 10 43 41.4 -1.2
FITZ Fitzroy Crossi 147.78 62 PKPbc PKPbc 10 43 50.2 +0.4
comp=Z,3.5nm,1.0s,baz=285,slow=7.3,SNR=3.6
WRA Warramunga Arr 154.92 53 PKPbc PKPbc 10 44 06.1 -0.4
comp=Z,0.6nm,0.8s,baz=323,slow=2.5,SNR=5.4
WRA PKPab PKPab 10 44 22.6 +0.8
comp=Z,1.8nm,1.1s,baz=323,slow=4.5,SNR=4.8
ASAR Alice Springs 157.23 60 PKPab PKPab 10 44 31.7 +0.1
comp=Z,0.6nm,0.9s,baz=307,slow=4.3,SNR=4.9

PDA ***08*** *10:35:24.0±0.6,3868N×2905W,h0km±7km,MD3.5,ML2.2, Error ellipse: s-maj=9.9km s-min=2.3km az=66.0*
CSEM ***08*** *10:35:24.0±0.6,3868N×2905W,h0km±7km,ML2.2,Error ellipse: s-maj=9.9km s-min=2.3km az=66.0,After PDA*
SVSA 08 10:35:24.0±0.6,3868N×2905W,h0km±7km,MD3.5,ML2.2, Error ellipse: s-maj=9.9km s-min=2.3km az=66.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CALA	**Caldeira**	**0.29**	**110**	*e*P	Pg	10 35 29.6	0.0
CALA				*e*S	Sg	10 35 33.9	+0.5
HOR	**Horta**	**0.36**	**115**	*e*P	Pg	10 35 30.7	-0.3
HOR				*e*S	Sg	10 35 35.8	+0.1
PICO	**Pico**	**0.52**	**110**	*e*P	Pg	10 35 33.7	-0.3
PICO				*e*S	Sg	10 35 40.9	+0.1
ROSA	**Rosais**	**0.64**	**86**	*e*P	Pg	10 35 35.1	-1.1
ROSA				*e*S	Sg	10 35 43.5	-0.9
PMAN	**Manadas**	**0.76**	**93**	*e*P	Pg	10 35 36.6	-1.9
PMAN				*e*S	Sg	10 35 46.5	-1.8
PMAN				A		10 35 47.9	
	50nm,0.2s						
PMAN	**Manadas**	**0.76**	**93**	*e*P	Pg	10 35 36.6	-1.9
PMAN				*e*S	Sg	10 35 46.5	-1.8
SRBC	**Serra Branca**	**0.87**	**65**	*e*P	Pg	10 35 38.6	-2.0
SRBC				*e*S	Sg	10 35 49.4	-2.4

ISCJB ***08*** *11:01:56.1±1.5, 1933N±003×78.11W±009, h1km±11km, Error ellipse: s-maj=13.7km s-min=5.1km az=0.2*
JSN ***08*** *11:01:56.5±1.1, 1939N×7821W, h4km±8km, MD4.3*
SSNC ***08*** *11:01:59.8, 1942N×78.16W, h0km, MD3.2, ML1.8*

ISC 08 11:01:56.7±1.4,**1932N**±003×**7815W**±008,**h7**km±8km,**n12,** σ0°**89**/21,**4C-3D, Cuba region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBJ	**Montego Bay**	**0.95**	**163**	*e*P	**Pg**	**11 02 15.2**	**+0.1**
MBJ				*e*S	**Sg**	**11 02 28.1**	**+0.7**
BBJ	**Bamboo Saint A**	**1.25**	**138⇑**	*i*P	**Pn**	**11 02 20.3**	**-0.3**
BBJ				*e*S	**Sg**	**11 02 37.5**	**+0.5**
LMGC	**Las Mercedes**	**1.31**	**55**	*i* P	**Pn**	**11 02 20.5**	**-0.9**
LMGC				*i* S	**Sb**	**11 02 37.3**	**-1.3**
	comp=N,144nm,0.1s						
LMGC				*i*			
	comp=E,156nm,0.1s						
MCJ	**Malvern**	**1.46**	**162⇓**	*e*P	**Pn**	**11 02 22.9**	**-0.5**
MCJ				*e*S	**Sn**	**11 02 42.2**	**-0.6**
BNJ	**Bonny Gate**	**1.51**	**131⇑**	*i*P	**Pn**	**11 02 23.8**	**-0.4**
STH	**Stony Hill**	**1.77**	**134⇑**	*i*P	**Pn**	**11 02 27.2**	**-0.6**
STH				*i* S	**Sn**	**11 02 50.5**	**-0.2**
GWJ	**Greenwich**	**1.83**	**132⇑**	*i*P	**Pn**	**11 02 28.0**	**-0.6**
PCJ	**Portland Cotta**	**1.83**	**149⇓**	*e*P	**Pn**	**11 02 28.3**	**-0.3**
PCJ				*i* S	**Sn**	**11 02 53.4**	**+1.3**
CCCC	**Cccc**	**1.90**	**11**	*e*P	**Pn**	**11 02 29.4**	**-0.2**
CCCC				*e*S	**Sn**	**11 02 56.0**	**+2.2**
	comp=N,0.6nm,0.3s						
CCCC				*e*			
	comp=E,0.2nm,0.4s						
CMJ	**Castle Mountai**	**2.06**	**125⇓**	*e*P	**Pn**	**11 02 31.6**	**-0.1**
HLGC	**Holguin**	**2.51**	**51**	*e*P	**Pn**	**11 02 37.6**	**-0.3**
HLGC				*e*S	**Sn**	**11 03 02.4**	**-6.4**
	comp=N,5.2nm,0.4s						
HLGC				*e*			
	comp=E,5.4nm,0.4s						
MASC	**Masc**	**3.79**	**76**	*e*P	**Pn**	**11 02 58.2**	**+2.7**
MASC				*e*S	**Sn**	**11 03 41.0**	**+0.7**
	comp=N,2.7nm,0.8s						
MASC				*e*			
	comp=E,1.4nm,0.4s						

NIED ***08*** *11:02:00, 4650N×153.10E, h38km, Mw4.1 Best double couple: M0 1.35000×10^15 NP1:φs82.00000°, δ72.00000°, λ-101.00000°. NP2:φs294.00000°, δ21.00000°, λ-59.00000°.*
IDC ***08*** *11:02:14.6±2.0, 4642N×152.95E, h0km, mb3.8/8, mb1 4.0/8, mb1mx3.7/21, mbtmp3.8/8, Error ellipse: s-maj=56.6km s-min=25.7km az=169.0*
JMA ***08*** *11:02:16.4±0.7, 4647N×153.14E, h30km, M3.9*
ISCJB ***08*** *11:02:17.2±0.9, 4620N±0.1×1530E±0.2, h33km, mb3.8/7, Error ellipse: s-maj=25.7km s-min=5.3km az=145.3*
MOS ***08*** *11:02:21.3±2.0, 4661N×152.81E, h58km, mb4.3/4, Error ellipse: s-maj=19.5km s-min=13.3km az=135.6*

ISC 08 11:02:20.8±1.2,**462N**±02×**1529E**±02,**h53**km±11km,**n37,** σ1°**39**/47,**mb3.8/7, 1C-1D, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.66**	**257⇓**	*i*PN	**Pn**	**11 03 14.5**	**-0.4**
KUR				*e*S	**Sn**	**11 03 58.2**	**+1.4**
KUR				pmax	pmax		
	comp=N,80nm,0.5s						
KUR				pmax	pmax		
	comp=Z,190nm,0.5s						
KUR				smax			
	comp=N,220nm,0.8s						
KUR				smax			
	comp=E,160nm,0.8s						
SKR	**Severo-Kuril's**	**4.99**	**24**	*e*PN	**Pn**	**11 03 30.0**	**-3.0**
SKR				*e*S	**Sn**	**11 04 21.0**	**-8.3**
SKR				pmax	pmax		
	comp=Z,80nm,0.5s						
SKR				smax			
	comp=N,60nm,0.5s						
SKR				smax			
	comp=E,60nm,0.5s						
YUK	**Yuzh-Kuril'sk**	**5.44**	**249**	*e*PN	**Pn**	**11 03 43.5**	**+4.3**
NEM2	**Nemuro 2**	**5.83**	**244**	P	**Pn**	**11 03 43.4**	**-1.2**
NEM2				*e*S	**Sn**	**11 04 47.7**	**-2.4**
JNK	**Nakash**	**6.38**	**249**	P	**Pn**	**11 03 52.8**	**+0.7**
JNK				*e*S	**Sn**	**11 05 05.3**	**+1.8**
JAK	**Akkeshi**	**6.68**	**244**	P	**Pn**	**11 03 55.0**	**-1.2**
JAK				*e*S	**Sn**	**11 05 08.6**	**-2.3**
JTKR	**Abashiri--Toko**	**6.75**	**254**	P	**Pn**	**11 03 58.8**	**+1.6**
YSS	**Yuzh-Sakhalins**	**7.05**	**280⇑**	*e*PN	**Pn**	**11 04 06.0**	**+4.7**
JMP	**Maruseppu**	**7.11**	**256**	P	**Pn**	**11 04 04.0**	**+1.9**
JAR	**Ashorobuto**	**7.12**	**249**	P	**Pn**	**11 04 03.0**	**+0.7**
JAR				*e*S	**Sn**	**11 05 21.4**	**-0.4**
JOB	**Onbets**	**7.27**	**246**	P	**Pn**	**11 04 03.6**	**-0.7**
JOB				*e*S	**Sn**	**11 05 24.2**	**-1.2**
JKK2	**Kamakawa 2**	**7.57**	**256**	P	**Pn**	**11 04 10.5**	**+2.1**
ASAJ	**Asahikawa**	**7.58**	**258**	P	**Pn**	**11 04 11.2**	**+2.6**
ASAJ	**Asahikawa**	**7.58**	**258**	PN	**Pn**	**11 04 11.0**	**+2.4**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ	**Asahikawa**	**7.58**	**258**	Pn	**Pn**	**11 04 10.9**	**+2.3**
	comp=Z,0.7nm,0.3s,baz=184,slow=18,SNR=8.7						
JCH	**Churui**	**7.71**	**246**	P	**Pn**	**11 04 09.7**	**-0.7**
JCH				*e*S	**Sn**	**11 05 34.0**	**-2.4**
JEM	**Erimo**	**8.16**	**243**	P	**Pn**	**11 04 17.5**	**+0.9**
JNBK	**Urakawa-nobuka**	**8.27**	**246**	P	**Pn**	**11 04 19.0**	**+0.9**
JNBK				*e*S	**Sn**	**11 05 48.5**	**-1.6**
JBT2	**Biratori 2**	**8.28**	**250**	P	**Pn**	**11 04 18.9**	**+0.8**
JANG	**Nango**	**10.13**	**239**	P	**Pn**	**11 04 39.8**	**-3.7**
JANG				*e*S	**Sn**	**11 06 27.7**	**-8.0**
JTM	**Tenmabayashi**	**10.15**	**242**	*e*S	**Sn**	**11 06 29.4**	**-6.8**
MJAR	**Matsushiro Arr**	**14.63**	**234**	Pn	**Pn**	**11 05 51.1**	**+6.5**
	comp=Z,0.2nm,0.3s,baz=30,slow=8.1,SNR=5.8						
KSRS	**Korea Array**	**20.50**	**254**	P	**P**	**11 06 56.2**	**+1.9**
	comp=Z,1.3nm,0.8s,baz=58,slow=12,SNR=5.7						
ZAK	**Zakamensk**	**32.80**	**296**	*e*P	**P**	**11 08 45.9**	**-2.9**
MKAR	**Makanchi Array**	**47.09**	**298**	P	**P**	**11 10 46.6**	**-0.5**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
MKAR	**Makanchi Array**	**47.09**	**298**	P	**P**	**11 10 46.6**	**-0.5**
	comp=Z,1.0nm,0.7s,mb3.9,baz=67,slow=7.1,SNR=9.7						
YKA	**Yellowknife Ar**	**51.47**	**36**	P	**P**	**11 11 20.0**	**-0.3**
YKA	**Yellowknife Ar**	**51.47**	**36**	P	**P**	**11 11 20.0**	**-0.2**
	comp=Z,0.3nm,0.7s,mb3.3,baz=296,slow=7.2,SNR=5.8						
FINES	**FINESS Array B**	**64.50**	**335**	P	**P**	**11 12 51.5**	**0.0**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.8s						
FINES	**FINESS Array B**	**64.50**	**335**	P	**P**	**11 12 51.5**	**0.0**
	comp=Z,2.2nm,0.8s,mb4.3,baz=54,slow=6.0,SNR=11						
NB2	**NORSAR Subarra**	**68.73**	**341**	P	**P**	**11 13 18.7**	**+0.3**
	comp=Z,3.2nm,0.9s,mb4.2,baz=30,slow=6.5						
NOA	**NORSAR Array B**	**68.73**	**341**	P	**P**	**11 13 18.9**	**+0.5**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
NOA	**NORSAR Array B**	**68.73**	**341**	P	**P**	**11 13 18.9**	**+0.5**
	comp=Z,0.5nm,0.5s,mb3.8,baz=28,slow=6.4,SNR=3.2						
AKASG	**Malin Array Be**	**71.95**	**326**	P	**P**	**11 13 37.7**	**-0.6**
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.4s						
AKASG	**Malin Array Be**	**71.95**	**326**	P	**P**	**11 13 37.7**	**-0.5**
	comp=Z,2.1nm,0.4s,mb4.4,baz=35,slow=6.0,SNR=16						
TXAR	**Lajitas Array**	**77.89**	**60**	P	**P**	**11 14 13.3**	**+0.3**
	comp=Z,0.3nm,0.5s,mb3.5,baz=302,slow=4.3,SNR=8.8						
GERES	**GERESS Array B**	**78.91**	**334**	P	**P**	**11 14 19.1**	**+0.9**

comp=Z,0.3nm,0.5s,mb3.5,baz=45,slow=4.0,SNR=4.5

CSEM ***08*** *11:04:58.9±0.5, 4083N×2696E, h25km, MD2.7, Error ellipse: s-maj=14.8km s-min=6.0km az=155.0*
ISK ***08*** *11:05:01.4, 4063N×2694E, h5km, MD2.7*
ISCJB ***08*** *11:05:02.0±0.6, 4062N±008×2692E±006, h5km±8km, Error ellipse: s-maj=14.0km s-min=4.6km az=155.2*
DDA ***08*** *11:05:03.2, 4061N×2703E, h7km±4km, Md2.5*
ATH ***08*** *11:05:06.7, 4038N×2625E, h10km, MD3.0/3*

ISC 08 11:05:02.2±0.6,**4063N**±008×**2693E**±006,**h11**km±7km,**n10,** σ0°**72**/15,**Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RKY	**Sarkoy-Tekirda**	**0.19**	**72**	*e*PG	**Pg**	**11 05 05.8**	**-0.5**
RKY				*e*SG	**Sg**	**11 05 08.9**	**-0.3**
SART	**Tekirdag**	**0.20**	**72**	*i* P	**Pg**	**11 05 06.2**	**-0.2**
SART				*i* S	**Sg**	**11 05 09.9**	**+0.7**
ENEZ	**Enez**	**0.60**	**280**	*e*PG	**Pg**	**11 05 13.9**	**-0.1**
GADA	**Gvkgeada**	**0.90**	**241**	*e*PG	**Pg**	**11 05 19.2**	**-0.5**
GADA				*e*SG	**Sg**	**11 05 32.0**	**+0.6**
EZN	**Ezine**	**0.93**	**210**	*e*PG	**Pg**	**11 05 20.5**	**+0.4**
BOZC	**Bozcaada**	**1.04**	**221**	*i* P	**Pb**	**11 05 23.1**	**+0.9**
BOZC				*i* S	**Sb**	**11 05 39.6**	**+3.8**
RDO	**Rodhopi**	**1.18**	**296**	*e*PB	**Pb**	**11 05 24.4**	**-0.2**
ELBA	**Catalca**	**1.25**	**65**	*e*P	**Pn**	**11 05 19.6**	**-6.0**
ELBA				*e*S	**Sb**	**11 05 42.4**	**+0.5**
PRK	**Paraskevi**	**1.47**	**200**	*e*PB	**Pb**	**11 05 28.1**	**-1.5**
LIA	**Limnos Island**	**1.53**	**242**	*e*PB	**Pn**	**11 05 24.6**	**-4.9**

TEH ***08*** *11:21:59.9, 3102N×5683E, h16km, ML4.6*
ISCJB ***08*** *11:22:19.4±0.2, 3098N±002×5671E±003, h10km, mb4.2/49, MS3.6/13, Error ellipse: s-maj=3.6km s-min=3.3km az=43.4*
IDC ***08*** *11:22:19.0±0.7, 3094N×5686E, h0km, mb4.1/18, mb1 4.2/22, mb1mx4.2/26, mbtmp4.1/22, ML4.0/4, MS3.4/11, Ms1 3.4/11, ms1mx3.2/44, Error ellipse: s-maj=19.5km s-min=12.6km az=170.0*
CSEM ***08*** *11:22:20.3±0.1, 3101N×5665E, h20km, mb4.3/29, Ms3.7, Error ellipse: s-maj=2.0km s-min=1.3km az=164.0*
THR ***08*** *11:22:21.5±1.0, 3097N×5681E, h15km, ML4.4*
BJI ***08*** *11:22:21.3, 3090N×5680E, h10km, mB4.8, mb4.7, Ms4.2, Msz4.0*
NEIC ***08*** *11:22:21.3, 3094N×5682E, h11km, mb4.2/26, ML4.3(THR), MN4.6(TEH), After THR.*
MOS ***08*** *11:22:22.5±0.8, 3099N×5669E, h33km, mb4.5/25, Error ellipse: s-maj=8.4km s-min=5.6km az=125.0*

ISC 08 11:22:21.0±0.2,**3097N**±002×**5677E**±003,**h10**km,**n228,** σ1°**24**/230,**mb4.2**/49,**MS3.6**/13,**7C-3D, Northern and central Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRBR	**Kerman**	**0.99**	**180**	Pg	**Pg**	**11 22 39.0**	**-1.0**
KRBR				Sg	**Sg**	**11 22 53.0**	**+0.1**
KRBR	**Kerman**	**0.99**	**180**	*e*Pg	**Pg**	**11 22 40.0**	**-0.1**
KRBR				*e*Sg	**Sg**	**11 22 53.6**	**+0.8**
KRBR				AML	AML	11 22 56.4	
	comp=N,6μm,0.3s						
KRBR	**Kerman**	**0.99**	**180**	*e*Pg	**Pg**	**11 22 40.0**	**0.0**
	SNR=91						
KRBR				*e*Sg	**Sg**	**11 22 53.7**	**+0.8**
	SNR=91						
IBAF	**Bafgh**	**1.20**	**301⇓**	*e*Pn	**Pn**	**11 22 43.7**	**-0.1**
IBAF				*e*		11 23 06.7	
	comp=Z,12μm,0.3s						
IMEH	**Mehriz**	**1.89**	**283**	Pn	**Pn**	**11 22 55.6**	**+2.2**
IMEH	**Mehriz**	**1.89**	**283**	*e*Pn	**Pn**	**11 22 55.7**	**+2.3**
IMEH				*e*		11 23 25.6	
	comp=Z,68μm,0.2s						
ICHK	**Chekchek**	**2.38**	**303**	*e*Pn	**Pn**	**11 23 03.5**	**+3.4**
ICHK				*e*		11 23 48.1	
	comp=Z,46μm,0.3s						
IKOO	**Kooshah**	**2.39**	**52⇑**	*e*Pn	**Pn**	**11 23 00.1**	**-0.2**
ITEG	**Tejag**	**2.55**	**41⇑**	*e*Pn	**Pn**	**11 23 02.4**	**-0.1**
IDAH	**Dahanechah**	**3.17**	**55**	*e*Pn	**Pn**	**11 23 12.5**	**+1.5**
IMON	**Monand**	**3.31**	**47**	*e*Pn	**Pn**	**11 23 13.7**	**+0.8**
IMON				*e*Sg	**Sg**	**11 24 05.5**	**-1.9**
IPAR	**Pars**	**3.40**	**252**	Pn	**Pn**	**11 23 18.0**	**+3.8**
IPAR	**Pars**	**3.40**	**252**	*e*Pn	**Pn**	**11 23 18.1**	**+3.9**
IPAR				*e*		11 24 20.3	
	comp=Z,7μm,0.5s						
ISRV	**Sarvestan**	**3.54**	**244**	Pn	**Pn**	**11 23 19.0**	**+3.0**
ISRV	**Sarvestan**	**3.54**	**244⇓**	*e*Pn	**Pn**	**11 23 19.1**	**+3.1**
ISRV				*e*		11 24 34.9	
	comp=Z,15μm,0.4s						
ZHSF	**Zahedan**	**3.72**	**110**	*e*Pn	**Pn**	**11 23 20.1**	**+1.5**
ZHSF	**Zahedan**	**3.72**	**110**	*e*Pn	**Pn**	**11 23 20.0**	**+1.4**
	SNR=52						
NASN	**Na'in**	**3.83**	**299**	Pn	**Pn**	**11 23 23.0**	**+3.0**
NASN	**Na'in**	**3.83**	**299**	*e*Pn	**Pn**	**11 23 23.2**	**+3.2**
NASN				*e*Sg	**Sg**	**11 24 21.4**	**-2.6**
NASN				AML	AML	11 24 31.3	
	comp=E,647nm,0.6s						
NASN				AML	AML	11 24 34.0	
	comp=N,574nm,0.7s						
BANOM	**Banah**	**5.05**	**185**	P	**Pn**	**11 23 38.6**	**+1.8**
	SNR=14						
IANJ	**Anjilo**	**5.08**	**333**	Pn	**Pn**	**11 23 38.8**	**+1.6**
IANJ	**Anjilo**	**5.08**	**333**	*e*Pn	**Pn**	**11 23 38.9**	**+1.7**
IANJ				*e*		11 25 12.4	
	comp=Z,4μm,0.4s						
ISFB	**Sefidab**	**5.09**	**313**	Pn	**Pn**	**11 23 40.2**	**+2.8**
ISFB	**Sefidab**	**5.09**	**313**	*e*Pn	**Pn**	**11 23 40.3**	**+2.9**
ISFB				*e*		11 25 21.9	
	comp=Z,7μm,0.5s						
IMOG	**Moghan**	**5.55**	**22**	Pn	**Pn**	**11 23 45.3**	**+1.6**
IMOG	**Moghan**	**5.55**	**22**	*e*Pn	**Pn**	**11 23 45.4**	**+1.7**
IMOG				*e*		11 25 42.2	
	comp=Z,3μm,0.5s						
ISHM	**Shahmirzad**	**5.63**	**330**	*e*Pn	**Pn**	**11 23 46.5**	**+1.8**
ISHM				*e*		11 25 32.0	
	comp=Z,6μm,0.4s						
IPAY	**Payeh**	**5.77**	**18**	Pn	**Pn**	**11 23 48.4**	**+1.7**
IPAY	**Payeh**	**5.77**	**18**	*e*Pn	**Pn**	**11 23 48.5**	**+1.8**
IPAY				*e*		11 25 36.4	
	comp=Z,2μm,0.4s						
GHVR	**GHOM**	**5.79**	**309**	*e*Pn	**Pn**	**11 23 51.0**	**+4.0**
IKRD	**Kardeh**	**5.96**	**14**	Pn	**Pn**	**11 23 53.9**	**+4.5**
IKRD	**Kardeh**	**5.96**	**14⇑**	*e*Pn	**Pn**	**11 23 54.0**	**+4.6**
IKRD				*e*		11 25 59.2	
	comp=Z,2μm,0.5s						
IMYA	**Miami**	**6.03**	**27**	Pn	**Pn**	**11 23 51.6**	**+1.3**
IMYA	**Miami**	**6.03**	**27**	*e*Pn	**Pn**	**11 23 51.7**	**+1.4**
IMYA				*e*		11 25 52.1	
	comp=Z,5μm,0.7s						
NAZ	**Nazwa, Dubai**	**6.04**	**190**	P	**Pn**	**11 23 52.9**	**+2.4**
IDMV	**Damavand**	**6.07**	**320**	Pn	**Pn**	**11 23 52.9**	**+2.1**
IDMV	**Damavand**	**6.07**	**320**	*e*Pn	**Pn**	**11 23 53.0**	**+2.2**
DAMV	**Damavand**	**6.14**	**320**	Pn	**Pn**	**11 23 55.0**	**+3.2**
DAMV	**Damavand**	**6.14**	**320**	*e*Pn	**Pn**	**11 23 53.9**	**+2.1**
HATD	**Hatta, Dubai**	**6.15**	**185**	P	**Pn**	**11 23 54.0**	**+2.1**
ASHO	**Ashiyiah**	**6.30**	**186**	P	**Pn**	**11 23 56.5**	**+2.5**
	SNR=9.4						
ASHO	**Ashiyiah**	**6.30**	**186**	Pn	**Pn**	**11 23 56.5**	**+2.5**
	SNR=9.4						
ASHO	**Ashiyiah**	**6.30**	**186**	P	**Pn**	**11 23 55.7**	**+1.7**
	SNR=14						
IAFJ	**Afjeh**	**6.45**	**320**	Pn	**Pn**	**11 23 57.9**	**+1.9**
IAFJ	**Afjeh**	**6.45**	**320**	*e*Pn	**Pn**	**11 23 58.0**	**+2.0**
IAFJ				*e*		11 26 07.2	
	comp=Z,3μm,0.4s						
ASUD	**Al Ashush, Dub**	**6.45**	**192**	P	**Pn**	**11 23 58.5**	**+2.4**
	SNR=11						
ASAO	**Ashtian**	**6.70**	**304**	*e*Pn	**Pn**	**11 24 03.0**	**+3.5**
CHTH	**Charan**	**6.81**	**318**	*e*Pn	**Pn**	**11 24 03.1**	**+2.1**
VAN	**Vannovskaya**	**7.04**	**9**	*e*P	**Pn**	**11 24 05.9**	**+1.7**
HOQ	**Hoqain**	**7.38**	**176**	Pn	**Pn**	**11 24 09.3**	**+0.5**
	SNR=20						
UMR	**Umm Al-Rimmam**	**7.96**	**262**	*e*P	**Pn**	**11 24 16.2**	**-0.5**
UMR				AML	AML	11 26 18.6	
	comp=Z,15nm,0.6s						
SMDO	**Samad**	**7.96**	**171**	Pn	**Pn**	**11 24 23.4**	**+6.5**
	SNR=8.1						
QRN	**Al-Qurain**	**8.00**	**256**	*e*P	**Pn**	**11 24 16.5**	**-0.8**
KFJS		**8.17**	**252**	P	**Pn**	**11 24 19.7**	**0.0**
MIB	**Mutribah**	**8.23**	**264**	*e*P	**Pn**	**11 24 20.3**	**-0.1**
MIB				AML	AML	11 26 02.5	
	comp=Z,16nm,0.6s						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RDF	**Al-Radifah**	**8.25**	**258**	*e*P	**Pn**	**11 24 20.3**	**-0.5**
RDF				AML	AML	11 26 00.6	
	comp=Z,34nm,0.6s						
NAY	**Al-Naaiem**	**8.43**	**261**	*e*P	**Pn**	**11 24 23.5**	**+0.3**
NAY				AML	AML	11 26 13.6	
	comp=Z,8.1nm,0.6s						
WBK	**Wadi Bani Khal**	**8.56**	**166**	P	**Pn**	**11 24 29.7**	**+4.7**
	SNR=5.2						
WBK	**Wadi Bani Khal**	**8.56**	**166**	Pn	**Pn**	**11 24 29.7**	**+4.7**
	SNR=5.2						
RST	**Umm Al-Ruwaisa**	**8.58**	**263**	*e*P	**Pn**	**11 24 25.6**	**+0.3**
BTHS		**8.67**	**219**	P	**Pn**	**11 24 24.4**	**-2.2**
BHD	**Baghdad**	**10.75**	**286**	*ex*	x	11 25 12.0	
BHD				*ex*	x	11 27 28.0	
LYLS		**12.32**	**226**	P	**Pn**	**11 25 14.8**	**-1.7**
WHFO	**Wadi Hawf**	**13.28**	**193**	Pn	**Pn**	**11 25 26.8**	**-2.9**
	SNR=5.1						
MALT	**Malatya**	**16.76**	**301**	*e*P	**Pn**	**11 26 18.1**	**+2.3**
	comp=Z,11nm,1.0s						
MALT	**Malatya**	**16.76**	**301**	*e*P	**Pn**	**11 26 18.1**	**+2.3**
MALT				pmax	pmax		
	comp=Z,11nm,1.0s						
ASF	**Jabal al Asfar**	**16.98**	**279**	P	**Pn**	**11 26 17.6**	**-1.1**
	comp=Z,0.6nm,0.3s,baz=351,slow=4.3,SNR=9.0						
ASF				LR	LR	11 33 59.5	
	comp=Z,35nm,20.2s,baz=340,slow=41						
KIV	**Kislovodsk**	**17.08**	**323**	*e*P	**Pn**	**11 26 24.7**	**+4.8**
	comp=Z,21nm,1.0s						
KIV	**Kislovodsk**	**17.08**	**323**	*e*P	**Pn**	**11 26 24.9**	**+5.1**
KIV				*e*S	**Sn**	**11 29 32.7**	**+3.0**
KIV				pmax	pmax		
	comp=Z,19nm,0.9s						
KIV	**Kislovodsk**	**17.08**	**323**	P	**Pn**	**11 26 25.6**	**+5.8**
	SNR=8.6						
KIV	**Kislovodsk**	**17.08**	**323**	Pn	**Pn**	**11 26 25.6**	**+5.8**
	SNR=8.6						
AML	**Almayashu**	**17.54**	**46**	*e*P	**Pn**	**11 26 24.5**	**-1.1**
	comp=Z,10nm,1.0s						
AML	**Almayashu**	**17.54**	**46**	P	**Pn**	**11 26 26.4**	**+0.8**
	SNR=6.4						
NDI	**New Delhi**	**17.89**	**92**	*ex*	x	11 26 30.0	
EKS2	**Erkin-Say**	**17.89**	**45**	*e*P	**Pn**	**11 26 29.5**	**-0.4**
	comp=Z,17nm,1.1s						
EKS2	**Erkin-Say**	**17.89**	**45**	*e*P	**Pn**	**11 26 29.5**	**-0.5**
	comp=Z,17nm,1.1s						
UCH	**Uchtor**	**18.11**	**47**	*e*P	**Pn**	**11 26 34.0**	**+1.5**
	comp=Z,5.3nm,0.9s						
UCH	**Uchtor**	**18.11**	**47**	*e*P	**Pn**	**11 26 34.0**	**+1.4**
	comp=Z,5.3nm,0.9s						
MMAI	**Mount Meron Ar**	**18.23**	**282**	P	**Pn**	**11 26 36.0**	**+1.7**
	comp=Z,0.4nm,0.3s,baz=90,slow=16,SNR=7.6						
SOC	**Sochi**	**18.46**	**318**	*e*P	**Pn**	**11 26 41.5**	**+4.6**
SOC				*e*		11 30 02.5	
SOC				pmax	pmax		
	comp=Z,5.0nm,0.9s						
FRU	**Bishkek**	**18.50**	**45**	*e*P	**Pn**	**11 26 36.0**	**-1.4**
EIL	**Elat**	**18.88**	**272**	P	**Pn**	**11 26 42.9**	**+0.8**
	comp=Z,0.7nm,0.3s,baz=41,slow=6.1,SNR=7.2						
EIL				LR	LR	11 35 36.6	
	comp=Z,199nm,19.7s,baz=288,slow=42						
EIL	**Elat**	**18.88**	**272**	P	**Pn**	**11 26 42.8**	**+0.7**
AKTK	**Aktyubinsk**	**19.46**	**2**	P	**Pn**	**11 26 47.9**	**-1.0**
AKTK				LR	LR	11 35 28.4	
AKTK	**Aktyubinsk**	**19.46**	**2**	P	**Pn**	**11 26 47.9**	**-1.1**
AKTO	**Aktyubinsk**	**19.46**	**2**	P	**Pn**	**11 26 47.9**	**-1.0**
	comp=Z,0.4nm,0.3s,baz=181,slow=12,SNR=31						
AKTO				LR	LR	11 35 28.4	
	comp=Z,85nm,19.9s,baz=279,slow=40						
CSS	**Prodhromos**	**20.05**	**288**	*e*P	**P**	**11 26 56.5**	**+2.2**
	comp=Z,20nm,0.9s						
CSS	**Prodhromos**	**20.05**	**288**	*e*P	**P**	**11 26 56.5**	**+2.2**
	comp=Z,20nm,0.9s						
ATD	**Arta Tunnel**	**23.25**	**217**	LR	LR	11 37 00.9	
	comp=Z,83nm,18.4s,MS3.2,baz=64,slow=38						
HYB	**Hyderabad**	**23.96**	**119**	*i* P	**P**	**11 27 36.5**	**+0.8**
HYB	**Hyderabad**	**23.96**	**119**	*e*P	**P**	**11 27 36.5**	**+0.8**
BRVK	**Borovoye**	**24.16**	**20**	*e*P	**P**	**11 27 37.0**	**-0.1**
	comp=Z,8.4nm,1.2s,mb4.0						
BRVK	**Borovoye**	**24.16**	**20**	*e*P	**P**	**11 27 37.1**	**-0.1**
BRVK				pmax	pmax		
	comp=Z,8.0nm,1.2s,mb4.0						
BRVK	**Borovoye**	**24.16**	**20**	*e*P	**P**	**11 27 37.1**	**-0.1**
	comp=Z,8.0nm,1.2s,mb4.0						
MK31	**Makanchi Array**	**25.23**	**44**	*e*P	**P**	**11 27 47.2**	**+0.3**
MK31	**Makanchi Array**	**25.23**	**44**

comp=Z,16nm,1.0s,mb4.7
LZH AMB AMB
comp=Z,65nm,4.1s
ZAK Zakamensk 39.48 47 *e*P **P 11 29 52.0 +0.5**
ZAK *e* 11 31 58.6
ZAK pmax pmax
comp=Z,1.0nm,0.8s,mb3.6
ZAK Zakamensk 39.48 47 *e*P **P 11 29 52.0 +0.5**
comp=Z,1.0nm,0.8s,mb3.6
ZAK Zakamensk 39.48 47 *e*PcP PcP 11 31 58.6 -0.5
PGF Pioggiola 39.50 301 *e*P **P 11 29 50.6 -1.1**
comp=Z,30nm,1.2s,mb4.6
PGF Pioggiola 39.50 301 *e*P **P 11 29 50.6 -1.1**
PGF pmax pmax
comp=Z,15nm,1.2s,mb4.6
PGF Pioggiola 39.50 301 *e*P **P 11 29 50.6 -1.1**
comp=Z,15nm,1.2s,mb4.6
KEST Kesra 39.59 290 P **P 11 29 53.8 +1.1**
comp=Z,1.9nm,1.0s,mb3.8,baz=289,slow=2.6,SNR=4.3
CD2 Chengdu 40.06 78 *e*P **P 11 29 55.6 -1.0**
CD2 XP sP 11 30 03.0 +2.0
CD2 PP PP 11 31 31.9 +3.2
CD2 S **S 11 36 00.8 -1.9**
CD2 SS SS 11 38 51.0 -8.9
CD2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.7
CD2 AMB AMB
comp=Z,30nm,5.2s
CD2 LR LR
comp=N,150nm,13.2s
CD2 LR LR
comp=Z,150nm,14.4s,MS4.0
SBF Sospel 40.67 303 *e*P **P 11 30 00.2 -1.2**
KMI Kunming 40.77 86 P **P 11 30 02.3 -0.2**
KMI AP pP 11 30 06.1 +0.5
KMI AMB AMB
comp=Z,8.0nm,0.6s,mb4.5
CDF Champ du Feu 41.10 310 *e*P **P 11 30 03.8 -1.1**
SONM Songino Array 41.13 51 P **P 11 30 04.9 -0.2**
comp=Z,1.7nm,0.8s,mb3.7,baz=274,slow=10,SNR=10.0
SONM LR LR 11 49 29.5
comp=Z,89nm,18.9s,MS3.6,baz=251,slow=40
MBDF Montbardon 41.17 304 *e*P **P 11 30 04.6 -1.0**
LPG La Plagne 41.22 305 *e*P **P 11 30 05.2 -0.7**
LPL La Plagne 41.23 305 *e*P **P 11 30 04.9 -1.1**
FRF La Foret Royal 41.24 302 *e*P **P 11 30 04.9 -1.2**
comp=Z,11nm,1.0s,mb4.1
FRF La Foret Royal 41.24 302 *e*P **P 11 30 04.9 -1.2**
FRF pmax pmax
comp=Z,6.0nm,1.0s,mb4.2
FRF La Foret Royal 41.24 302 *e*P **P 11 30 04.9 -1.2**
comp=Z,5.5nm,1.0s,mb4.1
LMR La Mourre 41.34 302 *e*P **P 11 30 05.5 -1.4**
ULN Ulaanbaatar 41.57 51 *e*P **P 11 30 09.2 +0.4**
comp=Z,3.2nm,0.8s,mb4.0
ULN Ulaanbaatar 41.57 51 *e*P **P 11 30 09.2 +0.4**
ULN pmax pmax
comp=Z,3.0nm,0.8s,mb4.0
ULN Ulaanbaatar 41.57 51 *e*P **P 11 30 09.2 +0.4**
comp=Z,3.0nm,0.8s,mb4.0
CABF La Chapelle 41.74 307 *e*P **P 11 30 09.4 -0.8**
comp=Z,5.8nm,0.7s,mb4.0
CABF La Chapelle 41.74 307 *e*P **P 11 30 09.4 -0.8**
CABF pmax pmax
comp=Z,3.0nm,0.7s,mb4.0
CABF La Chapelle 41.74 307 *e*P **P 11 30 09.4 -0.8**
comp=Z,2.9nm,0.7s,mb4.0
SMRF Simiane la Rot 42.02 303 *e*P **P 11 30 10.9 -1.6**
NOA NORSAR Array B 42.26 329 P **P 11 30 13.9 -0.3**
comp=Z,1.0nm,0.8s,mb3.5,baz=121,slow=7.4,SNR=3.5
ARCES ARCESS Array B 42.47 344 LR LR 11 48 52.0
comp=Z,50nm,20.7s,MS3.4,baz=188,slow=38
VIVF Saint-Julien-l 42.67 304 *e*P **P 11 30 16.5 -1.3**
LASF Ste Croix 43.25 303 *e*P **P 11 30 21.2 -1.4**
comp=Z,11nm,1.2s,mb4.2
LASF Ste Croix 43.25 303 *e*P **P 11 30 21.2 -1.4**
comp=Z,5.7nm,1.2s,mb4.2
SMF Signal de Mont 43.29 307 *e*P **P 11 30 21.7 -1.1**
comp=Z,9.2nm,0.9s,mb4.2
SMF Signal de Mont 43.29 307 *e*P **P 11 30 21.7 -1.1**
SMF pmax pmax
comp=Z,5.0nm,0.9s,mb4.2
SMF Signal de Mont 43.29 307 *e*P **P 11 30 21.7 -1.1**
comp=Z,4.6nm,0.9s,mb4.2
LOR Lormes 43.30 308 *e*P **P 11 30 21.6 -1.3**
comp=Z,16nm,1.3s,mb4.3
LOR Lormes 43.30 308 *e*P **P 11 30 21.6 -1.3**
LOR pmax pmax
comp=Z,8.0nm,1.3s,mb4.3
LOR Lormes 43.30 308 *e*P **P 11 30 21.6 -1.3**
comp=Z,7.8nm,1.3s,mb4.3
SSF Saint Saulge 43.53 307 *e*P **P 11 30 23.4 -1.4**
comp=Z,5.7nm,0.8s,mb4.0
SSF Saint Saulge 43.53 307 *e*P **P 11 30 23.4 -1.4**
SSF pmax pmax
comp=Z,3.0nm,0.8s,mb4.1
SSF Saint Saulge 43.53 307 *e*P **P 11 30 23.4 -1.4**
comp=Z,2.8nm,0.8s,mb4.0
AVF Avril sur Loir 43.63 307 *e*P **P 11 30 24.5 -1.0**
comp=Z,9.4nm,1.1s,mb4.1
AVF Avril sur Loir 43.63 307 *e*P **P 11 30 24.5 -1.0**
AVF pmax pmax
comp=Z,5.0nm,1.1s,mb4.2
AVF Avril sur Loir 43.63 307 *e*P **P 11 30 24.5 -1.0**
comp=Z,4.7nm,1.1s,mb4.1
BGF Bois d'Agland 43.97 307 *e*P **P 11 30 27.2 -1.1**
TCF Toulx Ste Croi 44.41 306 *e*P **P 11 30 30.8 -1.0**
MTLF Montolieu 44.47 302 *e*P **P 11 30 31.0 -1.3**
comp=Z,5.0nm,0.9s,mb3.9
MTLF Montolieu 44.47 302 *e*P **P 11 30 31.0 -1.3**
MTLF pmax pmax
comp=Z,3.0nm,0.9s,mb4.0
MTLF Montolieu 44.47 302 *e*P **P 11 30 31.0 -1.3**
comp=Z,2.5nm,0.9s,mb3.9
CAF Calviac 44.52 304 *e*P **P 11 30 31.6 -1.1**
RJF Les Rejaudoux 44.90 305 *e*P **P 11 30 34.6 -1.2**
LDF La Druitiere 46.02 309 *e*P **P 11 30 42.7 -1.8**
comp=Z,14nm,0.8s,mb4.6
LDF La Druitiere 46.02 309 *e*P **P 11 30 42.7 -1.8**
LDF pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
LDF La Druitiere 46.02 309 *e*P **P 11 30 42.7 -1.8**
comp=Z,7.2nm,0.8s,mb4.6
MFF Saint Martin d 46.04 307 *e*P **P 11 30 43.7 -1.0**
FLN La Foliniere 46.26 310 *e*P **P 11 30 45.5 -0.9**
GRR Gorron 46.50 309 *e*P **P 11 30 47.3 -1.1**
ETSF Etsaut 46.52 302 *e*P **P 11 30 47.7 -0.9**
comp=Z,9.9nm,1.1s,mb4.4
ETSF Etsaut 46.52 302 *e*P **P 11 30 47.7 -0.9**
ETSF pmax pmax
comp=Z,5.0nm,1.1s,mb4.4
ETSF Etsaut 46.52 302 *e*P **P 11 30 47.7 -0.9**
comp=Z,4.9nm,1.1s,mb4.4
BOD Bodaibo 47.05 38 *e*P **P 11 30 52.1 -0.4**
BOD pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
BOD Bodaibo 47.05 38 *e*P **P 11 30 52.1 -0.4**
comp=Z,5.0nm,0.9s,mb4.4
SGMF Saint Gilles 47.64 309 *e*P **P 11 30 56.2 -1.0**
QUIF Quistinic 48.06 308 *e*P **P 11 30 59.5 -1.0**
ROSF Rostrenen 48.12 309 *e*P **P 11 30 59.7 -1.2**
ESDC Sonseca Array 49.48 298 P **P 11 31 10.4 -1.1**
comp=Z,0.2nm,0.4s,mb3.5,baz=65,slow=7.4,SNR=6.9
EVO Evora 52.79 297 *e*P **P 11 31 36.0 -0.4**
comp=Z,12nm,1.1s,mb4.4
EVO *e*MLR MLR
comp=Z,62nm,18.5s,MS3.4
EVOP Sao Brissos 52.88 297 *e*P **P 11 31 36.0 -1.1**
comp=Z,6.0nm,1.1s,mb4.4
TOA0 Torodi Ar. Sit 53.50 263 *e*P **P 11 31 41.8 -0.2**
TOA0 Torodi Ar. Sit 53.50 263 *e*P **P 11 31 41.8 -0.2**
TORD Torodi Ar. Bea 53.50 263 P **P 11 31 42.0 0.0**
comp=Z,9.6nm,0.8s,mb4.8,baz=57,slow=7.1,SNR=60
BORG Borgarnes 57.41 330 LR LR 12 02 00.7
comp=Z,111nm,19.8s,MS4.0,baz=209,slow=41
KLR Kul'dur 57.82 48 *e*P **P 11 32 06.9 -5.6**
KSRS Korea Array 57.94 63 P **P 11 32 12.9 -0.7**
comp=Z,0.5nm,0.3s,mb4.0,baz=285,slow=6.0,SNR=4.2
KSRS PcP PcP 11 33 04.5 -1.3
comp=Z,0.2nm,0.3s,baz=293,slow=4.6,SNR=4.1
KSRS LR LR 11 59 47.0
DBIC Dimbokro 62.32 261 P **P 11 32 42.9 -1.0**
comp=Z,7.3nm,1.0s,mb4.8,baz=33,slow=4.5,SNR=5.1
DBIC LR LR 12 01 27.5
comp=Z,61nm,18.5s,MS3.8,baz=230,slow=38

TSUM Tsumeb 62.50 222 *e*P **P 11 32 45.9 +1.0**
comp=Z,22nm,1.8s,mb5.0
TSUM Tsumeb 62.50 222 *e*P **P 11 32 45.9 +1.0**
comp=Z,22nm,1.8s,mb5.0
SEY Seymchan 65.36 30⇑ *e*P **P 11 33 03.9 +0.7**
YSS Yuzh-Sakhalins 65.53 49 *e*P **P 11 33 03.5 -1.1**
comp=Z,12nm,1.0s,mb4.9
YSS Yuzh-Sakhalins 65.53 49⇑ *e*P **P 11 33 04.6 0.0**
YSS pmax pmax
comp=Z,19nm,1.6s,mb4.9
YSS Yuzh-Sakhalins 65.53 49 *e*P **P 11 33 04.6 0.0**
comp=Z,19nm,1.6s,mb4.9
MJAR Matsushiro Arr 66.02 61 P **P 11 33 07.2 -0.7**
comp=Z,0.5nm,0.7s,mb3.6,baz=294,slow=9.2,SNR=3.6
MJAR PcP PcP 11 33 37.6 -0.9
comp=Z,1.0nm,0.8s,baz=288,slow=5.3,SNR=4.7
MJAR Matsushiro Arr 66.02 61 PcP PcP 11 33 37.6 -0.9
BILL Bilibino 68.49 22 *e*P **P 11 33 23.0 -0.1**
comp=Z,5.8nm,1.2s,mb4.5
BILL Bilibino 68.49 22⇑ *e*P **P 11 33 23.2 +0.1**
BILL *e* 11 35 51.5
BILL pmax pmax
comp=Z,6.0nm,1.3s,mb4.5
BILL MLR MLR
comp=Z,100nm,14.0s,MS4.2
BILL Bilibino 68.49 22 *e*P **P 11 33 23.2 +0.1**
comp=Z,6.0nm,1.3s,mb4.5
IMA2 Indian Mountai 80.47 12 *e*P **P 11 34 32.2 -0.5**
IMA2 Indian Mountai 80.47 12 *e*P **P 11 34 32.2 -0.5**
INK Inuvik 80.72 4 *e*P **P 11 34 33.2 -0.8**
comp=Z,78nm,1.0s
INK Inuvik 80.72 4 P **P 11 34 33.3 -0.7**
INK pmax pmax
comp=Z,2.0nm,0.9s
INK Inuvik 80.72 4 P **P 11 34 33.3 -0.8**
comp=Z,1.7nm,0.9s,mb4.0,baz=300,slow=10.0,SNR=6.1
YKA Yellowknife Ar 86.60 356 P **P 11 35 03.6 -0.7**
YKA pmax pmax
comp=Z,1.0nm,0.7s
YKA Yellowknife Ar 86.60 356 P **P 11 35 03.6 -0.6**
comp=Z,0.6nm,0.7s,mb3.9,baz=2,1,slow=5.4,SNR=23
YKA Yellowknife Ar 86.60 356 P **P 11 35 03.6 -0.7**
comp=Z,1.0nm,0.7s,mb4.2
FCC Fort Churchill 87.36 345 *e*P **P 11 35 07.6 -0.4**
comp=Z,3.2nm,1.0s,mb4.5
FCC Fort Churchill 87.36 345 *e*P **P 11 35 07.6 -0.4**
FCC pmax pmax
comp=Z,3.0nm,1.0s,mb4.5
FCC Fort Churchill 87.36 345 *e*P **P 11 35 07.6 -0.4**
comp=Z,3.2nm,1.0s,mb4.5
WRA Warramunga Arr 89.98 113 P **P 11 35 19.8 -1.2**
WRA pmax pmax
comp=Z,1.0nm,1.0s
WRA Warramunga Arr 89.98 113 P **P 11 35 19.8 -1.2**
comp=Z,1.4nm,1.0s,mb4.2,baz=310,slow=4.8,SNR=6.2
ASAR Alice Springs 91.67 117 P **P 11 35 27.5 -1.3**
ASAR pmax pmax
comp=Z,1.0nm,0.9s
ASAR Alice Springs 91.67 117 P **P 11 35 27.5 -1.3**
comp=Z,1.1nm,0.9s,mb4.2,baz=307,slow=4.4,SNR=7.0

IDC 08 11:30:17.8±2.0, 536N×12518E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.5/19, mbtmp3.6/4, Error ellipse: s-maj=131.2km s-min=25.3km az=68.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**23.32**	**179**	P	P	11 35 29.1	+1.4
1.6nm,0.4s,baz=3.3,slow=13,SNR=10							
WRA	**Warramunga Arr**	**26.71**	**161**	P	P	11 35 58.9	-0.1
0.6nm,0.8s,baz=335,slow=10,SNR=7.9							
ASAR	**Alice Springs**	**30.08**	**164**	P	P	11 36 27.9	-1.2
0.4nm,0.6s,baz=344,slow=7.5,SNR=5.5							
MKAR	**Makanchi Array**	**55.35**	**325**	P	P	11 39 53.5	+0.1
0.4nm,0.5s,baz=131,slow=7.1,SNR=5.2							

*IDC **08** 11:48:10.3±2.5, 4905N×15755E, h0km, mb3.3/3, mb1 3.7/3, mb1mx3.2/22, mbtmp3.3/3, Error ellipse: s-maj=185.9km s-min=33.5km az=126.0*
*KRSC **08** 11:48:13.5±0.4, 4936N×15705E, h44km±16km, ML4.0*
*ISCJB **08** 11:48:15.2±1.5, 4957N±009×1568E±01, h53km±17km, mb3.2/3, Error ellipse: s-maj=17.4km s-min=10.6km az=141.9*
*MOS **08** 11:48:16.0±1.3, 4993N×15543E, h78km, mb4.2/1, Error ellipse: s-maj=74.5km s-min=25.4km az=59.5*
ISC 08 11:48:16.4±1.6, 4956N±010×1567E±01, h48km±17km, n18, σ1§31/28, mb3.2/3, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.18**	**342**	*e*PN	**Pn**	**11 48 34.0**	**-2.5**
SKR				*i* S	**Sn**	**11 48 49.5**	**-1.9**
SKR				pmax	pmax		
comp=N,140nm,0.5s							
SKR				pmax	pmax		
comp=E,150nm,0.5s							
SKR				pmax	pmax		
comp=Z,230nm,0.5s							
SKR				smax			
comp=N,2μm,0.5s							
SKR				smax			
comp=E,2μm,0.5s							
ALID	**Alaid**	**1.50**	**331**	*e*P	**Pn**	**11 48 40.6**	**-0.2**
ALID				*i* S	**Sn**	**11 49 00.1**	**+0.9**
MIPR	**Malaya Ipel'ka**	**2.72**	**1**	*e*P	**Pn**	**11 48 58.2**	**+0.7**
RUS	**Russkaya**	**3.10**	**21**	*e*P	**Pn**	**11 49 02.5**	**-0.2**
RUS				*i* S	**Sn**	**11 49 37.2**	**-1.3**
GRL	**Gorelyy**	**3.12**	**16**	*e*P	**Pn**	**11 49 04.3**	**+1.3**
GRL				*i* S	**Sn**	**11 49 40.1**	**+1.1**
PET	**Petropavlovsk**	**3.68**	**19**	*e*PN	**Pn**	**11 49 12.8**	**+2.1**
PET				*e*S	**Sn**	**11 49 52.4**	**-0.4**
PET				smax			
comp=N,41nm,0.4s							
PET				smax			
comp=E,30nm,0.5s							
PET	**Petropavlovsk**	**3.68**	**19**	*e*P	**Pn**	**11 49 11.5**	**+0.8**
PET				*i* S	**Sn**	**11 49 53.5**	**+0.7**
AVH	**Avacha**	**3.93**	**18**	*e*P	**Pn**	**11 49 15.9**	**+1.8**
AVH				*i* S	**Sn**	**11 50 01.1**	**+2.3**
NLC	**Nalytchevo**	**3.98**	**24**	*e*P	**Pn**	**11 49 13.6**	**-1.2**
NLC				*i* S	**Sn**	**11 49 57.1**	**-3.1**
SPN	**Mys Shipunski**	**4.12**	**29**	*e*P	**Pn**	**11 49 17.1**	**+0.4**
SPN				*i* S	**Sn**	**11 50 02.0**	**-1.5**
GNL	**Ganaly**	**4.21**	**10**	*e*P	**Pn**	**11 49 20.0**	**+2.0**
MKZ	**Mys Kozlova**	**5.89**	**30**	*e*P	**Pn**	**11 49 40.0**	**-1.0**
MKZ				*i* S	**Sn**	**11 50 43.0**	**-4.1**
TUMR	**Tumrok**	**6.11**	**19**	*e*P	**Pn**	**11 49 48.4**	**+4.4**
KBTR	**Krutoberegovo**	**7.62**	**27**	*e*P	**Pn**	**11 50 04.2**	**-0.5**
YSS	**Yuzh-Sakhalins**	**9.65**	**260**	*e*PN	**Pn**	**11 50 24.0**	**-8.5**
YKA	**Yellowknife Ar**	**47.24**	**39**	P	**P**	**11 56 44.7**	**+0.6**
comp=E,0.1nm,0.7s,mb2.9,baz=297,slow=7.2,SNR=3.4							
TXAR	**Lajitas Array**	**74.06**	**64**	P	**P**	**11 59 46.6**	**-0.6**
comp=E,0.3nm,0.5s,mb3.5,baz=292,slow=4.0,SNR=5.7							
ASAR	**Alice Springs**	**75.67**	**201**	P	**P**	**11 59 55.8**	**-0.5**
comp=E,0.2nm,0.6s,mb3.2,baz=8.7,slow=4.7,SNR=4.1							

CASC 08 11:49:19.1±1.4, 856N×8311W, h0km±4km, MD4.0, 1C-1D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DVD	**David**	**0.66**	**100**	*e*P	Pg	11 49 32.9	+1.0
DVD				*e*S	Sg	11 49 43.4	+3.0
BAR1		**0.71**	**344⇑**	*e*P	Pg	11 49 33.2	+0.5
BAR1				*e*S	Sg	11 49 45.0	+3.0
CNI	**Changuinola**	**1.03**	**34**	||*i*P	Pg	11 49 39.7	+0.7
URSC	**Urasca**	**1.43**	**333**	*e*P	Pn	11 49 44.7	-1.6
URSC				*e*S	Sg	11 50 06.6	+1.5
LCR2	**La Lucha 2**	**1.47**	**323**	*e*P	Pn	11 49 45.8	-1.1
LCR2				*e*S	Sg	11 50 08.7	+2.3
LAJ	**Bijagual**	**1.64**	**322**	*e*P	Pn	11 49 52.6	+3.4
PRS1	**Puriscal**	**1.85**	**320**	*e*P	Pn	11 49 51.7	-0.4
PRS1				*e*S	Sn	11 50 16.9	+0.7

*IDC **08** 11:51:09.2±0.5, 1750S×7257W, h0km, mb4.2/15, mb1 4.3/17, mb1mx4.3/20, mbtmp4.2/17, ML3.8/3, MS4.2/14, Ms1 4.2/14, ms1mx4.0/26, Error ellipse: s-maj=20.8km s-min=14.6km az=64.0*
*LDG **08** 11:51:10.0±0.7, 1724S×7255W, h10km, Mb5.2/10, Ms4.2/9, Error ellipse: s-maj=40.1km s-min=16.4km az=37.0*
*ISCJB **08** 11:51:14.3±1.2, 1755S±006×7270W±007, h49km±10km, mb4.6/43, MS4.4/16, Error ellipse: s-maj=12.3km s-min=7.8km az=145.0*
*GCMT **08** 11:51:15.9±0.3, 1780S×7300W, h16km±1km, MW5.1/57, Moment Tensor Solution. s25,c32; s57,c88; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}3.63±.21; $M_{\theta\theta}$-0.88±.12; $M_{\phi\phi}$-2.74±.17; $M_{r\theta}$3.09±.48; $M_{r\phi}$1.91±.09; $M_{\theta\phi}$-2.15±.45; Best double couple: $M_0$5.34300×10^{16} NP1:ϕ_s344.00000°, δ26.00000°, λ119.00000°. NP2: ϕ_s132.00000°, δ68.00000°, λ77.00000°. Principal axes: T 5.3540, Plg65.0000°, Azm20.0000°; N -0.0150, Plg12.0000°, Azm137.0000°; P -5.3330, Plg22.0000°, Azm232.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*BJI **08** 11:51:15.8, 1750S×7260W, h45km, mB5.1, Ms5.2, Msz5.0*
*NEIC **08** 11:51:15.8±0.3, 1749S×7262W, mb4.9/29, Error ellipse: s-maj=10.2km s-min=7.5km az=223.0*
ISC 08 11:51:15.8±1.0, 1753S±005×7257W±007, h45km±9km, h48km±7km: pP-P, n124, σ1§07/93, mb4.6/43, MS4.4/16, 5C, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARE	**Arequipa**	**1.48**	**44⇑**	*i*P	**Pn**	**11 51 39.5**	**-0.4**
ARE				*e*S	**Sn**	**11 52 05.0**	**+7.0**
LPAZ	**La Paz**	**4.42**	**74**	*e*Pn	**Pn**	**11 52 24.6**	**+4.2**
LPAZ	**La Paz**	**4.42**	**74**	Pn	**Pn**	**11 52 23.9**	**+3.6**
2.7nm,0.3s,baz=267,slow=12,SNR=50							
LPAZ				LR	LR	11 54 13.4	
comp=Z,1μm,21.2s,baz=268,slow=42							
NNA	**Nana**	**6.89**	**323**	*e*Pn	**Pn**	**11 52 54.1**	**-0.1**
186nm,0.8s							
NNA	**Nana**	**6.89**	**323**	Pn	**Pn**	**11 52 53.2**	**-1.0**
2.5nm,0.3s,baz=139,slow=12,SNR=8.0							
NNA				Sn	**Sn**	**11 54 18.5**	**+7.2**
21nm,0.3s,baz=205,slow=18,SNR=3.7							
SIV	**San Ignacio**	**11.12**	**84**	Pn	**Pn**	**11 53 51.3**	**-0.9**
2.3nm,0.3s,baz=262,slow=13,SNR=38							
SIV				Sn	**Sn**	**11 56 05.7**	**+11**
0.7nm,0.3s,baz=11,slow=21,SNR=1.5							
LCO	**Las Campanas**	**11.56**	**172**	*e*Pn	**Pn**	**11 53 54.6**	**-3.6**
26nm,1.0s							
LCO				*e*Sn	**Sn**	**11 55 56.3**	**-10**
ATAH	**Atahualpa**	**11.91**	**331**	Pn	**Pn**	**11 54 05.9**	**+2.9**
0.2nm,0.3s,baz=145,slow=14,SNR=2.1							
ATAH				Sn	Sn	11 56 35.9	+21
0.3nm,0.3s,baz=268,slow=23,SNR=3.9							
CFAA	**Coronel Fontan**	**14.56**	**165**	Pn	**Pn**	**11 54 34.9**	**-4.1**
CFAA				LR	LR	11 59 47.0	
CFAA	**Coronel Fontan**	**14.56**	**165**	Pn	**Pn**	**11 54 34.9**	**-4.1**
0.1nm,0.3s,baz=342,slow=5.3,SNR=4.6							
CFAA				LR	LR	11 59 47.0	
comp=Z,48nm,21.2s,baz=338,slow=36							
ROSC	**El Rosal**	**22.31**	**355**	*e*P	**P**	**11 56 12.2**	**+2.6**
ROSC	**El Rosal**	**22.31**	**355**	P	**P**	**11 56 10.3**	**+0.8**
2.5nm,0.4s,mb4.0,baz=97,slow=19,SNR=3.6							
TRQA	**Tornquist**	**22.46**	**158**	*e*P	**P**	**11 56 11.5**	**+0.5**
24nm,1.1s,mb4.5							
PLCA	**Paso Flores**	**23.19**	**176**	*e*P	**P**	**11 56 18.8**	**+0.2**
39nm,0.9s,mb4.8							
PLCA	**Paso Flores**	**23.19**	**176**	P	**P**	**11 56 18.4**	**-0.3**
2.7nm,0.7s,mb3.8,baz=353,slow=12,SNR=11							
PLCA				LR	LR	12 04 08.8	
comp=Z,336nm,19.2s,MS3.8,baz=178,slow=34							
BDFB	**Brasilia**	**23.60**	**89**	P	**P**	**11 56 22.4**	**-0.5**
21nm,0.9s,mb4.5,baz=255,slow=14,SNR=22							
BDFB				LR	LR	12 04 51.1	
comp=Z,146nm,20.4s,MS3.4,baz=121,slow=35							
SDV	**Santo Domingo**	**26.31**	**4**	*e*P	**P**	**11 56 46.3**	**-1.1**
34nm,1.0s,mb4.8							
SDV	**Santo Domingo**	**26.31**	**4**	P	**P**	**11 56 46.1**	**-1.3**
9.1nm,1.0s,mb4.3,baz=219,slow=9.6,SNR=5.4							
PCRV	**Puerto La Cruz**	**28.62**	**16**	LR	LR	12 09 56.5	
comp=Z,2μm,19.6s,MS4.7,baz=9.0,slow=39							
SDDR	**Presa de Saban**	**36.30**	**2**	*e*P	**P**	**11 58 16.5**	**+1.4**
14nm,1.0s,mb4.8							
SDDR				*e*pP	pP	11 58 28.4	+1.1
RCBR	**Riachuelo**	**37.66**	**76**	*e*P	**P**	**11 58 29.2**	**+2.3**
14nm,0.8s,mb4.7							
RCBR				*e*pP	pP	11 58 41.6	+2.5
SWET	**Sewanee**	**53.96**	**346**	*e*P	**P**	**12 00 34.5**	**-0.6**
TXAR	**Lajitas Array**	**55.42**	**327**	P	**P**	**12 00 44.2**	**-1.6**
TXAR				LR	LR	12 23 02.0	
TXAR	**Lajitas Array**	**55.42**	**327**	P	**P**	**12 00 44.2**	**-1.6**
0.5nm,0.7s,mb3.6,baz=144,slow=9.3,SNR=5.7							
TXAR				LR	LR	12 23 02.0	
comp=Z,207nm,18.1s,MS4.2,baz=10.0,slow=34							
WCI	**Wyandotte Cave**	**56.94**	**347**	*e*P	**P**	**12 00 55.6**	**-0.8**
44nm,1.4s,mb5.3							
WCI				*e*pP	pP	12 01 08.3	-0.9
USIN	**University of**	**56.99**	**346**	*e*P	**P**	**12 00 56.2**	**-0.5**
52nm,1.1s,mb5.5							
USIN				*e*pP	pP	12 01 08.7	-0.9
SIUC	**Southern Illin**	**57.14**	**344**	*e*P	**P**	**12 00 56.6**	**-1.2**
5.4nm,0.4s,mb4.9							
SIUC				*e*pP	pP	12 01 09.8	-0.8
MNTX	**Cornudas Mount**	**58.20**	**327**	*e*P	**P**	**12 01 02.4**	**-3.0**
6.4nm,1.1s,mb4.6							
MNTX				*e*pP	pP	12 01 16.9	-1.4
RKT	**Rikitea**	**58.42**	**253**	*e*LR	LR	12 18 19.5	
270nm,25.2s							
LAZ	**Ladron**	**61.23**	**328**	*e*P	**P**	**12 01 27.5**	**+1.3**
LAZ				*e*pP	pP	12 01 39.4	+0.3
LAZ				*e*sP	sP	12 01 48.6	+4.2
ANMO	**Albuquerque**	**61.32**	**329**	*e*P	**P**	**12 01 26.5**	**-0.3**
3.2nm,0.9s,mb4.5							
ANMO				*e*pP	pP	12 01 39.6	-0.2
SDCO	**Great Sand Dun**	**63.10**	**331**	*e*P	**P**	**12 01 38.3**	**-0.4**
14nm,1.1s,mb5.0							
SDCO				*e*pP	pP	12 01 51.8	+0.2
ISCO	**Idaho Springs**	**64.83**	**332**	*e*P	**P**	**12 01 50.0**	**0.0**
3.3nm,0.9s,mb4.4							
ISCO				*e*pP	pP	12 02 03.1	+0.1
VNA3	**Neumayer Olymp**	**64.92**	**161**	*e*P	**P**	**12 01 50.4**	**+0.2**
VNA3				*e*	pP	12 02 04.2	+1.0
VNA3				*e*		12 02 08.6	
VNA3				*e*		12 02 12.6	
VNA3				*e*		12 02 20.6	
VNA3				*e*		13 11 30.7	
VNA3				*e*		13 11 36.1	
VNA3				*e*		13 17 32.3	
VNA3				*e*		13 17 53.5	
VNA1	**Neumayer--Stat**	**65.16**	**161**	*e*P	**P**	**12 01 52.0**	**+0.2**
VNA1				*e*	pP	12 02 04.1	-0.7
VNA1				*e*	pP	12 02 08.5	+3.7
VNA1				*e*		12 02 13.0	
VNA1				*e*		12 02 20.9	
VNA1				*e*		12 02 32.2	
VNA1				*e*		13 17 33.1	
VNA1				*e*		13 17 53.3	
VNA2	**Neumayer--Watz**	**65.52**	**161**	*e*P	**P**	**12 01 53.9**	**-0.2**
VNA2				*e*	pP	12 02 06.3	-0.8
VNA2				*e*		12 02 12.4	
VNA2				*e*		12 02 16.1	
VNA2				*e*		12 02 24.3	
VNA2				*e*		12 02 32.0	
VNA2				*e*		13 11 30.8	
VNA2				*e*		13 11 35.3	
VNA2				*e*		13 17 32.3	
VNA2				*e*		13 17 54.2	
SRU	**San Rafael**	**66.59**	**329**	*e*P	**P**	**12 02 00.8**	**-0.6**
5.9nm,1.0s,mb4.6							
SRU				*e*pP	pP	12 02 14.6	+0.2
MSU	**Marysvale**	**66.98**	**327**	*e*P	**P**	**12 02 04.3**	**+0.5**
MSU				*e*pP	pP	12 02 17.5	+0.6
ARUT	**Antelope Range**	**67.11**	**326**	*e*P	**P**	**12 02 05.1**	**+0.4**
ARUT				*e*pP	pP	12 02 18.8	+1.0
ARUT				*e*sP	sP	12 02 28.4	+5.5
SNAA	**Sanae**	**67.14**	**161**	*e*P	**P**	**12 02 04.7**	**+0.3**
SNAA				*e*	pP	12 02 18.5	+1.0
SNAA				*e*		12 02 23.8	
SNAA				*e*		12 02 29.1	
SNAA				*e*		12 02 39.1	
SNAA			

DUG	**Dugway**	**68.56**	**328**	*e*P	**P**	**12 02 14.8**	**+1.0**
	10nm,1.0s,mb4.7						
DUG				*ep*P	pP	12 02 27.7	+0.7
DUG				*es*P	sP	12 02 36.7	+4.6
PDAR	**Pinedale Array**	**68.98**	**332**	P	**P**	**12 02 16.2**	**-0.1**
	0.3nm,0.4s,mb3.6,baz=90,slow=1.9,SNR=2.3						
PDAR				LR	LR	12 34 11.5	
	comp=Z,194nm,18.4s,MS4.4,baz=39,slow=37						
HWUT	**Hardware Ranch**	**69.02**	**330**	*e*P	**P**	**12 02 14.1**	**-2.5**
	9.1nm,1.0s,mb4.7						
HVU	**Hansel Valley**	**69.74**	**329**	*e*P	**P**	**12 02 21.0**	**0.0**
	8.9nm,1.1s,mb4.6						
HVU				*ep*P	pP	12 02 34.2	+0.1
NVAR	**Mina Array Bea**	**70.26**	**323**	P	**P**	**12 02 24.5**	**+0.2**
NVAR	**Mina Array Bea**	**70.26**	**323**	P	**P**	**12 02 24.5**	**+0.2**
	0.6nm,0.7s,mb3.6,baz=124,slow=8.0,SNR=3.9						
FLWY	**Flagg Ranch**	**70.53**	**332**	*e*P	**P**	**12 02 26.1**	**+0.3**
	15nm,1.1s,mb4.8						
FLWY				*ep*P	pP	12 02 39.2	+0.2
ULM	**Lac du Bonnet**	**70.54**	**344**	P	**P**	**12 02 30.5**	**+4.8**
ULM	**Lac du Bonnet**	**70.54**	**344**	P	**P**	**12 02 30.5**	**+4.8**
	3.6nm,0.7s,mb4.4,baz=169,slow=7.2,SNR=3.9						
DBIC	**Dimbokro**	**71.04**	**76**	*e*P	**P**	**12 02 29.7**	**+0.1**
	20nm,0.9s,mb5.0						
DBIC				*ep*P	pP	12 02 43.2	+0.4
DBIC	**Dimbokro**	**71.04**	**76**	P	**P**	**12 02 28.6**	**-1.0**
	9.1nm,1.1s,mb4.6,baz=262,slow=4.5,SNR=5.8						
DBIC				LR	LR	12 32 27.1	
	comp=Z,511nm,18.4s,MS4.8,baz=129,slow=35						
TBI	**Tubuai**	**71.53**	**251**	*e*LR	LR	12 24 08.1	
	182nm,32.0s						
HLID	**Hailey**	**71.87**	**329**	*e*P	**P**	**12 02 35.0**	**+1.0**
	8.4nm,1.2s,mb4.5						
HLID				*ep*P	pP	12 02 47.4	+0.2
MCMT	**McKenzie Canyo**	**72.08**	**331**	*e*P	**P**	**12 02 37.9**	**+2.7**
MCMT				*ep*P	pP	12 02 49.5	+1.1
QSPA	**South Pole Qui**	**72.64**	**180**	*e*P	**P**	**12 02 39.2**	**+1.1**
	21nm,1.1s,mb5.0						
PPT	**Papeete**	**72.88**	**257**	*e*S	S	12 12 02.7	-1.4
	100nm,21.2s						
PPT	**Papeete**	**72.88**	**257**	*e*LR	LR	12 25 00.9	
	97nm,22.8s						
PPT	**Papeete**	**72.88**	**257**	LR	LR	12 25 17.7	
	comp=Z,210nm,20.3s,MS4.4,baz=86,slow=28						
EDM	**Edmonton**	**78.74**	**336**	*e*P	**P**	**12 03 12.3**	**-0.9**
EDM				*ep*P	pP	12 03 25.6	-1.0
TOA0	**Torodi Ar. Sit**	**79.37**	**73**	*e*P	**P**	**12 03 18.1**	**+0.5**
TOA0				*ep*P	pP	12 03 31.1	+0.2
TORD	**Torodi Ar. Bea**	**79.37**	**73**	P	**P**	**12 03 16.9**	**-0.7**
	5.1nm,0.8s,mb4.5,baz=250,slow=4.7,SNR=29						
TORD				LR	LR	12 38 00.2	
	comp=Z,300nm,18.2s,MS4.7,baz=245,slow=35						
VNDA	**Vanda**	**80.13**	**190**	P	**P**	**12 03 22.8**	**+2.2**
VNDA	**Vanda**	**80.13**	**190**	P	**P**	**12 03 22.8**	**+2.2**
	0.8nm,1.0s,mb3.6,baz=175,slow=3.6,SNR=2.4						
RAR	**Rarotonga**	**81.31**	**251**	LR	LR	12 31 26.0	
	comp=Z,108nm,19.1s,MS4.2,baz=60,slow=30						
SYO	**Syowa Base**	**81.40**	**160⇑**	*e*P	**P**	**12 03 25.6**	**-1.9**
SYO	**Syowa Base**	**81.40**	**160⇑**	*ep*P	pP	12 03 37.0	-3.9
MDT	**Midelt**	**81.94**	**52**	P	**P**	**12 03 32.3**	**+1.4**
	1.7nm,1.0s,mb3.9,baz=270,slow=5.2,SNR=3.1						
EVO	**Evora**	**82.19**	**46**	*e*P	**P**	**12 03 32.5**	**+0.4**
	22nm,1.0s,mb4.8						
EVO				*e*MLR	MLR		
	comp=Z,225nm,18.5s,MS4.3						
TSUM	**Tsumeb**	**84.52**	**108**	*e*P	**P**	**12 03 46.8**	**+2.2**
	comp=Z,18nm,1.0s,mb5.2						
TSUM				*ep*P	pP	12 04 00.3	+2.3
TSUM	**Tsumeb**	**84.52**	**108**	P	**P**	**12 03 45.7**	**+1.1**
	comp=Z,8.5nm,1.0s,mb4.8,baz=234,slow=21,SNR=10						
PAB	**San Pablo**	**85.18**	**46**	*e*P	**P**	**12 03 49.5**	**+2.1**
	comp=Z,16nm,1.4s,mb5.0						
PAB				*ep*P	pP	12 04 02.6	+1.8
ESDC	**Sonseca Array**	**85.51**	**46**	P	**P**	**12 03 49.6**	**+0.6**
	comp=Z,2.3nm,0.9s,mb4.4,baz=252,slow=5.3,SNR=14						
ESLA	**Sonseca Array**	**85.51**	**46**	*e*P	**P**	**12 03 49.7**	**+0.7**
	comp=Z,10nm,1.4s,mb4.9						
ESLA				*ep*P	pP	12 04 04.3	+1.8
YKA	**Yellowknife Ar**	**86.33**	**342**	P	**P**	**12 03 51.8**	**-0.7**
YKA				LR	LR	12 46 24.6	
YKA	**Yellowknife Ar**	**86.33**	**342**	P	**P**	**12 03 51.8**	**-0.7**
	comp=Z,2.8nm,0.9s,mb4.5,baz=136,slow=4.9,SNR=38						
YKA				LR	LR	12 46 24.6	
	comp=Z,75nm,19.1s,MS4.1,baz=105,slow=38						
SJPF	**Ste Jean**	**88.87**	**44⇑**	*i*P	**P**	**12 04 05.2**	**0.0**
	comp=Z,31nm,1.3s,mb5.2						
SJPF	**Ste Jean**	**88.87**	**44⇑**	*i*P	**P**	**12 04 05.2**	**0.0**
	comp=Z,16nm,1.3s,mb5.2						
MAW	**Mawson**	**89.09**	**164**	P	**P**	**12 04 06.5**	**+0.7**
	comp=Z,2.2nm,0.7s,mb4.6,baz=264,slow=5.8,SNR=7.7						
MAW				LR	LR	12 42 28.3	
	comp=Z,138nm,19.2s,MS4.4,baz=63,slow=35						
DLBC	**Dease Lake**	**89.12**	**334**	*e*P	**P**	**12 04 05.9**	**0.0**
DLBC				*ep*P	pP	12 04 19.7	+0.2
EPF	**Esparros**	**89.88**	**44**	*e*P	**P**	**12 04 10.2**	**+0.3**
	comp=Z,11nm,1.0s,mb4.8						
EPF	**Esparros**	**89.88**	**44**	*e*P	**P**	**12 04 10.2**	**+0.3**
	comp=Z,5.3nm,1.0s,mb4.8						
LFF	**La Frestale**	**90.92**	**43**	*e*P	**P**	**12 04 14.0**	**-0.7**
MFF	**Saint Martin d**	**91.04**	**41**	*e*P	**P**	**12 04 14.3**	**-0.9**
	comp=Z,17nm,1.2s,mb5.0						
MFF	**Saint Martin d**	**91.04**	**41**	*e*P	**P**	**12 04 14.3**	**-0.9**
	comp=Z,8.4nm,1.2s,mb5.0						
MTLF	**Montolieu**	**91.26**	**45**	*e*P	**P**	**12 04 15.6**	**-0.7**
	comp=Z,35nm,1.5s,mb5.2						
MTLF	**Montolieu**	**91.26**	**45**	*e*P	**P**	**12 04 15.6**	**-0.7**
	comp=Z,18nm,1.5s,mb5.2						
GRR	**Gorron**	**91.35**	**39**	*e*P	**P**	**12 04 15.4**	**-1.2**
LDF	**La Druitiere**	**91.88**	**39**	*e*P	**P**	**12 04 18.0**	**-1.1**
BGF	**Bois d'Agland**	**92.91**	**42**	*e*P	**P**	**12 04 22.9**	**-1.0**
	comp=Z,12nm,0.8s,mb5.1						
BGF	**Bois d'Agland**	**92.91**	**42**	*e*P	**P**	**12 04 22.9**	**-1.0**
	comp=Z,6.2nm,0.8s,mb5.1						
AVF	**Avril sur Loir**	**93.32**	**42**	*e*P	**P**	**12 04 24.6**	**-1.2**
SMF	**Signal de Mont**	**93.58**	**42**	*e*P	**P**	**12 04 26.1**	**-0.9**
	comp=Z,18nm,1.2s,mb5.1						
SMF	**Signal de Mont**	**93.58**	**42**	*e*P	**P**	**12 04 26.1**	**-0.9**
	comp=Z,8.9nm,1.2s,mb5.1						
KEST	**Kesra**	**93.72**	**54**	LR	LR	12 50 34.6	
	comp=Z,72nm,18.0s,MS4.2,baz=228,slow=38						
URZ	**Urewera**	**94.38**	**228**	LR	LR	12 40 38.8	
	comp=Z,111nm,18.4s,MS4.4,baz=100,slow=32						
LPL	**La Plagne**	**95.06**	**44**	*e*P	**P**	**12 04 34.1**	**+0.3**
LPG	**La Plagne**	**95.07**	**44**	*e*P	**P**	**12 04 34.3**	**+0.5**
AKTK	**Aktyubinsk**	**128.83**	**39**	PKP	PKPdf	12 10 19.7	+1.5
AKTO	**Aktyubinsk**	**128.83**	**39**	PKP	PKPdf	12 10 19.7	+1.5
	comp=Z,0.4nm,0.4s,baz=288,slow=3.2,SNR=2.5						
ASAR	**Alice Springs**	**131.58**	**213**	PKP	PKPdf	12 10 22.8	-1.5
	comp=Z,0.5nm,0.9s,baz=115,slow=1.7,SNR=6.3						
WRA	**Warramunga Arr**	**134.35**	**217**	PKP	PKPdf	12 10 29.1	-0.5
	comp=Z,0.6nm,0.8s,baz=132,slow=1.5,SNR=5.4						
ZAA0	**Zalesovo Array**	**139.65**	**21**	*e*PKPdf	PKPdf	12 10 39.2	+0.9
ZAA0				*ep*PKPdf	pPKPdf	12 10 52.4	+0.1
ZALV	**Zalesovo Beam**	**139.65**	**21**	PKP	PKPdf	12 10 39.0	+0.7
	comp=Z,1.8nm,0.7s,baz=300,slow=3.3,SNR=11						
KURK	**Kurchatov**	**139.69**	**28**	*e*PKPdf	PKPdf	12 10 40.2	+1.7
KURK				*ep*PKPdf	pPKPdf	12 10 52.7	+0.2
MK31	**Makanchi Array**	**144.19**	**30**	*e*PKPdf	PKPdf	12 10 45.4	-1.3
MK31				*ep*PKPdf	pPKPdf	12 10 59.0	-1.7
MKAR	**Makanchi Array**	**144.19**	**30**	PKP	PKPdf	12 10 45.2	-1.5
	comp=Z,1.3nm,0.7s,baz=343,slow=3.8,SNR=11						
MJAR	**Matsushiro Arr**	**146.89**	**311**	PKPbc	PKPbc	12 10 54.4	+0.9
	comp=Z,3.9nm,1.0s,baz=49,slow=0.8,SNR=15						
MAJO	**Matsushiro**	**146.89**	**311**	*e*PKPbc	PKPbc	12 10 53.3	-0.2
MAT	**Matsushiro**	**146.89**	**311**	PKP	PKPdf	12 10 53.9	+2.3
POO	**Poona**	**148.07**	**83**	*e*P	PKPdf	12 10 55.0	+0.9
WMQ	**Urumqi**	**148.94**	**28**	*e*PKP	PKPdf	12 10 55.5	+0.7
WMQ				LR	LR		
	comp=N,203nm,25.2s,MS5.0						
WMQ				LR	LR		
	comp=E,196nm,23.2s,MS5.0						
WMQ				LR	LR		
	comp=Z,220nm,19.4s,MS5.0						
CN2	**Changchun**	**149.71**	**334**	*e*PKP	PKPdf	12 10 57.2	+1.2
ULN	**Ulaanbaatar**	**149.74**	**1**	*e*PKPdf	PKPdf	12 10 58.2	+2.3
ULN				*e*PKPbc	PKPbc	12 11 01.8	+1.2
SONM	**Songino Array**	**149.76**	**1**	PKP	PKPdf	12 10 56.4	+0.5
	comp=Z,0.3nm,0.6s,baz=350,slow=1.6,SNR=2.9						
SONM				PKPbc	PKPbc	12 11 01.5	+0.8
	comp=Z,1.8nm,0.9s,baz=347,slow=1.1,SNR=13						
NDI	**New Delhi**	**150.15**	**63**	*ex*	x	12 12 04.0	
KSRS	**Korea Array**	**153.19**	**322**	PKP	PKPdf	12 11 01.4	-0.1
	comp=Z,0.9nm,0.9s,baz=359,slow=2.6,SNR=3.7						
KSRS				PKPbc	PKPbc	12 11 08.8	-0.2
	comp=Z,1.2nm,0.8s,baz=26,slow=2.5,SNR=3.1						
HHC	**Hu-ho-hao-te**	**156.49**	**352**	*e*PKP	PKPdf	12 11 06.1	+0.2
HHC				APKP		12 11 16.9	
HHC				XPKP		12 11 22.9	
HHC				PKS		12 14 39.7	
HHC				PP	PP	12 15 19.0	+7.6
HHC				SKKS	SKKSac	12 22 02.1	+3.9
HHC				SS	SS	12 35 03.3	+5.0
HHC				PP	PP		
	comp=Z,86nm,11.3s						
HHC				LR	LR		
	comp=N,283nm,16.7s,MS5.2						
HHC				LR	LR		
	comp=E,180nm,20.2s,MS5.2						
HHC				LR	LR		
	comp=Z,215nm,19.0s,MS5.0						
LZH	**Lanzhou**	**161.24**	**9**	*e*PKP	PKPdf	12 11 16.6	+4.9
LZH				APKP		12 11 27.0	
LZH				XPKP		12 11 30.0	
NJ2	**Nanjing**	**162.23**	**327**	*e*PKP	PKPdf	12 11 12.8	0.0
CD2	**Chengdu**	**166.26**	**13**	*e*PKP	PKPdf	12 11 15.2	-1.3
CD2				XPKP		12 11 30.5	
CD2				PKP2	PKPab	12 12 18.9	+1.4
CD2				PP	PP	12 16 07.6	+3.8
CD2				SKS	SKSdf	12 18 13.9	-3.2
CD2				SKKS	SKKSac	12 22 49.5	+0.6
CD2				SS	SS	12 36 43.6	+3.0
CD2				PP	PP		
	comp=Z,90nm,10.6s						
CD2				LR	LR		
	comp=N,130nm,22.4s						
CD2				LR	LR		
	comp=Z,150nm,24.4s						
GYA	**Guiyang**	**171.08**	**4**	*e*PKP	PKPdf	12 11 17.6	-2.1
GYA				APKP		12 11 33.4	
GYA				XPKP		12 11 38.3	
GYA				PKP2	PKPab	12 12 40.6	+1.7
GYA				PKS		12 14 49.0	
GYA				PP	PP	12 16 32.0	+3.9
GYA				SKS	SKSdf	12 18 15.8	-3.9
GYA				SKKS	SKKSac	12 23 12.6	-0.1
GYA				PP	PP		
	comp=Z,110nm,7.9s						
GYA				LR	LR		
	comp=N,280nm,23.8s						
GYA				LR	LR		
	comp=E,170nm,22.4s						
GYA				LR	LR		
	comp=Z,280nm,24.6s						
KMI	**Kunming**	**171.27**	**29**	PKP	PKPdf	12 11 17.0	-2.9

ISCJB ***08*** *11:54:45.6±0.8, 3806N±004×23.12E±008, h7km±13km, Error ellipse: s-maj=11.0km s-min=6.3km az=167.0*
CSEM ***08*** *11:54:45.9±0.1, 3808N×2313E, h8km, ML3.1, Error ellipse: s-maj=3.3km s-min=3.0km az=57.0*
THE ***08*** *11:54:46.1, 3805N×2310E, h3km, ML3.1*
ATH ***08*** *11:54:50.1, 3766N×2362E, h26km, MD2.5/3, ML2.2*
ISC 08 11:54:46.1±0.7, 3806N±004×2313E±006, h9km±10km, n9, σ0°91/14, Greece

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
LTK	**Loutraki**	**0.13**	**254**	*e*Pg		**Pg**	**11 54 48.6**	**-0.5**
LTK				*e*Sg		**Sg**	**11 54 50.2**	**-1.0**
ATH	**Athens Observa**	**0.47**	**100**	*e*PB		**Pg**	**11 54 57.0**	**+1.7**
ATH	**Athens Observa**	**0.47**	**100**	*e*Pb		**Pg**	**11 54 55.3**	**0.0**
DID	**Didima**	**0.56**	**171**	*e*Pg		**Pg**	**11 54 56.6**	**-0.3**
DID				*e*Sg		**Sg**	**11 55 05.1**	**+0.9**
PTL	**Penteli**	**0.58**	**91**	*e*PB		**Pb**	**11 54 59.0**	**+0.6**
PTL				*e*SB		**Sb**	**11 55 06.0**	**-0.7**
PTL	**Penteli**	**0.58**	**91**	*e*Pb		**Pb**	**11 54 55.0**	**-3.4**
VLX	**Vlachokerasia**	**0.91**	**221**	*e*Pg		**Pg**	**11 55 03.4**	**-0.2**
VLX				*e*Sg		**Sg**	**11 55 16.1**	**+0.6**
AGG	**Agios Georgios**	**1.15**	**327**	*e*Pg		**Pg**	**11 55 07.2**	**-1.0**
AGG				*e*Sg		**Sg**	**11 55 24.8**	**+1.7**
VLI	**Veliai**	**1.35**	**187**	*e*PN		**Pn**	**11 55 10.9**	**-0.2**

ISCJB ***08*** *11:58:23.1±0.9, 3838N±003×2056E±009, h10km, Error ellipse: s-maj=10.2km s-min=4.7km az=177.7*
NEIC ***08*** *11:58:23.3, 3835N×2056E, h11km, MD3.2(ATH), After ATH.*
ATH ***08*** *11:58:23.5, 3835N×2058E, h9km±7km, MD3.2/5*
CSEM ***08*** *11:58:24.8±0.9, 3833N×2064E, h2km, MD3.2, Error ellipse: s-maj=30.0km s-min=10.8km az=116.0*
ISC 08 11:58:23.1±1.0, 3838N±004×2055E±010, h7km±8km, n9, σ0°79/12, Greece

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.21**	**170**	*e*PG		**Pg**	**11 58 27.0**	**-0.2**
VLS				*e*SG		**Sg**	**11 58 30.6**	**+0.6**
LKD	**Levkas**	**0.34**	**14**	*e*S		**Sg**	**11 58 33.8**	**-0.4**
LKD	**Levkas**	**0.34**	**14**	*e*P		**Pg**	**11 58 28.5**	**-1.2**
RLS	**Riolos of Patr**	**0.79**	**114**	*e*PB		**Pb**	**11 58 38.2**	**-1.0**
EVR	**Evrytania**	**1.12**	**61**	*e*PG		**Pg**	**11 58 44.3**	**-0.4**
EVR				*e*SB		**Sb**	**11 58 59.8**	**+0.1**
IGT	**Igoumenitsa**	**1.16**	**352**	*e*P		**Pb**	**11 58 45.6**	**0.0**
IGT				*e*S		**Sb**	**11 59 01.6**	**+0.8**
AGG	**Agios Georgios**	**1.54**	**65**	*e*P		**Pg**	**11 58 54.6**	**+2.0**
ITM	**Ithomi**	**1.62**	**137**	*e*PB		**Pb**	**11 58 53.1**	**-0.3**
THL	**Klokotos Trika**	**1.65**	**44**	*e*PB		**Pg**	**11 58 54.8**	**+0.1**

ISCJB ***08*** *12:24:30.3±0.5, 1555S±005×7022W±006, h221km±5km, mb4.1/19, Error ellipse: s-maj=10.0km s-min=7.0km az=138.2*
NEIC ***08*** *12:24:31.1±0.7, 1554S×70.16W, h213km±6km, mb4.4/11, Error ellipse: s-maj=11.2km s-min=8.7km az=50.0*
IDC ***08*** *12:24:32.2±0.9, 1548S×7002W, h221km±7km, mb3.7/11, mb1 3.9/13, mb1mx3.8/20, mbtmp3.7/13, Error ellipse: s-maj=14.9km s-min=11.6km az=67.0*
ISC 08 12:24:31.4±0.6, 1553S±007×7019W±006, h214km±5km, n51, σ1°16/40, mb4.1/19, 3C-1D, Southern Peru

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ARE	**Arequipa**	**1.56**	**233⇑**	*i*P		**Pn**	**12 25 06.1**	**-0.8**
LPAZ	**La Paz**	**2.12**	**111**	||*i*Pn		**Pn**	**12 25 14.2**	**+2.0**
LPAZ				*e*Sn		**S**	**12 25 45.2**	**+1.2**
LPAZ	**La Paz**	**2.12**	**111**	P		**Pn**	**12 25 14.2**	**+2.1**
	248nm,0.3s,baz=305,slow=9.2,SNR=4747							
LPAZ				S		**S**	**12 25 45.3**	**+1.2**
	125nm,0.3s,baz=18,slow=20,SNR=19							
NNA	**Nana**	**7.36**	**298**	*e*Pn		**Pn**	**12 26 15.2**	**-1.2**
	58nm,0.4s							
NNA				*e*Sn		**S**	**12 27 37.2**	**-3.0**
NNA	**Nana**	**7.36**	**298**	P		**Pn**	**12 26 15.8**	**-0.6**
	17nm,0.3s,baz=135,slow=12,SNR=30							
NNA				S		**S**	**12 27 36.8**	**-3.4**
	12nm,0.3s,baz=203,slow=17,SNR=3.5							
SIV	**San Ignacio**	**8.79**	**94**	P		**Pn**	**12 26 33.4**	**-1.4**
	4.3nm,0.3s,baz=284,slow=11,SNR=63							
SIV				S		**S**	**12 27 59.3**	**-15**
	1.4nm,0.3s,baz=278,slow=15,SNR=2.0							
LCO	**Las Campanas**	**13.43**	**182**	*e*Pn		**Pn**	**12 27 33.0**	**-0.6**
	23nm,0.8s							
CFAA	**Coronel Fontan**	**16.11**	**174**	P		**P**	**12 28 06.2**	**+0.7**
	0.2nm,0.3s,baz=346,slow=11,SNR=16							
CFAA				S		**S**	**12 30 56.6**	**-6.8**
	0.1nm,0.3s,baz=93,slow=13,SNR=6.4							
BDFB	**Brasilia**	**21.36**	**93**	P		**P**	**12 29 01.2**	**-1.1**
	8.2nm,0.5s,mb4.6,baz=261,slow=13,SNR=29							
TRQA	**Tornquist**	**23.59**	**164**	*e*P		**P**	**12 29 22.7**	**0.0**
	7.6nm,1.1s,mb4.2							
SDV	**Santo Domingo**	**24.26**	**359**	P		**P**	**12 29 29.4**	**+0.3**
	13nm,1.9s,mb4.2							
SDV				*ep*P			12 30 11.3	
PLCA	**Paso Flores**	**25.12**	**181**	*e*P		**P**	**12 29 36.5**	**-0.1**
	13nm,1.0s,mb4.5							
PLCA	**Paso Flores**	**25.12**	**181**	P		**P**	**12 29 36.2**	**-0.4**
	5.2nm,0.5s,mb4.4,baz=357,slow=10,SNR=14							
RCBR	**Riachuelo**	**34.99**	**78**	*e*P		**P**	**12 31 04.1**	**+0.3**
	21nm,1.0s,mb4.6							
USHA	**Ushuaia**	**39.25**	**178**	P		**P**	**12 31 38.3**	**-0.5**
	10nm,0.9s,mb4.3,baz=37,slow=12,SNR=7.0							
TXAR	**Lajitas Array**	**55.08**	**324**	P		**P**	**12 33 41.2**	**-0.1**
TXAR	**Lajitas Array**	**55.08**	**324**	P		**P**	**12 33 41.2**	**-0.1**
	0.5nm,0.6s,mb3.2,baz=152,slow=10.0,SNR=13							
SDCO	**Great Sand Dun**	**62.52**	**329**	*e*P		**P**	**12 34 33.2**	**+0.9**
	17nm,2.0s,mb4.3							
RSSD	**Black Hills**	**66.92**	**334**	*e*P		**P**	**12 35 01.8**	**+1.3**
DBIC	**Dimbokro**	**68.35**	**76**	*e*P		**P**	**12 35 08.5**	**-1.7**
	7.1nm,0.4s,mb4.7							
DBIC	**Dimbokro**	**68.35**	**76**	P		**P**	**12 35 08.7**	**-1.5**
	5.7nm,0.4s,mb4.6,baz=234,slow=5.9,SNR=29							
PDAR	**Pinedale Array**	**68.36**	**330**	P		**P**	**12 35 10.6**	**+1.0**
	0.7nm,0.4s,mb3.6,baz=127,slow=10,SNR=5.3							
ULM	**Lac du Bonnet**	**69.28**	**343**	P		**P**	**12 35 14.1**	**-1.0**
	3.2nm,0.3s,mb4.4,baz=153,slow=6.5,SNR=16							
IMW	**Indian Meadow**	**69.87**	**330**	*e*P		**P**	**12 35 20.0**	**+1.1**
	1.6nm,0.6s,mb3.8							
IMW				*ep*P		pP	12 36 13.1	+4.1
NVAR	**Mina Array Bea**	**70.07**	**322**	P		**P**	**12 35 22.5**	**+2.3**
	0.6nm,0.8s,mb3.3,baz=135,slow=6.6,SNR=4.3							
QSPA	**South Pole Qui**	**74.63**	**180**	*e*P		**P**	**12 35 47.2**	**+0.6**
	6.1nm,1.0s,mb4.2							
TOA0	**Torodi Ar. Sit**	**76.59**	**72**	*e*P		**P**	**12 35 56.7**	**-2.1**
TORD	**Torodi Ar. Bea**	**76.59**	**72**	P		**P**	**12 35 56.9**	**-1.9**
	3.1nm,0.5s,mb4.2,baz=277,slow=4.5,SNR=47							
ESDC	**Sonseca Array**	**82.48**	**45**	P		**P**	**12 36 30.1**	**+0.1**
	0.8nm,0.7s,mb3.5,baz=262,slow=5.1,SNR=8.4							
ESDC				pP		pP	12 37 25.7	+3.8
	0.4nm,0.6s,baz=254,slow=4.8,SNR=2.8							
VNDA	**Vanda**	**82.49**	**190**	P		**P**	**12 36 30.4**	**+1.0**
	1.0nm,0.9s,mb3.4,baz=138,slow=9.9							
SYO	**Syowa Base**	**82.50**	**160⇑**	*e*P		**P**	**12 36 25.6**	**-4.0**
SYO	**Syowa Base**	**82.50**	**160⇑**	*e*PcP		PcP	12 36 31.2	-2.9
TSUM	**Tsumeb**	**82.97**	**108**	*e*P		**P**	**12 36 33.1**	**+0.1**
	5.2nm,1.1s,mb4.2							
YKA	**Yellowknife Ar**	**85.18**	**341**	P		**P**	**12 36 43.1**	**+0.1**
	1.7nm,0.5s,mb4.0,baz=134,slow=5.1,SNR=54							
EMHD	**Djebel Mahouad**	**86.00**	**51**	P		**P**	**12 36 51.2**	**+3.4**
STKA	**Stephens Creek**	**123.87**	**213**	*e*PKP		PKPdf	12 43 04.7	+0.3
	1.0nm,0.5s							
STKA	**Stephens Creek**	**123.87**	**213**	PKP		PKPdf	12 43 04.9	+0.5
	1.1nm,0.5s,baz=159,slow=9.4,SNR=6.8							
ASAR	**Alice Springs**	**134.48**	**212**	PKhKP			12 43 11.1	
	0.8nm,1.1s,baz=145,slow=2.5,SNR=6.8							
ASAR				PKP		PKPdf	12 43 25.0	+0.2
	0.9nm,0.6s,baz=116,slow=1.7,SNR=19							
ASAR				SKPbc		SKPbc	12 46 34.8	+0.3
	0.9nm,0.8s,baz=142,slow=3.6,SNR=8.4							
ZAA0	**Zalesovo Array**	**136.97**	**21**	*e*PKPdf		PKPdf	12 43 28.9	+0.5
ZALV	**Zalesovo Beam**	**136.97**	**21**	PKP		PKPdf	12 43 29.4	+1.0
	2.0nm,0.5s,baz=290,slow=3.2,SNR=12							
ZALV				SKPbc		SKPbc	12 46 43.0	+1.9
	5.7nm,0.8s,baz=316,slow=4.1,SNR=29							
WB2	**Warramunga Arr**	**137.29**	**215**	*e*PKP		PKPdf	12 43 30.2	+0.1
WRA	**Warramunga Arr**	**137.29**	**215**	PKhKP			12 43 15.8	
	0.4nm,0.5s,baz=139,slow=2.9,SNR=11							
WRA				PKP		PKPdf	12 43 30.5	+0.4
	1.3nm,0.4s,baz=136,slow=1.5,SNR=31							
WRA				SKPbc		SKPbc	12 46 43.9	+0.7
	0.7nm,0.6s,baz=141,slow=2.5,SNR=8.9							
MKAR	**Makanchi Array**	**141.32**	**31**	SKPbc		SKPbc	12 46 54.9	+1.6
	1.1nm,0.7s,baz=338,slow=2.6,SNR=6.5							
FITZ	**Fitzroy Crossi**	**143.12**	**206**	*e*PKP		PKPdf	12 43 37.7	-2.9
	4.0nm,0.4s							
KAKA	**Kakadu**	**144.10**	**220**	*e*PKP		PKPdf	12 43 40.4	-2.0
	8.8nm,1.0s							
MJAR	**Matsushiro Arr**	**147.20**	**315**	PKPbc		PKPbc	12 43 50.3	+0.7
	5.8nm,0.5s,baz=92,slow=2.0,SNR=36							
MAJO	**Matsushiro**	**147.20**	**315**	*e*PKPbc		PKPbc	12 43 49.7	+0.1
MAT	**Matsushiro**	**147.20**	**315

JOD2			S	S	12 46 33.3	-1.0
JTO	**Tosashimizu**	**5.11 195**	P	Pn	12 45 36.3	+0.2
KSRS	**Korea Array**	**5.12 268**	P	Pn	12 45 37.2	+1.1
	3.5nm,0.3s,baz=86,slow=10,SNR=142					
KSRS			S	S	12 46 44.7	+0.5
	baz=81,slow=17,SNR=3.2					
JNU	**Nakatsue**	**5.48 212**	P	Pn	12 45 40.2	+0.2
	2.4nm,0.3s,baz=41,slow=14,SNR=24					
JNU			S	S	12 46 50.4	-0.8
	baz=229,slow=19,SNR=2.8					
JMK	**Ichinoseki**	**5.50 76**	P	Pn	12 45 39.4	-0.6
JMK			S	S	12 46 48.6	-2.8
BSO1	**Boso 1**	**6.21 119**	P	Pn	12 45 45.4	-2.3
BSO1			S	S	12 47 00.4	-5.0
JOT	**Ohata**	**6.27 53**	P	Pn	12 45 48.6	+0.4
JOT			S	S	12 47 04.4	-1.9
JHJ	**Hachijo jima 2**	**6.45 135**	P	Pn	12 45 49.9	-0.4
	3.3nm,0.3s,baz=356,slow=19,SNR=5.5					
JHJ			S	S	12 47 11.7	+1.5
	13nm,0.3s,baz=57,slow=22,SNR=8.0					
JHJ2	**Mitsune**	**6.47 135**	P	Pn	12 45 52.0	+1.4
JHJ2			*e*S	S	12 47 10.0	-0.6
ASAJ	**Asahikawa**	**8.85 42**	P	P	12 46 17.4	+0.6
	4.3nm,0.3s,baz=234,slow=10,SNR=62					
ASAJ			S	S	12 47 53.1	-6.0
	1.8nm,0.3s,baz=305,slow=31,SNR=18					
SONM	**Songino Array**	**22.71 305**	P	P	12 48 41.6	+0.8
	0.5nm,0.6s,mb3.1,baz=108,slow=9.5,SNR=6.0					
ZALV	**Zalesovo Beam**	**37.22 312**	P	P	12 50 45.3	-1.5
	0.3nm,0.3s,mb3.0,baz=128,slow=2.4,SNR=2.4					
MKAR	**Makanchi Array**	**38.91 300**	P	P	12 51 01.0	+0.3
	0.4nm,0.5s,mb3.0,baz=84,slow=9.2,SNR=3.6					
WRA	**Warramunga Arr**	**57.45 180**	P	P	12 53 19.7	-0.9
	0.5nm,0.4s,mb3.2,baz=357,slow=7.5,SNR=15					
ASAR	**Alice Springs**	**61.16 180**	P	P	12 53 45.2	-0.4
	0.4nm,0.6s,mb3.0,baz=359,slow=7.4,SNR=12					
ARCES	**ARCESS Array B**	**61.21 338**	P	P	12 53 45.2	-0.2
	3.5nm,0.8s,mb3.8,baz=57,slow=8.8,SNR=7.0					
FINES	**FINESS Array B**	**65.41 330**	P	P	12 54 11.6	-1.0
	0.6nm,0.4s,mb3.5,baz=67,slow=5.1,SNR=10					
YKA	**Yellowknife Ar**	**65.87 28**	P	P	12 54 15.9	+0.4
	0.2nm,0.4s,mb3.1,baz=298,slow=7.3,SNR=10					
AKASG	**Malin Array Be**	**70.14 319**	P	P	12 54 41.0	-0.9
	0.4nm,0.4s,mb3.3,baz=52,slow=5.8,SNR=3.5					
NB2	**NORSAR Subarra**	**71.17 334**	P	P	12 54 47.3	-0.6
	comp=Z,0.7nm,0.5s,mb3.5,baz=44,slow=5.9					
NOA	**NORSAR Array B**	**71.17 334**	P	P	12 54 47.1	-0.8
	comp=Z,1.4nm,0.7s,mb3.6,baz=42,slow=6.0,SNR=4.6					
NVAR	**Mina Array Bea**	**78.89 50**	P	P	12 55 33.6	+1.7
	comp=Z,0.2nm,0.5s,mb3.0,baz=291,slow=7.5,SNR=2.5					
PDAR	**Pinedale Array**	**80.98 42**	P	P	12 55 43.5	+0.6
	comp=Z,0.3nm,0.4s,mb3.4,baz=336,slow=2.0,SNR=2.7					
TXAR	**Lajitas Array**	**93.93 48**	P	P	12 56 46.4	+1.2
	comp=Z,0.4nm,1.0s,mb3.4,baz=344,slow=4.9,SNR=2.8					

BJI 08 12:46:37.2,3606N×11565E,h13km,mb4.5,ML3.9,Ms3.4, Msz3.5,1C,Southeastern China

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIA	**Tai'an**	**1.20**	**82**	PG	Pg	12 47 00.6	+0.3
TIA				SG	Sg	12 47 16.7	+0.7
TIA				Smax			
	comp=E,746nm,0.2s						
TIY	**Taiyuan**	**3.06**	**304**	PG	Pg	12 47 31.8	-4.1
TIY				SG	Sg	12 48 13.3	-2.2
TIY				Smax			
	comp=N,332nm,1.1s						
TIY				Smax			
	comp=E,187nm,0.7s						
BJI	**Beijing**	**4.00**	**6**	P	Pn	12 47 39.7	+1.6
BJI				PG	Pg	12 47 49.6	-4.1
BJI				SG	Sg	12 48 42.6	-2.9
BJI				Smax			
	comp=N,15nm,0.5s						
BJI				Smax			
	comp=E,130nm,0.5s						
NJ2	**Nanjing**	**4.80**	**145**	*e*PG	Pg	12 48 04.3	-4.9
NJ2				SG	Sg	12 49 05.0	-6.4
NJ2				Smax			
	comp=N,340nm,0.4s						
NJ2				Smax			
	comp=E,200nm,0.4s						
DL2	**Dalian**	**5.54**	**57**	*e*PG	Pg	12 48 11.2	-12
DL2				S	Sn	12 49 03.2	+0.4
DL2				Smax			
	comp=N,30nm,0.7s						
DL2				Smax			
	comp=E,40nm,0.7s						
WHN	**Wuhan**	**5.61**	**192**	⇑PG	Pg	12 48 17.0	-7.6
WHN				SG	Sg	12 49 26.5	-11
WHN				Smax			
	comp=N,131nm,0.8s						
WHN				Smax			
	comp=E,165nm,0.5s						
CD2	**Chengdu**	**11.18**	**246**	*e*P	Pn	12 49 17.1	+0.5
CD2				AMB	AMB		
	comp=Z,10.0nm,0.6s						
WMQ	**Urumqi**	**22.72**	**299**	*e*P	P	12 51 39.6	+1.0
WMQ				AMB	AMB		
	comp=Z,6.0nm,0.6s						

NIED ***08*** *12:52:00,2320N×14590E,h20km,Mw4.9 Best double couple: M0=2.33000×10^16 NP1:φs=305.00000°,δ=80.00000°, λ=-81.00000°. NP2:φs=82.00000°,δ=13.00000°, λ=-132.00000°.*

IDC ***08*** *12:52:07.3±0.5,2281N×14567E,h0km,mb4.6/21, mb1 4.7/24,mb1mx4.7/26,mbtmp4.6/24,ML4.0/3,MS3.9/16, Ms1 3.9/16,ms1mx3.8/29,Error ellipse: s-maj=18.8km s-min=11.3km az=89.0*

MOS ***08*** *12:52:08.2±1.3,2287N×14564E,h10km,mb5.0/38, MS4.1/5,Error ellipse: s-maj=10.8km s-min=5.8km az=101.4*

JMA ***08*** *12:52:12.7±0.2,2324N×14588E,h92km,M5.0*

ISCJB ***08*** *12:52:12.9±0.2,2296N±003×14558E±003,h39km, mb4.8/111,MS4.1/30,Error ellipse: s-maj=4.7km s-min=3.5km az=21.2*

BJI ***08*** *12:52:13.9,2280N×14570E,h40km,mB4.9,mb4.7,Ms4.4, Msz4.1*

GCMT ***08*** *12:52:13.9±0.3,2291N×14579E,h15km±1km,MW4.9/77, Moment Tensor Solution. s23,c24; s77,c118; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr=2.41±.19; Mθθ2.23±.12; Mφφ0.17±.12; Mrθ0.41±.30; Mθφ-1.35±.07; Mφr0.85±.42; Best double couple: M0=2.84800×10^16 NP1:φs=276.00000°,δ49.00000°,λ=-120.00000°. NP2: φs=137.00000°,δ49.00000°,λ=-60.00000°. Principal axes: T 2.8990, Plg0.0000°, Azm206.0000°; N -0.1050, Plg22.0000°, Azm296.0000°; P -2.7970, Plg68.0000°, Azm116.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***08*** *12:52:13.9±0.2,2280N×14566E,mb4.9/59,MW4.8(NIED) Error ellipse: s-maj=6.5km s-min=5.5km az=121.0*

ISC 08 12:52:14.9±0.2,2298N±003×14560E±003,h41km, h41km±.3km:pP-P,n443,σ1.905/327,mb4.8/111,MS4.1/30, 160C-117D,North Pacific Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHHJ	**Haha-jima-NKT**	**4.78**	**320**	P	Pn	12 53 23.4	-1.0
JHHJ				*e*S	Sn	12 54 18.0	-0.5
CBIJ	**Chichi jima**	**5.14**	**324**	P	Pn	12 53 28.0	-1.2
CBIJ				*e*S	Sn	12 54 25.9	-1.4
CBIJ	**Chichi jima**	**5.14**	**324**	Pn	Pn	12 53 28.1	-1.1
	9.0nm,0.3s,baz=119,slow=19,SNR=26						
CBIJ				Sn	Sn	12 54 26.9	-0.4
	63nm,0.3s,baz=129,slow=23,SNR=16						
GUMO	**Guam**	**9.37**	**184**	*e*Pn	Pn	12 54 26.7	-0.7
GUMO	**Guam**	**9.37**	**184**	Pn	Pn	12 54 26.9	-0.5
	10nm,0.3s,baz=16,slow=23,SNR=6.3						
GUMO				Sn	Sn	12 56 13.3	+1.8
	34nm,0.3s,baz=11,slow=20,SNR=5.4						
GUMO				LR	LR	12 57 30.8	
	comp=Z,1μm,19.4s,baz=13,slow=35						
JHJ2	**Mitsune**	**11.31**	**334**	P	Pn	12 54 50.8	-3.0
JHJ2				*e*S	Sn	12 56 50.8	-8.0
JHJ	**Hachijo jima 2**	**11.33**	**334**	Pn	Pn	12 54 52.1	-1.9
	3.4nm,0.3s,baz=152,slow=14,SNR=12						
JHJ				Sn	Sn	12 56 52.1	-7.2
	9.2nm,0.3s,baz=220,slow=22,SNR=6.6						
JHJ				LR	LR	12 58 01.6	
	comp=Z,211nm,21.1s,baz=150,slow=31						
BSO1	**Boso 1**	**12.31**	**342**	P	Pn	12 55 02.7	-4.8
BSO1				*e*S	Sn	12 57 16.0	-7.4
BSO3	**Boso 3**	**12.59**	**340**	P	Pn	12 55 07.6	-3.7
BSO3				*e*S	Sn	12 57 23.8	-6.4
JOD2	**Odawara 2**	**13.49**	**337**	P	Pn	12 55 20.7	-2.9
JOD2				*e*S	Sn	12 57 46.2	-6.0
JRY	**Ryogami san**	**14.23**	**337**	P	Pn	12 55 30.8	-2.9
JRY				*e*S	Sn	12 58 03.9	-6.3
MJAR	**Matsushiro Arr**	**14.95**	**336**	Pn	Pn	12 55 41.2	-2.1
MJAR				LR	LR	13 00 01.3	
MJAR	**Matsushiro Arr**	**14.95**	**336**	Pn	Pn	12 55 41.2	-2.1
	1.6nm,0.3s,baz=155,slow=11,SNR=46						
MJAR				LR	LR	13 00 01.3	
	comp=Z,318nm,22.0s,baz=150,slow=31						
MAJO	**Matsushiro**	**14.95**	**336**	*e*P	Pn	12 55 41.3	-2.1
	19nm,0.6s						
MAJO	**Matsushiro**	**14.95**	**336**	*e*P	Pn	12 55 41.3	-2.1
MAJO				pmax	pmax		
	comp=Z,19nm,0.6s						
MAT	**Matsushiro**	**14.95**	**336**	P	Pn	12 55 41.6	-1.8
MAT				S	Sn	12 58 25.2	-2.6
JNU	**Nakatsue**	**16.44**	**311**	Pn	Pn	12 56 07.8	+5.2
	comp=Z,0.4nm,0.3s,baz=90,slow=20,SNR=7.1						
JNU				LR	LR	13 02 09.2	
	comp=Z,281nm,18.5s,baz=120,slow=36						
ERM	**Erimo**	**19.09**	**354**	*e*P	Pn	12 56 35.1	+0.1
	comp=Z,19nm,0.6s						
ERM				*e*S	S	12 59 53.3	-15
ERM	**Erimo**	**19.09**	**354**	*e*P	Pn	12 56 35.1	+0.1
ERM				pmax	pmax		
	comp=Z,19nm,0.6s						
KSRS	**Korea Array**	**20.96**	**317**	P	P	12 56 54.2	0.0
	comp=Z,4.4nm,0.7s,baz=128,slow=10,SNR=11						
KSRS				LR	LR	13 05 06.0	
	comp=Z,424nm,18.4s,MS3.9,baz=128,slow=37						
ASAJ	**Asahikawa**	**21.22**	**354**	P	P	12 56 58.6	+1.5
	comp=Z,15nm,0.8s,mb4.4,baz=213,slow=14,SNR=19						
ASAJ				LR	LR	13 03 54.6	
	comp=Z,286nm,21.7s,baz=311,slow=33						
INCN	**Inchon**	**21.79**	**316**	*e*P	P	12 57 06.4	+3.1
	comp=Z,122nm,1.2s,mb5.2						
INCN				*e*pP		12 57 17.1	
NACB	**Ninganchiao**	**22.03**	**278**	*e*P	P	12 57 06.1	+0.2
YHNB	**Yeheng**	**22.22**	**279**	*e*P	P	12 57 08.1	+0.1
YHNB				*e*pP		12 57 20.0	
VLA	**Vladivostok**	**23.08**	**334**	*i*P	P	12 57 23.0	+6.2
SSE	**Sheshan**	**23.17**	**296**	*e*P	P	12 57 18.2	+0.3
SSE				AP		12 57 28.5	
SSE				XP	sP	12 57 33.8	+0.3
SSE				S	S	13 01 26.3	-0.2
SSE				XS	sS	13 01 44.2	-0.8
SSE				AMB	AMB		
	comp=Z,39nm,0.6s,mb5.0						
SSE				AMB	AMB		
	comp=Z,58nm,4.8s						
SSE				LR	LR		
	comp=N,220nm,14.9s,MS3.8						
SSE				LR	LR		
	comp=E,152nm,14.9s,MS3.8						
SSE				LR	LR		
	comp=Z,248nm,16.7s,MS3.7						
YSS	**Yuzh-Sakhalins**	**24.03**	**355**	*e*P	P	12 57 25.5	-0.3
	comp=Z,5.4nm,0.6s,mb4.2						
YSS				*e*pP		12 57 38.5	
YSS	**Yuzh-Sakhalins**	**24.03**	**355**	⇑*e*P	P	12 57 26.2	+0.4
YSS				*e*		12 58 03.7	
YSS				*e*S	S	13 01 38.0	-2.0
YSS				pmax	pmax		
	comp=Z,30nm,1.0s,mb4.7						
YSS				MLR	MLR		
	comp=Z,200nm,15.0s,MS3.7						
MDJ	**Mudanjiang**	**25.26**	**333**	P	P	12 57 38.0	+1.0
MDJ				AP	pP	12 57 49.0	+0.8
MDJ				XP	sP	12 57 54.0	+0.8
MDJ				PCP	PcP	13 01 09.1	-0.4
MDJ				S	S	13 02 00.6	+0.7
MDJ				AMB	AMB		
	comp=Z,7.0nm,1.3s,mb4.0						
MDJ				AMB	AMB		
	comp=Z,74nm,4.8s						
MDJ				LR	LR		
	comp=N,245nm,15.3s						
MDJ				LR	LR		
	comp=E,243nm,21.6s						
MDJ				LR	LR		
	comp=Z,231nm,25.5s						
NJ2	**Nanjing**	**25.33**	**297**	*e*P	P	12 57 38.4	+0.5
NJ2				AP	pP	12 57 49.1	+0.1
NJ2				XP	sP	12 57 54.0	-0.1
NJ2				PP		12 58 19.8	
NJ2				S	S	13 02 01.0	-0.3
NJ2				XS	sS	13 02 19.0	-1.1
NJ2				AMB	AMB		
	comp=Z,20nm,0.6s,mb4.8						
NJ2				AMB	AMB		
	comp=Z,60nm,3.8s						
NJ2				LR	LR		
	comp=N,240nm,18.0s,MS3.9						
NJ2				LR	LR		
	comp=E,220nm,16.0s,MS3.9						
NJ2				LR	LR		
	comp=Z,1μm,16.0s,MS4.5						
DL2	**Dalian**	**25.86**	**313**	P	P	12 57 44.1	+1.5
DL2				AP	pP	12 57 55.3	+1.5
DL2				S	S	13 02 15.7	+6.1
DL2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.3						
DL2				LR	LR		
	comp=N,130nm,15.3s,MS3.7						
DL2				LR	LR		
	comp=E,140nm,15.9s,MS3.7						
DL2				LR	LR		
	comp=Z,120nm,14.8s						
SNY	**Shenyang**	**26.31**	**321**	⇑P	P	12 57 52.2	+5.6
SNY				S	S	13 02 21.1	+4.6
SNY				AMB	AMB		
	comp=Z,16nm,0.9s,mb4.5						
SNY				AMB	AMB		
	comp=Z,60nm,7.4s						
SNY				LR	LR		
	comp=N,375nm,15.9s,MS4.0						
SNY				LR	LR		
	comp=E,180nm,20.4s,MS4.0						
SNY				LR	LR		
	comp=Z,214nm,16.7s,MS3.8						
CN2	**Changchun**	**26.60**	**326**	*e*P	P	12 57 53.7	+4.6
CN2				*e*AP	pP	12 58 03.0	+2.6
CN2				*e*S	S	13 02 24.7	+3.7
CN2				AMB	AMB		
	comp=Z,20nm,1.0s,mb4.6						
CN2				AMB	AMB		
	comp=Z,200nm,3.0s						
CN2				LR	LR		
	comp=N,500nm,18.0s,MS4.2						
CN2				LR	LR		
	comp=E,400nm,18.0s,MS4.2						
CN2				LR	LR		
	comp=Z,400nm,16.0s,MS4.1						
HABR	**Khabarovsk**	**26.79**	**344**	*e*P	P	12 57 50.9	+0.1
HABR				*e*		12 58 34.4	
HABR				*e*S	S	13 02 27.4	+3.5
HABR				*e*SS		13 03 36.7	
HABR				pmax	pmax		
	comp=Z,26nm,1.5s,mb4.5						
TIA	**Tai'an**	**27.94**	**305**	P	P	12 58 07.0	+5.7
KLR	**Kul'dur**	**28.39**	**341**	*e*P	P	12 58 01.7	-3.4
WHN	**Wuhan**	**28.84**	**292**	P	P	12 58 13.5	+4.1
WHN				LR	LR		
	comp=Z,644nm,16.0s,MS4.3						
BJI	**Beijing**	**30.12**	**311**	P	P	12 58 23.8	+3.2
BJI				S	S	13 03 18.6	+2.0
BJI				AMB	AMB		
	comp=Z,4.0nm,0.7s,mb4.3						
BJI				LR	LR		
	comp=N,244nm,15.0s,MS4.1						
BJI				LR	LR		
	comp=E,252nm,15.0s,MS4.1						
BJI				LR	LR		
	comp=Z,171nm,21.4s						
PET	**Petropavlovsk**	**31.60**	**15**	*e*P	P	12 58 33.8	+0.3
	comp=Z,11nm,0.7s,mb4.8						
PET				*e*pP	pP	12 58 47.2	+2.4
PET	**Petropavlovsk**	**31.60**	**15**	*e*P	P	12 58 34.0	+0.5
PET				*e*S	S	13 03 38.6	-0.8
PET				pmax	pmax		
	comp=Z,19nm,1.3s,mb4.8						
PET				MLR	MLR		
	comp=Z,100nm,20.0s						
HHC	**Hu-ho-hao-te**	**33.67**	**310**	*e*P	P	12 58 52.6	+0.8
HHC				AP	pP	12 59 03.6	+0.5
HHC				XP	sP	12 59 09.5	+1.4
HHC				PP	PP	13 00 06.6	-1.8
HHC				S	S	13 04 12.2	+0.3
HHC				AMB	AMB		
	comp=Z,12nm,0.5s,mb5.1						
HHC				AMB	AMB		
	comp=Z,88nm,5.8s						
HHC				LR	LR		
	comp=N,283nm,14.3s,MS4.2						
HHC				LR	LR		
	comp=E,180nm,16.7s,MS4.2						
HHC				LR	LR		
	comp=Z,202nm,17.8s,MS3.9						
XAN	**Xi'an**	**33.90**	**297**	P	P	12 58 53.7	-0.2
XAN				AP	pP	12 59 05.2	0.0
XAN				AMB	AMB		
	comp=Z,5.0nm,1.3s,mb4.3						
GYA	**Guiyang**	**35.45**	**284**	P	P	12 59 07.4	0.0
GYA				AP	pP	12 59 19.9	+1.1
GYA				XP	sP	12 59 24.6	+0.9
GYA				PP	PP	13 00 29.8	+1.5
GYA				PCP	PcP	13 01 37.4	+1.0
GYA				S	S	13 04 40.4	+0.7
GYA				XS	sS	13 04 59.5	+0.8
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.8						
GYA				AMB	AMB		
	comp=Z,110nm,4.9s						
GYA				LR	LR		
	comp=N,490nm,18.4s,MS4.5						
GYA				LR	LR		
	comp=E,540nm,17.8s,MS4.5						
GYA				LR	LR		
	comp=Z,490nm,18.6s,MS4.3						
CD2	**Chengdu**	**37.95**	**291**	P	P	12 59 29.5	+0.9
CD2				AP	pP	12 59 40.2	+0.1
CD2				XP	sP	12 59 44.9	-0.1
CD2				S	S	13 05 19.3	+1.5
CD2				AMB	AMB		
	comp=Z,40nm,0.7s,mb5.3						
CD2				AMB	AMB		
	comp=Z,100nm,6.2s						
CD2				LR	LR		
	comp=N,150nm,14.4s,MS4.0						
CD2				LR	LR		
	comp=E,120nm,16.4s,MS4.0						
CD2				LR	LR		
	comp=Z,180nm,12.4s,MS4.1						
LZH	**Lanzhou**	**38.33**	**300**	*e*P	P	12 59 32.6	+0.9
LZH				AP	pP	12 59 43.0	-0.2
LZH				XP	sP	12 59 47.0	-1.1
LZH				PCP	PcP	13 01 47.6	+2.6
LZH				*e*S	S	13 05 26.0	+2.7
LZH				AMB	AMB		
	comp=Z,12nm,1.0s,mb4.6						
LZH				AMB	AMB		
	comp=Z,105nm,4.7s						
LZH				LR	LR		
	comp=E,1μm,15.4s						
LZH				LR	LR		
	comp=Z,1μm,17.0s,MS4.8						
KMI	**Kunming**	**39.08**	**282**	P	P	12 59 37.4	-0.8
KMI				AMB	AMB		
	comp=Z,12nm,1.1s,mb4.5						
KMI				LR	LR		
	comp=Z,96nm,18.6s,MS3.7						
BATI	**Kupang**	**39.37**	**215**	P	P	12 59 36.7	-3.9
	comp=Z,27nm,0.6s,mb5.1,baz=120,slow=0.8,SNR=11						
BATI				LR	LR	13 13 28.7	
	comp=Z,205nm,18.9s,MS4.0,baz=223,slow=33						
ULN	**Ulaanbaatar**	**39.44**	**319**	*e*P	P	12 59 41.7	+0.9
ULN				*e*pP	pP	12 59 54.1	+1.8
SONM	**Songino Array**	**39.83**	**318**	P	P	12 59 45.1	+1.0
	comp=Z,8.7nm,0.7s,mb4.6,baz=128,slow=8.8,SNR=29						
SONM				LR	LR	13 17 32.0	
	comp=Z,168nm,18.9s,MS3.9,baz=268,slow=38						
SEY	**Seymchan**	**40.19**	**5**⇑	*e*P	P	12 59 49.7	+2.8
YAK	**Yakutsk**	**40.52**	**349**	*e*P	P	12 59 48.3	-1.3
YAK				*e*		13 01 20.3	
YAK				*i* PPP		13 01 47.1	
YAK				*i*		13 01 56.0	
YAK				*e*S	S	13 05 55.1	-0.4
YAK				*i* SS	SS	13 08 55.1	-1.0
YAK				pmax	pmax		
	comp=Z,12nm,0.9s,mb4.5						
YAK				pmax	pmax		
	comp=N,6.0nm,1.4s						
YAK				pmax	pmax		
	comp=E,2.0nm,1.1s						
YAK				smax			
	comp=N,66nm,19.6s						
YAK				smax			
	comp=E,41nm,18.5s						
YAK				MLR	MLR		
	comp=N,193nm,17.0s,MS4.1						
YAK				MLR	MLR		
	comp=Z,164nm,17.0s,MS4.0						
YAK				MLR	MLR		
	comp=E,130nm,15.0s,MS4.1						
BOD	**Bodaibo**	**41.58**	**335**	*e*P	P	12 59 58.8	+0.4
BOD				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.5						
GTA	**Gaotai**	**41.98**	**304**	*e*P	P	13 00 02.8	+0.8
GTA				AP	pP	13 00 13.5	-0.1
GTA				XP	sP	13 00 18.4	-0.1
GTA				PP	PP	13 01 44.1	+4.5
GTA				PCP	PcP	13 01 57.7	+1.1
GTA				SCP	ScP	13 05 46.6	+2.7
GTA				AMB	AMB		
	comp=Z,5.0nm,1.2s,mb4.0						
GTA				AMB	AMB		
	comp=Z,110nm,3.8s						
GTA				LR	LR		
	comp=N,246nm,16.0s,MS4.2						
GTA				LR	LR		
	comp=E,120nm,14.8s,MS4.2						
GTA				LR	LR		
	comp=Z,179nm,19.4s,MS4.0						
ZAK	**Zakamensk**	**42.74**	**321**	*e*P	P	13 00 08.9	+1.0
ZAK				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.5						
CTA	**Charters Tower**	**42.81**	**179**	*e*P	P	13 00 04.7	-4.1
	comp=Z,9.3nm,0.8s,mb4.6						
CTA	**Charters Tower**	**42.81**	**179**	*e*P	P	13 00 04.7	-4.1
CTA				pmax	pmax		
	comp=Z,9.0nm,0.8s						
CTA	**Charters Tower**	**42.81**	**179**	P	P	13 00 05.0	-3.8
	comp=Z,11nm,0.8s,mb4.7,baz=340,slow=6.1,SNR=6.6						
CTAO	**Charters Tower**	**42.81**	**179**	*e*P	P	13 00 07.6	-1.2
IRK	**Irkutsk**	**42.97**	**323**	*e*P	pP	13 00 22.2	+0.8
IRK				pmax	pmax		
	comp=Z,17nm,0.8s,mb4.8						
TLY	**Talaya**	**43.07**	**322**	*e*P	P	13 00 12.9	+2.3
	comp=Z,15nm,1.0s,mb4.7						
TLY				*e*pP	pP	13 00 24.0	+1.8
TLY	**Talaya**	**43.07**	**322**	*e*P	P	13 00 11.9	+1.3
TLY				*e*S	S	13 06 40.5	+6.9
TLY				pmax	pmax		
	comp=Z,13nm,1.6s,mb4.4						
CHG	**Chiang Mai**	**43.65**	**274**	⇓P	pP	13 00 26.6	-0.8
	comp=Z,16nm,1.0s						
CHTO	**Chiang Mai**	**43.65**	**274**	*e*P	P	13 00 15.6	-0.2
	comp=Z,13nm,0.9s,mb4.7						
CHTO				*e*pP	pP	13 00 27.3	-0.1
CHTO	**Chiang Mai**	**43.65**	**274**	*e*P	P	13 00 15.6	-0.1
CHTO				pmax	pmax		
	comp=Z,13nm,0.9s,mb4.7						
CM31	**Chiang Mai Arr**	**43.74**	**273**	*e*P	P	13 00 16.3	-0.2
	comp=Z,4.0nm,0.6s,mb4.3						
BDT	**Bhumibol Dam**	**43.99**	**271**	P	P	13 00 19.0	+0.5
WRAB	**Tennant Creek**	**44.05**	**195**	*e*P	P	13 00 16.6	-2.1
	comp=Z,120nm,1.2s,mb5.5						
WRAB				*e*pP	pP	13 00 29.0	-1.4
WRAB	**Tennant Creek**	**44.05**	**195**	*e*P	P	13 00 16.6	-2.1
WRAB				pmax	pmax		
	comp=Z,120nm,1.2s,mb5.5						
WB2	**Warramunga Arr**	**44.06**	**195**	*e*P	P	13 00 16.6	-2.2
WB2				*e*pP	pP	13 00 29.2	-1.3

WRA Warramunga Arr 44.06 195 *i* P **P 13 00 16.7 -2.1**
WRA pmax pmax
comp=Z,52nm,0.8s
WRA Warramunga Arr 44.06 195 P **P 13 00 16.8 -2.1**
comp=Z,52nm,0.8s,mb5.3,baz=17,slow=8.8,SNR=69
WRA LR LR 13 16 54.5
comp=Z,294nm,21.9s,MS4.2,baz=30,slow=34
MOY Mondy 44.57 321 *e*P **P 13 00 23.9 +1.2**
FITZ Fitzroy Crossi 45.26 207 *e*P **P 13 00 26.7 -1.7**
comp=Z,26nm,0.6s,mb5.2
FITZ *e*pP pP 13 00 38.6 -1.5
FITZ Fitzroy Crossi 45.26 207 P **P 13 00 26.2 -2.3**
comp=Z,14nm,0.6s,mb5.0,baz=32,slow=14,SNR=24
KULM Kulim 46.77 255 *e*P **P 13 00 39.9 -0.6**
KULM *e*pP pP 13 00 53.5 +1.2
BILL Bilibino 46.84 10 *e*P **P 13 00 40.0 -0.3**
comp=Z,15nm,1.1s,mb4.8
BILL *e*pP pP 13 00 55.3 +3.3
BILL Bilibino 46.84 10⇑ *e*P **P 13 00 40.1 -0.2**
BILL *i* S **S 13 07 37.2 +10**
BILL *e*SS SS 13 10 50.9 -3.3
BILL pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
BILL MLR MLR
comp=Z,200nm,19.0s,MS4.1
ASAR Alice Springs 47.74 195 P **P 13 00 45.1 -2.7**
comp=Z,16nm,0.7s,mb5.2,baz=16,slow=8.2,SNR=67
EIDS Eidsvold 48.36 173 *e*P **P 13 00 49.5 -3.0**
comp=Z,3.3nm,0.7s,mb4.5
SHL Shillong 48.77 284 *e*P **P 13 00 57.0 +1.1**
LSA Lhasa 48.89 290 P **P 13 00 59.6 +2.8**
FALS False Pass 49.29 36 *e*P **P 13 00 58.9 -0.5**
comp=Z,10.0nm,0.5s,mb5.1
TIXI Tiksi 49.62 353⇑ *e*P **P 13 01 05.7 +4.0**
MBWA Marble Bar 50.61 212 *e*P **P 13 01 07.5 -2.3**
comp=Z,8.7nm,0.8s,mb4.7
WMQ Urumqi 51.52 308 *e*P **P 13 01 17.6 +1.1**
WMQ XP sP 13 01 35.0 +1.8
WMQ PCP PcP 13 02 32.0 +1.8
WMQ AMB AMB
comp=Z,17nm,0.9s,mb5.0
WMQ AMB AMB
comp=Z,185nm,4.4s
WMQ LR LR
comp=N,187nm,23.0s,MS4.2
WMQ LR LR
comp=E,199nm,20.5s,MS4.2
WMQ LR LR
comp=Z,231nm,20.6s,MS4.2
ZAA0 Zalesovo Array 54.62 321 *e*P **P 13 01 38.7 -0.4**
ZALV Zalesovo Beam 54.62 321 P **P 13 01 38.8 -0.4**
comp=Z,4.5nm,0.5s,mb4.7,baz=104,slow=7.6,SNR=26
ZALV PcP PcP 13 02 40.5 -1.2
comp=Z,3.2nm,0.6s,baz=99,slow=4.7,SNR=2.1
ZALV LR LR 13 26 34.0
comp=Z,96nm,18.1s,MS3.9,baz=271,slow=38
ZAL Zalesovo 54.63 321 P **P 13 01 38.8 -0.4**
ZAL 13 02 40.5
STKA Stephens Creek 54.68 184 *e*P **P 13 01 37.2 -2.6**
comp=Z,7.1nm,0.8s,mb4.8
STKA *e*pP pP 13 01 49.2 -2.5
STKA Stephens Creek 54.68 184 P **P 13 01 37.1 -2.6**
comp=Z,8.0nm,0.8s,mb4.8,baz=348,slow=7.4,SNR=17
STKA LR LR 13 25 00.6
comp=Z,118nm,19.8s,MS4.0,baz=17,slow=36
MK31 Makanchi Array 55.50 312 *e*P **P 13 01 45.6 0.0**
MK31 *e*pP pP 13 01 58.1 +0.6
MK31 Makanchi Array 55.50 312 *i* P **P 13 01 46.3 +0.7**
MK31 pmax pmax
comp=Z,12nm,0.8s,mb5.0
MKAR Makanchi Array 55.50 312 P **P 13 01 45.5 -0.1**
MKAR PcP PcP 13 02 44.8 -0.5
MKAR LR LR 13 27 48.3
MKAR Makanchi Array 55.50 312 P **P 13 01 45.5 -0.1**
MKAR 13 02 44.8
MKAR Makanchi Array 55.50 312 P **P 13 01 45.5 -0.1**
comp=Z,1.5nm,0.6s,mb4.2,baz=90,slow=8.4,SNR=18
MKAR PcP PcP 13 02 44.8 -0.5
comp=Z,1.8nm,0.6s,baz=93,slow=5.9,SNR=4.4
MKAR LR LR 13 27 48.3
comp=Z,166nm,18.2s,MS4.2,baz=277,slow=38
NVS Novosibirsk 55.67 322 *i* P **P 13 01 47.1 +0.4**
NVS pmax pmax
comp=Z,23nm,1.1s,mb5.1
NVS pmax pmax
comp=N,7.0nm,1.2s
NVS pmax pmax
comp=E,18nm,1.2s
FORT Forrest 56.04 198 *e*P **P 13 01 47.2 -2.4**
comp=E,38nm,0.7s,mb5.5
FORT *e*pP pP 13 02 00.1 -1.4
IMA2 Indian Mountai 57.42 25 *e*P **P 13 01 59.2 +0.3**
IMA2 *e*pP pP 13 02 11.3 +0.3
KURK Kurchatov 58.08 316 *e*P **P 13 02 03.9 +0.1**
comp=E,49nm,0.8s,mb5.6
KURK *e*pP pP 13 02 16.0 +0.1
KURK Kurchatov 58.08 316 *e*P **P 13 02 03.9 +0.1**
KURK pmax pmax
comp=Z,49nm,0.8s,mb5.6
MCK McKinley 58.80 28 *e*P **P 13 02 07.8 -0.8**
comp=Z,13nm,1.1s,mb4.9
MCK McKinley 58.80 28 *e*P **P 13 02 07.8 -0.8**
MCK pmax pmax
comp=Z,13nm,1.1s,mb4.9
COLA College 59.49 27 *e*P **P 13 02 13.6 +0.3**
comp=Z,3.1nm,0.8s,mb4.4
COLA College 59.49 27 *e*P **P 13 02 13.6 +0.2**
COLA pmax pmax
comp=Z,3.0nm,0.8s,mb4.4
TKM2 Tokmak 2 60.34 307 *e*P **P 13 02 20.2 +0.6**
comp=Z,5.8nm,0.8s,mb4.7
TKM2 *e*pP pP 13 02 32.0 +0.4
TKM2 Tokmak 2 60.34 307 *i* P **P 13 02 20.7 +1.1**
TKM2 pmax pmax
comp=Z,14nm,1.3s,mb4.8
KLBR Kellerberrin 60.47 207 *e*P **P 13 02 17.8 -2.7**
comp=Z,35nm,0.7s,mb5.5
KLBR *e*pP pP 13 02 28.7 -3.8
NDI New Delhi 61.08 291 *ex* x 13 02 03.0
UCH Uchtor 61.20 307 *e*P **P 13 02 27.4 +1.9**
comp=Z,17nm,1.0s,mb5.1
UCH *e*pP pP 13 02 39.2 +1.6
EKS2 Erkin-Say 61.70 307 *e*P **P 13 02 29.5 +0.7**
comp=Z,5.3nm,0.9s,mb4.7
EKS2 *e*pP pP 13 02 41.3 +0.4
AML Almayashu 61.81 307 *e*P **P 13 02 31.2 +1.5**
comp=Z,14nm,0.8s,mb5.2
AML *e*pP pP 13 02 43.4 +1.7
NWAO Narrogin (SRO) 61.84 207 LR LR 13 28 51.0
comp=Z,176nm,20.7s,MS4.2,baz=16,slow=36
EGAK Eagle 62.31 28 *e*P **P 13 02 32.7 +0.2**
comp=Z,9.1nm,1.1s,mb4.8
HYB Hyderabad 62.71 278 *e*P **P 13 02 36.5 +0.5**
HYB Hyderabad 62.71 278 *i* P **P 13 02 36.5 +0.5**
CHKZ Chkalovo 62.99 320 *i* P **P 13 02 36.7 -0.6**
DAWY Dawson 63.03 28 *e*P **P 13 02 37.1 -0.2**
DAWY *e*pP pP 13 02 48.5 -1.0
BRVK Borovoye 63.23 319 *e*P **P 13 02 38.9 0.0**
comp=Z,57nm,0.8s,mb5.8
BRVK *e*pP pP 13 02 51.2 +0.2
BRVK Borovoye 63.23 319 *e*P **P 13 02 38.9 +0.1**
BRVK pmax pmax
comp=Z,57nm,0.8s,mb5.8
ZRNK Zerenda 64.00 319 *i* P **P 13 02 47.0 +3.0**
ZRNK pmax pmax
comp=Z,6.0nm,1.0s,mb4.6
KK31 Karatay Array 64.03 308 *i* P **P 13 02 45.0 +0.7**
KK31 pmax pmax
comp=Z,22nm,0.9s,mb5.2
INK Inuvik 65.50 24 *e*P **P 13 02 53.1 -0.3**
comp=Z,576nm,1.1s
INK *e*pP pP 13 03 04.8 -0.8
INK Inuvik 65.50 24 P **P 13 02 53.3 -0.1**
comp=Z,3.0nm,0.7s,mb4.4,baz=275,slow=6.9,SNR=16
POO Poona 66.65 281 *ex* x 13 03 04.5
KBL Kabul 66.68 299 *e*P **P 13 03 02.1 +0.4**
comp=Z,8.0nm,0.8s,mb4.8
KBL *e*pP pP 13 03 13.8 -0.1
DLBC Dease Lake 67.81 34 *e*P **P 13 03 11.4 +3.1**
DLBC *e*pP pP 13 03 21.4 +0.8
SVE Sverdlovsk 68.36 324 *e*P pP 13 03 24.5 +0.4
ARU Arti 69.56 324 *e*P **P 13 03 18.8 -0.5**
comp=Z,26nm,0.8s,mb5.2
ARU *e*pP pP 13 03 31.0 -0.5
ARU Arti 69.56 324*c i*P **P 13 03 19.7 +0.4**
ARU *e* 13 05 53.6
ARU *e*S S 13 12 27.0 +2.9
ARU *e*SS SS 13 16 54.0 +2.2
ARU pmax pmax
comp=Z,36nm,2.5s,mb4.9
YKA Yellowknife Ar 74.27 28 P **P 13 03 46.3 -1.1**
comp=Z,3.6nm,0.5s,mb4.5,baz=290,slow=6.0,SNR=43
YKA LR LR 13 35 31.8
comp=Z,77nm,20.4s,MS4.0,baz=65,slow=35
F04A Amboy 75.17 46 ⇑P **P 13 03 54.1 +1.1**
F04A ⇑pP pP 13 04 04.8 -0.6
baz=75
RES Resolute Bay 75.30 14 *e*P **P 13 03 53.9 +0.7**
comp=Z,432nm,0.9s
RES *e*pP pP 13 04 04.9 -0.7
G04A Mulino 75.36 47 ⇑pP pP 13 04 06.5 0.0
baz=75
E05A Randle 75.42 45 ⇑P **P 13 03 55.0 +0.6**
baz=75
E05A ⇑pP pP 13 04 05.4 -1.4
baz=75
A07A Ashnola River, 75.53 43 ⇑pP pP 13 04 07.2 -0.1
baz=76
H04A Detroit Lake 75.72 47 ⇓pP pP 13 04 07.7 -0.8
baz=76
D06A Cle Elum 75.82 45 ⇓P **P 13 03 57.2 +0.6**
baz=76
D06A ⇑pP pP 13 04 09.1 +0.1
baz=76
F05A White Salmon 75.83 46 ⇓pP pP 13 04 09.2 +0.1
baz=76
HUMO Hull Mountain 75.83 50 ⇑P **P 13 03 58.2 +1.4**
baz=76
HUMO ⇓pP pP 13 04 09.8 +0.6
baz=76
I04A Tendick Farm, 75.84 48 ⇓pP pP 13 04 08.5 -0.7
baz=76
B07A Winthrop 75.88 43 ⇓P **P 13 03 57.6 +0.6**
baz=76
B07A ⇓pP pP 13 04 09.1 -0.2
baz=76
E06A Yakima 75.94 45 ⇑pP pP 13 04 10.3 +0.6
baz=76
O01C Eel River Cons 75.98 52 ⇑pP pP 13 04 10.3 +0.2
baz=76
N02C Big Bar 76.14 51 ⇓pP pP 13 04 10.6 -0.4
baz=76
C07A Waterville 76.16 44 ⇓pP pP 13 04 10.5 -0.5
baz=76
A08A Turner Farm, O 76.25 43 ⇓P **P 13 03 60.0 +0.9**
baz=76
A08A ⇓pP pP 13 04 11.4 0.0
baz=76
YBH Yreka Blue Hor 76.28 50 ⇑P **P 13 03 59.8 +0.4**
baz=76
YBH ⇓pP pP 13 04 11.9 +0.1
baz=76
M02C Callahan 76.29 51 ⇑P **P 13 03 59.7 +0.3**
baz=76
M02C ⇑pP pP 13 04 12.5 +0.7
baz=76
H05A Madras 76.38 47 ⇑P **P 13 04 00.5 +0.7**
baz=76
H05A ⇑pP pP 13 04 12.3 0.0
baz=76
D07A Quincy 76.38 44 ⇑P **P 13 04 00.5 +0.7**
baz=76
D07A ⇓pP pP 13 04 12.1 -0.1
baz=76
B08A Colville Reser 76.41 43 ⇓P **P 13 04 00.8 +0.8**
baz=76
B08A ⇓pP pP 13 04 12.0 -0.4
baz=76
I05A Bend 76.50 48 ⇓P **P 13 04 01.2 +0.6**
baz=76
I05A ⇑pP pP 13 04 13.0 -0.1
baz=76
P01C Double 8 Ranch 76.55 53 ⇓pP pP 13 04 13.3 0.0
baz=76
G06A Carlson Farm, 76.58 46 ⇓pP pP 13 04 13.2 -0.3
baz=76
E07A Sunnyside 76.67 45 ⇓pP pP 13 04 14.0 +0.1
baz=77
A09A Danville 76.67 42 ⇓pP pP 13 04 14.1 +0.2
baz=77
O02C Red Bluff 76.72 52 ⇑pP pP 13 04 14.6 +0.3
baz=77
C08A Higginbotham F 76.78 44 ⇑P **P 13 04 02.6 +0.5**
baz=77
C08A ⇓pP pP 13 04 14.0 -0.5
baz=77
J05A Fort Rock 76.81 48 ⇓pP pP 13 04 15.1 +0.3
baz=77
F07A Phinny Hill Vi 76.84 46 ⇑pP pP 13 04 15.2 +0.3
baz=77
M03C McCloud 76.84 51 ⇑pP pP 13 04 14.8 -0.2
baz=77
TMCR Tamitsa 76.87 335 *e*P **P 13 04 02.1 -0.2**
TMCR *e* pP 13 04 13.3 -1.4
M04C Macdoel 76.88 50 ⇑pP pP 13 04 15.7 +0.5
baz=77
HAWA Hanford 76.93 45 *e*P **P 13 04 05.8 +2.9**
comp=Z,8.6nm,0.8s,mb4.7
HAWA *e*pP pP 13 04 15.1 -0.2
H06A Lindquist Farm 76.95 47 ⇓P **P 13 04 03.5 +0.4**
baz=77
H06A ⇓pP pP 13 04 15.2 -0.3
baz=77
APA Apatity 77.00 339⇑ *i*P **P 13 04 07.0 +4.0**
APA pmax pmax
comp=Z,22nm,0.7s,mb5.2
D08A Wollman Farm, 77.10 44 ⇓P **P 13 04 04.4 +0.4**
baz=77
D08A ⇓pP pP 13 04 15.5 -0.8
baz=77
B09A Rice 77.13 43 ⇑pP pP 13 04 13.7 -2.8
baz=77
G07A Ruggs Ranch, H 77.22 46 ⇓P **P 13 04 05.2 +0.6**
baz=77
G07A ⇑pP pP 13 04 16.0 -1.1
baz=77
A10A Northport 77.30 42 ⇓pP pP 13 04 17.0 -0.5
baz=77
MNRC McLaughlin Nat 77.40 53 ⇓pP pP 13 04 17.4 -0.7
baz=77
D09A Jones Farm, Ri 77.49 44 ⇓P **P 13 04 06.4 +0.3**
baz=77
D09A ⇓pP pP 13 04 18.2 -0.4
baz=77
L05A Lakeview 77.50 50 ⇑pP pP 13 04 18.8 +0.1
baz=77
M05C Lookout 77.51 50 ⇑pP pP 13 04 18.7 -0.1
baz=77
K06A Valley Falls 77.66 49 ⇑pP pP 13 04 19.5 -0.1
baz=78
G08A Pilot Rock 77.68 46 ⇑pP pP 13 04 19.1 -0.6
baz=78
I07A Izee 77.73 47 ⇓pP pP 13 04 19.5 -0.4
baz=78
SUTB Sutter Butte 77.76 53 ⇑P **P 13 04 08.0 +0.2**
baz=78
SUTB ⇑pP pP 13 04 19.1 -1.1
baz=78
NEW Newport 77.83 43 *e*P **P 13 04 08.3 +0.4**
comp=Z,14nm,1.0s,mb4.8
NEW *e*pP pP 13 04 20.1 -0.3
NEW Newport 77.83 43 *e*P **P 13 04 08.3 +0.4**
NEW *e**PP pP 13 04 20.1 -0.3
NEW pmax pmax
comp=Z,14nm,1.0s
ORV Oroville 77.86 52 ⇑P **P 13 04 08.1 -0.2**
baz=78
ORV ⇓pP pP 13 04 20.1 -0.6
baz=78
O04C Chester 77.90 51 ⇓pP pP 13 04 21.0 0.0
baz=78
MOD Modoc 77.92 50 ⇑pP pP 13 04 20.9 -0.2
baz=78
M06C Likely Place G 78.04 50 ⇓pP pP 13 04 21.6 -0.1
baz=78
A11A Hall Mountain, 78.05 42 ⇑P **P 13 04 08.8 -0.4**
baz=78
A11A ⇑pP pP 13 04 21.6 0.0
baz=78
ELFS Eagle Lake Fie 78.06 51 ⇓P **P 13 04 10.1 +0.7**
baz=78
H08A Prairie City 78.14 47 ⇑pP pP 13 04 21.5 -0.7
baz=78
EDM Edmonton 78.23 37 *e*P **P 13 04 10.7 +0.6**
EDM *e*pP pP 13 04 21.6 -0.9
K07A Rock Creek Ran 78.39 49 ⇑P **P 13 04 11.1 -0.1**
baz=78
K07A ⇑pP pP 13 04 23.5 -0.1
baz=78
ARCES ARCESS Array B 78.41 342 P **P 13 04 10.6 -0.2**
ARCES LR LR 13 43 02.0
ARCES ARCESS Array B 78.41 342 P **P 13 04 10.6 -0.2**
comp=Z,2.7nm,0.6s,mb4.3,baz=50,slow=6.5,SNR=7.3
ARCES LR LR 13 43 02.0
comp=Z,84nm,19.5s,MS4.1,baz=181,slow=39
G09A Cove 78.46 46 ⇑P **P 13 04 11.0 -0.6**
baz=78
G09A ⇑pP pP 13 04 23.6 -0.4
baz=78
A12A Yaak River Ran 78.49 42 ⇑pP pP 13 04 24.4 +0.4
baz=78
L07A Adell 78.56 49 P **P 13 04 12.5 +0.4**
baz=78,SNR=5.8
L07A ⇓pP pP 13 04 24.7 +0.1
baz=78
BEKR Beckwourth 78.58 52 P **P 13 04 12.0 -0.3**
baz=78,SNR=6.0
BEKR ⇓pP pP 13 04 24.0 -0.8
baz=78
N06A Buffalo Meadow 78.65 51 ⇑P **P 13 04 12.2 -0.4**
baz=79
N06A ⇑pP pP 13 04 24.6 -0.5
baz=79
J08A Circle Bar Ran 78.68 48 ⇑P **P 13 04 13.0 +0.3**
baz=79,SNR=5.9
J08A ⇓pP pP 13 04 24.9 -0.3
baz=79
LAVA Lava Cap Winer 78.69 53 ⇑P **P 13 04 12.0 -0.9**
baz=79
LAVA ⇑pP pP 13 04 24.7 -0.6
baz=79
B12A Libby 78.70 42 ⇑pP pP 13 04 25.0 -0.3
baz=79
H09A Durkee 78.76 46 ⇑pP pP 13 04 24.9 -0.8
baz=79
O06A Flanigan 78.86 51 ⇑P **P 13 04 13.6 -0.2**
baz=79,SNR=10
O06A ⇑pP pP 13 04 25.9 -0.4
baz=79
PACP Pacheco Peak 78.89 55 ⇓pP pP 13 04 26.2 -0.3
baz=79
G10A Bishop Farm, J 78.89 46 ⇑P **P 13 04 13.4 -0.5**
baz=79,SNR=6.5
G10A ⇓pP pP 13 04 25.9 -0.5
baz=79
K08A Mann Creek Ran 78.90 48 ⇓P **P 13 04 13.1 -0.8**
baz=79,SNR=6.5
K08A ⇑pP pP 13 04 26.2 -0.2
baz=79
M07A Soldier Meadow 78.90 50 ⇓pP pP 13 04 26.2 -0.2
baz=79
WVOR Wild Horse Val 78.90 49 *e*P **P 13 04 16.2 +2.2**
comp=Z,11nm,1.0s,mb4.7
WVOR *e*pP pP 13 04 26.0 -0.4
WVOR Wild Horse Val 78.90 49 *e*P **P 13 04 16.2 +2.2**
WVOR *e**PP pP 13 04 26.0 -0.4
WVOR pmax pmax
comp=Z,11nm,1.0s,mb4.7
BMO Blue Mountains 78.93 46 *e*P **P 13 04 14.0 -0.1**
comp=Z,19nm,1.1s,mb4.9
BMO *e*pP pP 13 04 25.8 -0.7
E11A Bogner Ranch, 79.10 44 ⇑P **P 13 04 15.0 0.0**
baz=79
E11A ⇑pP pP 13 04 26.6 -0.9
baz=79
J09A Fry Pan Ranch, 79.18 48 ⇓P **P 13 04 15.4 -0.1**
baz=79
J09A ⇑pP pP 13 04 27.7 -0.2
baz=79
L08A Fields 79.19 49 ⇓P **P 13 04 15.7 +0.1**
baz=79,SNR=7.3
L08A ⇓pP pP 13 04 28.0 0.0
baz=79
CMB Columbia Colle 79.20 53 *e*P **P 13 04 14.2 -1.6**
comp=Z,8.1nm,0.9s,mb4.7
CMB *e*pP pP 13 04 26.9 -1.3
CMB Columbia Colle 79.20 53 *e*P **P 13 04 14.2 -1.5**
CMB *e**PP pP 13 04 26.9 -1.3
CMB pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
CMB Columbia Colle 79.20 53 P **P 13 04 15.1 -0.6**
baz=79,SNR=5.0
CMB ⇓pP pP 13 04 27.6 -0.6
baz=79
WCN Washoe City 79.22 52 ⇑pP pP 13 04 27.9 -0.4
baz=79
A13A Flathead Natio 79.25 41 ⇑pP pP 13 04 27.7 -0.5
baz=79
N07B Gerlach 79.25 50 ⇑P **P 13 04 15.8 -0.1**
baz=79,SNR=5.7
N07B ⇑pP pP 13 04 27.9 -0.5
baz=79
F11A Grangeville 79.31 45 ⇓P **P 13 04 15.8 -0.4**
baz=79
F11A ⇑pP pP 13 04 27.6 -1.0
baz=79
D12A Red Ives Fores 79.38 43 ⇓P **P 13 04 17.2 +0.7**
baz=79
H10A Noah's Angus R 79.40 46 ⇑P **P 13 04 16.1 -0.6**
baz=79
H10A ⇓pP pP 13 04 27.9 -1.2
baz=79
G11A Walters Elk Ra 79.41 45 ⇑P **P 13 04 16.5 -0.2**
baz=79
G11A ⇓pP pP 13 04 27.6 -1.6
baz=79
K09A Rome 79.43 48 ⇑P **P 13 04 16.6 -0.3**
baz=79
K09A ⇓pP pP 13 04 28.7 -0.7
baz=79
B13A Whitefish 79.43 42 ⇓pP pP 13 04 29.0 -0.3
baz=79
M08A Happy Creek Ra 79.43 50 ⇓P **P 13 04 16.5 -0.5**
baz=79
M08A ⇑pP pP 13 04 28.9 -0.5
baz=79
WALA Waterton Lakes 79.51 41 *e*P **P 13 04 18.1 +1.0**
comp=Z,15nm,1.0s,mb4.9
WALA *e*pP pP 13 04 29.8 +0.1
I10A Payette 79.55 47 ⇑pP pP 13 04 29.7 -0.3
baz=80
C13A Hot Springs 79.63 43 P **P 13 04 17.8 -0.1**
baz=80,SNR=10
C13A ⇓pP pP 13 04 29.6 -0.7
baz=80
R06C Coleville 79.72 53 ⇑pP pP 13 04 30.7 -0.3
baz=80
L09A Wilkinson Ranc 79.72 49 ⇑P **P 13 04 19.0 +0.5**
baz=80
L09A ⇑pP pP 13 04 30.8 -0.2
baz=80
PKD Parkfield 79.83 55 ⇑pP pP 13 04 31.2 -0.4
baz=80
H11A Donnelly 79.84 46 ⇑P **P 13 04 18.4 -0.7**
baz=80,SNR=5.5
H11A ⇓pP pP 13 04 30.8 -0.8
baz=80
N08A GE Springer Mi 79.85 50 ⇑P **P 13 04 18.8 -0.4**
baz=80,SNR=5.5
D13A Huson 79.93 43 ⇓P **P 13 04 19.0 -0.5**
baz=80
D13A ⇓pP pP 13 04 31.3 -0.7
baz=80
F12A Elk City 79.94 45 ⇑pP pP 13 04 31.4 -0.7
baz=80
K10A MacKenzie Ranc 79.99 48 ⇑P **P 13 04 19.5 -0.4**
baz=80
K10A ⇓pP pP 13 04 31.8 -0.6
baz=80
Q07A Schurz 80.04 52 ⇑pP pP 13 04 32.0 -0.7
baz=80
T06C Millerton Lake 80.07 54 ⇑P **P 13 04 20.3 -0.2**
baz=80
T06C ⇓pP pP 13 04 32.1 -0.9
baz=80
M09A Marrel Ranch, 80.09 49 ⇓pP pP 13 04 32.4 -0.6
baz=80
C14A Swan Lake 80.11 42 ⇑P **P 13 04 20.0 -0.5**
baz=80
C14A ⇓pP pP 13 04 32.3 -0.7

baz=80
JOF Joensuu 80.11 335 *e*p pP 13 04 30.8 -1.9
comp=Z,40nm,0.6s
JOF Joensuu 80.11 335 *e*P pP 13 04 30.8 -1.9
JOF pmax pmax
comp=Z,40nm,0.6s,mb5.5
KCC Kaiser Creek 80.25 54 ⇑pP pP 13 04 33.1 -0.8
baz=80
N09A Rock Creek Ran 80.25 50 ⇑pP pP 13 04 33.9 0.0
baz=80
MFID Camas Ranch 80.45 47 ⇓P **P 13 04 22.4 -0.1**
baz=80,SNR=5.7
MFID ⇑pP pP 13 04 34.5 -0.4
baz=80
F13A Darby 80.52 44 ⇑P **P 13 04 21.8 -0.9**
baz=80,SNR=6.4
F13A ⇑pP pP 13 04 34.3 -0.9
baz=80
L10A Juniper Basin 80.53 48 ⇓pP pP 13 04 34.9 -0.4
baz=80
D14A Greenough 80.53 43 ⇑P **P 13 04 22.9 +0.2**
baz=80
K11A Parker Ranch, 80.56 48 ⇑pP pP 13 04 34.7 -0.8
baz=80
NVAR Mina Array Bea 80.59 52 P **P 13 04 22.9 -0.3**
comp=Z,6.0nm,0.7s,mb4.6,baz=281,slow=5.3,SNR=38
H12A Diamond D Ranc 80.66 46 ⇓pP pP 13 04 34.9 -1.1
baz=81
Q08A Gabbs 80.70 52 ⇓pP pP 13 04 35.8 -0.5
baz=81
HELL Mitchell Peak 80.70 54 ⇑P **P 13 04 23.7 -0.2**
baz=81
HELL ⇓pP pP 13 04 34.8 -1.6
baz=81
O09A Fish Creek Ran 80.74 50 ⇑pP pP 13 04 36.2 -0.3
baz=81
PKM Peak Mountain 80.75 56 ⇓P **P 13 04 23.9 -0.3**
baz=81
R08A Mina 80.76 52 ⇑pP pP 13 04 36.2 -0.5
baz=81
E14A Clinton 80.81 43 ⇑pP pP 13 04 36.1 -0.6
baz=81
G13A Cobalt 80.86 45 P **P 13 04 23.9 -0.7**
baz=81,SNR=19
G13A ⇑pP pP 13 04 36.1 -1.0
baz=81
VES Vestal, Richgr 80.97 55 ⇓pP pP 13 04 36.5 -1.3
baz=81
J12A Stokes Ranch, 81.01 47 ⇑pP pP 13 04 37.5 -0.4
baz=81
S08C White Mtn Res 81.03 53 ⇓P **P 13 04 25.1 -0.6**
baz=81
S08C ⇑pP pP 13 04 37.8 -0.3
baz=81
TIN Tinemaha 81.16 54 ⇓pP pP 13 04 39.1 +0.3
baz=81
O10A Cortez Mining, 81.19 50 ⇓pP pP 13 04 38.7 -0.1
baz=81
HLID Hailey 81.34 46 *e*P **P 13 04 27.4 +0.3**
comp=Z,6.5nm,1.0s,mb4.5
HLID *e*pP pP 13 04 39.3 -0.3
K12A Draper Farm, C 81.38 47 ⇓pP pP 13 04 39.6 -0.3
baz=81
P10A Eureka 81.47 51 ⇑pP pP 13 04 40.4 0.0
baz=81
CWC Cottonwood Cre 81.50 54 ⇓pP pP 13 04 40.2 -0.4
baz=81
L12A House Creek Ra 81.50 48 ⇓pP pP 13 04 40.5 0.0
baz=81
R09A Tonopah 81.56 52 ⇑pP pP 13 04 40.3 -0.7
baz=82
J13A Cove Ranch, Pi 81.57 46 ⇑pP pP 13 04 40.6 -0.2
baz=82
S09A Goldfield 81.64 53 ⇓P **P 13 04 28.6 -0.3**
baz=82
S09A ⇓pP pP 13 04 40.9 -0.5
baz=82
OBN Obninsk 81.66 327 ⇓*e*P **P 13 04 31.2 +2.6**
OBN *e* 13 07 31.9
OBN *e*S S 13 14 36.8 -1.1
OBN pmax pmax
comp=Z,23nm,1.6s,mb4.9
OBN MLR MLR
comp=Z,200nm,18.0s,MS4.5
F15A Butte 81.68 44 ⇓P **P 13 04 28.5 -0.3**
baz=82
F15A ⇑pP pP 13 04 41.1 -0.3
baz=82
Q10A Clear Creek Ra 81.82 51 ⇓P **P 13 04 30.0 +0.3**
baz=82
Q10A ⇑pP pP 13 04 41.7 -0.5
baz=82
O11A Cowboy Ranch, 81.84 50 ⇑pP pP 13 04 41.6 -0.8
baz=82
MCMT McKenzie Canyo 81.86 45 *e*P **P 13 04 32.6 +2.8**
K13A Stover Farm, H 81.93 47 ⇑pP pP 13 04 42.4 -0.4
baz=82
G15A Dillon 81.96 44 ⇓P **P 13 04 30.5 +0.2**
baz=82
G15A ⇑pP pP 13 04 42.0 -0.8
baz=82
S10A Tonopah Range, 82.03 52 ⇓P **P 13 04 31.0 +0.1**
baz=82,SNR=5.8
S10A ⇑pP pP 13 04 42.8 -0.6
baz=82
VRSR Storozhevoye 82.06 322 *e*P pP 13 04 42.9 -0.4
VRSR pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
VRSR pmax pmax
comp=N,6.0nm,1.1s
VRSR pmax pmax
comp=E,7.0nm,1.1s
MPMC Manual Prospec 82.08 54 ⇓P **P 13 04 30.9 -0.3**
baz=82
MPMC ⇓pP pP 13 04 43.0 -0.7
baz=82
R10A Warm Springs 82.10 52 ⇓P **P 13 04 31.1 -0.1**
baz=82
VORD Divnogorie 82.12 322 *e*P pP 13 04 43.1 -0.5
VORD pmax pmax
comp=Z,10.0nm,0.7s,mb4.8
VORD pmax pmax
comp=N,40nm,0.8s
VORD pmax pmax
comp=E,20nm,1.0s
DECC Green Verdugo 82.14 56 ⇑pP pP 13 04 43.5 -0.6
baz=82
EDW2 Edwards Air Fo 82.16 56 ⇓pP pP 13 04 43.9 -0.2
baz=82
LRMC Laurel Mountai 82.16 55 ⇓P **P 13 04 31.0 -0.6**
baz=82
LRMC ⇑pP pP 13 04 43.5 -0.6
baz=82
L13A Double Diamond 82.25 48 ⇑pP pP 13 04 44.3 -0.2
baz=82
BOZ Bozeman (W) 82.31 44 *e*P **P 13 04 31.6 -0.6**
comp=E,6.0nm,1.0s,mb4.5
BOZ *e*pP pP 13 04 44.4 -0.3
BOZ Bozeman (W) 82.31 44 *e*P **P 13 04 31.6 -0.6**
BOZ pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
Q11A Duckwater 82.35 51 ⇑pP pP 13 04 44.5 -0.6
baz=82
DGRG David-gareji 82.36 312 P **P 13 04 31.9 -0.7**
M13A Montello 82.39 48 ⇓P **P 13 04 32.6 -0.1**
baz=82
M13A ⇑pP pP 13 04 44.9 -0.3
baz=82
FURC Furnace Creek, 82.39 54 ⇑pP pP 13 04 44.7 -0.6
baz=82
CIS Catalina Islan 82.40 57 ⇑pP pP 13 04 44.5 -0.9
baz=82
O12A Currie 82.43 50 ⇑pP pP 13 04 44.5 -1.0
baz=82
KAF Kangasniemi 82.50 336 *e*p pP 13 04 43.5 -1.8
comp=Z,18nm,0.6s,baz=53,slow=4.8
KAF Kangasniemi 82.50 336 *e*P pP 13 04 43.5 -1.8
KAF pmax pmax
comp=Z,18nm,0.6s,mb5.2
N13A Wendover, West 82.57 49 ⇑pP pP 13 04 45.8 -0.4
baz=82
R11A Troy Canyon, C 82.59 52 ⇑P **P 13 04 33.5 -0.3**
baz=82
R11A ⇑pP pP 13 04 45.7 -0.7
baz=82
P12A McGill 82.63 50 ⇓P **P 13 04 33.8 -0.2**
baz=82
P12A ⇑pP pP 13 04 46.0 -0.5
baz=82
MTA Mtatsminda 82.66 312 P **P 13 04 34.8 +0.7**
TPNV Topopah Spring 82.66 53 *e*P **P 13 04 33.1 -1.1**
comp=Z,10nm,0.9s,mb4.8
TPNV *e*pP pP 13 04 45.7 -1.0
TPNV Topopah Spring 82.66 53 *e*P **P 13 04 33.2 -1.0**
TPNV pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
TBLG Delisi 82.68 312 P pP 13 04 47.0 +0.2
S11A Rachel 82.75 52 ⇑pP pP 13 04 46.7 -0.5
baz=83
QLMT Earthquake Lak 82.78 44 *e*P **P 13 04 34.9 +0.2**
QLMT *e*pP pP 13 04 47.1 0.0
U10A Ash Meadows, A 82.81 54 ⇓pP pP 13 04 47.6 +0.1
baz=83
Q12A Willow Creek R 82.86 51 ⇑P **P 13 04 35.5 +0.3**
baz=83
Q12A ⇓pP pP 13 04 47.4 -0.3
baz=83
GSC Goldstone 82.89 55 *e*P **P 13 04 35.1 -0.3**
comp=Z,6.1nm,1.1s,mb4.5
GSC *e*pP pP 13 04 46.6 -1.3
GSC Goldstone 82.89 55 *e*P **P 13 04 35.1 -0.3**
GSC pmax pmax
comp=Z,6.0nm,1.1s,mb4.5
GSC Goldstone 82.89 55 ⇓pP pP 13 04 47.4 -0.6
baz=83
M14A Sheep Mountain 82.90 48 ⇑P **P 13 04 36.0 +0.7**
baz=83
M14A ⇑pP pP 13 04 47.3 -0.6
baz=83
FIA1 FINESS Array S 82.98 335 *e*P **P 13 04 34.5 -0.8**
FIA1 *e*pP pP 13 04 46.3 -1.5
FINES FINESS Array B 82.98 335 *i* P **P 13 04 33.9 -1.4**
FINES FINESS Array B 82.98 335 P **P 13 04 34.1 -1.2**
comp=Z,7.3nm,0.5s,mb4.9,baz=81,slow=5.2,SNR=36
O13A Hicks Ranch, I 83.02 49 ⇑pP pP 13 04 48.0 -0.5
baz=83
SHOC Shoshone 83.05 54 ⇓pP pP 13 04 48.2 -0.6
baz=83
KIV Kislovodsk 83.12 315 *e*P **P 13 04 37.7 +1.2**
comp=Z,52nm,1.0s,mb5.5
KIV *e*pP pP 13 04 49.1 +0.1
KIV Kislovodsk 83.12 315 *e*P **P 13 04 38.4 +1.9**
KIV pmax pmax
comp=Z,9.0nm,0.6s,mb5.0
KIV MLR MLR
comp=Z,156nm,20.0s,MS4.4
YMR Madison River 83.15 44 *e*P **P 13 04 36.9 +0.3**
comp=Z,20nm,0.9s,mb5.1
YMR *e*pP pP 13 04 49.8 +0.7
ONI Oni 83.20 313 P **P 13 04 38.3 +1.4**
MURC Murrieta 83.25 56 ⇑pP pP 13 04 47.9 -2.0
baz=83
P13A Bates Ranch, G 83.27 50 ⇑P **P 13 04 36.8 -0.5**
baz=83
P13A ⇑pP pP 13 04 49.1 -0.7
baz=83
N14A Grayback Hills 83.28 49 ⇑pP pP 13 04 49.3 -0.6
baz=83
T11A Corn Creek, Al 83.30 52 ⇑P **P 13 04 37.4 -0.2**
baz=83
T11A ⇑pP pP 13 04 49.3 -0.7
baz=83
R12A Pony Springs, 83.31 51 ⇑P **P 13 04 37.5 0.0**
baz=83
R12A ⇓pP pP 13 04 49.2 -0.8
baz=83
YFT Old Faithful 83.33 45 *e*P **P 13 04 39.4 +1.9**
YFT *e*pP pP 13 04 51.4 +1.4
S12A Delamar Landin 83.42 52 ⇓P **P 13 04 38.4 +0.3**
baz=83
HEC Hector,Ludlow 83.43 55 ⇓pP pP 13 04 50.0 -0.8
baz=83
GCMT Greycliff 83.49 43 *e*P **P 13 04 40.8 +2.5**
GCMT *e*pP pP 13 04 50.0 -0.8
IMW Indian Meadow 83.50 45 *e*P **P 13 04 39.6 +1.2**
comp=Z,13nm,0.9s,mb5.0
IMW *e*pP pP 13 04 51.0 +0.1
TUQ Turquoise Mtn. 83.50 54 ⇑pP pP 13 04 50.6 -0.5
baz=83
M15A Larsen Ranch, 83.53 48 ⇑pP pP 13 04 50.6 -0.5
baz=83
FFC Flin Flon 83.55 33 *e*P **P 13 04 37.4 -1.1**
comp=Z,19nm,1.3s,mb5.1
FFC *e*pP pP 13 04 49.6 -1.4
FFC Flin Flon 83.55 33 *e*P **P 13 04 37.4 -1.0**
FFC pmax pmax
comp=Z,19nm,1.3s,mb5.1
FLWY Flagg Ranch 83.58 45 *e*P **P 13 04 39.8 +1.1**
comp=Z,20nm,0.9s,mb5.2
FLWY *e*pP pP 13 04 51.6 +0.3
MOOW Moose Ponds 83.69 45 *e*P **P 13 04 40.0 +0.6**
comp=Z,5.2nm,1.2s,mb4.5
MOOW *e*pP pP 13 04 50.8 -1.1
PFO Pinyon Flat Ob 83.82 56 *e*P **P 13 04 38.6 -1.7**
comp=Z,7.3nm,1.1s,mb4.7
PFO *e*pP pP 13 04 51.8 -1.0
PFO Pinyon Flat Ob 83.82 56 *e*P **P 13 04 38.6 -1.7**
PFO pmax pmax
comp=Z,7.0nm,1.1s,mb4.7
PFO Pinyon Flat Ob 83.82 56 ⇑pP pP 13 04 52.1 -0.7
baz=84
GMRC Granite Mounta 83.96 55 ⇑pP pP 13 04 52.7 -0.8
baz=84
BELC Belle Mtn. 84.01 56 ⇓pP pP 13 04 52.6 -1.2
baz=84
RLMT Red Lodge 84.03 43 *e*P **P 13 04 40.8 -0.3**
comp=Z,12nm,0.9s,mb5.0
RLMT *e*pP pP 13 04 53.5 -0.1
HWUT Hardware Ranch 84.07 47 *e*P **P 13 04 41.9 +0.6**
comp=Z,6.0nm,0.9s,mb4.7
HWUT *e*pP pP 13 04 53.1 -0.8
S13A Holt Ranch, En 84.15 52 ⇓P **P 13 04 41.8 0.0**
baz=84
S13A ⇓pP pP 13 04 54.2 -0.2
baz=84
V12A Nelson 84.18 54 ⇓P **P 13 04 41.9 -0.1**
baz=84
V12A ⇓pP pP 13 04 54.1 -0.6
baz=84
T13A Saint George 84.35 52 ⇑pP pP 13 04 54.9 -0.5
baz=84
ARUT Antelope Range 84.37 51 *e*P **P 13 04 43.2 +0.2**
ARUT *e*pP pP 13 04 54.4 -1.1
U13A Pakoon Wash 84.56 53 ⇓pP pP 13 04 55.9 -0.6
baz=84
S14A Cedar City 84.58 51 ⇑pP pP 13 04 56.6 0.0
baz=84
JLU Jordanelle 84.58 48 *e*P **P 13 04 43.7 -0.3**
JLU *e*pP pP 13 04 55.8 -0.8
IRM Iron Mountain 84.59 55 ⇓pP pP 13 04 55.2 -1.5
baz=84
DAU Daniels Canyon 84.79 48 *e*P **P 13 04 44.7 -0.4**
DAU *e*pP pP 13 04 57.1 -0.5
FCC Fort Churchill 84.89 27 *e*P **P 13 04 43.7 -1.5**
comp=Z,10nm,0.9s,mb5.0
FCC *e*pP pP 13 04 55.7 -2.0
FCC Fort Churchill 84.89 27 *e*P **P 13 04 43.7 -1.5**
FCC pmax pmax
comp=Z,10.0nm,0.9s,mb5.0
BW06 Boulder Array 84.90 46 *e*P **P 13 04 45.8 +0.2**
comp=Z,3.7nm,1.0s,mb4.5
PDAR Pinedale Array 84.90 46 P **P 13 04 45.4 -0.1**
comp=Z,2.1nm,0.7s,mb4.4,baz=225,slow=0.9,SNR=14
MSU Marysvale 84.97 50 *e*P **P 13 04 45.7 -0.2**
MSU *e*pP pP 13 04 58.6 +0.1
U14A Mt Trumbull 85.13 53 ⇓pP pP 13 04 58.5 -0.9
baz=85
W13A Hualapai Mount 85.16 54 ⇓pP pP 13 04 58.9 -0.7
baz=85
LAO LASA Array 85.20 41 *e*P **P 13 04 46.0 -0.9**
comp=Z,15nm,0.9s,mb5.1
LAO *e*pP pP 13 04 58.8 -0.7
GLA Glamis 85.29 56 ⇓pP pP 13 04 59.1 -1.2
baz=85
PDMCI Parker Dam,Lak 85.30 55 ⇓pP pP 13 04 58.9 -1.4
baz=85
X13A Yucca 85.41 54 ⇓pP pP 13 04 59.8 -1.0
baz=85
T15A Red Dirt Ranch 85.46 52 ⇓P **P 13 04 48.5 +0.1**
baz=85
T15A ⇑pP pP 13 05 00.2 -0.8
baz=85
V14A Boquillas Ranc 85.51 53 ⇑P **P 13 04 49.5 +0.7**
baz=85
V14A ⇓pP pP 13 05 01.2 -0.2
baz=85
MIB Mutribah 85.59 300 *e*P **P 13 04 47.7 -1.5**
MIB AMb AMB 13 05 03.2
comp=Z,105nm,0.8s,mb6.1
W14A Seligman 85.71 54 ⇑P **P 13 04 50.2 +0.4**
baz=86
W14A ⇓pP pP 13 05 01.6 -0.8
baz=86
Y13A Salome 85.74 55 ⇓pP pP 13 05 01.9 -0.6
baz=86
RDF Al-Radifah 85.78 300 *e*P **P 13 04 48.4 -1.8**
RDF AMb AMB 13 05 04.2
comp=Z,72nm,0.8s,mb6.0
SRU San Rafael 85.87 49 *e*P **P 13 04 49.4 -1.0**
comp=Z,11nm,0.7s,mb5.2
SRU *e*pP pP 13 05 02.0 -1.1
SRU San Rafael 85.87 49 *e*P **P 13 04 49.4 -1.1**
SRU pmax pmax
comp=Z,11nm,0.7s,mb5.2
NAY Al-Naaiem 85.89 300 *e*P **P 13 04 49.7 -1.1**
NAY AMb AMB 13 05 03.6
comp=Z,76nm,0.6s,mb6.1
RST Umm Al-Ruwaisa 85.99 300 *e*P **P 13 04 49.5 -1.7**
RST AMb AMB 13 05 03.8
comp=Z,78nm,0.6s,mb6.1
T16A Glen Canyon Da 86.10 51 ⇓pP pP 13 05 03.5 -0.7
baz=86
X14A Yava 86.17 54 ⇑pP pP 13 05 04.2 -0.4
baz=86
Y14A Wickenburg 86.31 55 ⇑P **P 13 04 52.2 -0.5**
baz=86
Y14A ⇑pP pP 13 05 04.7 -0.6
baz=86
W15A Williams 86.33 53 ⇑P **P 13 04 53.1 +0.3**
baz=86
W15A ⇑pP pP 13 05 05.7 +0.3
baz=86
Z14A Wintersburg 86.59 55 ⇑pP pP 13 05 06.2 -0.5
baz=86
X15A Humboldt 86.65 54 ⇑P **P 13 04 54.6 +0.2**
baz=87
X15A ⇑pP pP 13 05 06.8 -0.1
baz=87
Y15A Casa Rosa Ranc 86.80 55 ⇓P **P 13 04 55.7 +0.5**
baz=87
Y15A ⇑pP pP 13 05 07.4 -0.4
baz=87
WUAZ Wupatki 86.84 53 *e*P **P 13 04 55.7 +0.4**
comp=Z,7.7nm,0.9s,mb4.9
WUAZ *e*pP pP 13 05 07.6 -0.3
X16A Lo Mia Camp, P 87.27 54 ⇑P **P 13 04 57.2 -0.2**
baz=87
X16A ⇑pP pP 13 05 09.9 -0.1
baz=87
115A Sonoran Desert 87.42 56 ⇓pP pP 13 05 10.3 -0.5
baz=87
Y16A Circle Bar Ran 87.48 54 ⇑pP pP 13 05 10.9 -0.1
baz=87
Z16A Peralta Trail, 87.75 55 ⇑pP pP 13 05 11.9 -0.4
baz=88
AKASG Malin Array Be 87.75 325 P **P 13 04 57.9 -1.5**
comp=Z,1.5nm,0.5s,mb4.5,baz=52,slow=4.7,SNR=13
AKBB Malin Array Si 87.75 325 *e*P **P 13 04 58.0 -1.4**
AKBB *e*pP pP 13 05 09.9 -2.1
KIEV Kiev 87.76 325 *e*P **P 13 04 57.9 -1.5**
comp=Z,14nm,0.8s,mb5.3
KIEV *e*pP pP 13 05 09.4 -2.6
KIEV Kiev 87.76 325 *e*P **P 13 04 57.9 -1.5**
KIEV pmax pmax
comp=Z,14nm,0.8s,mb5.2
RSSD Black Hills 87.80 43 *e*P **P 13 04 59.7 0.0**
116A Eloy 87.88 56 ⇑pP pP 13 05 12.8 -0.2
baz=88
216A Three Points, 88.31 56 ⇑pP pP 13 05 14.6 -0.5
baz=88
MALT Malatya 88.53 311 *e*P **P 13 05 03.9 +0.5**
comp=Z,3.6nm,0.8s,mb4.8
MALT *e*pP pP 13 05 15.7 -0.3
MALT Malatya 88.53 311 *e*P **P 13 05 03.9 +0.6**
MALT pmax pmax
comp=Z,4.0nm,0.8s,mb4.8
NB2 NORSAR Subarra 88.55 340 P **P 13 05 02.0 -0.9**
comp=Z,7.9nm,0.7s,mb5.2,baz=41,slow=5.1
NOA NORSAR Array B 88.55 340 P **P 13 05 02.1 -0.8**
comp=Z,2.6nm,0.8s,mb4.6,baz=46,slow=4.9,SNR=11
NOA LR LR 13 49 00.6
comp=Z,87nm,18.9s,MS4.2,baz=0.0,slow=38
TUC Tucson 88.69 55 *e*P **P 13 05 03.7 -0.5**
comp=Z,5.9nm,1.0s,mb4.9
TUC *e*pP pP 13 05 15.3 -1.5
TUC Tucson 88.69 55 *e*P **P 13 05 03.7 -0.5**
TUC pmax pmax
comp=Z,6.0nm,1.0s,mb4.9
SUW Suwalki 88.75 330 *e*P pP 13 05 15.1 -1.5
217A Green Valley 88.90 56 ⇓pP pP 13 05 17.5 -0.3
baz=89
ULM Lac du Bonnet 89.13 34 P **P 13 05 04.6 -1.3**
comp=Z,1.2nm,0.6s,mb4.4,baz=324,slow=8.7,SNR=2.0
218A Dragoon 89.40 55 ⇑pP pP 13 05 20.3 +0.1
baz=89
119A Ashpeak Ranch, 89.60 54 ⇑pP pP 13 05 20.7 -0.4
baz=90
318A Bisbee 89.68 56 ⇑pP pP 13 05 21.2 -0.3
baz=90
SDCO Great Sand Dun 89.99 49 *e*P **P 13 05 10.1 -0.1**
SDCO *e*pP pP 13 05 21.9 -1.0
KONO Kongsberg 90.13 339 ⇑*e*P **P 13 05 12.8 +2.4**
319A Douglas 90.25 56 ⇑pP pP 13 05 23.2 -1.0
baz=90
LAZ Ladron 90.44 52 *e*P **P 13 05 12.3 0.0**
LAZ *e*pP pP 13 05 24.4 -0.6
ANMO Albuquerque 90.67 51 *e*P **P 13 05 13.7 +0.3**
comp=Z,9.3nm,1.1s,mb5.0
ANMO *e*pP pP 13 05 25.6 -0.4
ANMO Albuquerque 90.67 51 ⇑*e*P **P 13 05 14.6 +1.2**
LVV L'vov 90.96 326 *e*P pP 13 05 25.7 -1.4
KOLS Kolonicke sedl 92.41 327 *e*P pP 13 05 31.9 -1.9
KOLS Kolonicke sedl 92.41 327 *e*pP pP 13 05 31.9 -1.9
STHS Stebnicka Huta 92.62 327 *e*P pP 13 05 33.8 -1.0
STHS Stebnicka Huta 92.62 327 *e*pP pP 13 05 33.8 -1.0
CRVS Cervenica-Dubn 92.84 327 *e*P **P 13 05 23.8 +0.6**
KECS Kecovo 93.61 327 *e*P **P 13 05 27.9 +1.2**
comp=Z,2.5nm,1.0s,mb4.6
KECS *e* 13 05 36.1
KECS Kecovo 93.61 327 *e*P **P 13 05 27.9 +1.2**
KECS *e* 13 05 36.1
KECS pmax pmax
comp=Z,3.0nm,1.0s,mb4.7
OKC Ostrava-Krasne 93.84 329 *e*P pP 13 05 39.1 -1.3
OKC Ostrava-Krasne 93.84 329 *e*pP pP 13 05 39.1 -1.3
KSP Ksiaz 94.01 331 *e*P pP 13 05 39.8 -1.4
DPC Dobruska-Polom 94.34 330 *e*P pP 13 05 41.3 -1.4
DPC Dobruska-Polom 94.34 330 *e*pP pP 13 05 41.3 -1.4
UPC Upice 94.37 330 *e*P pP 13 05 41.5 -1.3
UPC Upice 94.37 330 *e*pP pP 13 05 41.5 -1.3
VYHS Vyhne 94.42 328 *e*P **P 13 05 33.5 +3.1**
comp=Z,2.3nm,1.1s,mb4.5
VYHS *e* 13 05 41.5
VYHS Vyhne 94.42 328 *e*P **P 13 05 33.5 +3.1**
VYHS *e* 13 05 41.5
VYHS pmax pmax
comp=Z,2.0nm,1.1s,mb4.5
BRG Berggiesshubel 95.03 332 *e*P pP 13 05 43.9 -2.0
BRG pmax pmax
comp=Z,2.0nm,1.0s,mb4.5
BRG Berggiesshubel 95.03 332 *e*P pP 13 05 43.9 -1.9
comp=Z,3.5nm,0.9s
CLL Collm 95.12 332 *e*P **P 13 05 36.0 +2.4**
CLL *i* 13 05 44.2
CLL Collm 95.12 332 *e*(P) **P 13 05 36.0 +2.4**
comp=Z,3.0nm,0.8s,mb4.8
CLL *i* pP pP 13 05 44.2 -2.1
CLL *e*pPP 13 09 38.0
CLL *e*x x 13 22 12.0
CLL *e*SS SS 13 23 30.0 +19
CLL *e*x x 13 25 42.0
TXAR Lajitas Array 95.48 55 P **P 13 05 35.0 -0.8**
TXAR Lajitas Array 95.48 55 P **P 13 05 35.0 -0.7**
comp=Z,1.1nm,0.9s,mb4.3,baz=308,slow=4.4,SNR=4.1
KHC Kasperske Hory 96.46 331 *e*P pP 13 05 50.7 -1.7
KHC Kasperske Hory 96.46 331 *e*P **P 13 05 42.5 +2.8**
KHC *e*pP pP 13 05 50.7 -1.7
GERES GERESS Array B 96.61 330 P **P 13 05 39.8 -0.6**
comp=Z,0.8nm,0.7s,mb4.2,baz=50,slow=7.1,SNR=6.0

GERES PKKP PKKPbc 13 22 20.3 -4.3
comp=Z,0.1nm,0.5s,baz=221,slow=4.1,SNR=3.5
SNAA Sanae 128.08 192 ⇑*i*PKIKP PKPdf 13 11 15.6 0.0
TORD Torodi Ar. Bea 129.62 312 PKP PKPdf 13 11 17.9 -2.3
comp=Z,1.3nm,0.7s,baz=29,slow=1.8,SNR=9.4
TORD PP PP 13 13 25.6 -4.4
comp=Z,0.8nm,0.9s,baz=38,slow=5.9,SNR=3.8
PLCA Paso Flores 144.87 129 PKP PKPdf 13 11 45.3 -2.1
comp=Z,11nm,0.9s,baz=236,slow=2.0,SNR=17
LCO Las Campanas 146.91 108 *e*PKPdf PKPdf 13 11 52.1 +0.7
LPAZ La Paz 147.59 84 *e*PKPdf PKPdf 13 11 53.4 +0.7
LPAZ La Paz 147.59 84 PKPbc PKPbc 13 11 53.9 -1.6
comp=Z,6.9nm,1.0s,baz=328,slow=4.1,SNR=16
CFAA Coronel Fontan 148.82 113 PKPbc PKPbc 13 11 57.2 -1.1
comp=Z,0.7nm,0.8s,baz=255,slow=2.7,SNR=9.2

IDC ***08*** *12:55:05.8±6.8, 1765S×7261W, h30km±48km, mb3.8/5, mb1 4.0/7, mb1mx3.7/17, mbtmp3.8/7, ML3.7/2, Error ellipse: s-maj=30.1km s-min=23.5km az=56.0*
ISCJB ***08*** *12:55:10.5±2.1, 177S±01×724W±01, h78km±18km, mb3.8/7, Error ellipse: s-maj=26.0km s-min=13.8km az=38.0*
NEIC ***08*** *12:55:12.2±1.8, 1771S×7236W, h84km±15km, mb4.2/2, Error ellipse: s-maj=25.2km s-min=15.0km az=209.0*
ISC 08 12:55:11.5±1.7, 177S±01×724W±01, h77km±15km, n18, σ1§31/16, mb3.8/7, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**4.36**	**71**	*e*Pn	**Pn**	**12 56 16.0**	**+0.8**
LPAZ	**La Paz**	**4.36**	**71**	Pn	**Pn**	**12 56 16.7**	**+1.5**
	0.6nm,0.3s,baz=274,slow=7.5,SNR=24						
NNA	**Nana**	**7.13**	**323**	*e*Pn	**Pn**	**12 56 55.6**	**+2.4**
NNA				*e*S	**Sn**	**12 58 13.3**	**+0.6**
NNA	**Nana**	**7.13**	**323**	Pn	**Pn**	**12 56 46.5**	**-6.7**
	1.1nm,0.3s,baz=156,slow=12,SNR=3.1						
NNA				Sn	**Sn**	**12 57 55.4**	**-17**
	1.6nm,0.3s,baz=222,slow=19,SNR=4.9						
SIV	**San Ignacio**	**11.01**	**83**	Pn	**Pn**	**12 57 44.5**	**-1.6**
	0.4nm,0.3s,baz=272,slow=14,SNR=10						
PLCA	**Paso Flores**	**22.98**	**176**	*e*P	**P**	**13 00 09.0**	**-0.6**
	5.3nm,0.9s,mb3.9						
PLCA				*e*		13 00 20.4	
PLCA	**Paso Flores**	**22.98**	**176**	P	**P**	**13 00 08.8**	**-0.8**
	1.1nm,0.8s,mb3.3,baz=280,slow=12,SNR=2.3						
BDFB	**Brasilia**	**23.47**	**89**	P	**P**	**13 00 14.4**	**0.0**
	3.4nm,0.9s,mb3.7,baz=249,slow=12,SNR=7.8						
SDV	**Santo Domingo**	**26.51**	**4**	P	**P**	**13 00 39.7**	**-2.2**
	2.1nm,0.5s,mb4.0,baz=349,slow=5.0,SNR=4.4						
TORD	**Torodi Ar. Bea**	**79.31**	**72**	P	**P**	**13 07 09.9**	**+0.6**
	2.1nm,0.8s,mb4.0,baz=254,slow=5.5,SNR=8.1						
TSUM	**Tsumeb**	**84.33**	**108**	*e*P	**P**	**13 07 37.5**	**+1.8**
	5.1nm,1.1s,mb4.3						
ESDC	**Sonseca Array**	**85.55**	**46**	P	**P**	**13 07 42.2**	**+1.0**
	0.1nm,0.3s,mb3.2,baz=248,slow=6.0,SNR=5.7						
YKA	**Yellowknife Ar**	**86.57**	**342**	P	**P**	**13 07 44.5**	**-1.2**
YKA	**Yellowknife Ar**	**86.57**	**342**	P	**P**	**13 07 44.5**	**-1.2**
	1.3nm,1.0s,mb3.8,baz=136,slow=4.7,SNR=8.7						
ZALV	**Zalesovo Beam**	**139.79**	**21**	PKP	PKPdf	13 14 31.4	+1.0
	0.3nm,0.4s,baz=318,slow=2.0,SNR=3.7						
MKAR	**Makanchi Array**	**144.30**	**30**	PKP	PKPdf	13 14 37.6	-1.1
	0.3nm,0.8s,baz=24,slow=3.9,SNR=3.2						
MJAR	**Matsushiro Arr**	**147.13**	**311**	PKPbc	PKPbc	13 14 44.8	-1.2
	1.0nm,0.6s,baz=79,slow=1.9,SNR=6.7						
SONM	**Songino Array**	**149.96**	**2**	PKPbc	PKPbc	13 14 53.8	+0.8
	0.6nm,0.8s,baz=29,slow=0.8,SNR=4.9						

MOS ***08*** *12:58:09.6±0.9, 2289N×14566E, h10km, mb4.9/23, Error ellipse: s-maj=13.4km s-min=7.2km az=103.9*
IDC ***08*** *12:58:09.4±0.5, 2285N×14572E, h0km, mb4.5/19, mb1 4.7/21, mb1mx4.7/23, mbtmp4.5/21, ML4.1/2, Error ellipse: s-maj=19.7km s-min=14.0km az=87.0*
BJI ***08*** *12:58:13.2, 2271N×14596E, h56km, mB4.9, mb4.7, Ms4.3, Msz4.0*
ISCJB ***08*** *12:58:14.6±0.2, 2281N±004×14561E±003, h42km, mb4.7/73, MS4.0/11, Error ellipse: s-maj=6.4km s-min=3.9km az=10.4*
NEIC ***08*** *12:58:15.7±0.2, 2282N×14572E, mb4.7/34, Error ellipse: s-maj=5.2km s-min=4.9km az=163.0*
ISC 08 12:58:16.4±0.2, 2283N±004×14563E±003, h44km, h43km±.6km; pP-P, n330, σ0§68/343, mb4.7/73, MS4.0/11, 89C-77D, North Pacific Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**5.27**	**324**	P	**Pn**	**12 59 28.3**	**-4.4**
CBIJ				*e*S	**Sn**	**13 00 27.3**	**-4.9**
CBIJ	**Chichi jima**	**5.27**	**324**	Pn	**Pn**	**12 59 31.0**	**-1.7**
	22nm,0.3s,baz=118,slow=23,SNR=11						
CBIJ				Sn	**Sn**	**13 00 27.6**	**-4.6**
	53nm,0.3s,baz=122,slow=23,SNR=15						
GUMO	**Guam**	**9.22**	**185**	*e*Pn	**Pn**	**13 00 26.7**	**-0.2**
JHJ	**Hachijo jima 2**	**11.47**	**335**	Sn	**Sn**	**13 02 51.4**	**-13**
	4.0nm,0.3s,baz=253,slow=19,SNR=2.8						
JOD2	**Odawara 2**	**13.64**	**337**	P	**Pn**	**13 01 29.5**	**+2.3**
JOD2				*e*S	**Sn**	**13 03 50.7**	**-6.6**
MJAR	**Matsushiro Arr**	**15.10**	**336**	Pn	**Pn**	**13 01 42.8**	**-4.0**
	0.5nm,0.3s,baz=159,slow=10,SNR=20						
MJAR				Sn	**Sn**	**13 04 21.4**	**-11**
	0.4nm,0.3s,baz=5.9,slow=30,SNR=6.2						
MAJO	**Matsushiro**	**15.10**	**336**	*e*P	**Pn**	**13 01 42.7**	**-4.1**
MAT	**Matsushiro**	**15.10**	**336**	P	**Pn**	**13 01 43.0**	**-3.8**
MAT				S	**S**	**13 04 25.2**	**-23**
MAT	**Matsushiro**	**15.10**	**336**	P	**Pn**	**13 01 43.8**	**-3.0**
MAT				*e*S	**S**	**13 04 21.8**	**-27**
JWT	**Wachi**	**15.28**	**327**	P	**Pn**	**13 01 53.2**	**+4.1**
JMM	**Marumori**	**15.55**	**346**	P	**Pn**	**13 01 51.7**	**-0.9**
JMM				*e*S	S	13 04 27.7	-30
JSU	**Suzuyama**	**16.02**	**306**	P	**Pn**	**13 02 02.9**	**+4.2**
JOW	**Kunigami**	**16.25**	**288**	Pn	**Pn**	**13 02 03.9**	**+2.3**
	1.4nm,0.3s,baz=120,slow=7.3,SNR=4.1						
JYA	**Atsumi**	**16.51**	**343**	P	**Pn**	**13 02 06.2**	**+1.4**
JYA				*e*S	**S**	**13 04 58.6**	**-19**
JNU	**Nakatsue**	**16.56**	**311**	P	**Pn**	**13 02 08.1**	**+2.6**
JNU	**Nakatsue**	**16.56**	**311**	Pn	**Pn**	**13 02 06.3**	**+0.8**
	0.3nm,0.3s,baz=109,slow=12,SNR=9.1						
KSRS	**Korea Array**	**21.09**	**318**	P	**P**	**13 02 55.9**	**-1.2**
	7.4nm,0.8s,mb4.0,baz=130,slow=10,SNR=18						
ASAJ	**Asahikawa**	**21.38**	**354**	P	**P**	**13 03 01.8**	**+1.6**
	5.9nm,0.7s,mb4.0,baz=205,slow=22,SNR=5.9						
ASAJ				S	**S**	**13 06 48.5**	**-6.4**
	7.3nm,0.7s,baz=49,slow=25,SNR=6.0						
YHNB	**Yeheng**	**22.27**	**280**	*e*P	**P**	**13 03 10.0**	**+0.2**
MDJ	**Mudanjiang**	**25.41**	**333**	P	**P**	**13 03 40.4**	**+0.6**
MDJ				AMB	AMB		
	comp=Z,16nm,0.9s,mb4.5						
MDJ				AMB	AMB		
	comp=Z,116nm,7.5s						
NJ2	**Nanjing**	**25.42**	**297**	*e*P	**P**	**13 03 41.8**	**+1.8**
NJ2				AP	pP	13 03 53.4	+1.8
NJ2				XP	sP	13 03 58.8	+1.9
NJ2				PP		13 04 21.9	
NJ2				S	**S**	**13 08 03.0**	**-0.9**
NJ2				XS	sS	13 08 21.0	-2.4
NJ2				AMB	AMB		
	comp=Z,20nm,0.6s,mb4.8						
NJ2				AMB	AMB		
	comp=Z,60nm,3.8s						
NJ2				LR	LR		
	comp=N,240nm,12.0s,MS4.8						
NJ2				LR	LR		
	comp=E,2μm,13.0s,MS4.8						
NJ2				LR	LR		
	comp=Z,1μm,14.0s,MS4.6						
DL2	**Dalian**	**25.98**	**314**	P	**P**	**13 03 45.5**	**+0.4**
DL2				AP	pP	13 03 56.8	+0.1
DL2				*e*S	**S**	**13 08 14.4**	**+1.7**
DL2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.4						
DL2				LR	LR		
	comp=N,100nm,14.5s,MS3.7						
DL2				LR	LR		
	comp=E,130nm,11.9s,MS3.7						
DL2				LR	LR		
	comp=Z,120nm,15.5s,MS3.5						
CN2	**Changchun**	**26.73**	**326**	*e*P	**P**	**13 03 52.4**	**+0.6**
CN2				*e*AP	pP	13 04 03.8	+0.4
CN2				*e*S	**S**	**13 08 23.4**	**-1.0**
CN2				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.3						
CN2				LR	LR		
	comp=N,200nm,14.0s,MS4.0						
CN2				LR	LR		
	comp=E,200nm,14.0s,MS4.0						
CN2				LR	LR		
	comp=Z,200nm,14.0s,MS3.8						
KLR	**Kul'dur**	**28.54**	**341**	*e*P	**P**	**13 04 03.0**	**-4.9**
HIA	**Hailar**	**33.36**	**329**	*e*P	**P**	**13 04 50.7**	**+0.3**
	comp=Z,2.8nm,0.5s,mb4.5						
HIA	**Hailar**	**33.36**	**329**	*e*P	**P**	**13 04 50.7**	**+0.3**
HIA				pmax	pmax		
	comp=Z,3.0nm,0.5s						
HHC	**Hu-ho-hao-te**	**33.78**	**310**	*e*P	**P**	**13 04 54.5**	**+0.4**
HHC				AP	pP	13 05 04.9	-1.0
HHC				XP	sP	13 05 10.3	-0.8
HHC				PP	PP	13 06 08.6	-2.5
HHC				S	**S**	**13 10 13.6**	**-1.3**
HHC				PCS	PcS	13 11 17.8	-0.7
HHC				SS	SS	13 12 22.0	-20
HHC				SCS	ScS	13 15 13.3	-2.2
HHC				AMB	AMB		
	comp=Z,12nm,0.7s,mb4.9						
HHC				LR	LR		
	comp=N,159nm,16.6s,MS4.0						
HHC				LR	LR		
	comp=E,210nm,19.0s,MS4.0						
HHC				LR	LR		
	comp=Z,172nm,18.4s,MS3.8						
XAN	**Xi'an**	**33.99**	**297**	P	**P**	**13 04 55.4**	**-0.6**
XAN				AMB	AMB		
	comp=Z,8.0nm,1.5s,mb4.4						
XAN				LR	LR		
	comp=N,142nm,17.5s						
XAN				LR	LR		
	comp=Z,124nm,21.7s,MS3.6						
GYA	**Guiyang**	**35.51**	**284**	P	**P**	**13 05 10.4**	**+1.2**
GYA				AP	pP	13 05 22.6	+1.6
GYA				XP	sP	13 05 27.8	+1.6
GYA				PP	PP	13 06 32.2	+1.8
GYA				PCP	PcP	13 07 39.8	+1.9
GYA				S	**S**	**13 10 43.2**	**+1.4**
GYA				XS	sS	13 11 02.8	+1.2
GYA				PCS	PcS	13 11 25.7	+0.5
GYA				SS	SS	13 13 03.2	-14
GYA				SCS	ScS	13 15 24.3	-0.9
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.8						
GYA				AMB	AMB		
	comp=Z,100nm,4.9s						
GYA				LR	LR		
	comp=N,490nm,18.0s,MS4.5						
GYA				LR	LR		
	comp=E,460nm,17.6s,MS4.5						
GYA				LR	LR		
	comp=Z,420nm,18.3s,MS4.2						
CD2	**Chengdu**	**38.03**	**291**	P	**P**	**13 05 31.5**	**+0.8**
CD2				XP	sP	13 05 47.7	0.0
CD2				PP	PP	13 07 02.7	+4.6
CD2				S	**S**	**13 11 22.4**	**+2.2**
CD2				SS	SS	13 14 00.7	-7.1
CD2				AMB	AMB		
	comp=Z,40nm,0.8s,mb5.2						
CD2				AMB	AMB		
	comp=Z,120nm,8.4s						
CD2				LR	LR		
	comp=N,150nm,12.4s,MS4.2						
CD2				LR	LR		
	comp=E,190nm,14.4s,MS4.2						
CD2				LR	LR		
	comp=Z,210nm,14.4s,MS4.1						
LZH	**Lanzhou**	**38.42**	**300**	*e*P	**P**	**13 05 31.5**	**-2.4**
LZH				AP	pP	13 05 43.5	-2.2
LZH				AMB	AMB		
	comp=Z,15nm,1.0s,mb4.7						
KMI	**Kunming**	**39.13**	**282**	P	**P**	**13 05 40.9**	**+0.9**
KMI				AP	pP	13 05 51.8	-0.1
KMI				XP	sP	13 05 58.4	+1.3
KMI				PP	PP	13 07 14.4	+4.1
KMI				S	**S**	**13 11 36.6**	**-0.4**
KMI				XS	sS	13 11 58.1	+1.2
KMI				SS	SS	13 14 26.6	-4.2
KMI				AMB	AMB		
	comp=Z,7.0nm,1.2s,mb4.3						
KMI				AMB	AMB		
	comp=Z,83nm,4.4s						
KMI				LR	LR		
	comp=N,101nm,16.6s,MS4.0						
KMI				LR	LR		
	comp=E,129nm,14.8s,MS4.0						
KMI				LR	LR		
	comp=Z,193nm,17.4s,MS4.0						
ULN	**Ulaanbaatar**	**39.56**	**319**	*e*P	**P**	**13 05 44.0**	**+0.7**
	comp=Z,19nm,0.8s,mb4.9						
ULN				*e*pP	pP	13 05 55.5	+0.4
ULN	**Ulaanbaatar**	**39.56**	**319**	*e*P	**P**	**13 05 44.0**	**+0.7**
ULN				pmax	pmax		
	comp=Z,19nm,0.8s,mb4.9						
SONM	**Songino Array**	**39.95**	**318**	P	**P**	**13 05 47.1**	**+0.6**
	comp=Z,11nm,0.8s,mb4.7,baz=130,slow=8.1,SNR=71						
SONM				PcP	PcP	13 07 51.2	0.0
	comp=Z,1.6nm,0.9s,baz=106,slow=4.7,SNR=3.9						
SONM				ScP	ScP	13 11 43.3	+6.6
	comp=Z,0.6nm,0.9s,baz=134,slow=4.3,SNR=4.4						
BOD	**Bodaibo**	**41.73**	**335**	*e*P	**P**	**13 06 00.1**	**-0.8**
BOD				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.1						
GTA	**Gaotai**	**42.09**	**304**	*e*P	**P**	**13 06 04.2**	**0.0**
GTA				AP	pP	13 06 13.3	-2.9
GTA				PP	PP	13 07 47.1	+5.0
GTA				PCP	PcP	13 07 59.3	+1.0
GTA				S	**S**	**13 12 21.5**	**+0.9**
GTA				SS	SS	13 15 23.2	-6.0
GTA				AMB	AMB		
	comp=Z,4.0nm,1.2s,mb3.9						
GTA				AMB	AMB		
	comp=Z,140nm,6.5s						
GTA				LR	LR		
	comp=N,104nm,14.5s,MS4.0						
GTA				LR	LR		
	comp=E,108nm,13.0s,MS4.0						
GTA				LR	LR		
	comp=Z,194nm,17.6s,MS4.0						
ZAK	**Zakamensk**	**42.87**	**321**	⇑*i*P	**P**	**13 06 10.4**	**0.0**
ZAK				pmax	pmax		
	comp=Z,13nm,1.0s,mb4.6						
TLY	**Talaya**	**43.21**	**323**	*e*P	**P**	**13 06 14.0**	**+0.9**
	comp=Z,14nm,1.3s,mb4.5						
TLY				*e*pP	pP	13 06 24.6	-0.5
TLY	**Talaya**	**43.21**	**323**	*e*P	**P**	**13 06 14.1**	**+1.0**
TLY				*e*S	**S**	**13 12 39.1**	**+2.4**
TLY				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.3						
TLY				MLR	MLR		
	comp=Z,77nm,14.0s,MS3.8						
WRAB	**Tennant Creek**	**43.90**	**195**	*e*P	**P**	**13 06 18.3**	**-0.6**
	comp=Z,42nm,1.1s,mb5.1						
WRAB				*e*pP	pP	13 06 29.5	-1.5
WRAB	**Tennant Creek**	**43.90**	**195**	*e*P	**P**	**13 06 18.3**	**-0.7**
WRAB				pmax	pmax		
	comp=Z,42nm,1.1s,mb5.1						
WB2	**Warramunga Arr**	**43.91**	**195**	*e*P	**P**	**13 06 18.6**	**-0.4**
WB2				*e*pP	pP	13 06 30.8	-0.3
WRA	**Warramunga Arr**	**43.92**	**195**	P	**P**	**13 06 18.7**	**-0.4**
	comp=Z,4.9nm,0.4s,mb4.6,baz=12,slow=8.4,SNR=37						
FITZ	**Fitzroy Crossi**	**45.13**	**207**	*e*P	**P**	**13 06 28.5**	**-0.3**
	comp=Z,9.9nm,0.8s,mb4.7						
FITZ				*e*pP	pP	13 06 40.7	-0.2
FITZ	**Fitzroy Crossi**	**45.13**	**207**	P	**P**	**13 06 28.5**	**-0.3**
	comp=Z,5.2nm,0.6s,mb4.6,baz=35,slow=12,SNR=13						
BILL	**Bilibino**	**46.98**	**10**	*e*P	**P**	**13 06 42.1**	**-0.7**
	comp=Z,5.7nm,0.9s,mb4.5						
BILL	**Bilibino**	**46.98**	**10**	*e*P	**P**	**13 06 42.1**	**-0.7**
BILL				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.5						
ASAR	**Alice Springs**	**47.60**	**195**	P	**P**	**13 06 47.2**	**-0.9**
	comp=Z,3.5nm,0.7s,mb4.5,baz=13,slow=7.2,SNR=17						
SHL	**Shillong**	**48.82**	**285**	*e*P	**P**	**13 07 00.5**	**+2.8**
LSA	**Lhasa**	**48.96**	**290**	P	**P**	**13 07 01.2**	**+2.5**
LSA	**Lhasa**	**48.96**	**290**	*e*P	**P**	**13 07 00.7**	**+2.0**
	comp=Z,15nm,1.0s,mb5.0						
LSA	**Lhasa**	**48.96**	**290**	*e*P	**P**	**13 07 00.7**	**+2.0**
LSA				pmax	pmax		
	comp=Z,15nm,1.0s,mb5.0						
WMQ	**Urumqi**	**51.63**	**309**	⇑*i*P	**P**	**13 07 19.3**	**+0.6**
WMQ				AMB	AMB		
	comp=Z,14nm,1.3s,mb4.7						
WMQ				AMB	AMB		
	comp=Z,147nm,3.6s						
WMQ				LR	LR		
	comp=Z,108nm,20.5s,MS3.9						
STKA	**Stephens Creek**	**54.53**	**184**	*e*P	**P**	**13 07 38.6**	**-1.4**
	comp=Z,3.8nm,0.9s,mb4.4						
STKA	**Stephens Creek**	**54.53**	**184**	P	**P**	**13 07 38.5**	**-1.6**
	comp=Z,3.5nm,1.0s,mb4.4,baz=5.1,slow=7.4,SNR=3.9						
ZAA0	**Zalesovo Array**	**54.75**	**321**	*e*P	**P**	**13 07 40.7**	**-0.7**
ZAA0				*e*pP	pP	13 07 52.8	-1.0
ZALV	**Zalesovo Beam**	**54.75**	**321**	P	**P**	**13 07 40.8**	**-0.7**
	comp=Z,8.8nm,0.6s,mb5.0,baz=101,slow=7.2,SNR=31						
ZALV				PcP	PcP	13 08 43.1	-0.4
	comp=Z,3.8nm,0.6s,baz=115,slow=4.3,SNR=6.9						
ZAL	**Zalesovo**	**54.76**	**321**	P	**P**	**13 07 40.8**	**-0.7**
ZAL						13 08 43.1	
MK31	**Makanchi Array**	**55.61**	**312**	*e*P	**P**	**13 07 47.5**	**-0.3**
MKAR	**Makanchi Array**	**55.61**	**312**	P	**P**	**13 07 48.0**	**+0.2**
	comp=Z,2.4nm,0.8s,mb4.3,baz=90,slow=8.4,SNR=17						
MKAR				PcP	PcP	13 08 47.1	+0.1
	comp=Z,2.2nm,0.6s,baz=86,slow=5.0,SNR=6.0						
NVS	**Novosibirsk**	**55.80**	**322**	*i* P	**P**	**13 07 48.2**	**-0.8**
NVS				*i*		13 07 57.0	
NVS				pmax	pmax		
	comp=Z,17nm,1.5s,mb4.8						
NVS				pmax	pmax		
	comp=N,10.0nm,2.0s						
NVS				pmax	pmax		
	comp=E,16nm,1.7s						
KURK	**Kurchatov**	**58.20**	**316**	*e*P	**P**	**13 08 05.6**	**-0.5**
	comp=E,27nm,0.8s,mb5.3						
KURK				*e*pP	pP	13 08 17.3	-1.2
KURK	**Kurchatov**	**58.20**	**316**	*e*P	**P**	**13 08 05.6**	**-0.5**
KURK				pmax	pmax		
	comp=Z,27nm,0.8s,mb5.3						
MCK	**McKinley**	**58.93**	**28**	*e*P	**P**	**13 08 09.9**	**-1.0**
	comp=Z,19nm,1.2s,mb5.0						
MCK	**McKinley**	**58.93**	**28**	*e*P	**P**	**13 08 09.9**	**-1.0**
MCK				pmax	pmax		
	comp=Z,19nm,1.2s,mb5.0						
COLA	**College**	**59.62**	**27**	*e*P	**P**	**13 08 15.5**	**-0.2**
	comp=Z,3.4nm,0.8s,mb4.4						
COLA	**College**	**59.62**	**27**	*e*P	**P**	**13 08 15.5**	**-0.1**
COLA				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.4						
UCH	**Uchtor**	**61.31**	**307**	*e*P	**P**	**13 08 28.8**	**+1.2**
UCH				*e*pP	pP	13 08 41.0	+0.9
AML	**Almayashu**	**61.92**	**307**	*e*P	**P**	**13 08 33.0**	**+1.3**
DAWY	**Dawson**	**63.15**	**28**	*e*P	**P**	**13 08 38.7**	**-0.8**
DAWY				*e*pP	pP	13 08 51.0	-1.1
BRVK	**Borovoye**	**63.35**	**319**	*e*P	**P**	**13 08 40.8**	**-0.3**
	comp=Z,30nm,0.8s,mb5.5						
BRVK				*e*pP	pP	13 08 53.2	-0.5
BRVK	**Borovoye**	**63.35**	**319**	*e*P	**P**	**13 08 40.8**	**-0.2**
BRVK				pmax	pmax		
	comp=Z,31nm,0.8s,mb5.5						
INK	**Inuvik**	**65.63**	**24**	*e*P	**P**	**13 08 54.2**	**-1.4**
	comp=Z,218nm,0.9s						
INK				*e*pP	pP	13 09 06.3	-2.0
INK	**Inuvik**	**65.63**	**24**	P	**P**	**13 08 54.8**	**-0.9**
	comp=Z,7.2nm,0.9s,mb4.7,baz=279,slow=5.8,SNR=23						
KBL	**Kabul**	**66.77**	**299**	*e*P	**P**	**13 09 03.4**	**-0.2**
	comp=Z,3.4nm,0.4s,mb4.7						
KBL				*e*pP	pP	13 09 15.5	-0.7
DLBC	**Dease Lake**	**67.92**	**34**	*e*P	**P**	**13 09 10.3**	**-0.1**
ARU	**Arti**	**69.69**	**324**	*e*P	**P**	**13 09 20.7**	**-0.8**
	comp=Z,18nm,0.9s,mb5.0						
ARU				*e*pP	pP	13 09 32.9	-1.3
ARU	**Arti**	**69.69**	**324**	*e*P	**P**	**13 09 20.7**	**-0.8**
ARU				pmax	pmax		
	comp=Z,18nm,0.9s,mb5.0						
YKA	**Yellowknife Ar**	**74.39**	**28**	P	**P**	**13 09 48.2**	**-1.3**
YKA	**Yellowknife Ar**	**74.39**	**28**	P	**P**	**13 09 48.2**	**-1.3**
	comp=Z,2.3nm,0.5s,mb4.4,baz=291,slow=6.0,SNR=55						
H03A	**Soap Creek Ran**	**75.06**	**48**	⇑P	**P**	**13 09 54.6**	**+0.9**
	baz=75						
D05A	**Enumclaw**	**75.17**	**45**	⇑P	**P**	**13 09 55.3**	**+1.0**
	baz=75						
J02A	**Umpqua**	**75.25**	**49**	⇓P	**P**	**13 09 55.3**	**+0.5**
	baz=75						
F04A	**Amboy**	**75.27**	**46**	⇑P	**P**	**13 09 55.0**	**+0.1**
	baz=75						
RES	**Resolute Bay**	**75.45**	**14**	*e*P	**P**	**13 09 54.8**	**-0.6**
	comp=Z,104nm,0.7s						
E05A	**Randle**	**75.51**	**45**	⇑P	**P**	**13 09 56.4**	**+0.1**
	baz=75						
A07A	**Ashnola River,**	**75.62**	**43**	⇓P	**P**	**13 09 57.4**	**+0.5**
	baz=75						
H04A	**Detroit Lake**	**75.81**	**47**	⇓P	**P**	**13 09 58.3**	**+0.3**
	baz=76						
D06A	**Cle Elum**	**75.91**	**45**	⇓P	**P**	**13 09 58.4**	**-0.2**
	baz=76						
I04A	**Tendick Farm,**	**75.93**	**48**	⇓P	**P**	**13 09 58.9**	**+0.2**
	baz=76						
B07A	**Winthrop**	**75.97**	**43**	⇓P	**P**	**13 09 59.1**	**+0.3**
	baz=76						
N02C	**Big Bar**	**76.22**	**51**	⇑P	**P**	**13 10 00.6**	**+0.1**
	baz=76						
C07A	**Waterville**	**76.26**	**44**	⇑P	**P**	**13 10 00.2**	**-0.3**
	baz=76						
J04A	**Umpqua Nationa**	**76.31**	**49**	⇑P	**P**	**13 10 01.8**	**+0.9**
	baz=76						
A08A	**Turner Farm, O**	**76.35**	**43**	⇑P	**P**	**13 10 01.4**	**+0.4**
	baz=76						
YBH	**Yreka Blue Hor**	**76.36**	**50**	⇑P	**P**	**13 10 02.2**	**+1.0**
	baz=76						
M02C	**Callahan**	**76.37**	**51**	⇑P	**P**	**13 10 02.3**	**+1.0**
	baz=76						
D07A	**Quincy**	**76.47**	**44**	⇑P	**P**	**13 10 01.8**	**+0.1**
	baz=76						
B08A	**Colville Reser**	**76.50**	**43**	⇑P	**P**	**13 10 01.8**	**-0.1**
	baz=76,SNR=6.0						
P01C	**Double 8 Ranch**	**76.62**	**53**	⇓P	**P**	**13 10 03.3**	**+0.5**
	baz=76						
E07A	**Sunnyside**	**76.76**	**45**	⇑P	**P**	**13 10 04.1**	**+0.7**
	baz=77						
A09A	**Danville**	**76.77**	**42**	⇑P	**P**	**13 10 03.9**	**+0.5**
	baz=77						
O02C	**Red Bluff**	**76.80**	**52**	⇓P	**P**

baz=78
NEW **Newport** 77.92 43 eP P 13 10 09.2 -0.6
comp=Z,6.0nm,1.1s,mb4.4
NEW epP pP 13 10 22.0 -0.7
NEW **Newport** 77.92 43 eP P 13 10 09.3 -0.5
NEW e*PP pP 13 10 22.0 -0.7
NEW pmax pmax
comp=Z,6.0nm,1.1s
ORV **Oroville** 77.94 52 P P 13 10 09.7 -0.4
baz=78,SNR=6.2
C10A **Spilker Farm,** 77.97 43 ⇑P P 13 10 10.6 +0.6
baz=78
MOD **Modoc** 78.01 50 ⇑P P 13 10 10.7 +0.3
baz=78
M06C **Likely Place G** 78.12 50 ⇑P P 13 10 11.6 +0.6
baz=78
ELFS **Eagle Lake Fie** 78.14 51 ⇑P P 13 10 11.5 +0.3
baz=78,SNR=6.0
A11A **Hall Mountain,** 78.15 42 ⇑P P 13 10 11.9 +0.8
baz=78
J07A **Hines** 78.19 48 ⇓P P 13 10 11.9 +0.5
baz=78
H08A **Prairie City** 78.23 47 ⇑P P 13 10 11.9 +0.2
baz=78
Q04C **Lincoln** 78.27 53 ⇓P P 13 10 12.7 +0.7
baz=78
B11A **Sandpoint** 78.33 42 ⇓P P 13 10 12.2 +0.1
baz=78,SNR=5.5
EDM **Edmonton** 78.34 37 eP P 13 10 10.9 -1.1
EDM epP pP 13 10 23.7 -1.2
K07A **Rock Creek Ran** 78.47 49 ⇑P P 13 10 13.1 +0.1
baz=78,SNR=6.5
I08A **Drewsey** 78.51 47 ⇓P P 13 10 13.3 +0.1
baz=78
G09A **Cove** 78.56 46 ⇑P P 13 10 13.5 +0.1
baz=78
ARCES **ARCESS Array B** 78.56 342 P P 13 10 12.6 -0.3
comp=Z,4.5nm,0.9s,mb4.4,baz=56,slow=7.5,SNR=8.6
A12A **Yaak River Ran** 78.59 42 ⇑P P 13 10 14.3 +0.8
baz=78
L07A **Adell** 78.64 49 P P 13 10 14.2 +0.3
baz=78,SNR=9.2
BEKR **Beckwourth** 78.66 52 ⇑P P 13 10 14.0 -0.1
baz=78,SNR=12
P05C **Yuba Gap, Truc** 78.68 52 ⇑P P 13 10 14.6 +0.4
baz=78
N06A **Buffalo Meadow** 78.73 51 P P 13 10 14.6 +0.2
baz=78,SNR=5.5
LAVA **Lava Cap Winer** 78.77 53 ⇑P P 13 10 14.5 -0.2
baz=79
J08A **Circle Bar Ran** 78.77 48 ⇑P P 13 10 14.6 0.0
baz=79,SNR=9.6
B12A **Libby** 78.80 42 ⇑P P 13 10 15.1 +0.4
baz=79
O06A **Flanigan** 78.94 51 ⇓P P 13 10 15.7 +0.1
baz=79,SNR=11
M07A **Soldier Meadow** 78.98 50 ⇑P P 13 10 16.1 +0.3
baz=79,SNR=5.4
K08A **Mann Creek Ran** 78.98 48 ⇓P P 13 10 16.0 +0.2
baz=79,SNR=8.2
G10A **Bishop Farm, J** 78.99 46 ⇓P P 13 10 15.7 -0.1
baz=79,SNR=12
BMO **Blue Mountains** 79.02 46 eP P 13 10 15.5 -0.5
comp=Z,13nm,1.1s,mb4.8
BMO **Blue Mountains** 79.02 46 eP P 13 10 15.5 -0.5
BMO pmax pmax
comp=Z,13nm,1.1s,mb4.8
I09A **Lost Marbles R** 79.05 47 ⇑P P 13 10 16.2 +0.1
baz=79
E11A **Bogner Ranch,** 79.19 44 ⇑P P 13 10 16.4 -0.5
baz=79
J09A **Fry Pan Ranch,** 79.26 48 P P 13 10 17.2 -0.1
baz=79,SNR=11
L08A **Fields** 79.27 49 ⇓P P 13 10 17.7 +0.3
baz=79,SNR=15
CMB **Columbia Colle** 79.28 53 eP P 13 10 17.0 -0.5
comp=Z,19nm,1.5s,mb4.8
CMB **Columbia Colle** 79.28 53 eP P 13 10 17.0 -0.5
CMB pmax pmax
comp=Z,19nm,1.5s,mb4.8
CMB **Columbia Colle** 79.28 53 P P 13 10 17.4 -0.1
baz=79,SNR=7.0
WCN **Washoe City** 79.30 52 ⇑P P 13 10 17.5 -0.1
baz=79
N07B **Gerlach** 79.34 50 ⇑P P 13 10 18.0 +0.2
baz=79,SNR=9.6
A13A **Flathead Natio** 79.35 41 ⇓P P 13 10 18.1 +0.5
baz=79
F11A **Grangeville** 79.40 45 ⇑P P 13 10 17.6 -0.4
baz=79,SNR=6.1
D12A **Red Ives Fores** 79.48 43 ⇑P P 13 10 17.9 -0.5
baz=79
H10A **Noah's Angus R** 79.49 46 P P 13 10 17.7 -0.8
baz=79,SNR=9.6
G11A **Walters Elk Ra** 79.51 45 ⇑P P 13 10 18.1 -0.6
baz=79
K09A **Rome** 79.52 48 ⇑P P 13 10 18.5 -0.2
baz=79,SNR=6.4
B13A **Whitefish** 79.53 42 ⇑P P 13 10 18.7 0.0
baz=79,SNR=6.7
WALA **Waterton Lakes** 79.61 41 eP P 13 10 19.0 -0.1
comp=Z,9.6nm,1.0s,mb4.7
C13A **Hot Springs** 79.73 43 P P 13 10 19.5 -0.3
baz=80,SNR=14
R06C **Coleville** 79.80 53 ⇑P P 13 10 20.8 +0.5
baz=80
L09A **Wilkinson Ranc** 79.81 49 ⇓P P 13 10 20.5 +0.2
baz=80
N08A **GE Springer Mi** 79.93 50 ⇑P P 13 10 21.2 +0.2
baz=80,SNR=9.1
H11A **Donnelly** 79.93 46 ⇑P P 13 10 20.6 -0.3
baz=80,SNR=9.7
F12A **Elk City** 80.03 45 ⇓P P 13 10 21.1 -0.3
baz=80,SNR=5.9
K10A **MacKenzie Ranc** 80.08 48 P P 13 10 22.0 +0.2
baz=80,SNR=6.4
T06C **Millerton Lake** 80.15 54 P P 13 10 22.1 -0.2
baz=80,SNR=5.5
C14A **Swan Lake** 80.21 42 ⇓P P 13 10 22.3 0.0
baz=80
JOF **Joensuu** 80.26 335 ep P 13 10 21.5 -0.8
comp=Z,13nm,0.5s,mb5.1
MFID **Camas Ranch** 80.54 47 ⇑P P 13 10 24.6 +0.4
baz=80,SNR=12
L10A **Juniper Basin** 80.61 48 P P 13 10 24.9 +0.3
baz=80,SNR=5.2
F13A **Darby** 80.62 44 P P 13 10 23.9 -0.7
baz=80,SNR=8.6
K11A **Parker Ranch,** 80.65 48 ⇑P P 13 10 24.3 -0.5
baz=80,SNR=6.0
NVAR **Mina Array Bea** 80.67 52 P P 13 10 25.1 +0.1
comp=Z,7.0nm,0.8s,mb4.6,baz=279,slow=3.7,SNR=49
H12A **Diamond D Ranc** 80.76 46 ⇓P P 13 10 25.2 -0.2
baz=80
HELL **Mitchell Peak** 80.78 54 ⇑P P 13 10 25.3 -0.3
baz=81
Q08A **Gabbs** 80.78 52 ⇓P P 13 10 25.5 -0.1
baz=81,SNR=5.4
R08A **Mina** 80.84 52 ⇑P P 13 10 26.2 +0.3
baz=81
CHMT **Chamberlain Mo** 80.86 43 eP P 13 10 24.8 -1.0
E14A **Clinton** 80.91 43 ⇑P P 13 10 25.5 -0.6
baz=81
G13A **Cobalt** 80.95 45 P P 13 10 25.8 -0.6
baz=81,SNR=18
VES **Vestal, Richgr** 81.04 55 ⇑P P 13 10 26.0 -1.0
baz=81
P09A **Austin** 81.09 51 ⇓P P 13 10 27.7 +0.5
baz=81
S08C **White Mtn Res** 81.11 53 ⇓P P 13 10 27.8 +0.4
baz=81
H13A **Challis** 81.15 45 ⇓P P 13 10 27.2 -0.3
baz=81
HLID **Hailey** 81.44 46 eP P 13 10 28.4 -0.6
comp=Z,4.1nm,1.1s,mb4.3
HLID **Hailey** 81.44 46 ⇓P P 13 10 29.0 0.0
baz=81,SNR=5.2
E15A **Deer Lodge** 81.44 43 ⇓P P 13 10 28.6 -0.3
baz=81,SNR=5.7
K12A **Draper Farm, C** 81.47 47 ⇑P P 13 10 28.9 -0.3
baz=81
I13A **Wildhorse Cree** 81.49 46 ⇓P P 13 10 29.5 +0.2
baz=81
L12A **House Creek Ra** 81.58 48 ⇓P P 13 10 30.3 +0.4
baz=81
R09A **Tonopah** 81.64 52 ⇓P P 13 10 30.2 0.0
baz=81,SNR=5.1
J13A **Cove Ranch, Pi** 81.66 46 ⇓P P 13 10 30.2 0.0
baz=82,SNR=5.8
S09A **Goldfield** 81.72 53 P P 13 10 30.4 -0.2
baz=82,SNR=9.1
F15A **Butte** 81.77 44 ⇓P P 13 10 30.5 -0.2
baz=82,SNR=8.2
Q10A **Clear Creek Ra** 81.90 51 ⇓P P 13 10 31.3 -0.2
baz=82
O11A **Cowboy Ranch,** 81.92 50 ⇑P P 13 10 31.6 -0.1
baz=82
M12A **Wells** 81.94 49 P P 13 10 32.2 +0.5
baz=82,SNR=5.7
MCMT **McKenzie Canyo** 81.96 45 eP P 13 10 30.7 -1.0
K13A **Stover Farm, H** 82.02 47 ⇓P P 13 10 32.1 0.0
baz=82
G15A **Dillon** 82.05 44 ⇑P P 13 10 31.7 -0.5
baz=82,SNR=5.4
S10A **Tonopah Range,** 82.11 52 ⇓P P 13 10 32.7 0.0
baz=82,SNR=10.0
MPMC **Manual Prospec** 82.16 54 ⇑P P 13 10 32.8 -0.1
baz=82,SNR=9.3
R10A **Warm Springs** 82.18 52 ⇓P P 13 10 33.1 +0.1
baz=82
EDW2 **Edwards Air Fo** 82.22 56 ⇓P P 13 10 33.2 -0.1
baz=82
LRMC **Laurel Mountai** 82.23 55 ⇓P P 13 10 33.5 +0.2
baz=82
L13A **Double Diamond** 82.34 48 ⇑P P 13 10 34.5 +0.7
baz=82
Q11A **Duckwater** 82.43 51 ⇓P P 13 10 34.3 0.0
baz=82
FURC **Furnace Creek,** 82.47 54 ⇑P P 13 10 34.7 +0.1
baz=82
M13A **Montello** 82.48 48 ⇑P P 13 10 34.8 +0.3
baz=82
O12A **Currie** 82.51 50 ⇑P P 13 10 34.5 -0.2
baz=82,SNR=6.0
KAF **Kagasniemi** 82.64 336 ep P 13 10 33.4 -1.5
comp=Z,6.5nm,0.5s,mb4.9,baz=54,slow=4.8
KAF **Kangasniemi** 82.64 336 eP P 13 10 33.4 -1.5
KAF pmax pmax
comp=Z,7.0nm,0.5s,mb5.0
R11A **Troy Canyon, C** 82.67 52 P P 13 10 35.6 +0.1
baz=82,SNR=7.2
K14A **Jones Ranch, D** 82.67 47 ⇓P P 13 10 35.8 +0.3
baz=82
P12A **McGill** 82.71 50 ⇓P P 13 10 35.9 +0.1
baz=82
TPNV **Topopah Spring** 82.74 53 eP P 13 10 35.3 -0.6
comp=Z,4.4nm,0.9s,mb4.5
TPNV **Topopah Spring** 82.74 53 eP P 13 10 35.3 -0.7
TPNV pmax pmax
comp=Z,4.0nm,0.9s,mb4.5
QLMT **Earthquake Lak** 82.88 44 eP P 13 10 36.7 +0.2
U10A **Ash Meadows, A** 82.88 54 P P 13 10 37.2 +0.5
baz=83,SNR=5.8
Q12A **Willow Creek R** 82.94 51 ⇑P P 13 10 37.2 +0.2
baz=83
GSC **Goldstone** 82.96 55 ⇑P P 13 10 37.1 0.0
baz=83
M14A **Sheep Mountain** 82.98 48 ⇓P P 13 10 37.2 +0.1
baz=83,SNR=7.4
O13A **Hicks Ranch, I** 83.10 49 ⇓P P 13 10 38.3 +0.5
baz=83
SHOC **Shoshone** 83.12 54 ⇑P P 13 10 37.9 0.0
baz=83
FINES **FINESS Array B** 83.12 335 P P 13 10 36.4 -1.0
FINES **FINESS Array B** 83.12 335 P P 13 10 36.4 -1.0
comp=Z,6.2nm,0.5s,mb4.9,baz=70,slow=5.3,SNR=50
KIV **Kislovodsk** 83.25 315 eP P 13 10 38.6 +0.2
KIV epP pP 13 10 51.6 +0.1
KIV **Kislovodsk** 83.25 315 eP P 13 10 38.0 -0.4
KIV pmax pmax
comp=Z,24nm,1.0s,mb5.2
YMR **Madison River** 83.25 44 eP P 13 10 38.9 +0.4
comp=Z,7.6nm,0.8s,mb4.8
ONI **Oni** 83.32 313 P P 13 10 40.1 +1.2
MURC **Murrieta** 83.32 56 ⇓P P 13 10 38.8 -0.2
baz=83
P13A **Bates Ranch, G** 83.35 50 ⇓P P 13 10 39.0 -0.1
baz=83,SNR=8.0
N14A **Grayback Hills** 83.36 49 ⇑P P 13 10 39.5 +0.4
baz=83
T11A **Corn Creek, Al** 83.38 52 ⇓P P 13 10 39.1 -0.2
baz=83
R12A **Pony Springs,** 83.39 51 P P 13 10 39.6 +0.3
baz=83,SNR=6.2
YFT **Old Faithful** 83.42 45 eP P 13 10 40.6 +1.2
TUQ **Turquoise Mtn.** 83.57 54 ⇑P P 13 10 40.7 +0.4
baz=83
IMW **Indian Meadow** 83.59 45 eP P 13 10 40.7 +0.5
comp=Z,6.8nm,0.8s,mb4.8
M15A **Larsen Ranch,** 83.62 48 ⇓P P 13 10 40.4 0.0
baz=83
LKWY **Lake** 83.65 44 eP P 13 10 42.3 +1.7
comp=Z,2.5nm,0.7s,mb4.5
LKWY **Lake** 83.65 44 eP P 13 10 42.3 +1.8
LKWY pmax pmax
comp=Z,2.0nm,0.7s,mb4.4
109C **Camp Elliot, M** 83.67 57 ⇑P P 13 10 40.5 -0.4
baz=84
V11A **Goodsprings** 83.78 54 P P 13 10 41.5 +0.2
baz=84,SNR=5.3
PFO **Pinyon Flat Ob** 83.89 56 ⇓P P 13 10 41.9 -0.1
baz=84
DUG **Dugway** 83.89 49 eP P 13 10 41.1 -0.8
comp=Z,2.3nm,0.6s,mb4.5
DUG **Dugway** 83.89 49 eP P 13 10 41.1 -0.7
DUG pmax pmax
comp=Z,2.0nm,0.6s,mb4.4
GMRC **Granite Mounta** 84.03 55 ⇑P P 13 10 42.6 0.0
baz=84
BELC **Belle Mtn.** 84.08 56 P P 13 10 42.4 -0.5
baz=84,SNR=5.6
HWUT **Hardware Ranch** 84.16 47 eP P 13 10 43.1 -0.1
comp=Z,3.0nm,0.4s,mb4.8
U12A **Valley of Fire** 84.20 53 ⇓P P 13 10 43.6 +0.1
baz=84
S13A **Holt Ranch, En** 84.23 52 ⇓P P 13 10 43.7 0.0
baz=84
V12A **Nelson** 84.26 54 ⇑P P 13 10 44.0 +0.2
baz=84
T13A **Saint George** 84.43 52 ⇑P P 13 10 44.8 +0.1
baz=84,SNR=5.9
ARUT **Antelope Range** 84.45 51 eP P 13 10 44.0 -0.7
U13A **Pakoon Wash** 84.63 53 ⇑P P 13 10 44.7 -1.0
baz=84,SNR=6.5
S14A **Cedar City** 84.66 51 ⇑P P 13 10 45.5 -0.2
baz=84
IRM **Iron Mountain** 84.66 55 ⇓P P 13 10 45.1 -0.8
baz=84
JLU **Jordanelle** 84.67 48 eP P 13 10 45.2 -0.5
BW06 **Boulder Array** 84.99 46 eP P 13 10 46.3 -1.0
comp=Z,1.5nm,0.7s,mb4.2
PDAR **Pinedale Array** 84.99 46 P P 13 10 46.9 -0.5
comp=Z,1.6nm,0.7s,mb4.3,baz=248,slow=1.7,SNR=15
FCC **Fort Churchill** 85.02 27 eP P 13 10 45.8 -1.4
comp=Z,5.3nm,0.7s,mb4.8
FCC epP pP 13 10 59.0 -1.2
FCC **Fort Churchill** 85.02 27 eP P 13 10 45.8 -1.4
FCC pmax pmax
comp=Z,5.0nm,0.7s,mb4.8
U14A **Mt Trumbull** 85.21 53 ⇓P P 13 10 48.5 -0.1
baz=85
LAO **LASA Array** 85.30 41 eP P 13 10 48.2 -0.6
comp=Z,14nm,1.0s,mb5.0
LAO epP pP 13 11 00.9 -0.9
Y12C **Blythe** 85.31 55 ⇓P P 13 10 49.2 +0.1
baz=85
GLA **Glamis** 85.36 56 ⇑P P 13 10 49.5 +0.1
baz=85
PDMCI **Parker Dam,Lak** 85.37 55 ⇓P P 13 10 49.6 +0.2
baz=85
X13A **Yucca** 85.48 54 ⇑P P 13 10 49.8 -0.2
baz=85
T15A **Red Dirt Ranch** 85.53 52 ⇑P P 13 10 50.3 +0.1
baz=85
V14A **Boquillas Ranc** 85.59 53 ⇑P P 13 10 50.8 +0.3
baz=85,SNR=7.0
MIB **Mutribah** 85.69 300 eP P 13 10 50.7 -0.4
MIB AMb AMB 13 11 04.7
comp=Z,52nm,0.9s,mb5.8
W14A **Seligman** 85.78 54 ⇓P P 13 10 51.7 +0.2
baz=86
Y13A **Salome** 85.81 55 ⇓P P 13 10 51.7 +0.1
baz=86
RDF **Al-Radifah** 85.87 300 eP P 13 10 51.7 -0.3
RDF AMb AMB 13 11 00.2
comp=Z,70nm,1.4s,mb5.7
SRU **San Rafael** 85.95 49 eP P 13 10 51.9 -0.3
comp=Z,7.4nm,0.7s,mb5.0
SRU **San Rafael** 85.95 49 eP P 13 10 51.9 -0.3
SRU pmax pmax
comp=Z,7.0nm,0.7s,mb5.0
NAY **Al-Naaiem** 85.99 300 eP P 13 10 52.0 -0.6
NAY AMb AMB 13 11 05.1
comp=Z,19nm,0.7s,mb5.5
RST **Umm Al-Ruwaisa** 86.08 300 eP P 13 10 52.2 -0.8
RST AMb AMB 13 11 05.5
comp=Z,21nm,0.7s,mb5.5
T16A **Glen Canyon Da** 86.18 51 ⇑P P 13 10 52.6 -0.8
baz=86
X14A **Yava** 86.24 54 ⇑P P 13 10 54.0 +0.3
baz=86
Y14A **Wickenburg** 86.38 55 ⇓P P 13 10 54.3 -0.2
baz=86,SNR=6.0
W15A **Williams** 86.40 53 ⇓P P 13 10 54.2 -0.3
baz=86
X15A **Humboldt** 86.72 54 P P 13 10 56.6 +0.5
baz=86,SNR=6.5
Y15A **Casa Rosa Ranc** 86.88 55 ⇓P P 13 10 57.2 +0.4
baz=87,SNR=8.5
X16A **Lo Mia Camp, P** 87.34 54 ⇑P P 13 10 59.4 +0.3
baz=87
115A **Sonoran Desert** 87.49 56 ⇓P P 13 11 00.5 +0.7
baz=87
Y16A **Circle Bar Ran** 87.55 54 ⇓P P 13 11 00.3 +0.1
baz=87
Z16A **Peralta Trail,** 87.82 55 ⇑P P 13 11 01.4 0.0
baz=88
AKASG **Malin Array Be** 87.89 325 P P 13 10 59.9 -1.4
AKASG **Malin Array Be** 87.89 325 P P 13 10 59.9 -1.4
comp=Z,3.2nm,0.7s,mb4.7,baz=49,slow=4.6,SNR=24
116A **Eloy** 87.95 56 ⇑P P 13 11 01.9 -0.1
baz=88
216A **Three Points,** 88.38 56 ⇑P P 13 11 04.4 +0.3
baz=88
MALT **Malatya** 88.65 311 eP P 13 11 05.2 0.0
comp=Z,3.9nm,1.0s,mb4.7
MALT **Malatya** 88.65 311 eP P 13 11 05.2 0.0
MALT pmax pmax
comp=Z,4.0nm,1.0s,mb4.7
NB2 **NORSAR Subarra** 88.69 340 P P 13 11 03.6 -1.4
comp=Z,1.9nm,0.6s,mb4.6,baz=43,slow=4.8
NOA **NORSAR Array B** 88.69 340 P P 13 11 03.6 -1.4
comp=Z,2.8nm,0.8s,mb4.7,baz=47,slow=4.5,SNR=11
TUC **Tucson** 88.76 55 eP P 13 11 06.0 +0.2
comp=Z,2.1nm,1.0s,mb4.4
TUC epP pP 13 11 18.0 -1.0
TUC **Tucson** 88.76 55 eP P 13 11 06.0 +0.1
TUC pmax pmax
comp=Z,2.0nm,1.0s,mb4.4
217A **Green Valley** 88.97 56 ⇓P P 13 11 07.3 +0.4
baz=89
ULM **Lac du Bonnet** 89.25 34 P P 13 11 06.7 -1.1
comp=Z,0.8nm,0.5s,mb4.3,baz=323,slow=17,SNR=3.7
218A **Dragoon** 89.47 55 ⇑P P 13 11 09.8 +0.6
baz=89
119A **Ashpeak Ranch,** 89.67 54 ⇑P P 13 11 11.0 +0.8
baz=90
SDCO **Great Sand Dun** 90.08 49 eP P 13 11 11.7 -0.3
comp=Z,2.2nm,0.9s,mb4.5
ANMO **Albuquerque** 90.75 51 eP P 13 11 14.4 -0.7
comp=Z,4.4nm,1.4s,mb4.6
ANMO epP pP 13 11 27.2 -1.1
ANMO **Albuquerque** 90.75 51 eP P 13 11 14.4 -0.7
ANMO pmax pmax
comp=Z,4.0nm,1.4s
TXAR **Lajitas Array** 95.56 55 P P 13 11 36.7 -0.7
TXAR **Lajitas Array** 95.56 55 P P 13 11 36.7 -0.7
comp=Z,0.4nm,0.6s,mb4.0,baz=300,slow=3.7,SNR=5.9
GERES **GERESS Array B** 96.75 330 P P 13 11 40.9 -1.5
comp=Z,0.4nm,0.5s,mb4.1,baz=58,slow=13,SNR=4.6
TORD **Torodi Ar. Bea** 129.74 312 PKP PKPdf 13 17 21.7 -0.1
comp=Z,2.3nm,1.0s,baz=53,slow=2.0,SNR=10
PLCA **Paso Flores** 144.75 129 PKP PKPdf 13 17 47.2 -1.4
comp=Z,8.1nm,1.0s,baz=244,slow=5.3,SNR=12
LPAZ **La Paz** 147.58 85 ePKPdf PKPdf 13 17 54.7 +0.6
LPAZ ePKPbc PKPbc 13 17 57.2 +0.4
LPAZ **La Paz** 147.58 85 PKPbc PKPbc 13 17 57.3 +0.5
comp=Z,6.3nm,0.8s,baz=12,slow=3.7,SNR=17

IDC 08 13:00:15.3±4.3, 267S×13971E, h0km, mb3.6/3, mb1 3.8/4, mb1mx3.6/11, mbtmp3.7/4, ML3.8/1, Error ellipse: s-maj=180.1km s-min=27.3km az=89.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	17.95	197	P	Pn	13 04 26.5	-0.1
	0.3nm,0.3s,baz=18,slow=13,SNR=7.3						
ASAR	**Alice Springs**	21.62	195	P	P	13 05 07.4	+0.2
	1.1nm,0.8s,baz=22,slow=9.5,SNR=5.4						
MKAR	**Makanchi Array**	70.37	322	P	P	13 11 32.0	+0.9
	0.3nm,0.4s,baz=97,slow=8.9,SNR=4.4						
ZALV	**Zalesovo Beam**	72.41	330	P	P	13 11 42.4	-0.9
	0.5nm,0.5s,baz=119,slow=8.4,SNR=2.6						

*CSEM **08** 13:14:42.7, 38.10N×2037E, h12km, MD3.0/4, After ATH*
ATH 08 13:14:42.7, 3810N×2037E, h12km±3km, MD3.0/4, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	0.19	66	ePG	Pg	13 14 47.0	+0.1
VLS				eSG	Sg	13 14 50.3	+0.6
LKD	**Levkas**	0.65	20	eP	Pg	13 14 51.2	-4.1
LKD				eS	Sg	13 14 57.4	-6.4
RLS	**Riolos of Patr**	0.87	92	ePB	Pb	13 14 59.2	-0.5
EVR	**Evrytania**	1.39	54	ePB	Pb	13 15 09.1	+0.5
IGT	**Igoumenitsa**	1.43	359	eP	Pn	13 15 07.5	-1.0
IGT				eS	Sn	13 15 24.9	-2.3
AGG	**Agios Georgios**	1.79	58	eP	Pn	13 15 14.3	+0.9
THL	**Klokotos Trika**	1.95	41	ePN	Pn	13 15 17.6	+2.1

*IDC **08** 13:18:29.9±6.7, 1405N×9174W, h66km±41km, mb3.2/2, mb1 3.6/4, mb1mx3.3/20, mbtmp3.2/4, ML3.9/3, MS3.9/1, Ms1 3.8/1, ms1mx2.5/17, Error ellipse: s-maj=58.5km s-min=21.4km az=174.0*
*CASC **08** 13:18:31.0±4.7, 1408N×9161W, h53km±38km, MD3.6*
ISC 08 13:18:29.1±1.5, 140N±01×9175W±007, h58km±8km, n13, σ0°85/11, mb3.5/2, 1C-1D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAT	**Jato**	0.35	17	eP	Pn	13 18 40.2	+0.7
JAT				eS	Sn	13 18 46.7	-0.4
FUG	**Fuego 3**	0.99	62	eP	Pn	13 18 46.7	-0.3
PCG	**Pacaya**	1.18	69	eP	Pn	13 18 49.7	+0.2
SBLS	**San Blas**	2.07	94	eP	x	13 19 30.9	
SBLS				eS	x	13 19 57.4	
SNJE	**San Jose**	2.08	93	eP	x	13 19 30.9	
SNJE				eS	x	13 19 51.5	
LFRS	**El Faro**	2.63	97	eP	x	13 19 38.7	
LFRS				eS	x	13 20 10.1	
SNVI	**San Vicente**	2.85	97	eP	x	13 19 42.0	
CMIG	**Matias Romero**	4.33	316	P	Pn	13 19 32.1	-0.3
	2.5nm,0.3s,baz=108,slow=8.4,SNR=24						
CMIG				S	Sn	13 20 21.4	-0.2
	5.1nm,0.3s,baz=112,slow=21,SNR=5.9						
TEIG	**Tepich**	7.04	28	P	Pn	13 20 09.3	-0.4
	12nm,0.3s,baz=283,slow=0.7,SNR=80						
TEIG				S	Sn	13 21 28.8	+0.4
	baz=222,slow=23,SNR=5.6						
TXAR	**Lajitas Array**	18.85	326	P	Pn	13 22 45.9	+0.4
	0.1nm,0.3s,baz=156,slow=13,SNR=13						
NVAR	**Mina Array Bea**	33.84	321	P	P	13 25 07.6	+1.6
	0.4nm,0.6s,mb3.5,baz=121,slow=10,SNR=4.5						
ULM	**Lac du Bonnet**	36.33	356	LR	LR	13 44 39.5	
	comp=Z,174nm,18.9s,baz=296,slow=43						
YKA	**Yellowknife Ar**	51.10	347	P	P	13 27 23.3	-2.2
	0.3nm,0.6s,mb3.4,baz=150,slow=7.5,SNR=9.5						

*ISCJB **08** 13:25:22.5±3.2, 1762S±005×7283W±007, h1km±20km, mb4.6/28, MS4.8/3, Error ellipse: s-maj=12.1km s-min=8.1km az=159.8*
*IDC **08** 13:25:24.1±0.6, 1755S×7263W, h0km, mb4.3/14, mb1 4.5/16, mb1mx4.4/19, mbtmp4.4/16, ML4.4/2, Error ellipse: s-maj=22.4km s-min=14.7km az=52.0*

*BJI **08** 13:25:29.0, 1760S×7270W, h32km, mB5.2, Ms5.0, Msz4.9*
*NEIC **08** 13:25:29.0±0.3, 1756S×7271W, mb4.8/15, Error ellipse: s-maj=10.1km s-min=7.1km az=62.0*

ISC 08 13:25:25.6±3.3, 1757S±005×7272W±008, h8km±21km, h36km±2.4km: pP-P, n77, σ0=98/59, mb4.6/28, MS4.8/3, 1C, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARE	**Arequipa**	**1.61**	**47**	⇑*iP*	**Pn**	**13 25 55.0**	**+0.7**
ARE				*eS*	**Sn**	**13 26 20.0**	**+4.7**
LPAZ	**La Paz**	**4.57**	**74**	*e*Pn	**Pn**	**13 26 39.6**	**+4.5**
LPAZ	**La Paz**	**4.57**	**74**	Pn	**Pn**	**13 26 39.3**	**+4.2**
	2.8nm,0.3s,baz=256,slow=10,SNR=56						
NNA	**Nana**	**6.84**	**324**	*e*Pn	**Pn**	**13 27 07.9**	**+1.6**
	67nm,0.7s						
NNA	**Nana**	**6.84**	**324**	Pn	**Pn**	**13 27 07.9**	**+1.6**
	5.2nm,0.3s,baz=158,slow=7.6,SNR=10						
NNA				Sn	**Sn**	**13 28 20.0**	**-4.3**
	15nm,0.3s,baz=232,slow=16,SNR=6.2						
SIV	**San Ignacio**	**11.26**	**84**	Pn	**Pn**	**13 28 07.0**	**+0.1**
	1.8nm,0.3s,baz=261,slow=12,SNR=39						
SIV				Sn	**Sn**	**13 30 03.5**	**-10**
	1.1nm,0.3s,baz=265,slow=19,SNR=7.8						
LCO	**Las Campanas**	**11.54**	**171**	*e*Pn	**Pn**	**13 28 09.4**	**-1.3**
	22nm,1.0s						
ATAH	**Atahualpa**	**11.88**	**331**	Pn	**Pn**	**13 28 24.8**	**+9.4**
	0.4nm,0.3s,baz=139,slow=8.8,SNR=6.0						
CFAA	**Coronel Fontan**	**14.55**	**165**	Pn	**Pn**	**13 28 51.3**	**-0.6**
	0.0nm,0.3s,baz=348,slow=9.0,SNR=4.1						
ROSC	**El Rosal**	**22.34**	**356**	*e*P	**P**	**13 30 24.6**	**+0.5**
ROSC	**El Rosal**	**22.34**	**356**	P	**P**	**13 30 24.6**	**+0.5**
	5.0nm,0.4s,mb4.3,baz=267,slow=21,SNR=5.7						
TRQA	**Tornquist**	**22.48**	**157**	*e*P	**P**	**13 30 26.1**	**+0.8**
	18nm,1.1s,mb4.4						
PLCA	**Paso Flores**	**23.16**	**176**	*e*P	**P**	**13 30 34.9**	**+2.4**
	22nm,0.8s,mb4.6						
PLCA	**Paso Flores**	**23.16**	**176**	P	**P**	**13 30 31.3**	**-1.2**
	18nm,1.1s,mb4.4,baz=355,slow=10,SNR=9.6						
BDFB	**Brasília**	**23.75**	**89**	P	**P**	**13 30 36.9**	**-1.8**
	26nm,0.8s,mb4.7,baz=254,slow=15,SNR=36						
SDV	**Santo Domingo**	**26.37**	**5**	*e*P	**P**	**13 31 01.8**	**-0.7**
	17nm,0.9s,mb4.6						
SDV	**Santo Domingo**	**26.37**	**5**	P	**P**	**13 31 01.6**	**-0.9**
	12nm,0.8s,mb4.5,baz=254,slow=7.0,SNR=7.3						
RCBR	**Riachuelo**	**37.81**	**77**	*e*P	**P**	**13 32 43.0**	**+0.1**
	51nm,1.0s,mb5.2						
TEIG	**Tepich**	**40.55**	**337**	P	**P**	**13 33 06.0**	**+0.4**
	5.7nm,0.3s,mb4.6,baz=221,slow=1.5,SNR=5.6						
SWET	**Sewanee**	**53.97**	**347**	*e*P	**P**	**13 34 48.4**	**-1.7**
SWET				*ep*P	pP	13 34 58.9	+6.4
WVT	**Waverly**	**55.29**	**345**	*e*P	**P**	**13 34 57.2**	**-2.4**
	4.1nm,0.8s,mb4.5						
WVT				*ep*P	pP	13 35 05.7	+3.6
TXAR	**Lajitas Array**	**55.38**	**327**	P	**P**	**13 34 59.8**	**-0.6**
	0.7nm,0.8s,mb3.7,baz=150,slow=8.7,SNR=6.0						
SIUC	**Southern Illin**	**57.14**	**344**	*e*P	**P**	**13 35 11.2**	**-1.6**
	19nm,0.8s,mb5.2						
SIUC				*ep*P	pP	13 35 22.2	+6.9
SIUC				*es*P	sP	13 35 28.8	+13
ANMO	**Albuquerque**	**61.28**	**329**	*e*P	**P**	**13 35 41.5**	**-0.1**
	1.6nm,0.9s,mb4.2						
ANMO	**Albuquerque**	**61.28**	**329**	P	**P**	**13 35 41.6**	**0.0**
	1.5nm,0.8s,mb4.2,baz=175,slow=8.2,SNR=6.2						
SDCO	**Great Sand Dun**	**63.07**	**331**	*e*P	**P**	**13 35 53.3**	**-0.2**
	6.6nm,0.9s,mb4.8						
SDCO				*ep*P	pP	13 36 03.2	+7.2
VNA3	**Neumayer Olymp**	**64.93**	**161**	*e*P	**P**	**13 36 04.1**	**-1.2**
VNA3				*e*		13 36 14.2	
VNA3				*e*		13 36 17.1	
VNA1	**Neumayer--Stat**	**65.17**	**161**	*e*P	**P**	**13 36 06.9**	**0.0**
VNA1				*e*		13 36 15.0	
VNA1				*e*		13 36 18.7	
VNA2	**Neumayer--Watz**	**65.52**	**161**	*e*P	**P**	**13 36 10.3**	**+1.1**
VNA2				*e*		13 36 20.7	
VNA2				*e*		13 36 24.5	
MSU	**Marysvale**	**66.94**	**327**	*e*P	**P**	**13 36 19.3**	**+0.6**
MSU				*ep*P	pP	13 36 29.0	+7.8
SNAA	**Sanae**	**67.14**	**161**	*e*P	**P**	**13 36 19.9**	**+0.4**
SNAA				*e*		13 36 28.0	
SNAA				*e*		13 36 30.9	
DUG	**Dugway**	**68.53**	**328**	*e*P	**P**	**13 36 29.1**	**+0.4**
	6.3nm,1.0s,mb4.5						
PDAR	**Pinedale Array**	**68.95**	**332**	P	**P**	**13 36 30.4**	**-0.8**
	0.8nm,0.9s,mb3.6,baz=140,slow=9.4,SNR=5.5						
NVAR	**Mina Array Bea**	**70.21**	**323**	P	**P**	**13 36 40.1**	**+1.0**
	0.5nm,0.7s,mb3.5,baz=134,slow=7.2,SNR=5.1						
ULM	**Lac du Bonnet**	**70.55**	**344**	P	**P**	**13 36 39.6**	**-1.3**
	2.0nm,0.6s,mb4.2,baz=124,slow=3.4,SNR=5.9						
DBIC	**Dimbokro**	**71.19**	**76**	*e*P	**P**	**13 36 44.6**	**-1.0**
	13nm,0.9s,mb4.9						
DBIC				*ep*P	pP	13 36 58.9	+11
DBIC	**Dimbokro**	**71.19**	**76**	P	**P**	**13 36 44.4**	**-1.2**
	12nm,1.0s,mb4.8,baz=228,slow=6.4,SNR=11						
HLID	**Hailey**	**71.84**	**329**	*e*P	**P**	**13 36 49.6**	**+0.7**
	2.7nm,0.9s,mb4.2						
MCMT	**McKenzie Canyo**	**72.05**	**331**	*e*P	**P**	**13 36 50.6**	**+0.5**
QSPA	**South Pole Qui**	**72.60**	**180**	*e*P	**P**	**13 36 54.2**	**+1.2**
	12nm,1.0s,mb4.8						
EDM	**Edmonton**	**78.72**	**336**	*e*P	**P**	**13 37 27.2**	**-1.1**
TOA0	**Torodi Ar. Sit**	**79.52**	**73**	*e*P	**P**	**13 37 32.4**	**-1.1**
TORD	**Torodi Ar. Bea**	**79.52**	**73**	P	**P**	**13 37 32.7**	**-0.8**
TORD	**Torodi Ar. Bea**	**79.52**	**73**	P	**P**	**13 37 32.7**	**-0.8**
	11nm,0.8s,mb4.8,baz=257,slow=5.3,SNR=40						
MORF	**Marmelete**	**81.28**	**47**	*e*P	**P**	**13 37 44.2**	**+1.7**
PBEJ	**Beja**	**82.18**	**46**	*e*P	**P**	**13 37 48.5**	**+1.2**
	14nm,1.4s,mb4.7						
PBAR	**Barrancos**	**82.82**	**46**	*e*P	**P**	**13 37 51.3**	**+0.7**
MVO	**Moncorvo**	**84.27**	**44**	*e*P	**P**	**13 37 58.6**	**+0.6**
	15nm,1.2s,mb5.0						
TSUM	**Tsumeb**	**84.64**	**108**	*e*P	**P**	**13 38 01.3**	**+0.8**
	20nm,1.2s,mb5.1						
PBRG	**Braganca**	**84.77**	**43**	*e*P	**P**	**13 38 01.3**	**+0.8**
PAB	**San Pablo**	**85.32**	**46**	*e*P	**P**	**13 38 03.5**	**+0.2**
	13nm,1.1s,mb5.0						
ESDC	**Sonseca Array**	**85.64**	**46**	P	**P**	**13 38 05.3**	**+0.4**
	4.6nm,0.9s,mb4.7,baz=254,slow=5.2,SNR=24						
ESLA	**Sonseca Array**	**85.64**	**46**	*e*P	**P**	**13 38 05.4**	**+0.5**
	8.4nm,1.4s,mb4.8						
YKA	**Yellowknife Ar**	**86.33**	**342**	P	**P**	**13 38 07.4**	**-0.4**
YKA	**Yellowknife Ar**	**86.33**	**342**	P	**P**	**13 38 07.4**	**-0.4**
	3.9nm,0.9s,mb4.7,baz=135,slow=4.9,SNR=54						
MAW	**Mawson**	**89.08**	**164**	P	**P**	**13 38 21.7**	**+0.6**
	4.0nm,0.8s,mb4.8,baz=192,slow=7.6,SNR=8.6						
ASAR	**Alice Springs**	**131.47**	**213**	PKP	PKPdf	13 44 39.1	-0.5
	0.3nm,0.6s,baz=123,slow=1.5,SNR=3.2						
WRA	**Warramunga Arr**	**134.23**	**217**	PKP	PKPdf	13 44 45.7	+0.8
	0.7nm,0.6s,baz=123,slow=2.2,SNR=6.3						
ZAA0	**Zalesovo Array**	**139.74**	**20**	*e*PKPdf	PKPdf	13 44 53.9	-0.1
ZALV	**Zalesovo Beam**	**139.74**	**20**	PKP	PKPdf	13 44 54.1	+0.2
	4.7nm,0.9s,baz=302,slow=2.8,SNR=12						
MK31	**Makanchi Array**	**144.30**	**30**	*e*PKPdf	PKPdf	13 45 00.1	-2.3
MKAR	**Makanchi Array**	**144.30**	**30**	PKP	PKPdf	13 45 00.7	-1.7
	2.0nm,0.8s,baz=327,slow=4.3,SNR=18						
TLY	**Talaya**	**145.84**	**4**	*e*PKPdf	PKPdf	13 45 06.3	+1.5
HIA	**Hailar**	**146.81**	**345**	*e*PKPbc	PKPbc	13 45 08.1	-0.2
MJAR	**Matsushiro Arr**	**146.81**	**311**	PKPbc	PKPbc	13 45 09.1	+0.3
	6.1nm,0.9s,baz=84,slow=0.8,SNR=23						
MAJO	**Matsushiro**	**146.81**	**311**	*e*PKPbc	PKPbc	13 45 08.6	-0.2
POO	**Poona**	**148.22**	**83**	*ex*	PKPbc	13 45 13.0	-0.1
WMQ	**Urumqi**	**149.04**	**28**	*e*PKP	PKPdf	13 45 11.5	+1.1
WMQ				LR	LR		
	comp=Z,210nm,27.6s,MS4.8						
CN2	**Changchun**	**149.68**	**333**	*e*PKP	PKPdf	13 45 10.4	-1.0
CN2				LR	LR		
	comp=N,100nm,18.0s,MS4.8						
CN2				LR	LR		
	comp=E,100nm,18.0s,MS4.8						
CN2				LR	LR		
	comp=Z,200nm,19.0s,MS4.9						
SONM	**Songino Array**	**149.81**	**1**	PKP	PKPdf	13 45 11.9	+0.4
	comp=Z,1.9nm,1.0s,baz=202,slow=1.6,SNR=3.2						
SONM				PKPbc	PKPbc	13 45 16.9	+0.6
	comp=Z,3.8nm,1.0s,baz=350,slow=1.1,SNR=22						
KSRS	**Korea Array**	**153.14**	**322**	PKP	PKPdf	13 45 17.6	+0.7
	comp=Z,1.6nm,1.0s,baz=101,slow=1.3,SNR=5.5						
KSRS				PKPbc	PKPbc	13 45 23.3	-1.0
	comp=Z,1.3nm,0.8s,baz=34,slow=1.9,SNR=5.2						
KSRS				PKPab	PKPab	13 45 33.9	-1.9
	comp=Z,2.9nm,0.9s,baz=17,slow=1.5,SNR=7.2						
HHC	**Hu-ho-hao-te**	**156.51**	**352**	*e*PKP	PKPdf	13 45 20.1	-1.3
HHC				APKP		13 45 30.6	
HHC				XPKP		13 45 34.2	
HHC				LR	LR		
	comp=N,107nm,26.2s,MS4.8						
HHC				LR	LR		
	comp=E,147nm,23.8s,MS4.8						
HHC				LR	LR		
	comp=Z,113nm,23.2s,MS4.8						
LZH	**Lanzhou**	**161.31**	**9**	*e*PKP	PKPdf	13 45 23.0	-4.3
LZH				APKP		13 45 32.0	
LZH				XPKP		13 45 36.5	
NJ2	**Nanjing**	**162.19**	**326**	*e*PKP	PKPdf	13 45 26.8	-1.5
CD2	**Chengdu**	**166.34**	**13**	*e*PKP	PKPdf	13 45 29.4	-2.7
CD2				XPKP		13 45 43.8	
CD2				PKP2	PKPab	13 46 31.5	-1.6
CD2				PP	PP	13 50 21.8	+2.4
CD2				SKS	SKSdf	13 52 28.1	-8.6
CD2				PP	PP		
	comp=Z,80nm,10.2s						
CD2				LR	LR		
	comp=N,180nm,24.2s						
CD2				LR	LR		
	comp=Z,160nm,18.6s						
GYA	**Guiyang**	**171.14**	**4**	*e*PKP	PKPdf	13 45 32.5	-2.8
GYA				APKP		13 45 44.6	
GYA				XPKP		13 45 48.0	
GYA				PKP2	PKPab	13 46 55.0	+0.6
GYA				PP	PP		
	comp=Z,110nm,7.6s						
GYA				LR	LR		
	comp=N,280nm,22.8s						
GYA				LR	LR		
	comp=E,270nm,21.4s						
GYA				LR	LR		
	comp=Z,260nm,23.6s						
KMI	**Kunming**	**171.38**	**29**	PKP	PKPdf	13 45 33.0	-2.4

IDC 08 13:27:14.8±0.8, 1733S×7255W, h0km, mb3.9/4, mb1 4.3/4, mb1mx3.9/15, mbtmp4.0/4, MS4.2/2, Ms1 4.2/2, ms1mx3.3/19, Error ellipse: s-maj=35.6km s-min=25.4km az=44.0, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**4.36**	**77**	Pn	Pn	13 28 28.4	+6.1
	baz=280,slow=12,SNR=2.5						
PLCA	**Paso Flores**	**23.39**	**176**	P	P	13 32 24.6	-0.7
	2.9nm,0.6s,baz=357,slow=11,SNR=6.0						
BDFB	**Brasília**	**23.58**	**89**	P	P	13 32 28.0	+0.4
	10nm,0.8s,baz=264,slow=9.9,SNR=5.4						
SJG	**San Juan**	**35.77**	**10**	LR	LR	13 47 59.7	
	comp=Z,363nm,20.3s,baz=124,slow=35						
USHA	**Ushuaia**	**37.57**	**176**	LR	LR	13 49 40.1	
	comp=Z,404nm,18.1s,baz=310,slow=36						
TXAR	**Lajitas Array**	**55.27**	**327**	P	P	13 36 50.6	+0.6
	0.4nm,0.8s,baz=139,slow=6.0,SNR=2.0						
TORD	**Torodi Ar. Bea**	**79.29**	**73**	P	P	13 39 22.5	-0.3
	2.7nm,0.6s,baz=253,slow=5.7,SNR=4.6						
YKA	**Yellowknife Ar**	**86.15**	**342**	P	P	13 39 56.4	-1.0
	0.9nm,0.7s,baz=140,slow=4.5,SNR=3.1						
WRA	**Warramunga Arr**	**134.52**	**217**	PKP	PKPdf	13 46 37.8	+1.9
	0.3nm,0.8s,baz=148,slow=1.8,SNR=3.6						
ZALV	**Zalesovo Beam**	**139.46**	**20**	PKP	PKPdf	13 46 45.1	+1.1
	0.9nm,0.6s,baz=355,slow=3.3,SNR=3.5						
MKAR	**Makanchi Array**	**144.01**	**30**	PKP	PKPdf	13 46 51.3	-1.0
	0.5nm,0.6s,baz=346,slow=4.6,SNR=3.1						
MJAR	**Matsushiro Arr**	**146.78**	**311**	PKPbc	PKPbc	13 46 58.6	-0.6
	1.8nm,0.9s,baz=83,slow=0.8,SNR=3.5						
MAT	**Matsushiro**	**146.78**	**311**	PKP	PKPdf	13 46 58.2	+0.7
SONM	**Songino Array**	**149.56**	**1**	PKPbc	PKPbc	13 47 06.3	+0.1
	5.2nm,1.4s,baz=150,slow=3.2,SNR=4.0						
KSRS	**Korea Array**	**153.05**	**322**	PKPbc	PKPbc	13 47 14.9	+0.3
	0.9nm,0.8s,baz=16,slow=1.1,SNR=3.0						
KSRS				PKPab	PKPab	13 47 24.9	-1.1
	1.3nm,0.9s,baz=103,slow=3.3,SNR=3.5						

*IDC **08** 13:28:12.8±0.7, 1737S×7261W, h0km, mb4.6/16, mb1 4.7/16, mb1mx4.6/18, mbtmp4.6/16, MS4.7/1, Ms1 4.7/1, ms1mx3.2/17, Error ellipse: s-maj=24.9km s-min=16.6km az=52.0*
*LDG **08** 13:28:14.0±0.4, 1729S×7260W, h10km, Mb5.2/16, Ms4.5/9, Error ellipse: s-maj=26.8km s-min=10.5km az=37.0*
*ISCJB **08** 13:28:15.7±0.3, 1742S±006×7285W±006, h29km, mb4.9/70, MS4.7/10, Error ellipse: s-maj=10.2km s-min=5.9km az=138.8*
*MOS **08** 13:28:16.7±0.9, 1729S×7294W, h33km, mb5.2/23, MS4.7/4, Error ellipse: s-maj=14.1km s-min=9.2km az=63.9*
*BJI **08** 13:28:17.4, 1740S×7270W, h29km, mB5.2, Ms5.3, Msz4.8*
*GCMT **08** 13:28:17.4±0.3, 1763S×7311W, h13km±1km, MW5.2/56, Moment Tensor Solution. s35,c42; s56,c78; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}3.64±.20; $M_{\theta\theta}$-0.73±.13; $M_{\phi\phi}$-2.91±.17; $M_{r\theta}$1.73±.36; $M_{\theta\phi}$2.42±.11; $M_{\phi r}$-4.90±.61; Best double couple: $M_0$6.60800×10^{16} NP1:ϕ_s312.00000°, δ21.00000°, λ65.00000°. NP2: ϕ_s159.00000°, δ71.00000°, λ99.00000°. Principal axes: T 6.2820, Plg63.0000°, Azm82.0000°; N 0.6520, Plg9.0000°, Azm336.0000°; P -6.9340, Plg26.0000°, Azm241.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **08** 13:28:17.4±0.3, 1742S×7274W, mb5.1/49 Error ellipse: s-maj=9.4km s-min=6.7km az=224.0*

ISC 08 13:28:17.8±0.3, 1742S±006×7276W±006, h31km, h31km±.6km: pP-P, n194, σ0=92/156, mb4.9/70, MS4.7/10, 26C-1D, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**4.58**	**76**	*e*Pn	**Pn**	**13 29 28.9**	**+4.0**
LPAZ	**La Paz**	**4.58**	**76**	Pn	**Pn**	**13 29 30.1**	**+5.2**
	5.8nm,0.3s,baz=249,slow=5.9,SNR=3.9						
NNA	**Nana**	**6.69**	**323**	*e*Pn	**Pn**	**13 29 59.7**	**+5.7**
NNA	**Nana**	**6.69**	**323**	Pn	**Pn**	**13 30 03.1**	**+9.1**
	5.2nm,0.3s,baz=188,slow=7.0,SNR=2.0						
NNA				Sn	**Sn**	**13 31 08.6**	**-0.7**
	41nm,0.3s,baz=260,slow=11,SNR=5.4						
SIV	**San Ignacio**	**11.29**	**84**	Pn	**Pn**	**13 30 58.3**	**+1.2**
	4.4nm,0.3s,baz=262,slow=14,SNR=9.6						
ATAH	**Atahualpa**	**11.73**	**331**	Pn	**Pn**	**13 31 06.9**	**+3.8**
	0.6nm,0.3s,baz=4.0,slow=17,SNR=4.9						
ATAH				LR	LR	13 35 58.7	
	comp=Z,4μm,18.5s,baz=144,slow=40						
CFAA	**Coronel Fontan**	**14.70**	**165**	Pn	**Pn**	**13 31 49.6**	**+5.9**
	0.1nm,0.3s,baz=307,slow=6.5,SNR=4.9						
CFAA				LR	LR	13 37 05.0	
	comp=Z,104nm,21.6s,baz=343,slow=36						
ROSC	**El Rosal**	**22.19**	**356**	*e*P	**P**	**13 33 14.2**	**+2.6**
ROSC	**El Rosal**	**22.19**	**356**	P	**P**	**13 33 13.7**	**+2.1**
	11nm,0.7s,mb4.4,baz=109,slow=16,SNR=4.9						
TRQA	**Tornquist**	**22.63**	**157**	*e*P	**P**	**13 33 17.2**	**+1.1**
PLCA	**Paso Flores**	**23.31**	**176**	*e*P	**P**	**13 33 22.1**	**-1.1**
PLCA	**Paso Flores**	**23.31**	**176**	P	**P**	**13 33 23.5**	**+0.3**
	20nm,1.1s,mb4.5,baz=353,slow=11,SNR=5.8						
BDFB	**Brasília**	**23.79**	**89**	P	**P**	**13 33 25.9**	**-2.1**
	49nm,1.0s,mb4.9,baz=254,slow=15,SNR=13						
SDV	**Santo Domingo**	**26.23**	**5**	*e*P	**P**	**13 33 48.0**	**-2.2**
SDV	**Santo Domingo**	**26.23**	**5**	P	**P**	**13 33 48.7**	**-1.4**
	16nm,0.9s,mb4.5,baz=231,slow=4.8,SNR=6.9						
SJG	**San Juan**	**35.91**	**11**	*e*P	**P**	**13 35 13.2**	**-2.2**
	23nm,1.0s,mb5.1						
SJG	**San Juan**	**35.91**	**11**	*e*P	**P**	**13 35 13.2**	**-2.2**
SJG				pmax	pmax		
	comp=Z,23nm,1.0s						
RCBR	**Riachuelo**	**37.82**	**77**	*e*P	**P**	**13 35 31.6**	**-0.3**
	comp=Z,96nm,1.3s,mb5.4						
TEIG	**Tepich**	**40.40**	**337**	P	**P**	**13 35 53.6**	**+0.5**
TEIG	**Tepich**	**40.40**	**337**	P	**P**	**13 35 53.6**	**+0.5**
	comp=Z,7.5nm,0.7s,mb4.5,baz=161,slow=0.5,SNR=3.9						
TKL	**Tuckaleechee C**	**53.81**	**349**	P	**P**	**13 37 37.2**	**-0.3**
	comp=Z,3.6nm,0.8s,mb4.4,baz=157,slow=9.0,SNR=3.7						
SWET	**Sewanee**	**53.82**	**347**	*e*P	**P**	**13 37 36.5**	**-1.2**
WVT	**Waverly**	**55.14**	**345**	*e*P	**P**	**13 37 45.3**	**-1.9**
	comp=Z,6.5nm,0.8s,mb4.7						
WVT	**Waverly**	**55.14**	**345**	*e*P	**P**	**13 37 45.3**	**-1.9**
WVT				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.7						
TXAR	**Lajitas Array**	**55.23**	**327**	P	**P**	**13 37 48.2**	**+0.1**
	comp=Z,1.2nm,0.8s,mb4.0,baz=146,slow=6.9,SNR=5.6						
MIAR	**Mount Ida**	**55.34**	**339**	*e*P	**P**	**13 37 48.2**	**-0.5**
	comp=Z,21nm,1.3s,mb5.0						
MIAR				*e*		13 38 07.7	
MIAR	**Mount Ida**	**55.34**	**339**	*e*P	**P**	**13 37 48.2**	**-0.6**
MIAR				pmax	pmax		
	comp=Z,21nm,1.3s,mb5.0						
SIUC	**Southern Illin**	**56.99**	**344**	*e*P	**P**	**13 37 59.8**	**-0.6**
	comp=Z,31nm,0.8s,mb5.4						
MNTX	**Cornudas Mount**	**58.01**	**327**	*e*P	**P**	**13 38 06.9**	**-0.9**
	comp=Z,8.1nm,1.2s,mb4.6						
MNTX				*ep*P	pP	13 38 16.5	-0.8
ACSO	**Alum Creek Sta**	**58.14**	**351**	*e*P	**P**	**13 38 09.1**	**+0.6**
	comp=Z,17nm,0.9s,mb5.1						
ACSO				*ep*P	pP	13 38 18.1	+0.1
RKT	**Rikitea**	**58.27**	**253**	*e*LR	LR	13 55 25.1	
	comp=Z,823nm,26.8s						
LAZ	**Ladron**	**61.04**	**328**	*e*P	**P**	**13 38 29.6**	**+1.0**
LAZ				*ep*P	pP	13 38 38.6	+0.3
ANMO	**Albuquerque**	**61.13**	**329**	*e*P	**P**	**13 38 29.0**	**-0.3**
	comp=Z,5.4nm,1.0s,mb4.6						
ANMO				*ep*P	pP	13 38 37.9	-1.0
ANMO	**Albuquerque**	**61.13**	**329**	*e*P	**P**	**13 38 29.0**	**-0.3**
ANMO				*e**PP	pP	13 38 37.9	-1.0
ANMO				pmax	pmax		
	comp=Z,5.0nm,1.0s						
ANMO	**Albuquerque**	**61.13**	**329**	P	**P**	**13 38 29.0**	**-0.3**
	comp=Z,2.3nm,0.8s,mb4.4,baz=144,slow=7.0,SNR=6.6						
SDCO	**Great Sand Dun**	**62.92**	**331**	*e*P	**P**	**13 38 41.6**	**+0.4**
	comp=Z,10nm,1.0s,mb4.9						
ECSD	**EROS,Sioux Fal**	**64.66**	**341**	*e*P	**P**	**13 38 54.4**	**+1.9**
	comp=Z,22nm,1.3s,mb5.0						
VNA3	**Neumayer Olymp**	**65.08**	**161**	*e*P	**P**	**13 38 54.4**	**-0.6**
VNA3				*e*		13 38 56.9	
VNA3				*e*	pP	13 39 03.9	-0.7
VNA3				*e*		13 39 06.9	
VNA3				*e*		13 39 16.1	
VNA3				*e*		13 39 27.2	
VNA3				*e*		14 08 07.0	
VNA1	**Neumayer--Stat**	**65.32**	**161**	*e*P	**P**	**13 38 55.9**	**-0.6**
VNA1				*e*		13 38 58.7	
VNA1				*e*	pP	13 39 05.4	-0.8
VNA1				*e*		13 39 08.7	
VNA1				*e*		13 39 29.1	
VNA2	**Neumayer--Watz**	**65.68**	**161**	*e*P	**P**	**13 38 58.9**	**+0.1**
VNA2				*e*		13 39 02.2	
VNA2				*e*	pP	13 39 08.8	+0.3
VNA2				*e*		13 39 11.6	
VNA2				*e*		13 39 19.8	
VNA2				*e*		13 39 28.9	
TAOE	**Nuku Hiva Isla**	**65.90**	**268**	*e*LR	LR	13 58 50.1	
	comp=Z,9μm,26.3s						
MSU	**Marysvale**	**66.79**	**327**	*e*P	**P**	**13 39 07.8**	**+1.4**
MSU				*ep*P	pP	13 39 16.6	+0.5
SNAA	**Sanae**	**67.30**	**161**	*e*P	**P**	**13 39 08.9**	**-0.3**
SNAA				*e*		13 39 11.2	
SNAA				*e*	pP	13 39 18.9	0.0
SNAA				*e*		13 39 21.3	
SNAA				*e*		13 39 26.9	
SNAA				*e*		13 39 36.4	
RSSD	**Black Hills**	**67.59**	**336**	*e*P	**P**	**13 39 10.3**	**-1.0**
	comp=Z,3.2nm,0.9s,mb4.3						
RSSD	**Black Hills**	**67.59**	**336**	*e*P	**P**	**13 39 10.3**	**-1.0**
RSSD				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.3						
DUG	**Dugway**	**68.38**	**328**	*e*P	**P**	**13 39 17.2**	**+0.8**
	comp=Z,19nm,1.5s,mb4.9						
DUG				*ep*P	pP	13 39 26.5	+0.4
DUG	**Dugway**	**68.38**	**328**	*e*P	**P**	**13 39 17.2**	**+0.8**
DUG				*e**PP	pP	13 39 26.5	+0.4
DUG				pmax	pmax		
	comp=Z,19nm,1.5s,mb4.9						
PDAR	**Pinedale Array**	**68.80**	**332**	P	**P**	**13 39 18.6**	**-0.3**
	comp=Z,1.6nm,1.0s,mb3.9,baz=139,slow=5.9,SNR=3.1						
HWUT	**Hardware Ranch**	**68.83**	**330**	*e*P	**P**	**13 39 19.2**	**0.0**
	comp=Z,8.4nm,1.0s,mb4.6						
NVAR	**Mina Array Bea**	**70.06**	**323**	P	**P**	**13 39 28.6**	**+1.8**
	comp=Z,0.6nm,0.8s,baz=137,slow=8.0,SNR=4.1						
ULM	**Lac du Bonnet**	**70.39**	**344**	P	**P**	**13 39 28.1**	**-0.5**
	comp=Z,3.0nm,0.7s,mb4.3,baz=176,slow=5.7,SNR=5.2						
DBIC	**Dimbokro**	**71.19**	**76**	*e*P	**P**	**13 39 32.6**	**-1.7

ESDC	**Sonseca Array**	**85.57**	**46**	P	**P**	**13 40 51.5**	**-1.6**
	comp=Z,22nm,1.3s,mb5.2						
ESDC	**Sonseca Array**	**85.57**	**46**	P	**P**	**13 40 54.2**	**+1.1**
	comp=Z,5.6nm,0.9s,mb4.8,baz=250,slow=5.2,SNR=14						
ESLA	**Sonseca Array**	**85.57**	**46**	*eP*	**P**	**13 40 53.5**	**+0.4**
	comp=Z,22nm,1.6s,mb5.2						
GUD	**Guadarrama**	**85.88**	**45**	P	**P**	**13 40 53.5**	**-1.1**
	comp=Z,8.6nm,1.2s,mb4.9						
GUD	**Guadarrama**	**85.88**	**45**	P	**P**	**13 40 53.5**	**-1.1**
GUD				pmax	pmax		
	comp=Z,9.0nm,1.2s,mb4.9						
EVIA	**Vianos**	**86.13**	**48**	P	**P**	**13 40 55.2**	**-0.7**
	comp=Z,9.6nm,1.0s,mb5.0						
EVIA	**Vianos**	**86.13**	**48**	P	**P**	**13 40 55.3**	**-0.6**
EVIA				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb5.0						
YKA	**Yellowknife Ar**	**86.18**	**342**	P	**P**	**13 40 55.3**	**-0.3**
YKA	**Yellowknife Ar**	**86.18**	**342**	P	**P**	**13 40 55.3**	**-0.3**
	comp=Z,4.5nm,0.8s,mb4.7,baz=137,slow=5.0,SNR=6.5						
ETOB	**Tobarra**	**86.81**	**48**	P	**P**	**13 40 58.8**	**-0.5**
	comp=Z,14nm,1.0s,mb5.1						
ETOR	**Torete**	**87.39**	**46**	P	**P**	**13 41 02.0**	**0.0**
	comp=Z,6.7nm,0.9s,mb4.9						
ETOR	**Torete**	**87.39**	**46**	P	**P**	**13 41 02.0**	**0.0**
ETOR				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.9						
SJPF	**Ste Jean**	**88.92**	**44**	⇑*iP*	**P**	**13 41 09.8**	**+0.5**
	comp=Z,27nm,1.2s,mb5.1						
SJPF	**Ste Jean**	**88.92**	**44**	⇑*iP*	**P**	**13 41 09.8**	**+0.5**
	comp=Z,13nm,1.2s,mb5.2						
SJPF	**Ste Jean**	**88.92**	**44**	⇑*iP*	**P**	**13 41 09.8**	**+0.5**
SJPF				pmax	pmax		
	comp=Z,13nm,1.2s,mb5.1						
DLBC	**Dease Lake**	**88.94**	**334**	*eP*	**P**	**13 41 09.4**	**+0.4**
DLBC				*ep*P	pP	13 41 19.0	0.0
MAW	**Mawson**	**89.24**	**164**	P	**P**	**13 41 10.5**	**+0.1**
	comp=Z,5.2nm,0.7s,mb5.0,baz=229,slow=3.1,SNR=7.6						
ETSF	**Etsaut**	**89.28**	**44**	⇑*iP*	**P**	**13 41 11.4**	**+0.5**
	comp=Z,16nm,1.1s,mb5.0						
ETSF	**Etsaut**	**89.28**	**44**	⇑*iP*	**P**	**13 41 11.4**	**+0.5**
	comp=Z,8.1nm,1.1s,mb5.0						
ETSF	**Etsaut**	**89.28**	**44**	⇑*iP*	**P**	**13 41 11.4**	**+0.5**
ETSF				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb5.0						
EBIE	**Bielsa**	**89.66**	**45**	P	**P**	**13 41 14.4**	**+1.7**
	comp=Z,12nm,1.1s,mb5.2						
EPF	**Esparros**	**89.93**	**45**	⇑*iP*	**P**	**13 41 14.5**	**+0.5**
LFF	**La Frestale**	**90.97**	**43**	⇑*iP*	**P**	**13 41 18.5**	**-0.3**
	comp=Z,18nm,1.0s,mb5.1						
LFF	**La Frestale**	**90.97**	**43**	⇑*iP*	**P**	**13 41 18.5**	**-0.3**
	comp=Z,8.9nm,1.0s,mb5.0						
LFF	**La Frestale**	**90.97**	**43**	⇑*iP*	**P**	**13 41 18.5**	**-0.3**
LFF				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb5.0						
MFF	**Saint Martin d**	**91.08**	**41**	⇑*iP*	**P**	**13 41 18.9**	**-0.3**
	comp=Z,9.7nm,0.8s,mb4.9						
MFF	**Saint Martin d**	**91.08**	**41**	⇑*iP*	**P**	**13 41 18.9**	**-0.3**
	comp=Z,4.8nm,0.8s,mb4.9						
MFF	**Saint Martin d**	**91.08**	**41**	⇑*iP*	**P**	**13 41 18.9**	**-0.3**
MFF				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.9						
MTLF	**Montolieu**	**91.32**	**45**	*eP*	**P**	**13 41 20.1**	**-0.3**
RJF	**Les Rejaudoux**	**91.62**	**43**	*eP*	**P**	**13 41 21.3**	**-0.5**
	comp=Z,22nm,1.3s,mb5.0						
RJF				*e*MLR	MLR		
	comp=Z,329nm,19.0s,MS4.5						
RJF	**Les Rejaudoux**	**91.62**	**43**	*eP*	**P**	**13 41 21.3**	**-0.5**
	comp=Z,11nm,1.3s,mb5.0						
RJF				LR	LR		
	comp=Z,330nm,19.0s,MS4.8						
RJF	**Les Rejaudoux**	**91.62**	**43**	*eP*	**P**	**13 41 21.3**	**-0.5**
RJF				pmax	pmax		
	comp=Z,11nm,1.3s,mb5.0						
RJF				MLR	MLR		
	comp=Z,330nm,19.0s,MS4.8						
FLN	**La Foliniere**	**91.77**	**39**	⇑*iP*	**P**	**13 41 21.8**	**-0.6**
	comp=Z,28nm,1.1s,mb5.2						
FLN				*e*MLR	MLR		
	comp=Z,334nm,20.2s,MS4.5						
FLN	**La Foliniere**	**91.77**	**39**	⇑*iP*	**P**	**13 41 21.8**	**-0.6**
	comp=Z,14nm,1.1s,mb5.2						
FLN				LR	LR		
	comp=Z,330nm,20.3s,MS4.8						
FLN	**La Foliniere**	**91.77**	**39**	⇑*iP*	**P**	**13 41 21.8**	**-0.6**
FLN				pmax	pmax		
	comp=Z,14nm,1.1s,mb5.2						
FLN				MLR	MLR		
	comp=Z,330nm,20.3s,MS4.8						
CAF	**Calviac**	**91.83**	**43**	*eP*	**P**	**13 41 22.5**	**-0.3**
LDF	**La Druitiere**	**91.92**	**39**	⇑*iP*	**P**	**13 41 22.4**	**-0.7**
	comp=Z,14nm,0.9s,mb5.0						
LDF	**La Druitiere**	**91.92**	**39**	⇑*iP*	**P**	**13 41 22.4**	**-0.7**
	comp=Z,7.2nm,0.9s,mb5.0						
LDF	**La Druitiere**	**91.92**	**39**	⇑*iP*	**P**	**13 41 22.4**	**-0.7**
LDF				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb5.0						
TCF	**Toulx Ste Croi**	**92.45**	**42**	*eP*	**P**	**13 41 26.2**	**+0.6**
	comp=Z,9.9nm,1.1s,mb4.8						
TCF	**Toulx Ste Croi**	**92.45**	**42**	*eP*	**P**	**13 41 26.2**	**+0.6**
	comp=Z,4.9nm,1.1s,mb4.8						
TCF	**Toulx Ste Croi**	**92.45**	**42**	*eP*	**P**	**13 41 26.2**	**+0.6**
TCF				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.8						
LASF	**Ste Croix**	**92.70**	**45**	*eP*	**P**	**13 41 27.2**	**+0.4**
	comp=Z,21nm,1.4s,mb5.1						
BGF	**Bois d'Agland**	**92.96**	**42**	*eP*	**P**	**13 41 27.4**	**-0.5**
	comp=Z,13nm,0.9s,mb5.0						
BGF	**Bois d'Agland**	**92.96**	**42**	*eP*	**P**	**13 41 27.4**	**-0.5**
	comp=Z,6.4nm,0.9s,mb5.0						
BGF	**Bois d'Agland**	**92.96**	**42**	*eP*	**P**	**13 41 27.4**	**-0.5**
BGF				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb5.0						
AVF	**Avril sur Loir**	**93.37**	**42**	*eP*	**P**	**13 41 29.0**	**-0.8**
VIVF	**Saint-Julien-l**	**93.52**	**44**	⇑*iP*	**P**	**13 41 30.8**	**+0.2**
SMF	**Signal de Mont**	**93.63**	**42**	⇑*iP*	**P**	**13 41 30.5**	**-0.5**
	comp=Z,14nm,1.1s,mb5.0						
SMF	**Signal de Mont**	**93.63**	**42**	⇑*iP*	**P**	**13 41 30.5**	**-0.5**
	comp=Z,7.1nm,1.1s,mb5.0						
SMF	**Signal de Mont**	**93.63**	**42**	⇑*iP*	**P**	**13 41 30.5**	**-0.5**
SMF				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb5.0						
LOR	**Lormes**	**93.87**	**42**	*eP*	**P**	**13 41 31.5**	**-0.6**
LOR				*e*MLR	MLR		
	comp=Z,271nm,18.8s,MS4.4						
LOR	**Lormes**	**93.87**	**42**	*eP*	**P**	**13 41 31.5**	**-0.6**
LOR				MLR	MLR		
	comp=Z,270nm,18.8s,MS4.7						
ORIF	**Oris-en-Rattie**	**94.35**	**44**	*eP*	**P**	**13 41 34.9**	**+0.5**
ORIF				*e*MLR	MLR		
	comp=Z,431nm,18.8s,MS4.6						
MEZF	**Maizieres J'vi**	**95.06**	**41**	*eP*	**P**	**13 41 37.4**	**-0.1**
	comp=Z,38nm,1.5s,mb5.3						
MEZF	**Maizieres J'vi**	**95.06**	**41**	*eP*	**P**	**13 41 37.4**	**-0.1**
	comp=Z,38nm,1.5s,mb5.6						
BAIF	**Baives**	**95.09**	**39**	*eP*	**P**	**13 41 36.9**	**-0.8**
LPL	**La Plagne**	**95.12**	**44**	*eP*	**P**	**13 41 38.6**	**+0.7**
LPG	**La Plagne**	**95.12**	**44**	*eP*	**P**	**13 41 38.8**	**+0.9**
DOU	**Dourbes**	**95.34**	**39**	P	**P**	**13 41 38.9**	**+0.1**
GIVF	**Givet**	**95.48**	**39**	*eP*	**P**	**13 41 39.2**	**-0.2**
HAU	**Haudompre**	**95.70**	**42**	*eP*	**P**	**13 41 40.0**	**-0.5**
HAU				*e*MLR	MLR		
	comp=Z,202nm,18.2s,MS4.3						
HAU	**Haudompre**	**95.70**	**42**	*eP*	**P**	**13 41 40.0**	**-0.5**
HAU				MLR	MLR		
	comp=Z,200nm,18.3s,MS4.6						
HINF	**Hinteralfeld**	**95.96**	**42**	*eP*	**P**	**13 41 41.0**	**-0.7**
WLF	**Walferdange**	**96.14**	**40**	P	**P**	**13 41 42.8**	**+0.4**
MEM	**Membach**	**96.37**	**39**	P	**P**	**13 41 43.4**	**0.0**
CDF	**Champ du Feu**	**96.42**	**41**	*eP*	**P**	**13 41 43.3**	**-0.5**
GERES	**GERESS Array B**	**100.63**	**42**	P	Pdif	13 42 01.8	-0.9
	comp=Z,0.2nm,0.5s,baz=221,slow=7.1,SNR=4.5						
ASAR	**Alice Springs**	**131.56**	**213**	PKP	PKPdf	13 47 27.6	-0.6
	comp=Z,0.6nm,0.7s,baz=128,slow=2.1,SNR=4.7						
WRA	**Warramunga Arr**	**134.32**	**217**	PKP	PKPdf	13 47 32.7	-0.7
	comp=Z,0.8nm,0.7s,baz=142,slow=1.7,SNR=5.1						
NVS	**Novosibirsk**	**138.35**	**21**	*e*PKIKP	PKPdf	13 47 37.3	-2.5
NVS				pmax	pmax		
	comp=Z,15nm,2.0s						
NVS				pmax	pmax		
	comp=E,4.0nm,1.8s						
ZAA0	**Zalesovo Array**	**139.62**	**20**	*e*PKPdf	PKPdf	13 47 42.4	+0.3
ZAA0				*ep*PKPdf	pPKPdf	13 47 51.8	-0.7
ZALV	**Zalesovo Beam**	**139.62**	**20**	PKP	PKPdf	13 47 42.0	-0.2
	comp=E,5.0nm,0.8s,baz=318,slow=2.0,SNR=8.9						
ZAL	**Zalesovo**	**139.62**	**20**	PKIKP	PKPdf	13 47 42.0	-0.2
KURK	**Kurchatov**	**139.68**	**28**	*e*PKPdf	PKPdf	13 47 43.0	+0.6
KURK				*ep*PKPdf	pPKPdf	13 47 52.5	-0.3
FITZ	**Fitzroy Crossi**	**140.33**	**208**	*e*PKPdf	PKPdf	13 47 44.0	-0.6
EKS2	**Erkin-Say**	**142.04**	**41**	*e*PKPdf	PKPdf	13 47 48.2	+1.3
UCH	**Uchtor**	**142.73**	**42**	*e*PKPdf	PKPdf	13 47 48.4	+0.3
MK31	**Makanchi Array**	**144.19**	**30**	*e*PKPdf	PKPdf	13 47 48.1	-2.5
MKAR	**Makanchi Array**	**144.19**	**30**	PKP	PKPdf	13 47 49.0	-1.6
	comp=E,2.6nm,0.7s,baz=313,slow=3.2,SNR=9.9						
IRK	**Irkutsk**	**145.18**	**3**	⇑*i*PKIKP	PKPdf	13 47 51.9	-0.2
IRK				pmax	pmax		
	comp=Z,36nm,1.4s						
TLY	**Talaya**	**145.70**	**4**	*e*PKPdf	PKPdf	13 47 55.0	+2.0
HIA	**Hailar**	**146.66**	**345**	*e*PKPdf	PKPdf	13 47 55.3	+0.5
MJAR	**Matsushiro Arr**	**146.68**	**311**	PKPbc	PKPbc	13 47 55.5	-1.3
	comp=Z,7.8nm,1.0s,baz=87,slow=0.6,SNR=6.1						
MAJO	**Matsushiro**	**146.69**	**311**	*e*PKPbc	PKPbc	13 47 56.8	-0.1
MAT	**Matsushiro**	**146.69**	**311**	PKP	PKPdf	13 47 57.0	+1.8
ZAK	**Zakamensk**	**146.97**	**5**	*e*PKP2	PKPab	13 47 58.1	-0.5
ZAK				*e*		13 51 20.4	
ZAK				pmax	pmax		
	comp=Z,6.0nm,1.2s						
MDJ	**Mudanjiang**	**147.02**	**330**	PKP	PKPdf	13 47 55.4	-0.1
MDJ				APKP		13 48 02.3	
MDJ				XPKP		13 48 04.5	
MDJ				PP	PP	13 51 22.6	+0.9
MDJ				PKS		13 51 30.4	
MDJ				PP	PP		
	comp=Z,107nm,7.4s						
MDJ				LR	LR		
	comp=N,83nm,22.6s,MS4.6						
MDJ				LR	LR		
	comp=E,58nm,17.6s,MS4.6						
MDJ				LR	LR		
	comp=Z,120nm,20.1s,MS4.7						
POO	**Poona**	**148.25**	**83**	*eP*	PKPdf	13 47 55.0	-3.3
WMQ	**Urumqi**	**148.93**	**28**	*e*PKP	PKPdf	13 47 59.5	+0.8
WMQ				LR	LR		
	comp=N,180nm,21.4s,MS5.0						
WMQ				LR	LR		
	comp=E,202nm,21.7s,MS5.0						
WMQ				LR	LR		
	comp=Z,108nm,20.5s,MS4.6						
CN2	**Changchun**	**149.53**	**333**	*e*PKP	PKPdf	13 47 58.2	-1.4
CN2				*e*PP	PP	13 51 39.0	+2.8
CN2				LR	LR		
	comp=N,200nm,18.0s,MS5.1						
CN2				LR	LR		
	comp=E,200nm,18.0s,MS5.1						
ULN	**Ulaanbaatar**	**149.64**	**0**	*e*PKPbc	PKPbc	13 48 05.1	+0.8
SONM	**Songino Array**	**149.66**	**1**	PKPbc	PKPbc	13 48 05.2	+0.8
	comp=E,3.6nm,0.8s,baz=356,slow=0.9,SNR=8.7						
HYB	**Hyderabad**	**152.64**	**86**	*i P*	PKPab	13 48 23.0	+0.1
KSRS	**Korea Array**	**153.00**	**322**	PKP	PKPdf	13 48 05.8	+0.7
	comp=E,1.4nm,0.9s,baz=48,slow=1.8,SNR=4.0						
KSRS				PKPbc	PKPbc	13 48 13.2	+0.7
	comp=E,2.3nm,0.8s,baz=339,slow=1.4,SNR=6.2						
KSRS				PKPab	PKPab	13 48 22.1	-1.6
	comp=E,5.5nm,1.0s,baz=14,slow=1.5,SNR=7.7						
HHC	**Hu-ho-hao-te**	**156.36**	**352**	*e*PKP	PKPdf	13 48 08.3	-1.4
HHC				APKP		13 48 18.4	
HHC				XPKP		13 48 22.0	
HHC				PKS		13 51 41.8	
HHC				PP	PP	13 52 18.6	+4.1
HHC				SKS	SKSdf	13 55 08.7	-5.0
HHC				LR	LR		
	comp=N,143nm,21.4s,MS4.9						
HHC				LR	LR		
	comp=E,103nm,21.4s,MS4.9						
HHC				LR	LR		
	comp=Z,147nm,26.2s,MS4.7						
LZH	**Lanzhou**	**161.17**	**9**	*e*PKP	PKPdf	13 48 10.0	-5.5
LZH				APKP		13 48 19.5	
LZH				XPKP		13 48 22.0	
NJ2	**Nanjing**	**162.04**	**326**	*e*PKP	PKPdf	13 48 14.4	-2.2
GYA	**Guiyang**	**170.99**	**3**	*e*PKP	PKPdf	13 48 21.2	-2.4
GYA				APKP		13 48 31.9	
GYA				XPKP		13 48 35.4	
GYA				PKP2	PKPab	13 49 42.9	+0.6
GYA				PKS		13 51 53.0	
GYA				PP	PP	13 53 34.1	+2.6
GYA				SKS	SKSdf	13 55 20.5	-4.5
GYA				PP	PP		
	comp=Z,120nm,7.6s						
GYA				LR	LR		
	comp=N,380nm,24.8s						
GYA				LR	LR		
	comp=E,270nm,23.4s						
GYA				LR	LR		
	comp=Z,360nm,25.6s						
KMI	**Kunming**	**171.27**	**28**	PKP	PKPdf	13 48 22.0	-1.8

IDC 08 13:31:35.2±1.1, 1740S×7257W, h0km, mb4.0/5, mb1 4.3/5, mb1mx3.9/15, mbtmp4.0/5, Error ellipse: s-maj=39.3km s-min=30.6km az=53.0, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**4.39**	**76**	Pn	Pn	13 32 53.4	+10
	1.6nm,0.3s,baz=197,slow=5.4,SNR=6.4						
PLCA	**Paso Flores**	**23.31**	**176**	P	P	13 36 45.0	0.0
	5.5nm,1.1s,baz=16,slow=13,SNR=3.0						
TXAR	**Lajitas Array**	**55.32**	**327**	P	P	13 41 09.7	-1.1
	0.5nm,0.8s,baz=158,slow=12,SNR=3.4						
DBIC	**Dimbokro**	**71.01**	**76**	P	P	13 42 54.8	-0.7
	3.0nm,0.9s,baz=242,slow=9.3,SNR=4.1						
TORD	**Torodi Ar. Bea**	**79.34**	**73**	P	P	13 43 43.1	-0.3
	3.6nm,0.9s,baz=255,slow=5.1,SNR=4.3						
ESDC	**Sonseca Array**	**85.42**	**46**	P	P	13 44 16.3	+1.6
	1.1nm,0.9s,baz=265,slow=4.1,SNR=5.3						
YKA	**Yellowknife Ar**	**86.22**	**342**	P	P	13 44 18.3	+0.2
	1.6nm,0.9s,baz=138,slow=5.3,SNR=7.9						
ZALV	**Zalesovo Beam**	**139.53**	**20**	PKP	PKPdf	13 51 05.4	+0.9
	1.6nm,0.8s,baz=264,slow=2.9,SNR=3.8						
MKAR	**Makanchi Array**	**144.08**	**30**	PKP	PKPdf	13 51 11.5	-1.4
	0.4nm,0.6s,baz=317,slow=3.8,SNR=4.4						
MJAR	**Matsushiro Arr**	**146.81**	**311**	PKPbc	PKPbc	13 51 19.6	0.0
	2.6nm,0.9s,baz=74,slow=1.5,SNR=4.1						
MAT	**Matsushiro**	**146.81**	**311**	PKP	PKPdf	13 51 19.6	+1.7
SONM	**Songino Array**	**149.64**	**1**	PKPbc	PKPbc	13 51 26.6	-0.1
	1.4nm,1.0s,baz=279,slow=1.9,SNR=4.6						

*CSEM **08** 13:32:14.6±0.1, 37.15N×37.15E, h5km, MD3.1, Error ellipse: s-maj=2.1km s-min=1.7km az=137.0*
*ISK **08** 13:32:14.8, 37.14N×37.17E, h7km, MD3.1*
*ISCJB **08** 13:32:15.7±0.4, 37.17N±003×37.12E±004, h8km±4km, Error ellipse: s-maj=5.5km s-min=3.8km az=135.4*
*NSSC **08** 13:32:16.3, 3720N×3714E, h16km*
*DDA **08** 13:32:16.2, 37.17N×37.18E, h27km±7km, Md3.1*

ISC 08 13:32:15.9±0.4, 3716N±003×3714E±003, h9km±3km, n28, σ0°87/42, 1C-2D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAZ	**Gaziantep**	**0.06**	**77**	PG	**Pg**	**13 32 16.4**	**-1.4**
GAZ				*e*SG	**Sg**	**13 32 18.6**	**-0.6**
KMRS	**Kahramanmaras**	**0.39**	**332**	*e*PG	**Pg**	**13 32 23.1**	**-0.5**
KMRS				*e*SG	**Sg**	**13 32 29.0**	**+0.2**
GZT	**Gaziantep**	**0.40**	**60**	*i P*	**Pg**	**13 32 23.5**	**-0.1**
GZT				*i* S	**Sg**	**13 32 31.0**	**+2.2**
DRWC	**Darouich**	**0.65**	**215**	⇑P	**Pg**	**13 32 29.6**	**+1.1**
DRWC				⇑S	**Sg**	**13 32 39.3**	**+2.3**
DRWC	**Darouich**	**0.65**	**215**	⇑*iP*	**Pg**	**13 32 29.6**	**+1.1**
DRWC				⇑*i*S	**Sg**	**13 32 39.3**	**+2.3**
ANDN	**Andirin**	**0.76**	**304**	⇓*iP*	**Pg**	**13 32 29.3**	**-1.1**
ANDN				⇓*i*S	**Sg**	**13 32 44.9**	**+4.6**
COBT	**Iskenderun**	**0.95**	**228**	*i P*	**Pg**	**13 32 33.7**	**-0.4**
COBT				*i* S	**Sg**	**13 32 51.1**	**+4.6**
ATAB	**Bozova**	**0.98**	**71**	*i P*	**Pg**	**13 32 34.5**	**-0.2**
ATAB				⇑*i*S	**Sg**	**13 32 49.5**	**+2.2**
KOZT	**Kozan**	**1.09**	**288**	*e*PN	**Pn**	**13 32 37.4**	**0.0**
CEYT	**Ceyhan**	**1.12**	**263**	*e*PN	**Pn**	**13 32 37.3**	**-0.4**
SLMH	**Al Salmeh**	**1.14**	**146**	⇑P	**Pb**	**13 32 37.5**	**-0.2**
SLMH	**Al Salmeh**	**1.14**	**146**	⇑*iP*	**Pb**	**13 32 37.5**	**-0.2**
BTCH	**Batrach**	**1.24**	**206**	⇑P	**Pn**	**13 32 39.1**	**-0.3**
BTCH				⇑S	**Sb**	**13 32 55.7**	**+0.1**
BTCH	**Batrach**	**1.24**	**206**	⇑*iP*	**Pn**	**13 32 39.1**	**-0.3**
BTCH				⇑*i*S	**Sb**	**13 32 55.7**	**+0.1**
HTY	**Hatay**	**1.31**	**218**	*e*PN	**Pn**	**13 32 39.8**	**-0.5**
URFA	**Urfa**	**1.37**	**78**	*e*PN	**Pn**	**13 32 40.5**	**-0.8**
KRTS	**Karatas**	**1.53**	**248**	*e*PN	**Pn**	**13 32 43.1**	**-0.2**
MALT	**Malatya**	**1.54**	**41**	*e*PN	**Pn**	**13 32 43.5**	**0.0**
MYA	**Malataya**	**1.55**	**41**	*e*PN	**Pn**	**13 32 43.4**	**-0.3**
ARNB	**Al Arnab**	**1.60**	**216**	⇑P	**Pn**	**13 32 44.1**	**-0.2**
ARNB				⇑S	**Sn**	**13 33 04.5**	**-0.5**
KARA	**Karaisali**	**1.66**	**274**	*e*PN	**Pn**	**13 32 44.5**	**-0.7**
SLNF	**Slenfeh**	**1.72**	**206**	⇑P	**Pn**	**13 32 46.4**	**+0.3**
SLNF				⇑S	**Sn**	**13 33 08.2**	**+0.1**
SLNF	**Slenfeh**	**1.72**	**206**	⇑*iP*	**Pn**	**13 32 46.4**	**+0.4**
SLNF				⇑*i*S	**Sn**	**13 33 08.2**	**0.0**
BNN	**Bunyan**	**1.97**	**329**	*e*PN	**Pn**	**13 32 50.1**	**+0.7**
ELZG	**Elazig**	**1.98**	**47**	*e*P	**Pn**	**13 32 50.4**	**+0.8**
MERS	**Mersin**	**2.11**	**263**	*e*PN	**Pn**	**13 32 52.0**	**+0.7**
SVSK	**Karacayir**	**2.76**	**358**	*e*PN	**Pn**	**13 33 01.2**	**+0.9**
MARD	**Mardin**	**2.91**	**86**	*e*P	**Pn**	**13 33 01.7**	**-0.7**
MARD				*i* S	**Sg**	**13 33 47.9**	**-1.5**

*ISCJB **08** 13:34:58.6±0.6, 1086N±004×6195W±003, h74km±6km, Error ellipse: s-maj=7.2km s-min=4.8km az=0.8*
*TRN **08** 13:34:59.8, 1097N×6195W, h54km, MD3.0*
*NEIC **08** 13:34:59.8, 1097N×6195W, h54km, MD3.0(TRN), After TRN.*
*FUNV **08** 13:35:00.4, 1089N×6187W, h52km, MW3.1*

ISC 08 13:34:59.6±0.6, 1086N±004×6195W±003, h66km±7km, n22, σ1°01/38, 1C, Trinidad

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TCE	**Chacachacare**	**0.26**	**130**	*e*P	**Pn**	**13 35 10.1**	**0.0**
TCE				*e*S	**Sn**	**13 35 17.0**	**-0.7**
GUIV	**Guiria**	**0.34**	**231**	*e*P	**Pn**	**13 35 11.0**	**+0.3**
GUIV				*e*S	**Sn**	**13 35 18.4**	**-0.3**
TRN	**Trinidad (W)**	**0.58**	**111**	⇑*iP*	**Pn**	**13 35 12.9**	**-0.1**
TRN				*e*S	**Sn**	**13 35 21.4**	**-1.3**
TPP	**Pointe-a-Pierr**	**0.73**	**138**	*e*P	**Pn**	**13 35 15.3**	**+0.6**
TPP				*e*S	**Sn**	**13 35 28.8**	**+3.1**
TBH	**Brigand Hill**	**0.95**	**113**	*e*P	**Pn**	**13 35 17.4**	**+0.1**
TBH				*e*S	**Sn**	**13 35 31.4**	**+1.0**
GUNV	**Guanoco**	**1.20**	**235**	*e*P	**Pn**	**13 35 21.8**	**+1.3**
GUNV				*e*S	**Sn**	**13 35 38.4**	**+2.3**
TPR	**Prospect**	**1.20**	**74**	*e*P	**Pn**	**13 35 20.0**	**-0.5**
TPR				*e*S	**Sn**	**13 35 35.4**	**-0.7**
ITEV	**Isla Los Testi**	**1.26**	**293**	*e*P	**Pn**	**13 35 21.8**	**+0.5**
ITEV				*e*S	**Sn**	**13 35 37.5**	**0.0**
CRUV	**Carupano**	**1.28**	**262**	*e*P	**Pn**	**13 35 21.8**	**+0.3**
CRUV				*e*S	**Sn**	**13 35 38.2**	**+0.4**
GRW	**Mount Saint Ca**	**1.32**	**12**	*e*P	**Pn**	**13 35 20.6**	**-1.5**
ORIV	**Oritupano**	**2.29**	**219**	*e*P	**Pn**	**13 35 35.3**	**+0.2**
ORIV				*e*S	**Sn**	**13 36 01.8**	**-0.5**
PCRV	**Puerto La Cruz**	**2.73**	**256**	*e*P	**Pn**	**13 35 41.9**	**+0.8**
PCRV				*e*S	**Sn**	**13 36 11.9**	**-1.0**
IBAV	**Isla La Blanqu**	**2.75**	**291**	*e*P	**Pn**	**13 35 42.2**	**+0.9**
IBAV				*e*S	**Sn**	**13 36 13.3**	**-0.1**
RIOV	**Rio Grande**	**2.78**	**177**	*e*P	**Pn**	**13 35 43.0**	**+1.2**
GURV	**El Guri**	**3.28**	**200**	*e*S	**Sn**	**13 36 24.3**	**-2.2**
PRGV	**PARIAGUAN**	**3.38**	**232**	*e*P	**Pn**	**13 35 49.8**	**-0.2**
PRGV				*e*S	**Sn**	**13 36 28.2**	**-0.7**
BIRV	**Birongo**	**4.26**	**265**	*e*P	**Pn**	**13 36 02.9**	**+0.9**
BIRV				*e*S	**Sn**	**13 36 47.9**	**-2.7**
MERV	**Las Mercedes**	**4.57**	**250**	*e*P	**Pn**	**13 36 06.9**	**+0.6**
LUEV	**Luepa**	**5.01**	**174**	*e*P	**Pn**	**13 36 11.6**	**-0.8**
CAOV	**Caicara del Or**	**5.56**	**231**	*e*P	**Pn**	**13 36 20.5**	**+0.6**
CAOV				*e*S	**Sn**	**13 37 19.4**	**-3.1**
TURV	**Turiamo**	**5.80**	**266**	*e*P	**Pn**	**13 36 23.5**	**+0.3**
BAUV	**El Baul**	**6.29**	**253**	*e*P	**Pn**	**13 36 29.9**	**0.0**
BAUV				*e*S	**Sn**	**13 37 36.7**	**-3.8**

**IDC 08 13:35:41.6±7.2, 1884S×17662W, h0km, mb3.9/2, mb1 4.2/2, mb1mx3.7/15, mbt

14nm,0.3s,baz=109,slow=23,SNR=17
CBIJ Sn **Sn** **13 51 04.8 +3.9**
112nm,0.3s,baz=291,slow=23,SNR=17
GUMO Guam 9.81 185 Pn **Pn** **13 51 04.9 -7.8**
4.9nm,0.3s,baz=350,slow=12,SNR=3.5
GUMO LR LR 13 53 56.8
comp=Z,299nm,18.4s,baz=219,slow=34
JHJ2 Mitsune 11.00 333 S **Sn** **13 53 27.8 -2.8**
JHJ Hachijo jima 2 11.02 333 Pn **Pn** **13 51 30.2 +1.1**
4.1nm,0.3s,baz=22,slow=13,SNR=4.5
JHJ Sn **Sn** **13 53 31.3 +0.2**
12nm,0.3s,baz=258,slow=22,SNR=6.1
BSO1 Boso 1 11.96 341 *e*S **Sn** **13 53 53.2 -0.9**
BSO3 Boso 3 12.25 339 P **Pn** **13 51 45.6 -0.4**
BSO3 S **Sn** **13 53 59.9 -1.2**
BSO4 Boso 4 12.48 339 P **Pn** **13 51 54.6 +5.5**
BSO4 S **Sn** **13 54 06.8 +0.1**
JOD2 Odawara 2 13.17 335 P **Pn** **13 51 58.5 -0.1**
JOD2 S **Sn** **13 54 21.3 -2.3**
JHU Hanno 13.62 337 P **Pn** **13 52 04.5 -0.2**
JHU S **Sn** **13 54 33.0 -1.6**
JYT Yasato 13.66 341 P **Pn** **13 52 07.4 +2.2**
JYT S **Sn** **13 54 34.1 -1.4**
JNY Yasuok 13.76 332 P **Pn** **13 52 06.6 +0.1**
JHO Hitachi 13.91 342 P **Pn** **13 52 07.7 -0.9**
JHO S **Sn** **13 54 34.9 -6.6**
JRY Ryogami san 13.91 336 P **Pn** **13 52 09.0 +0.4**
JRY S **Sn** **13 54 38.1 -3.5**
JAG Ashikaga 14.08 339 P **Pn** **13 52 10.5 -0.4**
JAG S **Sn** **13 54 43.5 -2.2**
JFK Kawauchi 14.54 344 P **Pn** **13 52 14.4 -2.7**
JFK S **Sn** **13 54 50.3 -6.6**
MJAR Matsushiro Arr 14.63 335 Pn **Pn** **13 52 19.0 +0.6**
1.3nm,0.3s,baz=161,slow=11,SNR=23
MJAR Sn **Sn** **13 55 00.6 +1.4**
0.5nm,0.3s,baz=7.9,slow=29,SNR=5.7
MAJO Matsushiro 14.63 335 *e*P **Pn** **13 52 19.0 +0.6**
12nm,0.6s
MAJO Matsushiro 14.63 335 *e*P **Pn** **13 52 19.0 +0.6**
MAJO pmax pmax
comp=Z,12nm,0.6s
MAT Matsushiro 14.63 335 P **Pn** **13 52 19.0 +0.6**
MAT S **Sn** **13 54 59.7 +0.4**
JMK Ichinoseki 15.97 347 P **Pn** **13 52 33.6 -2.2**
JMK S S 13 55 24.8 -19
JNU Nakatsue 16.29 310 Pn **Pn** **13 52 43.0 +3.0**
comp=Z,0.1nm,0.3s,baz=94,slow=15,SNR=2.1
JNU LR LR 13 58 55.5
comp=Z,61nm,18.4s,baz=84,slow=37
KSRS Korea Array 20.76 316 P **P** **13 53 36.1 +4.8**
comp=Z,3.9nm,0.6s,baz=146,slow=8.8,SNR=23
KSRS LR LR 14 01 16.0
comp=Z,54nm,18.6s,MS3.0,baz=334,slow=36
ASAJ Asahikawa 20.82 354 P **P** **13 53 36.0 +4.2**
comp=Z,7.0nm,0.8s,baz=192,slow=14,SNR=8.2
ASAJ LR LR 14 01 18.9
comp=Z,40nm,19.0s,MS2.8,baz=1.1,slow=35
MDJ Mudanjiang 24.96 332 P **P** **13 54 16.1 +2.6**
MDJ AP 13 54 27.2
MDJ XP sP 13 54 32.3 +2.2
MDJ PCP PcP 13 57 46.3 -1.6
MDJ S **S** **13 58 41.4 +7.2**
MDJ SCP ScP 14 01 22.3 -1.3
MDJ PCS PcS 14 01 26.4 -1.6
MDJ SCS ScS 14 05 11.2 -0.5
MDJ AMB AMB
comp=Z,4.0nm,0.7s,mb4.1
MDJ AMB AMB
comp=Z,50nm,4.9s
MDJ Mudanjiang 24.96 332 *e*P **P** **13 54 17.3 +3.8**
comp=Z,9.8nm,1.0s,mb4.3
MDJ *e*pP 13 54 27.1
NJ2 Nanjing 25.29 296 *e*P **P** **13 54 17.7 +1.0**
NJ2 AMB AMB
comp=Z,30nm,0.6s,mb5.0
KLR Kul'dur 28.05 340 *e*P **P** **13 54 42.1 +0.9**
HHC Hu-ho-hao-te 33.52 309 *e*P **P** **13 55 32.4 +2.7**
HHC AP pP 13 55 43.7 +2.4
HHC XP sP 13 55 49.1 +2.7
HHC PP PP 13 56 47.4 +1.4
HHC S **S** **14 00 54.1 +5.4**
HHC XS sS 14 01 13.3 +5.1
HHC PCS PcS 14 01 54.9 -0.5
HHC AMB AMB
comp=Z,17nm,0.6s,mb5.2
HHC AMB AMB
comp=Z,84nm,4.8s
HHC LR LR
comp=N,106nm,14.9s,MS4.0
HHC LR LR
comp=E,188nm,14.3s,MS4.0
HHC LR LR
comp=Z,121nm,17.2s,MS3.7
GYA Guiyang 35.51 283 P **P** **13 55 45.3 -1.7**
GYA AMB AMB
comp=Z,10.0nm,0.8s,mb4.8
CD2 Chengdu 37.96 291 P **P** **13 56 06.6 -1.2**
CD2 AMB AMB
comp=Z,20nm,0.7s,mb5.0
LZH Lanzhou 38.26 299 *e*P **P** **13 56 12.0 +1.7**
LZH AP pP 13 56 22.0 -0.1
LZH XP sP 13 56 25.0 -2.2
LZH AMB AMB
comp=Z,19nm,1.0s,mb4.8
LZH AMB AMB
comp=Z,87nm,4.1s
KMI Kunming 39.16 282 P **P** **13 56 17.1 -0.9**
KMI AP pP 13 56 28.2 -1.6
KMI XP sP 13 56 35.9 +1.1
KMI AMB AMB
comp=Z,5.0nm,1.0s,mb4.2
ULN Ulaanbaatar 39.23 318 *e*P **P** **13 56 19.9 +1.7**
comp=Z,8.6nm,0.7s,mb4.6
ULN *e*pP pP 13 56 31.9 +1.9
ULN Ulaanbaatar 39.23 318 *e*P **P** **13 56 19.9 +1.7**
ULN pmax pmax
comp=Z,9.0nm,0.7s,mb4.6
SONM Songino Array 39.62 318 P **P** **13 56 23.0 +1.5**
comp=Z,4.5nm,0.8s,mb4.3,baz=132,slow=8.0,SNR=37
SONM LR LR 14 14 28.8
comp=Z,60nm,18.4s,MS3.5,baz=80,slow=39
BATI Kupang 39.81 215 P **P** **13 56 16.4 -7.0**
comp=Z,11nm,0.7s,mb4.7,baz=112,slow=22,SNR=3.9
BOD Bodaibo 41.27 335 *e*P **P** **13 56 35.8 +0.9**
ZAK Zakamensk 42.52 320⇓ *i*P **P** **13 56 45.1 -0.2**
ZAK pmax pmax
comp=Z,4.0nm,1.0s,mb4.1
TLY Talaya 42.84 322 *e*P **P** **13 56 51.8 +3.9**
comp=Z,3.4nm,0.9s,mb4.1
TLY *e*pP pP 13 57 01.3 +1.6
TLY Talaya 42.84 322 *e*P **P** **13 56 51.4 +3.5**
TLY pmax pmax
comp=Z,2.0nm,0.7s,mb4.0
WRAB Tennant Creek 44.50 195 *e*P **P** **13 56 54.0 -7.5**
comp=Z,12nm,0.8s,mb4.7
WRAB Tennant Creek 44.50 195 *e*P **P** **13 56 54.0 -7.5**
WRAB pmax pmax
comp=Z,12nm,0.8s,mb4.7
WB2 Warramunga Arr 44.51 195 *e*P **P** **13 56 54.4 -7.2**
WB2 *e*pP pP 13 57 06.7 -6.8
WRA Warramunga Arr 44.51 195 P **P** **13 56 54.2 -7.4**
comp=Z,12nm,0.8s,mb4.8,baz=17,slow=8.8,SNR=85
FITZ Fitzroy Crossi 45.71 207 *e*P **P** **13 57 04.5 -6.6**
comp=Z,4.6nm,0.4s,mb4.8
FITZ Fitzroy Crossi 45.71 207 P **P** **13 57 04.3 -6.8**
comp=Z,3.3nm,0.6s,mb4.5,baz=28,slow=12,SNR=11
BILL Bilibino 46.39 10 *e*P **P** **13 57 21.9 +6.0**
comp=Z,5.7nm,1.1s,mb4.4
BILL *e*pP pP 13 57 33.0 +5.1
BILL Bilibino 46.39 10 *e*P **P** **13 57 21.9 +6.0**
BILL pmax pmax
comp=Z,6.0nm,1.1s,mb4.4
ASAR Alice Springs 48.20 195 P **P** **13 57 22.9 -7.5**
comp=Z,3.5nm,0.7s,mb4.5,baz=15,slow=8.1,SNR=68
SHL Shillong 48.82 284 *e*P **P** **13 57 35.0 -0.4**
LSA Lhasa 48.90 290 P **P** **13 57 34.9 -1.1**
ZALV Zalesovo Beam 54.40 321 P **P** **13 58 16.7 +0.1**
comp=Z,4.4nm,0.5s,mb4.6,baz=106,slow=7.7,SNR=21
ZALV PcP PcP 13 59 18.6 -1.4
comp=Z,1.7nm,0.6s,baz=111,slow=4.8,SNR=3.7
ZAL Zalesovo 54.41 321 P **P** **13 58 16.7 0.0**
ZAL 13 59 18.6
STKA Stephens Creek 55.12 184 *e*P **P** **13 58 13.9 -8.1**
comp=Z,2.5nm,0.9s,mb4.2
STKA *e*pP pP 13 58 27.0 -7.3
STKA Stephens Creek 55.12 184 P **P** **13 58 13.7 -8.4**
comp=Z,2.2nm,0.7s,mb4.3,baz=318,slow=8.1,SNR=5.7
MK31 Makanchi Array 55.34 312 *e*P **P** **13 58 23.4 -0.2**
MK31 *e*pP pP 13 58 35.7 -0.1
MKAR Makanchi Array 55.34 312 P **P** **13 58 23.7 +0.1**
comp=Z,0.7nm,0.5s,mb4.0,baz=92,slow=8.6,SNR=10
MKAR PcP PcP 13 59 22.8 -0.9
comp=Z,1.1nm,0.6s,baz=88,slow=5.7,SNR=4.5
NVS Novosibirsk 55.44 321 *e*P pP 13 58 35.0 -1.5
KURK Kurchatov 57.89 316 *e*P **P** **13 58 41.4 -0.2**
comp=Z,13nm,0.8s,mb5.0
KURK *e*pP pP 13 58 53.5 -0.5
KURK Kurchatov 57.89 316 *e*P **P** **13 58 41.4 -0.2**
KURK pmax pmax
comp=Z,13nm,0.8s,mb5.0
BRVK Borovoye 63.01 319 *e*P **P** **13 59 16.6 +0.1**
comp=Z,9.8nm,0.6s,mb5.1
BRVK *e*pP pP 13 59 28.7 -0.3
BRVK Borovoye 63.01 319 *e*P **P** **13 59 16.7 +0.1**
BRVK pmax pmax
comp=Z,10.0nm,0.6s,mb5.1
INK Inuvik 65.04 24 *e*P **P** **13 59 30.5 +0.9**
comp=Z,267nm,1.1s
INK *e*pP pP 13 59 42.4 +0.3
INK Inuvik 65.04 24 P **P** **13 59 30.7 +1.1**
comp=Z,2.1nm,0.8s,mb4.2,baz=269,slow=5.9,SNR=13
ARU Arti 69.32 324 *e*P **P** **13 59 56.6 -0.3**
comp=Z,6.4nm,0.9s,mb4.5
ARU *e*pP pP 14 00 08.6 -0.9
ARU Arti 69.32 324 *e*P **P** **13 59 56.6 -0.3**
ARU pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
YKA Yellowknife Ar 73.82 28 P **P** **14 00 24.2 +0.3**
YKA Yellowknife Ar 73.82 28 P **P** **14 00 24.2 +0.3**
comp=Z,1.2nm,0.5s,mb4.1,baz=291,slow=5.6,SNR=23
RES Resolute Bay 74.85 14 *e*P **P** **14 00 30.7 +1.0**
comp=Z,77nm,0.8s
NEW Newport 77.40 43 *e*P **P** **14 00 45.0 +0.3**
comp=Z,2.8nm,0.7s,mb4.3
NEW *e*pP pP 14 00 58.0 +0.5
NEW Newport 77.40 43 *e*P **P** **14 00 45.0 +0.3**
NEW *e*PP pP 14 00 58.0 +0.5
NEW pmax pmax
comp=Z,3.0nm,0.7s
ARCES ARCESS Array B 78.06 342 P **P** **14 00 48.5 +0.6**
comp=Z,3.0nm,0.8s,mb4.3,baz=61,slow=8.5,SNR=8.4
BMO Blue Mountains 78.52 46 *e*P **P** **14 00 51.4 +0.5**
comp=Z,5.6nm,1.1s,mb4.4
BMO *e*pP pP 14 01 03.7 -0.1
CMB Columbia Colle 78.82 53 *e*P **P** **14 00 52.5 -0.2**
comp=Z,2.9nm,0.7s,mb4.3
CMB Columbia Colle 78.82 53 *e*P **P** **14 00 52.5 -0.3**
CMB pmax pmax
comp=Z,3.0nm,0.7s,mb4.3
JOF Joensuu 79.80 335 *e*p **P** **14 00 57.6 0.0**
comp=Z,8.7nm,0.5s,mb4.9
JOF Joensuu 79.80 335 *e*P **P** **14 00 57.6 0.0**
JOF pmax pmax
comp=Z,9.0nm,0.5s,mb5.0
NVAR Mina Array Bea 80.20 52 P **P** **14 01 01.0 +0.8**
comp=Z,3.6nm,0.7s,mb4.4,baz=277,slow=3.6,SNR=42
HLID Hailey 80.93 47 *e*P **P** **14 01 04.7 +0.6**
comp=Z,2.0nm,0.7s,mb4.2
KAF Kangasniemi 82.18 336 *e*p **P** **14 01 09.4 -0.9**
comp=Z,3.1nm,0.5s,mb4.5,baz=52,slow=4.8
KAF Kangasniemi 82.18 336 *e*P **P** **14 01 09.4 -0.9**
KAF pmax pmax
comp=Z,3.0nm,0.5s,mb4.5
TPNV Topopah Spring 82.27 53 *e*P **P** **14 01 11.2 -0.1**
comp=Z,2.8nm,0.6s,mb4.4
TPNV Topopah Spring 82.27 53 *e*P **P** **14 01 11.2 -0.1**
TPNV pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
FINES FINESS Array B 82.66 335 P **P** **14 01 12.3 -0.6**
comp=Z,3.7nm,0.5s,mb4.6,baz=72,slow=6.1,SNR=36
YMR Madison River 82.73 44 *e*P **P** **14 01 14.4 +0.8**
comp=Z,4.7nm,0.8s,mb4.6
KIV Kislovodsk 82.94 315 *e*P **P** **14 01 14.0 -0.6**
KIV pmax pmax
comp=Z,9.0nm,1.0s,mb4.8
RLMT Red Lodge 83.61 43 *e*P **P** **14 01 18.8 +0.7**
comp=Z,2.2nm,0.6s,mb4.5
JLU Jodanelle 84.17 48 *e*P **P** **14 01 21.4 +0.3**
FCC Fort Churchill 84.44 27 *e*P **P** **14 01 21.8 -0.2**
comp=Z,3.1nm,0.8s,mb4.5
FCC Fort Churchill 84.44 27 *e*P **P** **14 01 21.8 -0.2**
FCC pmax pmax
comp=Z,3.0nm,0.8s,mb4.5
BW06 Boulder Array 84.49 46 *e*P **P** **14 01 22.5 -0.1**
comp=Z,1.0nm,0.6s,mb4.1
PDAR Pinedale Array 84.49 46 P **P** **14 01 23.1 +0.5**
comp=Z,1.1nm,0.7s,mb4.1,baz=249,slow=1.5,SNR=12
SRU San Rafael 85.47 49 *e*P **P** **14 01 27.2 -0.3**
comp=Z,4.4nm,0.6s,mb4.8
SRU San Rafael 85.47 49 *e*P **P** **14 01 27.3 -0.3**
SRU pmax pmax
comp=Z,4.0nm,0.6s,mb4.7
MIB Mutribah 85.52 300 *e*P **P** **14 01 26.4 -1.7**
MIB AMb AMB 14 01 28.2
comp=Z,25nm,0.8s,mb5.5
NAY Al-Naaiem 85.83 300 *e*P **P** **14 01 27.8 -1.8**
NAY AMb AMB 14 01 29.0
comp=Z,29nm,0.7s,mb5.6
RST Umm Al-Ruwaisa 85.92 300 *e*P **P** **14 01 28.0 -2.0**
RST AMb AMB 14 01 30.9
comp=Z,27nm,1.4s,mb5.3
AKASG Malin Array Be 87.50 325 P **P** **14 01 35.5 -1.7**
comp=Z,1.4nm,0.5s,mb4.4,baz=53,slow=4.9,SNR=13
NB2 NORSAR Subarra 88.20 340 P **P** **14 01 39.2 -1.2**
comp=Z,2.6nm,0.8s,mb4.5,baz=41,slow=5.1
NOA NORSAR Array B 88.20 340 P **P** **14 01 39.7 -0.7**
comp=Z,1.7nm,0.7s,mb4.4,baz=42,slow=4.6,SNR=5.7
MALT Malatya 88.38 311 *e*P **P** **14 01 41.1 -0.6**
comp=Z,1.8nm,0.6s,mb4.5
MALT *e*pP pP 14 01 53.5 -1.2
MALT Malatya 88.38 311 *e*P **P** **14 01 41.1 -0.6**
MALT pmax pmax
comp=Z,2.0nm,0.6s,mb4.5
SDCO Great Sand Dun 89.59 49 *e*P **P** **14 01 47.4 -0.1**
comp=Z,0.9nm,0.7s,mb4.2
ANMO Albuquerque 90.28 51 *e*P **P** **14 01 50.9 +0.1**
comp=Z,1.7nm,0.9s,mb4.4
ANMO Albuquerque 90.28 51 *e*P **P** **14 01 50.9 +0.2**
ANMO pmax pmax
comp=Z,2.0nm,0.9s
TXAR Lajitas Array 95.11 55 P **P** **14 02 12.6 -0.5**
comp=Z,0.2nm,0.7s,mb3.7,baz=347,slow=5.1,SNR=4.2
GERES GERESS Array B 96.32 330 P **P** **14 02 17.1 -1.1**
comp=Z,0.4nm,0.7s,mb3.9,baz=35,slow=4.9,SNR=4.4
TORD Torodi Ar. Bea 129.46 312 PKP PKPdf 14 07 56.9 -2.1
comp=Z,0.9nm,0.7s,baz=10,slow=3.4,SNR=5.5
PLCA Paso Flores 145.00 128 PKP PKPdf 14 08 23.9 -2.9
comp=Z,6.8nm,0.9s,baz=217,slow=4.8,SNR=12
LPAZ La Paz 147.38 84 *e*PKPdf PKPdf 14 08 30.1 -1.4
LPAZ *e*PKPbc PKPbc 14 08 32.9 -1.1
LPAZ La Paz 147.38 84 PKPbc PKPbc 14 08 33.3 -0.7
comp=Z,4.0nm,0.8s,baz=297,slow=3.4,SNR=14

*ISCJB **08** 13:52:40.5±0.7,3162S×003×7216W×006,h10km,mb3.7/2, Error ellipse: s-maj=7.9km s-min=3.8km az=179.1*
*GUC **08** 13:52:42.8±0.6,3162S×7208W,h32km±2km,MD4.0, ML4.0*
*IDC **08** 13:52:44.8±7.5,3165S×7193W,h34km±60km,mb3.2/1, mb1 3.7/3,mb1mx3.5/14,mbtmp3.4/3,ML3.7/2,Error ellipse: s-maj=58.2km s-min=36.9km az=66.0*
ISC 08 13:52:41.3±1.1,3162S×003×**7207W**±007,**h4**km±5km,**n21,** σ**0**°**65/29,mb3.7/2,5C-3D,Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMCH	**Combarbala**	**1.02**	**64**	⇑ *i*P	**Pg**	**13 53 00.1**	**-0.7**
CMCH				*i* S	**Sg**	**13 53 14.0**	**0.0**
CMCH				AML	AML	13 53 20.8	
comp=E,12μm,0.7s							
PACH	**Papudo**	**1.06**	**150**	*i* P	**Pg**	**13 53 01.6**	**0.0**
PACH				*i* S	**Sg**	**13 53 16.1**	**+0.7**
PTCH	**Petorca**	**1.16**	**124**	*i* P	**Pg**	**13 53 03.1**	**-0.4**
PTCH				*i* S	**Sg**	**13 53 19.0**	**+0.3**
OVCH	**Ovalle**	**1.25**	**37**	⇓ *i*P	**Pg**	**13 53 04.9**	**-0.4**
OVCH				*i* S	**Sg**	**13 53 21.5**	**-0.1**
OVCH				AML	AML	13 53 30.5	
comp=N,2μm,0.7s							
IHA	**Instituto Hidr**	**1.45**	**166**	⇑ *i*P	**Pn**	**13 53 07.4**	**-0.8**
TLL	**Tololo Astrono**	**1.81**	**37**	*i* P	**Pn**	**13 53 13.4**	**+0.2**
TLL				*i* S	**Sn**	**13 53 37.3**	**+0.7**
TLL				AML	AML	13 53 42.1	
comp=N,1μm,0.6s							
PEL	**Peldehue**	**1.92**	**143**	⇓ *e*P	**Pn**	**13 53 14.7**	**0.0**
PEL				*i* S	**Sn**	**13 53 38.9**	**-0.4**
PEL				AML	AML	13 53 46.6	
comp=N,5μm,0.4s							
DSCH	**Colegio Aleman**	**2.18**	**145**	⇑ *i*P	**Pn**	**13 53 18.4**	**+0.1**
DSCH				*i* S	**Sn**	**13 53 45.1**	**-0.6**
DSCH				AML	AML	13 53 52.9	
comp=N,620nm,0.6s							
CLCH	**Cerro Calan**	**2.19**	**144**	*e*P	**Pn**	**13 53 18.7**	**+0.2**
CLCH				*i* S	**Sn**	**13 53 46.0**	**-0.1**
CLCH				AML	AML	13 53 54.2	
comp=N,4μm,0.4s							
FCH	**Farellones**	**2.27**	**139**	⇑ *i*P	**Pn**	**13 53 20.0**	**+0.4**
FCH				*i* S	**Sn**	**13 53 48.7**	**+0.7**
FCH				AML	AML	13 53 57.8	
comp=E,1μm,0.6s							
ANTU	**Antumapu**	**2.29**	**148**	AML	AML	13 53 58.7	
comp=N,1μm,0.4s							
SJCH	**San Jose de Ma**	**2.48**	**145**	AML	AML	13 54 04.3	
comp=N,1μm,0.6s							
CHCH	**Chadas Angostu**	**2.60**	**153**	⇓ *i*P	**Pn**	**13 53 24.4**	**+0.4**
CHCH				*i* S	**Sn**	**13 53 55.5**	**-0.6**
LMEL	**Las Melosas**	**2.72**	**145**	⇑ *i*P	**Pn**	**13 53 26.4**	**+0.6**
LMEL				*i* S	**Sn**	**13 53 58.6**	**-0.5**
LMEL				AML	AML	13 54 08.6	
comp=E,827nm,0.6s							
PLCA	**Paso Flores**	**9.18**	**173**	Pn	**Pn**	**13 54 54.3**	**-0.1**
comp=E,0.4nm,0.3s,baz=332,slow=10,SNR=10							
LPAZ	**La Paz**	**15.68**	**14**	Pn	**Pn**	**13 56 24.0**	**+0.9**
comp=E,0.1nm,0.3s,baz=207,slow=8.8,SNR=3.1							
VNA2	**Neumayer--Watz**	**52.22**	**158**	*e*	**P**	**14 01 54.5**	**+1.7**
baz=310,slow=6.8							
VNA2				*e*		14 02 02.3	
VNA2				*e*		14 08 07.8	
SNAA	**Sanae**	**53.80**	**158**	*e*	**P**	**14 02 13.8**	**+9.3**
SNAA				*e*		14 02 21.8	
TXAR	**Lajitas Array**	**67.65**	**330**	P	**P**	**14 03 38.9**	**-0.5**
comp=E,0.3nm,0.7s,mb3.5,baz=157,slow=9.5,SNR=3.5							
TORD	**Torodi Ar. Bea**	**83.43**	**70**	P	**P**	**14 05 08.3**	**-2.0**
comp=E,0.9nm,0.7s,mb3.9,baz=253,slow=4.3,SNR=5.1							
ZALV	**Zalesovo Beam**	**152.21**	**30**	PKPbc	PKPbc	14 12 36.2	-1.4
comp=E,1.8nm,0.7s,baz=303,slow=2.8,SNR=10							
ZALV				PKPab	PKPab	14 12 46.1	-1.3

IDC 08 13:58:13.4±2.3,638S×12949E,h0km,mb3.5/1,mb1 3.7/4, mb1mx3.4/12,mbtmp3.5/4,ML3.4/3,Error ellipse: s-maj=92.4km s-min=28.9km az=76.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**12.24**	**198**	Pn	Pn	14 01 11.0	+1.9
0.1nm,0.3s,baz=346,slow=14,SNR=8.5							
FITZ				Sn	Sn	14 03 16.2	-10
0.4nm,0.3s,baz=87,slow=19,SNR=7.2							
WRA	**Warramunga Arr**	**14.28**	**161**	Pn	Pn	14 01 35.9	-1.1
0.2nm,0.3s,baz=341,slow=13,SNR=14							
WRA				Sn	Sn	14 04 01.1	-15
0.4nm,0.3s,baz=334,slow=24,SNR=7.5							
ASAR	**Alice Springs**	**17.71**	**167**	P	Pn	14 02 20.9	-0.6
0.2nm,0.3s,baz=345,slow=9.9,SNR=28							
ASAR				S	Sn	14 05 24.2	-15
0.1nm,0.3s,baz=350,slow=25,SNR=3.9							
MKAR	**Makanchi Array**	**67.43**	**327**	P	P	14 09 10.9	+0.1
0.2nm,0.3s,baz=141,slow=7.4,SNR=4.3							

*IDC **08** 14:10:48.5±0.7,2056S×16873E,h0km,mb4.5/10, mb1 4.7/11,mb1mx4.6/14,mbtmp4.5/11,ML4.0/1,MS3.7/3, Ms1 3.7/3,ms1mx3.2/30,Error ellipse: s-maj=23.8km s-min=20.1km az=129.0*
*LDG **08** 14:10:50.0±0.3,2039S×16851E,h10km,Mb4.9/2,Ms4.3/1, Error ellipse: s-maj=25.2km s-min=5.2km az=126.0*
*BJI **08** 14:10:50.0,2011S×16893E,h12km,mB5.0,mb4.8,Ms4.6, Msz4.4*
*ISCJB **08** 14:10:50.8±0.4,2068S±006×16867E±007,h24km, mb4.6/26,MS4.0/6,Error ellipse: s-maj=10.9km s-min=7.9km az=39.4*
*NEIC **08** 14:10:50.1±0.4,2052S×16873E,h10km,mb4.8/11,Error ellipse: s-maj=12.5km s-min=9.9km az=131.0*
*SZGRF **08** 14:10:53.9,2003S×17046E,h33km,Vanuatu Islands*
ISC 08 14:10:52.8±0.4,2070S±006×**16868E**±007,**h26**km, **h26**km±3.5km:**pP-P,n89,**σ**1°02/38,mb4.6/26,MS4.0/6, 1C-2D,Loyalty Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**2.48**	**236**	*e*P	**Pn**	**14 11 30.3**	**-1.3**
DZM				*e*S	**Sn**	**14 12 00.5**	**-0.6**
ARMA	**Armidale**	**18.15**	**234**	*e*P	**Pn**	**14 15 05.0**	**+1.9**
URZ	**Urewera**	**18.96**	**159**	P	**Pn**	**14 15 14.2**	**+1.3**
0.5nm,0.3s,baz=326,slow=8.0,SNR=9.2							
CTA	**Charters Tower**	**21.02**	**268**	*e*P	**P**	**14 15 39.3**	**+4.6**
20nm,0.9s,mb4.4							
CTA	**Charters Tower**	**21.02**	**268**	P	**P**	**14 15 36.4**	**+1.7**
28nm,0.9s,mb4.6,baz=84,slow=12,SNR=13							
CTA				LR	LR	14 22 38.3	
comp=Z,144nm,20.5s,MS3.3,baz=72,slow=34							
CTAO	**Charters Tower**	**21.02**	**268**	*e*P	**P**	**14 15 36.7**	**+2.0**
42nm,1.1s,mb4.7							
CNB	**Canberra Magne**	**22.36**	**225**	*e*P	**P**	**14 15 52.0**	**+3.1**
42nm,1.0s,mb4.8							
STKA	**Stephens Creek**	**26.64**	**240**	⇓ *i*P	**P**	**14 16 30.4**	**+1.0**
11nm,0.8s,mb4.5							
STKA	**Stephens Creek**	**26.64**	**240**	P	**P**	**14 16 30.8**	**+1.3**
13nm,0.7s,mb4.5,baz=74,slow=8.3,SNR=29							
STKA				PcP	PcP	14 19 53.2	+0.1
1.6nm,0.8s,baz=60,slow=1.2,SNR=3.2							
STKA				LR	LR	14 26 21.5	
comp=Z,148nm,20.6s,MS3.5,baz=30,slow=35							
WB2	**Warramunga Arr**	**32.16**	**265**	*e*P	**P**	**14 17 17.2**	**-1.4**
WRA	**Warramunga Arr**	**32.17**	**265**	P	**P**	**14 17 17.6**	**-1.1**
2.7nm,0.5s,mb4.3,baz=92,slow=8.5,SNR=76							
WRA				PcP	PcP	14 20 06.8	-0.6
1.7nm,0.9s,baz=97,slow=3.0,SNR=6.4							
ASAR	**Alice Springs**	**32.28**	**258**	P	**P**	**14 17 19.4**	**-0.3**
23nm,0.7s,mb5.1,baz=84,slow=9.2,SNR=218							
ASAR				PcP	PcP	14 20 07.2	-0.4
1.3nm,0.8s,baz=99,slow=2.7,SNR=4.3							
FORT	**Forrest**	**37.76**	**246**	*e*P	**P**	**14 18 05.2**	**-1.6**
14nm,0.7s,mb4.8							
PPT	**Papeete**	**39.49**	**93**	*e*LR	LR	14 29 01.5	
105nm,27.0s							
FITZ	**Fitzroy Crossi**	**40.59**	**266**	⇓ *i*P	**P**	**14 18 30.8**	**+0.2**
22nm,0.7s,mb4.9							
BATI	**Kupang**	**44.49**	**277**	LR	LR	14 35 35.7	
comp=Z,176nm,18.8s,MS4.0,baz=78,slow=33							
SBA	**Scott Base**	**57.20**	**180**	*e*P	**P**	**14 20 38.3**	**+1.1**
5.7nm,0.9s,mb4.6							
MJAR	**Matsushiro Arr**	**63.80**	**333**	P	**P**	**14 21 21.8**	**-1.0**
2.3nm,0.9s,mb4.2,baz=169,slow=6.6,SNR=11							
QSPA	**South Pole Qui**	**69.36**	**180**	*e*P	**P**	**14 21 57.7**	**0.0**
7.1nm,0.9s,mb4.6							
KSRS	**Korea Array**	**69.41**	**326**	P	**P**	**14 21 58.6**	**0.0**
1.7nm,0.8s,mb4.0,baz=138,slow=6.2,SNR=9.5							
NJ2	**Nanjing**	**70.89**	**317**	*e*P	**P**	**14 22 07.9**	**+0.1**
NJ2				AMB	AMB		
comp=Z,20nm,1.1s,mb5.0							
MDJ	**Mudanjiang**	**74.16**	**332**	P	**P**	**14 22 27.4**	**+0.5**
MDJ				AMB	AMB		
comp=Z,6.0nm,1.1s,mb4.4							
MDJ				AMB	AMB		
comp=Z,36nm,3.6s							
CN2	**Changchun**	**75.43**	**329**	*e*P	**P**	**14 22 34.5**	**+0.2**
CN2				*e*AP	pP	14 22 43.6	+1.1
CN2				AMB	AMB		
comp=Z,10.0nm,0.7s,mb4.8							
CN2				LR	LR		
comp=N,200nm,19.0s,MS4.6							
CN2				LR	LR		
comp=E,200nm,19.0s,MS4.6							
CN2				LR	LR		
comp=Z,200nm,22.0s,MS4.4							
MAW	**Mawson**	**76.89**	**202**	P	**P**	**14 22 42.6**	**+0.2**
comp=Z,2.8nm,0.8s,mb4.2,baz=135,slow=7.1,SNR=4.3							
KMI	**Kunming**	**78.60**	**302**	P	**P**	**14 22 52.8**	**+0.2**
KMI				AP	pP	14 22 56.7	-4.1
KMI				XP	sP	14 22 58.3	-5.5
KMI				PP	PP	14 25 48.9	-2.0
KMI				S	S	14 32 51.4	+3.3

KMI XS sS 14 32 56.6 -5.1
KMI AMB AMB
comp=Z,7.0nm,1.3s,mb4.4
KMI AMB AMB
comp=Z,88nm,5.6s
KMI LR LR
comp=N,92nm,19.3s,MS4.3
KMI LR LR
comp=E,124nm,21.5s,MS4.3
KMI LR LR
comp=Z,132nm,28.3s
CHTO Chiang Mai 78.78 295 *eP* **P 14 22 54.7 +1.0**
comp=Z,6.7nm,0.8s,mb4.6
CD2 Chengdu 80.71 308 *eP* **P 14 23 05.5 +1.6**
CD2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.8
CD2 AMB AMB
comp=Z,30nm,5.2s
HHC Hu-ho-hao-te 80.98 320 *eP* **P 14 23 05.8 +0.6**
HHC XP sP 14 23 12.6 -3.8
HHC PP PP 14 26 12.2 +1.8
HHC S S 14 33 12.0 -0.7
HHC SKS 14 33 19.1
HHC AMB AMB
comp=Z,18nm,0.5s,mb5.3
HHC AMB AMB
comp=Z,117nm,5.7s
HHC LR LR
comp=N,169nm,22.6s,MS4.5
HHC LR LR
comp=E,155nm,19.0s,MS4.5
HHC LR LR
comp=Z,187nm,23.8s,MS4.4
LZH Lanzhou 83.31 312 *eP* **P 14 23 18.5 +1.0**
LZH AP pP 14 23 21.5 -4.3
LZH XP sP 14 23 23.5 -5.3
LZH AMB AMB
comp=Z,15nm,1.0s,mb5.0
LZH AMB AMB
comp=Z,65nm,4.1s
SYO Syowa Base 83.39 196⇑ *eP* **P 14 23 15.2 -2.2**
SNAA Sanae 87.68 183 *e* **P 14 23 38.2 -0.6**
SNAA *e* 14 23 40.1
SNAA *e* 14 23 48.7
SNAA *e* 14 23 55.7
ULN Ulaanbaatar 87.72 324 *eP* **P 14 23 39.6 +0.5**
comp=Z,2.7nm,0.7s,mb4.6
GTA Gaotai 87.74 314 *eP* **P 14 23 39.8 +0.3**
GTA AP pP 14 23 49.5 +1.7
GTA XP sP 14 23 53.6 +2.8
GTA AMB AMB
comp=Z,4.0nm,0.9s,mb4.7
SONM Songino Array 88.07 323 P **P 14 23 40.7 -0.1**
comp=Z,4.4nm,0.8s,mb4.8,baz=146,slow=5.2,SNR=38
VNA3 Neumayer Olymp 88.29 181 *e* **P 14 23 40.8 -0.8**
VNA3 *e* 14 23 42.6
VNA3 *e* pP 14 23 49.5 -0.5
VNA3 *e* 14 23 57.4
BILL Bilibino 88.50 359 *eP* **P 14 23 41.0 -1.3**
comp=Z,7.4nm,1.2s,mb4.8
VNA2 Neumayer--Watz 88.58 181 *e* **P 14 23 42.3 -0.7**
VNA2 *e* 14 23 43.5
VNA2 *e* pP 14 23 50.3 -1.0
VNA2 *e* 14 23 58.3
NVAR Mina Array Bea 90.16 49 P **P 14 23 50.1 -0.7**
comp=Z,1.1nm,0.6s,mb4.4,baz=233,slow=9.1,SNR=11
TXAR Lajitas Array 97.93 62 P **P 14 24 26.4 -0.4**
comp=Z,0.1nm,0.4s,mb3.7,baz=331,slow=7.2,SNR=3.1
MKAR Makanchi Array 102.40 315 P Pdif 14 24 46.2 -0.2
MKAR Makanchi Array 102.40 315 P Pdif 14 24 46.2 -0.2
comp=Z,0.4nm,0.6s,baz=105,slow=6.0,SNR=7.3
ARCES ARCESS Array B 126.34 345 PKP PKPdf 14 29 50.7 -1.9
ARCES ARCESS Array B 126.34 345 PKP PKPdf 14 29 50.7 -1.9
comp=Z,2.3nm,0.8s,baz=336,slow=2.7,SNR=4.8
KMBO Kilima Mbogo 127.77 252 PKP PKPdf 14 29 56.9 -0.1
comp=Z,2.2nm,0.9s,baz=315,slow=1.4,SNR=6.6
AKASG Malin Array Be 136.35 323 PKP PKPdf 14 30 12.4 +0.4
comp=Z,0.1nm,0.3s,baz=83,slow=1.2,SNR=3.5
CLL Collm 144.00 334 *e*PKPbc PKPdf 14 30 23.0 -2.8
CLL Collm 144.00 334 *e*PKPdf PKPdf 14 30 24.0 -1.8
TANN Tannenbergstha 144.90 333 *e*PKPbc PKPdf 14 30 26.7 -0.7
TANN *ep*PKPbc 14 30 36.7
NKC Novy Kostel 145.05 333 *e*PKP PKPdf 14 30 26.5 -1.2
MOX Moxa 145.08 334 *e*PKPbc PKPbc 14 30 26.9 -0.3
IBBN Ibbenburen 145.15 339 *e*PKPbc PKPbc 14 30 27.0 -0.3
IBBN *ep*PKPbc pPKPbc 14 30 36.6 +0.8
KHC Kasperske Hory 145.36 331 *e*PKP PKPdf 14 30 27.5 -0.8
KHC x x 14 30 38.0
ROTZ Rotzenmuhle 145.50 333 *e*PKPbc PKPbc 14 30 28.6 0.0
GEC2 GERESS Array S 145.51 330 *e*PKPbc PKPbc 14 30 28.6 0.0
GERES GERESS Array B 145.51 330 PKPbc PKPbc 14 30 28.1 -0.5
comp=Z,4.6nm,0.7s,baz=35,slow=3.3,SNR=42
WET Wettzell 145.67 331 *e*PKPbc PKPbc 14 30 29.4 +0.3
GRA1 Grafenberg Arr 145.97 334 *e*PKPbc PKPbc 14 30 29.9 -0.1
GRF Grafenberg Arr 145.97 334 *e*PKPbc PKPbc 14 30 29.9 -0.1
DMUB Kingscourt 146.69 355 *e*P PKPdf 14 30 30.5 +0.1
MEM Membach 147.17 340 PKP PKPdf 14 30 33.0 +1.7
DCN Croghan 147.27 356 *e*P PKPdf 14 30 32.7 +1.4
STU Stuttgart 147.52 334 *e*PKPbc PKPbc 14 30 34.4 -0.1
WLF Walferdange 147.93 338 *e*PKPbc PKPbc 14 30 34.1 -1.5
WLF Walferdange 147.93 338 PKP PKPbc 14 30 35.8 +0.2
WLF Walferdange 147.93 338 *e*PKPbc PKPbc 14 30 35.8 +0.2
GIVF Givet 147.99 340 *e*PKP1 PKPbc 14 30 34.6 -1.1
DOU Dourbes 148.07 340 PKP PKPbc 14 30 35.5 -0.5
BAIF Baives 148.22 341 *e*PKP1 PKPbc 14 30 35.3 -1.0
comp=Z,18nm,1.1s
BFO Black Forest 148.22 335 *e*PKPbc PKPbc 14 30 35.7 -0.7
BFO Black Forest 148.22 335 *e*PKPbc PKPbc 14 30 35.8 -0.6
CDF Champ du Feu 148.57 336 *e*PKP1 PKPbc 14 30 36.1 -1.2
comp=Z,9.8nm,0.8s
HINF Hinteralfeld 149.22 336 *e*PKP1 PKPbc 14 30 37.5 -1.5
comp=Z,8.7nm,1.0s
HAU Haudompre 149.25 336 *e*PKP1 PKPbc 14 30 37.8 -1.3
comp=Z,13nm,1.0s
MEZF Maizieres J'vi 149.30 338 *e*PKP1 PKPbc 14 30 38.4 -0.8
comp=Z,14nm,0.9s
TIP Timpagrande 149.67 314 *e*PKPbc PKPbc 14 30 39.4 -1.0
CABF La Chapelle 150.51 335 *e*PKP1 PKPbc 14 30 41.4 -0.8
comp=Z,8.4nm,0.8s
FLN La Foliniere 150.68 345 *e*PKP1 PKPbc 14 30 40.9 -1.6
LDF La Druitiere 150.75 345 *e*PKP1 PKPbc 14 30 41.0 -1.7
LOR Lormes 150.77 339 *e*PKP1 PKPbc 14 30 41.4 -1.4
SSF Saint Saulge 151.07 339 *e*PKP1 PKPbc 14 30 42.3 -1.2
LPL La Plagne 151.13 333 *e*PKP1 PKPbc 14 30 43.0 -0.7
LPG La Plagne 151.14 333 *e*PKP1 PKPbc 14 30 43.2 -0.5
SGMF Saint Gilles 151.62 348 *e*PKP1 PKPbc 14 30 43.0 -1.7
comp=Z,16nm,1.0s
ROSF Rostrenen 151.68 349 *e*PKP1 PKPbc 14 30 43.4 -1.4
ORIF Oris-en-Rattie 151.97 333 *e*PKP1 PKPbc 14 30 44.5 -1.1
comp=Z,7.5nm,0.7s
PGF Pioggiola 152.32 326 *e*PKP1 PKPbc 14 30 45.2 -1.3
comp=Z,26nm,1.0s
FRF La Foret Royal 152.71 331 *e*PKP1 PKPbc 14 30 45.2 -2.1
ESDC Sonseca Array 160.06 343 PKPab PKPab 14 31 28.2 -1.4
comp=Z,0.1nm,0.3s,baz=336,slow=6.0,SNR=4.3
DBIC Dimbokro 164.71 205 PKPab PKPab 14 31 50.5 -0.1
comp=Z,2.8nm,0.8s,baz=152,slow=8.5,SNR=3.2

GUC 08 14:33:18.6±0.6, 3163S×7206W, h32km±2km, MD3.8, ML3.5, 2C-1D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHNG	**Los Chungos**	**0.54**	**118**	⇓*iP*	Pb	14 33 10.9	-19
CHNG				*i* S	Sb	14 33 18.7	-19
CMCH	**Combarbala**	**1.01**	**64**	*eP*	Pn	14 33 35.9	-0.7
CMCH				*i* S	Sn	14 33 49.8	0.0
CMCH				AML	AML	14 33 54.2	
comp=N,3μm,0.4s							
PACH	**Papudo**	**1.05**	**150**	*eP*	Pn	14 33 37.4	+0.3
PACH				*i* S	Sn	14 33 51.4	+0.8
PTCH	**Petorca**	**1.15**	**124**	*i* P	Pn	14 33 38.8	+0.4
PTCH				*i* S	Sn	14 33 54.0	+0.9
PTCH				AML	AML	14 33 55.6	
comp=E,773nm,0.2s							
OVCH	**Ovalle**	**1.26**	**36**	*i* P	Pn	14 33 40.5	+0.5
OVCH				*i* S	Sn	14 33 57.7	+2.0
OVCH				AML	AML	14 34 02.9	
comp=N,799nm,0.5s							
ROCH	**El Roble**	**1.61**	**147**	*i* P	Pn	14 33 46.7	+2.0
ROCH				*i* S	Sn	14 34 07.8	+3.4
JACH	**Jahuel**	**1.63**	**130**⇑	*iP*	Pn	14 33 46.6	+1.6
JACH				*i* S	Sn	14 34 07.9	+3.0
TLL	**Tololo Astrono**	**1.81**	**37**	*eP*	Pn	14 33 49.3	+1.7
TLL				*i* S	Sn	14 34 12.9	+3.4
TLL				AML	AML	14 34 20.7	
comp=E,618nm,0.3s							
PEL	**Peldehue**	**1.91**	**143**	AML	AML	14 34 21.9	
comp=E,1μm,0.4s							
CLCH	**Cerro Calan**	**2.18**	**144**	AML	AML	14 34 30.0	
comp=E,677nm,0.5s							
TACH	**Talagante**	**2.23**	**155**⇑	*iP*	Pn	14 33 54.6	+1.3
TACH				*i* S	Sn	14 34 22.1	+2.4
FCH	**Farellones**	**2.26**	**139**	*i* P	Pn	14 33 55.9	+2.1
FCH				*i* S	Sn	14 34 24.2	+3.7
FCH				AML	AML	14 34 32.4	
comp=N,269nm,0.4s							
ANTU	**Antumapu**	**2.28**	**148**	AML	AML	14 34 36.2	
comp=N,357nm,0.5s							
PCH	**Pirque**	**2.38**	**147**	*i* P	Pn	14 33 57.0	+1.7
PCH				*i* S	Sn	14 34 26.3	+2.9
LMEL	**Las Melosas**	**2.71**	**145**	AML	AML	14 34 49.3	
comp=E,218nm,0.2s							

*NEIC **08** 14:34:36.7±3.8, 31.04S×179.91W, h428km±33km, mb3.5/1, Error ellipse: s-maj=56.8km s-min=22.6km az=223.0*
*IDC **08** 14:34:39.3±6.5, 31.46S×179.94W, h464km±78km, mb3.1/3, mb1 3.3/3, mb1mx2.9/14, mbtmp3.1/3, Error ellipse: s-maj=82.5km s-min=34.0km az=16.0*
ISC 08 14:34:40.1±1.6, 313S±01×1796E±02, h434km±19km, n52, σ0°80/60, mb3.4/4, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**6.33**	**189**	SN	**S**	**14 37 36.5**	**+0.1**
PUZ	**Puketiti**	**6.83**	**189**	*eP*	**P**	**14 36 22.6**	**+0.1**
PUZ	**Puketiti**	**6.83**	**189**	PN	**P**	**14 36 22.6**	**+0.1**
PUZ				SN	**S**	**14 37 46.2**	**-0.1**
MARZ	**Manawahe**	**7.08**	**199**	P	**P**	**14 36 28.8**	**+3.7**
MARZ	**Manawahe**	**7.08**	**199**	PN	**P**	**14 36 27.3**	**+2.2**
MWZ	**Matawai**	**7.21**	**193**	*eP*	**P**	**14 36 27.0**	**+0.5**
MWZ				S	**S**	**14 37 55.0**	**+1.2**
MWZ	**Matawai**	**7.21**	**193**	PN	**P**	**14 36 27.0**	**+0.5**
MWZ				SN	**S**	**14 37 55.0**	**+1.2**
URZ	**Urewera**	**7.23**	**196**	*eP*	**P**	**14 36 27.1**	**+0.4**
URZ	**Urewera**	**7.23**	**196**	P	**P**	**14 36 26.4**	**-0.3**
42nm,0.3s,baz=21,slow=3.9,SNR=167							
URZ				S	**S**	**14 37 54.7**	**+0.6**
8.4nm,0.3s,baz=49,slow=23,SNR=10							
URZ	**Urewera**	**7.23**	**196**	PN	**P**	**14 36 27.1**	**+0.4**
URZ				SN	**S**	**14 37 54.6**	**+0.5**
KNZ	**Kokohu**	**7.85**	**191**	*eP*	**P**	**14 36 33.4**	**-0.1**
KNZ	**Kokohu**	**7.85**	**191**	PN	**P**	**14 36 34.4**	**+0.9**
BKZ	**Black Stump Fm**	**8.24**	**197**	*eP*	**P**	**14 36 36.4**	**-1.3**
BKZ				S	**S**	**14 38 13.6**	**-0.7**
BKZ	**Black Stump Fm**	**8.24**	**197**	PN	**P**	**14 36 36.4**	**-1.3**
BKZ				SN	**S**	**14 38 13.6**	**-0.7**
FWVZ	**Far West T-bar**	**8.59**	**202**	*eP*	**P**	**14 36 36.9**	**-4.6**
WNVZ	**Wahianoa**	**8.64**	**201**	P	**P**	**14 36 42.1**	**0.0**
WNVZ	**Wahianoa**	**8.64**	**201**	PN	**P**	**14 36 42.1**	**0.0**
MTVZ	**Mangateitei**	**8.73**	**202**	PN	**P**	**14 36 44.3**	**+1.2**
PXZ	**Pawanui**	**8.98**	**194**	PN	**P**	**14 36 44.9**	**-0.9**
WPHZ	**Waipukurau**	**9.10**	**196**	PN	**P**	**14 36 47.8**	**+0.6**
TSZ	**Takapari Road**	**9.21**	**198**	P	**P**	**14 36 47.6**	**-0.8**
TSZ	**Takapari Road**	**9.21**	**198**	PN	**P**	**14 36 47.6**	**-0.8**
BFZ	**Birch Farm**	**9.73**	**195**	*eP*	**P**	**14 36 54.1**	**0.0**
BFZ				S	**S**	**14 38 44.5**	**0.0**
BFZ	**Birch Farm**	**9.73**	**195**	PN	**P**	**14 36 55.1**	**+1.0**
BFZ				SN	**S**	**14 38 44.5**	**0.0**
MRZ	**Mangatainoka R**	**9.88**	**198**	*eP*	**P**	**14 36 54.8**	**-0.9**
MRZ	**Mangatainoka R**	**9.88**	**198**	PN	**P**	**14 36 54.8**	**-0.9**
TIWZ	**Tintock**	**9.91**	**197**	PN	**P**	**14 36 55.1**	**-1.0**
KIW	**Kapiti Island**	**10.26**	**200**	P	**P**	**14 36 59.9**	**+0.1**
KIW	**Kapiti Island**	**10.26**	**200**	PN	**P**	**14 37 00.9**	**+1.1**
MTW	**Mount Morrison**	**10.37**	**197**	P	**P**	**14 36 59.6**	**-1.4**
MTW	**Mount Morrison**	**10.37**	**197**	PN	**P**	**14 36 59.6**	**-1.5**
CAW	**Cannon Point**	**10.44**	**199**	P	**P**	**14 37 00.8**	**-1.0**
CAW	**Cannon Point**	**10.44**	**199**	PN	**P**	**14 37 01.3**	**-0.5**
TCW	**Tory Channel**	**10.77**	**202**	P	**P**	**14 37 04.4**	**-1.1**
TCW	**Tory Channel**	**10.77**	**202**	PN	**P**	**14 37 05.4**	**-0.1**
TUWZ	**Tuamarina**	**11.08**	**203**	PN	**P**	**14 37 08.1**	**-0.7**
QRZ	**Quartz Range**	**11.08**	**209**	*eP*	**P**	**14 37 09.4**	**+0.5**
QRZ	**Quartz Range**	**11.08**	**209**	PN	**P**	**14 37 09.4**	**+0.5**
NNZ	**Nelson**	**11.08**	**205**	*eP*	**P**	**14 37 08.4**	**-0.5**
NNZ	**Nelson**	**11.08**	**205**	PN	**P**	**14 37 08.4**	**-0.5**
THZ	**Tophouse**	**11.73**	**205**	*eP*	**P**	**14 37 16.1**	**+0.1**
THZ	**Tophouse**	**11.73**	**205**	PN	**P**	**14 37 16.1**	**+0.1**
KHZ	**Kahutara**	**12.10**	**202**	*eP*	**P**	**14 37 20.7**	**+0.8**
KHZ	**Kahutara**	**12.10**	**202**	PN	**P**	**14 37 20.7**	**+0.7**
CTA	**Charters Tower**	**31.94**	**282**	P	**P**	**14 40 29.7**	**+1.2**
CTA	**Charters Tower**	**31.94**	**282**	P	**P**	**14 40 29.7**	**+1.2**
3.2nm,0.4s,mb4.0,baz=102,slow=11,SNR=6.2							
CTAO	**Charters Tower**	**31.94**	**282**	P	**P**	**14 40 29.4**	**+1.0**
ASAR	**Alice Springs**	**41.02**	**269**	P	**P**	**14 41 43.9**	**0.0**
0.4nm,0.5s,mb3.0,baz=107,slow=7.5,SNR=9.6							
WB2	**Warramunga Arr**	**42.08**	**274**	*eP*	**P**	**14 41 51.8**	**-0.6**
WRA	**Warramunga Arr**	**42.09**	**274**	P	**P**	**14 41 52.3**	**-0.2**
0.8nm,0.4s,mb3.4,baz=111,slow=8.1,SNR=32							
QSPA	**South Pole Qui**	**58.80**	**180**	*eP*	**P**	**14 43 55.5**	**+1.0**
1.3nm,0.7s,mb3.4							
FINES	**FINESS Array B**	**145.25**	**338**	PKPbc	PKPbc	14 53 23.3	-3.9
1.2nm,0.5s,baz=54,slow=3.7,SNR=20							

*IDC **08** 14:38:44.8±2.0, 44.23N×149.10E, h0km, mb3.6/8, mb1 3.8/9, mb1mx3.6/21, mbtmp3.6/9, ML3.2/1, Error ellipse: s-maj=54.2km s-min=27.9km az=164.0*
*JMA **08** 14:38:48.7±0.5, 44.31N×149.11E, h30km, M3.9*
*ISCJB **08** 14:38:50.0±1.2, 43.71N±0.09×149.1E±0.1, h71km±11km, mb3.4/8, Error ellipse: s-maj=16.8km s-min=10.9km az=150.0*
*MOS **08** 14:38:49.9±1.1, 43.88N×149.10E, h66km, mb4.1/3, Error ellipse: s-maj=18.6km s-min=15.0km az=35.8*
*NEIC **08** 14:38:49.5±0.8, 44.10N×149.10E, h35km, MG3.9(JMA), Error ellipse: s-maj=20.8km s-min=10.1km az=145.0*
ISC 08 14:38:51.8±1.1, 4376N±010×1491E±01, h69km±11km, n47, σ1°03/52, mb3.4/8, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YUK	**Yuzh-Kuril'sk**	**2.33**	**278**	*eP*N	**Pn**	**14 39 25.7**	**-2.1**
YUK				*i* S	**Sn**	**14 39 59.4**	**+4.1**
YUK				smax			
comp=N,440nm,0.5s							
YUK				smax			
comp=E,220nm,0.5s							
YUK				smax			
comp=N,2μm,0.6s							
YUK				smax			
comp=E,1μm,0.6s							
NEM2	**Nemuro 2**	**2.44**	**262**	P	**Pn**	**14 39 27.9**	**-1.4**
NEM2				*e*S	**Sn**	**14 39 57.0**	**-1.1**
JRA	**Rausu**	**2.85**	**275**	P	**Pn**	**14 39 33.8**	**-1.1**
JNK	**Nakash**	**3.15**	**268**	P	**Pn**	**14 39 38.0**	**-1.0**
JAK	**Akkeshi**	**3.27**	**258**	P	**Pn**	**14 39 39.8**	**-0.8**
JAK				*e*S	**Sn**	**14 40 16.3**	**-1.9**
JTKR	**Abashiri--Toko**	**3.73**	**275**	P	**Pn**	**14 39 46.4**	**-0.5**
JOB	**Onbets**	**3.90**	**259**	P	**Pn**	**14 39 49.0**	**-0.2**
JOB				*e*S	**Sn**	**14 40 35.0**	**+1.2**
JMP	**Maruseppu**	**4.12**	**275**	P	**Pn**	**14 39 51.8**	**-0.5**
JCH	**Churui**	**4.32**	**257**	P	**Pn**	**14 39 54.6**	**-0.3**
JCH				*e*S	**Sn**	**14 40 44.9**	**+1.0**
JKK2	**Kamakawa 2**	**4.57**	**274**	P	**Pn**	**14 39 59.0**	**+0.7**
JEM	**Erimo**	**4.67**	**250**	P	**Pn**	**14 40 01.3**	**+1.6**
ASAJ	**Asahikawa**	**4.68**	**277**	PN	**Pn**	**14 40 02.1**	**+2.3**
ASAJ						14 40 57.7	
ASAJ				pmax	pmax		
comp=Z,1.0nm,0.3s							
ASAJ	**Asahikawa**	**4.68**	**277**	Pn	**Pn**	**14 40 02.0**	**+2.2**
comp=Z,0.8nm,0.3s,baz=146,slow=15,SNR=10							
ASAJ				Sn	**Sn**	**14 40 57.7**	**+4.9**
baz=262,slow=6.1,SNR=1.7							
JFR	**Furan**	**4.74**	**265**	P	**Pn**	**14 40 01.9**	**+1.2**
JNBK	**Urakawa-nobuka**	**4.85**	**254**	P	**Pn**	**14 40 02.0**	**-0.2**
JNBK				*e*S	**Sn**	**14 40 55.4**	**-1.6**
JAB	**Ashibetsu**	**4.97**	**269**	P	**Pn**	**14 40 05.6**	**+1.8**
JBT2	**Biratori 2**	**4.98**	**261**	P	**Pn**	**14 40 04.0**	**0.0**
YSS	**Yuzh-Sakhalins**	**5.47**	**308**	P	**Pn**	**14 40 11.1**	**+0.5**
YSS	**Yuzh-Sakhalins**	**5.47**	**308**	PN	**Pn**	**14 40 10.5**	**-0.1**
JEW	**Eniwo**	**5.62**	**263**	P	**Pn**	**14 40 14.1**	**+1.3**
JNB	**Noboribetsu**	**6.01**	**260**	P	**Pn**	**14 40 18.4**	**+0.4**
JKB	**Kayabe**	**6.19**	**255**	P	**Pn**	**14 40 20.4**	**-0.1**
JKB				*e*S	**Sn**	**14 41 28.7**	**-1.1**
JSK	**Shakotan**	**6.25**	**269**	P	**Pn**	**14 40 22.8**	**+1.5**
JANG	**Nango**	**6.55**	**242**	P	**Pn**	**14 40 24.5**	**-0.9**
JANG				*e*S	Sx	14 41 35.6	
JYM2	**Yakumo 2**	**6.58**	**259**	P	**Pn**	**14 40 26.2**	**+0.3**
JTH	**Tanohata**	**6.59**	**237**	P	**Pn**	**14 40 24.6**	**-1.3**
JTH				*e*S	Sx	14 41 36.5	
JTM	**Tenmabayashi**	**6.62**	**246**	P	**Pn**	**14 40 26.3**	**-0.2**
JTM				*e*S	Sx	14 41 38.3	
JOSM	**Okushiri--Mats**	**7.23**	**260**	P	**Pn**	**14 40 35.4**	**+0.7**
OFUJ	**Ofunato**	**7.25**	**232**	*e*S	Sx	14 41 52.7	
JRG	**Rokugo**	**7.67**	**238**	P	**Pn**	**14 40 41.3**	**+0.6**
JRG				*e*S	Sx	14 42 04.3	
JIO	**Ouri**	**7.87**	**230**	*e*S	Sx	14 42 06.7	
JFK	**Kawauchi**	**8.91**	**227**	*e*S	Sx	14 42 32.9	
MJAR	**Matsushiro Arr**	**10.98**	**233**	Pn	**Pn**	**14 41 27.2**	**+1.2**
comp=Z,0.2nm,0.3s,baz=35,slow=15,SNR=3.1							
SONM	**Songino Array**	**29.74**	**293**	P	**P**	**14 44 52.1**	**+0.8**
comp=Z,0.3nm,0.5s,mb3.2,baz=94,slow=9.0,SNR=3.3							
INK	**Inuvik**	**45.70**	**30**	P	**P**	**14 47 03.9**	**-1.4**
MK31	**Makanchi Array**	**45.80**	**298**	*eP*	**P**	**14 47 06.9**	**+0.5**
MKAR	**Makanchi Array**	**45.80**	**298**	P	**P**	**14 47 06.8**	**+0.4**
MKAR				pmax	pmax		
comp=Z,1.0nm,0.4s							
MKAR	**Makanchi Array**	**45.80**	**298**	P	**P**	**14 47 06.8**	**+0.4**
comp=Z,0.5nm,0.4s,mb3.6,baz=75,slow=7.9,SNR=8.7							
YKA	**Yellowknife Ar**	**55.02**	**34**	P	**P**	**14 48 15.0**	**-0.7**
comp=Z,0.1nm,0.5s,mb3.1,baz=292,slow=7.0,SNR=4.0							
FINES	**FINESS Array B**	**65.49**	**334**	P	**P**	**14 49 26.2**	**-0.9**
FINES				pmax	pmax		
comp=Z,1.0nm,0.5s							
FINES	**FINESS Array B**	**65.49**	**334**	P	**P**	**14 49 26.2**	**-0.9**
comp=Z,0.6nm,0.5s,mb3.6,baz=45,slow=6.5,SNR=7.1							
NB2	**NORSAR Subarra**	**70.09**	**340**	P	**P**	**14 49 55.6**	**-0.4**
comp=Z,0.6nm,0.5s,mb3.7,baz=30,slow=6.5							
NOA	**NORSAR Array B**	**70.09**	**340**	P	**P**	**14 49 55.7**	**-0.3**
NOA				pmax	pmax		
comp=Z,1.0nm,0.7s							
NOA	**NORSAR Array B**	**70.09**	**340**	P	**P**	**14 49 55.6**	**-0.4**
comp=Z,1.2nm,0.7s,mb3.8,baz=31,slow=6.3,SNR=3.9							
AKASG	**Malin Array Be**	**72.38**	**325**	P	**P**	**14 50 09.6**	**-0.5**
comp=Z,0.3nm,0.4s,mb3.5,baz=37,slow=6.2,SNR=4.1							
GERES	**GERESS Array B**	**79.82**	**332**	P	**P**	**14 50 52.5**	**+0.2**
comp=Z,0.3nm,0.6s,mb3.3,baz=40,slow=7.7,SNR=3.8							
TXAR	**Lajitas Array**	**81.49**	**57**	P	**P**	**14 51 02.6**	**+1.0**
comp=Z,0.2nm,0.8s,mb3.0,baz=282,slow=5.4,SNR=3.6							

IGQ 08 14:40:13.3, 320S×7842W, h12km±4km, Mb4.0, Ms3.8, 3C-3D, Error ellipse: s-maj=6.1km s-min=1.9km az=164.0, Peru-Ecuador border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGUA	**Igualata**	**1.71**	**353**	S	Sn	14 41 08.9	+4.2
TAMB	**Tambo**	**2.48**	**1**	P	Pn	14 40 56.6	+3.1
TAMB	**Tambo**	**2.48**	**1**	S	Sn	14 41 27.3	+3.4
VC1	**Cotopaxi 1**	**2.54**	**0**	⇓P	Pn	14 40 57.5	+3.2
VC1	**Cotopaxi 1**	**2.54**	**0**	⇓S	Sn	14 41 29.6	+4.5
ANTI	**Antisana**	**2.74**	**5**	⇑P	Pn	14 40 59.0	+1.9
ANTI	**Antisana**	**2.74**	**5**	⇑S	Sn	14 41 30.9	+0.7
GGP	**Refugio Guagua**	**3.01**	**357**	P	Pn	14 41 07.0	+6.2
TERV	**Terraza Guagua**	**3.01**	**356**	P	Pn	14 41 06.4	+5.6
PINO	**Pino**	**3.02**	**356**	⇑P	Pn	14 41 06.7	+5.7
CAYR	**Refugio Cayamb**	**3.22**	**7**	P	Pn	14 41 07.7	+4.1
CAYA	**Cayambe**	**3.27**	**7**	⇓P	Pn	14 41 10.1	+5.7

*IDC **08** 14:43:17.9±0.7, 0.03N×124.91E, h0km, mb3.9/9, mb1 4.0/9, mb1mx3.9/15, mbtmp3.9/9, Error ellipse: s-maj=46.2km s-min=11.4km az=67.0*
*NEIC **08** 14:43:19.2±0.4, 0.02S×124.89E, h10km, Error ellipse: s-maj=21.9km s-min=7.5km az=61.0*
*ISCJB **08** 14:43:20.6±0.6, 0.0S±0.1×124.8E±0.2, h33km, mb4.0/10, Error ellipse: s-maj=30.8km s-min=10.1km az=151.7*
ISC 08 14:43:22.9±0.6, 00S±01×1249E±02, h35km, n20, σ0°87/20, mb4.0/10, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKM	**Kota Kinabalu**	**10.53**	**305**	Pn	**Pn**	**14 45 49.7**	**-1.7**
WRA	**Warramunga Arr**	**21.85**	**155**	P	**P**	**14 48 11.7**	**-0.9**
1.0nm,0.4s,mb3.6,baz=338,slow=10.0,SNR=25							
WRA				S	**S**	**14 52 16.8**	**+4.6**
0.2nm,0.3s,baz=278,slow=32,SNR=6.8							
WB2	**Warramunga Arr**	**21.86**	**155**	*eP*	**P**	**14 48 12.0**	**-0.6**
WB2	**Warramunga Arr**	**21.86**	**155**	*eP*	**P**	**14 48 11.5**	**-1.2**
ASAR	**Alice Springs**	**25.08**	**160**	P	**P**	**14 48 44.6**	**+0.4**
1.8nm,0.8s,mb3.6,baz=340,slow=11,SNR=28							
ASAR				PcP	PcP	14 52 19.2	+0.8
0.4nm,0.6s,baz=338,slow=1.8,SNR=8.7							
STKA	**Stephens Creek**	**35.41**	**155**	*eP*	**P**	**14 50 16.2**	**+0.7**
1.3nm,0.4s,mb4.2							
STKA	**Stephens Creek**	**35.41**	**155**	*eP*	**P**	**14 50 16.2**	**+0.7**
STKA	**Stephens Creek**	**35.41**	**155**	P	**P**	**14 50 16.4**	**+0.9**
1.5nm,0.5s,mb4.2,baz=329,slow=12,SNR=12							
MJAR	**Matsushiro Arr**	**38.45**	**17**	P	**P**	**14 50 40.6**	**-0.8**
MJAR	**Matsushiro Arr**	**38.45**	**17**	P	**P**	**14 50 40.6**	**-0.8**
0.3nm,0.4s,mb3.3,baz=187,slow=8.7,SNR=3.5							
SONM	**Songino Array**	**50.31**	**344**	P	**P**	**14 52 16.7**	**+0.7**
0.6nm,0.7s,mb3.8,baz=165,slow=8.7,SNR=6.6							
MK31	**Makanchi Array**	**59.63**	**327**	*eP*	**P**	**14 53 23.6**	**+0.2**
MKAR	**Makanchi Array**	**59.63**	**327**	P	**P**	**14 53 23.7**	**+0.3**
1.2nm,0.3s,mb4.4,

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSET	**Sete Cidades**	**1.17**	**301**	*eP*	**Pb**	**14 47 35.1**	**-4.9**
PSET				*eS*	**Sb**	**14 47 49.6**	**-5.8**
PSET				A		14 47 53.4	
	11µm,0.3s						
PSET	**Sete Cidades**	**1.17**	**301**	*eP*	**Pb**	**14 47 35.1**	**-4.9**
PSET				*eS*	**Sb**	**14 47 49.6**	**-5.8**
PSCM	**Serra do Cume**	**2.57**	**306**	*eP*	**Pn**	**14 47 55.1**	**-4.4**
PSCM				*eS*	**Sn**	**14 48 23.6**	**-7.4**
PSCM				A		14 48 25.8	
	2µm,0.3s						
PSCM	**Serra do Cume**	**2.57**	**306**	*eP*	**Pn**	**14 47 55.1**	**-4.4**
PSCM				*eS*	**Sn**	**14 48 23.6**	**-7.4**
ADH	**Angra Heroismo**	**2.62**	**304**	*eP*	**Pn**	**14 47 56.0**	**-4.2**
ADH				*eS*	**Sn**	**14 48 24.5**	**-7.8**
PID	**Ribeirinha**	**3.14**	**294**	*eP*	**Pn**	**14 48 02.9**	**-4.5**
PID				*eS*	**Sn**	**14 48 36.4**	**-8.9**
PMAN	**Manadas**	**3.20**	**297**	*eP*	**Pn**	**14 48 03.6**	**-4.6**
PMAN				*eS*	**Sn**	**14 48 38.1**	**-8.5**
PMAN				A		14 48 42.6	
	456nm,0.2s						
PMAN	**Manadas**	**3.20**	**297**	*eP*	**Pn**	**14 48 03.6**	**-4.6**
PMAN				*eS*	**Sn**	**14 48 38.1**	**-8.5**
ROSA	**Rosais**	**3.34**	**298**	*eP*	**Pn**	**14 48 05.8**	**-4.3**
ROSA				*eS*	**Sn**	**14 48 42.1**	**-8.1**
SRBC	**Serra Branca**	**3.35**	**304**	*eP*	**Pn**	**14 48 06.5**	**-3.8**
SRBC				*eS*	**Sn**	**14 48 42.7**	**-7.8**
PICO	**Pico**	**3.39**	**293**	*eP*	**Pn**	**14 48 06.7**	**-4.1**
PICO				*eS*	**Sn**	**14 48 42.3**	**-9.0**
HOR	**Horta**	**3.55**	**293**	*eP*	**Pn**	**14 48 08.3**	**-4.7**
HOR				*eS*	**Sn**	**14 48 46.1**	**-9.2**
CALA	**Caldeira**	**3.62**	**293**	*eP*	**Pn**	**14 48 09.6**	**-4.4**
CALA				*eS*	**Sn**	**14 48 48.5**	**-8.5**
PMAR	**Madeira**	**7.65**	**124**	*ePn*	**Pn**	**14 49 07.6**	**-1.7**
PMAR				*eSn*	**Sn**	**14 50 27.5**	**-8.8**
PMAR				A		14 50 42.4	
	142nm,0.3s						
PMAR				A		14 53 02.7	
	1µm,16.6s						
PMAR				*eT*		14 56 37.4	
PMPS	**Porto Santo**	**7.85**	**120**	*ePn*	**Pn**	**14 49 09.1**	**-3.0**
PMPS				*eSn*	**Sn**	**14 50 28.9**	**-12**
PMPS				A		14 50 39.2	
	43nm,0.4s						
PMPS				A		14 51 45.0	
	1µm,19.8s						
EHIG	**Higuera**	**10.29**	**145**	P	**Pn**	**14 49 44.0**	**-1.6**
	15nm,0.1s						
EHIG				S	**Sn**	**14 51 31.2**	**-10**
EHIG	**Higuera**	**10.29**	**145**	P	**Pn**	**14 49 44.0**	**-1.6**
	15nm,0.1s						
EHIG				S	**Sn**	**14 51 31.2**	**-10**
EGOM	**La Gomera**	**10.91**	**144**	P	**Pn**	**14 49 50.4**	**-3.6**
	40nm,0.1s						
EGOM				S	**Sn**	**14 51 45.8**	**-11**
EGOM	**La Gomera**	**10.91**	**144**	P	**Pn**	**14 49 50.4**	**-3.6**
	40nm,0.1s						
EGOM				S	**Sn**	**14 51 45.8**	**-11**
CHIE	**El Hierro**	**10.94**	**148**	P	**Pn**	**14 49 52.2**	**-2.3**
	0.2nm,0.1s						
CHIE	**El Hierro**	**10.94**	**148**	P	**Pn**	**14 49 52.2**	**-2.3**
	0.2nm,0.1s						
EBAJ	**Bajamar**	**11.02**	**139**	P	**Pn**	**14 49 53.0**	**-2.6**
	44nm,0.3s						
EBAJ				S	**Sn**	**14 51 46.5**	**-13**
EBAJ	**Bajamar**	**11.02**	**139**	P	**Pn**	**14 49 53.0**	**-2.6**
	44nm,0.3s						
EBAJ				S	**Sn**	**14 51 46.5**	**-13**
CCAN	**Las Canadas**	**11.15**	**141**	P	**Pn**	**14 49 54.3**	**-3.0**
	8.1nm,0.2s						
CCAN				S	**Sn**	**14 51 49.0**	**-13**
CCAN	**Las Canadas**	**11.15**	**141**	P	**Pn**	**14 49 54.3**	**-3.0**
	8.1nm,0.2s						
CCAN				S	**Sn**	**14 51 49.0**	**-13**
EOSO	**Osorio**	**11.81**	**138**	P	**Pn**	**14 50 03.8**	**-2.6**
	6.8nm,0.2s						
EOSO				S	**Sn**	**14 52 03.4**	**-15**
EOSO	**Osorio**	**11.81**	**138**	P	**Pn**	**14 50 03.8**	**-2.6**
	6.8nm,0.2s						
EOSO				S	**Sn**	**14 52 03.4**	**-15**
PMAFR	**Mafra**	**12.08**	**77**	*eP*	**Pn**	**14 50 05.8**	**-4.2**
PMAFR				A		14 50 19.7	
	93nm,1.6s						
PMAFR				*eS*	**Sn**	**14 52 12.0**	**-13**
PMAFR				A		14 54 06.0	
	4µm,18.0s						
PMAFR				*eT*		15 01 37.4	
CFTV	**Fuerteventura**	**12.38**	**132**	P	**Pn**	**14 50 11.8**	**-2.4**
	1.6nm,0.2s						
CFTV				S	**Sn**	**14 52 19.0**	**-13**
CFTV	**Fuerteventura**	**12.38**	**132**	P	**Pn**	**14 50 11.8**	**-2.3**
	1.6nm,0.2s						
CFTV				S	**Sn**	**14 52 19.0**	**-13**
PFVI	**Vila Bisbo**	**12.47**	**86**	*eP*	**Pn**	**14 50 09.8**	**-5.6**
PFVI				A		14 50 28.7	
	52nm,1.7s						
PFVI				*eS*	**Sn**	**14 52 19.4**	**-15**
PFVI				A		14 54 17.8	
	5µm,19.5s						
PFVI				*eT*		15 02 23.4	
PTEO	**Sao Teotonio**	**12.52**	**84**	*eP*	**Pn**	**14 50 09.3**	**-6.7**
PTEO				A		14 50 22.3	
	60nm,1.4s						
PTEO				*eS*	**Sn**	**14 52 20.3**	**-16**
PTEO				A		14 54 24.4	
	3µm,18.5s						
PTEO				*eT*		15 02 21.6	
MORF	**Marmelete**	**12.60**	**85**	*eP*	**Pn**	**14 50 09.8**	**-7.3**
MORF				A		14 50 23.0	
	53nm,1.5s						
MORF				*eS*	**Sn**	**14 52 22.2**	**-15**
MORF				A		14 54 22.2	
	5µm,18.4s						
MORF				*eT*		15 02 12.1	
EVO	**Evora**	**13.06**	**79**	*ePn*	**Pn**	**14 50 18.0**	**-5.4**
EVO				*eSn*	**Sn**	**14 52 31.0**	**-18**
	33nm,0.4s						
EVO				*eMLR*	MLR		
	comp=Z,3µm,18.0s						
EMAZ	**Mazaricos**	**13.15**	**59**	P	**Pn**	**14 50 20.9**	**-3.7**
	comp=Z,3.6nm,0.3s						
EMAZ				S	**Sn**	**14 52 35.5**	**-16**
EMAZ	**Mazaricos**	**13.15**	**59**	P	**Pn**	**14 50 20.9**	**-3.7**
	comp=Z,3.6nm,0.3s						
EMAZ				S	**Sn**	**14 52 35.5**	**-16**
PBEJ	**Beja**	**13.18**	**82**	*eP*	**Pn**	**14 50 19.7**	**-5.3**
PBEJ				A		14 50 32.8	
	comp=Z,48nm,1.6s						
PBEJ				*eS*	**Sn**	**14 52 36.4**	**-16**
PBEJ				A		14 54 42.4	
	comp=Z,2µm,20.2s						
PBEJ				*eT*		15 02 06.3	
PVAQ	**Vaqueiros**	**13.33**	**84**	*eP*	**Pn**	**14 50 22.2**	**-4.9**
PVAQ				A		14 50 42.4	
	comp=Z,55nm,1.7s						
PVAQ				*eS*	**Sn**	**14 52 40.8**	**-15**
PVAQ				A		14 55 03.2	
	comp=Z,4µm,18.2s						
PVAQ				*eT*		15 02 30.3	
PVIS	**Viseu**	**13.35**	**70**	*eP*	**Pn**	**14 50 23.6**	**-3.7**
PVIS				A		14 50 57.5	
	comp=Z,61nm,1.6s						
PVIS				*eS*	**Sn**	**14 52 38.7**	**-17**
PVIS				A		14 54 58.8	
	comp=Z,4µm,19.4s						
PVIS				*eT*		15 02 27.1	
PESTR	**Estremoz**	**13.40**	**78**	*eP*	**Pn**	**14 50 23.0**	**-5.0**
PESTR				A		14 50 42.4	
	comp=Z,32nm,1.5s						
PESTR				*eS*	**Sn**	**14 52 43.1**	**-14**
PESTR				A		14 55 04.8	
	comp=Z,3µm,18.5s						
PESTR				*eT*		15 02 10.3	
STS	**Santiago**	**13.42**	**60**	P	**Pn**	**14 50 24.8**	**-3.5**
	comp=Z,3.1nm,0.2s						
STS				S	**Sn**	**14 52 42.9**	**-15**
STS	**Santiago**	**13.42**	**60**	P	**Pn**	**14 50 24.8**	**-3.5**
STS				pmax	pmax		
	comp=Z,3.0nm,0.2s						
STS	**Santiago**	**13.42**	**60**	P	**Pn**	**14 50 24.8**	**-3.5**
	comp=Z,3.1nm,0.2s						
STS				S	**Sn**	**14 52 42.9**	**-15**
PCAB	**Cabril**	**13.46**	**66**	*eP*	**Pn**	**14 50 23.3**	**-5.5**
PCAB				A		14 50 41.3	
	comp=Z,83nm,1.4s						
PCAB				*eS*	**Sn**	**14 52 41.5**	**-17**
PCAB				A		14 54 50.5	
	comp=Z,3µm,19.2s						
PCAB				*eT*		15 02 49.6	
ELOB	**Lobios**	**13.47**	**65**	P	**Pn**	**14 50 23.8**	**-5.2**
	comp=Z,1.5nm,0.2s						
ELOB				S	**Sn**	**14 52 41.6**	**-17**
ELOB	**Lobios**	**13.47**	**65**	P	**Pn**	**14 50 23.8**	**-5.2**
	comp=Z,1.5nm,0.2s						
ELOB				S	**Sn**	**14 52 41.6**	**-17**
EGRO	**El Granado**	**13.51**	**84**	P	**Pn**	**14 50 27.0**	**-2.5**
	comp=Z,0.4nm,0.1s						
EGRO				S	**Sn**	**14 52 43.0**	**-17**
EGRO	**El Granado**	**13.51**	**84**	P	**Pn**	**14 50 27.0**	**-2.5**
	comp=Z,0.4nm,0.1s						
EGRO				S	**Sn**	**14 52 43.0**	**-17**
PCBR	**Castelo Branco**	**13.55**	**74**	*eP*	**Pn**	**14 50 24.9**	**-5.2**
PCBR				A		14 50 47.1	
	comp=Z,42nm,1.4s						
PCBR				*eS*	**Sn**	**14 52 45.7**	**-15**
PCBR				A		14 55 06.7	
	comp=Z,3µm,19.5s						
PCBR				*eT*		15 02 25.8	
MTE	**Manteigas**	**13.56**	**71**	*eP*	**Pn**	**14 50 26.4**	**-3.9**
MTE				A		14 50 43.8	
	comp=Z,54nm,1.4s						
MTE				*eS*	**Sn**	**14 52 45.3**	**-16**
MTE				A		14 55 10.2	
	comp=Z,6µm,19.4s						
MTE				*eT*		15 02 16.9	
MTE	**Manteigas**	**13.56**	**71**	*ePn*	**Pn**	**14 50 26.1**	**-4.2**
	comp=Z,50nm,1.3s						
MTE	**Manteigas**	**13.56**	**71**	*ePn*	**Pn**	**14 50 26.1**	**-4.2**
PVRL	**Vila Real**	**13.59**	**68**	*eP*	**Pn**	**14 50 25.8**	**-4.8**
PVRL				A		14 50 44.3	
	comp=Z,65nm,1.5s						
PVRL				*eS*	**Sn**	**14 52 45.9**	**-16**
PVRL				A		14 55 14.2	
	comp=Z,3µm,18.5s						
PVRL				*eT*		15 02 26.0	
PBAR	**Barrancos**	**13.83**	**81**	*eP*	**Pn**	**14 50 29.2**	**-4.7**
PBAR				A		14 50 39.4	
	comp=Z,59nm,1.7s						
PBAR				*eS*	**Sn**	**14 52 52.1**	**-16**
PBAR				A		14 54 58.5	
	comp=Z,3µm,20.0s						
PBAR				*eT*		15 02 17.6	
EBAD	**Badajoz**	**13.84**	**78**	P	**Pn**	**14 50 29.7**	**-4.4**
	comp=Z,0.3nm,0.2s						
EBAD				S	**Sn**	**14 52 53.4**	**-15**
EBAD	**Badajoz**	**13.84**	**78**	P	**Pn**	**14 50 29.7**	**-4.4**
	comp=Z,0.3nm,0.2s						
EBAD				S	**Sn**	**14 52 53.3**	**-15**
MVO	**Moncorvo**	**14.07**	**68**	*eP*	**Pn**	**14 50 32.3**	**-4.9**
MVO				A		14 50 51.5	
	comp=Z,113nm,1.7s						
MVO				*eS*	**Sn**	**14 52 55.7**	**-18**
MVO				A		14 55 42.4	
	comp=Z,4µm,17.8s						
MVO				*eT*		15 02 32.0	
EMIN	**Mina Concepcio**	**14.13**	**82**	P	**Pn**	**14 50 32.8**	**-5.3**
	comp=Z,0.3nm,0.2s						
EMIN				S	**Sn**	**14 52 59.4**	**-16**
EMIN	**Mina Concepcio**	**14.13**	**82**	P	**Pn**	**14 50 32.8**	**-5.3**
	comp=Z,0.3nm,0.2s						
EMIN				S	**Sn**	**14 52 59.4**	**-16**
PBRG	**Braganca**	**14.41**	**66**	*eP*	**Pn**	**14 50 36.5**	**-5.4**
PBRG				A		14 50 53.8	
	comp=Z,88nm,1.5s						
PBRG				*eS*	**Sn**	**14 53 04.7**	**-17**
PBRG				A		14 55 39.6	
	comp=Z,3µm,19.4s						
PBRG				*eT*		15 02 58.8	
ECAL	**Calabor**	**14.45**	**66**	P	**Pn**	**14 50 38.0**	**-4.3**
	comp=Z,1.7nm,0.2s						
ECAL				S	**Sn**	**14 53 05.7**	**-17**
ECAL	**Calabor**	**14.45**	**66**	P	**Pn**	**14 50 38.0**	**-4.3**
	comp=Z,1.7nm,0.2s						
ECAL				S	**Sn**	**14 53 05.7**	**-17**
EPON	**Pontenova**	**14.54**	**60**	P	**Pn**	**14 50 38.2**	**-5.4**
	comp=Z,0.7nm,0.2s						
EPON				S	**Sn**	**14 53 08.2**	**-17**
EPON	**Pontenova**	**14.54**	**60**	P	**Pn**	**14 50 38.2**	**-5.3**
	comp=Z,0.7nm,0.2s						
EPON				S	**Sn**	**14 53 08.2**	**-17**
ESPR	**Espera**	**14.86**	**86**	P	**Pn**	**14 50 44.4**	**-3.6**
	comp=Z,0.4nm,0.1s						
ESPR				S	**Sn**	**14 53 14.5**	**-19**
ESPR	**Espera**	**14.86**	**86**	P	**Pn**	**14 50 44.4**	**-3.6**
	comp=Z,0.4nm,0.1s						
ESPR				S	**Sn**	**14 53 14.5**	**-18**
ECAB	**El Cabril**	**15.11**	**81**	P	**Pn**	**14 50 47.3**	**-4.1**
	comp=Z,0.1nm,0.2s						
ECAB				S	**Sn**	**14 53 22.8**	**-16**
ECAB	**El Cabril**	**15.11**	**81**	P	**Pn**	**14 50 47.3**	**-4.0**
	comp=Z,0.1nm,0.2s						
ECAB				S	**Sn**	**14 53 22.8**	**-16**
EARI	**Arriondas**	**15.88**	**62**	P	**Pn**	**14 50 57.5**	**-3.9**
	comp=Z,0.7nm,0.2s						
EARI				S	**Sn**	**14 53 42.0**	**-16**
EARI	**Arriondas**	**15.88**	**62**	P	**Pn**	**14 50 57.5**	**-3.9**
	comp=Z,0.7nm,0.2s						
EARI				S	**Sn**	**14 53 42.0**	**-16**
PAB	**San Pablo**	**15.94**	**75**	*ePn*	**Pn**	**14 50 55.5**	**-6.7**
	comp=Z,34nm,1.4s						
PAB				*eSn*	**Sn**	**14 53 45.5**	**-14**
PAB	**San Pablo**	**15.94**	**75**	*eP*	**Pn**	**14 50 55.5**	**-6.7**
PAB				pmax	pmax		
	comp=Z,34nm,1.4s						
PAB	**San Pablo**	**15.94**	**75**	*ePn*	**Pn**	**14 50 55.5**	**-6.7**
	comp=Z,34nm,1.4s						
PAB				*eSn*	**Sn**	**14 53 45.5**	**-14**
ESDC	**Sonseca Array**	**16.24**	**75**	Pn	**Pn**	**14 51 00.0**	**-6.0**
	comp=Z,0.6nm,0.3s,baz=270,slow=13,SNR=17						
ESDC				Sn	**Sn**	**14 53 51.9**	**-15**
	comp=Z,1.3nm,0.3s,baz=265,slow=24,SNR=8.3						
ESDC				LR	LR	14 56 07.0	
	comp=Z,3µm,20.7s,baz=275,slow=33						
ESDC	**Sonseca Array**	**16.24**	**75**	Pn	**Pn**	**14 51 00.0**	**-6.1**
ESDC				Sn	**Sn**	**14 53 51.9**	**-15**
ESLA	**Sonseca Array**	**16.24**	**75**	*ePn*	**Pn**	**14 51 01.8**	**-4.3**
	comp=Z,24nm,1.4s						
ESLA				*e*		14 51 10.8	
ESLA				*eSn*	**Sn**	**14 53 51.2**	**-15**
ESLA	**Sonseca Array**	**16.24**	**75**	*ePn*	**Pn**	**14 51 01.8**	**-4.3**
MDT	**Midelt**	**16.83**	**99**	Pn	**Pn**	**14 51 13.8**	**+0.1**
	comp=Z,1.0nm,0.3s,baz=289,slow=13,SNR=25						
MDT				Sn	**Sn**	**14 54 06.7**	**-14**
	comp=Z,0.6nm,0.3s,baz=22,slow=22,SNR=5.9						
MDT				LR	LR	14 56 30.1	
	comp=Z,3µm,20.8s,baz=301,slow=33						
MDT	**Midelt**	**16.83**	**99**	Pn	**Pn**	**14 51 13.8**	**+0.1**
MDT				Sn	**Sn**	**14 54 06.7**	**-14**
ELAN	**Lanestosa**	**17.12**	**63**	P	**Pn**	**14 51 14.7**	**-2.5**
	comp=Z,0.4nm,0.2s						
ELAN				S	**Sn**	**14 54 10.5**	**-17**
ELAN	**Lanestosa**	**17.12**	**63**	P	**Pn**	**14 51 14.7**	**-2.5**
	comp=Z,0.4nm,0.2s						
ELAN				S	**Sn**	**14 54 10.5**	**-17**
SJPF	**Ste Jean**	**18.68**	**64**	*eP*	**Pn**	**14 51 36.2**	**-0.2**
	comp=Z,68nm,1.3s						
SJPF	**Ste Jean**	**18.68**	**64**	*eP*	**Pn**	**14 51 36.2**	**-0.2**
	comp=Z,34nm,1.3s						
SJPF	**Ste Jean**	**18.68**	**64**	*eP*	**Pn**	**14 51 36.2**	**-0.2**
	comp=Z,34nm,1.3s						
QUIF	**Quistinic**	**18.91**	**49**	*eP*	**Pn**	**14 51 38.0**	**-1.2**
	comp=Z,24nm,0.8s						
QUIF	**Quistinic**	**18.91**	**49**	*eP*	**Pn**	**14 51 38.0**	**-1.2**
QUIF				pmax	pmax		
	comp=Z,12nm,0.8s						
QUIF	**Quistinic**	**18.91**	**49**	*eP*	**Pn**	**14 51 38.0**	**-1.2**
	comp=Z,12nm,0.8s						
ROSF	**Rostrenen**	**19.04**	**48**	*eP*	**Pn**	**14 51 40.0**	**-0.7**
ETSF	**Etsaut**	**19.12**	**65**	*eP*	**Pn**	**14 51 41.5**	**-0.3**
	comp=Z,23nm,0.8s						
ETSF	**Etsaut**	**19.12**	**65**	*eP*	**Pn**	**14 51 41.5**	**-0.3**
	comp=Z,12nm,0.8s						
ETSF	**Etsaut**	**19.12**	**65**	*eP*	**Pn**	**14 51 41.5**	**-0.3**
	comp=Z,12nm,0.8s						
REYF	**Montagne du Re**	**19.27**	**65**	*eP*	**Pn**	**14 51 43.8**	**+0.2**
SGMF	**Saint Gilles**	**19.43**	**49**	*eP*	**Pn**	**14 51 44.2**	**-1.2**
	comp=Z,174nm,1.6s						
SGMF	**Saint Gilles**	**19.43**	**49**	*eP*	**Pn**	**14 51 44.2**	**-1.2**
SGMF				pmax	pmax		
	comp=Z,87nm,1.6s						
SGMF	**Saint Gilles**	**19.43**	**49**	*eP*	**Pn**	**14 51 44.2**	**-1.2**
	comp=Z,87nm,1.6s						
VIEF	**Viey**	**19.54**	**66**	*eP*	**Pn**	**14 51 47.2**	**+0.4**
LABF	**Labassere**	**19.60**	**65**	*eP*	**Pn**	**14 51 47.6**	**0.0**
ODJA	**Bouhanifia**	**19.68**	**88**	P	**Pn**	**14 51 57.0**	**+8.5**
RESF	**Ens**	**19.76**	**66**	*eP*	**Pn**	**14 51 49.5**	**+0.1**
EPF	**Esparros**	**19.79**	**65**	*eP*	**Pn**	**14 51 48.8**	**-1.0**
	comp=Z,297nm,1.4s						
EPF	**Esparros**	**19.79**	**65**	*eP*	**Pn**	**14 51 48.8**	**-1.0**
	comp=Z,149nm,1.4s						
EPF	**Esparros**	**19.79**	**65**	*eP*	**Pn**	**14 51 48.8**	**-1.0**
	comp=Z,149nm,1.4s						
LCHF	**La Chataignera**	**19.94**	**54**	*eP*	**Pn**	**14 51 50.5**	**-1.0**
MATF	**Mathat**	**19.97**	**57**	*eP*	**Pn**	**14 51 52.3**	**+0.3**
DCN	**Croghan**	**20.06**	**31**	*eP*	**P**	**14 51 51.1**	**0.0**
MFF	**Saint Martin d**	**20.30**	**55**	*eP*	**P**	**14 51 54.0**	**+0.1**
	comp=Z,817nm,1.4s						
MFF	**Saint Martin d**	**20.30**	**55**	*eP*	**P**	**14 51 54.0**	**+0.1**
MFF				pmax	pmax		
	comp=Z,409nm,1.4s						
MFF	**Saint Martin d**	**20.30**	**55**	*eP*	**P**	**14 51 54.0**	**+0.1**
	comp=Z,408nm,1.4s						
MLS	**Moulis**	**20.33**	**66**	*eP*	**P**	**14 51 55.6**	**+1.4**
DLF	**Lyons Farm**	**20.33**	**32**	*eP*	**P**	**14 51 53.9**	**-0.2**
SALF	**Salau**	**20.37**	**66**	*eP*	**P**	**14 51 56.7**	**+2.0**
LFF	**La Frestale**	**20.44**	**60**	*eP*	**P**	**14 51 55.3**	**-0.1**
	comp=Z,422nm,1.1s						
LFF	**La Frestale**	**20.44**	**60**	*eP*	**P**	**14 51 55.3**	**-0.1**
LFF				pmax	pmax		
	comp=Z,211nm,1.1s						
LFF	**La Frestale**	**20.44**	**60**	*eP*	**P**	**14 51 55.3**	**-0.1**
	comp=Z,211nm,1.1s						
GRR	**Gorron**	**20.51**	**50**	*eP*	**P**	**14 51 56.2**	**+0.1**
	comp=Z,810nm,1.3s						
GRR	**Gorron**	**20.51**	**50**	*eP*	**P**	**14 51 56.2**	**+0.1**
GRR				pmax	pmax		
	comp=Z,405nm,1.3s						
GRR	**Gorron**	**20.51**	**50**	*eP*	**P**	**14 51 56.2**	**+0.1**
	comp=Z,405nm,1.3s						
EANR	**'Ain N'Sour**	**20.55**	**86**	P	**P**	**14 51 59.0**	**+2.4**
DMUB	**Kingscourt**	**20.61**	**30**	*eP*	**P**	**14 51 57.2**	**0.0**
ECHA	**Ech Chlef**	**20.72**	**85**	P	**P**	**14 52 04.0**	**+5.5**
ETRT	**Tiaret**	**20.82**	**87**	P	**P**	**14 52 02.5**	**+2.9**
EBNR	**Beni Rached**	**20.82**	**85**	P	**P**	**14 52 03.0**	**+3.4**
FLN	**La Foliniere**	**20.89**	**49**	*eP*	**P**	**14 52 00.2**	**0.0**
	comp=Z,523nm,1.5s						
FLN				*eMLR*	MLR		
	comp=Z,3µm,22.0s,MS4.3						
FLN	**La Foliniere**	**20.89**	**49**	*eP*	**P**	**14 52 00.2**	**0.0**
	comp=Z,262nm,1.5s						
FLN				LR	LR		
	comp=Z,3µm,22.0s,MS4.6						
FLN	**La Foliniere**	**20.89**	**49**	*eP*	**P**	**14 52 00.2**	**0.0**
FLN				pmax	pmax		
	comp=Z,262nm,1.5s						
FLN				MLR	MLR		
	comp=Z,3µm,22.0s,MS4.6						
CARF	**Carcanieres**	**21.04**	**67**	*eP*	**P**	**14 52 03.2**	**+1.3**
LDF	**La Druitiere**	**21.04**	**50**	*eP*	**P**	**14 52 02.0**	**+0.2**
	comp=Z,396nm,1.4s,mb5.2						
LDF	**La Druitiere**	**21.04**	**50**	*eP*	**P**	**14 52 02.0**	**+0.2**
LDF				pmax	pmax		
	comp=Z,198nm,1.4s,mb5.2						
LDF	**La Druitiere**	**21.04**	**50**	*eP*	**P**	**14 52 02.0**	**+0.2**
	comp=Z,198nm,1.4s,mb5.2						
RJF	**Les Rejaudoux**	**21.06**	**59**	*eP*	**P**	**14 52 01.2**	**-0.9**
	comp=Z,334nm,1.6s,mb5.1						
RJF				*eMLR*	MLR		
	comp=Z,5µm,19.2s,MS4.6						
RJF	**Les Rejaudoux**	**21.06**	**59**	*eP*	**P**	**14 52 01.2**	**-0.9**
	comp=Z,167nm,1.6s,mb5.1						
RJF				LR	LR		
	comp=Z,5µm,19.3s,MS4.9						
RJF	**Les Rejaudoux**	**21.06**	**59**	*eP*	**P**	**14 52 01.2**	**-0.9**
RJF				pmax	pmax		
	comp=Z,167nm,1.6s,mb5.1						
RJF				MLR	MLR		
	comp=Z,5µm,19.3s,MS4.9						
MTLF	**Montolieu**	**21.20**	**65**	*eP*	**P**	**14 52 03.3**	**-0.3**
	comp=Z,91nm,1.2s,mb4.7						
MTLF	**Montolieu**	**21.20**	**65**	*eP*	**P**	**14 52 03.3**	**-0.3**
MTLF				pmax	pmax		
	comp=Z,46nm,1.3s,mb4.7						
MTLF	**Montolieu**	**21.20**	**65**	*eP*	**P**	**14 52 03.3**	**-0.3**
	comp=Z,46nm,1.2s,mb4.7						
CAF	**Calviac**	**21.36**	**61**	*eP*	**P**	**14 52 05.0**	**-0.3**
	comp=Z,397nm,1.3s,mb5.3						
CAF	**Calviac**	**21.36**	**61**	*eP*	**P**	**14 52 05.0**	**-0.3**
CAF				pmax	pmax		
	comp=Z,199nm,1.3s,mb5.3						
CAF	**Calviac**	**21.36**	**61**	*eP*	**P**	**14 52 05.0**	**-0.3**
	comp=Z,199nm,1.3s,mb5.3						
FILF	**Fillols**	**21.36**	**67**	*eP*	**P**	**14 52 05.1**	**-0.2**
TCF	**Toulx Ste Croi**	**21.77**	**57**	*eP*	**P**	**14 52 09.6**	**-0.1**
	comp=Z,939nm,1.8s,mb5.6						
TCF	**Toulx Ste Croi**	**21.77**	**57**	*eP*	**P**	**14 52 09.6**	**-0.1**
TCF				pmax	pmax		
	comp=Z,470nm,1.8s,mb5.6						
TCF	**Toulx Ste Croi**	**21.77**	**57**	*eP*	**P**	**14 52 09.6**	**-0.1**
	comp=Z,470nm,1.8s,mb5.6						
FRNF	**Fournols**	**21.80**	**60**	*eP*	**P**	**14 52 10.6**	**+0.6**
EMHD	**Djebel Mahouad**	**21.97**	**84**	P	**P**	**14 52 14.0**	**+2.0**
PYM	**Petit Puy Mans**	**22.18**	**59**	*eP*	**P**	**14 52 15.1**	**+1.0**
LBL	**Lubilhac**	**22.24**	**60**	*eP*	**P**	**14 52 15.5**	**+0.8**
BGF	**Bois d'Agland**	**22.27**	**57**	*eP*	**P**	**14 52 14.4**	**-0.6**
	comp=Z,125nm,1.0s,mb5.0						
BGF	**Bois d'Agland**	**22.27**	**57**	*eP*	**P**	**14 52 14.4**	**-0.6**
BGF				pmax	pmax		
	comp=Z,62nm,1.0s,mb5.0						
BGF	**Bois d'Agland**	**22.27**	**57**	*eP*	**P**	**14 52 14.4**	**-0.6**
	comp=Z,62nm,1.0s,mb5

VIVF Saint-Julien-I 23.17 62 *eP* **P 14 52 23.4 -1.2**
VIVF pmax pmax
comp=Z,137nm,1.4s,mb5.2
VIVF Saint-Julien-I 23.17 62 *eP* **P 14 52 23.4 -1.2**
comp=Z,136nm,1.4s,mb5.2
EKA Eskdalemuir Ar 23.17 32 P **P 14 52 23.6 -0.9**
comp=Z,17nm,1.0s,mb4.4,baz=233,slow=8.3,SNR=17
MENF Mencas 23.20 46 *eP* **P 14 52 25.9 +1.1**
PRAF Pradon 23.38 64 *eP* **P 14 52 27.9 +1.1**
GELF Grande-Etoile 23.53 66 *eP* **P 14 52 29.0 +0.6**
BBTS Babate 23.56 160 P **P 14 52 29.6 +0.8**
comp=Z,19nm,0.7s,mb4.6,baz=195,slow=4.1,SNR=7.6
BBTS LR LR 14 59 52.4
comp=Z,366nm,19.8s,MS3.8,baz=232,slow=32
OCF Saint Nazaire 23.57 63 *eP* **P 14 52 28.6 -0.2**
OG26 St.-Nazaire-De 23.57 63 *eP* **P 14 52 28.6 -0.2**
SMRF Simiane la Rot 23.69 64 *eP* **P 14 52 29.0 -0.9**
comp=Z,241nm,1.5s,mb5.1
SMRF Simiane la Rot 23.69 64 *eP* **P 14 52 29.0 -0.9**
comp=Z,120nm,1.5s,mb5.1
STOF St-Etienne Org 23.93 64 *eP* **P 14 52 32.7 +0.6**
GRN Grenoble 23.98 61 *eP* **P 14 52 34.3 +1.8**
TAVF Tavernes 24.00 65 *eP* **P 14 52 33.8 +1.0**
ORIF Oris-en-Rattie 24.02 62 *eP* **P 14 52 31.9 -1.1**
comp=Z,361nm,1.6s,mb5.2
ORIF *e*MLR MLR
comp=Z,4µm,22.0s,MS4.6
ORIF Oris-en-Rattie 24.02 62 *eP* **P 14 52 31.9 -1.1**
ORIF pmax pmax
comp=Z,181nm,1.6s,mb5.2
ORIF Oris-en-Rattie 24.02 62 *eP* **P 14 52 31.9 -1.1**
comp=Z,181nm,1.6s,mb5.2
BAIF Baives 24.22 49 *eP* **P 14 52 33.3 -1.4**
comp=Z,165nm,1.1s,mb5.1
BAIF Baives 24.22 49 *eP* **P 14 52 33.3 -1.4**
BAIF pmax pmax
comp=Z,83nm,1.1s,mb5.1
BAIF Baives 24.22 49 *eP* **P 14 52 33.3 -1.4**
comp=Z,82nm,1.1s,mb5.1
DFRA Djebel Bou Aff 24.23 82 P **P 14 52 35.0 +0.1**
GDM Grand'Maison 24.23 61 *eP* **P 14 52 36.7 +1.9**
MEZF Maizieres J'vi 24.23 53 *eP* **P 14 52 33.8 -1.0**
comp=Z,510nm,1.6s,mb5.4
MEZF Maizieres J'vi 24.23 53 *eP* **P 14 52 33.8 -1.0**
comp=Z,255nm,1.6s,mb5.4
LMR La Mourre 24.31 66 *eP* **P 14 52 34.4 -1.2**
comp=Z,133nm,1.5s,mb4.8
LMR La Mourre 24.31 66 *eP* **P 14 52 34.4 -1.2**
LMR pmax pmax
comp=Z,66nm,1.5s,mb4.8
LMR La Mourre 24.31 66 *eP* **P 14 52 34.4 -1.2**
comp=Z,66nm,1.5s,mb4.8
FRF La Foret Royal 24.43 65 *eP* **P 14 52 35.8 -0.8**
comp=Z,78nm,1.1s,mb4.7
FRF La Foret Royal 24.43 65 *eP* **P 14 52 35.8 -0.8**
FRF pmax pmax
comp=Z,39nm,1.1s,mb4.8
FRF La Foret Royal 24.43 65 *eP* **P 14 52 35.8 -0.8**
comp=Z,39nm,1.1s,mb4.7
SNF Seneffe 24.43 48 P **P 14 52 36.6 0.0**
CABF La Chapelle 24.45 58 *eP* **P 14 52 36.2 -0.7**
comp=Z,485nm,1.9s,mb5.3
CABF La Chapelle 24.45 58 *eP* **P 14 52 36.2 -0.7**
CABF pmax pmax
comp=Z,243nm,1.9s,mb5.3
CABF La Chapelle 24.45 58 *eP* **P 14 52 36.2 -0.7**
comp=Z,243nm,1.9s,mb5.3
DOU Dourbes 24.46 49 P **P 14 52 37.0 +0.1**
comp=Z,82nm,1.9s,mb4.8
UCC Uccle 24.58 47 P **P 14 52 38.0 0.0**
comp=Z,52nm,1.2s,mb4.9
GIVF Givet 24.60 49 *eP* **P 14 52 36.9 -1.3**
comp=Z,562nm,1.3s,mb5.6
GIVF Givet 24.60 49 *eP* **P 14 52 36.9 -1.3**
GIVF pmax pmax
comp=Z,281nm,1.3s,mb5.6
GIVF Givet 24.60 49 *eP* **P 14 52 36.9 -1.3**
comp=Z,281nm,1.3s,mb5.6
BNI Bardonecchia 24.60 62 *eP* **P 14 52 38.5 +0.3**
comp=Z,69nm,1.4s,mb5.0
BNI Bardonecchia 24.60 62 *eP* **P 14 52 38.5 +0.3**
BNI pmax pmax
comp=Z,69nm,1.4s,mb5.0
BNI Bardonecchia 24.60 62 *eP* **P 14 52 38.5 +0.3**
comp=Z,69nm,1.4s,mb5.0
CALN Calern 24.62 65 *eP* **P 14 52 39.3 +0.9**
MBDF Montbardon 24.63 62 *eP* **P 14 52 38.0 -0.5**
comp=Z,56nm,1.3s,mb4.7
MBDF Montbardon 24.63 62 *eP* **P 14 52 38.0 -0.5**
MBDF pmax pmax
comp=Z,28nm,1.3s,mb4.6
MBDF Montbardon 24.63 62 *eP* **P 14 52 38.0 -0.5**
comp=Z,28nm,1.3s,mb4.7
SURF Saint Ours 24.63 63 *eP* **P 14 52 41.3 +2.8**
LPL La Plagne 24.71 61 *eP* **P 14 52 38.6 -0.6**
comp=Z,142nm,1.4s,mb5.0
LPL La Plagne 24.71 61 *eP* **P 14 52 38.6 -0.6**
LPL pmax pmax
comp=Z,71nm,1.4s,mb5.0
LPL La Plagne 24.71 61 *eP* **P 14 52 38.6 -0.6**
comp=Z,71nm,1.4s,mb5.0
LPG La Plagne 24.72 61 *eP* **P 14 52 38.9 -0.4**
comp=Z,154nm,1.4s,mb5.0
LPG La Plagne 24.72 61 *eP* **P 14 52 38.9 -0.4**
LPG pmax pmax
comp=Z,77nm,1.4s,mb5.0
LPG La Plagne 24.72 61 *eP* **P 14 52 38.9 -0.4**
comp=Z,77nm,1.4s,mb5.0
CTEI Djebel Teioual 24.74 83 P **P 14 52 40.5 +0.9**
THEF They Montfort 24.76 54 *eP* **P 14 52 40.0 +0.4**
CASM Ain Smara 24.77 83 P **P 14 52 39.0 -0.8**
EMV Vieux Emosson 24.91 59⇑*iP* **P 14 52 42.0 +1.0**
comp=Z,317nm,2.7s,mb5.4
CKFL Kef-Lekhel 24.92 82 P **P 14 52 40.0 -1.2**
HAU Haudompre 24.94 55 *eP* **P 14 52 40.4 -0.9**
comp=Z,168nm,1.4s,mb5.1
HAU *e*MLR MLR
comp=Z,2µm,23.0s,MS4.3
HAU Haudompre 24.94 55 *eP* **P 14 52 40.4 -0.9**
comp=Z,84nm,1.4s,mb5.1
HAU LR LR
comp=Z,2µm,23.0s,MS4.7
HAU Haudompre 24.94 55 *eP* **P 14 52 40.4 -0.9**
HAU pmax pmax
comp=Z,84nm,1.4s,mb5.1
HAU MLR MLR
comp=Z,2µm,23.0s,MS4.7
CAEH 'Ain El Ouahch 24.95 81 P **P 14 52 45.0 +3.5**
AIGLE Aigle 24.99 59⇑*iP* **P 14 52 42.6 +0.8**
comp=Z,217nm,1.5s,mb5.5
BCLA Clavier 25.00 49 P **P 14 52 40.7 -1.1**
comp=Z,25nm,1.1s,mb4.7
SBF Sospel 25.02 65 *eP* **P 14 52 41.6 -0.4**
comp=Z,188nm,1.3s,mb5.2
SBF Sospel 25.02 65 *eP* **P 14 52 41.6 -0.4**
SBF pmax pmax
comp=Z,94nm,1.3s,mb5.2
SBF Sospel 25.02 65 *eP* **P 14 52 41.6 -0.4**
comp=Z,94nm,1.3s,mb5.2
TORNY Torny/Romont 25.07 58⇑*iP* **P 14 52 43.5 +1.0**
comp=Z,354nm,1.9s,mb5.6
GRYON Gryon 25.08 59⇑*iP* **P 14 52 43.5 +0.9**
comp=Z,147nm,2.1s,mb5.2
LOMF Lomont 25.10 56 *eP* **P 14 52 43.6 +0.8**
SAOF Saorge 25.11 64 *eP* **P 14 52 44.4 +1.5**
HINF Hinteralfeld 25.22 55 *eP* **P 14 52 43.0 -0.8**
comp=Z,106nm,1.2s,mb4.9
HINF Hinteralfeld 25.22 55 *eP* **P 14 52 43.0 -0.8**
HINF pmax pmax
comp=Z,53nm,1.2s,mb5.0
HINF Hinteralfeld 25.22 55 *eP* **P 14 52 43.0 -0.8**
comp=Z,53nm,1.2s,mb4.9
SENIN Lac Senin/Sane 25.23 59⇑*iP* **P 14 52 45.2 +1.3**
comp=Z,386nm,3.8s
DIX Grande Dixence 25.26 59⇑*iP* **P 14 52 45.7 +1.5**
comp=Z,234nm,2.2s,mb5.3
WLF Walferdange 25.27 51 *eP* **P 14 52 43.2 -1.1**
comp=Z,236nm,1.0s,mb5.7
WLF Walferdange 25.27 51 *eP* **P 14 52 43.2 -1.1**
WLF pmax pmax
comp=Z,236nm,1.0s,mb5.7
WLF Walferdange 25.27 51 P **P 14 52 44.6 +0.4**
comp=Z,142nm,1.2s,mb5.4
WLF Walferdange 25.27 51 *eP* **P 14 52 44.1 -0.2**
comp=Z,245nm,1.1s,mb5.7
WLF Walferdange 25.27 51 *eP* **P 14 52 43.2 -1.1**
comp=Z,236nm,1.0s,mb5.7
BEBN Eben Emael 25.36 48 P **P 14 52 45.0 0.0**
comp=Z,46nm,1.8s,mb4.7
BOURR Bourrignon 25.38 56⇑*iP* **P 14 52 46.0 +0.7**
comp=Z,292nm,1.8s,mb5.5
MOF Molkenrain 25.41 55 *eP* **P 14 52 45.8 +0.2**
CMAH Djebel Manchou 25.43 82 P **P 14 52 42.0 -3.8**
MEM Membach 25.49 49 P **P 14 52 46.4 +0.2**
comp=Z,61nm,1.7s,mb4.8
HGN Heimansgroeve 25.50 48 *eP* **P 14 52 45.5 -0.8**
comp=Z,87nm,1.8s,mb5.0
HGN Heimansgroeve 25.50 48 *eS* **S 14 57 10.2 -3.7**
WIMIS Wimmis 25.50 58⇑*iP* **P 14 52 47.5 +1.1**
comp=Z,139nm,1.5s,mb5.3
ECH Echery 25.52 54 *eP* **P 14 52 46.4 -0.1**
MMK Mattmark 25.64 60⇑*iP* **P 14 52 49.7 +2.1**
comp=Z,248nm,2.1s,mb5.4
CDF Champ du Feu 25.64 54 *eP* **P 14 52 47.1 -0.5**
comp=Z,211nm,1.3s,mb5.2
CDF Champ du Feu 25.64 54 *eP* **P 14 52 47.1 -0.5**
CDF pmax pmax
comp=Z,106nm,1.3s,mb5.2
CDF Champ du Feu 25.64 54 *eP* **P 14 52 47.1 -0.5**
comp=Z,106nm,1.3s,mb5.2
BALST Balsthal 25.68 57⇑*iP* **P 14 52 48.7 +0.7**
comp=Z,254nm,1.8s,mb5.5
RUP Ruppelstein 25.84 51 *eP* **P 14 52 49.9 +0.4**
FELD Feldberg im Sc 25.99 56 *eP* **P 14 52 51.0 +0.2**
SULZ Cheisacher 25.99 56⇑*iP* **P 14 52 51.3 +0.5**
comp=Z,256nm,1.8s,mb5.5
STR Strasbourg 26.00 54 *eP* **P 14 52 51.4 +0.5**
BNALP Bannalp 26.08 58⇑*iP* **P 14 52 52.9 +1.2**
comp=Z,146nm,1.9s,mb5.2
PGF Pioggiola 26.11 68 *eP* **P 14 52 51.6 -0.3**
comp=Z,55nm,1.1s,mb4.7
PGF Pioggiola 26.11 68 *eP* **P 14 52 51.6 -0.3**
PGF pmax pmax
comp=Z,28nm,1.1s,mb4.7
PGF Pioggiola 26.11 68 *eP* **P 14 52 51.6 -0.3**
comp=Z,28nm,1.1s,mb4.7
LANF Langenberg 26.12 53 *eP* **P 14 52 52.1 +0.1**
FUSIO Fusio 26.18 59⇑*iP* **P 14 52 53.7 +1.2**
comp=Z,271nm,2.4s,mb5.3
FUSIO Fusio 26.18 59⇑*iP* **P 14 52 54.4 +1.9**
ABH Alteburg 26.20 51 *eP* **P 14 52 53.1 +0.4**
CORF Corte 26.22 68 *eP* **P 14 52 52.6 -0.3**
MUO Muotathal 26.24 58⇑*iP* **P 14 52 54.0 +0.9**
comp=Z,306nm,1.9s,mb5.5
MUO Muotathal 26.24 58⇑*iP* **P 14 52 54.5 +1.4**
ZUR Degenried 26.27 57⇑*iP* **P 14 52 54.2 +0.8**
comp=Z,350nm,2.1s,mb5.5
SLE Schleitheim 26.29 56⇑*iP* **P 14 52 53.7 +0.2**
SLE Schleitheim 26.29 56⇑*iP* **P 14 52 54.4 +0.9**
comp=Z,156nm,1.5s,mb5.3
BFO Black Forest 26.30 55 P **P 14 52 53.3 -0.3**
comp=Z,288nm,1.1s,mb5.7,SNR=38
BFO Black Forest 26.30 55 *eP* **P 14 52 53.5 -0.1**
BFO pmax pmax
comp=Z,102nm,1.3s,mb5.2
BFO Black Forest 26.30 55 *eP* **P 14 52 53.5 -0.1**
comp=Z,102nm,1.3s,mb5.2
FLACH Flaach 26.30 56⇑*iP* **P 14 52 54.0 +0.4**
FLACH Flaach 26.30 56⇑*iP* **P 14 52 54.5 +0.9**
comp=Z,274nm,2.0s,mb5.4
MUGIO Muggio 26.36 60⇑*iP* **P 14 52 55.0 +0.8**
comp=Z,222nm,2.4s,mb5.3
KTD Kalmit 26.38 52 *eP* **P 14 52 54.7 +0.4**
WTSB Winterswijk 26.43 46 *eP* **P 14 52 53.6 -1.2**
comp=Z,166nm,1.5s,mb5.3
VSL Villasalto 26.54 75 *eP* **P 14 52 55.6 -0.3**
comp=Z,40nm,1.3s,mb4.8
VSL Villasalto 26.54 75 *eP* **P 14 52 55.6 -0.3**
comp=Z,40nm,1.3s,mb4.8
SPAK Spaichingen-Ko 26.55 55 *eP* **P 14 52 56.4 +0.5**
VDL Val di Lei 26.72 59⇑*iP* **P 14 52 58.8 +1.4**
comp=Z,217nm,2.8s,mb5.2
VDL Val di Lei 26.72 59⇑*iP* **P 14 52 59.0 +1.6**
PLONS Plons/SG 26.76 58⇑*iP* **P 14 52 58.8 +1.1**
PLONS Plons/SG 26.76 58⇑*iP* **P 14 52 59.0 +1.3**
comp=Z,274nm,2.5s,mb5.3
LIENZ Kamor/St.Gall 26.87 57⇑*iP* **P 14 52 59.9 +1.1**
comp=Z,270nm,2.3s,mb5.4
STU Stuttgart 26.96 54 *eP* **P 14 52 59.0 -0.6**
comp=Z,58nm,1.3s,mb5.0
DAVOS Davos 27.00 58⇑*iP* **P 14 53 02.0 +2.0**
DAVOX Davos/Dischmat 27.05 58 P **P 14 53 01.3 +0.9**
comp=Z,9.9nm,0.7s,mb4.4,baz=278,slow=7.7,SNR=18
DAVOX LR LR 15 03 20.9
comp=Z,3µm,18.2s,MS4.8,baz=258,slow=36
DAVOX Davos/Dischmat 27.05 58⇑*iP* **P 14 53 02.0 +1.6**
comp=Z,127nm,2.2s,mb5.1
IBBN Ibbenburen 27.11 46 *eP* **P 14 53 00.6 -0.3**
comp=Z,127nm,1.4s,mb5.3
IBBN *ep*P pP 14 53 04.3 +1.7
DAVA Damuels 27.13 57 *iP* **P 14 53 02.3 +1.1**
comp=Z,44nm,1.3s,mb4.8,SNR=20
DAVA Damuels 27.13 57 *i*pP pP 14 53 02.3 -0.6
comp=Z,44nm,1.3s,SNR=20
KEST Kesra 27.14 83 P **P 14 53 01.3 0.0**
comp=Z,9.2nm,1.2s,mb4.2,baz=148,slow=5.2,SNR=16
BORG Borgarnes 27.62 3 LR LR 15 00 55.8
comp=Z,1µm,18.0s,MS4.5,baz=95,slow=30
FETA Feichten 27.66 58 *iP* **P 14 53 06.7 +0.8**
comp=Z,36nm,1.5s,mb4.8,SNR=15
RETA Reutte 27.75 57 *iP* **P 14 53 07.2 +0.5**
comp=Z,38nm,1.4s,mb4.8,SNR=13
MOTA Moosalm 27.96 58 *iP* **P 14 53 09.2 +0.7**
comp=Z,64nm,1.6s,mb5.0,SNR=12
MOTA Moosalm 27.96 58 *iP* **P 14 53 09.2 +0.6**
MOTA pmax pmax
comp=Z,64nm,1.6s,mb5.0
UBBA Unterbreizbach 27.97 50 *eP* **P 14 53 08.6 0.0**
comp=Z,58nm,1.7s,mb4.9
SQTA Sankt Quirin 28.02 58 *iP* **P 14 53 09.9 +0.9**
comp=Z,54nm,1.5s,mb5.0,SNR=16
SQTA Sankt Quirin 28.02 58 *iP* **P 14 53 09.9 +0.9**
SQTA pmax pmax
comp=Z,55nm,1.5s,mb5.0
FUR Furstenfeldbru 28.20 56 *eP* **P 14 53 10.8 +0.1**
FUR pmax pmax
comp=Z,186nm,2.4s,mb5.3
FUR Furstenfeldbru 28.20 56 *eP* **P 14 53 10.8 +0.1**
comp=Z,186nm,2.4s,mb5.3
WATA Walderalm 28.28 58⇓*iP* **P 14 53 11.9 +0.5**
comp=Z,39nm,1.4s,mb4.8,SNR=8.3
WATA Walderalm 28.28 58⇓*iP* **P 14 53 11.9 +0.5**
WATA pmax pmax
comp=Z,39nm,1.4s,mb4.8
WTTA Wattenberg 28.31 58 *iP* **P 14 53 12.4 +0.7**
SNR=17
GRFO Grafenberg 28.46 53 *eP* **P 14 53 12.9 0.0**
comp=Z,33nm,0.9s,mb5.0
GRFO Grafenberg 28.46 53 *eP* **P 14 53 12.9 0.0**
GRFO pmax pmax
comp=Z,33nm,0.9s,mb5.0
GRFO Grafenberg 28.46 53 *eP* **P 14 53 12.9 0.0**
comp=Z,33nm,0.9s,mb5.0
GRA1 Grafenberg Arr 28.46 53 *eP* **P 14 53 12.7 -0.3**
comp=Z,95nm,1.3s,mb5.3
GRA1 LR LR
comp=Z,2µm,21.3s,MS4.6
GRF Grafenberg Arr 28.46 53 *eP* **P 14 53 12.7 -0.3**
GRF pmax pmax
comp=Z,95nm,1.3s,mb5.3
GRF MLR MLR
comp=Z,2µm,21.3s,MS4.6
GRF Grafenberg Arr 28.46 53 *eP* **P 14 53 12.7 -0.3**
GRF pmax pmax
comp=Z,95nm,1.3s,mb5.3
GRF MLR MLR
comp=Z,2µm,21.3s,MS4.6
GRF Grafenberg Arr 28.46 53 *eP* **P 14 53 12.7 -0.3**
comp=Z,95nm,1.3s,mb5.3
GRF *eL* 15 02 34.5
comp=Z,2µm,21.3s
CLZ Clausthal 28.48 48 *eP* **P 14 53 12.9 -0.2**
CLZ pmax pmax
comp=Z,58nm,1.8s,mb4.9
CLZ Clausthal 28.48 48 *eP* **P 14 53 12.9 -0.2**
comp=Z,58nm,1.8s,mb4.9
ABTA Abfaltersbach 28.85 59⇑*iP* **P 14 53 15.7 -0.7**
comp=Z,13nm,1.3s,mb4.5,SNR=9.8
MOX Moxa 28.92 51 *eP* **P 14 53 17.6 +0.6**
comp=Z,34nm,1.6s,mb4.8
MOX *e* 14 53 23.3
MOX *e* 14 54 15.0
MOX
comp=Z,2µm,18.0s
MOX Moxa 28.92 51 *eP* **P 14 53 17.6 +0.6**
MOX *e* 14 53 23.3
MOX *e* 14 54 15.0
MOX pmax pmax
comp=Z,34nm,1.6s,mb4.8
MOX MLR MLR
comp=Z,2µm,18.0s,MS4.8
MOX Moxa 28.92 51 *eP* **P 14 53 17.1 +0.1**
comp=Z,80nm,1.9s,mb5.1
ROTZ Rotzenmuhle 29.10 53 *eP* **P 14 53 18.2 -0.5**
comp=Z,42nm,1.3s,mb5.0
NKC Novy Kostel 29.35 52 *eP* **P 14 53 21.4 +0.6**
NKC AMS AMS 15 04 30.0
comp=Z,2µm,15.9s,MS4.8
AQU L'Aquila 29.37 68 *eP* **P 14 53 21.6 +0.5**
comp=Z,38nm,1.0s,mb5.1
AQU L'Aquila 29.37 68 *eP* **P 14 53 21.6 +0.5**
AQU pmax pmax
comp=Z,38nm,1.0s,mb5.1
AQU L'Aquila 29.37 68 *eP* **P 14 53 21.6 +0.5**
comp=Z,38nm,1.0s,mb5.1
TANN Tannenbergstha 29.39 52 *eP* **P 14 53 21.5 +0.2**
comp=Z,56nm,1.5s,mb5.1
WET Wettzell 29.42 54 *eP* **P 14 53 20.9 -0.6**
WET pmax pmax
comp=Z,32nm,1.8s,mb4.8
WET Wettzell 29.42 54 *eP* **P 14 53 20.9 -0.6**
comp=Z,32nm,1.8s,mb4.8
KBA Koelnbreinsper 29.45 58 *iP* **P 14 53 22.1 +0.3**
comp=Z,23nm,1.1s,mb4.8,SNR=14
KBA Koelnbreinsper 29.45 58 *iP* **P 14 53 22.1 +0.3**
KBA pmax pmax
comp=Z,23nm,1.1s,mb4.8
KHC Kasperske Hory 29.87 54 *eP* **P 14 53 25.4 -0.1**
KHC AMS AMS 15 05 50.0
comp=Z,900nm,11.1s,MS4.7
GEC2 GERESS Array S 29.90 55 *eP* **P 14 53 25.4 -0.4**
GEC2 pmax pmax
comp=Z,66nm,1.7s,mb5.1
GEC2 GERESS Array S 29.90 55 *eP* **P 14 53 25.4 -0.4**
comp=Z,66nm,1.7s,mb5.1
GERES GERESS Array B 29.90 55 P **P 14 53 24.9 -0.9**
comp=Z,4.7nm,0.9s,mb4.2,baz=260,slow=8.0,SNR=37
GERES LR LR 15 04 44.8
comp=Z,988nm,18.2s,MS4.5,baz=253,slow=35
CLL Collm 29.93 50⇑*iP* **P 14 53 26.1 +0.1**
CLL *e* 14 53 30.0
CLL *e*PP PP 14 54 17.0 -16
CLL *e* 14 57 40.0
CLL *e*S **S 14 58 22.0 -1.6**
CLL Collm 29.93 50⇑*iP* **P 14 53 26.1 +0.1**
CLL *e* 14 54 17.0
CLL *e*S **S 14 58 22.0 -1.6**
CLL Collm 29.93 50 *eP* **P 14 53 25.3 -0.7**
comp=Z,43nm,1.6s,mb4.9
CLL Collm 29.93 50⇑*iP* **P 14 53 26.1 +0.1**
comp=Z,43nm,1.6s,mb4.9
CLL *ep*P pP 14 53 30.0 +2.3
CLL *ex* x 14 53 36.0
CLL *e*PP PP 14 54 17.0 -16
CLL *ex* x 14 57 40.0
CLL *e*S **S 14 58 22.0 -1.6**
CLL *e*SS SS 15 00 00.0 -31
CEY Cerknica 30.10 61 *iP* **P 14 53 26.8 -0.8**
MOA Molln 30.15 57⇑*iP* **P 14 53 28.0 0.0**
comp=Z,23nm,1.2s,mb4.8
LJU Ljubljana 30.18 61 *eP* **P 14 53 28.1 -0.2**
OBKA Obir 30.23 60 *iP* **P 14 53 28.8 +0.1**
comp=Z,53nm,1.7s,mb5.0,SNR=30
BRG Berggiesshubel 30.41 51 *iP* **P 14 53 30.4 +0.1**
comp=Z,26nm,1.4s,mb4.8
BRG *i* 14 53 34.0
BRG PP PP 14 54 25.0 -14
BRG *e* 14 56 28.6
BRG S **S 14 58 24.0 -7.3**
BRG LR LR
comp=Z,1µm,19.3s,MS4.7
BRG Berggiesshubel 30.41 51 *iP* **P 14 53 30.4 +0.1**
BRG 14 54 25.0
BRG *e* 14 56 28.6
BRG S **S 14 58 24.0 -7.3**
BRG pmax pmax
comp=Z,26nm,1.4s,mb4.8
BRG MLR MLR
comp=Z,1µm,19.3s,MS4.7
BRG Berggiesshubel 30.41 51 *eP* **P 14 53 29.6 -0.7**
comp=Z,43nm,1.4s,mb5.0
BRG *ep*P pP 14 53 33.7 +1.7
BRG Berggiesshubel 30.41 51 *iP* **P 14 53 30.4 +0.1**
comp=Z,43nm,1.4s,mb5.0
BRG *i* 14 53 34.0
comp=Z,24nm,1.1s
BRG PP PP 14 54 25.0 -14
BRG *e* 14 56 28.6
comp=Z,8.7nm,1.6s
BRG S **S 14 58 24.0 -7.3**
BRG
comp=N,741nm,12.5s
BRG
comp=E,1µm,16.1s
BRG
comp=Z,2µm,19.3s
PERS Pernice 30.62 60 *iP* **P 14 53 31.5 -0.7**
PRU Pruhonice 30.62 53 *eP* **P 14 53 32.5 +0.3**
BOJS Bojanci 30.67 62 *eP* **P 14 53 32.2 -0.4**
RUE Ruedersdorf 30.68 48 *eP* **P 14 53 32.6 +0.1**
comp=Z,32nm,0.9s,mb5.1
RUE Ruedersdorf 30.68 48 *eP* **P 14 53 32.6 0.0**
comp=Z,32nm,0.9s,mb5.1
PVCC Panska Ves 30.74 52 *eP* **P 14 53 33.6 +0.5**
PVCC AMS AMS 15 08 30.0
comp=Z,2µm,11.9s,MS5.0
VAE Valguarnera 30.75 78 LR LR 15 06 12.9
comp=Z,2µm,18.2s,MS4.8,baz=110,slow=37
ARSA Arzberg 30.94 58 *iP* **P 14 53 34.2 -0.7**
comp=Z,16nm,1.6s,mb4.6,SNR=10
ARSA Arzberg 30.94 58 *iP* **P 14 53 34.2 -0.8**
comp=Z,16nm,1.6s,mb4.6
TREC Trest 31.13 54 *eP* **P 14 53 36.6 0.0**
CONA Conrad Observa 31.23 57 *iP* **P 14 53 36.9 -0.6**
comp=Z,12nm,1.2s,mb4.6,SNR=5.6
KONO Kongsberg 31.26 33 P **P 14 53 36.6 -1.1**
UPC Upice 31.64 52 *eP* **P 14 53 41.7 +0.6**
SOP Sopron 31.68 58⇑*eP* **P 14 53 41.1 -0.3**
DPC Dobruska-Polom 31.81 53 *eP* **P 14 53 43.2 +0.6**
DPC AMS AMS 15 06 00.0
comp=Z,1µm,13.5s,MS4.7
VRAC Vranov 31.85 55⇓*iP* **P 14 53 41.5 -1.5**
VRAC Vranov 31.85 55 P **P 14 53 43.0 +0.1**
comp=Z,17nm,1.0s,mb4.9,baz=271,slow=9.2,SNR=21
VRAC Vranov 31.85 55⇓*iP* **P 14 53 41.5 -1.4**
KSP Ksiaz 31.87 52 *eP* **P 14 53 44.0 +0.9**
KSP *ep*P pP 14 53 47.0 +2.2
KSP LMZ 15 04 54.8
comp=Z,4µm,20.2s
KSP Ksiaz 31.87 52⇑*eP* **P 14 53 43.7 +0.6**
KSP *e*S **S 14 58 52.0 -2.1**
KSP MLR MLR
comp=Z,4µm,20.2s,MS5.1
KSP Ksiaz 31.87 52⇑*eP* **P 14 53 43.7 +0.6**
KSP *e*S **S 14 58 52.0 -2.1**
ZST Bratislava 32.08 57 *eP* **P 14 53 44.3 -0.7**
comp=Z,72nm,1.8s,mb5.2
ZST LR LR
comp=Z,1µm,15.7s,MS4.7
ZST Bratislava 32.08 57 *eP* **P 14 53 44.3 -0.7**
ZST pmax pmax
comp=Z,72nm,1.8s,mb5.2
ZST MLR MLR
comp=Z,1µm,15.7s,MS4.7
ZST Bratislava 32.08 57 *eP* **P 14 53 44.2 -0.8**
ZST Bratislava 32.08 57 *eP* **P 14 53 44.3 -0.7**
comp=Z,72nm,1.8s,mb5.2
TIP Timpagrande 32.25 74 *eP* **P 14 53 45.4 -1.2**
comp=Z,86nm,1.4s,mb5.4
TIP Timpagrande 32.25 74 *eP* **P 14 53 45.4 -1.2**
comp=Z,86nm,1.4s,mb5.4
MORC Moravsky Berou 32.52 54 *eP* **P 14 53 48.5 -0.3**
comp=Z,44nm,1.8s,mb5.1
MORC Moravsky Berou 32.52 54⇑*iP* **P 14 53 48.2 -0.6**
MORC Moravsky Berou 32.52 54 *eP* **P 14 53 48.5 -0.3**
comp=Z,44nm,1.8s,mb5.1
NB2 NORSAR Subarra 32.66 32 P **P 14 53 49.2 -0.8**
comp=Z,58nm,1.4s,mb5.3,baz=240,slow=9.3

NOA NORSAR Array B 32.66 32 P P 14 53 49.0 -1.0
comp=Z,13nm,1.1s,mb4.8,baz=241,slow=8.9,SNR=8.2
NOA LR LR 15 05 24.8
comp=Z,1μm,21.8s,MS4.7,baz=255,slow=33
GKP Gorka Klasztor 32.90 47 *e*P **P 14 53 53.5 +1.4**
GKP *e*pP pP 14 53 57.6 +3.8
GKP LMZ 15 03 48.6
comp=Z,1μm,31.2s
GKP Gorka Klasztor 32.90 47 *e*P **P 14 53 53.5 +1.4**
GKP *e*pP pP 14 53 57.6 +3.8
GKP LR LR
comp=Z,1μm,31.2s,MS4.4
GKP Gorka Klasztor 32.90 47 *e*P **P 14 53 53.5 +1.4**
GKP *e*pP pP 14 53 57.6 +3.8
OKC Ostrava-Krasne 32.91 54 AMS AMS 15 08 10.0
comp=Z,1μm,13.7s,MS4.7
RAC Raciborz 32.97 53 *e*P **P 14 53 52.9 +0.1**
RAC LR LR
comp=Z,1μm,19.6s,MS4.6
PKSM Moragy 33.05 60 ⇓P **P 14 53 52.7 -0.8**
PKSM Moragy 33.05 60 ⇓*i*P **P 14 53 52.7 -0.8**
VYHS Vyhne 33.25 56 *e*P **P 14 53 54.7 -0.5**
VYHS pmax pmax
comp=Z,12nm,1.4s,mb4.6
VYHS Vyhne 33.25 56 *e*P **P 14 53 54.7 -0.5**
comp=Z,12nm,1.4s,mb4.6
HFS Hagfors 33.31 34 P **P 14 53 55.4 -0.2**
comp=Z,6.2nm,1.0s,mb4.5,baz=224,slow=6.2,SNR=6.1
HFS LR LR 15 06 25.0
comp=Z,2μm,19.3s,MS4.7,baz=246,slow=34
BUD Budapest 33.33 58⇓*e*P **P 14 53 55.4 -0.6**
SFJD Kangerlussuaq 33.33 342 P **P 14 53 54.8 -0.9**
comp=Z,7.6nm,0.8s,mb4.7,baz=135,slow=11,SNR=4.9
SFJD LR LR 15 03 15.0
comp=Z,215nm,19.5s,MS3.9,baz=120,slow=29
SFJD Kangerlussuaq 33.33 342 P **P 14 53 54.8 -0.9**
TOA0 Torodi Ar. Sit 33.48 129 *e*P **P 14 53 57.8 +0.2**
TOA0 Torodi Ar. Sit 33.48 129 *e*P **P 14 53 57.8 +0.3**
TORD Torodi Ar. Bea 33.48 129 P **P 14 53 57.3 -0.2**
comp=Z,15nm,0.8s,mb5.0,baz=315,slow=8.2,SNR=68
TORD LR LR 15 07 13.9
comp=Z,698nm,18.9s,MS4.4,baz=335,slow=36
SCHQ Schefferville 33.64 315 P **P 14 53 57.1 -1.5**
comp=Z,8.0nm,0.8s,mb4.7,baz=94,slow=7.9,SNR=6.8
SCHQ LR LR 15 05 36.4
comp=Z,722nm,18.6s,MS4.4,baz=99,slow=33
PSZ Piszkesteto 33.93 57 *e*P **P 14 54 00.8 -0.3**
comp=Z,53nm,1.6s,mb5.2
PSZ Piszkesteto 33.93 57⇓*i*P **P 14 54 00.5 -0.7**
PSZ Piszkesteto 33.93 57⇑*e*P **P 14 54 01.5 +0.3**
PSZ Piszkesteto 33.93 57 *e*P **P 14 54 00.9 -0.3**
comp=Z,53nm,1.6s,mb5.2
OJC Ojcow 34.01 53 *e*P **P 14 54 01.3 -0.5**
NIE Niedzica 34.28 55 *e*P **P 14 54 05.5 +1.3**
KECS Kecovo 34.35 56 *i*P **P 14 54 05.0 +0.2**
comp=Z,14nm,1.4s,mb4.7
KECS Kecovo 34.35 56 *i*P **P 14 54 05.0 +0.2**
KECS pmax pmax
comp=Z,14nm,1.4s,mb4.7
JMIC Jan Mayen 34.85 9 LR LR 15 05 31.4
comp=Z,731nm,18.9s,MS4.5,baz=14,slow=32
STHS Stebnicka Huta 34.89 55 *e*P **P 14 54 10.7 +1.3**
STHS pmax pmax
comp=Z,28nm,1.4s,mb5.0
STHS Stebnicka Huta 34.89 55 *e*P **P 14 54 10.7 +1.3**
comp=Z,28nm,1.4s,mb5.0
OHR Ohrid 35.00 69 *e*P **P 14 54 09.4 -1.1**
CRVS Cervenica-Dubn 35.01 56 *e*P **P 14 54 11.1 +0.6**
BZS Buzias 35.14 61 P **P 14 54 12.5 +0.8**
BZS Buzias 35.14 61⇓*i*P **P 14 54 11.6 -0.1**
BZS Buzias 35.14 61 P **P 14 54 12.5 +0.8**
DBIC Dimbokro 35.27 145 *e*P **P 14 54 12.6 -0.5**
comp=Z,23nm,1.2s,mb5.0
DBIC LR LR
comp=Z,508nm,20.0s,MS4.3
DBIC Dimbokro 35.27 145 *e*P **P 14 54 12.6 -0.5**
DBIC pmax pmax
comp=Z,23nm,1.2s
DBIC MLR MLR
comp=Z,508nm,20.0s
DBIC Dimbokro 35.27 145 P **P 14 54 13.4 +0.3**
comp=Z,8.0nm,0.9s,mb4.7,baz=291,slow=7.3,SNR=9.0
DBIC LR LR 15 07 41.6
comp=Z,499nm,19.8s,MS4.3,baz=326,slow=35
DBIC Dimbokro 35.27 145 *e*P **P 14 54 12.6 -0.5**
comp=Z,23nm,1.2s,mb5.0
KRUS Krusevo 35.30 69 *e*P **P 14 54 13.9 +0.9**
SKO Skopje 35.35 68 *e*P **P 14 54 14.3 +0.7**
KOLS Kolonicke sedl 35.55 56 *e*P **P 14 54 15.6 +0.5**
DRGR 35.85 59 P **P 14 54 18.4 +0.6**
DRGR 35.85 59⇑*i*P **P 14 54 18.0 +0.2**
DRGR 35.85 59 P **P 14 54 18.4 +0.7**
KWP Kalwaria 35.85 55 *e*P **P 14 54 19.2 +1.5**
KWP *e*pP pP 14 54 22.8 +3.4
KWP LMZ 15 05 47.5
comp=Z,700nm,26.3s
KWP Kalwaria 35.85 55⇑*i*P **P 14 54 19.1 +1.4**
KWP Kalwaria 35.85 55 *e*P **P 14 54 19.2 +1.5**
KWP *e*pP pP 14 54 22.8 +3.4
GZR Gura Zlata 35.97 62 P **P 14 54 19.5 +0.7**
GZR Gura Zlata 35.97 62⇓*i*P **P 14 54 19.5 +0.7**
VAY Valandovo 36.29 69 *e*P **P 14 54 21.3 -0.2**
SUW Suwalki 36.51 47 *e*P **P 14 54 23.3 0.0**
SUW *e*pP pP 14 54 27.0 +2.0
SUW LMZ 15 06 07.5
comp=Z,1μm,29.5s
SUW Suwalki 36.51 47 *e*P **P 14 54 23.3 0.0**
SUW *e*pP pP 14 54 27.0 +2.0
VTS Vitosha 36.57 66 P **P 14 54 24.9 +0.9**
VTS Vitosha 36.57 66 *i*P **P 14 54 22.3 -1.6**
VTS Vitosha 36.57 66 P **P 14 54 24.9 +1.0**
KKB Krupnik 36.58 68 *i*P **P 14 54 24.9 +0.8**
LVV L'vov 36.71 54⇓*i*P **P 14 54 26.3 +1.2**
LVV *e* 14 55 44.7
LVV *e*PPP 14 56 10.1
LVV *e*S **S 15 00 10.1 +1.2**
LVV *e*SS SS 15 02 40.9 -8.1
MMB Musomiste 37.10 68 *i*P **P 14 54 28.4 -0.1**
PGB Panagyurishte 37.27 66 *i*P **P 14 54 30.7 +0.8**
VOIR 37.56 61 P **P 14 54 33.1 +0.8**
VOIR 37.56 61⇑*i*P **P 14 54 32.2 -0.1**
VOIR 37.56 61 P **P 14 54 33.1 +0.8**
RZN Rozhen 37.81 68 *i*P **P 14 54 35.3 +0.8**
ZIMR 37.98 64 P **P 14 54 36.2 +0.3**
ZIMR 37.98 64 P **P 14 54 36.2 +0.2**
MLR Muntele Rosu 38.18 61 P **P 14 54 38.3 +0.7**
MLR Muntele Rosu 38.18 61 P **P 14 54 37.4 -0.2**
comp=Z,1.4nm,0.4s,mb4.1,baz=278,slow=4.2,SNR=14
MLR Muntele Rosu 38.18 61⇑*i*P **P 14 54 38.7 +1.1**
MLR Muntele Rosu 38.18 61 P **P 14 54 38.3 +0.7**
KDZ Kurdzhali 38.34 67 *i*P **P 14 54 39.1 +0.1**
SZH Strazhica 38.45 65 *i*P **P 14 54 40.2 +0.3**
VRI Vrincioaia 38.69 61 P **P 14 54 41.9 0.0**
VRI Vrincioaia 38.69 61⇑*i*P **P 14 54 42.5 +0.6**
VRI Vrincioaia 38.69 61 P **P 14 54 41.9 0.0**
JMB Yambol 39.05 66 *i*P **P 14 54 43.3 -1.6**
FINES FINESS Array B 39.46 36 P **P 14 54 46.9 -1.1**
FINES LR LR 15 10 39.5
FINES FINESS Array B 39.46 36 P **P 14 54 46.9 -1.1**
comp=Z,6.6nm,1.0s,mb4.3,baz=240,slow=11,SNR=7.3
FINES LR LR 15 10 39.5
comp=Z,709nm,19.0s,MS4.5,baz=84,slow=36
PRD Provadia 39.52 65 *i*P **P 14 54 48.6 -0.2**
HARR Harsova 39.67 62 P **P 14 54 49.2 -0.9**
HARR Harsova 39.67 62 P **P 14 54 49.2 -0.9**
DAG Danmarks Havn 39.73 2⇓*i*P **P 14 54 50.2 0.0**
DAG pmax pmax
comp=Z,12nm,1.2s,mb4.5
DAG Danmarks Havn 39.73 2⇓*i*P **P 14 54 50.2 0.0**
comp=Z,12nm,1.2s,mb4.5
PSN Preselentsi 40.00 64 *i*P **P 14 54 52.6 -0.3**
KIS Kishinev 40.01 59⇑*i*P **P 14 54 49.0 -3.9**
KIS *e* 14 56 37.0
KIS *e* 14 56 50.0
KIS *e* 15 01 02.0
KIS *e* 15 01 18.0
KIS *e* 15 04 25.0
KIS pmax pmax
comp=Z,20nm,1.0s,mb4.8
KIS MLR MLR
comp=Z,100nm,20.0s,MS3.7
KIS MLR MLR
comp=N,500nm,17.0s
KIS MLR MLR

comp=Z,800nm,20.0s
KIS Kishinev 40.01 59⇑*i*P **P 14 54 49.0 -3.9**
comp=Z,200nm,1.0s,mb5.8
KIS *e*S **S 15 00 50.0 -8.8**
KIS LRM 15 11 40.0
comp=Z,800nm,20.0s
KIEV Kiev 40.03 53 *e*P **P 14 54 51.6 -1.4**
comp=Z,66nm,1.4s,mb5.2
KIEV Kiev 40.03 53 *e*P **P 14 54 51.6 -1.4**
KIEV pmax pmax
comp=Z,66nm,1.4s,mb5.2
KIEV Kiev 40.03 53 *e*P **P 14 54 51.6 -1.4**
comp=Z,66nm,1.4s,mb5.2
AKASG Malin Array Be 40.04 53 *i*P **P 14 54 52.5 -0.6**
AKASG pmax pmax
comp=Z,16nm,1.0s
AKASG Malin Array Be 40.04 53 P **P 14 54 52.0 -1.1**
comp=Z,16nm,1.0s,mb4.7,baz=270,slow=8.4,SNR=16
AKASG LR LR 15 10 28.1
comp=Z,821nm,19.9s,MS4.6,baz=265,slow=35
AKBB Malin Array Si 40.04 53 *e*P **P 14 54 50.7 -2.4**
AKBB Malin Array Si 40.04 53 *e*P **P 14 54 50.7 -2.4**
TIRR Tirgusor 40.05 63 P **P 14 54 52.7 -0.5**
TIRR Tirgusor 40.05 63⇓*i*P **P 14 54 51.7 -1.5**
TIRR Tirgusor 40.05 63 P **P 14 54 52.7 -0.5**
SJG San Juan 41.15 254 LR LR 15 07 58.8
comp=Z,1μm,21.8s,MS4.8,baz=98,slow=30
ARCES ARCESS Array B 41.88 24 P **P 14 55 06.3 -1.7**
ARCES 14 57 02.8
ARCES ARCESS Array B 41.88 24 P **P 14 55 06.3 -1.7**
comp=Z,5.3nm,0.6s,mb4.4,baz=244,slow=8.3,SNR=19
ARCES PcP PcP 14 57 02.8 -0.8
comp=Z,2.1nm,0.6s,baz=292,slow=3.8,SNR=4.4
ARCES LR LR 15 10 49.1
comp=Z,791nm,19.3s,MS4.6,baz=241,slow=34
ARCES ARCESS Array B 41.88 24 PcP PcP 14 57 02.8 -0.7
BLA Blacksburg 43.99 288 *e*P **P 14 55 25.8 +0.2**
comp=Z,25nm,1.0s,mb4.9
BLA Blacksburg 43.99 288 *e*P **P 14 55 25.8 +0.3**
BLA pmax pmax
comp=Z,25nm,1.0s,mb4.9
BLA Blacksburg 43.99 288 *e*P **P 14 55 25.8 +0.3**
comp=Z,25nm,1.0s,mb4.9
APA Apatity 44.01 28⇑*e*P **P 14 55 25.0 -0.2**
APA pmax pmax
comp=Z,34nm,1.3s,mb4.9
APA MLR MLR
comp=Z,2μm,16.0s,MS5.1
ANTO Ankara 44.20 68 *e*P **P 14 55 28.0 +0.9**
comp=Z,11nm,0.8s,mb4.6
ANTO Ankara 44.20 68 *e*P **P 14 55 28.0 +0.9**
ANTO pmax pmax
comp=Z,11nm,0.8s,mb4.6
ANTO Ankara 44.20 68 P **P 14 55 28.3 +1.1**
SNR=8.0
OBN Obninsk 44.34 46 *e*P **P 14 55 27.5 -0.6**
comp=Z,72nm,1.4s,mb5.2
OBN Obninsk 44.34 46⇑*i*P **P 14 55 27.9 -0.2**
OBN *i* 14 57 11.8
OBN *i*S **S 15 01 58.5 -4.0**
OBN pmax pmax
comp=Z,65nm,1.7s,mb5.1
OBN MLR MLR
comp=Z,1μm,19.0s,MS4.8
OBN Obninsk 44.34 46 *e*P **P 14 55 27.5 -0.6**
comp=Z,72nm,1.4s,mb5.2
SDDR Presa de Saban 44.64 259 *e*P **P 14 55 31.8 +0.9**
comp=Z,9.9nm,0.8s,mb4.7
SDDR Presa de Saban 44.64 259 *e*P **P 14 55 31.8 +0.9**
comp=Z,9.9nm,0.8s,mb4.7
MOS Moscow 44.91 45 *e*P **P 14 55 31.9 -0.7**
MOS *e* 14 55 41.2
MOS *e* 14 57 13.9
MOS *e* 14 57 20.7
MOS *e*S **S 15 02 07.7 -3.1**
MOS pmax pmax
comp=Z,108nm,1.7s,mb5.4
MOS MLR MLR
comp=Z,1μm,18.0s,MS4.8
MOS MLR MLR
comp=E,1μm,17.0s
PCRV Puerto La Cruz 45.08 244 LR LR 15 11 45.3
comp=E,706nm,19.1s,MS4.6,baz=71,slow=33
TMCR Tamitsa 45.33 33 *e*P **P 14 55 34.4 -1.4**
TMCR pmax pmax
comp=Z,32nm,1.2s,mb5.0
VRSR Storozhevoye 46.27 51 *e*P **P 14 55 43.1 -0.4**
VRSR pmax pmax
comp=Z,4.0nm,1.2s,mb4.2
VRSR pmax pmax
comp=N,4.0nm,1.0s
VRSR pmax pmax
comp=E,6.0nm,1.1s
VRSR MLR MLR
comp=Z,190nm,17.0s,MS4.1
VRSR MLR MLR
comp=N,110nm,22.0s,MS4.1
VRSR MLR MLR
comp=E,200nm,18.0s,MS4.1
ANN Anapa 46.31 60 *e*P **P 14 55 41.3 -2.5**
ANN *e* 14 57 28.1
ANN *e*S **S 15 02 23.7 -7.5**
ANN *e*SS SS 15 05 42.6 -14
ANN pmax pmax
comp=Z,62nm,1.3s,mb5.4
ANN MLR MLR
comp=Z,364nm,18.0s,MS4.4
VORD Divnogorie 46.38 52 *e*P **P 14 55 43.7 -0.6**
VORD pmax pmax
comp=Z,20nm,1.0s,mb5.0
VORD pmax pmax
comp=N,30nm,0.9s
VORD pmax pmax
comp=E,40nm,0.9s
VORD MLR MLR
comp=N,740nm,16.0s,MS4.9
VORD MLR MLR
comp=Z,1μm,16.0s,MS4.9
VORD MLR MLR
comp=E,700nm,15.0s,MS4.9
TKL Tuckaleechee C 47.05 287 LR LR 15 12 36.5
comp=E,436nm,19.3s,MS4.4,baz=73,slow=32
BLO Bloomington 47.96 292 *e*P **P 14 55 56.0 -0.8**
comp=E,30nm,0.8s,mb5.4
BLO Bloomington 47.96 292 *e*P **P 14 55 56.0 -0.8**
BLO pmax pmax
comp=Z,30nm,0.8s,mb5.4
BLO Bloomington 47.96 292 *e*P **P 14 55 56.0 -0.8**
comp=Z,30nm,0.8s,mb5.4
WCI Wyandotte Cave 48.09 291 *e*P **P 14 55 57.3 -0.6**
comp=Z,7.2nm,0.8s,mb4.8
WCI LR LR
comp=Z,827nm,20.0s,MS4.7
WCI Wyandotte Cave 48.09 291 *e*P **P 14 55 57.3 -0.6**
WCI pmax pmax
comp=Z,7.0nm,0.8s,mb4.7
WCI MLR MLR
comp=Z,827nm,20.0s,MS4.7
WCI Wyandotte Cave 48.09 291 *e*P **P 14 55 57.3 -0.6**
comp=Z,7.2nm,0.8s,mb4.8
SOC Sochi 48.20 61 *d i*P **P 14 55 57.7 -0.9**
SOC *e* 14 57 28.3
SOC *e* 14 57 48.3
SOC *e*S **S 15 02 54.3 -3.9**
SOC *e* 15 05 48.5
SOC *e*SSS 15 07 36.1
SOC pmax pmax
comp=Z,43nm,1.4s,mb5.3
SOC MLR MLR
comp=Z,336nm,13.0s,MS4.5
MMAI Mount Meron Ar 48.44 76 P **P 14 56 01.8 +1.2**
comp=Z,15nm,0.9s,mb5.0,baz=304,slow=5.9,SNR=8.7
FCC Fort Churchill 48.78 319 *e*P **P 14 56 02.5 -0.4**
comp=Z,28nm,1.1s,mb5.2
FCC Fort Churchill 48.78 319 *e*P **P 14 56 02.5 -0.4**
FCC pmax pmax
comp=Z,28nm,1.1s,mb5.2
FCC Fort Churchill 48.78 319 *e*P **P 14 56 02.5 -0.4**
comp=Z,28nm,1.1s,mb5.2
MALT Malatya 48.84 68 *e*P **P 14 56 03.6 0.0**
comp=Z,49nm,1.5s,mb5.3
MALT Malatya 48.84 68 *e*P **P 14 56 03.6 0.0**
MALT pmax pmax
comp=Z,49nm,1.5s,mb5.3
MALT Malatya 48.84 68⇓*i*P **P 14 56 03.5 -0.1**
MALT Malatya 48.84 68 *e*P **P 14 56 03.6 0.0**

comp=Z,49nm,1.5s,mb5.3
RES Resolute Bay 49.33 341 *e*P **P 14 56 05.8 -1.1**
comp=Z,1μm,1.0s
RES Resolute Bay 49.33 341 *e*P **P 14 56 05.8 -1.0**
comp=Z,1μm,1.0s
EIL Elat 49.44 80 P **P 14 56 08.6 +0.3**
comp=Z,5.6nm,0.8s,mb4.6,baz=322,slow=5.3,SNR=8.5
EIL PcP PcP 14 57 30.9 +0.3
comp=Z,11nm,1.0s,baz=310,slow=5.0,SNR=4.5
EIL LR LR 15 19 38.8
comp=Z,335nm,19.2s,MS4.3,baz=128,slow=39
EIL Elat 49.44 80 PcP PcP 14 57 30.9 +0.3
ASF Jabal al Asfar 49.93 77 P **P 14 56 13.3 +1.3**
ASF 14 57 32.2
ASF Jabal al Asfar 49.93 77 P **P 14 56 13.3 +1.3**
comp=Z,12nm,1.2s,mb4.8,baz=140,slow=1.4,SNR=12
ASF PcP PcP 14 57 32.2 -0.1
comp=Z,1.5nm,0.6s,baz=128,slow=8.5,SNR=3.3
ASF LR LR 15 18 16.8
comp=Z,280nm,20.1s,MS4.3,baz=339,slow=37
ASF Jabal al Asfar 49.93 77 PcP PcP 14 57 32.2 -0.1
WVT Waverly 49.97 289 *e*P **P 14 56 11.6 -0.7**
comp=Z,30nm,1.3s,mb5.2
WVT Waverly 49.97 289 *e*P **P 14 56 11.6 -0.7**
WVT pmax pmax
comp=Z,30nm,1.3s,mb5.2
WVT Waverly 49.97 289 *e*P **P 14 56 11.6 -0.7**
comp=Z,30nm,1.3s,mb5.2
KIV Kislovodsk 50.16 60 *e*P **P 14 56 14.7 +1.1**
comp=Z,8.9nm,1.0s,mb4.8
KIV LR LR
comp=Z,351nm,20.0s,MS4.4
KIV Kislovodsk 50.16 60 *e*P **P 14 56 14.6 +1.0**
KIV *e* 14 57 34.1
KIV *e* 14 58 08.7
KIV *e*S **S 15 03 23.9 -1.9**
KIV pmax pmax
comp=Z,3.0nm,0.6s,mb4.5
KIV MLR MLR
comp=Z,440nm,16.0s,MS4.6
KIV Kislovodsk 50.16 60 P **P 14 56 15.2 +1.6**
SNR=9.1
SDV Santo Domingo 50.31 248 *e*P **P 14 56 14.7 -0.5**
comp=Z,32nm,0.8s,mb5.4
SDV Santo Domingo 50.31 248 *e*P **P 14 56 14.6 -0.5**
comp=Z,32nm,0.8s,mb5.4
PLAL Pickwick Lake 50.58 288 *e*P **P 14 56 17.0 +0.1**
comp=Z,38nm,1.1s,mb5.2
PLAL Pickwick Lake 50.58 288 *e*P **P 14 56 17.0 +0.1**
comp=Z,38nm,1.1s,mb5.2
SLM Saint Louis 50.87 293 *e*P **P 14 56 20.2 +1.1**
comp=Z,51nm,1.1s,mb5.4
SLM Saint Louis 50.87 293 *e*P **P 14 56 20.2 +1.1**
SLM pmax pmax
comp=Z,51nm,1.1s,mb5.4
SLM Saint Louis 50.87 293 *e*P **P 14 56 20.2 +1.1**
comp=Z,51nm,1.1s,mb5.4
ONI Oni 51.11 62 P **P 14 56 21.0 +0.3**
PARMO Parma 51.22 290 *e*P **P 14 56 20.8 -0.9**
PARMO Parma 51.22 290 *e*P **P 14 56 20.8 -0.9**
FVM French Village 51.24 292 *e*P **P 14 56 20.9 -1.0**
comp=Z,38nm,0.8s,mb5.4
FVM French Village 51.24 292 *e*P **P 14 56 20.9 -1.0**
FVM pmax pmax
comp=Z,38nm,0.8s,mb5.4
FVM French Village 51.24 292 *e*P **P 14 56 20.9 -1.0**
comp=Z,38nm,0.8s,mb5.4
ULM Lac du Bonnet 51.31 309 P **P 14 56 21.5 -0.6**
ULM LR LR 15 16 00.1
ULM Lac du Bonnet 51.31 309 P **P 14 56 21.5 -0.6**
comp=Z,2.8nm,0.8s,mb4.3,baz=49,slow=12,SNR=4.0
ULM LR LR 15 16 00.1
comp=Z,1μm,20.4s,MS4.8,baz=296,slow=34
AGMN Agassiz Refuge 51.80 306 *e*P **P 14 56 25.1 -0.8**
comp=Z,7.4nm,0.7s,mb4.7
CCM Cathedral Cave 51.82 293 *e*P **P 14 56 22.9 -3.3**
comp=Z,14nm,1.0s,mb4.9
CCM Cathedral Cave 51.82 293 *e*P **P 14 56 22.9 -3.3**
CCM pmax pmax
comp=Z,14nm,1.0s,mb4.8
CCM Cathedral Cave 51.82 293 *e*P **P 14 56 22.9 -3.3**
comp=Z,14nm,1.0s,mb4.9
MSL Mosul 53.04 69 *e*x x 14 56 39.0
ECSD EROS,Sioux Fal 53.68 301 *e*P **P 14 56 37.5 -2.4**
comp=Z,13nm,1.2s,mb4.7
FFC Flin Flon 53.79 315 P **P 14 56 40.2 -0.3**
comp=Z,50nm,1.7s,mb5.2,SNR=5.3
FFC Flin Flon 53.79 315 *e*P **P 14 56 38.4 -2.1**
comp=Z,14nm,1.3s,mb4.7
FFC Flin Flon 53.79 315 *e*P **P 14 56 38.4 -2.1**
FFC pmax pmax
comp=Z,14nm,1.3s,mb4.7
FFC Flin Flon 53.79 315 *e*P **P 14 56 38.4 -2.1**
comp=Z,14nm,1.3s,mb4.7
MAK Makhachkala 53.81 60 *e*P **P 14 56 41.8 +1.0**
MAK *i* 14 57 48.4
MAK *e* 14 58 40.4
MAK *e*PPP 14 59 47.5
MAK S **S 15 04 16.1 +0.3**
MAK *e* 15 06 25.4
MAK pmax pmax
comp=Z,169nm,1.6s,mb5.7
MAK MLR MLR
comp=Z,837nm,17.0s,MS4.9
UALR University of 53.89 289 *e*P **P 14 56 40.5 -1.1**
comp=Z,34nm,1.1s,mb5.2
UALR University of 53.89 289 *e*P **P 14 56 40.5 -1.0**
comp=Z,34nm,1.1s,mb5.2
MIAR Mount Ida 54.91 290 *e*P **P 14 56 47.7 -1.2**
comp=Z,46nm,1.1s,mb5.4
MIAR Mount Ida 54.91 290 *e*P **P 14 56 47.7 -1.2**
MIAR pmax pmax
comp=Z,46nm,1.1s,mb5.4
MIAR Mount Ida 54.91 290 *e*P **P 14 56 47.7 -1.2**
comp=Z,46nm,1.1s,mb5.4
BHD Baghdad 55.23 72 *e*x x 14 56 59.0
ROSC El Rosal 55.72 247 P **P 14 56 55.0 0.0**
comp=Z,6.6nm,0.7s,mb4.8,baz=81,slow=14,SNR=5.2
ROSC LR LR 15 17 46.6
comp=Z,870nm,19.7s,MS4.8,baz=27,slow=33
ARU Arti 56.30 42 *e*P **P 14 56 58.5 -0.1**
comp=Z,90nm,1.4s,mb5.6
ARU Arti 56.30 42 *d i*P **P 14 56 58.3 -0.3**
ARU *e* 14 57 52.6
ARU *e* 14 59 02.6
ARU *e*S **S 15 04 45.6 -3.3**
ARU *e*SS SS 15 08 30.9 -4.1
ARU pmax pmax
comp=Z,97nm,1.7s,mb5.6
ARU MLR MLR
comp=Z,2μm,19.0s,MS5.3
ARU Arti 56.30 42 *e*P **P 14 56 58.5 -0.1**
comp=Z,90nm,1.4s,mb5.6
BDFB Brasilia 57.08 207 P **P 14 57 04.9 +0.4**
BDFB LR LR 15 18 25.4
BDFB Brasilia 57.08 207 P **P 14 57 04.9 +0.4**
comp=Z,4.5nm,0.6s,mb4.7,baz=41,slow=5.7,SNR=9.6
BDFB LR LR 15 18 25.4
comp=Z,556nm,18.7s,MS4.7,baz=205,slow=33
SVE Sverdlovsk 57.27 41⇓*e*P **P 14 57 05.8 +0.4**
SVE *e*S **S 15 05 03.3 +1.7**
SVE pmax pmax
comp=Z,60nm,1.5s,mb5.4
SVE MLR MLR
comp=Z,1μm,16.0s,MS5.2
YKA Yellowknife Ar 57.82 327 P **P 14 57 07.6 -1.6**
YKA PcP PcP 14 58 00.2 -1.6
YKA Yellowknife Ar 57.82 327 P **P 14 57 07.6 -1.6**
comp=Z,3.3nm,0.8s,mb4.4,baz=70,slow=7.0,SNR=18
YKA PcP PcP 14 58 00.2 -1.5
comp=Z,0.7nm,0.7s,baz=71,slow=5.1,SNR=3.7
YKA Yellowknife Ar 57.82 327 PcP PcP 14 58 00.2 -1.6
AKTK Aktyubinsk 57.99 48 P **P 14 57 10.4 -0.2**
AKTK Aktyubinsk 57.99 48 P **P 14 57 10.4 -0.3**
AKTO Aktyubinsk 57.99 48 P **P 14 57 10.4 -0.2**
comp=Z,18nm,0.8s,mb5.1,baz=296,slow=7.8,SNR=33
WMOK Wichita Mounta 58.71 292 *e*P **P 14 57 14.6 -1.4**
comp=Z,20nm,1.1s,mb5.1
WMOK Wichita Mounta 58.71 292 *e*P **P 14 57 14.6 -1.4**
WMOK pmax pmax
comp=Z,20nm,1.1s,mb5.1
WMOK Wichita Mounta 58.71 292 *e*P **P 14 57 14.6 -1.4**
comp=Z,20nm,1.1s,mb5.1
EDM Edmonton 60.62 316 *e*P **P 14 57 27.9 -0.9**
EDM Edmonton 60.62 316 *e*P **P 14 57 27.9 -0.9**
AMTX Amarillo 60.79 293 *e*P **P 14 57 27.9 -2.4**

comp=Z,32nm,1.0s,mb5.4
AMTX Amarillo 60.79 293 *e*P **P 14 57 27.9 -2.3**
comp=Z,32nm,1.0s,mb5.4
JCT Junction City 61.42 288 *e*P **P 14 57 32.9 -1.7**
comp=Z,49nm,0.9s,mb5.6
JCT Junction City 61.42 288 *e*P **P 14 57 32.9 -1.7**
JCT pmax pmax
comp=Z,49nm,0.9s,mb5.6
JCT Junction City 61.42 288 *e*P **P 14 57 32.9 -1.7**
comp=Z,49nm,0.9s,mb5.6
GCMT Greycliff 61.51 308 *e*P **P 14 57 34.2 -0.7**
GCMT Greycliff 61.51 308 *e*P **P 14 57 34.2 -0.8**
INK Inuvik 62.46 337 P **P 14 57 39.3 -1.7**
comp=Z,8.7nm,1.0s,mb4.8,baz=62,slow=6.7,SNR=16
INK Inuvik 62.46 337 *e*P **P 14 57 39.7 -1.3**
comp=Z,306nm,1.0s
SMCO Snowmass 62.62 300 *e*P **P 14 57 42.7 +0.1**
comp=Z,12nm,1.1s,mb4.9
SMCO Snowmass 62.62 300 *e*P **P 14 57 42.7 +0.1**
comp=Z,12nm,1.1s,mb4.9
D15A Lincoln 62.75 310 ⇑P **P 14 57 43.7 +0.4**
baz=62
PDAR Pinedale Array 62.76 304 P **P 14 57 41.4 -2.0**
comp=Z,2.6nm,0.8s,mb4.4,baz=73,slow=5.1,SNR=13
PDAR LR LR 15 23 57.5
comp=Z,956nm,19.8s,MS5.0,baz=76,slow=35
PDAR Pinedale Array 62.76 304 P **P 14 57 41.3 -2.1**
BOZ Bozeman (W) 62.81 308 *e*P **P 14 57 42.7 -1.0**
comp=Z,17nm,1.9s,mb4.8
BOZ Bozeman (W) 62.81 308 *e*P **P 14 57 42.7 -1.0**
BOZ pmax pmax
comp=Z,17nm,1.9s,mb4.8
BOZ Bozeman (W) 62.81 308 *e*P **P 14 57 42.7 -1.0**
comp=Z,17nm,1.9s,mb4.8
IMW Indian Meadow 63.15 306 *e*P **P 14 57 45.0 -0.9**
comp=Z,6.9nm,0.9s,mb4.8
IMW Indian Meadow 63.15 306 *e*P **P 14 57 45.0 -1.0**
comp=Z,6.9nm,0.9s,mb4.8
C14A Swan Lake 63.17 311 ⇑P **P 14 57 45.6 -0.4**
baz=63
SNOW Snow King Moun 63.23 306 *e*P **P 14 57 46.1 -0.4**
comp=Z,9.5nm,0.8s,mb5.0
SNOW Snow King Moun 63.23 306 *e*P **P 14 57 46.1 -0.4**
comp=Z,9.5nm,0.8s,mb5.0
ABKT Ailbek 63.24 61 P **P 14 57 47.4 +0.7**
comp=Z,102nm,1.0s,mb5.9,SNR=5.3
CHMT Chamberlain Mo 63.25 310 *e*P **P 14 57 45.6 -1.0**
CHMT Chamberlain Mo 63.25 310 *e*P **P 14 57 45.6 -1.0**
B13A Whitefish 63.33 312 ⇑P **P 14 57 47.0 -0.1**
baz=63
D14A Greenough 63.33 310 ⇓P **P 14 57 46.2 -0.9**
baz=63
REDW Red Top Meadow 63.34 305 *e*P **P 14 57 45.9 -1.4**
comp=Z,27nm,1.4s,mb5.2
REDW Red Top Meadow 63.34 305 *e*P **P 14 57 45.9 -1.3**
comp=Z,27nm,1.4s,mb5.2
G15A Dillon 63.57 308 ⇑P **P 14 57 49.6 +0.9**
baz=63
E14A Clinton 63.62 309 ⇑P **P 14 57 49.3 +0.2**
baz=63
C13A Hot Springs 63.71 311 ⇓P **P 14 57 49.2 -0.4**
baz=63
BRVK Borovoye 63.86 42 P **P 14 57 51.6 +1.1**
comp=Z,76nm,1.3s,mb5.6,SNR=5.3
BRVK Borovoye 63.86 42 *e*P **P 14 57 51.0 +0.4**
comp=Z,13nm,1.2s,mb4.8
BRVK LR LR
comp=Z,2μm,21.0s,MS5.2
BRVK Borovoye 63.86 42 *e*P **P 14 57 51.0 +0.5**
BRVK pmax pmax
comp=Z,13nm,1.2s,mb4.8
BRVK MLR MLR
comp=Z,2μm,21.0s,MS5.2
D13A Huson 63.91 310 P **P 14 57 50.2 -0.7**
baz=64,SNR=9.3
B12A Libby 63.95 312 ⇓P **P 14 57 51.1 -0.1**
baz=64
A11A Hall Mountain, 64.18 313 P **P 14 57 52.3 -0.4**
baz=64,SNR=9.1
ANMO Albuquerque 64.23 295⇑*e*P **P 14 57 54.6 +1.3**
F13A Darby 64.43 309 ⇑P **P 14 57 53.9 -0.5**
baz=64
D12A Red Ives Fores 64.47 311 ⇑P **P 14 57 53.8 -0.8**
baz=64
MVCO Mesa Verde 64.60 298 *e*P **P 14 57 56.0 +0.3**
comp=Z,51nm,1.7s,mb5.3
MVCO Mesa Verde 64.60 298 *e*P **P 14 57 56.0 +0.3**
comp=Z,50nm,1.7s,mb5.3
HWUT Hardware Ranch 64.61 304 *e*P **P 14 57 54.4 -1.3**
comp=Z,7.2nm,0.7s,mb4.8
HWUT Hardware Ranch 64.61 304 *e*P **P 14 57 54.4 -1.3**
comp=Z,7.2nm,0.7s,mb4.8
G13A Cobalt 64.70 308 ⇑P **P 14 57 56.0 -0.2**
baz=64
BNM Barren Site 64.74 295 *e*P **P 14 57 57.2 +0.6**
BNM Barren Site 64.74 295 *e*P **P 14 57 57.2 +0.6**
TXAR Lajitas Array 64.91 289 P **P 14 57 56.7 -1.1**
comp=Z,17nm,0.8s,mb5.2,baz=74,slow=6.9,SNR=117
TXAR LR LR 15 26 40.7
comp=Z,578nm,19.0s,MS4.8,baz=0,0,slow=36
H13A Challis 64.96 308 ⇑P **P 14 57 58.6 +0.7**
baz=65
DAU Daniels Canyon 64.97 303 *e*P **P 14 57 58.0 -0.1**
DAU Daniels Canyon 64.97 303 *e*P **P 14 57 58.0 0.0**
LENM Lemitar 64.98 295 *e*P **P 14 57 59.0 +0.8**
LENM Lemitar 64.98 295 *e*P **P 14 57 59.0 +0.8**
JLU Jordanelle 65.01 303 P **P 14 57 57.2 -1.1**
JLU Jordanelle 65.01 303 P **P 14 57 57.2 -1.1**
F12A Elk City 65.02 309 ⇓P **P 14 57 58.0 -0.2**
baz=65
I13A Wildhorse Cree 65.18 307 ⇓P **P 14 57 59.9 +0.6**
baz=65
E11A Bogner Ranch, 65.32 310 P **P 14 57 59.2 -1.0**
baz=65,SNR=10.0
F11A Grangeville 65.51 310 ⇓P **P 14 58 01.8 +0.4**
baz=65
HLID Hailey 65.54 307 ⇓P **P 14 58 02.3 +0.6**
baz=65
G11A Walters Elk Ra 65.81 309 ⇓P **P 14 58 02.9 -0.5**
baz=66
M14A Sheep Mountain 65.84 305 ⇑P **P 14 58 03.2 -0.4**
baz=66
A08A Turner Farm, O 65.87 314 ⇓P **P 14 58 02.7 -1.0**
baz=66
H11A Donnelly 65.99 309 ⇓P **P 14 58 04.6 0.0**
baz=66
N14A Grayback Hills 66.05 304 ⇑P **P 14 58 04.7 -0.3**
baz=66
DUG Dugway 66.12 303 *e*P **P 14 58 03.8 -1.7**
DUG pmax pmax
comp=Z,21nm,1.4s,mb5.0
DUG Dugway 66.12 303 *e*P **P 14 58 03.8 -1.7**
comp=Z,21nm,1.4s,mb5.0
J12A Stokes Ranch, 66.12 307 ⇓P **P 14 58 06.2 +0.7**
baz=66,SNR=7.0
K12A Draper Farm, C 66.30 306 ⇓P **P 14 58 07.4 +0.9**
baz=66
G10A Bishop Farm, J 66.39 310 ⇓P **P 14 58 07.2 +0.1**
baz=66
M13A Montello 66.45 305 ⇑P **P 14 58 08.0 +0.4**
baz=66
A07A Ashnola River, 66.46 314 ⇑P **P 14 58 07.0 -0.4**
baz=66
H10A Noah's Angus R 66.51 309 ⇑P **P 14 58 07.7 -0.2**
baz=66
MSU Marysvale 66.52 301 *e*P **P 14 58 07.7 -0.3**
MSU Marysvale 66.52 301 *e*P **P 14 58 07.7 -0.3**
L12A House Creek Ra 66.61 306 ⇓P **P 14 58 09.6 +1.0**
baz=66
T16A Glen Canyon Da 66.81 300 ⇑P **P 14 58 10.5 +0.6**
baz=66
DAWY Dawson 66.85 334 *e*P **P 14 58 09.8 +0.1**
DAWY Dawson 66.85 334 *e*P **P 14 58 09.8 +0.1**
M12A Wells 66.91 305 ⇑P **P 14 58 11.0 +0.5**
baz=67
LPAZ La Paz 67.26 226 P **P 14 58 12.5 -0.4**
LPAZ LR LR 15 23 23.1
LPAZ La Paz 67.26 226 P **P 14 58 12.5 -0.4**
comp=Z,1.0nm,0.8s,mb3.9,baz=53,slow=7.2,SNR=3.9
LPAZ LR LR 15 23 23.1
comp=Z,607nm,19.5s,MS4.8,baz=358,slow=32
P13A Bates Ranch, G 67.29 303 ⇑P **P 14 58 13.3 +0.3**
baz=67
119A Ashpeak Ranch, 67.36 295 ⇓P **P 14 58 14.3 +0.8**
baz=67
O12A Currie 67.37 304 ⇑P **P 14 58 13.8 +0.3**
baz=67

T15A Red Dirt Ranch 67.40 300 ⇑P **P 14 58 13.6 -0.1**
baz=67
I09A Lost Marbles R 67.43 309 ⇓P **P 14 58 14.6 +0.8**
baz=67
WUAZ Wupatki 67.45 298 P **P 14 58 14.9 +0.8**
comp=Z,14nm,1.1s,mb4.9
WUAZ Wupatki 67.45 298 P **P 14 58 14.9 +0.9**
comp=Z,14nm,1.1s,mb4.9
M11A Holland Ranch, 67.47 306 ⇓P **P 14 58 14.6 +0.6**
baz=67
S14A Cedar City 67.57 301 ⇓P **P 14 58 15.5 +0.8**
baz=67
ARUT Antelope Range 67.74 301 *e*P **P 14 58 15.9 +0.1**
ARUT Antelope Range 67.74 301 *e*P **P 14 58 15.9 +0.1**
J09A Fry Pan Ranch, 67.76 308 ⇓P **P 14 58 16.5 +0.7**
baz=68,SNR=9.6
NAZ Nazwa, Dubai 67.83 75 P **P 14 58 16.3 -0.3**
SNR=5.2
O11A Cowboy Ranch, 68.04 304 ⇓P **P 14 58 18.0 +0.3**
baz=68
319A Douglas 68.06 293 ⇓P **P 14 58 19.4 +1.5**
baz=68
X16A Lo Mia Camp, P 68.06 297 ⇑P **P 14 58 19.1 +1.2**
baz=68
K09A Rome 68.07 307 ⇓P **P 14 58 18.8 +1.0**
baz=68,SNR=8.5
S13A Holt Ranch, En 68.13 301 ⇑P **P 14 58 18.9 +0.6**
baz=68
J08A Circle Bar Ran 68.20 308 P **P 14 58 19.2 +0.6**
baz=68,SNR=5.7
U14A Mt Trumbull 68.26 300 ⇓P **P 14 58 19.5 +0.4**
baz=68
R12A Pony Springs, 68.26 302 ⇓P **P 14 58 19.4 +0.3**
baz=68
HATD Hatta, Dubai 68.28 75 P **P 14 58 19.1 -0.3**
SNR=7.3
ASHO Ashiyiah 68.29 75 P **P 14 58 19.0 -0.5**
SNR=5.8
218A Dragoon 68.31 294 ⇑P **P 14 58 20.9 +1.4**
baz=68
L09A Wilkinson Ranc 68.38 307 ⇑P **P 14 58 20.8 +1.1**
baz=68
T13A Saint George 68.45 301 ⇑P **P 14 58 21.3 +1.0**
baz=68
KMBO Kilima Mbogo 68.50 109 *e*P **P 14 58 23.1 +2.2**
comp=Z,32nm,2.1s,mb4.9
KMBO LR LR
comp=Z,360nm,20.0s,MS4.6
KMBO Kilima Mbogo 68.50 109⇑*e*P **P 14 58 23.7 +2.8**
KMBO Kilima Mbogo 68.50 109 P **P 14 58 23.9 +3.0**
SNR=7.9
KMBO Kilima Mbogo 68.50 109 P **P 14 58 22.8 +1.9**
comp=Z,2.2nm,0.9s,mb4.1,baz=230,slow=24,SNR=11
KMBO LR LR 15 29 29.8
comp=Z,313nm,19.3s,MS4.6,baz=283,slow=37
KMBO Kilima Mbogo 68.50 109 *e*P **P 14 58 23.1 +2.2**
comp=Z,32nm,2.1s,mb4.9
X15A Humboldt 68.59 298 ⇓P **P 14 58 22.5 +1.3**
baz=68,SNR=12
Z16A Peralta Trail, 68.60 296 ⇓P **P 14 58 22.7 +1.4**
baz=68
V14A Boquillas Ranc 68.61 299 ⇓P **P 14 58 22.8 +1.5**
baz=68
U13A Pakoon Wash 68.80 300 ⇓P **P 14 58 23.5 +1.0**
baz=68
W14A Seligman 68.81 299 P **P 14 58 23.9 +1.4**
baz=68,SNR=6.9
Y15A Casa Rosa Ranc 68.93 297 P **P 14 58 24.6 +1.3**
baz=69,SNR=8.1
MENT Mentasta 69.07 335 *e*P **P 14 58 24.9 +1.2**
216A Three Points, 69.32 295 ⇑P **P 14 58 27.2 +1.5**
baz=69
NVS Novosibirsk 69.45 36 *i*P **P 14 58 26.6 +0.5**
NVS *e* 15 00 54.2
NVS pmax pmax
comp=N,17nm,1.8s
NVS pmax pmax
comp=E,14nm,1.8s
NVS pmax pmax
comp=Z,98nm,1.8s,mb5.4
KURK Kurchatov 69.50 41 P **P 14 58 26.2 -0.4**
comp=Z,103nm,1.2s,mb5.6,SNR=13
KURK Kurchatov 69.50 41 *e*P **P 14 58 25.7 -0.9**
comp=Z,56nm,1.5s,mb5.3
KURK Kurchatov 69.50 41 *e*P **P 14 58 25.7 -0.9**
KURK pmax pmax
comp=Z,56nm,1.5s,mb5.3
KURK Kurchatov 69.50 41⇑*e*P **P 14 58 26.7 +0.1**
KURK Kurchatov 69.50 41 P **P 14 58 26.9 +0.3**
SNR=16
X13A Yucca 69.66 298 ⇓P **P 14 58 29.0 +1.1**
baz=69
TIXI Tiksi 69.79 9 *e*P **P 14 58 28.4 +0.4**
comp=Z,42nm,1.4s,mb5.2
TIXI Tiksi 69.79 9 *e*P **P 14 58 26.4 -1.6**
TIXI *e*S S 15 07 33.2 -4.0
TIXI pmax pmax
comp=Z,50nm,1.7s,mb5.2
TIXI Tiksi 69.79 9 *e*P **P 14 58 28.4 +0.4**
comp=Z,42nm,1.4s,mb5.2
S10A Tonopah Range, 69.81 303 ⇑P **P 14 58 28.6 -0.1**
baz=70
N07B Gerlach 69.86 306 ⇓P **P 14 58 29.0 0.0**
baz=70
IMA2 Indian Mountai 69.87 340 *e*P **P 14 58 29.0 +0.4**
R09A Tonopah 69.96 303 P **P 14 58 29.5 -0.1**
baz=70,SNR=6.8
ABTO Aybut 70.11 83 P **P 14 58 31.1 +0.3**
SNR=9.7
Q08A Gabbs 70.21 304 ⇓P **P 14 58 30.6 -0.5**
baz=70
MCK McKinley 70.22 337 *e*P **P 14 58 29.6 -1.2**
comp=Z,50nm,1.5s,mb5.2
MCK McKinley 70.22 337 *e*P **P 14 58 29.6 -1.2**
MCK pmax pmax
comp=Z,50nm,1.5s,mb5.2
MCK McKinley 70.22 337 *e*P **P 14 58 29.5 -1.3**
comp=Z,50nm,1.5s,mb5.2
N06A Buffalo Meadow 70.44 307 ⇓P **P 14 58 32.9 +0.4**
baz=70
Y12C Blythe 70.59 298 ⇓P **P 14 58 34.7 +1.1**
baz=70
SHOC Shoshone 70.67 301 ⇑P **P 14 58 35.3 +1.3**
baz=70
TUQ Turquoise Mtn. 70.67 300 ⇓P **P 14 58 35.5 +1.5**
baz=70
NVAR Mina Array Bea 70.68 304 P **P 14 58 34.9 +0.8**
comp=Z,0.4nm,0.7s,baz=82,slow=6.8,SNR=4.9
NVAR Mina Array Bea 70.68 304 P **P 14 58 34.8 +0.8**
SMDO Samad 70.70 75 P **P 14 58 34.4 0.0**
SNR=5.2
ZAL Zalesovo 70.72 36 P **P 14 58 33.7 -0.3**
ZAA0 Zalesovo Array 70.72 36 *e*P **P 14 58 33.8 -0.2**
ZAA0 Zalesovo Array 70.72 36 *e*P **P 14 58 33.8 -0.2**
ZALV Zalesovo Beam 70.72 36 P **P 14 58 33.7 -0.3**
ZALV LR LR 15 29 10.5
ZALV Zalesovo Beam 70.72 36 P **P 14 58 33.7 -0.3**
comp=Z,9.6nm,0.9s,mb4.7,baz=316,slow=6.2,SNR=39
ZALV LR LR 15 29 10.5
comp=Z,484nm,21.0s,MS4.7,baz=292,slow=36
RBK Rabkut 70.74 82 P **P 14 58 34.7 0.0**
SNR=5.2
JMDO Jabal Madar 71.12 76 P **P 14 58 36.5 -0.4**
SNR=10
JMDO Jabal Madar 71.12 76 P **P 14 58 36.5 -0.4**
SNR=10
JMDO Jabal Madar 71.12 76 P **P 14 58 36.5 -0.4**
SNR=10
EKS2 Erkin-Say 71.19 50 *e*P **P 14 58 37.9 +0.9**
comp=Z,51nm,1.5s,mb5.2
EKS2 Erkin-Say 71.19 50 P **P 14 58 38.3 +1.3**
SNR=20
EKS2 Erkin-Say 71.19 50 *e*P **P 14 58 37.9 +0.8**
comp=Z,51nm,1.5s,mb5.2
MPMC Manual Prospec 71.41 301 ⇓P **P 14 58 38.9 +0.4**
baz=71
AML Almayashu 71.43 51 *e*P **P 14 58 39.6 +1.1**
comp=Z,38nm,1.4s,mb5.1
AML Almayashu 71.43 51 P **P 14 58 40.0 +1.4**
SNR=16
AML Almayashu 71.43 51 *e*P **P 14 58 39.6 +1.1**
comp=Z,38nm,1.4s,mb5.1
BELC Belle Mtn. 71.49 299 ⇓P **P 14 58 40.0 +0.9**
baz=71
AAK Ala-Archa 71.65 50 P **P 14 58 40.7 +0.9**
comp=Z,42nm,2.3s,mb5.0,SNR=6.7
AAK Ala-Archa 71.65 50 P **P 14 58 41.0 +1.2**

SNR=6.8
P05C Yuba Gap, Truc 71.72 306 ⇑P **P 14 58 40.7 +0.4**
baz=71
UCH Uchtor 71.88 51 *e*P **P 14 58 42.7 +1.4**
comp=Z,2μm,1.2s
UCH Uchtor 71.88 51 P **P 14 58 43.2 +1.9**
SNR=14
UCH Uchtor 71.88 51 *e*P **P 14 58 42.7 +1.4**
comp=Z,2μm,1.2s
KBK Karagaybulak 71.91 50 P **P 14 58 42.7 +1.3**
SNR=7.6
LSZ Lusaka 71.96 126 *e*P **P 14 58 42.1 +0.2**
comp=Z,67nm,1.9s,mb5.2
LSZ Lusaka 71.96 126 *e*P **P 14 58 42.1 +0.2**
LSZ pmax pmax
comp=Z,67nm,1.9s,mb5.2
LSZ Lusaka 71.96 126 *e*P **P 14 58 42.1 +0.2**
comp=Z,67nm,1.9s,mb5.2
HELL Mitchell Peak 72.11 303 ⇓P **P 14 58 42.9 +0.2**
baz=72
TKM2 Tokmak 2 72.16 49 *e*P **P 14 58 43.6 +0.8**
comp=Z,26nm,1.5s,mb4.9
TKM2 Tokmak 2 72.16 49 *e*P **P 14 58 43.7 +0.8**
TKM2 pmax pmax
comp=Z,26nm,1.5s,mb4.9
TKM2 Tokmak 2 72.16 49 P **P 14 58 44.1 +1.2**
SNR=7.3
TKM2 Tokmak 2 72.16 49 *e*P **P 14 58 43.7 +0.8**
comp=Z,26nm,1.5s,mb4.9
KZA Kyzart 72.42 50 P **P 14 58 46.4 +1.9**
SNR=6.7
MK31 Makanchi Array 73.76 43 *e*P **P 14 58 52.2 -0.1**
MK31 Makanchi Array 73.76 43 *e*P **P 14 58 52.2 -0.1**
MKAR Makanchi Array 73.76 43 P **P 14 58 52.1 -0.2**
MKAR LR LR 15 32 08.5
MKAR Makanchi Array 73.76 43 P **P 14 58 52.1 -0.2**
comp=Z,6.6nm,0.8s,mb4.6,baz=318,slow=4.9,SNR=43
MKAR LR LR 15 32 08.5
comp=Z,1μm,18.6s,MS5.2,baz=310,slow=36
SVW2 Sparrevohn 74.25 338 *e*P **P 14 58 54.8 -0.1**
BILL Bilibino 74.74 356 *e*P **P 14 58 57.6 -0.1**
comp=Z,38nm,1.5s,mb5.1
BILL Bilibino 74.74 356⇑*e*P **P 14 58 57.9 +0.3**
BILL *i*S S 15 08 35.4 +1.3
BILL pmax pmax
comp=Z,11nm,1.1s,mb4.7
BILL Bilibino 74.74 356 *e*P **P 14 58 57.6 0.0**
comp=Z,38nm,1.5s,mb5.1
KDAK Kodiak Island 75.84 334 LR LR 15 30 12.1
comp=Z,285nm,19.4s,MS4.6,baz=281,slow=34
WMQ Urumqi 78.59 43 P **P 14 59 20.2 +0.3**
WMQ AP pP 14 59 25.0 +3.3
WMQ XP sP 14 59 28.0 +5.6
WMQ *e*S S 15 09 15.4 -1.6
WMQ SKS 15 09 31.4
WMQ AMB AMB
comp=Z,10.0nm,1.0s,mb4.7
WMQ AMB AMB
comp=Z,331nm,3.8s
WMQ LR LR
comp=Z,1μm,22.6s,MS5.2
YAK Yakutsk 78.89 12 P **P 14 59 20.4 -0.8**
comp=Z,41nm,1.3s,mb5.2
YAK Yakutsk 78.89 12 *e*P **P 14 59 17.9 -3.3**
YAK pmax pmax
comp=N,14nm,1.2s
YAK pmax pmax
comp=E,9.0nm,1.2s
YAK pmax pmax
comp=Z,25nm,1.2s,mb5.0
YAK Yakutsk 78.89 12 P **P 14 59 20.4 -0.8**
comp=Z,41nm,1.3s,mb5.2
BOD Bodaibo 79.10 21 *e*P **P 14 59 19.9 -2.5**
BOD pmax pmax
comp=Z,38nm,1.5s,mb5.1
MOY Mondy 79.46 31 *e*P **P 14 59 25.6 +1.2**
MOY pmax pmax
comp=Z,103nm,2.2s,mb5.4
SEY Seymchan 80.15 1⇑*e*P **P 14 59 28.4 +0.4**
IRK Irkutsk 80.33 29⇑*i*P **P 14 59 28.4 -0.7**
IRK *e* 14 59 38.7
IRK *e* 15 02 27.5
IRK pmax pmax
comp=Z,61nm,2.2s,mb5.1
TLY Talaya 80.52 30 *e*P **P 14 59 30.3 +0.2**
comp=Z,30nm,1.6s,mb5.0
TLY Talaya 80.52 30 *e*P **P 14 59 30.1 -0.1**
TLY *e*S S 15 09 45.7 +8.6
TLY *e*PS 15 10 34.7
TLY *e*SS SS 15 14 52.5 +4.6
TLY pmax pmax
comp=Z,27nm,1.7s,mb4.9
TLY MLR MLR
comp=Z,472nm,19.0s,MS4.9
TLY Talaya 80.52 30 P **P 14 59 30.9 +0.8**
SNR=12
TLY Talaya 80.52 30 P **P 14 59 30.9 +0.8**
SNR=12
TLY Talaya 80.52 30 *e*P **P 14 59 30.3 +0.1**
comp=Z,30nm,1.6s,mb5.0
ZAK Zakamensk 81.37 31⇓*i*P **P 14 59 34.5 -0.3**
ZAK *e* 15 02 38.9
ZAK pmax pmax
comp=Z,9.0nm,1.6s,mb4.5
NDI New Delhi 81.62 60 *e*P **P 14 59 36.0 -0.5**
NRGR Nerungri 82.89 17 *e*P **P 14 59 43.1 +0.5**
NRGR S S 15 09 53.9 -7.6
NRGR smax
comp=N,29nm,0.6s
MA2 Magadan 83.47 2 *e*P **P 14 59 45.9 +0.4**
MA2 *e* 14 59 56.6
MA2 pmax pmax
comp=Z,50nm,2.0s,mb5.2
SONM Songino Array 84.64 31 P **P 14 59 50.4 -1.3**
comp=Z,14nm,1.1s,mb5.0,baz=325,slow=5.4,SNR=11
SONM LR LR 15 38 15.8
comp=Z,648nm,20.9s,MS5.0,baz=320,slow=36
ULN Ulaanbaatar 84.88 30 *e*P **P 14 59 53.6 +0.6**
comp=Z,0.7nm,0.4s,mb4.1
ULN Ulaanbaatar 84.88 30 *e*P **P 14 59 53.6 +0.6**
ULN pmax pmax
comp=Z,1.0nm,0.4s,mb4.3
ULN Ulaanbaatar 84.88 30 P **P 14 59 54.0 +1.1**
SNR=24
ULN Ulaanbaatar 84.88 30 P **P 14 59 54.0 +1.1**
SNR=24
ULN Ulaanbaatar 84.88 30 *e*P **P 14 59 53.6 +0.6**
comp=Z,0.7nm,0.4s,mb4.1
BHPL Bhopal 85.11 65 *e*P **P 14 59 54.2 -0.4**
POO Poona 85.36 70 *e*P **P 14 59 56.0 +0.1**
POO AMb AMB 14 59 58.2
comp=Z,26nm,0.8s,mb5.4
KAD Karad 86.36 71 *e*P **P 15 00 01.1 +0.3**
KAD AMb AMB 15 00 02.9
comp=Z,24nm,0.9s,mb5.4
KOLN Koldanda 86.56 58 *e*P **P 15 00 01.8 +0.1**
comp=Z,100nm,1.6s,mb5.8
GKN Gorkha 87.11 57 *e*P **P 15 00 03.8 -0.6**
comp=Z,186nm,1.6s
KKN Kakani 87.67 57 *e*P **P 15 00 07.4 +0.3**
comp=Z,170nm,1.6s
GTA Gaotai 88.12 40 ⇑P **P 15 00 09.3 +0.3**
GTA AP pP 15 00 13.1 +2.2
GTA XP sP 15 00 15.7 +4.1
GTA PP PP 15 03 40.5 +5.4
GTA SKS 15 10 34.9
GTA S S 15 10 56.3 +2.6
GTA XS sS 15 11 02.4 +5.6
GTA AMB AMB
comp=Z,11nm,1.4s,mb4.9
GTA AMB AMB
comp=Z,183nm,4.6s
GTA LR LR
comp=N,630nm,18.3s,MS5.2
GTA LR LR
comp=E,424nm,18.0s,MS5.2
GTA LR LR
comp=Z,989nm,18.0s,MS5.3
PLCA Paso Flores 88.33 213 P **P 15 00 11.8 +2.1**
comp=Z,2.3nm,0.8s,mb4.5,baz=30,slow=3.4,SNR=4.7
PLCA LR LR 15 37 31.4
comp=Z,376nm,19.7s,MS4.8,baz=33,slow=34
JIRN Jiri 88.36 56 *e*P **P 15 00 12.5 +2.1**
HYB Hyderabad 89.56 68 *e*P **P 15 00 16.0 -0.1**
HYB Hyderabad 89.56 68 *e* **P 15 00 16.0 -0.1**
PET Petropavlovsk 90.08 358⇑*e*P **P 15 00 16.7 -1.2**

PET pmax pmax
comp=Z,19nm,1.3s,mb5.3
BOK Bokaro 90.72 59 *e*P **P 15 00 20.6 -0.9**
KLR Kul'dur 91.37 15 *e*P **P 15 00 17.7 -6.3**
KLR pmax pmax
comp=Z,30nm,1.6s,mb5.4
HHC Hu-ho-hao-te 92.48 32 *e*P **P 15 00 27.6 -1.7**
HHC XP sP 15 00 33.9 +2.0
HHC PP PP 15 04 11.0 +1.5
HHC SKS 15 10 58.3
HHC S S 15 11 28.7 -5.1
HHC SS SS 15 17 41.4 -1.9
HHC AMB AMB
comp=Z,15nm,0.5s,mb5.6
HHC AMB AMB
comp=Z,160nm,7.1s
HHC LR LR
comp=N,555nm,19.0s,MS5.2
HHC LR LR
comp=E,564nm,20.2s,MS5.2
HHC LR LR
comp=Z,990nm,17.8s,MS5.3
LZH Lanzhou 92.72 40 *e*P **P 15 00 31.0 +0.5**
LZH AP pP 15 00 35.4 +3.0
LZH XP sP 15 00 38.3 +5.2
LZH PP PP 15 04 13.4 +1.8
LZH *e*S S 15 11 33.2 -2.9
LZH XS sS 15 11 40.0 +0.8
LZH SS SS 15 17 46.1 -1.1
LZH AMB AMB
comp=Z,20nm,1.2s,mb5.4
LZH AMB AMB
comp=Z,187nm,4.6s
LZH LR LR
comp=E,808nm,15.0s
LZH LR LR
comp=Z,1μm,19.2s,MS5.3
SHL Shillong 93.52 54 *e*P **P 15 00 35.0 +0.6**
CN2 Changchun 94.85 21 *e*P **P 15 00 38.5 -1.7**
CN2 *e*XP sP 15 00 45.0 +2.3
CN2 *e*S S 15 11 47.5 -7.0
CN2 AMB AMB
comp=Z,10.0nm,1.2s,mb5.1
CN2 LR LR
comp=N,300nm,19.0s,MS4.9
CN2 LR LR
comp=E,300nm,19.0s,MS4.9
CN2 LR LR
comp=Z,400nm,19.0s,MS4.9
BJI Beijing 95.03 29 P **P 15 00 40.9 -0.2**
BJI PP PP 15 04 27.0 -2.4
BJI S S 15 11 52.4 -3.9
BJI SS SS 15 18 15.2 -4.6
BJI AMB AMB
comp=Z,9.0nm,0.8s,mb5.2
BJI AMB AMB
comp=Z,122nm,7.5s
BJI LR LR
comp=N,554nm,18.1s,MS5.2
BJI LR LR
comp=E,406nm,18.1s,MS5.2
BJI LR LR
comp=Z,632nm,19.8s,MS5.1
MDJ Mudanjiang 95.22 18 P **P 15 00 39.8 -2.0**
MDJ AP pP 15 00 43.1 -0.6
MDJ XP sP 15 00 44.4 0.0
MDJ PP PP 15 04 26.1 -4.5
MDJ S S 15 11 52.2 -5.5
MDJ AMB AMB
comp=Z,4.0nm,1.1s,mb4.8
MDJ AMB AMB
comp=Z,54nm,3.8s
MDJ LR LR
comp=E,106nm,27.6s,MS4.3
MDJ LR LR
comp=N,83nm,26.8s,MS4.3
MDJ LR LR
comp=Z,194nm,23.5s,MS4.5
YSS Yuzh-Sakhalins 95.42 9 P **P 15 00 41.1 -1.6**
comp=Z,13nm,1.2s,mb5.2
YSS Yuzh-Sakhalins 95.42 9⇑*e*P **P 15 00 37.7 -5.0**
YSS pmax pmax
comp=Z,13nm,2.4s,mb4.9
YSS Yuzh-Sakhalins 95.42 9 P **P 15 00 41.1 -1.6**
comp=Z,13nm,1.2s,mb5.2
CD2 Chengdu 96.69 43 *e*P **P 15 00 48.0 -0.8**
CD2 AP pP 15 00 52.9 +2.2
CD2 XP sP 15 00 55.2 +3.9
CD2 PP PP 15 04 44.3 +1.7
CD2 SKS 15 11 22.8
CD2 S S 15 12 04.4 -6.5
CD2 XS sS 15 12 12.5 -1.5
CD2 SS SS 15 18 41.3 -2.6
CD2 AMB AMB
comp=Z,20nm,0.9s,mb5.5
CD2 AMB AMB
comp=Z,50nm,9.2s
CD2 LR LR
comp=N,690nm,20.4s,MS5.2
CD2 LR LR
comp=E,340nm,18.0s,MS5.2
CD2 LR LR
comp=Z,690nm,20.4s,MS5.1
KMI Kunming 100.55 47 P Pdif 15 01 07.0 +1.1
KMI AP 15 01 10.1
KMI XP 15 01 11.9
KMI PP PP 15 05 13.3 +1.0
KMI S Sdif 15 12 41.0 -2.2
KMI SS SS 15 19 37.1 -1.3
KMI AMB AMB
comp=Z,3.0nm,0.8s
KMI AMB AMB
comp=Z,85nm,6.5s
KMI LR LR
comp=N,376nm,17.4s,MS5.0
KMI LR LR
comp=E,342nm,20.8s,MS5.0
KMI LR LR
comp=Z,528nm,19.1s,MS5.1
GYA Guiyang 101.75 44⇑*i*P Pdif 15 01 10.6 -0.6
GYA PP PP 15 05 23.6 +2.3
GYA SKS 15 11 49.4
GYA S Sdif 15 12 48.5 -4.7
GYA SS SS 15 19 53.2 -1.7
GYA AMB AMB
comp=Z,20nm,1.1s
GYA AMB AMB
comp=Z,120nm,8.0s
GYA LR LR
comp=Z,680nm,23.6s,MS5.1
TAOE Nuku Hiva Isla 115.73 279 *e*LR LR 15 40 44.7
comp=Z,5μm,24.3s
PPT Papeete 128.23 277 *e*LR LR 15 46 45.8
comp=Z,254nm,23.5s
TBI Tubuai 131.16 270 *e*LR LR 15 48 14.1
comp=Z,292nm,30.5s
MBWA Marble Bar 145.12 73 *e*PKP PKPdf 15 06 54.6 -1.5
MBWA Marble Bar 145.12 73 *e*PKIKP PKPdf 15 06 54.6 -1.5
MUN Mundaring 147.37 93 *e*PKP PKPdf 15 07 01.8 +2.2
FITZ Fitzroy Crossi 147.58 62 *e*PKP PKPdf 15 07 02.8 +2.4
comp=Z,13nm,1.2s
FITZ Fitzroy Crossi 147.58 62 PKPbc PKPbc 15 07 03.0 0.0
comp=Z,4.6nm,0.6s,baz=345,slow=2.5,SNR=13
KAKA Kakadu 148.01 46 *e*PKP PKPdf 15 07 03.8 +2.6
comp=Z,12nm,0.7s
KLBR Kellerberrin 148.47 91 *e*PKP PKPdf 15 07 04.4 +2.9
comp=Z,71nm,1.1s
NWAO Narrogin (SRO) 148.50 94 PKPbc PKPbc 15 07 03.9 -1.1
NWAO Narrogin (SRO) 148.50 94 PKPbc PKPbc 15 07 03.9 -1.1
comp=Z,40nm,1.2s,baz=278,slow=7.1,SNR=3.1
WRA Warramunga Arr 154.73 53 PKIKP PKPdf 15 07 11.4 +0.1
WRA 15 07 19.0
WRA Warramunga Arr 154.73 53 PKP PKPdf 15 07 11.4 +0.2
comp=Z,0.8nm,0.8s,baz=306,slow=2.0,SNR=6.5
WRA PKPbc PKPbc 15 07 19.0 -0.8
comp=Z,1.4nm,0.7s,baz=325,slow=2.3,SNR=14
WRA PKPab PKPab 15 07 34.5 -0.1
comp=Z,7.1nm,1.1s,baz=327,slow=4.0,SNR=14
WRA Warramunga Arr 154.73 53 PKPbc PKPbc 15 07 19.0 -0.8
WB2 Warramunga Arr 154.74 53 *e*PKP PKPbc 15 07 19.0 -0.8
ASAR Alice Springs 157.03 60 PKIKP PKPdf 15 07 12.9 -1.3
ASAR 15 07 24.0
ASAR Alice Springs 157.03 60 PKP PKPdf 15 07 12.9 -1.3
comp=Z,2.0nm,1.0s,baz=349,slow=1.3,SNR=11
ASAR PKPbc PKPdf 15 07 23.9 +10
comp=Z,0.7nm,0.7s,baz=308,slow=1.5,SNR=8.5
ASAR PKPab PKPab 15 07 43.9 -0.6
comp=Z,3.3nm,0.9s,baz=311,slow=3.9,SNR=15
ASAR Alice Springs 157.03 60 PKPbc PKPdf 15 07 24.0 +10
STKA Stephens Creek 167.33 69 *e*PKP PKPdf 15 07 23.6 -0.7
comp=Z,4.9nm,1.2s
STKA Stephens Creek 167.33 69 PKP PKPdf 15 07 23.6 -0.7
comp=Z,5.6nm,1.1s,baz=108,slow=2.1,SNR=5.9
STKA PKPab PKPab 15 08 28.4 -1.0
comp=Z,4.5nm,1.1s,baz=340,slow=3.1,SNR=4.5

IDC ***08*** *14:48:29.9±1.2, 773S×15653E, h0km, mb3.8/5, mb1 3.9/6, mb1mx3.7/14, mbtmp3.8/6, ML3.9/1, Error ellipse: s-maj=32.5km s-min=25.9km az=170.0*
NEIC ***08*** *14:48:31.7±0.6, 783S×15657E, h10km, mb4.4/1, Error ellipse: s-maj=17.2km s-min=14.1km az=153.0*
ISCJB ***08*** *14:48:33.5±0.7, 78S±01×15653E±007, h33km, mb3.6/6, Error ellipse: s-maj=16.4km s-min=9.0km az=12.1*
ISC 08 14:48:35.3±0.7, 78S±01×15652E±007, h35km, n13, σ1º08/15, mb3.6/6, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
HNR	**Honiara**	**3.76**	**116**	*e*Pn	P	**Pn**	**14 49 29.2**	**-1.6**
HNR				*e*Sn	P	**Sn**	**14 50 14.8**	**+0.9**
HNR	**Honiara**	**3.76**	**116**	Pn	P	**Pn**	**14 49 29.0**	**-1.8**
	9.5nm,0.3s,baz=261,slow=5.5,SNR=7.4							
HNR				Sn	P	**Sn**	**14 50 15.0**	**+1.1**
	33nm,0.3s,baz=93,slow=20,SNR=8.0							
WRAB	**Tennant Creek**	**24.63**	**238**	*e*P	P	**P**	**14 53 52.5**	**-0.2**
WB2	**Warramunga Arr**	**24.64**	**238**	*e*P	P	**P**	**14 53 52.5**	**-0.3**
WRA	**Warramunga Arr**	**24.65**	**238**	P	P	**P**	**14 53 52.6**	**-0.2**
	1.5nm,0.7s,mb3.6,baz=63,slow=9.2,SNR=12							
WRA				PcP	PcP		14 57 29.6	-0.4
	0.4nm,0.6s,baz=63,slow=2.4,SNR=5.4							
ASAR	**Alice Springs**	**26.82**	**231**	P	P	**P**	**14 54 11.4**	**-1.1**
	0.2nm,0.3s,mb2.6,baz=63,slow=9.4,SNR=3.4							
STKA	**Stephens Creek**	**27.70**	**208**	*e*P	P	**P**	**14 54 22.0**	**+1.7**
STKA	**Stephens Creek**	**27.70**	**208**	P	P	**P**	**14 54 21.9**	**+1.6**
	0.7nm,0.5s,mb3.5,baz=53,slow=14,SNR=3.4							
ULN	**Ulaanbaatar**	**70.49**	**327**	P	P	**P**	**14 59 48.2**	**+1.8**
	1.7nm,0.5s,mb4.2							
MCK	**McKinley**	**82.24**	**21**	*e*P	P	**P**	**15 00 51.5**	**-1.2**
MKAR	**Makanchi Array**	**85.00**	**318**	P	P	**P**	**15 01 07.9**	**+0.6**
	0.8nm,0.8s,mb3.9,baz=114,slow=5.7,SNR=3.9							
YKA	**Yellowknife Ar**	**96.33**	**28**	P	P	**P**	**15 01 59.8**	**-0.3**
YKA	**Yellowknife Ar**	**96.33**	**28**	P	P	**P**	**15 01 59.8**	**-0.3**
	0.2nm,0.6s,mb3.8,baz=264,slow=4.8,SNR=4.5							

ISCJB ***08*** *14:48:48.5±0.9, 1295N±008×1433E±02, h213km±11km, mb3.8/15, Error ellipse: s-maj=24.3km s-min=12.5km az=169.0*
BJI ***08*** *14:48:48.8, 1300N×14330E, h211km, mB4.7, mb4.5*
NEIC ***08*** *14:48:49.8±0.8, 1295N×14327E, h211km±9km, mb3.9/2, Error ellipse: s-maj=15.7km s-min=7.9km az=79.0*
IDC ***08*** *14:48:49.7±0.9, 1298N×14334E, h210km±12km, mb3.6/13, mb1 3.7/14, mb1mx3.6/22, mbtmp3.6/14, Error ellipse: s-maj=24.9km s-min=10.6km az=83.0*
ISC 08 14:48:49.7±0.9, 1297N±008×1433E±02, h211km±11km, n29, σ0º68/31, mb3.8/15, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
GUMO	**Guam**	**1.63**	**68**	*e*Pn	P	**Pn**	**14 49 26.0**	**+0.5**
GUMO				*e*S	S	**S**	**14 49 53.2**	**-0.2**
GUMO	**Guam**	**1.63**	**68**	P	P	**Pn**	**14 49 26.1**	**+0.6**
	64nm,0.3s,baz=304,slow=2.0,SNR=119							
GUMO				S	S	**S**	**14 49 52.8**	**-0.6**
	115nm,0.3s,baz=168,slow=24,SNR=14							
JOW	**Kunigami**	**19.73**	**317**	P	P	**P**	**14 53 03.9**	**+0.4**
	3.2nm,0.3s,baz=166,slow=14,SNR=5.9							
JNU	**Nakatsue**	**23.06**	**333**	P	P	**P**	**14 53 36.5**	**-0.1**
	9.1nm,0.8s,mb4.4,baz=67,slow=8.0,SNR=8.4							
NACB	**Ninganchiao**	**23.38**	**302**	*e*P	P	**P**	**14 53 38.2**	**-1.5**
KSRS	**Korea Array**	**28.00**	**333**	P	P	**P**	**14 54 20.5**	**-0.6**
	0.7nm,0.6s,mb3.5,baz=141,slow=9.8,SNR=6.1							
WB2	**Warramunga Arr**	**33.87**	**195**	*e*P	P	**P**	**14 55 12.7**	**+0.1**
WB2	**Warramunga Arr**	**33.87**	**195**	*e*P	P	**P**	**14 55 12.7**	**+0.1**
WRA	**Warramunga Arr**	**33.87**	**195**	P	P	**P**	**14 55 12.8**	**+0.1**
	4.3nm,0.6s,mb4.1,baz=14,slow=9.0,SNR=36							
ASAR	**Alice Springs**	**37.55**	**194**	P	P	**P**	**14 55 44.2**	**+0.3**
	1.5nm,0.6s,mb3.7,baz=18,slow=12,SNR=33							
LZH	**Lanzhou**	**42.25**	**310**	*e*P	P	**P**	**14 56 23.5**	**+1.1**
LZH				AMB	AMB			
	comp=Z,15nm,1.0s,mb4.4							
LZH				AMB	AMB			
	comp=Z,69nm,4.4s							
STKA	**Stephens Creek**	**44.62**	**182**	*e*P	P	**P**	**14 56 40.6**	**-0.7**
	comp=Z,2.0nm,0.5s,mb3.4							
STKA	**Stephens Creek**	**44.62**	**182**	P	P	**P**	**14 56 41.0**	**-0.3**
	comp=Z,1.5nm,0.7s,mb3.4,baz=344,slow=12,SNR=4.6							
ULN	**Ulaanbaatar**	**46.05**	**326**	*e*P	P	**P**	**14 56 52.8**	**+0.5**
SONM	**Songino Array**	**46.38**	**326**	P	P	**P**	**14 56 55.6**	**+0.6**
	comp=Z,1.8nm,0.5s,mb3.6,baz=147,slow=7.9,SNR=20							
SONM				PcP	PcP		14 58 26.8	+0.6
	comp=Z,0.2nm,0.4s,baz=80,slow=1.8,SNR=2.8							
LSA	**Lhasa**	**50.94**	**298**	*e*P	P	**P**	**14 57 31.1**	**+1.2**
	comp=Z,3.2nm,0.3s,mb4.2							
MK31	**Makanchi Array**	**60.90**	**317**	*e*P	P	**P**	**14 58 40.6**	**+0.4**
MKAR	**Makanchi Array**	**60.90**	**317**	P	P	**P**	**14 58 40.6**	**+0.4**
	comp=Z,1.7nm,0.5s,mb3.9,baz=91,slow=8.5,SNR=24							
ZALV	**Zalesovo Beam**	**61.26**	**325**	P	P	**P**	**14 58 42.2**	**-0.2**
ZALV	**Zalesovo Beam**	**61.26**	**325**	P	P	**P**	**14 58 42.2**	**-0.2**
	comp=Z,1.7nm,0.3s,mb4.1,baz=118,slow=6.9,SNR=9.9							
KURK	**Kurchatov**	**64.09**	**320**	*e*P	P	**P**	**14 59 01.2**	**-0.1**
BRVK	**Borovoye**	**69.55**	**322**	*e*P	P	**P**	**14 59 35.7**	**0.0**
INK	**Inuvik**	**75.52**	**22**	P	P	**P**	**15 00 11.1**	**+0.5**
INK	**Inuvik**	**75.52**	**22**	P	P	**P**	**15 00 11.1**	**+0.5**
	comp=Z,0.6nm,0.7s,mb3.4,baz=246,slow=10.0,SNR=3.4							
AKTK	**Aktyubinsk**	**77.15**	**319**	P	P	**P**	**15 00 19.2**	**-0.9**
AKTO	**Aktyubinsk**	**77.15**	**319**	P	P	**P**	**15 00 19.2**	**-0.9**
	comp=Z,0.6nm,0.4s,mb3.5,baz=74,slow=14,SNR=3.8							
YKA	**Yellowknife Ar**	**84.10**	**27**	P	P	**P**	**15 00 57.6**	**+0.9**
	comp=Z,0.1nm,0.4s,mb2.9,baz=285,slow=5.1,SNR=3.6							
ARCES	**ARCESS Array B**	**87.21**	**342**	P	P	**P**	**15 01 11.6**	**-0.3**
	comp=Z,3.8nm,0.9s,mb4.1,baz=78,slow=6.9,SNR=22							
FINES	**FINESS Array B**	**91.08**	**335**	P	P	**P**	**15 01 28.6**	**-1.5**
	comp=Z,1.4nm,0.3s,mb4.3,baz=72,slow=5.0,SNR=30							

MAN 08 14:49:12, 724N×12480E, h32km, mb4.2, ML3.0, MS2.8, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
BUKP	**Musuan**	**0.69**	**22**	*e*P	P	Pn	14 49 26.1	+0.6
BUKP				*e*S	S	Sb	14 49 36.1	+1.2
CGP	**Cagayan de Oro**	**1.22**	**355**⇑	*e*P	P	Pn	14 49 33.5	+0.7
CGP				*i*S	S	Sn	14 49 48.6	+0.5
PAGZ	**Pagadian**	**1.53**	**293**	*e*P	P	Pn	14 49 37.3	+0.2
PAGZ				*e*S	S	Sn	14 49 56.3	+0.4

IDC ***08*** *14:56:34.7±1.2, 755S×15589E, h0km, mb3.8/5, mb1 3.9/6, mb1mx3.8/14, mbtmp3.9/6, ML4.0/1, Error ellipse: s-maj=29.1km s-min=27.0km az=14.0*
NEIC ***08*** *14:56:36.7±0.7, 749S×15584E, h10km, Error ellipse: s-maj=19.5km s-min=15.2km az=193.0*
ISCJB ***08*** *14:56:38.9±4.9, 76S±02×1559E±02, h39km±51km, mb3.7/5, Error ellipse: s-maj=39.0km s-min=20.9km az=155.4*
ISC 08 14:56:39.2±7.4, 75S±02×15589E±009, h28km±53km, n9, σ0º78/11, mb3.7/5, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
HNR	**Honiara**	**4.43**	**115**	*e*Pn	P	**Pn**	**14 57 45.1**	**+0.5**
HNR				Sn	P	**Sn**	**14 58 35.4**	**+0.2**
HNR	**Honiara**	**4.43**	**115**	Pn	P	**Pn**	**14 57 43.7**	**-0.9**
	7.1nm,0.3s,baz=263,slow=2.0,SNR=7.5							
HNR				Sn	P	**Sn**	**14 58 35.4**	**+0.2**
	17nm,0.3s,baz=270,slow=17,SNR=4.9							
WB2	**Warramunga Arr**	**24.24**	**237**	*e*P	P	**P**	**15 01 54.9**	**+0.9**
WRA	**Warramunga Arr**	**24.25**	**237**	P	P	**P**	**15 01 54.5**	**+0.5**
	2.2nm,0.7s,mb3.7,baz=61,slow=9.5,SNR=24							
ASAR	**Alice Springs**	**26.49**	**230**	P	P	**P**	**15 02 13.1**	**-1.3**
	0.4nm,0.7s,mb3.0,baz=68,slow=8.2,SNR=5.9							
SONM	**Songino Array**	**70.28**	**327**	P	P	**P**	**15 07 51.0**	**+1.1**
	1.0nm,0.9s,mb3.7,baz=130,slow=6.4,SNR=5.7							
MK31	**Makanchi Array**	**84.40**	**319**	*e*P	P	**P**	**15 09 08.8**	**-0.3**
MKAR	**Makanchi Array**	**84.40**	**319**	P	P	**P**	**15 09 09.1**	**+0.1**
	1.3nm,0.8s,mb4.1,baz=100,slow=6.0,SNR=13							
ZALV	**Zalesovo Beam**	**85.13**	**326**	P	P	**P**	**15 09 11.5**	**-1.0**
	0.6nm,0.6s,mb3.9,baz=106,slow=3.1,SNR=3.9							

TIR ***08*** *14:58:29.3±2.8, 4207N×1996E, h35km±34km*
CSEM ***08*** *14:58:34.3±0.1, 42.14N×1953E, h20km, ML2.8/7, Error ellipse: s-maj=2.4km s-min=1.7km az=35.0*
PDG ***08*** *14:58:34.4±0.2, 42.11N×1955E, h14km±2km, MD2.9/6, ML2.8/7, Error ellipse: s-maj=0.5km s-min=0.7km az=0.0*
ISCJB ***08*** *14:58:34.9±0.4, 4221N±002×1951E±003, h15km±2km, Error ellipse: s-maj=3.7km s-min=3.1km az=141.9*
NEIC ***08*** *14:58:34.4, 42.11N×1955E, h14km, ML3.0(BUC), ML2.8(PDG), After PDG.*
BEO ***08*** *14:58:36.5±0.8, 4225N×1962E, h15km, ML2.8/5*
ISC 08 14:58:35.0±0.4, 4218N±002×1956E±003, h8km±3km, n61, σ1º05/103, 16C-8D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
ULC	**Ulcinj**	**0.31**	**227**⇓	*i*Pg		**Pg**	**14 58 39.9**	**-1.3**
ULC				*e*Sg		**Sg**	**14 58 44.8**	**-0.5**
PDG	**Podgorica**	**0.34**	**319**	*i*PG		**Pg**	**14 58 44.5**	**+2.9**
PDG				*i*SG		**Sg**	**14 58 53.0**	**+6.9**
PDG	**Podgorica**	**0.34**	**319**⇓	*i*Pg		**Pg**	**14 58 41.7**	**+0.1**
PDG				*e*Sg		**Sg**	**14 58 48.1**	**+2.0**
TTG	**Podgorica**	**0.34**	**319**⇓	*i*Pg		**Pg**	**14 58 41.7**	**+0.1**
TTG				*e*Sg		**Sg**	**14 58 48.1**	**+2.0**
BUM	**Brajici-Budva**	**0.51**	**285**⇑	*i*Pg		**Pg**	**14 58 44.5**	**-0.3**
BUM				*e*Sg		**Sg**	**14 58 53.0**	**+1.6**
PVY	**Plav**	**0.52**	**36**⇓	*i*Pg		**Pg**	**14 58 45.3**	**+0.2**
PVY				*e*Sg		**Sg**	**14 58 54.6**	**+2.6**
PVY	**Plav**	**0.52**	**36**	*i*PG		**Pg**	**14 58 41.7**	**-3.4**
PVY				*i*SG		**Sg**	**14 58 48.1**	**-3.9**
BEY	**Berane**	**0.74**	**20**	*i*PG		**Pg**	**14 58 45.3**	**-4.0**
BEY	**Berane**	**0.74**	**20**	*e*Pg		**Pg**	**14 58 49.6**	**+0.3**
BEY				*e*Sg		**Sg**	**14 59 01.9**	**+2.9**
IVA	**Berane**	**0.74**	**20**	*e*Pg		**Pg**	**14 58 49.6**	**+0.3**
IVA				*e*Sg		**Sg**	**14 59 01.9**	**+2.9**
NKY	**Niksic**	**0.76**	**327**⇑	*i*Pg		**Pg**	**14 58 49.4**	**-0.3**
NKY				*e*Sg		**Sg**	**14 59 02.9**	**+3.3**
NKY	**Niksic**	**0.76**	**327**	*i*PG		**Pg**	**14 58 49.4**	**-0.3**
NKY				*i*SG		**Sg**	**14 59 02.9**	**+3.3**
HCY	**Herceg Novi**	**0.83**	**289**⇓	*i*Pg		**Pg**	**14 58 49.6**	**-1.4**
HCY				*e*Sg		**Sg**	**14 59 03.3**	**+1.5**
BRY	**Bratogost**	**1.04**	**314**⇑	*i*Pg		**Pg**	**14 58 55.1**	**0.0**
BRY				*e*Sg		**Sg**	**14 59 12.0**	**+3.4**
BRY	**Bratogost**	**1.04**	**314**	*i*PG		**Pg**	**14 58 55.1**	**0.0**
BRY				*i*SG		**Sg**	**14 59 12.0**	**+3.4**
SJES	**Sjenica**	**1.13**	**14**	*e*Pg		**Pg**	**14 58 54.7**	**-2.0**
SJES				*e*Sg		**Sg**	**14 59 11.5**	**+0.1**
UPM	**Unac-Piva**	**1.13**	**335**⇑	*i*Pg		**Pg**	**14 58 56.5**	**-0.3**
UPM				*e*Sg		**Sg**	**14 59 15.5**	**+4.0**
PLE	**Pljevlja**	**1.16**	**354**⇓	*i*Pg		**Pg**	**14 58 56.9**	**-0.4**
PLE				*e*Sg		**Sg**	**14 59 16.7**	**+4.3**
OHR	**Ohrid**	**1.41**	**138**	*e*Pn		**Pn**	**14 59 00.8**	**-0.2**
OHR				*e*Sn		**Sn**	**14 59 21.2**	**+1.5**
OHR	**Ohrid**	**1.41**	**138**	*e*Pn		**Pn**	**14 59 00.7**	**-0.3**
OHR				*e*Sn		**Sn**	**14 59 21.1**	**+1.4**
SKO	**Skopje**	**1.42**	**98**	*e*Pn		**Pn**	**14 59 01.5**	**+0.5**
SKO				*e*Sn		**Sn**	**14 59 21.3**	**+1.5**
SKO	**Skopje**	**1.42**	**98**	*e*Pn		**Pn**	**14 59 01.4**	**+0.4**
SKO				*e*Sn		**Sn**	**14 59 21.2**	**+1.4**
KRUS	**Krusevo**	**1.50**	**122**	*e*Pn		**Pn**	**14 59 02.3**	**+0.2**
KRUS				*e*Sn		**Sn**	**14 59 23.4**	**+1.5**
KRUS	**Krusevo**	**1.50**	**122**	*e*Pn		**Pn**	**14 59 02.3**	**+0.1**
KRUS				*e*Sn		**Sn**	**14 59 23.3**	**+1.4**
STON	**Ston**	**1.54**	**298**	*e*Pn		**Pn**	**14 59 01.4**	**-1.3**
STON				Sn		**Sn**	**14 59 23.1**	**+0.3**
BIA	**Bitola**	**1.76**	**130**	*e*Pn		**Pn**	**14 59 05.5**	**-0.2**
BIA				*e*Sn		**Sn**	**14 59 29.2**	**+1.0**
BARS	**Barje**	**1.80**	**68**⇑	*e*Pn		**Pn**	**14 59 05.9**	**-0.4**
BARS				*e*Sg		**Sg**	**14 59 31.6**	**-1.2**
GRUS	**Gruza**	**1.91**	**26**⇑	*i*Pn		**Pn**	**14 59 07.3**	**-0.5**
GRUS				*e*Sg		**Sn**	**14 59 32.6**	**+0.5**
DIVS	**Divibare**	**1.95**	**9**⇑	*i*Pn		**Pn**	**14 59 08.3**	**0.0**
VAY	**Valandovo**	**2.41**	**110**	*e*Pn		**Pn**	**14 59 14.2**	**-0.5**
VAY				*e*Sn		**Sn**	**14 59 44.3**	**-0.1**
VAY	**Valandovo**	**2.41**	**110**	*e*Pn		**Pn**	**14 59 14.1**	**-0.6**
VAY				*e*Sn		**Sn**	**14 59 44.2**	**-0.1**
SVIS	**Svilajnac**	**2.44**	**29**	*e*Pn		**Pn**	**14 59 15.8**	**+0.6**
TA1	**Taranto**	**2.46**	**225**	*e*Pn		**Pn**	**14 59 15.9**	**+0.5**
SG1	**Sgolgore (BA)**	**2.54**	**239**	*e*Pn		**Pn**	**14 59 14.8**	**-1.7**
VTS	**Vitosha**	**2.74**	**80**⇑	*i*P		**Pg**	**14 59 25.6**	**-1.9**
VTS	**Vitosha**	**2.74**	**80**	S		**Sn**	**14 59 55.9**	**+3.5**
FGSL	**Fruska Gora**	**2.99**	**3**	*i*Pn		**Pn**	**14 59 22.1**	**-0.5**
TIP	**Timpagrande**	**3.67**	**216**	*e*P		**Pn**	**14 59 28.5**	**-3.6**
TIP	**Timpagrande**	**3.67**	**216**	*e*P		**Pn**	**14 59 28.5**	**-3.5**
BZS	**Buzias**	**3.75**	**23**⇑	P		**Pn**	**14 59 33.0**	**-0.1**
BZS				S		**Sn**	**15 00 16.9**	**-0.5**
BZS	**Buzias**	**3.75**	**23**	*e*Pn		**Pn**	**14 59 32.6**	**-0.5**
BZS	**Buzias**	**3.75**	**23**⇑	*i*P		**Pn**	**14 59 33.0**	**-0.1**
BZS				S		**Sn**	**15 00 16.9**	**-0.5**
GZR	**Gura Zlata**	**3.97**	**35**⇑	P		**Pn**	**14 59 37.1**	**+0.9**
GZR				S		**Sn**	**15 00 24.5**	**+1.7**
GZR	**Gura Zlata**	**3.97**	**35**⇑	*i*P		**Pn**	**14 59 37.1**	**+0.9**
GZR				S		**Sn**	**15 00 24.5**	**+1.6**
PKSM	**Moragy**	**4.09**	**351**⇓	P		**Pn**	**14 59 37.6**	**-0.1**
PKSM				S		**Sn**	**15 00 25.2**	**-0.5**
PKSM	**Moragy**	**4.09**	**351**	*e*Pn		**Pn**	**14 59 36.8**	**-1.0**
PKSM	**Moragy**	**4.09**	**351**⇓	*i*P		**Pn**	**14 59 37.7**	**-0.1**
PKSM				S		**Sn**	**15 00 25.2**	**-0.5**
BOJS	**Bojanci**	**4.56**	**318**	*i*Pn		**Pn**	**14 59 44.4**	**+0.3**
BOJS				*i*Sn		**Sn**	**15 00 37.3**	**0.0**
DRGR		**5.14**	**25**⇑	P		**Pn**	**14 59 52.1**	**-0.1**
DRGR				S		**Sn**	**15 00 51.4**	**-0.1**
DRGR		**5.14**	**25**⇑	*i*P		**Pn**	**14 59 52.1**	**-0.1**
DRGR				S		**Sn**	**15 00 51.4**	**-0.2**
CEY	**Cerknica**	**5.14**	**316**	*i*Pn		**Pn**	**14 59 52.9**	**+0.7**
CEY				*i*Sn		**Sn**	**15 00 52.3**	**+0.7**
PERS	**Pernice**	**5.48**	**326**	*i*Pn		**Pn**	**14 59 57.2**	**+0.4**
PERS				*i*Sn		**Sn**	**15 01 00.2**	**+0.3**
VOY	**Vojsko**	**5.61**	**315**	*e*Pn		**Pn**	**14 59 58.5**	**-0.2**
PSZ	**Piszkesteto**	**5.75**	**2**	*e*Pn		**Pn**	**15 00 00.0**	**-0.5**
PSZ				S		**Sn**	**15 01 05.4**	**-1.2**
PSZ	**Piszkesteto**	**5.75**	**2**⇑	*i*P		**Pn**	**15 00 00.3**	**-0.2**
PSZ	**Piszkesteto**	**5.75**	**2**	S		**Sn**	**15 01 05.4**	**-1.2**
PSZ	**Piszkesteto**	**5.75**	**2**⇑	*i*P		**Pn**	**15 00 00.3**	**-0.2**
ZST	**Bratislava**	**6.27**	**345**	*e*SN		**Sn**	**15 01 15.0**	**-4.3**
VYHS	**Vyhne**	**6.34**	**356**	*e*SN		**Sn**	**15 01 19.6

MDT Midelt 21.30 101 P **P** **15 04 47.6 +2.6**
1.3nm,0.5s,mb3.5,baz=268,slow=9.2,SNR=3.5
MDT LR LR 15 11 03.2
comp=Z,266nm,18.6s,MS3.7,baz=339,slow=31
EKA Eskdalemuir Ar 23.47 40 P **P** **15 05 06.3 -1.6**
1.9nm,1.0s,mb3.5,baz=341,slow=30,SNR=3.0
EKA Eskdalemuir Ar 23.47 40 P **P** **15 05 06.3 -1.6**
DAVOX Davos/Dischmat 29.36 63 LR LR 15 16 10.2
comp=Z,251nm,20.1s,MS3.8,baz=260,slow=33
GERES GERESS Array B 31.92 59 LR LR 15 17 18.2
comp=Z,182nm,18.4s,MS3.8,baz=40,slow=32
TORD Torodi Ar. Bea 38.27 125 P **P** **15 07 20.1 +1.2**
20nm,0.3s,mb5.3,baz=311,slow=5.5,SNR=3.2
AKASG Malin Array Be 41.81 55 P **P** **15 07 47.0 -0.9**
1.5nm,0.7s,mb3.7,baz=276,slow=8.4,SNR=7.0
ULM Lac du Bonnet 46.52 306 LR LR 15 25 58.3
comp=Z,199nm,18.9s,MS4.1,baz=62,slow=34
YKA Yellowknife Ar 53.41 325 P **P** **15 09 18.2 +0.4**
0.4nm,0.8s,mb3.4,baz=69,slow=7.2,SNR=5.0
PDAR Pinedale Array 57.95 301 P **P** **15 09 50.0 -0.7**
1.6nm,0.9s,mb4.0,baz=74,slow=6.5,SNR=9.9
BW06 Boulder Array 57.95 301 *eP* **P** **15 09 49.9 -0.8**
4.6nm,1.2s,mb4.4
INK Inuvik 58.45 335 P **P** **15 09 52.9 -1.0**
0.3nm,0.5s,mb3.6,baz=33,slow=7.3,SNR=3.1
AKTK Aktyubinsk 59.31 48 P **P** **15 10 01.6 +1.5**
AKTK Aktyubinsk 59.31 48 P **P** **15 10 01.6 +1.5**
AKTO Aktyubinsk 59.31 48 P **P** **15 10 01.6 +1.5**
3.2nm,0.9s,mb4.3,baz=296,slow=12,SNR=4.6
HWUT Hardware Ranch 59.81 301 P **P** **15 10 03.4 -0.3**
4.3nm,0.9s,mb4.5
HWUT Hardware Ranch 59.81 301 P **P** **15 10 03.3 -0.4**
TXAR Lajitas Array 60.27 285 P **P** **15 10 07.1 0.0**
3.1nm,0.9s,mb4.3,baz=74,slow=5.6,SNR=24
NVAR Mina Array Bea 65.87 301 P **P** **15 10 44.0 -0.1**
0.1nm,0.3s,mb3.3,baz=56,slow=4.8,SNR=3.6
ZALV Zalesovo Beam 70.99 35 P **P** **15 11 16.9 +1.0**
0.3nm,0.3s,mb3.6,baz=307,slow=5.4,SNR=3.9
MKAR Makanchi Array 74.60 41 P **P** **15 11 37.0 -0.5**
0.8nm,0.7s,mb3.7,baz=328,slow=4.3,SNR=7.5
SONM Songino Array 84.40 28 P **P** **15 12 31.8 +1.0**
0.7nm,0.9s,mb3.8,baz=339,slow=3.7,SNR=3.4

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*IDC **08** 15:10:25.4±0.8, 725S×15625E, h0km, mb4.5/10, mb1 4.6/11, mb1mx4.5/16, mbtmp4.5/11, ML3.6/1, MS3.9/6, Ms1 3.9/6, ms1mx3.5/25, Error ellipse: s-maj=30.2km s-min=17.4km az=111.0*
*BJI **08** 15:10:27.4, 735S×15608E, h19km, mB4.9, mb4.8, Ms4.9, Msz4.6*
*NEIC **08** 15:10:27.9±0.4, 706S×15605E, h10km, mb4.9/8, Error ellipse: s-maj=11.5km s-min=8.8km az=118.0*
*ISCJB **08** 15:10:31.0±2.7, 7.12S±0.10×15602E±008, h40km±28km, mb4.7/21, MS4.1/7, Error ellipse: s-maj=18.2km s-min=11.4km az=144.6*

ISC 08 15:10:34.2±2.4, 72S±01×15604E±009, h56km±27km, n51, σ0§99/37, mb4.7/21, MS4.1/7, 2D, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.46**	**120**	*e*Pn		**Pn**	**15 11 38.2**	**-1.2**
HNR				*e*Sn		**Sn**	**15 12 31.1**	**+1.1**
HNR	**Honiara**	**4.46**	**120**	Pn		**Pn**	**15 11 38.5**	**-0.8**
22nm,0.3s,baz=251,slow=4.5,SNR=22								
HNR				Sn		**Sn**	**15 12 31.0**	**+1.0**
78nm,0.3s,baz=343,slow=0.7,SNR=7.1								
CTA	**Charters Tower**	**15.94**	**216**	*eP*		**Pn**	**15 14 20.3**	**+5.3**
20nm,1.0s								
CTA	**Charters Tower**	**15.94**	**216**	Pn		**Pn**	**15 14 13.9**	**-1.1**
0.2nm,0.3s,baz=18,slow=13,SNR=2.5								
CTA				LR		LR	15 17 56.1	
comp=Z,209nm,20.9s,baz=32,slow=28								
GUMO	**Guam**	**23.44**	**332**	LR		LR	15 22 46.5	
comp=Z,183nm,18.1s,MS3.6,baz=186,slow=31								
ARMA	**Armidale**	**23.47**	**190**	*eP*		**P**	**15 15 39.9**	**+1.0**
KAKA	**Kakadu**	**23.87**	**255**	*eP*		**P**	**15 15 43.6**	**+0.8**
40nm,0.8s,mb4.9								
WRAB	**Tennant Creek**	**24.55**	**237**	*eP*		**P**	**15 15 49.5**	**+0.5**
53nm,0.8s,mb5.1								
WB2	**Warramunga Arr**	**24.55**	**237**	*eP*		**P**	**15 15 49.8**	**+0.9**
WRA	**Warramunga Arr**	**24.56**	**237**	P		**P**	**15 15 49.3**	**+0.2**
42nm,0.8s,mb5.0,baz=61,slow=9.6,SNR=127								
WRA				LR		LR	15 25 17.7	
comp=Z,304nm,19.8s,MS3.8,baz=60,slow=36								
ASAR	**Alice Springs**	**26.82**	**230**	P		**P**	**15 16 09.2**	**-0.2**
2.3nm,0.7s,mb3.8,baz=61,slow=8.7,SNR=27								
STKA	**Stephens Creek**	**28.01**	**207**	*eP*		**P**	**15 16 19.1**	**-0.9**
4.0nm,0.6s,mb4.2								
STKA	**Stephens Creek**	**28.01**	**207**	P		**P**	**15 16 17.6**	**-2.4**
4.7nm,0.9s,mb4.1,baz=4.6,slow=9.5,SNR=6.3								
STKA				LR		LR	15 27 19.8	
comp=Z,250nm,18.0s,MS3.8,baz=24,slow=36								
FITZ	**Fitzroy Crossi**	**31.52**	**247**	*eP*		**P**	**15 16 51.2**	**-0.1**
19nm,0.8s,mb5.0								
FITZ	**Fitzroy Crossi**	**31.52**	**247**	P		**P**	**15 16 50.8**	**-0.5**
7.9nm,0.7s,mb4.7,baz=89,slow=8.3,SNR=15								
BATI	**Kupang**	**32.13**	**262**	LR		LR	15 30 30.8	
comp=Z,271nm,20.9s,MS3.9,baz=224,slow=37								
KLBR	**Kellerberrin**	**43.15**	**231**	*eP*		**P**	**15 18 28.9**	**-0.6**
54nm,0.9s,mb5.3								
KLBR				*e*		pP	15 18 43.5	-0.6
NWAO	**Narrogin (SRO)**	**44.14**	**229**	LR		LR	15 36 48.5	
comp=Z,240nm,18.8s,MS4.1,baz=43,slow=36								
KSM	**Kuching**	**46.43**	**279**	*eP*		**P**	**15 18 53.5**	**-2.4**
MJAR	**Matsushiro Arr**	**46.61**	**340**	P		**P**	**15 18 55.5**	**-1.3**
2.1nm,0.8s,mb4.1,baz=162,slow=8.3,SNR=13								
KSRS	**Korea Array**	**51.60**	**331**	P		**P**	**15 19 35.2**	**+0.2**
1.9nm,0.8s,mb4.1,baz=144,slow=7.0,SNR=9.4								
NJ2	**Nanjing**	**52.73**	**320**	*eP*		**P**	**15 19 43.5**	**0.0**
NJ2				AMB		AMB		
comp=Z,20nm,1.1s,mb5.0								
KMI	**Kunming**	**60.99**	**304**	P		**P**	**15 20 43.8**	**+1.6**
KMI				AP		pP	15 20 46.8	-11
KMI				PP		PP	15 22 59.9	+2.7
KMI				AMB		AMB		
comp=Z,5.0nm,0.7s,mb4.8								
KMI				LR		LR		
comp=N,376nm,22.1s,MS4.7								
KMI				LR		LR		
comp=E,342nm,19.1s,MS4.7								
KMI				LR		LR		
comp=Z,528nm,20.6s,MS4.7								
CD2	**Chengdu**	**62.73**	**310**	*eP*		**P**	**15 20 55.1**	**+1.3**
CD2				XP		sP	15 21 02.5	-13
CD2				PP		PP	15 23 14.9	+2.4
CD2				AMB		AMB		
comp=Z,10.0nm,0.8s,mb5.0								
CD2				AMB		AMB		
comp=Z,20nm,5.6s								
HHC	**Hu-ho-hao-te**	**62.87**	**323**	*eP*		**P**	**15 20 56.0**	**+1.5**
HHC				XP		sP	15 21 02.2	-14
HHC				PP		PP	15 23 16.5	+3.0
HHC				AMB		AMB		
comp=Z,16nm,0.5s,mb5.4								
HHC				AMB		AMB		
comp=Z,57nm,5.5s								
HHC				LR		LR		
comp=N,582nm,21.4s,MS4.8								
HHC				LR		LR		
comp=E,564nm,22.6s,MS4.8								
HHC				LR		LR		
comp=Z,990nm,21.4s,MS5.0								
LZH	**Lanzhou**	**65.18**	**315**	*eP*		**P**	**15 21 10.0**	**+0.2**
LZH				AMB		AMB		
comp=Z,15nm,1.0s,mb5.0								
LZH				AMB		AMB		
comp=Z,65nm,4.1s								
ULN	**Ulaanbaatar**	**69.73**	**327**	*eP*		**P**	**15 21 38.8**	**+0.6**
comp=Z,4.5nm,1.0s,mb4.3								
SONM	**Songino Array**	**70.07**	**327**	P		**P**	**15 21 41.4**	**+1.1**
comp=Z,2.3nm,0.7s,mb4.2,baz=141,slow=6.8,SNR=19								
BILL	**Bilibino**	**75.41**	**4**	*eP*		**P**	**15 22 11.8**	**+0.2**
comp=Z,2.0nm,0.8s,mb4.1								
MCK	**McKinley**	**81.86**	**22**	*eP*		**P**	**15 22 47.4**	**+0.2**
comp=Z,12nm,0.9s,mb4.8								
MK31	**Makanchi Array**	**84.24**	**318**	*eP*		**P**	**15 23 00.1**	**+0.2**
MKAR	**Makanchi Array**	**84.24**	**318**	P		**P**	**15 23 00.1**	**+0.3**
comp=Z,9.2nm,0.7s,mb5.0,baz=103,slow=6.1,SNR=104								
ZAA0	**Zalesovo Array**	**84.92**	**326**	*eP*		**P**	**15 23 01.8**	**-1.3**
ZALV	**Zalesovo Beam**	**84.92**	**326**	P		**P**	**15 23 02.4**	**-0.7**
ZALV	**Zalesovo Beam**	**84.92**	**326**	P		**P**	**15 23 02.4**	**-0.7**
comp=Z,4.1nm,0.4s,mb4.9,baz=113,slow=5.7,SNR=25								
KURK	**Kurchatov**	**87.63**	**322**	*eP*		**P**	**15 23 15.5**	**-1.0**
YKA	**Yellowknife Ar**	**96.03**	**28**	P		**P**	**15 23 53.5**	**-1.6**
YKA	**Yellowknife Ar**	**96.03**	**28**	P		**P**	**15 23 53.5**	**-1.6**
comp=Z,0.2nm,0.5s,mb3.8,baz=268,slow=4.5,SNR=5.5								
AKASG	**Malin Array Be**	**118.30**	**325**	PKP		PKPdf	15 29 13.7	-1.6
comp=Z,0.1nm,0.2s,baz=50,slow=2.6,SNR=8.4								
NOA	**NORSAR Array B**	**120.23**	**341**	PKP		PKPdf	15 29 17.4	-1.3
comp=Z,0.4nm,0.6s,baz=23,slow=4.8,SNR=3.1								
CLL	**Collm**	**126.48**	**332**	⇓*iP*		PKPdf	15 29 30.8	-0.2
CLL	**Collm**	**126.48**	**332**	⇓*iP*KPdf		PKPdf	15 29 30.8	-0.2
comp=Z,2.0nm,0.6s								
GERES	**GERESS Array B**	**127.76**	**329**	PKP		PKPdf	15 29 33.5	0.0
comp=Z,1.1nm,0.6s,baz=75,slow=1.7,SNR=14								
LPAZ	**La Paz**	**130.45**	**118**	PKP		PKPdf	15 29 39.5	0.0
comp=Z,1.0nm,0.6s,baz=348,slow=3.2,SNR=5.6								
DAVOX	**Davos/Dischmat**	**131.05**	**329**	PKP		PKPdf	15 29 39.8	0.0
comp=Z,1.7nm,0.5s,baz=3.4,slow=17								
ESDC	**Sonseca Array**	**143.01**	**334**	PKhKP			15 29 58.9	
comp=Z,0.2nm,0.5s,baz=196,slow=24,SNR=3.3								
BDFB	**Brasília**	**147.10**	**134**	PKPbc		PKPbc	15 30 10.8	-1.1
comp=Z,7.8nm,0.6s,baz=222,slow=2.8,SNR=16								
MDT	**Midelt**	**148.81**	**327**	PKPbc		PKPbc	15 30 16.5	+0.3
comp=Z,3.4nm,0.7s,baz=17,slow=6.8,SNR=6.2								
TORD	**Torodi Ar. Bea**	**154.07**	**285**	PKP		PKPdf	15 30 20.9	+0.2
TORD				PKPbc		PKPbc	15 30 27.2	-1.6
TORD				PKPab		PKPab	15 30 41.1	-1.3
TORD	**Torodi Ar. Bea**	**154.07**	**285**	PKP		PKPdf	15 30 20.9	+0.2
comp=Z,0.4nm,0.8s,baz=12,slow=2.1,SNR=3.2								
TORD				PKPbc		PKPbc	15 30 27.2	-1.6
comp=Z,1.4nm,0.7s,baz=73,slow=2.6,SNR=9.8								
TORD				PKPab		PKPab	15 30 41.1	-1.3
comp=Z,1.5nm,0.8s,baz=73,slow=2.4,SNR=6.5								
DBIC	**Dimbokro**	**161.02**	**270**	PKP		PKPdf	15 30 30.2	+0.8
comp=Z,2.2nm,0.9s,baz=346,slow=5.6,SNR=2.2								
DBIC				PKPab		PKPab	15 31 11.7	-0.9

GUC 08 15:11:07.5±0.8, 2877S×6947W, h125km±20km, ML3.8, 3C, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
VACH	**Vallenar**	**1.15**	**280**	*i* P		Pn	15 11 31.9	+0.5
VACH				*i* S		Sn	15 11 50.2	+0.7
VACH					AML	AML	15 11 52.5	
comp=E,1μm,0.1s								
CPCH	**Copiapo**	**1.61**	**331**	⇑*iP*		Pn	15 11 36.9	+0.3
CPCH				*i* S		Sn	15 11 58.9	+0.3
CPCH					AML	AML	15 12 00.6	
comp=E,2μm,0.1s								
TLL	**Tololo Astrono**	**1.81**	**220**	⇑*eP*		Pn	15 11 40.4	+1.5
TLL				*i* S		Sn	15 12 04.5	+1.6
CDCH	**Caldera**	**2.07**	**324**	*i* P		Pn	15 11 42.6	+0.5
CDCH				*i* S		Sn	15 12 08.8	+0.1
CMCH	**Combarbala**	**2.74**	**209**	⇑*iP*		Pn	15 11 51.0	+0.5
CMCH				*i* S		Sn	15 12 24.1	+0.5
CMCH					AML	AML	15 12 25.1	
comp=E,373nm,0.6s								

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*ISCJB **08** 15:11:29.0±0.5, 3073S±004×17907W±009, h105km±5km, mb5.1/28, Error ellipse: s-maj=13.5km s-min=5.2km az=17.7*
*BJI **08** 15:11:29.2, 3046S×17878W, h117km, mB5.3, mb5.1*
*NEIC **08** 15:11:30.6±0.7, 3072S×17860W, h126km±6km, mb5.1/9, Error ellipse: s-maj=12.2km s-min=7.1km az=117.0*
*MOS **08** 15:11:33.4±3.3, 3034S×17907W, h132km, mb5.1/6, Error ellipse: s-maj=14.6km s-min=12.6km az=84.2*
*IDC **08** 15:11:33.9±0.7, 3037S×17877W, h143km±6km, mb4.5/11, mb1 4.6/11, mb1mx4.5/14, mbtmp4.5/11, MS3.7/1, Ms1 3.7/1, ms1mx2.9/27, Error ellipse: s-maj=13.9km s-min=12.5km az=121.0*

ISC 08 15:11:30.4±0.5, 3071S±004×17897W±009, h107km±5km, n286, σ1§36/124, mb5.1/28, 22C-15D, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.71**	**33**	*e*Pn		**Pn**	**15 12 01.0**	**+1.3**
RAO	**Raoul Island**	**1.71**	**33**	P		**Pn**	**15 12 00.3**	**+0.7**
639nm,0.3s,baz=89,slow=4.7,SNR=23								
RAO				S		**Sn**	**15 12 22.1**	**+0.2**
1μm,0.3s,baz=94,slow=21,SNR=18								
MXZ	**Matakaoa Point**	**7.20**	**198**	*eP*		**Pn**	**15 13 14.3**	**+1.3**
MXZ	**Matakaoa Point**	**7.20**	**198**	PN		**Pn**	**15 13 13.8**	**+0.9**
MXZ				SN		**Sn**	**15 14 35.4**	**+2.2**
PUZ	**Puketiti**	**7.70**	**197**	*eP*		**Pn**	**15 13 19.6**	**-0.1**
PUZ	**Puketiti**	**7.70**	**197**	PN		**Pn**	**15 13 19.6**	**-0.1**
PUZ				SN		**Sn**	**15 14 45.0**	**-0.2**
MARZ	**Manawahe**	**8.11**	**205**	PN		**Pn**	**15 13 31.8**	**+6.6**
MWZ	**Matawai**	**8.14**	**200**	*eP*		**Pn**	**15 13 25.9**	**+0.2**
MWZ	**Matawai**	**8.14**	**200**	PN		**Pn**	**15 13 25.9**	**+0.2**
MWZ				SN		**Sn**	**15 14 59.6**	**+3.7**
URZ	**Urewera**	**8.20**	**202**	P		**Pn**	**15 13 27.0**	**+0.5**
URZ	**Urewera**	**8.20**	**202**	P		**Pn**	**15 13 27.1**	**+0.6**
3.4nm,0.3s,baz=179,slow=21,SNR=31								
URZ				S		**Sn**	**15 15 00.6**	**+3.2**
30nm,0.3s,baz=117,slow=22,SNR=13								
URZ	**Urewera**	**8.20**	**202**	PN		**Pn**	**15 13 27.0**	**+0.5**
BKZ	**Black Stump Fm**	**9.22**	**203**	*eP*		**Pn**	**15 13 39.1**	**-1.3**
BKZ	**Black Stump Fm**	**9.22**	**203**	PN		**Pn**	**15 13 39.1**	**-1.3**
HIZ	**Hauiti**	**9.30**	**211**	*eP*		**Pn**	**15 13 45.0**	**+3.5**
HIZ	**Hauiti**	**9.30**	**211**	PN		**Pn**	**15 13 45.0**	**+3.5**
FWVZ	**Far West T-bar**	**9.64**	**206**	*eP*		**Pn**	**15 13 45.8**	**-0.2**
FWVZ	**Far West T-bar**	**9.64**	**206**	PN		**Pn**	**15 13 47.4**	**+1.4**
WNVZ	**Wahianoa**	**9.68**	**206**	P		**Pn**	**15 13 46.7**	**0.0**
WNVZ	**Wahianoa**	**9.68**	**206**	PN		**Pn**	**15 13 46.7**	**+0.1**
PKVZ	**Pokaka**	**9.75**	**207**	PN		**Pn**	**15 13 49.6**	**+2.0**
MTVZ	**Mangateitei**	**9.78**	**206**	PN		**Pn**	**15 13 48.9**	**+0.9**
PXZ	**Pawanui**	**9.91**	**199**	PN		**Pn**	**15 13 46.4**	**-3.2**
TSZ	**Takapari Road**	**10.21**	**202**	*eP*		**Pn**	**15 13 50.7**	**-3.0**
TSZ	**Takapari Road**	**10.21**	**202**	PN		**Pn**	**15 13 50.7**	**-3.1**
NEZ	**North Egmont**	**10.26**	**212**	P		**Pn**	**15 13 58.1**	**+3.6**
WAZ	**Wanganui**	**10.29**	**207**	*eP*		**Pn**	**15 13 56.5**	**+1.6**
BFZ	**Birch Farm**	**10.68**	**200**	PN		**Pn**	**15 13 56.4**	**-3.8**
MRZ	**Mangatainoka R**	**10.88**	**203**	*eP*		**Pn**	**15 13 58.8**	**-4.0**
MRZ	**Mangatainoka R**	**10.88**	**203**	PN		**Pn**	**15 13 58.8**	**-4.0**
KIW	**Kapiti Island**	**11.28**	**204**	P		**Pn**	**15 14 04.1**	**-4.1**
KIW	**Kapiti Island**	**11.28**	**204**	PN		**Pn**	**15 14 04.1**	**-4.1**
MTW	**Mount Morrison**	**11.35**	**202**	P		**Pn**	**15 14 08.6**	**-0.5**
MTW	**Mount Morrison**	**11.35**	**202**	PN		**Pn**	**15 14 05.1**	**-3.9**
CAW	**Cannon Point**	**11.45**	**203**	P		**Pn**	**15 14 05.9**	**-4.5**
CAW	**Cannon Point**	**11.45**	**203**	PN		**Pn**	**15 14 05.9**	**-4.5**
PAWZ	**Paruwai Farm**	**11.57**	**201**	P		**Pn**	**15 14 07.8**	**-4.3**
MSWZ	**Moikau Station**	**11.66**	**202**	P		**Pn**	**15 14 12.2**	**-1.0**
MSWZ	**Moikau Station**	**11.66**	**202**	PN		**Pn**	**15 14 12.2**	**-1.1**
SNZO	**South Karori**	**11.75**	**204**	*eP*		**Pn**	**15 14 09.2**	**-5.2**
SNZO	**South Karori**	**11.75**	**204**	PN		**Pn**	**15 14 09.2**	**-5.2**
BHW	**Baring Head**	**11.78**	**203**	P		**Pn**	**15 14 12.6**	**-2.2**
TCW	**Tory Channel**	**11.82**	**206**	P		**Pn**	**15 14 12.0**	**-3.3**
TUWZ	**Tuamarina**	**12.13**	**206**	PN		**Pn**	**15 14 16.8**	**-2.7**
NNZ	**Nelson**	**12.18**	**208**	*eP*		**Pn**	**15 14 15.9**	**-4.2**
QRZ	**Quartz Range**	**12.22**	**212**	*eP*		**Pn**	**15 14 21.5**	**+0.8**
THZ	**Tophouse**	**12.83**	**208**	*eP*		**Pn**	**15 14 25.1**	**-3.5**
KHZ	**Kahutara**	**13.14**	**205**	*eP*		**Pn**	**15 14 28.0**	**-4.7**
DSZ	**Denniston Nort**	**13.29**	**211**	*eP*		**Pn**	**15 14 32.8**	**-1.8**
LTZ	**Lake Taylor**	**13.94**	**208**	*eP*		**Pn**	**15 14 38.2**	**-4.9**
MQZ	**McQueen's Vall**	**14.58**	**205**	*eP*		**Pn**	**15 14 47.1**	**-4.2**
WVZ	**Waitaha Valley**	**14.82**	**211**	*eP*		**Pn**	**15 14 52.7**	**-1.7**
RPZ	**Rata Peaks**	**15.21**	**209**	*eP*		**Pn**	**15 14 55.4**	**-3.8**
RPZ	**Rata Peaks**	**15.21**	**209**	P		**Pn**	**15 14 54.4**	**-4.8**
0.5nm,0.3s,baz=329,slow=12,SNR=4.8								
RPZ				S		S	15 17 36.1	-21
4.1nm,0.3s,baz=25,slow=18,SNR=12								
ODZ	**Otahua Downs**	**16.48**	**207**	*eP*		**Pn**	**15 15 13.1**	**-1.9**
JCZ	**Jackson Bay**	**16.50**	**213**	*eP*		**Pn**	**15 15 12.0**	**-3.3**
AFI	**Afiamalu**	**17.98**	**23**	*eP*		**Pn**	**15 15 29.2**	**-4.3**
ARMA	**Armidale**	**25.29**	**263**	*eP*		**P**	**15 16 51.7**	**+4.9**
CNB	**Canberra Magne**	**26.88**	**252**	*eP*		**P**	**15 17 05.9**	**+4.8**
25nm,0.9s,mb4.8								
EIDS	**Eidsvold**	**26.92**	**274**	*eP*		**P**	**15 17 03.9**	**+2.4**
CTA	**Charters Tower**	**33.02**	**280**	⇓*iP*		**P**	**15 17 58.0**	**+2.5**
21nm,0.6s,mb5.1								
CTA	**Charters Tower**	**33.02**	**280**	⇓*iP*		**P**	**15 17 58.0**	**+2.5**
CTA				pmax		pmax		
comp=Z,21nm,0.6s								
CTA	**Charters Tower**	**33.02**	**280**	P		**P**	**15 17 56.8**	**+1.3**
comp=Z,23nm,0.5s,mb5.2,baz=106,slow=10,SNR=39								
CTA				LR		LR	15 28 49.6	
comp=Z,133nm,20.2s,baz=54,slow=31								
CTAO	**Charters Tower**	**33.02**	**280**	*eP*		**P**	**15 17 57.9**	**+2.4**
comp=Z,28nm,0.9s,mb5.1								
CTAO	**Charters Tower**	**33.02**	**280**	*eP*		**P**	**15 17 57.9**	**+2.4**
CTAO				pmax		pmax		
comp=Z,28nm,0.9s,mb5.1								
STKA	**Stephens Creek**	**33.59**	**258**	⇓*iP*		**P**	**15 18 03.8**	**+3.4**
comp=Z,60nm,0.6s,mb5.6								
STKA	**Stephens Creek**	**33.59**	**258**	P		**P**	**15 18 03.3**	**+2.9**
comp=Z,81nm,0.6s,mb5.8,baz=97,slow=9.6,SNR=123								
ASAR	**Alice Springs**	**42.26**	**268**	P		**P**	**15 19 14.6**	**+1.3**
ASAR				PcP		PcP	15 21 04.3	-0.9
ASAR				ScP		ScP	15 24 40.9	-5.1
ASAR	**Alice Springs**	**42.26**	**268**	P		**P**	**15 19 14.6**	**+1.4**
ASAR							15 21 04.4	
ASAR	**Alice Springs**	**42.26**	**268**	P		**P**	**15 19 14.6**	**+1.3**
comp=Z,22nm,0.5s,mb5.1,baz=104,slow=7.3,SNR=138								
ASAR				PcP		PcP	15 21 04.3	-0.9
comp=Z,2.2nm,0.4s,baz=113,slow=4.0,SNR=5.6								
ASAR				ScP		ScP	15 24 40.9	-5.1
comp=Z,3.8nm,1.0s,baz=127,slow=4.0,SNR=9.7								
ASAR				PKiKP		PKiKP	15 28 08.7	-1.8
comp=Z,0.2nm,0.3s,baz=107,slow=1.8,SNR=4.8								
WB2	**Warramunga Arr**	**43.26**	**273**	⇓*iP*		**P**	**15 19 22.0**	**+0.6**
WRAB	**Tennant Creek**	**43.27**	**273**	P		**P**	**15 19 22.0**	**+0.6**
comp=Z,646nm,0.6s,SNR=39								
WRAB	**Tennant Creek**	**43.27**	**273**	*eP*		**P**	**15 19 22.2**	**+0.8**
WRA	**Warramunga Arr**	**43.27**	**273**	P		**P**	**15 19 22.1**	**+0.6**
WRA				ScP		ScP	15 24 43.9	-6.3
WRA	**Warramunga Arr**	**43.27**	**273**	P		**P**	**15 19 22.1**	**+0.6**
comp=Z,78nm,0.6s,mb5.6,baz=112,slow=7.9,SNR=243								
WRA				ScP		ScP	15 24 43.9	-6.3
comp=Z,3.1nm,0.8s,baz=105,slow=3.8,SNR=8.8								
WRA				PKiKP		PKiKP	15 28 10.0	-1.5
comp=Z,0.3nm,0.3s,baz=78,slow=0.2,SNR=10								
FORT	**Forrest**	**45.16**	**256**	*eP*		**P**	**15 19 37.1**	**+0.7**
comp=Z,45nm,0.4s,mb5.5								
SBA	**Scott Base**	**47.67**	**184**	*eP*		**P**	**15 20 00.1**	**+4.7**
comp=Z,45nm,0.7s,mb5.4								
SBA	**Scott Base**	**47.67**	**184**	*eP*		**P**	**15 20 00.1**	**+4.7**
SBA				pmax		pmax		
comp=Z,45nm,0.7s,mb5.4								
VNDA	**Vanda**	**47.71**	**186**	P		**P**	**15 19 58.9**	**+3.2**
VNDA				PcP		PcP	15 21 23.7	+0.5
VNDA				ScP		ScP	15 25 04.7	-2.9
VNDA	**Vanda**	**47.71**	**186**	P		**P**	**15 19 58.9**	**+3.2**
VNDA							15 21 23.7	
VNDA	**Vanda**	**47.71**	**186**	P		**P**	**15 19 58.9**	**+3.3**
comp=Z,4.5nm,0.7s,mb4.4,baz=2.0,slow=8.7,SNR=36								
VNDA				PcP		PcP	15 21 23.7	+0.5
comp=Z,1.9nm,0.6s,baz=1.3,slow=4.6,SNR=3.6								
VNDA				ScP		ScP	15 25 04.7	-2.9
comp=Z,1.3nm,0.7s,baz=2.4,slow=4.4,SNR=5.3								
KAKA	**Kakadu**	**48.16**	**281**	*eP*		**P**	**15 19 58.8**	**-1.2**
comp=Z,7.8nm,0.6s,mb4.7								
FITZ	**Fitzroy Crossi**	**51.52**	**271**	*eP*		**P**	**15 20 25.8**	**+0.4**
comp=Z,22nm,0.6s,mb5.4								
FITZ	**Fitzroy Crossi**	**51.52**	**271**	P		**P**	**15 20 25.9**	**+0.5**
comp=Z,13nm,0.7s,mb5.1,baz=167,slow=7.5,SNR=18								
KLBR	**Kellerberrin**	**53.46**	**252**	*eP*		**P**	**15 20 39.0**	**-0.5**
comp=Z,12nm,0.3s,mb5.4								
CASY	**Casey**	**54.48**	**208**	*eP*		**P**	**15 20 46.4**	**0.0**
MUN	**Mundaring**	**54.60**	**251**	*eP*		**P**	**15 20 47.3**	**-0.6**
BATI	**Kupang**	**56.86**	**278**	P		**P**	**15 21 05.8**	**+1.6**
comp=Z,8.3nm,0.5s,mb5.0,baz=286,slow=14

CD2 AP pP 15 25 19.2 +7.7
CD2 PP PP 15 28 39.2 +3.0
CD2 SKS 15 35 04.8
CD2 SS SS 15 42 22.1 -0.4
CD2 AMB AMB
comp=Z,20nm,0.9s,mb5.5
CD2 AMB AMB
comp=Z,40nm,8.6s
CD2 LR LR
comp=N,120nm,16.4s
CD2 LR LR
comp=Z,130nm,15.6s
HHC Hu-ho-hao-te 95.84 314 *e*P **P 15 24 43.5 -1.0**
HHC PP PP 15 28 42.1 +3.8
HHC SKS 15 35 02.4
HHC S S 15 35 45.5 -7.7
HHC SS SS 15 42 25.0 -1.5
HHC AMB AMB
comp=Z,23nm,0.6s,mb5.8
HHC AMB AMB
comp=Z,106nm,6.4s
SEY Seymchan 96.08 347⇑*e*P **P 15 24 44.7 -0.3**
PDAR Pinedale Array 96.93 44 PKKPbc PKKPbc 15 41 30.6 -0.6
comp=Z,0.6nm,0.4s,baz=88,slow=3.5,SNR=9.0
LZH Lanzhou 98.23 307 *e*P **P 15 24 55.0 -0.4**
LZH AMB AMB
comp=Z,16nm,1.0s,mb5.5
LZH AMB AMB
comp=Z,70nm,4.4s
BILL Bilibino 99.06 354⇓*e*P **P 15 24 56.1 -2.2**
BILL *e* 15 28 57.6
BILL pmax pmax
comp=Z,2.0nm,0.9s,mb4.7
SONM Songino Array 102.81 318 P Pdif 15 25 11.8 -4.0
comp=Z,0.2nm,0.4s,baz=90,slow=1.4,SNR=2.5
SONM PKiKP PKiKP 15 29 34.1 -1.3
comp=Z,0.5nm,0.8s,baz=45,slow=2.3,SNR=3.6
SONM PKPPKP 15 49 42.4
comp=Z,0.3nm,0.9s,baz=254,slow=1.7,SNR=3.9
YKA Yellowknife Ar 106.08 26 PKPdf PKiKP 15 29 38.5 -2.5
YKA PKKPbc PKKPbc 15 40 59.6 -5.5
YKA PKKPab PKKPab 15 41 17.9 +0.7
YKA Yellowknife Ar 106.08 26 PKiKP PKiKP 15 29 38.5 -2.5
comp=Z,0.2nm,0.5s,baz=269,slow=1.8,SNR=5.2
YKA PKKPbc PKKPbc 15 40 59.6 -5.5
comp=Z,0.5nm,0.5s,baz=40,slow=2.7,SNR=4.7
YKA PKKPab PKKPab 15 41 17.9 +0.7
comp=Z,0.7nm,0.9s,baz=43,slow=4.8,SNR=6.1
TIXI Tiksi 108.33 345 *e*PKiKP PKiKP 15 29 43.2 -1.8
MK31 Makanchi Array 117.33 310 *e*PKPdf PKPdf 15 30 00.5 -2.4
MKAR Makanchi Array 117.33 310 PKP PKPdf 15 30 00.5 -2.4
comp=Z,3.4nm,0.6s,baz=192,slow=0.8,SNR=31
ZALV Zalesovo Beam 117.70 318 PKP PKPdf 15 30 00.9 -2.4
comp=Z,2.0nm,0.5s,baz=108,slow=0.9,SNR=13
ZAL Zalesovo 117.71 318 PKIKP PKPdf 15 30 00.9 -2.4
NVS Novosibirsk 118.82 319 *e*PKIKP PKPdf 15 30 02.1 -3.3
KURK Kurchatov 120.65 314 *e*PKPdf PKPdf 15 30 06.3 -2.8
KURK Kurchatov 120.65 314⇑*i*PKIKP PKPdf 15 30 07.6 -1.5
TKM2 Tokmak 2 120.87 304 *e*PKPdf PKPdf 15 30 08.2 -1.5
TKM2 Tokmak 2 120.87 304 P PKPdf 15 30 08.6 -1.2
SNR=9.2
KZA Kyzart 120.90 303 P PKPdf 15 30 09.5 -0.4
SNR=12
KBK Karagaybulak 121.27 304 P PKPdf 15 30 09.3 -1.2
SNR=8.1
UCH Uchtor 121.47 303 *e*PKPdf PKPdf 15 30 09.8 -1.1
UCH Uchtor 121.47 303 P PKPdf 15 30 10.7 -0.2
SNR=23
CHMS Chumysh 121.49 304 P PKPdf 15 30 09.2 -1.7
SNR=11
AAK Ala-Archa 121.58 304 P PKPdf 15 30 10.1 -1.1
SNR=6.8
USP Ospenovka 121.73 305 P PKPdf 15 30 09.9 -1.5
SNR=17
AML Almayashu 122.04 303 *e*PKPdf PKPdf 15 30 11.2 -0.8
AML Almayashu 122.04 303 P PKPdf 15 30 11.3 -0.8
SNR=24
EKS2 Erkin-Say 122.10 304 *e*PKPdf PKPdf 15 30 11.3 -0.9
EKS2 Erkin-Say 122.10 304 P PKPdf 15 30 11.5 -0.7
SNR=10
BRVK Borovoye 126.10 316 *e*PKPdf PKPdf 15 30 17.5 -2.0
ARU Arti 132.79 320 *e*PKPdf PKPdf 15 30 31.1 -1.0
ARU Arti 132.79 320 *i*PKIKP PKPdf 15 30 31.3 -0.8
ARU 15 32 57.5
ARU SS SS 15 50 22.1 -9.1
KMBO Kilima Mbogo 133.22 234 PKP PKPdf 15 30 35.0 +0.6
KMBO SKPbc SKPbc 15 33 48.7 -4.0
KMBO Kilima Mbogo 133.22 234 PKP PKPdf 15 30 35.0 +0.6
comp=Z,1.4nm,0.7s,baz=74,slow=6.0,SNR=5.1
KMBO SKPbc SKPbc 15 33 48.7 -4.0
comp=Z,0.8nm,0.4s,baz=86,slow=7.6,SNR=5.1
AKTK Aktyubinsk 133.69 312 PKP PKPdf 15 30 31.6 -2.4
AKTO Aktyubinsk 133.69 312 PKP PKPdf 15 30 31.6 -2.4
comp=Z,7.5nm,0.6s,baz=82,slow=2.8,SNR=26
ARCES ARCESS Array B 138.71 347 PKP 15 30 32.5
ARCES PKP PKPdf 15 30 40.8 -1.9
ARCES ARCESS Array B 138.71 347 PKhKP 15 30 32.5
comp=Z,4.0nm,0.8s,baz=79,slow=2.6,SNR=24
ARCES PKP PKPdf 15 30 40.8 -1.9
comp=Z,6.1nm,0.7s,baz=13,slow=1.2,SNR=8.7
JOF Joensuu 142.39 338 *e*pkp PKPdf 15 30 43.3 -6.3
DGRG David-gareji 142.95 299 P PKPdf 15 30 47.8 -3.5
HAKT HAKKARI 144.25 293 *i*P PKPdf 15 30 52.2 -1.4
DYDN Diyadin 144.29 296 *i*P PKPdf 15 30 52.9 -0.7
ONI Oni 144.31 301 P PKPdf 15 30 52.3 -1.3
DIGO Kars 144.50 298 *i*P PKPdf 15 30 53.0 -1.0
KAF Kangasniemi 144.55 340 *e*pkp PKPdf 15 30 49.7 -3.7
baz=41,slow=3.2
KIV Kislovodsk 144.70 304 *e*PKP PKPdf 15 30 52.8 -1.5
KIV Kislovodsk 144.70 304⇑*i*PKIKP PKPdf 15 30 53.2 -1.0
KIV Kislovodsk 144.70 304⇓*i*P PKPdf 15 30 52.2 -2.0
OBN Obninsk 144.94 324 *e*PKPdf PKPdf 15 30 52.0 -2.2
OBN Obninsk 144.94 324⇓*i*PKIKP PKPdf 15 30 52.7 -1.6
OBN *e* 15 34 11.6
OBN *e* 15 37 35.7
OBN *e*SS SS 15 52 47.7 -6.1
OBN pmax pmax
comp=Z,91nm,0.8s
TUTA Tutak 144.97 296 *i*P PKPdf 15 30 55.0 +0.2
FIA1 FINESS Array S 145.14 339 *e*PKPdf PKPdf 15 30 51.8 -2.6
FINES FINESS Array B 145.14 339 PKP PKPdf 15 30 51.5 -2.9
FINES FINESS Array B 145.14 339 PKP PKPdf 15 30 51.5 -2.9
comp=Z,59nm,0.5s,baz=59,slow=4.2,SNR=317
VRSR Storozhevoye 145.18 317 *e*PKIKP PKPdf 15 30 53.8 -1.0
VRSR pmax pmax
comp=N,5.0nm,0.9s
VRSR pmax pmax
comp=Z,10.0nm,0.9s
VRSR pmax pmax
comp=E,9.0nm,0.8s
ARTV Artvin 145.56 299 *i*P PKPdf 15 30 56.3 +0.5
ERZM Erzurum 146.06 297 *i*P PKPdf 15 30 58.8 +2.1
BNGL BINGOL 146.27 295 *i*P PKPdf 15 30 59.3 +2.2
MARD Mardin 146.58 292 *i*P PKPdf 15 30 59.4 +1.7
KOPT Kop Dagi 146.72 297 *i*P PKPdf 15 31 00.7 +2.8
SOC Sochi 146.89 304 *i*PKHKP 15 30 55.0
ELZG Elazig 147.98 294 *i*P PKPbc 15 31 03.7 +0.5
ANN Anapa 148.25 307 *i*PKIKP PKPdf 15 31 02.7 +2.5
ANN pmax pmax
comp=Z,67nm,1.1s
MALT Malatya 148.42 294 *e*PKPdf PKPdf 15 31 00.3 -0.4
MALT *e*PKPbc PKPbc 15 31 04.1 -0.2
MALT Malatya 148.42 294⇓*i*P PKPbc 15 31 04.0 -0.3
NOA NORSAR Array B 148.92 350 PKPbc PKPbc 15 31 02.8 -2.0
comp=Z,18nm,0.7s,baz=15,slow=4.2,SNR=53
GZT Gaziantep 149.14 292 *i*P PKPbc 15 31 06.0 -0.1
HFS Hagfors 149.37 348 PKPbc PKPbc 15 31 03.6 -2.4
comp=Z,25nm,0.7s,baz=108,slow=3.9,SNR=42
ASF Jabal al Asfar 149.45 282 PKPbc PKPbc 15 31 07.0 -0.1
comp=Z,15nm,0.7s,baz=358,slow=1.7,SNR=20
ANDN Andirin 150.10 293 *i*P PKPbc 15 31 08.3 -0.2
COBT Iskenderun 150.21 291 *i*P PKPbc 15 31 09.2 +0.4
SIM Simferopol' 150.48 308 *c*PKIKP PKPbc 15 31 09.2 0.0
SIM pmax pmax
comp=Z,36nm,0.8s
KONO Kongsberg 150.48 351⇑*i*PKIKP PKPbc 15 31 08.6 -0.1
EIL Elat 150.72 277 PKPbc PKPbc 15 31 09.9 -0.3
comp=Z,34nm,0.6s,baz=92,slow=0.2,SNR=36
BOYT Boyabat 150.77 301 *i*P PKPbc 15 31 10.0 0.0
MMAI Mount Meron Ar 150.79 284 PKPbc PKPbc 15 31 10.7 +0.4
comp=Z,18nm,0.3s,baz=78,slow=7.8,SNR=100
CTKT Corum 150.99 299 *i*P PKPbc 15 31 10.4 -0.1
AKASG Malin Array Be 151.03 322 PKPbc PKPbc 15 31 08.4 -1.8
comp=Z,36nm,0.6s,baz=52,slow=2.7,SNR=126
AKBB Malin Array Si 151.03 322 *e*PKPbc PKPbc 15 31 08.3 -2.0
KIEV Kiev 151.04 322 *e*PKPbc PKPbc 15 31 08.4 -1.9
CDAG Cicekdag 151.46 297 *i*P PKPdf 15 31 09.1 +3.7
SUW Suwalki 151.76 332 *e*PKP PKPbc 15 31 11.0 -0.8
BALT Daday 151.87 302 *i*P PKPbc 15 31 12.3 -0.2
ELDT Eldivan 152.04 299 *i*P PKPbc 15 31 12.5 -0.5
ANTO Ankara 152.62 298 *e*PKPbc PKPbc 15 31 13.1 -1.1
ANTO Ankara 152.62 298⇓PKIKP PKPbc 15 31 13.7 -0.6
ANTO Ankara 152.62 298⇓*i*P PKPbc 15 31 13.6 -0.7
KIS Kishinev 153.12 315 *e*P PKPbc 15 31 15.0 -0.1
KDHN Kadinhani 153.34 295 *i*P PKPbc 15 31 14.3 -1.6
VRI Vrincioaia 154.93 314⇑P PKPab 15 31 34.6 -0.2
VRI Vrincioaia 154.93 314⇑*i*P PKPab 15 31 34.6 -0.2
PLOR Plostina 154.98 314⇓*i*P PKPab 15 31 34.3 -0.8
KWP Kalwaria 155.02 325 *e*PKP PKPab 15 31 34.7 -0.4
KWP Kalwaria 155.02 325⇑*i*P PKPab 15 31 34.7 -0.4
EKA Eskdalemuir Ar 155.20 6 PKPbc PKPdf 15 31 18.1 +7.8
comp=Z,0.6nm,0.5s,baz=0.0,slow=3.5,SNR=3.7
EKA PKPab PKPab 15 31 34.1 -1.5
comp=Z,1.7nm,0.6s,baz=347,slow=3.4,SNR=5.0
MLR Muntele Rosu 155.59 314 PKPbc PKPdf 15 31 19.0 +7.9
comp=Z,1.9nm,0.6s,baz=118,slow=22,SNR=3.9
MLR PKPab PKPab 15 31 37.4 -0.3
comp=Z,4.1nm,0.7s,baz=118,slow=4.0,SNR=7.4
MLR Muntele Rosu 155.59 314⇑*i*P PKPab 15 31 37.5 -0.2
STHS Stebnicka Huta 155.87 326 *e*PKP PKPab 15 31 37.9 -0.8
STHS Stebnicka Huta 155.87 326 *e*PKP PKPab 15 31 37.8 -0.9
CRVS Cervenica-Dubn 156.11 325 *e*PKP PKPab 15 31 39.0 -0.8
DRGR 156.79 320⇑P PKPab 15 31 42.6 -0.2
DRGR 156.79 320⇑*i*P PKPab 15 31 42.6 -0.2
KECS Kecovo 156.87 326 *e*PKP PKPab 15 31 41.5 -1.6
KSP Ksiaz 156.89 335 *e*PKP PKPdf 15 31 21.8 +9.1
KSP Ksiaz 156.89 335 *e*PKPdf PKPdf 15 31 21.6 +9.0
KSP *e*PKPab PKPab 15 31 42.2 -0.8
KSP Ksiaz 156.89 335 *e*PKP2 PKPab 15 31 42.2 -0.8
MORC Moravsky Berou 157.25 332⇓P PKPab 15 31 44.0 -0.6
MORC Moravsky Berou 157.25 332⇓*i*P PKPab 15 31 44.0 -0.6
UPC Upice 157.26 335 *e*PKPab PKPab 15 31 44.2 -0.5
DPC Dobruska-Polom 157.28 334 *e*PKPab PKPab 15 31 44.3 -0.4
PSZ Piszkesteto 157.55 325⇓P PKPab 15 31 45.7 -0.3
PSZ Piszkesteto 157.55 325⇓*i*P PKPab 15 31 45.7 -0.3
CLL Collm 157.58 340 *e*PKIKP PKPdf 15 31 12.0 -1.5
CLL *i* 15 31 45.1
CLL pmax pmax
comp=Z,2.0nm,0.9s
CLL Collm 157.58 340 *e*PKPdif PKPdf 15 31 12.0 -1.5
comp=Z,2.0nm,0.9s
CLL *i*PKPdif 15 31 23.7
comp=Z,6.0nm,1.0s
CLL *i*PKPab PKPab 15 31 45.1 -0.9
comp=Z,17nm,1.1s
CLL *e*pPKPab pPKPab 15 32 23.0 +8.7
CLL *e*pPP 15 36 01.0
VYHS Vyhne 157.65 328 *e*PKP PKPab 15 31 45.3 -1.1
BRG Berggiesshubel 157.67 338 *i*PKP2 PKPab 15 31 45.5 -0.9
BRG pmax pmax
comp=Z,6.0nm,1.0s
BRG Berggiesshubel 157.67 338 *i*PKP PKPab 15 31 45.5 -0.9
comp=Z,10nm,1.0s
PVCC Panska Ves 157.76 337 *e*PKPab PKPab 15 31 46.6 -0.2
KOLL Kolacno 157.78 328 *e*PKP PKPab 15 31 46.3 -0.7
VRAC Vranov 158.00 332⇑P PKPab 15 31 47.9 0.0
VRAC Vranov 158.00 332 PKPab PKPab 15 31 46.3 -1.6
comp=Z,4.5nm,1.0s,baz=81,slow=5.5,SNR=4.1
VRAC Vranov 158.00 332⇑*i*P PKPab 15 31 47.9 0.0
TREC Trest 158.45 334 *e*PKPab PKPab 15 31 49.3 -0.5
ZST Bratislava 158.65 329 *e*PKP PKPab 15 31 51.0 +0.3
VTS Vitosha 158.68 310⇑P PKPab 15 31 51.4 +0.3
VTS Vitosha 158.68 310⇑*i*P PKPab 15 31 51.4 +0.3
NKC Novy Kostel 158.69 340 *e*PKPab PKPab 15 31 49.8 -1.0
KHC Kasperske Hory 159.28 336 *e*PKPab PKPab 15 31 52.8 -0.6
PKSM Moragy 159.34 323⇑*i*P PKPab 15 31 52.7 -1.1
GERES GERESS Array B 159.48 336 PKP PKPdf 15 31 14.3 -1.5
comp=Z,0.7nm,0.8s,baz=90,slow=1.3,SNR=5.0
GERES PKPab PKPab 15 31 52.5 -1.8
comp=Z,1.5nm,0.6s,baz=45,slow=4.0,SNR=12
GRA1 Grafenberg Arr 159.53 341 *e*PKP PKPab 15 31 53.8 -0.7
GRF Grafenberg Arr 159.53 341 *e*PKP PKPab 15 31 53.8 -0.7
HGN Heimansgroeve 159.63 351 *e*PKP PKPab 15 31 53.5 -1.4
comp=Z,12nm,0.6s
BAIF Baives 160.52 354 *e*PKP2 PKPab 15 31 57.6 -1.2
PERS Pernice 160.71 329 *i*PKPdf PKPdf 15 31 15.4 -1.9
PERS *i* 15 31 58.0
BOJS Bojanci 161.51 327 *i*PKPdf PKPdf 15 31 17.5 -0.7
BOJS *e* 15 31 31.3
BOJS *i* 15 32 02.9
CDF Champ du Feu 161.68 347 *e*PKP2 PKPab 15 32 02.8 -1.1
comp=Z,7.5nm,0.8s
CEY Cerknica 161.71 329 *i*PKPdf PKPdf 15 31 18.1 -0.2
CEY *e* 15 32 02.4
FLN La Foliniere 161.93 3 *e*PKP2 PKPab 15 32 05.2 +0.3
MEZF Maizieres J'vi 161.96 351 *e*PKP2 PKPab 15 32 04.0 -1.1
comp=Z,7.7nm,0.6s
LDF La Druitiere 162.11 2 *e*PKP2 PKPab 15 32 05.5 -0.3
HAU Haudompre 162.25 348 *e*PKP2 PKPab 15 32 05.1 -1.3
comp=Z,10.0nm,0.7s
SGMF Saint Gilles 162.26 8 *e*PKP2 PKPab 15 32 05.6 -0.8
comp=Z,8.9nm,0.7s
GRR Gorron 162.28 4 *e*PKP2 PKPab 15 32 06.9 +0.4
QUIF Quistinic 162.51 9 *e*PKP2 PKPab 15 32 06.6 -0.9
comp=Z,11nm,0.7s
TOA0 Torodi Ar. Sit 162.52 182 *e*PKPab PKPab 15 32 08.3 0.0
TORD Torodi Ar. Bea 162.52 182 PKP PKPdf 15 31 18.5 -1.7
TORD PKPab PKPab 15 32 08.6 +0.3
TORD Torodi Ar. Bea 162.52 182 PKP PKPdf 15 31 18.5 -1.7
comp=Z,2.7nm,0.8s,baz=6.1,slow=0.8,SNR=7.0
TORD PKPab PKPab 15 32 08.6 +0.3
comp=Z,11nm,0.8s,baz=181,slow=2.8,SNR=24
DAVOX Davos/Dischmat 162.55 339 PKPab PKPab 15 32 06.7 -1.0
comp=Z,5.4nm,0.5s,baz=359,slow=3.7,SNR=12
LOR Lormes 163.32 353 *e*PKP2 PKPab 15 32 10.0 -1.1
comp=Z,4.0nm,0.5s
SSF Saint Saulge 163.56 354 *e*PKP2 PKPab 15 32 11.0 -1.1
comp=Z,25nm,0.8s
CABF La Chapelle 163.64 348 *e*PKP2 PKPab 15 32 11.7 -0.8
comp=Z,5.4nm,0.7s
AVF Avril sur Loir 163.84 354 *e*PKP2 PKPab 15 32 12.1 -1.3
comp=Z,19nm,1.0s
SMF Signal de Mont 163.94 353 *e*PKP2 PKPab 15 32 12.6 -1.2
comp=Z,31nm,0.9s
BGF Bois d'Agland 164.11 355 *e*PKP2 PKPab 15 32 13.3 -1.3
comp=Z,6.9nm,0.6s
LPL La Plagne 164.55 345 *e*PKP2 PKPab 15 32 16.4 -0.2
comp=Z,6.4nm,0.6s
LPG La Plagne 164.57 345 *e*PKP2 PKPab 15 32 16.6 0.0
comp=Z,14nm,0.9s
MBDF Montbardon 165.29 344 *e*PKP2 PKPab 15 32 19.1 -0.7
comp=Z,5.8nm,0.5s
ORIF Oris-en-Rattie 165.31 346 *e*PKP2 PKPab 15 32 19.4 -0.5
comp=Z,8.3nm,0.8s
RJF Les Rejaudoux 165.42 359 *e*PKP2 PKPab 15 32 18.8 -1.6
VIVF Saint-Julien-l 165.59 350 *e*PKP2 PKPab 15 32 19.6 -1.5
LFF La Frestale 165.79 1 *e*PKP2 PKPab 15 32 20.7 -1.3
comp=Z,6.1nm,0.6s
SBF Sospel 165.92 341 *e*PKP2 PKPab 15 32 21.5 -1.2
comp=Z,30nm,0.8s
SMRF Simiane la Rot 166.27 346 *e*PKP2 PKPab 15 32 23.8 -0.4
FRF La Foret Royal 166.41 342 *e*PKP2 PKPab 15 32 23.7 -1.1
comp=Z,14nm,0.8s
LASF Ste Croix 166.47 351 *e*PKP2 PKPab 15 32 24.1 -0.9
comp=Z,5.8nm,0.8s
PGF Pioggiola 166.57 334 *e*PKP2 PKPab 15 32 24.3 -1.3
comp=Z,17nm,1.0s
LMR La Mourre 166.66 342 *e*PKP2 PKPab 15 32 25.0 -0.9
comp=Z,23nm,1.0s
ESDC Sonseca Array 170.17 23 PKP PKPdf 15 31 24.4 -1.0
comp=Z,0.9nm,0.7s,baz=356,slow=2.7,SNR=8.2
KEST Kesra 171.42 308 PKPab PKPab 15 32 47.5 +0.1
comp=Z,1.2nm,0.7s,baz=337,slow=2.6,SNR=4.0

IDC 08 15:20:55.0±1.3, 809S×15705E, h0km, mb3.5/4, mb1 3.7/5, mb1mx3.5/14, mbtmp3.6/5, ML4.7/1, Error ellipse: s-maj=35.1km s-min=25.8km az=19.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**3.16**	**115**	Pn	Pn	15 21 46.0	0.0
	83nm,0.3s,baz=258,slow=6.2,SNR=32						
HNR				Sn	Sn	15 22 25.7	+1.2
	84nm,0.3s,baz=94,slow=18,SNR=7.9						
WRA	**Warramunga Arr**	**24.95**	**239**	P	P	15 26 20.0	-0.2
	0.7nm,0.6s,baz=65,slow=10,SNR=5.2						
ASAR	**Alice Springs**	**27.05**	**232**	P	P	15 26 39.7	+0.5
	0.6nm,1.1s,baz=64,slow=9.4,SNR=2.9						
SONM	**Songino Array**	**71.35**	**327**	P	P	15 32 17.3	+0.6
	0.2nm,0.3s,baz=131,slow=8.1,SNR=2.6						
MKAR	**Makanchi Array**	**85.56**	**318**	P	P	15 33 34.6	-0.6
	0.1nm,0.2s,baz=92,slow=3.2,SNR=3.1						

*ISCJB **08** 15:24:00.8±0.8, 73S±0.1×1560E±0.1, h10km, mb3.8/7, MS4.0/2, Error ellipse: s-maj=18.7km s-min=16.0km az=18.8*
*IDC **08** 15:24:00.6±1.3, 730S×1559 4E, h0km, mb3.9/6, mb1 3.9/7, mb1mx3.8/14, mbtmp3.9/7, MS4.0/2, Ms1 4.0/2, ms1mx3.1/26, Error ellipse: s-maj=35.8km s-min=26.9km az=96.0*
*NEIC **08** 15:24:02.2±0.7, 733S×1559 9E, h10km, mb4.4/1, Error ellipse: s-maj=18.0km s-min=15.8km az=204.0*

ISC 08 15:24:02.3±0.8, 73S±0.1×1560E±0.1, h10km, n13, σ0§90/13, mb3.8/7, MS4.0/2, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.44**	**118**	*e*Pn	**Pn**	**15 25 09.6**	**-0.2**
HNR				Sn	**Sn**	**15 26 10.9**	**+9.3**
HNR	**Honiara**	**4.44**	**118**	Pn	**Pn**	**15 25 10.1**	**+0.3**
	baz=271,slow=2.2,SNR=1.9						
HNR				Sn	**Sn**	**15 26 10.9**	**+9.3**
	5.6nm,0.3s,baz=261,slow=14,SNR=4.3						
WB2	**Warramunga Arr**	**24.43**	**237**	P	**P**	**15 29 22.1**	**+0.7**
WRA	**Warramunga Arr**	**24.44**	**237**	P	**P**	**15 29 22.1**	**+0.6**
	1.4nm,0.5s,mb3.6,baz=63,slow=9.6,SNR=6.4						
ASAR	**Alice Springs**	**26.70**	**230**	P	**P**	**15 29 40.1**	**-1.7**
	0.3nm,0.7s,mb2.9,baz=57,slow=10,SNR=3.0						
STKA	**Stephens Creek**	**27.86**	**207**	P	**P**	**15 29 52.4**	**+0.1**
	2.2nm,1.0s,mb3.7,baz=48,slow=12,SNR=2.6						
BATI	**Kupang**	**32.06**	**263**	LR	LR	15 43 03.2	
	comp=Z,170nm,20.8s,MS3.7,baz=257,slow=36						
PPT	**Papeete**	**53.96**	**106**	LR	LR	15 53 57.4	
	comp=Z,240nm,19.2s,MS4.3,baz=66,slow=33						
SONM	**Songino Array**	**70.15**	**327**	P	**P**	**15 35 14.1**	**-0.9**
	0.4nm,0.7s,mb3.5,baz=123,slow=5.5,SNR=3.9						
SBA	**Scott Base**	**70.71**	**178**	*e*P	**P**	**15 35 13.6**	**-4.4**
	2.1nm,0.6s,mb4.2						
MK31	**Makanchi Array**	**84.30**	**318**	*e*P	**P**	**15 36 35.5**	**+1.0**
MKAR	**Makanchi Array**	**84.30**	**318**	P	**P**	**15 36 35.4**	**+0.9**
	1.9nm,0.7s,mb4.3,baz=105,slow=6.0,SNR=23						
ZALV	**Zalesovo Beam**	**85.00**	**326**	P	**P**	**15 36 37.1**	**-0.8**
	1.3nm,0.5s,mb4.3,baz=109,slow=6.5,SNR=6.7						

*IDC **08** 15:32:07.2±4.2, 6.16S×101 70E, h0km, mb3.6/5, mb1 3.6/5, mb1mx3.5/16, mbtmp3.6/5, Error ellipse: s-maj=177.2km s-min=22.8km az=53.0*
*ISCJB **08** 15:32:14.3±3.6, 63S±0.7×1016E±0.9, h80km±44km, mb3.6/5, Error ellipse: s-maj=184.8km s-min=24.3km az=141.2*
*NEIC **08** 15:32:14.2±1.8, 569S×1022 8E, h30km, Error ellipse: s-maj=87.9km s-min=13.7km az=59.0*

ISC 08 15:32:16.5±3.2, 63S±0.7×1017E±0.9, h79km±40km, n9, σ1§04/7, mb3.6/5, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
XMIS	**Christmas Isla**	**5.75**	**137**	*e*P	**Pn**	**15 33 39.2**	**0.0**
WRA	**Warramunga Arr**	**34.51**	**116**	P	**P**	**15 38 56.8**	**-0.5**
	0.3nm,0.8s,mb3.2,baz=300,slow=8.6,SNR=2.4						
ASAR	**Alice Springs**	**35.48**	**123**	P	**P**	**15 39 06.2**	**+0.6**
	0.4nm,0.8s,mb3.3,baz=300,slow=8.0,SNR=4.2						
SONM	**Songino Array**	**54.03**	**4**	P	**P**	**15 41 33.0**	**+0.4**
	0.8nm,0.7s,mb3.9,baz=186,slow=7.5,SNR=6.2						
MKAR	**Makanchi Array**	**55.56**	**344**	P	**P**	**15 41 43.9**	**+0.3**
	0.7nm,0.6s,mb3.9,baz=151,slow=8.7,SNR=7.9						
MK31	**Makanchi Array**	**55.57**	**344**	*e*P	**P**	**15 41 44.4**	**+0.7**
ZALV	**Zalesovo Beam**	**61.65**	**349**	P	**P**	**15 42 24.2**	**-1.6**
	0.5nm,0.5s,mb3.8,baz=195,slow=4.0,SNR=4.4						
TXAR	**Lajitas Array**	**146.87**	**43**	PKPbc	PKPbc	15 51 53.2	+2.8
TXAR	**Lajitas Array**	**146.87**	**43**	PKPbc	PKPbc	15 51 53.2	+2.8
	0.4nm,0.7s,baz=338,slow=2.7,SNR=5.5						

*IDC **08** 16:08:21.8±3.6, 2005S×1683 4E, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.7/12, mbtmp3.7/4, Error ellipse: s-maj=108.3km s-min=40.5km az=133.0*
*ISCJB **08** 16:08:23.2±1.5, 206S±0.3×1687E±0.2, h33km, mb3.6/4, Error ellipse: s-maj=40.6km s-min=30.9km az=20.6*

ISC 08 16:08:24.5±1.5, 206S±0.3×1688E±0.2, h35km, n7, σ1§14/6, mb3.6/4, Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**26.80**	**240**	P	**P**	**16 14 02.8**	**+1.4**
	2.0nm,1.0s,mb3.6,baz=107,slow=14,SNR=2.7						
WRA	**Warramunga Arr**	**32.30**	**265**	P	**P**	**16 14 49.0**	**-1.3**
	0.9nm,1.0s,mb3.5,baz=91,slow=8.5,SNR=6.1						
ASAR	**Alice Springs**	**32.42**	**258**	P	**P**	**16 14 51.2**	**-0.2**
	1.2nm,0.8s,mb3.8,baz=84,slow=8.9,SNR=19						
SONM	**Songino Array**	**88.03**	**323**	P	**P**	**16 21 11.5**	**+0.6**
	0.2nm,0.5s,mb3.6,baz=134,slow=6.2,SNR=2.2						
VNA3	**Neumayer Olymp**	**88.43**	**180**	*e*P	**P**	**16 21 12.3**	**-0.3**
VNA3				*e*		16 21 16.9	
VNA2	**Neumayer--Watz**	**88.71**	**181**	*e*P	**P**	**16 21 13.7**	**-0.2**
	baz=168,slow=1.7						
VNA2				*e*		16 21 18.5	
GERES	**GERESS Array B**	**145.45**	**331**	PKP	PKPdf	16 27 58.9	+0.3
	0.3nm,0.6s,baz=38,slow=2.4,SNR=4.2						

*IDC **08** 16:08:53.8±0.4, 1884N×6776W, h0km, mb4.4/25, mb1 4.6/25, mb1mx4.6/26, mbtmp4.4/25, MS3.8/14, Ms1 3.8/14, ms1mx3.6/24, Error ellipse: s-maj=12.6km s-min=10.2km az=44.0*
*ISCJB **08** 16:08:55.8±0.7, 19.13N±0.03×6763W±0.02, h15km±5km, mb4.6/103, MS4.0/19, Error ellipse: s-maj=5.6km s-min=2.8km az=20.3*
*NEIC **08** 16:08:57.2±1.1, 1896N×6769W, h17km±7km, mb4.7/81, MD4.8(RSPR), Error ellipse: s-maj=4.5km s-min=2.5km az=205.0*
NEIC Felt [IV] at Cabo Rojo and [II] at Rincon. Felt at Aguada, Aguadilla, Aguas Buenas, Anasco, Bayamon, Camuy, Ciales, Guaynabo, Hormigeros, Jayuya, Lares, Maricao, Mayaguez, Moca, Naranjito, Orocovis, Ponce, Quebradilla, San German, San Juan and San Sebastian. Also felt at Samana and Santo Domingo, Dominican Republic.
*BJI **08** 16:08:57.2, 1900N×6770W, h17km, mB5.1, Ms4.9, Msz4.6*
*RSPR **08** 16:08:59.5, 1894N×6773W, h50km±8km, MD4.8/21, MD4.8/21*
*LDG **08** 16:08:59.1±0.1, 1890N×6791W, h60km, Mb4.6/28, Ms3.6/8, Error ellipse: s-maj=3.0km s-min=1.9km az=66.0*

ISC 08 16:08:56.7±0.7, 1902N±0.03×6766W±0.02, h9km±4km, n336, σ0§97/343, mb4.6/103, MS4.0/19, 53C-53D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGPR	**Aguadilla, PR**	**0.76**	**137**⇑	*e*P	**Pg**	**16 09 11.9**	**+0.6**
AGPR				*e*S	**Sg**	**16 09 23.0**	**+1.7**
IMO	**Isla Mona**	**0.94**	**195**⇑	*i*P	**Pg**	**16 09 13.6**	**-1.2**
MPR	**Mayaguez**	**0.94**	**149**⇑	*e*P	**Pg**	**16 09 14.5**	**-0.4**
MPR				*e*S	**Sg**	**16 09 28.6**	**+1.3**
LSP	**Las Mesas**	**1.00**	**147**⇓	*i*P	**Pg**	**16 09 15.5**	**-0.5**
LRS	**Lares**	**1.06**	**133**⇑	*i*P	**Pg**	**16 09 16.6**	**-0.6**
AOPR	**Arecibo Observ**	**1.09**	**128**⇑	*e*P	**Pb**	**16 09 17.2**	**-0.5**
AOPR				*e*S	**Sg**	**16 09 32.3**	**+0.4**
CRPR	**Cabo Rojo, PR**	**1.14**	**153**⇑	*e*P	**Pb**	**16 09 17.1

SJG Sn Sn 16 09 49.8 +1.6
2µm,0.3s,baz=112,slow=22,SNR=9.3
SJG LR LR 16 09 56.5
comp=Z,2µm,21.6s,baz=302,slow=37
CBYP Canovanas 1.86 113⇑ eP Pn 16 09 26.8 -2.0
HUMP Col San Antoni 1.93 117⇑ eP Pn 16 09 28.7 -1.0
MTP Monte Pirata 2.20 114⇑ eP Pn 16 09 31.8 -1.7
STDO Santo Domingo 2.22 256⇑ eP Pn 16 09 34.0 +0.3
STDO eS Sn 16 09 58.1 -3.2
STVI Saint Thomas 2.65 104⇑ eP Pn 16 09 40.4 +0.7
TBVI Tortola 2.94 101⇑ eP Pn 16 09 44.3 +0.6
ABV Anegada 3.16 95⇑ eP Pn 16 09 48.2 +1.5
SDDR Presa de Saban 3.43 270⇑ eP Pn 16 09 50.8 +0.4
MASC Masc 6.30 282 eP Pn 16 10 27.4 -2.5
baz=70
MASC eS Sn 16 11 36.1 -5.9
comp=N,4.8nm,0.3s
MASC e
comp=E,5.1nm,0.3s
SCG Saint Claude 6.43 117 eP Pn 16 10 35.7 +4.0
SCG eS Sn 16 11 48.4 +3.1
MGG Marie-Galante 6.79 116 eP Pn 16 10 38.9 +2.3
DEG La Desirade 6.84 112 eP Pn 16 10 39.4 +2.1
HLGC Holguin 8.12 285 eP Pn 16 10 52.5 -2.3
HLGC eS Sn 16 12 21.3 -5.4
comp=N,22nm,0.2s
HLGC e
comp=E,20nm,0.3s
LMGC Las Mercedes 8.87 278 eP Pn 16 11 07.5 +2.3
baz=112
LMGC eS Px 16 11 34.9
comp=N,78nm,0.5s
LMGC e
comp=E,93nm,0.5s
GRGR Grenville 8.96 139 ePn Pn 16 11 07.7 +1.2
PCRV Puerto La Cruz 9.27 161 Pn Pn 16 11 10.5 -0.1
comp=E,14nm,0.3s,baz=333,slow=0.6,SNR=45
PCRV Sn Sn 16 12 48.6 -6.4
comp=E,3.3nm,0.3s,baz=128,slow=21,SNR=3.9
PCRV LR LR 16 14 56.6
comp=E,535nm,19.1s,baz=150,slow=40
CCCC Cccc 9.74 285 eP Pn 16 11 08.7 -8.4
TCE Chacachacare 10.05 145 eP Pn 16 11 24.2 +2.9
TRN Trinidad (W) 10.29 143 eP Pn 16 11 28.4 +3.8
SDV Santo Domingo 10.48 196 ePn Pn 16 11 26.6 -0.6
comp=E,70nm,0.9s
SDV Santo Domingo 10.48 196 Pn Pn 16 11 26.6 -0.7
comp=E,2.7nm,0.3s,baz=14,slow=11,SNR=15
SDV Sn Sn 16 13 19.8 -5.0
comp=E,3.1nm,0.3s,baz=87,slow=18,SNR=2.0
TPP Pointe-a-Pierr 10.53 144 eP Pn 16 11 30.8 +2.8
TBH Brigand Hill 10.61 142 eP Pn 16 11 34.4 +5.4
BBSR BB Station 13.56 11 ePn Pn 16 12 07.4 -1.9
comp=E,60nm,0.4s
ROSC El Rosal 15.51 206 ePn Pn 16 12 36.6 +0.8
ROSC El Rosal 15.51 206 Pn Pn 16 12 36.2 +0.4
comp=E,2.3nm,0.3s,baz=89,slow=11,SNR=22
ROSC Sn Sn 16 15 31.1 +3.2
comp=E,0.9nm,0.3s,baz=304,slow=11,SNR=3.2
ROSC LR LR 16 18 07.8
comp=E,122nm,21.6s,baz=195,slow=36
DWPF Disney 15.52 308 ePn Pn 16 12 32.1 -3.7
comp=E,62nm,0.6s
DWPF eSn Sn 16 15 11.3 -17
COW Cow Castle Cre 18.45 323 eP Pn 16 13 12.1 -0.6
JSC Jenkinsville 19.43 324 eP Pn 16 13 23.3 -1.3
TEIG Tepich 19.46 277 eP Pn 16 13 24.7 -0.3
comp=E,33nm,0.8s
TEIG Tepich 19.46 277 P Pn 16 13 24.6 -0.5
comp=E,1.8nm,0.3s,baz=187,slow=19,SNR=10
TEIG LR LR 16 20 32.4
comp=E,278nm,21.9s,baz=145,slow=36
GOGA Godfrey 20.12 319 eP P 16 13 29.6 -1.4
comp=E,14nm,0.8s
GOGA eS S 16 16 58.4 -19
URVA University of 20.40 337 eP P 16 13 33.2 -0.7
URVA eS S 16 17 01.3 -21
BLA Blacksburg 21.29 331 eP P 16 13 43.5 -0.1
comp=E,39nm,0.6s,mb4.9
BLA eS S 16 17 23.5 -17
ELN Prospectdale 21.46 330 eP P 16 13 45.8 +0.4
ELN eS S 16 17 30.1 -13
SDMD Soldier's Deli 21.81 341 eP P 16 13 48.2 -1.0
comp=E,47nm,1.0s,mb4.9
SDMD eS S 16 17 35.3 -15
TKL Tuckaleechee C 21.85 323 P P 16 13 47.4 -2.2
comp=E,9.7nm,0.8s,mb4.3,baz=125,slow=12,SNR=6.7
TKL S S 16 17 41.9 -9.2
comp=E,11nm,0.6s,baz=71,slow=18,SNR=5.5
TKL LR LR 16 22 30.6
comp=E,313nm,18.6s,MS3.8,baz=252,slow=37
CPCT Cooper Cave 22.14 321 eP P 16 13 52.4 -0.3
CPCT eS S 16 17 46.3 -10
LRAL Lakeview Retre 22.23 313 eP P 16 13 53.3 -0.5
comp=E,146nm,1.8s,mb5.1
TZTN Tazewell 22.36 325 eP P 16 13 54.1 -0.9
comp=E,86nm,1.3s,mb5.0
TZTN eS S 16 17 55.9 -5.1
CPNY Central Park 22.36 347 eP P 16 13 53.6 -1.4
SWET Sewanee 22.84 319 eP P 16 13 59.5 -0.7
SWET S S 16 18 08.8 -1.1
SSPA Standing Stone 23.26 340 P P 16 14 03.4 -1.1
comp=E,17nm,0.8s,mb4.5
SSPA e 16 14 20.1
SSPA eS S 16 18 11.8 -4.9
PLAL Pickwick Lake 24.08 315 eP P 16 14 11.5 -1.0
comp=E,39nm,0.8s,mb4.9
WVT Waverly 24.62 318 eP P 16 14 16.6 -0.7
comp=E,12nm,0.5s,mb4.7
ACSO Alum Creek Sta 24.91 331 eP P 16 14 20.6 +0.6
comp=E,37nm,1.1s,mb4.8
ALLY Alegheny Colle 24.94 337 eP P 16 14 21.5 +1.2
WCI Wyandotte Cave 25.09 324 eP P 16 14 21.6 -0.1
comp=E,30nm,0.9s,mb4.8
UTMT University of 25.41 317 eP P 16 14 24.1 -0.5
comp=E,226nm,1.3s,mb5.5
GLAT Glass 25.64 316 eP P 16 14 27.4 +0.8
USIN University of 25.70 321 eP P 16 14 26.7 -0.5
comp=E,101nm,1.0s,mb5.3
BLO Bloomington 25.88 325 eP P 16 14 29.5 +0.6
comp=E,19nm,0.9s,mb4.6
GNAR Gosnell 25.94 315 P P 16 14 28.9 -0.5
comp=E,868nm,1.1s
CMIG Matias Romero 25.95 270 P P 16 14 29.3 -0.3
comp=E,1.0nm,0.5s,mb3.6,baz=40,slow=8.6,SNR=3.2
PARMO Parma 26.17 317 P P 16 14 30.2 -1.3
SIUC Southern Illin 26.47 319 eP P 16 14 34.2 0.0
comp=E,57nm,0.9s,mb5.1
AAM Ann Arbor 26.89 333 eP P 16 14 38.5 +0.7
MIAR Mount Ida 27.71 309 P P 16 14 42.9 -2.6
comp=E,8.4nm,0.9s,mb4.4
ATAH Atahualpa 27.94 203 P P 16 14 44.9 -2.7
comp=E,2.6nm,0.7s,mb4.0,baz=40,slow=14,SNR=2.0
CCM Cathedral Cave 27.95 318 eP P 16 14 46.7 -0.8
comp=E,15nm,0.9s,mb4.6
JFWS Jewell Farm 30.51 326 eP P 16 15 08.3 -1.9
comp=E,55nm,1.1s,mb5.3
JCT Junction City 31.23 298 P P 16 15 16.2 -0.5
comp=E,17nm,0.9s,mb4.9
WMOK Wichita Mounta 31.70 306 eP P 16 15 19.6 -1.2
comp=E,7.4nm,0.7s,mb4.6
KSU1 Kansas State U 32.04 315 eP P 16 15 22.3 -1.5
comp=E,10nm,0.6s,mb4.8
COWI Conover 32.30 332 eP P 16 15 26.1 +0.3
comp=E,18nm,1.0s,mb4.9
AMTX Amarillo 33.99 305 eP P 16 15 40.5 -0.3
comp=E,12nm,1.0s,mb4.8
CBKS Cedar Bluff 34.05 312 eP P 16 15 40.8 -0.5
comp=E,21nm,0.9s,mb5.1
TXAR Lajitas Array 34.29 294 P P 16 15 42.8 -0.7
comp=E,5.8nm,0.7s,mb4.6,baz=112,slow=9.1,SNR=43
TXAR PcP PcP 16 18 19.1 -0.8
comp=E,2.2nm,0.9s,baz=132,slow=5.7,SNR=3.8
TXAR ScP ScP 16 22 03.6 -1.6
comp=E,0.3nm,0.7s,baz=106,slow=6.7,SNR=3.4
ECSD EROS,Sioux Fal 34.59 322 eP P 16 15 45.5 -0.4
comp=E,33nm,0.8s,mb5.3
EYMN Ely 34.75 332 eP P 16 15 46.8 -0.5
LPAZ La Paz 35.09 181 P P 16 15 48.2 -2.2
comp=E,2.5nm,0.9s,mb4.2,baz=17,slow=7.8,SNR=10.0
SIV San Ignacio 35.39 169 P P 16 15 50.1 -2.9
comp=E,8.9nm,0.6s,mb4.8,baz=6.7,slow=9.8,SNR=50
SCHQ Schefferville 35.75 1 P P 16 15 56.2 +0.5
comp=E,14nm,0.6s,mb5.1,baz=183,slow=6.3,SNR=57
SCHQ LR LR 16 29 57.2
comp=E,245nm,19.8s,MS4.0,baz=258,slow=35

MNTX Cornudas Mount 36.17 298 eP P 16 15 59.1 -0.6
comp=E,14nm,1.1s,mb4.8
AGMN Agassiz Refuge 37.07 328 eP P 16 16 06.2 -0.9
comp=E,12nm,0.7s,mb4.8
BNM Barren Site 37.72 302 eP P 16 16 12.1 -0.7
LPM Los Pinos Moun 37.76 302 eP P 16 16 13.6 +0.4
ANMO Albuquerque 37.78 303 eP P 16 16 13.5 +0.2
comp=E,4.9nm,1.0s,mb4.2
ANMO Albuquerque 37.78 303 P P 16 16 13.3 0.0
comp=E,3.6nm,1.0s,mb4.1,baz=103,slow=7.7,SNR=4.6
ANMO LR LR 16 32 38.3
comp=E,121nm,21.2s,MS3.7,baz=297,slow=38
SDCO Great Sand Dun 37.84 308 eP P 16 16 14.0 +0.2
comp=E,9.9nm,0.8s,mb4.6
ULM Lac du Bonnet 38.41 331 eP P 16 16 16.7 -1.7
comp=E,9.5nm,0.8s,mb4.6
ULM Lac du Bonnet 38.41 331 P P 16 16 16.8 -1.6
comp=E,7.6nm,0.6s,mb4.6,baz=129,slow=9.3,SNR=15
ULM LR LR 16 32 29.5
comp=E,231nm,18.4s,MS4.0,baz=102,slow=37
ISCO Idaho Springs 38.62 311 eP P 16 16 20.3 0.0
comp=E,6.7nm,0.8s,mb4.4
319A Douglas 39.40 296 ⇓P P 16 16 27.7 +0.7
baz=39
SMCO Snowmass 39.40 309 eP P 16 16 27.3 +0.4
comp=E,14nm,1.1s,mb4.6
BDFB Brasilia 39.50 149 P P 16 16 25.6 -2.3
comp=E,3.9nm,0.7s,mb4.2,baz=316,slow=12,SNR=8.7
BDFB LR LR 16 34 22.7
comp=E,146nm,19.9s,MS3.8,baz=106,slow=39
318A Bisbee 40.01 296 ⇑P P 16 16 32.9 +0.8
baz=40
Z18A Geronimo 40.29 299 ⇓P P 16 16 37.0 +2.6
baz=40
RWWY Rawlins 40.45 313 P P 16 16 35.9 +0.4
comp=E,6.1nm,0.9s,mb4.3
Z16A Peralta Trail, 41.48 299 ⇓P P 16 16 45.1 +0.9
baz=42
Y16A Circle Bar Ran 41.61 300 ⇓P P 16 16 47.0 +1.7
baz=42
WUAZ Wupatki 41.82 302 eP P 16 16 48.0 +1.1
comp=E,5.1nm,0.9s,mb4.2
115A Sonoran Desert 42.06 298 ⇓P P 16 16 49.6 +0.7
baz=42
T16A Glen Canyon Da 42.23 304 ⇓P P 16 16 51.7 +1.4
baz=42
Y15A Casa Rosa Ranc 42.33 300 ⇑P P 16 16 52.6 +1.5
baz=42
PDAR Pinedale Array 42.46 313 P P 16 16 50.7 -1.4
comp=E,0.7nm,0.5s,mb3.6,baz=116,slow=11,SNR=8.4
PDAR PcP PcP 16 18 43.0 -1.9
comp=E,1.5nm,0.7s,baz=121,slow=5.1,SNR=4.1
PDAR LR LR 16 36 24.1
comp=E,153nm,20.8s,MS3.9,baz=18,slow=39
X14A Yava 42.86 300 ⇑P P 16 16 57.1 +1.6
baz=43
T15A Red Dirt Ranch 42.93 304 ⇑P P 16 16 56.9 +1.0
baz=43,SNR=11
MSU Marysvale 43.10 306 eP P 16 16 57.8 +0.5
JLU Jordanelle 43.11 310 eP P 16 16 58.5 +1.1
RLMT Red Lodge 43.15 317 eP P 16 16 57.1 -0.5
comp=E,5.1nm,0.7s,mb4.4
V14A Boquillas Ranc 43.23 302 ⇓P P 16 17 00.0 +1.6
baz=43,SNR=5.1
U14A Mt Trumbull 43.44 303 ⇑P P 16 17 01.3 +1.2
baz=43
LOHW Long Hollow 43.47 314 eP P 16 16 59.6 -0.7
comp=E,14nm,1.1s,mb4.6
T14A Hurricane 43.48 304 ⇓P P 16 17 01.9 +1.4
baz=44
HWUT Hardware Ranch 43.49 311 eP P 16 16 59.6 -0.8
comp=E,3.2nm,0.6s,mb4.2
Y13A Salome 43.54 299 ⇑P P 16 17 02.1 +1.2
baz=44
REDW Red Top Meadow 43.56 314 eP P 16 17 00.1 -0.8
comp=E,14nm,1.1s,mb4.6
MOOW Moose Ponds 43.62 314 eP P 16 17 01.3 -0.1
comp=E,3.6nm,0.7s,mb4.2
TPAW Teton Pass 43.67 314 eP P 16 17 02.3 +0.5
comp=E,7.4nm,0.8s,mb4.5
GCMT Greycliff 43.67 317 eP P 16 17 01.4 -0.3
W13A Hualapai Mount 43.77 301 ⇑P P 16 17 04.3 +1.6
baz=44
IMW Indian Meadow 43.80 314 eP P 16 17 02.8 -0.1
comp=E,4.1nm,0.6s,mb4.3
ARUT Antelope Range 43.91 305 P P 16 17 04.6 +0.7
U13A Pakoon Wash 44.06 303 ⇑P P 16 17 06.2 +1.2
baz=44
FCC Fort Churchill 44.11 341 eP P 16 17 04.1 -1.0
comp=E,15nm,0.8s,mb4.8
T13A Saint George 44.12 304 ⇓P P 16 17 07.3 +1.8
baz=44
FFC Flin Flon 44.18 332 eP P 16 17 04.8 -0.9
comp=E,6.1nm,0.8s,mb4.4
S13A Holt Ranch, En 44.20 305 ⇑P P 16 17 07.7 +1.5
baz=44
GLA Glamis 44.27 298 ⇓P P 16 17 07.5 +0.6
baz=44
N14A Grayback Hills 44.45 309 ⇓P P 16 17 07.9 -0.2
baz=44
QLMT Earthquake Lak 44.46 315 eP P 16 17 09.0 +0.8
V12A Nelson 44.65 302 ⇑P P 16 17 10.3 +0.5
baz=45
IRM Iron Mountain 44.67 300 ⇓P P 16 17 10.8 +0.8
baz=45,SNR=9.6
P13A Bates Ranch, G 44.72 307 ⇓P P 16 17 11.1 +0.8
baz=45
S12A Delamar Landin 44.97 304 ⇑P P 16 17 14.1 +1.7
baz=45
GMRC Granite Mounta 45.17 300 ⇓P P 16 17 14.9 +0.9
baz=45,SNR=5.5
T11A Corn Creek, Al 45.19 304 ⇓P P 16 17 15.3 +1.2
baz=45
G15A Dillon 45.28 315 ⇓P P 16 17 15.4 +0.7
baz=45
M13A Montello 45.30 310 ⇑P P 16 17 15.0 +0.1
baz=45
BELC Belle Mtn. 45.35 299 ⇓P P 16 17 16.7 +1.3
baz=45
MCMT McKenzie Canyo 45.41 315 eP P 16 17 14.8 -0.8
TUQ Turquoise Mtn. 45.47 301 ⇑P P 16 17 17.8 +1.5
baz=46
F15A Butte 45.52 316 ⇓P P 16 17 17.3 +0.7
baz=46
K13A Stover Farm, H 45.59 312 ⇑P P 16 17 17.4 +0.2
baz=46
MONP Monument Peak 45.59 298 ⇓P P 16 17 18.9 +1.5
baz=46,SNR=5.9
R11A Troy Canyon, C 45.68 305 ⇓P P 16 17 18.8 +0.8
baz=46
PFO Pinyon Flat Ob 45.69 299 P P 16 17 18.6 +0.5
comp=E,3.4nm,0.7s,mb4.4,baz=102,slow=7.5,SNR=4.2
N12A Clover Valley, 45.81 309 ⇑P P 16 17 19.5 +0.6
baz=46
Q11A Duckwater 45.83 306 ⇓P P 16 17 20.1 +1.0
baz=46
M12A Wells 45.86 310 ⇓P P 16 17 19.6 +0.3
baz=46
J13A Cove Ranch, Pi 45.87 313 ⇑P P 16 17 19.8 +0.4
baz=46
G14A Jackson 45.95 315 ⇑P P 16 17 20.4 +0.4
baz=46
TPNV Topopah Spring 45.96 303 eP P 16 17 21.2 +1.0
comp=E,5.5nm,0.8s,mb4.5
D15A Lincoln 45.97 318 ⇑P P 16 17 20.4 +0.3
baz=46
I13A Wildhorse Cree 45.98 313 P P 16 17 20.9 +0.7
baz=46,SNR=7.2
HLID Hailey 46.08 313 eP P 16 17 19.2 -1.8
comp=E,3.0nm,0.8s,mb4.3
HLID Hailey 46.08 313 ⇓P P 16 17 21.9 +0.8
baz=46
K12A Draper Farm, C 46.16 311 ⇑P P 16 17 21.9 +0.1
baz=46
GSC Goldstone 46.17 301 eP P 16 17 22.9 +1.1
comp=E,4.9nm,0.8s,mb4.5
GSC Goldstone 46.17 301 ⇓P P 16 17 22.4 +0.5
baz=46
R10A Warm Springs 46.23 305 ⇓P P 16 17 23.7 +1.5
baz=46
H13A Challis 46.27 314 ⇓P P 16 17 22.7 +0.2
baz=46
S10A Tonopah Range, 46.39 305 ⇓P P 16 17 24.7 +1.1
baz=46,SNR=7.1
CHMT Chamberlain Mo 46.39 317 P P 16 17 23.7 +0.3
Q10A Clear Creek Ra 46.40 306 ⇑P P 16 17 24.2 +0.5
baz=46
BFSC Mount Baldy St 46.74 299 ⇓P P 16 17 27.5 +1.0
baz=47

S09A Goldfield 46.85 304 P P 16 17 27.9 +0.7
baz=47,SNR=7.0
GRAC Grapevine Rang 46.85 303 ⇑P P 16 17 28.4 +1.2
baz=47
K11A Parker Ranch, 47.00 311 ⇓P P 16 17 28.1 -0.2
baz=47
C14A Swan Lake 47.02 318 ⇓P P 16 17 28.2 -0.1
baz=47
EDW2 Edwards Air Fo 47.08 300 P P 16 17 29.9 +0.9
baz=47,SNR=6.6
L10A Juniper Basin 47.15 310 ⇓P P 16 17 29.4 -0.1
baz=47,SNR=6.8
H11A Donnelly 47.51 314 ⇓P P 16 17 31.9 -0.3
baz=48
S08C White Mtn Res 47.56 304 ⇓P P 16 17 34.1 +1.4
baz=48,SNR=6.3
Q08A Gabbs 47.58 306 ⇓P P 16 17 33.3 +0.5
baz=48
K10A MacKenzie Ranc 47.60 311 ⇓P P 16 17 32.7 -0.3
baz=48
B13A Whitefish 47.69 319 ⇑P P 16 17 34.0 +0.5
baz=48
NVAR Mina Array Bea 47.80 305 P P 16 17 33.9 -0.7
comp=E,1.3nm,0.4s,mb4.3,baz=95,slow=7.8,SNR=21
F11A Grangeville 47.95 315 ⇑P P 16 17 35.7 0.0
baz=48,SNR=5.7
N08A GE Springer Mi 48.09 308 P P 16 17 36.8 +0.1
baz=48,SNR=9.4
E11A Bogner Ranch, 48.13 316 ⇑P P 16 17 36.5 -0.5
baz=48,SNR=9.4
K09A Rome 48.20 311 ⇓P P 16 17 37.5 -0.1
baz=48,SNR=8.1
M08A Happy Creek Ra 48.40 309 ⇑P P 16 17 39.3 +0.1
baz=48,SNR=5.2
G10A Bishop Farm, J 48.43 314 ⇓P P 16 17 39.2 -0.1
baz=48
L08A Fields 48.53 310 ⇓P P 16 17 40.2 0.0
baz=48,SNR=8.4
N07B Gerlach 48.71 308 ⇓P P 16 17 41.4 -0.2
baz=49,SNR=11
G09A Cove 48.88 314 ⇓P P 16 17 43.2 +0.4
baz=49
M07A Soldier Meadow 48.97 309 P P 16 17 43.5 -0.1
baz=49,SNR=8.0
EDM Edmonton 48.99 325 eP P 16 17 42.7 -0.8
SFJD Kangerlussuaq 49.20 9 P P 16 17 43.1 -1.8
comp=E,3.8nm,0.7s,mb4.6,baz=158,slow=13,SNR=2.7
R05C Kirkwood Meado 49.21 305 ⇑P P 16 17 46.4 +0.9
baz=49,SNR=8.5
L07A Adell 49.22 309 ⇓P P 16 17 45.5 0.0
baz=49
H08A Prairie City 49.29 313 ⇓P P 16 17 46.1 +0.1
baz=49
NEW Newport 49.32 318 eP P 16 17 45.1 -1.0
comp=E,8.7nm,0.8s,mb4.8
NEW Newport 49.32 318 P P 16 17 45.1 -1.0
comp=E,11nm,0.9s,mb4.9,baz=159,slow=6.9,SNR=7.0
N06A Buffalo Meadow 49.35 308 ⇑P P 16 17 45.9 -0.6
baz=49,SNR=9.2
LAVA Lava Cap Winer 49.74 305 ⇑P P 16 17 50.0 +0.6
baz=50
H07A Lands Inn, Kim 49.93 313 ⇑P P 16 17 51.4 +0.5
baz=50
I06A Prineville 50.24 312 ⇓P P 16 17 53.1 -0.1
baz=50
HUMO Hull Mountain 51.96 310 eP P 16 18 04.7 -1.5
YKA Yellowknife Ar 54.07 335 P P 16 18 20.2 -1.1
comp=E,9.2nm,0.8s,mb4.8,baz=110,slow=7.4,SNR=66
YKA LR LR 16 41 19.0
comp=E,113nm,19.0s,MS4.0,baz=110,slow=36
EVO Evora 54.83 56 eP P 16 18 26.3 -1.1
comp=E,8.6nm,1.0s,mb4.5
EVO eMLR MLR
comp=Z,131nm,22.0s,MS3.7
RES Resolute Bay 57.60 352 eP P 16 18 45.8 -0.7
comp=Z,193nm,0.8s
DMUB Kingscourt 57.67 38 eP P 16 18 47.4 0.0
ESDC Sonseca Array 58.02 55 P P 16 18 50.5 +0.4
comp=Z,4.3nm,0.8s,mb4.5,baz=271,slow=7.1,SNR=28
ESLA Sonseca Array 58.02 55 eP P 16 18 50.4 +0.3
comp=Z,3.2nm,1.3s,mb4.2
ROSF Rostrenen 59.05 45 eP P 16 18 56.4 -0.7
comp=Z,23nm,1.0s,mb4.8
ROSF Rostrenen 59.05 45 eP P 16 18 56.4 -0.7
comp=Z,11nm,1.0s,mb4.9
QUIF Quistinic 59.09 45 eP P 16 18 57.0 -0.3
comp=Z,43nm,1.3s,mb5.0
QUIF Quistinic 59.09 45 eP P 16 18 57.0 -0.3
comp=Z,22nm,1.3s,mb5.0
PLCA Paso Flores 59.51 183 P P 16 18 56.9 -3.3
comp=Z,3.7nm,0.8s,mb4.5,baz=345,slow=7.8,SNR=8.9
PLCA LR LR 16 47 43.0
comp=Z,104nm,18.9s,MS4.0,baz=0.1,slow=39
SGMF Saint Gilles 59.52 45 eP P 16 19 00.3 -0.1
DLBC Dease Lake 59.58 327 eP P 16 19 01.0 +0.4
DLBC Dease Lake 59.58 327 P P 16 19 01.1 +0.5
baz=88,slow=9.5
SJPF Ste Jean 60.16 51 eP P 16 19 04.5 -0.3
GRR Gorron 60.66 45 eP P 16 19 08.2 0.0
comp=Z,12nm,0.7s,mb4.8
GRR Gorron 60.66 45 eP P 16 19 08.2 0.0
comp=Z,6.0nm,0.7s,mb4.8
FLN La Foliniere 60.94 44 eP P 16 19 09.8 -0.3
comp=Z,9.9nm,0.7s,mb4.7
FLN eMLR MLR
comp=Z,63nm,18.0s,MS3.5
FLN La Foliniere 60.94 44 eP P 16 19 09.8 -0.3
comp=Z,4.9nm,0.7s,mb4.8
FLN LR LR
comp=Z,60nm,18.0s,MS3.8
MFF Saint Martin d 61.04 47 eP P 16 19 10.7 -0.1
comp=Z,12nm,0.8s,mb4.8
MFF Saint Martin d 61.04 47 eP P 16 19 10.7 -0.1
comp=Z,5.8nm,0.8s,mb4.8
LDF La Druitiere 61.17 44 eP P 16 19 11.5 -0.1
comp=Z,10.0nm,0.7s,mb4.7
LDF La Druitiere 61.17 44 eP P 16 19 11.5 -0.1
comp=Z,5.0nm,0.7s,mb4.8
EPF Esparros 61.30 51 eP P 16 19 12.5 -0.1
comp=Z,8.8nm,0.8s,mb4.6
EPF Esparros 61.30 51 eP P 16 19 12.5 -0.1
comp=Z,4.4nm,0.8s,mb4.6
DBIC Dimbokro 62.17 92 P P 16 19 18.4 -0.6
comp=Z,7.9nm,0.6s,mb5.0,baz=271,slow=6.4,SNR=20
DBIC LR LR 16 41 03.6
comp=Z,76nm,20.4s,MS3.9,baz=91,slow=31
RJF Les Rejaudoux 62.17 48 eP P 16 19 18.1 -0.3
RJF eMLR MLR
comp=Z,106nm,18.8s,MS3.7
RJF Les Rejaudoux 62.17 48 eP P 16 19 18.1 -0.3
RJF LR LR
comp=Z,110nm,18.8s,MS4.0
CAF Calviac 62.55 49 eP P 16 19 20.8 -0.2
comp=Z,9.9nm,0.8s,mb4.7
CAF Calviac 62.55 49 eP P 16 19 20.8 -0.2
comp=Z,4.9nm,0.8s,mb4.7
TCF Toulx Ste Croi 62.66 47 eP P 16 19 21.3 -0.4
comp=Z,12nm,1.0s,mb4.7
TCF Toulx Ste Croi 62.66 47 eP P 16 19 21.3 -0.4
comp=Z,6.3nm,1.0s,mb4.7
MTLF Montolieu 62.67 50 eP P 16 19 21.7 -0.2
comp=Z,24nm,1.1s,mb4.9
MTLF Montolieu 62.67 50 eP P 16 19 21.7 -0.2
comp=Z,12nm,1.1s,mb4.9
DAG Danmarks Havn 62.73 11⇑ iP P 16 19 21.7 0.0
comp=Z,2.7nm,0.7s,mb4.5
AVF Avril sur Loir 63.45 47 eP P 16 19 26.5 -0.5
comp=Z,9.7nm,0.9s,mb4.6
AVF Avril sur Loir 63.45 47 eP P 16 19 26.5 -0.5
comp=Z,4.8nm,0.9s,mb4.6
SSF Saint Saulge 63.56 46 eP P 16 19 27.4 -0.3
INK Inuvik 63.60 338 eP P 16 19 26.6 -1.0
comp=Z,504nm,0.9s
SMF Signal de Mont 63.79 47 eP P 16 19 29.0 -0.2
comp=Z,6.6nm,0.7s,mb4.5
SMF Signal de Mont 63.79 47 eP P 16 19 29.0 -0.2
comp=Z,3.3nm,0.7s,mb4.5
LOR Lormes 63.80 46 eP P 16 19 29.0 -0.2
comp=Z,6.0nm,0.7s,mb4.4
LOR eMLR MLR
comp=Z,79nm,19.0s,MS3.6
LOR Lormes 63.80 46 eP P 16 19 29.0 -0.2
comp=Z,3.0nm,0.7s,mb4.4
LOR LR LR
comp=Z,80nm,19.0s,MS3.9
LASF Ste Croix 63.85 50 eP P 16 19 29.3 -0.3
BAIF Baives 64.06 43 eP P 16 19 30.7 -0.2

VIVF	Saint-Julien-I	64.41	49	eP	P	16 19 33.1	-0.2
	comp=Z,13nm,1.0s,mb4.6						
VIVF	Saint-Julien-I	64.41	49	eP	P	16 19 33.1	-0.2
	comp=Z,6.4nm,1.0s,mb4.6						
GIVF	Givet	64.45	43	eP	P	16 19 33.3	-0.2
	comp=Z,15nm,0.7s,mb4.8						
GIVF	Givet	64.45	43	eP	P	16 19 33.3	-0.2
	comp=Z,7.7nm,0.7s,mb4.8						
MEZF	Maizieres J'vi	64.60	45	eP	P	16 19 34.2	-0.3
	comp=Z,28nm,0.7s,mb5.1						
MEZF	Maizieres J'vi	64.60	45	eP	P	16 19 34.2	-0.3
	comp=Z,28nm,0.7s,mb5.4						
DAWY	Dawson	65.08	333	eP	P	16 19 36.6	-0.7
SMRF	Simiane la Rot	65.09	50	eP	P	16 19 37.4	-0.3
ORIF	Oris-en-Rattie	65.26	49	eP	P	16 19 38.7	-0.2
	comp=Z,8.5nm,0.9s,mb4.5						
ORIF				eMLR	MLR		
	comp=Z,69nm,19.8s,MS3.5						
ORIF	Oris-en-Rattie	65.26	49	eP	P	16 19 38.7	-0.2
	comp=Z,4.3nm,0.9s,mb4.5						
CABF	La Chapelle	65.34	47	eP	P	16 19 38.9	-0.4
	comp=Z,12nm,1.0s,mb4.5						
CABF	La Chapelle	65.34	47	eP	P	16 19 38.9	-0.4
	comp=Z,5.8nm,1.0s,mb4.6						
LMR	La Mourre	65.80	50	eP	P	16 19 41.8	-0.6
	comp=Z,17nm,0.9s,mb4.8						
LMR	La Mourre	65.80	50	eP	P	16 19 41.8	-0.6
	comp=Z,8.6nm,0.9s,mb4.8						
HINF	Hinteralfeld	65.82	45	eP	P	16 19 42.1	-0.3
	comp=Z,5.7nm,0.8s,mb4.3						
HINF	Hinteralfeld	65.82	45	eP	P	16 19 42.1	-0.3
	comp=Z,2.8nm,0.8s,mb4.3						
LPL	La Plagne	65.84	48	eP	P	16 19 42.4	-0.1
	comp=Z,11nm,0.8s,mb4.6						
LPL	La Plagne	65.84	48	eP	P	16 19 42.4	-0.1
	comp=Z,5.7nm,0.8s,mb4.7						
LPG	La Plagne	65.85	48	eP	P	16 19 42.6	0.0
	comp=Z,6.8nm,0.9s,mb4.4						
LPG	La Plagne	65.85	48	eP	P	16 19 42.6	0.0
	comp=Z,3.4nm,0.9s,mb4.4						
FRF	La Foret Royal	65.89	50	eP	P	16 19 42.3	-0.6
MBDF	Montbardon	65.91	49	eP	P	16 19 42.8	-0.2
EGAK	Eagle	65.93	333	eP	P	16 19 42.8	0.0
	comp=Z,20nm,1.0s,mb5.1						
CDF	Champ du Feu	66.08	45	eP	P	16 19 43.8	-0.3
	comp=Z,7.4nm,0.9s,mb4.4						
CDF	Champ du Feu	66.08	45	eP	P	16 19 43.8	-0.3
	comp=Z,3.7nm,0.9s,mb4.4						
SBF	Sospel	66.44	50	eP	P	16 19 45.8	-0.7
TORD	Torodi Ar. Bea	66.54	84	P	P	16 19 46.8	-0.7
	comp=Z,3.0nm,0.6s,mb4.5,baz=283,slow=6.2,SNR=22						
TORD				LR	LR	16 45 35.4	
	comp=Z,108nm,20.2s,MS4.1,baz=285,slow=33						
PGF	Pioggiola	67.69	51	eP	P	16 19 53.6	-0.8
	comp=Z,14nm,0.8s,mb4.7						
PGF	Pioggiola	67.69	51	eP	P	16 19 53.6	-0.8
	comp=Z,7.1nm,0.8s,mb4.8						
NB2	NORSAR Subarra	68.17	31	P	P	16 19 57.7	+0.6
	comp=Z,2.5nm,0.7s,mb4.3,baz=270,slow=6.5						
NOA	NORSAR Array B	68.17	31	P	P	16 19 57.6	+0.5
	comp=Z,3.9nm,0.8s,mb4.5,baz=270,slow=6.3,SNR=12						
KEST	Kesra	68.81	58	P	P	16 20 01.3	-0.3
	comp=Z,1.0nm,0.6s,mb3.9,baz=247,slow=5.0,SNR=5.3						
CLL	Collm	69.60	41	eP	P	16 20 06.0	-0.2
	comp=Z,3.0nm,1.0s,mb4.2						
KHC	Kasperske Hory	70.19	44	eP	P	16 20 09.9	+0.1
BRG	Berggiesshubel	70.23	42	eP	P	16 20 10.3	+0.2
	comp=Z,4.2nm,0.8s,mb4.4						
GERES	GERESS Array B	70.30	44	P	P	16 20 09.9	-0.6
	comp=Z,1.0nm,0.8s,mb3.8,baz=264,slow=6.2,SNR=11						
UPC	Upice	71.58	42	eP	P	16 20 18.4	+0.1
DPC	Dobruska-Polom	71.80	42	eP	P	16 20 20.1	+0.5
VRAC	Vranov	72.12	43	⇑P	P	16 20 22.3	+0.7
VRAC	Vranov	72.12	43	⇑iP	P	16 20 22.3	+0.7
SVW2	Sparrevohn	72.55	329	eP	P	16 20 23.4	-0.5
MORC	Moravsky Berou	72.66	43	⇑P	P	16 20 25.6	+0.8
MORC	Moravsky Berou	72.66	43	⇑iP	P	16 20 25.6	+0.8
ARCES	ARCESS Array B	73.45	21	P	P	16 20 29.1	+0.1
	comp=Z,5.5nm,0.6s,mb4.7,baz=289,slow=4.1,SNR=43						
VYHS	Vyhne	73.72	44	eP	P	16 20 31.4	+0.4
	comp=Z,2.3nm,0.9s,mb4.1						
PKSM	Moragy	74.01	46	⇓P	P	16 20 33.1	+0.3
PKSM	Moragy	74.01	46	⇓iP	P	16 20 33.1	+0.3
PSZ	Piszkesteto	74.52	44	⇓iP	P	16 20 37.8	+2.0
KECS	Kecovo	74.80	44	eP	P	16 20 38.3	+1.0
	comp=Z,1.6nm,0.7s,mb4.1						
STHS	Stebnicka Huta	75.10	43	iP	P	16 20 40.8	+1.7
	comp=Z,3.1nm,0.8s,mb4.3						
FINES	FINESS Array B	75.26	30	P	P	16 20 39.8	+0.1
	comp=Z,5.0nm,0.9s,mb4.4,baz=263,slow=3.2,SNR=14						
FINES				LR	LR	16 46 40.3	
	comp=Z,35nm,19.8s,MS3.7,baz=137,slow=30						
CRVS	Cervenica-Dubn	75.34	43	eP	P	16 20 41.9	+1.4
KOLS	Kolonicke sedl	75.86	43	eP	P	16 20 43.5	+0.1
KWP	Kalwaria	75.98	42	⇓P	P	16 20 45.2	+1.1
KWP	Kalwaria	75.98	42	⇓iP	P	16 20 45.3	+1.2
BZS	Buzias	76.16	46	⇑P	P	16 20 45.9	+0.7
BZS	Buzias	76.16	46	⇑iP	P	16 20 45.9	+0.7
TRPA	Tarpa	76.21	44	⇑iP	P	16 20 46.8	+1.3
DRGR		76.63	45	⇓P	P	16 20 48.3	+0.4
DRGR		76.63	45	⇓iP	P	16 20 48.3	+0.4
MLR	Muntele Rosu	79.14	46	⇓iP	P	16 21 03.4	+1.5
AKASG	Malin Array Be	79.75	40	P	P	16 21 04.1	-1.0
AKASG	Malin Array Be	79.75	40	P	P	16 21 04.1	-1.0
	comp=Z,1.6nm,0.6s,mb4.2,baz=288,slow=4.5,SNR=7.6						
BILL	Bilibino	84.80	342	eP	P	16 21 31.0	-0.2
	comp=Z,7.1nm,1.0s,mb4.8						
TIXI	Tiksi	88.85	355	eP	P	16 21 49.9	-1.0
	comp=Z,1.7nm,0.7s,mb4.5						
WMQ	Urumqi	113.51	19	ePKP	PKiKP	16 27 35.5	0.0
CN2	Changchun	116.34	349	ePKP	PKPdf	16 27 41.0	+0.1
CN2				LR	LR		
	comp=Z,200nm,22.0s,MS4.7						
MJAR	Matsushiro Arr	119.57	336	PKP	PKPdf	16 27 45.5	-1.9
	comp=Z,0.7nm,0.5s,baz=92,slow=1.2,SNR=6.8						
HHC	Hu-ho-hao-te	120.43	1	ePKP	PKPdf	16 27 48.2	-0.7
HHC				PP	PP	16 29 16.4	+2.5
HHC				PKS		16 31 23.7	
HHC				SKS	SKSdf	16 35 00.1	-1.2
HHC				SKKS	SKKSac	16 36 10.3	-5.1
HHC				SS	SS	16 45 42.7	+1.0
HHC				PP	PP		
	comp=Z,89nm,7.1s						
HHC				LR	LR		
	comp=N,130nm,22.6s,MS4.6						
HHC				LR	LR		
	comp=E,106nm,25.0s,MS4.6						
HHC				LR	LR		
	comp=Z,90nm,25.0s,MS4.3						
MAW	Mawson	122.33	160	PKP	PKPdf	16 27 49.6	-2.0
	comp=Z,3.6nm,0.6s,baz=128,slow=2.8,SNR=9.5						
XAN	Xi'an	127.14	4	PKP	PKPdf	16 27 59.9	-2.1
CD2	Chengdu	129.68	10	ePKP	PKPdf	16 28 03.8	-3.1
CD2				PP	PP	16 30 17.3	+1.6
CD2				SKS	SKSdf	16 35 14.0	-5.0
CD2				SKKS	SKKSac	16 37 08.7	-6.0
CD2				SS	SS	16 47 36.7	-1.5
CD2				PP	PP		
	comp=Z,90nm,10.8s						
CD2				LR	LR		
	comp=N,210nm,15.6s						
CD2				LR	LR		
	comp=Z,180nm,18.8s,MS4.8						
GYA	Guiyang	134.46	7	ePDIF	Pdif	16 25 12.8	-2.6
GYA				PKP	PKPdf	16 28 14.0	-2.0
GYA				PP	PP	16 30 48.9	+2.4
GYA				PP	PP		
	comp=Z,70nm,7.6s						
KMI	Kunming	135.14	12	PKP	PKPdf	16 28 15.4	-1.9
KMI				XPKP		16 28 24.2	
CTA	Charters Tower	148.06	262	PKPbc	PKPbc	16 28 41.2	-2.4
CTA	Charters Tower	148.06	262	PKPbc	PKPbc	16 28 41.2	-2.3
	comp=Z,7.5nm,0.6s,baz=100,slow=3.0,SNR=10						
STKA	Stephens Creek	150.75	238	ePKP	PKPdf	16 28 42.7	-1.7
	comp=Z,1.2nm,0.8s						
STKA				epPKP	pPKPdf	16 28 47.7	+0.1
STKA	Stephens Creek	150.75	238	PKP	PKPdf	16 28 42.4	-2.0
	comp=Z,8.6nm,0.9s,baz=94,slow=4.6,SNR=4.5						
STKA				PKPbc	PKPbc	16 28 47.5	-2.4
	comp=Z,8.6nm,0.9s,baz=88,slow=3.2,SNR=15						
PSI	Prapat	154.61	33	PKP	PKPdf	16 28 48.0	-2.6
	comp=Z,1.5nm,0.4s,baz=317,slow=17,SNR=3.8						
WB2	Warramunga Arr	159.23	264	ePKP	PKPdf	16 28 54.5	-1.8
WB2				epPKP	pPKPdf	16 29 05.7	+6.2
WRA	Warramunga Arr	159.24	264	PKP	PKPdf	16 28 54.3	-1.9
	comp=Z,3.1nm,1.0s,baz=64,slow=0.5,SNR=13						
WRA				PKPab	PKPab	16 29 30.8	-2.6
	comp=Z,0.7nm,0.4s,baz=87,slow=3.8,SNR=6.3						
ASAR	Alice Springs	159.40	253	PKP	PKPdf	16 28 53.9	-2.4
	comp=Z,1.7nm,1.0s,baz=104,slow=1.3,SNR=12						
ASAR				PKPab	PKPab	16 29 31.0	-3.0
	comp=Z,4.0nm,0.7s,baz=105,slow=4.8,SNR=22						
BATI	Kupang	165.98	307	PKP	PKPdf	16 29 02.7	-0.4
	comp=Z,9.2nm,0.8s,baz=282,slow=10,SNR=3.6						

*IDC **08** 16:14:34.3±1.5, 691S×1556E, h0km, mb3.7/6, mb1 3.8/6, mb1mx3.7/13, mbtmp3.6/6, Error ellipse: s-maj=63.5km s-min=25.0km az=116.0*
*NEIC **08** 16:14:37.5±0.8, 666S×155.18E, h10km, Error ellipse: s-maj=21.4km s-min=19.2km az=173.0*
*ISCJB **08** 16:14:44.7±4.3, 70S±02×1555E±02, h89km±45km, mb3.4/6, Error ellipse: s-maj=36.8km s-min=18.9km az=148.7*

ISC 08 16:14:46.1±4.1, 70S±02×1554E±02, h87km±44km, n13, σ0°70/12, mb3.4/6, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	5.10	119	P	Pn	16 16 00.3	+0.2
	56nm,0.5s						
HNR				Sn	Sn	16 16 58.4	+0.7
HNR	Honiara	5.10	119	Pn	Pn	16 15 57.9	-2.2
	4.9nm,0.3s,baz=265,slow=11,SNR=4.8						
HNR				Sn	Sn	16 16 58.4	+0.7
	3.5nm,0.3s,baz=98,slow=19,SNR=3.2						
WB2	Warramunga Arr	24.19	236	eP	P	16 19 55.2	+0.6
WRA	Warramunga Arr	24.20	236	P	P	16 19 54.8	+0.1
	0.7nm,0.6s,mb3.1,baz=58,slow=9.1,SNR=12						
WRA				PcP	PcP	16 23 34.1	+0.8
	0.2nm,0.4s,baz=46,slow=2.2,SNR=5.3						
ASAR	Alice Springs	26.53	229	P	P	16 20 16.1	+0.3
	0.2nm,0.4s,mb3.0,baz=59,slow=9.5,SNR=11						
STKA	Stephens Creek	27.96	206	P	P	16 20 27.5	-1.0
STKA	Stephens Creek	27.96	206	P	P	16 20 27.5	-1.0
	0.9nm,0.6s,mb3.5,baz=337,slow=15,SNR=1.9						
SONM	Songino Array	69.54	327	P	P	16 25 45.6	+0.1
	0.6nm,0.9s,mb3.4,baz=134,slow=6.2,SNR=5.1						
MKAR	Makanchi Array	83.66	319	P	P	16 27 05.7	+0.6
	0.5nm,0.7s,mb3.4,baz=104,slow=6.1,SNR=3.0						
YKA	Yellowknife Ar	96.09	28	P	P	16 28 03.1	-0.6
	0.2nm,0.5s,mb3.8,baz=258,slow=4.2,SNR=4.9						
GERES	GERESS Array B	127.24	329	PKP	PKPdf	16 33 41.3	+0.7
	0.3nm,0.7s,baz=132,slow=2.0,SNR=3.9						
TORD	Torodi Ar. Bea	153.44	285	PKPbc	PKPbc	16 34 35.2	-0.3
TORD	Torodi Ar. Bea	153.44	285	PKPbc	PKPbc	16 34 35.2	-0.3
	0.5nm,0.8s,baz=132,slow=2.1,SNR=3.0						

*IDC **08** 16:15:04.1±6.5, 359S×692.3E, h0km, mb3.4/3, mb1 3.5/4, mb1mx3.2/21, mbtmp3.3/4, ML2.6/1, Error ellipse: s-maj=196.9km s-min=32.6km az=100.0*
*ISCJB **08** 16:15:28.2±0.6, 365.8N±005×708E±0.1, h167km±9km, mb3.0/2, Error ellipse: s-maj=15.1km s-min=7.6km az=15.9*
*NEIC **08** 16:15:28.5±0.9, 364.4N×712.1E, h150km, mb3.9/1, Error ellipse: s-maj=33.8km s-min=11.4km az=113.0*

ISC 08 16:15:29.1±0.7, 365.5N±007×709E±02, h157km±11km, n17, σ1°25/22, mb3.0/2, 1C-3D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	Kabul	2.51	218	eP	Pn	16 16 10.9	+0.2
KBL				eS	Sn	16 16 42.2	-0.6
AML	Almayashu	5.98	20	ePn	Pn	16 16 55.6	+0.2
AML				eSn	Sn	16 18 01.0	-2.2
AML	Almayashu	5.98	20	P	Pn	16 16 55.9	+0.4
	SNR=55						
UCH	Uchtor	6.32	25	ePn	Pn	16 16 60.0	-0.1
UCH				eSn	Sn	16 17 58.5	-13
UCH	Uchtor	6.32	25	P	Pn	16 17 02.2	+2.2
	SNR=17						
KZA	Kyzart	6.47	30	P	Pn	16 17 03.8	+1.8
	SNR=8.8						
EKS2	Erkin-Say	6.50	19	ePn	Pn	16 17 02.8	+0.4
	3.7nm,0.6s						
EKS2	Erkin-Say	6.50	19	P	Pn	16 17 03.0	+0.7
	SNR=7.8						
KK31	Karatay Array	6.55	357	⇓P	Pn	16 17 03.6	+0.5
	4.9nm,0.4s,baz=182,slow=13,SNR=92						
KK31				⇓S	Sn	16 18 14.6	-2.2
	1.7nm,0.4s,baz=193,slow=27,SNR=7.6						
AAK	Ala-Archa	6.68	23	P	Pn	16 17 05.4	+0.6
	SNR=8.1						
USP	Ospenovka	7.26	21	P	Pn	16 17 12.6	+0.1
	SNR=8.1						
TKM2	Tokmak 2	7.32	28	P	Pn	16 17 10.1	-3.2
MKAR	Makanchi Array	13.30	36	Pn	Pn	16 18 32.1	+0.5
	0.0nm,0.3s,baz=222,slow=13,SNR=2.3						
AB31	Akbulak array	15.00	331	⇑P	Pn	16 18 55.0	+2.0
	0.1nm,0.3s,baz=138,slow=12,SNR=10						
AB31				⇓S	Sn	16 21 33.1	-6.6
	0.8nm,0.7s,baz=157,slow=23,SNR=4.8						
ZALV	Zalesovo Beam	19.90	25	P	P	16 19 48.9	+0.7
	0.6nm,0.3s,baz=218,slow=9.5,SNR=4.5						
WRA	Warramunga Arr	82.08	122	P	P	16 27 30.8	-1.2
	0.1nm,0.3s,mb2.9,baz=325,slow=5.0,SNR=5.5						
ASAR	Alice Springs	84.34	125	P	P	16 27 42.5	-1.1
	0.4nm,1.1s,mb3.1,baz=314,slow=5.3,SNR=4.3						

*NEIC **08** 16:20:13.6±0.5, 230.8N×70.19E, h10km, mb4.2/1, Error ellipse: s-maj=15.0km s-min=9.0km az=219.0*
NEIC Felt at Mundra and Rajkot.
*ISCJB **08** 16:20:14.7±0.5, 232.3N±004×705.1E±004, h25km, mb3.7/7, Error ellipse: s-maj=5.4km s-min=4.7km az=18.0*
*IDC **08** 16:20:15.8±0.8, 230.7N×702.5E, h24km±5km, mb3.6/6, mb1 3.8/6, mb1mx3.5/20, mbtmp3.6/6, Error ellipse: s-maj=24.6km s-min=18.5km az=27.0*
*NDI **08** 16:20:17.4±3.7, 23.12N×703.6E, h10km, ML4.0, mb4.2(NEIC)*

ISC 08 16:20:16.8±0.4, 2323N±003×7043E±004, h27km, h27km±1.4km: pP-P, n27, σ1°39/35, mb3.7/7, 1D, Southern India

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BHJ	Bhuj	0.72	272	eP	Pb	16 20 29.8	-0.8
BHJ				eS	Sb	16 20 39.7	-0.4
BHJ				AML	AML	16 20 40.4	
	comp=N,7μm,0.3s						
BHJ				AML	AML	16 20 42.5	
	comp=E,3μm,0.1s						
BHV	Bhavnagar	2.16	133	eP	Pn	16 20 53.0	+1.9
BHV				ex	x	16 21 26.0	
BOM	Bombay	4.85	152	eP	Pn	16 21 31.0	+2.9
BOM				eS	Sn	16 22 22.1	-1.3
AJM	Ajmer	5.01	49	eP	Pn	16 21 30.2	0.0
AJM				eS	Sn	16 22 26.1	-1.1
AJM				AML	AML	16 22 59.6	
	comp=E,340nm,0.7s						
AJM				AML	AML	16 23 00.1	
	comp=N,281nm,0.5s						
POO	Poona	5.66	145	eP	Pn	16 21 41.2	+1.9
POO				eS	Sn	16 22 42.3	-1.1
BHPL	Bhopal	6.43	89	eP	Pn	16 21 52.0	+2.3
BHPL				eS	Sn	16 23 00.6	-1.8
AKL	Akola	6.61	111	eP	Pn	16 21 53.7	+1.5
AKL				i S	Sn	16 23 05.6	-1.1
KAD	Karad	6.86	148	eP	Pn	16 21 58.3	+2.6
KAD				eS	Sn	16 23 09.9	-3.1
LATR	Latur	7.47	129	eP	Pn	16 22 02.4	-1.6
LATR				eS	Sn	16 23 21.4	-6.5
NDI	New Delhi	8.17	47	eP	Pn	16 22 18.6	+4.9
NDI				eS	Sn	16 23 45.0	-0.1
JBP	Jabalpur	8.79	89	⇓ix	x	16 22 19.7	
JBP				i x	x	16 23 15.9	
HYB	Hyderabad	9.56	126	eP	Pn	16 22 32.5	-0.3
HYB	Hyderabad	9.56	126	i P	Pn	16 22 32.5	-0.3
HYB				eS	Sn	16 24 25.0	+5.6
SMLA	Simla	9.89	36	eP	Pn	16 22 27.4	-10
SMLA				eS	Sn	16 24 15.2	-12
SMLA				AML	AML	16 25 10.1	
	comp=E,74nm,0.5s						
SMLA				AML	AML	16 25 13.7	
	comp=N,44nm,0.5s						
SDNR	Sundarnagar	10.08	34	ex	x	16 22 35.5	
SDNR				ex	x	16 25 37.9	
THN	Thein Dam	10.29	26	eP	Pn	16 22 44.2	+1.5
THN				eS	Sn	16 24 35.3	-1.8
DLH	Dalhousie	10.48	27	ex	x	16 23 36.0	
DLH				ex	x	16 24 42.0	
LSA	Lhasa	19.62	66	eP	Pn	16 24 46.0	+1.2
	comp=N,16nm,1.2s						
MKAR	Makanchi Array	25.38	19	P	P	16 25 43.2	+1.5
	comp=N,0.5nm,0.8s,mb3.1,baz=213,slow=10,SNR=4.7						
SONM	Songino Array	37.68	40	P	P	16 27 31.1	+1.4
	comp=N,0.9nm,0.7s,mb3.6,baz=238,slow=8.1,SNR=9.3						
SONM				pP	pP	16 27 38.7	+1.0
	comp=N,1.1nm,0.8s,baz=241,slow=8.9,SNR=8.4						
AKASG	Malin Array Be	42.03	321	pP	pP	16 28 12.0	-1.9
	comp=N,0.5nm,0.5s,baz=102,slow=6.9,SNR=2.3						
FINES	FINESS Array B	48.70	333	P	P	16 28 57.8	-0.7
	comp=N,3.0nm,1.1s,mb4.3,baz=144,slow=17,SNR=2.9						
GERES	GERESS Array B	51.11	315	P	P	16 29 15.7	-1.4
	comp=N,0.2nm,0.5s,mb3.4,baz=84,slow=10.0,SNR=2.9						
GERES				pP	pP	16 29 24.7	-0.6
	comp=N,0.6nm,0.8s,baz=77,slow=5.9,SNR=3.6						
TORD	Torodi Ar. Bea	65.57	274	P	P	16 30 57.5	-1.1
	comp=N,1.3nm,1.1s,mb3.9,baz=73,slow=5.9,SNR=4.3						
TORD				pP	pP	16 31 04.6	-2.4
	comp=N,0.5nm,0.7s,baz=79,slow=5.4,SNR=3.1						
WRA	Warramunga Arr	75.66	119	P	P	16 31 59.8	-0.1
	comp=N,1.2nm,0.8s,mb3.9,baz=313,slow=5.3,SNR=9.1						
WB2	Warramunga Arr	75.67	119	P	P	16 32 00.8	+0.8
ASAR	Alice Springs	77.28	123	P	P	16 32 09.0	-0.1
	comp=N,1.0nm,0.8s,mb3.8,baz=307,slow=6.1,SNR=6.1						
ASAR				pP	pP	16 32 16.3	-1.3
	comp=N,0.8nm,0.8s,baz=305,slow=5.5,SNR=4.9						

*IDC **08** 16:22:00.2±25.0, 373.9N×744.2E, h124km±125km, mb3.6/3, mb1 3.4/6, mb1mx3.0/22, mbtmp3.3/6, ML3.7/2, Error ellipse: s-maj=291.4km s-min=66.2km az=170.0*
*NNC **08** 16:22:27.0±3.6, 398.7N×736.2E, h0km, mb3.4, mpv3.0, Error ellipse: s-maj=34.1km s-min=19.8km az=163.0*

ISC 08 16:22:07.7±11.0, 380N±10×743E±02, h156km±45km, n15, σ0°59/15, mb3.7/3, 2C-4D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KZA	Kyzart	4.14	10	P	Pn	16 23 09.9	0.0
	SNR=8.1						
AML	Almayashu	4.15	354	P	Pn	16 23 09.9	-0.1
	SNR=29						
UCH	Uchtor	4.23	2	P	Pn	16 23 11.2	+0.2
	SNR=8.6						
ULHL	Ulahol	4.50	19	P	Pn	16 23 14.8	+0.2
	SNR=6.0						
EKS2	Erkin-Say	4.67	355	P	Pn	16 23 17.9	+1.0
	SNR=7.4						
KBK	Karagaybulak	4.68	6	P	Pn	16 23 17.4	+0.4
	SNR=7.2						
TKM2	Tokmak 2	5.02	11	⇓Pn	Pn	16 23 21.4	+0.1
	1.6nm,0.5s						
TKM2				⇑Lg		16 24 15.3	
	14nm,0.8s						
KK31	Karatay Array	5.85	332	⇓Pn	Pn	16 23 30.7	-1.7
	2.0nm,0.5s,baz=142,slow=18,SNR=34						
KK31				⇓Lg		16 24 30.8	
	16nm,0.6s,baz=136,slow=21,SNR=24						
MKAR	Makanchi Array	10.60	31	P	Pn	16 24 34.8	-0.5
	baz=209,slow=14,SNR=5.9						
AB31	Akbulak array	15.28	322	⇑Pn	Pn	16 25 40.9	+5.8
	0.3nm,0.4s,baz=128,slow=13,SNR=7.5						
AB31				⇓Sn	Sx	16 28 14.5	
	0.5nm,0.5s						
AKTO	Aktyubinsk	17.00	322	P	Pn	16 25 56.3	+0.3
	0.2nm,0.3s,baz=136,slow=13,SNR=5.1						
ZALV	Zalesovo Beam	17.52	21	P	Pn	16 26 01.6	-0.6
	0.3nm,0.3s,baz=212,slow=11,SNR=6.4						
FINES	FINESS Array B	37.75	324	P	P	16 29 08.6	+0.5
	3.0nm,1.0s,mb3.9,baz=116,slow=9.7,SNR=4.8						
ARCES	ARCESS Array B	40.80	336	P	P	16 29 33.4	+0.2
	3.0nm,0.9s,mb3.9,baz=111,slow=9.6,SNR=8.2						
NOA	NORSAR Array B	44.79	322	P	P	16 30 05.3	-0.1
	0.8nm,0.8s,mb3.4,baz=115,slow=5.9,SNR=2.4						

*IDC **08** 16:45:42.9±0.9, 334.4S×179.50W, h0km, mb4.0/3, mb1 4.3/4, mb1mx4.0/13, mbtmp4.0/4, ML3.9/1, MS3.6/1, Ms1 3.5/1, ms1mx3.2/17, Error ellipse: s-maj=37.2km s-min=28.1km az=156.0*
*NEIC **08** 16:45:44.8±0.6, 333.8S×179.60W, h10km, mb4.3/1, Error ellipse: s-maj=24.2km s-min=15.8km az=115.0*
*ISCJB **08** 16:45:45.3±1.9, 340.3S±009×179.1W±0.1, h2km±13km, mb4.0/4, Error ellipse: s-maj=19.0km s-min=10.9km az=137.6*

ISC 08 16:45:46.2±2.3, 339.0S±009×179.2W±01, h4km±15km, n36, σ1°33/27, mb4.0/4, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	4.20	209	PN	Pn	16 46 52.6	+1.7
MXZ				SN	Sn	16 47 41.7	+1.3
PUZ	Puketiti	4.66	206	PN	Pn	16 46 58.1	+0.7
PUZ				SN	Sn	16 47 51.0	-0.9
KUZ	Kuaotunu	5.05	234	PN	Pn	16 47 05.5	+2.8
KUZ				SN	Sn	16 48 01.4	-0.2
MWZ	Matawai	5.17	210	PN	Pn	16 47 04.5

IDC 08 16:57:47.5±5.5, 738S×15558E, h0km, mb3.4/3, mb1 3.5/3, mb1mx3.3/14, mbtmp3.4/3, Error ellipse: s-maj=153.9km s-min=42.3km az=118.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.09**	**237**	P	P	17 03 05.4	+0.6
	0.6nm,0.9s,baz=63,slow=9.7,SNR=3.0						
SONM	**Songino Array**	**69.97**	**327**	P	P	17 09 01.6	+0.8
	0.2nm,0.7s,baz=142,slow=7.3,SNR=2.6						
MKAR	**Makanchi Array**	**84.07**	**319**	P	P	17 10 19.4	-0.8
	0.6nm,0.6s,baz=102,slow=5.8,SNR=8.9						

ISCJB 08 17:02:35.5±1.5, 3836N±004×204E±0.1, h10km, Error ellipse: s-maj=16.7km s-min=4.8km az=166.3
CSEM 08 17:02:35.9±0.6, 3833N×2037E, h2km, ML2.7, Error ellipse: s-maj=13.8km s-min=3.9km az=69.0
ATH 08 17:02:35.1, 38.16N×2030E, h10km±6km, MD3.3/4
THE 08 17:02:38.1, 3844N×2048E, h3km, ML2.7

ISC 08 17:02:36.2±1.5, 3835N±004×204E±01, h10km, n11, σ0§85/15, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.21**	**145**	*e*PG	**Pg**	**17 02 40.0**	**-0.5**
VLS				*e*SG	**Sg**	**17 02 43.9**	**+0.5**
VLS	**Valsamata**	**0.21**	**145**	*e*Pg	**Pg**	**17 02 40.0**	**-0.5**
VLS				*e*Sg	**Sg**	**17 02 42.9**	**-0.5**
LKD	**Levkas**	**0.40**	**25**	*e*Pg	**Pg**	**17 02 43.7**	**-0.3**
LKD				*e*Sg	**Sg**	**17 02 48.7**	**-0.6**
RLS	**Riolos of Patr**	**0.86**	**109**	*e*PB	**Pb**	**17 02 53.0**	**-0.2**
IGT	**Igoumenitsa**	**1.19**	**356**	*e*Pg	**Pg**	**17 02 58.2**	**-0.8**
IGT				*e*Sg	**Sg**	**17 03 15.6**	**+1.1**
EVR	**Evrytania**	**1.22**	**62**	*e*PB	**Pb**	**17 03 01.8**	**+2.5**
EVR	**Evrytania**	**1.22**	**62**	*e*Pb	**Pb**	**17 03 00.3**	**+1.0**
MEV	**Metsovon**	**1.56**	**23**	*e*Pg	**Pg**	**17 03 05.7**	**-0.5**
AGG	**Agios Georgios**	**1.63**	**65**	*e*Pg	**Pg**	**17 03 06.3**	**-1.1**
THL	**Klokotos Trika**	**1.73**	**45**	*e*PN	**Pg**	**17 03 10.1**	**+0.7**
VLX	**Vlachokerasia**	**1.82**	**122**	*e*Pb	**Pb**	**17 03 10.5**	**+0.9**

CSEM 08 17:06:17.5±0.1, 3970N×3975E, h10km, MD3.0, Error ellipse: s-maj=3.2km s-min=2.9km az=119.0
DDA 08 17:06:17.8, 3979N×3960E, h7km, Md3.1
ISK 08 17:06:18.0, 3972N×3975E, h9km, MD3.0
ISCJB 08 17:06:19.4±0.9, 3970N±007×3971E±006, h19km±12km, Error ellipse: s-maj=11.3km s-min=7.7km az=164.1

ISC 08 17:06:20.2±0.6, 3975N±005×3974E±007, h29km±5km, n8, σ0§89/13, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EZC	**Erzincan**	**0.06**	**94**	PG	**Pb**	**17 06 24.6**	**-0.7**
EZC				*e*SG	**Sb**	**17 06 29.8**	**+1.1**
KOPT	**Kop Dagi**	**0.64**	**65**	*i* P	**Pb**	**17 06 31.4**	**-1.6**
KOPT				*i* S	**Sb**	**17 06 42.0**	**+0.4**
GUMT	**Gumushane**	**0.73**	**344**	*e*PG	**Pb**	**17 06 33.5**	**-1.0**
GUMT				*e*SG	**Sb**	**17 06 44.6**	**+0.4**
EZM	**Erzurum**	**1.26**	**83**	*e*PN	**Pn**	**17 06 42.4**	**+0.6**
ERZM	**Erzurum**	**1.26**	**83**	*i* P	**Pn**	**17 06 42.1**	**+0.2**
ERZM				*i* S	**Sn**	**17 07 05.5**	**+7.7**
ELZG	**Elazig**	**1.38**	**205**	*i* P	**Pn**	**17 06 42.3**	**-1.2**
ELZG				*i* S	**Sn**	**17 07 01.8**	**+1.0**
ESPY	**Espiye-Giresun**	**1.40**	**327**	*e*PN	**Pn**	**17 06 44.6**	**+1.0**
MALT	**Malatya**	**1.76**	**216**	*e*PN	**Pn**	**17 06 48.2**	**-0.5**

IDC 08 17:24:25.6±1.5, 1732S×7266W, h0km, mb3.5/3, mb1 3.7/4, mb1mx3.5/16, mbtmp3.5/4, Error ellipse: s-maj=36.6km s-min=34.5km az=109.0
NEIC 08 17:24:34.8±1.7, 1749S×7230W, h64km±15km, mb4.2/1, Error ellipse: s-maj=24.9km s-min=15.1km az=206.0
ISCJB 08 17:24:36.3±1.9, 175S±02×725W±01, h95km±18km, mb3.5/4, Error ellipse: s-maj=27.2km s-min=17.6km az=21.9

ISC 08 17:24:36.2±1.8, 175S±02×724W±01, h81km±18km, n13, σ1§24/12, mb3.5/4, 1C, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARE	**Arequipa**	**1.39**	**39**	⇑*i*P	**Pn**	**17 24 55.6**	**-4.6**
ARE				*e*S	**Sn**	**17 25 21.0**	**+2.8**
LPAZ	**La Paz**	**4.28**	**74**	*e*Pn	**Pn**	**17 25 40.3**	**+1.3**
LPAZ	**La Paz**	**4.28**	**74**	Pn	**Pn**	**17 25 40.0**	**+1.0**
	0.4nm,0.3s,baz=274,slow=8.1,SNR=16						
NNA	**Nana**	**6.99**	**322**	Pn	**Pn**	**17 26 16.2**	**+0.2**
	35nm,0.7s						
SIV	**San Ignacio**	**10.97**	**84**	Pn	**Pn**	**17 27 08.1**	**-2.2**
	0.3nm,0.3s,baz=274,slow=13,SNR=6.5						
PLCA	**Paso Flores**	**23.16**	**176**	P	**P**	**17 29 35.7**	**+0.1**
	14nm,1.4s,mb4.1						
PLCA	**Paso Flores**	**23.16**	**176**	P	**P**	**17 29 36.3**	**+0.6**
	1.0nm,0.9s,mb3.2,baz=0.0,slow=8.1,SNR=2.8						
BDFB	**Brasilia**	**23.45**	**89**	P	**P**	**17 29 39.5**	**+0.9**
	1.8nm,0.7s,mb3.5,baz=90,slow=20						
TORD	**Torodi Ar. Bea**	**79.23**	**72**	P	**P**	**17 36 33.3**	**+0.2**
	0.3nm,0.5s,mb3.4,baz=238,slow=4.6,SNR=2.9						
YKA	**Yellowknife Ar**	**86.40**	**342**	P	**P**	**17 37 08.2**	**-0.9**
YKA	**Yellowknife Ar**	**86.40**	**342**	P	**P**	**17 37 08.2**	**-0.9**
	0.3nm,0.8s,mb3.3,baz=154,slow=4.5,SNR=4.2						
ZALV	**Zalesovo Beam**	**139.61**	**21**	PKP	PKPdf	17 43 55.4	+1.1
	0.2nm,0.3s,baz=40,slow=4.7,SNR=2.0						
MKAR	**Makanchi Array**	**144.12**	**30**	PKP	PKPdf	17 44 03.1	+0.5
	0.2nm,0.2s,baz=191,slow=1.5,SNR=2.4						

IDC 08 17:24:43.8±1.0, 1753S×7253W, h0km, mb4.2/6, mb1 4.3/7, mb1mx4.0/16, mbtmp4.2/7, ML4.0/1, MS3.7/2, Ms1 3.7/2, ms1mx3.0/25, Error ellipse: s-maj=35.7km s-min=25.7km az=33.0
ISCJB 08 17:24:50.4±2.6, 174S±02×727W±0.1, h58km±20km, mb4.1/8, MS3.8/2, Error ellipse: s-maj=39.7km s-min=15.7km az=25.8
NEIC 08 17:24:52.7±1.8, 1739S×7267W, h68km±13km, mb4.2/1, Error ellipse: s-maj=26.1km s-min=11.7km az=202.0

ISC 08 17:24:52.2±2.2, 175S±02×727W±01, h64km±16km, n21, σ1§03/15, mb4.1/8, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**4.53**	**76**	Pn	**Pn**	**17 26 00.7**	**+2.4**
	1.1nm,0.3s,baz=248,slow=10.0,SNR=6.9						
NNA	**Nana**	**6.75**	**323**	Pn	**Pn**	**17 26 28.2**	**-0.5**
	2.8nm,0.3s,baz=145,slow=7.2,SNR=4.2						
NNA				Sn	**Sn**	**17 27 37.7**	**-6.5**
	1.1nm,0.3s,baz=242,slow=8.2,SNR=2.4						
SIV	**San Ignacio**	**11.24**	**84**	Pn	**Pn**	**17 27 29.0**	**-1.1**
	0.8nm,0.3s,baz=273,slow=13,SNR=7.9						
ROSC	**El Rosal**	**22.22**	**356**	P	**P**	**17 29 53.1**	**+9.5**
	3.7nm,0.5s,mb4.0,baz=286,slow=24,SNR=4.7						
BDFB	**Brasilia**	**23.73**	**89**	P	**P**	**17 29 56.9**	**-1.8**
	4.2nm,0.8s,mb3.9,baz=258,slow=18						
SDV	**Santo Domingo**	**26.25**	**5**	P	**P**	**17 30 21.0**	**-0.5**
	10nm,1.3s,mb4.2						
SDV	**Santo Domingo**	**26.25**	**5**	P	**P**	**17 30 21.8**	**+0.3**
	3.3nm,0.8s,mb3.9,baz=322,slow=5.2,SNR=3.6						
RCBR	**Riachuelo**	**37.77**	**77**	P	**P**	**17 32 03.5**	**+1.1**
BBTS	**Babate**	**63.94**	**64**	LR	LR	18 02 21.9	
	comp=Z,78nm,20.3s,baz=192,slow=35						
DBIC	**Dimbokro**	**71.15**	**76**	P	**P**	**17 36 04.0**	**-0.7**
	3.6nm,0.9s,mb4.3,baz=211,slow=5.1,SNR=4.4						
TORD	**Torodi Ar. Bea**	**79.47**	**73**	P	**P**	**17 36 52.0**	**-0.4**
	2.1nm,0.9s,mb4.0,baz=249,slow=5.6,SNR=5.9						
ESDC	**Sonseca Array**	**85.55**	**46**	P	**P**	**17 37 23.8**	**+0.3**
	1.7nm,1.0s,mb4.2,baz=250,slow=6.0,SNR=7.4						
YKA	**Yellowknife Ar**	**86.22**	**342**	P	**P**	**17 37 26.9**	**+0.7**
YKA				LR	LR	18 21 44.5	
YKA	**Yellowknife Ar**	**86.22**	**342**	P	**P**	**17 37 26.9**	**+0.7**
	1.0nm,0.9s,mb4.0,baz=134,slow=4.6,SNR=8.7						
YKA				LR	LR	18 21 44.5	
	comp=Z,31nm,18.5s,baz=100,slow=40						
MAW	**Mawson**	**89.19**	**164**	P	**P**	**17 37 41.2**	**+0.6**
	1.7nm,0.7s,mb4.5,baz=246,slow=6.7,SNR=4.2						
ASAR	**Alice Springs**	**131.57**	**213**	PKP	PKPdf	17 43 59.0	+0.6
	0.2nm,0.9s,baz=132,slow=1.4,SNR=2.7						
WRA	**Warramunga Arr**	**134.33**	**217**	PKP	PKPdf	17 44 03.4	-0.3
	0.5nm,1.0s,baz=145,slow=2.0,SNR=2.9						
ZALV	**Zalesovo Beam**	**139.62**	**20**	PKP	PKPdf	17 44 13.0	+0.6
	0.6nm,0.6s,baz=270,slow=1.5,SNR=4.7						
MKAR	**Makanchi Array**	**144.19**	**30**	PKP	PKPdf	17 44 20.1	-0.7
	0.2nm,0.3s,baz=332,slow=4.1,SNR=4.5						
MJAR	**Matsushiro Arr**	**146.74**	**311**	PKPbc	PKPbc	17 44 28.7	+1.5
	2.2nm,1.1s,baz=67,slow=1.0,SNR=8.7						
SONM	**Songino Array**	**149.69**	**1**	PKPbc	PKPbc	17 44 33.9	-0.7
	0.6nm,0.8s,baz=4.8,slow=1.6,SNR=4.0						

IDC 08 17:35:04.8±1.3, 1177N×14302E, h0km, mb3.6/4, mb1 3.9/5, mb1mx3.5/19, mbtmp3.6/5, ML3.8/1, Error ellipse: s-maj=66.0km s-min=20.9km az=118.0
NEIC 08 17:35:06.4±0.9, 1181N×14281E, h10km, Error ellipse: s-maj=43.6km s-min=14.9km az=120.0
ISCJB 08 17:35:08.2±1.0, 117N±02×143.1E±03, h33km, mb3.7/4, Error ellipse: s-maj=46.2km s-min=10.3km az=36.5

ISC 08 17:35:10.0±1.0, 118N±02×1430E±03, h35km, n7, σ0§85/9, mb3.7/4, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**2.56**	**45**	*e*Pn	**Pn**	**17 35 49.4**	**+0.5**
GUMO				Sn	**Sn**	**17 36 18.9**	**0.0**
GUMO	**Guam**	**2.56**	**45**	Pn	**Pn**	**17 35 47.7**	**-1.3**
	19nm,0.3s,baz=270,slow=4.1,SNR=8.9						
GUMO				Sn	**Sn**	**17 36 18.9**	**0.0**
	14nm,0.3s,baz=158,slow=23,SNR=6.6						
WRA	**Warramunga Arr**	**32.65**	**195**	P	**P**	**17 41 37.6**	**-1.2**
	0.5nm,0.6s,mb2.6,baz=18,slow=9.8,SNR=6.6						
ASAR	**Alice Springs**	**36.32**	**194**	P	**P**	**17 42 11.6**	**+1.0**
	0.3nm,0.8s,mb3.3,baz=8.3,slow=13,SNR=3.6						
YKA	**Yellowknife Ar**	**85.30**	**27**	P	**P**	**17 47 44.0**	**+0.9**
YKA	**Yellowknife Ar**	**85.30**	**27**	P	**P**	**17 47 44.0**	**+0.9**
	0.2nm,0.4s,mb3.6,baz=286,slow=5.0,SNR=5.2						
FINES	**FINESS Array B**	**92.04**	**335**	P	**P**	**17 48 14.7**	**-0.4**
	0.8nm,0.7s,mb4.2,baz=33,slow=5.3,SNR=2.3						

IDC 08 17:42:13.4±1.3, 3730N×2457W, h0km, mb3.6/6, mb1 3.8/6, mb1mx3.5/22, mbtmp3.6/6, MS3.1/1, Ms1 3.1/1, ms1mx2.4/34, Error ellipse: s-maj=36.6km s-min=27.1km az=13.0
CSEM 08 17:42:14.6±0.1, 3726N×2474W, h25km, mb3.9/8, Error ellipse: s-maj=3.6km s-min=1.2km az=5.0
NEIC 08 17:42:14.7±0.9, 3726N×2467W, h10km, mb3.9/10, Error ellipse: s-maj=19.5km s-min=11.8km az=174.0
ISCJB 08 17:42:15.5±0.9, 373N±0.1×2474W±005, h29km±11km, mb3.7/15, Error ellipse: s-maj=18.9km s-min=4.0km az=14.0
SVSA 08 17:42:15.0±0.7, 3719N×2446W, h5km, ML3.4, Error ellipse: s-maj=4.6km s-min=3.0km az=86.0
PDA 08 17:42:15.0±0.7, 3719N×2446W, h5km, ML3.4, Error ellipse: s-maj=4.6km s-min=3.0km az=86.0

ISC 08 17:42:16.1±0.9, 3731N±006×2474W±004, h21km±8km, n50, σ0§70/61, mb3.7/15, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSMN	**Pico do Norte,**	**0.41**	**221**	*e*P	**Pb**	**17 42 23.9**	**-0.7**
PSMN				*e*S	**Sb**	**17 42 30.8**	**+0.4**
PDA	**Ponta Delgada**	**0.85**	**301**	*e*P	**Pb**	**17 42 32.1**	**-0.2**
PDA				*e*S	**Sb**	**17 42 44.1**	**+0.8**
ADH	**Angra Heroismo**	**2.39**	**305**	*e*P	**Pn**	**17 42 53.6**	**-0.4**
ADH				*e*S	**Sn**	**17 43 22.2**	**-0.4**
PID	**Ribeirinha**	**2.91**	**294**	*e*P	**Pn**	**17 43 00.8**	**-0.3**
PID				*e*S	**Sn**	**17 43 35.6**	**+0.2**
PMAN	**Manadas**	**2.96**	**297**	*e*P	**Pn**	**17 43 01.9**	**0.0**
PMAN				*e*S	**Sn**	**17 43 36.5**	**-0.2**
PMAN				A		17 43 37.3	
	27nm,0.2s						
PMAN	**Manadas**	**2.96**	**297**	*e*P	**Pn**	**17 43 01.9**	**0.0**
PMAN				*e*S	**Sn**	**17 43 36.5**	**-0.2**
ROSA	**Rosais**	**3.10**	**298**	*e*P	**Pn**	**17 43 03.7**	**-0.2**
ROSA				*e*S	**Sn**	**17 43 39.8**	**-0.5**
SRBC	**Serra Branca**	**3.12**	**304**	*e*P	**Pn**	**17 43 04.0**	**-0.1**
SRBC				*e*S	**Sn**	**17 43 40.5**	**-0.2**
PICO	**Pico**	**3.15**	**293**	*e*P	**Pn**	**17 43 04.5**	**0.0**
PICO				*e*S	**Sn**	**17 43 41.6**	**+0.2**
CALA	**Caldeira**	**3.38**	**293**	*e*P	**Pn**	**17 43 07.5**	**-0.2**
CALA				*e*S	**Sn**	**17 43 47.0**	**-0.1**
EVOP	**Sao Brissos**	**13.18**	**80**	*e*Pn	**Pn**	**17 45 17.1**	**-4.8**
EVOP				*e*Sn	**Sn**	**17 47 31.6**	**-16**
EVO	**Evora**	**13.26**	**80**	*e*Pn	**Pn**	**17 45 17.1**	**-6.0**
EVO				*e*Sn	**Sn**	**17 47 31.6**	**-18**
	3.0nm,0.5s						
ESDC	**Sonseca Array**	**16.43**	**75**	Pn	**Pn**	**17 46 07.6**	**+2.2**
	0.1nm,0.3s,baz=279,slow=9.9,SNR=5.0						
MDT	**Midelt**	**17.07**	**99**	LR	LR	17 50 29.3	
	comp=Z,63nm,20.1s,baz=350,slow=29						
SJPF	**Ste Jean**	**18.84**	**65**	*e*P	**Pn**	**17 46 35.2**	**+0.1**
	14nm,1.1s						
SJPF	**Ste Jean**	**18.84**	**65**	*e*P	**Pn**	**17 46 35.2**	**+0.1**
	6.8nm,1.1s						
LFF	**La Frestale**	**20.59**	**60**	*e*P	**P**	**17 46 53.9**	**+0.3**
	16nm,0.8s						
LFF	**La Frestale**	**20.59**	**60**	*e*P	**P**	**17 46 53.9**	**+0.3**
	8.0nm,0.8s						
GRR	**Gorron**	**20.62**	**50**	*e*P	**P**	**17 46 55.3**	**+1.4**
LDF	**La Druitiere**	**21.16**	**50**	*e*P	**P**	**17 47 00.7**	**+1.0**
CAF	**Calviac**	**21.51**	**61**	*e*P	**P**	**17 47 03.1**	**-0.4**
	8.6nm,0.9s,mb3.9						
CAF	**Calviac**	**21.51**	**61**	*e*P	**P**	**17 47 03.1**	**-0.4**
	4.3nm,0.9s,mb3.9						
TCF	**Toulx Ste Croi**	**21.91**	**57**	*e*P	**P**	**17 47 08.2**	**+0.4**
	21nm,1.2s,mb4.1						
TCF	**Toulx Ste Croi**	**21.91**	**57**	*e*P	**P**	**17 47 08.2**	**+0.4**
	11nm,1.2s,mb4.1						
SSF	**Saint Saulge**	**22.97**	**56**	*e*P	**P**	**17 47 18.6**	**-0.5**
	5.7nm,0.7s,mb3.8						
SSF	**Saint Saulge**	**22.97**	**56**	*e*P	**P**	**17 47 18.6**	**-0.5**
	2.8nm,0.7s,mb3.8						
SMF	**Signal de Mont**	**23.09**	**57**	*e*P	**P**	**17 47 19.8**	**-0.6**
	5.5nm,0.6s,mb3.9						
SMF	**Signal de Mont**	**23.09**	**57**	*e*P	**P**	**17 47 19.8**	**-0.6**
	2.8nm,0.6s,mb3.9						
EKA	**Eskdalemuir Ar**	**23.22**	**32**	P	**P**	**17 47 21.1**	**-0.5**
	2.4nm,1.1s,mb3.5,baz=224,slow=10,SNR=3.9						
EKA	**Eskdalemuir Ar**	**23.22**	**32**	P	**P**	**17 47 21.1**	**-0.5**
LOR	**Lormes**	**23.26**	**56**	*e*P	**P**	**17 47 21.5**	**-0.6**
	3.0nm,0.7s,mb3.5						
LOR	**Lormes**	**23.26**	**56**	*e*P	**P**	**17 47 21.5**	**-0.6**
	1.5nm,0.7s,mb3.5						
VIVF	**Saint-Julien-l**	**23.32**	**62**	*e*P	**P**	**17 47 21.6**	**-1.2**
	4.8nm,0.9s,mb3.6						
VIVF	**Saint-Julien-l**	**23.32**	**62**	*e*P	**P**	**17 47 21.6**	**-1.2**
	2.4nm,0.9s,mb3.6						
SMRF	**Simiane la Rot**	**23.86**	**64**	*e*P	**P**	**17 47 26.6**	**-1.3**
	18nm,1.2s,mb4.1						
SMRF	**Simiane la Rot**	**23.86**	**64**	*e*P	**P**	**17 47 26.6**	**-1.3**
	8.9nm,1.2s,mb4.1						
ORIF	**Oris-en-Rattie**	**24.18**	**62**	*e*P	**P**	**17 47 30.1**	**-0.8**
	6.5nm,0.9s,mb3.8						
ORIF	**Oris-en-Rattie**	**24.18**	**62**	*e*P	**P**	**17 47 30.1**	**-0.8**
	3.2nm,0.9s,mb3.8						
BAIF	**Baives**	**24.33**	**49**	*e*P	**P**	**17 47 31.9**	**-0.3**
CABF	**La Chapelle**	**24.60**	**58**	*e*P	**P**	**17 47 34.3**	**-0.3**
GIVF	**Givet**	**24.72**	**49**	*e*P	**P**	**17 47 35.7**	**0.0**
SBF	**Sospel**	**25.18**	**65**	*e*P	**P**	**17 47 39.6**	**-0.4**
CDF	**Champ du Feu**	**25.77**	**54**	*e*P	**P**	**17 47 45.5**	**+0.2**
TORD	**Torodi Ar. Bea**	**33.70**	**129**	P	**P**	**17 48 55.2**	**-0.7**
	0.6nm,0.7s,mb3.6,baz=315,slow=9.1,SNR=4.8						
YKA	**Yellowknife Ar**	**57.63**	**327**	P	**P**	**17 52 05.0**	**+0.7**
	0.3nm,0.8s,mb3.4,baz=71,slow=6.8,SNR=3.8						
YKA	**Yellowknife Ar**	**57.63**	**327**	P	**P**	**17 52 04.9**	**+0.7**
TXAR	**Lajitas Array**	**64.67**	**289**	P	**P**	**17 52 54.4**	**+1.9**
	1.3nm,0.9s,mb4.0,baz=78,slow=6.9,SNR=12						
ZALV	**Zalesovo Beam**	**70.79**	**36**	P	**P**	**17 53 30.6**	**-0.1**
	0.2nm,0.3s,mb3.5,baz=336,slow=3.2,SNR=3.6						
MKAR	**Makanchi Array**	**73.85**	**43**	P	**P**	**17 53 50.6**	**+1.5**
	0.1nm,0.2s,mb3.3,baz=309,slow=6.9,SNR=3.0						
SONM	**Songino Array**	**84.68**	**31**	P	**P**	**17 54 48.8**	**+0.6**
	0.4nm,0.9s,mb3.6,baz=321,slow=2.1,SNR=4.1						

THE 08 18:05:05.4, 4333N×2059E, h3km
ISCJB 08 18:05:05.0±0.4, 4348N±001×2072E±002, h2km±3km, Error ellipse: s-maj=2.9km s-min=2.4km az=25.5
PDG 08 18:05:06.9±0.4, 4346N×2064E, h18km±1km, MD2.8/2, ML2.7/10, Error ellipse: s-maj=0.7km s-min=1.2km az=0.0
NEIC 08 18:05:06.9±0.4, 4341N×2066E, h10km, ML3.1(BUC), ML2.7(PDG), Error ellipse: s-maj=5.8km s-min=4.8km az=128.0
BEO 08 18:05:06.5±0.3, 4343N×2067E, h11km, ML3.4/9
PRU 08 18:05:06.8, 4360N×2103E, h0km
CSEM 08 18:05:06.1±0.1, 4344N×2073E, h8km, ML3.4, Error ellipse: s-maj=2.3km s-min=1.9km az=108.0

ISC 08 18:05:06.0±0.4, 4345N±001×2074E±002, h3km±3km, n86, σ1§06/133, 17C-17D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GRUS	**Gruza**	**0.44**	**358**	*i* Pg	**Pg**	**18 05 15.1**	**+0.7**
GRUS				*e*Sg	**Sg**	**18 05 21.5**	**+1.4**
SJES	**Sjenica**	**0.61**	**253**	*e*Pg	**Pg**	**18 05 16.6**	**-1.1**
SJES				*e*Sg	**Sg**	**18 05 24.5**	**-1.1**
DIVS	**Divibare**	**0.84**	**320**	*e*Pg	**Pg**	**18 05 22.1**	**-0.1**
DIVS				*e*Sg	**Sg**	**18 05 35.0**	**+1.9**
DIVS	**Divibare**	**0.84**	**320**	*e*Pg	**Pg**	**18 05 22.6**	**+0.4**
DIVS				*e*Sg	**Sg**	**18 05 34.6**	**+1.5**
BEY	**Berane**	**0.85**	**227**	⇓*i*Pg	**Pg**	**18 05 21.8**	**-0.4**
BEY				*e*Sg	**Sg**	**18 05 34.6**	**+1.4**
IVA	**Berane**	**0.85**	**227**	⇓*i*Pg	**Pg**	**18 05 21.8**	**-0.4**
IVA				*e*Sg	**Sg**	**18 05 34.6**	**+1.4**
SVIS	**Svilajnac**	**0.91**	**22**	*e*Pg	**Pg**	**18 05 24.0**	**+0.4**
SVIS				*e*Sg	**Sg**	**18 05 37.8**	**+2.4**
PLE	**Pljevlja**	**0.99**	**263**	⇑*i*Pg	**Pg**	**18 05 24.7**	**-0.3**
PLE				*e*Sg	**Sg**	**18 05 38.6**	**+0.8**
BARS	**Barje**	**1.02**	**128**	*e*Pg	**Pg**	**18 05 25.0**	**-0.5**
BARS				*e*Sg	**Sg**	**18 05 40.4**	**+1.7**
PVY	**Plav**	**1.02**	**213**	⇑*i*Pg	**Pg**	**18 05 24.9**	**-0.8**
PVY				*e*Sg	**Sg**	**18 05 40.7**	**+1.8**
UPM	**Unac-Piva**	**1.36**	**260**	⇓*i*Pg	**Pg**	**18 05 31.4**	**-0.7**
UPM				*e*Sg	**Sg**	**18 05 49.6**	**0.0**
BEO	**Beograd**	**1.38**	**352**	*e*Pg	**Pg**	**18 05 31.8**	**-0.8**
BEO				*e*Sg	**Sg**	**18 05 51.2**	**+0.7**
NKY	**Niksic**	**1.43**	**244**	⇑*i*Pg	**Pg**	**18 05 32.2**	**-1.2**
NKY				*e*Sg	**Sg**	**18 05 51.6**	**-0.2**
PDG	**Podgorica**	**1.49**	**227**	⇑*i*Pg	**Pg**	**18 05 33.1**	**-1.5**
PDG				*e*Sg	**Sg**	**18 05 54.2**	**+0.3**
TTG	**Podgorica**	**1.49**	**227**	⇑*i*Pg	**Pg**	**18 05 33.1**	**-1.5**
TTG				*e*Sg	**Sg**	**18 05 54.2**	**+0.3**
SKO	**Skopje**	**1.57**	**161**	*e*Pn	**Pn**	**18 05 35.5**	**+0.8**
SKO				*e*Sn	**Sn**	**18 05 55.0**	**-0.6**
BRY	**Bratogost**	**1.70**	**252**	⇓*i*Pn	**Pn**	**18 05 36.3**	**-0.3**
BRY				*e*Sn	**Sn**	**18 05 58.9**	**+0.1**
DJES	**Djerdap**	**1.75**	**47**	*e*Pn	**Pn**	**18 05 39.2**	**+1.9**
BUM	**Brajici-Budva**	**1.78**	**230**	⇑*i*Pn	**Pn**	**18 05 37.9**	**+0.2**
BUM				*e*Sn	**Sn**	**18 06 00.9**	**+0.1**
FGSL	**Fruska Gora**	**1.83**	**339**	*e*Pn	**Pn**	**18 05 37.4**	**-1.0**
FGSL				*e*Sg	**Sg**	**18 06 05.1**	**+0.3**
ULC	**Ulcinj**	**1.85**	**217**	⇑*i*Pn	**Pn**	**18 05 38.2**	**-0.5**
ULC				*e*Sn	**Sn**	**18 06 03.2**	**+0.6**
HCY	**Herceg Novi**	**1.93**	**239**	⇓*i*Pn	**Pn**	**18 05 39.5**	**-0.2**
HCY				*e*Sn	**Sn**	**18 06 04.1**	**-0.4**
VTS	**Vitosha**	**2.00**	**115**	P	**Pn**	**18 05 43.7**	**+2.9**
VTS				S	**Sn**	**18 06 08.2**	**+1.8**
VTS	**Vitosha**	**2.00**	**115**	*e*Pn	**Pn**	**18 05 40.4**	**-0.4**
VTS				*e*Sn	**Sn**	**18 06 08.2**	**+1.8**
VTS	**Vitosha**	**2.00**	**115**	⇑*i*P	**Pn**	**18 05 40.3**	**-0.5**
VTS	**Vitosha**	**2.00**	**115**	S	**Sn**	**18 06 09.2**	**+2.8**
STIP	**Stip**	**2.06**	**148**	*e*Pn	**Pn**	**18 05 39.7**	**-1.8**
STIP				*e*Sn	**Sn**	**18 06 11.3**	**+3.7**
STIP	**Stip**	**2.06**	**148**	*e*Pn	**Pn**	**18 05 39.7**	**-1.8**
STIP				*e*Sn	**Sn**	**18 06 11.3**	**+3.6**
KRUS	**Krusevo**	**2.12**	**170**	*e*Pn	**Pn**	**18 05 41.7**	**-0.6**
KRUS				*e*Sn	**Sn**	**18 06 12.2**	**+3.1**
BZS	**Buzias**	**2.25**	**16**	P	**Pn**	**18 05 43.4**	**-0.9**
BZS	**Buzias**	**2.25**	**16**	*e*Pn	**Pn**	**18 05 43.3**	**-0.9**
BZS				*e*Sg	**Sg**	**18 06 18.3**	**-0.1**
BZS	**Buzias**	**2.25**	**16**	⇑*i*P	**Pn**	**18 05 43.7**	**-0.5**
BZS				S	**Sn**	**18 06 18.1**	**+5.6**
STON	**Ston**	**2.30**	**256**	*e*Pn	**Pn**	**18 05 45.9**	**+1.1**
STON				Sn	**Sn**	**18 06 14.9**	**+1.3**
STON	**Ston**	**2

LKD	**Levkas**	**0.37**	**13**	*e*Pg	**Pg**	**18 05 56.6**	**-1.1**
LKD				*e*Sg	**Sg**	**18 06 03.0**	**+0.4**
RLS	**Riolos of Patr**	**0.78**	**112**	*e*P	**Pg**	**18 06 05.5**	**+0.1**
EVR	**Evrytania**	**1.14**	**60**	*e*P	**Pb**	**18 06 11.4**	**-0.7**
IGT	**Igoumenitsa**	**1.19**	**352**	*e*Pg	**Pg**	**18 06 11.6**	**-1.8**
IGT				*e*Sg	**Sg**	**18 06 29.5**	**+0.7**
JAN	**Janina**	**1.33**	**10**	*e*P	**Pn**	**18 06 16.2**	**+1.4**
KEK	**Kerkira**	**1.48**	**337**	*e*P	**Pn**	**18 06 17.4**	**+0.4**
AGG	**Agios Georgios**	**1.55**	**64**	*e*Pb	**Pb**	**18 06 16.9**	**-2.2**
ITM	**Ithomi**	**1.60**	**137**	*e*P	**Pg**	**18 06 22.5**	**+1.4**
THL	**Klokotos Trika**	**1.67**	**43**	*e*P	**Pg**	**18 06 23.8**	**+1.4**
LKR	**Lokris**	**1.95**	**80**	*e*P	**Pg**	**18 06 28.1**	**+0.4**
DID	**Didima**	**2.29**	**111**	*e*Pn	**Pn**	**18 06 27.5**	**-0.5**

*MOS **08** 18:13:18.9±0.8, 5624N×11247E, h8km, mb4.4/1, Error ellipse: s-maj=15.0km s-min=9.0km az=63.2*
BYKL 08 18:13:20.7±0.3, 5626N×11244E, h21km±3km, 12C-6D, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOA	**Uoyan**	**0.42**	**253**	⇑*i*PG	Pb	18 13 28.9	-0.5
YOA				*i*		18 13 36.0	
YOA				pmax	pmax		
	comp=Z,610nm,0.2s						
YOA				smax			
	comp=E,10μm,0.4s						
YOA	**Uoyan**	**0.42**	**253**	⇑*i*Pg	Pb	18 13 28.9	-0.5
YOA				*i* Sg	Sb	18 13 35.9	+0.6
YOA				*i*		18 13 38.2	
YOA				Pmax			
	comp=E,950nm,0.2s						
YOA				max			
	comp=E,9μm,0.4s						
SVKR	**Severomuysk**	**0.64**	**102**	*e*PG	Pb	18 13 32.7	-0.5
SVKR				*e*		18 13 41.3	
SVKR				pmax	pmax		
	comp=Z,1μm,0.4s						
SVKR				smax			
	comp=N,5μm,0.5s						
SVKR	**Severomuysk**	**0.64**	**102**	⇑*i*Pg	Pb	18 13 32.8	-0.4
SVKR				*i* Sg	Sb	18 13 41.8	+0.1
SVKR				Pmax			
	comp=N,1μm,0.3s						
SVKR				Smax			
	comp=N,3μm,0.2s						
KMO	**Kumora**	**0.79**	**242**	*e*PG	Pb	18 13 35.2	-0.5
KMO				*e*		18 13 45.7	
KMO				pmax	pmax		
	comp=Z,41nm,0.1s						
KMO				smax			
	comp=N,463nm,0.4s						
KMO	**Kumora**	**0.79**	**242**	⇓*i*Pg	Pb	18 13 35.2	-0.5
KMO				*i* Sg	Sb	18 13 46.8	+0.9
KMO				Pmax			
	comp=N,143nm,0.3s						
KMO				Smax			
	comp=N,536nm,0.4s						
UKT	**Uakit**	**1.02**	**139**	*e*PG	Pb	18 13 39.6	-0.1
UKT				*e*		18 13 53.5	
UKT				pmax	pmax		
	comp=Z,212nm,0.2s						
UKT				smax			
	comp=N,708nm,0.2s						
UKT	**Uakit**	**1.02**	**139**	⇓*i*Pg	Pb	18 13 39.6	-0.1
	comp=N,259nm,0.7s						
UKT				⇑*i*Pg	Pb	18 13 39.6	-0.1
	comp=N,120nm,0.7s						
UKT				⇑*i*Pg	Pb	18 13 39.6	-0.1
	comp=N,210nm,0.7s						
UKT				*e*Sg	Sb	18 13 53.5	+0.9
UKT				Pmax			
	comp=N,150nm,0.3s						
UKT				Smax			
	comp=N,703nm,0.2s						
YLYR	**Ulyunkhan**	**1.57**	**208**	*e*PG	Pn	18 13 48.7	+1.5
YLYR				*e*		18 13 48.9	
YLYR				*i*		18 14 10.5	
YLYR				pmax	pmax		
	comp=Z,110nm,0.2s						
YLYR				smax			
	comp=E,894nm,0.3s						
YLYR	**Ulyunkhan**	**1.57**	**208**	⇑*i*Pg	Pn	18 13 48.9	+1.7
	comp=E,104nm,0.6s						
YLYR				⇑*i*Pg	Pn	18 13 48.9	+1.7
	comp=E,44nm,0.6s						
YLYR				⇓*i*Pg	Pn	18 13 48.9	+1.7
	comp=E,109nm,0.6s						
YLYR				*e*Sg	Sn	18 14 10.1	+3.3
YLYR				Pmax			
	comp=E,106nm,0.3s						
YLYR				Smax			
	comp=E,866nm,0.2s						
NIZ	**Nizh Angarsk**	**1.70**	**255**	*e*PN	Pn	18 13 50.8	+1.8
NIZ				*e*		18 14 14.3	
NIZ				pmax	pmax		
	comp=Z,99nm,0.3s						
NIZ				smax			
	comp=N,588nm,0.3s						
NIZ	**Nizh Angarsk**	**1.70**	**255**	⇓*i*Pn	Pn	18 13 50.8	+1.8
NIZ				*e*Pg	Pn	18 13 51.5	+2.5
NIZ				*e*Sg	Sn	18 14 14.5	+4.4
NIZ				Pmax			
	comp=N,96nm,0.2s						
NIZ				Smax			
	comp=N,584nm,0.3s						
BOD	**Bodaibo**	**1.78**	**28**	*e*PN	Pn	18 13 50.8	+0.6
BOD				*e*		18 14 14.5	
BOD				pmax	pmax		
	comp=Z,91nm,0.4s						
BOD				smax			
	comp=E,597nm,0.3s						
BOD	**Bodaibo**	**1.78**	**28**	*e*Pn	Pn	18 13 51.5	+1.3
BOD				⇑*i*Pg	Pn	18 13 51.9	+1.7
	comp=E,44nm,0.6s						
BOD				⇑*i*Pg	Pn	18 13 51.9	+1.7
	comp=E,22nm,0.6s						
BOD				⇑*i*Pg	Pn	18 13 51.9	+1.7
	comp=E,43nm,0.6s						
BOD				*e*Sn	Sn	18 14 14.1	+1.9
BOD				*i* Sg	Sn	18 14 15.1	+2.9
BOD				Pmax			
	comp=E,92nm,0.3s						
BOD				Smax			
	comp=E,572nm,0.7s						
NLYR	**Nelyaty**	**1.83**	**81**	⇓*i*Pg	Pn	18 13 52.1	+1.3
NLYR				*e*Sg	Sn	18 14 16.6	+3.3
NLYR				*e*		18 14 24.6	
NLYR				Pmax			
	comp=E,97nm,0.8s						
NLYR				max			
	comp=E,887nm,0.9s						
SYVR	**Suvo**	**2.96**	**209**	*e*PN	Pn	18 14 07.3	+0.9
SYVR				*e*		18 14 14.1	
SYVR				*e*		18 14 52.1	
SYVR				pmax	pmax		
	comp=Z,23nm,0.6s						
SYVR				smax			
	comp=N,182nm,0.6s						
SYVR	**Suvo**	**2.96**	**209**	⇓*i*Pn	Pn	18 14 07.2	+0.8
SYVR				*e*Pg	Pn	18 14 13.7	+7.3
SYVR				*e*Sg	Sn	18 14 51.2	+10
SYVR				Pmax			
	comp=N,23nm,0.6s						
SYVR				Smax			
	comp=N,179nm,0.6s						
CRS	**Chara**	**3.29**	**76**	*e*PN	Pn	18 14 12.1	+1.2
CRS				*e*		18 14 20.2	
CRS				*e*		18 15 01.2	
CRS				pmax	pmax		
	comp=Z,74nm,0.9s						
CRS				smax			
	comp=E,174nm,1.7s						
CRS	**Chara**	**3.29**	**76**	*e*Pn	Pn	18 14 12.4	+1.5
CRS				*e*Pg	Pn	18 14 19.8	+8.9
CRS				*e*Sg	Sn	18 15 02.2	+13
CRS				Pmax			
	comp=E,74nm,0.9s						
CRS				Smax			
	comp=E,174nm,1.6s						
MXMB	**Maximikha**	**3.69**	**217**	*e*Pn	Pn	18 14 18.2	+1.8
MXMB				*e*Pg	Pn	18 14 26.6	+10
MXMB				*e*Sg	Sn	18 15 15.2	+16
MXMB				Pmax			
	comp=E,17nm,0.6s						
MXMB				Smax			
	comp=E,169nm,0.9s						
OGRR	**Ongureny**	**3.83**	**229**	⇑*i*Pn	Pn	18 14 19.5	+1.2
OGRR				*e*Sg	Sn	18 15 19.6	+17
OGRR				max			
	comp=E,13nm,0.3s						
OGRR				Smax			
	comp=E,49nm,0.6s						
CIT	**Chita**	**4.30**	**171**	*e*PN	Pn	18 14 37.7	+13
CIT				*e*		18 15 36.2	
CIT				pmax	pmax		
	comp=Z,32nm,1.2s						
CIT				smax			
	comp=N,111nm,1.0s						
CIT	**Chita**	**4.30**	**171**	*e*Pn	Pn	18 14 27.7	+2.9
CIT				*e*Pg	Pn	18 14 38.2	+13
CIT				*e*Sn	Sn	18 15 13.6	-0.6
CIT				*e*Sg	Sn	18 15 33.2	+19
CIT				Pmax			
	comp=N,18nm,0.5s						
CIT				Smax			
	comp=N,120nm,1.0s						
TUP	**Tupik**	**4.67**	**110**	⇑*i*PN	Pn	18 14 30.4	+0.6
TUP				*e*		18 14 43.8	
TUP				*e*S	Sn	18 15 24.4	+1.1
TUP				*e*		18 15 45.2	
TUP				pmax	pmax		
	comp=Z,12nm,0.5s						
TUP				smax			
	comp=N,129nm,0.8s						
TUP	**Tupik**	**4.67**	**110**	*e*Pg	Pn	18 14 45.2	+15
TUP				*e*Sg	Sn	18 15 45.8	+23
TUP				Pmax			
	comp=N,30nm,1.1s						
TUP				Smax			
	comp=N,147nm,1.0s						
ZRHB	**Zarechye**	**4.83**	**222**	*e*Sg	Sn	18 15 48.9	+22
ZRHB				Smax			
	comp=N,74nm,0.8s						
TRTB	**Turuntaevo**	**4.92**	**217**	*e*Pn	Pn	18 14 34.9	+1.5
TRTB				*e*Pg	Pn	18 14 49.2	+16
TRTB				*e*Sg	Sn	18 15 53.4	+24
TRTB				Pmax			
	comp=N,7.0nm,0.4s						
TRTB				Smax			
	comp=N,45nm,1.0s						
TRG	**Tyrgan**	**4.99**	**228**	*e*Pn	Pn	18 14 35.1	+0.9
TRG				Pg	Pn	18 14 50.1	+16
TRG				*e*Sg	Sn	18 15 53.8	+23
TRG				Pmax			
	comp=N,7.0nm,0.8s						
TRG				Smax			
	comp=N,23nm,0.4s						
UUDB	**Ulan-Yde**	**5.22**	**215**	*e*Sg	Sn	18 16 01.8	+25
UUDB				Smax			
	comp=N,81nm,1.0s						
KAB	**Kabansk**	**5.42**	**221**	*e*Sg	Sn	18 16 08.3	+27
KAB				Smax			
	comp=N,167nm,0.8s						
LSTR	**Listvyanka**	**6.28**	**229**	*e*Sg	Sn	18 16 34.1	+31
LSTR				Smax			
	comp=N,25nm,0.8s						
KPC	**Khapcheranga**	**6.57**	**180**	*e*PN	Pn	18 14 55.9	0.0
KPC				*e*		18 15 20.4	
KPC				*e*		18 16 44.8	
KPC				pmax	pmax		
	comp=Z,2.0nm,0.4s						
KPC				smax			
	comp=E,103nm,1.2s						
KPC	**Khapcheranga**	**6.57**	**180**	*e*Pn	Pn	18 14 58.2	+2.3
KPC				*e*Pg	Pn	18 15 18.7	+23
KPC				*e*Sg	Sn	18 16 42.6	+32
KPC				Pmax			
	comp=E,3.0nm,0.7s						
KPC				Smax			
	comp=E,103nm,1.1s						
TLY	**Talaya**	**6.92**	**232**	*e*PN	Pn	18 15 03.5	+2.7
TLY				*e*		18 15 25.4	
TLY				*e*		18 16 53.0	
TLY				pmax	pmax		
	comp=Z,4.0nm,0.6s						
TLY				smax			
	comp=E,21nm,1.1s						
TLY	**Talaya**	**6.92**	**232**	*e*Pg	Pn	18 15 25.1	+24
TLY				*e*Sg	Sn	18 16 53.0	+34
TLY				Pmax			
	comp=E,4.0nm,0.5s						
TLY				Smax			
	comp=E,20nm,1.4s						
ARS	**Arshan**	**7.32**	**238**	*e*PN	Pn	18 15 08.1	+1.9
ARS				*e*		18 15 32.9	
ARS				*e*S	Sn	18 16 27.6	-0.9
ARS				*e*		18 17 06.1	
ARS				pmax	pmax		
	comp=Z,3.0nm,0.1s						
ARS				smax			
	comp=E,77nm,0.9s						
ARS	**Arshan**	**7.32**	**238**	*e*Pn	Pn	18 15 06.2	0.0
ARS				*e*Pg	Pn	18 15 31.7	+25
ARS				*e*Sg	Sn	18 17 06.2	+38
ARS				Pmax			
	comp=E,3.0nm,0.1s						
ARS				Smax			
	comp=E,74nm,0.8s						
ZAK	**Zakamensk**	**8.04**	**227**	*e*Sg	Sn	18 17 30.6	+44
ZAK				Smax			
	comp=E,15nm,1.5s						
MOY	**Mondy**	**8.16**	**240**	*e*PN	Pn	18 15 19.4	+1.6
MOY				*e*		18 15 47.7	
MOY				pmax	pmax		
	comp=Z,4.0nm,0.4s						
MOY	**Mondy**	**8.16**	**240**	*e*Pn	Pn	18 15 19.8	+2.0
MOY				*e*Sn	Sn	18 16 47.5	-1.9
MOY				*e*Sg	Sn	18 17 32.2	+43
MOY				max			
	comp=Z,5.0nm,0.7s						
MOY				Smax			
	comp=Z,26nm,1.5s						
ORL	**Orlik**	**8.26**	**248**	*e*PN	Pn	18 15 21.6	+2.5
ORL				*e*		18 15 49.1	
ORL				*e*S	Sn	18 16 51.3	-0.3
ORL	**Orlik**	**8.26**	**248**	*e*Pn	Pn	18 15 20.3	+1.2
ORL				*e*Sn	Sn	18 16 49.4	-2.2
ORL				*e*Sg	Sn	18 17 36.7	+45
ORL				max			
	comp=Z,4.0nm,0.7s						
ORL				Smax			
	comp=Z,37nm,1.5s						

*SVSA **08** 18:25:53.7±0.8, 3698N×2408W, h10km, MD4.2, ML4.9, Error ellipse: s-maj=7.1km s-min=4.3km az=44.0*
*PDA **08** 18:25:53.7±0.8, 3698N×2408W, h10km, MD4.2, ML4.9, Error ellipse: s-maj=7.1km s-min=4.3km az=44.0*
*CSEM **08** 18:25:54.2±0.1, 3717N×2464W, h2km, mb4.8/50, Ms4.2, Mw5.0, Error ellipse: s-maj=3.0km s-min=1.0km az=9.0*
*ISCJB **08** 18:25:56.6±0.3, 3689N×003×2422W×003, h10km, mb4.6/108, MS4.3/63, Error ellipse: s-maj=4.6km s-min=3.8km az=30.0*
*IDC **08** 18:25:56.7±0.5, 3724N×2442W, h0km, mb4.2/26, mb1 4.3/28, mb1mx4.2/31, mbtmp4.1/28, ML4.4/2, MS4.2/37, Ms1 4.2/37, ms1mx4.2/38, Error ellipse: s-maj=14.2km s-min=11.9km az=174.0*
*CRAAG **08** 18:25:57.6, 3752N×2464W, Mb4.8*
*NEIC **08** 18:25:58.2±0.3, 3698N×2431W, h10km, mb4.9/63, MS4.2/9, Error ellipse: s-maj=6.5km s-min=5.5km az=180.0*
*GCMT **08** 18:25:58.2±0.3, 3747N×2440W, h12km, MW5.0/83, Moment Tensor Solution. s21,c25; s83,c130; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-3.50±.08; $M_{\theta\theta}$0.41±.09; $M_{\phi\phi}$3.09±.08; $M_{r\theta}$1.66±.47; $M_{\theta\phi}$-0.25±.07; $M_{r\phi}$0.34±.33; Best double couple: $M_0$3.62600×10^{16} NP1:ϕ_s336.00000°, δ47.00000°, λ-119.00000°. NP2: ϕ_s195.00000°, δ50.00000°, λ-63.00000°. Principal axes: T 3.1200, Plg2.0000°, Azm266.0000°; N 1.0140, Plg20.0000°, Azm357.0000°; P -4.1330, Plg70.0000°, Azm171.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*BJI **08** 18:25:58.2, 3700N×2430W, h10km, mB5.2, mb4.9, Ms5.0, Msz4.8*
*MOS **08** 18:26:01.5±1.7, 3722N×2439W, h33km, mb5.0/57, MS4.3/19, Error ellipse: s-maj=10.3km s-min=3.5km az=136.4*
*SZGRF **08** 18:26:14.7, 3780N×2338W, h33km, mb4.9, MS4.1, Azores Islands region*
ISC 08 18:25:57.0±1.2, 3699N±003×2427W±003, h0km±7km, n415, σ1§46/449, mb4.7/108, MS4.3/63, 8C-6D, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSMN	**Pico do Norte,**	**0.64**	**272**	*e*P	**Pg**	**18 26 06.3**	**-3.0**
PSMN				*e*S	**Sg**	**18 26 15.3**	**-2.3**
PSMN	**Pico do Norte,**	**0.64**	**272**	*e*S	**Sg**	**18 26 15.3**	**-2.3**
PDA	**Ponta Delgada**	**1.35**	**305**	*e*P	**Pn**	**18 26 15.1**	**-8.0**
PDA				*e*S	**Sb**	**18 26 31.9**	**-9.0**
PSCM	**Serra do Cume**	**2.83**	**308**	*e*P	**Pn**	**18 26 36.2**	**-7.3**
PSCM				*e*S	**Sn**	**18 27 08.2**	**-10**
PSCM				A		18 27 11.4	
	2μm,0.3s						
PSCM	**Serra do Cume**	**2.83**	**308**	*e*P	**Pn**	**18 26 36.2**	**-7.3**
PSCM				*e*S	**Sn**	**18 27 08.2**	**-10**
ADH	**Angra Heroismo**	**2.88**	**306**	*e*P	**Pn**	**18 26 37.1**	**-7.0**
ADH				*e*S	**Sn**	**18 27 09.3**	**-10**
PID	**Ribeirinha**	**3.38**	**297**	*i* P	**Pn**	**18 26 44.2**	**-6.8**
PID				*e*S	**Sn**	**18 27 21.6**	**-10**
PMAN	**Manadas**	**3.44**	**300**	*e*P	**Pn**	**18 26 44.9**	**-7.0**
PMAN				*e*S	**Sn**	**18 27 22.6**	**-11**
PMAN				A		18 27 23.1	
	200nm,0.4s						
PMAN				A		18 27 25.8	
	363nm,0.3s						
PMAN	**Manadas**	**3.44**	**300**	*e*P	**Pn**	**18 26 44.9**	**-7.0**
PMAN				*e*S	**Sn**	**18 27 22.6**	**-11**
ROSA	**Rosais**	**3.59**	**300**	*e*P	**Pn**	**18 26 47.0**	**-6.9**
ROSA				*e*S	**Sn**	**18 27 27.2**	**-10**
SRBC	**Serra Branca**	**3.62**	**306**	*e*P	**Pn**	**18 26 47.3**	**-6.9**
SRBC				*e*S	**Sn**	**18 27 27.3**	**-10**
PICO	**Pico**	**3.63**	**296**	*e*P	**Pn**	**18 26 47.7**	**-6.7**
PICO				*e*S	**Sn**	**18 27 28.3**	**-10**
HOR	**Horta**	**3.79**	**295**	*e*P	**Pn**	**18 26 49.3**	**-7.3**
HOR				*e*S	**Sn**	**18 27 31.8**	**-10**
CALA	**Caldeira**	**3.86**	**296**	*e*P	**Pn**	**18 26 50.8**	**-6.8**
CALA				*e*S	**Sn**	**18 27 33.7**	**-10**
PMAR	**Madeira**	**7.39**	**123**	*e*Pn	**Pn**	**18 27 47.7**	**+1.6**
PMAR				*e*Sn	**Sn**	**18 29 10.4**	**-0.2**
PMAR				A		18 29 21.8	
	69nm,0.3s						
PMAR				*e*T		18 35 17.7	
PMPS	**Porto Santo**	**7.60**	**119**	*e*Pn	**Pn**	**18 27 49.3**	**+0.4**
PMPS				*e*Sn	**Sn**	**18 29 13.8**	**-1.9**
PMPS				A		18 29 23.6	
	20nm,0.3s						
PMPS				A		18 30 36.4	
	900nm,19.3s						
PMPS				*e*T		18 35 40.9	
EHIG	**Higuera**	**10.01**	**145**	P	**Pn**	**18 28 20.8**	**-1.2**
	244nm,0.5s						
EHIG				S	**Sn**	**18 30 12.2**	**-2.8**
EGOM	**La Gomera**	**10.62**	**144**	P	**Pn**	**18 28 30.3**	**-0.1**
	144nm,0.6s						
EGOM				S	**Sn**	**18 30 23.9**	**-6.2**
CHIE	**El Hierro**	**10.66**	**148**	P	**Pn**	**18 28 30.1**	**-0.8**
	0.1nm,0.3s						
EBAJ	**Bajamar**	**10.74**	**139**	P	**Pn**	**18 28 32.3**	**+0.2**
	13nm,0.5s						
EBAJ				S	**Sn**	**18 30 27.2**	**-5.7**
CCAN	**Las Canadas**	**10.86**	**141**	P	**Pn**	**18 28 34.3**	**+0.5**
	6.6nm,0.3s						
CCAN				S	**Sn**	**18 30 31.5**	**-4.5**
EOSO	**Osorio**	**11.53**	**138**	P	**Pn**	**18 28 42.2**	**-0.6**
	17nm,0.4s						
EOSO				S	**Sn**	**18 30 45.9**	**-6.5**
EFAM	**Famara**	**11.93**	**128**	P	**Pn**	**18 28 46.5**	**-1.8**
	1.4nm,0.2s						
PMAFR	**Mafra**	**11.99**	**76**	*e*P	**Pn**	**18 28 47.8**	**-1.3**
PMAFR				*e*S	**Sn**	**18 30 56.0**	**-7.5**
PMAFR				A		18 32 48.1	
	2μm,19.9s						
PMAFR				*e*T		18 40 22.4	
CFTV	**Fuerteventura**	**12.10**	**132**	P	**Pn**	**18 28 49.7**	**-1.0**
	11nm,0.6s						
PFVI	**Vila Bisbo**	**12.34**	**85**	*e*S	**Sn**	**18 31 03.4**	**-8.7**
PFVI				A		18 33 00.7	
	2μm,19.4s						
PFVI				*e*T		18 40 56.6	
PTEO	**Sao Teotonio**	**12.40**	**83**	*e*S	**Sn**	**18 31 04.8**	**-8.7**
PTEO				A		18 33 26.1	
	994nm,19.4s						
PTEO				*e*T		18 41 03.8	
MORF	**Marmelete**	**12.47**	**84**	*e*P	**Pn**	**18 28 53.7**	**-1.9**
MORF				A		18 28 58.0	
	16nm,1.7s						
MORF				*e*S	**Sn**	**18 31 05.2**	**-10**
MORF				A		18 33 04.8	
	2μm,19.5s						
MORF				*e*T		18 41 01.5	
MOE	**Montemor**	**12.69**	**78**	*e*S	**Sn**	**18 31 09.6**	**-11**
MOE				*e*T		18 40 41.3	
EVOP	**Sao Brissos**	**12.87**	**78**	*e*Sn	**Sn**	**18 31 13.8**	**-11**
EVO	**Evora**	**12.96**	**78**	*e*Pn	**Pn**	**18 29 00.6**	**-1.7**
EVO				*e*Sn	**Sn**	**18 31 13.8**	**-13**
	13nm,0.3s						
EVO				*e*MLR	MLR		
	comp=Z,3μm,22.8s						
PBEJ	**Beja**	**13.07**	**80**	*e*P	**Pn**	**18 29 03.4**	**-0.4**
PBEJ				A		18 29 31.0	
	comp=Z,17nm,1.9s						
PBEJ				*e*S	**Sn**	**18 31 17.6**	**-12**
PBEJ				*e*T		18 41 11.8	
EMAZ	**Mazaricos**	**13.15**	**58**	P	**Pn**	**18 29 00.5**	**-4.4**
	comp=Z,0.1nm,0.4s						
EMAZ				S	**Sn**	**18 31 15.4**	**-16**
PVAQ	**Vaqueiros**	**13.21**	**83**	*e*P	**Pn**	**18 29 08.3**	**+2.6**
PVAQ				*e*S	**Sn**	**18 31 23.6**	**-10**
PVAQ				A		18 33 36.7	
	comp=Z,2μm,19.3s						
PVAQ				*e*T		18 41 21.1	
PVIS	**Viseu**	**13.29**	**69**	*e*P	**Pn**	**18 29 06.3**	**-0.6**
PVIS				A		18 29 24.1	
	comp=Z,22nm,1.6s						
PVIS				*e*S	**Sn**	**18 31 22.0**	**-13**
PVIS				A		18 34 01.5	
	comp=Z,2μm,18.9s						
PVIS				*e*T		18 41 13.8	
PESTR	**Estremoz**	**13.30**	**77**	*e*P	**Pn**	**18 29 07.2**	**+0.2**
PESTR				A		18 29 08.0	
	comp=Z,13nm,2.2s						
PESTR				*e*S	**Sn**	**18 31 23.7**	**-12**
PESTR				A		18 33 37.6	
	comp=Z,2μm,19.5s						
PESTR				*e*T		18 40 55.5	
EGRO	**El Granado**	**13.38**	**83**	P	**Pn**	**18 29 04.2**	**-4.0**
EGRO				S	**Sn**	**18 31 26.0**	**-12**
STS	**Santiago**	**13.41**	**59**	P	**Pn**	**18 29 03.2**	**-5.3**
	comp=Z,2.3nm,0.3s						
STS				S	**Sn**	**18 31 22.1**	**-16**
STS	**Santiago**	**13.41**	**59**	P	**Pn**	**18 29 03.2**	**-5.4**
STS				pmax	pmax		
	comp=Z,2.0nm,0.3s						
PCAB	**Cabril**	**13.42**	**64**	*e*P	**Pn**	**18 29 04.4**	**-4.2**
PCAB				A		18 29 12.9	
	comp=Z,32nm,2.4s						
PCAB				*e*S	**Sn**	**18 31 26.6**	**-12**
PCAB				A		18 34 01.7	
	comp=Z,1μm,19.1s						
PCAB				*e*T		18 41 36.6	
ELOB	**Lobios**	**13.44**	**64**	P	**Pn**	**18 29 03.2**	**-5.6**
	comp=Z,1.8nm,0.2s						
ELOB				S	**Sn**	**18 31 23.0**	**-16**
PCBR	**Castelo Branco**	**13.47**	**73**	*e*P	**Pn**	**18 29 08.0**	**-1.3**
PCBR				A		18 29 43.0	
	comp=Z,15nm,1.1s						
PCBR				*e*S	**Sn**	**18 31 24.7**	**-15**
PCBR				A		18 34 08.0	
	comp=Z,806nm,18.8s						
PCBR				*e*T		18 41 00.7	
MTE	**Manteigas**	**13.50**	**70**	*e*P	**Pn**	**18 29 08.0**	**-1.7**
MTE				A		18 29 26.5	
	comp=Z,18nm,1.4s						
MTE				*e*S	**Sn**	**18 31 27.6**	**-13**
MTE				A		18 33 53.4	

comp=Z,2µm,19.2s
MTE eT 18 41 20.9
PVRL Vila Real 13.54 66 eP Pn 18 29 07.8 -2.5
PVRL A 18 29 26.8
comp=Z,37nm,2.4s
PVRL eS **Sn 18 31 28.7 -13**
PVRL A 18 33 48.0
comp=Z,2µm,19.7s
PVRL eT 18 41 26.2
PBAR Barrancos 13.72 80 eP Pn 18 29 12.8 +0.1
PBAR A 18 29 21.7
comp=Z,12nm,1.7s
PBAR eS **Sn 18 31 32.2 -14**
PBAR A 18 33 51.3
comp=Z,1µm,20.1s
PBAR eT 18 41 25.8
EBAD Badajoz 13.75 77 P Pn 18 29 07.6 -5.5
comp=Z,0.2nm,0.2s
EBAD S **Sn 18 31 32.7 -14**
EMIN Mina Concepcio 14.02 81 P Pn 18 29 12.5 -4.3
comp=Z,0.1nm,0.7s
EMIN S **Sn 18 31 40.5 -13**
MVO Moncorvo 14.02 67 eP Pn 18 29 15.9 -1.0
MVO A 18 29 38.5
comp=Z,35nm,1.4s
MVO eS **Sn 18 31 38.0 -15**
MVO A 18 34 07.3
comp=Z,2µm,19.0s
MVO eT 18 41 32.3
PBRG Braganca 14.38 65 eP Pn 18 29 19.4 -2.3
PBRG A 18 29 37.7
comp=Z,26nm,1.6s
PBRG eS **Sn 18 31 48.4 -13**
PBRG A 18 35 08.4
comp=Z,1µm,17.9s
PBRG eT 18 42 13.9
ECAL Calabor 14.41 65 P Pn 18 29 18.7 -3.4
comp=Z,2.1nm,0.5s
ECAL S **Sn 18 31 45.6 -17**
EPON Pontenova 14.53 59 P Pn 18 29 17.3 -6.5
comp=Z,0.6nm,0.2s
EPON S **Sn 18 31 48.5 -17**
ECAB El Cabril 15.00 80 P Pn 18 29 24.9 -5.3
comp=Z,0.9nm,0.4s
ECAB S **Sn 18 32 02.7 -14**
EARI Arriondas 15.87 61 P Pn 18 29 36.3 -5.2
comp=Z,0.8nm,0.4s
EARI S **Sn 18 32 20.5 -18**
GUD Guadarrama 16.09 71 P Pn 18 29 44.9 +0.4
comp=Z,0.5nm,0.7s
GUD S **Sn 18 32 29.6 -14**
GUD Guadarrama 16.09 71 P Pn 18 29 44.9 +0.4
GUD pmax pmax
comp=Z,1.0nm,0.7s
GUD Guadarrama 16.09 71 P Pn 18 29 44.9 +0.4
comp=Z,0.5nm,0.7s
ESDC Sonseca Array 16.16 74 Pn Pn 18 29 44.4 -1.0
comp=Z,0.7nm,0.3s,baz=272,slow=13,SNR=12
ESDC Sn **Sn 18 32 38.7 -6.4**
comp=Z,0.7nm,0.3s,baz=272,slow=23,SNR=4.9
ESDC LR LR 18 34 50.6
comp=Z,1µm,20.9s,baz=275,slow=33
ESLA Sonseca Array 16.16 74 eP Pn 18 29 43.3 -2.0
comp=Z,5.3nm,1.2s
MDT Midelt 16.65 99 Pn Pn 18 29 53.4 +1.7
comp=Z,0.2nm,0.3s,baz=275,slow=14,SNR=4.2
MDT Sn **Sn 18 32 48.7 -8.4**
comp=Z,0.2nm,0.3s,baz=11,slow=18,SNR=3.1
MDT LR LR 18 35 33.2
comp=Z,1µm,18.4s,baz=298,slow=34
ELAN Lanestosa 17.09 62 P Pn 18 29 50.9 -6.4
comp=Z,0.8nm,0.3s
ELAN S **Sn 18 32 49.8 -18**
ETOR Torete 17.70 71 P Pn 18 29 58.8 -6.0
comp=Z,0.4nm,0.1s
ETOR S **Sn 18 33 06.3 -16**
SJPF Ste Jean 18.64 64 eP Pn 18 30 17.2 +0.8
comp=Z,27nm,1.2s
SJPF Ste Jean 18.64 64 eP Pn 18 30 17.2 +0.8
SJPF pmax pmax
comp=Z,13nm,1.2s
SJPF Ste Jean 18.64 64 eP Pn 18 30 17.2 +0.8
comp=Z,13nm,1.2s
QUIF Quistinic 18.96 48 eP Pn 18 30 20.2 0.0
ETSF Etsaut 19.08 65 eP Pn 18 30 22.6 +0.9
ROSF Rostrenen 19.09 47 eP Pn 18 30 21.9 +0.1
comp=Z,41nm,1.1s
ROSF Rostrenen 19.09 47 eP Pn 18 30 21.9 +0.1
ROSF pmax pmax
comp=Z,21nm,1.1s
ROSF Rostrenen 19.09 47 eP Pn 18 30 21.9 +0.1
comp=Z,21nm,1.1s
SGMF Saint Gilles 19.48 48 eP Pn 18 30 26.1 -0.3
comp=Z,41nm,1.1s
SGMF Saint Gilles 19.48 48 eP Pn 18 30 26.1 -0.3
SGMF pmax pmax
comp=Z,21nm,1.1s
SGMF Saint Gilles 19.48 48 eP Pn 18 30 26.1 -0.3
comp=Z,21nm,1.1s
EBIE Bielsa 19.56 66 P Pn 18 30 22.7 -4.8
comp=Z,0.5nm,0.5s
EBIE S **Sn 18 33 49.3 -18**
RESF Ens 19.72 65 eP Pn 18 30 31.3 +1.9
EPF Esparros 19.76 65 eP Pn 18 30 30.0 +0.2
comp=Z,113nm,1.4s
EPF Esparros 19.76 65 eP Pn 18 30 30.0 +0.2
EPF pmax pmax
comp=Z,56nm,1.4s
EPF Esparros 19.76 65 eP Pn 18 30 30.0 +0.2
comp=Z,56nm,1.4s
LCHF La Chataignera 19.96 54 eP Pn 18 30 30.8 -1.4
DCN Croghan 20.19 31 eP P 18 30 35.3 +2.3
MFF Saint Martin d 20.32 54 eP P 18 30 34.6 +0.1
comp=Z,260nm,1.2s
MFF Saint Martin d 20.32 54 eP P 18 30 34.6 +0.1
MFF pmax pmax
comp=Z,130nm,1.2s
MFF Saint Martin d 20.32 54 eP P 18 30 34.6 +0.1
comp=Z,130nm,1.2s
SALF Salau 20.33 66 eP P 18 30 36.6 +1.9
EANR 'Ain N'Sour 20.41 85 P P 18 30 38.4 +2.8
LFF La Frestale 20.43 59 eP P 18 30 36.6 +0.9
comp=Z,181nm,1.1s
LFF La Frestale 20.43 59 eP P 18 30 36.6 +0.9
LFF pmax pmax
comp=Z,90nm,1.1s
LFF La Frestale 20.43 59 eP P 18 30 36.6 +0.9
comp=Z,90nm,1.1s
DLF Lyons Farm 20.46 32 eP P 18 30 38.3 +2.4
GRR Gorron 20.55 49 eP P 18 30 37.6 +0.6
comp=Z,342nm,1.1s
GRR Gorron 20.55 49 eP P 18 30 37.6 +0.6
GRR pmax pmax
comp=Z,171nm,1.1s
GRR Gorron 20.55 49 eP P 18 30 37.6 +0.6
comp=Z,171nm,1.1s
ECHA Ech Chlef 20.59 85 P P 18 30 43.0 +5.5
ETRT Tiaret 20.68 87 P P 18 30 41.4 +2.9
EBNR Beni Rached 20.70 84 P P 18 30 42.7 +4.0
DMUB Kingscourt 20.75 30 eP P 18 30 41.4 +2.4
FLN La Foliniere 20.94 48 eP P 18 30 41.3 +0.2
comp=Z,148nm,1.1s
FLN eMLR MLR
comp=Z,1µm,21.2s,MS3.9
FLN La Foliniere 20.94 48 eP P 18 30 41.3 +0.2
comp=Z,74nm,1.1s
FLN LR LR
comp=Z,1µm,21.3s,MS4.2
FLN La Foliniere 20.94 48 eP P 18 30 41.3 +0.2
FLN pmax pmax
comp=Z,74nm,1.1s
FLN MLR MLR
comp=Z,1µm,21.3s,MS4.2
RJF Les Rejaudoux 21.05 59 eP P 18 30 43.7 +1.3
comp=Z,137nm,1.7s,mb4.7
RJF eMLR MLR
comp=Z,2µm,19.2s,MS4.2
RJF Les Rejaudoux 21.05 59 eP P 18 30 43.7 +1.3
comp=Z,69nm,1.7s,mb4.7
RJF LR LR
comp=Z,2µm,19.3s,MS4.5
RJF Les Rejaudoux 21.05 59 eP P 18 30 43.7 +1.3
RJF pmax pmax
comp=Z,69nm,1.7s,mb4.7
RJF MLR MLR
comp=Z,2µm,19.3s,MS4.5

LDF La Druitiere 21.08 49 eP P 18 30 42.7 0.0
comp=Z,118nm,1.1s,mb4.8
LDF La Druitiere 21.08 49 eP P 18 30 42.7 0.0
LDF pmax pmax
comp=Z,59nm,1.1s,mb4.8
LDF La Druitiere 21.08 49 eP P 18 30 42.7 0.0
comp=Z,59nm,1.1s,mb4.8
MTLF Montolieu 21.16 64 eP P 18 30 45.0 +1.4
comp=Z,69nm,1.6s,mb4.4
MTLF Montolieu 21.16 64 eP P 18 30 45.0 +1.4
MTLF pmax pmax
comp=Z,34nm,1.6s,mb4.4
MTLF Montolieu 21.16 64 eP P 18 30 45.0 +1.4
comp=Z,34nm,1.6s,mb4.4
CAF Calviac 21.34 60 eP P 18 30 45.8 +0.2
comp=Z,138nm,1.2s,mb4.8
CAF Calviac 21.34 60 eP P 18 30 45.8 +0.2
CAF pmax pmax
comp=Z,69nm,1.2s,mb4.9
CAF Calviac 21.34 60 eP P 18 30 45.8 +0.2
comp=Z,69nm,1.2s,mb4.8
TCF Toulx Ste Croi 21.78 56 eP P 18 30 50.6 +0.4
comp=Z,108nm,1.1s,mb4.9
TCF Toulx Ste Croi 21.78 56 eP P 18 30 50.6 +0.4
TCF pmax pmax
comp=Z,54nm,1.1s,mb4.9
TCF Toulx Ste Croi 21.78 56 eP P 18 30 50.6 +0.4
comp=Z,54nm,1.1s,mb4.9
EMHD Djebel Mahouad 21.85 84 P P 18 30 54.0 +2.9
LBL Lubilhac 22.23 60 eP P 18 30 58.3 +3.3
BGF Bois d'Agland 22.27 56 eP P 18 30 55.6 +0.1
comp=Z,45nm,0.9s,mb4.6
BGF Bois d'Agland 22.27 56 eP P 18 30 55.6 +0.1
BGF pmax pmax
comp=Z,22nm,0.9s,mb4.6
BGF Bois d'Agland 22.27 56 eP P 18 30 55.6 +0.1
comp=Z,22nm,0.9s,mb4.6
AGO Saint Agoulin 22.34 57 eP P 18 30 57.9 +1.7
LASF Ste Croix 22.45 63 eP P 18 30 57.8 +0.4
comp=Z,64nm,1.2s,mb4.6
LASF Ste Croix 22.45 63 eP P 18 30 57.8 +0.4
comp=Z,32nm,1.2s,mb4.6
COLF Collangettes 22.60 59 eP P 18 30 59.5 +0.5
PLDF La Plantade 22.65 58 eP P 18 31 00.9 +1.4
AVF Avril sur Loir 22.67 56 eP P 18 30 59.6 -0.2
comp=Z,74nm,1.4s,mb4.7
AVF Avril sur Loir 22.67 56 eP P 18 30 59.6 -0.2
AVF pmax pmax
comp=Z,37nm,1.4s,mb4.7
AVF Avril sur Loir 22.67 56 eP P 18 30 59.6 -0.2
comp=Z,37nm,1.4s,mb4.7
SSF Saint Saulge 22.85 55 eP P 18 31 01.4 -0.2
comp=Z,78nm,1.0s,mb4.9
SSF Saint Saulge 22.85 55 eP P 18 31 01.4 -0.2
SSF pmax pmax
comp=Z,39nm,1.0s,mb4.9
SSF Saint Saulge 22.85 55 eP P 18 31 01.4 -0.2
comp=Z,39nm,1.0s,mb4.9
SMF Signal de Mont 22.96 56 eP P 18 31 02.4 -0.4
comp=Z,178nm,1.4s,mb5.1
SMF Signal de Mont 22.96 56 eP P 18 31 02.4 -0.4
SMF pmax pmax
comp=Z,89nm,1.4s,mb5.1
SMF Signal de Mont 22.96 56 eP P 18 31 02.4 -0.4
comp=Z,89nm,1.4s,mb5.1
LOR Lormes 23.14 55 eP P 18 31 04.0 -0.7
comp=Z,66nm,1.2s,mb4.7
LOR eMLR MLR
comp=Z,1µm,21.2s,MS4.0
LOR Lormes 23.14 55 eP P 18 31 04.0 -0.7
comp=Z,33nm,1.2s,mb4.7
LOR LR LR
comp=Z,1µm,21.3s,MS4.3
LOR Lormes 23.14 55 eP P 18 31 04.0 -0.7
LOR pmax pmax
comp=Z,33nm,1.2s,mb4.7
LOR MLR MLR
comp=Z,1µm,21.3s,MS4.3
VIVF Saint-Julien-l 23.15 61 eP P 18 31 04.9 +0.1
comp=Z,55nm,1.2s,mb4.7
VIVF Saint-Julien-l 23.15 61 eP P 18 31 04.9 +0.1
VIVF pmax pmax
comp=Z,28nm,1.2s,mb4.7
VIVF Saint-Julien-l 23.15 61 eP P 18 31 04.9 +0.1
comp=Z,28nm,1.2s,mb4.7
MENF Mencas 23.26 46 eP P 18 31 06.0 +0.1
ESK Eskdalemuir 23.27 31 eP P 18 31 04.4 -1.5
comp=Z,49nm,1.3s,mb4.9
ESK Eskdalemuir 23.27 31 eP P 18 31 04.4 -1.6
ESK pmax pmax
comp=Z,49nm,1.3s,mb4.9
ESK Eskdalemuir 23.27 31 eP P 18 31 04.4 -1.6
comp=Z,49nm,1.3s,mb4.9
BBTS Babate 23.28 161 LR LR 18 39 10.1
comp=Z,127nm,19.9s,MS3.4,baz=238,slow=34
EKA Eskdalemuir Ar 23.30 31 P P 18 31 04.6 -1.7
comp=Z,15nm,0.9s,mb4.5,baz=232,slow=7.9,SNR=16
PRAF Pradon 23.35 64 eP P 18 31 12.7 +5.7
GELF Grande-Etoile 23.49 65 eP P 18 31 13.8 +5.4
OCF Saint Nazaire 23.55 62 eP P 18 31 03.9 -5.1
OG26 St.-Nazaire-De 23.55 62 eP P 18 31 03.9 -5.1
SMRF Simiane la Rot 23.66 64 eP P 18 31 09.7 -0.4
comp=Z,59nm,1.5s,mb4.6
SMRF Simiane la Rot 23.66 64 eP P 18 31 09.7 -0.4
comp=Z,30nm,1.5s,mb4.6
ORIF Oris-en-Rattie 24.01 61 eP P 18 31 13.1 -0.2
comp=Z,72nm,1.4s,mb4.7
ORIF Oris-en-Rattie 24.01 61 eP P 18 31 13.1 -0.2
ORIF pmax pmax
comp=Z,36nm,1.4s,mb4.7
ORIF Oris-en-Rattie 24.01 61 eP P 18 31 13.1 -0.2
comp=Z,36nm,1.4s,mb4.7
MEZF Maizieres J'vi 24.26 52 eP P 18 31 14.6 -1.0
comp=Z,178nm,1.6s,mb5.0
MEZF Maizieres J'vi 24.26 52 eP P 18 31 14.6 -1.0
comp=Z,89nm,1.6s,mb5.0
BAIF Baives 24.26 48 eP P 18 31 14.7 -0.9
comp=Z,65nm,0.9s,mb4.8
BAIF Baives 24.26 48 eP P 18 31 14.7 -0.9
BAIF pmax pmax
comp=Z,32nm,0.9s,mb4.8
BAIF Baives 24.26 48 eP P 18 31 14.7 -0.9
comp=Z,32nm,0.9s,mb4.8
LMR La Mourre 24.27 65 eP P 18 31 15.6 -0.1
comp=Z,12nm,1.0s,mb4.1
LMR La Mourre 24.27 65 eP P 18 31 15.6 -0.1
LMR pmax pmax
comp=Z,6.0nm,1.0s,mb4.1
LMR La Mourre 24.27 65 eP P 18 31 15.6 -0.1
comp=Z,6.2nm,1.0s,mb4.1
FRF La Foret Royal 24.39 65 eP P 18 31 16.7 -0.1
comp=Z,21nm,1.0s,mb4.3
FRF La Foret Royal 24.39 65 eP P 18 31 16.7 -0.1
FRF pmax pmax
comp=Z,10.0nm,1.0s,mb4.3
FRF La Foret Royal 24.39 65 eP P 18 31 16.7 -0.1
comp=Z,10nm,1.0s,mb4.3
CABF La Chapelle 24.46 57 eP P 18 31 17.3 -0.1
comp=Z,132nm,1.8s,mb4.9
CABF La Chapelle 24.46 57 eP P 18 31 17.3 -0.1
CABF pmax pmax
comp=Z,66nm,1.8s,mb4.9
CABF La Chapelle 24.46 57 eP P 18 31 17.3 -0.1
comp=Z,66nm,1.8s,mb4.9
SNF Seneffe 24.48 47 P P 18 31 16.3 -1.2
DOU Dourbes 24.51 49 P P 18 31 17.0 -0.8
comp=Z,19nm,1.3s,mb4.7
CALN Calern 24.58 64 eP P 18 31 22.7 +4.2
BNI Bardonecchia 24.59 61 eP P 18 31 20.1 +1.5
comp=Z,26nm,1.3s,mb4.8
BNI Bardonecchia 24.59 61 eP P 18 31 20.1 +1.5
BNI pmax pmax
comp=Z,26nm,1.3s,mb4.8
BNI Bardonecchia 24.59 61 eP P 18 31 20.0 +1.4
comp=Z,26nm,1.3s,mb4.8
MBDF Montbardon 24.61 62 eP P 18 31 18.9 +0.1
comp=Z,39nm,1.4s,mb4.6
MBDF Montbardon 24.61 62 eP P 18 31 18.9 +0.1
MBDF pmax pmax
comp=Z,19nm,1.4s,mb4.6
MBDF Montbardon 24.61 62 eP P 18 31 18.9 +0.1
comp=Z,20nm,1.4s,mb4.6
UCC Uccle 24.63 47 P P 18 31 17.8 -1.1
comp=Z,60nm,1.6s,mb5.1
GIVF Givet 24.65 49 eP P 18 30 18.2 -0.9

comp=Z,119nm,0.9s,mb5.3
GIVF Givet 24.65 49 eP P 18 31 18.2 -0.9
GIVF pmax pmax
comp=Z,60nm,0.9s,mb5.3
GIVF Givet 24.65 49 eP P 18 31 18.2 -0.9
comp=Z,60nm,0.9s,mb5.3
LPL La Plagne 24.69 60 eP P 18 31 19.7 +0.2
comp=Z,45nm,1.2s,mb4.8
LPL La Plagne 24.69 60 eP P 18 31 19.7 +0.2
LPL pmax pmax
comp=Z,23nm,1.2s,mb4.8
LPL La Plagne 24.69 60 eP P 18 31 19.7 +0.2
comp=Z,23nm,1.2s,mb4.8
LPG La Plagne 24.70 60 eP P 18 31 20.1 +0.5
comp=Z,66nm,1.3s,mb4.9
LPG La Plagne 24.70 60 eP P 18 31 20.1 +0.5
LPG pmax pmax
comp=Z,33nm,1.3s,mb4.9
LPG La Plagne 24.70 60 eP P 18 31 20.1 +0.5
comp=Z,33nm,1.3s,mb4.9
MVIF Mont Vial 24.79 64 eP P 18 31 23.3 +2.9
TOUF Mont Tournerai 24.87 64 eP P 18 31 25.6 +4.5
LUCF Luceram 24.93 64 eP P 18 31 25.8 +4.1
HAU Haudompre 24.96 54 eP P 18 31 21.9 0.0
comp=Z,34nm,1.0s,mb4.7
HAU eMLR MLR
comp=Z,953nm,21.5s,MS4.0
HAU Haudompre 24.96 54 eP P 18 31 21.9 0.0
comp=Z,17nm,1.0s,mb4.7
HAU LR LR
comp=Z,950nm,21.5s,MS4.3
HAU Haudompre 24.96 54 eP P 18 31 21.9 0.0
HAU pmax pmax
comp=Z,17nm,1.0s,mb4.7
HAU MLR MLR
comp=Z,950nm,21.5s,MS4.3
SBF Sospel 24.99 64 eP P 18 31 22.1 -0.1
comp=Z,58nm,1.0s,mb5.0
SBF Sospel 24.99 64 eP P 18 31 22.1 -0.1
SBF pmax pmax
comp=Z,29nm,1.0s,mb5.0
SBF Sospel 24.99 64 eP P 18 31 22.1 -0.1
comp=Z,29nm,1.0s,mb5.0
BCLA Clavier 25.05 48 P P 18 31 21.9 -0.8
comp=Z,24nm,1.3s,mb4.8
SAOF Saorge 25.08 64 eP P 18 31 26.6 +3.5
HINF Hinteralfeld 25.24 55 eP P 18 31 24.3 -0.2
comp=Z,52nm,1.3s,mb4.8
HINF Hinteralfeld 25.24 55 eP P 18 31 24.3 -0.2
HINF pmax pmax
comp=Z,26nm,1.3s,mb4.8
HINF Hinteralfeld 25.24 55 eP P 18 31 24.3 -0.2
comp=Z,26nm,1.3s,mb4.8
WLF Walferdange 25.31 50 eP P 18 31 24.2 -0.9
comp=Z,108nm,1.0s,mb5.5
WLF Walferdange 25.31 50 eP P 18 31 24.2 -0.9
WLF pmax pmax
comp=Z,108nm,1.0s,mb5.5
WLF Walferdange 25.31 50 eP P 18 31 24.2 -0.9
comp=Z,108nm,1.0s,mb5.5
MEM Membach 25.54 48 P P 18 31 26.7 -0.5
comp=Z,36nm,1.4s,mb4.8
MEM Membach 25.54 48 P P 18 31 26.6 -0.5
comp=Z,36nm,1.4s,mb4.8
HGN Heimansgroeve 25.55 48 eP P 18 31 29.3 +2.1
comp=Z,40nm,1.0s,mb5.0
HGN Heimansgroeve 25.55 48 eS S 18 35 45.0 -11
CDF Champ du Feu 25.66 54 eP P 18 31 28.4 +0.1
comp=Z,61nm,1.2s,mb4.8
CDF Champ du Feu 25.66 54 eP P 18 31 28.4 +0.1
CDF pmax pmax
comp=Z,31nm,1.2s,mb4.8
CDF Champ du Feu 25.66 54 eP P 18 31 28.4 +0.1
comp=Z,31nm,1.2s,mb4.8
PGF Pioggiola 26.06 67 eP P 18 31 32.9 +0.9
comp=Z,19nm,1.0s,mb4.4
PGF Pioggiola 26.06 67 eP P 18 31 32.9 +0.9
PGF pmax pmax
comp=Z,9.0nm,1.0s,mb4.3
PGF Pioggiola 26.06 67 eP P 18 31 32.9 +0.9
comp=Z,9.4nm,1.0s,mb4.4
BFO Black Forest 26.32 54 P P 18 31 34.2 -0.1
comp=Z,92nm,1.1s,mb5.3,SNR=7.5
BFO Black Forest 26.32 54 eP P 18 31 32.9 -1.4
comp=Z,34nm,1.4s,mb4.8
BFO Black Forest 26.32 54 eP P 18 31 32.9 -1.4
BFO pmax pmax
comp=Z,34nm,1.4s,mb4.8
BFO Black Forest 26.32 54 eP P 18 31 32.9 -1.4
comp=Z,34nm,1.4s,mb4.8
WTSB Winterswijk 26.50 46 eP P 18 31 37.1 +1.3
comp=Z,60nm,1.4s,mb5.0
DAVOS Davos 27.00 58 P P 18 31 41.5 +1.0
KEST Kesra 27.02 82 P P 18 31 40.9 +0.2
comp=Z,1.1nm,1.0s,mb3.5,baz=72,slow=13,SNR=3.2
DAVOX Davos/Dischmat 27.05 58 P P 18 31 41.5 +0.6
comp=Z,1.7nm,0.8s,mb3.8,baz=353,slow=17,SNR=1.9
DAVOX LR LR 18 42 04.7
comp=Z,1µm,18.2s,MS4.4,baz=246,slow=36
BORG Borgarnes 27.85 3 LR LR 18 39 50.3
comp=Z,373nm,19.4s,MS4.0,baz=13,slow=30
GRFO Grafenberg 28.48 52 eP P 18 31 51.3 -2.3
comp=Z,17nm,0.9s,mb4.9
GRFO Grafenberg 28.48 52 eP P 18 31 51.3 -2.4
GRFO pmax pmax
comp=Z,17nm,0.9s,mb4.9
GRA1 Grafenberg Arr 28.49 52 eP P 18 31 57.3 +3.6
comp=Z,27nm,1.1s,mb5.0
GRA1 LR LR
comp=Z,600nm,21.4s,MS4.2
GRF Grafenberg Arr 28.49 52 eP P 18 31 57.3 +3.6
GRF pmax pmax
comp=Z,27nm,1.1s,mb5.0
GRF MLR MLR
comp=Z,600nm,21.4s,MS4.2
GRF Grafenberg Arr 28.49 52 eP P 18 31 57.3 +3.6
GRF pmax pmax
comp=Z,27nm,1.1s,mb5.0
GRF MLR MLR
comp=Z,600nm,21.4s,MS4.2
GRF Grafenberg Arr 28.49 52 eP P 18 31 57.3 +3.6
comp=Z,27nm,1.1s,mb5.0
GRF eL 18 41 18.2
comp=Z,587nm,21.4s
MOX Moxa 28.96 50 e(P) P 18 32 03.5 +5.6
MOX
comp=Z,500nm,18.0s
AQU L'Aquila 29.32 68 P P 18 32 01.8 +0.6
comp=Z,26nm,1.1s,mb5.0
AQU L'Aquila 29.32 68 P P 18 32 01.8 +0.6
AQU pmax pmax
comp=Z,26nm,1.1s,mb5.0
AQU L'Aquila 29.32 68 P P 18 32 01.8 +0.6
comp=Z,26nm,1.1s,mb5.0
NKC Novy Kostel 29.38 52 eP P 18 32 05.6 +4.0
NKC AMS AMS 18 48 10.0
comp=Z,800nm,14.5s,MS4.5
KHC Kasperske Hory 29.89 54 eP P 18 32 09.2 +3.1
KHC AMS AMS 18 44 30.0
comp=Z,500nm,10.2s,MS4.4
KHC Kasperske Hory 29.89 54 eP P 18 32 06.4 +0.3
GEC2 GERESS Array S 29.92 55 P P 18 32 04.3 -2.1
GERES GERESS Array B 29.92 55 P P 18 32 06.9 +0.5
comp=Z,2.9nm,0.9s,mb4.1,baz=256,slow=9.1,SNR=16
GERES LR LR 18 43 10.9
comp=Z,373nm,18.2s,MS4.1,baz=252,slow=35
CLL Collm 29.97 50 ⇓ iP P 18 32 10.1 +3.3
CLL Collm 29.97 50 ⇓ iP P 18 32 10.1 +3.3
comp=Z,8.0nm,1.1s,mb4.5
CLL ePP PP 18 33 04.0 -10
CLL eS **S 18 37 00.0 -5.3**
CLL eSS SS 18 38 48.0 -24
CLL Lm 18 42 00.0
comp=N,200nm,18.8s
CLL Lm 18 42 00.0
comp=E,700nm,19.4s
CEY Cerknica 30.09 61 iP P 18 32 12.0 +4.1
LJU Ljubljana 30.17 60 iP P 18 32 13.1 +4.4
BRG Berggiesshubel 30.45 51 eP P 18 32 13.4 +2.3
comp=E,8.3nm,1.0s,mb4.5
BRG S **S 18 37 12.0 -0.8**
BRG
comp=N,251nm,14.0s
BRG
comp=E,438nm,19.6s
BRG
comp=Z,964nm,19.1s

PERS Pernice 30.62 59 *i* P **P 18 32 17.6 +5.0**
PRU Pruhonice 30.65 53 *e*P **P 18 32 16.5 +3.6**
BOJS Bojanci 30.65 61 *i* P **P 18 32 17.6 +4.6**
VAE Valguarnera 30.66 77 LR LR 18 44 38.1
comp=Z,884nm,18.1s,MS4.5,baz=115,slow=37
PVCC Panska Ves 30.77 51 *e*P **P 18 32 17.4 +3.5**
PVCC AMS AMS 18 47 10.0
comp=Z,800nm,11.0s,MS4.6
TREC Trest 31.15 54 *e*P **P 18 32 19.5 +2.2**
TREC AMS AMS 18 44 20.0
comp=Z,500nm,13.4s,MS4.3
TREC Trest 31.15 54 *e*P **P 18 32 19.5 +2.2**
comp=Z,500nm,13.4s
KONO Kongsberg 31.39 33 *e*P **P 18 32 20.6 +1.4**
UPC Upice 31.67 52 *e*P **P 18 32 21.8 0.0**
SOP Sopron 31.68 57⇑ *e*P **P 18 32 25.1 +3.2**
DPC Dobruska-Polom 31.84 52 *e*P **P 18 32 25.6 +2.3**
DPC AMS AMS 18 44 40.0
comp=Z,400nm,15.9s,MS4.2
VRAC Vranov 31.87 54 P **P 18 32 22.6 -1.0**
comp=Z,1.2nm,0.5s,mb4.1,baz=274,slow=13,SNR=2.5
VRAC LR LR 18 43 30.8
comp=Z,342nm,19.4s,MS4.0,baz=254,slow=33
KSP Ksiaz 31.90 51 *e*P **P 18 32 26.4 +2.5**
KSP *e*pP 18 32 28.2
KSP Ksiaz 31.90 51 *e*P **P 18 32 25.9 +2.0**
KSP MLR MLR
comp=Z,2μm,20.4s,MS4.7
ZST Bratislava 32.09 56 *e*P **P 18 32 28.5 +3.0**
ZST LR LR
comp=Z,500nm,16.1s,MS4.3
TIP Timpagrande 32.17 73 *e*P **P 18 32 25.4 -1.1**
comp=Z,25nm,1.3s,mb5.0
TIP Timpagrande 32.17 73 *e*P **P 18 32 25.4 -1.0**
comp=Z,25nm,1.3s,mb5.0
MORC Moravsky Berou 32.54 53 *e*P **P 18 32 30.4 +0.9**
NB2 NORSAR Subarra 32.79 31 P **P 18 32 29.8 -1.8**
comp=Z,1.9nm,0.9s,mb4.0,baz=242,slow=9.3
NOA NORSAR Array B 32.79 31 P **P 18 32 30.3 -1.3**
NOA LR LR 18 43 35.7
NOA NORSAR Array B 32.79 31 P **P 18 32 30.3 -1.3**
comp=Z,0.4nm,0.8s,mb3.4,baz=250,slow=8.2,SNR=3.0
NOA LR LR 18 43 35.7
comp=Z,645nm,21.5s,MS4.3,baz=255,slow=32
OKC Ostrava-Krasne 32.94 53 AMS AMS 18 45 00.0
comp=Z,300nm,15.7s,MS4.1
GKP Gorka Klasztor 32.95 47 *e*P **P 18 32 37.0 +3.9**
TOA0 Torodi Ar. Sit 33.21 129 *e*P **P 18 32 37.9 +2.2**
TOA0 Torodi Ar. Sit 33.21 129 *e*P **P 18 32 37.8 +2.2**
TORD Torodi Ar. Bea 33.21 129 P **P 18 32 38.0 +2.4**
comp=Z,13nm,1.2s,mb4.7,baz=327,slow=7.3,SNR=18
TORD LR LR 18 45 57.5
comp=Z,267nm,19.9s,MS4.0,baz=340,slow=36
VYHS Vyhne 33.26 56 *e*P **P 18 32 37.9 +2.1**
VYHS pmax pmax
comp=Z,8.0nm,1.6s,mb4.4
VYHS Vyhne 33.26 56 *e*P **P 18 32 37.9 +2.1**
comp=Z,8.2nm,1.6s,mb4.4
BUD Budapest 33.33 58⇑ *e*pP pP 18 32 41.3 +4.7
HFS Hagfors 33.43 34 P **P 18 32 34.9 -2.2**
comp=Z,2.0nm,0.8s,mb4.1,baz=271,slow=8.1,SNR=2.3
HFS LR LR 18 44 59.4
comp=Z,550nm,19.8s,MS4.3,baz=248,slow=34
SFJD Kangerlussuaq 33.61 342 P **P 18 32 37.3 -1.3**
comp=Z,6.4nm,0.9s,mb4.6,baz=108,slow=11,SNR=4.1
SCHQ Schefferville 33.92 315 P **P 18 32 39.0 -2.5**
comp=Z,2.8nm,0.7s,mb4.3,baz=98,slow=7.1,SNR=3.4
SCHQ LR LR 18 44 30.5
comp=Z,392nm,18.9s,MS4.2,baz=279,slow=33
PSZ Piszkesteto 33.94 57⇑ *e*pP pP 18 32 45.9 +4.1
OJC Ojcow 34.03 53 *e*P **P 18 32 42.4 -0.1**
KECS Kecovo 34.36 56 *e*P **P 18 32 49.1 +3.8**
comp=Z,3.3nm,1.1s,mb4.2
KECS Kecovo 34.36 56 *e*P **P 18 32 49.1 +3.8**
KECS pmax pmax
comp=Z,3.0nm,1.1s,mb4.1
STHS Stebnicka Huta 34.91 55 *e*P **P 18 32 53.9 +3.8**
comp=Z,10nm,1.1s,mb4.7
STHS Stebnicka Huta 34.91 55 *e*P **P 18 32 53.9 +3.8**
STHS pmax pmax
comp=Z,11nm,1.1s,mb4.7
DBIC Dimbokro 34.99 145 P **P 18 32 54.2 +3.1**
DBIC LR LR 18 46 24.2
DBIC Dimbokro 34.99 145 P **P 18 32 54.2 +3.1**
comp=Z,3.3nm,1.1s,mb4.2,baz=312,slow=16,SNR=2.2
DBIC LR LR 18 46 24.2
comp=Z,240nm,19.1s,MS4.0,baz=329,slow=35
CRVS Cervenica-Dubn 35.02 55 *e*P **P 18 32 55.7 +4.6**
JMIC Jan Mayen 35.06 9 LR LR 18 43 58.3
comp=Z,211nm,18.7s,MS3.9,baz=240,slow=31
KOLS Kolonicke sedl 35.56 55 *e*P **P 18 33 00.0 +4.3**
KWP Kalwaria 35.87 54 *e*P **P 18 33 01.5 +3.1**
KWP *e*pP 18 33 03.4
KWP Kalwaria 35.87 54 *e*P **P 18 33 01.5 +3.1**
KWP *e*pP 18 33 03.4
FFD Franklin Falls 36.36 295 *e*P **P 18 33 01.0 -1.6**
comp=Z,91nm,0.9s,mb5.6
FFD Franklin Falls 36.36 295 *e*P **P 18 33 01.0 -1.6**
comp=Z,91nm,0.9s,mb5.6
SUW Suwalki 36.57 47 *e*P **P 18 33 06.0 +1.8**
SUW *e*pP 18 33 07.1
SUW Suwalki 36.57 47 *e*P **P 18 33 06.0 +1.7**
SUW *e*pP 18 33 07.1
LVV L'vov 36.73 54 *e*P **P 18 33 09.3 +3.5**
LVV *e*S **S 18 38 56.3 +6.1**
MLR Muntele Rosu 38.16 61 P **P 18 33 18.3 +0.3**
comp=Z,0.9nm,0.7s,mb3.6,baz=135,slow=20,SNR=2.0
MLR LR LR 18 49 31.8
comp=Z,689nm,18.8s,MS4.5,baz=102,slow=37
FINES FINESS Array B 39.57 36 P **P 18 33 28.4 -1.1**
comp=Z,3.9nm,1.0s,mb4.0,baz=265,slow=9.6,SNR=6.3
FINES LR LR 18 49 32.7
comp=Z,272nm,19.0s,MS4.1,baz=104,slow=36
DAG Danmarks Havn 39.96 2⇓ *i*P **P 18 33 35.0 +2.4**
DAG pmax pmax
comp=Z,8.0nm,1.2s,mb4.2
DAG Danmarks Havn 39.96 2⇓ *i*P **P 18 33 35.0 +2.4**
comp=Z,7.8nm,1.2s,mb4.2
KIS Kishinev 40.01 58 *e*P **P 18 33 35.0 +1.6**
KIS *e* 18 35 14.0
KIS MLR MLR
comp=Z,400nm,17.0s,MS4.3
KIS MLR MLR
comp=Z,800nm,16.0s
KIEV Kiev 40.06 53 P **P 18 33 31.8 -2.0**
comp=Z,15nm,1.1s,mb4.5
KIEV Kiev 40.06 53 P **P 18 33 31.8 -1.9**
KIEV pmax pmax
comp=Z,15nm,1.1s,mb4.5
KIEV Kiev 40.06 53 P **P 18 33 31.8 -1.9**
comp=Z,15nm,1.1s,mb4.5
AKASG Malin Array Be 40.07 53 P **P 18 33 32.3 -1.5**
comp=Z,4.4nm,0.9s,mb4.1,baz=268,slow=8.1,SNR=7.1
AKASG LR LR 18 49 11.8
comp=Z,296nm,19.8s,MS4.1,baz=265,slow=35
AKBB Malin Array Si 40.07 53 *e*P **P 18 33 34.9 +1.1**
AKBB Malin Array Si 40.07 53 *e*P **P 18 33 34.9 +1.1**
SJG San Juan 41.23 254 LR LR 18 46 53.4
comp=Z,429nm,21.0s,MS4.3,baz=95,slow=30
ARCES ARCESS Array B 42.04 24 P **P 18 33 48.7 -1.1**
comp=Z,5.2nm,0.7s,mb4.4,baz=238,slow=7.0,SNR=8.6
OBN Obninsk 44.40 46⇑ *e*P **P 18 34 08.7 -0.3**
OBN *e* 18 35 56.1
OBN *i* S **S 18 40 41.6 -2.8**
OBN *e*SS SS 18 44 08.9 +6.3
OBN pmax pmax
comp=Z,18nm,1.2s,mb4.7
OBN MLR MLR
comp=Z,500nm,17.0s,MS4.5
OBN Obninsk 44.40 46 *e*P **P 18 34 08.7 -0.3**
comp=Z,18nm,1.2s,mb4.7
MOS Moscow 44.98 45 *e*P **P 18 34 16.1 +2.5**
MOS *e* 18 36 00.3
MOS pmax pmax
comp=Z,39nm,1.4s,mb5.1
PCRV Puerto La Cruz 45.11 244 LR LR 18 49 52.6
comp=Z,263nm,18.0s,MS4.2,baz=67,slow=32
TMCR Tamitsa 45.45 33 *e*P **P 18 34 11.7 -5.6**
ANN Anapa 46.30 60 *e*P **P 18 34 27.3 +3.1**
ANN *e*S **S 18 41 11.5 -0.6**
ANN *e*SSS 18 45 28.1
ANN pmax pmax
comp=Z,26nm,1.2s,mb5.1
TKL Tuckaleechee C 47.27 287 LR LR 18 49 56.1
comp=Z,263nm,21.6s,MS4.2,baz=124,slow=31

SOC Sochi 48.18 61 *e*P **P 18 34 41.6 +2.6**
SOC *e* 18 36 34.1
SOC *e*S **S 18 41 38.7 -0.3**
SOC pmax pmax
comp=Z,12nm,0.8s,mb5.1
SOC MLR MLR
comp=Z,215nm,14.0s,MS4.3
SOC Sochi 48.18 61 *e*P **P 18 34 41.6 +2.6**
comp=Z,12nm,0.8s,mb5.1
MALT Malatya 48.79 68 *e*P **P 18 34 43.9 +0.2**
comp=Z,16nm,1.4s,mb4.9
MALT Malatya 48.79 68 *e*P **P 18 34 43.9 +0.1**
MALT pmax pmax
comp=Z,16nm,1.4s,mb4.9
MALT Malatya 48.79 68 *e*P **P 18 34 43.9 +0.1**
comp=Z,16nm,1.4s,mb4.9
RES Resolute Bay 49.60 341 *e*P **P 18 34 46.5 -3.0**
RES Resolute Bay 49.60 341 *e*P **P 18 34 46.5 -3.0**
KIV Kislovodsk 50.15 60 *e*P **P 18 34 58.3 +4.2**
KIV *e*S **S 18 42 06.9 +0.2**
KIV pmax pmax
comp=Z,5.0nm,1.1s,mb4.4
KIV MLR MLR
comp=Z,172nm,16.0s,MS4.2
SDV Santo Domingo 50.36 248 *e*P **P 18 34 57.5 +1.5**
comp=Z,14nm,0.8s,mb5.0
PLAL Pickwick Lake 50.80 288 *e*P **P 18 35 00.0 +1.0**
comp=Z,24nm,1.0s,mb5.1
GLAT Glass 51.24 290 *e*P **P 18 35 03.9 +1.5**
FVM French Village 51.47 293 *e*P **P 18 35 03.0 -1.1**
comp=Z,25nm,0.9s,mb5.1
FVM French Village 51.47 293 *e*P **P 18 35 03.0 -1.1**
FVM pmax pmax
comp=Z,25nm,0.9s,mb5.1
FVM French Village 51.47 293 *e*P **P 18 35 03.0 -1.1**
comp=Z,25nm,0.9s,mb5.1
ULM Lac du Bonnet 51.58 309 LR LR 18 55 15.0
comp=Z,528nm,18.5s,MS4.6,baz=108,slow=34
MSL Mosul 52.98 69 *ex* x 18 35 07.5
MIAR Mount Ida 55.13 290 *e*P **P 18 35 30.6 -0.5**
comp=Z,24nm,1.1s,mb5.1
MIAR Mount Ida 55.13 290 *e*P **P 18 35 30.6 -0.5**
MIAR pmax pmax
comp=Z,24nm,1.1s,mb5.1
BHD Baghdad 55.16 72 *ex* x 18 35 32.0
ROSC El Rosal 55.77 248 LR LR 18 56 29.9
comp=Z,398nm,18.4s,MS4.5,baz=259,slow=33
ARU Arti 56.38 41 P **P 18 35 38.9 -0.8**
comp=Z,107nm,1.3s,mb5.7,SNR=6.6
ARU Arti 56.38 41 *e*P **P 18 35 37.5 -2.3**
comp=Z,35nm,1.3s,mb5.2
ARU Arti 56.38 41 *c i*P **P 18 35 39.1 -0.6**
ARU *e* 18 36 31.5
ARU *e*S **S 18 43 23.5 -7.6**
ARU pmax pmax
comp=Z,28nm,1.7s,mb5.0
ARU MLR MLR
comp=Z,756nm,18.0s,MS4.8
ARU Arti 56.38 41 *i* P **P 18 35 39.1 -0.6**
comp=Z,28nm,1.7s,mb5.0
ARU Arti 56.38 41 *e*PcP PcP 18 36 31.5 -5.3
BDFB Brasilia 56.93 208 P **P 18 35 46.1 +2.1**
comp=Z,1.5nm,0.5s,mb4.3,baz=94,slow=11,SNR=2.8
BDFB LR LR 18 57 09.3
comp=Z,198nm,18.5s,MS4.2,baz=213,slow=33
SVE Sverdlovsk 57.35 41⇓ *e*P **P 18 35 50.2 +3.6**
SVE *e*PPP 18 39 22.7
SVE *e*S **S 18 43 38.2 -5.6**
SVE pmax pmax
comp=Z,30nm,1.5s,mb5.1
AKTK Aktyubinsk 58.04 48 P **P 18 35 50.1 -1.4**
AKTK LR LR 19 02 23.4
AKTK Aktyubinsk 58.04 48 P **P 18 35 50.1 -1.4**
AKTO Aktyubinsk 58.04 48 P **P 18 35 50.1 -1.4**
comp=Z,4.5nm,0.8s,mb4.5,baz=267,slow=7.8,SNR=4.6
AKTO LR LR 19 02 23.4
comp=Z,262nm,19.2s,MS4.4,baz=305,slow=38
YKA Yellowknife Ar 58.11 327 P **P 18 35 50.6 -1.2**
YKA 18 36 46.2
YKA Yellowknife Ar 58.11 327 P **P 18 35 50.6 -1.2**
comp=Z,0.5nm,0.8s,mb3.6,baz=74,slow=6.6,SNR=5.4
YKA PcP PcP 18 36 46.1 +2.7
comp=Z,1.6nm,1.2s,baz=64,slow=4.7,SNR=4.0
YKA LR LR 18 58 03.7
comp=Z,63nm,18.7s,MS3.8,baz=185,slow=33
EDM Edmonton 60.90 317 *e*P **P 18 36 12.0 +0.8**
JCT Junction City 61.64 288 P **P 18 36 12.9 -3.8**
comp=Z,44nm,1.2s,mb5.6
JCT Junction City 61.64 288 P **P 18 36 12.9 -3.7**
JCT pmax pmax
comp=Z,44nm,1.2s,mb5.6
JCT Junction City 61.64 288 P **P 18 36 12.9 -3.7**
comp=Z,44nm,1.2s,mb5.6
INK Inuvik 62.75 337 P **P 18 36 21.0 -2.4**
comp=Z,4.5nm,1.0s,mb4.6,baz=86,slow=9.8,SNR=5.8
INK LR LR 19 02 58.7
comp=Z,84nm,18.0s,MS4.0,baz=54,slow=36
PDAR Pinedale Array 63.02 305 P **P 18 36 23.6 -2.1**
comp=Z,2.0nm,1.0s,mb4.2,baz=75,slow=6.3,SNR=9.4
PDAR LR LR 19 03 39.4
comp=Z,456nm,18.3s,MS4.7,baz=77,slow=36
PDAR Pinedale Array 63.02 305 P **P 18 36 23.5 -2.2**
ABKT Ailbek 63.22 61 P **P 18 36 31.0 +3.9**
comp=Z,50nm,1.1s,mb5.6,SNR=5.6
CHMT Chamberlain Mo 63.52 310 *e*P **P 18 36 28.1 -0.9**
CHMT Chamberlain Mo 63.52 310 *e*P **P 18 36 28.1 -0.8**
REDW Red Top Meadow 63.60 306 *e*P **P 18 36 26.1 -3.4**
comp=Z,41nm,1.8s,mb5.4
REDW Red Top Meadow 63.60 306 *e*P **P 18 36 26.1 -3.4**
comp=Z,41nm,1.8s,mb5.4
BRVK Borovoye 63.94 42 P **P 18 36 35.2 +3.6**
comp=Z,47nm,1.2s,mb5.6,SNR=6.2
BRVK Borovoye 63.94 42 *e*P **P 18 36 31.0 -0.6**
comp=Z,13nm,1.3s,mb5.0
BRVK Borovoye 63.94 42 *e*P **P 18 36 31.0 -0.6**
BRVK pmax pmax
comp=Z,13nm,1.3s,mb5.0
BRVK Borovoye 63.94 42 *e*P **P 18 36 31.0 -0.6**
comp=Z,13nm,1.3s,mb5.0
ANMO Albuquerque 64.47 296⇑ *e*P **P 18 36 35.5 +0.1**
ATD Arta Tunnel 64.90 94 LR LR 19 07 08.0
comp=Z,175nm,18.6s,MS4.3,baz=344,slow=38
BNM Barren Site 64.98 295 *e*P **P 18 36 40.5 +1.9**
TXAR Lajitas Array 65.13 289 P **P 18 36 37.8 -2.0**
comp=Z,5.1nm,0.8s,mb4.8,baz=76,slow=7.3,SNR=25
TXAR LR LR 19 05 25.1
comp=Z,282nm,18.1s,MS4.5,baz=20,slow=36
NEW Newport 65.23 313 *e*P **P 18 36 39.2 -0.9**
comp=Z,11nm,1.4s,mb4.9
NEW Newport 65.23 313 *e*P **P 18 36 39.2 -0.9**
NEW pmax pmax
comp=Z,11nm,1.4s
NEW Newport 65.23 313 P **P 18 36 38.5 -1.6**
comp=Z,1.1nm,0.7s,mb4.2,baz=210,slow=20,SNR=1.9
NEW LR LR 19 03 42.1
comp=Z,375nm,19.1s,MS4.6,baz=65,slow=35
NEW Newport 65.23 313 *e*P **P 18 36 39.2 -0.9**
comp=Z,11nm,1.4s,mb4.9
MSU Marysvale 66.77 301 *e*P **P 18 36 52.5 +2.3**
DAWY Dawson 67.14 334 *e*P **P 18 36 53.3 +1.2**
LPAZ La Paz 67.20 226 P **P 18 36 53.8 +0.7**
comp=Z,0.7nm,0.8s,mb3.9,baz=321,slow=5.1,SNR=2.8
LPAZ LR LR 19 03 26.7
comp=Z,176nm,18.3s,MS4.3,baz=210,slow=33
ARUT Antelope Range 68.00 301 *e*P **P 18 36 59.2 +1.3**
KMBO Kilima Mbogo 68.28 109 P **P 18 37 00.8 +0.8**
comp=Z,0.4nm,0.5s,mb3.9,baz=287,slow=18,SNR=2.2
KMBO LR LR 19 08 04.0
comp=Z,175nm,18.2s,MS4.3,baz=282,slow=37
NVS Novosibirsk 69.55 36 *i* P **P 18 37 10.4 +3.1**
NVS pmax pmax
comp=N,8.0nm,1.6s
NVS pmax pmax
comp=E,5.0nm,1.6s
NVS pmax pmax
comp=Z,33nm,1.6s,mb5.2
KURK Kurchatov 69.58 41 *e*P **P 18 37 10.5 +2.9**
comp=Z,24nm,1.5s,mb5.1
KURK Kurchatov 69.58 41 *e*P **P 18 37 10.5 +2.9**
KURK pmax pmax
comp=Z,24nm,1.5s,mb5.1
KURK Kurchatov 69.58 41 *e*P **P 18 37 10.5 +2.9**
comp=Z,24nm,1.5s,mb5.1
TIXI Tiksi 70.01 9 *e*P **P 18 37 12.0 +2.2**
comp=Z,0.8nm,0.8s,mb3.9
TIXI Tiksi 70.01 9 *e*P **P 18 37 09.1 -0.8**

ZAL Zalesovo 70.83 36 P **P 18 37 14.0 -1.2**
ZAL 18 39 50.9
ZAA0 Zalesovo Array 70.83 36 *e*P **P 18 37 14.6 -0.6**
ZAA0 Zalesovo Array 70.83 36 *e*P **P 18 37 14.6 -0.6**
ZALV Zalesovo Beam 70.83 36 P **P 18 37 13.9 -1.2**
comp=Z,2.3nm,0.8s,mb4.3,baz=309,slow=7.3,SNR=5.0
ZALV PP PP 18 39 50.9 -0.6
comp=Z,0.8nm,0.7s,baz=291,slow=9.4,SNR=3.9
ZALV LR LR 19 09 58.6
comp=Z,192nm,18.6s,MS4.4,baz=26,slow=37
EKS2 Erkin-Say 71.23 50 *e*P **P 18 37 17.9 +0.1**
comp=Z,15nm,1.3s,mb5.0
EKS2 *e* 18 37 22.2
EKS2 Erkin-Say 71.23 50 *e*P **P 18 37 17.9 +0.1**
MKAR Makanchi Array 73.83 43 P **P 18 37 32.6 -0.6**
MKAR PP PP 18 40 15.0 -2.3
MKAR LR LR 19 10 52.5
MKAR Makanchi Array 73.83 43 P **P 18 37 32.6 -0.7**
MKAR 18 40 15.0
MKAR Makanchi Array 73.83 43 P **P 18 37 32.6 -0.6**
comp=Z,3.5nm,0.9s,mb4.4,baz=308,slow=4.5,SNR=12
MKAR PP PP 18 40 15.0 -2.3
comp=Z,0.7nm,0.9s,baz=307,slow=7.7,SNR=3.6
MKAR LR LR 19 10 52.5
comp=Z,489nm,18.3s,MS4.8,baz=248,slow=37
BILL Bilibino 74.99 356⇓ *e*P **P 18 37 41.8 +2.1**
BILL pmax pmax
comp=Z,13nm,1.5s,mb4.7
WMQ Urumqi 78.66 43 *e*P **P 18 38 03.5 +2.7**
WMQ XP sP 18 38 11.0 +10
WMQ *e*S S 18 47 58.0 -0.9
WMQ AMB AMB
comp=Z,8.0nm,1.1s,mb4.7
WMQ AMB AMB
comp=Z,115nm,6.3s
WMQ LR LR
comp=Z,402nm,20.0s,MS4.8
YAK Yakutsk 79.10 12 *e*P **P 18 38 04.0 +1.2**
YAK pmax pmax
comp=N,18nm,1.3s
YAK pmax pmax
comp=Z,30nm,1.3s,mb5.2
YAK pmax pmax
comp=E,12nm,1.2s
MOY Mondy 79.58 31 *e*P **P 18 38 09.5 +3.8**
MOY pmax pmax
comp=Z,35nm,2.1s,mb4.9
CFAA Coronel Fontan 79.67 217 LR LR 19 15 08.4
comp=Z,14nm,18.3s,MS3.4,baz=73,slow=37
IRK Irkutsk 80.47 29 *e*P **P 18 38 11.4 +1.0**
IRK pmax pmax
comp=Z,32nm,1.6s,mb5.0
IRK Irkutsk 80.47 29 *e*P **P 18 38 11.4 +1.0**
comp=Z,32nm,1.6s,mb5.0
TLY Talaya 80.65 30 *e*P **P 18 38 14.1 +2.6**
TLY *e*S S 18 48 28.8 +9.2
TLY pmax pmax
comp=Z,9.0nm,1.3s,mb4.6
TLY MLR MLR
comp=Z,128nm,15.0s,MS4.4
ZAK Zakamensk 81.50 31 *e* **P 18 38 15.6 -0.4**
SONM Songino Array 84.77 31 P **P 18 38 32.8 -0.1**
comp=Z,7.3nm,1.0s,mb4.9,baz=321,slow=4.5,SNR=33
SONM LR LR 19 16 59.5
comp=Z,231nm,21.1s,MS4.5,baz=302,slow=36
ULN Ulaanbaatar 85.02 31⇑ *e*P **P 18 38 37.0 +2.8**
GTA Gaotai 88.21 40 *e*P **P 18 38 53.1 +3.1**
GTA AP 18 38 56.8
GTA XP sP 18 38 59.7 +10
GTA PP PP 18 42 18.4 +2.1
GTA SKS 18 49 21.1
GTA S S 18 49 41.8 +6.1
GTA XS sS 18 49 50.6 +15
GTA AMB AMB
comp=Z,3.0nm,1.1s,mb4.5
GTA AMB AMB
comp=Z,137nm,5.7s
GTA LR LR
comp=N,204nm,17.2s,MS4.7
GTA LR LR
comp=E,197nm,19.9s,MS4.7
GTA LR LR
comp=Z,285nm,19.9s,MS4.7
PLCA Paso Flores 88.22 213 LR LR 19 14 32.7
comp=Z,213nm,18.0s,MS4.6,baz=272,slow=33
HYB Hyderabad 89.51 69 *i* P **P 18 38 58.5 +2.0**
HYB Hyderabad 89.51 69 *e*P **P 18 39 00.0 +3.5**
HHC Hu-ho-hao-te 92.60 32 *e*P **P 18 39 08.5 -2.0**
HHC PP PP 18 42 51.5 +0.5
HHC SKS 18 49 39.2
HHC S S 18 50 05.6 -10
HHC AMB AMB
comp=Z,9.0nm,0.5s,mb5.5
HHC AMB AMB
comp=Z,88nm,7.6s
HHC LR LR
comp=Z,401nm,20.2s,MS4.9
LZH Lanzhou 92.81 40 *e*P **P 18 39 09.9 -1.6**
LZH *e*S S 18 50 09.1 -9.0
LZH AMB AMB
comp=Z,19nm,1.0s,mb5.5
LZH AMB AMB
comp=Z,115nm,4.9s
LZH LR LR
comp=E,310nm,15.4s
LZH LR LR
comp=Z,363nm,16.4s,MS4.9
CN2 Changchun 95.02 22 *e*P **P 18 39 19.5 -2.0**
CN2 *e*S S 18 50 28.0 -9.1
CN2 AMB AMB
comp=Z,10.0nm,1.2s,mb5.1
CN2 LR LR
comp=N,200nm,20.0s,MS4.7
CN2 LR LR
comp=E,200nm,20.0s,MS4.7
CN2 LR LR
comp=Z,200nm,19.0s,MS4.6
YSS Yuzh-Sakhalins 95.63 9 *e*P **P 18 39 23.5 -0.7**
CD2 Chengdu 96.76 43 *e*P **P 18 39 28.3 -1.4**
CD2 AP 18 39 33.1
CD2 XP sP 18 39 36.0 +6.1
CD2 PP PP 18 43 23.9 +0.2
CD2 SKS 18 50 03.0
CD2 S S 18 50 43.9 -8.8
CD2 AMB AMB
comp=Z,10.0nm,0.9s,mb5.5
CD2 AMB AMB
comp=Z,30nm,8.4s
CD2 LR LR
comp=Z,380nm,15.6s,MS5.0
KMI Kunming 100.60 47 P Pdif 18 39 46.8 +0.1
KMI AP 18 39 51.4
KMI XP 18 39 53.1
KMI PP PP 18 43 54.5 +1.3
KMI S Sdif 18 51 17.8 -7.0
KMI SS SS 18 58 20.8 +0.6
KMI AMB AMB
comp=Z,4.0nm,1.8s
KMI LR LR
comp=N,125nm,16.8s,MS4.7
KMI LR LR
comp=E,183nm,17.8s,MS4.7
KMI LR LR
comp=Z,245nm,17.8s,MS4.8
GYA Guiyang 101.82 44⇑ *i*P Pdif 18 39 50.4 -1.7
GYA PP PP 18 44 03.7 +1.4
GYA SKS 18 50 29.8
GYA S Sdif 18 51 27.9 -7.1
GYA AMB AMB
comp=Z,20nm,1.1s
GYA AMB AMB
comp=Z,120nm,7.0s
GYA LR LR
comp=Z,580nm,23.1s,MS5.0
FITZ Fitzroy Crossi 147.56 63 PKPbc PKPbc 18 45 41.8 -1.7
comp=Z,1.5nm,0.8s,baz=213,slow=18,SNR=2.0
WRA Warramunga Arr 154.75 54 PKPbc PKPbc 18 45 58.8 -1.7
comp=Z,0.8nm,0.8s,baz=301,slow=2.2,SNR=4.0
WRA PKPab PKPab 18 46 13.6 -1.8
comp=Z,1.0nm,0.9s,baz=329,slow=3.3,SNR=4.7
WRA Warramunga Arr 154.75 54 PKPab PKPab 18 46 13.6 -1.8
ASAR Alice Springs 157.02 61 PKP PKPdf 18 45 53.5 -1.3
comp=Z,2.5nm,1.3s,baz=0.0,slow=0.4,SNR=3.2
ASAR PKPab PKPab 18 46 24.6 -0.4
comp=Z,1.6nm,0.9s,baz=315,slow=4.4,SNR=9.1

ASAR Alice Springs 157.02 61 PKPab PKPab 18 46 24.6 -0.4

*IDC **08** 18:33:23.5±0.9, 041N×12431E, h0km, mb3.6/6, mb1 3.8/7, mb1mx3.6/16, mbtmp3.6/7, ML3.2/1, Error ellipse: s-maj=63.4km s-min=16.5km az=73.0*
*ISCJB **08** 18:33:26.7±0.8, 04N±01×1243E±03, h33km, mb3.6/6, Error ellipse: s-maj=48.1km s-min=12.2km az=166.1*
*NEIC **08** 18:33:30.4±0.6, 039N×12437E, h50km, Error ellipse: s-maj=36.0km s-min=9.2km az=75.0*
ISC 08 18:33:29.0±0.8, 04N±01×1244E±03, h35km, n10, σ0§21/10, mb3.6/6, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**18.43**	**176**	P	**Pn**	**18 37 41.8**	**0.0**
	0.1nm,0.3s,baz=7.9,slow=5.7,SNR=3.0						
WRA	**Warramunga Arr**	**22.46**	**155**	P	**P**	**18 38 24.8**	**-0.4**
	1.5nm,0.4s,mb3.7,baz=336,slow=10,SNR=32						
WRA				PcP	PcP	18 42 17.5	-1.6
	0.5nm,0.9s,baz=331,slow=1.9,SNR=4.9						
WB2	**Warramunga Arr**	**22.46**	**155**	*e*P	**P**	**18 38 25.3**	**+0.1**
ASAR	**Alice Springs**	**25.66**	**159**	P	**P**	**18 38 55.9**	**+0.3**
ASAR				PcP	PcP	18 42 24.8	-1.1
ASAR	**Alice Springs**	**25.66**	**159**	P	**P**	**18 38 55.9**	**+0.3**
	0.4nm,0.7s,mb3.1,baz=346,slow=14,SNR=13						
ASAR				PcP	PcP	18 42 24.8	-1.1
	0.4nm,0.5s,baz=350,slow=2.1,SNR=12						
STKA	**Stephens Creek**	**36.01**	**155**	P	**P**	**18 40 26.9**	**0.0**
	0.9nm,0.6s,mb3.9,baz=344,slow=9.7,SNR=3.7						
MJAR	**Matsushiro Arr**	**38.19**	**18**	P	**P**	**18 40 45.5**	**+0.1**
	1.0nm,0.9s,mb3.6,baz=192,slow=11,SNR=4.6						
SONM	**Songino Array**	**49.76**	**344**	P	**P**	**18 42 17.7**	**-0.3**
	0.3nm,0.8s,mb3.4,baz=160,slow=7.3,SNR=2.4						
MKAR	**Makanchi Array**	**58.99**	**328**	P	**P**	**18 43 25.3**	**+0.1**
MKAR	**Makanchi Array**	**58.99**	**328**	P	**P**	**18 43 25.3**	**+0.1**
	0.4nm,0.4s,mb3.9,baz=121,slow=8.2,SNR=14						

*IDC **08** 18:40:01.7±4.0, 1520N×14598E, h123km±49km, mb3.8/7, mb1 3.8/7, mb1mx3.5/20, mbtmp3.8/7, Error ellipse: s-maj=55.3km s-min=32.8km az=31.0*
*ISCJB **08** 18:40:04.4±1.8, 146N±01×1457E±03, h187km±12km, mb3.9/8, Error ellipse: s-maj=45.6km s-min=19.3km az=169.0*
*NEIC **08** 18:40:04.8±1.5, 1459N×14581E, h177km±10km, mb3.9/2, Error ellipse: s-maj=31.0km s-min=12.7km az=79.0*
ISC 08 18:40:04.9±1.9, 146N±01×1458E±03, h178km±13km, n17, σ0§77/19, mb3.9/8, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.38**	**223**	*e*Pn	**Pn**	**18 40 35.3**	**-0.4**
GUMO				*e*Sn	**Sn**	**18 40 59.8**	**+0.4**
GUMO	**Guam**	**1.38**	**223**	P	**Pn**	**18 40 35.4**	**-0.3**
	256nm,0.3s,baz=138,slow=2.8,SNR=244						
GUMO				S	**Sn**	**18 40 59.8**	**+0.4**
	131nm,0.3s,baz=352,slow=23,SNR=17						
JOW	**Kunigami**	**20.41**	**309**	P	**P**	**18 44 27.8**	**-0.4**
	12nm,0.8s,baz=252,slow=12,SNR=5.5						
KSRS	**Korea Array**	**27.77**	**328**	P	**P**	**18 45 33.9**	**-3.2**
	1.6nm,0.8s,mb3.8,baz=143,slow=11,SNR=8.7						
WRAB	**Tennant Creek**	**36.14**	**199**	*e*P	**P**	**18 46 50.3**	**+0.2**
WB2	**Warramunga Arr**	**36.15**	**199**	*e*P	**P**	**18 46 49.5**	**-0.7**
ULN	**Ulaanbaatar**	**46.10**	**324**	*e*P	**P**	**18 48 10.7**	**-0.4**
	1.0nm,0.7s,mb3.5						
SONM	**Songino Array**	**46.45**	**324**	P	**P**	**18 48 13.7**	**-0.1**
	0.6nm,0.5s,mb3.5,baz=148,slow=6.4,SNR=10						
ZALV	**Zalesovo Beam**	**61.35**	**324**	P	**P**	**18 50 01.2**	**-0.5**
	1.7nm,0.8s,mb4.0,baz=105,slow=8.1,SNR=7.1						
MK31	**Makanchi Array**	**61.42**	**316**	*e*P	**P**	**18 50 03.3**	**+1.1**
MKAR	**Makanchi Array**	**61.42**	**316**	P	**P**	**18 50 03.5**	**+1.2**
MKAR	**Makanchi Array**	**61.42**	**316**	P	**P**	**18 50 03.5**	**+1.2**
	2.2nm,0.4s,mb4.3,baz=91,slow=8.5,SNR=48						
KURK	**Kurchatov**	**64.42**	**319**	*e*P	**P**	**18 50 22.4**	**+0.5**
	5.5nm,0.9s,mb4.4						
BRVK	**Borovoye**	**69.78**	**321**	*e*P	**P**	**18 50 56.2**	**+0.5**
YKA	**Yellowknife Ar**	**81.53**	**28**	P	**P**	**18 52 02.7**	**+0.5**
YKA	**Yellowknife Ar**	**81.53**	**28**	P	**P**	**18 52 02.7**	**+0.5**
	0.8nm,0.4s,mb3.7,baz=286,slow=5.2,SNR=13						
FINES	**FINESS Array B**	**90.64**	**335**	P	**P**	**18 52 46.1**	**-0.8**
	2.8nm,1.2s,mb4.2,baz=64,slow=6.3,SNR=3.6						

*CSEM **08** 18:40:27.9±0.1, 3721N×2463W, h20km, mb4.4/27, Ms3.3, Error ellipse: s-maj=3.5km s-min=1.3km az=179.0*
*IDC **08** 18:40:27.6±1.0, 3727N×2448W, h0km, mb4.0/17, mb1 4.1/17, mb1mx4.0/26, mbtmp4.0/17, MS3.6/8, Ms1 3.6/8, ms1mx3.3/38, Error ellipse: s-maj=25.9km s-min=16.7km az=6.0*
*ISCJB **08** 18:40:29.0±0.7, 3728N±006×2469W±003, h25km±6km, mb4.2/50, MS3.5/12, Error ellipse: s-maj=9.7km s-min=3.5km az=12.8*
*NEIC **08** 18:40:28.9±0.5, 3718N×2453W, h10km, mb4.4/31, Error ellipse: s-maj=10.0km s-min=5.9km az=180.0*
*MOS **08** 18:40:29.4±0.6, 3704N×2456W, h33km, mb4.6/34, Error ellipse: s-maj=34.6km s-min=5.4km az=137.7*
*SVSA **08** 18:40:31.9±0.8, 3711N×2467W, h5km, ML4.1, Error ellipse: s-maj=4.6km s-min=3.2km az=89.0*
*PDA **08** 18:40:31.9±0.8, 3711N×2467W, h5km, ML4.1, Error ellipse: s-maj=4.6km s-min=3.2km az=89.0*
*SZGRF **08** 18:40:36.3, 3750N×2404W, h33km, mb4.5, Azores Islands region*
ISC 08 18:40:29.6±0.9, 3729N±007×2470W±003, h17km±7km, n167, σ0§90/173, mb4.2/50, MS3.5/12, 5C-3D, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSMN	**Pico do Norte,**	**0.41**	**226**	*e*P	**Pg**	**18 40 37.8**	**-0.2**
PSMN				*e*S	**Sg**	**18 40 42.7**	**-0.9**
PDA	**Ponta Delgada**	**0.89**	**301**	*e*P	**Pb**	**18 40 46.7**	**0.0**
PDA				*e*S	**Sb**	**18 40 58.5**	**+0.2**
ADH	**Angra Heroismo**	**2.42**	**305**	*e*P	**Pn**	**18 41 09.2**	**+0.8**
ADH				*e*S	**Sn**	**18 41 37.3**	**-0.4**
PID	**Ribeirinha**	**2.94**	**294**	*e*P	**Pn**	**18 41 16.0**	**+0.5**
PID				*e*S	**Sn**	**18 41 49.6**	**-0.8**
PMAN	**Manadas**	**3.00**	**298**	*e*P	**Pn**	**18 41 17.2**	**+0.9**
PMAN				*e*S	**Sn**	**18 41 50.3**	**-1.5**
PMAN				A		18 41 53.2	
	116nm,0.3s						
PMAN	**Manadas**	**3.00**	**298**	*e*P	**Pn**	**18 41 17.2**	**+0.9**
PMAN				*e*S	**Sn**	**18 41 50.3**	**-1.5**
ROSA	**Rosais**	**3.14**	**298**	*e*P	**Pn**	**18 41 18.6**	**+0.3**
ROSA				*e*S	**Sn**	**18 41 54.6**	**-0.8**
SRBC	**Serra Branca**	**3.16**	**305**	*e*P	**Pn**	**18 41 19.6**	**+1.1**
SRBC				*e*S	**Sn**	**18 41 55.0**	**-0.8**
PICO	**Pico**	**3.19**	**293**	*e*P	**Pn**	**18 41 19.5**	**+0.6**
PICO				*e*S	**Sn**	**18 41 55.0**	**-1.5**
HOR	**Horta**	**3.34**	**293**	*e*P	**Pn**	**18 41 21.6**	**+0.5**
HOR				*e*S	**Sn**	**18 41 58.5**	**-1.9**
CALA	**Caldeira**	**3.42**	**293**	*e*P	**Pn**	**18 41 22.4**	**+0.3**
CALA				*e*S	**Sn**	**18 42 00.7**	**-1.5**
EVOP	**Sao Brissos**	**13.15**	**80**	*e*Pn	**Pn**	**18 43 30.3**	**-5.3**
EVOP				*e*Sn	**Sn**	**18 45 42.6**	**-19**
EVO	**Evora**	**13.24**	**80**	*e*Pn	**Pn**	**18 43 30.3**	**-6.4**
EVO				*e*Sn	Sn	18 45 42.6	-21
	29nm,0.9s						
EVO				*e*MLR	MLR		
	comp=Z,423nm,22.8s						
ESDC	**Sonseca Array**	**16.41**	**75**	Sn	**Sn**	**18 47 05.0**	**-16**
	comp=Z,0.3nm,0.3s,baz=268,slow=23,SNR=4.1						
MDT	**Midelt**	**17.04**	**99**	LR	LR	18 49 18.8	
	comp=Z,288nm,19.4s,baz=311,slow=32						
SJPF	**Ste Jean**	**18.82**	**65**	*e*P	**Pn**	**18 44 50.0**	**+1.0**
QUIF	**Quistinic**	**19.02**	**49**	*e*P	**Pn**	**18 44 51.5**	**+0.3**
ROSF	**Rostrenen**	**19.14**	**48**	*e*P	**Pn**	**18 44 52.9**	**+0.2**
ETSF	**Etsaut**	**19.27**	**66**	*e*P	**Pn**	**18 44 53.6**	**-0.7**
SGMF	**Saint Gilles**	**19.53**	**49**	*e*P	**Pn**	**18 44 56.7**	**-0.7**
	comp=Z,26nm,1.2s						
SGMF	**Saint Gilles**	**19.53**	**49**	*e*P	**Pn**	**18 44 56.7**	**-0.7**
SGMF				pmax	pmax		
	comp=Z,13nm,1.2s						
SGMF	**Saint Gilles**	**19.53**	**49**	*e*P	**Pn**	**18 44 56.7**	**-0.7**
	comp=Z,13nm,1.2s						
EPF	**Esparros**	**19.94**	**65**	*e*P	**Pn**	**18 45 01.3**	**-1.1**
MFF	**Saint Martin d**	**20.43**	**55**	*e*P	**P**	**18 45 06.4**	**+0.5**
	comp=Z,67nm,1.1s						
MFF	**Saint Martin d**	**20.43**	**55**	*e*P	**P**	**18 45 06.4**	**+0.5**
MFF				pmax	pmax		
	comp=Z,34nm,1.1s						
MFF	**Saint Martin d**	**20.43**	**55**	*e*P	**P**	**18 45 06.4**	**+0.5**
	comp=Z,34nm,1.1s						
LFF	**La Frestale**	**20.58**	**60**	*e*P	**P**	**18 45 07.7**	**+0.2**
	comp=Z,41nm,1.0s						
LFF	**La Frestale**	**20.58**	**60**	*e*P	**P**	**18 45 07.7**	**+0.2**
LFF				pmax	pmax		
	comp=Z,21nm,1.0s						
LFF	**La Frestale**	**20.58**	**60**	*e*P	**P**	**18 45 07.7**	**+0.2**
	comp=Z,21nm,1.0s						
GRR	**Gorron**	**20.62**	**50**	*e*P	**P**	**18 45 09.0**	**+1.1**
	comp=Z,104nm,1.0s						
GRR	**Gorron**	**20.62**	**50**	*e*P	**P**	**18 45 09.0**	**+1.1**
GRR				pmax	pmax		
	comp=Z,52nm,1.0s						
GRR	**Gorron**	**20.62**	**50**	*e*P	**P**	**18 45 09.0**	**+1.1**
	comp=Z,52nm,1.0s						
FLN	**La Foliniere**	**21.00**	**49**	*e*P	**P**	**18 45 12.1**	**+0.1**
	comp=Z,51nm,1.1s						
FLN				*e*MLR	MLR		
	comp=Z,208nm,20.5s,MS3.2						
FLN	**La Foliniere**	**21.00**	**49**	*e*P	**P**	**18 45 12.1**	**+0.1**
	comp=Z,26nm,1.1s						
FLN				LR	LR		
	comp=Z,210nm,20.5s,MS3.5						
FLN	**La Foliniere**	**21.00**	**49**	*e*P	**P**	**18 45 12.1**	**+0.1**
FLN				pmax	pmax		
	comp=Z,26nm,1.1s						
FLN				MLR	MLR		
	comp=Z,210nm,20.5s,MS3.5						
LDF	**La Druitiere**	**21.15**	**50**	*e*P	**P**	**18 45 14.0**	**+0.4**
	comp=Z,35nm,1.1s,mb4.3						
LDF	**La Druitiere**	**21.15**	**50**	*e*P	**P**	**18 45 14.0**	**+0.4**
LDF				pmax	pmax		
	comp=Z,17nm,1.1s,mb4.3						
LDF	**La Druitiere**	**21.15**	**50**	*e*P	**P**	**18 45 14.0**	**+0.4**
	comp=Z,17nm,1.1s,mb4.3						
RJF	**Les Rejaudoux**	**21.20**	**60**	*e*P	**P**	**18 45 13.7**	**-0.5**
	comp=Z,32nm,1.4s,mb4.2						
RJF				*e*MLR	MLR		
	comp=Z,313nm,18.8s,MS3.4						
RJF	**Les Rejaudoux**	**21.20**	**60**	*e*P	**P**	**18 45 13.7**	**-0.5**
	comp=Z,16nm,1.4s,mb4.2						
RJF				LR	LR		
	comp=Z,310nm,18.8s,MS3.7						
RJF	**Les Rejaudoux**	**21.20**	**60**	*e*P	**P**	**18 45 13.7**	**-0.5**
RJF				pmax	pmax		
	comp=Z,16nm,1.4s,mb4.2						
RJF				MLR	MLR		
	comp=Z,310nm,18.8s,MS3.7						
MTLF	**Montolieu**	**21.35**	**65**	*e*P	**P**	**18 45 15.6**	**-0.2**
	comp=Z,14nm,1.2s,mb3.8						
MTLF	**Montolieu**	**21.35**	**65**	*e*P	**P**	**18 45 15.6**	**-0.2**
MTLF				pmax	pmax		
	comp=Z,7.0nm,1.3s,mb3.8						
MTLF	**Montolieu**	**21.35**	**65**	*e*P	**P**	**18 45 15.6**	**-0.2**
	comp=Z,6.8nm,1.2s,mb3.8						
CAF	**Calviac**	**21.50**	**61**	*e*P	**P**	**18 45 16.6**	**-0.8**
	comp=Z,49nm,1.2s,mb4.4						
CAF	**Calviac**	**21.50**	**61**	*e*P	**P**	**18 45 16.6**	**-0.8**
CAF				pmax	pmax		
	comp=Z,25nm,1.2s,mb4.4						
CAF	**Calviac**	**21.50**	**61**	*e*P	**P**	**18 45 16.6**	**-0.8**
	comp=Z,24nm,1.2s,mb4.4						
TCF	**Toulx Ste Croi**	**21.90**	**57**	*e*P	**P**	**18 45 22.2**	**+0.4**
	comp=Z,66nm,1.6s,mb4.5						
TCF	**Toulx Ste Croi**	**21.90**	**57**	*e*P	**P**	**18 45 22.2**	**+0.4**
TCF				pmax	pmax		
	comp=Z,33nm,1.6s,mb4.5						
TCF	**Toulx Ste Croi**	**21.90**	**57**	*e*P	**P**	**18 45 22.2**	**+0.4**
	comp=Z,33nm,1.6s,mb4.5						
BGF	**Bois d'Agland**	**22.40**	**57**	*e*P	**P**	**18 45 26.6**	**-0.4**
LASF	**Ste Croix**	**22.62**	**64**	*e*P	**P**	**18 45 28.6**	**-0.8**
AVF	**Avril sur Loir**	**22.79**	**57**	*e*P	**P**	**18 45 30.9**	**-0.3**
	comp=Z,17nm,1.2s,mb4.0						
AVF	**Avril sur Loir**	**22.79**	**57**	*e*P	**P**	**18 45 30.9**	**-0.3**
AVF				pmax	pmax		
	comp=Z,9.0nm,1.2s,mb4.1						
AVF	**Avril sur Loir**	**22.79**	**57**	*e*P	**P**	**18 45 30.9**	**-0.3**
	comp=Z,8.7nm,1.2s,mb4.0						
SSF	**Saint Saulge**	**22.96**	**56**	*e*P	**P**	**18 45 32.5**	**-0.5**
	comp=Z,19nm,1.0s,mb4.2						
SSF	**Saint Saulge**	**22.96**	**56**	*e*P	**P**	**18 45 32.5**	**-0.5**
SSF				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.2						
SSF	**Saint Saulge**	**22.96**	**56**	*e*P	**P**	**18 45 32.5**	**-0.5**
	comp=Z,9.3nm,1.0s,mb4.2						
SMF	**Signal de Mont**	**23.08**	**57**	*e*P	**P**	**18 45 33.7**	**-0.6**
	comp=Z,56nm,1.3s,mb4.5						
SMF	**Signal de Mont**	**23.08**	**57**	*e*P	**P**	**18 45 33.7**	**-0.6**
SMF				pmax	pmax		
	comp=Z,28nm,1.3s,mb4.5						
SMF	**Signal de Mont**	**23.08**	**57**	*e*P	**P**	**18 45 33.7**	**-0.6**
	comp=Z,28nm,1.3s,mb4.5						
EKA	**Eskdalemuir Ar**	**23.23**	**32**	P	**P**	**18 45 36.2**	**+0.6**
	comp=Z,7.4nm,0.9s,mb4.1,baz=228,slow=8.1,SNR=9.8						
EKA	**Eskdalemuir Ar**	**23.23**	**32**	P	**P**	**18 45 36.2**	**+0.5**
LOR	**Lormes**	**23.25**	**56**	*e*P	**P**	**18 45 35.2**	**-0.8**
	comp=Z,25nm,1.3s,mb4.2						
LOR				*e*MLR	MLR		
	comp=Z,188nm,20.2s,MS3.2						
LOR	**Lormes**	**23.25**	**56**	*e*P	**P**	**18 45 35.2**	**-0.8**
	comp=Z,12nm,1.3s,mb4.2						
LOR				LR	LR		
	comp=Z,190nm,20.3s,MS3.5						
LOR	**Lormes**	**23.25**	**56**	*e*P	**P**	**18 45 35.2**	**-0.8**
LOR				pmax	pmax		
	comp=Z,12nm,1.3s,mb4.2						
LOR				MLR	MLR		
	comp=Z,190nm,20.3s,MS3.5						
VIVF	**Saint-Julien-l**	**23.31**	**62**	*e*P	**P**	**18 45 35.7**	**-1.0**
	comp=Z,17nm,1.1s,mb4.1						
VIVF	**Saint-Julien-l**	**23.31**	**62**	*e*P	**P**	**18 45 35.7**	**-1.0**
VIVF				pmax	pmax		
	comp=Z,9.0nm,1.1s,mb4.1						
VIVF	**Saint-Julien-l**	**23.31**	**62**	*e*P	**P**	**18 45 35.7**	**-1.0**
	comp=Z,8.5nm,1.1s,mb4.1						
ORIF	**Oris-en-Rattie**	**24.17**	**62**	*e*P	**P**	**18 45 44.0**	**-0.8**
	comp=Z,20nm,1.1s,mb4.2						
ORIF				*e*MLR	MLR		
	comp=Z,264nm,21.0s,MS3.4						
ORIF	**Oris-en-Rattie**	**24.17**	**62**	*e*P	**P**	**18 45 44.0**	**-0.8**
ORIF				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.2						
ORIF	**Oris-en-Rattie**	**24.17**	**62**	*e*P	**P**	**18 45 44.0**	**-0.8**
	comp=Z,10nm,1.1s,mb4.2						
BAIF	**Baives**	**24.32**	**49**	*e*P	**P**	**18 45 45.2**	**-1.0**
	comp=Z,24nm,1.0s,mb4.3						
BAIF	**Baives**	**24.32**	**49**	*e*P	**P**	**18 45 45.2**	**-1.0**
BAIF				pmax	pmax		
	comp=Z,12nm,1.0s,mb4.3						
BAIF	**Baives**	**24.32**	**49**	*e*P	**P**	**18 45 45.2**	**-1.0**
	comp=Z,12nm,1.0s,mb4.3						
MEZF	**Maizieres J'vi**	**24.36**	**53**	*e*P	**P**	**18 45 45.8**	**-0.7**
FRF	**La Foret Royal**	**24.58**	**65**	*e*P	**P**	**18 45 47.5**	**-1.1**
	comp=Z,20nm,1.1s,mb4.2						
FRF	**La Foret Royal**	**24.58**	**65**	*e*P	**P**	**18 45 47.5**	**-1.1**
FRF				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.3						
FRF	**La Foret Royal**	**24.58**	**65**	*e*P	**P**	**18 45 47.5**	**-1.1**
	comp=Z,10nm,1.1s,mb4.2						
CABF	**La Chapelle**	**24.59**	**58**	*e*P	**P**	**18 45 48.1**	**-0.5**
GIVF	**Givet**	**24.71**	**49**	*e*P	**P**	**18 45 49.6**	**-0.1**
	comp=Z,42nm,1.0s,mb4.6						
GIVF	**Givet**	**24.71**	**49**	*e*P	**P**	**18 45 49.6**	**-0.1**
GIVF				pmax	pmax		
	comp=Z,21nm,1.0s,mb4.6						
GIVF	**Givet**	**24.71**	**49**	*e*P	**P**	**18 45 49.6**	**-0.1**
	comp=Z,21nm,1.0s,mb4.6						
LPL	**La Plagne**	**24.85**	**61**	*e*P	**P**	**18 45 50.7**	**-0.3**
LPG	**La Plagne**	**24.86**	**61**	*e*P	**P**	**18 45 50.8**	**-0.3**
HAU	**Haudompre**	**25.06**	**55**	*e*P	**P**	**18 45 52.7**	**-0.2**
	comp=Z,9.4nm,0.9s,mb4.0						
HAU				*e*MLR	MLR		
	comp=Z,197nm,19.8s,MS3.3						
HAU	**Haudompre**	**25.06**	**55**	*e*P	**P**	**18 45 52.7**	**-0.2**
	comp=Z,4.7nm,0.9s,mb4.0						
HAU				LR	LR		
	comp=Z,200nm,19.8s,MS3.6						
HAU	**Haudompre**	**25.06**	**55**	*e*P	**P**	**18 45 52.7**	**-0.2**
HAU				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.0						
HAU				MLR	MLR		
	comp=Z,200nm,19.8s,MS3.6						
SBF	**Sospel**	**25.17**	**65**	*e*P	**P**	**18 45 53.5**	**-0.4**
	comp=Z,23nm,1.1s,mb4.3						
SBF	**Sospel**	**25.17**	**65**	*e*P	**P**	**18 45 53.5**	**-0.4**
SBF				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.3						
SBF	**Sospel**	**25.17**	**65**	*e*P	**P**	**18 45 53.5**	**-0.4**
	comp=Z,11nm,1.1s,mb4.3						
HINF	**Hinteralfeld**	**25.35**	**55**	*e*P	**P**	**18 45 55.3**	**-0.2**
	comp=Z,15nm,1.3s,mb4.1						
HINF	**Hinteralfeld**	**25.35**	**55**	*e*P	**P**	**18 45 55.3**	**-0.2**
HINF				pmax	pmax		
	comp=Z,8.0nm,1.3s,mb4.1						
HINF	**Hinteralfeld**	**25.35**	**55**	*e*P	**P**	**18 45 55.3**	**-0.2**
	comp=Z,7.7nm,1.3s,mb4.1						
WLF	**Walferdange**	**25.39**	**51**	*e*P	**P**	**18 45 55.8**	**-0.1**
	comp=Z,39nm,1.2s,mb4.8						
WLF	**Walferdange**	**25.39**	**51**	*e*P	**P**	**18 45 55.8**	**0.0**
WLF				pmax	pmax		
	comp=Z,39nm,1.2s,mb4.8						
WLF	**Walferdange**	**25.39**	**51**	*e*P	**P**	**18 45 55.8**	**0.0**
	comp=Z,39nm,1.2s,mb4.8						
CDF	**Champ du Feu**	**25.76**	**54**	*e*P	**P**	**18 45 59.4**	**+0.1**
	comp=Z,22nm,1.3s,mb4.2						
CDF	**Champ du Feu**	**25.76**	**54**	*e*P	**P**	**18 45 59.4**	**+0.1**
CDF				pmax	pmax		
	comp=Z,11nm,1.3s,mb4.2						
CDF	**Champ du Feu**	**25.76**	**54**	*e*P	**P**	**18 45 59.4**	**+0.1**
	comp=Z,11nm,1.3s,mb4.2						
PGF	**Pioggiola**	**26.27**	**68**	*e*P	**P**	**18 46 03.2**	**-0.7**
	comp=Z,30nm,1.4s,mb4.3						
PGF	**Pioggiola**	**26.27**	**68**	*e*P	**P**	**18 46 03.2**	**-0.7**
PGF				pmax	pmax		
	comp=Z,15nm,1.4s,mb4.3						
PGF	**Pioggiola**	**26.27**	**68**	*e*P	**P**	**18 46 03.2**	**-0.7**
	comp=Z,15nm,1.4s,mb4.3						
BFO	**Black Forest**	**26.43**	**55**	*e*P	**P**	**18 46 05.5**	**+0.2**
	comp=Z,6.0nm,1.1s,mb4.0						
BFO	**Black Forest**	**26.43**	**55**	*e*P	**P**	**18 46 05.5**	**+0.2**
BFO				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.0						
BFO	**Black Forest**	**26.43**	**55**	*e*P	**P**	**18 46 05.5**	**+0.2**
	comp=Z,6.0nm,1.1s,mb4.0						
DAVOX	**Davos/Dischmat**	**27.19**	**59**	LR	LR	18 54 47.4	
	comp=Z,146nm,21.8s,MS3.5,baz=258,slow=32						
KEST	**Kesra**	**27.33**	**83**	P	**P**	**18 46 13.8**	**+0.3**
	comp=Z,1.3nm,1.0s,mb3.4,baz=336,slow=12,SNR=3.4						
BORG	**Borgarnes**	**27.57**	**3**	P	**P**	**18 46 17.0**	**+1.7**
BORG	**Borgarnes**	**27.57**	**3**	P	**P**	**18 46 17.0**	**+1.7**
	comp=Z,18nm,1.1s,mb4.6,baz=266,slow=3.2,SNR=3.0						
GRA1	**Grafenberg Arr**	**28.58**	**53**	*e*P	**P**	**18 46 24.2**	**-0.3**
	comp=Z,10.0nm,1.2s,mb4.4						
GRF	**Grafenberg Arr**	**28.58**	**53**	*e*P	**P**	**18 46 24.2**	**-0.3**
GRF				pmax	pmax		
	comp=Z,10.0nm,1.2s,mb4.4						
GRF	**Grafenberg Arr**	**28.58**	**53**	*e*P	**P**	**18 46 24.2**	**-0.3**
GRF				pmax	pmax		
	comp=Z,10.0nm,1.2s,mb4.4						
GRF	**Grafenberg Arr**	**28.58**	**53**	*e*P	**P**	**18 46 24.2**	**-0.3**
	comp=Z,10.0nm,1.2s,mb4.4						
KHC	**Kasperske Hory**	**29.99**	**54**	*e*P	**P**	**18 46 35.7**	**-1.4**
GERES	**GERESS Array B**	**30.03**	**55**	P	**P**	**18 46 36.6**	**-0.8**
	comp=Z,0.4nm,0.8s,mb3.2,baz=260,slow=8.0,SNR=4.4						
GERES				LR	LR	18 57 29.8	
	comp=Z,80nm,18.6s,MS3.4,baz=5.0,slow=34						
CLL	**Collm**	**30.04**	**50**	*e*P	**P**	**18 46 38.0**	**+0.5**
VRAC	**Vranov**	**31.98**	**55**	LR	LR	18 58 00.2	
	comp=Z,63nm,21.7s,MS3.3,baz=292,slow=33						
NOA	**NORSAR Array B**	**32.72**	**32**	P	**P**	**18 47 01.5**	**+0.5**
	comp=Z,2.6nm,1.1s,mb4.1,baz=242,slow=8.6,SNR=2.9						
HFS	**Hagfors**	**33.37**	**34**	P	**P**	**18 47 07.6**	**+0.9**
	comp=Z,4.0nm,1.0s,mb4.3,baz=224,slow=6.2,SNR=3.7						
SCHQ	**Schefferville**	**33.47**	**315**	P	**P**	**18 47 10.2**	**+2.7**
	comp=Z,6.3nm,1.1s,mb4.5,baz=228,slow=12,SNR=3.7						
SCHQ	**Schefferville**	**33.47**	**315**	P	**P**	**18 47 10.2**	**+2.7**
TOA0	**Torodi Ar. Sit**	**33.67**	**129**	*e*P	**P**	**18 47 09.2**	**-0.4**
TOA0	**Torodi Ar. Sit**	**33.67**	**129**	*e*P	**P**	**18 47 09.2**	**-0.5**
TORD	**Torodi Ar. Bea**	**33.67**	**129**	P	**P**	**18 47 09.3**	**-0.3**
TORD	**Torodi Ar. Bea**	**33.67**	**129**	P	**P**	**18 47 09.3**	**-0.3**
	comp=Z,2.5nm,0.8s,mb4.2,baz=323,slow=7.0,SNR=13						
JMIC	**Jan Mayen**	**34.82**	**9**	LR	LR	18 57 06.3	
	comp=Z,76nm,19.5s,MS3.5,baz=74,slow=29						
AKASG	**Malin Array Be**	**40.16**	**53**	P	**P**	**18 48 02.5**	**-2.0**
	comp=Z,1.4nm,0.8s,mb3.7,baz=269,slow=8.3,SNR=6.2						
AKASG	**Malin Array Be**	**40.16**	**53**	P	**P**	**18 48 02.5**	**-2.1**
ARCES	**ARC

ellipse: s-maj=6.7km s-min=3.7km az=91.0, After PDA
*PDA **08** 18:43:45.5±0.7, 37.17N×2456W, h5km, MD3.9, Error ellipse: s-maj=6.7km s-min=3.7km az=91.0*

SVSA 08 18:43:45.5±0.7, 3717N×2456W, h5km, MD3.9, Error ellipse: s-maj=6.7km s-min=3.7km az=91.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSMN	**Pico do Norte,**	**0.43**	**248**	*eP*	Pg	18 43 52.7	-1.1
PSMN				*eS*	Sg	18 43 59.0	-0.5
PDA	**Ponta Delgada**	**1.05**	**304**	*eS*	Sg	18 44 13.7	-5.6
PID	**Ribeirinha**	**3.09**	**295**	*eP*	Pn	18 44 30.4	-4.5
PID				*eS*	Sn	18 45 04.2	-8.0
PMAN	**Manadas**	**3.15**	**299**	*eP*	Pn	18 44 33.6	-2.1
ROSA	**Rosais**	**3.29**	**299**	*eP*	Pn	18 44 33.5	-4.2
PICO	**Pico**	**3.33**	**295**	*eP*	Pn	18 44 33.8	-4.5
PICO				*eS*	Sn	18 45 10.4	-7.9
HOR	**Horta**	**3.49**	**294**	*eP*	Pn	18 44 36.3	-4.2
CALA	**Caldeira**	**3.57**	**295**	*eP*	Pn	18 44 37.3	-4.2
CALA				*eS*	Sn	18 45 15.7	-8.3

*IDC **08** 18:49:09.9±0.6, 7629N×733E, h0km, mb3.6/14, mb1 3.8/17, mb1mx3.8/25, mbtmp3.6/17, ML3.0/3, MS3.6/4, Ms1 3.6/4, ms1mx3.1/33, Error ellipse: s-maj=17.4km s-min=12.0km az=59.0*
*NAO **08** 18:49:09.9±3.4, 7622N×8.14E, ML2.7*
*CSEM **08** 18:49:09.0±0.1, 7631N×7.19E, h10km, mb4.3/3, Error ellipse: s-maj=3.4km s-min=2.4km az=58.0*
*ISCJB **08** 18:49:09.8±0.4, 7635N±004×76E±03, h10km, mb3.7/20, MS3.6/3, Error ellipse: s-maj=9.5km s-min=6.0km az=15.0*
*BER **08** 18:49:11.0±4.2, 7622N×762E, h16km±77km, ML2.4, ML2.7(NAO)*
*NEIC **08** 18:49:11.5±0.5, 7629N×788E, h10km, mb4.3/6, Error ellipse: s-maj=12.4km s-min=8.0km az=81.0*

ISC 08 18:49:11.7±0.4, 7633N±004×79E±03, h10km, n56, σ1§25/58, mb3.7/20, MS3.6/3, 1C, Svalbard region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPB4	**Spitsbergen Ar**	**2.64**	**41**	*eP*	**Pn**	**18 49 53.8**	**-0.5**
SPB4	**Spitsbergen Ar**	**2.64**	**41**	*eP*	**Pn**	**18 49 53.8**	**-0.5**
SPA0	**Spitsbergen Ar**	**2.65**	**41**	Pn	**Pn**	**18 49 54.1**	**-0.2**
SPA0	baz=216,slow=16			Sn	**Sn**	**18 50 25.7**	**-0.7**
	baz=213,slow=18						
KBS	**Kingsbay**	**2.75**	**17**	*eP*	**Pn**	**18 49 53.7**	**-2.1**
KBS	**Kingsbay**	**2.75**	**17**	*eP*	**Pn**	**18 49 53.9**	**-1.9**
KBS				*eS*	**Sn**	**18 50 24.5**	**-4.6**
KBS				AML	AML	18 50 31.9	
	comp=Z,32nm,0.5s						
KBS	**Kingsbay**	**2.75**	**17**	Pn	**Pn**	**18 49 53.8**	**-2.0**
KBS				Sn	**Sn**	**18 50 24.7**	**-4.4**
DAG	**Danmarks Havn**	**6.17**	**287**	⇑*iP*	**Pn**	**18 50 36.6**	**-6.1**
	comp=Z,4.9nm,0.5s						
ARA0	**ARCESS Array S**	**8.52**	**134**	Pn	**Pn**	**18 51 11.4**	**-3.5**
	baz=336,slow=9.3						
ARA0				Sn	**Sn**	**18 52 41.8**	**-9.2**
	baz=331,slow=22						
ARCES	**ARCESS Array B**	**8.52**	**134**	Pn	**Pn**	**18 51 13.0**	**-1.9**
ARCES				Sn	**Sn**	**18 52 41.9**	**-9.1**
ARCES	**ARCESS Array B**	**8.52**	**134**	Pn	**Pn**	**18 51 13.0**	**-1.9**
	comp=Z,0.2nm,0.3s,baz=326,slow=10,SNR=7.1						
ARCES				Sn	**Sn**	**18 52 41.9**	**-9.0**
	comp=Z,1.4nm,0.3s,baz=330,slow=31,SNR=8.1						
ARE0	**ARCESS Array S**	**8.52**	**134**	P	**Pn**	**18 51 12.2**	**-2.7**
KEV	**Kevo**	**8.60**	**130**	*eP*	**Pn**	**18 51 14.7**	**-1.2**
KEV	**Kevo**	**8.60**	**130**	*eP*	**Pn**	**18 51 14.7**	**-1.3**
NB2	**NORSAR Subarra**	**15.41**	**174**	P	**Pn**	**18 52 54.9**	**+6.1**
	comp=Z,8.0nm,1.2s,baz=357,slow=11						
NOA	**NORSAR Array B**	**15.41**	**174**	Pn	**Pn**	**18 52 50.6**	**+1.9**
	comp=Z,0.1nm,0.3s,baz=219,slow=14,SNR=3.7						
FIA0	**FINESS Array S**	**16.18**	**147**	P	**Pn**	**18 52 56.0**	**-2.9**
	baz=354,slow=14						
FINES	**FINESS Array B**	**16.18**	**147**	Pn	**Pn**	**18 52 56.1**	**-2.8**
	comp=Z,0.1nm,0.3s,baz=356,slow=14,SNR=7.8						
HFS	**Hagfors**	**16.40**	**170**	Pn	**Pn**	**18 53 04.2**	**+2.6**
	comp=Z,0.1nm,0.3s,baz=8.9,slow=10,SNR=3.5						
KONO	**Kongsberg**	**16.77**	**177**	*eP*	**Pn**	**18 53 06.8**	**+0.4**
	comp=Z,26nm,1.1s						
KONO	**Kongsberg**	**16.77**	**177**	*eP*	**Pn**	**18 53 06.8**	**+0.5**
	comp=Z,26nm,1.1s						
SFJD	**Kangerlussuaq**	**19.61**	**273**	LR	LR	19 00 30.3	
	comp=Z,173nm,18.1s,baz=21,slow=35						
CLL	**Collm**	**25.20**	**172**	*eP*	**P**	**18 54 36.0**	**-1.0**
	comp=Z,9.0nm,1.5s,mb4.1						
BRG	**Berggiesshubel**	**25.67**	**171**	*eP*	**P**	**18 54 42.2**	**+0.9**
	comp=Z,3.5nm,1.2s,mb3.8						
BRG				*e*		18 54 50.4	
	comp=Z,6.7nm,1.3s						
MOX	**Moxa**	**25.83**	**175**	*eP*	**P**	**18 54 48.0**	**+5.3**
	comp=Z,18nm,1.6s,mb4.3						
AKASG	**Malin Array Be**	**27.07**	**149**	P	**P**	**18 54 54.5**	**+0.6**
	comp=Z,0.2nm,0.3s,mb3.2,baz=2.8,slow=6.1,SNR=4.3						
VRAC	**Vranov**	**27.35**	**168**	P	**P**	**18 54 56.6**	**+0.2**
	comp=Z,1.9nm,0.5s,mb3.9,baz=355,slow=11,SNR=2.3						
VRAC				LR	LR	19 06 27.6	
	comp=Z,46nm,18.5s,MS3.1,baz=235,slow=38						
GERES	**GERESS Array B**	**27.69**	**172**	P	**P**	**18 55 00.1**	**+0.6**
	comp=Z,0.2nm,0.7s,mb2.9,baz=144,slow=39,SNR=5.2						
TIXI	**Tiksi**	**28.06**	**35**	*eP*	**P**	**18 55 04.8**	**+2.3**
	comp=Z,2.8nm,1.0s,mb3.9						
TIXI	**Tiksi**	**28.06**	**35**	*eP*	**P**	**18 55 04.8**	**+2.3**
	comp=Z,2.8nm,1.0s,mb3.9						
AKTK	**Aktyubinsk**	**32.42**	**114**	P	**P**	**18 55 41.4**	**+0.1**
AKTK	**Aktyubinsk**	**32.42**	**114**	P	**P**	**18 55 41.4**	**+0.1**
AKTO	**Aktyubinsk**	**32.42**	**114**	P	**P**	**18 55 41.4**	**+0.1**
	comp=Z,0.4nm,0.6s,mb3.5,baz=92,slow=9.8,SNR=2.6						
INK	**Inuvik**	**33.63**	**335**	*eP*	**P**	**18 55 50.9**	**-0.8**
INK	**Inuvik**	**33.63**	**335**	P	**P**	**18 55 51.2**	**-0.5**
	comp=Z,2.4nm,0.8s,mb4.2,baz=19,slow=10,SNR=7.7						
INK	**Inuvik**	**33.63**	**335**	*eP*	**P**	**18 55 50.9**	**-0.8**
ZALV	**Zalesovo Beam**	**35.40**	**84**	P	**P**	**18 56 08.8**	**+1.7**
	comp=Z,1.0nm,0.8s,mb3.8,baz=329,slow=7.6,SNR=4.3						
ZALV				PcP	PcP	18 58 37.2	+0.6
	comp=Z,0.5nm,0.6s,baz=323,slow=2.2,SNR=3.6						
YKA	**Yellowknife Ar**	**36.77**	**319**	P	**P**	**18 56 18.0**	**-0.8**
YKA				PcP	PcP	18 58 39.0	-1.5
YKA	**Yellowknife Ar**	**36.77**	**319**	P	**P**	**18 56 18.0**	**-0.8**
	comp=Z,0.2nm,0.7s,mb3.0,baz=33,slow=10,SNR=4.5						
YKA				PcP	PcP	18 58 39.0	-1.5
	comp=Z,0.1nm,0.3s,baz=13,slow=3.3,SNR=5.3						
YKA	**Yellowknife Ar**	**36.77**	**319**	PcP	PcP	18 58 39.0	-1.5
ESDC	**Sonseca Array**	**37.13**	**195**	P	**P**	**18 56 21.6**	**-0.4**
	comp=Z,0.1nm,0.3s,mb3.1,baz=355,slow=7.9,SNR=3.3						
MK31	**Makanchi Array**	**41.45**	**91**	*eP*	**P**	**18 56 58.9**	**+1.0**
MK31	**Makanchi Array**	**41.45**	**91**	*eP*	**P**	**18 56 58.9**	**+0.9**
MKAR	**Makanchi Array**	**41.45**	**91**	P	**P**	**18 56 59.0**	**+1.0**
	comp=Z,0.6nm,0.6s,mb3.4,baz=356,slow=7.1,SNR=11						
SONM	**Songino Array**	**46.05**	**68**	P	**P**	**18 57 37.2**	**+2.2**
	comp=Z,0.5nm,0.9s,mb3.4,baz=326,slow=7.4,SNR=4.7						
ULN	**Ulaanbaatar**	**46.17**	**67**	*eP*	**P**	**18 57 37.9**	**+1.9**
ULN	**Ulaanbaatar**	**46.17**	**67**	*eP*	**P**	**18 57 37.8**	**+1.9**
IMW	**Indian Meadow**	**53.96**	**308**	*eP*	**P**	**18 58 35.5**	**+0.4**
	comp=Z,4.4nm,0.8s,mb4.4						
IMW	**Indian Meadow**	**53.96**	**308**	*eP*	**P**	**18 58 35.5**	**+0.4**
	comp=Z,4.4nm,0.8s,mb4.4						
PDAR	**Pinedale Array**	**54.80**	**307**	P	**P**	**18 58 40.5**	**-0.6**
	comp=Z,0.8nm,1.0s,mb3.7,baz=35,slow=5.4,SNR=4.2						
PDAR				LR	LR	19 22 19.7	
	comp=Z,95nm,20.5s,MS3.9,baz=214,slow=36						
PDAR	**Pinedale Array**	**54.80**	**307**	P	**P**	**18 58 40.5**	**-0.6**
KSRS	**Korea Array**	**60.44**	**52**	P	**P**	**18 59 21.1**	**+0.2**
	comp=Z,0.6nm,0.8s,mb3.7,baz=356,slow=9.3,SNR=4.0						
MJAR	**Matsushiro Arr**	**63.14**	**43**	P	**P**	**18 59 40.0**	**+0.8**
	comp=Z,1.5nm,1.0s,mb4.1,baz=335,slow=7.6,SNR=5.5						
TORD	**Torodi Ar. Bea**	**63.27**	**187**	P	**P**	**18 59 39.3**	**-0.9**
	comp=Z,1.8nm,1.1s,mb4.1,baz=359,slow=5.1,SNR=7.0						
TXAR	**Lajitas Array**	**66.59**	**298**	P	**P**	**19 00 01.0**	**-0.7**
	comp=Z,0.3nm,0.7s,mb3.4,baz=0.0,slow=2.5,SNR=3.8						
TXAR				LR	LR	19 31 00.5	
	comp=Z,66nm,18.3s,MS3.9,baz=5.0,slow=38						
ASAR	**Alice Springs**	**121.06**	**60**	PKP	PKPdf	19 08 02.4	-1.4
	comp=Z,0.2nm,0.5s,baz=14,slow=1.3,SNR=4.9						
ASAR	**Alice Springs**	**121.06**	**60**	PKIKP	PKPdf	19 08 02.3	-1.4

*CSEM **08** 18:51:15.4±0.6, 3720N×2456W, h0km, MD4.1, Error ellipse: s-maj=4.6km s-min=2.4km az=99.0, After PDA*
*PDA **08** 18:51:15.4±0.6, 3720N×2456W, h0km, MD4.1, Error ellipse: s-maj=4.6km s-min=2.4km az=99.0*

SVSA 08 18:51:15.4±0.6, 3720N×2456W, h0km, MD4.1, Error ellipse: s-maj=4.6km s-min=2.4km az=99.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSMN	**Pico do Norte,**	**0.45**	**245**	*eP*	Pg	18 51 23.6	-0.5
PSMN				*eS*	Sg	18 51 30.2	+0.3
PDA	**Ponta Delgada**	**1.04**	**302**	*eS*	Sg	18 51 45.0	-3.7
PID	**Ribeirinha**	**3.08**	**295**	*eP*	Pn	18 52 00.7	-4.6
PID				*eS*	Sn	18 52 34.9	-8.0
PMAN	**Manadas**	**3.14**	**298**	*eP*	Pn	18 52 01.7	-4.4
ROSA	**Rosais**	**3.29**	**299**	*eP*	Pn	18 52 03.5	-4.6
PICO	**Pico**	**3.33**	**294**	*eP*	Pn	18 52 04.5	-4.2
PICO				*eS*	Sn	18 52 40.3	-8.6
HOR	**Horta**	**3.49**	**294**	*eP*	Pn	18 52 06.4	-4.5
CALA	**Caldeira**	**3.56**	**294**	*eP*	Pn	18 52 07.3	-4.5
CALA				*eS*	Sn	18 52 46.6	-8.0

*ISCJB **08** 18:52:25.1±4.6, 179S±03×1784W±02, h645km±60km, mb3.5/5, Error ellipse: s-maj=50.9km s-min=22.2km az=159.6*
*NEIC **08** 18:52:26.8±0.6, 1789S×17837W, h650km, mb3.7/1, Error ellipse: s-maj=33.2km s-min=16.3km az=155.0*
*IDC **08** 18:52:26.9±3.7, 1797S×17836W, h650km±46km, mb3.0/4, mb1 3.4/4, mb1mx3.0/14, mbtmp3.0/4, Error ellipse: s-maj=110.8km s-min=16.9km az=157.0*

ISC 08 18:52:26.6±4.5, 179S±03×1784W±02, h644km±56km, n11, σ0§55/8, mb3.5/5, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WB2	**Warramunga Arr**	**44.66**	**259**	*eP*	**P**	**18 59 44.7**	**-0.1**
WRA	**Warramunga Arr**	**44.67**	**259**	P	**P**	**18 59 44.4**	**-0.4**
	0.5nm,0.4s,mb3.2,baz=95,slow=7.3,SNR=9.9						
ASAR	**Alice Springs**	**44.83**	**254**	P	**P**	**18 59 46.5**	**+0.5**
	1.9nm,0.6s,mb3.6,baz=90,slow=8.0,SNR=14						
ASAR				PcP	PcP	19 01 13.2	-0.2
	0.5nm,0.6s,baz=104,slow=4.0,SNR=6.5						
ASAR				S	**S**	**19 05 38.9**	**0.0**
	0.4nm,0.7s,baz=91,slow=15,SNR=4.7						
QSPA	**South Pole Qui**	**72.18**	**180**	*eP*	**P**	**19 02 47.5**	**-0.1**
	1.1nm,0.5s,mb3.5						
TXAR	**Lajitas Array**	**85.95**	**58**	P	**P**	**19 04 01.3**	**+0.5**
TXAR	**Lajitas Array**	**85.95**	**58**	P	**P**	**19 04 01.3**	**+0.5**
	1.1nm,0.7s,mb3.6,baz=219,slow=6.3,SNR=14						
PDAR	**Pinedale Array**	**87.30**	**43**	P	**P**	**19 04 06.3**	**-0.5**
	0.6nm,0.7s,mb3.4,baz=223,slow=3.9,SNR=5.5						
CLL	**Collm**	**145.43**	**347**	*e*PKPbc	PKPbc	19 10 54.0	-0.2
MMAI	**Mount Meron Ar**	**146.15**	**303**	PKPbc	PKPbc	19 10 56.9	0.0
	1.6nm,0.5s,baz=62,slow=7.1,SNR=6.5						
GERES	**GERESS Array B**	**147.58**	**345**	PKPbc	PKPbc	19 11 00.1	0.0
	0.7nm,0.5s,baz=20,slow=2.9,SNR=10						
DAVOX	**Davos/Dischmat**	**150.37**	**348**	PKPbc	PKPbc	19 11 06.6	-0.2
	2.2nm,0.7s,baz=292,slow=11,SNR=5.4						

*IDC **08** 18:59:11.7±1.0, 3946N×7689E, h0km, mb3.4/6, mb1 3.6/8, mb1mx3.4/20, mbtmp3.4/8, ML3.1/2, MS3.5/3, Ms1 3.6/3, ms1mx3.0/34, Error ellipse: s-maj=25.2km s-min=17.9km az=123.0*
*NNC **08** 18:59:11.7±3.3, 3939N×77.11E, h0km, mb4.0, mpv3.7, Error ellipse: s-maj=33.6km s-min=19.6km az=15.0*
*ISCJB **08** 18:59:12.0±1.3, 3941N±002×7725E±005, h5km±9km, mb3.4/8, MS3.5/3, Error ellipse: s-maj=7.1km s-min=4.2km az=179.6*
*BJI **08** 18:59:14.3, 3947N×77.13E, h16km, mB4.7, mb3.8, ML4.2, Ms3.9, Msz3.7*
*NEIC **08** 18:59:18.1±1.2, 3949N×7699E, h45km±12km, Error ellipse: s-maj=14.5km s-min=10.1km az=143.0*

ISC 08 18:59:13.6±1.4, 3941N±002×7717E±006, h2km±10km, n50, σ1§33/59, mb3.4/8, MS3.5/3, 14C-3D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**0.93**	**277**	⇑*iP*G	**Pg**	**18 59 30.1**	**-1.4**
KSH				SG	**Sg**	**18 59 43.4**	**-0.2**
KSH				Smax			
	comp=N,6μm,0.4s						
KSH				Smax			
	comp=E,10μm,0.5s						
ULHL	**Ulahol**	**2.92**	**346**	P	**Pn**	**19 00 02.8**	**+1.7**
	SNR=67						
KZA	**Kyzart**	**3.04**	**332**	P	**Pn**	**19 00 04.0**	**+1.3**
	SNR=34						
UCH	**Uchtor**	**3.46**	**325**	*e*Pn	**Pn**	**19 00 08.9**	**+0.4**
UCH				*e*Sg	**Sn**	**19 00 53.2**	**+3.1**
UCH	**Uchtor**	**3.46**	**325**	P	**Pn**	**19 00 08.9**	**+0.4**
	SNR=28						
KBK	**Karagaybulak**	**3.65**	**333**	P	**Pn**	**19 00 12.4**	**+1.2**
	SNR=26						
TKM2	**Tokmak 2**	**3.70**	**342**	⇑Pn	**Pn**	**19 00 13.3**	**+1.5**
	comp=E,51nm,0.5s,baz=123,slow=28						
TKM2				⇓Sn	**Sn**	**19 01 00.1**	**+4.0**
	comp=E,145nm,0.5s,baz=123,slow=28						
TKM2	**Tokmak 2**	**3.70**	**342**	*e*P	**Pn**	**19 00 13.1**	**+1.3**
TKM2	**Tokmak 2**	**3.70**	**342**	P	**Pn**	**19 00 13.4**	**+1.5**
	SNR=43						
AML	**Almayashu**	**3.79**	**317**	*e*Pn	**Pn**	**19 00 12.3**	**-0.7**
AML	**Almayashu**	**3.79**	**317**	P	**Pn**	**19 00 12.6**	**-0.5**
	SNR=24						
AAK	**Ala-Archa**	**3.80**	**329**	P	**Pn**	**19 00 14.1**	**+0.8**
	SNR=15						
KNDC	**Almaty**	**3.81**	**358**	⇑Pn	**Pn**	**19 00 12.2**	**-1.1**
	comp=E,85nm,0.5s,baz=123,slow=28						
KNDC				⇑Lg		19 01 09.2	
	comp=E,275nm,0.8s,baz=123,slow=28						
CHMS	**Chumysh**	**4.02**	**334**	P	**Pn**	**19 00 17.3**	**+1.1**
	SNR=5.7						
USP	**Ospenovka**	**4.34**	**333**	P	**Pn**	**19 00 21.8**	**+1.1**
	SNR=14						
KK31	**Karatay Array**	**6.23**	**308**	⇑Pn	**Pn**	**19 00 43.7**	**-2.9**
	comp=E,0.4nm,0.4s,baz=129,slow=13						
KK31				⇑Lg		19 02 21.5	
	comp=E,52nm,0.7s,baz=123,slow=28						
DLH	**Dalhousie**	**6.92**	**188**	*e*P	**Pn**	**19 00 59.0**	**+2.8**
DLH				*e*S	**Sn**	**19 02 17.0**	**+1.5**
THN	**Thein Dam**	**7.06**	**190**	*e*P	**Pn**	**19 01 00.6**	**+2.5**
THN				*e*S	**Sn**	**19 02 25.5**	**+6.6**
KLP	**Kalpa**	**7.91**	**173**	*e*P	**Pn**	**19 01 13.0**	**+3.3**
KLP				*e*S	**Sn**	**19 02 42.3**	**+2.5**
KLP				AML	AML	19 02 46.2	
	comp=N,19nm,0.3s						
KLP				AML	AML	19 02 53.7	
	comp=E,80nm,0.7s						
KBL	**Kabul**	**8.12**	**236**	*e*P	**Pn**	**19 01 11.9**	**-0.6**
	comp=E,6.2nm,0.6s						
MK31	**Makanchi Array**	**8.27**	**25**	Pn	**Pn**	**19 01 15.9**	**+1.3**
	comp=E,0.1nm,0.2s,baz=123,slow=28,SNR=55						
MK31				⇑Lg		19 03 36.0	
	comp=E,34nm,1.0s,baz=123,slow=28,SNR=4.5						
MK31	**Makanchi Array**	**8.27**	**25**	*e*P	**Pn**	**19 01 14.7**	**0.0**
MKAR	**Makanchi Array**	**8.27**	**25**	Pn	**Pn**	**19 01 14.7**	**+0.1**
	comp=E,0.1nm,0.3s,baz=204,slow=16,SNR=8.9						
MKAR				Sn	**Sn**	**19 02 48.4**	**-0.2**
	comp=E,0.3nm,0.3s,baz=201,slow=27,SNR=2.6						
MKAR				Lg		19 03 35.1	
	comp=E,1.1nm,0.3s,baz=203,slow=27,SNR=5.5						
WMQ	**Urumqi**	**9.03**	**57**	*e*P	**Pn**	**19 01 25.0**	**0.0**
WMQ				S	**Sn**	**19 03 06.5**	**-0.7**
WMQ				Smax			
	comp=N,51nm,1.0s						
WMQ				Smax			
	comp=E,90nm,1.3s						
JOSI	**Joshimath**	**9.05**	**167**	*e*P	**Pn**	**19 01 28.8**	**+3.5**
JOSI				*e*S	**Sn**	**19 03 06.5**	**-1.3**
JOSI				AML	AML	19 03 12.0	
	comp=E,29nm,0.3s						
JOSI				AML	AML	19 03 16.8	
	comp=N,77nm,0.4s						
SONA	**Sohna**	**11.13**	**180**	*e*S	**Sn**	**19 03 56.6**	**-2.3**
SONA				AML	AML	19 03 58.0	
	comp=N,8.8nm,0.5s						
KUDL	**Kundal**	**11.25**	**183**	*e*P	**Pn**	**19 01 54.5**	**-1.1**
KUDL				*e*S	**Sn**	**19 03 54.2**	**-7.7**
KUDL				AML	AML	19 04 02.2	
	comp=E,10nm,0.6s						
KUDL				AML	AML	19 04 06.8	
	comp=N,4.2nm,0.5s						
KURK	**Kurchatov**	**11.35**	**5**	⇑Lg		19 05 11.3	
	comp=N,32nm,1.3s,baz=123,slow=28						
KOLN	**Koldanda**	**12.78**	**153**	*e*P	**Pn**	**19 02 16.4**	**0.0**
	comp=N,3.1nm,0.2s						
KOLN				*e*S	**Sn**	**19 04 34.3**	**-5.0**
GKN	**Gorkha**	**12.96**	**149**	*e*P	**Pn**	**19 02 18.8**	**0.0**
	comp=N,6.6nm,0.4s						
KKN	**Kakani**	**13.41**	**147**	*e*P	**Pn**	**19 02 25.1**	**+0.1**
	comp=N,5.3nm,0.6s						
VOSK	**Vostochnaya**	**13.98**	**344**	⇑Pn	**Pn**	**19 02 32.0**	**-0.6**
	comp=N,6.0nm,1.7s,baz=123,slow=28						
VOSK				⇑Lg		19 06 32.2	
	comp=N,33nm,1.4s,baz=123,slow=28						
BVA0	**Borovoye Array**	**14.39**	**343**	⇑Pn	**Pn**	**19 02 39.3**	**+1.1**
	comp=N,1.1nm,1.5s,baz=123,slow=28,SNR=15						
BVA0				⇓Lg		19 06 51.4	
	comp=N,6.7nm,1.9s,baz=123,slow=28,SNR=6.8						
BRVK	**Borovoye**	**14.45**	**343**	*e*P	**Pn**	**19 02 37.4**	**-1.6**
	comp=N,6.4nm,1.0s						
ZRNK	**Zerenda**	**14.66**	**340**	⇑Pn	**Pn**	**19 02 41.1**	**-0.9**
	comp=N,3.9nm,1.2s,baz=123,slow=28						
ZRNK				⇑Lg		19 06 56.9	
	comp=N,43nm,1.9s,baz=123,slow=28						
CHKZ	**Chkalovo**	**14.95**	**345**	⇑Pn	**Pn**	**19 02 45.1**	**-0.8**
	comp=N,6.7nm,2.2s,baz=123,slow=28						
CHKZ				⇓Lg		19 07 04.5	
	comp=N,29nm,1.8s,baz=123,slow=28						
ZALV	**Zalesovo Beam**	**15.45**	**17**	Pn	**Pn**	**19 02 51.5**	**-0.9**
	comp=N,0.3nm,0.3s,baz=209,slow=12,SNR=6.0						
ZALV				Lg		19 07 22.9	
	baz=180,slow=31,SNR=2.8						
GTA	**Gaotai**	**17.50**	**83**	*e*P	**Pn**	**19 03 18.7**	**0.0**
GTA				AP	pP	19 03 22.3	+1.9
GTA				XP	sP	19 03 25.2	+4.6
GTA				S	**Sn**	**19 06 29.0**	**-5.0**
GTA				AMB	AMB		
	comp=Z,3.0nm,0.8s						
GTA				LR	LR		
	comp=N,205nm,9.6s						
GTA				LR	LR		
	comp=E,103nm,9.9s						
GTA				LR	LR		
	comp=Z,88nm,10.7s						
LZH	**Lanzhou**	**21.32**	**91**	*e*P	**P**	**19 04 08.5**	**+6.6**
LZH				AP		19 04 12.1	
LZH				XP	sP	19 04 14.0	+12
LZH				AMB	AMB		
	comp=Z,15nm,1.0s,mb4.3						
SONM	**Songino Array**	**22.66**	**59**	P	**P**	**19 04 17.2**	**+1.1**
	comp=Z,0.3nm,0.6s,mb2.9,baz=256,slow=9.7,SNR=2.9						
FINES	**FINESS Array B**	**37.97**	**323**	P	**P**	**19 06 29.1**	**-3.3**
	comp=Z,2.5nm,1.1s,mb3.9,baz=115,slow=9.4,SNR=3.5						
NOA	**NORSAR Array B**	**45.09**	**321**	LR	LR	19 26 40.7	
	comp=Z,37nm,19.0s,MS3.3,baz=175,slow=37						
GERES	**GERESS Array B**	**45.31**	**304**	P	**P**	**19 07 31.3**	**-1.4**
	comp=Z,0.1nm,0.4s,mb3.0,baz=71,slow=6.3,SNR=2.4						
GERES				LR	LR	19 28 49.8	
	comp=Z,47nm,18.5s,MS3.5,baz=84,slow=39						
ESDC	**Sonseca Array**	**60.38**	**299**	LR	LR	19 37 39.8	
	comp=Z,57nm,18.3s,MS3.8,baz=195,slow=38						
TORD	**Torodi Ar. Bea**	**70.60**	**271**	P	**P**	**19 10 27.2**	**-3.6**
TORD	**Torodi Ar. Bea**	**70.60**	**271**	P	**P**	**19 10 27.2**	**-3.6**
	comp=Z,0.3nm,0.7s,mb3.4,baz=61,slow=4.0,SNR=5.8						
YKA	**Yellowknife Ar**	**78.00**	**6**	P	**P**	**19 11 10.2**	**-2.9**
YKA	**Yellowknife Ar**	**78.00**	**6**	P	**P**	**19 11 10.2**	**-2.9**
	comp=Z,0.2nm,0.5s,mb3.4,baz=350,slow=5.5,SNR=4.8						
WRA	**Warramunga Arr**	**79.59**	**127**	P	**P**	**19 11 21.6**	**-0.8**
	comp=Z,1.2nm,1.3s,mb3.7,baz=330,slow=4.7,SNR=3.1						
ASAR	**Alice Springs**	**82.11**	**129**	P	**P**	**19 11 36.0**	**+0.1**
	comp=Z,0.2nm,0.8s,mb3.1,baz=318,slow=5.4,SNR=3.9						

*BJI **08** 19:21:05.9, 3975N×7698E, h17km, ML3.5*
*NNC **08** 19:21:06.0±3.9, 3958N×7673E, h0km, mb3.7, mpv3.4, Error ellipse: s-maj=33.9km s-min=22.6km az=127.0*
*ISCJB **08** 19:21:07.2±0.8, 3953N±005×7697E±008, h10km, Error ellipse: s-maj=8.9km s-min=6.9km az=20.8*

ISC 08 19:21:09.8±0.9, 3961N±005×7686E±008, h10km, n15, σ1§32/18, 7C-3D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**0.69**	**262**	⇑*iP*G	**Pg**	**19 21 20.8**	**-2.4**
KSH				SG	**Sg**	**19 21 33.6**	**+1.4**
KSH				Smax			
	comp=N,2μm,0.8s						
KSH				Smax			
	comp=E,4μm,0.5s						
ULHL	**Ulahol**	**2.67**	**350**	P	**Pn**	**19 21 53.4**	**+0.6**
	SNR=18	

BFZ SN Sx 19 28 03.4
MRZ Mangatainoka R 9.68 201 *e*P **Pn 19 26 23.2 -0.3**
MRZ Mangatainoka R 9.68 201 PN **Pn 19 26 21.2 -2.3**
TIWZ Tintock 9.70 199 PN **Pn 19 26 25.4 +1.7**
KIW Kapiti Island 10.07 203 P **Pn 19 26 28.6 +0.2**
KIW Kapiti Island 10.07 203 PN **Pn 19 26 28.6 +0.2**
MTW Mount Morrison 10.16 200 P **Pn 19 26 29.3 -0.1**
MTW Mount Morrison 10.16 200 PN **Pn 19 26 29.3 -0.2**
TCW Tory Channel 10.60 204 P **Pn 19 26 34.7 -0.2**
TCW Tory Channel 10.60 204 PN **Pn 19 26 34.7 -0.1**
TUWZ Tuamarina 10.91 205 PN **Pn 19 26 38.0 -0.6**
NNZ Nelson 10.94 208 *e*P **Pn 19 26 38.1 -0.9**
NNZ S Sx 19 28 33.3
NNZ Nelson 10.94 208 PN **Pn 19 26 38.7 -0.3**
NNZ SN Sx 19 28 33.3
QRZ Quartz Range 10.97 211 *e*P **Pn 19 26 40.1 +0.7**
QRZ Quartz Range 10.97 211 PN **Pn 19 26 40.1 +0.6**
THZ Tophouse 11.59 208 *e*P **Pn 19 26 45.9 -1.1**
THZ S Sx 19 28 48.4
THZ Tophouse 11.59 208 PN **Pn 19 26 45.9 -1.1**
THZ SN Sx 19 28 48.4
KHZ Kahutara 11.92 204 *e*P **Pn 19 26 51.1 +0.1**
KHZ Kahutara 11.92 204 PN **Pn 19 26 51.1 +0.1**
DSZ Denniston Nort 12.04 211 *e*P **Pn 19 26 51.3 -1.1**
DSZ Denniston Nort 12.04 211 PN **Pn 19 26 52.8 +0.4**
JCZ Jackson Bay 15.25 212 *e*P **Pn 19 27 28.9 -1.8**
CTA Charters Tower 32.40 283 P **P 19 30 13.2 +1.0**
4.1nm,0.9s,mb4.0,baz=42,slow=17,SNR=5.0
CTAO Charters Tower 32.40 283 *e*P **P 19 30 13.1 +0.9**
STKA Stephens Creek 32.59 259 *e*P **P 19 30 14.9 +1.1**
STKA Stephens Creek 32.59 259 P **P 19 30 14.8 +1.1**
0.8nm,0.4s,mb3.6,baz=121,slow=14,SNR=4.5
ASAR Alice Springs 41.40 269 P **P 19 31 26.9 -0.7**
0.4nm,0.5s,mb3.0,baz=109,slow=7.6,SNR=13
WRA Warramunga Arr 42.51 275 P **P 19 31 35.3 -1.2**
0.8nm,0.6s,mb3.1,baz=111,slow=8.1,SNR=17
QSPA South Pole Qui 58.45 180 *e*P **P 19 33 34.8 +0.7**
MKAR Makanchi Array 117.31 310 PKP PKPdf 19 42 16.3 -3.0
0.1nm,0.5s,baz=48,slow=2.1,SNR=3.6
ARCES ARCESS Array B 139.45 347 PKhKP 19 42 51.8
4.5nm,1.1s,baz=37,slow=1.7,SNR=5.1
KAF Kangasniemi 145.15 339 *e*pkp PKPdf 19 43 08.5 -2.4
baz=42,slow=2.9
FINES FINESS Array B 145.72 338 PKPbc PKPbc 19 43 11.0 -2.0
2.3nm,0.3s,baz=48,slow=4.4,SNR=52
NB2 NORSAR Subarra149.71 349 PKP PKPbc 19 43 21.4 -2.1
comp=Z,2.2nm,1.0s,baz=17,slow=2.6
NOA NORSAR Array B 149.71 349 PKPbc PKPbc 19 43 22.1 -1.4
comp=Z,0.5nm,0.4s,baz=17,slow=4.2,SNR=2.7
NOA PKPab PKPab 19 43 28.4 -1.5
comp=Z,1.2nm,0.7s,baz=18,slow=5.2,SNR=4.2
HFS Hagfors 150.11 346 PKPbc PKPbc 19 43 22.3 -2.2
comp=Z,1.1nm,0.4s,baz=64,slow=3.4,SNR=7.2
HFS PKPab PKPab 19 43 29.6 -2.0
comp=Z,2.3nm,0.6s,baz=72,slow=4.8,SNR=12
AKASG Malin Array Be 151.24 320 PKPbc PKPbc 19 43 25.1 -2.4
comp=Z,0.3nm,0.3s,baz=101,slow=2.0,SNR=5.7

IDC 08 19:30:02.6±1.4,782S×15634E,h0km,mb3.6/3,mb1 3.7/4, mb1mx3.5/14,mbtmp3.7/4,ML4.0/1,MS3.1/1,Ms1 3.1/1, ms1mx2.5/25,Error ellipse: s-maj=40.8km s-min=27.3km az=24.0,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**3.91**	**114**	Pn	Pn	19 31 03.3	-0.7
	10nm,0.3s,baz=253,slow=3.1,SNR=8.8						
HNR				Sn	Sn	19 31 52.2	+1.6
	11nm,0.3s,baz=81,slow=18,SNR=3.5						
CTA	**Charters Tower**	**15.63**	**218**	LR	LR	19 38 55.8	
	comp=Z,63nm,18.9s,baz=50,slow=34						
WRA	**Warramunga Arr**	**24.48**	**238**	P	P	19 35 23.8	+0.1
	0.8nm,0.6s,baz=64,slow=9.4,SNR=9.1						
SONM	**Songino Array**	**70.75**	**327**	P	P	19 41 20.4	-0.2
	0.4nm,0.5s,baz=144,slow=6.0,SNR=6.3						
MKAR	**Makanchi Array**	**84.90**	**318**	P	P	19 42 40.5	+1.0
	0.4nm,0.7s,baz=104,slow=6.5,SNR=4.1						

*ISCJB **08** 19:30:09.6±0.2,4834N±001×659E±001,h5km±2km,Error ellipse: s-maj=2.0km s-min=1.5km az=170.5*
*CSEM **08** 19:30:12.4±0.0,4833N×665E,h10km,ML3.2/30,Error ellipse: s-maj=0.9km s-min=0.6km az=161.0*
*LEDBW **08** 19:30:12.9±0.2,4833N±002×6660E±0009,h10km,ML2.9, Error ellipse: s-maj=6.0km s-min=4.0km az=7.0*
*STR **08** 19:30:12.1±0.1,4835N×667E,h10km,Ml2.9,Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
*NEIC **08** 19:30:12.1,4835N×667E,h10km,ML3.1(LDG), ML2.9(STR),ML2.8(SZGRF),After STR.*
*LDG **08** 19:30:12.8±0.1,4833N×664E,h10km,Md3.4/4,Ml3.1/31, Error ellipse: s-maj=1.2km s-min=0.9km az=167.0*
*BGR **08** 19:30:13.2±0.2,4840N×673E,h10km,ML3.0/11,Error ellipse: s-maj=6.7km s-min=4.4km az=95.0*
*ZUR **08** 19:30:13.2,4837N×670E,h10km,ML2.8/5*
*PRU **08** 19:30:16.5,4831N×703E,h0km*
ISC 08 19:30:11.3±0.2,4834N±001×662E±001,h14km±1km,n177, σ1⇕20/371,5C-13D,France

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HAU	**Haudompre**	**0.38**	**209**	*e*Pg	**Pg**	**19 30 20.4**	**+1.5**
	SNR=1.0						
HAU				*e*Sg	**Sg**	**19 30 24.9**	**+0.9**
	329nm,0.5s						
HAU	**Haudompre**	**0.38**	**209**	*e*Pg	**Pg**	**19 30 20.4**	**+1.5**
	SNR=1.0						
HAU				*e*Sg	**Sg**	**19 30 24.9**	**+0.9**
	164nm,0.5s						
ECH	**Echery**	**0.38**	**108**	⇑*i*P*	**Pg**	**19 30 19.8**	**+0.9**
ECH				*i* S*	**Sg**	**19 30 24.6**	**+0.6**
ECH	**Echery**	**0.38**	**108**	⇑*i*Pg	**Pg**	**19 30 19.8**	**+0.9**
ECH				*i* Sg	**Sg**	**19 30 24.6**	**+0.6**
ECH	**Echery**	**0.38**	**108**	Pg	**Pg**	**19 30 19.6**	**+0.7**
ECH				Sg	**Sg**	**19 30 24.4**	**+0.3**
THEF	**They Montfort**	**0.44**	**256**	Pg	**Pg**	**19 30 21.4**	**+1.4**
THEF				Sg	**Sg**	**19 30 27.7**	**+1.9**
THEF	**They Montfort**	**0.44**	**256**	⇑*i*Pg	**Pg**	**19 30 21.5**	**+1.6**
CDF	**Champ du Feu**	**0.44**	**80**	*e*Pg	**Pg**	**19 30 20.8**	**+0.7**
	SNR=1.0						
CDF				*e*Sg	**Sg**	**19 30 26.3**	**+0.2**
CDF				*e*Sn	**Sg**	**19 30 29.7**	**+3.6**
	131nm,0.2s						
CDF	**Champ du Feu**	**0.44**	**80**	*e*Pg	**Pg**	**19 30 20.8**	**+0.7**
	SNR=1.0						
CDF				*e*Sg	**Sg**	**19 30 26.3**	**+0.2**
CDF				*e*Sn	**Sg**	**19 30 29.7**	**+3.6**
	66nm,0.2s						
HINF	**Hinteralfeld**	**0.54**	**163**	*e*Pg	**Pg**	**19 30 22.9**	**+0.9**
	SNR=1.0						
HINF				*e*Sg	**Sg**	**19 30 29.7**	**+0.5**
	192nm,0.2s						
HINF				*e*Sn	**Sg**	**19 30 33.0**	**+3.8**
HINF	**Hinteralfeld**	**0.54**	**163**	*e*Pg	**Pg**	**19 30 22.9**	**+0.9**
	SNR=1.0						
HINF				*e*Sg	**Sg**	**19 30 29.7**	**+0.5**
	96nm,0.2s						
HINF				*e*Sn	**Sg**	**19 30 33.0**	**+3.8**
MOF	**Molkenrain**	**0.60**	**144**	⇓*i*P*	**Pb**	**19 30 23.9**	**+0.4**
MOF				PmP		19 30 25.4	
MOF	**Molkenrain**	**0.60**	**144**	Pg	**Pg**	**19 30 23.8**	**+0.9**
RFYF	**Reffroy**	**0.82**	**291**	*e*Pg	**Pg**	**19 30 29.1**	**+2.0**
	baz=115						
RFYF				*e*Sn	**Sn**	**19 30 40.6**	**+0.4**
	269nm,0.2s,baz=118						
RFYF	**Reffroy**	**0.82**	**291**	*e*Pg	**Pg**	**19 30 29.1**	**+2.0**
RFYF				*e*Sn	**Sn**	**19 30 40.6**	**+0.4**
	135nm,0.2s						
FBB	**Freiburg im Br**	**0.89**	**112**	P	**Pb**	**19 30 29.5**	**+1.0**
FBB	**Freiburg im Br**	**0.89**	**112**	Px	**Pb**	**19 30 29.5**	**+1.0**
OFBG	**Offenburg**	**0.91**	**83**	P	**Pb**	**19 30 30.0**	**+1.2**
KIZ	**Kirchzarten**	**0.95**	**113**	⇓*e*Pn	**Pn**	**19 30 30.0**	**-0.1**
KIZ				Sg	**Sg**	**19 30 42.8**	**+0.8**
KIZ	**Kirchzarten**	**0.95**	**113**	⇓*e*Pn	**Pn**	**19 30 30.0**	**-0.1**
KIZ				S	**Sg**	**19 30 42.8**	**+0.8**
ENDD	**Endenburg**	**0.98**	**129**	P	**Pb**	**19 30 30.9**	**+1.0**
ENDD				*i* S	**Sb**	**19 30 43.2**	**+0.6**
LOMF	**Lomont**	**1.00**	**172**	Pg	**Pg**	**19 30 31.8**	**+1.3**
LOMF				Sg	**Sg**	**19 30 44.6**	**+1.1**
LOMF	**Lomont**	**1.00**	**172**	⇓*e*Pn	**Pn**	**19 30 31.0**	**+0.2**
LANF	**Langenberg**	**1.02**	**50**	Pg	**Pg**	**19 30 31.1**	**+0.2**
LANF				Sg	**Sg**	**19 30 44.2**	**0.0**
LANF	**Langenberg**	**1.02**	**50**	⇓*e*P	**Pb**	**19 30 31.3**	**+0.6**
LOES	**Loerrach-Stett**	**1.02**	**136**	P	**Pb**	**19 30 31.9**	**+1.3**
BOURR	**Bourrignon**	**1.03**	**156**	*e*Pg	**Pg**	**19 30 32.4**	**+1.2**
	SNR=24						
BOURR	**Bourrignon**	**1.03**	**156**	⇓*i*Pn	**Pn**	**19 30 32.3**	**+1.0**
	540nm,0.7s						
BOURR				*e*Sn	**Sn**	**19 30 45.9**	**+0.4**
	540nm,0.7s						
FELD	**Feldberg im Sc**	**1.04**	**116**	⇓*e*Pn	**Pn**	**19 30 31.5**	**+0.1**
FELD	**Feldberg im Sc**	**1.04**	**116**	⇓*e*Pn	**Pn**	**19 30 31.5**	**+0.1**
FELD				S	**Sb**	**19 30 45.4**	**+1.0**
FELD	**Feldberg im Sc**	**1.04**	**116**	Pg	**Pn**	**19 30 31.5**	**+0.1**
FELD				Sg	**Sg**	**19 30 45.0**	**+0.2**
MEZF	**Maizieres J'vi**	**1.06**	**280**	*e*Pg	**Pg**	**19 30 32.8**	**+1.1**
	baz=102						
MEZF				*e*Sg	**Sg**	**19 30 46.8**	**+1.4**
	85nm,0.2s,SNR=1.0						
MEZF	**Maizieres J'vi**	**1.06**	**280**	*e*Pg	**Pg**	**19 30 32.8**	**+1.1**
MEZF				*e*Sg	**Sg**	**19 30 46.8**	**+1.4**
	42nm,0.2s,SNR=1.0						
SFTF	**Sexfontaines**	**1.06**	**263**	*e*Pn	**Pn**	**19 30 32.8**	**+1.1**
	baz=92						
SFTF	**Sexfontaines**	**1.06**	**263**	*e*Pg	**Pg**	**19 30 33.5**	**+1.7**
	baz=93						
SFTF				*e*Sg	**Sg**	**19 30 47.6**	**+1.9**
	88nm,0.2s						
SFTF	**Sexfontaines**	**1.06**	**263**	*e*Pn	**Pn**	**19 30 32.8**	**+1.1**
SFTF				*e*Pg	**Pg**	**19 30 33.5**	**+1.7**
SFTF				*e*Sg	**Sg**	**19 30 47.6**	**+1.9**
SFTF	**Sexfontaines**	**1.06**	**263**	*e*Pg	**Pg**	**19 30 33.5**	**+1.7**
SFTF				*e*Sg	**Sg**	**19 30 47.6**	**+1.9**
	44nm,0.2s						
BFO	**Black Forest**	**1.14**	**90**	*e*Pg	**Pg**	**19 30 32.6**	**-0.6**
	SNR=36						
BFO				*e*Sg	**Sg**	**19 30 46.5**	**-1.7**
	SNR=30						
BFO	**Black Forest**	**1.14**	**90**	*e*Pg	**Pg**	**19 30 33.5**	**+0.2**
BFO				*e*Sg	**Sg**	**19 30 48.3**	**+0.2**
BALST	**Balsthal**	**1.24**	**144**	*e*Pn	**Pn**	**19 30 35.2**	**+1.1**
	SNR=1.3						
BALST				*e*Pg	**Pg**	**19 30 35.8**	**+0.8**
	SNR=10						
BALST				*e*Sg	**Sg**	**19 30 51.1**	**-0.1**
	SNR=30						
BALST	**Balsthal**	**1.24**	**144**	*e*Pn	**Pn**	**19 30 35.0**	**+0.9**
	326nm,0.4s						
SULZ	**Cheisacher**	**1.29**	**128**	*e*Pg	**Pg**	**19 30 36.3**	**+0.2**
	SNR=9.4						
SULZ	**Cheisacher**	**1.29**	**128**	*e*Pn	**Pn**	**19 30 35.5**	**+0.7**
	341nm,0.6s						
WLF	**Walferdange**	**1.36**	**347**	*e*Pg	**Pg**	**19 30 38.6**	**+1.1**
	SNR=19						
WLF				*e*Sg	**Sg**	**19 30 55.5**	**+0.3**
	SNR=30						
WLF	**Walferdange**	**1.36**	**347**	*e*Pn	**Pn**	**19 30 38.5**	**+2.6**
WLF				*e*S	**Sn**	**19 30 56.4**	**+2.7**
WLF	**Walferdange**	**1.36**	**347**	P	**Pn**	**19 30 38.7**	**+2.9**
WLF				S	**Sn**	**19 30 56.4**	**+2.7**
	comp=N,42nm,0.0s						
WLF	**Walferdange**	**1.36**	**347**	*e*Pn	**Pn**	**19 30 38.5**	**+2.6**
WLF	**Walferdange**	**1.36**	**347**	P	**Pn**	**19 30 38.7**	**+2.8**
WLF				S	**Sn**	**19 30 56.4**	**+2.7**
KTD	**Kalmit**	**1.38**	**44**	Pg	**Pg**	**19 30 38.6**	**+0.8**
KTD				Sg	**Sg**	**19 30 56.4**	**+0.7**
SLE	**Schleitheim**	**1.38**	**114**	*e*Pn	**Pn**	**19 30 36.4**	**+0.3**
	SNR=5.1						
SLE				*e*Pg	**Pg**	**19 30 38.6**	**+0.8**
	SNR=77						
SLE	**Schleitheim**	**1.38**	**114**	⇑*i*Pn	**Pn**	**19 30 36.3**	**+0.2**
	comp=N,321nm,0.3s						
RUP	**Ruppelstein**	**1.40**	**12**	*e*Pn	**Pn**	**19 30 37.6**	**+1.3**
	SNR=17						
RUP				Pg	**Pg**	**19 30 38.7**	**+0.6**
RUP	**Ruppelstein**	**1.40**	**12**	P	**Pg**	**19 30 38.7**	**+0.6**
RUP	**Ruppelstein**	**1.40**	**12**	Pg	**Pg**	**19 30 38.4**	**+0.3**
RUP				Sg	**Sg**	**19 30 56.6**	**+0.4**
BRANT	**Les Verrieres**	**1.40**	**184**	⇑*i*Pn	**Pn**	**19 30 38.1**	**+1.7**
	comp=N,182nm,0.7s						
SPAK	**Spaichingen-Ko**	**1.47**	**98**	Pg	**Pg**	**19 30 40.3**	**+0.8**
SPAK	**Spaichingen-Ko**	**1.47**	**98**	Pg	**Pg**	**19 30 40.0**	**+0.5**
LBG	**Lerchenberg**	**1.48**	**76**	⇑*e*Pn	**Pn**	**19 30 37.4**	**-0.1**
LBG				⇓*e*Pg	**Pg**	**19 30 40.4**	**+0.6**
LBG				Sn	**Sn**	**19 30 54.9**	**-1.7**
LBG				Sg	**Sg**	**19 30 59.1**	**0.0**
LBG	**Lerchenberg**	**1.48**	**76**	⇑*e*Pn	**Pn**	**19 30 37.4**	**-0.1**
LBG				Sn	**Sn**	**19 30 54.9**	**-1.7**
LBG	**Lerchenberg**	**1.48**	**76**	⇓*e*P	**Pg**	**19 30 40.4**	**+0.6**
LBG				S	**Sg**	**19 30 59.1**	**0.0**
MSS	**Messtetten**	**1.57**	**95**	⇓*e*P	**Pn**	**19 30 42.2**	**+3.5**
MSS				Sn	**Sn**	**19 30 57.2**	**-1.6**
ZUR	**Degenried**	**1.64**	**126**	*e*Pg	**Pg**	**19 30 43.5**	**+0.7**
	SNR=7.7						
ZUR				*e*Sg	**Sg**	**19 31 04.1**	**+0.1**
	SNR=13						
TUBL	**Tuebingen-Lenn**	**1.65**	**83**	Pg	**Pg**	**19 30 44.1**	**+1.1**
TUBL				Sg	**Sg**	**19 31 04.7**	**+0.3**
ABH	**Alteburg**	**1.66**	**21**	⇑*e*Pg	**Pg**	**19 30 43.4**	**+0.2**
ABH	**Alteburg**	**1.66**	**21**	⇑*e*P	**Pg**	**19 30 43.4**	**+0.2**
ABH	**Alteburg**	**1.66**	**21**	Pg	**Pg**	**19 30 43.2**	**0.0**
GUT	**Gutenstein**	**1.69**	**98**	⇓*e*Pg	**Pg**	**19 30 44.4**	**+0.6**
GUT				Sg	**Sg**	**19 31 05.7**	**+0.1**
SISB	**Singen-Schiene**	**1.70**	**112**	⇓*e*Pg	**Pg**	**19 30 44.8**	**+0.8**
SISB				Sg	**Sg**	**19 31 06.1**	**0.0**
CABF	**La Chapelle**	**1.77**	**192**	*e*Pg	**Pg**	**19 30 46.0**	**+0.9**
	SNR=1.0						
CABF				*e*Sg	**Sg**	**19 31 07.9**	**-0.1**
	comp=N,85nm,0.6s,SNR=1.0						
CABF	**La Chapelle**	**1.77**	**192**	*e*Pn	**Pn**	**19 30 42.2**	**+0.8**
CABF				*e*Pg	**Pg**	**19 30 46.0**	**+0.9**
CABF				*e*Sg	**Sg**	**19 31 07.9**	**-0.1**
CABF	**La Chapelle**	**1.77**	**192**	*e*Pg	**Pg**	**19 30 46.0**	**+0.9**
	SNR=1.0						
CABF				*e*Sg	**Sg**	**19 31 07.9**	**-0.1**
	comp=N,43nm,0.6s,SNR=1.0						
STU	**Stuttgart**	**1.77**	**75**	*e*Pg	**Pg**	**19 30 45.6**	**+0.5**
	SNR=3.1						
STU				*e*Sg	**Sg**	**19 31 07.5**	**-0.5**
	SNR=3.9						
STU	**Stuttgart**	**1.77**	**75**	*e*Pg	**Pg**	**19 30 44.7**	**-0.4**
STU				*e*Sg	**Sg**	**19 31 08.0**	**-0.1**
SWS	**Schriesheim-Wi**	**1.79**	**49**	Pg	**Pg**	**19 30 46.1**	**+0.5**
SWS				Sg	**Sg**	**19 31 08.6**	**-0.2**
WILA	**Wila**	**1.80**	**120**	*e*Pn	**Pn**	**19 30 43.6**	**+1.8**
	SNR=1.4						
WILA				*e*Pg	**Pg**	**19 30 46.6**	**+0.9**
	SNR=12						
WILA				*e*Sn	**Sn**	**19 31 05.6**	**+1.2**
WILA				*e*Sg	**Sg**	**19 31 08.9**	**-0.1**
	SNR=4.7						
BUCH	**Bad Urach**	**1.82**	**85**	Pg	**Pg**	**19 30 46.9**	**+0.6**
BUCH				Sn	**Sn**	**19 31 03.0**	**-2.0**
GIVF	**Givet**	**2.12**	**327**	*e*Pg	**Pg**	**19 30 52.2**	**+0.2**
GIVF				*e*Sn	**Sn**	**19 31 11.4**	**-1.0**
	SNR=1.0						
GIVF				*e*Sg	**Sg**	**19 31 17.5**	**-2.0**
	comp=N,57nm,0.4s						
GIVF	**Givet**	**2.12**	**327**	*e*Pn	**Pn**	**19 30 47.2**	**+0.9**
GIVF				*e*Pg	**Pg**	**19 30 52.2**	**+0.2**
GIVF				*e*Sn	**Sn**	**19 31 11.4**	**-1.0**
GIVF				*e*Sg	**Sg**	**19 31 17.5**	**-2.0**
GIVF	**Givet**	**2.12**	**327**	*e*Pg	**Pg**	**19 30 52.2**	**+0.2**
GIVF				*e*Sn	**Sn**	**19 31 11.4**	**-1.0**
	SNR=1.0						
GIVF				*e*Sg	**Sg**	**19 31 17.5**	**-2.0**
	comp=N,28nm,0.4s						
LOR	**Lormes**	**2.15**	**241**	*e*Pn	**Pn**	**19 30 47.1**	**+0.5**
	baz=65,SNR=1.0						
LOR	**Lormes**	**2.15**	**241**	*e*Pg	**Pg**	**19 30 52.8**	**+0.4**
	baz=62						
LOR				*e*Sn	**Sn**	**19 31 14.5**	**+1.5**
	baz=56,SNR=1.0						
LOR				*e*Sg	**Sg**	**19 31 19.9**	**-0.3**
	comp=N,50nm,0.2s,baz=60						
LOR	**Lormes**	**2.15**	**241**	*e*Pn	**Pn**	**19 30 47.1**	**+0.5**
LOR				*e*Pg	**Pg**	**19 30 52.8**	**+0.4**
LOR				*e*Sn	**Sn**	**19 31 14.5**	**+1.5**
LOR				*e*Sg	**Sg**	**19 31 19.9**	**-0.3**
LOR	**Lormes**	**2.15**	**241**	*e*Pg	**Pg**	**19 30 52.8**	**+0.4**
LOR				*e*Sn	**Sn**	**19 31 14.5**	**+1.5**
	SNR=1.0						
LOR				*e*Sg	**Sg**	**19 31 19.9**	**-0.3**
	comp=N,25nm,0.2s						
LIENZ	**Kamor/St.Gall**	**2.20**	**117**	*e*Pn	**Pn**	**19 30 49.1**	**+1.8**
	SNR=5.0						
LIENZ				*e*Pg	**Pg**	**19 30 54.1**	**+0.6**
	SNR=3.0						
LIENZ				*e*Sn	**Sn**	**19 31 14.1**	**-0.2**
LIENZ				*e*Sg	**Sg**	**19 31 21.5**	**-0.5**
	SNR=1.5						
DOU	**Dourbes**	**2.20**	**324**	P	**Pg**	**19 30 54.2**	**+0.7**
SIND	**Sindeldorf**	**2.22**	**62**	Sg	**Sg**	**19 31 22.9**	**+0.3**
MEM	**Membach**	**2.31**	**350**	P	**Pn**	**19 30 51.6**	**+2.8**
BAIF	**Baives**	**2.34**	**318**	*e*Pg	**Pg**	**19 30 56.0**	**-0.1**
BAIF				*e*Sn	**Sn**	**19 31 16.9**	**-0.9**
	SNR=1.0						
BAIF				*e*Sg	**Sg**	**19 31 25.4**	**-1.0**
	comp=N,21nm,0.3s,SNR=1.0						
BAIF	**Baives**	**2.34**	**318**	*e*Pn	**Pn**	**19 30 51.4**	**+2.1**
BAIF				*e*Pg	**Pg**	**19 30 56.0**	**-0.1**
BAIF				*e*Sn	**Sn**	**19 31 16.9**	**-0.9**
BAIF				*e*Sg	**Sg**	**19 31 25.4**	**-1.0**
BAIF	**Baives**	**2.34**	**318**	*e*Pg	**Pg**	**19 30 56.0**	**-0.1**
BAIF				*e*Sn	**Sn**	**19 31 16.9**	**-0.9**
	SNR=1.0						
BAIF				*e*Sg	**Sg**	**19 31 25.4**	**-1.0**
	comp=N,10nm,0.3s,SNR=1.0						
HDH	**Heidenheim-Cha**	**2.40**	**83**	Pg	**Pg**	**19 30 57.8**	**+0.5**
HDH				Sg	**Sg**	**19 31 27.9**	**-0.5**
UBR	**Ueberruh**	**2.43**	**104**	Pg	**Pg**	**19 30 58.8**	**+0.9**
UBR				Sg	**Sg**	**19 31 29.8**	**+0.3**
SSF	**Saint Saulge**	**2.46**	**240**	*e*Pg	**Pg**	**19 30 58.1**	**-0.3**
	SNR=1.0						
SSF				*e*Sn	**Sn**	**19 31 19.6**	**-1.1**
	SNR=1.0						
SSF				*e*Sg	**Sg**	**19 31 28.8**	**-1.5**
	comp=N,42nm,0.3s,SNR=1.0						
SSF	**Saint Saulge**	**2.46**	**240**	*e*Pn	**Pn**	**19 30 51.4**	**+0.5**
SSF				*e*Pg	**Pg**	**19 30 58.1**	**-0.3**
SSF				*e*Sn	**Sn**	**19 31 19.6**	**-1.1**
SSF				*e*Sg	**Sg**	**19 31 28.8**	**-1.5**
SSF	**Saint Saulge**	**2.46**	**240**	*e*Pg	**Pg**	**19 30 58.1**	**-0.3**
	SNR=1.0						
SSF				*e*Sn	**Sn**	**19 31 19.6**	**-1.1**
	SNR=1.0						
SSF				*e*Sg	**Sg**	**19 31 28.8**	**-1.5**
	comp=N,21nm,0.3s,SNR=1.0						
SMF	**Signal de Mont**	**2.53**	**229**	*e*Pg	**Pg**	**19 30 59.0**	**-0.8**
	SNR=1.0						
SMF				*e*Sn	**Sn**	**19 31 24.7**	**+2.2**
	SNR=1.0						
SMF				*e*Sg	**Sg**	**19 31 31.5**	**-1.1**
	comp=N,81nm,0.3s						
SMF	**Signal de Mont**	**2.53**	**229**	*e*Pn	**Pn**	**19 30 51.7**	**-0.2**
SMF				*e*Pg	**Pg**	**19 30 59.0**	**-0.8**
SMF				*e*Sn	**Sn**	**19 31 24.7**	**+2.2**
SMF				*e*Sg	**Sg**	**19 31 31.5**	**-1.1**
SMF	**Signal de Mont**	**2.53**	**229**	*e*Pg	**Pg**	**19 30 59.0**	**-0.8**
	SNR=1.0						
SMF				*e*Sn	**Sn**	**19 31 24.7**	**+2.2**
	SNR=1.0						
SMF				*e*Sg	**Sg**	**19 31 31.5**	**-1.1**
	comp=N,40nm,0.3s						
AVF	**Avril sur Loir**	**2.70**	**236**	*e*Pg	**Pg**	**19 31 03.0**	**0.0**
AVF				*e*Sg	**Sg**	**19 31 37.0**	**-1.0**
	comp=N,13nm,0.2s,SNR=1.0						
AVF	**Avril sur Loir**	**2.70**	**236**	*e*Pn	**Pn**	**19 30 54.4**	**+0.2**
AVF				*e*Pg	**Pg**	**19 31 03.0**	**0.0**
AVF				*e*Sg	**Sg**	**19 31 37.0**	**-1.0**
AVF	**Avril sur Loir**	**2.70**	**236**	*e*Pg	**Pg**	**19 31 03.0**	**0.0**
AVF				*e*Sg	**Sg**	**19 31 37.0**	**-1.0**
	comp=N,6.4nm,0.2s,SNR=1.0						
LPL	**La Plagne**	**2.82**	**178**	*e*Pg	**Pg**	**19 31 05.2**	**-0.2**
LPL				*e*Sn	**Sn**	**19 31 26.5**	**-3.2**
	SNR=1.0						
LPL				*e*Sg	**Sg**	**19 31 41.7**	**-0.2**
	comp=N,8.7nm,0.5s,SNR=1.0						
LPL	**La Plagne**	**2.82**	**178**	*e*Pn	**Pn**	**19 30 56.4**	**+0.5**
LPL				*e*Pg	**Pg**	**19 31 05.2**	**-0.2**
LPL				*e*Sn	**Sn**	**19 31 26.5**	**-3.2**
LPL				*e*Sg	**Sg**	**19 31 41.7**	**-0.2**
LPL	**La Plagne**	**2.82**	**178**	*e*Pg	**Pg**	**19 31 05.2**	**-0.2**
LPL				*e*Sn	**Sn**	**19 31 26.5**	**-3.2**
	SNR=1.0						
LPL				*e*Sg	**Sg**	**19 31 41.7**	**-0.2**
	comp=N,4.3nm,0.5s,SNR=1.0						
LPG	**La Plagne**	**2.84**	**178**	*e*Pg	**Pg**	**19 31 05.2**	**-0.5**
LPG				*e*Sn	**Sn**	**19 31 27.5**	**-2.7**
	SNR=1.0						
LPG				*e*Sg	**Sg**	**19 31 41.5**	**-1.0**
	comp=N,10nm,0.5s,SNR=1.0						
LPG	**La Plagne**	**2.84**	**178**	*e*Pn	**Pn**	**19 30 57.4**	**+1.2**
LPG				*e*Pg	**Pg**	**19 31 05.2**	**-0.5**
LPG				*e*Sn	**Sn**	**19 31 27.5**	**-2.7**
LPG				*e*Sg	**Sg**	**19 31 41.5**	**-1.0**
LPG	**La Plagne**	**2.84**	**178**	*e*Pg

MOX	**Moxa**	**3.99**	**53**	*e*Pg	**Pg**	**19 31 23.8**	**-3.9**
	SNR=2.5						
MOX				*e*Sn	**Sn**	**19 31 56.3**	**-2.2**
MOX				*e*Sg	**Sg**	**19 32 17.7**	**-1.7**
	SNR=4.5						
MOX	**Moxa**	**3.99**	**53**	(PG)	**Pg**	**19 31 26.4**	**-1.3**
MOX				*e*SG	**Sg**	**19 32 18.9**	**-0.5**
MOX	**Moxa**	**3.99**	**53**	Pg	**Pg**	**19 31 26.4**	**-1.3**
MOX				*e*Sg	**Sg**	**19 32 18.9**	**-0.5**
WET	**Wettzell**	**4.22**	**77**	*e*Pg	**Pg**	**19 31 30.6**	**-1.4**
	SNR=2.4						
WET				*e*Sn	**Sn**	**19 32 00.9**	**-3.2**
WET				*e*Sg	**Sg**	**19 32 22.9**	**-3.8**
	SNR=3.9						
GUNZ	**Gunzen**	**4.25**	**59**	*e*Pn	**Pn**	**19 31 16.5**	**+1.0**
	SNR=1.3						
GUNZ				*e*Pg	**Pg**	**19 31 31.7**	**-0.9**
	SNR=1.7						
GUNZ				*e*Sg	**Sg**	**19 32 24.4**	**-3.2**
	SNR=4.2						
CLZ	**Clausthal**	**4.26**	**33**	*e*Sg	**Sg**	**19 32 25.3**	**-2.6**
	SNR=1.7						
NKC	**Novy Kostel**	**4.26**	**61**	*e*SG	**Sg**	**19 32 23.5**	**-4.5**
	comp=N,18nm,0.6s						
WERD	**Werda**	**4.27**	**58**	*e*Pn	**Pn**	**19 31 16.5**	**+0.7**
	SNR=1.4						
WERD				*e*Pg	**Pg**	**19 31 31.6**	**-1.5**
	SNR=1.9						
WERD				*e*Sn	**Sn**	**19 32 02.2**	**-3.2**
WERD				*e*Sg	**Sg**	**19 32 23.2**	**-5.2**
	SNR=4.5						
TANN	**Tannenbergstha**	**4.35**	**59**	*e*Sg	**Sg**	**19 32 27.6**	**-3.1**
	SNR=5.4						
NEUB	**Neuenburg**	**4.41**	**47**	*e*Sg	**Sg**	**19 32 31.0**	**-1.6**
	SNR=2.0						
SMRF	**Simiane la Rot**	**4.42**	**190**	*e*Pn	**Pn**	**19 31 18.9**	**+1.0**
	SNR=1.0						
LDF	**La Druitiere**	**4.49**	**276**	*e*Pn	**Pn**	**19 31 20.0**	**+1.2**
	SNR=1.0						
LDF				*e*Sg	**Sg**	**19 32 33.7**	**-1.7**
	comp=N,12nm,0.4s,SNR=1.0						
LDF	**La Druitiere**	**4.49**	**276**	*e*Pn	**Pn**	**19 31 20.0**	**+1.2**
	SNR=1.0						
LDF				*e*Sg	**Sg**	**19 32 33.7**	**-1.7**
	comp=N,5.8nm,0.4s,SNR=1.0						
RJF	**Les Rejaudoux**	**4.63**	**231**	*e*Pn	**Pn**	**19 31 20.4**	**-0.4**
RJF				*e*Sg	**Sg**	**19 32 38.4**	**-1.6**
	comp=N,12nm,0.4s,SNR=1.0						
RJF	**Les Rejaudoux**	**4.63**	**231**	*e*Pn	**Pn**	**19 31 20.4**	**-0.4**
RJF				*e*Sg	**Sg**	**19 32 38.4**	**-1.6**
	comp=N,6.2nm,0.4s,SNR=1.0						
CAF	**Calviac**	**4.63**	**224**	*e*Pn	**Pn**	**19 31 20.6**	**-0.2**
CAF				*e*Sg	**Sg**	**19 32 37.7**	**-2.3**
	comp=N,12nm,0.5s,SNR=1.0						
CAF	**Calviac**	**4.63**	**224**	*e*Pn	**Pn**	**19 31 20.6**	**-0.2**
CAF				*e*Sg	**Sg**	**19 32 37.7**	**-2.3**
	comp=N,6.2nm,0.5s,SNR=1.0						
KHC	**Kasperske Hory**	**4.67**	**78**	*e*PN	**Pn**	**19 31 22.2**	**+0.9**
KHC				*e*PG	**Pg**	**19 31 39.0**	**-1.7**
KHC				*e*SN	**Sn**	**19 32 13.5**	**-1.8**
KHC				*e*SG	**Sg**	**19 32 38.3**	**-2.9**
	comp=N,4.3nm,0.3s						
LASF	**Ste Croix**	**4.67**	**205**	*e*Pn	**Pn**	**19 31 22.0**	**+0.7**
LASF				*e*Sg	**Sg**	**19 32 39.8**	**-1.4**
	comp=N,7.7nm,0.5s,SNR=1.0						
LASF	**Ste Croix**	**4.67**	**205**	*e*Pn	**Pn**	**19 31 22.0**	**+0.7**
LASF				*e*Sg	**Sg**	**19 32 39.8**	**-1.4**
	comp=N,3.8nm,0.5s,SNR=1.0						
GEC2	**GERESS Array S**	**4.73**	**81**	*e*Pn	**Pn**	**19 31 22.4**	**+0.4**
	SNR=2.1						
GEC2				*e*Pg	**Pg**	**19 31 40.4**	**-1.3**
	SNR=1.5						
GEC2				*e*Sn	**Sn**	**19 32 12.6**	**-4.0**
GEC2				*e*Sg	**Sg**	**19 32 40.5**	**-2.4**
	SNR=3.7						
FLN	**La Foliniere**	**4.74**	**278**	*e*Pn	**Pn**	**19 31 23.1**	**+0.9**
	SNR=1.0						
FLN				*e*Sn	**Sn**	**19 32 13.1**	**-3.7**
	SNR=1.0						
FLN				*e*Sg	**Sg**	**19 32 42.1**	**-1.1**
	comp=N,9.1nm,0.4s						
FLN	**La Foliniere**	**4.74**	**278**	*e*Pn	**Pn**	**19 31 23.1**	**+0.9**
	SNR=1.0						
FLN				*e*Sn	**Sn**	**19 32 13.1**	**-3.7**
	SNR=1.0						
FLN				*e*Sg	**Sg**	**19 32 42.1**	**-1.1**
	comp=N,4.6nm,0.4s						
FRF	**La Foret Royal**	**4.78**	**180**	*e*Pg	**Pg**	**19 31 41.5**	**-1.2**
	SNR=1.0						
FRF				*e*Sn	**Sn**	**19 32 15.6**	**-2.3**
	comp=N,3.5nm,0.6s,SNR=1.0						
FRF	**La Foret Royal**	**4.78**	**180**	*e*P	**Pn**	**19 31 26.3**	**+3.5**
FRF				*e*Pg	**Pg**	**19 31 41.5**	**-1.2**
FRF				*e*Sn	**Sn**	**19 32 15.6**	**-2.3**
FRF	**La Foret Royal**	**4.78**	**180**	*e*Pg	**Pg**	**19 31 41.5**	**-1.2**
	SNR=1.0						
FRF				*e*Sn	**Sn**	**19 32 15.6**	**-2.3**
	comp=N,1.8nm,0.6s,SNR=1.0						
MFF	**Saint Martin d**	**4.91**	**252**	*e*Pn	**Pn**	**19 31 23.9**	**-0.6**
	SNR=1.0						
MFF				*e*Sn	**Sn**	**19 32 17.7**	**-3.3**
	SNR=1.0						
MFF				*e*Sg	**Sg**	**19 32 46.8**	**-1.9**
	comp=N,9.5nm,0.6s,SNR=1.0						
MFF	**Saint Martin d**	**4.91**	**252**	*e*Pn	**Pn**	**19 31 23.9**	**-0.6**
	SNR=1.0						
MFF				*e*Sn	**Sn**	**19 32 17.7**	**-3.3**
	SNR=1.0						
MFF				*e*Sg	**Sg**	**19 32 46.8**	**-1.9**
	comp=N,4.8nm,0.6s,SNR=1.0						
GRR	**Gorron**	**4.99**	**273**	*e*Pg	**Pg**	**19 31 45.1**	**-1.6**
GRR				*e*Sn	**Sn**	**19 32 18.7**	**-4.3**
	comp=N,4.5nm,0.2s,SNR=1.0						
GRR	**Gorron**	**4.99**	**273**	*e*Pn	**Pn**	**19 31 26.5**	**+0.9**
GRR				*e*Pg	**Pg**	**19 31 45.1**	**-1.6**
GRR				*e*Sn	**Sn**	**19 32 18.7**	**-4.3**
GRR	**Gorron**	**4.99**	**273**	*e*Pg	**Pg**	**19 31 45.1**	**-1.6**
GRR				*e*Sn	**Sn**	**19 32 18.7**	**-4.3**
	comp=N,2.2nm,0.2s,SNR=1.0						
LMR	**La Mourre**	**5.00**	**181**	*e*Sn	**Sn**	**19 32 21.7**	**-1.8**
	comp=N,1.1nm,0.4s,SNR=1.0						
LMR	**La Mourre**	**5.00**	**181**	*e*Sn	**Sn**	**19 32 21.7**	**-1.8**
	comp=N,0.6nm,0.4s,SNR=1.0						
CLL	**Collm**	**5.09**	**52**	*e*Sg	**Sg**	**19 32 51.7**	**-2.9**
	SNR=2.2						
CLL	**Collm**	**5.09**	**52**	*e*Sg	**Sg**	**19 32 54.0**	**-0.5**
	comp=Z,7.0nm,0.7s						
LFF	**La Frestale**	**5.29**	**232**	*e*Sg	**Sg**	**19 33 00.1**	**-0.8**
	comp=Z,24nm,0.6s						
LFF	**La Frestale**	**5.29**	**232**	*e*Sg	**Sg**	**19 33 00.1**	**-0.8**
	comp=Z,12nm,0.6s						
BRG	**Berggiesshubel**	**5.39**	**59**	*e*Sg	**Sg**	**19 32 59.6**	**-4.7**
	SNR=2.9						
BRG	**Berggiesshubel**	**5.39**	**59**	SG	**Sg**	**19 32 59.7**	**-4.6**
	comp=Z,3.7nm,0.5s						
MTLF	**Montolieu**	**5.87**	**213**	*e*Sg	**Sg**	**19 33 16.8**	**-2.7**
	comp=Z,2.5nm,0.3s						
MTLF	**Montolieu**	**5.87**	**213**	*e*Sg	**Sg**	**19 33 16.8**	**-2.7**
	comp=Z,1.2nm,0.3s						
SGMF	**Saint Gilles**	**6.12**	**273**	*e*Pn	**Pn**	**19 31 41.6**	**+0.3**
	SNR=1.0						
SGMF				*e*Sn	**Sn**	**19 32 46.8**	**-4.3**
	comp=Z,3.2nm,0.2s,SNR=1.0						
SGMF	**Saint Gilles**	**6.12**	**273**	*e*Pn	**Pn**	**19 31 41.6**	**+0.3**
	SNR=1.0						
SGMF				*e*Sn	**Sn**	**19 32 46.8**	**-4.3**
	comp=Z,1.6nm,0.2s,SNR=1.0						
UPC	**Upice**	**6.50**	**67**	*e*SG	**Sg**	**19 33 36.4**	**-3.4**
QUIF	**Quistinic**	**6.56**	**270**	*e*Pn	**Pn**	**19 31 47.6**	**+0.3**
	SNR=1.0						
QUIF				*e*Sn	**Sn**	**19 32 58.4**	**-3.5**
	comp=Z,4.9nm,0.6s,SNR=1.0						
QUIF	**Quistinic**	**6.56**	**270**	*e*Pn	**Pn**	**19 31 47.6**	**+0.3**
	SNR=1.0						
QUIF				*e*Sn	**Sn**	**19 32 58.4**	**-3.5**
	comp=Z,2.5nm,0.6s,SNR=1.0						
ROSF	**Rostrenen**	**6.60**	**274**	*e*Pn	**Pn**	**19 31 47.2**	**-0.5**
ROSF				*e*Sn	**Sn**	**19 32 56.4**	**-6.3**
	comp=Z,2.3nm,0.4s						
ROSF	**Rostrenen**	**6.60**	**274**	*e*Pn	**Pn**	**19 31 47.2**	**-0.5**
ROSF				*e*Sn	**Sn**	**19 32 56.4**	**-6.3**
	comp=Z,1.1nm,0.4s						
DPC	**Dobruska-Polom**	**6.65**	**69**	*e*SG	**Sg**	**19 33 38.7**	**-5.9**

IDC 08 19:37:10.2±3.7, 2289S×11193W, h0km, mb3.6/1, mb1 4.0/1, mb1mx3.5/13, mbtmp3.6/1, Error ellipse: s-maj=292.9km s-min=154.1km az=95.0, Easter Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YKA	**Yellowknife Ar**	**85.12**	**359**	P	P	19 49 47.7	+0.2
	0.4nm,0.9s,baz=176,slow=5.0,SNR=4.8						
ZALV	**Zalesovo Beam**	**146.51**	**342**	PKPbc	PKPbc	19 56 51.9	-1.2
	0.8nm,0.5s,baz=42,slow=2.8,SNR=6.1						
AKTO	**Aktyubinsk**	**151.41**	**13**	PKPbc	PKPbc	19 57 05.5	-0.3
	1.0nm,0.7s,baz=8.9,slow=4.0,SNR=4.9						
MKAR	**Makanchi Array**	**153.54**	**338**	PKPbc	PKPbc	19 57 11.2	+0.5
	0.3nm,0.7s,baz=19,slow=2.5,SNR=3.9						

IDC 08 19:44:48.9±2.5, 183N×12683E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.3/14, mbtmp3.4/3, Error ellipse: s-maj=234.5km s-min=24.4km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.86**	**162**	P	P	19 49 52.7	-1.3
	0.7nm,0.5s,baz=340,slow=11,SNR=16						
ASAR	**Alice Springs**	**26.27**	**165**	P	P	19 50 27.3	+1.3
	0.6nm,0.8s,baz=344,slow=11,SNR=12						
MKAR	**Makanchi Array**	**59.16**	**326**	P	P	19 54 51.4	-0.1
	0.1nm,0.3s,baz=128,slow=7.6,SNR=2.9						

*NEIC **08** 19:45:34.1±1.3, 1908N×6762W, h1km±8km, MD3.8(RSPR), Error ellipse: s-maj=10.3km s-min=5.6km az=187.0*
NEIC Felt [II] at Mayaguez.
*ISCJB **08** 19:45:37.2±0.5, 1889N±005×6771W±003, h48km±6km, mb3.9/8, Error ellipse: s-maj=8.2km s-min=4.7km az=11.9*
*RSPR **08** 19:45:38.2, 1893N×6772W, h14km±4km, MD3.8/13, MD3.8/13*
*IDC **08** 19:45:40.6±2.3, 1882N×6762W, h61km±23km, mb3.7/7, mb1 3.9/9, mb1mx3.6/21, mbtmp3.7/9, ML3.8/2, Error ellipse: s-maj=22.9km s-min=18.5km az=25.0*

ISC 08 19:45:37.2±0.8, 1890N±004×6770W±003, h29km±6km, n41, σ0§87/54, mb3.9/8, 13C-9D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGPR	**Aguadilla, PR**	**0.71**	**127⇑**	*e*P	**Pb**	**19 45 50.2**	**-0.8**
AGPR				*e*S	**Sb**	**19 46 01.4**	**+1.0**
IMO	**Isla Mona**	**0.81**	**194⇑**	*e*P	**Pb**	**19 45 51.9**	**-0.8**
IMO				*e*S	**Sb**	**19 46 03.2**	**-0.1**
MPR	**Mayaguez**	**0.87**	**142⇑**	*e*P	**Pn**	**19 45 52.8**	**-0.8**
MPR				*e*S	**Sb**	**19 46 05.1**	**+0.1**
LSP	**Las Mesas**	**0.93**	**147⇓**	*e*P	**Pn**	**19 45 53.9**	**-0.4**
LRS	**Lares**	**1.01**	**126⇓**	*e*P	**Pn**	**19 45 54.6**	**-0.9**
CRPR	**Cabo Rojo, PR**	**1.05**	**147⇓**	*e*P	**Pn**	**19 45 55.5**	**-0.5**
CRPR				*e*S	**Sn**	**19 46 10.4**	**+0.7**
AOPR	**Arecibo Observ**	**1.05**	**121⇑**	*e*P	**Pn**	**19 45 55.8**	**-0.3**
AOPR				*e*S	**Sn**	**19 46 09.4**	**-0.4**
GBPR	**Guanica, Bosqu**	**1.21**	**139⇓**	*e*P	**Pn**	**19 45 58.4**	**+0.2**
CELP	**Cerrillos**	**1.34**	**127⇑**	*i*P	**Pn**	**19 46 00.3**	**+0.2**
OBIP	**Obispado Ponce**	**1.34**	**129⇑**	*e*P	**Pn**	**19 46 00.5**	**+0.4**
OBIP				*e*S	**Sn**	**19 46 17.5**	**+0.5**
ICM	**Isla Caja Muer**	**1.50**	**131⇑**	*e*P	**Pn**	**19 46 03.0**	**+0.7**
ICM				*e*S	**Sn**	**19 46 21.7**	**+0.8**
SMN1	**Samana, DR**	**1.51**	**281⇑**	*e*P	**Pn**	**19 46 01.6**	**-0.8**
SMN1	**Samana, DR**	**1.51**	**281**	*e*S	**Sn**	**19 46 20.1**	**-1.1**
SJG	**San Juan**	**1.67**	**118**	*e*S	**Sn**	**19 46 24.8**	**-0.2**
SJG	**San Juan**	**1.67**	**118**	*i*P	**Pn**	**19 46 04.5**	**-0.1**
SJG	**San Juan**	**1.67**	**118**	*e*P	**Pn**	**19 46 05.1**	**+0.5**
SJG				*e*S	**Sn**	**19 46 24.8**	**-0.2**
SJG	**San Juan**	**1.67**	**118**	P	**Pn**	**19 46 05.0**	**+0.5**
	112nm,0.3s,baz=307,slow=9.5,SNR=149						
SJG				S	**Sn**	**19 46 27.8**	**+2.8**
	308nm,0.3s,baz=315,slow=23,SNR=18						
CBYP	**Canovanas**	**1.86**	**109⇑**	*e*P	**Pn**	**19 46 06.5**	**-0.7**
CPD	**Cerro la Pandu**	**1.90**	**116⇑**	*e*P	**Pn**	**19 46 07.6**	**-0.1**
HUMP	**Col San Antoni**	**1.91**	**113⇑**	*e*P	**Pn**	**19 46 08.4**	**+0.5**
HUMP				*e*S	**Sn**	**19 46 30.7**	**-0.3**
STDO	**Santo Domingo**	**2.15**	**258⇑**	*e*P	**Pn**	**19 46 11.5**	**+0.2**
MTP	**Monte Pirata**	**2.19**	**111⇑**	*e*P	**Pn**	**19 46 10.4**	**-1.3**
MTP				*e*S	**Sn**	**19 46 36.5**	**-1.4**
STVI	**Saint Thomas**	**2.66**	**101⇑**	*e*P	**Pn**	**19 46 18.8**	**+0.5**
TBVI	**Tortola**	**2.96**	**99⇓**	*e*P	**Pn**	**19 46 22.6**	**+0.3**
ABV	**Anegada**	**3.20**	**92⇓**	*e*P	**Pn**	**19 46 26.7**	**+1.1**
SDDR	**Presa de Saban**	**3.39**	**272⇓**	*e*P	**Pn**	**19 46 29.8**	**+1.5**
PCRV	**Puerto La Cruz**	**9.16**	**161**	P	**Pn**	**19 47 50.4**	**+2.8**
	1.1nm,0.3s,baz=248,slow=8.3,SNR=8.9						
PCRV				S	**Sn**	**19 49 28.9**	**-0.9**
	0.7nm,0.3s,baz=16,slow=20,SNR=2.9						
SDV	**Santo Domingo**	**10.35**	**196**	P	**Pn**	**19 48 07.9**	**+4.0**
SDV				S	**Sn**	**19 49 59.6**	**+0.6**
SDV	**Santo Domingo**	**10.35**	**196**	P	**Pn**	**19 48 07.9**	**+4.0**
	0.6nm,0.3s,baz=18,slow=19,SNR=2.9						
SDV				S	**Sn**	**19 49 59.6**	**+0.6**
	0.3nm,0.3s,baz=90,slow=20,SNR=2.5						
ROSC	**El Rosal**	**15.38**	**206**	P	**Pn**	**19 49 16.7**	**+4.3**
	0.8nm,0.3s,baz=79,slow=21,SNR=6.6						
TXAR	**Lajitas Array**	**34.31**	**295**	P	**P**	**19 52 22.3**	**+1.0**
	0.4nm,0.7s,mb3.5,baz=116,slow=8.4,SNR=5.4						
SIV	**San Ignacio**	**35.28**	**169**	P	**P**	**19 52 28.3**	**-1.5**
	0.9nm,0.5s,mb3.9,baz=22,slow=11,SNR=6.2						
ULM	**Lac du Bonnet**	**38.50**	**331**	P	**P**	**19 52 58.6**	**+1.8**
	2.3nm,0.7s,mb4.0,baz=170,slow=11,SNR=4.5						
YKA	**Yellowknife Ar**	**54.16**	**335**	P	**P**	**19 54 58.7**	**-0.9**
	1.3nm,0.8s,mb3.9,baz=110,slow=7.3,SNR=8.5						
ESDC	**Sonseca Array**	**58.13**	**55**	P	**P**	**19 55 28.7**	**+0.4**
	0.5nm,0.7s,mb3.7,baz=269,slow=7.7,SNR=6.4						
DBIC	**Dimbokro**	**62.20**	**92**	*e*P	**P**	**19 55 57.1**	**+0.4**
DBIC	**Dimbokro**	**62.20**	**92**	P	**P**	**19 55 56.4**	**-0.4**
	2.4nm,0.9s,mb4.3,baz=275,slow=11,SNR=3.6						
TORD	**Torodi Ar. Bea**	**66.59**	**84**	P	**P**	**19 56 24.4**	**-1.0**
	0.7nm,0.8s,mb3.8,baz=300,slow=7.7,SNR=7.5						
ARCES	**ARCESS Array B**	**73.58**	**21**	P	**P**	**19 57 07.4**	**+0.1**
ARCES	**ARCESS Array B**	**73.58**	**21**	P	**P**	**19 57 07.4**	**+0.1**
	6.8nm,1.1s,mb4.5,baz=308,slow=4.4,SNR=5.0						
ASAR	**Alice Springs**	**159.32**	**253**	PKPab	PKPab	20 06 10.1	-1.1
	0.4nm,0.7s,baz=102,slow=4.5,SNR=5.2						

*DDA **08** 19:46:23.2, 3839N×3338E, h6km, Md3.1*
*CSEM **08** 19:46:24.9±0.3, 3872N×3318E, h15km, MD2.7, Error ellipse: s-maj=10.5km s-min=3.6km az=130.0*
*ISCJB **08** 19:46:25.2±0.9, 3871N±008×332E±0.1, h5km±10km, Error ellipse: s-maj=18.3km s-min=5.0km az=135.2*
*ISK **08** 19:46:25.2, 3873N×3320E, h6km, MD2.7*

ISC 08 19:46:25.8±0.9, 3872N±007×3322E±008, h10km±9km, n7, σ0§92/14, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAMT	**Kaman**	**0.76**	**30**	*e*PG	**Pg**	**19 46 40.4**	**-0.1**
KAMT				*e*SG	**Sg**	**19 46 50.9**	**+0.6**
KDHN	**Kadinhani**	**0.89**	**258**	*i*P	**Pg**	**19 46 41.6**	**-1.3**
KDHN				*i*S	**Sg**	**19 46 54.4**	**0.0**
KDHN	**Kadinhani**	**0.89**	**258**	*i*P	**Pg**	**19 46 41.6**	**-1.2**
KDHN				*i*S	**Sg**	**19 46 54.3**	**-0.1**
KONT	**Konya--Tatoy**	**1.02**	**222**	*e*PG	**Pg**	**19 46 44.9**	**-0.6**
KONT				*e*SG	**Sg**	**19 46 60.0**	**+1.2**
ANTO	**Ankara**	**1.20**	**344**	*e*PN	**Pn**	**19 46 48.4**	**-0.3**
ANTO				*e*SN	**Sn**	**19 47 04.8**	**-0.1**
CDAG	**Cicekdag**	**1.27**	**44**	*i*P	**Pn**	**19 46 49.1**	**-0.6**
CDAG				*i*S	**Sb**	**19 47 05.7**	**-0.7**
ELDT	**Eldivan**	**1.78**	**5**	*i*P	**Pn**	**19 46 59.0**	**+2.4**
ELDT				*i*S	**Sn**	**19 47 23.6**	**+4.3**

GUC 08 19:50:40.4±0.6, 3370S×7036W, h109km±1km, MD3.9, ML4.0, 9C-10D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJCH	**San Jose de Ma**	**0.06**	**3⇑**	*i*P	Pn	19 50 55.3	-0.1
SJCH				*i*S	Sn	19 51 06.8	+0.2
SJCH				AML	AML	19 51 07.4	
	comp=E,16μm,0.3s						
PCH	**Pirque**	**0.15**	**301**	*i*P	Pn	19 50 56.0	+0.5
PCH				*i*S	Sn	19 51 07.4	+0.5
LMEL	**Las Melosas**	**0.19**	**139**	*i*P	Pn	19 50 55.8	+0.2
LMEL				*i*S	Sn	19 51 07.5	+0.4
LMEL				AML	AML	19 51 10.1	
	comp=N,11μm,0.3s						
YECH	**El Yeso**	**0.23**	**81**	*i*P	Pn	19 50 56.5	+0.8
YECH				*i*S	Sn	19 51 08.6	+1.3
YECH				AML	AML	19 51 11.3	
	comp=N,5μm,0.2s						
ANTU	**Antumapu**	**0.27**	**300⇑**	*i*P	Pn	19 50 56.2	+0.3
ANTU				*i*S	Sn	19 51 07.5	0.0
ANTU				AML	AML	19 51 08.7	
	comp=E,24μm,0.5s						
CHCH	**Chadas Angostu**	**0.34**	**227**	*i*P	Pn	19 50 56.2	0.0
CHCH				*i*S	Sn	19 51 08.3	+0.2
CLCH	**Cerro Calan**	**0.34**	**334**	AML	AML	19 51 10.8	
	comp=E,18μm,0.5s						
DSCH	**Colegio Aleman**	**0.35**	**330⇓**	*i*P	Pn	19 50 56.4	+0.1
DSCH				*i*S	Sn	19 51 08.5	+0.4
DSCH				AML	AML	19 51 10.0	
	comp=N,2μm,0.3s						
SAN	**Santiago**	**0.35**	**314⇓**	*i*P	Pn	19 50 56.7	+0.4
SAN				*i*S	Sn	19 51 08.2	0.0
SAN				AML	AML	19 51 08.9	
	comp=N,5μm,0.3s						
STL	**Santa Lucia**	**0.35**	**318⇑**	*i*P	Pn	19 50 56.2	-0.1
STL				*i*S	Sn	19 51 07.9	-0.3
CACH	**El Canelo**	**0.46**	**206⇑**	*i*P	Pn	19 50 57.2	+0.3
CACH				*i*S	Sn	19 51 10.1	+0.8
TACH	**Talagante**	**0.49**	**275⇓**	*i*P	Pn	19 50 57.1	+0.1
TACH				*i*S	Sn	19 51 09.5	0.0
CICH	**Cipreses**	**0.62**	**185⇓**	*i*P	Pn	19 50 58.2	+0.2
CICH				*i*S	Sn	19 51 11.8	+0.6
JACH	**Jahuel**	**1.03**	**349⇑**	*i*P	Pn	19 51 03.2	+1.3
JACH				*i*S	Sn	19 51 19.9	+1.8
SFDO	**San Fernando**	**1.06**	**211⇓**	*i*P	Pn	19 51 02.2	0.0
IHA	**Instituto Hidr**	**1.27**	**302⇑**	*i*P	Pn	19 51 05.1	+0.7
IHA				*i*S	Sn	19 51 23.3	+0.7
PACH	**Papudo**	**1.47**	**322⇑**	*i*P	Pn	19 51 07.3	+0.4
PACH				*i*S	Sn	19 51 27.2	+0.3
NICH	**Los Niches**	**1.49**	**209⇓**	*i*P	Pn	19 51 06.9	0.0
NICH				*i*S	Sn	19 51 27.5	+0.4
PTCH	**Petorca**	**1.51**	**341⇓**	*i*P	Pn	19 51 08.4	+1.1
PTCH				*i*S	Sn	19 51 29.1	+1.4
PTCH				AML	AML	19 51 29.5	
	comp=E,576nm,0.3s						
CHNG	**Los Chungos**	**2.05**	**332⇑**	*i*P	Pn	19 50 56.8	-17
CHNG				*i*S	Sn	19 51 22.7	-17
CHNG				AML	AML	19 51 23.1	
	comp=E,774nm,0.4s						
CMCH	**Combarbala**	**2.58**	**348**	AML	AML	19 52 22.6	
	comp=E,870nm,0.6s						
CCHI	**Chillan**	**3.22**	**205**	AML	AML	19 52 30.8	
	comp=E,210nm,0.4s						
CCHI				AML	AML	19 52 31.1	
	comp=E,480nm,0.6s						
TLL	**Tololo Astrono**	**3.54**	**354⇑**	*i*P	Pn	19 51 34.8	+1.2
TLL				*i*S	Sn	19 52 16.1	+1.3
TLL				AML	AML	19 52 21.9	
	comp=N,149nm,0.5s						

*IDC **08** 19:57:24.3±1.3, 3594N×7127E, h0km, mb3.9/6, mb1 4.1/8, mb1mx3.7/21, mbtmp4.0/8, ML3.9/2, Error ellipse: s-maj=28.1km s-min=27.1km az=155.0*
*MOS **08** 19:57:35.7±1.0, 3622N×7147E, h99km, mb4.0/7, Error ellipse: s-maj=18.0km s-min=8.6km az=82.3*
*ISCJB **08** 19:57:37.4±0.5, 3640N±003×7160E±006, h115km±6km, mb4.1/13, Error ellipse: s-maj=8.6km s-min=3.8km az=167.0*
*NNC **08** 19:57:43.0±4.9, 3687N×7097E, h132km±50km, mb3.4, mpv4.7, Error ellipse: s-maj=39.7km s-min=24.3km az=12.0*
*NEIC **08** 19:57:45.0±1.2, 3680N×7170E, h150km, mb4.7/5, Error ellipse: s-maj=21.0km s-min=14.2km az=154.0*
*BJI **08** 19:57:48.4, 3754N×7154E, h141km, mB4.6, mb4.5*

ISC 08 19:57:38.6±0.5, 3638N±002×7157E±006, h114km±6km, h147km±2.2km: pP-P, n77, σ1§43/97, mb4.1/13, 3C-4D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**2.57**	**174**	P	**Pn**	**19 58 20.2**	**+1.1**
CHCP	**Chirah Chowk**	**3.06**	**152**	P	**Pn**	**19 58 27.7**	**+2.2**
THW	**Thamme Wali**	**3.58**	**178**	⇑P	**Pn**	**19 58 32.7**	**+0.2**
SARP	**Sargodha**	**4.54**	**168**	P	**Pn**	**19 58 44.5**	**-0.9**
JMU	**Jammu**	**4.58**	**142**	*e*P	**Sn**	**19 59 37.0**	**-1.0**
KSH	**Kashi**	**4.68**	**47**	*e*P	**Pn**	**19 58 50.7**	**+3.6**
KSH				*e*S	**Sn**	**19 59 30.5**	**-10**
KSH				Smax			
	comp=N,366nm,0.7s						
KSH				Smax			
	comp=E,533nm,0.5s						
DRP	**Derazinda**	**4.76**	**194**	P	**Pn**	**19 58 48.4**	**+0.1**
THN	**Thein Dam**	**5.22**	**138**	*e*P	**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
MKAR	**Makanchi Array**	**13.12**	**34**	Pn	**Pn**	**20 00 40.5**	**+0.1**
	comp=Z,0.2nm,0.3s,baz=222,slow=14,SNR=15						
KOLN	**Koldanda**	**13.33**	**127**	*e*P	**Pn**	**20 00 42.4**	**-0.9**
	comp=Z,5.4nm,0.2s						
GKN	**Gorkha**	**13.86**	**123**	*e*P	**Pn**	**20 00 48.7**	**-1.5**
	comp=Z,18nm,0.3s						
GKN				*e*S	**Sn**	**20 03 13.2**	**-10**
KKN	**Kakani**	**14.43**	**123**	*e*P	**Pn**	**20 00 55.2**	**-2.3**
KKN				*e*S	**Sn**	**20 03 27.7**	**-9.0**
JIRN	**Jiri**	**15.14**	**121**	*e*P	**Pn**	**20 01 05.0**	**-1.4**
	comp=Z,14nm,0.3s						
JIRN				*e*S	S	20 03 43.0	-20
KURK	**Kurchatov**	**15.20**	**17**	*e*P	**Pn**	**20 01 09.3**	**+2.3**
AB31	**Akbulak array**	**15.41**	**330**	P	**Pn**	**20 01 06.2**	**-3.5**
	comp=Z,2.3nm,0.3s,baz=133,slow=13,SNR=160						
AB31				⇑S	S	20 03 46.0	-22
	comp=Z,3.4nm,0.7s,baz=150,slow=24,SNR=6.1						
VOSK	**Vostochnaya**	**16.34**	**359**	P	**Pn**	**20 01 18.4**	**-2.8**
	comp=Z,4.5nm,0.9s						
BVA0	**Borovoye Array**	**16.66**	**358**	P	**Pn**	**20 01 22.9**	**-2.1**
	comp=Z,0.4nm,0.7s,baz=162,slow=13,SNR=44						
ZRNK	**Zerenda**	**16.66**	**355**	⇓P	**Pn**	**20 01 22.7**	**-2.4**
	comp=Z,1.7nm,0.5s						
BRVK	**Borovoye**	**16.70**	**357**	*e*P	**Pn**	**20 01 23.3**	**-2.2**
	comp=Z,4.4nm,0.6s						
BRVK	**Borovoye**	**16.70**	**357**	*e*P	**Pn**	**20 01 23.3**	**-2.2**
BRVK				pmax	pmax		
	comp=Z,4.0nm,0.6s						
AKTK	**Aktyubinsk**	**17.11**	**329**	P	**Pn**	**20 01 28.3**	**-2.2**
AKTK				S	**S**	**20 04 26.0**	**-15**
AKTO	**Aktyubinsk**	**17.11**	**329**	P	**Pn**	**20 01 28.3**	**-2.3**
	comp=Z,1.5nm,0.3s,baz=133,slow=12,SNR=21						
AKTO				S	**S**	**20 04 26.0**	**-15**
	comp=Z,0.1nm,0.3s,baz=131,slow=20,SNR=5.2						
CHKZ	**Chkalovo**	**17.30**	**358**	P	**Pn**	**20 01 31.1**	**-1.8**
	comp=Z,1.7nm,0.7s						
ZAL	**Zalesovo**	**19.82**	**24**	P	**P**	**20 02 01.0**	**+1.0**
ZAA0	**Zalesovo Array**	**19.83**	**24**	*e*P	**P**	**20 02 00.7**	**+0.5**
ZALV	**Zalesovo Beam**	**19.83**	**24**	P	**P**	**20 02 01.0**	**+0.8**
	comp=Z,9.9nm,0.4s,baz=207,slow=10,SNR=67						
NVS	**Novosibirsk**	**20.13**	**20**	*e*P	**P**	**20 02 03.9**	**+0.5**
NVS				pmax	pmax		
	comp=Z,7.0nm,1.2s						
NVS				pmax	pmax		
	comp=N,8.0nm,1.6s						
ARU	**Arti**	**21.89**	**340**	*d i*P	**P**	**20 02 22.0**	**-0.2**
ARU				*e*		20 02 44.5	
ARU				*e*S	**S**	**20 06 08.2**	**-8.6**
ARU				pmax	pmax		
	comp=Z,12nm,1.7s,mb4.0						
LZH	**Lanzhou**	**25.98**	**81**	*e*P	**P**	**20 03 09.2**	**+8.6**
LZH				AP	pP	20 03 40.0	+15
LZH				XP	sP	20 03 56.0	+18
LZH				AMB	AMB		
	comp=Z,15nm,1.0s,mb4.4						
LZH				AMB	AMB		
	comp=Z,65nm,4.1s						
CD2	**Chengdu**	**27.27**	**92**	*e*P	**P**	**20 03 23.9**	**+12**
CD2				AP	pP	20 03 54.4	+17
CD2				XP	sP	20 04 10.0	+20
CD2				PP	PP	20 04 17.6	+1.7
CD2				S	**S**	**20 07 52.4**	**+9.1**
CD2				SS	SS	20 09 21.5	-21
CD2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.5						
CD2				AMB	AMB		
	comp=Z,30nm,5.2s						
CD2				LR	LR		
	comp=N,220nm,12.0s						
CD2				LR	LR		
	comp=Z,80nm,12.0s						
HHC	**Hu-ho-hao-te**	**31.38**	**69**	*e*P	**P**	**20 03 54.0**	**+5.5**
HHC				AP	pP	20 04 24.3	+11
HHC				PP	PP	20 05 02.4	+1.0
HHC				S	**S**	**20 08 45.4**	**-2.1**
HHC				PCS	PcS	20 10 30.1	+6.3
HHC				SS	SS	20 10 43.1	-23
HHC				SCS	ScS	20 14 07.7	-2.1
HHC				AMB	AMB		
	comp=Z,18nm,0.6s,mb5.0						
HHC				AMB	AMB		
	comp=Z,98nm,6.1s						
GYA	**Guiyang**	**31.40**	**98**	P	**P**	**20 04 00.2**	**+11**
GYA				PP	PP	20 05 11.2	+9.4
GYA				PCP	PcP	20 06 50.0	+10
GYA				S	**S**	**20 08 57.6**	**+10**
GYA				SCP	ScP	20 10 17.8	+5.4
GYA				PCS	PcS	20 10 33.4	+9.1
GYA				SCS	ScS	20 14 14.4	+4.1
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.6						
JOF	**Joensuu**	**36.20**	**330**	*e*p	**P**	**20 04 30.7**	**+0.8**
	comp=Z,4.6nm,0.3s,mb4.9						
JOF	**Joensuu**	**36.20**	**330**	*e*P	**P**	**20 04 30.7**	**+0.8**
JOF				pmax	pmax		
	comp=Z,5.0nm,0.3s,mb4.9						
FINES	**FINESS Array B**	**37.83**	**326**	*i* P	**P**	**20 04 45.0**	**+1.2**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.3s						
FINES	**FINESS Array B**	**37.83**	**326**	P	**P**	**20 04 45.1**	**+1.3**
	comp=Z,1.0nm,0.3s,mb4.1,baz=123,slow=9.3,SNR=36						
KAF	**Kangasniemi**	**37.97**	**327**	*e*p	**P**	**20 04 46.1**	**+1.2**
	baz=111,slow=8.6						
CN2	**Changchun**	**41.26**	**62**	*e*P	**P**	**20 05 18.0**	**+5.6**
ARCES	**ARCESS Array B**	**41.43**	**337**	P	**P**	**20 05 14.8**	**+1.4**
ARCES	**ARCESS Array B**	**41.43**	**337**	P	**P**	**20 05 14.8**	**+1.4**
ARCES				pmax	pmax		
	comp=Z,3.0nm,0.9s						
ARCES	**ARCESS Array B**	**41.43**	**337**	P	**P**	**20 05 14.8**	**+1.4**
	comp=Z,3.0nm,0.9s,mb4.1,baz=116,slow=9.1,SNR=12						
YAK	**Yakutsk**	**43.80**	**35**	*e*P	**P**	**20 05 33.1**	**+0.4**
YAK				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb3.9						
NB2	**NORSAR Subarra**	**44.75**	**323**	P	**P**	**20 05 41.0**	**+0.7**
	comp=Z,1.4nm,0.5s,mb4.0,baz=96,slow=7.9						
NOA	**NORSAR Array B**	**44.75**	**323**	P	**P**	**20 05 41.3**	**+1.0**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
NOA	**NORSAR Array B**	**44.75**	**323**	P	**P**	**20 05 41.3**	**+1.0**
	comp=Z,1.4nm,0.5s,mb4.0,baz=96,slow=7.7,SNR=9.7						
TIXI	**Tiksi**	**45.71**	**22**	*e*P	**P**	**20 05 50.3**	**+2.6**
TORD	**Torodi Ar. Bea**	**66.17**	**269**	P	**P**	**20 08 11.9**	**-2.4**
	comp=Z,0.4nm,0.4s,mb3.6,baz=48,slow=5.4,SNR=8.6						
YKA	**Yellowknife Ar**	**81.34**	**3**	*i* P	**P**	**20 09 44.0**	**+1.9**
YKA	**Yellowknife Ar**	**81.34**	**3**	P	**P**	**20 09 43.1**	**+1.1**
	comp=Z,0.2nm,0.4s,mb3.3,baz=348,slow=5.5,SNR=6.2						
WRA	**Warramunga Arr**	**81.54**	**122**	P	**P**	**20 09 44.8**	**+1.1**
	comp=Z,0.4nm,0.9s,mb3.3,baz=322,slow=5.0,SNR=4.6						

IDC 08 19:58:25.0±42.0, 4633N×15358E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.3/21, mbtmp3.7/3, Error ellipse: s-maj=1033.0km s-min=62.0km az=179.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YKA	**Yellowknife Ar**	**51.07**	**37**	P	P	20 07 28.4	-0.1
	0.3nm,0.6s,baz=298,slow=7.3,SNR=4.3						
FINES	**FINESS Array B**	**64.56**	**335**	P	P	20 09 03.0	-0.3
	2.5nm,1.1s,baz=35,slow=6.1,SNR=8.0						
NOA	**NORSAR Array B**	**68.73**	**341**	P	P	20 09 30.6	+0.6
	0.5nm,0.6s,baz=24,slow=6.4,SNR=2.8						

*NEIC **08** 20:10:40.4±0.2, 689S×15589E, h10km, mb4.9/29, Error ellipse: s-maj=7.0km s-min=4.8km az=107.0*
*BJI **08** 20:10:41.8, 645S×15547E, h5km, mB4.9, mb4.8, Ms4.9, Msz4.5*
*ISCJB **08** 20:10:43.8±0.3, 691S±004×15581E±007, h44km, mb4.9/62, MS3.9/12, Error ellipse: s-maj=9.5km s-min=6.1km az=3.5*
*MOS **08** 20:10:43.9±0.9, 673S×15567E, h33km, mb5.0/20, Error ellipse: s-maj=10.9km s-min=7.8km az=103.3*
*IDC **08** 20:10:47.8±2.9, 702S×15585E, h65km±25km, mb4.5/13, mb1 4.5/15, mb1mx4.5/16, mbtmp4.5/15, ML4.6/2, MS3.7/10, Ms1 3.7/10, ms1mx3.5/23, Error ellipse: s-maj=19.7km s-min=13.1km az=83.0*
ISC 08 20:10:43.2±2.0, 694S±005×15589E±007, h27km±14km, h16km±2.0km: pP-P, n225, σ0°92/119, mb4.9/62, MS3.9/12, 5C-8D, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.72**	**122**	*e*Pn	**Pn**	**20 11 58.1**	**+5.4**
HNR				*e*Sn	**Sb**	**20 13 00.0**	**-1.6**
HNR	**Honiara**	**4.72**	**122**	P	**Pn**	**20 11 56.6**	**+3.9**
	68nm,0.3s,baz=246,slow=3.1,SNR=20						
HNR				S	**Sb**	**20 12 56.2**	**-5.4**
	138nm,0.3s,baz=99,slow=16,SNR=5.9						
HNR				LR	LR	20 13 44.6	
	comp=Z,981nm,21.3s,baz=356,slow=38						
CTA	**Charters Tower**	**16.07**	**215**	*e*P	**Pn**	**20 14 31.8**	**+4.4**
	17nm,0.8s						
CTA				LR	LR	20 19 56.1	
CTA	**Charters Tower**	**16.07**	**215**	*e*P	**Pn**	**20 14 31.8**	**+4.4**
CTA				pmax	pmax		
	comp=Z,17nm,0.8s						
CTA	**Charters Tower**	**16.07**	**215**	P	**Pn**	**20 14 28.8**	**+1.4**
	comp=Z,0.9nm,0.3s,baz=37,slow=13,SNR=14						
CTA				LR	LR	20 19 56.1	
	comp=Z,469nm,19.2s,baz=44,slow=34						
CTAO	**Charters Tower**	**16.07**	**215**	*e*P	**Pn**	**20 14 30.8**	**+3.4**
	comp=Z,24nm,0.8s						
CTAO	**Charters Tower**	**16.07**	**215**	*e*P	**Pn**	**20 14 30.8**	**+3.4**
CTAO				pmax	pmax		
	comp=Z,24nm,0.8s						
EIDS	**Eidsvold**	**18.89**	**194**	*e*P	**Pn**	**20 15 04.6**	**+2.1**
	comp=Z,19nm,1.1s						
EIDS				*e*		20 15 20.3	
KAKA	**Kakadu**	**23.80**	**254**	*e*P	**P**	**20 15 53.8**	**-0.3**
	comp=Z,14nm,0.4s,mb4.7						
WRAB	**Tennant Creek**	**24.57**	**236**	*e*P	**P**	**20 16 01.1**	**+0.1**
	comp=Z,24nm,0.8s,mb4.8						
WRAB				*e*PcP	PcP	20 19 38.4	-0.5
WRAB	**Tennant Creek**	**24.57**	**236**	*e*P	**P**	**20 16 01.1**	**0.0**
WRAB				*e*		20 19 38.4	
WRAB				pmax	pmax		
	comp=Z,24nm,0.8s,mb4.8						
WB2	**Warramunga Arr**	**24.57**	**236**	*e*P	**P**	**20 16 01.3**	**+0.2**
WB2				*e*pP		20 16 06.0	
WB2				*e*sP	sP	20 16 11.3	-1.1
WB2				*e*PCP	PcP	20 19 38.7	-0.2
WRA	**Warramunga Arr**	**24.58**	**236**	P	**P**	**20 16 01.6**	**+0.4**
	comp=Z,12nm,0.7s,mb4.6,baz=62,slow=9.6,SNR=110						
WRA				PcP	PcP	20 19 38.8	-0.2
	comp=Z,4.2nm,0.6s,baz=57,slow=1.9,SNR=8.6						
ASAR	**Alice Springs**	**26.88**	**229**	P	**P**	**20 16 21.6**	**-0.3**
	comp=Z,4.6nm,0.4s,mb4.3,baz=61,slow=9.5,SNR=121						
ASAR				PcP	PcP	20 19 44.0	-0.1
	comp=Z,3.8nm,0.4s,baz=70,slow=2.5,SNR=13						
STKA	**Stephens Creek**	**28.17**	**206**	*e*P	**P**	**20 16 32.9**	**-0.5**
	comp=Z,6.6nm,0.8s,mb4.3						
STKA				*e*PCP	PcP	20 19 46.3	-0.8
STKA	**Stephens Creek**	**28.17**	**206**	P	**P**	**20 16 33.0**	**-0.4**
	comp=Z,7.1nm,0.7s,mb4.4,baz=22,slow=13,SNR=14						
STKA				PcP	PcP	20 19 46.1	-0.9
	comp=Z,3.8nm,0.7s,baz=24,slow=0.5,SNR=4.7						
STKA				LR	LR	20 27 27.2	
	comp=Z,368nm,19.8s,MS4.0,baz=275,slow=36						
FITZ	**Fitzroy Crossi**	**31.49**	**247**	*e*P	**P**	**20 17 02.5**	**-0.5**
	comp=Z,54nm,0.6s,mb5.5						
FITZ				*e*pP	pP	20 17 05.9	-5.2
FITZ				*e*sP	sP	20 17 10.3	-4.1
FITZ				*e*PCP	PcP	20 19 56.1	+0.2
BATI	**Kupang**	**32.02**	**262**	P	**P**	**20 17 11.9**	**+4.1**
	comp=Z,12nm,0.7s,mb4.8,baz=102,slow=9.3,SNR=3.3						
BATI				LR	LR	20 31 12.1	
	comp=Z,338nm,19.8s,MS4.0,baz=211,slow=38						
FORT	**Forrest**	**35.24**	**224**	*e*P	**P**	**20 17 35.3**	**-0.3**
	comp=Z,52nm,0.6s,mb5.6						
TAU	**Tasmania Unive**	**36.61**	**191**	*e*P	**P**	**20 17 48.5**	**+1.4**
	comp=Z,18nm,0.9s,mb4.9						
TAU				*e*		20 18 01.6	
TAU	**Tasmania Unive**	**36.61**	**191**	*e*P	**P**	**20 17 48.5**	**+1.4**
TAU				*e*		20 18 01.6	
TAU				pmax	pmax		
	comp=Z,18nm,0.9s,mb4.9						
URZ	**Urewera**	**36.62**	**151**	P	**P**	**20 17 47.5**	**+0.2**
	comp=Z,3.1nm,0.4s,mb4.5,baz=270,slow=7.1,SNR=3.6						
URZ				LR	LR	20 29 56.2	
	comp=Z,104nm,18.2s,MS3.6,baz=31,slow=31						
MBWA	**Marble Bar**	**37.70**	**244**	*e*P	**P**	**20 17 55.6**	**-1.1**
	comp=Z,20nm,0.5s,mb5.1						
MBWA				*e*	pP	20 18 02.9	-2.0
RPZ	**Rata Peaks**	**38.97**	**162**	P	**P**	**20 18 07.1**	**+0.1**
RPZ	**Rata Peaks**	**38.97**	**162**	P	**P**	**20 18 07.1**	**+0.1**
	comp=Z,23nm,0.5s,mb5.2,baz=6.5,slow=3.0,SNR=17						
KKM	**Kota Kinabalu**	**41.64**	**287**	*e*P	**P**	**20 18 29.6**	**0.0**
KKM				*e*		20 18 42.0	
KLBR	**Kellerberrin**	**43.20**	**230**	*e*P	**P**	**20 18 41.2**	**-0.9**
	comp=Z,91nm,1.2s,mb5.4						
MUN	**Mundaring**	**44.55**	**231**	*e*P	**P**	**20 18 52.7**	**-0.3**
KSM	**Kuching**	**46.25**	**279**	*e*P	**P**	**20 19 06.1**	**-0.6**
MJAR	**Matsushiro Arr**	**46.33**	**340**	P	**P**	**20 19 06.5**	**-0.3**
MJAR						20 20 41.5	
MJAR	**Matsushiro Arr**	**46.33**	**340**	P	**P**	**20 19 06.5**	**-0.3**
	comp=Z,1.4nm,0.6s,mb4.1,baz=173,slow=7.5,SNR=9.0						
MJAR				PcP	PcP	20 20 41.5	-0.3
	comp=Z,1.6nm,0.6s,baz=160,slow=4.2,SNR=5.0						
MJAR				LR	LR	20 36 19.5	
	comp=Z,74nm,20.7s,MS3.6,baz=120,slow=33						
MAJO	**Matsushiro**	**46.33**	**340**	*e*P	**P**	**20 19 07.0**	**+0.1**
	comp=Z,3.9nm,0.5s,mb4.6						
MAJO	**Matsushiro**	**46.33**	**340**	*e*P	**P**	**20 19 07.0**	**+0.1**
MAJO				pmax	pmax		
	comp=Z,4.0nm,0.5s,mb4.6						
MAT	**Matsushiro**	**46.33**	**340**	P	**P**	**20 19 07.1**	**+0.2**
JNU	**Nakatsue**	**46.39**	**331**	LR	LR	20 36 27.7	
	comp=Z,13nm,19.8s,MS2.9,baz=232,slow=33						
KSRS	**Korea Array**	**51.31**	**331**	P	**P**	**20 19 46.2**	**+1.1**
	comp=Z,1.7nm,0.6s,mb4.2,baz=146,slow=8.2,SNR=11						
KSRS				PcP	PcP	20 21 00.8	+0.9
	comp=Z,0.5nm,0.6s,baz=155,slow=3.4,SNR=4.3						
KSRS				LR	LR	20 37 43.2	
	comp=Z,54nm,22.0s,MS3.5,baz=272,slow=31						
ASAJ	**Asahikawa**	**52.22**	**348**	P	**P**	**20 19 53.5**	**+1.7**
	comp=Z,10.0nm,0.6s,mb5.0,baz=211,slow=11,SNR=24						
ASAJ				LR	LR	20 39 50.3	
	comp=Z,76nm,19.6s,MS3.7,baz=160,slow=33						
NJ2	**Nanjing**	**52.44**	**320**	*e*P	**P**	**20 19 53.0**	**-0.7**
NJ2				AMB	AMB		
	comp=Z,30nm,1.0s,mb5.2						
PPT	**Papeete**	**54.16**	**107**	LR	LR	20 38 15.2	
	comp=Z,37nm,19.3s,MS3.5,baz=64,slow=30						
YSS	**Yuzh-Sakhalins**	**54.91**	**349**	*e*P	**P**	**20 20 12.3**	**+0.8**
	comp=Z,8.2nm,0.8s,mb4.8						
YSS	**Yuzh-Sakhalins**	**54.91**	**349**	*e*P	**P**	**20 20 11.3**	**-0.2**
YSS				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.7						
KULM	**Kulim**	**56.45**	**281**	*e*P	**P**	**20 20 22.2**	**-1.0**
KULM				*e*		20 20 34.5	
MDJ	**Mudanjiang**	**56.52**	**338**	P	**P**	**20 20 23.0**	**-0.1**
MDJ				AMB	AMB		
	comp=Z,5.0nm,1.1s,mb4.5						
MDJ				AMB	AMB		
	comp=Z,53nm,6.4s						
CN2	**Changchun**	**57.52**	**334**	*e*P	**P**	**20 20 32.0**	**+1.8**
CN2				*e*AP	pP	20 20 36.7	-2.0
CN2				*e*S	**S**	**20 28 27.0**	**+0.9**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.9						
CN2				LR	LR		
	comp=Z,500nm,22.0s,MS4.6						
GYA	**Guiyang**	**58.13**	**307**	P	**P**	**20 20 35.8**	**+1.0**
GYA				AP	pP	20 20 39.7	-3.6
GYA				XP	sP	20 20 42.8	-3.7
GYA				PCP	PcP	20 21 27.9	+1.6
GYA				PP	PP	20 22 46.4	+2.5
GYA				SCP	ScP	20 25 26.7	+1.8
GYA				S	**S**	**20 28 34.5**	**-0.2**
GYA				SCS	ScS	20 30 22.0	-1.1
GYA				SS	SS	20 32 26.7	0.0
GYA				AMB	AMB		
	comp=Z,20nm,1.0s,mb5.1						
GYA				AMB	AMB		
	comp=Z,120nm,6.9s						
GYA				LR	LR		
	comp=N,480nm,22.4s,MS4.7						
GYA				LR	LR		
	comp=E,560nm,23.6s,MS4.7						
GYA				LR	LR		
	comp=Z,490nm,21.4s,MS4.6						
BJI	**Beijing**	**59.38**	**325**	P	**P**	**20 20 42.9**	**-0.3**
BJI				AMB	AMB		
	comp=Z,4.0nm,1.4s,mb4.3						
KLR	**Kul'dur**	**59.79**	**342**	*e*P	**P**	**20 20 41.0**	**-4.8**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
XAN	**Xi'an**	**60.29**	**316**	P	**P**	**20 20 49.2**	**-0.4**
XAN				AP	pP	20 20 57.0	-1.1
XAN				XP	sP	20 21 01.0	-0.3
KMI	**Kunming**	**60.72**	**304**	P	**P**	**20 20 54.6**	**+1.8**
KMI				AMB	AMB		
	comp=Z,9.0nm,0.8s,mb5.0						
CM31	**Chiang Mai Arr**	**61.56**	**295**	*e*P	**P**	**20 20 59.2**	**+0.6**
	comp=Z,20nm,0.9s,mb5.2						
CM31				*e*		20 21 12.4	
CHTO	**Chiang Mai**	**61.68**	**296**	*e*P	**P**	**20 20 59.4**	**+0.1**
	comp=Z,19nm,1.0s,mb5.2						
CHTO				*e*		20 21 12.5	
CHTO	**Chiang Mai**	**61.68**	**296**	*e*P	**P**	**20 20 59.4**	**+0.1**
CHTO				*e*		20 21 12.5	
CHTO				pmax	pmax		
	comp=Z,19nm,1.0s,mb5.2						
CD2	**Chengdu**	**62.46**	**310**	*e*P	**P**	**20 21 04.5**	**+0.1**
CD2				AP	pP	20 21 09.1	-3.8
CD2				XP	sP	20 21 12.1	-4.0
CD2				PP	PP	20 23 23.8	+1.7
CD2				S	**S**	**20 29 29.0**	**-1.1**
CD2				XS	sS	20 29 36.9	-7.2
CD2				SS	SS	20 33 34.6	+0.1
CD2				AMB	AMB		
	comp=Z,20nm,0.6s,mb5.4						
CD2				AMB	AMB		
	comp=Z,30nm,5.8s						
CD2				LR	LR		
	comp=N,180nm,15.6s						
CD2				LR	LR		
	comp=Z,170nm,13.2s,MS4.4						
HHC	**Hu-ho-hao-te**	**62.58**	**323**	*e*P	**P**	**20 21 05.6**	**+0.6**
HHC				XP	sP	20 21 11.4	-5.3
HHC				PP	PP	20 23 26.4	+3.4
HHC				PCS	PcS	20 25 46.1	-1.0
HHC				S	**S**	**20 29 32.1**	**+0.9**
HHC				SCS	ScS	20 30 53.0	-2.7
HHC				AMB	AMB		
	comp=Z,9.0nm,0.5s,mb5.2						
HHC				AMB	AMB		
	comp=Z,100nm,9.0s						
HHC				LR	LR		
	comp=N,130nm,21.4s,MS4.2						
HHC				LR	LR		
	comp=E,81nm,20.2s,MS4.2						
HHC				LR	LR		
	comp=Z,73nm,21.4s,MS3.8						
HIA	**Hailar**	**64.25**	**335**	*e*P	**P**	**20 21 16.4**	**+0.5**
	comp=Z,5.7nm,0.6s,mb4.8						
HIA	**Hailar**	**64.25**	**335**	*e*P	**P**	**20 21 16.4**	**+0.6**
HIA				pmax	pmax		
	comp=Z,6.0nm,0.6s						
MA2	**Magadan**	**66.43**	**357**	*e*P	**P**	**20 21 30.9**	**+1.2**
MA2				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.9						
GTA	**Gaotai**	**69.31**	**317**	P	**P**	**20 21 49.2**	**+0.9**
GTA				AP	pP	20 21 52.4	-4.5
GTA				XP	sP	20 21 55.7	-4.4
GTA				AMB	AMB		
	comp=Z,6.0nm,0.6s,mb4.7						
ULN	**Ulaanbaatar**	**69.44**	**327**	*e*P	**P**	**20 21 49.8**	**+0.9**
	comp=Z,18nm,1.0s,mb5.0						
ULN	**Ulaanbaatar**	**69.44**	**327**	*e*P	**P**	**20 21 47.4**	**-1.5**
SEY	**Seymchan**	**69.72**	**358**	*e*P	**P**	**20 21 50.3**	**-0.1**
SONM	**Songino Array**	**69.77**	**327**	P	**P**	**20 21 52.0**	**+1.0**
SONM						20 22 13.8	
SONM	**Songino Array**	**69.77**	**327**	P	**P**	**20 21 52.0**	**+1.0**
	comp=Z,11nm,0.6s,mb5.0,baz=147,slow=6.0,SNR=93						
SONM				PcP	PcP	20 22 13.8	+0.3
	comp=Z,4.2nm,0.6s,baz=143,slow=4.6,SNR=6.1						
SONM				PKPPKP		20 49 57.1	
	comp=Z,0.6nm,0.9s,baz=253,slow=3.1,SNR=5.7						
SHL	**Shillong**	**70.03**	**300**	*e*P	**P**	**20 21 53.5**	**+0.4**
SBA	**Scott Base**	**71.10**	**178**	*e*P	**P**	**20 21 59.6**	**+0.9**
	comp=Z,12nm,1.4s,mb4.6						
SBA	**Scott Base**	**71.10**	**178**	*e*P	**P**	**20 21 59.6**	**+0.9**
SBA				pmax	pmax		
	comp=Z,12nm,1.4s,mb4.6						
YAK	**Yakutsk**	**71.70**	**347**	*e*P	**P**	**20 22 01.2**	**-1.2**
YAK				pmax	pmax		
	comp=Z,5.0nm,1.3s,mb4.3						
LSA	**Lhasa**	**71.98**	**304**	P	**P**	**20 22 06.2**	**+1.4**
LSA	**Lhasa**	**71.98**	**304**	*e*P	**P**	**20 22 05.3**	**+0.5**
	comp=Z,4.3nm,0.6s,mb4.6						
LSA	**Lhasa**	**71.98**	**304**	*e*P	**P**	**20 22 05.3**	**+0.5**
LSA				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.5						
BOD	**Bodaibo**	**72.89**	**338**	*e*P	**P**	**20 22 09.4**	**-0.2**
BOD				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
ZAK	**Zakamensk**	**72.92**	**328**	*e*P	**P**	**20 22 10.1**	**+0.2**
ZAK				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.5						
TLY	**Talaya**	**73.47**	**329**	*e*P	**P**	**20 22 13.4**	**+0.2**
	comp=Z,6.2nm,0.8s,mb4.6						
TLY	**Talaya**	**73.47**	**329**	*e*P	**P**	**20 22 13.8**	**+0.6**
TLY				pmax	pmax		
	comp=Z,9.0nm,1.1s,mb4.6						
IRK	**Irkutsk**	**73.48**	**330**	*e*P	**P**	**20 22 11.3**	**-1.9**
IRK				pmax	pmax		
	comp=Z,18nm,0.7s,mb5.1						
BOK	**Bokaro**	**74.76**	**297**	*e*P	**P**	**20 22 17.5**	**-3.9**
BOK				AMb	AMB	20 22 24.5	
	comp=Z,12nm,0.7s,mb4.9						
MOY	**Mondy**	**74.83**	**328**	*e*P	**P**	**20 22 21.3**	**+0.2**
BILL	**Bilibino**	**75.16**	**4**	*e*P	**P**	**20 22 23.3**	**+0.6**
	comp=

KSH LR LR
comp=E,576nm,6.1s
KURK Kurchatov 87.34 322 *e*P **P 20 23 26.9 -0.8**
comp=E,3.9nm,0.3s,mb5.1
KURK Kurchatov 87.34 322 *e*P **P 20 23 25.9 -1.8**
TKM2 Tokmak 2 87.62 314 *e*P **P 20 23 29.5 +0.3**
comp=E,3.5nm,0.6s,mb4.8
TKM2 Tokmak 2 87.62 314 *e*P **P 20 23 29.5 +0.2**
TKM2 pmax pmax
comp=Z,4.0nm,0.6s,mb4.8
UCH Uchtor 88.27 313 *e*P **P 20 23 33.5 +1.1**
comp=Z,3.5nm,0.8s,mb4.6
AML Almayashu 88.85 313 *e*P **P 20 23 35.9 +0.8**
comp=Z,9.2nm,0.8s,mb5.2
NVAR Mina Array Bea 90.99 52 P **P 20 23 49.1 +4.0**
comp=Z,0.2nm,0.3s,mb3.9,baz=210,slow=5.2,SNR=2.9
KBL Kabul 91.30 304 *e*P **P 20 23 45.4 -1.3**
comp=Z,6.1nm,0.7s,mb5.0
SYO Syowa Base 92.67 199‖ *e*P **P 20 23 49.2 -3.1**
SYO Syowa Base 92.67 199‖ *e*P **P 20 23 54.0 +1.7**
BRVK Borovoye 92.86 323 *e*P **P 20 23 51.8 -1.7**
comp=Z,4.7nm,0.6s,mb5.1
BRVK Borovoye 92.86 323 *e*P **P 20 23 51.8 -1.7**
BRVK pmax pmax
comp=Z,5.0nm,0.6s,mb5.1
YKA Yellowknife Ar 95.88 28 P **P 20 24 07.4 +0.4**
comp=Z,1.0nm,0.7s,mb4.3,baz=268,slow=4.5,SNR=16
YKA PKKPbc PKKPbc 20 40 54.3 -4.3
comp=Z,0.6nm,0.5s,baz=85,slow=2.8,SNR=14
PDAR Pinedale Array 98.00 48 PKKPbc PKKPbc 20 40 49.4 -2.7
comp=Z,0.5nm,0.9s,baz=22,slow=1.6,SNR=3.7
ARU Arti 99.80 326 *e*P Pdif 20 24 22.8 -2.1
comp=Z,2.1nm,0.4s
ARU Arti 99.80 326 *e*P Pdif 20 24 22.8 -2.2
ARU pmax pmax
comp=Z,2.0nm,0.4s,mb4.9
SNAA Sanae 100.30 187 *e*Pdiff Pdif 20 24 30.6 +3.4
SNAA *e* 20 24 33.7
SNAA *e* 20 24 38.4
SNAA *e* 20 24 53.2
SNAA *e* 20 28 56.3
VNA3 Neumayer Olymp 101.39 185 *e*Pdiff Pdif 20 24 33.0 +1.0
VNA3 *e* 20 24 36.4
VNA3 *e* 20 24 40.6
VNA3 *e* 20 28 55.4
VNA3 *e* 20 28 59.0
VNA2 Neumayer--Watz 101.49 186 *e*Pdiff Pdif 20 24 35.2 +2.7
baz=173,slow=4.6
VNA2 *e* 20 24 38.6
VNA2 *e* 20 24 42.8
VNA2 *e* 20 28 56.0
VNA2 *e* 20 28 59.4
VNA1 Neumayer--Stat 101.84 185 *e*Pdiff Pdif 20 24 35.9 +1.9
VNA1 *e* 20 24 39.7
VNA1 *e* 20 28 59.0
VNA1 *e* 20 29 02.7
TXAR Lajitas Array 102.45 62 PKKPbc PKKPbc 20 40 36.0 -2.9
comp=Z,0.2nm,0.6s,baz=111,slow=6.9,SNR=3.6
ARCES ARCESS Array B 109.79 343 PKiKP PKiKP 20 29 10.9 -0.4
comp=Z,1.7nm,0.4s,baz=84,slow=1.1,SNR=26
ARCES PKKPbc PKKPbc 20 40 13.7 -3.8
comp=Z,1.8nm,0.8s,baz=240,slow=2.7,SNR=9.5
KAF Kangasniemi 113.79 337 *e*p PKiKP 20 29 17.4 -1.7
FINES FINESS Array B 114.25 336 PKP PKiKP 20 29 19.1 -0.9
comp=Z,1.4nm,0.5s,baz=95,slow=2.8,SNR=23
FINES PKKPbc PKKPbc 20 39 59.1 -3.3
comp=Z,1.8nm,0.9s,baz=202,slow=2.8,SNR=7.9
PLCA Paso Flores 116.22 142 PKKPbc PKKPbc 20 39 54.0 -1.1
comp=Z,1.3nm,0.6s,baz=346,slow=2.8,SNR=3.4
PLCA PKKPab PKKPab 20 39 58.4 -1.3
comp=Z,1.3nm,0.6s,baz=333,slow=3.8,SNR=6.4
AKASG Malin Array Be 118.01 325 PKP PKPdf 20 29 26.1 -1.4
comp=Z,3.6nm,0.5s,baz=58,slow=2.3,SNR=15
KMBO Kilima Mbogo 118.25 265 PKP PKPdf 20 29 28.5 -0.7
comp=Z,1.0nm,0.8s,baz=43,slow=12,SNR=4.4
NB2 NORSAR Subarra119.94 341 PKPdf PKPdf 20 29 29.4 -1.5
comp=Z,0.7nm,0.5s,baz=39,slow=1.9
NOA NORSAR Array B119.94 341 PKP PKPdf 20 29 29.6 -1.3
comp=Z,1.6nm,0.5s,baz=46,slow=1.9,SNR=7.7
KWP Kalwaria 122.21 326‖ *i*P PKPdf 20 29 35.6 0.0
KOLS Kolonicke sedl 122.81 325 *e*PKP PKPdf 20 29 36.8 0.0
STHS Stebnicka Huta 123.13 326 *e*PKP PKPdf 20 29 37.7 +0.3
CRVS Cervenica-Dubn 123.28 326 *e*PKP PKPdf 20 29 37.2 -0.5
NIE Niedzica 123.64 327 *e*PKP PKPdf 20 29 39.1 +0.7
DRGR 123.64 323⇑ *i*P PKPdf 20 29 37.5 -1.0
OKC Ostrava-Krasne 124.56 328 *e*PKPdf PKPdf 20 29 39.6 -0.6
BZS Buzias 124.89 322⇑ *i*P PKPdf 20 29 40.4 -0.5
MORC Moravsky Berou 124.91 328‖ *i*P PKPdf 20 29 40.9 +0.1
VYKS Vyhne 124.96 326 *e*PKP PKPdf 20 29 40.5 -0.5
KOLL Kolacno 125.15 327 *e*PKP PKPdf 20 29 41.5 +0.2
DPC Dobruska-Polom 125.19 329 *e*PKPdf PKPdf 20 29 41.7 +0.4
UPC Upice 125.25 330 *e*PKPdf PKPdf 20 29 41.7 +0.2
VRAC Vranov 125.69 328‖ *i*P PKPdf 20 29 42.6 +0.3
PVCC Panska Ves 125.95 330 *e*PKPdf PKPdf 20 29 43.0 +0.2
BRG Berggiesshubel 126.03 331 *i* PKP PKPdf 20 29 42.6 -0.3
BRG Berggiesshubel 126.03 331 *i* PKP PKPdf 20 29 42.6 -0.3
comp=Z,6.5nm,0.6s
CLL Collm 126.19 332‖ *i*PKP PKPdf 20 29 42.6 -0.6
CLL *e* 20 29 57.0
CLL *e* 20 30 04.0
CLL Collm 126.19 332‖ *i*PKIKP PKPdf 20 29 42.6 -0.6
CLL *e* 20 29 57.0
CLL Collm 126.19 332‖ *i*PKPdf PKPdf 20 29 42.6 -0.6
comp=Z,9.0nm,0.6s
CLL *i* pPKPdf pPKPdf 20 29 45.1 -7.2
CLL Collm 126.19 332 *e*(PKP) pPKPdf 20 29 57.0 +4.7
CLL *ex* x 20 30 04.0
PKSM Moragy 126.34 324⇑ *i*P PKPdf 20 29 43.1 -0.6
CLZ Clausthal 127.00 334 *e*PKP PKPdf 20 29 45.3 +0.5
NKC Novy Kostel 127.17 331 *e*PKP PKPdf 20 29 45.4 +0.3
KHC Kasperske Hory 127.34 330 *e*PKPdf PKPdf 20 29 45.7 +0.2
GEC2 GERESS Array S 127.46 329 *e*PKP PKPdf 20 29 45.7 0.0
GERES GERESS Array B 127.46 329 PKP PKPdf 20 29 45.4 -0.3
comp=Z,5.0nm,0.7s,baz=72,slow=1.7,SNR=60
WET Wettzell 127.68 330 *e*PKP PKPdf 20 29 46.5 +0.3
GRA1 Grafenberg Arr 128.12 331 *e*PKP PKPdf 20 29 47.3 +0.3
GRF Grafenberg Arr 128.12 331 *e*PKP PKPdf 20 29 47.3 +0.3
EKA Eskdalemuir Ar 128.93 345 PKP PKPdf 20 29 47.9 -0.5
comp=Z,1.4nm,0.5s,baz=19,slow=2.6,SNR=16
WATA Walderalm 129.53 329 *i* P PKPdf 20 29 49.5 -0.3
comp=Z,1.0nm,0.6s,SNR=8.1
SQTA Sankt Quirin 129.79 329⇑ *i*P PKPdf 20 29 50.4 +0.2
comp=Z,4.6nm,1.1s,SNR=5.5
FETA Feichten 130.17 329 *i* PKiKP PKiKP 20 29 51.0 -0.8
comp=Z,3.7nm,0.7s,SNR=7.3
GIVF Givet 130.65 336 *e*PKIKP PKPdf 20 29 51.7 -0.1
comp=Z,11nm,0.7s
LPAZ La Paz 130.70 118 PKP PKPdf 20 29 53.0 +0.1
LPAZ La Paz 130.70 118 PKP PKPdf 20 29 53.0 +0.1
comp=Z,0.8nm,0.6s,baz=47,slow=5.9,SNR=4.7
DAVOX Davos/Dischmat 130.76 330 PKP PKPdf 20 29 52.3 +0.2
comp=Z,5.7nm,0.5s,baz=213,slow=2.9,SNR=29
DAVOS Davos 130.76 330 PKIKP PKPdf 20 29 52.3 +0.2
CDF Champ du Feu 130.86 333 *e*PKIKP PKPdf 20 29 51.8 -0.4
comp=Z,2.5nm,0.5s
BAIF Baives 130.93 336 *e*PKIKP PKPdf 20 29 52.4 +0.1
comp=Z,5.1nm,0.7s
TSUM Tsumeb 131.40 237 *e*PKPdf PKPdf 20 29 53.7 -0.4
HINF Hinteralfeld 131.49 332 *e*PKIKP PKPdf 20 29 53.1 -0.3
comp=Z,6.0nm,0.5s
HAU Haudompre 131.58 333 *e*PKIKP PKPdf 20 29 53.4 -0.2
comp=Z,9.5nm,0.6s
MEZF Maizieres J'vi 131.78 334 *e*PKIKP PKPdf 20 29 54.3 +0.3
comp=Z,10nm,0.6s
CABF La Chapelle 132.73 332 *e*PKIKP PKPdf 20 29 56.3 +0.5
comp=Z,8.7nm,0.5s
LPL La Plagne 133.21 330 *e*PKIKP PKPdf 20 29 57.3 +0.5
comp=Z,8.6nm,0.6s
LPG La Plagne 133.22 330 *e*PKIKP PKPdf 20 29 56.9 +0.1
comp=Z,11nm,0.7s
LOR Lormes 133.24 334 *e*PKIKP PKPdf 20 29 57.1 +0.3
comp=Z,3.8nm,0.5s
SSF Saint Saulge 133.55 334 *e*PKIKP PKPdf 20 29 57.6 +0.2
comp=Z,5.8nm,0.6s
BNI Bardonecchia 133.57 330 *e*PKPdf PKPdf 20 29 57.0 -0.4
SMF Signal de Mont 133.73 333 *e*PKIKP PKPdf 20 29 57.7 0.0
comp=Z,3.4nm,0.4s
MBDF Montbardon 133.75 330 *e*PKIKP PKPdf 20 29 57.9 +0.1
HYF Humbligny 133.76 335 *e*PKIKP PKPdf 20 29 58.3 +0.6
FLN La Foliniere 133.78 338 *e*PKIKP PKPdf 20 29 57.9 +0.2
comp=Z,8.3nm,0.6s
LDF La Druitiere 133.79 338 *e*PKIKP PKPdf 20 29 57.6 -0.1
comp=Z,5.8nm,0.7s
AVF Avril sur Loir 133.83 334 *e*PKIKP PKPdf 20 29 57.7 -0.2
SDV Santo Domingo 133.90 84 PKP PKPdf 20 29 58.2 -0.7
comp=Z,3.7nm,0.6s,baz=301,slow=10.0,SNR=6.2
SBF Sospel 134.02 328 *e*PKIKP PKPdf 20 29 58.2 -0.1
comp=Z,7.3nm,0.7s
ORIF Oris-en-Rattie 134.06 330 *e*PKIKP PKPdf 20 29 58.3 -0.1
comp=Z,7.0nm,0.6s
PGF Pioggiola 134.06 326 *e*PKIKP PKPdf 20 29 58.6 +0.2
comp=Z,11nm,0.7s
GRR Gorron 134.23 338 *e*PKIKP PKPdf 20 29 58.9 +0.3
comp=Z,6.2nm,0.6s
GRR Gorron 134.23 338 *e* PKPdf 20 29 58.9 +0.3
BGF Bois d'Agland 134.23 334 *e*PKIKP PKPdf 20 29 59.0 +0.4
comp=Z,9.8nm,0.6s
FRF La Foret Royal 134.64 329 *e*PKIKP PKPdf 20 29 59.6 +0.1
comp=Z,6.8nm,0.7s
VIVF Saint-Julien-l 134.69 331 *e*PKIKP PKPdf 20 29 59.9 +0.3
comp=Z,7.9nm,0.7s
TCF Toulx Ste Croi 134.72 334 *e*PKIKP PKPdf 20 30 00.0 +0.4
comp=Z,12nm,0.8s
LMR La Mourre 134.87 328 *e*PKIKP PKPdf 20 30 00.0 +0.1
SMRF Simiane la Rot 134.89 330 *e*PKIKP PKPdf 20 30 00.2 +0.2
MFF Saint Martin d 135.44 336 *e*PKIKP PKPdf 20 30 01.3 +0.4
comp=Z,4.9nm,0.6s
MFF Saint Martin d 135.44 336 *e* PKPdf 20 30 01.3 +0.4
LASF Ste Croix 135.66 331 *e*PKIKP PKPdf 20 30 01.5 +0.1
comp=Z,8.7nm,0.7s
RJF Les Rejaudoux 135.79 334 *e*PKIKP PKPdf 20 30 02.1 +0.5
comp=Z,6.8nm,0.8s
CAF Calviac 135.84 333 *e*PKIKP PKPdf 20 30 02.0 +0.3
SIV San Ignacio 136.89 122 PKP PKPdf 20 30 03.3 -1.2
comp=Z,1.4nm,0.5s,baz=223,slow=9.5,SNR=4.4
MTLF Montolieu 137.00 332 *e*PKIKP PKPdf 20 30 04.0 +0.1
comp=Z,4.7nm,0.6s
EPF Esparros 138.10 333 *e*PKIKP PKPdf 20 30 05.8 -0.2
MVO Moncorvo 142.68 339 *e*PKP PKPdf 20 30 11.6 -2.7
ESDC Sonseca Array 142.72 334 PKhKP 20 30 10.7
comp=Z,0.5nm,0.5s,baz=15,slow=2.8,SNR=5.1
PVRL Vila Real 142.82 339 *e*PKP PKPdf 20 30 12.2 -2.3
PVIS Viseu 143.38 339 *e*PKP PKPdf 20 30 12.7 -2.9
PCBR Castelo Branco 144.00 338 *e*PKP PKPdf 20 30 15.2 -1.5
PESTR Estremoz 144.89 337 *e*PKP PKPdf 20 30 17.2 -1.0
PBAR Barrancos 145.27 336 *e*PKP PKPdf 20 30 18.6 -0.3
EVO Evora 145.34 338 *e*PKIKP PKPdf 20 30 18.9 -0.1
comp=Z,9.9nm,0.7s
PBEJ Beja 145.73 337 *e*PKP PKPdf 20 30 20.3 +0.6
PVAQ Vaqueiros 146.21 336 *e*PKP PKPdf 20 30 21.8 +1.2
PTEO Sao Teotonio 146.48 338 *e*PKP PKPdf 20 30 22.3 +1.3
MORF Marmelete 146.66 337 *e*PKP PKPab 20 30 24.7 +0.7
BDFB Brasilia 147.38 134 PKPbc PKPbc 20 30 24.6 -0.9
comp=Z,13nm,0.8s,baz=236,slow=6.8,SNR=13
MDT Midelt 148.52 327 PKPbc PKPbc 20 30 28.7 +0.6
comp=Z,7.0nm,0.7s,baz=72,slow=3.0,SNR=20
TORD Torodi Ar. Bea 153.87 286 PKP PKPdf 20 30 32.2 -1.0
TORD PKPbc PKPbc 20 30 40.0 -1.2
TORD PKPab PKPab 20 30 53.7 -0.6
TORD PP PP 20 34 26.6 -2.2
TORD Torodi Ar. Bea 153.87 286 PKP PKPdf 20 30 32.2 -1.0
comp=Z,0.9nm,0.7s,baz=60,slow=0.9,SNR=4.4
TORD PKPbc PKPbc 20 30 40.0 -1.1
comp=Z,4.1nm,0.5s,baz=66,slow=1.6,SNR=34
TORD PKPab PKPab 20 30 53.7 -0.6
comp=Z,3.0nm,0.6s,baz=63,slow=2.4,SNR=7.8
TORD PP PP 20 34 26.7 -2.2
comp=Z,0.7nm,0.8s,baz=70,slow=5.5,SNR=4.4
DBIC Dimbokro 160.88 270 PKP PKPdf 20 30 41.5 -0.6
comp=Z,4.1nm,1.0s,baz=198,slow=1.2,SNR=3.7
DBIC PKPab PKPab 20 31 24.4 -0.2
comp=Z,14nm,0.7s,baz=89,slow=5.0,SNR=26

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*IDC **08** 20:17:48.7±1.2, 1735S×7270W, h0km, mb3.9/4, mb1 4.0/5, mb1mx3.7/15, mbtmp3.9/5, ML4.1/1, Error ellipse: s-maj=34.1km s-min=32.2km az=31.0*
*ISCJB **08** 20:17:55.5±2.0, 173S±0.1×728W±0.1, h68km±20km, mb3.8/5, Error ellipse: s-maj=29.0km s-min=12.5km az=34.7*
ISC 08 20:17:56.0±1.8, 174S±02×728W±01, h60km±17km, n10, σ1§22/9, mb3.9/5, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**4.55**	**77**	Pn	**Pn**	**20 19 04.3**	**+1.9**
	1.1nm,0.3s,baz=269,slow=6.8,SNR=34						
NNA	**Nana**	**6.64**	**323**	Pn	**Pn**	**20 19 32.4**	**+1.4**
	1.4nm,0.3s,baz=153,slow=16,SNR=2.9						
NNA				Sn	**Sn**	**20 20 44.0**	**-1.3**
	6.5nm,0.3s,baz=203,slow=18,SNR=5.5						
SIV	**San Ignacio**	**11.28**	**85**	Pn	**Pn**	**20 20 32.0**	**-2.5**
	0.6nm,0.3s,baz=258,slow=14,SNR=8.8						
PLCA	**Paso Flores**	**23.38**	**176**	P	**P**	**20 22 59.1**	**-0.3**
	0.9nm,0.5s,mb3.4,baz=334,slow=13,SNR=6.4						
BDFB	**Brasilia**	**23.78**	**90**	P	**P**	**20 23 02.6**	**-0.8**
	3.6nm,0.6s,mb4.0,baz=242,slow=13,SNR=6.2						
DBIC	**Dimbokro**	**27.11**	**76**	P	**P**	**20 29 08.8**	**-0.3**
	2.4nm,0.8s,mb4.2,baz=263,slow=6.8,SNR=3.8						
TORD	**Torodi Ar. Bea**	**79.49**	**73**	P	**P**	**20 29 57.7**	**+0.9**
	1.3nm,0.7s,mb4.0,baz=258,slow=5.0,SNR=16						
YKA	**Yellowknife Ar**	**86.11**	**342**	P	**P**	**20 30 30.5**	**+0.5**
	1.3nm,1.1s,mb4.1,baz=136,slow=5.0,SNR=8.4						
MKAR	**Makanchi Array**	**144.12**	**30**	PKP	PKPdf	20 37 25.7	+0.7
	0.3nm,0.4s,baz=312,slow=4.1,SNR=5.2						
SONM	**Songino Array**	**149.59**	**1**	PKPbc	PKPbc	20 37 41.7	+3.0
	0.3nm,0.4s,baz=355,slow=1.0,SNR=3.7						

IDC 08 20:22:06.3±56.0, 1220S×16506E, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.6/14, mbtmp3.9/3, Error ellipse: s-maj=948.9km s-min=106.7km az=60.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**29.15**	**224**	P	P	20 28 09.1	-0.2
	2.7nm,1.0s,baz=40,slow=10,SNR=5.3						
WRA	**Warramunga Arr**	**30.47**	**251**	P	P	20 28 21.5	+0.5
	0.7nm,0.6s,baz=83,slow=8.8,SNR=7.4						
ASAR	**Alice Springs**	**31.68**	**245**	P	P	20 28 31.6	-0.1
	1.2nm,0.6s,baz=68,slow=9.7,SNR=23						

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*CSEM **08** 20:22:17.0±0.1, 3690N×2481W, h10km, mb4.2/19, Ms2.9, Error ellipse: s-maj=1.9km s-min=1.0km az=13.0*
*NEIC **08** 20:22:18.4, 3733N×2438W, h0km, mb4.2/21, After MDD.*
*IDC **08** 20:22:19.6±0.9, 3709N×2472W, h0km, mb3.9/9, mb1 4.0/10, mb1mx3.8/25, mbtmp3.9/10, ML3.6/1, MS3.4/2, Ms1 3.4/2, ms1mx2.8/34, Error ellipse: s-maj=29.3km s-min=19.0km az=170.0*
*ISCJB **08** 20:22:21.8±0.5, 3725N±006×2485W±005, h33km±8km, mb4.0/29, Error ellipse: s-maj=11.9km s-min=4.8km az=27.8*
*PDA **08** 20:22:22.6±0.9, 3724N×2470W, h0km, MD4.0, ML3.8, Error ellipse: s-maj=6.3km s-min=3.0km az=87.0*
*SVSA **08** 20:22:22.6±0.9, 3724N×2470W, h0km, MD4.0, ML3.8, Error ellipse: s-maj=6.3km s-min=3.0km az=87.0*
ISC 08 20:22:22.8±0.6, 3722N±006×2488W±003, h30km±6km, n99, σ0§78/102, mb4.0/29, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSMN	**Pico do Norte,**	**0.27**	**215**	*e*P	**Pb**	**20 22 29.1**	**-0.7**
PSMN				*e*S	**Sb**	**20 22 35.3**	**+0.8**
PDA	**Ponta Delgada**	**0.82**	**310**	*e*P	**Pn**	**20 22 37.4**	**-0.8**
PDA				*e*S	**Sb**	**20 22 49.1**	**-0.1**
ADH	**Angra Heroismo**	**2.35**	**308**	*e*P	**Pn**	**20 22 59.0**	**-0.3**
ADH				*e*S	**Sn**	**20 23 26.9**	**-0.3**
PID	**Ribeirinha**	**2.84**	**296**	*e*P	**Pn**	**20 23 06.4**	**+0.3**
PID				*e*S	**Sn**	**20 23 39.3**	**0.0**
PMAN	**Manadas**	**2.91**	**300**	*e*P	**Pn**	**20 23 07.5**	**+0.5**
PMAN				*e*S	**Sn**	**20 23 40.5**	**-0.3**
PMAN				A		20 23 43.9	
	73nm,0.3s						
PMAN	**Manadas**	**2.91**	**300**	*e*P	**Pn**	**20 23 07.5**	**+0.5**
PMAN				*e*S	**Sn**	**20 23 40.5**	**-0.3**
ROSA	**Rosais**	**3.05**	**300**	*e*P	**Pn**	**20 23 09.4**	**+0.4**
ROSA				*e*S	**Sn**	**20 23 44.3**	**-0.1**
SRBC	**Serra Branca**	**3.08**	**307**	*e*P	**Pn**	**20 23 09.3**	**-0.1**
SRBC				*e*S	**Sn**	**20 23 44.5**	**-0.7**
PICO	**Pico**	**3.08**	**296**	*e*P	**Pn**	**20 23 09.8**	**+0.4**
PICO				*e*S	**Sn**	**20 23 44.8**	**-0.5**
HOR	**Horta**	**3.24**	**295**	*e*P	**Pn**	**20 23 12.4**	**+0.8**
HOR				*e*S	**Sn**	**20 23 48.8**	**-0.4**
CALA	**Caldeira**	**3.32**	**295**	*e*P	**Pn**	**20 23 13.0**	**+0.4**
CALA				*e*S	**Sn**	**20 23 50.1**	**-0.9**
PMAR	**Madeira**	**7.93**	**122**	*e*Pn	**Pn**	**20 24 11.9**	**-4.1**
PMAR				*e*Sn	Sx	20 25 33.0	
PMAR				A		20 25 39.3	
	25nm,0.7s						
PMAR				*e*T		20 31 40.8	
PMAR	**Madeira**	**7.93**	**122**	*e*Pn	**Pn**	**20 24 11.9**	**-4.1**
PMAR				*e*Sn	Sx	20 25 33.0	
EHIG	**Higuera**	**10.48**	**143**	P	**Pn**	**20 24 46.9**	**-4.1**
	59nm,0.4s						
EHIG	**Higuera**	**10.48**	**143**	P	**Pn**	**20 24 46.9**	**-4.1**
	59nm,0.4s						
EGOM	**La Gomera**	**11.10**	**142**	P	**Pn**	**20 24 55.2**	**-4.3**
	26nm,0.4s						
EGOM				S	Sx	20 26 49.3	
CCAN	**Las Canadas**	**11.35**	**140**	P	**Pn**	**20 24 58.1**	**-4.8**
CCAN				S	Sx	20 26 56.8	
CCAN	**Las Canadas**	**11.35**	**140**	P	**Pn**	**20 24 58.1**	**-4.8**
PMAFR	**Mafra**	**12.41**	**77**	*e*S	Sx	20 27 17.2	
MORF	**Marmelete**	**12.93**	**85**	*e*S	Sx	20 27 30.0	
EVOP	**Sao Brissos**	**13.30**	**79**	*e*Pn	**Pn**	**20 25 24.1**	**-5.4**
EVO	**Evora**	**13.39**	**79**	*e*Pn	**Pn**	**20 25 24.1**	**-6.6**
EVO				*e*Sn	Sx	20 27 35.9	
	5.6nm,0.4s						
EVO				*e*MLR	MLR		
	comp=Z,129nm,18.0s						
PBEJ	**Beja**	**13.51**	**81**	*e*S	Sx	20 27 41.0	
PVAQ	**Vaqueiros**	**13.66**	**84**	*e*S	Sx	20 27 47.4	
PCBR	**Castelo Branco**	**13.87**	**74**	*e*S	Sx	20 27 50.6	
PBAR	**Barrancos**	**14.16**	**81**	*e*S	Sx	20 27 56.4	
MVO	**Moncorvo**	**14.39**	**69**	*e*S	Sx	20 28 03.1	
PBRG	**Braganca**	**14.72**	**66**	*e*S	Sx	20 28 10.3	
ESDC	**Sonseca Array**	**16.57**	**75**	Pn	**Pn**	**20 26 05.8**	**-7.0**
	comp=Z,0.2nm,0.3s,baz=269,slow=13,SNR=5.3						
ESDC				LR	LR	20 31 21.7	
	comp=Z,100nm,19.9s,baz=285,slow=33						
MDT	**Midelt**	**17.16**	**99**	P	**Pn**	**20 26 18.5**	**-1.8**
MDT				S	Sx	20 29 10.7	
MDT	**Midelt**	**17.16**	**99**	P	**Pn**	**20 26 18.5**	**-1.8**
	comp=Z,0.2nm,0.3s,baz=320,slow=7.9,SNR=5.5						
MDT				S	Sx	20 29 10.7	
	comp=Z,0.2nm,0.3s,baz=183,slow=23,SNR=4.1						
MDT				LR	LR	20 31 54.2	
	comp=Z,133nm,18.8s,baz=332,slow=34						
QUIF	**Quistinic**	**19.17**	**49**	*e*P	**Pn**	**20 26 45.3**	**+0.6**
	comp=Z,57nm,1.4s						
QUIF	**Quistinic**	**19.17**	**49**	*e*P	**Pn**	**20 26 45.3**	**+0.6**
	comp=Z,28nm,1.4s						
ROSF	**Rostrenen**	**19.29**	**48**	*e*P	**Pn**	**20 26 47.0**	**+0.8**
SGMF	**Saint Gilles**	**19.68**	**49**	*e*P	**Pn**	**20 26 51.3**	**+0.4**
EPF	**Esparros**	**20.10**	**65**	*e*P	**P**	**20 26 54.5**	**+0.6**
	comp=Z,20nm,1.4s						
EPF	**Esparros**	**20.10**	**65**	*e*P	**P**	**20 26 54.5**	**+0.6**
	comp=Z,10nm,1.4s						
MFF	**Saint Martin d**	**20.58**	**55**	*e*P	**P**	**20 26 59.1**	**0.0**
	comp=Z,40nm,1.1s						
MFF	**Saint Martin d**	**20.58**	**55**	*e*P	**P**	**20 26 59.1**	**0.0**
	comp=Z,20nm,1.1s						
LFF	**La Frestale**	**20.73**	**60**	*e*P	**P**	**20 27 00.6**	**-0.2**
	comp=Z,41nm,0.9s						
LFF	**La Frestale**	**20.73**	**60**	*e*P	**P**	**20 27 00.6**	**-0.2**
	comp=Z,20nm,0.9s						
GRR	**Gorron**	**20.77**	**50**	*e*P	**P**	**20 27 01.5**	**+0.4**
	comp=Z,62nm,1.1s						
GRR	**Gorron**	**20.77**	**50**	*e*P	**P**	**20 27 01.5**	**+0.4**
	comp=Z,31nm,1.1s						
FLN	**La Foliniere**	**21.15**	**49**	*e*P	**P**	**20 27 06.4**	**+1.2**
	comp=Z,18nm,0.9s,mb4.1						
FLN	**La Foliniere**	**21.15**	**49**	*e*P	**P**	**20 27 06.4**	**+1.2**
	comp=Z,9.0nm,0.9s,mb4.1						
LDF	**La Druitiere**	**21.30**	**50**	*e*P	**P**	**20 27 07.2**	**+0.4**
	comp=Z,42nm,1.4s,mb4.3						
LDF	**La Druitiere**	**21.30**	**50**	*e*P	**P**	**20 27 07.2**	**+0.4**
	comp=Z,21nm,1.4s,mb4.3						
RJF	**Les Rejaudoux**	**21.35**	**60**	*e*P	**P**	**20 27 07.9**	**+0.5**
MTLF	**Montolieu**	**21.50**	**65**	*e*P	**P**	**20 27 08.3**	**-0.8**
CAF	**Calviac**	**21.65**	**61**	*e*P	**P**	**20 27 10.0**	**-0.6**
	comp=Z,32nm,1.2s,mb4.3						
CAF	**Calviac**	**21.65**	**61**	*e*P	**P**	**20 27 10.0**	**-0.6**
	comp=Z,16nm,1.2s,mb4.3						
TCF	**Toulx Ste Croi**	**22.06**	**57**	*e*P	**P**	**20 27 15.1**	**+0.1**
	comp=Z,9.5nm,0.9s,mb3.9						
TCF	**Toulx Ste Croi**	**22.06**	**57**	*e*P	**P**	**20 27 15.1**	**+0.1**
	comp=Z,4.8nm,0.9s,mb4.0						
BGF	**Bois d'Agland**	**22.55**	**57**	*e*P	**P**	**20 27 20.0**	**-0.2**
	comp=Z,29nm,1.3s,mb4.2						
BGF	**Bois d'Agland**	**22.55**	**57**	*e*P	**P**	**20 27 20.0**	**-0.2**
	comp=Z,14nm,1.3s,mb4.2						
LASF	**Ste Croix**	**22.78**	**64**	*e*P	**P**	**20 27 22.0**	**-0.6**
	comp=Z,39nm,1.6s,mb4.3						
LASF	**Ste Croix**	**22.78**	**64**	*e*P	**P**	**20 27 22.0**	**-0.6**
	comp=Z,20nm,1.6s,mb4.3						
AVF	**Avril sur Loir**	**22.95**	**56**	*e*P	**P**	**20 27 23.6**	**-0.8**
	comp=Z,8.0nm,1.1s,mb3.8						
AVF	**Avril sur Loir**	**22.95**	**56**	*e*P	**P**	**20 27 23.6**	**-0.8**
	comp=Z,4.0nm,1.1s,mb3.8						
SSF	**Saint Saulge**	**23.12**	**56**	*e*P	**P**	**20 27 25.5**	**-0.7**
	comp=Z,11nm,0.9s,mb4.0						
SSF	**Saint Saulge**	**23.12**	**56**	*e*P	**P**	**20 27 25.5**	**-0.7**
	comp=Z,5.7nm,0.9s,mb4.0						
SMF	**Signal de Mont**	**23.24**	**57**	*e*P	**P**	**20 27 27.0**	**-0.5**
	comp=Z,36nm,1.3s,mb4.3						
SMF	**Signal de Mont**	**23.24**	**57**	*e*P	**P**	**20 27 27.0**	**-0.5**
	comp=Z,18nm,1.3s,mb4.3						
EKA	**Eskdalemuir Ar**	**23.36**	**32**	P	**P**	**20 27 29.6**	**+1.0**
	comp=Z,3.6nm,1.1s,mb3.7,baz=227,slow=6.7,SNR=3.4						
LOR	**Lormes**	**23.40**	**56**	*e*P	**P**	**20 27 27.9**	**-1.3**
	comp=Z,17nm,1.3s,mb4.0						
LOR	**Lormes**	**23.40**	**56**	*e*P	**P**	**20 27 27.9**	**-1.3**
	comp=Z,8.6nm,1.3s,mb4.0						
VIVF	**Saint-Julien-l**	**23.46**	**62**	*e*P	**P**	**20 27 28.7**	**-1.1**
	comp=Z,13nm,1.0s,mb4.0						
VIVF	**Saint-Julien-l**	**23.46**	**62**	*e*P	**P**	**20 27 28.7**	**-1.1

comp=Z,1.1nm,0.9s,mb4.0,baz=319,slow=4.1,SNR=6.3

*ISCJB **08** 20:27:01.3±1.2,3170S±003×7214W±008,h16km±8km, mb4.0/3, Error ellipse: s-maj=11.0km s-min=4.1km az=173.0*
*GUC **08** 20:27:03.0±0.6,3171S×7202W,h30km±2km,MD4.2, ML3.8*
*IDC **08** 20:27:04.9±5.9,3171S×7209W,h33km±43km,mb3.7/2, mb1 3.7/6,mb1mx3.6/16,mbtmp3.5/6,ML3.6/3,Error ellipse: s-maj=39.5km s-min=33.0km az=86.0*

ISC 08 20:27:01.9±1.1,3170S±002×7202W±007,h8km±5km,n29, σ0§69/38,mb3.9/3,5C-7D,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHNG	**Los Chungos**	**0.48**	**113**	⇓*iP*	Px	20 26 54.4	
CHNG				*i* S	Sx	20 27 01.5	
PACH	**Papudo**	**0.97**	**149**	⇑*iP*	**Pg**	**20 27 20.6**	**-0.1**
PACH				*i* S	**Sg**	**20 27 33.5**	**+0.2**
CMCH	**Combarbala**	**1.02**	**59**	⇑*iP*	**Pg**	**20 27 21.1**	**-0.3**
CMCH				*i* S	**Sg**	**20 27 35.4**	**+0.8**
CMCH				AML	AML	20 27 37.3	
	comp=E,10μm,0.6s						
PTCH	**Petorca**	**1.09**	**122**	⇓*iP*	**Pg**	**20 27 22.3**	**-0.5**
PTCH				*i* S	**Sg**	**20 27 36.6**	**-0.3**
OVCH	**Ovalle**	**1.29**	**33**	⇓*iP*	**Pn**	**20 27 25.6**	**-0.7**
OVCH				*i* S	**Sb**	**20 27 42.7**	**-0.5**
OVCH				AML	AML	20 27 50.0	
	comp=N,2μm,0.5s						
PEL	**Peldehue**	**1.83**	**142**	⇓*iP*	**Pn**	**20 27 33.7**	**-0.1**
PEL				*i* S	**Sn**	**20 27 57.2**	**0.0**
PEL				AML	AML	20 28 07.9	
	comp=N,2μm,0.5s						
TLL	**Tololo Astrono**	**1.85**	**35**	AML	AML	20 28 07.1	
	comp=N,1μm,0.5s						
LSCH	**La Serena**	**1.90**	**21**	*i* P	**Pn**	**20 27 34.6**	**-0.1**
LSCH				*i* S	**Sn**	**20 27 59.1**	**+0.3**
LSCH				AML	AML	20 28 11.0	
	comp=N,360nm,0.5s						
CLCH	**Cerro Calan**	**2.11**	**144**	⇑*iP*	**Pn**	**20 27 37.4**	**-0.1**
CLCH				*i* S	**Sn**	**20 28 03.6**	**-0.4**
CLCH				AML	AML	20 28 14.8	
	comp=N,2μm,0.7s						
TACH	**Talagante**	**2.15**	**155**	⇓*iP*	**Pn**	**20 27 38.5**	**+0.3**
TACH				*i* S	**Sn**	**20 28 04.8**	**-0.3**
FCH	**Farellones**	**2.19**	**138**	⇑*iP*	**Pn**	**20 27 38.8**	**+0.2**
FCH				*i* S	**Sn**	**20 28 06.2**	**+0.3**
FCH				AML	AML	20 28 15.0	
	comp=E,802nm,0.9s						
ANTU	**Antumapu**	**2.21**	**148**	AML	AML	20 28 15.3	
	comp=N,910nm,0.5s						
PCH	**Pirque**	**2.30**	**147**	*eP*	**Pn**	**20 27 40.0**	**-0.2**
PCH				*i* S	**Sn**	**20 28 08.6**	**-0.2**
CHCH	**Chadas Angostu**	**2.51**	**153**	⇓*iP*	**Pn**	**20 27 43.2**	**+0.2**
CHCH				*i* S	**Sn**	**20 28 13.7**	**-0.2**
LMEL	**Las Melosas**	**2.64**	**145**	⇑*iP*	**Pn**	**20 27 45.3**	**+0.5**
LMEL				*i* S	**Sn**	**20 28 17.1**	**+0.2**
LMEL				AML	AML	20 28 32.4	
	comp=N,607nm,0.3s						
SFDO	**San Fernando**	**3.03**	**164**	⇓*iP*	**Pn**	**20 27 50.1**	**-0.1**
SFDO				*i* S	**Sn**	**20 28 26.2**	**-0.5**
CFAA	**Coronel Fontan**	**3.23**	**89**	Pn	**Pn**	**20 27 55.6**	**+2.7**
	comp=N,1.3nm,0.3s,baz=251,slow=11,SNR=48						
CFAA				Sn	**Sn**	**20 28 38.0**	**+6.4**
	comp=N,2.6nm,0.3s,baz=224,slow=18,SNR=7.6						
PLCA	**Paso Flores**	**9.10**	**173**	Pn	**Pn**	**20 29 12.9**	**-0.6**
	comp=N,0.3nm,0.3s,baz=334,slow=12,SNR=8.6						
LPAZ	**La Paz**	**15.74**	**14**	Pn	**Pn**	**20 30 45.0**	**+0.9**
	comp=N,0.1nm,0.3s,baz=210,slow=5.9,SNR=4.0						
SIV	**San Ignacio**	**18.55**	**35**	P	**Pn**	**20 31 17.9**	**-1.3**
	baz=236,slow=15,SNR=4.1						
VNA3	**Neumayer Olymp**	**51.49**	**159**	*e*	**P**	**20 36 10.7**	**+3.2**
VNA1	**Neumayer--Stat**	**51.79**	**158**	*e*	**P**	**20 36 11.3**	**+1.6**
VNA2	**Neumayer--Watz**	**52.13**	**158**	*e*	**P**	**20 36 12.7**	**+0.4**
	baz=282,slow=11						
SNAA	**Sanae**	**53.71**	**158**	*e*	**P**	**20 36 23.9**	**-0.1**
TXAR	**Lajitas Array**	**67.74**	**330**	P	**P**	**20 37 59.8**	**-0.2**
	comp=N,0.3nm,0.8s,mb3.4,baz=139,slow=8.4,SNR=3.2						
DBIC	**Dimbokro**	**74.44**	**72**	P	**P**	**20 38 40.5**	**-0.5**
	comp=N,2.8nm,0.8s,mb4.3,baz=170,slow=3.1,SNR=4.4						
TORD	**Torodi Ar. Bea**	**83.42**	**70**	P	**P**	**20 39 29.4**	**-0.9**
	comp=N,1.6nm,0.7s,mb4.1,baz=277,slow=5.6,SNR=13						
ZALV	**Zalesovo Beam**	**152.25**	**30**	PKPbc	PKPbc	20 46 56.9	-0.8
ZALV				PKPab	PKPab	20 47 05.4	-2.2
	comp=N,1.7nm,0.7s,baz=307,slow=3.3,SNR=6.3						
MKAR	**Makanchi Array**	**155.19**	**45**	PKPab	PKPab	20 47 19.8	-0.5
	comp=N,0.2nm,0.2s,baz=336,slow=3.8,SNR=4.2						

*NEIC **08** 20:30:24.7,3842S×17584E,h164km,MG4.2(WEL),After WEL.*

WEL 08 20:30:25.1±0.2,3842S×17586E,h158km±1km,ML4.2/22, Error ellipse: s-maj=1.7km s-min=1.4km az=0.0,North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RATZ	**Rangitukua**	**0.46**	**189**	P	Pn	20 30 47.2	0.0
RATZ	**Rangitukua**	**0.46**	**189**	PN	Pn	20 30 47.2	+0.1
RATZ				SN	Sn	20 31 04.4	+0.3
KATZ	**Kakaramea**	**0.57**	**193**	P	Pn	20 30 47.9	+0.2
KATZ	**Kakaramea**	**0.57**	**193**	PN	Pn	20 30 47.9	+0.2
KRVZ	**Karewarewa**	**0.70**	**194**	PN	Pn	20 30 48.7	+0.2
KRVZ				SN	Sn	20 31 04.5	-1.9
WTVZ	**West Tongariro**	**0.73**	**197**	P	Pn	20 30 48.8	+0.1
WTVZ	**West Tongariro**	**0.73**	**197**	PN	Pn	20 30 48.8	+0.1
WTVZ				SN	Sn	20 31 06.8	0.0
TWVZ	**Taurewa**	**0.73**	**206**	P	Pn	20 30 48.7	0.0
TWVZ				S	Sn	20 31 06.9	+0.1
TWVZ	**Taurewa**	**0.73**	**206**	PN	Pn	20 30 48.7	0.0
TWVZ				SN	Sn	20 31 06.9	+0.2
OTVZ	**Oturere**	**0.76**	**191**	PN	Pn	20 30 49.2	+0.3
OTVZ				SN	Sn	20 31 07.8	+0.6
NGZ	**Ngauruhoe**	**0.79**	**195**	P	Pn	20 30 49.1	+0.1
NGZ				S	Sn	20 31 08.2	+0.8
NGZ	**Ngauruhoe**	**0.79**	**195**	PN	Pn	20 30 49.1	+0.1
NGZ				SN	Sn	20 31 08.2	+0.8
WPVZ	**Whakapapa**	**0.83**	**197**	P	Pn	20 30 49.5	+0.2
WPVZ	**Whakapapa**	**0.83**	**197**	PN	Pn	20 30 49.5	+0.2
TUVZ	**Tukino**	**0.87**	**191**	P	Pn	20 30 49.9	+0.3
TUVZ				S	Sn	20 31 09.1	+0.7
TUVZ	**Tukino**	**0.87**	**191**	PN	Pn	20 30 49.9	+0.3
TUVZ				SN	Sn	20 31 09.1	+0.6
FWVZ	**Far West T-bar**	**0.87**	**196**	P	Pn	20 30 49.7	+0.1
FWVZ	**Far West T-bar**	**0.87**	**196**	PN	Pn	20 30 49.7	0.0
FWVZ				SN	Sn	20 31 09.2	+0.7
BKZ	**Black Stump Fm**	**0.90**	**147**	P	Pn	20 30 50.1	+0.3
BKZ	**Black Stump Fm**	**0.90**	**147**	PN	Pn	20 30 50.1	+0.3
BKZ				SN	Sn	20 31 08.7	-0.1
TRVZ	**Turoa**	**0.92**	**195**	PN	Pn	20 30 50.2	+0.2
TRVZ				SN	Sn	20 31 08.9	-0.1
WNVZ	**Wahianoa**	**0.94**	**192**	P	Pn	20 30 50.3	+0.2
WNVZ	**Wahianoa**	**0.94**	**192**	PN	Pn	20 30 50.3	+0.2
WNVZ				SN	Sn	20 31 08.4	-1.0
PKVZ	**Pokaka**	**0.96**	**204**	PN	Pn	20 30 50.3	-0.1
MOVZ	**Moawhango**	**0.99**	**185**	P	Pn	20 30 50.4	-0.2
MOVZ	**Moawhango**	**0.99**	**185**	PN	Pn	20 30 50.4	-0.2
URZ	**Urewera**	**1.00**	**81**	P	Pn	20 30 50.4	-0.2
URZ	**Urewera**	**1.00**	**81**	PN	Pn	20 30 50.4	-0.2
URZ				SN	Sn	20 31 09.4	-0.7
MTVZ	**Mangateitei**	**1.02**	**197**	PN	Pn	20 30 50.8	0.0
MWZ	**Matawai**	**1.31**	**87**	P	Pn	20 30 53.7	+0.3
MWZ	**Matawai**	**1.31**	**87**	PN	Pn	20 30 53.7	+0.2
RAEZ	**Rainy Point**	**1.44**	**232**	P	Pn	20 30 54.6	0.0
RAEZ	**Rainy Point**	**1.44**	**232**	PN	Pn	20 30 54.6	0.0
WAZ	**Wanganui**	**1.50**	**207**	P	Pn	20 30 55.5	+0.2
WAZ	**Wanganui**	**1.50**	**207**	PN	Pn	20 30 55.5	+0.2
KNZ	**Kokohu**	**1.54**	**114**	P	Pn	20 30 56.2	+0.5
KNZ	**Kokohu**	**1.54**	**114**	PN	Pn	20 30 56.2	+0.4
NEZ	**North Egmont**	**1.62**	**238**	P	Pn	20 30 56.5	0.0
NEZ	**North Egmont**	**1.62**	**238**	PN	Pn	20 30 56.5	0.0
TSZ	**Takapari Road**	**1.65**	**177**	P	Pn	20 30 56.4	-0.4
TSZ	**Takapari Road**	**1.65**	**177**	PN	Pn	20 30 56.4	-0.3
PKE	**Pukeiti**	**1.66**	**241**	P	Pn	20 30 56.5	-0.4
PKE	**Pukeiti**	**1.66**	**241**	PN	Pn	20 30 56.5	-0.4
WPHZ	**Waipukurau**	**1.71**	**165**	PN	Pn	20 30 57.3	-0.1
NWEZ	**Newall Road**	**1.78**	**240**	P	Pn	20 30 57.8	-0.4
NWEZ	**Newall Road**	**1.78**	**240**	PN	Pn	20 30 57.8	-0.4
PXZ	**Pawanui**	**1.79**	**155**	PN	Pn	20 30 58.4	0.0
PUZ	**Puketiti**	**1.92**	**80**	P	Pn	20 30 59.8	0.0
PUZ	**Puketiti**	**1.92**	**80**	PN	Pn	20 30 59.8	0.0
MXZ	**Matakaoa Point**	**2.11**	**67**	P	Pn	20 31 02.3	+0.3
MXZ	**Matakaoa Point**	**2.11**	**67**	PN	Pn	20 31 02.3	+0.2
BFZ	**Birch Farm**	**2.28**	**173**	P	Pn	20 31 02.9	-1.1
BFZ	**Birch Farm**	**2.28**	**173**	PN	Pn	20 31 02.9	-1.1
TIWZ	**Tintock**	**2.36**	**180**	PN	Pn	20 31 03.6	-1.3
KIW	**Kapiti Island**	**2.55**	**196**	P	Pn	20 31 05.1	-2.1
KIW	**Kapiti Island**	**2.55**	**196**	PN	Pn	20 31 05.1	-2.1
MTW	**Mount Morrison**	**2.75**	**186**	P	Pn	20 31 07.4	-2.3
MTW	**Mount Morrison**	**2.75**	**186**	PN	Pn	20 31 07.4	-2.3
CAW	**Cannon Point**	**2.76**	**193**	P	Pn	20 31 07.5	-2.2
CAW	**Cannon Point**	**2.76**	**193**	PN	Pn	20 31 07.5	-2.2
DUWZ	**D'Urville Isla**	**2.82**	**211**	PN	Pn	20 31 07.8	-2.6
MRW	**Makara Radio**	**2.95**	**197**	P	Pn	20 31 09.5	-2.6
MRW	**Makara Radio**	**2.95**	**197**	PN	Pn	20 31 09.5	-2.6
PAWZ	**Paruwai Farm**	**2.98**	**186**	P	Pn	20 31 10.1	-2.4
PAWZ	**Paruwai Farm**	**2.98**	**186**	PN	Pn	20 31 10.1	-2.5
TRWZ	**Traveller**	**2.98**	**182**	PN	Pn	20 31 10.4	-2.1
WEL	**Wellington**	**2.99**	**196**	P	Pn	20 31 10.0	-2.6
WEL	**Wellington**	**2.99**	**196**	PN	Pn	20 31 10.0	-2.6
SNZO	**South Karori**	**3.02**	**197**	P	Pn	20 31 10.2	-2.9
SNZO	**South Karori**	**3.02**	**197**	PN	Pn	20 31 10.2	-2.9
MSWZ	**Moikau Station**	**3.03**	**189**	P	Pn	20 31 10.5	-2.7
MSWZ	**Moikau Station**	**3.03**	**189**	PN	Pn	20 31 10.5	-2.7
TCW	**Tory Channel**	**3.05**	**203**	P	Pn	20 31 10.6	-2.8
TCW	**Tory Channel**	**3.05**	**203**	PN	Pn	20 31 10.6	-2.7
BHW	**Baring Head**	**3.08**	**194**	P	Pn	20 31 10.9	-2.9
BHW	**Baring Head**	**3.08**	**194**	PN	Pn	20 31 10.9	-2.9
TUWZ	**Tuamarina**	**3.35**	**205**	PN	Pn	20 31 13.9	-3.3
NNZ	**Nelson**	**3.39**	**214**	*eP*	Pn	20 31 14.2	-3.5
NNZ	**Nelson**	**3.39**	**214**	PN	Pn	20 31 14.2	-3.5
QRZ	**Quartz Range**	**3.52**	**226**	P	Pn	20 31 15.4	-4.0
QRZ	**Quartz Range**	**3.52**	**226**	PN	Pn	20 31 15.4	-4.0
BSWZ	**Blackbirch Sta**	**3.63**	**204**	P	Pn	20 31 17.5	-3.2
BSWZ	**Blackbirch Sta**	**3.63**	**204**	PN	Pn	20 31 17.5	-3.2
THZ	**Tophouse**	**4.04**	**213**	*eP*	Pn	20 31 21.9	-4.1
KHZ	**Kahutara**	**4.37**	**203**	P	Pn	20 31 26.8	-3.5
LTZ	**Lake Taylor**	**5.15**	**211**	*eP*	Pn	20 31 35.2	-5.3
MQZ	**McQueen's Vall**	**5.82**	**204**	*eP*	Pn	20 31 43.6	-5.7
RPZ	**Rata Peaks**	**6.42**	**213**	*eP*	Pn	20 31 51.6	-5.8
ODZ	**Otahua Downs**	**7.69**	**209**	*eP*	Pn	20 32 08.9	-5.3
JCZ	**Jackson Bay**	**7.78**	**221**	*eP*	Pn	20 32 09.3	-6.2

GUC 08 20:31:30.5±0.9,3173S×7205W,h24km±5km,MD3.5, ML3.0,1C-5D,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHNG	**Los Chungos**	**0.49**	**108**	⇓*iP*	Pb	20 31 21.9	-19
CHNG				*i* S	Sb	20 31 29.1	-18
PTCH	**Petorca**	**1.09**	**120**	*i* P	Pn	20 31 49.8	-0.5
PTCH				*i* S	Sb	20 32 04.2	-0.2
PTCH				AML	AML	20 32 06.0	
	comp=E,293nm,0.2s						
PEL	**Peldehue**	**1.82**	**141**	⇓*iP*	Pn	20 32 01.2	+0.8
PEL				*i* S	Sn	20 32 24.7	+2.0
PEL				AML	AML	20 32 32.6	
	comp=E,339nm,0.3s						
TLL	**Tololo Astrono**	**1.89**	**35**	⇓*iP*	Pn	20 32 02.8	+1.6
TLL				*i* S	Sn	20 32 27.4	+3.1
TLL				AML	AML	20 32 32.9	
	comp=N,245nm,0.7s						
CLCH	**Cerro Calan**	**2.10**	**143**	⇓*iP*	Pn	20 32 05.7	+1.6
CLCH				*i* S	Sn	20 32 32.1	+2.7
CLCH				AML	AML	20 32 42.5	
	comp=N,224nm,0.5s						
FCH	**Farellones**	**2.18**	**138**	⇑*iP*	Pn	20 32 06.9	+1.6
FCH				*i* S	Sn	20 32 34.6	+3.2
FCH				AML	AML	20 32 42.2	
	comp=E,115nm,0.3s						
LMEL	**Las Melosas**	**2.62**	**144**	⇓*iP*	Pn	20 32 12.9	+1.6
LMEL				*i* S	Sn	20 32 45.7	+3.3
LMEL				AML	AML	20 33 00.1	
	comp=N,80nm,0.5s						

*ISCJB **08** 20:32:25.3±0.3,4745N±001×1509E±002,h10km,Error ellipse: s-maj=2.3km s-min=2.0km az=0.5*
*CSEM **08** 20:32:27.2±0.1,4737N×1509E,h12km,ML2.8/10,Error ellipse: s-maj=1.3km s-min=1.0km az=59.0*
*VIE **08** 20:32:27.2±0.2,4735N×1510E,h5km±4km,mb1.8/10, ML2.3/12,Error ellipse: s-maj=1.9km s-min=1.4km az=175.0*
*NEIC **08** 20:32:28.6±0.6,4733N×1528E,h5km,ML2.6(SZGRF), Error ellipse: s-maj=8.5km s-min=6.7km az=87.0*
*IPEC **08** 20:32:28.2±0.1,4734N×1510E,h8km±1km,ML2.0/2,Error ellipse: s-maj=1.0km s-min=0.8km az=179.0*
*PRU **08** 20:32:30.2,4751N×1511E,h0km*
*BGR **08** 20:32:34.6±1.3,4758N×1497E,h10km,ML2.6,Error ellipse: s-maj=12.2km s-min=10.0km az=67.0*

ISC 08 20:32:27.4±0.3,4740N±001×1511E±002,h10km,n63, σ1§25/102,19C-13D,Austria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARSA	**Arzberg**	**0.32**	**118**	⇑*ePg*	**Pg**	**20 32 33.7**	**0.0**
	comp=Z,99nm,0.1s,SNR=341						
ARSA				⇑*iSg*	**Sg**	**20 32 37.4**	**-0.6**
	comp=N,48nm,0.1s						
ARSA	**Arzberg**	**0.32**	**118**	⇑*ePg*	**Pg**	**20 32 33.7**	**0.0**
	99nm,0.1s,SNR=341						
ARSA				⇑*iSg*	**Sg**	**20 32 37.4**	**-0.6**
	48nm,0.1s						
ARSA	**Arzberg**	**0.32**	**118**	*ePg*	**Pg**	**20 32 33.6**	**-0.1**
ARSA				*eSg*	**Sg**	**20 32 37.8**	**-0.2**
MOA	**Molln**	**0.73**	**309**	⇑*ePg*	**Pg**	**20 32 41.6**	**+0.2**
	comp=Z,4.8nm,0.1s,SNR=46						
MOA	**Molln**	**0.73**	**309**	⇑*ePg*	**Pg**	**20 32 41.6**	**+0.2**
MOA				*i* Sg	**Sg**	**20 32 52.8**	**+1.9**
MOA	**Molln**	**0.73**	**309**	⇓*ePg*	**Pg**	**20 32 41.5**	**+0.1**
	4.8nm,0.1s,SNR=46						
MOA				⇓*iSg*	**Sg**	**20 32 52.8**	**+1.9**
	8.8nm,0.1s						
MOA	**Molln**	**0.73**	**309**	Pg	**Pg**	**20 32 41.5**	**+0.1**
	4.8nm,0.1s,SNR=46						
MOA				*eSg*	**Sg**	**20 32 52.4**	**+1.5**
CONA	**Conrad Observa**	**0.73**	**44**	⇑*ePg*	**Pg**	**20 32 42.1**	**+0.6**
	3.7nm,0.2s,SNR=28						
CONA				⇑*iSg*	**Sg**	**20 32 53.4**	**+2.2**
	7.0nm,0.1s						
PERS	**Pernice**	**0.76**	**180**	*i* Pg	**Pg**	**20 32 41.8**	**-0.3**
PERS				*eSg*	**Sg**	**20 32 50.6**	**-1.5**
PERS	**Pernice**	**0.76**	**180**	*i* Pg	**Pg**	**20 32 41.8**	**-0.3**
PERS				*eSg*	**Sg**	**20 32 50.6**	**-1.5**
PERS							
	comp=Z,26nm,0.1s						
PERS	**Pernice**	**0.76**	**180**	*i* Pg	**Pg**	**20 32 41.8**	**-0.3**
PERS				*eSg*	**Sg**	**20 32 50.6**	**-1.5**
ZAVS	**Zavodnje**	**0.97**	**183**	*i* Pg	**Pg**	**20 32 45.5**	**-0.5**
ZAVS				*i* Sg	**Sg**	**20 32 57.6**	**-0.9**
OBKA	**Obir**	**0.97**	**203**	⇑*ePg*	**Pg**	**20 32 45.8**	**-0.2**
	comp=Z,3.8nm,0.1s,SNR=21						
OBKA	**Obir**	**0.97**	**203**	⇑*ePg*	**Pg**	**20 32 45.8**	**-0.2**
OBKA				*i* Sg	**Sg**	**20 32 57.7**	**-0.9**
OBKA	**Obir**	**0.97**	**203**	⇑*ePg*	**Pg**	**20 32 45.9**	**-0.1**
	comp=Z,2.1nm,0.1s,SNR=21						
OBKA				⇓*iSg*	**Sg**	**20 32 57.7**	**-0.9**
	11nm,0.2s						
OBKA	**Obir**	**0.97**	**203**	*ePg*	**Pg**	**20 32 45.8**	**-0.2**
OBKA				Sg	**Sg**	**20 32 57.7**	**-0.9**
	comp=Z,11nm,0.2s						
GROS	**Grobnik**	**0.98**	**164**	*i* Pg	**Pg**	**20 32 45.2**	**-1.0**
GROS							
	comp=Z,14nm,0.1s						
KBA	**Koelnbreinsper**	**1.24**	**256**	⇓*ePg*	**Pg**	**20 32 50.5**	**-0.7**
	comp=Z,2.1nm,0.2s,SNR=12						
KBA				⇑*iSg*	**Sg**	**20 33 07.8**	**+0.5**
	comp=Z,8.5nm,0.3s						
KBA	**Koelnbreinsper**	**1.24**	**256**	Pg	**Pg**	**20 32 50.5**	**-0.7**
	comp=Z,2.1nm,0.2s,SNR=12						
KBA				Sg	**Sg**	**20 33 07.8**	**+0.4**
	comp=Z,8.5nm,0.3s						
DOBS	**Dobrina**	**1.27**	**169**	*i* Pg	**Pg**	**20 32 51.3**	**-0.5**
BGLD	**Berchtesgaden**	**1.44**	**281**	⇑*i*Pn	**Pn**	**20 32 55.4**	**+1.9**
BGLD				*i* Sn	**Sg**	**20 33 16.0**	**+2.2**
ZST	**Bratislava**	**1.56**	**59**	*e*SN	**Sn**	**20 33 17.5**	**+2.0**
RJOB	**Jochberg**	**1.60**	**283**	⇓*i*Pn	**Pg**	**20 32 58.5**	**+0.4**
RJOB				*i* Sn	**Sg**	**20 33 20.7**	**+1.8**
GEC2	**GERESS Array S**	**1.73**	**327**	*ePn*	**Pg**	**20 33 00.1**	**-0.4**
GEC2				*eSg*	**Sg**	**20 33 22.1**	**-0.7**
GEC2	**GERESS Array S**	**1.73**	**327**	*ePn*	**Pg**	**20 33 00.5**	**0.0**
GEC2				*eSg*	**Sg**	**20 33 21.9**	**-0.9**
KRUC	**Moravsky**	**1.87**	**27**	*ePn*	**Pn**	**20 33 01.0**	**+1.6**
KRUC				*eSn*	**Sg**	**20 33 26.2**	**-1.4**
	comp=Z,11nm,0.3s						
ABTA	**Abfaltersbach**	**1.89**	**251**	⇑*ePg*	**Pg**	**20 33 03.2**	**-0.4**
	comp=Z,0.7nm,0.2s,SNR=8.4						
ABTA				⇓*iSg*	**Sg**	**20 33 28.7**	**+0.6**
	comp=Z,1.4nm,0.3s						
TREC	**Trest**	**1.91**	**7**	*ePG*	**Pg**	**20 33 02.0**	**-2.1**
TREC				*eSG*	**Sg**	**20 33 27.2**	**-1.7**
	comp=Z,9.0nm,0.2s						
KHC	**Kasperske Hory**	**2.01**	**330**	*ePN*	**Pn**	**20 33 04.5**	**+3.2**
KHC				*eSG*	**Sg**	**20 33 30.3**	**-1.7**
	comp=Z,15nm,0.4s						
VRAC	**Vranov**	**2.15**	**27**	*ePn*	**Pn**	**20 33 04.9**	**+1.6**
VRAC				*eSn*	**Sn**	**20 33 33.6**	**+3.6**
	comp=Z,6.8nm,0.3s						
WET	**Wettzell**	**2.29**	**320**	*ePn*	**Pn**	**20 33 09.2**	**+4.0**
WET				*eSg*	**Sg**	**20 33 40.4**	**-0.7**
WET	**Wettzell**	**2.29**	**320**	*ePn*	**Pn**	**20 33 09.2**	**+4.0**
WET				*eSg*	**Sg**	**20 33 40.4**	**-0.7**
WTTA	**Wattenberg**	**2.37**	**268**	⇓*ePg*	**Pg**	**20 33 12.0**	**-0.7**
	comp=Z,7.8nm,0.2s,SNR=22						
WTTA	**Wattenberg**	**2.37**	**268**	⇓*ePg*	**Pg**	**20 33 12.0**	**-0.7**
WTTA				*i* Sg	**Sg**	**20 33 45.2**	**+1.8**
WTTA	**Wattenberg**	**2.37**	**268**	⇓*i*Pn	**Pn**	**20 33 10.4**	**+4.2**
	comp=Z,0.3nm,0.1s						
WTTA				⇓*ePg*	**Pg**	**20 33 12.0**	**-0.7**
	comp=Z,7.8nm,0.2s,SNR=22						
WTTA				⇑*iSg*	**Sg**	**20 33 45.2**	**+1.8**
	comp=Z,3.2nm,0.3s						
WTTA	**Wattenberg**	**2.37**	**268**	Pg	**Pg**	**20 33 12.0**	**-0.7**
	comp=Z,7.8nm,0.2s,SNR=22						
WTTA				Sg	**Sg**	**20 33 45.2**	**+1.9**
	comp=Z,3.2nm,0.3s						
WATA	**Walderalm**	**2.40**	**270**	⇑*ePg*	**Pg**	**20 33 12.4**	**-0.9**
	comp=Z,1.9nm,0.2s,SNR=7.3						
WATA	**Walderalm**	**2.40**	**270**	⇑*ePg*	**Pg**	**20 33 12.4**	**-0.9**
WATA				*i* Sg	**Sg**	**20 33 46.1**	**+1.6**
WATA	**Walderalm**	**2.40**	**270**	⇓*i*Pn	**Pn**	**20 33 10.5**	**+3.8**
	comp=Z,0.2nm,0.1s						
WATA				⇑*ePg*	**Pg**	**20 33 12.4**	**-0.9**
	comp=Z,1.9nm,0.2s,SNR=7.3						
WATA				⇓*iSg*	**Sg**	**20 33 46.1**	**+1.6**
	comp=Z,3.2nm,0.2s						
KOLL	**Kolacno**	**2.51**	**61**	*e*SG	**Sg**	**20 33 49.9**	**+2.0**
PRU	**Pruhonice**	**2.62**	**352**	*e*SG	**Sg**	**20 33 51.0**	**-0.4**
SQTA	**Sankt Quirin**	**2.66**	**268**	⇑*ePg*	**Pg**	**20 33 17.1**	**-1.3**
	comp=Z,2.5nm,0.2s,SNR=8.5						
MOTA	**Moosalm**	**2.72**	**270**	⇓*i*Pn	**Pn**	**20 33 14.4**	**+3.3**
	comp=Z,0.2nm,0.1s						
MOTA	**Moosalm**	**2.72**	**270**	Sg	**Sg**	**20 33 55.5**	**+0.7**
	comp=Z,2.7nm,0.3s						
VYHS	**Vyhne**	**2.73**	**65**	*e*PN	**Pn**	**20 33 12.0**	**+0.7**
VYHS				*e*SG	**Sg**	**20 33 54.3**	**-0.9**
MORC	**Moravsky Berou**	**2.88**	**33**	*e*Pg	**Pg**	**20 33 22.8**	**+0.3**
MORC				*e*Sn	**Sn**	**20 33 49.9**	**+2.1**
MORC				*e*Sg	**Sg**	**20 34 00.8**	**+1.1**
MORC	**Moravsky Berou**	**2.88**	**33**	*e*Pg	**Pg**	**20 33 22.8**	**+0.3**
MORC				*e*Sn	**Sn**	**20 33 49.9**	**+2.1**
ROTZ	**Rotzenmuhle**	**3.05**	**322**	*e*Sg	**Sg**	**20 34 05.4**	**+0.1**
DPC	**Dobruska-Polom**	**3.06**	**15**	*e*SG	**Sg**	**20 34 04.5**	**-1.1**
	comp=Z,2.9nm,0.3s						
PVCC	**Panska Ves**	**3.15**	**354**	*e*SG	**Sg**	**20 34 08.2**	**-0.3**
	comp=Z,13nm,0.4s						
NKC	**Novy Kostel**	**3.

PMAR				*e*T		20 47 00.1	
PMPS	**Porto Santo**	**7.84**	**119**	*e*Pn	**Pn**	**20 39 53.2**	**-2.5**
PMPS				*e*S	**Sn**	**20 41 15.4**	**-10**
PMPS				A		20 41 23.3	
	80nm,0.6s						
PMPS				A		20 42 40.3	
	2µm,19.0s						
PMPS				*e*T		20 47 42.6	
EHIG	**Higuera**	**10.26**	**145**	P	**Pn**	**20 40 27.5**	**-1.3**
EHIG				S	**Sn**	**20 42 07.7**	**-17**
EHIG	**Higuera**	**10.26**	**145**	P	**Pn**	**20 40 27.5**	**-1.4**
EHIG				S	**Sn**	**20 42 07.7**	**-17**
EGOM	**La Gomera**	**10.88**	**144**	P	**Pn**	**20 40 34.5**	**-2.8**
	44nm,0.2s						
EGOM				S	**Sn**	**20 42 22.2**	**-17**
EGOM	**La Gomera**	**10.88**	**144**	P	**Pn**	**20 40 34.5**	**-2.8**
	44nm,0.2s						
EGOM				S	**Sn**	**20 42 22.2**	**-17**
EBAJ	**Bajamar**	**11.00**	**139**	P	**Pn**	**20 40 37.1**	**-1.8**
	14nm,0.4s						
EBAJ				S	**Sn**	**20 42 24.7**	**-18**
EBAJ	**Bajamar**	**11.00**	**139**	P	**Pn**	**20 40 37.2**	**-1.7**
	14nm,0.4s						
EBAJ				S	**Sn**	**20 42 24.7**	**-18**
CCAN	**Las Canadas**	**11.12**	**141**	P	**Pn**	**20 40 38.7**	**-1.9**
	1.5nm,0.1s						
CCAN				S	**Sn**	**20 42 26.2**	**-19**
EOSO	**Osorio**	**11.79**	**138**	P	**Pn**	**20 40 47.5**	**-2.3**
	3.2nm,0.3s						
EOSO				S	**Sn**	**20 42 41.6**	**-20**
EOSO	**Osorio**	**11.79**	**138**	P	**Pn**	**20 40 47.5**	**-2.3**
	3.2nm,0.3s						
EOSO				S	**Sn**	**20 42 41.6**	**-20**
PMAFR	**Mafra**	**12.12**	**77**	*e*P	**Pn**	**20 40 51.0**	**-3.2**
PMAFR				A		20 41 06.1	
	82nm,1.7s						
PMAFR				*e*S	**Sn**	**20 42 57.2**	**-13**
PMAFR				A		20 44 50.2	
	7µm,19.5s						
EFAM	**Famara**	**12.19**	**128**	P	**Pn**	**20 40 54.4**	**-0.8**
	0.7nm,0.2s						
EFAM				S	**Sn**	**20 42 51.0**	**-21**
EFAM	**Famara**	**12.19**	**128**	P	**Pn**	**20 40 54.4**	**-0.8**
	0.7nm,0.2s						
EFAM				S	**Sn**	**20 42 51.0**	**-21**
CFTV	**Fuerteventura**	**12.36**	**132**	P	**Pn**	**20 40 55.5**	**-2.0**
	0.6nm,0.2s						
CFTV				S	**Sn**	**20 42 55.0**	**-21**
CFTV	**Fuerteventura**	**12.36**	**132**	P	**Pn**	**20 40 55.5**	**-2.1**
	0.6nm,0.2s						
CFTV				S	**Sn**	**20 42 55.0**	**-21**
PFVI	**Vila Bisbo**	**12.50**	**85**	*e*P	**Pn**	**20 40 55.0**	**-4.4**
PFVI				A		20 41 04.8	
	70nm,1.3s						
PFVI				*e*S	**Sn**	**20 43 04.5**	**-15**
PFVI				A		20 45 02.9	
	7µm,19.1s						
PTEO	**Sao Teotonio**	**12.55**	**84**	*e*P	**Pn**	**20 40 58.1**	**-2.1**
PTEO				A		20 41 08.8	
	63nm,1.1s						
PTEO				*e*S	**Sn**	**20 43 04.9**	**-16**
MORF	**Marmelete**	**12.62**	**85**	*e*P	**Pn**	**20 40 55.7**	**-5.5**
MORF				A		20 41 11.2	
	77nm,1.4s						
MORF				*e*S	**Sn**	**20 43 08.1**	**-14**
MORF				A		20 45 07.3	
	7µm,19.3s						
MOE	**Montemor**	**12.83**	**79**	*e*P	**Pn**	**20 41 01.6**	**-2.3**
MOE				*e*S	**Sn**	**20 43 11.4**	**-16**
PTO	**Porto**	**12.95**	**67**	*e*P	**Pn**	**20 41 00.2**	**-5.3**
PTO				A		20 41 04.3	
	35nm,1.5s						
PTO				*e*S	**Sn**	**20 43 12.8**	**-17**
EVO	**Evora**	**13.09**	**79**	*e*Pn	**Pn**	**20 41 03.1**	**-4.5**
EVO				*e*Sn	**Sn**	**20 43 17.6**	**-16**
	81nm,0.5s						
EVO				*e*MLR	MLR		
	comp=Z,10µm,22.0s						
EMAZ	**Mazaricos**	**13.20**	**59**	P	**Pn**	**20 41 01.4**	**-7.6**
	comp=Z,6.6nm,0.3s						
EMAZ				S	**Sn**	**20 43 22.7**	**-14**
EMAZ	**Mazaricos**	**13.20**	**59**	P	**Pn**	**20 41 01.4**	**-7.6**
	comp=Z,6.6nm,0.3s						
EMAZ				S	**Sn**	**20 43 22.7**	**-14**
PBEJ	**Beja**	**13.21**	**81**	*e*P	**Pn**	**20 41 05.4**	**-3.8**
PBEJ				A		20 41 21.1	
	comp=Z,60nm,1.8s						
PBEJ				*e*S	**Sn**	**20 43 21.9**	**-15**
PVAQ	**Vaqueiros**	**13.36**	**84**	*e*P	**Pn**	**20 41 04.8**	**-6.4**
PVAQ				A		20 41 28.6	
	comp=Z,39nm,1.6s						
PVAQ				*e*S	**Sn**	**20 43 25.5**	**-15**
PVAQ				A		20 45 39.1	
	comp=Z,7µm,19.1s						
PVIS	**Viseu**	**13.39**	**70**	*e*P	**Pn**	**20 41 07.3**	**-4.3**
PVIS				A		20 41 21.9	
	comp=Z,48nm,1.2s						
PVIS				*e*S	**Sn**	**20 43 24.6**	**-16**
PESTR	**Estremoz**	**13.43**	**78**	*e*P	**Pn**	**20 41 07.5**	**-4.7**
PESTR				A		20 41 30.5	
	comp=Z,61nm,1.4s						
PESTR				*e*S	**Sn**	**20 43 27.9**	**-14**
PESTR				A		20 45 29.9	
	comp=Z,6µm,19.8s						
STS	**Santiago**	**13.47**	**60**	P	**Pn**	**20 41 04.6**	**-8.1**
	comp=Z,2.2nm,0.2s						
STS				S	**Sn**	**20 43 30.5**	**-12**
STS	**Santiago**	**13.47**	**60**	P	**Pn**	**20 41 04.6**	**-8.1**
STS				pmax	pmax		
	comp=Z,2.0nm,0.2s						
STS	**Santiago**	**13.47**	**60**	P	**Pn**	**20 41 04.6**	**-8.1**
	comp=Z,2.2nm,0.2s						
STS				S	**Sn**	**20 43 30.5**	**-12**
PCAB	**Cabril**	**13.50**	**65**	*e*P	**Pn**	**20 41 07.6**	**-5.5**
PCAB				A		20 41 30.9	
	comp=Z,78nm,1.9s						
PCAB				*e*S	**Sn**	**20 43 26.8**	**-17**
ELOB	**Lobios**	**13.52**	**65**	P	**Pn**	**20 41 05.8**	**-7.5**
	comp=Z,1.1nm,0.2s						
ELOB				S	**Sn**	**20 43 30.7**	**-13**
ELOB	**Lobios**	**13.52**	**65**	P	**Pn**	**20 41 05.8**	**-7.5**
	comp=Z,1.1nm,0.2s						
ELOB				S	**Sn**	**20 43 30.7**	**-13**
EGRO	**El Granado**	**13.54**	**83**	P	**Pn**	**20 41 12.7**	**-1.0**
	comp=Z,2.2nm,0.3s						
EGRO				S	**Sn**	**20 43 29.0**	**-16**
EGRO	**El Granado**	**13.54**	**83**	P	**Pn**	**20 41 12.7**	**-0.9**
	comp=Z,2.2nm,0.3s						
EGRO				S	**Sn**	**20 43 29.0**	**-16**
PCBR	**Castelo Branco**	**13.59**	**74**	*e*P	**Pn**	**20 41 08.5**	**-5.8**
PCBR				A		20 41 22.3	
	comp=Z,21nm,0.5s						
PCBR				*e*S	**Sn**	**20 43 29.5**	**-16**
MTE	**Manteigas**	**13.61**	**71**	*e*P	**Pn**	**20 41 11.4**	**-3.1**
MTE				A		20 41 28.6	
	comp=Z,104nm,1.2s						
MTE				*e*S	**Sn**	**20 43 29.3**	**-17**
MTE				A		20 45 55.0	
	comp=Z,9µm,19.2s						
MTE	**Manteigas**	**13.61**	**71**	*e*Pn	**Pn**	**20 41 11.7**	**-2.8**
	comp=Z,83nm,1.0s						
MTE				*e*Sn	**Sn**	**20 43 29.1**	**-17**
PVRL	**Vila Real**	**13.63**	**67**	*e*P	**Pn**	**20 41 08.9**	**-6.0**
PVRL				A		20 41 32.5	
	comp=Z,82nm,1.9s						
PVRL				*e*S	**Sn**	**20 43 31.9**	**-15**
PBAR	**Barrancos**	**13.86**	**81**	*e*P	**Pn**	**20 41 15.6**	**-2.4**
PBAR				A		20 41 27.5	
	comp=Z,70nm,1.3s						
PBAR				*e*S	**Sn**	**20 43 36.4**	**-16**
PBAR				A		20 45 43.4	
	comp=Z,5µm,20.4s						
EBAD	**Badajoz**	**13.88**	**78**	P	**Pn**	**20 41 12.4**	**-5.8**
	comp=Z,0.3nm,0.2s						
EBAD				S	**Sn**	**20 43 38.1**	**-15**
EBAD	**Badajoz**	**13.88**	**78**	P	**Pn**	**20 41 12.4**	**-5.9**
	comp=Z,0.3nm,0.2s						
EBAD				S	**Sn**	**20 43 38.1**	**-15**
MVO	**Moncorvo**	**14.12**	**68**	*e*P	**Pn**	**20 41 17.9**	**-3.6**
MVO				A		20 41 37.8	
	comp=Z,159nm,1.2s						
MVO				*e*S	**Sn**	**20 43 41.5**	**-17**
MVO				A		20 46 09.3	
	comp=Z,7µm,19.1s						
CIA	**Chichaoua**	**14.14**	**109**	*i* P	**Pn**	**20 41 24.0**	**+2.1**
EMIN	**Mina Concepcio**	**14.17**	**82**	P	**Pn**	**20 41 17.1**	**-5.1**
	comp=Z,1.2nm,0.6s						
EMIN				S	**Sn**	**20 43 44.1**	**-16**
EMIN	**Mina Concepcio**	**14.17**	**82**	P	**Pn**	**20 41 17.1**	**-5.1**
	comp=Z,1.2nm,0.6s						
EMIN				S	**Sn**	**20 43 44.1**	**-16**
PBRG	**Braganca**	**14.46**	**66**	*e*P	**Pn**	**20 41 20.8**	**-5.4**
PBRG				A		20 41 38.4	
	comp=Z,106nm,1.5s						
PBRG				*e*S	**Sn**	**20 43 50.1**	**-17**
AVE	**Averroes**	**14.48**	**100**	P	**Pn**	**20 41 26.5**	**0.0**
ECAL	**Calabor**	**14.49**	**65**	P	**Pn**	**20 41 23.4**	**-3.3**
	comp=Z,3.7nm,0.3s						
ECAL				S	**Sn**	**20 43 53.6**	**-14**
ECAL	**Calabor**	**14.49**	**65**	P	**Pn**	**20 41 23.4**	**-3.2**
	comp=Z,3.7nm,0.3s						
ECAL				S	**Sn**	**20 43 53.6**	**-14**
EPON	**Pontenova**	**14.59**	**60**	P	**Pn**	**20 41 21.7**	**-6.2**
	comp=Z,2.7nm,1.3s						
EPON				S	**Sn**	**20 43 56.9**	**-13**
EPON	**Pontenova**	**14.59**	**60**	P	**Pn**	**20 41 21.7**	**-6.2**
	comp=Z,2.7nm,1.3s						
EPON				S	**Sn**	**20 43 56.8**	**-13**
ESPR	**Espera**	**14.89**	**86**	P	**Pn**	**20 41 29.3**	**-2.8**
	comp=Z,2.4nm,0.4s						
ESPR				S	**Sn**	**20 44 02.2**	**-15**
ESPR	**Espera**	**14.89**	**86**	P	**Pn**	**20 41 29.3**	**-2.8**
	comp=Z,2.4nm,0.4s						
ESPR				S	**Sn**	**20 44 02.2**	**-15**
ECAB	**El Cabril**	**15.14**	**81**	P	**Pn**	**20 41 31.2**	**-4.2**
	comp=Z,0.1nm,0.5s						
ECAB				S	**Sn**	**20 44 07.3**	**-16**
ECAB	**El Cabril**	**15.14**	**81**	P	**Pn**	**20 41 31.2**	**-4.3**
	comp=Z,0.1nm,0.5s						
ECAB				S	**Sn**	**20 44 07.3**	**-16**
EMIJ	**Mijas**	**15.79**	**86**	P	**Pn**	**20 41 43.7**	**-0.3**
	comp=Z,3.2nm,0.5s						
EMIJ				S	**Sn**	**20 44 23.3**	**-16**
EMIJ	**Mijas**	**15.79**	**86**	P	**Pn**	**20 41 43.7**	**-0.3**
	comp=Z,3.2nm,0.5s						
EMIJ				S	**Sn**	**20 44 23.3**	**-16**
EADA	**Adamuz**	**15.80**	**80**	P	**Pn**	**20 41 39.3**	**-4.8**
	comp=Z,0.5nm,0.4s						
EADA				S	**Sn**	**20 44 23.9**	**-16**
EADA	**Adamuz**	**15.80**	**80**	P	**Pn**	**20 41 39.3**	**-4.8**
	comp=Z,0.5nm,0.4s						
EADA				S	**Sn**	**20 44 23.9**	**-16**
EARI	**Arriondas**	**15.93**	**61**	P	**Pn**	**20 41 41.5**	**-4.2**
	comp=Z,0.2nm,0.5s						
EARI				S	**Sn**	**20 44 29.3**	**-13**
EARI	**Arriondas**	**15.93**	**61**	P	**Pn**	**20 41 41.5**	**-4.2**
	comp=Z,0.2nm,0.5s						
EARI				S	**Sn**	**20 44 29.3**	**-13**
PAB	**San Pablo**	**15.97**	**75**	*e*P	**Pn**	**20 41 41.8**	**-4.6**
	comp=Z,63nm,1.4s						
PAB				*e*Sn	**Sn**	**20 44 30.2**	**-14**
PAB	**San Pablo**	**15.97**	**75**	*e*P	**Pn**	**20 41 41.8**	**-4.6**
PAB				pmax	pmax		
	comp=Z,63nm,1.4s						
PAB	**San Pablo**	**15.97**	**75**	*e*P	**Pn**	**20 41 41.8**	**-4.6**
	comp=Z,63nm,1.4s						
PAB				*e*Sn	**Sn**	**20 44 30.2**	**-14**
ELUQ	**Luque**	**16.08**	**82**	P	**Pn**	**20 41 46.3**	**-1.5**
	comp=Z,0.2nm,0.3s						
ELUQ				S	**Sn**	**20 44 32.0**	**-15**
ELUQ	**Luque**	**16.08**	**82**	P	**Pn**	**20 41 46.3**	**-1.5**
	comp=Z,0.2nm,0.3s						
ELUQ				S	**Sn**	**20 44 32.0**	**-15**
GUD	**Guadarrama**	**16.20**	**71**	P	**Pn**	**20 41 48.7**	**-0.5**
	comp=Z,0.3nm,0.5s						
GUD				S	**Sn**	**20 44 34.9**	**-14**
GUD	**Guadarrama**	**16.20**	**71**	P	**Pn**	**20 41 48.7**	**-0.5**
GUD				S	**Sn**	**20 44 34.9**	**-14**
ELOJ	**Sierra Loja**	**16.21**	**84**	P	**Pn**	**20 41 48.0**	**-1.5**
	comp=Z,1.4nm,0.3s						
ELOJ				S	**Sn**	**20 44 34.9**	**-15**
ELOJ	**Sierra Loja**	**16.21**	**84**	P	**Pn**	**20 41 48.0**	**-1.5**
ELOJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ELOJ	**Sierra Loja**	**16.21**	**84**	P	**Pn**	**20 41 48.0**	**-1.5**
	comp=Z,1.0nm,0.3s						
ELOJ				S	**Sn**	**20 44 34.9**	**-15**
ESDC	**Sonseca Array**	**16.28**	**75**	Pn	**Pn**	**20 41 44.3**	**-6.0**
	comp=Z,1.4nm,0.3s,baz=276,slow=13,SNR=16						
ESDC				Sn	**Sn**	**20 44 37.6**	**-14**
	comp=Z,2.2nm,0.3s,baz=270,slow=23,SNR=6.8						
ESDC				PcP	PcP	20 46 46.0	+1.7
	baz=321,slow=1.5,SNR=4.3						
ESDC				LR	LR	20 47 02.3	
	comp=Z,4µm,20.1s,baz=280,slow=33						
ESDC	**Sonseca Array**	**16.28**	**75**	Pn	**Pn**	**20 41 44.3**	**-5.9**
ESDC				Sn	**Sn**	**20 44 37.6**	**-14**
ESLA	**Sonseca Array**	**16.28**	**75**	*e*P	**Pn**	**20 41 47.0**	**-3.3**
	comp=Z,28nm,1.2s						
ESLA				*e*Sn	**Sn**	**20 44 36.8**	**-14**
ESLA	**Sonseca Array**	**16.28**	**75**	*e*P	**Pn**	**20 41 47.0**	**-3.2**
	comp=Z,28nm,1.2s						
ESLA				*e*Sn	**Sn**	**20 44 36.8**	**-14**
EBAN	**Banos Encina**	**16.42**	**80**	P	**Pn**	**20 41 52.1**	**0.0**
	comp=Z,22nm,1.0s						
EBAN				S	**Sn**	**20 44 39.8**	**-15**
EBAN	**Banos Encina**	**16.42**	**80**	P	**Pn**	**20 41 52.1**	**0.0**
EBAN				pmax	pmax		
	comp=Z,22nm,1.0s						
EBAN	**Banos Encina**	**16.42**	**80**	P	**Pn**	**20 41 52.1**	**0.0**
	comp=Z,22nm,1.0s						
EBAN				S	**Sn**	**20 44 39.8**	**-15**
ERON	**Agron**	**16.50**	**84**	P	**Pn**	**20 41 52.8**	**-0.4**
	comp=Z,8.7nm,0.6s						
ERON				S	**Sn**	**20 44 41.0**	**-16**
ERON	**Agron**	**16.50**	**84**	P	**Pn**	**20 41 52.8**	**-0.4**
	comp=Z,8.7nm,0.6s						
ERON				S	**Sn**	**20 44 41.0**	**-16**
ECOG	**Cogollos-Vega**	**16.67**	**83**	P	**Pn**	**20 41 55.3**	**+0.1**
	comp=Z,18nm,0.9s						
ECOG				S	**Sn**	**20 44 45.0**	**-16**
ECOG	**Cogollos-Vega**	**16.67**	**83**	P	**Pn**	**20 41 55.3**	**+0.1**
ECOG				pmax	pmax		
	comp=Z,18nm,0.9s						
ECOG	**Cogollos-Vega**	**16.67**	**83**	P	**Pn**	**20 41 55.3**	**+0.1**
	comp=Z,18nm,0.9s						
ECOG				S	**Sn**	**20 44 45.0**	**-16**
EGUA	**Guajares**	**16.72**	**85**	P	**Pn**	**20 41 55.6**	**-0.3**
	comp=Z,1.5nm,0.6s						
EGUA				S	**Sn**	**20 44 45.8**	**-16**
EGUA	**Guajares**	**16.72**	**85**	P	**Pn**	**20 41 55.6**	**-0.3**
EGUA				pmax	pmax		
	comp=Z,2.0nm,0.6s						
EGUA	**Guajares**	**16.72**	**85**	P	**Pn**	**20 41 55.6**	**-0.3**
	comp=Z,1.5nm,0.6s						
EGUA				S	**Sn**	**20 44 45.8**	**-16**
MDT	**Midelt**	**16.85**	**99**	Pn	**Pn**	**20 41 58.1**	**+0.5**
	comp=Z,1.2nm,0.3s,baz=285,slow=12,SNR=18						
MDT				Sn	**Sn**	**20 44 47.7**	**-18**
	comp=Z,0.3nm,0.3s,baz=299,slow=10,SNR=4.7						
MDT				LR	LR	20 47 05.2	
	comp=Z,5µm,21.8s,baz=304,slow=32						
MDT	**Midelt**	**16.85**	**99**	Pn	**Pn**	**20 41 58.1**	**+0.5**
MDT				Sn	**Sn**	**20 44 47.7**	**-18**
EQES	**Quesada**	**17.01**	**81**	P	**Pn**	**20 41 59.7**	**+0.2**
	comp=Z,2.9nm,0.6s						
EQES				S	**Sn**	**20 44 52.7**	**-16**
EQES	**Quesada**	**17.01**	**81**	P	**Pn**	**20 41 59.7**	**+0.1**
	comp=Z,2.9nm,0.6s						
EQES				S	**Sn**	**20 44 52.7**	**-16**
ELAN	**Lanestosa**	**17.16**	**63**	P	**Pn**	**20 41 59.7**	**-1.8**
	comp=Z,10nm,1.4s						
ELAN				S	**Sn**	**20 44 58.6**	**-14**
ELAN	**Lanestosa**	**17.16**	**63**	P	**Pn**	**20 41 59.7**	**-1.8**
	comp=Z,10nm,1.4s						
ELAN				S	**Sn**	**20 44 58.6**	**-14**
EBER	**Berja**	**17.25**	**84**	P	**Pn**	**20 42 03.0**	**+0.4**
	comp=Z,3.3nm,0.5s						
EBER				S	**Sn**	**20 44 59.1**	**-16**
EBER	**Berja**	**17.25**	**84**	P	**Pn**	**20 42 03.0**	**+0.4**
	comp=Z,3.3nm,0.5s						
EBER				S	**Sn**	**20 44 59.1**	**-16**
EVIA	**Vianos**	**17.41**	**78**	P	**Pn**	**20 42 05.3**	**+0.8**
	comp=Z,2.2nm,0.5s						
EVIA				S	**Sn**	**20 45 03.3**	**-16**
EVIA	**Vianos**	**17.41**	**78**	P	**Pn**	**20 42 05.3**	**+0.7**
EVIA				pmax	pmax		
	comp=Z,2.0nm,0.5s						
EVIA	**Vianos**	**17.41**	**78**	P	**Pn**	**20 42 05.3**	**+0.7**
	comp=Z,2.0nm,0.5s						
EVIA				S	**Sn**	**20 45 03.3**	**-15**
ECRI	**Cripan**	**17.70**	**65**	P	**Pn**	**20 42 11.8**	**+3.6**
	comp=Z,5.9nm,1.0s						
ECRI				S	**Sn**	**20 45 14.3**	**-11**
ECRI	**Cripan**	**17.70**	**65**	P	**Pn**	**20 42 11.8**	**+3.7**
ECRI				S	**Sn**	**20 45 14.3**	**-11**
ECRI				pmax	pmax		
	comp=Z,6.0nm,1.0s						
ECRI	**Cripan**	**17.70**	**65**	P	**Pn**	**20 42 11.8**	**+3.7**
	comp=Z,5.9nm,1.0s						
ECRI				S	**Sn**	**20 45 14.3**	**-11**
ENIJ	**Nijar**	**17.78**	**84**	P	**Pn**	**20 42 08.8**	**-0.4**
	comp=Z,2.2nm,0.5s						
ENIJ	**Nijar**	**17.78**	**84**	P	**Pn**	**20 42 08.8**	**-0.4**
ENIJ				pmax	pmax		
	comp=Z,2.0nm,0.5s						
ENIJ	**Nijar**	**17.78**	**84**	P	**Pn**	**20 42 08.8**	**-0.4**
	comp=Z,2.2nm,0.5s						
ETOR	**Torete**	**17.80**	**71**	P	**Pn**	**20 42 10.8**	**+1.3**
	comp=Z,1.3nm,0.7s						
ETOR				S	**Sn**	**20 45 15.4**	**-13**
ETOR	**Torete**	**17.80**	**71**	P	**Pn**	**20 42 10.8**	**+1.4**
ETOR				S	**Sn**	**20 45 15.4**	**-13**
ETOR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ETOR	**Torete**	**17.80**	**71**	P	**Pn**	**20 42 10.8**	**+1.4**
	comp=Z,1.3nm,0.7s						
ETOR				S	**Sn**	**20 45 15.4**	**-13**
ETOB	**Tobarra**	**18.16**	**78**	P	**Pn**	**20 42 14.9**	**+1.1**
	comp=Z,4.5nm,0.7s						
ETOB	**Tobarra**	**18.16**	**78**	P	**Pn**	**20 42 14.9**	**+1.1**
	comp=Z,4.5nm,0.7s						
ECHE	**Chera**	**18.59**	**75**	P	**Pn**	**20 42 20.7**	**+1.6**
	comp=Z,0.9nm,0.4s						
ECHE				S	**Sn**	**20 45 32.3**	**-15**
ECHE	**Chera**	**18.59**	**75**	P	**Pn**	**20 42 20.7**	**+1.6**
ECHE				S	**Sn**	**20 45 32.3**	**-15**
ECHE				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ECHE	**Chera**	**18.59**	**75**	P	**Pn**	**20 42 20.7**	**+1.6**
	comp=Z,0.9nm,0.4s						
ECHE				S	**Sn**	**20 45 32.3**	**-15**
OSSF	**Osses**	**18.72**	**64**	*e*P	**Pn**	**20 42 21.6**	**+0.9**
SJPF	**Ste Jean**	**18.72**	**64**	*e*P	**Pn**	**20 42 20.6**	**-0.1**
	comp=Z,172nm,1.3s						
SJPF	**Ste Jean**	**18.72**	**64**	*e*P	**Pn**	**20 42 20.6**	**-0.1**
	comp=Z,86nm,1.3s						
SJPF	**Ste Jean**	**18.72**	**64**	*e*P	**Pn**	**20 42 20.6**	**-0.1**
SJPF				pmax	pmax		
	comp=Z,86nm,1.3s						
LARF	**Larrau**	**18.88**	**65**	*e*P	**Pn**	**20 42 24.0**	**+1.4**
QUIF	**Quistinic**	**18.96**	**49**	*e*P	**Pn**	**20 42 22.8**	**-0.8**
	comp=Z,107nm,1.1s						
QUIF	**Quistinic**	**18.96**	**49**	*e*P	**Pn**	**20 42 22.8**	**-0.8**
	comp=Z,53nm,1.1s						
QUIF	**Quistinic**	**18.96**	**49**	*e*P	**Pn**	**20 42 22.8**	**-0.8**
QUIF				pmax	pmax		
	comp=Z,53nm,1.1s						
CMA1	**Manaccan**	**18.98**	**41**	*e*P	**Pn**	**20 42 24.4**	**+0.7**
EMOS	**Mosqueruela**	**18.98**	**73**	P	**Pn**	**20 42 25.1**	**+1.2**
	comp=Z,2.5nm,0.8s						
EMOS				S	**Sn**	**20 45 42.3**	**-14**
EMOS	**Mosqueruela**	**18.98**	**73**	P	**Pn**	**20 42 25.0**	**+1.1**
	comp=Z,2.5nm,0.8s						
EMOS				S	**Sn**	**20 45 42.3**	**-14**
CCA1	**Carnmenellis**	**18.98**	**41**	*e*P	**Pn**	**20 42 25.4**	**+1.6**
ESAC	**San Caprasio**	**19.08**	**69**	P	**Pn**	**20 42 26.3**	**+1.3**
	comp=Z,0.2nm,0.7s						
ESAC				S	**Sn**	**20 45 45.2**	**-14**
ESAC	**San Caprasio**	**19.08**	**69**	P	**Pn**	**20 42 26.3**	**+1.3**
	comp=Z,0.2nm,0.7s						
ESAC				S	**Sn**	**20 45 45.2**	**-14**
ROSF	**Rostrenen**	**19.09**	**48**	*e*P	**Pn**	**20 42 24.8**	**-0.3**
	comp=Z,116nm,1.2s						
ROSF	**Rostrenen**	**19.09**	**48**	*e*P	**Pn**	**20 42 24.8**	**-0.3**
	comp=Z,58nm,1.2s						
ROSF	**Rostrenen**	**19.09**	**48**	*e*P	**Pn**	**20 42 24.8**	**-0.3**
ROSF				pmax	pmax		
	comp=Z,58nm,1.2s						
ATE	**Arette**	**19.09**	**65**	*e*P	**Pn**	**20 42 26.6**	**+1.4**
ETSF	**Etsaut**	**19.16**	**65**	*e*P	**Pn**	**20 42 26.3**	**+0.3**
	comp=Z,94nm,0.9s						
ETSF	**Etsaut**	**19.16**	**65**	*e*P	**Pn**	**20 42 26.3**	**+0.3**
	comp=Z,47nm,0.9s						
ETSF	**Etsaut**	**19.16**	**65**	*e*P	**Pn**	**20 42 26.3**	**+0.3**
ETSF				pmax	pmax		
	comp=Z,47nm,0.9s						
EBEN	**Beniarda**	**19.19**	**78**	P	**Pn**	**20 42 27.0**	**+0.6**
	comp=Z,1.4nm,0.6s						
EBEN	**Beniarda**	**19.19**	**78**	P	**Pn**	**20 42 27.0**	**+0.6**
	comp=Z,1.4nm,0.6s						
CSA1	**St Austell**	**19.26**	**41**	*e*P	**Pn**	**20 42 28.1**	**+1.0**
REYF	**Montagne du Re**	**19.31**	**65**	*e*P	**Pn**	**20 42 27.8**	**0.0**
SGMF	**Saint Gilles**	**19.48**	**48**	*e*P	**Pn**	**20 42 29.0**	**-0.8**
	comp=Z,146nm,1.2s						
SGMF	**Saint Gilles**	**19.48**	**48**	*e*P	**Pn**	**20 42 29.0**	**-0.8**
	comp=Z,73nm,1.2s						
SGMF	**Saint Gilles**	**19.48**	**48**	*e*P	**Pn**	**20 42 29.0**	**-0.8**
SGMF				pmax	pmax		
	comp=Z,73nm,1.2s						
VIEF	**Viey**	**19.59**	**65**	*e*P	**Pn**	**20 42 30.8**	**-0.3**
ERTA	**Horta de San J**	**19.62**	**71**	P	**Pn**	**20 42 32.2**	**+0.7**
	comp=Z,3.1nm,0.5s						
ERTA	**Horta de San J**	**19.62**	**71**	P	**Pn**	**20 42 32.2**	**+0.7**
	comp=Z,3.1nm,0.5s						
EBIE	**Bielsa**	**19.64**	**66**	P	**Pn**	**20 42 31.9**	**+0.1**
	comp=Z,3.8nm,0.6s						
EBIE				S	**Sn**	**20 45 57.5**	**-15**
EBIE	**Bielsa**	**19.64**	**66**	P	**Pn**	**20 42 31.9**	**+0.1**
	comp=Z,3.8nm,0.6s						
EBIE				S	**Sn**	**20 45 57.5**	**-15**
LABF	**Labassere**	**19.65**	**65**	*e*P

EMIR Miracle 20.58 69 P **P 20 42 42.3 +1.7**
comp=Z,13nm,0.7s
EMIR S **S 20 46 22.0 -9.3**
DMUB Kingscourt 20.67 30 *i* P **P 20 42 43.0 +1.5**
ECHA Ech Chief 20.75 85 P **P 20 42 46.7 +4.1**
ETRT Tiaret 20.85 87 P **P 20 42 42.9 -0.7**
EBNR Beni Rached 20.86 85 P **P 20 42 45.0 +1.3**
FLN La Foliniere 20.95 49 *e*P **P 20 42 44.8 +0.3**
comp=Z,340nm,1.3s
FLN *e*MLR MLR
comp=Z,5µm,20.8s,MS4.6
FLN La Foliniere 20.95 49 *e*P **P 20 42 44.8 +0.3**
comp=Z,170nm,1.3s
FLN LR LR
comp=Z,5µm,20.8s,MS4.9
FLN La Foliniere 20.95 49 *e*P **P 20 42 44.8 +0.3**
FLN pmax pmax
comp=Z,170nm,1.3s
FLN MLR MLR
comp=Z,5µm,20.8s,MS4.9
VALF Valcebollere 20.99 67 *e*P **P 20 42 46.1 +1.0**
HGH Gray Hill 21.08 40 *e*P **P 20 42 47.0 +1.1**
CARF Carcanieres 21.08 67 *e*P **P 20 42 46.5 +0.4**
LDF La Druitiere 21.09 50 *e*P **P 20 42 46.5 +0.3**
comp=Z,167nm,1.0s,mb5.0
LDF La Druitiere 21.09 50 *e*P **P 20 42 46.5 +0.3**
comp=Z,84nm,1.0s,mb5.0
LDF La Druitiere 21.09 50 *e*P **P 20 42 46.5 +0.3**
LDF pmax pmax
comp=Z,84nm,1.0s,mb5.0
HTR Trewern Hill 21.10 38 *e*P **P 20 42 47.0 +0.8**
RJF Les Rejaudoux 21.11 59 *e*P **P 20 42 46.1 -0.2**
comp=Z,144nm,1.1s,mb4.9
RJF *e*MLR MLR
comp=Z,8µm,19.5s,MS4.8
RJF Les Rejaudoux 21.11 59 *e*P **P 20 42 46.1 -0.2**
comp=Z,72nm,1.1s,mb4.9
RJF LR LR
comp=Z,8µm,19.5s,MS5.1
RJF Les Rejaudoux 21.11 59 *e*P **P 20 42 46.1 -0.2**
RJF pmax pmax
comp=Z,72nm,1.1s,mb4.9
RJF MLR MLR
comp=Z,8µm,19.5s,MS5.1
MCH1 Michaelchurch 21.19 39 *e*P **P 20 42 48.5 +1.3**
MCH1 *e*P 20 42 48.5
MCH1 AMb AMB 20 42 50.3
comp=Z,86nm,1.8s,mb4.8
MTLF Montolieu 21.24 65 *e*P **P 20 42 47.9 +0.1**
comp=Z,168nm,1.3s,mb4.9
MTLF Montolieu 21.24 65 *e*P **P 20 42 47.9 +0.1**
comp=Z,84nm,1.3s,mb4.9
MTLF Montolieu 21.24 65 *e*P **P 20 42 47.9 +0.1**
MTLF pmax pmax
comp=Z,84nm,1.3s,mb4.9
FILF Fillols 21.40 67 *e*P **P 20 42 48.8 -0.7**
CAF Calviac 21.40 60 *e*P **P 20 42 49.7 +0.2**
comp=Z,431nm,1.0s,mb5.4
CAF Calviac 21.40 60 *e*P **P 20 42 49.7 +0.2**
comp=Z,215nm,1.0s,mb5.4
CAF Calviac 21.40 60 *e*P **P 20 42 49.7 +0.2**
CAF pmax pmax
comp=Z,215nm,1.0s,mb5.4
LRDF Laroque-de-Fa 21.42 66 *e*P **P 20 42 49.8 0.0**
HAE Alders End 21.44 39 *e*P **P 20 42 50.8 +1.0**
ETOS Mallorca 21.50 75 P **P 20 42 52.5 +1.8**
comp=Z,28nm,0.8s,mb4.7
ETOS Mallorca 21.50 75 P **P 20 42 52.5 +1.8**
comp=Z,28nm,0.8s,mb4.7
SWN1 Swindon 21.53 41 *e*P **P 20 42 52.2 +1.4**
SWN1 AMb AMB 20 42 57.4
comp=Z,414nm,1.7s,mb5.6
HLM1 Long Mynd 21.56 38 *e*P **P 20 42 52.2 +1.1**
SBD1 Bryn Du 21.61 37 *e*P **P 20 42 52.5 +0.9**
SJAF Saint Jean de 21.63 67 *e*P **P 20 42 53.2 +1.2**
EJON La Jonquera 21.63 67 P **P 20 42 54.1 +2.1**
comp=Z,21nm,0.9s,mb4.6
EJON La Jonquera 21.63 67 P **P 20 42 54.1 +2.1**
comp=Z,21nm,0.9s,mb4.6
SSW Stow on the Wo 21.75 40 *e*P **P 20 42 54.2 +1.0**
TCF Toulx Ste Croi 21.82 57 *e*P **P 20 42 53.9 -0.1**
comp=Z,573nm,1.3s,mb5.5
TCF Toulx Ste Croi 21.82 57 *e*P **P 20 42 53.9 -0.1**
comp=Z,286nm,1.3s,mb5.5
TCF Toulx Ste Croi 21.82 57 *e*P **P 20 42 53.9 -0.1**
TCF pmax pmax
comp=Z,286nm,1.3s,mb5.5
FRNF Fournols 21.85 59 *e*P **P 20 42 55.1 +0.8**
ABA Alger-Bouzarea 21.96 83 P **P 20 43 01.7 +6.1**
GIM North Isle of 21.97 32 *e*P **P 20 42 57.1 +1.6**
EMHD Djebel Mahouad 22.00 84 P **P 20 42 56.9 +0.9**
SKP1 Kophill 22.16 41 *e*P **P 20 42 59.1 +1.5**
PYM Petit Puy Mans 22.23 59 *e*P **P 20 42 58.6 +0.2**
GAL1 Galloway 22.26 31 *e*P **P 20 43 00.3 +1.7**
GAL1 AMb AMB 20 43 02.2
comp=Z,101nm,1.2s,mb5.1
LBL Lubilhac 22.29 60 *e*P **P 20 42 58.6 -0.4**
BGF Bois d'Agland 22.32 57 *e*P **P 20 42 59.0 -0.3**
comp=Z,192nm,0.9s,mb5.2
BGF Bois d'Agland 22.32 57 *e*P **P 20 42 59.0 -0.3**
comp=Z,96nm,0.9s,mb5.2
BGF Bois d'Agland 22.32 57 *e*P **P 20 42 59.0 -0.3**
BGF pmax pmax
comp=Z,96nm,0.9s,mb5.2
KWE Weaver Farm 22.36 38 *e*P **P 20 42 59.9 +0.3**
HYF Humbligny 22.38 55 *e*P **P 20 42 59.5 -0.4**
AGO Saint Agoulin 22.38 58 *e*P **P 20 42 59.9 -0.1**
ADJB Djebel Djouab 22.40 84 P **P 20 43 02.7 +2.5**
CWF Charnwood Fore 22.46 39 *e*P **P 20 43 01.7 +0.9**
CWF AMb AMB 20 43 08.3
comp=Z,115nm,1.4s,mb5.1
LASF Ste Croix 22.52 63 *e*P **P 20 43 01.2 -0.3**
comp=Z,212nm,1.2s,mb5.1
COLF Collangettes 22.65 60 *e*P **P 20 43 03.4 +0.5**
KBI1 Birley Grange 22.65 37 *e*P **P 20 43 04.0 +1.2**
LHO Holmfirth 22.67 37 *e*P **P 20 43 04.5 +1.5**
PLDF La Plantade 22.70 58 *e*P **P 20 43 03.2 -0.2**
AVF Avril sur Loir 22.71 56 *e*P **P 20 43 02.9 -0.6**
comp=Z,132nm,1.2s,mb4.9
AVF Avril sur Loir 22.71 56 *e*P **P 20 43 02.9 -0.6**
comp=Z,66nm,1.2s,mb4.9
AVF Avril sur Loir 22.71 56 *e*P **P 20 43 02.9 -0.6**
AVF pmax pmax
comp=Z,66nm,1.2s,mb4.9
CKE Keswick 22.76 33 *e*P **P 20 43 04.8 +0.9**
AKET Djebel Ketaf 22.77 84 P **P 20 43 03.7 -0.5**
SSF Saint Saulge 22.89 56 *e*P **P 20 43 04.6 -0.7**
comp=Z,380nm,1.3s,mb5.3
SSF Saint Saulge 22.89 56 *e*P **P 20 43 04.6 -0.7**
comp=Z,190nm,1.3s,mb5.4
SSF Saint Saulge 22.89 56 *e*P **P 20 43 04.6 -0.7**
SSF pmax pmax
comp=Z,190nm,1.3s,mb5.4
SMF Signal de Mont 23.00 57 *e*P **P 20 43 05.7 -0.9**
comp=Z,401nm,1.2s,mb5.4
SMF Signal de Mont 23.00 57 *e*P **P 20 43 05.7 -0.9**
comp=Z,200nm,1.2s,mb5.4
SMF Signal de Mont 23.00 57 *e*P **P 20 43 05.7 -0.9**
SMF pmax pmax
comp=Z,200nm,1.2s,mb5.4
HPK Haverah Park 23.03 36 *e*P **P 20 43 07.7 +0.9**
HPK AMb AMB 20 43 13.1
comp=Z,214nm,1.6s,mb5.3
LOR Lormes 23.17 55 *e*P **P 20 43 07.4 -1.0**
comp=Z,177nm,1.2s,mb5.0
LOR *e*MLR MLR
comp=Z,6µm,23.0s,MS4.7
LOR Lormes 23.17 55 *e*P **P 20 43 07.4 -1.0**
comp=Z,89nm,1.2s,mb5.1
LOR LR LR
comp=Z,6µm,23.0s,MS5.0
LOR Lormes 23.17 55 *e*P **P 20 43 07.4 -1.0**
LOR pmax pmax
comp=Z,89nm,1.2s,mb5.1
LOR MLR MLR
comp=Z,6µm,23.0s,MS5.0
ESK Eskdalemuir 23.20 32 *e*P **P 20 43 08.6 0.0**
ESK AMb AMB 20 43 13.8
comp=Z,90nm,1.5s,mb5.0
ESK Eskdalemuir 23.20 32 *e*P **P 20 43 08.0 -0.6**
comp=Z,59nm,1.1s,mb4.9
ESK LR LR
comp=Z,5µm,20.0s,MS4.9
ESK Eskdalemuir 23.20 32 *e*P **P 20 43 08.0 -0.6**
ESK pmax pmax
comp=Z,59nm,1.1s,mb4.9
ESK MLR MLR
comp=Z,5µm,20.0s,MS4.9
ESK Eskdalemuir 23.20 32 *e*P **P 20 43 08.0 -0.6**
comp=Z,59nm,1.1s,mb4.9
VIVF Saint-Julien-l 23.21 62 *e*P **P 20 43 08.4 -0.4**
comp=Z,163nm,0.9s,mb5.2
VIVF Saint-Julien-l 23.21 62 *e*P **P 20 43 08.4 -0.4**
comp=Z,81nm,0.9s,mb5.2
VIVF Saint-Julien-l 23.21 62 *e*P **P 20 43 08.4 -0.4**
VIVF pmax pmax
comp=Z,81nm,0.9s,mb5.2
EKA Eskdalemuir Ar 23.23 32 P **P 20 43 07.8 -1.1**
comp=Z,20nm,0.7s,mb4.6,baz=228,slow=7.9,SNR=39
MENF Mencas 23.25 46 *e*P **P 20 43 09.4 +0.2**
EAU Auchinoon 23.46 31 *e*P **P 20 43 11.5 +0.1**
BBTS Babate 23.51 160 P **P 20 43 15.8 +3.6**
comp=Z,79nm,1.2s,mb5.0,baz=60,slow=1.0,SNR=5.9
BBTS LR LR 20 50 37.4
comp=Z,1µm,19.4s,MS4.4,baz=337,slow=32
EBL Broad Law 23.58 31 *e*P **P 20 43 12.3 -0.2**
OCF Saint Nazaire 23.62 62 *e*P **P 20 43 13.0 0.0**
OG26 St.-Nazaire-De 23.62 62 *e*P **P 20 43 13.0 0.0**
SMRF Simiane la Rot 23.74 64 *e*P **P 20 43 13.4 -0.7**
comp=Z,218nm,1.4s,mb5.1
SMRF Simiane la Rot 23.74 64 *e*P **P 20 43 13.4 -0.7**
comp=Z,218nm,1.4s,mb5.4
ELO Logie Almond 23.80 29 *e*P **P 20 43 14.4 -0.1**
SET Setif 23.95 83 P **P 20 43 17.0 +0.9**
GRN Grenoble 24.02 61 *e*P **P 20 43 17.8 +1.1**
CKHR Kef el Ahmar 24.07 84 P **P 20 43 18.0 +0.8**
ORIF Oris-en-Rattie 24.07 62 *e*P **P 20 43 16.6 -0.6**
comp=Z,180nm,1.0s,mb5.2
ORIF *e*MLR MLR
comp=Z,7µm,22.2s,MS4.8
ORIF Oris-en-Rattie 24.07 62 *e*P **P 20 43 16.6 -0.6**
comp=Z,90nm,1.0s,mb5.2
ORIF Oris-en-Rattie 24.07 62 *e*P **P 20 43 16.6 -0.6**
ORIF pmax pmax
comp=Z,90nm,1.0s,mb5.2
DFRA Djebel Bou Aff 24.26 82 P **P 20 43 20.0 +1.0**
MDO Dochfour 24.26 27 *e*P **P 20 43 19.4 +0.6**
BAIF Baives 24.27 49 *e*P **P 20 43 17.4 -1.5**
comp=Z,155nm,0.9s,mb5.2
BAIF Baives 24.27 49 *e*P **P 20 43 17.4 -1.5**
comp=Z,78nm,0.9s,mb5.1
BAIF Baives 24.27 49 *e*P **P 20 43 17.4 -1.5**
BAIF pmax pmax
comp=Z,78nm,0.9s,mb5.1
GDM Grand'Maison 24.28 61 *e*P **P 20 43 20.7 +1.6**
MEZF Maizieres J'vi 24.29 53 *e*P **P 20 43 17.7 -1.4**
comp=Z,228nm,1.1s,mb5.2
MEZF Maizieres J'vi 24.29 53 *e*P **P 20 43 17.7 -1.4**
comp=Z,228nm,1.1s,mb5.5
LMR La Mourre 24.36 66 *e*P **P 20 43 19.5 -0.3**
comp=Z,57nm,1.0s,mb4.6
LMR La Mourre 24.36 66 *e*P **P 20 43 19.5 -0.3**
comp=Z,28nm,1.0s,mb4.7
LMR La Mourre 24.36 66 *e*P **P 20 43 19.5 -0.3**
LMR pmax pmax
comp=Z,28nm,1.0s,mb4.7
CMER Merouana 24.46 84 P **P 20 43 22.0 +1.2**
FRF La Foret Royal 24.47 65 *e*P **P 20 43 20.3 -0.5**
comp=Z,113nm,1.0s,mb5.0
FRF La Foret Royal 24.47 65 *e*P **P 20 43 20.3 -0.5**
comp=Z,56nm,1.0s,mb5.0
FRF La Foret Royal 24.47 65 *e*P **P 20 43 20.3 -0.5**
FRF pmax pmax
comp=Z,56nm,1.0s,mb5.0
SNF Seneffe 24.48 48 P **P 20 43 20.1 -0.7**
comp=Z,50nm,1.2s,mb4.8
CABF La Chapelle 24.50 58 *e*P **P 20 43 20.7 -0.4**
comp=Z,79nm,1.1s,mb4.9
CABF La Chapelle 24.50 58 *e*P **P 20 43 20.7 -0.4**
comp=Z,40nm,1.1s,mb4.9
CABF La Chapelle 24.50 58 *e*P **P 20 43 20.7 -0.4**
CABF pmax pmax
comp=Z,40nm,1.1s,mb4.9
DOU Dourbes 24.52 49 P **P 20 43 20.5 -0.7**
comp=Z,64nm,1.2s,mb5.0
UCC Uccle 24.64 47 P **P 20 43 21.7 -0.6**
comp=Z,137nm,1.1s,mb5.4
BNI Bardonecchia 24.65 62 *e*P **P 20 43 22.8 +0.3**
comp=Z,97nm,1.4s,mb5.1
BNI Bardonecchia 24.65 62 *e*P **P 20 43 22.8 +0.3**
BNI pmax pmax
comp=Z,97nm,1.4s,mb5.1
BNI Bardonecchia 24.65 62 *e*P **P 20 43 22.8 +0.3**
comp=Z,97nm,1.4s,mb5.1
GIVF Givet 24.66 49 *e*P **P 20 43 21.9 -0.5**
comp=Z,412nm,1.1s,mb5.6
GIVF Givet 24.66 49 *e*P **P 20 43 21.9 -0.5**
comp=Z,206nm,1.1s,mb5.6
GIVF Givet 24.66 49 *e*P **P 20 43 21.9 -0.5**
GIVF pmax pmax
comp=Z,206nm,1.1s,mb5.6
CALN Calern 24.66 65 *e*P **P 20 43 22.7 +0.1**
MBDF Montbardon 24.68 62 *e*P **P 20 43 22.3 -0.4**
comp=Z,100nm,1.2s,mb4.9
MBDF Montbardon 24.68 62 *e*P **P 20 43 22.3 -0.4**
comp=Z,50nm,1.2s,mb4.9
MBDF Montbardon 24.68 62 *e*P **P 20 43 22.3 -0.4**
MBDF pmax pmax
comp=Z,50nm,1.2s,mb4.9
SURF Saint Ours 24.68 63 *e*P **P 20 43 23.4 +0.7**
MME1 Meikle Cairn 24.69 28 *e*P **P 20 43 22.9 +0.3**
LPL La Plagne 24.75 60 *e*P **P 20 43 23.4 0.0**
comp=Z,101nm,1.3s,mb4.9
LPL La Plagne 24.75 60 *e*P **P 20 43 23.4 0.0**
comp=Z,51nm,1.3s,mb4.9
LPL La Plagne 24.75 60 *e*P **P 20 43 23.4 0.0**
LPL pmax pmax
comp=Z,51nm,1.3s,mb4.9
LPG La Plagne 24.77 61 *e*P **P 20 43 23.5 0.0**
comp=Z,126nm,1.3s,mb5.0
LPG La Plagne 24.77 61 *e*P **P 20 43 23.5 0.0**
comp=Z,63nm,1.3s,mb5.0
LPG La Plagne 24.77 61 *e*P **P 20 43 23.5 0.0**
LPG pmax pmax
comp=Z,63nm,1.3s,mb5.0
CTEI Djebel Teioual 24.77 83 P **P 20 43 22.5 -1.1**
MCD Coleburn Disti 24.77 28 *e*P **P 20 43 22.5 -0.9**
CASM Aire Smara 24.80 83 P **P 20 43 23.0 -0.9**
THEF They Montfort 24.81 54 *e*P **P 20 43 23.3 -0.6**
BRANT Les Verrieres 24.83 57⇑ *i*P **P 20 43 24.4 +0.3**
comp=Z,93nm,1.1s,mb5.2
MVIF Mont Vial 24.86 64 *e*P **P 20 43 25.0 +0.6**
TOUF Mont Tournerai 24.94 64 *e*P **P 20 43 25.5 +0.4**
CKFL Kef-Lekhel 24.95 82 P **P 20 43 26.5 +1.2**
HAU Haudompre 24.99 55 *e*P **P 20 43 24.5 -1.0**
comp=Z,139nm,1.0s,mb5.1
HAU *e*MLR MLR
comp=Z,4µm,22.8s,MS4.6
HAU Haudompre 24.99 55 *e*P **P 20 43 24.5 -1.0**
comp=Z,69nm,1.0s,mb5.1
HAU LR LR
comp=Z,4µm,22.8s,MS4.9
HAU Haudompre 24.99 55 *e*P **P 20 43 24.5 -1.0**
HAU pmax pmax
comp=Z,69nm,1.0s,mb5.1
HAU MLR MLR
comp=Z,4µm,22.8s,MS4.9
LUCF Luceram 25.00 64 *e*P **P 20 43 27.2 +1.5**
REVF Revere 25.01 65 *e*P **P 20 43 25.8 +0.1**
AIGLE Aigle 25.04 59⇑ *i*P **P 20 43 26.2 +0.2**
comp=Z,110nm,1.3s,mb5.2
BCLA Clavier 25.06 49 P **P 20 43 25.3 -0.8**
comp=Z,40nm,1.1s,mb4.9
SBF Sospel 25.07 65 *e*P **P 20 43 26.2 0.0**
comp=Z,134nm,1.1s,mb5.1
SBF Sospel 25.07 65 *e*P **P 20 43 26.2 0.0**
comp=Z,67nm,1.1s,mb5.1
SBF Sospel 25.07 65 *e*P **P 20 43 26.2 0.0**
SBF pmax pmax
comp=Z,67nm,1.1s,mb5.1
AUTN L'Aution 25.07 64 *e*P **P 20 43 25.8 -0.5**
RSP Reno Superiore 25.07 61 P **P 20 43 26.9 +0.6**
TORNY Torny/Romont 25.12 58⇑ *i*P **P 20 43 27.1 +0.4**
comp=Z,249nm,1.6s,mb5.5
GRYON Gryon 25.13 59⇑ *i*P **P 20 43 27.1 +0.3**
comp=Z,125nm,1.5s,mb5.2
LOMF Lomont 25.15 56 *e*P **P 20 43 27.0 0.0**
SAOF Saorge 25.16 64 *e*P **P 20 43 27.6 +0.5**
HINF Hinteralfeld 25.27 55 *e*P **P 20 43 27.7 -0.4**
comp=Z,170nm,1.2s,mb5.2
HINF Hinteralfeld 25.27 55 *e*P **P 20 43 27.7 -0.4**
comp=Z,85nm,1.2s,mb5.2
HINF Hinteralfeld 25.27 55 *e*P **P 20 43 27.7 -0.4**
HINF pmax pmax
comp=Z,85nm,1.2s,mb5.2
WLF Walferdange 25.33 51 *e*P **P 20 43 27.6 -0.9**
comp=Z,342nm,0.9s,mb5.9
WLF Walferdange 25.33 51 *e*P **P 20 43 27.6 -0.9**
WLF pmax pmax
comp=Z,342nm,0.9s,mb5.9
WLF Walferdange 25.33 51 P **P 20 43 27.7 -0.9**
comp=Z,210nm,1.1s,mb5.6
WLF Walferdange 25.33 51 *e*P **P 20 43 27.5 -1.0**
comp=Z,334nm,0.9s,mb5.9
WLF Walferdange 25.33 51 P **P 20 43 27.6 -0.9**
comp=Z,210nm,1.1s,mb5.6
BEBN Eben Emael 25.41 48 P **P 20 43 28.9 -0.4**
comp=Z,46nm,1.7s,mb4.7
BOURR Bourrignon 25.43 56⇑ *i*P **P 20 43 29.6 +0.1**
comp=Z,187nm,0.9s,mb5.6
CMAH Djebel Manchou 25.46 81 P **P 20 43 30.0 +0.1**
MOF Molkenrain 25.47 55 *e*P **P 20 43 29.6 -0.2**
MEM Membach 25.54 49 P **P 20 43 30.4 -0.1**
comp=Z,39nm,1.3s,mb4.8
HGN Heimansgroeve 25.55 48 *e*P **P 20 43 30.8 +0.2**
comp=Z,104nm,1.7s,mb5.1
HGN Heimansgroeve 25.55 48 *e*S **S 20 47 49.7 -9.1**
WIMIS Wimmis 25.55 58⇑ *i*P **P 20 43 31.1 +0.5**
comp=Z,136nm,1.8s,mb5.2
ECH Echery 25.57 54 *e*P **P 20 43 30.2 -0.5**
CDF Champ du Feu 25.69 54 *e*P **P 20 43 31.5 -0.4**
comp=Z,252nm,1.3s,mb5.3
CDF Champ du Feu 25.69 54 *e*P **P 20 43 31.5 -0.4**
comp=Z,126nm,1.3s,mb5.3
CDF Champ du Feu 25.69 54 *e*P **P 20 43 31.5 -0.4**
CDF pmax pmax
comp=Z,126nm,1.3s,mb5.3
BALST Balsthal 25.73 57⇑ *i*P **P 20 43 32.4 +0.2**
comp=Z,276nm,1.6s,mb5.5
RUP Ruppelstein 25.90 51 *e*P **P 20 43 33.3 -0.4**
PCP Pian Castagno 25.92 63 P **P 20 43 33.9 0.0**
FELD Feldberg im Sc 26.04 55 *e*P **P 20 43 34.5 -0.6**
SULZ Cheisacher 26.04 56⇑ *i*P **P 20 43 34.9 -0.2**
comp=Z,200nm,1.6s,mb5.4
STR Strasbourg 26.05 54 *e*P **P 20 43 35.0 -0.1**
PGF Pioggiola 26.15 68 *e*P **P 20 43 36.3 +0.2**
comp=Z,53nm,0.9s,mb4.8
PGF Pioggiola 26.15 68 *e*P **P 20 43 36.3 +0.2**
comp=Z,26nm,0.9s,mb4.8
PGF Pioggiola 26.15 68 *e*P **P 20 43 36.3 +0.2**
PGF pmax pmax
comp=Z,26nm,0.9s,mb4.8
LANF Langenberg 26.17 53 *e*P **P 20 43 35.6 -0.6**
FUSIO Fusio 26.23 59⇑ *i*P **P 20 43 37.4 +0.7**
comp=Z,186nm,2.1s,mb5.2
FUSIO Fusio 26.23 59⇑ *i*P **P 20 43 38.0 +1.3**
ABH Alteburg 26.25 51 *e*P **P 20 43 36.9 0.0**
CORF Corte 26.26 68 *e*P **P 20 43 37.6 +0.5**
MUO Muotathal 26.29 58⇑ *i*P **P 20 43 37.9 +0.6**
comp=Z,162nm,1.5s,mb5.3
MUO Muotathal 26.29 58⇑ *i*P **P 20 43 38.3 +1.0**
ZUR Degenried 26.33 57⇑ *i*P **P 20 43 38.0 +0.4**
comp=Z,181nm,1.3s,mb5.4
ZUR Degenried 26.33 57⇑ *i*P **P 20 43 37.9 +0.3**
SLE Schleitheim 26.34 56⇑ *i*P **P 20 43 37.4 -0.4**
SLE Schleitheim 26.34 56⇑ *i*P **P 20 43 38.3 +0.5**
comp=Z,149nm,1.2s,mb5.4
BFO Black Forest 26.36 55 P **P 20 43 37.1 -0.8**
comp=Z,453nm,1.3s,mb5.8,SNR=50
BFO Black Forest 26.36 55 *e*P **P 20 43 37.0 -0.9**
BFO pmax pmax
comp=Z,148nm,1.2s,mb5.4
BFO Black Forest 26.36 55 *e*P **P 20 43 37.0 -0.9**
comp=Z,148nm,1.2s,mb5.4
KTD Kalmit 26.44 52 *e*P **P 20 43 38.9 +0.3**
WTSB Winterswijk 26.49 46 *e*P **P 20 43 38.8 -0.3**
comp=Z,141nm,1.6s,mb5.2
VSL Villasalto 26.58 75 *e*P **P 20 43 40.0 0.0**
comp=Z,56nm,1.3s,mb4.9
VSL Villasalto 26.58 75 *e*P **P 20 43 40.0 0.0**
comp=Z,56nm,1.3s,mb4.9
SPAK Spaichingen-Ko 26.61 55 *e*P **P 20 43 40.0 -0.1**
LIENZ Kamor/St.Gall 26.92 57⇑ *i*P **P 20 43 43.5 +0.5**
comp=Z,86nm,1.3s,mb5.1
STU Stuttgart 27.01 54 *e*P **P 20 43 43.0 -0.8**
comp=Z,72nm,1.0s,mb5.2
DAVOX Davos/Dischmat 27.11 58 P **P 20 43 45.3 +0.7**
comp=Z,12nm,0.8s,mb4.5,baz=272,slow=9.3,SNR=25
DAVOX LR LR 20 54 06.3
comp=Z,4µm,18.4s,MS5.1,baz=261,slow=36
DAVOX Davos/Dischmat 27.11 58 P **P 20 43 45.3 +0.6**
KEST Kesra 27.17 83 P **P 20 43 44.9 -0.5**
comp=Z,8.9nm,1.2s,mb4.2,baz=88,slow=6.1,SNR=15
DAVA Damuels 27.18 57 *i*P **P 20 43 45.9 +0.6**
comp=Z,104nm,1.8s,mb5.1,SNR=33
BORG Borgarnes 27.67 3 LR LR 20 51 39.4
comp=Z,3µm,18.6s,MS4.9,baz=207,slow=30
FETA Feichten 27.71 58⇑ *i*P **P 20 43 50.6 +0.4**
comp=Z,74nm,1.2s,mb5.2,SNR=39
RETA Reutte 27.81 57 *i*P **P 20 43 51.1 +0.2**
comp=Z,60nm,1.2s,mb5.1,SNR=34
MOTA Moosalm 28.01 57⇓ *i*P **P 20 43 52.9 +0.1**
comp=Z,40nm,1.4s,mb4.9,SNR=20
MOTA Moosalm 28.01 57⇓ *i*P **P 20 43 52.9 +0.1**
MOTA pmax pmax
comp=Z,40nm,1.4s,mb4.9
UBBA Unterbreizbach 28.02 50 *e*P **P 20 43 52.5 -0.4**
SQTA Sankt Quirin 28.07 58⇑ *i*P **P 20 43 53.5 +0.3**
comp=Z,39nm,1.2s,mb4.9,SNR=22
SQTA Sankt Quirin 28.07 58⇑ *i*P **P 20 43 53.5 +0.2**
SQTA pmax pmax
comp=Z,39nm,1.2s,mb4.9
FUR Furstenfeldbru 28.26 56 *e*P **P 20 43 54.3 -0.6**
FUR pmax pmax
comp=Z,184nm,2.4s,mb5.3
FUR Furstenfeldbru 28.26 56 *e*P **P 20 43 54.3 -0.6**
comp=Z,184nm,2.4s,mb5.3
WATA Walderalm 28.33 58⇑ *i*P **P 20 43 55.7 +0.1**
comp=Z,53nm,1.3s,mb5.0,SNR=18
WATA Walderalm 28.33 58⇑ *i*P **P 20 43 55.7 +0.1**
WATA pmax pmax
comp=Z,53nm,1.3s,mb5.0
WTTA Wattenberg 28.36 58 *i*P **P 20 43 56.3 +0.4**
SNR=9.1
GRFO Grafenberg 28.51 53 *e*P **P 20 43 56.6 -0.6**
comp=Z,61nm,0.8s,mb5.4
GRFO LR LR
comp=Z,2µm,21.0s,MS4.8
GRFO Grafenberg 28.51 53 *e*P **P 20 43 56.6 -0.6**
GRFO pmax pmax
comp=Z,61nm,0.8s,mb5.4
GRFO MLR MLR
comp=Z,2µm,21.0s,MS4.8
GRFO Grafenberg 28.51 53 *e*P **P 20 43 56.6 -0.6**
comp=Z,2µm,21.0s
GRA1 Grafenberg Arr 28.51 53 *e*P **P 20 43 56.6 -0.6**
comp=Z,81nm,0.9s,mb5.5
GRA1 LR LR
comp=Z,3µm,21.6s,MS4.8
GRF Grafenberg Arr 28.51 53 *e*P **P 20 43 56.6 -0.6**
GRF pmax pmax
comp=Z,81nm,0.9s,mb5.5
GRF MLR MLR
comp=Z,3µm,21.6s,MS4.8
GRF Grafenberg Arr 28.51 53 *e*P **P 20 43 56.6 -0.6**
GRF pmax pmax
comp=Z,81nm,0.9s,mb5.5
GRF MLR MLR
comp=Z,3µm,21.6s,MS4.8
GRF Grafenberg Arr 28.51 53 *e*P **P 20 43 56.6 -0.6**
comp=Z,81nm,0.9s,mb5.5
GRF *e*L 20 53 19.6
comp=Z,3µm,21.6s
CLZ Clausthal 28.54 48 *e*P **P 20 43 57.0 -0.4**
CLZ pmax pmax
comp=Z,32nm,1.5s,mb4.8
CLZ Clausthal 28.54 48 *e*P **P 20 43 57.0 -0.4**
comp=Z,32nm,1.5s,mb4.8
ABTA Abfaltersbach 28.90 59⇑ *i*P **P 20 44 00.0 -0.6**
comp=Z,23nm,1.1s,mb4.8,SNR=10
MOX Moxa 28.97 51 *e*P **P 20 44 01.8 +0.5**
comp=Z,51nm,1.6s,mb5.0
MOX *e* 20 44 58.0
MOX
comp=Z,4µm,18.0s
MOX Moxa 28.97 51 *e*P **P 20 44 01.8 +0.5**
MOX *e* 20 44 58.0

MOX pmax pmax
comp=Z,51nm,1.6s,mb5.0
MOX MLR MLR
comp=Z,4µm,18.0s,MS5.0
MOX Moxa 28.97 51 *eP* **P 20 44 00.8 -0.5**
comp=Z,32nm,1.2s,mb4.9
ROTZ Rotzenmuhle 29.15 53 *eP* **P 20 44 02.1 -0.8**
comp=Z,40nm,1.0s,mb5.1
NKC Novy Kostel 29.40 52 *eP* **P 20 44 05.3 +0.2**
NKC AMS AMS 20 55 30.0
comp=Z,3µm,16.8s,MS5.0
AQU L'Aquila 29.41 68 *eP* **P 20 44 05.5 +0.2**
comp=Z,66nm,1.0s,mb5.3
AQU L'Aquila 29.41 68⇓ *iP* **P 20 44 05.3 0.0**
AQU L'Aquila 29.41 68 *eP* **P 20 44 05.5 +0.2**
comp=Z,66nm,1.0s,mb5.3
TANN Tannenbergstha 29.45 51 *eP* **P 20 44 05.0 -0.5**
WET Wettzell 29.47 54 *eP* **P 20 44 05.2 -0.5**
WET pmax pmax
comp=Z,12nm,0.9s,mb4.6
WET Wettzell 29.47 54 *eP* **P 20 44 05.2 -0.5**
comp=Z,12nm,0.9s,mb4.6
KBA Koelnbreinsper 29.50 58 *i P* **P 20 44 05.7 -0.3**
comp=Z,31nm,1.2s,mb4.9,SNR=24
KBA Koelnbreinsper 29.50 58 *i P* **P 20 44 05.7 -0.3**
KBA pmax pmax
comp=Z,31nm,1.2s,mb4.9
MUD Monsted U'grnd 29.60 39 *eP* **P 20 44 10.2 +3.4**
MUD *eS* **S 20 48 53.4 -9.0**
MUD MLR MLR
comp=Z,6µm,20.0s,MS5.2
MUD Monsted U'grnd 29.60 39 *i P* **P 20 44 10.2 +3.4**
MUD *eS* **S 20 48 53.4 -9.0**
MUD
comp=Z,6µm,20.0s
KHC Kasperske Hory 29.92 54 *eP* **P 20 44 09.0 -0.7**
KHC *e* 20 44 27.0
KHC LR LR
comp=Z,2µm,23.4s,MS4.7
KHC Kasperske Hory 29.92 54 *eP* **P 20 44 09.0 -0.7**
KHC *x* *x* 20 44 27.0
KHC AMS AMS 20 53 40.0
comp=Z,2µm,23.4s,MS4.7
GEC2 GERESS Array S 29.96 55 *eP* **P 20 44 09.4 -0.6**
GEC2 pmax pmax
comp=Z,79nm,1.9s,mb5.1
GEC2 GERESS Array S 29.96 55 *eP* **P 20 44 09.4 -0.6**
comp=Z,79nm,1.9s,mb5.1
GERES GERESS Array B 29.96 55 P **P 20 44 09.4 -0.6**
comp=Z,9.6nm,1.0s,mb4.5,baz=258,slow=6.7,SNR=44
GERES LR LR 20 55 30.5
comp=Z,2µm,18.0s,MS4.7,baz=258,slow=35
BER Bergen 29.96 30 *eP* **P 20 44 05.7 -4.2**
BER AMS AMS 20 54 33.8
comp=Z,3µm,20.8s,MS4.9
CLL Collm 29.98 50⇑ *iP* **P 20 44 09.8 -0.4**
CLL *e* 20 44 30.0
CLL *e*PP PP 20 45 06.0 -12
CLL *eS* **S 20 49 01.0 -7.6**
CLL Collm 29.98 50⇑ *iP* **P 20 44 09.8 -0.4**
CLL *e* 20 45 06.0
CLL *eS* **S 20 49 01.0 -7.6**
CLL pmax pmax
comp=Z,25nm,1.0s,mb4.9
CLL MLR MLR
comp=Z,4µm,19.6s,MS5.1
CLL Collm 29.98 50 *eP* **P 20 44 09.6 -0.6**
comp=Z,25nm,1.0s,mb4.9
CLL Collm 29.98 50⇑ *iP* **P 20 44 09.8 -0.4**
comp=Z,25nm,1.0s,mb4.9
CLL *ex* *x* 20 44 30.0
CLL *e*PP PP 20 45 06.0 -12
CLL *ex* *x* 20 48 24.0
CLL *eS* **S 20 49 06.0 -2.6**
CLL *e*SS SS 20 50 36.0 -40
CLL Collm 29.98 50⇑ *iP* **P 20 44 09.8 -0.4**
CLL *eS* **S 20 49 01.0 -7.6**
comp=Z,4µm,19.6s
CEY Cerknica 30.15 61 *i P* **P 20 44 10.6 -1.1**
CEY *eS* **S 20 49 25.7 +14**
MOA Molln 30.20 57⇑ *iP* **P 20 44 11.9 -0.3**
comp=Z,48nm,1.2s,mb5.1,SNR=17
LJU Ljubljana 30.23 61 *i P* **P 20 44 14.3 +1.8**
LJU *eS* **S 20 49 18.0 +5.4**
OBKA Obir 30.27 60 *i P* **P 20 44 12.5 -0.4**
comp=Z,58nm,1.6s,mb5.1,SNR=18
BRG Berggiesshubel 30.47 51 *i P* **P 20 44 14.1 -0.4**
comp=Z,17nm,0.9s,mb4.8
BRG S **S 20 49 09.0 -7.2**
BRG *e* 20 50 49.1
BRG LR LR
comp=Z,2µm,22.8s,MS4.8
BRG Berggiesshubel 30.47 51 *i P* **P 20 44 14.1 -0.4**
BRG S **S 20 49 09.0 -7.2**
BRG *e* 20 50 49.1
BRG pmax pmax
comp=Z,17nm,0.9s,mb4.8
BRG MLR MLR
comp=N,820nm,14.0s,MS4.8
BRG MLR MLR
comp=E,2µm,18.0s,MS4.8
BRG MLR MLR
comp=Z,2µm,22.8s,MS4.8
BRG Berggiesshubel 30.47 51 *eP* **P 20 44 13.8 -0.7**
comp=Z,29nm,0.9s,mb5.0
BRG Berggiesshubel 30.47 51 *i P* **P 20 44 14.1 -0.4**
comp=Z,29nm,0.9s,mb5.0
BRG S **S 20 49 09.0 -7.2**
BRG *e* 20 50 49.1
comp=Z,16nm,2.8s
BRG
comp=N,1µm,14.0s
BRG
comp=E,3µm,18.0s
BRG
comp=Z,4µm,22.8s
PERS Pernice 30.67 59 *i P* **P 20 44 16.6 +0.2**
PERS *eS* **S 20 49 33.9 +14**
PRU Pruhonice 30.68 53 *eP* **P 20 44 17.0 +0.6**
BOJS Bojanci 30.72 62 *i P* **P 20 44 16.4 -0.5**
BOJS *eS* **S 20 49 21.1 +0.9**
BOJS *e* 20 49 36.7
BOJS Bojanci 30.72 62 *i P* **P 20 44 16.4 -0.4**
BOJS *eS* **S 20 49 21.1 +0.8**
RUE Ruedersdorf 30.73 48 *eP* **P 20 44 16.3 -0.5**
comp=Z,59nm,1.0s,mb5.4
RUE Ruedersdorf 30.73 48 *eP* **P 20 44 16.3 -0.5**
comp=Z,59nm,1.0s,mb5.4
VAE Valguarnera 30.79 77 P **P 20 44 16.6 -0.9**
comp=Z,14nm,0.9s,mb4.8,baz=112,slow=11,SNR=2.4
VAE LR LR 20 55 55.6
comp=Z,3µm,18.3s,MS5.0,baz=261,slow=35
PVCC Panska Ves 30.79 52 *eP* **P 20 44 17.4 0.0**
PVCC AMS AMS 20 54 50.0
comp=Z,3µm,19.6s,MS5.0
ARSA Arzberg 30.99 58⇑ *iP* **P 20 44 18.2 -1.0**
comp=Z,18nm,1.4s,mb4.7,SNR=12
TREC Trest 31.18 54 *eP* **P 20 44 20.2 -0.6**
TREC AMS AMS 20 58 40.0
comp=Z,2µm,15.9s,MS4.8
TREC Trest 31.18 54 *eP* **P 20 44 20.2 -0.6**
comp=Z,2µm,15.9s
CONA Conrad Observa 31.28 57⇓ *iP* **P 20 44 21.3 -0.4**
comp=Z,25nm,1.7s,mb4.8,SNR=11
KONO Kongsberg 31.32 33 PFAKE 20 44 30.0 +8.0
KONO LR LR
comp=Z,4µm,20.0s,MS5.1
KONO Kongsberg 31.32 33 *eS* **S 20 49 31.8 +2.4**
KONO AMS AMS 20 55 50.4
comp=Z,4µm,20.6s,MS5.0
UPC Upice 31.69 52 *eP* **P 20 44 25.2 -0.1**
SOP Sopron 31.73 58⇑ *eP* **P 20 44 26.0 +0.3**
DPC Dobruska-Polom 31.87 52 *eP* **P 20 44 26.6 -0.3**
DPC AMS AMS 20 57 30.0
comp=Z,2µm,17.5s,MS4.7
VRAC Vranov 31.90 54 ⇓P **P 20 44 26.2 -1.0**
VRAC Vranov 31.90 54 LR LR 20 55 22.2
comp=Z,1µm,21.9s,MS4.6,baz=257,slow=33
VRAC Vranov 31.90 54⇓ *iP* **P 20 44 26.2 -1.0**
VRAC Vranov 31.90 54 *eP* **P 20 44 26.4 -0.8**
KSP Ksiaz 31.93 52 *eP* **P 20 44 27.1 -0.3**
KSP *ep*P pP 20 44 30.6 +2.5
KSP LMZ 20 55 44.0
comp=Z,6µm,20.5s
KSP Ksiaz 31.93 52⇓ *eP* **P 20 44 27.1 -0.3**
KSP *eS* **S 20 49 38.0 -1.0**
KSP MLR MLR
comp=Z,7µm,20.5s,MS5.3
KSP Ksiaz 31.93 52⇓ *eP* **P 20 44 27.1 -0.3**
KSP *eS* **S 20 49 38.0 -1.0**
ZST Bratislava 32.13 57 *eP* **P 20 44 28.4 -0.8**
comp=Z,52nm,1.5s,mb5.1
ZST *eP*P PP 20 45 29.8 -12
ZST LR LR
comp=Z,2µm,16.1s,MS4.9
ZST Bratislava 32.13 57 *eP* **P 20 44 28.4 -0.8**
ZST *eP*P PP 20 45 29.8 -12
ZST Bratislava 32.13 57 *eP* **P 20 44 28.4 -0.8**
comp=Z,52nm,1.5s,mb5.1
ZST Bratislava 32.13 57 *eP*P PP 20 45 29.8 -12
TIP Timpagrande 32.29 74 *eP* **P 20 44 30.1 -0.6**
comp=Z,169nm,1.4s,mb5.7
TIP Timpagrande 32.29 74 *eP* **P 20 44 30.1 -0.6**
comp=Z,169nm,1.4s,mb5.7
NAO01 NORSAR Array S 32.49 32 PFAKE 20 44 40.0 +7.8
NAO01 LR LR
comp=Z,7µm,22.0s,MS5.3
MORC Moravsky Berou 32.57 54 *eP* **P 20 44 32.5 -0.5**
comp=Z,19nm,1.1s,mb4.9
MORC Moravsky Berou 32.57 54 ⇓P **P 20 44 31.6 -1.4**
MORC Moravsky Berou 32.57 54⇓ *iP* **P 20 44 31.5 -1.5**
MORC Moravsky Berou 32.57 54 *eP* **P 20 44 32.6 -0.4**
NB2 NORSAR Subarra 32.72 32 P **P 20 44 33.0 -1.3**
comp=Z,18nm,1.0s,mb5.0,baz=241,slow=9.3
NOA NORSAR Array B 32.72 32 P **P 20 44 33.6 -0.7**
NOA 20 47 20.5
NOA NORSAR Array B 32.72 32 P **P 20 44 33.6 -0.6**
comp=Z,12nm,1.0s,mb4.8,baz=241,slow=8.9,SNR=14
NOA PcP PcP 20 47 20.4 +0.8
comp=Z,4.1nm,0.8s,baz=235,slow=2.6,SNR=6.7
NOA LR LR 20 55 58.7
comp=Z,4µm,21.9s,MS5.1,baz=260,slow=33
NOA NORSAR Array B 32.72 32 PcP PcP 20 47 20.5 +0.9
GKP Gorka Klasztor 32.95 47 *eP* **P 20 44 37.2 +0.9**
GKP *ep*P pP 20 44 40.5 +3.3
GKP LMZ 21 00 17.4
comp=Z,4µm,15.6s
GKP Gorka Klasztor 32.95 47 *eP* **P 20 44 37.2 +0.8**
GKP *ep*P pP 20 44 40.4 +3.3
GKP LR LR
comp=Z,4µm,15.6s,MS5.2
GKP Gorka Klasztor 32.95 47 *eP* **P 20 44 37.2 +0.8**
GKP *ep*P pP 20 44 40.4 +3.3
OKC Ostrava-Krasne 32.97 54 *eP* **P 20 44 35.9 -0.6**
OKC AMS AMS 20 56 50.0
comp=Z,1µm,19.3s,MS4.7
KOLL Kolacno 33.02 56 *eP* **P 20 44 36.4 -0.6**
RAC Raciborz 33.02 53 *eP* **P 20 44 38.5 +1.5**
RAC MLR MLR
comp=N,2µm,20.9s,MS5.1
RAC MLR MLR
comp=Z,2µm,18.2s,MS4.9
RAC MLR MLR
comp=E,3µm,16.9s,MS5.1
PKSM Moragy 33.10 60 ⇓P **P 20 44 36.3 -1.4**
PKSM Moragy 33.10 60⇓ *iP* **P 20 44 36.3 -1.4**
PKSM Moragy 33.10 60⇓ *eP* **P 20 44 36.8 -0.9**
BBSR BB Station 33.20 274 PFAKE 20 44 50.0 +11
BBSR LR LR
comp=Z,3µm,19.0s,MS5.0
VYHS Vyhne 33.30 56 *i P* **P 20 44 38.4 -1.1**
comp=Z,9.1nm,1.1s,mb4.6
VYHS *e* 20 47 21.5
VYHS Vyhne 33.30 56 *i P* **P 20 44 38.4 -1.1**
VYHS *e* 20 47 21.5
VYHS pmax pmax
comp=Z,9.0nm,1.1s,mb4.6
VYHS Vyhne 33.30 56 *e*PcP PcP 20 47 21.5 0.0
HFS Hagfors 33.37 34 P **P 20 44 39.3 -0.6**
HFS 20 47 22.2
HFS Hagfors 33.37 34 P **P 20 44 39.3 -0.6**
comp=Z,7.3nm,0.8s,mb4.6,baz=204,slow=6.5,SNR=13
HFS PcP PcP 20 47 22.2 +0.8
comp=Z,3.5nm,0.8s,baz=222,slow=1.9,SNR=3.1
HFS LR LR 20 57 00.1
comp=Z,3µm,19.6s,MS5.1,baz=241,slow=34
HFS Hagfors 33.37 34 PcP PcP 20 47 22.2 +0.8
SFJD Kangerlussuaq 33.38 342 *eP* **P 20 44 39.6 -0.3**
comp=Z,33nm,1.0s,mb5.2
SFJD LR LR
comp=Z,2µm,19.0s,MS4.9
SFJD Kangerlussuaq 33.38 342 *i P* **P 20 44 39.3 -0.6**
SFJD *i S* **S 20 50 03.1 +1.9**
SFJD pmax pmax
comp=Z,35nm,1.0s,mb5.2
SFJD MLR MLR
comp=Z,2µm,18.0s,MS4.9
SFJD Kangerlussuaq 33.38 342 P **P 20 44 38.6 -1.2**
comp=Z,32nm,1.1s,mb5.2,baz=120,slow=7.6,SNR=9.9
SFJD LR LR 20 55 04.1
comp=Z,3µm,18.0s,MS5.0,baz=123,slow=31
SFJD Kangerlussuaq 33.38 342 *i P* **P 20 44 39.3 -0.6**
comp=Z,35nm,1.0s,mb5.2
SFJD *i S* **S 20 50 03.1 +1.9**
SFJD
comp=Z,2µm,18.0s
SFJD Kangerlussuaq 33.38 342 *eP* **P 20 44 39.6 -0.3**
comp=Z,33nm,1.0s,mb5.2
SFJD *i S* **S 20 50 03.1 +1.9**
comp=Z,2µm,18.0s
BUD Budapest 33.38 58 *eP* **P 20 44 39.8 -0.4**
TOA0 Torodi Ar. Sit 33.46 129 *eP* **P 20 44 41.9 +0.8**
TOA0 Torodi Ar. Sit 33.46 129 *eP* **P 20 44 41.9 +0.7**
TORD Torodi Ar. Bea 33.46 129 P **P 20 44 42.4 +1.2**
comp=Z,58nm,1.2s,mb5.4,baz=333,slow=3.8,SNR=61
TORD LR LR 20 58 00.3
comp=Z,1µm,18.6s,MS4.7,baz=315,slow=36
SCHQ Schefferville 33.66 315 *eP* **P 20 44 42.7 +0.1**
comp=Z,11nm,0.7s,mb4.9
SCHQ LR LR
comp=Z,2µm,20.0s,MS4.8
SCHQ Schefferville 33.66 315 P **P 20 44 41.5 -1.0**
comp=Z,12nm,0.8s,mb4.9,baz=92,slow=9.9,SNR=15
SCHQ LR LR 20 56 11.6
comp=Z,1µm,20.5s,MS4.5,baz=101,slow=33
SCHQ Schefferville 33.66 315 *eP* **P 20 44 42.7 +0.2**
comp=Z,11nm,0.7s,mb4.9
PSZ Piszkesteto 33.98 57 *eP* **P 20 44 45.0 -0.4**
comp=Z,43nm,1.3s,mb5.2
PSZ Piszkesteto 33.98 57 *eP* **P 20 44 45.0 -0.4**
PSZ pmax pmax
comp=Z,43nm,1.3s,mb5.2
PSZ Piszkesteto 33.98 57⇑ *iP* **P 20 44 46.3 +0.9**
PSZ Piszkesteto 33.98 57 *eP* **P 20 44 44.5 -0.9**
OJC Ojcow 34.06 53 *eP* **P 20 44 45.7 -0.4**
OJC *eS* **S 20 50 05.8 -6.5**
OJC L 20 59 45.4
comp=Z,2.5nm,16.6s
OJC Ojcow 34.06 53 *eP* **P 20 44 45.7 -0.4**
OJC *eS* **S 20 50 05.8 -6.5**
DIVS Divibare 34.12 64 *eP* **P 20 44 44.1 -2.6**
DIVS Divibare 34.12 64 *eP* **P 20 44 46.1 -0.6**
PKME Peaks-Kenny Pk 34.29 298 PFAKE 20 45 00.0 +12
PKME LR LR
comp=Z,4µm,19.0s,MS5.2
NIE Niedzica 34.33 55 *eP* **P 20 44 49.1 +0.7**
KECS Kecovo 34.40 56 *eP* **P 20 44 48.5 -0.5**
comp=Z,13nm,1.2s,mb4.8
KECS Kecovo 34.40 56 *eP* **P 20 44 48.5 -0.5**
KECS pmax pmax
comp=Z,13nm,1.2s,mb4.7
JMIC Jan Mayen 34.91 9 *e*PP PP 20 46 10.0 -2.0
JMIC *eS* **S 20 50 24.3 -0.5**
JMIC AMS AMS 20 56 22.4
comp=Z,2µm,17.5s,MS4.9
JMIC Jan Mayen 34.91 9 LR LR 20 56 15.9
comp=Z,2µm,18.1s,MS4.9,baz=199,slow=32
JMIC Jan Mayen 34.91 9 *e*PP PP 20 46 10.0 -2.0
SNR=40
JMIC *eS* **S 20 50 24.3 -0.5**
SNR=28
STHS Stebnicka Huta 34.94 55 *eP* **P 20 44 55.1 +1.4**
comp=Z,34nm,1.2s,mb5.2
STHS *e*PP PP 20 46 13.2 +0.5
STHS Stebnicka Huta 34.94 55 *eP* **P 20 44 55.1 +1.4**
STHS pmax pmax
comp=Z,34nm,1.2s,mb5.2
IGT Igoumenitsa 34.96 72 *eP* **P 20 44 53.8 -0.1**
OHR Ohrid 35.04 69 *eP* **P 20 44 52.5 -2.2**
OHR Ohrid 35.04 69 *eP* **P 20 44 54.2 -0.5**
WAR Warsaw 35.05 50 *eP* **P 20 44 55.2 +0.6**
WAR *ep*P pP 20 44 59.0 +3.6
WAR LMZ 20 56 57.4
comp=Z,2µm,23.6s
WAR Warsaw 35.05 50 *eP* **P 20 44 55.2 +0.6**
WAR *e*PP pP 20 44 59.0 +3.6
WAR LR LR
comp=Z,2µm,23.6s,MS4.8
WAR Warsaw 35.05 50 *e*PP pP 20 44 59.0 +3.6
CRVS Cervenica-Dubn 35.06 56 *eP* **P 20 44 55.0 +0.3**
BZS Buzias 35.19 61 P **P 20 44 56.4 +0.6**
BZS Buzias 35.19 61⇓ *iP* **P 20 44 55.5 -0.3**
BZS Buzias 35.19 61 P **P 20 44 56.4 +0.6**
DBIC Dimbokro 35.24 145 *eP* **P 20 44 58.2 +1.6**
comp=Z,22nm,1.1s,mb5.0
DBIC LR LR
comp=Z,1µm,19.0s,MS4.8
DBIC Dimbokro 35.24 145 *eP* **P 20 44 58.2 +1.6**
DBIC pmax pmax
comp=Z,22nm,1.1s
DBIC MLR MLR
comp=Z,1µm,19.0s
DBIC Dimbokro 35.24 145 P **P 20 44 57.9 +1.3**
comp=Z,12nm,1.0s,mb4.8,baz=327,slow=9.7,SNR=9.6
DBIC LR LR 20 58 36.0
comp=Z,2µm,18.4s,MS4.8,baz=318,slow=35
DBIC Dimbokro 35.24 145 *eP* **P 20 44 58.2 +1.6**
comp=Z,22nm,1.1s,mb5.0
KRUS Krusevo 35.34 69 *eP* **P 20 44 59.2 +2.0**
SKO Skopje 35.40 68 *eP* **P 20 44 58.8 +1.1**
BIA Bitola 35.45 69 *eP* **P 20 44 57.5 -0.7**
BIA Bitola 35.45 69 *eP* **P 20 44 58.4 +0.2**
BIA Bitola 35.45 69 *eP* **P 20 44 58.3 +0.1**
FNA Florina 35.53 70 *eP* **P 20 44 57.7 -1.1**
KOLS Kolonicke sedl 35.60 56 *eP* **P 20 44 59.2 -0.1**
UZH Uzhgorod 35.60 56 *d iP* **P 20 44 59.0 -0.4**
UZH *eS* **S 20 50 35.0 -1.0**
UZH MLR MLR
comp=Z,1µm,16.0s,MS4.8
UZH Uzhgorod 35.60 56 *i P* **P 20 44 59.0 -0.4**
comp=Z,1µm,16.0s
UZH *eS* **S 20 50 35.0 -1.0**
TRPA Tarpa 35.76 57⇑ *iP* **P 20 45 01.2 +0.4**
DRGR 35.90 59 P **P 20 45 02.2 +0.3**
DRGR 35.90 59⇑ *iP* **P 20 45 02.1 +0.1**
DRGR 35.90 59 P **P 20 45 02.2 +0.2**
KWP Kalwaria 35.90 54 *eP* **P 20 45 02.3 +0.4**
KWP *ep*P pP 20 45 08.3 +5.5
KWP LMZ 20 56 34.1
comp=Z,1µm,27.2s
KWP Kalwaria 35.90 54⇓ *iP* **P 20 45 02.2 +0.3**
KWP Kalwaria 35.90 54 *eP* **P 20 45 02.3 +0.4**
KWP *ep*P pP 20 45 08.3 +5.6
STIP Stip 35.99 68 *eP* **P 20 45 02.5 -0.3**
WES Weston 36.01 293 PFAKE 20 45 10.0 +7.1
WES LR LR
comp=Z,1µm,20.0s,MS4.7
GZR Gura Zlata 36.02 62 P **P 20 45 04.1 +1.2**
GZR Gura Zlata 36.02 62⇓ *iP* **P 20 45 04.5 +1.5**
GZR Gura Zlata 36.02 62 P **P 20 45 04.1 +1.1**
HRV Adam Dziewonsk 36.16 293 PFAKE 20 45 20.0 +16
HRV LR LR
comp=Z,1µm,19.0s,MS4.8
LBNH Lisbon 36.23 296 PFAKE 20 45 20.0 +15
LBNH LR LR
comp=Z,2µm,22.0s,MS4.8
VAY Valandovo 36.33 69 *eP* **P 20 45 03.4 -2.3**
VAY Valandovo 36.33 69 *eP* **P 20 45 03.8 -1.9**
LIT Litokhoron 36.48 71 *eP* **P 20 45 06.8 -0.3**
SUW Suwalki 36.57 47 *eP* **P 20 45 06.3 -1.2**
SUW LMZ 21 00 27.6
comp=Z,4µm,19.1s
AGG Agios Georgios 36.58 72 *eP* **P 20 45 07.6 -0.3**
KNT Kendrikon 36.60 69 *eP* **P 20 45 08.0 0.0**
VTS Vitosha 36.61 66 *eP* **P 20 45 10.2 +2.2**
VTS Vitosha 36.61 66 P **P 20 45 12.2 +4.1**
VTS Vitosha 36.61 66⇓ *iP* **P 20 45 10.1 +2.0**
VTS Vitosha 36.61 66 *i P* **P 20 45 08.2 +0.1**
VTS Vitosha 36.61 66 P **P 20 45 10.2 +2.1**
KKB Krupnik 36.62 68 *i P* **P 20 45 08.6 +0.4**
LVV L'vov 36.77 54 *d iP* **P 20 45 09.0 -0.3**
LVV *eS* **S 20 50 49.0 -4.8**
LVV MLR MLR
comp=Z,1µm,15.0s,MS4.8
LVV L'vov 36.77 54 *i P* **P 20 45 09.0 -0.3**
comp=Z,1µm,15.0s
LVV *eS* **S 20 50 49.0 -4.8**
SOH Sokhos 37.00 69 *eP* **P 20 45 11.3 -0.1**
MMB Musomiste 37.15 68 *i P* **P 20 45 12.8 +0.2**
PLG Polygyros 37.15 70 *eP* **P 20 45 12.7 0.0**
PGB Panagyurishte 37.32 66 *i P* **P 20 45 14.9 +0.8**
PAIG Paliouri 37.41 71 *eP* **P 20 45 13.5 -1.5**
OUR Ouranopolis 37.56 70 *eP* **P 20 45 16.2 0.0**
VOIR 37.61 61 P **P 20 45 18.3 +1.8**
VOIR 37.61 61⇓ *iP* **P 20 45 18.0 +1.5**
VOIR 37.61 61 P **P 20 45 18.3 +1.8**
DID Didima 37.62 75 *eP* **P 20 45 17.1 +0.4**
AOS Alonnisos 37.72 72 *eP* **P 20 45 17.2 -0.3**
PLD Plovdiv 37.78 67 *eP* **P 20 45 18.1 +0.1**
RZN Rozhen 37.86 68 *i P* **P 20 45 18.0 -0.7**
NCB Newcomb 37.91 296 PFAKE 20 45 30.0 +11
NCB LR LR
comp=Z,1µm,20.0s,MS4.7
ZIMR 38.03 64 P **P 20 45 23.8 +3.6**
ZIMR 38.03 64⇑ *iP* **P 20 45 23.1 +3.0**
ZIMR 38.03 64 P **P 20 45 23.8 +3.7**
LONY Lake Ozonia 38.09 297 PFAKE 20 45 30.0 +9.4
LONY LR LR
comp=Z,2µm,22.0s,MS4.8
MLR Muntele Rosu 38.23 61 P **P 20 45 23.3 +1.5**
MLR Muntele Rosu 38.23 61⇓ *iP* **P 20 45 20.0 -1.8**
MLR Muntele Rosu 38.23 61 P **P 20 45 23.3 +1.5**
KDZ Kurdzhali 38.38 67 *i P* **P 20 45 22.2 -0.9**
SZH Strazhica 38.50 65 *i P* **P 20 45 24.5 +0.4**
PLOR Plostina 38.69 61⇑ *iP* **P 20 45 26.4 +0.8**
PLOR Plostina 38.69 61 P **P 20 45 26.2 +0.6**
VRI Vrincioaia 38.74 61⇑ *iP* **P 20 45 26.8 +0.8**
VRI Vrincioaia 38.74 61 P **P 20 45 26.4 +0.4**
ALN Alexandroupoli 38.99 68 *eP* **P 20 45 26.7 -1.5**
JMB Yambol 39.09 66 *eP* **P 20 45 27.3 -1.8**
JMB Yambol 39.09 66 *i P* **P 20 45 28.2 -0.9**
IAS Iasi 39.19 58 P **P 20 45 30.3 +0.5**
IAS Iasi 39.19 58 P **P 20 45 30.3 +0.5**
MNK Minsk 39.33 47 *eP* **P 20 45 30.0 -0.9**
MNK *eS* **S 20 51 32.0 -0.5**
MNK MLR MLR
comp=E,6µm,18.0s
MNK MLR MLR
comp=Z,9µm,18.0s,MS5.6
BBGH Gun Hill 39.40 242 PFAKE 20 45 40.0 +8.1
BBGH LR LR
comp=Z,1µm,19.0s,MS4.8
BINY Binghamton 39.45 294 PFAKE 20 45 40.0 +7.9
BINY LR LR
comp=Z,1µm,19.0s,MS4.8
APE Apeiranthos 39.50 74⇑ P **P 20 45 34.0 +1.4**
APE Apeiranthos 39.50 74⇑ *iP* **P 20 45 34.0 +1.5**
FINES FINESS Array B 39.52 36 P **P 20 45 31.3 -1.0**
FINES 20 47 40.0
FINES FINESS Array B 39.52 36 P **P 20 45 31.2 -1.1**
comp=Z,8.5nm,1.0s,mb4.4,baz=292,slow=5.1,SNR=12
FINES PcP PcP 20 47 40.0 +0.2
comp=Z,4.2nm,0.8s,baz=115,slow=3.2,SNR=7.7
FINES LR LR 21 01 33.7
comp=Z,1µm,18.0s,MS4.8,baz=249,slow=36
FINES FINESS Array B 39.52 36 PcP PcP 20 47 40.0 +0.2
FIA1 FINESS Array S 39.52 36 *eP* **P 20 45 31.5 -0.8**
FIA1 FINESS Array S 39.52 36 *eP* **P 20 45 31.5 -0.9**
PRD Provadia 39.57 65 *i P* **P 20 45 32.9 -0.1**
HARR Harsova 39.72 62 P **P 20 45 33.7 -0.5**
HARR Harsova 39.72 62⇓ *iP* **P 20 45 34.2 -0.1**
HARR Harsova 39.72 62 P **P 20 45 33.7 -0.6**
DAG Danmarks Havn 39.78 2⇓ *eP* **P 20 45 34.0 -0.4**
DAG pmax pmax
comp=Z,20nm,1.2s,mb4.7
DAG Danmarks Havn 39.78 2⇓ *iP* **P 20 45 34.0 -0.4**
comp=Z,20nm,1.2s,mb4.7
DAG Danmarks Havn 39.78 2 *eP* **P 20 45 34.0 -0.4**
comp=Z,20nm,1.2s,mb4.7
KAF Kangasniemi 39.79 35 *ep* **P 20 45 34.0 -0.6**
comp=Z,16nm,0.8s,mb4.8,baz=254,slow=8.6
KAF Kangasniemi 39.79 35 *eP* **P 20 45 34.0 -0.6**
KAF pmax pmax

comp=Z,16nm,0.8s,mb4.8
AYVA Ayvalik 39.82 71 *i* P **P 20 45 36.2 +1.0**
TRO Tromso 39.94 22 *e*P **P 20 45 32.2 -3.5**
TRO *e*PP PP 20 47 06.0 -1.2
TRO *e*S **S 20 51 41.9 +0.6**
TRO *e*SS SS 20 54 38.1 +0.7
PSN Preselentsi 40.05 64 *i* P **P 20 45 36.4 -0.6**
KIS Kishinev 40.06 59 *e*P **P 20 45 34.0 -3.1**
KIS *e* 20 47 14.0
KIS *e*S **S 20 51 40.0 -3.7**
KIS Kishinev 40.06 59 *e*P **P 20 45 34.0 -3.1**
KIS *e*S **S 20 51 40.0 -3.7**
KIS LRM 21 02 30.0
comp=Z,2μm,17.0s
KIEV Kiev 40.09 53 *e*P **P 20 45 36.1 -1.1**
comp=Z,45nm,1.0s,mb5.2
KIEV LR LR
comp=Z,2μm,20.0s,MS4.9
KIEV Kiev 40.09 53 *e*P **P 20 45 36.1 -1.1**
KIEV pmax pmax
comp=Z,45nm,1.0s,mb5.2
KIEV MLR MLR
comp=Z,2μm,20.0s,MS4.9
KIEV Kiev 40.09 53 *e*P **P 20 45 36.1 -1.1**
comp=Z,2μm,20.0s
TIRR Tirgusor 40.09 62 ⇑P **P 20 45 37.5 +0.1**
TIRR Tirgusor 40.09 62 ⇑*i*P **P 20 45 37.5 +0.1**
AKASG Malin Array Be 40.10 53 P **P 20 45 35.9 -1.4**
AKASG 20 47 41.5
AKASG Malin Array Be 40.10 53 P **P 20 45 35.9 -1.5**
comp=Z,21nm,0.9s,mb4.9,baz=272,slow=8.0,SNR=33
AKASG PcP PcP 20 47 41.5 -0.4
comp=Z,1.6nm,0.9s,baz=269,slow=4.0,SNR=5.4
AKASG LR LR 21 01 23.7
comp=Z,2μm,20.0s,MS4.9,baz=270,slow=35
AKASG Malin Array Be 40.10 53 PcP PcP 20 47 41.5 -0.4
AKBB Malin Array Si 40.10 53 *e*P **P 20 45 36.1 -1.2**
AKBB Malin Array Si 40.10 53 *e*P **P 20 45 36.1 -1.2**
KDAG Bornova 40.48 72 *i* P **P 20 45 42.1 +1.4**
MTP Monte Pirata 40.66 254 *e*P **P 20 45 39.4 -2.9**
MTP Monte Pirata 40.66 254 *e*P **P 20 45 39.4 -3.0**
CPD Cerro la Pandu 40.98 254 *e*P **P 20 45 44.2 -0.7**
comp=Z,58nm,1.0s,mb5.2
CPD Cerro la Pandu 40.98 254 *e*P **P 20 45 44.3 -0.6**
CPD pmax pmax
comp=Z,58nm,1.0s,mb5.2
CPD Cerro la Pandu 40.98 254 *e*P **P 20 45 44.3 -0.6**
comp=Z,58nm,1.0s,mb5.2
SJG San Juan 41.11 254 *e*P **P 20 45 47.3 +1.2**
comp=Z,26nm,0.9s,mb4.9
SJG LR LR
comp=Z,2μm,22.0s,MS4.9
SJG San Juan 41.11 254 *e*P **P 20 45 47.3 +1.2**
SJG pmax pmax
comp=Z,26nm,0.9s
SJG MLR MLR
comp=Z,2μm,22.0s
SJG San Juan 41.11 254 P **P 20 45 46.7 +0.7**
comp=Z,20nm,0.8s,mb4.8,baz=60,slow=5.6,SNR=4.9
SJG LR LR 20 58 55.3
comp=Z,2μm,21.7s,MS4.9,baz=86,slow=30
SJG San Juan 41.11 254 *e*P **P 20 45 47.3 +1.2**
comp=Z,26nm,0.9s,mb4.9
SSPA Standing Stone 41.17 292 PFAKE 20 46 00.0 +14
SSPA LR LR
comp=Z,1μm,22.0s,MS4.8
SADO Sadowa 41.28 298 P **P 20 45 46.5 -0.7**
baz=107,slow=11
CBN Corbin 41.39 288 PFAKE 20 46 00.0 +12
CBN LR LR
comp=Z,1μm,21.0s,MS4.8
ARCES ARCESS Array B 41.94 24 P **P 20 45 51.5 -0.8**
ARCES PcP PcP 20 47 46.9 -0.6
ARCES LR LR 21 01 23.9
ARCES ARCESS Array B 41.94 24 P **P 20 45 51.5 -0.8**
ARCES 20 47 46.9
ARCES ARCESS Array B 41.94 24 P **P 20 45 51.5 -0.8**
comp=Z,24nm,0.8s,mb4.9,baz=243,slow=5.3,SNR=35
ARCES PcP PcP 20 47 46.9 -0.6
comp=Z,2.8nm,0.6s,baz=222,slow=1.6,SNR=5.7
ARCES LR LR 21 01 23.9
comp=Z,2μm,18.6s,MS5.0,baz=242,slow=34
ARCES ARCESS Array B 41.94 24 PcP PcP 20 47 46.9 -0.6
ARE0 ARCESS Array S 41.94 24 *e*P **P 20 45 52.5 +0.2**
ARE0 ARCESS Array S 41.94 24 *e*P **P 20 45 52.5 +0.2**
GDZ Gediz 41.97 70 *i* P **P 20 45 43.4 -10**
JOF Joensuu 42.23 34 *e*p **P 20 45 53.6 -1.1**
comp=Z,10nm,0.8s,mb4.5
JOF Joensuu 42.23 34 *e*P **P 20 45 53.6 -1.1**
JOF pmax pmax
comp=Z,10.0nm,0.8s,mb4.5
ERPA Erie 42.39 295 PFAKE 20 46 10.0 +14
ERPA LR LR
comp=Z,1μm,19.0s,MS4.8
KEV Kevo 42.51 24 PFAKE 20 46 10.0 +13
KEV LR LR
comp=Z,2μm,20.0s,MS4.9
GOLH Golhisar 42.54 73 *i* P **P 20 45 50.9 -6.7**
CNNC Cliffs of the 42.66 284 PFAKE 20 46 10.0 +11
CNNC LR LR
comp=Z,1μm,19.0s,MS4.8
MCWV Mont Chateau 42.87 291 PFAKE 20 46 10.0 +10
MCWV LR LR
comp=Z,2μm,22.0s,MS5.0
BLA Blacksburg 43.99 288 *e*P **P 20 46 09.5 +0.2**
comp=Z,34nm,1.1s,mb5.0
BLA LR LR
comp=Z,1μm,20.0s,MS4.8
BLA Blacksburg 43.99 288 *e*P **P 20 46 09.5 +0.2**
BLA pmax pmax
comp=Z,34nm,1.1s,mb5.0
BLA MLR MLR
comp=Z,1μm,20.0s,MS4.8
BLA Blacksburg 43.99 288 *e*P **P 20 46 09.5 +0.2**
comp=Z,34nm,1.1s,mb5.0
SIM Simferopol' 44.02 61 *de*P **P 20 46 11.5 +2.1**
SIM 20 47 58.3
SIM pmax pmax
comp=Z,18nm,1.4s,mb4.6
SIM pmax pmax
comp=Z,230nm,14.0s
SIM MLR MLR
comp=Z,2μm,16.0s,MS5.0
SIM Simferopol' 44.02 61 *e*P **P 20 46 11.5 +2.1**
comp=Z,230nm,14.0s
SIM Simferopol' 44.02 61 PcP PcP 20 47 58.3 +3.3
comp=Z,2μm,16.0s
APA Apatity 44.07 28 ⇑*i*P **P 20 46 10.8 +1.3**
APA *i* 20 46 24.0
APA *i* S **S 20 52 40.0 -2.3**
APA pmax pmax
comp=Z,29nm,1.0s,mb5.0
APA Apatity 44.07 28 *i* P **P 20 46 10.8 +1.3**
comp=Z,29nm,1.0s,mb5.0
APA *i* S **S 20 52 40.0 -2.3**
RCBR Riachuelo 44.09 196 PFAKE 20 46 20.0 +10
RCBR LR LR
comp=Z,2μm,20.0s,MS4.9
ANTO Ankara 44.24 68 *e*P **P 20 46 11.9 +0.6**
comp=Z,31nm,1.1s,mb5.0
ANTO LR LR
comp=Z,2μm,19.0s,MS5.0
ANTO Ankara 44.24 68 P **P 20 46 12.3 +1.0**
SNR=9.6
ANTO Ankara 44.24 68 P **P 20 46 12.3 +1.0**
SNR=9.6
ANTO Ankara 44.24 68 ⇓*i*P **P 20 46 10.6 -0.7**
ANTO Ankara 44.24 68 *e*P **P 20 46 11.9 +0.6**
comp=Z,31nm,1.1s,mb5.0
BALT Daday 44.25 66 *i* P **P 20 46 11.2 -0.1**
KBS Kingsbay 44.39 9 *e*P **P 20 46 10.6 -1.4**
KBS *e*S **S 20 52 43.7 -3.1**
KBS AMS AMS 21 00 45.8
comp=Z,811nm,19.8s,MS4.7
KBS Kingsbay 44.39 9 *e*P **P 20 46 12.9 +0.9**
KBS *i* S **S 20 52 33.1 -14**
OBN Obninsk 44.40 46 *e*P **P 20 46 11.5 -0.8**
comp=Z,53nm,1.0s,mb5.2
OBN LR LR
comp=Z,2μm,20.0s,MS5.1
OBN Obninsk 44.40 46 ⇑*e*P **P 20 46 11.6 -0.7**
OBN *i* 20 47 57.9
OBN *i* S **S 20 52 49.2 +1.8**
OBN *e*SS SS 20 56 07.9 +2.3
OBN pmax pmax
comp=Z,102nm,1.5s,mb5.3
OBN MLR MLR
comp=Z,2μm,22.0s,MS5.0
OBN Obninsk 44.40 46 *e*P **P 20 46 11.6 -0.7**
comp=Z,102nm,1.5s,mb5.3
OBN *i* S **S 20 52 49.2 +1.8**
OBN *e*ScS ScS 20 56 07.9 -3.3
comp=Z,2μm,22.0s
ELDT Eldivan 44.54 67 *i* P **P 20 46 14.1 +0.4**
SDDR Presa de Saban 44.61 259 *e*P **P 20 46 16.4 +2.0**
comp=Z,59nm,1.4s,mb5.2
SDDR LR LR
comp=Z,2μm,20.0s,MS5.0
MOS Moscow 44.97 45 *e*P **P 20 46 18.1 +1.2**
MOS *e* 20 46 31.9
MOS *e* 20 48 08.6
MOS pmax pmax
comp=Z,200nm,2.0s,mb5.6
MOS pmax pmax
comp=Z,118nm,1.6s,mb5.5
MOS MLR MLR
comp=Z,2μm,19.0s,MS5.1
MOS MLR MLR
comp=N,1μm,16.0s,MS5.1
MOS MLR MLR
comp=E,1μm,17.0s,MS5.1
MOS Moscow 44.97 45 *e*P **P 20 46 18.1 +1.2**
comp=E,118nm,1.6s,mb5.5
AAM Ann Arbor 45.00 296 PFAKE 20 46 30.0 +13
AAM LR LR
comp=Z,1μm,20.0s,MS4.8
PCRV Puerto La Cruz 45.03 244 P **P 20 46 20.2 +2.3**
comp=Z,12nm,0.8s,mb4.8,baz=358,slow=6.2,SNR=4.5
PCRV LR LR 21 02 21.2
comp=Z,1μm,18.7s,MS4.8,baz=68,slow=32
ACSO Alum Creek Sta 45.04 293 *e*P **P 20 46 17.9 +0.2**
comp=Z,38nm,0.9s,mb5.2
ACSO LR LR
comp=Z,1μm,20.0s,MS4.9
ACSO Alum Creek Sta 45.04 293 *e*P **P 20 46 17.9 +0.3**
comp=Z,38nm,0.9s,mb5.2
GLMI Grayling 45.11 299 PFAKE 20 46 30.0 +12
GLMI LR LR
comp=Z,2μm,22.0s,MS5.0
NHSC New Hope 45.17 282 PFAKE 20 46 30.0 +11
NHSC LR LR
comp=Z,818nm,20.0s,MS4.7
ERMK Ermenek 45.28 72 *i* P **P 20 46 16.2 -3.4**
BOYT Boyabat 45.38 65 *i* P **P 20 46 19.7 -0.6**
TMCR Tamitsa 45.39 33 *e*P **P 20 46 19.1 -1.0**
CDAG Cicekdag 45.48 68 *i* P **P 20 46 20.8 -0.4**
CTKT Corum 45.51 67 *i* P **P 20 46 21.7 +0.3**
CSS Prodhromos 46.16 75 *e*P **P 20 46 28.1 +1.5**
comp=Z,30nm,0.9s,mb5.2
CSS *e*PcP PcP 20 48 02.4 -0.2
CSS Prodhromos 46.16 75 *e*P **P 20 46 28.1 +1.5**
comp=Z,30nm,0.9s,mb5.2
CSS Prodhromos 46.16 75 *e*PcP PcP 20 48 02.4 -0.2
VRSR Storozhevoye 46.33 51 *e*P **P 20 46 27.6 -0.1**
VRSR *e*S **S 20 53 19.8 +4.4**
VRSR *e*SS SS 20 56 23.4 -17
VRSR pmax pmax
comp=N,4.0nm,1.0s
VRSR pmax pmax
comp=E,10.0nm,1.0s
VRSR pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
VRSR smax
comp=Z,30nm,16.2s
VRSR smax
comp=N,10.0nm,20.2s
VRSR smax
comp=E,110nm,16.6s
VRSR MLR MLR
comp=E,330nm,18.0s,MS4.4
VRSR MLR MLR
comp=Z,400nm,18.0s,MS4.4
VRSR MLR MLR
comp=N,140nm,17.0s,MS4.4
VRSR Storozhevoye 46.33 51 *e*P **P 20 46 27.6 -0.1**
VRSR *e*S **S 20 53 19.8 +4.4**
comp=N,10.0nm,20.2s
ANN Anapa 46.36 60 *e*P **P 20 46 29.5 +1.5**
ANN *e*S **S 20 53 17.5 +1.5**
ANN pmax pmax
comp=Z,112nm,1.8s,mb5.5
ANN MLR MLR
comp=Z,1μm,17.0s,MS4.9
ANN Anapa 46.36 60 *e*P **P 20 46 29.5 +1.5**
comp=Z,112nm,1.8s,mb5.5
ANN *e*S **S 20 53 17.5 +1.5**
comp=Z,1μm,17.0s
VORD Divnogorie 46.43 52 *e*P **P 20 46 27.3 -1.2**
VORD pmax pmax
comp=Z,40nm,0.9s,mb5.3
VORD pmax pmax
comp=N,40nm,1.5s
VORD pmax pmax
comp=E,110nm,1.1s
VORD MLR MLR
comp=E,1μm,18.0s,MS5.1
VORD MLR MLR
comp=Z,2μm,18.0s,MS5.1
VORD MLR MLR
comp=N,1μm,15.0s,MS5.1
VORD Divnogorie 46.43 52 *e*P **P 20 46 27.3 -1.2**
comp=N,1μm,15.0s
TZTN Tazewell 46.58 288 PFAKE 20 46 40.0 +10
TZTN LR LR
comp=Z,914nm,20.0s,MS4.7
TKL Tuckaleechee C 47.05 287 P **P 20 46 33.6 0.0**
comp=Z,10nm,1.1s,mb4.7,baz=87,slow=5.6,SNR=5.7
TKL LR LR 21 03 33.0
comp=Z,772nm,19.6s,MS4.7,baz=79,slow=33
ANDN Andirin 47.57 70 *i* P **P 20 46 34.0 -3.6**
ANDN *i* P pP 20 46 35.5 -2.9
ANDN Andirin 47.57 70 *i* P **P 20 46 35.5 -2.1**
GOGA Godfrey 47.62 284 *e*P **P 20 46 39.4 +1.4**
comp=Z,34nm,1.5s,mb5.2
GOGA LR LR
comp=Z,1μm,20.0s,MS4.9
GOGA Godfrey 47.62 284 *e*P **P 20 46 39.4 +1.4**
GOGA pmax pmax
comp=Z,34nm,1.5s,mb5.2
GOGA MLR MLR
comp=Z,1μm,20.0s,MS4.9
GOGA Godfrey 47.62 284 *e*P **P 20 46 39.4 +1.4**
comp=Z,34nm,1.5s,mb5.2
COWI Conover 47.93 302 PFAKE 20 46 50.0 +10
COWI LR LR
comp=Z,3μm,20.0s,MS5.3
GRSN GIRESUNGRSN 47.96 65 *i* P **P 20 46 31.1 -9.4**
BLO Bloomington 47.96 292 *e*P **P 20 46 40.4 -0.2**
comp=Z,26nm,0.8s,mb5.3
BLO Bloomington 47.96 292 *e*P **P 20 46 40.4 -0.2**
BLO pmax pmax
comp=Z,26nm,0.8s,mb5.3
BLO Bloomington 47.96 292 *e*P **P 20 46 40.4 -0.2**
comp=Z,26nm,0.8s,mb5.3
WCI Wyandotte Cave 48.09 291 *e*P **P 20 46 40.6 -1.0**
comp=Z,56nm,1.5s,mb5.4
WCI LR LR
comp=Z,292nm,21.0s,MS4.2
WCI Wyandotte Cave 48.09 291 *e*P **P 20 46 40.6 -1.0**
WCI pmax pmax
comp=Z,56nm,1.5s,mb5.4
WCI MLR MLR
comp=Z,292nm,21.0s,MS4.2
WCI Wyandotte Cave 48.09 291 *e*P **P 20 46 40.6 -1.0**
comp=Z,56nm,1.5s,mb5.4
DWPF Disney 48.17 277 PFAKE 20 46 50.0 +7.6
DWPF LR LR
comp=Z,2μm,19.0s,MS5.0
SOC Sochi 48.25 61 *d*P **P 20 46 41.9 -0.9**
SOC *e* 20 48 33.0
SOC *e*S **S 20 53 39.4 -3.6**
SOC *e* 20 56 32.9
SOC pmax pmax
comp=Z,29nm,1.1s,mb5.2
SOC MLR MLR
comp=Z,1μm,15.0s,MS4.9
SOC Sochi 48.25 61 *i* P **P 20 46 43.6 +0.8**
SOC *e*S **S 20 53 39.4 -3.6**
SOC *e*ScS ScS 20 56 32.9 -3.8
comp=Z,1μm,15.0s
GZT Gaziantep 48.56 70 *i* P **P 20 46 45.3 +0.1**
FCC Fort Churchill 48.81 320 *e*P **P 20 46 45.7 -1.1**
comp=Z,21nm,0.9s,mb5.2
FCC Fort Churchill 48.81 320 *e*P **P 20 46 45.7 -1.1**
FCC pmax pmax
comp=Z,21nm,0.9s,mb5.2
FCC Fort Churchill 48.81 320 *e*P **P 20 46 45.7 -1.1**
comp=Z,21nm,0.9s,mb5.2
SWET Sewanee 48.85 287 *e*P **P 20 46 47.5 -0.1**
SWET Sewanee 48.85 287 *e*P **P 20 46 47.5 0.0**
MALT Malatya 48.89 68 *e*P **P 20 46 47.4 -0.3**
comp=Z,25nm,1.1s,mb5.2
MALT Malatya 48.89 68 *e*P **P 20 46 47.4 -0.4**
MALT pmax pmax
comp=Z,25nm,1.1s,mb5.2
MALT Malatya 48.89 68 *e*P **P 20 46 47.4 -0.4**
comp=Z,25nm,1.1s,mb5.2
EYMN Ely 49.07 305 *e*P **P 20 46 47.5 -1.5**
comp=Z,24nm,1.1s,mb5.1
EYMN LR LR
comp=Z,1μm,21.0s,MS4.9
EYMN Ely 49.07 305 *e*P **P 20 46 47.5 -1.5**
comp=Z,24nm,1.1s,mb5.1
USIN University of 49.20 291 *e*P **P 20 46 50.1 -0.1**
comp=Z,64nm,1.4s,mb5.5
USIN University of 49.20 291 *e*P **P 20 46 50.1 -0.1**
comp=Z,64nm,1.4s,mb5.5
RES Resolute Bay 49.37 341 *e*P **P 20 46 50.3 -0.6**
comp=Z,3μm,0.9s
RES Resolute Bay 49.37 341 *e*P **P 20 46 50.3 -0.6**
comp=Z,3μm,0.9s
JFWS Jewell Farm 49.53 298 PFAKE 20 47 00.0 +7.4
JFWS LR LR
comp=Z,1μm,22.0s,MS4.9
HDIL Hopedale 49.55 295 PFAKE 20 47 00.0 +7.2
HDIL LR LR
comp=Z,1μm,21.0s,MS4.8
KOPT Kop Dagi 49.85 66 *i* P **P 20 46 49.6 -5.5**
WVT Waverly 49.96 289 *e*P **P 20 46 55.0 -1.0**
comp=Z,33nm,1.1s,mb5.3
WVT LR LR
comp=Z,776nm,20.0s,MS4.7
WVT Waverly 49.96 289 *e*P **P 20 46 55.0 -1.0**
WVT pmax pmax
comp=Z,33nm,1.1s,mb5.3
WVT MLR MLR
comp=Z,776nm,20.0s,MS4.7
WVT Waverly 49.96 289 *e*P **P 20 46 55.0 -1.0**
comp=Z,33nm,1.1s,mb5.3
KIV Kislovodsk 50.21 60 *e*P **P 20 46 58.0 +0.2**
comp=Z,26nm,1.2s,mb5.1
KIV LR LR
comp=Z,676nm,19.0s,MS4.7
KIV Kislovodsk 50.21 60 *e*P **P 20 46 58.2 +0.4**
KIV *e* 20 48 15.5
KIV *e* 20 48 53.3
KIV *e*S **S 20 54 07.0 -3.6**
KIV pmax pmax
comp=Z,21nm,1.2s,mb5.0
KIV MLR MLR
comp=Z,872nm,16.0s,MS4.9
KIV Kislovodsk 50.21 60 P **P 20 47 01.4 +3.6**
SNR=12
KIV Kislovodsk 50.21 60 *e*P **P 20 46 58.2 +0.4**
comp=Z,21nm,1.2s,mb5.0
KIV Kislovodsk 50.21 60 *e*PcP PcP 20 48 15.5 -1.4
KIV *e*S **S 20 54 07.0 -3.6**
comp=Z,872nm,16.0s
SDV Santo Domingo 50.27 248 *e*P **P 20 46 59.2 +0.6**
comp=Z,26nm,0.7s,mb5.4
SDV LR LR
comp=Z,775nm,22.0s,MS4.7
SDV Santo Domingo 50.27 248 P **P 20 47 00.2 +1.7**
baz=56,slow=8.0
SDV LR LR 21 05 50.7
comp=Z,739nm,18.7s,MS4.7,baz=76,slow=33
SIUC Southern Illin 50.44 292 *e*P **P 20 46 59.3 -0.3**
comp=Z,52nm,1.0s,mb5.5
SIUC Southern Illin 50.44 292 *e*P **P 20 46 59.3 -0.3**
comp=Z,52nm,1.0s,mb5.5
LRAL Lakeview Retre 50.49 285 *e*P **P 20 46 59.9 -0.2**
comp=Z,66nm,1.7s,mb5.4
LRAL LR LR
comp=Z,1μm,20.0s,MS4.9
LRAL Lakeview Retre 50.49 285 *e*P **P 20 46 59.9 -0.2**
comp=Z,66nm,1.7s,mb5.4
PLAL Pickwick Lake 50.57 288 *e*P **P 20 47 00.4 -0.3**
comp=Z,48nm,0.9s,mb5.4
PLAL LR LR
comp=Z,877nm,21.0s,MS4.8
PLAL Pickwick Lake 50.57 288 *e*P **P 20 47 00.4 -0.2**
comp=Z,48nm,0.9s,mb5.4
UTMT University of 50.66 290 *e*P **P 20 47 01.6 +0.3**
comp=Z,143nm,1.3s,mb5.7
UTMT University of 50.66 290 *e*P **P 20 47 01.6 +0.3**
comp=Z,143nm,1.3s,mb5.7
SLM Saint Louis 50.87 293 *e*P **P 20 47 02.1 -0.8**
comp=Z,43nm,0.9s,mb5.4
SLM Saint Louis 50.87 293 *e*P **P 20 47 02.1 -0.8**
SLM pmax pmax
comp=Z,43nm,0.9s,mb5.4
SLM Saint Louis 50.87 293 *e*P **P 20 47 02.1 -0.8**
comp=Z,43nm,0.9s,mb5.4
PARMO Parma 51.21 290 *e*P **P 20 47 05.1 -0.4**
PARMO Parma 51.21 290 *e*P **P 20 47 05.1 -0.3**
FVM French Village 51.24 292 *e*P **P 20 47 04.3 -1.3**
comp=Z,76nm,1.3s,mb5.5
FVM French Village 51.24 292 *e*P **P 20 47 04.4 -1.2**
FVM pmax pmax
comp=Z,76nm,1.3s,mb5.5
FVM French Village 51.24 292 *e*P **P 20 47 04.4 -1.2**
comp=Z,76nm,1.3s,mb5.5
ULM Lac du Bonnet 51.32 309 P **P 20 47 03.5 -2.6**
ULM LR LR 21 06 44.8
ULM Lac du Bonnet 51.32 309 P **P 20 47 03.5 -2.6**
comp=Z,4.3nm,0.9s,mb4.4,baz=66,slow=9.3,SNR=3.2
ULM LR LR 21 06 44.8
comp=Z,1μm,20.1s,MS5.0,baz=256,slow=34
BRAL Brewton 51.36 283 PFAKE 20 47 20.0 +13
BRAL LR LR
comp=Z,827nm,19.0s,MS4.8
DIGO Kars 51.80 64 *i* P **P 20 47 08.0 -1.8**
AGMN Agassiz Refuge 51.81 306 *e*P **P 20 47 08.9 -0.8**
comp=Z,17nm,1.0s,mb4.9
AGMN LR LR
comp=Z,1μm,19.0s,MS5.0
AGMN Agassiz Refuge 51.81 306 *e*P **P 20 47 08.9 -0.9**
comp=Z,17nm,1.0s,mb4.9
CCM Cathedral Cave 51.82 293 *e*P **P 20 47 08.2 -1.8**
comp=Z,19nm,1.1s,mb5.0
CCM LR LR
comp=Z,1μm,20.0s,MS5.0
CCM Cathedral Cave 51.82 293 *e*P **P 20 47 08.2 -1.8**
CCM pmax pmax
comp=Z,19nm,1.1s,mb4.9
CCM MLR MLR
comp=Z,1μm,20.0s,MS5.0
CCM Cathedral Cave 51.82 293 *e*P **P 20 47 08.2 -1.8**
comp=Z,19nm,1.1s,mb5.0
HAKT HAKKARI 53.06 67 *i* P **P 20 47 21.2 +2.0**
MSL Mosul 53.08 69 *ex* x 20 47 19.5
ECSD EROS,Sioux Fal 53.69 301 *e*P **P 20 47 21.8 -2.0**
comp=Z,16nm,1.1s,mb4.9
ECSD LR LR
comp=Z,2μm,20.0s,MS5.2
ECSD EROS,Sioux Fal 53.69 301 *e*P **P 20 47 21.8 -1.9**
comp=Z,16nm,1.1s,mb4.9
FFC Flin Flon 53.81 315 P **P 20 47 24.8 +0.4**
comp=Z,81nm,0.8s,mb5.7,SNR=9.8
FFC Flin Flon 53.81 315 *e*P **P 20 47 23.6 -0.8**
comp=Z,12nm,0.9s,mb4.8
FFC LR LR
comp=Z,1μm,21.0s,MS4.9
FFC Flin Flon 53.81 315 *e*P **P 20 47 23.6 -0.8**
FFC pmax pmax
comp=Z,12nm,0.9s,mb4.8
FFC MLR MLR
comp=Z,1μm,21.0s,MS4.9
FFC Flin Flon 53.81 315 *e*P **P 20 47 23.6 -0.8**
comp=Z,12nm,0.9s,mb4.8
MAK Makhachkala 53.86 60 *e*P **P 20 47 28.1 +3.1**
MAK *e* 20 48 35.4
MAK *i* 20 49 29.0
MAK *e*S **S 20 55 02.5 +1.9**
MAK *e* 20 57 10.9
MAK pmax pmax
comp=Z,146nm,1.5s,mb5.7
MAK MLR MLR

comp=Z,2μm,17.0s,MS5.2
MAK Makhachkala 53.86 60 *e*P **P 20 47 28.1 +3.1**
comp=Z,146nm,1.5s,mb5.7
MAK Makhachkala 53.86 60 *e*PcP PcP 20 48 35.4 +4.8
MAK *e*S **S 20 55 02.5 +1.9**
comp=Z,2μm,17.0s
MAK *e*ScS ScS 20 57 10.9 -4.4
UALR University of 53.88 289 *e*P **P 20 47 23.5 -1.7**
comp=Z,46nm,1.0s,mb5.4
UALR University of 53.88 289 *e*P **P 20 47 23.5 -1.8**
comp=Z,46nm,1.0s,mb5.4
SOKR Solikamsk 54.58 38⇓*i*P **P 20 47 29.6 -0.4**
SOKR S **S 20 55 16.7 +6.8**
SOKR pmax pmax
comp=Z,60nm,1.1s,mb5.5
SOKR MLR MLR
comp=Z,2μm,19.0s,MS5.2
SOKR Solikamsk 54.58 38 *i*P **P 20 47 29.6 -0.4**
comp=Z,60nm,1.1s,mb5.5
MIAR Mount Ida 54.90 290 *e*P **P 20 47 31.2 -1.5**
comp=Z,40nm,1.0s,mb5.4
MIAR LR LR
comp=Z,697nm,19.0s,MS4.8
MIAR Mount Ida 54.90 290 *e*P **P 20 47 31.2 -1.5**
MIAR pmax pmax
comp=Z,40nm,1.0s,mb5.4
MIAR MLR MLR
comp=Z,697nm,19.0s,MS4.8
MIAR Mount Ida 54.90 290 *e*P **P 20 47 31.2 -1.5**
comp=Z,40nm,1.0s,mb5.4
BHD Baghdad 55.27 72 *e*x x 20 47 33.0
KSU1 Kansas State U 55.34 296 *e*P **P 20 47 34.7 -1.0**
comp=Z,13nm,0.8s,mb5.0
KSU1 LR LR
comp=Z,1μm,19.0s,MS5.0
KSU1 Kansas State U 55.34 296 *e*P **P 20 47 34.7 -1.1**
comp=Z,13nm,0.8s,mb5.0
ROSC El Rosal 55.67 247 *e*P **P 20 47 38.5 0.0**
ROSC El Rosal 55.67 247 P **P 20 47 38.0 -0.5**
comp=Z,12nm,0.9s,mb4.9,baz=90,slow=19,SNR=5.1
ROSC LR LR 21 08 42.8
comp=Z,1μm,21.4s,MS5.0,baz=14,slow=33
ROSC El Rosal 55.67 247 *e*P **P 20 47 38.5 0.0**
ARU Arti 56.36 41 P **P 20 47 42.8 0.0**
comp=Z,253nm,1.2s,mb6.1,SNR=28
ARU Arti 56.36 41 *e*P **P 20 47 42.1 -0.7**
comp=Z,71nm,1.2s,mb5.6
ARU LR LR
comp=Z,4μm,19.0s,MS5.6
ARU Arti 56.36 41 *d i*P **P 20 47 40.7 -2.1**
ARU *e* 20 48 34.3
ARU *e*S **S 20 55 29.6 -4.2**
ARU *e*SS SS 20 59 15.2 -4.8
ARU pmax pmax
comp=Z,67nm,1.2s,mb5.5
ARU MLR MLR
comp=Z,5μm,21.0s,MS5.6
ARU Arti 56.36 41 *e*P **P 20 47 42.1 -0.7**
comp=Z,71nm,1.2s,mb5.6
ARU Arti 56.36 41 *e*PcP PcP 20 48 34.3 -5.7
ARU *e*S **S 20 55 29.6 -4.2**
NATX Nacogdoches 56.91 287 *e*P **P 20 47 47.1 -0.1**
comp=Z,69nm,1.0s,mb5.6
NATX LR LR
comp=Z,1μm,19.0s,MS5.0
BDFB Brasilia 57.02 207 P **P 20 47 49.2 +1.3**
comp=Z,7.9nm,1.0s,mb4.7,baz=25,slow=12,SNR=6.0
BDFB LR LR 21 08 31.5
comp=Z,1μm,20.1s,MS5.1,baz=6.5,slow=32
DGMT Dagmar 57.04 309 *e*P **P 20 47 47.6 -0.2**
comp=Z,25nm,0.9s,mb5.2
DGMT LR LR
comp=Z,2μm,22.0s,MS5.0
DGMT Dagmar 57.04 309 *e*P **P 20 47 47.6 -0.2**
comp=Z,25nm,0.9s,mb5.2
SVE Sverdlovsk 57.32 41⇑*e*P **P 20 47 49.9 +0.2**
SVE *e*PPP 20 51 14.6
SVE *e*S **S 20 55 58.1 +12**
SVE pmax pmax
comp=Z,83nm,1.7s,mb5.5
SVE Sverdlovsk 57.32 41 *e*P **P 20 47 49.9 +0.2**
comp=Z,83nm,1.7s,mb5.5
TEIG Tepich 57.45 272 PFAKE 20 48 00.0 +8.9
TEIG LR LR
comp=Z,1μm,20.0s,MS5.0
CBKS Cedar Bluff 57.69 297 PFAKE 20 48 00.0 +7.4
CBKS LR LR
comp=Z,1μm,21.0s,MS5.0
YKA Yellowknife Ar 57.85 327 P **P 20 47 51.6 -1.7**
YKA PcP PcP 20 48 46.2 +0.5
YKA LR LR 21 08 56.1
YKA Yellowknife Ar 57.85 327 P **P 20 47 51.6 -1.7**
YKA 20 48 46.2
YKA Yellowknife Ar 57.85 327 P **P 20 47 51.6 -1.7**
comp=Z,6.4nm,0.8s,mb4.7,baz=70,slow=6.9,SNR=37
YKA PcP PcP 20 48 46.2 +0.5
comp=Z,2.2nm,0.8s,baz=69,slow=4.5,SNR=6.7
YKA LR LR 21 08 56.1
comp=Z,287nm,19.3s,MS4.4,baz=215,slow=32
YKA Yellowknife Ar 57.85 327 PcP PcP 20 48 46.2 +0.5
AKTK Aktyubinsk 58.05 48 P **P 20 47 54.9 0.0**
AKTK Aktyubinsk 58.05 48 P **P 20 47 54.9 0.0**
AKTO Aktyubinsk 58.05 48 P **P 20 47 54.9 0.0**
comp=Z,36nm,1.0s,mb5.4,baz=289,slow=9.5,SNR=36
RSSD Black Hills 58.55 304 PFAKE 20 48 10.0 +12
RSSD LR LR
comp=Z,943nm,19.0s,MS4.9
HKT Hockley 58.63 286 *e*P **P 20 47 58.6 -0.7**
comp=Z,60nm,1.8s,mb5.3
HKT LR LR
comp=Z,922nm,19.0s,MS4.9
HKT Hockley 58.63 286 *e*P **P 20 47 58.6 -0.6**
HKT pmax pmax
comp=Z,60nm,1.8s,mb5.3
HKT MLR MLR
comp=Z,922nm,19.0s,MS4.9
HKT Hockley 58.63 286 *e*P **P 20 47 58.6 -0.6**
comp=Z,60nm,1.8s,mb5.3
WMOK Wichita Mounta 58.71 292 *e*P **P 20 47 57.9 -1.8**
comp=Z,21nm,1.0s,mb5.1
WMOK LR LR
comp=Z,792nm,21.0s,MS4.8
WMOK Wichita Mounta 58.71 292 *e*P **P 20 47 57.9 -1.9**
WMOK pmax pmax
comp=Z,21nm,1.0s,mb5.1
WMOK MLR MLR
comp=Z,792nm,21.0s,MS4.8
WMOK Wichita Mounta 58.71 292 *e*P **P 20 47 57.9 -1.9**
comp=Z,792nm,21.0s
LAO LASA Array 58.97 307 PFAKE 20 48 10.0 +8.6
LAO LR LR
comp=Z,948nm,19.0s,MS4.9
MIB Mutribah 59.07 74 *e*P **P 20 48 02.0 -0.2**
MIB AMb AMB 20 48 05.5
comp=Z,60nm,1.1s,mb5.5
NAY Al-Naaiem 59.25 75 *e*P **P 20 48 03.2 -0.4**
NAY AMb AMB 20 48 07.3
comp=Z,59nm,1.1s,mb5.5
UMR Umm Al-Rimmam 59.47 74 *e*P **P 20 48 04.8 -0.4**
UMR AMb AMB 20 48 09.1
comp=Z,220nm,1.3s,mb6.0
KBD Kabd 59.63 75 *e*P **P 20 48 06.3 +0.1**
KBD AMb AMB 20 48 10.5
comp=Z,539nm,1.1s,mb6.5
TGUH Tegucigalpa,Un 60.02 265 *e*P **P 20 48 10.4 +1.4**
comp=Z,32nm,1.0s,mb5.3
TGUH LR LR
comp=Z,2μm,21.0s,MS5.1
TGUH Tegucigalpa,Un 60.02 265 *e*P **P 20 48 10.4 +1.4**
comp=Z,32nm,1.0s,mb5.3
EDM Edmonton 60.64 316 *e*P **P 20 48 11.5 -1.3**
EDM Edmonton 60.64 316 *e*P **P 20 48 11.5 -1.2**
EGMT Eagleton 60.65 310 PFAKE 20 48 20.0 +7.1
EGMT LR LR
comp=Z,1μm,20.0s,MS5.0
PHWY Pilot Hill 60.66 301 *e*P **P 20 48 13.2 +0.1**
PHWY Pilot Hill 60.66 301 *e*P **P 20 48 13.1 0.0**
AMTX Amarillo 60.78 293 *e*P **P 20 48 13.5 -0.5**
comp=Z,52nm,1.2s,mb5.5
AMTX LR LR
comp=Z,1μm,22.0s,MS5.1
AMTX Amarillo 60.78 293 *e*P **P 20 48 13.5 -0.5**
comp=Z,52nm,1.2s,mb5.5
ISCO Idaho Springs 61.41 300 *e*P **P 20 48 18.3 +0.1**
comp=Z,11nm,1.2s,mb4.9
ISCO LR LR
comp=Z,931nm,20.0s,MS4.9
ISCO Idaho Springs 61.41 300 *e*P **P 20 48 18.3 +0.1**
ISCO pmax pmax
comp=Z,11nm,1.2s,mb4.9
ISCO MLR MLR
comp=Z,931nm,20.0s,MS4.9
ISCO Idaho Springs 61.41 300 *e*P **P 20 48 18.3 +0.1**
comp=Z,11nm,1.2s,mb4.9
JCT Junction City 61.41 288 *e*P **P 20 48 17.4 -1.0**
comp=Z,84nm,1.0s,mb5.8
JCT LR LR
comp=Z,980nm,19.0s,MS5.0
JCT Junction City 61.41 288 *e*P **P 20 48 17.4 -1.0**
JCT pmax pmax
comp=Z,84nm,1.0s,mb5.8
JCT MLR MLR
comp=Z,980nm,19.0s,MS5.0
JCT Junction City 61.41 288 *e*P **P 20 48 17.4 -1.0**
comp=Z,980nm,19.0s
GCMT Greycliff 61.52 308 *e*P **P 20 48 20.1 +1.3**
GCMT Greycliff 61.52 308 *e*P **P 20 48 20.1 +1.2**
RLMT Red Lodge 61.55 307 *e*P **P 20 48 19.8 +0.7**
comp=Z,5.6nm,0.7s,mb4.8
RLMT LR LR
comp=Z,2μm,19.0s,MS5.2
RLMT Red Lodge 61.55 307 *e*P **P 20 48 19.8 +0.7**
comp=Z,5.6nm,0.7s,mb4.8
SDCO Great Sand Dun 62.25 298 *e*P **P 20 48 23.5 -0.4**
comp=Z,5.9nm,1.1s,mb4.6
SDCO LR LR
comp=Z,1μm,19.0s,MS5.1
SDCO Great Sand Dun 62.25 298 *e*P **P 20 48 23.5 -0.4**
comp=Z,5.9nm,1.1s,mb4.6
INK Inuvik 62.50 337 *e*P **P 20 48 23.5 -1.6**
INK pmax pmax
comp=Z,866nm,1.2s
INK Inuvik 62.50 337 *e*P **P 20 48 23.5 -1.6**
comp=Z,866nm,1.2s
LKWY Lake 62.52 307 PFAKE 20 48 40.0 +14
LKWY LR LR
comp=Z,2μm,20.0s,MS5.3
SMCO Snowmass 62.63 300 *e*P **P 20 48 25.6 -0.8**
comp=Z,13nm,0.9s,mb5.0
SMCO Snowmass 62.63 300 *e*P **P 20 48 25.6 -0.8**
comp=Z,13nm,0.9s,mb5.0
WALA Waterton Lakes 62.71 312 *e*P **P 20 48 25.6 -1.2**
comp=Z,30nm,1.5s,mb5.2
WALA Waterton Lakes 62.71 312 *e*P **P 20 48 25.6 -1.2**
comp=Z,30nm,1.5s,mb5.2
BW06 Boulder Array 62.77 304 *e*P **P 20 48 25.6 -1.7**
comp=Z,20nm,1.2s,mb5.1
BW06 LR LR
comp=Z,2μm,19.0s,MS5.2
BW06 Boulder Array 62.77 304 *e*P **P 20 48 25.6 -1.7**
comp=Z,20nm,1.2s,mb5.1
PDAR Pinedale Array 62.77 304 P **P 20 48 25.9 -1.4**
comp=Z,5.7nm,0.9s,mb4.7,baz=66,slow=4.5,SNR=36
PDAR LR LR 21 15 12.5
comp=Z,1μm,18.7s,MS5.2,baz=74,slow=36
BOZ Bozeman (W) 62.82 308 *e*P **P 20 48 27.2 -0.4**
comp=Z,4.9nm,1.0s,mb4.6
BOZ LR LR
comp=Z,1μm,19.0s,MS5.1
BOZ Bozeman (W) 62.82 308 *e*P **P 20 48 27.2 -0.4**
BOZ pmax pmax
comp=Z,5.0nm,1.0s,mb4.6
BOZ MLR MLR
comp=Z,1μm,19.0s,MS5.1
BOZ Bozeman (W) 62.82 308 *e*P **P 20 48 27.2 -0.4**
comp=Z,4.9nm,1.0s,mb4.6
YMR Madison River 62.84 307 PFAKE 20 48 40.0 +12
YMR LR LR
comp=Z,389nm,20.0s,MS4.6
YFT Old Faithful 62.85 307 *e*P **P 20 48 30.3 +2.6**
YFT Old Faithful 62.85 307 *e*P **P 20 48 30.3 +2.5**
FLWY Flagg Ranch 62.93 306 *e*P **P 20 48 27.6 -0.7**
comp=Z,21nm,1.2s,mb5.2
FLWY Flagg Ranch 62.93 306 *e*P **P 20 48 27.6 -0.7**
comp=Z,21nm,1.2s,mb5.2
LOHW Long Hollow 63.07 306 *e*P **P 20 48 28.7 -0.6**
comp=Z,12nm,1.1s,mb4.9
LOHW Long Hollow 63.07 306 *e*P **P 20 48 28.7 -0.6**
comp=Z,12nm,1.1s,mb4.9
MOOW Moose Ponds 63.10 306 *e*P **P 20 48 28.8 -0.7**
comp=Z,13nm,1.1s,mb5.0
MOOW Moose Ponds 63.10 306 *e*P **P 20 48 28.8 -0.7**
comp=Z,13nm,1.1s,mb5.0
SIV San Ignacio 63.12 220 P **P 20 48 30.2 +0.4**
baz=29,slow=6.0
IMW Indian Meadow 63.16 306 *e*P **P 20 48 29.5 -0.4**
comp=Z,18nm,1.1s,mb5.1
C14A Swan Lake 63.19 311⇑P **P 20 48 29.1 -0.8**
baz=63
SNOW Snow King Moun 63.24 306 *e*P **P 20 48 30.1 -0.3**
comp=Z,43nm,1.3s,mb5.4
SNOW Snow King Moun 63.24 306 *e*P **P 20 48 30.1 -0.3**
comp=Z,43nm,1.3s,mb5.4
CHMT Chamberlain Mo 63.27 310 *e*P **P 20 48 30.9 +0.4**
CHMT Chamberlain Mo 63.27 310 *e*P **P 20 48 31.0 +0.5**
ABKT Ailbek 63.28 61 P **P 20 48 31.4 +0.6**
comp=Z,150nm,1.1s,mb6.0,SNR=13
B13A Whitefish 63.35 312⇑P **P 20 48 30.3 -0.7**
baz=63
D14A Greenough 63.35 310⇓P **P 20 48 30.4 -0.7**
baz=63
REDW Red Top Meadow 63.35 305 *e*P **P 20 48 30.5 -0.6**
comp=Z,50nm,1.3s,mb5.5
REDW Red Top Meadow 63.35 305 *e*P **P 20 48 30.5 -0.6**
comp=Z,50nm,1.3s,mb5.5
TPAW Teton Pass 63.35 306 *e*P **P 20 48 30.0 -1.2**
comp=Z,15nm,1.0s,mb5.1
G15A Dillon 63.58 308⇑P **P 20 48 32.7 +0.1**
baz=63
C13A Hot Springs 63.72 311⇓P **P 20 48 33.3 -0.2**
baz=63
MSO Missoula 63.73 310 *e*P **P 20 48 34.1 +0.5**
comp=Z,9.7nm,1.2s,mb4.7
MSO LR LR
comp=Z,1μm,19.0s,MS5.0
MSO Missoula 63.73 310 *e*P **P 20 48 34.1 +0.5**
comp=Z,9.7nm,1.2s,mb4.7
AHID Auburn Hatcher 63.78 305 *e*P **P 20 48 33.7 -0.3**
comp=Z,22nm,1.1s,mb5.1
AHID LR LR
comp=Z,1μm,20.0s,MS5.2
AHID Auburn Hatcher 63.78 305 *e*P **P 20 48 33.7 -0.3**
comp=Z,22nm,1.1s,mb5.1
BRVK Borovoye 63.92 42 P **P 20 48 35.1 +0.4**
comp=Z,119nm,1.3s,mb5.8,SNR=15
BRVK Borovoye 63.92 42 *e*P **P 20 48 34.7 0.0**
comp=Z,33nm,1.2s,mb5.2
BRVK LR LR
comp=Z,3μm,20.0s,MS5.5
BRVK Borovoye 63.92 42 *e*P **P 20 48 34.7 0.0**
BRVK pmax pmax
comp=Z,33nm,1.2s,mb5.2
BRVK MLR MLR
comp=Z,3μm,20.0s,MS5.5
BRVK Borovoye 63.92 42 P **P 20 48 35.4 +0.6**
SNR=16
BRVK Borovoye 63.92 42 P **P 20 48 35.4 +0.6**
SNR=16
BRVK Borovoye 63.92 42 *e*P **P 20 48 34.7 0.0**
comp=Z,33nm,1.2s,mb5.2
D13A Huson 63.92 310⇑P **P 20 48 33.7 -1.1**
baz=64,SNR=17
G14A Jackson 64.16 308⇑P **P 20 48 37.0 +0.6**
baz=64
A11A Hall Mountain, 64.20 313⇓P **P 20 48 36.4 -0.3**
baz=64
ANMO Albuquerque 64.23 295 *e*P **P 20 48 37.7 +0.6**
comp=Z,11nm,1.2s,mb4.8
ANMO LR LR
comp=Z,1μm,19.0s,MS5.2
ANMO Albuquerque 64.23 295⇑*e*P **P 20 48 37.1 0.0**
ANMO Albuquerque 64.23 295 P **P 20 48 37.8 +0.7**
comp=Z,7.8nm,1.1s,mb4.6,baz=63,slow=7.3,SNR=12
ANMO Albuquerque 64.23 295 *e*P **P 20 48 37.7 +0.6**
comp=Z,11nm,1.2s,mb4.8
B11A Sandpoint 64.44 312⇓P **P 20 48 38.1 -0.2**
baz=64
F13A Darby 64.45 309⇑P **P 20 48 37.9 -0.4**
baz=64
D12A Red Ives Fores 64.48 311⇑P **P 20 48 38.1 -0.4**
baz=64
MVCO Mesa Verde 64.61 298 *e*P **P 20 48 40.2 +0.7**
comp=Z,35nm,1.3s,mb5.2
MVCO LR LR
comp=Z,1μm,19.0s,MS5.2
MVCO Mesa Verde 64.61 298 *e*P **P 20 48 40.2 +0.7**
comp=Z,35nm,1.3s,mb5.2
HWUT Hardware Ranch 64.62 304 *e*P **P 20 48 38.9 -0.6**
comp=Z,18nm,1.1s,mb5.0
HWUT LR LR
comp=Z,1μm,22.0s,MS5.1
HWUT Hardware Ranch 64.62 304 *e*P **P 20 48 38.9 -0.6**
comp=Z,18nm,1.1s,mb5.0
LPM Los Pinos Moun 64.66 295 *e*P **P 20 48 40.4 +0.5**
LPM Los Pinos Moun 64.66 295 *e*P **P 20 48 40.4 +0.5**
G13A Cobalt 64.71 308⇑P **P 20 48 40.3 +0.2**
baz=64
BNM Barren Site 64.74 295 *e*P **P 20 48 41.0 +0.6**
BNM Barren Site 64.74 295 *e*P **P 20 48 41.0 +0.6**
TXAR Lajitas Array 64.90 289 P **P 20 48 40.5 -1.1**
TXAR LR LR 21 15 29.4
TXAR P'P' 21 17 27.4
TXAR Lajitas Array 64.90 289 P **P 20 48 40.5 -1.1**
comp=Z,24nm,0.8s,mb5.3,baz=75,slow=4.2,SNR=144
TXAR LR LR 21 15 29.4
comp=Z,863nm,18.7s,MS5.0,baz=355,slow=35
TXAR PKPPKP 21 17 27.4
comp=Z,0.8nm,1.1s,baz=219,slow=1.6,SNR=4.0
NEW Newport 64.97 313 *e*P **P 20 48 40.0 -1.7**
comp=Z,18nm,1.2s,mb5.0
NEW LR LR
comp=Z,1μm,21.0s,MS5.0
NEW Newport 64.97 313 *e*P **P 20 48 40.0 -1.7**
NEW pmax pmax
comp=Z,18nm,1.2s
NEW MLR MLR
comp=Z,1μm,21.0s
H13A Challis 64.97 308⇑P **P 20 48 42.4 +0.7**
baz=65
LENM Lemitar 64.98 295 *e*P **P 20 48 42.7 +0.7**
LENM Lemitar 64.98 295 *e*P **P 20 48 42.7 +0.7**
DAU Daniels Canyon 64.98 303 *e*P **P 20 48 41.9 0.0**
DAU Daniels Canyon 64.98 303 *e*P **P 20 48 41.9 0.0**
LAZ Ladron 64.98 295 *e*P **P 20 48 42.2 +0.1**
LAZ Ladron 64.98 295 *e*P **P 20 48 42.2 +0.2**
MNTX Cornudas Mount 65.02 292 *e*P **P 20 48 40.7 -1.6**
comp=Z,7.7nm,1.1s,mb4.7
MNTX LR LR
comp=Z,528nm,19.0s,MS4.8
MNTX Cornudas Mount 65.02 292 *e*P **P 20 48 40.7 -1.6**
comp=Z,7.7nm,1.1s,mb4.7
F12A Elk City 65.03 309⇓P **P 20 48 41.8 -0.3**
baz=65
SRU San Rafael 65.11 301 *e*P **P 20 48 42.9 +0.2**
comp=Z,7.4nm,1.0s,mb4.7
SRU San Rafael 65.11 301 *e*P **P 20 48 42.9 +0.2**
SRU pmax pmax
comp=Z,7.0nm,1.0s,mb4.7
SRU San Rafael 65.11 301 *e*P **P 20 48 42.9 +0.2**
comp=Z,7.4nm,1.0s,mb4.7
I13A Wildhorse Cree 65.19 307⇑P **P 20 48 43.7 +0.5**
baz=65
K14A Jones Ranch, D 65.24 306⇓P **P 20 48 44.0 +0.5**
baz=65
M15A Larsen Ranch, 65.28 304⇓P **P 20 48 43.9 +0.1**
baz=65
E11A Bogner Ranch, 65.33 310⇓P **P 20 48 43.3 -0.8**
baz=65
HVU Hansel Valley 65.34 305 *e*P **P 20 48 42.9 -1.3**
comp=Z,23nm,1.3s,mb5.0
HVU Hansel Valley 65.34 305 *e*P **P 20 48 42.9 -1.3**
HVU pmax pmax
comp=Z,23nm,1.3s,mb5.0
HVU Hansel Valley 65.34 305 *e*P **P 20 48 42.9 -1.3**
comp=Z,23nm,1.3s,mb5.0
MPU Maple Canyon 65.42 302 PFAKE 20 49 00.0 +15
MPU LR LR
comp=Z,3μm,20.0s,MS5.4
NOQ North Oquirrh 65.45 303 *e*P **P 20 48 45.6 +0.7**
comp=Z,5.8nm,0.4s,mb5.0
NOQ North Oquirrh 65.45 303 *e*P **P 20 48 45.6 +0.7**
comp=Z,5.8nm,0.4s,mb5.0
J13A Cove Ranch, Pi 65.47 307⇑P **P 20 48 44.2 -0.8**
baz=65
A09A Danville 65.48 314⇓P **P 20 48 44.5 -0.5**
baz=65
TMUT Trail Mountain 65.48 302 *e*P **P 20 48 45.1 0.0**
TMUT Trail Mountain 65.48 302 *e*P **P 20 48 45.1 -0.1**
B09A Rice 65.50 313⇑P **P 20 48 43.8 -1.3**
baz=65
F11A Grangeville 65.52 310⇑P **P 20 48 44.6 -0.7**
baz=65
HLID Hailey 65.55 307 *e*P **P 20 48 45.5 -0.1**
comp=Z,12nm,1.4s,mb4.7
HLID LR LR
comp=Z,2μm,19.0s,MS5.3
HLID Hailey 65.55 307⇓P **P 20 48 46.0 +0.5**
baz=65
HLID Hailey 65.55 307 *e*P **P 20 48 45.5 0.0**
comp=Z,12nm,1.4s,mb4.7
D10A Wagner Farm, O 65.64 311⇑P **P 20 48 44.6 -1.5**
baz=65
G11A Walters Elk Ra 65.83 309⇓P **P 20 48 46.4 -0.8**
baz=66
M14A Sheep Mountain 65.85 305⇑P **P 20 48 47.3 -0.2**
baz=66
L13A Double Diamond 65.96 305⇓P **P 20 48 48.7 +0.5**
baz=66
H11A Donnelly 66.01 309⇑P **P 20 48 47.8 -0.7**
baz=66
N14A Grayback Hills 66.06 304⇑P **P 20 48 47.5 -1.3**
baz=66,SNR=10
DUG Dugway 66.13 303 *e*P **P 20 48 48.9 -0.5**
comp=Z,18nm,1.2s,mb5.0
DUG LR LR
comp=Z,1μm,19.0s,MS5.1
DUG Dugway 66.13 303 *e*P **P 20 48 48.9 -0.4**
DUG pmax pmax
comp=Z,19nm,1.2s,mb5.0
DUG MLR MLR
comp=Z,1μm,19.0s,MS5.1
DUG Dugway 66.13 303 *e*P **P 20 48 48.9 -0.4**
comp=Z,18nm,1.2s,mb5.0
J12A Stokes Ranch, 66.14 307⇓P **P 20 48 49.7 +0.4**
baz=66,SNR=20
K12A Draper Farm, C 66.31 306⇓P **P 20 48 51.2 +0.7**
baz=66
M13A Montello 66.46 305⇑P **P 20 48 50.6 -0.8**
baz=66,SNR=7.5
DLBC Dease Lake 66.47 326 *e*P **P 20 48 52.5 +1.3**
DLBC Dease Lake 66.47 326 *e*P **P 20 48 52.5 +1.3**
A07A Ashnola River, 66.48 314⇓P **P 20 48 51.3 -0.1**
baz=66
MSU Marysvale 66.53 301 *e*P **P 20 48 52.3 +0.4**
MSU Marysvale 66.53 301 *e*P **P 20 48 52.3 +0.4**
L12A House Creek Ra 66.62 306⇓P **P 20 48 53.0 +0.5**
baz=66,SNR=11
N13A Wendover, West 66.73 304⇓P **P 20 48 53.7 +0.5**
baz=66
BMO Blue Mountains 66.74 309 PFAKE 20 49 00.0 +6.9
BMO LR LR
comp=Z,1μm,20.0s,MS5.1
ATAH Atahualpa 66.78 241 P **P 20 48 55.5 +1.8**
comp=Z,23nm,1.0s,mb5.2,baz=117,slow=7.2,SNR=7.7
G09A Cove 66.82 310⇑P **P 20 48 53.2 -0.4**
baz=66
DAWY Dawson 66.89 334 *e*P **P 20 48 53.4 -0.4**
DAWY Dawson 66.89 334 *e*P **P 20 48 53.4 -0.4**
M12A Wells 66.92 305⇑P **P 20 48 54.7 +0.3**
baz=67,SNR=10.0
EGAK Eagle 67.05 335 *e*P **P 20 48 52.3 -2.4**
comp=Z,20nm,1.3s,mb5.0
EGAK LR LR
comp=Z,1μm,22.0s,MS5.0
EGAK Eagle 67.05 335 *e*P **P 20 48 52.3 -2.4**
comp=Z,20nm,1.3s,mb5.0
H09A Durkee 67.05 309⇓P **P 20 48 54.5 -0.6**
baz=67
F08A Pendleton 67.16 311⇓P **P 20 48 54.3 -1.6**
baz=67
LPAZ La Paz 67.21 226 *e*P **P 20 48 58.1 +1.8**
comp=Z,9.5nm,1.2s,mb4.7
LPAZ LR LR
comp=Z,1μm,21.0s,MS5.1
LPAZ La Paz 67.21 226 *e*P **P 20 48 58.1 +1.7**
LPAZ pmax pmax
comp=Z,10.0nm,1.2s
LPAZ MLR MLR
comp=Z,1μm,21.0s
LPAZ La Paz 67.21 226 P **P 20 48 58.1 +1.7**
comp=Z,2.2nm,0.8s,mb4.2,baz=288,slow=3.2,SNR=3.4

LPAZ LR LR 21 13 45.5
comp=Z,1µm,21.6s,MS5.0,baz=356,slow=32
LPAZ PKPPKP 21 17 25.4
comp=Z,3.2nm,1.0s,baz=124,slow=3.7,SNR=7.7
LPAZ La Paz 67.21 226 *eP* **P 20 48 58.1 +1.7**
comp=Z,1µm,21.0s
P13A Bates Ranch, G 67.30 303 ⇓P **P 20 48 56.5 -0.3**
baz=67,SNR=13
HAWA Hanford 67.32 312 PFAKE 20 49 10.0 +13
HAWA LR LR
comp=Z,976nm,19.0s,MS5.0
119A Ashpeak Ranch, 67.36 295 P **P 20 48 59.0 +1.7**
baz=67,SNR=6.2
O12A Currie 67.38 304 ⇓P **P 20 48 57.1 -0.2**
baz=67
T15A Red Dirt Ranch 67.41 300 ⇓P **P 20 48 56.5 -1.0**
baz=67,SNR=10
I09A Lost Marbles R 67.45 309 ⇓P **P 20 48 57.9 +0.2**
baz=67
WUAZ Wupatki 67.46 298 *eP* **P 20 48 58.6 +0.7**
comp=Z,21nm,1.0s,mb5.1
WUAZ LR LR
comp=Z,1µm,19.0s,MS5.1
WUAZ Wupatki 67.46 298 *eP* **P 20 48 58.6 +0.7**
comp=Z,21nm,1.0s,mb5.1
K10A MacKenzie Ranc 67.50 307 ⇑P **P 20 48 58.5 +0.5**
baz=67
G08A Pilot Rock 67.53 310 ⇓P **P 20 48 58.6 +0.4**
baz=67
S14A Cedar City 67.58 301 ⇓P **P 20 48 58.9 +0.3**
baz=67
L10A Juniper Basin 67.60 306 ⇑P **P 20 48 59.7 +1.0**
baz=67
J09A Fry Pan Ranch, 67.77 308 ⇑P **P 20 49 00.5 +0.8**
baz=68
BANOM Banah 67.87 74 P **P 20 49 01.0 +0.4**
SNR=7.0
BANOM Banah 67.87 74 P **P 20 49 01.0 +0.4**
SNR=7.0
T14A Hurricane 67.87 300 ⇓P **P 20 49 00.5 +0.1**
baz=68
O11A Cowboy Ranch, 68.05 304 ⇑P **P 20 49 01.5 0.0**
baz=68,SNR=9.3
319A Douglas 68.06 293 ⇓P **P 20 49 02.8 +1.1**
baz=68
X16A Lo Mia Camp, P 68.06 297 ⇓P **P 20 49 02.3 +0.6**
baz=68,SNR=7.0
K09A Rome 68.08 307 ⇑P **P 20 49 02.1 +0.4**
baz=68,SNR=12
S13A Holt Ranch, En 68.14 301 ⇑P **P 20 49 02.3 +0.1**
baz=68,SNR=9.0
J08A Circle Bar Ran 68.22 308 ⇑P **P 20 49 02.4 -0.1**
baz=68,SNR=20
U14A Mt Trumbull 68.26 300 ⇑P **P 20 49 03.6 +0.7**
baz=68
HATD Hatta, Dubai 68.31 75 P **P 20 49 03.1 -0.3**
SNR=11
HATD Hatta, Dubai 68.31 75 P **P 20 49 03.1 -0.3**
SNR=11
ASHO Ashiyiah 68.33 75 P **P 20 49 03.0 -0.6**
SNR=9.8
ASHO Ashiyiah 68.33 75 P **P 20 49 03.0 -0.6**
SNR=9.8
Y16A Circle Bar Ran 68.36 297 ⇓P **P 20 49 04.2 +0.6**
baz=68,SNR=10.0
L09A Wilkinson Ranc 68.39 307 ⇑P **P 20 49 03.3 -0.4**
baz=68,SNR=9.7
T13A Saint George 68.46 301 ⇓P **P 20 49 04.6 +0.5**
baz=68
KMBO Kilima Mbogo 68.51 109 *eP* **P 20 49 07.1 +2.4**
comp=Z,48nm,2.1s,mb5.1
KMBO LR LR
comp=Z,505nm,19.0s,MS4.8
KMBO Kilima Mbogo 68.51 109 *eP* **P 20 49 07.1 +2.4**
KMBO pmax pmax
comp=Z,48nm,2.1s
KMBO MLR MLR
comp=Z,505nm,19.0s
KMBO Kilima Mbogo 68.51 109 P **P 20 49 10.2 +5.5**
SNR=7.5
KMBO Kilima Mbogo 68.51 109 P **P 20 49 07.3 +2.6**
comp=Z,4.2nm,1.2s,mb4.3,baz=323,slow=6.3,SNR=8.9
KMBO LR LR 21 20 15.0
comp=Z,408nm,20.9s,MS4.6,baz=96,slow=37
KMBO Kilima Mbogo 68.51 109 *eP* **P 20 49 07.1 +2.4**
comp=Z,48nm,2.1s,mb5.1
K08A Mann Creek Ran 68.55 308 ⇓P **P 20 49 05.6 +1.0**
baz=68
X15A Humboldt 68.59 298 ⇑P **P 20 49 06.3 +1.3**
baz=68,SNR=20
Z16A Peralta Trail, 68.60 296 P **P 20 49 06.4 +1.3**
baz=68,SNR=5.7
V14A Boquillas Ranc 68.61 299 ⇓P **P 20 49 05.9 +0.8**
baz=68
H06A Lindquist Farm 68.65 310 ⇓P **P 20 49 04.5 -0.8**
baz=68
TUC Tucson 68.67 295 *eP* **P 20 49 05.4 -0.2**
comp=Z,8.0nm,1.0s,mb4.6
TUC LR LR
comp=Z,1µm,21.0s,MS5.1
TUC Tucson 68.67 295 *eP* **P 20 49 05.4 -0.2**
TUC pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
TUC MLR MLR
comp=Z,1µm,21.0s,MS5.1
TUC Tucson 68.67 295 *eP* **P 20 49 05.4 -0.2**
comp=Z,8.0nm,1.0s,mb4.6
TSUM Tsumeb 68.68 137 *eP* **P 20 49 06.1 +0.6**
comp=Z,9.9nm,1.2s,mb4.6
TSUM LR LR
comp=Z,954nm,21.0s,MS5.0
TSUM Tsumeb 68.68 137 *eP* **P 20 49 06.1 +0.5**
comp=Z,9.9nm,1.2s,mb4.6
L08A Fields 68.74 307 ⇑P **P 20 49 06.4 +0.6**
baz=68
WVOR Wild Horse Val 68.80 308 PFAKE 20 49 20.0 +14
WVOR LR LR
comp=Z,1µm,19.0s,MS5.1
S12A Delamar Landin 68.80 302 ⇑P **P 20 49 06.8 +0.5**
baz=68
U13A Pakoon Wash 68.81 300 ⇓P **P 20 49 06.8 +0.4**
baz=68,SNR=9.1
W14A Seligman 68.81 299 ⇓P **P 20 49 07.7 +1.2**
baz=68,SNR=11
P10A Eureka 68.85 304 ⇑P **P 20 49 06.6 +0.1**
baz=68
R11A Troy Canyon, C 68.92 303 ⇑P **P 20 49 06.4 -0.6**
baz=69
217A Green Valley 68.97 294 ⇓P **P 20 49 08.0 +0.6**
baz=69
X14A Yava 69.06 298 P **P 20 49 09.2 +1.3**
baz=69,SNR=10
MENT Mentasta 69.11 335 *eP* **P 20 49 08.9 +1.2**
COLA College 69.11 338 PFAKE 20 49 20.0 +12
COLA LR LR
comp=Z,656nm,21.0s,MS4.8
Q10A Clear Creek Ra 69.22 303 ⇑P **P 20 49 09.2 +0.4**
baz=69
T11A Corn Creek, Al 69.24 301 ⇓P **P 20 49 09.4 +0.4**
baz=69
NNA Nana 69.32 236 P **P 20 49 11.8 +2.1**
NNA LR LR
comp=Z,1µm,19.0s,MS5.2
NNA Nana 69.32 236 P **P 20 49 11.8 +2.1**
comp=Z,12nm,0.8s,mb4.8,baz=67,slow=9.4,SNR=3.3
216A Three Points, 69.32 295 ⇑P **P 20 49 11.1 +1.6**
baz=69,SNR=8.8
NLWA Neilton Lookou 69.33 314 PFAKE 20 49 20.0 +11
NLWA LR LR
comp=Z,1µm,19.0s,MS5.2
N08A GE Springer Mi 69.34 306 ⇑P **P 20 49 10.0 +0.5**
baz=69
S11A Rachel 69.39 302 ⇓P **P 20 49 10.8 +0.9**
baz=69
Y14A Wickenburg 69.42 297 ⇓P **P 20 49 11.6 +1.4**
baz=69
R10A Warm Springs 69.43 303 ⇑P **P 20 49 11.3 +1.1**
baz=69
W13A Hualapai Mount 69.44 299 ⇓P **P 20 49 11.2 +1.0**
baz=69
L07A Adell 69.46 308 ⇓P **P 20 49 11.3 +1.0**
baz=69
115A Sonoran Desert 69.51 296 ⇓P **P 20 49 12.1 +1.4**
baz=69,SNR=5.8
KURK Kurchatov 69.56 41 P **P 20 49 10.5 -0.2**
comp=Z,139nm,1.5s,mb5.7,SNR=16
KURK Kurchatov 69.56 41 *eP* **P 20 49 10.4 -0.4**
comp=Z,37nm,1.2s,mb5.2
KURK LR LR
comp=Z,2µm,20.0s,MS5.4
KURK Kurchatov 69.56 41 *eP* **P 20 49 10.4 -0.3**
KURK pmax pmax
comp=Z,37nm,1.2s,mb5.2
KURK MLR MLR
comp=Z,2µm,20.0s,MS5.4
KURK Kurchatov 69.56 41 P **P 20 49 11.0 +0.3**
KURK Kurchatov 69.56 41 P **P 20 49 11.0 +0.3**
SNR=19
KURK Kurchatov 69.56 41 *eP* **P 20 49 10.4 -0.3**
comp=Z,37nm,1.2s,mb5.2
E03A Lebam 69.61 313 ⇓P **P 20 49 11.7 +0.6**
baz=69
K06A Valley Falls 69.62 309 ⇑P **P 20 49 11.7 +0.5**
baz=69
X13A Yucca 69.66 298 P **P 20 49 12.4 +0.8**
baz=69,SNR=13
Z14A Wintersburg 69.68 297 ⇓P **P 20 49 13.0 +1.2**
baz=69
M07A Soldier Meadow 69.68 307 ⇓P **P 20 49 11.1 -0.6**
baz=69
S10A Tonopah Range, 69.82 303 ⇓P **P 20 49 12.1 -0.5**
baz=70
TIXI Tiksi 69.85 9 *eP* **P 20 49 12.0 -0.1**
comp=Z,40nm,1.1s,mb5.3
TIXI LR LR
comp=Z,511nm,19.0s,MS4.8
TIXI Tiksi 69.85 9 *eP* **P 20 49 09.9 -2.3**
TIXI *eS* S 20 58 25.0 +3.0
TIXI pmax pmax
comp=Z,40nm,1.1s,mb5.3
TIXI MLR MLR
comp=Z,374nm,17.0s,MS4.7
TIXI Tiksi 69.85 9 *eP* **P 20 49 12.0 -0.2**
comp=Z,40nm,1.1s,mb5.3
TIXI *eS* S 20 58 25.0 +3.0
comp=Z,374nm,17.0s
HOQ Hoqain 69.89 75 P **P 20 49 13.9 +0.7**
SNR=6.6
HOQ Hoqain 69.89 75 P **P 20 49 13.9 +0.7**
SNR=6.6
IMA2 Indian Mountai 69.92 340 *eP* **P 20 49 13.0 +0.3**
J05A Fort Rock 69.97 309 ⇓P **P 20 49 13.2 -0.2**
baz=70
R09A Tonopah 69.97 303 ⇓P **P 20 49 14.9 +1.4**
baz=70
K05A Summer Lake 70.06 309 ⇑P **P 20 49 14.1 +0.1**
baz=70
Y13A Salome 70.07 298 ⇑P **P 20 49 15.6 +1.4**
baz=70
TPNV Topopah Spring 70.10 302 *eP* **P 20 49 14.6 +0.3**
comp=Z,4.6nm,1.0s,mb4.4
TPNV LR LR
comp=Z,3µm,22.0s,MS5.5
TPNV Topopah Spring 70.10 302 *eP* **P 20 49 14.6 +0.3**
TPNV pmax pmax
comp=Z,5.0nm,1.0s,mb4.4
TPNV MLR MLR
comp=Z,3µm,22.0s,MS5.5
TPNV Topopah Spring 70.10 302 *eP* **P 20 49 14.6 +0.3**
comp=Z,4.6nm,1.0s,mb4.4
V11A Goodsprings 70.12 300 ⇓P **P 20 49 14.9 +0.4**
baz=70
MOD Modoc 70.13 308 PFAKE 20 49 30.0 +16
MOD LR LR
comp=Z,1µm,20.0s,MS5.1
Q08A Gabbs 70.22 304 P **P 20 49 14.4 -0.5**
baz=70,SNR=8.3
BSY Bisya 70.25 76 P **P 20 49 14.6 -0.8**
SNR=6.8
BSY Bisya 70.25 76 P **P 20 49 14.6 -0.8**
SNR=6.8
MCK McKinley 70.26 337 *eP* **P 20 49 14.5 -0.3**
comp=Z,25nm,1.1s,mb5.1
MCK McKinley 70.26 337 *eP* **P 20 49 14.5 -0.3**
MCK pmax pmax
comp=Z,25nm,1.1s,mb5.1
MCK McKinley 70.26 337 *eP* **P 20 49 14.5 -0.3**
comp=Z,25nm,1.1s,mb5.1
S09A Goldfield 70.35 303 ⇓P **P 20 49 15.2 -0.6**
baz=70
L05A Lakeview 70.39 308 ⇑P **P 20 49 15.3 -0.7**
baz=70
I04A Tendick Farm, 70.42 310 ⇑P **P 20 49 15.8 -0.3**
baz=70
U10A Ash Meadows, A 70.43 301 ⇓P **P 20 49 16.7 +0.3**
baz=70
N06A Buffalo Meadow 70.45 307 ⇓P **P 20 49 16.0 -0.4**
baz=70
H03A Soap Creek Ran 70.47 312 ⇑P **P 20 49 16.3 -0.1**
baz=70
COR Corvallis 70.52 311 PFAKE 20 49 30.0 +13
COR LR LR
comp=Z,1µm,20.0s,MS5.1
BIDO Bidbid 70.55 75 P **P 20 49 16.7 -0.6**
SNR=7.5
BIDO Bidbid 70.55 75 P **P 20 49 16.7 -0.6**
SNR=7.5
TUQ Turquoise Mtn. 70.67 300 ⇓P **P 20 49 18.2 +0.3**
baz=70
NVAR Mina Array Bea 70.69 304 P **P 20 49 17.8 -0.1**
comp=Z,0.2nm,0.3s,baz=244,slow=35,SNR=3.3
SMDO Samad 70.74 75 P **P 20 49 18.5 0.0**
SNR=5.2
SMDO Samad 70.74 75 P **P 20 49 18.5 0.0**
SNR=5.2
O06A Flanigan 70.76 306 ⇑P **P 20 49 18.6 +0.3**
baz=70
RBK Rabkut 70.77 82 P **P 20 49 18.9 +0.2**
SNR=8.4
RBK Rabkut 70.77 82 P **P 20 49 18.9 +0.2**
SNR=8.4
ZAL Zalesovo 70.78 36 P **P 20 49 17.4 -0.7**
ZAA0 Zalesovo Array 70.78 36 *eP* **P 20 49 17.3 -0.8**
ZAA0 Zalesovo Array 70.78 36 *eP* **P 20 49 17.3 -0.9**
ZALV Zalesovo Beam 70.78 36 P **P 20 49 17.4 -0.8**
comp=Z,23nm,0.9s,mb5.1,baz=307,slow=5.4,SNR=48
ZALV LR LR 21 20 06.3
comp=Z,1µm,21.6s,MS5.1,baz=291,slow=36
IRM Iron Mountain 70.81 299 ⇑P **P 20 49 19.0 +0.3**
baz=70,SNR=6.4
S08C White Mtn Res 71.10 303 ⇓P **P 20 49 21.1 +0.6**
baz=71
JMDO Jabal Madar 71.16 76 P **P 20 49 20.7 -0.3**
SNR=12
JMDO Jabal Madar 71.16 76 P **P 20 49 20.7 -0.3**
SNR=12
GLA Glamis 71.18 297 *eP* **P 20 49 21.1 +0.1**
comp=Z,19nm,1.1s,mb4.9
GLA Glamis 71.18 297 *eP* **P 20 49 21.1 +0.1**
GLA pmax pmax
comp=Z,19nm,1.1s,mb4.9
GLA Glamis 71.18 297 ⇓P **P 20 49 21.3 +0.3**
baz=71
GLA Glamis 71.18 297 *eP* **P 20 49 21.1 +0.1**
comp=Z,19nm,1.1s,mb4.9
EKS2 Erkin-Say 71.24 50 *eP* **P 20 49 21.8 +0.6**
comp=Z,42nm,1.3s,mb5.2
EKS2 LR LR
comp=Z,1µm,19.0s,MS5.2
EKS2 Erkin-Say 71.24 50 P **P 20 49 22.3 +1.1**
SNR=26
EKS2 Erkin-Say 71.24 50 *eP* **P 20 49 21.8 +0.6**
comp=Z,42nm,1.3s,mb5.2
HEC Hector,Ludlow 71.28 300 ⇑P **P 20 49 23.0 +1.4**
baz=71
GSC Goldstone 71.36 300 *eP* **P 20 49 22.4 +0.4**
comp=Z,7.3nm,0.9s,mb4.6
GSC Goldstone 71.36 300 *eP* **P 20 49 22.4 +0.4**
GSC pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
GSC Goldstone 71.36 300 ⇑P **P 20 49 22.6 +0.6**
baz=71
GSC Goldstone 71.36 300 *eP* **P 20 49 22.4 +0.4**
comp=Z,7.0nm,0.9s,mb4.6
HUMO Hull Mountain 71.40 310 PFAKE 20 49 30.0 +7.9
HUMO LR LR
comp=Z,1µm,19.0s,MS5.1
MPMC Manual Prospec 71.42 301 ⇓P **P 20 49 22.9 +0.6**
baz=71
SML Sawmill 71.44 335 *eP* **P 20 49 22.4 +0.3**
SML Sawmill 71.44 335 *eP* **P 20 49 22.4 +0.3**
AML Almayashu 71.48 51 *eP* **P 20 49 23.7 +1.0**
comp=Z,43nm,1.3s,mb5.2
AML LR LR
comp=Z,2µm,19.0s,MS5.3
AML Almayashu 71.48 51 P **P 20 49 23.9 +1.3**
SNR=20
AML Almayashu 71.48 51 *eP* **P 20 49 23.7 +1.0**
comp=Z,43nm,1.3s,mb5.2
BELC Belle Mtn. 71.49 299 ⇑P **P 20 49 23.6 +0.7**
baz=71
CHMS Chumysh 71.65 50 P **P 20 49 25.6 +1.9**
SNR=8.9
FRU Bishkek 71.66 50 *eP* **P 20 49 24.0 +0.3**
FRU pmax pmax
comp=Z,80nm,1.9s,mb5.3
FRU MLR MLR
comp=Z,1µm,16.0s,MS5.3
FRU Bishkek 71.66 50 *eP* **P 20 49 24.0 +0.3**
comp=Z,1µm,16.0s
WBK Wadi Bani Khal 71.69 75 P **P 20 49 26.7 +2.5**
SNR=6.5
AAK Ala-Archa 71.70 50 P **P 20 49 25.5 +1.6**
comp=Z,58nm,1.2s,mb5.4,SNR=5.7
YBH Yreka Blue Hor 71.73 309 PFAKE 20 49 40.0 +16
YBH LR LR
comp=Z,883nm,22.0s,MS5.0
PMR Palmer 71.86 336 *eP* **P 20 49 25.2 +0.6**
PMR pmax pmax
comp=Z,33nm,0.9s,mb5.3
PMR Palmer 71.86 336 *eP* **P 20 49 25.2 +0.6**
comp=Z,33nm,0.9s,mb5.3
UCH Uchtor 71.94 50 *eP* **P 20 49 27.0 +1.6**
comp=Z,47nm,1.4s,mb5.2
UCH LR LR
comp=Z,2µm,19.0s,MS5.3
UCH Uchtor 71.94 50 P **P 20 49 27.2 +1.8**
SNR=20
UCH Uchtor 71.94 50 *eP* **P 20 49 27.0 +1.6**
comp=Z,47nm,1.4s,mb5.2
LSZ Lusaka 71.95 126 PFAKE 20 49 40.0 +14
LSZ LR LR
comp=Z,568nm,20.0s,MS4.8
KBK Karagaybulak 71.97 50 P **P 20 49 27.3 +1.7**
SNR=8.4
PFO Pinyon Flat Ob 72.03 299 P **P 20 49 26.7 +0.6**
PFO LR LR
comp=Z,1µm,19.0s,MS5.2
PFO Pinyon Flat Ob 72.03 299 P **P 20 49 26.7 +0.6**
comp=Z,6.0nm,0.9s,mb4.5,baz=84,slow=3.8,SNR=5.9
HELL Mitchell Peak 72.12 303 ⇑P **P 20 49 26.9 +0.3**
baz=72
TKM2 Tokmak 2 72.21 49 *eP* **P 20 49 27.8 +0.8**
comp=Z,23nm,1.3s,mb5.0
TKM2 LR LR
comp=Z,1µm,22.0s,MS5.1
TKM2 Tokmak 2 72.21 49 *eP* **P 20 49 27.8 +0.8**
TKM2 pmax pmax
comp=Z,23nm,1.3s,mb5.0
TKM2 MLR MLR
comp=Z,1µm,22.0s,MS5.1
TKM2 Tokmak 2 72.21 49 P **P 20 49 27.9 +0.9**
SNR=10
TKM2 Tokmak 2 72.21 49 *eP* **P 20 49 27.8 +0.8**
comp=Z,23nm,1.3s,mb5.0
WDC Whiskeytown Da 72.26 308 PFAKE 20 49 40.0 +13
WDC LR LR
comp=Z,1µm,22.0s,MS5.0
OHCM Honcut 72.28 306 P **P 20 49 27.0 -0.5**
OHCM Honcut 72.28 306 P **P 20 49 27.0 -0.5**
CMB Columbia Colle 72.28 304 PFAKE 20 49 40.0 +12
CMB LR LR
comp=Z,761nm,20.0s,MS5.0
CMB Columbia Colle 72.28 304 ⇓P **P 20 49 28.1 +0.6**
baz=72
ISA Isabella 72.30 301 PFAKE 20 49 40.0 +12
ISA LR LR
comp=Z,2µm,20.0s,MS5.4
KZA Kyzart 72.47 50 P **P 20 49 31.1 +2.5**
SNR=6.7
KBL Kabul 72.60 60 *eP* **P 20 49 29.4 -0.1**
comp=Z,8.4nm,1.1s,mb4.6
LPIG La Paz 72.69 287 P **P 20 49 29.5 -0.7**
comp=Z,81nm,1.1s,mb5.5,baz=0.0,slow=4.0,SNR=3.4
TTA Tatalina 72.98 339 *eP* **P 20 49 32.9 +1.7**
SLKM Skilak Lake 73.02 335 *eP* **P 20 49 31.0 -0.5**
SLKM Skilak Lake 73.02 335 *eP* **P 20 49 31.0 -0.5**
HOPS Hopland 73.49 307 PFAKE 20 49 50.0 +15
HOPS LR LR
comp=Z,2µm,19.0s,MS5.4
SAO San Andreas Ge 73.69 304 PFAKE 20 49 50.0 +14
SAO LR LR
comp=Z,1µm,20.0s,MS5.2
TNA Tin City 73.73 345 PFAKE 20 49 50.0 +14
TNA LR LR
comp=Z,504nm,20.0s,MS4.8
MK31 Makanchi Array 73.81 43 *eP* **P 20 49 36.8 +0.3**
MK31 Makanchi Array 73.81 43 *eP* **P 20 49 36.8 +0.4**
MKAR Makanchi Array 73.81 43 P **P 20 49 36.3 -0.1**
comp=Z,14nm,0.9s,mb4.9,baz=310,slow=4.1,SNR=66
MKAR LR LR 21 23 02.2
comp=Z,3µm,18.1s,MS5.6,baz=311,slow=37
MCCM Marconi Confer 73.85 306 PFAKE 20 49 50.0 +13
MCCM LR LR
comp=Z,973nm,20.0s,MS5.1
KSH Kashi 74.39 52 *eP* **P 20 49 41.1 +1.2**
KSH *e*AP pP 20 49 45.4 +4.6
KSH XP sP 20 49 48.0 +6.9
KSH *e*PCP PcP 20 49 56.0 +1.4
KSH PP PP 20 52 29.7 +4.1
KSH S S 20 59 13.6 -1.6
KSH SKS 20 59 43.5
KSH SCS ScS 20 59 48.1 -3.7
KSH SS SS 21 04 02.3 +1.8
KSH AMB AMB
comp=Z,105nm,0.9s,mb5.8
KSH LR LR
comp=N,2µm,12.2s,MS6.0
KSH LR LR
comp=E,5µm,15.6s,MS6.0
KSH LR LR
comp=Z,5µm,18.0s,MS5.8
BILL Bilibino 74.79 356 *eP* **P 20 49 41.5 -0.2**
comp=Z,47nm,1.5s,mb5.2
BILL LR LR
comp=Z,829nm,19.0s,MS5.0
BILL Bilibino 74.79 356 ⇑ *eP* **P 20 49 40.8 -1.0**
BILL *e* 20 52 25.1
BILL pmax pmax
comp=Z,15nm,1.2s,mb4.8
BILL Bilibino 74.79 356 *eP* **P 20 49 41.5 -0.3**
comp=Z,47nm,1.5s,mb5.2
LBTB Lobatse 77.76 135 *eP* **P 20 50 00.9 +1.7**
comp=Z,7.2nm,0.8s,mb4.7
LBTB LR LR
comp=Z,1µm,21.0s,MS5.1
LBTB Lobatse 77.76 135 *eP* **P 20 50 00.9 +1.7**
LBTB pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
LBTB MLR MLR
comp=Z,1µm,21.0s,MS5.1
LBTB Lobatse 77.76 135 P **P 20 49 59.9 +0.8**
comp=Z,5.8nm,0.7s,mb4.6,baz=316,slow=4.9,SNR=14
LBTB Lobatse 77.76 135 *eP* **P 20 50 00.9 +1.7**
comp=Z,7.2nm,0.8s,mb4.7
WMQ Urumqi 78.65 43 P **P 20 50 05.0 +1.0**
WMQ AP pP 20 50 10.0 +5.2
WMQ PP PP 20 53 05.0 +3.7
WMQ S S 21 00 00.0 -1.7
WMQ SKS 21 00 15.0
WMQ SS SS 21 05 07.0 +2.5
WMQ AMB AMB
comp=Z,20nm,1.2s,mb4.9
WMQ AMB AMB
comp=Z,356nm,8.0s
WMQ LR LR
comp=N,3µm,13.7s,MS5.8
WMQ LR LR
comp=E,2µm,15.9s,MS5.8
WMQ LR LR
comp=Z,2µm,23.8s
YAK Yakutsk 78.95 12 *eP* **P 20 50 05.6 +0.3**
comp=Z,49nm,1.1s,mb5.3
YAK LR LR
comp=Z,547nm,21.0s,MS4.9
YAK Yakutsk 78.95 12 *eP* **P 20 50 04.4 -0.9**
YAK *i* *PP pP 20 50 14.4 +8.3
YAK *e*S S 21 00 00.9 -3.4
YAK *i* SS SS 21 05 14.1 +6.1
YAK pmax pmax
comp=Z,52nm,1.1s,mb5.4

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YAK                                   pmax    pmax
     comp=N,23nm,1.3s
YAK                                   pmax    pmax
     comp=E,14nm,1.2s
YAK                                   MLR     MLR
     comp=E,376nm,23.0s,MS4.9
YAK                                   MLR     MLR
     comp=Z,538nm,23.0s,MS4.8
YAK                                   MLR     MLR
     comp=N,501nm,25.0s,MS4.9
YAK  Yakutsk          78.95  12  eP          P        20 50 05.6 +0.3
     comp=N,49nm,1.1s,mb5.3
YAK  Yakutsk          78.95  12  i PcP       PcP      20 50 14.4 +0.5
BOD  Bodaibo          79.16  21  eP          P        20 50 04.6 -1.9
BOD                                   pmax    pmax
     comp=Z,46nm,1.0s,mb5.4
BOD  Bodaibo          79.16  21  eP          P        20 50 04.6 -1.9
     comp=Z,46nm,1.0s,mb5.4
BHJ  Bhuj             79.45  69  eP          P        20 50 09.7 +1.0
MOY  Mondy            79.52  31  eP          P        20 50 09.6 +1.0
MOY                                   pmax    pmax
     comp=Z,84nm,1.9s,mb5.3
MOY  Mondy            79.52  31  eP          P        20 50 09.6 +1.0
     comp=Z,84nm,1.9s,mb5.3
SEY  Seymchan         80.20   1⇑ eP          P        20 50 11.7 -0.4
IRK  Irkutsk          80.39  29  eP          P        20 50 11.7 -1.6
IRK                                   pmax    pmax
     comp=Z,37nm,1.6s,mb5.1
IRK  Irkutsk          80.39  29  eP          P        20 50 11.7 -1.6
     comp=Z,37nm,1.6s,mb5.1
TLY  Talaya           80.58  30  eP          P        20 50 14.1 -0.2
     comp=Z,38nm,1.6s,mb5.1
TLY                                   LR      LR
     comp=Z,1μm,19.0s,MS5.2
TLY  Talaya           80.58  30  eP          P        20 50 14.3  0.0
TLY                                   e       20 53 13.9
TLY                                   eS      S        21 00 18.9 -3.0
TLY                                   ePS     21 01 29.4
TLY                                   pmax    pmax
     comp=Z,19nm,1.2s,mb4.9
TLY                                   MLR     MLR
     comp=Z,1μm,20.0s,MS5.2
TLY  Talaya           80.58  30  P           P        20 50 16.7 +2.4
     SNR=6.4
TLY  Talaya           80.58  30  eP          P        20 50 14.3  0.0
     comp=Z,19nm,1.2s,mb4.9
SUR  Sutherland       81.10 142  eP          P        20 50 18.4 +1.2
     comp=Z,105nm,1.6s,mb5.5
SUR                                   LR      LR
     comp=Z,709nm,19.0s,MS5.0
SUR  Sutherland       81.10 142  eP          P        20 50 18.4 +1.2
     comp=Z,105nm,1.6s,mb5.5
AJM  Ajmer            81.19  64  eP          P        20 50 18.1  0.0
AJM                                   AMb     AMB      20 50 21.1
     comp=Z,32nm,1.1s,mb5.2
ZAK  Zakamensk        81.43  31⇓ i P         P        20 50 18.9  0.0
ZAK                                   pmax    pmax
     comp=Z,9.0nm,1.2s,mb4.6
ZAK  Zakamensk        81.43  31  i P         P        20 50 18.9  0.0
     comp=Z,9.0nm,1.2s,mb4.6
NDI  New Delhi        81.67  60  eP          P        20 50 19.0 -1.6
TRQA Tornquist        82.47 209  PFAKE                20 50 40.0 +16
TRQA                                  LR      LR
     comp=Z,4μm,19.0s,MS5.8
MA2  Magadan          83.53   2  PFAKE                20 50 40.0 +10
MA2                                   LR      LR
     comp=Z,315nm,20.0s,MS4.7
MA2  Magadan          83.53   2c i P          P        20 50 30.6 +1.0
MA2                                   ePPP    20 55 36.8
MA2                                   eS      S        21 00 54.2 +2.3
MA2                                   pmax    pmax
     comp=Z,40nm,1.8s,mb5.2
MA2                                   MLR     MLR
     comp=E,400nm,16.7s
MA2  Magadan          83.53   2  i P         P        20 50 30.6 +1.0
     comp=E,40nm,1.8s,mb5.2
SONM Songino Array    84.70  31  P           P        20 50 35.8 -0.1
     comp=E,23nm,1.0s,mb5.3,baz=319,slow=3.1,SNR=70
SONM                                  LR      LR       21 29 00.9
     comp=E,1μm,21.0s,MS5.3,baz=320,slow=36
ULN  Ulaanbaatar      84.94  30  eP          P        20 50 37.1 +0.1
     comp=E,55nm,1.1s,mb5.6
ULN                                   LR      LR
     comp=Z,1μm,20.0s,MS5.3
ULN  Ulaanbaatar      84.94  30⇑ eP          P        20 50 36.7 -0.4
ULN  Ulaanbaatar      84.94  30  P           P        20 50 37.9 +0.9
     SNR=25
ULN  Ulaanbaatar      84.94  30  P           P        20 50 37.9 +0.9
     SNR=25
ULN  Ulaanbaatar      84.94  30  eP          P        20 50 37.2 +0.1
     comp=Z,55nm,1.1s,mb5.6
BHPL Bhopal           85.16  65  eP          P        20 50 39.3 +0.7
POO  Poona            85.40  70  eP          P        20 50 39.0 -0.9
KAD  Karad            86.40  71  eP          P        20 50 45.7 +0.9
KAD                                   AMb     AMB      20 50 46.5
     comp=Z,19nm,1.1s,mb5.2
GTA  Gaotai           88.18  40  eP          P        20 50 53.0 -0.1
GTA                                   AP      pP       20 50 56.7 +2.7
GTA                                   XP      sP       20 50 59.6 +5.3
GTA                                   PP      PP       20 54 17.2 -2.1
GTA                                   SKS             21 01 19.2
GTA                                   S       S        21 01 37.1 -1.3
GTA                                   XS      sS       21 01 46.4 +6.6
GTA                                   SS      SS       21 07 31.7 +6.1
GTA                                   AMB     AMB
     comp=Z,3.0nm,1.3s,mb4.4
GTA                                   AMB     AMB
     comp=Z,184nm,6.1s
GTA                                   LR      LR
     comp=N,397nm,18.0s,MS5.0
GTA                                   LR      LR
     comp=E,427nm,19.1s,MS5.0
GTA                                   LR      LR
     comp=Z,192nm,19.1s,MS4.5
PLCA Paso Flores      88.28 213  P           P        20 50 54.0 +0.8
     comp=Z,3.3nm,0.9s,mb4.6,baz=28,slow=7.1,SNR=4.8
PLCA                                  LR      LR       21 31 24.8
     comp=Z,765nm,18.4s,MS5.2,baz=39,slow=36
HIA  Hailar           88.28  23  PFAKE                20 51 00.0 +6.6
HIA                                   LR      LR
     comp=Z,885nm,20.0s,MS5.2
HYB  Hyderabad        89.60  68  i P         P        20 51 00.0 -0.2
     comp=Z,50nm,1.0s,mb5.8
HYB  Hyderabad        89.60  68  eP          P        20 51 00.0 -0.2
PET  Petropavlovsk    90.13 358⇑ eP          P        20 51 00.3 -1.7
PET                                   LR      LR
     comp=Z,546nm,21.0s,MS5.0
PET  Petropavlovsk    90.13 358⇑ eP          P        20 51 00.2 -1.8
PET                                   pmax    pmax
     comp=Z,32nm,1.4s,mb5.5
PET  Petropavlovsk    90.13 358  eP          P        20 51 00.2 -1.8
     comp=Z,32nm,1.4s,mb5.5
LSA  Lhasa            90.24  52  PFAKE                20 51 10.0 +7.0
LSA                                   LR      LR
     comp=Z,751nm,19.0s,MS5.1
BOK  Bokaro           90.76  59  eP          P        20 51 05.3 -0.2
KLR  Kul'dur          91.43  15  eP          P        20 51 02.2 -5.9
HHC  Hu-ho-hao-te     92.54  32  eP          P        20 51 12.4 -1.0
HHC                                   XP      sP       20 51 18.3 +3.7
HHC                                   PP      PP       20 54 54.7 +1.0
HHC                                   SKS             21 01 44.1
HHC                                   S       S        21 02 12.4 -6.1
HHC                                   AMB     AMB
     comp=Z,11nm,0.5s,mb5.5
HHC                                   AMB     AMB
     comp=Z,131nm,10.0s
HHC                                   LR      LR
     comp=N,1μm,19.0s,MS5.5
HHC                                   LR      LR
     comp=E,1μm,16.6s,MS5.5
HHC                                   LR      LR
     comp=Z,2μm,16.7s,MS5.6
LZH  Lanzhou          92.78  40  eP          P        20 51 16.0 +1.4
LZH                                   AP      pP       20 51 20.8 +5.3
LZH                                   XP      sP       20 51 23.7 +7.9
LZH                                   PP      PP       20 55 01.3 +5.5
LZH                                   SKS             21 01 43.0
LZH                                   eS      S        21 02 14.2 -6.6
LZH                                   SS      SS       21 08 30.0 -2.1
LZH                                   AMB     AMB
     comp=Z,18nm,1.3s,mb5.3
LZH                                   AMB     AMB
     comp=Z,117nm,6.3s
LZH                                   LR      LR
     comp=E,2μm,16.2s
LZH                                   LR      LR
     comp=Z,2μm,17.5s,MS5.7
EFI  East Falkland    93.23 200  PFAKE                20 51 30.0 +14
EFI                                   LR      LR
     comp=Z,873nm,19.0s,MS5.2
SHL  Shillong         93.57  54  eP          P        20 51 19.0 +0.6
CN2  Changchun        94.91  21  eP          P        20 51 22.9 -1.4
CN2                                   eS      S        21 02 32.0 -7.2
CN2                                   AMB     AMB
     comp=Z,10.0nm,0.5s,mb5.5
CN2                                   AMB     AMB
     comp=Z,200nm,4.0s
CN2                                   LR      LR
     comp=N,500nm,18.0s,MS5.1
CN2                                   LR      LR
     comp=E,400nm,18.0s,MS5.1
CN2                                   LR      LR
     comp=Z,600nm,18.0s,MS5.1
BJI  Beijing          95.09  29  P           P        20 51 24.0 -1.2
BJI                                   AMB     AMB
     comp=Z,13nm,1.0s,mb5.3
BJI                                   AMB     AMB
     comp=Z,81nm,3.7s
BJI                                   LR      LR
     comp=N,1μm,19.4s,MS5.3
BJI                                   LR      LR
     comp=E,341nm,19.4s,MS5.3
BJI                                   LR      LR
     comp=Z,1μm,26.8s
BJT  Baijiatuau       95.11  29  PFAKE                20 51 40.0 +15
BJT                                   LR      LR
     comp=Z,2μm,19.0s,MS5.5
MDJ  Mudanjiang       95.28  18  P           P        20 51 23.7 -2.2
MDJ                                   AP      pP       20 51 27.1 +0.3
MDJ                                   S       S        21 02 36.8 -5.5
MDJ                                   AMB     AMB
     comp=Z,5.0nm,1.2s,mb4.8
MDJ                                   AMB     AMB
     comp=Z,25nm,3.9s
MDJ                                   LR      LR
     comp=N,226nm,25.5s,MS4.7
MDJ                                   LR      LR
     comp=E,259nm,27.8s,MS4.7
MDJ                                   LR      LR
     comp=Z,497nm,25.5s,MS4.9
MDJ  Mudanjiang       95.28  18  PFAKE                20 51 40.0 +14
MDJ                                   LR      LR
     comp=Z,690nm,21.0s,MS5.1
YSS  Yuzh-Sakhalins   95.47   9⇑ eP          P        20 51 25.2 -1.6
YSS                                   LR      LR
     comp=Z,434nm,20.0s,MS4.9
YSS  Yuzh-Sakhalins   95.47   9  eP          P        20 51 25.9 -0.9
YSS                                   pmax    pmax
     comp=Z,20nm,1.0s,mb5.5
YSS  Yuzh-Sakhalins   95.47   9  eP          P        20 51 25.9 -0.9
     comp=Z,20nm,1.0s,mb5.5
CD2  Chengdu          96.75  43  eP          P        20 51 32.2 -0.7
CD2                                   AP      pP       20 51 37.2 +3.5
CD2                                   XP      sP       20 51 39.8 +5.8
CD2                                   PP      PP       20 55 28.5 +1.7
CD2                                   S       S        21 02 48.6 -7.0
CD2                                   SS      SS       21 09 25.5 -3.3
CD2                                   AMB     AMB
     comp=Z,30nm,0.9s,mb5.7
CD2                                   AMB     AMB
     comp=Z,120nm,9.4s
CD2                                   LR      LR
     comp=N,1μm,19.2s,MS5.5
CD2                                   LR      LR
     comp=E,780nm,16.8s,MS5.5
CD2                                   LR      LR
     comp=Z,2μm,19.2s,MS5.5
PALK Pallekele        97.58  75  PFAKE                20 51 50.0 +13
PALK                                  LR      LR
     comp=Z,410nm,19.0s,MS4.9
ASAJ Asahikawa        98.24   9  P           P        20 51 38.5 -0.8
     comp=Z,9.7nm,1.0s,mb5.3,baz=289,slow=8.4,SNR=6.8
ERM  Erimo            100.38   9  PFAKE                20 52 00.0 +11
ERM                                   LR      LR
     comp=Z,386nm,19.0s,MS4.9
KMI  Kunming          100.60  47  P           Pdif     20 51 48.3 -1.7
KMI                                   PP      PP       20 55 54.7 -1.8
KMI                                   SS      SS       21 10 22.1 -1.2
KMI                                   AMB     AMB
     comp=Z,6.0nm,1.2s
KMI                                   LR      LR
     comp=N,763nm,19.5s,MS5.3
KMI                                   LR      LR
     comp=E,659nm,20.4s,MS5.3
KMI                                   LR      LR
     comp=Z,1μm,19.5s,MS5.4
INCN Inchon           101.06  23  PFAKE                20 52 00.0 +8.0
INCN                                  LR      LR
     comp=Z,485nm,19.0s,MS5.0
KSRS Korea Array      101.48  22  P           Pdif     20 51 53.2 -0.6
     comp=Z,0.9nm,0.9s,baz=329,slow=4.7,SNR=4.1
KSRS                                  PP      PP       20 56 06.5 +4.0
     comp=Z,2.2nm,1.1s,baz=342,slow=7.1,SNR=5.3
GYA  Guiyang          101.81  44⇑ i P         Pdif     20 51 54.2 -1.1
GYA                                   PP      PP       20 56 07.8 +2.3
GYA                                   SKS             21 02 33.4
GYA                                   S       Sdif     21 03 32.0 -5.9
GYA                                   SS      SS       21 10 37.8 -2.0
GYA                                   AMB     AMB
     comp=Z,20nm,1.1s
GYA                                   AMB     AMB
     comp=Z,140nm,7.6s
GYA                                   LR      LR
     comp=N,580nm,20.8s,MS5.2
GYA                                   LR      LR
     comp=E,570nm,22.6s,MS5.2
GYA                                   LR      LR
     comp=Z,680nm,23.5s,MS5.1
CHTO Chiang Mai       102.94  54  PFAKE                20 52 10.0 +10
CHTO                                  LR      LR
     comp=Z,744nm,21.0s,MS5.2
CM31 Chiang Mai Arr   103.20  54  PFAKE                20 52 10.0 +8.5
CM31                                  LR      LR
     comp=Z,642nm,21.0s,MS5.1
MAJO Matsushiro       104.92  14  PFAKE                20 52 20.0 +11
MAJO                                  LR      LR
     comp=Z,477nm,21.0s,MS5.0
MJAR Matsushiro Arr   104.92  14  Pdiff       Pdif     20 52 08.9 -0.3
     comp=Z,0.3nm,0.3s,baz=300,slow=5.5,SNR=4.2
PMSA Palmer Station   106.24 197  PFAKE                20 56 40.0 +14
PMSA                                  LR      LR
     comp=Z,3μm,21.0s,MS5.8
QIZ  Qiongzhong       109.45  46  PDIF        Pdif     20 52 27.5 -1.8
QIZ                                   PP      PP       20 57 08.9 +6.7
QIZ                                   S       Sdif     21 04 37.8 -3.9
QIZ                                   LR      LR
     comp=N,559nm,17.6s
QIZ                                   LR      LR
     comp=E,851nm,20.0s,MS5.3
QIZ  Qiongzhong       109.45  46  PFAKE                20 56 40.0 +6.9
QIZ                                   LR      LR
     comp=Z,900nm,19.0s,MS5.4
TATO Taipei           110.38  33  PFAKE                20 56 50.0 +15
TATO                                  LR      LR
     comp=Z,905nm,20.0s,MS5.3
YHNB Yeheng           110.59  33  ePKPdf      PKiKP    20 56 34.3 -0.8
YHNB Yeheng           110.59  33  ePKIKP      PKiKP    20 56 34.3 -0.8
MBWA Marble Bar       145.16  73  ePKPdf      PKPdf    20 57 39.0 -1.0
MBWA                                  LR      LR
     comp=Z,477nm,20.0s,MS5.3
MBWA Marble Bar       145.16  73  P           PKPbc    20 57 39.3 -0.2
     SNR=5.5
MBWA Marble Bar       145.16  73  ePKIKP      PKPdf    20 57 39.0 -1.0
MUN  Mundaring        147.39  93  ePKP        PKPbc    20 57 46.2 +0.2
FITZ Fitzroy Crossi   147.63  62  ePKP        PKPbc    20 57 46.8 -0.2
     comp=Z,21nm,0.8s
FITZ Fitzroy Crossi   147.63  62  PKPbc       PKPbc    20 57 46.7 -0.3
     comp=Z,16nm,0.9s,baz=320,slow=2.9,SNR=23
KAKA Kakadu           148.06  46  ePKP        PKPbc    20 57 48.6 +0.4
     comp=Z,27nm,0.8s
KLBR Kellerberrin     148.49  91  ePKP        PKPbc    20 57 49.4 +0.5
     comp=Z,31nm,0.8s
NWAO Narrogin (SRO)   148.52  94  PKPbc       PKPbc    20 57 48.1 -0.8
     comp=Z,14nm,0.9s,baz=152,slow=5.2,SNR=3.1
HNR  Honiara          152.09 351  PFAKE                20 58 00.0 +8.5
HNR                                   LR      LR
     comp=Z,379nm,19.0s,MS5.2
WRA  Warramunga Arr   154.78  53  PKIKP       PKPdf    20 57 55.9 +0.7
WRA                                                    20 58 03.6
WRA  Warramunga Arr   154.78  53  PKP         PKPdf    20 57 55.9 +0.8
     comp=Z,2.8nm,1.0s,baz=302,slow=1.7,SNR=9.7
WRA                                   PKPbc   PKPbc    20 58 03.6 -0.2
     comp=Z,5.0nm,0.9s,baz=318,slow=2.3,SNR=22
WRA                                   PKPab   PKPab    20 58 18.8 +0.1
     comp=Z,15nm,1.1s,baz=322,slow=4.3,SNR=18
WRA  Warramunga Arr   154.78  53  PKPbc       PKPbc    20 58 03.6 -0.2
WRAB Tennant Creek    154.78  53  ePKPdf      PKPdf    20 57 55.4 +0.2
WRAB                                  ePKPab  PKPab    20 58 18.3 -0.4
WRAB                                  LR      LR
     comp=Z,486nm,19.0s,MS5.3
WRAB Tennant Creek    154.78  53  ePKIKP     PKPdf    20 57 55.3 +0.1
WRAB Tennant Creek    154.78  53  ePKPab     PKPab    20 58 18.3 -0.4
WB2  Warramunga Arr   154.79  53  ePKP        PKPbc    20 58 01.8 -2.0
ASAR Alice Springs    157.08  60  PKIKP       PKPdf    20 57 57.8 -0.3
ASAR                                                   20 58 08.8
ASAR Alice Springs    157.08  60  PKP         PKPdf    20 57 57.8 -0.4
     comp=Z,5.2nm,1.0s,baz=303,slow=0.7,SNR=23
ASAR                                  PKPbc   PKPdf    20 58 08.8 +11
     comp=Z,1.4nm,0.9s,baz=291,slow=1.4,SNR=4.6
ASAR                                  PKPab   PKPab    20 58 27.6 -1.0
     comp=Z,6.1nm,1.0s,baz=289,slow=3.0,SNR=4.2
ASAR Alice Springs    157.08  60  PKPbc       PKPdf    20 58 08.8 +11
CTAO Charters Tower   161.16  28  PFAKE                20 58 10.0 +7.0
CTAO                                  LR      LR
     comp=Z,562nm,20.0s
STKA Stephens Creek   167.37  69  ePKP        PKPdf    20 58 08.9 +0.7
     comp=Z,6.1nm,1.1s
STKA Stephens Creek   167.37  69  PKP         PKPdf    20 58 08.4 +0.2
     comp=Z,8.0nm,1.0s,baz=359,slow=5.2,SNR=7.2
STKA                                  PKPab   PKPab    20 59 12.9 -0.5
     comp=Z,4.4nm,0.9s,baz=291,slow=7.9,SNR=4.6
TAU  Tasmania Unive   171.50 135  PFAKE                20 58 20.0 +10
TAU                                   LR      LR
     comp=Z,576nm,21.0s
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IDC 08 20:44:24.2±8.8, 1073S×12285E, h65km±39km, mb3.5/1, mb1 3.2/4, mb1mx3.0/12, mbtmp3.0/4, ML2.9/3, Error ellipse: s-maj=159.0km s-min=44.0km az=98.0, Savu Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	Kupang	0.95	57	P	Pn	20 44 42.0	+0.2
	7.1nm,0.3s,baz=304,slow=4.7,SNR=21						
FITZ	Fitzroy Crossi	7.81	160	P	Pn	20 46 15.3	0.0
	0.1nm,0.3s,baz=326,slow=11,SNR=3.2						
FITZ				S	Sn	20 47 47.5	+5.2
	0.1nm,0.3s,baz=149,slow=18,SNR=4.7						
WRA	Warramunga Arr	14.37	131	P	Pn	20 47 43.8	-0.5
	0.1nm,0.3s,baz=307,slow=14,SNR=5.3						
WRA				S	Sn	20 50 26.2	+3.8
	0.1nm,0.3s,baz=299,slow=22,SNR=3.9						
ASAR	Alice Springs	16.63	142	P	Pn	20 48 14.6	+1.4
	0.1nm,0.3s,baz=321,slow=12,SNR=4.9						
STKA	Stephens Creek	27.26	143	P	P	20 50 02.2	-0.3
	0.7nm,0.6s,baz=330,slow=10,SNR=3.2						

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*PDA **08** 21:17:55.1±0.8, 3706N×2439W, h0km, MD4.0, ML3.2, Error ellipse: s-maj=5.7km s-min=5.1km az=80.0*
*CSEM **08** 21:17:55.1±0.8, 3706N×2439W, h0km, ML3.2, Error ellipse: s-maj=5.7km s-min=5.1km az=80.0, After PDA*

SVSA 08 21:17:55.1±0.8, 3706N×2439W, h0km, MD4.0, ML3.2, Error ellipse: s-maj=5.7km s-min=5.1km az=80.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSMN	Pico do Norte,	0.54	264	eP	Pg	21 18 05.1	-0.4
PSMN				eS	Sg	21 18 11.8	-0.7
PDA	Ponta Delgada	1.22	305	eP	Pg	21 18 14.1	-4.4
ADH	Angra Heroismo	2.76	306	eP	Pn	21 18 35.5	-5.0
ADH				eS	Sn	21 19 05.8	-8.7
PID	Ribeirinha	3.26	296	eP	Pn	21 18 43.0	-4.4
PID				eS	Sn	21 19 18.8	-8.1
PMAN	Manadas	3.32	299	eP	Pn	21 18 43.4	-4.9
PMAN				eS	Sn	21 19 20.1	-8.3
PMAN				A		21 19 20.4	
	81nm,0.5s						
ROSA	Rosais	3.47	300	eP	Pn	21 18 45.8	-4.5
PICO	Pico	3.50	295	eP	Pn	21 18 46.6	-4.2
PICO				eS	Sn	21 19 25.0	-7.9
CALA	Caldeira	3.73	295	eP	Pn	21 18 49.7	-4.3
CALA				eS	Sn	21 19 30.6	-8.0

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*ISCJB **08** 21:19:13.5±2.4, 63S±0.1×1285E±02, h287km±26km, mb3.2/3, Error ellipse: s-maj=32.4km s-min=12.1km az=150.0*
*IDC **08** 21:19:18.7±3.5, 649S×128.17E, h328km±38km, mb2.9/3, mb1 3.0/6, mb1mx2.9/13, mbtmp2.8/6, Error ellipse: s-maj=47.5km s-min=12.5km az=66.0*

ISC 08 21:19:19.9±2.7, 66S±01×1281E±03, h340km±31km, n7, σ0°84/11, mb3.1/3, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	Kupang	5.67	230	P	Pn	21 20 47.2	+0.6
	45nm,0.3s,baz=70,slow=3.8,SNR=48						
BATI				S	S	21 21 56.4	-0.4
	11nm,0.3s,baz=231,slow=23,SNR=12						
FITZ	Fitzroy Crossi	11.71	191	P	Pn	21 21 58.0	-0.4
	0.4nm,0.3s,baz=22,slow=9.0,SNR=8.4						
FITZ				S	S	21 24 19.3	+10
	0.2nm,0.3s,baz=131,slow=20,SNR=3.0						
WRA	Warramunga Arr	14.62	156	P	P	21 22 30.7	-0.2
	0.3nm,0.3s,baz=339,slow=11,SNR=16						
WRA				S	S	21 25 07.3	-2.0
	0.2nm,0.3s,baz=340,slow=21,SNR=7.6						
ASAR	Alice Springs	17.90	162	P	P	21 23 07.2	+0.9
	0.2nm,0.3s,baz=345,slow=12,SNR=16						
ASAR				S	S	21 26 15.6	+1.4
	0.1nm,0.3s,baz=343,slow=18,SNR=14						
STKA	Stephens Creek	28.17	155	P	P	21 24 42.3	+0.2
	1.5nm,0.9s,mb3.2,baz=315,slow=10.0,SNR=3.7						
SONM	Songino Array	57.44	343	P	P	21 28 33.8	-0.2
	0.4nm,0.7s,mb2.8,baz=167,slow=7.8,SNR=3.7						
MKAR	Makanchi Array	66.83	328	P	P	21 29 35.5	-0.3
	0.2nm,0.4s,mb3.2,baz=116,slow=6.6,SNR=5.5						

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*CSEM **08** 21:32:44.8±0.5, 3867N×2903W, h0km±4km, ML2.4, Error ellipse: s-maj=6.3km s-min=3.1km az=64.0, After PDA*
*PDA **08** 21:32:44.8±0.5, 3867N×2903W, h0km±4km, MD3.5, ML2.4, Error ellipse: s-maj=6.3km s-min=3.1km az=64.0*

SVSA 08 21:32:44.8±0.5, 3867N×2903W, h0km±4km, MD3.5, ML2.4, Error ellipse: s-maj=6.3km s-min=3.1km az=64.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CALA	Caldeira	0.27	110	eP	Pg	21 32 50.0	0.0
CALA				eS	Sg	21 32 54.0	+0.4
HOR	Horta	0.35	115	eP	Pg	21 32 51.1	-0.3
HOR				eS	Sg	21 32 56.2	+0.3
PICO	Pico	0.51	110	eP	Pg	21 32 54.2	-0.3
PICO				eS	Sg	21 33 01.1	+0.1
ROSA	Rosais	0.62	86	eP	Pg	21 32 55.7	-1.0
ROSA				eS	Sg	21 33 03.8	-0.9
PMAN	Manadas	0.74	93	eP	Pg	21 32 57.8	-1.2
PMAN				eS	Sg	21 33 07.2	-1.3
PMAN				A		21 33 10.3	
	72nm,0.3s						
PMAN	Manadas	0.74	93	eP	Pg	21 32 57.8	-1.2
PMAN				eS	Sg	21 33 07.2	-1.3
PID	Ribeirinha	0.75	108	eP	Pg	21 32 57.7	-1.5
PID				eS	Sg	21 33 07.4	-1.5

CASC 08 21:38:26.6±1.2, 909N×8415W, h0km±3km, MD3.8, 4D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUS	Buena Vista	0.60	40	eP	Pg	21 38 39.7	+1.5
BUS				eS	Sg	21 38 50.0	+3.9
LCR2	La Lucha 2	0.67	12⇓	eP	Pg	21 38 40.6	+1.2
LCR2				eS	Sg	21 38 51.9	+3.9
LAJ	Bijagual	0.77	2	eP	Pg	21 38 41.9	+0.4
LAJ				eS	Sg	21 38 54.0	+2.6
URSC	Urasca	0.83	26⇓	eP	Pg	21 38 43.6	+1.1
URSC				eS	Sg	21 38 57.3	+4.0
BAR1		0.84	79⇓	eP	Pg	21 38 43.2	+0.4
BAR1				eS	Sg	21 38 56.6	+3.0

PRS1	Puriscal	0.90 350	⇓eP	Pg	21 38 43.2 -0.8
PRS1			eS	Sg	21 38 56.0 +0.3
CGA2	Cerro Gallo 2	0.97 341	eP	Pg	21 38 45.7 +0.4

NEIC ***08*** *22:09:40.6, 59.18N×144.96W, h7km, mb4.8/70, MS4.4/3, ML4.6(PMR), ML4.4(AEIC), After AEIC.*
MOS ***08*** *22:09:40.0±0.8, 5942N×144.96W, h10km, mb4.9/52, MS4.4/10, Error ellipse: s-maj=10.8km s-min=4.6km az=96.4*
BJI ***08*** *22:09:40.6, 5920N×145.00W, h6km, mB5.1, mb4.6, Ms5.0, Msz4.7*
IDC ***08*** *22:09:40.8±0.7, 5948N×144.90W, h0km, mb4.0/15, mb1 4.2/18, mb1mx4.2/23, mbtmp4.0/18, ML3.3/3, MS4.0/14, Ms1 4.0/14, ms1mx3.7/34, Error ellipse: s-maj=17.5km s-min=12.2km az=28.0*
ISCJB ***08*** *22:09:41.5±0.1, 5947N±002×14498W±004, h16km, mb4.5/104, MS4.3/29, Error ellipse: s-maj=4.5km s-min=1.8km az=42.4*
SZGRF ***08*** *22:09:43.8, 5884N×145.17W, h33km, mb5.1, Gulf of Alaska*

ISC 08 22:09:43.5±0.1, 5947N±002×14495W±004, h18km, h18km±.9km; pP-P, n430, σ0.9 88/448, mb4.5/104, MS4.3/29, 78C-53D, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MID	Middleton Isla	0.71	267	P	Pb	22 09 55.1	-2.2
RAGM	Ragged Mountai	0.93	8	P	Pb	22 10 02.5	+1.4
RAGM				S	Sb	22 10 18.8	+5.6
EYAK	Cordova Ski Ar	1.16	340	P	Pn	22 10 05.1	+0.3
EYAK				S	Sb	22 10 24.7	+5.1
PNL	Peninsula	2.83	84	P	Pn	22 10 26.0	-1.8
SLKM	Skilak Lake	2.85	294	P	Pn	22 10 26.1	-1.9
SLKM				eSn	Sn	22 11 01.2	-0.5
SML	Sawmill	2.88	326	P	Pn	22 10 29.1	+0.6
SML				eSn	Sg	22 11 10.8	-5.2
RC01	Rabbit Creek A	2.89	306	P	Pn	22 10 27.2	-1.3
PMR	Palmer	2.97	318	eP	Pn	22 10 29.8	+0.1
PAX	Paxson	3.52	356	P	Pn	22 10 38.5	+1.2
MENT	Mentasta	3.53	9	P	Pn	22 10 38.9	+1.5
BCA3	Beaver Creek A	3.92	22	P	Pn	22 10 43.7	+1.0
DOT	Dot Lake	4.22	5	P	Pn	22 10 48.2	+1.5
KDAK	Kodiak Island	4.33	250	P	Pn	22 10 44.1	-4.3
KDAK				eSn	Sn	22 11 33.1	-5.4
MCK	McKinley	4.68	338	P	Pn	22 10 54.4	+1.2
MCK				eSn	Sn	22 11 51.1	+4.2
TRF	Thorofare Moun	4.75	330	P	Pn	22 10 54.7	+0.6
SKAG	Skagway	4.91	86	P	Pn	22 10 53.5	-2.8
KTH	Kantishna Hill	5.00	328	P	Pn	22 10 58.8	+1.3
WHY	Whitehorse	5.18	72	P	Pn	22 10 58.8	-1.2
DAWY	Dawson	5.31	27	P	Pn	22 11 03.0	+1.2
IL1	Eielson Array	5.40	351	P	Pn	22 11 02.7	-0.3
SVW2	Sparrevohn	5.54	292	P	Pn	22 11 02.4	-2.5
SVW2				Sn	Sn	22 12 08.2	+0.2
COLA	College	5.59	347	P	Pn	22 11 05.6	-0.1
COLA	College	5.59	347	eP	Pn	22 11 05.7	0.0
EGAK	Eagle	5.62	17	P	Pn	22 11 07.1	+1.1
SIT	Sitka	5.62	111	eP	Pn	22 11 01.8	-4.3
TTA	Tatalina	6.37	308	eP	Pn	22 11 15.9	-0.5
TTA				Sn	Sn	22 12 33.0	+4.5
IM3	Indian Mountai	7.68	332	P	Pn	22 11 34.4	+0.1
IMA2	Indian Mountai	7.73	333	P	Pn	22 11 35.3	+0.3
IMA2				eSn	Sn	22 13 05.9	+3.8
DLBC	Dease Lake	7.79	91	Pn	Pn	22 11 34.2	-1.5
	baz=236,slow=11						
DLBC				Sn	Sn	22 12 57.4	-5.9
	baz=168,slow=20						
CHGN	Chignik	7.85	252	eP	Pn	22 11 35.9	-0.7
BM3	Burnt Mountain	7.98	1	P	Pn	22 11 38.2	-0.2
COLD	Coldfoot	8.13	345	P	Pn	22 11 40.5	-0.1
VIB	Van Inlet	9.28	127	Pn	Pn	22 11 50.1	-6.1
VIB				Sn	Sn	22 13 26.7	-13
VIB				T		22 21 34.9	
DIB	Dawson Inlet,	9.34	127	Pn	Pn	22 11 50.7	-6.3
DIB				Sn	Sn	22 13 28.6	-13
DIB				T		22 21 32.4	
	SNR=3.5						
INK	Inuvik	10.18	25	Pn	Pn	22 12 08.3	-0.2
INK				Sn	Sn	22 13 59.4	-2.5
INK				Lg		22 15 09.8	
INK	Inuvik	10.18	25	P	Pn	22 12 08.3	-0.2
INK						22 13 59.4	
INK	Inuvik	10.18	25	Pn	Pn	22 12 08.3	-0.2
	0.2nm,0.3s,baz=212,slow=13,SNR=18						
INK				Sn	Sn	22 13 59.4	-2.5
	0.6nm,0.3s,baz=223,slow=12,SNR=3.0						
INK				Lg		22 15 09.8	
	baz=319,slow=17,SNR=2.6						
TNA	Tin City	12.19	310	ePn	Pn	22 12 37.0	+1.0
	25nm,1.1s						
UNV	Unalaska Valle	13.09	254	ePn	Pn	22 12 45.2	-3.2
UNV				eSn	Sn	22 15 08.5	-4.8
GAMB	Gambell	13.38	300	Pn	Pn	22 12 53.8	+1.6
	13nm,0.7s						
YKA	Yellowknife Ar	14.96	65	Pn	Pn	22 13 11.4	-2.3
	0.1nm,0.3s,baz=268,slow=12,SNR=9.5						
YKA				Lg		22 17 36.2	
	0.0nm,0.3s,baz=269,slow=28,SNR=2.8						
A06A	Chilliwack	17.09	117	⇓P	Pn	22 13 42.3	+1.1
	baz=17						
NLWA	Neilton Lookou	17.34	125	ePn	Pn	22 13 45.3	+1.0
	248nm,2.0s						
NLWA	Neilton Lookou	17.34	125	P	Pn	22 13 46.1	+1.8
	baz=17,SNR=5.0						
B05A	Bryant	17.43	120	⇓P	Pn	22 13 45.7	+0.3
	baz=17						
A07A	Ashnola River,	17.63	115	⇑P	Pn	22 13 47.9	0.0
	baz=18,SNR=17						
C05A	Tolt Reservoir	18.04	121	⇑P	Pn	22 13 53.1	+0.1
	baz=18,SNR=7.3						
B07A	Winthrop	18.17	116	P	Pn	22 13 54.7	+0.1
	baz=18,SNR=5.8						
A08A	Turner Farm, O	18.21	114	⇓P	Pn	22 13 55.3	+0.2
	baz=18						
D05A	Enumclaw	18.30	122	⇓P	Pn	22 13 56.0	-0.2
	baz=18						
EDM	Edmonton	18.46	96	eP	Pn	22 13 55.9	-2.3
A09A	Danville	18.52	113	⇑P	Pn	22 13 59.0	+0.2
	baz=18						
B08A	Colville Reser	18.61	115	P	Pn	22 13 59.9	-0.1
	baz=18,SNR=7.2						
C07A	Waterville	18.77	118	P	Pn	22 14 01.6	-0.3
	baz=19,SNR=6.1						
D06A	Cle Elum	18.79	120	P	Pn	22 14 02.5	+0.3
	baz=19,SNR=7.5						
E05A	Randle	18.88	123	⇓P	Pn	22 14 03.0	-0.3
	baz=19						
A10A	Northport	19.00	111	⇓P	Pn	22 14 04.2	-0.4
	baz=19,SNR=6.1						
B09A	Rice	19.11	113	⇓P	Pn	22 14 05.0	-1.0
	baz=19						
C08A	Higginbotham F	19.16	116	⇑P	Pn	22 14 06.2	-0.4
	baz=19,SNR=9.2						
D07A	Quincy	19.18	119	⇑P	Pn	22 14 06.0	-0.8
	baz=19,SNR=5.8						
C09A	Chrisman Ranch	19.50	115	⇑P	Pn	22 14 10.2	-0.5
	baz=19,SNR=9.1						
OD2	Odessa Site #2	19.60	116	P	Pn	22 14 10.7	-1.2
NEW	Newport	19.71	112	P	Pn	22 14 12.2	-1.0
NEW				eS	Sn	22 17 46.9	-7.0
NEW				LR	LR	22 21 01.6	
NEW	Newport	19.71	112	P	Pn	22 14 12.2	-0.9
NEW				eS	Sn	22 17 46.9	-6.9
NEW	Newport	19.71	112	P	Pn	22 14 12.2	-1.0
	0.1nm,0.3s,baz=328,slow=11,SNR=14						
NEW				LR	LR	22 21 01.6	
	comp=Z,286nm,19.5s,baz=305,slow=35						
E07A	Sunnyside	19.72	120	⇑P	Pn	22 14 11.9	-1.3
	baz=20						
D08A	Wollman Farm,	19.76	117	⇓P	Pn	22 14 12.6	-1.1
	baz=20,SNR=8.0						
F06A	Goldendale	19.93	123	⇑P	Pn	22 14 13.7	-2.1
	baz=20						
B11A	Sandpoint	19.95	111	⇓P	Pn	22 14 15.3	-0.7
	baz=20,SNR=10						
HAWA	Hanford	19.99	120	eP	Pn	22 14 13.3	-3.1
	18nm,1.5s						
D09A	Jones Farm, Ri	20.03	117	⇑P	P	22 14 16.7	+1.5
	baz=20,SNR=5.3						
E08A	Dider Farm, El	20.12	119	⇑P	P	22 14 16.1	-0.1
	baz=20,SNR=8.8						
H04A	Detroit Lake	20.21	127	⇓P	P	22 14 17.1	0.0
	baz=20,SNR=7.1						
D10A	Wagner Farm, O	20.51	115	⇓P	P	22 14 20.5	+0.1
	baz=20						
E09A	Wood Farm, Sta	20.52	117	⇓P	P	22 14 21.9	+1.5
	baz=20,SNR=11						
A13A	Flathead Natio	20.55	107	⇑P	P	22 14 20.7	0.0
	baz=20						
WALA	Waterton Lakes	20.71	106	eP	P	22 14 21.3	-1.2
	65nm,1.4s						
B13A	Whitefish	20.90	109	⇓P	P	22 14 25.0	+0.4
	baz=21,SNR=25						
G08A	Pilot Rock	21.09	121	⇑P	P	22 14 26.3	-0.4
	baz=21						
C13A	Hot Springs	21.34	110	⇑P	P	22 14 29.2	-0.1
	baz=21,SNR=6.5						
F10A	Beach Ranch, E	21.34	117	⇓P	P	22 14 29.5	+0.1
	baz=21,SNR=6.9						
H07A	Lands Inn, Kim	21.39	123	⇓P	P	22 14 29.0	-0.9
	baz=21						
D12A	Red Ives Fores	21.41	112	⇑P	P	22 14 29.7	-0.4
	baz=21						
E11A	Bogner Ranch,	21.52	115	⇓P	P	22 14 30.7	-0.6
	baz=21,SNR=14						
G09A	Cove	21.62	119	P	P	22 14 32.3	-0.1
	baz=22,SNR=30						
I06A	Prineville	21.63	125	⇑P	P	22 14 32.8	+0.3
	baz=22						
HUMO	Hull Mountain	21.65	131	eP	P	22 14 30.7	-2.0
	34nm,1.5s,mb4.5						
HUMO	Hull Mountain	21.65	131	⇑P	P	22 14 33.1	+0.5
	baz=22,SNR=8.0						
C14A	Swan Lake	21.67	109	⇓P	P	22 14 32.4	-0.5
	baz=22						
J05A	Fort Rock	21.75	128	⇑P	P	22 14 34.0	+0.2
	baz=22,SNR=11						
D13A	Huson	21.81	111	⇓P	P	22 14 34.0	-0.3
	baz=22,SNR=25						
I07A	Izee	21.82	124	⇑P	P	22 14 34.5	0.0
	baz=22,SNR=21						
H08A	Prairie City	21.83	122	⇓P	P	22 14 34.6	0.0
	baz=22,SNR=17						
F11A	Grangeville	21.90	116	⇑P	P	22 14 35.3	0.0
	baz=22						
G10A	Bishop Farm, J	21.91	118	⇑P	P	22 14 34.9	-0.6
	baz=22,SNR=7.3						
K04A	Chilquin	22.12	129	⇑P	P	22 14 37.4	-0.3
	baz=22						
H09A	Durkee	22.16	120	⇓P	P	22 14 38.0	0.0
	baz=22						
BMO	Blue Mountains	22.17	119	eP	P	22 14 37.0	-1.2
	39nm,1.4s,mb4.6						
G11A	Walters Elk Ra	22.21	117	⇓P	P	22 14 38.4	-0.3
	baz=22,SNR=31						
J06A	Christmas Vall	22.23	126	⇑P	P	22 14 38.8	0.0
	baz=22,SNR=30						
MSO	Missoula	22.24	111	eP	P	22 14 37.7	-1.3
	28nm,1.4s,mb4.5						
VSP	Spence Mountai	22.26	130	P	P	22 14 38.7	-0.5
D14A	Greenough	22.27	110	⇑P	P	22 14 38.9	-0.4
	baz=22,SNR=20						
I08A	Drewsey	22.36	122	P	P	22 14 40.6	+0.4
	baz=22,SNR=9.6						
K05A	Summer Lake	22.36	128	⇓P	P	22 14 40.2	0.0
	baz=22,SNR=14						
E13A	Victor	22.41	112	⇑P	P	22 14 40.2	-0.6
	baz=22,SNR=9.5						
F12A	Elk City	22.41	115	⇑P	P	22 14 39.8	-1.0
	baz=22,SNR=15						
J07A	Hines	22.48	124	⇑P	P	22 14 41.4	-0.1
	baz=22,SNR=6.4						
YBH	Yreka Blue Hor	22.49	132	eP	P	22 14 39.9	-1.8
	28nm,1.3s,mb4.5						
YBH	Yreka Blue Hor	22.49	132	eP	P	22 14 39.9	-1.8
YBH				pmax	pmax		
	comp=Z,28nm,1.3s						
YBH	Yreka Blue Hor	22.49	132	⇓P	P	22 14 41.4	-0.3
	baz=22,SNR=8.8						
CHMT	Chamberlain Mo	22.51	110	eP	P	22 14 41.7	-0.2
CHMT				S	S	22 18 45.3	-2.8
K06A	Valley Falls	22.56	127	⇓P	P	22 14 42.8	+0.5
	baz=22,SNR=15						
BILL	Bilibino	22.59	313	eP	P	22 14 43.2	+0.7
BILL	Bilibino	22.59	313	⇑eP	P	22 14 40.3	-2.3
BILL				/ S	S	22 18 46.9	-2.5
BILL				pmax	pmax		
	comp=Z,18nm,1.2s,mb4.4						
BILL				MLR	MLR		
	comp=Z,600nm,13.0s,MS4.2						
H10A	Noah's Angus R	22.62	119	P	P	22 14 43.1	+0.1
	baz=22,SNR=11						
I09A	Lost Marbles R	22.67	121	⇑P	P	22 14 43.3	-0.2
	baz=23						
M02C	Callahan	22.73	133	⇑P	P	22 14 44.8	+0.6
	baz=23,SNR=7.1						
E14A	Clinton	22.76	111	⇑P	P	22 14 43.9	-0.5
	baz=23,SNR=11						
LHEM	Herd Peak	22.77	132	P	P	22 14 45.0	+0.4
M04C	Macdoel	22.78	131	⇓P	P	22 14 44.8	0.0
	baz=23,SNR=10						
F13A	Darby	22.82	113	⇓P	P	22 14 44.5	-0.6
	baz=23						
J08A	Circle Bar Ran	22.84	123	⇑P	P	22 14 45.2	-0.2
	baz=23,SNR=10						
H11A	Donnelly	22.86	117	⇓P	P	22 14 45.1	-0.5
	baz=23,SNR=8.7						
L05A	Lakeview	22.95	129	⇓P	P	22 14 47.0	+0.5
	baz=23,SNR=16						
K07A	Rock Creek Ran	23.06	125	P	P	22 14 48.0	+0.3
	baz=23,SNR=10						
M03C	McCloud	23.11	132	⇑P	P	22 14 48.5	+0.2
	baz=23						
E15A	Deer Lodge	23.16	110	⇓P	P	22 14 48.3	-0.3
	baz=23						
J09A	Fry Pan Ranch,	23.16	122	⇑P	P	22 14 49.6	+0.8
	baz=23,SNR=8.5						
MOD	Modoc	23.29	128	eP	P	22 14 46.9	-3.2
	comp=Z,82nm,1.9s,mb4.8						
MOD	Modoc	23.29	128	⇑P	P	22 14 50.9	+0.9
	baz=23,SNR=5.4						
K08A	Mann Creek Ran	23.35	124	⇑P	P	22 14 51.6	+0.8
	baz=23,SNR=7.4						
G13A	Cobalt	23.39	114	P	P	22 14 51.2	+0.1
	baz=23,SNR=11						
M05C	Lookout	23.41	130	⇓P	P	22 14 51.0	-0.4
	baz=23						
EGMT	Eagleton	23.45	104	eP	P	22 14 50.2	-1.6
	comp=Z,44nm,1.2s,mb4.8						
FFC	Flin Flon	23.50	83	eP	P	22 14 51.8	-0.3
	comp=Z,39nm,1.5s,mb4.6						
FFC	Flin Flon	23.50	83	eP	P	22 14 51.8	-0.3
FFC				pmax	pmax		
	comp=Z,39nm,1.5s,mb4.6						
H12A	Diamond D Ranc	23.51	116	P	P	22 14 52.2	-0.2
	baz=23,SNR=8.2						
WVOR	Wild Horse Val	23.53	125	P	P	22 14 50.9	-1.7
	comp=Z,97nm,2.1s,mb4.9						
WVOR	Wild Horse Val	23.53	125	P	P	22 14 50.9	-1.7
WVOR				pmax	pmax		
	comp=Z,97nm,2.1s,mb4.9						
WDC	Whiskeytown Da	23.56	133	eP	P	22 14 50.5	-2.4
	comp=Z,114nm,1.8s,mb5.0						
WDC	Whiskeytown Da	23.56	133	eP	P	22 14 50.5	-2.3
WDC				pmax	pmax		
	comp=Z,114nm,1.8s,mb5.0						
WDC	Whiskeytown Da	23.56	133	⇑P	P	22 14 53.3	+0.5
	baz=23						
L07A	Adell	23.58	126	⇑P	P	22 14 53.8	+0.7
	baz=24,SNR=6.9						
G14A	Jackson	23.63	113	⇓P	P	22 14 53.5	0.0
	baz=24,SNR=7.6						
RES	Resolute Bay	23.64	31	eP	P	22 14 53.8	+0.4
	comp=Z,324nm,0.8s						
F15A	Butte	23.65	111	P	P	22 14 53.5	-0.2
	baz=24,SNR=7.2						
K09A	Rome	23.70	123	⇑P	P	22 14 54.3	+0.2
	baz=24,SNR=14						
HATC	Hat Creek Radi	23.76	131	⇓P	P	22 14 54.2	-0.4
	baz=24						
H13A	Challis	23.78	115	⇑P	P	22 14 54.9	+0.1
	baz=24,SNR=8.6						
M06C	Likely Place G	23.81	129	P	P	22 14 55.5	+0.3
	baz=24,SNR=5.9						
L08A	Fields	23.85	125	⇑P	P	22 14 55.8	+0.3
	baz=24,SNR=8.4						
DLMT	Dillon	23.95	112	eP	P	22 14 55.4	-1.0
	comp=Z,44nm,1.2s,mb4.8						
MFID	Camas Ranch	23.95	119	⇑P	P	22 14 56.1	-0.3
	baz=24,SNR=9.5						
K10A	MacKenzie Ranc	24.00	122	⇑P	P	22 14 57.2	+0.3
	baz=24,SNR=8.6						
G15A	Dillon	24.15	112	P	P	22 14 58.8	+0.5
	baz=24,SNR=14						
M07A	Soldier Meadow	24.18	127	⇓P	P	22 14 59.2	+0.7
	baz=24,SNR=14						
BOZ	Bozeman (W)	24.21	110	eP	P	22 14 57.9	-0.8
	comp=Z,40nm,1.8s,mb4.5						
BOZ	Bozeman (W)	24.21	110	eP	P	22 14 57.9	-0.8
BOZ				pmax	pmax		
	comp=Z,40nm,1.8s,mb4.5						
MCMT	McKenzie Canyo	24.23	113	P	P	22 14 59.8	+0.8
L09A	Wilkinson Ranc	24.28	124	⇓P	P	22 14 60.0	+0.5
	baz=24						
I13A	Wildhorse Cree	24.34	116	⇑P	P	22 14 59.9	0.0
	baz=24,SNR=9.9						
K11A	Parker Ranch,	24.38	120	⇓P	P	22 15 00.6	+0.3
	baz=24,SNR=5.3						
J12A	Stokes Ranch,	24.41	118	⇑P	P	22 15 00.9	+0.3
	baz=24,SNR=12						
N06A	Buffalo Meadow	24.45	129	P	P	22 15 01.6	+0.6
	baz=24,SNR=18						
HLID	Hailey	24.48	117	eP	P	22 15 01.5	+0.3
	comp=Z,9.7nm,1.1s,mb4.2						
HLID	Hailey	24.48	117	⇑P	P	22 15 01.9	+0.7
	baz=24,SNR=16						
J13A	Cove Ranch, Pi	24.71	117	⇑P	P	22 15 03.8	+0.5
	baz=25						
L10A	Juniper Basin	24.75	122	P	P	22 15 04.1	+0.4
	baz=25,SNR=12						
N07B	Gerlach	24.77	127	⇓P	P	22 15 05.0	+1.1
	baz=25						
M09A	Marrel Ranch,	24.86	124	⇑P	P	22 15 05.3	+0.5
	baz=25,SNR=5.7						
QLMT	Earthquake Lak	24.90	111	eP	P	22 15 04.7	-0.3
O06A	Flanigan	24.95	130	⇓P	P	22 15 05.6	+0.1
	baz=25,SNR=11						
K12A	Draper Farm, C	24.99	119	P	P	22 15 06.7	+0.9
	baz=25,SNR=9.4						
BEKR	Beckwourth	25.00	131	⇑P	P	22 15 06.2	+0.2
	baz=25						
GCMT	Greycliff	25.05	107	P	P	22 15 04.1	-2.3
N08A	GE Springer Mi	25.11	126	⇑P	P	22 15 07.4	+0.4
	baz=25,SNR=19						
M10A	I.L. Ranch, Tu	25.17	123	⇑P	P	22 15 09.1	+1.6
	baz=25,SNR=9.5						
YMR	Madison River	25.25	111	eP	P	22 15 05.9	-2.2
	comp=Z,40nm,1.2s,mb4.8						
N09A	Rock Creek Ran	25.31	125	⇑P	P	22 15 10.1	+1.3
	baz=25						
L12A	House Creek Ra	25.33	120	P	P	22 15 09.9	+1.0
	baz=25,SNR=17						
K13A	Stover Farm, H	25.34	118	P	P	22 15 10.5	+1.4
	baz=25,SNR=5.5						
P05C	Yuba Gap, Truc	25.40	132	⇑P	P	22 15 10.0	+0.5
	baz=25						
YFT	Old Faithful	25.47	111	eP	P	22 15 09.6	-0.6
RLMT	Red Lodge	25.73	108	eP	P	22 15 12.7	+0.1
	comp=Z,47nm,1.4s,mb4.8						
FLWY	Flagg Ranch	25.81	111	eP	P	22 15 12.4	-0.9
	comp=Z,68nm,1.5s,mb5.0						
LAVA	Lava Cap Winer	25.82	133	⇓P	P	22 15 12.8	-0.7
	baz=26,SNR=5.7						
IMW	Indian Meadow	25.84	112	eP	P	22 15 13.7	+0.2
	comp=Z,39nm,1.2s,mb4.8						
K14A	Jones Ranch, D	25.84	117	⇑P	P	22 15 14.4	+0.9
	baz=26,SNR=12						
M12A	Wells	25.96	121	⇑P	P	22 15 15.8	+1.1
	baz=26,SNR=12						
O09A	Fish Creek Ran	26.02	126	⇑P	P	22 15 16.6	+1.4
	baz=26						
MOOW	Moose Ponds	26.04	112	eP	P	22 15 15.7	+0.3
	comp=Z,26nm,1.6s,mb4.5						
R05C	Kirkwood Meado	26.12	132	⇓P	P	22 15 16.0	-0.1
	baz=26						
TPAW	Teton Pass	26.14	113	eP	P	22 15 16.3	0.0
	comp=Z,27nm,1.2s,mb4.7						
LOHW	Long Hollow	26.21	112	eP	P	22 15 16.1	-0.9
	comp=Z,30nm,1.5s,mb4.6						
SNOW	Snow King Moun	26.25	112	eP	P	22 15 16.6	-0.7
	comp=Z,15nm,1.1s,mb4.4						
REDW	Red Top Meadow	26.28	113	eP	P	22 15 17.8	+0.2
	comp=Z,21nm,1.2s,mb4.5						
M13A	Montello	26.34	120	⇑P	P	22 15 18.6	+0.5
	baz=26,SNR=6.4						
N12A	Clover Valley,	26.37	122	⇓P	P	22 15 19.2	+0.8
	baz=26,SNR=6.8						
R06C	Coleville	26.52	131	⇑P	P	22 15 20.7	+1.0
	baz=26						
M14A	Sheep Mountain	26.59	118	P	P	22 15 21.3	+0.9
	baz=26,SNR=13						
CMB	Columbia Colle	26.59	133	⇑P	P	22 15 20.5	+0.2
	baz=26						
HVU	Hansel Valley	26.62	117	eP	P	22 15 18.6	-2.0
	comp=Z,26nm,1.2s,mb4.6						
HVU	Hansel Valley	26.62	117	eP	P	22 15 18.6	-2.1
HVU				pmax	pmax		
	comp=Z,26nm,1.2s,mb4.6						
O11A	Cowboy Ranch,	26.69	123	⇓P	P	22 15 22.1	+0.8
	baz=27,SNR=8.9						
N13A	Wendover, West	26.73	120	⇑P	P	22 15 22.5	+0.9
	baz=27						
Q08A	Gabbs	26.82	128	⇑P	P	22 15 23.5	+0.9
	baz=27						
O12A	Currie	26.97	122	⇑P	P	22 15 24.9	+1.1
	baz=27,SNR=5.7						
M15A	Larsen Ranch,	27.02	117	P	P	22 15 25.0	+0.7
	baz=27,SNR=6.4						
NVAR	Mina Array Bea	27.05	129	P	P	22 15 24.9	+0.4
	comp=Z,3.2nm,0.9s,mb3.8,baz=323,slow=8.4,SNR=11						
SPUT	South Promonto	27.15	117	eP	P	22 15 23.7	-1.7
N14A	Grayback Hills	27.18	119	⇓P	P	22 15 26.5	+0.8
	baz=27,SNR=7.7						
S05C	Merced	27.22	133	⇓P	P	22 15 27.2	+1.2
	baz=27						
HWUT	Hardware Ranch	27.31	116	eP	P	22 15 25.7	-1.1
	comp=Z,11nm,1.2s,mb4.3						
PDAR	Pinedale Array	27.35	112	P	P	22 15 27.3	+0.1
	comp=Z,3.6nm,1.1s,mb3.8,baz=310,slow=5.6,SNR=15						
Q10A	Clear Creek Ra	27.48	126	⇑P	P	22 15 29.5	+1.1
	baz=27						
R09A	Tonopah	27.70	128	⇓P	P	22 15 31.3	+0.9
	baz=28,SNR=5.5						
T06C	Millerton Lake	27.75	133	⇑P	P	22 15 30.8	0.0
	baz=28						
Q11A	Duckwater	27.77	125	P	P	22 15 31.9	+0.8

WUAZ Wupatki 32.40 123 *e*P **P 22 16 09.7 -2.3**
comp=E,17nm,1.1s,mb4.8
X14A Yava 32.66 126 ⇓P **P 22 16 15.5 +1.2**
baz=32,SNR=5.4
EYMN Ely 32.76 86 *e*P **P 22 16 14.7 -0.3**
TIXI Tiksi 34.28 326 *e*P **P 22 16 27.9 0.0**
TIXI Tiksi 34.28 326 *e*P **P 22 16 27.8 -0.2**
TIXI *e*S **S 22 21 51.9 -1.8**
TIXI pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
TIXI MLR MLR
comp=Z,728nm,13.0s,MS4.6
ANMO Albuquerque 35.05 117 *e*P **P 22 16 34.9 -0.1**
BNM Barren Site 35.64 118 *e*P **P 22 16 40.2 +0.1**
218A Dragoon 36.00 124 ⇓P **P 22 16 44.1 +0.9**
baz=36
YAK Yakutsk 38.95 312 *e*P **P 22 17 08.4 +0.6**
YAK Yakutsk 38.95 312 *e*P **P 22 17 11.2 +3.4**
YAK pmax pmax
comp=Z,39nm,1.4s,mb4.9
YAK pmax pmax
comp=N,8.0nm,1.3s
YAK pmax pmax
comp=E,13nm,1.3s
DAG Danmarks Havn 39.90 17⇑ *i*P **P 22 17 16.8 +1.2**
DAG pmax pmax
comp=Z,12nm,1.0s,mb4.6
DAG Danmarks Havn 39.90 17⇑ *i*P **P 22 17 16.8 +1.2**
comp=Z,12nm,1.0s,mb4.6
SCHQ Schefferville 40.34 61 LR LR 22 34 17.9
comp=Z,343nm,18.9s,MS4.2,baz=303,slow=37
TXAR Lajitas Array 41.05 119 P **P 22 17 26.4 +0.7**
comp=Z,1.6nm,1.0s,mb3.6,baz=339,slow=6.7,SNR=12
TXAR LR LR 22 33 50.2
comp=Z,130nm,19.3s,MS3.8,baz=190,slow=35
MIAR Mount Ida 41.55 104 *e*P **P 22 17 29.2 -0.5**
comp=Z,12nm,1.1s,mb4.5
MIAR Mount Ida 41.55 104 *e*P **P 22 17 29.2 -0.5**
MIAR pmax pmax
comp=Z,12nm,1.1s,mb4.4
JCT Junction City 41.86 113 *e*P **P 22 17 32.8 +0.5**
comp=Z,4.3nm,0.3s,mb4.6
JCT Junction City 41.86 113 *e*P **P 22 17 32.8 +0.6**
JCT pmax pmax
comp=Z,4.0nm,0.3s,mb4.5
YSS Yuzh-Sakhalins 42.88 286 *e*P **P 22 17 40.5 +0.1**
YSS Yuzh-Sakhalins 42.88 286⇑ *e*P **P 22 17 37.9 -2.5**
YSS pmax pmax
comp=Z,5.0nm,0.8s,mb4.3
PLAL Pickwick Lake 43.96 98 *e*P **P 22 17 49.2 0.0**
comp=Z,8.2nm,0.8s,mb4.5
CLNS Chul'man 44.15 308 *e*P **P 22 17 51.3 +0.8**
CLNS *e*S **S 22 24 21.5 -0.6**
CLNS pmax pmax
comp=Z,30nm,1.4s,mb4.8
CLNS pmax pmax
comp=N,8.0nm,0.9s
CLNS pmax pmax
comp=E,12nm,1.0s
CLNS pmax pmax
comp=Z,4.0nm,0.5s,mb4.4
CLNS smax
comp=N,103nm,16.2s
CLNS smax
comp=E,127nm,13.5s
CLNS MLR MLR
comp=Z,700nm,11.0s,MS4.8
CLNS MLR MLR
comp=N,300nm,13.0s,MS4.7
CLNS MLR MLR
comp=E,600nm,14.0s,MS4.7
HABR Khabarovsk 45.51 293 *e*P **P 22 18 02.2 +0.8**
HABR *e*S **S 22 24 39.4 -2.7**
ERM Erimo 46.24 281 *e*P **P 22 18 06.1 -1.1**
KLR Kul'dur 46.50 296 *e*P **P 22 18 04.6 -4.6**
BOD Bodaibo 47.62 315 *e*P **P 22 18 17.3 -0.6**
BOD pmax pmax
comp=Z,16nm,1.2s,mb4.9
ARCES ARCESS Array B 51.11 4 P **P 22 18 44.5 +0.2**
comp=Z,3.4nm,1.0s,mb4.2,baz=354,slow=8.2,SNR=2.9
ARCES LR LR 22 40 03.9
comp=Z,85nm,18.4s,MS3.8,baz=152,slow=36
MAJO Matsushiro 52.89 280 *e*P **P 22 18 57.7 -0.3**
MJAR Matsushiro Arr 52.89 280 P **P 22 18 58.6 +0.6**
comp=Z,0.6nm,0.4s,mb3.9,baz=0.9,slow=8.1,SNR=4.1
CN2 Changchun 53.44 296 *e*P **P 22 19 01.5 -0.5**
IRK Irkutsk 55.48 316 *e*P **P 22 19 17.0 +0.3**
IRK pmax pmax
comp=Z,25nm,1.5s,mb5.0
TLY Talaya 56.16 316 *e*P **P 22 19 22.9 +1.3**
comp=Z,12nm,1.1s,mb4.8
TLY Talaya 56.16 316 *e*P **P 22 19 22.9 +1.3**
TLY pmax pmax
comp=Z,12nm,1.1s,mb4.8
MOY Mondy 57.11 317 *e*P **P 22 19 29.8 +1.5**
MOY pmax pmax
comp=Z,27nm,2.6s,mb4.8
KSRS Korea Array 57.25 289 P **P 22 19 29.5 0.0**
comp=Z,1.0nm,0.6s,mb4.0,baz=44,slow=7.3,SNR=4.3
KSRS LR LR 22 44 25.6
comp=Z,155nm,18.5s,MS4.1,baz=45,slow=36
ZAK Zakamensk 57.37 315 *e*P **P 22 19 30.5 +0.4**
ZAK pmax pmax
comp=Z,3.0nm,1.4s,mb4.1
ULN Ulaanbaatar 58.03 311 *e*P **P 22 19 35.6 +0.7**
comp=Z,6.7nm,0.5s,mb4.9
ULN Ulaanbaatar 58.03 311 *e*P **P 22 19 34.8 0.0**
SONM Songino Array 58.31 311 P **P 22 19 38.3 +1.5**
comp=Z,2.1nm,0.7s,mb4.3,baz=38,slow=5.7,SNR=29
SONM LR LR 22 46 28.4
comp=Z,425nm,19.7s,MS4.6,baz=41,slow=38
NB2 NORSAR Subarra 58.41 13 P **P 22 19 34.3 -3.0**
comp=Z,17nm,1.2s,mb5.0,baz=348,slow=6.9
NOA NORSAR Array B 58.41 13 P **P 22 19 37.7 +0.4**
NOA LR LR 22 44 30.9
NOA NORSAR Array B 58.41 13 P **P 22 19 37.7 +0.4**
comp=Z,1.2nm,1.0s,mb3.9,baz=326,slow=6.0,SNR=3.8
NOA LR LR 22 44 30.9
comp=Z,51nm,19.1s,MS3.7,baz=5.0,slow=36
FINES FINESS Array B 59.22 5 P **P 22 19 42.7 -0.2**
FINES FINESS Array B 59.22 5 P **P 22 19 42.7 -0.2**
comp=Z,1.8nm,0.7s,mb4.2,baz=358,slow=8.8,SNR=17
NVS Novosibirsk 59.70 330⇑ *i*P **P 22 19 44.8 -1.5**
NVS pmax pmax
comp=Z,14nm,1.8s,mb4.7
NVS pmax pmax
comp=N,6.0nm,1.1s
NVS pmax pmax
comp=E,6.0nm,1.4s
ZAA0 Zalesovo Array 60.09 329 *e*P **P 22 19 48.7 -0.4**
ZALV Zalesovo Beam 60.09 329 P **P 22 19 48.3 -0.7**
comp=E,1.2nm,0.6s,mb4.1,baz=18,slow=6.6,SNR=9.2
ZALV LR LR 22 48 45.9
comp=E,150nm,18.7s,MS4.2,baz=178,slow=39
ZAL Zalesovo 60.11 329 P **P 22 19 48.3 -0.8**
BJI Beijing 60.63 299 P **P 22 19 52.6 -0.3**
BJI S **S 22 28 12.2 +4.2**
BJI AMB AMB
comp=Z,4.0nm,0.8s,mb4.6
BJI LR LR
comp=N,641nm,13.4s,MS5.0
BJI LR LR
comp=E,156nm,13.4s,MS5.0
BJI LR LR
comp=Z,190nm,16.5s,MS4.3
SVE Sverdlovsk 62.28 344 *e*P **P 22 20 09.4 +5.6**
SVE pmax pmax
comp=Z,28nm,1.7s,mb5.1
ARU Arti 62.94 346 *e*P **P 22 20 08.4 +0.1**
comp=Z,16nm,1.1s,mb5.0
ARU Arti 62.94 346 *d i*P **P 22 20 07.3 -0.9**
ARU *e* 22 20 43.7
ARU *e*S **S 22 28 34.5 -2.3**
ARU *e*SS SS 22 32 38.8 -2.3
ARU pmax pmax
comp=Z,12nm,1.7s,mb4.8
BRVK Borovoye 64.29 337 *e*P **P 22 20 17.4 +0.3**
comp=Z,7.2nm,0.8s,mb4.8
BRVK Borovoye 64.29 337 *e*P **P 22 20 17.4 +0.2**
BRVK pmax pmax
comp=Z,7.0nm,0.8s,mb4.7
KURK Kurchatov 64.62 331 *e*P **P 22 20 18.8 -0.6**
comp=Z,5.3nm,0.7s,mb4.7
KURK Kurchatov 64.62 331⇑ *e*P **P 22 20 17.2 -2.2**
OBN Obninsk 65.76 359⇓ *e*P **P 22 20 26.1 -0.6**
OBN *i* 22 22 47.9
OBN *i* S S 22 29 13.2 +1.5
OBN pmax pmax
comp=Z,11nm,1.3s,mb4.7
OBN MLR MLR
comp=Z,100nm,15.0s,MS4.1
NJ2 Nanjing 65.97 292 *e*P **P 22 20 29.5 +1.1**
NJ2 AP pP 22 20 34.2 0.0
NJ2 XP sP 22 20 36.3 0.0
NJ2 S S 22 29 17.0 +2.2
NJ2 XS sS 22 29 24.0 -0.4
NJ2 AMB AMB
comp=Z,20nm,1.2s,mb5.0
NJ2 AMB AMB
comp=Z,46nm,5.2s
NJ2 LR LR
comp=N,540nm,18.0s,MS5.0
NJ2 LR LR
comp=E,620nm,16.0s,MS5.0
NJ2 LR LR
comp=Z,2μm,16.0s,MS5.5
MK31 Makanchi Array 67.26 327 *e*P **P 22 20 36.1 -0.3**
MKAR Makanchi Array 67.26 327 P **P 22 20 35.9 -0.5**
MKAR Makanchi Array 67.26 327 P **P 22 20 35.9 -0.5**
comp=Z,0.3nm,0.3s,mb3.8,baz=46,slow=7.2,SNR=6.7
GTA Gaotai 67.97 311 *e*P **P 22 20 41.3 +0.3**
GTA AP pP 22 20 44.8 -2.0
GTA XP sP 22 20 47.5 -1.5
GTA PP PP 22 23 15.3 +4.9
GTA S S 22 29 42.3 +3.4
GTA XS sS 22 29 51.1 +2.7
GTA SS SS 22 34 10.6 +11
GTA AMB AMB
comp=Z,5.0nm,1.3s,mb4.4
GTA AMB AMB
comp=Z,145nm,4.6s
GTA LR LR
comp=N,415nm,14.1s,MS5.0
GTA LR LR
comp=E,393nm,14.2s,MS5.0
GTA LR LR
comp=Z,742nm,14.1s,MS5.1
BAIF Baives 67.98 21 *e*P **P 22 20 40.9 0.0**
GIVF Givet 68.05 20 *e*P **P 22 20 41.3 0.0**
ROSF Rostrenen 68.09 26 *e*P **P 22 20 41.4 -0.2**
CLL Collm 68.14 15 *i*P **P 22 20 42.1 +0.2**
CLL *i* pP pP 22 20 47.0 -0.7
CLL Collm 68.14 15 *i*P **P 22 20 42.1 +0.2**
comp=Z,6.0nm,1.3s,mb4.5
CLL *i* pP pP 22 20 47.0 -0.7
CLL *i* x x 22 20 53.5
FLN La Foliniere 68.30 24 *e*P **P 22 20 43.0 +0.1**
FLN *e*MLR MLR
comp=Z,212nm,20.2s,MS4.1
FLN La Foliniere 68.30 24 *e*P **P 22 20 43.0 +0.1**
FLN MLR MLR
comp=Z,210nm,20.3s,MS4.4
SGMF Saint Gilles 68.33 26 *e*P **P 22 20 42.6 -0.5**
LDF La Druitiere 68.53 24 *e*P **P 22 20 44.3 -0.1**
comp=Z,51nm,1.7s,mb4.9
LDF La Druitiere 68.53 24 *e*P **P 22 20 44.3 -0.1**
comp=Z,26nm,1.7s,mb4.9
LDF La Druitiere 68.53 24 *e*P **P 22 20 44.3 -0.1**
LDF pmax pmax
comp=Z,26nm,1.7s,mb4.9
GRR Gorron 68.57 25 *e*P **P 22 20 44.7 +0.1**
comp=Z,65nm,1.5s,mb5.0
GRR Gorron 68.57 25 *e*P **P 22 20 44.7 +0.1**
comp=Z,32nm,1.5s,mb5.0
GRR Gorron 68.57 25 *e*P **P 22 20 44.7 +0.1**
GRR pmax pmax
comp=Z,33nm,1.5s,mb5.0
BRG Berggiesshubel 68.69 14 *e*P **P 22 20 45.8 +0.5**
BRG *e* pP 22 20 51.5 +0.4
BRG pmax pmax
comp=Z,13nm,1.7s,mb4.6
BRG Berggiesshubel 68.69 14 *e*P **P 22 20 45.8 +0.5**
comp=Z,21nm,1.7s,mb4.8
BRG *e* pP 22 20 51.5 +0.4
comp=Z,16nm,1.4s
XAN Xi'an 68.82 301 P **P 22 20 44.9 -1.5**
XAN AP pP 22 20 51.6 -0.6
XAN S S 22 29 50.2 +1.1
XAN AMB AMB
comp=Z,4.0nm,1.6s,mb4.1
XAN LR LR
comp=E,598nm,14.9s
XAN LR LR
comp=Z,623nm,13.4s,MS5.0
KSP Ksiaz 69.00 13 *e*P **P 22 20 47.4 +0.2**
PVCC Panska Ves 69.10 14 *e*P **P 22 20 48.8 +0.9**
NKC Novy Kostel 69.12 15 *e*P **P 22 20 48.8 +0.8**
NKC *e*pP pP 22 20 53.6 -0.2
LZH Lanzhou 69.23 306 *e*P **P 22 20 49.5 +0.6**
LZH AP pP 22 20 54.6 -0.1
LZH XP sP 22 20 58.0 +1.1
LZH AMB AMB
comp=Z,19nm,1.0s,mb5.0
LZH AMB AMB
comp=Z,84nm,4.1s
UPC Upice 69.29 13 *e*P **P 22 20 54.6 +5.5**
GRA1 Grafenberg Arr 69.48 16 *e*P **P 22 20 51.1 +0.9**
comp=Z,34nm,1.9s,mb5.0
GRF Grafenberg Arr 69.48 16 *e*P **P 22 20 51.1 +0.9**
GRF pmax pmax
comp=Z,34nm,1.9s,mb5.0
GRF Grafenberg Arr 69.48 16 *e*P **P 22 20 51.1 +0.9**
GRF pmax pmax
comp=Z,34nm,1.9s,mb5.0
GRF Grafenberg Arr 69.48 16 *e*P **P 22 20 51.1 +0.9**
comp=Z,34nm,1.9s,mb5.0
DPC Dobruska-Polom 69.48 13 *e*P **P 22 20 50.9 +0.6**
DPC *e*pP pP 22 20 56.1 0.0
MEZF Maizieres J'vi 69.63 21 *e*P **P 22 20 50.7 -0.5**
AKASG Malin Array Be 70.09 4 P **P 22 20 53.0 -0.9**
comp=Z,0.3nm,0.3s,mb3.7,baz=353,slow=5.5,SNR=5.8
AKASG LR LR 22 52 23.4
comp=Z,117nm,18.4s,MS4.2,baz=345,slow=37
CDF Champ du Feu 70.11 19 *e*P **P 22 20 53.9 -0.2**
comp=Z,24nm,1.4s,mb4.6
CDF Champ du Feu 70.11 19 *e*P **P 22 20 53.9 -0.2**
comp=Z,12nm,1.4s,mb4.6
CDF Champ du Feu 70.11 19 *e*P **P 22 20 53.9 -0.2**
CDF pmax pmax
comp=Z,12nm,1.4s,mb4.6
OKC Ostrava-Krasne 70.19 12 *e*P **P 22 20 55.5 +0.9**
OKC *e*pP pP 22 21 00.6 +0.2
KHC Kasperske Hory 70.35 15 *e*P **P 22 20 56.6 +1.0**
KHC *e*pP pP 22 21 01.6 +0.2
KHC AMS AMS 22 55 00.0
comp=Z,200nm,14.8s,MS4.5
BFO Black Forest 70.36 19 *e*P **P 22 20 56.2 +0.5**
comp=Z,12nm,1.5s,mb4.6
BFO Black Forest 70.36 19 *e*P **P 22 20 56.2 +0.5**
BFO pmax pmax
comp=Z,12nm,1.5s,mb4.6
MFF Saint Martin d 70.42 25 *e*P **P 22 20 56.0 -0.1**
comp=Z,56nm,1.6s,mb4.9
MFF Saint Martin d 70.42 25 *e*P **P 22 20 56.0 -0.1**
comp=Z,28nm,1.6s,mb4.9
MFF Saint Martin d 70.42 25 *e*P **P 22 20 56.0 -0.1**
MFF pmax pmax
comp=Z,28nm,1.6s,mb4.9
TREC Trest 70.43 13 *e*P **P 22 20 56.7 +0.6**
TREC AMS AMS 22 57 40.0
comp=Z,300nm,17.5s,MS4.6
TATO Taipei 70.59 286 P **P 22 20 56.8 -0.7**
LOR Lormes 70.60 22 *e*P **P 22 20 57.2 +0.1**
comp=Z,19nm,1.2s,mb4.6
LOR *e*MLR MLR
comp=Z,172nm,21.8s,MS4.0
LOR Lormes 70.60 22 *e*P **P 22 20 57.2 +0.1**
comp=Z,9.6nm,1.2s,mb4.6
LOR LR LR
comp=Z,170nm,21.8s,MS4.3
LOR Lormes 70.60 22 *e*P **P 22 20 57.2 +0.1**
LOR pmax pmax
comp=Z,10.0nm,1.2s,mb4.6
LOR MLR MLR
comp=Z,170nm,21.8s,MS4.3
HINF Hinteralfeld 70.61 20 *e*P **P 22 20 57.2 0.0**
GERES GERESS Array B 70.65 15 P **P 22 20 58.3 +0.9**
comp=Z,0.5nm,0.7s,mb3.5,baz=349,slow=4.1,SNR=5.3
SSF Saint Saulge 70.73 22 *e*P **P 22 20 57.4 -0.5**
comp=Z,28nm,1.4s,mb4.7
SSF Saint Saulge 70.73 22 *e*P **P 22 20 57.4 -0.5**
comp=Z,14nm,1.4s,mb4.7
SSF Saint Saulge 70.73 22 *e*P **P 22 20 57.4 -0.5**
SSF pmax pmax
comp=Z,14nm,1.4s,mb4.7
STHS Stebnicka Huta 70.89 9 *e*P **P 22 20 58.4 -0.5**
comp=Z,7.7nm,1.5s,mb4.4
STHS Stebnicka Huta 70.89 9 *e*P **P 22 20 58.4 -0.5**
STHS pmax pmax
comp=Z,8.0nm,1.5s,mb4.4
AVF Avril sur Loir 70.96 22 *e*P **P 22 20 59.0 -0.3**
comp=Z,5.9nm,0.8s,mb4.2
AVF Avril sur Loir 70.96 22 *e*P **P 22 20 59.0 -0.3**
comp=Z,3.0nm,0.8s,mb4.3
AVF Avril sur Loir 70.96 22 *e*P **P 22 20 59.0 -0.3**
AVF pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
BGF Bois d'Agland 71.08 23 *e*P **P 22 20 59.7 -0.4**
comp=Z,7.6nm,0.7s,mb4.5
BGF Bois d'Agland 71.08 23 *e*P **P 22 20 59.7 -0.4**
comp=Z,3.8nm,0.7s,mb4.4
BGF Bois d'Agland 71.08 23 *e*P **P 22 20 59.7 -0.4**
BGF pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
SMF Signal de Mont 71.19 22 *e*P **P 22 21 00.6 -0.2**
comp=Z,6.7nm,0.9s,mb4.3
SMF Signal de Mont 71.19 22 *e*P **P 22 21 00.6 -0.2**
comp=Z,3.3nm,0.9s,mb4.3
SMF Signal de Mont 71.19 22 *e*P **P 22 21 00.6 -0.2**
SMF pmax pmax
comp=Z,3.0nm,0.9s,mb4.2
TCF Toulx Ste Croi 71.21 23 *e*P **P 22 21 00.6 -0.3**
comp=Z,39nm,1.5s,mb4.8
TCF Toulx Ste Croi 71.21 23 *e*P **P 22 21 00.6 -0.3**
comp=Z,20nm,1.5s,mb4.8
TCF Toulx Ste Croi 71.21 23 *e*P **P 22 21 00.6 -0.3**
TCF pmax pmax
comp=Z,19nm,1.5s,mb4.8
VYHS Vyhne 71.58 11 *e*P **P 22 21 03.7 +0.6**
VYHS *e*PP PP 22 23 51.7 +10
CABF La Chapelle 71.64 21 *e*P **P 22 21 03.6 +0.1**
comp=Z,30nm,1.4s,mb4.7
CABF La Chapelle 71.64 21 *e*P **P 22 21 03.6 +0.1**
comp=Z,15nm,1.4s,mb4.7
CABF La Chapelle 71.64 21 *e*P **P 22 21 03.6 +0.1**
CABF pmax pmax
comp=Z,15nm,1.4s,mb4.7
ZST Bratislava 71.70 13 *e*P **P 22 21 03.7 -0.1**
comp=Z,2.8nm,0.6s,mb4.4
ZST Bratislava 71.70 13 *e*P **P 22 21 03.7 -0.1**
ZST pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
RJF Les Rejaudoux 72.01 24 *e*P **P 22 21 05.4 -0.3**
comp=Z,28nm,1.4s,mb4.7
RJF *e*MLR MLR
comp=Z,360nm,18.2s,MS4.4
RJF Les Rejaudoux 72.01 24 *e*P **P 22 21 05.4 -0.3**
comp=Z,14nm,1.4s,mb4.7
RJF LR LR
comp=Z,360nm,18.3s,MS4.7
RJF Les Rejaudoux 72.01 24 *e*P **P 22 21 05.4 -0.3**
RJF pmax pmax
comp=Z,14nm,1.4s,mb4.7
RJF MLR MLR
comp=Z,360nm,18.3s,MS4.7
LFF La Frestale 72.19 25 *e*P **P 22 21 06.3 -0.5**
comp=Z,13nm,0.6s,mb4.7
LFF La Frestale 72.19 25 *e*P **P 22 21 06.3 -0.5**
comp=Z,6.3nm,0.6s,mb4.7
LFF La Frestale 72.19 25 *e*P **P 22 21 06.3 -0.5**
LFF pmax pmax
comp=Z,6.0nm,0.6s,mb4.7
CAF Calviac 72.49 24 *e*P **P 22 21 08.3 -0.3**
comp=Z,9.7nm,1.1s,mb4.3
CAF Calviac 72.49 24 *e*P **P 22 21 08.3 -0.3**
comp=Z,4.8nm,1.1s,mb4.3
CAF Calviac 72.49 24 *e*P **P 22 21 08.3 -0.3**
CAF pmax pmax
comp=Z,5.0nm,1.1s,mb4.4
TKM2 Tokmak 2 72.64 330 *e*P **P 22 21 10.1 +0.6**
comp=Z,7.5nm,1.1s,mb4.5
TKM2 Tokmak 2 72.64 330 *e*P **P 22 21 10.1 +0.6**
TKM2 pmax pmax
comp=Z,8.0nm,1.1s,mb4.6
LPL La Plagne 72.82 20 *e*P **P 22 21 10.2 -0.3**
LPG La Plagne 72.84 20 *e*P **P 22 21 10.7 +0.1**
VIVF Saint-Julien-l 73.07 22 *e*P **P 22 21 11.5 -0.5**
comp=Z,3.9nm,0.8s,mb4.1
VIVF Saint-Julien-l 73.07 22 *e*P **P 22 21 11.5 -0.5**
comp=Z,2.0nm,0.8s,mb4.1
VIVF Saint-Julien-l 73.07 22 *e*P **P 22 21 11.5 -0.5**
VIVF pmax pmax
comp=Z,2.0nm,0.8s,mb4.1
ORIF Oris-en-Rattie 73.24 21 *e*P **P 22 21 12.6 -0.4**
ORIF *e*MLR MLR
comp=Z,164nm,22.8s,MS4.0
EKS2 Erkin-Say 73.34 331 *e*P **P 22 21 14.1 +0.5**
comp=Z,14nm,1.2s,mb4.8
SJPF Ste Jean 73.49 27 *e*P **P 22 21 14.2 -0.4**
MBDF Montbardon 73.59 21 *e*P **P 22 21 14.9 -0.2**
LASF Ste Croix 73.67 23 *e*P **P 22 21 15.0 -0.5**
comp=Z,26nm,1.4s,mb4.7
ETSF Etsaut 73.85 26 *e*P **P 22 21 16.2 -0.4**
comp=Z,22nm,1.1s,mb4.7
ETSF Etsaut 73.85 26 *e*P **P 22 21 16.2 -0.4**
comp=Z,11nm,1.1s,mb4.7
ETSF Etsaut 73.85 26 *e*P **P 22 21 16.2 -0.4**
ETSF pmax pmax
comp=Z,11nm,1.1s,mb4.7
AML Almayashu 73.86 331 *e*P **P 22 21 17.4 +0.7**
comp=Z,10nm,1.2s,mb4.6
EPF Esparros 73.92 26 *e*P **P 22 21 16.7 -0.4**
MTLF Montolieu 74.03 24 *e*P **P 22 21 17.3 -0.4**
comp=Z,9.9nm,1.2s,mb4.3
MTLF Montolieu 74.03 24 *e*P **P 22 21 17.3 -0.4**
comp=Z,4.9nm,1.2s,mb4.3
MTLF Montolieu 74.03 24 *e*P **P 22 21 17.3 -0.4**
MTLF pmax pmax
comp=Z,5.0nm,1.2s,mb4.3
SMRF Simiane la Rot 74.09 22 *e*P **P 22 21 17.7 -0.4**
comp=Z,6.3nm,0.8s,mb4.3
SMRF Simiane la Rot 74.09 22 *e*P **P 22 21 17.7 -0.4**
comp=Z,6.3nm,0.8s,mb4.6
SDV Santo Domingo 74.43 99 *e*P **P 22 21 19.4 -1.0**
comp=Z,9.1nm,1.0s,mb4.7
SBF Sospel 74.54 20 *e*P **P 22 21 20.1 -0.6**
comp=Z,26nm,1.0s,mb4.8
SBF Sospel 74.54 20 *e*P **P 22 21 20.1 -0.6**
comp=Z,13nm,1.0s,mb4.8
SBF Sospel 74.54 20 *e*P **P 22 21 20.1 -0.6**
SBF pmax pmax
comp=Z,13nm,1.0s,mb4.8
FRF La Foret Royal 74.69 21 *e*P **P 22 21 21.0 -0.6**
comp=Z,13nm,1.0s,mb4.5
FRF La Foret Royal 74.69 21 *e*P **P 22 21 21.0 -0.6**
comp=Z,6.6nm,1.0s,mb4.5
FRF La Foret Royal 74.69 21 *e*P **P 22 21 21.0 -0.6**
FRF pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
LMR La Mourre 74.89 21 *e*P **P 22 21 22.1 -0.6**
comp=Z,36nm,1.4s,mb4.8
LMR La Mourre 74.89 21 *e*P **P 22 21 22.1 -0.6**
comp=Z,18nm,1.4s,mb4.8
LMR La Mourre 74.89 21 *e*P **P 22 21 22.1 -0.6**
LMR pmax pmax
comp=Z,18nm,1.4s,mb4.8
ROSC El Rosal 76.05 104 LR LR 22 54 57.2
comp=Z,108nm,20.2s,MS4.2,baz=188,slow=36
ESDC Sonseca Array 76.08 30 P **P 22 21 30.7 +1.1**
comp=Z,1.0nm,0.7s,mb3.9,baz=336,slow=4.6,SNR=13
ESDC LR LR 22 58 04.4
comp=Z,118nm,18.1s,MS4.2,baz=35,slow=38
ESLA Sonseca Array 76.08 30 *e*P **P 22 21 30.5 +0.9**
comp=Z,6.4nm,1.5s,mb4.3
PGF Pioggiola 76.09 20 *e*P **P 22 21 29.1 -0.5**
comp=Z,30nm,1.4s,mb4.7
PGF Pioggiola 76.09 20 *e*P **P 22 21 29.1 -0.5**
comp=Z,15nm,1.4s,mb4.7
PGF Pioggiola 76.09 20 *e*P **P 22 21 29.1 -0.5**
PGF pmax pmax
comp=Z,15nm,1.4s,mb4.7
GYA Guiyang 76.31 299 P **P 22 21 29.4 -1.7**
GYA AMB AMB
comp=Z,10.0nm,0.8s,mb4.8
KIV Kislovodsk 76.75 354 *e*P **P 22 21 33.5 +0.2**
comp=Z,8.7nm,0.9s,mb4.7
KIV *e*PcP PcP 22 21 44.9 +0.3
KIV Kislovodsk 76.75 354 *e*P **P 22 21 30.4 -2.9**

KIV				pmax	pmax		
	comp=Z,11nm,1.1s,mb4.7						
PPT	**Papeete**	**76.85**	**185**	LR	LR	22 48 14.5	
	comp=Z,141nm,21.7s,MS4.2,baz=318,slow=30						
KMI	**Kunming**	**79.20**	**301**	P	**P**	**22 21 46.4**	**-0.8**
KMI				AP	pP	22 21 51.9	-1.2
KMI				XP	sP	22 21 53.9	-1.4
KMI				PP	PP	22 24 45.7	-0.6
KMI				S	S	22 31 44.7	-1.4
KMI				AMB	AMB		
	comp=Z,4.0nm,1.0s,mb4.3						
KMI				AMB	AMB		
	comp=Z,84nm,3.9s						
KMI				LR	LR		
	comp=N,440nm,17.0s,MS5.1						
KMI				LR	LR		
	comp=E,535nm,15.1s,MS5.1						
KMI				LR	LR		
	comp=Z,304nm,16.1s,MS4.7						
LSA	**Lhasa**	**79.86**	**313**	P	**P**	**22 21 51.3**	**+0.6**
LSA	**Lhasa**	**79.86**	**313**	*e*P	**P**	**22 21 51.5**	**+0.8**
	comp=Z,5.6nm,0.6s,mb4.7						
LSA				*e*PcP	PcP	22 21 58.7	+0.3
LSA	**Lhasa**	**79.86**	**313**	*e*P	**P**	**22 21 51.5**	**+0.8**
LSA				*e*	pP	22 21 58.7	+2.1
LSA				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.7						
QIZ	**Qiongzhong**	**81.26**	**293**	P	**P**	**22 21 56.1**	**-2.3**
QIZ				S	S	22 32 08.1	+0.3
QIZ				LR	LR		
	comp=E,407nm,15.1s						
QIZ				LR	LR		
	comp=Z,229nm,12.3s,MS4.7						
KEST	**Kesra**	**82.78**	**21**	P	**P**	**22 22 07.0**	**+0.9**
	comp=Z,0.9nm,1.1s,mb3.7,baz=221,slow=9.3,SNR=2.1						
KEST				LR	LR	23 00 34.2	
	comp=Z,53nm,20.5s,MS3.9,baz=17,slow=37						
SHL	**Shillong**	**83.30**	**310**	*e*P	**P**	**22 22 10.5**	**+1.5**
QSPA	**South Pole Qui**	**149.28**	**180**	*e*PKPbc	PKPbc	22 29 28.0	-0.9
QSPA	**South Pole Qui**	**149.28**	**180**	PKPbc	PKPbc	22 29 28.6	-0.4
	comp=Z,6.8nm,1.0s,baz=296,slow=0.7,SNR=9.0						

ATH ***08*** *22:11:48.6, 3869N×21.11E, h4km, MD3.2/3*
ISCJB ***08*** *22:11:52.7±0.6, 3854N±003×2162E±005, h2km±9km, Error ellipse: s-maj=6.6km s-min=5.0km az=20.4*
CSEM ***08*** *22:11:53.0±0.2, 3854N×2164E, h12km, ML2.8, Error ellipse: s-maj=5.1km s-min=4.0km az=95.0*
THE ***08*** *22:11:53.9, 3856N×2162E, h2km, ML2.8*
ISC 08 22:11:53.4±0.6, 3854N±003×2162E±005, h8km±8km, n13, σ0§85/19, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EVR	**Evrytania**	**0.40**	**22**	*e*Pg	**Pg**	**22 12 00.4**	**-0.9**
EVR				*e*SG	**Sg**	**22 12 07.7**	**+1.1**
EVR	**Evrytania**	**0.40**	**22**	*e*Pg	**Pg**	**22 12 00.0**	**-1.3**
EVR				*e*Sg	**Sg**	**22 12 07.7**	**+1.1**
RLS	**Riolos of Patr**	**0.50**	**194**	*e*Pb	**Pg**	**22 12 01.8**	**-1.3**
RLS				*e*Sg	**Sg**	**22 12 10.6**	**+1.0**
AGG	**Agios Georgios**	**0.74**	**49**	*e*Pg	**Pg**	**22 12 07.0**	**-0.6**
AGG				*e*Sg	**Sg**	**22 12 18.1**	**+0.9**
LKD	**Levkas**	**0.77**	**283**	*e*Pg	**Pg**	**22 12 07.7**	**-0.6**
LKD				*e*Sg	**Sg**	**22 12 20.1**	**+1.7**
VLS	**Valsamata**	**0.89**	**246**	*e*PG	**Pg**	**22 12 01.2**	**-9.2**
LTK	**Loutraki**	**1.18**	**116**	*e*Pg	**Pg**	**22 12 16.6**	**+0.5**
MEV	**Metsovon**	**1.28**	**346**	*e*Pg	**Pg**	**22 12 17.3**	**-0.6**
VLX	**Vlachokerasia**	**1.32**	**152**	*e*Pg	**Pg**	**22 12 18.0**	**-0.6**
IGT	**Igoumenitsa**	**1.41**	**315**	*e*Pg	**Pg**	**22 12 19.7**	**-0.7**
DID	**Didima**	**1.65**	**128**	*e*Pb	**Pn**	**22 12 23.5**	**+0.9**
LIT	**Litokhoron**	**1.70**	**23**	*e*Pb	**Pn**	**22 12 23.6**	**+0.3**
LIT				*e*Sb	**Sb**	**22 12 46.3**	**-0.1**
AOS	**Alonnisos**	**1.88**	**70**	*e*Pb	**Pn**	**22 12 25.3**	**-0.5**

CSEM ***08*** *22:29:42.0±0.7, 3731N×2479W, h0km, ML3.2, Error ellipse: s-maj=5.1km s-min=1.9km az=82.0, After PDA*
PDA ***08*** *22:29:42.0±0.7, 3731N×2479W, h0km, MD4.1, ML3.2, Error ellipse: s-maj=5.1km s-min=1.9km az=82.0*
SVSA 08 22:29:42.0±0.7, 3731N×2479W, h0km, MD4.1, ML3.2, Error ellipse: s-maj=5.1km s-min=1.9km az=82.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSMN	**Pico do Norte,**	**0.38**	**217**	*e*P	Pg	22 29 48.6	-0.6
PSMN				*e*S	Sg	22 29 54.5	+0.4
PDA	**Ponta Delgada**	**0.82**	**303**	*e*P	Pg	22 29 55.6	-2.2
PDA				*e*S	Sg	22 30 06.6	-1.9
ADH	**Angra Heroismo**	**2.36**	**306**	*e*P	Pn	22 30 17.3	-4.6
ADH				*e*S	Sn	22 30 43.7	-7.9
PID	**Ribeirinha**	**2.87**	**294**	*e*P	Pn	22 30 24.6	-4.4
PID				*e*S	Sn	22 30 56.3	-7.9
PMAN	**Manadas**	**2.93**	**298**	*e*P	Pn	22 30 25.3	-4.5
PMAN				*e*S	Sn	22 30 57.7	-7.9
PMAN				A		22 31 00.8	
	18nm,0.2s						
PMAN	**Manadas**	**2.93**	**298**	*e*P	Pn	22 30 25.3	-4.5
PMAN				*e*S	Sn	22 30 57.7	-7.9
ROSA	**Rosais**	**3.07**	**298**	*e*P	Pn	22 30 27.4	-4.4
ROSA				*e*S	Sn	22 31 01.1	-8.1
SRBC	**Serra Branca**	**3.09**	**305**	*e*P	Pn	22 30 27.3	-4.7
SRBC				*e*S	Sn	22 31 01.1	-8.6
PICO	**Pico**	**3.12**	**294**	*e*P	Pn	22 30 28.2	-4.2
PICO				*e*S	Sn	22 31 02.1	-8.2
CALA	**Caldeira**	**3.35**	**294**	*e*P	Pn	22 30 31.0	-4.5
CALA				*e*S	Sn	22 31 07.5	-8.5

ISCJB ***08*** *22:52:37.2±0.8, 3984N±006×7593E±008, h19km, mb3.5/6, Error ellipse: s-maj=9.6km s-min=7.5km az=42.5*
IDC ***08*** *22:52:37.8±0.9, 3986N×7588E, h18km±4km, mb3.4/5, mb1 3.6/7, mb1mx3.4/20, mbtmp3.4/7, ML3.3/2, Error ellipse: s-maj=24.7km s-min=18.7km az=165.0*
NNC ***08*** *22:52:38.1±2.8, 4008N×7574E, h0km, mb4.3, mpv4.0, Error ellipse: s-maj=24.8km s-min=13.8km az=129.0*
BJI ***08*** *22:52:39.4, 3997N×7582E, h33km, ML3.3*
NEIC ***08*** *22:52:40.2±0.9, 3983N×7590E, h35km, Error ellipse: s-maj=13.4km s-min=11.0km az=188.0*
ISC 08 22:52:39.6±0.6, 3989N±005×7586E±007, h20km, h20km±1.0km: pP-P, n36, σ1§21/45, mb3.5/6, 5C-4D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**0.38**	**167**	P	**Pg**	**22 52 50.1**	**+2.4**
KSH				S	**Sg**	**22 53 00.5**	**+7.4**
KSH				Smax			
	comp=N,17μm,1.1s						
KSH				Smax			
	comp=E,9μm,0.6s						
KZA	**Kyzart**	**2.24**	**348**	P	**Pn**	**22 53 15.9**	**+0.4**
	SNR=343						
ULHL	**Ulahol**	**2.37**	**7**	P	**Pn**	**22 53 18.1**	**+0.7**
	SNR=160						
UCH	**Uchtor**	**2.55**	**337**	*e*Pn	**Pn**	**22 53 20.2**	**+0.4**
UCH				*e*Pg	**Pg**	**22 53 27.6**	**-1.0**
UCH				*e*Sn	**Sn**	**22 53 51.7**	**+1.5**
UCH	**Uchtor**	**2.55**	**337**	P	**Pn**	**22 53 20.6**	**+0.8**
	SNR=269						
AML	**Almayashu**	**2.78**	**325**	*e*Pn	**Pn**	**22 53 24.2**	**+1.2**
AML				*e*Pg	**Pg**	**22 53 32.1**	**-0.7**
AML				*e*Sn	**Sn**	**22 53 54.5**	**-1.3**
AML	**Almayashu**	**2.78**	**325**	P	**Pn**	**22 53 25.1**	**+2.2**
	SNR=41						
KBK	**Karagaybulak**	**2.85**	**346**	P	**Pn**	**22 53 27.5**	**+3.6**
	SNR=339						
AAK	**Ala-Archa**	**2.93**	**340**	P	**Pn**	**22 53 26.4**	**+1.3**
	SNR=186						
TKM2	**Tokmak 2**	**3.04**	**356**	⇑Pn	**Pn**	**22 53 27.2**	**+0.7**
	comp=E,168nm,0.7s						
TKM2				⇓Lg		22 54 08.5	
	comp=E,278nm,0.6s						
TKM2	**Tokmak 2**	**3.04**	**356**	*e*Pn	**Pn**	**22 53 27.7**	**+1.2**
TKM2				*e*Pg	**Pg**	**22 53 36.4**	**-1.4**
TKM2				*e*Sn	**Sn**	**22 54 03.3**	**+1.0**
TKM2	**Tokmak 2**	**3.04**	**356**	P	**Pn**	**22 53 27.4**	**+0.9**
	SNR=164						
EKS2	**Erkin-Say**	**3.19**	**331**	*e*Pn	**Pn**	**22 53 30.0**	**+1.4**
EKS2				*e*Sn	**Sn**	**22 54 05.5**	**-0.4**
EKS2	**Erkin-Say**	**3.19**	**331**	P	**Pn**	**22 53 30.3**	**+1.7**
	SNR=72						
CHMS	**Chumysh**	**3.22**	**345**	P	**Pn**	**22 53 30.0**	**+1.0**
	SNR=60						
KNDC	**Almaty**	**3.43**	**14**	⇓Pn	**Pn**	**22 53 33.3**	**+1.4**
	comp=E,80nm,0.6s						
KNDC				⇑Lg		22 54 21.5	
	comp=E,301nm,0.7s						
USP	**Osenovka**	**3.53**	**344**	P	**Pn**	**22 53 34.3**	**+1.1**
	SNR=20						
KK31	**Karatay Array**	**5.14**	**310**	⇑Pn	**Pn**	**22 53 55.8**	**+0.3**
	comp=E,4.3nm,0.8s,baz=134,slow=14						
KK31				⇑Pg	**Pn**	**22 54 08.8**	**+13**
	comp=E,13nm,0.7s,baz=134,slow=17						
KK31				⇑Lg		22 55 15.5	
	comp=E,31nm,0.8s,baz=132,slow=28						
MK31	**Makanchi Array**	**8.34**	**32**	⇓Pn	**Pn**	**22 54 39.2**	**-0.1**
	comp=E,2.5nm,0.7s						
MK31				⇓Lg		22 56 56.3	
	comp=E,3.6nm,0.7s						
MK31	**Makanchi Array**	**8.34**	**32**	*e*Pn	**Pn**	**22 54 39.6**	**+0.3**
MK31				*e*Sn	**Sn**	**22 56 12.2**	**-0.6**
MKAR	**Makanchi Array**	**8.34**	**32**	Pn	**Pn**	**22 54 38.8**	**-0.5**
	comp=E,0.5nm,0.3s,baz=211,slow=14,SNR=36						
MKAR				Lg		22 56 57.0	
	comp=E,0.2nm,0.3s,baz=218,slow=25,SNR=5.4						
BRVK	**Borovoye**	**13.72**	**346**	*e*Pn	**Pn**	**22 55 52.8**	**0.0**
	comp=E,6.0nm,0.8s						
ZALV	**Zalesovo Beam**	**15.32**	**20**	Pn	**Pn**	**22 56 12.0**	**-2.4**
ZALV				Lg		23 00 40.5	
ZALV	**Zalesovo Beam**	**15.32**	**20**	Pn	**Pn**	**22 56 12.0**	**-2.4**
	comp=E,0.1nm,0.3s,baz=214,slow=10.0,SNR=4.9						
ZALV				Lg		23 00 40.5	
	comp=E,0.0nm,0.3s,baz=214,slow=20,SNR=2.3						
AKTK	**Aktyubinsk**	**16.38**	**316**	Pn	**Pn**	**22 56 27.4**	**-0.8**
AKTO	**Aktyubinsk**	**16.38**	**316**	Pn	**Pn**	**22 56 27.4**	**-0.8**
	comp=E,0.1nm,0.3s,baz=115,slow=11,SNR=5.2						
SONM	**Songino Array**	**23.29**	**60**	P	**P**	**22 57 45.7**	**-0.3**
SONM	**Songino Array**	**23.29**	**60**	P	**P**	**22 57 45.7**	**-0.3**
	comp=E,0.3nm,0.9s,mb2.7,baz=243,slow=9.2,SNR=4.0						
FINES	**FINESS Array B**	**36.98**	**322**	P	**P**	**22 59 45.2**	**-2.0**
FINES				pP	pP	22 59 51.7	-1.7
FINES	**FINESS Array B**	**36.98**	**322**	P	**P**	**22 59 45.2**	**-2.0**
	comp=E,1.8nm,1.0s,mb3.9,baz=119,slow=14,SNR=2.7						
FINES				pP	pP	22 59 51.7	-1.7
	comp=E,1.2nm,0.6s,baz=106,slow=12,SNR=2.8						
GERES	**GERESS Array B**	**44.20**	**303**	P	**P**	**23 00 47.0**	**0.0**
	comp=E,0.8nm,0.8s,mb3.5,baz=56,slow=8.2,SNR=4.5						
GERES				pP	pP	23 00 52.8	-0.5
	comp=E,0.6nm,0.7s,baz=60,slow=7.9,SNR=5.7						
TORD	**Torodi Ar. Bea**	**69.58**	**270**	P	**P**	**23 03 45.6**	**-1.8**
	comp=E,0.7nm,0.5s,mb3.9,baz=47,slow=5.4,SNR=20						
TORD				pP	pP	23 03 51.4	-2.6
	comp=E,0.7nm,0.7s,baz=58,slow=5.2,SNR=4.6						
YKA	**Yellowknife Ar**	**77.62**	**5**	P	**P**	**23 04 31.9**	**-2.0**
YKA				pP	pP	23 04 37.6	-2.9
YKA	**Yellowknife Ar**	**77.62**	**5**	P	**P**	**23 04 31.9**	**-2.0**
	comp=E,0.5nm,0.5s,mb3.7,baz=348,slow=5.6,SNR=11						
YKA				pP	pP	23 04 37.6	-2.9
	comp=E,0.7nm,0.9s,baz=348,slow=5.8,SNR=5.1						
WRA	**Warramunga Arr**	**80.68**	**126**	P	**P**	**23 04 50.2**	**-1.1**
	comp=E,0.3nm,0.8s,mb3.3,baz=312,slow=6.7,SNR=2.8						
WRA				pP	pP	23 04 55.6	-2.3
	comp=E,0.4nm,0.6s,baz=333,slow=5.9,SNR=2.1						
ASAR	**Alice Springs**	**83.20**	**128**	pP	pP	23 05 09.1	-2.0
	comp=E,0.3nm,0.7s,baz=322,slow=5.7,SNR=2.9						

ISCJB ***08*** *22:54:53.7±0.7, 408N±0.1×2748E±005, h8km±20km, Error ellipse: s-maj=19.8km s-min=6.0km az=10.2*
CSEM ***08*** *22:54:53.5, 4076N×2747E, h15km, MD2.6, After ISK*
ISK ***08*** *22:54:53.5, 4076N×2747E, h15km, MD2.6*
ISC 08 22:54:54.0±1.2, 4076N±009×2748E±004, h15km±20km, n7, σ0§24/11, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRMT	**Marmara Adasi**	**0.17**	**151**	*e*PG	**Pg**	**22 54 58.2**	**0.0**
MRMT				*e*SG	**Sg**	**22 55 01.1**	**0.0**
SART	**Tekirdag**	**0.24**	**254**	*i* P	**Pg**	**22 54 59.1**	**-0.1**
RKY	**Sarkoy-Tekirda**	**0.24**	**254**	*e*PG	**Pg**	**22 54 59.1**	**-0.2**
RKY				*e*SG	**Sg**	**22 55 03.0**	**+0.1**
CTT	**Catalca**	**0.82**	**61**	*e*PG	**Pg**	**22 55 09.8**	**-0.1**
ELBA	**Catalca**	**0.82**	**61**	*i* P	**Pg**	**22 55 10.4**	**+0.6**
ELBA				*i* S	**Sg**	**22 55 20.2**	**-0.4**
KCT	**Karacabey**	**0.83**	**126**	*e*PG	**Pg**	**22 55 09.9**	**-0.1**
ENEZ	**Enez**	**1.01**	**269**	*e*PG	**Pg**	**22 55 13.3**	**-0.2**
ENEZ				*e*SG	**Sg**	**22 55 26.8**	**+0.1**

ISCJB ***08*** *22:58:49.1±1.4, 216S±0.1×686W±0.1, h100km±14km, mb3.8/6, Error ellipse: s-maj=18.7km s-min=15.3km az=140.2*
IDC ***08*** *22:58:50.4±3.1, 2158S×6850W, h91km±27km, mb3.5/5, mb1 3.7/6, mb1mx3.5/15, mbtmp3.5/6, Error ellipse: s-maj=28.2km s-min=23.3km az=1.0*
NEIC ***08*** *22:58:51.2±1.0, 2166S×6854W, h104km±9km, mb4.3/1, Error ellipse: s-maj=14.5km s-min=11.6km az=68.0*
ISC 08 22:58:50.6±1.2, 2160S±010×685W±01, h95km±11km, n19, σ0§66/18, mb3.8/6, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**5.30**	**4**	P	**Pn**	**23 00 12.3**	**+5.0**
	0.8nm,0.3s,baz=190,slow=10,SNR=11						
ARE	**Arequipa**	**5.83**	**331**	*e*P	**Pn**	**23 00 15.0**	**+0.4**
SIV	**San Ignacio**	**8.99**	**53**	P	**Pn**	**23 00 57.6**	**-0.1**
	1.7nm,0.3s,baz=243,slow=13,SNR=35						
SIV				S	**Sn**	**23 02 33.7**	**-3.6**
	0.2nm,0.3s,baz=150,slow=20,SNR=3.7						
CFAA	**Coronel Fontan**	**9.97**	**179**	P	**Pn**	**23 01 10.6**	**-0.2**
	0.0nm,0.3s,baz=348,slow=9.3,SNR=5.8						
CFAA				S	**Sn**	**23 02 54.3**	**-6.5**
	0.1nm,0.3s,baz=229,slow=20,SNR=4.2						
BDFB	**Brasilia**	**20.31**	**77**	P	**P**	**23 03 19.5**	**+0.4**
	3.1nm,0.6s,baz=244,slow=12,SNR=9.6						
GNAR	**Gosnell**	**60.76**	**340**	P	**P**	**23 08 52.2**	**-0.1**
TXAR	**Lajitas Array**	**60.91**	**325**	P	**P**	**23 08 53.5**	**0.0**
	0.2nm,0.5s,mb3.4,baz=158,slow=7.9,SNR=5.7						
DBIC	**Dimbokro**	**68.42**	**73**	P	**P**	**23 09 42.7**	**0.0**
DBIC	**Dimbokro**	**68.42**	**73**	P	**P**	**23 09 42.7**	**+0.1**
	1.8nm,0.8s,mb4.0,baz=212,slow=8.4,SNR=3.2						
WUAZ	**Wupatki**	**69.82**	**324**	*e*P	**P**	**23 09 49.6**	**-1.3**
	2.3nm,0.5s,mb4.3						
PDAR	**Pinedale Array**	**74.38**	**330**	P	**P**	**23 10 18.5**	**+0.7**
	0.2nm,0.6s,mb3.0,baz=120,slow=8.4,SNR=2.3						
LAO	**LASA Array**	**76.03**	**334**	*e*P	**P**	**23 10 27.1**	**-0.2**
	18nm,0.3s						
TOA0	**Torodi Ar. Sit**	**77.05**	**70**	*e*P	**P**	**23 10 34.8**	**+1.1**
TORD	**Torodi Ar. Bea**	**77.05**	**70**	P	**P**	**23 10 33.2**	**-0.5**
	0.7nm,0.3s,mb3.9,baz=258,slow=5.9,SNR=16						
YKA	**Yellowknife Ar**	**91.40**	**340**	P	**P**	**23 11 45.4**	**+0.1**
YKA	**Yellowknife Ar**	**91.40**	**340**	P	**P**	**23 11 45.4**	**+0.1**
	0.8nm,0.6s,mb4.1,baz=133,slow=4.5,SNR=17						
ASAR	**Alice Springs**	**129.99**	**207**	PKP	PKPdf	23 17 50.2	+0.4
	0.2nm,0.4s,baz=124,slow=2.0,SNR=5.1						
WRA	**Warramunga Arr**	**133.05**	**210**	PKP	PKPdf	23 17 56.1	+0.4
	0.6nm,0.7s,baz=176,slow=1.9,SNR=6.8						
MKAR	**Makanchi Array**	**145.50**	**36**	PKPbc	PKPbc	23 18 18.2	+0.5
	0.3nm,0.6s,baz=320,slow=3.8,SNR=6.1						

SZGRF ***08*** *23:11:07.5, 1562N×5725E, h24km, mb5.1, Owen Fracture Zone region*
BJI ***08*** *23:11:08.4, 1379N×5327E, h10km, mB4.9, mb4.6, Ms4.6, Msz4.4*
DHMR ***08*** *23:11:12.3±1.6, 1433N×5393E, h10km, mb5.2*
ISCJB ***08*** *23:11:14.2±0.2, 1439N±003×5376E±002, h10km, mb4.8/145, MS4.3/60, Error ellipse: s-maj=5.0km s-min=2.9km az=178.2*
CSEM ***08*** *23:11:14.4±0.1, 1420N×5369E, h21km, mb4.9/75, Ms4.2, Mw5.1, Error ellipse: s-maj=5.1km s-min=1.8km az=171.0*
STR ***08*** *23:11:14.9±0.0, 1481N×5430E, Mb4.7, Error ellipse: s-maj=0.0km s-min=0.0km az=111.0*
IDC ***08*** *23:11:14.4±0.6, 1445N×5389E, h0km, mb4.5/30, mb1 4.6/31, mb1mx4.6/34, mbtmp4.5/31, ML4.3/1, MS4.3/29, Ms1 4.3/29, ms1mx4.3/31, Error ellipse: s-maj=13.9km s-min=12.8km az=140.0*
CRAAG ***08*** *23:11:16.9, 1434N×5396E, Mb5.0*
GCMT ***08*** *23:11:16.1±0.2, 1457N×5370E, h22km±1km, MW5.2/88, Moment Tensor Solution. s53,c73; s88,c155; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.49±.16; $M_{\theta\theta}$4.81±.14; $M_{\phi\phi}$-4.32±.15; $M_{r\theta}$0.46±.23; $M_{\theta\phi}$4.75±.14; $M_{r\phi}$0.59±.25; Best double couple: $M_0$6.62800×10^{16} NP1:ϕ_s112.00000°, δ84.00000°, λ1.00000°. NP2: ϕ_s22.00000°, δ89.00000°, λ174.00000°. Principal axes: T 6.8910, Plg5.0000°, Azm337.0000°; N -0.5290, Plg84.0000°, Azm192.0000°; P -6.3650, Plg4.0000°, Azm67.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***08*** *23:11:16.1±0.2, 1445N×5381E, h10km, mb4.9/67, MS4.3/6 Error ellipse: s-maj=5.1km s-min=4.2km az=191.0*
MOS ***08*** *23:11:17.5±1.0, 1444N×5379E, h33km, mb5.0/67, MS4.2/20, Error ellipse: s-maj=6.9km s-min=3.2km az=117.5*
ISC 08 23:11:15.3±0.9, 1441N±003×5380E±002, h5km±5km, h20km±4.3km: pP-P, n524, σ1§09/545, mb4.8/145, MS4.3/60, 39C-17D, Owen Fracture Zone region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABTO	**Aybut**	**2.97**	**351**	P	**Pn**	**23 12 02.2**	**-0.8**
	SNR=136						
ABTO	**Aybut**	**2.97**	**351**	Pn	**Pn**	**23 12 02.2**	**-0.8**
	SNR=136						
RBK	**Rabkut**	**3.10**	**7**	Pn	**Pn**	**23 12 02.7**	**-2.3**
	SNR=69						
WHFO	**Wadi Hawf**	**3.49**	**360**	P	**Pn**	**23 12 08.5**	**-1.8**
	SNR=84						
WHFO	**Wadi Hawf**	**3.49**	**360**	Pn	**Pn**	**23 12 08.5**	**-1.8**
	SNR=84						
MUKL	**Al Mukalla**	**4.61**	**271**	*i* P	**Pn**	**23 12 24.4**	**-1.4**
BDHA	**Al Bayda'**	**7.99**	**268**	*i* P	**Pn**	**23 13 12.0**	**-0.2**
LBOS		**8.31**	**267**	⇓*i*P	**Pn**	**23 13 16.2**	**-0.3**
LBOS				*i* S	**Sn**	**23 14 52.1**	**+1.3**
DHBB	**Dhamar BB**	**9.11**	**272**	*i* P	**Pn**	**23 13 26.7**	**-0.9**
TRBA	**At Turbah**	**9.48**	**264**	⇓*i*P	**Pn**	**23 13 31.3**	**-1.3**
TRBA				AMb	AMB	23 13 33.1	
	comp=Z,78nm,1.3s						
HAJJ	**Hajjah**	**9.93**	**279**	*i* P	**Pn**	**23 13 38.2**	**-0.6**
HAJJ				AMb	AMB	23 13 39.7	
	comp=Z,89nm,1.8s						
HAJJ	**Hajjah**	**9.93**	**279**	*i* P	**Pn**	**23 13 38.2**	**-0.6**
	comp=Z,44nm,1.8s						
ATD	**Arta Tunnel**	**11.05**	**256**	Pn	**Pn**	**23 13 56.7**	**+2.6**
ATD				Sn	**Sn**	**23 16 13.3**	**+15**
ATD				LR	LR	23 17 15.1	
ATD	**Arta Tunnel**	**11.05**	**256**	Pn	**Pn**	**23 13 56.7**	**+2.6**
	comp=Z,2.2nm,0.3s,baz=43,slow=7.1,SNR=23						
ATD				Sn	**Sn**	**23 16 13.3**	**+15**
	comp=Z,0.1nm,0.3s,baz=270,slow=20,SNR=1.8						
ATD				LR	LR	23 17 15.1	
	comp=Z,3μm,19.1s,baz=62,slow=32						
ATD	**Arta Tunnel**	**11.05**	**256**	Pn	**Pn**	**23 13 56.7**	**+2.6**
ATD				Sn	**Sn**	**23 16 13.4**	**+15**
BANOM	**Banah**	**11.69**	**11**	P	**Pn**	**23 14 03.2**	**+0.3**
	SNR=7.0						
BANOM	**Banah**	**11.69**	**11**	Pn	**Pn**	**23 14 03.2**	**+0.3**
	SNR=7.0						
DESE	**Dese**	**14.19**	**258**	*e*P	**Pn**	**23 14 37.0**	**-0.1**
QRN	**Al-Qurain**	**15.27**	**340**	*e*P	**Pn**	**23 14 48.8**	**-2.9**
RDF	**Al-Radifah**	**15.56**	**339**	*e*P	**Pn**	**23 14 52.7**	**-2.8**
KBD	**Kabd**	**15.74**	**340**	*e*P	**Pn**	**23 14 55.0**	**-2.8**
NAY	**Al-Naaiem**	**15.96**	**339**	*e*P	**Pn**	**23 14 57.5**	**-3.2**
UMR	**Umm Al-Rimmam**	**16.08**	**341**	*e*P	**Pn**	**23 14 59.2**	**-3.1**
RST	**Umm Al-Ruwaisa**	**16.28**	**338**	*e*P	**Pn**	**23 15 02.5**	**-2.3**
MIB	**Mutribah**	**16.44**	**340**	*e*P	**Pn**	**23 15 03.0**	**-3.8**
BHJ	**Bhuj**	**17.39**	**57**	*e*P	**Pn**	**23 15 20.3**	**+1.5**
BHJ				AMb	AMB	23 15 26.9	
	comp=Z,258nm,1.3s						
GOA	**Goa**	**19.38**	**84**	⇑*i*P	**Pn**	**23 15 42.2**	**-1.2**
GOA				AMb	AMB	23 15 54.1	
	comp=Z,70nm,1.2s						
POO	**Poona**	**19.66**	**75**	*e*P	**Pn**	**23 15 46.9**	**+0.2**
POO				AMb	AMB	23 15 51.2	
	comp=Z,194nm,1.3s						
KAD	**Karad**	**19.82**	**79**	*e*P	**Pn**	**23 15 47.2**	**-1.3**
KAD				AMb	AMB	23 15 52.5	
	comp=Z,103nm,1.6s						
BHD	**Baghdad**	**20.63**	**337**	*i* x	x	23 15 52.5	
BHD				*e*x	x	23 19 46.0	
BHD				*e*x	x	23 25 25.0	
LATR	**Latur**	**22.19**	**77**	*e*P	**P**	**23 16 11.3**	**-1.4**
LATR				AMb	AMB	23 16 14.8	
	comp=Z,78nm,1.1s,mb5.0						
KMBO	**Kilima Mbogo**	**22.51**	**228**	*e*P	**P**	**23 16 15.9**	**-0.1**
	comp=Z,18nm,0.9s,mb4.5						
KMBO	**Kilima Mbogo**	**22.51**	**228**	*e*P	**P**	**23 16 15.9**	**-0.1**
KMBO				pmax	pmax		
	comp=Z,18nm,0.9s						
KMBO	**Kilima Mbogo**	**22.51**	**228**	P	**P**	**23 16 16.4**	**+0.3**
	comp=Z,5.8nm,0.8s,mb4.1,baz=43,slow=13,SNR=28						
KMBO				S	**S**	**23 20 23.8**	**-0.1**
	comp=Z,0.5nm,0.8s,baz=163,slow=20,SNR=2.1						
KMBO				LR	LR	23 24 50.2	
	comp=Z,1μm,19.2s,MS4.3,baz=260,slow=36						
KMBO	**Kilima Mbogo**	**22.51**	**228**	*e*P	**P**	**23 16 15.9**	**-0.1**
	comp=Z,18nm,0.9s,mb4

SNR=173
TUTA Tutak 26.70 341 *i* P **P 23 16 57.5 +2.0**
BNGL BINGOL 26.87 338 *i* P **P 23 16 59.5 +2.4**
SIZA Siyzn 26.91 352 P **P 23 17 01.4 +4.1**
SNR=20
SIZA S **S 23 21 42.0 +7.3**
GANJ Ganja 26.94 347 P **P 23 17 00.3 +2.7**
SNR=29
GANJ S **S 23 21 40.7 +5.5**
GZT Gaziantep 27.03 331 *i* P **P 23 16 59.6 +1.1**
SMLA Simla 27.13 48 *e*P **P 23 16 59.6 +0.1**
SMLA AMb AMB 23 17 09.0
comp=Z,23nm,1.1s,mb4.6
SEKA Sheki 27.31 349 P **P 23 17 01.1 +0.1**
SNR=15
SEKA S **S 23 21 46.9 +5.9**
ELZG Elazig 27.34 334 *i* P **P 23 17 03.1 +1.9**
MALT Malatya 27.42 333 *e*P **P 23 17 04.4 +2.4**
comp=Z,62nm,1.1s,mb5.0
MALT Malatya 27.42 333 *e*P **P 23 17 04.4 +2.4**
MALT pmax pmax
comp=Z,62nm,1.1s,mb5.0
MALT Malatya 27.42 333 ⇑*i*P **P 23 17 04.4 +2.4**
MALT Malatya 27.42 333 *e*P **P 23 17 04.4 +2.4**
comp=Z,62nm,1.1s,mb5.0
DIGO Kars 27.46 343 *i* P **P 23 17 03.5 +1.2**
CSS Prodhromos 27.54 322 *e*P **P 23 17 03.5 +0.4**
comp=Z,16nm,0.9s,mb4.7
CSS Prodhromos 27.54 322 *e*P **P 23 17 03.5 +0.4**
comp=Z,16nm,0.9s,mb4.7
HOMI Horasan 27.58 340 *i* P **P 23 17 05.7 +2.3**
HOMI *i* P pP 23 17 06.1 +1.2
ERZM Erzurum 27.64 339 *i* P **P 23 17 06.9 +3.0**
DGRG David-gareji 27.92 346 P **P 23 17 08.3 +1.9**
KOPT Kop Dagi 28.05 338 *i* P **P 23 17 09.3 +1.7**
KOPT *i* P pP 23 17 09.8 +0.7
KOPT *i* P pP 23 17 10.3 +1.2
KOPT Kop Dagi 28.05 338 *i* P **P 23 17 09.8 +2.2**
MTA Mtatsminda 28.29 346 P **P 23 17 14.5 +4.8**
TBLG Delisi 28.33 346 P **P 23 17 13.4 +3.3**
ARTV Artvin 28.61 341 *i* P **P 23 17 13.2 +0.6**
MAK Makhachkala 28.96 350 P **P 23 17 18.0 +2.3**
MAK *e*PPP 23 18 19.6
MAK *e*S **S 23 22 10.6 +3.6**
MAK pmax pmax
comp=Z,132nm,1.5s,mb5.4
MAK MLR MLR
comp=Z,884nm,15.0s,MS4.5
MAK Makhachkala 28.96 350 P **P 23 17 18.0 +2.3**
comp=Z,132nm,1.5s,mb5.4
MACK Trabzon 29.13 338 *i* P **P 23 17 19.1 +1.9**
ONI Oni 29.46 344 P **P 23 17 21.1 +1.0**
GRSN GIRESUNGRSN 29.68 336 *i* P **P 23 17 23.4 +1.3**
AKAS Kas 30.67 319 *i* P **P 23 17 28.4 -2.5**
KDHN Kadinhani 30.72 325 *i* P **P 23 17 31.1 -0.2**
KOLN Koldanda 30.72 60 *e*P **P 23 17 32.6 +1.1**
comp=Z,60nm,1.2s,mb5.3
KIV Kislovodsk 30.94 344 *e*P **P 23 17 34.0 +0.9**
comp=Z,31nm,1.1s,mb5.0
KIV PP PP 23 18 42.5 -0.6
KIV *e*PcP PcP 23 20 31.8 +2.1
KIV Kislovodsk 30.94 344 *e*P **P 23 17 30.5 -2.7**
KIV *e* 23 18 31.5
KIV *e* 23 20 33.0
KIV *e*S **S 23 22 32.0 -6.0**
KIV pmax pmax
comp=Z,26nm,1.0s,mb5.0
KIV MLR MLR
comp=Z,676nm,15.0s,MS4.4
KIV Kislovodsk 30.94 344 ⇑*i*P **P 23 17 34.6 +1.4**
KIV Kislovodsk 30.94 344 *e*P **P 23 17 34.0 +0.8**
comp=Z,31nm,1.1s,mb5.0
KIV Kislovodsk 30.94 344 PP PP 23 18 42.5 -0.5
ISP Isparta 31.16 323 *e*P **P 23 17 35.6 +0.3**
comp=Z,23nm,1.1s,mb4.9
ISP Isparta 31.16 323 *c i*P **P 23 17 35.2 -0.1**
ANTO Ankara 31.34 328 *e*P **P 23 17 37.5 +0.7**
comp=Z,56nm,1.2s,mb5.3
ANTO *e*PP PP 23 18 45.4 -2.1
ANTO Ankara 31.34 328 *e*P **P 23 17 37.5 +0.7**
ANTO *e* 23 18 45.4
ANTO pmax pmax
comp=Z,56nm,1.2s,mb5.3
ANTO Ankara 31.34 328 ⇓*i*P **P 23 17 37.8 +1.0**
ANTO Ankara 31.34 328 *e*P **P 23 17 37.5 +0.7**
comp=Z,56nm,1.2s,mb5.3
ANTO Ankara 31.34 328 *e*PP PP 23 18 45.4 -2.1
SOC Sochi 31.48 340 *e*P **P 23 17 39.5 +1.6**
SOC *e* 23 18 38.2
SOC *e*S **S 23 22 45.7 -0.7**
SOC *e**SS sS 23 23 03.6 +15
SOC *e*SS SS 23 24 29.0 -32
SOC *e*SSS 23 24 51.1
SOC pmax pmax
comp=Z,13nm,1.1s,mb4.7
SOC MLR MLR
comp=Z,564nm,12.0s,MS4.5
SOC Sochi 31.48 340 *e*P **P 23 17 39.5 +1.6**
comp=Z,13nm,1.1s,mb4.7
GKN Gorkha 31.67 60 *e*P **P 23 17 40.4 +0.6**
comp=Z,49nm,1.0s,mb5.3
KSH Kashi 31.70 34 *e*P **P 23 17 40.9 +0.9**
KK31 Karatay Array 32.00 23 *i* P **P 23 17 45.3 +2.8**
KK31 pmax pmax
comp=Z,3.0nm,0.7s,mb4.2
KK31 Karatay Array 32.00 23 *i* P **P 23 17 45.3 +2.8**
comp=Z,3.0nm,0.7s,mb4.2
ESKT Eskisehir 32.12 325 *i* P **P 23 17 44.1 +0.5**
KKN Kakani 32.14 60 *e*P **P 23 17 44.9 +0.9**
comp=Z,61nm,1.0s,mb5.4
JIRN Jiri 32.87 61 *e*P **P 23 17 51.2 +0.8**
comp=Z,3.7nm,0.2s,mb4.9
UCH Uchtor 33.00 29 *e*P **P 23 17 53.4 +2.1**
comp=Z,8.3nm,1.0s,mb4.6
UCH Uchtor 33.00 29 *e*P **P 23 17 53.4 +2.1**
comp=Z,8.3nm,1.0s,mb4.6
EKS2 Erkin-Say 33.00 28 *e*P **P 23 17 53.7 +2.4**
comp=Z,6.1nm,0.9s,mb4.5
EKS2 *e*PP PP 23 19 04.3 -1.6
EKS2 *e*PcP PcP 23 20 33.7 -1.6
EKS2 Erkin-Say 33.00 28 *e*P **P 23 17 53.7 +2.4**
comp=Z,6.1nm,0.9s,mb4.5
EKS2 Erkin-Say 33.00 28 *e*PP PP 23 19 04.3 -1.6
ANN Anapa 33.33 339 *e*P **P 23 17 54.1 0.0**
ANN *e* 23 19 01.7
ANN *e*S **S 23 23 16.6 +1.4**
ANN *e*SS SS 23 25 20.2 -19
ANN pmax pmax
comp=Z,48nm,1.5s,mb5.2
ANN MLR MLR
comp=Z,547nm,20.0s,MS4.3
ANN Anapa 33.33 339 *e*P **P 23 17 54.1 0.0**
comp=Z,48nm,1.5s,mb5.2
OPO Ambohidratompo 33.41 191 LR LR 23 28 44.1
comp=Z,553nm,19.9s,MS4.3,baz=4.3,slow=31
FRU Bishkek 33.52 28 *e*P **P 23 17 56.5 +0.7**
TKM2 Tokmak 2 34.04 29 *e*P **P 23 17 58.5 -1.9**
comp=Z,3.3nm,0.9s,mb4.3
TKM2 PP PP 23 19 18.2 +0.8
TKM2 Tokmak 2 34.04 29 *e*P **P 23 17 58.5 -1.9**
TKM2 23 19 18.2
TKM2 pmax pmax
comp=Z,3.0nm,0.9s,mb4.2
TKM2 Tokmak 2 34.04 29 *e*P **P 23 17 58.5 -1.9**
comp=Z,3.3nm,0.9s,mb4.3
TKM2 Tokmak 2 34.04 29 PP PP 23 19 18.2 +0.8
SIM Simferopol' 34.72 335 *ce*P **P 23 18 07.3 +1.1**
SIM pmax pmax
comp=Z,36nm,1.0s,mb5.3
SIM MLR MLR
comp=Z,380nm,21.0s,MS4.1
SIM Simferopol' 34.72 335 *e*P **P 23 18 07.3 +1.1**
comp=Z,380nm,21.0s
AKTK Aktyubinsk 36.09 5 P **P 23 18 18.0 0.0**
AKTK Aktyubinsk 36.09 5 P **P 23 18 18.0 0.0**
AKTO Aktyubinsk 36.09 5 P **P 23 18 18.0 0.0**
comp=Z,28nm,0.8s,mb5.3,baz=193,slow=9.1,SNR=69
PSN Preselentsi 36.48 328 *i* P **P 23 18 20.6 -0.8**
PRD Provadia 36.55 327 *i* P **P 23 18 21.3 -0.7**
KDZ Kurdzhali 36.62 323 *i* P **P 23 18 21.8 -0.8**
PAIG Paliouri 36.62 320 *e*P **P 23 18 23.4 +0.7**
OUR Ouranopolis 36.67 320 *e*P **P 23 18 24.2 +1.2**
TIRR Tirgusor 36.92 329 P **P 23 18 25.6 +0.4**
TIRR Tirgusor 36.92 329 ⇓*i*P **P 23 18 25.3 +0.2**
TIRR Tirgusor 36.92 329 P **P 23 18 25.6 +0.5**
RZN Rozhen 37.05 323 *i* P **P 23 18 26.2 -0.1**
HARR Harsova 37.32 329 P **P 23 18 29.1 +0.6**
HARR Harsova 37.32 329 ⇑*i*P **P 23 18 28.9 +0.3**
HARR Harsova 37.32 329 P **P 23 18 29.1 +0.5**
SHL Shillong 37.35 67 *e*P **P 23 18 30.5 +1.4**
SZH Strazhica 37.38 326 *i* P **P 23 18 29.3 +0.2**
CFR Carcaliu 37.58 330 P **P 23 18 30.1 -0.5**
CFR Carcaliu 37.58 330 P **P 23 18 30.1 -0.6**
MMB Musomiste 37.58 322 *i* P **P 23 18 30.4 -0.3**
LSA Lhasa 37.62 60 P **P 23 18 31.6 +0.3**
LSA Lhasa 37.62 60 *e*P **P 23 18 31.1 -0.3**
comp=Z,4.6nm,0.8s,mb4.3
LSA Lhasa 37.62 60 *e*P **P 23 18 31.1 -0.2**
LSA pmax pmax
comp=Z,5.0nm,0.8s,mb4.3
LSA Lhasa 37.62 60 *e*P **P 23 18 31.1 -0.2**
comp=Z,4.6nm,0.8s,mb4.3
KNT Kendrikon 37.82 321 *e*P **P 23 18 32.9 +0.1**
PGB Panagyurishte 37.91 324 *i* P **P 23 18 32.3 -1.3**
VAY Valandovo 38.12 321 *e*P **P 23 18 34.6 -0.7**
KKB Krupnik 38.13 322 *i* P **P 23 18 34.0 -1.4**
VTS Vitosha 38.49 323 *e*P **P 23 18 39.1 +0.7**
VTS Vitosha 38.49 323 ⇑*i*P **P 23 18 39.7 +1.2**
VTS Vitosha 38.49 323 *i* P **P 23 18 37.5 -1.0**
VRSR Storozhevoye 38.56 345 *e*P **P 23 18 38.0 -0.9**
VRSR pmax pmax
comp=Z,6.0nm,1.1s,mb4.2
VRSR pmax pmax
comp=N,10.0nm,1.0s
VRSR pmax pmax
comp=E,4.0nm,0.9s
VRSR Storozhevoye 38.56 345 *e*P **P 23 18 38.0 -0.9**
comp=E,10.0nm,1.0s,mb4.5
IGT Igoumenitsa 38.56 317 *e*P **P 23 18 38.7 -0.5**
STIP Stip 38.57 321 *e*P **P 23 18 38.9 -0.2**
VRI Vrincioaia 38.76 329 P **P 23 18 42.0 +1.4**
VRI Vrincioaia 38.76 329 ⇓*i*P **P 23 18 41.0 +0.3**
VRI Vrincioaia 38.76 329 P **P 23 18 42.0 +1.3**
PLOR Plostina 38.79 329 ⇑*i*P **P 23 18 42.2 +1.3**
LSZ Lusaka 38.87 222 P **P 23 18 43.2 +1.3**
comp=E,1.7nm,0.8s,mb3.8,baz=68,slow=7.5,SNR=3.9
LSZ LR LR 23 35 10.8
comp=E,584nm,19.8s,MS4.4,baz=46,slow=37
MLR Muntele Rosu 38.89 328 P **P 23 18 44.3 +2.6**
MLR Muntele Rosu 38.89 328 P **P 23 18 43.8 +2.0**
comp=E,19nm,1.0s,mb4.8,baz=2.7,slow=11,SNR=22
MLR LR LR 23 37 24.2
comp=E,603nm,20.5s,MS4.4,baz=146,slow=40
MLR Muntele Rosu 38.89 328 ⇓*i*P **P 23 18 43.3 +1.6**
MLR Muntele Rosu 38.89 328 P **P 23 18 44.3 +2.6**
VOIR 39.31 328 P **P 23 18 46.4 +1.1**
VOIR 39.31 328 ⇑*i*P **P 23 18 45.3 0.0**
VOIR 39.31 328 P **P 23 18 46.4 +1.1**
IAS Iasi 39.32 332 P **P 23 18 46.0 +0.7**
IAS Iasi 39.32 332 P **P 23 18 46.0 +0.6**
MK31 Makanchi Array 40.11 31 *e*P **P 23 18 52.4 +0.4**
MK31 Makanchi Array 40.11 31 *i* P **P 23 18 51.9 -0.1**
MK31 pmax pmax
comp=Z,5.0nm,0.5s,mb4.5
MK31 Makanchi Array 40.11 31 *e*P **P 23 18 52.4 +0.4**
MKAR Makanchi Array 40.11 31 P **P 23 18 50.9 -1.0**
MKAR LR LR 23 36 53.7
MKAR Makanchi Array 40.11 31 P **P 23 18 50.9 -1.0**
comp=Z,2.4nm,0.6s,mb4.1,baz=217,slow=8.0,SNR=36
MKAR LR LR 23 36 53.7
comp=Z,294nm,21.2s,MS4.1,baz=227,slow=38
BRVK Borovoye 40.72 15 *e*P **P 23 18 56.7 -0.1**
comp=Z,20nm,0.8s,mb4.8
BRVK *e*PP PP 23 20 31.0 +0.4
BRVK Borovoye 40.72 15 *e*P **P 23 18 56.7 -0.1**
BRVK *e* 23 20 31.0
BRVK pmax pmax
comp=Z,21nm,0.8s,mb4.8
BRVK Borovoye 40.72 15 *e*P **P 23 18 56.7 -0.1**
comp=Z,20nm,0.8s,mb4.8
BRVK Borovoye 40.72 15 *e*PP PP 23 20 31.0 +0.4
TIP Timpagrande 40.82 314 *e*P **P 23 18 59.0 +1.1**
comp=Z,21nm,1.4s,mb4.6
TIP Timpagrande 40.82 314 *e*P **P 23 18 59.0 +1.1**
comp=Z,21nm,1.4s,mb4.6
WMQ Urumqi 41.17 38 P **P 23 19 01.7 +1.0**
WMQ PP PP 23 20 40.0 +4.3
WMQ S **S 23 25 14.0 -0.6**
WMQ AMB AMB
comp=Z,7.0nm,0.9s,mb4.3
WMQ AMB AMB
comp=Z,76nm,4.0s
WMQ LR LR
comp=N,714nm,17.8s,MS4.7
WMQ LR LR
comp=E,612nm,16.2s,MS4.7
WMQ LR LR
comp=Z,500nm,19.2s,MS4.4
BZS Buzias 41.26 325 P **P 23 19 02.2 +0.8**
BZS Buzias 41.26 325 ⇑*i*P **P 23 19 01.3 -0.1**
BZS Buzias 41.26 325 P **P 23 19 02.2 +0.8**
AKASG Malin Array Be 41.30 336 *i* P **P 23 19 01.2 -0.5**
AKASG pmax pmax
comp=Z,13nm,1.0s
AKASG Malin Array Be 41.30 336 P **P 23 19 01.3 -0.4**
AKASG Malin Array Be 41.30 336 P **P 23 19 01.3 -0.4**
comp=Z,13nm,1.0s,mb4.5,baz=139,slow=7.5,SNR=91
AKASG PP PP 23 20 30.9 -6.1
comp=Z,8.5nm,0.9s,baz=143,slow=9.7,SNR=8.7
AKASG LR LR 23 39 36.4
comp=Z,340nm,18.4s,MS4.2,baz=155,slow=41
AKASG Malin Array Be 41.30 336 PP PP 23 20 30.9 -6.1
AKBB Malin Array Si 41.30 336 *e*P **P 23 19 01.2 -0.5**
AKBB Malin Array Si 41.30 336 *e*P **P 23 19 01.2 -0.5**
KIEV Kiev 41.30 336 *e*P **P 23 19 01.4 -0.4**
comp=Z,12nm,0.8s,mb4.6
KIEV *e*PP PP 23 20 33.9 -3.1
KIEV Kiev 41.30 336 *e*P **P 23 19 01.4 -0.3**
KIEV *e* 23 20 33.9
KIEV pmax pmax
comp=Z,12nm,0.8s,mb4.6
KIEV Kiev 41.30 336 *e*P **P 23 19 01.4 -0.3**
comp=Z,12nm,0.8s,mb4.6
KIEV Kiev 41.30 336 *e*PP PP 23 20 33.9 -3.1
CHKZ Chkalovo 41.36 15 *i* P **P 23 18 59.4 -2.7**
CHKZ pmax pmax
comp=Z,18nm,1.0s,mb4.7
CHKZ Chkalovo 41.36 15 *i* P **P 23 18 59.4 -2.7**
comp=Z,18nm,1.0s,mb4.7
KURK Kurchatov 41.41 24 *e*P **P 23 19 02.6 0.0**
comp=Z,6.9nm,0.8s,mb4.3
KURK *e*PP PP 23 20 37.5 -0.7
KURK Kurchatov 41.41 24 ⇑*e*P **P 23 19 01.8 -0.8**
KURK Kurchatov 41.41 24 *e*P **P 23 19 02.7 +0.1**
comp=Z,6.9nm,0.8s,mb4.3
KURK Kurchatov 41.41 24 *e*PP PP 23 20 37.5 -0.7
DRGR 41.42 328 P **P 23 19 03.7 +0.9**
DRGR 41.42 328 ⇑*i*P **P 23 19 03.7 +0.9**
VAE Valguarnera 41.79 311 LR LR 23 36 19.9
comp=Z,137nm,21.0s,MS3.8,baz=323,slow=36
ARU Arti 42.09 4 *e*P **P 23 19 07.7 -0.4**
comp=Z,13nm,1.1s,mb4.5
ARU *e*PP PP 23 20 42.9 -2.6
ARU Arti 42.09 4 *d i*P **P 23 19 05.6 -2.5**
ARU *e* 23 20 42.9
ARU *e*PPP 23 21 15.8
ARU *e*S **S 23 25 23.5 -4.4**
ARU *e*SS SS 23 28 31.8 -3.4
ARU pmax pmax
comp=Z,14nm,1.2s,mb4.5
ARU Arti 42.09 4 *e*P **P 23 19 07.7 -0.4**
comp=Z,13nm,1.1s,mb4.5
ARU Arti 42.09 4 *e*PP PP 23 20 42.8 -2.7
TRPA Tarpa 42.40 329 ⇑*i*P **P 23 19 11.3 +0.6**
SVE Sverdlovsk 42.65 6 ⇓*e*P **P 23 19 12.1 -0.6**
SVE *e*S **S 23 25 37.9 +1.7**
SVE pmax pmax
comp=Z,12nm,1.5s,mb4.4
SVE MLR MLR
comp=Z,472nm,20.0s,MS4.4
SVE Sverdlovsk 42.65 6 *e*P **P 23 19 12.1 -0.6**
comp=Z,12nm,1.5s,mb4.4
OBN Obninsk 42.77 345 *e*P **P 23 19 13.7 +0.1**
comp=Z,58nm,1.3s,mb5.2
OBN Obninsk 42.77 345 ⇑*e*P **P 23 19 13.2 -0.4**
OBN *e* 23 20 48.2
OBN *i* S **S 23 25 39.7 +1.8**
OBN pmax pmax
comp=Z,33nm,1.3s,mb4.9
OBN MLR MLR
comp=Z,700nm,23.0s,MS4.5
OBN Obninsk 42.77 345 *e*P **P 23 19 13.7 +0.1**
comp=Z,58nm,1.3s,mb5.2
LVV L'vov 42.84 332 *c i*P **P 23 19 14.6 +0.3**
LVV *e*S **S 23 25 39.0 -0.2**
LVV MLR MLR
comp=N,100nm,17.0s,MS3.9
LVV MLR MLR
comp=E,100nm,17.0s,MS3.9
LVV MLR MLR
comp=Z,100nm,17.0s,MS3.8
LVV L'vov 42.84 332 *i* P **P 23 19 14.6 +0.3**
KOLS Kolonicke sedl 43.06 330 *e*P **P 23 19 17.3 +1.2**
KOLS *e*PP PP 23 20 57.3 +1.2
MOS Moscow 43.09 347 *e*P **P 23 19 15.6 -0.6**
MOS *e* 23 19 26.6
MOS *e* 23 20 56.0
MOS *i* 23 21 04.5
MOS pmax pmax
comp=Z,76nm,1.2s,mb5.3
MOS MLR MLR
comp=Z,600nm,22.0s,MS4.5
MOS Moscow 43.09 347 *e*P **P 23 19 15.6 -0.6**
comp=Z,76nm,1.2s,mb5.3
PKSM Moragy 43.27 324 ⇑*i*P **P 23 19 17.5 -0.4**
PKSM Moragy 43.27 324 ⇓*i*P **P 23 19 17.5 -0.4**
KWP Kalwaria 43.33 331 *e*P **P 23 19 18.8 +0.6**
CHTO Chiang Mai 43.40 78 *e*P **P 23 19 18.5 -0.7**
comp=Z,3.8nm,0.8s,mb4.2
CHTO Chiang Mai 43.40 78 *e*P **P 23 19 18.5 -0.8**
CHTO pmax pmax
comp=Z,4.0nm,0.8s,mb4.2
CHTO Chiang Mai 43.40 78 *e*P **P 23 19 18.5 -0.8**
comp=Z,3.8nm,0.8s,mb4.2
CRVS Cervenica-Dubn 43.45 329 *e*P **P 23 19 19.9 +0.7**
PSZ Piszkesteto 43.62 327 ⇑*i*P **P 23 19 20.7 0.0**
PSZ Piszkesteto 43.62 327 ⇑*i*P **P 23 19 20.7 +0.1**
PSZ Piszkesteto 43.62 327 ⇑*e*P **P 23 19 20.7 +0.1**
KECS Kecovo 43.67 328 *e*P **P 23 19 21.6 +0.6**
comp=Z,6.7nm,1.2s,mb4.2
KECS *e* 23 19 28.3
KECS *e*PP PP 23 21 02.5 0.0
KECS Kecovo 43.67 328 *e*P **P 23 19 21.6 +0.6**
KECS *e* 23 19 28.3
KECS *e* 23 21 02.5
KECS pmax pmax
comp=Z,7.0nm,1.2s,mb4.3
BUD Budapest 43.82 326 ⇑*e*P **P 23 19 22.9 +0.7**
STHS Stebnicka Huta 43.89 330 *e*P **P 23 19 23.7 +0.9**
comp=Z,11nm,1.0s,mb4.5
STHS *e* 23 19 30.8
STHS *e* 23 19 34.3
STHS *e* 23 19 40.8
STHS *e*PP PP 23 21 03.3 -1.6
STHS Stebnicka Huta 43.89 330 *e*P **P 23 19 23.7 +0.9**
STHS *e* 23 19 34.3
STHS *e* 23 19 40.8
STHS *e* 23 21 03.3
STHS pmax pmax
comp=Z,11nm,1.0s,mb4.5
NIE Niedzica 44.35 329 *e*P **P 23 19 27.0 +0.5**
VYHS Vyhne 44.53 327 *i* P **P 23 19 27.8 -0.1**
comp=Z,12nm,1.1s,mb4.6
VYHS *e*PP PP 23 21 14.4 +2.6
VYHS Vyhne 44.53 327 *i* P **P 23 19 27.8 -0.1**
VYHS *e* 23 21 14.4
VYHS pmax pmax
comp=Z,12nm,1.1s,mb4.6
KOLL Kolacno 44.81 327 *i* P **P 23 19 30.6 +0.4**
KOLL *e*PP PP 23 21 16.5 +1.8
KOLL Kolacno 44.81 327 *i* P **P 23 19 30.5 +0.3**
KOLL *e*PP PP 23 21 16.5 +1.8
KEST Kesra 45.05 306 P **P 23 19 33.8 +1.6**
comp=Z,4.6nm,0.9s,mb4.3,baz=314,slow=1.3,SNR=13
KEST LR LR 23 38 59.7
comp=Z,282nm,19.2s,MS4.2,baz=11,slow=37
OJC Ojcow 45.12 330 *e*P **P 23 19 32.2 -0.4**
ZST Bratislava 45.28 326 *e*P **P 23 19 34.2 +0.3**
comp=Z,17nm,1.1s,mb4.8
ZST *e*PP PP 23 21 20.6 +0.8
ZST LR LR
comp=Z,200nm,17.0s,MS4.1
ZST Bratislava 45.28 326 *e*P **P 23 19 34.2 +0.3**
ZST *e* 23 21 20.6
ZST pmax pmax
comp=Z,17nm,1.1s,mb4.8
ZST MLR MLR
comp=Z,200nm,17.0s,MS4.1
ZST Bratislava 45.28 326 *e*P **P 23 19 34.2 +0.3**
ZST *e*PP PP 23 21 20.6 +0.8
ZST Bratislava 45.28 326 *e*P **P 23 19 34.2 +0.3**
comp=Z,17nm,1.1s,mb4.8
ZST Bratislava 45.28 326 *e*PP PP 23 21 20.6 +0.8
SOP Sopron 45.29 325 ⇑*e*P **P 23 19 34.4 +0.4**
PERS Pernice 45.54 323 *i* P **P 23 19 36.2 +0.2**
LJU Ljubljana 45.58 322 *e*P **P 23 19 36.5 +0.2**
ARSA Arzberg 45.63 324 ⇑*i*P **P 23 19 37.2 +0.5**
comp=Z,25nm,1.1s,mb5.1,SNR=17
ARSA Arzberg 45.63 324 ⇑*i*P **P 23 19 37.2 +0.5**
comp=Z,25nm,1.0s,mb5.1
OKC Ostrava-Krasne 45.71 328 *e*P **P 23 19 37.0 -0.3**
OKC *e*S **S 23 26 17.0 -3.9**
OKC AMS AMS 23 40 50.0
comp=Z,400nm,15.9s,MS4.5
OKC Ostrava-Krasne 45.71 328 *e*P **P 23 19 37.0 -0.3**
OKC *e*S **S 23 26 17.0 -3.9**
OBKA Obir 45.80 322 *i* P **P 23 19 39.0 +0.9**
comp=Z,17nm,1.1s,mb4.9,SNR=8.3
CONA Conrad Observa 45.81 325 *i* P **P 23 19 38.6 +0.4**
comp=Z,44nm,1.1s,mb5.3,SNR=24
VOY Vojsko 45.95 322 *e*P **P 23 19 39.3 0.0**
VOY *e* 23 19 46.3
MORC Moravsky Berou 45.98 328 ⇑*e*P **P 23 19 39.1 -0.4**
MORC Moravsky Berou 45.98 328 ⇑*i*P **P 23 19 39.1 -0.4**
VSL Villasalto 46.20 311 *e*P **P 23 19 41.8 +0.4**
comp=Z,18nm,1.2s,mb4.9
VSL Villasalto 46.20 311 *e*P **P 23 19 41.8 +0.5**
comp=Z,18nm,1.2s,mb4.9
VRAC Vranov 46.20 327 ⇑*e*P **P 23 19 41.2 0.0**
VRAC Vranov 46.20 327 P **P 23 19 40.8 -0.4**
comp=Z,11nm,1.0s,mb4.8,baz=150,slow=5.9,SNR=13
VRAC LR LR 23 41 42.1
comp=Z,292nm,19.8s,MS4.2,baz=129,slow=40
VRAC Vranov 46.20 327 ⇑*i*P **P 23 19 41.2 0.0**
SUW Suwalki 46.23 335 *e*P **P 23 19 41.7 +0.4**
ZAL Zalesovo 46.33 25 P **P 23 19 41.4 -0.7**
ZAA0 Zalesovo Array 46.35 25 *e*P **P 23 19 41.1 -1.1**
ZAA0 Zalesovo Array 46.35 25 *e*P **P 23 19 41.2 -1.0**
ZALV Zalesovo Beam 46.35 25 P **P 23 19 41.4 -0.8**
comp=Z,4.1nm,0.6s,mb4.5,baz=228,slow=7.7,SNR=14
ZALV LR LR 23 42 34.2
comp=Z,128nm,18.6s,MS3.9,baz=44,slow=41
NVS Novosibirsk 46.38 23 ⇑*i*P **P 23 19 42.1 -0.4**
NVS *i* 23 21 21.5
NVS *i* S **S 23 26 27.4 -3.0**
NVS pmax pmax
comp=Z,33nm,1.2s,mb5.1
NVS pmax pmax
comp=N,34nm,1.4s
NVS pmax pmax
comp=E,11nm,1.0s
NVS smax
comp=N,46nm,3.2s
NVS smax
comp=E,27nm,3.4s
MOA Molln 46.67 324 *i* P **P 23 19 45.4 +0.5**
comp=E,29nm,1.0s,mb5.1,SNR=29
TREC Trest 46.79 326 *e*P **P 23 19 45.4 -0.4**
TREC *e*S **S 23 26 36.8 +0.4**
TREC AMS AMS 23 39 00.0
comp=Z,300nm,23.4s,MS4.2
CMAH Djebel Manchou 46.79 307 P **P 23 19 48.0 +2.0**
KBA Koelnbreinsper 46.81 323 ⇓*i*P **P 23 19 46.1 +0.1**
comp=Z,18nm,1.1s,mb4.9,SNR=13
KBA Koelnbreinsper 46.81 323 ⇓*i*P **P 23 19 46.1 +0.1**
KBA pmax pmax
comp=Z,18nm,1.1s,mb4.9
DPC Dobruska-Polom 46.96 328 *e*P **P 23 19 47.0 -0.1**
DPC *e*S **S 23 26 43.2 +4.4**
DPC AMS AMS 23 42 10.0
comp=Z,300nm,18.8s,MS4.3
DPC Dobruska-Polom 46.96 328 *e*P **P 23 19 47.0 -0.1**

DPC *e*S **S** **23 26 43.2 +4.4**
KMI Kunming 47.05 69 P **P** **23 19 47.9 -0.4**
KMI PP PP 23 21 40.2 +1.3
KMI S **S** **23 26 39.5 -1.5**
KMI SS SS 23 30 00.2 -7.7
KMI AMB AMB
comp=Z,6.0nm,1.3s,mb4.4
KMI AMB AMB
comp=Z,114nm,3.2s
KMI LR LR
comp=N,227nm,15.4s,MS4.4
KMI LR LR
comp=E,272nm,17.0s,MS4.4
KMI LR LR
comp=Z,420nm,18.4s,MS4.4
ABTA Abfaltersbach 47.14 322⇑ *i*P **P** **23 19 48.7 +0.1**
comp=Z,14nm,1.4s,mb4.7,SNR=9.7
UPC Upice 47.21 328 *e*P **P** **23 19 48.8 -0.3**
KSP Ksiaz 47.27 328 *e*P **P** **23 19 49.6 +0.1**
KSP Ksiaz 47.27 328⇑ *e*P **P** **23 19 49.4 -0.1**
KSP *e*S **S** **23 26 38.5 -4.7**
CKFL Kef-Lekhel 47.27 306 P **P** **23 19 51.0 +1.2**
GTA Gaotai 47.34 49 *e*P **P** **23 19 53.2 +2.9**
GTA AP pP 23 19 58.7 +6.9
GTA XP sP 23 20 01.7 +9.3
GTA PP PP 23 21 42.4 +1.0
GTA S **S** **23 26 43.9 -0.7**
GTA AMB AMB
comp=Z,3.0nm,1.0s,mb4.2
GTA AMB AMB
comp=Z,79nm,3.8s
GTA LR LR
comp=N,190nm,16.4s,MS4.4
GTA LR LR
comp=E,328nm,20.6s,MS4.4
GTA LR LR
comp=Z,504nm,21.0s,MS4.5
CTEI Djebel Teioual 47.43 306 P **P** **23 19 53.0 +1.9**
GEC2 GERESS Array S 47.52 325 *e*P **P** **23 19 50.8 -0.7**
GEC2 *e*PcP PcP 23 21 27.3 +5.7
GEC2 *e*PP PP 23 21 43.5 +0.6
GERES GERESS Array B 47.52 325 P **P** **23 19 50.2 -1.4**
comp=Z,3.4nm,0.7s,mb4.5,baz=131,slow=7.9,SNR=36
GERES LR LR 23 41 04.2
comp=Z,235nm,20.1s,MS4.2,baz=128,slow=38
PGF Pioggiola 47.57 315 *e*P **P** **23 19 51.1 -0.9**
comp=Z,34nm,1.3s,mb4.9
PGF Pioggiola 47.57 315 *e*P **P** **23 19 51.1 -0.9**
PGF pmax pmax
comp=Z,17nm,1.3s,mb4.9
PGF Pioggiola 47.57 315 *e*P **P** **23 19 51.1 -0.9**
comp=Z,17nm,1.3s,mb4.9
PRU Pruhonice 47.69 326 *e*P **P** **23 19 52.0 -0.8**
KHC Kasperske Hory 47.74 325 *e*P **P** **23 19 52.0 -1.2**
KHC *e*S **S** **23 26 52.7 +2.7**
LBTB Lobatse 47.87 215 P **P** **23 19 54.6 +0.1**
comp=Z,7.3nm,1.0s,mb4.7,baz=71,slow=5.8,SNR=5.0
WTTA Wattenberg 47.91 322 *i* P **P** **23 19 54.7 +0.1**
SNR=14
DFRA Djebel Bou Aff 47.97 306 P **P** **23 19 57.0 +1.8**
PVCC Panska Ves 47.98 327 *e*P **P** **23 19 54.6 -0.4**
WATA Walderalm 47.98 322⇓ *i*P **P** **23 19 54.8 -0.3**
comp=Z,22nm,1.3s,mb5.0,SNR=8.8
WATA Walderalm 47.98 322⇓ *i*P **P** **23 19 54.8 -0.3**
WATA pmax pmax
comp=Z,23nm,1.3s,mb5.0
SQTA Sankt Quirin 48.15 322 *i* P **P** **23 19 56.1 -0.3**
comp=Z,25nm,1.4s,mb5.0,SNR=21
SQTA Sankt Quirin 48.15 322 *i* P **P** **23 19 56.1 -0.3**
SQTA pmax pmax
comp=Z,25nm,1.4s,mb5.0
MOTA Moosalm 48.27 322⇓ *i*P **P** **23 19 56.4 -1.0**
comp=Z,26nm,1.3s,mb5.1,SNR=35
MOTA Moosalm 48.27 322⇓ *i*P **P** **23 19 56.9 -0.5**
comp=Z,26nm,1.3s,mb5.1,SNR=35
MOTA Moosalm 48.27 322⇓ *i*P **P** **23 19 56.4 -0.9**
MOTA pmax pmax
comp=Z,26nm,1.3s,mb5.1
GKP Gorka Klasztor 48.30 331 *e*P **P** **23 19 58.0 +0.5**
FETA Feichten 48.34 321 *i* P **P** **23 19 57.4 -0.6**
comp=Z,9.9nm,1.1s,mb4.8,SNR=8.8
VSU Vasula 48.40 341 *e*P **P** **23 19 55.4 -2.8**
BRG Berggiesshubel 48.50 327 *i* P **P** **23 19 58.3 -0.8**
comp=Z,15nm,1.6s,mb4.8
BRG *e* 23 21 31.8
BRG S **S** **23 26 59.0 -1.7**
BRG LR LR
comp=Z,140nm,17.8s,MS4.0
BRG Berggiesshubel 48.50 327 *i* P **P** **23 19 58.3 -0.8**
BRG *e* 23 21 31.8
BRG S **S** **23 26 59.0 -1.7**
BRG pmax pmax
comp=Z,15nm,1.6s,mb4.8
BRG MLR MLR
comp=Z,140nm,17.8s,MS4.0
BRG Berggiesshubel 48.50 327 *i* P **P** **23 19 58.3 -0.8**
comp=Z,26nm,1.6s,mb5.0
BRG *e* 23 21 31.8
comp=Z,2.5nm,0.8s
BRG S **S** **23 26 59.0 -1.7**
BRG
comp=N,339nm,24.5s
BRG
comp=E,242nm,19.9s
BRG
comp=Z,239nm,17.8s
CD2 Chengdu 48.54 61 *e*P **P** **23 19 59.0 -0.7**
CD2 S **S** **23 26 59.6 -2.3**
CD2 AMB AMB
comp=Z,10.0nm,1.3s,mb4.7
CD2 AMB AMB
comp=Z,30nm,5.8s
CD2 LR LR
comp=N,220nm,16.4s
CD2 LR LR
comp=E,490nm,21.6s
CD2 LR LR
comp=Z,200nm,21.6s
RETA Reutte 48.54 322⇑ *i*P **P** **23 19 58.2 -1.3**
comp=Z,22nm,1.5s,mb5.0,SNR=15
DAVOX Davos/Dischmat 48.75 321 P **P** **23 20 01.3 +0.3**
comp=Z,7.3nm,1.0s,mb4.7,baz=158,slow=9.2,SNR=12
DAVOX LR LR 23 42 33.5
comp=Z,134nm,21.6s,MS3.9,baz=102,slow=38
DAVOS Davos 48.83 321 P **P** **23 20 01.3 -0.4**
TSUM Tsumeb 48.85 228 *e*P **P** **23 20 03.2 +1.0**
comp=Z,3.8nm,1.0s,mb4.4
TSUM Tsumeb 48.85 228 P **P** **23 20 03.5 +1.3**
comp=Z,1.9nm,0.8s,mb4.2,baz=54,slow=16,SNR=3.4
TSUM Tsumeb 48.85 228 *e*P **P** **23 20 03.2 +1.0**
comp=Z,3.8nm,1.0s,mb4.4
NKC Novy Kostel 48.95 326 *e*P **P** **23 20 02.0 -0.5**
NKC *e*S **S** **23 27 08.6 +1.5**
DAVA Damuels 48.98 321⇑ *i*P **P** **23 20 02.1 -0.7**
comp=Z,31nm,1.7s,mb5.1,SNR=12
SAOF Saorge 49.09 316 *e*P **P** **23 20 04.4 +0.7**
SBF Sospel 49.12 316 *e*P **P** **23 20 03.3 -0.7**
CLL Collm 49.23 327⇑ *i*P **P** **23 20 03.1 -1.6**
CLL *i* 23 20 07.9
CLL *e*PP PP 23 22 04.0 +5.5
CLL *e*S **S** **23 27 15.0 +4.0**
CLL Collm 49.23 327⇑ *i*P **P** **23 20 03.1 -1.6**
comp=Z,57nm,2.1s,mb5.2
CLL *i* (pP) pP 23 20 07.9 +1.6
CLL *i* x x 23 20 11.0
CLL *e*PP PP 23 22 04.0 +5.5
CLL *e*PPP 23 23 00.0
CLL *e*S **S** **23 27 15.0 +4.0**
CLL *e*SS SS 23 30 46.0 +3.7
CLL *e*SSS 23 32 19.0
CLL LmV 23 42 00.0
comp=Z,200nm,21.8s
GRA1 Grafenberg Arr 49.35 325 *e*P **P** **23 20 04.5 -1.1**
comp=Z,30nm,1.2s,mb5.2
GRA1 *e*pP pP 23 20 11.0 +3.8
GRF Grafenberg Arr 49.35 325 *e*P **P** **23 20 04.5 -1.1**
GRF *e**PP pP 23 20 11.0 +3.8
GRF pmax pmax
comp=Z,30nm,1.2s,mb5.2
GRF Grafenberg Arr 49.35 325 *e*P **P** **23 20 04.5 -1.1**
GRF *e**PP pP 23 20 11.0 +3.8
GRF pmax pmax
comp=Z,30nm,1.2s,mb5.2
GRF Grafenberg Arr 49.35 325 *e*P **P** **23 20 04.5 -1.1**
comp=Z,30nm,1.2s,mb5.2
GRF *e*pP pP 23 20 11.0 +3.8
GRFO Grafenberg 49.35 325 *e*P **P** **23 20 04.5 -1.1**
comp=Z,18nm,1.1s,mb5.0
GRFO Grafenberg 49.35 325 *e*P **P** **23 20 04.5 -1.1**
GRFO pmax pmax
comp=Z,18nm,1.1s,mb5.0
GRFO Grafenberg 49.35 325 *e*P **P** **23 20 04.5 -1.1**
comp=Z,18nm,1.1s,mb5.0
RUE Ruedersdorf 49.49 329 P **P** **23 20 05.7 -1.0**
LZH Lanzhou 49.53 55 *e*P **P** **23 20 09.5 +2.2**
LZH PCP PcP 23 21 29.8 +0.6
LZH PP PP 23 22 00.0 -1.5
LZH *e*S **S** **23 27 10.1 -5.6**
LZH SS SS 23 30 47.0 -0.7
LZH AMB AMB
comp=Z,13nm,1.0s,mb4.9
LZH AMB AMB
comp=Z,69nm,4.9s
LZH LR LR
comp=E,198nm,12.7s
LZH LR LR
comp=Z,386nm,15.3s,MS4.5
FRF La Foret Royal 49.55 316 *e*P **P** **23 20 06.5 -0.7**
comp=Z,30nm,1.1s,mb4.9
FRF La Foret Royal 49.55 316 *e*P **P** **23 20 06.5 -0.7**
FRF pmax pmax
comp=Z,15nm,1.1s,mb4.9
FRF La Foret Royal 49.55 316 *e*P **P** **23 20 06.5 -0.7**
comp=Z,15nm,1.1s,mb4.9
LMR La Mourre 49.56 315 *e*P **P** **23 20 06.6 -0.7**
comp=Z,31nm,1.1s,mb4.9
LMR La Mourre 49.56 315 *e*P **P** **23 20 06.6 -0.7**
LMR pmax pmax
comp=Z,15nm,1.1s,mb4.9
LMR La Mourre 49.56 315 *e*P **P** **23 20 06.6 -0.7**
comp=Z,15nm,1.1s,mb4.9
MOX Moxa 49.62 326 *e*P **P** **23 20 07.7 0.0**
MOX
comp=Z,2μm,19.0s
MBDF Montbardon 49.89 317 *e*P **P** **23 20 09.5 -0.3**
comp=Z,16nm,1.1s,mb4.7
MBDF Montbardon 49.89 317 *e*P **P** **23 20 09.5 -0.3**
MBDF pmax pmax
comp=Z,8.0nm,1.0s,mb4.7
MBDF Montbardon 49.89 317 *e*P **P** **23 20 09.5 -0.3**
comp=Z,8.1nm,1.1s,mb4.7
SPAK Spaichingen-Ko 50.01 322 *e*P **P** **23 20 10.7 +0.1**
BNI Bardonecchia 50.07 317 *e*P **P** **23 20 13.3 +2.1**
BNI pmax pmax
comp=Z,12nm,1.1s,mb4.8
BNI Bardonecchia 50.07 317 *e*P **P** **23 20 13.3 +2.1**
comp=Z,12nm,1.1s,mb4.8
LPG La Plagne 50.20 318 *e*P **P** **23 20 11.7 -0.4**
comp=Z,32nm,0.9s,mb5.1
LPG La Plagne 50.20 318 *e*P **P** **23 20 11.7 -0.4**
LPG pmax pmax
comp=Z,16nm,0.9s,mb5.0
LPG La Plagne 50.20 318 *e*P **P** **23 20 11.7 -0.4**
comp=Z,16nm,0.9s,mb5.1
LPL La Plagne 50.21 318 *e*P **P** **23 20 11.2 -1.1**
comp=Z,22nm,0.8s,mb4.9
LPL La Plagne 50.21 318 *e*P **P** **23 20 11.2 -1.1**
LPL pmax pmax
comp=Z,11nm,0.8s,mb4.9
LPL La Plagne 50.21 318 *e*P **P** **23 20 11.2 -1.1**
comp=Z,11nm,0.8s,mb4.9
FELD Feldberg im Sc 50.38 321 *e*P **P** **23 20 13.5 0.0**
BFO Black Forest 50.38 322 *e*P **P** **23 20 12.8 -0.7**
comp=Z,17nm,1.1s,mb5.0
BFO Black Forest 50.38 322 *e*P **P** **23 20 12.8 -0.7**
BFO pmax pmax
comp=Z,17nm,1.1s,mb5.0
BFO Black Forest 50.38 322 *e*P **P** **23 20 12.8 -0.7**
comp=Z,17nm,1.1s,mb5.0
SMRF Simiane la Rot 50.42 316 *e*P **P** **23 20 13.0 -0.8**
comp=Z,18nm,1.1s,mb4.7
SMRF Simiane la Rot 50.42 316 *e*P **P** **23 20 13.0 -0.8**
comp=Z,8.8nm,1.1s,mb4.7
TOA0 Torodi Ar. Sit 50.53 275 *e*P **P** **23 20 15.2 +0.1**
TOA0 *e*PcP PcP 23 21 31.5 -1.7
TOA0 Torodi Ar. Sit 50.53 275 *e*P **P** **23 20 15.2 +0.1**
TOA0 Torodi Ar. Sit 50.53 275 *e*PcP PcP 23 21 31.5 -1.7
TORD Torodi Ar. Bea 50.53 275 P **P** **23 20 15.2 0.0**
comp=Z,4.9nm,0.9s,mb4.4,baz=89,slow=7.0,SNR=16
TORD LR LR 23 41 36.5
comp=Z,285nm,18.3s,MS4.3,baz=110,slow=36
TORD Torodi Ar. Bea 50.53 275 P **P** **23 20 15.1 0.0**
ORIF Oris-en-Rattie 50.55 317 *e*P **P** **23 20 14.1 -0.7**
ORIF *e*MLR MLR
comp=Z,258nm,22.0s,MS3.9
GYA Guiyang 50.66 68 P **P** **23 20 16.2 +0.2**
GYA PCP PcP 23 21 34.9 +1.4
GYA PP PP 23 22 13.6 +1.7
GYA S **S** **23 27 30.0 -1.7**
GYA SS SS 23 31 01.4 -4.7
GYA AMB AMB
comp=Z,20nm,1.0s,mb5.0
GYA AMB AMB
comp=Z,130nm,6.9s
GYA LR LR
comp=N,480nm,22.2s,MS4.6
GYA LR LR
comp=E,500nm,23.6s,MS4.6
GYA LR LR
comp=Z,460nm,21.4s,MS4.5
LOMF Lomont 50.88 320 *e*P **P** **23 20 17.1 -0.2**
TMCR Tamitsa 50.88 351 *e*P **P** **23 20 14.6 -2.4**
TMCR *e**PP pP 23 20 23.9 +5.3
TMCR *e* 23 22 07.6
TMCR pmax pmax
comp=Z,14nm,0.7s,mb5.0
MOF Molkenrain 50.90 321 *e*P **P** **23 20 17.1 -0.3**
JOF Joensuu 50.98 347 *e*p **P** **23 20 17.2 -0.5**
FINES FINESS Array B 51.02 343 *i* P **P** **23 20 17.3 -0.8**
FINES pmax pmax
comp=Z,8.0nm,0.7s
FINES FINESS Array B 51.02 343 P **P** **23 20 17.4 -0.7**
comp=Z,8.1nm,0.7s,mb4.8,baz=136,slow=10,SNR=40
FINES LR LR 23 44 32.6
comp=Z,148nm,20.4s,MS4.0,baz=158,slow=39
FIA1 FINESS Array S 51.02 343 *e*P **P** **23 20 17.5 -0.6**
FIA1 *e*PcP PcP 23 21 30.2 -3.9
FIA1 FINESS Array S 51.02 343 *e*P **P** **23 20 17.5 -0.6**
FIA1 FINESS Array S 51.02 343 *e*PcP PcP 23 21 30.2 -3.9
CABF La Chapelle 51.05 319 *e*P **P** **23 20 17.7 -0.9**
comp=Z,68nm,1.3s,mb5.1
CABF La Chapelle 51.05 319 *e*P **P** **23 20 17.7 -0.9**
CABF pmax pmax
comp=Z,34nm,1.3s,mb5.1
CABF La Chapelle 51.05 319 *e*P **P** **23 20 17.7 -0.9**
comp=Z,34nm,1.3s,mb5.1
CDF Champ du Feu 51.05 322 *e*P **P** **23 20 17.7 -0.8**
comp=Z,32nm,1.0s,mb4.9
CDF Champ du Feu 51.05 322 *e*P **P** **23 20 17.7 -0.8**
CDF pmax pmax
comp=Z,16nm,1.0s,mb4.9
CDF Champ du Feu 51.05 322 *e*P **P** **23 20 17.7 -0.8**
comp=Z,16nm,1.0s,mb4.9
HINF Hinteralfeld 51.06 321 *e*P **P** **23 20 17.7 -0.9**
VIVF Saint-Julien-l 51.33 316 *e*P **P** **23 20 19.9 -0.8**
HAU Haudompre 51.45 321 *e*P **P** **23 20 20.5 -1.0**
HAU *e*MLR MLR
comp=Z,229nm,23.0s,MS3.8
HAU Haudompre 51.45 321 *e*P **P** **23 20 20.5 -1.0**
HAU MLR MLR
comp=Z,230nm,23.0s,MS4.1
KAF Kangasniemi 51.51 344 *e*p **P** **23 20 22.5 +0.8**
LASF Ste Croix 51.62 315 *e*P **P** **23 20 22.2 -0.7**
comp=Z,7.6nm,1.0s,mb4.3
LASF Ste Croix 51.62 315 *e*P **P** **23 20 22.2 -0.7**
comp=Z,3.8nm,1.0s,mb4.3
WLF Walferdange 52.25 323 *e*P **P** **23 20 27.1 -0.4**
comp=Z,14nm,0.8s,mb4.9
WLF Walferdange 52.25 323 *e*P **P** **23 20 27.1 -0.4**
WLF pmax pmax
comp=Z,13nm,0.8s,mb4.9
WLF Walferdange 52.25 323 P **P** **23 20 27.7 +0.2**
comp=Z,15nm,1.6s,mb4.7
LBL Lubilhac 52.41 316 *e*P **P** **23 20 29.2 +0.5**
PLDF La Plantade 52.41 317 *e*P **P** **23 20 28.7 0.0**
MEZF Maizieres J'vi 52.44 321 *e*P **P** **23 20 28.4 -0.5**
comp=Z,100nm,1.3s,mb5.3
MEZF Maizieres J'vi 52.44 321 *e*P **P** **23 20 28.4 -0.5**
comp=Z,50nm,1.3s,mb5.3
SMF Signal de Mont 52.50 318 *e*P **P** **23 20 28.4 -1.0**
comp=Z,20nm,1.3s,mb4.6
SMF Signal de Mont 52.50 318 *e*P **P** **23 20 28.4 -1.0**
SMF pmax pmax
comp=Z,10.0nm,1.3s,mb4.6
SMF Signal de Mont 52.50 318 *e*P **P** **23 20 28.4 -1.0**
comp=Z,9.9nm,1.3s,mb4.6
MTLF Montolieu 52.52 314 *e*P **P** **23 20 29.0 -0.6**
LOR Lormes 52.71 319 *e*P **P** **23 20 30.2 -0.8**
comp=Z,60nm,1.2s,mb5.1
LOR *e*MLR MLR
comp=Z,263nm,22.0s,MS3.9
LOR Lormes 52.71 319 *e*P **P** **23 20 30.2 -0.8**
comp=Z,30nm,1.2s,mb5.1
LOR LR LR
comp=Z,260nm,22.0s,MS4.2
LOR Lormes 52.71 319 *e*P **P** **23 20 30.2 -0.8**
LOR pmax pmax
comp=Z,30nm,1.2s,mb5.1
LOR MLR MLR
comp=Z,260nm,22.0s,MS4.2
SSF Saint Saulge 52.86 319 *e*P **P** **23 20 31.2 -0.9**
comp=Z,23nm,0.9s,mb4.8
SSF Saint Saulge 52.86 319 *e*P **P** **23 20 31.2 -0.9**
SSF pmax pmax
comp=Z,12nm,0.9s,mb4.8
SSF Saint Saulge 52.86 319 *e*P **P** **23 20 31.2 -0.9**
comp=Z,12nm,0.9s,mb4.8
AVF Avril sur Loir 52.87 318 *e*P **P** **23 20 31.2 -0.9**
MOY Mondy 52.88 35 *e*P **P** **23 20 33.0 +0.9**
CAF Calviac 53.10 316 *e*P **P** **23 20 33.0 -0.9**
BGF Bois d'Agland 53.11 318 *e*P **P** **23 20 33.0 -0.9**
comp=Z,12nm,0.8s,mb4.6
BGF Bois d'Agland 53.11 318 *e*P **P** **23 20 33.0 -0.9**
BGF pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
BGF Bois d'Agland 53.11 318 *e*P **P** **23 20 33.0 -0.9**
comp=Z,5.8nm,0.8s,mb4.6
GIVF Givet 53.22 323 *e*P **P** **23 20 33.9 -0.7**
XAN Xi'an 53.28 58 P **P** **23 20 33.9 -1.5**
XAN AP pP 23 20 42.2 +5.2
XAN SS SS 23 31 46.5 -0.8
XAN AMB AMB
comp=Z,5.0nm,1.2s,mb4.3
XAN LR LR
comp=N,106nm,21.1s,MS4.0
XAN LR LR
comp=E,124nm,22.0s,MS4.0
XAN LR LR
comp=Z,172nm,16.9s
DOU Dourbes 53.35 323 P **P** **23 20 35.9 +0.3**
TCF Toulx Ste Croi 53.44 317 *e*P **P** **23 20 35.5 -0.8**
BAIF Baives 53.56 322 *e*P **P** **23 20 36.6 -0.6**
comp=Z,57nm,1.1s,mb5.1
BAIF Baives 53.56 322 *e*P **P** **23 20 36.6 -0.6**
BAIF pmax pmax
comp=Z,29nm,1.1s,mb5.1
BAIF Baives 53.56 322 *e*P **P** **23 20 36.6 -0.6**
comp=Z,29nm,1.1s,mb5.1
RJF Les Rejaudoux 53.59 316 *e*P **P** **23 20 36.7 -0.8**
RJF *e*MLR MLR
comp=Z,291nm,22.0s,MS4.0
RJF Les Rejaudoux 53.59 316 *e*P **P** **23 20 36.7 -0.8**
RJF MLR MLR
comp=Z,290nm,22.0s,MS4.3
ZAK Zakamensk 53.63 37 *e*P **P** **23 20 38.1 +0.4**
ZAK pmax pmax
comp=Z,2.0nm,1.0s,mb4.0
QIZ Qiongzhong 53.69 77 P **P** **23 20 37.7 -0.9**
QIZ S **S** **23 28 12.6 -0.9**
QIZ LR LR
comp=E,202nm,16.5s
QIZ LR LR
comp=Z,228nm,32.1s
MUD Monsted U'grnd 53.95 331 *i* P **P** **23 20 40.2 +0.3**
MUD pmax pmax
comp=Z,31nm,1.2s,mb5.1
MUD Monsted U'grnd 53.95 331 *i* P **P** **23 20 40.2 +0.3**
comp=Z,31nm,1.2s,mb5.1
LFF La Frestale 54.01 315 *e*P **P** **23 20 39.5 -1.0**
HFS Hagfors 54.19 337 P **P** **23 20 41.1 -0.5**
comp=Z,15nm,0.8s,mb5.0,baz=140,slow=7.2,SNR=17
HFS LR LR 23 48 26.6
comp=Z,353nm,20.2s,MS4.4,baz=109,slow=41
ETSF Etsaut 54.36 313 *e*P **P** **23 20 42.7 -0.5**
comp=Z,9.3nm,0.8s,mb4.5
ETSF Etsaut 54.36 313 *e*P **P** **23 20 42.7 -0.5**
ETSF pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
ETSF Etsaut 54.36 313 *e*P **P** **23 20 42.7 -0.5**
comp=Z,4.7nm,0.8s,mb4.5
TLY Talaya 54.37 36 *e*P **P** **23 20 44.8 +1.7**
TLY *e*S **S** **23 28 22.4 +0.7**
TLY pmax pmax
comp=Z,6.0nm,1.4s,mb4.3
TLY MLR MLR
comp=Z,130nm,14.0s,MS4.2
SONM Songino Array 54.60 41 P **P** **23 20 45.8 +1.0**
comp=Z,2.8nm,0.7s,mb4.4,baz=241,slow=7.6,SNR=24
SONM LR LR 23 47 07.5
comp=Z,177nm,19.3s,MS4.2,baz=255,slow=40
SJPF Ste Jean 54.89 313 *e*P **P** **23 20 46.4 -0.6**
comp=Z,32nm,1.1s,mb5.0
SJPF Ste Jean 54.89 313 *e*P **P** **23 20 46.4 -0.6**
SJPF pmax pmax
comp=Z,16nm,1.1s,mb5.0
SJPF Ste Jean 54.89 313 *e*P **P** **23 20 46.4 -0.6**
comp=Z,16nm,1.1s,mb5.0
ULN Ulaanbaatar 55.03 41 *e*P **P** **23 20 48.5 +0.6**
comp=Z,6.7nm,0.8s,mb4.7
ULN *e*PcP PcP 23 21 54.6 +5.1
ULN Ulaanbaatar 55.03 41⇑ *e*P **P** **23 20 47.2 -0.7**
ULN Ulaanbaatar 55.03 41 *e*P **P** **23 20 48.5 +0.6**
comp=Z,6.7nm,0.8s,mb4.7
ULN Ulaanbaatar 55.03 41 *e*PcP PcP 23 21 54.6 +5.1
MFF Saint Martin d 55.09 317 *e*P **P** **23 20 47.2 -1.1**
LDF La Druitiere 55.68 319 *e*P **P** **23 20 51.6 -1.0**
comp=Z,56nm,1.2s,mb5.2
LDF La Druitiere 55.68 319 *e*P **P** **23 20 51.6 -1.0**
LDF pmax pmax
comp=Z,28nm,1.2s,mb5.2
LDF La Druitiere 55.68 319 *e*P **P** **23 20 51.6 -1.0**
comp=Z,28nm,1.2s,mb5.2
NB2 NORSAR Subarra 55.72 337 P **P** **23 20 51.1 -1.5**
comp=Z,12nm,1.0s,mb4.9,baz=120,slow=7.9
NOA NORSAR Array B 55.72 337 P **P** **23 20 51.6 -1.0**
comp=Z,6.5nm,0.9s,mb4.7,baz=121,slow=7.7,SNR=13
NOA LR LR 23 47 28.1
comp=Z,212nm,20.4s,MS4.2,baz=105,slow=39
MDT Midelt 55.89 300 P **P** **23 20 53.3 -1.1**
comp=Z,1.4nm,0.9s,mb4.0,baz=63,slow=4.5,SNR=1.8
MDT LR LR 23 45 44.0
comp=Z,697nm,20.4s,MS4.7,baz=96,slow=37
FLN La Foliniere 55.96 320 *e*P **P** **23 20 53.5 -1.1**
comp=Z,31nm,1.0s,mb5.0
FLN *e*MLR MLR
comp=Z,270nm,20.5s,MS4.0
FLN La Foliniere 55.96 320 *e*P **P** **23 20 53.5 -1.1**
comp=Z,16nm,1.0s,mb5.0
FLN LR LR
comp=Z,270nm,20.5s,MS4.3
FLN La Foliniere 55.96 320 *e*P **P** **23 20 53.5 -1.1**
FLN pmax pmax
comp=Z,16nm,1.0s,mb5.0
FLN MLR MLR
comp=Z,270nm,20.5s,MS4.3
GRR Gorron 56.08 319 *e*P **P** **23 20 54.6 -0.9**
comp=Z,13nm,0.8s,mb4.7
GRR Gorron 56.08 319 *e*P **P** **23 20 54.6 -0.9**
GRR pmax pmax
comp=Z,7.0nm,0.8s,mb4.7
GRR Gorron 56.08 319 *e*P **P** **23 20 54.6 -0.9**
comp=Z,6.6nm,0.8s,mb4.7
ESDC Sonseca Array 56.21 308 P **P** **23 20 56.5 -0.1**
comp=Z,3.5nm,0.9s,mb4.4,baz=82,slow=6.2,SNR=16
ESDC LR LR 23 46 10.9
comp=Z,141nm,19.9s,MS4.0,baz=125,slow=37
ESLA Sonseca Array 56.21 308 *e*P **P** **23 20 56.4 -0.2**
comp=Z,7.3nm,1.4s,mb4.5
ESLA Sonseca Array 56.21 308 *e*P **P** **23 20 56.4 -0.1**
comp=Z,7.3nm,1.4s,mb4.5
SUR Sutherland 56.23 214 P **P** **23 20 58.1 +1.5**
SUR Sutherland 56.23 214 P **P** **23 20 58.1 +1.5**
HHC Hu-ho-hao-te 56.42 50 *e*P **P** **23 20 58.5 +0.5**
HHC PP PP 23 23 06.1 +2.6
HHC PCS PcS 23 25 52.6 -3.0
HHC S **S** **23 28 47.5 -2.0**
HHC SCS ScS 23 30 44.0 -4.2

HHC AMB AMB
comp=Z,10.0nm,0.6s,mb5.0
HHC AMB AMB
comp=Z,125nm,7.4s
HHC LR LR
comp=N,197nm,20.2s,MS4.4
HHC LR LR
comp=E,289nm,25.0s,MS4.4
HHC LR LR
comp=Z,346nm,23.8s,MS4.4
PAB San Pablo 56.48 308 *eP* **P 23 20 58.4 -0.1**
comp=Z,14nm,1.3s,mb4.8
PAB San Pablo 56.48 308 *eP* **P 23 20 58.4 -0.1**
PAB pmax pmax
comp=Z,14nm,1.3s,mb4.8
PAB San Pablo 56.48 308 *eP* **P 23 20 58.4 -0.1**
comp=Z,14nm,1.3s,mb4.8
SGMF Saint Gilles 57.13 319 *eP* **P 23 21 02.4 -0.5**
comp=Z,19nm,0.8s,mb4.8
SGMF Saint Gilles 57.13 319 *eP* **P 23 21 02.4 -0.5**
SGMF pmax pmax
comp=Z,10.0nm,0.8s,mb4.9
SGMF Saint Gilles 57.13 319 *eP* **P 23 21 02.4 -0.5**
comp=Z,9.6nm,0.8s,mb4.8
QUIF Quistinic 57.43 318 *eP* **P 23 21 04.3 -0.7**
ROSF Rostrenen 57.61 318 *eP* **P 23 21 05.9 -0.4**
ARCES ARCESS Array B 57.89 349 P **P 23 21 06.3 -1.6**
ARCES LR LR 23 49 05.2
ARCES ARCESS Array B 57.89 349 P **P 23 21 06.3 -1.6**
comp=Z,2.8nm,0.6s,mb4.5,baz=142,slow=6.1,SNR=9.5
ARCES LR LR 23 49 05.2
comp=Z,442nm,21.6s,MS4.5,baz=144,slow=39
DBIC Dimbokro 58.05 269 P **P 23 21 11.7 +1.7**
comp=Z,6.5nm,1.0s,mb4.6,baz=56,slow=12,SNR=4.5
DBIC LR LR 23 45 43.1
comp=Z,172nm,18.3s,MS4.2,baz=55,slow=36
DBIC Dimbokro 58.05 269 P **P 23 21 11.6 +1.6**
EVO Evora 59.17 306 *eP* **P 23 21 17.2 -0.2**
comp=Z,22nm,1.2s,mb4.8
EVO *e*MLR MLR
comp=Z,343nm,20.5s,MS4.2
EVOP Sao Brissos 59.26 306 *eP* **P 23 21 17.2 -0.8**
comp=Z,11nm,1.2s,mb4.8
EKA Eskdalemuir Ar 59.68 326 P **P 23 21 19.4 -1.2**
comp=Z,2.1nm,0.8s,mb4.2,baz=114,slow=7.1,SNR=6.6
BJI Beijing 59.78 52 P **P 23 21 22.5 +0.9**
BJI S **S 23 29 32.8 -0.7**
BJI AMB AMB
comp=Z,9.0nm,0.9s,mb4.8
BJI LR LR
comp=N,152nm,18.8s,MS4.3
BJI LR LR
comp=E,161nm,21.1s,MS4.3
CIT Chita 60.26 38 *eP* **P 23 21 25.5 +0.8**
DLF Lyons Farm 60.94 323 *eP* **P 23 21 35.8 +6.5**
NJ2 Nanjing 61.47 61 *eP* **P 23 21 33.9 +0.6**
NJ2 AMB AMB
comp=Z,30nm,1.0s,mb5.4
BOD Bodaibo 62.19 32 *eP* **P 23 21 36.1 -1.5**
BOD pmax pmax
comp=Z,5.0nm,1.0s,mb4.6
HIA Hailar 63.54 42 *eP* **P 23 21 46.9 +0.1**
comp=Z,7.6nm,0.8s,mb4.8
HIA Hailar 63.54 42 *eP* **P 23 21 46.9 +0.1**
HIA pmax pmax
comp=Z,8.0nm,0.8s
HIA Hailar 63.54 42 *eP* **P 23 21 46.9 +0.1**
comp=Z,7.6nm,0.8s,mb4.8
CN2 Changchun 66.96 48 *eP* **P 23 22 09.4 +0.3**
CN2 *e*S S 23 31 01.0 -2.0
CN2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.9
CN2 AMB AMB
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,200nm,16.0s,MS4.6
CN2 LR LR
comp=E,200nm,16.0s,MS4.6
CN2 LR LR
comp=Z,200nm,14.0s,MS4.5
CLNS Chul'man 67.72 34 *eP* **P 23 22 13.5 -0.2**
CLNS pmax pmax
comp=Z,16nm,0.8s,mb5.1
CLNS pmax pmax
comp=N,2.0nm,0.5s
CLNS pmax pmax
comp=E,6.0nm,0.7s
KSRS Korea Array 68.86 55 P **P 23 22 20.1 -1.1**
comp=E,2.0nm,0.5s,mb4.3,baz=272,slow=6.7,SNR=9.8
KSRS LR LR 23 54 14.8
comp=E,83nm,20.5s,MS4.0,baz=109,slow=38
YAK Yakutsk 70.76 29 P **P 23 22 30.6 -1.8**
YAK Yakutsk 70.76 29 *eP* **P 23 22 30.0 -2.4**
YAK pmax pmax
comp=Z,11nm,1.0s,mb4.7
YAK Yakutsk 70.76 29 P **P 23 22 30.6 -1.8**
KLR Kul'dur 71.38 43 *eP* **P 23 22 32.2 -4.2**
TIXI Tiksi 71.72 19 *eP* **P 23 22 37.3 -0.8**
comp=Z,12nm,1.2s,mb4.7
TIXI Tiksi 71.72 19 *eP* **P 23 22 36.5 -1.6**
TIXI pmax pmax
comp=Z,9.0nm,1.3s,mb4.5
TIXI MLR MLR
comp=Z,217nm,18.0s,MS4.5
TIXI Tiksi 71.72 19 *eP* **P 23 22 37.3 -0.8**
comp=Z,12nm,1.2s,mb4.7
DAG Danmarks Havn 72.07 347⇑ *iP* **P 23 22 39.9 -0.2**
DAG pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
DAG Danmarks Havn 72.07 347⇑ *iP* **P 23 22 39.9 -0.2**
comp=Z,6.0nm,1.0s,mb4.5
PSMN Pico do Norte, 72.66 305 *e*S S 23 32 28.4 +18
MBWA Marble Bar 73.74 117 *eP* **P 23 22 52.0 +1.0**
MBWA Marble Bar 73.74 117 *eP* **P 23 22 52.0 +1.1**
MJAR Matsushiro Arr 77.14 55 P **P 23 23 10.8 +0.5**
comp=Z,0.5nm,0.3s,mb3.9,baz=262,slow=7.2,SNR=3.1
MJAR LR LR 00 00 09.5
comp=Z,147nm,18.4s,MS4.3,baz=285,slow=38
YSS Yuzh-Sakhalins 78.92 44 *eP* **P 23 23 18.0 -2.0**
YSS pmax pmax
comp=Z,17nm,1.4s,mb4.8
SEY Seymchan 81.16 27⇑ *eP* **P 23 23 27.9 -3.8**
MA2 Magadan 81.20 31 *eP* **P 23 23 31.3 -0.7**
MA2 pmax pmax
comp=Z,5.0nm,1.3s,mb4.3
MAW Mawson 82.05 177 LR LR 23 52 07.0
comp=Z,262nm,18.3s,MS4.6,baz=162,slow=30
BILL Bilibino 84.85 20⇓ *eP* **P 23 23 50.7 -0.1**
BILL *e* 23 27 02.9
BILL pmax pmax
comp=Z,4.0nm,1.1s,mb4.5
BILL MLR MLR
comp=Z,100nm,19.0s,MS4.2
WRA Warramunga Arr 86.22 112 P **P 23 23 58.0 -0.5**
comp=Z,3.2nm,0.7s,mb4.7,baz=298,slow=4.0,SNR=18
WRAB Tennant Creek 86.23 112 *eP* **P 23 23 58.3 -0.2**
comp=Z,3.5nm,0.6s,mb4.8
WRAB Tennant Creek 86.23 112 *eP* **P 23 23 58.3 -0.2**
WRAB pmax pmax
comp=Z,3.0nm,0.6s,mb4.7
WRAB Tennant Creek 86.23 112 *eP* **P 23 23 58.3 -0.2**
comp=Z,3.5nm,0.6s,mb4.8
WB2 Warramunga Arr 86.23 112 *eP* **P 23 23 58.7 +0.1**
WB2 *e*PcP PcP 23 24 00.9 -0.3
WB2 Warramunga Arr 86.23 112 *eP* **P 23 23 58.7 +0.2**
WB2 Warramunga Arr 86.23 112 *e*PcP PcP 23 24 00.9 -0.2
ASAR Alice Springs 86.91 115 P **P 23 24 00.9 -0.9**
comp=Z,4.5nm,0.9s,mb4.7,baz=290,slow=4.7,SNR=21
ASAR Alice Springs 86.91 115 P **P 23 24 00.9 -0.9**
CASY Casey 90.64 160 P **P 23 24 18.3 -0.1**
CASY Casey 90.64 160 P **P 23 24 18.3 -0.2**
STKA Stephens Creek 95.64 121 LR LR 00 06 56.9
comp=Z,150nm,18.6s,MS4.5,baz=24,slow=35
YKA Yellowknife Ar 102.81 355 P Pdif 23 25 14.3 +0.3
comp=Z,0.3nm,0.7s,baz=9.7,slow=3.7,SNR=5.1
YKA PP PP 23 29 26.2 -0.5
comp=Z,0.7nm,0.9s,baz=11,slow=7.2,SNR=6.0
YKA Yellowknife Ar 102.81 355 PP PP 23 29 26.2 -0.5
PDAR Pinedale Array 121.09 346 PKP PKPdf 23 30 09.6 +0.1
comp=Z,0.5nm,0.8s,baz=27,slow=2.2,SNR=2.6
NVAR Mina Array Bea 126.92 352 PKP PKPdf 23 30 20.9 +0.1
comp=Z,0.5nm,0.3s,baz=226,slow=3.9,SNR=3.7
TXAR Lajitas Array 131.37 334 PKP PKPdf 23 30 30.4 +0.9
comp=Z,1.8nm,1.2s,baz=70,slow=3.0,SNR=6.3

IDC 08 23:21:15.6±3.6, 4724N×15566E, h0km, mb3.6/6, mb1 3.8/6, mb1mx3.5/21, mbtmp3.6/6, Error ellipse: s-maj=110.5km s-min=29.0km az=3.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZALV	**Zalesovo Beam**	**43.73**	**306**	P	P	23 29 21.6	-0.6
	0.7nm,0.5s,baz=64,slow=8.6,SNR=4.2						
MKAR	**Makanchi Array**	**48.25**	**298**	P	P	23 29 59.0	+1.1
	0.4nm,0.6s,baz=73,slow=9.3,SNR=5.8						
YKA	**Yellowknife Ar**	**49.48**	**38**	P	P	23 30 07.9	+0.7
	0.5nm,0.6s,baz=296,slow=7.2,SNR=4.5						
FINES	**FINESS Array B**	**64.32**	**336**	P	P	23 31 52.2	-0.2
	0.8nm,0.7s,baz=42,slow=6.9,SNR=6.3						
AKASG	**Malin Array Be**	**72.09**	**327**	P	P	23 32 40.7	-0.7
	0.2nm,0.5s,baz=35,slow=5.9,SNR=3.3						
TXAR	**Lajitas Array**	**75.73**	**62**	P	P	23 33 02.9	-0.1
	0.3nm,0.5s,baz=312,slow=4.5,SNR=6.7						

*CSEM **08** 23:35:59.8±0.8, 37.17N×2456W, h0km, ML3.5, Error ellipse: s-maj=5.4km s-min=3.5km az=94.0, After PDA*
*PDA **08** 23:35:59.8±0.8, 37.17N×2456W, h0km, MD4.2, ML3.5, Error ellipse: s-maj=5.4km s-min=3.5km az=94.0*
SVSA 08 23:35:59.8±0.8, 3717N×2456W, h0km, MD4.2, ML3.5, Error ellipse: s-maj=5.4km s-min=3.5km az=94.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSMN	**Pico do Norte,**	**0.44**	**248**	*eP*	Pg	23 36 07.9	-0.2
PSMN				*e*S	Sg	23 36 13.9	+0.1
PDA	**Ponta Delgada**	**1.05**	**304**	*eP*	Pg	23 36 16.8	-3.1
PDA				*e*S	Sg	23 36 28.8	-4.8
ADH	**Angra Heroismo**	**2.58**	**306**	*eP*	Pn	23 36 38.4	-4.5
ADH				*e*S	Sn	23 37 07.3	-7.7
PID	**Ribeirinha**	**3.09**	**295**	*eP*	Pn	23 36 45.1	-4.7
PID				*e*S	Sn	23 37 19.2	-8.3
PMAN	**Manadas**	**3.15**	**299**	*eP*	Pn	23 36 46.1	-4.5
PMAN				*e*S	Sn	23 37 20.8	-8.1
PMAN				A		23 37 23.3	
	51nm,0.4s						
PMAN	**Manadas**	**3.15**	**299**	*eP*	Pn	23 36 46.1	-4.5
PMAN				*e*S	Sn	23 37 20.8	-8.1
ROSA	**Rosais**	**3.30**	**299**	*eP*	Pn	23 36 48.0	-4.6
ROSA				*e*S	Sn	23 37 24.4	-8.1
PICO	**Pico**	**3.34**	**295**	*eP*	Pn	23 36 48.8	-4.4
PICO				*e*S	Sn	23 37 25.6	-7.9
HOR	**Horta**	**3.50**	**294**	*eP*	Pn	23 36 50.7	-4.7
HOR				*e*S	Sn	23 37 29.5	-7.9
CALA	**Caldeira**	**3.57**	**295**	*eP*	Pn	23 36 52.0	-4.4
CALA				*e*S	Sn	23 37 30.9	-8.3

GUC 08 23:43:05.0±0.8, 3171S×7214W, h24km±3km, MD3.7, ML3.3, 5C-5D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHNG	**Los Chungos**	**0.57**	**108**⇓	*i*P	Pb	23 42 57.7	-19
CHNG				*i* S	Sb	23 43 06.5	-18
PACH	**Papudo**	**1.02**	**144**⇑	*i*P	Pn	23 43 23.3	-0.4
PACH				*i* S	Sb	23 43 36.6	-0.3
CMCH	**Combarbala**	**1.11**	**61**⇑	*i*P	Pn	23 43 24.1	-0.9
CMCH				*i* S	Sb	23 43 38.8	-0.8
CMCH				AML	AML	23 43 41.0	
	comp=E,2μm,0.7s						
OVCH	**Ovalle**	**1.36**	**36**	*i* P	Pn	23 43 28.5	0.0
OVCH				*i* S	Sn	23 43 46.0	+0.2
OVCH				AML	AML	23 43 56.1	
	comp=N,508nm,0.4s						
PEL	**Peldehue**	**1.89**	**140**⇓	*i*P	Pn	23 43 36.5	+0.8
PEL				*i* S	Sn	23 44 01.2	+2.5
PEL				AML	AML	23 44 12.6	
	comp=E,594nm,0.5s						
TLL	**Tololo Astrono**	**1.92**	**37**	*i* P	Pn	23 43 38.3	+2.1
TLL				*i* S	Sn	23 44 02.9	+3.4
TLL				AML	AML	23 44 12.8	
	comp=N,327nm,0.5s						
CLCH	**Cerro Calan**	**2.16**	**142**⇑	*i*P	Pn	23 43 40.8	+1.4
CLCH				*i* S	Sn	23 44 07.9	+2.4
CLCH				AML	AML	23 44 19.5	
	comp=E,353nm,0.7s						
TACH	**Talagante**	**2.19**	**153**⇓	*i*P	Pn	23 43 41.2	+1.3
TACH				*i* S	Sn	23 44 08.5	+2.4
FCH	**Farellones**	**2.24**	**136**⇓	*i*P	Pn	23 43 41.8	+1.2
FCH				*i* S	Sn	23 44 10.5	+2.9
FCH				AML	AML	23 44 16.1	
	comp=E,147nm,0.3s						
ANTU	**Antumapu**	**2.25**	**146**	AML	AML	23 44 23.6	
	comp=E,180nm,1.0s						
PCH	**Pirque**	**2.35**	**145**	*i* P	Pn	23 43 43.3	+1.3
PCH				*i* S	Sn	23 44 12.9	+2.8
CHCH	**Chadas Angostu**	**2.54**	**151**⇑	*i*P	Pn	23 43 46.5	+1.7
CHCH				*i* S	Sn	23 44 17.5	+2.5
LMEL	**Las Melosas**	**2.68**	**143**⇓	*i*P	Pn	23 43 48.4	+1.7
LMEL				*i* S	Sn	23 44 21.1	+2.7
LMEL				AML	AML	23 44 32.7	
	comp=N,124nm,0.3s						
SFDO	**San Fernando**	**3.05**	**162**⇑	*i*P	Pn	23 43 52.8	+1.1
SFDO				*i* S	Sn	23 44 29.4	+2.0

*MOS **09** 00:29:03.9±2.8, 4295N×4782E, h22km, mb3.7/1, Error ellipse: s-maj=18.2km s-min=14.2km az=167.1*
*TIF **09** 00:29:03.7, 4295N×4767E, h15km±1km*
*ISCJB **09** 00:29:04.5±1.4, 4299N±007×478E±0.1, h13km±6km, Error ellipse: s-maj=16.2km s-min=5.9km az=142.2*
*CSEM **09** 00:29:08.7±0.4, 4314N×4774E, h10km, mb3.7, Error ellipse: s-maj=10.1km s-min=4.0km az=44.0*
ISC 09 00:29:07.1±1.3, 4290N±007×476E±01, h6km±7km, n16, σ1§17/24, 1D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAK	**Makhachkala**	**0.10**	**307**⇓	*i*PG	**Pg**	**00 29 08.3**	**-0.9**
MAK				pmax	pmax		
	comp=Z,516nm,0.2s						
DBC	**Dubki**	**0.58**	**282**	*e*PG	**Pg**	**00 29 14.0**	**-4.3**
DBC				pmax	pmax		
	comp=Z,47nm,0.2s						
URKR	**Urkarakh**	**0.74**	**179**	*e*PG	**Pg**	**00 29 20.0**	**-1.3**
URKR				*e*S	**Sg**	**00 29 31.0**	**+0.2**
URKR				pmax	pmax		
	comp=Z,40nm,0.2s						
AKT	**Akhty**	**1.43**	**176**	*i* PG	**Pn**	**00 29 29.0**	**-4.5**
AKT				*e*S	**Sb**	**00 29 50.0**	**-2.4**
AKT				pmax	pmax		
	comp=Z,34nm,0.2s						
SEKA	**Sheki**	**1.72**	**190**	P	**Pg**	**00 29 41.4**	**+1.3**
	SNR=4.3						
SEKA				S	**Sg**	**00 30 07.7**	**+5.3**
SIZA	**Siyzn**	**2.06**	**152**	P	**Pg**	**00 29 47.0**	**+0.4**
	SNR=3.4						
SIZA				S	**Sg**	**00 30 15.0**	**+1.6**
DGRG	**David-gareji**	**2.21**	**230**	P	**Pg**	**00 29 58.3**	**+8.9**
POL	**Pirkuli**	**2.24**	**160**	P	**Pg**	**00 29 48.2**	**-1.8**
MTA	**Mtatsminda**	**2.41**	**241**	P	**Pn**	**00 29 50.2**	**+3.1**
TBLG	**Delisi**	**2.43**	**242**	PN	**Pn**	**00 29 45.6**	**-1.7**
TBLG	**Delisi**	**2.43**	**242**	P	**Pn**	**00 29 45.6**	**-1.6**
LACR	**Lac**	**2.44**	**269**	*i* Pn	**Pn**	**00 29 48.5**	**+1.1**
LACR				*e*Sn	**Sn**	**00 30 18.2**	**+0.7**
GANJ	**Ganja**	**2.45**	**204**	P	**Pg**	**00 29 54.9**	**+0.8**
	SNR=3.2						
ZEI	**Tsey**	**2.73**	**268**	*e*Pn	**Pn**	**00 29 52.2**	**+0.8**
ZEI				*e*Sn	**Sn**	**00 30 24.8**	**+0.1**
LSNR	**Lesken**	**2.80**	**279**	*e*Pn	**Pn**	**00 29 53.0**	**+0.6**
LSNR				*e*Sn	**Sn**	**00 30 26.0**	**-0.5**
DIGR	**Digorskoe uzhe**	**2.96**	**271**	*e*Pn	**Pn**	**00 29 54.1**	**-0.5**
DIGR				*e*Sn	**Sn**	**00 30 29.8**	**-0.6**

IDC 09 00:34:15.4±3.4, 1614S×17795W, h0km, mb4.4/3, mb1 4.6/3, mb1mx4.0/14, mbtmp4.4/3, Error ellipse: s-maj=167.8km s-min=35.7km az=140.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**39.88**	**239**	P	P	00 41 51.4	+0.3
	2.4nm,0.8s,baz=105,slow=10,SNR=6.2						
WRA	**Warramunga Arr**	**45.41**	**258**	P	P	00 42 35.9	-0.2
	0.9nm,0.4s,baz=93,slow=7.8,SNR=15						
ASAR	**Alice Springs**	**45.72**	**253**	P	P	00 42 38.4	-0.2
	9.2nm,0.4s,baz=89,slow=8.0,SNR=185						
GERES	**GERESS Array B**	**146.02**	**346**	PKPbc	PKPbc	00 53 56.6	-0.5
	0.2nm,0.5s,baz=24,slow=3.6,SNR=4.3						
DAVOX	**Davos/Dischmat**	**148.76**	**350**	PKPbc	PKPbc	00 54 04.4	-0.4
	1.7nm,0.7s,baz=254,slow=7.4,SNR=7.6						

IDC 09 00:38:51.2±47.0, 3255N×8859E, h0km, mb3.2/2, mb1 3.3/3, mb1mx3.1/20, mbtmp3.3/3, ML3.0/1, MS3.4/1, Ms1 3.4/1, ms1mx2.6/26, Error ellipse: s-maj=679.3km s-min=69.0km az=18.0, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**15.02**	**343**	Pn	Pn	00 42 21.7	-3.0
	0.1nm,0.3s,baz=144,slow=12,SNR=2.9						
SONM	**Songino Array**	**20.37**	**36**	P	P	00 43 29.5	+0.2
	0.7nm,0.6s,baz=224,slow=12,SNR=8.8						
ZALV	**Zalesovo Beam**	**21.55**	**354**	P	P	00 43 42.1	+0.1
	1.3nm,0.8s,baz=170,slow=9.0,SNR=7.3						
MLR	**Muntele Rosu**	**49.18**	**304**	LR	LR	01 13 35.0	
	comp=Z,38nm,18.9s,baz=177,slow=42						

IDC 09 00:48:22.3±5.4, 1871N×14365E, h0km, mb3.8/5, mb1 3.9/5, mb1mx3.6/18, mbtmp3.8/5, Error ellipse: s-maj=157.2km s-min=46.5km az=17.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSRS	**Korea Array**	**23.21**	**327**	P	P	00 53 30.5	-0.5
	1.3nm,0.6s,baz=153,slow=9.6,SNR=6.4						
SONM	**Songino Array**	**41.94**	**322**	P	P	00 56 15.9	+1.1
	0.4nm,0.4s,baz=116,slow=5.7,SNR=2.5						
ZALV	**Zalesovo Beam**	**56.84**	**323**	P	P	00 58 08.5	0.0
	0.5nm,0.4s,baz=93,slow=8.7,SNR=2.5						
YKA	**Yellowknife Ar**	**78.89**	**28**	P	P	01 00 27.5	+0.3
	0.5nm,0.5s,baz=291,slow=5.8,SNR=8.2						
FINES	**FINESS Array B**	**86.06**	**335**	P	P	01 01 04.1	-0.6
	1.6nm,0.9s,baz=56,slow=7.4,SNR=3.3						

*IDC **09** 00:56:56.7±1.3, 3840N×2160E, h0km, mb3.7/7, mb1 3.6/9, mb1mx3.5/23, mbtmp3.6/9, ML3.5/1, MS4.6/2, Ms1 4.6/2, ms1mx2.8/44, Error ellipse: s-maj=28.2km s-min=19.4km az=133.0*
*ISCJB **09** 00:56:57.3±0.5, 3829N±002×2179E±003, h8km±4km, mb3.6/8, MS4.7/2, Error ellipse: s-maj=3.4km s-min=3.2km az=150.3*
*NEIC **09** 00:56:57.9, 3829N×2181E, h15km, ML3.3(ATH), After ATH.*
*THE **09** 00:56:58.1, 3831N×2182E, h3km, ML3.4*
*CSEM **09** 00:56:58.8±0.1, 3826N×2173E, h24km±1km, ML3.3, Error ellipse: s-maj=2.5km s-min=1.9km az=68.0*
*ATH **09** 00:56:58.0, 3830N×2180E, h16km±1km, MD3.4/14, ML3.3*
ISC 09 00:56:58.2±0.4, 3830N±002×2179E±003, h10km±3km, n59, σ1§22/80, mb3.6/8, MS4.7/2, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RLS	**Riolos of Patr**	**0.35**	**226**	*e*PB	**Pg**	**00 57 05.0**	**-0.1**
RLS				*e*SB	**Sg**	**00 57 10.8**	**+1.0**
EVR	**Evrytania**	**0.61**	**2**	*e*Pb	**Pb**	**00 57 09.9**	**-1.2**
EVR				*e*Sb	**Sb**	**00 57 20.7**	**+0.9**
AGG	**Agios Georgios**	**0.83**	**31**	*e*Pg	**Pg**	**00 57 13.2**	**-1.1**
AGG				*e*Sg	**Sg**	**00 57 25.7**	**+0.5**
VLS	**Valsamata**	**0.95**	**263**	*e*PB	**Pb**	**00 57 15.7**	**-1.1**
VLS				*e*SN	**Sn**	**00 57 30.6**	**-0.7**
LTK	**Loutraki**	**0.97**	**106**	*e*Pg	**Pg**	**00 57 16.3**	**-0.6**
LTK				*e*Sg	**Sg**	**00 57 29.1**	**-0.5**
LKD	**Levkas**	**0.98**	**295**	*e*Pg	**Pg**	**00 57 16.2**	**-0.8**
LKD				*e*Sg	**Sg**	**00 57 31.4**	**+1.6**
LKR	**Lokris**	**1.01**	**70**	*e*PN	**Pn**	**00 57 17.0**	**-1.5**
LKR				*e*SB	**Sb**	**00 57 31.6**	**+0.3**
VLX	**Vlachokerasia**	**1.04**	**153**	*e*Pg	**Pg**	**00 57 16.9**	**-1.4**
VLX				*e*Sg	**Sg**	**00 57 33.4**	**+1.5**
VLX	**Vlachokerasia**	**1.04**	**153**	*e*Pg	**Pg**	**00 57 16.9**	**-1.4**
VLX				*e*Sg	**Sg**	**00 57 33.3**	**+1.5**
ITM	**Ithomi**	**1.13**	**174**	*e*PN	**Pn**	**00 57 19.1**	**-1.0**
ITM				*e*SN	**Sn**	**00 57 35.2**	**-0.4**
THL	**Klokotos Trika**	**1.27**	**8**	*e*PN	**Pn**	**00 57 21.9**	**-0.2**
DID	**Didima**	**1.40**	**124**	*e*Pg	**Pg**	**00 57 23.5**	**-1.5**
DID				*e*Sg	**Sg**	**00 57 44.4**	**+1.3**
JAN	**Janina**	**1.54**	**332**	*e*PN	**Pn**	**00 57 27.0**	**+1.3**
MEV	**Metsovon**	**1.54**	**344**	*e*Pg	**Pg**	**00 57 26.8**	**-1.1**
ATH	**Athens Observa**	**1.56**	**102**	*e*PN	**Pn**	**00 57 27.0**	**+1.0**
IGT	**Igoumenitsa**	**1.67**	**318**	*e*Pb	**Pb**	**00 57 28.7**	**-0.4**
IGT				*e*Sb	**Sb**	**00 57 50.2**	**0.0**
VLI	**Veliai**	**1.83**	**150**	*e*PN	**Pn**	**00 57 30.4**	**+0.7**
AOS	**Alonnisos**	**1.85**	**61**	*e*Pb	**Pb**	**00 57 29.5**	**-2.7**
AOS				*e*Sb	**Sb**	**00 57 54.5**	**-0.9**
LIT	**Litokhoron**	**1.88**	**17**	*e*Pb	**Pb**	**00 57 31.1**	**-1.5**
LIT				*e*Sb	**Sb**	**00 57 56.5**	**+0.4**
KZN	**Kozani**	**2.00**	**360**	*e*PN	**Pn**	**00 57 34.0**	**+1.9**
KEK	**Kerkira**	**2.09**	**313**	*e*PN	**Pn**	**00 57 35.0**	**+1.6**
PAIG	**Paliouri**	**2.19**	**42**	*e*Pn	**Pn**	**00 57 34.5**	**-0.3**
PLG	**Polygyros**	**2.44**	**31**	*e*Pn	**Pn**	**00 57 38.2**	**+0.2**
PLG	**Polygyros**	**2.44**	**31**	*e*PN	**Pn**	**00 57 38.8**	**+0.7**
FNA	**Florina**	**2.50**	**353**	*e*Pn	**Pn**	**00 57 39.9**	**+1.0**
THE	**Thessaloniki**	**2.50**	**21**	*e*Pn	**Pn**	**00 57 38.7**	**-0.3**
HORT	**Hortiatis**	**2.51**	**24**	*e*Pn	**Pn**	**00 57 38.9**	**-0.1**
OUR	**Ouranopolis**	**2.65**	**39**	*e*Pn	**Pn**	**00 57 41.2**	**+0.2**
BIA	**Bitola**	**2.74**	**353**	*e*Pn	**Pn**	**00 57 44.7**	**+2.4**
BIA				*e*Sn	**Sn**	**00 58 12.2**	**-3.1**
BIA	**Bitola**	**2.74**	**353**	*e*Pn	**Pn**	**00 57 43.1**	**+0.9**
BIA				*e*Sn	**Sn**	**00 58 12.2**	**-3.2**
SOH	**Sokhos**	**2.79**	**25**	*e*Pn	**Pn**	**00 57 43.6**	**+0.6**
SOH				*e*Sn	**Sn**	**00 58 17.8**	**+1.1**
OHR	**Ohrid**	**2.91**	**345**	*e*Pn	**Pn**	**00 57 51.6**	**+7.1**
OHR				*e*Sn	**Sn**	**00 58 20.7**	**+1.1**
KNT	**Kendrikon**	**2.98**	**16**	*e*Pn	**Pn**	**00 57 45.6**	**0.0**
VAY	**Valandovo**	**3.07**	**11**	*e*Pn	**Pn**	**00 57 48.0**	**+1.2**
VAY				*e*Sn	**Sn**	**00 58 15.6**	**-8.1**
VAY	**Valandovo**	**3.07**	**11**	*e*Pn	**Pn**	**00 57 48.0**	**+1.1**
VAY				*e*Sn	**Sn**	**00 58 15.5**	**-8.2**
KRUS	**Krusevo**	**3.09**	**352**	*e*Pn	**Pn**	**00 57 50.6**	**+3.6**
KRUS				*e*Sn	**Sn**	**00 58 20.9**	**-3.2**
KRUS	**Krusevo**	**3.09**	**352**	*e*Pn	**Pn**	**00 57 50.6**	**+3.5**
KRUS				*e*Sn	**Sn**	**00 58 20.8**	**-3.3**
CHOS	**Chios island**	**3.36**	**87**	*e*Pn	**Pn**	**00 57 51.8**	**+1.1**
STIP	**Stip**	**3.40**	**5**	*e*Pn	**Pn**	**00 57 53.4**	**+2.0**
STIP				*e*Sn	**Sn**	**00 58 24.0**	**-7.8**
NVR	**Nevrokopi**	**3.44**	**27**	*e*PN	**Pn**	**00 57 53.8**	**+2.0**
VAM	**Vamos**	**3.48**	**145**	*e*PN	**Pn**	**00 57 54.0**	**+1.6**
TIP	**Timpagrande**	**4.03**	**284**	*e*Pn	**Pn**	**00 58 01.8**	**+1.8**
TIP				*e*Sn	**Sn**	**00 58 46.6**	**-0.6**
MLR	**Muntele Rosu**	**7.82**	**22**	Pn	**Pn**	**00 58 54.4**	**+2.3**
	0.2nm,0.3s,baz=164,slow=9.6,SNR=4.1						
PSZ	**Piszkesteto**	**9.71**	**352**	*e*Pn	**Pn**	**00 59 15.0**	**-2.9**
DAVOX	**Davos/Dischmat**	**12.19**	**318**	LR	LR	01 04 33.9	
	comp=Z,37nm,18.1s,baz=265,slow=38						
ESDC	**Sonseca Array**	**20.05**	**282**	P	**P**	**01 01 28.9**	**-2.5**
	baz=77,slow=40,SNR=3.1						
HFS	**Hagfors**	**22.45**	**349**	P	**P**	**01 01 55.7**	**-1.3**
	2.5nm,0.8s,mb3.7,baz=151,slow=16,SNR=4.7						
FINES	**FINESS Array B**	**23.32**	**5**	P	**P**	**01 02 04.8**	**-1.5**

GCMT **09** 00:58:18.4±0.1, 709S×15582E, h59km, MW5.4/95, Moment Tensor Solution. s95,c143; s85,c164; Duration: 1s2 Moment tensor: Scale 1017Nm; Mrr1.33±.02; Mθθ-0.95±.02; Mφφ-0.37±.02; Mrθ-0.16±.02; Mrφ1.01±.02; Mθφ-0.05±.02; Best double couple: M01.53500×1017 NP1:φs135.00000°, δ44.00000°, λ102.00000°. NP2:φs299.00000°, δ47.00000°, λ79.00000°. Principal axes: T 1.3530, Plg82.0000°, Azm140.0000°; N 0.3660, Plg8.0000°, Azm307.0000°; P -1.7170, Plg2.0000°, Azm37.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.

NEIC **09** 00:58:18.4±0.1, 683S×15582E, h10km, mb5.5/40, MS4.6/4, MW5.4 Error ellipse: s-maj=5.6km s-min=4.9km az=88.0, Moment Tensor Solution. s10 Moment tensor: Scale 1017Nm; Mrr1.57; Mθθ-0.43; Mφφ-1.14; Mrθ-0.18; Mrφ0.66; Mθφ-0.06; Best double couple: M0 1.60000×1017 NP1:φs156.00000°, δ45.00000°, λ99.00000°. NP2: φs323.00000°, δ46.00000°, λ81.00000°. Principal axes: T 1.5900, Plg83.0000°, Azm156.0000°; N -0.0500, Plg7.0000°, Azm329.0000°; P -1.5400, Plg1.0000°, Azm59.0000°;

BJI **09** 00:58:19.1, 660S×15564E, h10km, mB5.2, mb5.0, Ms4.7, Msz4.5

MOS **09** 00:58:21.3±0.9, 680S×15581E, h33km, mb5.6/32, MS4.5/11, Error ellipse: s-maj=9.0km s-min=6.4km az=103.8

ISCJB **09** 00:58:22.8±0.9, 690S±003×15580E±003, h50km±7km, mb5.4/106, MS4.5/48, Error ellipse: s-maj=5.9km s-min=5.0km az=148.2

IDC **09** 00:58:25.9±1.3, 700S×15567E, h62km±10km, mb4.9/22, mb1 4.9/23, mb1mx4.9/23, mbtmp4.9/23, MS4.5/22, Ms1 4.5/22, ms1mx4.4/26, Error ellipse: s-maj=10.2km s-min=8.7km az=87.0

ISC 09 00:58:27.1±0.8, 696S±003×15579E±003, h74km±7km, h43km±3.4km: pP-P, n473, σ0=98/249, mb5.3/106, 51C-30D, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
HNR	**Honiara**	**4.79**	**121**	*e*Pn		**Pn**	**00 59 37.4**	**+0.6**
HNR	**Honiara**	**4.79**	**121**	P		**Pn**	**00 59 37.6**	**+0.8**
	66nm,0.3s,baz=278,slow=2.9,SNR=14							
HNR				S		**Sn**	**01 00 31.3**	**+0.3**
	93nm,0.3s,baz=272,slow=21,SNR=5.7							
CTA	**Charters Tower**	**16.00**	**214**	*e*P		**Pn**	**01 02 09.7**	**+2.0**
	94nm,0.9s							
CTA				*e*S		**Sn**	**01 04 58.4**	**-6.0**
CTA	**Charters Tower**	**16.00**	**214**	*e*P		**Pn**	**01 02 09.7**	**+2.0**
CTA				*e*S		**Sn**	**01 04 58.4**	**-6.0**
CTA				pmax		pmax		
	comp=Z,94nm,0.9s							
CTA	**Charters Tower**	**16.00**	**214**	P		**Pn**	**01 02 09.8**	**+2.2**
	comp=Z,2.4nm,0.3s,baz=31,slow=13,SNR=34							
CTA				LR		LR	01 06 21.0	
	comp=Z,643nm,20.6s,baz=47,slow=30							
CTAO	**Charters Tower**	**16.00**	**214**	*e*Pn		**Pn**	**01 02 09.0**	**+1.3**
	comp=Z,122nm,0.9s							
CTAO	**Charters Tower**	**16.00**	**214**	*e*P		**Pn**	**01 02 09.0**	**+1.3**
CTAO				pmax		pmax		
	comp=Z,122nm,0.9s							
EIDS	**Eidsvold**	**18.85**	**193**	*e*P		**Pn**	**01 02 41.9**	**-0.7**
	comp=Z,67nm,1.4s							
GUMO	**Guam**	**23.12**	**332**	LR		LR	01 11 17.8	
	comp=Z,595nm,21.6s,baz=275,slow=33							
ARMA	**Armidale**	**23.66**	**189**	*e*P		**P**	**01 03 32.3**	**+0.5**
ARMA				*e*S		**S**	**01 07 39.8**	**-1.4**
KAKA	**Kakadu**	**23.70**	**254**	*e*P		**P**	**01 03 32.6**	**+0.3**
	comp=Z,215nm,0.9s,mb5.5							
WRAB	**Tennant Creek**	**24.47**	**236**	P		**P**	**01 03 40.0**	**+0.6**
	comp=Z,408nm,0.5s,mb6.0,SNR=37							
WRAB	**Tennant Creek**	**24.47**	**236**	*e*P		**P**	**01 03 40.0**	**+0.6**
	comp=Z,94nm,0.9s,mb5.1							
WRAB				*e*PcP		PcP	01 07 17.0	+0.5
WRAB	**Tennant Creek**	**24.47**	**236**	*e*P		**P**	**01 03 40.0**	**+0.6**
WRAB				*e*			01 07 17.0	
WRAB				pmax		pmax		
	comp=Z,94nm,0.9s,mb5.1							
WB2	**Warramunga Arr**	**24.48**	**236**	*e*P		**P**	**01 03 39.8**	**+0.4**
WB2				*e*S		**S**	**01 07 54.9**	**+0.2**
WB2				*e*SCP		ScP	01 10 51.5	+2.5
WRA	**Warramunga Arr**	**24.49**	**236**	P		**P**	**01 03 40.0**	**+0.5**
WRA							01 07 16.5	
WRA				S		**S**	**01 07 54.8**	**0.0**
WRA	**Warramunga Arr**	**24.49**	**236**	P		**P**	**01 03 40.0**	**+0.5**
	comp=Z,14nm,0.4s,mb4.7,baz=60,slow=9.5,SNR=50							
WRA				PcP		PcP	01 07 16.5	-0.1
	comp=Z,18nm,1.0s,baz=53,slow=2.3,SNR=8.8							
WRA				S		**S**	**01 07 54.8**	**0.0**
	comp=Z,3.8nm,1.0s,baz=51,slow=11,SNR=2.5							
WRA				ScP		ScP	01 10 51.5	+2.5
	comp=Z,17nm,1.1s,baz=67,slow=2.8,SNR=11							
WRA				LR		LR	01 13 00.5	
	comp=Z,2μm,19.9s,baz=55,slow=36							
ASAR	**Alice Springs**	**26.79**	**229**	P		**P**	**01 03 59.8**	**-0.5**
ASAR							01 07 22.3	
ASAR				S		**S**	**01 08 30.0**	**-1.2**
ASAR	**Alice Springs**	**26.79**	**229**	P		**P**	**01 03 59.8**	**-0.6**
	comp=Z,5.6nm,0.3s,mb4.5,baz=58,slow=10,SNR=115							
ASAR				PcP		PcP	01 07 22.2	+0.5
	comp=Z,13nm,0.9s,baz=67,slow=2.8,SNR=8.8							
ASAR				S		**S**	**01 08 30.0**	**-1.3**
	comp=Z,3.5nm,1.0s,baz=42,slow=12,SNR=2.7							
ASAR				ScP		ScP	01 10 58.1	+2.6
	comp=Z,14nm,0.8s,baz=54,slow=3.2,SNR=20							
STKA	**Stephens Creek**	**28.11**	**206**	*e*P		**P**	**01 04 11.5**	**-0.5**
	comp=Z,20nm,0.6s,mb4.8							
STKA				*e*S		**S**	**01 08 44.0**	**-7.8**
STKA				*e*SCP		ScP	01 11 01.7	+2.3
STKA	**Stephens Creek**	**28.11**	**206**	P		**P**	**01 04 12.1**	**+0.1**
	comp=Z,28nm,0.7s,mb4.9,baz=30,slow=13,SNR=23							
STKA				S		**S**	**01 08 50.2**	**-1.6**
	comp=Z,4.3nm,1.0s,baz=328,slow=14,SNR=1.5							
STKA				ScP		ScP	01 11 01.7	+2.3
	comp=Z,15nm,0.8s,baz=23,slow=4.8,SNR=13							
STKA				LR		LR	01 14 47.4	
	comp=Z,3μm,21.0s,baz=33,slow=35							
FITZ	**Fitzroy Crossi**	**31.39**	**247**	*e*P		**P**	**01 04 40.9**	**-0.3**
	comp=Z,78nm,0.8s,mb5.5							
FITZ				*e*pP		pP	01 04 54.8	-4.0
FITZ				*e*PCP		PcP	01 07 33.1	-0.4
FITZ				*e*S		**S**	**01 09 41.0**	**-2.6**
FITZ	**Fitzroy Crossi**	**31.39**	**247**	P		**P**	**01 04 41.1**	**-0.1**
	comp=Z,41nm,0.7s,mb5.3,baz=80,slow=9.2,SNR=87							
FITZ				LR		LR	01 16 47.6	
	comp=Z,803nm,21.7s,baz=48,slow=35							
ADE	**Adelaide**	**32.00**	**207**	P		**P**	**01 04 46.4**	**0.0**
AFI	**Afiamalu**	**32.61**	**105**	*e*P		**P**	**01 04 50.9**	**-1.1**
	comp=Z,172nm,1.1s,mb5.8							
AFI	**Afiamalu**	**32.61**	**105**	*e*P		**P**	**01 04 50.9**	**-1.1**
AFI				pmax		pmax		
	comp=Z,172nm,1.1s,mb5.8							
FORT	**Forrest**	**35.16**	**224**	*e*P		**P**	**01 05 14.1**	**+0.2**
	comp=Z,60nm,0.6s,mb5.6							
FORT				*e*SCP		ScP	01 11 26.4	+3.2
KAPI	**Kappang**	**35.89**	**271**	P		**P**	**01 05 20.7**	**+0.3**
	comp=Z,453nm,0.9s,mb6.4,SNR=13							
CBIJ	**Chichi jima**	**36.33**	**339**	LR		LR	01 17 21.3	
	comp=Z,312nm,21.5s,baz=183,slow=31							
TAU	**Tasmania Unive**	**36.58**	**190**	P		**P**	**01 05 27.2**	**+1.4**
	comp=Z,438nm,0.7s,mb6.5,SNR=5.4							
TAU	**Tasmania Unive**	**36.58**	**190**	*e*P		**P**	**01 05 27.0**	**+1.2**
	comp=Z,89nm,1.4s,mb5.5							
TAU				*e*		pP	01 05 41.3	-2.2
TAU	**Tasmania Unive**	**36.58**	**190**	*e*P		**P**	**01 05 27.0**	**+1.2**
TAU				*e*		pP	01 05 41.3	-2.3
TAU				pmax		pmax		
	comp=Z,89nm,1.4s,mb5.5							
URZ	**Urewera**	**36.65**	**151**	P		**P**	**01 05 26.4**	**-0.2**
	comp=Z,14nm,0.5s,mb5.1,baz=35,slow=4.5,SNR=21							
URZ				LR		LR	01 18 24.4	
	comp=Z,431nm,22.0s,baz=332,slow=33							
BKZ	**Black Stump Fm**	**37.10**	**153**	*e*P*		**P**	**01 05 30.1**	**-0.2**
MBWA	**Marble Bar**	**37.60**	**244**	*e*P		**P**	**01 05 34.9**	**0.0**
	comp=Z,28nm,0.6s,mb5.3							
THZ	**Tophouse**	**37.84**	**159**	P*		**P**	**01 05 36.4**	**-0.2**
SNZO	**South Karori**	**38.13**	**157**	*e*P		**P**	**01 05 38.3**	**-0.7**
	comp=Z,118nm,1.4s,mb5.5							
BFZ	**Birch Farm**	**38.23**	**155**	P*		**P**	**01 05 39.6**	**-0.2**
RPZ	**Rata Peaks**	**38.98**	**162**	P		**P**	**01 05 47.0**	**+0.9**
	comp=Z,44nm,0.4s,mb5.7,baz=345,slow=2.8,SNR=29							
RPZ				LR		LR	01 19 26.1	
	comp=Z,911nm,21.8s,baz=329,slow=32							
RPZ	**Rata Peaks**	**38.98**	**162**	P*		**P**	**01 05 46.0**	**-0.1**
MYLDM	**Lahad Datu**	**39.12**	**287**	⇓P		**P**	**01 05 49.1**	**+1.4**
TSM	**Tawau**	**39.46**	**285**	⇓P		**P**	**01 05 51.3**	**+0.8**
MLZ	**Mavora Lakes**	**39.72**	**166**	P*		**P**	**01 05 52.0**	**-0.2**
SDKM	**Sandakan**	**40.50**	**287**	⇓P		**P**	**01 05 51.3**	**-7.8**
KKM	**Kota Kinabalu**	**41.55**	**287**	⇑*i*P		**P**	**01 06 07.4**	**-0.3**
JOW	**Kunigami**	**42.89**	**323**	P		**P**	**01 06 18.0**	**-0.4**
	comp=Z,18nm,0.9s,mb4.8,baz=128,slow=8.4,SNR=2.9							
JOW				LR		LR	01 20 50.2	
	comp=Z,302nm,20.2s,baz=118,slow=31							
KLBR	**Kellerberrin**	**43.11**	**230**	*e*P		**P**	**01 06 20.0**	**-0.2**
	comp=Z,146nm,1.1s,mb5.6							
NWAO	**Narrogin (SRO)**	**44.11**	**229**	P		**P**	**01 06 27.5**	**-0.7**
	comp=Z,37nm,0.9s,mb5.1,baz=53,slow=6.4,SNR=5.7							
NWAO				LR		LR	01 24 44.5	
	comp=Z,2μm,19.8s,baz=66,slow=36							
MUN	**Mundaring**	**44.47**	**231**	*e*P		**P**	**01 06 31.4**	**+0.3**
SBUM	**Sibu**	**44.48**	**281**	⇑P		**P**	**01 06 32.8**	**+1.3**
RAR	**Rarotonga**	**45.20**	**113**	P		**P**	**01 06 37.5**	**+0.4**
	comp=Z,24nm,0.4s,mb5.3,baz=223,slow=3.8,SNR=6.1							
RAR				LR		LR	01 22 38.6	
	comp=Z,241nm,21.2s,baz=298,slow=32							
RAR				PKKP			01 29 54.1	
	comp=Z,25nm,0.4s,baz=147,slow=5.4,SNR=3.8							
YHNB	**Yeheng**	**45.96**	**314**	P		**P**	**01 06 41.4**	**-1.6**
KSM	**Kuching**	**46.15**	**279**	*e*P		**P**	**01 06 44.8**	**+0.1**
KSM	**Kuching**	**46.15**	**279**	⇑P		**P**	**01 06 45.5**	**+0.8**
MJAR	**Matsushiro Arr**	**46.31**	**340**	P		**P**	**01 06 45.0**	**-0.5**
	comp=Z,18nm,0.8s,mb4.8,baz=164,slow=7.6,SNR=38							
MJAR				ScP		ScP	01 12 08.3	+1.6
	comp=Z,0.8nm,0.4s,baz=172,slow=4.7,SNR=5.1							
MJAR				LR		LR	01 25 30.4	
	comp=Z,136nm,19.3s,baz=150,slow=35							
MAJO	**Matsushiro**	**46.31**	**340**	*e*P		**P**	**01 06 44.9**	**-0.6**
	comp=Z,25nm,0.8s,mb5.0							
MAJO	**Matsushiro**	**46.31**	**340**	*e*P		**P**	**01 06 44.9**	**-0.6**
MAJO				pmax		pmax		
	comp=Z,25nm,0.8s,mb5.0							
MAT	**Matsushiro**	**46.31**	**340**	P		**P**	**01 06 44.7**	**-0.8**
MAT				S		**S**	**01 13 27.0**	**-0.2**
JNU	**Nakatsue**	**46.36**	**331**	P		**P**	**01 06 46.5**	**+0.5**
	comp=Z,17nm,0.8s,mb4.9,baz=90,slow=9.0,SNR=11							
ERM	**Erimo**	**50.09**	**348**	*e*P		**P**	**01 07 15.6**	**+1.1**
SSE	**Sheshan**	**50.27**	**321**	P		**P**	**01 07 18.1**	**+1.9**
SSE				S		**S**	**01 14 28.1**	**+4.7**
SSE				AMB		AMB		
	comp=Z,28nm,0.8s,mb5.2							
SSE				AMB		AMB		
	comp=Z,73nm,4.5s							
SSE				LR		LR		
	comp=N,147nm,14.9s							
SSE				LR		LR		
	comp=E,187nm,14.9s							
SSE				LR		LR		
	comp=Z,255nm,17.4s							
KSRS	**Korea Array**	**51.28**	**332**	P		**P**	**01 07 24.1**	**+0.5**
	comp=Z,20nm,0.9s,mb5.1,baz=150,slow=8.4,SNR=58							
KSRS				LR		LR	01 28 00.9	
	comp=Z,144nm,21.2s,baz=140,slow=35							
INCN	**Inchon**	**51.92**	**331**	*e*P		**P**	**01 07 29.0**	**+0.7**
	comp=Z,23nm,0.4s,mb5.6							
INCN	**Inchon**	**51.92**	**331**	P		**P**	**01 07 29.6**	**+1.2**
	SNR=5.8							
QIZ	**Qiongzhong**	**52.12**	**301**	P		**P**	**01 07 30.8**	**+0.6**
QIZ				AP		pP	01 07 40.0	-8.8
QIZ				S		**S**	**01 14 50.6**	**+1.4**
QIZ				AMB		AMB		
	comp=Z,201nm,4.5s							
QIZ				LR		LR		
	comp=E,336nm,24.9s							
QIZ				LR		LR		
	comp=Z,582nm,27.5s							
ASAJ	**Asahikawa**	**52.22**	**348**	P		**P**	**01 07 31.7**	**+1.3**
	comp=Z,35nm,0.8s,mb5.5,baz=222,slow=12,SNR=23							
NJ2	**Nanjing**	**52.39**	**320**	*e*P		**P**	**01 07 34.0**	**+2.0**
NJ2				AMB		AMB		
	comp=Z,100nm,1.1s,mb5.8							
MYKOM	**Kota Tinggi**	**52.56**	**278**	⇓P		**P**	**01 07 34.2**	**+0.7**
KGM	**Kluang**	**53.12**	**278**	⇓P		**P**	**01 07 38.3**	**+0.6**
KTGM	**Kuala Trenggan**	**53.95**	**282**	⇑P		**P**	**01 07 44.5**	**+0.7**
PPT	**Papeete**	**54.25**	**107**	*e*P		**P**	**01 07 46.7**	**+0.8**
	comp=Z,86nm,1.4s,mb5.6							
PPT				*e*S		**S**	**01 15 19.0**	**+0.8**
	comp=Z,289nm,25.5s							
PPT				*e*LR		LR	01 23 34.4	
	comp=Z,544nm,22.5s,baz=282							
PPT	**Papeete**	**54.25**	**107**	P		**P**	**01 07 46.6**	**+0.7**
	comp=Z,28nm,0.6s,mb5.5,baz=259,slow=5.0,SNR=4.5							
PPT				LR		LR	01 27 30.8	
	comp=Z,279nm,18.9s,baz=268,slow=32							
PAE	**Paea**	**54.26**	**107**	*e*P		**P**	**01 07 46.4**	**+0.5**
	comp=Z,176nm,1.1s,mb6.0							
PAE	**Paea**	**54.26**	**107**	*e*P		**P**	**01 07 46.4**	**+0.5**
PAE				pmax		pmax		
	comp=Z,176nm,1.1s,mb6.0							
VLA	**Vladivostok**	**54.37**	**339**	*e*P		**P**	**01 07 46.5**	**+0.3**
VLA	**Vladivostok**	**54.37**	**339**	*e*P		**P**	**01 07 46.4**	**+0.2**
VLA				pmax		pmax		
	comp=Z,68nm,1.3s,mb5.5							
WHN	**Wuhan**	**54.47**	**315**	⇓P		**P**	**01 07 47.8**	**+0.6**
WHN				*e*S		**S**	**01 15 27.1**	**+6.4**
WHN				LR		LR		
	comp=Z,615nm,19.6s							
TVO	**Taravao**	**54.58**	**107**	*e*P		**P**	**01 07 49.1**	**+0.9**
	comp=Z,267nm,1.1s,mb6.2							
TVO	**Taravao**	**54.58**	**107**	*e*P		**P**	**01 07 49.1**	**+0.9**
TVO				pmax		pmax		
	comp=Z,267nm,1.1s,mb6.2							
YSS	**Yuzh-Sakhalins**	**54.91**	**349**	⇑*e*P		**P**	**01 07 49.9**	**-0.2**
YSS				pmax		pmax		
	comp=Z,47nm,1.1s,mb5.4							
TBI	**Tubuai**	**54.97**	**114**	*e*P		**P**	**01 07 51.8**	**+0.8**
	comp=Z,336nm,1.2s,mb6.2							
TBI				*e*S		**S**	**01 15 28.4**	**+0.7**
	comp=Z,303nm,31.0s							
TBI				*e*LQ			01 21 33.0	
	comp=Z,830nm,37.2s							
TBI				*e*LR		LR	01 23 53.9	
	comp=Z,2μm,29.2s,baz=284							
TBI	**Tubuai**	**54.97**	**114**	*e*P		**P**	**01 07 51.8**	**+0.8**
	comp=Z,336nm,1.2s,mb6.2							
TBI				*e*S		**S**	**01 15 28.4**	**+0.7**
TBI				*e*LQ			01 21 33.0	
FRIM	**Kepong**	**55.00**	**279**	⇓P		**P**	**01 07 51.4**	**0.0**
DL2	**Dalian**	**55.55**	**328**	P		**P**	**01 07 53.9**	**-1.0**
DL2				*e*S		**S**	**01 15 36.4**	**+1.5**
DL2				AMB		AMB		
	comp=Z,10.0nm,0.9s,mb4.8							
DL2				AMB		AMB		
	comp=Z,130nm,7.4s							
DL2				LR		LR		
	comp=N,160nm,22.1s							
DL2				LR		LR		
	comp=E,140nm,23.7s							
DL2				LR		LR		
	comp=Z,220nm,24.2s							
PMOR	**Pomariorio Ree**	**55.74**	**103**	*e*P		**P**	**01 07 57.4**	**+0.8**
	comp=Z,231nm,1.3s,mb6.1							
IPM	**Ipoh**	**55.83**	**280**	⇓P		**P**	**01 07 57.3**	**-0.1**
VAH	**Vaihoa**	**56.00**	**104**	*e*P		**P**	**01 07 59.5**	**+1.0**
	comp=Z,75nm,1.0s,mb5.7							
KULM	**Kulim**	**56.36**	**281**	⇑*i*P		**P**	**01 08 00.3**	**-0.9**
KULM	**Kulim**	**56.36**	**281**	⇑P		**P**	**01 08 01.1**	**-0.1**
MDJ	**Mudanjiang**	**56.50**	**338**	P		**P**	**01 08 01.8**	**+0.3**
MDJ				AP		pP	01 08 10.9	-10
MDJ				PP		PP	01 10 06.8	-1.3
MDJ				SCP		ScP	01 12 55.2	+4.7
MDJ				PCS		PcS	01 12 59.1	+1.1
MDJ				AMB		AMB		
	comp=Z,23nm,1.2s,mb5.1							
MDJ				LR		LR		
	comp=N,194nm,37.5s							
MDJ				LR		LR		
	comp=Z,239nm,29.2s							
MDJ	**Mudanjiang**	**56.50**	**338**	*e*P		**P**	**01 08 01.7**	**+0.2**
	comp=Z,14nm,0.8s,mb5.0							
SNY	**Shenyang**	**56.78**	**332**	⇑P		**P**	**01 08 01.6**	**-2.0**
SNY				AP		pP	01 08 13.4	-9.1
SNY				PP		PP	01 10 14.9	+4.2
SNY				S		**S**	**01 15 51.4**	**+0.2**
SNY				XS		sS	01 16 06.1	-17
SNY				AMB		AMB		
	comp=Z,12nm,1.4s,mb4.7							
SNY				AMB		AMB		
	comp=Z,163nm,6.7s							
SNY				LR		LR		
	comp=N,233nm,21.9s							
SNY				LR		LR		
	comp=E,237nm,17.1s							
SNY				LR		LR		
	comp=Z,491nm,33.6s							
SNG	**Songkhla**	**56.80**	**283**	P		**P**	**01 08 03.5**	**-0.7**
CN2	**Changchun**	**57.50**	**334**	*e*P		**P**	**01 08 09.0**	**+0.4**
CN2				*e*AP		pP	01 08 19.1	-8.4
CN2				PCP		PcP	01 09 01.8	+0.4
CN2				*e*S		**S**	**01 16 03.0**	**+2.6**
CN2				AMB		AMB		
	comp=Z,20nm,1.3s,mb5.0							
CN2				LR		LR		
	comp=N,300nm,18.0s							
CN2				LR		LR		
	comp=E,300nm,18.0s							
PSI	**Prapat**	**57.58**	**278**	P		**P**	**01 08 07.2**	**-2.5**
	comp=E,4.4nm,0.4s,mb4.8,baz=152,slow=5.6,SNR=10							
GYA	**Guiyang**	**58.06**	**307**	⇑*i*P		**P**	**01 08 14.6**	**+1.7**
GYA				PCP		PcP	01 09 06.2	+2.2
GYA				PP		PP	01 10 26.7	+4.4
GYA				SCP		ScP	01 13 02.5	+4.6
GYA				PCS		PcS	01 13 06.7	+1.0
GYA				S		**S**	**01 16 12.9**	**+4.5**
GYA				SCS		ScS	01 17 58.7	+2.6
GYA				SS		SS	01 20 05.8	+4.7
GYA				AMB		AMB		
	comp=Z,40nm,1.0s,mb5.4							
GYA				AMB		AMB		
	comp=Z,180nm,6.6s							
GYA				LR		LR		
	comp=N,890nm,23.6s							
GYA				LR		LR		
	comp=E,720nm,21.2s							
GYA				LR		LR		
	comp=Z,910nm,20.8s							
HABR	**Khabarovsk**	**58.13**	**344**	⇑*i*P		**P**	**01 08 13.1**	**+0.2**
HABR				*e*S		**S**	**01 16 13.4**	**+4.9**
HABR				*e*SS		SS	01 20 07.3	+5.9
HABR				pmax		pmax		
	comp=Z,70nm,1.3s,mb5.5							
BJI	**Beijing**	**59.34**	**325**	P		**P**	**01 08 21.5**	**0.0**
BJI				PP		PP	01 10 32.0	-1.4
BJI				S		**S**	**01 16 26.8**	**+2.3**
BJI				SS		SS	01 20 26.0	+5.3
BJI				AMB		AMB		
	comp=Z,12nm,0.9s,mb4.9							
BJI				AMB		AMB		
	comp=Z,170nm,4.0s							
BJI				LR		LR		
	comp=N,198nm,20.0s							
BJI				LR		LR		
	comp=E,255nm,17.9s							
BJI				LR		LR		
	comp=Z,374nm,37.0s							
NST	**Nakhon Sawan**	**59.52**	**293**	P		**P**	**01 08 24.0**	**+0.8**
	comp=Z,92nm,0.6s,mb6.0							
KLR	**Kul'dur**	**59.77**	**342**	*e*P		**P**	**01 08 20.9**	**-3.4**
KLR				*e*S		**S**	**01 16 25.5**	**-4.3**
KLR				pmax		pmax		
	comp=E,28nm,1.6s							
KLR				pmax		pmax		
	comp=Z,80nm,1.6s,mb5.5							
PET	**Petropavlovsk**	**59.80**	**2**	⇑*e*P		**P**	**01 08 24.1**	**-0.3**
PET	**Petropavlovsk**	**59.80**	**2**	*e*P		**P**	**01 08 26.6**	**+2.2**
PET				*e*S		**S**	**01 16 27.0**	**-3.0**
PET				pmax		pmax		
	comp=Z,26nm,0.6s,mb5.4							
XAN	**Xi'an**	**60.23**	**316**	P		**P**	**01 08 26.7**	**-1.0**
XAN				AMB		AMB		
	comp=Z,15nm,0.9s,mb5.0							
KMI	**Kunming**	**60.65**	**304**	P		**P**	**01 08 28.9**	**-1.9**
KMI				PP		PP	01 10 43.5	-1.8
KMI				S		**S**	**01 16 43.7**	**+1.8**
KMI				SS		SS	01 20 46.9	+5.1
KMI				AMB		AMB		
	comp=Z,14nm,1.6s,mb4.7							
KMI				AMB		AMB		
	comp=Z,178nm,4.2s							
KMI				LR		LR		
	comp=N,141nm,19.8s							
KMI				LR		LR		
	comp=E,308nm,23.0s							
KMI				LR		LR		
	comp=Z,421nm,25.6s							
CHRT	**Chiangrai**	**61.20**	**297**	⇑P		**P**	**01 08 35.0**	**+0.4**
	comp=Z,210nm,1.0s,mb6.1							
CM31	**Chiang Mai Arr**	**61.48**	**295**	*e*P		**P**	**01 08 37.0**	**+0.5**
	comp=Z,18nm,0.6s,mb5.3							
CHG	**Chiang Mai**	**61.60**	**296**	⇑P		**P**	**01 08 37.8**	**+0.5**
	comp=Z,45nm,1.0s,mb5.5							
CHTO	**Chiang Mai**	**61.60**	**296**	*e*P		**P**	**01 08 37.7**	**+0.4**
	comp=Z,63nm,1.3s,mb5.5							
CHTO				*e*		pP	01 08 51.7	-4.8
CHTO	**Chiang Mai**	**61.60**	**296**	*e*P		**P**	**01 08 37.7**	**+0.4**
CHTO				*e*		pP	01 08 51.7	-4.7
CHTO				pmax		pmax		
	comp=Z,63nm,1.3s,mb5.5							
CHTO	**Chiang Mai**	**61.60**	**296**	P		**P**	**01 08 38.2**	**+1.0**
	SNR=14							
CD2	**Chengdu**	**62.39**	**310**	P		**P**	**01 08 42.2**	**-0.2**
CD2				AP		pP	01 08 52.5	-9.1
CD2				PP		PP	01 11 01.8	+1.2
CD2				PCS		PcS	01 13 22.6	-2.1
CD2				S		**S**	**01 17 06.2**	**+2.4**
CD2				SCS		ScS	01 18 28.7	+0.4
CD2				SS		SS	01 21 12.6	+3.7
CD2				AMB		AMB		
	comp=Z,50nm,0.5s,mb5.8							
CD2				AMB		AMB		
	comp=Z,180nm,5.2s							
CD2				LR		LR		
	comp=N,430nm,21.6s

comp=Z,19nm,0.7s,mb5.0
CLNS pmax pmax
comp=N,19nm,1.3s
CLNS pmax pmax
comp=E,3.0nm,0.5s
CIT Chita 68.93 334 *e*P **P 01 09 24.4 +0.4**
CIT *e* pP 01 09 39.3 -4.2
CIT pmax pmax
comp=Z,78nm,2.0s,mb5.2
GTA Gaotai 69.25 317 *e*P **P 01 09 26.9 +0.6**
GTA AP pP 01 09 37.2 -8.6
GTA PP PP 01 12 02.2 +1.8
GTA SCP 01 13 49.2
GTA PCS 01 13 56.2
GTA S S 01 18 24.9 -2.1
GTA AMB AMB
comp=Z,13nm,1.6s,mb4.5
GTA AMB AMB
comp=Z,238nm,8.7s
GTA LR LR
comp=N,184nm,20.2s
GTA LR LR
comp=E,182nm,27.4s
GTA LR LR
comp=Z,312nm,24.3s
ULN Ulaanbaatar 69.40 327⇑ *i*P **P 01 09 27.9 +0.9**
ULN Ulaanbaatar 69.40 327 *c i*P **P 01 09 27.8 +0.8**
ULN Ulaanbaatar 69.40 327 P **P 01 09 27.5 +0.5**
SNR=34
SONM Songino Array 69.73 327 P **P 01 09 30.0 +0.9**
comp=Z,38nm,0.9s,mb5.2,baz=133,slow=5.2,SNR=214
SONM PKPPKP 01 37 35.2
comp=Z,2.7nm,1.1s,baz=277,slow=2.6,SNR=15
SONM LR LR 01 37 59.9
comp=Z,174nm,20.9s,baz=72,slow=34
SEY Seymchan 69.74 358⇑ *e*P **P 01 09 26.8 -2.0**
SHL Shillong 69.96 300 *e*P **P 01 09 31.0 0.0**
SBA Scott Base 71.09 178 *e*P **P 01 09 37.9 +1.0**
comp=Z,142nm,1.8s,mb5.5
SBA Scott Base 71.09 178 *e*P **P 01 09 37.9 +1.0**
SBA pmax pmax
comp=Z,142nm,1.8s,mb5.5
YAK Yakutsk 71.69 347⇑ *e*P **P 01 09 40.6 -0.1**
YAK Yakutsk 71.69 347 *e*P **P 01 09 41.8 +1.1**
YAK *e* pP 01 10 00.1 -0.2
YAK *e* 01 12 21.8
YAK *e*PPP 01 14 05.3
YAK *e*S S 01 18 53.7 -0.8
YAK *e* 01 19 37.3
YAK *e**SS sS 01 19 38.0 +10
YAK *e*SS SS 01 23 29.8 -2.0
YAK pmax pmax
comp=Z,20nm,1.0s,mb4.9
YAK pmax pmax
comp=N,9.0nm,1.1s
YAK pmax pmax
comp=E,7.0nm,1.4s
YAK pmax pmax
comp=Z,128nm,4.2s
YAK pmax pmax
comp=N,114nm,4.6s
YAK pmax pmax
comp=E,139nm,5.1s
YAK smax
comp=N,138nm,9.7s
YAK smax
comp=E,169nm,13.1s
LSA Lhasa 71.90 304 P **P 01 09 44.4 +1.7**
LSA Lhasa 71.90 304 *e*P **P 01 09 43.6 +0.9**
comp=E,32nm,1.2s,mb5.0
LSA Lhasa 71.90 304 *e*P **P 01 09 43.6 +0.9**
LSA pmax pmax
comp=Z,32nm,1.2s,mb5.0
BOD Bodaibo 72.88 338⇓ *i*P **P 01 09 46.8 -1.0**
BOD pmax pmax
comp=Z,19nm,1.2s,mb4.8
ZAK Zakamensk 72.88 328⇓ *i*P **P 01 09 48.4 +0.4**
ZAK pmax pmax
comp=Z,25nm,1.2s,mb4.9
MIR Mirnyy 73.02 202⇑ *i*P **P 01 09 43.0 -5.6**
MIR pmax pmax
comp=Z,200nm,2.0s,mb5.6
TLY Talaya 73.44 329 P **P 01 09 51.3 0.0**
comp=Z,128nm,1.0s,mb5.7,SNR=11
TLY Talaya 73.44 329⇑ *i*P **P 01 09 51.5 +0.2**
TLY Talaya 73.44 329 *e*P **P 01 09 51.6 +0.3**
TLY *e*S S 01 19 16.9 +2.1
TLY pmax pmax
comp=Z,31nm,1.1s,mb5.0
TLY MLR MLR
comp=Z,146nm,19.0s
TLY Talaya 73.44 329 P **P 01 09 52.1 +0.8**
SNR=16
IRK Irkutsk 73.45 330⇑ *i*P **P 01 09 51.1 -0.2**
IRK pmax pmax
comp=Z,60nm,0.7s,mb5.5
BOK Bokaro 74.68 297 *e*P **P 01 09 58.1 -1.1**
BOK AMb AMB 01 10 01.8
comp=Z,40nm,1.3s,mb5.0
MOY Mondy 74.80 328 *e*P **P 01 09 59.8 +0.6**
MOY pmax pmax
comp=Z,47nm,1.9s,mb4.9
BILL Bilibino 75.19 4⇑ *i*P **P 01 10 01.4 +0.3**
BILL Bilibino 75.19 4 *c i*P **P 01 10 01.3 +0.2**
BILL *e*S S 01 19 41.6 +7.8
BILL pmax pmax
comp=Z,68nm,1.4s,mb5.2
BILL MLR MLR
comp=Z,200nm,19.0s
JIRN Jiri 75.44 301 *e*P **P 01 10 04.6 +1.1**
comp=Z,4.2nm,0.3s,mb4.7
VIS Vishakhapatnam 75.60 290 *e*P **P 01 10 04.2 -0.3**
VIS AMb AMB 01 10 06.9
comp=Z,66nm,1.1s,mb5.3
PALK Pallekele 76.21 279 *e*P **P 01 10 08.7 +0.5**
comp=Z,48nm,0.9s,mb5.2
PALK *e* 01 10 22.7
KKN Kakani 76.25 301 *e*P **P 01 10 07.9 -0.2**
comp=Z,45nm,0.8s,mb5.3
KKN Kakani 76.25 301 *e*P **P 01 10 07.9 -0.2**
KKN pmax pmax
comp=Z,45nm,0.8s,mb5.2
GKN Gorkha 76.86 301 *e*P **P 01 10 11.2 -0.3**
comp=Z,80nm,0.9s,mb5.4
KOLN Koldanda 77.69 300 *e*P **P 01 10 15.7 -0.4**
comp=Z,53nm,0.9s,mb5.3
WMQ Urumqi 79.34 317 *e*P **P 01 10 24.2 -0.7**
WMQ AP pP 01 10 34.5 -10
WMQ PP PP 01 13 26.0 +0.2
WMQ S S 01 20 22.0 +2.3
WMQ XS sS 01 20 38.0 -16
WMQ SS SS 01 25 32.0 +3.6
WMQ AMB AMB
comp=Z,13nm,1.2s,mb4.6
WMQ AMB AMB
comp=Z,313nm,4.2s
WMQ LR LR
comp=N,433nm,26.8s
WMQ LR LR
comp=E,452nm,27.7s
WMQ LR LR
comp=Z,528nm,28.5s
SLKM Skilak Lake 79.39 24 *e*P **P 01 10 23.6 -1.2**
HYB Hyderabad 80.00 289 *e*P **P 01 10 28.5 -0.5**
HYB *e* 01 10 43.0
HYB Hyderabad 80.00 289 *i*P **P 01 10 28.5 -0.5**
HYB *e* 01 10 43.0
TRD Trivandrum 80.07 280 *e*P **P 01 10 29.2 -0.2**
TRD AMb AMB 01 10 34.0
comp=Z,113nm,1.6s,mb5.4
TIXI Tiksi 80.43 352⇑ *e*P **P 01 10 28.0 -2.2**
TIXI Tiksi 80.43 352 *e*P **P 01 10 27.4 -2.8**
TIXI *e*S S 01 20 31.3 +1.1
TIXI pmax pmax
comp=Z,13nm,1.4s,mb4.6
SML Sawmill 80.88 23 *e*P **P 01 10 32.5 -0.2**
IMA2 Indian Mountai 81.52 19 *e*P **P 01 10 35.7 -0.3**
MCK McKinley 81.73 22 *e*P **P 01 10 36.1 -1.1**
comp=Z,32nm,0.9s,mb5.2
MCK McKinley 81.73 22 *e*P **P 01 10 36.1 -1.1**
MCK pmax pmax
comp=Z,32nm,0.9s,mb5.2
BHPL Bhopal 82.13 295 *e*P **P 01 10 39.7 -0.5**
BHPL AMb AMB 01 10 40.4
comp=Z,47nm,1.0s,mb5.3
COLA College 82.76 21 *i*P **P 01 10 41.7 -0.9**
QSPA South Pole Qui 83.02 180⇑ *i*P **P 01 10 44.2 +0.4**
comp=Z,89nm,1.0s,mb5.5
QSPA South Pole Qui 83.02 180 P **P 01 10 44.4 +0.7**
comp=Z,48nm,0.8s,mb5.4,baz=342,slow=0.5,SNR=79
NDI New Delhi 83.38 300 *e*P **P 01 10 44.6 -2.0**
NDI AMb AMB 01 10 46.5
comp=Z,70nm,1.6s,mb5.2
MK31 Makanchi Array 83.90 319 *i*P **P 01 10 49.2 +0.3**
MKAR Makanchi Array 83.90 319 P **P 01 10 49.4 +0.6**
MKAR LR LR 01 49 40.1
MKAR Makanchi Array 83.90 319 *i*P **P 01 10 49.4 +0.6**
MKAR pmax pmax
comp=Z,20nm,0.9s
MKAR Makanchi Array 83.90 319 P **P 01 10 49.4 +0.6**
comp=Z,20nm,0.9s,mb4.9,baz=100,slow=6.3,SNR=74
MKAR LR LR 01 49 40.1
comp=Z,82nm,18.6s,baz=111,slow=37
SMLA Simla 83.91 302 *e*P **P 01 10 49.5 +0.2**
SMLA AMb AMB 01 10 51.8
comp=Z,70nm,1.5s,mb5.3
KAD Karad 84.10 288 *e*P **P 01 10 49.2 -1.3**
KAD AMb AMB 01 10 51.6
comp=Z,142nm,0.9s,mb5.8
ZAA0 Zalesovo Array 84.59 326 *e*P **P 01 10 51.3 -0.9**
ZALV Zalesovo Beam 84.59 326 P **P 01 10 51.3 -0.9**
comp=Z,18nm,0.8s,mb5.1,baz=107,slow=5.0,SNR=51
ZAL Zalesovo 84.60 326 P **P 01 10 51.3 -0.9**
POO Poona 84.60 289⇑ *i*P **P 01 10 51.5 -1.5**
comp=Z,70nm,1.0s,mb5.5
POO *e*P 01 10 52.2
POO AMb AMB 01 10 54.6
comp=Z,85nm,1.2s,mb5.5
MAW Mawson 84.73 203 *e*P **P 01 10 52.8 +0.1**
comp=Z,20nm,0.8s,mb5.1
MAW Mawson 84.73 203 *e*P **P 01 10 52.8 +0.1**
MAW pmax pmax
comp=Z,20nm,0.8s
MAW Mawson 84.73 203 P **P 01 10 52.6 -0.1**
comp=Z,29nm,1.0s,mb5.2,baz=89,slow=6.3,SNR=25
MAW LR LR 01 47 16.3
comp=Z,203nm,18.9s,baz=79,slow=35
EGAK Eagle 85.18 23 *e*P **P 01 10 55.5 +0.6**
comp=Z,30nm,1.2s,mb5.1
AJM Ajmer 85.21 297 *e*P **P 01 10 55.1 -0.8**
AJM AMb AMB 01 10 57.1
comp=Z,119nm,1.1s,mb5.7
THN Thein Dam 85.38 303 *e*P **P 01 10 55.2 -1.5**
DAWY Dawson 85.55 24 *e*P **P 01 10 57.8 +1.1**
NVS Novosibirsk 85.76 326⇑ *i*P **P 01 10 56.7 -1.3**
NVS *i* pP 01 11 11.7 -6.4
NVS pmax pmax
comp=N,23nm,1.5s
NVS pmax pmax
comp=E,42nm,1.5s
NVS pmax pmax
comp=Z,57nm,1.5s,mb5.3
KSH Kashi 86.59 310 P **P 01 11 05.0 +2.5**
KSH PP PP 01 14 28.4 +3.0
KSH SKS 01 21 25.5
KSH S S 01 21 36.5 +3.0
KSH SS SS 01 27 21.1 +5.0
KSH LR LR
comp=Z,396nm,8.0s
ULHL Ulahol 86.96 313 P **P 01 11 05.3 +1.2**
SNR=11
BBB Bella Bella 87.02 37 LR LR 01 42 17.7
comp=Z,919nm,20.7s,baz=245,slow=30
KURK Kurchatov 87.29 322 P **P 01 11 04.1 -1.5**
comp=Z,95nm,1.0s,mb5.7,SNR=8.3
KURK Kurchatov 87.29 322⇑ *e*P **P 01 11 04.7 -0.9**
KURK Kurchatov 87.29 322 P **P 01 11 05.0 -0.6**
SNR=13
TKM2 Tokmak 2 87.56 314 *e*P **P 01 11 06.4 -0.7**
comp=Z,8.7nm,1.0s,mb4.7
TKM2 Tokmak 2 87.56 314 *e*P **P 01 11 06.4 -0.7**
TKM2 pmax pmax
comp=Z,9.0nm,1.0s,mb4.8
TKM2 Tokmak 2 87.56 314 P **P 01 11 07.7 +0.6**
SNR=9.2
KZA Kyzart 87.64 313 P **P 01 10 58.1 -9.4**
SNR=5.2
KBK Karagaybulak 87.98 313 P **P 01 11 09.8 +0.7**
SNR=6.5
CHMS Chumysh 88.19 314 P **P 01 11 10.0 0.0**
SNR=7.5
UCH Uchtor 88.21 313 *e*P **P 01 11 10.5 +0.3**
comp=Z,45nm,1.7s,mb5.2
UCH Uchtor 88.21 313 P **P 01 11 11.8 +1.6**
SNR=11
FRU Bishkek 88.25 313 *e*P **P 01 11 09.0 -1.4**
FRU pmax pmax
comp=Z,130nm,2.6s,mb5.5
AAK Ala-Archa 88.30 313 P **P 01 11 09.9 -0.7**
comp=Z,53nm,0.9s,mb5.6,SNR=9.8
AAK Ala-Archa 88.30 313 P **P 01 11 09.0 -1.6**
SNR=7.5
USP Ospenovka 88.42 314 P **P 01 11 11.2 +0.1**
SNR=11
AML Almayashu 88.79 313 *e*P **P 01 11 14.2 +1.2**
comp=Z,12nm,0.8s,mb5.0
AML Almayashu 88.79 313 P **P 01 11 14.3 +1.4**
SNR=14
EKS2 Erkin-Say 88.83 313 *e*P **P 01 11 13.1 0.0**
comp=Z,6.2nm,0.8s,mb4.7
EKS2 Erkin-Say 88.83 313 P **P 01 11 13.9 +0.8**
SNR=12
BHJ Bhuj 89.18 293 *e*P **P 01 11 14.5 -0.7**
BHJ AMb AMB 01 11 17.1
comp=Z,109nm,1.1s,mb5.8
INK Inuvik 89.41 21 *e*P **P 01 11 13.9 -1.3**
comp=Z,900nm,1.3s
INK Inuvik 89.41 21 LR LR 01 46 21.9
comp=Z,737nm,21.1s,baz=220,slow=32
NVAR Mina Array Bea 91.08 52 P **P 01 11 25.4 +1.7**
comp=Z,0.6nm,0.5s,baz=299,slow=46,SNR=3.2
KBL Kabul 91.23 304 *e*P **P 01 11 23.3 -1.2**
comp=Z,17nm,1.0s,mb5.1
PFO Pinyon Flat Ob 91.94 57 LR LR 01 48 43.2
comp=Z,507nm,18.2s,baz=324,slow=33
SYO Syowa Base 92.61 199⇑ *e*P **P 01 11 28.8 -1.4**
SYO Syowa Base 92.61 199⇑ *e*pP pP 01 11 43.6 -6.9
CHKZ Chkalovo 92.70 324 *i*P **P 01 11 28.9 -1.9**
CHKZ pmax pmax
comp=Z,15nm,1.0s,mb5.3
BRVK Borovoye 92.81 323 P **P 01 11 30.3 -1.0**
comp=Z,106nm,1.2s,mb6.0,SNR=8.8
BRVK Borovoye 92.81 323⇑ *e*P **P 01 11 30.1 -1.2**
BRVK Borovoye 92.81 323 P **P 01 11 30.5 -0.8**
SNR=12
NEW Newport 93.20 42 LR LR 01 45 48.2
comp=Z,862nm,21.8s,baz=249,slow=30
YKA Yellowknife Ar 95.94 28 P **P 01 11 45.0 -0.5**
YKA PKKPbc PKKPbc 01 28 31.8 -4.6
YKA Yellowknife Ar 95.94 28 P **P 01 11 45.0 -0.5**
comp=Z,1.4nm,0.5s,mb4.7,baz=266,slow=4.6,SNR=24
YKA PKKPbc PKKPbc 01 28 31.8 -4.6
comp=Z,0.6nm,0.6s,baz=86,slow=2.9,SNR=12
LPIG La Paz 96.35 67 LR LR 01 46 45.7
comp=Z,585nm,20.4s,baz=197,slow=30
PDAR Pinedale Array 98.09 48 P **P 01 11 55.2 -0.4**
comp=Z,0.7nm,0.9s,mb4.2,baz=229,slow=8.2,SNR=4.4
PDAR PKPPKP 01 36 43.4
comp=Z,0.4nm,0.6s,baz=123,slow=2.5,SNR=3.8
ARU Arti 99.76 326⇑ *e*P Pdif 01 12 00.5 -2.4
ARU Arti 99.76 326 *c i*P Pdif 01 12 00.7 -2.2
ARU 01 16 06.6
ARU S SKSac 01 22 36.8 +2.1
ARU SS SS 01 30 24.7 +1.3
ARU pmax pmax
comp=Z,23nm,2.5s,mb5.4
AKTK Aktyubinsk 100.28 320 P Pdif 01 12 03.3 -1.9
AKTO Aktyubinsk 100.28 320 P Pdif 01 12 03.3 -1.9
comp=Z,2.3nm,1.0s,baz=106,slow=2.7,SNR=5.0
VNA3 Neumayer Olymp 101.36 185 *e*PKiKP PKiKP 01 16 34.5 +0.9
VNA3 *e* 01 16 37.3
VNA2 Neumayer--Watz 101.46 186 *e*PKiKP PKiKP 01 16 35.6 +1.8
baz=132,slow=0.9
VNA2 *e* 01 16 38.2
TXAR Lajitas Array 102.55 62 PKKPbc PKKPbc 01 28 16.8 +0.2
comp=Z,0.3nm,0.5s,baz=114,slow=3.7,SNR=5.3
ARCES ARCESS Array B 109.78 343 PKiKP PKiKP 01 16 48.6 -0.4
comp=Z,1.9nm,0.3s,baz=62,slow=1.2,SNR=57
ARCES PKKPbc PKKPbc 01 27 50.9 -4.7
comp=Z,3.9nm,0.9s,baz=252,slow=1.2,SNR=5.7
OBN Obninsk 112.15 327 *e*PKP PKiKP 01 16 50.6 -3.4
OBN Obninsk 112.15 327 *i*PKIKP PKiKP 01 16 50.6 -3.4
OBN *e* 01 17 39.5
OBN pmax pmax
comp=Z,17nm,1.5s
OBN MLR MLR
comp=Z,100nm,19.0s
KAF Kangasniemi 113.77 337 *e*p PKiKP 01 16 55.5 -1.4
comp=Z,2.7nm,0.5s
KAF Kangasniemi 113.77 337 *e*PKIKP PKiKP 01 16 55.5 -1.4
KAF pmax pmax
comp=Z,3.0nm,0.5s
FINES FINESS Array B 114.23 336 PKP PKiKP 01 16 57.3 -0.4
comp=Z,1.5nm,0.3s,baz=111,slow=3.6,SNR=43
FINES PKKPbc PKKPbc 01 27 36.8 -3.8
comp=Z,0.6nm,0.6s,baz=199,slow=3.8,SNR=6.7
MALT Malatya 115.67 309⇓ *i*P PKPdf 01 17 01.7 +0.4
AKASG Malin Array Be 117.97 325 PKP PKPdf 01 17 04.5 -0.8
comp=Z,4.3nm,0.5s,baz=48,slow=2.6,SNR=64
AKBB Malin Array Si 117.97 325 *e*P PKPdf 01 17 03.9 -1.4
KIEV Kiev 117.98 325 *e*P PKPdf 01 17 03.5 -1.8
KMBO Kilima Mbogo 118.15 265 PKP PKPdf 01 17 06.9 +0.1
comp=Z,0.9nm,0.7s,baz=40,slow=3.7,SNR=7.3
MMAI Mount Meron Ar 119.16 304 PKP PKPdf 01 17 08.9 +0.8
comp=Z,1.3nm,0.5s,baz=74,slow=9.6,SNR=5.8
ANTO Ankara 119.53 312⇓ *i*P PKPdf 01 17 08.7 0.0
ANTO Ankara 119.53 312⇓ *i*P PKPdf 01 17 08.7 +0.1
SUW Suwalki 119.59 330 *e*PKP PKPdf 01 17 07.7 -0.6
HFS Hagfors 119.75 339 PKP PKPdf 01 17 07.2 -1.2
comp=Z,2.2nm,0.4s,baz=119,slow=5.2,SNR=20
NB2 NORSAR Subarra1 119.93 341 PKPdf PKPdf 01 17 07.8 -0.9
comp=Z,1.8nm,0.6s,baz=39,slow=1.9
NOA NORSAR Array B 119.93 341 PKP PKPdf 01 17 07.4 -1.4
comp=Z,2.1nm,0.5s,baz=44,slow=1.9,SNR=12
NOA PKKPbc PKKPbc 01 27 18.5 -1.9
comp=Z,2.4nm,0.9s,baz=42,slow=3.6,SNR=4.2
EIL Elat 120.14 300 PKP PKPdf 01 17 09.8 -0.3
EIL Elat 120.14 300 PKP PKPdf 01 17 09.8 -0.3
comp=Z,8.0nm,1.1s,baz=31,slow=9,3,SNR=5.3
HARR Harsova 121.26 319⇑ *i*P PKPdf 01 17 12.0 +0.2
HARR Harsova 121.26 319⇑ *i*P PKPdf 01 17 12.0 +0.2
SCHQ Schefferville 121.39 27 PKP PKPdf 01 17 11.7 0.0
comp=Z,3.1nm,0.7s,baz=288,slow=3.2,SNR=4.1
ISP Isparta 121.83 310⇑ *i*P PKPdf 01 17 12.7 -0.5
ISP Isparta 121.83 310⇑ *i*P PKPdf 01 17 12.6 -0.5
LBTB Lobatse 122.05 235 *e*PKPdf PKPdf 01 17 13.7 -0.2
KWP Kalwaria 122.17 326 *e*PKP PKPdf 01 17 14.1 +0.7
KWP Kalwaria 122.17 326 *e*PKP PKPdf 01 17 14.1 +0.7
KWP Kalwaria 122.17 326⇓ *i*P PKPdf 01 17 13.6 +0.2
MLR Muntele Rosu 122.21 320⇓ P PKPdf 01 17 13.4 -0.2
MLR Muntele Rosu 122.21 320 PKP PKPdf 01 17 13.0 -0.7
comp=Z,4.0nm,0.8s,baz=93,slow=4.9,SNR=7.6
MLR Muntele Rosu 122.21 320⇓ *i*P PKPdf 01 17 13.4 -0.2
KOLS Kolonicke sedl 122.77 325 *e*PKP PKPdf 01 17 14.7 +0.1
GKP Gorka Klasztor 122.90 332 *e*PKP PKPdf 01 17 15.8 +1.1
TRPA Tarpa 123.03 324⇑ *i*P PKPdf 01 17 15.1 0.0
STHS Stebnicka Huta 123.09 326 *e*PKP PKPdf 01 17 16.0 +0.8
CRVS Cervenica-Dubn 123.24 326 *e*PKP PKPdf 01 17 15.5 0.0
CRVS *e* 01 17 32.9
ZIMR 123.37 319⇑ P PKPdf 01 17 16.4 +0.5
ZIMR 123.37 319⇑ *i*P PKPdf 01 17 16.4 +0.5
OJC Ojcow 123.43 328 *e*PKPdf PKPdf 01 17 15.6 -0.2
DRGR 123.60 323⇓ P PKPdf 01 17 16.0 -0.2
DRGR 123.60 323⇓ *i*P PKPdf 01 17 16.0 -0.2
NIE Niedzica 123.60 327 *e*PKPdf PKPdf 01 17 16.7 +0.6
GZR Gura Zlata 124.23 321⇑ *i*P PKPdf 01 17 15.7 -1.8
OKC Ostrava-Krasne 124.52 328 *e*PKPdf PKPdf 01 17 18.0 +0.1
OKC *ex* x 01 17 33.4
PSZ Piszkesteto 124.65 325⇑ *i*P PKPdf 01 17 17.1 -1.1
PSZ Piszkesteto 124.65 325⇓ *e*PKP PKPdf 01 17 18.2 0.0
BZS Buzias 124.84 322⇓ P PKPdf 01 17 18.6 -0.1
BZS Buzias 124.84 322⇓ *i*P PKPdf 01 17 18.5 -0.1
KSP Ksiaz 124.87 330 *e*PKP PKPdf 01 17 19.0 +0.5
KSP Ksiaz 124.87 330 *e*PKIKP PKPdf 01 17 18.5 0.0
KSP *e* 01 17 34.2
MORC Moravsky Berou 124.88 328⇑ P PKPdf 01 17 17.6 -0.9
MORC Moravsky Berou 124.88 328⇑ *i*P PKPdf 01 17 17.6 -1.0
VYHS Vyhne 124.92 326 *e*PKP PKPdf 01 17 18.6 -0.1
VYHS *e* 01 17 34.9
KOLL Kolacno 125.11 327 *e*PKP PKPdf 01 17 18.3 -0.8
KOLL *e* 01 17 34.5
DPC Dobruska-Polom 125.16 329 *e*PKPdf PKPdf 01 17 19.4 +0.3
DPC *ex* x 01 17 35.6
DPC AMS AMS 02 11 30.0
comp=Z,300nm,25.0s
UPC Upice 125.22 330 *e*PKPdf PKPdf 01 17 19.4 +0.2
VTS Vitosha 125.25 318⇓ P PKPdf 01 17 19.5 0.0
VTS Vitosha 125.25 318⇓ *i*P PKPdf 01 17 19.5 0.0
VRAC Vranov 125.65 328⇓ P PKPdf 01 17 20.5 +0.4
VRAC Vranov 125.65 328⇓ *i*P PKPdf 01 17 20.5 +0.4
PVCC Panska Ves 125.92 330 *e*PKPdf PKPdf 01 17 20.9 +0.3
PVCC *ex* x 01 17 36.4
BRG Berggiesshubel 126.00 331 *i*PKIKP PKPdf 01 17 20.6 -0.1
BRG *i* 01 17 37.1
BRG pmax pmax
comp=Z,15nm,1.2s
BRG Berggiesshubel 126.00 331 *e*PKPdf PKPdf 01 17 20.2 -0.5
BRG Berggiesshubel 126.00 331 *i*PKP PKPdf 01 17 20.6 -0.1
comp=Z,25nm,1.2s
BRG *i* 01 17 37.1
comp=Z,12nm,1.0s
BRG *i* 01 20 16.6
comp=Z,5.2nm,0.7s
BRG *e* 01 27 35.5
comp=Z,12nm,1.7s
ZST Bratislava 126.04 327 *e*PKP PKPdf 01 17 21.4 +0.5
ZST *e* 01 17 36.6
ZST LR LR
comp=Z,100nm,19.8s
ZST Bratislava 126.04 327 *e*PKP PKPdf 01 17 21.4 +0.5
ZST *e* 01 17 36.6
CLL Collm 126.16 332⇑ *i*PKP PKPdf 01 17 20.7 -0.3
CLL *e* 01 17 36.0
CLL Collm 126.16 332⇑ *i*PKIKP PKPdf 01 17 20.7 -0.3
CLL *e* 01 17 36.0
CLL pmax pmax
comp=Z,12nm,1.0s
CLL Collm 126.16 332 *e*PKPdf PKPdf 01 17 20.6 -0.4
CLL Collm 126.16 332⇑ *i*PKPdf PKPdf 01 17 20.7 -0.3
comp=Z,12nm,1.0s
CLL *e*(pPKPdf) 01 17 36.0
CLL *ex* x 01 17 52.0
TREC Trest 126.23 329 *e*PKPdf PKPdf 01 17 20.8 -0.4
PRU Pruhonice 126.28 330 *e*PKPdf PKPdf 01 17 21.5 +0.2
PKSM Moragy 126.30 324⇑ P PKPdf 01 17 20.9 -0.6
PKSM Moragy 126.30 324⇑ *i*P PKPdf 01 17 20.9 -0.5
STIP Stip 126.34 318 *e*PKP PKPdf 01 17 21.5 -0.1
SOP Sopron 126.64 327⇑ *e*PKP PKPdf 01 17 16.3 -5.7
SKO Skopje 126.70 318 *e*PKP PKPdf 01 17 22.8 +0.4
CONA Conrad Observa 126.87 327⇓ *i*PKiKP PKiKP 01 17 22.7 -0.3
comp=Z,6.7nm,1.0s,SNR=6.6
CLZ Clausthal 126.98 334 *e*PKPdf PKPdf 01 17 22.4 -0.1
TANN Tannenbergstha 127.01 331 *e*PKPdf PKPdf 01 17 22.4 -0.2
KRUS Krusevo 127.11 318 *e*PKP PKPdf 01 17 22.9 -0.2
NKC Novy Kostel 127.14 331 *e*PKPdf PKPdf 01 17 23.1 +0.2
NKC *ex* x 01 17 39.5
BIA Bitola 127.22 317 *e*PKP PKPdf 01 17 22.1 -1.3
MOX Moxa 127.25 332 *e*P PKPdf 01 17 23.0 -0.1
comp=Z,17nm,1.5s
MOX Moxa 127.25 332 *e*PKIKP PKPdf 01 17 23.0 -0.1
MOX pmax pmax
comp=Z,17nm,1.5s
MOX Moxa 127.25 332 *e*PKPdf PKPdf 01 17 22.5 -0.6
KHC Kasperske Hory 127.31 330 *e*PKIKP PKPdf 01 17 23.5 +0.2
KHC *e* 01 17 39.0
KHC MLR MLR
comp=Z,200nm,17.0s
KHC Kasperske Hory 127.31 330 *e*PKPdf PKPdf 01 17 23.5 +0.2
KHC *ex* x 01 17 39.0
KHC *ex* x 01 20 19.0
KHC AMS AMS 02 13 20.0
comp=Z,200nm,17.0s
GEC2 GERESS Array S 127.43 329 *e*PKPdf PKPdf 01 17 23.0 -0.5
GEC2 *e* *e*PKPdf PKPdf 01 17 23.3 -0.2
GERES GERESS Array B 127.43 329 PKP PKPdf 01 17 23.4 -0.1
comp=Z,3.9nm,0.5s,baz=70,slow=1.8,SNR=61
MANZ Manzenberg 127.46 331 *e*PKPdf PKPdf 01 17 23.1 -0.4
OHR Ohrid 127.53 318 *e*PKP PKPdf 01 17 23.2 -0.8
ROTZ Rotzenmuhle 127.56 331 *e*PKPdf PKPdf 01 17 23.0 -0.7
WET Wettzell 127.65 330 *e*PKPdf PKPdf 01 17 23.5 -0.4
IBBN Ibbenburen 127.74 336 *e*PKPdf PKPdf 01 17 24.0 0.0
UBBA Unterbreizbach 127.87 333 *e*PKPdf PKPdf 01 17 24.0 -0.3
PERS Pernice 128.05 326 *e*PKPdf PKPdf 01 17 23.6 -1.1
PERS *e* 01 17 40.8

GRA1 Grafenberg Arr 128.09 331 *e*PKPdf PKPdf 01 17 24.3 -0.4
GRA1 *ep*PKPdf pPKPdf 01 17 40.7 -5.1
GRF Grafenberg Arr 128.09 331 *e*PKPdf PKPdf 01 17 24.3 -0.4
GRF *ep*PKPdf pPKPdf 01 17 40.7 -5.1
PDKS Podkum 128.46 326 *e*PKPdf PKPdf 01 17 25.2 -0.4
BOJS Bojanci 128.65 325 *e*PKPdf PKPdf 01 17 25.4 -0.6
BOJS *e* 01 17 42.8
LJU Ljubljana 128.74 326 *i* PKPdf PKPdf 01 17 26.2 +0.2
KBA Koelnbreinsper 128.74 328 ⇓*i*P PKPdf 01 17 25.4 -0.6
comp=Z,12nm,1.2s
EKA Eskdalemuir Ar 128.92 345 PKP PKPdf 01 17 25.9 -0.3
comp=Z,1.7nm,0.5s,baz=18,slow=2.8,SNR=19
CEY Cerknica 128.98 326 *e*PKPdf PKPdf 01 17 26.9 +0.3
FUR Furstenfeldbru 129.09 330 *e*PKPdf PKPdf 01 17 26.1 -0.6
WTTA Wattenberg 129.51 329 *i* P PKPdf 01 17 27.7 +0.2
SNR=13
STU Stuttgart 129.68 332 *e*PKPdf PKPdf 01 17 27.3 -0.5
MOTA Moosalm 129.73 329 ⇓*i*P PKPdf 01 17 27.7 -0.2
comp=Z,9.6nm,1.1s,SNR=20
MEM Membach 129.74 335 PKPdf PKPdf 01 17 28.0 +0.1
SQTA Sankt Quirin 129.76 329 ⇓*i*P PKPdf 01 17 28.0 0.0
comp=Z,9.3nm,1.1s,SNR=10.0
FETA Feichten 130.13 329⇑*i*PKiKP PKiKP 01 17 28.6 -1.0
comp=Z,5.5nm,0.5s,SNR=6.4
CTI Castel Tesino 130.30 328 PKP PKPdf 01 17 29.7 +0.7
DAVA Damuels 130.38 330⇑*i*P PKPdf 01 17 28.7 -0.4
comp=Z,6.7nm,1.3s,SNR=6.1
WLF Walferdange 130.40 334 *e*PKPdf PKPdf 01 17 30.5 +1.4
WLF Walferdange 130.40 334 PKPdf PKPdf 01 17 30.7 +1.6
WLF Walferdange 130.40 334 *e*PKPdf PKPdf 01 17 29.3 +0.2
BFO Black Forest 130.40 332 *e*PKPdf PKPdf 01 17 28.3 -0.9
SNF Seneffe 130.52 336 PKPdf PKPdf 01 17 30.6 +1.2
GIVF Givet 130.62 336 *e*PKIKP PKPdf 01 17 29.0 -0.5
RGNG Rignano Grg 130.63 321 PKP PKPdf 01 17 29.3 -0.5
BRMO Bormio 130.68 329 PKP PKPdf 01 17 29.9 +0.1
DOU Dourbes 130.72 336 PKPdf PKPdf 01 17 30.0 +0.3
LPAZ La Paz 130.78 118 PKP PKPdf 01 17 33.0 +2.2
comp=Z,2.7nm,0.9s,baz=79,slow=2.0,SNR=6.6
CDF Champ du Feu 130.83 333 *e*PKIKP PKPdf 01 17 28.9 -1.1
BAIF Baives 130.90 336 *e*PKIKP PKPdf 01 17 29.6 -0.5
CING Cingoli 131.10 324 PKP PKPdf 01 17 30.4 -0.3
FSSB Fossombrone 131.15 325 PKP PKPdf 01 17 31.1 +0.3
TIP Timpagrande 131.17 317 *e*PKPdf PKPdf 01 17 31.6 +0.6
TSUM Tsumeb 131.31 237 *e*PKPdf PKPdf 01 17 31.6 -0.2
SNTG Esanatoglia 131.32 324 PKP PKPdf 01 17 32.4 +1.3
HINF Hinteralfeld 131.46 332 *e*PKIKP PKPdf 01 17 30.4 -0.8
comp=Z,12nm,0.6s
NRCA Norcia 131.47 323 PKP PKPdf 01 17 31.1 -0.3
HAU Haudompre 131.55 333 *e*PKIKP PKPdf 01 17 30.6 -0.8
comp=Z,10nm,0.6s
HAU *e*MLR MLR
comp=Z,68nm,21.0s
HAU Haudompre 131.55 333 *e*PKIKP PKPdf 01 17 30.6 -0.8
HAU MLR MLR
comp=Z,70nm,21.0s
AQU L'Aquila 131.58 323 *e*PKPdf PKPdf 01 17 31.5 -0.1
SEI Scarperia 131.73 326 PKP PKPdf 01 17 34.0 +2.2
MEZF Maizieres J'vi 131.75 334 *e*PKIKP PKPdf 01 17 31.5 -0.2
comp=Z,8.1nm,0.5s
FNVD Fontana Vidola 131.79 326 PKP PKPdf 01 17 31.8 -0.1
VAI Varese 131.91 329 PKP PKPdf 01 17 31.5 -0.6
SOI Samo 132.21 316 PKP PKPdf 01 17 34.2 +1.3
CABF La Chapelle 132.69 332 *e*PKIKP PKPdf 01 17 33.7 +0.1
comp=Z,14nm,0.6s
LPL La Plagne 133.18 330 *e*PKIKP PKPdf 01 17 33.9 -0.6
comp=Z,7.5nm,0.5s
LPG La Plagne 133.18 330 *e*PKIKP PKPdf 01 17 34.1 -0.4
comp=Z,7.9nm,0.4s
LOR Lormes 133.21 334 *e*PKIKP PKPdf 01 17 34.2 -0.3
LOR *e*MLR MLR
comp=Z,189nm,22.0s
LOR Lormes 133.21 334 *e*PKIKP PKPdf 01 17 34.2 -0.3
LOR MLR MLR
comp=Z,190nm,22.0s
SSF Saint Saulge 133.53 334 *e*PKIKP PKPdf 01 17 35.0 -0.1
comp=Z,20nm,0.9s
BNI Bardonecchia 133.53 330 *e*P PKPdf 01 17 34.2 -1.0
SMF Signal de Mont 133.70 333 *e*PKIKP PKPdf 01 17 35.2 -0.3
comp=Z,5.0nm,0.4s
PZZ Prazzo 133.71 329 PKP PKPdf 01 17 36.2 +0.7
MBDF Montbardon 133.72 329 *e*PKIKP PKPdf 01 17 35.2 -0.4
FLN La Foliniere 133.76 338 *e*PKIKP PKPdf 01 17 35.2 -0.3
comp=Z,9.5nm,0.6s
FLN *e*MLR MLR
comp=Z,274nm,21.5s
FLN La Foliniere 133.76 338 *e*PKIKP PKPdf 01 17 35.2 -0.3
FLN MLR MLR
comp=Z,270nm,21.5s
LDF La Druitiere 133.76 338 *e*PKIKP PKPdf 01 17 34.4 -1.1
comp=Z,5.5nm,0.7s
AVF Avril sur Loir 133.80 334 *e*PKIKP PKPdf 01 17 35.1 -0.5
comp=Z,2.1nm,0.3s
SBF Sospel 133.98 328 *e*PKIKP PKPdf 01 17 35.4 -0.7
PGF Pioggiola 134.02 326 *e*PKIKP PKPdf 01 17 35.8 -0.4
comp=Z,14nm,0.5s
ORIF Oris-en-Rattie 134.03 330 *e*PKIKP PKPdf 01 17 35.9 -0.2
ORIF *e*MLR MLR
comp=Z,221nm,21.8s
BGF Bois d'Agland 134.20 334 *e*PKIKP PKPdf 01 17 36.3 -0.1
comp=Z,5.7nm,0.4s
GRR Gorron 134.21 338 *e*PKIKP PKPdf 01 17 36.2 -0.2
comp=Z,14nm,0.8s
FRF La Foret Royal 134.60 328 *e*PKIKP PKPdf 01 17 36.6 -0.7
VIVF Saint-Julien-l 134.66 331 *e*PKIKP PKPdf 01 17 37.2 -0.1
comp=Z,14nm,0.8s
TCF Toulx Ste Croi 134.69 334 *e*PKIKP PKPdf 01 17 37.3 0.0
comp=Z,18nm,0.8s
LMR La Mourre 134.83 328 *e*PKIKP PKPdf 01 17 37.1 -0.6
SMRF Simiane la Rot 134.86 330 *e*PKIKP PKPdf 01 17 36.9 -0.8
comp=Z,28nm,1.2s
SGMF Saint Gilles 134.93 340 *e*PKIKP PKPdf 01 17 37.2 -0.5
ROSF Rostrenen 135.10 340 *e*PKIKP PKPdf 01 17 37.6 -0.4
MFF Saint Martin d 135.41 336 *e*PKIKP PKPdf 01 17 38.5 -0.2
comp=Z,14nm,0.8s
QUIF Quistinic 135.43 340 *e*PKIKP PKPdf 01 17 38.2 -0.5
LASF Ste Croix 135.63 331 *e*PKIKP PKPdf 01 17 38.2 -1.0
comp=Z,12nm,0.7s
VSL Villasalto 135.74 322 *e*PKPdf PKPdf 01 17 38.4 -1.1
RJF Les Rejaudoux 135.76 334 *e*PKIKP PKPdf 01 17 38.6 -0.8
RJF *e*MLR MLR
comp=Z,152nm,23.0s
RJF Les Rejaudoux 135.76 334 *e*PKIKP PKPdf 01 17 38.6 -0.8
RJF MLR MLR
comp=Z,150nm,23.0s
CAF Calviac 135.81 333 *e*PKIKP PKPdf 01 17 39.0 -0.5
LFF La Frestale 136.39 334 *e*PKIKP PKPdf 01 17 39.8 -0.7
MTLF Montolieu 136.96 332 *e*PKIKP PKPdf 01 17 40.6 -1.1
comp=Z,6.7nm,0.7s
SIV San Ignacio 136.97 122 PKP PKPdf 01 17 43.7 +1.3
comp=Z,1.3nm,0.5s,baz=228,slow=3.7,SNR=6.4
SIV SKPbc SKPbc 01 21 10.4 +1.3
comp=Z,1.5nm,0.7s,baz=3.6,slow=3.6,SNR=3.7
KEST Kesra 137.99 318 PKP PKPdf 01 17 44.9 +1.0
comp=Z,1.0nm,0.6s,baz=115,slow=3.6,SNR=9.9
EPF Esparros 138.07 333 *e*PKIKP PKPdf 01 17 42.9 -0.8
EBIE Bielsa 138.43 333 PKP PKPdf 01 17 41.6 -2.8
ETSF Etsaut 138.58 334 *e*PKIKP PKPdf 01 17 43.7 -1.0
comp=Z,16nm,0.6s
SJPF Ste Jean 138.70 334 *e*PKIKP PKPdf 01 17 43.2 -1.7
EPOB Poblet 139.02 331 PKP PKPdf 01 17 44.1 -1.4
ESAC San Caprasio 139.47 332 PKP PKPdf 01 17 44.9 -1.4
ECRI Cripan 139.65 335 PKP PKPdf 01 17 46.2 -0.5
ERTA Horta de San J 139.69 331 PKP PKPdf 01 17 43.6 -3.2
EMOS Mosqueruela 140.53 331 PKP PKPdf 01 17 45.2 -3.1
ETOR Torete 140.91 333 PKP PKPdf 01 17 45.0 -4.0
ECHE Chera 141.38 331 PKP PKPdf 01 17 44.6 -5.2
GUD Guadarrama 141.97 335 PKP PKPdf 01 17 43.7 -7.1
MVO Moncorvo 142.66 338 *e*PKP PKPdf 01 17 50.5 -1.6
MVO Moncorvo 142.66 338 *e*LR LR 02 08 08.6
comp=Z,121nm,20.0s
ESDC Sonseca Array 142.69 334 PKP PKPdf 01 17 49.0 -3.2
ESDC Sonseca Array 142.69 334 PKhKP 01 17 48.2
comp=Z,0.9nm,0.6s,baz=26,slow=3.1,SNR=9.7
EVIA Vianos 142.86 331 PKP PKPdf 01 17 52.6 +0.1
PVIS Viseu 143.36 339 *e*PKP PKPdf 01 17 50.4 -2.9
PVIS *ep*PKP pPKPdf 01 18 06.7 -7.7
MTE Manteigas 143.51 338 *e*PKP PKPdf 01 17 52.9 -0.7
EQES Quesada 143.80 331 PKP PKPdf 01 17 52.2 -1.9
EBAN Banos Encina 143.84 332 PKP PKPdf 01 17 53.0 -1.3
PCBR Castelo Branco 143.98 338 *e*PKP PKPdf 01 17 53.1 -1.3
ENIJ Nijar 144.02 329 PKP PKPdf 01 17 49.8 -4.8
EADA Adamuz 144.20 333 PKP PKPdf 01 17 53.3 -1.6
EBER Berja 144.42 330 PKP PKPdf 01 17 53.5 -1.8
ECOG Cogollos-Vega 144.45 331 PKP PKPdf 01 17 53.3 -2.0

ELUQ Luque 144.56 332 PKP PKPdf 01 17 54.7 -0.8
ECAB El Cabril 144.65 334 PKP PKPdf 01 17 55.4 -0.3
EBAD Badajoz 144.74 336 PKP PKPdf 01 17 54.6 -1.2
ERON Agron 144.77 331 PKP PKPdf 01 17 53.5 -2.4
EGUA Guajares 144.80 331 PKP PKPdf 01 17 53.6 -2.4
ELOJ Sierra Loja 144.84 332 PKP PKPdf 01 17 54.6 -1.4
PESTR Estremoz 144.87 337 *e*PKP PKPdf 01 17 54.6 -1.4
PESTR *ep*PKP pPKPdf 01 18 11.0 -6.1
PESTR Estremoz 144.87 337 *e*LR LR 02 09 36.6
comp=Z,154nm,20.0s
EALB Alboran 145.24 329 PKP PKPdf 01 17 55.1 -1.6
PBAR Barrancos 145.25 336 *e*PKP PKPdf 01 17 56.2 -0.5
PBAR *ep*PKP pPKPdf 01 18 12.1 -5.7
PBAR Barrancos 145.25 336 *e*LR LR 02 10 18.0
comp=Z,167nm,24.0s
EVO Evora 145.32 337 *e*PKIKP PKPdf 01 17 56.7 -0.1
comp=Z,194nm,1.6s
EVO *e*MLR MLR
comp=Z,239nm,22.8s
PMAFR Mafra 145.41 339 *e*PKP PKPdf 01 17 57.0 0.0
PMAFR *ep*PKP pPKPdf 01 18 12.1 -6.0
EMIN Mina Concepcio 145.44 335 PKP PKPdf 01 17 57.5 +0.5
EMIJ Mijas 145.60 332 PKP PKPdf 01 17 56.8 -0.6
PBEJ Beja 145.71 337 *e*PKP PKPdf 01 17 58.2 +0.7
PBEJ *ep*PKP pPKPdf 01 18 12.8 -5.8
ESPR Espera 145.85 333 PKP PKPdf 01 17 59.0 +1.2
EGRO El Granado 145.98 336 PKP PKPdf 01 17 59.1 +1.1
EJIF Jimena Fronter 146.01 332 PKP PKPdf 01 17 58.5 +0.4
PVAQ Vaqueiros 146.19 336 *e*PKP PKPdf 01 17 59.0 +0.7
PVAQ *ep*PKP pPKPdf 01 18 13.8 -5.6
PVAQ Vaqueiros 146.19 336 *e*LR LR 02 09 52.0
comp=Z,133nm,22.0s
PTEO Sao Teotonio 146.46 337 *e*PKP PKPdf 01 18 00.4 +1.6
PTEO *ep*PKP pPKPdf 01 18 15.7 -4.2
MORF Marmelete 146.64 337 *e*PKP PKPdf 01 18 01.0 +1.9
MORF *ep*PKP pPKPdf 01 18 15.8 -4.4
MORF Marmelete 146.64 337 *e*LR LR 02 07 35.1
comp=Z,215nm,22.0s
PFVI Vila Bisbo 146.86 337 *e*PKP PKPbc 01 18 01.8 +0.4
PFVI *ep*PKP pPKPdf 01 18 16.2 -4.4
PFVI Vila Bisbo 146.86 337 *e*LR LR 02 12 51.8
comp=Z,190nm,22.0s
BDFB Brasilia 147.44 134 PKP PKPdf 01 18 00.8 -0.2
comp=Z,28nm,1.0s,baz=221,slow=2.9,SNR=24
BDFB PKPbc PKPbc 01 18 05.3 +1.8
comp=Z,28nm,1.0s,baz=253,slow=2.8,SNR=26
MDT Midelt 148.48 327 PKP PKPdf 01 18 02.6 +0.4
comp=Z,15nm,0.9s,baz=85,slow=3.9,SNR=6.4
MDT PKPbc PKPbc 01 18 06.3 +0.4
comp=Z,15nm,0.9s,baz=22,slow=1.2,SNR=32
TOA0 Torodi Ar. Sit 153.78 286 *e*PKPdf PKPdf 01 18 09.8 -1.0
TORD Torodi Ar. Bea 153.78 286 PKP PKPdf 01 18 09.5 -1.3
TORD PKPbc PKPbc 01 18 17.6 -1.2
TORD Torodi Ar. Bea 153.78 286 PKP PKPdf 01 18 09.5 -1.3
comp=Z,2.9nm,1.1s,baz=15,slow=2.3,SNR=16
TORD PKPbc PKPbc 01 18 17.6 -1.2
comp=Z,8.2nm,0.7s,baz=83,slow=1.6,SNR=64
DBIC Dimbokro 160.78 270 PKP PKPdf 01 18 18.0 -1.7
DBIC PKPab PKPab 01 19 02.1 -0.1
DBIC Dimbokro 160.78 270 PKP PKPdf 01 18 18.0 -1.7
comp=Z,7.6nm,1.1s,baz=133,slow=1.0,SNR=5.8
DBIC PKPab PKPab 01 19 02.1 -0.1
comp=Z,20nm,0.9s,baz=80,slow=5.3,SNR=27

*NEIC **09** 01:01:14.3±0.3,668S×15584E,h10km,mb4.7/8,Error ellipse: s-maj=10.8km s-min=8.2km az=105.0*
*ISCJB **09** 01:01:18.7±2.3,683S±009×15584E±0.10,h53km±23km, mb4.6/17,Error ellipse: s-maj=17.9km s-min=13.0km az=37.4*
*IDC **09** 01:01:21.5±3.4,687S×15586E,h66km±29km,mb4.4/11, mb1 4.6/13,mb1mx4.5/17,mbtmp4.5/13,ML4.5/2,MS4.0/2, Ms1 4.1/2,ms1mx3.5/24,Error ellipse: s-maj=23.8km s-min=18.1km az=102.0*

ISC 09 01:01:20.5±2.0,684S±009×15583E±010,h54km±21km, n56,σ0°75/30,mb4.6/17,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.83**	**123**	P	**Pn**	**01 02 30.3**	**-0.4**
	34nm,0.3s,baz=0.0,slow=2.0,SNR=1.5						
HNR				LR	LR	01 03 36.5	
	comp=Z,516nm,19.8s,baz=0.4,slow=28						
CTA	**Charters Tower**	**16.12**	**214**	P	**Pn**	**01 05 05.3**	**+1.7**
	0.8nm,0.3s,baz=46,slow=14,SNR=4.3						
CTAO	**Charters Tower**	**16.12**	**214**	*e*Pn	**Pn**	**01 05 03.3**	**-0.4**
	48nm,1.1s						
KAKA	**Kakadu**	**23.77**	**254**	*e*PCP	**P**	**01 06 28.8**	**+0.5**
WRAB	**Tennant Creek**	**24.57**	**236**	*e*P	**P**	**01 06 35.4**	**-0.2**
	24nm,1.0s,mb4.7						
WB2	**Warramunga Arr**	**24.58**	**236**	*e*PCP	**P**	**01 06 35.8**	**+0.2**
WRA	**Warramunga Arr**	**24.59**	**236**	P	**P**	**01 06 36.0**	**+0.2**
	9.5nm,0.6s,mb4.5,baz=64,slow=9.4,SNR=4.5						
WRA				PcP	PcP	01 10 12.0	-0.7
	3.8nm,0.7s,baz=58,slow=1.6,SNR=5.4						
ASAR	**Alice Springs**	**26.90**	**229**	P	**P**	**01 06 56.0**	**-0.6**
	3.2nm,0.5s,mb4.1,baz=58,slow=8.5,SNR=3.0						
ASAR				PcP	PcP	01 10 17.9	-0.1
	3.5nm,0.7s,baz=49,slow=2.8,SNR=5.0						
STKA	**Stephens Creek**	**28.23**	**206**	P	**P**	**01 07 09.8**	**+1.3**
	9.4nm,0.8s,mb4.5,baz=25,slow=14,SNR=3.7						
FITZ	**Fitzroy Crossi**	**31.48**	**246**	P	**P**	**01 07 36.3**	**-1.0**
	24nm,0.6s,mb5.2,baz=74,slow=8.5,SNR=8.4						
TAU	**Tasmania Unive**	**36.70**	**190**	*e*P	**P**	**01 08 22.6**	**+0.3**
	12nm,0.8s,mb4.8						
MBWA	**Marble Bar**	**37.69**	**244**	*e*P	**P**	**01 08 29.8**	**-1.2**
	22nm,0.7s,mb5.0						
KKM	**Kota Kinabalu**	**41.55**	**287**	*e*P	**P**	**01 09 03.5**	**+0.3**
KSM	**Kuching**	**46.17**	**279**	*e*P	**P**	**01 09 40.4**	**0.0**
MJAR	**Matsushiro Arr**	**46.20**	**340**	P	**P**	**01 09 39.9**	**-0.3**
	5.4nm,0.8s,mb4.5,baz=166,slow=7.7,SNR=5.6						
KSRS	**Korea Array**	**51.19**	**331**	P	**P**	**01 10 19.1**	**+0.7**
	3.8nm,0.8s,mb4.4,baz=148,slow=8.4,SNR=4.6						
KULM	**Kulim**	**56.37**	**281**	*e*P	**P**	**01 10 55.2**	**-1.6**
ULN	**Ulaanbaatar**	**69.31**	**327**	*e*P	**P**	**01 12 23.1**	**+0.9**
SONM	**Songino Array**	**69.65**	**327**	P	**P**	**01 12 25.3**	**+1.0**
	13nm,0.9s,mb4.8,baz=134,slow=6.0,SNR=17						
SBA	**Scott Base**	**71.21**	**178**	*e*P	**P**	**01 12 33.7**	**+0.4**
	2.3nm,0.7s,mb4.2						
TLY	**Talaya**	**73.35**	**329**	*e*P	**P**	**01 12 47.1**	**+0.6**
	4.3nm,0.8s,mb4.4						
QSPA	**South Pole Qui**	**83.14**	**180**	*e*P	**P**	**01 13 40.0**	**-0.1**
	10.0nm,0.6s,mb5.0						
QSPA	**South Pole Qui**	**83.14**	**180**	P	**P**	**01 13 39.9**	**-0.2**
	16nm,1.1s,mb5.0,baz=337,slow=3.0,SNR=6.7						
MK31	**Makanchi Array**	**83.83**	**318**	*e*P	**P**	**01 13 44.9**	**+0.6**
MKAR	**Makanchi Array**	**83.83**	**318**	P	**P**	**01 13 44.9**	**+0.6**
	2.9nm,0.6s,mb4.6,baz=102,slow=6.1,SNR=6.2						
ZAA0	**Zalesovo Array**	**84.51**	**326**	*e*P	**P**	**01 13 47.1**	**-0.4**
ZALV	**Zalesovo Beam**	**84.51**	**326**	P	**P**	**01 13 47.1**	**-0.5**
	4.3nm,0.6s,mb4.8,baz=119,slow=5.4,SNR=7.2						
BRVK	**Borovoye**	**92.73**	**323**	*e*P	**P**	**01 14 25.5**	**-1.3**
	4.0nm,1.0s,mb4.8						
YKA	**Yellowknife Ar**	**95.81**	**28**	P	**P**	**01 14 40.0**	**-0.7**
YKA				LR	LR	01 50 52.2	
YKA	**Yellowknife Ar**	**95.81**	**28**	P	**P**	**01 14 40.0**	**-0.7**
	0.7nm,0.7s,mb4.2,baz=270,slow=4.7,SNR=4.2						
YKA				LR	LR	01 50 52.2	
	comp=Z,276nm,20.8s,baz=60,slow=31						
ARCES	**ARCESS Array B**	**109.67**	**343**	PKPdf	PKiKP	01 19 44.2	-0.6
ARCES	**ARCESS Array B**	**109.67**	**343**	PKiKP	PKiKP	01 19 44.2	-0.6
	1.0nm,0.4s,baz=86,slow=2.2,SNR=8.1						
FINES	**FINESS Array B**	**114.13**	**336**	PKP	PKiKP	01 19 52.6	-0.9
	0.7nm,0.5s,baz=97,slow=2.9,SNR=5.0						
AKASG	**Malin Array Be**	**117.89**	**325**	PKP	PKPdf	01 19 59.7	-1.3
AKASG	**Malin Array Be**	**117.89**	**325**	PKP	PKPdf	01 19 59.7	-1.3
	2.4nm,0.5s,baz=50,slow=2.6,SNR=17						
HFS	**Hagfors**	**119.65**	**339**	PKP	PKPdf	01 20 02.7	-1.5
	1.8nm,0.7s,baz=97,slow=3.5,SNR=4.4						
NB2	**NORSAR Subarra**	**119.82**	**341**	PKPdf	PKPdf	01 20 03.3	-1.1
	comp=Z,1.0nm,0.6s,baz=40,slow=1.9						
NOA	**NORSAR Array B**	**119.82**	**341**	PKP	PKPdf	01 20 03.1	-1.4
	comp=Z,0.9nm,0.6s,baz=48,slow=2.0,SNR=4.1						
KOLS	**Kolonicke sedl**	**122.69**	**325**	*e*PKP	PKPdf	01 20 10.6	+0.3
STHS	**Stebnicka Huta**	**123.01**	**326**	*e*PKP	PKPdf	01 20 10.9	0.0
CRVS	**Cervenica-Dubn**	**123.16**	**326**	*e*PKP	PKPdf	01 20 10.9	-0.3
VYHS	**Vyhne**	**124.84**	**326**	*e*PKP	PKPdf	01 20 14.0	-0.5
CLL	**Collm**	**126.06**	**332**	*i* PKPdf	PKPdf	01 20 16.5	-0.2
	comp=Z,5.0nm,0.7s						
GEC2	**GERESS Array S**	**127.34**	**329**	*e*PKPdf	PKPdf	01 20 19.4	+0.2
GERES	**GERESS Array B**	**127.34**	**329**	PKP	PKPdf	01 20 19.1	-0.1
	comp=Z,2.5nm,0.6s,baz=64,slow=1.8,SNR=24						
GRA1	**Grafenberg Arr**	**128.00**	**331**	*e*PKPdf	PKPdf	01 20 20.7	+0.2
GRA1				*ep*PKPdf	pPKPdf	01 20 41.4	+4.8
GRF	**Grafenberg Arr**	**128.00**	**331**	*e*PKP	PKPdf	01 20 20.7	+0.2
GRF				pPKPdf	pPKPdf	01 20 41.4	+4.8
BOJS	**Bojanci**	**128.57**	**325**	*e*PKP	PKPdf	01 20 21.8	+0.1
BOJS				*e*		01 20 43.5	
LJU	**Ljubljana**	**128.65**	**326**	*e*PKP	PKPdf	01 20 21.3	-0.6
EKA	**Eskdalemuir Ar**	**128.81**	**345**	PKP	PKPdf	01 20 21.2	-0.6
	comp=Z,0.7nm,0.5s,baz=16,slow=2.5,SNR=7.0						
CEY	**Cerknica**	**128.90**	**326**	*e*PKP	PKPdf	01 20 21.9	-0.4
CEY				*e*		01 20 44.3	
ESDC	**Sonseca Array**	**142.60**	**334**	PKhKP		01 20 44.5	
	comp=Z,0.3nm,0.3s,baz=341,slow=1.5,SNR=4.9						
BDFB	**Brasilia**	**147.50**	**134**	PKPbc	PKPbc	01 21 00.4	+0.8
	comp=Z,5.2nm,0.9s,baz=217,slow=7.8,SNR=3.3						
MDT	**Midelt**	**148.40**	**327**	PKPbc	PKPbc	01 21 01.8	+0.3
	comp=Z,4.5nm,0.8s,baz=106,slow=4.7,SNR=4.1						
TORD	**Torodi Ar. Bea**	**153.78**	**286**	PKPbc	PKPbc	01 21 12.9	-1.8
	comp=Z,2.7nm,0.7s,baz=45,slow=1.9,SNR=10						
TORD				PKPab	PKPab	01 21 27.1	-0.6
	comp=Z,2.5nm,0.6s,baz=77,slow=4.0,SNR=4.3						
DBIC	**Dimbokro**	**160.82**	**271**	PKPab	PKPab	01 21 57.6	-0.6
	comp=Z,8.2nm,0.5s,baz=70,slow=4.6,SNR=12						

GUC 09 01:14:36.4±0.7,3615S×7251W,h20km±5km,MD3.5, ML3.4,1C,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCHI	**Chillan**	**0.57**	**143**	*e*P	Pb	01 14 46.9	-0.8
CCHI				*i* S	Sb	01 14 55.7	+0.2
CCHI				AML	AML	01 14 56.2	
	comp=N,2μm,0.2s						
CCHI				AML	AML	01 14 56.4	
	comp=N,4μm,0.2s						
SFDO	**San Fernando**	**1.96**	**39**	*e*P	Pn	01 15 09.4	+1.0
SFDO				*i* S	Sn	01 15 34.4	+2.1
CICH	**Cipreses**	**2.50**	**44**⇑*i*P	Pn	Pn	01 15 17.7	+1.8
CICH				*i* S	Sn	01 15 48.4	+2.6
CACH	**El Canelo**	**2.56**	**38**	*e*P	Pn	01 15 18.1	+1.4
CACH				*i* S	Sn	01 15 49.9	+2.6
CLCH	**Cerro Calan**	**3.19**	**31**	AML	AML	01 16 18.7	
	comp=E,111nm,0.5s						
PEL	**Peldehue**	**3.35**	**27**	AML	AML	01 16 23.1	
	comp=E,126nm,0.3s						
FCH	**Farellones**	**3.35**	**34**	AML	AML	01 16 15.7	
	comp=N,86nm,0.3s						

*ISCJB **09** 01:20:16.6±0.5,3855N±003×1301E±004,h28km±4km, Error ellipse: s-maj=6.8km s-min=3.3km az=41.4*
*NEIC **09** 01:20:16.7,3851N×1307E,h23km,ML3.3(ROM),After ROM.*
*ROM **09** 01:20:16.7±0.2,3851N×1307E,h23km±3km,Ml3.3/22, Error ellipse: s-maj=4.1km s-min=3.4km az=153.0*
*CSEM **09** 01:20:17.0±0.1,3862N×1337E,h30km,ML3.5/5,Error ellipse: s-maj=2.3km s-min=1.2km az=35.0*
*LDG **09** 01:20:18.2±0.2,3830N×1298E,h20km,Ml2.9/3,Error ellipse: s-maj=8.7km s-min=3.8km az=21.0*

ISC 09 01:20:17.4±0.5,3850N±003×1307E±004,h20km±5km,n48, σ1°03/61,Sicily

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
USI	**Ustica**	**0.23**	**23**	Pg	**Pb**	**01 20 23.3**	**+0.3**
USI				Sg	**Sb**	**01 20 27.8**	**+1.0**
ERC	**Erice**	**0.59**	**219**	Pg	**Pb**	**01 20 28.2**	**-0.9**
CORL	**Corleone**	**0.63**	**163**	Pg	**Pb**	**01 20 27.6**	**-2.2**
CORL				Sg	**Sb**	**01 20 38.7**	**+0.6**
	4μm,0.6s						
GIB	**Gibilmanna**	**0.91**	**124**	Pg	**Pb**	**01 20 33.7**	**-0.8**
GIB				Sg	**Sb**	**01 20 46.9**	**+0.7**
	2μm,0.6s						
CSLB	**Castelbuono**	**0.96**	**125**	Pg	**Pb**	**01 20 34.0**	**-1.4**
	309nm,0.2s						
MCT	**Mte Cammarata**	**0.97**	**152**	Pg	**Pb**	**01 20 36.6**	**+1.0**
	427nm,0.6s						
IFIL	**Filicudi I Eol**	**1.18**	**86**	Pg	**Pn**	**01 20 37.0**	**-1.8**
	3μm,0.6s						
SLNA	**Salina**	**1.39**	**87**	Pg	**Pn**	**01 20 40.7**	**-0.9**
	287nm,0.4s						
GALF	**Gagliano Caste**	**1.42**	**123**	Pg	**Pn**	**01 20 42.9**	**+0.8**
	912nm,0.6s						
LLI	**Lipari**	**1.48**	**91**	Pg	**Pn**	**01 20 41.6**	**-1.3**
	1μm,0.7s						
VPL	**Vulcano Piano**	**1.51**	**94**	Pg	**Pn**	**01 20 42.2**	**-1.1**
	498nm,0.7s						
RAFF	**Raffo Rosso**	**1.64**	**141**	Pg	**Pn**	**01 20 46.3**	**+1.3**
RAFF				Sg	**Sn**	**01 21 09.3**	**+3.8**
	641nm,0.7s						
MMME	**Mongiuffi-Meli**	**1.81**	**107**	Pg	**Pn**	**01 20 47.7**	**+0.2**
	305nm,0.6s						
HVZN	**Vizzini**	**1.86**	**135**	Pg	**Pn**	**01 20 48.5**	**+0.4**
HVZN				Sg	**Sn**	**01 21 13.6**	**+2.7**
	870nm,0.5s						
PTS	**Pantelleria**	**1.89**	**207**	Pg	**Pn**	**01 20 48.0**	**-0.5**
	81nm,0.3s						
MSRU	**Castanea**	**1.94**	**96**	Pg	**Pn**	**01 20 47.5**	**-1.7**
	159nm,0.6s						
HAGA	**Augusta**	**2.05**	**126**	Pg	**Pn**	**01 20 51.0**	**+0.3**
HAGA				Sg	**Sn**	**01 21 16.0**	**+0.3**
	225nm,0.8s						
HMDC	**Modica**	**2.05**	**138**	Pg	**Pn**	**01 20 51.3**	**+0.5**
	306nm,0.5s						
AGST	**Augusta-Monte**	**2.11**	**125**	Pg	**Pn**	**01 20 51.7**	**+0.1**
AGST				Sg	**Sn**	**01 21 17.7**	**+0.5**
	85nm,0.5s			

Error ellipse: s-maj=8.1km s-min=3.2km az=77.0

SVSA 09 01:20:51.3±1.0, 3736N×2472W, h10km, MD3.8, ML3.0, Error ellipse: s-maj=8.1km s-min=3.2km az=77.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSMN	**Pico do Norte,**	**0.45**	**218**	*e*P	Pg	01 20 58.8	-1.3
PSMN				*e*S	Sg	01 21 04.8	-1.2
PDA	**Ponta Delgada**	**0.84**	**298**	*e*P	Pg	01 21 04.0	-3.6
PDA				*e*S	Sg	01 21 14.3	-4.3
PSET	**Sete Cidades**	**0.92**	**301**	*e*P	Pg	01 21 04.9	-4.1
PSET				*e*S	Sg	01 21 16.0	-5.0
PSET				A		01 21 17.8	
	140nm,0.2s						
PSET	**Sete Cidades**	**0.92**	**301**	*e*P	Pg	01 21 04.9	-4.1
PSET				*e*S	Sg	01 21 16.0	-5.0
PID	**Ribeirinha**	**2.90**	**293**	*e*P	Pn	01 21 33.5	-4.0
PID				*e*S	Sn	01 22 04.5	-7.9
PMAN	**Manadas**	**2.95**	**297**	*e*S	Sn	01 22 05.7	-7.9
PMAN				A		01 22 07.1	
	9.7nm,0.3s						
ROSA	**Rosais**	**3.09**	**297**	*e*P	Pn	01 21 36.2	-4.0
ROSA				*e*S	Sn	01 22 09.6	-7.6
SRBC	**Serra Branca**	**3.11**	**304**	*e*P	Pn	01 21 36.6	-3.7
SRBC				*e*S	Sn	01 22 10.4	-7.1
PICO	**Pico**	**3.14**	**292**	*e*P	Pn	01 21 36.3	-4.5
PICO				*e*S	Sn	01 22 10.3	-8.1
HOR	**Horta**	**3.30**	**292**	*e*S	Sn	01 22 14.1	-8.3
CALA	**Caldeira**	**3.38**	**292**	*e*P	Pn	01 21 39.9	-4.1
CALA				*e*S	Sn	01 22 16.1	-8.0

*NEIC **09** 01:24:02.8±1.0, 846S×157.47E, h10km, Error ellipse: s-maj=25.8km s-min=14.9km az=3.0*

IDC 09 01:24:01.4±1.5, 841S×15741E, h0km, mb3.7/4, mb1 3.9/5, mb1mx3.7/15, mbtmp3.8/5, ML4.2/1, Error ellipse: s-maj=35.5km s-min=24.3km az=6.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.71**	**112**	Pn	Pn	01 24 45.2	-1.0
	44nm,0.3s,baz=282,slow=3.3,SNR=13						
HNR				Sn	Sn	01 25 22.1	+2.4
	16nm,0.3s,baz=88,slow=20,SNR=4.2						
WRA	**Warramunga Arr**	**25.09**	**240**	P	P	01 29 27.8	-0.1
	1.6nm,0.8s,baz=65,slow=9.2,SNR=3.1						
ASAR	**Alice Springs**	**27.14**	**233**	P	P	01 29 46.1	-0.3
	0.6nm,1.0s,baz=47,slow=13,SNR=3.1						
STKA	**Stephens Creek**	**27.60**	**210**	P	P	01 29 51.0	+0.5
STKA	**Stephens Creek**	**27.60**	**210**	P	P	01 29 51.0	+0.5
	1.6nm,0.7s,baz=46,slow=13,SNR=4.0						
SONM	**Songino Array**	**71.81**	**327**	P	P	01 35 26.5	+0.6
	0.4nm,0.8s,baz=130,slow=6.7,SNR=3.8						

KRSC 09 01:24:46.2±1.1, 5028N×15722E, h33km±32km, ML3.6, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALID	**Alaid**	**1.22**	**300**	*e*P	Pn	01 25 06.3	-0.6
ALID				*i* S	Sn	01 25 20.6	-1.6
MIPR	**Malaya Ipel'ka**	**2.02**	**352**	*e*P	Pn	01 25 19.5	+1.6
RUS	**Russkaya**	**2.30**	**20**	*e*P	Pn	01 25 22.9	+1.1
RUS				*i* S	Sn	01 25 49.4	+0.5
GRL	**Gorelyy**	**2.34**	**13**	*e*P	Pn	01 25 24.4	+2.2
GRL				*i* S	Sn	01 25 52.1	+2.3
PET	**Petropavlovsk**	**2.89**	**17**	P	Pn	01 25 32.2	+2.4
PET				*i* S	Sn	01 26 05.8	+2.4
AVH	**Avacha**	**3.13**	**17**	*e*P	Pn	01 25 36.5	+3.3
AVH				*i* S	Sn	01 26 13.9	+4.5
NLC	**Nalytchevo**	**3.18**	**24**	*e*P	Pn	01 25 34.5	+0.6
SPN	**Mys Shipunski**	**3.32**	**31**	*e*P	Pn	01 25 38.5	+2.8
SPN				*i* S	Sn	01 26 16.0	+2.1
GNL	**Ganaly**	**3.45**	**7**	*e*P	Pn	01 25 41.0	+3.5
MKZ	**Mys Kozlova**	**5.09**	**31**	*e*P	Pn	01 26 01.5	+1.4

*ROM **09** 01:26:26.7±0.1, 4284N×1322E, h6km±1km, Md2.4/15, Ml1.6/12, Error ellipse: s-maj=1.8km s-min=1.7km az=110.0*

*ISCJB **09** 01:26:27.2±0.5, 4284N±002×1319E±004, h15km±5km, Error ellipse: s-maj=5.3km s-min=2.8km az=158.2*

*LJU **09** 01:27:17.0, 4591N×1460E, h2km, ML0.3*

ISC 09 01:26:28.0±0.4, 4284N±002×1319E±004, h11km±6km, n19, σ1§18/34, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRCA	**Norcia**	**0.05**	**267**	Pg	**Pg**	**01 26 29.4**	**-0.8**
NRCA				Sg	**Sg**	**01 26 30.8**	**-1.0**
	61nm,0.2s						
CAMP	**Campotosto**	**0.34**	**151**	Pg	**Pg**	**01 26 33.9**	**-0.9**
CAMP				Sg	**Sg**	**01 26 39.7**	**+0.3**
	25nm,0.2s						
TERO	**Teramo**	**0.37**	**125**	Pg	**Pg**	**01 26 34.2**	**-1.2**
TERO				Sg	**Sg**	**01 26 40.3**	**-0.1**
	70nm,0.3s						
OFFI	**Offida**	**0.38**	**75**	Pg	**Pg**	**01 26 35.2**	**-0.3**
OFFI				Sg	**Sg**	**01 26 42.4**	**+1.8**
	121nm,0.5s						
SNTG	**Esanatoglia**	**0.46**	**337**	Pg	**Pg**	**01 26 36.0**	**-0.9**
SNTG				Sg	**Sg**	**01 26 43.5**	**+0.5**
	14nm,0.2s						
AQU	**L'Aquila**	**0.51**	**162**	Pg	**Pg**	**01 26 37.0**	**-0.9**
AQU				Sg	**Sg**	**01 26 45.1**	**+0.5**
	29nm,0.3s						
CING	**Cingoli**	**0.54**	**1**	Pg	**Pg**	**01 26 37.5**	**-1.0**
CING				Sg	**Sg**	**01 26 46.5**	**+0.9**
FIAM	**Fiamignano**	**0.57**	**185**	Pg	**Pg**	**01 26 38.3**	**-0.7**
FIAM				Sg	**Sg**	**01 26 47.4**	**+0.8**
	21nm,0.4s						
MNS	**Montasola**	**0.59**	**220**	Pg	**Pg**	**01 26 38.7**	**-0.7**
MNS				Sg	**Sg**	**01 26 49.1**	**+2.0**
	15nm,0.4s						
FAGN	**Fagnano**	**0.64**	**153**	Pg	**Pg**	**01 26 39.8**	**-0.6**
FAGN				Sg	**Sg**	**01 26 50.5**	**+1.7**
	45nm,0.4s						
MURB	**Monte Urbino**	**0.65**	**311**	Pg	**Pg**	**01 26 39.8**	**-0.7**
MURB				Sg	**Sg**	**01 26 51.2**	**+2.2**
	50nm,0.3s						
VCEL	**Villa Celiera**	**0.65**	**132**	Pg	**Pg**	**01 26 39.6**	**-1.0**
VCEL				Sg	**Sg**	**01 26 50.5**	**+1.3**
	18nm,0.5s						
ARVD	**Arcevia**	**0.69**	**345**	Pg	**Pg**	**01 26 40.1**	**-1.2**
ARVD				Sg	**Sg**	**01 26 51.7**	**+1.4**
AOI	**Ancona**	**0.78**	**23**	Pg	**Pg**	**01 26 41.8**	**-1.1**
	18nm,1.0s						
FSSB	**Fossombrone**	**0.91**	**341**	Pg	**Pg**	**01 26 44.5**	**-0.9**
FSSB				Sg	**Sg**	**01 26 59.7**	**+2.4**
	25nm,0.3s						
CEY	**Cerknica**	**3.04**	**17**	*i* Pg	**Pn**	**01 27 21.3**	**+5.4**
CEY				*i* Sg	**Pg**	**01 27 24.1**	**-2.0**
CEY							
	comp=Z,1.0nm,0.1s						
BOJS	**Bojanci**	**3.05**	**28**	*i* Pg	**Pg**	**01 27 29.0**	**+2.6**
LJU	**Ljubljana**	**3.35**	**16**	*i* Pg	**Pn**	**01 27 19.8**	**-0.3**
LJU							
	comp=Z,6.0nm,0.1s						
VNDS	**Vrh nad Dolski**	**3.44**	**18**	*i* Pg	**Pn**	**01 27 21.2**	**-0.2**

*IDC **09** 01:50:11.6±3.7, 3745N×14067E, h0km, mb3.4/3, mb1 3.6/4, mb1mx3.4/21, mbtmp3.5/4, MS2.8/1, Ms1 2.8/1, ms1mx2.2/24, Error ellipse: s-maj=105.1km s-min=29.8km az=53.0*

*ISCJB **09** 01:51:00.7±0.7, 358N±02×13601E±0.10, h352km±8km, mb2.9/3, Error ellipse: s-maj=24.9km s-min=12.4km az=171.3*

*JMA **09** 01:51:02.0, 3579N×13593E, h342km, M2.6*

ISC 09 01:51:01.7±0.7, 359N±02×13602E±010, h344km±8km, n11, σ0§83/12, mb2.9/3, Western Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JGM	**Miyama**	**0.59**	**105**	P	**Pn**	**01 51 46.0**	**+0.5**
JWT	**Wachi**	**0.76**	**221**	P	**Pn**	**01 51 45.9**	**-0.2**
JKY	**Yasaka**	**0.78**	**253**	P	**Pn**	**01 51 46.8**	**+0.7**
JKSM	**Kasumi**	**1.13**	**257**	P	**Pn**	**01 51 46.7**	**-0.7**
JAG	**Ashikaga**	**2.84**	**78**	P	**Pn**	**01 52 00.2**	**+1.1**
JAG				*e*S	**S**	**01 52 45.8**	**+0.5**
JFK	**Kawauchi**	**4.19**	**68**	P	**Pn**	**01 52 12.7**	**+0.5**
JFK				*e*S	**S**	**01 53 07.2**	**-1.9**
KSRS	**Korea Array**	**6.70**	**286**	Pn	**Pn**	**01 52 39.4**	**-1.0**
	baz=101,slow=12,SNR=6.1						
ASAJ	**Asahikawa**	**9.66**	**29**	LR	LR	01 55 13.0	
	comp=Z,73nm,18.3s,baz=45,slow=44						
SONM	**Songino Array**	**24.94**	**308**	P	**P**	**01 55 55.6**	**+0.9**
	0.3nm,0.5s,mb2.8,baz=114,slow=10,SNR=5.0						
WRA	**Warramunga Arr**	**55.52**	**182**	P	**P**	**02 00 01.9**	**-0.2**
	0.3nm,0.3s,mb3.1,baz=360,slow=7.4,SNR=3.7						
ASAR	**Alice Springs**	**59.23**	**182**	P	**P**	**02 00 27.4**	**-0.4**
	0.5nm,0.9s,mb2.9,baz=5.5,slow=5.9,SNR=5.4						

*ISCJB **09** 02:15:37.2±0.7, 3862N±003×2233E±003, h7km±5km, Error ellipse: s-maj=5.8km s-min=4.3km az=4.6*

*NEIC **09** 02:15:38.7, 3864N×2228E, h20km, ML3.2(ATH), After ATH.*

*ATH **09** 02:15:38.7, 3864N×2228E, h20km±1km, MD3.2/9, ML3.2*

*CSEM **09** 02:15:38.6±0.1, 3866N×2232E, h3km, ML3.1, Error ellipse: s-maj=2.1km s-min=1.8km az=153.0*

*THE **09** 02:15:39.3, 3864N×2232E, h12km, ML3.1*

*SOF **09** 02:15:50.7, 3938N×2440E, h12km, MD2.6*

ISC 09 02:15:38.4±0.6, 3864N±003×2230E±003, h12km±4km, n25, σ1§21/34, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGG	**Agios Georgios**	**0.39**	**4**	*e*Pg	**Pg**	**02 15 46.5**	**+0.4**
AGG				*e*Sg	**Sg**	**02 15 52.3**	**+1.1**
EVR	**Evrytania**	**0.47**	**306**	*e*PB	**Pg**	**02 15 47.9**	**+0.2**
EVR				*e*SB	**Sg**	**02 15 55.1**	**+1.1**
LKR	**Lokris**	**0.55**	**88**	*e*PN	**Pg**	**02 15 49.8**	**+0.7**
LKR				*e*SN	**Sg**	**02 15 58.5**	**+2.1**
RLS	**Riolos of Patr**	**0.87**	**229**	*e*PN	**Pn**	**02 15 55.3**	**-1.1**
THL	**Klokotos Trika**	**0.95**	**347**	*e*PB	**Pb**	**02 15 56.0**	**-0.8**
THL				*e*SN	**Sn**	**02 16 10.4**	**-0.7**
NEO	**Neokhori**	**0.98**	**47**	*e*PN	**Pn**	**02 15 57.5**	**-0.5**
LKD	**Levkas**	**1.29**	**274**	*e*Pg	**Pg**	**02 16 02.1**	**-1.1**
LKD				*e*Sg	**Sg**	**02 16 21.2**	**+1.2**
ATH	**Athens Observa**	**1.30**	**120**	*e*PN	**Pn**	**02 16 03.7**	**+1.4**
AOS	**Alonnisos**	**1.34**	**66**	*e*Pg	**Pg**	**02 16 02.8**	**-1.5**
AOS				*e*Sg	**Sg**	**02 16 20.4**	**-1.3**
LIT	**Litokhoron**	**1.47**	**6**	*e*Pg	**Pg**	**02 16 05.1**	**-1.5**
ITM	**Ithomi**	**1.48**	**192**	*e*PN	**Pn**	**02 16 06.6**	**+1.7**
PAIG	**Paliouri**	**1.68**	**39**	*e*Pb	**Pb**	**02 16 07.4**	**-1.8**
IGT	**Igoumenitsa**	**1.77**	**301**	*e*Pb	**Pb**	**02 16 09.2**	**-1.5**
IGT				*e*Sb	**Sb**	**02 16 32.0**	**-1.0**
IGT	**Igoumenitsa**	**1.77**	**301**	*e*Pb	**Pb**	**02 16 09.2**	**-1.6**
IGT				*e*Sb	**Sb**	**02 16 32.0**	**-1.0**
PLG	**Polygyros**	**1.95**	**27**	*e*Pb	**Pb**	**02 16 11.6**	**-2.2**
PLG	**Polygyros**	**1.95**	**27**	*e*Pn	**Pn**	**02 16 12.7**	**+1.4**
VLI	**Velíai**	**1.98**	**165**	*e*PB	**Pb**	**02 16 12.7**	**-1.6**
HORT	**Hortiatis**	**2.06**	**17**	*e*Pn	**Pn**	**02 16 12.9**	**+0.2**
OUR	**Ouranopolis**	**2.14**	**37**	*e*Pn	**Pn**	**02 16 14.2**	**+0.3**
FNA	**Florina**	**2.26**	**342**	*e*Pn	**Pn**	**02 16 16.3**	**+0.8**
FNA				*e*Sn	**Sn**	**02 16 44.6**	**+1.2**
SOH	**Sokhos**	**2.33**	**20**	*e*Pn	**Pn**	**02 16 17.0**	**+0.4**
KNT	**Kendrikon**	**2.56**	**10**	*e*Pn	**Pn**	**02 16 20.6**	**+0.9**
MMB	**Musomiste**	**3.15**	**20**	*i* P	**Pn**	**02 16 29.2**	**+1.5**
VTS	**Vitosha**	**4.01**	**10**	*e*P	**Pn**	**02 16 43.9**	**+4.3**
JMB	**Yambol**	**5.03**	**39**	*e*P	**Pn**	**02 16 46.7**	**-6.9**

IDC 09 02:19:11.2±1.3, 705S×15474E, h0km, mb3.9/6, mb1 4.0/6, mb1mx3.9/14, mbtmp3.8/6, MS4.0/1, Ms1 4.0/1, ms1mx3.1/29, Error ellipse: s-maj=53.9km s-min=22.2km az=119.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.58**	**235**	P	P	02 24 22.0	-1.9
	3.5nm,0.9s,baz=59,slow=9.7,SNR=6.2						
WRA				LR	LR	02 32 14.0	
	comp=Z,339nm,19.4s,baz=55,slow=33						
ASAR	**Alice Springs**	**25.95**	**228**	P	P	02 24 46.1	+0.6
	0.7nm,0.7s,baz=66,slow=9.2,SNR=7.5						
STKA	**Stephens Creek**	**27.58**	**205**	P	P	02 25 00.9	+0.8
	3.3nm,0.8s,baz=23,slow=8.7,SNR=5.3						
SONM	**Songino Array**	**69.24**	**327**	P	P	02 30 20.4	+0.5
	0.5nm,0.6s,baz=143,slow=6.6,SNR=5.4						
MKAR	**Makanchi Array**	**83.27**	**319**	P	P	02 31 40.4	+0.6
	0.3nm,0.3s,baz=93,slow=8.7,SNR=3.3						
DLBC	**Dease Lake**	**88.31**	**31**	P	P	02 32 04.7	+0.2
YKA	**Yellowknife Ar**	**96.50**	**28**	P	P	02 32 41.3	-1.0
	0.3nm,0.5s,baz=267,slow=4.5,SNR=8.8						

*BJI **09** 02:24:27.5, 1966S×17772W, h590km, mB5.5, mb5.1*

*MOS **09** 02:24:27.0±1.0, 1988S×178.12W, h579km, mb5.3/19, Error ellipse: s-maj=8.6km s-min=7.7km az=58.2*

*NEIC **09** 02:24:28.3±0.5, 2007S×17808W, h593km±5km, mb5.0/71, Error ellipse: s-maj=5.2km s-min=3.4km az=132.0*

*ISCJB **09** 02:24:28.5±0.1, 2022S±002×178.11W±003, h606km, mb5.0/127, Error ellipse: s-maj=3.8km s-min=2.1km az=34.6*

*GCMT **09** 02:24:28.3±0.2, 2000S×17797W, h614km±1km, MW6.0/102, Moment Tension Solution. s102,c211; Duration: 2≥3 Moment tensor: Scale 10^18Nm; Mrr~0.25±.01; Mθθ0.73±.01; Mφφ~0.47±.01; Mrθ~0.56±.01; Mθφ0.01±.01; Mφr~0.57±.01; Best double couple: M0 1.02100×10^18 NP1:φs309.00000°, δ37.00000°, λ~15.00000°. NP2:φs51.00000°, δ81.00000°, λ~126.00000°. Principal axes: T 1.0210, Plg27.0000°, Azm168.0000°; N 0.0000, Plg35.0000°, Azm57.0000°; P -1.0200, Plg42.0000°, Azm287.0000°; nsta1 refers to body waves, cutoff=40s.*

*BGS **09** 02:24:28.3±4.5, 2007S×17808W, h593km, mb5.0(NEIC)*

*SZGRF **09** 02:24:29.5, 2020S×178.11W, h607km, Fiji Islands region*

*IDC **09** 02:24:30.3±0.3, 2002S×17806W, h612km±3km, mb4.7/31, mb1 4.7/32, mb1mx4.7/32, mbtmp4.7/32, Error ellipse: s-maj=7.4km s-min=6.9km az=168.0*

ISC 09 02:24:30.0±0.1, 2020S±002×17808W±003, h608km, h608km±1.5km; pP-P, n1065, σ0§79/659, mb5.0/127, 109C-163D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**8.69**	**45**	*e*P	**P**	**02 26 30.7**	**-5.5**
	550nm,0.6s						
AFI				*e*S	**S**	**02 28 08.9**	**-11**
AFI	**Afiamalu**	**8.69**	**45**	*e*P	**P**	**02 26 30.7**	**-5.5**
AFI				*e*S	**S**	**02 28 09.0**	**-11**
AFI				pmax	pmax		
	comp=Z,550nm,0.6s						
RAO	**Raoul Island**	**9.01**	**179**	*e*P	**P**	**02 26 37.9**	**-1.2**
	comp=Z,2μm,0.5s						
RAO	**Raoul Island**	**9.01**	**179**	*e*P	**P**	**02 26 37.9**	**-1.2**
RAO				pmax	pmax		
	comp=Z,2μm,0.5s						
RAO	**Raoul Island**	**9.01**	**179**	P	**P**	**02 26 38.0**	**-1.1**
	comp=Z,674nm,0.3s,baz=236,slow=3.5,SNR=20						
RAO				S	**S**	**02 28 14.4**	**-11**
	comp=Z,367nm,0.3s,baz=67,slow=22,SNR=5.5						
FUNA	**Funafuti**	**11.90**	**347**	*e*P	**P**	**02 27 04.6**	**-3.3**
	comp=Z,2μm,1.3s						
DZM	**Mont Dzumac**	**14.56**	**260**	*e*P	**P**	**02 27 34.7**	**+0.9**
DZM				*e*S	**S**	**02 30 04.9**	**+1.1**
OUZ	**Omahuta**	**16.66**	**204**	*e*P	**P**	**02 27 55.8**	**+2.9**
OUZ	**Omahuta**	**16.66**	**204**	PN	**P**	**02 27 55.8**	**+2.9**
WCZ	**Waipu Caves**	**17.03**	**201**	PN	**P**	**02 27 58.8**	**+2.5**
RAR	**Rarotonga**	**17.16**	**97**	P	**P**	**02 27 56.3**	**-1.4**
	comp=Z,5.6nm,0.3s,baz=245,slow=6.9,SNR=13						
KUZ	**Kuaotunu**	**17.35**	**197**	P	**P**	**02 28 00.8**	**+1.6**
KUZ	**Kuaotunu**	**17.35**	**197**	PN	**P**	**02 28 00.8**	**+1.6**
MXZ	**Matakaoa Point**	**17.58**	**190**	*e*P	**P**	**02 28 01.7**	**+0.4**
MXZ	**Matakaoa Point**	**17.58**	**190**	PN	**P**	**02 28 00.6**	**-0.6**
KAAZ	**Kauri Point**	**17.72**	**199**	P	**P**	**02 28 05.3**	**+2.7**
KAAZ	**Kauri Point**	**17.72**	**199**	PN	**P**	**02 28 05.1**	**+2.6**
PUZ	**Puketiti**	**18.09**	**189**	P	**P**	**02 28 05.5**	**-0.4**
PUZ	**Puketiti**	**18.09**	**189**	PN	**P**	**02 28 05.4**	**-0.5**
PUZ				SN	**S**	**02 31 01.0**	**-0.1**
TGRZ	**Tauranga**	**18.15**	**195**	P	**P**	**02 28 08.2**	**+1.8**
TGRZ	**Tauranga**	**18.15**	**195**	PN	**P**	**02 28 07.5**	**+1.1**
MWZ	**Matawai**	**18.47**	**191**	*e*P	**P**	**02 28 07.7**	**-1.6**
MWZ	**Matawai**	**18.47**	**191**	PN	**P**	**02 28 07.5**	**-1.8**
MWZ				SN	**S**	**02 31 06.2**	**-0.9**
URZ	**Urewera**	**18.47**	**192**	*e*P	**P**	**02 28 07.0**	**-2.4**
URZ	**Urewera**	**18.47**	**192**	P	**P**	**02 28 07.0**	**-2.3**
	comp=Z,38nm,0.3s,baz=6.7,slow=4.3,SNR=170						
URZ				S	**S**	**02 31 03.2**	**-4.0**
	comp=Z,4.1nm,0.3s,baz=215,slow=20,SNR=7.2						
URZ	**Urewera**	**18.47**	**192**	PN	**P**	**02 28 07.0**	**-2.3**
URZ				SN	**S**	**02 31 04.5**	**-2.8**
KNZ	**Kokohu**	**19.11**	**190**	*e*P	**P**	**02 28 15.5**	**+0.4**
KNZ	**Kokohu**	**19.11**	**190**	PN	**P**	**02 28 15.1**	**0.0**
HIZ	**Hauiti**	**19.25**	**197**	*e*P	**P**	**02 28 18.2**	**+1.8**
HIZ	**Hauiti**	**19.25**	**197**	PN	**P**	**02 28 18.4**	**+2.0**
RATZ	**Rangitukua**	**19.34**	**195**	P	**P**	**02 28 18.1**	**+0.8**
RATZ	**Rangitukua**	**19.34**	**195**	PN	**P**	**02 28 18.2**	**+0.9**
BKZ	**Black Stump Fm**	**19.47**	**193**	*e*P	**P**	**02 28 16.1**	**-2.3**
BKZ	**Black Stump Fm**	**19.47**	**193**	PN	**P**	**02 28 15.9**	**-2.5**
BKZ				SN	**S**	**02 31 21.7**	**-1.5**
TWVZ	**Taurewa**	**19.62**	**195**	P	**P**	**02 28 19.1**	**-0.6**
TWVZ	**Taurewa**	**19.62**	**195**	PN	**P**	**02 28 19.6**	**-0.1**
WTVZ	**West Tongariro**	**19.62**	**195**	P	**P**	**02 28 19.4**	**-0.4**
WTVZ	**West Tongariro**	**19.62**	**195**	PN	**P**	**02 28 19.3**	**-0.5**
OTVZ	**Oturere**	**19.65**	**195**	PN	**P**	**02 28 19.1**	**-1.0**
TUVZ	**Tukino**	**19.75**	**195**	P	**P**	**02 28 20.5**	**-0.5**
TUVZ	**Tukino**	**19.75**	**195**	PN	**P**	**02 28 20.2**	**-0.7**
FWVZ	**Far West T-bar**	**19.77**	**195**	*e*P	**P**	**02 28 20.8**	**-0.3**
FWVZ	**Far West T-bar**	**19.77**	**195**	PN	**P**	**02 28 20.4**	**-0.7**
WNVZ	**Wahianoa**	**19.82**	**195**	P	**P**	**02 28 20.9**	**-0.7**
WNVZ	**Wahianoa**	**19.82**	**195**	PN	**P**	**02 28 20.9**	**-0.7**
MOVZ	**Moawhango**	**19.86**	**194**	P	**P**	**02 28 21.2**	**-0.7**
MOVZ	**Moawhango**	**19.86**	**194**	PN	**P**	**02 28 20.5**	**-1.4**
RAEZ	**Rainy Point**	**20.10**	**197**	P	**P**	**02 28 26.9**	**+2.9**
RAEZ	**Rainy Point**	**20.10**	**197**	PN	**P**	**02 28 26.4**	**+2.4**
NEZ	**North Egmont**	**20.16**	**198**	P	**P**	**02 28 28.2**	**+3.5**
NWEZ	**Newall Road**	**20.23**	**198**	*e*P	**P**	**02 28 29.1**	**+3.8**
NWEZ	**Newall Road**	**20.23**	**198**	PN	**P**	**02 28 28.7**	**+3.4**
PXZ	**Pawanui**	**20.23**	**191**	PN	**P**	**02 28 24.2**	**-1.1**
PXZ				SN	**S**	**02 31 35.4**	**+0.2**
WPHZ	**Waipukurau**	**20.35**	**192**	PN	**P**	**02 28 25.5**	**-0.8**
WAZ	**Wanganui**	**20.38**	**195**	*e*P	**P**	**02 28 25.6**	**-1.0**
WAZ	**Wanganui**	**20.38**	**195**	PN	**P**	**02 28 25.6**	**-1.0**
TSZ	**Takapari Road**	**20.44**	**193**	P	**P**	**02 28 26.6**	**-0.5**
BFZ	**Birch Farm**	**20.98**	**192**	*e*P	**P**	**02 28 30.7**	**-1.3**
BFZ	**Birch Farm**	**20.98**	**192**	PN	**P**	**02 28 30.7**	**-1.2**
MRZ	**Mangatainoka R**	**21.10**	**193**	*e*P	**P**	**02 28 31.3**	**-1.7**
MRZ	**Mangatainoka R**	**21.10**	**193**	PN	**P**	**02 28 31.0**	**-2.1**
KIW	**Kapiti Island**	**21.44**	**195**	P	**P**	**02 28 35.2**	**-0.9**
KIW	**Kapiti Island**	**21.44**	**195**	PN	**P**	**02 28 35.1**	**-1.0**
MTW	**Mount Morrison**	**21.59**	**193**	P	**P**	**02 28 36.1**	**-1.3**
MTW	**Mount Morrison**	**21.59**	**193**	PN	**P**	**02 28 36.1**	**-1.3**
DUWZ	**D'Urville Isla**	**21.64**	**197**	PN	**P**	**02 28 36.8**	**-1.0**
CAW	**Cannon Point**	**21.64**	**194**	PN	**P**	**02 28 36.7**	**-1.1**
MRW	**Makara Radio**	**21.84**	**195**	P	**P**	**02 28 39.0**	**-0.7**
MRW	**Makara Radio**	**21.84**	**195**	PN	**P**	**02 28 38.7**	**-1.0**
SNZO	**South Karori**	**21.92**	**195**	*e*P	**P**	**02 28 39.7**	**-0.6**
SNZO	**South Karori**	**21.92**	**195**	PN	**P**	**02 28 39.3**	**-1.1**
TCW	**Tory Channel**	**21.93**	**196**	P	**P**	**02 28 39.8**	**-0.6**
TCW	**Tory Channel**	**21.93**	**196**	PN	**P**	**02 28 39.8**	**-0.6**
QRZ	**Quartz Range**	**22.06**	**199**	PN	**P**	**02 28 42.2**	**+0.5**
NNZ	**Nelson**	**22.17**	**197**	P	**P**	**02 28 42.3**	**-0.3**
NNZ	**Nelson**	**22.17**	**197**	PN	**P**	**02 28 41.8**	**-0.8**
TUWZ	**Tuamarina**	**22.22**	**196**	PN	**P**	**02 28 42.1**	**-0.9**
BSWZ	**Blackbirch Sta**	**22.50**	**196**	P	**P**	**02 28 45.9**	**+0.4**
BSWZ	**Blackbirch Sta**	**22.50**	**196**	PN	**P**	**02 28 45.8**	**+0.3**
THZ	**Tophouse**	**22.81**	**198**	PN	**P**	**02 28 47.6**	**-0.7**
DSZ	**Denniston Nort**	**23.13**	**200**	PN	**P**	**02 28 50.8**	**-0.3**
HNR	**Honiara**	**23.75**	**294**	P	**P**	**02 28 57.7**	**+0.7**
	comp=Z,232nm,0.7s,mb5.9,baz=278,slow=1.2,SNR=4.4						
LTZ	**Lake Taylor**	**23.93**	**198**	*e*P	**P**	**02 28 57.2**	**-1.0**
LTZ	**Lake Taylor**	**23.93**	**198**	PN	**P**	**02 28 57.1**	**-1.1**
WVZ	**Waitaha Valley**	**24.67**	**200**	P	**P**	**02 29 04.3**	**-0.3**
WVZ	**Waitaha Valley**	**24.67**	**200**	PN	**P**	**02 29 04.2**	**-0.5**
WVZ				SN	**S**	**02 32 47.3**	**+2.4**
RPZ	**Rata Peaks**	**25.14**	**199**	P	**P**	**02 29 09.9**	**+1.0**
	comp=Z,173nm,0.6s,mb5.9,baz=334,slow=2.4,SNR=46						
RPZ				S	**S**	**02 32 55.7**	**+3.3**
	comp=Z,22nm,0.8s,baz=356,slow=23,SNR=3.7						
FOZ	**Fox Glacier**	**25.45**	**201**	*e*P	**P**	**02 29 10.2**	**-1.3**
FOZ	**Fox Glacier**	**25.45**	**201**	PN	**P**	**02 29 10.1**	**-1.4**
LBZ	**Lake Benmore**	**26.02**	**199**	*e*P	**P**	**02 29 15.5**	**-1.0**
LBZ	**Lake Benmore**	**26.02**	**199**	PN	**P**	**02 29 15.4**	**-1.1**
JCZ	**Jackson Bay**	**26.21**	**202**	P	**P**	**02 29 18.6**	**+0.4**
**JCZ

RKT pmax pmax
comp=Z,150nm,1.1s,mb5.4
ADE Adelaide 40.70 240 *eP* **P 02 31 20.1 +0.6**
ASAR Alice Springs 44.51 256 P **P 02 31 49.5 +0.2**
comp=Z,631nm,0.9s,mb6.2,baz=96,slow=6.9,SNR=664
ASAR S **S 02 37 42.4 +0.4**
comp=Z,137nm,0.8s,baz=94,slow=15,SNR=29
WB2 Warramunga Arr 44.55 262 ⇓*iP* **P 02 31 49.0 -0.7**
WB2 *eS* **S 02 37 39.6 -3.0**
WB2 *eSS* SS 02 40 43.9 -32
WRAB Tennant Creek 44.55 262 ⇓*iP* **P 02 31 49.0 -0.7**
comp=Z,13nm,1.5s,mb4.2
WRAB Tennant Creek 44.55 262 ⇓*iP* **P 02 31 49.1 -0.6**
WRA Warramunga Arr 44.56 262 P **P 02 31 48.2 -1.6**
comp=Z,423nm,0.9s,mb6.0,baz=95,slow=7.3,SNR=124
WRA S **S 02 37 43.6 +0.9**
comp=Z,31nm,1.0s,baz=97,slow=14,SNR=12
KAKA Kakadu 47.89 271 *eP* **P 02 32 14.3 -0.6**
comp=Z,592nm,0.6s
FORT Forrest 49.34 246 *eP* **P 02 32 24.9 -0.5**
comp=Z,374nm,0.7s,mb5.9
FORT *eS* **S 02 38 47.7 -0.6**
GUMO Guam 49.55 310 P **P 02 32 25.9 -1.2**
comp=Z,417nm,0.9s,mb5.9,baz=173,slow=5.5,SNR=13
FITZ Fitzroy Crossi 52.99 262 *eP* **P 02 32 51.0 -0.8**
comp=Z,191nm,0.4s,mb5.8
FITZ *e*SCP PP 02 35 05.8 +5.1
FITZ *eS* **S 02 39 38.7 +1.3**
FITZ Fitzroy Crossi 52.99 262 P **P 02 32 52.0 +0.2**
comp=Z,117nm,0.6s,mb5.4,baz=120,slow=4.5,SNR=141
FITZ S **S 02 39 40.1 +2.7**
comp=Z,5.2nm,1.0s,baz=250,slow=21,SNR=3.2
BATI Kupang 56.84 271 P **P 02 33 19.8 +1.1**
comp=Z,506nm,0.8s,mb5.8,baz=119,slow=2.7,SNR=41
MBWA Marble Bar 57.84 257 ⇓*iP* **P 02 33 24.9 -0.5**
comp=Z,223nm,0.7s,mb5.4
KLBR Kellerberrin 58.11 245 *eP* **P 02 33 27.2 +0.2**
comp=Z,276nm,0.8s,mb5.4
SBA Scott Base 58.16 184 *eP* **P 02 33 29.5 +3.0**
comp=Z,173nm,1.0s,mb5.1
SBA *ep*P pP 02 35 26.6 +4.3
SBA Scott Base 58.16 184 *eP* **P 02 33 29.5 +3.0**
SBA *e**PP pP 02 35 26.6 +4.3
SBA pmax pmax
comp=Z,173nm,1.0s,mb5.1
VNDA Vanda 58.20 185 P **P 02 33 28.9 +2.1**
comp=Z,48nm,0.7s,mb4.7,baz=356,slow=7.4,SNR=138
NWAO Narrogin (SRO) 58.43 243 P **P 02 33 29.3 +0.2**
comp=Z,55nm,0.8s,mb4.8,baz=99,slow=6.5,SNR=23
MUN Mundaring 59.38 244 *eP* **P 02 33 35.2 -0.3**
CBIJ Chichi jima 60.76 319 P **P 02 33 43.5 -1.1**
comp=Z,112nm,0.5s,mb5.3,baz=160,slow=9.9,SNR=8.0
CASY Casey 64.20 205 *eP* **P 02 34 06.9 +0.9**
JHJ Hachijo jima 2 66.56 322 P **P 02 34 19.9 -1.4**
comp=Z,247nm,0.4s,mb6.0,baz=180,slow=11,SNR=14
MYLDM Lahad Datu 67.18 285 ⇓P **P 02 34 28.0 +2.5**
TSM Tawau 67.39 284 ⇓P **P 02 34 27.9 +1.1**
SDKM Sandakan 68.55 285 ⇑P **P 02 34 35.2 +1.4**
KDM Kudat 69.40 286 ⇑P **P 02 34 39.7 +0.8**
KKM Kota Kinabalu 69.61 285 ⇓*iP* **P 02 34 40.1 0.0**
KKM Kota Kinabalu 69.61 285 ⇓P **P 02 34 40.9 +0.8**
QSPA South Pole Qui 69.86 180 P **P 02 34 42.3 +1.9**
QSPA pP pP 02 36 46.3 +3.6
QSPA South Pole Qui 69.86 180 P **P 02 34 42.3 +1.9**
comp=Z,343nm,1.0s,mb5.8,baz=27,slow=1.4,SNR=284
QSPA pP pP 02 36 46.3 +3.6
comp=Z,26nm,0.9s,baz=27,slow=6.1,SNR=2.8
JOW Kunigami 69.92 310 P **P 02 34 41.0 -0.6**
comp=Z,65nm,0.8s,mb5.1,baz=137,slow=6.7,SNR=12
MJAR Matsushiro Arr 69.92 324 P **P 02 34 40.2 -1.2**
comp=Z,41nm,0.7s,mb5.0,baz=157,slow=6.0,SNR=84
MJAR pP pP 02 36 43.8 -0.1
comp=Z,20nm,1.1s,baz=156,slow=6.1,SNR=6.2
MAJO Matsushiro 69.92 324 ⇓*iP* **P 02 34 40.4 -1.1**
comp=Z,68nm,0.9s,mb5.1
MAJO Matsushiro 69.92 324 ⇓*iP* **P 02 34 40.4 -1.1**
MAJO pmax pmax
comp=Z,68nm,0.9s,mb5.1
MAT Matsushiro 69.92 324 P **P 02 34 40.3 -1.2**
MAT S S 02 43 05.0 +0.7
MIR Mirnyy 71.23 205 ⇑*iP* **P 02 34 42.0 -6.6**
MIR *i* S S 02 43 14.0 -4.1
MIR pmax pmax
comp=Z,100nm,1.0s,mb5.3
BTM Bintulu 71.36 281 ⇓P **P 02 34 51.6 +1.2**
ADK Adak 71.78 1 *eP* **P 02 34 49.6 -2.3**
comp=Z,109nm,0.9s,mb5.4
ADK *ep*P pP 02 36 53.4 -2.0
ADK Adak 71.78 1 *eP* **P 02 34 49.7 -2.3**
ADK *e**PP pP 02 36 53.4 -1.9
ADK pmax pmax
comp=Z,109nm,0.9s,mb5.4
SBUM Sibu 71.88 280 ⇓P **P 02 34 54.6 +1.2**
JNU Nakatsue 72.00 317 P **P 02 34 53.0 -0.7**
comp=Z,52nm,0.9s,mb5.0,baz=75,slow=7.6,SNR=22
JNU pP pP 02 36 57.8 +0.7
comp=Z,20nm,1.0s,baz=102,slow=6.5,SNR=4.2
KSM Kuching 73.29 278 ⇓*iP* **P 02 35 01.9 +0.4**
KSM Kuching 73.29 278 ⇑P **P 02 35 02.7 +1.2**
ASAJ Asahikawa 73.43 332 P **P 02 35 01.6 0.0**
comp=Z,126nm,0.9s,mb5.5,baz=214,slow=8.3,SNR=60
NACB Ninganchiao 73.44 304 *eP* **P 02 35 00.9 -1.2**
YHNB Yeheng 73.87 304 *eP* **P 02 35 03.5 -1.0**
TATO Taipei 73.95 305 *eP* **P 02 35 03.8 -1.1**
comp=Z,272nm,1.1s,mb5.7
SKR Severo-Kuril's 74.15 343 *eP* **P 02 35 01.7 -3.8**
UNV Unalaska Valle 74.42 7 *eP* **P 02 35 04.5 -2.4**
comp=Z,48nm,0.6s,mb5.2
YSS Yuzh-Sakhalins 75.59 333 *eP* **P 02 35 13.8 +0.2**
comp=Z,137nm,0.9s,mb5.4
YSS Yuzh-Sakhalins 75.59 333 *j eP* **P 02 35 13.0 -0.6**
YSS *e**PP pP 02 37 18.0 -0.8
YSS *eS* S 02 44 08.0 +1.7
YSS *e* 02 44 22.0
YSS *e*SS SS 02 49 20.0 +4.0
YSS pmax pmax
comp=Z,190nm,1.0s,mb5.5
YSS pmax pmax
comp=Z,1μm,4.0s
PET Petropavlovsk 75.66 346 *eP* **P 02 35 12.0 -1.8**
PET *e**SP sP 02 38 15.3 -5.7
PET *eS* S 02 44 01.5 -5.3
PET *e* 02 52 35.9
PET pmax pmax
comp=Z,44nm,0.7s,mb5.0
PET smax
comp=E,1μm,20.2s
QZH Quanzhou 76.18 303 ⇑*iP* **P 02 35 17.6 +0.2**
QZH AP pP 02 37 22.0 -0.8
QZH S S 02 44 11.2 -2.4
QZH SCS ScS 02 44 36.9 -0.3
QZH AMB AMB
comp=Z,340nm,1.3s,mb5.6
QZH AMB AMB
comp=Z,2μm,9.6s
KSRS Korea Array 76.61 319 P **P 02 35 19.4 0.0**
comp=Z,24nm,0.9s,mb4.6,baz=141,slow=6.4,SNR=49
KSRS pP pP 02 37 25.7 +0.6
comp=Z,8.7nm,1.0s,baz=136,slow=6.1,SNR=5.7
SNCC San Nicolas Is 77.10 47 ⇓P **P 02 35 22.1 -0.1**
baz=77
INCN Inchon 77.44 318 *eP* **P 02 35 24.2 +0.3**
comp=Z,121nm,1.2s,mb5.2
INCN Inchon 77.44 318 P **P 02 35 24.3 +0.4**
SNR=9.4
SSE Sheshan 77.44 310 P **P 02 35 24.5 +0.4**
SSE AP pP 02 37 29.0 -1.0
SSE XP sP 02 38 30.5 -1.3
SSE S S 02 44 27.1 +0.6
SSE XS sS 02 48 09.3 -1.8
SSE AMB AMB
comp=Z,55nm,0.7s,mb5.1
SSE AMB AMB
comp=Z,461nm,6.9s
FARB Farallon Islan 77.44 42 ⇑P **P 02 35 24.4 +0.5**
baz=78
V03C Hunter Liggett 77.56 44 ⇓P **P 02 35 24.7 +0.1**
baz=78
HAST Hastings Reser 77.57 44 P **P 02 35 25.1 +0.4**
baz=78,SNR=8.8
V04C Ramage Ranch, 77.57 45 ⇑P **P 02 35 24.9 +0.2**
baz=78
BNLO Ben Lomond (Sa 77.62 43 ⇓P **P 02 35 25.1 +0.2**
baz=78
SCI San Clemente I 77.63 48 ⇓P **P 02 35 25.6 +0.6**
baz=78
JRSC Jasper Ridge 77.74 42 ⇓P **P 02 35 26.1 +0.6**
baz=78
MCCM Marconi Confer 77.79 41 ⇓P **P 02 35 26.2 +0.4**
baz=78
PKM Peak Mountain 77.84 46 ⇑P **P 02 35 27.2 +1.0**
baz=78
SAO San Andreas Ge 77.86 43 *eP* **P 02 35 25.1 -1.1**
comp=Z,26nm,1.0s,mb4.6
SAO San Andreas Ge 77.86 43 *eP* **P 02 35 25.1 -1.1**
SAO pmax pmax
comp=Z,26nm,1.0s,mb4.6
SMMC Simmler 77.96 45 ⇓P **P 02 35 27.2 +0.4**
baz=78
CIS Catalina Islan 77.97 48 ⇓P **P 02 35 26.6 -0.2**
baz=78
PKD Parkfield 77.97 44 ⇓P **P 02 35 27.5 +0.6**
baz=78
VLA Vladivostok 77.99 325 *eP* **P 02 35 23.6 -3.1**
VLA pmax pmax
comp=Z,39nm,0.8s,mb4.9
CHGN Chignik 78.00 11 *eP* **P 02 35 24.7 -1.7**
U04C Hernandez Rese 78.06 44 P **P 02 35 28.2 +1.0**
baz=78,SNR=6.8
PACP Pacheco Peak 78.11 43 P **P 02 35 28.2 +0.6**
baz=78,SNR=6.1
CVS Carmenet Viney 78.18 42 P **P 02 35 28.1 +0.2**
baz=78,SNR=5.1
WENL Wente Brothers 78.18 42 ⇓P **P 02 35 28.3 +0.4**
baz=78
NSHM Saint Helena R 78.19 41 *eP* **P 02 35 26.6 -1.3**
HOPS Hopland 78.20 41 *eP* **P 02 35 27.4 -0.5**
comp=Z,36nm,1.0s,mb4.8
HOPS Hopland 78.20 41 ⇑P **P 02 35 28.2 +0.2**
baz=78
P01C Double 8 Ranch 78.33 40 ⇓P **P 02 35 29.1 +0.4**
baz=78
S04C Ingram Canyon, 78.38 43 P **P 02 35 29.4 +0.4**
baz=78,SNR=6.8
T05C Eagle Field, D 78.44 44 ⇑P **P 02 35 29.8 +0.5**
baz=79
KIPM Iron Peak 78.45 40 *eP* **P 02 35 29.9 +0.6**
O01C Eel River Cons 78.46 39 ⇓P **P 02 35 30.4 +1.1**
baz=79
U05C Westside ANR, 78.48 44 ⇓P **P 02 35 30.5 +1.0**
baz=79
MNRC McLaughlin Nat 78.51 41 P **P 02 35 30.5 +0.9**
baz=79,SNR=7.0
109C Camp Elliot, M 78.59 49 ⇓P **P 02 35 31.1 +0.9**
baz=79
Q03C Winters 78.63 42 ⇓P **P 02 35 31.1 +0.8**
baz=79
ARVC Arvin 78.64 46 ⇑P **P 02 35 30.6 +0.2**
baz=79
GASB Alder Springs 78.82 40 ⇓P **P 02 35 31.7 +0.5**
baz=79,SNR=10
VES Vestal, Richgr 78.88 45 P **P 02 35 31.3 -0.3**
baz=79,SNR=6.1
BFSC Mount Baldy St 78.94 47 ⇑P **P 02 35 32.1 0.0**
baz=79
EDW2 Edwards Air Fo 79.07 47 P **P 02 35 33.0 +0.3**
baz=79,SNR=7.5
MONP Monument Peak 79.07 49 ⇑P **P 02 35 33.0 +0.2**
baz=79
O02C Red Bluff 79.10 40 ⇓P **P 02 35 33.0 +0.3**
baz=79,SNR=11
SUTB Sutter Butte 79.13 41 ⇓P **P 02 35 32.5 -0.4**
baz=79
T06C Millerton Lake 79.13 44 ⇓P **P 02 35 32.9 -0.1**
baz=79,SNR=11
Q04C Lincoln 79.15 42 ⇓P **P 02 35 33.3 +0.3**
baz=79
ISA Isabella 79.18 46 *eP* **P 02 35 32.8 -0.5**
comp=Z,5.8nm,0.8s,mb4.0
ISA *ep*P pP 02 37 40.3 +0.3
ISA Isabella 79.18 46 ⇑P **P 02 35 33.5 +0.2**
baz=79
N02C Big Bar 79.19 39 ⇑P **P 02 35 33.1 -0.1**
baz=79
CMB Columbia Colle 79.30 43 *eP* **P 02 35 33.1 -0.7**
comp=Z,9.7nm,0.8s,mb4.2
CMB Columbia Colle 79.30 43 *eP* **P 02 35 33.1 -0.7**
CMB pmax pmax
comp=Z,10.0nm,0.8s,mb4.2
CMB Columbia Colle 79.30 43 P **P 02 35 33.5 -0.3**
baz=79,SNR=22
HELL Mitchell Peak 79.40 45 ⇓P **P 02 35 34.2 -0.2**
baz=80,SNR=6.4
MYKOM Kota Tinggi 79.43 276 ⇓P **P 02 35 36.3 +1.2**
O03C Acorn Hollow, 79.45 40 ⇓P **P 02 35 34.6 +0.1**
baz=80
WDC Whiskeytown Da 79.50 40 *eP* **P 02 35 34.5 -0.3**
comp=Z,8.8nm,0.8s,mb4.1
WDC Whiskeytown Da 79.50 40 *eP* **P 02 35 34.5 -0.3**
WDC pmax pmax
comp=Z,9.0nm,0.8s,mb4.2
WDC Whiskeytown Da 79.50 40 P **P 02 35 34.9 +0.1**
baz=80,SNR=5.5
LAVA Lava Cap Winer 79.50 42 P **P 02 35 34.6 -0.3**
baz=80,SNR=8.2
ORV Oroville 79.50 41 P **P 02 35 35.0 +0.1**
baz=80,SNR=10
GZH Guangzhou 79.51 299 P **P 02 35 35.5 +0.3**
GZH S S 02 44 48.6 +0.3
KCC Kaiser Creek 79.57 44 P **P 02 35 35.3 0.0**
baz=80,SNR=5.6
LRMC Laurel Mountai 79.61 46 ⇓P **P 02 35 36.1 +0.6**
baz=80
NJ2 Nanjing 79.63 310 *eP* **P 02 35 35.8 +0.1**
NJ2 AMB AMB
comp=Z,40nm,0.9s,mb4.8
M02C Callahan 79.81 39 ⇑P **P 02 35 36.9 +0.5**
baz=80,SNR=8.0
CWC Cottonwood Cre 79.88 45 P **P 02 35 37.2 +0.3**
baz=80,SNR=8.8
R05C Kirkwood Meado 79.89 42 P **P 02 35 37.1 +0.2**
baz=80,SNR=8.3
P05C Yuba Gap, Truc 79.91 42 P **P 02 35 37.1 +0.2**
baz=80,SNR=9.4
BELC Belle Mtn. 79.97 48 ⇓P **P 02 35 37.6 +0.2**
baz=80,SNR=6.5
KGM Kluang 80.00 276 ⇑P **P 02 35 39.1 +1.0**
MPMC Manual Prospec 80.07 46 P **P 02 35 38.0 +0.1**
baz=80,SNR=8.3
MTUM Tungsten Hills 80.08 44 *eP* **P 02 35 38.2 +0.3**
YBH Yreka Blue Hor 80.11 39 *eP* **P 02 35 38.1 +0.1**
comp=Z,24nm,0.9s,mb4.5
YBH *ep*P pP 02 37 44.3 -0.8
YBH Yreka Blue Hor 80.11 39 *eP* **P 02 35 38.1 +0.2**
YBH *e**PP pP 02 37 44.3 -0.8
YBH pmax pmax
comp=Z,24nm,0.9s
YBH Yreka Blue Hor 80.11 39 P **P 02 35 38.6 +0.6**
baz=80,SNR=11
O05C Quincy 80.11 41 P **P 02 35 38.1 +0.1**
baz=80,SNR=8.6
GSC Goldstone 80.11 47 *eP* **P 02 35 35.9 -2.2**
comp=Z,10.0nm,1.2s,mb4.0
GSC *ep*P pP 02 37 45.3 0.0
GSC Goldstone 80.11 47 *eP* **P 02 35 35.9 -2.2**
GSC pmax pmax
comp=Z,10.0nm,1.2s,mb4.0
GSC Goldstone 80.11 47 ⇓P **P 02 35 38.1 -0.1**
baz=80
HABR Khabarovsk 80.15 330 *eP* **P 02 35 37.7 -0.3**
HABR *e* 02 38 46.7
HABR *eS* S 02 45 00.0 +6.3
HABR *eSS* SS 02 50 28.4 +5.0
HABR pmax pmax
comp=Z,121nm,1.1s,mb5.1
M03C McCloud 80.17 39 P **P 02 35 38.4 +0.1**
baz=80,SNR=12
R06C Coleville 80.18 43 P **P 02 35 38.7 +0.3**
baz=80,SNR=13
R07C Lee Vining 80.19 43 P **P 02 35 38.8 +0.4**
baz=80,SNR=8.2
O04C Chester 80.22 41 ⇑P **P 02 35 39.1 +0.6**
baz=80
MDJ Mudanjiang 80.23 325 P **P 02 35 38.2 -0.3**
MDJ AP pP 02 37 42.4 -3.3
MDJ XP sP 02 38 42.5 -4.6
MDJ S S 02 44 55.3 +0.5
MDJ SCS ScS 02 45 09.6 +0.2
MDJ XS sS 02 48 36.5 -5.0
MDJ SS SS 02 50 23.2 -1.6
MDJ AMB AMB
comp=Z,75nm,1.2s,mb4.9
MDJ AMB AMB
comp=Z,801nm,6.5s
HATC Hat Creek Radi 80.29 40 ⇓P **P 02 35 39.2 +0.3**
baz=80
GLA Glamis 80.29 50 ⇑P **P 02 35 39.6 +0.5**
baz=80
LHEM Herd Peak 80.33 39 P **P 02 35 39.5 +0.4**
LBCM Butte Creek Ri 80.37 40 P **P 02 35 39.4 +0.1**
BEKR Beckwourth 80.40 41 P **P 02 35 39.6 +0.1**
baz=80,SNR=13
S08C White Mtn Res 80.42 44 ⇓P **P 02 35 39.9 +0.3**
baz=80,SNR=22
WCN Washoe City 80.44 42 ⇓P **P 02 35 40.0 +0.3**
baz=81,SNR=7.2
LTIM Timbered Crate 80.49 40 P **P 02 35 40.1 +0.1**
HUMO Hull Mountain 80.51 38 *eP* **P 02 35 39.7 -0.3**
comp=Z,20nm,0.9s,mb4.5
HUMO Hull Mountain 80.51 38 P **P 02 35 40.5 +0.5**
baz=81,SNR=9.5
P06A Stead Airport, 80.57 42 ⇑P **P 02 35 40.7 +0.3**
baz=81
GMRC Granite Mounta 80.62 48 P **P 02 35 41.2 +0.4**
baz=81,SNR=5.2
J02A Umpqua 80.63 37 ⇓P **P 02 35 41.3 +0.7**
baz=81
IRM Iron Mountain 80.65 48 ⇓P **P 02 35 41.5 +0.6**
baz=81
M04C Macdoel 80.65 39 P **P 02 35 41.3 +0.6**
baz=81,SNR=7.2
QIZ Qiongzhong 80.66 294 P **P 02 35 41.3 0.0**
QIZ AP pP 02 37 44.0 -4.7
QIZ PP PP 02 38 53.4 -3.6
QIZ S S 02 45 00.9 +0.7
QIZ XS sS 02 48 42.5 -4.7
QIZ AMB AMB
comp=Z,567nm,7.6s
GRAC Grapevine Rang 80.67 45 P **P 02 35 41.2 +0.3**
baz=81,SNR=16
BUOR Burton Butte 80.72 38 P **P 02 35 41.3 +0.2**
FURC Furnace Creek, 80.72 46 ⇑P **P 02 35 41.9 +0.7**
baz=81
SHOC Shoshone 80.80 46 ⇓P **P 02 35 41.9 +0.2**
baz=81
M05C Lookout 80.81 40 P **P 02 35 42.1 +0.5**
baz=81,SNR=6.1
Q07A Schurz 80.83 43 ⇓P **P 02 35 42.3 +0.5**
baz=81
NVAR Mina Array Bea 80.86 43 P **P 02 35 42.1 +0.2**
NVAR pP pP 02 37 49.7 +0.3
NVAR Mina Array Bea 80.86 43 P **P 02 35 42.1 +0.2**
comp=Z,10nm,0.8s,mb4.3,baz=211,slow=6.8,SNR=36
NVAR pP pP 02 37 49.7 +0.3
comp=Z,5.8nm,0.9s,baz=229,slow=8.2,SNR=4.6
Y12C Blythe 80.87 49 ⇑P **P 02 35 42.6 +0.5**
baz=81
O06A Flanigan 80.90 41 P **P 02 35 42.2 +0.1**
baz=81,SNR=11
R08A Mina 80.94 44 ⇓P **P 02 35 42.6 +0.3**
baz=81
U10A Ash Meadows, A 81.05 46 ⇓P **P 02 35 43.4 +0.4**
baz=81
M06C Likely Place G 81.12 40 P **P 02 35 43.6 +0.5**
baz=81,SNR=9.9
S09A Goldfield 81.17 44 P **P 02 35 43.6 +0.1**
baz=81,SNR=5.7
K04A Chilquin 81.22 38 ⇓P **P 02 35 44.6 +1.0**
baz=81
N06A Buffalo Meadow 81.24 41 P **P 02 35 43.9 +0.1**
baz=81,SNR=13
V11A Goodsprings 81.35 47 P **P 02 35 44.5 0.0**
baz=82,SNR=7.6
Q08A Gabbs 81.35 43 P **P 02 35 44.3 -0.1**
baz=82,SNR=16
KTGM Kuala Trenggan 81.36 279 ⇓P **P 02 35 46.0 +1.0**
J04A Umpqua Nationa 81.39 38 ⇑P **P 02 35 44.8 +0.3**
baz=82
TPNV Topopah Spring 81.39 46 *eP* **P 02 35 44.4 -0.2**
comp=Z,15nm,1.0s,mb4.4
TPNV *ep*P pP 02 37 51.6 -0.8
TPNV Topopah Spring 81.39 46 *eP* **P 02 35 44.4 -0.3**
TPNV *e**PP pP 02 37 51.6 -0.8
TPNV pmax pmax
comp=Z,15nm,1.0s,mb4.4
Y13A Salome 81.40 49 ⇑P **P 02 35 44.8 0.0**
baz=82
L05A Lakeview 81.41 39 P **P 02 35 45.3 +0.7**
baz=82,SNR=10
PDMCI Parker Dam,Lak 81.43 49 ⇑P **P 02 35 45.2 +0.3**
baz=82
W12A Cal Nev Ari 81.45 48 ⇑P **P 02 35 45.5 +0.6**
baz=82
DL2 Dalian 81.46 317 *i* P **P 02 35 44.6 -0.4**
DL2 AP pP 02 37 53.9 +1.2
DL2 SKS 02 45 04.1
DL2 S S 02 45 06.0 -1.4
DL2 SS SS 02 50 42.2 -0.9
DL2 AMB AMB
comp=Z,30nm,1.0s,mb4.7
DL2 AMB AMB
comp=Z,320nm,6.2s
R09A Tonopah 81.56 44 P **P 02 35 45.5 0.0**
baz=82,SNR=13
I04A Tendick Farm, 81.56 37 ⇓P **P 02 35 45.5 +0.2**
baz=82
H03A Soap Creek Ran 81.62 36 ⇑P **P 02 35 45.8 +0.2**
baz=82
MOD Modoc 81.64 40 P **P 02 35 45.8 0.0**
MOD Modoc 81.64 40 P **P 02 35 46.0 +0.2**
baz=82,SNR=6.8
V12A Nelson 81.69 47 ⇑P **P 02 35 46.7 +0.5**
baz=82
U11A Corn Creek 81.69 46 ⇑P **P 02 35 46.8 +0.6**
baz=82
S10A Tonopah Range, 81.69 45 P **P 02 35 46.3 +0.1**
baz=82,SNR=42
P08A Dixie Valley 81.72 42 ⇑P **P 02 35 46.9 +0.6**
baz=82
K05A Summer Lake 81.78 39 P **P 02 35 47.1 +0.6**
baz=82,SNR=15
N07B Gerlach 81.79 41 ⇓P **P 02 35 47.2 +0.6**
baz=82
X13A Yucca 81.80 49 P **P 02 35 47.1 +0.3**
baz=82,SNR=7.3
Z14A Wintersburg 81.80 50 ⇑P **P 02 35 47.2 +0.4**
baz=82,SNR=6.7
Q09A Carvers 81.82 44 ⇑P **P 02 35 47.1 +0.3**
baz=82
MAW Mawson 81.82 200 *eP* **P 02 35 46.9 +0.6**
comp=Z,11nm,0.9s,mb4.4
MAW *eS* S 02 45 03.9 -6.2
MAW Mawson 81.82 200 *eP* **P 02 35 46.9 +0.6**
MAW pmax pmax
comp=Z,11nm,0.9s
MAW Mawson 81.82 200 P **P 02 35 46.9 +0.6**
comp=Z,16nm,0.9s,mb4.5,baz=124,slow=5.8,SNR=10
MAW pP pP 02 37 56.6 +2.5
comp=Z,12nm,0.9s,baz=110,slow=7.9,SNR=6.4
J05A Fort Rock 81.92 38 P **P 02 35 47.8 +0.6**
baz=82,SNR=36
SNY Shenyang 81.93 320 ⇓P **P 02 35 46.9 -0.4**
SNY AP pP 02 37 50.6 -4.6
SNY XP sP 02 38 51.7 -4.7
SNY S S 02 45 05.9 -6.1
SNY AMB AMB
comp=Z,50nm,1.7s,mb4.8
SNY AMB AMB
comp=Z,667nm,6.0s
115A Sonoran Desert 81.99 51 ⇓P **P 02 35 48.1 +0.3**
baz=82
CN2 Changchun 82.02 322 *eP* **P 02 35 47.0 -0.7**
CN2 *e*AP pP 02 37 55.0 -0.7
CN2 *e*XP sP 02 38 54.5 -2.4
CN2 *eS* S 02 45 12.0 -0.7
CN2 XS sS 02 48 57.1 -3.7
CN2 SS SS 02 50 53.4 +2.4
CN2 AMB AMB
comp=Z,50nm,1.1s,mb5.0
CN2 AMB AMB
comp=Z,200nm,6.0s
FRIM Kepong 82.02 276 ⇓P **P 02 35 49.1 +0.7**
M07A Soldier Meadow 82.02 41 P **P 02 35 48.0 +0.3**
baz=82,SNR=18
W13A Hualapai Mount 82.03 48 P **P 02 35 48.4 +0.5**
baz=82,SNR=6.8
Y14A Wickenburg 82.05 50 P **P 02 35 48.4 +0.3**
baz=82,SNR=10.0

R10A	Warm Springs	82.09	44	⇑P		P	02 35 48.6	+0.5
	baz=82							
S11A	Rachel	82.10	45	P		P	02 35 48.2	-0.1
	baz=82,SNR=9.1							
SSOR	Sweet Springs	82.19	36	P		P	02 35 47.8	-0.7
K06A	Valley Falls	82.20	39	P		P	02 35 49.0	+0.4
	baz=82,SNR=17							
WHN	Wuhan	82.20	306	⇑P		P	02 35 49.5	+0.6
WHN				S		S	02 45 11.8	-3.4
WHN				AMB		AMB		
	comp=Z,67nm,1.0s,mb5.1							
WHN				AMB		AMB		
	comp=Z,1µm,7.9s							
216A	Three Points,	82.21	52	⇓P		P	02 35 49.3	+0.3
	baz=82							
KLR	Kul'dur	82.23	329	eP		P	02 35 45.0	-3.6
KLR				e			02 37 45.0	
KLR				eS		S	02 45 08.5	-6.1
KLR				e			02 50 49.0	
KLR				pmax		pmax		
	comp=E,160nm,2.8s							
KLR				pmax		pmax		
	comp=Z,350nm,2.8s,mb5.4							
H04A	Detroit Lake	82.24	37	P		P	02 35 48.4	-0.3
	baz=82,SNR=5.8							
T11A	Corn Creek, Al	82.24	46	P		P	02 35 49.4	+0.4
	baz=82,SNR=25							
U12A	Valley of Fire	82.27	47	⇓P		P	02 35 49.3	+0.1
	baz=82,SNR=6.4							
L07A	Adell	82.29	40	P		P	02 35 49.6	+0.6
	baz=82,SNR=8.5							
116A	Eloy	82.30	51	⇓P		P	02 35 49.8	+0.4
	baz=82,SNR=5.7							
T12A	Moapa	82.31	46	⇓P		P	02 35 49.6	+0.3
	baz=82							
N08A	GE Springer Mi	82.31	42	P		P	02 35 49.2	-0.1
	baz=82,SNR=33							
Q10A	Clear Creek Ra	82.32	44	P		P	02 35 49.4	+0.1
	baz=82,SNR=11							
G04A	Mulino	82.40	36	⇑P		P	02 35 50.0	+0.4
	baz=82							
X14A	Yava	82.40	49	P		P	02 35 50.5	+0.6
	baz=82,SNR=14							
I05A	Bend	82.44	37	⇓P		P	02 35 50.2	+0.5
	baz=83							
J06A	Christmas Vall	82.53	39	P		P	02 35 50.1	-0.2
	baz=83,SNR=13							
M08A	Happy Creek Ra	82.54	41	⇓P		P	02 35 50.6	+0.2
	baz=83,SNR=9.5							
Y15A	Casa Rosa Ranc	82.54	50	⇑P		P	02 35 50.7	+0.1
	baz=83,SNR=14							
O09A	Fish Creek Ran	82.56	42	⇑P		P	02 35 50.8	+0.3
	baz=83							
217A	Green Valley	82.58	52	⇑P		P	02 35 51.0	+0.3
	baz=83,SNR=5.8							
R11A	Troy Canyon, C	82.59	45	⇓P		P	02 35 50.9	+0.2
	baz=83,SNR=11							
W14A	Seligman	82.65	48	⇑P		P	02 35 51.4	+0.3
	baz=83,SNR=16							
E03A	Lebam	82.65	35	⇑P		P	02 35 51.0	+0.2
	baz=83							
U13A	Pakoon Wash	82.66	47	P		P	02 35 51.6	+0.5
	baz=83,SNR=24							
S12A	Delamar Landin	82.69	46	⇑P		P	02 35 51.9	+0.7
	baz=83,SNR=14							
P10A	Eureka	82.72	43	⇑P		P	02 35 51.2	-0.1
	baz=83,SNR=6.6							
N09A	Rock Creek Ran	82.73	42	⇑P		P	02 35 51.4	+0.1
	baz=83,SNR=7.4							
K07A	Rock Creek Ran	82.74	39	P		P	02 35 51.5	+0.1
	baz=83,SNR=20							
H05A	Madras	82.75	37	⇑P		P	02 35 51.7	+0.3
	baz=83							
Q11A	Duckwater	82.82	44	⇑P		P	02 35 51.6	-0.2
	baz=83,SNR=10							
V14A	Boquillas Ranc	82.85	48	P		P	02 35 52.6	+0.6
	baz=83,SNR=22							
TUC	Tucson	82.86	52	eP		P	02 35 52.8	+0.6
	comp=Z,14nm,1.3s,mb4.3							
TUC				epP		pP	02 37 59.6	-0.9
TUC	Tucson	82.86	52	eP		P	02 35 52.8	+0.6
TUC				e*PP		pP	02 37 59.6	-0.9
TUC				pmax		pmax		
	comp=Z,14nm,1.3s,mb4.3							
X15A	Humboldt	82.88	49	⇓P		P	02 35 52.6	+0.3
	baz=83,SNR=13							
F04A	Amboy	82.88	36	⇑P		P	02 35 52.4	+0.5
	baz=83							
Z16A	Peralta Trail,	82.89	51	⇑P		P	02 35 52.8	+0.5
	baz=83							
I06A	Prineville	82.91	38	⇓P		P	02 35 52.6	+0.5
	baz=83,SNR=25							
WVOR	Wild Horse Val	82.95	40	eP		P	02 35 51.7	-0.7
	comp=Z,20nm,1.0s,mb4.6							
WVOR	Wild Horse Val	82.95	40	eP		P	02 35 51.7	-0.7
WVOR				pmax		pmax		
	comp=Z,20nm,1.0s,mb4.6							
L08A	Fields	82.99	40	⇑P		P	02 35 53.1	+0.5
	baz=83,SNR=19							
T13A	Saint George	83.01	47	P		P	02 35 53.1	+0.3
	baz=83,SNR=17							
IPM	Ipoh	83.02	277	⇑P		P	02 35 54.3	+0.9
VIPM	Ingram Point	83.02	37	P		P	02 35 52.7	+0.1
SVW2	Sparrevohn	83.02	11	eP		P	02 35 51.1	-1.2
318A	Bisbee	83.03	53	⇓P		P	02 35 53.5	+0.4
	baz=83,SNR=10							
C03A	Quillayute Air	83.03	33	⇓P		P	02 35 53.3	+0.7
	baz=83							
NLWA	Neilton Lookou	83.03	34	eP		P	02 35 52.4	-0.3
	comp=Z,33nm,1.0s,mb4.8							
NLWA	Neilton Lookou	83.03	34	⇑P		P	02 35 53.5	+0.8
	baz=83							
O10A	Cortez Mining,	83.06	43	⇓P		P	02 35 53.4	+0.4
	baz=83							
G05A	Wamic	83.07	37	⇑P		P	02 35 53.1	+0.2
	baz=83							
J07A	Hines	83.10	39	P		P	02 35 53.5	+0.3
	baz=83,SNR=6.0							
M09A	Marrel Ranch,	83.10	41	P		P	02 35 53.7	+0.5
	baz=83,SNR=13							
Y16A	Circle Bar Ran	83.12	50	⇓P		P	02 35 53.9	+0.4
	baz=83,SNR=8.6							
E04A	Onalaska	83.14	35	⇑P		P	02 35 54.1	+0.9
	baz=83							
U14A	Mt Trumbull	83.20	47	P		P	02 35 54.5	+0.7
	baz=83,SNR=25							
K08A	Mann Creek Ran	83.22	40	⇓P		P	02 35 54.1	+0.4
	baz=83							
R12A	Pony Springs,	83.23	45	P		P	02 35 54.1	+0.2
	baz=83,SNR=10							
218A	Dragoon	83.24	53	⇓P		P	02 35 54.9	+0.8
	baz=83,SNR=7.7							
TDL	Tradedollar La	83.25	35	P		P	02 35 54.1	+0.3
N10A	Dunphy	83.30	42	⇓P		P	02 35 54.3	+0.1
	baz=83							
L09A	Wilkinson Ranc	83.31	41	P		P	02 35 54.4	+0.3
	baz=83,SNR=7.0							
H06A	Lindquist Farm	83.31	37	P		P	02 35 54.1	0.0
	baz=83,SNR=22							
S13A	Holt Ranch, En	83.34	46	P		P	02 35 54.6	+0.2
	baz=84,SNR=9.2							
F05A	White Salmon	83.38	36	⇓P		P	02 35 54.6	+0.2
	baz=84							
I07A	Izee	83.40	38	P		P	02 35 54.9	+0.3
	baz=84,SNR=24							
X16A	Lo Mia Camp, P	83.41	50	⇓P		P	02 35 55.4	+0.6
	baz=84,SNR=12							
D04A	Dobbs Creek Ra	83.42	34	⇑P		P	02 35 55.7	+1.1
	baz=84							
G06A	Carlson Farm,	83.44	37	⇓P		P	02 35 54.9	+0.1
	baz=84,SNR=7.2							
VTHM	Trough	83.45	37	P		P	02 35 54.6	-0.2
Q12A	Willow Creek R	83.46	44	P		P	02 35 55.2	+0.2
	baz=84,SNR=6.2							
MA2	Magadan	83.48	345	eP		P	02 35 52.6	-1.9
	comp=Z,65nm,1.3s,mb5.0							
MA2	Magadan	83.48	345	eP		P	02 35 52.2	-2.4
MA2				i			02 45 19.5	
MA2				i S		S	02 45 24.9	-1.5
MA2				ePS			02 46 26.7	
MA2				eSSS			02 54 37.4	
MA2				pmax		pmax		
	comp=Z,50nm,0.9s,mb5.0							
O11A	Cowboy Ranch,	83.52	43	P		P	02 35 55.4	+0.2
	baz=84,SNR=12							
319A	Douglas	83.53	53	P		P	02 35 56.6	+1.1
	baz=84,SNR=5.4							
SLKM	Skilak Lake	83.54	13	eP		P	02 35 53.4	-1.4
J08A	Circle Bar Ran	83.58	39	⇓P		P	02 35 56.0	+0.5
	baz=84							
T14A	Hurricane	83.60	47	P		P	02 35 56.1	+0.3
	baz=84,SNR=5.5							
E05A	Randle	83.63	35	P		P	02 35 55.2	-0.5
	baz=84,SNR=5.3							
P12A	McGill	83.64	44	P		P	02 35 56.0	+0.1
	baz=84,SNR=8.2							
B04A	Port Angeles	83.65	33	⇓P		P	02 35 56.2	+0.5
	baz=84							
KULM	Kulim	83.65	278	eP		P	02 35 57.0	+0.4
KULM	Kulim	83.65	278	⇑P		P	02 35 57.9	+1.3
K09A	Rome	83.66	40	P		P	02 35 56.0	+0.1
	baz=84,SNR=19							
H07A	Lands Inn, Kim	83.67	38	⇓P		P	02 35 56.1	+0.2
	baz=84							
F06A	Goldendale	83.68	36	⇑P		P	02 35 56.1	+0.2
	baz=84							
C04A	Brinnon	83.71	34	P		P	02 35 56.4	+0.4
	baz=84,SNR=6.6							
M10A	I.L. Ranch, Tu	83.72	42	P		P	02 35 57.0	+0.7
	baz=84,SNR=18							
N11A	Elko Archery C	83.84	43	⇓P		P	02 35 57.3	+0.5
	baz=84							
GAMB	Gambell	83.85	3	eP		P	02 35 55.1	-1.2
	comp=Z,62nm,0.9s,mb5.1							
GAMB				epP		pP	02 38 02.4	-2.7
I08A	Drewsey	83.85	39	⇓P		P	02 35 57.2	+0.4
	baz=84							
D05A	Enumclaw	83.90	35	⇑P		P	02 35 57.5	+0.5
	baz=84							
S14A	Cedar City	83.90	46	⇓P		P	02 35 57.6	+0.4
	baz=84							
FMW	Mount Fremont	83.91	35	P		P	02 35 56.8	-0.2
J09A	Fry Pan Ranch,	84.01	40	P		P	02 35 57.8	+0.2
	baz=84,SNR=16							
G07A	Ruggs Ranch, H	84.01	37	P		P	02 35 57.3	-0.2
	baz=84,SNR=8.7							
E06A	Yakima	84.05	36	⇓P		P	02 35 57.9	+0.2
	baz=84							
PGC	Sidney	84.06	33	eP		P	02 35 56.7	-1.0
	comp=Z,73nm,1.1s,mb5.1							
T15A	Red Dirt Ranch	84.06	47	P		P	02 35 58.5	+0.5
	baz=84,SNR=7.4							
L10A	Juniper Basin	84.07	41	P		P	02 35 58.0	+0.1
	baz=84,SNR=17							
M11A	Holland Ranch,	84.14	42	⇑P		P	02 35 58.7	+0.4
	baz=84							
H08A	Prairie City	84.14	38	⇓P		P	02 35 58.6	+0.4
	baz=84							
119A	Ashpeak Ranch,	84.17	52	⇓P		P	02 35 58.8	+0.1
	baz=84							
O12A	Currie	84.18	43	⇓P		P	02 35 58.8	+0.3
	baz=84							
P13A	Bates Ranch, G	84.22	44	P		P	02 35 59.1	+0.4
	baz=84,SNR=7.6							
K10A	MacKenzie Ranc	84.22	40	P		P	02 35 58.6	-0.1
	baz=84,SNR=10							
F07A	Phinny Hill Vi	84.24	37	⇓P		P	02 35 58.9	+0.2
	baz=84							
N12A	Clover Valley,	84.30	43	P		P	02 35 59.0	-0.1
	baz=84,SNR=9.0							
SNG	Songkhla	84.35	280	P		P	02 36 02.0	+2.0
	comp=Z,322nm,1.0s,mb5.8							
C05A	Tolt Reservoir	84.37	34	P		P	02 35 58.9	-0.3
	baz=84,SNR=8.4							
I09A	Lost Marbles R	84.38	39	⇑P		P	02 35 59.4	0.0
	baz=84							
PSI	Prapat	84.39	275	P		P	02 35 58.8	-1.4
	comp=Z,82nm,1.0s,mb5.2,baz=183,slow=5.6,SNR=38							
USHA	Ushuaia	84.42	147	P		P	02 36 00.8	+1.3
	comp=Z,19nm,0.9s,mb4.6,baz=212,slow=5.6,SNR=4.5							
G08A	Pilot Rock	84.43	37	P		P	02 35 59.7	+0.1
	baz=84,SNR=24							
TWW	Teanaway	84.47	35	P		P	02 35 59.9	+0.2
A04A	Legoe Bay, Lum	84.48	33	P		P	02 36 00.2	+0.4
	baz=85,SNR=6.7							
EBG	Ellensburg	84.50	36	P		P	02 35 59.9	0.0
B05A	Bryant	84.51	34	P		P	02 35 60.0	0.0
	baz=85,SNR=6.3							
D06A	Cle Elum	84.52	35	⇑P		P	02 36 00.3	+0.3
	baz=85							
O13A	Hicks Ranch, I	84.60	44	⇑P		P	02 36 00.9	+0.3
	baz=85							
TBM	Table Mountain	84.64	35	P		P	02 36 00.2	-0.3
T16A	Glen Canyon Da	84.64	48	⇑P		P	02 36 01.1	+0.2
	baz=85							
J10A	Berg Farm, Mel	84.65	40	⇑P		P	02 36 00.9	+0.2
	baz=85							
TTA	Tatalina	84.67	10	eP		P	02 36 00.1	-0.2
E07A	Sunnyside	84.68	36	P		P	02 36 00.8	0.0
	baz=85,SNR=7.0							
M12A	Wells	84.69	42	P		P	02 36 00.9	0.0
	baz=85,SNR=6.6							
SNIWA	Snively Ranch	84.73	36	P		P	02 36 01.1	0.0
K11A	Parker Ranch,	84.73	41	P		P	02 36 01.6	+0.4
	baz=85,SNR=7.1							
HAWA	Hanford	84.75	36	eP		P	02 36 00.6	-0.6
	comp=Z,22nm,1.0s,mb4.7							
HAWA				epP		pP	02 38 07.2	-3.1
H09A	Durkee	84.82	39	P		P	02 36 01.8	+0.3
	baz=85,SNR=9.0							
F08A	Pendleton	84.83	37	P		P	02 36 01.6	+0.1
	baz=85,SNR=9.2							
N13A	Wendover, West	84.84	43	⇑P		P	02 36 01.9	+0.2
	baz=85							
MSU	Marysvale	84.96	46	eP		P	02 36 02.8	+0.5
MSU				epP		pP	02 38 09.5	-2.1
A05A	Maple Falls	84.97	33	⇓P		P	02 36 02.3	+0.1
	baz=85							
B06A	Marblemount	84.99	34	⇑P		P	02 36 02.4	+0.1
	baz=85							
D07A	Quincy	84.99	36	⇓P		P	02 36 02.5	+0.2
	baz=85							
I10A	Payette	85.00	39	⇓P		P	02 36 02.8	+0.4
	baz=85							
L12A	House Creek Ra	85.02	42	⇑P		P	02 36 03.0	+0.4
	baz=85							
E08A	Dider Farm, El	85.08	36	⇑P		P	02 36 03.1	+0.4
	baz=85							
SML	Sawmill	85.12	14	eP		P	02 36 00.7	-1.9
BMO	Blue Mountains	85.13	39	eP		P	02 36 02.4	-0.7
	comp=Z,10nm,0.8s,mb4.5							
BMO	Blue Mountains	85.13	39	eP		P	02 36 02.4	-0.6
BMO				pmax		pmax		
	comp=Z,10.0nm,0.8s,mb4.5							
M13A	Montello	85.13	43	P		P	02 36 03.4	+0.3
	baz=85,SNR=9.2							
MFID	Camas Ranch	85.21	40	P		P	02 36 03.7	+0.2
	baz=85,SNR=9.4							
C07A	Waterville	85.24	35	P		P	02 36 02.9	-0.5
	baz=85,SNR=7.8							
F09A	S2 Ranch, Elgi	85.27	38	⇑P		P	02 36 03.9	+0.3
	baz=85							
EPH	Ephrata	85.29	36	P		P	02 36 03.4	-0.4
H10A	Noah's Angus R	85.31	39	P		P	02 36 03.5	-0.4
	baz=85,SNR=43							
A06A	Chilliwack	85.35	33	⇓P		P	02 36 04.0	0.0
	baz=86							
K12A	Draper Farm, C	85.35	41	⇑P		P	02 36 04.0	-0.1
	baz=86							
WRAK	Wrangell Islan	85.48	24	eP		P	02 36 03.4	-0.9
	comp=Z,35nm,0.8s,mb5.0							
D08A	Wollman Farm,	85.49	36	P		P	02 36 04.5	-0.1
	baz=86,SNR=8.7							
G10A	Bishop Farm, J	85.49	38	P		P	02 36 04.5	-0.3
	baz=86,SNR=8.0							
N14A	Grayback Hills	85.49	44	⇑P		P	02 36 04.7	-0.2
	baz=86							
J12A	Stokes Ranch,	85.56	41	P		P	02 36 05.2	0.0
	baz=86,SNR=13							
E09A	Wood Farm, Sta	85.60	37	P		P	02 36 04.9	-0.4
	baz=86,SNR=7.3							
BJT	Baijiatuau	85.62	315	eP		P	02 36 04.8	-0.7
	comp=Z,232nm,1.8s,mb5.5							
BJT	Baijiatuau	85.62	315	eP		P	02 36 04.8	-0.7
BJT				pmax		pmax		
	comp=Z,232nm,1.8s							
BJI	Beijing	85.62	315	P		P	02 36 05.3	-0.2
BJI				AP		pP	02 38 15.1	+0.1
BJI				XS		sS	02 49 35.8	-2.9
BJI				SS		SS	02 51 43.8	+0.1
BJI				AMB		AMB		
	comp=Z,37nm,0.9s,mb5.0							
BJI				AMB		AMB		
	comp=Z,1µm,4.3s							
L13A	Double Diamond	85.66	42	⇑P		P	02 36 05.5	-0.1
	baz=86							
B07A	Winthrop	85.67	34	P		P	02 36 05.0	-0.5
	baz=86,SNR=9.7							
KKTK	Khon Kaen	85.72	289	P		P	02 36 07.5	+1.0
	comp=Z,370nm,0.8s,mb6.1							
M14A	Sheep Mountain	85.73	43	P		P	02 36 05.8	-0.1
	baz=86,SNR=15							
OD2	Odessa Site #2	85.80	36	P		P	02 36 04.7	-1.4
H11A	Donnelly	85.81	39	P		P	02 36 06.1	-0.2
	baz=86,SNR=38							
F10A	Beach Ranch, E	85.81	38	P		P	02 36 05.7	-0.5
	baz=86,SNR=46							
D09A	Jones Farm, Ri	85.83	36	P		P	02 36 06.2	-0.1
	baz=86,SNR=12							
TNA	Tin City	85.84	4	eP		P	02 36 04.7	-1.2
	comp=Z,21nm,0.8s,mb4.8							
TNA				epP		pP	02 38 14.8	-0.8
C08A	Higginbotham F	85.85	35	P		P	02 36 05.9	-0.5
	baz=86,SNR=7.2							
K13A	Stover Farm, H	85.87	42	P		P	02 36 06.8	+0.2
	baz=86,SNR=6.0							
A07A	Ashnola River,	85.89	34	P		P	02 36 06.6	+0.1
	baz=86,SNR=7.1							
N15A	Stansbury Isla	85.94	44	⇑P		P	02 36 07.0	0.0
	baz=86							
B08A	Colville Reser	86.03	35	P		P	02 36 06.5	-0.8
	baz=86,SNR=16							
G11A	Walters Elk Ra	86.05	38	P		P	02 36 06.9	-0.4
	baz=86,SNR=71							
SEY	Seymchan	86.07	347	⇑eP		P	02 36 05.9	-1.1
HLID	Hailey	86.15	41	eP		P	02 36 07.8	-0.1
	comp=Z,12nm,0.9s,mb4.5							
HLID	Hailey	86.15	41	P		P	02 36 08.2	+0.3
	baz=86,SNR=24							
E10A	Myers Farm, Un	86.17	37	⇓P		P	02 36 08.2	+0.3
	baz=86							
J13A	Cove Ranch, Pi	86.21	41	P		P	02 36 08.7	+0.5
	baz=86,SNR=9.3							
C09A	Chrisman Ranch	86.28	36	P		P	02 36 08.1	-0.3
	baz=86,SNR=7.0							
M15A	Larsen Ranch,	86.29	43	P		P	02 36 08.3	-0.3
	baz=86,SNR=6.9							
K14A	Jones Ranch, D	86.38	42	⇑P		P	02 36 09.1	+0.1
	baz=86							
F11A	Grangeville	86.39	38	P		P	02 36 07.5	-1.5
	baz=86,SNR=16							
H12A	Diamond D Ranc	86.42	40	P		P	02 36 08.9	-0.2
	baz=86,SNR=41							
A08A	Turner Farm, O	86.42	34	P		P	02 36 08.8	-0.2
	baz=86,SNR=15							
GYA	Guiyang	86.43	300	⇓iP		P	02 36 10.0	+0.4
GYA				PP		PP	02 39 44.4	+1.3
GYA				SKS			02 45 40.6	
GYA				S		S	02 46 02.8	+6.6
GYA				SS		SS	02 52 00.9	+5.1
GYA				AMB		AMB		
	comp=Z,60nm,1.0s,mb5.2							
GYA				AMB		AMB		
	comp=Z,440nm,7.8s							
JLU	Jordanelle	86.50	44	eP		P	02 36 09.0	-0.6
I13A	Wildhorse Cree	86.52	41	P		P	02 36 10.0	+0.3
	baz=87,SNR=17							
LENM	Lemitar	86.55	52	eP		P	02 36 09.4	-0.6
E11A	Bogner Ranch,	86.61	38	P		P	02 36 08.7	-1.4
	baz=87,SNR=11							
MNTX	Cornudas Mount	86.64	55	eP		P	02 36 10.1	-0.5
	comp=Z,14nm,1.3s,mb4.5							
MCK	McKinley	86.70	13	eP		P	02 36 08.3	-1.7
	comp=Z,78nm,1.0s,mb5.4							
MCK	McKinley	86.70	13	eP		P	02 36 08.3	-1.7
MCK				pmax		pmax		
	comp=Z,79nm,1.0s,mb5.4							
B09A	Rice	86.71	35	P		P	02 36 09.8	-0.5
	baz=87,SNR=13							
SKAG	Skagway	86.73	20	eP		P	02 36 10.1	-0.1
	comp=Z,38nm,1.1s,mb5.0							
H13A	Challis	86.79	40	P		P	02 36 11.0	+0.1
	baz=87,SNR=16							
BNM	Barren Site	86.80	52	eP		P	02 36 10.7	-0.5
A09A	Danville	86.80	35	P		P	02 36 10.7	-0.1
	baz=87,SNR=9.7							
F12A	Elk City	86.84	39	P		P	02 36 10.8	-0.2
	baz=87,SNR=68							
LPM	Los Pinos Moun	86.86	52	eP		P	02 36 10.3	-1.2
HWUT	Hardware Ranch	86.93	44	eP		P	02 36 09.2	-2.4
	comp=Z,3.8nm,0.9s,mb4.1							
TXAR	Lajitas Array	86.96	57	P		P	02 36 12.6	+0.5
TXAR				pP		pP	02 38 22.9	+0.7
TXAR				PKKPbc		PKKPbc	02 54 00.9	-0.5
TXAR	Lajitas Array	86.96	57	P		P	02 36 12.6	+0.5
TXAR				*PP		pP	02 38 22.9	+0.8
TXAR	Lajitas Array	86.96	57	P		P	02 36 12.6	+0.5
	comp=Z,4.7nm,0.7s,mb4.3,baz=219,slow=6.5,SNR=73							
TXAR				pP		pP	02 38 22.9	+0.7
	comp=Z,8.5nm,1.0s,baz=213,slow=6.5,SNR=4.6							
TXAR				PKKPbc		PKKPbc	02 54 00.9	-0.5
	comp=Z,0.4nm,0.6s,baz=141,slow=2.9,SNR=5.9							
SYO	Syowa Base	87.00	193	⇓eP		P	02 36 10.0	-1.5
G13A	Cobalt	87.08	40	P		P	02 36 12.2	-0.1
	baz=87,SNR=18							
ANMO	Albuquerque	87.28	51	eP		P	02 36 12.6	-0.8
	comp=Z,3.2nm,0.8s,mb4.1							
ANMO	Albuquerque	87.28	51	eP		P	02 36 12.6	-0.8
ANMO				pmax		pmax		
	comp=Z,3.0nm,0.8s							
A10A	Northport	87.35	35	⇓P		P	02 36 12.8	-0.6
	baz=88							
F13A	Darby	87.40	39	P		P	02 36 13.3	-0.4
	baz=88,SNR=32							
D12A	Red Ives Fores	87.49	37	⇓P		P	02 36 13.9	-0.2
	baz=88							
G14A	Jackson	87.63	40	P		P	02 36 15.0	+0.2
	baz=88,SNR=17							
B11A	Sandpoint	87.69	36	P		P	02 36 15.1	+0.1
	baz=88,SNR=5.5							
MCMT	McKenzie Canyo	87.78	40	P		P	02 36 15.8	+0.3
DLBC	Dease Lake	87.81	23	eP		P	02 36 14.7	-0.6
E13A	Victor	87.83	38	⇓P		P	02 36 15.6	-0.1
	baz=88							
NST	Nakhon Sawan	87.87	287	P		P	02 36 18.0	+1.4
	comp=Z,67nm,1.2s,mb5.2							
XAN	Xi'an	87.89	307	P		P	02 36 16.7	+0.4
XAN				AP		pP	02 38 29.3	+2.6
XAN				SS		SS	02 52 23.8	+7.3
XAN				AMB		AMB		
	comp=Z,85nm,1.0s,

SNOW	**Snow King Moun**	**88.38**	**42**	*eP*	**P**	**02 36 17.9**	**-0.4**
	comp=Z,26nm,1.0s,mb4.9						
SNOW				*epP*	pP	02 38 28.3	-0.7
HIA	**Hailar**	**88.41**	**325**	*eP*	**P**	**02 36 17.4**	**-0.9**
	comp=Z,39nm,1.2s,mb5.0						
HIA	**Hailar**	**88.41**	**325**	*d iP*	**P**	**02 36 17.5**	**-0.8**
VNA3	**Neumayer Olymp**	**88.44**	**176**	*eP*	**P**	**02 36 18.5**	**+0.3**
VNA3				*e*		02 36 21.9	
VNA3				*e*		02 36 27.6	
VNA3				*e*		02 36 36.3	
VNA3				*e*	pP	02 38 27.5	-1.2
VNA3				*e*	pP	02 38 31.4	+2.7
IMW	**Indian Meadow**	**88.48**	**42**	*eP*	**P**	**02 36 19.1**	**+0.3**
	comp=Z,28nm,1.1s,mb4.9						
IMW				*epP*	pP	02 38 30.7	+1.3
F15A	**Butte**	**88.52**	**40**	⇓P	**P**	**02 36 18.6**	**-0.3**
	baz=89,SNR=10						
MOOW	**Moose Ponds**	**88.53**	**42**	*eP*	**P**	**02 36 18.9**	**-0.1**
	comp=Z,4.3nm,0.8s,mb4.3						
MOOW				*epP*	pP	02 38 31.0	+1.3
LOHW	**Long Hollow**	**88.55**	**42**	*eP*	**P**	**02 36 19.1**	**0.0**
	comp=Z,6.7nm,0.7s,mb4.6						
LOHW				*epP*	pP	02 38 31.5	+1.8
D14A	**Greenough**	**88.57**	**38**	P	**P**	**02 36 18.2**	**-1.0**
	baz=89,SNR=11						
CHMT	**Chamberlain Mo**	**88.63**	**38**	*eP*	**P**	**02 36 18.4**	**-1.0**
CHMT				*epP*	pP	02 38 31.1	+1.1
QLMT	**Earthquake Lak**	**88.64**	**41**	*eP*	**P**	**02 36 20.2**	**+0.7**
QLMT				*epP*	pP	02 38 29.0	-1.2
B13A	**Whitefish**	**88.71**	**37**	P	**P**	**02 36 18.9**	**-0.8**
	baz=89,SNR=5.9						
BILL	**Bilibino**	**88.73**	**354**	*eP*	**P**	**02 36 18.1**	**-1.3**
	comp=Z,20nm,0.8s,mb5.0						
BILL	**Bilibino**	**88.73**	**354**	*d iP*	**P**	**02 36 17.9**	**-1.5**
BILL				*eS*	S	02 46 18.6	+3.0
BILL				pmax	pmax		
	comp=Z,80nm,2.5s,mb5.1						
E15A	**Deer Lodge**	**88.73**	**39**	⇑P	**P**	**02 36 19.8**	**-0.1**
	baz=89						
C14A	**Swan Lake**	**88.80**	**37**	⇑P	**P**	**02 36 19.9**	**-0.2**
	baz=89						
PDAR	**Pinedale Array**	**88.80**	**43**	P	**P**	**02 36 19.6**	**-0.7**
	comp=Z,9.0nm,0.8s,mb4.7,baz=210,slow=3.1,SNR=66						
PDAR				pP	pP	02 38 30.9	-0.2
	comp=Z,9.1nm,1.1s,baz=207,slow=3.0,SNR=8.2						
PDAR				PKKPbc	PKKPbc	02 53 56.0	-1.4
	comp=Z,0.7nm,0.8s,baz=96,slow=4.5,SNR=5.7						
YFT	**Old Faithful**	**88.82**	**41**	*eP*	**P**	**02 36 21.9**	**+1.5**
SMCO	**Snowmass**	**88.83**	**47**	*eP*	**P**	**02 36 20.4**	**-0.2**
	comp=Z,6.5nm,0.8s,mb4.5						
SMCO				*epP*	pP	02 38 32.1	+0.9
VNA2	**Neumayer--Watz**	**88.88**	**177**	*eP*	**P**	**02 36 20.9**	**+0.6**
	baz=189,slow=3.4						
VNA2				*e*		02 36 23.6	
VNA2				*e*		02 36 29.2	
VNA2				*e*		02 36 40.0	
VNA2				*e*	pP	02 38 29.9	-1.0
VNA2				*e*	pP	02 38 33.1	+2.2
BOZ	**Bozeman (W)**	**88.94**	**40**	*eP*	**P**	**02 36 20.4**	**-0.4**
	comp=Z,11nm,0.9s,mb4.7						
BOZ				*epP*	pP	02 38 29.3	-2.4
BOZ	**Bozeman (W)**	**88.94**	**40**	*eP*	**P**	**02 36 20.4**	**-0.5**
BOZ				*e*PP*	pP	02 38 29.3	-2.3
BOZ				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.7						
MAIT	**Maitri**	**89.01**	**183**	*eP*	**P**	**02 36 19.9**	**-0.9**
A13A	**Flathead Natio**	**89.05**	**36**	⇓P	**P**	**02 36 21.3**	**0.0**
	baz=89						
VNA1	**Neumayer--Stat**	**89.11**	**177**	*eP*	**P**	**02 36 22.4**	**+1.1**
VNA1				*e*		02 36 25.6	
VNA1				*e*		02 36 31.0	
VNA1				*e*		02 36 41.2	
D15A	**Lincoln**	**89.12**	**39**	P	**P**	**02 36 21.6**	**0.0**
	baz=89,SNR=7.5						
KMI	**Kunming**	**89.14**	**297**	P	**P**	**02 36 22.9**	**+0.6**
KMI				AP	pP	02 38 33.8	+0.7
KMI				XP	sP	02 39 32.0	-1.6
KMI				PP	PP	02 40 05.4	+0.9
KMI				SKS		02 45 55.1	
KMI				S	S	02 46 21.7	+0.5
KMI				XS	sS	02 50 07.2	-7.3
KMI				SS	SS	02 52 32.5	-2.3
KMI				AMB	AMB		
	comp=Z,42nm,1.0s,mb5.2						
KMI				AMB	AMB		
	comp=Z,542nm,5.1s						
LKWY	**Lake**	**89.15**	**41**	*eP*	**P**	**02 36 23.4**	**+1.6**
	comp=Z,11nm,0.8s,mb4.7						
LKWY				*epP*	pP	02 38 31.5	-1.2
LKWY				sP	sP	02 39 35.0	+1.9
LKWY	**Lake**	**89.15**	**41**	*eP*	**P**	**02 36 23.5**	**+1.6**
LKWY				*e*PP*	pP	02 38 31.5	-1.2
LKWY				pmax	pmax		
	comp=Z,11nm,0.8s,mb4.7						
DAWY	**Dawson**	**89.19**	**16**	*eP*	**P**	**02 36 20.8**	**-0.8**
DAWY				*epP*	pP	02 38 30.6	-1.9
EGAK	**Eagle**	**89.34**	**15**	*eP*	**P**	**02 36 21.1**	**-1.2**
	comp=Z,48nm,0.9s,mb5.3						
EGAK				*epP*	pP	02 38 31.2	-2.0
WALA	**Waterton Lakes**	**89.39**	**36**	*eP*	**P**	**02 36 22.1**	**-0.8**
	comp=Z,12nm,0.8s,mb4.8						
WALA				*epP*	pP	02 38 34.1	+0.4
BDT	**Bhumibol Dam**	**89.45**	**288**	P	**P**	**02 36 25.0**	**+1.1**
	comp=Z,31nm,1.0s,mb5.1						
PLCA	**Paso Flores**	**89.53**	**134**	P	**P**	**02 36 25.0**	**+1.1**
PLCA				pP	pP	02 38 34.5	-0.3
PLCA	**Paso Flores**	**89.53**	**134**	P	**P**	**02 36 25.0**	**+1.0**
	comp=Z,14nm,1.0s,mb4.8,baz=246,slow=4.3,SNR=14						
PLCA				pP	pP	02 38 34.5	-0.3
	comp=Z,3.9nm,0.9s,baz=170,slow=3.3,SNR=3.3						
CMIG	**Matias Romero**	**89.65**	**72**	P	**P**	**02 36 24.9**	**+0.1**
CMIG				pP	pP	02 38 34.2	-1.6
CMIG	**Matias Romero**	**89.65**	**72**	P	**P**	**02 36 24.9**	**+0.1**
	comp=Z,6.0nm,0.8s,mb4.5,baz=242,slow=3.9,SNR=12						
CMIG				pP	pP	02 38 34.2	-1.6
	comp=Z,2.3nm,0.9s,baz=250,slow=6.0,SNR=3.4						
CHRT	**Chiangrai**	**89.71**	**291**	⇑P	**P**	**02 36 26.0**	**+0.9**
	comp=Z,592nm,0.8s						
RWWY	**Rawlins**	**89.83**	**45**	*eP*	**P**	**02 36 24.0**	**-1.1**
	comp=Z,13nm,1.0s,mb4.7						
RWWY				*epP*	pP	02 38 36.8	+0.8
CHG	**Chiang Mai**	**90.07**	**290**	⇓P	**P**	**02 36 27.6**	**+0.9**
CHTO	**Chiang Mai**	**90.07**	**290**	*eP*	**P**	**02 36 27.5**	**+0.8**
	comp=Z,48nm,0.8s,mb5.4						
CHTO	**Chiang Mai**	**90.07**	**290**	*eP*	**P**	**02 36 27.5**	**+0.8**
CHTO				pmax	pmax		
	comp=Z,48nm,0.8s,mb5.4						
GCMT	**Greycliff**	**90.20**	**41**	*eP*	**P**	**02 36 25.4**	**-1.4**
GCMT				*epP*	pP	02 38 38.5	+0.7
JCT	**Junction City**	**90.49**	**58**	*eP*	**P**	**02 36 27.5**	**-0.9**
	comp=Z,5.9nm,0.6s,mb4.6						
JCT	**Junction City**	**90.49**	**58**	*eP*	**P**	**02 36 27.5**	**-0.9**
JCT				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.6						
CD2	**Chengdu**	**90.56**	**303**	P	**P**	**02 36 29.4**	**+0.6**
CD2				AP	pP	02 38 39.9	0.0
CD2				XP	sP	02 39 38.0	-2.2
CD2				PP	PP	02 40 18.0	+2.6
CD2				SKS		02 46 03.6	
CD2				S	S	02 46 32.6	-1.1
CD2				XS	sS	02 50 24.0	-4.0
CD2				SS	SS	02 52 55.9	+1.1
CD2				AMB	AMB		
	comp=Z,30nm,1.1s,mb5.1						
CD2				AMB	AMB		
	comp=Z,560nm,6.0s						
PHWY	**Pilot Hill**	**90.83**	**46**	*eP*	**P**	**02 36 28.9**	**-0.9**
EGMT	**Eagleton**	**91.24**	**39**	*eP*	**P**	**02 36 31.1**	**-0.4**
	comp=Z,6.1nm,0.9s,mb4.5						
EGMT				*epP*	pP	02 38 44.3	+1.7
YAK	**Yakutsk**	**91.81**	**338**	*eP*	**P**	**02 36 32.5**	**-1.2**
YAK				pmax	pmax		
	comp=Z,43nm,0.9s,mb5.5						
YAK				pmax	pmax		
	comp=N,16nm,1.8s						
YAK				pmax	pmax		
	comp=E,11nm,1.7s						
EDM	**Edmonton**	**91.91**	**33**	*eP*	**P**	**02 36 32.9**	**-1.5**
EDM				*epP*	pP	02 38 43.5	-2.1
LZH	**Lanzhou**	**92.53**	**308**	⇑*iP*	**P**	**02 36 38.6**	**+0.9**
LZH				AP	pP	02 38 41.6	-7.4
LZH				PP	PP	02 40 30.0	-0.5
LZH				SKS		02 46 14.0	
LZH				S	S	02 46 57.1	+6.4
LZH				AMB	AMB		
	comp=Z,131nm,1.0s,mb5.9						
LZH				AMB	AMB		
	comp=Z,814nm,9.8s						
LAO	**LASA Array**	**92.73**	**41**	*eP*	**P**	**02 36 38.0**	**-0.4**
	comp=Z,8.5nm,0.8s,mb4.8						
CIT	**Chita**	**93.20**	**325**	*eP*	**P**	**02 36 39.4**	**-1.0**
CIT				*e*	pP	02 38 50.8	-0.9
CIT				*e*		02 40 31.1	
CIT				*e*		02 46 18.1	
CIT				*e*		02 47 00.8	
CIT				pmax	pmax		
	comp=Z,73nm,2.3s,mb5.3						
INK	**Inuvik**	**94.01**	**15**	*eP*	**P**	**02 36 41.6**	**-2.0**
	comp=Z,665nm,1.1s						
INK	**Inuvik**	**94.01**	**15**	pP	pP	02 38 55.7	+0.6
	comp=Z,6.7nm,1.0s,baz=245,slow=3.6,SNR=3.6						
DGMT	**Dagmar**	**94.75**	**40**	*eP*	**P**	**02 36 46.8**	**-0.7**
	comp=Z,14nm,0.9s,mb5.1						
ULN	**Ulaanbaatar**	**95.09**	**319**	*eP*	**P**	**02 36 46.9**	**-2.1**
	comp=Z,23nm,1.5s,mb5.1						
ULN	**Ulaanbaatar**	**95.09**	**319**	⇑*eP*	**P**	**02 36 48.1**	**-0.9**
CFAA	**Coronel Fontan**	**95.34**	**126**	P	**P**	**02 36 50.4**	**-0.3**
CFAA	**Coronel Fontan**	**95.34**	**126**	P	**P**	**02 36 50.4**	**-0.3**
	comp=Z,0.4nm,0.4s,mb3.9,baz=236,slow=6.6,SNR=7.3						
SONM	**Songino Array**	**95.48**	**319**	P	**P**	**02 36 49.8**	**-1.0**
	comp=Z,1.3nm,0.5s,mb4.3,baz=128,slow=4.1,SNR=13						
SONM				pP	pP	02 39 02.7	+0.4
	comp=Z,3.7nm,1.0s,baz=112,slow=3.9,SNR=7.6						
BOD	**Bodaibo**	**95.80**	**330**	*eP*	**P**	**02 36 48.6**	**-3.4**
BOD				pmax	pmax		
	comp=Z,6.0nm,1.8s,mb4.5						
YKA	**Yellowknife Ar**	**96.28**	**25**	P	**P**	**02 36 52.0**	**-2.0**
YKA				pP	pP	02 39 04.2	-1.5
YKA	**Yellowknife Ar**	**96.28**	**25**	P	**P**	**02 36 52.0**	**-2.0**
	comp=Z,2.5nm,0.8s,mb4.5,baz=242,slow=4.4,SNR=36						
YKA				pP	pP	02 39 04.2	-1.5
	comp=Z,2.0nm,1.0s,baz=240,slow=4.1,SNR=4.8						
YKA				PKiKP	PKiKP	02 41 26.5	-1.2
	comp=Z,0.6nm,0.8s,baz=273,slow=1.9,SNR=3.1						
YKA				PKKPbc	PKKPbc	02 53 35.8	-3.2
	comp=Z,0.1nm,0.4s,baz=16,slow=2.5,SNR=4.3						
ATAH	**Atahualpa**	**96.62**	**100**	PKiKP	PKiKP	02 41 30.8	+0.9
	comp=Z,1.9nm,0.5s,baz=122,slow=4.9,SNR=3.7						
GTA	**Gaotai**	**96.72**	**309**	*eP*	**P**	**02 36 56.4**	**-0.2**
GTA				AP	pP	02 39 08.6	+0.3
GTA				XP	sP	02 40 01.7	-6.8
GTA				SKS		02 46 34.2	
GTA				S	S	02 47 27.8	+1.3
GTA				SS	SS	02 54 17.7	-3.3
GTA				AMB	AMB		
	comp=Z,14nm,2.0s,mb4.8						
GTA				AMB	AMB		
	comp=Z,185nm,8.0s						
ZAK	**Zakamensk**	**98.35**	**321**	*eP*	Pdif	02 37 04.1	+0.3
TIXI	**Tiksi**	**98.44**	**345**	⇑*eP*	Pdif	02 37 01.6	-2.6
TIXI				pmax	pmax		
	comp=Z,6.0nm,1.4s,mb4.7						
TLY	**Talaya**	**98.61**	**322**	*eP*	Pdif	02 37 09.8	+4.9
TLY				*e*		02 46 44.3	
TLY				*e*		02 50 21.8	
ZAA0	**Zalesovo Array**	**110.21**	**321**	*e*PKPdf	PKiKP	02 41 51.5	-2.0
ZALV	**Zalesovo Beam**	**110.21**	**321**	PKiKP	PKiKP	02 41 51.5	-2.0
	comp=Z,4.5nm,0.6s,baz=148,slow=0.7,SNR=20						
ZALV				PKKPbc	PKKPbc	02 52 56.4	-1.4
	comp=Z,0.5nm,0.5s,baz=270,slow=7.2,SNR=2.7						
MK31	**Makanchi Array**	**110.94**	**314**	*e*Pdif	Pdif	02 38 00.6	+0.8
MK31				*e*PKPdf	PKiKP	02 41 53.5	-1.6
MKAR	**Makanchi Array**	**110.94**	**314**	Pdif	Pdif	02 37 59.0	-0.7
MKAR				PKPdf	PKiKP	02 41 53.0	-2.1
MKAR				PKKPbc	PKKPbc	02 52 53.2	-2.1
MKAR	**Makanchi Array**	**110.94**	**314**	P	Pdif	02 37 59.0	-0.7
MKAR						02 41 53.0	
MKAR	**Makanchi Array**	**110.94**	**314**	Pdiff	Pdif	02 37 59.0	-0.7
	comp=Z,0.4nm,0.4s,baz=101,slow=2.9,SNR=6.5						
MKAR				PKiKP	PKiKP	02 41 53.0	-2.1
	comp=Z,5.2nm,0.7s,baz=80,slow=1.0,SNR=24						
MKAR				PKKPbc	PKKPbc	02 52 53.2	-2.1
	comp=Z,0.6nm,0.5s,baz=264,slow=3.7,SNR=5.9						
NVS	**Novosibirsk**	**111.22**	**322**	*i* PKIKP	PKiKP	02 41 51.2	-4.2
NVS				pmax	pmax		
	comp=Z,7.0nm,1.1s						
NVS				pmax	pmax		
	comp=N,4.0nm,1.0s						
NVS				pmax	pmax		
	comp=E,5.0nm,1.0s						
KURK	**Kurchatov**	**113.72**	**317**	*e*PKPdf	PKiKP	02 41 57.9	-2.4
KURK	**Kurchatov**	**113.72**	**317**	⇑*i*PKIKP	PKiKP	02 41 57.9	-2.4
TKM2	**Tokmak 2**	**115.26**	**309**	*e*PKPdf	PKPdf	02 42 02.1	-1.4
UCH	**Uchtor**	**116.01**	**308**	*e*PKPdf	PKPdf	02 42 04.6	-0.4
EKS2	**Erkin-Say**	**116.58**	**308**	*e*PKPdf	PKPdf	02 42 05.1	-1.0
AML	**Almayashu**	**116.61**	**308**	*e*PKPdf	PKPdf	02 42 05.5	-0.6
BRVK	**Borovoye**	**118.86**	**320**	*e*PKPdf	PKPdf	02 42 09.0	-1.2
BDFB	**Brasilia**	**119.38**	**122**	PKKPbc	PKKPbc	02 52 26.9	+0.3
	comp=E,3.7nm,0.9s,baz=106,slow=7.4,SNR=5.3						
KBL	**Kabul**	**119.68**	**299**	*e*PKPdf	PKPdf	02 42 12.2	-0.1
OPO	**Ambohidratompo**	**121.22**	**232**	PKP	PKPdf	02 42 16.3	+0.6
	comp=E,4.2nm,0.8s,baz=146,slow=1.7,SNR=6.6						
SUR	**Sutherland**	**124.68**	**199**	PKP	PKPdf	02 42 22.9	+0.8
	comp=E,6.3nm,0.7s,baz=211,slow=1.8,SNR=11						
SOKR	**Solikamsk**	**124.79**	**330**	*c i*PKIKP	PKPdf	02 42 20.1	-1.2
SOKR				pmax	pmax		
	comp=Z,30nm,0.9s						
ARU	**Arti**	**124.91**	**326**	*e*PKPdf	PKPdf	02 42 20.9	-0.7
ARU	**Arti**	**124.91**	**326**	*i* PKIKP	PKPdf	02 42 20.3	-1.3
ARU						02 44 17.9	
AKTK	**Aktyubinsk**	**126.79**	**318**	PKP	PKPdf	02 42 24.3	-1.2
AKTK				PKKPbc		02 51 57.7	
AKTO	**Aktyubinsk**	**126.79**	**318**	PKP	PKPdf	02 42 24.3	-1.1
	comp=Z,12nm,0.9s,baz=76,slow=1.7,SNR=44						
AKTO				PKKPbc		02 51 57.7	
	comp=Z,1.2nm,0.8s,baz=241,slow=7.8,SNR=4.1						
ARCES	**ARCESS Array B**	**128.62**	**350**	PKP	PKPdf	02 42 26.5	-1.8
ARCES				pPKP	pPKPdf	02 44 50.1	+1.7
ARCES	**ARCESS Array B**	**128.62**	**350**	PKP	PKPdf	02 42 26.5	-1.8
	comp=Z,9.2nm,0.7s,baz=12,slow=1.3,SNR=28						
ARCES				pPKP	pPKPdf	02 44 50.1	+1.7
	comp=Z,14nm,0.9s,baz=23,slow=4.9,SNR=3.1						
LBTB	**Lobatse**	**129.50**	**208**	PKP	PKPdf	02 42 32.3	+0.9
	comp=Z,2.4nm,0.9s,baz=207,slow=18,SNR=5.9						
LBTB				SKPbc	SKPbc	02 44 58.8	+1.2
	comp=Z,11nm,0.8s,baz=166,slow=5.6,SNR=9.2						
JOF	**Joensuu**	**132.82**	**342**	*e*pkp	PKPdf	02 42 33.8	-2.7
KAF	**Kangasniemi**	**134.84**	**344**	*e*pkp	PKPdf	02 42 32.9	-7.4
FINES	**FINESS Array B**	**135.47**	**344**	PKP	PKPdf	02 42 38.6	-2.9
FINES				SKPbc	SKPbc	02 45 16.1	-0.4
FINES				SKKPbc		02 54 19.3	
FINES	**FINESS Array B**	**135.47**	**344**	PKhKP		02 42 28.1	
	comp=Z,1.6nm,0.6s,baz=70,slow=4.3,SNR=13						
FINES				PKP	PKPdf	02 42 38.6	-2.9
	comp=Z,4.5nm,0.6s,baz=83,slow=3.6,SNR=21						
FINES				SKPbc	SKPbc	02 45 16.1	-0.4
	comp=Z,5.4nm,0.7s,baz=66,slow=4.6,SNR=8.7						
FINES				SKKPbc		02 54 19.3	
	comp=Z,0.8nm,0.5s,baz=186,slow=3.3,SNR=9.2						
MAK	**Makhachkala**	**135.69**	**311**	*i* PKIKP	PKPdf	02 42 41.0	-1.5
MAK				*e*		02 45 25.2	
MAK				*i* PPP		02 48 31.3	
MAK				*e*		02 49 02.0	
MAK				*e*SS	SS	03 02 36.2	-4.7
MAK				*e*SSS		03 07 56.4	
MAK				pmax	pmax		
	comp=Z,51nm,1.0s						
LSZ	**Lusaka**	**136.30**	**218**	PKP	PKPdf	02 42 45.6	+1.2
	comp=Z,2.7nm,0.5s,baz=86,slow=1.5,SNR=8.7						
LSZ				pPKP	pPKPdf	02 45 06.2	+1.7
	comp=Z,4.8nm,1.0s,baz=166,slow=4.2,SNR=4.2						
OBN	**Obninsk**	**136.46**	**332**	*d i*PKIKP	PKPdf	02 42 41.8	-1.7
OBN				*e*		02 45 29.0	
OBN				pmax	pmax		
	comp=Z,20nm,1.0s						
TSUM	**Tsumeb**	**137.94**	**202**	PKP	PKPdf	02 42 48.8	+1.4
	comp=Z,3.7nm,0.8s,baz=129,slow=3.5,SNR=4.8						
TSUM				SKPbc	SKPbc	02 45 25.6	+0.4
	comp=Z,4.7nm,0.9s,baz=107,slow=4.7,SNR=6.2						
NB2	**NORSAR Subarra**	**138.68**	**353**	PKP		02 42 37.4	
	comp=Z,2.0nm,0.6s,baz=16,slow=3.2						
NOA	**NORSAR Array B**	**138.68**	**353**	PKP	PKPdf	02 42 47.6	+0.2
NOA				pPKP	pPKPdf	02 45 09.0	+1.4
NOA				SKPbc	SKPbc	02 45 25.3	-0.5
NOA				SKKPbc		02 54 08.4	
NOA	**NORSAR Array B**	**138.68**	**353**	PKhKP		02 42 35.8	
	comp=Z,7.5nm,0.8s,baz=16,slow=4.7,SNR=14						
NOA				PKP	PKPdf	02 42 47.6	+0.2
	comp=Z,2.4nm,0.6s,baz=14,slow=3.7,SNR=6.0						
NOA				pPKP	pPKPdf	02 45 09.0	+1.4
	comp=Z,1.4nm,0.8s,baz=30,slow=2.7,SNR=3.3						
NOA				SKPbc	SKPbc	02 45 25.3	-0.5
	comp=Z,5.8nm,0.9s,baz=16,slow=4.4,SNR=7.1						
NOA				SKKPbc		02 54 08.4	
	comp=Z,1.9nm,0.9s,baz=176,slow=2.1,SNR=3.2						
KIV	**Kislovodsk**	**138.69**	**314**	*e*PKPdf	PKPdf	02 42 47.0	-1.0
KIV	**Kislovodsk**	**138.69**	**314**	*e*PKHKP		02 42 42.6	
KIV				*i*		02 42 47.0	
KIV				*e*		02 49 04.9	
KIV				*e*SS	SS	03 03 20.3	+4.6
KIV				pmax	pmax		
	comp=Z,13nm,1.0s						
CLDR	**Caldiran**	**139.34**	**307**	*eP*	PKPdf	02 42 41.8	-7.5
KMBO	**Kilima Mbogo**	**139.41**	**243**	PKP	PKPdf	02 42 43.5	-6.8
KMBO				PKP	PKPdf	02 42 51.2	+1.0
KMBO				SKPbc	SKPbc	02 45 30.8	+1.4
KMBO	**Kilima Mbogo**	**139.41**	**243**	⇑*i*PKHKP		02 42 43.5	
KMBO	**Kilima Mbogo**	**139.41**	**243**	PKhKP		02 42 43.5	
	comp=Z,1.3nm,0.5s,baz=62,slow=4.7,SNR=8.6						
KMBO				PKP	PKPdf	02 42 51.2	+1.0
	comp=Z,3.1nm,0.8s,baz=66,slow=2.3,SNR=9.6						
KMBO				SKPbc	SKPbc	02 45 30.8	+1.4
	comp=Z,6.5nm,1.1s,baz=82,slow=1.3,SNR=5.8						
HKR	**Hakkari**	**139.87**	**305**	*eP*	PKPdf	02 42 41.8	-8.5
VANB	**Van**	**139.88**	**306**	*eP*	PKPdf	02 42 43.6	-6.7
HAKT	**HAKKARI**	**139.90**	**305**	*i P*	PKPdf	02 42 44.2	-6.1
AGRB	**Hanur-Agry**	**139.91**	**308**	*eP*	PKPdf	02 42 44.5	-5.8
BHD	**Baghdad**	**140.17**	**298**	*ex*	x	02 42 38.0	
BCA	**Borcka**	**140.32**	**311**	*eP*	PKPdf	02 42 43.8	-7.2
MSL	**Mosul**	**140.67**	**303**	*ex*	x	02 42 45.0	
SOC	**Sochi**	**140.82**	**315**	PKHKP		02 42 45.3	
SIRT	**Sirnak**	**140.89**	**305**	*eP*	PKPdf	02 42 46.8	-5.3
ERZM	**Erzurum**	**141.01**	**309**	*i P*	PKPdf	02 42 47.7	-4.5
EZM	**Erzurum**	**141.01**	**309**	*eP*	PKPdf	02 42 48.0	-4.3
BTMT	**Batman**	**141.43**	**306**	*eP*	PKPdf	02 42 47.9	-5.2
BNGL	**BINGOL**	**141.46**	**308**	*i P*	PKPdf	02 42 49.4	-3.7
ANN	**Anapa**	**141.75**	**318**	*i* PKHKP		02 42 47.4	
ANN				*e*		02 49 06.1	
ANN				pmax	pmax		
	comp=Z,60nm,1.4s						
KTUT	**Trabzon**	**141.79**	**311**	*eP*	PKPdf	02 42 48.5	-5.1
BINT	**Bingol**	**141.98**	**308**	*eP*	PKPdf	02 42 49.5	-4.5
GUMT	**Gumushane**	**142.18**	**311**	*eP*	PKPdf	02 42 50.3	-4.0
EZC	**Erzincan**	**142.19**	**309**	*eP*	PKPdf	02 42 52.3	-2.1
MARD	**Mardin**	**142.21**	**305**	*i P*	PKPdf	02 42 50.7	-3.8
SUW	**Suwalki**	**142.53**	**339**	*e*PKP	PKPdf	02 42 50.9	-3.6
ESPY	**Espiye-Giresun**	**142.55**	**312**	*eP*	PKPdf	02 42 49.2	-5.8
AKASG	**Malin Array Be**	**142.72**	**331**	PKP	PKPdf	02 42 50.8	-4.2
AKASG				PKP	PKPdf	02 42 53.2	-1.8
AKASG				pPKP	pPKPdf	02 45 15.6	+0.3
AKASG				SKPbc	SKPbc	02 45 35.4	-1.2
AKASG				SKKPbc		02 53 51.7	
AKASG	**Malin Array Be**	**142.72**	**331**	PKHKP		02 42 50.8	
AKASG						02 42 53.2	
AKASG	**Malin Array Be**	**142.72**	**331**	PKhKP		02 42 50.8	
	comp=Z,12nm,0.3s,baz=43,slow=4.4,SNR=433						
AKASG				PKP	PKPdf	02 42 53.2	-1.8
	comp=Z,12nm,0.2s,baz=43,slow=4.3,SNR=82						
AKASG				pPKP	pPKPdf	02 45 15.6	+0.3
	comp=Z,2.0nm,0.7s,baz=39,slow=4.2,SNR=2.6						
AKASG				SKPbc	SKPbc	02 45 35.4	-1.2
	comp=Z,7.1nm,0.7s,baz=40,slow=3.5,SNR=5.9						
AKASG				SKKPbc		02 53 51.7	
	comp=Z,0.3nm,0.5s,baz=234,slow=4.1,SNR=4.3						
AKBB	**Malin Array Si**	**142.72**	**331**	*e*PKPdf	PKPdf	02 42 50.8	-4.2
KIEV	**Kiev**	**142.73**	**331**	*e*PKPdf	PKPdf	02 42 50.8	-4.1
GRSN	**GIRESUNGRSN**	**142.87**	**312**	*i P*	PKPdf	02 42 50.2	-5.3
ELZG	**Elazig**	**143.21**	**308**	*i P*	PKPdf

KOLS e 02 43 09.1
KOLS e 02 45 24.2
STHS Stebnicka Huta 147.01 337 *e*PKP PKPbc 02 43 05.6 +0.2
STHS e 02 43 09.9
STHS e 02 45 25.6
STHS Stebnicka Huta 147.01 337 *e*PKP PKPbc 02 43 05.6 +0.2
STHS e 02 43 09.9
STHS e 02 45 25.6
STHS e 06 46 22.9
MERS Mersin 147.10 307 *e*P PKPdf 02 42 56.8 -6.1
ANTO Ankara 147.10 313 P PKPbc 02 43 05.9 -0.1
ANTO Ankara 147.10 313 ⇑*i*P PKPdf 02 43 04.1 +1.3
SBD1 Bryn Du 147.11 6⇓*e*P PKPdf 02 43 04.4 +2.0
KWE Weaver Farm 147.12 4⇓*e*P PKPdf 02 43 04.5 +2.1
RCY Rachaya 147.14 301 *e*P PKPbc 02 43 06.4 0.0
BHL Bhannes 147.16 302 *e*P PKPbc 02 43 06.1 -0.2
UZH Uzhgorod 147.24 335⇓*i*PKP2 PKPbc 02 43 06.0 -0.1
VRI Vrincioaia 147.28 327 P PKPbc 02 43 05.9 -0.4
VRI Vrincioaia 147.28 327⇓*i*P PKPbc 02 43 05.4 -0.9
TIRR Tirgusor 147.31 324⇑⇑P PKPdf 02 43 05.1 +2.1
TIRR Tirgusor 147.31 324⇑*i*P PKPdf 02 43 05.1 +2.1
PLOR Plostina 147.33 327 PKP2 PKPbc 02 43 05.7 -0.7
PLOR Plostina 147.33 327⇓*i*P PKPbc 02 43 05.5 -0.9
CRVS Cervenica-Dubn 147.35 336 *e*PKIKP PKPdf 02 43 02.8 -0.1
CRVS e 02 43 09.5
CRVS Cervenica-Dubn 147.35 336 *e*PKP PKPdf 02 43 02.8 -0.1
CRVS e 02 43 05.7
CRVS e 02 43 09.5
CRVS e 02 45 29.4
CRVS *e*SKP 02 45 48.9
NIE Niedzica 147.35 338 *e*PKPdf PKPbc 02 43 06.3 0.0
NIE e 02 45 26.7
NIE Niedzica 147.35 338 *e*PKPdf PKPbc 02 43 06.3 0.0
NIE e 02 45 26.7
KSP Ksiaz 147.38 343 *e*PKPdf PKPbc 02 43 06.3 -0.1
KSP Ksiaz 147.38 343 *e*PKP PKPdf 02 43 02.5 -0.4
KSP *i* PKPdf PKPbc 02 43 06.2 -0.2
KSP *e*pPKP pPKPdf 02 45 23.1 -0.3
KSP *e*PP PP 02 46 20.0 -18
KSP *e*SS SS 03 04 48.0 -4.6
KSP Ksiaz 147.38 343 *i* PKP2 PKPbc 02 43 06.2 -0.2
KSP *e*SS SS 03 04 48.0 -4.6
HARR Harsova 147.42 324 P PKPbc 02 43 06.3 -0.3
HARR Harsova 147.42 324⇑*i*P PKPbc 02 43 06.3 -0.4
CWF Charnwood Fore 147.43 4 *e*P PKPdf 02 43 05.0 +2.1
RAC Raciborz 147.50 340 *e*PKPdf PKPdf 02 43 03.2 +0.1
RAC *e*PKPbc PKPbc 02 43 06.7 0.0
RAC *e*PKPab PKPab 02 43 10.6 -0.3
RAC Raciborz 147.50 340 *e*PKP2 PKPab 02 43 10.6 -0.3
HLM1 Long Mynd 147.53 5⇓*e*P PKPbc 02 43 05.5 -1.2
TRPA Tarpa 147.54 334⇓*i*P PKPbc 02 43 06.2 -0.7
IBBN Ibbenburen 147.63 353 *e*PKPbc PKPbc 02 43 06.6 -0.4
IBBN *e*pPKPbc pPKPbc 02 45 24.4 -0.8
AEU East Anglia Un 147.64 1⇓*e*P PKPbc 02 43 05.8 -1.2
OKC Ostrava-Krasne 147.73 340 *e*PKP PKPbc 02 43 06.8 -0.5
OKC e 02 45 24.2
OKC e 02 46 24.0
OKC e 02 49 47.4
OKC Ostrava-Krasne 147.73 340⇑*e*PKP PKPbc 02 43 06.8 -0.5
OKC *e*pPKP pPKPdf 02 45 24.2 +0.2
OKC *e*sPKP 02 46 24.0
OKC *e*x x 02 49 47.4
CLZ Clausthal 147.74 350 *e*PKPdf PKPdf 02 43 03.4 0.0
CLZ *e*PKPbc PKPbc 02 43 06.9 -0.3
CLZ *e*pPKPbc pPKPbc 02 45 24.0 -1.6
CLL Collm 147.76 347⇓*i*PKP PKPbc 02 43 06.7 -0.6
CLL *e*pPKP pPKPdf 02 45 24.0 0.0
CLL Collm 147.76 347⇓*i*PKP2 PKPbc 02 43 06.7 -0.6
CLL pmax pmax
comp=Z,132nm,0.9s
CLL Collm 147.76 347 *e*PKPbc PKPbc 02 43 06.6 -0.7
CLL *e*pPKPbc pPKPbc 02 45 24.1 -1.5
CLL Collm 147.76 347 *e*PKPdf PKPdf 02 43 03.0 -0.5
comp=Z,6.0nm,1.0s
CLL ⇓*i*PKPbc PKPbc 02 43 06.7 -0.6
comp=Z,132nm,0.9s
CLL *i* PKiKP PKiKP 02 43 09.2 +0.5
CLL *e*pPKPbc pPKPbc 02 45 24.0 -1.6
comp=Z,115nm,1.6s
CLL *e*SKPdf SKPdf 02 45 42.0 +1.4
CLL *e*x x 02 45 55.0
CLL *e*sPKPbc 02 46 21.0
CLL *e*pPP 02 48 43.0
CLL *e*sPP 02 49 42.0
CLL *e*sPPP 02 52 56.0
CLL *e*PPS 02 59 48.0
CLL *e*SS SS 03 04 50.0 -6.6
CLL *e*sSS 03 08 40.0
CLL *e*SSS 03 10 42.0
CLL *e*SSSS 03 14 18.0
CLL *e*PSSrev 03 18 06.0
UPC Upice 147.76 343 *e*PKIKP PKPdf 02 43 03.7 +0.2
UPC *e* 02 43 12.2
UPC Upice 147.76 343 *e*PKPDF PKPdf 02 43 03.7 +0.2
UPC ⇑*e*PKP PKPbc 02 43 07.1 -0.2
UPC *e*PKPAB PKPab 02 43 12.2 +0.2
UPC *e*pPKP pPKPdf 02 45 24.9 +0.8
UPC *e*SKP 02 45 36.1
DPC Dobruska-Polom 147.82 343 *e*PKIKP PKPdf 02 43 03.5 -0.1
DPC *e* 02 43 12.4
DPC Dobruska-Polom 147.82 343 *e*PKPDF PKPdf 02 43 03.5 -0.1
DPC ⇑*e*PKP PKPbc 02 43 07.5 0.0
DPC *e*PKPAB PKPab 02 43 12.4 +0.2
DPC *e*pPKP pPKPdf 02 45 25.3 +1.1
DPC *e*SKP 02 45 44.1
DPC *e*sPKP 02 46 23.7
DPC *e*x x 02 49 44.5
EREN Erenkoy 147.83 305 *e*P PKPdf 02 43 06.6 +2.5
HENT Hendek 147.89 316 *i* P PKPdf 02 43 03.5 -0.6
PSN Preselentsi 147.92 323 *i* P PKPbc 02 43 07.9 -0.1
HTR Trewern Hill 147.93 6⇓*e*P PKPbc 02 43 06.2 -1.5
MLR Muntele Rosu 147.93 327 P PKPbc 02 43 07.6 -0.3
MLR Muntele Rosu 147.93 327⇓*i*P PKPbc 02 43 07.3 -0.6
BRG Berggiesshubel 147.95 346 *i* PKIKP PKPdf 02 43 03.7 -0.1
BRG SS SS 03 04 57.0 -1.8
BRG pmax pmax
comp=Z,5.0nm,1.0s
BRG Berggiesshubel 147.95 346 *e*PKPdf PKPdf 02 43 03.5 -0.3
BRG *e*PKPbc PKPbc 02 43 07.2 -0.6
BRG Berggiesshubel 147.95 346 *i* PKP PKPdf 02 43 03.7 -0.1
comp=Z,8.3nm,1.0s
BRG *i* 02 43 07.5
comp=Z,71nm,1.0s
BRG pPKP pPKPdf 02 45 22.0 -2.4
BRG *i* 02 46 20.0
BRG *i* 02 49 35.0
BRG *e* 02 56 45.0
BRG *e* 02 57 54.1
comp=Z,27nm,2.2s
BRG SS SS 03 04 57.0 -1.8
MORC Moravsky Berou 147.97 341⇓P PKPdf 02 43 04.1 +0.2
MORC Moravsky Berou 147.97 341⇓*i*P PKPdf 02 43 04.1 +0.2
HAE Alders End 148.04 5⇓*e*P PKPbc 02 43 06.6 -1.4
MCH1 Michaelchurch 148.04 6 *e*P PKPdf 02 43 06.3 +2.4
MCH1 ⇓*e* 02 43 06.3
KECS Kecovo 148.07 336 *i* PKP PKPbc 02 43 07.7 -0.5
KECS *e* 02 43 13.0
KECS *e* 02 45 26.8
KECS *e*SKP 02 45 44.6
WTSB Winterswijk 148.07 354 *e*PKP PKPbc 02 43 07.3 -0.8
comp=Z,47nm,1.0s
WTSB Winterswijk 148.07 354 *e*pPKP pPKPdf 02 45 24.3 -0.2
PVCC Panska Ves 148.12 345 *e*PKPDF PKPdf 02 43 04.1 0.0
PVCC ⇑*e*PKP PKPbc 02 43 08.1 -0.1
PVCC *e*pPKP pPKPdf 02 45 26.5 +1.8
PVCC *e*SKP 02 45 42.8
SSW Stow on the Wo 148.16 4⇓*e*P PKPbc 02 43 07.5 -0.8
KDHN Kadinhani 148.18 312 *i* P PKPbc 02 43 07.9 -0.9
HGH Gray Hill 148.41 6⇓*e*P PKPbc 02 43 07.3 -1.6
VOIR 148.42 328 P PKPdf 02 43 07.2 +2.5
VOIR 148.42 328⇑*i*P PKPbc 02 43 09.0 -0.2
SKP1 Kophill 148.47 3⇓*e*P PKPbc 02 43 07.6 -1.5
DRGR 148.51 332⇑P PKPdf 02 43 03.7 -1.1
DRGR 148.51 332⇑*i*P PKPdf 02 43 03.7 -1.2
PRA Prague 148.58 344⇑⇑PKP PKPbc 02 43 08.0 -1.4
PRA pPKP pPKPdf 02 45 33.0 +7.6
ESKT Eskisehir 148.58 314 *i* P PKPdf 02 43 06.2 +1.0
SWN1 Swindon 148.62 4 *e*P PKPbc 02 43 08.2 -1.3
PRU Pruhonice 148.63 344 PKP PKPbc 02 43 09.0 -0.5
PRU *e* 02 45 30.0
PRU *e* 02 45 46.0
PRU Pruhonice 148.63 344⇑⇑PKP PKPbc 02 43 09.0 -0.5
PRU *e*pPKP pPKPdf 02 45 30.0 +4.5
PRU *e*x x 02 45 46.0
VYHS Vyhne 148.66 338 *i* PKP PKPbc 02 43 09.1 -0.5
VYHS *e* 02 45 29.3
VYHS *e*SKP 02 45 47.9
VYHS *e* 02 45 55.6
MOX Moxa 148.67 348 *e*P PKPdf 02 43 04.5 -0.5
MOX *e* 02 43 09.0
comp=Z,56nm,1.0s
MOX *e* 02 45 28.9
MOX Moxa 148.67 348 *e*PKHKP PKPdf 02 43 04.5 -0.5
MOX pmax pmax
comp=Z,56nm,1.0s
MOX Moxa 148.67 348 *e*PKPbc PKPbc 02 43 08.8 -0.8
PRD Provadia 148.67 323 *i* P PKPbc 02 43 09.8 0.0
CSS Prodhromos 148.67 305 P PKPbc 02 43 09.4 -0.7
CSS Prodhromos 148.67 305 P PKPdf 02 43 04.8 -0.7
CSS *e*PKPbc PKPbc 02 43 09.1 -1.0
CSS Prodhromos 148.67 305 *e*P PKPdf 02 43 04.8 -0.7
VRAC Vranov 148.67 341 P PKPbc 02 43 08.5 -1.2
VRAC Vranov 148.67 341⇑*i*P PKPdf 02 43 07.4 +2.4
MAMC Mammari 148.69 305 P PKPbc 02 43 09.7 -0.4
TANN Tannenbergstha 148.71 347 *e*PKPdf PKPdf 02 43 04.7 -0.4
TANN *e*PKPbc PKPbc 02 43 09.2 -0.5
TANN *e*PKPab PKPab 02 43 15.0 -0.9
KOLL Kolacno 148.73 339 *i* PKP PKPbc 02 43 09.6 -0.2
KOLL *e* 02 45 31.8
PSZ Piszkesteto 148.75 336 P PKPdf 02 43 06.1 +0.9
PSZ Piszkesteto 148.75 336⇓*i*P PKPbc 02 43 09.2 -0.7
PSZ Piszkesteto 148.75 336⇓*e*PKP PKPbc 02 43 09.3 -0.6
UBBA Unterbreizbach 148.79 350 *e*PKPbc PKPbc 02 43 09.1 -0.8
WOL Wolverton 148.85 4 *e*P PKPbc 02 43 08.8 -1.3
HTL Hartland 148.86 8 *e*P PKPbc 02 43 08.6 -1.4
HEX Exmoor 148.87 7⇓*e*P PKPbc 02 43 08.8 -1.3
NKC Novy Kostel 148.89 347 *e*PKHKP 02 43 05.1
NKC *e* 02 43 15.9
NKC Novy Kostel 148.89 347 *e*PKPDF PKPdf 02 43 05.1 -0.2
NKC ⇑*e*PKP PKPbc 02 43 09.8 -0.3
NKC *e*PKPAB PKPab 02 43 15.9 -0.7
NKC *e*pPKP pPKPdf 02 45 29.5 +3.6
NKC *e*SKP 02 45 46.6
SWK Warminster 148.94 5⇓*e*P PKPbc 02 43 08.9 -1.3
TREC Trest 149.01 343 *e*PKPDF PKPdf 02 43 06.4 +0.8
TREC ⇑*e*PKP PKPbc 02 43 09.9 -0.5
TREC *e*sPKP 02 46 26.5
SZAC Souni-Zanaja 149.09 304 P PKPbc 02 43 10.7 -0.4
ALFC Alevga 149.16 305 P PKPbc 02 43 10.4 -0.9
comp=Z,1.9nm,0.3s
MANZ Manzenberg 149.19 347 *e*PKPdf PKPdf 02 43 05.7 -0.1
MANZ *e*PKPbc PKPbc 02 43 10.5 -0.4
BEBN Eben Emael 149.33 355 PKP PKPbc 02 43 10.2 -0.9
BEBN APKP 02 45 35.4
HGN Heimansgroeve 149.34 355 *e*PKP PKPbc 02 43 10.5 -0.7
comp=Z,76nm,1.6s
HGN Heimansgroeve 149.34 355 *e*pPKP pPKPdf 02 45 30.3 +3.7
ROTZ Rotzenmuhle 149.38 347 *e*PKPbc PKPbc 02 43 10.6 -0.7
CSA1 St Austell 149.43 9⇓*e*P PKPbc 02 43 09.9 -1.5
BUD Budapest 149.44 337⇑*e*PKP PKPbc 02 43 11.6 0.0
SZH Strazhica 149.44 324 *i* P PKPbc 02 43 10.8 -0.9
PPCY Paphos 149.46 305 P PKPbc 02 43 10.8 -1.2
DYA Yadsworthy 149.48 7 *e*P PKPbc 02 43 10.1 -1.4
MEM Membach 149.49 355 PKP PKPdf 02 43 06.2 -0.1
MEM APKP 02 45 35.9
ZIMR 149.49 325 P PKPbc 02 43 11.3 -0.5
ZIMR 149.49 325⇑*i*P PKPbc 02 43 11.2 -0.6
ZST Bratislava 149.50 340 *i* PKP PKPbc 02 43 11.5 -0.2
ZST *e* 02 45 32.2
ZST *e*SKPDF 02 45 47.1
GZR Gura Zlata 149.54 330 P PKPbc 02 43 11.0 -0.9
GZR Gura Zlata 149.54 330⇓*i*P PKPbc 02 43 11.1 -0.8
CCA1 Carnmenellis 149.55 9⇓*e*P PKPbc 02 43 10.4 -1.3
JMB Yambol 149.59 322 *i* P PKPbc 02 43 11.5 -0.6
ISP Isparta 149.61 311 *e*P PKPdf 02 43 05.7 -1.2
ISP Isparta 149.61 311⇑*i*P PKPbc 02 43 10.9 -1.4
GRF Grafenberg Arr 149.65 348 *e*PKP2 PKPab 02 43 19.4 -0.4
GRF Grafenberg Arr 149.65 348 *e*PKHKP 02 43 11.5
GRF Grafenberg Arr 149.65 348 *e*PKPbc PKPbc 02 43 11.5 -0.5
GRF *e*PKPab PKPab 02 43 19.4 -0.4
GRF *e*pPKPbc pPKPbc 02 45 31.9 +1.0
GRFO Grafenberg 149.65 348 *e*PKPbc PKPbc 02 43 11.4 -0.6
KHC Kasperske Hory 149.66 345 *e*PKIKP PKPdf 02 43 06.2 -0.4
KHC *e* 02 43 19.0
KHC Kasperske Hory 149.66 345 *e*PKPDF PKPdf 02 43 06.2 -0.4
KHC ⇑*e*PKP PKPbc 02 43 11.7 -0.3
KHC *e*PKPAB PKPab 02 43 19.0 -0.9
KHC *e*pPKP pPKPdf 02 45 31.7 +4.5
KHC *e*SKP 02 45 46.9
KHC *e*sPKP 02 46 31.2
CMA1 Manaccan 149.66 9⇓*e*P PKPbc 02 43 10.8 -1.2
SNF Seneffe 149.70 357 PKP PKPbc 02 43 11.5 -0.5
SNF APKP 02 45 33.0
MENF Mencas 149.71 360 PKP PKPbc 02 43 11.2 -0.9
GDZ Gediz 149.72 314 *i* P PKPdf 02 43 07.1 +0.1
BCLA Clavier 149.73 356 PKP PKPbc 02 43 11.3 -0.8
BCLA APKP 02 45 36.6
WET Wettzell 149.82 346 *e*PKP2 PKPab 02 43 19.7 -0.8
WET Wettzell 149.82 346 *e*PKPbc PKPbc 02 43 12.0 -0.4
WET *e*PKPab PKPab 02 43 19.7 -0.8
GEC2 GERESS Array S 149.89 344 *e*PKPdf PKPdf 02 43 05.7 -1.3
GEC2 *e*PKPbc PKPbc 02 43 12.0 -0.5
GEC2 GERESS Array S 149.89 344 *e*PKPbc PKPbc 02 43 11.8 -0.8
GERES GERESS Array B 149.89 344 PKP PKPdf 02 43 06.1 -0.9
comp=Z,2.6nm,0.9s,baz=90,slow=1.3,SNR=23
GERES PKPbc PKPbc 02 43 12.2 -0.4
comp=Z,33nm,0.8s,baz=29,slow=2.2,SNR=144
GERES pPKPbc pPKPbc 02 45 32.2 +0.6
comp=Z,12nm,1.1s,baz=48,slow=2.0,SNR=3.3
BZS Buzias 149.90 332 P PKPdf 02 43 06.7 -0.4
BZS Buzias 149.90 332⇑*i*P PKPdf 02 43 06.3 -0.8
ABH Alteburg 150.05 353 PKP PKPdf 02 43 05.9 -1.3
GIVF Givet 150.08 356 *e*PKIKP PKPdf 02 43 07.0 -0.2
DOU Dourbes 150.09 357 PKP PKPbc 02 43 12.5 -0.5
SOP Sopron 150.12 340⇓*e*PKP PKPbc 02 43 12.7 -0.4
CONA Conrad Observa 150.12 341⇑*i*PKPdf PKPdf 02 43 06.6 -0.7
comp=Z,40nm,0.8s,SNR=29
TOD Tromm 150.15 351 PKP PKPdf 02 43 06.4 -0.9
BAIF Baives 150.15 357 *e*PKIKP PKPdf 02 43 06.9 -0.4
comp=Z,17nm,1.1s
RUP Ruppelstein 150.28 353 PKP PKPdf 02 43 07.1 -0.4
SART Tekirdag 150.32 319 *i* P PKPdf 02 43 03.9 -4.0
WLF Walferdange 150.41 354 *e*PKPdf PKPdf 02 43 07.7 0.0
WLF *e*PKPbc PKPbc 02 43 13.9 +0.1
WLF Walferdange 150.41 354 PKP PKPbc 02 43 14.1 +0.4
WLF APKP 02 45 33.2
WLF Walferdange 150.41 354 *e*PKPdf PKPdf 02 43 08.2 +0.5
WLF *e*PKPbc PKPbc 02 43 13.4 -0.3
WLF *e*pPKPbc pPKPbc 02 45 33.0 +0.1
PKSM Moragy 150.65 336⇓P PKPdf 02 43 07.0 -1.2
PKSM Moragy 150.65 336⇓*i*P PKPdf 02 43 07.0 -1.2
MOA Molln 150.66 343⇑*i*P PKPdf 02 43 07.4 -0.8
comp=Z,14nm,0.6s,SNR=17
KDZ Kurdzhali 150.78 322 *i* P PKPbc 02 43 14.1 -0.8
PGB Panagyurishte 150.89 325 *i* P PKPbc 02 43 14.4 -0.7
ALN Alexandroupoli 150.89 320 *e*P PKPdf 02 43 06.2 -2.5
JSA Saint Aubin 150.90 6⇓*e*P PKPdf 02 43 09.4 +0.9
JRS Jersey 150.90 5 *e*P PKPdf 02 43 09.1 +0.6
LANF Langenberg 150.90 352 PKP PKPdf 02 43 09.3 +0.8
STU Stuttgart 150.90 350 *e*PKPdf PKPdf 02 43 08.5 0.0
STU *e*PKPbc PKPbc 02 43 14.3 -0.6
STU *e*PKPab PKPab 02 43 23.5 -1.6
AKAS Kas 150.98 309 *i* P PKPdf 02 43 08.2 -0.9
RDO Rodhopi 151.03 321 *e*P PKPbc 02 43 14.0 -1.5
FUR Furstenfeldbru 151.09 347 *e*PKPdf PKPdf 02 43 08.0 -0.8
FUR *e*PKPbc PKPbc 02 43 14.7 -0.7
FUR *e*PKPab PKPab 02 43 24.6 -1.3
RZN Rozhen 151.16 323 *i* P PKPbc 02 43 15.1 -0.6
VTS Vitosha 151.37 326⇓*i*P PKPbc 02 43 15.6 -0.6
FLN La Foliniere 151.44 3 *e*PKIKP PKPdf 02 43 07.7 -1.6
comp=Z,35nm,1.0s
BFO Black Forest 151.47 351 *e*PKPdf PKPdf 02 43 08.5 -0.9
BFO *e*PKPbc PKPbc 02 43 15.3 -0.8
BFO Black Forest 151.47 351 *e*PKPbc PKPbc 02 43 15.4 -0.8
BFO *e*PKPab PKPab 02 43 25.7 -1.8
PERS Pernice 151.51 341 *i* PKPdf PKPdf 02 43 08.6 -0.9
PERS *i* PKPbc PKPbc 02 43 15.1 -1.3
PERS *e*PKPab PKPab 02 43 26.9 -0.8
CDF Champ du Feu 151.53 352 *e*PKIKP PKPdf 02 43 09.1 -0.4
comp=Z,8.1nm,1.1s
KBA Koelnbreinsper 151.62 343⇑*i*P PKPdf 02 43 08.6 -1.1
comp=Z,18nm,0.6s,SNR=9.3
ROSF Rostrenen 151.62 7 *e*PKIKP PKPdf 02 43 07.8 -1.8
LDF La Druitiere 151.63 3 *e*PKIKP PKPdf 02 43 08.0 -1.6
comp=Z,24nm,1.0s
MEZF Maizieres J'vi 151.65 356 *e*PKIKP PKPdf 02 43 09.4 -0.3
comp=Z,25nm,1.1s
PRK Paraskevi 151.73 317 *e*P PKPbc 02 43 16.0 -1.1
ECH Echery 151.73 353 PKP PKPdf 02 43 10.3 +0.5
MMB Musomiste 151.78 324 *i* P PKPbc 02 43 16.0 -1.1
SGMF Saint Gilles 151.78 6 *e*PKIKP PKPdf 02 43 08.1 -1.8
comp=Z,22nm,1.0s
GRR Gorron 151.79 4 *e*PKIKP PKPdf 02 43 08.3 -1.6
comp=Z,8.2nm,0.8s
DIVS Divibare 151.81 332 *e*P PKPdf 02 43 09.3 -0.7
WATA Walderalm 151.81 346⇑*i*P PKPdf 02 43 08.9 -1.0
comp=Z,5.2nm,1.1s,SNR=9.4
THEF They Montfort 151.85 354 PKP PKPdf 02 43 09.8 -0.1
WTTA Wattenberg 151.87 346 *i* P PKPbc 02 43 16.2 -0.9
SNR=7.5
KKB Krupnik 151.94 325 *i* P PKPbc 02 43 16.6 -0.9
FELD Feldberg im Sc 151.96 351 PKP PKPdf 02 43 10.0 -0.1
HAU Haudompre 152.03 354 *e*PKIKP PKPdf 02 43 09.7 -0.5
QUIF Quistinic 152.05 7 *e*PKIKP PKPdf 02 43 08.4 -1.9
ARG Arkhangelos 152.05 310 *e*P PKPbc 02 43 17.5 -0.4
MOF Molkenrain 152.09 352 PKP PKPdf 02 43 11.0 +0.7
HINF Hinteralfeld 152.16 353 *e*PKIKP PKPdf 02 43 09.9 -0.5
comp=Z,8.9nm,1.0s
DAVA Damuels 152.22 348⇑*i*P PKPdf 02 43 10.0 -0.5
comp=Z,24nm,1.0s,SNR=5.8
LJU Ljubljana 152.22 341 *e*PKIKP PKPdf 02 43 10.0 -0.6
LJU *i* 02 43 17.0
LJU *i* 02 43 29.2
LJU Ljubljana 152.22 341 *e*PKPdf PKPdf 02 43 10.0 -0.6
LJU *i* PKPbc PKPbc 02 43 17.0 -0.9
LJU *i* PKPab PKPab 02 43 29.2 -1.6
LJU *e*pPKPbc pPKPbc 02 45 36.4 -1.0
FETA Feichten 152.30 347 *i* PKPdf PKPdf 02 43 10.4 -0.3
comp=Z,14nm,0.9s,SNR=11
GMNA Gemona 152.38 343 PKP PKPdf 02 43 09.7 -1.1
VOY Vojsko 152.42 342 *e*PKPdf PKPdf 02 43 09.7 -1.2
VOY *e*PKPbc PKPbc 02 43 16.8 -1.6
VOY *e*PKPab PKPab 02 43 29.2 -2.4
BOJS Bojanci 152.47 339 *e*PKPdf PKPdf 02 43 09.8 -1.2
BOJS *e*PKPbc PKPbc 02 43 17.9 -0.6
BOJS *e*PKPab PKPab 02 43 32.3 +0.5
CEY Cerknica 152.52 341 *e*PKPdf PKPdf 02 43 10.4 -0.7
CEY *e*PKPbc PKPbc 02 43 17.7 -0.9
CEY *i* PKPab PKPab 02 43 30.7 -1.3
CEY *e*pPKPbc pPKPbc 02 45 36.1 -1.9
STIP Stip 152.54 326 *e*PKP PKPdf 02 43 12.0 +0.8
VAY Valandovo 152.60 325 *e*PKP PKPbc 02 43 16.3 -2.6
LOMF Lomont 152.62 353 PKP PKPdf 02 43 12.0 +0.9
PLG Polygyros 152.75 322 *e*P PKPbc 02 43 17.5 -1.8
LOR Lormes 152.96 357 *e*PKIKP PKPdf 02 43 10.8 -0.8
comp=Z,8.4nm,0.9s
HYF Humbligny 153.00 359 *e*PKIKP PKPdf 02 43 11.4 -0.2
CTI Castel Tesino 153.01 345 PKP PKPdf 02 43 11.2 -0.5
KARP Karpathos 153.06 310 *e*P PKPbc 02 43 17.5 -2.6
SSF Saint Saulge 153.18 358 *e*PKIKP PKPdf 02 43 11.5 -0.4
comp=Z,18nm,1.1s
KRUS Krusevo 153.26 326 *e*PKP PKPdf 02 43 11.3 -0.9
CABF La Chapelle 153.44 354 *e*PKIKP PKPdf 02 43 11.7 -0.6
comp=Z,28nm,1.1s
AVF Avril sur Loir 153.45 358 *e*PKIKP PKPdf 02 43 11.6 -0.7
BIA Bitola 153.48 326 *e*PKP PKPdf 02 43 13.3 +0.8
SMF Signal de Mont 153.58 357 *e*PKIKP PKPdf 02 43 11.9 -0.6
MFF Saint Martin d 153.61 3 *e*PKIKP PKPdf 02 43 11.7 -0.8
comp=Z,18nm,1.0s
OHR Ohrid 153.68 327 *e*PKP PKPdf 02 43 14.8 +2.0
BGF Bois d'Agland 153.70 359 *e*PKIKP PKPdf 02 43 12.0 -0.7
comp=Z,26nm,1.2s
VAI Varese 153.79 349 PKP PKPdf 02 43 11.3 -1.5
TCF Toulx Ste Croi 153.98 360 *e*PKIKP PKPdf 02 43 12.1 -1.0
comp=Z,17nm,1.0s
AGO Saint Agoulin 154.20 358 PKP PKPdf 02 43 13.4 0.0
PLDF La Plantade 154.26 357 PKP PKPdf 02 43 14.6 +1.1
NPS Neapolis 154.30 311 *e*P PKPbc 02 43 22.5 -0.2
LPL La Plagne 154.44 352 *e*PKIKP PKPdf 02 43 13.8 +0.1
comp=Z,3.7nm,0.8s
LPG La Plagne 154.46 352 *e*PKIKP PKPdf 02 43 14.0 +0.2
comp=Z,4.1nm,0.7s
PYM Petit Puy Mans 154.50 358 PKP PKPdf 02 43 13.4 -0.4
BNI Bardonecchia 154.91 352 *e*PKPdf PKPdf 02 43 14.4 0.0
SEI Scarperia 154.94 344 PKP PKPdf 02 43 13.8 -0.7
SFI Santa Sofia 154.95 343 PKP PKPdf 02 43 14.1 -0.4
RJF Les Rejaudoux 154.96 1 *e*PKIKP PKPdf 02 43 14.0 -0.4
comp=Z,21nm,1.0s
LBL Lubilhac 155.01 358 PKP PKPdf 02 43 14.2 -0.3
CING Cingoli 155.03 340 PKP PKPdf 02 43 15.8 +1.2
ORIF Oris-en-Rattie 155.13 353 *e*PKIKP PKPdf 02 43 14.4 -0.3
comp=Z,8.5nm,1.0s
MBDF Montbardon 155.21 352 *e*PKIKP PKPdf 02 43 14.6 -0.2
SNTG Esanatoglia 155.22 341 PKP PKPdf 02 43 14.5 -0.4
VIVF Saint-Julien-l 155.31 355 *e*PKIKP PKPdf 02 43 14.8 -0.1
comp=Z,37nm,1.6s
LFF La Frestale 155.31 2 *e*PKIKP PKPdf 02 43 14.5 -0.4
CAF Calviac 155.34 360 *e*PKIKP PKPdf 02 43 14.7 -0.3
comp=Z,11nm,1.1s
PZZ Prazzo 155.38 351 PKP PKPdf 02 43 15.6 +0.6
NRCA Norcia 155.55 340 PKP PKPdf 02 43 14.8 -0.5
SAOF Saorge 155.82 350 PKP PKPdf 02 43 15.6 0.0
AUTN L'Aution 155.83 350 PKP PKPdf 02 43 16.5 +0.9
TOUF Mont Tournerai 155.84 351 PKP PKPdf 02 43 16.5 +0.9
LUCF Luceram 155.95 350 PKP PKPdf 02 43 17.5 +1.7
SBF Sospel 155.96 350 *e*PKIKP PKPdf 02 43 15.1 -0.7
comp=Z,21nm,0.9s
MVIF Mont Vial 155.97 351 PKP PKPdf 02 43 15.9 +0.1
SMRF Simiane la Rot 156.10 353 *e*PKIKP PKPdf 02 43 15.4 -0.6
comp=Z,12nm,0.9s
LASF Ste Croix 156.14 357 *e*PKIKP PKPdf 02 43 15.8 -0.2
comp=Z,12nm,0.9s
FRF La Foret Royal 156.38 351 *e*PKIKP PKPdf 02 43 15.6 -0.7
LMR La Mourre 156.62 352 *e*PKIKP PKPdf 02 43 15.9 -0.8
MTLF Montolieu 156.93 359 *e*PKIKP PKPdf 02 43 16.7 -0.4
comp=Z,20nm,1.4s
PGF Pioggiola 156.93 347 *e*PKIKP PKPdf 02 43 16.4 -0.7
comp=Z,33nm,1.1s
TIP Timpagrande 157.17 329 *e*PKPdf PKPdf 02 43 16.6 -0.8
EPF Esparros 157.20 3 *e*PKIKP PKPdf 02 43 17.3 -0.1
comp=Z,4.8nm,0.8s
PBRG Braganca 157.25 17 *e*PKPab PKPab 02 43 51.6 -0.9
ETSF Etsaut 157.28 5 *e*PKIKP PKPdf 02 43 17.5 0.0
comp=Z,16nm,1.0s
MVO Moncorvo 157.76 18 *e*PKPab PKPab 02 43 53.8 -1.0
MVO Moncorvo 157.76 18 *e*SS SS 03 06 48.5 +3.9
PVIS Viseu 157.90 20 *e*PKPab PKPab 02 43 54.3 -1.1
MTE Manteigas 158.30 20 *e*PKPdf PKPdf 02 43 18.3 -0.5
MTE Manteigas 158.30 20 *e*PKPab PKPab 02 43 56.0 -1.2
MTE Manteigas 158.30 20 *e*SS SS 03 06 52.5 +2.1
PCBR Castelo Branco 158.83 20 *e*PKPdf PKPdf 02 43 19.6 +0.1
PCBR Castelo Branco 158.83 20 *e*PKPab PKPab 02 43 58.0 -1.5
PMAFR Mafra 158.96 25 *e*PKPab PKPab 02 43 58.7 -1.4
PMAFR Mafra 158.96 25 *e*SS SS 03 06 58.1 +0.6
PESTR Estremoz 159.67 22 *e*PKPab PKPab 02 44 01.7 -1.5
PESTR Estremoz 159.67 22 *e*SS SS 03 07 01.8 -2.9
EVO Evora 159.81 23 *e*PKIKP PKPdf 02 43 19.6 -1.0
comp=Z,14nm,1.1s
ESDC Sonseca Array 159.95 13 PKP PKPdf 02 43 20.0 -0.7
comp=Z,0.6nm,0.7s,baz=335,slow=1.9,SNR=7.0
ESDC PKPab PKPab 02 44 02.1 -2.3
comp=Z,6.4nm,0.8s,baz=346,slow=4.1,SNR=27
ESDC pPKP pPKPdf 02 45 42.1 +0.1
comp=Z,0.1nm,0.3s,baz=83,slow=38,SNR=1.4
ESDC pPKPab pPKPab 02 46 16.5 -0.4
comp=Z,1.5nm,0.9s,baz=44,slow=1.5,SNR=2.9
PBEJ Beja 160.31 23 *e*PKPdf PKPdf 02 43 21.3 +0.1
PBEJ Beja 160.31 23 *e*PKPab PKPab 02 44 04.6 -1.4
PTEO Sao Teotonio 160.39 26 *e*PKPdf PKPdf 02 43 21.7 +0.4
PTEO Sao Teotonio 160.39 26 *e*PKPab PKPab 02 44 05.0 -1.4
PBAR Barrancos 160.48 22 *e*PKPdf PKPdf 02 43 21.5 +0.1
PBAR Barrancos 160.48 22 *e*PKPab PKPab 02 44 05.0 -1.7
MORF Marmelete 160.63 26 *e*PKPdf PKPdf 02 43 21.8 +0.3
MORF Marmelete 160.63 26 *e*PKPab PKPab 02 44 06.6 -0.8
PFVI Vila Bisbo 160.70 27 *e*SS SS 03 07 20.6 +4.9
PVAQ Vaqueiros 160.92 24 *e*PKPab PKPab 02 44 07.8 -0.9
KEST Kesra 163.21 339 PKP PKPdf 02 43 22.8 -1.4
comp=Z,1.1nm,0.9s,baz=301,slow=3.3,SNR=5.7
KEST PKPab PKPab 02 44 17.1 -1.7
comp=Z,2.0n

comp=Z,3.0nm,0.9s,baz=245,slow=5.1,SNR=4.5
DBIC PKPab PKPab 02 44 27.6 +0.3
comp=Z,14nm,0.8s,baz=192,slow=4.3,SNR=18
TORD Torodi Ar. Bea 172.98 178 PKP PKPdf 02 43 29.5 -1.7
comp=Z,2.7nm,0.8s,baz=340,slow=0.7,SNR=12
TORD PKPab PKPab 02 45 02.0 -0.3
comp=Z,5.7nm,1.0s,baz=175,slow=3.1,SNR=12
TORD pPKP pPKPdf 02 45 54.4 +1.4
comp=Z,4.7nm,1.1s,baz=353,slow=1.2,SNR=3.1
TORD pPKPab pPKPab 02 47 14.5 +0.1
comp=Z,5.2nm,0.9s,baz=178,slow=2.7,SNR=3.9

*NEIC **09** 02:27:10.8±0.8, 1691S×7175W, h10km, mb4.3/2, Error ellipse: s-maj=16.2km s-min=9.8km az=94.0*
*IDC **09** 02:27:17.0±1.0, 1749S×7257W, h0km, mb4.0/6, mb1 4.2/7, mb1mx4.0/17, mbtmp4.1/7, ML3.5/2, MS3.8/3, Ms1 3.9/3, ms1mx3.4/28, Error ellipse: s-maj=31.6km s-min=22.3km az=57.0*
*ISCJB **09** 02:27:19.2±1.4, 1767S±007×728W±0.1, h34km±14km, mb4.0/7, Error ellipse: s-maj=17.0km s-min=11.0km az=158.6*

ISC 09 02:27:21.8±1.0, 1764S±007×727W±01, h40km±11km, n20, σ0:70/19, mb4.0/7, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARE	**Arequipa**	**1.68**	**46**	*i* S	**Pn**	**02 27 48.5**	**-0.1**
LPAZ	**La Paz**	**4.61**	**74**	*e*Sn	**Pn**	**02 28 34.8**	**+5.7**
LPAZ	**La Paz**	**4.61**	**74**	Pn	**Pn**	**02 28 33.5**	**+4.5**
	3.8nm,0.3s,baz=266,slow=11,SNR=38						
LPAZ				LR	LR	02 30 05.4	
	comp=Z,695nm,19.9s,baz=264,slow=38						
NNA	**Nana**	**6.88**	**324**	*e*Pn	**Pn**	**02 28 52.6**	**-7.6**
NNA				*e*Sn	**Sn**	**02 30 17.5**	**+0.3**
NNA	**Nana**	**6.88**	**324**	Pn	**Pn**	**02 28 59.9**	**-0.3**
	4.1nm,0.3s,baz=161,slow=9.4,SNR=7.1						
NNA				Sn	**Sn**	**02 30 10.6**	**-6.7**
	3.8nm,0.3s,baz=104,slow=17,SNR=3.2						
NNA				LR	LR	02 31 49.2	
	comp=Z,1μm,19.5s,baz=155,slow=40						
SIV	**San Ignacio**	**11.29**	**83**	Pn	**Pn**	**02 30 01.1**	**+0.4**
	4.0nm,0.3s,baz=276,slow=12,SNR=42						
LCO	**Las Campanas**	**11.47**	**171**	*e*Pn	**Pn**	**02 30 02.4**	**-0.7**
LCO				*e*Sn	**Sn**	**02 32 02.5**	**-7.3**
ATAH	**Atahualpa**	**11.93**	**332**	LR	LR	02 34 25.8	
	comp=Z,720nm,18.6s,baz=265,slow=36						
CFAA	**Coronel Fontan**	**14.49**	**164**	Pn	**Pn**	**02 30 44.8**	**+0.6**
	0.0nm,0.3s,baz=352,slow=11,SNR=6.9						
PLCA	**Paso Flores**	**23.09**	**176**	*e*P	**P**	**02 32 22.8**	**-1.2**
	7.1nm,0.8s,mb4.2						
PLCA				P		02 32 26.4	
PLCA	**Paso Flores**	**23.09**	**176**	P	**P**	**02 32 26.4**	**+2.4**
	1.5nm,0.8s,mb3.5,baz=349,slow=12,SNR=3.0						
BDFB	**Brasilia**	**23.77**	**89**	P	**P**	**02 32 30.1**	**-0.8**
	3.1nm,0.5s,mb4.0,baz=263,slow=14,SNR=11						
SDV	**Santo Domingo**	**26.44**	**5**	P	**P**	**02 32 54.9**	**-0.2**
	2.3nm,0.4s,mb4.1,baz=198,slow=6.4,SNR=4.0						
DBIC	**Dimbokro**	**71.23**	**76**	P	**P**	**02 38 37.5**	**+0.2**
	1.3nm,0.5s,mb4.1,baz=216,slow=6.4,SNR=7.3						
TORD	**Torodi Ar. Bea**	**79.56**	**73**	P	**P**	**02 39 24.8**	**-0.4**
	1.1nm,0.5s,mb4.1,baz=261,slow=5.3,SNR=25						
RAR	**Rarotonga**	**81.12**	**251**	LR	LR	03 06 29.1	
	comp=Z,2μm,21.5s,baz=238,slow=29						
ESDC	**Sonseca Array**	**85.71**	**46**	P	**P**	**02 39 57.7**	**+1.0**
	0.5nm,0.5s,mb4.0,baz=255,slow=5.5,SNR=7.8						
YKA	**Yellowknife Ar**	**86.39**	**342**	P	**P**	**02 39 59.2**	**-0.3**
	1.4nm,0.9s,mb4.2,baz=133,slow=4.6,SNR=6.5						
MJAR	**Matsushiro Arr**	**146.84**	**311**	PKPbc	PKPbc	02 47 01.0	+0.9
	0.5nm,0.3s,baz=85,slow=1.1,SNR=6.0						
SONM	**Songino Array**	**149.88**	**1**	PKPbc	PKPbc	02 47 08.7	+1.1
	1.3nm,0.9s,baz=82,slow=0.6,SNR=6.0						

*NIED **09** 02:28:00, 2900N×12970E, h8km, Mw3.6 Best double couple: M0:3.08000×10^14 NP1:φs:319.00000°, δ57.00000°, λ:-71.00000°. NP2:φs:107.00000°, δ:38.00000°, λ:-117.00000°.*

JMA 09 02:28:15.5±0.1, 2895N×12965E, h34km, M3.8, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAM	**Amami Oshima**	**0.54**	**184**	P	Pb	02 28 26.1	-0.6
JAM				*e*S	Sb	02 28 34.5	+0.1
JZK	**Kikaishima**	**0.69**	**156**	P	Pn	02 28 28.9	0.0
JNN	**Nakanoshima**	**0.91**	**12**	P	Pn	02 28 31.6	-0.3
JNN				S	Sn	02 28 44.2	+0.4
JTK	**Tokunoshima**	**1.31**	**208**	P	Pn	02 28 39.5	+2.1
JTK				*e*S	Sn	02 28 54.6	+0.8
JKC	**Kuchinoerabu**	**1.58**	**17**	P	Pn	02 28 41.2	+0.1
JKC				*e*S	Sn	02 29 00.7	+0.4
JIH	**Iheya**	**2.42**	**218**	P	Pn	02 28 56.1	+3.5
JOW	**Kunigami**	**2.44**	**210**	P	Pn	02 28 56.8	+3.9

CASC 09 02:58:23.5±1.8, 908N×8416W, h2km±7km, MD3.9, 2C-5D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUS	**Buena Vista**	**0.61**	**40**	*e*P	Pg	02 58 36.1	+0.9
BUS				*e*S	Sg	02 58 46.8	+3.6
LCR2	**La Lucha 2**	**0.67**	**13⇓**	*e*P	Pg	02 58 37.2	+0.8
LCR2				*e*S	Sg	02 58 48.6	+3.4
LAJ	**Bijagual**	**0.78**	**3⇓**	*e*P	Pg	02 58 38.4	-0.1
LAJ				*e*S	Sg	02 58 49.5	+1.0
URSC	**Urasca**	**0.83**	**26**	*e*P	Pg	02 58 40.0	+0.4
URSC				*e*S	Sg	02 58 52.5	+2.1
BAR1		**0.85**	**79⇓**	*e*P	Pg	02 58 39.8	0.0
BAR1				*e*S	Sg	02 58 52.5	+1.7
SJS	**Escuela Geolog**	**0.86**	**7**	*e*P	Pg	02 58 40.5	+0.6
PRS1	**Puriscal**	**0.91**	**350⇓**	*e*P	Pg	02 58 39.6	-1.3
PRS1				*e*S	Sg	02 58 51.4	-1.4
CGA2	**Cerro Gallo 2**	**0.98**	**342⇑**	*e*P	Pg	02 58 42.2	-0.1
CGA2				*e*S	Sg	02 58 57.8	+2.8
JCR	**Jicaral**	**1.21**	**309**	*e*P	Pg	02 58 44.3	-2.4
FORC	**Fortuna**	**1.47**	**340⇓**	*i*P	Pn	02 58 51.2	+0.3
FORC				*e*S	Sb	02 59 10.7	+0.1
CNI	**Changuinola**	**1.65**	**78⇑**	*i*P	Pn	02 58 53.1	-0.3
CNI				*e*S	Sn	02 59 17.1	+1.9
PTP	**Ponta Puerca**	**20.16**	**61**	*e*S	Sx	02 59 12.6	

GUC 09 03:31:37.4±0.5, 3174S×7219W, h3km±4km, MD3.5, ML3.0, 1C-1D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHNG	**Los Chungos**	**0.60**	**104**	*i* P	Pg	03 31 31.1	-18
CHNG				*i* S	Sg	03 31 40.4	-16
CMCH	**Combarbala**	**1.16**	**61⇑**	*i*P	Pg	03 31 57.7	-1.9
CMCH				*i* S	Sg	03 32 13.9	-0.7
CMCH				AML	AML	03 32 16.6	
	comp=E,973nm,0.5s						
PEL	**Peldehue**	**1.89**	**138**	*i* P	Pn	03 32 10.8	+0.2
PEL				*i* S	Sn	03 32 36.0	+1.2
PEL				AML	AML	03 32 46.6	
	comp=E,184nm,0.3s						
TLL	**Tololo Astrono**	**1.96**	**38**	*e*P	Pn	03 32 12.2	+0.7
TLL				*e*S	Sn	03 32 38.7	+2.1
TLL				AML	AML	03 32 44.2	
	comp=N,149nm,0.7s						
CLCH	**Cerro Calan**	**2.16**	**140⇓**	*i*P	Pn	03 32 14.8	+0.5
CLCH				*i* S	Sn	03 32 43.8	+2.2
CLCH				AML	AML	03 32 53.7	
	comp=N,155nm,0.5s						
TACH	**Talagante**	**2.18**	**152**	*i* P	Pn	03 32 15.2	+0.6
TACH				*i* S	Sn	03 32 43.9	+1.8
FCH	**Farellones**	**2.25**	**135**	AML	AML	03 32 54.0	
	comp=E,69nm,0.3s						

IDC 09 03:36:48.9±1.1, 834S×15726E, h0km, mb3.9/6, mb1 3.9/7, mb1mx3.8/14, mbtmp3.9/7, ML3.7/1, MS4.9/1, Ms1 4.9/1, ms1mx3.1/20, Error ellipse: s-maj=31.4km s-min=26.5km az=105.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.87**	**112**	Pn	Pn	03 37 36.1	+0.3
	12nm,0.3s,baz=264,slow=13,SNR=3.7						
HNR				Sn	Sn	03 38 22.5	+11
	19nm,0.3s,baz=259,slow=20,SNR=10						
WRA	**Warramunga Arr**	**25.00**	**240**	P	P	03 42 11.0	-3.6
	1.8nm,0.8s,baz=65,slow=9.4,SNR=6.9						
ASAR	**Alice Springs**	**27.07**	**233**	P	P	03 42 33.2	0.0
	0.2nm,0.5s,baz=316,slow=8.9,SNR=6.3						
STKA	**Stephens Creek**	**27.58**	**210**	P	P	03 42 38.0	+0.2
	1.6nm,0.6s,baz=38,slow=12,SNR=7.7						
RAO	**Raoul Island**	**31.25**	**135**	LR	LR	03 53 44.0	
	comp=Z,2μm,20.0s,baz=253,slow=32						
SONM	**Songino Array**	**71.68**	**327**	P	P	03 48 14.2	+1.6
	0.7nm,0.8s,baz=146,slow=4.7,SNR=5.7						
MKAR	**Makanchi Array**	**85.89**	**318**	P	P	03 49 30.3	-0.4
	2.1nm,0.9s,baz=101,slow=6.3,SNR=11						
ZALV	**Zalesovo Beam**	**86.55**	**326**	P	P	03 49 33.0	-0.8
	0.4nm,0.4s,baz=116,slow=6.6,SNR=3.3						
YKA	**Yellowknife Ar**	**96.47**	**28**	P	P	03 50 19.3	-0.5
	0.2nm,0.7s,baz=265,slow=4.5,SNR=5.6						

*CSEM **09** 03:39:50.3±0.3, 3844N×3925E, h20km, MD2.9, Error ellipse: s-maj=10.2km s-min=5.9km az=166.0*
*ISK **09** 03:39:50.8, 3841N×3929E, h17km, MD2.9*
*ISCJB **09** 03:39:51.5±0.8, 3849N±008×3929E±007, h28km±12km, Error ellipse: s-maj=14.2km s-min=8.1km az=157.6*
*DDA **09** 03:39:51.5, 3848N×3934E, h9km, Md2.8*

ISC 09 03:39:51.3±0.8, 3842N±006×3933E±006, h13km±10km, n8, σ0:90/14, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ELZG	**Elazig**	**0.28**	**286**	*i* P	**Pg**	**03 39 56.9**	**-0.3**
ELZG				*i* S	**Sg**	**03 40 02.9**	**+1.8**
MALT	**Malatya**	**0.72**	**262**	*e*PG	**Pg**	**03 40 04.0**	**-1.2**
MALT				*e*SG	**Sg**	**03 40 15.1**	**+0.3**
MYA	**Malataya**	**0.72**	**263**	*e*PG	**Pg**	**03 40 03.9**	**-1.3**
MYA				*e*SG	**Sg**	**03 40 15.2**	**+0.5**
BINT	**Bingol**	**1.01**	**63**	*e*PG	**Pg**	**03 40 11.1**	**+0.1**
URFA	**Urfa**	**1.06**	**202**	*e*PG	**Pg**	**03 40 11.0**	**-0.8**
URFA				*e*SG	**Sg**	**03 40 25.8**	**+0.2**
ATAB	**Bozova**	**1.25**	**221**	*i* P	**Pn**	**03 40 14.7**	**+0.1**
ATAB				*i* S	**Sb**	**03 40 26.7**	**-4.2**
MARD	**Mardin**	**1.59**	**134**	*i* P	**Pn**	**03 40 20.0**	**+0.8**
MARD				*i* S	**Sn**	**03 40 40.7**	**+1.1**
BTMT	**Batman**	**1.71**	**97**	*e*PN	**Pn**	**03 40 19.8**	**-1.1**

*BJI **09** 03:58:36.0, 1140S×11800E, h35km, mB5.1, mb4.4*
*NEIC **09** 03:58:38.0±0.4, 1140S×11797E, h35km, mb4.4/7, Error ellipse: s-maj=17.9km s-min=7.0km az=47.0*
*ISCJB **09** 03:58:39.0±1.6, 1144S±006×118.10E±007, h71km±15km, mb4.2/14, Error ellipse: s-maj=12.5km s-min=8.0km az=141.3*
*IDC **09** 03:58:42.4±3.6, 1104S×11825E, h67km±35km, mb3.8/6, mb1 4.0/7, mb1mx3.8/13, mbtmp3.9/7, ML4.8/2, MS3.6/2, Ms1 3.7/2, ms1mx3.0/22, Error ellipse: s-maj=30.6km s-min=17.6km az=69.0*

ISC 09 03:58:39.7±1.5, 1144S±006×11806E±008, h56km±15km, n36, σ1:11/39, mb4.3/14, South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Kupang**	**5.64**	**78**	P	**Pn**	**04 00 01.1**	**0.0**
	59nm,0.3s,baz=293,slow=3.9,SNR=24						
BATI				S	**Sn**	**04 01 05.8**	**+1.2**
	54nm,0.3s,baz=16,slow=22,SNR=9.6						
MBWA	**Marble Bar**	**9.79**	**171**	*e*Pn	**Pn**	**04 00 56.3**	**-1.6**
	63nm,0.4s						
MBWA				*e*Sn	**Sn**	**04 02 36.3**	**-10**
FITZ	**Fitzroy Crossi**	**9.88**	**133**	*e*P	**Pn**	**04 00 59.3**	**+0.3**
	59nm,0.6s						
FITZ				*e*S	**Sn**	**04 02 41.7**	**-6.7**
FITZ	**Fitzroy Crossi**	**9.88**	**133**	*e*Pn	**Pn**	**04 00 59.1**	**0.0**
	77nm,0.8s						
FITZ				*e*Sn	**Sn**	**04 02 44.2**	**-4.2**
FITZ	**Fitzroy Crossi**	**9.88**	**133**	P	**Pn**	**04 00 59.3**	**+0.3**
	4.5nm,0.3s,baz=322,slow=7.9,SNR=91						
FITZ				S	Sx	04 02 40.0	
	7.3nm,0.3s,baz=87,slow=21,SNR=11						
KAKA	**Kakadu**	**14.12**	**97**	*e*P	**Pn**	**04 01 57.3**	**+0.4**
	9.9nm,0.5s						
KAKA				*e*S	**Sn**	**04 04 30.0**	**-2.2**
WRA	**Warramunga Arr**	**17.80**	**120**	P	**Pn**	**04 02 43.2**	**-0.4**
	0.8nm,0.3s,baz=291,slow=14,SNR=11						
WRA				S	Sx	04 05 50.8	
	1.3nm,0.3s,baz=296,slow=25,SNR=7.7						
WRA				LR	LR	04 10 05.8	
	comp=Z,107nm,21.9s,baz=295,slow=38						
WRAB	**Tennant Creek**	**17.80**	**120**	*e*Pn	**Pn**	**04 02 43.5**	**-0.2**
	5.8nm,0.6s						
WRAB				*e*Sn	Sx	04 05 48.6	
WB2	**Warramunga Arr**	**17.80**	**120**	*e*P	**Pn**	**04 02 43.8**	**+0.1**
WB2				*e*S	Sx	04 05 49.3	
ASAR	**Alice Springs**	**19.37**	**131**	P	**Pn**	**04 03 03.9**	**+1.4**
	1.2nm,0.3s,baz=316,slow=13,SNR=87						
ASAR				S	**S**	**04 06 30.6**	**-6.5**
	0.9nm,0.3s,baz=311,slow=24,SNR=12						
FORT	**Forrest**	**21.36**	**156**	*e*P	**P**	**04 03 23.3**	**+0.9**
	4.7nm,0.6s,mb4.0						
FORT				*e*S	**S**	**04 07 15.1**	**-1.3**
NWAO	**Narrogin (SRO)**	**21.40**	**182**	*e*P	**P**	**04 03 30.1**	**+7.3**
	44nm,0.4s,mb5.1						
NWAO	**Narrogin (SRO)**	**21.40**	**182**	P	**P**	**04 03 29.6**	**+6.9**
	56nm,0.4s,mb5.2,baz=5.3,slow=12,SNR=28						
NWAO				S	**S**	**04 07 09.1**	**-8.0**
	18nm,0.4s,baz=276,slow=16,SNR=9.0						
PSI	**Prapat**	**23.71**	**306**	P	**P**	**04 03 47.9**	**+1.1**
	8.7nm,0.6s,mb4.3,baz=160,slow=8.1,SNR=7.0						
STKA	**Stephens Creek**	**29.74**	**137**	*e*P	**P**	**04 04 44.2**	**+3.4**
	5.2nm,1.6s,mb4.0						
STKA	**Stephens Creek**	**29.74**	**137**	*e*P	**P**	**04 04 42.5**	**+1.7**
STKA	**Stephens Creek**	**29.74**	**137**	P	**P**	**04 04 42.5**	**+1.7**
	0.8nm,0.7s,mb3.6,baz=306,slow=19,SNR=4.3						
HNR	**Honiara**	**41.22**	**91**	*e*P	**P**	**04 06 21.6**	**+2.1**
	888nm,1.1s						
LZH	**Lanzhou**	**49.14**	**345**	*e*P	**P**	**04 07 21.5**	**-0.3**
LZH				AP	pP	04 07 35.6	-1.1
LZH				XP	sP	04 07 38.4	-4.8
LZH				AMB	AMB		
	comp=Z,16nm,1.3s,mb4.9						
LZH				AMB	AMB		
	comp=Z,67nm,4.1s						
KSRS	**Korea Array**	**49.51**	**10**	P	**P**	**04 07 22.3**	**-2.3**
	comp=Z,0.4nm,0.3s,mb3.9,baz=183,slow=19,SNR=2.6						
GTA	**Gaotai**	**53.37**	**342**	*e*P	**P**	**04 07 54.2**	**+0.8**
GTA				AMB	AMB		
	comp=Z,3.0nm,1.0s,mb4.2						
CN2	**Changchun**	**55.39**	**6**	*e*P	**P**	**04 08 07.1**	**-0.9**
SONM	**Songino Array**	**59.92**	**351**	P	**P**	**04 08 39.6**	**-0.2**
	comp=Z,1.1nm,0.5s,mb4.1,baz=168,slow=7.6,SNR=13						
MK31	**Makanchi Array**	**66.21**	**334**	*e*P	**P**	**04 09 22.4**	**+0.9**
MKAR	**Makanchi Array**	**66.21**	**334**	P	**P**	**04 09 21.1**	**-0.5**
	comp=Z,1.3nm,0.6s,mb4.1,baz=145,slow=6.7,SNR=16						
TKM2	**Tokmak 2**	**66.58**	**327**	*e*P	**P**	**04 09 24.4**	**+0.5**
	comp=Z,3.1nm,0.7s,mb4.5						
AML	**Almayashu**	**67.07**	**326**	*e*P	**P**	**04 09 27.9**	**+0.8**
	comp=Z,3.5nm,0.8s,mb4.4						
EKS2	**Erkin-Say**	**67.38**	**326**	*e*P	**P**	**04 09 36.7**	**+7.6**
	comp=Z,3.1nm,0.7s,mb4.5						
VNDA	**Vanda**	**69.74**	**171**	LR	LR	04 37 23.8	
	comp=Z,77nm,18.8s,baz=48,slow=33						
KURK	**Kurchatov**	**70.78**	**335**	*e*P	**P**	**04 09 50.3**	**+0.3**
	comp=Z,2.6nm,0.8s,mb4.2						
ZAA0	**Zalesovo Array**	**70.99**	**340**	*e*P	**P**	**04 09 49.6**	**-1.5**
ZALV	**Zalesovo Beam**	**70.99**	**340**	P	**P**	**04 09 49.8**	**-1.4**
	comp=Z,2.3nm,0.5s,mb4.3,baz=153,slow=4.4,SNR=15						
YKA	**Yellowknife Ar**	**116.79**	**24**	PKP	PKPdf	04 17 18.3	+0.9
YKA	**Yellowknife Ar**	**116.79**	**24**	PKP	PKPdf	04 17 18.3	+0.9
	comp=Z,0.1nm,0.5s,baz=296,slow=1.6,SNR=4.3						
TORD	**Torodi Ar. Bea**	**117.95**	**279**	PKP	PKPdf	04 17 22.3	+1.3
	comp=Z,0.4nm,1.0s,baz=43,slow=1.9,SNR=6.9						
TKL	**Tuckaleechee C**	**148.82**	**36**	PKPbc	PKPab	04 18 23.6	-1.8
	comp=Z,4.8nm,0.7s,baz=15,slow=17,SNR=3.5						

*LDG **09** 04:02:53.6±0.4, 1227S×167.18E, h10km, Mb4.5/1, Error ellipse: s-maj=85.2km s-min=21.3km az=91.0*
*ISCJB **09** 04:03:09.6±2.0, 1309S±007×1667E±0.1, h143km±15km, mb4.3/18, Error ellipse: s-maj=20.9km s-min=9.3km az=157.5*
*IDC **09** 04:03:09.2±5.1, 1302S×16676E, h128km±40km, mb4.0/12, mb1 4.2/13, mb1mx4.1/17, mbtmp4.1/13, MS3.4/3, Ms1 3.4/3, ms1mx3.0/23, Error ellipse: s-maj=35.1km s-min=16.0km az=94.0*
*NEIC **09** 04:03:10.6±2.8, 1302S×16669E, h139km±21km, mb4.6/5, Error ellipse: s-maj=23.8km s-min=10.6km az=108.0*
*BJI **09** 04:03:14.4, 1222S×16609E, h138km, mB5.1, mb4.8*

ISC 09 04:03:09.2±1.8, 1307S±007×1668E±01, h127km±14km, n57, σ0:87/27, mb4.4/18, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**7.59**	**298**	P	**Pn**	**04 04 57.9**	**+0.6**
	11nm,0.3s,baz=99,slow=8.1,SNR=3.3						
HNR				S	**Sn**	**04 06 21.1**	**-0.7**
	41nm,0.3s,baz=92,slow=19,SNR=7.6						
HNR				LR	LR	04 07 44.5	
	comp=Z,150nm,18.3s,baz=173,slow=36						
DZM	**Mont Dzumac**	**8.96**	**182**	*e*P	**Pn**	**04 05 18.5**	**+2.9**
DZM				*e*S	**Sn**	**04 06 53.5**	**-1.3**
CTA	**Charters Tower**	**20.84**	**248**	P	**P**	**04 07 41.6**	**+0.7**
	12nm,1.0s,baz=60,slow=12,SNR=5.6						
STKA	**Stephens Creek**	**29.73**	**227**	*e*P	**P**	**04 09 03.3**	**-0.2**
	20nm,1.3s,mb4.6						
STKA	**Stephens Creek**	**29.73**	**227**	P	**P**	**04 09 03.3**	**-0.2**
	6.1nm,0.9s,mb4.2,baz=17,slow=6.6,SNR=5.3						
STKA				PcP	PcP	04 12 04.5	0.0
	2.5nm,0.6s,baz=83,slow=4.8,SNR=5.4						
STKA				LR	LR	04 21 04.7	
	comp=Z,130nm,18.1s,baz=30,slow=36						
WRAB	**Tennant Creek**	**31.77**	**253**	*e*P	**P**	**04 09 21.3**	**-0.4**
	2.7nm,0.6s,mb4.2						
WRA	**Warramunga Arr**	**31.79**	**253**	P	**P**	**04 09 20.9**	**-0.8**
	3.4nm,0.5s,mb4.3,baz=85,slow=9.4,SNR=6.3						
WRA				LR	LR	04 20 05.4	
	comp=Z,81nm,20.4s,baz=120,slow=32						
ASAR	**Alice Springs**	**32.84**	**247**	P	**P**	**04 09 31.1**	**+0.2**
	2.9nm,0.5s,mb4.4,baz=70,slow=10.0,SNR=8.4						
ASAR				PcP	PcP	04 12 12.6	-0.5
	0.6nm,0.5s,baz=64,slow=2.3,SNR=4.0						
NWAO	**Narrogin (SRO)**	**49.19**	**238**	*e*P	**P**	**04 11 44.3**	**-0.4**
	110nm,1.6s,mb5.5						
MJAR	**Matsushiro Arr**	**56.21**	**332**	P	**P**	**04 12 35.6**	**-0.4**
	0.7nm,0.3s,mb4.1,baz=108,slow=8.0,SNR=4.9						
KSRS	**Korea Array**	**62.09**	**326**	P	**P**	**04 13 16.3**	**-0.3**
	0.9nm,0.6s,mb4.0,baz=136,slow=4.7,SNR=5.1						
VNDA	**Vanda**	**64.50**	**181**	P	**P**	**04 13 32.5**	**+0.6**
	5.6nm,1.2s,mb4.3,baz=349,slow=7.2,SNR=6.8						
KMI	**Kunming**	**73.01**	**302**	P	**P**	**04 14 26.7**	**+1.2**
KMI				AMB	AMB		
	comp=Z,17nm,1.0s,mb4.8						
LZH	**Lanzhou**	**76.84**	**312**	*e*P	**P**	**04 14 48.8**	**+1.5**
LZH				AMB	AMB		
	comp=Z,35nm,1.5s,mb4.9						
LZH				AMB	AMB		
	comp=Z,155nm,4.1s						
ULN	**Ulaanbaatar**	**80.51**	**324**	*e*P	**P**	**04 15 07.0**	**0.0**
	comp=Z,13nm,1.3s,mb4.6						
SONM	**Songino Array**	**80.87**	**324**	P	**P**	**04 15 09.6**	**+0.6**
	comp=Z,1.5nm,0.6s,mb4.0,baz=145,slow=5.4,SNR=16						
BILL	**Bilibino**	**80.89**	**360**	*e*P	**P**	**04 15 08.1**	**-0.5**
	comp=Z,15nm,1.3s,mb4.7						
GTA	**Gaotai**	**81.16**	**314**	*e*P	**P**	**04 15 11.6**	**+0.8**
GTA				AMB	AMB		
	comp=Z,8.0nm,1.6s,mb4.3						
MAW	**Mawson**	**83.23**	**202**	P	**P**	**04 15 21.3**	**+0.2**
	comp=Z,2.3nm,0.6s,mb4.2,baz=138,slow=4.4,SNR=7.7						
MK31	**Makanchi Array**	**95.66**	**317**	*e*P	**P**	**04 16 20.2**	**-0.2**
MKAR	**Makanchi Array**	**95.66**	**317**	P	**P**	**04 16 20.3**	**-0.1**
	comp=Z,1.7nm,0.6s,mb4.7,baz=90,slow=7.3,SNR=19						
ZALV	**Zalesovo Beam**	**95.76**	**324**	P	**P**	**04 16 19.4**	**-1.3**
ZALV	**Zalesovo Beam**	**95.76**	**324**	P	**P**	**04 16 19.4**	**-1.3**
	comp=Z,1.9nm,0.7s,mb4.6,baz=107,slow=5.0,SNR=11						
YKA	**Yellowknife Ar**	**96.30**	**27**	P	**P**	**04 16 21.4**	**-1.5**
YKA	**Yellowknife Ar**	**96.30**	**27**	P	**P**	**04 16 21.4**	**-1.5**
	comp=Z,0.3nm,0.6s,mb3.9,baz=257,slow=4.7,SNR=7.4						
ARCES	**ARCESS Array B**	**118.53**	**345**	PKP	PKPdf	04 21 41.0	-0.3
	comp=Z,1.3nm,0.5s,baz=85,slow=2.2,SNR=16						
FINES	**FINESS Array B**	**124.00**	**338**	PKP	PKPdf	04 21 51.6	-0.5
	comp=Z,1.2nm,0.9s,baz=132,slow=2.6,SNR=8.3						
FLN	**La Foliniere**	**142.87**	**346**	*e*PKP1	PKPdf	04 22 23.1	-4.6
	comp=Z,3.2nm,0.6s						
LDF	**La Druitiere**	**142.94**	**346**	*e*PKP1	PKPdf	04 22 23.4	-4.4
	comp=Z,5.7nm,0.8s						
LOR	**Lormes**	**143.01**	**341**	*e*PKP1	PKPdf	04 22 24.7	-3.3
	comp=Z,2.3nm,0.6s						
GRR	**Gorron**	**143.31**	**346**	*e*PKP1	PKPdf	04 22 25.1	-3.4
	comp=Z,3.8nm,0.7s						
SSF	**Saint Saulge**	**143.31**	**341**	*e*PKP1	PKPdf	04 22 25.3	-3.2
	comp=Z,3.6nm,0.6s						
LPL	**La Plagne**	**143.48**	**336**	*e*PKP1	PKPdf	04 22 26.2	-2.7
	comp=Z,3.2nm,0.6s						
LPG	**La Plagne**	**143.49**	**336**	*e*PKP1	PKPdf	04 22 25.7	-3.2
	comp=Z,3.4nm,0.5s						
SMF	**Signal de Mont**	**143.56**	**340**	*e*PKP1	PKPdf	04 22 27.0

*IDC **09** 04:18:16.7±0.7, 4659N×15604E, h0km, mb3.8/12, mb1 4.0/14, mb1mx3.9/24, mbtmp3.8/14, ML4.0/2, MS2.7/1, Ms1 2.7/1, ms1mx2.2/35, Error ellipse: s-maj=22.8km s-min=16.1km az=147.0*

*NEIC **09** 04:18:18.2±0.5, 4665N×15597E, h10km, mb4.4/2, Error ellipse: s-maj=15.8km s-min=11.2km az=150.0*

*MOS **09** 04:18:21.2±1.5, 4670N×15567E, h43km, mb4.4/9, Error ellipse: s-maj=15.4km s-min=9.8km az=86.4*

ISC 09 04:18:20.4±3.2, 4663N±009×1559E±01, h24km±22km, n38, σ1°05/37, mb3.9/16, 3C, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**4.06**	**2**	*e*PN	**Pn**	**04 19 20.0**	**-0.9**
SKR				pmax	pmax		
	comp=Z,60nm,0.5s						
PET	**Petropavlovsk**	**6.64**	**15**	*e*PN	**Pn**	**04 19 57.1**	**+0.7**
YSS	**Yuzh-Sakhalins**	**9.02**	**277**	*e*PN	**Pn**	**04 20 35.6**	**+6.6**
ASAJ	**Asahikawa**	**9.69**	**260**	Pn	**Pn**	**04 20 36.8**	**-1.4**
	comp=Z,1.5nm,0.3s,baz=135,slow=13,SNR=3.5						
ASAJ				LR	LR	04 24 30.4	
	comp=Z,41nm,19.5s,baz=241,slow=38						
ERM	**Erimo**	**10.22**	**248**	*e*PN	**Pn**	**04 20 44.8**	**-0.7**
SEY	**Seymchan**	**16.46**	**354**	*e*P	**Pn**	**04 22 11.1**	**+1.7**
MJAR	**Matsushiro Arr**	**16.60**	**239**	P	**Pn**	**04 22 12.6**	**+1.2**
MJAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MJAR	**Matsushiro Arr**	**16.60**	**239**	Pn	**Pn**	**04 22 12.6**	**+1.2**
	comp=Z,0.5nm,0.3s,baz=23,slow=11,SNR=4.7						
BILL	**Bilibino**	**22.12**	**10**	*e*P	**P**	**04 23 09.3**	**-4.4**
KSRS	**Korea Array**	**22.61**	**256**	P	**P**	**04 23 21.9**	**+2.7**
	comp=Z,1.4nm,0.5s,mb3.6,baz=51,slow=11,SNR=4.6						
BOD	**Bodaibo**	**27.54**	**309**	*e*P	**P**	**04 24 02.1**	**-2.8**
TIXI	**Tiksi**	**28.14**	**342**	*e*P	**P**	**04 24 10.2**	**0.0**
TIXI				pmax	pmax		
	comp=Z,3.0nm,1.2s,mb3.8						
ULN	**Ulaanbaatar**	**32.74**	**290**	*e*P	**P**	**04 24 52.2**	**+1.2**
SONM	**Songino Array**	**33.17**	**291**	P	**P**	**04 24 54.2**	**-0.6**
	comp=Z,0.4nm,0.6s,mb3.5,baz=69,slow=8.6,SNR=3.1						
INK	**Inuvik**	**40.73**	**33**	P	**P**	**04 25 58.3**	**-0.4**
INK				pmax	pmax		
	comp=Z,2.0nm,0.7s						
INK	**Inuvik**	**40.73**	**33**	P	**P**	**04 25 58.3**	**-0.4**
	comp=Z,1.6nm,0.7s,mb3.8,baz=259,slow=4.2,SNR=10						
ZALV	**Zalesovo Beam**	**44.22**	**307**	P	**P**	**04 26 27.0**	**-0.3**
	comp=Z,1.0nm,0.5s,mb3.8,baz=59,slow=8.6,SNR=4.6						
ZAL	**Zalesovo**	**44.24**	**307**	P	**P**	**04 26 27.0**	**-0.4**
MKAR	**Makanchi Array**	**48.69**	**299**	P	**P**	**04 27 02.6**	**+0.2**
	comp=Z,0.3nm,0.4s,mb3.7,baz=64,slow=7.0,SNR=3.7						
KURK	**Kurchatov**	**49.01**	**305**	*e*P	**P**	**04 27 04.2**	**-0.6**
	comp=Z,2.6nm,0.8s,mb4.3						
KURK	**Kurchatov**	**49.01**	**305**	*e*P	**P**	**04 27 04.3**	**-0.6**
KURK				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.4						
YKA	**Yellowknife Ar**	**49.87**	**37**	P	**P**	**04 27 10.1**	**-1.1**
	comp=Z,0.3nm,0.6s,mb3.5,baz=295,slow=7.1,SNR=4.2						
ARU	**Arti**	**56.38**	**319**	*c i*P	**P**	**04 27 58.4**	**-0.8**
ARU				*e*		04 30 03.7	
ARU				*e*S	**S**	**04 35 55.7**	**+7.6**
ARU				pmax	pmax		
	comp=Z,9.0nm,1.7s,mb4.5						
PDAR	**Pinedale Array**	**63.26**	**55**	P	**P**	**04 28 46.7**	**0.0**
	comp=Z,0.7nm,0.9s,mb3.8,baz=298,slow=3.2,SNR=5.4						
FINES	**FINESS Array B**	**64.95**	**336**	P	**P**	**04 28 59.7**	**+2.2**
FINES	**FINESS Array B**	**64.95**	**336**	*i* P	**P**	**04 28 59.7**	**+2.2**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
FINES	**FINESS Array B**	**64.95**	**336**	P	**P**	**04 28 59.7**	**+2.2**
	comp=Z,0.5nm,0.3s,mb4.0,baz=28,slow=7.2,SNR=11						
WRA	**Warramunga Arr**	**69.07**	**202**	P	**P**	**04 29 23.6**	**-0.5**
WRA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
WRA	**Warramunga Arr**	**69.07**	**202**	P	**P**	**04 29 23.6**	**-0.5**
	comp=Z,1.7nm,0.7s,mb4.1,baz=22,slow=6.9,SNR=7.1						
ASAR	**Alice Springs**	**72.74**	**201**	P	**P**	**04 29 46.8**	**+0.4**
ASAR				pmax	pmax		
	comp=Z,2.0nm,0.9s						
ASAR	**Alice Springs**	**72.74**	**201**	P	**P**	**04 29 46.8**	**+0.4**
	comp=Z,2.1nm,0.9s,mb4.0,baz=16,slow=5.7,SNR=16						
TXAR	**Lajitas Array**	**75.87**	**62**	P	**P**	**04 30 04.6**	**-0.2**
TXAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
TXAR	**Lajitas Array**	**75.87**	**62**	P	**P**	**04 30 04.6**	**-0.2**
	comp=Z,1.7nm,0.6s,mb4.2,baz=300,slow=4.1,SNR=26						
MALT	**Malatya**	**78.62**	**315**	*e*P	**P**	**04 30 19.7**	**-0.3**
	comp=Z,3.4nm,0.8s,mb4.3						
MALT	**Malatya**	**78.62**	**315**	*e*P	**P**	**04 30 19.7**	**-0.3**
MALT				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3						
GERES	**GERESS Array B**	**79.38**	**336**	P	**P**	**04 30 24.9**	**+0.9**
	comp=Z,0.4nm,0.6s,mb3.5,baz=344,slow=1.9,SNR=3.6						
PLCA	**Paso Flores**	**146.29**	**97**	PKP2	PKPab	04 37 58.4	-0.8
PLCA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
PLCA	**Paso Flores**	**146.29**	**97**	PKPbc	PKPbc	04 37 58.4	0.0
	comp=Z,2.2nm,0.8s,baz=207,slow=3.9,SNR=4.4						

WEL 09 04:20:05.3±0.3, 3863S×17579E, h154km±2km, ML3.6/6, Error ellipse: s-maj=1.7km s-min=1.6km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WTVZ	**West Tongariro**	**0.51**	**198**	PN	Pn	04 20 27.3	+0.2
TWVZ	**Taurewa**	**0.52**	**212**	PN	Pn	04 20 27.2	+0.1
OTVZ	**Oturere**	**0.55**	**190**	PN	Pn	04 20 27.5	+0.2
OTVZ				SN	Sn	04 20 44.3	+0.1
NGZ	**Ngauruhoe**	**0.57**	**195**	PN	Pn	04 20 27.5	+0.1
WPVZ	**Whakapapa**	**0.61**	**198**	PN	Pn	04 20 27.9	+0.2
TUVZ	**Tukino**	**0.65**	**190**	PN	Pn	04 20 28.2	+0.3
FWVZ	**Far West T-bar**	**0.66**	**197**	PN	Pn	04 20 28.0	+0.1
TRVZ	**Turoa**	**0.70**	**196**	PN	Pn	04 20 28.6	+0.4
WNVZ	**Wahianoa**	**0.72**	**192**	PN	Pn	04 20 28.6	+0.3
HIZ	**Hauiti**	**0.74**	**278**	PN	Pn	04 20 28.3	-0.2
PKVZ	**Pokaka**	**0.75**	**208**	PN	Pn	04 20 28.5	0.0
BKZ	**Black Stump Fm**	**0.77**	**135**	PN	Pn	04 20 28.9	+0.3
BKZ				SN	Sn	04 20 45.6	-1.0
MOVZ	**Moawhango**	**0.78**	**182**	PN	Pn	04 20 28.6	-0.1
MTVZ	**Mangateitei**	**0.80**	**198**	PN	Pn	04 20 29.0	+0.2
URZ	**Urewera**	**1.10**	**71**	PN	Pn	04 20 31.1	-0.2
WAZ	**Wanganui**	**1.29**	**209**	PN	Pn	04 20 32.6	-0.4
MWZ	**Matawai**	**1.39**	**78**	PN	Pn	04 20 34.2	+0.1
TSZ	**Takapari Road**	**1.44**	**175**	PN	Pn	04 20 34.3	-0.2
KNZ	**Kokohu**	**1.52**	**106**	PN	Pn	04 20 35.9	+0.5
WPHZ	**Waipukurau**	**1.52**	**161**	PN	Pn	04 20 35.3	0.0
PXZ	**Pawanui**	**1.63**	**150**	PN	Pn	04 20 36.5	0.0
PUZ	**Puketiti**	**2.02**	**75**	PN	Pn	04 20 40.7	-0.1
MRZ	**Mangatainoka R**	**2.04**	**185**	PN	Pn	04 20 39.7	-1.3
BFZ	**Birch Farm**	**2.08**	**170**	PN	Pn	04 20 40.6	-0.9
TIWZ	**Tintock**	**2.15**	**178**	PN	Pn	04 20 41.2	-1.1
MXZ	**Matakaoa Point**	**2.25**	**63**	PN	Pn	04 20 43.7	+0.1
KIW	**Kapiti Island**	**2.33**	**197**	PN	Pn	04 20 42.7	-1.9
MTW	**Mount Morrison**	**2.54**	**185**	PN	Pn	04 20 45.0	-2.0
CAW	**Cannon Point**	**2.54**	**192**	PN	Pn	04 20 44.8	-2.2
DUWZ	**D'Urville Isla**	**2.61**	**213**	PN	Pn	04 20 45.5	-2.3
MRW	**Makara Radio**	**2.73**	**198**	PN	Pn	04 20 47.1	-2.3
TRWZ	**Traveller**	**2.77**	**182**	PN	Pn	04 20 47.7	-2.1
SNZO	**South Karori**	**2.81**	**197**	PN	Pn	04 20 47.8	-2.6
TCW	**Tory Channel**	**2.83**	**204**	PN	Pn	04 20 48.3	-2.3
QRZ	**Quartz Range**	**3.34**	**228**	PN	Pn	04 20 53.6	-3.5
KHZ	**Kahutara**	**4.16**	**204**	PN	Pn	04 21 04.6	-3.0

*NEIC **09** 04:32:42.8, 1697N×9918W, h16km, MD3.7(MEX), After MEX.*

MEX 09 04:32:42.6±0.7, 1696N×9921W, h16km±10km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	**Acapulco**	**0.68**	**263**	*i* P	Pg	04 32 54.0	-2.0
ACX				*i* S	Sg	04 33 01.5	-3.6
MEIG	**Mezcala**	**1.04**	**338**	*i* P	Pb	04 32 58.5	-3.7
MEIG				*i* S	Sb	04 33 11.5	-4.2
PLIG	**Platanillo**	**1.46**	**349**	*e*P	Pn	04 33 04.9	-3.3
PLIG				*i* S	Sn	04 33 21.4	-5.6
UTMO	**Huajuapan**	**1.60**	**57**	*i* P	Pn	04 33 06.7	-3.5
UTMO				*i* S	Sn	04 33 24.3	-6.2
YAIG	**Yautepec**	**1.90**	**4**	*i* P	Pn	04 33 12.3	-2.1
YAIG				*i* S	Sn	04 33 34.2	-3.8
PPM	**Popocatepetl**	**2.17**	**15**	*e*P	Pn	04 33 15.8	-2.3
PPM				*i* S	Sn	04 33 41.7	-2.9
VHO	**Vista Hermosa**	**2.37**	**87**	*i* P	Pn	04 33 17.1	-3.7
VHO				*i* S	Sn	04 33 44.5	-5.1

*NEIC **09** 04:36:32.8±0.7, 6885S×15506E, h10km, mb4.6/3, Error ellipse: s-maj=17.8km s-min=16.9km az=209.0*

*BJI **09** 04:36:39.7, 6145S×15413E, h10km, mB5.0, mb4.6*

*ISCJB **09** 04:36:43.8±3.3, 7735S±02×1557E±02, h147km±39km, mb4.2/11, Error ellipse: s-maj=42.5km s-min=17.0km az=40.6*

*IDC **09** 04:36:44.9±3.0, 7335S×15569E, h141km±30km, mb3.9/8, mb1 4.0/9, mb1mx3.8/15, mbtmp4.0/9, MS3.2/5, Ms1 3.2/5, ms1mx3.0/23, Error ellipse: s-maj=26.8km s-min=18.5km az=117.0*

ISC 09 04:36:45.6±3.1, 73S±02×1557E±02, h152km±38km, n22, σ0°68/16, mb4.2/11, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.68**	**117**	P	**Pn**	**04 37 54.9**	**+0.1**
	17nm,0.3s,baz=268,slow=7.6,SNR=3.2						
HNR				S	**Sn**	**04 38 41.8**	**-7.0**
	23nm,0.3s,baz=277,slow=19,SNR=5.7						
HNR				LR	LR	04 39 26.2	
	comp=Z,732nm,18.1s,baz=350,slow=34						
CTA	**Charters Tower**	**15.65**	**215**	LR	LR	04 44 29.3	
	comp=Z,56nm,21.6s,baz=230,slow=30						
GUMO	**Guam**	**23.41**	**333**	LR	LR	04 48 09.5	
	comp=Z,45nm,21.7s,baz=122,slow=29						
WRAB	**Tennant Creek**	**24.21**	**237**	*e*P	**P**	**04 41 47.6**	**-0.6**
	4.5nm,0.6s,mb4.2						
WRA	**Warramunga Arr**	**24.22**	**237**	P	**P**	**04 41 48.2**	**-0.2**
	3.2nm,0.4s,mb4.2,baz=60,slow=9.3,SNR=18						
ASAR	**Alice Springs**	**26.49**	**230**	P	**P**	**04 42 08.5**	**-0.4**
	0.6nm,0.7s,mb3.4,baz=60,slow=8.9,SNR=7.7						
STKA	**Stephens Creek**	**27.74**	**206**	P	**P**	**04 42 20.7**	**+0.8**
	1.3nm,0.7s,mb3.8,baz=33,slow=16,SNR=4.4						
STKA				LR	LR	04 51 59.2	
	comp=Z,96nm,20.2s,baz=27,slow=33						
MBWA	**Marble Bar**	**37.37**	**245**	*e*P	**P**	**04 43 44.1**	**+0.3**
	16nm,0.8s,mb4.7						
KSRS	**Korea Array**	**51.57**	**332**	P	**P**	**04 45 35.9**	**-0.3**
	2.4nm,0.7s,mb3.9,baz=150,slow=7.6,SNR=8.2						
KMI	**Kunming**	**60.79**	**304**	P	**P**	**04 46 41.2**	**-0.7**
KMI				AMB	AMB		
	comp=Z,11nm,1.2s,mb4.6						
SONM	**Songino Array**	**70.00**	**327**	P	**P**	**04 47 41.9**	**+1.3**
	comp=Z,4.2nm,0.6s,mb4.4,baz=145,slow=6.2,SNR=43						
MK31	**Makanchi Array**	**84.13**	**319**	*e*P	**P**	**04 49 00.3**	**+0.8**
MKAR	**Makanchi Array**	**84.13**	**319**	P	**P**	**04 49 00.5**	**+1.0**
MKAR	**Makanchi Array**	**84.13**	**319**	P	**P**	**04 49 00.5**	**+1.0**
	comp=Z,9.5nm,0.7s,mb4.7,baz=100,slow=6.0,SNR=56						
ZAA0	**Zalesovo Array**	**84.86**	**326**	*e*P	**P**	**04 49 02.4**	**-0.6**
ZALV	**Zalesovo Beam**	**84.86**	**326**	P	**P**	**04 49 02.8**	**-0.2**
	comp=Z,5.4nm,0.5s,mb4.6,baz=120,slow=5.6,SNR=26						
NVAR	**Mina Array Bea**	**91.37**	**52**	LR	LR	05 25 35.2	
	comp=Z,5.1nm,20.2s,baz=135,slow=32						
YKA	**Yellowknife Ar**	**96.30**	**28**	P	**P**	**04 49 55.4**	**-1.0**
	comp=Z,0.2nm,0.6s,mb3.6,baz=270,slow=4.6,SNR=5.5						
GERES	**GERESS Array B**	**127.71**	**329**	PKP	PKPdf	04 55 34.5	+1.6
	comp=Z,0.4nm,0.6s,baz=50,slow=2.3,SNR=6.0						
BDFB	**Brasilia**	**147.24**	**134**	PKPbc	PKPbc	04 56 11.5	-0.6
	comp=Z,3.5nm,0.8s,baz=216,slow=10.0,SNR=5.5						
TORD	**Torodi Ar. Bea**	**153.80**	**285**	PKP	PKPdf	04 56 20.1	+0.3
	comp=Z,0.6nm,1.0s,baz=222,slow=1.9,SNR=3.3						
TORD				PKPbc	PKPbc	04 56 28.4	+0.7
	comp=Z,0.5nm,0.7s,baz=61,slow=1.5,SNR=8.3						
DBIC	**Dimbokro**	**160.70**	**269**	PKPab	PKPab	04 57 12.3	+1.1
	comp=Z,2.3nm,0.8s,baz=143,slow=5.1,SNR=3.1						

*CSEM **09** 04:41:16.1±0.9, 3740N×2475W, h5km, ML3.0, Error ellipse: s-maj=7.0km s-min=2.5km az=75.0, After PDA*

*PDA **09** 04:41:16.1±0.9, 3740N×2475W, h5km, MD3.8, ML3.0, Error ellipse: s-maj=7.0km s-min=2.5km az=75.0*

SVSA 09 04:41:16.1±0.9, 3740N×2475W, h5km, MD3.8, ML3.0, Error ellipse: s-maj=7.0km s-min=2.5km az=75.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSMN	**Pico do Norte,**	**0.47**	**213**	*e*P	Pg	04 41 24.7	-0.5
PSMN				*e*S	Sg	04 41 30.3	-1.0
PDA	**Ponta Delgada**	**0.81**	**296**	*e*P	Pg	04 41 28.7	-2.8
PDA				*e*S	Sg	04 41 38.6	-3.4
PSCM	**Serra do Cume**	**2.28**	**305**	*e*P	Pn	04 41 49.4	-4.9
PSCM				*e*S	Sn	04 42 14.8	-7.9
PSCM				A		04 42 17.2	
	37nm,0.3s						
PSCM	**Serra do Cume**	**2.28**	**305**	*e*P	Pn	04 41 49.4	-4.9
PSCM				*e*S	Sn	04 42 14.8	-7.9
PID	**Ribeirinha**	**2.86**	**292**	*e*P	Pn	04 41 57.9	-4.5
PID				*e*S	Sn	04 42 29.0	-8.2
PMAN	**Manadas**	**2.91**	**296**	*e*P	Pn	04 41 58.8	-4.2
PMAN				*e*S	Sn	04 42 30.8	-7.6
PMAN				A		04 42 32.6	
	22nm,0.2s						
PMAN	**Manadas**	**2.91**	**296**	*e*P	Pn	04 41 58.8	-4.2
PMAN				*e*S	Sn	04 42 30.8	-7.6
ROSA	**Rosais**	**3.06**	**297**	*e*P	Pn	04 42 00.6	-4.4
ROSA				*e*S	Sn	04 42 33.9	-8.1
PICO	**Pico**	**3.11**	**292**	*e*P	Pn	04 42 01.3	-4.4
PICO				*e*S	Sn	04 42 35.1	-8.1
HOR	**Horta**	**3.27**	**291**	*e*S	Sn	04 42 39.0	-8.2
CALA	**Caldeira**	**3.34**	**292**	*e*P	Pn	04 42 04.4	-4.5
CALA				*e*S	Sn	04 42 40.5	-8.4

*IDC **09** 04:42:43.3±2.1, 4655N×15361E, h0km, mb3.6/7, mb1 3.8/8, mb1mx3.6/22, mbtmp3.7/8, ML3.5/1, Error ellipse: s-maj=59.3km s-min=24.8km az=159.0*

*ISCJB **09** 04:42:47.6±2.3, 463N±02×1534E±02, h50km±16km, mb3.6/6, Error ellipse: s-maj=45.4km s-min=11.6km az=148.1*

*MOS **09** 04:42:48.0±1.0, 4627N×15338E, h61km, mb4.1/4, Error ellipse: s-maj=27.9km s-min=19.9km az=60.1*

ISC 09 04:42:49.4±2.2, 463N±02×1534E±02, h52km±15km, n16, σ1°14/17, mb3.6/6, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**4.03**	**257**	*e*PN	**Pn**	**04 43 47.0**	**-1.5**
KUR				*e*S	**Sn**	**04 44 33.5**	**-0.8**
KUR				pmax	pmax		
	comp=N,80nm,0.5s						
KUR				pmax	pmax		
	comp=E,50nm,0.5s						
KUR				pmax	pmax		
	comp=Z,140nm,0.5s						
KUR				smax			
	comp=N,150nm,0.6s						
KUR				smax			
	comp=E,90nm,0.6s						
SKR	**Severo-Kuril's**	**4.78**	**21**	*e*PN	**Pn**	**04 43 58.9**	**+0.1**
ASAJ	**Asahikawa**	**7.95**	**258**	PN	**Pn**	**04 44 44.4**	**+2.2**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ	**Asahikawa**	**7.95**	**258**	Pn	**Pn**	**04 44 44.4**	**+2.2**
	comp=Z,0.6nm,0.3s,baz=93,slow=19,SNR=4.6						
KSRS	**Korea Array**	**20.87**	**254**	P	**P**	**04 47 29.7**	**+2.9**
	comp=Z,0.8nm,0.3s,baz=58,slow=12,SNR=4.0						
MKAR	**Makanchi Array**	**47.37**	**298**	P	**P**	**04 51 17.8**	**-0.1**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
MKAR	**Makanchi Array**	**47.37**	**298**	P	**P**	**04 51 17.8**	**-0.1**
	comp=Z,0.8nm,0.7s,mb3.7,baz=69,slow=8.2,SNR=5.7						
YKA	**Yellowknife Ar**	**51.20**	**37**	P	**P**	**04 51 47.3**	**+0.5**
YKA	**Yellowknife Ar**	**51.20**	**37**	P	**P**	**04 51 47.3**	**+0.5**
	comp=Z,0.3nm,0.6s,mb3.4,baz=297,slow=7.1,SNR=5.0						
FINES	**FINESS Array B**	**64.59**	**335**	P	**P**	**04 53 20.2**	**-0.5**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
FINES	**FINESS Array B**	**64.59**	**335**	P	**P**	**04 53 20.2**	**-0.5**
	comp=Z,0.6nm,0.4s,mb4.0,baz=48,slow=5.4,SNR=11						
NOA	**NORSAR Array B**	**68.78**	**341**	P	**P**	**04 53 48.1**	**+0.8**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
NOA	**NORSAR Array B**	**68.78**	**341**	P	**P**	**04 53 48.1**	**+0.8**
	comp=Z,0.8nm,0.7s,mb3.8,baz=28,slow=6.4,SNR=3.7						
AKASG	**Malin Array Be**	**72.09**	**326**	P	**P**	**04 54 07.2**	**-0.5**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.5s						
AKASG	**Malin Array Be**	**72.09**	**326**	P	**P**	**04 54 07.2**	**-0.5**
	comp=Z,0.6nm,0.5s,mb3.8,baz=32,slow=6.3,SNR=6.3						
TXAR	**Lajitas Array**	**77.55**	**61**	P	**P**	**04 54 38.4**	**-1.2**
	comp=Z,0.2nm,0.7s,mb3.1,baz=248,slow=6.6,SNR=2.7						

*IDC **09** 04:44:16.1±2.1, 2129S×16902E, h0km, mb3.9/5, mb1 4.1/5, mb1mx3.9/13, mbtmp3.9/5, MS3.3/1, Ms1 3.3/1, ms1mx2.6/18, Error ellipse: s-maj=95.2km s-min=27.2km az=150.0*

*ISCJB **09** 04:44:20.9±0.9, 208S±02×1686E±01, h33km, mb3.8/5, Error ellipse: s-maj=32.7km s-min=11.6km az=148.9*

ISC 09 04:44:22.7±0.9, 209S±02×1687E±01, h35km, n13, σ1°12/9, mb3.8/5, Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**2.36**	**241**	*e*P	**Pn**	**04 44 56.9**	**-2.1**
DZM				*e*S	**Sn**	**04 45 27.0**	**+0.3**
STKA	**Stephens Creek**	**26.51**	**240**	P	**P**	**04 49 57.3**	**+0.2**
	1.1nm,0.5s,mb3.6,baz=113,slow=13,SNR=5.1						
WRA	**Warramunga Arr**	**32.15**	**266**	P	**P**	**04 50 47.7**	**+0.4**
	0.3nm,0.4s,mb3.5,baz=95,slow=5.9,SNR=3.3						
ASAR	**Alice Springs**	**32.23**	**259**	P	**P**	**04 50 47.9**	**-0.1**
	1.6nm,0.8s,mb3.9,baz=78,slow=8.5,SNR=13						
VNA3	**Neumayer Olymp**	**88.06**	**181**	*e*	**P**	**04 57 09.5**	**+0.4**
VNA3				*e*	pP	04 57 20.1	-0.1
SONM	**Songino Array**	**88.25**	**323**	P	**P**	**04 57 11.6**	**+1.3**
	0.4nm,0.7s,mb3.8,baz=145,slow=5.3,SNR=6.4						
VNA2	**Neumayer--Watz**	**88.34**	**181**	*e*	**P**	**04 57 11.4**	**+1.0**
	baz=192,slow=5.0						
VNA2				*e*	pP	04 57 21.4	-0.2
NVAR	**Mina Array Bea**	**90.32**	**49**	P	**P**	**04 57 17.9**	**-2.2**
	0.8nm,0.7s,mb4.2,baz=226,slow=7.4,SNR=3.6						
YKA	**Yellowknife Ar**	**102.42**	**28**	P	Pdif	04 58 13.9	-1.0
	0.1nm,0.6s,baz=260,slow=4.4,SNR=3.8						
KHC	**Kasperske Hory**	**145.57**	**331**	*e*P	PKPdf	05 03 58.0	+0.9
KHC				*ex*	x	05 04 09.0	
GERES	**GERESS Array B**	**145.72**	**330**	PKPbc	PKPbc	05 03 59.1	+1.3
	2.3nm,0.8s,baz=31,slow=3.1,SNR=23						
GIVF	**Givet**	**148.21**	**340**	*e*PKP1	PKPbc	05 04 06.6	+1.8
	20nm,1.1s						
BAIF	**Baives**	**148.44**	**341**	*e*PKP1	PKPbc	05 04 05.6	+0.2
	7.7nm,1.0s						

*ISCJB **09** 05:08:25.7±5.7, 66S±02×1457E±02, h140km±56km, mb3.6/3, Error ellipse: s-maj=40.0km s-min=34.3km az=35.2*

*NEIC **09** 05:08:26.1±3.9, 6615×14572E, h126km±38km, mb3.9/2, Error ellipse: s-maj=24.3km s-min=22.7km az=81.0*

*IDC **09** 05:08:29.8±17.0, 677S×14589E, h171km±206km, mb3.2/4, mb1 3.3/6, mb1mx3.2/14, mbtmp3.2/6, ML3.8/2, Error ellipse: s-maj=130.7km s-min=45.3km az=136.0*

ISC 09 05:08:27.4±5.7, 67S±02×1457E±02, h139km±57km, n10, σ0°36/10, mb3.6/3, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**13.35**	**178**	P	**Pn**	**05 11 31.2**	**-0.2**
	0.9nm,0.3s,baz=3.9,slow=16,SNR=5.0						
KAKA	**Kakadu**	**14.40**	**244**	*e*Pn	**Pn**	**05 11 44.7**	**-0.1**
WRAB	**Tennant Creek**	**17.19**	**219**	*e*P	**Pn**	**05 12 18.8**	**-0.4**
	2.6nm,0.6s						
WB2	**Warramunga Arr**	**17.20**	**219**	*e*P	**Pn**	**05 12 19.2**	**-0.1**
WRA	**Warramunga Arr**	**17.21**	**219**	P	**Pn**	**05 12 20.1**	**+0.7**
	0.2nm,0.3s,baz=40,slow=12,SNR=3.9						
ASAR	**Alice Springs**	**20.36**	**213**	P	**P**	**05 12 53.4**	**+0.3**
	0.8nm,0.5s,baz=48,slow=8.1,SNR=14						
FITZ	**Fitzroy Crossi**	**22.64**	**238**	*e*P	**P**	**05 13 16.1**	**-0.7**
	7.5nm,0.8s,mb4.2						
FITZ	**Fitzroy Crossi**	**22.64**	**238**	P	**P**	**05 13 16.8**	**-0.1**
	1.5nm,0.6s,mb3.6,baz=62,slow=15,SNR=5.6						
SONM	**Songino Array**	**64.38**	**332**	P	**P**	**05 18 48.5**	**+0.2**
	0.3nm,0.6s,mb3.3,baz=157,slow=6.3,SNR=3.3						
ZALV	**Zalesovo Beam**	**78.91**	**328**	P	**P**	**05 20 15.1**	**-0.1**
	1.1nm,0.6s,mb3.6,baz=111,slow=5.8,SNR=5.8						

IDC 09 05:17:24.4±2.2, 069N×12124E, h0km, mb3.6/4, mb1 3.7/4, mb1mx3.5/16, mbtmp3.6/4, Error ellipse: s-maj=133.1km s-min=22.7km az=74.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.19**	**149**	P	P	05 22 41.8	-1.0
	0.6nm,0.4s,baz=328,

s-maj=20.5km s-min=8.2km az=129.0

ISC 09 05:53:40.5±0.6, 750N±005×7304W±006, h150km±7km, n21, σ0°96/28, mb4.0/2, 9D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**0.80**	**63**	⇓*iP*	**Pn**	**05 54 03.7**	**0.0**
CAPV				*eS*	**Sn**	**05 54 21.8**	**+0.4**
VIGV	**El Vigia**	**2.13**	**51**	⇓*iP*	**Pn**	**05 54 17.8**	**+0.7**
VIGV				*eS*	**Sn**	**05 54 46.7**	**+1.4**
SOCV	**Socops**	**2.30**	**70**	⇓*iP*	**Pn**	**05 54 19.8**	**+0.6**
SOCV				*eS*	**Sn**	**05 54 50.0**	**+1.1**
SDV	**Santo Domingo**	**2.75**	**60**	P	**Pn**	**05 54 25.8**	**+1.1**
	baz=264,slow=9.2						
SDV				S	**Sn**	**05 54 59.4**	**+0.5**
	18nm,0.3s,baz=254,slow=22,SNR=6.0						
ROSC	**El Rosal**	**2.92**	**206**	P	**Pn**	**05 54 26.4**	**-0.5**
	22nm,0.3s,baz=265,slow=7.7,SNR=85						
ROSC				S	**Sn**	**05 55 02.8**	**+0.1**
	24nm,0.3s,baz=96,slow=22,SNR=17						
VIRV	**Villa del Rosa**	**3.05**	**12**	⇓*iP*	**Pn**	**05 54 27.3**	**-1.2**
VIRV				*eS*	**Sn**	**05 55 04.0**	**-1.8**
ELOV	**Elorza**	**3.56**	**98**	⇓*iP*	**Pn**	**05 54 35.3**	**+0.2**
ELOV				*eS*	**Sn**	**05 55 15.3**	**-2.0**
QARV	**Quebrada Arrib**	**3.66**	**42**	⇓*iP*	**Pn**	**05 54 37.1**	**+0.7**
QARV				*eS*	**Sn**	**05 55 19.4**	**-0.3**
CURV	**Curarigua**	**3.94**	**50**	⇓*iP*	**Pn**	**05 54 40.1**	**+0.1**
CURV				*eS*	**Sn**	**05 55 24.5**	**-1.6**
SANV	**Sanarito**	**3.99**	**60**	⇓*iP*	**Pn**	**05 54 41.0**	**+0.3**
SIQV	**Siquisique**	**4.47**	**45**	⇓*iP*	**Pn**	**05 54 47.0**	**0.0**
TEPV	**Terepaima**	**4.52**	**57**	*eP*	**Pn**	**05 54 48.1**	**+0.5**
BAUV	**El Baul**	**5.15**	**73**	*eP*	**Pn**	**05 54 55.0**	**-0.9**
TURV	**Turiamo**	**5.91**	**60**	*eP*	**Pn**	**05 55 06.2**	**+0.1**
CAOV	**Caicara del Or**	**6.66**	**91**	*eP*	**Pn**	**05 55 14.4**	**-1.7**
MERV	**Las Mercedes**	**6.89**	**75**	*eP*	**Pn**	**05 55 18.1**	**-1.0**
PCRV	**Puerto La Cruz**	**8.72**	**72**	P	**Pn**	**05 55 45.0**	**+1.4**
	3.7nm,0.3s,baz=231,slow=14,SNR=22						
SCHQ	**Schefferville**	**47.47**	**5**	P	**P**	**06 02 01.2**	**+1.2**
	2.4nm,0.6s,mb4.0,baz=180,slow=11,SNR=5.6						
YKA	**Yellowknife Ar**	**62.66**	**340**	P	**P**	**06 03 48.8**	**-0.1**
	1.1nm,0.5s,mb4.0,baz=131,slow=6.7,SNR=54						
YKA				pP	pP	06 04 21.6	-2.9
	0.2nm,0.6s,baz=130,slow=7.1,SNR=2.9						
ASAR	**Alice Springs**	**149.57**	**235**	PKPbc	PKPbc	06 13 12.0	-1.0
	0.4nm,0.7s,baz=119,slow=3.0,SNR=3.6						
ASAR				pPKPbc	pPKPbc	06 13 49.1	-3.4
	0.3nm,0.8s,baz=105,slow=3.6,SNR=2.3						
WRA	**Warramunga Arr**	**150.73**	**242**	PKP	PKPdf	06 13 10.0	-0.2
	0.5nm,0.5s,baz=108,slow=2.4,SNR=5.6						
WRA				PKPbc	PKPbc	06 13 14.8	-1.1
	0.5nm,0.5s,baz=106,slow=2.4,SNR=5.6						
WRA				pPKPbc	pPKPbc	06 13 50.5	-5.0
	0.6nm,0.5s,baz=105,slow=2.4,SNR=2.5						

*PDA **09** 06:03:28.3±1.1, 3715N×2461W, h0km, MD4.1, ML3.8, Error ellipse: s-maj=6.3km s-min=4.3km az=94.0*
*CSEM **09** 06:03:28.3±1.1, 3715N×2461W, h0km, ML3.8, Error ellipse: s-maj=6.3km s-min=4.3km az=94.0, After PDA*

SVSA 09 06:03:28.3±1.1, 3715N×2461W, h0km, MD4.1, ML3.8, Error ellipse: s-maj=6.3km s-min=4.3km az=94.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSMN	**Pico do Norte,**	**0.39**	**248**	*iP*	Pg	06 03 35.1	-0.7
PSMN				*eS*	Sg	06 03 41.4	+0.5
PSMN	**Pico do Norte,**	**0.39**	**248**	*eS*	Sg	06 03 41.4	+0.5
PDA	**Ponta Delgada**	**1.03**	**306**	*eP*	Pg	06 03 44.9	-3.1
PDA				*eS*	Sg	06 03 57.0	-4.3
PSET	**Sete Cidades**	**1.11**	**308**	*eP*	Pg	06 03 45.6	-4.0
PSET				*eS*	Sg	06 03 59.8	-4.1
PSET				A		06 04 05.0	
	1μm,0.4s						
PSET	**Sete Cidades**	**1.11**	**308**	*eP*	Pg	06 03 45.6	-4.0
PSET				*eS*	Sg	06 03 59.8	-4.1
PSCM	**Serra do Cume**	**2.51**	**309**	*eP*	Pn	06 04 05.7	-4.7
PSCM				*eS*	Sn	06 04 34.0	-7.7
PSCM				A		06 04 38.3	
	259nm,0.3s						
PSCM	**Serra do Cume**	**2.51**	**309**	*eP*	Pn	06 04 05.7	-4.7
PSCM				*eS*	Sn	06 04 34.0	-7.7
ADH	**Angra Heroismo**	**2.56**	**307**	*eP*	Pn	06 04 06.6	-4.4
ADH				*eS*	Sn	06 04 35.6	-7.3
PID	**Ribeirinha**	**3.06**	**296**	*iP*	Pn	06 04 13.5	-4.4
PID				*eS*	Sn	06 04 47.0	-8.3
PMAN	**Manadas**	**3.12**	**299**	*eP*	Pn	06 04 14.3	-4.5
PMAN				*eS*	Sn	06 04 48.9	-7.9
PMAN				A		06 04 50.9	
	83nm,0.2s						
PMAN	**Manadas**	**3.12**	**299**	*eP*	Pn	06 04 14.3	-4.5
PMAN				*eS*	Sn	06 04 48.9	-7.9
ROSA	**Rosais**	**3.27**	**300**	*eP*	Pn	06 04 16.3	-4.5
ROSA				*eS*	Sn	06 04 52.4	-8.0
SRBC	**Serra Branca**	**3.30**	**306**	*eP*	Pn	06 04 16.2	-4.9
PICO	**Pico**	**3.31**	**295**	*eP*	Pn	06 04 17.5	-3.8
PICO				*eS*	Sn	06 04 52.9	-8.4
HOR	**Horta**	**3.46**	**295**	*eP*	Pn	06 04 19.3	-4.2
HOR				*eS*	Sn	06 04 56.6	-8.6
CALA	**Caldeira**	**3.54**	**295**	*iP*	Pn	06 04 20.1	-4.4
CALA				*eS*	Sn	06 04 59.0	-8.0
PMAR	**Madeira**	**7.71**	**123**	*ePn*	Pn	06 05 15.3	-6.5
PMAR				*eSn*	Sn	06 06 32.2	-18
PMAR				A		06 06 41.8	
	18nm,0.4s						
PMAR				*eT*		06 12 44.6	
PTEO	**Sao Teotonio**	**12.65**	**83**	*eS*	Sn	06 08 26.9	-24
MORF	**Marmelete**	**12.72**	**84**	*eS*	Sn	06 08 34.3	-19
PBEJ	**Beja**	**13.31**	**81**	*eS*	Sn	06 08 44.8	-22
PVAQ	**Vaqueiros**	**13.46**	**84**	*eS*	Sn	06 08 48.4	-22
PESTR	**Estremoz**	**13.53**	**78**	*eS*	Sn	06 08 50.5	-22
PCBR	**Castelo Branco**	**13.69**	**73**	*eS*	Sn	06 08 55.0	-21
MTE	**Manteigas**	**13.71**	**71**	*eS*	Sn	06 08 53.9	-23
PVRL	**Vila Real**	**13.73**	**67**	*eS*	Sn	06 08 55.3	-22
PBAR	**Barrancos**	**13.96**	**80**	*eS*	Sn	06 09 01.0	-22
MVO	**Moncorvo**	**14.22**	**68**	*eS*	Sn	06 09 04.9	-24
PBRG	**Braganca**	**14.56**	**66**	*eS*	Sn	06 09 13.3	-24

*ISCJB **09** 06:28:38.8±1.2, 1030N×006×6034W×008, h94km±10km, Error ellipse: s-maj=13.0km s-min=10.2km az=1.7*
*FUNV **09** 06:28:39.4, 1037N×6016W, h36km, MW4.0*
*TRN **09** 06:28:41.1, 1034N×6032W, h71km, MD3.3*
*NEIC **09** 06:28:41.1, 1034N×6032W, h71km, MD3.3(TRN), After TRN.*

ISC 09 06:28:40.1±1.2, 1030N±006×6034W±008, h84km±12km, n17, σ0°72/25, 2D, Trinidad

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TBH	**Brigand Hill**	**0.73**	**284**	*eP*	**Pn**	**06 28 56.9**	**+0.4**
TBH				*eS*	**Sn**	**06 29 08.5**	**-0.1**
TPR	**Prospect**	**0.98**	**334**	*eP*	**Pn**	**06 28 58.7**	**+0.6**
TPR				*eS*	**Sn**	**06 29 12.5**	**-0.8**
TPP	**Pointe-a-Pierr**	**1.09**	**271**	*eP*	**Pn**	**06 29 05.2**	**+4.7**
TRN	**Trinidad (W)**	**1.10**	**288**	*eP*	**Pn**	**06 29 01.0**	**+0.4**
TRN				*eS*	**Sn**	**06 29 15.4**	**-0.4**
TCE	**Chacachacare**	**1.44**	**286**	*eP*	**Pn**	**06 29 05.6**	**+0.8**
TCE				*eS*	**Sn**	**06 29 24.4**	**+0.9**
GUIV	**Guiria**	**1.88**	**281**	*eP*	**Pn**	**06 29 10.4**	**-0.1**
GUIV				*eS*	**Sn**	**06 29 32.8**	**-0.9**
GUNV	**Guanoco**	**2.56**	**267**	⇓*iP*	**Pn**	**06 29 20.9**	**+1.3**
GUNV				*eS*	**Sn**	**06 29 51.0**	**+1.1**
RIOV	**Rio Grande**	**2.65**	**213**	*eS*	**Sn**	**06 29 51.7**	**-0.5**
CRUV	**Carupano**	**2.87**	**278**	*eP*	**Pn**	**06 29 22.7**	**-1.0**
ITEV	**Isla Los Testi**	**2.93**	**291**	*eP*	**Pn**	**06 29 25.1**	**+0.5**
ITEV				*eS*	**Sn**	**06 29 57.7**	**-1.2**
ORIV	**Oritupano**	**3.26**	**248**	⇓*eP*	**Pn**	**06 29 30.2**	**+1.1**
ORIV				*eS*	**Sn**	**06 30 07.0**	**+0.1**
PCRV	**Puerto La Cruz**	**4.23**	**269**	*eP*	**Pn**	**06 29 41.5**	**-0.7**
IBAV	**Isla La Blanqu**	**4.42**	**290**	*eP*	**Pn**	**06 29 45.1**	**+0.2**
PRGV	**PARIAGUAN**	**4.51**	**251**	*eP*	**Pn**	**06 29 46.2**	**+0.1**
LUEV	**Luepa**	**4.57**	**194**	*eP*	**Pn**	**06 29 45.9**	**-0.9**
CAOV	**Caicara del Or**	**6.61**	**244**	*eP*	**Pn**	**06 30 14.6**	**-0.1**
BAUV	**El Baul**	**7.71**	**261**	*eP*	**Pn**	**06 30 29.1**	**-0.6**

IDC 09 06:38:07.7±4.4, 756S×15564E, h0km, mb3.7/4, mb1 3.8/4, mb1mx3.6/14, mbtmp3.7/4, Error ellipse: s-maj=129.5km s-min=30.3km az=114.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.04**	**237**	P	P	06 43 25.5	+0.8
	2.0nm,0.6s,baz=63,slow=9.6,SNR=10.0						
ASAR	**Alice Springs**	**26.30**	**230**	P	P	06 43 44.5	-0.7
	0.5nm,0.7s,baz=63,slow=8.8,SNR=7.4						
SONM	**Songino Array**	**70.15**	**327**	P	P	06 49 21.7	-0.4
	0.3nm,0.5s,baz=144,slow=7.1,SNR=3.1						
MKAR	**Makanchi Array**	**84.25**	**319**	P	P	06 50 42.4	+1.1
	0.6nm,0.6s,baz=101,slow=6.5,SNR=4.9						

*ISCJB **09** 06:49:15.3±1.4, 3729N×008×3440E×006, h7km, 8km, Error ellipse: s-maj=13.4km s-min=6.5km az=160.8*
*CSEM **09** 06:49:15.4±0.3, 3728N×3439E, h10km, MD2.7, Error ellipse: s-maj=8.4km s-min=4.3km az=163.0*
*ISK **09** 06:49:15.7, 3727N×3444E, h6km, MD2.7, ML2.5*

ISC 09 06:49:15.4±1.5, 3730N±008×3437E±006, h8km±8km, n10, σ0°42/14, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MERS	**Mersin**	**0.45**	**165**	*ePG*	**Pg**	**06 49 24.5**	**+0.4**
MERS				*eSG*	**Sg**	**06 49 30.0**	**0.0**
KARA	**Karaisali**	**0.54**	**94**	*ePG*	**Pg**	**06 49 25.6**	**-0.3**
KARA				*eSG*	**Sg**	**06 49 32.6**	**-0.5**
KRTS	**Karatas**	**1.08**	**132**	*ePG*	**Pg**	**06 49 36.3**	**+0.1**
CEYT	**Ceyhan**	**1.14**	**104**	*ePG*	**Pg**	**06 49 37.5**	**+0.3**
KOZT	**Kozan**	**1.17**	**81**	*ePN*	**Pn**	**06 49 38.0**	**0.0**
IKL	**Isikli**	**1.20**	**208**	*ePN*	**Pn**	**06 49 37.9**	**-0.5**
ERMK	**Ermenek**	**1.34**	**241**	*iP*	**Pn**	**06 49 41.2**	**+0.8**
ERMK	**Ermenek**	**1.34**	**241**	*iP*	**Pn**	**06 49 41.2**	**+0.7**
ERMK				*iS*	**Sb**	**06 49 57.6**	**-0.6**
COBT	**Iskenderun**	**1.70**	**117**	*iP*	**Pn**	**06 49 45.9**	**+0.5**
COBT	**Iskenderun**	**1.70**	**117**	*iP*	**Pn**	**06 49 45.9**	**+0.6**
COBT				*iS*	**Sn**	**06 50 07.1**	**-0.1**

IDC 09 06:50:57.3±1.6, 2114S×16870E, h36km±6km, mb3.8/4, mb1 4.0/4, mb1mx3.7/13, mbtmp3.8/4, MS3.1/1, Ms1 3.1/1, ms1mx2.6/19, Error ellipse: s-maj=81.8km s-min=23.3km az=151.0, Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**21.03**	**269**	LR	LR	07 02 40.0	
	comp=Z,50nm,18.2s,baz=229,slow=33						
STKA	**Stephens Creek**	**26.43**	**241**	P	P	06 56 31.6	+0.8
	1.3nm,0.8s,baz=105,slow=12,SNR=4.5						
ASAR	**Alice Springs**	**32.22**	**259**	P	P	06 57 21.6	-0.6
	3.3nm,0.7s,baz=85,slow=9.4,SNR=40						
ASAR				pP	pP	06 57 32.0	-0.5
	1.3nm,0.7s,baz=89,slow=8.8,SNR=6.8						
SONM	**Songino Array**	**88.43**	**323**	P	P	07 03 45.5	0.0
	0.8nm,0.8s,baz=131,slow=4.4,SNR=3.9						
NVAR	**Mina Array Bea**	**90.43**	**49**	P	P	07 03 55.0	-0.2
	0.2nm,0.5s,baz=270,slow=8.1,SNR=2.7						
NVAR				pP	pP	07 04 06.1	-0.3
	0.7nm,0.8s,baz=220,slow=8.2,SNR=4.3						
GERES	**GERESS Array B**	**145.90**	**330**	PKPbc	PKPbc	07 10 33.0	+0.2
	1.3nm,0.8s,baz=62,slow=3.5,SNR=11						
GERES				pPKPbc	pPKPbc	07 10 44.2	-0.1
	2.2nm,0.8s,baz=40,slow=2.3,SNR=11						

*ISCJB **09** 06:55:40.3±0.9, 477S±02×1030E±03, h10km, mb4.1/7, MS4.1/10, Error ellipse: s-maj=35.8km s-min=12.6km az=34.1*
*IDC **09** 06:55:40.5±1.1, 4772S×10308E, h0km, mb4.1/7, mb1 4.2/7, mb1mx4.0/14, mbtmp4.1/7, MS4.0/11, Ms1 4.0/11, ms1mx3.9/16, Error ellipse: s-maj=44.0km s-min=19.1km az=117.0*

ISC 09 06:55:42.1±0.9, 477S±02×1030E±03, h10km, n23, σ0°57/11, mb4.1/7, MS4.1/10, Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NWAO	**Narrogin (SRO)**	**18.31**	**41**	LR	LR	07 05 23.6	
	comp=Z,120nm,22.0s,baz=41,slow=32						
MAW	**Mawson**	**28.45**	**211**	LR	LR	07 09 55.6	
	comp=Z,150nm,20.7s,MS3.6,baz=231,slow=30						
STKA	**Stephens Creek**	**33.24**	**76**	*eP*	**P**	**07 02 19.4**	**+0.2**
	4.9nm,0.9s,mb4.4						
STKA	**Stephens Creek**	**33.24**	**76**	P	**P**	**07 02 18.0**	**-1.3**
	3.2nm,0.9s,mb4.2,baz=210,slow=10,SNR=5.4						
STKA				LR	LR	07 13 15.1	
	comp=Z,361nm,19.8s,MS4.1,baz=206,slow=32						
ASAR	**Alice Springs**	**34.37**	**57**	P	**P**	**07 02 29.1**	**-0.1**
	2.1nm,0.9s,mb4.1,baz=213,slow=8.6,SNR=11						
ASAR				PcP	PcP	07 05 04.5	-0.3
	0.5nm,0.7s,baz=210,slow=2.6,SNR=4.3						
VNDA	**Vanda**	**37.26**	**162**	P	**P**	**07 02 52.9**	**-0.4**
	2.7nm,0.9s,mb4.1,baz=287,slow=9.3,SNR=14						
VNDA				LR	LR	07 16 44.3	
	comp=Z,604nm,20.1s,MS4.4,baz=293,slow=34						
WRA	**Warramunga Arr**	**37.59**	**53**	P	**P**	**07 02 56.4**	**-0.3**
	5.5nm,0.9s,mb4.3,baz=216,slow=7.9,SNR=7.4						
WRA				LR	LR	07 16 43.4	
	comp=Z,294nm,20.0s,MS4.1,baz=220,slow=34						
WB2	**Warramunga Arr**	**37.60**	**53**	*eP*	**P**	**07 02 58.0**	**+1.2**
QSPA	**South Pole Qui**	**42.41**	**180**	P	**P**	**07 03 36.7**	**+0.6**
	3.8nm,0.9s,mb4.0,baz=88,slow=2.6,SNR=7.1						
RPZ	**Rata Peaks**	**46.32**	**112**	LR	LR	07 19 16.5	
	comp=Z,263nm,18.4s,MS4.2,baz=234,slow=31						
SNAA	**Sanae**	**50.09**	**202**	P	**P**	**07 04 36.6**	**+0.1**
	1.4nm,0.8s,mb4.0,baz=130,slow=9.1,SNR=7.9						
VNA2	**Neumayer--Watz**	**51.73**	**203**	*e*	**P**	**07 04 49.1**	**+0.2**
	baz=133,slow=6.7						
VNA2				*e*		07 04 54.2	
VNA2				*e*		07 04 58.3	
VNA2				*e*		07 05 02.9	
VNA3	**Neumayer Olymp**	**52.12**	**202**	*e*	**P**	**07 04 51.5**	**-0.3**
VNA3				*e*		07 04 57.0	
VNA3				*e*		07 05 01.1	
VNA3				*e*		07 05 05.7	
URZ	**Urewera**	**53.12**	**109**	LR	LR	07 22 39.2	
	comp=Z,128nm,21.3s,MS4.0,baz=207,slow=30						
KMBO	**Kilima Mbogo**	**73.02**	**289**	LR	LR	07 35 56.6	
	comp=Z,74nm,18.1s,MS4.0,baz=100,slow=33						
KSRS	**Korea Array**	**87.68**	**20**	LR	LR	07 47 30.5	
	comp=Z,32nm,18.2s,MS3.8,baz=220,slow=36						
PLCA	**Paso Flores**	**91.74**	**185**	LR	LR	07 46 39.1	
	comp=Z,218nm,19.2s,MS4.6,baz=173,slow=33						
SONM	**Songino Array**	**95.22**	**2**	P	**P**	**07 09 04.6**	**-0.5**
	0.4nm,0.8s,mb3.9,baz=151,slow=3.3,SNR=4.0						
MKAR	**Makanchi Array**	**95.85**	**346**	LR	LR	07 51 58.9	
	comp=Z,80nm,19.7s,MS4.2,baz=177,slow=35						
NVAR	**Mina Array Bea**	**148.78**	**92**	PKPbc	PKPbc	07 15 30.3	+1.1
	1.8nm,0.8s,baz=203,slow=3.5,SNR=13						
TXAR	**Lajitas Array**	**152.44**	**122**	PKPbc	PKPbc	07 15 39.2	+1.1
	1.0nm,0.9s,baz=207,slow=2.5,SNR=6.1						
YKA	**Yellowknife Ar**	**154.40**	**41**	PKPbc	PKPbc	07 15 40.9	-0.4
	0.6nm,0.7s,baz=290,slow=2.3,SNR=6.9						
PDAR	**Pinedale Array**	**156.68**	**90**	PKPab	PKPab	07 16 03.8	-2.4
	0.3nm,0.7s,baz=214,slow=0.7,SNR=3.3						

*ISCJB **09** 07:22:17.9±0.4, 3967N±003×2950E±004, h5km, Error ellipse: s-maj=4.6km s-min=3.9km az=4.8*
*CSEM **09** 07:22:17.2±0.1, 3965N×2947E, h5km, MD2.8, Error ellipse: s-maj=1.9km s-min=1.4km az=58.0*
*ISK **09** 07:22:17.8, 3967N×2952E, h9km, MD2.8*

ISC 09 07:22:18.5±0.5, 3967N±003×2949E±004, h9km±5km, n21, σ0°92/26, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GDZ	**Gediz**	**0.58**	**181**	*iP*	**Pg**	**07 22 28.6**	**-1.2**
GDZ	**Gediz**	**0.58**	**181**	*iP*	**Pg**	**07 22 28.6**	**-1.1**
GDZ				*iS*	**Sg**	**07 22 38.0**	**+0.7**
IZI	**Iznik**	**0.67**	**359**	*ePG*	**Pg**	**07 22 31.0**	**-0.4**
IZI				*eSG*	**Sg**	**07 22 40.4**	**+0.3**
DST	**Dursunbey**	**0.67**	**265**	*ePG*	**Pg**	**07 22 32.2**	**+0.8**
DST				*eSG*	**Sg**	**07 22 42.4**	**+2.3**
ALT	**Altintas**	**0.78**	**142**	*ePG*	**Pg**	**07 22 32.0**	**-1.5**
ADVT	**Abdulvahap**	**0.79**	**14**	*ePG*	**Pg**	**07 22 33.1**	**-0.5**
GPA	**Golpazari**	**0.88**	**45**	*ePG*	**Pg**	**07 22 35.2**	**-0.3**
YLV	**Yalova**	**0.90**	**354**	*ePG*	**Pg**	**07 22 35.7**	**-0.1**
KCT	**Karacabey**	**1.05**	**305**	*ePG*	**Pg**	**07 22 37.8**	**-1.0**
ESKT	**Eskisehir**	**1.06**	**98**	*ePG*	**Pg**	**07 22 38.2**	**-0.8**
ESKT	**Eskisehir**	**1.06**	**98**	*iP*	**Pg**	**07 22 39.1**	**+0.1**
SEYT	**Eskypehyr**	**1.06**	**98**	*iP*	**Pg**	**07 22 39.1**	**+0.2**
SEYT				*iS*	**Sg**	**07 22 55.3**	**+2.5**
GULT	**Gulveren**	**1.10**	**46**	*ePN*	**Pn**	**07 22 39.2**	**-0.8**
HRT	**Hereke**	**1.16**	**7**	*ePN*	**Pn**	**07 22 40.5**	**-0.4**
BALB	**Balikesir**	**1.24**	**269**	*ePN*	**Pn**	**07 22 41.6**	**-0.4**
KHL	**Karahalli**	**1.34**	**179**	*ePN*	**Pn**	**07 22 43.0**	**-0.5**
SHUT	**Suhut-Afyon**	**1.39**	**143**	*ePN*	**Pn**	**07 22 44.0**	**-0.1**
ISK	**Istanbul-Kandi**	**1.43**	**347**	*ePN*	**Pn**	**07 22 44.9**	**+0.2**
HENT	**Hendek**	**1.58**	**43**	*iP*	**Pn**	**07 22 47.8**	**+1.1**
HENT				*iS*	**Sn**	**07 23 08.0**	**+0.8**
KIZT	**Kizilcal**	**2.02**	**112**	*ePN*	**Pn**	**07 22 53.0**	**+0.2**
KDHN	**Kadinhani**	**2.34**	**118**	*iP*	**Pn**	**07 23 02.4**	**+5.2**

*CSEM **09** 07:47:20.1±1.0, 3737N×2491W, h10km, ML3.4, Error ellipse: s-maj=9.3km s-min=2.6km az=73.0, After PDA*
*PDA **09** 07:47:20.1±1.0, 3737N×2491W, h10km, MD3.9, ML3.4, Error ellipse: s-maj=9.3km s-min=2.6km az=73.0*

SVSA 09 07:47:20.1±1.0, 3737N×2491W, h10km, MD3.9, ML3.4, Error ellipse: s-maj=9.3km s-min=2.6km az=73.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSMN	**Pico do Norte,**	**0.39**	**199**	*eP*	Pg	07 47 26.4	-1.3
PSMN				*eS*	Sg	07 47 31.9	-0.9
PDA	**Ponta Delgada**	**0.71**	**302**	*eP*	Pg	07 47 31.1	-2.7
PDA				*eS*	Sg	07 47 40.3	-2.8
PSET	**Sete Cidades**	**0.79**	**305**	*eP*	Pg	07 47 32.1	-3.3
PSET				*eS*	Sg	07 47 41.9	-3.8
PSET				A		07 47 48.6	
	768nm,0.3s						
PSET	**Sete Cidades**	**0.79**	**305**	*eP*	Pg	07 47 32.1	-3.3
PSET				*eS*	Sg	07 47 41.9	-3.8
PSCM	**Serra do Cume**	**2.19**	**308**	*eP*	Pn	07 47 52.1	-4.5
PSCM				*eS*	Sn	07 48 15.9	-7.9
PSCM				A		07 48 19.4	
	121nm,0.3s						
PSCM	**Serra do Cume**	**2.19**	**308**	*eP*	Pn	07 47 52.1	-4.5
PSCM				*eS*	Sn	07 48 15.9	-7.9
ADH	**Angra Heroismo**	**2.24**	**306**	*eP*	Pn	07 47 52.9	-4.4
ADH				*eS*	Sn	07 48 16.9	-8.1
PID	**Ribeirinha**	**2.76**	**294**	*eP*	Pn	07 48 00.4	-4.0
PID				*eS*	Sn	07 48 30.1	-7.6
PMAN	**Manadas**	**2.81**	**298**	*eS*	Sn	07 48 31.4	-7.7
PMAN				A		07 48 36.9	
	36nm,0.2s						
ROSA	**Rosais**	**2.96**	**298**	*eP*	Pn	07 48 03.1	-4.0
ROSA				*eS*	Sn	07 48 34.4	-8.3
SRBC	**Serra Branca**	**2.98**	**305**	*eP*	Pn	07 48 03.6	-3.8
PICO	**Pico**	**3.00**	**293**	*eP*	Pn	07 48 03.7	-4.0
PICO				*eS*	Sn	07 48 35.5	-8.3
CALA	**Caldeira**	**3.23**	**293**	*eP*	Pn	07 48 06.9	-4.0

NEIC 09 08:06:00.7, 3864S×17565E, h156km, MG3.9(WEL), After WEL., North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWVZ	**Taurewa**	**0.46**	**201**	P	Pn	08 06 22.9	+0.4
WTVZ	**West Tongariro**	**0.48**	**186**	P	Pn	08 06 23.1	+0.5
WTVZ				S	Sn	08 06 36.5	-2.9
NGZ	**Ngauruhoe**	**0.54**	**184**	P	Pn	08 06 23.4	+0.5
WPVZ	**Whakapapa**	**0.57**	**188**	P	Pn	08 06 23.4	+0.4
FWVZ	**Far West T-bar**	**0.62**	**187**	P	Pn	08 06 23.9	+0.6
FWVZ				S	Sn	08 06 37.7	-3.0
TUVZ	**Tukino**	**0.63**	**180**	P	Pn	08 06 24.0	+0.6
WNVZ	**Wahianoa**	**0.69**	**183**	P	Pn	08 06 24.3	+0.6
MOVZ	**Moawhango**	**0.77**	**174**	P	Pn	08 06 24.4	+0.1
BKZ	**Black Stump Fm**	**0.84**	**129**	P	Pn	08 06 24.8	0.0
URZ	**Urewera**	**1.21**	**72**	P	Pn	08 06 26.1	-1.7
WAZ	**Wanganui**	**1.23**	**205**	P	Pn	08 06 28.0	0.0
NEZ	**North Egmont**	**1.37**	**242**	P	Pn	08 06 29.2	-0.1
PKE	**Pukeiti**	**1.41**	**246**	P	Pn	08 06 29.3	-0.4
TSZ	**Takapari Road**	**1.44**	**170**	*eP*	Pn	08 06 29.8	-0.2
MWZ	**Matawai**	**1.50**	**79**	*eP*	Pn	08 06 29.3	-1.4
NWEZ	**Newall Road**	**1.53**	**245**	P	Pn	08 06 30.4	-0.5
MRZ	**Mangatainoka R**	**2.02**	**182**	P	Pn	08 06 34.8	-1.5
BFZ	**Birch Farm**	**2.09**	**167**	*eP*	Pn	08 06 35.8	-1.4
PUZ	**Puketiti**	**2.13**	**75**	*eP*	Pn	08 06 35.0	-2.6
**K

s-min=62.6km az=109.0, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NWAO	**Narrogin (SRO)**	**16.85**	**338**	LR	LR	08 39 35.1	
	comp=Z,160nm,21.9s,baz=192,slow=31						
STKA	**Stephens Creek**	**21.19**	**43**	P	P	08 35 47.3	+0.4
	5.8nm,0.9s,baz=207,slow=14,SNR=11						
ASAR	**Alice Springs**	**26.15**	**19**	P	P	08 36 36.1	+0.4
	3.7nm,0.9s,baz=189,slow=9.6,SNR=22						
WRA	**Warramunga Arr**	**29.85**	**18**	P	P	08 37 08.4	-0.4
	1.3nm,1.2s,baz=202,slow=8.7,SNR=3.9						
CTA	**Charters Tower**	**33.50**	**39**	LR	LR	08 50 27.1	
	comp=Z,133nm,20.9s,baz=206,slow=35						
BATI	**Kupang**	**38.51**	**358**	LR	LR	08 54 50.5	
	comp=Z,260nm,18.5s,baz=177,slow=37						
YKA	**Yellowknife Ar**	**145.22**	**44**	PKPbc	PKPbc	08 50 37.0	-0.8
	3.2nm,0.9s,baz=271,slow=3.2,SNR=33						

CRAAG ***09*** *08:32:19.7, 3706N×2455W, Mb5.0*

IDC ***09*** *08:32:21.8±0.4, 3729N×2456W, h0km, mb4.5/26, mb1 4.5/27, mb1mx4.5/27, mbtmp4.5/27, ML4.0/1, MS4.3/30, Ms1 4.3/30, ms1mx4.2/34, Error ellipse: s-maj=12.9km s-min=11.1km az=161.0*

ISCJB ***09*** *08:32:21.5±0.1, 3708N±003×2452W±002, h10km, mb4.9/170, MS4.4/67, Error ellipse: s-maj=4.6km s-min=1.8km az=178.0*

CSEM ***09*** *08:32:22.4±0.0, 3729N×2456W, h13km, mb5.0/99, Ms4.1, Mw5.0, Error ellipse: s-maj=2.4km s-min=0.9km az=172.0*

NEIC ***09*** *08:32:23.5±0.1, 37.11N×2451W, h10km, mb5.0/133, Error ellipse: s-maj=4.4km s-min=2.2km az=176.0*

GCMT ***09*** *08:32:23.5±0.2, 3748N×2450W, h12km, MW5.1/80, Moment Tensor Solution. s41,c55; s80,c136; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}~3.65±.09; $M_{\theta\theta}$0.31±.09; $M_{\phi\phi}$3.34±.08; $M_{r\theta}$2.50±.31; $M_{\theta\phi}$-1.80±.07; $M_{\phi r}$-0.88±.27; Best double couple: $M_0$4.74400×10^{16} NP1:ϕ_s176.00000°, δ37.00000°, λ-52.00000°. NP2: ϕ_s312.00000°, δ62.00000°, λ-114.00000°. Principal axes: T 4.6300, Plg14.0000°, Azm60.0000°; N 0.2320, Plg21.0000°, Azm324.0000°; P -4.8580, Plg64.0000°, Azm180.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

BJI ***09*** *08:32:23.4, 37.10N×2450W, h10km, mB5.4, mb5.2, Ms5.1, Msz4.8*

SFS ***09*** *08:32:24.0, 3720N×2450W, h10km, ML5.1*

MOS ***09*** *08:32:25.8±1.1, 3735N×2458W, h33km, mb5.2/68, MS4.4/22, Error ellipse: s-maj=7.5km s-min=3.1km az=139.5*

SVSA ***09*** *08:32:25.3±1.1, 37.19N×2474W, h0km, MD4.1, ML4.9, Error ellipse: s-maj=9.1km s-min=4.7km az=64.0*

PDA ***09*** *08:32:25.3±1.1, 37.19N×2474W, h0km, MD4.1, ML4.9, Error ellipse: s-maj=9.1km s-min=4.7km az=64.0*

SZGRF ***09*** *08:32:31.5, 3702N×2351W, h33km, mb5.0, MS4.1, Azores Islands region*

ISC 09 08:32:23.6±0.1, 3713N±003×2450W±002, h10km, (h14km±1.0km: pP-P), n922, σ0.9 97/1017, mb4.9/169, MS4.4/67, 87C-88D, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSMN	**Pico do Norte,**	**0.47**	**255**	*eP*	**Pg**	**08 32 31.3**	**-1.4**
PDA	**Ponta Delgada**	**1.11**	**304**	*eP*	**Pb**	**08 32 40.0**	**-4.9**
PSET	**Sete Cidades**	**1.19**	**306**	*eP*	**Pn**	**08 32 41.0**	**-5.3**
PSET				*eS*	**Sb**	**08 32 53.7**	**-8.0**
PSCM	**Serra do Cume**	**2.60**	**308**	*eP*	**Pn**	**08 33 01.0**	**-4.6**
PSCM				*eS*	**Sn**	**08 33 28.6**	**-8.6**
PSCM				A		08 33 33.8	
	4μm,0.3s						
PSCM	**Serra do Cume**	**2.60**	**308**	*eP*	**Pn**	**08 33 01.0**	**-4.6**
PSCM				*eS*	**Sn**	**08 33 28.6**	**-8.6**
ADH	**Angra Heroismo**	**2.65**	**306**	*eP*	**Pn**	**08 33 02.0**	**-4.3**
ADH				*eS*	**Sn**	**08 33 29.4**	**-9.0**
PID	**Ribeirinha**	**3.15**	**296**	*eP*	**Pn**	**08 33 09.1**	**-4.2**
PID				*eS*	**Sn**	**08 33 41.4**	**-9.5**
PMAN	**Manadas**	**3.21**	**299**	*eP*	**Pn**	**08 33 09.6**	**-4.5**
PMAN				*eS*	**Sn**	**08 33 42.5**	**-10**
PMAN				A		08 33 45.5	
	445nm,0.2s						
ROSA	**Rosais**	**3.36**	**299**	*eP*	**Pn**	**08 33 11.9**	**-4.2**
ROSA				*eS*	**Sn**	**08 33 46.9**	**-9.1**
SRBC	**Serra Branca**	**3.38**	**305**	*eP*	**Pn**	**08 33 12.3**	**-4.1**
SRBC				*eS*	**Sn**	**08 33 47.4**	**-9.1**
PICO	**Pico**	**3.40**	**295**	*eP*	**Pn**	**08 33 12.9**	**-3.7**
PICO				*eS*	**Sn**	**08 33 46.9**	**-10**
HOR	**Horta**	**3.55**	**294**	*eP*	**Pn**	**08 33 14.8**	**-4.0**
HOR				*eS*	**Sn**	**08 33 51.3**	**-10**
CALA	**Caldeira**	**3.63**	**295**	*eP*	**Pn**	**08 33 15.6**	**-4.2**
CALA				*eS*	**Sn**	**08 33 53.3**	**-9.3**
PMAR	**Madeira**	**7.62**	**123**	*e*Pn	**Pn**	**08 34 14.5**	**-0.2**
PMAR				*e*Sn	**Sn**	**08 35 30.3**	**-11**
PMAR				A		08 35 42.2	
	444nm,0.4s						
PMAR				*e*T		08 41 38.0	
PMPS	**Porto Santo**	**7.83**	**119**	*e*Pn	**Pn**	**08 34 16.3**	**-1.3**
PMPS				*e*Sn	**Sn**	**08 35 34.6**	**-12**
PMPS				A		08 35 45.3	
	84nm,0.1s						
PMPS				*e*T		08 41 57.6	
EHIG	**Higuera**	**10.23**	**145**	⇑P	**Pn**	**08 34 49.7**	**-0.8**
	490nm,0.5s						
EHIG				S	**Sn**	**08 36 35.2**	**-10**
EHIG	**Higuera**	**10.23**	**145**	⇑P	**Pn**	**08 34 49.7**	**-0.8**
	490nm,0.5s						
EHIG				S	**Sn**	**08 36 35.2**	**-10**
EGOM	**La Gomera**	**10.85**	**143**	⇓P	**Pn**	**08 34 57.0**	**-1.9**
	162nm,0.3s						
EGOM				S	**Sn**	**08 36 46.9**	**-13**
EGOM	**La Gomera**	**10.85**	**143**	⇓P	**Pn**	**08 34 57.0**	**-1.9**
	162nm,0.3s						
EGOM				S	**Sn**	**08 36 46.9**	**-13**
EBAJ	**Bajamar**	**10.97**	**139**	P	**Pn**	**08 34 59.1**	**-1.5**
	34nm,0.3s						
EBAJ				S	**Sn**	**08 36 51.5**	**-12**
EBAJ	**Bajamar**	**10.97**	**139**	P	**Pn**	**08 34 59.1**	**-1.5**
	34nm,0.3s						
EBAJ				S	**Sn**	**08 36 51.5**	**-12**
CCAN	**Las Canadas**	**11.09**	**141**	⇑P	**Pn**	**08 35 00.9**	**-1.4**
	52nm,0.5s						
CCAN				S	**Sn**	**08 36 56.1**	**-10**
CCAN	**Las Canadas**	**11.09**	**141**	⇑P	**Pn**	**08 35 00.9**	**-1.4**
	52nm,0.5s						
CCAN				S	**Sn**	**08 36 56.1**	**-10**
EOSO	**Osorio**	**11.76**	**138**	P	**Pn**	**08 35 09.7**	**-1.8**
	52nm,0.6s						
EOSO				S	**Sn**	**08 37 07.9**	**-15**
EOSO	**Osorio**	**11.76**	**138**	P	**Pn**	**08 35 09.6**	**-1.8**
	52nm,0.6s						
EOSO				S	**Sn**	**08 37 07.9**	**-15**
PMAFR	**Mafra**	**12.14**	**77**	*e*P	**Pn**	**08 35 15.1**	**-1.5**
PMAFR				A		08 35 25.4	
	68nm,1.3s						
PMAFR				*e*S	**Sn**	**08 37 18.2**	**-14**
PMAFR				A		08 39 13.8	
	1μm,20.7s						
PMAFR				*e*T		08 47 00.3	
EFAM	**Famara**	**12.17**	**128**	P	**Pn**	**08 35 17.2**	**+0.2**
	9.1nm,0.2s						
EFAM				S	**Sn**	**08 37 20.0**	**-13**
EFAM	**Famara**	**12.17**	**128**	P	**Pn**	**08 35 17.2**	**+0.2**
	9.1nm,0.2s						
EFAM				S	**Sn**	**08 37 20.0**	**-13**
CFTV	**Fuerteventura**	**12.34**	**132**	P	**Pn**	**08 35 18.1**	**-1.2**
	6.0nm,0.2s						
CFTV				S	**Sn**	**08 37 23.0**	**-14**
CFTV	**Fuerteventura**	**12.34**	**132**	P	**Pn**	**08 35 18.1**	**-1.2**
	6.0nm,0.2s						
CFTV				S	**Sn**	**08 37 23.0**	**-14**
PFVI	**Vila Bisbo**	**12.51**	**85**	*e*P	**Pn**	**08 35 17.8**	**-3.9**
PFVI				A		08 35 31.1	
	74nm,1.5s						
PFVI				*e*S	**Sn**	**08 37 25.7**	**-15**
PFVI				A		08 39 15.4	
	1μm,20.9s						
PFVI				*e*T		08 47 37.2	
PTEO	**Sao Teotonio**	**12.57**	**83**	*e*P	**Pn**	**08 35 20.1**	**-2.3**
PTEO				A		08 35 28.8	
	54nm,1.5s						
PTEO				*e*S	**Sn**	**08 37 26.4**	**-16**
PTEO				A		08 39 14.2	
	983nm,19.1s						
PTEO				*e*T		08 47 16.8	
MORF	**Marmelete**	**12.64**	**84**	*e*P	**Pn**	**08 35 17.1**	**-6.3**
MORF				A		08 35 28.4	
	53nm,1.7s						
MORF				*e*S	**Sn**	**08 37 28.4**	**-16**
MORF				A		08 39 29.5	
	1μm,19.7s						
MORF				*e*T		08 47 28.6	
MOE	**Montemor**	**12.85**	**79**	*e*S	**Sn**	**08 37 34.5**	**-15**
MOE				*e*T		08 47 01.4	
EVOP	**Sao Brissos**	**13.03**	**79**	*e*Pn	**Pn**	**08 35 22.1**	**-6.6**
EVOP				*e*Sn	**Sn**	**08 37 35.7**	**-18**
	44nm,0.4s						
EVO	**Evora**	**13.11**	**79**	*e*Pn	**Pn**	**08 35 22.1**	**-7.8**
EVO				*e*Sn	**Sn**	**08 37 35.7**	**-20**
	88nm,0.4s						
EVO				*e*MLR	MLR		
	comp=Z,3μm,23.0s						
PBDV	**Barranco-do-Ve**	**13.22**	**85**	*e*P	**Pn**	**08 35 30.4**	**-0.9**
PBDV				*e*S	**Sn**	**08 37 43.7**	**-15**
PBDV				A		08 39 36.7	
	comp=Z,2μm,19.5s						
PBDV				*e*T		08 47 40.8	
PBEJ	**Beja**	**13.23**	**81**	*e*P	**Pn**	**08 35 26.4**	**-5.1**
PBEJ				A		08 35 39.8	
	comp=Z,31nm,1.5s						
PBEJ				*e*S	**Sn**	**08 37 42.7**	**-16**
PBEJ				A		08 40 12.4	
	comp=Z,695nm,17.7s						
PBEJ				*e*T		08 47 26.9	
EMAZ	**Mazaricos**	**13.23**	**59**	P	**Pn**	**08 35 25.0**	**-6.5**
	comp=Z,95nm,1.0s						
EMAZ				S	**Sn**	**08 37 39.7**	**-19**
EMAZ	**Mazaricos**	**13.23**	**59**	P	**Pn**	**08 35 25.0**	**-6.5**
	comp=Z,95nm,1.0s						
EMAZ				S	**Sn**	**08 37 39.7**	**-19**
PVAQ	**Vaqueiros**	**13.38**	**84**	*e*P	**Pn**	**08 35 32.7**	**-0.8**
PVAQ				A		08 35 57.2	
	comp=Z,40nm,1.6s						
PVAQ				*e*S	**Sn**	**08 37 46.3**	**-16**
PVAQ				A		08 39 51.7	
	comp=Z,2μm,19.8s						
PVAQ				*e*T		08 47 33.0	
PVIS	**Viseu**	**13.42**	**69**	*e*P	**Pn**	**08 35 29.7**	**-4.3**
PVIS				A		08 35 36.1	
	comp=Z,38nm,2.1s						
PVIS				*e*S	**Sn**	**08 37 45.6**	**-18**
PVIS				A		08 40 27.3	
	comp=Z,1μm,18.7s						
PVIS				*e*T		08 47 33.7	
PESTR	**Estremoz**	**13.45**	**77**	*e*P	**Pn**	**08 35 29.6**	**-4.9**
PESTR				A		08 35 42.9	
	comp=Z,37nm,1.4s						
PESTR				*e*S	**Sn**	**08 37 47.5**	**-17**
PESTR				A		08 39 52.4	
	comp=Z,1μm,21.3s						
PESTR				*e*T		08 47 29.1	
STS	**Santiago**	**13.51**	**60**	P	**Pn**	**08 35 27.6**	**-7.6**
	comp=Z,51nm,0.7s						
STS				S	**Sn**	**08 37 46.3**	**-19**
STS	**Santiago**	**13.51**	**60**	P	**Pn**	**08 35 27.6**	**-7.6**
STS				pmax	pmax		
	comp=Z,51nm,0.7s						
STS	**Santiago**	**13.51**	**60**	P	**Pn**	**08 35 27.6**	**-7.6**
	comp=Z,51nm,0.7s						
STS				S	**Sn**	**08 37 46.3**	**-19**
PCAB	**Cabril**	**13.53**	**65**	*e*P	**Pn**	**08 35 28.5**	**-7.0**
PCAB				A		08 35 31.2	
	comp=Z,54nm,1.0s						
PCAB				*e*S	**Sn**	**08 37 47.9**	**-18**
PCAB				A		08 40 09.0	
	comp=Z,1μm,20.0s						
PCAB				*e*T		08 47 47.5	
ELOB	**Lobios**	**13.55**	**64**	⇓P	**Pn**	**08 35 28.3**	**-7.5**
	comp=Z,89nm,1.0s						
ELOB				S	**Sn**	**08 37 47.8**	**-18**
ELOB	**Lobios**	**13.55**	**64**	⇓P	**Pn**	**08 35 28.3**	**-7.5**
	comp=Z,89nm,1.0s						
ELOB				S	**Sn**	**08 37 47.8**	**-18**
EGRO	**El Granado**	**13.55**	**83**	P	**Pn**	**08 35 32.3**	**-3.6**
	comp=Z,27nm,1.0s						
EGRO				S	**Sn**	**08 37 48.4**	**-18**
EGRO	**El Granado**	**13.55**	**83**	P	**Pn**	**08 35 32.3**	**-3.6**
	comp=Z,27nm,1.0s						
EGRO				S	**Sn**	**08 37 48.4**	**-18**
PCBR	**Castelo Branco**	**13.61**	**73**	*e*P	**Pn**	**08 35 31.3**	**-5.3**
PCBR				A		08 35 41.0	
	comp=Z,36nm,1.8s						
PCBR				*e*S	**Sn**	**08 37 52.7**	**-15**
PCBR				A		08 40 16.5	
	comp=Z,1μm,19.6s						
PCBR				*e*T		08 47 36.8	
MTE	**Manteigas**	**13.63**	**71**	*e*P	**Pn**	**08 35 31.8**	**-5.1**
MTE				A		08 35 34.5	
	comp=Z,20nm,1.0s						
MTE				*e*S	**Sn**	**08 37 52.1**	**-16**
MTE				A		08 40 19.5	
	comp=Z,2μm,19.6s						
MTE				*e*T		08 47 36.4	
MTE	**Manteigas**	**13.63**	**71**	*e*Pn	**Pn**	**08 35 31.8**	**-5.1**
PVRL	**Vila Real**	**13.66**	**67**	*e*P	**Pn**	**08 35 30.9**	**-6.4**
PVRL				A		08 35 50.8	
	comp=Z,70nm,1.4s						
PVRL				*e*S	**Sn**	**08 37 51.8**	**-17**
PVRL				A		08 40 24.1	
	comp=Z,1μm,18.7s						
PVRL				*e*T		08 47 50.0	
PBAR	**Barrancos**	**13.88**	**80**	*e*P	**Pn**	**08 35 37.6**	**-2.7**
PBAR				A		08 35 50.6	
	comp=Z,28nm,1.2s						
PBAR				*e*S	**Sn**	**08 37 58.2**	**-16**
PBAR				A		08 40 17.3	
	comp=Z,1μm,19.6s						
PBAR				*e*T		08 47 24.5	
EBAD	**Badajoz**	**13.90**	**78**	P	**Pn**	**08 35 35.6**	**-5.1**
	comp=Z,49nm,1.4s						
EBAD				S	**Sn**	**08 37 56.9**	**-18**
EBAD	**Badajoz**	**13.90**	**78**	P	**Pn**	**08 35 35.6**	**-5.0**
	comp=Z,49nm,1.4s						
EBAD				S	**Sn**	**08 37 56.9**	**-18**
MVO	**Moncorvo**	**14.14**	**68**	*e*P	**Pn**	**08 35 37.7**	**-6.2**
MVO				A		08 35 49.3	
	comp=Z,63nm,1.2s						
MVO				*e*S	**Sn**	**08 38 02.5**	**-18**
MVO				A		08 40 23.1	
	comp=Z,2μm,19.6s						
MVO				*e*T		08 48 02.2	
EMIN	**Mina Concepcio**	**14.18**	**82**	P	**Pn**	**08 35 39.1**	**-5.4**
	comp=Z,135nm,2.5s						
EMIN				S	**Sn**	**08 38 05.0**	**-17**
EMIN	**Mina Concepcio**	**14.18**	**82**	P	**Pn**	**08 35 39.1**	**-5.4**
	comp=Z,135nm,2.5s						
EMIN				S	**Sn**	**08 38 05.0**	**-17**
PBRG	**Braganca**	**14.49**	**66**	*e*P	**Pn**	**08 35 41.3**	**-7.3**
PBRG				A		08 35 58.4	
	comp=Z,57nm,1.6s						
PBRG				*e*S	**Sn**	**08 38 10.5**	**-19**
PBRG				A		08 40 50.1	
	comp=Z,960nm,19.0s						
PBRG				*e*T		08 48 35.5	
ECAL	**Calabor**	**14.52**	**65**	P	**Pn**	**08 35 41.6**	**-7.4**
	comp=Z,84nm,1.2s						
ECAL				S	**Sn**	**08 38 09.2**	**-21**
ECAL	**Calabor**	**14.52**	**65**	P	**Pn**	**08 35 41.6**	**-7.5**
	comp=Z,84nm,1.2s						
ECAL				S	**Sn**	**08 38 09.2**	**-21**
EPON	**Pontenova**	**14.62**	**60**	P	**Pn**	**08 35 43.5**	**-6.9**
	comp=Z,276nm,1.3s						
EPON				S	**Sn**	**08 38 13.7**	**-19**
EPON	**Pontenova**	**14.62**	**60**	P	**Pn**	**08 35 43.5**	**-6.9**
	comp=Z,276nm,1.3s						
EPON				S	**Sn**	**08 38 13.7**	**-19**
SFS	**San Fernando**	**14.68**	**87**	*i* P	**Pn**	**08 35 54.1**	**+2.9**
SFS				*i* S	**Sn**	**08 38 44.9**	**+11**
ESPR	**Espera**	**14.91**	**85**	P	**Pn**	**08 35 49.6**	**-4.7**
	comp=Z,166nm,1.7s						
ESPR				S	**Sn**	**08 38 22.9**	**-17**
ESPR	**Espera**	**14.91**	**85**	P	**Pn**	**08 35 49.6**	**-4.7**
	comp=Z,166nm,1.7s						
ESPR				S	**Sn**	**08 38 22.9**	**-17**
ECAB	**El Cabril**	**15.16**	**81**	P	**Pn**	**08 35 54.3**	**-3.4**
	comp=Z,111nm,2.1s						
ECAB				S	**Sn**	**08 38 27.9**	**-18**
ECAB	**El Cabril**	**15.16**	**81**	P	**Pn**	**08 35 54.3**	**-3.4**
	comp=Z,111nm,2.1s						
ECAB				S	**Sn**	**08 38 27.9**	**-18**
EADA	**Adamuz**	**15.82**	**80**	P	**Pn**	**08 36 01.6**	**-4.8**
	comp=Z,28nm,1.3s						
EADA				S	**Sn**	**08 38 43.0**	**-19**
EADA	**Adamuz**	**15.82**	**80**	P	**Pn**	**08 36 01.6**	**-4.7**
	comp=Z,28nm,1.3s						
EADA				S	**Sn**	**08 38 43.0**	**-19**
EARI	**Arriondas**	**15.96**	**61**	P	**Pn**	**08 36 03.2**	**-4.9**
	comp=Z,257nm,1.4s						
EARI				S	**Sn**	**08 38 48.7**	**-16**
EARI	**Arriondas**	**15.96**	**61**	P	**Pn**	**08 36 03.2**	**-4.9**
	comp=Z,257nm,1.4s						
EARI				S	**Sn**	**08 38 48.7**	**-16**
PAB	**San Pablo**	**16.00**	**75**	*e*Pn	**Pn**	**08 36 02.8**	**-5.9**
	comp=Z,19nm,1.1s						
PAB	**San Pablo**	**16.00**	**75**	*e*P	**Pn**	**08 36 02.8**	**-5.8**
PAB				pmax	pmax		
	comp=Z,19nm,1.1s						
PAB	**San Pablo**	**16.00**	**75**	*e*Pn	**Pn**	**08 36 02.8**	**-5.8**
	comp=Z,19nm,1.1s						
EMAL	**Malaga-Limoner**	**16.06**	**85**	*i* P	**Pn**	**08 36 08.6**	**-0.8**
EMAL				*i* S	**Sn**	**08 39 20.7**	**+13**
GUD	**Guadarrama**	**16.23**	**71**	P	**Pn**	**08 36 06.9**	**-4.7**
	comp=Z,49nm,1.4s						
GUD				S	**Sn**	**08 38 53.0**	**-19**
GUD	**Guadarrama**	**16.23**	**71**	P	**Pn**	**08 36 06.9**	**-4.7**
GUD				pmax	pmax		
	comp=Z,49nm,1.4s						
GUD	**Guadarrama**	**16.23**	**71**	P	**Pn**	**08 36 06.9**	**-4.7**
	comp=Z,49nm,1.4s						
GUD				S	**Sn**	**08 38 53.0**	**-19**
ELOJ	**Sierra Loja**	**16.23**	**84**	P	**Pn**	**08 36 07.7**	**-4.0**
	comp=Z,56nm,1.4s						
ELOJ				S	**Sn**	**08 38 56.8**	**-15**
ELOJ	**Sierra Loja**	**16.23**	**84**	P	**Pn**	**08 36 07.7**	**-4.0**
ELOJ				pmax	pmax		
	comp=Z,56nm,1.4s						
ELOJ	**Sierra Loja**	**16.23**	**84**	P	**Pn**	**08 36 07.7**	**-4.0**
	comp=Z,56nm,1.4s						
ELOJ				S	**Sn**	**08 38 56.8**	**-15**
ESDC	**Sonseca Array**	**16.30**	**75**	P	**Pn**	**08 36 07.6**	**-5.0**
	comp=Z,29nm,1.1s						
ESDC				S	**Sn**	**08 38 56.3**	**-17**
ESDC	**Sonseca Array**	**16.30**	**75**	Pn	**Pn**	**08 36 07.8**	**-4.7**
	comp=Z,1.5nm,0.3s,baz=272,slow=13,SNR=15						
ESDC				Sn	**Sn**	**08 38 56.9**	**-16**
	comp=Z,2.6nm,0.3s,baz=270,slow=23,SNR=7.7						
ESDC				LR	LR	08 41 36.7	
	comp=Z,902nm,19.2s,baz=270,slow=34						
ESDC	**Sonseca Array**	**16.30**	**75**	P	**Pn**	**08 36 07.6**	**-4.9**
	comp=Z,29nm,1.1s						
ESDC				S	**Sn**	**08 38 56.3**	**-17**
ESLA	**Sonseca Array**	**16.30**	**75**	*e*Pn	**Pn**	**08 36 08.3**	**-4.2**
ESLA	**Sonseca Array**	**16.30**	**75**	*e*Pn	**Pn**	**08 36 08.3**	**-4.2**
CZD	**Col de Zad**	**16.44**	**99**	*i* P	**Pn**	**08 36 16.0**	**+1.6**
EBAN	**Banos Encina**	**16.44**	**80**	P	**Pn**	**08 36 10.3**	**-4.1**
	comp=Z,9.8nm,1.0s						
EBAN				S	**Sn**	**08 38 57.4**	**-19**
EBAN	**Banos Encina**	**16.44**	**80**	P	**Pn**	**08 36 10.3**	**-4.1**
EBAN				pmax	pmax		
	comp=Z,10.0nm,1.0s						
EBAN	**Banos Encina**	**16.44**	**80**	P	**Pn**	**08 36 10.3**	**-4.1**
	comp=Z,9.8nm,1.0s						
EBAN				S	**Sn**	**08 38 57.4**	**-19**
ERON	**Agron**	**16.52**	**84**	P	**Pn**	**08 36 12.3**	**-3.0**
	comp=Z,15nm,1.3s						
ERON	**Agron**	**16.52**	**84**	P	**Pn**	**08 36 12.3**	**-3.1**
	comp=Z,15nm,1.3s						
ECOG	**Cogollos-Vega**	**16.68**	**83**	P	**Pn**	**08 36 13.2**	**-4.2**
	comp=Z,12nm,0.9s						
ECOG				S	**Sn**	**08 39 04.9**	**-18**
ECOG	**Cogollos-Vega**	**16.68**	**83**	P	**Pn**	**08 36 13.2**	**-4.2**
ECOG				pmax	pmax		
	comp=Z,12nm,0.9s						
ECOG	**Cogollos-Vega**	**16.68**	**83**	P	**Pn**	**08 36 13.2**	**-4.2**
	comp=Z,12nm,0.9s						
ECOG				S	**Sn**	**08 39 04.9**	**-18**
MDT	**Midelt**	**16.86**	**99**	Pn	**Pn**	**08 36 19.7**	**+0.1**
	comp=Z,0.5nm,0.3s,baz=291,slow=13,SNR=13						
MDT				Sn	**Sn**	**08 39 11.0**	**-16**
	comp=Z,1.8nm,0.3s,baz=19,slow=22,SNR=9.4						
MDT				LR	LR	08 41 49.7	
	comp=Z,681nm,18.1s,baz=296,slow=34						
MDT	**Midelt**	**16.86**	**99**	Pn	**Pn**	**08 36 19.7**	**+0.1**
MDT				Sn	**Sn**	**08 39 11.0**	**-16**
EQES	**Quesada**	**17.03**	**81**	P	**Pn**	**08 36 18.5**	**-3.3**
	comp=Z,375nm,2.8s						
EQES				S	**Sn**	**08 39 13.3**	**-18**
EQES	**Quesada**	**17.03**	**81**	P	**Pn**	**08 36 18.5**	**-3.3**
	comp=Z,375nm,2.8s						
EQES				S	**Sn**	**08 39 13.3**	**-18**
ELAN	**Lanestosa**	**17.20**	**63**	P	**Pn**	**08 36 19.0**	**-4.8**
	comp=Z,496nm,2.2s						
ELAN				S	**Sn**	**08 39 18.0**	**-17**
ELAN	**Lanestosa**	**17.20**	**63**	P	**Pn**	**08 36 19.0**	**-4.8**
	comp=Z,496nm,2.2s						
ELAN				S	**Sn**	**08 39 18.0**	**-17**
EBER	**Berja**	**17.26**	**84**	P	**Pn**	**08 36 21.8**	**-2.9**
	comp=Z,258nm,1.9s						
EBER				S	**Sn**	**08 39 18.5**	**-18**
EBER	**Berja**	**17.26**	**84**	P	**Pn**	**08 36 21.8**	**-2.9**
	comp=Z,258nm,1.9s						
EBER				S	**Sn**	**08 39 18.5**	**-18**
ZFT	**Errachidia**	**17.35**	**101**	*i* P	**Pn**	**08 36 30.0**	**+4.2**
EVIA	**Vianos**	**17.43**	**78**	P	**Pn**	**08 36 24.7**	**-2.1**
	comp=Z,32nm,1.0s						
EVIA				S	**Sn**	**08 39 20.6**	**-20**
EVIA	**Vianos**	**17.43**	**78**	P	**Pn**	**08 36 24.7**	**-2.1**
EVIA				pmax	pmax		
	comp=Z,33nm,1.0s						
EVIA	**Vianos**	**17.43**	**78**	P	**Pn**	**08 36 24.7**	**-2.1**
	comp=Z,32nm,1.0s						
EVIA				S	**Sn**	**08 39 20.6**	**-20**
ECRI	**Cripan**	**17.73**	**65**	P	**Pn**	**08 36 27.5**	**-2.9**
	comp=Z,54nm,1.3s						
ECRI	**Cripan**	**17.73**	**65**	P	**Pn**	**08 36 27.5**	**-3.0**
ECRI				pmax	pmax		
	comp=Z,54nm,1.3s						
ECRI	**Cripan**	**17.73**	**65**	P	**Pn**	**08 36 27.5**	**-3.0**
	comp=Z,54nm,1.3s						
ETOR	**Torete**	**17.83**	**71**	P	**Pn**	**08 36 28.2**	**-3.5**
	comp=Z,28nm,1.3s						
ETOR				S	**Sn**	**08 39 33.3**	**-17**
ETOR	**Torete**	**17.83**	**71**	P	**Pn**	**08 36 28.2**	**-3.5**
ETOR				pmax	pmax		
	comp=Z,28nm,1.3s						
ETOR	**Torete**	**17.83**	**71**	P	**Pn**	**08 36 28.2**	**-3.5**
	comp=Z,28nm,1.3s						
ET

QUIF Quistinic 19.00 49 *eP* **Pn 08 36 45.2 -0.8**
comp=Z,72nm,0.9s
QUIF Quistinic 19.00 49 *eP* **Pn 08 36 45.2 -0.8**
QUIF pmax pmax
comp=Z,36nm,0.9s
QUIF Quistinic 19.00 49 *eP* **Pn 08 36 45.2 -0.8**
comp=Z,36nm,0.9s
EMOS Mosqueruela 19.01 73 P **Pn 08 36 42.9 -3.2**
comp=Z,235nm,2.3s
EMOS S **Sn 08 39 58.6 -20**
EMOS Mosqueruela 19.01 73 P **Pn 08 36 42.9 -3.2**
comp=Z,235nm,2.3s
EMOS S **Sn 08 39 58.6 -20**
ESAC San Caprasio 19.10 69 P **Pn 08 36 45.9 -1.4**
comp=Z,176nm,1.6s
ESAC S **Sn 08 40 01.8 -19**
ESAC San Caprasio 19.10 69 P **Pn 08 36 45.9 -1.4**
comp=Z,176nm,1.6s
ESAC S **Sn 08 40 01.8 -19**
ROSF Rostrenen 19.13 47 *eP* **Pn 08 36 47.1 -0.4**
comp=Z,61nm,0.9s
ROSF Rostrenen 19.13 47 *eP* **Pn 08 36 47.1 -0.4**
ROSF pmax pmax
comp=Z,31nm,0.9s
ROSF Rostrenen 19.13 47 *eP* **Pn 08 36 47.1 -0.4**
comp=Z,31nm,0.9s
ETSF Etsaut 19.20 65 *eP* **Pn 08 36 47.9 -0.4**
comp=Z,15nm,0.7s
ETSF Etsaut 19.20 65 *eP* **Pn 08 36 47.9 -0.4**
ETSF pmax pmax
comp=Z,8.0nm,0.7s
ETSF Etsaut 19.20 65 *eP* **Pn 08 36 47.9 -0.4**
comp=Z,7.5nm,0.7s
REYF Montagne du Re 19.34 65 *eP* **Pn 08 36 49.4 -0.7**
SGMF Saint Gilles 19.52 48 *eP* **Pn 08 36 51.2 -1.0**
comp=Z,79nm,1.1s
SGMF Saint Gilles 19.52 48 *eP* **Pn 08 36 51.2 -1.0**
SGMF pmax pmax
comp=Z,39nm,1.1s
SGMF Saint Gilles 19.52 48 *eP* **Pn 08 36 51.2 -1.0**
comp=Z,39nm,1.1s
VIEF Viey 19.62 65 *eP* **Pn 08 36 53.0 -0.4**
ERTA Horta de San J 19.65 71 P **Pn 08 36 49.6 -4.1**
comp=Z,351nm,2.9s
ERTA Horta de San J 19.65 71 P **Pn 08 36 49.7 -4.1**
comp=Z,351nm,2.9s
EBIE Bielsa 19.67 66 P **Pn 08 36 49.8 -4.2**
comp=Z,162nm,1.9s
EBIE S **Sn 08 40 15.5 -19**
EBIE Bielsa 19.67 66 P **Pn 08 36 49.8 -4.3**
comp=Z,162nm,1.9s
EBIE S **Sn 08 40 15.5 -19**
LABF Labassere 19.68 65 *eP* **Pn 08 36 52.8 -1.3**
RESF Ens 19.83 66 *eP* **Pn 08 36 55.7 -0.3**
EPF Esparros 19.87 65 *eP* **Pn 08 36 55.4 -1.0**
comp=Z,158nm,1.3s
EPF Esparros 19.87 65 *eP* **Pn 08 36 55.4 -1.0**
EPF pmax pmax
comp=Z,79nm,1.3s
EPF Esparros 19.87 65 *eP* **Pn 08 36 55.4 -1.0**
comp=Z,79nm,1.3s
MELF Melles 20.15 66 *eP* **P 08 36 59.0 +1.2**
DCN Croghan 20.16 31 *eP* **P 08 37 00.6 +2.7**
EPOB Poblet 20.23 70 P **P 08 36 57.6 -1.1**
comp=Z,117nm,2.0s
EPOB S **S 08 40 28.2 -17**
EPOB Poblet 20.23 70 P **P 08 36 57.7 -1.1**
comp=Z,117nm,2.0s
EPOB S **S 08 40 28.2 -17**
MFF Saint Martin d 20.39 55 *eP* **P 08 37 00.8 +0.4**
comp=Z,631nm,1.2s
MFF Saint Martin d 20.39 55 *eP* **P 08 37 00.8 +0.4**
MFF pmax pmax
comp=Z,316nm,1.2s
MFF Saint Martin d 20.39 55 *eP* **P 08 37 00.8 +0.4**
comp=Z,316nm,1.2s
MLS Moulis 20.41 65 *eP* **P 08 37 01.4 +0.8**
EIBI Ibiza 20.42 77 P **P 08 36 59.0 -1.8**
comp=Z,132nm,1.6s
EIBI Ibiza 20.42 77 P **P 08 36 59.0 -1.8**
comp=Z,132nm,1.6s
DSB Dublin 20.47 32 *eP* **P 08 37 01.2 0.0**
comp=Z,103nm,1.3s
LFF La Frestale 20.52 60 *eP* **P 08 37 02.3 +0.4**
comp=Z,410nm,0.9s
LFF La Frestale 20.52 60 *eP* **P 08 37 02.3 +0.4**
LFF pmax pmax
comp=Z,205nm,0.9s
LFF La Frestale 20.52 60 *eP* **P 08 37 02.3 +0.4**
comp=Z,205nm,0.9s
EANR `Ain N'Sour 20.59 86 P **P 08 37 03.1 +0.4**
DMUB Kingscourt 20.72 30 *eP* **P 08 37 03.7 -0.2**
ECHA Ech Chief 20.77 85 P **P 08 37 07.0 +2.4**
ETRT Tiaret 20.86 87 P **P 08 37 08.4 +2.7**
EBNR Beni Rached 20.87 84 P **P 08 37 08.0 +2.3**
FLN La Foliniere 20.98 49 *eP* **P 08 37 07.0 +0.2**
comp=Z,203nm,1.0s
FLN *e*MLR MLR
comp=Z,1μm,20.0s,MS3.9
FLN La Foliniere 20.98 49 *eP* **P 08 37 07.0 +0.2**
comp=Z,101nm,1.0s
FLN LR LR
comp=Z,1μm,20.0s,MS4.2
FLN La Foliniere 20.98 49 *eP* **P 08 37 07.0 +0.2**
FLN pmax pmax
comp=Z,101nm,1.0s
FLN MLR MLR
comp=Z,1μm,20.0s,MS4.2
VALF Valcebollere 21.02 67 *eP* **P 08 37 08.3 +1.1**
CARF Carcanieres 21.11 66 *eP* **P 08 37 09.0 +0.7**
LDF La Druitiere 21.13 49 *eP* **P 08 37 08.4 0.0**
comp=Z,292nm,1.3s,mb5.2
LDF La Druitiere 21.13 49 *eP* **P 08 37 08.4 0.0**
LDF pmax pmax
comp=Z,146nm,1.3s,mb5.2
LDF La Druitiere 21.13 49 *eP* **P 08 37 08.4 0.0**
comp=Z,146nm,1.3s,mb5.2
RJF Les Rejaudoux 21.14 59 *eP* **P 08 37 08.0 -0.6**
comp=Z,144nm,1.2s,mb4.9
RJF *e*MLR MLR
comp=Z,2μm,19.2s,MS4.2
RJF Les Rejaudoux 21.14 59 *eP* **P 08 37 08.0 -0.6**
comp=Z,72nm,1.3s,mb4.8
RJF LR LR
comp=Z,2μm,19.3s,MS4.5
RJF Les Rejaudoux 21.14 59 *eP* **P 08 37 08.0 -0.6**
RJF pmax pmax
comp=Z,72nm,1.3s,mb4.8
RJF MLR MLR
comp=Z,2μm,19.3s,MS4.5
MTLF Montolieu 21.27 65 *eP* **P 08 37 09.7 -0.3**
comp=Z,57nm,1.2s,mb4.5
MTLF Montolieu 21.27 65 *eP* **P 08 37 09.7 -0.3**
MTLF pmax pmax
comp=Z,29nm,1.3s,mb4.5
MTLF Montolieu 21.27 65 *eP* **P 08 37 09.7 -0.3**
comp=Z,29nm,1.2s,mb4.5
FILF Fillols 21.43 67 *eP* **P 08 37 10.8 -0.9**
CAF Calviac 21.44 60 *eP* **P 08 37 11.4 -0.4**
comp=Z,332nm,1.1s,mb5.3
CAF Calviac 21.44 60 *eP* **P 08 37 11.4 -0.4**
CAF pmax pmax
comp=Z,166nm,1.1s,mb5.3
CAF Calviac 21.44 60 *eP* **P 08 37 11.4 -0.4**
comp=Z,166nm,1.1s,mb5.3
LRDF Laroque-de-Fa 21.45 66 *eP* **P 08 37 12.1 +0.1**
ETOS Mallorca 21.53 75 P **P 08 37 12.2 -0.5**
comp=Z,244nm,1.7s,mb5.4
ETOS Mallorca 21.53 75 P **P 08 37 12.2 -0.6**
comp=Z,244nm,1.7s,mb5.4
EJON La Jonquera 21.66 67 P **P 08 37 13.7 -0.5**
comp=Z,139nm,2.3s,mb5.0
EJON La Jonquera 21.66 67 P **P 08 37 13.7 -0.5**
comp=Z,139nm,2.3s,mb5.0
TCF Toulx Ste Croi 21.86 57 *eP* **P 08 37 15.9 -0.4**
comp=Z,330nm,1.3s,mb5.3
TCF Toulx Ste Croi 21.86 57 *eP* **P 08 37 15.9 -0.4**
TCF pmax pmax
comp=Z,165nm,1.3s,mb5.3
TCF Toulx Ste Croi 21.86 57 *eP* **P 08 37 15.9 -0.4**
comp=Z,165nm,1.3s,mb5.3
VERF Verneugheol 21.91 58 *eP* **P 08 37 16.5 -0.3**
ABA Alger-Bouzarea 21.98 82 P **P 08 37 20.2 +2.5**
EMHD Djebel Mahouad 22.02 84 P **P 08 37 19.2 +1.1**
PYM Petit Puy Mans 22.27 59 *eP* **P 08 37 20.7 +0.1**
LBL Lubilhac 22.32 60 *eP* **P 08 37 21.0 -0.2**

BGF Bois d'Agland 22.35 56 *eP* **P 08 37 21.1 -0.4**
comp=Z,165nm,1.1s,mb5.1
BGF Bois d'Agland 22.35 56 *eP* **P 08 37 21.1 -0.4**
BGF pmax pmax
comp=Z,83nm,1.1s,mb5.1
BGF Bois d'Agland 22.35 56 *eP* **P 08 37 21.1 -0.4**
comp=Z,83nm,1.1s,mb5.1
AGO Saint Agoulin 22.42 58 *eP* **P 08 37 22.7 +0.5**
LASF Ste Croix 22.55 63 *eP* **P 08 37 23.6 -0.1**
comp=Z,276nm,1.4s,mb5.2
COLF Collangettes 22.69 59 *eP* **P 08 37 24.6 -0.5**
PLDF La Plantade 22.73 58 *eP* **P 08 37 25.4 -0.2**
AVF Avril sur Loir 22.75 56 *eP* **P 08 37 24.7 -1.1**
comp=Z,131nm,1.2s,mb4.9
AVF Avril sur Loir 22.75 56 *eP* **P 08 37 24.7 -1.1**
AVF pmax pmax
comp=Z,65nm,1.2s,mb4.9
AVF Avril sur Loir 22.75 56 *eP* **P 08 37 24.7 -1.1**
comp=Z,65nm,1.2s,mb4.9
SSF Saint Saulge 22.92 56 *eP* **P 08 37 26.6 -1.0**
comp=Z,219nm,1.3s,mb5.1
SSF Saint Saulge 22.92 56 *eP* **P 08 37 26.6 -1.0**
SSF pmax pmax
comp=Z,109nm,1.3s,mb5.1
SSF Saint Saulge 22.92 56 *eP* **P 08 37 26.6 -1.0**
comp=Z,109nm,1.3s,mb5.1
SMF Signal de Mont 23.04 57 *eP* **P 08 37 27.7 -1.1**
comp=Z,303nm,1.4s,mb5.2
SMF Signal de Mont 23.04 57 *eP* **P 08 37 27.7 -1.1**
SMF pmax pmax
comp=Z,152nm,1.4s,mb5.2
SMF Signal de Mont 23.04 57 *eP* **P 08 37 27.7 -1.1**
comp=Z,152nm,1.4s,mb5.2
LOR Lormes 23.21 55 *eP* **P 08 37 29.4 -1.2**
comp=Z,187nm,1.4s,mb5.0
LOR *e*MLR MLR
comp=Z,1μm,21.0s,MS4.0
LOR Lormes 23.21 55 *eP* **P 08 37 29.4 -1.2**
comp=Z,94nm,1.4s,mb5.0
LOR LR LR
comp=Z,1μm,21.0s,MS4.3
LOR Lormes 23.21 55 *eP* **P 08 37 29.4 -1.2**
LOR pmax pmax
comp=Z,94nm,1.4s,mb5.0
LOR MLR MLR
comp=Z,1μm,21.0s,MS4.3
VIVF Saint-Julien-l 23.25 61 *eP* **P 08 37 30.1 -0.9**
comp=Z,108nm,1.0s,mb4.9
VIVF Saint-Julien-l 23.25 61 *eP* **P 08 37 30.1 -0.9**
VIVF pmax pmax
comp=Z,54nm,1.0s,mb4.9
VIVF Saint-Julien-l 23.25 61 *eP* **P 08 37 30.1 -0.9**
comp=Z,54nm,1.0s,mb4.9
ESK Eskdalemuir 23.25 32 *eP* **P 08 37 30.4 -0.5**
ESK Eskdalemuir 23.25 32 *eP* **P 08 37 30.4 -0.5**
EKA Eskdalemuir Ar 23.28 32 P **P 08 37 29.4 -1.8**
comp=Z,13nm,0.9s,mb4.3,baz=228,slow=8.5,SNR=15
PRAF Pradon 23.46 64 *eP* **P 08 37 33.3 0.0**
BBTS Babate 23.48 160 P **P 08 37 34.4 +0.8**
comp=Z,10nm,0.3s,mb4.7,baz=276,slow=1.1,SNR=6.7
BBTS LR LR 08 44 53.2
comp=Z,266nm,19.1s,MS3.7,baz=38,slow=32
TREF Trevaresse 23.59 65 *eP* **P 08 37 35.1 +0.5**
GELF Grande-Etoile 23.60 65 *eP* **P 08 37 34.3 -0.4**
OCF Saint Nazaire 23.65 62 *eP* **P 08 37 35.5 +0.4**
OG26 St.-Nazaire-De 23.65 62 *eP* **P 08 37 35.5 +0.4**
SMRF Simiane la Rot 23.77 64 *eP* **P 08 37 35.1 -1.1**
comp=Z,88nm,1.3s,mb4.7
SMRF Simiane la Rot 23.77 64 *eP* **P 08 37 35.1 -1.1**
comp=Z,44nm,1.3s,mb4.7
BERF Bertagne 23.79 66 *eP* **P 08 37 36.8 +0.4**
PUYF Puyloubier 23.81 65 *eP* **P 08 37 36.8 +0.2**
VILF Villeus 23.86 64 *eP* **P 08 37 37.3 +0.3**
STOF St-Etienne Org 24.01 64 *eP* **P 08 37 38.6 +0.2**
GRN Grenoble 24.06 61 *eP* **P 08 37 40.2 +1.4**
TAVF Tavernes 24.08 65 *eP* **P 08 37 39.6 +0.5**
ORIF Oris-en-Rattie 24.10 62 *eP* **P 08 37 38.2 -1.1**
comp=Z,152nm,1.2s,mb5.0
ORIF *e*MLR MLR
comp=Z,2μm,22.8s,MS4.1
ORIF Oris-en-Rattie 24.10 62 *eP* **P 08 37 38.2 -1.1**
ORIF pmax pmax
comp=Z,76nm,1.2s,mb5.0
ORIF Oris-en-Rattie 24.10 62 *eP* **P 08 37 38.2 -1.1**
comp=Z,76nm,1.2s,mb5.0
BAIF Baives 24.31 49 *eP* **P 08 37 40.1 -1.0**
comp=Z,96nm,1.0s,mb4.9
BAIF Baives 24.31 49 *eP* **P 08 37 40.1 -1.0**
BAIF pmax pmax
comp=Z,48nm,1.0s,mb4.9
BAIF Baives 24.31 49 *eP* **P 08 37 40.1 -1.0**
comp=Z,48nm,1.0s,mb4.9
GDM Grand'Maison 24.31 61 *eP* **P 08 37 42.8 +1.6**
MEZF Maizieres J'vi 24.33 53 *eP* **P 08 37 40.7 -0.5**
comp=Z,86nm,1.1s,mb4.8
MEZF Maizieres J'vi 24.33 53 *eP* **P 08 37 40.7 -0.5**
comp=Z,43nm,1.1s,mb4.8
LMR La Mourre 24.39 66 *eP* **P 08 37 41.1 -0.7**
comp=Z,51nm,1.4s,mb4.5
LMR La Mourre 24.39 66 *eP* **P 08 37 41.1 -0.7**
LMR pmax pmax
comp=Z,25nm,1.4s,mb4.5
LMR La Mourre 24.39 66 *eP* **P 08 37 41.1 -0.7**
comp=Z,26nm,1.4s,mb4.5
FRF La Foret Royal 24.50 65 *eP* **P 08 37 42.2 -0.7**
comp=Z,40nm,1.1s,mb4.5
FRF La Foret Royal 24.50 65 *eP* **P 08 37 42.2 -0.7**
FRF pmax pmax
comp=Z,20nm,1.1s,mb4.6
FRF La Foret Royal 24.50 65 *eP* **P 08 37 42.2 -0.7**
comp=Z,20nm,1.1s,mb4.5
SNF Seneffe 24.52 48 P **P 08 37 42.5 -0.5**
comp=Z,27nm,1.9s,mb4.5
SNF Seneffe 24.52 48 P **P 08 37 42.4 -0.6**
comp=Z,27nm,1.9s,mb4.5
CABF La Chapelle 24.54 58 *eP* **P 08 37 42.5 -0.7**
DOU Dourbes 24.56 49 P **P 08 37 42.8 -0.5**
comp=Z,35nm,1.4s,mb4.7
UCC Uccle 24.68 47 P **P 08 37 44.2 -0.2**
comp=Z,51nm,1.1s,mb5.0
BNI Bardonecchia 24.68 62 *eP* **P 08 37 46.0 +1.4**
BNI pmax pmax
comp=Z,40nm,1.1s,mb4.9
BNI Bardonecchia 24.68 62 *eP* **P 08 37 46.0 +1.4**
comp=Z,40nm,1.1s,mb4.9
CALN Calern 24.69 65 *eP* **P 08 37 46.4 +1.8**
GIVF Givet 24.70 49 *eP* **P 08 37 43.6 -1.0**
comp=Z,209nm,1.1s,mb5.3
GIVF Givet 24.70 49 *eP* **P 08 37 43.6 -1.0**
GIVF pmax pmax
comp=Z,105nm,1.1s,mb5.3
GIVF Givet 24.70 49 *eP* **P 08 37 43.6 -1.0**
comp=Z,105nm,1.1s,mb5.3
MBDF Montbardon 24.71 62 *eP* **P 08 37 44.3 -0.5**
comp=Z,32nm,1.1s,mb4.5
MBDF Montbardon 24.71 62 *eP* **P 08 37 44.3 -0.5**
MBDF pmax pmax
comp=Z,16nm,1.1s,mb4.5
MBDF Montbardon 24.71 62 *eP* **P 08 37 44.3 -0.5**
comp=Z,16nm,1.1s,mb4.5
SURF Saint Ours 24.71 63 *eP* **P 08 37 47.1 +2.3**
RRL Cesana Torines 24.74 62 P **P 08 37 46.0 +0.9**
LPL La Plagne 24.79 60 *eP* **P 08 37 44.8 -0.7**
comp=Z,89nm,1.1s,mb4.9
LPL La Plagne 24.79 60 *eP* **P 08 37 44.8 -0.7**
LPL pmax pmax
comp=Z,45nm,1.1s,mb4.9
LPL La Plagne 24.79 60 *eP* **P 08 37 44.8 -0.7**
comp=Z,45nm,1.1s,mb4.9
LPG La Plagne 24.80 60 *eP* **P 08 37 45.1 -0.5**
comp=Z,92nm,1.2s,mb4.9
LPG La Plagne 24.80 60 *eP* **P 08 37 45.1 -0.5**
LPG pmax pmax
comp=Z,46nm,1.2s,mb4.9
LPG La Plagne 24.80 60 *eP* **P 08 37 45.1 -0.5**
comp=Z,46nm,1.2s,mb4.9
THEF They Montfort 24.85 54 *eP* **P 08 37 45.4 -0.6**
MVIF Mont Vial 24.89 64 *eP* **P 08 37 48.5 +2.0**
PZZ Prazzo 24.92 63 P **P 08 37 49.0 +2.3**
TOUF Mont Tournerai 24.97 64 *eP* **P 08 37 49.0 +1.8**
DOI San Damiano 25.02 63 P **P 08 37 50.3 +2.7**
DOI pmax pmax
comp=Z,77nm,1.2s,mb5.1
DOI San Damiano 25.02 63 P **P 08 37 50.3 +2.7**
comp=Z,77nm,1.2s,mb5.1
HAU Haudompre 25.03 54 *eP* **P 08 37 47.0 -0.6**
comp=Z,105nm,1.4s,mb4.9
HAU *e*MLR MLR
comp=Z,962nm,19.8s,MS4.0
HAU Haudompre 25.03 54 *eP* **P 08 37 47.0 -0.6**
comp=Z,52nm,1.4s,mb4.9
HAU LR LR
comp=Z,960nm,19.8s,MS4.3
HAU Haudompre 25.03 54 *eP* **P 08 37 47.0 -0.6**
HAU pmax pmax
comp=Z,52nm,1.4s,mb4.9
HAU MLR MLR
comp=Z,960nm,19.8s,MS4.3
LUCF Luceram 25.03 64 *eP* **P 08 37 49.3 +1.6**
REVF Revere 25.04 65 *eP* **P 08 37 49.3 +1.5**
STV Sta Anna Valdi 25.05 64 P **P 08 37 50.1 +2.2**
comp=Z,64nm,1.9s,mb4.8
STV Sta Anna Valdi 25.05 64 P **P 08 37 50.1 +2.2**
STV pmax pmax
comp=Z,64nm,1.9s,mb4.8
STV Sta Anna Valdi 25.05 64 P **P 08 37 48.2 +0.3**
LSD Ceresole Reale 25.07 61 P **P 08 37 48.9 +0.8**
SBF Sospel 25.09 64 *eP* **P 08 37 48.0 -0.3**
comp=Z,157nm,1.3s,mb5.1
SBF Sospel 25.09 64 *eP* **P 08 37 48.0 -0.3**
SBF pmax pmax
comp=Z,79nm,1.3s,mb5.1
SBF Sospel 25.09 64 *eP* **P 08 37 48.0 -0.3**
comp=Z,79nm,1.3s,mb5.1
BCLA Clavier 25.10 49 P **P 08 37 47.8 -0.4**
comp=Z,28nm,2.2s,mb4.4
AUTN L'Aution 25.10 64 *eP* **P 08 37 49.6 +1.2**
RSP Reno Superiore 25.10 61 P **P 08 37 49.2 +0.8**
comp=Z,78nm,1.6s,mb5.0
RSP Reno Superiore 25.10 61 P **P 08 37 49.2 +0.8**
RSP pmax pmax
comp=Z,78nm,1.6s,mb5.0
RSP Reno Superiore 25.10 61 P **P 08 37 49.3 +0.9**
ENR Entracque 25.12 64 P **P 08 37 48.9 +0.4**
LOMF Lomont 25.19 56 *eP* **P 08 37 50.5 +1.4**
SAOF Saorge 25.19 64 *eP* **P 08 37 50.9 +1.7**
HINF Hinteralfeld 25.31 55 *eP* **P 08 37 49.4 -0.8**
comp=Z,154nm,1.4s,mb5.0
HINF Hinteralfeld 25.31 55 *eP* **P 08 37 49.4 -0.8**
HINF pmax pmax
comp=Z,77nm,1.4s,mb5.0
HINF Hinteralfeld 25.31 55 *eP* **P 08 37 49.4 -0.8**
comp=Z,77nm,1.4s,mb5.0
MONE Monesi 25.34 64 P **P 08 37 51.0 +0.4**
WLF Walferdange 25.36 51 *eP* **P 08 37 50.0 -0.7**
WLF Walferdange 25.36 51 *eP* **P 08 37 50.6 -0.1**
comp=Z,171nm,1.1s,mb5.5
WLF Walferdange 25.36 51 P **P 08 37 51.1 +0.4**
comp=Z,104nm,1.3s,mb5.2
IMI Imperia 25.43 64 P **P 08 37 51.3 0.0**
ROB Roburent 25.44 64 P **P 08 37 51.9 +0.4**
TRAV 25.49 61 P **P 08 37 52.1 +0.2**
MOF Molkenrain 25.50 55 *eP* **P 08 37 52.7 +0.7**
RORO 25.57 64 P **P 08 37 52.3 -0.3**
MEM Membach 25.58 49 P **P 08 37 52.7 0.0**
comp=Z,39nm,1.5s,mb4.7
MEM Membach 25.58 49 P **P 08 37 52.6 -0.1**
comp=Z,39nm,1.5s,mb4.7
HGN Heimansgroeve 25.59 48 *eP* **P 08 37 52.4 -0.3**
comp=Z,51nm,2.1s,mb4.7
HGN Heimansgroeve 25.59 48 *eS* **S 08 42 04.3 -16**
ECH Echery 25.60 54 *eP* **P 08 37 53.7 +0.8**
FIN Finale Ligure 25.68 64 P **P 08 37 53.6 0.0**
CDF Champ du Feu 25.73 54 *eP* **P 08 37 53.6 -0.4**
comp=Z,146nm,1.4s,mb5.0
CDF Champ du Feu 25.73 54 *eP* **P 08 37 53.6 -0.4**
CDF pmax pmax
comp=Z,73nm,1.4s,mb5.0
CDF Champ du Feu 25.73 54 *eP* **P 08 37 53.6 -0.4**
comp=Z,73nm,1.4s,mb5.0
RUP Ruppelstein 25.94 51 *eP* **P 08 37 55.4 -0.5**
PCP Pian Castagno 25.95 63 P **P 08 37 55.0 -1.0**
FELD Feldberg im Sc 26.08 55 *eP* **P 08 37 58.3 +1.1**
STR Strasbourg 26.09 54 *eP* **P 08 37 58.6 +1.4**
PGF Pioggiola 26.18 68 *eP* **P 08 37 57.8 -0.4**
comp=Z,33nm,0.9s,mb4.6
PGF Pioggiola 26.18 68 *eP* **P 08 37 57.8 -0.4**
PGF pmax pmax
comp=Z,16nm,0.9s,mb4.5
PGF Pioggiola 26.18 68 *eP* **P 08 37 57.8 -0.4**
comp=Z,16nm,0.9s,mb4.6
VAI Varese 26.25 60 P **P 08 37 59.8 +1.0**
VAI pmax pmax
comp=Z,39nm,1.2s,mb4.8
VAI Varese 26.25 60 P **P 08 37 59.8 +1.0**
comp=Z,39nm,1.2s,mb4.8
ABH Alteburg 26.29 51 *eP* **P 08 38 00.5 +1.4**
BFO Black Forest 26.39 54 P **P 08 38 00.8 +0.8**
comp=Z,212nm,1.1s,mb5.6,SNR=18
BFO Black Forest 26.39 54 *eP* **P 08 38 00.1 +0.1**
BFO Black Forest 26.39 54 *eP* **P 08 37 59.4 -0.6**
BFO pmax pmax
comp=Z,62nm,1.2s,mb5.0
BFO Black Forest 26.39 54 *eP* **P 08 37 59.4 -0.6**
comp=Z,62nm,1.2s,mb5.0
BFO Black Forest 26.39 54 *eP* **P 08 38 00.1 +0.1**
KTD Kalmit 26.47 52 *eP* **P 08 38 02.0 +1.3**
WTSB Winterswijk 26.53 46 *eP* **P 08 38 01.2 0.0**
comp=Z,56nm,1.3s,mb4.9
VSL Villasalto 26.60 74 *eP* **P 08 38 02.1 +0.1**
comp=Z,21nm,1.1s,mb4.6
VSL Villasalto 26.60 74 *eP* **P 08 38 02.1 +0.1**
comp=Z,21nm,1.1s,mb4.6
BOB Bobbio (Coli) 26.61 63 P **P 08 38 02.5 +0.5**
BOB pmax pmax
comp=Z,155nm,2.1s,mb5.2
BOB Bobbio (Coli) 26.61 63 P **P 08 38 02.5 +0.5**
comp=Z,155nm,2.1s,mb5.2
SPAK Spaichingen-Ko 26.64 55 *eP* **P 08 38 02.2 -0.1**
DGI Dorgali Grotta 26.71 73 P **P 08 38 05.1 +2.2**
TUE Stuetta 26.73 59 P **P 08 38 05.0 +1.9**
comp=Z,44nm,1.4s,mb4.8
STU Stuttgart 27.05 54 *eP* **P 08 38 05.5 -0.4**
comp=Z,60nm,1.6s,mb4.9
DAVOS Davos 27.09 58 P **P 08 38 07.2 +0.9**
DAVOX Davos/Dischmat 27.14 58 P **P 08 38 07.2 +0.5**
comp=Z,11nm,1.0s,mb4.3,baz=278,slow=8.3,SNR=11
DAVOX LR LR 08 48 20.7
comp=Z,892nm,18.4s,MS4.4,baz=261,slow=35
KEST Kesra 27.19 83 P **P 08 38 09.0 +1.7**
comp=Z,5.8nm,0.9s,mb4.1,baz=27,slow=6.8,SNR=7.0
KEST LR LR 08 48 50.6
comp=Z,142nm,18.3s,MS3.6,baz=27,slow=36
IBBN Ibbenburen 27.21 46 *eP* **P 08 38 06.5 -0.8**
comp=Z,125nm,1.6s,mb5.2
DAVA Damuels 27.22 57⇑ *iP* **P 08 38 09.6 +2.1**
comp=Z,65nm,1.6s,mb4.9,SNR=15
DAVA Damuels 27.22 57⇑ *iP*pP pP 08 38 09.6 -0.9
comp=Z,65nm,1.6s,SNR=15
BRMO Bormio 27.43 59 P **P 08 38 11.6 +2.2**
comp=Z,37nm,1.4s,mb4.7
GRFL Gerfalco 27.64 66 P **P 08 38 14.5 +3.2**
BORG Borgarnes 27.72 3 LR LR 08 45 56.4
comp=Z,749nm,18.5s,MS4.3,baz=63,slow=30
FETA Feichten 27.75 58⇑ *iP*pP pP 08 38 14.0 -1.3
comp=Z,23nm,1.3s,SNR=13
FNVD Fontana Vidola 27.77 64 P **P 08 38 13.7 +1.3**
comp=Z,78nm,1.8s,mb5.0
RETA Reutte 27.84 57⇓ *iP* **P 08 38 13.4 +0.4**
comp=Z,27nm,1.5s,mb4.7,SNR=12
RETA Reutte 27.84 57 P **P 08 38 13.4 +0.4**
comp=Z,27nm,1.5s,mb4.7,SNR=12
SQTA Sankt Quirin 28.10 58⇑ *iP* **P 08 38 16.6 +1.2**
comp=Z,29nm,1.3s,mb4.7
SQTA Sankt Quirin 28.10 58⇑ *iP* **P 08 38 16.6 +1.2**
comp=Z,29nm,1.3s,mb4.7
SQTA Sankt Quirin 28.10 58⇑ *iP*pP pP 08 38 16.6 -1.9
comp=Z,29nm,1.3s
SQTA Sankt Quirin 28.10 58⇑ *iP* **P 08 38 16.6 +1.2**
SQTA pmax pmax
comp=Z,29nm,1.3s,mb4.8
CTI Castel Tesino 28.27 60 P **P 08 38 17.2 +0.3**
CTI pmax pmax
comp=Z,219nm,1.6s,mb5.5
CTI Castel Tesino 28.27 60 P **P 08 38 17.2 +0.3**
comp=Z,219nm,1.6s,mb5.5
SFI Santa Sofia 28.28 65 P **P 08 38 17.5 +0.5**
FUR Furstenfeldbru 28.29 56 *eP* **P 08 38 17.1 0.0**
CRE Caprese Michel 28.35 65 P **P 08 38 18.3 +0.6**
WATA Walderalm 28.37 57⇑ *iP* **P 08 38 18.7 +0.9**
comp=Z,19nm,1.2s,mb4.6
WATA Walderalm 28.37 57⇑ *iP* **P 08 38 18.7 +1.0**

WATA pmax pmax
comp=Z,19nm,1.2s,mb4.6
WTTA Wattenberg 28.40 58⇑*i*P P 08 38 19.7 +1.7
comp=Z,36nm,1.6s,mb4.8,SNR=8.7
WTTA Wattenberg 28.40 58⇑*i*pP pP 08 38 19.7 -1.3
comp=Z,36nm,1.6s,SNR=8.7
WTTA Wattenberg 28.40 58⇑*i*P P 08 38 19.7 +1.7
WTTA pmax pmax
comp=Z,36nm,1.6s,mb4.8
GRFO Grafenberg 28.55 53 *e*P P 08 38 19.4 +0.1
comp=Z,16nm,0.9s,mb4.8
GRFO Grafenberg 28.55 53 *e*P P 08 38 19.4 +0.1
GRFO pmax pmax
comp=Z,16nm,0.9s,mb4.8
GRFO Grafenberg 28.55 53 *e*P P 08 38 19.4 +0.1
comp=Z,16nm,0.9s,mb4.8
GRA1 Grafenberg Arr 28.55 53 *e*P P 08 38 19.0 -0.3
GRA1 LR LR
comp=Z,500nm,21.9s,MS4.1
GRF Grafenberg Arr 28.55 53 *e*P P 08 38 19.0 -0.3
GRF pmax pmax
comp=Z,25nm,1.1s,mb4.9
GRF MLR MLR
comp=Z,500nm,21.9s,MS4.1
GRF Grafenberg Arr 28.55 53 *e*P P 08 38 19.0 -0.3
GRF pmax pmax
comp=Z,25nm,1.1s,mb4.9
GRF MLR MLR
comp=Z,500nm,21.9s,MS4.1
GRF Grafenberg Arr 28.55 53 *e*P P 08 38 19.0 -0.3
comp=Z,25nm,1.1s,mb4.9
GRF *e*L 08 47 43.8
comp=Z,507nm,21.9s
CLZ Clausthal 28.58 48 *e*P P 08 38 19.8 +0.2
CLZ pmax pmax
comp=Z,17nm,1.5s,mb4.5
CLZ Clausthal 28.58 48 *e*P P 08 38 19.8 +0.2
comp=Z,17nm,1.5s,mb4.5
RSM Repubblica di 28.72 65 P P **08 38 24.3 +3.4**
ABTA Abfaltersbach 28.93 59⇑*i*P P 08 38 23.8 +1.0
comp=Z,8.3nm,0.9s,mb4.5
FSSB Fossombrone 28.95 65 P P **08 38 22.7 -0.3**
MOX Moxa 29.01 51 *e*P P 08 38 23.7 +0.3
comp=Z,29nm,1.7s,mb4.7
MOX *e* 08 39 15.0
MOX
comp=Z,800nm,20.0s
MOX Moxa 29.01 51 *e*P P 08 38 23.7 +0.3
MOX *e* 08 39 15.0
MOX pmax pmax
comp=Z,29nm,1.7s,mb4.7
MOX MLR MLR
comp=Z,800nm,20.0s,MS4.3
MOX Moxa 29.01 51 *e*P P 08 38 23.2 -0.2
comp=Z,32nm,1.8s,mb4.8
SNTG Esanatoglia 29.07 66 P P **08 38 24.7 +0.6**
comp=Z,33nm,1.3s,mb4.9
MANZ Manzenberg 29.17 52 *e*P P 08 38 24.7 -0.2
comp=Z,28nm,1.6s,mb4.7
ROTZ Rotzenmuhle 29.19 53 *e*P P 08 38 24.7 -0.3
NRCA Norcia 29.21 67 P P **08 38 26.4 +1.1**
comp=Z,21nm,1.1s,mb4.8
NKC Novy Kostel 29.44 52 *e*P P 08 38 27.6 +0.4
NKC *e*pP pP 08 38 31.5 +1.2
NKC AMS AMS 08 49 20.0
comp=Z,800nm,13.2s,MS4.5
NKC Novy Kostel 29.44 52 *e*P P 08 38 27.6 +0.4
NKC *e*pP pP 08 38 31.5 +1.2
AQU L'Aquila 29.44 68 *e*P P 08 38 28.8 +1.5
AQU pmax pmax
comp=Z,38nm,1.0s,mb5.1
AQU L'Aquila 29.44 68⇓*i*P P 08 38 29.3 +2.0
AQU L'Aquila 29.44 68 *e*P P 08 38 28.8 +1.5
comp=Z,38nm,1.0s,mb5.1
TANN Tannenbergstha 29.49 51 *e*P P 08 38 27.8 +0.2
comp=Z,24nm,1.3s,mb4.8
KBA Koelnbreinsper 29.53 58⇓*i*P P 08 38 28.3 +0.2
comp=Z,16nm,0.9s,mb4.7,SNR=13
KBA Koelnbreinsper 29.53 58⇓*i*P P 08 38 28.3 +0.2
KBA pmax pmax
comp=Z,16nm,0.9s,mb4.8
TERO Teramo 29.58 67 P P **08 38 28.2 -0.4**
comp=Z,34nm,1.2s,mb5.0
KHC Kasperske Hory 29.96 54 *e*P P 08 38 31.7 -0.1
KHC *e*x x 08 38 48.5
KHC AMS AMS 08 54 20.0
comp=Z,600nm,13.2s,MS4.4
GEC2 GERESS Array S 29.99 55 *e*P P 08 38 31.6 -0.5
GEC2 pmax pmax
comp=Z,20nm,1.4s,mb4.7
GEC2 GERESS Array S 29.99 55 *e*P P 08 38 31.6 -0.5
comp=Z,20nm,1.4s,mb4.7
GERES GERESS Array B 29.99 55 P P **08 38 32.2 0.0**
comp=Z,2.4nm,0.9s,mb4.0,baz=260,slow=7.9,SNR=12
GERES LR LR 08 49 26.1
comp=Z,397nm,18.1s,MS4.1,baz=267,slow=34
BER Bergen 30.00 30 AMS AMS 08 49 30.3
comp=Z,626nm,17.1s,MS4.3
CLL Collm 30.02 50 *e*P P 08 38 32.0 -0.4
comp=Z,15nm,1.4s,mb4.5
CLL *e*S **S 08 43 31.0 +0.8**
CLL LR LR
comp=Z,1μm,17.4s,MS4.6
CLL Collm 30.02 50 *e*P P 08 38 32.0 -0.4
CLL *e*S **S 08 43 31.0 +0.8**
CLL pmax pmax
comp=Z,15nm,1.4s,mb4.5
CLL MLR MLR
comp=Z,1μm,17.4s,MS4.6
CLL Collm 30.02 50 *e*P P 08 38 32.0 -0.4
CLL *i* x x 08 38 35.6
comp=Z,15nm,1.4s
CLL *e*PP PP 08 39 36.0 -4.0
CLL *e*S **S 08 43 31.0 +0.8**
comp=N,200nm,11.9s
CLL *e*S **S 08 43 31.0 +0.8**
comp=E,300nm,11.9s
CLL *e*SS SS 08 45 12.0 -26
CLL Collm 30.02 50 *e*P P 08 38 32.0 -0.4
comp=E,15nm,1.4s,mb4.5
CLL *e*S **S 08 43 31.0 +0.8**
MIDA Miranda 30.12 69 P P **08 38 34.0 +0.7**
comp=E,44nm,1.4s,mb5.0
CEY Cerknica 30.18 61 *e*P P 08 38 34.8 +0.9
MOA Molln 30.24 57⇑*i*P P 08 38 34.9 +0.6
comp=E,18nm,1.4s,mb4.6
LJU Ljubljana 30.27 60 *e*P P 08 38 35.5 +0.9
LJU Ljubljana 30.27 60 *e*P P 08 38 35.5 +0.9
OBKA Obir 30.31 60⇑*i*P P 08 38 34.8 -0.2
comp=E,19nm,0.8s,mb4.9,SNR=14
BRG Berggiesshubel 30.50 51 *e*P P 08 38 36.2 -0.4
comp=E,6.2nm,1.0s,mb4.4
BRG *e* pP 08 38 39.9 +0.2
BRG PP PP 08 39 31.0 -14
BRG S **S 08 43 34.0 -3.8**
BRG LR LR
comp=Z,570nm,15.3s,MS4.3
BRG Berggiesshubel 30.50 51 *e*P P 08 38 36.2 -0.4
BRG 08 39 31.0
BRG S **S 08 43 34.0 -3.8**
BRG pmax pmax
comp=Z,6.0nm,1.0s,mb4.4
BRG MLR MLR
comp=Z,570nm,15.3s,MS4.3
BRG Berggiesshubel 30.50 51 *e*P P 08 38 36.6 0.0
comp=Z,17nm,1.2s,mb4.8
BRG Berggiesshubel 30.50 51 *e*P P 08 38 36.2 -0.4
comp=Z,10nm,1.0s,mb4.6
BRG *e* pP 08 38 39.9 +0.2
comp=Z,17nm,1.2s
BRG PP PP 08 39 31.0 -14
BRG S **S 08 43 34.0 -3.8**
BRG
comp=N,431nm,13.2s
BRG
comp=E,566nm,17.9s
BRG
comp=Z,949nm,15.3s
PRU Pruhonice 30.71 53 *e*P P 08 38 42.0 +3.5
BOJS Bojanci 30.75 62 *e*P P 08 38 40.2 +1.3
PVCC Panska Ves 30.83 52 *e*P P 08 38 39.8 +0.3
PVCC *e*pP pP 08 38 43.4 +0.8
PVCC AMS AMS 08 53 40.0
comp=Z,800nm,13.5s,MS4.5
PVCC Panska Ves 30.83 52 *e*P P 08 38 39.8 +0.3
PVCC *e*pP pP 08 38 43.4 +0.8
CRES Cresnjev 30.91 61 *e*P P 08 38 41.1 +0.9
ARSA Arzberg 31.03 58⇓*i*P P 08 38 41.8 +0.5
comp=Z,9.5nm,1.3s,mb4.5
ARSA Arzberg 31.03 58 P P **08 38 41.8 +0.5**
comp=Z,9.5nm,1.3s,mb4.5
GOLS Golise 31.03 61 *e*P P 08 38 41.2 -0.2
TREC Trest 31.22 54 *e*P P 08 38 42.8 -0.2
TREC *e*pP pP 08 38 46.1 +0.1
TREC AMS AMS 08 50 30.0
comp=Z,600nm,13.4s,MS4.4
CONA Conrad Observa 31.31 57⇑*i*P P 08 38 44.6 +0.7
comp=Z,8.9nm,1.2s,mb4.5
KONO Kongsberg 31.37 33 AMS AMS 08 50 04.1
comp=Z,553nm,21.7s,MS4.2
UPC Upice 31.73 52 *e*P P 08 38 47.8 +0.3
UPC *e*pP pP 08 38 51.0 +0.5
SOP Sopron 31.76 57 *e*P P 08 38 50.5 +2.7
DPC Dobruska-Polom 31.90 52 *e*P P 08 38 49.1 +0.1
DPC AMS AMS 08 52 50.0
comp=Z,600nm,10.1s,MS4.6
VRAC Vranov 31.94 54⇑P P 08 38 49.6 +0.3
VRAC Vranov 31.94 54⇑*i*P P 08 38 49.6 +0.3
KSP Ksiaz 31.96 51⇑*e*P P 08 38 48.7 -0.8
KSP *e*PP pP 08 38 52.7 +0.1
KSP *e*S **S 08 44 00.0 -0.6**
KSP LR LR
comp=Z,2μm,16.1s,MS4.8
KSP Ksiaz 31.96 51 *e*pP pP 08 38 52.7 +0.1
KSP *e*S **S 08 44 00.0 -0.6**
ZST Bratislava 32.16 57 *e*P P 08 38 53.6 +2.3
comp=Z,26nm,1.6s,mb4.8
ZST LR LR
comp=Z,800nm,14.5s,MS4.5
ZST Bratislava 32.16 57 *e*P P 08 38 53.6 +2.3
ZST pmax pmax
comp=Z,27nm,1.6s,mb4.8
ZST MLR MLR
comp=Z,800nm,14.5s,MS4.5
TIP Timpagrande 32.31 74 *e*P P 08 38 52.0 -0.8
TIP Timpagrande 32.31 74 *e*P P 08 38 52.0 -0.7
MORC Moravsky Berou 32.61 54 *e*P P 08 38 56.9 +1.8
MORC Moravsky Berou 32.61 54 *e*P P 08 38 56.9 +1.7
NB2 NORSAR Subarra 32.77 32 P P **08 38 56.2 -0.2**
comp=Z,1.3nm,0.8s,mb3.9,baz=242,slow=9.3
NOA NORSAR Array B 32.77 32 P P **08 38 54.5 -1.9**
comp=Z,2.1nm,0.7s,mb4.2,baz=241,slow=8.9,SNR=6.3
NOA LR LR 08 50 55.4
comp=Z,554nm,19.3s,MS4.3,baz=255,slow=34
OKC Ostrava-Krasne 33.00 54 *e*P P 08 38 56.5 -2.1
OKC *e*pP pP 08 39 01.9 +0.2
OKC AMS AMS 08 51 10.0
comp=Z,400nm,13.8s,MS4.3
OKC Ostrava-Krasne 33.00 54 *e*P P 08 38 56.5 -2.1
OKC *e*pP pP 08 39 01.9 +0.2
PKSM Moragy 33.13 60⇑P P 08 38 59.8 +0.1
PKSM Moragy 33.13 60⇑*i*P P 08 38 59.8 0.0
VYHS Vyhne 33.34 56 *e*P P 08 39 02.1 +0.5
VYHS pmax pmax
comp=Z,5.0nm,1.2s,mb4.3
VYHS Vyhne 33.34 56 *e*P P 08 39 02.1 +0.5
comp=Z,5.1nm,1.2s,mb4.3
SFJD Kangerlussuaq 33.41 342 P P **08 39 00.6 -1.4**
comp=Z,10nm,0.9s,mb4.7,baz=140,slow=9.4,SNR=4.0
SFJD LR LR 08 49 12.3
comp=Z,505nm,21.4s,MS4.2,baz=120,slow=30
BUD Budapest 33.42 58⇓*e*P P 08 39 02.5 +0.2
TOA0 Torodi Ar. Sit 33.45 129 *e*P P 08 39 03.7 +0.9
TORD Torodi Ar. Bea 33.45 129 P P **08 39 04.0 +1.3**
comp=Z,20nm,1.2s,mb4.9,baz=320,slow=8.0,SNR=41
TORD LR LR 08 54 27.1
comp=Z,182nm,18.4s,MS3.8,baz=330,slow=40
SCHQ Schefferville 33.69 315 P P **08 39 02.9 -1.6**
SCHQ LR LR 08 50 07.2
SCHQ Schefferville 33.69 315 P P **08 39 02.9 -1.6**
comp=Z,5.0nm,0.9s,mb4.5,baz=69,slow=14,SNR=7.0
SCHQ LR LR 08 50 07.2
comp=Z,407nm,19.5s,MS4.2,baz=270,slow=32
FGSL Fruska Gora 33.97 62 *e*P P 08 39 07.7 +0.6
PSZ Piszkesteto 34.02 57 *e*P P 08 39 08.2 +0.7
PSZ Piszkesteto 34.02 57⇓*i*P P 08 39 08.9 +1.4
PSZ Piszkesteto 34.02 57 *e*P P 08 39 08.0 +0.5
PSZ Piszkesteto 34.02 57 *e*P P 08 39 08.2 +0.7
OJC Ojcow 34.10 53 *e*P P 08 39 08.5 +0.3
DIVS Divibare 34.15 64 *e*P P 08 39 09.3 +0.6
KECS Kecovo 34.43 56 *e*P P 08 39 11.6 +0.5
comp=Z,6.0nm,1.2s,mb4.4
KECS Kecovo 34.43 56 *e*P P 08 39 11.6 +0.5
KECS pmax pmax
comp=Z,6.0nm,1.2s,mb4.4
GRUS Gruza 34.69 64 *e*P P 08 39 14.0 +0.6
JMIC Jan Mayen 34.95 9 *e*SS SS 08 47 13.7 -4.3
JMIC AMS AMS 08 51 07.3
comp=Z,317nm,16.7s,MS4.1
JMIC Jan Mayen 34.95 9 LR LR 08 50 05.1
comp=Z,205nm,18.4s,MS3.9,baz=242,slow=31
JMIC Jan Mayen 34.95 9 *e*SS SS 08 47 13.6 -4.4
SNR=47
STHS Stebnicka Huta 34.98 55 *e*P P 08 39 17.7 +1.9
STHS pmax pmax
comp=Z,14nm,1.1s,mb4.8
STHS Stebnicka Huta 34.98 55 *e*P P 08 39 17.7 +1.9
comp=Z,14nm,1.1s,mb4.8
SVIS Svilajnac 35.02 64 *e*P P 08 39 17.2 +1.0
OHR Ohrid 35.07 69 *e*P P 08 39 18.3 +1.7
CRVS Cervenica-Dubn 35.10 56 *e*P P 08 39 18.5 +1.7
DBIC Dimbokro 35.21 145 P P **08 39 18.7 +0.6**
comp=Z,4.7nm,0.9s,mb4.4,baz=320,slow=8.2,SNR=6.5
DBIC LR LR 08 53 20.4
comp=Z,327nm,18.7s,MS4.1,baz=314,slow=36
BZS Buzias 35.22 61⇓*i*P P 08 39 18.7 +0.8
KRUS Krusevo 35.37 69 *e*P P 08 39 20.9 +1.7
KRUS Krusevo 35.37 69 *e*P P 08 39 20.9 +1.7
SKO Skopje 35.42 68 *e*P P 08 39 20.9 +1.2
SKO Skopje 35.42 68 *e*P P 08 39 20.9 +1.2
KOLS Kolonicke sedl 35.63 56 *e*P P 08 39 22.3 +0.9
UZH Uzhgorod 35.64 56 *e*P P 08 39 22.0 +0.5
UZH MLR MLR
comp=Z,600nm,14.5s,MS4.5
DRGR 35.93 59⇓P P 08 39 25.1 +1.1
DRGR 35.93 59⇓*i*P P 08 39 25.1 +1.1
GZR Gura Zlata 36.05 62⇓P P 08 39 25.9 +0.9
GZR Gura Zlata 36.05 62⇓*i*P P 08 39 25.9 +0.9
VAY Valandovo 36.36 68 *e*P P 08 39 26.2 -1.5
VAY Valandovo 36.36 68 *e*P P 08 39 26.1 -1.6
SUW Suwalki 36.61 47 *e*P P 08 39 29.5 -0.2
LVV L'vov 36.80 54 *i* P P 08 39 27.8 -3.6
LVV *e*PPP 08 41 55.0
LVV *e*S **S 08 45 13.6 -1.8**
MLR Muntele Rosu 38.26 61⇓*i*P P 08 39 40.1 -3.7
VRI Vrincioaia 38.77 60⇑P P 08 39 50.3 +2.2
VRI Vrincioaia 38.77 60⇑*i*P P 08 39 50.3 +2.2
VSU Vasula 39.26 40⇓*i*P P 08 39 50.6 -1.4
FINES FINESS Array B 39.56 36 P P **08 39 53.4 -1.1**
comp=Z,3.0nm,0.9s,mb4.0,baz=251,slow=12,SNR=5.4
FINES LR LR 08 55 47.7
comp=Z,340nm,18.7s,MS4.2,baz=357,slow=36
FINES FINESS Array B 39.56 36 P P **08 39 53.3 -1.2**
HARR Harsova 39.75 62⇓P P 08 39 50.0 -6.3
HARR Harsova 39.75 62⇓*i*P P 08 39 50.0 -6.3
DAG Danmarks Havn 39.83 2⇑*i*P P 08 39 56.2 -0.4
DAG pmax pmax
comp=Z,3.0nm,0.7s,mb4.1
DAG Danmarks Havn 39.83 2⇑*i*P P 08 39 56.2 -0.4
comp=Z,3.4nm,0.7s,mb4.2
KAF Kangasniemi 39.83 35 *e*p P 08 39 50.3 -6.5
TRO Tromso 39.99 22 *e*P P 08 39 56.3 -1.6
TRO *e*ScP ScP 08 45 50.8 -1.1
TRO *e*SS SS 08 48 59.6 +0.1
TRO AMS AMS 08 53 35.7
comp=Z,142nm,18.8s,MS3.8
TRO Tromso 39.99 22 *e*P P 08 39 56.3 -1.6
SNR=26
TRO *e*ScP ScP 08 45 50.8 -1.1
SNR=7.0
TRO *e*SS SS 08 48 59.6 0.0
SNR=37
KIS Kishinev 40.10 58 *e*P P 08 39 58.0 -1.2
KIS LRM 09 01 38.0
comp=Z,500nm,14.0s
KIEV Kiev 40.12 53 *e*P P 08 39 58.7 -0.7
comp=Z,38nm,1.3s,mb5.0
KIEV Kiev 40.12 53 *e*P P 08 39 58.7 -0.6
KIEV pmax pmax
comp=Z,38nm,1.3s,mb5.0
KIEV Kiev 40.12 53 *e*P P 08 39 58.7 -0.6
comp=Z,38nm,1.3s,mb5.0
AKASG Malin Array Be 40.13 53 P P **08 39 57.5 -1.9**
comp=Z,16nm,1.1s,mb4.7,baz=272,slow=7.8,SNR=30
AKASG LR LR 08 56 39.8
comp=Z,276nm,18.6s,MS4.1,baz=275,slow=36
AKBB Malin Array Si 40.13 53 *e*P P 08 39 58.7 -0.7
AKBB Malin Array Si 40.13 53 *e*P P 08 39 58.7 -0.7
CPD Cerro la Pandu 40.95 254 *e*P P 08 40 06.1 -0.4
CPD Cerro la Pandu 40.95 254 *e*P P 08 40 06.1 -0.4
ARCES ARCESS Array B 41.99 24 P P **08 40 11.6 -2.8**
ARCES LR LR 08 56 08.4
ARCES ARCESS Array B 41.99 24 P P **08 40 11.6 -2.8**
comp=Z,6.4nm,0.7s,mb4.3,baz=236,slow=8.6,SNR=14
ARCES LR LR 08 56 08.5
comp=Z,305nm,19.1s,MS4.2,baz=231,slow=34
JOF Joensuu 42.28 34 *e*p P 08 40 13.6 -3.3
ALLY Alegheny Colle 42.61 294 *e*P P 08 40 24.5 +4.6
ALLY Alegheny Colle 42.61 294 *e*P P 08 40 24.5 +4.6
SIM Simferopol' 44.05 61 P P **08 40 37.9 +6.4**
SIM S S **08 47 05.0 +1.3**
SIM pmax pmax
comp=Z,70nm,13.6s
SIM MLR MLR
comp=Z,330nm,14.3s,MS4.4
APA Apatity 44.11 28⇓*e*P P 08 40 25.3 -6.3
APA *i* 08 40 33.5
APA pmax pmax
comp=Z,13nm,1.0s,mb4.6
APA MLR MLR
comp=Z,700nm,14.0s,MS4.7
OBN Obninsk 44.44 46⇓*i*P P 08 40 33.9 -0.5
OBN *e* 08 42 20.2
OBN *i* S **S 08 47 10.3 +1.3**
OBN *e*SS SS 08 50 34.8 +7.2
OBN pmax pmax
comp=Z,48nm,1.6s,mb5.0
OBN MLR MLR
comp=Z,500nm,16.0s,MS4.5
KBS Kingsbay 44.44 9 *e*P P 08 40 34.4 +0.3
KBS *e*S **S 08 47 10.3 +1.7**
KBS AMS AMS 08 54 48.3
comp=Z,128nm,21.0s,MS3.8
KBS Kingsbay 44.44 9 *e*P P 08 40 36.6 +2.4
KBS MLR MLR
comp=Z,130nm,21.0s,MS3.8
KBS Kingsbay 44.44 9 *e*P P 08 40 36.5 +2.3
KBS *e*S **S 08 47 10.3 +1.7**
SNR=26
MOS Moscow 45.01 45 *e*P P 08 40 41.6 +2.6
MOS pmax pmax
comp=Z,72nm,1.2s,mb5.4
ACSO Alum Creek Sta 45.05 293 *e*P P 08 40 40.0 +0.6
ACSO Alum Creek Sta 45.05 293 *e*P P 08 40 40.0 +0.5
TMCR Tamitsa 45.43 33 *e*P P 08 40 41.9 -0.3
CSS Prodhromos 46.19 74 *e*P P 08 40 49.4 +0.8
ANN Anapa 46.39 60 *e*P P 08 40 56.1 +6.1
ANN *e*S **S 08 47 51.7 +14**
ANN pmax pmax
comp=Z,93nm,1.2s,mb5.6
VORD Divnogorie 46.47 51 *e*P P 08 40 50.0 -0.5
VORD pmax pmax
comp=Z,20nm,1.3s,mb4.9
VORD pmax pmax
comp=N,10.0nm,1.2s
VORD pmax pmax
comp=E,30nm,0.8s
VORD MLR MLR
comp=E,370nm,13.0s,MS4.5
VORD MLR MLR
comp=Z,370nm,13.0s,MS4.5
VORD MLR MLR
comp=N,270nm,17.0s,MS4.5
TKL Tuckaleechee C 47.05 287 P P **08 40 54.4 -0.9**
TKL Tuckaleechee C 47.05 287 P P **08 40 54.4 -0.9**
comp=N,9.2nm,1.1s,mb4.6,baz=82,slow=3.8,SNR=4.1
CPCT Cooper Cave 47.69 287 *e*P P 08 41 01.0 +0.6
CPCT Cooper Cave 47.69 287 *e*P P 08 41 01.0 +0.7
BLO Bloomington 47.97 292 *e*P P 08 41 02.5 +0.1
BLO Bloomington 47.97 292 *e*P P 08 41 02.5 +0.1
WCI Wyandotte Cave 48.09 291 *e*P P 08 41 04.0 +0.5
WCI Wyandotte Cave 48.09 291 *e*P P 08 41 04.0 +0.6
SOC Sochi 48.28 61 *e*P P 08 41 03.6 -1.2
SOC *e* 08 42 54.6
SOC *e*PPP 08 43 47.3
SOC *e*S **S 08 48 06.3 +1.9**
SOC *e*SS SS 08 51 30.3 -3.2
SOC *e*SSS 08 52 50.1
SOC MLR MLR
comp=Z,293nm,14.0s,MS4.4
FCC Fort Churchill 48.83 320 *e*P P 08 41 08.6 -0.2
comp=Z,51nm,1.5s,mb5.3
FCC Fort Churchill 48.83 320 *e*P P 08 41 08.6 -0.2
FCC pmax pmax
comp=Z,51nm,1.5s,mb5.3
FCC Fort Churchill 48.83 320 *e*P P 08 41 08.6 -0.2
comp=Z,51nm,1.5s,mb5.3
SWET Sewanee 48.85 287 *e*P P 08 41 09.2 -0.1
SWET Sewanee 48.85 287 *e*P P 08 41 09.2 -0.1
MALT Malatya 48.91 68 *e*P P 08 41 10.7 +1.0
MALT Malatya 48.91 68⇑*i*P P 08 41 11.0 +1.3
MALT Malatya 48.91 68 *e*P P 08 41 10.7 +1.0
EYMN Ely 49.09 305 *e*P P 08 41 10.1 -0.8
EYMN Ely 49.09 305 *e*P P 08 41 10.1 -0.8
HDIL Hopedale 49.56 295 *e*P P 08 41 18.7 +4.0
WVT Waverly 49.97 289 *e*P P 08 41 16.8 -1.0
WVT Waverly 49.97 289 *e*P P 08 41 16.8 -1.0
SDV Santo Domingo 50.24 248 *e*P P 08 41 20.2 +0.1
comp=Z,26nm,0.8s,mb5.3
SDV Santo Domingo 50.24 248 *e*P P 08 41 20.2 +0.1
comp=Z,26nm,0.8s,mb5.3
KIV Kislovodsk 50.25 60 *e*P P 08 41 18.6 -1.2
KIV *e*S **S 08 48 29.9 -2.1**
KIV pmax pmax
comp=Z,10.0nm,1.0s,mb4.8
KIV MLR MLR
comp=Z,196nm,16.0s,MS4.2
SIUC Southern Illin 50.44 292 *e*P P 08 41 21.6 +0.2
SIUC Southern Illin 50.44 292 *e*P P 08 41 21.6 +0.2
PLAL Pickwick Lake 50.57 288 *e*P P 08 41 21.9 -0.5
comp=Z,19nm,0.9s,mb5.0
PLAL Pickwick Lake 50.57 288 *e*P P 08 41 21.9 -0.5
comp=Z,19nm,0.9s,mb5.0
PARMO Parma 51.22 290 *e*P P 08 41 27.0 -0.2
PARMO Parma 51.22 290 *e*P P 08 41 27.0 -0.2
FVM French Village 51.24 292 *e*P P 08 41 25.9 -1.5
comp=Z,26nm,1.0s,mb5.1
FVM French Village 51.24 292 *e*P P 08 41 25.9 -1.5
FVM pmax pmax
comp=Z,26nm,1.0s,mb5.1
FVM French Village 51.24 292 *e*P P 08 41 25.9 -1.5
comp=Z,26nm,1.0s,mb5.1
ULM Lac du Bonnet 51.34 309 P P **08 41 28.4 +0.4**
comp=Z,2.0nm,0.8s,mb4.1,baz=84,slow=8.2,SNR=3.3
ULM LR LR 09 01 08.8
comp=Z,527nm,18.6s,MS4.6,baz=130,slow=34
CCM Cathedral Cave 51.82 293 *e*P P 08 41 30.9 -0.9
MSL Mosul 53.11 69 *e*x x 08 41 43.5
ECSD EROS,Sioux Fal 53.70 301 *e*P P 08 41 44.8 -0.8
ECSD EROS,Sioux Fal 53.70 301 *e*P P 08 41 44.8 -0.8
FFC Flin Flon 53.84 315 *e*P P 08 41 46.1 -0.2
FFC Flin Flon 53.84 315 *e*P P 08 41 46.1 -0.3
UALR University of 53.89 289 *e*P P 08 41 46.1 -1.0
comp=Z,26nm,1.1s,mb5.1
UALR University of 53.89 289 *e*P P 08 41 46.1 -0.9
comp=Z,26nm,1.1s,mb5.1
MAK Makhachkala 53.89 60 *e*P P 08 41 46.8 -0.1
MAK *i* S **S 08 49 19.2 -2.9**
MAK *i* 08 51 32.4
MAK pmax pmax
comp=Z,29nm,0.4s,mb5.6
SOKR Solikamsk 54.63 38⇑*i*P P 08 41 55.6 +3.6
SOKR S **S 08 49 41.6 +10**
SOKR pmax pmax
comp=Z,30nm,1.4s,mb5.1
SOKR MLR MLR
comp=Z,360nm,20.0s,MS4.4
MIAR Mount Ida 54.91 290 *e*P P 08 41 53.3 -1.1
comp=Z,38nm,1.1s,mb5.3
MIAR Mount Ida 54.91 290 *e*P P 08 41 53.3 -1.2
MIAR pmax pmax
comp=Z,38nm,1.1s,mb5.3
MIAR Mount Ida 54.91 290 *e*P P 08 41 53.3 -1.2

comp=Z,38nm,1.1s,mb5.3
BHD Baghdad 55.29 72 *ex* x 08 41 56.0
KSU1 Kansas State U 55.35 296 *eP* **P 08 41 56.5 -1.1**
comp=Z,20nm,1.0s,mb5.1
KSU1 Kansas State U 55.35 296 *eP* **P 08 41 56.5 -1.1**
comp=Z,20nm,1.0s,mb5.1
ROSC El Rosal 55.65 247 P **P 08 42 01.1 +1.1**
comp=Z,5.4nm,0.7s,mb4.7,baz=101,slow=11,SNR=5.7
ROSC LR LR 09 03 10.9
comp=Z,340nm,18.6s,MS4.5,baz=16,slow=33
ARU Arti 56.40 41 *eP* **P 08 42 05.0 +0.1**
ARU Arti 56.40 41 *d iP* **P 08 42 04.1 -0.8**
ARU *e* 08 44 05.5
ARU *e*PPP 08 45 23.3
ARU *e*S **S 08 49 53.8 -1.5**
ARU *e*SS SS 08 53 40.5 -1.3
ARU pmax pmax
comp=Z,29nm,1.7s,mb5.0
ARU MLR MLR
comp=Z,701nm,19.0s,MS4.8
ARU Arti 56.40 41 *eP* **P 08 42 04.9 0.0**
NATX Nacogdoches 56.91 287 *eP* **P 08 42 09.3 +0.4**
BDFB Brasilia 56.97 207 P **P 08 42 10.5 +1.2**
comp=Z,8.8nm,0.9s,mb4.8,baz=358,slow=10,SNR=13
BDFB LR LR 09 03 18.8
comp=Z,230nm,18.2s,MS4.3,baz=218,slow=32
DGMT Dagmar 57.06 309 *eP* **P 08 42 09.6 0.0**
DGMT Dagmar 57.06 309 *eP* **P 08 42 09.6 -0.1**
YKW3 Yellowknife Ar 57.87 327 *eP* **P 08 42 15.1 0.0**
YKW3 Yellowknife Ar 57.87 327 *eP* **P 08 42 15.1 0.0**
YKA Yellowknife Ar 57.88 327 P **P 08 42 13.6 -1.7**
YKA PcP PcP 08 43 07.6 +0.1
YKA LR LR 09 03 24.2
YKA Yellowknife Ar 57.88 327 P **P 08 42 13.6 -1.6**
YKA 08 43 07.6
YKA Yellowknife Ar 57.88 327 P **P 08 42 13.5 -1.7**
comp=Z,0.8nm,0.8s,mb3.8,baz=65,slow=7.5,SNR=8.3
YKA PcP PcP 08 43 07.6 +0.1
comp=Z,1.0nm,0.9s,baz=67,slow=3.6,SNR=4.0
YKA LR LR 09 03 24.2
comp=Z,102nm,18.9s,MS4.0,baz=155,slow=32
YKA Yellowknife Ar 57.88 327 PcP PcP 08 43 07.6 +0.1
AKTK Aktyubinsk 58.09 48 P **P 08 42 15.8 -1.0**
AKTK LR LR 09 08 22.4
AKTK Aktyubinsk 58.09 48 P **P 08 42 15.9 -1.0**
AKTO Aktyubinsk 58.09 48 P **P 08 42 15.8 -1.0**
comp=Z,17nm,1.1s,mb5.0,baz=284,slow=9.4,SNR=9.8
AKTO LR LR 09 08 22.4
comp=Z,366nm,18.7s,MS4.5,baz=305,slow=37
HKT Hockley 58.63 286 *eP* **P 08 42 20.8 -0.1**
comp=Z,34nm,1.6s,mb5.1
HKT Hockley 58.63 286 *eP* **P 08 42 20.8 -0.2**
HKT pmax pmax
comp=Z,34nm,1.6s,mb5.1
HKT Hockley 58.63 286 *eP* **P 08 42 20.8 -0.2**
comp=Z,34nm,1.6s,mb5.1
WMOK Wichita Mounta 58.72 292 *eP* **P 08 42 20.1 -1.4**
comp=Z,45nm,0.7s,mb5.6
WMOK Wichita Mounta 58.72 292 *eP* **P 08 42 20.1 -1.4**
WMOK pmax pmax
comp=Z,45nm,0.7s,mb5.6
WMOK Wichita Mounta 58.72 292 *eP* **P 08 42 20.1 -1.4**
comp=Z,45nm,0.7s,mb5.6
TGUH Tegucigalpa,Un 60.00 265 *eP* **P 08 42 37.0 +6.3**
EDM Edmonton 60.67 316 *eP* **P 08 42 33.9 -0.7**
EDM Edmonton 60.67 316 *eP* **P 08 42 33.9 -0.8**
EGMT Eagleton 60.67 310 *eP* **P 08 42 35.3 +0.5**
comp=Z,47nm,1.7s,mb5.3
EGMT Eagleton 60.67 310 *eP* **P 08 42 35.3 +0.5**
comp=Z,47nm,1.7s,mb5.3
AMTX Amarillo 60.79 293 *eP* **P 08 42 35.2 -0.6**
AMTX Amarillo 60.79 293 *eP* **P 08 42 35.2 -0.6**
JCT Junction City 61.42 288 *eP* **P 08 42 39.9 -0.2**
JCT Junction City 61.42 288 *eP* **P 08 42 39.9 -0.2**
ISCO Idaho Springs 61.42 300 *eP* **P 08 42 40.4 +0.3**
ISCO Idaho Springs 61.42 300 *eP* **P 08 42 40.4 +0.4**
RLMT Red Lodge 61.57 307 *eP* **P 08 42 41.4 +0.5**
RLMT Red Lodge 61.57 307 *eP* **P 08 42 41.4 +0.5**
SDCO Great Sand Dun 62.26 298 *eP* **P 08 42 46.1 +0.4**
comp=Z,6.7nm,1.3s,mb4.6
INK Inuvik 62.54 337 *eP* **P 08 42 46.7 -0.4**
SMCO Snowmass 62.64 300 *eP* **P 08 42 48.8 +0.6**
WALA Waterton Lakes 62.74 312 *eP* **P 08 42 52.8 +4.1**
WALA Waterton Lakes 62.74 312 *eP* **P 08 42 52.8 +4.1**
D15A Lincoln 62.78 310 ⇑P **P 08 42 48.3 -0.7**
baz=62
BW06 Boulder Array 62.78 304 *eP* **P 08 42 48.5 -0.6**
comp=Z,16nm,1.3s,mb5.0
BW06 Boulder Array 62.78 304 *eP* **P 08 42 48.5 -0.6**
comp=Z,16nm,1.3s,mb5.0
PDAR Pinedale Array 62.78 304 P **P 08 42 48.4 -0.7**
PDAR LR LR 09 08 26.4
PDAR Pinedale Array 62.78 304 P **P 08 42 48.4 -0.7**
comp=Z,2.7nm,1.0s,mb4.3,baz=72,slow=6.4,SNR=16
PDAR LR LR 09 08 26.4
comp=Z,335nm,18.1s,MS4.5,baz=71,slow=34
BOZ Bozeman (W) 62.84 308 *eP* **P 08 42 49.7 +0.3**
BOZ Bozeman (W) 62.84 308 *eP* **P 08 42 49.7 +0.3**
LOHW Long Hollow 63.09 306 *eP* **P 08 42 51.3 +0.2**
comp=Z,30nm,1.6s,mb5.2
LOHW Long Hollow 63.09 306 *eP* **P 08 42 51.3 +0.2**
comp=Z,30nm,1.6s,mb5.2
MOOW Moose Ponds 63.12 306 *eP* **P 08 42 51.4 0.0**
comp=Z,21nm,1.4s,mb5.1
MOOW Moose Ponds 63.12 306 *eP* **P 08 42 51.4 +0.1**
comp=Z,21nm,1.4s,mb5.1
E15A Deer Lodge 63.13 309 ⇓P **P 08 42 50.6 -0.7**
baz=63
IMW Indian Meadow 63.18 306 *eP* **P 08 42 52.0 +0.3**
comp=Z,36nm,1.7s,mb5.2
IMW Indian Meadow 63.18 306 *eP* **P 08 42 52.0 +0.3**
comp=Z,36nm,1.7s,mb5.2
C14A Swan Lake 63.21 311 ⇓P **P 08 42 51.0 -0.9**
baz=63
SNOW Snow King Moun 63.26 306 *eP* **P 08 42 52.7 +0.5**
comp=Z,22nm,1.3s,mb5.1
SNOW Snow King Moun 63.26 306 *eP* **P 08 42 52.7 +0.5**
comp=Z,22nm,1.3s,mb5.1
CHMT Chamberlain Mo 63.29 310 *eP* **P 08 42 52.5 +0.2**
CHMT Chamberlain Mo 63.29 310 *eP* **P 08 42 52.5 +0.1**
F15A Butte 63.30 309 ⇓P **P 08 42 51.8 -0.7**
baz=63
REDW Red Top Meadow 63.37 305 *eP* **P 08 42 53.2 +0.2**
comp=Z,28nm,1.3s,mb5.2
REDW Red Top Meadow 63.37 305 *eP* **P 08 42 53.2 +0.2**
comp=Z,28nm,1.3s,mb5.2
D14A Greenough 63.37 310 ⇓P **P 08 42 52.3 -0.6**
baz=63
B13A Whitefish 63.37 312 ⇑P **P 08 42 52.2 -0.7**
baz=63
TPAW Teton Pass 63.37 306 *eP* **P 08 42 53.4 +0.4**
comp=Z,20nm,1.4s,mb5.0
TPAW Teton Pass 63.37 306 *eP* **P 08 42 53.3 +0.3**
comp=Z,20nm,1.4s,mb5.0
DLMT Dillon 63.58 308 *eP* **P 08 42 54.9 +0.6**
comp=Z,32nm,1.7s,mb5.1
DLMT Dillon 63.58 308 *eP* **P 08 42 54.9 +0.6**
comp=Z,32nm,1.7s,mb5.1
G15A Dillon 63.60 308 ⇓P **P 08 42 53.8 -0.7**
baz=63
E14A Clinton 63.66 309 ⇓P **P 08 42 54.1 -0.7**
baz=63
C13A Hot Springs 63.75 311 ⇓P **P 08 42 54.9 -0.5**
baz=64
MSO Missoula 63.75 310 *eP* **P 08 42 56.1 +0.7**
MSO Missoula 63.75 310 *eP* **P 08 42 56.2 +0.8**
AHID Auburn Hatcher 63.80 305 *eP* **P 08 42 55.9 +0.1**
comp=Z,19nm,1.4s,mb4.9
AHID Auburn Hatcher 63.80 305 *eP* **P 08 42 55.9 +0.1**
comp=Z,19nm,1.4s,mb4.9
D13A Huson 63.94 310 ⇓P **P 08 42 56.3 -0.4**
baz=64
BRVK Borovoye 63.96 42 P **P 08 42 57.5 +0.8**
comp=Z,62nm,1.2s,mb5.5,SNR=5.3
BRVK Borovoye 63.96 42 *eP* **P 08 42 56.8 +0.1**
B12A Libby 63.99 312 ⇓P **P 08 42 56.7 -0.3**
baz=64
E13A Victor 64.08 310 ⇑P **P 08 42 57.1 -0.4**
baz=64
G14A Jackson 64.17 308 ⇑P **P 08 42 57.8 -0.5**
baz=64
A11A Hall Mountain, 64.22 313 ⇓P **P 08 42 57.6 -0.9**
baz=64,SNR=5.5
ANMO Albuquerque 64.24 295 *eP* **P 08 42 59.1 +0.2**
comp=Z,17nm,1.4s,mb4.9
ANMO Albuquerque 64.24 295 *eP* **P 08 42 59.1 +0.2**
ANMO pmax pmax
comp=Z,17nm,1.4s
ANMO Albuquerque 64.24 295 *eP* **P 08 42 59.1 +0.2**
comp=Z,17nm,1.4s,mb4.9
F13A Darby 64.47 309 ⇑P **P 08 42 59.5 -0.6**
baz=64
B11A Sandpoint 64.47 312 ⇓P **P 08 42 59.7 -0.5**
baz=64
D12A Red Ives Fores 64.50 311 ⇓P **P 08 42 59.8 -0.6**
baz=64
MVCO Mesa Verde 64.62 298 *eP* **P 08 43 02.6 +1.3**
MVCO Mesa Verde 64.62 298 *eP* **P 08 43 02.6 +1.3**
HWUT Hardware Ranch 64.64 304 *eP* **P 08 43 01.4 0.0**
comp=Z,29nm,1.4s,mb5.1
HWUT Hardware Ranch 64.64 304 *eP* **P 08 43 01.4 0.0**
comp=Z,29nm,1.4s,mb5.1
LPM Los Pinos Moun 64.67 295 *eP* **P 08 43 02.9 +1.2**
LPM Los Pinos Moun 64.67 295 *eP* **P 08 43 02.9 +1.2**
G13A Cobalt 64.73 308 ⇑P **P 08 43 01.5 -0.4**
baz=64
BNM Barren Site 64.75 295 *eP* **P 08 43 03.3 +1.1**
BNM Barren Site 64.75 295 *eP* **P 08 43 03.3 +1.1**
TXAR Lajitas Array 64.91 289 P **P 08 43 02.5 -0.8**
comp=Z,7.5nm,0.7s,mb4.9,baz=74,slow=7.0,SNR=97
TXAR LR LR 09 08 51.0
comp=Z,159nm,20.0s,MS4.2,baz=70,slow=34
H13A Challis 64.99 308 ⇑P **P 08 43 03.0 -0.6**
baz=65
NEW Newport 64.99 313 *eP* **P 08 43 03.3 -0.2**
comp=Z,20nm,1.4s,mb5.0
NEW Newport 64.99 313 *eP* **P 08 43 03.3 -0.2**
NEW pmax pmax
comp=Z,20nm,1.4s
NEW Newport 64.99 313 *eP* **P 08 43 03.3 -0.2**
comp=Z,20nm,1.4s,mb5.0
LAZ Ladron 64.99 295 *eP* **P 08 43 04.8 +1.0**
LAZ Ladron 64.99 295 *eP* **P 08 43 04.8 +1.0**
DAU Daniels Canyon 65.00 303 *eP* **P 08 43 04.2 +0.5**
DAU Daniels Canyon 65.00 303 *eP* **P 08 43 04.2 +0.5**
MNTX Cornudas Mount 65.02 292 *eP* **P 08 43 03.2 -0.8**
JLU Jordanelle 65.04 303 *eP* **P 08 43 04.1 +0.1**
JLU Jordanelle 65.04 303 *eP* **P 08 43 04.1 +0.1**
F12A Elk City 65.05 309 ⇓P **P 08 43 03.3 -0.6**
baz=65
ATD Arta Tunnel 65.10 94 LR LR 09 09 24.4
comp=Z,188nm,19.2s,MS4.3,baz=343,slow=34
SRU San Rafael 65.12 301 *eP* **P 08 43 04.6 0.0**
SRU San Rafael 65.12 301 *eP* **P 08 43 04.6 +0.1**
I13A Wildhorse Cree 65.21 307 ⇓P **P 08 43 04.6 -0.4**
baz=65
K14A Jones Ranch, D 65.25 306 ⇓P **P 08 43 04.6 -0.8**
baz=65
M15A Larsen Ranch, 65.29 304 ⇓P **P 08 43 05.2 -0.4**
baz=65
E11A Bogner Ranch, 65.35 310 ⇓P **P 08 43 05.3 -0.6**
baz=65
H12A Diamond D Ranc 65.38 308 ⇓P **P 08 43 05.3 -0.8**
baz=65
MPU Maple Canyon 65.44 303 *eP* **P 08 43 07.1 +0.5**
MPU Maple Canyon 65.44 303 *eP* **P 08 43 07.1 +0.5**
J13A Cove Ranch, Pi 65.49 307 ⇑P **P 08 43 06.3 -0.6**
baz=65
TMUT Trail Mountain 65.50 302 *eP* **P 08 43 07.3 +0.3**
TMUT Trail Mountain 65.50 302 *eP* **P 08 43 07.3 +0.3**
A09A Danville 65.50 314 ⇓P **P 08 43 06.2 -0.7**
baz=65
F11A Grangeville 65.54 310 ⇑P **P 08 43 06.5 -0.6**
baz=65
HLID Hailey 65.57 307 *eP* **P 08 43 12.2 +4.8**
HLID Hailey 65.57 307 ⇓P **P 08 43 06.9 -0.4**
baz=65
HLID Hailey 65.57 307 *eP* **P 08 43 12.2 +4.8**
NLU North Lily Min 65.77 303 *eP* **P 08 43 10.1 +1.4**
NLU North Lily Min 65.77 303 *eP* **P 08 43 10.1 +1.4**
K13A Stover Farm, H 65.79 306 ⇑P **P 08 43 08.6 -0.2**
baz=66
G11A Walters Elk Ra 65.85 309 ⇑P **P 08 43 08.5 -0.6**
baz=66
M14A Sheep Mountain 65.87 305 ⇑P **P 08 43 08.4 -0.9**
baz=66
A08A Turner Farm, O 65.91 314 ⇑P **P 08 43 08.8 -0.7**
baz=66
BGU Big Grassy Mou 65.94 304 *eP* **P 08 43 09.9 +0.2**
BGU Big Grassy Mou 65.94 304 *eP* **P 08 43 09.9 +0.1**
L13A Dode Diamond 65.97 305 ⇓P **P 08 43 09.4 -0.6**
baz=66
H11A Donnelly 66.03 309 ⇓P **P 08 43 09.9 -0.4**
baz=66
N14A Grayback Hills 66.08 304 ⇑P **P 08 43 10.5 -0.2**
baz=66
DUG Dugway 66.15 303 *eP* **P 08 43 11.6 +0.4**
comp=Z,34nm,1.6s,mb5.1
DUG Dugway 66.15 303 *eP* **P 08 43 11.6 +0.5**
DUG pmax pmax
comp=Z,34nm,1.6s,mb5.1
DUG Dugway 66.15 303 *eP* **P 08 43 11.6 +0.5**
comp=Z,34nm,1.6s,mb5.1
J12A Stokes Ranch, 66.16 307 P **P 08 43 11.6 +0.4**
baz=66,SNR=14
K12A Draper Farm, C 66.33 306 ⇓P **P 08 43 12.6 +0.3**
baz=66
E09A Wood Farm, Sta 66.45 311 ⇑P **P 08 43 12.1 -0.8**
baz=66
MSU Marysvale 66.54 301 *eP* **P 08 43 14.4 +0.7**
MSU Marysvale 66.54 301 *eP* **P 08 43 14.4 +0.7**
MFID Camas Ranch 66.54 307 ⇑P **P 08 43 13.7 +0.1**
baz=66
L12A House Creek Ra 66.64 306 ⇓P **P 08 43 14.8 +0.5**
baz=66
B07A Winthrop 66.64 314 ⇑P **P 08 43 14.1 -0.1**
baz=66
N13A Wendover, West 66.75 304 ⇓P **P 08 43 15.3 +0.3**
baz=66
T16A Glen Canyon Da 66.83 300 ⇑P **P 08 43 15.6 0.0**
baz=67
DAWY Dawson 66.93 334 *eP* **P 08 43 15.9 +0.1**
DAWY Dawson 66.93 334 *eP* **P 08 43 15.9 +0.2**
M12A Wells 66.94 305 ⇑P **P 08 43 16.3 +0.1**
baz=67
O13A Hicks Ranch, I 66.96 304 ⇑P **P 08 43 16.3 0.0**
baz=67
K11A Parker Ranch, 66.99 307 ⇑P **P 08 43 16.4 -0.1**
baz=67
H09A Durkee 67.07 309 ⇑P **P 08 43 17.1 +0.1**
baz=67
EGAK Eagle 67.08 335 *eP* **P 08 43 19.2 +2.5**
EGAK Eagle 67.08 335 *eP* **P 08 43 19.2 +2.5**
LPAZ La Paz 67.17 226 P **P 08 43 17.4 -0.4**
comp=Z,2.4nm,0.9s,mb4.2,baz=26,slow=4.4,SNR=7.3
LPAZ LR LR 09 08 16.2
comp=Z,249nm,21.6s,MS4.4,baz=210,slow=32
R14A James Farms, M 67.22 301 ⇑P **P 08 43 18.2 +0.2**
baz=67
N12A Clover Valley, 67.30 305 ⇓P **P 08 43 18.6 +0.2**
baz=67
P13A Bates Ranch, G 67.32 303 P **P 08 43 19.4 +0.8**
baz=67,SNR=14
119A Ashpeak Ranch, 67.37 295 ⇓P **P 08 43 19.2 +0.1**
baz=67,SNR=9.1
O12A Currie 67.40 304 ⇑P **P 08 43 18.9 -0.2**
baz=67
I09A Lost Marbles R 67.47 309 ⇑P **P 08 43 20.0 +0.5**
baz=67
WUAZ Wupatki 67.47 298 *eP* **P 08 43 21.3 +1.7**
WUAZ Wupatki 67.47 298 *eP* **P 08 43 21.3 +1.6**
M11A Holland Ranch, 67.50 306 ⇓P **P 08 43 19.5 -0.2**
baz=67
S14A Cedar City 67.59 301 ⇑P **P 08 43 20.2 -0.2**
baz=67,SNR=11
L10A Juniper Basin 67.61 306 ⇓P **P 08 43 20.4 0.0**
baz=67
Z18A Geronimo 67.74 295 ⇑P **P 08 43 21.7 +0.3**
baz=68
ARUT Antelope Range 67.76 301 *eP* **P 08 43 22.5 +1.0**
J09A Fry Pan Ranch, 67.79 308 ⇑P **P 08 43 22.0 +0.5**
baz=68
CCUT Cedar City 67.83 301 *eP* **P 08 43 22.7 +0.8**
CCUT Cedar City 67.83 301 *eP* **P 08 43 22.7 +0.8**
I08A Drewsey 68.01 309 ⇑P **P 08 43 23.1 +0.1**
baz=68
319A Douglas 68.06 293 ⇑P **P 08 43 24.0 +0.5**
baz=68
O11A Cowboy Ranch, 68.07 304 ⇑P **P 08 43 23.7 +0.3**
baz=68
X16A Lo Mia Camp, P 68.07 297 ⇓P **P 08 43 24.0 +0.5**
baz=68
K09A Rome 68.10 308 ⇓P **P 08 43 24.0 +0.5**
baz=68,SNR=7.8
S13A Holt Ranch, En 68.15 301 P **P 08 43 24.5 +0.5**
baz=68,SNR=13
J08A Circle Bar Ran 68.24 308 ⇓P **P 08 43 24.5 +0.1**
baz=68
U14A Mt Trumbull 68.28 300 ⇓P **P 08 43 24.6 -0.1**
baz=68
R12A Pony Springs, 68.28 302 ⇓P **P 08 43 24.9 +0.2**
baz=68
218A Dragoon 68.32 294 ⇑P **P 08 43 25.8 +0.7**
baz=68
Y16A Circle Bar Ran 68.37 297 ⇓P **P 08 43 26.0 +0.7**
baz=68
L09A Wilkinson Ranc 68.41 307 ⇓P **P 08 43 26.2 +0.7**
baz=68
T13A Saint George 68.47 301 ⇓P **P 08 43 26.0 0.0**
baz=68,SNR=6.4
KMBO Kilima Mbogo 68.50 109 *eP* **P 08 43 29.5 +3.1**
KMBO Kilima Mbogo 68.50 109 P **P 08 43 26.8 +0.3**
comp=Z,0.4nm,0.3s,mb3.9,baz=17,slow=21,SNR=4.7
KMBO LR LR 09 14 56.7
comp=Z,122nm,18.1s,MS4.2,baz=82,slow=37
KMBO Kilima Mbogo 68.50 109 *eP* **P 08 43 29.5 +3.1**
318A Bisbee 68.55 294 ⇑P **P 08 43 26.7 +0.2**
baz=68
X15A Humboldt 68.60 298 ⇑P **P 08 43 27.1 +0.3**
baz=68,SNR=13
Z16A Peralta Trail, 68.61 296 ⇑P **P 08 43 27.0 +0.1**
baz=68
V14A Boquillas Ranc 68.62 299 ⇓P **P 08 43 27.0 +0.1**
baz=68,SNR=5.3
C04A Brinnon 68.67 314 ⇓P **P 08 43 26.8 -0.1**
baz=68
H06A Lindquist Farm 68.67 310 ⇓P **P 08 43 26.4 -0.6**
baz=68
TUC Tucson 68.68 295 *eP* **P 08 43 28.3 +1.0**
TUC Tucson 68.68 295 *eP* **P 08 43 28.3 +1.0**
Q11A Duckwater 68.72 303 ⇓P **P 08 43 26.9 -0.5**
baz=68
S12A Delamar Landin 68.81 302 ⇑P **P 08 43 28.3 +0.2**
baz=68,SNR=5.8
WVOR Wild Horse Val 68.81 308 *eP* **P 08 43 28.9 +0.9**
comp=Z,59nm,1.1s,mb5.4
WVOR Wild Horse Val 68.81 308 *eP* **P 08 43 28.9 +0.9**
WVOR pmax pmax
comp=Z,59nm,1.1s,mb5.4
WVOR Wild Horse Val 68.81 308 *eP* **P 08 43 28.9 +0.9**
comp=Z,59nm,1.1s,mb5.4
U13A Pakoon Wash 68.82 300 ⇑P **P 08 43 28.2 0.0**
baz=69,SNR=11
W14A Seligman 68.83 299 ⇑P **P 08 43 28.3 +0.1**
baz=69,SNR=12
P10A Eureka 68.86 304 ⇓P **P 08 43 28.3 0.0**
baz=69
R11A Troy Canyon, C 68.93 303 ⇑P **P 08 43 28.1 -0.7**
baz=69
Y15A Casa Rosa Ranc 68.94 297 ⇑P **P 08 43 29.4 +0.5**
baz=69,SNR=9.4
217A Green Valley 68.98 294 ⇓P **P 08 43 29.4 +0.2**
baz=69
I06A Prineville 69.01 310 ⇓P **P 08 43 29.1 -0.1**
baz=69
K07A Rock Creek Ran 69.07 308 ⇑P **P 08 43 29.7 +0.1**
baz=69
X14A Yava 69.07 298 ⇓P **P 08 43 30.0 +0.3**
baz=69
COLA College 69.15 338 ⇑*eP* **P 08 43 26.3 -3.4**
U12A Valley of Fire 69.21 300 ⇓P **P 08 43 30.8 +0.2**
baz=69
116A Eloy 69.21 296 ⇓P **P 08 43 31.2 +0.5**
baz=69
Q10A Clear Creek Ra 69.23 303 ⇓P **P 08 43 31.4 +0.7**
baz=69,SNR=5.7
T11A Corn Creek, Al 69.26 301 P **P 08 43 31.4 +0.6**
baz=69,SNR=8.4
S11A Rachel 69.41 302 ⇑P **P 08 43 32.1 +0.4**
baz=69
Y14A Wickenburg 69.43 297 ⇓P **P 08 43 32.4 +0.5**
baz=69
115A Sonoran Desert 69.52 296 ⇓P **P 08 43 33.0 +0.5**
baz=69
KURK Kurchatov 69.60 41 P **P 08 43 32.8 +0.1**
comp=Z,74nm,1.7s,mb5.3,SNR=8.7
KURK Kurchatov 69.60 41 *eP* **P 08 43 32.5 -0.2**
KURK Kurchatov 69.60 41 ⇑*eP* **P 08 43 31.8 -0.9**
KURK Kurchatov 69.60 41 *eP* **P 08 43 32.5 -0.2**
X13A Yucca 69.67 298 ⇑P **P 08 43 34.1 +0.6**
baz=69,SNR=11
V12A Nelson 69.79 300 ⇓P **P 08 43 34.2 +0.1**
baz=70
S10A Tonopah Range, 69.83 303 ⇑P **P 08 43 34.6 +0.2**
baz=70
TIXI Tiksi 69.89 9 *eP* **P 08 43 34.4 +0.2**
comp=Z,24nm,1.3s,mb5.0
TIXI Tiksi 69.89 9 *eP* **P 08 43 32.9 -1.3**
TIXI pmax pmax
comp=Z,11nm,0.9s,mb4.8
TIXI Tiksi 69.89 9 *eP* **P 08 43 34.4 +0.2**
comp=Z,24nm,1.3s,mb5.0
N07B Gerlach 69.89 306 ⇑P **P 08 43 34.5 -0.2**
baz=70
IMA2 Indian Mountai 69.96 340 *eP* **P 08 43 33.2 -1.4**
R09A Tonopah 69.99 303 P **P 08 43 35.9 +0.5**
baz=70,SNR=14
PDMCI Parker Dam,Lak 70.04 298 ⇓P **P 08 43 36.2 +0.4**
baz=70
Y13A Salome 70.08 298 ⇓P **P 08 43 36.4 +0.5**
baz=70
V11A Goodsprings 70.13 300 ⇓P **P 08 43 36.1 -0.1**
baz=70
Q08A Gabbs 70.23 304 ⇑P **P 08 43 36.3 -0.6**
baz=70
MCK McKinley 70.30 337 *eP* **P 08 43 36.8 +0.1**
MCK McKinley 70.30 337 *eP* **P 08 43 36.8 0.0**
S09A Goldfield 70.36 303 ⇓P **P 08 43 37.3 -0.4**
baz=70
U10A Ash Meadows, A 70.44 301 ⇓P **P 08 43 38.8 +0.6**
baz=70
Y12C Blythe 70.60 298 ⇓P **P 08 43 39.3 +0.1**
baz=70
NVAR Mina Array Bea 70.71 304 P **P 08 43 38.7 -1.0**
comp=Z,0.2nm,0.6s,baz=108,slow=2.9,SNR=3.3
O06A Flanigan 70.78 306 ⇓P **P 08 43 40.6 +0.5**
baz=70
ZAL Zalesovo 70.82 36 P **P 08 43 39.8 -0.3**
ZAA0 Zalesovo Array 70.83 36 *eP* **P 08 43 40.0 -0.2**
ZAA0 Zalesovo Array 70.83 36 *eP* **P 08 43 40.0 -0.1**
ZALV Zalesovo Beam 70.83 36 P **P 08 43 39.8 -0.3**
ZALV LR LR 09 15 03.7
ZALV Zalesovo Beam 70.83 36 P **P 08 43 39.8 -0.3**
comp=Z,5.4nm,0.7s,mb4.6,baz=308,slow=6.5,SNR=26
ZALV LR LR 09 15 03.7
comp=Z,154nm,19.8s,MS4.3,baz=141,slow=36
IRM Iron Mountain 70.83 299 ⇑P **P 08 43 40.8 +0.3**
baz=71
GMRC Granite Mounta 70.85 299 ⇑P **P 08 43 40.7 +0.1**
baz=71
GLA Glamis 71.19 297 *eP* **P 08 43 48.4 +5.7**
GLA Glamis 71.19 297 ⇓P **P 08 43 43.0 +0.3**
baz=71
GLA Glamis 71.19 297 *eP* **P 08 43 48.4 +5.6**
EKS2 Erkin-Say 71.28 50 *eP* **P 08 43 44.3 +1.2**
comp=Z,37nm,1.4s,mb5.1
EKS2 Erkin-Say 71.28 50 *eP* **P 08 43 44.3 +1.2**
comp=Z,37nm,1.4s,mb5.1
GSC Goldstone 71.37 300 *eP* **P 08 43 44.8 +1.0**
comp=Z,12nm,1.4s,mb4.6
GSC Goldstone 71.37 300 *eP* **P 08 43 44.8 +1.0**
GSC pmax pmax
comp=Z,12nm,1.4s,mb4.6
GSC Goldstone 71.37 300 *eP* **P 08 43 44.8 +1.0**
comp=Z,12nm,1.4s,mb4.6
MPMC Manual Prospec 71.43 301 ⇑P **P 08 43 44.2 0.0**
baz=71
AML Almayashu 71.52 51 *eP* **P 08 43 45.9 +1.3**
comp=Z,40nm,1.4s,mb5.2
AML Almayashu 71.52 51 *eP* **P 08 43 45.9 +1.3**
comp=Z,40nm,1.4s,mb5.2
FRU Bishkek 71.70 50 *eP* **P 08 43 49.0 +3.3**
FRU pmax pmax
comp=Z,50nm,1.7s,mb5.2
AAK Ala-Archa 71.74 50 P **P 08 43 48.9 +3.0**
comp=Z,38nm,1.2s,mb5.2,SNR=5.0
SWSC Sam W. Stewart 71.94 298 ⇑P **P 08 43 47.5 +0.3**
baz=72
UCH Uchtor 71.98 50 *eP* **P 08 43 48.7 +1.4**

comp=Z,16nm,1.1s,mb4.9
UCH Uchtor 71.98 50 *e*P **P 08 43 48.7 +1.4**
comp=Z,16nm,1.1s,mb4.9
PFO Pinyon Flat Ob 72.04 299 *e*P **P 08 43 48.3 +0.4**
comp=Z,42nm,1.8s,mb5.1
PFO Pinyon Flat Ob 72.04 299 *e*P **P 08 43 48.3 +0.4**
PFO pmax pmax
comp=Z,42nm,1.8s,mb5.1
PFO Pinyon Flat Ob 72.04 299 LR LR 09 14 58.3
comp=Z,269nm,19.5s,MS4.5,baz=131,slow=36
PFO Pinyon Flat Ob 72.04 299 ⇑P **P 08 43 48.0 +0.1**
baz=72
PFO Pinyon Flat Ob 72.04 299 *e*P **P 08 43 48.3 +0.4**
comp=Z,42nm,1.8s,mb5.1
HELL Mitchell Peak 72.13 303 ⇓P **P 08 43 48.4 0.0**
baz=72
TKM2 Tokmak 2 72.25 49 *e*P **P 08 43 49.9 +1.0**
comp=Z,17nm,1.4s,mb4.8
TKM2 Tokmak 2 72.25 49 *e*P **P 08 43 49.9 +0.9**
TKM2 pmax pmax
comp=Z,17nm,1.4s,mb4.8
TKM2 Tokmak 2 72.25 49 *e*P **P 08 43 49.9 +0.9**
comp=Z,17nm,1.4s,mb4.8
T06C Millerton Lake 72.41 303 ⇓P **P 08 43 49.5 -0.5**
baz=72
MK31 Makanchi Array 73.86 43 *e*P **P 08 43 58.3 -0.1**
MK31 Makanchi Array 73.86 43 *e*P **P 08 43 58.3 -0.1**
MKAR Makanchi Array 73.86 43 P **P 08 43 58.5 +0.1**
MKAR LR LR 09 17 09.0
MKAR Makanchi Array 73.86 43 P **P 08 43 58.5 +0.1**
comp=Z,5.0nm,0.9s,mb4.5,baz=316,slow=5.1,SNR=34
MKAR LR LR 09 17 09.0
comp=Z,478nm,18.6s,MS4.8,baz=325,slow=36
BILL Bilibino 74.84 356 *e*P **P 08 44 04.0 +0.3**
comp=Z,14nm,1.2s,mb4.8
BILL Bilibino 74.84 356⇓*e*P **P 08 44 01.8 -1.9**
BILL *e*S S 08 53 42.3 +2.1
BILL pmax pmax
comp=Z,14nm,1.6s,mb4.6
BILL Bilibino 74.84 356 *e*P **P 08 44 04.0 +0.3**
comp=Z,14nm,1.2s,mb4.8
WMQ Urumqi 78.69 43 *e*P **P 08 44 27.0 +1.1**
WMQ XP sP 08 44 34.0 +3.6
WMQ PCP PcP 08 44 37.0 +2.2
WMQ S S 08 54 23.0 -0.1
WMQ SS SS 08 59 30.0 +3.8
WMQ AMB AMB
comp=Z,12nm,0.8s,mb4.9
WMQ AMB AMB
comp=Z,160nm,4.4s
WMQ LR LR
comp=N,534nm,18.0s,MS5.1
WMQ LR LR
comp=E,439nm,15.7s,MS5.1
WMQ LR LR
comp=Z,412nm,25.8s
YAK Yakutsk 79.00 12⇓*i*P **P 08 44 23.9 -3.4**
YAK pmax pmax
comp=Z,28nm,0.6s,mb5.4
BOD Bodaibo 79.20 21⇑*i*P **P 08 44 26.9 -1.6**
BOD pmax pmax
comp=Z,31nm,1.5s,mb5.0
MOY Mondy 79.56 31 *e*P **P 08 44 31.8 +1.3**
MOY pmax pmax
comp=Z,44nm,1.9s,mb5.1
SEY Seymchan 80.25 1⇑*e*P **P 08 44 33.7 -0.3**
TLY Talaya 80.62 30 *e*P **P 08 44 37.0 +0.8**
comp=Z,6.4nm,0.8s,mb4.6
TLY Talaya 80.62 30 *e*P **P 08 44 37.2 +0.9**
TLY *e*S S 08 54 50.0 +6.8
TLY *e*PS 08 55 42.0
TLY *e*SSS 09 03 12.9
TLY pmax pmax
comp=Z,17nm,1.7s,mb4.7
TLY Talaya 80.62 30 *e*P **P 08 44 37.0 +0.7**
comp=Z,6.4nm,0.8s,mb4.6
ZAK Zakamensk 81.48 31⇓*e*P **P 08 44 41.6 +0.8**
ZAK pmax pmax
comp=Z,5.0nm,1.5s,mb4.2
NDI New Delhi 81.70 60 *e*P **P 08 44 43.0 +0.6**
SONM Songino Array 84.75 31 P **P 08 44 58.6 +0.8**
comp=Z,4.4nm,0.9s,mb4.6,baz=321,slow=6.0,SNR=22
SONM LR LR 09 26 30.8
comp=Z,261nm,18.0s,MS4.7,baz=260,slow=38
ULN Ulaanbaatar 84.99 30 *e*P **P 08 44 59.7 +0.7**
comp=Z,21nm,1.3s,mb5.1
ULN Ulaanbaatar 84.99 30*d i*P **P 08 44 58.0 -1.0**
ULN Ulaanbaatar 84.99 30 *e*P **P 08 44 59.7 +0.7**
comp=Z,21nm,1.3s,mb5.1
GTA Gaotai 88.23 40 *e*P **P 08 45 15.7 +0.7**
GTA AP pP 08 45 19.7 +1.3
GTA XP sP 08 45 22.8 +3.2
GTA PP PP 08 48 40.9 -0.5
GTA SKS 08 55 40.5
GTA S S 08 55 58.2 -1.5
GTA SS SS 09 01 48.3 +1.0
GTA AMB AMB
comp=Z,3.0nm,0.8s,mb4.6
GTA AMB AMB
comp=Z,64nm,5.7s
GTA LR LR
comp=N,286nm,17.6s,MS4.9
GTA LR LR
comp=E,272nm,19.5s,MS4.9
GTA LR LR
comp=Z,290nm,17.5s,MS4.8
PLCA Paso Flores 88.23 213 P **P 08 45 15.7 +1.1**
comp=Z,6.5nm,1.2s,mb4.7,baz=0.9,slow=10,SNR=4.3
PET Petropavlovsk 90.18 358⇑*e*P **P 08 45 21.9 -2.0**
PET pmax pmax
comp=Z,71nm,1.2s,mb5.9
HHC Hu-ho-hao-te 92.58 32 *e*P **P 08 45 34.2 -1.1**
HHC PP PP 08 49 15.7 -0.1
HHC SKS 08 56 04.7
HHC S S 08 56 34.5 -5.2
HHC AMB AMB
comp=Z,16nm,0.7s,mb5.6
HHC AMB AMB
comp=Z,83nm,6.3s
HHC LR LR
comp=N,272nm,19.0s,MS4.9
HHC LR LR
comp=E,298nm,19.0s,MS4.9
HHC LR LR
comp=Z,327nm,17.8s,MS4.8
LZH Lanzhou 92.82 39 *e*P **P 08 45 37.5 +1.0**
LZH AP pP 08 45 40.5 +0.6
LZH PP PP 08 49 23.0 +5.1
LZH SKS 08 56 09.2
LZH *e*S S 08 56 35.0 -7.0
LZH SS SS 09 02 53.1 -0.6
LZH AMB AMB
comp=Z,13nm,1.0s,mb5.3
LZH AMB AMB
comp=Z,68nm,4.0s
LZH LR LR
comp=E,326nm,14.4s
LZH LR LR
comp=Z,360nm,18.8s,MS4.8
CN2 Changchun 94.96 21 *e*P **P 08 45 45.0 -1.2**
CN2 *e*XP sP 08 45 52.0 +1.3
CN2 *e*S S 08 56 54.5 -6.0
CN2 AMB AMB
comp=Z,10.0nm,0.6s,mb5.4
CN2 AMB AMB
comp=Z,200nm,3.0s
CN2 LR LR
comp=N,200nm,15.0s,MS4.9
CN2 LR LR
comp=E,200nm,15.0s,MS4.9
CN2 LR LR
comp=Z,200nm,15.0s,MS4.7
BJI Beijing 95.14 29 P **P 08 45 45.5 -1.6**
BJI S S 08 56 58.9 -3.3
BJI AMB AMB
comp=Z,1.0nm,0.3s,mb4.7
BJI AMB AMB
comp=Z,51nm,3.8s
BJI LR LR
comp=N,206nm,17.7s,MS4.8
BJI LR LR
comp=E,227nm,17.1s,MS4.8
BJI LR LR
comp=Z,183nm,25.8s
MDJ Mudanjiang 95.32 18 P **P 08 45 46.0 -1.8**
MDJ AMB AMB
comp=Z,4.0nm,0.8s,mb4.9
MDJ AMB AMB
comp=Z,45nm,4.8s
MDJ LR LR
comp=Z,71nm,25.4s,MS4.0
CD2 Chengdu 96.79 43 *e*P **P 08 45 54.9 +0.1**
CD2 AP pP 08 45 59.7 +1.6
CD2 XP sP 08 46 02.5 +3.2
CD2 PP PP 08 49 51.2 +2.3
CD2 SKS 08 56 29.7
CD2 S S 08 57 11.3 -5.5
CD2 SS SS 09 03 48.2 -2.2
CD2 AMB AMB
comp=Z,20nm,0.9s,mb5.5
CD2 AMB AMB
comp=Z,80nm,9.2s
CD2 LR LR
comp=N,280nm,19.2s,MS4.9
CD2 LR LR
comp=E,230nm,15.6s,MS4.9
CD2 LR LR
comp=Z,350nm,18.0s,MS4.9
KMI Kunming 100.64 47 P Pdif 08 46 12.2 +0.4
KMI AP 08 46 17.5
KMI XP 08 46 19.6
KMI PP PP 08 50 25.6 +7.0
KMI S Sdif 08 57 44.5 -4.5
KMI SS SS 09 04 45.5 +0.7
KMI AMB AMB
comp=Z,9.0nm,1.2s
KMI AMB AMB
comp=Z,58nm,4.4s
KMI LR LR
comp=N,196nm,17.9s,MS4.8
KMI LR LR
comp=E,169nm,20.8s,MS4.8
KMI LR LR
comp=Z,225nm,21.7s,MS4.6
WHN Wuhan 102.43 36 *e*P Pdif 08 46 22.8 +3.0
QSPA South Pole Qui 127.01 180 PKP PKPdf 08 51 27.1 +0.6
QSPA South Pole Qui 127.01 180 PKP PKPdf 08 51 27.1 +0.6
comp=Z,3.2nm,1.1s,baz=237,slow=16,SNR=3.7
VNDA Vanda 139.41 182 PKP PKPdf 08 51 51.5 +1.7
comp=Z,1.4nm,0.9s,baz=76,slow=12
VNDA Vanda 139.41 182 PKIKP PKPdf 08 51 51.5 +1.7
MBWA Marble Bar 145.18 73 *e*PKPbc PKPbc 08 52 01.3 0.0
MBWA Marble Bar 145.18 73 *e*PKPbc PKPbc 08 52 01.3 0.0
FITZ Fitzroy Crossi 147.66 62 *e*P PKPbc 08 52 09.3 +0.6
comp=Z,8.8nm,0.8s
FITZ Fitzroy Crossi 147.66 62 *e*PKPdf PKPdf 08 52 05.5 -0.5
FITZ *e*PKPbc PKPbc 08 52 09.3 +0.5
FITZ *e*PKPab PKPab 08 52 11.3 +0.3
FITZ Fitzroy Crossi 147.66 62 PKPbc PKPbc 08 52 09.7 +1.0
comp=Z,2.6nm,0.7s,baz=148,slow=24,SNR=6.5
FITZ Fitzroy Crossi 147.66 62 *e*PKPbc PKPbc 08 52 09.3 +0.6
WRA Warramunga Arr 154.82 53 PKP PKPdf 08 52 16.4 -0.5
comp=Z,0.1nm,0.3s,baz=222,slow=2.4,SNR=8.1
WRA PKPbc PKPbc 08 52 25.4 -0.1
comp=Z,1.2nm,1.0s,baz=325,slow=1.9,SNR=5.1
WRA PKPab PKPab 08 52 38.4 -2.2
comp=Z,0.9nm,0.9s,baz=322,slow=2.6,SNR=4.9
WRA Warramunga Arr 154.82 53 PKPbc PKPbc 08 52 25.4 -0.1
WB2 Warramunga Arr 154.83 53 *e*P PKPbc 08 52 25.7 +0.2
ASAR Alice Springs 157.11 60 PKP PKPdf 08 52 17.2 -2.6
comp=Z,0.9nm,1.0s,baz=335,slow=1.3,SNR=3.1
ASAR PKPab PKPab 08 52 47.7 -2.7
comp=Z,0.7nm,0.8s,baz=311,slow=4.5,SNR=6.3
ASAR Alice Springs 157.11 60 PKPab PKPab 08 52 47.7 -2.7
STKA Stephens Creek 167.40 70 PKP PKPdf 08 52 33.7 +3.8
STKA Stephens Creek 167.40 70 PKP PKPdf 08 52 33.7 +3.8
comp=Z,4.1nm,1.1s,baz=242,slow=2.2,SNR=3.6

IDC 09 08:38:56.8±3.9, 4887S×12450E, h0km, mb3.5/2, mb1 3.7/2, mb1mx3.5/10, mbtmp3.6/2, Error ellipse: s-maj=147.6km s-min=73.7km az=118.0, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	21.31	43	P	P	P	08 43 45.2	+0.3
	0.8nm,0.3s,baz=225,slow=5.7,SNR=4.0							
ASAR	Alice Springs	26.23	20	P	P	P	08 44 33.2	0.0
	0.7nm,0.9s,baz=182,slow=10,SNR=4.2							
YKA	Yellowknife Ar	145.34	44	PKPbc	PKPbc	PKPbc	08 58 34.2	-0.8
	0.6nm,0.9s,baz=267,slow=3.1,SNR=6.0							

IDC 09 08:40:33.8±1.5, 4855S×12368E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.7/11, mbtmp3.7/4, MS3.7/1, Ms1 3.6/1, ms1mx3.0/20, Error ellipse: s-maj=119.1km s-min=25.7km az=114.0, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	21.47	46	P	P	P	08 45 23.4	-0.3
	3.3nm,1.1s,baz=198,slow=12,SNR=4.4							
STKA				LR	LR	LR	08 51 59.5	
	comp=Z,198nm,21.6s,baz=202,slow=32							
ASAR	Alice Springs	26.13	22	P	P	P	08 46 09.5	+0.2
	2.8nm,1.1s,baz=197,slow=8.4,SNR=11							
WRA	Warramunga Arr	29.81	20	P	P	P	08 46 42.1	-0.2
	0.4nm,1.0s,baz=198,slow=8.2,SNR=3.2							
SNAA	Sanae	54.28	198	P	P	P	08 50 00.7	-0.2
	1.8nm,1.1s,baz=117,slow=6.5,SNR=4.2							
YKA	Yellowknife Ar	145.50	44	PKPbc	PKPbc	PKPbc	09 00 12.3	-0.3
	0.7nm,0.7s,baz=269,slow=3.1,SNR=11							

IDC 09 08:44:00.6±4.0, 4869S×12410E, h0km, mb3.5/2, mb1 3.7/2, mb1mx3.5/10, mbtmp3.6/2, MS4.6/1, Ms1 4.6/1, ms1mx3.2/18, Error ellipse: s-maj=146.7km s-min=75.5km az=119.0, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	21.36	45	P	P	P	08 48 49.5	+0.2
	1.3nm,0.7s,baz=173,slow=16,SNR=2.8							
ASAR	Alice Springs	26.15	21	P	P	P	08 49 36.4	0.0
	1.2nm,1.0s,baz=197,slow=8.4,SNR=4.6							
FITZ	Fitzroy Crossi	30.53	3	LR	LR	LR	09 00 58.6	
	comp=Z,1μm,20.7s,baz=311,slow=33							
YKA	Yellowknife Ar	145.40	44	PKPbc	PKPbc	PKPbc	09 03 38.2	-0.8
	0.3nm,0.7s,baz=270,slow=3.1,SNR=4.9							

IDC 09 08:45:47.3±3.6, 4863S×12391E, h0km, mb3.6/3, mb1 3.9/3, mb1mx3.7/10, mbtmp3.7/3, Error ellipse: s-maj=118.7km s-min=64.6km az=112.0, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	21.41	45	P	P	P	08 50 36.7	+0.1
	1.4nm,0.6s,baz=201,slow=12,SNR=5.2							
ASAR	Alice Springs	26.14	21	P	P	P	08 51 23.1	+0.1
	1.4nm,0.7s,baz=198,slow=8.6,SNR=11							
WRA	Warramunga Arr	29.83	20	P	P	P	08 51 55.9	-0.1
	0.7nm,1.0s,baz=197,slow=8.6,SNR=5.4							
YKA	Yellowknife Ar	145.45	44	PKPbc	PKPbc	PKPbc	09 05 25.1	-0.8
	0.9nm,0.7s,baz=266,slow=3.4,SNR=13							

IDC 09 08:51:38.4±0.9, 4878S×12393E, h0km, mb4.2/6, mb1 4.3/6, mb1mx4.1/12, mbtmp4.2/6, MS3.9/1, Ms1 3.9/1, ms1mx3.2/19, Error ellipse: s-maj=68.6km s-min=17.4km az=114.0, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	21.51	45	P	P	P	08 56 28.9	+0.1
	8.2nm,0.9s,baz=192,slow=12,SNR=12							
ASAR	Alice Springs	26.28	21	P	P	P	08 57 15.2	-0.1
	4.5nm,0.9s,baz=198,slow=8.8,SNR=25							
WRA	Warramunga Arr	29.97	20	P	P	P	08 57 47.8	-0.5
	2.0nm,1.1s,baz=198,slow=8.2,SNR=5.2							
MAW	Mawson	35.37	215	P	P	P	08 58 34.6	-0.6
	3.5nm,1.0s,baz=93,slow=15,SNR=4.4							
BATI	Kupang	38.45	360	LR	LR	LR	09 14 13.3	
	comp=Z,190nm,20.1s,baz=142,slow=35							
QSPA	South Pole Qui	41.34	180	P	P	P	08 59 25.0	-0.2
	8.1nm,1.1s,baz=355,slow=5.3,SNR=8.4							
SNAA	Sanae	54.11	198	P	P	P	09 01 04.9	+0.5
	2.9nm,1.1s,baz=118,slow=7.7,SNR=5.8							
TORD	Torodi Ar. Bea	120.88	254	PKP	PKPdf	PKPdf	09 10 33.0	+0.3
	1.0nm,1.0s,baz=90,slow=1.2,SNR=4.2							
TXAR	Lajitas Array	139.03	100	PKP	PKPdf	PKPdf	09 11 06.6	-0.1
	0.6nm,1.0s,baz=167,slow=2.2,SNR=4.2							
YKA	Yellowknife Ar	145.54	44	PKPbc	PKPbc	PKPbc	09 11 17.4	0.0
	4.0nm,0.9s,baz=271,slow=3.1,SNR=35							

IDC 09 08:56:56.8±1.5, 4862S×12399E, h0km, mb3.9/5, mb1 4.0/5, mb1mx3.9/12, mbtmp3.9/5, MS3.7/1, Ms1 3.5/1, ms1mx3.0/15, Error ellipse: s-maj=101.0km s-min=20.4km az=109.0, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	21.37	45	P	P	P	09 01 44.5	-1.1
	4.8nm,0.9s,baz=215,slow=13,SNR=6.0							
ASAR	Alice Springs	26.11	21	P	P	P	09 02 33.1	+0.8
	2.2nm,0.9s,baz=190,slow=10,SNR=11							
WRA	Warramunga Arr	29.80	20	P	P	P	09 03 05.4	+0.1
	0.7nm,0.9s,baz=197,slow=7.3,SNR=2.8							
MAW	Mawson	35.53	215	LR	LR	LR	09 14 36.8	
	comp=Z,111nm,21.2s,baz=67,slow=30							
QSPA	South Pole Qui	41.50	180	P	P	P	09 04 46.6	+1.6
	3.8nm,1.0s,baz=335,slow=3.1,SNR=5.0							
SNAA	Sanae	54.28	198	P	P	P	09 06 22.6	-1.4
	1.5nm,0.9s,baz=151,slow=10,SNR=3.9							

IDC 09 08:57:43.3±3.9, 4857S×12423E, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.8/10, mbtmp3.9/3, Error ellipse: s-maj=121.0km s-min=69.0km az=111.0, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	21.22	45	P	P	P	09 02 30.6	0.0
	2.0nm,0.6s,baz=190,slow=12,SNR=4.5							
ASAR	Alice Springs	26.01	21	P	P	P	09 03 18.4	+0.5
	2.1nm,0.9s,baz=196,slow=8.6,SNR=5.5							
WRA	Warramunga Arr	29.70	19	P	P	P	09 03 50.6	-0.3
	1.5nm,1.2s,baz=196,slow=8.3,SNR=3.2							
YKA	Yellowknife Ar	145.26	44	PKPbc	PKPbc	PKPbc	09 17 20.5	-0.8
	1.4nm,0.8s,baz=268,slow=3.3,SNR=6.5							

IDC 09 09:03:35.3±3.9, 4849S×12369E, h0km, mb3.4/2, mb1 3.5/2, mb1mx3.4/10, mbtmp3.4/2, Error ellipse: s-maj=141.7km s-min=73.5km az=121.0, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	21.42	46	P	P	P	09 08 24.5	-0.2
	1.4nm,0.9s,baz=191,slow=12,SNR=4.1							
ASAR	Alice Springs	26.06	22	P	P	P	09 09 10.6	+0.2
	0.5nm,0.9s,baz=203,slow=8.8,SNR=4.5							
YKA	Yellowknife Ar	145.44	44	PKPbc	PKPbc	PKPbc	09 23 13.1	-0.8
	0.2nm,0.6s,baz=266,slow=3.5,SNR=6.0							

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*MOS **09** 09:04:32.3±1.0, 3755N×7203E, h100km, mb4.2/6, Error ellipse: s-maj=23.7km s-min=13.8km az=104.2*
*NEIC **09** 09:04:32.5±1.5, 3755N×7207E, h83km±18km, mb4.6/2, Error ellipse: s-maj=15.1km s-min=7.9km az=58.0*
*ISCJB **09** 09:04:33.8±0.7, 3762N±003×72.14E±0.10, h113km±10km, mb3.9/8, Error ellipse: s-maj=13.2km s-min=4.4km az=164.3*
*IDC **09** 09:04:33.3±5.9, 3757N×72.11E, h89km±48km, mb3.7/6, mb1 3.8/9, mb1mx3.5/21, mbtmp3.6/9, ML4.1/3, Error ellipse: s-maj=43.1km s-min=22.0km az=173.0*
*NNC **09** 09:04:40.7±7.3, 3815N×7192E, h130km±80km, mb3.2, mpv3.9, Error ellipse: s-maj=61.9km s-min=32.0km az=6.0*

ISC 09 09:04:34.6±0.6, 3757N±003×7219E±010, h109km±9km, n53, σ1°17/71, mb3.9/8, 10C, Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
AML	Almayashu	4.70	14	P	Pn	Pn	09 05 43.7	+0.4
	SNR=86							
UCH	Uchtor	4.99	20	P	Pn	Pn	09 05 47.8	+0.6
	SNR=23							
KZA	Kyzart	5.08	27	P	Pn	Pn	09 05 49.3	+0.9
	SNR=18							
EKS2	Erkin-Say	5.23	13	P	Pn	Pn	09 05 51.0	+0.5
	SNR=25							
AAK	Ala-Archa	5.36	19	P	Pn	Pn	09 05 53.1	+0.9
	SNR=19							
KK31	Karatay Array	5.68	347	⇑P	Pn	Pn	09 05 55.4	-1.0
	12nm,0.2s,baz=161,slow=11,SNR=386							
KK31				⇑S	Sn	Sn	09 06 53.5	-6.8
	30nm,0.3s,baz=170,slow=23,SNR=14							
CHMS	Chumysh	5.77	19	P	Pn	Pn	09 05 58.3	+0.6
	SNR=11							
THN	Thein Dam	5.88	150	*e*P	Pn	Pn	09 06 03.6	+4.3
THN				*e*x	Sn	Sn	09 07 05.9	+0.5
TKM2	Tokmak 2	5.95	25	⇑P	Pn	Pn	09 06 00.6	+0.5
	3.1nm,0.5s							
TKM2				⇑S	Sn	Sn	09 07 03.6	-3.3
	11nm,0.6s							
TKM2	Tokmak 2	5.95	25	P	Pn	Pn	09 06 01.2	+1.0
	SNR=6.8							
USP	Ospenovka	5.96	16	P	Pn	Pn	09 06 00.2	-0.1
	SNR=6.6							
SDNR	Sundarnagar	7.22	146	*e*x	Pn	Pn	09 06 17.9	+0.4
SDNR				*e*S	Sn	Sn	09 07 35.5	-2.5
SMLA	Simla	7.63	146	*e*P	Pn	Pn	09 06 25.3	+2.3
SMLA				*e*S	Sn	Sn	09 07 45.8	-2.0
DDI	Dehra Dun	8.71	144	*e*x	Pn	Pn	09 06 41.5	+3.7
DDI				*e*S	Sn	Sn	09 08 10.8	-3.4
JOSI	Joshimath	9.28	137	*e*P	Pn	Pn	09 06 50.0	+4.5
NDI	New Delhi	9.81	153	*e*P	Pn	Pn	09 06 54.7	+2.1
NDI				AMb	AMB	AMB	09 06 56.4	
	comp=Z,16nm,0.2s							
NDI				*e*S	Sn	Sn	09 08 34.5	-6.3
AYAN	Aya Nagar	9.96	154	*e*P	Pn	Pn	09 06 55.1	+0.5
AYAN				AMb	AMB	AMB	09 06 58.1	
	comp=Z,15nm,0.1s							
AYAN				*e*S	Sn	Sn	09 08 36.8	-7.7
SONA	Sohna	10.16	155	*e*P	Pn	Pn	09 06 59.2	+1.8
SONA				AMb	AMB	AMB	09 07 01.4	
	comp=Z,20nm,0.7s							
SONA				*e*S	Sn	Sn	09 08 39.8	-10
AJM	Ajmer	11.25	169	*e*P	Pn	Pn	09 07 12.8	+0.8
AJM				*e*S	Sn	Sn	09 09 02.5	-13
MK31	Makanchi Array	11.87	36	⇑P	Pn	Pn	09 07 18.3	-1.8
	comp=Z,0.4nm,0.5s,baz=220,slow=12,SNR=5.4							
MKAR	Makanchi Array	11.87	36	P	Pn	Pn	09 07 20.0	-0.1
MKAR				pmax	pmax			
	comp=Z,1.0nm,0.3s							
MKAR	Makanchi Array	11.87	36	P	Pn	Pn	09 07 20.0	-0.1
	comp=Z,0.5nm,0.3s,baz=224,slow=15,SNR=5.9							
KOLN	Koldanda	13.69	132	*e*S	Sn	Sn	09 10 07.1	-7.9
GKN	Gorkha	14.15	129	*e*P	Pn	Pn	09 07 50.4	+0.3
	comp=Z,46nm,0.4s							
GKN				*e*S	Sn	Sn	09 10 16.4	-10
AB31	Akbulak array	14.66	327	P	Pn	Pn	09 07 53.0	-3.4
	comp=Z,0.8nm,0.3s,baz=140,slow=12,SNR=63							
AB31				⇑S	Sn	Sn	09 10 21.6	-17
	comp=Z,5.1nm,0.5s,baz=154,slow=17,SNR=18							
KKN	Kakani	14.70	128	*e*P	Pn	Pn	09 07 57.1	0.0
	comp=Z,25nm,0.4s							
KKN				*e*S	Sn	Sn	09 10 28.6	-11
KKN	Kakani	14.70	128	*e*P	Pn	Pn	09 07 57.1	0.0
KKN				pmax	pmax			
	comp=Z,25nm,0.4s							
BHPL	Bhopal	14.97	161	*e*P	Pn	Pn	09 08 03.7	+3.1
BHPL				*e*S	Sn	Sn	09 10 45.0	-0.9
VOSK	Vostochnaya	15.18	357	⇑P	Pn	Pn	09 08 04.1	+1.2
	comp=Z,1.6nm,0.6s							
JIRN	Jiri	15.37	126	*e*P	Pn	Pn	09 08 05.4	-0.1
	comp=Z,35nm,0.2s							
JIRN				*e*S	S	Pn	09 10 45.8	-18
BVA0	Borovoye Array	15.51	356	⇑P	Pn	Pn	09 08 06.4	-0.7
	comp=Z,1.0nm,0.9s,baz=163,slow=13,SNR=34							
ZRNK	Zerenda	15.54	353	⇑P	Pn	Pn	09 08 06.2	-1.3
	comp=Z,3.8nm,0.5s							
CHKZ	Chkalovo	16.15	357	⇑P	Pn	Pn	09 08 14.9	-0.1
	comp=Z,1.5nm,0.7s							
AKTK	Aktyubinsk	16.38	326	P	Pn	Pn	09 08 16.1	-1.7
AKTK				S	S	Pn	09 11 05.2	-19
AKTO	Aktyubinsk	16.38	326	P	Pn	Pn	09 08 16.1	-1.7

AKTO S **S** **09 11 05.2 -19**
AKTO pmax pmax
comp=Z,2.0nm,0.3s
AKTO smax
comp=N,1.0nm,0.3s
AKTO Aktyubinsk 16.38 326 P **Pn** **09 08 16.1 -1.7**
comp=N,1.7nm,0.3s,baz=126,slow=13,SNR=23
AKTO S **S** **09 11 05.2 -19**
comp=N,0.8nm,0.3s,baz=330,slow=23,SNR=11
ZAL Zalesovo 18.54 24 P **P** **09 08 42.3 -0.1**
ZALV Zalesovo Beam 18.55 24 P **P** **09 08 42.3 -0.3**
comp=N,0.4nm,0.3s,baz=212,slow=10,SNR=5.4
SONM Songino Array 26.95 57 P **P** **09 10 07.3 +1.6**
comp=N,0.3nm,0.7s,mb2.9,baz=267,slow=5.8,SNR=3.1
AKASG Malin Array Be 33.04 307 P **P** **09 11 00.0 +0.6**
AKASG pmax pmax
comp=Z,1.0nm,0.3s
AKASG Malin Array Be 33.04 307 P **P** **09 11 00.0 +0.7**
comp=Z,0.6nm,0.3s,mb3.9,baz=116,slow=8.4,SNR=6.8
FINES FINESS Array B 37.15 325 P **P** **09 11 34.8 +0.4**
FINES pmax pmax
comp=Z,2.0nm,0.3s
FINES FINESS Array B 37.15 325 P **P** **09 11 34.8 +0.4**
comp=Z,1.6nm,0.3s,mb4.4,baz=122,slow=9.4,SNR=29
KAF Kangasniemi 37.26 326 *eP* **P** **09 11 34.6 -0.8**
comp=Z,1.0nm,0.5s,mb4.0,baz=109,slow=8.6
KAF Kangasniemi 37.26 326 *eP* **P** **09 11 34.6 -0.8**
KAF pmax pmax
comp=Z,1.0nm,0.5s,mb4.0
ARCES ARCESS Array B 40.53 337 P **P** **09 12 03.1 +0.5**
ARCES pmax pmax
comp=Z,3.0nm,0.7s
ARCES ARCESS Array B 40.53 337 P **P** **09 12 03.0 +0.5**
comp=Z,3.0nm,0.7s,mb4.2,baz=114,slow=9.1,SNR=13
NB2 NORSAR Subarra 44.11 322 P **P** **09 12 31.5 -0.2**
comp=Z,1.3nm,0.5s,mb3.9,baz=90,slow=7.9
NOA NORSAR Array B 44.11 322 P **P** **09 12 31.9 +0.2**
NOA pmax pmax
comp=Z,2.0nm,0.6s
NOA NORSAR Array B 44.11 322 P **P** **09 12 31.9 +0.2**
comp=Z,1.9nm,0.6s,mb4.0,baz=93,slow=7.6,SNR=9.5
TORD Torodi Ar. Bea 66.69 269 P **P** **09 15 14.4 +0.3**
comp=Z,0.7nm,0.4s,mb3.8,baz=45,slow=6.0,SNR=15
YKA Yellowknife Ar 80.13 3 P **P** **09 16 32.8 +0.6**
YKA pmax pmax
comp=Z,1.0nm,0.4s
YKA Yellowknife Ar 80.13 3 P **P** **09 16 32.8 +0.7**
comp=Z,0.7nm,0.4s,mb3.8,baz=349,slow=5.5,SNR=37

IDC 09 09:05:52.6±3.6, 4886S×12466E, h0^{km}, mb3.7/3, mb1 3.9/3, mb1mx3.7/10, mbtmp3.7/3, Error ellipse: s-maj=113.9km s-min=64.3km az=108.0, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**21.24**	**43**	P	P	09 10 40.2	+0.1
	2.6nm,0.8s,baz=213,slow=11,SNR=5.6						
ASAR	**Alice Springs**	**26.19**	**20**	P	P	09 11 29.1	+0.4
	1.5nm,0.8s,baz=193,slow=9.4,SNR=9.5						
WRA	**Warramunga Arr**	**29.89**	**19**	P	P	09 12 01.6	-0.2
	0.6nm,0.8s,baz=193,slow=8.8,SNR=2.9						
YKA	**Yellowknife Ar**	**145.26**	**44**	PKPbc	PKPbc	09 25 29.8	-0.9
	1.2nm,0.8s,baz=270,slow=3.5,SNR=12						

NIED ***09*** *09:10:00, 4450N×14920E, h32^{km}, Mw3.8 Best double couple: M$_0$5.55000×10^{14} NP1:φ$_s$43.00000°, δ69.00000°, λ128.00000°. NP2:φ$_s$157.00000°, δ43.00000°, λ31.00000°.*
JMA ***09*** *09:10:08.5±0.8, 4445N×14921E, h30^{km}, M3.6*
ISCJB ***09*** *09:10:11.3±1.6, 4358N±0.10×149.1E±0.1, h84^{km}±12^{km}, mb3.5/8, Error ellipse: s-maj=22.5km s-min=9.3km az=41.7*
IDC ***09*** *09:10:15.9±4.6, 4425N×14906E, h81^{km}±47^{km}, mb3.4/8, mb1 3.5/9, mb1mx3.4/21, mbtmp3.4/9, ML3.1/1, MS2.9/1, Ms1 2.9/1, ms1mx2.3/24, Error ellipse: s-maj=91.8km s-min=26.7km az=180.0*
MOS ***09*** *09:10:16.2±0.8, 4420N×14892E, h103^{km}, mb3.7/4, Error ellipse: s-maj=31.9km s-min=19.7km az=126.8*
ISC 09 09:10:12.9±1.5, 4367N±010×1491E±02, h78^{km}±11^{km}, n32, σ1°06'/35, mb3.5/8, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.79**	**331**	*e*PN	**Pn**	**09 10 40.7**	**-1.1**
NEM2	**Nemuro 2**	**2.44**	**264**	P	**Pn**	**09 10 49.1**	**-1.5**
NEM2				*e*S	**Sn**	**09 11 19.8**	**+0.3**
JRA	**Rausu**	**2.87**	**277**	P	**Pn**	**09 10 55.1**	**-1.3**
JNK	**Nakash**	**3.16**	**270**	P	**Pn**	**09 10 59.3**	**-1.0**
JNK				*e*S	**Sn**	**09 11 38.3**	**+1.3**
JAK	**Akkeshi**	**3.26**	**260**	P	**Pn**	**09 11 01.5**	**-0.2**
JTKR	**Abashiri--Toko**	**3.75**	**276**	P	**Pn**	**09 11 07.5**	**-0.8**
JAR	**Ashorobuto**	**3.88**	**266**	P	**Pn**	**09 11 09.8**	**-0.3**
JCH	**Churui**	**4.31**	**258**	P	**Pn**	**09 11 17.1**	**+1.1**
JEM	**Erimo**	**4.65**	**251**	P	**Pn**	**09 11 23.5**	**+2.9**
ASAJ	**Asahikawa**	**4.70**	**278**	P	**Pn**	**09 11 23.9**	**+2.6**
	0.7nm,0.3s,baz=96,slow=10,SNR=4.9						
ASAJ				LR	LR	09 13 24.7	
	comp=Z,127nm,19.2s,baz=136,slow=41						
JNBK	**Urakawa-nobuka**	**4.84**	**255**	P	**Pn**	**09 11 24.0**	**+0.8**
JBT2	**Biratori 2**	**4.98**	**262**	P	**Pn**	**09 11 25.2**	**+0.1**
JNB	**Noboribetsu**	**6.01**	**261**	P	**Pn**	**09 11 39.8**	**+0.7**
JKB	**Kayabe**	**6.18**	**256**	P	**Pn**	**09 11 41.9**	**+0.4**
JANG	**Nango**	**6.52**	**242**	*e*S	**Sn**	**09 12 57.8**	**-1.2**
JTH	**Tanohata**	**6.55**	**238**	*e*S	**Sn**	**09 12 57.1**	**-2.6**
JTM	**Tenmabayashi**	**6.60**	**247**	P	**Pn**	**09 11 48.3**	**+1.1**
JTM				*e*S	**Sn**	**09 13 00.5**	**-0.5**
OFUJ	**Ofunato**	**7.21**	**233**	*e*S	**Sn**	**09 13 15.7**	**-0.2**
JOSM	**Okushiri--Mats**	**7.23**	**261**	P	**Pn**	**09 11 56.7**	**+0.9**
SONM	**Songino Array**	**29.79**	**293**	P	**P**	**09 16 11.7**	**-0.3**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.7s						
SONM	**Songino Array**	**29.79**	**293**	P	**P**	**09 16 11.7**	**-0.3**
	comp=Z,0.5nm,0.7s,mb3.2,baz=90,slow=8.7,SNR=3.7						
MKAR	**Makanchi Array**	**45.85**	**298**	P	**P**	**09 18 28.0**	**+1.0**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
MKAR	**Makanchi Array**	**45.85**	**298**	P	**P**	**09 18 28.0**	**+1.0**
	comp=Z,1.1nm,0.7s,mb3.7,baz=74,slow=8.9,SNR=12						
YKA	**Yellowknife Ar**	**55.09**	**34**	P	**P**	**09 19 35.4**	**-0.9**
	comp=Z,0.3nm,0.8s,mb3.4,baz=297,slow=6.6,SNR=4.2						
FINES	**FINESS Array B**	**65.57**	**334**	P	**P**	**09 20 46.7**	**-1.1**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
FINES	**FINESS Array B**	**65.57**	**334**	P	**P**	**09 20 46.7**	**-1.1**
	comp=Z,0.8nm,0.6s,mb3.7,baz=60,slow=4.6,SNR=5.9						
NB2	**NORSAR Subarra**	**70.17**	**340**	P	**P**	**09 21 16.6**	**-0.1**
	comp=Z,0.6nm,0.5s,mb3.7,baz=30,slow=6.5						
NOA	**NORSAR Array B**	**70.17**	**340**	P	**P**	**09 21 16.5**	**-0.2**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
NOA	**NORSAR Array B**	**70.17**	**340**	P	**P**	**09 21 16.5**	**-0.1**
	comp=Z,1.0nm,0.7s,mb3.8,baz=32,slow=6.3,SNR=4.7						
AKASG	**Malin Array Be**	**72.46**	**325**	P	**P**	**09 21 30.8**	**+0.1**
	comp=Z,0.1nm,0.3s,mb3.2,baz=37,slow=6.9,SNR=4.8						
GERES	**GERESS Array B**	**79.90**	**332**	P	**P**	**09 22 12.8**	**-0.1**
	comp=Z,0.4nm,0.5s,mb3.5,baz=34,slow=2.6,SNR=1.9						
TXAR	**Lajitas Array**	**81.53**	**57**	P	**P**	**09 22 23.1**	**+1.2**
	comp=Z,0.2nm,0.5s,mb3.2,baz=298,slow=1.9,SNR=4.8						

IDC ***09*** *09:11:03.4±0.9, 705S×15577E, h0^{km}, mb4.2/11, mb1 4.3/12, mb1mx4.2/14, mbtmp4.2/12, ML4.3/1, MS3.4/2, Ms1 3.4/2, ms1mx2.9/26, Error ellipse: s-maj=27.3km s-min=18.0km az=101.0*
NEIC ***09*** *09:11:04.9±0.4, 705S×15579E, h10^{km}, mb4.4/3, Error ellipse: s-maj=11.6km s-min=11.2km az=138.0*
ISCJB ***09*** *09:11:07.0±0.5, 708S±009×15580E±008, h33^{km}, mb4.1/12, MS3.3/2, Error ellipse: s-maj=12.7km s-min=10.7km az=23.1*
ISC 09 09:11:08.9±0.5, 706S±009×15578E±008, h35^{km}, n26, σ0°77'/27, mb4.1/12, MS3.3/2, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.75**	**120**	*e*Pn	**Pn**	**09 12 17.2**	**-0.8**
HNR				Pn	**Pn**	**09 12 17.8**	**-0.3**
HNR				*e*Sn	**Sn**	**09 13 11.8**	**-0.2**
HNR				Sn	**Sn**	**09 13 21.5**	**+9.5**
HNR	**Honiara**	**4.75**	**120**	Pn	**Pn**	**09 12 17.8**	**-0.3**
	13nm,0.3s,baz=260,slow=7.4,SNR=3.8						
HNR				Sn	**Sn**	**09 13 21.5**	**+9.5**
	24nm,0.3s,baz=105,slow=19,SNR=3.5						
KAKA	**Kakadu**	**23.66**	**254**	*e*P	**P**	**09 16 17.4**	**0.0**
	5.7nm,0.5s,mb4.3						
WRAB	**Tennant Creek**	**24.41**	**236**	*e*P	**P**	**09 16 24.0**	**-0.3**
WB2	**Warramunga Arr**	**24.41**	**236**	*e*P	**P**	**09 16 24.7**	**+0.4**
WRA	**Warramunga Arr**	**24.42**	**236**	P	**P**	**09 16 24.6**	**+0.3**
	5.4nm,0.9s,mb4.0,baz=64,slow=9.0,SNR=14						
WRA				LR	LR	09 25 35.8	
	comp=Z,60nm,20.0s,MS3.1,baz=65,slow=36						
ASAR	**Alice Springs**	**26.71**	**229**	P	**P**	**09 16 44.8**	**-0.4**
	0.9nm,0.5s,mb3.6,baz=59,slow=9.5,SNR=18						
STKA	**Stephens Creek**	**28.01**	**206**	*e*P	**P**	**09 16 56.7**	**0.0**
	1.9nm,0.6s,mb3.9						
STKA	**Stephens Creek**	**28.01**	**206**	P	**P**	**09 16 56.2**	**-0.4**
	2.4nm,0.6s,mb4.0,baz=32,slow=11,SNR=12						
STKA				LR	LR	09 27 23.5	
	comp=Z,110nm,20.6s,MS3.4,baz=27,slow=35						
FITZ	**Fitzroy Crossi**	**31.34**	**247**	*e*P	**P**	**09 17 25.6**	**-0.7**
	7.7nm,0.6s,mb4.7						
FITZ	**Fitzroy Crossi**	**31.34**	**247**	P	**P**	**09 17 25.3**	**-1.0**
	3.3nm,0.7s,mb4.3,baz=98,slow=7.4,SNR=12						
MJAR	**Matsushiro Arr**	**46.40**	**340**	P	**P**	**09 19 31.9**	**-0.1**
MJAR	**Matsushiro Arr**	**46.40**	**340**	P	**P**	**09 19 31.9**	**-0.1**
	1.1nm,0.5s,mb4.1,baz=164,slow=7.6,SNR=6.0						
KSRS	**Korea Array**	**51.36**	**332**	P	**P**	**09 20 08.2**	**-1.9**
	1.5nm,0.7s,mb4.0,baz=153,slow=9.0,SNR=6.1						
SONM	**Songino Array**	**69.81**	**327**	P	**P**	**09 22 17.0**	**+1.3**
	4.5nm,0.8s,mb4.4,baz=136,slow=6.7,SNR=22						
QSPA	**South Pole Qui**	**82.91**	**180**	*e*P	**P**	**09 23 30.0**	**+0.4**
MKAR	**Makanchi Array**	**83.97**	**319**	P	**P**	**09 23 35.9**	**+0.4**
MKAR	**Makanchi Array**	**83.97**	**319**	P	**P**	**09 23 35.9**	**+0.4**
	1.2nm,0.6s,mb4.2,baz=100,slow=6.0,SNR=13						
MAW	**Mawson**	**84.63**	**203**	P	**P**	**09 23 39.3**	**+0.8**
	2.2nm,0.9s,mb4.3,baz=60,slow=7.7,SNR=3.6						
ZALV	**Zalesovo Beam**	**84.67**	**326**	P	**P**	**09 23 38.5**	**-0.4**
	0.7nm,0.4s,mb4.1,baz=110,slow=4.8,SNR=4.5						
TKM2	**Tokmak 2**	**87.62**	**314**	*e*P	**P**	**09 23 52.8**	**-1.0**
UCH	**Uchtor**	**88.27**	**313**	P	**P**	**09 23 58.2**	**+1.4**
YKA	**Yellowknife Ar**	**96.03**	**28**	P	**P**	**09 24 32.8**	**+0.5**
	0.2nm,0.7s,mb3.6,baz=267,slow=4.5,SNR=2.9						
BDFB	**Brasilia**	**147.38**	**134**	PKPbc	PKPbc	09 30 48.3	-1.6
	3.5nm,0.7s,baz=263,slow=3.0,SNR=6.8						
TORD	**Torodi Ar. Bea**	**153.79**	**285**	PKPbc	PKPbc	09 31 04.1	-1.3
TORD				PKPab	PKPab	09 31 18.2	-0.2
TORD	**Torodi Ar. Bea**	**153.79**	**285**	PKPbc	PKPbc	09 31 04.1	-1.3
	0.4nm,0.8s,baz=112,slow=1.6,SNR=2.7						
TORD				PKPab	PKPab	09 31 18.2	-0.2
	0.6nm,1.0s,baz=107,slow=2.6,SNR=3.7						

IDC 09 09:14:37.0±3.7, 4875S×12445E, h0^{km}, mb3.7/2, mb1 3.9/2, mb1mx3.7/10, mbtmp3.8/2, Error ellipse: s-maj=137.3km s-min=69.4km az=115.0, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**21.24**	**44**	P	P	09 19 24.7	+0.2
	2.8nm,0.8s,baz=208,slow=7.1,SNR=4.3						
ASAR	**Alice Springs**	**26.12**	**20**	P	P	09 20 12.6	0.0
	1.5nm,0.9s,baz=191,slow=10,SNR=9.4						
YKA	**Yellowknife Ar**	**145.28**	**44**	PKPbc	PKPbc	09 34 14.2	-0.8
	1.2nm,0.9s,baz=272,slow=3.2,SNR=9.8						

IDC 09 09:17:59.3±4.0, 4856S×12456E, h0^{km}, mb3.6/2, mb1 3.7/2, mb1mx3.6/10, mbtmp3.6/2, MS3.7/2, Ms1 3.7/2, ms1mx3.2/20, Error ellipse: s-maj=135.5km s-min=72.7km az=118.0, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**21.06**	**44**	P	P	09 22 44.9	+0.1
	2.1nm,1.0s,baz=201,slow=15,SNR=2.7						
ASAR	**Alice Springs**	**25.92**	**20**	P	P	09 23 33.1	+0.1
	1.1nm,0.8s,baz=199,slow=8.7,SNR=7.6						
WRA	**Warramunga Arr**	**29.62**	**19**	LR	LR	09 35 17.1	
	comp=Z,105nm,19.2s,baz=330,slow=35						
TSUM	**Tsumeb**	**86.50**	**245**	LR	LR	10 01 33.9	
	comp=Z,52nm,18.7s,baz=135,slow=30						
YKA	**Yellowknife Ar**	**145.09**	**44**	PKPbc	PKPbc	09 37 36.0	-0.8
	0.5nm,0.8s,baz=270,slow=3.3,SNR=5.2						

IDC 09 09:19:31.6±3.8, 4869S×12514E, h0^{km}, mb3.2/2, mb1 3.4/2, mb1mx3.4/9, mbtmp3.3/2, Error ellipse: s-maj=133.7km s-min=67.4km az=121.0, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**20.89**	**43**	P	P	09 24 15.3	0.0
	1.2nm,0.8s,baz=204,slow=10.0,SNR=2.1						
ASAR	**Alice Springs**	**25.92**	**19**	P	P	09 25 05.4	+0.1
	0.4nm,0.8s,baz=196,slow=7.7,SNR=4.2						
YKA	**Yellowknife Ar**	**144.92**	**44**	PKP	PKPdf	09 39 08.6	-0.6
	0.2nm,0.8s,baz=270,slow=3.3,SNR=4.3						

IDC 09 09:23:31.1±3.6, 4873S×12435E, h0^{km}, mb3.6/2, mb1 3.8/2, mb1mx3.6/10, mbtmp3.7/2, Error ellipse: s-maj=136.2km s-min=67.7km az=115.0, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**21.28**	**44**	P	P	09 28 19.3	+0.3
	1.4nm,0.7s,baz=202,slow=13,SNR=4.0						
ASAR	**Alice Springs**	**26.13**	**20**	P	P	09 29 06.8	0.0
	1.4nm,0.9s,baz=189,slow=10,SNR=9.4						
YKA	**Yellowknife Ar**	**145.31**	**44**	PKPbc	PKPbc	09 43 08.5	-0.8
	1.1nm,0.9s,baz=277,slow=3.2,SNR=18						

ATH ***09*** *09:27:56.8, 3862N×2138E, h2^{km}±2^{km}, MD3.0/4*
ISCJB ***09*** *09:27:57.6±0.7, 3855N±003×2158E±005, h10^{km}, Error ellipse: s-maj=5.5km s-min=4.4km az=32.2*
CSEM ***09*** *09:27:57.5±0.3, 3852N×2163E, h15^{km}, ML2.8, Error ellipse: s-maj=5.8km s-min=2.2km az=167.0*
THE ***09*** *09:27:57.6, 3847N×2161E, h4^{km}, ML2.8*
ISC 09 09:27:58.2±0.7, 3854N±003×2160E±005, h10^{km}, n8, σ1°17'/14, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EVR	**Evrytania**	**0.41**	**23**	*e*PG	**Pg**	**09 28 05.5**	**-0.8**
EVR				*e*SG	**Sg**	**09 28 12.0**	**+0.2**
RLS	**Riolos of Patr**	**0.49**	**192**	*e*PG	**Pg**	**09 28 07.7**	**0.0**
RLS				*e*SG	**Sg**	**09 28 15.8**	**+1.6**
AGG	**Agios Georgios**	**0.75**	**50**	*e*Pg	**Pg**	**09 28 11.9**	**-0.7**
AGG				*e*Sg	**Sg**	**09 28 24.0**	**+1.6**
LKD	**Levkas**	**0.76**	**283**	*e*Pg	**Pg**	**09 28 12.5**	**-0.4**
LKD				*e*Sg	**Sg**	**09 28 23.6**	**+0.8**
VLS	**Valsamata**	**0.87**	**246**	*e*PG	**Pg**	**09 28 11.6**	**-3.3**
THL	**Klokotos Trika**	**1.07**	**17**	*e*PG	**Pg**	**09 28 17.2**	**-1.6**
MEV	**Metsovon**	**1.28**	**347**	*e*Pg	**Pg**	**09 28 22.1**	**-0.6**
MEV				*e*Sg	**Sg**	**09 28 41.5**	**+2.2**
IGT	**Igoumenitsa**	**1.40**	**316**	*e*Pg	**Pg**	**09 28 24.0**	**-1.1**
IGT				*e*Sg	**Sg**	**09 28 43.6**	**+0.4**

ISCJB ***09*** *09:29:01.9±1.6, 698N±0.1×1448W±0.1, h13^{km}±12^{km}, Error ellipse: s-maj=18.5km s-min=7.0km az=173.8*
NEIC ***09*** *09:29:03.3, 6971N×14484W, h10^{km}, ML3.5(AEIC), After AEIC.*
PGC ***09*** *09:29:06.2±1.0, 6970N×14477W, h10^{km}, ML3.3/1, 149km east of Prudhoe Bay, Ak Alaska*
ISC 09 09:29:03.4±1.6, 6977N±009×1450W±01, h9^{km}±10^{km}, n18, σ0°97'/27, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BM3	**Burnt Mountain**	**2.37**	**176**	P	**Pn**	**09 29 41.5**	**-0.9**
BM3				S	**Sn**	**09 30 12.2**	**+0.8**
COLD	**Coldfoot**	**3.19**	**219**	P	**Pn**	**09 29 53.7**	**0.0**
COLD				S	**Sn**	**09 30 32.3**	**+0.6**
INK	**Inuvik**	**4.38**	**104**	*e*Pn	**Pn**	**09 30 11.1**	**+1.1**
INK				*e*Sg	**Sg**	**09 31 25.5**	**+1.6**
INK	**Inuvik**	**4.38**	**104**	Pn	**Pn**	**09 30 10.4**	**+0.3**
INK				Sn	**Sn**	**09 30 58.3**	**-2.9**
IMA2	**Indian Mountai**	**4.95**	**225**	*e*Pn	**Pn**	**09 30 20.2**	**+2.4**
IMA2				*e*Sg	**Sg**	**09 31 40.8**	**-1.2**
IM3	**Indian Mountai**	**5.03**	**225**	P	**Pn**	**09 30 19.5**	**+0.5**
COLA	**College**	**5.04**	**194**	P	**Pn**	**09 30 19.4**	**+0.3**
IL1	**Eielson Array**	**5.07**	**189**	P	**Pn**	**09 30 18.6**	**-0.9**
EGAK	**Eagle**	**5.23**	**162**	P	**Pn**	**09 30 21.2**	**-0.5**
DAWY	**Dawson**	**6.14**	**156**	P	**Pn**	**09 30 33.4**	**-0.7**
DAWY				S	**Sn**	**09 31 44.4**	**0.0**
DAWY	**Dawson**	**6.14**	**156**	Pn	**Pn**	**09 30 33.8**	**-0.3**
DAWY				Sn	**Sn**	**09 31 39.0**	**-5.4**
DOT	**Dot Lake**	**6.16**	**176**	P	**Pn**	**09 30 33.4**	**-1.0**
DOT				S	**Sn**	**09 31 45.8**	**+0.9**
MCK	**McKinley**	**6.26**	**196**	P	**Pn**	**09 30 35.4**	**-0.4**
TRF	**Thorofare Moun**	**6.68**	**201**	P	**Pn**	**09 30 42.1**	**+0.5**
BCA3	**Beaver Creek A**	**6.86**	**168**	P	**Pn**	**09 30 44.2**	**+0.3**
MENT	**Mentasta**	**6.88**	**175**	P	**Pn**	**09 30 43.8**	**-0.6**
HYT	**Haines Junctio**	**9.50**	**157**	Pn	**Pn**	**09 31 21.1**	**+0.8**
HYT				Sn	**Sn**	**09 32 59.6**	**-7.4**
DLBC	**Dease Lake**	**13.06**	**143**	Pn	**Pn**	**09 32 08.1**	**-0.8**

IDC 09 09:29:33.5±3.7, 4864S×12488E, h0^{km}, mb3.5/3, mb1 3.8/3, mb1mx3.6/10, mbtmp3.6/3, Error ellipse: s-maj=117.2km s-min=65.5km az=108.0, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**20.97**	**43**	P	P	09 34 17.7	-0.3
	1.4nm,0.7s,baz=215,slow=12,SNR=5.5						
ASAR	**Alice Springs**	**25.92**	**19**	P	P	09 35 06.9	-0.3
	1.3nm,1.0s,baz=200,slow=9.5,SNR=8.7						
WRA	**Warramunga Arr**	**29.62**	**18**	P	P	09 35 41.3	+0.9
	0.6nm,1.0s,baz=195,slow=10,SNR=3.1						
YKA	**Yellowknife Ar**	**145.00**	**44**	PKPbc	PKPdf	09 49 09.6	-1.7
	1.0nm,0.9s,baz=274,slow=3.0,SNR=10						

MOS ***09*** *09:31:19.4±0.8, 2349S×17994E, h522^{km}, mb4.6/11, Error ellipse: s-maj=12.4km s-min=11.0km az=164.4*
ISCJB ***09*** *09:31:20.1±1.0, 2356S±006×17989E±004, h527^{km}±12^{km}, mb4.5/56, Error ellipse: s-maj=9.4km s-min=5.2km az=159.7*
NEIC ***09*** *09:31:20.9±0.8, 2356S×18000W, h529^{km}±10^{km}, mb4.6/29, Error ellipse: s-maj=9.3km s-min=5.7km az=167.0*
IDC ***09*** *09:31:20.1±0.8, 2352S×17999W, h520^{km}±8^{km}, mb4.1/23, mb1 4.2/26, mb1mx4.2/27, mbtmp4.2/26, Error ellipse: s-maj=10.8km s-min=8.4km az=173.0*
BJI ***09*** *09:31:20.9, 2360S×18000W, h529^{km}, mB4.7, mb4.5*
ISC 09 09:31:21.2±1.0, 2358S±007×17993E±004, h530^{km}±11^{km}, h532^{km}±7.9^{km}; pP-P, n358, σ0°54'/339, mb4.5/56, 69C-74D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**5.97**	**162**	*e*P	**P**	**09 32 58.5**	**0.0**
	600nm,0.3s						
RAO	**Raoul Island**	**5.97**	**162**	P	**P**	**09 32 56.9**	**-1.6**
	193nm,0.3s,baz=283,slow=22,SNR=6.3						
URZ	**Urewera**	**14.83**	**189**	P	**P**	**09 34 28.0**	**-1.0**
	14nm,0.3s,baz=16,slow=1.5,SNR=7.1						
URZ				S	**S**	**09 36 59.2**	**-4.6**
	4.5nm,0.3s,baz=66,slow=23,SNR=14						
SNZO	**South Karori**	**18.22**	**193**	*e*P	**P**	**09 35 01.0**	**-0.9**
RAR	**Rarotonga**	**18.91**	**87**	P	**P**	**09 35 05.6**	**-2.8**
	1.1nm,0.3s,baz=260,slow=11,SNR=4.0						
RPZ	**Rata Peaks**	**21.38**	**198**	P	**P**	**09 35 29.2**	**-1.3**
	9.4nm,0.5s,mb4.7,baz=181,slow=2.3,SNR=15						
HNR	**Honiara**	**23.72**	**303**	*e*P	**P**	**09 35 51.0**	**-0.9**
	155nm,0.8s,mb5.7						
HNR	**Honiara**	**23.72**	**303**	*e*P	**P**	**09 35 51.0**	**-0.9**
HNR				pmax	pmax		
	comp=Z,155nm,0.8s,mb5.7						
HNR	**Honiara**	**23.72**	**303**	P	**P**	**09 35 51.2**	**-0.7**
	comp=Z,86nm,0.7s,mb5.5,baz=88,slow=2.1,SNR=6.9						
ARMA	**Armidale**	**26.08**	**249**	⇓*i*P	**P**	**09 36 14.8**	**+2.2**
EIDS	**Eidsvold**	**26.30**	**260**	*e*P	**P**	**09 36 16.1**	**+1.5**
	comp=Z,7.7nm,0.4s,mb4.7						
CNB	**Canberra Magne**	**28.96**	**239**	*e*P	**P**	**09 36 39.2**	**+1.4**
	comp=Z,17nm,1.0s,mb4.6						
CTA	**Charters Tower**	**31.41**	**270**	⇓*i*P	**P**	**09 37 00.5**	**+1.4**
	comp=Z,129nm,0.3s,mb5.9						
CTA	**Charters Tower**	**31.41**	**270**	⇓*i*P	**P**	**09 37 00.5**	**+1.4**
CTA				pmax	pmax		
	comp=Z,129nm,0.3s						
CTA	**Charters Tower**	**31.41**	**270**	P	**P**	**09 37 00.5**	**+1.3**
	comp=Z,135nm,0.4s,mb5.9,baz=95,slow=11,SNR=276						
CTAO	**Charters Tower**	**31.41**	**270**	*e*P	**P**	**09 37 00.2**	**+1.1**
	comp=Z,156nm,0.5s,mb5.8						
CTAO	**Charters Tower**	**31.41**	**270**	*e*P	**P**	**09 37 00.2**	**+1.1**
CTAO				pmax	pmax		
	comp=Z,156nm,0.5s,mb5.8						
STKA	**Stephens Creek**	**34.79**	**248**	⇓*i*P	**P**	**09 37 28.7**	**+1.2**
	comp=Z,11nm,0.5s,mb4.7						
STKA	**Stephens Creek**	**34.79**	**248**	P	**P**	**09 37 28.7**	**+1.2**
	comp=Z,14nm,0.5s,mb4.7,baz=94,slow=9.9,SNR=76						
ASAR	**Alice Springs**	**42.03**	**260**	P	**P**	**09 38 26.8**	**+0.4**
ASAR				*PP	pP	09 40 00.5	-1.1
ASAR				S	**S**	**09 44 06.2**	**-1.0**
ASAR	**Alice Springs**	**42

MAT eS S 09 50 32.0 +6.2
YSS Yuzh-Sakhalins 77.82 335 eP **P 09 42 24.7 +1.1**
comp=Z,8.4nm,0.6s,mb4.2
YSS Yuzh-Sakhalins 77.82 335 d iP **P 09 42 24.2 +0.6**
YSS i *PP pP 09 44 21.8 +5.3
YSS pmax pmax
comp=Z,15nm,0.8s,mb4.4
KSRS Korea Array 77.96 320 P **P 09 42 24.8 +0.1**
comp=Z,5.2nm,0.9s,mb3.9,baz=136,slow=5.7,SNR=17
MAW Mawson 78.03 200 eP **P 09 42 25.3 +0.8**
comp=Z,3.9nm,0.7s,mb3.9
MAW Mawson 78.03 200 eP **P 09 42 25.3 +0.8**
MAW pmax pmax
comp=Z,4.0nm,0.7s
MAW Mawson 78.03 200 P **P 09 42 25.5 +1.0**
comp=Z,4.7nm,0.7s,mb3.9,baz=116,slow=8.4,SNR=13
HAST Hastings Reser 81.27 44 ⇓P **P 09 42 42.4 +0.4**
baz=81
BNLO Ben Lomond (Sa 81.33 43 ⇓P **P 09 42 42.5 +0.1**
baz=82
JRSC Jasper Ridge 81.46 43 ⇑P **P 09 42 43.4 +0.4**
baz=82
PKM Peak Mountain 81.50 46 ⇓P **P 09 42 44.2 +0.9**
baz=82
PKD Parkfield 81.66 45 ⇓P **P 09 42 44.2 +0.2**
baz=82
U04C Hernandez Rese 81.75 45 ⇓P **P 09 42 45.4 +0.8**
baz=82
PACP Pacheco Peak 81.82 44 ⇓P **P 09 42 45.1 +0.2**
baz=82
WENL Wente Brothers 81.90 43 ⇑P **P 09 42 45.5 +0.3**
baz=82
CVS Carmenet Viney 81.91 42 ⇓P **P 09 42 45.8 +0.6**
baz=82
MDJ Mudanjiang 81.96 326 P **P 09 42 46.0 +0.6**
MDJ AP pP 09 44 38.5 -1.3
MDJ XP sP 09 45 31.3 -2.6
MDJ PP PP 09 46 02.3 -0.8
MDJ S S 09 52 16.7 +1.2
MDJ AMB AMB
comp=Z,15nm,1.3s,mb4.3
MDJ AMB AMB
comp=Z,87nm,13.2s
MDJ Mudanjiang 81.96 326 eP **P 09 42 45.9 +0.5**
comp=Z,7.8nm,0.9s,mb4.1
S04C Ingram Canyon, 82.10 43 P **P 09 42 46.6 +0.4**
baz=82,SNR=6.2
109C Camp Elliot, M 82.19 49 ⇓P **P 09 42 46.7 -0.1**
baz=82
HABR Khabarovsk 82.20 332 eP **P 09 42 45.7 -0.8**
HABR eS S 09 52 13.0 -4.6
HABR eSS SS 09 57 54.2 +0.5
HABR pmax pmax
comp=Z,18nm,1.1s,mb4.4
O01C Eel River Cons 82.22 40 ⇓P **P 09 42 47.4 +0.6**
baz=82
MNRC McLaughlin Nat 82.25 42 ⇑P **P 09 42 47.2 +0.2**
baz=82
ARVC Arvin 82.30 46 ⇑P **P 09 42 46.8 -0.5**
baz=82
Q03C Winters 82.36 42 ⇓P **P 09 42 48.1 +0.5**
baz=82
MURC Murrieta 82.52 49 ⇑P **P 09 42 48.2 -0.3**
baz=83
VES Vestal, Richgr 82.55 46 P **P 09 42 48.0 -0.6**
baz=83,SNR=6.4
GASB Alder Springs 82.57 41 ⇓P **P 09 42 49.3 +0.7**
baz=83
BFSC Mount Baldy St 82.57 48 ⇑P **P 09 42 48.1 -0.7**
baz=83
S05C Merced 82.63 44 ⇑P **P 09 42 49.1 +0.1**
baz=83
MONP Monument Peak 82.66 49 ⇓P **P 09 42 49.0 -0.2**
baz=83
WHN Wuhan 82.76 308 eP **P 09 42 50.5 +0.7**
T06C Millerton Lake 82.83 45 P **P 09 42 49.7 -0.3**
baz=83,SNR=13
ISA Isabella 82.84 46 eP **P 09 42 49.9 -0.2**
ISA Isabella 82.84 46 P **P 09 42 50.0 0.0**
baz=83,SNR=9.1
O02C Red Bluff 82.85 41 P **P 09 42 51.0 +1.0**
baz=83,SNR=5.2
SUTB Sutter Butte 82.87 42 P **P 09 42 49.8 -0.3**
baz=83,SNR=5.2
Q04C Lincoln 82.88 42 ⇓P **P 09 42 50.2 0.0**
baz=83
PSI Prapat 82.88 276 P **P 09 42 49.6 -1.2**
comp=Z,2.0nm,0.4s,mb4.0,baz=139,slow=6.0,SNR=4.0
N02C Big Bar 82.95 40 ⇑P **P 09 42 50.7 +0.3**
baz=83
CMB Columbia Colle 83.01 43 eP **P 09 42 50.5 -0.3**
comp=Z,10nm,0.9s,mb4.4
CMB Columbia Colle 83.01 43 eP **P 09 42 50.5 -0.3**
CMB pmax pmax
comp=Z,10.0nm,0.9s,mb4.3
CMB Columbia Colle 83.01 43 ⇓P **P 09 42 50.7 -0.1**
baz=83,SNR=19
PFO Pinyon Flat Ob 83.04 49 P **P 09 42 50.1 -1.0**
comp=Z,3.0nm,0.9s,mb3.8,baz=85,slow=9.1,SNR=4.5
PFO Pinyon Flat Ob 83.04 49 ⇑P **P 09 42 51.0 -0.1**
baz=83
HELL Mitchell Peak 83.08 45 P **P 09 42 50.2 -1.0**
baz=83,SNR=10
SWSC Sam W. Stewart 83.13 50 ⇑P **P 09 42 51.3 -0.2**
baz=83
O03C Acorn Hollow, 83.19 41 ⇓P **P 09 42 51.2 -0.5**
baz=83
LAVA Lava Cap Winer 83.22 43 P **P 09 42 51.5 -0.4**
baz=83,SNR=6.8
ORV Oroville 83.24 42 P **P 09 42 51.9 -0.1**
baz=83,SNR=10
WDC Whiskeytown Da 83.25 40 ⇓P **P 09 42 51.6 -0.4**
baz=83
LRMC Laurel Mountai 83.26 47 ⇓P **P 09 42 51.9 -0.2**
baz=83
KCC Kaiser Creek 83.27 44 ⇓P **P 09 42 52.0 -0.2**
baz=83
CWC Cottonwood Cre 83.55 46 ⇑P **P 09 42 53.3 -0.3**
baz=84
BELC Belle Mtn. 83.57 49 P **P 09 42 53.7 0.0**
baz=84,SNR=6.2
M02C Callahan 83.58 40 ⇑P **P 09 42 54.2 +0.6**
baz=84
CN2 Changchun 83.59 324 eP **P 09 42 54.1 +0.5**
CN2 eAP pP 09 44 52.0 +3.4
CN2 PP PP 09 46 18.9 +2.6
CN2 eS S 09 52 31.9 +0.3
CN2 AMB AMB
comp=Z,10.0nm,0.9s,mb4.3
CN2 AMB AMB
comp=Z,200nm,4.0s
R05C Kirkwood Meado 83.61 43 P **P 09 42 54.0 +0.2**
baz=84,SNR=9.9
P05C Yuba Gap, Truc 83.64 42 P **P 09 42 54.2 +0.3**
baz=84,SNR=7.4
MPMC Manual Prospec 83.72 46 P **P 09 42 54.2 -0.2**
baz=84,SNR=6.0
GSC Goldstone 83.75 47 eP **P 09 42 54.4 -0.2**
comp=Z,10nm,1.0s,mb4.3
GSC Goldstone 83.75 47 eP **P 09 42 54.4 -0.2**
GSC pmax pmax
comp=Z,10.0nm,1.0s,mb4.3
GSC Goldstone 83.75 47 P **P 09 42 54.6 0.0**
baz=84,SNR=6.3
MTUM Tungsten Hills 83.77 45 eP **P 09 42 55.0 +0.3**
HEC Hector,Ludlow 83.81 48 P **P 09 42 54.6 -0.4**
baz=84,SNR=6.0
TIN Tinemaha 83.81 45 ⇓P **P 09 42 55.0 +0.2**
baz=84
O05C Quincy 83.85 42 ⇓P **P 09 42 54.9 -0.1**
baz=84
GLA Glamis 83.87 50 eP **P 09 42 55.6 +0.4**
comp=Z,20nm,1.0s,mb4.6
GLA Glamis 83.87 50 eP **P 09 42 55.6 +0.4**
GLA pmax pmax
comp=Z,20nm,1.0s,mb4.6
GLA Glamis 83.87 50 P **P 09 42 56.0 +0.7**
baz=84,SNR=8.1
YBH Yreka Blue Hor 83.88 39 ⇑P **P 09 42 55.4 +0.4**
baz=84
R06C Coleville 83.89 43 P **P 09 42 55.6 +0.4**
baz=84,SNR=6.1
M03C McCloud 83.93 40 ⇓P **P 09 42 55.7 +0.4**
baz=84
O04C Chester 83.96 41 ⇑P **P 09 42 56.1 +0.6**
baz=84
HATC Hat Creek Radi 84.04 41 ⇑P **P 09 42 56.2 +0.3**
baz=84
S08C White Mtn Res 84.11 45 P **P 09 42 56.6 +0.3**
baz=84,SNR=7.4
BEKR Beckwourth 84.13 42 ⇑P **P 09 42 56.2 -0.2**
baz=84
WCN Washoe City 84.16 43 ⇑P **P 09 42 57.2 +0.6**
baz=84
GMRC Granite Mounta 84.24 48 P **P 09 42 56.8 -0.2**
baz=84,SNR=5.2
IRM Iron Mountain 84.25 49 P **P 09 42 57.5 +0.4**
baz=84,SNR=8.6
HUMO Hull Mountain 84.29 39 ⇑P **P 09 42 57.7 +0.7**
baz=84
GRAC Grapevine Rang 84.34 46 P **P 09 42 57.4 -0.1**
baz=84,SNR=11
M04C Macdoel 84.42 40 ⇑P **P 09 42 58.1 +0.4**
baz=85
TUQ Turquoise Mtn. 84.42 48 ⇑P **P 09 42 58.1 +0.2**
baz=84
SHOC Shoshone 84.44 47 P **P 09 42 57.8 -0.3**
baz=85,SNR=5.8
Y12C Blythe 84.46 50 ⇓P **P 09 42 58.0 -0.1**
baz=85
NVAR Mina Array Bea 84.56 44 P **P 09 42 58.4 -0.1**
comp=Z,4.7nm,0.9s,mb4.0,baz=210,slow=6.1,SNR=24
M05C Lookout 84.56 40 ⇑P **P 09 42 58.7 +0.2**
baz=85
O06A Flanigan 84.64 42 ⇓P **P 09 42 58.6 -0.2**
baz=85
U10A Ash Meadows, A 84.70 47 ⇓P **P 09 42 59.6 +0.4**
baz=85
S09A Goldfield 84.85 45 ⇑P **P 09 42 59.3 -0.7**
baz=85
M06C Likely Place G 84.87 41 ⇓P **P 09 42 59.9 -0.1**
baz=85
V11A Goodsprings 84.98 47 P **P 09 43 00.7 +0.1**
baz=85,SNR=5.3
N06A Buffalo Meadow 84.98 41 ⇓P **P 09 43 00.1 -0.4**
baz=85
SNAA Sanae 84.99 179 eP **P 09 42 59.1 -1.0**
SNAA e 09 43 03.3
SNAA Sanae 84.99 179 ⇓eP **P 09 42 58.0 -2.1**
PDMCI Parker Dam,Lak 85.03 49 P **P 09 43 00.8 -0.1**
baz=85,SNR=6.2
Q08A Gabbs 85.05 44 P **P 09 43 00.5 -0.4**
baz=85,SNR=6.3
TPNV Topopah Spring 85.05 46 eP **P 09 43 01.0 0.0**
comp=Z,5.8nm,1.0s,mb4.1
TPNV Topopah Spring 85.05 46 eP **P 09 43 01.0 0.0**
TPNV pmax pmax
comp=Z,6.0nm,1.0s,mb4.1
J04A Umpqua Nationa 85.17 38 ⇓P **P 09 43 01.9 +0.5**
baz=85
L05A Lakeview 85.17 40 ⇓P **P 09 43 01.9 +0.5**
baz=85
VNA3 Neumayer Olymp 85.20 177 eP **P 09 43 00.6 -0.5**
VNA3 e 09 43 05.5
R09A Tonopah 85.25 45 P **P 09 43 01.7 -0.2**
baz=85,SNR=6.2
V12A Nelson 85.31 48 P **P 09 43 02.4 +0.2**
baz=85,SNR=5.5
Z14A Wintersburg 85.36 51 ⇑P **P 09 43 02.9 +0.3**
baz=86
S10A Tonopah Range, 85.37 45 P **P 09 43 02.1 -0.3**
baz=86,SNR=17
X13A Yucca 85.40 49 P **P 09 43 02.7 0.0**
baz=86,SNR=6.4
115A Sonoran Desert 85.53 52 ⇓P **P 09 43 03.4 0.0**
baz=86
K05A Summer Lake 85.55 39 ⇑P **P 09 43 03.9 +0.7**
baz=86
VNA2 Neumayer--Watz 85.62 178 eP **P 09 43 03.4 +0.2**
VNA2 e 09 43 07.5
Y14A Wickenburg 85.63 50 P **P 09 43 04.0 +0.1**
baz=86,SNR=5.5
W13A Hualapai Mount 85.63 49 ⇓P **P 09 43 04.0 +0.1**
baz=86
J05A Fort Rock 85.70 39 ⇓P **P 09 43 04.1 +0.2**
baz=86
216A Three Points, 85.72 52 ⇑P **P 09 43 04.3 0.0**
baz=86
M07A Soldier Meadow 85.77 41 ⇑P **P 09 43 04.2 -0.1**
baz=86
R10A Warm Springs 85.77 45 ⇓P **P 09 43 04.2 -0.2**
baz=86
S11A Rachel 85.77 46 ⇑P **P 09 43 04.2 -0.3**
baz=86
116A Eloy 85.83 52 P **P 09 43 05.2 +0.4**
baz=86,SNR=6.9
T11A Corn Creek, Al 85.90 46 P **P 09 43 05.3 +0.3**
baz=86,SNR=13
U12A Valley of Fire 85.91 47 ⇓P **P 09 43 05.0 -0.1**
baz=86
P09A Austin 85.95 44 ⇑P **P 09 43 04.9 -0.3**
baz=86
K06A Valley Falls 85.97 40 ⇑P **P 09 43 05.3 +0.1**
baz=86
X14A Yava 85.99 50 P **P 09 43 05.9 +0.4**
baz=86,SNR=5.2
Q10A Clear Creek Ra 86.01 45 ⇑P **P 09 43 05.4 -0.1**
baz=86
L07A Adell 86.04 41 ⇓P **P 09 43 05.5 -0.1**
baz=86
N08A GE Springer Mi 86.04 42 P **P 09 43 05.2 -0.4**
baz=86,SNR=7.2
217A Green Valley 86.08 53 P **P 09 43 06.6 +0.6**
baz=86,SNR=10
Y15A Casa Rosa Ranc 86.11 50 P **P 09 43 06.2 +0.1**
baz=86,SNR=9.9
I05A Bend 86.22 38 ⇑P **P 09 43 06.1 -0.2**
baz=86
W14A Seligman 86.25 49 ⇑P **P 09 43 07.1 +0.4**
baz=86
R11A Troy Canyon, C 86.27 45 ⇑P **P 09 43 06.7 -0.1**
baz=86
O09A Fish Creek Ran 86.28 43 ⇑P **P 09 43 06.1 -0.7**
baz=86
M08A Happy Creek Ra 86.28 42 ⇑P **P 09 43 07.0 +0.3**
baz=86
U13A Pakoon Wash 86.29 48 P **P 09 43 06.9 0.0**
baz=86,SNR=14
J06A Christmas Vall 86.30 39 P **P 09 43 06.8 0.0**
baz=86,SNR=5.9
S12A Delamar Landin 86.35 46 P **P 09 43 07.9 +0.7**
baz=86,SNR=5.6
TUC Tucson 86.37 53 eP **P 09 43 07.7 +0.3**
comp=Z,11nm,0.9s,mb4.5
TUC Tucson 86.37 53 eP **P 09 43 07.7 +0.3**
TUC pmax pmax
comp=Z,11nm,0.9s,mb4.5
Z16A Peralta Trail, 86.44 51 P **P 09 43 08.1 +0.4**
baz=86,SNR=7.5
X15A Humboldt 86.46 50 ⇓P **P 09 43 08.0 +0.2**
baz=87
V14A Boquillas Ranc 86.46 49 P **P 09 43 08.0 +0.2**
baz=87,SNR=9.1
K07A Rock Creek Ran 86.50 40 P **P 09 43 07.8 +0.1**
baz=87,SNR=6.3
Q11A Duckwater 86.50 45 ⇓P **P 09 43 07.7 -0.1**
baz=87
318A Bisbee 86.51 54 P **P 09 43 08.9 +0.8**
baz=87,SNR=7.5
GYA Guiyang 86.53 301 P **P 09 43 08.5 +0.2**
GYA AP pP 09 45 05.6 +1.3
GYA XP sP 09 45 57.5 -0.5
GYA PP PP 09 46 43.8 +3.7
GYA SKS 09 52 44.9
GYA S S 09 53 01.7 +1.0
GYA XS sS 09 56 25.9 -1.6
GYA AMB AMB
comp=Z,10.0nm,1.1s,mb4.4
GYA AMB AMB
comp=Z,70nm,6.4s
RVW Rose Valley 86.65 36 P **P 09 43 07.9 -0.4**
T13A Saint George 86.65 47 P **P 09 43 08.9 +0.3**
baz=87,SNR=7.2
Y16A Circle Bar Ran 86.68 51 ⇑P **P 09 43 08.8 0.0**
baz=87,SNR=8.4
I06A Prineville 86.69 39 P **P 09 43 09.2 +0.7**
baz=87,SNR=6.3
L08A Fields 86.74 41 P **P 09 43 09.2 +0.3**
baz=87,SNR=5.4
218A Dragoon 86.74 53 ⇑P **P 09 43 09.6 +0.5**
baz=87
BJI Beijing 86.76 316 P **P 09 43 09.5 +0.5**
BJI AMB AMB
comp=Z,8.0nm,0.7s,mb4.5
W15A Williams 86.80 49 ⇓P **P 09 43 09.4 +0.1**
baz=87
U14A Mt Trumbull 86.82 48 ⇑P **P 09 43 09.4 0.0**
baz=87,SNR=17
M09A Marrel Ranch, 86.83 42 ⇑P **P 09 43 09.2 -0.2**
baz=87
J07A Hines 86.87 40 ⇑P **P 09 43 09.1 -0.3**
baz=87
R12A Pony Springs, 86.90 46 P **P 09 43 09.7 0.0**
baz=87,SNR=5.3
K08A Mann Creek Ran 86.97 40 P **P 09 43 10.1 +0.1**
baz=87,SNR=8.0
X16A Lo Mia Camp, P 86.98 50 P **P 09 43 10.5 +0.3**
baz=87,SNR=8.0
S13A Holt Ranch, En 86.99 47 P **P 09 43 10.3 +0.1**
baz=87,SNR=9.7
319A Douglas 87.01 54 ⇑P **P 09 43 10.9 +0.5**
baz=87,SNR=6.0
L09A Wilkinson Ranc 87.05 41 ⇑P **P 09 43 10.6 +0.3**
baz=87
H06A Lindquist Farm 87.10 38 P **P 09 43 10.7 +0.2**
baz=87,SNR=7.1
Q12A Willow Creek R 87.15 45 ⇑P **P 09 43 10.8 -0.1**
baz=87
I07A Izee 87.18 39 P **P 09 43 11.3 +0.5**
baz=87,SNR=6.3
O11A Cowboy Ranch, 87.22 44 ⇑P **P 09 43 11.2 +0.1**
baz=87
T14A Hurricane 87.23 47 P **P 09 43 11.4 +0.1**
baz=87,SNR=7.0
G06A Carlson Farm, 87.23 38 ⇓P **P 09 43 11.0 -0.1**
baz=87
P12A McGill 87.33 45 ⇑P **P 09 43 11.5 -0.2**
baz=88
J08A Circle Bar Ran 87.35 40 P **P 09 43 11.6 -0.1**
baz=88,SNR=9.8
ARUT Antelope Range 87.38 47 eP **P 09 43 12.2 +0.2**
K09A Rome 87.41 41 P **P 09 43 12.3 +0.3**
baz=88,SNR=12
E05A Randle 87.44 36 ⇓P **P 09 43 11.8 -0.2**
baz=88
H07A Lands Inn, Kim 87.45 38 P **P 09 43 12.4 +0.2**
baz=88,SNR=10
M10A I.L. Ranch, Tu 87.45 42 P **P 09 43 12.8 +0.5**
baz=88,SNR=8.6
F06A Goldendale 87.48 37 ⇑P **P 09 43 12.0 -0.2**
baz=88
C04A Brinnon 87.52 35 ⇑P **P 09 43 12.9 +0.5**
baz=88
S14A Cedar City 87.55 47 ⇓P **P 09 43 13.0 +0.2**
baz=88
N11A Elko Archery C 87.56 43 ⇓P **P 09 43 12.6 -0.2**
baz=88
WUAZ Wupatki 87.60 50 eP **P 09 43 13.3 +0.3**
comp=Z,7.8nm,1.4s,mb4.2
WUAZ e 09 43 23.6
I08A Drewsey 87.62 39 P **P 09 43 12.9 0.0**
baz=88,SNR=9.6
T15A Red Dirt Ranch 87.69 48 P **P 09 43 13.9 +0.5**
baz=88,SNR=11
D05A Enumclaw 87.71 35 ⇑P **P 09 43 13.6 +0.3**
baz=88
FMW Mount Fremont 87.72 36 P **P 09 43 13.7 +0.3**
J09A Fry Pan Ranch, 87.77 40 P **P 09 43 14.0 +0.3**
baz=88,SNR=9.1
G07A Ruggs Ranch, H 87.80 38 ⇓P **P 09 43 13.8 0.0**
baz=88
L10A Juniper Basin 87.81 42 P **P 09 43 13.8 -0.1**
baz=88,SNR=16
E06A Yakima 87.85 36 ⇑P **P 09 43 14.0 +0.1**
baz=88
M11A Holland Ranch, 87.86 43 P **P 09 43 14.7 +0.6**
baz=88,SNR=6.6
P13A Bates Ranch, G 87.90 45 P **P 09 43 14.3 -0.1**
baz=88,SNR=7.7
H08A Prairie City 87.92 39 ⇑P **P 09 43 14.2 -0.2**
baz=88
K10A MacKenzie Ranc 87.97 41 P **P 09 43 14.9 +0.3**
baz=88,SNR=6.3
N12A Clover Valley, 88.01 43 P **P 09 43 15.1 +0.2**
baz=88,SNR=6.4
I09A Lost Marbles R 88.14 40 P **P 09 43 15.4 0.0**
baz=88,SNR=7.2
C05A Tolt Reservoir 88.18 35 ⇓P **P 09 43 15.1 -0.4**
baz=88
G08A Pilot Rock 88.21 38 P **P 09 43 15.9 +0.3**
baz=88,SNR=8.9
T16A Glen Canyon Da 88.26 48 ⇓P **P 09 43 16.2 0.0**
baz=88
EBG Ellensburg 88.30 36 P **P 09 43 16.2 +0.1**
D06A Cle Elum 88.32 36 ⇑P **P 09 43 16.3 +0.2**
baz=88
B05A Bryant 88.33 35 ⇑P **P 09 43 16.7 +0.6**
baz=88
J10A Berg Farm, Mel 88.40 41 ⇓P **P 09 43 16.4 -0.2**
baz=88
M12A Wells 88.40 43 P **P 09 43 16.5 -0.2**
baz=88,SNR=6.2
CMW Cultus Mountai 88.41 34 P **P 09 43 09.8 -6.8**
K11A Parker Ranch, 88.47 41 P **P 09 43 17.4 +0.4**
baz=89,SNR=7.5
E07A Sunnyside 88.47 37 ⇑P **P 09 43 17.2 +0.3**
baz=89
PLCA Paso Flores 88.53 134 P **P 09 43 17.8 +0.3**
PLCA Paso Flores 88.53 134 P **P 09 43 17.8 +0.3**
comp=Z,2.4nm,0.6s,mb4.2,baz=218,slow=3.3,SNR=8.4
N13A Wendover, West 88.54 44 ⇓P **P 09 43 17.3 -0.1**
baz=89
H09A Durkee 88.59 39 P **P 09 43 17.4 -0.1**
baz=89,SNR=8.5
GBL Gable Mountain 88.71 37 P **P 09 43 18.2 +0.2**
L12A House Creek Ra 88.74 42 P **P 09 43 18.7 +0.4**
baz=89,SNR=11
M13A Montello 88.84 43 P **P 09 43 18.9 +0.2**
baz=89,SNR=15
BMO Blue Mountains 88.90 39 eP **P 09 43 18.6 -0.3**
comp=Z,6.8nm,1.4s,mb4.3
BMO Blue Mountains 88.90 39 eP **P 09 43 18.6 -0.3**
BMO pmax pmax
comp=Z,7.0nm,1.4s,mb4.3
SEY Seymchan 88.94 348 ⇑eP **P 09 43 18.6 -0.1**
MFID Camas Ranch 88.96 41 P **P 09 43 19.1 -0.1**
baz=89,SNR=14
C07A Waterville 89.05 36 ⇑P **P 09 43 19.0 -0.6**
baz=89
KMI Kunming 89.06 298 P **P 09 43 21.0 +0.9**
KMI AMB AMB
comp=Z,8.0nm,0.9s,mb4.5
H10A Noah's Angus R 89.08 40 P **P 09 43 19.1 -0.6**
baz=89,SNR=6.8
K12A Draper Farm, C 89.09 42 P **P 09 43 20.0 +0.2**
baz=89,SNR=12
N14A Grayback Hills 89.19 44 ⇑P **P 09 43 20.1 -0.2**
baz=89
G10A Bishop Farm, J 89.27 39 P **P 09 43 19.9 -0.7**
baz=89,SNR=6.3
D08A Wollman Farm, 89.28 37 ⇑P **P 09 43 20.8 +0.2**
baz=89
J12A Stokes Ranch, 89.31 41 P **P 09 43 21.0 +0.1**
baz=89,SNR=15
L13A Double Diamond 89.38 43 ⇓P **P 09 43 20.9 -0.3**
baz=90
E09A Wood Farm, Sta 89.39 38 ⇓P **P 09 43 20.9 -0.2**
baz=90
M14A Sheep Mountain 89.44 44 P **P 09 43 21.6 +0.1**
baz=90,SNR=11
B07A Winthrop 89.48 35 P **P 09 43 20.9 -0.6**
baz=90,SNR=5.3
H11A Donnelly 89.57 40 P **P 09 43 22.1 0.0**
baz=90,SNR=16
F10A Beach Ranch, E 89.60 38 ⇑P **P 09 43 21.6 -0.5**
baz=90
K13A Stover Farm, H 89.60 42 P **P 09 43 22.4 +0.2**
baz=90,SNR=14
D09A Jones Farm, Ri 89.62 37 ⇓P **P 09 43 21.9 -0.4**
baz=90
TMUT Trail Mountain 89.66 46 eP **P 09 43 23.4 +0.8**
A07A Ashnola River, 89.70 35 ⇑P **P 09 43 22.2 -0.3**
baz=90
G11A Walters Elk Ra 89.82 39 P **P 09 43 22.8 -0.4**
baz=90,SNR=8.9
B08A Colville Reser 89.84 36 ⇓P **P 09 43 22.4 -0.8**
baz=90
HLID Hailey 89.89 41 P **P 09 43 23.8 +0.2**
baz=90,SNR=11
HVU Hansel Valley 89.95 44 eP **P 09 43 23.9 0.0**
comp=Z,24nm,1.2s,mb4.9
HVU Hansel Valley 89.95 44 eP **P 09 43 23.9 0.0**

HVU pmax pmax
comp=Z,24nm,1.2s,mb4.9
J13A Cove Ranch, Pi 89.95 42 P **P 09 43 24.1 +0.3**
baz=90,SNR=17
E10A Myers Farm, Un 89.96 38 ⇓P **P 09 43 24.3 +0.5**
baz=90
M15A Larsen Ranch, 89.99 44 ⇓P **P 09 43 23.7 -0.3**
baz=90
SRU San Rafael 90.02 47 *e*P **P 09 43 24.2 0.0**
comp=Z,12nm,0.9s,mb4.7
SRU San Rafael 90.02 47 *e*P **P 09 43 24.2 -0.1**
SRU pmax pmax
comp=Z,12nm,0.9s,mb4.7
CTU Camp Tracy 90.03 45 *e*P **P 09 43 24.2 -0.1**
comp=Z,11nm,0.9s,mb4.7
LAZ Ladron 90.06 52 *e*P **P 09 43 24.9 +0.4**
C09A Chrisman Ranch 90.08 36 ⇑P **P 09 43 24.3 0.0**
baz=90
K14A Jones Ranch, D 90.11 43 P **P 09 43 24.5 0.0**
baz=90,SNR=8.3
HHC Hu-ho-hao-te 90.15 315 *e*P **P 09 43 23.6 -1.2**
HHC AP pP 09 45 24.2 +2.4
HHC XP sP 09 46 15.3 +0.1
HHC PP PP 09 47 08.9 +0.6
HHC AMB AMB
comp=Z,13nm,0.7s,mb4.9
HHC AMB AMB
comp=Z,76nm,6.3s
H12A Diamond D Ranc 90.17 40 P **P 09 43 24.5 -0.3**
baz=90,SNR=9.9
A08A Turner Farm, O 90.23 35 ⇓P **P 09 43 24.9 -0.1**
baz=90
I13A Wildhorse Cree 90.27 41 ⇓P **P 09 43 25.5 +0.2**
baz=90
BNM Barren Site 90.31 53 *e*P **P 09 43 25.9 +0.2**
TXAR Lajitas Array 90.31 58 P **P 09 43 25.5 -0.3**
TXAR Lajitas Array 90.31 58 P **P 09 43 25.5 -0.3**
comp=Z,7.0nm,0.8s,mb4.6,baz=212,slow=6.4,SNR=18
LPM Los Pinos Moun 90.38 53 *e*P **P 09 43 26.1 0.0**
MVCO Mesa Verde 90.45 49 *e*P **P 09 43 18.2 -8.1**
comp=Z,6.4nm,1.0s,mb4.4
B09A Rice 90.51 36 ⇑P **P 09 43 25.7 -0.6**
baz=91
H13A Challis 90.54 41 P **P 09 43 26.6 +0.1**
baz=91,SNR=6.9
A09A Danville 90.61 35 ⇓P **P 09 43 26.6 -0.1**
baz=91
F12A Elk City 90.61 39 ⇑P **P 09 43 26.5 -0.3**
baz=91
HWUT Hardware Ranch 90.63 44 *e*P **P 09 43 26.5 -0.5**
comp=Z,3.9nm,0.6s,mb4.5
ANMO Albuquerque 90.81 52 ⇓*i*P **P 09 43 27.7 -0.3**
ANMO Albuquerque 90.81 52 P **P 09 43 27.9 -0.1**
comp=Z,4.8nm,0.9s,mb4.4,baz=213,slow=6.5,SNR=11
G13A Cobalt 90.84 40 ⇑P **P 09 43 27.5 -0.4**
baz=91
CD2 Chengdu 90.85 303 *e*P **P 09 43 27.0 -1.3**
CD2 AMB AMB
comp=Z,10.0nm,0.9s,mb4.8
CD2 AMB AMB
comp=Z,20nm,9.2s
NEW Newport 90.98 37 P **P 09 43 27.4 -1.1**
comp=Z,1.0nm,0.5s,mb4.0,baz=235,slow=12,SNR=3.3
F13A Darby 91.17 40 P **P 09 43 28.7 -0.6**
baz=91,SNR=5.3
D12A Red Ives Fores 91.28 38 ⇓P **P 09 43 29.8 0.0**
baz=91
G14A Jackson 91.38 40 ⇑P **P 09 43 30.4 0.0**
baz=92
MCMT McKenzie Canyo 91.53 41 *e*P **P 09 43 31.1 0.0**
E13A Victor 91.61 39 ⇓P **P 09 43 30.3 -1.1**
baz=92
COLA College 91.62 13⇑*e*P **P 09 43 29.7 -1.3**
A11A Hall Mountain, 91.79 36 ⇓P **P 09 43 32.0 -0.1**
baz=92
D13A Huson 91.81 39 ⇑P **P 09 43 32.0 -0.3**
baz=92
BILL Bilibino 91.90 355⇑*i*P **P 09 43 31.5 -0.7**
BILL pmax pmax
comp=Z,1.0nm,0.5s,mb4.1
G15A Dillon 91.92 41 ⇑P **P 09 43 32.5 -0.4**
baz=92
E14A Clinton 92.00 39 ⇑P **P 09 43 32.2 -1.0**
baz=92
SNOW Snow King Moun 92.10 43 *e*P **P 09 43 33.8 0.0**
comp=Z,5.5nm,1.0s,mb4.5
CMIG Matias Romero 92.44 73 P **P 09 43 34.6 -1.3**
comp=Z,2.3nm,0.7s,mb4.3,baz=315,slow=2.9,SNR=2.4
E15A Deer Lodge 92.50 40 ⇓P **P 09 43 35.1 -0.4**
baz=93
PDAR Pinedale Array 92.50 44 P **P 09 43 34.8 -0.8**
comp=Z,3.2nm,0.8s,mb4.4,baz=213,slow=3.4,SNR=25
GCMT Greycliff 93.95 41 *e*P **P 09 43 35.3 -6.8**
ULN Ulaanbaatar 96.44 320⇓*e*P **P 09 43 52.3 -1.1**
SONM Songino Array 96.82 319 P **P 09 43 55.1 0.0**
SONM 09 47 53.7
SONM Songino Array 96.82 319 P **P 09 43 55.1 0.0**
comp=Z,0.3nm,0.5s,mb3.8,baz=142,slow=6.2,SNR=2.6
SONM PP PP 09 47 53.7 -5.8
comp=Z,0.8nm,0.9s,baz=113,slow=11,SNR=4.5
SONM PKKPbc PKKPbc 10 00 34.3 -1.4
comp=Z,0.8nm,0.6s,baz=286,slow=3.4,SNR=6.0
MKAR Makanchi Array 111.89 313 PKKPbc PKKPbc 09 59 48.5 -2.2
comp=Z,0.5nm,0.4s,baz=270,slow=2.9,SNR=3.3
MKAR PKKPab PKKPab 09 59 59.6 0.0
comp=Z,0.7nm,0.5s,baz=289,slow=3.7,SNR=5.2
BDFB Brasilia 119.05 125 PKP PKPdf 09 49 08.7 -1.9
comp=Z,1.2nm,0.5s,baz=146,slow=7.3,SNR=3.0
AKTO Aktyubinsk 128.02 316 SKPbc 09 51 57.6
comp=Z,1.1nm,0.7s,baz=112,slow=5.4,SNR=4.7
ARCES ARCESS Array B 131.56 348 PKP PKPdf 09 49 31.8 -1.0
ARCES SKPbc SKPbc 09 52 09.1 +0.3
ARCES ARCESS Array B 131.56 348 PKP PKPdf 09 49 31.8 -1.0
comp=Z,1.3nm,0.6s,baz=23,slow=2.2,SNR=8.7
ARCES SKPbc SKPbc 09 52 09.1 +0.3
comp=Z,4.5nm,0.9s,baz=17,slow=8.9,SNR=4.6
KMBO Kilima Mbogo 136.20 241 SKPbc SKPbc 09 52 27.8 +2.1
comp=Z,0.9nm,0.6s,baz=31,slow=5.9,SNR=4.2
FINES FINESS Array B 138.12 342 SKPbc SKPbc 09 52 29.6 0.0
comp=Z,4.8nm,0.6s,baz=50,slow=3.0,SNR=13
NOA NORSAR Array B 141.75 351 SKPbc SKPbc 09 52 39.4 +0.2
comp=Z,2.0nm,0.7s,baz=16,slow=4.2,SNR=6.6
SOC Sochi 141.78 311 *i* PKIKP PKPdf 09 49 52.0 -0.4
MALT Malatya 144.14 303 *e*PKPbc PKPdf 09 49 56.5 -0.2
AKASG Malin Array Be 144.67 327 PKP PKPdf 09 49 56.2 -1.0
AKASG pPKP pPKPdf 09 52 00.0 -2.1
AKASG SKPbc SKPbc 09 52 46.7 +0.2
AKASG Malin Array Be 144.67 327 PKP PKPdf 09 49 56.2 -1.0
comp=Z,5.2nm,0.5s,baz=44,slow=4.1,SNR=24
AKASG pPKP pPKPdf 09 52 00.0 -2.1
comp=Z,0.3nm,0.3s,baz=50,slow=0.7,SNR=2.2
AKASG SKPbc SKPbc 09 52 46.7 +0.2
comp=Z,5.0nm,0.7s,baz=47,slow=2.5,SNR=17
KECS Kecovo 150.29 332 *e*PKP PKPab 09 50 20.4 -0.5
UPC Upice 150.35 339 *e*PKPbc PKPbc 09 50 12.1 -0.3
DPC Dobruska-Polom 150.38 339 *e*PKPbc PKPbc 09 50 12.3 -0.2
DPC *e*PKPab PKPab 09 50 21.2 0.0
CLL Collm 150.53 343 *e*PKP PKPbc 09 50 13.0 +0.2
CLL *e*pPKP pPKPdf 09 52 20.0 +8.1
CLL Collm 150.53 343 ⇓*i*PKPbc PKPbc 09 50 12.4 -0.4
comp=Z,4.0nm,0.7s
CLL *e*PKPab PKPab 09 50 21.0 -0.8
CLL *e*pPKPbc pPKPbc 09 52 17.0 +0.4
BRG Berggiesshubel 150.66 342 *e*PKP PKPbc 09 50 13.2 +0.1
comp=Z,4.5nm,0.9s
BRG *e*pPKP pPKPdf 09 52 15.8 +3.7
comp=Z,5.2nm,1.2s
PVCC Panska Ves 150.78 341 *e*PKPbc PKPbc 09 50 13.2 -0.2
PVCC *e*PKPab PKPab 09 50 20.6 -2.3
VYHS Vyhne 150.97 334 *i* PKP PKPab 09 50 23.9 +0.1
KHC Kasperske Hory 152.32 341 *e*PKPab PKPab 09 50 29.1 -0.4
KHC *ex* x 09 51 36.0
KHC *ex* x 09 51 40.0
KHC *ex* x 09 51 50.5
GERES GERESS Array B 152.53 340 PKPbc PKPbc 09 50 16.7 -0.6
comp=Z,0.5nm,0.6s,baz=100,slow=3.0,SNR=3.4
GERES PKPab PKPab 09 50 30.1 -0.3
comp=Z,0.6nm,0.6s,baz=28,slow=6.0,SNR=3.5
PERS Pernice 153.95 336 *i* PKPbc PKPab 09 50 36.0 -0.5
CEY Cerknica 154.96 336 *i* PKPbc PKPab 09 50 40.1 -0.8
DBIC Dimbokro 162.57 164 PKP PKPdf 09 50 21.6 -1.7
comp=Z,2.9nm,0.8s,baz=128,slow=2.0,SNR=5.9
DBIC PKPab PKPab 09 51 13.6 -1.1
comp=Z,4.2nm,0.7s,baz=171,slow=5.0,SNR=7.5
TORD Torodi Ar. Bea 169.49 189 PKP PKPdf 09 50 26.8 -1.7
comp=Z,1.4nm,0.9s,baz=283,slow=0.9,SNR=8.0
TORD PKPab PKPab 09 51 44.8 -0.4
comp=Z,2.5nm,0.8s,baz=177,slow=3.8,SNR=12
TORD PP PP 09 55 34.6 +0.1
comp=Z,1.5nm,1.1s,baz=188,slow=6.0,SNR=3.6

MEX 09 09:33:21.5±0.4, 1710N×9976W, h50km±7km, MD3.6, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	**Acapulco**	**0.28**	**213**	*i* P	Pn	09 33 29.0	-1.4
ACX				*i* S	Sn	09 33 35.0	-1.7
MEIG	**Mezcala**	**0.83**	**9**	*i* P	Pn	09 33 35.6	-1.4
MEIG				*i* S	Sn	09 33 46.4	-1.9
UTMO	**Huajuapan**	**2.00**	**68**	*i* P	Pn	09 33 51.0	-1.9
UTMO				*i* S	Sn	09 34 15.5	-1.2

IDC 09 09:37:00.9±3.1, 4869S×12418E, h0km, mb3.8/2, mb1 4.0/2, mb1mx3.8/10, mbtmp3.9/2, MS3.8/9, Ms1 3.8/9, ms1mx3.7/24, Error ellipse: s-maj=129.5km s-min=61.0km az=116.0, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NWAO	**Narrogin (SRO)**	**16.59**	**339**	LR	LR	09 46 00.4	
	comp=Z,116nm,20.2s,baz=8.6,slow=32						
STKA	**Stephens Creek**	**21.33**	**44**	P	P	09 41 49.8	+0.4
	4.2nm,0.8s,baz=209,slow=13,SNR=6.8						
STKA				LR	LR	09 48 37.2	
	comp=Z,271nm,18.7s,baz=206,slow=33						
ASAR	**Alice Springs**	**26.13**	**21**	P	P	09 42 36.4	-0.2
	1.1nm,0.8s,baz=190,slow=10.0,SNR=5.0						
WRA	**Warramunga Arr**	**29.82**	**19**	LR	LR	09 54 10.2	
	comp=Z,319nm,20.5s,baz=185,slow=34						
RPZ	**Rata Peaks**	**32.41**	**99**	LR	LR	09 53 06.3	
	comp=Z,225nm,18.4s,baz=96,slow=30						
CTA	**Charters Tower**	**33.60**	**40**	LR	LR	09 57 07.3	
	comp=Z,236nm,21.1s,baz=247,slow=36						
MAW	**Mawson**	**35.55**	**215**	LR	LR	09 55 40.3	
	comp=Z,78nm,19.8s,baz=278,slow=32						
BATI	**Kupang**	**38.36**	**359**	LR	LR	09 58 29.7	
	comp=Z,240nm,19.7s,baz=124,slow=34						
SNAA	**Sanae**	**54.25**	**198**	LR	LR	10 07 56.5	
	comp=Z,92nm,20.1s,baz=62,slow=34						
SUR	**Sutherland**	**74.37**	**239**	LR	LR	10 14 08.3	
	comp=Z,53nm,19.9s,baz=149,slow=30						
PDAR	**Pinedale Array**	**142.68**	**78**	PKP	PKPdf	09 56 35.5	+0.1
	0.3nm,0.8s,baz=290,slow=2.6,SNR=3.6						
YKA	**Yellowknife Ar**	**145.36**	**44**	PKPbc	PKPbc	09 56 38.4	-0.8
	2.8nm,0.9s,baz=272,slow=3.0,SNR=31						

*ISCJB **09** 09:37:02.8±0.2, 1207N×004×8645W×005, h132km±1km, mb4.3/34, Error ellipse: s-maj=10.0km s-min=3.2km az=139.3*
*CASC **09** 09:37:03.8±2.0, 1200N×8650W, h120km±4km, MD4.2, ML4.9, mb4.6(NEIC)*
*IDC **09** 09:37:03.2±0.8, 1204N×8639W, h132km±6km, mb3.9/17, mb1 4.1/20, mb1mx4.0/26, mbtmp4.0/20, Error ellipse: s-maj=16.3km s-min=8.9km az=55.0*
*NEIC **09** 09:37:04.2±0.4, 1196N×8647W, h141km±4km, mb4.6/21, Error ellipse: s-maj=9.3km s-min=4.4km az=48.0*
ISC 09 09:37:03.8±0.2, 1207N±004×8645W±005, h127km±1km, h135km±1.6km; pP-P, n119, o0±95/120, mb4.4/34, 14C-17D, Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CSAN		**0.12**	**14**	⇓*i*P	**Pn**	**09 37 20.9**	**-0.2**
CSAN				*e*S	**Sn**	**09 37 35.0**	**+0.9**
XAVN	**Gruta Xavier**	**0.14**	**57**	⇑*i*P	**Pn**	**09 37 20.7**	**-0.3**
CRUN	**El Crucero**	**0.17**	**121**	⇓*i*P	**Pn**	**09 37 21.1**	**-0.1**
COPN	**Copaltepe**	**0.18**	**308**	⇓*i*P	**Pn**	**09 37 20.5**	**-0.6**
COPN				*e*S	**Sn**	**09 37 35.1**	**+0.9**
APYN	**Apoyeque**	**0.19**	**31**	⇓*i*P	**Pn**	**09 37 20.7**	**-0.5**
TISN	**Laguna Tiscapa**	**0.19**	**68**	⇓*i*P	**Pn**	**09 37 20.8**	**-0.4**
TISN				*e*S	**Sn**	**09 37 34.7**	**+0.5**
MGAN	**Managua**	**0.21**	**69**	⇑*i*P	**Pn**	**09 37 20.9**	**-0.4**
MGAN				*e*S	**Sn**	**09 37 34.1**	**-0.3**
TICN	**Ticuantepe**	**0.22**	**100**	⇑*i*P	**Pn**	**09 37 20.9**	**-0.3**
MOMJ	**Momotombo**	**0.35**	**345**	⇑*i*P	**Pn**	**09 37 21.2**	**-0.5**
MOMJ				*e*S	**Sn**	**09 37 34.3**	**-0.9**
HUEN		**0.38**	**46**	⇑*i*P	**Pn**	**09 37 21.8**	**0.0**
APON	**Apoyo**	**0.41**	**112**	⇑*i*P	**Pn**	**09 37 21.5**	**-0.5**
CNGN	**Cerro Negro**	**0.49**	**330**	⇑*i*P	**Pn**	**09 37 22.2**	**-0.2**
CNGN				*e*S	**Sn**	**09 37 35.8**	**-0.7**
TEL3	**Telica 3**	**0.63**	**322**	⇑*i*P	**Pn**	**09 37 23.4**	**+0.1**
TEL3				*e*S	**Sn**	**09 37 38.1**	**0.0**
TELN	**Telica**	**0.65**	**325**	⇑*e*P	**Pn**	**09 37 23.3**	**-0.1**
BOAB	**BOACO BROADBAN**	**0.85**	**64**	⇓*i*P	**Pn**	**09 37 25.5**	**+0.4**
BOAB				*e*S	**Sn**	**09 37 41.1**	**-0.1**
CRIN	**San Cristobal**	**0.86**	**317**	⇑*i*P	**Pn**	**09 37 25.2**	**+0.2**
CRIN				*e*S	**Sn**	**09 37 41.0**	**-0.3**
CRIN				*i*		09 37 46.8	
	comp=E,23μm,0.3s						
CONN	**Concepcion**	**0.95**	**122**	⇑*i*P	**Pn**	**09 37 25.6**	**-0.3**
CONN				*e*S	**Sn**	**09 37 42.0**	**-0.7**
SSNN	**San Juan del S**	**0.98**	**143**	⇑*i*P	**Pn**	**09 37 25.6**	**-0.6**
MADN	**Villa Maderas**	**1.11**	**126**	⇑*i*P	**Pn**	**09 37 27.1**	**-0.4**
MADN				*e*S	**Sn**	**09 37 44.1**	**-1.4**
LIM1	**Limonal**	**1.80**	**139**	⇓*e*P	**Pn**	**09 37 35.0**	**-0.2**
LIM1				*i* S	**Sn**	**09 37 58.2**	**-0.9**
CUI		**1.87**	**138**	⇓*e*P	**Pn**	**09 37 36.1**	**0.0**
CUI				*e*S	**Sn**	**09 38 00.7**	**0.0**
2RIO	**Dos Rios de Up**	**1.94**	**142**	*e*P	**Pn**	**09 37 31.9**	**-5.0**
2RIO				*e*S	**Sn**	**09 37 54.6**	**-7.6**
VCR	**Vista de Mar**	**2.09**	**157**	*e*P	**Pn**	**09 37 38.6**	**-0.2**
TGUH	**Tegucigalpa,Un**	**2.13**	**338**	*e*P	**Pn**	**09 37 40.9**	**+1.7**
FORC	**Fortuna**	**2.36**	**132**	*e*P	**Pn**	**09 37 41.8**	**-0.3**
FORC				⇓*e*P		09 37 41.8	
CAHU	**Cacacuatique**	**2.41**	**315**	⇓*e*P	x	09 38 21.8	
JCR	**Jicaral**	**2.57**	**149**	*e*P	**Pn**	**09 37 44.8**	**0.0**
JCR	**Jicaral**	**2.57**	**149**	*e*P	**Pn**	**09 37 44.9**	**+0.2**
CGA2	**Cerro Gallo 2**	**2.82**	**136**	*e*P	**Pn**	**09 37 48.2**	**+0.2**
CGA2				*e*S	**Sn**	**09 38 23.3**	**+1.2**
CGA2	**Cerro Gallo 2**	**2.82**	**136**	*e*P	**Pn**	**09 37 48.0**	**0.0**
CGA2				*e*S	**Sn**	**09 38 22.4**	**+0.3**
LCBS	**La Ceiba**	**2.92**	**303**	⇓*e*P	x	09 38 28.1	
LCBS				*e*S	x	09 39 02.4	
PRS1	**Puriscal**	**2.95**	**134**	*e*P	**Pn**	**09 37 50.3**	**+0.6**
PRS1	**Puriscal**	**2.95**	**134**	⇓*e*P	**Pn**	**09 37 50.4**	**+0.7**
LFRS	**El Faro**	**2.98**	**301**	⇓*e*P	x	09 38 29.1	
LFRS				*e*S	x	09 39 03.9	
LBRS	**Las Brisas**	**3.02**	**304**	⇓*e*P	x	09 38 29.6	
LBRS				*e*S	x	09 39 06.5	
SNET	**Serv Nac Est T**	**3.15**	**301**	*e*P	x	09 37 52.2	
SJS	**Escuela Geolog**	**3.17**	**132**	*e*P	**Pn**	**09 37 53.6**	**+1.1**
SJS	**Escuela Geolog**	**3.17**	**132**	*e*P	**Pn**	**09 37 53.5**	**+1.0**
SJS				*e*S	**Sn**	**09 38 30.7**	**+0.7**
LAJ	**Bijagual**	**3.17**	**134**	*e*P	**Pn**	**09 37 50.6**	**-1.9**
LAJ				*e*S	**Sn**	**09 38 25.7**	**-4.4**
LAJ	**Bijagual**	**3.17**	**134**	⇓*i*P	**Pn**	**09 37 50.9**	**-1.6**
BOQS	**Boqueron**	**3.22**	**301**	⇓*e*P	x	09 38 32.4	
BOQS				*e*S	x	09 39 09.8	
LCR2	**La Lucha 2**	**3.34**	**134**	*e*P	**Pn**	**09 37 55.1**	**+0.3**
LCR2				*e*S	**Sn**	**09 38 35.0**	**+0.9**
LCR2	**La Lucha 2**	**3.34**	**134**	⇓*e*P	**Pn**	**09 37 54.7**	**0.0**
URSC	**Urasca**	**3.44**	**130**	*e*P	**Pn**	**09 37 56.8**	**+0.7**
URSC	**Urasca**	**3.44**	**130**	⇓*i*P	**Pn**	**09 37 56.5**	**+0.4**
BUS	**Buena Vista**	**3.64**	**133**	*e*P	**Pn**	**09 37 59.6**	**+0.9**
BUS				*e*S	**Sn**	**09 38 43.8**	**+2.6**
BAR1		**4.17**	**132**	*e*P	**Pn**	**09 38 06.7**	**+0.9**
BAR1				*e*S	**Sn**	**09 38 54.4**	**+0.4**
CNI	**Changuinola**	**4.68**	**124**	*e*P	**Pn**	**09 38 12.8**	**+0.3**
CNI	**Changuinola**	**4.68**	**124**	*e*P	**Pn**	**09 38 12.8**	**+0.2**
CCIG	**Comitan**	**6.92**	**308**	*i* P	**Pn**	**09 38 43.4**	**+0.6**
BCIP	**Isla Barro Col**	**7.11**	**113**	*e*P	**Pn**	**09 38 46.5**	**+1.1**
	comp=E,139nm,1.1s						
TEIG	**Tepich**	**8.30**	**348**	P	**Pn**	**09 39 02.8**	**+1.5**
	comp=E,1.3nm,0.3s,baz=326,slow=16,SNR=6.5						
CMIG	**Matias Romero**	**9.57**	**302**	P	**Pn**	**09 39 18.3**	**-0.2**
CMIG	**Matias Romero**	**9.57**	**302**	P	**Pn**	**09 39 18.3**	**-0.1**
	comp=E,9.5nm,0.3s,baz=90,slow=12,SNR=471						
HUIG	**Huatulco**	**10.07**	**293**	*i* P	**Pn**	**09 39 24.2**	**-1.0**
PLIG	**Platanillo**	**14.07**	**298**	*i* P	**Pn**	**09 40 19.9**	**+2.3**
SDV	**Santo Domingo**	**15.87**	**100**	P	**Pn**	**09 40 40.1**	**-0.2**
	comp=E,0.4nm,0.3s,baz=307,slow=6.6,SNR=10.0						
SJG	**San Juan**	**20.49**	**70**	P	**P**	**09 41 31.6**	**-0.3**
	comp=E,8.8nm,0.4s,baz=316,slow=21,SNR=5.0						
ATAH	**Atahualpa**	**20.57**	**157**	P	**P**	**09 41 35.6**	**+2.9**
	comp=E,8.7nm,0.8s,baz=295,slow=13,SNR=5.7						
LRAL	**Lakeview Retre**	**20.87**	**359**	*e*P	**P**	**09 41 37.8**	**+2.1**
	comp=E,19nm,0.7s						
NATX	**Nacogdoches**	**21.01**	**340**	*e*P	**P**	**09 41 39.9**	**+2.7**
	comp=E,24nm,0.7s,mb4.6						
MTP	**Monte Pirata**	**21.04**	**71**	*e*P	**P**	**09 41 36.9**	**-0.8**
GOGA	**Godfrey**	**21.42**	**7**	*e*P	**P**	**09 41 43.2**	**+1.6**
	comp=E,22nm,0.9s,mb4.5						
PCRV	**Puerto La Cruz**	**21.49**	**93**	P	**P**	**09 41 43.2**	**+0.7**
	comp=E,27nm,0.7s,mb4.7,baz=231,slow=4.2,SNR=17						
PLAL	**Pickwick Lake**	**22.86**	**357**	*e*P	**P**	**09 41 57.2**	**+1.0**
	comp=E,15nm,0.7s,mb4.4						
SWET	**Sewanee**	**23.05**	**1**	*e*P	**P**	**09 41 58.6**	**+0.6**
MIAR	**Mount Ida**	**23.29**	**345**	*e*P	**P**	**09 42 00.1**	**-0.2**
	comp=E,12nm,0.7s,mb4.3						
CPCT	**Cooper Cave**	**23.34**	**4**	*e*P	**P**	**09 42 02.1**	**+1.4**
TXAR	**Lajitas Array**	**23.49**	**320**	P	**P**	**09 42 02.6**	**+0.4**
TXAR				pP		09 42 27.8	
TXAR				PcP	PcP	09 45 44.5	0.0
TXAR	**Lajitas Array**	**23.49**	**320**	P	**P**	**09 42 02.6**	**+0.4**
	comp=E,15nm,0.8s,mb4.4,baz=139,slow=8.8,SNR=111						
TXAR				pP		09 42 27.8	
	comp=E,0.8nm,0.6s,baz=123,slow=11,SNR=1.3						
TXAR				PcP	PcP	09 45 44.5	0.0
	comp=E,0.6nm,0.5s,baz=152,slow=5.9,SNR=5.5						
TKL	**Tuckaleechee C**	**23.61**	**5**	P	**P**	**09 42 03.8**	**+0.7**
	comp=E,13nm,0.7s,mb4.3,baz=179,slow=12,SNR=16						
WVT	**Waverly**	**23.99**	**357**	*e*P	**P**	**09 42 07.2**	**+0.6**
	comp=E,7.8nm,0.8s,mb4.1						
WMOK	**Wichita Mounta**	**25.20**	**336**	*e*P	**P**	**09 42 17.0**	**-0.6**
	comp=E,21nm,1.1s,mb4.5						
WCI	**Wyandotte Cave**	**26.05**	**0**	*e*P	**P**	**09 42 25.3**	**+0.1**
	comp=E,15nm,0.8s,mb4.5						
CCM	**Cathedral Cave**	**26.23**	**351**	*e*P	**P**	**09 42 26.5**	**-0.4**
	comp=E,5.4nm,0.8s,mb4.0						
AMTX	**Amarillo**	**26.59**	**331**	*e*P	**P**	**09 42 29.9**	**-0.3**
ACSO	**Alum Creek Sta**	**28.22**	**6**	*e*P	**P**	**09 42 45.1**	**+0.5**
	comp=E,21nm,1.0s,mb4.6						
HDIL	**Hopedale**	**28.48**	**355**	*e*P	**P**	**09 42 46.8**	**-0.2**
	comp=E,13nm,0.7s,mb4.6						
ANMO	**Albuquerque**	**29.13**	**325**	P	**P**	**09 42 52.6**	**-0.2**
ANMO				*e*P		09 42 54.2	
ANMO	**Albuquerque**	**29.13**	**325**	P	**P**	**09 42 52.6**	**-0.2**
	comp=E,2.1nm,0.7s,mb3.9,baz=142,slow=5.3,SNR=12						
SDCO	**Great Sand Dun**	**30.73**	**330**	*e*P	**P**	**09 43 08.0**	**+1.1**
GLMI	**Grayling**	**32.68**	**2**	*e*P	**P**	**09 43 23.1**	**-0.7**
	comp=E,16nm,0.6s,mb5.0						
ECSD	**EROS,Sioux Fal**	**32.75**	**346**	*e*P	**P**	**09 43 23.3**	**-1.2**
	comp=E,4.8nm,0.6s,mb4.5						
SADO	**Sadowa**	**33.18**	**10**	P	**P**	**09 43 27.9**	**-0.3**
SADO	**Sadowa**	**33.18**	**10**	P	**P**	**09 43 27.9**	**-0.3**
	baz=195,slow=8.6						
LPAZ	**La Paz**	**33.50**	**147**	P	**P**	**09 43 31.4**	**+0.1**
	comp=E,1.3nm,0.7s,mb3.9,baz=3.7,slow=8.9,SNR=5.7						
PDAR	**Pinedale Array**	**36.57**	**331**	P	**P**	**09 43 57.2**	**-0.2**
	comp=E,1.8nm,0.6s,mb4.2,baz=132,slow=10.0,SNR=15						
PDAR				PcP	PcP	09 46 17.2	-0.8
	comp=E,0.4nm,0.5s,baz=135,slow=5.5,SNR=5.5						
AGMN	**Agassiz Refuge**	**36.96**	**350**	*e*P	**P**	**09 43 59.3**	**-1.3**
	comp=E,17nm,0.7s,mb5.1						
SIV	**San Ignacio**	**37.52**	**137**	P	**P**	**09 44 03.9**	**-1.8**
	comp=E,5.6nm,0.8s,mb4.5,baz=319,slow=9.5,SNR=32						
SIV				pP	pP	09 44 32.9	-0.9
	comp=E,2.6nm,0.7s,baz=296,slow=10.0,SNR=3.2						
REDW	**Red Top Meadow**	**37.64**	**330**	*e*P	**P**	**09 44 07.0**	**+0.5**
	comp=E,8.5nm,0.7s,mb4.7						
SNOW	**Snow King Moun**	**37.67**	**331**	*e*P	**P**	**09 44 07.3**	**+0.7**
	comp=E,9.7nm,0.7s,mb4.7						
FLWY	**Flagg Ranch**	**38.11**	**331**	*e*P	**P**	**09 44 10.7**	**+0.3**
	comp=E,4.9nm,0.7s,mb4.5						
NVAR	**Mina Array Bea**	**38.63**	**318**	P	**P**	**09 44 15.6**	**+0.8**
	comp=E,1.8nm,0.6s,mb4.1,baz=125,slow=8.7,SNR=14						
NVAR				PcP	PcP	09 46 24.6	0.0
	comp=E,1.4nm,0.6s,baz=126,slow=4.7,SNR=8.1						
ULM	**Lac du Bonnet**	**38.85**	**350**	*e*P	**P**	**09 44 14.6**	**-1.8**
	comp=E,14nm,1.0s,mb4.8						
ULM	**Lac du Bonnet**	**38.85**	**350**	P	**P**	**09 44 14.6**	**-1.9**
	comp=E,8.3nm,0.6s,mb4.7,baz=167,slow=9.8,SNR=19						
ULM				PcP	PcP	09 46 23.9	-1.1
	comp=E,1.4nm,0.6s,baz=171,slow=2.0,SNR=2.9						
DGMT	**Dagmar**	**39.19**	**341**	*e*P	**P**	**09 44 19.3**	**0.0**
	comp=E,14nm,0.6s,mb5.0						
MCMT	**McKenzie Canyo**	**39.69**	**330**	*e*P	**P**	**09 44 24.9**	**+1.4**
SCHQ	**Schefferville**	**45.37**	**16**	P	**P**	**09 45 07.4**	**-1.8**
	comp=E,4.5nm,0.4s,mb4.6,baz=219,slow=6.7,SNR=28						
BDFB	**Brasilia**	**46.96**	**125**	P	**P**	**09 45 18.8**	**-3.4**
	comp=E,2.6nm,0.7s,mb4.1,baz=274,slow=7.6,SNR=4.7						
YKA	**Yellowknife Ar**	**54.23**	**344**	P	**P**	**09 46 13.9**	**-2.3**
	comp=E,1.5nm,0.6s,mb4.2,baz=139,slow=7.3,SNR=40						
YKA				pP	pP	09 46 45.4	-0.6
	comp=E,1.6nm,0.9s,baz=135,slow=7.6,SNR=3.8						
YKA				PcP	PcP	09 47 17.3	-1.6
	comp=E,1.0nm,0.6s,baz=144,slow=4.0,SNR=18						
PLCA	**Paso Flores**	**54.56**	**165**	P	**P**	**09 46 18.0**	**-0.8**
	comp=E,3.0nm,0.8s,mb4.4,baz=328,slow=8.2,SNR=11						
PLCA				PcP	PcP	09 47 18.9	-1.6
	comp=E,2.3nm,0.9s,

BVA0 Borovoye Array 10.09 275 ⇑Pn Pn 09 42 37.2 +1.6
0.2nm,0.5s,baz=249,slow=38,SNR=4.7
BVA0 ⇑Sn Sn 09 44 29.2 -0.1
0.3nm,0.8s,baz=79,slow=21,SNR=6.7
ZRNK Zerenda 10.93 275 ⇓Pn Pn 09 42 47.0 0.0
0.4nm,0.4s
ZRNK ⇓Sn Sn 09 44 49.9 0.0
3.2nm,1.1s

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*LDG **09** 09:40:21.7±0.1, 4227N×1.11E, h10km, Md3.4/3, Ml3.4/29, Error ellipse: s-maj=1.1km s-min=1.0km az=175.0*
*NEIC **09** 09:40:21.7, 4227N×1.11E, h10km, ML3.4(LDG), ML3.4(STR), MN2.8(MDD), After LDG.*
NEIC Felt [II] at Abella de la Conca, Spain.
*STR **09** 09:40:22.2±0.4, 4227N×108E, h10km, Ml3.5, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
*ISCJB **09** 09:40:22.2±0.3, 4223N±002×110E±002, h17km±4km, Error ellipse: s-maj=3.3km s-min=2.5km az=16.1*
*MDD **09** 09:40:22.4±0.2, 4226N×1.11E, h10km±1km, mbLg2.8/29, Error ellipse: s-maj=1.5km s-min=1.3km az=22.0, PRXIMO I ARAMUNT*
MDD EMS: II ABELLA DE LA CONCA.
*CSEM **09** 09:40:22.7±0.3, 4236N×126E, h30km, ML3.2/1, Error ellipse: s-maj=11.2km s-min=6.3km az=163.0*
ISC 09 09:40:21.7±0.2, 4233N±001×115E±001, h16km±2km, n180, σ1§39/323, 1C-2D, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CORG	**Organya**	**0.16**	**127**	Pg	**Pg**	**09 40 24.9**	**-0.9**
CORG				Lg		09 40 27.7	
518nm,0.4s							
CTRE	**Tremp**	**0.28**	**270**	Pg	**Pg**	**09 40 26.8**	**-0.9**
CTRE				Lg		09 40 31.1	
509nm,0.3s							
CEST	**Esterri de Car**	**0.29**	**16**	Pg	**Pg**	**09 40 29.3**	**+1.5**
CEST				Lg		09 40 34.7	
705nm,0.2s							
PAND	**Andorre**	**0.35**	**56**	Pg	**Pg**	**09 40 30.2**	**+1.2**
PAND				Lg		09 40 36.5	
SALF	**Salau**	**0.43**	**4**	Lg		09 40 38.9	
EMIR	**Miracle**	**0.50**	**146**	⇓Pg	**Pg**	**09 40 30.8**	**-0.8**
53nm,0.1s,SNR=18							
EMIR				Lg		09 40 38.0	
75nm,0.1s,SNR=7.9							
CAVN	**Les Avellanes**	**0.53**	**214**	Pg	**Pg**	**09 40 30.9**	**-1.3**
CAVN				Lg		09 40 37.2	
763nm,0.4s							
MELF	**Melles**	**0.62**	**332**	Pg	**Pg**	**09 40 34.7**	**+0.9**
MELF				Sg	**Sg**	**09 40 43.7**	**+1.6**
MELF	**Melles**	**0.62**	**332**	Pg	**Pg**	**09 40 34.8**	**+0.9**
MELF				Lg		09 40 44.0	
MLS	**Moulis**	**0.63**	**356**	Pg	**Pg**	**09 40 35.3**	**+1.2**
MLS				Sg	**Sg**	**09 40 44.7**	**+2.1**
MLS	**Moulis**	**0.63**	**356**	Pg	**Pg**	**09 40 35.3**	**+1.2**
MLS				Lg		09 40 45.8	
VALF	**Valcebollere**	**0.65**	**83**	Pg	**Pg**	**09 40 35.6**	**+1.2**
VALF				Sg	**Sg**	**09 40 46.0**	**+3.0**
VALF	**Valcebollere**	**0.65**	**83**	Pg	**Pg**	**09 40 35.3**	**+0.9**
VALF				Lg		09 40 45.9	
CORI	**Orista**	**0.76**	**117**	Pg	**Pg**	**09 40 36.3**	**-0.1**
CORI				Lg		09 40 47.2	
138nm,0.5s							
CBRU	**Bruguera**	**0.77**	**93**	Pg	**Pg**	**09 40 37.2**	**+0.6**
RESF	**Ens**	**0.77**	**309**	Pg	**Pg**	**09 40 36.9**	**+0.2**
RESF				Sg	**Sg**	**09 40 48.3**	**+1.5**
RESF	**Ens**	**0.77**	**309**	Pg	**Pg**	**09 40 36.7**	**+0.1**
RESF				Lg		09 40 48.8	
CARF	**Carcanieres**	**0.81**	**61**	Pg	**Pg**	**09 40 38.4**	**+1.0**
CARF				Sg	**Sg**	**09 40 50.3**	**+2.2**
CARF	**Carcanieres**	**0.81**	**61**	Pg	**Pg**	**09 40 38.8**	**+1.4**
CARF				Lg		09 40 50.4	
EBIE	**Bielsa**	**0.83**	**296**	⇑Pg	**Pg**	**09 40 37.5**	**-0.3**
34nm,0.3s,SNR=18							
EBIE				Lg		09 40 48.9	
89nm,0.2s,SNR=19							
LPEF	**Le Peyrat**	**0.84**	**42**	Pg	**Pg**	**09 40 39.6**	**+1.6**
LPEF				Lg		09 40 52.5	
EPF	**Esparros**	**0.92**	**320**	*e*P	**Pg**	**09 40 41.1**	**+1.5**
SNR=1.0							
EPF				*e*Sg	**Sg**	**09 40 52.1**	**+0.4**
234nm,0.2s,SNR=1.0							
EPF	**Esparros**	**0.92**	**320**	*e*Pg	**Pg**	**09 40 39.8**	**+0.2**
EPF				*e*P		09 40 41.1	
EPF				*e*Sg	**Sg**	**09 40 52.1**	**+0.4**
EPF	**Esparros**	**0.92**	**320**	Pg	**Pg**	**09 40 39.8**	**+0.2**
EPF				Lg		09 40 52.1	
117nm,0.2s							
EPOB	**Poblet**	**0.97**	**183**	⇓Pg	**Pg**	**09 40 38.9**	**-1.6**
26nm,0.3s,SNR=18							
EPOB				Lg		09 40 51.4	
15nm,0.1s,SNR=28							
VIEF	**Viey**	**1.00**	**304**	Pg	**Pg**	**09 40 40.8**	**-0.3**
VIEF				Sg	**Sg**	**09 40 55.1**	**+0.9**
VIEF	**Viey**	**1.00**	**304**	Pg	**Pg**	**09 40 40.6**	**-0.4**
VIEF				Lg		09 40 55.2	
CGAR	**Garraf**	**1.03**	**181**	Pg	**Pg**	**09 40 43.5**	**+1.9**
CGAR				Lg		09 40 58.9	
112nm,0.6s							
FILF	**Fillols**	**1.07**	**77**	Pg	**Pg**	**09 40 41.2**	**-1.2**
FILF				Sg	**Sg**	**09 40 55.8**	**-0.6**
FILF	**Fillols**	**1.07**	**77**	Pg	**Pg**	**09 40 41.3**	**-1.0**
FILF				Lg		09 40 55.9	
LABF	**Labassere**	**1.07**	**313**	Pg	**Pg**	**09 40 43.0**	**+0.6**
LABF				Sg	**Sg**	**09 40 57.8**	**+1.4**
LABF	**Labassere**	**1.07**	**313**	Pg	**Pg**	**09 40 42.8**	**+0.4**
LABF				Lg		09 40 57.7	
LRDF	**Laroque-de-Fa**	**1.19**	**59**	Pg	**Pg**	**09 40 46.2**	**+1.5**
LRDF				Sg	**Sg**	**09 41 04.1**	**+3.8**
LRDF	**Laroque-de-Fa**	**1.19**	**59**	Pg	**Pg**	**09 40 46.2**	**+1.5**
LRDF				Lg		09 41 03.5	
MTLF	**Montolieu**	**1.28**	**37**	*e*Pg	**Pg**	**09 40 47.4**	**+1.0**
SNR=1.0							
MTLF				*e*Sg	**Sg**	**09 41 04.6**	**+1.4**
117nm,0.3s,SNR=1.0							
MTLF	**Montolieu**	**1.28**	**37**	*e*Pn	**Pn**	**09 40 44.8**	**-0.1**
MTLF				*e*Pg	**Pg**	**09 40 47.4**	**+1.0**
MTLF				*e*Sg	**Sg**	**09 41 04.6**	**+1.4**
MTLF	**Montolieu**	**1.28**	**37**	Pn	**Pn**	**09 40 44.8**	**-0.1**
MTLF				Pg	**Pg**	**09 40 47.4**	**+1.0**
MTLF				Lg		09 41 04.6	
0.1nm,0.3s							
SJAF	**Saint Jean de**	**1.29**	**82**	Pg	**Pg**	**09 40 47.7**	**+1.1**
SJAF				Sg	**Sg**	**09 41 05.5**	**+2.0**
SJAF	**Saint Jean de**	**1.29**	**82**	Pg	**Pg**	**09 40 47.9**	**+1.3**
SJAF				Lg		09 41 07.2	
EJON	**La Jonquera**	**1.29**	**84**	Pg	**Pg**	**09 40 47.5**	**+0.9**
EJON				Lg		09 41 06.3	
EJON	**La Jonquera**	**1.29**	**84**	Pg	**Pg**	**09 40 47.5**	**+0.9**
24nm,0.3s,SNR=65							
EJON				Lg		09 41 05.7	
46nm,0.1s,SNR=20							
ESAC	**San Caprasio**	**1.35**	**244**	Pg	**Pg**	**09 40 46.7**	**-0.9**
128nm,0.3s,SNR=18							
ESAC				Lg		09 41 04.3	
252nm,0.2s,SNR=33							
ESAC	**San Caprasio**	**1.35**	**244**	Pg	**Pg**	**09 40 46.8**	**-0.8**
128nm,0.3s,SNR=18							
REYF	**Montagne du Re**	**1.36**	**304**	Pg	**Pg**	**09 40 47.8**	**0.0**
REYF				Sg	**Sg**	**09 41 05.1**	**-0.4**
REYF	**Montagne du Re**	**1.36**	**304**	Pg	**Pg**	**09 40 47.6**	**-0.2**
REYF				Lg		09 41 08.9	
FDAF	**Les Forges d'A**	**1.36**	**292**	Pg	**Pg**	**09 40 48.8**	**+0.9**
FDAF				Lg		09 41 08.9	
CCAS	**Cassa de la Se**	**1.38**	**108**	Pg	**Pg**	**09 40 48.0**	**-0.2**
CCAS				Lg		09 41 06.7	
68nm,0.4s							
ETSF	**Etsaut**	**1.39**	**295**	*e*Pn	**Pn**	**09 40 47.2**	**+0.9**
SNR=1.0							
ETSF				*e*Sn	**Sn**	**09 41 02.7**	**-1.6**
ETSF				*e*Sg	**Sg**	**09 41 06.4**	**0.0**
205nm,0.2s,SNR=1.0							
ETSF	**Etsaut**	**1.39**	**295**	Pn	**Pn**	**09 40 47.2**	**+0.9**
ETSF				Sn	**Sn**	**09 41 02.7**	**-1.6**
ETSF				Lg		09 41 06.4	
102nm,0.2s							
CPAL	**Palau Saverder**	**1.49**	**90**	Lg		09 41 10.9	
30nm,0.4s							
ERTA	**Horta de San J**	**1.50**	**204**	Pg	**Pg**	**09 40 48.3**	**-2.2**
50nm,0.3s,SNR=109							
ERTA				Lg		09 41 07.8	
315nm,0.2s,SNR=7.9							
CMAS	**Mas de Barbera**	**1.72**	**202**	Pg	**Pg**	**09 40 52.3**	**-2.3**
CMAS				Lg		09 41 12.5	
115nm,0.5s							
LARF	**Larrau**	**1.73**	**295**	Pg	**Pg**	**09 40 54.1**	**-0.8**
LARF				Sg	**Sg**	**09 41 17.5**	**+0.1**
LARF	**Larrau**	**1.73**	**295**	Pg	**Pg**	**09 40 55.0**	**+0.1**
LARF				Lg		09 41 18.3	
ORDF	**Ordiarp**	**1.77**	**301**	Pg	**Pg**	**09 40 54.7**	**-1.0**
ORDF				Sg	**Sg**	**09 41 18.9**	**+0.1**
ORDF	**Ordiarp**	**1.77**	**301**	Pg	**Pg**	**09 40 55.2**	**-0.5**
ORDF				Lg		09 41 19.1	
IPRE	**Itoiz**	**1.91**	**285**	Pg	**Pg**	**09 40 58.2**	**-0.2**
SNR=4.0							
IPRE				Lg		09 41 23.4	
30nm,0.3s,SNR=7.3							
SJPF	**Ste Jean**	**1.92**	**295**	*e*Pg	**Pg**	**09 40 56.6**	**-1.9**
SNR=1.0							
SJPF				*e*Sn	**Sn**	**09 41 15.5**	**-1.9**
SNR=1.0							
SJPF				*e*Sg	**Sg**	**09 41 22.3**	**-1.1**
71nm,0.2s,SNR=1.0							
SJPF	**Ste Jean**	**1.92**	**295**	Pg	**Pg**	**09 40 56.6**	**-1.9**
SJPF				Sn	**Sn**	**09 41 15.5**	**-1.9**
SJPF				Lg		09 41 22.3	
36nm,0.2s							
IZUN	**Zunzarren**	**2.00**	**286**	Pg	**Pg**	**09 41 00.0**	**0.0**
SNR=4.0							
IZUN				Lg		09 41 26.6	
16nm,0.2s,SNR=7.9							
IZUN	**Zunzarren**	**2.00**	**286**	Pg	**Pg**	**09 41 00.1**	**+0.1**
SNR=4.0							
OSSF	**Osses**	**2.00**	**298**	Pn	**Pn**	**09 40 57.4**	**+2.6**
OSSF	**Osses**	**2.00**	**298**	Pg	**Pg**	**09 40 57.6**	**-2.5**
OSSF				Lg		09 41 26.6	
IUNC	**Unciti**	**2.00**	**283**	Pg	**Pg**	**09 40 59.9**	**-0.3**
22nm,0.3s,SNR=29							
IUNC				Lg		09 41 26.9	
16nm,0.2s,SNR=10.0							
EARA	**Aranguren**	**2.06**	**283**	Pg	**Pg**	**09 41 01.0**	**-0.3**
SNR=7.9							
EARA				Lg		09 41 28.5	
21nm,0.2s,SNR=7.9							
EARA	**Aranguren**	**2.06**	**283**	Pn	**Pn**	**09 40 58.2**	**+2.5**
SNR=7.9							
IUSE	**Utxeti**	**2.08**	**288**	Pn	**Pn**	**09 40 59.8**	**+3.9**
SNR=7.9							
IUSE				Pg	**Pg**	**09 41 01.3**	**-0.4**
6.6nm,0.3s,SNR=11							
IUSE				Lg		09 41 29.4	
10nm,0.1s,SNR=7.9							
ELIZ	**Elizondo**	**2.14**	**294**	Pn	**Pn**	**09 40 59.8**	**+3.1**
ELIZ				Lg		09 41 31.1	
ELIZ	**Elizondo**	**2.14**	**294**	Pn	**Pn**	**09 40 59.8**	**+3.1**
15nm,0.3s,SNR=39							
ELIZ				Pg	**Pg**	**09 41 02.3**	**-0.5**
SNR=7.9							
ELIZ				Lg		09 41 31.1	
28nm,0.2s,SNR=6.3							
EMOS	**Mosqueruela**	**2.31**	**212**	Pn	**Pn**	**09 41 01.0**	**+2.0**
SNR=7.9							
EMOS				Pg	**Pg**	**09 41 02.2**	**-3.8**
8.0nm,0.3s,SNR=28							
EMOS				Lg		09 41 31.3	
16nm,0.2s,SNR=7.9							
LFF	**La Frestale**	**2.63**	**354**	*e*P	**Pn**	**09 41 05.9**	**+2.5**
LFF	**La Frestale**	**2.63**	**354**	*e*Pg	**Pg**	**09 41 10.8**	**-1.3**
LFF				*e*Sn	**Sn**	**09 41 33.4**	**-1.6**
SNR=1.0							
LFF				*e*Sg	**Sg**	**09 41 47.0**	**+0.8**
99nm,0.3s,SNR=1.0							
LFF	**La Frestale**	**2.63**	**354**	*e*Pn	**Pn**	**09 41 03.0**	**-0.4**
LFF				*e*P		09 41 05.9	
LFF				*e*Pg	**Pg**	**09 41 10.8**	**-1.3**
LFF				*e*Sn	**Sn**	**09 41 33.4**	**-1.6**
LFF				*e*Sg	**Sg**	**09 41 47.0**	**+0.8**
LFF	**La Frestale**	**2.63**	**354**	Pn	**Pn**	**09 41 03.0**	**-0.4**
LFF				Pg	**Pg**	**09 41 10.8**	**-1.3**
LFF				Sn	**Sn**	**09 41 33.4**	**-1.6**
LFF				Lg		09 41 47.0	
0.1nm,0.3s							
LASF	**Ste Croix**	**2.64**	**48**	*e*Pg	**Pg**	**09 41 11.7**	**-0.6**
SNR=1.0							
LASF				*e*Sg	**Sg**	**09 41 46.9**	**+0.3**
33nm,0.3s,SNR=1.0							
LASF	**Ste Croix**	**2.64**	**48**	*e*P	**Pn**	**09 41 06.5**	**+2.9**
LASF				*e*Pg	**Pg**	**09 41 11.7**	**-0.6**
LASF				*e*Sg	**Sg**	**09 41 46.9**	**+0.3**
LASF	**Ste Croix**	**2.64**	**48**	Pn	**Pn**	**09 41 06.5**	**+2.9**
LASF				Pg	**Pg**	**09 41 11.7**	**-0.6**
LASF				Lg		09 41 46.9	
16nm,0.3s							
CAF	**Calviac**	**2.68**	**14**	*e*P	**Pn**	**09 41 07.0**	**+2.8**
CAF	**Calviac**	**2.68**	**14**	*e*Pg	**Pg**	**09 41 12.2**	**-0.9**
CAF				*e*Sn	**Sn**	**09 41 36.2**	**-0.1**
SNR=1.0							
CAF				*e*Sg	**Sg**	**09 41 48.2**	**+0.3**
33nm,0.2s,SNR=1.0							
CAF	**Calviac**	**2.68**	**14**	*e*Pn	**Pn**	**09 41 03.9**	**-0.3**
CAF				*e*P		09 41 07.0	
CAF				*e*Pg	**Pg**	**09 41 12.2**	**-0.9**
CAF				*e*Sn	**Sn**	**09 41 36.2**	**-0.1**
CAF				*e*Sg	**Sg**	**09 41 48.2**	**+0.3**
CAF	**Calviac**	**2.68**	**14**	Pn	**Pn**	**09 41 03.9**	**-0.3**
CAF				Pg	**Pg**	**09 41 12.2**	**-0.9**
CAF				Sn	**Sn**	**09 41 36.2**	**-0.1**
CAF				Lg		09 41 48.2	
16nm,0.2s							
ECRI	**Cripan**	**2.72**	**277**	Pn	**Pn**	**09 41 06.7**	**+2.0**
ECRI				Sn	**Sn**	**09 41 40.4**	**+3.1**
ECRI	**Cripan**	**2.72**	**277**	Pn	**Pn**	**09 41 04.9**	**+0.3**
SNR=7.9							
ECRI				Sn	**Sn**	**09 41 36.7**	**-0.6**
12nm,0.2s,SNR=5.6							
ETOR	**Torete**	**2.84**	**239**	Pn	**Pn**	**09 41 07.5**	**+1.3**
ETOR				Pg	**Pg**	**09 41 15.4**	**-0.6**
ETOR				Lg		09 41 52.0	
ETOR	**Torete**	**2.84**	**239**	Pn	**Pn**	**09 41 06.4**	**+0.2**
8.3nm,0.3s,SNR=16							
ETOR				Pg	**Pg**	**09 41 15.4**	**-0.6**
47nm,0.3s,SNR=20							
ETOR				Lg		09 41 52.0	
70nm,0.2s,SNR=6.2							
ETOS	**Mallorca**	**2.85**	**153**	Pn	**Pn**	**09 41 07.1**	**+0.7**
ETOS				Sn	**Sn**	**09 41 40.9**	**+0.6**
ETOS	**Mallorca**	**2.85**	**153**	Pn	**Pn**	**09 41 07.1**	**+0.7**
SNR=7.9							
ETOS				Sn	**Sn**	**09 41 39.5**	**-0.9**
19nm,0.8s,SNR=5.3							
RJF	**Les Rejaudoux**	**2.99**	**5**	*e*P	**Pn**	**09 41 11.2**	**+2.8**
RJF	**Les Rejaudoux**	**2.99**	**5**	*e*Pg	**Pg**	**09 41 17.7**	**-1.3**
RJF				*e*Sn	**Sn**	**09 41 42.9**	**-0.9**
RJF				*e*Sg	**Sg**	**09 41 57.6**	**-0.1**
39nm,0.3s,SNR=1.0							
RJF	**Les Rejaudoux**	**2.99**	**5**	*e*Pn	**Pn**	**09 41 08.0**	**-0.4**
RJF				*e*P		09 41 11.2	
RJF				*e*Pg	**Pg**	**09 41 17.7**	**-1.3**
RJF				*e*Sn	**Sn**	**09 41 42.9**	**-0.9**
RJF				*e*Sg	**Sg**	**09 41 57.6**	**-0.1**
RJF	**Les Rejaudoux**	**2.99**	**5**	Pn	**Pn**	**09 41 08.0**	**-0.4**
RJF				Pg	**Pg**	**09 41 17.7**	**-1.3**
RJF				Sn	**Sn**	**09 41 42.9**	**-0.9**
RJF				Lg		09 41 57.6	
0.0nm,0.3s							
ECHE	**Chera**	**3.17**	**211**	Pn	**Pn**	**09 41 12.1**	**+1.3**
ECHE				Lg		09 42 01.0	
ECHE	**Chera**	**3.17**	**211**	Pn	**Pn**	**09 41 10.5**	**-0.4**
2.0nm,0.2s,SNR=6.9							
ECHE				Lg		09 42 01.0	
37nm,0.8s,SNR=7.9							
LBL	**Lubilhac**	**3.28**	**27**	Pn	**Pn**	**09 41 14.0**	**+1.7**
EIBI	**Ibiza**	**3.30**	**177**	Pn	**Pn**	**09 41 12.9**	**+0.2**
8.1nm,0.6s,SNR=8.0							
EIBI				Sn	**Sn**	**09 41 49.4**	**-2.0**
6.6nm,0.3s,SNR=6.6							
EIBI	**Ibiza**	**3.30**	**177**	Sn	**Sn**	**09 41 50.0**	**-1.5**
6.6nm,0.3s,SNR=6.6							
ELAN	**Lanestosa**	**3.49**	**287**	Pn	**Pn**	**09 41 17.9**	**+2.6**
1.2nm,0.3s,SNR=8.3							
ELAN				Sn	**Sn**	**09 41 57.5**	**+1.2**
SNR=7.9							
ELAN				Lg		09 42 14.2	
13nm,0.4s,SNR=7.9							
VIVF	**Saint-Julien-l**	**3.60**	**44**	*e*Pg	**Pg**	**09 41 28.4**	**-2.2**
VIVF				*e*Sg	**Sg**	**09 42 16.0**	**-1.2**
20nm,0.4s,SNR=1.0							
VIVF	**Saint-Julien-l**	**3.60**	**44**	*e*Pn	**Pn**	**09 41 16.1**	**-0.6**
VIVF				*e*P		09 41 19.7	
VIVF				*e*Pg	**Pg**	**09 41 28.4**	**-2.2**
VIVF				*e*Sg	**Sg**	**09 42 16.0**	**-1.2**
VIVF	**Saint-Julien-l**	**3.60**	**44**	Pn	**Pn**	**09 41 16.1**	**-0.6**
VIVF				Pg	**Pg**	**09 41 28.4**	**-2.2**
VIVF				Lg		09 42 16.0	
10nm,0.4s							
SMRF	**Simiane la Rot**	**3.63**	**62**	*e*P	**Pn**	**09 41 20.3**	**+3.1**
SMRF	**Simiane la Rot**	**3.63**	**62**	*e*Pg	**Pg**	**09 41 29.7**	**-1.6**
SNR=1.0							
SMRF				*e*Sn	**Sn**	**09 41 59.0**	**-0.7**
SNR=1.0							
SMRF				*e*Sg	**Sg**	**09 42 17.9**	**-0.5**
11nm,0.5s,SNR=1.0							
SMRF	**Simiane la Rot**	**3.63**	**62**	*e*Pn	**Pn**	**09 41 16.6**	**-0.6**
SMRF				*e*P		09 41 20.3	
SMRF				*e*Pg	**Pg**	**09 41 29.7**	**-1.6**
SMRF				*e*Sn	**Sn**	**09 41 59.0**	**-0.7**
SMRF				*e*Sg	**Sg**	**09 42 17.9**	**-0.5**
SMRF	**Simiane la Rot**	**3.63**	**62**	Pn	**Pn**	**09 41 16.6**	**-0.6**
SMRF				Pg	**Pg**	**09 41 29.7**	**-1.6**
SMRF				Sn	**Sn**	**09 41 59.0**	**-0.7**
SMRF				Lg		09 42 17.9	
11nm,0.5s							
PYM	**Petit Puy Mans**	**3.68**	**21**	Pn	**Pn**	**09 41 20.3**	**+2.5**
EBEN	**Beniarda**	**3.77**	**197**	Pn	**Pn**	**09 41 19.4**	**+0.4**
EBEN				Sn	**Sn**	**09 42 01.0**	**-2.0**
EBEN	**Beniarda**	**3.77**	**197**	Pn	**Pn**	**09 41 19.4**	**+0.4**
10nm,1.0s,SNR=24							
EBEN				Sn	**Sn**	**09 41 59.9**	**-3.1**
SNR=7.9							
EBEN	**Beniarda**	**3.77**	**197**	Sn	**Sn**	**09 42 01.9**	**-1.1**
SNR=7.9							
AGO	**Saint Agoulin**	**3.99**	**20**	Pn	**Pn**	**09 41 25.6**	**+3.5**
TCF	**Toulx Ste Croi**	**4.03**	**11**	*e*Pn	**Pn**	**09 41 22.6**	**-0.1**
TCF				*e*Pg	**Pg**	**09 41 36.9**	**-2.0**
PLDF	**La Plantade**	**4.05**	**25**	Pn	**Pn**	**09 41 26.7**	**+3.7**
LMR	**La Mourre**	**4.07**	**74**	*e*P	**Pn**	**09 41 26.0**	**+2.8**
LMR				*e*Sn	**Sn**	**09 42 08.2**	**-2.3**
6.1nm,0.3s,SNR=1.0							
ETOB	**Tobarra**	**4.21**	**210**	Pn	**Pn**	**09 41 26.3**	**+1.1**
ETOB				Sn	**Sn**	**09 42 13.0**	**-1.0**
ETOB	**Tobarra**	**4.21**	**210**	Pn	**Pn**	**09 41 25.3**	**+0.1**
SNR=4.0							
ETOB				Sn	**Sn**	**09 42 12.0**	**-2.0**
2.3nm,0.2s,SNR=7.9							
FRF	**La Foret Royal**	**4.22**	**71**	*e*P	**Pn**	**09 41 28.2**	**+2.9**
FRF				*e*Sn	**Sn**	**09 42 11.5**	**-2.7**
10nm,0.5s,SNR=1.0							
FRF	**La Foret Royal**	**4.22**	**71**	Pn	**Pn**	**09 41 28.2**	**+2.9**
FRF				Sn	**Sn**	**09 42 11.5**	**-2.7**
5.2nm,0.5s							
ORIF	**Oris-en-Rattie**	**4.30**	**51**	*e*P	**Pn**	**09 41 30.7**	**+4.3**
ORIF				*e*Sn	**Sn**	**09 42 14.4**	**-1.8**
SNR=1.0							
ORIF				*e*Sg	**Sg**	**09 42 38.6**	**-1.2**
3.1nm,0.4s,SNR=1.0							
ORIF	**Oris-en-Rattie**	**4.30**	**51**	*e*Pn	**Pn**	**09 41 25.9**	**-0.5**
ORIF				*e*P		09 41 30.7	
ORIF				*e*Sn	**Sn**	**09 42 14.4**	**-1.8**
ORIF				*e*Sg	**Sg**	**09 42 38.6**	**-1.2**
ORIF	**Oris-en-Rattie**	**4.30**	**51**	Pn	**Pn**	**09 41 25.9**	**-0.5**
ORIF				Sn	**Sn**	**09 42 14.4**	**-1.8**
ORIF				Lg		09 42 38.6	
1.6nm,0.4s							
GUD	**Guadarrama**	**4.32**	**249**	Pn	**Pn**	**09 41 27.2**	**+0.5**
SNR=7.9							
GUD				Sn	**Sn**	**09 42 16.0**	**-0.8**
6.9nm,0.2s,SNR=7.9							
MFF	**Saint Martin d**	**4.38**	**348**	*e*P	**Pn**	**09 41 31.2**	**+3.8**
SNR=1.0							
MFF				*e*Sn	**Sn**	**09 42 16.2**	**-1.8**
MFF				*e*Sg	**Sg**	**09 42 40.0**	**-2.1**
16nm,0.4s,SNR=1.0							
MFF	**Saint Martin d**	**4.38**	**348**	*e*Pn	**Pn**	**09 41 26.8**	**-0.6**
MFF				*e*P		09 41 31.2	
MFF				*e*Sn	**Sn**	**09 42 16.2**	**-1.8**
MFF				*e*Sg	**Sg**	**09 42 40.0**	**-2.1**
MFF	**Saint Martin d**	**4.38**	**348**	Pn	**Pn**	**09 41 26.8**	**-0.6**
MFF				Sn	**Sn**	**09 42 16.2**	**-1.8**
MFF				Lg		09 42 40.0	
7.8nm,0.4s							
BGF	**Bois d'Agland**	**4.40**	**15**	*e*Pg	**Pg**	**09 41 44.0**	**-2.0**
SNR=1.0							
BGF				*e*Sn	**Sn**	**09 42 16.8**	**-1.9**
SNR=1.0							
BGF				*e*Sg	**Sg**	**09 42 41.7**	**-1.3**
51nm,0.4s,SNR=1.0							
BGF	**Bois d'Agland**	**4.40**	**15**	*e*Pn	**Pn**	**09 41 28.1**	**+0.3**
BGF				*e*Pg	**Pg**	**09 41 44.0**	**-2.0**
BGF				*e*Sn	**Sn**	**09 42 16.8**	**-1.9**
BGF				*e*Sg	**Sg**	**09 42 41.7**	**-1.3**
BGF	**Bois d'Agland**	**4.40**	**15**	Pn	**Pn**	**09 41 28.1**	**+0.3**
BGF				Pg	**Pg**	**09 41 44.0**	**-2.0**
BGF				Sn	**Sn**	**09 42 16.8**	**-1.9**
BGF				Lg		09 42 41.7	
25nm,0.4s							
EVIA	**Vianos**	**4.62**	**218**	Lg		09 42 45.1	
16nm,0.6s,SNR=7.9							
ESDC	**Sonseca Array**	**4.69**	**237**	Pn	**Pn**	**09 41 31.5**	**-0.2**
0.8nm,0.3s,baz=56,slow=14,SNR=6.3							
SMF	**Signal de Mont**	**4.73**	**23**	*e*Pg	**Pg**	**09 41 50.0**	**-2.2**
SNR=1.0							
SMF				*e*Sg	**Sg**	**09 42 53.0**	**-0.4**
7.3nm,0.4s,SNR=1.

SSF				Lg			09 42 59.7
	2.5nm,0.3s						
HYF	**Humbligny**	**5.05**	**12**	*e*Sg	**Sg**		**09 43 02.2 -1.7**
LPG	**La Plagne**	**5.14**	**50**	*e*P	**Pn**		**09 41 42.8 +4.9**
LPL	**La Plagne**	**5.14**	**50**	*e*Pn	**Pn**		**09 41 37.3 -0.6**
LPL				*e*P			09 41 43.1
LOR	**Lormes**	**5.30**	**20**	*e*Pn	**Pn**		**09 41 40.3 +0.1**
	baz=200,SNR=1.0						
LOR				*e*Sg	**Sg**		**09 43 09.2 -2.7**
	11nm,0.5s						
LOR	**Lormes**	**5.30**	**20**	Pn	**Pn**		**09 41 40.3 +0.1**
LOR				Lg			09 43 09.2
	5.4nm,0.5s						
CABF	**La Chapelle**	**5.55**	**38**	*e*Pg	**Pg**		**09 42 05.3 -2.7**
CABF				*e*Sg	**Sg**		**09 43 19.0 -0.8**
	16nm,0.7s,SNR=1.0						
CABF	**La Chapelle**	**5.55**	**38**	*e*P	**Pn**		**09 41 47.3 +3.7**
CABF				*e*Pg	**Pg**		**09 42 05.3 -2.7**
CABF				*e*Sg	**Sg**		**09 43 19.0 -0.8**
CABF	**La Chapelle**	**5.55**	**38**	Pg	**Pg**		**09 42 05.3 -2.7**
CABF				Lg			09 43 19.0
	8.2nm,0.7s						
PGF	**Pioggiola**	**5.81**	**85**	*e*Pn	**Pn**		**09 41 46.6 -0.6**
	SNR=1.0						
PGF				*e*Sn	**Sn**		**09 42 49.6 -3.9**
	5.0nm,0.4s						
PGF	**Pioggiola**	**5.81**	**85**	Pn	**Pn**		**09 41 46.6 -0.6**
PGF				Sn	**Sn**		**09 42 49.6 -3.9**
	2.5nm,0.4s						
ECAL	**Calabor**	**5.88**	**269**	Pn	**Pn**		**09 41 48.6 +0.6**
ECAL				Sn	**Sn**		**09 42 52.1 -3.0**
ECAL	**Calabor**	**5.88**	**269**	Pn	**Pn**		**09 41 48.6 +0.6**
	SNR=7.9						
ECAL				Sn	**Sn**		**09 42 50.9 -4.1**
	SNR=7.9						
EPON	**Pontenova**	**6.18**	**282**	Pn	**Pn**		**09 41 53.5 +1.3**
EPON				Sn	**Sn**		**09 43 01.5 -1.1**
EPON	**Pontenova**	**6.18**	**282**	Pn	**Pn**		**09 41 53.5 +1.3**
	SNR=7.9						
EPON				Sn	**Sn**		**09 42 59.8 -2.7**
	SNR=7.9						
EPON	**Pontenova**	**6.18**	**282**	Pn	**Pn**		**09 41 53.5 +1.2**
	SNR=7.9						
EPON				Sn	**Sn**		**09 43 01.5 -1.1**
	SNR=7.9						
GRR	**Gorron**	**6.22**	**348**	*e*P	**Pn**		**09 41 56.7 +3.9**
GRR				*e*Sn	**Sn**		**09 43 00.2 -3.4**
	9.5nm,0.2s,SNR=1.0						
GRR	**Gorron**	**6.22**	**348**	*e*Pn	**Pn**		**09 41 52.0 -0.8**
GRR				*e*P			09 41 56.7
GRR				*e*Sn	**Sn**		**09 43 00.2 -3.4**
GRR	**Gorron**	**6.22**	**348**	Pn	**Pn**		**09 41 52.0 -0.8**
GRR				Sn	**Sn**		**09 43 00.2 -3.4**
	4.8nm,0.2s						
LDF	**La Druitiere**	**6.33**	**352**	*e*P	**Pn**		**09 41 57.8 +3.5**
LDF				*e*Sn	**Sn**		**09 43 02.9 -3.3**
	28nm,0.4s						
LDF	**La Druitiere**	**6.33**	**352**	*e*Pn	**Pn**		**09 41 53.7 -0.6**
LDF				*e*P			09 41 57.8
LDF				*e*Sn	**Sn**		**09 43 02.9 -3.3**
QUIF	**Quistinic**	**6.37**	**333**	*e*P	**Pn**		**09 41 58.4 +3.6**
QUIF				*e*Sn	**Sn**		**09 43 03.6 -3.5**
	9.3nm,0.2s,SNR=1.0						
QUIF	**Quistinic**	**6.37**	**333**	*e*Pn	**Pn**		**09 41 53.3 -1.5**
QUIF				*e*P			09 41 58.4
QUIF				*e*Sn	**Sn**		**09 43 03.6 -3.5**
QUIF	**Quistinic**	**6.37**	**333**	Pn	**Pn**		**09 41 53.3 -1.5**
QUIF				Sn	**Sn**		**09 43 03.6 -3.5**
	4.7nm,0.2s						
SGMF	**Saint Gilles**	**6.48**	**337**	*e*P	**Pn**		**09 41 59.6 +3.3**
SGMF				*e*Sn	**Sn**		**09 43 06.8 -3.0**
	5.0nm,0.2s,SNR=1.0						
SGMF	**Saint Gilles**	**6.48**	**337**	*e*Pn	**Pn**		**09 41 55.1 -1.2**
SGMF				*e*P			09 41 59.6
SGMF				*e*Sn	**Sn**		**09 43 06.8 -3.0**
SGMF	**Saint Gilles**	**6.48**	**337**	Pn	**Pn**		**09 41 55.1 -1.2**
SGMF				Sn	**Sn**		**09 43 06.8 -3.0**
	0.0nm,0.2s						
FLN	**La Foliniere**	**6.54**	**350**	*e*Pn	**Pn**		**09 41 56.3 -0.8**
FLN				*e*P			09 42 01.1
HAU	**Haudompre**	**6.76**	**31**	*e*Pn	**Pn**		**09 41 59.8 -0.4**
	SNR=1.0						
ROSF	**Rostrenen**	**6.77**	**334**	*e*P	**Pn**		**09 42 03.3 +3.0**
ROSF				*e*Sn	**Sn**		**09 43 13.3 -3.7**
	6.0nm,0.4s,SNR=1.0						
ROSF	**Rostrenen**	**6.77**	**334**	*e*Pn	**Pn**		**09 41 58.8 -1.5**
ROSF				*e*P			09 42 03.3
ROSF				*e*Sn	**Sn**		**09 43 13.3 -3.7**
ROSF	**Rostrenen**	**6.77**	**334**	Pn	**Pn**		**09 41 58.8 -1.5**
ROSF				Sn	**Sn**		**09 43 13.3 -3.7**
	0.0nm,0.4s						
HINF	**Hinteralfeld**	**6.81**	**34**	*e*Pn	**Pn**		**09 42 01.0 +0.1**
BAIF	**Baives**	**8.02**	**14**	*e*Pn	**Pn**		**09 42 16.8 -0.6**
	SNR=1.0						

IDC 09 09:47:38.5±3.7, 4869S×12423E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.4/10, mbtmp3.3/3, Error ellipse: s-maj=114.5km s-min=66.4km az=111.0, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**21.30**	**44**	P	P	09 52 26.7	0.0
	0.8nm,0.9s,baz=206,slow=12,SNR=2.5						
ASAR	**Alice Springs**	**26.12**	**20**	P	P	09 53 14.3	+0.3
	0.2nm,0.4s,baz=200,slow=8.9,SNR=8.7						
WRA	**Warramunga Arr**	**29.81**	**19**	P	P	09 53 46.9	-0.2
	0.3nm,0.7s,baz=193,slow=10,SNR=2.8						
YKA	**Yellowknife Ar**	**145.34**	**44**	PKPbc	PKPbc	10 07 16.0	-0.8
	0.6nm,0.9s,baz=271,slow=2.9,SNR=8.1						

IDC 09 09:48:37.4±3.9, 4854S×12412E, h0km, mb3.4/3, mb1 3.7/3, mb1mx3.6/10, mbtmp3.5/3, Error ellipse: s-maj=123.9km s-min=70.2km az=110.0, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**21.25**	**45**	P	P	09 53 25.0	0.0
	1.8nm,1.0s,baz=201,slow=7.0,SNR=3.1						
ASAR	**Alice Springs**	**26.00**	**21**	P	P	09 54 12.3	+0.5
	0.6nm,0.7s,baz=199,slow=8.9,SNR=5.8						
WRA	**Warramunga Arr**	**29.69**	**20**	P	P	09 54 44.7	-0.2
	0.7nm,1.0s,baz=193,slow=12,SNR=4.0						
YKA	**Yellowknife Ar**	**145.28**	**44**	PKPbc	PKPbc	10 08 14.7	-0.8
	0.2nm,0.6s,baz=268,slow=3.3,SNR=5.8						

*ISCJB **09** 10:00:28.8±0.6, 4901S±007×1249E±02, h10km, mb4.1/8, MS3.7/4, Error ellipse: s-maj=21.7km s-min=9.1km az=10.1*

*IDC **09** 10:00:29.0±0.8, 4901S×12487E, h0km, mb4.2/8, mb1 4.3/9, mb1mx4.2/15, mbtmp4.2/9, ML2.4/1, MS3.8/5, Ms1 3.7/5, ms1mx3.6/22, Error ellipse: s-maj=36.0km s-min=15.8km az=116.0*

*NEIC **09** 10:00:30.3±0.7, 4903S×12472E, h10km, mb4.1/2, Error ellipse: s-maj=22.1km s-min=10.5km az=99.0*

ISC 09 10:00:30.9±0.6, 4899S±007×1248E±02, h10km, n19, σ0§85/16, mb4.1/8, MS3.7/4, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NWAO	**Narrogin (SRO)**	**17.02**	**338**	P	**Pn**	**10 04 28.6**	**-0.4**
	0.7nm,0.3s,baz=150,slow=12,SNR=8.4						
NWAO				LR	LR	10 09 37.9	
	comp=Z,128nm,18.9s,baz=24,slow=32						
MUN	**Mundaring**	**18.19**	**336**	*e*P	**Pn**	**10 04 43.7**	**+0.3**
FORT	**Forrest**	**18.35**	**9**	*e*P	**Pn**	**10 04 45.9**	**+0.5**
	22nm,1.0s						
STKA	**Stephens Creek**	**21.25**	**43**	*e*P	**P**	**10 05 18.4**	**+1.3**
	5.5nm,0.9s,mb3.9						
STKA	**Stephens Creek**	**21.25**	**43**	P	**P**	**10 05 17.8**	**+0.7**
	5.1nm,0.7s,mb3.9,baz=198,slow=11,SNR=15						
STKA				LR	LR	10 12 25.8	
	comp=Z,225nm,18.8s,MS3.6,baz=205,slow=34						
ASAR	**Alice Springs**	**26.27**	**19**	P	**P**	**10 06 05.5**	**-0.8**
	6.3nm,0.9s,mb4.1,baz=196,slow=8.2,SNR=28						
WRA	**Warramunga Arr**	**29.97**	**18**	P	**P**	**10 06 38.0**	**-1.3**
	0.8nm,0.9s,mb3.4,baz=207,slow=8.7,SNR=4.4						
WRA				PcP	PcP	10 09 40.6	-1.0
	0.9nm,0.7s,baz=209,slow=2.2,SNR=6.4						
WRA				LR	LR	10 17 38.8	
	comp=Z,358nm,20.8s,MS4.0,baz=190,slow=34						
RPZ	**Rata Peaks**	**31.94**	**98**	LR	LR	10 17 52.7	
	comp=Z,95nm,18.2s,MS3.5,baz=254,slow=33						
MAW	**Mawson**	**35.55**	**216**	P	**P**	**10 07 25.7**	**-1.9**
	4.0nm,1.1s,mb4.3,baz=74,slow=14,SNR=4.2						
MAW				LR	LR	10 18 12.4	
	comp=Z,192nm,21.0s,MS3.8,baz=70,slow=30						
QSPA	**South Pole Qui**	**41.13**	**180**	P	**P**	**10 08 13.9**	**-0.6**
	3.3nm,0.9s,mb4.0,baz=301,slow=7.0,SNR=5.8						
SNAA	**Sanae**	**54.10**	**198**	*e*	**P**	**10 09 55.4**	**+0.2**
SNAA	**Sanae**	**54.10**	**198**	P	**P**	**10 09 55.3**	**+0.2**
	3.3nm,0.9s,mb4.3,baz=131,slow=7.7,SNR=11						
VNA2	**Neumayer--Watz**	**55.60**	**197**	*e*	**P**	**10 10 06.6**	**+0.6**
	baz=133,slow=5.9						
VNA3	**Neumayer Olymp**	**55.77**	**196**	*e*	**P**	**10 10 07.3**	**+0.1**
VNA1	**Neumayer--Stat**	**55.99**	**197**	*e*	**P**	**10 10 09.7**	**+0.9**
OPO	**Ambohidratompo**	**68.17**	**267**	P	**P**	**10 11 32.5**	**+1.2**
	0.5nm,0.3s,mb4.0,baz=135,slow=7.1,SNR=2.7						
SUR	**Sutherland**	**74.57**	**238**	P	**P**	**10 12 10.0**	**+0.1**
	3.8nm,0.6s,mb4.5,baz=188,slow=10.0,SNR=7.5						
TXAR	**Lajitas Array**	**138.41**	**100**	PKP	PKPdf	10 19 56.5	+0.3
	0.4nm,0.9s,baz=205,slow=5.5,SNR=5.9						
YKA	**Yellowknife Ar**	**145.28**	**45**	PKPbc	PKPbc	10 20 07.3	0.0
	4.2nm,0.8s,baz=271,slow=3.3,SNR=82						

*ISCJB **09** 10:18:00.5±0.7, 4825N±002×15478E±002, h20km±4km, mb5.8/427, MS5.5/245, Error ellipse: s-maj=3.6km s-min=1.7km az=168.4*

*MOS **09** 10:18:02.8±1.0, 4825N×15469E, h39km, mb6.1/129, MS5.6/64, Error ellipse: s-maj=6.5km s-min=4.1km az=97.4*

*BJI **09** 10:18:02.3, 4838N×15484E, h44km, mB5.7, mb5.7, Ms5.6, Msz5.5*

*CRAAG **09** 10:18:02.8, 4839N×15472E, Mb5.8*

*BGS **09** 10:18:04.3, 4848N×15609E, h33km, mb5.9*

*GCMT **09** 10:18:04.6±0.1, 48.19N×155.18E, h34km, MW5.8/107, Moment Tensor Solution. s97,c216; s107,c313; Duration: 1s9 Moment tensor: Scale 10^{17}Nm; M_{rr}4.85±.05; $M_{\theta\theta}$-1.36±.04; $M_{\phi\phi}$-3.48±.04; $M_{r\theta}$2.06±.06; $M_{\theta\phi}$-2.51±.03; $M_{\phi r}$2.20±.06; Best double couple: $M_0$5.83700×10^{17} NP1:ϕ_s208.00000°, δ30.00000°, λ81.00000°. NP2:ϕ_s39.00000°, δ61.00000°, λ95.00000°. Principal axes: T 5.7100, Plg74.0000°, Azm322.0000°; N 0.2640, Plg5.0000°, Azm216.0000°; P -5.9640, Plg15.0000°, Azm125.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

*SKHL **09** 10:18:04.0±1.7, 4840N×15480E, h84km±31km, mb6.3/7, mbh6.2/4, mbv6.6/8, ms5.8/4, msha6.7/4*

*IDC **09** 10:18:04.0±5.9, 4830N×15469E, h33km±44km, mb5.2/25, mb1 5.3/27, mb1mx5.3/28, mbtmp5.2/27, ML4.6/1, MS5.4/28, Ms1 5.4/28, ms1mx5.3/34, Error ellipse: s-maj=14.8km s-min=10.9km az=114.0*

*NEIC **09** 10:18:04.6±0.1, 4830N×15470E, mb5.8/242, MS5.4/178, MW5.7, Error ellipse: s-maj=3.7km s-min=2.2km az=171.0, Moment Tensor Solution. s70 Moment tensor: Scale 10^{17}Nm; M_{rr}2.96; $M_{\theta\theta}$0.25; $M_{\phi\phi}$-3.22; $M_{r\theta}$2.47; $M_{\theta\phi}$-0.47; $M_{\phi r}$2.29; Best double couple: $M_0$4.60000×10^{17} NP1: ϕ_s167.00000°, δ29.00000°, λ47.00000°. NP2:ϕ_s34.00000°, δ70.00000°, λ111.00000°. Principal axes: T 4.8200, Plg60.0000°, Azm334.0000°; N -0.4700, Plg19.0000°, Azm206.0000°; P -4.3500, Plg22.0000°, Azm108.0000°;*

*SZGRF **09** 10:18:12.3, 4924N×15386E, h33km, mb6.2, MS5.8, Kuril Islands, Russia*

ISC 09 10:18:05.0±0.4, 4833N±002×15469E±002, h37km±3km, h37km±.5km:pP-P, n1741, σ0§81/1686, mb5.8/427, MS5.5/245, 455C-139D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.53**	**21**	κ *i*PN	**Pn**	**10 18 43.0**	**-0.5**
SKR				*i* S	**Sn**	**10 19 11.0**	**-2.1**
SKR				pmax	pmax		
	comp=N,9μm,1.0s						
SKR				pmax	pmax		
	comp=E,8μm,1.2s						
SKR				pmax	pmax		
	comp=N,15μm,2.0s						
SKR				pmax	pmax		
	comp=E,25μm,2.0s						
SKR				pmax	pmax		
	comp=Z,27μm,2.0s						
SKR				smax			
	comp=N,27μm,2.0s						
SKR				smax			
	comp=E,92μm,2.0s						
SKR				MLR	MLR		
	comp=Z,168μm,16.0s						
SKR				MLR	MLR		
	comp=N,131μm,14.0s						
SKR				MLR	MLR		
	comp=E,154μm,14.0s						
SKR	**Severo-Kuril's**	**2.53**	**21**	⇓ *i*P	**Pn**	**10 18 43.0**	**-0.5**
SKR				⇓ *i*P		10 18 43.0	
SKR				⇓ *i*P		10 18 43.0	
SKR				AMB	AMB	10 18 47.0	
	comp=E,8μm,1.2s						
SKR				AMB	AMB	10 18 47.0	
	comp=E,9μm,1.0s						
SKR				AMB	AMB	10 18 47.0	
	comp=E,16μm,1.0s						
SKR				AMB	AMB	10 18 48.0	
	comp=E,28μm,2.0s						
SKR				AMB	AMB	10 18 48.0	
	comp=E,14μm,2.0s						
SKR				AMB	AMB	10 18 48.0	
	comp=E,24μm,2.0s						
SKR				AMB	AMB	10 18 48.0	
	comp=E,27μm,2.0s						
SKR				AMB	AMB	10 18 48.0	
	comp=E,15μm,2.0s						
SKR				AMB	AMB	10 18 48.0	
	comp=E,2μm,2.0s						
SKR				*i* S	**Sn**	**10 19 11.0**	**-2.1**
SKR				A		10 19 29.0	
	comp=E,27μm,2.0s						
SKR				A		10 19 29.0	
	comp=E,92μm,2.0s						
SKR				A		10 19 29.0	
	comp=E,48μm,4.0s						
SKR				A		10 19 29.0	
	comp=E,26μm,2.0s						
SKR				A		10 19 29.0	
	comp=E,92μm,2.0s						
SKR				A		10 19 29.0	
	comp=E,46μm,4.0s						
SKR				AMS	AMS	10 19 54.0	
	comp=E,167μm,16.0s						
SKR				AMS	AMS	10 19 54.0	
	comp=E,137μm,14.0s						
SKR				AMS	AMS	10 19 54.0	
	comp=E,168μm,16.0s						
SKR				AMS	AMS	10 19 54.0	
	comp=E,131μm,14.0s						
SKR				AMS	AMS	10 19 54.0	
	comp=E,154μm,14.0s						
PET	**Petropavlovsk**	**5.33**	**27**	*e*Pn	**Pn**	**10 19 22.0**	**+0.1**
PET	**Petropavlovsk**	**5.33**	**27**	⇑ *i*PN	**Pn**	**10 19 21.9**	**0.0**
PET				pmax	pmax		
	comp=Z,2μm,1.6s						
PET				MLR	MLR		
	comp=Z,22μm,16.0s						
KUR	**Kuril'sk**	**5.62**	**239**	⇑ *i*PN	**Pn**	**10 19 26.2**	**+0.3**
KUR				*i* S	**Sn**	**10 20 29.1**	**0.0**
KUR				pmax	pmax		
	comp=Z,15μm,1.0s						
KUR				pmax	pmax		
	comp=N,2μm,1.0s						
KUR				pmax	pmax		
	comp=E,3μm,1.0s						
KUR				pmax	pmax		
	comp=Z,10μm,1.0s						
KUR				smax			
	comp=N,18μm,2.0s						
KUR				smax			
	comp=E,85μm,2.0s						
KUR				smax			
	comp=N,10μm,0.7s						
KUR				smax			
	comp=E,3μm,0.7s						
KUR	**Kuril'sk**	**5.62**	**239**	⇑ *i*P	**Pn**	**10 19 26.2**	**+0.3**
KUR				AMB	AMB	10 19 28.0	
	comp=E,15μm,1.0s						
KUR				AMB	AMB	10 19 30.0	
	comp=E,2μm,1.0s						
KUR				AMB	AMB	10 19 30.0	
	comp=E,3μm,1.0s						
KUR				AMB	AMB	10 19 30.0	
	comp=E,10μm,1.0s						
KUR				*i* S	**Sn**	**10 20 29.1**	**0.0**
KUR				A		10 20 38.0	
	comp=E,18μm,2.0s						
KUR				A		10 20 38.0	
	comp=E,85μm,2.0s						
KUR				A		10 20 50.5	
	comp=E,10μm,0.7s						
KUR				A		10 20 50.5	
	comp=E,3μm,0.7s						
YUK	**Yuzh-Kuril'sk**	**7.48**	**238**	⇑ *i*PN	**Pn**	**10 19 52.5**	**+1.0**
YUK				*e*S	**Sn**	**10 21 20.0**	**+5.0**
YUK				pmax	pmax		
	comp=N,220nm,0.5s						
YUK				pmax	pmax		
	comp=E,570nm,0.5s						
YUK				pmax	pmax		
	comp=Z,2μm,0.5s						
YUK				pmax	pmax		
	comp=N,3μm,1.0s						
YUK				pmax	pmax		
	comp=E,3μm,1.0s						
YUK				pmax	pmax		
	comp=Z,8μm,1.0s						
YUK				smax			
	comp=N,12μm,2.0s						
YUK				smax			
	comp=E,12μm,3.0s						
YUK				MLR	MLR		
	comp=Z,58μm,17.0s						
YUK				MLR	MLR		
	comp=N,56μm,16.0s						
YUK				MLR	MLR		
	comp=E,82μm,15.0s						
YUK	**Yuzh-Kuril'sk**	**7.48**	**238**	⇑ *i*P	**Pn**	**10 19 52.5**	**+1.0**
YUK				AMB	AMB	10 19 53.6	
	comp=E,220nm,0.5s						
YUK				AMB	AMB	10 19 53.6	
	comp=E,570nm,0.5s						
YUK				AMB	AMB	10 19 53.6	
	comp=E,2μm,0.5s						
YUK				AMB	AMB	10 19 55.6	
	comp=E,8μm,1.0s						
YUK				AMB	AMB	10 19 55.6	
	comp=E,3μm,1.0s						
YUK				*e*S	**Sn**	**10 21 20.0**	**+5.0**
YUK				A		10 21 22.5	
	comp=E,12μm,3.0s						
YUK				A		10 21 22.5	
	comp=E,12μm,2.0s						
YUK				A		10 21 58.0	
	comp=E,7μm,0.8s						
YUK				A		10 21 58.0	
	comp=E,4μm,0.8s						
YUK				AMS	AMS	10 22 42.0	
	comp=E,82μm,15.0s						
YUK				AMS	AMS	10 22 42.0	
	comp=E,56μm,16.0s						
YUK				AMS	AMS	10 22 42.0	
	comp=E,58μm,17.0s						
YSS	**Yuzh-Sakhalins**	**8.18**	**265**	*e*Pn	**Pn**	**10 20 05.1**	**+4.1**
YSS	**Yuzh-Sakhalins**	**8.18**	**265**	κ *i*PN	**Pn**	**10 20 05.0**	**+4.0**
YSS				pmax	pmax		
	comp=Z,1μm,1.0s						
YSS				pmax	pmax		
	comp=Z,3μm,4.0s						
YSS				MLR	MLR		
	comp=E,27μm,17.0s						
YSS				MLR	MLR		
	comp=Z,32μm,17.0s						
YSS				MLR	MLR		
	comp=N,8μm,20.0s						
YSS	**Yuzh-Sakhalins**	**8.18**	**265**	⇓ *i*P	**Pn**	**10 20 05.0**	**+4.0**
YSS				AMB	AMB	10 20 08.7	
	comp=N,1μm,1.0s						
YSS				AMB	AMB	10 20 09.0	
	comp=N,3μm,4.0s						
YSS				*e*S	**Sn**	**10 21 35.0**	**+2.9**
YSS				AMS	AMS	10 23 02.0	
	comp=N,10μm,20.0s						
YSS				AMS	AMS	10 23 02.0	
	comp=N,40μm,17.0s						
YSS				AMS	AMS	10 23 02.0	
	comp=N,27μm,17.0s						
YSS				*e*rx	rx	10 26 12.0	
TYV	**Tymovskoe**	**8.22**	**292**	*e*P	**Pn**	**10 20 03.8**	**+2.3**
TYV				AMB	AMB	10 20 08.0	
	comp=N,5μm,4.0s						
TYV				AMB	AMB	10 20 08.0	
	comp=N,5μm,4.0s						
TYV				AMB	AMB	10 20 08.0	
	comp=N,2μm,3.0s						
TYV				AMB	AMB	10 20 09.5	
	comp=N,246nm,1.0s						
TYV				AMB	AMB	10 20 09.5	
	comp=N,876nm,1.0s						
TYV				AMB	AMB	10 20 09.5	
	comp=N,1μm,1.0s						
TYV				A		10 21 38.2	
	comp=N,134nm,0.8s						
TYV				A		10 21 38.2	
	comp=N,198nm,1.0s						
TYV				AMS	AMS	10 23 44.0	
	comp=N,44μm,16.0s						
TYV				AMS	AMS	10 23 44.0	
	comp=N,32μm,16.0s						
TYV				AMS	AMS	10 23 44.0	
	comp=N,64μm,16.0s						
UGL	**Uglegorsk**	**8.38**	**280**	*d i*PN	**Pn**	**10 20 08.8**	**+5.0**
UGL				S	**Sn**	**10 21 43.6**	**+6.5**
UGL				pmax	pmax		
	comp=Z,850nm,0.7s						
UGL				pmax	pmax		
	comp=E,4μm,5.0s						
UGL				pmax	pmax		
	comp=Z,5μm,5.0s						
UGL				pmax	pmax		
	comp=N,2μm,4.0s						
UGL				smax			
	comp=E,310nm,0.5s						
UGL				smax			
	comp=N,230nm,0.7s						
UGL				MLR	MLR		
	comp=N,18μm,14.0s						
UGL				MLR	MLR		
	comp=E,33μm,14.0s						
UGL				MLR	MLR		
	comp=Z,39μm,14.0s						
UGL	**Uglegorsk**	**8.38**	**280**	⇓ *i*P	**Pn**	**10 20 08.8**	**+5.0**
UGL				*e*P		10 20 09.0	
UGL				AMB	AMB	10 20 10.5	
	comp=Z,240nm,0.6s						
UGL				AMB	AMB	10 20 10.5	
	comp=Z,170nm,0.6s						
UGL				AMB	AMB	10 20 10.5	
	comp=Z,850nm,0.7s						
UGL				AMB	AMB	10 20 14.0	
	comp=Z,2μm,4.0s						
UGL				AMB	AMB	10 20 14.0	
	comp=Z,5μm,5.0s						
UGL				AMB	AMB	10 20 14.0	
	comp=Z,4μm,5.0s						
UGL				*e*S	**Sn**	**10 21 43.6**	**+6.5**
UGL				A		10 21 48.5	
	comp=Z,310nm,0.5s						
UGL				A		10 21 48.5	
	comp=Z,230nm,0.7s						
UGL				*e*L		10 21 59.0	
UGL				AMS	AMS	10 23 48.0	
	comp=Z,18μm,14.0s						
UGL				AMS	AMS	10 23 48.0	
	comp=Z,33μm,14.0s						
UGL				AMS	AMS	10 23 48.0	
	comp=Z,39μm,14.0s						
JMP	**Maruseppu**	**8.97**	**245**	P	**Pn**	**10 20 13.8**	**+1.9**
OKH	**Okha**	**9.07**	**310**	⇑ *e*PN	**Pn**	**10 20 16.6**	**+3.4**
OKH				*e*S	**Sn**	**10 22 03.0**	**+9.1**
OKH				pmax	pmax		

comp=Z,7μm,4.0s
OKH smax
comp=N,4μm,11.0s
OKH smax
comp=E,8μm,11.0s
OKH smax
comp=Z,44μm,12.0s
OKH Okha 9.07 310 eP Pn 10 20 16.6 +3.4
OKH eP 10 20 17.9
OKH AMB AMB 10 20 20.2
comp=Z,3μm,6.0s
OKH AMB AMB 10 20 20.2
comp=Z,7μm,4.0s
OKH AMB AMB 10 20 20.2
comp=Z,6μm,4.0s
OKH eS **Sn 10 22 03.0 +9.1**
OKH i S **Sn 10 22 03.0 +9.1**
OKH A 10 22 09.8
comp=Z,4μm,7.0s
OKH A 10 22 09.8
comp=Z,8μm,15.0s
OKH eLQ 10 22 46.0
OKH AMS AMS 10 25 23.8
comp=Z,44μm,12.0s
OKH AMS AMS 10 25 23.8
comp=Z,15μm,14.0s
OKH AMS AMS 10 25 23.8
comp=Z,44μm,13.0s
JWK2 Keihoku 9.27 256 P Pn 10 20 21.6 +5.6
ASAJ Asahikawa 9.38 248 P Pn 10 20 20.4 +2.9
ASAJ Asahikawa 9.38 248 PN Pn 10 20 20.9 +3.4
ASAJ pmax pmax
comp=Z,38nm,0.3s
ASAJ MLR MLR
comp=Z,30μm,19.0s
ASAJ Asahikawa 9.38 248 Pn Pn 10 20 20.9 +3.4
comp=Z,38nm,0.3s,baz=72,slow=12,SNR=332
ASAJ LR LR 10 23 43.9
comp=Z,30μm,18.9s,baz=68,slow=36
NKL Nikolayevsk 10.10 304 i P Pn 10 20 26.6 -0.7
NKL AMB AMB 10 20 30.8
comp=Z,410nm,1.1s
NKL AMB AMB 10 20 30.8
comp=Z,1μm,1.1s
NKL AMB AMB 10 20 31.0
comp=Z,2μm,4.0s
NKL AMB AMB 10 20 31.0
comp=Z,4μm,4.0s
NKL AMB AMB 10 20 31.0
comp=Z,4μm,4.0s
NKL eL 10 23 09.0
NKL AMS AMS 10 25 35.0
comp=Z,27μm,15.0s
NKL AMS AMS 10 25 35.0
comp=Z,13μm,15.0s
NKL AMS AMS 10 25 35.0
comp=Z,34μm,15.0s
ERM Erimo 10.30 236 Pn Pn 10 20 29.1 -1.0
comp=Z,3μm,0.8s
ERM Erimo 10.30 236 ePn Pn 10 20 29.9 -0.2
comp=Z,231nm,0.6s
ERM Erimo 10.30 236 ePN Pn 10 20 29.9 -0.2
ERM pmax pmax
comp=Z,230nm,0.6s
JEM Erimo 10.30 236 P Pn 10 20 28.2 -1.9
JEW Eniwo 10.78 244 P Pn 10 20 37.2 +0.6
MA2 Magadan 11.50 350 ePn Pn 10 20 49.1 +2.8
MA2 Magadan 11.50 350c i PN Pn 10 20 48.5 +2.1
MA2 eS **Sn 10 23 02.2 +8.9**
MA2 pmax pmax
comp=Z,100nm,1.0s
MA2 pmax pmax
comp=N,100nm,1.1s
MA2 MLR MLR
comp=Z,14μm,12.1s
JSH Shimam 11.74 246 P Pn 10 20 50.4 +0.6
JOT Ohata 11.90 239 P Pn 10 20 48.6 -3.5
JTM Tenmabayashi 12.29 237 P Pn 10 20 53.3 -4.0
TEY Ternei 12.85 262 eP Pn 10 21 05.0 +0.1
TEY AMS AMS 10 26 05.0
comp=Z,21μm,15.0s
TEY AMS AMS 10 26 05.0
comp=Z,10μm,16.0s
HABR Khabarovsk 13.05 278⇑ i PN Pn 10 21 13.3 +5.6
HABR eS **Sn 10 23 43.1 +12**
HABR pmax pmax
comp=Z,292nm,1.6s
JOM Ohasama 13.09 232 P Pn 10 21 03.2 -5.0
SMY Shemya 13.10 63 ePn Pn 10 21 05.8 -2.5
JMM Marumori 14.55 229 P Pn 10 21 21.6 -6.6
JYA Atsumi 14.57 234 P Pn 10 21 23.4 -5.0
SEY Seymchan 14.69 356⇑ eP Pn 10 21 30.9 +1.0
KLR Kul'dur 15.14 282d i P Pn 10 21 37.0 +1.1
KLR pmax pmax
comp=E,470nm,1.4s
KLR pmax pmax
comp=Z,400nm,1.4s
KLR pmax pmax
comp=E,5μm,11.5s
KLR pmax pmax
comp=Z,14μm,11.5s
JSD Sado 15.76 235 P Pn 10 21 39.7 -4.3
JYT Yasato 16.13 227 P Pn 10 21 45.6 -3.2
AMKA Amchitka 16.14 70 eP Pn 10 21 50.9 +2.1
MAJO Matsushiro 16.89 232 ePn Pn 10 21 55.5 -2.9
comp=Z,1μm,1.8s
MAJO Matsushiro 16.89 232 eP Pn 10 21 55.5 -2.9
MAJO pmax pmax
comp=Z,1μm,1.8s
MAT Matsushiro 16.89 232 P Pn 10 21 54.4 -4.0
MAT S **S 10 25 10.0 -4.2**
MAT Matsushiro 16.89 232 P Pn 10 21 55.0 -3.4
MJAR Matsushiro Arr 16.89 232 P Pn 10 21 55.3 -3.1
MJAR pmax pmax
comp=Z,4.0nm,0.3s
MJAR Matsushiro Arr 16.89 232 Pn Pn 10 21 55.3 -3.1
comp=Z,3.5nm,0.3s,baz=28,slow=12,SNR=116
JRY Ryogami san 16.94 229 P Pn 10 21 56.4 -2.6
JOD2 Odawara 2 17.44 227 P Pn 10 22 03.2 -2.0
MDJ Mudanjiang 17.65 267 P Pn 10 22 07.3 -0.5
MDJ AP pP 10 22 16.2 -1.7
MDJ XP sP 10 22 20.3 -2.4
MDJ S **S 10 25 22.6 -7.0**
MDJ SCP ScP 10 30 18.5 +1.7
MDJ PCS PcS 10 30 22.2 +1.1
MDJ AMB AMB
comp=Z,182nm,1.1s
MDJ AMB AMB
comp=Z,1μm,10.0s
MDJ LR LR
comp=N,7μm,18.8s
MDJ LR LR
comp=E,4μm,26.0s
MDJ LR LR
comp=Z,12μm,18.8s
MDJ Mudanjiang 17.65 267 ePn Pn 10 22 07.6 -0.2
comp=Z,217nm,1.0s
ZEA Zeya 18.02 298⇑ eP Pn 10 22 10.0 -2.2
ZEA ⇑eP 10 22 10.1
ZEA AMB AMB 10 22 13.8
comp=Z,190nm,1.4s
ZEA AMB AMB 10 22 13.8
comp=Z,350nm,1.6s
ZEA AMB AMB 10 22 15.0
comp=Z,3μm,6.0s
ZEA AMB AMB 10 22 15.0
comp=Z,2μm,6.0s
ZEA AMB AMB 10 22 15.0
comp=Z,600nm,4.0s
JSG Sagara 18.36 228 P Pn 10 22 17.0 +0.5
ADK Adak 18.65 68 eP Pn 10 22 16.9 -3.0
comp=Z,84nm,0.9s
JHJ2 Mitsune 18.87 222 P Pn 10 22 22.5 -0.2
JHJ Hachijo jima 2 18.88 222 P Pn 10 22 22.9 +0.1
comp=Z,7.3nm,0.3s,baz=202,slow=4.4,SNR=5.6
JHJ LR LR 10 28 37.6
comp=Z,3μm,20.9s,baz=38,slow=34
JIE Ise 19.33 230 P Pn 10 22 26.1 -2.1
JWT Wachi 19.34 235 P Pn 10 22 25.8 -2.5
YAK Yakutsk 19.62 324 eP Pn 10 22 30.7 -0.8
YAK Yakutsk 19.62 324 eP Pn 10 22 29.6 -1.8
YAK eS **S 10 26 13.0 +4.0**
YAK pmax pmax
comp=Z,162nm,0.8s
YAK pmax pmax
comp=N,107nm,1.4s
YAK pmax pmax
comp=E,203nm,1.4s
YAK smax
comp=N,1μm,2.7s
YAK smax
comp=E,559nm,1.9s
YAK MLR MLR
comp=N,10μm,14.0s
YAK MLR MLR
comp=Z,15μm,14.0s
YAK MLR MLR
comp=E,10μm,15.0s
CLNS Chul'man 19.87 307 eP Pn 10 22 34.2 -0.2
CLNS eS **S 10 26 06.2 -7.8**
CLNS pmax pmax
comp=Z,862nm,0.9s
CLNS pmax pmax
comp=N,443nm,1.1s
CLNS pmax pmax
comp=E,545nm,1.1s
CLNS smax
comp=N,145nm,1.2s
CLNS smax
comp=E,45nm,1.1s
CLNS smax
comp=Z,23nm,1.1s
CLNS MLR MLR
comp=Z,25μm,16.0s
CLNS MLR MLR
comp=N,12μm,14.0s
CLNS MLR MLR
comp=E,17μm,15.0s
NRGR Nerungri 19.92 306 eP Pn 10 22 35.6 +0.6
NRGR S **S 10 26 16.5 +1.5**
NRGR smax
comp=E,293nm,1.2s
JAD Aida 20.27 236 P P 10 22 37.2 0.0
JWZ Kozaga 20.51 231 P P 10 22 39.6 -0.2
BILL Bilibino 20.61 12c i P P 10 22 38.7 -1.9
BILL i S **S 10 26 27.6 -1.0**
BILL pmax pmax
comp=Z,184nm,1.0s
BILL MLR MLR
comp=Z,15μm,17.0s,MS5.4
CN2 Changchun 20.72 268 ⇑P P 10 22 40.3 -1.7
CN2 eAP 10 22 49.2
CN2 XP sP 10 22 53.5 -2.8
CN2 eS **S 10 26 23.8 -7.4**
CN2 LR LR
comp=N,6μm,15.0s,MS5.4
CN2 LR LR
comp=E,12μm,15.0s,MS5.4
CN2 LR LR
comp=Z,11μm,16.0s,MS5.3
JHS Saijyo 20.82 238 P P 10 22 42.6 -0.5
JMN Monobe 21.33 234 P P 10 22 49.2 +0.6
KSRS Korea Array 22.31 251 P P 10 22 59.6 +0.6
comp=Z,204nm,0.9s,mb5.5,baz=51,slow=10,SNR=345
KSRS PcP PcP 10 26 54.0 +0.4
comp=Z,14nm,0.9s,baz=344,slow=0.7,SNR=7.9
KS15 Wonju Array Si 22.34 251 eP P 10 23 00.1 +0.7
SNY Shenyang 22.80 265 ⇑P P 10 23 02.4 -1.8
SNY AP 10 23 12.8
SNY XP sP 10 23 17.5 -1.2
SNY PP 10 23 35.2
SNY S **S 10 27 14.9 +4.1**
SNY XS sS 10 27 22.3 -5.1
SNY SS 10 27 53.8
SNY AMB AMB
comp=Z,75nm,0.9s,mb5.1
SNY AMB AMB
comp=Z,1μm,7.2s
SNY LR LR
comp=N,9μm,17.1s,MS5.4
SNY LR LR
comp=E,8μm,20.7s,MS5.4
SNY LR LR
comp=Z,10μm,19.6s,MS5.2
HIA Hailar 22.92 286 eP P 10 23 05.1 -0.3
comp=Z,75nm,1.0s,mb5.1
HIA LR LR
comp=Z,21μm,19.0s,MS5.6
HIA Hailar 22.92 286 eP P 10 23 05.1 -0.3
HIA pmax pmax
comp=Z,75nm,1.0s
HIA MLR MLR
comp=Z,21μm,19.0s
INCN Inchon 23.11 252 eP P 10 23 08.1 +0.6
comp=Z,578nm,1.2s,mb5.9
INCN LR LR
comp=Z,11μm,19.0s,MS5.3
INCN Inchon 23.11 252 P P 10 23 07.9 +0.4
SNR=37
JTU Tsushima 23.32 243 P P 10 23 09.0 -0.7
CBIJ Chichi jima 23.34 209 LR LR 10 30 38.1
comp=Z,3μm,20.9s,MS4.8,baz=201,slow=32
JNU Nakatsue 23.45 238 P P 10 23 08.3 -2.7
JNU Nakatsue 23.45 238 P P 10 23 10.8 -0.2
comp=Z,114nm,1.0s,mb5.3,baz=43,slow=14,SNR=32
JNU LR LR 10 32 39.8
comp=Z,6μm,19.9s,MS5.0,baz=34,slow=37
GAMB Gambell 23.91 37 eP P 10 23 14.6 -0.3
UNV Unalaska Valle 24.76 62 PFAKE 10 23 30.0 +7.2
UNV LR LR
comp=Z,15μm,19.0s,MS5.5
JSU Suzuyama 24.90 236 P P 10 23 24.6 +0.4
JFU Fukue jima 2 25.02 241 P P 10 23 24.6 -0.7
DL2 Dalian 25.55 261⇑ i P P 10 23 29.8 -0.3
DL2 S **S 10 27 52.6 -2.5**
DL2 AMB AMB
comp=Z,120nm,1.0s,mb5.4
DL2 AMB AMB
comp=Z,560nm,6.9s
DL2 LR LR
comp=N,2μm,17.5s,MS4.8
DL2 LR LR
comp=E,2μm,19.9s,MS4.8
DL2 LR LR
comp=Z,3μm,19.8s,MS4.9
BOD Bodaibo 25.85 307 eP P 10 23 30.3 -2.3
BOD pmax pmax
comp=Z,101nm,1.4s,mb5.2
TNA Tin City 26.12 35 eP P 10 23 35.9 +0.9
comp=Z,578nm,1.2s,mb6.0
TNA LR LR
comp=Z,3μm,19.0s,MS4.9
TIXI Tiksi 26.27 342 eP P 10 23 33.6 -2.7
comp=Z,184nm,1.1s,mb5.5
TIXI LR LR
comp=Z,11μm,19.0s,MS5.4
TIXI Tiksi 26.27 342 eP P 10 23 31.6 -4.7
TIXI eS **S 10 28 09.1 +3.2**
TIXI pmax pmax
comp=Z,234nm,1.3s,mb5.6
TIXI MLR MLR
comp=Z,14μm,15.0s,MS5.6
CIT Chita 26.34 294 eP P 10 23 37.4 +0.3
CIT e 10 23 43.0
CIT pmax pmax
comp=Z,158nm,1.3s,mb5.4
JAM Amami Oshima 27.76 233 P P 10 23 52.8 +2.7
BJI Beijing 28.59 268 P P 10 23 56.2 -1.1
BJI AP pP 10 24 04.8 -3.0
BJI XP sP 10 24 08.8 -3.5
BJI S **S 10 28 42.2 -0.7**
BJI AMB AMB
comp=Z,50nm,1.8s,mb4.9
BJI AMB AMB
comp=Z,924nm,7.0s
BJI LR LR
comp=N,9μm,15.9s,MS5.5
BJI LR LR
comp=E,6μm,20.2s,MS5.5
BJI LR LR
comp=Z,6μm,21.8s,MS5.2
BJT Baijiatuau 28.60 268 eP P 10 23 57.4 -0.1
comp=Z,87nm,1.3s,mb5.3
BJT LR LR
comp=Z,9μm,20.0s,MS5.4
BJT Baijiatuau 28.60 268 eP P 10 23 57.4 -0.1
BJT pmax pmax
comp=Z,87nm,1.3s
BJT MLR MLR
comp=Z,9μm,20.0s
JOW Kunigami 29.73 233 P P 10 24 06.6 -0.9
JOW Kunigami 29.73 233 P P 10 24 07.5 -0.1
comp=Z,68nm,0.8s,mb5.4,baz=40,slow=8.5,SNR=16
JOW PcP PcP 10 27 10.4 -0.4
comp=Z,24nm,0.8s,baz=45,slow=6.6,SNR=5.2
TIA Tai'an 30.02 260 ⇑P P 10 24 10.0 -0.1
TIA S **S 10 29 06.5 +1.0**
TIA AMB AMB
comp=Z,89nm,0.2s,mb6.2
TIA LR LR
comp=N,2μm,15.0s
TTA Tatalina 30.53 43 eP P 10 24 14.6 +0.3
TTA Tatalina 30.53 43 eP P 10 24 13.4 -0.9
TTA pP 10 24 25.9 +1.1
SVW2 Sparrevohn 30.62 47 eP P 10 24 15.0 -0.1
SSE Sheshan 30.67 248 P P 10 24 16.6 +0.7
SSE AP pP 10 24 27.6 +1.2
SSE S **S 10 29 14.9 -0.9**
SSE XS sS 10 29 34.0 +0.7
SSE AMB AMB
comp=Z,56nm,0.9s,mb5.4
SSE AMB AMB
comp=Z,589nm,7.1s
SSE LR LR
comp=N,3μm,16.1s,MS5.0
SSE LR LR
comp=E,1μm,16.1s,MS5.0
SSE LR LR
comp=Z,5μm,11.3s,MS5.5
HHC Hu-ho-hao-te 31.27 272 eP P 10 24 20.8 -0.2
HHC AP pP 10 24 29.8 -1.8
HHC XP sP 10 24 33.9 -2.2
HHC PP PP 10 25 29.8 -2.1
HHC PCP PcP 10 27 12.1 -2.5
HHC S **S 10 29 22.9 -2.1**
HHC XS sS 10 29 39.6 -2.8
HHC PCS PcS 10 30 56.9 -1.9
HHC SS SS 10 31 11.1 -28
HHC AMB AMB
comp=Z,150nm,1.2s,mb5.7
HHC AMB AMB
comp=Z,885nm,3.9s
HHC LR LR
comp=N,8μm,14.9s,MS5.7
HHC LR LR
comp=E,8μm,12.5s,MS5.7
HHC LR LR
comp=Z,9μm,19.6s
ULN Ulaanbaatar 31.41 287 eP P 10 24 21.6 -0.7
ULN LR LR
comp=Z,15μm,20.0s,MS5.7
ULN Ulaanbaatar 31.41 287 P P 10 24 22.2 0.0
SNR=27
NJ2 Nanjing 31.49 252 eP P 10 24 24.1 +1.0
NJ2 AP pP 10 24 35.8 +2.2
NJ2 XP sP 10 24 38.5 +0.4
NJ2 PP PP 10 25 28.4 -6.1
NJ2 S **S 10 29 29.0 +0.4**
NJ2 XS sS 10 29 46.0 0.0
NJ2 AMB AMB
comp=Z,70nm,1.0s,mb5.5
NJ2 AMB AMB
comp=Z,1μm,5.0s
NJ2 LR LR
comp=N,18μm,20.0s,MS5.8
NJ2 LR LR
comp=E,8μm,22.0s,MS5.8
NJ2 LR LR
comp=Z,21μm,16.0s
SONM Songino Array 31.84 288 P P 10 24 26.0 0.0
SONM 10 27 16.2
SONM pmax pmax
comp=Z,27nm,0.9s
SONM MLR MLR
comp=Z,19μm,19.0s
SONM Songino Array 31.84 288 P P 10 24 26.0 -0.1
comp=Z,27nm,0.9s,mb5.1,baz=68,slow=9.1,SNR=116
SONM PcP PcP 10 27 16.2 +0.1
comp=Z,20nm,0.8s,baz=104,slow=1.8,SNR=13
SONM LR LR 10 38 31.9
comp=Z,19μm,19.0s,MS5.8,baz=76,slow=38
IMA2 Indian Mountai 31.90 37 eP P 10 24 26.1 -0.2
IRK Irkutsk 31.92 296 eP P 10 24 26.4 -0.2
IRK e 10 25 49.4
IRK e 10 27 15.8
IRK pmax pmax
comp=Z,138nm,1.1s,mb5.7
KDAK Kodiak Island 32.29 53 eP P 10 24 28.1 -1.7
KDAK LR LR
comp=Z,2μm,19.0s,MS4.9
TIY Taiyuan 32.29 267⇑ i P P 10 24 29.7 -0.3
TIY AP pP 10 24 39.3 -1.3
TIY S **S 10 29 35.5 -5.4**
TIY XS sS 10 30 05.3 +6.9
TIY LR LR
comp=N,5μm,14.2s,MS5.5
TIY LR LR
comp=E,4μm,14.7s,MS5.5
TIY LR LR
comp=Z,6μm,15.4s,MS5.4
BTO Baotou 32.41 273 eP P 10 24 29.6 -1.5
TLY Talaya 32.43 295 P P 10 24 32.2 +1.1
comp=Z,896nm,0.9s,mb6.6,SNR=33
TLY Talaya 32.43 295 eP P 10 24 32.1 +0.9
TLY LR LR
comp=Z,17μm,19.0s,MS5.8
TLY Talaya 32.43 295 eP P 10 24 30.8 -0.3
TLY e 10 25 46.2
TLY ePPP 10 25 57.3
TLY e 10 27 18.0
TLY eS **S 10 29 34.3 -8.6**
TLY pmax pmax
comp=Z,157nm,1.0s,mb5.8
TLY MLR MLR
comp=Z,17μm,16.0s,MS5.8
TLY Talaya 32.43 295 P P 10 24 32.3 +1.2
SNR=78
ZAK Zakamensk 33.00 293⇑ i P P 10 24 36.4 +0.3
ZAK e 10 27 17.7
ZAK pmax pmax
comp=Z,47nm,1.2s,mb5.3
MCK McKinley 33.76 42 eP P 10 24 41.9 -0.7
comp=Z,238nm,1.2s,mb6.0
MCK LR LR
comp=Z,3μm,19.0s,MS5.1
MCK McKinley 33.76 42 P P 10 24 41.7 -0.8
MCK pmax pmax
comp=Z,110nm,1.1s,mb5.7
SML Sawmill 34.09 45 eP P 10 24 45.3 -0.2
COLA College 34.23 40⇑ i P P 10 24 46.8 +0.1
COLA LR LR
comp=Z,4μm,19.0s,MS5.2
COLA College 34.23 40 P P 10 24 46.3 -0.4
COLA pmax pmax
comp=Z,340nm,1.2s,mb6.2
TATO Taipei 34.97 240 PFAKE 10 25 10.0 +17
TATO LR LR
comp=Z,5μm,20.0s,MS5.3
YHNB Yeheng 35.27 240 eP P 10 24 55.7 -0.3
WHN Wuhan 35.37 255 ⇑P P 10 24 56.9 0.0
WHN AP pP 10 25 06.6 -0.9
WHN PCP PcP 10 27 27.0 +0.7
WHN S **S 10 30 25.6 -3.1**
WHN AMB AMB
comp=Z,292nm,0.8s,mb6.3
WHN AMB AMB
comp=Z,1μm,7.8s
WHN LR LR
comp=Z,8μm,17.2s,MS5.5
GUMO Guam 35.59 197 PFAKE 10 25 10.0 +11
GUMO LR LR
comp=Z,3μm,20.0s,MS5.0
MENT Mentasta 36.15 43 eP P 10 25 03.4 +0.3
QZH Quanzhou 36.69 244⇑ i P P 10 25 08.9 +0.7
QZH PP PP 10 26 36.5 +4.4
QZH S **S 10 30 50.1 +1.0**
QZH AMB AMB
comp=Z,320nm,1.0s,mb6.1
QZH AMB AMB
comp=Z,3μm,3.4s
QZH LR LR
comp=N,6μm,16.7s,MS5.5
QZH LR LR
comp=E,2μm,12.6s,MS5.5
QZH LR LR
comp=Z,4μm,17.1s,MS5.3

XAN	**Xi'an**	**36.72 264**	P	**P**	**10 25 07.8 -0.6**
XAN			PP	PP	10 26 35.7 +3.4
XAN			S	**S**	**10 30 41.2 -8.2**
XAN			AMB	AMB	
	comp=Z,67nm,1.5s,mb5.2				
XAN			LR	LR	
	comp=N,3μm,19.7s,MS5.4				
XAN			LR	LR	
	comp=E,6μm,20.3s,MS5.4				
XAN			LR	LR	
	comp=Z,7μm,17.2s,MS5.5				
EGAK	**Eagle**	**37.10 40**	*e*P	**P**	**10 25 10.5 -0.8**
EGAK			LR	LR	
	comp=Z,4μm,19.0s,MS5.2				
DAWY	**Dawson**	**37.94 41**	*e*P	**P**	**10 25 18.4 0.0**
LZH	**Lanzhou**	**38.92 271**	*e*P	**P**	**10 25 27.2 +0.3**
LZH			AP	pP	10 25 36.8 -0.8
LZH			XP	sP	10 25 39.6 -2.4
LZH			PP	PP	10 27 02.6 +6.3
LZH			PCP	PcP	10 27 37.8 +0.8
LZH			*e*S	**S**	**10 31 23.2 +0.6**
LZH			XS	sS	10 31 38.0 -2.2
LZH			SS	SS	10 34 05.1 -10
LZH			SCS	ScS	10 35 33.1 -0.1
LZH			AMB	AMB	
	comp=Z,200nm,1.5s,mb5.6				
LZH			AMB	AMB	
	comp=Z,947nm,5.1s				
LZH			LR	LR	
	comp=E,7μm,13.7s				
LZH			LR	LR	
	comp=Z,8μm,14.9s,MS5.7				
INK	**Inuvik**	**39.74 34**	*e*P	**P**	**10 25 34.1 +0.7**
GTA	**Gaotai**	**39.79 278**	P	**P**	**10 25 34.3 +0.2**
GTA			AP	pP	10 25 44.2 -0.6
GTA			XP	sP	10 25 48.0 -1.3
GTA			PP	PP	10 27 11.2 +5.4
GTA			PCP	PcP	10 27 40.4 +0.7
GTA			SCP	ScP	10 31 25.3 -0.1
GTA			PCS	PcS	10 31 31.4 +1.6
GTA			S	**S**	**10 31 35.8 +0.2**
GTA			XS	sS	10 31 52.6 -0.7
GTA			SS	SS	10 34 27.3 -4.9
GTA			SCS	ScS	10 35 38.4 +0.2
GTA			AMB	AMB	
	comp=Z,71nm,1.5s,mb5.2				
GTA			AMB	AMB	
	comp=Z,634nm,10.3s				
GTA			LR	LR	
	comp=N,5μm,18.6s,MS5.8				
GTA			LR	LR	
	comp=E,11μm,16.4s,MS5.8				
GTA			LR	LR	
	comp=Z,15μm,17.5s,MS5.9				
SKAG	**Skagway**	**40.80 47**	*e*P	**P**	**10 25 43.4 +1.2**
	comp=Z,185nm,1.6s,mb5.5				
SKAG			LR	LR	
	comp=Z,3μm,20.0s,MS5.2				
GZH	**Guangzhou**	**41.26 247**	P	**P**	**10 25 41.8 -4.6**
GZH			S	**S**	**10 31 51.4 -6.4**
GZH			LR	LR	
	comp=N,4μm,16.3s,MS5.5				
GZH			LR	LR	
	comp=E,3μm,16.7s,MS5.5				
GZH			LR	LR	
	comp=Z,8μm,16.0s,MS5.7				
SIT	**Sitka**	**41.53 51**	*e*P	**P**	**10 25 49.8 +1.5**
	comp=Z,111nm,1.1s,mb5.4				
SIT			LR	LR	
	comp=Z,4μm,19.0s,MS5.3				
CD2	**Chengdu**	**42.08 265**	P	**P**	**10 25 53.3 +0.2**
CD2			AP	pP	10 26 04.0 +0.1
CD2			XP	sP	10 26 07.9 -0.4
CD2			PP	PP	10 27 35.1 +4.3
CD2			PCP	PcP	10 27 48.7 +1.4
CD2			S	**S**	**10 32 06.4 -3.5**
CD2			SS	SS	10 35 07.5 -10
CD2			SCS	ScS	10 35 51.0 -1.3
CD2			AMB	AMB	
	comp=Z,350nm,1.0s,mb5.9				
CD2			AMB	AMB	
	comp=Z,2μm,6.1s				
CD2			LR	LR	
	comp=N,6μm,16.8s,MS5.7				
CD2			LR	LR	
	comp=E,6μm,18.6s,MS5.7				
CD2			LR	LR	
	comp=Z,6μm,21.0s,MS5.5				
ZAA0	**Zalesovo Array**	**42.57 305**	*e*P	**P**	**10 25 56.1 -0.7**
ZALV	**Zalesovo Beam**	**42.57 305**	P	**P**	**10 25 55.4 -1.4**
	comp=Z,16nm,0.4s,mb5.1,baz=64,slow=7.1,SNR=43				
ZALV			PcP	PcP	10 27 49.0 +0.5
	comp=Z,51nm,0.8s,baz=64,slow=3.4,SNR=16				
ZALV			LR	LR	10 44 38.6
	comp=Z,5μm,19.4s,MS5.4,baz=70,slow=37				
ZAL	**Zalesovo**	**42.58 305**	P	**P**	**10 25 55.4 -1.5**
ZAL					10 27 49.0
NVS	**Novosibirsk**	**43.09 307**	*i* P	**P**	**10 25 59.5 -1.5**
NVS			*i*		10 27 46.0
NVS			*e*S	**S**	**10 32 27.6 +3.5**
NVS			*i* SS	SS	10 35 56.8 +20
NVS			pmax	pmax	
	comp=Z,64nm,1.0s,mb5.3				
NVS			pmax	pmax	
	comp=N,46nm,1.5s				
NVS			pmax	pmax	
	comp=E,64nm,1.6s				
NVS			pmax	pmax	
	comp=Z,121nm,1.7s,mb5.3				
NVS			pmax	pmax	
	comp=N,128nm,2.0s				
NVS			pmax	pmax	
	comp=E,91nm,1.5s				
NVS			smax		
	comp=N,54nm,1.6s				
NVS			smax		
	comp=E,39nm,2.0s				
GYA	**Guiyang**	**43.10 257**⇑	*i* P	**P**	**10 26 01.6 +0.2**
GYA			AP	pP	10 26 13.8 +1.6
GYA			XP	sP	10 26 17.4 +0.7
GYA			PP	PP	10 27 45.3 +3.5
GYA			PCP	PcP	10 27 53.0 +2.2
GYA			SCP	ScP	10 31 39.9 +1.1
GYA			S	**S**	**10 32 22.4 -2.5**
GYA			XS	sS	10 32 43.2 +0.4
GYA			SS	SS	10 35 31.0 -7.1
GYA			SCS	ScS	10 35 57.8 -0.9
GYA			AMB	AMB	
	comp=Z,270nm,1.0s,mb5.9				
GYA			AMB	AMB	
	comp=Z,670nm,8.7s				
GYA			LR	LR	
	comp=N,3μm,21.3s,MS5.2				
GYA			LR	LR	
	comp=E,2μm,19.8s,MS5.2				
GYA			LR	LR	
	comp=Z,3μm,17.9s,MS5.2				
WRAK	**Wrangell Islan**	**43.30 51**	*e*P	**P**	**10 26 04.2 +1.5**
	comp=Z,57nm,1.0s,mb5.3				
WRAK			*e*pP	pP	10 26 14.2 +0.7
WRAK			LR	LR	
	comp=Z,3μm,20.0s,MS5.2				
DLBC	**Dease Lake**	**43.73 47**	*e*P	**P**	**10 26 07.6 +1.5**
DLBC			*e*pP	pP	10 26 18.7 +1.8
WMQ	**Urumqi**	**45.36 291**⇑	*i* P	**P**	**10 26 19.8 +0.5**
WMQ			AP	pP	10 26 30.0 -0.1
WMQ			XP	sP	10 26 34.0 -0.6
WMQ			PP	PP	10 28 06.0 +0.4
WMQ			SCP	ScP	10 31 48.0 +0.3
WMQ			S	**S**	**10 32 58.0 +0.6**
WMQ			XS	sS	10 33 14.0 -1.3
WMQ			SS	SS	10 36 12.0 -8.9
WMQ			AMB	AMB	
	comp=Z,76nm,1.3s,mb5.4				
WMQ			AMB	AMB	
	comp=Z,1μm,6.6s				
WMQ			LR	LR	
	comp=N,8μm,17.0s,MS6.0				
WMQ			LR	LR	
	comp=E,10μm,14.5s,MS6.0				
WMQ			LR	LR	
	comp=Z,12μm,15.8s,MS5.9				
KIP	**Kipapa**	**46.20 108**	PFAKE		10 26 40.0 +14
KIP			LR	LR	
	comp=Z,9μm,19.0s,MS5.7				

QIZ	**Qiongzhong**	**46.45 247**	P	**P**	**10 26 28.7 +0.5**
QIZ			AP	pP	10 26 37.6 -1.4
QIZ			PP	PP	10 28 17.5 -0.1
QIZ			S	**S**	**10 33 15.0 +1.4**
QIZ			XS	sS	10 33 30.9 -0.6
QIZ			AMB	AMB	
	comp=Z,85nm,1.3s,mb5.5				
QIZ			AMB	AMB	
	comp=Z,664nm,9.0s				
QIZ			LR	LR	
	comp=N,1μm,14.0s,MS5.4				
QIZ			LR	LR	
	comp=E,3μm,15.8s,MS5.4				
QIZ			LR	LR	
	comp=Z,5μm,16.1s,MS5.6				
QIZ	**Qiongzhong**	**46.45 247**	*e*P	**P**	**10 26 29.5 +1.3**
	comp=Z,59nm,0.8s,mb5.6				
QIZ			LR	LR	
	comp=Z,2μm,21.0s,MS5.1				
KMI	**Kunming**	**46.58 259**	P	**P**	**10 26 29.7 +0.6**
KMI			AP	pP	10 26 38.1 -1.9
KMI			XP	sP	10 26 42.8 -1.6
KMI			PP	PP	10 28 20.5 +1.7
KMI			S	**S**	**10 33 12.9 -2.5**
KMI			SS	SS	10 36 34.8 -6.7
KMI			AMB	AMB	
	comp=Z,178nm,1.3s,mb5.8				
KMI			AMB	AMB	
	comp=Z,1μm,4.5s				
KMI			LR	LR	
	comp=N,4μm,18.5s,MS5.5				
KMI			LR	LR	
	comp=E,2μm,17.8s,MS5.5				
KMI			LR	LR	
	comp=Z,3μm,19.9s,MS5.2				
MK31	**Makanchi Array**	**47.17 297**	*e*P	**P**	**10 26 33.1 -0.4**
MK31			*e*pP	pP	10 26 43.8 -0.5
MKAR	**Makanchi Array**	**47.17 297**	P	**P**	**10 26 33.5 +0.1**
MKAR			PcP	PcP	10 28 04.8 +0.3
MKAR			LR	LR	10 47 43.6
MKAR	**Makanchi Array**	**47.17 297**	P	**P**	**10 26 33.6 +0.1**
MKAR					10 28 04.8
MKAR			pmax	pmax	
	comp=Z,134nm,0.8s				
MKAR			MLR	MLR	
	comp=Z,9μm,19.5s				
MKAR	**Makanchi Array**	**47.17 297**	P	**P**	**10 26 33.5 +0.1**
	comp=Z,134nm,0.8s,mb5.9,baz=67,slow=7.6,SNR=762				
MKAR			PcP	PcP	10 28 04.8 +0.3
	comp=Z,17nm,0.8s,baz=29,slow=2.8,SNR=3.6				
MKAR			LR	LR	10 47 43.6
	comp=Z,9μm,19.5s,MS5.7,baz=47,slow=38				
KURK	**Kurchatov**	**47.39 303**	P	**P**	**10 26 33.4 -1.7**
	comp=Z,2μm,0.7s				
KURK	**Kurchatov**	**47.39 303**	*e*P	**P**	**10 26 34.6 -0.4**
	comp=Z,187nm,0.6s,mb6.2				
KURK			LR	LR	
	comp=Z,11μm,19.0s,MS5.8				
KURK	**Kurchatov**	**47.39 303**	P	**P**	**10 26 33.9 -1.2**
	SNR=124				
DAV	**Davao City (W)**	**47.96 221**	PFAKE		10 26 50.0 +10
DAV			LR	LR	
	comp=Z,2μm,20.0s,MS5.0				
ALE	**Alert**	**48.06 6**	P	**P**	**10 26 40.0 0.0**
	comp=Z,702nm,0.9s,mb6.7,SNR=20				
RES	**Resolute Bay**	**48.99 19**	*e*P	**P**	**10 26 47.8 +0.7**
	comp=Z,5μm,0.8s				
RES	**Resolute Bay**	**48.99 19**	P	**P**	**10 26 47.9 +0.7**
POHA	**Pohakuloa**	**49.00 108**	PFAKE		10 27 00.0 +12
POHA			LR	LR	
	comp=Z,8μm,20.0s,MS5.7				
YKA	**Yellowknife Ar**	**49.02 38**	P	**P**	**10 26 48.5 +1.0**
YKA			LR	LR	10 51 24.4
YKA	**Yellowknife Ar**	**49.02 38**	P	**P**	**10 26 48.5 +1.0**
YKA			pmax	pmax	
	comp=Z,87nm,0.9s				
YKA			MLR	MLR	
	comp=Z,2μm,18.3s				
YKA	**Yellowknife Ar**	**49.02 38**	P	**P**	**10 26 48.5 +1.0**
	comp=Z,87nm,0.9s,mb5.8,baz=297,slow=7.4,SNR=594				
YKA			LR	LR	10 51 24.4
	comp=Z,2μm,18.3s,MS5.2,baz=165,slow=41				
BRVK	**Borovoye**	**50.72 309**	P	**P**	**10 26 59.9 -0.7**
	comp=Z,505nm,0.8s,mb6.5,SNR=49				
BRVK	**Borovoye**	**50.72 309**⇑	*e*P	**P**	**10 26 58.9 -1.7**
BRVK			LR	LR	
	comp=Z,13μm,19.0s,MS6.0				
BRVK	**Borovoye**	**50.72 309**	P	**P**	**10 26 59.8 -0.8**
BRVK			pmax	pmax	
	comp=Z,74nm,0.9s,mb5.6				
BRVK	**Borovoye**	**50.72 309**	P	**P**	**10 26 59.5 -1.1**
	SNR=34				
KBS	**Kingsbay**	**51.09 351**⇑	*i* P	**P**	**10 27 01.5 -1.6**
KBS			*e*		10 35 00.5
KBS			*i*		10 38 18.6
KBS			LR	LR	
	comp=Z,2μm,21.0s,MS5.2				
KBS	**Kingsbay**	**51.09 351**	*e*P	**P**	**10 27 00.2 -2.9**
KBS			*e*S	**S**	**10 34 17.5 -0.1**
KBS			*e*		10 35 00.5
KBS			*i*		10 38 18.6
KBS			AMS	AMS	10 48 15.4
	comp=Z,2μm,21.0s,MS5.2				
KBS	**Kingsbay**	**51.09 351**	P	**P**	**10 27 02.2 -0.9**
KBS			pmax	pmax	
	comp=Z,39nm,1.0s,mb5.3				
SPB4	**Spitsbergen Ar**	**51.24 350**	*e*P	**P**	**10 27 04.2 0.0**
LSA	**Lhasa**	**51.26 273**	P	**P**	**10 27 07.0 +2.1**
LSA			AP	pP	10 27 15.2 -0.7
LSA			PCP	PcP	10 28 21.8 +2.1
LSA			PP	PP	10 29 00.1 -1.7
LSA			S	**S**	**10 34 11.3 -10**
LSA			XS	sS	10 34 36.3 -2.8
LSA			LR	LR	
	comp=N,2μm,18.3s,MS5.5				
LSA			LR	LR	
	comp=E,4μm,21.8s,MS5.5				
LSA			LR	LR	
	comp=Z,5μm,19.3s,MS5.6				
LSA	**Lhasa**	**51.26 273**	*e*P	**P**	**10 27 06.6 +1.7**
	comp=Z,49nm,0.6s,mb5.6				
LSA			LR	LR	
	comp=Z,6μm,20.0s,MS5.6				
LSA	**Lhasa**	**51.26 273**	*e*P	**P**	**10 27 06.6 +1.7**
LSA			pmax	pmax	
	comp=Z,49nm,0.6s,mb5.6				
LSA			MLR	MLR	
	comp=Z,6μm,20.0s,MS5.6				
PGC	**Sidney**	**51.68 57**	*e*P	**P**	**10 27 08.2 +0.4**
BAKI	**Biak**	**51.90 204**	P	**P**	**10 27 09.9 +0.1**
B04A	**Port Angeles**	**51.97 57**⇑	P	**P**	**10 27 09.8 -0.2**
	baz=52				
NLWA	**Neilton Lookou**	**52.13 58**	*e*P	**P**	**10 27 11.7 +0.5**
NLWA			LR	LR	
	comp=Z,3μm,22.0s,MS5.2				
NLWA	**Neilton Lookou**	**52.13 58**⇓	P	**P**	**10 27 10.7 -0.5**
	baz=52				
CHRT	**Chiangrai**	**52.21 257**⇑	P	**P**	**10 27 04.0 -8.1**
	comp=Z,313nm,1.0s,mb6.2				
A05A	**Maple Falls**	**52.25 56**⇑	P	**P**	**10 27 11.1 -0.9**
	baz=52,SNR=6.7				
AAA	**Alma-Ata**	**52.25 295**	*i* P	**P**	**10 27 12.4 +0.2**
AAA			pmax	pmax	
	comp=Z,370nm,1.2s,mb6.2				
AAA			MLR	MLR	
	comp=Z,14μm,11.2s,MS6.2				
KDM	**Kudat**	**52.25 230**⇑	P	**P**	**10 27 14.7 +2.2**
C04A	**Brinnon**	**52.45 58**⇓	P	**P**	**10 27 13.4 -0.2**
	baz=52				
A06A	**Chilliwack**	**52.52 55**⇑	P	**P**	**10 27 13.6 -0.5**
	baz=52				
GNW	**Green Mountain**	**52.62 58**	*e*P	**P**	**10 27 15.8 +0.9**
IMP	**Imphal**	**52.64 266**	*i* P	**P**	**10 27 15.0 -0.3**
B05A	**Bryant**	**52.64 57**⇑	P	**P**	**10 27 14.6 -0.4**
	baz=52,SNR=5.5				
E03A	**Lebam**	**52.77 59**⇑	P	**P**	**10 27 15.7 -0.2**
	baz=53				
JCW	**Jim Creek**	**52.77 57**	P	**P**	**10 27 16.1 +0.2**
B06A	**Marblemount**	**52.84 56**⇓	P	**P**	**10 27 15.7 -0.8**
	baz=53,SNR=5.4				
KKTK	**Khon Kaen**	**52.85 251**⇑	P	**P**	**10 27 17.5 +0.6**
D04A	**Dobbs Creek Ra**	**52.89 58**⇑	P	**P**	**10 27 16.3 -0.5**
	baz=53				
A07A	**Ashnola River,**	**53.15 55**⇑	P	**P**	**10 27 18.1 -0.7**
	baz=53,SNR=21				

SDKM	**Sandakan**	**53.16 229**⇑	P	**P**	**10 27 19.4 +0.3**
C05A	**Tolt Reservoir**	**53.19 57**⇑	P	**P**	**10 27 18.2 -0.8**
	baz=53,SNR=9.6				
E04A	**Onalaska**	**53.22 59**⇓	P	**P**	**10 27 19.1 -0.2**
	baz=53				
TKM2	**Tokmak 2**	**53.26 296**	*e*P	**P**	**10 27 19.4 -0.3**
	comp=Z,92nm,0.9s,mb5.7				
TKM2			LR	LR	
	comp=Z,4μm,21.0s,MS5.5				
TKM2	**Tokmak 2**	**53.26 296**	P	**P**	**10 27 19.5 -0.2**
TKM2			pmax	pmax	
	comp=Z,92nm,0.9s,mb5.7				
TKM2	**Tokmak 2**	**53.26 296**	P	**P**	**10 27 19.7 +0.1**
	SNR=62				
ULHL	**Ulahol**	**53.26 295**	P	**P**	**10 27 19.8 +0.1**
	SNR=21				
D05A	**Enumclaw**	**53.30 58**⇓	P	**P**	**10 27 19.7 -0.2**
	baz=53				
KKM	**Kota Kinabalu**	**53.31 230**⇓	P	**P**	**10 27 21.2 +0.9**
SVE	**Sverdlovsk**	**53.40 317**⇑	*e*P	**P**	**10 27 19.5 -0.9**
SVE			*e*		10 28 26.4
SVE			*e*S	**S**	**10 34 52.1 +2.5**
SVE			pmax	pmax	
	comp=Z,46nm,1.0s,mb5.4				
SVE			MLR	MLR	
	comp=Z,5μm,14.0s,MS5.7				
SHL	**Shillong**	**53.48 268**	*i* P	**P**	**10 27 22.0 +0.6**
	comp=Z,77nm,1.0s,mb5.6				
SHL			*e*S	**S**	**10 34 52.0 +0.5**
C06A	**Tall Timber Ra**	**53.50 56**⇑	P	**P**	**10 27 20.7 -0.6**
	baz=53				
CHG	**Chiang Mai**	**53.52 257**⇑	P	**P**	**10 27 22.9 +1.1**
	comp=Z,150nm,0.9s,mb5.9				
CHTO	**Chiang Mai**	**53.52 257**	*e*P	**P**	**10 27 22.5 +0.7**
	comp=Z,197nm,1.0s,mb6.0				
CHTO			LR	LR	
	comp=Z,5μm,19.0s,MS5.6				
CHTO	**Chiang Mai**	**53.52 257**	*e*P	**P**	**10 27 22.5 +0.7**
CHTO			pmax	pmax	
	comp=Z,197nm,1.0s,mb6.0				
CHTO			MLR	MLR	
	comp=Z,5μm,19.0s,MS5.6				
CHTO	**Chiang Mai**	**53.52 257**	P	**P**	**10 27 22.7 +0.9**
	SNR=74				
SOKR	**Solikamsk**	**53.53 321** *c*	*i* P	**P**	**10 27 19.2 -2.1**
SOKR					10 28 23.5
SOKR			S	**S**	**10 35 00.0 +8.7**
SOKR			pmax	pmax	
	comp=Z,20nm,1.1s,mb5.0				
SOKR			MLR	MLR	
	comp=Z,4μm,18.0s,MS5.5				
B07A	**Winthrop**	**53.63 55**⇓	P	**P**	**10 27 21.8 -0.4**
	baz=53,SNR=14				
FMW	**Mount Fremont**	**53.63 58**	P	**P**	**10 27 22.5 +0.3**
LON	**Longmire**	**53.65 58**	*e*P	**P**	**10 27 23.7 +1.3**
USP	**Ospenovka**	**53.72 297**	P	**P**	**10 27 22.8 -0.2**
	SNR=119				
CHMS	**Chumysh**	**53.73 296**	P	**P**	**10 27 23.4 +0.4**
	SNR=33				
F04A	**Amboy**	**53.77 59**⇑	P	**P**	**10 27 23.0 -0.3**
	baz=54				
CM31	**Chiang Mai Arr**	**53.78 257**	PFAKE		10 27 40.0 +16
CM31			LR	LR	
	comp=Z,4μm,20.0s,MS5.4				
E05A	**Randle**	**53.79 58**⇓	P	**P**	**10 27 22.8 -0.6**
	baz=54				
KBK	**Karagaybulak**	**53.81 296**	P	**P**	**10 27 23.8 +0.2**
	SNR=60				
A08A	**Turner Farm, O**	**53.81 55**	P	**P**	**10 27 23.3 -0.3**
	baz=54,SNR=43				
BJO	**Bjornoya**	**53.88 347**	*e*P	**P**	**10 27 20.9 -2.9**
BJO			*e*		10 39 50.2
BJO			AMS	AMS	10 56 09.3
	comp=Z,4μm,16.2s,MS5.6				
FRU	**Bishkek**	**53.90 296**⇑	*i* P	**P**	**10 27 23.0 -1.3**
FRU			*i*		10 28 25.0
FRU			*e*		10 35 20.0
FRU			pmax	pmax	
	comp=Z,280nm,1.7s,mb5.9				
FRU			MLR	MLR	
	comp=N,9μm,17.5s,MS6.0				
FRU			MLR	MLR	
	comp=E,6μm,17.5s,MS6.0				
FRU			MLR	MLR	
	comp=Z,10μm,17.5s,MS5.9				
D06A	**Cle Elum**	**53.94 57**⇓	P	**P**	**10 27 24.1 -0.5**
	baz=54,SNR=7.1				
KZA	**Kyzart**	**53.96 295**	P	**P**	**10 27 25.7 +1.0**
	SNR=68				
TWW	**Teanaway**	**53.96 57**	P	**P**	**10 27 25.2 +0.5**
TSM	**Tawau**	**53.98 228**⇑	P	**P**	**10 27 25.9 +0.8**
H03A	**Soap Creek Ran**	**53.99 61**⇑	P	**P**	**10 27 24.9 0.0**
	baz=54				
COR	**Corvallis**	**54.03 61**	PFAKE		10 27 40.0 +15
COR			LR	LR	
	comp=Z,3μm,22.0s,MS5.2				
AAK	**Ala-Archa**	**54.09 296**	P	**P**	**10 27 24.8 -0.9**
	comp=Z,638nm,0.8s,mb6.6,SNR=82				
AAK	**Ala-Archa**	**54.09 296**	P	**P**	**10 27 25.6 -0.1**
	SNR=97				
C07A	**Waterville**	**54.10 56**⇓	P	**P**	**10 27 25.0 -0.6**
	baz=54,SNR=11				
B08A	**Colville Reser**	**54.12 55**⇑	P	**P**	**10 27 25.3 -0.5**
	baz=54,SNR=29				
WTV	**Waterville**	**54.15 56**	P	**P**	**10 27 25.8 -0.3**
G04A	**Mulino**	**54.15 60**⇑	P	**P**	**10 27 25.7 -0.4**
	baz=54				
A09A	**Danville**	**54.17 54**	P	**P**	**10 27 26.1 -0.1**
	baz=54,SNR=50				
E06A	**Yakima**	**54.24 58**⇓	P	**P**	**10 27 26.2 -0.5**
	baz=54,SNR=6.4				
EBG	**Ellensburg**	**54.26 57**	P	**P**	**10 27 27.2 +0.3**
UCH	**Uchtor**	**54.32 296**	*e*P	**P**	**10 27 27.0 -0.4**
	comp=Z,56nm,1.4s,mb5.3				
UCH			LR	LR	
	comp=Z,6μm,20.0s,MS5.7				
UCH	**Uchtor**	**54.32 296**	P	**P**	**10 27 27.7 +0.3**
	SNR=27				
F05A	**White Salmon**	**54.35 59**⇓	P	**P**	**10 27 27.3 -0.2**
	baz=54				
D07A	**Quincy**	**54.43 57**⇑	P	**P**	**10 27 27.8 -0.3**
	baz=54				
EDM	**Edmonton**	**54.45 48**	*e*P	**P**	**10 27 28.1 -0.1**
EKS2	**Erkin-Say**	**54.50 297**	*e*P	**P**	**10 27 28.9 +0.2**
	comp=Z,107nm,0.9s,mb5.9				
EKS2			*e*PcP	PcP	10 28 32.7 +1.0
EKS2			LR	LR	
	comp=Z,6μm,20.0s,MS5.6				
EKS2	**Erkin-Say**	**54.50 297**	P	**P**	**10 27 29.4 +0.7**
	SNR=41				
EPH	**Ephrata**	**54.55 56**	P	**P**	**10 27 28.7 -0.3**
ARU	**Arti**	**54.57 317**	P	**P**	**10 27 28.2 -0.8**
	comp=Z,527nm,0.8s,mb6.6,SNR=6.2				
ARU	**Arti**	**54.57 317**⇑	*e*P	**P**	**10 27 27.4 -1.6**
ARU			LR	LR	
	comp=Z,3μm,20.0s,MS5.4				
ARU	**Arti**	**54.57 317** *d*	*i* P	**P**	**10 27 27.5 -1.5**
ARU			*e*		10 28 29.4
ARU			*e*		10 29 33.1
ARU			*e*PPP		10 30 41.1
ARU			*e*S	**S**	**10 35 05.7 +0.3**
ARU			*e*		10 37 12.2
ARU			pmax	pmax	
	comp=Z,75nm,0.8s,mb5.8				
ARU			MLR	MLR	
	comp=Z,4μm,15.0s,MS5.6				
J02A	**Umpqua**	**54.58 62**⇓	P	**P**	**10 27 29.1 -0.2**
	baz=54				
C08A	**Higginbotham F**	**54.60 56**⇑	P	**P**	**10 27 28.5 -0.9**
	baz=54,SNR=16				
MXC	**Moxie City**	**54.61 57**	P	**P**	**10 27 29.6 +0.2**
BDT	**Bhumibol Dam**	**54.62 255**	P	**P**	**10 27 31.0 +1.1**
	comp=Z,13nm,1.0s,mb4.9				
H04A	**Detroit Lake**	**54.63 60**⇑	P	**P**	**10 27 29.4 -0.2**
	baz=54				
A10A	**Northport**	**54.72 54**⇓	P	**P**	**10 27 29.9 -0.2**
	baz=54,SNR=22				
B09A	**Rice**	**54.73 55**	P	**P**	**10 27 30.1 -0.2**
	baz=54,SNR=22				
F06A	**Goldendale**	**54.80 59**⇑	P	**P**	**10 27 30.8 0.0**
	baz=55,SNR=5.3				
G05A	**Wamic**	**54.80 59**⇑	P	**P**	**10 27 30.7 -0.1**
	baz=55				
E07A	**Sunnyside**	**54.86 57**	P	**P**	**10 27 31.2 0.0**
	baz=55,SNR=12				
AML	**Almayashu**	**54.87 296**	*e*P	**P**	**10 27 31.7 +0.4**

comp=Z,91nm,1.1s,mb5.7
AML LR LR
comp=Z,10µm,19.0s,MS5.9
AML Almayashu 54.87 296 P **P 10 27 32.0 +0.7**
SNR=68
J03A Ideyld Park 54.94 62 ⇑P **P 10 27 32.0 +0.2**
baz=55
K02A Glendale 54.99 63 ⇓P **P 10 27 32.3 +0.1**
baz=55
I04A Tendick Farm, 55.02 61 ⇓P **P 10 27 32.7 +0.3**
baz=55
OD2 Odessa Site #2 55.02 56 P **P 10 27 32.0 -0.4**
C09A Chrisman Ranch 55.02 55 ⇑P **P 10 27 31.8 -0.5**
baz=55,SNR=17
KSH Kashi 55.04 292 *e*P **P 10 27 33.9 +1.3**
KSH *e*AP pP 10 27 43.1 -0.6
KSH *e*XP sP 10 27 48.0 -0.1
KSH *e*PCP PcP 10 28 35.3 +1.5
KSH *e*PP PP 10 29 37.6 +1.9
KSH *e*SCP ScP 10 32 29.5 +0.2
KSH S **S 10 35 09.7 -2.5**
KSH SCS ScS 10 37 16.3 -2.3
KSH SS SS 10 38 52.1 -3.6
KSH AMB AMB
comp=Z,288nm,1.0s,mb6.3
KSH AMB AMB
comp=Z,1µm,4.9s
KSH LR LR
comp=Z,34µm,18.6s,MS6.5
AGT Agartala 55.04 267 *i*P **P 10 27 32.0 -0.8**
NST Nakhon Sawan 55.06 253 P **P 10 27 34.0 +1.0**
D08A Wollman Farm, 55.09 56 P **P 10 27 32.4 -0.5**
baz=55,SNR=9.8
DAG Danmarks Havn 55.10 358 ⇓*i*P **P 10 27 31.9 -0.7**
DAG pmax pmax
comp=Z,30nm,1.2s,mb5.2
DAG MLR MLR
comp=E,960nm,18.0s,MS5.3
DAG MLR MLR
comp=Z,4µm,18.0s,MS5.5
DAG MLR MLR
comp=N,2µm,19.0s,MS5.3
DAG Danmarks Havn 55.10 358 ⇓*i*P **P 10 27 31.9 -0.7**
comp=N,30nm,1.2s,mb5.2
DAG
comp=Z,4µm,18.0s
HAWA Hanford 55.14 57 *e*P **P 10 27 33.2 0.0**
HAWA LR LR
comp=Z,2µm,20.0s,MS5.1
G06A Carlson Farm, 55.20 59 ⇓P **P 10 27 33.9 +0.3**
baz=55
H05A Madras 55.20 60 ⇑P **P 10 27 33.9 +0.2**
baz=55
F07A Phinny Hill Vi 55.21 58 ⇓P **P 10 27 33.7 0.0**
baz=55,SNR=6.5
L02A Cave Junction 55.28 64 ⇑P **P 10 27 34.9 +0.5**
baz=55
B10A Chitwood Farm, 55.30 54 ⇑P **P 10 27 34.0 -0.3**
baz=55
E08A Dider Farm, El 55.35 57 ⇑P **P 10 27 34.3 -0.5**
baz=55
NEW Newport 55.38 54 *e*P **P 10 27 34.4 -0.5**
comp=Z,160nm,1.8s,mb5.8
NEW *e*pP pP 10 27 45.4 -0.6
NEW LR LR
comp=Z,2µm,20.0s,MS5.1
A11A Hall Mountain, 55.38 53 P **P 10 27 35.2 +0.3**
baz=55,SNR=36
BBOR Butler Butte 55.40 62 P **P 10 27 35.6 +0.5**
HUMO Hull Mountain 55.40 63 *e*P **P 10 27 35.5 +0.3**
comp=Z,19nm,1.1s,mb5.0
HUMO LR LR
comp=Z,3µm,22.0s,MS5.3
HUMO Hull Mountain 55.40 63 ⇓P **P 10 27 35.4 +0.2**
baz=55
D09A Jones Farm, Ri 55.43 56 ⇑P **P 10 27 34.7 -0.6**
baz=55,SNR=12
I05A Bend 55.47 60 ⇑P **P 10 27 35.7 +0.1**
baz=55
J04A Umpqua Nationa 55.52 62 ⇓P **P 10 27 36.5 +0.4**
baz=55
C10A Spilker Farm, 55.54 55 ⇑P **P 10 27 35.8 -0.3**
baz=55,SNR=6.5
KTRM Thompson Ridge 55.56 64 P **P 10 27 37.3 +1.0**
H06A Lindquist Farm 55.66 59 ⇓P **P 10 27 36.8 -0.2**
baz=56,SNR=9.4
B11A Sandpoint 55.68 54 ⇓P **P 10 27 37.0 -0.1**
baz=56,SNR=12
G07A Ruggs Ranch, H 55.73 58 ⇑P **P 10 27 37.4 -0.1**
baz=56
LVZ Lovozero 55.74 337 ⇓*e*P **P 10 27 36.9 -0.3**
LVZ Lovozero 55.74 337 ⇓*e*P **P 10 27 36.8 -0.4**
LVZ pmax pmax
comp=Z,46nm,1.7s,mb5.2
A12A Yaak River Ran 55.77 53 ⇑P **P 10 27 38.0 +0.2**
baz=56,SNR=6.7
JCC Jacoby Creek 55.83 65 ⇑P **P 10 27 38.5 +0.2**
baz=56
E09A Wood Farm, Sta 55.85 56 ⇓P **P 10 27 38.0 -0.4**
baz=56,SNR=19
JIRN Jiri 55.88 275 *e*P **P 10 27 39.9 +1.0**
comp=Z,26nm,0.2s,mb5.8
KHMM Horse Mountain 55.97 65 *e*P **P 10 27 41.1 +1.8**
J05A Fort Rock 56.01 61 ⇑P **P 10 27 39.7 +0.1**
baz=56,SNR=18
BUOR Burton Butte 56.02 63 P **P 10 27 40.6 +1.0**
YBH Yreka Blue Hor 56.07 63 *e*P **P 10 27 41.0 +1.0**
comp=Z,48nm,1.3s,mb5.4
YBH LR LR
comp=Z,2µm,20.0s,MS5.2
YBH Yreka Blue Hor 56.07 63 P **P 10 27 41.1 +1.1**
YBH pmax pmax
comp=Z,47nm,1.3s
YBH Yreka Blue Hor 56.07 63 ⇑P **P 10 27 40.5 +0.5**
baz=56,SNR=9.1
B12A Libby 56.08 53 ⇑P **P 10 27 39.6 -0.4**
baz=56
G08A Pilot Rock 56.12 58 ⇓P **P 10 27 40.3 0.0**
baz=56,SNR=7.5
K04A Chiluquin 56.12 62 ⇓P **P 10 27 41.0 +0.7**
baz=56
KK31 Karatay Array 56.17 299 *i*P **P 10 27 40.0 -0.7**
KK31 pmax pmax
comp=Z,89nm,1.1s,mb5.7
M02C Callahan 56.19 64 ⇑P **P 10 27 41.4 +0.5**
baz=56,SNR=8.1
KEV Kevo 56.20 341 *e*P **P 10 27 38.7 -1.8**
KEV LR LR
comp=Z,11µm,19.0s,MS6.0
I06A Prineville 56.21 60 ⇑P **P 10 27 41.1 +0.2**
baz=56,SNR=9.1
N02C Big Bar 56.26 65 ⇓P **P 10 27 41.6 +0.2**
baz=56
APA Apatity 56.30 337 ⇑*i*P **P 10 27 41.0 -0.3**
APA *e*PPP 10 31 13.0
APA *e*S **S 10 35 30.0 +1.7**
APA pmax pmax
comp=Z,26nm,1.0s,mb5.2
APA MLR MLR
comp=Z,11µm,19.0s,MS6.0
O01C Eel River Cons 56.36 66 ⇓P **P 10 27 42.9 +0.8**
baz=56
KKN Kakani 56.40 275 *e*P **P 10 27 43.2 +0.6**
comp=Z,159nm,0.6s,mb6.2
KKN Kakani 56.40 275 *e*P **P 10 27 43.2 +0.6**
KKN pmax pmax
comp=Z,159nm,0.6s,mb6.2
A13A Flathead Natio 56.43 52 ⇓P **P 10 27 42.4 -0.1**
baz=56
E10A Myers Farm, Un 56.44 56 P **P 10 27 42.6 +0.1**
baz=56,SNR=8.7
F09A S2 Ranch, Elgi 56.46 57 ⇑P **P 10 27 42.8 +0.1**
baz=56
I07A Izee 56.53 60 ⇓P **P 10 27 43.4 +0.2**
baz=56,SNR=14
K05A Summer Lake 56.54 62 ⇑P **P 10 27 44.1 +0.8**
baz=56,SNR=10
M04C Macdoel 56.56 63 ⇓P **P 10 27 43.8 +0.4**
baz=56,SNR=10
J06A Christmas Vall 56.66 61 P **P 10 27 44.4 +0.3**
baz=56,SNR=21
F10A Beach Ranch, E 56.68 57 ⇓P **P 10 27 44.2 -0.1**
baz=56,SNR=6.4
GKN Gorkha 56.69 276 *e*P **P 10 27 45.4 +0.8**
comp=Z,246nm,0.6s,mb6.4
M03C McCloud 56.70 64 ⇑P **P 10 27 44.6 +0.2**
baz=56,SNR=7.9

ARCES ARCESS Array B 56.71 341 P **P 10 27 43.2 -0.9**
ARCES pmax pmax
comp=Z,13nm,0.9s
ARCES MLR MLR
comp=Z,8µm,19.0s
ARCES ARCESS Array B 56.71 341 P **P 10 27 43.1 -1.0**
comp=Z,12nm,0.9s,mb4.9,baz=35,slow=6.5,SNR=17
ARCES LR LR 10 57 27.7
comp=Z,8µm,19.0s,MS5.8,baz=31,slow=42
B13A Whitefish 56.73 53 ⇑P **P 10 27 44.7 +0.1**
baz=56,SNR=116
H08A Prairie City 56.74 59 ⇓P **P 10 27 44.9 +0.1**
baz=56,SNR=18
WDC Whiskeytown Da 56.87 64 *e*P **P 10 27 45.3 -0.4**
comp=Z,24nm,1.1s,mb5.1
WDC LR LR
comp=Z,2µm,19.0s,MS5.2
WDC Whiskeytown Da 56.87 64 *e*P **P 10 27 45.3 -0.4**
WDC pmax pmax
comp=Z,24nm,1.1s,mb5.1
WDC MLR MLR
comp=Z,2µm,19.0s,MS5.2
WDC Whiskeytown Da 56.87 64 P **P 10 27 46.2 +0.5**
baz=57,SNR=9.8
K06A Valley Falls 56.88 61 ⇑P **P 10 27 46.1 +0.4**
baz=57,SNR=19
BSMT Bassoo Peak 56.88 54 *e*P **P 10 27 46.0 +0.3**
O02C Red Bluff 56.97 65 P **P 10 27 46.7 +0.3**
baz=57,SNR=6.8
L05A Lakeview 56.99 62 ⇓P **P 10 27 46.7 +0.2**
baz=57,SNR=14
E11A Bogner Ranch, 57.01 56 ⇑P **P 10 27 46.2 -0.4**
baz=57,SNR=17
DANN Dangsing 57.04 277 *e*P **P 10 27 48.6 +1.5**
comp=Z,4.3nm,0.7s,mb4.6
D12A Red Ives Fores 57.06 55 ⇓P **P 10 27 46.9 -0.1**
baz=57
P01C Double 8 Ranch 57.07 66 ⇑P **P 10 27 47.3 +0.2**
baz=57
J07A Hines 57.07 60 ⇑P **P 10 27 47.3 +0.2**
baz=57,SNR=12
C13A Hot Springs 57.10 54 P **P 10 27 47.4 +0.1**
baz=57,SNR=24
G10A Bishop Farm, J 57.15 57 P **P 10 27 47.6 0.0**
baz=57,SNR=46
I08A Drewsey 57.17 59 ⇑P **P 10 27 47.8 0.0**
baz=57,SNR=17
M05C Lookout 57.23 63 ⇑P **P 10 27 48.3 +0.1**
baz=57,SNR=13
H09A Durkee 57.23 58 ⇓P **P 10 27 48.4 +0.2**
baz=57,SNR=29
BMO Blue Mountains 57.31 58 *e*P **P 10 27 49.0 +0.2**
comp=Z,58nm,1.3s,mb5.5
BMO LR LR
comp=Z,2µm,22.0s,MS5.2
F11A Grangeville 57.33 56 ⇓P **P 10 27 48.6 -0.2**
baz=57
GASB Alder Springs 57.33 65 ⇑P **P 10 27 49.5 +0.5**
baz=57,SNR=9.2
BTM Bintulu 57.35 232 ⇓P **P 10 27 50.4 +1.0**
HATC Hat Creek Radi 57.37 64 ⇓P **P 10 27 49.8 +0.5**
baz=57
MOD Modoc 57.39 62 *e*P **P 10 27 49.9 +0.6**
comp=Z,38nm,1.0s,mb5.4
MOD *e*pP pP 10 27 60.0 -0.5
MOD LR LR
comp=Z,2µm,20.0s,MS5.3
MOD Modoc 57.39 62 ⇓P **P 10 27 49.3 -0.1**
baz=57
TMCR Tamitsa 57.43 332 *e*P **P 10 27 46.9 -2.4**
TMCR *e**PP pP 10 27 55.0 -5.4
TMCR *e* 10 28 40.3
TMCR pmax pmax
comp=Z,48nm,0.4s,mb5.9
C14A Swan Lake 57.49 53 ⇓P **P 10 27 49.7 -0.3**
baz=57
D13A Huson 57.52 54 ⇑P **P 10 27 49.6 -0.6**
baz=57,SNR=24
HOPS Hopland 57.52 66 PFAKE 10 28 00.0 +10
HOPS LR LR
comp=Z,2µm,21.0s,MS5.3
HOPS Hopland 57.52 66 ⇑P **P 10 27 50.2 -0.2**
baz=57
K07A Rock Creek Ran 57.53 61 ⇓P **P 10 27 50.6 +0.3**
baz=57,SNR=18
KOLN Koldanda 57.53 276 *e*P **P 10 27 51.3 +0.7**
comp=Z,353nm,0.9s,mb6.4
O03C Acorn Hollow, 57.53 65 ⇑P **P 10 27 50.9 +0.5**
baz=57
G11A Walters Elk Ra 57.56 57 P **P 10 27 50.5 0.0**
baz=57,SNR=24
J08A Circle Bar Ran 57.56 60 ⇑P **P 10 27 50.9 +0.3**
baz=57,SNR=22
PCI Palu 57.60 223 P **P 10 27 49.4 -1.7**
I09A Lost Marbles R 57.61 59 ⇑P **P 10 27 50.6 -0.2**
baz=57,SNR=17
HNR Honiara 57.70 174 PFAKE 10 28 00.0 +8.3
HNR LR LR
comp=Z,3µm,21.0s,MS5.4
M06C Likely Place G 57.72 63 ⇓P **P 10 27 51.8 +0.1**
baz=58,SNR=5.4
H10A Noah's Angus R 57.79 58 ⇑P **P 10 27 52.2 +0.1**
baz=58
L07A Adell 57.89 61 ⇑P **P 10 27 53.5 +0.7**
baz=58
O04C Chester 57.90 64 ⇓P **P 10 27 53.6 +0.6**
baz=58,SNR=5.1
F12A Elk City 57.91 56 P **P 10 27 52.9 0.0**
baz=58,SNR=48
CAL Calcutta 57.91 269 *e*P **P 10 27 54.7 +1.5**
ELFS Eagle Lake Fie 57.93 63 ⇑P **P 10 27 53.6 +0.4**
baz=58
K08A Mann Creek Ran 57.94 60 P **P 10 27 53.9 +0.6**
baz=58,SNR=12
MSO Missoula 57.96 54 *e*P **P 10 27 53.2 -0.1**
comp=Z,90nm,1.3s,mb5.6
MSO *e*pP pP 10 28 04.3 -0.1
MSO LR LR
comp=Z,1µm,19.0s,MS5.0
TRO Tromso 57.98 343 *e*P **P 10 27 51.7 -1.4**
TRO *e* 10 31 17.9
TRO *e*S **S 10 35 49.5 -0.7**
TRO AMS AMS 10 58 22.3
comp=Z,4µm,18.3s,MS5.5
MNRC McLaughlin Nat 57.98 66 ⇑P **P 10 27 53.9 +0.3**
baz=58
J09A Fry Pan Ranch, 57.98 59 P **P 10 27 54.1 +0.6**
baz=58,SNR=36
D14A Greenough 58.04 54 P **P 10 27 53.8 0.0**
baz=58,SNR=105
WVOR Wild Horse Val 58.04 61 PFAKE 10 28 10.0 +16
WVOR LR LR
comp=Z,2µm,22.0s,MS5.2
E13A Victor 58.07 55 ⇑P **P 10 27 53.6 -0.4**
baz=58,SNR=45
I10A Payette 58.07 58 ⇑P **P 10 27 54.2 +0.1**
baz=58,SNR=25
SGF Sodankyl 58.13 339 P **P 10 27 52.9 -1.2**
ORV Oroville 58.13 65 P **P 10 27 54.2 -0.4**
baz=58,SNR=16
H11A Donnelly 58.13 57 P **P 10 27 54.5 0.0**
baz=58,SNR=103
SUTB Sutter Butte 58.16 65 ⇓P **P 10 27 54.6 -0.2**
baz=58
MCCM Marconi Confer 58.17 67 PFAKE 10 28 10.0 +15
MCCM LR LR
comp=Z,2µm,21.0s,MS5.3
O05C Quincy 58.23 64 P **P 10 27 55.6 +0.4**
baz=58,SNR=8.9
AB31 Akbulak array 58.23 310 *i*P **P 10 27 54.8 -0.3**
OHCM Honcut 58.28 65 *e*P **P 10 27 55.4 -0.2**
CHMT Chamberlain Mo 58.28 54 *e*P **P 10 27 55.4 -0.2**
CVS Carmenet Viney 58.30 66 ⇑P **P 10 27 56.5 +0.7**
baz=58
L08A Fields 58.36 61 ⇑P **P 10 27 56.3 +0.1**
baz=58,SNR=10
M07A Soldier Meadow 58.38 62 P **P 10 27 56.6 +0.4**
baz=58,SNR=31
FARB Farallon Islan 58.38 67 ⇑P **P 10 27 56.0 -0.3**
baz=58
F13A Darby 58.39 55 P **P 10 27 56.1 -0.2**
baz=58,SNR=37
Q03C Winters 58.39 66 ⇓P **P 10 27 56.6 +0.2**
baz=58
K09A Rome 58.40 60 ⇓P **P 10 27 56.4 0.0**
baz=58,SNR=11
SBUM Sibu 58.44 232 ⇑P **P 10 27 58.6 +1.6**

E14A Clinton 58.46 54 ⇑P **P 10 27 56.3 -0.5**
baz=58,SNR=47
J10A Berg Farm, Mel 58.50 59 ⇑P **P 10 27 57.0 -0.1**
baz=58,SNR=6.3
D15A Lincoln 58.59 53 P **P 10 27 57.9 +0.2**
baz=58,SNR=43
BEKR Beckwourth 58.62 64 ⇑P **P 10 27 57.6 -0.4**
baz=58,SNR=9.3
Q04C Lincoln 58.65 65 ⇓P **P 10 27 57.9 -0.3**
baz=58
BOK Bokaro 58.68 271 *e*P **P 10 27 58.7 +0.1**
BOK AMb AMB 10 28 02.6
comp=Z,254nm,1.4s,mb6.0
O06A Flanigan 58.75 63 ⇑P **P 10 27 59.1 +0.2**
baz=59
M08A Happy Creek Ra 58.80 61 ⇑P **P 10 27 59.7 +0.4**
baz=59,SNR=15
P05C Yuba Gap, Truc 58.83 65 ⇓P **P 10 27 59.3 -0.1**
baz=59
FFC Flin Flon 58.84 41 P **P 10 27 59.6 +0.3**
comp=Z,954nm,0.9s,mb6.8,SNR=70
FFC Flin Flon 58.84 41 *e*P **P 10 27 59.4 +0.1**
comp=Z,201nm,1.1s,mb6.1
FFC *e*pP pP 10 28 10.3 -0.1
FFC LR LR
comp=Z,2µm,19.0s,MS5.2
FFC Flin Flon 58.84 41 *e*P **P 10 27 59.4 +0.1**
FFC *e**PP pP 10 28 10.3 -0.2
FFC pmax pmax
comp=Z,201nm,1.1s,mb6.1
FFC MLR MLR
comp=Z,2µm,19.0s,MS5.2
K10A MacKenzie Ranc 58.85 59 P **P 10 28 00.0 +0.5**
baz=59,SNR=26
L09A Wilkinson Ranc 58.86 60 ⇓P **P 10 27 59.9 +0.2**
baz=59,SNR=14
N07B Gerlach 58.88 62 ⇓P **P 10 27 60.0 +0.2**
baz=59,SNR=11
H12A Diamond D Ranc 58.88 57 ⇓P **P 10 27 59.4 -0.3**
baz=59,SNR=18
G13A Cobalt 58.88 56 P **P 10 27 59.6 -0.1**
baz=59,SNR=101
F14A Wisdom 58.90 55 P **P 10 28 00.1 +0.2**
baz=59,SNR=18
E15A Deer Lodge 58.91 54 P **P 10 27 59.7 -0.2**
baz=59,SNR=78
P06A Stead Airport, 59.02 64 ⇓P **P 10 28 01.1 +0.3**
baz=59
JRSC Jasper Ridge 59.03 67 ⇓P **P 10 28 01.4 +0.5**
baz=59
MFID Camas Ranch 59.04 58 P **P 10 28 01.0 +0.1**
baz=59,SNR=23
LAVA Lava Cap Winer 59.09 65 P **P 10 28 01.3 0.0**
baz=59,SNR=19
WENL Wente Brothers 59.19 67 ⇓P **P 10 28 01.9 -0.1**
baz=59
H13A Challis 59.20 56 P **P 10 28 02.0 0.0**
baz=59,SNR=75
G14A Jackson 59.21 55 ⇓P **P 10 28 01.5 -0.5**
baz=59,SNR=15
BNLO Ben Lomond (Sa 59.24 67 ⇓P **P 10 28 03.5 +1.1**
baz=59
R04C Big Horse Banc 59.29 66 ⇓P **P 10 28 02.3 -0.3**
baz=59
K11A Parker Ranch, 59.33 59 ⇓P **P 10 28 03.2 +0.3**
baz=59
WCN Washoe City 59.34 64 ⇑P **P 10 28 03.2 +0.2**
baz=59
FCC Fort Churchill 59.35 34 *e*P **P 10 28 02.7 -0.1**
comp=Z,196nm,1.2s,mb6.0
FCC *e*pP pP 10 28 13.8 -0.1
FCC Fort Churchill 59.35 34 P **P 10 28 02.7 -0.1**
FCC pmax pmax
comp=Z,200nm,1.2s,mb6.0
F15A Butte 59.36 54 P **P 10 28 03.3 +0.2**
baz=59,SNR=57
M09A Marrel Ranch, 59.36 61 ⇓P **P 10 28 03.4 +0.3**
baz=59,SNR=6.2
N08A GE Springer Mi 59.37 62 ⇓P **P 10 28 03.4 +0.2**
baz=59,SNR=21
DLH Dalhousie 59.41 286 *e*P **P 10 28 03.0 -0.6**
EGMT Eagleton 59.43 51 *e*P **P 10 28 03.3 -0.2**
comp=Z,172nm,1.1s,mb6.0
EGMT *e*pP pP 10 28 14.4 -0.2
EGMT LR LR
comp=Z,3µm,19.0s,MS5.4
L10A Juniper Basin 59.52 60 P **P 10 28 04.6 +0.4**
baz=59,SNR=25
R05C Kirkwood Meado 59.53 65 ⇓P **P 10 28 04.3 0.0**
baz=59,SNR=9.7
S04C Ingram Canyon, 59.53 67 ⇑P **P 10 28 04.1 -0.3**
baz=59
SMLA Simla 59.55 284 *e*P **P 10 28 04.6 0.0**
J12A Stokes Ranch, 59.56 58 ⇓P **P 10 28 04.8 +0.4**
baz=59,SNR=45
DLMT Dillon 59.61 55 *e*P **P 10 28 04.8 0.0**
comp=Z,62nm,1.1s,mb5.5
THN Thein Dam 59.64 286 *e*P **P 10 28 04.4 -0.8**
O08A Rochester Mine 59.67 62 ⇑P **P 10 28 05.2 0.0**
baz=60
N09A Rock Creek Ran 59.68 61 ⇑P **P 10 28 05.6 +0.3**
baz=60,SNR=22
I13A Wildhorse Cree 59.69 57 P **P 10 28 05.7 +0.3**
baz=60,SNR=98
P07A Fallon 59.71 63 ⇑P **P 10 28 05.2 -0.3**
baz=60
HLID Hailey 59.75 57 *e*P **P 10 28 05.9 +0.2**
comp=Z,63nm,1.3s,mb5.5
HLID *e*pP pP 10 28 16.9 0.0
HLID LR LR
comp=Z,2µm,22.0s,MS5.2
HLID Hailey 59.75 57 P **P 10 28 06.1 +0.4**
baz=60,SNR=47
CMB Columbia Colle 59.76 66 *e*P **P 10 28 05.8 -0.2**
comp=Z,120nm,1.8s,mb5.6
CMB LR LR
comp=Z,1µm,21.0s,MS5.1
CMB Columbia Colle 59.76 66 *e*P **P 10 28 05.8 -0.1**
CMB pmax pmax
comp=Z,119nm,1.8s,mb5.6
CMB MLR MLR
comp=Z,1µm,21.0s,MS5.1
CMB Columbia Colle 59.76 66 ⇑P **P 10 28 05.6 -0.3**
baz=60,SNR=24
G15A Dillon 59.79 55 ⇑P **P 10 28 06.0 0.0**
baz=60,SNR=57
MCMT McKenzie Canyo 59.81 55 *e*P **P 10 28 06.5 +0.4**
MCMT *e*pP pP 10 28 17.0 -0.3
M10A I.L. Ranch, Tu 59.83 60 ⇑P **P 10 28 06.7 +0.4**
baz=60,SNR=28
BHK Bhakra 59.85 285 *e*P **P 10 28 07.6 +1.0**
PACP Pacheco Peak 59.87 67 ⇑P **P 10 28 06.3 -0.4**
baz=60
SAO San Andreas Ge 59.93 67 PFAKE 10 28 20.0 +13
SAO LR LR
comp=Z,2µm,20.0s,MS5.2
BOZ Bozeman (W) 59.95 54 PFAKE 10 28 20.0 +13
BOZ LR LR
comp=Z,1µm,19.0s,MS5.0
J13A Cove Ranch, Pi 59.98 57 ⇓P **P 10 28 07.7 +0.3**
baz=60,SNR=55
R06C Coleville 60.02 65 ⇑P **P 10 28 08.1 +0.4**
baz=60,SNR=15
K12A Draper Farm, C 60.06 58 P **P 10 28 08.2 +0.3**
baz=60,SNR=28
P08A Dixie Valley 60.09 63 ⇓P **P 10 28 08.7 +0.5**
baz=60
HAST Hastings Reser 60.10 68 ⇓P **P 10 28 08.5 +0.2**
baz=60
Q07A Schurz 60.14 64 ⇓P **P 10 28 08.7 +0.2**
baz=60
OUL Oulu 60.16 338 P **P 10 28 06.9 -1.3**
S05C Merced 60.24 66 ⇓P **P 10 28 08.8 -0.4**
baz=60,SNR=17
KSM Kuching 60.28 234 *e*P **P 10 28 10.3 +0.6**
KSM Kuching 60.28 234 ⇓P **P 10 28 11.8 +2.1**
L12A House Creek Ra 60.31 59 P **P 10 28 10.1 +0.4**
baz=60,SNR=47
O09A Fish Creek Ran 60.31 62 P **P 10 28 10.2 +0.5**
baz=60,SNR=27
T05C Eagle Field, D 60.32 67 ⇑P **P 10 28 10.0 +0.3**
baz=60
M11A Holland Ranch, 60.32 60 P **P 10 28 10.6 +0.9**
baz=60,SNR=29
N10A Dunphy 60.36 61 ⇑P **P 10 28 10.2 +0.2**
baz=60,SNR=5.3
JMIC Jan Mayen 60.38 354 *e*P **P 10 28 11.1 +1.4**

JMIC *e*S **S** **10 36 22.9 +1.7**
JMIC *i* 10 36 58.7
JMIC AMS AMS 10 52 45.3
comp=Z,2µm,21.2s,MS5.3
JMIC Jan Mayen 60.38 354 LR LR 10 52 32.8
comp=Z,3µm,21.7s,MS5.3,baz=186,slow=34
JOF Joensuu 60.38 334 *e*p **P** **10 28 07.7 -2.1**
K13A Stover Farm, H 60.52 58 ⇑P **P** **10 28 11.3 +0.3**
baz=60,SNR=12
V03C Hunter Liggett 60.53 68 ⇑P **P** **10 28 12.0 +0.7**
baz=60
R07C Lee Vining 60.54 65 ⇑P **P** **10 28 11.5 +0.3**
baz=60
QLMT Earthquake Lak 60.58 55 *e*P **P** **10 28 11.9 +0.5**
U04C Hernandez Rese 60.59 67 ⇓P **P** **10 28 11.7 0.0**
baz=60,SNR=6.5
FUNA Funafuti 60.60 152 PFAKE 10 28 20.0 +8.2
FUNA LR LR
comp=Z,27µm,19.0s,MS6.4
O10A Cortez Mining, 60.64 61 ⇓P **P** **10 28 12.3 +0.4**
baz=60,SNR=12
Q08A Gabbs 60.71 63 P **P** **10 28 12.4 -0.1**
baz=60,SNR=42
P09A Austin 60.74 62 ⇓P **P** **10 28 13.0 +0.4**
baz=60,SNR=18
N11A Elko Archery C 60.75 60 ⇑P **P** **10 28 13.0 +0.4**
baz=60
NVAR Mina Array Bea 60.77 64 P **P** **10 28 13.0 +0.2**
comp=Z,16nm,0.8s,mb5.2,baz=304,slow=5.2,SNR=83
NVAR PKPPKP 10 57 25.3
comp=Z,0.4nm,0.7s,baz=127,slow=5.7,SNR=4.2
M12A Wells 60.83 59 P **P** **10 28 13.9 +0.7**
baz=61,SNR=45
T06C Millerton Lake 60.84 66 P **P** **10 28 13.1 -0.2**
baz=61,SNR=11
KCC Kaiser Creek 60.87 66 ⇓P **P** **10 28 13.3 -0.2**
baz=61,SNR=7.1
GCMT Greycliff 60.91 53 *e*P **P** **10 28 14.4 +0.7**
GCMT *ep*P pP 10 28 25.2 +0.4
R08A Mina 60.94 64 P **P** **10 28 14.3 +0.4**
baz=61,SNR=13
YMR Madison River 60.94 54 *e*P **P** **10 28 14.6 +0.7**
comp=Z,224nm,1.5s,mb6.1
YMR LR LR
comp=Z,2µm,20.0s,MS5.2
L13A Double Diamond 60.95 58 ⇓P **P** **10 28 14.8 +0.8**
baz=61,SNR=25
MLAC Mammoth Lakes 60.96 65 ⇑P **P** **10 28 14.6 +0.4**
baz=61
V04C Ramage Ranch, 61.01 68 ⇑P **P** **10 28 14.3 -0.2**
baz=61
PKD Parkfield 61.01 67 ⇓P **P** **10 28 13.9 -0.6**
baz=61
U05C Westside ANR, 61.02 67 ⇓P **P** **10 28 14.8 +0.3**
baz=61
YNR Norris Junctio 61.07 54 *e*P **P** **10 28 16.1 +1.3**
YNR *ep*P pP 10 28 26.7 +0.8
K14A Jones Ranch, D 61.09 58 P **P** **10 28 15.7 +0.8**
baz=61,SNR=37
N12A Clover Valley, 61.13 60 P **P** **10 28 15.7 +0.5**
baz=61,SNR=28
NDI New Delhi 61.13 282 *i* PC **P** **10 28 14.0 -1.4**
NDI AMb AMB 10 28 16.3
comp=Z,121nm,1.0s,mb6.0
YFT Old Faithful 61.15 55 *e*P **P** **10 28 17.2 +1.9**
YFT *ep*P pP 10 28 27.6 +1.1
Q09A Carvers 61.18 63 ⇑P **P** **10 28 16.0 +0.4**
baz=61,SNR=5.9
KTGM Kuala Trenggan 61.19 243 ⇑P **P** **10 28 18.4 +2.4**
O11A Cowboy Ranch, 61.23 61 P **P** **10 28 16.3 +0.4**
baz=61,SNR=20
SNG Songkhla 61.25 246 P **P** **10 28 17.5 +1.1**
comp=Z,180nm,0.9s,mb6.2
KAPI Kappang 61.29 221 P **P** **10 28 15.7 -0.9**
comp=Z,354nm,1.0s,mb6.5,SNR=11
M13A Montello 61.30 59 P **P** **10 28 16.8 +0.4**
baz=61,SNR=34
MTUM Tungsten Hills 61.31 65 *e*P **P** **10 28 16.7 +0.2**
LKWY Lake 61.31 54 *e*P **P** **10 28 18.6 +2.2**
comp=Z,68nm,1.1s,mb5.7
LKWY LR LR
comp=Z,2µm,21.0s,MS5.3
LKWY Lake 61.31 54 *e*P **P** **10 28 18.6 +2.2**
LKWY pmax pmax
comp=Z,68nm,1.1s,mb5.7
LKWY MLR MLR
comp=Z,2µm,21.0s,MS5.3
PTRM Twissleman Ran 61.41 68 *e*P **P** **10 28 17.0 -0.2**
S08C White Mtn Res 61.45 65 P **P** **10 28 17.7 +0.3**
baz=61,SNR=15
IMW Indian Meadow 61.46 55 *e*P **P** **10 28 18.2 +0.8**
comp=Z,88nm,1.2s,mb5.8
IMW *ep*P pP 10 28 28.9 +0.3
V05C Boulder Hill, 61.46 67 ⇑P **P** **10 28 17.6 0.0**
baz=61
HELL Mitchell Peak 61.47 66 P **P** **10 28 16.7 -0.9**
baz=61,SNR=22
FLWY Flagg Ranch 61.47 55 *e*P **P** **10 28 18.4 +0.9**
comp=Z,103nm,1.2s,mb5.8
DCID1 Drake Creek 61.52 56 *e*P **P** **10 28 19.0 +1.2**
DCID1 *ep*P pP 10 28 28.9 -0.1
RLMT Red Lodge 61.56 53 *e*P **P** **10 28 19.0 +0.9**
comp=Z,215nm,1.3s,mb6.1
RLMT *e* pP 10 28 30.1 +0.8
RLMT LR LR
comp=Z,2µm,20.0s,MS5.2
N13A Wendover, West 61.61 60 ⇓P **P** **10 28 18.7 +0.2**
baz=61,SNR=24
R09A Tonopah 61.63 63 P **P** **10 28 18.3 -0.3**
baz=61,SNR=70
Q10A Clear Creek Ra 61.65 63 P **P** **10 28 18.8 +0.1**
baz=61,SNR=29
MOOW Moose Ponds 61.66 55 *e*P **P** **10 28 19.6 +0.8**
comp=Z,96nm,1.4s,mb5.7
MOOW *ep*P pP 10 28 30.1 +0.1
M14A Sheep Mountain 61.67 59 P **P** **10 28 19.2 +0.3**
baz=62,SNR=23
O12A Currie 61.68 60 P **P** **10 28 19.2 +0.3**
baz=62,SNR=58
TIN Tinemaha 61.70 65 ⇑P **P** **10 28 19.3 +0.2**
baz=62
TPAW Teton Pass 61.72 55 *e*P **P** **10 28 20.1 +1.0**
comp=Z,221nm,1.4s,mb6.1
TPAW *ep*P pP 10 28 31.3 +0.9
SMMC Simmler 61.76 68 ⇑P **P** **10 28 19.3 -0.3**
baz=62
HVU Hansel Valley 61.82 58 *e*P **P** **10 28 20.4 +0.6**
comp=Z,26nm,1.0s,mb5.3
HVU Hansel Valley 61.82 58 P **P** **10 28 20.7 +0.8**
HVU pmax pmax
comp=Z,26nm,1.0s,mb5.3
LOHW Long Hollow 61.83 55 *e*P **P** **10 28 20.8 +0.9**
comp=Z,129nm,1.3s,mb5.9
LOHW *e* pP 10 28 31.8 +0.7
MOR8 Moi Rana 61.83 343 *e*P **P** **10 28 17.4 -2.2**
comp=Z,61nm,1.1s,mb5.6
MOR8 Moi Rana 61.83 343 *e*P **P** **10 28 17.4 -2.2**
MOR8 AMb AMB 10 28 20.4
comp=Z,61nm,1.1s,mb5.6
SNOW Snow King Moun 61.84 55 *e*P **P** **10 28 21.1 +1.1**
comp=Z,148nm,1.3s,mb6.0
REDW Red Top Meadow 61.85 56 *e*P **P** **10 28 20.9 +0.8**
comp=Z,161nm,1.2s,mb6.0
REDW *ep*P pP 10 28 31.8 +0.5
S09A Goldfield 61.87 64 P **P** **10 28 20.0 -0.3**
baz=62,SNR=26
DGMT Dagmar 61.95 48 *e*P **P** **10 28 20.7 +0.1**
comp=Z,339nm,1.0s,mb6.4
DGMT LR LR
comp=Z,2µm,20.0s,MS5.3
VES Vestal, Richgr 61.98 67 P **P** **10 28 20.3 -0.7**
baz=62,SNR=12
R10A Warm Springs 62.05 63 ⇑P **P** **10 28 21.3 -0.2**
baz=62,SNR=18
Q11A Duckwater 62.07 62 ⇑P **P** **10 28 21.3 -0.4**
baz=62,SNR=19
P12A McGill 62.10 61 P **P** **10 28 22.0 +0.2**
baz=62,SNR=23
AHID Auburn Hatcher 62.11 56 *e*P **P** **10 28 22.7 +0.9**
comp=Z,29nm,1.0s,mb5.4
AHID LR LR
comp=Z,2µm,22.0s,MS5.1
LAO LASA Array 62.12 50 *e*P **P** **10 28 22.3 +0.5**
comp=Z,267nm,1.0s,mb6.3
LAO LR LR
comp=Z,3µm,19.0s,MS5.4
S10A Tonopah Range, 62.12 63 P **P** **10 28 21.6 -0.4**
baz=62,SNR=33
PKM Peak Mountain 62.14 68 ⇓P **P** **10 28 22.2 0.0**
baz=62
N14A Grayback Hills 62.19 59 P **P** **10 28 22.7 +0.3**
baz=62,SNR=21
CWC Cottonwood Cre 62.20 66 ⇓P **P** **10 28 22.1 -0.4**
baz=62,SNR=7.9
O13A Hicks Ranch, I 62.21 60 ⇓P **P** **10 28 22.9 +0.4**
baz=62,SNR=15
M15A Larsen Ranch, 62.21 58 ⇑P **P** **10 28 22.8 +0.3**
baz=62,SNR=13
BGU Big Grassy Mou 62.23 59 *e*P **P** **10 28 23.0 +0.3**
GRAC Grapevine Rang 62.26 65 P **P** **10 28 23.1 +0.2**
baz=62,SNR=17
SPUT South Promonto 62.31 58 *e*P **P** **10 28 24.0 +0.8**
SPUT *ep*P pP 10 28 34.5 +0.2
BLSP Bilaspur 62.33 273 *e*P **P** **10 28 22.6 -0.9**
BLSP AMb AMB 10 28 24.8
comp=Z,370nm,1.2s,mb6.4
Q12A Willow Creek R 62.43 61 P **P** **10 28 24.3 +0.3**
baz=62,SNR=24
R11A Troy Canyon, C 62.44 62 P **P** **10 28 23.7 -0.4**
baz=62,SNR=66
KAF Kangasniemi 62.45 335 *ep* **P** **10 28 23.3 -0.5**
comp=Z,27nm,0.8s,mb5.4,baz=36,slow=6.2
KAF Kangasniemi 62.45 335 *e*P **P** **10 28 23.3 -0.5**
KAF pmax pmax
comp=Z,27nm,0.8s,mb5.4
ISA Isabella 62.47 66 *e*P **P** **10 28 23.2 -1.1**
comp=Z,29nm,1.4s,mb5.2
ISA LR LR
comp=Z,2µm,20.0s,MS5.2
ISA Isabella 62.47 66 P **P** **10 28 23.5 -0.8**
ISA Isabella 62.47 66 P **P** **10 28 23.5 -0.8**
baz=62,SNR=5.5
KBL Kabul 62.47 292 *e*P **P** **10 28 23.5 -0.8**
comp=Z,118nm,1.0s,mb6.0
SBC Santa Barbara 62.51 68 ⇓P **P** **10 28 26.8 +2.2**
baz=62
N15A Stansbury Isla 62.55 59 ⇓P **P** **10 28 25.2 +0.4**
baz=62
ARVC Arvin 62.60 67 P **P** **10 28 24.5 -0.7**
baz=62,SNR=6.5
HWUT Hardware Ranch 62.61 57 *e*P **P** **10 28 25.6 +0.4**
comp=Z,73nm,1.3s,mb5.7
HWUT LR LR
comp=Z,1µm,19.0s,MS5.2
P13A Bates Ranch, G 62.63 61 ⇑P **P** **10 28 25.5 +0.2**
baz=62,SNR=32
KULM Kulim 62.71 245 *e*P **P** **10 28 26.9 +0.7**
KULM Kulim 62.71 245 ⇑P **P** **10 28 27.4 +1.2**
MPMC Manual Prospec 62.80 66 ⇓P **P** **10 28 26.3 -0.3**
baz=63,SNR=22
S11A Rachel 62.81 63 P **P** **10 28 26.6 +0.1**
baz=63,SNR=37
DUG Dugway 62.84 59 *e*P **P** **10 28 26.9 +0.2**
comp=Z,80nm,1.1s,mb5.8
DUG *ep*P pP 10 28 38.3 +0.3
DUG LR LR
comp=Z,1µm,19.0s,MS5.2
FURC Furnace Creek, 62.92 65 ⇓P **P** **10 28 27.2 -0.1**
baz=63,SNR=36
NOQ North Oquirrh 62.93 59 *e*P **P** **10 28 28.1 +0.8**
comp=Z,89nm,1.1s,mb5.8
BW06 Boulder Array 62.96 55 *e*P **P** **10 28 27.7 +0.2**
comp=Z,144nm,1.3s,mb5.9
BW06 *ep*P pP 10 28 38.9 +0.2
BW06 LR LR
comp=Z,1µm,21.0s,MS5.1
PDAR Pinedale Array 62.96 55 P **P** **10 28 27.6 +0.1**
comp=Z,52nm,1.0s,mb5.6,baz=291,slow=1.7,SNR=248
PDAR LR LR 10 56 18.0
comp=Z,926nm,20.8s,MS4.9,baz=337,slow=36
PDAR PKPPKP 10 57 26.6
comp=Z,1.9nm,1.1s,baz=139,slow=3.4,SNR=6.5
TPNV Topopah Spring 62.97 64 *e*P **P** **10 28 27.3 -0.3**
comp=Z,46nm,1.0s,mb5.6
TPNV *ep*P pP 10 28 39.0 +0.1
TPNV LR LR
comp=Z,2µm,22.0s,MS5.2
OSI Osito Adit 63.01 68 ⇓P **P** **10 28 27.6 -0.3**
baz=63
R12A Pony Springs, 63.03 62 P **P** **10 28 28.1 +0.1**
baz=63,SNR=34
JBP Jabalpur 63.04 275 ⇑*i*P **P** **10 28 29.1 +0.8**
JBP *ex* x 10 28 30.8
comp=Z,527nm,1.2s
JBP ⇑*i*S **S** **10 36 58.0 +1.8**
FIA1 FINESS Array S 63.06 335 *e*P **P** **10 28 27.1 -0.8**
FINES FINESS Array B 63.06 335 *i*P **P** **10 28 26.8 -1.0**
FINES pmax pmax
comp=Z,32nm,0.7s
FINES FINESS Array B 63.06 335 P **P** **10 28 26.9 -1.0**
comp=Z,32nm,0.7s,mb5.5,baz=35,slow=7.0,SNR=99
FINES LR LR 10 58 24.9
comp=Z,5µm,21.0s,MS5.7,baz=33,slow=38
LRMC Laurel Mountai 63.07 66 ⇑P **P** **10 28 27.8 -0.5**
baz=63,SNR=11
CTU Camp Tracy 63.12 58 *e*P **P** **10 28 29.1 +0.5**
comp=Z,50nm,1.1s,mb5.6
CTU *ep*P pP 10 28 39.7 -0.1
BLG Laguna Peak 63.13 68 ⇑P **P** **10 28 28.1 -0.6**
baz=63
U10A Ash Meadows, A 63.27 65 P **P** **10 28 29.8 +0.1**
baz=63,SNR=19
EDW2 Edwards Air Fo 63.28 67 P **P** **10 28 29.8 +0.1**
baz=63,SNR=17
JLU Jordanelle 63.35 58 *e*P **P** **10 28 30.4 +0.3**
JLU *ep*P pP 10 28 41.3 0.0
S12A Delamar Landin 63.37 63 ⇑P **P** **10 28 30.5 +0.3**
baz=63,SNR=34
T11A Corn Creek, Al 63.39 63 P **P** **10 28 30.3 -0.1**
baz=63,SNR=68
SFJD Kangerlussuaq 63.40 11 *e*P **P** **10 28 29.5 -0.5**
comp=Z,181nm,1.3s,mb6.0
SFJD *ep*P pP 10 28 40.0 -1.3
SFJD LR LR
comp=Z,5µm,20.0s,MS5.7
SFJD Kangerlussuaq 63.40 11 ⇑*i*P **P** **10 28 29.8 -0.2**
SFJD *i* pP 10 28 39.5 -1.7
SFJD *i*S **S** **10 36 57.9 -1.6**
SFJD pmax pmax
comp=Z,150nm,1.4s,mb5.9
SFJD MLR MLR
comp=Z,4µm,20.0s,MS5.6
SFJD Kangerlussuaq 63.40 11 LR LR 10 58 40.4
comp=Z,5µm,19.5s,MS5.7,baz=327,slow=38
SFJD Kangerlussuaq 63.40 11 ⇑*i*P **P** **10 28 29.8 -0.2**
comp=Z,153nm,1.4s,mb5.9
SFJD *i* pP 10 28 39.5 -1.7
SFJD *i*S **S** **10 36 57.9 -1.6**
SFJD
comp=Z,4µm,20.0s
SNCC San Nicolas Is 63.42 69 PFAKE 10 28 40.0 +9.3
SNCC LR LR
comp=Z,2µm,20.0s,MS5.3
SNCC San Nicolas Is 63.42 69 ⇓P **P** **10 28 29.9 -0.8**
baz=63
NLU North Lily Min 63.42 59 *e*P **P** **10 28 31.3 +0.7**
DECC Green Verdugo 63.49 68 ⇓P **P** **10 28 30.2 -0.9**
baz=63,SNR=5.2
DAU Daniels Canyon 63.58 58 *e*P **P** **10 28 32.3 +0.7**
DAU Daniels Canyon 63.58 58 P **P** **10 28 32.4 +0.8**
MYKOM Kota Tinggi 63.62 240 ⇓P **P** **10 28 34.3 +2.1**
MPU Maple Canyon 63.63 59 *e*P **P** **10 28 32.2 +0.2**
comp=Z,47nm,0.9s,mb5.5
MPU LR LR
comp=Z,2µm,21.0s,MS5.4
SHOC Shoshone 63.65 65 P **P** **10 28 32.3 +0.1**
baz=64,SNR=11
GSC Goldstone 63.72 66 *e*P **P** **10 28 32.0 -0.6**
comp=Z,39nm,1.2s,mb5.3
GSC *ep*P pP 10 28 43.5 -0.4
GSC LR LR
comp=Z,1µm,22.0s,MS5.1
GSC Goldstone 63.72 66 *e*P **P** **10 28 32.0 -0.7**
GSC *e**PP pP 10 28 43.5 -0.4
GSC pmax pmax
comp=Z,39nm,1.2s,mb5.3
GSC MLR MLR
comp=Z,1µm,22.0s,MS5.1
GSC Goldstone 63.72 66 P **P** **10 28 32.7 0.0**
baz=64,SNR=14
MOS Moscow 63.73 326 *e*P **P** **10 28 30.0 -2.4**
MOS *e* 10 29 05.7
MOS *e* 10 30 51.4
MOS pmax pmax
comp=Z,73nm,1.3s,mb5.5
MOS MLR MLR
comp=N,3µm,17.0s,MS5.6
MOS MLR MLR
comp=E,2µm,17.0s,MS5.6
MOS MLR MLR
comp=Z,3µm,17.0s,MS5.5
KGM Kluang 63.74 241 ⇑P **P** **10 28 35.1 +2.1**
FRIM Kepong 63.76 243 ⇓P **P** **10 28 34.4 +1.3**
U11A Corn Creek 63.84 64 ⇓P **P** **10 28 33.5 +0.1**
baz=64,SNR=12
RRX Edison Barstow 63.89 66 ⇓P **P** **10 28 33.8 +0.1**
baz=64
KAKA Kakadu 63.91 204 *e*P **P** **10 28 33.1 -0.8**
comp=Z,53nm,1.2s,mb5.5
BFSC Mount Baldy St 63.91 67 P **P** **10 28 33.8 -0.1**
baz=64,SNR=8.0
S13A Holt Ranch, En 63.97 62 P **P** **10 28 34.4 +0.2**
baz=64,SNR=51
R14A James Farms, M 63.98 61 ⇓P **P** **10 28 34.5 +0.2**
baz=64
T12A Moapa 64.03 63 ⇑P **P** **10 28 34.8 +0.1**
baz=64,SNR=9.9
ARUT Antelope Range 64.08 62 *e*P **P** **10 28 34.9 -0.1**
ARUT Antelope Range 64.08 62 P **P** **10 28 35.0 +0.1**
TUQ Turquoise Mtn. 64.17 65 P **P** **10 28 35.5 0.0**
baz=64,SNR=13
V11A Goodsprings 64.20 64 P **P** **10 28 35.7 -0.1**
baz=64,SNR=26
S14A Cedar City 64.25 62 P **P** **10 28 36.1 0.0**
baz=64,SNR=28
CCUT Cedar City 64.28 62 *e*P **P** **10 28 36.2 -0.1**
AJM Ajmer 64.30 282 *e*P **P** **10 28 35.8 -0.8**
AJM AMb AMB 10 28 39.8
comp=Z,162nm,1.4s,mb5.8
T13A Saint George 64.32 63 P **P** **10 28 36.9 +0.4**
baz=64,SNR=36
MSU Marysvale 64.33 60 *e*P **P** **10 28 36.9 +0.3**
MSU Marysvale 64.33 60 P **P** **10 28 37.1 +0.5**
HEC Hector,Ludlow 64.33 66 ⇓P **P** **10 28 36.0 -0.6**
baz=64,SNR=19
U12A Valley of Fire 64.33 63 P **P** **10 28 37.0 +0.3**
baz=64,SNR=11
BBRC Big Bear Sol-O 64.35 67 ⇓P **P** **10 28 36.0 -0.8**
baz=64
TMUT Trail Mountain 64.36 59 *e*P **P** **10 28 36.8 +0.1**
MEF Metsahovi 64.54 335 P **P** **10 28 37.4 -0.2**
OBN Obninsk 64.60 326 *ce*P **P** **10 28 36.8 -1.3**
OBN *i* pP 10 28 48.0 -1.3
OBN *i* 10 29 11.0
OBN *e* 10 31 06.6
OBN *e*S **S** **10 37 15.0 +0.3**
OBN *e*SS SS 10 41 25.7 +1.0
OBN pmax pmax
comp=Z,39nm,1.2s,mb5.3
OBN MLR MLR
comp=Z,5µm,19.0s,MS5.7
VIS Vishakhapatnam 64.62 268 *e*P **P** **10 28 38.2 -0.5**
VIS AMb AMB 10 28 42.7
comp=Z,314nm,1.7s,mb6.1
V12A Nelson 64.62 64 ⇓P **P** **10 28 38.6 0.0**
baz=64,SNR=25
MURC Murrieta 64.62 67 ⇑P **P** **10 28 37.9 -0.6**
baz=64,SNR=12
ULM Lac du Bonnet 64.63 42 P **P** **10 28 37.9 -0.4**
comp=Z,50nm,0.8s,mb5.6,baz=312,slow=7.2,SNR=95
ULM LR LR 10 58 00.9
comp=Z,2µm,20.1s,MS5.4,baz=323,slow=37
BHPL Bhopal 64.69 277 *e*P **P** **10 28 38.4 -0.7**
BHPL AMb AMB 10 28 41.0
comp=Z,608nm,1.1s,mb6.5
U13A Pakoon Wash 64.69 63 P **P** **10 28 39.2 +0.2**
baz=64,SNR=44
GMRC Granite Mounta 64.77 65 P **P** **10 28 39.0 -0.5**
baz=65,SNR=28
T14A Hurricane 64.78 62 P **P** **10 28 39.8 +0.3**
baz=65,SNR=47
SRU San Rafael 64.88 59 *e*P **P** **10 28 40.2 +0.1**
comp=Z,59nm,0.9s,mb5.6
SRU *ep*P pP 10 28 50.5 -0.9
SRU San Rafael 64.88 59 P **P** **10 28 40.2 +0.1**
SRU pmax pmax
comp=Z,59nm,0.9s,mb5.6
W12A Cal Nev Ari 64.90 65 ⇑P **P** **10 28 40.1 -0.2**
baz=65
RWWY Rawlins 64.97 55 *e*P **P** **10 28 40.6 -0.1**
comp=Z,74nm,1.0s,mb5.7
RWWY *ep*P pP 10 28 51.9 -0.1
RSSD Black Hills 64.99 51 PFAKE 10 28 50.0 +9.2
RSSD LR LR
comp=Z,2µm,19.0s,MS5.3
RSSD Black Hills 64.99 51 *e*P **P** **10 28 41.1 +0.3**
RSSD pmax pmax
comp=Z,180nm,1.0s,mb6.1
NGP Nagpur 65.06 274 *e*P **P** **10 28 40.8 -0.8**
NGP AMb AMB 10 28 41.8
comp=Z,736nm,0.9s,mb6.7
PFO Pinyon Flat Ob 65.08 67 P **P** **10 28 41.0 -0.5**
comp=Z,90nm,1.3s,mb5.6,SNR=5.3
PFO Pinyon Flat Ob 65.08 67 *e*P **P** **10 28 40.2 -1.3**
comp=Z,36nm,1.4s,mb5.2
PFO LR LR
comp=Z,3µm,22.0s,MS5.4
PFO Pinyon Flat Ob 65.08 67 P **P** **10 28 40.9 -0.6**
PFO pmax pmax
comp=Z,36nm,1.3s,mb5.2
PFO Pinyon Flat Ob 65.08 67 P **P** **10 28 41.2 -0.3**
baz=65,SNR=7.5
BELC Belle Mtn. 65.09 66 ⇑P **P** **10 28 40.7 -1.0**
baz=65,SNR=16
U14A Mt Trumbull 65.15 63 P **P** **10 28 42.3 +0.4**
baz=65,SNR=62
109C Camp Elliot, M 65.16 68 P **P** **10 28 41.9 -0.1**
baz=65,SNR=5.7
T15A Red Dirt Ranch 65.22 62 P **P** **10 28 42.5 +0.2**
baz=65,SNR=42
VSU Vasula 65.30 333 ⇓*i*P **P** **10 28 40.0 -2.5**
VSU Vasula 65.30 333 ⇓*i*P **P** **10 28 40.9 -1.6**
NEE2 Needles Airpor 65.41 65 ⇑P **P** **10 28 43.4 -0.3**
baz=65,SNR=7.9
IRM Iron Mountain 65.50 66 P **P** **10 28 44.0 -0.3**
baz=65,SNR=35
MONP Monument Peak 65.58 67 ⇑P **P** **10 28 44.3 -0.5**
baz=65
W13A Hualapai Mount 65.63 64 P **P** **10 28 44.9 -0.2**
baz=65,SNR=29
V14A Boquillas Ranc 65.73 63 P **P** **10 28 45.9 +0.1**
baz=66,SNR=81
T16A Glen Canyon Da 65.75 61 ⇓P **P** **10 28 45.0 -0.9**
baz=66,SNR=8.7
SWSC Sam W. Stewart 65.93 67 ⇓P **P** **10 28 46.0 -1.0**
baz=66,SNR=5.5
DVTC Desert V Tower 65.94 67 ⇑P **P** **10 28 46.3 -0.7**
baz=66
X13A Yucca 66.00 65 P **P** **10 28 47.1 -0.3**
baz=66,SNR=30
PDMCI Parker Dam,Lak 66.02 65 ⇓P **P** **10 28 47.0 -0.5**
baz=66,SNR=15
W14A Seligman 66.03 64 P **P** **10 28 47.8 +0.1**
baz=66,SNR=73
AGMN Agassiz Refuge 66.05 44 *e*P **P** **10 28 47.0 -0.6**
comp=Z,189nm,1.3s,mb6.0
AGMN *ep*P pP 10 28 58.4 -0.4
AGMN LR LR
comp=Z,3µm,22.0s,MS5.5
Y12C Blythe 66.16 66 ⇑P **P** **10 28 47.9 -0.6**
baz=66,SNR=11
PHWY Pilot Hill 66.19 54 *e*P **P** **10 28 48.5 -0.1**
PHWY *ep*P pP 10 28 59.7 -0.2
GLA Glamis 66.45 66 *e*P **P** **10 28 50.2 -0.2**
comp=Z,55nm,1.1s,mb5.5
GLA LR LR
comp=Z,2µm,20.0s,MS5.3
GLA Glamis 66.45 66 P **P** **10 28 50.5 +0.1**
GLA Glamis 66.45 66 ⇑P **P** **10 28 50.0 -0.4**
baz=66,SNR=17
VRSR Storozhevoye 66.53 322 *e*P **P** **10 28 48.9 -1.6**
VRSR pmax pmax
comp=Z,4.0nm,0.8s,mb4.5
VRSR pmax pmax
comp=N,5.0nm,1.0s
VRSR pmax pmax
comp=E,3.0nm,1.7s
VRSR MLR MLR
comp=Z,550nm,17.0s,MS4.8
VRSR MLR MLR

comp=N,330nm,18.0s
Y13A Salome 66.54 65 ⇓P **P 10 28 50.7 -0.3**
baz=66,SNR=11
W15A Williams 66.54 63 ⇑P **P 10 28 51.4 +0.5**
baz=66,SNR=23
X14A Yava 66.65 64 P **P 10 28 51.9 +0.2**
baz=66,SNR=37
VAN Vabnovskaya 66.69 301 *e*P **P 10 28 51.4 -0.5**
ABKT Aibek 66.70 301 P **P 10 28 52.6 +0.7**
comp=N,360nm,0.7s,mb6.5,SNR=10
AKL Akola 66.73 275 *e*P **P 10 28 53.2 +0.9**
SMCO Snowmass 66.83 57 *e*P **P 10 28 52.9 +0.2**
comp=N,65nm,0.9s,mb5.7
WUAZ Wupatki 66.84 62 *e*P **P 10 28 53.4 +0.6**
comp=N,46nm,1.0s,mb5.5
WUAZ LR LR
comp=Z,2μm,22.0s,MS5.3
Y14A Wickenburg 66.95 65 P **P 10 28 53.4 -0.2**
baz=67,SNR=28
X15A Humboldt 67.03 64 P **P 10 28 54.5 +0.5**
baz=67,SNR=38
NB2 NORSAR Subarra 67.07 342 P **P 10 28 54.0 +0.2**
comp=Z,43nm,0.8s,mb5.5,baz=25,slow=6.5
NB2 NORSAR Subarra 67.07 342 P **P 10 28 53.9 +0.1**
NOA NORSAR Array B 67.07 342 P **P 10 28 53.9 +0.1**
NOA pmax pmax
comp=Z,17nm,0.6s
NOA MLR MLR
comp=Z,3μm,18.7s
NOA NORSAR Array B 67.07 342 P **P 10 28 53.9 0.0**
comp=Z,17nm,0.6s,mb5.3,baz=25,slow=6.4,SNR=68
NOA LR LR 11 03 01.4
comp=Z,3μm,18.7s,MS5.5,baz=10.0,slow=40
ISCO Idaho Springs 67.16 55 *e*P **P 10 28 55.5 +0.7**
comp=Z,92nm,1.0s,mb5.8
ISCO *e*pP pP 10 29 06.5 +0.4
ISCO LR LR
comp=Z,2μm,22.0s,MS5.3
ISCO Idaho Springs 67.16 55 *e*P **P 10 28 55.5 +0.7**
ISCO *e**PP pP 10 29 06.5 +0.4
ISCO pmax pmax
comp=Z,92nm,1.0s,mb5.8
ISCO MLR MLR
comp=Z,2μm,22.0s,MS5.3
BORG Borgarnes 67.22 358 P **P 10 28 57.0 +2.3**
comp=Z,1μm,1.0s,mb6.9,SNR=12
BORG Borgarnes 67.22 358 *e*P **P 10 28 56.3 +1.6**
comp=Z,305nm,1.1s,mb6.2
BORG LR LR
comp=Z,3μm,21.0s,MS5.5
NAO01 NORSAR Array S 67.31 342 *e*P **P 10 28 54.9 -0.5**
comp=Z,31nm,1.0s,mb5.3
NAO01 LR LR
comp=Z,5μm,21.0s,MS5.7
HFA0 Hagfors New Ar 67.33 340 P **P 10 28 55.2 -0.3**
HFS Hagfors 67.34 340 P **P 10 28 55.7 +0.2**
comp=Z,22nm,0.5s,mb5.4,baz=49,slow=4.5,SNR=113
HFS PcP PcP 10 29 22.0 -1.0
comp=Z,19nm,0.8s,baz=48,slow=2.2,SNR=3.8
HFS LR LR 11 04 07.5
comp=Z,6μm,18.4s,MS5.8,baz=22,slow=41
MVCO Mesa Verde 67.34 59 *e*P **P 10 28 55.9 -0.1**
comp=Z,78nm,1.1s,mb5.7
MVCO LR LR
comp=Z,1μm,20.0s,MS5.1
Y15A Casa Rosa Ranc 67.34 64 P **P 10 28 56.1 +0.1**
baz=67,SNR=44
Z14A Wintersburg 67.38 65 ⇓P **P 10 28 55.7 -0.6**
baz=67,SNR=5.2
X16A Lo Mia Camp, P 67.56 63 ⇓P **P 10 28 57.8 +0.4**
baz=67,SNR=57
GSI Gunungsitoli 67.72 245 P **P 10 28 58.8 +0.2**
Y16A Circle Bar Ran 67.91 64 ⇓P **P 10 28 59.8 +0.2**
baz=68,SNR=19
HYB Hyderabad 68.02 272 *e*P **P 10 29 00.5 0.0**
comp=Z,190nm,1.0s,mb6.1
HYB *e* 10 29 06.5
HYB *e*S S 10 38 12.0 +15
HYB Hyderabad 68.02 272 *e*P **P 10 29 00.5 0.0**
HYB pmax pmax
comp=Z,190nm,1.0s,mb6.1
HYB Hyderabad 68.02 272 *i* P **P 10 29 00.5 0.0**
comp=Z,190nm,1.0s,mb6.1
HYB *e*S S 10 37 58.0 +0.8
MNK Minsk 68.19 330 *e*P **P 10 29 00.0 -1.0**
115A Sonoran Desert 68.27 65 ⇑P **P 10 29 01.8 -0.1**
baz=68,SNR=20
EYMN Ely 68.27 41 *e*P **P 10 29 01.2 -0.5**
comp=Z,109nm,1.0s,mb5.8
EYMN *e*pP pP 10 29 12.2 -0.8
EYMN LR LR
comp=Z,2μm,19.0s,MS5.4
Z16A Peralta Trail, 68.31 64 P **P 10 29 02.0 -0.1**
baz=68,SNR=25
CTA Charters Tower 68.52 189 *e*P **P 10 29 03.0 -0.4**
comp=Z,6.2nm,0.6s,mb4.7
CTA Charters Tower 68.52 189 P **P 10 29 02.0 -1.3**
comp=Z,7.3nm,0.8s,mb4.7,baz=329,slow=3.6,SNR=5.9
CTA LR LR 10 55 20.2
comp=Z,2μm,21.4s,MS5.2,baz=357,slow=33
CTAO Charters Tower 68.52 189 PFAKE 10 29 20.0 +17
CTAO LR LR
comp=Z,2μm,22.0s,MS5.2
LATR Latur 68.64 274 *e*P **P 10 29 01.6 -2.8**
LATR AMb AMB 10 29 02.5
comp=Z,397nm,1.2s,mb6.2
SDCO Great Sand Dun 68.66 57 *e*P **P 10 29 04.4 +0.1**
comp=Z,65nm,1.3s,mb5.4
SDCO LR LR
comp=Z,2μm,22.0s,MS5.2
KONO Kongsberg 68.67 342 P **P 10 29 04.4 +0.5**
KONO *e* 10 33 04.3
KONO *i* 10 37 58.1
KONO LR LR
comp=Z,4μm,17.8s,MS5.7
KONO Kongsberg 68.67 342 *e*P **P 10 28 59.2 -4.8**
KONO *e* 10 33 04.3
KONO *e*S S 10 38 02.9 -0.9
KONO AMS AMS 11 06 24.6
comp=Z,4μm,17.8s,MS5.7
116A Eloy 68.69 65 ⇓P **P 10 29 04.3 -0.2**
baz=68,SNR=18
AFI Afiamalu 68.76 145 PFAKE 10 29 20.0 +15
AFI LR LR
comp=Z,4μm,22.0s,MS5.6
RUND Rundenannen 68.79 344 *e*P **P 10 29 07.2 +2.6**
comp=Z,222nm,1.1s,mb6.0
RUND Rundenannen 68.79 344 *e*P **P 10 29 07.2 +2.6**
RUND AMb AMB 10 29 08.9
comp=Z,222nm,1.1s,mb6.0
BER Bergen 68.82 344 *e*P **P 10 29 00.1 -4.8**
BER *e*S S 10 38 07.0 +1.5
BER *e*SS SS 10 42 33.5 +3.7
BER *e* 10 52 02.4
BER AMS AMS 11 05 06.8
comp=Z,5μm,17.6s,MS5.8
MAK Makhachkala 68.84 311*c i*P **P 10 29 01.7 -3.6**
MAK *e* 10 29 28.3
MAK *e* 10 31 43.7
MAK *i* PPP 10 33 18.1
MAK *i* S S 10 38 02.8 -3.5
MAK pmax pmax
comp=Z,134nm,1.6s,mb5.6
MAK MLR MLR
comp=Z,11μm,20.0s,MS6.1
ECSD EROS,Sioux Fal 69.02 47 *e*P **P 10 29 05.6 -0.8**
comp=Z,157nm,0.9s,mb5.9
ECSD *e*pP pP 10 29 16.6 -1.1
ECSD LR LR
comp=Z,2μm,21.0s,MS5.4
216A Three Points, 69.23 65 ⇓P **P 10 29 07.4 -0.5**
baz=69,SNR=19
Z18A Geronimo 69.32 63 ⇓P **P 10 29 08.7 +0.3**
baz=69,SNR=9.1
TUC Tucson 69.42 64 *e*P **P 10 29 08.7 -0.3**
comp=Z,26nm,1.1s,mb5.1
TUC LR LR
comp=Z,980nm,21.0s,MS5.0
TUC Tucson 69.42 64 P **P 10 29 08.8 -0.2**
TUC pmax pmax
comp=Z,26nm,1.1s,mb5.1
217A Green Valley 69.77 65 ⇓P **P 10 29 11.0 -0.2**
baz=70,SNR=17
BHJ Bhuj 69.79 282 *e*P **P 10 29 12.0 +0.5**
BHJ AMb AMB 10 29 14.1
comp=Z,453nm,1.2s,mb6.3
119A Ashpeak Ranch, 69.98 63 P **P 10 29 12.8 +0.3**
baz=70,SNR=17
218A Dragoon 70.10 64 ⇓P **P 10 29 13.5 +0.2**
baz=70,SNR=27
LAZ Ladron 70.10 61 *e*P **P 10 29 13.2 0.0**
ANMO Albuquerque 70.10 60 *e*P **P 10 29 13.4 +0.2**
comp=Z,44nm,1.0s,mb5.3
ANMO LR LR
comp=Z,2μm,22.0s,MS5.3
ANMO Albuquerque 70.10 60*c i*P **P 10 29 13.0 -0.2**
SUW Suwalki 70.11 332 *e*P **P 10 29 11.8 -1.1**
comp=Z,400nm,1.2s,mb6.2
SUW LMZ 10 59 57.5
comp=Z,4μm,25.4s
WRAB Tennant Creek 70.35 200 P **P 10 29 14.0 -0.7**
comp=Z,506nm,1.0s,mb6.4,SNR=16
WRAB Tennant Creek 70.35 200 *e*P **P 10 29 13.9 -0.8**
comp=Z,102nm,1.1s,mb5.7
WRAB *e*pP pP 10 29 22.7 -3.4
WRAB LR LR
comp=Z,1μm,19.0s,MS5.2
WRAB Tennant Creek 70.35 200 *e*P **P 10 29 13.9 -0.8**
WRAB *e**PP pP 10 29 22.7 -3.4
WRAB pmax pmax
comp=Z,102nm,1.1s,mb5.7
WRAB MLR MLR
comp=Z,1μm,19.0s,MS5.2
WB2 Warramunga Arr 70.36 200 *e*P **P 10 29 13.6 -1.1**
LENM Lemitar 70.36 61 *e*P **P 10 29 15.2 +0.4**
LENM *e*pP pP 10 29 26.0 -0.2
POO Poona 70.36 276 *e*P **P 10 29 14.9 -0.1**
POO AMb AMB 10 29 17.3
comp=Z,659nm,1.1s,mb6.5
POO *i* PCP PcP 10 29 38.0 +1.6
POO *e*SCS ScS 10 39 15.0 -0.1
WRA Warramunga Arr 70.36 200 P **P 10 29 13.6 -1.1**
WRA ⇑*e* 10 57 12.7
WRA LR LR 10 59 31.7
WRA Warramunga Arr 70.36 200 *i* P **P 10 29 13.6 -1.2**
WRA pmax pmax
comp=Z,57nm,0.9s
WRA Warramunga Arr 70.36 200 P **P 10 29 13.6 -1.1**
comp=Z,57nm,0.9s,mb5.5,baz=17,slow=6.5,SNR=96
WRA PKP2bc 10 57 12.7
comp=Z,1.6nm,0.9s,baz=187,slow=2.3,SNR=6.0
WRA LR LR 10 59 31.7
comp=Z,719nm,20.4s,MS4.9,baz=55,slow=35
KIV Kislovodsk 70.45 315 P **P 10 29 16.6 +1.4**
comp=Z,276nm,1.0s,mb6.1,SNR=9.0
KIV Kislovodsk 70.45 315 ⇑P **P 10 29 17.1 +1.9**
KIV LR LR
comp=Z,5μm,20.0s,MS5.8
KIV Kislovodsk 70.45 315*c i*P **P 10 29 15.4 +0.2**
KIV *e* 10 29 37.8
KIV *e* 10 31 51.2
KIV *e*PPP 10 33 33.5
KIV *e*S S 10 38 26.6 +1.4
KIV *e*SS SS 10 42 59.3 +3.7
KIV pmax pmax
comp=Z,49nm,1.1s,mb5.3
KIV MLR MLR
comp=Z,5μm,19.0s,MS5.8
KIV Kislovodsk 70.45 315 P **P 10 29 15.8 +0.6**
SNR=20
KIV Kislovodsk 70.45 315⇑*i*P **P 10 29 17.1 +1.9**
LPM Los Pinos Moun 70.46 60 *e*P **P 10 29 15.5 +0.1**
LPM *e*pP pP 10 29 26.8 +0.1
Y22C IRIS PASSCAL I 70.46 61 ⇓P **P 10 29 16.1 +0.7**
baz=70,SNR=6.4
318A Bisbee 70.51 65 P **P 10 29 15.7 -0.1**
baz=70,SNR=42
BNM Barren Site 70.57 60 *e*P **P 10 29 16.1 0.0**
BNM *e*pP pP 10 29 27.4 -0.1
COWI Conover 70.72 41 *e*P **P 10 29 15.7 -1.2**
comp=Z,90nm,1.1s,mb5.6
COWI *e*pP pP 10 29 26.9 -1.3
COWI LR LR
comp=Z,2μm,19.0s,MS5.4
AKASG Malin Array Be 70.82 327 *i* P **P 10 29 15.8 -1.5**
AKASG pmax pmax
comp=Z,31nm,0.8s
AKASG Malin Array Be 70.82 327 P **P 10 29 15.8 -1.5**
comp=Z,31nm,0.8s,mb5.3,baz=33,slow=6.2,SNR=123
AKASG LR LR 11 05 04.7
comp=Z,4μm,18.8s,MS5.7,baz=10.0,slow=40
AKBB Malin Array Si 70.82 327 *e*P **P 10 29 16.1 -1.2**
AKBB Malin Array Si 70.82 327 P **P 10 29 16.3 -1.0**
KIEV Kiev 70.83 327 *e*P **P 10 29 15.7 -1.7**
comp=Z,69nm,1.0s,mb5.5
KIEV *e*pP pP 10 29 26.0 -2.7
KIEV LR LR
comp=Z,4μm,19.0s,MS5.7
comp=Z,76nm,0.9s,mb5.7,baz=337,slow=6.2,SNR=43
SCHQ LR LR 11 04 14.8
comp=Z,3μm,20.4s,MS5.5,baz=116,slow=39
BSD Bornholm Skovb 71.53 337⇑*i*P **P 10 29 21.3 -0.2**
BSD *i* S S 10 38 37.1 -0.2
BSD *e* 10 39 23.0
BSD pmax pmax
comp=Z,180nm,0.9s,mb6.0
BSD MLR MLR
comp=Z,5μm,20.0s,MS5.8
BSD Bornholm Skovb 71.53 337⇑*i*P **P 10 29 21.3 -0.2**
comp=Z,182nm,0.9s,mb6.0
BSD *i* 10 34 04.8
BSD *i* S S 10 38 37.1 -0.2
BSD *e* 10 39 23.0
BSD
comp=Z,5μm,20.0s
COP Copenhagen 71.64 339 P **P 10 29 22.7 +0.5**
COP Copenhagen 71.64 339⇑*i*P **P 10 29 22.5 +0.3**
COP *i* 10 33 49.2
COP *e*S S 10 38 45.3 +6.7
COP pmax pmax
comp=Z,150nm,1.0s,mb5.9
COP MLR MLR
comp=Z,2μm,21.0s,MS5.4
COP Copenhagen 71.64 339⇑*i*P **P 10 29 22.5 +0.3**
comp=Z,147nm,1.0s,mb5.9
COP *i* 10 33 49.2
COP *e*S S 10 38 45.3 +6.7
COP
comp=Z,2μm,21.0s
MUD Monsted U'grnd 71.69 341 *i* P **P 10 29 20.3 -2.2**
MUD *e* 10 38 45.1
MUD pmax pmax
comp=Z,92nm,1.0s,mb5.7
MUD MLR MLR
comp=Z,6μm,18.0s,MS5.9
MUD Monsted U'grnd 71.69 341 *i* P **P 10 29 20.3 -2.2**
comp=Z,92nm,1.0s,mb5.7
MUD *i* 10 34 07.3
MUD *e* 10 38 45.1
MUD
comp=Z,6μm,18.0s
ORE Reay 72.02 348⇑*e*P **P 10 29 24.8 +0.4**
SOC Sochi 72.12 316*c i*P **P 10 29 24.5 -0.8**
SOC *e**SP sP 10 29 36.8 -4.2
SOC *e* 10 29 40.2
SOC *e* 10 32 05.4
SOC *e*PPP 10 33 49.2
SOC *e*S S 10 38 44.3 -0.3
SOC *e* 10 39 27.2
SOC pmax pmax
comp=Z,59nm,1.0s,mb5.5
MLA1 Latheron 72.20 348⇑*e*P **P 10 29 25.5 +0.1**
MLA1 ⇑*e*P 10 29 25.5
ANN Anapa 72.21 318 *e*P **P 10 29 24.8 -1.0**
ANN *e* 10 29 42.8
ANN *e* 10 32 04.9
ANN *e*PPP 10 33 49.9
ANN *e*S S 10 38 46.9 +1.4
ANN pmax pmax
comp=Z,122nm,1.3s,mb5.7
WAR Warsaw 72.30 332 *e*P **P 10 29 26.9 +0.7**
comp=Z,1μm,1.2s,mb6.6
WAR LMZ 11 01 25.6
comp=Z,6μm,25.6s
RSC Scourie 72.39 349⇑*e*P **P 10 29 26.6 -0.1**
KSU1 Kansas State U 72.46 51 *e*P **P 10 29 26.1 -1.4**
comp=Z,84nm,0.9s,mb5.7
KSU1 LR LR
comp=Z,3μm,19.0s,MS5.7
GKP Gorka Klasztor 72.53 335 *e*P **P 10 29 27.6 +0.1**
comp=Z,400nm,0.8s,mb6.4
GKP LMZ 11 05 42.9
comp=Z,5μm,20.7s
GKP Gorka Klasztor 72.53 335⇑*e*P **P 10 29 27.6 0.0**
comp=Z,0.4nm,0.8s
GKP LR LR
comp=Z,5μm,20.7s,MS5.8
GOA Goa 72.55 274 *e*P **P 10 29 29.0 +0.8**
GOA AMb AMB 10 29 31.6
comp=Z,346nm,0.9s,mb6.3
REB Eisghbrachaidh 72.63 349⇑*e*P **P 10 29 27.8 -0.3**
MVH1 Achvaich 72.68 348⇑*i*P **P 10 29 28.2 -0.2**
MVH1 ⇑*i*P 10 29 28.2
JFWS Jewell Farm 72.69 44 *e*P **P 10 29 27.5 -1.2**
comp=Z,47nm,1.1s,mb5.3
JFWS *e*pP pP 10 29 38.9 -1.2
JFWS LR LR
comp=Z,2μm,20.0s,MS5.4
JFWS Jewell Farm 72.69 44 *e*P **P 10 29 27.5 -1.2**
JFWS *e**PP pP 10 29 38.9 -1.2
JFWS pmax pmax
comp=Z,47nm,1.1s,mb5.3
JFWS MLR MLR
comp=Z,2μm,20.0s,MS5.4
KARS Kars 72.78 312 *e*P **P 10 29 29.5 +0.2**
AMTX Amarillo 72.86 57 *e*P **P 10 29 29.8 -0.1**
comp=Z,122nm,1.1s,mb5.8
AMTX LR LR
comp=Z,2μm,19.0s,MS5.3
MCD Coleburn Disti 72.88 348⇑*e*P **P 10 29 29.6 +0.1**
RRR Rubha Reidh 72.95 349⇑*e*P **P 10 29 29.5 -0.4**
RRH Rhenigidale 73.00 350⇑*e*P **P 10 29 29.6 -0.6**
MNTX Cornudas Mount 73.06 61 *e*P **P 10 29 30.9 -0.2**
comp=Z,68nm,1.2s,mb5.5
MNTX *e*pP pP 10 29 41.9 -0.6
MNTX LR LR
comp=Z,1μm,20.0s,MS5.2
MME1 Meikle Cairn 73.10 348⇑*e*P **P 10 29 30.3 -0.5**
MME1 ⇑*e*P 10 29 30.3
MDO Dochfour 73.17 348⇑*e*P **P 10 29 31.2 -0.1**
KAC Achnashellach 73.24 349⇑*e*P **P 10 29 31.7 +0.1**
LVV L'vov 73.39 329*d i*P **P 10 29 32.6 -0.1**
LVV *e* 10 32 14.2
LVV *e*S S 10 38 59.0 +0.2
LVV MLR MLR
comp=N,3μm,16.0s,MS5.8
LVV MLR MLR
comp=Z,3μm,16.0s,MS5.7
LVV MLR MLR
comp=E,2μm,15.0s,MS5.8
EIDS Eidsvold 73.43 183 *e*P **P 10 29 33.6 +0.6**
comp=E,12nm,1.1s,mb4.7
KPL Plockton 73.44 349⇑*e*P **P 10 29 32.8 0.0**
KPL AMb AMB 10 29 34.5
comp=Z,375nm,1.4s,mb6.1
CLDR Caldiran 73.49 311 *e*P **P 10 29 33.9 +0.4**
KSB Sheil Bridge 73.53 349⇑*i*P **P 10 29 33.6 +0.1**
SIM Simferopol' 73.54 320*ce*P **P 10 29 33.7 0.0**
SIM PPP 10 34 08.0
SIM *e*S S 10 39 01.0 +0.4
SIM pmax pmax
comp=Z,131nm,1.2s,mb5.7
AGRB Hanur-Agry 73.62 312 *e*P **P 10 29 35.1 +0.8**
GLMI Grayling 73.69 40 PFAKE 10 29 50.0 +15
GLMI LR LR
comp=Z,3μm,19.0s,MS5.5
MNGI Mangalore 73.73 271 *i* P **P 10 29 34.5 -0.7**
MNGI AMb AMB 10 29 38.1
comp=Z,95nm,2.3s,mb5.3
MNGI *i* x x 10 34 47.1
KAR1 Arisaig 73.87 349⇑*i*P **P 10 29 35.7 +0.3**
KOD Kodaikanal 73.93 267 *e*P **P 10 29 37.2 +0.8**
KOD AMb AMB 10 29 38.4
comp=Z,92nm,1.4s,mb5.5
PALK Pallekele 73.96 263 P **P 10 29 37.2 +0.6**
comp=Z,332nm,1.0s,mb6.2,SNR=7.2
PALK Pallekele 73.96 263 *e*P **P 10 29 36.8 +0.2**
comp=Z,121nm,1.5s,mb5.6
PALK *e*pP pP 10 29 47.0 -1.0
PALK LR LR
comp=Z,1μm,19.0s,MS5.2
PALK Pallekele 73.96 263 P **P 10 29 37.4 +0.9**
SNR=5.5
KWP Kalwaria 74.00 330 *e*P **P 10 29 36.8 +0.5**
comp=Z,1μm,1.3s,mb6.6
KWP LMZ 11 04 24.6
comp=Z,4μm,24.4s
KWP Kalwaria 74.00 330⇑*e*P **P 10 29 36.8 +0.5**
KWP Kalwaria 74.00 330 P **P 10 29 37.1 +0.8**
KWP pmax pmax
comp=Z,580nm,1.1s,mb6.4
KWP Kalwaria 74.00 330⇑*i*P **P 10 29 36.9 +0.6**
KIS Kishinev 74.02 325*α i*P **P 10 29 35.0 -1.4**
KIS *e*S S 10 39 10.0 +4.1
KIS *e*PS 10 39 40.0
KIS pmax pmax
comp=Z,600nm,1.0s,mb6.5
KIS pmax pmax
comp=Z,2μm,2.0s,mb6.6
KIS Kishinev 74.02 325⇑*i*P **P 10 29 35.0 -1.4**
comp=Z,600nm,1.0s,mb6.5
KIS Kishinev 74.02 325 *e*PcP PcP 10 29 48.0 -3.6
KIS Kishinev 74.02 325 *e*PP PP 10 32 32.0 +11
ELO Logie Almond 74.02 348⇑*i*P **P 10 29 36.2 -0.1**
ASAR Alice Springs 74.05 200 P **P 10 29 36.5 -0.2**
comp=Z,21nm,0.6s,mb5.2,baz=13,slow=5.5,SNR=102
ASAR PKPPKP 10 57 14.8
comp=Z,1.0nm,0.9s,baz=189,slow=3.6,SNR=5.8
KTUT Trabzon 74.11 314 *e*P **P 10 29 36.2 -0.9**
VANB Van 74.17 311 *e*P **P 10 29 38.4 +0.9**
EZM Erzurum 74.18 313 *e*P **P 10 29 39.0 +1.5**
EAB Aberfoyle 74.38 348⇑*e*P **P 10 29 38.6 +0.2**
ESY Stoneypath 74.40 347⇑*i*P **P 10 29 38.3 -0.2**
OJC Ojcow 74.44 332 *i* P **P 10 29 38.4 -0.4**
OJC *e*PcP PcP 10 29 52.2 -1.1
OJC *e*S S 10 39 09.3 -1.2
OJC L 11 09 44.9
comp=Z,4.2nm,17.7s
OJC Ojcow 74.44 332⇑*i*P **P 10 29 38.4 -0.4**
OJC *e* pP 10 29 52.2 +1.9
OJC *e*S S 10 39 09.3 -1.2
EDI Edinburgh 74.48 347⇑*e*P **P 10 29 38.8 -0.2**
EDI AMb AMB 10 29 42.1
comp=Z,167nm,2.0s,mb5.6
WMOK Wichita Mounta 74.57 55 *e*P **P 10 29 39.2 -0.6**
comp=Z,76nm,1.0s,mb5.6
WMOK LR LR
comp=Z,1μm,21.0s,MS5.2
WMOK Wichita Mounta 74.57 55 P **P 10 29 39.1 -0.8**
WMOK pmax pmax
comp=Z,76nm,1.0s,mb5.6
EAU Auchinoon 74.59 347⇑*e*P **P 10 29 39.9 +0.3**
EBL Broad Law 74.60 347⇑*i*P **P 10 29 39.7 0.0**
GUMT Gumushane 74.66 314 *e*P **P 10 29 41.3 +1.0**
ESPY Espiye-Giresun 74.66 315 *e*P **P 10 29 38.3 -2.0**
STHS Stebnicka Huta 74.67 331 *i* P **P 10 29 41.3 +1.1**
comp=Z,123nm,0.9s,mb5.8
STHS Stebnicka Huta 74.67 331 *i* P **P 10 29 41.3 +1.1**
STHS pmax pmax
comp=Z,123nm,0.9s,mb5.8
KOLS Kolonicke sedl 74.75 330 *e*P **P 10 29 41.1 +0.5**
KOLS Kolonicke sedl 74.75 330 *e*P **P 10 29 41.0 +0.4**
XSO Sourhope Farm 74.75 347⇑*e*P **P 10 29 40.6 0.0**
HKR Hakkari 74.77 310 *e*P **P 10 29 42.2 +1.2**
KSP Ksiaz 74.95 334 *e*P **P 10 29 42.2 +0.5**
comp=Z,300nm,0.5s,mb6.5
KSP LMZ 11 05 50.7
comp=Z,6μm,20.4s
KSP Ksiaz 74.95 334⇑*e*P **P 10 29 41.8 0.0**
KSP *e*S S 10 39 18.0 +1.7

KSP MLR MLR
comp=Z,8μm,19.6s,MS6.0
HDIL Hopedale 74.97 45 *e*P **P 10 29 41.3 -0.8**
comp=Z,226nm,0.9s,mb6.1
HDIL *e*pP pP 10 29 52.8 -0.7
HDIL LR LR
comp=Z,2μm,21.0s,MS5.5
NIE Niedzica 74.97 331 *e*P **P 10 29 42.7 +0.8**
UZH Uzhgorod 75.00 330⇓*i*P **P 10 29 41.8 -0.3**
UZH *i* 10 29 56.4
UZH *e* 10 32 28.0
UZH *e*S S 10 39 20.0 +3.1
UZH *i* 10 39 46.0
UZH *i* SP 10 40 02.0
UZH MLR MLR
comp=Z,6μm,15.0s,MS6.0
CRVS Cervenica-Dubn 75.05 330 *e*P **P 10 29 42.8 +0.4**
EZC Erzincan 75.05 314 *e*P **P 10 29 45.0 +2.4**
RAC Raciborz 75.06 333 *e*P **P 10 29 42.9 +0.5**
RAC LR LR
comp=Z,8μm,19.2s,MS6.0
ESK Eskdalemuir 75.07 347 P **P 10 29 42.2 -0.2**
comp=Z,818nm,0.7s,mb6.8,SNR=18
ESK Eskdalemuir 75.07 347⇑*e*P **P 10 29 42.4 +0.1**
ESK AMb AMB 10 29 44.0
comp=Z,189nm,1.9s,mb5.7
ESK Eskdalemuir 75.07 347 *e*P **P 10 29 42.1 -0.3**
comp=Z,60nm,0.6s,mb5.7
ESK LR LR
comp=Z,2μm,20.0s,MS5.3
ESK Eskdalemuir 75.07 347 *e*P **P 10 29 42.1 -0.3**
ESK pmax pmax
comp=Z,60nm,0.6s,mb5.7
ESK MLR MLR
comp=Z,2μm,20.0s,MS5.3
ECK Cauldkaine Hil 75.19 347⇑*i*P **P 10 29 43.1 +0.1**
OKC Ostrava-Krasne 75.29 333⇑*i*P **P 10 29 43.9 +0.2**
OKC AMS AMS 11 07 50.0
comp=Z,6μm,18.7s,MS5.9
UPC Upice 75.33 334⇑*i*P **P 10 29 44.7 +0.7**
TRPA Tarpa 75.35 329⇑*i*P **P 10 29 44.4 +0.3**
XAL Allendale 75.36 346⇑*e*P **P 10 29 43.9 -0.1**
GMK Mull of Kintyr 75.37 349⇑*i*P **P 10 29 44.1 -0.1**
DPC Dobruska-Polom 75.38 334⇑*i*P **P 10 29 45.0 +0.7**
DPC *e*S S 10 39 23.6 +2.6
DPC AMS AMS 11 06 40.0
comp=Z,4μm,17.8s,MS5.8
BINT Bingol 75.40 313 *e*P **P 10 29 45.4 +0.8**
BTMT Batman 75.44 312 *e*P **P 10 29 46.5 +1.7**
CLL Collm 75.45 336⇑*i*P **P 10 29 44.6 -0.1**
comp=Z,342nm,1.0s,mb6.2
CLL *e*S S 10 39 19.0 -2.8
CLL LR LR
comp=Z,5μm,21.3s,MS5.8
CLL Collm 75.45 336⇑*i*P **P 10 29 44.6 -0.1**
CLL *e*S S 10 39 19.0 -2.8
CLL pmax pmax
comp=Z,342nm,1.0s,mb6.2
CLL MLR MLR
comp=Z,5μm,21.3s,MS5.8
CLL Collm 75.45 336⇑*i*P **P 10 29 44.7 0.0**
comp=Z,345nm,1.0s,mb6.2
CLL *e*PP PP 10 32 45.4 +12
CLL *e*PPP 10 34 17.8
CLL *e*S S 10 39 21.0 -0.8
CLL *es*S sS 10 39 37.0 -3.8
CLL *e*PS 10 40 06.6
CLL *e*SS SS 10 44 06.1 -5.3
CLL Collm 75.45 336⇑*i*P **P 10 29 44.6 -0.1**
comp=Z,342nm,1.0s,mb6.2
CLL *e*Pmax 10 29 45.0
CLL *e*PP PP 10 32 42.0 +8.8
CLL *e*PPP 10 34 32.0
CLL *e*S S 10 39 19.0 -2.8
CLL *es*S sS 10 39 38.0 -2.8
CLL *e*SS SS 10 44 24.0 +13
CLL LmV 11 05 00.0
comp=Z,5μm,21.3s
MORC Moravsky Berou 75.53 333 P **P 10 29 45.6 +0.5**
MORC Moravsky Berou 75.53 333⇓*i*P **P 10 29 45.1 0.0**
BRG Berggiesshubel 75.59 336⇑*i*P **P 10 29 45.5 0.0**
comp=Z,91nm,1.1s,mb5.6
BRG *i* 10 30 00.6
BRG PP PP 10 32 27.0 -7.4
BRG S S 10 39 19.0 -4.3
BRG SS SS 10 44 21.0 +7.5
BRG LR LR
comp=Z,3μm,20.9s,MS5.6
BRG Berggiesshubel 75.59 336⇑*i*P **P 10 29 45.5 0.0**
BRG *i* 10 30 00.6
BRG S S 10 39 19.0 -4.3
BRG SS SS 10 44 21.0 +7.5
BRG pmax pmax
comp=Z,91nm,1.2s,mb5.6
BRG MLR MLR
comp=N,3μm,19.2s,MS5.7
BRG MLR MLR
comp=E,2μm,18.1s,MS5.7
BRG MLR MLR
comp=Z,3μm,20.9s,MS5.6
BRG Berggiesshubel 75.59 336 *e*P **P 10 29 45.5 0.0**
comp=Z,152nm,1.1s,mb5.8
BRG Berggiesshubel 75.59 336⇑*i*P **P 10 29 45.5 0.0**
comp=Z,151nm,1.1s,mb5.8
BRG *i* 10 30 00.6
comp=Z,35nm,0.8s
BRG PP PP 10 32 27.0 -7.4
BRG S S 10 39 19.0 -4.3
BRG SS SS 10 44 21.0 +7.5
BRG
comp=N,4μm,19.2s
BRG
comp=E,3μm,18.1s
BRG
comp=Z,5μm,20.9s
GCD Castle Douglas 75.61 347⇑*i*P **P 10 29 45.4 -0.1**
CLZ Clausthal 75.65 338 *e*P **P 10 29 46.6 +0.8**
CLZ pmax pmax
comp=Z,482nm,1.3s,mb6.3
CLZ Clausthal 75.65 338 *e*P **P 10 29 46.6 +0.8**
comp=Z,482nm,1.3s,mb6.3
DIKM Dikmen 75.68 318 *e*P **P 10 29 46.4 +0.3**
GCL Cushendall 75.71 349⇑*i*P **P 10 29 46.2 +0.2**
GAL1 Galloway 75.72 348⇑*e*P **P 10 29 46.0 -0.1**
GAL1 AMb AMB 10 29 48.4
comp=Z,251nm,1.6s,mb5.9
PVCC Panska Ves 75.73 335⇑*i*P **P 10 29 46.8 +0.6**
PVCC AMS AMS 11 08 10.0
comp=Z,5μm,15.6s,MS5.9
KECS Kecovo 75.73 331 *e*P **P 10 29 46.7 +0.4**
comp=Z,68nm,1.0s,mb5.5
KECS Kecovo 75.73 331 *e*P **P 10 29 46.7 +0.4**
KECS pmax pmax
comp=Z,68nm,1.0s,mb5.5
CKE Keswick 75.76 347⇑*e*P **P 10 29 46.7 +0.4**
VRI Vrincioaia 75.76 325 P **P 10 29 47.4 +0.9**
VRI Vrincioaia 75.76 325⇓*i*P **P 10 29 47.2 +0.7**
KVT Kavak 75.77 317 *e*P **P 10 29 47.6 +1.0**
CFR Carcaliu 75.79 324 P **P 10 29 50.7 +4.0**
LTX Lajitas 75.80 62 PFAKE 10 30 00.0 +13
LTX LR LR
comp=Z,216nm,20.0s,MS4.5
TXAR Lajitas Array 75.80 62 P **P 10 29 46.7 -0.3**
TXAR PKKPbc PKKPbc 10 49 03.5 +1.9
TXAR Lajitas Array 75.80 62 P **P 10 29 46.7 -0.3**
comp=Z,58nm,0.8s,mb5.6,baz=298,slow=4.1,SNR=573
TXAR PKKPbc PKKPbc 10 49 03.5 +1.9
comp=Z,0.8nm,0.9s,baz=132,slow=3.7,SNR=5.4
PLOR Plostina 75.80 325⇓*i*P **P 10 29 47.7 +0.9**
IBBN Ibbenburen 75.85 340 *e*P **P 10 29 47.2 +0.3**
comp=Z,242nm,1.0s,mb6.1
MBWA Marble Bar 75.92 213 *e*P **P 10 29 47.6 0.0**
comp=Z,100nm,1.1s,mb5.7
MBWA *e*pP pP 10 29 58.5 -0.5
MBWA LR LR
comp=Z,999nm,22.0s,MS5.1
MBWA Marble Bar 75.92 213 P **P 10 29 48.2 +0.6**
SNR=6.5
CCM Cathedral Cave 75.97 48 *e*P **P 10 29 46.9 -1.0**
comp=Z,58nm,1.0s,mb5.5
CCM *e*pP pP 10 29 58.6 -0.7
CCM LR LR
comp=Z,2μm,21.0s,MS5.4
CCM Cathedral Cave 75.97 48 *e*P **P 10 29 46.9 -1.0**
CCM *e**PP pP 10 29 58.6 -0.8
CCM pmax pmax
comp=Z,58nm,1.0s,mb5.5
CCM MLR MLR
comp=Z,2μm,21.0s,MS5.4
BZK Bozkurt 75.99 319 *e*P **P 10 29 46.5 -1.4**
SLM Saint Louis 76.02 47 *e*P **P 10 29 48.0 -0.1**
comp=Z,97nm,0.9s,mb5.7
SLM *e*pP pP 10 29 59.2 -0.4
SLM Saint Louis 76.02 47 P **P 10 29 48.0 -0.1**
SLM *e* pP 10 29 56.4 -3.2
SLM pmax pmax
comp=Z,97nm,1.0s,mb5.7
BYBT Boyabat 76.04 318 *e*P **P 10 29 49.1 +0.9**
MSL Mosul 76.09 309 *ex* x 10 29 49.0
MSL *ex* x 10 39 32.0
HPK Haverah Park 76.13 346⇑*e*P **P 10 29 48.5 0.0**
HPK AMb AMB 10 29 50.6
comp=Z,700nm,1.2s,mb6.5
AAM Ann Arbor 76.14 41 *e*P **P 10 29 48.9 +0.2**
comp=Z,86nm,1.0s,mb5.6
AAM *e*pP pP 10 29 59.8 -0.4
AAM LR LR
comp=Z,3μm,19.0s,MS5.6
AAM Ann Arbor 76.14 41 P **P 10 29 49.2 +0.5**
AAM pmax pmax
comp=Z,86nm,1.0s,mb5.6
TOKT Tokat 76.15 316 *e*P **P 10 29 49.6 +0.8**
PRA Prague 76.18 335⇑P **P 10 29 49.0 +0.2**
PRU Pruhonice 76.22 335⇑*e*P **P 10 29 49.0 -0.1**
VRAC Vranov 76.23 333 P **P 10 29 49.8 +0.6**
VRAC Vranov 76.23 333 LR LR 11 09 25.3
comp=Z,10μm,18.6s,MS6.2,baz=19,slow=40
VRAC Vranov 76.23 333⇑*i*P **P 10 29 49.8 +0.7**
GIM North Isle of 76.24 348 *e*P **P 10 29 49.0 -0.2**
VYHS Vyhne 76.25 332 *e*P **P 10 29 49.9 +0.6**
comp=Z,91nm,1.1s,mb5.6
VYHS LR LR
comp=Z,3μm,26.0s,MS5.4
VYHS Vyhne 76.25 332 *e*P **P 10 29 49.9 +0.6**
VYHS *e* 13 36 40.7
SVSK Karacayir 76.26 315 *e*P **P 10 29 49.5 0.0**
HARR Harsova 76.28 324 P **P 10 29 50.2 +0.7**
HARR Harsova 76.28 324⇓*i*P **P 10 29 50.1 +0.6**
TIRR Tirgusor 76.28 324 P **P 10 29 50.6 +1.1**
TIRR Tirgusor 76.28 324⇑*i*P **P 10 29 49.7 +0.2**
JAVC Velka Javorina 76.30 332 P **P 10 29 51.2 +1.7**
KOLL Kolacno 76.32 332 *e*P **P 10 29 50.5 +0.9**
BANOM Banah 76.34 294 P **P 10 29 50.6 +0.5**
SNR=46
MLR Muntele Rosu 76.37 326 P **P 10 29 50.5 +0.5**
MLR Muntele Rosu 76.37 326⇓*i*P **P 10 29 50.1 +0.1**
WTSB Winterswijk 76.38 340⇑*i*P **P 10 29 50.2 +0.2**
comp=Z,282nm,1.0s,mb6.2
TANN Tannenbergstha 76.41 336 *e*P **P 10 29 50.6 +0.5**
comp=Z,273nm,1.8s,mb5.9
PSZ Piszkesteto 76.42 331 *e*P **P 10 29 50.3 +0.1**
comp=Z,177nm,1.1s,mb5.9
PSZ Piszkesteto 76.42 331 *e*P **P 10 29 50.3 +0.1**
PSZ pmax pmax
comp=Z,177nm,1.1s,mb5.9
PSZ Piszkesteto 76.42 331⇑*i*P **P 10 29 50.6 +0.4**
PSZ Piszkesteto 76.42 331⇑*e*P **P 10 29 50.9 +0.7**
MOX Moxa 76.43 337*c i*P **P 10 29 50.9 +0.7**
comp=Z,284nm,1.4s,mb6.0
MOX
comp=Z,4μm,22.0s
MOX Moxa 76.43 337*c i*P **P 10 29 50.9 +0.7**
MOX pmax pmax
comp=Z,284nm,1.4s,mb6.0
MOX MLR MLR
comp=Z,4μm,22.0s,MS5.6
MOX Moxa 76.43 337 *e*P **P 10 29 50.6 +0.4**
comp=Z,226nm,1.2s,mb6.0
FVM French Village 76.44 48 *e*P **P 10 29 49.7 -0.8**
comp=Z,48nm,0.9s,mb5.4
FVM *e*pP pP 10 30 01.5 -0.5
FVM French Village 76.44 48 P **P 10 29 49.9 -0.6**
FVM pmax pmax
comp=Z,48nm,0.9s,mb5.4
DRGR 76.44 328 P **P 10 29 50.7 +0.3**
DRGR 76.44 328⇑*i*P **P 10 29 50.7 +0.3**
ISR Istrita 76.46 325⇓P **P 10 29 51.9 +1.4**
ISR Istrita 76.46 325⇓*i*P **P 10 29 51.9 +1.4**
GMM Mts of Mourne 76.50 348⇑*i*P **P 10 29 50.4 -0.2**
KRUC Moravsky 76.51 333 P **P 10 29 51.1 +0.4**
LHO Holmfirth 76.57 346⇑*i*P **P 10 29 50.8 -0.1**
TREC Trest 76.57 334⇑*i*P **P 10 29 51.5 +0.4**
TREC AMS AMS 11 09 00.0
comp=Z,4μm,16.4s,MS5.9
NKC Novy Kostel 76.58 336⇑*i*P **P 10 29 51.4 +0.3**
NKC AMS AMS 11 09 20.0
comp=Z,5μm,16.3s,MS5.9
ABA1 Baconsthorpe 76.67 344 *e*P **P 10 29 52.4 +0.8**
UBBA Unterbreizbach 76.68 338 *e*P **P 10 29 52.0 +0.3**
comp=Z,384nm,1.7s,mb6.0
TOS Tosya 76.72 318 *e*P **P 10 29 53.6 +1.5**
VOIR 76.75 326 P **P 10 29 53.0 +0.8**
VOIR 76.75 326⇑*i*P **P 10 29 53.2 +1.0**
KBI1 Birley Grange 76.79 346⇑*i*P **P 10 29 52.4 +0.1**
MYA Malataya 76.84 314 *e*P **P 10 29 54.1 +1.3**
MALT Malatya 76.85 314 *e*P **P 10 29 53.8 +1.0**
MALT Malatya 76.85 314 P **P 10 29 54.2 +1.4**
MALT Malatya 76.85 314⇑*i*P **P 10 29 54.0 +1.2**
MANZ Manzenberg 76.89 336 *e*P **P 10 29 53.3 +0.4**
comp=Z,141nm,1.1s,mb5.8
AEU East Anglia Un 76.91 344⇑*e*P **P 10 29 53.4 +0.5**
DMUB Kingscourt 76.96 349⇑*i*P **P 10 29 53.7 +0.5**
BIDO Bidbid 76.96 291 P **P 10 29 55.1 +1.4**
SNR=29
PSN Preselentsi 77.02 323 P **P 10 29 53.9 +0.2**
ZST Bratislava 77.06 332 *i* P **P 10 29 55.0 +1.2**
comp=Z,125nm,1.0s,mb5.8
ZST LR LR
comp=Z,5μm,20.0s,MS5.8
ROTZ Rotzenmuhle 77.07 336 *e*P **P 10 29 54.5 +0.6**
comp=Z,238nm,1.1s,mb6.0
KWE Wewer Farm 77.08 346⇑*i*P **P 10 29 54.1 +0.3**
BUD Budapest 77.08 331⇑*e*P **P 10 29 54.7 +0.7**
WBK Wadi Bani Khal 77.10 289 P **P 10 29 56.1 +1.6**
SNR=42
CORM Corum 77.14 317 *e*P **P 10 29 55.4 +0.9**
SAFT Safranbolu 77.15 319 *e*P **P 10 29 55.5 +1.0**
JCT Junction City 77.18 59 *e*P **P 10 29 53.9 -0.9**
comp=Z,157nm,1.3s,mb5.8
JCT LR LR
comp=Z,2μm,20.0s,MS5.4
JCT Junction City 77.18 59 *e*P **P 10 29 53.9 -0.9**
JCT pmax pmax
comp=Z,157nm,1.3s,mb5.8
JCT MLR MLR
comp=Z,2μm,20.0s,MS5.4
SIUC Southern Illin 77.24 47 *e*P **P 10 29 54.9 -0.1**
comp=Z,142nm,1.1s,mb5.8
SIUC *e* pP 10 30 04.4 -2.1
HATD Hatta, Dubai 77.25 293 P **P 10 29 55.7 +0.4**
SNR=128
CANT Cankiri 77.25 318 *e*P **P 10 29 56.1 +1.1**
CWF Charnwood Fore 77.25 345⇑*e*P **P 10 29 54.7 -0.1**
CWF AMb AMB 10 29 57.4
comp=Z,464nm,1.4s,mb6.2
KHC Kasperske Hory 77.27 335⇑*i*P **P 10 29 55.7 +0.7**
KHC *ex* x 10 29 58.0
KHC *ex* x 10 30 02.0
KHC *e*S S 10 39 39.0 -2.7
KHC AMS AMS 11 06 40.0
comp=Z,6μm,20.9s,MS5.8
BUC1 Bucharest 77.31 325 P **P 10 29 56.5 +1.2**
URFA Urfa 77.34 313 *e*P **P 10 29 57.4 +1.7**
SMDO Samad 77.35 290 P **P 10 29 56.4 +0.5**
SNR=49
BLO Bloomington 77.37 44 *e*P **P 10 29 55.3 -0.4**
comp=Z,50nm,1.0s,mb5.4
BLO *e* pP 10 30 05.7 -1.5
BLO Bloomington 77.37 44 P **P 10 29 55.1 -0.6**
BLO pmax pmax
comp=Z,50nm,1.0s,mb5.4
ASHO Ashiyiah 77.39 293 P **P 10 29 56.6 +0.5**
SNR=135
GRA1 Grafenberg Arr 77.40 337 *e*P **P 10 29 56.6 +0.9**
comp=Z,442nm,1.1s,mb6.3
GRA1 LR LR
comp=Z,5μm,20.5s,MS5.8
GRF Grafenberg Arr 77.40 337 *e*P **P 10 29 56.6 +0.9**
GRF pmax pmax
comp=Z,442nm,1.1s,mb6.3
GRF MLR MLR
comp=Z,5μm,20.5s,MS5.8
GRF Grafenberg Arr 77.40 337 *e*P **P 10 29 56.6 +0.9**
GRF pmax pmax
comp=Z,442nm,1.1s,mb6.3
GRF MLR MLR
comp=Z,5μm,20.5s,MS5.8
GRF Grafenberg Arr 77.40 337 *e*P **P 10 29 56.6 +0.9**
comp=Z,442nm,1.1s,mb6.3
GRF *e*L 11 07 28.7
comp=Z,5μm,20.5s
GRFO Grafenberg 77.40 337 *e*P **P 10 29 56.3 +0.6**
comp=Z,375nm,1.1s,mb6.2
GRFO LR LR
comp=Z,5μm,20.0s,MS5.8
GRFO Grafenberg 77.40 337 *e*P **P 10 29 56.3 +0.6**
GRFO pmax pmax
comp=Z,375nm,1.1s,mb6.2
GRFO MLR MLR
comp=Z,5μm,20.0s,MS5.8
SBD1 Bryn Du 77.41 347⇑*i*P **P 10 29 55.9 +0.2**
SBD1 ⇑*i*P 10 29 55.9
MSNY Massena 77.43 34 *e*P **P 10 29 55.3 -0.7**
MSNY *e* pP 10 30 05.5 -2.0
WET Wettzell 77.45 335 *e*P **P 10 29 56.8 +0.8**
WET pmax pmax
comp=Z,334nm,1.1s,mb6.2
WET Wettzell 77.45 335 *e*P **P 10 29 56.8 +0.8**
comp=Z,334nm,1.1s,mb6.2
GEC2 GERESS Array S 77.49 335 P **P 10 29 56.4 +0.2**
GEC2 GERESS Array S 77.49 335 *e*P **P 10 29 56.6 +0.4**
comp=Z,126nm,1.0s,mb5.8
GERES GERESS Array B 77.49 335 P **P 10 29 56.6 +0.4**
GERES pmax pmax
comp=Z,59nm,0.7s
GERES MLR MLR
comp=Z,5μm,20.6s
GERES GERESS Array B 77.49 335 P **P 10 29 56.6 +0.4**
comp=Z,59nm,0.7s,mb5.6,baz=35,slow=4.9,SNR=263
GERES LR LR 11 07 25.8
comp=Z,5μm,20.6s,MS5.8,baz=16,slow=38
DLF Lyons Farm 77.50 349⇑*i*P **P 10 29 56.7 +0.5**
MIAR Mount Ida 77.50 52 *e*P **P 10 29 55.9 -0.7**
comp=Z,93nm,1.0s,mb5.7
MIAR LR LR
comp=Z,3μm,19.0s,MS5.6
MIAR Mount Ida 77.50 52 *e*P **P 10 29 55.9 -0.7**
MIAR pmax pmax
comp=Z,93nm,1.0s,mb5.7
MIAR MLR MLR
comp=Z,3μm,19.0s,MS5.6
DCN Croghan 77.55 349⇑*i*P **P 10 29 56.9 +0.4**
GZR Gura Zlata 77.62 328 P **P 10 29 57.3 +0.2**
GZR Gura Zlata 77.62 328⇓*i*P **P 10 29 57.4 +0.4**
KDZE Karadeniz Ereo 77.63 320 *e*P **P 10 29 55.8 -1.4**
BNN Bunyan 77.64 316 *e*P **P 10 29 58.0 +0.7**
CONA Conrad Observa 77.68 333⇑*i*P **P 10 29 58.4 +1.1**
comp=Z,267nm,1.3s,mb6.0,SNR=122
SOP Sopron 77.69 333⇑*e*P **P 10 29 58.4 +1.1**
HGN Heimansgroeve 77.70 340⇑*i*P **P 10 29 57.6 +0.2**
comp=Z,349nm,0.9s,mb6.3
HGN Heimansgroeve 77.70 340 *ex* x 10 30 06.6
HGN Heimansgroeve 77.70 340 *e*S S 10 40 04.3 +18
BHD Baghdad 77.72 306 *ex* x 10 29 56.0
BHD *ex* x 10 39 45.0
HLM1 Long Mynd 77.72 346⇑*i*P **P 10 29 57.5 +0.1**
HLM1 ⇑*i*P 10 29 57.5
BEBN Eben Emael 77.73 340 P **P 10 29 57.9 +0.4**
comp=Z,113nm,1.2s,mb5.7
PRD Provadia 77.74 323 P **P 10 29 57.9 +0.2**
USIN University of 77.79 46 *e*P **P 10 29 58.1 0.0**
comp=Z,194nm,1.0s,mb6.0
USIN *e*PcP PcP 10 30 07.4 -0.6
USIN *e*pP pP 10 30 09.4 -0.2
PARMO Parma 77.80 48 *e*P **P 10 29 58.2 0.0**
MEM Membach 77.83 340 P **P 10 29 58.5 +0.4**
comp=Z,242nm,1.2s,mb6.0
BZS Buzias 77.84 328 P **P 10 29 58.1 -0.2**
BZS Buzias 77.84 328⇓*i*P **P 10 29 58.4 +0.2**
ERPA Erie 77.84 38 *e*P **P 10 29 58.0 -0.3**
comp=Z,221nm,1.4s,mb5.9
ERPA LR LR
comp=Z,2μm,19.0s,MS5.5
LONY Lake Ozonia 77.85 34 *e*P **P 10 29 57.2 -1.1**
comp=Z,33nm,1.0s,mb5.2
LONY *e* pP 10 30 08.6 -1.2
LONY LR LR
comp=Z,2μm,19.0s,MS5.4
UALR University of 77.97 51 *e*P **P 10 29 58.4 -0.7**
comp=Z,26nm,1.0s,mb5.1
UCC Uccle 78.02 341 P **P 10 29 59.2 +0.1**
comp=Z,60nm,1.5s,mb5.3
SSW Stow on the Wo 78.09 345⇑*i*P **P 10 30 00.1 +0.6**
TOD Tromm 78.10 338 *e*P **P 10 29 59.8 +0.2**
BSY Bisya 78.11 291 P **P 10 30 01.0 +0.9**
SNR=109
ACSO Alum Creek Sta 78.11 41 *e*P **P 10 29 59.7 -0.1**
comp=Z,156nm,1.4s,mb5.8
ACSO *e* pP 10 30 10.4 -1.0
ACSO LR LR
comp=Z,2μm,20.0s,MS5.5
HAE Alders End 78.14 346⇑*i*P **P 10 30 00.0 +0.2**
SIND Sindeldorf 78.14 338 P **P 10 30 00.2 +0.4**
SKP1 Kophill 78.14 345⇑*i*P **P 10 29 59.4 -0.5**
ZIMR 78.14 325 P **P 10 30 00.1 +0.1**
ABH Alteburg 78.15 339 *e*P **P 10 30 00.3 +0.4**
BCLA Clavier 78.17 341 P **P 10 30 00.4 +0.4**
comp=Z,171nm,1.4s,mb5.8
ALLY Alegheny Colle 78.17 39 *e*P **P 10 30 00.2 +0.1**
comp=Z,72nm,0.9s,mb5.6
HTR Trewern Hill 78.21 346⇑*i*P **P 10 30 00.4 +0.2**
KAMT Kaman 78.21 317 *e*P **P 10 29 56.2 -4.2**
LOD Lodumlu 78.21 318 *e*P **P 10 30 00.7 +0.2**
ANTO Ankara 78.22 318 P **P 10 30 01.6 +1.1**
ANTO LR LR
comp=Z,2μm,19.0s,MS5.5
ANTO Ankara 78.22 318 *e*P **P 10 30 01.6 +1.1**
ANTO pmax pmax
comp=Z,330nm,1.3s,mb6.1
ANTO Ankara 78.22 318 P **P 10 30 01.6 +1.1**
SNR=54
ANTO Ankara 78.22 318⇑*i*P **P 10 30 01.8 +1.3**
GNAR Gosnell 78.22 49 *e*P **P 10 30 00.6 +0.1**
comp=Z,4μm,1.3s
HBAR Harrisburg 78.22 49 *e*P **P 10 30 00.2 -0.3**
KMRS Kahramanmaras 78.22 314 *e*P **P 10 30 01.2 +0.7**
MOA Molln 78.22 334⇑*i*P **P 10 30 01.0 +0.7**
comp=Z,119nm,0.9s,mb5.8,SNR=71
WCI Wyandotte Cave 78.23 45 *e*P **P 10 30 00.1 -0.4**
comp=Z,116nm,0.8s,mb5.9
WCI *e* pP 10 30 09.8 -2.2
WCI LR LR
comp=Z,2μm,20.0s,MS5.5
WCI Wyandotte Cave 78.23 45 *e*P **P 10 30 00.1 -0.4**
WCI *e* pP 10 30 09.8 -2.2
WCI pmax pmax
comp=Z,116nm,0.8s,mb5.9
WCI MLR MLR
comp=Z,2μm,20.0s,MS5.5
SWS Schriesheim-Wi 78.24 338 P **P 10 30 01.1 +0.7**
MCH1 Michaelchurch 78.25 346⇑*i*P **P 10 30 00.4 0.0**
MCH1 ⇑*i*P 10 30 00.4
MCH1 ⇑*i*P 10 30 00.4
MCH1 AMb AMB 10 30 03.0
comp=Z,130nm,1.7s,mb5.6
SZH Strazhica 78.26 324 P **P 10 30 00.2 -0.4**
SNF Seneffe 78.30 341 P **P 10 30 01.0 +0.2**
comp=Z,124nm,1.8s,mb5.5
PKSM Moragy 78.33 331 P **P 10 30 00.5 -0.4**
PKSM Moragy 78.33 331⇓*i*P **P 10 29 59.5 -1.4**
GAZ Gaziantep 78.34 314 *e*P **P 10 30 02.1 +0.9**
GLAT Glass 78.34 48 *e*P **P 10 30 01.2 0.0**
GLAT *e* pP 10 30 12.7 0.0
TFO1 Folkestone 78.37 343⇑*e*P **P 10 30 01.5 +0.4**
ARSA Arzberg 78.39 333⇑*i*P **P 10 30 02.1 +0.8**
comp=Z,164nm,1.4s,mb5.8,SNR=82
RUP Ruppelstein 78.43 339 *e*P **P 10 30 01.7 +0.2**
ARMA Armidale 78.44 183 *e*P **P 10 30 02.9 +1.4**
UTMT University of 78.49 48 *e*P **P 10 30 02.3 +0.2**
comp=Z,219nm,1.0s,mb6.0
SWN1 Swindon 78.52 345⇑*e*P **P 10 30 02.5 +0.6**
PVL Pavlikeni 78.53 325 P **P 10 30 02.3 +0.2**
KTD Kalmit 78.54 338 *e*P **P 10 30 02.5 +0.4**

NCB Newcomb 78.54 34 *eP* **P 10 30 01.8 -0.3**
comp=Z,489nm,2.2s,mb6.0
NCB *epP* pP 10 30 12.9 -0.8
NCB LR LR
comp=Z,2μm,22.0s,MS5.4
HGH Gray Hill 78.56 346⇑*iP* **P 10 30 02.3 +0.1**
GIVF Givet 78.57 341⇑*iP* **P 10 30 02.5 +0.3**
comp=Z,425nm,1.2s,mb5.9
GIVF Givet 78.57 341⇑*iP* **P 10 30 02.5 +0.3**
comp=Z,212nm,1.2s,mb6.0
GIVF Givet 78.57 341⇑*iP* **P 10 30 02.5 +0.3**
GIVF pmax pmax
comp=Z,213nm,1.2s,mb6.0
HALT Halls 78.60 48 *eP* **P 10 30 02.2 -0.4**
WOL Wolverton 78.61 345⇑*eP* **P 10 30 02.3 -0.1**
WOL AMb AMB 10 30 05.0
comp=Z,362nm,1.4s,mb6.1
DOU Dourbes 78.63 341 P **P 10 30 02.7 +0.2**
comp=Z,99nm,1.7s,mb5.5
JMB Yambol 78.68 324 *eP* **P 10 30 02.9 0.0**
WLF Walferdange 78.68 340 *eP* **P 10 30 03.0 +0.2**
comp=Z,598nm,1.9s,mb6.2
WLF Walferdange 78.68 340 *eP* **P 10 30 03.0 +0.2**
WLF pmax pmax
comp=Z,598nm,1.9s,mb6.2
WLF Walferdange 78.68 340 P **P 10 30 03.1 +0.3**
comp=Z,123nm,2.1s,mb5.5
WLF Walferdange 78.68 340 *eP* **P 10 30 03.6 +0.8**
HDH Heidenheim-Cha 78.68 337 P **P 10 30 03.7 +0.8**
MENF Mencas 78.70 343 *eP* **P 10 30 03.2 +0.3**
UMR Umm Al-Rimmam 78.71 302 *eP* **P 10 30 03.4 +0.1**
UMR AMb AMB 10 30 04.9
comp=Z,455nm,0.8s,mb6.5
MIB Mutribah 78.73 302 *eP* **P 10 30 03.6 +0.2**
MIB AMb AMB 10 30 05.1
comp=Z,457nm,0.7s,mb6.5
BAIF Baives 78.75 341⇑*iP* **P 10 30 03.6 +0.4**
comp=Z,366nm,1.2s,mb5.9
BAIF Baives 78.75 341⇑*iP* **P 10 30 03.6 +0.4**
comp=Z,183nm,1.2s,mb5.9
BAIF Baives 78.75 341⇑*iP* **P 10 30 03.6 +0.4**
BAIF pmax pmax
comp=Z,183nm,1.2s,mb5.9
GULT Gulveren 78.75 320 *eP* **P 10 30 03.8 +0.4**
KOZT Kozan 78.75 315 *eP* **P 10 30 05.8 +2.3**
STU Stuttgart 78.77 338 *eP* **P 10 30 03.7 +0.4**
comp=Z,278nm,1.2s,mb6.1
FUR Furstenfeldbru 78.78 336 *eP* **P 10 30 04.1 +0.7**
FUR pmax pmax
comp=Z,446nm,1.1s,mb6.3
FUR Furstenfeldbru 78.78 336 *eP* **P 10 30 04.1 +0.7**
comp=Z,446nm,1.1s,mb6.3
HRT Hereke 78.79 321 *eP* **P 10 30 03.9 +0.3**
NIG Nigde 78.82 316 *eP* **P 10 30 04.3 +0.5**
ISK Istanbul-Kandi 78.84 321 *eP* **P 10 30 03.7 -0.2**
KOGS Kog 78.88 332⇑*eP* **P 10 30 03.8 -0.2**
LANF Langenberg 78.93 338 *eP* **P 10 30 04.4 +0.2**
SWK Warminster 78.94 345⇑*eP* **P 10 30 04.6 +0.4**
LBG Lerchenberg 78.97 338 P **P 10 30 04.9 +0.5**
KBD Kabd 79.01 302 *eP* **P 10 30 05.2 +0.2**
KBD AMb AMB 10 30 06.8
comp=Z,1μm,0.9s,mb6.9
BUCH Bad Urach 79.03 337 P **P 10 30 05.7 +0.9**
CTT Catalca 79.04 322 *eP* **P 10 30 05.0 +0.1**
PERS Pernice 79.06 333⇑*iP* **P 10 30 05.4 +0.4**
NATX Nacogdoches 79.07 54 *eP* **P 10 30 05.5 +0.2**
comp=Z,444nm,1.4s,mb6.2
NATX LR LR
comp=Z,1μm,19.0s,MS5.2
ADVT Abdulvahap 79.08 320 *eP* **P 10 30 05.0 -0.2**
GROS Grobnik 79.10 333 *eP* **P 10 30 05.4 +0.2**
YLV Yalova 79.13 321 *eP* **P 10 30 05.4 -0.1**
LBNH Lisbon 79.14 32 PFAKE 10 30 20.0 +15
LBNH LR LR
comp=Z,3μm,19.0s,MS5.6
PKME Peaks-Kenny Pk 79.15 30 PFAKE 10 30 20.0 +15
PKME LR LR
comp=Z,3μm,19.0s,MS5.6
RST Umm Al-Ruwaisa 79.16 302 *eP* **P 10 30 05.7 -0.1**
RST AMb AMB 10 30 07.2
comp=Z,640nm,0.8s,mb6.6
CEYT Ceyhan 79.17 315 *eP* **P 10 30 06.5 +0.8**
WVT Waverly 79.17 47 *eP* **P 10 30 05.3 -0.5**
comp=Z,54nm,1.0s,mb5.4
WVT *epP* pP 10 30 17.0 -0.3
WVT LR LR
comp=Z,2μm,22.0s,MS5.3
KBA Koelnbreinsper 79.19 334⇑*iP* **P 10 30 06.8 +1.1**
comp=Z,475nm,0.9s,mb6.4,SNR=494
KBA Koelnbreinsper 79.19 334⇑*iP* **P 10 30 06.8 +1.1**
KBA pmax pmax
comp=Z,475nm,0.9s,mb6.4
QRN Al-Qurain 79.21 301 *eP* **P 10 30 06.4 +0.3**
QRN AMb AMB 10 30 07.9
comp=Z,528nm,0.9s,mb6.4
NAY Al-Naaiem 79.21 302 *eP* **P 10 30 06.2 +0.1**
NAY AMb AMB 10 30 07.7
comp=Z,282nm,0.9s,mb6.2
ACCN Adirondack Com 79.25 34 *eP* **P 10 30 05.4 -0.7**
comp=Z,45nm,1.1s,mb5.3
ACCN *e* pP 10 30 14.9 -2.7
IZI Iznik 79.28 321 *eP* **P 10 30 05.3 -0.9**
RDF Al-Radifah 79.28 302 *eP* **P 10 30 06.8 +0.4**
RDF AMb AMB 10 30 08.4
comp=Z,769nm,0.9s,mb6.6
KARA Karaisali 79.29 315 *eP* **P 10 30 06.8 +0.4**
STR Strasbourg 79.30 338 *eP* **P 10 30 07.1 +0.8**
GEMT Gemlik 79.31 321 *eP* **P 10 30 06.6 +0.2**
OBKA Obir 79.35 333⇑*iP* **P 10 30 07.0 +0.5**
comp=Z,107nm,1.2s,mb5.7,SNR=67
ESKT Eskisehir 79.36 319 *eP* **P 10 30 06.5 -0.3**
BINY Binghamton 79.39 36 PFAKE 10 30 20.0 +13
BINY LR LR
comp=Z,2μm,22.0s,MS5.5
BFO Black Forest 79.40 338 P **P 10 30 07.8 +1.0**
comp=Z,966nm,1.0s,mb6.7,SNR=93
BFO Black Forest 79.40 338 *eP* **P 10 30 07.1 +0.3**
comp=Z,251nm,1.2s,mb6.0
BFO LR LR
comp=Z,2μm,19.0s,MS5.5
BFO Black Forest 79.40 338 P **P 10 30 06.9 +0.1**
BFO pmax pmax
comp=Z,200nm,1.1s,mb6.0
BFO Black Forest 79.40 338 *eP* **P 10 30 07.1 +0.3**
comp=Z,251nm,1.2s,mb6.0
KIZT Kizilcal 79.43 318 *eP* **P 10 30 07.3 +0.2**
GUT Gutenstein 79.44 337 P **P 10 30 07.5 +0.5**
DIM Dimitrovgrad 79.44 324 P **P 10 30 07.7 +0.6**
HTL Hartland 79.45 347⇑*eP* **P 10 30 07.3 +0.3**
HTL AMb AMB 10 30 09.1
comp=Z,244nm,1.2s,mb6.0
WATA Walderalm 79.46 335 *iP* **P 10 30 08.2 +1.0**
comp=Z,312nm,1.0s,mb6.2,SNR=113
WATA Walderalm 79.46 335 *iP* **P 10 30 08.2 +1.1**
WATA pmax pmax
comp=Z,312nm,1.0s,mb6.2
SPAK Spaichingen-Ko 79.50 338 *eP* **P 10 30 07.8 +0.5**
WTTA Wattenberg 79.51 335⇑*iP* **P 10 30 08.6 +1.2**
comp=Z,588nm,1.0s,mb6.5,SNR=270
WTTA Wattenberg 79.51 335⇑*iP* **P 10 30 08.6 +1.2**
WTTA pmax pmax
comp=Z,588nm,1.0s,mb6.5
MYKA Terra Mystica 79.51 334⇑*iP* **P 10 30 07.6 +0.2**
comp=Z,113nm,0.9s,mb5.8
UBR Ueberruh 79.54 337 P **P 10 30 08.1 +0.5**
RETA Reutte 79.54 336⇑*iP* **P 10 30 08.4 +0.8**
comp=Z,175nm,0.9s,mb6.0,SNR=109
MOTA Moosalm 79.58 336 *iP* **P 10 30 08.7 +0.9**
comp=Z,401nm,1.0s,mb6.3,SNR=192
MOTA Moosalm 79.58 336 *iP* **P 10 30 08.7 +0.9**
MOTA pmax pmax
comp=Z,401nm,1.0s,mb6.3
CDF Champ du Feu 79.58 339⇑*iP* **P 10 30 08.1 +0.3**
comp=Z,899nm,1.3s,mb6.2
CDF Champ du Feu 79.58 339⇑*iP* **P 10 30 08.1 +0.3**
comp=Z,450nm,1.3s,mb6.2
CDF Champ du Feu 79.58 339⇑*iP* **P 10 30 08.1 +0.3**
CDF pmax pmax
comp=Z,449nm,1.3s,mb6.2
LEGS Legarje 79.62 332 *eP* **P 10 30 07.8 -0.2**
GRUS Gruza 79.66 328⇑*iP* **P 10 30 07.8 -0.5**
SQTA Sankt Quirin 79.66 336 *iP* **P 10 30 09.3 +1.1**
comp=Z,303nm,1.0s,mb6.2,SNR=94
SQTA Sankt Quirin 79.66 336 *iP* **P 10 30 09.3 +1.1**
SQTA pmax pmax
comp=Z,303nm,1.0s,mb6.2
CRES Cresnjev 79.69 332⇑*iP* **P 10 30 08.3 -0.1**
KRTS Karatas 79.70 314 *eP* **P 10 30 09.8 +1.2**
SISC Sisak 79.72 332 P **P 10 30 08.8 +0.3**
PLD Plovdiv 79.72 325 *eP* **P 10 30 08.5 -0.2**
PLD Plovdiv 79.72 325 P **P 10 30 08.2 -0.5**
DIVS Divibare 79.73 329 *eP* **P 10 30 08.3 -0.4**
ABTA Abfaltersbach 79.73 335⇑*iP* **P 10 30 08.8 +0.2**
comp=Z,142nm,1.1s,mb5.8,SNR=74
LJU Ljubljana 79.77 333⇑*eP* **P 10 30 08.5 -0.4**
FVI Forni Avoltri 79.79 334 P **P 10 30 08.6 -0.3**
ECH Echery 79.80 339 *eP* **P 10 30 09.3 +0.4**
SEST Monte Rota 79.81 335 P **P 10 30 10.1 +1.0**
HKT Hockley 79.81 56 *eP* **P 10 30 09.3 -0.1**
comp=Z,34nm,1.4s,mb5.1
HKT LR LR
comp=Z,1μm,20.0s,MS5.3
HKT Hockley 79.81 56 *eP* **P 10 30 09.3 -0.1**
HKT pmax pmax
comp=Z,34nm,1.4s,mb5.1
HKT MLR MLR
comp=Z,1μm,20.0s,MS5.3
KDZ Kurdzhali 79.83 324 P **P 10 30 09.9 +0.6**
SISB Singen-Schiene 79.83 337 P **P 10 30 10.1 +0.9**
MRMT Marmara Adasi 79.84 322 *eP* **P 10 30 08.9 -0.4**
KIZ Kirchzarten 79.85 338 P **P 10 30 09.8 +0.6**
MERS Mersin 79.86 315 *eP* **P 10 30 09.7 +0.2**
STEIN Stein am Rhein 79.87 337⇑*iP* **P 10 30 09.8 +0.4**
STEIN Stein am Rhein 79.87 337⇑*iP* **P 10 30 09.4 0.0**
comp=Z,1μm,1.2s,mb6.7
VTS Vitosha 79.87 326 *eP* **P 10 30 09.1 -0.4**
VTS Vitosha 79.87 326 P **P 10 30 09.7 +0.2**
VTS Vitosha 79.87 326⇑*iP* **P 10 30 09.5 0.0**
VTS Vitosha 79.87 326 P **P 10 30 09.6 +0.1**
SLE Schleitheim 79.88 338⇑*iP* **P 10 30 09.4 0.0**
SLE Schleitheim 79.88 338⇑*iP* **P 10 30 09.8 +0.4**
comp=Z,605nm,1.6s,mb6.3
ROBS Robic 79.90 334⇑*iP* **P 10 30 08.6 -0.9**
FELD Feldberg im Sc 79.90 338 *eP* **P 10 30 10.0 +0.5**
DYA Yadsworthy 79.91 346⇑*eP* **P 10 30 09.5 0.0**
DYA AMb AMB 10 30 12.0
comp=Z,502nm,1.6s,mb6.2
BNT Bandirma 79.91 322 *eP* **P 10 30 10.1 +0.4**
RKY Sarkoy-Tekirda 79.94 322 *eP* **P 10 30 09.9 +0.1**
TRULL Truellikon 79.94 337⇑*iP* **P 10 30 10.0 +0.3**
comp=Z,915nm,1.3s,mb6.5
SSPA Standing Stone 79.95 38 *eP* **P 10 30 09.4 -0.5**
comp=Z,106nm,1.5s,mb5.5
SSPA *epP* pP 10 30 21.1 -0.4
SSPA LR LR
comp=Z,1μm,20.0s,MS5.3
MCWV Mont Chateau 79.95 40 *epP* pP 10 30 10.3 -11
GMNA Gemona 79.95 334 P **P 10 30 09.3 -0.5**
PLAL Pickwick Lake 79.96 48 *eP* **P 10 30 09.2 -0.9**
comp=Z,73nm,1.2s,mb5.5
PLAL LR LR
comp=Z,1μm,20.0s,MS5.3
DAVA Damuels 79.96 337 *iP* **P 10 30 10.7 +0.8**
comp=Z,267nm,0.9s,mb6.2,SNR=95
WEIN Weingarten 79.97 337⇑*iP* **P 10 30 10.3 +0.4**
comp=Z,918nm,1.3s,mb6.5
VOY Vojsko 79.98 333 *eP* **P 10 30 09.0 -0.9**
VOY *e* 10 30 31.2
VOY *e* 10 30 58.5
VOY *e* 10 31 19.2
FETA Feichten 79.98 336⇑*iP* **P 10 30 11.0 +1.1**
comp=Z,233nm,1.1s,mb6.0,SNR=162
KONT Konya--Tatoy 79.98 317 *eP* **P 10 30 10.6 +0.4**
MEZF Maizieres J'vi 80.02 340⇑*iP* **P 10 30 10.5 +0.3**
comp=Z,791nm,1.2s,mb6.2
MEZF Maizieres J'vi 80.02 340⇑*iP* **P 10 30 10.5 +0.3**
comp=Z,791nm,1.2s,mb6.5
BOJS Bojanci 80.04 332⇑*eP* **P 10 30 10.2 0.0**
FLACH Flaach 80.04 337⇑*iP* **P 10 30 10.6 +0.3**
comp=Z,901nm,1.7s,mb6.4
LIENZ Kamor/St.Gall 80.06 337⇑*iP* **P 10 30 11.0 +0.6**
comp=Z,697nm,1.7s,mb6.3
THEF They Montfort 80.07 339 *eP* **P 10 30 11.0 +0.6**
ALT Altintas 80.07 319 *eP* **P 10 30 08.4 -2.1**
RZN Rozhen 80.07 324 P **P 10 30 11.1 +0.5**
CEY Cerknica 80.08 333⇑*iP* **P 10 30 10.2 -0.4**
WILA Wila 80.10 337⇑*iP* **P 10 30 11.1 +0.5**
comp=Z,948nm,1.2s,mb6.6
CSA1 St Austell 80.14 347⇑*eP* **P 10 30 10.6 -0.2**
MOF Molkenrain 80.14 338 *eP* **P 10 30 11.0 +0.2**
HAU Haudompre 80.19 339⇑*iP* **P 10 30 11.2 +0.1**
comp=Z,447nm,1.2s,mb6.0
HAU *e*MLR MLR
comp=Z,4μm,18.2s,MS5.5
HAU Haudompre 80.19 339⇑*iP* **P 10 30 11.2 +0.1**
comp=Z,223nm,1.2s,mb6.0
HAU LR LR
comp=Z,4μm,18.3s,MS5.7
HAU Haudompre 80.19 339⇑*iP* **P 10 30 11.2 +0.1**
HAU pmax pmax
comp=Z,223nm,1.2s,mb6.0
HAU MLR MLR
comp=Z,4μm,18.3s,MS5.7
SULZ Cheisacher 80.20 338⇑*iP* **P 10 30 11.4 +0.3**
comp=Z,2μm,1.8s,mb6.6
RDO Rodhopi 80.21 324 *eP* **P 10 30 11.0 -0.3**
ALN Alexandroupoli 80.22 323 *eP* **P 10 30 11.2 -0.2**
ZUR Degenried 80.23 337⇑*iP* **P 10 30 11.7 +0.4**
comp=Z,983nm,1.1s,mb6.6
HINF Hinteralfeld 80.24 339⇑*iP* **P 10 30 11.3 -0.1**
comp=Z,287nm,1.2s,mb5.8
HINF Hinteralfeld 80.24 339⇑*iP* **P 10 30 11.3 -0.1**
comp=Z,144nm,1.2s,mb5.8
HINF Hinteralfeld 80.24 339⇑*iP* **P 10 30 11.3 -0.1**
HINF pmax pmax
comp=Z,144nm,1.2s,mb5.8
DST Dursunbey 80.24 321 *eP* **P 10 30 11.6 +0.1**
SHUT Suhut-Afyon 80.29 319 *eP* **P 10 30 12.4 +0.6**
ENEZ Enez 80.31 323 *eP* **P 10 30 11.8 0.0**
PLONS Plons/SG 80.31 337⇑*iP* **P 10 30 12.3 +0.5**
comp=Z,1μm,2.1s,mb6.5
APPI Appiano 80.34 335 P **P 10 30 12.3 +0.4**
CCA1 Carnmenellis 80.35 347⇑*iP* **P 10 30 11.9 +0.1**
CRQ2 Rosemanowes 2 80.36 347⇑*eP* **P 10 30 11.5 -0.4**
BBS Basel-Blauen 80.41 338 P **P 10 30 08.7 -3.6**
DAVOX Davos/Dischmat 80.43 336⇑*iP* **P 10 30 13.4 +1.0**
DAVOX Davos/Dischmat 80.43 336 LR LR 11 09 44.2
comp=Z,4μm,19.2s,MS5.8,baz=16,slow=38
DAVOX Davos/Dischmat 80.43 336⇑*iP* **P 10 30 13.2 +0.8**
comp=Z,632nm,1.7s,mb6.3
CPZ Penzance 80.43 347⇑*iP* **P 10 30 12.4 +0.1**
CMA1 Manaccan 80.44 347⇑*iP* **P 10 30 12.6 +0.2**
FUORN Ofenpass-Fuorn 80.47 336⇑*iP* **P 10 30 13.9 +1.3**
FUORN Ofenpass-Fuorn 80.47 336⇑*iP* **P 10 30 13.4 +0.8**
comp=Z,1μm,2.0s,mb6.5
BALST Balsthal 80.48 338⇑*iP* **P 10 30 13.2 +0.5**
BALST Balsthal 80.48 338⇑*iP* **P 10 30 13.4 +0.7**
comp=Z,1μm,1.3s,mb6.8
KVTX Kingsville 80.49 59 *eP* **P 10 30 12.6 -0.5**
comp=Z,122nm,1.1s,mb5.7
KVTX LR LR
comp=Z,2μm,19.0s,MS5.4
BALB Balikesir 80.53 321 *eP* **P 10 30 12.9 -0.1**
MMB Musomiste 80.54 325 P **P 10 30 13.7 +0.6**
BOURR Bourrignon 80.54 338⇑*iP* **P 10 30 13.4 +0.4**
BOURR Bourrignon 80.54 338⇑*iP* **P 10 30 13.9 +0.9**
comp=Z,763nm,1.6s,mb6.4
KKB Krupnik 80.55 326 P **P 10 30 13.2 +0.1**
BRMO Bormio 80.58 336 P **P 10 30 13.8 +0.6**
MUO Muotathal 80.58 337⇑*iP* **P 10 30 13.9 +0.7**
comp=Z,1μm,1.5s,mb6.5
LLS Linth-Limmern 80.60 337⇑*iP* **P 10 30 14.0 +0.7**
comp=Z,445nm,1.6s,mb6.2
PLE Pljevlja 80.61 329⇑*iP* **P 10 30 13.8 +0.4**
CTI Castel Tesino 80.61 335 P **P 10 30 13.2 -0.2**
TAOE Nuku Hiva Isla 80.61 115 *eS* S 10 40 20.1 +1.9
comp=Z,58μm,31.5s
TAOE *e*SS SS 10 45 09.5 -22
comp=Z,97μm,31.2s
TAOE *e*LR LR 10 55 06.8
comp=Z,160μm,23.2s,baz=326
LOMF Lomont 80.68 338 *eP* **P 10 30 14.4 +0.7**
STKA Stephens Creek 80.70 191 *eP* **P 10 30 13.3 -0.5**
comp=Z,11nm,1.1s,mb4.7
STKA Stephens Creek 80.70 191 P **P 10 30 13.2 -0.5**
comp=Z,10nm,0.8s,mb4.8,baz=340,slow=6.1,SNR=14
STKA PKKPbc PKKPbc 10 48 53.2 -0.1
comp=Z,2.3nm,1.0s,baz=212,slow=20,SNR=3.6
STKA LR LR 11 06 16.4
comp=Z,2μm,20.5s,MS5.5,baz=12,slow=36
BERNI Berninapass 80.73 336⇑*iP* **P 10 30 15.1 +1.1**
BERNI Berninapass 80.73 336⇑*iP* **P 10 30 14.6 +0.6**
comp=Z,697nm,1.5s,mb6.4
BNALP Bannalp 80.73 337⇑*iP* **P 10 30 14.6 +0.6**
BNALP Bannalp 80.73 337⇑*iP* **P 10 30 15.1 +1.1**
comp=Z,520nm,1.6s,mb6.2
IKL Isikli 80.77 315 *eP* **P 10 30 13.5 -0.8**
HRV Adam Dziewonsk 80.78 33 PFAKE 10 30 30.0 +16
HRV LR LR
comp=Z,3μm,20.0s,MS5.6
VDL Val di Lei 80.82 336⇑*iP* **P 10 30 15.4 +0.9**
comp=Z,502nm,1.0s,mb6.4
SWET Sewanee 80.82 46 *eP* **P 10 30 13.9 -0.8**
IVA Berane 80.83 328⇑*iP* **P 10 30 14.3 -0.3**
TUE Stuetta 80.86 337 P **P 10 30 15.5 +0.8**
TZTN Tazewell 80.87 44 *eP* **P 10 30 14.5 -0.4**
comp=Z,70nm,1.3s,mb5.4
TZTN *epP* pP 10 30 26.0 -0.4
TZTN LR LR
comp=Z,2μm,22.0s,MS5.5
GADA Gvkgeada 80.88 323 *eP* **P 10 30 13.2 -1.7**
UPM Unac-Piva 80.89 329⇑*iP* **P 10 30 14.1 -0.8**
ISP Isparta 80.90 318 *eP* **P 10 30 14.3 -0.7**
ISP Isparta 80.90 318 *eP* **P 10 30 14.8 -0.2**
ISP Isparta 80.90 318 P **P 10 30 15.4 +0.4**
ISP pmax pmax
comp=Z,31nm,0.7s,mb5.3
ISP Isparta 80.90 318⇑*iP* **P 10 30 15.3 +0.3**
MABI Malga Bissina 80.92 336 P **P 10 30 14.6 -0.4**
FLN La Foliniere 80.93 344⇑*iP* **P 10 30 15.0 0.0**
comp=Z,509nm,1.1s,mb6.0
FLN *e*MLR MLR
comp=Z,4μm,21.0s,MS5.5
FLN La Foliniere 80.93 344⇑*iP* **P 10 30 15.0 0.0**
comp=Z,254nm,1.1s,mb6.1
FLN LR LR
comp=Z,4μm,21.0s,MS5.8
FLN La Foliniere 80.93 344⇑*iP* **P 10 30 15.0 0.0**
FLN pmax pmax
comp=Z,254nm,1.1s,mb6.1
FLN MLR MLR
comp=Z,4μm,21.0s,MS5.8
KHL Karahalli 80.93 319 *eP* **P 10 30 15.6 +0.4**
WES Weston 80.98 33 PFAKE 10 30 30.0 +15
WES LR LR
comp=Z,2μm,21.0s,MS5.5
SRS Serrai 81.00 325 *eP* **P 10 30 15.2 -0.4**
NVLJ Novalja 81.00 332 P **P 10 30 14.5 -1.0**
EZN Ezine 81.02 322 *eP* **P 10 30 14.7 -0.9**
LDF La Druitiere 81.02 343⇑*iP* **P 10 30 15.4 -0.1**
comp=Z,222nm,1.0s,mb5.7
LDF La Druitiere 81.02 343⇑*iP* **P 10 30 15.4 -0.1**
comp=Z,111nm,1.0s,mb5.8
LDF La Druitiere 81.02 343⇑*iP* **P 10 30 15.4 -0.1**
LDF pmax pmax
comp=Z,111nm,1.0s,mb5.8
STIP Stip 81.03 326 *eP* **P 10 30 14.9 -0.8**
STIP Stip 81.03 326 *eP* **P 10 30 14.8 -0.9**
RAO Raoul Island 81.04 156 PFAKE 10 30 30.0 +14
RAO LR LR
comp=Z,5μm,21.0s,MS5.9
PVY Plav 81.05 328⇑*iP* **P 10 30 15.0 -0.8**
FUSIO Fusio 81.05 337⇑*iP* **P 10 30 16.6 +0.9**
FUSIO Fusio 81.05 337⇑*iP* **P 10 30 16.4 +0.7**
comp=Z,1μm,1.5s,mb6.6
SKO Skopje 81.07 327 *eP* **P 10 30 16.6 +0.8**
SKO Skopje 81.07 327⇑*iP* **P 10 30 16.5 +0.6**
FKH Fakeheh 81.08 312 *eP* **P 10 30 16.8 +0.7**
EREN Erenkoy 81.11 315 *eP* **P 10 30 16.4 +0.2**
MVL Millersville 81.11 37 *eP* **P 10 30 15.8 -0.4**
comp=Z,83nm,1.4s,mb5.5
WIMIS Wimmis 81.12 338⇑*iP* **P 10 30 16.4 +0.3**
WIMIS Wimmis 81.12 338⇑*iP* **P 10 30 16.6 +0.5**
comp=Z,215nm,1.2s,mb6.0
KULA Kula-Manisa 81.14 320 *eP* **P 10 30 15.5 -0.9**
BRANT Les Verrieres 81.16 339⇑*iP* **P 10 30 16.9 +0.6**
comp=Z,566nm,1.3s,mb6.3
BCK Bucak 81.18 318 *eP* **P 10 30 15.6 -0.9**
TORNY Torny/Romont 81.19 338⇑*iP* **P 10 30 17.1 +0.7**
comp=Z,645nm,1.6s,mb6.3
AKS Akhisar 81.20 321 *eP* **P 10 30 14.8 -1.8**
NKY Niksic 81.20 329⇑*iP* **P 10 30 15.2 -1.4**
VAY Valandovo 81.21 326 *eP* **P 10 30 16.3 -0.4**
VAY Valandovo 81.21 326⇑*iP* **P 10 30 16.2 -0.5**
KNT Kendrikon 81.22 325 *eP* **P 10 30 16.6 -0.1**
HWQ Hawqa 81.27 313 *eP* **P 10 30 17.1 0.0**
BRY Bratogost 81.28 329⇑*iP* **P 10 30 15.8 -1.2**
CPCT Cooper Cave 81.31 45 *eP* **P 10 30 16.6 -0.7**
CPCT *epP* pP 10 30 28.1 -0.8
SOH Sokhos 81.34 325 *eP* **P 10 30 16.9 -0.5**
GRR Gorron 81.36 344⇑*iP* **P 10 30 17.4 +0.1**
comp=Z,744nm,1.2s,mb6.2
GRR Gorron 81.36 344⇑*iP* **P 10 30 17.4 +0.1**
comp=Z,372nm,1.2s,mb6.2
GRR Gorron 81.36 344⇑*iP* **P 10 30 17.4 +0.1**
GRR pmax pmax
comp=Z,372nm,1.2s,mb6.2
LKBD Leukerbad 81.38 338⇑*iP* **P 10 30 18.1 +0.6**
LKBD Leukerbad 81.38 338⇑*iP* **P 10 30 17.8 +0.3**
comp=Z,533nm,1.2s,mb6.3
SDMD Soldier's Deli 81.41 38 *eP* **P 10 30 17.5 -0.3**
comp=Z,99nm,1.4s,mb5.5
SDMD *epP* pP 10 30 28.9 -0.5
LOS Limnos 81.43 323 *eP* **P 10 30 17.5 -0.3**
MUGIO Muggio 81.45 337⇑*iP* **P 10 30 17.8 0.0**
MUGIO Muggio 81.45 337⇑*iP* **P 10 30 18.1 +0.3**
comp=Z,686nm,1.1s,mb6.5
TTG Podgorica 81.45 328⇑*iP* **P 10 30 17.1 -0.8**
LOR Lormes 81.46 340⇑*iP* **P 10 30 18.0 +0.2**
comp=Z,477nm,1.0s,mb6.1
LOR *e*MLR MLR
comp=Z,5μm,21.2s,MS5.6
LOR Lormes 81.46 340⇑*iP* **P 10 30 18.0 +0.2**
comp=Z,239nm,1.0s,mb6.1
LOR LR LR
comp=Z,5μm,21.3s,MS5.9
LOR Lormes 81.46 340⇑*iP* **P 10 30 18.0 +0.2**
LOR pmax pmax
comp=Z,239nm,1.0s,mb6.1
LOR MLR MLR
comp=Z,5μm,21.3s,MS5.9
SENIN Lac Senin/Sane 81.49 338⇑*iP* **P 10 30 18.8 +0.8**
comp=Z,386nm,1.5s,mb6.1
OUR Ouranopolis 81.52 324 *eP* **P 10 30 17.5 -0.8**
PRK Paraskevi 81.53 322 *eP* **P 10 30 18.0 -0.4**
CABF La Chapelle 81.56 339⇑*iP* **P 10 30 18.8 +0.4**
comp=Z,552nm,1.3s,mb6.0
CABF La Chapelle 81.56 339⇑*iP* **P 10 30 18.8 +0.4**
comp=Z,276nm,1.3s,mb6.0
CABF La Chapelle 81.56 339⇑*iP* **P 10 30 18.8 +0.4**
CABF pmax pmax
comp=Z,276nm,1.3s,mb6.0
PUK Puka 81.56 328 *ePN* **P 10 30 18.2 -0.3**
VAI Varese 81.57 337 P **P 10 30 18.7 +0.2**
ELN Prospectdale 81.58 42 *eP* **P 10 30 18.0 -0.7**
ELN *e* pP 10 30 27.3 -2.9
GIMEL St. Georges / 81.58 339⇑*iP* **P 10 30 19.0 +0.5**
comp=Z,700nm,3.4s
AIGLE Aigle 81.59 338⇑*iP* **P 10 30 19.0 +0.4**
comp=Z,478nm,1.3s,mb6.3
STON Ston 81.59 330 P **P 10 30 17.1 -1.6**
PHNC Paralimni 81.61 314 P **P 10 30 18.7 -0.2**
MMK Mattmark 81.61 337⇑*iP* **P 10 30 19.8 +1.1**
MMK Mattmark 81.61 337⇑*iP* **P 10 30 19.5 +0.8**
comp=Z,899nm,1.9s,mb6.4
DENT Denizli 81.62 319 *eP* **P 10 30 17.3 -1.6**
LFK Lefkose 81.62 315 *eP* **P 10 30 18.4 -0.5**
HORT Hortiatis 81.63 325 *eP* **P 10 30 18.1 -0.8**
GRYON Gryon 81.64 338⇑*iP* **P 10 30 19.5 +0.7**
GRYON Gryon 81.64 338⇑*iP* **P 10 30 19.8 +1.0**
comp=Z,490nm,1.4s,mb6.2
KRUS Krusevo 81.66 326 *iP* **P 10 30 19.1 0.0**
BUM Brajici-Budva 81.69 328⇑*iP* **P 10 30 18.6 -0.6**
PLG Polygyros 81.69 325 *eP* **P 10 30 18.7 -0.5**
PLG Polygyros 81.69 325 *eP* **P 10 30 18.0 -1.2**
HCY Herceg Novi 81.70 329⇑*iP* **P 10 30 18.2 -1.0**
BHL Bhannes 81.71 313 *eP* **P 10 30 19.6 +0.2**
DIX Grande Dixence 81.72 338⇑*iP* **P 10 30 20.5 +1.2**
DIX Grande Dixence 81.72 338⇑*iP* **P 10 30 20.2 +0.9**
comp=Z,617nm,1.0s,mb6.5
HYF Humbligny 81.72 341⇑*iP* **P 10 30 19.6 +0.3**
SSF Saint Saulge 81.73 341⇑*iP* **P 10 30 19.5 +0.2**
comp=Z,196nm,0.9s,mb5.8
SSF Saint Saulge 81.73 341⇑*iP* **P 10 30 19.5 +0.2**

comp=Z,98nm,0.9s,mb5.7
SSF Saint Saulge 81.73 341⇑ iP P 10 30 19.5 +0.2
SSF pmax pmax
comp=Z,98nm,0.9s,mb5.7
BLA Blacksburg 81.73 41 eP P 10 30 18.6 -0.9
comp=Z,64nm,1.2s,mb5.4
BLA LR LR
comp=Z,2µm,22.0s,MS5.4
BLA Blacksburg 81.73 41 eP P 10 30 18.6 -0.9
BLA pmax pmax
comp=Z,64nm,1.2s,mb5.4
BLA MLR MLR
comp=Z,2µm,22.0s,MS5.4
SALAN Lac Salanfe 81.77 338⇑ iP P 10 30 20.2 +0.7
SALAN Lac Salanfe 81.77 338⇑ iP P 10 30 20.5 +1.0
comp=Z,714nm,2.4s,mb6.2
SGMF Saint Gilles 81.79 345⇑ iP P 10 30 20.0 +0.4
comp=Z,417nm,1.1s,mb6.0
SGMF Saint Gilles 81.79 345⇑ iP P 10 30 20.0 +0.4
comp=Z,209nm,1.1s,mb6.0
SGMF Saint Gilles 81.79 345⇑ iP P 10 30 20.0 +0.4
SGMF pmax pmax
comp=Z,209nm,1.1s,mb6.0
ROSF Rostrenen 81.83 345⇑ iP P 10 30 20.2 +0.4
comp=Z,639nm,1.2s,mb6.1
ROSF Rostrenen 81.83 345⇑ iP P 10 30 20.2 +0.4
comp=Z,320nm,1.2s,mb6.1
ROSF Rostrenen 81.83 345⇑ iP P 10 30 20.2 +0.4
ROSF pmax pmax
comp=Z,320nm,1.2s,mb6.1
MAMC Mammari 81.86 315 P P 10 30 20.1 -0.1
ULC Ulcinj 81.86 328⇑ iP P 10 30 19.3 -0.8
EMV Vieux Emosson 81.87 338⇑ iP P 10 30 20.9 +0.9
comp=Z,1µm,2.4s,mb6.3
BIA Bitola 81.94 326 eP P 10 30 19.3 -1.2
BIA Bitola 81.94 326 eP P 10 30 19.5 -1.0
FIU Minerbio Fiu 81.95 334 P P 10 30 21.6 +1.1
RAVA Ravarino 81.95 335 P P 10 30 22.1 +1.6
RCY Rachaya 81.97 312 eP P 10 30 21.3 +0.5
CSS Prodhromos 81.97 315 P P 10 30 20.7 -0.1
comp=Z,2.5nm,1.1s
CSS Prodhromos 81.97 315 eP P 10 30 20.5 -0.3
PAIG Paliouri 81.99 324 eP P 10 30 19.8 -1.0
ORX Oropa 81.99 337 P P 10 30 21.5 +0.8
ORO Oropa 82.00 337 P P 10 30 21.5 +0.8
QSH Qafa e Shtames 82.02 327 ePN P 10 30 20.2 -0.7
AVF Avril sur Loir 82.02 341⇑ iP P 10 30 21.2 +0.4
comp=Z,347nm,0.9s,mb6.0
AVF Avril sur Loir 82.02 341⇑ iP P 10 30 21.2 +0.4
comp=Z,174nm,0.9s,mb6.0
AVF Avril sur Loir 82.02 341⇑ iP P 10 30 21.2 +0.4
AVF pmax pmax
comp=Z,174nm,0.9s,mb6.0
SMF Signal de Mont 82.05 340⇑ iP P 10 30 21.2 +0.2
comp=Z,1µm,1.4s,mb6.3
SMF Signal de Mont 82.05 340⇑ iP P 10 30 21.2 +0.2
comp=Z,550nm,1.4s,mb6.3
SMF Signal de Mont 82.05 340⇑ iP P 10 30 21.2 +0.2
SMF pmax pmax
comp=Z,549nm,1.4s,mb6.3
LEF Lefka 82.05 315 eP P 10 30 20.2 -1.0
OHR Ohrid 82.05 327 eP P 10 30 20.2 -0.9
OHR Ohrid 82.05 327⇑ iP P 10 30 19.9 -1.2
LRAL Lakeview Retre 82.06 48 eP P 10 30 20.2 -1.1
comp=Z,160nm,1.1s,mb5.9
LRAL LR LR
comp=Z,2µm,19.0s,MS5.4
ELL Elmali 82.07 318 eP P 10 30 21.3 0.0
BRSN Barisano 82.10 334 P P 10 30 23.6 +2.3
FNA Florina 82.12 326 eP P 10 30 20.8 -0.7
ALFC Alevga 82.16 316 ⇑P P 10 30 21.1 -0.7
comp=Z,2.1nm,0.9s
TIR Tirane 82.18 327 eP P 10 30 21.5 -0.3
TIR Tirane 82.18 327 ePN P 10 30 22.3 +0.5
PESA Pesaro 82.19 333 P P 10 30 22.1 +0.3
CBN Corbin 82.21 39 eP P 10 30 21.6 -0.4
comp=Z,31nm,0.5s,mb5.5
CBN LR LR
comp=Z,2µm,19.0s,MS5.5
QUIF Quistinic 82.22 345⇑ iP P 10 30 22.2 +0.3
comp=Z,398nm,1.3s,mb5.9
QUIF Quistinic 82.22 345⇑ iP P 10 30 22.2 +0.3
comp=Z,199nm,1.3s,mb5.9
QUIF Quistinic 82.22 345⇑ iP P 10 30 22.2 +0.3
QUIF pmax pmax
comp=Z,199nm,1.3s,mb5.9
PPT Papeete 82.24 127 eS S 10 40 37.3 +2.4
comp=Z,1µm,26.7s
PPT Papeete 82.24 127 eLR LR 10 55 54.3
comp=Z,6µm,23.5s,baz=324
PPT Papeete 82.24 127 LR LR 10 58 40.2
comp=Z,3µm,21.0s,MS5.6,baz=285,slow=30
FORT Forrest 82.29 203 eP P 10 30 22.7 +0.5
comp=Z,151nm,0.6s,mb6.1
LIT Litokhoron 82.30 325 eP P 10 30 21.1 -1.3
AOI Ancona 82.31 333 P P 10 30 21.9 -0.5
RSM Repubblica di 82.31 333 P P 10 30 23.6 +1.2
CHOS Chios island 82.35 322 eP P 10 30 22.4 -0.3
SZAC Souni-Zanaja 82.35 315 P P 10 30 22.8 0.0
BGF Bois d'Agland 82.35 341⇑ iP P 10 30 22.8 +0.2
comp=Z,366nm,1.2s,mb5.9
BGF Bois d'Agland 82.35 341⇑ iP P 10 30 22.8 +0.2
comp=Z,183nm,1.2s,mb5.9
BGF Bois d'Agland 82.35 341⇑ iP P 10 30 22.8 +0.2
BGF pmax pmax
comp=Z,183nm,1.2s,mb5.9
ZCCA Zocca 82.36 335 P P 10 30 23.9 +1.3
comp=Z,9.7nm,1.2s,mb4.6
AKMC Akamas 82.39 316 ⇑P P 10 30 22.3 -0.7
BOB Bobbio (Coli) 82.40 336 P P 10 30 23.5 +0.6
LPL La Plagne 82.42 338⇑ iP P 10 30 24.2 +1.3
comp=Z,545nm,1.1s,mb6.1
LPL La Plagne 82.42 338⇑ iP P 10 30 24.2 +1.3
comp=Z,273nm,1.1s,mb6.1
LPL La Plagne 82.42 338⇑ iP P 10 30 24.2 +1.3
LPL pmax pmax
comp=Z,273nm,1.1s,mb6.1
FSSB Fossombrone 82.43 333 P P 10 30 22.9 -0.1
LPG La Plagne 82.43 338⇑ iP P 10 30 24.4 +1.4
comp=Z,893nm,1.2s,mb6.3
LPG La Plagne 82.43 338⇑ iP P 10 30 24.4 +1.4
comp=Z,447nm,1.2s,mb6.3
LPG La Plagne 82.43 338⇑ iP P 10 30 24.4 +1.4
LPG pmax pmax
comp=Z,447nm,1.2s,mb6.3
ERBM Eremo 82.46 335 P P 10 30 24.7 +1.6
comp=Z,261nm,1.2s,mb6.0
YER Yerkesik 82.46 320 eP P 10 30 21.2 -2.1
KBN Korca 82.48 326 ePN P 10 30 23.1 -0.3
FNVD Fontana Vidola 82.48 334 P P 10 30 24.3 +1.0
comp=Z,251nm,1.2s,mb6.0
PPCY Paphos 82.50 316 P P 10 30 22.9 -0.7
SFI Santa Sofia 82.52 334 P P 10 30 24.7 +1.2
comp=Z,204nm,1.0s,mb6.1
SFI Santa Sofia 82.52 334 P P 10 30 24.7 +1.2
SFI pmax pmax
comp=Z,204nm,1.0s,mb6.1
SEI Scarperia 82.52 334 P P 10 30 25.6 +2.1
comp=Z,1µm,1.2s,mb6.8
FETY Fethiye 82.53 319 eP P 10 30 23.2 -0.5
MLSB Milas 82.54 320 eP P 10 30 22.2 -1.5
VMG Vicchio 82.55 334 P P 10 30 25.7 +2.0
comp=Z,241nm,1.0s,mb6.2
AOS Alonnisos 82.56 324 eP P 10 30 22.3 -1.5
SHAO Shalim 82.59 289 P P 10 30 25.5 +1.3
SNR=5.0
CING Cingoli 82.59 333 P P 10 30 23.8 -0.1
RSP Reno Superiore 82.63 337 P P 10 30 23.8 -0.2
URVA University of 82.68 39 eP P 10 30 24.4 -0.1
URVA epP pP 10 30 35.2 -0.8
VLC Villacollemand 82.70 335 eP P 10 30 24.6 +0.2
comp=Z,109nm,0.9s,mb5.9
KSL Kastellorizon 82.71 318 eP P 10 30 23.5 -1.1
SC2M Scurtabr 82.71 336 P P 10 30 24.7 +0.2
comp=Z,140nm,1.1s,mb5.9
BDI Bagni Di Lucca 82.73 335 P P 10 30 24.8 +0.2
PLDF La Plantade 82.74 340 eP P 10 30 25.1 +0.5
CRE Caprese Michel 82.74 334 P P 10 30 25.1 +0.4
TCF Toulx Ste Croi 82.75 341⇑ iP P 10 30 24.8 +0.2
comp=Z,390nm,1.0s,mb6.1
TCF Toulx Ste Croi 82.75 341⇑ iP P 10 30 24.8 +0.2
comp=Z,195nm,1.0s,mb6.1
TCF Toulx Ste Croi 82.75 341⇑ iP P 10 30 24.8 +0.2
TCF pmax pmax
comp=Z,195nm,1.0s,mb6.1

BADI Badiali 82.76 333 P P 10 30 25.6 +0.9
AGO Saint Agoulin 82.77 340 eP P 10 30 25.9 +1.2
SNTG Esanatoglia 82.78 333 P P 10 30 25.4 +0.5
comp=Z,123nm,1.1s,mb5.8
PCP Pian Castagno 82.86 336 P P 10 30 24.6 -0.6
comp=Z,507nm,2.3s,mb6.1
PCP Pian Castagno 82.86 336 P P 10 30 24.6 -0.6
PCP pmax pmax
comp=Z,507nm,2.3s,mb6.1
GDM Grand'Maison 82.87 338 eP P 10 30 26.5 +1.2
BNI Bardonecchia 82.87 338 eP P 10 30 26.3 +1.0
comp=Z,197nm,1.1s,mb6.0
BNI Bardonecchia 82.87 338 eP P 10 30 26.3 +1.0
BNI pmax pmax
comp=Z,197nm,1.1s,mb6.0
MAIM 82.90 335 P P 10 30 25.0 -0.5
MURB Monte Urbino 82.90 333 P P 10 30 25.6 +0.1
GRN Grenoble 82.92 338 eP P 10 30 26.8 +1.2
MFF Saint Martin d 82.93 343⇑ iP P 10 30 25.8 +0.2
comp=Z,354nm,1.0s,mb6.0
MFF Saint Martin d 82.93 343⇑ iP P 10 30 25.8 +0.2
comp=Z,177nm,1.0s,mb6.0
MFF Saint Martin d 82.93 343⇑ iP P 10 30 25.8 +0.2
MFF pmax pmax
comp=Z,177nm,1.0s,mb6.0
BODT Bodrum 82.94 320 eP P 10 30 23.2 -2.6
ASS Assisi 83.04 333 P P 10 30 27.1 +0.9
MEV Metsovon 83.05 326 eP P 10 30 25.7 -0.7
PYM Petit Puy Mans 83.08 340 eP P 10 30 27.1 +0.7
DAT Datca 83.11 320 eP P 10 30 24.7 -2.0
QLNO Quiliano 83.11 336 P P 10 30 26.0 -0.6
MBDF Montbardon 83.15 338⇑ iP P 10 30 27.3 +0.6
comp=Z,373nm,1.3s,mb6.0
MBDF Montbardon 83.15 338⇑ iP P 10 30 27.3 +0.6
comp=Z,186nm,1.3s,mb6.0
MBDF Montbardon 83.15 338⇑ iP P 10 30 27.3 +0.6
MBDF pmax pmax
comp=Z,186nm,1.3s,mb6.0
COLF Collangettes 83.15 340 eP P 10 30 27.5 +0.8
TERO Teramo 83.15 332 P P 10 30 27.2 +0.4
ORIF Oris-en-Rattie 83.19 338⇑ iP P 10 30 27.2 +0.2
comp=Z,672nm,1.3s,mb6.2
ORIF eMLR MLR
comp=Z,3µm,22.8s,MS5.3
ORIF Oris-en-Rattie 83.19 338⇑ iP P 10 30 27.2 +0.2
comp=Z,336nm,1.3s,mb6.2
ORIF Oris-en-Rattie 83.19 338⇑ iP P 10 30 27.2 +0.2
ORIF pmax pmax
comp=Z,336nm,1.3s,mb6.2
VERF Verneugheol 83.20 341 eP P 10 30 27.0 0.0
FGMS Monte Sant'Ang 83.22 330 P P 10 30 26.8 -0.4
DOI San Damiano 83.23 337 P P 10 30 26.1 -1.1
comp=Z,93nm,0.7s,mb5.9
DOI San Damiano 83.23 337 P P 10 30 26.1 -1.1
DOI pmax pmax
comp=Z,93nm,0.7s,mb5.9
FIN Finale Ligure 83.25 336 P P 10 30 26.4 -0.9
PZZ Prazzo 83.27 337 P P 10 30 27.1 -0.3
AGG Agios Georgios 83.29 325 eP P 10 30 25.6 -2.0
ARG Arkhangelos 83.30 319 eP P 10 30 27.0 -0.7
JAN Janina 83.30 326 eP P 10 30 28.5 +0.9
SURF Saint Ours 83.37 337 eP P 10 30 29.1 +1.2
RGNG Rignano Grg 83.37 330 P P 10 30 27.3 -0.6
SRN Sarande 83.42 327 ePN P 10 30 27.8 -0.4
STV Sta Anna Valdi 83.45 337 P P 10 30 27.1 -1.2
AQU L'Aquila 83.46 332 eP P 10 30 28.6 +0.3
comp=Z,118nm,0.9s,mb5.9
AQU epP pP 10 30 40.0 +0.1
AQU L'Aquila 83.46 332⇓ iP P 10 30 29.2 +0.8
GRFL Gerfalco 83.46 334 P P 10 30 27.7 -0.7
GOGA Godfrey 83.47 46 eP P 10 30 28.0 -0.6
comp=Z,106nm,1.7s,mb5.6
GOGA LR LR
comp=Z,3µm,19.0s,MS5.7
LBL Lubilhac 83.52 340 eP P 10 30 29.5 +0.9
VIVF Saint-Julien-l 83.54 339⇑ iP P 10 30 29.1 +0.3
comp=Z,1µm,1.6s,mb6.4
VIVF Saint-Julien-l 83.54 339⇑ iP P 10 30 29.1 +0.3
comp=Z,520nm,1.6s,mb6.4
VIVF Saint-Julien-l 83.54 339⇑ iP P 10 30 29.1 +0.3
VIVF pmax pmax
comp=Z,520nm,1.6s,mb6.4
EVR Evrytania 83.58 325 eP P 10 30 28.0 -1.1
IGT Igoumenitsa 83.61 326 eP P 10 30 28.3 -0.9
INTR Introdacqua 83.61 332 P P 10 30 27.0 -2.2
CIGN Sant'Elia a Pi 83.61 331 P P 10 30 29.0 -0.2
comp=Z,165nm,1.1s,mb6.1
FIAM Fiamignano 83.62 332 P P 10 30 29.6 +0.4
SAOF Saorge 83.64 337 eP P 10 30 29.3 0.0
KEK Kerkira 83.64 327 eP P 10 30 29.5 +0.1
MNS Montasola 83.65 333 P P 10 30 29.0 -0.4
BRAL Brewton 83.65 50 eP P 10 30 29.3 -0.3
comp=Z,106nm,1.0s,mb5.9
BRAL LR LR
comp=Z,2µm,22.0s,MS5.4
OCF Saint Nazaire 83.65 339 eP P 10 30 30.3 +1.0
OG26 St.-Nazaire-De 83.65 339 eP P 10 30 30.3 +1.0
AUTN L'Aution 83.66 337 eP P 10 30 29.9 +0.5
TOUF Mont Tournerai 83.69 337 eP P 10 30 30.0 +0.5
LCI Lecce 83.70 328 P P 10 30 29.4 -0.3
LUCF Luceram 83.78 337 eP P 10 30 30.3 +0.3
SBF Sospel 83.78 337⇑ iP P 10 30 30.1 +0.1
comp=Z,854nm,1.1s,mb6.5
SBF Sospel 83.78 337⇑ iP P 10 30 30.1 +0.1
comp=Z,427nm,1.1s,mb6.5
SBF Sospel 83.78 337⇑ iP P 10 30 30.1 +0.1
SBF pmax pmax
comp=Z,427nm,1.1s,mb6.5
JSC Jenkinsville 83.79 44 eP P 10 30 29.4 -0.9
JSC epP pP 10 30 39.7 -2.1
RNI2 Rionero Sannit 83.81 331 P P 10 30 30.6 +0.4
MVIF Mont Vial 83.82 337 eP P 10 30 30.8 +0.6
VVLD Villa Vallelon 83.82 332 P P 10 30 30.0 -0.3
FG5 Orsara di Pugl 83.83 330 P P 10 30 30.5 +0.2
comp=Z,171nm,0.9s,mb6.2
FG5 Orsara di Pugl 83.83 330 P P 10 30 30.5 +0.2
FG5 pmax pmax
comp=Z,171nm,0.9s,mb6.2
MIDA Miranda 83.83 331 P P 10 30 30.5 +0.2
WHFO Wadi Hawf 83.83 290 P P 10 30 30.7 0.0
SNR=68
RJF Les Rejaudoux 83.83 341⇑ iP P 10 30 30.3 +0.1
comp=Z,409nm,1.2s,mb6.1
RJF eMLR MLR
comp=Z,5µm,20.2s,MS5.6
RJF Les Rejaudoux 83.83 341⇑ iP P 10 30 30.3 +0.1
comp=Z,205nm,1.2s,mb6.1
RJF LR LR
comp=Z,5µm,20.3s,MS5.9
RJF Les Rejaudoux 83.83 341⇑ iP P 10 30 30.3 +0.1
RJF pmax pmax
comp=Z,205nm,1.2s,mb6.1
RJF MLR MLR
comp=Z,5µm,20.3s,MS5.9
LHS Liberty Hill 83.84 43 eP P 10 30 30.1 -0.3
LHS Liberty Hill 83.84 43 P P 10 30 30.7 +0.2
RBK Rabkut 83.87 289 P P 10 30 30.9 +0.1
SNR=27
FG4 Candela 83.88 330 P P 10 30 30.7 +0.1
SDI San Donato 83.91 332 P P 10 30 30.6 -0.1
REVF Revere 83.91 337 eP P 10 30 31.1 +0.4
CERT Cerreto 83.95 332 P P 10 30 30.3 -0.6
MTCE Montecelio 83.96 332 P P 10 30 30.4 -0.6
SGG Gregorio Mates 84.02 331 P P 10 30 31.2 -0.1
CALN Calern 84.03 337 eP P 10 30 31.6 +0.3
PSB1 Pescosannita 84.03 331 P P 10 30 30.9 -0.4
STOF St-Etienne Org 84.05 338 eP P 10 30 31.9 +0.5
CAF Calviac 84.08 341⇑ iP P 10 30 31.9 +0.4
comp=Z,403nm,1.2s,mb6.1
CAF Calviac 84.08 341⇑ iP P 10 30 31.9 +0.4
comp=Z,201nm,1.2s,mb6.1
CAF Calviac 84.08 341⇑ iP P 10 30 31.9 +0.4
CAF pmax pmax
comp=Z,201nm,1.2s,mb6.1
SMRF Simiane la Rot 84.15 338⇑ iP P 10 30 32.7 +0.8
comp=Z,606nm,1.3s,mb6.2
SMRF Simiane la Rot 84.15 338⇑ iP P 10 30 32.7 +0.8
comp=Z,606nm,1.3s,mb6.6
LKD Levkas 84.21 326 eP P 10 30 31.4 -0.9
VILF Villemus 84.23 338 eP P 10 30 32.7 +0.4
FRF La Foret Royal 84.27 337⇑ iP P 10 30 32.5 0.0
comp=Z,673nm,1.4s,mb6.3
FRF La Foret Royal 84.27 337⇑ iP P 10 30 32.5 0.0
comp=Z,336nm,1.4s,mb6.3

FRF La Foret Royal 84.27 337⇑ iP P 10 30 32.5 0.0
FRF pmax pmax
comp=Z,336nm,1.4s,mb6.3
LFF La Frestale 84.34 342⇑ iP P 10 30 33.1 +0.2
comp=Z,441nm,1.3s,mb6.1
LFF La Frestale 84.34 342⇑ iP P 10 30 33.1 +0.2
comp=Z,221nm,1.3s,mb6.1
LFF La Frestale 84.34 342⇑ iP P 10 30 33.1 +0.2
LFF pmax pmax
comp=Z,221nm,1.3s,mb6.1
TAVF Tavernes 84.37 338 eP P 10 30 32.6 -0.4
PRAF Pradon 84.41 338 eP P 10 30 33.6 +0.4
LASF Ste Croix 84.47 339⇑ iP P 10 30 34.2 +0.7
comp=Z,265nm,1.4s,mb5.9
CNNC Cliffs of the 84.50 41 eP P 10 30 34.0 +0.2
comp=Z,68nm,0.9s,mb5.8
CNNC epP pP 10 30 45.2 -0.2
CNNC LR LR
comp=Z,2µm,20.0s,MS5.5
LMR La Mourre 84.52 337⇑ iP P 10 30 34.1 +0.3
comp=Z,931nm,1.2s,mb6.5
LMR La Mourre 84.52 337⇑ iP P 10 30 34.1 +0.3
comp=Z,466nm,1.2s,mb6.5
LMR La Mourre 84.52 337⇑ iP P 10 30 34.1 +0.3
LMR pmax pmax
comp=Z,466nm,1.2s,mb6.5
TREF Trevaresse 84.53 338 eP P 10 30 34.3 +0.5
PUYF Puyloubier 84.54 338 eP P 10 30 34.3 +0.5
ABTO Aybut 84.55 290 P P 10 30 34.6 +0.3
SNR=60
PGF Pioggiola 84.58 335⇑ iP P 10 30 34.1 0.0
comp=Z,492nm,1.4s,mb6.2
PGF Pioggiola 84.58 335⇑ iP P 10 30 34.1 0.0
comp=Z,246nm,1.4s,mb6.1
PGF Pioggiola 84.58 335⇑ iP P 10 30 34.1 0.0
PGF pmax pmax
comp=Z,246nm,1.4s,mb6.1
VLS Valsamata 84.69 325 eP P 10 30 33.0 -1.8
BERF Bertagne 84.74 338 eP P 10 30 35.2 +0.3
GELF Grande-Etoile 84.74 338 eP P 10 30 35.0 +0.1
CORF Corte 84.77 335 eP P 10 30 35.3 +0.3
COW Cow Castle Cre 84.80 44 eP P 10 30 35.5 +0.1
COW epP pP 10 30 45.8 -1.2
VLI Veliai 85.05 323 eP P 10 30 34.0 -2.6
ITM Ithomi 85.05 324 eP P 10 30 35.0 -1.6
ZKR Zakros 85.06 320 eP P 10 30 35.9 -0.8
NPS Neapolis 85.19 320 eP P 10 30 35.5 -1.8
TIP Timpagrande 85.20 328 eP P 10 30 37.2 -0.1
comp=Z,204nm,1.3s,mb6.1
TIP epP pP 10 30 47.1 -1.8
NHSC New Hope 85.27 44 PFAKE 10 30 50.0 +12
NHSC LR LR
comp=Z,2µm,21.0s,MS5.6
LAST Lasithi 85.33 320 eP P 10 30 36.7 -1.3
OSPF L'Ospedale 85.34 335 eP P 10 30 38.0 +0.1
KYTH Kithira 85.39 323 eP P 10 30 36.5 -1.8
MTLF Montolieu 85.55 340⇑ iP P 10 30 39.0 +0.1
comp=Z,65nm,0.9s,mb5.5
VAM Vamos 85.66 321 eP P 10 30 36.5 -3.1
SIVA Sivas 85.74 321 eP P 10 30 38.7 -1.3
KARN Karanos 85.78 322 eP P 10 30 39.1 -1.2
LRDF Laroque-de-Fa 85.86 340 eP P 10 30 40.9 +0.4
KLBR Kellerberrin 86.16 211 eP P 10 30 40.9 -0.9
comp=Z,51nm,0.7s,mb5.9
MLS Moulis 86.16 341 eP P 10 30 41.8 -0.2
CARF Carcanieres 86.17 340 eP P 10 30 41.8 -0.2
GVD Gavdhos 86.20 321 eP P 10 30 41.0 -1.3
SJAF Saint Jean de 86.21 339 eP P 10 30 42.0 -0.2
FILF Fillols 86.21 340 eP P 10 30 42.3 +0.1
EJON La Jonquera 86.24 339 P P 10 30 40.3 -2.1
comp=Z,59nm,1.5s,mb5.6
EPF Esparros 86.25 341⇑ iP P 10 30 42.3 -0.1
comp=Z,56nm,1.0s,mb5.5
REYF Montagne du Re 86.37 342 eP P 10 30 42.7 -0.3
SLNA Salina 86.42 330 P P 10 30 42.4 -0.9
VIEF Viey 86.46 342 eP P 10 30 43.6 +0.1
RESF Ens 86.47 341 eP P 10 30 43.6 +0.1
VALF Valcebollere 86.49 340 eP P 10 30 44.0 +0.4
SJPF Ste Jean 86.50 343⇑ iP P 10 30 43.5 -0.1
comp=Z,39nm,1.0s,mb5.3
SJPF Ste Jean 86.50 343⇑ iP P 10 30 43.5 -0.1
comp=Z,20nm,1.0s,mb5.3
SJPF Ste Jean 86.50 343⇑ iP P 10 30 43.5 -0.1
SJPF pmax pmax
comp=Z,20nm,1.0s,mb5.3
ELIZ Elizondo 86.51 343 P P 10 30 42.4 -1.3
comp=Z,47nm,1.1s,mb5.6
ELIZ Elizondo 86.51 343 P P 10 30 42.4 -1.3
ELIZ pmax pmax
comp=Z,47nm,1.1s,mb5.6
LARF Larrau 86.52 342 eP P 10 30 44.8 +1.1
ETSF Etsaut 86.57 342⇑ iP P 10 30 43.9 -0.1
comp=Z,87nm,1.1s,mb5.6
ETSF Etsaut 86.57 342⇑ iP P 10 30 43.9 -0.1
comp=Z,43nm,1.1s,mb5.6
ETSF Etsaut 86.57 342⇑ iP P 10 30 43.9 -0.1
ETSF pmax pmax
comp=Z,43nm,1.1s,mb5.6
EBIE Bielsa 86.63 341 P P 10 30 43.0 -1.2
comp=Z,39nm,0.9s,mb5.6
MTTG Motta San Giov 86.63 329 P P 10 30 43.3 -1.1
ELAN Lanestosa 86.81 344 P P 10 30 43.4 -1.7
comp=Z,88nm,1.1s,mb5.9
USI Ustica 86.83 331 P P 10 30 45.1 -0.3
EARI Arriondas 87.05 345 P P 10 30 43.7 -2.6
comp=Z,68nm,1.3s,mb5.7
MUN Mundaring 87.05 212 eP P 10 30 45.9 -0.3
TBI Tubuai 87.09 130 eSKSac SKSac 10 41 10.7 0.0
comp=Z,1µm,28.2s
TBI Tubuai 87.09 130 eLR LR 10 57 56.1
comp=Z,7µm,23.5s,baz=326
ECRI Cripan 87.23 343 P P 10 30 45.7 -1.5
comp=Z,24nm,1.1s,mb5.3
ECRI Cripan 87.23 343 P P 10 30 45.7 -1.5
ECRI pmax pmax
comp=Z,24nm,1.1s,mb5.3
VSL Villasalto 87.29 334 P P 10 30 46.8 -0.8
EPON Pontenova 87.33 347 P P 10 30 45.8 -1.9
comp=Z,93nm,1.2s,mb5.9
NWAO Narrogin (SRO) 87.56 211 PFAKE 10 31 00.0 +11
NWAO LR LR
comp=Z,1µm,22.0s,MS5.3
NWAO Narrogin (SRO) 87.56 211 LR LR 11 07 45.1
comp=Z,1µm,21.4s,MS5.2,baz=32,slow=34
ERC Erice 87.64 331 P P 10 30 49.3 +0.1
ESAC San Caprasio 87.68 342 P P 10 30 46.5 -2.9
comp=Z,109nm,1.3s,mb5.9
EPOB Poblet 87.70 340 P P 10 30 46.6 -2.9
comp=Z,47nm,1.5s,mb5.5
HVZN Vizzini 87.71 329 P P 10 30 48.9 -0.7
HAVL Avola 87.76 329 P P 10 30 49.8 -0.1
HMDC Modica 87.88 329 P P 10 30 50.5 +0.1
EMAZ Mazaricos 87.97 348 P P 10 30 47.0 -3.7
comp=Z,86nm,1.7s,mb5.7
URZ Urewera 88.49 163 P P 10 30 50.5 -2.4
comp=Z,14nm,1.0s,mb5.1,baz=78,slow=3.4,SNR=5.4
ECAL Calabor 88.62 346 P P 10 30 50.9 -2.9
comp=Z,60nm,1.5s,mb5.7
PBRG Braganca 88.76 346 eP P 10 30 53.4 -1.1
comp=Z,67nm,1.5s,mb5.8
PBRG epP pP 10 31 03.6 -2.6
ETOS Mallorca 88.80 339 P P 10 30 52.6 -2.1
comp=Z,101nm,1.9s,mb5.8
DWPF Disney 88.83 47 eP P 10 30 55.0 -0.1
comp=Z,54nm,0.8s,mb5.9
DWPF LR LR
comp=Z,2µm,20.0s,MS5.5
ETOR Torete 88.87 343 P P 10 30 52.6 -2.4
comp=Z,23nm,1.5s,mb5.3
ETOR Torete 88.87 343 P P 10 30 52.6 -2.4
ETOR pmax pmax
comp=Z,23nm,1.5s,mb5.3
ELOB Lobios 88.90 347 P P 10 30 53.4 -1.7
comp=Z,76nm,1.6s,mb5.8
WDD Wield Dalam 88.95 329 P P 10 30 55.2 -0.3
EMOS Mosqueruela 88.98 341 P P 10 30 51.8 -3.8
comp=Z,55nm,1.7s,mb5.6
PCAB Cabril 89.05 347 eP P 10 30 55.5 -0.3
comp=Z,73nm,1.6s,mb5.8
PVRL Vila Real 89.43 347 eP P 10 30 57.6 0.0
comp=Z,115nm,1.2s,mb6.1
MVO Moncorvo 89.43 346 eP P 10 30 56.8 -0.8
comp=Z,90nm,1.3s,mb5.9
MVO epP pP 10 31 06.1 -3.2
MVO Moncorvo 89.43 346 eS S 10 41 46.8 +1.9

MVO Moncorvo 89.43 346 *e*LQ 10 57 03.4
MVO *e*LR LR 11 01 44.0
comp=Z,2μm,18.0s
GUD Guadarrama 89.44 344 P **P** **10 30 55.6 -2.1**
comp=Z,20nm,1.2s,mb5.3
GUD Guadarrama 89.44 344 P **P** **10 30 55.6 -2.1**
GUD pmax pmax
comp=Z,20nm,1.2s,mb5.3
ECHE Chera 89.83 341 P **P** **10 30 58.0 -1.5**
comp=Z,26nm,1.4s,mb5.4
ECHE Chera 89.83 341 P **P** **10 30 58.0 -1.6**
ECHE pmax pmax
comp=Z,26nm,1.4s,mb5.4
PVIS Viseu 90.00 347 *e*P **P** **10 30 59.8 -0.5**
comp=Z,67nm,1.3s,mb5.8
MTE Manteigas 90.26 347 *e*P **P** **10 31 00.8 -0.7**
comp=Z,61nm,1.4s,mb5.7
MTE Manteigas 90.26 347 *e*S S 10 41 51.0 -1.7
MTE Manteigas 90.26 347 *e*LQ 10 55 26.8
MTE *e*LR LR 11 02 10.2
comp=Z,2μm,18.0s
MTE Manteigas 90.26 347 *e*P **P** **10 31 01.0 -0.5**
comp=Z,52nm,1.4s,mb5.7
MTE *e*pP pP 10 31 11.9 -1.3
ESDC Sonseca Array 90.35 344 P **P** **10 30 59.3 -2.7**
comp=Z,51nm,1.5s,mb5.6
ESDC Sonseca Array 90.35 344 P **P** **10 31 01.3 -0.7**
comp=Z,16nm,1.0s,mb5.3,baz=6.4,slow=4.6,SNR=39
ESDC LR LR 11 19 29.8
comp=Z,3μm,18.8s,MS5.7,baz=10.0,slow=41
ESLA Sonseca Array 90.35 344 PFAKE 10 31 10.0 +8.0
ESLA LR LR
comp=Z,19μm,19.0s,MS6.5
EBEN Beniarda 90.52 341 P **P** **10 31 01.2 -1.6**
comp=Z,160nm,1.8s,mb6.0
CMAH Djebel Manchou 90.53 334 P **P** **10 31 02.0 -0.9**
PAB San Pablo 90.55 344 PFAKE 10 31 10.0 +7.1
PAB LR LR
comp=Z,3μm,20.0s,MS5.8
PAB San Pablo 90.55 344 P **P** **10 31 01.9 -1.0**
PAB pmax pmax
comp=Z,42nm,1.3s,mb5.6
KEST Kesra 90.78 332 P **P** **10 31 04.2 +0.2**
comp=Z,18nm,0.9s,mb5.4,baz=302,slow=2.2,SNR=37
KEST LR LR 11 16 56.0
comp=Z,2μm,20.4s,MS5.5,baz=332,slow=39
PCBR Castelo Branco 90.79 346 *e*P **P** **10 31 02.8 -1.2**
comp=Z,56nm,1.4s,mb5.7
ABSA Djebel Ababsia 90.84 334 P **P** **10 31 03.0 -1.3**
ETOB Tobarra 90.86 342 P **P** **10 31 02.0 -2.4**
comp=Z,54nm,1.7s,mb5.6
CKFL Kef-Lekhel 90.94 335 P **P** **10 31 04.5 -0.3**
SNZO South Karori 91.00 165 PFAKE 10 31 20.0 +15
SNZO LR LR
comp=Z,3μm,22.0s,MS5.6
DFRA Djebel Bou Aff 91.04 335 P **P** **10 31 10.0 +4.8**
EVIA Vianos 91.06 342 P **P** **10 31 02.7 -2.7**
comp=Z,44nm,1.4s,mb5.6
EVIA Vianos 91.06 342 P **P** **10 31 02.7 -2.6**
EVIA pmax pmax
comp=Z,44nm,1.4s,mb5.6
TAU Tasmania Unive 91.09 185 PFAKE 10 31 20.0 +15
TAU LR LR
comp=Z,2μm,19.0s,MS5.5
CASM Ain Smara 91.13 335 P **P** **10 31 05.5 -0.2**
CTEI Djebel Teioual 91.34 335 P **P** **10 31 05.5 -1.2**
SET Setif 91.50 336 P **P** **10 31 11.0 +3.6**
ABA Alger-Bouzarea 91.56 338 P **P** **10 31 08.8 +1.2**
CKHR Kef el Ahmar 91.64 335 P **P** **10 31 08.0 0.0**
TEIG Tepich 91.66 57 PFAKE 10 31 20.0 +12
TEIG LR LR
comp=Z,863nm,20.0s,MS5.2
PESTR Estremoz 91.76 346 *e*P **P** **10 31 07.2 -1.3**
comp=Z,52nm,1.5s,mb5.6
PESTR *e*pP pP 10 31 16.6 -3.6
PESTR Estremoz 91.76 346 *e*S S 10 41 59.4 -7.0
PESTR Estremoz 91.76 346 *e*LQ 10 57 01.9
PESTR *e*LR LR 11 02 47.9
comp=Z,3μm,20.0s
EBAN Banos Encina 91.78 343 P **P** **10 31 07.5 -1.1**
comp=Z,11nm,0.7s,mb5.3
EBAN Banos Encina 91.78 343 P **P** **10 31 07.5 -1.1**
EBAN pmax pmax
comp=Z,11nm,0.7s,mb5.3
EBAD Badajoz 91.78 346 P **P** **10 31 06.0 -2.6**
comp=Z,53nm,1.5s,mb5.7
EADA Adamuz 91.92 344 P **P** **10 31 06.5 -2.8**
comp=Z,60nm,1.7s,mb5.7
PMAFR Mafra 91.93 348 *e*P **P** **10 31 08.3 -1.0**
comp=Z,79nm,1.4s,mb5.8
PMAFR Mafra 91.93 348 *e*S S 10 42 00.4 -7.6
PMAFR Mafra 91.93 348 *e*LQ 10 57 14.7
PMAFR *e*LR LR 11 05 00.4
comp=Z,2μm,18.0s
EQES Quesada 91.99 343 P **P** **10 31 07.0 -2.6**
comp=Z,42nm,1.6s,mb5.5
ADJB Djebel Djouab 92.06 337 P **P** **10 31 10.6 +0.6**
EVO Evora 92.16 347 *e*P **P** **10 31 09.4 -1.0**
comp=Z,93nm,1.6s,mb5.6
EVO *e*MLR MLR
comp=Z,4μm,21.0s,MS5.5
ECAB El Cabril 92.17 344 P **P** **10 31 06.7 -3.7**
comp=Z,68nm,1.6s,mb5.7
BBSR BB Station 92.27 33 PFAKE 10 31 20.0 +9.0
BBSR LR LR
comp=Z,1μm,20.0s,MS5.4
PBAR Barrancos 92.35 346 *e*P **P** **10 31 10.2 -1.1**
comp=Z,63nm,1.6s,mb5.7
PBAR *e*pP pP 10 31 18.9 -4.1
PBAR Barrancos 92.35 346 *e*S S 10 42 02.6 -9.1
PBAR Barrancos 92.35 346 *e*LQ 10 56 50.0
PBAR *e*LR LR 11 03 27.6
comp=Z,2μm,20.0s
ELUQ Luque 92.45 343 P **P** **10 31 08.6 -3.1**
comp=Z,42nm,1.8s,mb5.5
ELUQ Luque 92.45 343 P **P** **10 31 08.6 -3.2**
ELUQ pmax pmax
comp=Z,42nm,1.8s,mb5.5
PBEJ Beja 92.63 346 *e*P **P** **10 31 11.6 -1.0**
comp=Z,62nm,1.4s,mb5.8
PBEJ *e*pP pP 10 31 20.9 -3.4
EMIN Mina Concepcio 92.69 345 P **P** **10 31 09.5 -3.3**
comp=Z,55nm,1.7s,mb5.7
ELOJ Sierra Loja 92.83 343 P **P** **10 31 12.2 -1.3**
comp=Z,4.9nm,1.4s,mb4.7
ELOJ Sierra Loja 92.83 343 P **P** **10 31 12.2 -1.3**
ELOJ pmax pmax
comp=Z,5.0nm,1.4s,mb4.8
EGRO El Granado 93.05 346 P **P** **10 31 11.9 -2.6**
comp=Z,63nm,1.6s,mb5.8
PVAQ Vaqueiros 93.21 346 *e*P **P** **10 31 14.4 -0.9**
comp=Z,57nm,1.8s,mb5.7
PVAQ Vaqueiros 93.21 346 *e*S S 10 42 07.4 -12
PVAQ Vaqueiros 93.21 346 *e*LQ 10 55 57.5
PVAQ *e*LR LR 11 03 47.2
comp=Z,3μm,20.0s
PTEO Sao Teotonio 93.23 347 *e*P **P** **10 31 15.3 -0.1**
comp=Z,80nm,1.6s,mb5.9
PTEO *e*pP pP 10 31 24.8 -2.2
PBDV Barranco-do-Ve 93.41 346 *e*S S 10 42 10.5 -11
PBDV Barranco-do-Ve 93.41 346 *e*LQ 10 58 30.5
PBDV *e*LR LR 11 03 53.5
comp=Z,2μm,20.0s
ESPR Espera 93.42 344 P **P** **10 31 13.7 -2.5**
comp=Z,40nm,1.2s,mb5.7
MORF Marmelete 93.45 347 *e*P **P** **10 31 15.7 -0.7**
comp=Z,70nm,1.3s,mb5.9
MORF *e*pP pP 10 31 24.4 -3.7
MORF Marmelete 93.45 347 *e*S S 10 42 10.7 -11
MORF Marmelete 93.45 347 *e*LQ 10 59 29.1
MORF *e*LR LR 11 06 00.1
comp=Z,2μm,20.0s
PFVI Vila Bisbo 93.65 347 *e*P **P** **10 31 16.1 -1.2**
PFVI Vila Bisbo 93.65 347 *e*S S 10 42 09.7 -14
PFVI Vila Bisbo 93.65 347 *e*LQ 10 58 52.7
PFVI *e*LR LR 11 03 58.5
comp=Z,2μm,18.0s
EJIF Jimena Fronter 93.75 344 P **P** **10 31 15.7 -2.1**
comp=Z,86nm,1.2s,mb6.0
EJIF Jimena Fronter 93.75 344 P **P** **10 31 15.7 -2.1**
EJIF pmax pmax
comp=Z,86nm,1.2s,mb6.1
RKT Rikitea 94.82 120 *e*SKSac SKSac 10 41 55.2 +0.1
comp=Z,796nm,30.2s
RKT *e*SP SP 10 43 51.4 +1.2
comp=Z,1μm,30.0s
RKT *e*SS SS 10 48 59.8 +0.7
comp=Z,982nm,26.5s
RKT Rikitea 94.82 120 *e*LR LR 11 01 42.0
comp=Z,2μm,34.0s,baz=320
TGUH Tegucigalpa,Un 97.16 60 *e*P **P** **10 31 32.6 -1.0**
comp=Z,73nm,1.6s,mb5.9
TGUH LR LR
comp=Z,1μm,21.0s,MS5.3
SDDR Presa de Saban 101.42 44 PFAKE 10 32 00.0 +7.5
SDDR LR LR
comp=Z,2μm,19.0s,MS5.6
SJG San Juan 104.48 40 PFAKE 10 32 20.0 +14
SJG LR LR
comp=Z,976nm,20.0s,MS5.3
KMBO Kilima Mbogo 108.78 290 PFAKE 10 36 40.0 +10
KMBO LR LR
comp=Z,2μm,20.0s,MS5.7
SDV Santo Domingo 110.45 49 PFAKE 10 36 50.0 +17
SDV LR LR
comp=Z,437nm,21.0s,MS5.0
BBGH Gun Hill 111.66 36 PFAKE 10 36 50.0 +14
BBGH LR LR
comp=Z,4μm,22.0s,MS5.9
TOA0 Torodi Ar. Sit 114.26 331 *e*PKP PKiKP 10 36 39.5 -1.2
TORD Torodi Ar. Bea 114.26 331 PKiKP PKiKP 10 36 39.7 -1.0
comp=Z,3.0nm,0.7s,baz=354,slow=1.6,SNR=17
TORD PKKPbc PKKPbc 10 47 19.0 +0.2
comp=Z,1.4nm,1.0s,baz=195,slow=1.9,SNR=6.2
CASY Casey 119.17 199 PFAKE 10 37 00.0 +12
CASY LR LR
comp=Z,1μm,20.0s,MS5.5
DBIC Dimbokro 122.35 336 PKP PKPdf 10 36 55.7 -0.6
DBIC LR LR
comp=Z,2μm,20.0s,MS5.7
DBIC Dimbokro 122.35 336 PKP PKPdf 10 36 55.7 -0.6
comp=Z,17nm,0.9s,baz=20,slow=1.7,SNR=35
NNA Nana 124.05 68 PFAKE 10 37 10.0 +11
NNA LR LR
comp=Z,1μm,20.0s,MS5.5
SBA Scott Base 126.13 177 PFAKE 10 37 10.0 +8.5
SBA LR LR
comp=Z,1μm,22.0s,MS5.5
LPAZ La Paz 132.66 63 PKP PKPdf 10 37 16.4 +0.6
LPAZ LR LR
comp=Z,675nm,19.0s,MS5.4
LPAZ La Paz 132.66 63 PKP PKPdf 10 37 16.4 +0.6
comp=Z,6.5nm,0.9s,baz=342,slow=3.5,SNR=22
LBTB Lobatse 134.02 282 PFAKE 10 37 30.0 +12
LBTB LR LR
comp=Z,971nm,20.0s,MS5.5
MAW Mawson 134.11 212 PKIKP PKPdf 10 37 16.6 -0.3
MAW 10 39 50.0
MAW pmax pmax
comp=Z,11nm,0.9s
MAW Mawson 134.11 212 PKP PKPdf 10 37 16.6 -0.2
comp=Z,11nm,0.9s,baz=314,slow=3.8,SNR=12
MAW PP PP 10 39 50.0 +1.0
comp=Z,4.6nm,1.0s,baz=59,slow=9.4,SNR=3.6
TSUM Tsumeb 134.87 295 *e*PKPpre 10 37 11.0
TSUM *e*PKPdf PKPdf 10 37 20.0 +0.1
TSUM LR LR
comp=Z,1μm,20.0s,MS5.7
RCBR Riachuelo 136.69 15 PFAKE 10 37 40.0 +17
RCBR LR LR
comp=Z,1μm,20.0s,MS5.7
QSPA South Pole Qui 138.07 180 PFAKE 10 37 40.0 +16
QSPA LR LR
comp=Z,1μm,22.0s,MS5.7
ASCN Ascension 138.68 343 PFAKE 10 37 40.0 +13
ASCN LR LR
comp=Z,464nm,19.0s,MS5.2
LCO Las Campanas 140.34 78 *e*PKPpre 10 37 22.0
LCO *e*PKPdf PKPdf 10 37 29.6 0.0
LCO LR LR
comp=Z,2μm,20.0s,MS5.8
SUR Sutherland 142.03 278 PFAKE 10 37 40.0 +7.4
SUR LR LR
comp=Z,1μm,20.0s,MS5.7
BDFB Brasilia 142.43 38 *i* PKIKP PKPdf 10 37 29.2 -4.5
BDFB pmax pmax
comp=Z,11nm,0.8s
BDFB Brasilia 142.43 38 PKhKP 10 37 29.2
comp=Z,11nm,0.8s,baz=333,slow=3.8,SNR=15
SYO Syowa Base 142.82 213‖ *e*PKPdf PKPdf 10 37 34.0 +1.2
PLCA Paso Flores 147.27 94 PFAKE 10 37 50.0 +8.6
PLCA LR LR
comp=Z,2μm,21.0s,MS5.8
PLCA Paso Flores 147.27 94 PKP2 PKPbc 10 37 43.2 -0.5
PLCA pmax pmax
comp=Z,35nm,0.9s
PLCA Paso Flores 147.27 94 PKPbc PKPbc 10 37 43.2 -0.5
comp=Z,35nm,0.9s,baz=285,slow=3.7,SNR=54
MAIT Maitri 151.54 205 *e*PKPdf PKPdf 10 37 51.9 +4.7
TRQA Tornquist 151.61 83 *e*PKPdf PKPdf 10 37 47.0 -1.3
TRQA *e*PKPbc PKPbc 10 37 54.3 -0.4
TRQA LR LR
comp=Z,1μm,21.0s,MS5.8
SNAA Sanae 154.37 196 *e*PKPdf PKPdf 10 37 49.3 -2.0
SNAA *e* 10 37 58.4
SNAA *e* 10 38 13.5
SNAA *e* 10 38 22.7
SNAA *e* 10 38 28.0
SNAA *e* 10 38 34.1
SNAA *e* 10 38 38.6
SNAA Sanae 154.37 196 PKIKP PKPbc 10 37 58.1 -1.6
SNAA pmax pmax
comp=Z,5.0nm,0.7s
SNAA Sanae 154.37 196 PKPbc PKPbc 10 37 58.1 -1.6
comp=Z,4.9nm,0.7s,baz=180,slow=2.3,SNR=27
VNA2 Neumayer--Watz 155.80 194 *e*PKPdf PKPdf 10 37 51.6 -1.7
baz=41,slow=1.8
VNA2 *e* 10 38 01.9
VNA2 *e* 10 38 20.0
VNA2 *e* 10 38 26.6
VNA2 *e* 10 38 31.1
VNA2 *e* 10 38 37.1
VNA2 *e* 10 38 41.4
VNA3 Neumayer Olymp 155.87 192 *e*PKPdf PKPdf 10 37 51.7 -1.7
VNA3 *e* 10 38 01.9
VNA3 *e* 10 38 19.7
VNA3 *e* 10 38 26.1
VNA3 *e* 10 38 29.7
VNA3 *e* 10 38 36.1
VNA3 *e* 10 38 40.9
VNA1 Neumayer--Stat 156.19 194 *e*PKPdf PKPdf 10 37 51.6 -2.2
VNA1 *e* 10 38 03.2
VNA1 *e* 10 38 21.6
VNA1 *e* 10 38 27.2
VNA1 *e* 10 38 30.2
VNA1 *e* 10 38 36.8
VNA1 *e* 10 38 41.2
EFI East Falkland 158.79 111 PFAKE 10 38 10.0 +12
EFI LR LR
comp=Z,2μm,19.0s,MS6.0

NEIC ***09*** *10:18:52.8±0.3, 678S×1558*4*E, h10km, mb4.9/6, Error ellipse: s-maj=12.6km s-min=7.7km az=122.0*
ISCJB ***09*** *10:19:01.5±2.2, 70S±0.1×1557*6*E±0.07, h93km±21km, mb4.5/15, Error ellipse: s-maj=18.5km s-min=11.2km az=160.3*
IDC ***09*** *10:19:02.2±3.0, 695S×1557*3*E, h81km±27km, mb4.3/10, mb1 4.4/12, mb1mx4.2/17, mbtmp4.3/12, MS4.3/2, Ms1 4.3/2, ms1mx3.7/20, Error ellipse: s-maj=19.3km s-min=16.4km az=164.0*
ISC 09 10:19:02.9±2.0, 70S±0.1×1557*5*E±0.08, h90km±19km, n47, σ0*57/24, mb4.5/15, 3C-1D, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.83**	**121**	P	**Pn**	**10 20 12.8**	**-0.5**
	34nm,0.3s,baz=267,slow=3.7,SNR=15						
HNR				S	**Sn**	**10 21 08.3**	**+0.4**
	70nm,0.3s,baz=91,slow=22,SNR=7.8						
CTA	**Charters Tower**	**15.98**	**214**	P	**Pn**	**10 22 43.0**	**+0.4**
	0.4nm,0.3s,baz=0.0,slow=6.1,SNR=3.1						
CTA				LR	LR	10 28 21.3	
	comp=Z,229nm,18.0s,baz=64,slow=35						
KAKA	**Kakadu**	**23.66**	**254**	*e*P	**P**	**10 24 06.7**	**+0.4**
	13nm,0.5s,mb4.5						
ARMA	**Armidale**	**23.66**	**189**	*e*P	**P**	**10 24 06.6**	**+0.4**
WB2	**Warramunga Arr**	**24.45**	**236**	*e*P	**P**	**10 24 14.0**	**+0.5**
WRA	**Warramunga Arr**	**24.46**	**236**	P	**P**	**10 24 13.7**	**+0.1**
	4.6nm,0.4s,mb4.1,baz=61,slow=9.3,SNR=61						
WRA				PcP	PcP	10 27 51.1	+0.7
	3.0nm,0.6s,baz=59,slow=2.4,SNR=7.8						
ASAR	**Alice Springs**	**26.77**	**229**	P	**P**	**10 24 34.1**	**-0.3**
	1.3nm,0.4s,mb3.8,baz=62,slow=9.0,SNR=33						
ASAR				PcP	PcP	10 27 56.2	+0.7
	3.3nm,0.6s,baz=67,slow=2.8,SNR=13						
STKA	**Stephens Creek**	**28.10**	**206**	*e*P	**P**	**10 24 45.8**	**-0.4**
	5.6nm,0.8s,mb4.2						
STKA	**Stephens Creek**	**28.10**	**206**	P	**P**	**10 24 45.7**	**-0.5**
	7.4nm,0.8s,mb4.2,baz=24,slow=9.9,SNR=14						
STKA				PcP	PcP	10 27 58.2	-0.4
	3.9nm,0.8s,baz=40,slow=2.9,SNR=5.2						
CNB	**Canberra Magne**	**28.83**	**191**	*e*P	**P**	**10 24 52.6**	**-0.1**
	7.1nm,0.6s,mb4.5						
FITZ	**Fitzroy Crossi**	**31.36**	**246**	*e*P	**P**	**10 25 15.0**	**-0.2**
	23nm,0.6s,mb5.1						
FORT	**Forrest**	**35.14**	**224**	*e*P	**P**	**10 25 47.5**	**-0.5**
	14nm,0.6s,mb5.0						
RPZ	**Rata Peaks**	**39.01**	**162**	P	**P**	**10 26 21.1**	**+0.6**
	31nm,0.6s,mb5.3,baz=100,slow=2.6,SNR=16						
JHJ	**Hachijo jima 2**	**42.64**	**340**	LR	LR	10 43 44.3	
	comp=Z,1μm,18.8s,baz=113,slow=35						
KLBR	**Kellerberrin**	**43.09**	**230**	*e*P	**P**	**10 26 53.5**	**-0.7**
	40nm,0.8s,mb5.2						
MUN	**Mundaring**	**44.44**	**231**	*e*P	**P**	**10 27 05.2**	**+0.1**
RAR	**Rarotonga**	**45.24**	**113**	P	**P**	**10 27 11.1**	**-0.5**
	15nm,0.7s,mb4.8,baz=260,slow=7.7,SNR=5.6						
HKL	**Haleakala**	**54.57**	**59**	*e*P	**P**	**10 28 21.8**	**-0.4**
IPM	**Ipoh**	**55.79**	**280**	⇑P	**P**	**10 28 29.9**	**-1.3**
SONM	**Songino Array**	**69.70**	**327**	P	**P**	**10 30 04.3**	**+1.4**
	5.5nm,0.7s,mb4.5,baz=145,slow=6.0,SNR=20						
MKAR	**Makanchi Array**	**83.87**	**319**	P	**P**	**10 31 23.6**	**+0.9**
	1.3nm,0.4s,mb4.1,baz=89,slow=10,SNR=5.6						
ZALV	**Zalesovo Beam**	**84.56**	**326**	P	**P**	**10 31 25.6**	**-0.4**
	3.5nm,0.6s,mb4.5,baz=115,slow=5.3,SNR=5.6						
MAW	**Mawson**	**84.73**	**203**	P	**P**	**10 31 26.9**	**+0.3**
	7.1nm,0.8s,mb4.6,baz=96,slow=7.8,SNR=12						
YKA	**Yellowknife Ar**	**95.95**	**28**	P	**P**	**10 32 19.4**	**-0.1**
	0.4nm,0.5s,mb4.2,baz=269,slow=4.7,SNR=5.3						
KAF	**Kangasniemi**	**113.74**	**337**	*e*p	PKiKP	10 37 27.2	-3.4
FINES	**FINESS Array B**	**114.20**	**336**	PKiKP	PKiKP	10 37 31.1	-0.5
	0.8nm,0.3s,baz=112,slow=3.2,SNR=17						
AKASG	**Malin Array Be**	**117.94**	**325**	PKP	PKPdf	10 37 38.2	-0.8
	2.9nm,0.5s,baz=47,slow=2.8,SNR=5.6						
KIS	**Kishinev**	**119.73**	**321**	*e*PPP		10 34 20.0	
NB2	**NORSAR Subarra**	**119.90**	**341**	PKPdf	PKPdf	10 37 41.8	-0.7
	comp=Z,0.8nm,0.4s,baz=46,slow=1.9						
NOA	**NORSAR Array B**	**119.90**	**341**	PKP	PKPdf	10 37 42.0	-0.5
	comp=Z,1.0nm,0.5s,baz=47,slow=1.9,SNR=5.7						
CLL	**Collm**	**126.13**	**332**‖	*i* PKPdf	PKPdf	10 37 55.0	+0.2
	comp=Z,5.0nm,0.7s						
CLZ	**Clausthal**	**126.95**	**334**	*e*PKP	PKPdf	10 37 57.1	+0.8
KHC	**Kasperske Hory**	**127.28**	**330**	*e*PKP	PKPdf	10 37 57.5	+0.5
GEC2	**GERESS Array S**	**127.40**	**329**	*e*PKP	PKPdf	10 37 58.2	+0.9
GERES	**GERESS Array B**	**127.40**	**329**	PKP	PKPdf	10 37 57.7	+0.5
	comp=Z,3.1nm,0.6s,baz=86,slow=1.6,SNR=18						
WET	**Wettzell**	**127.62**	**330**	*e*PKP	PKPdf	10 37 58.7	+1.0
GRA1	**Grafenberg Arr**	**128.06**	**331**	*e*PKP	PKPdf	10 37 59.4	+0.9
GRF	**Grafenberg Arr**	**128.06**	**331**	*e*PKP	PKPdf	10 37 59.4	+0.9
MOTA	**Moosalm**	**129.70**	**329**⇑	*i* P	PKPdf	10 38 02.0	+0.3
	comp=Z,3.1nm,0.4s						
SQTA	**Sankt Quirin**	**129.73**	**329**⇑	*i* P	PKPdf	10 38 02.4	+0.7
	comp=Z,2.4nm,0.4s						
HAU	**Haudompre**	**131.52**	**333**	*e*PKIKP	PKPdf	10 38 05.1	0.0
	comp=Z,6.7nm,0.7s						
LPG	**La Plagne**	**133.15**	**330**	*e*PKIKP	PKPdf	10 38 08.9	+0.6
	comp=Z,5.9nm,0.5s						
SSF	**Saint Saulge**	**133.50**	**334**	*e*PKIKP	PKPdf	10 38 09.0	+0.1
	comp=Z,3.6nm,0.5s						
ETSF	**Etsaut**	**138.55**	**334**	*e*PKIKP	PKPdf	10 38 19.3	+0.9
	comp=Z,6.4nm,0.6s						
BDFB	**Brasilia**	**147.47**	**134**	PKPbc	PKPbc	10 38 39.9	+2.4
	comp=Z,5.7nm,0.5s,baz=310,slow=6.8,SNR=5.1						
TORD	**Torodi Ar. Bea**	**153.74**	**286**	PKPbc	PKPbc	10 38 52.0	-0.5
	comp=Z,1.7nm,0.3s,baz=91,slow=1.7,SNR=18						
TORD				PKPab	PKPab	10 39 05.7	0.0
	comp=Z,2.3nm,0.6s,baz=82,slow=4.1,SNR=8.3						
DBIC	**Dimbokro**	**160.74**	**270**	PKPab	PKPab	10 39 36.4	+0.4
	comp=Z,5.0nm,0.4s,baz=80,slow=4.3,SNR=14						

CSEM ***09*** *10:28:29.0±0.1, 3740N×2200E, h40km, MD3.0, Error ellipse: s-maj=3.7km s-min=3.2km az=155.0*
ATH 09 10:28:26.8, 3753N×2195E, h38km, MD3.0/3, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ITM	**Ithomi**	**0.35**	**183**	*e*PB	Pn	10 28 36.2	+0.7
ITM				*e*SB	Sn	10 28 42.3	+0.8
VLI	**Veliai**	**1.13**	**135**	*e*PN	Pn	10 28 47.8	+1.7
VLS	**Valsamata**	**1.26**	**301**	*e*PN	Pn	10 28 49.7	+1.9

IDC 09 10:37:15.1±4.9, 523S×15130E, h0km, mb3.4/4, mb1 3.6/4, mb1mx3.4/12, mbtmp3.5/4, Error ellipse: s-maj=155.9km s-min=30.7km az=107.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.05**	**227**	P	P	10 42 10.9	-0.6
	0.8nm,0.7s,baz=52,slow=11,SNR=8.6						
ASAR	**Alice Springs**	**24.84**	**221**	P	P	10 42 39.9	+0.6
	0.3nm,0.7s,baz=60,slow=9.3,SNR=4.2						
MKAR	**Makanchi Array**	**79.67**	**319**	P	P	10 49 26.1	+1.5
	0.6nm,0.6s,baz=93,slow=6.1,SNR=5.3						
ZALV	**Zalesovo Beam**	**80.68**	**327**	P	P	10 49 28.8	-1.1
	0.5nm,0.5s,baz=126,slow=7.3,SNR=2.9						

ISCJB ***09*** *10:59:19.7±1.4, 4828N±0.10×1547E±0.2, h57km±12km, mb3.7/12, Error ellipse: s-maj=22.7km s-min=9.2km az=41.3*
MOS ***09*** *10:59:20.4±1.2, 4826N×1546E, h66km, mb4.1/6, Error ellipse: s-maj=26.9km s-min=14.6km az=67.8*
IDC ***09*** *10:59:23.2±4.4, 4828N×1547*0*E, h75km±40km, mb3.4/12, mb1 3.7/13, mb1mx3.5/24, mbtmp3.5/13, ML3.6/1, Error ellipse: s-maj=23.0km s-min=16.4km az=133.0*
ISC 09 10:59:21.6±1.3, 4832N±0.10×1547E±0.2, h58km±11km, n24, σ0*89/25, mb3.7/12, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.54**	**21**	*e*PN	**Pn**	**11 00 01.3**	**+1.0**
SKR				*e*S	**Sn**	**11 00 29.0**	**-0.9**
KUR	**Kuril'sk**	**5.63**	**239**	*i* PN	**Pn**	**11 00 41.0**	**-1.6**
KUR				pmax	pmax		
	comp=Z,80nm,0.6s						
ASAJ	**Asahikawa**	**9.39**	**248**	PN	**Pn**	**11 01 36.2**	**+2.1**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ	**Asahikawa**	**9.39**	**248**	P	**Pn**	**11 01 36.2**	**+2.1**
	comp=Z,0.7nm,0.3s,baz=80,slow=8.5,SNR=7.8						
KSRS	**Korea Array**	**22.32**	**251**	P	**P**	**11 04 14.5**	**+0.3**
	comp=Z,1.9nm,0.8s,mb3.6,baz=51,slow=9.7,SNR=7.0						
INK	**Inuvik**	**39.74**	**34**	P	**P**	**11 06 48.0**	**0.0**
INK				pmax	pmax		
	comp=Z,1.0nm,0.6s						
INK	**Inuvik**	**39.74**	**34**	P	**P**	**11 06 48.0**	**-0.1**
	comp=Z,0.7nm,0.6s,mb3.6,baz=306,slow=8.1,SNR=8.5						
ZALV	**Zalesovo Beam**	**42.59**	**305**	P	**P**	**11 07 10.9**	**-0.7**
	comp=Z,0.3nm,0.3s,mb3.5,baz=79,slow=8.2,SNR=3.6						
ZAL	**Zalesovo**	**42.60**	**305**	*e*P	**P**	**11 07 10.9**	**-0.8**
MKAR	**Makanchi Array**	**47.19**	**297**	P	**P**	**11 07 47.8**	**-0.4**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
MKAR	**Makanchi Array**	**47.19**	**297**	P	**P**	**11 07 47.8**	**-0.4**
	comp=Z,1.7nm,0.7s,mb4.1,baz=62,slow=7.4,SNR=9.6						
YKA	**Yellowknife Ar**	**49.02**	**38**	P	**P**	**11 08 01.7**	**-0.3**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
YKA	**Yellowknife Ar**	**49.02**	**38**	P	**P**	**11 08 01.7**	**-0.3**
	comp=Z,0.7nm,0.7s,mb3.8,baz=297,slow=7.3,SNR=9.8						
PDAR	**Pinedale Array**	**62.95**	**55**	P	**P**	**11 09 42.3**	**+0.5**
	comp=Z,0.5nm,0.8s,mb3.7,baz=318,slow=2.0,SNR=4.2						
FINES	**FINESS Array B**	**63.08**	**335**	P	**P**	**11 09 42.0**	**-0.4**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.8s						
FINES	**FINESS Array B**	**63.08**	**335**	P	**P**	**11 09 42.0**	**-0.3**
	comp=Z,1.1nm,0.8s,mb4.0,baz=38,slow=9.3,SNR=3.5						
WRA	**Warramunga Arr**	**70.36**	**200**	P	**P**	**11 10 27.7**	**-1.4**
	comp=Z,0.3nm,0.7s,mb3.3,baz=18,slow=6.4,SNR=3.0						

ASAR Alice Springs 74.05 200 P **P 11 10 51.5 +0.4**
comp=Z,0.2nm,0.5s,mb3.3,baz=8.9,slow=4.6,SNR=7.5
TXAR Lajitas Array 75.78 62 P **P 11 11 01.2 -0.1**
TXAR pmax pmax
comp=Z,1.0nm,0.7s
TXAR Lajitas Array 75.78 62 P **P 11 11 01.2 -0.1**
comp=Z,0.6nm,0.7s,mb3.6,baz=307,slow=4.1,SNR=8.5
GERES GERESS Array B 77.51 335 P **P 11 11 11.2 +0.5**
GERES pmax pmax
comp=Z,1.0nm,0.5s
GERES GERESS Array B 77.51 335 P **P 11 11 11.2 +0.5**
comp=Z,0.8nm,0.5s,mb3.9,baz=35,slow=4.9,SNR=5.7
DAVOS Davos 80.42 336 P **P 11 11 27.7 +1.1**
DAVOX Davos/Dischmat 80.45 336 P **P 11 11 27.8 +1.0**
comp=Z,1.4nm,0.7s,mb4.0,baz=333,slow=12,SNR=4.1

PRE 09 11:00:56.9±1.7, 2982S×2679E, h5km, ML4.0, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SEK	**Senekal**	**1.66**	**26**	*e*P	Pn	11 01 27.4	+0.8
SEK				*e*S	Sn	11 01 48.9	+0.6
SEK				AML	AML	11 01 55.4	
comp=Z,770nm,0.3s							
KSD	**Kokstad**	**2.38**	**108**	*e*P	Pn	11 01 37.6	+1.0
KSD				*e*S	Sn	11 02 05.8	-0.4
KSD				AML	AML	11 02 09.8	
comp=Z,945nm,0.3s							
SWZ	**Schweizer**	**2.92**	**334**	*e*P	Pn	11 01 45.4	+1.4
SWZ				*e*S	Sn	11 02 20.1	+0.5
SWZ				AML	AML	11 02 32.7	
comp=Z,210nm,0.4s							
PRYS	**Parys**	**2.92**	**10**	*e*P	Pn	11 01 44.9	+0.9
PRYS				*e*S	Sn	11 02 20.3	+0.7
PRYS				AML	AML	11 02 30.8	
comp=Z,498nm,0.5s							
GRM	**Grahamstown**	**3.50**	**184**	*e*P	Pn	11 01 53.0	+1.1
GRM				*e*S	Sn	11 02 34.0	+0.3
GRM				AML	AML	11 02 54.0	
comp=Z,211nm,0.5s							
KSR	**Koster**	**3.95**	**1**	*e*P	Pn	11 01 58.1	-0.1
KSR				*e*S	Sn	11 02 43.4	-1.5
KSR				AML	AML	11 03 03.7	
comp=Z,209nm,0.2s							
CER	**Ceres**	**7.31**	**239**	*e*P	Pn	11 02 46.0	+1.7
CER				*e*S	Sn	11 04 03.7	-3.9
CER				AML	AML	11 04 54.5	
comp=Z,43nm,0.3s							
ELIM	**Elim**	**7.64**	**230**	*e*P	Pn	11 02 49.9	+1.1
ELIM				*e*S	Sn	11 04 11.5	-4.3
ELIM				AML	AML	11 05 01.9	
comp=Z,51nm,0.8s							

*NEIC **09** 11:02:10.6±0.5, 4832N×1546S E, h10km, mb4.7/1, Error ellipse: s-maj=13.8km s-min=10.4km az=166.0*
*ISCJB **09** 11:02:14.3±1.1, 4831N±008×1547E±01, h50km±9km, mb3.9/18, Error ellipse: s-maj=16.7km s-min=7.1km az=135.5*
*MOS **09** 11:02:14.5±1.0, 4829N×1546S9E, h54km, mb4.1/9, Error ellipse: s-maj=14.9km s-min=9.1km az=73.4*
*IDC **09** 11:02:18.5±4.0, 4835N×1546S3E, h72km±37km, mb3.6/17, mb1 3.8/18, mb1mx3.7/25, mbtmp3.6/18, ML4.0/1, Error ellipse: s-maj=19.3km s-min=14.6km az=143.0*
ISC 09 11:02:16.5±1.0, 4835N±008×1547E±01, h53km±8km, n47, σ0§83/48, mb3.9/18, 7C-1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.51**	**21**	*e*PN	**Pn**	**11 02 55.0**	**+0.1**
SKR				*e*S	**Sn**	**11 03 23.5**	**-0.7**
SKR				pmax	pmax		
comp=Z,120nm,0.5s							
SKR				pmax	pmax		
comp=N,80nm,0.4s							
SKR				smax			
comp=E,330nm,0.6s							
SKR				smax			
comp=N,150nm,0.5s							
PET	**Petropavlovsk**	**5.31**	**27**	*e*PN	**Pn**	**11 03 33.9**	**+0.7**
PET				pmax	pmax		
comp=Z,50nm,1.2s							
KUR	**Kuril'sk**	**5.63**	**239**	*i* PN	**Pn**	**11 03 36.0**	**-1.6**
KUR				pmax	pmax		
comp=Z,110nm,0.6s							
YSS	**Yuzh-Sakhalins**	**8.19**	**265**	*e*PN	**Pn**	**11 04 14.1**	**+1.5**
ASAJ	**Asahikawa**	**9.39**	**248**	PN	**Pn**	**11 04 31.1**	**+2.0**
ASAJ				pmax	pmax		
comp=Z,2.0nm,0.3s							
ASAJ	**Asahikawa**	**9.39**	**248**	P	**Pn**	**11 04 31.1**	**+2.0**
comp=Z,1.8nm,0.3s,baz=77,slow=14,SNR=16							
ERM	**Erimo**	**10.31**	**236**	*e*PN	**Pn**	**11 04 40.4**	**-1.3**
BILL	**Bilibino**	**20.60**	**12**	*e*P	**P**	**11 06 49.9**	**-0.9**
BILL				pmax	pmax		
comp=Z,7.0nm,1.6s							
KSRS	**Korea Array**	**22.32**	**251**	P	**P**	**11 07 09.9**	**+0.4**
comp=Z,2.0nm,0.6s,mb3.7,baz=51,slow=9.8,SNR=10							
TIXI	**Tiksi**	**26.26**	**342**	*e*P	**P**	**11 07 46.9**	**+0.6**
SONM	**Songino Array**	**31.85**	**288**	P	**P**	**11 08 36.2**	**0.0**
comp=Z,0.2nm,0.3s,mb3.4,baz=50,slow=9.9,SNR=2.6							
TLY	**Talaya**	**32.44**	**295**	*e*P	**P**	**11 08 42.2**	**+1.0**
COLA	**College**	**34.22**	**40**	*e*P	**P**	**11 08 56.1**	**-0.5**
INK	**Inuvik**	**39.73**	**34**	P	**P**	**11 09 43.5**	**+0.2**
INK				pmax	pmax		
comp=Z,1.0nm,0.5s							
INK	**Inuvik**	**39.73**	**34**	P	**P**	**11 09 43.5**	**+0.2**
comp=Z,0.8nm,0.5s,mb3.7,baz=322,slow=6.7,SNR=13							
ZALV	**Zalesovo Beam**	**42.57**	**305**	P	**P**	**11 10 05.6**	**-1.2**
ZALV				PcP	PcP	11 11 58.5	+0.3
ZALV	**Zalesovo Beam**	**42.57**	**305**	P	**P**	**11 10 05.6**	**-1.2**
comp=Z,0.8nm,0.4s,mb3.8,baz=57,slow=6.6,SNR=6.0							
ZALV				PcP	PcP	11 11 58.5	+0.3
comp=Z,0.4nm,0.4s,baz=68,slow=3.7,SNR=3.8							
ZAL	**Zalesovo**	**42.58**	**305**	P	**P**	**11 10 05.6**	**-1.3**
ZAL						11 11 58.5	
MKAR	**Makanchi Array**	**47.17**	**297**	*e*P	**P**	**11 10 43.2**	**-0.3**
MKAR	**Makanchi Array**	**47.17**	**297**	P	**P**	**11 10 43.2**	**-0.3**
comp=Z,1.6nm,0.5s,mb4.2,baz=64,slow=8.0,SNR=13							
KURK	**Kurchatov**	**47.39**	**303**	*e*P	**P**	**11 10 44.5**	**-0.6**
YKA	**Yellowknife Ar**	**49.00**	**38**	P	**P**	**11 10 57.7**	**+0.3**
YKA	**Yellowknife Ar**	**49.00**	**38**	*i* P	**P**	**11 10 57.7**	**+0.4**
YKA				pmax	pmax		
comp=Z,1.0nm,0.7s							
YKA	**Yellowknife Ar**	**49.00**	**38**	P	**P**	**11 10 57.7**	**+0.3**
comp=Z,0.9nm,0.7s,mb3.9,baz=297,slow=7.2,SNR=13							
NVAR	**Mina Array Bea**	**60.75**	**64**	P	**P**	**11 12 22.7**	**+0.1**
comp=Z,0.3nm,0.6s,mb3.6,baz=295,slow=6.8,SNR=3.4							
PDAR	**Pinedale Array**	**62.94**	**55**	P	**P**	**11 12 37.6**	**+0.4**
comp=Z,0.2nm,0.6s,mb3.4,baz=338,slow=3.5,SNR=4.1							
FINES	**FINESS Array B**	**63.05**	**335**	*i* P	**P**	**11 12 37.9**	**+0.3**
FINES				pmax	pmax		
comp=Z,1.0nm,0.6s							
FINES	**FINESS Array B**	**63.05**	**335**	P	**P**	**11 12 37.9**	**+0.3**
comp=Z,0.8nm,0.6s,mb4.0,baz=46,slow=8.0,SNR=6.3							
WRA	**Warramunga Arr**	**70.38**	**200**	*i* P	**P**	**11 13 24.0**	**-0.7**
WRA				pmax	pmax		
comp=Z,1.0nm,0.8s							
WRA	**Warramunga Arr**	**70.38**	**200**	P	**P**	**11 13 24.0**	**-0.7**
comp=Z,1.1nm,0.8s,mb3.8,baz=15,slow=6.2,SNR=7.6							
AKASG	**Malin Array Be**	**70.81**	**327**	P	**P**	**11 13 25.2**	**-1.9**
comp=Z,0.3nm,0.3s,mb3.6,baz=213,slow=32,SNR=5.6							
SCHQ	**Schefferville**	**71.42**	**24**	P	**P**	**11 13 30.9**	**+0.2**
SCHQ	**Schefferville**	**71.42**	**24**	P	**P**	**11 13 30.9**	**+0.2**
comp=Z,2.7nm,0.9s,mb4.2,baz=243,slow=18,SNR=3.1							
ASAR	**Alice Springs**	**74.07**	**200**	P	**P**	**11 13 46.9**	**+0.2**
ASAR				pmax	pmax		
comp=Z,1.0nm,0.5s							
ASAR	**Alice Springs**	**74.07**	**200**	P	**P**	**11 13 46.9**	**+0.2**
comp=Z,0.5nm,0.5s,mb3.7,baz=14,slow=5.2,SNR=21							
CLL	**Collm**	**75.45**	**336**	*i* P	**P**	**11 13 54.6**	**+0.2**
comp=Z,4.0nm,0.6s,mb4.5							
CLL	**Collm**	**75.45**	**336**	*i* P	**P**	**11 13 54.6**	**+0.2**
CLL				pmax	pmax		
comp=Z,4.0nm,0.6s,mb4.5							
TXAR	**Lajitas Array**	**75.78**	**62**	P	**P**	**11 13 56.9**	**+0.2**
TXAR	**Lajitas Array**	**75.78**	**62**	P	**P**	**11 13 56.9**	**+0.2**
TXAR				pmax	pmax		
comp=Z,1.0nm,0.7s							
TXAR	**Lajitas Array**	**75.78**	**62**	P	**P**	**11 13 56.9**	**+0.2**
comp=Z,1.0nm,0.7s,mb3.9,baz=302,slow=4.4,SNR=16							
VRAC	**Vranov**	**76.22**	**333**	P	**P**	**11 13 59.1**	**+0.2**
VRAC				pmax	pmax		
comp=Z,2.0nm,0.5s							
VRAC	**Vranov**	**76.22**	**333**	P	**P**	**11 13 59.1**	**+0.2**
comp=Z,1.6nm,0.5s,mb4.2,baz=336,slow=12,SNR=3.3							
KHC	**Kasperske Hory**	**77.26**	**335**	*e*P	**P**	**11 14 05.6**	**+0.9**
GERES	**GERESS Array B**	**77.48**	**335**	P	**P**	**11 14 06.3**	**+0.3**
GERES				pmax	pmax		
comp=Z,1.0nm,0.5s							
GERES	**GERESS Array B**	**77.48**	**335**	P	**P**	**11 14 06.3**	**+0.3**
comp=Z,1.0nm,0.5s,mb4.0,baz=31,slow=6.2,SNR=9.2							
DAVOS	**Davos**	**80.39**	**336**	P	**P**	**11 14 22.7**	**+0.7**
DAVOX	**Davos/Dischmat**	**80.42**	**336**	P	**P**	**11 14 22.7**	**+0.5**
comp=Z,0.8nm,0.5s,mb3.9,baz=350,slow=9.9,SNR=5.2							

*SGS **09** 11:08:32.3, 3013N×3622E, h23km*
*CSEM **09** 11:08:32.2±0.4, 2983N×3614E, h2km, ML2.1, Error ellipse: s-maj=8.3km s-min=5.2km az=90.0, Mining explosion.*
GII 09 11:08:32.7±0.7, 2993N×3614E, h0km, ML2.1/3, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HRFI	**Mount Harif**	**0.97**	**277**	Pg	Pg	11 08 51.7	+0.5
HRFI				Sg	Sg	11 09 06.9	+3.1
ZFRI	**Zfri**	**1.04**	**307**	Pg	Pg	11 08 53.2	+0.5
ZFRI				Sg	Sg	11 09 09.0	+2.7
EIL	**Elat**	**1.07**	**256**	Pg	Pg	11 08 54.0	+0.8
EIL				Sg	Sg	11 09 10.1	+3.1
PRNI	**Paran**	**1.07**	**293**	Pg	Pg	11 08 53.7	+0.4
HQLS		**1.13**	**237**	P	Pg	11 08 53.7	-0.7
HQLS		**1.13**	**237**	P	Pg	11 08 53.7	-0.7
HQLS				S	Sg	11 09 09.3	+0.3
KRMI	**Paran Flat**	**1.24**	**279**	Pg	Pg	11 08 57.0	+0.4
JLOS		**1.32**	**206**	P	Pg	11 08 56.6	-1.4
JLOS		**1.32**	**206**	P	Pg	11 08 56.6	-1.4
JLOS				S	Sg	11 09 14.8	-0.2
MZDA	**Masada**	**1.53**	**334**	Pn	Pn	11 09 01.3	0.0
MZDA				Sn	Sn	11 09 23.4	+1.5
YTIR	**Yattir**	**1.68**	**329**	Pn	Pn	11 09 03.5	+0.1
DSI	**Dead Sea**	**1.76**	**338**	Pn	Pn	11 09 05.0	+0.5
DSI	**Dead Sea**	**1.76**	**338**	Pn	Pn	11 09 04.9	+0.4
KZIT	**Kziot**	**1.80**	**303**	Pn	Pn	11 09 05.8	+0.8
KZIT				Sn	Sn	11 09 29.8	+1.3
RSHS		**2.00**	**216**	P	Pn	11 09 05.7	-2.1
RSHS				S	Sn	11 09 33.4	-0.2
HMDT	**Nahal Hemdat**	**2.38**	**347**	Pn	Pn	11 09 18.0	+5.1
HMDT				Sn	Sn	11 09 36.3	-6.5
MMLI	**Mount Malkishu**	**2.58**	**346**	Pn	Pn	11 09 20.5	+4.8
MMA0	**Mount Meron ar**	**3.14**	**349**	Pn	Pn	11 09 25.8	+2.4
MMA0				Sn	Sn	11 09 51.1	-11
MMC7	**Mount Meron ar**	**3.15**	**348**	Pn	Pn	11 09 25.8	+2.3
MMC7				Sn	Sn	11 09 51.5	-10
HNTI	**Hanita**	**3.25**	**346**	Pn	Pn	11 09 27.9	+3.0
HNTI				Sn	Sn	11 09 55.3	-9.1
KSDI	**Kefar Szold**	**3.28**	**353**	Pn	Pn	11 09 22.9	-2.4
KSDI				Sn	Sn	11 09 47.1	-18

IDC 09 11:12:57.9±6.8, 4803S×12057E, h0km, mb3.3/2, mb1 3.6/2, mb1mx3.4/10, mbtmp3.3/2, Error ellipse: s-maj=684.1km s-min=71.3km az=109.0, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**26.53**	**28**	P	P	11 18 37.4	+0.3
0.3nm,0.7s,baz=200,slow=8.9,SNR=7.2							
WRA	**Warramunga Arr**	**30.16**	**26**	P	P	11 19 09.5	-0.1
0.4nm,0.9s,baz=198,slow=10,SNR=2.8							
YKA	**Yellowknife Ar**	**146.56**	**44**	PKPbc	PKPbc	11 32 39.1	-0.8
0.3nm,0.7s,baz=268,slow=3.3,SNR=7.0							

*ISCJB **09** 11:14:38.6±0.3, 4431N±002×729E±004, h18km±3km, Error ellipse: s-maj=5.0km s-min=2.7km az=154.2*
*STR **09** 11:14:38.7±0.2, 4435N×732E, h5km, Ml2.3, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
*ROM **09** 11:14:38.0±0.4, 4435N×730E, h18km±6km, Md2.3/5, Ml2.5/1, Error ellipse: s-maj=3.9km s-min=3.7km az=118.0*
*NEIC **09** 11:14:39.7, 4429N×721E, h2km, ML2.5(ROM), ML2.3(STR), ML2.3(LDG), After LDG.*
*LDG **09** 11:14:39.7±0.1, 4429N×721E, h2km, Md2.5/2, Ml2.3/8, Error ellipse: s-maj=3.3km s-min=1.6km az=65.0*
ISC 09 11:14:38.7±0.3, 4431N±002×726E±004, h16km±2km, n28, σ0§91/51, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STV	**Sta Anna Valdi**	**0.08**	**142**	Pg	**Pg**	**11 14 42.0**	**+0.2**
STV				Sg	**Sg**	**11 14 44.2**	**+0.3**
DOI	**San Damiano**	**0.20**	**358**	Pg	**Pg**	**11 14 43.0**	**-0.4**
DOI				Sg	**Sg**	**11 14 46.0**	**-0.6**
716nm,0.2s							
PZZ	**Prazzo**	**0.23**	**331**	Pg	**Pg**	**11 14 43.6**	**-0.3**
PZZ				Sg	**Sg**	**11 14 46.7**	**-0.7**
TOUF	**Mont Tournerai**	**0.29**	**181**	Pg	**Pg**	**11 14 45.5**	**+0.6**
AUTN	**L'Aution**	**0.33**	**158**	Pg	**Pg**	**11 14 46.1**	**+0.5**
AUTN				Sg	**Sg**	**11 14 50.7**	**+0.4**
SURF	**Saint Ours**	**0.36**	**299**	Pg	**Pg**	**11 14 46.1**	**-0.1**
SURF				Sg	**Sg**	**11 14 51.6**	**+0.4**
SAOF	**Saorge**	**0.39**	**146**	Pg	**Pg**	**11 14 46.7**	**+0.1**
SAOF				Sg	**Sg**	**11 14 51.8**	**0.0**
MVIF	**Mont Vial**	**0.42**	**190**	Pg	**Pg**	**11 14 48.0**	**+0.9**
MVIF				Sg	**Sg**	**11 14 54.2**	**+1.4**
LUCF	**Luceram**	**0.42**	**171**	Pg	**Pg**	**11 14 47.7**	**+0.6**
LUCF				Sg	**Sg**	**11 14 53.9**	**+1.1**
SBF	**Sospel**	**0.46**	**164**	*e*Pg	**Pg**	**11 14 48.3**	**+0.4**
SNR=1.0							
SBF				*e*Sg	**Sg**	**11 14 53.1**	**-1.0**
91nm,0.2s							
MBDF	**Montbardon**	**0.55**	**321**	*e*Pg	**Pg**	**11 14 48.8**	**-0.7**
MBDF				*e*Sg	**Sg**	**11 14 56.2**	**-0.6**
30nm,0.2s							
CALN	**Calern**	**0.61**	**206**	Pg	**Pg**	**11 14 51.6**	**+0.9**
FIN	**Finale Ligure**	**0.69**	**98**	Pg	**Pg**	**11 14 51.3**	**-0.9**
FIN				Sg	**Sg**	**11 15 00.0**	**-1.4**
BNI	**Bardonecchia**	**0.85**	**331**	*e*Pg	**Pg**	**11 14 54.4**	**-0.8**
BNI				*e*Sg	**Sg**	**11 15 05.2**	**-1.3**
FRF	**La Foret Royal**	**0.86**	**211**	*e*Pg	**Pg**	**11 14 55.3**	**-0.2**
FRF				*e*Sg	**Sg**	**11 15 05.8**	**-1.1**
18nm,0.2s,SNR=1.0							
LMR	**La Mourre**	**1.11**	**209**	*e*Pn	**Pn**	**11 14 59.3**	**-0.3**
SNR=1.0							
LMR				*e*Sn	**Sn**	**11 15 14.2**	**-0.4**
SNR=1.0							
ORIF	**Oris-en-Rattie**	**1.16**	**302**	*e*Pg	**Pg**	**11 15 00.3**	**-0.8**
ORIF				*e*Sg	**Sg**	**11 15 14.7**	**-1.5**
17nm,0.5s							
LPG	**La Plagne**	**1.25**	**343**	*e*Pg	**Pg**	**11 15 03.7**	**+1.0**
LPG				*e*Sg	**Sg**	**11 15 20.1**	**+1.2**
9.2nm,0.4s							
SMRF	**Simiane la Rot**	**1.25**	**255**	*e*Pg	**Pg**	**11 15 02.5**	**-0.4**
SNR=1.0							
SMRF	**Simiane la Rot**	**1.25**	**255**	*e*P	**Pn**	**11 15 03.5**	**+1.9**
SMRF				*e*Sg	**Sg**	**11 15 18.5**	**-0.7**
27nm,0.4s							
SMRF	**Simiane la Rot**	**1.25**	**255**	*e*P	**Pn**	**11 15 03.5**	**+1.9**
SMRF				*e*Sg	**Sg**	**11 15 18.5**	**-0.7**
LPL	**La Plagne**	**1.27**	**343**	*e*Pg	**Pg**	**11 15 03.8**	**+0.7**
LPL				*e*Sg	**Sg**	**11 15 20.8**	**+1.2**
7.2nm,0.3s,SNR=1.0							
VIVF	**Saint-Julien-l**	**1.93**	**287**	*e*Pn	**Pn**	**11 15 11.3**	**+0.5**
SNR=1.0							
VIVF				*e*Sn	**Sn**	**11 15 34.4**	**-0.3**
4.7nm,0.5s,SNR=1.0							
PGF	**Pioggiola**	**2.17**	**144**	*e*Pn	**Pn**	**11 15 12.7**	**-1.4**
SNR=1.0							
PGF				*e*Sn	**Sn**	**11 15 38.5**	**-2.1**
1.6nm,0.2s,SNR=1.0							
CABF	**La Chapelle**	**2.45**	**341**	*e*Pn	**Pn**	**11 15 19.4**	**+1.4**
CABF				*e*Sn	**Sn**	**11 15 48.6**	**+1.1**
1.3nm,0.3s							
LASF	**Ste Croix**	**2.46**	**266**	*e*Pn	**Pn**	**11 15 18.4**	**+0.3**
SNR=1.0							
LASF				*e*Sn	**Sn**	**11 15 46.0**	**-1.7**
3.6nm,0.7s,SNR=1.0							
SMF	**Signal de Mont**	**3.35**	**315**	*e*Pn	**Pn**	**11 15 31.5**	**+1.1**
BGF	**Bois d'Agland**	**3.83**	**308**	*e*Pn	**Pn**	**11 15 38.2**	**+1.2**

*ISCJB **09** 11:15:01.2±0.9, 1801N±006×10180W±004, h29km±10km, Error ellipse: s-maj=11.3km s-min=5.4km az=25.5*
*NEIC **09** 11:15:02.9, 1799N×10186W, h15km, MD3.9(MEX), After MEX.*
*MEX **09** 11:15:03.2±0.9, 1798N×10184W, h24km±28km, MD3.9*
ISC 09 11:15:01.1±1.2, 1802N±006×10183W±004, h22km±12km, n11, σ1§12/20, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.54**	**139**	*i* P	**Pb**	**11 15 11.5**	**-0.3**
ZIIG				*i* S	**Sb**	**11 15 18.5**	**-0.6**
MMIG	**Aquila**	**1.47**	**281**	*i* P	**Pn**	**11 15 26.1**	**-0.2**
MMIG				*i* S	**Sn**	**11 15 42.6**	**-2.2**
MOIG	**Morelia**	**1.76**	**20**	*i* P	**Pn**	**11 15 30.5**	**+0.2**
MOIG				*i* S	**Sn**	**11 15 50.6**	**-1.5**
MEIG	**Mezcala**	**2.11**	**92**	*i* P	**Pn**	**11 15 35.6**	**+0.6**
MEIG				*i* S	**Sn**	**11 16 00.1**	**-0.4**
ACX	**Acapulco**	**2.15**	**122**	*i* P	**Pn**	**11 15 36.5**	**+0.8**
ACX				*i* S	**Sn**	**11 16 03.5**	**+1.8**
PLIG	**Platanillo**	**2.25**	**80**	*i* P	**Pn**	**11 15 37.8**	**+0.9**
PLIG				*i* S	**Sn**	**11 16 03.6**	**-0.4**
SFJM	**Santa Fe**	**2.71**	**335**	*i* P	**Pn**	**11 15 46.8**	**+3.5**
SFJM				*i* S	**Sn**	**11 16 17.3**	**+1.8**
PPM	**Popocatepetl**	**3.21**	**71**	*i* P	**Pn**	**11 15 51.5**	**+1.3**
PPM				*i* S	**Sn**	**11 16 27.8**	**-0.1**
UTMO	**Huajuapan**	**3.84**	**92**	*i* P	**Pn**	**11 15 57.8**	**-1.0**
UTMO				*i* S	**Sn**	**11 16 41.7**	**-1.6**
TPIG	**Tehuac#an**	**4.27**	**84**	*i* S	**Sn**	**11 16 52.9**	**-1.0**
VHO	**Vista Hermosa**	**4.95**	**100**	*i* S	**Sn**	**11 17 11.7**	**+0.9**

*NEIC **09** 11:16:33.0±0.6, 6845N×15564E, h10km, mb4.8/5, Error ellipse: s-maj=15.7km s-min=14.9km az=156.0*
*ISCJB **09** 11:16:40.4±2.6, 7.1S±0.1×1558E±0.1, h84km±27km, mb4.3/14, Error ellipse: s-maj=23.6km s-min=15.2km az=41.3*
*IDC **09** 11:16:41.7±3.4, 707S×15575E, h81km±31km, mb3.9/10, mb1 4.0/11, mb1mx3.8/16, mbtmp4.0/11, Error ellipse: s-maj=24.9km s-min=17.9km az=103.0*
ISC 09 11:16:42.1±2.4, 71S±01×1558E±01, h85km±26km, n28, σ0§48/21, mb4.3/14, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.73**	**120**	P	**Pn**	**11 17 51.0**	**0.0**
17nm,0.3s,baz=236,slow=1.6,SNR=14							
HNR				S	**Sn**	**11 18 52.1**	**+7.5**
28nm,0.3s,baz=89,slow=10.0,SNR=7.1							
KAKA	**Kakadu**	**23.65**	**255**	*e*P	**P**	**11 21 46.2**	**+0.3**
6.2nm,0.5s,mb4.2							
WB2	**Warramunga Arr**	**24.40**	**236**	*e*P	**P**	**11 21 53.0**	**+0.3**
WRA	**Warramunga Arr**	**24.41**	**236**	P	**P**	**11 21 53.1**	**+0.3**
1.0nm,0.4s,mb3.5,baz=61,slow=9.9,SNR=27							
WRA				PcP	PcP	11 25 30.3	+0.3
0.3nm,0.3s,baz=68,slow=3.0,SNR=6.6							
ASAR	**Alice Springs**	**26.70**	**230**	P	**P**	**11 22 13.1**	**-0.4**
1.1nm,0.3s,mb3.9,baz=61,slow=9.8,SNR=70							
ASAR				PcP	PcP	11 25 35.0	-0.2
0.7nm,0.5s,baz=69,slow=2.6,SNR=10							
STKA	**Stephens Creek**	**27.98**	**206**	*e*P	**P**	**11 22 24.9**	**0.0**
1.0nm,0.6s,mb3.5							
STKA	**Stephens Creek**	**27.98**	**206**	P	**P**	**11 22 24.7**	**-0.2**
1.1nm,0.6s,mb3.6,baz=49,slow=10,SNR=4.3							
FITZ	**Fitzroy Crossi**	**31.33**	**247**	*e*P	**P**	**11 22 54.3**	**-0.4**
9.5nm,0.6s,mb4.7							
FORT	**Forrest**	**35.06**	**224**	*e*P	**P**	**11 23 26.9**	**-0.1**
13nm,0.6s,mb4.9							
RPZ	**Rata Peaks**	**38.86**	**162**	P	**P**	**11 23 59.4**	**+0.4**
RPZ	**Rata Peaks**	**38.86**	**162**	P	**P**	**11 23 59.4**	**+0.4**
2.7nm,0.3s,mb4.5,baz=40,slow=7.9,SNR=3.8							
KLBR	**Kellerberrin**	**43.02**	**230**	*e*P	**P**	**11 24 32.7**	**-0.7**
108nm,1.4s,mb5.4							
ASAJ	**Asahikawa**	**52.35**	**348**	P	**P**	**11 25 45.6**	**+0.3**
4.0nm,0.8s,mb4.5,baz=105,slow=16,SNR=5.4							
SONM	**Songino Array**	**69.84**	**327**	P	**P**	**11 27 44.0**	**+0.4**
1.4nm,0.4s,mb4.1,baz=149,slow=7.3,SNR=12							
MK31	**Makanchi Array**	**84.00**	**319**	*e*P	**P**	**11 29 03.5**	**+0.4**
MKAR	**Makanchi Array**	**84.00**	**319**	P	**P**	**11 29 03.5**	**+0.4**
2.8nm,0.7s,mb4.2,baz=103,slow=5.7,SNR=17							
MAW	**Mawson**	**84.61**	**203**	P	**P**	**11 29 06.3**	**+0.5**
3.4nm,0.9s,mb4.3,baz=109,slow=8.7,SNR=6.3							
ZALV	**Zalesovo Beam**	**84.70**	**326**	P	**P**	**11 29 05.4**	**-1.1**
1.1nm,0.4s,mb4.2,baz=116,slow=4.9,SNR=6.3							
YKA	**Yellowknife Ar**	**96.06**	**28**	P	**P**	**11 29 59.0**	**-0.7**
YKA	**Yellowknife Ar**	**96.06**	**28**	P	**P**	**11 29 59.0**	**-0.7**
0.2nm,0.7s,mb3.7,baz=265,slow=4.5,SNR=4.3							
AKASG	**Malin Array Be**	**118.08**	**325**	PKP	PKPdf	11 35 17.9	-1.2
AKASG	**Malin Array Be**	**118.08**	**325**	PKP	PKPdf	11 35 17.9	-1.2
0.4nm,0.4s,baz=119,slow=1.8,SNR=5.7							
GERES	**GERESS Array B**	**127.54**	**329**	PKP	PKPdf	11 35 37.6	+0.2
0.8nm,0.6s,baz=64,slow=3.1,SNR=4.7							
KEST	**Kesra**	**138.09**	**318**	PKP	PKPdf	11 35 57.4	-0.3
1.0nm,0.3s,baz=306,slow=4.4,SNR=13							
BDFB	**Brasilia**	**147.35**	**134**	PKPbc	PKPbc	11 36 17.5	+0.5
1.

1.4nm,0.7s,baz=97,slow=7.5,SNR=36
FITZ Fitzroy Crossi 52.14 263 P P 11 48 56.0 +0.5
1.1nm,0.7s,baz=97,slow=16,SNR=3.4
NVAR Mina Array Bea 81.88 44 P P 11 51 57.5 +0.5
0.4nm,0.7s,baz=225,slow=11,SNR=3.7
TXAR Lajitas Array 87.97 58 P P 11 52 26.9 +0.2
0.4nm,0.8s,baz=232,slow=6.2,SNR=4.5
PDAR Pinedale Array 89.81 44 P P 11 52 35.2 +0.4
0.4nm,0.7s,baz=210,slow=5.0,SNR=3.7
ARCES ARCESS Array B 129.13 349 PKP PKPdf 11 58 38.9 -0.4
2.8nm,1.0s,baz=322,slow=4.9,SNR=4.8
AKASG Malin Array Be 142.92 330 PKP PKPdf 11 59 03.2 -2.1
2.0nm,0.5s,baz=43,slow=4.3,SNR=13
GERES GERESS Array B 150.32 343 PKPbc PKPbc 11 59 23.5 0.0
0.6nm,0.7s,baz=327,slow=9.5,SNR=2.1

IDC 09 11:48:59.4±3.5,4873S×12435E,h0km,mb3.5/3,mb1 3.7/3,mb1mx3.6/10,mbtmp3.5/3,MS3.9/1,Ms1 4.0/1,ms1mx3.2/19,Error ellipse: s-maj=117.3km s-min=63.4km az=109.0,Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	21.28	44	P	P	11 53 47.3	0.0
	2.8nm,0.9s,baz=195,slow=12,SNR=6.0						
ASAR	Alice Springs	26.14	20	P	P	11 54 35.6	+0.6
	0.8nm,0.8s,baz=200,slow=8.8,SNR=15						
WRA	Warramunga Arr	29.83	19	P	P	11 55 07.7	-0.4
	0.4nm,0.7s,baz=196,slow=8.5,SNR=2.9						
VNDA	Vanda	32.25	166	LR	LR	12 06 09.6	
	comp=Z,226nm,21.4s,baz=164,slow=32						
YKA	Yellowknife Ar	145.31	44	PKPbc	PKPbc	12 08 36.8	-0.8
	0.8nm,0.7s,baz=263,slow=3.4,SNR=18						

*ISCJB **09** 11:54:16.3±1.0,487S±03×1244E±08,h10km,mb3.5/3, Error ellipse: s-maj=86.8km s-min=14.8km az=23.8*
*IDC **09** 11:54:18.0±3.5,4858S×12436E,h0km,mb3.6/3, mb1 3.8/3,mb1mx3.6/10,mbtmp3.7/3,MS3.3/1,Ms1 3.3/1, ms1mx3.1/19,Error ellipse: s-maj=115.0km s-min=63.6km az=110.0*

ISC 09 11:54:18.4±1.0,487S±03×1243E±08,h10km,(h9km±.4km:pP-P),n7,σ1§45/6,mb3.5/3,Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	21.27	44	P	P	11 59 04.8	0.0
	2.2nm,0.7s,mb3.6,baz=205,slow=11,SNR=6.8						
ASAR	Alice Springs	26.11	20	P	P	11 59 53.5	+1.2
	1.4nm,0.8s,mb3.6,baz=196,slow=9.2,SNR=9.4						
WRA	Warramunga Arr	29.80	19	P	P	12 00 24.2	-1.2
	0.5nm,1.0s,mb3.2,baz=197,slow=8.9,SNR=2.8						
SNAA	Sanae	54.27	198	e	P	12 03 45.6	+1.6
SNAA				e	pP	12 03 48.2	+1.0
VNA2	Neumayer--Watz	55.78	197	e	P	12 03 54.2	-0.7
	baz=150,slow=3.6						
VNA2				e	pP	12 03 57.1	-1.0
VNA3	Neumayer Olymp	55.95	196	e	P	12 03 55.3	-0.8
VNA3				e	pP	12 03 57.7	-1.6
YKA	Yellowknife Ar	145.30	44	PKPbc	PKPbc	12 13 55.0	+0.1
	1.8nm,0.8s,baz=270,slow=3.3,SNR=35						

IDC 09 11:56:11.1±5.8,809S×15763E,h0km,mb3.6/3,mb1 3.7/4,mb1mx3.5/14,mbtmp3.6/4,ML3.9/1,Error ellipse: s-maj=124.4km s-min=25.2km az=10.0,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	2.65	120	Pn	Pn	11 56 54.7	-0.5
	22nm,0.3s,baz=249,slow=4.5,SNR=8.4						
HNR				Sn	Sn	11 57 30.5	+2.5
	45nm,0.3s,baz=256,slow=12,SNR=5.8						
WRA	Warramunga Arr	25.44	240	P	P	12 01 40.7	-0.2
	0.8nm,0.6s,baz=68,slow=9.6,SNR=10						
ASAR	Alice Springs	27.51	233	P	P	12 01 59.8	+0.3
	0.4nm,0.9s,baz=64,slow=10,SNR=2.8						
STKA	Stephens Creek	27.98	210	P	P	12 02 03.8	+0.1
	1.2nm,1.0s,baz=20,slow=16,SNR=2.8						

IDC 09 12:02:09.0±15.0,1787S×17852W,h623km±147km,mb3.0/3,mb1 3.2/3,mb1mx2.8/14,mbtmp3.0/3,Error ellipse: s-maj=149.5km s-min=74.2km az=118.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	38.56	241	P	P	12 08 40.3	-0.2
	0.9nm,0.5s,baz=73,slow=11,SNR=3.2						
WRA	Warramunga Arr	44.54	260	P	P	12 09 27.1	-0.5
	0.9nm,0.5s,baz=95,slow=7.6,SNR=33						
WRA				PcP	PcP	12 10 56.7	0.0
	0.2nm,0.5s,baz=97,slow=3.4,SNR=3.6						
ASAR	Alice Springs	44.70	254	P	P	12 09 29.4	+0.7
	1.9nm,0.4s,baz=91,slow=8.2,SNR=62						
ASAR				PcP	PcP	12 10 57.0	-0.3
	0.3nm,0.5s,baz=109,slow=3.9,SNR=5.1						
GERES	GERESS Array B	147.55	345	PKPbc	PKPbc	12 20 44.0	-0.4
	0.3nm,0.5s,baz=31,slow=4.6,SNR=3.4						

*ISCJB **09** 12:11:07.4±4.0,293S±0.10×1297E±0.1,h33km±29km, mb4.3/8,Error ellipse: s-maj=27.4km s-min=11.4km az=153.3*
*NEIC **09** 12:11:08.7±0.8,295S×12975E,h30km,mb4.2/3,Error ellipse: s-maj=28.3km s-min=11.1km az=67.0*
*IDC **09** 12:11:15.3±4.0,315S×12951E,h84km±35km,mb3.8/6, mb1 4.0/9,mb1mx3.8/17,mbtmp3.9/9,MS3.7/1,Ms1 3.7/1, ms1mx2.9/19,Error ellipse: s-maj=45.1km s-min=11.7km az=71.0*

ISC 09 12:11:14.2±2.7,31S±01×1295E±02,h77km±25km,n17,σ1§23/17,mb4.1/7,Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	Kupang	9.13	219	P	Pn	12 13 25.6	+2.4
	1.9nm,0.3s,baz=100,slow=2.0,SNR=5.8						
BATI				LR	LR	12 17 37.5	
	comp=Z,388nm,18.5s,baz=284,slow=42						
FITZ	Fitzroy Crossi	15.36	194	eP	Pn	12 14 46.9	+0.2
	3.4nm,0.4s						
FITZ	Fitzroy Crossi	15.36	194	P	Pn	12 14 45.9	-0.8
	0.4nm,0.3s,baz=38,slow=11,SNR=11						
WRAB	Tennant Creek	17.36	165	eP	Pn	12 15 10.0	-1.6
	8.7nm,0.5s						
WRA	Warramunga Arr	17.36	165	P	Pn	12 15 12.3	+0.7
	1.8nm,0.3s,baz=342,slow=13,SNR=46						
WB2	Warramunga Arr	17.37	165	eP	Pn	12 15 10.1	-1.5
KSM	Kuching	19.74	283	eP	Pn	12 15 38.6	-1.6
ASAR	Alice Springs	20.86	169	P	P	12 15 51.0	+1.1
	20nm,0.6s,baz=350,slow=9.4,SNR=222						
ASAR				S	S	12 19 39.0	+0.7
	3.6nm,1.1s,baz=346,slow=19,SNR=9.0						
ASAR				PcP	PcP	12 19 57.6	+1.8
	0.7nm,0.5s,baz=16,slow=1.3,SNR=6.6						
FORT	Forrest	27.54	183	eP	P	12 16 53.5	-0.3
	12nm,0.8s,mb4.5						
STKA	Stephens Creek	30.77	160	eP	P	12 17 24.6	+2.1
	3.3nm,1.5s,mb3.8						
STKA	Stephens Creek	30.77	160	P	P	12 17 20.8	-1.7
	1.1nm,0.4s,mb4.0,baz=347,slow=10,SNR=5.2						
HNR	Honiara	30.87	103	eP	P	12 17 17.7	-5.8
	121nm,1.0s,mb5.6						
PSI	Prapat	31.15	281	P	P	12 17 25.3	-0.7
	3.3nm,0.5s,mb4.3,baz=166,slow=7.2,SNR=4.9						
SONM	Songino Array	54.64	341	P	P	12 20 36.0	+1.1
	0.2nm,0.5s,mb3.4,baz=144,slow=6.2,SNR=3.6						
MKAR	Makanchi Array	64.75	326	P	P	12 21 45.4	+0.9
	0.7nm,0.6s,mb3.7,baz=120,slow=7.9,SNR=9.0						
ZALV	Zalesovo Beam	67.92	333	P	P	12 22 04.2	-0.3
	0.5nm,0.5s,mb3.6,baz=101,slow=7.5,SNR=3.5						
RLMT	Red Lodge	113.86	41	ePKP	PKiKP	12 29 42.1	-2.2

IDC 09 12:15:45.4±3.6,4867S×12492E,h0km,mb3.6/2,mb1 3.8/2,mb1mx3.6/10,mbtmp3.7/2,Error ellipse: s-maj=144.4km s-min=69.7km az=115.0,Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	20.98	43	P	P	12 20 30.1	0.0
	2.7nm,0.9s,baz=193,slow=9.0,SNR=3.5						
ASAR	Alice Springs	25.95	19	P	P	12 21 19.6	+0.1
	1.2nm,0.7s,baz=196,slow=9.7,SNR=5.3						
YKA	Yellowknife Ar	145.01	44	PKPbc	PKPbc	12 35 21.8	-0.8
	0.7nm,0.8s,baz=264,slow=3.3,SNR=14						

*ISCJB **09** 12:29:00.2±0.5, 1032N±004×6204W±003,h28km±.7km, Error ellipse: s-maj=7.4km s-min=5.4km az=12.7*
*TRN **09** 12:29:00.1,1034N×6203W,h21km,MD3.0*
*NEIC **09** 12:29:00.1,1034N×6203W,h21km,MD3.0(TRN),After TRN.*
*FUNV **09** 12:29:01.6,1033N×6207W,h20km,MW2.8*

ISC 09 12:29:00.6±0.5,1034N±004×6203W±003,h24km±.7km,n15,σ0§67/24,1D,Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIV	Guiria	0.35	328	‖ iP	Pb	12 29 08.2	-0.2
GUIV				eS	Sb	12 29 14.2	+0.5
TCE	Chacachacare	0.45	38	eP	Pb	12 29 09.7	-0.3
TCE				eS	Sb	12 29 16.3	0.0
TPP	Pointe-a-Pierr	0.57	93	eP	Pb	12 29 11.7	-0.4
TRN	Trinidad (W)	0.69	64	eP	Pb	12 29 12.9	-1.1
TRN				eS	Sb	12 29 23.8	+0.6
GUNV	Guanoco	0.91	259	eP	Pb	12 29 17.4	-0.4
GUNV				eS	Sb	12 29 30.4	+0.9
TBH	Brigand Hill	0.96	82	eP	Pb	12 29 18.9	+0.3
CRUV	Carupano	1.23	286	eP	Pn	12 29 21.8	-0.4
CRUV				eS	Sn	12 29 37.2	-0.9
ITEV	Isla Los Testi	1.48	313	eP	Pn	12 29 25.8	+0.1
ITEV				eS	Sn	12 29 45.7	+1.5
ORIV	Oritupano	1.85	227	eP	Pn	12 29 31.9	+1.0
ORIV				eS	Sn	12 29 52.8	-0.8
RIOV	Rio Grande	2.27	174	eP	Pn	12 29 37.2	+0.5
RIOV				eS	Sn	12 30 04.8	+1.0
PCRV	Puerto La Cruz	2.57	267	eP	Pn	12 29 40.1	-0.6
PRGV	PARIAGUAN	3.02	239	eP	Pn	12 29 47.0	+0.1
LUEV	Luepa	4.51	173	eP	Pn	12 30 07.0	-0.4
CAOV	Caicara del Or	5.19	235	eP	Pn	12 30 16.4	-0.4
CAOV				eS	Sn	12 31 11.0	-5.0
BAUV	El Baul	6.08	257	eP	Pn	12 30 28.4	-0.6

IDC 09 12:39:34.7±3.6,4871S×12382E,h0km,mb3.3/2,mb1 3.5/2,mb1mx3.4/11,mbtmp3.4/2,Error ellipse: s-maj=139.6km s-min=68.7km az=118.0,Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	21.51	45	P	P	12 44 25.7	+0.6
	2.1nm,1.0s,baz=186,slow=12,SNR=3.3						
ASAR	Alice Springs	26.24	21	P	P	12 45 11.1	-0.3
	0.4nm,0.7s,baz=200,slow=8.9,SNR=6.9						
YKA	Yellowknife Ar	145.55	44	PKPbc	PKPbc	12 59 12.9	-0.8
	0.7nm,0.7s,baz=272,slow=3.2,SNR=13						

*CSEM **09** 12:40:09.5±0.1,3969N×3973E,h2km,MD2.8,Error ellipse: s-maj=3.7km s-min=3.0km az=18.0*
*ISK **09** 12:40:09.2,3971N×3978E,h5km,MD2.8*
*DDA **09** 12:40:09.5,3958N×3974E,h7km±4km,Md2.8*
*ISCJB **09** 12:40:10.4±1.0,3966N±005×3967E±006,h12km±7km, Error ellipse: s-maj=9.5km s-min=6.8km az=142.9*

ISC 09 12:40:10.0±0.8,3961N±005×3969E±006,h6km±8km,n7,σ0§74/11,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EZC	Erzincan	0.17	36	ePG	Sg	12 40 16.8	+1.1
KOPT	Kop Dagi	0.74	57	i P	Pg	12 40 23.3	-0.9
KOPT				i S	Sg	12 40 34.1	+0.2
GUMT	Gumushane	0.86	349	ePG	Pg	12 40 25.6	-1.0
GUMT				eSG	Sg	12 40 37.8	0.0
ELZG	Elazig	1.24	206	i P	Pn	12 40 35.0	+1.2
ELZG				i S	Sg	12 40 49.7	-0.2
EZM	Erzurum	1.32	77	ePN	Pn	12 40 34.0	-1.0
ERZM	Erzurum	1.33	77	i P	Pn	12 40 34.7	-0.3
ERZM				i S	Sb	12 40 52.8	+0.3
ESPY	Espiye-Giresun	1.50	331	ePN	Pn	12 40 37.9	+0.5

*NIED **09** 13:02:00,3700N×14170E,h35km,Mw3.8 Best double couple: M0 6.18000×10^14 NP1:φs36.00000°,δ79.00000°, λ95.00000°. NP2:φs192.00000°,δ12.00000°,λ67.00000°.*
*ISCJB **09** 13:02:31.0±0.7,3698N±004×14191E±006,h33km, mb3.8/7,Error ellipse: s-maj=7.1km s-min=5.6km az=173.7*
*NEIC **09** 13:02:31.9,3696N×14174E,h49km,MG3.7(JMA),After JMA.*
*JMA **09** 13:02:31.9±0.2,3696N×14174E,h49km±3km,M3.7*
*IDC **09** 13:02:32.9±3.8,3698N×14204E,h38km±30km,mb3.5/5, mb1 3.7/9,mb1mx3.5/24,mbtmp3.7/9,ML3.3/4,MS3.0/1, Ms1 3.0/1,ms1mx2.5/29,Error ellipse: s-maj=36.9km s-min=19.6km az=76.0*

ISC 09 13:02:33.1±0.7,3700N±004×14182E±007,h35km,n25,σ1§12/35,mb3.8/7,6D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	Iwakimizuishiy	0.82	277	‖P	Pn	13 02 46.5	-1.7
JFK	Kawauchi	0.84	296	‖P	Pn	13 02 46.8	-1.6
JFK				eS	Sn	13 02 57.3	-2.1
JHO	Hitachi	1.08	249	‖P	Pn	13 02 49.4	-2.3
JMM	Marumori	1.19	317	‖P	Pn	13 02 52.3	-0.9
JMM				eS	Sn	13 03 06.8	-1.3
JFT	Otama	1.29	294	‖P	Pn	13 02 54.3	-0.3
JFT				eS	Sn	13 03 09.9	-0.7
JIO	Ouri	1.50	346	‖P	Pn	13 02 56.9	-0.5
JIO				eS	Sn	13 03 14.9	-0.8
JOU	Okura	1.64	326	P	Pn	13 02 59.7	+0.3
JOU				eS	Sn	13 03 20.2	+0.9
JFY	Yanaizu	1.74	284	P	Pn	13 03 00.9	+0.2
JFY				eS	Sn	13 03 22.1	+0.5
JYS	Shiratake	1.85	312	P	Pn	13 03 03.0	+0.7
JYS				eS	Sn	13 03 25.6	+1.2
JAG	Ashikaga	1.99	254	P	Pn	13 03 03.2	-1.0
JMK	Ichinoseki	2.00	346	P	Pn	13 03 04.8	+0.4
MJAR	Matsushiro Arr	2.94	262	Pn	Pn	13 03 17.7	+0.5
	7.2nm,0.3s,baz=91,slow=15,SNR=50						
MJAR				Sn	Sn	13 03 56.3	+5.1
	4.4nm,0.3s,baz=143,slow=15,SNR=4.8						
MJAR				LR	LR	13 04 42.3	
	comp=Z,211nm,18.6s,baz=160,slow=42						
MAJO	Matsushiro	2.94	262	ePn	Pn	13 03 18.2	+1.0
MAT	Matsushiro	2.94	262	P	Pn	13 03 17.9	+0.7
MAT				S	Sn	13 03 53.6	+2.4
JHJ	Hachijo jima 2	4.22	204	Pn	Pn	13 03 35.4	+0.5
	11nm,0.3s,baz=150,slow=11,SNR=15						
JHJ				Sn	Sn	13 04 19.8	-3.2
	28nm,0.3s,baz=217,slow=23,SNR=5.3						
ASAJ	Asahikawa	7.13	5	Pn	Pn	13 04 14.8	0.0
	0.4nm,0.3s,baz=225,slow=11,SNR=4.2						
JNU	Nakatsue	9.77	250	Pn	Pn	13 04 54.2	+3.2
	0.2nm,0.3s,baz=142,slow=12,SNR=3.6						
SONM	Songino Array	28.07	304	P	P	13 08 21.9	+0.9
	1.1nm,0.7s,mb3.6,baz=108,slow=8.9,SNR=8.0						
ZALV	Zalesovo Beam	42.18	312	P	P	13 10 23.1	+1.1
	0.6nm,0.4s,mb3.6,baz=101,slow=8.0,SNR=4.8						
MK31	Makanchi Array	44.41	302	eP	P	13 10 40.3	+0.1
MKAR	Makanchi Array	44.41	302	P	P	13 10 40.6	+0.4
	0.8nm,0.8s,mb3.5,baz=88,slow=9.8,SNR=7.4						
KURK	Kurchatov	46.21	308	eP	P	13 10 54.3	0.0
	1.5nm,0.6s,mb4.1						
EKS2	Erkin-Say	51.29	299	eP	P	13 11 35.5	+2.0
	3.0nm,0.5s,mb4.5						
WRA	Warramunga Arr	57.08	188	P	P	13 12 14.8	-1.0
	0.4nm,0.6s,mb3.6,baz=5.7,slow=7.3,SNR=7.6						
ASAR	Alice Springs	60.80	188	P	P	13 12 41.4	-0.1
	0.5nm,0.9s,mb3.6,baz=355,slow=5.6,SNR=5.4						

*IDC **09** 13:11:28.6±1.9,2087S×16852E,h0km,mb4.1/6, mb1 4.3/6,mb1mx4.1/14,mbtmp4.1/6,MS3.9/6,Ms1 3.9/6, ms1mx3.5/25,Error ellipse: s-maj=81.1km s-min=25.4km az=150.0*
*ISCJB **09** 13:11:31.9±0.9,2105S±02×1685E±02,h33km,mb4.0/6, MS4.0/5,Error ellipse: s-maj=30.9km s-min=20.8km az=167.1*
*SZGRF **09** 13:11:35.2,2176S×16664E,h34km,New Caledonia*

ISC 09 13:11:33.5±0.9,211S±02×1686E±02,h35km,n47,σ0§78/8,mb4.0/6,MS4.0/5,Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	14.26	323	LR	LR	13 19 31.3	
	comp=Z,33nm,19.9s,baz=181,slow=34						
URZ	Urewera	18.64	159	LR	LR	13 20 52.2	
	comp=Z,112nm,19.5s,baz=336,slow=30						
CTA	Charters Tower	20.92	269	LR	LR	13 23 23.7	
	comp=Z,220nm,20.8s,MS3.5,baz=295,slow=34						
STKA	Stephens Creek	26.37	240	P	P	13 17 07.9	+1.4
	1.5nm,0.5s,mb3.8,baz=89,slow=11,SNR=12						
STKA				LR	LR	13 27 11.5	
	comp=Z,246nm,18.9s,MS3.8,baz=26,slow=36						
WRA	Warramunga Arr	32.05	266	P	P	13 17 55.7	-1.4
	1.2nm,1.0s,mb3.7,baz=96,slow=8.4,SNR=17						
ASAR	Alice Springs	32.12	259	P	P	13 17 57.4	-0.4
	3.6nm,0.5s,mb4.4,baz=89,slow=8.5,SNR=178						
TBI	Tubuai	38.82	101	eLR	LR	13 29 36.9	
	132nm,30.5s						
PPT	Papeete	39.56	92	eLR	LR	13 30 01.2	
	167nm,24.0s						
FITZ	Fitzroy Crossi	40.48	267	P	P	13 19 09.4	+0.3
	2.2nm,0.7s,mb4.0,baz=88,slow=12,SNR=6.4						
BATI	Kupang	44.44	277	LR	LR	13 37 39.2	
	comp=Z,232nm,18.6s,MS4.1,baz=146,slow=35						
NWAO	Narrogin (SRO)	46.84	244	LR	LR	13 39 22.6	
	comp=Z,271nm,20.8s,MS4.2,baz=278,slow=36						
VNA3	Neumayer Olymp	87.92	181	e	P	13 24 18.5	-0.7
VNA3				e		13 24 20.5	
VNA3				e	pP	13 24 29.4	-0.9
VNA2	Neumayer--Watz	88.20	181	e	P	13 24 20.6	+0.1
	baz=187,slow=4.6						
VNA2				e		13 24 22.5	
VNA2				e	pP	13 24 31.1	-0.5
SONM	Songino Array	88.31	323	P	P	13 24 21.8	+0.5
	1.7nm,0.8s,mb4.3,baz=145,slow=5.4,SNR=11						
NVAR	Mina Array Bea	90.47	49	P	P	13 24 31.7	0.0
	0.4nm,0.6s,mb3.9,baz=217,slow=7.1,SNR=4.6						
PDAR	Pinedale Array	98.31	47	LR	LR	14 06 39.1	
	comp=Z,86nm,18.1s,MS4.3,baz=78,slow=34						
ARCES	ARCESS Array B	126.67	345	PKP	PKPdf	13 30 31.9	-0.5
	7.5nm,1.2s,baz=1.9,slow=3.6,SNR=3.7						
BRG	Berggiesshubel	144.22	332	ePKPbc	PKPdf	13 31 03.8	-1.7
BRG	Berggiesshubel	144.22	332	ePKPbc	PKPdf	13 31 03.9	-1.6
BRG	Berggiesshubel	144.22	332	eP	PKPdf	13 31 03.2	-2.3
	1.5nm,0.7s						
BRG				e		13 31 15.1	
	6.7nm,1.2s						
CLZ	Clausthal	144.93	336	ePKPbc	PKPdf	13 31 06.6	0.0
CLZ	Clausthal	144.93	336	ePKPbc	PKPdf	13 31 06.9	+0.3
TANN	Tannenbergstha	145.20	333	ePKPbc	PKPbc	13 31 07.5	+0.7
TANN	Tannenbergstha	145.20	333	ePKPbc	PKPbc	13 31 06.8	0.0
NKC	Novy Kostel	145.34	333	eP	PKPbc	13 31 08.5	+1.2
NKC				ex	x	13 31 18.2	
MOX	Moxa	145.38	334	ePKPbc	PKPbc	13 31 08.0	+0.6
MOX	Moxa	145.38	334	ePKPbc	PKPbc	13 31 08.0	+0.6
MOX				epPKPbc	pPKPbc	13 31 18.3	-0.4
IBBN	Ibbenburen	145.47	339	ePKPbc	PKPbc	13 31 09.6	+2.0
IBBN	Ibbenburen	145.47	339	ePKPbc	PKPbc	13 31 09.4	+1.8
KHC	Kasperske Hory	145.64	331	eP	PKPdf	13 31 09.6	+1.6
KHC				ex	x	13 31 19.0	
MANZ	Manzenberg	145.67	333	ePKPbc	PKPbc	13 31 09.1	+0.8
MANZ	Manzenberg	145.67	333	ePKPbc	PKPbc	13 31 08.7	+0.4
ROTZ	Rotzenmuhle	145.79	332	ePKPbc	PKPbc	13 31 09.7	+1.0
ROTZ				epPKPbc	pPKPbc	13 31 20.1	0.0
ROTZ	Rotzenmuhle	145.79	332	ePKPbc	PKPbc	13 31 09.6	+0.9
ROTZ				epPKPbc	pPKPbc	13 31 19.9	-0.2
GEC2	GERESS Array S	145.79	330	ePKPbc	PKPbc	13 31 09.3	+0.6
GEC2	GERESS Array S	145.79	330	ePKPbc	PKPbc	13 31 09.0	+0.3
GERES	GERESS Array B	145.79	330	PKPbc	PKPbc	13 31 08.8	+0.1
	3.1nm,0.7s,baz=46,slow=3.9,SNR=13						
UBBA	Unterbreizbach	145.88	336	ePKPbc	PKPbc	13 31 10.5	+1.5
UBBA	Unterbreizbach	145.88	336	ePKPbc	PKPbc	13 31 09.9	+0.9
WET	Wettzell	145.95	331	ePKPbc	PKPbc	13 31 10.1	+0.9
WET	Wettzell	145.95	331	ePKPbc	PKPbc	13 31 09.8	+0.6
GRF	Grafenberg Arr	146.27	333	ePKPbc	PKPbc	13 31 11.5	+1.3
GRF	Grafenberg Arr	146.27	333	ePKPbc	PKPbc	13 31 10.9	+0.7
PDKS	Podkum	147.03	325	ePKPbc	PKPbc	13 31 13.2	+0.8
BOJS	Bojanci	147.25	324	ePKPbc	PKPbc	13 31 14.1	+1.0
BOJS				e		13 31 24.3	
LJU	Ljubljana	147.29	326	ePKPbc	PKPbc	13 31 14.1	+0.9
LJU				e		13 31 24.0	
CEY	Cerknica	147.55	325	ePKPbc	PKPbc	13 31 14.1	+0.2

*ISCJB **09** 13:16:55.8±5.1,209S±03×1686E±03,h7km±33km, mb4.2/7,Error ellipse: s-maj=58.7km s-min=12.9km az=139.3*
*IDC **09** 13:17:02.1±1.4,2102S×16849E,h36km±4km,mb4.1/7, mb1 4.3/7,mb1mx4.0/14,mbtmp4.1/7,Error ellipse: s-maj=50.7km s-min=20.2km az=145.0*
*SZGRF **09** 13:17:03.0,2024S×16985E,h38km,Vanuatu Islands*

ISC 09 13:16:56.7±6.2,210S±03×1686E±02,h5km±40km,h35km±.4km:pP-P,n46,σ0§54/9,mb4.2/7,1D,Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	2.30	242	eP	Pn	13 17 35.8	+0.5
DZM				eS	Sn	13 18 04.2	+0.1
STKA	Stephens Creek	26.45	240	P	P	13 22 34.5	-0.2
	2.0nm,0.6s,mb3.8,baz=60,slow=8.1,SNR=9.2						
WRA	Warramunga Arr	32.12	266	P	P	13 23 24.1	-1.1
	2.0nm,0.9s,mb3.9,baz=98,slow=7.6,SNR=11						
ASAR	Alice Springs	32.19	259	P	P	13 23 25.8	-0.1
	8.0nm,0.7s,mb4.7,baz=84,slow=9.2,SNR=111						
ASAR				pP	pP	13 23 35.8	+8.5
	4.0nm,0.7s,baz=88,slow=7.4,SNR=10						
FITZ	Fitzroy Crossi	40.54	266	P	P	13 24 37.1	-0.1
	5.6nm,0.8s,mb4.2,baz=137,slow=8.7,SNR=9.0						
MJAR	Matsushiro Arr	64.06	333	P	P	13 27 31.5	-0.1
	2.5nm,0.9s,mb4.2,baz=171,slow=6.9,SNR=6.0						
MJAR				pP	pP	13 27 42.0	+8.8
	1.4nm,0.8s,baz=178,slow=3.7,SNR=3.0						
SONM	Songino Array	88.30	323	P	P	13 29 50.2	+1.1
	2.1nm,0.8s,mb4.4,baz=139,slow=5.1,SNR=14						
SONM				pP	pP	13 30 00.8	+10
	2.1nm,0.8s,baz=136,

LJU **Ljubljana** **147.28 326** *i* PKPbc PKPbc 13 36 42.0 +0.7
LJU *e* 13 36 52.6
CEY **Cerknica** **147.53 325** *e*PKPbc PKPbc 13 36 42.6 +0.6
CEY *e* 13 36 53.2
BAIF **Baives** **148.50 341** *e*PKIKP PKPbc 13 36 47.6 +3.2
CDF **Champ du Feu** **148.84 336** *e*PKIKP PKPbc 13 36 47.9 +2.5
comp=Z,11nm,1.1s
DAVOX **Davos/Dischmat** **149.03 331** PKPbc PKPbc 13 36 45.9 -0.1
comp=Z,2.2nm,0.7s,baz=42,slow=4.4,SNR=5.8
DAVOX pPKPbc pPKPbc 13 36 57.6 +10
comp=Z,7.6nm,0.7s,baz=73,slow=2.0,SNR=14
HINF **Hinteralfeld** **149.49 335** *e*PKIKP PKPbc 13 36 49.0 +2.0
CABF **La Chapelle** **150.78 335** *e*PKIKP PKPbc 13 36 50.9 +0.7
FLN **La Foliniere** **150.98 345** *e*PKIKP PKPbc 13 36 52.1 +1.5
LOR **Lormes** **151.05 338** *e*PKIKP PKPbc 13 36 51.5 +0.7
SSF **Saint Saulge** **151.35 339** *e*PKIKP PKPbc 13 36 52.1 +0.6
AVF **Avril sur Loir** **151.64 338** *e*PKIKP PKPbc 13 36 52.7 +0.5
comp=Z,24nm,1.6s
MBDF **Montbardon** **152.00 332** *e*PKIKP PKPbc 13 36 53.2 +0.1
ORIF **Oris-en-Rattie** **152.24 333** *e*PKIKP PKPbc 13 36 53.5 -0.1
comp=Z,1.6nm,0.5s
TCF **Toulx Ste Croi** **152.46 339** *e*PKIKP PKPbc 13 36 53.7 -0.3
PGF **Pioggiola** **152.56 326** *e*PKIKP PKPbc 13 36 53.8 -0.6
comp=Z,9.3nm,0.8s
FRF **La Foret Royal** **152.97 330** *e*PKIKP PKPbc 13 36 54.6 -0.7
comp=Z,24nm,1.4s

IDC 09 13:21:11.7±1.4, 2035S×17319W, h0km, mb3.9/3, mb1 4.3/4, mb1mx3.8/18, mbtmp4.0/4, ML4.1/1, MS3.8/2, Ms1 3.8/2, ms1mx3.1/30, Error ellipse: s-maj=62.3km s-min=27.0km az=142.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**19.72**	**203**	P	Pn	13 25 42.5	-1.7
	0.5nm,0.3s,baz=334,slow=9.3,SNR=6.7						
STKA	**Stephens Creek**	**41.92**	**245**	LR	LR	13 42 52.6	
	comp=Z,72nm,20.1s,baz=24,slow=31						
ASAR	**Alice Springs**	**48.94**	**256**	P	P	13 30 00.3	+0.4
	1.0nm,0.7s,baz=90,slow=8.2,SNR=13						
WRA	**Warramunga Arr**	**49.08**	**261**	P	P	13 30 00.9	-0.2
	1.1nm,0.8s,baz=99,slow=8.5,SNR=9.0						
NVAR	**Mina Array Bea**	**77.88**	**41**	P	P	13 33 11.9	+0.5
	1.0nm,0.7s,baz=216,slow=7.2,SNR=8.8						
NNA	**Nana**	**91.73**	**103**	LR	LR	14 05 53.3	
	comp=Z,91nm,20.8s,baz=349,slow=29						
AKASG	**Malin Array Be**	**144.93**	**335**	PKP	PKPdf	13 40 49.4	-1.3
	1.5nm,0.7s,baz=36,slow=4.2,SNR=8.8						

*BJI **09** 13:25:27.2, 3730N×2480W, h10km, mB4.9, mb4.7, Msz4.4*
*ISCJB **09** 13:25:27.8±0.2, 3743N±004×2489W±003, h10km, mb4.2/53, MS3.5/16, Error ellipse: s-maj=5.3km s-min=3.4km az=176.0*
*CSEM **09** 13:25:27.5±0.1, 3749N×2489W, h10km, mb4.4/35, Ms3.1, Error ellipse: s-maj=3.2km s-min=1.3km az=176.0*
*IDC **09** 13:25:28.1±0.7, 3747N×2487W, h0km, mb4.2/15, mb1 4.3/17, mb1mx4.1/27, mbtmp4.2/17, ML4.8/1, MS3.4/11, Ms1 3.5/11, ms1mx3.2/34, Error ellipse: s-maj=19.8km s-min=14.4km az=180.0*
*NEIC **09** 13:25:29.3±0.3, 3730N×2478W, h10km, mb4.3/34, Error ellipse: s-maj=5.9km s-min=4.2km az=180.0*
*PDA **09** 13:25:31.9±1.1, 3732N×2491W, h10km, MD4.0, ML4.4, Error ellipse: s-maj=8.3km s-min=2.7km az=72.0*
*SVSA **09** 13:25:31.9±1.1, 3732N×2491W, h10km, MD4.0, ML4.4, Error ellipse: s-maj=8.3km s-min=2.7km az=72.0*
*MOS **09** 13:25:32.6±0.9, 3763N×2476W, h33km, mb4.4/28, Error ellipse: s-maj=14.2km s-min=5.1km az=136.3*
ISC 09 13:25:29.2±0.2, 3739N±004×2488W±003, h10km, n225, σ1§06/227, mb4.2/53, MS3.5/16, 3C-1D, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSMN	**Pico do Norte,**	**0.41**	**201**	*e*P	**Pg**	**13 25 38.2**	**+0.9**
PSMN				*e*S	**Sg**	**13 25 41.9**	**-0.8**
PDA	**Ponta Delgada**	**0.72**	**300**	*e*P	**Pg**	**13 25 43.2**	**+0.1**
PSCM	**Serra do Cume**	**2.20**	**307**	*e*P	**Pn**	**13 26 03.9**	**-1.9**
PSCM				*e*S	**Sn**	**13 26 28.1**	**-4.9**
PSCM				A		13 26 33.9	
	2μm,0.3s						
ADH	**Angra Heroismo**	**2.25**	**305**	*e*P	**Pn**	**13 26 04.4**	**-2.0**
ADH				*e*S	**Sn**	**13 26 30.0**	**-4.2**
PID	**Ribeirinha**	**2.77**	**293**	*i* P	**Pn**	**13 26 12.5**	**-1.1**
PID				*e*S	**Sn**	**13 26 41.8**	**-5.3**
PMAN	**Manadas**	**2.82**	**297**	*e*P	**Pn**	**13 26 12.8**	**-1.5**
PMAN				*e*S	**Sn**	**13 26 43.0**	**-5.4**
PMAN				A		13 26 47.3	
	218nm,0.3s						
ROSA	**Rosais**	**2.97**	**298**	*e*P	**Pn**	**13 26 15.2**	**-1.1**
ROSA				*e*S	**Sn**	**13 26 47.2**	**-4.7**
SRBC	**Serra Branca**	**2.98**	**304**	*e*P	**Pn**	**13 26 15.3**	**-1.3**
SRBC				*e*S	**Sn**	**13 26 47.7**	**-4.7**
PICO	**Pico**	**3.01**	**293**	*e*P	**Pn**	**13 26 15.7**	**-1.3**
PICO				*e*S	**Sn**	**13 26 48.3**	**-4.8**
HOR	**Horta**	**3.17**	**292**	*e*P	**Pn**	**13 26 17.6**	**-1.6**
HOR				*e*S	**Sn**	**13 26 51.8**	**-5.2**
CALA	**Caldeira**	**3.24**	**293**	*e*P	**Pn**	**13 26 18.8**	**-1.3**
CALA				*e*S	**Sn**	**13 26 54.1**	**-4.7**
PMAR	**Madeira**	**8.02**	**123**	*e*Pn	**Pn**	**13 27 25.0**	**-0.8**
PMAR				*e*T		13 35 09.6	
PMPS	**Porto Santo**	**8.22**	**119**	*e*Pn	**Pn**	**13 27 25.7**	**-2.8**
PMPS				*e*T		13 35 20.6	
EGOM	**La Gomera**	**11.24**	**143**	P	**Pn**	**13 28 06.2**	**-3.6**
	7.3nm,0.1s						
EGOM				S	**Sn**	**13 30 02.1**	**-13**
EBAJ	**Bajamar**	**11.36**	**138**	P	**Pn**	**13 28 09.1**	**-2.5**
	7.1nm,0.3s						
CCAN	**Las Canadas**	**11.48**	**140**	P	**Pn**	**13 28 09.9**	**-3.4**
	5.0nm,0.6s						
PTEO	**Sao Teotonio**	**12.84**	**84**	*e*S	**Sn**	**13 30 38.2**	**-17**
MORF	**Marmelete**	**12.92**	**85**	*e*S	**Sn**	**13 30 41.9**	**-15**
EVOP	**Sao Brissos**	**13.28**	**80**	*e*Pn	**Pn**	**13 28 33.0**	**-4.7**
EVO	**Evora**	**13.37**	**80**	*e*Pn	**Pn**	**13 28 33.0**	**-5.9**
EVO				*e*Sn	**Sn**	**13 30 47.2**	**-20**
	5.9nm,0.5s						
EVO				*e*MLR	MLR		
	comp=Z,214nm,21.8s						
PBEJ	**Beja**	**13.49**	**82**	*e*S	**Sn**	**13 30 52.9**	**-18**
PVAQ	**Vaqueiros**	**13.65**	**85**	*e*S	**Sn**	**13 30 58.6**	**-16**
PVAQ	**Vaqueiros**	**13.65**	**85**	*e*T		13 41 13.1	
PESTR	**Estremoz**	**13.70**	**79**	*e*S	**Sn**	**13 31 01.0**	**-15**
PCAB	**Cabril**	**13.70**	**66**	*e*S	**Sn**	**13 30 58.0**	**-18**
PCAB	**Cabril**	**13.70**	**66**	*e*T		13 41 26.0	
ELOB	**Lobios**	**13.71**	**66**	P	**Pn**	**13 28 37.8**	**-5.8**
	comp=Z,1.4nm,0.3s						
ELOB				S	Sn	13 30 55.2	-21
MTE	**Manteigas**	**13.84**	**72**	*e*S	**Sn**	**13 31 01.2**	**-18**
PBAR	**Barrancos**	**14.14**	**81**	*e*S	**Sn**	**13 31 07.3**	**-19**
MVO	**Moncorvo**	**14.33**	**69**	*e*P	**Pn**	**13 28 48.6**	**-3.5**
MVO				*e*S	**Sn**	**13 31 12.8**	**-18**
MVO	**Moncorvo**	**14.33**	**69**	*e*T		13 41 46.4	
ESDC	**Sonseca Array**	**16.53**	**76**	Pn	**Pn**	**13 29 20.1**	**-0.9**
	comp=Z,0.7nm,0.3s,baz=264,slow=13,SNR=3.3						
ESLA	**Sonseca Array**	**16.53**	**76**	*e*P	**Pn**	**13 29 20.4**	**-0.6**
ESLA	**Sonseca Array**	**16.53**	**76**	*e*P	**Pn**	**13 29 20.5**	**-0.5**
MDT	**Midelt**	**17.20**	**99**	Pn	**Pn**	**13 29 30.7**	**+1.2**
	comp=Z,0.1nm,0.3s,baz=296,slow=11,SNR=5.5						
MDT				LR	LR	13 34 24.6	
	comp=Z,77nm,20.5s,baz=134,slow=31						
SJPF	**Ste Jean**	**18.91**	**65**	*e*P	**Pn**	**13 29 49.3**	**-1.3**
QUIF	**Quistinic**	**19.06**	**50**	*e*P	**Pn**	**13 29 50.6**	**-1.7**
	comp=Z,15nm,0.9s						
QUIF	**Quistinic**	**19.06**	**50**	*e*P	**Pn**	**13 29 50.6**	**-1.7**
QUIF				pmax	pmax		
	comp=Z,7.0nm,0.9s						
QUIF	**Quistinic**	**19.06**	**50**	*e*P	**Pn**	**13 29 50.6**	**-1.7**
	comp=Z,7.3nm,0.9s						
ROSF	**Rostrenen**	**19.18**	**48**	*e*P	**Pn**	**13 29 52.0**	**-1.8**
	comp=Z,18nm,1.1s						
ROSF	**Rostrenen**	**19.18**	**48**	*e*P	**Pn**	**13 29 52.0**	**-1.8**
ROSF				pmax	pmax		
	comp=Z,9.0nm,1.1s						
ROSF	**Rostrenen**	**19.18**	**48**	*e*P	**Pn**	**13 29 52.0**	**-1.8**
	comp=Z,9.1nm,1.1s						
ETSF	**Etsaut**	**19.36**	**66**	*e*P	**Pn**	**13 29 54.8**	**-1.2**
	comp=Z,11nm,0.8s						
ETSF	**Etsaut**	**19.36**	**66**	*e*P	**Pn**	**13 29 54.8**	**-1.2**
ETSF				pmax	pmax		
	comp=Z,5.0nm,0.8s						
ETSF	**Etsaut**	**19.36**	**66**	*e*P	**Pn**	**13 29 54.8**	**-1.2**
	comp=Z,5.4nm,0.8s						
SGMF	**Saint Gilles**	**19.58**	**49**	*e*P	**Pn**	**13 29 56.8**	**-1.7**
EPF	**Esparros**	**20.04**	**66**	*e*P	**P**	**13 30 02.4**	**+0.2**
	comp=Z,21nm,1.0s						
EPF	**Esparros**	**20.04**	**66**	*e*P	**P**	**13 30 02.4**	**+0.2**
EPF				pmax	pmax		
	comp=Z,10.0nm,1.0s						
EPF	**Esparros**	**20.04**	**66**	*e*P	**P**	**13 30 02.4**	**+0.2**
	comp=Z,10nm,1.0s						
DCN	**Croghan**	**20.10**	**32**	*e*P	**P**	**13 30 06.7**	**+3.9**
DLF	**Lyons Farm**	**20.38**	**33**	*e*P	**P**	**13 30 08.4**	**+2.5**
MFF	**Saint Martin d**	**20.49**	**56**	*e*P	**P**	**13 30 07.4**	**+0.3**
	comp=Z,45nm,1.1s						
MFF	**Saint Martin d**	**20.49**	**56**	*e*P	**P**	**13 30 07.4**	**+0.3**
MFF				pmax	pmax		
	comp=Z,23nm,1.1s						
MFF	**Saint Martin d**	**20.49**	**56**	*e*P	**P**	**13 30 07.4**	**+0.3**
	comp=Z,22nm,1.1s						
DMUB	**Kingscourt**	**20.65**	**31**	*e*P	**P**	**13 30 09.0**	**+0.2**
LFF	**La Frestale**	**20.66**	**61**	*e*P	**P**	**13 30 09.3**	**+0.4**
	comp=Z,26nm,0.7s						
LFF	**La Frestale**	**20.66**	**61**	*e*P	**P**	**13 30 09.3**	**+0.4**
LFF				pmax	pmax		
	comp=Z,13nm,0.7s						
LFF	**La Frestale**	**20.66**	**61**	*e*P	**P**	**13 30 09.3**	**+0.4**
	comp=Z,13nm,0.7s						
GRR	**Gorron**	**20.67**	**50**	*e*P	**P**	**13 30 09.1**	**+0.1**
	comp=Z,66nm,1.1s						
GRR	**Gorron**	**20.67**	**50**	*e*P	**P**	**13 30 09.1**	**+0.1**
GRR				pmax	pmax		
	comp=Z,33nm,1.1s						
GRR	**Gorron**	**20.67**	**50**	*e*P	**P**	**13 30 09.1**	**+0.1**
	comp=Z,33nm,1.1s						
FLN	**La Foliniere**	**21.04**	**50**	*e*P	**P**	**13 30 13.2**	**+0.1**
	comp=Z,36nm,1.2s,mb4.3						
FLN				*e*MLR	MLR		
	comp=Z,146nm,22.2s,MS3.0						
FLN	**La Foliniere**	**21.04**	**50**	*e*P	**P**	**13 30 13.2**	**+0.1**
	comp=Z,18nm,1.2s,mb4.3						
FLN				LR	LR		
	comp=Z,150nm,22.3s,MS3.3						
FLN	**La Foliniere**	**21.04**	**50**	*e*P	**P**	**13 30 13.2**	**+0.1**
FLN				pmax	pmax		
	comp=Z,18nm,1.2s,mb4.3						
FLN				MLR	MLR		
	comp=Z,150nm,22.3s,MS3.3						
LDF	**La Druitiere**	**21.20**	**50**	*e*P	**P**	**13 30 14.8**	**0.0**
	comp=Z,10nm,0.8s,mb3.9						
LDF	**La Druitiere**	**21.20**	**50**	*e*P	**P**	**13 30 14.8**	**0.0**
LDF				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb3.9						
LDF	**La Druitiere**	**21.20**	**50**	*e*P	**P**	**13 30 14.8**	**0.0**
	comp=Z,5.2nm,0.8s,mb3.9						
RJF	**Les Rejaudoux**	**21.27**	**60**	*e*P	**P**	**13 30 15.8**	**+0.2**
RJF				*e*MLR	MLR		
	comp=Z,179nm,18.2s,MS3.2						
RJF	**Les Rejaudoux**	**21.27**	**60**	*e*P	**P**	**13 30 15.8**	**+0.2**
RJF				MLR	MLR		
	comp=Z,180nm,18.3s,MS3.5						
MTLF	**Montolieu**	**21.44**	**65**	*e*P	**P**	**13 30 17.6**	**+0.2**
	comp=Z,10nm,1.0s,mb3.8						
MTLF	**Montolieu**	**21.44**	**65**	*e*P	**P**	**13 30 17.6**	**+0.2**
MTLF				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb3.8						
MTLF	**Montolieu**	**21.44**	**65**	*e*P	**P**	**13 30 17.6**	**+0.2**
	comp=Z,5.2nm,1.0s,mb3.8						
CAF	**Calviac**	**21.57**	**61**	*e*P	**P**	**13 30 18.6**	**-0.3**
	comp=Z,32nm,1.0s,mb4.4						
CAF	**Calviac**	**21.57**	**61**	*e*P	**P**	**13 30 18.6**	**-0.3**
CAF				pmax	pmax		
	comp=Z,16nm,1.0s,mb4.4						
CAF	**Calviac**	**21.57**	**61**	*e*P	**P**	**13 30 18.6**	**-0.3**
	comp=Z,16nm,1.0s,mb4.4						
TCF	**Toulx Ste Croi**	**21.97**	**58**	*e*P	**P**	**13 30 22.6**	**-0.5**
	comp=Z,19nm,0.9s,mb4.2						
TCF	**Toulx Ste Croi**	**21.97**	**58**	*e*P	**P**	**13 30 22.6**	**-0.5**
TCF				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.2						
TCF	**Toulx Ste Croi**	**21.97**	**58**	*e*P	**P**	**13 30 22.6**	**-0.5**
	comp=Z,9.4nm,0.9s,mb4.2						
PYM	**Petit Puy Mans**	**22.39**	**59**	*e*P	**P**	**13 30 29.0**	**+1.4**
BGF	**Bois d'Agland**	**22.46**	**57**	*e*P	**P**	**13 30 27.7**	**-0.6**
	comp=Z,20nm,0.9s,mb4.2						
BGF	**Bois d'Agland**	**22.46**	**57**	*e*P	**P**	**13 30 27.7**	**-0.6**
BGF				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.2						
BGF	**Bois d'Agland**	**22.46**	**57**	*e*P	**P**	**13 30 27.7**	**-0.6**
	comp=Z,10nm,0.9s,mb4.2						
AGO	**Saint Agoulin**	**22.54**	**59**	*e*P	**P**	**13 30 30.2**	**+1.1**
LASF	**Ste Croix**	**22.71**	**64**	*e*P	**P**	**13 30 30.5**	**-0.4**
	comp=Z,27nm,1.1s,mb4.3						
LASF	**Ste Croix**	**22.71**	**64**	*e*P	**P**	**13 30 30.5**	**-0.4**
	comp=Z,14nm,1.1s,mb4.3						
AVF	**Avril sur Loir**	**22.86**	**57**	*e*P	**P**	**13 30 31.5**	**-1.0**
	comp=Z,12nm,1.0s,mb4.0						
AVF	**Avril sur Loir**	**22.86**	**57**	*e*P	**P**	**13 30 31.5**	**-1.0**
AVF				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.0						
AVF	**Avril sur Loir**	**22.86**	**57**	*e*P	**P**	**13 30 31.5**	**-1.0**
	comp=Z,6.1nm,1.0s,mb4.0						
SSF	**Saint Saulge**	**23.03**	**56**	*e*P	**P**	**13 30 33.3**	**-1.0**
	comp=Z,19nm,1.0s,mb4.2						
SSF	**Saint Saulge**	**23.03**	**56**	*e*P	**P**	**13 30 33.3**	**-1.0**
SSF				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.2						
SSF	**Saint Saulge**	**23.03**	**56**	*e*P	**P**	**13 30 33.3**	**-1.0**
	comp=Z,9.4nm,1.0s,mb4.2						
SMF	**Signal de Mont**	**23.15**	**57**	*e*P	**P**	**13 30 35.0**	**-0.6**
	comp=Z,30nm,1.1s,mb4.3						
SMF	**Signal de Mont**	**23.15**	**57**	*e*P	**P**	**13 30 35.0**	**-0.6**
SMF				pmax	pmax		
	comp=Z,15nm,1.1s,mb4.3						
SMF	**Signal de Mont**	**23.15**	**57**	*e*P	**P**	**13 30 35.0**	**-0.6**
	comp=Z,15nm,1.1s,mb4.3						
EKA	**Eskdalemuir Ar**	**23.22**	**32**	P	**P**	**13 30 35.9**	**-0.3**
	comp=Z,1.7nm,0.6s,mb3.6,baz=226,slow=8.4,SNR=9.2						
LOR	**Lormes**	**23.31**	**56**	*e*P	**P**	**13 30 36.3**	**-1.0**
	comp=Z,13nm,1.1s,mb4.0						
LOR				*e*MLR	MLR		
	comp=Z,137nm,21.8s,MS3.1						
LOR	**Lormes**	**23.31**	**56**	*e*P	**P**	**13 30 36.3**	**-1.0**
	comp=Z,6.6nm,1.1s,mb4.0						
LOR				LR	LR		
	comp=Z,140nm,21.8s,MS3.4						
LOR	**Lormes**	**23.31**	**56**	*e*P	**P**	**13 30 36.3**	**-1.0**
LOR				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.0						
LOR				MLR	MLR		
	comp=Z,140nm,21.8s,MS3.4						
VIVF	**Saint-Julien-l**	**23.39**	**62**	*e*P	**P**	**13 30 37.2**	**-1.0**
	comp=Z,15nm,1.1s,mb4.0						
VIVF	**Saint-Julien-l**	**23.39**	**62**	*e*P	**P**	**13 30 37.2**	**-1.0**
VIVF				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb4.1						
VIVF	**Saint-Julien-l**	**23.39**	**62**	*e*P	**P**	**13 30 37.2**	**-1.0**
	comp=Z,7.7nm,1.1s,mb4.0						
SMRF	**Simiane la Rot**	**23.93**	**64**	*e*P	**P**	**13 30 42.3**	**-1.0**
	comp=Z,26nm,1.3s,mb4.2						
SMRF	**Simiane la Rot**	**23.93**	**64**	*e*P	**P**	**13 30 42.3**	**-1.0**
	comp=Z,13nm,1.3s,mb4.2						
ORIF	**Oris-en-Rattie**	**24.25**	**62**	*e*P	**P**	**13 30 45.5**	**-0.7**
	comp=Z,24nm,1.3s,mb4.2						
ORIF				*e*MLR	MLR		
	comp=Z,148nm,23.0s,MS3.1						
ORIF	**Oris-en-Rattie**	**24.25**	**62**	*e*P	**P**	**13 30 45.5**	**-0.7**
ORIF				pmax	pmax		
	comp=Z,12nm,1.3s,mb4.2						
ORIF	**Oris-en-Rattie**	**24.25**	**62**	*e*P	**P**	**13 30 45.5**	**-0.7**
	comp=Z,12nm,1.3s,mb4.2						
BAIF	**Baives**	**24.37**	**49**	*e*P	**P**	**13 30 46.5**	**-0.7**
	comp=Z,21nm,1.0s,mb4.2						
BAIF	**Baives**	**24.37**	**49**	*e*P	**P**	**13 30 46.5**	**-0.7**
BAIF				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.2						
BAIF	**Baives**	**24.37**	**49**	*e*P	**P**	**13 30 46.5**	**-0.7**
	comp=Z,10nm,1.0s,mb4.2						
LMR	**La Mourre**	**24.55**	**66**	*e*P	**P**	**13 30 48.3**	**-0.7**
DOU	**Dourbes**	**24.62**	**50**	P	**P**	**13 30 49.0**	**-0.5**
	comp=Z,6.2nm,1.9s,mb3.8						
DOU	**Dourbes**	**24.62**	**50**	P	**P**	**13 30 48.9**	**-0.6**
	comp=Z,6.2nm,1.9s,mb3.8						
CABF	**La Chapelle**	**24.66**	**58**	*e*P	**P**	**13 30 49.5**	**-0.4**
	comp=Z,8.4nm,0.8s,mb4.0						
CABF	**La Chapelle**	**24.66**	**58**	*e*P	**P**	**13 30 49.5**	**-0.4**
CABF				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.0						
CABF	**La Chapelle**	**24.66**	**58**	*e*P	**P**	**13 30 49.5**	**-0.4**
	comp=Z,4.2nm,0.8s,mb4.0						
FRF	**La Foret Royal**	**24.67**	**66**	*e*P	**P**	**13 30 49.6**	**-0.4**
GIVF	**Givet**	**24.76**	**50**	*e*P	**P**	**13 30 50.2**	**-0.6**
	comp=Z,21nm,0.9s,mb4.4						
GIVF	**Givet**	**24.76**	**50**	*e*P	**P**	**13 30 50.2**	**-0.6**
GIVF				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.4						
GIVF	**Givet**	**24.76**	**50**	*e*P	**P**	**13 30 50.2**	**-0.6**
	comp=Z,11nm,0.9s,mb4.4						
BNI	**Bardonecchia**	**24.83**	**62**	*e*P	**P**	**13 30 53.1**	**+1.6**
BNI	**Bardonecchia**	**24.83**	**62**	*e*P	**P**	**13 30 53.1**	**+1.6**
SBF	**Sospel**	**25.26**	**65**	*e*P	**P**	**13 30 55.7**	**+0.3**
LOMF	**Lomont**	**25.30**	**57**	*e*P	**P**	**13 31 04.3**	**+8.6**
HINF	**Hinteralfeld**	**25.41**	**56**	*e*P	**P**	**13 30 56.4**	**-0.4**
	comp=Z,5.4nm,0.7s,mb3.9						
HINF	**Hinteralfeld**	**25.41**	**56**	*e*P	**P**	**13 30 56.4**	**-0.4**
HINF				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb3.9						
HINF	**Hinteralfeld**	**25.41**	**56**	*e*P	**P**	**13 30 56.4**	**-0.4**
	comp=Z,2.7nm,0.7s,mb3.9						
WLF	**Walferdange**	**25.44**	**51**	*e*P	**P**	**13 30 57.2**	**+0.3**
	comp=Z,19nm,1.0s,mb4.6						
WLF	**Walferdange**	**25.44**	**51**	*e*P	**P**	**13 30 57.2**	**+0.2**
WLF				pmax	pmax		
	comp=Z,19nm,1.0s,mb4.6						
WLF	**Walferdange**	**25.44**	**51**	*e*P	**P**	**13 30 57.2**	**+0.2**
	comp=Z,19nm,1.0s,mb4.6						
ECH	**Echery**	**25.70**	**55**	*e*P	**P**	**13 31 02.6**	**+3.2**
CDF	**Champ du Feu**	**25.82**	**55**	*e*P	**P**	**13 31 00.5**	**0.0**
FELD	**Feldberg im Sc**	**26.18**	**56**	*e*P	**P**	**13 31 06.0**	**+2.3**
PGF	**Pioggiola**	**26.36**	**68**	*e*P	**P**	**13 31 05.9**	**+0.5**
BFO	**Black Forest**	**26.49**	**55**	*e*P	**P**	**13 31 06.8**	**+0.3**
BFO				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.2						
BFO	**Black Forest**	**26.49**	**55**	*e*P	**P**	**13 31 06.8**	**+0.3**
	comp=Z,7.1nm,1.0s,mb4.2						
DAVOS	**Davos**	**27.21**	**59**	P	**P**	**13 31 14.5**	**+1.5**
DAVOX	**Davos/Dischmat**	**27.26**	**59**	P	**P**	**13 31 14.5**	**+1.0**
	comp=Z,3.0nm,0.7s,mb3.9,baz=358,slow=21,SNR=3.3						
DAVOX				LR	LR	13 40 47.1	
	comp=Z,86nm,18.8s,MS3.3,baz=325,slow=34						
KEST	**Kesra**	**27.46**	**83**	LR	LR	13 40 21.4	
	comp=Z,13nm,20.3s,baz=357,slow=33						
CLL	**Collm**	**30.09**	**50**	*e*P	**P**	**13 31 39.0**	**+0.4**
GERES	**GERESS Array B**	**30.09**	**55**	LR	LR	13 41 50.5	
	comp=Z,53nm,20.6s,MS3.2,baz=286,slow=33						
NOA	**NORSAR Array B**	**32.71**	**32**	P	**P**	**13 32 01.7**	**+0.1**
	comp=Z,0.7nm,0.9s,mb3.6,baz=240,slow=9.0,SNR=2.6						
NOA				LR	LR	13 43 35.4	
	comp=Z,70nm,19.4s,MS3.4,baz=0.0,slow=33						
SCHQ	**Schefferville**	**33.29**	**315**	P	**P**	**13 32 05.1**	**-1.6**
SCHQ	**Schefferville**	**33.29**	**315**	P	**P**	**13 32 05.1**	**-1.6**
	comp=Z,6.1nm,1.1s,mb4.5,baz=63,slow=8.3,SNR=5.8						
TOA0	**Torodi Ar. Sit**	**33.84**	**129**	*e*P	**P**	**13 32 12.4**	**+0.5**
TOA0	**Torodi Ar. Sit**	**33.84**	**129**	*e*P	**P**	**13 32 12.4**	**+0.5**
TORD	**Torodi Ar. Bea**	**33.84**	**129**	P	**P**	**13 32 12.2**	**+0.3**
	comp=Z,1.5nm,0.8s,mb4.0,baz=317,slow=8.5,SNR=11						
DBIC	**Dimbokro**	**35.60**	**144**	P	**P**	**13 32 27.3**	**+0.3**
	comp=Z,1.2nm,0.6s,mb4.0,baz=305,slow=5.6,SNR=3.9						
FINES	**FINESS Array B**	**39.53**	**36**	LR	LR	13 46 39.3	
	comp=Z,48nm,19.6s,MS3.3,baz=34,slow=32						
AKASG	**Malin Array Be**	**40.22**	**53**	P	**P**	**13 33 05.5**	**-0.2**
	comp=Z,1.9nm,0.8s,mb3.9,baz=273,slow=7.7,SNR=8.8						
ARCES	**ARCESS Array B**	**41.88**	**24**	P	**P**	**13 33 18.4**	**-0.7**
	comp=Z,2.6nm,0.9s,mb3.9,baz=238,slow=8.1,SNR=7.4						
ARCES				LR	LR	13 51 06.2	
	comp=Z,51nm,18.2s,MS3.4,baz=162,slow=37						
OBN	**Obninsk**	**44.47**	**46**	*e*P	**P**	**13 33 40.8**	**+0.5**
OBN				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.1						
OBN	**Obninsk**	**44.47**	**46**	*e*P	**P**	**13 33 40.8**	**+0.5**
	comp=Z,3.0nm,0.8s,mb4.1						
FCC	**Fort Churchill**	**48.44**	**319**	*e*P	**P**	**13 34 12.8**	**+1.4**
	comp=Z,7.0nm,0.9s,mb4.7						
FCC	**Fort Churchill**	**48.44**	**319**	*e*P	**P**	**13 34 12.8**	**+1.4**
FCC				pmax	pmax

WMQ LR LR
comp=Z,128nm,23.8s,MS4.2
YAK Yakutsk 78.81 12⇑ *eP* **P 13 37 31.7 -0.1**
YAK pmax pmax
comp=Z,4.0nm,0.4s,mb4.7
YAK Yakutsk 78.81 12 *eP* **P 13 37 31.7 -0.1**
comp=Z,4.0nm,0.4s,mb4.7
BOD Bodaibo 79.07 21 *eP* **P 13 37 31.2 -2.1**
BOD pmax pmax
comp=Z,5.0nm,1.5s,mb4.2
BOD Bodaibo 79.07 21 *eP* **P 13 37 31.2 -2.1**
comp=Z,5.0nm,1.5s,mb4.2
MOY Mondy 79.49 31 *eP* **P 13 37 37.0 +1.2**
SEY Seymchan 80.00 1⇑ *eP* **P 13 37 38.3 0.0**
ZAK Zakamensk 81.41 31 *eP* **P 13 37 46.9 +0.8**
ZAK pmax pmax
comp=Z,1.0nm,1.0s,mb3.7
ZAK Zakamensk 81.41 31 *eP* **P 13 37 46.9 +0.8**
comp=Z,1.0nm,1.0s,mb3.7
SONM Songino Array 84.68 31 P **P 13 38 04.0 +0.9**
comp=Z,3.0nm,0.9s,mb4.4,baz=321,slow=5.7,SNR=18
ULN Ulaanbaatar 84.92 30 *eP* **P 13 38 05.5 +1.2**
comp=Z,5.5nm,0.9s,mb4.7
ULN Ulaanbaatar 84.92 30 *eP* **P 13 38 05.5 +1.2**
ULN pmax pmax
comp=Z,6.0nm,0.9s,mb4.7
ULN Ulaanbaatar 84.92 30 *eP* **P 13 38 05.5 +1.2**
comp=Z,5.5nm,0.9s,mb4.7
HHC Hu-ho-hao-te 92.52 32 *eP* **P 13 38 40.7 +0.1**
HHC AP pP 13 38 51.2 +7.2
HHC XP sP 13 38 54.9 +10
HHC PP PP 13 42 25.4 +4.4
HHC SKS 13 49 10.1
HHC S S 13 49 40.0 -4.8
HHC XS sS 13 49 55.9 +5.6
HHC LR LR
comp=Z,80nm,17.7s,MS4.2
CN2 Changchun 94.82 21 *eP* **P 13 38 52.0 +0.8**
BJI Beijing 95.06 29 P **P 13 38 52.4 +0.1**
MDJ Mudanjiang 95.17 18 P **P 13 38 53.8 +1.1**
MDJ AMB AMB
comp=Z,5.0nm,2.5s,mb4.5
MDJ AMB AMB
comp=Z,33nm,3.7s
YSS Yuzh-Sakhalins 95.31 8⇓ *eP* **P 13 38 52.4 -0.9**
YSS pmax pmax
comp=Z,18nm,1.7s,mb5.2
YSS Yuzh-Sakhalins 95.31 8 *eP* **P 13 38 52.4 -0.9**
comp=Z,18nm,1.7s,mb5.2
CD2 Chengdu 96.80 43 *eP* **P 13 38 59.8 -0.6**
CD2 AMB AMB
comp=Z,20nm,9.2s
KMI Kunming 100.69 47 P Pdif 13 39 14.4 -3.2
KMI AP 13 39 23.7
GYA Guiyang 101.87 43 P Pdif 13 39 23.4 +0.5
FITZ Fitzroy Crossi 147.80 61 PKPbc PKPbc 13 45 14.5 -0.2
comp=Z,0.7nm,0.5s,baz=0.0,slow=6.1,SNR=7.5

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*ISCJB **09** 13:32:14.7±1.8,3823N±006×2033E±009,h4km±8km, Error ellipse: s-maj=15.0km s-min=6.7km az=140.2*
*ATH **09** 13:32:15.4,3811N×2034E,h17km±3km,MD3.3/5*
*THE **09** 13:32:16.5,3828N×2053E,h8km,ML3.2*
*NEIC **09** 13:32:16.9,3826N×2043E,h14km,MD3.3(ATH),After ATH.*
*CSEM **09** 13:32:17.8±0.3,3831N×2045E,h0km±3km,MD3.3, Error ellipse: s-maj=7.3km s-min=3.0km az=64.0*
ISC 09 13:32:16.5±1.6,3829N±007×204E±01,h9km±8km,n9, σ0°92/15,Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.20**	**124**	*e*PB	**Pg**	**13 32 20.8**	**+0.1**
VLS				*e*SB	**Sg**	**13 32 24.1**	**+0.7**
LKD	**Levkas**	**0.47**	**27**	*e*Pg	**Pg**	**13 32 24.7**	**-1.0**
LKD				*e*Sg	**Sg**	**13 32 31.4**	**-0.4**
RLS	**Riolos of Patr**	**0.89**	**105**	*e*PN	**Pg**	**13 32 33.0**	**-0.6**
RLS				*e*SN	**Sg**	**13 32 44.7**	**-0.4**
IGT	**Igoumenitsa**	**1.24**	**358**	*e*Pg	**Pn**	**13 32 39.6**	**-0.4**
IGT				*e*Sg	**Sn**	**13 32 57.2**	**+0.3**
IGT	**Igoumenitsa**	**1.24**	**358**	*e*Pg	**Pn**	**13 32 39.6**	**-0.5**
IGT				*e*Sg	**Sn**	**13 32 57.2**	**+0.3**
EVR	**Evrytania**	**1.28**	**60**	*e*PN	**Pn**	**13 32 41.0**	**+0.4**
EVR				*e*SN	**Sg**	**13 33 01.9**	**+4.1**
KEK	**Kerkira**	**1.49**	**342**	*e*PN	**Pg**	**13 32 45.7**	**+0.6**
AGG	**Agios Georgios**	**1.69**	**64**	*e*Pg	**Pn**	**13 32 44.1**	**-2.1**
THL	**Klokotos Trika**	**1.80**	**45**	*e*PN	**Pn**	**13 32 49.5**	**+1.8**

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*IDC **09** 13:34:27.2±0.6,4826N×15470E,h0km,mb4.0/17, mb1 4.3/18,mb1mx4.2/25,mbtmp4.0/18,ML3.4/1,MS3.7/4, Ms1 3.7/4,ms1mx3.1/34,Error ellipse: s-maj=19.3km s-min=14.3km az=139.0*
*ISCJB **09** 13:34:28.9±2.0,4826N±006×15477E±009,h21km±13km, mb4.2/31,MS3.6/5,Error ellipse: s-maj=13.1km s-min=6.9km az=136.9*
*NEIC **09** 13:34:28.7±0.3,4827N×15471E,h10km,mb4.5/8,Error ellipse: s-maj=9.1km s-min=5.7km az=144.0*
*MOS **09** 13:34:30.9±1.1,4824N×15472E,h37km,mb4.4/16,Error ellipse: s-maj=10.8km s-min=7.0km az=90.0*
ISC 09 13:34:33.0±0.9,4831N±007×15471E±009,h37km±7km, n100,σ0°78/100,mb4.2/31,MS3.6/5,8C-2D,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.55**	**21**	*e*PN	**Pn**	**13 35 11.8**	**0.0**
SKR				pmax	pmax		
comp=N,80nm,0.4s
SKR pmax pmax
comp=Z,160nm,0.4s
PET Petropavlovsk 5.35 26 *e*Pn **Pn 13 35 49.3 -0.9**
comp=Z,31nm,0.5s
PET Petropavlovsk 5.35 26 *e*PN **Pn 13 35 50.3 +0.1**
PET pmax pmax
comp=Z,40nm,0.6s
PET pmax pmax
comp=N,205nm,1.3s
YUK Yuzh-Kuril'sk 7.48 238 *e*PN **Pn 13 36 20.5 +1.0**
YUK S **Sn 13 37 48.0 +5.0**
YUK smax
comp=N,200nm,0.5s
YUK smax
comp=E,190nm,0.5s
YSS Yuzh-Sakhalins 8.19 265 *e*Pn **Pn 13 36 28.1 -1.2**
comp=E,33nm,1.0s
YSS Yuzh-Sakhalins 8.19 265 *d*PN **Pn 13 36 31.9 +2.7**
UGL Uglegorsk 8.40 280 *e*PN **Pn 13 36 36.0 +3.8**
UGL pmax pmax
comp=Z,35nm,0.7s
UGL MLR MLR
comp=N,300nm,14.0s
UGL MLR MLR
comp=E,350nm,14.0s
UGL MLR MLR
comp=Z,400nm,14.0s
ASAJ Asahikawa 9.38 248 PN **Pn 13 36 49.6 +4.0**
ASAJ pmax pmax
comp=Z,1.0nm,0.3s
ASAJ Asahikawa 9.38 248 Pn **Pn 13 36 49.6 +4.0**
comp=Z,1.2nm,0.3s,baz=58,slow=14,SNR=12
ERM Erimo 10.30 237⇓ *e*PN **Pn 13 36 58.6 +0.5**
MA2 Magadan 11.52 350⇑ *e*PN **Pn 13 37 14.9 +0.1**
HABR Khabarovsk 13.07 278 *e*PN **Pn 13 37 34.8 -1.2**
SEY Seymchan 14.72 356⇑ *e*P **Pn 13 37 59.3 +1.0**
KLR Kul'dur 15.16 282 *e*P **Pn 13 38 08.0 +3.8**
MJAR Matsushiro Arr 16.89 232 Pn **Pn 13 38 23.7 -2.7**
comp=Z,0.2nm,0.3s,baz=26,slow=14,SNR=8.9
YAK Yakutsk 19.65 324 *e*P **Pn 13 38 58.5 -1.3**
YAK pmax pmax
comp=Z,19nm,1.3s
YAK pmax pmax
comp=N,12nm,1.4s
YAK pmax pmax
comp=E,19nm,1.5s
BILL Bilibino 20.64 12 *e*P **P 13 39 06.4 -2.5**
comp=E,3.3nm,0.6s
BILL Bilibino 20.64 12 *e*P **P 13 39 06.5 -2.4**
BILL pmax pmax
comp=Z,5.0nm,1.0s
BILL MLR MLR
comp=Z,100nm,15.0s,MS3.3
KSRS Korea Array 22.32 251 P **P 13 39 26.9 -0.2**
comp=Z,5.2nm,0.9s,mb3.9,baz=52,slow=10,SNR=9.9

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ULN	**Ulaanbaatar 31.44 287⇑**			*i*P	**P**	**13 40 49.3**	**-1.2**
SONM	**Songino Array 31.87 288**			P	**P**	**13 40 54.6**	**+0.3**
comp=Z,0.4nm,0.5s,mb3.5,baz=72,slow=9.3,SNR=4.3
SONM LR LR 13 55 07.5
comp=Z,174nm,18.4s,MS3.8,baz=72,slow=39
TLY Talaya 32.46 296⇑ *e*P **P 13 41 00.0 +0.6**
COLA College 34.24 40⇑ *e*P **P 13 41 14.5 -0.3**
INK Inuvik 39.76 34 P **P 13 42 01.9 +0.4**
INK Inuvik 39.76 34 P **P 13 42 01.9 +0.3**
INK pmax pmax
comp=Z,1.0nm,0.5s
INK Inuvik 39.76 34 P **P 13 42 01.9 +0.4**
comp=Z,1.3nm,0.5s,mb3.9,baz=307,slow=6.7,SNR=20
ZALV Zalesovo Beam 42.59 305 P **P 13 42 24.4 -0.6**
comp=Z,0.7nm,0.4s,mb3.7,baz=44,slow=8.0,SNR=5.3
ZAL Zalesovo 42.61 305 P **P 13 42 24.5 -0.7**
MK31 Makanchi Array 47.20 297 *e*P **P 13 43 00.5 -1.2**
MKAR Makanchi Array 47.20 297 P **P 13 43 01.1 -0.6**
MKAR pmax pmax
comp=Z,3.0nm,0.7s
MKAR Makanchi Array 47.20 297 P **P 13 43 01.1 -0.6**
comp=Z,2.7nm,0.7s,mb4.3,baz=66,slow=8.2,SNR=34
KURK Kurchatov 47.41 303 *e*P **P 13 43 02.6 -0.7**
comp=Z,5.8nm,0.6s,mb4.7
KURK Kurchatov 47.41 303⇑ *e*P **P 13 43 02.8 -0.6**
YKA Yellowknife Ar 49.03 38 P **P 13 43 15.9 +0.3**
YKA Yellowknife Ar 49.03 38 P **P 13 43 15.9 +0.2**
YKA pmax pmax
comp=Z,2.0nm,0.8s
YKA Yellowknife Ar 49.03 38 P **P 13 43 15.9 +0.3**
comp=Z,1.7nm,0.8s,mb4.1,baz=297,slow=7.2,SNR=21
ARCES ARCESS Array B 56.74 341 LR LR 14 12 32.0
comp=Z,66nm,19.1s,MS3.8,baz=231,slow=40
NVAR Mina Array Bea 60.77 64 P **P 13 44 41.3 +0.4**
comp=Z,0.3nm,0.6s,mb3.6,baz=299,slow=6.1,SNR=4.2
PDAR Pinedale Array 62.96 55 P **P 13 44 56.0 +0.4**
comp=Z,1.6nm,0.9s,mb4.1,baz=290,slow=2.7,SNR=11
FINES FINESS Array B 63.09 335 P **P 13 44 57.0 +0.9**
FINES pmax pmax
comp=Z,3.0nm,1.0s
FINES FINESS Array B 63.09 335 P **P 13 44 57.0 +0.9**
comp=Z,2.8nm,1.0s,mb4.3,baz=238,slow=1.8,SNR=5.0
RSSD Black Hills 65.00 51 *e*P **P 13 45 08.2 -0.7**
comp=Z,5.7nm,1.0s,mb4.6
RSSD Black Hills 65.00 51 *e*P **P 13 45 08.2 -0.7**
RSSD pmax pmax
comp=Z,6.0nm,1.0s,mb4.6
NB2 NORSAR Subarra 67.10 342 P **P 13 45 21.1 -1.0**
comp=Z,0.5nm,0.6s,mb3.7,baz=25,slow=6.5
NOA NORSAR Array B 67.10 342 P **P 13 45 21.6 -0.5**
comp=Z,0.7nm,0.6s,mb3.9,baz=26,slow=6.4,SNR=3.7
NOA LR LR 14 21 10.9
comp=Z,32nm,18.3s,MS3.6,baz=260,slow=42
MAK Makhachkala 68.87 311 *e*P **P 13 45 31.4 -2.1**
ANMO Albuquerque 70.10 60⇑ *e*P **P 13 45 40.6 -0.7**
WRA Warramunga Arr 70.34 200 P **P 13 45 41.9 -0.8**
WRA Warramunga Arr 70.34 200 P **P 13 45 41.9 -0.8**
comp=Z,2.7nm,0.8s,mb4.2,baz=17,slow=6.4,SNR=12
AKASG Malin Array Be 70.85 327 *i*P **P 13 45 46.0 +0.5**
AKASG Malin Array Be 70.85 327 P **P 13 45 44.8 -0.7**
comp=Z,0.3nm,0.4s,mb3.6,baz=34,slow=5.6,SNR=5.9
FITZ Fitzroy Crossi 71.03 209 P **P 13 45 47.1 +0.2**
comp=Z,2.3nm,0.8s,mb4.2,baz=36,slow=8.0,SNR=4.3
ASAR Alice Springs 74.03 200 P **P 13 46 04.6 -0.1**
ASAR pmax pmax
comp=Z,1.0nm,0.8s
ASAR Alice Springs 74.03 200 P **P 13 46 04.6 -0.1**
comp=Z,1.3nm,0.8s,mb3.9,baz=15,slow=5.1,SNR=25
STHS Stebnicka Huta 74.70 331 *e*P **P 13 46 09.0 +0.6**
comp=Z,2.3nm,0.9s,mb4.1
STHS *e* 13 46 12.5
STHS Stebnicka Huta 74.70 331 *e*P **P 13 46 09.0 +0.6**
STHS pmax pmax
comp=Z,2.0nm,0.9s,mb4.0
KOLS Kolonicke sedl 74.78 330 *e*P **P 13 46 09.0 +0.1**
KOLS *e* pP 13 46 19.8 -0.5
EKA Eskdalemuir Ar 75.07 347 P **P 13 46 10.8 +0.3**
EKA pmax pmax
comp=Z,2.0nm,0.6s
EKA Eskdalemuir Ar 75.07 347 P **P 13 46 10.8 +0.3**
comp=Z,2.2nm,0.6s,mb4.3,baz=19,slow=5.3,SNR=9.9
OKC Ostrava-Krasne 75.32 333 *e*P **P 13 46 12.4 +0.4**
UPC Upice 75.36 334 *e*P **P 13 46 12.6 +0.4**
DPC Dobruska-Polom 75.41 334 *e*P **P 13 46 13.0 +0.5**
CLL Collm 75.49 336 *e*P **P 13 46 13.0 +0.1**
CLL pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
CLL Collm 75.49 336 *e*P **P 13 46 13.0 +0.1**
comp=Z,5.0nm,0.9s,mb4.4
TXAR Lajitas Array 75.79 62 P **P 13 46 14.8 -0.3**
TXAR pmax pmax
comp=Z,2.0nm,0.7s
TXAR Lajitas Array 75.79 62 P **P 13 46 14.8 -0.3**
comp=Z,1.9nm,0.7s,mb4.2,baz=302,slow=4.3,SNR=29
VYHS Vyhne 76.28 332 *e*P **P 13 46 17.9 +0.4**
comp=Z,1.7nm,1.0s,mb3.9
VYHS Vyhne 76.28 332 *e*P **P 13 46 17.8 +0.3**
KHC Kasperske Hory 77.30 335 *c i*P **P 13 46 23.9 +0.7**
KHC Kasperske Hory 77.30 335 *e*P **P 13 46 23.8 +0.6**
BLO Bloomington 77.37 44 *e*P **P 13 46 23.3 -0.5**
comp=Z,64nm,1.0s
BLO Bloomington 77.37 44 *e*P **P 13 46 23.3 -0.5**
BLO pmax pmax
comp=Z,63nm,1.0s
GRF Grafenberg Arr 77.43 337 *e*P **P 13 46 24.8 +0.9**
WET Wettzell 77.48 335 *e*P **P 13 46 25.2 +1.0**
GERES GERESS Array B 77.52 335 P **P 13 46 24.7 +0.2**
GERES pmax pmax
comp=Z,1.0nm,0.6s
GERES MLR MLR
comp=Z,47nm,20.1s
GERES GERESS Array B 77.52 335 P **P 13 46 24.7 +0.2**
comp=Z,1.2nm,0.6s,mb4.0,baz=30,slow=6.2,SNR=8.5
GERES LR LR 14 22 54.9
comp=Z,47nm,20.1s,MS3.8,baz=272,slow=38
CDF Champ du Feu 79.61 339 *e*P **P 13 46 36.0 0.0**
comp=Z,6.7nm,0.8s,mb4.3
MEZF Maizieres J'vi 80.05 340 *e*P **P 13 46 38.6 +0.2**
comp=Z,5.0nm,0.6s,mb4.3
HAU Haudompre 80.22 339 *e*P **P 13 46 39.0 -0.3**
HINF Hinteralfeld 80.27 339 *e*P **P 13 46 39.2 -0.4**
FLN La Foliniere 80.96 344 *e*P **P 13 46 43.1 -0.1**
LDF La Druitiere 81.05 343 *e*P **P 13 46 44.2 +0.5**
GRR Gorron 81.39 344 *e*P **P 13 46 45.4 -0.1**
comp=Z,6.3nm,0.8s,mb4.3
GRR Gorron 81.39 344 *e*P **P 13 46 45.4 -0.1**
comp=Z,3.2nm,0.8s,mb4.3
GRR Gorron 81.39 344 *e*P **P 13 46 45.4 -0.1**
GRR pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
LOR Lormes 81.49 340 *e*P **P 13 46 45.9 -0.2**
comp=Z,6.9nm,0.8s,mb4.3
SSF Saint Saulge 81.76 341 *e*P **P 13 46 47.4 -0.1**
comp=Z,4.7nm,0.8s,mb4.2
ROSF Rostrenen 81.86 345 *e*P **P 13 46 48.2 +0.2**
AVF Avril sur Loir 82.05 341 *e*P **P 13 46 49.0 0.0**
comp=Z,6.9nm,0.8s,mb4.3
SMF Signal de Mont 82.08 340 *e*P **P 13 46 49.1 -0.1**
comp=Z,5.7nm,0.8s,mb4.2
LPL La Plagne 82.45 338 *e*P **P 13 46 52.1 +0.9**
LPG La Plagne 82.46 338 *e*P **P 13 46 52.3 +1.1**
MFF Saint Martin d 82.96 343 *e*P **P 13 46 54.0 +0.2**
MBDF Montbardon 83.18 338 *e*P **P 13 46 55.3 +0.3**
ORIF Oris-en-Rattie 83.22 338 *e*P **P 13 46 55.9 +0.7**
VIVF Saint-Julien-l 83.57 339 *e*P **P 13 46 57.4 +0.4**
comp=Z,8.4nm,1.1s,mb4.5
VIVF Saint-Julien-l 83.57 339 *e*P **P 13 46 57.4 +0.4**
comp=Z,4.2nm,1.1s,mb4.5
VIVF Saint-Julien-l 83.57 339 *e*P **P 13 46 57.4 +0.4**
VIVF pmax pmax
comp=Z,4.0nm,1.1s,mb4.5
CAF Calviac 84.11 341 *e*P **P 13 47 00.1 +0.4**
comp=Z,8.5nm,1.1s,mb4.5
CAF Calviac 84.11 341 *e*P **P 13 47 00.1 +0.4**
comp=Z,4.3nm,1.1s,mb4.5

IDC 09 13:34:39.9±8.6,130N×12432E,h0km,mb3.5/3,mb1 3.7/3, mb1mx3.4/15,mbtmp3.6/3,Error ellipse: s-maj=171.2km s-min=133.5km az=62.0,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr 23.29 156**			P	P	13 39 50.1	+0.6
0.6nm,0.3s,baz=333,slow=11,SNR=19

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs 26.51 160**			P	P	13 40 20.4	+1.2
0.4nm,0.9s,baz=341,slow=8.0,SNR=11
STKA Stephens Creek 36.84 155 P P 13 41 48.1 -1.8
1.3nm,0.6s,baz=334,slow=14,SNR=4.5

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*CSEM **09** 13:51:03.6±0.5,3793N×4358E,h18km±8km,MD2.7,Error ellipse: s-maj=16.3km s-min=6.5km az=76.0*
*ISK **09** 13:51:03.4,3797N×4357E,h5km,MD2.7*
*DDA **09** 13:51:03.9,3781N×4324E,h7km±1km,Md2.5*
ISC 09 13:51:05.1±0.8,3795N±004×4347E±007,h14km±11km,n7, σ0°72/12,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HKR	**Hakkari 0.43 150**			*e*PG	**Pg**	**13 51 12.5**	**-1.2**
HKR				*e*SG	**Sg**	**13 51 19.7**	**+0.3**
HAKT	**HAKKARI 0.43 154**			*i* P	**Pg**	**13 51 12.9**	**-0.9**
HAKT				*i* S	**Sg**	**13 51 20.5**	**+1.0**
VANT	**Van 0.50 353**			*e*PG	**Pg**	**13 51 14.9**	**-0.1**
TVAN	**Van 0.58 355**			*i* P	**Pb**	**13 51 18.0**	**+0.9**
TVAN				*i* S	**Sg**	**13 51 29.3**	**+5.0**
VANB	**Van 0.65 354**			*e*PG	**Pg**	**13 51 16.8**	**-1.0**
VANB				*e*SG	**Sg**	**13 51 26.9**	**+0.5**
SIRT	**Sirnak 0.93 242**			*e*PG	**Pg**	**13 51 23.7**	**+0.6**
MARD	**Mardin 2.23 254**			*e*P	**Pn**	**13 51 41.3**	**-0.2**
MARD				*e*S	**Sg**	**13 52 16.6**	**-0.2**

MAN 09 13:55:13,1111N×12473E,h3km,mb4.1,ML2.9,MS2.5, Leyte

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*ISCJB **09** 13:56:29.1±1.9,3087S±007×720W±02,h44km±16km, mb3.9/4,Error ellipse: s-maj=28.3km s-min=12.5km az=178.2*
*NEIC **09** 13:56:31.0±1.6,3083S×7196W,h47km±13km,Error ellipse: s-maj=23.5km s-min=11.3km az=89.0*
*IDC **09** 13:56:31.9±3.3,3088S×7189W,h50km±28km,mb3.7/3, mb1 3.9/7,mb1mx3.7/17,mbtmp3.8/7,ML3.7/4,Error ellipse: s-maj=32.1km s-min=25.6km az=112.0*
ISC 09 13:56:31.4±1.6,3081S±008×719W±02,h44km±14km,n18, σ1°16/16,mb3.9/4,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCO	**Las Campanas 2.08 31**			*e*Pn	**Pn**	**13 57 02.7**	**-1.1**
CFAA	**Coronel Fontan 3.26 105**			P	**Pn**	**13 57 21.6**	**+1.6**
CFAA				S	**Sn**	**13 58 08.8**	**+11**
CFAA	**Coronel Fontan 3.26 105**			P	**Pn**	**13 57 21.6**	**+1.6**
4.2nm,0.3s,baz=300,slow=10,SNR=72
CFAA S **Sn 13 58 08.8 +11**
15nm,0.3s,baz=167,slow=10.0,SNR=13
PLCA Paso Flores 9.97 174 P **Pn 13 58 50.4 -1.5**
PLCA Paso Flores 9.97 174 P **Pn 13 58 50.4 -1.5**
0.3nm,0.3s,baz=331,slow=11,SNR=7.9
TRQA Tornquist 10.94 134 *e*Pn **Pn 13 59 05.4 +0.2**
55nm,1.6s
LPAZ La Paz 14.86 14 P **Pn 14 00 00.4 +1.7**
0.1nm,0.3s,baz=181,slow=8.3,SNR=9.7
SIV San Ignacio 17.78 36 P **Pn 14 00 34.9 -0.7**
0.2nm,0.3s,baz=230,slow=12,SNR=9.8
BDFB Brasilia 26.58 61 P **P 14 02 04.7 -0.8**
1.9nm,0.6s,mb3.8,baz=211,slow=14,SNR=4.0
VNA2 Neumayer--Watz 52.92 158 *e* **P 14 05 44.9 +2.2**
baz=282,slow=10
VNA2 *e* 14 05 49.8
TXAR Lajitas Array 67.01 330 P **P 14 07 20.5 +0.8**
0.6nm,0.7s,mb3.8,baz=149,slow=8.5,SNR=6.5
DBIC Dimbokro 74.09 72 P **P 14 08 03.0 -0.3**
1.8nm,0.7s,mb4.1,baz=195,slow=7.5,SNR=4.0
TOA0 Torodi Ar. Sit 83.04 70 *e*P **P 14 08 51.4 -1.1**
TORD Torodi Ar. Bea 83.04 70 P **P 14 08 52.3 -0.2**
1.0nm,0.5s,mb4.1,baz=286,slow=5.2,SNR=21
ASAR Alice Springs 120.44 208 PKP PKPdf 14 15 17.5 -1.0
0.2nm,0.8s,baz=170,slow=1.6,SNR=2.7
WRA Warramunga Arr 123.58 210 PKP PKPdf 14 15 23.6 -1.0
0.6nm,0.8s,baz=155,slow=1.7,SNR=3.9
ZALV Zalesovo Beam 151.44 29 PKPbc PKPbc 14 16 20.7 +0.8
2.2nm,0.6s,baz=302,slow=2.9,SNR=14
MKAR Makanchi Array 154.50 44 PKPbc PKPbc 14 16 27.3 +0.4
0.2nm,0.2s,baz=4.3,slow=2.3,SNR=3.7

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*NEIC **09** 13:56:19.1±13.0,2831N×6956E,h10km,mb4.1/2,Error ellipse: s-maj=254.0km s-min=23.0km az=139.0*
*IDC **09** 13:58:26.9±34.0,3726N×7243E,h180km±212km,mb3.2/4, mb1 3.3/6,mb1mx3.0/20,mbtmp3.2/6,ML3.9/1,Error ellipse: s-maj=285.5km s-min=38.3km az=176.0*
*ISCJB **09** 13:58:28.2±0.9,3741N±006×723E±02,h196km±12km, mb3.2/4,Error ellipse: s-maj=20.8km s-min=8.3km az=168.9*
*NNC **09** 13:58:35.0±11.0,3799N×7200E,h242km±129km,mb2.4, mpv3.5,Error ellipse: s-maj=115.2km s-min=59.9km az=9.0*
ISC 09 13:58:29.0±0.9,3740N±005×723E±02,h190km±13km,n23, σ0°68/27,mb3.3/4,2C-2D,Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu 4.85 13**			*e*Pn	**Pn**	**13 59 40.7**	**-0.4**
AML	**Almayashu 4.85 13**			P	**Pn**	**13 59 40.9**	**-0.2**
SNR=92
UCH Uchtor 5.12 19 *e*Pn **Pn 13 59 44.2 -0.4**
9.9nm,0.5s
UCH Uchtor 5.12 19 P **Pn 13 59 44.4 -0.2**
SNR=22
KZA Kyzart 5.21 25 P **Pn 13 59 45.1 -0.6**
SNR=13
EKS2 Erkin-Say 5.38 12 *e*Pn **Pn 13 59 47.5 -0.5**
12nm,0.6s
EKS2 Erkin-Say 5.38 12 P **Pn 13 59 48.5 +0.5**
SNR=12
AAK Ala-Archa 5.50 17 P **Pn 13 59 49.4 0.0**
SNR=20
KBK Karagaybulak 5.64 21 P **Pn 13 59 52.0 +0.7**
SNR=8.2
THN Thein Dam 5.71 149 *e*P **Pn 13 59 54.1 +1.7**
THN *e*S **Sn 14 00 57.3 -0.7**
ULHL Ulahol 5.72 31 P **Pn 13 59 51.6 -0.8**
SNR=16
KK31 Karatay Array 5.85 347 ⇑P **Pn 13 59 53.6 -0.4**
0.6nm,0.2s,baz=165,slow=12,SNR=20
KK31 S **Sn 14 00 55.1 -6.1**
8.9nm,0.5s,baz=162,slow=22,SNR=18
CHMS Chumysh 5.90 18 P **Pn 13 59 54.7 -0.1**
SNR=5.8
TKM2 Tokmak 2 6.07 24 ⇑P **Pn 13 59 56.4 -0.6**
8.8nm,0.7s
TKM2 ⇓S **Sn 14 01 07.9 +1.5**
1.2nm,0.5s
TKM2 Tokmak 2 6.07 24 *e*Pn **Pn 13 59 56.4 -0.5**
13nm,0.9s
TKM2 Tokmak 2 6.07 24 P **Pn 13 59 56.5 -0.4**
SNR=11
AB31 Akbulak array 14.83 327 P **Pn 14 01 48.9 -0.5**
1.2nm,0.7s,baz=141,slow=12,SNR=7.8
AB31 ⇓S **Sn 14 04 22.1 -13**
0.4nm,0.5s,baz=152,slow=24,SNR=3.6
AKTO Aktyubinsk 16.55 326 P **Pn 14 02 10.7 +0.6**
0.4nm,0.3s,baz=113,slow=13,SNR=10.0
ZALV Zalesovo Beam 18.68 24 P **P 14 02 31.9 -0.7**
0.4nm,0.3s,baz=221,slow=10,SNR=12
FINES FINESS Array B 37.31 325 P **P 14 05 22.8 +0.3**
0.3nm,0.4s,mb3.3,baz=117,slow=12,SNR=4.8
ARCES ARCESS Array B 40.71 337 P **P 14 05 51.0 +0.4**
0.9nm,0.5s,mb3.7,baz=119,slow=9.1,SNR=11
NOA NORSAR Array B 44.28 322 P **P 14 06 19.4 0.0**
0.3nm,0.4s,mb3.3,baz=94,slow=7.6,SNR=2.6
YKA Yellowknife Ar 80.30 3 P **P 14 10 18.1 -0.2**
0.2nm,0.4s,mb3.1,baz=350,slow=5.6,SNR=3.8

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*NEIC **09** 14:14:32.2±0.9,548N×7670W,h150km,mb4.3/1,Error ellipse: s-maj=29.7km s-min=17.7km az=176.0*
IDC 09 14:14:30.5±6.3,540N×7697W,h128km±63km,mb3.1/1, mb1 3.3/2,mb1mx3.0/19,mbtmp3.1/2,Error ellipse: s-maj=96.2km s-min=38.4km az=85.0,Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSC	**El Rosal 2.68 101**			P	Pn	14 15 13.7	+0.7

ROSC El Rosal 2.68 101 P Pn 14 15 13.5 +0.5
2.8nm,0.3s,baz=95,slow=13,SNR=7.1
SDV Santo Domingo 7.18 61 *e*P Pn 14 16 10.3 -2.6
5.3nm,0.4s
YKA Yellowknife Ar 63.33 342 P P 14 24 45.6 0.0
0.4nm,0.7s,baz=133,slow=6.4,SNR=9.7
MKAR Makanchi Array 124.88 17 PKP PKPdf 14 33 15.4 -0.2
0.2nm,0.3s,baz=292,slow=3.8,SNR=6.4
ASAR Alice Springs 145.17 235 PKPbc PKPbc 14 33 52.5 -1.1
0.6nm,0.5s,baz=118,slow=3.7,SNR=22
WRA Warramunga Arr 146.30 242 PKPbc PKPbc 14 33 56.8 -0.3
0.4nm,0.7s,baz=110,slow=3.3,SNR=4.2

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*ISCJB **09** 14:16:17.1±0.7,2445S±004×6705W±008,h155km±11km, mb3.8/4, Error ellipse: s-maj=11.9km s-min=5.7km az=9.9*
*NEIC **09** 14:16:18.8±0.7,2448S×6703W,h158km±9km,mb4.9/2, Error ellipse: s-maj=13.6km s-min=7.6km az=107.0*
*IDC **09** 14:16:18.2±1.6,2443S×6696W,h144km±16km,mb3.6/3, mb1 3.7/7,mb1mx3.5/18,mbtmp3.6/7, Error ellipse: s-maj=26.8km s-min=12.0km az=102.0*
*GUC **09** 14:16:20.9±1.1,2457S×6778W,h220km,ML4.4*
ISC 09 14:16:17.9±0.6,2444S±004×6701W±007,h142km±9km, n26,σ1§26/33,mb3.8/4,2C-1D,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPN1	**Cerro Paranal**	**3.10**	**266**	*e*P	**Pn**	**14 17 07.5**	**+1.4**
CPN1				*i* S	**Sn**	**14 17 42.2**	**-1.3**
CPN1				AML	AML	14 17 46.7	
	comp=E,490nm,0.6s						
CEN1	**Los Morros**	**3.10**	**289**	⇓*i*P	**Pn**	**14 17 08.0**	**+1.8**
CEN1				*i* S	**Sn**	**14 17 44.0**	**+0.4**
CEN1				AML	AML	14 17 46.5	
	comp=N,1μm,0.4s						
ANCH	**Antofagasta**	**3.20**	**283**	⇑*i*P	**Pn**	**14 17 09.5**	**+2.0**
ANCH				*e*S	**Sn**	**14 17 44.9**	**-1.0**
ANCH	**Antofagasta**	**3.20**	**283**	⇑*i*P	**Pn**	**14 17 09.5**	**+2.0**
ANCH				*e*S	**Sn**	**14 17 44.9**	**-1.0**
ANCH				AML	AML	14 17 46.7	
	comp=N,1μm,0.7s						
CDCH	**Caldera**	**4.33**	**232**	*e*P	**Pn**	**14 17 21.7**	**-0.6**
CDCH				*i* S	**Sn**	**14 18 08.8**	**-3.5**
LCO	**Las Campanas**	**5.62**	**215**	*e*Pn	**Pn**	**14 17 39.6**	**+0.2**
	comp=N,52nm,0.4s						
LCO				*e*S	**Sn**	**14 18 34.4**	**-8.7**
TLL	**Tololo Astrono**	**6.63**	**210**	*e*P	**Pn**	**14 17 53.1**	**+0.2**
TLL				*i* S	**Sn**	**14 19 05.7**	**-1.5**
CFAA	**Coronel Fontan**	**7.22**	**188**	P	**Pn**	**14 18 02.6**	**+1.9**
	comp=N,0.3nm,0.3s,baz=0.7,slow=11,SNR=22						
CFAA				S	**Sn**	**14 19 19.9**	**-1.5**
	comp=N,0.4nm,0.3s,baz=264,slow=21,SNR=8.5						
LPAZ	**La Paz**	**8.18**	**352**	P	**Pn**	**14 18 16.4**	**+2.6**
	comp=N,3.9nm,0.3s,baz=150,slow=7.3,SNR=71						
LPAZ				S	**Sn**	**14 19 43.5**	**-1.4**
	comp=N,0.4nm,0.3s,baz=342,slow=19,SNR=6.4						
SIV	**San Ignacio**	**10.08**	**35**	P	**Pn**	**14 18 39.9**	**+0.7**
	comp=N,1.3nm,0.3s,baz=219,slow=14,SNR=46						
SIV				S	**Sn**	**14 20 29.1**	**-1.6**
	comp=N,0.0nm,0.3s,baz=168,slow=11,SNR=5.2						
TRQA	**Tornquist**	**14.23**	**164**	*e*Pn	**Pn**	**14 19 33.6**	**+0.7**
	comp=N,29nm,0.6s						
TRQA				*e*		14 19 37.5	
PLCA	**Paso Flores**	**16.51**	**190**	P	**Pn**	**14 19 59.5**	**-1.6**
PLCA	**Paso Flores**	**16.51**	**190**	P	**Pn**	**14 20 03.2**	**+2.0**
	comp=N,0.2nm,0.3s,baz=19,slow=14,SNR=4.7						
BDFB	**Brasilia**	**19.86**	**67**	P	**P**	**14 20 38.8**	**+0.8**
	comp=N,0.8nm,0.3s,baz=238,slow=13,SNR=8.6						
RCBR	**Riachuelo**	**35.13**	**63**	P	**P**	**14 22 56.4**	**-1.6**
VNA3	**Neumayer Olymp**	**56.74**	**161**	*e*	**P**	**14 25 47.4**	**+1.0**
VNA3				*e*		14 25 51.6	
VNA2	**Neumayer--Watz**	**57.30**	**160**	*e*	**P**	**14 25 51.6**	**+1.2**
	baz=284,slow=7.7						
VNA2				*e*		14 25 56.7	
SNAA	**Sanae**	**58.94**	**161**	P	**P**	**14 26 02.0**	**+0.3**
	comp=N,0.4nm,0.7s,mb3.4,baz=281,slow=10,SNR=3.1						
DBIC	**Dimbokro**	**67.95**	**71**	P	**P**	**14 27 01.1**	**-0.7**
	comp=N,1.3nm,0.3s,mb4.1,baz=201,slow=6.9,SNR=7.7						
TOA0	**Torodi Ar. Sit**	**76.73**	**69**	*e*P	**P**	**14 27 52.6**	**-1.3**
TORD	**Torodi Ar. Bea**	**76.73**	**69**	P	**P**	**14 27 53.4**	**-0.5**
TORD	**Torodi Ar. Bea**	**76.73**	**69**	P	**P**	**14 27 53.4**	**-0.5**
	comp=N,2.5nm,0.6s,mb4.0,baz=259,slow=5.3,SNR=42						
YKA	**Yellowknife Ar**	**94.53**	**340**	P	**P**	**14 29 21.4**	**-0.2**
	comp=N,0.3nm,0.5s,mb3.8,baz=127,slow=4.6,SNR=7.2						
WRA	**Warramunga Arr**	**131.23**	**207**	PKP	PKPdf	14 35 13.7	-0.1
	comp=N,0.4nm,0.9s,baz=152,slow=1.8,SNR=6.8						
ZALV	**Zalesovo Beam**	**143.79**	**28**	PKP	PKPdf	14 35 33.6	-2.1
	comp=N,0.6nm,0.4s,baz=321,slow=3.8,SNR=4.2						
MKAR	**Makanchi Array**	**146.87**	**40**	PKPbc	PKPbc	14 35 43.4	0.0
	comp=N,1.2nm,0.4s,baz=299,slow=3.3,SNR=19						

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*NNC **09** 14:20:51.3±6.6,3939N×7088E,h0km,mb3.7,mpv3.4, Error ellipse: s-maj=62.7km s-min=26.1km az=175.0*
ISC 09 14:20:54.8±2.6,393N±02×7079E±010,h35km,n12, σ0§68/14,5C-2D,Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**3.58**	**37**	P	**Pn**	**14 21 47.5**	**-0.3**
	SNR=28						
KK31	**Karatay Array**	**3.79**	**357**	⇓Pn	**Pn**	**14 21 53.4**	**+2.8**
	1.9nm,0.2s,baz=173,slow=13						
KK31				⇑Lg		14 22 51.6	
	9.9nm,0.3s,baz=179,slow=30,SNR=5.2						
EKS2	**Erkin-Say**	**4.04**	**33**	P	**Pn**	**14 21 54.3**	**+0.3**
	SNR=14						
UCH	**Uchtor**	**4.06**	**43**	P	**Pn**	**14 21 54.8**	**+0.5**
	SNR=21						
AAK	**Ala-Archa**	**4.34**	**39**	P	**Pn**	**14 21 58.3**	**0.0**
	SNR=17						
KZA	**Kyzart**	**4.37**	**49**	P	**Pn**	**14 21 58.4**	**-0.2**
	SNR=24						
KBK	**Karagaybulak**	**4.59**	**42**	P	**Pn**	**14 22 02.0**	**+0.4**
	SNR=14						
CHMS	**Chumysh**	**4.74**	**38**	P	**Pn**	**14 22 03.6**	**-0.1**
	SNR=6.6						
USP	**Ospenovka**	**4.84**	**34**	P	**Pn**	**14 22 04.5**	**-0.5**
	SNR=11						
TKM2	**Tokmak 2**	**5.12**	**44**	⇑Pn	**Pn**	**14 22 08.0**	**-0.8**
	3.1nm,0.3s						
TKM2				⇑Sn	**Sn**	**14 23 06.4**	**-0.2**
	3.8nm,0.6s						
TKM2				⇑Lg		14 23 25.6	
	4.6nm,0.5s						
TKM2	**Tokmak 2**	**5.12**	**44**	P	**Pn**	**14 22 08.4**	**-0.4**
	SNR=8.9						
AB31	**Akbulak array**	**12.60**	**326**	⇑Pn	**Pn**	**14 23 50.9**	**-0.5**
	0.5nm,0.5s,baz=171,slow=9.3,SNR=12						
AB31				⇓Sn	**Sn**	**14 26 10.0**	**-0.3**
	1.3nm,0.6s,baz=144,slow=24,SNR=5.5						

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*SVSA **09** 14:21:41.4±1.1,3702N×2458W,h0km±40km,MD4.1, ML3.8,Error ellipse: s-maj=51.4km s-min=7.0km az=139.0*
*PDA **09** 14:21:41.4±1.1,3702N×2458W,h0km±40km,MD4.1, ML3.8,Error ellipse: s-maj=51.4km s-min=7.0km az=139.0*
*CSEM **09** 14:21:41.4±1.1,3702N×2458W,h0km±40km,ML3.8,Error ellipse: s-maj=51.4km s-min=7.0km az=139.0,After PDA*
ISC 09 14:21:38.9±0.6,3724N±006×2458W±004,h10km,n33, σ1§32/42,mb4.0/3,6C,Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSMN	**Pico do Norte,**	**0.45**	**239**	*e*P	**Pg**	**14 21 49.1**	**+1.5**
PSMN				*e*S	**Sg**	**14 21 53.7**	**+0.1**
PDA	**Ponta Delgada**	**1.00**	**301**	*e*P	**Pg**	**14 21 59.6**	**+1.6**
PSCM	**Serra do Cume**	**2.48**	**307**	*e*P	**Pn**	**14 22 19.8**	**+0.5**
PSCM				*e*S	**Sn**	**14 22 49.3**	**-0.3**
PSCM				A		14 22 52.3	
	184nm,0.4s						
PSCM	**Serra do Cume**	**2.48**	**307**	*e*P	**Pn**	**14 22 19.8**	**+0.5**
PSCM				*e*S	**Sn**	**14 22 49.3**	**-0.3**
ADH	**Angra Heroismo**	**2.53**	**305**	*e*P	**Pn**	**14 22 21.0**	**+1.1**
ADH				*e*S	**Sn**	**14 22 50.2**	**-0.6**
PID	**Ribeirinha**	**3.05**	**294**	*e*P	**Pn**	**14 22 27.5**	**+0.4**
PID				*e*S	**Sn**	**14 23 02.8**	**-0.8**
PMAN	**Manadas**	**3.10**	**298**	*e*P	**Pn**	**14 22 28.5**	**+0.7**
PMAN				*e*S	**Sn**	**14 23 03.4**	**-1.5**
ROSA	**Rosais**	**3.25**	**298**	*e*P	**Pn**	**14 22 30.6**	**+0.8**
ROSA				*e*S	**Sn**	**14 23 08.1**	**-0.4**
PICO	**Pico**	**3.29**	**294**	*e*P	**Pn**	**14 22 31.1**	**+0.7**
PICO				*e*S	**Sn**	**14 23 08.7**	**-0.9**
CALA	**Caldeira**	**3.52**	**294**	*e*P	**Pn**	**14 22 34.1**	**+0.5**
CALA				*e*S	**Sn**	**14 23 13.4**	**-1.9**
PMAR	**Madeira**	**7.74**	**123**	*e*Pn	**Pn**	**14 23 30.8**	**-0.7**
PMAR				*e*T		14 31 09.3	
PMPS	**Porto Santo**	**7.94**	**119**	*e*Pn	**Pn**	**14 23 31.6**	**-2.7**
PMPS				*e*Sn	**Sn**	**14 24 51.8**	**-12**
PMPS				*e*T		14 31 19.9	
PTEO	**Sao Teotonio**	**12.62**	**84**	*e*S	**Sn**	**14 26 42.2**	**-17**
EVO	**Evora**	**13.16**	**79**	*e*Pn	**Pn**	**14 24 40.4**	**-5.3**
EVO				*e*Sn	Sx	14 26 53.3	
	7.5nm,0.5s						
PBDV	**Barranco-do-Ve**	**13.27**	**85**	*e*S	**Sn**	**14 27 01.1**	**-14**
PBEJ	**Beja**	**13.28**	**82**	*e*S	**Sn**	**14 26 59.4**	**-16**
PVAQ	**Vaqueiros**	**13.43**	**84**	*e*S	**Sn**	**14 27 02.6**	**-16**
PVIS	**Viseu**	**13.44**	**70**	*e*S	**Sn**	**14 27 02.0**	**-17**
PESTR	**Estremoz**	**13.49**	**78**	*e*S	**Sn**	**14 27 04.8**	**-16**
PCAB	**Cabril**	**13.55**	**66**	*e*S	**Sn**	**14 27 06.2**	**-15**
MTE	**Manteigas**	**13.66**	**71**	*e*S	**Sn**	**14 27 07.2**	**-17**
PBAR	**Barrancos**	**13.93**	**81**	*e*S	**Sn**	**14 27 15.6**	**-15**
MVO	**Moncorvo**	**14.17**	**69**	*e*P	Px	14 24 46.9	
MVO				*e*S	Sx	14 27 19.1	
ROSF	**Rostrenen**	**19.11**	**48**	*e*P	**Pn**	**14 26 02.8**	**+0.3**
EPF	**Esparros**	**19.88**	**65**	*e*P	**Pn**	**14 26 12.8**	**+1.0**
MFF	**Saint Martin d**	**20.38**	**55**	⇑*i*P	**P**	**14 26 17.9**	**+2.3**
	32nm,1.2s						
LFF	**La Frestale**	**20.52**	**60**	⇑*i*P	**P**	**14 26 19.2**	**+2.0**
	20nm,0.9s						
GRR	**Gorron**	**20.58**	**50**	⇑*i*P	**P**	**14 26 20.5**	**+2.8**
	55nm,1.1s						
FLN	**La Foliniere**	**20.96**	**49**	⇑*i*P	**P**	**14 26 24.2**	**+2.3**
	8.4nm,0.9s						
LDF	**La Druitiere**	**21.11**	**50**	⇑*i*P	**P**	**14 26 25.8**	**+2.3**
	10nm,1.1s,mb3.8						
CAF	**Calviac**	**21.44**	**61**	⇑*i*P	**P**	**14 26 28.6**	**+1.6**
	18nm,1.0s,mb4.0						
TCF	**Toulx Ste Croi**	**21.85**	**57**	*e*P	**P**	**14 26 33.3**	**+1.8**
	25nm,1.5s,mb4.1						
LOR	**Lormes**	**23.20**	**55**	*e*P	**P**	**14 26 46.5**	**+0.7**

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*ISK **09** 14:29:19.1,3583N×2833E,h6km,ML4.0*
*ATH **09** 14:29:19.5,3598N×2856E,h16km±1km,MD4.1/9*
*HLW **09** 14:29:20.9,3603N×2846E,h14km,Mb3.8*
*CSEM **09** 14:29:21.5±0.1,3585N×2835E,h25km,mb4.2/11,Mw3.3, Error ellipse: s-maj=1.5km s-min=1.1km az=37.0*
*ISCJB **09** 14:29:22.8±0.7,3584N±002×2839E±002,h33km±6km, mb4.0/19,Error ellipse: s-maj=3.3km s-min=2.4km az=33.5*
*MOS **09** 14:29:22.9±0.8,3587N×2836E,h33km,mb4.2/13,Error ellipse: s-maj=9.1km s-min=4.1km az=127.8*
*NEIC **09** 14:29:22.2±0.4,3593N×2840E,h10km,mb4.0/24, MD4.1(ATH),ML4.4(THE),Error ellipse: s-maj=5.7km s-min=4.8km az=174.0*
*THE **09** 14:29:24.3,3598N×2840E,h7km,ML4.4*
*IDC **09** 14:29:24.8±4.2,3589N×2840E,h31km±35km,mb3.8/7, mb1 4.0/14,mb1mx3.8/27,mbtmp3.9/14,ML4.0/8,MS3.0/3, Ms1 3.0/3,ms1mx2.5/33,Error ellipse: s-maj=18.9km s-min=14.7km az=36.0*
*DDA **09** 14:29:25.2,3606N×2831E,h19km,Md4.1*
*NIC **09** 14:29:25.1±0.4,3597N×2851E,h76km,ML3.4,MW3.3*
ISC 09 14:29:22.6±0.6,3589N±002×2839E±002,h14km±4km, n225,σ1§02/243,mb4.0/19,15C-10D,Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARG	**Arkhangelos**	**0.39**	**327**	*e*PB	**Pg**	**14 29 28.2**	**-2.2**
ARG				*e*SB	**Sg**	**14 29 34.2**	**-1.5**
FETY	**Fethiye**	**0.93**	**37**	*e*PG	**Pg**	**14 29 38.9**	**-1.7**
FETY				*e*SG	**Sg**	**14 29 53.0**	**+0.2**
AKAS	**Kas**	**1.04**	**70**	*i* P	**Pb**	**14 29 43.6**	**+1.3**
AKAS				*i* S	**Sb**	**14 30 01.2**	**+5.3**
KARP	**Karpathos**	**1.06**	**251**	*e*Pn	**Pn**	**14 29 42.7**	**-0.2**
KARP				*e*SN	**Sn**	**14 29 59.2**	**+1.8**
KARP	**Karpathos**	**1.06**	**251**	P	**Pb**	**14 29 42.2**	**-0.4**
DAT	**Datca**	**1.06**	**322**	*e*Pn	**Pn**	**14 29 40.3**	**-2.7**
YER	**Yerkesik**	**1.25**	**356**	*e*Pn	**Pn**	**14 29 44.4**	**-1.1**
BDRM	**Kayabasi**	**1.40**	**327**	*i* P	**Pn**	**14 29 46.5**	**-1.1**
BDRM				*i* S	**Sn**	**14 30 05.1**	**-0.8**
BODT	**Bodrum**	**1.46**	**324**	*e*Pn	**Pn**	**14 29 47.0**	**-1.5**
MLSB	**Milas**	**1.49**	**341**	*e*Pn	**Pn**	**14 29 47.6**	**-1.3**
ELL	**Elmali**	**1.50**	**55**	*e*Pn	**Pn**	**14 29 48.3**	**-0.7**
GOLH	**Golhisar**	**1.64**	**35**	*i* P	**Pn**	**14 29 51.9**	**+0.9**
GOLH				*i* S	**Sg**	**14 30 19.4**	**+4.0**
DENT	**Denizli**	**1.93**	**15**	*e*PN	**Pn**	**14 29 54.5**	**-0.4**
ZKR	**Zakros**	**1.93**	**247**	*e*Pb	**Pb**	**14 29 56.9**	**-0.7**
ZKR				*e*Sb	**Sb**	**14 30 21.2**	**-0.4**
ANTB	**Antalya**	**2.09**	**60**	*e*PN	**Pn**	**14 29 56.5**	**-0.6**
SMG	**Samos**	**2.20**	**326**	*e*PN	**Pn**	**14 29 57.8**	**-0.9**
NPS	**Neapolis**	**2.35**	**255**	*e*PN	**Pn**	**14 30 01.5**	**+0.8**
NPS				*e*SN	**Sn**	**14 30 33.2**	**+3.9**
BCK	**Bucak**	**2.36**	**48**	*e*PN	**Pn**	**14 30 00.7**	**-0.2**
THR1	**Thera Island**	**2.42**	**282**	*e*Pn	**Pn**	**14 30 02.8**	**+1.1**
LAST	**Lasithi**	**2.48**	**254**	*e*Pn	**Pn**	**14 30 04.3**	**+1.7**
LAST				*e*Sn	**Sn**	**14 30 34.7**	**+2.1**
LAST	**Lasithi**	**2.48**	**254**	S	**Sn**	**14 30 34.7**	**+2.0**
ISP	**Isparta**	**2.59**	**40**	*e*Pn	**Pn**	**14 30 04.7**	**+0.7**
ISP				*e*Sn	**Sn**	**14 30 35.0**	**-0.2**
ISP	**Isparta**	**2.59**	**40**	*e*Pn	**Pn**	**14 30 04.0**	**0.0**
APE	**Apeiranthos**	**2.59**	**298**	*e*Pn	**Pn**	**14 30 03.6**	**-0.4**
APE				*e*Sn	**Sn**	**14 30 35.4**	**+0.2**
APE	**Apeiranthos**	**2.59**	**298**	*e*PN	**Pn**	**14 30 04.3**	**+0.3**
KHL	**Karahalli**	**2.59**	**20**	*e*PN	**Pn**	**14 30 03.7**	**-0.3**
KULA	**Kula-Manisa**	**2.63**	**5**	*e*PN	**Pn**	**14 30 04.5**	**-0.1**
BLCB	**Balcova**	**2.71**	**337**	*e*PN	**Pn**	**14 30 04.6**	**-1.2**
BLCB	**Balcova**	**2.71**	**337**	*e*Pn	**Pn**	**14 30 05.5**	**-0.2**
BLCB				*e*Sn	**Sn**	**14 30 38.4**	**+0.1**
IDI	**Anoyia**	**2.92**	**259**	P	**Pn**	**14 30 10.7**	**+2.2**
AKHS	**Akhisar**	**3.02**	**351**	*i* P	**Pn**	**14 30 09.8**	**-0.1**
AKS	**Akhisar**	**3.02**	**351**	*e*PN	**Pn**	**14 30 09.9**	**0.0**
SIVA	**Sivas**	**3.05**	**254**	*e*Pn	**Pn**	**14 30 12.1**	**+1.8**
CHOS	**Chios island**	**3.11**	**324**	*e*Pn	**Pn**	**14 30 10.9**	**-0.3**
CHOS				*e*Sn	**Sn**	**14 30 47.7**	**-0.4**
SHUT	**Suhut-Afyon**	**3.17**	**32**	*e*PN	**Pn**	**14 30 12.1**	**+0.1**
GDZ	**Gediz**	**3.31**	**15**	*i* P	**Pn**	**14 30 14.5**	**+0.6**
AKMC	**Akamas**	**3.33**	**104**	P	**Pn**	**14 30 14.5**	**+0.3**
PPCY	**Paphos**	**3.38**	**106**	P	**Pn**	**14 30 15.4**	**+0.5**
ALT	**Altintas**	**3.44**	**23**	*e*PN	**Pn**	**14 30 16.2**	**+0.4**
VAM	**Vamos**	**3.45**	**263**	*e*PN	**Pn**	**14 30 17.5**	**+1.7**
ALFC	**Alevga**	**3.51**	**101**	P	**Pn**	**14 30 16.6**	**-0.1**
	3.1nm,0.3s						
ALFC				S	**Sn**	**14 30 58.2**	**+0.2**
GVD	**Gavdhos**	**3.67**	**255**	*e*Pn	**Pn**	**14 30 20.8**	**+1.9**
KARN	**Karanos**	**3.67**	**264**	*e*Pn	**Pn**	**14 30 20.2**	**+1.3**
DST	**Dursunbey**	**3.71**	**3**	*e*PN	**Pn**	**14 30 19.6**	**+0.2**
ERMK	**Ermenek**	**3.73**	**77**	*i* P	**Pn**	**14 30 22.7**	**+3.0**
PRK	**Paraskevi**	**3.75**	**334**	*e*PN	**Pn**	**14 30 19.4**	**-0.6**
LEF	**Lefka**	**3.75**	**101**	*e*PN	**Pn**	**14 30 18.7**	**-1.3**
BALB	**Balikesir**	**3.77**	**354**	*e*PN	**Pn**	**14 30 20.1**	**-0.1**
KONT	**Konya--Tatoy**	**3.79**	**56**	*e*PN	**Pn**	**14 30 20.7**	**+0.2**
SZAC	**Souni-Zanaja**	**3.84**	**106**	P	**Pn**	**14 30 21.8**	**+0.5**
MAMC	**Mammari**	**4.00**	**99**	P	**Pn**	**14 30 24.1**	**+0.7**
CSS	**Prodhromos**	**4.14**	**101**	*e*Pn	**Pn**	**14 30 25.4**	**+0.1**
CSS	**Prodhromos**	**4.14**	**101**	*e*Pn	**Pn**	**14 30 25.4**	**+0.1**
CSS				S	**Sn**	**14 31 12.5**	**-1.0**
EZN	**Ezine**	**4.25**	**338**	*e*PN	**Pn**	**14 30 26.7**	**-0.2**
IKL	**Isikli**	**4.30**	**84**	*e*PN	**Pn**	**14 30 28.0**	**+0.4**
BNT	**Bandirma**	**4.47**	**355**	*e*PN	**Pn**	**14 30 30.3**	**+0.4**
VLI	**Veliai**	**4.48**	**282**	*e*PN	**Pn**	**14 30 31.2**	**+1.2**
IZI	**Iznik**	**4.52**	**11**	*e*PN	**Pn**	**14 30 31.0**	**+0.4**
PHNC	**Paralimni**	**4.69**	**99**	P	**Pn**	**14 30 33.8**	**+0.9**
EREN	**Erenkoy**	**4.72**	**93**	*e*PN	**Pn**	**14 30 33.6**	**+0.3**
GADA	**Gvkgeada**	**4.72**	**336**	*e*PN	**Pn**	**14 30 33.1**	**-0.3**
YLV	**Yalova**	**4.73**	**9**	*e*PN	**Pn**	**14 30 33.7**	**+0.2**
LIA	**Limnos Island**	**4.74**	**329**	P	**Pn**	**14 30 40.7**	**+7.2**
LOS	**Limnos**	**4.81**	**328**	*e*Pn	**Pn**	**14 30 34.6**	**0.0**
GULT	**Gulveren**	**4.83**	**20**	*e*PN	**Pn**	**14 30 35.6**	**+0.7**
HMAT	**Matruh**	**4.90**	**193**	⇑*e*P	**Pn**	**14 30 36.0**	**+0.1**
MFT	**Murefte**	**4.97**	**350**	*e*PN	**Pn**	**14 30 37.1**	**+0.4**
MERS	**Mersin**	**5.04**	**77**	*e*PN	**Pn**	**14 30 38.4**	**+0.6**
ENEZ	**Enez**	**5.15**	**341**	*e*PN	**Pn**	**14 30 39.7**	**+0.5**
ANTO	**Ankara**	**5.28**	**40**	*e*PN	**Pn**	**14 30 42.9**	**+1.9**
ANTO	**Ankara**	**5.28**	**40**	⇑*i*P	**Pn**	**14 30 50.9**	**+10**
ALN	**Alexandroupoli**	**5.33**	**340**	*e*Pn	**Pn**	**14 30 41.8**	**+0.1**
PAIG	**Paliouri**	**5.49**	**319**	*e*Pn	**Pn**	**14 30 43.7**	**-0.1**
KARA	**Karaisali**	**5.54**	**74**	*e*PN	**Pn**	**14 30 45.7**	**+1.2**
OUR	**Ouranopolis**	**5.63**	**323**	*e*Pn	**Pn**	**14 30 45.5**	**-0.4**
RDO	**Rodhopi**	**5.70**	**338**	P	**Pn**	**14 30 48.2**	**+1.4**
AGG	**Agios Georgios**	**5.75**	**305**	*e*Pn	**Pn**	**14 30 48.4**	**+1.0**
KOZT	**Kozan**	**6.18**	**73**	*e*PN	**Pn**	**14 30 54.8**	**+1.4**
KDZ	**Kurdzhali**	**6.20**	**339**	*e*P	**Pn**	**14 30 54.4**	**+0.8**
LIT	**Litokhoron**	**6.27**	**314**	*e*Pn	**Pn**	**14 30 55.5**	**+0.9**
HWQ	**Hawqa**	**6.40**	**102**	*e*Pn	**Pn**	**14 30 56.2**	**-0.2**
RZN	**Rozhen**	**6.46**	**335**	*e*P	**Pn**	**14 30 58.5**	**+1.3**
MMAI	**Mount Meron Ar**	**6.46**	**114**	Pn	**Pn**	**14 30 56.4**	**-0.9**
	9.8nm,0.3s,baz=311,slow=12,SNR=42						
MMAI				Sn	**Sn**	**14 32 10.6**	**-0.2**
	7.1nm,0.3s,baz=271,slow=22,SNR=5.4						
NVR	**Nevrokopi**	**6.50**	**328**	*e*PN	**Pn**	**14 30 58.4**	**+0.6**
HNAT	**Natroun**	**6.51**	**163**	P	**Pn**	**14 30 58.2**	**+0.2**
FYM	**Al Fayyum**	**6.57**	**159**	⇑*e*P	**Pn**	**14 30 58.9**	**+0.2**
RCY	**Rachaya**	**6.57**	**109**	*e*Pn	**Pn**	**14 30 58.5**	**-0.3**
AMAG	**Maghara**	**6.61**	**141**	⇑*e*P	**Pn**	**14 30 58.6**	**-0.7**
KOT	**Kottamia**	**6.61**	**153**	⇑*e*P	**Pn**	**14 30 59.0**	**-0.3**
MMB	**Musomiste**	**6.76**	**329**	*e*P	**Pn**	**14 31 01.5**	**+0.2**
HSAF	**As Saff**	**6.80**	**156**	P	**Pn**	**14 31 01.3**	**-0.6**
GLL	**Jalalah**	**6.89**	**155**	⇑*i*P	**Pn**	**14 31 02.8**	**-0.3**
SWA1		**6.98**	**200**	⇓P	**Pn**	**14 31 05.1**	**+0.7**
SWA1				S	**Sn**	**14 32 20.9**	**-2.8**
SUZ		**7.09**	**147**	⇑*e*P	**Pn**	**14 31 05.6**	**-0.4**
KKB	**Krupnik**	**7.26**	**327**	*e*P	**Pn**	**14 31 09.8**	**+1.6**
ZAF		**7.46**	**151**	⇓*e*P	**Pn**	**14 31 11.0**	**0.0**
ZNM		**7.51**	**149**	⇓*e*P	**Pn**	**14 31 11.4**	**-0.3**
HNKL	**Nakhl**	**7.58**	**140**	⇑*e*P	**Pn**	**14 31 11.9**	**-0.6**
HNKL				S	**Sn**	**14 32 33.5**	**-4.8**
VTS	**Vitosha**	**7.80**	**331**	⇑*i*P	**Sn**	**14 32 49.5**	**+5.7**
VTS	**Vitosha**	**7.80**	**331**	*e*P	**Pn**	**14 31 18.0**	**+2.4**
ASF	**Jabal al Asfar**	**7.97**	**115**	P	**Pn**	**14 31 18.7**	**+0.7**
ASF				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASF	**Jabal al Asfar**	**7.97**	**115**	Pn	**Pn**	**14 31 18.7**	**+0.7**
	comp=Z,1.0nm,0.3s,baz=137,slow=4.7,SNR=3.7						
EIL	**Elat**	**8.30**	**136**	Pn	**Pn**	**14 31 23.1**	**+0.6**
	comp=Z,2.6nm,0.3s,baz=332,slow=8.4,SNR=20						
EIL				Sn	**Sn**	**14 32 53.0**	**-3.1**
	comp=Z,2.3nm,0.3s,baz=12,slow=19,SNR=5.4						
TIRR	**Tirgusor**	**8.56**	**0**	⇓P	**Pn**	**14 31 27.5**	**+1.6**
TIRR	**Tirgusor**	**8.56**	**0**	⇓*i*P	**Pn**	**14 31 27.5**	**+1.5**
HFRF	**Wahat Farafira**	**8.71**	**180**	⇑*e*P	**Pn**	**14 31 28.4**	**+0.3**
HKAT	**Jabal Katrina**	**8.74**	**146**	⇓*e*P	**Pn**	**14 31 28.5**	**-0.1**
HDHB	**Dhahab**	**8.88**	**142**	⇓P	**Pn**	**14 31 30.0**	**-0.4**
MLR	**Muntele Rosu**	**9.77**	**350**	Pn	**Pn**	**14 31 44.0**	**+1.5**
	comp=Z,0.2nm,0.3s,baz=149,slow=7.8,SNR=5.5						
MLR				LR	LR	14 35 38.0	
	comp=Z,90nm,21.2s,baz=198,slow=38						
MLR	**Muntele Rosu**	**9.77**	**350**	⇑*i*P	**Pn**	**14 31 44.1**	**+1.6**
TIP	**Timpagrande**	**9.80**	**293**	*e*P	**Pn**	**14 31 44.2**	**+1.1**
	comp=Z,5.3nm,0.6s			

comp=Z,2.5nm,0.6s
HAU Haudompre 20.30 313 *e*P P **14 33 58.1 +0.3**
LASF Ste Croix 20.45 301 *e*P P **14 33 59.1 -0.4**
SMF Signal de Mont 21.27 308 *e*P P **14 34 07.9 -0.4**
comp=Z,20nm,0.9s,mb4.1
SMF Signal de Mont 21.27 308 *e*P P **14 34 07.9 -0.4**
SMF pmax pmax
comp=Z,10.0nm,0.9s,mb4.2
SMF Signal de Mont 21.27 308 *e*P P **14 34 07.9 -0.4**
comp=Z,9.9nm,0.9s,mb4.1
MEZF Maizieres J'vi 21.30 313 *e*P P **14 34 08.9 +0.3**
comp=Z,6.4nm,0.6s,mb3.9
MEZF Maizieres J'vi 21.30 313 *e*P P **14 34 08.9 +0.3**
comp=Z,3.2nm,0.6s,mb3.9
MTLF Montolieu 21.43 298 *e*P P **14 34 08.9 -1.2**
comp=Z,1.9nm,0.5s,mb3.4
MTLF Montolieu 21.43 298 *e*P P **14 34 08.9 -1.2**
MTLF pmax pmax
comp=Z,1.0nm,0.5s,mb3.4
MTLF Montolieu 21.43 298 *e*P P **14 34 08.9 -1.2**
comp=Z,0.9nm,0.5s,mb3.4
LOR Lormes 21.49 309 *e*P P **14 34 11.0 +0.3**
AVF Avril sur Loir 21.63 308 *e*P P **14 34 12.1 -0.2**
SSF Saint Saulge 21.64 309 *e*P P **14 34 12.2 -0.1**
comp=Z,22nm,0.9s,mb4.3
SSF Saint Saulge 21.64 309 *e*P P **14 34 12.2 -0.1**
SSF pmax pmax
comp=Z,11nm,0.9s,mb4.3
SSF Saint Saulge 21.64 309 *e*P P **14 34 12.2 -0.1**
comp=Z,11nm,0.9s,mb4.3
BGF Bois d'Agland 21.88 307 *e*P P **14 34 14.8 -0.1**
CAF Calviac 21.91 302 *e*P P **14 34 14.7 -0.5**
TCF Toulx Ste Croi 22.20 306 *e*P P **14 34 18.0 -0.4**
RJF Les Rejaudoux 22.38 303 *e*P P **14 34 19.6 -0.7**
BAIF Baives 22.53 316 *e*P P **14 34 20.4 -1.4**
MFF Saint Martin d 23.85 305 *e*P P **14 34 33.3 -2.0**
comp=Z,11nm,0.8s,mb4.1
MFF Saint Martin d 23.85 305 *e*P P **14 34 33.3 -2.0**
MFF pmax pmax
comp=Z,5.0nm,0.8s,mb4.0
MFF Saint Martin d 23.85 305 *e*P P **14 34 33.3 -2.0**
comp=Z,5.4nm,0.8s,mb4.0
LDF La Druitiere 24.47 310 *e*P P **14 34 39.8 -1.1**
comp=Z,26nm,1.0s,mb4.3
LDF La Druitiere 24.47 310 *e*P P **14 34 39.8 -1.1**
LDF pmax pmax
comp=Z,13nm,1.0s,mb4.3
LDF La Druitiere 24.47 310 *e*P P **14 34 39.8 -1.1**
comp=Z,13nm,1.0s,mb4.3
FLN La Foliniere 24.75 310 *e*P P **14 34 41.4 -2.1**
comp=Z,11nm,0.6s,mb4.3
FLN La Foliniere 24.75 310 *e*P P **14 34 41.4 -2.1**
FLN pmax pmax
comp=Z,5.0nm,0.6s,mb4.2
FLN La Foliniere 24.75 310 *e*P P **14 34 41.4 -2.1**
comp=Z,5.3nm,0.6s,mb4.3
GRR Gorron 24.86 309 *e*P P **14 34 42.8 -1.7**
comp=Z,24nm,0.6s,mb4.6
GRR Gorron 24.86 309 *e*P P **14 34 42.8 -1.7**
GRR pmax pmax
comp=Z,12nm,0.6s,mb4.6
GRR Gorron 24.86 309 *e*P P **14 34 42.8 -1.7**
comp=Z,12nm,0.6s,mb4.6
FINES FINESS Array B 25.62 357 P P **14 34 50.4 -0.8**
FINES pmax pmax
comp=Z,1.0nm,0.6s
FINES FINESS Array B 25.62 357 P P **14 34 50.4 -0.8**
comp=Z,1.3nm,0.6s,mb3.7,baz=163,slow=12,SNR=5.8
ESDC Sonseca Array 25.77 288 P P **14 34 51.5 -1.4**
comp=Z,0.9nm,0.5s,mb3.6,baz=78,slow=9.8,SNR=4.5
AKTK Aktyubinsk 25.83 47 P P **14 34 52.2 -1.1**
AKTK Aktyubinsk 25.83 47 P P **14 34 52.2 -1.1**
AKTO Aktyubinsk 25.83 47 P P **14 34 52.2 -1.1**
AKTO pmax pmax
comp=Z,1.0nm,0.6s,mb3.5
AKTO Aktyubinsk 25.83 47 P P **14 34 52.2 -1.1**
comp=Z,1.4nm,0.6s,mb3.7,baz=251,slow=12,SNR=5.5
SGMF Saint Gilles 25.90 308 *e*P P **14 34 53.3 -0.6**
comp=Z,4.8nm,0.6s,mb3.9
SGMF Saint Gilles 25.90 308 *e*P P **14 34 53.3 -0.6**
SGMF pmax pmax
comp=Z,2.0nm,0.6s,mb3.8
SGMF Saint Gilles 25.90 308 *e*P P **14 34 53.3 -0.6**
comp=Z,2.4nm,0.6s,mb3.9
HFS Hagfors 26.05 343 P P **14 34 55.0 -0.2**
HFS pmax pmax
comp=Z,5.0nm,1.0s
HFS Hagfors 26.05 343 P P **14 34 55.0 -0.2**
comp=Z,4.6nm,1.0s,mb4.0,baz=130,slow=18,SNR=3.3
QUIF Quistinic 26.19 307 *e*P P **14 34 56.3 -0.3**
ROSF Rostrenen 26.38 308 *e*P P **14 34 57.2 -1.0**
comp=Z,11nm,0.7s,mb4.2
ROSF Rostrenen 26.38 308 *e*P P **14 34 57.2 -1.0**
ROSF pmax pmax
comp=Z,6.0nm,0.7s,mb4.2
ROSF Rostrenen 26.38 308 *e*P P **14 34 57.2 -1.0**
comp=Z,5.6nm,0.7s,mb4.2
NOA NORSAR Array B 27.45 342 LR LR 14 45 33.1
comp=Z,22nm,18.2s,baz=260,slow=35
TORD Torodi Ar. Bea 33.01 233 P P **14 35 57.6 +0.3**
comp=Z,1.3nm,0.5s,mb4.1,baz=36,slow=8.2,SNR=14
ARCES ARCESS Array B 33.74 358 P P **14 36 02.8 -0.4**
ARCES pmax pmax
comp=Z,2.0nm,0.9s
ARCES ARCESS Array B 33.74 358 P P **14 36 02.8 -0.4**
comp=Z,1.9nm,0.9s,mb4.0,baz=176,slow=7.3,SNR=6.0
KURK Kurchatov 38.67 51⇑*e*P P **14 36 45.0 -0.6**
KURK Kurchatov 38.67 51 *e*P P **14 36 45.6 0.0**
comp=Z,8.3nm,1.4s,mb4.3
MK31 Makanchi Array 41.17 57 *e*P P **14 37 06.6 +0.3**
MK31 Makanchi Array 41.17 57 *e*P P **14 37 06.6 +0.2**
MKAR Makanchi Array 41.17 57 P P **14 37 06.5 +0.1**
MKAR pmax pmax
comp=Z,2.0nm,0.6s
MKAR Makanchi Array 41.17 57 P P **14 37 06.5 +0.2**
comp=Z,1.7nm,0.6s,mb3.8,baz=278,slow=7.3,SNR=16
KSRS Korea Array 75.74 54 P P **14 41 08.1 +0.3**
comp=Z,0.9nm,0.5s,mb4.0,baz=306,slow=4.2,SNR=5.4

*ISCJB **09** 14:33:57.0±1.8,2378S±008×1799W±0.1,h491km±24km, mb4.0/13, Error ellipse: s-maj=16.2km s-min=12.2km az=6.1*
*NEIC **09** 14:33:58.6±1.2,2369S×17983W,h506km±14km,mb4.4/5, Error ellipse: s-maj=15.7km s-min=11.4km az=147.0*
*IDC **09** 14:33:59.2±5.5,2391S×17978W,h510km±53km,mb3.3/7, mb1 3.4/8,mb1mx3.3/15,mbtmp3.3/8, Error ellipse: s-maj=36.2km s-min=25.4km az=61.0*
ISC 09 14:33:58.1±1.5,**237S**±01×**1799W**±01,**h493**km±20km,**n38,** σ0**87**/26,**mb4.0**/13,**South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**12.41**	**40**	*e*P	**P**	**14 36 40.8**	**-0.4**
URZ	**Urewera**	**14.71**	**189**	P	**P**	**14 37 05.4**	**+0.3**
1.2nm,0.3s,baz=263,slow=0.3,SNR=9.1							
URZ				S	**S**	**14 39 34.2**	**-5.3**
0.6nm,0.3s,baz=25,slow=23,SNR=12							
CTA	**Charters Tower**	**31.59**	**270**	P	**P**	**14 39 41.1**	**+1.4**
4.9nm,0.5s,mb4.2,baz=74,slow=9.0,SNR=7.6							
CTAO	**Charters Tower**	**31.59**	**270**	*e*P	**P**	**14 39 40.8**	**+1.0**
STKA	**Stephens Creek**	**34.89**	**248**	*e*P	**P**	**14 40 10.2**	**+2.6**
2.2nm,1.5s,mb3.4							
STKA	**Stephens Creek**	**34.89**	**248**	*e*P	**P**	**14 40 08.4**	**+0.8**
STKA	**Stephens Creek**	**34.89**	**248**	P	**P**	**14 40 08.1**	**+0.5**
0.7nm,0.4s,mb3.4,baz=295,slow=18,SNR=5.9							
STKA				PcP	PcP	14 42 26.6	-0.2
1.1nm,0.5s,baz=117,slow=9.0,SNR=3.8							
ASAR	**Alice Springs**	**42.18**	**260**	P	**P**	**14 41 07.0**	**0.0**
1.5nm,0.5s,mb3.7,baz=99,slow=7.2,SNR=59							
ASAR				PcP	PcP	14 42 49.9	-0.3
0.4nm,0.7s,baz=101,slow=3.9,SNR=4.2							
WB2	**Warramunga Arr**	**42.52**	**266**	*e*P	**P**	**14 41 09.2**	**-0.6**
WB2	**Warramunga Arr**	**42.52**	**266**	*e*P	**P**	**14 41 08.9**	**-0.9**
WRAB	**Tennant Creek**	**42.53**	**266**	*e*P	**P**	**14 41 09.2**	**-0.6**
3.4nm,0.3s,mb4.2							
WRA	**Warramunga Arr**	**42.53**	**266**	P	**P**	**14 41 09.4**	**-0.5**
3.2nm,0.3s,mb4.2,baz=96,slow=8.4,SNR=264							
KAKA	**Kakadu**	**46.41**	**275**	*e*P	**P**	**14 41 39.1**	**-0.8**
29nm,1.5s,mb4.5							
KAKA	**Kakadu**	**46.41**	**275**	*e*P	**P**	**14 41 39.2**	**-0.7**
FORT	**Forrest**	**46.48**	**249**	*e*P	**P**	**14 41 39.1**	**-1.1**
12nm,0.6s,mb4.5							
FITZ	**Fitzroy Crossi**	**50.96**	**265**	*e*P	**P**	**14 42 13.5**	**-0.3**
2.6nm,0.4s,mb3.9							
FITZ	**Fitzroy Crossi**	**50.96**	**265**	*e*P	**P**	**14 42 14.0**	**+0.2**
FITZ	**Fitzroy Crossi**	**50.96**	**265**	P	**P**	**14 42 14.1**	**+0.4**
1.3nm,0.4s,mb3.6,baz=130,slow=13,SNR=9.1							
SBA	**Scott Base**	**54.55**	**183**	*e*P	**P**	**14 42 40.0**	**+1.5**
4.1nm,1.0s,mb3.7							
QSPA	**South Pole Qui**	**66.35**	**180**	*e*P	**P**	**14 43 57.0**	**+0.2**
7.9nm,1.0s,mb4.3							
MJAR	**Matsushiro Arr**	**71.82**	**326**	P	**P**	**14 44 30.5**	**+0.2**
0.7nm,0.6s,mb3.3,baz=162,slow=7.2,SNR=4.4							
KSRS	**Korea Array**	**78.19**	**320**	P	**P**	**14 45 07.7**	**+1.7**
0.5nm,0.7s,mb3.1,baz=129,slow=5.6,SNR=4.7							
VNA3	**Neumayer Olymp**	**85.04**	**177**	*e*Pdiff	**P**	**14 45 39.3**	**-1.3**
VNA3				*e*		14 45 41.6	
VNA2	**Neumayer--Watz**	**85.45**	**178**	*e*Pdiff	**P**	**14 45 42.1**	**-0.6**
baz=202,slow=4.4							
VNA2				*e*		14 45 44.6	
REDW	**Red Top Meadow**	**91.98**	**43**	*e*P	**P**	**14 46 13.6**	**+0.1**
12nm,1.3s,mb4.7							
MKAR	**Makanchi Array**	**112.12**	**313**	PKiKP	PKiKP	14 51 35.5	-1.5
0.3nm,0.4s,baz=193,slow=1.6,SNR=4.0							
AKTK	**Aktyubinsk**	**128.26**	**316**	PKP	PKPdf	14 52 07.0	-0.8
AKTO	**Aktyubinsk**	**128.26**	**316**	PKP	PKPdf	14 52 07.0	-0.8
0.7nm,0.5s,baz=117,slow=4.5,SNR=4.5							
ARCES	**ARCESS Array B**	**131.75**	**348**	PKP	PKPdf	14 52 13.0	-0.8
1.2nm,0.6s,baz=36,slow=2.3,SNR=9.1							
FINES	**FINESS Array B**	**138.32**	**342**	PKP	PKPdf	14 52 26.6	+0.3
0.5nm,0.4s,baz=111,slow=4.7,SNR=4.9							
HFS	**Hagfors**	**142.41**	**349**	PKhKP		14 52 29.4	
3.1nm,0.4s,baz=52,slow=2.4,SNR=28							
AKASG	**Malin Array Be**	**144.89**	**327**	PKPbc	PKPdf	14 52 37.6	-0.7
1.1nm,0.3s,baz=41,slow=4.3,SNR=18							
MMAI	**Mount Meron Ar**	**147.74**	**295**	PKPbc	PKPbc	14 52 47.8	+0.6
4.1nm,0.4s,baz=80,slow=6.1,SNR=9.4							
EKA	**Eskdalemuir Ar**	**148.34**	**4**	PKPbc	PKPbc	14 52 47.1	-0.9
1.2nm,0.7s,baz=352,slow=3.2,SNR=6.1							
CLL	**Collm**	**150.73**	**343**	*e*P	PKPbc	14 52 53.0	-0.9
CLL	**Collm**	**150.73**	**343**	*i* PKPbc	PKPbc	14 52 53.4	-0.5
comp=Z,4.0nm,0.7s							
BRG	**Berggiesshubel**	**150.86**	**342**	*i* P	PKPbc	14 52 53.8	-0.4
comp=Z,4.8nm,0.5s							
TORD	**Torodi Ar. Bea**	**169.37**	**188**	PKP	PKPdf	14 53 06.2	-3.0
comp=Z,1.1nm,1.1s,baz=195,slow=2.1,SNR=3.7							
TORD				PKPab	PKPab	14 54 23.8	-1.2
comp=Z,0.5nm,0.6s,baz=163,slow=4.1,SNR=5.7							

*IDC **09** 14:33:53.6±1.0,5120N×17926W,h0km,mb3.7/6, mb1 4.0/7,mb1mx3.7/24,mbtmp3.8/7,ML3.9/1, Error ellipse: s-maj=37.9km s-min=23.1km az=142.0*
*ISCJB **09** 14:33:59.5±1.1,513N±02×17920W±009,h57km±9km, mb3.7/6, Error ellipse: s-maj=33.3km s-min=7.2km az=170.0*
*NEIC **09** 14:33:59.7±1.3,5128N×17925W,h42km±12km, ML3.7(AEIC), Error ellipse: s-maj=30.2km s-min=11.2km az=166.0*
ISC 09 14:34:00.3±1.2,**512N**±02×**17922W**±008,**h48**km±10km,**n12,** σ1**92**/15,**mb3.7**/6,**Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AMKA	**Amchitka**	**0.95**	**282**	P	**Pn**	**14 34 15.8**	**-1.4**
AMKA				S	**Sn**	**14 34 31.0**	**+1.3**
ADK	**Adak**	**1.73**	**65**	P	**Pn**	**14 34 26.2**	**-1.7**
ADK				S	**Sn**	**14 34 49.4**	**+0.7**
ATKA	**Atka Island**	**3.29**	**70**	P	**Pn**	**14 34 48.8**	**-0.4**
ATKA				S	**Sn**	**14 35 27.8**	**+0.8**
UNV	**Unalaska Valle**	**8.20**	**66**	*e*P	**Pn**	**14 35 57.8**	**+1.3**
KDAK	**Kodiak Island**	**16.75**	**56**	Pn	**Pn**	**14 37 48.0**	**-3.2**
0.4nm,0.3s,baz=259,slow=10,SNR=5.2							
YKA	**Yellowknife Ar**	**35.55**	**46**	P	**P**	**14 40 51.7**	**-0.6**
YKA	**Yellowknife Ar**	**35.55**	**46**	P	**P**	**14 40 51.7**	**-0.6**
0.3nm,0.5s,mb3.5,baz=282,slow=8.4,SNR=5.6							
PDAR	**Pinedale Array**	**46.62**	**72**	P	**P**	**14 42 23.9**	**+0.4**
1.7nm,0.7s,mb4.1,baz=304,slow=3.6,SNR=19							
ARCES	**ARCESS Array B**	**58.24**	**350**	P	**P**	**14 43 48.6**	**-0.4**
2.1nm,0.9s,mb4.2,baz=27,slow=8.1,SNR=3.4							
AKASG	**Malin Array Be**	**75.65**	**342**	P	**P**	**14 45 40.4**	**+0.5**
0.2nm,0.3s,mb3.5,baz=25,slow=6.1,SNR=3.4							
WRA	**Warramunga Arr**	**81.69**	**224**	P	**P**	**14 46 13.2**	**-0.1**
0.3nm,0.7s,mb3.4,baz=35,slow=6.0,SNR=4.9							
ASAR	**Alice Springs**	**85.17**	**222**	P	**P**	**14 46 31.8**	**+0.7**
0.3nm,0.7s,mb3.5,baz=26,slow=4.8,SNR=5.8							

*DHMR **09** 14:38:49.8±1.2,1204N×4400E,h10km±8km,ML4.7*
*ISCJB **09** 14:38:50.6±0.6,1196N±005×4399E±005,h10km,mb3.8/7, MS3.4/5, Error ellipse: s-maj=8.8km s-min=4.8km az=41.4*
*IDC **09** 14:38:52.5±1.5,1207N×4382E,h0km,mb3.9/5,mb1 4.0/6, mb1mx3.7/19,mbtmp3.9/6,ML3.0/1,MS3.5/7,Ms1 3.5/7, ms1mx3.2/35, Error ellipse: s-maj=44.8km s-min=10.5km az=143.0*
*CSEM **09** 14:38:53.2±0.3,1225N×4400E,h12km,mb4.3/1, Error ellipse: s-maj=8.7km s-min=6.3km az=13.0*
*NEIC **09** 14:38:53.9±0.8,1210N×4374E,h10km,mb4.3/1, Error ellipse: s-maj=26.7km s-min=10.1km az=133.0*
ISC 09 14:38:51.9±0.7,**1195N**±006×**4390E**±007,**h10**km,**n31,** σ1**53**/33,**mb3.8**/7,**MS3.4**/5,**6C,Ethiopia**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TDD	**Tadjoura Ara**	**0.98**	**262**	*i* P	**Pg**	**14 39 10.1**	**-0.6**
ATD	**Arta Tunnel**	**1.11**	**248**	Pg	**Pg**	**14 39 12.3**	**-0.9**
ATD				Lg		14 39 29.0	
ATD	**Arta Tunnel**	**1.11**	**248**	*e*P	**Pb**	**14 39 12.1**	**-1.0**
ATD	**Arta Tunnel**	**1.11**	**248**	Pg	**Pg**	**14 39 12.3**	**-0.9**
227nm,0.3s,baz=34,slow=8.4,SNR=246							
ATD				Lg		14 39 29.0	
363nm,0.3s,baz=235,slow=20,SNR=18							
TRBA	**At Turbah**	**1.29**	**10⇑***e*P		**Pn**	**14 39 12.4**	**-3.6**
TRBA				*i* S	**Sb**	**14 39 28.6**	**-4.3**
TRBA				AML	AML	14 39 37.6	
comp=E,17μm,0.5s							
ADEN	**Aden**	**1.34**	**52⇑***e*P		**Pn**	**14 39 12.3**	**-4.4**
ADEN				*i* S	**Sb**	**14 39 29.5**	**-5.0**
ADEN				AML	AML	14 39 40.8	
comp=E,22μm,0.5s							
ADEN	**Aden**	**1.34**	**52⇑***e*P		**Pn**	**14 39 12.3**	**-4.4**
ADEN				*i* S	**Sb**	**14 39 29.5**	**-5.0**
comp=E,11μm,0.5s							
UDYN	**Al 'Udayn**	**2.01**	**2⇑***i* P		**Pn**	**14 39 23.6**	**-2.2**
UDYN				*i* S	**Sn**	**14 39 50.7**	**-0.3**
UDYN				AML	AML	14 39 59.3	
comp=Z,15μm,0.6s							
UDYN	**Al 'Udayn**	**2.01**	**2⇑***i* P		**Pn**	**14 39 23.6**	**-2.2**
LBOS		**2.32**	**34**	*i* P	**Pn**	**14 39 27.4**	**-2.7**
LBOS				*i* S	**Sn**	**14 39 58.3**	**-0.5**
DHBB	**Dhamar BB**	**2.65**	**10**	*i* P	**Pn**	**14 39 34.2**	**-0.5**
DHBB				*i* S	**Sn**	**14 40 08.3**	**+1.4**
HAJJ	**Hajjah**	**3.74**	**356⇑***i* P		**Pn**	**14 39 48.6**	**-1.1**
HAJJ				*i* S	**Sn**	**14 40 36.1**	**+2.3**
HAJJ				AML	AML	14 40 53.2	
comp=N,3μm,0.6s							
MUKL	**Al Mukalla**	**5.60**	**63**	*i* P	**Pn**	**14 40 13.1**	**-2.2**
KMBO	**Kilima Mbogo**	**14.57**	**207**	Pn	**Pn**	**14 42 22.6**	**+4.4**
comp=N,0.1nm,0.3s,baz=33,slow=16,SNR=7.2							
KMBO				LR	LR	14 47 51.0	
comp=N,327nm,18.9s,baz=90,slow=37							
EIL	**Elat**	**19.50**	**336**	LR	LR	14 49 38.4	
comp=N,90nm,18.7s,baz=116,slow=33							
ASF	**Jabal al Asfar**	**21.13**	**343**	LR	LR	14 51 11.4	
comp=N,82nm,18.5s,MS3.1,baz=256,slow=35							
MMAI	**Mount Meron Ar**	**22.37**	**341**	LR	LR	14 51 27.2	
comp=N,75nm,19.8s,MS3.1,baz=125,slow=34							
AML	**Almayashu**	**39.72**	**35**	*e*P	**P**	**14 46 27.1**	**+2.5**
comp=N,5.9nm,0.8s,mb4.4							
AML	**Almayashu**	**39.72**	**35**	*e*P	**P**	**14 46 27.0**	**+2.5**
AKTO	**Aktyubinsk**	**40.09**	**14**	LR	LR	15 06 28.1	
comp=N,92nm,18.1s,MS3.7,baz=67,slow=41							
AKASG	**Malin Array Be**	**40.47**	**346**	P	**P**	**14 46 31.1**	**+0.5**
comp=N,0.1nm,0.3s,mb3.0,baz=167,slow=7.4,SNR=6.8							
TORD	**Torodi Ar. Bea**	**41.18**	**276**	P	**P**	**14 46 39.2**	**+2.2**
TORD	**Torodi Ar. Bea**	**41.18**	**276**	P	**P**	**14 46 39.2**	**+2.2**
comp=N,0.6nm,0.9s,mb3.2,baz=68,slow=1.4,SNR=3.8							
GERES	**GERESS Array B**	**44.50**	**332**	P	**P**	**14 47 04.5**	**+1.1**
comp=N,0.9nm,0.8s,mb3.7,baz=136,slow=11,SNR=4.3							
MK31	**Makanchi Array**	**47.44**	**35**	P	**P**	**14 47 27.1**	**+0.4**
MK31	**Makanchi Array**	**47.44**	**35**	P	**P**	**14 47 27.1**	**+0.5**
MKAR	**Makanchi Array**	**47.44**	**35**	P	**P**	**14 47 27.4**	**+0.8**
comp=N,2.7nm,0.8s,mb4.2,baz=220,slow=7.1,SNR=7.7							
ZALV	**Zalesovo Beam**	**52.91**	**29**	P	**P**	**14 48 11.1**	**+3.0**
ZALV				LR	LR	15 13 53.9	
ZALV	**Zalesovo Beam**	**52.91**	**29**	P	**P**	**14 48 11.1**	**+3.0**
comp=N,1.9nm,0.7s,mb4.1,baz=233,slow=7.2,SNR=10							
ZALV				LR	LR	15 13 53.9	
comp=N,53nm,19.4s,MS3.6,baz=182,slow=40							
NOA	**NORSAR Array B**	**54.51**	**341**	LR	LR	15 13 17.5	
comp=N,19nm,18.7s,MS3.2,baz=335,slow=38							
SONM	**Songino Array**	**62.84**	**42**	P	**P**	**14 49 19.7**	**+1.8**
comp=N,1.6nm,0.9s,mb4.2,baz=245,slow=6.2,SNR=5.8							

KRSC 09 14:40:09.0±1.6,**5379N**×**16618E,h31**km±31km,**ML3.8, Komandorsky Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKZ	**Mys Kozlova**	**2.73**	**288**	*e*P	Pn	14 40 52.9	+2.3
MKZ				*i* S	Sn	14 41 24.8	+2.4
KBTR	**Krutoberegovo**	**3.10**	**323**	*e*P	Pn	14 40 55.8	+0.1
KBTR				*i* S	Sn	14 41 30.1	-1.6
SPN	**Mys Shipunski**	**3.75**	**262**	*e*P	Pn	14 41 07.4	+2.8
SPN				*i* S	Sn	14 41 49.6	+2.0
TUMR	**Tumrok**	**3.82**	**295**	*e*P	Pn	14 41 09.4	+3.8
TUMR				*i* S	Sn	14 41 53.3	+3.9
KMNR	**Kamenistaya**	**3.96**	**302**	*e*P	Pn	14 41 11.1	+3.5
KMNR				*e*S	Sn	14 41 56.7	+3.8
NLC	**Nalytchevo**	**4.13**	**264**	*e*P	Pn	14 41 12.8	+3.0
NLC				*i* S	Sn	14 41 58.9	+1.9
AVH	**Avacha**	**4.47**	**266**	*e*P	Pn	14 41 18.1	+3.6
AVH				*i* S	Sn	14 42 08.1	+2.7
SRDR	**Sredinnyy**	**4.50**	**307**	*e*P	Pn	14 41 18.9	+4.0
SRDR				*i* S	Sn	14 42 10.1	+4.1
PET	**Petropavlovsk**	**4.57**	**263**	*e*P	Pn	14 41 19.1	+3.2
PET				*i* S	Sn	14 42 10.4	+2.6
RUS	**Russkaya**	**4.81**	**257**	*e*P	Pn	14 41 21.8	+2.5
RUS				*i* S	Sn	14 42 15.2	+1.3
GNL	**Ganaly**	**4.89**	**272**	*e*P	Pn	14 41 24.8	+4.5

*CSEM **09** 14:41:51.9, 12.14N×4403E,h4km,ML3.6, After DHMR*
DHMR 09 14:41:51.9±0.7,**1214N**×**4403E,h4**km±5km,**ML3.6,2C, Western Arabian Peninsula**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TRBA	**At Turbah**	**1.09**	**4**	*i* P	Pg	14 42 12.1	-0.6
TRBA				*i* S	Sg	14 42 28.1	+1.2
TRBA				AML	AML	14 42 28.3	
comp=N,1μm,0.2s							
ADEN	**Aden**	**1.12**	**56⇑***i* P		Pg	14 42 12.5	-1.0
ADEN				*i* S	Sg	14 42 29.2	+1.1
ADEN				AML	AML	14 42 34.1	
comp=E,2μm,0.3s							
ADEN	**Aden**	**1.12**	**56⇑***i* P		Pg	14 42 12.5	-1.0
ADEN				*i* S	Sg	14 42 29.2	+1.1
comp=E,790nm,0.3s							
UDYN	**Al 'Udayn**	**1.82**	**358**	*i* P	Pn	14 42 25.0	+1.1
UDYN				*i* S	Sn	14 42 50.1	+2.7
UDYN				AML	AML	14 42 57.8	
comp=Z,526nm,0.5s							
UDYN	**Al 'Udayn**	**1.82**	**358**	*i* P	Pn	14 42 25.0	+1.1
UDYN				*i* S	Sn	14 42 50.1	+2.7
comp=Z,263nm,0.5s							

*CSEM **09** 14:49:52.7±0.1,4151N×3500E,h5km,MD2.8, Error ellipse: s-maj=3.8km s-min=2.1km az=150.0*
*ISK **09** 14:49:52.5,4149N×3501E,h5km,MD2.8*
*ISCJB **09** 14:49:53.5±0.7,4158N±006×3497E±006,h4km±7km, Error ellipse: s-maj=10.5km s-min=5.8km az=148.5*
*DDA **09** 14:49:53.2,4156N×3507E,h5km±3km,Md3.0*
ISC 09 14:49:53.8±0.7,**4158N**±006×**3497E**±005,**h6**km±7km,**n9,** σ0**76**/14,**Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BOYT	**Boyabat**	**0.16**	**198**	*i* P	**Pg**	**14 49 56.0**	**-1.1**
BOYT				*i* S	**Sg**	**14 50 01.1**	**+1.8**
BOYT	**Boyabat**	**0.16**	**198**	*i* P	**Pg**	**14 49 56.0**	**-1.1**
BYBT	**Boyabat**	**0.19**	**235**	PG	**Pg**	**14 49 56.6**	**-0.9**
BYBT				*e*SG	**Sg**	**14 50 00.0**	**0.0**
DIKM	**Dikmen**	**0.23**	**71**	PG	**Pg**	**14 49 57.9**	**-0.4**
DIKM				*e*SG	**Sg**	**14 50 01.9**	**+0.6**
BZK	**Bozkurt**	**0.82**	**298**	*e*PG	**Pg**	**14 50 10.3**	**+0.8**
TOS	**Tosya**	**0.89**	**233**	*e*PG	**Pg**	**14 50 10.0**	**-0.9**
BALT	**Daday**	**1.19**	**268**	*i* P	**Pg**	**14 50 16.7**	**+0.1**
BALT				*i* S	**Sg**	**14 50 32.1**	**+0.1**
CORM	**Corum**	**1.42**	**191**	*e*PN	**Pn**	**14 50 19.5**	**-0.6**
ELDT	**Eldivan**	**1.59**	**228**	*i* P	**Pn**	**14 50 22.5**	**+0.1**
ELDT				*i* S	**Sn**	**14 50 44.0**	**+0.7**

*MOS **09** 14:56:39.9±0.9,573S×10767E,h314km,mb4.4/10, Error ellipse: s-maj=18.8km s-min=9.4km az=114.5*
*ISCJB **09** 14:56:40.6±0.8,601S±006×10747E±007,h331km±7km, mb4.0/31, Error ellipse: s-maj=11.9km s-min=8.3km az=143.3*
*BJI **09** 14:56:40.7,590S×10750E,h310km,mB4.4,mb4.3*
*NEIC **09** 14:56:40.8±0.8,593S×10746E,h310km±9km,mb4.2/8, Error ellipse: s-maj=12.1km s-min=7.8km az=60.0*
*IDC **09** 14:56:41.4±2.0,584S×10754E,h312km±19km,mb3.7/13, mb1 3.7/15,mb1mx3.7/20,mbtmp3.7/15, Error ellipse: s-maj=17.6km s-min=10.1km az=49.0*
ISC 09 14:56:42.9±1.0,**592S**±007×**10750E**±007,**h333**km±9km, **n69,** σ0**97**/67,**mb4.0**/31,**11C-5D,Jawa**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
XMIS	**Christmas Isla**	**4.88**	**202**	*e*Pn	**Pn**	**14 57 55.6**	**-4.9**
KSM	**Kuching**	**7.87**	**21**	*e*P	**Pn**	**14 58 33.8**	**-1.6**
KSM				*e*		14 58

STKA Stephens Creek 41.00 133 P **P 15 03 55.2 +0.5**
comp=Z,1.1nm,0.4s,mb3.5,baz=300,slow=8.9,SNR=11

LZH Lanzhou 41.93 356 *eP* **P 15 04 03.5 +1.5**
LZH AMB AMB
comp=Z,19nm,1.3s,mb4.1
LZH AMB AMB
comp=Z,87nm,4.1s

GTA Gaotai 45.66 352 *eP* **P 15 04 32.7 +1.3**
GTA AMB AMB
comp=Z,9.0nm,1.4s,mb3.7

KSRS Korea Array 47.17 22 P **P 15 04 43.8 +0.7**
comp=Z,2.6nm,0.7s,mb3.5,baz=210,slow=9.3,SNR=9.7

MJAR Matsushiro Arr 51.10 32 P **P 15 05 10.9 -1.7**
comp=Z,1.7nm,0.6s,mb3.5,baz=206,slow=8.4,SNR=5.7

SONM Songino Array 53.53 359 P **P 15 05 31.3 +1.2**
comp=Z,5.0nm,0.7s,mb4.0,baz=172,slow=7.8,SNR=55

ULN Ulaanbaatar 53.56 360 *eP* **P 15 05 31.0 +0.7**
comp=Z,6.7nm,0.8s,mb4.0

ULN Ulaanbaatar 53.56 360 *eP* **P 15 05 31.0 +0.7**
ULN pmax pmax
comp=Z,7.0nm,0.8s,mb4.0

TKM2 Tokmak 2 56.58 332 *eP* **P 15 05 51.3 -0.5**
comp=Z,14nm,0.5s,mb4.6

TKM2 Tokmak 2 56.58 332 *eP* **P 15 05 51.3 -0.5**
TKM2 pmax pmax
comp=Z,15nm,0.5s,mb4.6

AML Almayashu 56.88 330 *eP* **P 15 05 52.8 -1.1**
comp=Z,3.3nm,0.6s,mb3.8

MK31 Makanchi Array 57.05 340 *eP* **P 15 05 54.7 -0.3**

MK31 Makanchi Array 57.05 340 *i P* **P 15 05 54.6 -0.4**
MK31 pmax pmax
comp=Z,6.0nm,0.4s,mb4.3

MKAR Makanchi Array 57.05 340 P **P 15 05 54.9 -0.2**
comp=Z,8.0nm,0.5s,mb4.3,baz=147,slow=7.9,SNR=132

EKS2 Erkin-Say 57.24 331 *eP* **P 15 05 56.2 -0.2**
comp=Z,6.0nm,0.8s,mb4.0

YSS Yuzh-Sakhalins 61.20 27⇑ *eP* **P 15 06 22.3 -1.0**
YSS pmax pmax
comp=Z,26nm,1.9s,mb4.3

KURK Kurchatov 61.67 340 *eP* **P 15 06 25.7 -0.6**
comp=Z,8.1nm,1.2s,mb4.1

KURK Kurchatov 61.67 340⇑ *eP* **P 15 06 25.8 -0.5**

ZAL Zalesovo 62.62 345 P **P 15 06 31.7 -0.8**

ZALV Zalesovo Beam 62.62 345 P **P 15 06 31.7 -0.8**
comp=Z,4.0nm,0.3s,mb4.4,baz=153,slow=6.7,SNR=15

BOD Bodaibo 63.75 4⇓ *i P* **P 15 06 38.7 -1.1**
BOD pmax pmax
comp=Z,3.0nm,0.8s,mb4.0

BRVK Borovoye 66.64 337 *eP* **P 15 06 57.8 -0.5**

CHKZ Chkalovo 66.98 337 *i P* **P 15 07 00.0 -0.4**
CHKZ pmax pmax
comp=Z,7.0nm,0.6s,mb4.6

YAK Yakutsk 69.89 11 *eP* **P 15 07 17.2 -0.9**
YAK pmax pmax
comp=Z,12nm,1.0s,mb4.6
YAK pmax pmax
comp=N,5.0nm,1.3s

KMBO Kilima Mbogo 70.24 271 P **P 15 07 22.9 +1.7**
comp=N,2.0nm,0.6s,mb4.0,baz=67,slow=12,SNR=8.8

AKTK Aktyubinsk 70.46 329 P **P 15 07 21.1 -0.6**

AKTO Aktyubinsk 70.46 329 P **P 15 07 21.1 -0.6**
comp=N,0.7nm,0.3s,mb3.9,baz=120,slow=7.3,SNR=6.2

ARU Arti 73.87 334 *c i P* **P 15 07 41.0 -0.7**
ARU *e* PP 15 10 26.7 -5.2
ARU *eS* SKSac 15 17 11.4 -4.7
ARU pmax pmax
comp=Z,14nm,1.0s,mb4.7

SEY Seymchan 76.63 19⇓ *i P* **P 15 07 56.5 -0.7**

EIL Elat 77.93 302 P **P 15 08 05.5 +0.4**
comp=Z,4.4nm,0.6s,mb4.4,baz=48,slow=1.3,SNR=5.2

SBA Scott Base 78.00 169 *eP* **P 15 08 07.1 +2.5**

LSZ Lusaka 78.17 256 P **P 15 08 08.5 +1.7**
comp=Z,2.8nm,0.5s,mb4.3,baz=71,slow=4.0,SNR=7.4

TIXI Tiksi 78.69 7 *eP* **P 15 08 06.9 -1.4**
comp=Z,2.9nm,0.6s,mb4.2

TIXI Tiksi 78.69 7 *eP* **P 15 08 06.8 -1.5**
TIXI pmax pmax
comp=Z,3.0nm,0.6s,mb4.2

AKASG Malin Array Be 87.17 321 P **P 15 08 51.0 -0.9**
comp=Z,0.5nm,0.5s,mb3.6,baz=84,slow=4.4,SNR=6.4

TORD Torodi Ar. Bea 106.68 282 PKiKP PKiKP 15 14 29.6 -0.2
comp=Z,0.3nm,0.5s,baz=103,slow=1.4,SNR=5.3

JCT Junction City 144.57 43 *e*PKP PKPdf 15 15 40.8 +0.1

IDC 09 15:02:58.7±3.0, 229S×10172E, h211km±31km, mb3.2/5, mb1 3.3/6, mb1mx3.1/17, mbtmp3.2/6, Error ellipse: s-maj=108.7km s-min=15.1km az=55.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**5.78**	**331**	P	Pn	15 04 22.3	-1.1
	2.1nm,0.3s,baz=156,slow=14,SNR=26						
WRA	**Warramunga Arr**	**36.37**	**121**	P	P	15 09 42.9	-0.1
	0.3nm,0.7s,baz=310,slow=8.9,SNR=4.7						
ASAR	**Alice Springs**	**37.70**	**127**	P	P	15 09 54.2	0.0
	0.2nm,0.4s,baz=302,slow=8.0,SNR=8.0						
SONM	**Songino Array**	**50.08**	**4**	P	P	15 11 32.4	+0.2
	0.8nm,0.4s,baz=183,slow=11,SNR=8.8						
MKAR	**Makanchi Array**	**51.79**	**343**	P	P	15 11 45.0	+0.1
	0.7nm,0.5s,baz=148,slow=8.2,SNR=10						
ZALV	**Zalesovo Beam**	**57.78**	**348**	P	P	15 12 27.4	-0.3
	0.6nm,0.3s,baz=178,slow=7.1,SNR=5.0						

*CSEM **09** 15:15:31.1±0.8, 37.18N×2464W, h5km, ML3.5, Error ellipse: s-maj=6.2km s-min=3.1km az=89.0, After PDA*
*PDA **09** 15:15:31.1±0.8, 37.18N×2464W, h5km, ML3.5, Error ellipse: s-maj=6.2km s-min=3.1km az=89.0*
SVSA 09 15:15:31.1±0.8, 3718N×2464W, h5km, ML3.5, Error ellipse: s-maj=6.2km s-min=3.1km az=89.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSMN	**Pico do Norte,**	**0.39**	**242**	*eP*	Pg	15 15 37.7	-0.8
PSMN				*eS*	Sg	15 15 43.3	-0.2
PDA	**Ponta Delgada**	**0.99**	**305**	*eS*	Sg	15 15 58.0	-5.0
PSCM	**Serra do Cume**	**2.48**	**308**	*eP*	Pn	15 16 07.1	-5.0
PSCM				*eS*	Sn	15 16 35.0	-7.7
PSCM				A		15 16 38.5	
	118nm,0.3s						
ADH	**Angra Heroismo**	**2.52**	**306**	*eP*	Pn	15 16 08.3	-4.4
ADH				*eS*	Sn	15 16 35.7	-8.2
PID	**Ribeirinha**	**3.03**	**296**	*eP*	Pn	15 16 15.2	-4.5
PMAN	**Manadas**	**3.09**	**299**	*eP*	Pn	15 16 16.2	-4.3
PMAN				*eS*	Sn	15 16 49.8	-8.0
PMAN				A		15 16 52.1	
	33nm,0.1s						
PMAN	**Manadas**	**3.09**	**299**	*eP*	Pn	15 16 16.2	-4.3
PMAN				*eS*	Sn	15 16 49.8	-8.0
ROSA	**Rosais**	**3.23**	**299**	*eP*	Pn	15 16 18.0	-4.5
PICO	**Pico**	**3.27**	**295**	*eP*	Pn	15 16 18.9	-4.1
PICO				*eS*	Sn	15 16 54.0	-8.4
CALA	**Caldeira**	**3.50**	**295**	*eP*	Pn	15 16 21.7	-4.5
CALA				*eS*	Sn	15 17 00.0	-8.1

*CSEM **09** 15:16:11.3±0.1, 76.19N×693E, h10km, ML2.3, Error ellipse: s-maj=5.0km s-min=3.4km az=92.0*
*ISCJB **09** 15:16:11.6±0.4, 76.30N±004×75E±03, h10km, mb3.8/15, MS3.2/5, Error ellipse: s-maj=9.6km s-min=6.2km az=9.3*
*BER **09** 15:16:12.0±3.2, 76.19N×757E, h10km, MD3.0, ML2.3, ML2.3(NAO)*
*IDC **09** 15:16:12.0±0.7, 76.17N×697E, h0km, mb3.6/10, mb1 3.8/14, mb1mx3.7/25, mbtmp3.6/14, ML2.7/4, MS3.1/10, Ms1 3.1/10, ms1mx2.9/40, Error ellipse: s-maj=19.6km s-min=12.3km az=49.0*
*NEIC **09** 15:16:13.4±0.4, 7625N×731E, h10km, mb4.3/4, Error ellipse: s-maj=10.6km s-min=7.2km az=81.0*
*NAO **09** 15:16:13.0±3.3, 76.19N×853E, ML2.3*
ISC 09 15:16:13.5±0.4, 7630N±004×76E±03, h10km, n44, σ1§26/50, mb3.8/15, MS3.2/5, 1C, Svalbard region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPA0	**Spitsbergen Ar**	**2.71**	**42**	Pn	**Pn**	**15 16 56.5**	**-0.3**
	baz=214,slow=18						
SPA0				Sn	**Sn**	**15 17 27.9**	**-1.7**
	baz=233,slow=22						
SPA0	**Spitsbergen Ar**	**2.71**	**42**	Pn	**Pn**	**15 16 56.5**	**-0.4**
	SNR=50						
SPA0				Sn	**Sn**	**15 17 27.9**	**-1.7**
	SNR=50						
KBS	**Kingsbay**	**2.80**	**17**	Pn	**Pn**	**15 16 56.7**	**-1.5**
KBS				Sn	**Sn**	**15 17 26.6**	**-5.3**
KBS	**Kingsbay**	**2.80**	**17**	*eP*	**Pn**	**15 16 57.0**	**-1.2**
KBS	**Kingsbay**	**2.80**	**17**	*eP*	**Pn**	**15 16 56.4**	**-1.8**
KBS				*eS*	**Sn**	**15 17 27.2**	**-4.7**
KBS				AML	AML	15 17 31.5	
	comp=Z,24nm,0.2s						
KBS	**Kingsbay**	**2.80**	**17**	*eP*	**Pn**	**15 16 57.0**	**-1.2**
KBS				Sn	**Sn**	**15 17 26.6**	**-5.3**
DAG	**Danmarks Havn**	**6.12**	**287⇑**	*iP*	**Pn**	**15 17 38.9**	**-4.9**
	comp=Z,2.7nm,0.7s						
ARA0	**ARCESS Array S**	**8.54**	**133**	Pn	**Pn**	**15 18 13.3**	**-3.6**
	baz=323,slow=22						
ARA0				Sn	**Sn**	**15 19 42.4**	**-11**
	baz=332,slow=22						
ARA0	**ARCESS Array S**	**8.54**	**133**	Pn	**Pn**	**15 18 13.4**	**-3.5**
	SNR=50						
ARA0				Sn	**Sn**	**15 19 42.3**	**-11**
	SNR=50						
ARCES	**ARCESS Array B**	**8.54**	**133**	Pn	**Pn**	**15 18 15.2**	**-1.8**
	comp=Z,0.3nm,0.3s,baz=330,slow=11,SNR=17						
ARCES				LR	LR	15 21 46.5	
	comp=Z,86nm,20.1s,baz=12,slow=39						
ARCES	**ARCESS Array B**	**8.54**	**133**	Pn	**Pn**	**15 18 15.1**	**-1.8**
KEV	**Kevo**	**8.62**	**130**	*eP*	**Pn**	**15 18 17.6**	**-0.4**
NB2	**NORSAR Subarra**	**15.39**	**173**	P	**Pn**	**15 19 52.1**	**+1.9**
	comp=Z,4.6nm,1.1s,baz=358,slow=11						
NOA	**NORSAR Array B**	**15.39**	**173**	Pn	**Pn**	**15 19 49.0**	**-1.2**
	comp=Z,0.0nm,0.3s,baz=352,slow=11,SNR=2.8						
NOA				LR	LR	15 25 01.2	
	comp=Z,42nm,21.4s,baz=180,slow=35						
KAF	**Kangasniemi**	**15.57**	**146**	*ep*	**Pn**	**15 19 46.3**	**-6.4**
FINES	**FINESS Array B**	**16.19**	**147**	Pn	**Pn**	**15 20 01.2**	**+0.6**
FINES				LR	LR	15 26 15.2	
FINES	**FINESS Array B**	**16.19**	**147**	Pn	**Pn**	**15 20 01.2**	**+0.6**
	comp=Z,0.1nm,0.3s,baz=350,slow=16,SNR=3.4						
FINES				LR	LR	15 26 15.2	
	comp=Z,76nm,21.0s,baz=19,slow=37						
HFS	**Hagfors**	**16.38**	**169**	Pn	**Pn**	**15 20 01.3**	**-1.8**
	comp=Z,0.0nm,0.3s,baz=10,slow=8.8,SNR=2.1						
HFS				LR	LR	15 25 44.7	
	comp=Z,52nm,22.0s,baz=157,slow=35						
SFJD	**Kangerlussuaq**	**19.55**	**273**	LR	LR	15 28 18.4	
	comp=Z,41nm,19.0s,baz=311,slow=37						
EKA	**Eskdalemuir Ar**	**21.44**	**197**	P	**P**	**15 20 58.9**	**-2.4**
	comp=Z,0.6nm,0.5s,mb3.2,baz=222,slow=44,SNR=4.1						
EKA	**Eskdalemuir Ar**	**21.44**	**197**	P	**P**	**15 20 58.8**	**-2.5**
BRG	**Berggiesshubel**	**25.65**	**171**	*eP*	**P**	**15 21 42.8**	**0.0**
	comp=Z,6.0nm,1.3s,mb4.0						
BRG				*e*		15 21 50.3	
	comp=Z,6.3nm,1.1s						
MOX	**Moxa**	**25.81**	**174**	P	**P**	**15 21 44.9**	**+0.7**
	comp=Z,17nm,1.4s,mb4.4						
MOX				*e*		15 21 51.7	
MOX	**Moxa**	**25.81**	**174**	*e*(P)	**P**	**15 21 44.9**	**+0.7**
MOX				*e*		15 21 51.7	
	comp=Z,17nm,1.4s						
NKC	**Novy Kostel**	**26.24**	**173**	*eP*	**P**	**15 21 49.1**	**+1.0**
VRAC	**Vranov**	**27.33**	**167**	P	**P**	**15 21 58.2**	**+0.1**
	comp=Z,3.6nm,0.7s,mb4.0,baz=8.1,slow=7.1,SNR=4.5						
VRAC				LR	LR	15 33 09.3	
	comp=Z,42nm,18.1s,MS3.0,baz=53,slow=37						
KHC	**Kasperske Hory**	**27.38**	**171**	*eP*	**P**	**15 21 59.5**	**+1.1**
GERES	**GERESS Array B**	**27.67**	**171**	P	**P**	**15 22 00.4**	**-0.6**
	comp=Z,1.4nm,1.0s,mb3.6,baz=10,slow=8.3,SNR=5.3						
GERES				LR	LR	15 32 37.4	
	comp=Z,33nm,18.8s,MS2.9,baz=295,slow=36						
INK	**Inuvik**	**33.64**	**335**	*eP*	**P**	**15 22 54.2**	**+0.7**
	comp=Z,91nm,0.9s						
ZALV	**Zalesovo Beam**	**35.45**	**84**	P	**P**	**15 23 10.2**	**+0.9**
ZALV				LR	LR	15 41 28.0	
ZALV	**Zalesovo Beam**	**35.45**	**84**	P	**P**	**15 23 10.2**	**+0.9**
	comp=Z,0.4nm,0.4s,mb3.8,baz=334,slow=9.6,SNR=2.9						
ZALV				LR	LR	15 41 28.0	
	comp=Z,25nm,18.4s,MS3.0,baz=329,slow=43						
YKA	**Yellowknife Ar**	**36.76**	**319**	P	**P**	**15 23 20.7**	**+0.4**
	comp=Z,1.0nm,1.0s,mb3.6,baz=8.7,slow=8.7,SNR=8.4						
YKA				LR	LR	15 37 54.9	
	comp=Z,51nm,19.7s,MS3.3,baz=65,slow=35						
KURK	**Kurchatov**	**36.97**	**92**	P	**P**	**15 23 23.6**	**+1.4**
	comp=Z,6.7nm,1.1s,mb4.4						
KURK				*e*		15 23 30.0	
MKAR	**Makanchi Array**	**41.50**	**90**	P	**P**	**15 24 02.0**	**+1.9**
	comp=Z,0.2nm,0.2s,mb3.3,baz=315,slow=9.3,SNR=6.7						
MKAR				LR	LR	15 45 14.0	
	comp=Z,57nm,18.1s,MS3.5,baz=355,slow=42						
ULM	**Lac du Bonnet**	**44.85**	**298**	P	**P**	**15 24 25.4**	**-1.8**
	comp=Z,1.3nm,0.7s,mb3.9,baz=343,slow=11,SNR=2.4						
SONM	**Songino Array**	**46.12**	**67**	P	**P**	**15 24 39.1**	**+1.8**
	comp=Z,0.3nm,0.4s,mb3.6,baz=17,slow=10,SNR=2.6						
ULN	**Ulaanbaatar**	**46.23**	**67**	*eP*	**P**	**15 24 40.7**	**+2.5**
	comp=Z,2.7nm,1.0s,mb4.1						
ULN	**Ulaanbaatar**	**46.23**	**67**	*eP*	**P**	**15 24 40.7**	**+2.6**
PDAR	**Pinedale Array**	**54.77**	**307**	P	**P**	**15 25 43.4**	**+0.7**
	comp=Z,0.9nm,1.0s,mb3.7,baz=26,slow=7.1,SNR=4.6						
PDAR	**Pinedale Array**	**54.77**	**307**	P	**P**	**15 25 43.3**	**+0.6**
NVAR	**Mina Array Bea**	**60.57**	**313**	P	**P**	**15 26 23.6**	**0.0**
	comp=Z,0.7nm,1.0s,mb3.7,baz=43,slow=4.6,SNR=3.9						
NVAR	**Mina Array Bea**	**60.57**	**313**	P	**P**	**15 26 23.5**	**-0.1**
TORD	**Torodi Ar. Bea**	**63.23**	**186**	P	**P**	**15 26 41.4**	**-0.2**
TORD	**Torodi Ar. Bea**	**63.23**	**186**	P	**P**	**15 26 41.4**	**-0.2**
	comp=Z,1.9nm,0.9s,mb4.2,baz=356,slow=6.1,SNR=10.0						

*IDC **09** 15:36:27.4±2.8, 4888N×15547E, h0km, mb3.5/4, mb1 3.7/5, mb1mx3.5/22, mbtmp3.6/5, ML3.9/1, MS3.2/1, Ms1 3.2/1, ms1mx2.5/30, Error ellipse: s-maj=62.5km s-min=39.6km az=40.0*
*ISCJB **09** 15:36:34.2±1.2, 483N±02×1553E±03, h33km, mb3.4/4, Error ellipse: s-maj=33.0km s-min=14.9km az=33.0*
*MOS **09** 15:36:34.2±2.9, 4845N×15490E, h33km, mb3.9/1, Error ellipse: s-maj=67.0km s-min=32.2km az=68.5*
ISC 09 15:36:36.1±1.2, 484N±02×1552E±03, h35km, n9, σ1§13/8, mb3.4/4, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.38**	**14**	*eP*N	**Pn**	**15 37 13.0**	**+0.4**
SKR				pmax	pmax		
	comp=Z,60nm,0.5s						
ASAJ	**Asahikawa**	**9.72**	**249**	PN	**Pn**	**15 38 55.2**	**+1.9**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ	**Asahikawa**	**9.72**	**249**	Pn	**Pn**	**15 38 55.2**	**+1.9**
	comp=Z,1.2nm,0.3s,baz=80,slow=13,SNR=13						
KSRS	**Korea Array**	**22.65**	**251**	P	**P**	**15 41 32.7**	**-1.2**
	comp=Z,1.4nm,0.9s,mb3.4,baz=51,slow=10,SNR=3.4						
CBIJ	**Chichi jima**	**23.55**	**210**	LR	LR	15 50 35.7	
	comp=Z,49nm,18.4s,baz=309,slow=35						
MKAR	**Makanchi Array**	**47.46**	**297**	P	**P**	**15 45 03.3**	**-3.8**
	comp=Z,0.2nm,0.3s,mb3.5,baz=57,slow=6.8,SNR=3.1						
WRA	**Warramunga Arr**	**70.53**	**201**	P	**P**	**15 47 46.7**	**-0.4**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.3s						
WRA	**Warramunga Arr**	**70.53**	**201**	P	**P**	**15 47 46.7**	**-0.5**
	comp=Z,0.2nm,0.6s,mb3.2,baz=15,slow=6.2,SNR=5.6						
ASAR	**Alice Springs**	**74.21**	**200**	P	**P**	**15 48 09.5**	**+0.5**
	comp=Z,0.2nm,0.5s,mb3.3,baz=13,slow=5.2,SNR=9.7						

*CSEM **09** 15:53:27.5±0.1, 3737N×2461W, h10km, mb4.2/16, Ms2.7, Error ellipse: s-maj=3.1km s-min=1.2km az=1.0*
*IDC **09** 15:53:28.0±1.2, 3729N×2447W, h0km, mb3.7/7, mb1 3.9/8, mb1mx3.7/23, mbtmp3.7/8, ML3.4/1, MS3.5/3, Ms1 3.5/3, ms1mx2.8/30, Error ellipse: s-maj=32.3km s-min=23.7km az=14.0*
*NEIC **09** 15:53:29.1±0.5, 3709N×2443W, h10km, mb4.3/21, Error ellipse: s-maj=8.4km s-min=7.4km az=122.0*
*ISCJB **09** 15:53:29.3±0.8, 3735N±008×2470W±004, h26km±9km, mb4.0/24, MS3.1/7, Error ellipse: s-maj=14.5km s-min=3.5km az=13.3*
*PDA **09** 15:53:31.7±0.8, 3721N×2463W, h5km, MD4.1, ML3.8, Error ellipse: s-maj=5.2km s-min=2.9km az=84.0*
*SVSA **09** 15:53:31.7±0.8, 3721N×2463W, h5km, MD4.1, ML3.8, Error ellipse: s-maj=5.2km s-min=2.9km az=84.0*
ISC 09 15:53:30.2±0.7, 3727N±006×2472W±003, h26km±7km, n107, σ0§88/105, mb4.0/25, MS3.1/7, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSMN	**Pico do Norte,**	**0.38**	**225**	*eP*	**Pb**	**15 53 38.6**	**0.0**
PSMN				*eS*	**Sb**	**15 53 44.4**	**+0.1**
PDA	**Ponta Delgada**	**0.88**	**303**	*eP*	**Pb**	**15 53 46.9**	**0.0**
PDA				*eS*	**Sb**	**15 53 58.4**	**+0.1**
PSCM	**Serra do Cume**	**2.37**	**308**	*eP*	**Pn**	**15 54 07.5**	**+0.1**
PSCM				*eS*	**Sn**	**15 54 34.9**	**-0.7**
PSCM				A		15 54 36.8	
	174nm,0.3s						
PSCM	**Serra do Cume**	**2.37**	**308**	*eP*	**Pn**	**15 54 07.5**	**+0.1**
PSCM				*eS*	**Sn**	**15 54 34.9**	**-0.7**
ADH	**Angra Heroismo**	**2.42**	**306**	*eP*	**Pn**	**15 54 08.5**	**+0.4**
ADH				*eS*	**Sn**	**15 54 35.8**	**-1.0**
PID	**Ribeirinha**	**2.93**	**294**	*eP*	**Pn**	**15 54 16.0**	**+0.9**
PID				*eS*	**Sn**	**15 54 48.5**	**-0.9**
PMAN	**Manadas**	**2.99**	**298**	*eP*	**Pn**	**15 54 16.1**	**+0.2**
PMAN				*eS*	**Sn**	**15 54 50.0**	**-0.8**
PMAN				A		15 54 54.6	
	59nm,0.3s						
PGRA	**Graciosa**	**3.11**	**305**	*eP*	**Pn**	**15 54 18.3**	**+0.7**
PGRA				*eS*	**Sn**	**15 54 53.0**	**-0.9**
PGRA				A		15 55 01.7	
	57nm,0.3s						
ROSA	**Rosais**	**3.13**	**299**	*eP*	**Pn**	**15 54 18.7**	**+0.8**
ROSA				*eS*	**Sn**	**15 54 53.8**	**-0.6**
SRBC	**Serra Branca**	**3.15**	**305**	*eP*	**Pn**	**15 54 18.9**	**+0.7**
PICO	**Pico**	**3.17**	**294**	*eP*	**Pn**	**15 54 19.4**	**+0.9**
PICO				*eS*	**Sn**	**15 54 54.5**	**-1.0**
CALA	**Caldeira**	**3.41**	**294**	*eP*	**Pn**	**15 54 22.5**	**+0.9**
CALA				*eS*	**Sn**	**15 55 00.6**	**-0.6**
PMAR	**Madeira**	**7.85**	**123**	*e*Pn	**Pn**	**15 55 21.3**	**-1.4**
PMAR				*e*Sn	Sx	15 56 39.6	
PMAR				A		15 56 47.6	
	41nm,0.2s						
PMAR				*eT*		16 02 49.3	
PMPS	**Porto Santo**	**8.05**	**119**	*e*Pn	**Pn**	**15 55 22.1**	**-3.4**
PMPS				*e*Sn	Sx	15 56 42.4	
PMPS				*eT*		16 03 11.3	
EGOM	**La Gomera**	**11.07**	**143**	P	**Pn**	**15 56 03.2**	**-3.6**
	3.0nm,0.1s						
EGOM				S	Sx	15 57 55.3	
CCAN	**Las Canadas**	**11.32**	**141**	P	**Pn**	**15 56 06.3**	**-3.9**
	0.1nm,0.6s						
CCAN				S	Sx	15 58 02.1	
PFVI	**Vila Bisbo**	**12.68**	**86**	*e*S	Sx	15 58 32.1	
PTEO	**Sao Teotonio**	**12.73**	**84**	*e*S	Sx	15 58 31.9	
MORF	**Marmelete**	**12.80**	**85**	*e*S	Sx	15 58 35.7	
EVOP	**Sao Brissos**	**13.17**	**79**	*e*Pn	**Pn**	**15 56 30.2**	**-5.4**
EVO	**Evora**	**13.26**	**79**	*e*Pn	**Pn**	**15 56 30.2**	**-6.5**
EVO				*e*Sn	Sx	15 58 42.1	
	10nm,0.3s						
EVO				*e*MLR	MLR		
	comp=Z,55nm,22.7s						
PBDV	**Barranco-do-Ve**	**13.38**	**85**	*e*S	Sx	15 58 48.9	
PBEJ	**Beja**	**13.38**	**82**	*e*S	Sx	15 58 47.8	
PVAQ	**Vaqueiros**	**13.54**	**84**	*e*S	Sx	15 58 52.9	
PESTR	**Estremoz**	**13.60**	**78**	*e*S	Sx	15 58 53.6	
PCAB	**Cabril**	**13.63**	**66**	*e*P	**Pn**	**15 56 33.9**	**-7.9**
PCAB				*e*S	Sx	15 58 50.1	
ELOB	**Lobios**	**13.64**	**65**	P	**Pn**	**15 56 33.8**	**-8.2**
	comp=Z,10nm,0.7s						
ELOB				S	Sx	15 58 52.7	
EGRO	**El Granado**	**13.71**	**84**	P	**Pn**	**15 56 34.4**	**-8.6**
EGRO				S	Sx	15 58 54.5	
MTE	**Manteigas**	**13.75**	**72**	*e*S	Sx	15 58 57.4	
PVRL	**Vila Real**	**13.77**	**68**	*e*S	Sx	15 58 55.9	
PBAR	**Barrancos**	**14.03**	**81**	*e*S	Sx	15 59 03.9	
MVO	**Moncorvo**	**14.26**	**69**	*e*P	**Pn**	**15 56 43.2**	**-7.1**
MVO				*e*S	Sx	15 59 07.4	
ESDC	**Sonseca Array**	**16.43**	**75**	Pn	**Pn**	**15 57 13.4**	**-5.6**
	comp=Z,0.7nm,0.3s,baz=266,slow=13,SNR=4.5						
MDT	**Midelt**	**17.05**	**99**	Pn	**Pn**	**15 57 23.8**	**-3.1**
	comp=Z,0.1nm,0.3s,baz=295,slow=12,SNR=3.4						
SJPF	**Ste Jean**	**18.85**	**65**	*e*P	**Pn**	**15 57 48.7**	**-0.1**
QUIF	**Quistinic**	**19.04**	**49**	*e*P	**Pn**	**15 57 50.9**	**-0.2**
ROSF	**Rostrenen**	**19.17**	**48**	*e*P	**Pn**	**15 57 52.5**	**-0.1**
	comp=Z,11nm,0.9s						
ROSF	**Rostrenen**	**19.17**	**48**	*e*P	**Pn**	**15 57 52.5**	**-0.1**
	comp=Z,5.6nm,0.9s						
ETSF	**Etsaut**	**19.30**	**66**	*e*P	**Pn**	**15 57 53.9**	**-0.3**
SGMF	**Saint Gilles**	**19.56**	**49**	*e*P	**Pn**	**15 57 56.7**	**-0.6**
EPF	**Esparros**	**19.97**	**65**	*e*P	**Pn**	**15 58 01.5**	**-0.7**
MFF	**Saint Martin d**	**20.45**	**55**	*e*P	**P**	**15 58 06.1**	**+0.5**
	comp=Z,70nm,1.1s						
MFF	**Saint Martin d**	**20.45**	**55**	*e*P	**P**	**15 58 06.1**	**+0.5**
	comp=Z,35nm,1.1s						
LFF	**La Frestale**	**20.60**	**60**	*e*P	**P**	**15 58 07.9**	**+0.6**
	comp=Z,51nm,0.8s						
LFF	**La Frestale**	**20.60**	**60**	*e*P	**P**	**15 58 07.9**	**+0.6**
	comp=Z,26nm,0.8s						
GRR	**Gorron**	**20.64**	**50**	*e*P	**P**	**15 58 08.4**	**+0.7**
	comp=Z,77nm,1.0s						
GRR	**Gorron**	**20.64**	**50**	*e*P	**P**	**15 58 08.4**	**+0.7**
	comp=Z,38nm,1.0s						
FLN	**La Foliniere**	**21.02**	**49**	*e*P	**P**	**15 58 12.6**	**+0.8**
	comp=Z,30nm,0.9s,mb4.3						
FLN				*e*MLR	MLR		
	comp=Z,89nm,17.8s,MS2.9						
FLN	**La Foliniere**	**21.02**	**49**	*e*P	**P**	**15 58 12.6**	**+0.8**
	comp=Z,15nm,0.9s,mb4.3						
FLN				LR	LR		
	comp=Z,90nm,17.8s,MS3.2						
LDF	**La Druitiere**	**21.17**	**50**	*e*P	**P**	**15 58 14.0**	**+0.6**
	comp=Z,41nm,1.1s,mb4.4						
LDF	**La Druitiere**	**21.17**	**50**	*e*P	**P**	**15 58 14.0**	**+0.6**
	comp=Z,20nm,1.1s,mb4.4						
RJF	**Les Rejaudoux**	**21.22**	**60**	*e*P	**P**	**15 58 13.4**	**-0.5**
RJF				*e*MLR	MLR		
	comp=Z,68nm,18.5s,MS2.8						
RJF	**Les R

CABF	La Chapelle	24.61	58	eP		P	15 58 48.2	0.0
	comp=Z,4.9nm,1.1s,mb4.0							
GIVF	Givet	24.74	49	eP		P	15 58 50.9	+1.6
MBDF	Montbardon	24.80	63	eP		P	15 58 52.0	+2.1
	comp=Z,5.5nm,1.0s,mb3.7							
MBDF	Montbardon	24.80	63	eP		P	15 58 52.0	+2.1
	comp=Z,2.8nm,1.0s,mb3.8							
LPL	La Plagne	24.87	61	eP		P	15 58 50.7	+0.1
LPG	La Plagne	24.88	61	eP		P	15 58 51.0	+0.3
SBF	Sospel	25.19	65	eP		P	15 58 53.4	-0.1
	comp=Z,42nm,1.1s,mb4.6							
SBF	Sospel	25.19	65	eP		P	15 58 53.4	-0.1
	comp=Z,21nm,1.1s,mb4.6							
HINF	Hinteralfeld	25.37	55	eP		P	15 58 55.8	+0.7
CDF	Champ du Feu	25.79	54	eP		P	15 58 59.2	+0.3
	comp=Z,4.3nm,0.6s,mb3.9							
CDF	Champ du Feu	25.79	54	eP		P	15 58 59.2	+0.3
	comp=Z,2.2nm,0.6s,mb3.9							
PGF	Pioggiola	26.29	68	eP		P	15 59 03.8	+0.3
	comp=Z,7.4nm,0.8s,mb3.9							
PGF	Pioggiola	26.29	68	eP		P	15 59 03.8	+0.3
	comp=Z,3.7nm,0.8s,mb3.9							
GERES	GERESS Array B	30.05	55	LR		LR	16 09 19.8	
	comp=Z,34nm,21.2s,MS3.0,baz=284,slow=32							
NOA	NORSAR Array B	32.74	32	LR		LR	16 10 29.8	
	comp=Z,30nm,20.8s,MS3.0,baz=305,slow=31							
TORD	Torodi Ar. Bea	33.67	129	P		P	16 00 09.8	+0.7
TORD	Torodi Ar. Bea	33.67	129	P		P	16 00 09.8	+0.7
	comp=Z,0.7nm,0.7s,mb3.7,baz=321,slow=8.3,SNR=5.6							
JMIC	Jan Mayen	34.84	9	LR		LR	16 11 14.4	
	comp=Z,557nm,21.7s,MS4.3,baz=270,slow=31							
ARCES	ARCESS Array B	41.93	24	P		P	16 01 18.7	+0.5
	comp=Z,2.9nm,0.9s,mb3.9,baz=234,slow=8.8,SNR=6.0							
SDV	Santo Domingo	50.13	248	eP		P	16 02 27.1	+3.6
SDV	Santo Domingo	50.13	248	eP		P	16 02 27.1	+3.6
YKA	Yellowknife Ar	57.67	327	P		P	16 03 22.0	+4.1
	comp=Z,0.3nm,0.8s,mb3.4,baz=67,slow=7.1,SNR=3.3							
TXAR	Lajitas Array	64.69	289	P		P	16 04 08.0	+2.0
TXAR	Lajitas Array	64.69	289	P		P	16 04 08.0	+2.0
	comp=Z,1.5nm,0.7s,mb4.1,baz=74,slow=7.7,SNR=14							
ZALV	Zalesovo Beam	70.81	36	P		P	16 04 44.2	0.0
ZALV	Zalesovo Beam	70.81	36	P		P	16 04 44.2	0.0
	comp=Z,0.3nm,0.4s,mb3.5,baz=319,slow=4.2,SNR=3.0							
MKAR	Makanchi Array	73.87	43	P		P	16 05 04.4	+1.8
	comp=Z,0.3nm,0.4s,mb3.6,baz=321,slow=5.9,SNR=3.2							
SONM	Songino Array	84.71	31	P		P	16 06 04.7	+3.0
	comp=Z,0.5nm,0.9s,mb3.6,baz=347,slow=5.9,SNR=3.4							

*ISCJB **09** 15:53:47.7±0.2, 4214N±001×2138E±002, h10km, Error ellipse: s-maj=2.5km s-min=1.9km az=141.6*
*PDG **09** 15:53:47.9±0.5, 4217N×2133E, h8km±1km, ML2.9/10, Error ellipse: s-maj=1.2km s-min=1.2km az=0.0*
*THE **09** 15:53:47.4, 4216N×2133E, h3km, ML3.7*
*NEIC **09** 15:53:47.9, 4217N×2133E, h8km, MD3.4(ATH), ML3.7(THE), ML3.2(BUC), ML2.9(PDG), After PDG.*
*SKO **09** 15:53:47.1, 4216N×2135E, h15km, M2.4, ML2.7*
*CSEM **09** 15:53:47.3±0.1, 4221N×2139E, h10km, ML2.7, Error ellipse: s-maj=3.6km s-min=2.4km az=46.0*
*TIR **09** 15:53:48.8±3.9, 4181N×2115E, h129km±30km, ML2.9*
*BEO **09** 15:53:50.1±1.0, 4231N×2129E, h8km±5km, ML2.9/6*
*ATH **09** 15:54:05.2, 4081N×2280E, h10km±1km, MD3.3/4*

ISC 09 15:53:48.4±0.2, 4215N±001×2139E±002, h10km, n73, σ1§18/119, 12C-12D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SKO	Skopje	0.18	167	⇑iPg		Pg	15 53 52.9	+0.6
SKO				eLg			15 53 56.4	
	comp=E,1μm,0.3s							
SKO				eSg		Sg	15 53 56.4	+1.5
SKO				eLg			15 53 57.0	
	comp=N,2μm,0.4s							
BARS	Barje	0.74	26	i Pg		Pg	15 54 01.3	-1.5
BARS				eSg		Sg	15 54 11.8	-0.7
STIP	Stip	0.75	127	⇓iPg		Pg	15 54 01.7	-1.1
STIP				eSg		Sg	15 54 13.2	+0.5
STIP				eLg			15 54 13.7	
	comp=N,115nm,0.3s							
STIP				eLg			15 54 14.0	
	comp=E,70nm,0.3s							
STIP	Stip	0.75	127	⇓iPg		Pg	15 54 01.7	-1.2
STIP				eSg		Sg	15 54 13.1	+0.4
KRUS	Krusevo	0.79	188	⇑iPg		Pg	15 54 03.5	-0.1
KRUS				eSg		Sg	15 54 14.3	+0.5
KRUS	Krusevo	0.79	188	⇑iPg		Pg	15 54 03.4	-0.2
KRUS				eSg		Sg	15 54 14.3	+0.5
OHR	Ohrid	1.13	203	ePg		Pg	15 54 07.9	-2.2
OHR				eSg		Sg	15 54 24.8	+0.1
OHR	Ohrid	1.13	203	i Pg		Pg	15 54 08.1	-1.9
OHR				eSg		Sg	15 54 25.0	+0.3
OHR				eLg			15 54 26.1	
	comp=N,142nm,0.4s							
OHR				eLg			15 54 26.9	
	comp=E,234nm,0.5s							
OHR	Ohrid	1.13	203	i PG		Pg	15 54 07.9	-2.1
OHR				i SG		Sg	15 54 24.8	+0.1
OHR	Ohrid	1.13	203	i Pg		Pg	15 54 08.1	-1.9
OHR				eSg		Sg	15 54 24.9	+0.2
BIA	Bitola	1.13	182	ePg		Pg	15 54 08.4	-1.7
BIA				eSg		Sg	15 54 24.9	+0.1
BIA	Bitola	1.13	182	ePn		Pn	15 54 08.8	-1.4
BIA				eSg		Sg	15 54 24.8	+0.1
BIA				eLg			15 54 25.0	
	comp=N,106nm,0.4s							
BIA				eLg			15 54 25.4	
	comp=E,103nm,0.4s							
BIA				eLg			15 54 28.7	
BIA	Bitola	1.13	182	ePn		Pn	15 54 08.8	-1.4
BIA				eSg		Sg	15 54 24.9	+0.1
PVY	Plav	1.14	294	⇓iPg		Pg	15 54 08.2	-2.1
PVY				eSg		Sg	15 54 24.8	-0.2
PVY	Plav	1.14	294	i PG		Pg	15 54 11.3	+1.0
PVY				i SG		Sg	15 54 30.7	+5.7
VAY	Valandovo	1.21	133	ePn		Pn	15 54 10.4	-1.0
VAY				eSg		Sg	15 54 28.4	+1.0
VAY				eLg			15 54 30.5	
	comp=E,114nm,0.7s							
VAY				eLg			15 54 30.9	
	comp=N,125nm,0.5s							
VAY	Valandovo	1.21	133	ePg		Pg	15 54 10.3	-1.4
VAY				eSg		Sg	15 54 28.9	+1.5
QSH	Qafa e Shtames	1.27	241	ePG		Pg	15 54 12.0	-0.8
QSH				i SG		Sg	15 54 28.0	-1.3
BEY	Berane	1.32	304	i PG		Pg	15 54 16.8	+3.1
BEY				i SG		Sg	15 54 39.3	+8.6
BEY	Berane	1.32	304	⇑iPg		Pg	15 54 11.3	-2.4
BEY				eSg		Sg	15 54 30.7	0.0
IVA	Berane	1.32	304	⇑iPg		Pg	15 54 11.3	-2.4
IVA				eSg		Sg	15 54 30.7	0.0
FNA	Florina	1.36	180	ePg		Pg	15 54 12.8	-1.8
FNA				eSg		Sg	15 54 32.6	+0.4
FNA	Florina	1.36	180	i PG		Pg	15 54 12.8	-1.8
FNA				i SG		Sg	15 54 32.7	+0.4
VTS	Vitosha	1.42	71	ePg		Pg	15 54 14.1	-1.6
VTS				eSg		Sg	15 54 34.3	+0.2
VTS	Vitosha	1.42	71	⇑iP		Pn	15 54 15.6	+1.3
VTS				S		Sn	15 54 33.9	+0.9
KNT	Kendrikon	1.50	131	ePg		Pg	15 54 15.3	-1.9
KNT				eSg		Sg	15 54 36.9	+0.1
KNT	Kendrikon	1.50	131	ePg		Pg	15 54 15.3	-1.9
KNT				eSg		Sg	15 54 36.8	+0.1
SJES	Sjenica	1.54	317	ePg		Pn	15 54 15.3	-0.7
SJES				eSg		Sn	15 54 34.1	-1.9
PDG	Podgorica	1.60	281	i PG		Pn	15 54 16.1	-0.6
PDG				i SG		Sg	15 54 39.3	-0.6
PDG	Podgorica	1.60	281	⇓iPg		Pn	15 54 16.1	-0.6
PDG				eSg		Sg	15 54 39.3	-0.6
TTG	Podgorica	1.60	281	⇓iPg		Pn	15 54 16.1	-0.6
TTG				eSg		Sg	15 54 39.3	-0.6
ULC	Ulcinj	1.60	264	⇓iPg		Pn	15 54 16.8	+0.1
ULC				eSg		Sg	15 54 39.3	-0.6
GRUS	Gruza	1.81	344	ePn		Pn	15 54 19.9	+0.3
GRUS				eSg		Sn	15 54 41.9	-0.6
BUM	Brajici-Budva	1.85	276	⇓iPn		Pn	15 54 21.3	+1.1
BUM				eSn		Sn	15 54 45.7	+2.0
KZN	Kozani	1.86	171	ePB		Pb	15 54 22.8	+0.3
PLE	Pljevlja	1.88	309	⇓iPn		Pn	15 54 21.8	+1.2
PLE				eSn		Sg	15 54 46.8	-2.1
NKY	Niksic	1.89	291	⇓iPn		Pn	15 54 21.6	+0.9
NKY				eSn		Sn	15 54 46.2	+1.7
NKY	Niksic	1.89	291	i PG		Pn	15 54 21.6	+0.9
NKY				i SG		Sn	15 54 46.2	+1.7
SOH	Sokhos	1.99	131	ePn		Pn	15 54 22.4	+0.3
HORT	Hortiatis	2.02	140	ePn		Pn	15 54 22.8	+0.3
NVR	Nevrokopi	2.02	112	ePB		Pb	15 54 23.5	-1.6
NVR	Nevrokopi	2.02	112	eP		Pn	15 54 24.3	+1.8
UPM	Unac-Piva	2.11	301	⇑iPn		Pn	15 54 23.8	+0.1
UPM				eSn		Sn	15 54 51.3	+1.4
SVIS	Svilajnac	2.15	357	ePn		Pn	15 54 23.7	-0.6
SVIS				eSg		Sn	15 54 53.0	+2.0
HCY	Herceg Novi	2.16	279	⇑iPn		Pn	15 54 25.5	+1.0
HCY				eSn		Sn	15 54 52.9	+1.6
HCY	Herceg Novi	2.16	279	i PG		Pn	15 54 25.6	+1.1
DIVS	Divibare	2.20	333	ePn		Pn	15 54 23.7	-1.2
DIVS				eSn		Sn	15 54 52.9	+0.7
DIVS	Divibare	2.20	333	ePn		Pn	15 54 24.5	-0.5
DIVS				eSn		Sn	15 54 52.9	+0.7
DIVS				eSg		Sb	15 54 54.2	-1.3
LIT	Litokhoron	2.21	157	ePn		Pn	15 54 25.3	+0.2
BRY	Bratogost	2.23	291	⇓iPn		Pn	15 54 26.4	+1.0
BRY				eSn		Sn	15 54 54.8	+1.8
BRY	Bratogost	2.23	291	i PG		Pn	15 54 26.4	+1.0
BRY				i SG		Sn	15 54 54.8	+1.8
PLG	Polygyros	2.36	138	eP		Pn	15 54 26.3	-0.8
PLG	Polygyros	2.36	138	ePn		Pn	15 54 27.6	+0.5
PLD	Plovdiv	2.47	90	ePn		Pn	15 54 28.7	+0.1
THL	Klokotos Trika	2.63	169	ePB		Pb	15 54 32.3	-3.2
OUR	Ouranopolis	2.67	132	ePn		Pn	15 54 31.8	+0.4
AGG	Agios Georgios	3.21	167	ePn		Pn	15 54 39.4	+0.6
AGG	Agios Georgios	3.21	167	ePn		Pn	15 54 39.3	+0.5
EVR	Evrytania	3.25	174	ePN		Pn	15 54 41.6	+2.3
RDO	Rodhopi	3.27	106	ePN		Pn	15 54 42.5	+2.8
GZR	Gura Zlata	3.40	17	⇓P		Pn	15 54 41.2	-0.2
GZR	Gura Zlata	3.40	17	⇓iP		Pn	15 54 41.2	-0.2
BZS	Buzias	3.47	3	⇑P		Pn	15 54 41.4	-1.1
BZS				S		Sb	15 55 33.3	+1.2
BZS	Buzias	3.47	3	⇑iP		Pn	15 54 41.4	-1.0
BZS	Buzias	3.47	3	S		Sb	15 55 33.3	+1.2
BZS	Buzias	3.47	3	ePn		Pn	15 54 42.6	+0.2
AOS	Alonnisos	3.53	147	ePn		Pn	15 54 43.5	+0.3
PKSM	Moragy	4.51	335	⇑P		Pn	15 54 55.6	-1.2
PKSM	Moragy	4.51	335	⇑iP		Pn	15 54 55.6	-1.2
PKSM	Moragy	4.51	335	ePn		Pn	15 54 55.3	-1.5
VYHS	Vyhne	6.59	345	ePN		Pn	15 55 25.6	+0.3
KOLS	Kolonicke sedl	6.81	5	ePN		Pn	15 55 29.7	+1.4
CLL	Collm	10.81	331	P		Pn	15 56 22.0	-1.1

*ISCJB **09** 16:08:33.7±1.1, 3646N±006×728W±004, h10km, Error ellipse: s-maj=8.9km s-min=5.1km az=7.1*
*INMG **09** 16:08:37.8±0.6, 3653N×736W, h20km±2km, ML1.6, Error ellipse: s-maj=3.6km s-min=2.9km az=144.0*
*MDD **09** 16:08:37.0±1.2, 3647N×727W, h44km±46km, mb4.0/3, Error ellipse: s-maj=12.7km s-min=7.4km az=1.0, PRXIMO*

ISC 09 16:08:33.6±1.0, 3646N±005×727W±005, h10km, n16, σ1§10/29, 1D, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ERIP	Rio Piedras	0.91	1	P		Pg	16 08 52.9	+1.7
	9.9nm,0.1s,SNR=7.9							
ERIP				S		Sg	16 09 04.2	+1.1
	27nm,0.1s,SNR=7.9							
PBDV	Barranco-do-Ve	0.95	326	eP		Pg	16 08 53.1	+1.3
PBDV				eS		Sg	16 09 04.7	+0.5
PBDV				A			16 09 08.5	
	7.5nm,0.2s							
PBDV	Barranco-do-Ve	0.95	326	P		Pg	16 08 53.1	+1.3
PBDV				S		Sg	16 09 04.7	+0.5
	3.8nm,0.2s							
PVAQ	Vaqueiros	1.01	339	i P		Pg	16 08 54.1	+1.1
PVAQ				eS		Sg	16 09 06.3	+0.1
PVAQ				A			16 09 07.0	
	9.9nm,0.1s							
PVAQ	Vaqueiros	1.01	339	⇓P		Pg	16 08 54.1	+1.1
PVAQ				S		Sg	16 09 06.3	+0.1
	4.9nm,0.1s							
EGRO	El Granado	1.09	351	P		Pb	16 08 55.2	+0.8
	2.5nm,0.1s,SNR=7.9							
EGRO				S		Sg	16 09 08.5	-0.2
	6.3nm,0.1s,SNR=7.9							
ESPR	Espera	1.21	70	P		Pb	16 08 56.2	-0.2
	1.6nm,0.1s,SNR=7.9							
ESPR				S		Sb	16 09 11.8	-0.3
	7.3nm,0.2s,SNR=7.9							
EMIN	Mina Concepcio	1.39	20	P		Pn	16 08 59.2	+0.1
	0.2nm,0.1s,SNR=7.9							
EMIN				S		Sb	16 09 15.0	-2.4
	2.4nm,0.1s,SNR=7.9							
MORF	Marmelete	1.40	308	eP		Pn	16 08 59.3	+0.2
MORF				eS		Sn	16 09 15.6	-2.0
PFVI	Vila Bisbo	1.42	299	eP		Pn	16 08 59.6	+0.2
PFVI				eS		Sn	16 09 16.0	-2.2
PFVI				A			16 09 17.7	
	5.3nm,0.1s							
PFVI	Vila Bisbo	1.42	299	P		Pn	16 08 59.6	+0.2
PFVI				S		Sn	16 09 16.0	-2.2
	2.7nm,0.1s							
PBEJ	Beja	1.64	343	eT			16 08 55.1	
PBAR	Barrancos	1.72	6	ePn		Pn	16 09 04.1	+0.5
PBAR				eSn		Sn	16 09 24.1	-1.5
PBAR				A			16 09 30.9	
	4.2nm,0.1s							
PBAR	Barrancos	1.72	6	P		Pn	16 09 04.1	+0.5
PBAR				S		Sn	16 09 24.1	-1.5
	2.1nm,0.1s							
EBAD	Badajoz	2.30	5	P		Pn	16 09 11.3	-0.3
	0.4nm,0.1s,SNR=7.9							
EBAD				S		Sn	16 09 36.2	-3.7
	0.8nm,0.1s,SNR=7.9							
PCBR	Castelo Branco	3.38	357	ePn		Pn	16 09 26.9	+0.5

*LDG **09** 16:10:11.2±0.3, 2058S×16838E, h10km, Mb4.7/2, Error ellipse: s-maj=28.9km s-min=4.9km az=130.0*
*ISCJB **09** 16:10:12.4±0.7, 210S±01×1685E±0.1, h32km, mb4.3/7, MS3.7/4, Error ellipse: s-maj=19.5km s-min=18.0km az=144.8*
*NEIC **09** 16:10:14.3±0.5, 2101S×16855E, mb4.5/2, Error ellipse: s-maj=22.4km s-min=15.1km az=146.0*
*IDC **09** 16:10:14.5±1.1, 2099S×16852E, h32km±3km, mb4.2/7, mb1 4.4/7, mb1mx4.1/14, mbtmp4.2/7, MS3.6/6, Ms1 3.6/6, ms1mx3.3/18, Error ellipse: s-maj=41.9km s-min=16.7km az=150.0*
*SZGRF **09** 16:10:15.3, 2036S×170.17E, h33km, Vanuatu Islands*

ISC 09 16:10:14.3±0.7, 211S±01×1686E±01, h34km, h34km±.2km: pP-P, n93, σ0§56/16, mb4.3/7, MS3.7/4, 12C-6D, Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	14.23	323	LR		LR	16 17 43.2	
	comp=Z,100nm,21.9s,baz=177,slow=32							
URZ	Urewera	18.67	159	LR		LR	16 19 57.8	
	comp=Z,79nm,21.3s,baz=304,slow=31							
CTA	Charters Tower	20.93	269	LR		LR	16 22 25.5	
	comp=Z,224nm,18.9s,MS3.6,baz=49,slow=35							
STKA	Stephens Creek	26.39	240	eP		P	16 15 48.8	+1.2
	4.3nm,1.2s,mb3.9							
STKA	Stephens Creek	26.39	240	eP		P	16 15 48.4	+0.8
	17nm,1.4s,mb4.4							
STKA	Stephens Creek	26.39	240	P		P	16 15 48.3	+0.7
	2.2nm,0.7s,mb3.8,baz=66,slow=8.8,SNR=10							
STKA				LR		LR	16 26 08.3	
	comp=Z,152nm,18.9s,MS3.6,baz=205,slow=36							
WRA	Warramunga Arr	32.06	266	P		P	16 16 37.2	-1.0
	1.7nm,0.9s,mb3.9,baz=89,slow=5.5,SNR=19							
WRA				pP		pP	16 16 46.3	-1.7
	4.7nm,1.2s,baz=96,slow=8.6,SNR=7.4							
WRA				LR		LR	16 29 21.8	
	comp=Z,148nm,19.0s,MS3.7,baz=100,slow=36							
ASAR	Alice Springs	32.13	259	P		P	16 16 38.5	-0.3
	11nm,0.8s,mb4.7,baz=88,slow=8.6,SNR=185							
ASAR				pP		pP	16 16 48.0	-0.6
	8.5nm,0.8s,baz=82,slow=9.0,SNR=16							
TBI	Tubuai	38.82	101	eLR		LR	16 28 19.4	
	138nm,34.0s							
PPT	Papeete	39.56	92	eLR		LR	16 28 42.2	
	170nm,27.8s							
FITZ	Fitzroy Crossi	40.48	266	eP		P	16 17 50.4	+0.3
	10nm,0.8s,mb4.6							
FITZ				e		pP	16 17 59.9	-0.3
FITZ	Fitzroy Crossi	40.48	266	P		P	16 17 50.6	+0.5
	6.5nm,0.8s,mb4.4,baz=136,slow=8.1,SNR=9.6							
FITZ				pP		pP	16 18 00.1	0.0
	5.6nm,0.9s,baz=104,slow=12,SNR=5.6							
SBA	Scott Base	56.86	180	eP		P	16 19 55.5	+0.4
JHJ	Hachijo jima 2	60.48	332	LR		LR	16 41 34.1	
	comp=Z,112nm,21.4s,MS4.0,baz=34,slow=31							
KSM	Kuching	61.19	284	eP		P	16 20 25.9	-0.3
KSM				e		pP	16 20 36.0	-0.6
MJAR	Matsushiro Arr	64.07	333	P		P	16 20 44.2	-0.6
	2.3nm,0.8s,mb4.2,baz=169,slow=7.0,SNR=7.5							
MJAR				pP		pP	16 20 54.3	-1.0
	2.1nm,0.8s,baz=165,slow=7.4,SNR=5.0							
SNAA	Sanae	87.33	183	e		P	16 22 57.0	-0.3
SNAA				e			16 23 00.1	
ULN	Ulaanbaatar	87.95	324	eP		P	16 23 01.2	+0.7
ULN				e		pP	16 23 11.6	+0.2
VNA3	Neumayer Olymp	87.95	181	e		P	16 22 59.8	-0.5
VNA3				e			16 23 02.6	
VNA3				e		pP	16 23 10.2	-0.9
VNA2	Neumayer--Watz	88.23	181	e		P	16 23 01.5	-0.1
	baz=190,slow=3.9							
VNA2				e			16 23 03.7	
VNA2				e		pP	16 23 12.1	-0.4
SONM	Songino Array	88.29	323	P		P	16 23 03.0	+0.8
	3.7nm,0.8s,mb4.6,baz=145,slow=5.3,SNR=30							
SONM				pP		pP	16 23 13.1	0.0
	3.1nm,0.8s,baz=145,slow=5.2,SNR=12							
NVAR	Mina Array Bea	90.45	49	P		P	16 23 12.4	-0.1
	1.4nm,0.8s,mb4.3,baz=216,slow=6.4,SNR=10							
NVAR				pP		pP	16 23 22.9	-0.4
	0.4nm,0.7s,baz=212,slow=6.4,SNR=3.5							
AKTK	Aktyubinsk	118.97	317	PKP		PKPdf	16 28 59.3	+0.2
AKTK				pPKP		pPKPdf	16 29 09.3	-1.0
AKTO	Aktyubinsk	118.97	317	PKP		PKPdf	16 28 59.3	+0.2
	1.2nm,0.6s,baz=141,slow=3.1,SNR=6.8							
AKTO				pPKP		pPKPdf	16 29 09.3	-1.0
	0.9nm,0.6s,baz=75,slow=5.0,SNR=4.2							
AKASG	Malin Array Be	136.58	323	PKP		PKPdf	16 29 32.9	+0.2
	0.2nm,0.4s,baz=73,slow=1.8,SNR=5.2							
AKASG				pPKP		pPKPdf	16 29 42.8	-1.1
	0.1nm,0.3s,baz=64,slow=2.5,SNR=3.7							
VYHS	Vyhne	143.45	326	ePKP		pPKPdf	16 29 54.9	-1.5
DPC	Dobruska-Polom	143.50	330	epPKP		pPKPdf	16 29 53.3	-3.1
DPC				esPKP			16 30 04.6	
UPC	Upice	143.53	330	ePKP		PKPdf	16 29 43.3	-1.9
UPC				epPKP		pPKPdf	16 29 53.8	-2.6
PVCC	Panska Ves	144.17	331	ePKP		PKPdf	16 29 45.0	-1.4
PVCC				epPKP		pPKPdf	16 29 55.5	-2.1
BRG	Berggiesshubel	144.20	332	eP		PKPdf	16 29 45.0	-1.4
	12nm,1.2s							
BRG				e			16 29 55.4	
	10nm,1.1s							
BRG				e			16 33 05.3	
	15nm,1.6s							
CLL	Collm	144.28	334	ePKPbc		PKPdf	16 29 45.0	-1.5
CLL	Collm	144.28	334	⇑iPKPdf		PKPdf	16 29 45.0	-1.5
	comp=Z,12nm,1.1s							
CLL				i pPKPdf		pPKPdf	16 29 55.3	-2.4
TREC	Trest	144.61	329	ePKP		PKPdf	16 29 47.0	-0.2
TREC				epPKP		pPKPdf	16 29 56.9	-1.5
CLZ	Clausthal	144.90	336	ePKPbc		PKPdf	16 29 47.5	-0.1
SOP	Sopron	145.15	326	⇑eP		PKPbc	16 29 48.9	+1.2
TANN	Tannenbergstha	145.17	333	ePKPbc		PKPbc	16 29 48.6	+0.9
EKA	Eskdalemuir Ar	145.21	352	PKPbc		PKPbc	16 29 46.1	-1.5
	comp=Z,1.0nm,0.7s,baz=48,slow=1.2,SNR=3.7							
EKA				pPKPbc		pPKPbc	16 29 57.0	-1.8
	comp=Z,1.4nm,0.7s,baz=8.5,slow=1.7,SNR=3.0							
NKC	Novy Kostel	145.31	333	ePKP		PKPdf	16 29 49.1	+0.8
NKC				epPKP		pPKPdf	16 29 59.2	-0.4
CONA	Conrad Observa	145.35	327	⇓iPKPdf		PKPdf	16 29 49.4	+1.0
	comp=Z,15nm,0.9s,SNR=18							
CONA				⇑ipPKPdf		pPKPdf	16 30 00.0	+0.3
	comp=Z,17nm,1.0s							
MOX	Moxa	145.35	334	eP		PKPbc	16 29 48.7	+0.4
	comp=Z,13nm,1.1s							
MOX				e			16 29 59.1	
MOX	Moxa	145.35	334	ePKPbc		PKPbc	16 29 48.9	+0.6
IBBN	Ibbenburen	145.44	339	ePKPbc		PKPbc	16 29 49.1	+0.6
KHC	Kasperske Hory	145.62	331	ePKP		PKPdf	16 29 49.5	+0.6
KHC				epPKP		pPKPdf	16 30 00.3	+0.2
MANZ	Manzenberg	145.65	333	ePKPbc		PKPbc	16 29 50.1	+0.9
ROTZ	Rotzenmuhle	145.77	332	ePKPbc		PKPbc	16 29 50.7	+1.1
GEC2	GERESS Array S	145.77	330	ePKPbc		PKPbc	16 29 50.6	+0.9
GERES	GERESS Array B	145.77	330	PKPbc		PKPbc	16 29 50.4	+0.7
	comp=Z,9.5nm,0.8s,baz=46,slow=3.9,SNR=58							
GERES				pPKPbc		pPKPbc	16 30 00.6	-0.1
	comp=Z,9.3nm,0.7s,baz=35,slow=3.3,SNR=23

comp=Z,1.0nm,1.0s,baz=277,slow=1.1,SNR=4.4

IDC ***09*** *16:23:33.6±0.6,3554N×8950E,h0km,mb4.2/12, mb1 4.4/15,mb1mx4.2/23,mbtmp4.2/15,ML3.3/3,MS4.0/16, Ms1 4.0/16,ms1mx3.9/24,Error ellipse: s-maj=24.3km s-min=13.5km az=32.0*

LDG ***09*** *16:23:34.0±0.1,3571N×8920E,h10km,Mb4.8/20,Ms3.8/7, Error ellipse: s-maj=5.0km s-min=2.7km az=124.0*

ISCJB ***09*** *16:23:37.6±0.8,3569N±004×8943E±003,h37km±7km, mb4.5/49,MS4.2/34,Error ellipse: s-maj=6.4km s-min=3.8km az=16.3*

MOS ***09*** *16:23:37.3±0.8,3569N×8935E,h33km,mb4.7/34, MS4.0/14,Error ellipse: s-maj=8.3km s-min=5.2km az=108.1*

BJI ***09*** *16:23:38.9,3569N×8962E,h44km,mB4.8,mb4.5,Ms4.6, Msz4.4*

GCMT ***09*** *16:23:39.9±0.3,3550N×8951E,h21km,MW4.9/65, Moment Tensor Solution. s22,c24; s65,c109; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.52±.18; $M_{\theta\theta}$-0.48±.10; $M_{\phi\phi}$3.00±.12; $M_{r\theta}$-0.96±.23; $M_{\theta\phi}$0.87±.08; $M_{\phi r}$0.54±.18; Best double couple: $M_0$3.11700×10^{16} NP1:ϕ_s36.00000°,δ47.00000°,λ-56.00000°. NP2: ϕ_s171.00000°,δ53.00000°,λ-121.00000°. Principal axes: T 3.2220, Plg3.0000°, Azm282.0000°; N -0.2050, Plg24.0000°, Azm191.0000°; P -3.0130, Plg66.0000°, Azm19.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***09*** *16:23:39.9±0.7,3569N×8942E,h40km±6km,mb4.6/25, MS4.0/2 Error ellipse: s-maj=6.7km s-min=5.2km az=196.0*

ISC 09 16:23:40.2±0.6,3568N±004×8944E±003,h43km±5km, n178,σ0§93/185,mb4.5/49,MS4.2/34,9C-3D,Xizang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LSA	**Lhasa**	**6.13**	**166**	P	**Pn**	**16 25 06.8**	**-1.4**
LSA				S	**Sn**	**16 26 23.8**	**+6.7**
LSA				LR	LR		
	comp=E,6μm,13.5s						
LSA				LR	LR		
	comp=Z,1μm,5.8s						
LSA	**Lhasa**	**6.13**	**166**	*e*Pn	**Pn**	**16 25 08.9**	**+0.6**
	comp=Z,84nm,1.1s						
LSA	**Lhasa**	**6.13**	**166**	*e*P	**Pn**	**16 25 08.9**	**+0.7**
LSA				pmax	pmax		
	comp=Z,85nm,1.1s						
WMQ	**Urumqi**	**8.24**	**351**	*e*P	**Pn**	**16 25 39.2**	**+2.1**
WMQ				XP		16 25 54.0	
WMQ				S	**Sn**	**16 27 14.5**	**+5.7**
WMQ				AMB	AMB		
	comp=Z,29nm,0.8s						
WMQ				AMB	AMB		
	comp=Z,222nm,5.2s						
WMQ				LR	LR		
	comp=N,2μm,8.8s						
WMQ				LR	LR		
	comp=E,1μm,5.5s						
WMQ				LR	LR		
	comp=Z,1μm,9.4s						
GTA	**Gaotai**	**9.04**	**63**	*e*P	**Pn**	**16 25 47.8**	**-0.2**
GTA				AP		16 25 57.7	
GTA				XP		16 26 02.0	
GTA				S	**Sn**	**16 27 28.7**	**+0.3**
GTA				PCP	PcP	16 32 11.2	+2.2
GTA				AMB	AMB		
	comp=Z,3.0nm,1.0s						
GTA				AMB	AMB		
	comp=Z,146nm,6.5s						
GTA				LR	LR		
	comp=N,3μm,14.1s						
GTA				LR	LR		
	comp=E,2μm,12.6s						
GTA				LR	LR		
	comp=Z,2μm,11.8s						
LZH	**Lanzhou**	**11.69**	**84**	*e*P	**Pn**	**16 26 23.1**	**-1.2**
LZH				AP		16 26 30.0	
LZH				XP		16 26 34.2	
LZH				*e*S	**Sn**	**16 28 32.3**	**-1.2**
LZH				XS		16 28 42.5	
LZH				SS		16 28 44.4	
LZH				AMB	AMB		
	comp=Z,31nm,1.4s						
LZH				AMB	AMB		
	comp=Z,94nm,4.8s						
LZH				LR	LR		
	comp=E,1μm,6.1s						
LZH				LR	LR		
	comp=Z,1μm,6.8s						
MKAR	**Makanchi Array**	**12.33**	**336**	*i* P	**Pn**	**16 26 32.7**	**-0.3**
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.9s						
MKAR	**Makanchi Array**	**12.33**	**336**	Pn	**Pn**	**16 26 30.5**	**-2.5**
	comp=Z,0.1nm,0.3s,baz=147,slow=14,SNR=16						
MKAR				LR	LR	16 31 51.0	
	comp=Z,544nm,21.4s,baz=151,slow=40						
CD2	**Chengdu**	**12.88**	**108**	P	**Pn**	**16 26 41.4**	**+0.8**
CD2				AP		16 26 49.6	
CD2				PP		16 26 52.9	
CD2				XP		16 26 56.4	
CD2				S	**Sn**	**16 29 03.3**	**+0.7**
CD2				SS		16 29 19.0	
CD2				AMB	AMB		
	comp=Z,20nm,1.6s						
CD2				AMB	AMB		
	comp=Z,350nm,3.7s						
CD2				LR	LR		
	comp=N,3μm,6.6s						
CD2				LR	LR		
	comp=E,4μm,6.1s						
CD2				LR	LR		
	comp=Z,4μm,6.0s						
TKM2	**Tokmak 2**	**12.92**	**308**	*e*Pn	**Pn**	**16 26 40.4**	**-0.7**
	comp=Z,9.9nm,1.0s						
TKM2	**Tokmak 2**	**12.92**	**308**	*e*P	**Pn**	**16 26 40.4**	**-0.7**
TKM2				pmax	pmax		
	comp=Z,10.0nm,1.0s						
UCH	**Uchtor**	**13.32**	**304**	*e*P	**Pn**	**16 26 47.8**	**+1.2**
	comp=Z,6.8nm,1.0s						
FRU	**Bishkek**	**13.52**	**306**	*e*P	**Pn**	**16 26 56.0**	**+6.8**
FRU				*e*		16 29 24.5	
AML	**Almayashu**	**13.84**	**302**	*e*P	**Pn**	**16 26 53.6**	**-0.1**
	comp=Z,9.6nm,1.1s						
EKS2	**Erkin-Say**	**14.00**	**305**	*e*P	**Pn**	**16 26 58.1**	**+2.4**
	comp=Z,28nm,1.4s						
KMI	**Kunming**	**15.55**	**129**	P	**Pn**	**16 27 14.3**	**-2.1**
KMI				AP	pP	16 27 22.9	-7.5
KMI				XP	sP	16 27 26.6	-9.2
KMI				PP		16 27 30.2	
KMI				S	**S**	**16 30 09.3**	**-12**
KMI				XS	sS	16 30 23.8	-14
KMI				AMB	AMB		
	comp=Z,7.0nm,1.3s						
KMI				AMB	AMB		
	comp=Z,119nm,5.0s						
KMI				LR	LR		
	comp=N,1μm,8.3s						
KMI				LR	LR		
	comp=E,1μm,7.9s						
KMI				LR	LR		
	comp=Z,910nm,7.7s						
XAN	**Xi'an**	**16.08**	**90**	P	**Pn**	**16 27 21.8**	**-1.3**
XAN				AP	pP	16 27 33.7	-2.5
XAN				AMB	AMB		
	comp=Z,27nm,1.4s						
KK31	**Karatay Array**	**16.39**	**303**	*i* P	**Pn**	**16 27 31.4**	**+4.4**
KK31				pmax	pmax		
	comp=Z,4.0nm,0.6s						
KBL	**Kabul**	**16.73**	**272**	*e*P	**Pn**	**16 27 28.9**	**-2.5**
	comp=Z,16nm,1.0s						
BTO	**Baotou**	**16.91**	**67**	*e*P	**Pn**	**16 27 29.7**	**-3.9**
KURK	**Kurchatov**	**16.95**	**336**	*e*P	**Pn**	**16 27 31.6**	**-2.3**
	comp=Z,28nm,1.1s						
KURK	**Kurchatov**	**16.95**	**336**	⇑*e*P	**Pn**	**16 27 32.1**	**-1.8**
NGP	**Nagpur**	**17.10**	**215**	*e*P	**Pn**	**16 27 28.5**	**-7.6**
NGP				*ex*	x	16 27 37.2	
	comp=Z,26nm,1.5s						
NGP				*e*S	S	16 30 28.9	-24
GYA	**Guiyang**	**17.36**	**117**	⇑*i*P	**Pn**	**16 27 40.5**	**+1.2**
GYA				AP	pP	16 27 50.8	+0.3
GYA				XP	sP	16 27 56.4	+0.5
GYA				XS	sS	16 31 05.9	-9.0
GYA				PCP	PcP	16 32 21.9	+2.4
GYA				AMB	AMB		
	comp=Z,10.0nm,1.4s						
GYA				AMB	AMB		
	comp=Z,80nm,4.4s						
GYA				LR	LR		
	comp=N,2μm,14.3s						
GYA				LR	LR		
	comp=E,590nm,13.7s						
GYA				LR	LR		
	comp=Z,740nm,9.9s						
SONM	**Songino Array**	**17.49**	**41**	P	**Pn**	**16 27 41.3**	**+0.6**
	comp=Z,0.1nm,0.3s,baz=230,slow=11,SNR=42						
ZAK	**Zakamensk**	**17.79**	**30**	*e*P	**Pn**	**16 27 43.7**	**-0.7**
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.6s						
ULN	**Ulaanbaatar**	**17.86**	**42**	*e*P	**Pn**	**16 27 45.4**	**+0.1**
	comp=Z,42nm,1.6s						
ULN	**Ulaanbaatar**	**17.86**	**42**	⇑*i*P	**Pn**	**16 27 45.7**	**+0.4**
MOY	**Mondy**	**18.00**	**24**	*e*P	**Pn**	**16 27 47.4**	**+0.5**
MOY				pmax	pmax		
	comp=Z,57nm,2.6s						
HHC	**Hu-ho-hao-te**	**18.11**	**67**	*e*P	**Pn**	**16 27 48.8**	**+0.5**
HHC				AP	pP	16 27 58.3	-0.3
HHC				XP	sP	16 28 04.8	+0.8
HHC				PP		16 28 05.8	
HHC				XS	sS	16 31 20.2	-10
HHC				PCP	PcP	16 32 24.0	+3.5
HHC				SCP	ScP	16 35 54.5	+2.1
HHC				PCS	PcS	16 35 59.3	+2.3
HHC				AMB	AMB		
	comp=Z,27nm,0.9s						
HHC				LR	LR		
	comp=N,186nm,4.9s						
HHC				LR	LR		
	comp=E,267nm,7.6s						
HHC				LR	LR		
	comp=Z,205nm,8.9s						
ZAL	**Zalesovo**	**18.54**	**351**	P	**Pn**	**16 27 51.3**	**-2.2**
TIY	**Taiyuan**	**18.54**	**77**	P	**Pn**	**16 27 47.8**	**-5.9**
TIY				S	**S**	**16 31 13.3**	**-9.1**
TIY				XS	sS	16 31 30.1	-8.7
TIY				LR	LR		
	comp=N,668nm,6.1s						
TIY				LR	LR		
	comp=E,1μm,7.9s						
TIY				LR	LR		
	comp=Z,913nm,8.9s						
ZALV	**Zalesovo Beam**	**18.55**	**351**	P	**Pn**	**16 27 51.3**	**-2.3**
	comp=Z,0.2nm,0.3s,baz=162,slow=10,SNR=28						
ZALV				LR	LR	16 35 17.9	
	comp=Z,298nm,18.1s,baz=165,slow=38						
TLY	**Talaya**	**18.95**	**28**	*e*P	**Pn**	**16 27 58.9**	**+0.4**
TLY				pmax	pmax		
	comp=Z,8.0nm,0.9s						
TLY				MLR	MLR		
	comp=Z,334nm,11.0s						
IRK	**Irkutsk**	**19.64**	**28**	*e*P	**Pn**	**16 28 06.7**	**+0.1**
IRK				pmax	pmax		
	comp=Z,42nm,1.5s						
NVS	**Novosibirsk**	**19.64**	**349**	*i* P	**Pn**	**16 28 03.8**	**-2.8**
NVS				*e*S	**S**	**16 31 39.2**	**-4.9**
NVS				pmax	pmax		
	comp=N,9.0nm,1.4s						
NVS				pmax	pmax		
	comp=Z,10.0nm,1.4s						
NVS				pmax	pmax		
	comp=E,5.0nm,1.0s						
NVS				smax			
	comp=N,15nm,1.9s						
NVS				smax			
	comp=E,13nm,1.7s						
HYB	**Hyderabad**	**20.60**	**211**	*e*P	**P**	**16 28 17.5**	**+1.7**
HYB	**Hyderabad**	**20.60**	**211**	*i* P	**P**	**16 28 17.0**	**+1.2**
WHN	**Wuhan**	**21.46**	**97**	P	**P**	**16 28 24.2**	**-0.7**
WHN				S	**S**	**16 32 22.4**	**+1.9**
WHN				AMB	AMB		
	comp=Z,566nm,8.1s						
WHN				LR	LR		
	comp=Z,1μm,7.4s						
BJT	**Baijiatuau**	**21.51**	**70**	*e*P	**P**	**16 28 25.9**	**+0.5**
	comp=Z,57nm,1.2s,mb4.9						
BJT	**Baijiatuau**	**21.51**	**70**	*e*P	**P**	**16 28 25.9**	**+0.5**
BJT				pmax	pmax		
	comp=Z,57nm,1.2s						
BJI	**Beijing**	**21.52**	**70**	P	**P**	**16 28 25.6**	**+0.2**
BJI				AP		16 28 35.6	
BJI				XP	sP	16 28 40.9	-0.4
BJI				S	**S**	**16 32 22.7**	**+1.2**
BJI				AMB	AMB		
	comp=Z,29nm,1.1s,mb4.6						
BJI				AMB	AMB		
	comp=Z,308nm,3.8s						
BJI				LR	LR		
	comp=N,2μm,18.1s,MS4.6						
BJI				LR	LR		
	comp=E,1μm,14.2s,MS4.6						
BJI				LR	LR		
	comp=Z,954nm,18.4s,MS4.2						
BRVK	**Borovoye**	**22.01**	**328**	*e*P	**P**	**16 28 30.6**	**+0.1**
	comp=Z,21nm,1.6s,mb4.3						
BRVK	**Borovoye**	**22.01**	**328**	*e*P	**P**	**16 28 30.6**	**+0.1**
BRVK				pmax	pmax		
	comp=Z,21nm,1.6s,mb4.3						
CHKZ	**Chkalovo**	**22.31**	**330**	*i* P	**P**	**16 28 33.5**	**-0.2**
CHKZ				pmax	pmax		
	comp=Z,24nm,1.4s,mb4.4						
QIZ	**Qiongzhong**	**24.48**	**127**	P	**P**	**16 28 56.2**	**+0.9**
QIZ				S	**S**	**16 33 14.0**	**+1.2**
QIZ				AMB	AMB		
	comp=Z,144nm,4.6s						
QIZ				LR	LR		
	comp=N,665nm,9.4s						
QIZ				LR	LR		
	comp=Z,1μm,12.2s,MS4.6						
NJ2	**Nanjing**	**24.65**	**90**	*e*P	**P**	**16 28 59.1**	**+2.4**
NJ2				AP		16 29 09.4	
NJ2				XP	sP	16 29 16.1	+2.9
NJ2				S	**S**	**16 33 14.0**	**-1.3**
NJ2				AMB	AMB		
	comp=Z,30nm,0.7s,mb4.9						
NJ2				AMB	AMB		
	comp=Z,1μm,3.8s						
NJ2				LR	LR		
	comp=Z,5μm,14.0s,MS5.1						
DL2	**Dalian**	**25.74**	**73**	P	**P**	**16 29 04.9**	**-1.7**
DL2				*e*S	**S**	**16 33 30.1**	**-2.4**
DL2				XS	sS	16 33 50.7	-1.0
DL2				AMB	AMB		
	comp=Z,20nm,1.2s,mb4.5						
DL2				AMB	AMB		
	comp=Z,100nm,5.1s						
DL2				LR	LR		
	comp=N,280nm,14.4s,MS4.1						
DL2				LR	LR		
	comp=E,290nm,14.0s,MS4.1						
DL2				LR	LR		
	comp=Z,400nm,16.5s,MS4.0						
HIA	**Hailar**	**25.95**	**49**	*e*P	**P**	**16 29 09.4**	**+1.0**
	comp=Z,16nm,1.3s,mb4.4						
HIA	**Hailar**	**25.95**	**49**	*e*P	**P**	**16 29 09.4**	**+1.0**
HIA				pmax	pmax		
	comp=Z,16nm,1.3s						
SSE	**Sheshan**	**26.83**	**91**	P	**P**	**16 29 17.9**	**+1.4**
SSE				AP	pP	16 29 31.2	+3.2
SSE				S	**S**	**16 33 49.2**	**-0.8**
SSE				AMB	AMB		
	comp=Z,31nm,0.7s,mb5.0						
SSE				AMB	AMB		
	comp=Z,66nm,8.2s						
SSE				LR	LR		
	comp=N,117nm,18.1s,MS3.6						
SSE				LR	LR		
	comp=E,97nm,18.1s,MS3.6						
SSE				LR	LR		
	comp=Z,115nm,12.4s						
AKTK	**Aktyubinsk**	**27.04**	**313**	P	**P**	**16 29 19.0**	**+0.8**
AKTK				LR	LR	16 41 11.5	
AKTO	**Aktyubinsk**	**27.04**	**313**	P	**P**	**16 29 19.0**	**+0.8**
	comp=Z,1.3nm,0.7s,mb3.6,baz=131,slow=11,SNR=3.1						
AKTO				LR	LR	16 41 11.5	
	comp=Z,190nm,21.0s,MS3.6,baz=282,slow=39						
SNY	**Shenyang**	**27.20**	**67**	⇓P	**P**	**16 29 19.8**	**+0.1**
SNY				AMB	AMB		
	comp=Z,16nm,1.7s,mb4.3						
SNY				AMB	AMB		
	comp=Z,187nm,4.6s						
SNY				LR	LR		
	comp=Z,1μm,21.4s,MS4.4						
BOD	**Bodaibo**	**27.53**	**29**	*e*P	**P**	**16 29 22.9**	**+0.4**
BOD				pmax	pmax		
	comp=Z,6.0nm,1.5s,mb4.0						
CN2	**Changchun**	**28.67**	**63**	⇑P	**P**	**16 29 33.4**	**+0.5**
CN2				*e*AP	pP	16 29 45.2	+0.9
CN2				*e*S	**S**	**16 34 17.1**	**-1.6**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.5						
CN2				AMB	AMB		
	comp=Z,200nm,4.0s						
CN2				LR	LR		
	comp=N,1μm,10.0s,MS4.9						
CN2				LR	LR		
	comp=E,900nm,10.0s,MS4.9						
KSRS	**Korea Array**	**30.82**	**75**	P	**P**	**16 29 51.4**	**-0.6**
	comp=E,4.1nm,0.9s,mb4.3,baz=269,slow=9.3,SNR=15						
KSRS				LR	LR	16 43 34.3	
	comp=E,385nm,18.9s,MS4.1,baz=122,slow=39						
MDJ	**Mudanjiang**	**31.69**	**61**	P	**P**	**16 30 00.5**	**+0.9**
MDJ				AMB	AMB		
	comp=Z,10.0nm,1.4s,mb4.5						
MDJ				AMB	AMB		
	comp=Z,81nm,6.1s						
KLR	**Kul'dur**	**33.57**	**53**	*e*P	**P**	**16 30 10.8**	**-5.1**
KLR				MLR	MLR		
	comp=E,500nm,11.0s						
KLR				MLR	MLR		
	comp=Z,2μm,11.0s,MS5.0						
HABR	**Khabarovsk**	**35.67**	**55**	*e*P	**P**	**16 30 33.9**	**-0.1**
HABR				*e*		16 31 50.9	
HABR				*e*S	**S**	**16 36 12.2**	**+4.8**
HABR				pmax	pmax		
	comp=Z,18nm,1.3s,mb4.8						
YAK	**Yakutsk**	**36.38**	**31**	*e*P	**P**	**16 30 40.6**	**+0.7**
YAK	**Yakutsk**	**36.38**	**31**	*e*P	**P**	**16 30 40.5**	**+0.5**
YAK				pmax	pmax		
	comp=Z,12nm,1.4s,mb4.6						
YAK				pmax	pmax		
	comp=N,3.0nm,1.5s						
YAK				pmax	pmax		
	comp=E,9.0nm,1.5s						
KIV	**Kislovodsk**	**36.44**	**298**	*i* P	**P**	**16 30 40.1**	**-0.6**
MAT	**Matsushiro**	**39.07**	**74**	P	**P**	**16 31 02.7**	**-0.3**
MAT				S	**S**	**16 37 10.0**	**+11**
MJAR	**Matsushiro Arr**	**39.07**	**74**	P	**P**	**16 31 02.2**	**-0.8**
MJAR						16 33 12.0	
MJAR				pmax	pmax		
	comp=Z,5.0nm,1.0s						
MJAR				MLR	MLR		
	comp=Z,211nm,19.2s						
MJAR	**Matsushiro Arr**	**39.07**	**74**	P	**P**	**16 31 02.2**	**-0.8**
	comp=Z,4.8nm,1.0s,mb4.2,baz=288,slow=9.6,SNR=12						
MJAR				PcP	PcP	16 33 12.0	-0.3
	comp=Z,1.4nm,0.9s,baz=258,slow=1.8,SNR=4.2						
MJAR				LR	LR	16 47 53.5	
	comp=Z,210nm,19.1s,MS4.0,baz=320,slow=37						
ANN	**Anapa**	**40.13**	**299**	*e*P	**P**	**16 31 14.2**	**+2.4**
ANN				pmax	pmax		
	comp=Z,25nm,1.3s,mb4.8						
ANN				MLR	MLR		
	comp=Z,200nm,15.0s,MS4.1						
OBN	**Obninsk**	**40.75**	**315**	*e*P	**P**	**16 31 15.4**	**-1.3**
OBN				*e*SS	SS	16 40 25.0	-0.7
OBN				pmax	pmax		
	comp=Z,5.0nm,0.5s,mb4.4						
OBN				MLR	MLR		
	comp=Z,100nm,17.0s,MS3.7						
TIXI	**Tiksi**	**41.41**	**18**	*e*P	**P**	**16 31 21.9**	**0.0**
	comp=Z,7.1nm,1.0s,mb4.2						
TIXI	**Tiksi**	**41.41**	**18**	*e*P	**P**	**16 31 21.9**	**0.0**
TIXI				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.2						
TIXI				MLR	MLR		
	comp=Z,310nm,13.0s,MS4.4						
AKASG	**Malin Array Be**	**45.15**	**309**	*i* P	**P**	**16 31 52.5**	**+0.2**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.8s						
AKASG	**Malin Array Be**	**45.15**	**309**	P	**P**	**16 31 52.5**	**+0.2**
	comp=Z,1.4nm,0.8s,mb3.8,baz=78,slow=6.5,SNR=11						
MA2	**Magadan**	**45.68**	**39**	⇑*e*P	**P**	**16 31 57.3**	**+0.9**
MA2				pmax	pmax		
	comp=Z,30nm,1.7s,mb5.0						
SEY	**Seymchan**	**46.70**	**34**	⇑*e*P	**P**	**16 32 05.4**	**+1.0**
FINES	**FINESS Array B**	**46.80**	**324**	LR	LR	16 51 27.4	
	comp=Z,162nm,18.6s,MS4.0,baz=269,slow=36						
ARCES	**ARCESS Array B**	**47.98**	**335**	LR	LR	16 53 33.8	
	comp=Z,165nm,21.2s,MS4.0,baz=102,slow=37						
MLR	**Muntele Rosu**	**48.07**	**302**	P	**P**	**16 32 16.4**	**+1.1**
MLR				pmax	pmax		
	comp=Z,5.0nm,0.9s						
MLR	**Muntele Rosu**	**48.07**	**302**	P	**P**	**16 32 16.4**	**+1.1**
	comp=Z,4.7nm,0.9s,mb4.5,baz=134,slow=9.1,SNR=6.8						
STHS	**Stebnicka Huta**	**50.42**	**308**	*e*P	**P**	**16 32 33.3**	**+0.1**
	comp=Z,2.1nm,0.9s,mb4.2						
STHS	**Stebnicka Huta**	**50.42**	**308**	*e*P	**P**	**16 32 33.3**	**+0.1**
STHS				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.2						
VYHS	**Vyhne**	**52.16**	**307**	*e*P	**P**	**16 32 47.0**	**+0.7**
	comp=Z,7.4nm,1.7s,mb4.3						
VYHS	**Vyhne**	**52.16**	**307**	*e*P	**P**	**16 32 47.0**	**+0.7**
VYHS				pmax	pmax		
	comp=Z,7.0nm,1.7s,mb4.3						
BILL	**Bilibino**	**52.57**	**27**	*e*P	**P**	**16 32 50.6**	**+1.6**
	comp=Z,20nm,1.2s,mb4.9						
BILL	**Bilibino**	**52.57**	**27**	⇓*i*P	**P**	**16 32 50.3**	**+1.3**
BILL				pmax	pmax		
	comp=Z,21nm,1.2s,mb4.9						
BILL				MLR	MLR		
	comp=Z,100nm,14.0s,MS4.0						
HFS	**Hagfors**	**52.91**	**323**	LR	LR	16 56 27.9	
	comp=Z,171nm,21.9s,MS4.0,baz=78,slow=37						
DPC	**Dobruska-Polom**	**53.32**	**310**	*e*P	**P**	**16 32 55.0**	**+0.2**
DPC				AMS	AMS	16 55 20.0	
	comp=Z,200nm,15.2s,MS4.3						
NB2	**NORSAR Subarra**	**53.98**	**324**	P	**P**	**16 32 59.2**	**-0.2**
	comp=Z,3.2nm,0.8s,mb4.3,baz=81,slow=7.4						
NOA	**NORSAR Array B**	**53.98**	**324**	P	**P**	**16 32 59.6**	**+0.2**
NOA				pmax	pmax		
	comp=Z,4.0nm,0.9s						
NOA				MLR	MLR		
	comp=Z,123nm,20.6s						
NOA	**NORSAR Array B**	**53.98**	**324**	P	**P**	**16 32 59.6**	**+0.2**
	comp=Z,3.7nm,0.9s,mb4.3,baz=81,slow=7.2,SNR=10						
NOA				LR	LR	16 57 12.2	
	comp=Z,123nm,20.6s,MS4.0,baz=80,slow=37						
TREC	**Trest**	**54.11**	**309**	AMS	AMS	16 57 10.0	
	comp=Z,200nm,20.8s,MS4.2						
PVCC	**Panska Ves**	**54.37**	**311**	*e*P	**P**	**16 33 01.5**	**-0.9**
PVCC				AMS	AMS	16 59 40.0	
	comp=Z,200nm,12.6s,MS4.4						
CLL	**Collm**	**55.12**	**312**	*e*P	**P**	**16 33 08.0**	**+0.1**
CLL				LmH		16 54 00.0	
	comp=N,300nm,21.4s						
CLL				LmH		16 54 00.0	
	comp=E,100nm,18.7s						
CLL				LmV		17 00 00.0	
	comp=Z,100nm,21.5s						
KHC	**Kasperske Hory**	**55.36**	**309**	⇑*e*P	**P**	**16 33 09.9**	**+0.3**
KHC	**Kasperske Hory**	**55.36**	**309**	*e*P	**P**	**16 33 09.7**	**+0.1**
KHC				AMS	AMS	16 58 30.0	
	comp=Z,100nm,18.2s,MS3.9						
GERES	**GERESS Array B**	**55.36**	**309**	P	**P**	**16 33 10.8**	**+1.2**
GERES				pmax	pmax		
	comp=Z,2.0nm,0.8s						
GERES				MLR	MLR		
	comp=Z,142nm,18.1s						
GERES	**GERESS Array B**	**55.36**	**309**	P	**P**	**16 33 10.8**	**+1.1**
	comp=Z,1.6nm,0.8s,mb4.1,baz=66,slow=6.4,SNR=9.5						
GERES				LR	LR	16 59 33.2	
	comp=Z,142nm,18.1s,MS4.1,baz=261,slow=39						
NKC	**Novy Kostel**	**55.75**	**311**	*e*P	**P**	**16 33 12.9**	**+0.5**
NKC				AMS	AMS	17 00 40.0	
	comp=Z,200nm,13.4s,MS4.4						
DAVOX	**Davos/Dischmat**	**58.46**	**308**	P	**P**	**16 33 31.5**	**0.0**
	comp=Z,5.5nm,1.0s,mb4.5,baz=9.3,slow=10,SNR=5.7						
DAVOX				LR	LR	17 01 56.3	
	comp=Z,211nm,18.5s,MS4.3,baz=84,slow=39						
BFO	**Black Forest**	**58.91**	**310**	*e*P	**P**	**16 33 34.8**	**+0.1**
	comp=Z,3.8nm,1.2s,mb4.3						
BFO	**Black Forest**	**58.91**	**310**	*e*P	**P**	**16 33 34.8**	**+0.1**
BFO				pmax	pmax		
	comp=Z,4.0nm,1.2s,mb4.3						

JMIC	Jan Mayen	59.23 338	LR	LR	17 02 51.7
	comp=Z,95nm,20.6s,MS3.9,baz=258,slow=40				
CDF	Champ du Feu	59.54 310	eP	P	16 33 39.1 0.0
HINF	Hinteralfeld	60.02 310	eP	P	16 33 42.2 -0.2
PGF	Pioggiola	60.59 303	eP	P	16 33 46.4 +0.1
	comp=Z,11nm,1.2s,mb4.6				
PGF	Pioggiola	60.59 303	eP	P	16 33 46.4 +0.1
	comp=Z,5.3nm,1.2s,mb4.5				
PGF	Pioggiola	60.59 303	eP	P	16 33 46.4 +0.1
PGF			pmax	pmax	
	comp=Z,5.0nm,1.2s,mb4.5				
KMBO	Kilima Mbogo	60.81 245	LR	LR	17 00 08.5
	comp=Z,51nm,18.2s,MS3.7,baz=83,slow=36				
BAIF	Baives	60.82 313	eP	P	16 33 47.8 0.0
	comp=Z,12nm,1.0s,mb4.7				
BAIF	Baives	60.82 313	eP	P	16 33 47.8 0.0
	comp=Z,5.8nm,1.0s,mb4.7				
BAIF	Baives	60.82 313	eP	P	16 33 47.8 0.0
BAIF			pmax	pmax	
	comp=Z,6.0nm,1.0s,mb4.7				
MEZF	Maizieres J'vi	60.89 311	eP	P	16 33 48.3 0.0
LPG	La Plagne	60.95 307	eP	P	16 33 49.2 +0.5
	comp=Z,27nm,1.2s,mb4.9				
LPG	La Plagne	60.95 307	eP	P	16 33 49.2 +0.5
	comp=Z,13nm,1.2s,mb4.9				
LPG	La Plagne	60.95 307	eP	P	16 33 49.2 +0.5
LPG			pmax	pmax	
	comp=Z,13nm,1.2s,mb4.9				
CABF	La Chapelle	60.95 308	eP	P	16 33 48.9 +0.2
LPL	La Plagne	60.95 307	eP	P	16 33 49.3 +0.5
	comp=Z,42nm,1.3s,mb5.1				
LPL	La Plagne	60.95 307	eP	P	16 33 49.3 +0.5
	comp=Z,21nm,1.3s,mb5.1				
LPL	La Plagne	60.95 307	eP	P	16 33 49.3 +0.5
LPL			pmax	pmax	
	comp=Z,21nm,1.3s,mb5.1				
SBF	Sospel	61.13 305	eP	P	16 33 50.0 0.0
	comp=Z,30nm,1.2s,mb5.0				
SBF	Sospel	61.13 305	eP	P	16 33 50.0 0.0
	comp=Z,15nm,1.2s,mb5.0				
SBF	Sospel	61.13 305	eP	P	16 33 50.0 0.0
SBF			pmax	pmax	
	comp=Z,15nm,1.2s,mb5.0				
MBDF	Montbardon	61.23 306	eP	P	16 33 50.5 -0.2
	comp=Z,10nm,1.1s,mb4.6				
MBDF	Montbardon	61.23 306	eP	P	16 33 50.5 -0.2
	comp=Z,5.1nm,1.1s,mb4.6				
MBDF	Montbardon	61.23 306	eP	P	16 33 50.5 -0.2
MBDF			pmax	pmax	
	comp=Z,5.0nm,1.1s,mb4.6				
ORIF	Oris-en-Rattie	61.74 307	eP	P	16 33 53.6 -0.5
	comp=Z,9.9nm,1.0s,mb4.6				
ORIF			eMLR	MLR	
	comp=Z,244nm,23.0s,MS4.0				
ORIF	Oris-en-Rattie	61.74 307	eP	P	16 33 53.6 -0.5
	comp=Z,4.9nm,1.0s,mb4.6				
ORIF	Oris-en-Rattie	61.74 307	eP	P	16 33 53.6 -0.5
ORIF			pmax	pmax	
	comp=Z,5.0nm,1.0s,mb4.6				
LMR	La Mourre	61.96 305	eP	P	16 33 55.5 -0.1
LOR	Lormes	62.10 310	eP	P	16 33 56.3 -0.2
	comp=Z,8.2nm,1.0s,mb4.5				
LOR			eMLR	MLR	
	comp=Z,102nm,17.5s,MS3.7				
LOR	Lormes	62.10 310	eP	P	16 33 56.3 -0.2
	comp=Z,4.1nm,1.0s,mb4.5				
LOR			LR	LR	
	comp=Z,100nm,17.5s,MS4.0				
LOR	Lormes	62.10 310	eP	P	16 33 56.3 -0.2
LOR			pmax	pmax	
	comp=Z,4.0nm,1.0s,mb4.5				
LOR			MLR	MLR	
	comp=Z,100nm,17.5s,MS4.0				
SMF	Signal de Mont	62.36 309	eP	P	16 33 58.2 -0.1
SSF	Saint Saulge	62.41 310	eP	P	16 33 58.4 -0.1
VIVF	Saint-Julien-l	62.55 307	eP	P	16 33 59.5 -0.1
	comp=Z,10nm,1.0s,mb4.6				
VIVF	Saint-Julien-l	62.55 307	eP	P	16 33 59.5 -0.1
	comp=Z,5.2nm,1.0s,mb4.6				
VIVF	Saint-Julien-l	62.55 307	eP	P	16 33 59.5 -0.1
VIVF			pmax	pmax	
	comp=Z,5.0nm,1.0s,mb4.6				
AVF	Avril sur Loir	62.61 309	eP	P	16 33 59.7 -0.2
	comp=Z,7.4nm,0.7s,mb4.7				
AVF	Avril sur Loir	62.61 309	eP	P	16 33 59.7 -0.2
	comp=Z,3.7nm,0.6s,mb4.7				
AVF	Avril sur Loir	62.61 309	eP	P	16 33 59.7 -0.2
AVF			pmax	pmax	
	comp=Z,4.0nm,0.6s,mb4.7				
LASF	Ste Croix	63.41 307	eP	P	16 34 05.1 -0.1
TCF	Toulx Ste Croi	63.54 309	eP	P	16 34 05.9 -0.2
	comp=Z,14nm,1.0s,mb4.7				
TCF	Toulx Ste Croi	63.54 309	eP	P	16 34 05.9 -0.2
	comp=Z,7.3nm,1.0s,mb4.7				
TCF	Toulx Ste Croi	63.54 309	eP	P	16 34 05.9 -0.2
TCF			pmax	pmax	
	comp=Z,7.0nm,1.0s,mb4.7				
LDF	La Druitiere	64.00 312	eP	P	16 34 08.9 -0.2
CAF	Calviac	64.21 308	eP	P	16 34 10.3 -0.2
RJF	Les Rejaudoux	64.39 309	eP	P	16 34 11.5 -0.2
RJF			eMLR	MLR	
	comp=Z,102nm,20.0s,MS3.7				
RJF	Les Rejaudoux	64.39 309	eP	P	16 34 11.5 -0.2
RJF			MLR	MLR	
	comp=Z,100nm,20.0s,MS4.0				
GRR	Gorron	64.53 312	eP	P	16 34 12.4 -0.2
	comp=Z,4.6nm,0.5s,mb4.5				
GRR	Gorron	64.53 312	eP	P	16 34 12.4 -0.2
	comp=Z,2.3nm,0.5s,mb4.5				
GRR	Gorron	64.53 312	eP	P	16 34 12.4 -0.2
GRR			pmax	pmax	
	comp=Z,2.0nm,0.5s,mb4.4				
MTLF	Montolieu	64.80 306	eP	P	16 34 14.0 -0.4
MFF	Saint Martin d	64.88 310	eP	P	16 34 14.3 -0.5
	comp=Z,13nm,1.2s,mb4.5				
MFF	Saint Martin d	64.88 310	eP	P	16 34 14.3 -0.5
	comp=Z,6.3nm,1.2s,mb4.5				
MFF	Saint Martin d	64.88 310	eP	P	16 34 14.3 -0.5
MFF			pmax	pmax	
	comp=Z,6.0nm,1.2s,mb4.5				
SGMF	Saint Gilles	65.61 313	eP	P	16 34 19.2 -0.4
ROSF	Rostrenen	66.00 313	eP	P	16 34 21.6 -0.5
QUIF	Quistinic	66.13 313	eP	P	16 34 22.4 -0.5
	comp=Z,59nm,1.5s,mb5.1				
QUIF	Quistinic	66.13 313	eP	P	16 34 22.4 -0.5
	comp=Z,30nm,1.5s,mb5.1				
QUIF	Quistinic	66.13 313	eP	P	16 34 22.4 -0.5
QUIF			pmax	pmax	
	comp=Z,30nm,1.5s,mb5.1				
ETSF	Etsaut	66.81 307	eP	P	16 34 26.8 -0.5
SJPF	Ste Jean	67.14 307	eP	P	16 34 28.9 -0.5
IMA2	Indian Mountai	67.66 23	eP	P	16 34 33.3 +1.0
WRAB	Tennant Creek	69.77 135⇑	eP	P	16 34 45.3 -0.8
WRA	Warramunga Arr	69.78 135	iP	P	16 34 44.9 -1.2
WRA			pmax	pmax	
	comp=Z,5.0nm,1.1s				
WRA	Warramunga Arr	69.78 135	P	P	16 34 44.9 -1.2
	comp=Z,5.0nm,1.1s,mb4.4,baz=329,slow=6.5,SNR=12				
COLA	College	70.29 22⇓	iP	P	16 34 49.5 +0.8
INK	Inuvik	71.49 15	eP	P	16 34 56.6 +0.7
ASAR	Alice Springs	72.48 138	P	P	16 35 01.6 -0.8
ASAR			pmax	pmax	
	comp=Z,2.0nm,0.8s				
ASAR	Alice Springs	72.48 138	P	P	16 35 01.6 -0.8
	comp=Z,1.6nm,0.8s,mb4.0,baz=322,slow=5.4,SNR=14				
MDT	Midelt	74.65 299	LR	LR	17 10 37.6
	comp=Z,62nm,20.1s,MS3.9,baz=1.5,slow=38				
YKA	Yellowknife Ar	80.27 11⇑	eP	P	16 35 46.4 +0.4
YKA	Yellowknife Ar	80.27 11	P	P	16 35 46.1 +0.1
	comp=Z,1.6nm,0.8s,mb4.0,baz=340,slow=4.9,SNR=24				
TORD	Torodi Ar. Bea	80.65 279	P	P	16 35 48.5 -0.4
	comp=Z,3.6nm,0.9s,mb4.3,baz=54,slow=4.8,SNR=16				
TORD			LR	LR	17 14 08.2
	comp=Z,66nm,18.5s,MS4.0,baz=55,slow=38				
STKA	Stephens Creek	83.12 137	P	P	16 36 00.2 -1.2
STKA	Stephens Creek	83.12 137	P	P	16 36 00.2 -1.2
	comp=Z,2.1nm,0.8s,mb4.2,baz=334,slow=6.9,SNR=4.2				
DBIC	Dimbokro	89.64 278	LR	LR	17 18 53.7
	comp=Z,95nm,20.4s,MS4.2,baz=44,slow=37				
LPAZ	La Paz	152.20 308	PKP	PKPdf	16 43 26.4 +1.6
LPAZ			PKPab	PKPab	16 43 43.7 +2.4
LPAZ	La Paz	152.20 308	PKP	PKPdf	16 43 26.4 +1.6
	comp=Z,1.9nm,1.0s,baz=45,slow=2.9,SNR=5.6				
LPAZ			PKPab	PKPab	16 43 43.7 +2.4
	comp=Z,1.3nm,0.8s,baz=38,slow=7.6,SNR=4.8				

*ISCJB **09** 16:43:47.2±0.4,3741N∧004×2474W∧003,h10km,mb3.8/9, Error ellipse: s-maj=6.1km s-min=3.3km az=6.1*
*CSEM **09** 16:43:47.4±0.1,3736N×2472W,h15km,mb3.9/6,Ms2.6*
*IDC **09** 16:43:48.1±1.3,3711N×2475W,h0km,mb3.6/2,mb1 3.9/3, mb1mx3.4/22,mbtmp3.6/3,ML4.5/1,Error ellipse: s-maj=53.0km s-min=28.0km az=16.0*
*PDA **09** 16:43:49.6±0.7,3721N×2457W,h5km,MD4.0,ML3.7, Error ellipse: s-maj=5.4km s-min=2.9km az=87.0*
*NEIC **09** 16:43:49.3±0.8,3726N×2455W,h10km,mb4.0/9,Error ellipse: s-maj=17.9km s-min=12.2km az=153.0*
*SVSA **09** 16:43:49.6±0.7,3721N×2457W,h5km,MD4.0,ML3.7, Error ellipse: s-maj=5.4km s-min=2.9km az=87.0*

ISC 09 16:43:49.3±1.3,3735N±010×2478W±003,h17km±12km, n47,σ0°73/55,mb3.8/9,Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSMN	Pico do Norte,	0.41	214	eP	Pg	16 43 57.4	-0.3
PSMN				eS	Sg	16 44 03.3	-0.1
PDA	Ponta Delgada	0.81	300	eS	Sb	16 44 16.7	+1.1
PSCM	Serra do Cume	2.29	307	eP	Pn	16 44 26.2	-0.1
PSCM				eS	Sn	16 44 53.9	-0.2
PSCM				A		16 44 55.4	
	179nm,0.3s						
PSCM	Serra do Cume	2.29	307	eP	Pn	16 44 26.2	-0.1
PSCM				eS	Sn	16 44 53.9	-0.2
ADH	Angra Heroismo	2.34	305	eP	Pn	16 44 26.8	-0.2
ADH				eS	Sn	16 44 55.1	-0.2
PID	Ribeirinha	2.86	293	eP	Pn	16 44 34.1	0.0
PID				eS	Sn	16 45 07.5	-0.7
PMAN	Manadas	2.91	297	eS	Sn	16 45 08.6	-0.9
PMAN				A		16 45 14.3	
	40nm,0.3s						
ROSA	Rosais	3.06	298	eP	Pn	16 44 37.2	+0.3
ROSA				eS	Sn	16 45 12.4	-0.7
SRBC	Serra Branca	3.08	304	eP	Sn	16 45 14.2	+0.7
PICO	Pico	3.11	293	eP	Pn	16 44 38.0	+0.5
PICO				eS	Sn	16 45 14.0	-0.2
CALA	Caldeira	3.34	293	eP	Pn	16 44 40.9	+0.2
CALA				eS	Sn	16 45 19.7	-0.2
EVOP	Sao Brissos	13.20	80	ePn	Pn	16 46 48.8	-7.1
EVOP				eSn	Sx	16 49 05.2	
EVO	Evora	13.29	80	ePn	Pn	16 46 48.8	-8.3
EVO				eSn	Sx	16 49 05.2	
	7.6nm,0.6s						
EVO				eMLR	MLR		
	comp=Z,82nm,21.2s						
ESDC	Sonseca Array	16.46	75	Pn	Pn	16 47 43.0	+3.7
	comp=Z,0.4nm,0.3s,baz=265,slow=11,SNR=4.0						
SJPF	Ste Jean	18.86	65	eP	Pn	16 48 08.4	-0.6
	comp=Z,28nm,1.5s						
SJPF	Ste Jean	18.86	65	eP	Pn	16 48 08.4	-0.6
	comp=Z,14nm,1.5s						
QUIF	Quistinic	19.03	49	eP	Pn	16 48 10.6	-0.4
SGMF	Saint Gilles	19.54	49	eP	Pn	16 48 16.4	-0.8
MFF	Saint Martin d	20.45	55	eP	P	16 48 25.8	0.0
	comp=Z,24nm,1.3s						
MFF	Saint Martin d	20.45	55	eP	P	16 48 25.8	0.0
	comp=Z,12nm,1.3s						
LFF	La Frestale	20.60	60	eP	P	16 48 28.4	+0.9
	comp=Z,15nm,0.8s						
LFF	La Frestale	20.60	60	eP	P	16 48 28.4	+0.9
	comp=Z,7.4nm,0.8s						
GRR	Gorron	20.63	50	eP	P	16 48 28.3	+0.6
	comp=Z,9.8nm,0.7s						
GRR	Gorron	20.63	50	eP	P	16 48 28.3	+0.6
	comp=Z,4.9nm,0.7s						
FLN	La Foliniere	21.01	49	eP	P	16 48 32.5	+0.7
LDF	La Druitiere	21.16	50	eP	P	16 48 33.9	+0.4
MTLF	Montolieu	21.38	65	eP	P	16 48 35.9	0.0
CAF	Calviac	21.52	61	eP	P	16 48 37.8	+0.4
	comp=Z,4.9nm,0.7s,mb3.8						
CAF	Calviac	21.52	61	eP	P	16 48 37.8	+0.4
	comp=Z,2.5nm,0.7s,mb3.8						
LASF	Ste Croix	22.65	64	eP	P	16 48 49.3	-0.1
	comp=Z,6.6nm,0.9s,mb3.8						
LASF	Ste Croix	22.65	64	eP	P	16 48 49.3	-0.1
	comp=Z,3.3nm,0.9s,mb3.8						
SMF	Signal de Mont	23.10	57	eP	P	16 48 53.5	-0.7
	comp=Z,6.3nm,0.7s,mb3.8						
SMF	Signal de Mont	23.10	57	eP	P	16 48 53.5	-0.7
	comp=Z,3.2nm,0.7s,mb3.9						
LOR	Lormes	23.27	56	eP	P	16 48 55.1	-0.8
ORIF	Oris-en-Rattie	24.19	62	eP	P	16 49 03.9	-0.9
	comp=Z,7.9nm,1.1s,mb3.7						
ORIF	Oris-en-Rattie	24.19	62	eP	P	16 49 03.9	-0.9
	comp=Z,4.0nm,1.1s,mb3.8						
BAIF	Baives	24.33	49	eP	P	16 49 05.4	-0.6
LMR	La Mourre	24.49	66	eP	P	16 49 07.6	+0.1
CABF	La Chapelle	24.61	58	eP	P	16 49 07.4	-1.1
	comp=Z,16nm,1.3s,mb4.1						
CABF	La Chapelle	24.61	58	eP	P	16 49 07.4	-1.1
	comp=Z,7.9nm,1.3s,mb4.1						
CDF	Champ du Feu	25.78	54	eP	P	16 49 19.3	+0.2
PGF	Pioggiola	26.30	68	eP	P	16 49 24.0	+0.1
	comp=Z,6.7nm,1.1s,mb3.8						
PGF	Pioggiola	26.30	68	eP	P	16 49 24.0	+0.1
	comp=Z,3.3nm,1.1s,mb3.8						
TORD	Torodi Ar. Bea	33.75	129	P	P	16 50 29.9	-0.2
TORD	Torodi Ar. Bea	33.75	129	P	P	16 50 29.9	-0.2
	comp=Z,0.7nm,0.7s,mb3.7,baz=320,slow=8.1,SNR=6.3						
TXAR	Lajitas Array	64.63	289	P	P	16 54 28.6	+2.5
	comp=Z,0.8nm,0.7s,mb3.9,baz=75,slow=7.7,SNR=11						
MKAR	Makanchi Array	73.85	43	P	P	16 55 25.0	+2.1
	comp=Z,0.2nm,0.3s,mb3.5,baz=322,slow=4.5,SNR=4.5						

*IDC **09** 16:52:40.5±1.8,1850S×7281W,h0km,mb4.0/3,mb1 4.1/6, mb1mx3.8/18,mbtmp4.0/6,ML3.9/3,MS3.4/2,Ms1 3.4/2, ms1mx2.7/27,Error ellipse: s-maj=66.1km s-min=24.6km az=14.0*
*ISCJB **09** 16:52:47.8±3.3,1805S±02×7277W±01,h57km±25km, mb3.9/4,MS4.0/1,Error ellipse: s-maj=32.2km s-min=20.2km az=24.4*
*NEIC **09** 16:52:49.6±4.2,1745S×7270W,h48km±26km,Error ellipse: s-maj=71.0km s-min=13.7km az=200.0*

ISC 09 16:52:50.6±2.8,1795S±02×7267W±01,h65km±20km,n14, σ0°81/13,mb3.7/4,1C,Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARE	Arequipa	1.80	37⇑	iP	Pn	16 53 14.1	-5.3
ARE				iS	Sn	16 53 41.1	-0.2
LPAZ	La Paz	4.58	70	Pn	Pn	16 53 58.5	+1.0
	1.5nm,0.3s,baz=273,slow=8.2,SNR=38						
NNA	Nana	7.17	325	Pn	Pn	16 54 25.5	-7.2
NNA				Sn	Sn	16 56 02.9	+10
NNA	Nana	7.17	325	Pn	Pn	16 54 33.1	+0.4
	1.8nm,0.3s,baz=192,slow=13,SNR=3.0						
NNA				Sn	Sn	16 56 02.9	+10
	1.7nm,0.3s,baz=252,slow=20,SNR=3.3						
SIV	San Ignacio	11.21	82	Pn	Pn	16 55 26.7	-1.4
	1.1nm,0.3s,baz=280,slow=12,SNR=17						
CFAA	Coronel Fontan	14.20	165	LR	LR	17 00 18.1	
	comp=Z,53nm,19.1s,baz=62,slow=33						
BDFB	Brasilia	23.66	88	P	P	16 57 56.9	+0.5
	4.1nm,0.7s,mb3.9,baz=248,slow=13,SNR=6.6						
RCBR	Riachuelo	37.80	76	eP	P	17 00 01.7	+0.8
DBIC	Dimbokro	71.17	76	P	P	17 04 02.0	-1.0
	0.6nm,0.4s,mb3.8,baz=274,slow=6.1,SNR=3.8						
TORD	Torodi Ar. Bea	79.53	72	P	P	17 04 51.5	+0.6
	0.8nm,0.6s,mb3.7,baz=251,slow=4.9,SNR=6.6						
YKA	Yellowknife Ar	86.68	342	P	P	17 05 26.2	-0.5
	0.6nm,0.9s,mb3.5,baz=141,slow=5.1,SNR=8.6						
YKA				LR	LR	17 47 24.1	
	comp=Z,54nm,18.7s,baz=15,slow=38						
MKAR	Makanchi Array	144.54	30	PKPbc	PKPdf	17 12 19.5	-0.2
	0.2nm,0.3s,baz=319,slow=3.5,SNR=4.4						
MJAR	Matsushiro Arr	147.10	311	PKPbc	PKPbc	17 12 27.0	+0.4
	1.2nm,0.9s,baz=46,slow=3.5,SNR=4.3						
SONM	Songino Array	150.14	1	PKPbc	PKPbc	17 12 35.8	+1.8
	0.6nm,0.9s,baz=347,slow=2.0,SNR=3.3						

*NEIC **09** 16:57:55.0,3084S×7198W,h37km,MD4.5(GUC),After GUC.*

GUC 09 16:57:55.0±1.2,3084S×7198W,h37km±6km,MD4.5, ML4.1,2C-6D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OVCH	Ovalle	0.71	71⇓	iP	Pn	16 58 08.2	-0.3
OVCH				S	Sn	16 58 18.0	-0.2
OVCH	Ovalle	0.71	71⇓	iP	Pn	16 58 08.2	-0.3
OVCH				iS	Sn	16 58 18.0	-0.2
OVCH				AML	AML	16 58 20.2	
	comp=N,7μm,0.4s						
CMCH	Combarbala	0.90	112⇑	iP	Pn	16 58 10.6	-0.6
CMCH				eS	Sn	16 58 23.1	+0.1
CMCH	Combarbala	0.90	112⇑	iP	Pn	16 58 10.6	-0.6
CMCH				eS	Sn	16 58 23.1	+0.1
CMCH				AML	AML	16 58 24.8	
	comp=N,16μm,0.5s						
LSCH	La Serena	1.12	34	eP	Pn	16 58 15.0	+0.8
LSCH				iS	Sn	16 58 29.9	+1.5
TLL	Tololo Astrono	1.21	57⇓	iP	Pn	16 58 16.7	+1.3
TLL				iS	Sn	16 58 33.7	+3.1
TLL	Tololo Astrono	1.21	57⇓	iP	Pn	16 58 16.7	+1.3
TLL				iS	Sn	16 58 33.7	+3.1
TLL				AML	AML	16 58 41.0	
	comp=N,4μm,0.6s						
PTCH	Petorca	1.68	148	eP	Pn	16 58 23.4	+1.5
PTCH				iS	Sn	16 58 44.6	+2.5
PTCH	Petorca	1.68	148	eP	Pn	16 58 23.4	+1.5
PTCH				iS	Sn	16 58 44.6	+2.5
PTCH				AML	AML	16 58 49.7	
	comp=E,639nm,0.3s						
PACH	Papudo	1.75	165	eP	Pn	16 58 23.3	+0.4
LCO	Las Campanas	2.13	32	ePn	Pn	16 58 29.3	+1.2
LCO				eSn	Sn	16 58 58.5	+5.2
JACH	Jahuel	2.18	148	eP	Pn	16 58 30.0	+1.2
JACH				iS	Sn	16 58 58.0	+3.4
ROCH	El Roble	2.28	159⇓	iP	Pn	16 58 31.6	+1.5
VACH	Vallenar	2.49	25	eP	Pn	16 58 34.2	+1.2
VACH				iS	Sn	16 59 03.8	+1.6
VACH	Vallenar	2.49	25	eP	Pn	16 58 34.2	+1.2
VACH				iS	Sn	16 59 03.8	+1.6
VACH				AML	AML	16 59 22.3	
	comp=E,2μm,0.5s						
PEL	Peldehue	2.55	155	eP	Pn	16 58 35.3	+1.5
PEL				iS	Sn	16 59 08.7	+5.1
PEL				AML	AML	16 59 19.1	
	comp=N,2μm,0.6s						
CLCH	Cerro Calan	2.83	155⇓	eP	Pn	16 58 39.0	+1.3
CLCH				iS	Sn	16 59 18.1	+7.7
CLCH				AML	AML	16 59 29.8	
	comp=E,2μm,0.6s						
FCH	Farellones	2.87	150	eP	Pn	16 58 40.1	+2.0
FCH				iS	Sn	16 59 14.8	+3.4
FCH				AML	AML	16 59 28.2	
	comp=E,414nm,0.7s						
TACH	Talagante	2.94	163	eP	Pn	16 58 40.7	+1.5
PCH	Pirque	3.04	156	eP	Pn	16 58 42.1	+1.6
LNV	Longovilo	3.15	171	eP	Pn	16 58 44.9	+2.9
CHCH	Chadas Angostu	3.28	160	eP	Pn	16 58 46.1	+2.2
LMEL	Las Melosas	3.35	154	eP	Pn	16 58 47.1	+2.2
SFDO	San Fernando	3.85	168	iP	Pn	16 58 55.1	+3.4
TRQA	Tornquist	10.95	134	eP	Pn	17 00 32.5	+3.4
	comp=E,9.9nm,1.0s						

*DDA **09** 17:08:36.7,3993N×4104E,h8km,Md2.8*
*ISK **09** 17:08:37.9,3997N×4096E,h3km,MD2.9*
*ISCJB **09** 17:08:38.5±0.8,3988N∧006×4095E∧005,h10km±7km, Error ellipse: s-maj=10.0km s-min=6.5km az=9.4*
*CSEM **09** 17:08:38.2±0.2,3996N×4085E,h10km,MD2.9,Error ellipse: s-maj=4.7km s-min=3.8km az=110.0*

ISC 09 17:08:38.7±0.8,3987N±006×4095E±005,h8km±7km,n8, σ1°07/11,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EZM	Erzurum	0.32	83	PG	Pg	17 08 44.8	-0.2
EZM				eSG	Sg	17 08 50.4	+1.1
KOPT	Kop Dagi	0.38	294	iP	Pg	17 08 44.7	-1.3
KOPT				iS	Sg	17 08 52.1	+1.1
BNGL	BINGOL	0.93	170	iP	Pg	17 08 54.4	-2.1
BINT	Bingol	1.05	200	ePN	Pn	17 09 00.6	+0.9
ARTV	Artvin	1.51	29	iP	Pn	17 09 01.8	-4.3
AGRB	Hanur-Agry	1.60	100	ePN	Pn	17 09 08.0	+0.7
BCA	Borcka	1.66	18	ePN	Pn	17 09 07.4	-0.7
BCA				eSN	Sn	17 09 28.7	-0.8
ESPY	Espiye-Giresun	1.99	302	ePN	Pn	17 09 13.6	+0.9

IDC 09 17:15:19.9±2.6,2334S×11142W,h0km,mb3.7/4, mb1 4.1/4,mb1mx3.9/13,mbtmp3.7/4,MS3.9/5,Ms1 3.9/5, ms1mx3.4/19,Error ellipse: s-maj=89.0km s-min=39.0km az=32.0,Easter Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	Paso Flores	38.35	127	LR	LR	17 34 22.7	
	comp=Z,180nm,19.8s,baz=88,slow=30						
LPAZ	La Paz	41.21	88	P	P	17 23 07.5	+0.8
	1.0nm,0.7s,baz=278,slow=9.6,SNR=5.6						
LPAZ				LR	LR	17 36 35.5	
	comp=Z,90nm,18.1s,baz=315,slow=31						
NVAR	Mina Array Bea	61.77	354	P	P	17 25 41.8	+1.5
	1.8nm,0.8s,baz=196,slow=10,SNR=4.2						
PDAR	Pinedale Array	65.79	2	P	P	17 26 07.1	+0.4
	0.5nm,0.7s,baz=153,slow=4.6,SNR=4.3						
HNR	Honiara	85.08	262	LR	LR	17 57 34.2	
	comp=Z,50nm,18.6s,baz=179,slow=30						
YKA	Yellowknife Ar	85.57	359	P	P	17 27 58.0	-1.5
	1.9nm,1.1s,baz=169,slow=4.9,SNR=9.3						
MAW	Mawson	89.24	178	LR	LR	18 04 40.7	
	comp=Z,90nm,19.0s,baz=260,slow=33						
CTA	Charters Tower	92.86	247	LR	LR	18 03 15.0	
	comp=Z,46nm,19.8s,baz=230,slow=31						
ZALV	Zalesovo Beam	147.07	342	PKPbc	PKPbc	17 35 03.9	-0.5
	2.1nm,0.9s,baz=40,slow=2.5,SNR=7.1						
MKAR	Makanchi Array	154.12	338	PKPbc	PKPbc	17 35 22.2	+0.5
	0.2nm,0.2s,baz=25,slow=3.8,SNR=4.5						

*NEIC **09** 17:15:57.5,1661N×9508W,h83km,mb4.2/2, MD4.2(MEX),After MEX.*

MEX 09 17:15:57.0±0.8,1658N×9510W,h95km±11km,MD4.2, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	Huatulco	1.26	230	iP	Pn	17 16 18.3	-1.8
HUIG				iS	Sn	17 16 36.2	-1.3
TUIG	Tuzandepetl	1.58	24	iP	Pn	17

IDC 09 17:16:17.9±7.2, 3081S×17702W, h0km, mb3.4/2, mb1 3.7/2, mb1mx3.6/12, mbtmp3.4/2, Error ellipse: s-maj=305.4km s-min=58.5km az=155.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**43.93**	**267**	P	P	17 24 27.1	+0.4
	0.4nm,0.5s,baz=102,slow=6.8,SNR=18						
WRA	**Warramunga Arr**	**44.95**	**272**	P	P	17 24 34.1	-0.9
	0.2nm,0.4s,baz=114,slow=6.5,SNR=7.4						
FINES	**FINESS Array B**	**145.81**	**340**	PKPbc	PKPbc	17 35 57.8	-0.5
	1.6nm,1.0s,baz=57,slow=5.1,SNR=4.7						

*MOS **09** 17:17:25.6±0.7, 4828N×15502E, h45km, mb4.0/3, Error ellipse: s-maj=28.1km s-min=13.0km az=73.1*
*ISCJB **09** 17:17:26.2±1.9, 483N±0.1×1549E±02, h51km±16km, mb3.6/7, Error ellipse: s-maj=27.6km s-min=9.6km az=44.5*
*NEIC **09** 17:17:30.2±2.2, 4835N×15477E, h72km±19km, Error ellipse: s-maj=25.3km s-min=11.7km az=128.0*
*IDC **09** 17:17:31.5±5.0, 4831N×15475E, h85km±46km, mb3.2/7, mb1 3.5/8, mb1mx3.3/22, mbtmp3.3/8, ML3.5/1, MS3.0/1, Ms1 3.0/1, ms1mx2.2/13, Error ellipse: s-maj=32.7km s-min=21.6km az=126.0*

ISC 09 17:17:28.5±1.6, 484N±01×1550E±02, h56km±15km, n19, σ0§81/19, mb3.6/7, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.43**	**18**	*e*PN	**Pn**	**17 18 05.5**	**-0.2**
SKR				*e*S	**Sn**	**17 18 33.5**	**-0.7**
SKR				pmax	pmax		
	comp=N,80nm,0.4s						
SKR				pmax	pmax		
	comp=E,80nm,0.4s						
SKR				pmax	pmax		
	comp=Z,110nm,0.4s						
SKR				smax			
	comp=N,150nm,0.5s						
SKR				smax			
	comp=E,170nm,0.5s						
PET	**Petropavlovsk**	**5.21**	**25**	*e*PN	**Pn**	**17 18 43.0**	**-0.8**
PET				pmax	pmax		
	comp=Z,36nm,1.3s						
YSS	**Yuzh-Sakhalins**	**8.37**	**265**	*e*P	**Pn**	**17 19 27.3**	**+0.4**
ASAJ	**Asahikawa**	**9.57**	**248**	PN	**Pn**	**17 19 44.3**	**+0.9**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ	**Asahikawa**	**9.57**	**248**	P	**Pn**	**17 19 44.2**	**+0.8**
	comp=Z,0.5nm,0.3s,baz=111,slow=7.7,SNR=6.6						
MA2	**Magadan**	**11.49**	**349**	*e*P	**Pn**	**17 20 10.5**	**+0.9**
KSRS	**Korea Array**	**22.50**	**251**	P	**P**	**17 22 22.6**	**-0.6**
	comp=Z,1.4nm,0.7s,mb3.5,baz=43,slow=10,SNR=5.2						
JNU	**Nakatsue**	**23.63**	**239**	LR	LR	17 32 20.8	
	comp=Z,40nm,19.8s,baz=92,slow=38						
INK	**Inuvik**	**39.61**	**34**	*e*P	**P**	**17 24 55.2**	**+1.2**
MKAR	**Makanchi Array**	**47.32**	**297**	P	**P**	**17 25 55.0**	**-1.2**
	comp=Z,0.3nm,0.3s,mb3.7,baz=70,slow=8.0,SNR=4.7						
YKA	**Yellowknife Ar**	**48.87**	**38**	P	**P**	**17 26 08.7**	**+0.6**
YKA	**Yellowknife Ar**	**48.87**	**38**	P	**P**	**17 26 08.7**	**+0.7**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
YKA	**Yellowknife Ar**	**48.87**	**38**	P	**P**	**17 26 08.7**	**+0.6**
	comp=Z,0.6nm,0.8s,mb3.7,baz=296,slow=7.4,SNR=4.2						
WRA	**Warramunga Arr**	**70.46**	**201**	P	**P**	**17 28 35.6**	**-1.3**
	comp=Z,0.2nm,0.8s,mb3.1,baz=18,slow=6.8,SNR=3.0						
ASAR	**Alice Springs**	**74.15**	**200**	P	**P**	**17 28 58.5**	**-0.3**
ASAR				pmax	pmax		
	comp=Z,2.0nm,1.3s						
ASAR	**Alice Springs**	**74.15**	**200**	P	**P**	**17 28 58.5**	**-0.4**
	comp=Z,1.6nm,1.3s,mb3.8,baz=24,slow=5.8,SNR=5.4						
TXAR	**Lajitas Array**	**75.61**	**62**	P	**P**	**17 29 08.3**	**+0.9**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
TXAR	**Lajitas Array**	**75.61**	**62**	P	**P**	**17 29 08.3**	**+0.9**
	comp=Z,0.6nm,0.7s,mb3.6,baz=297,slow=3.1,SNR=8.1						
GERES	**GERESS Array B**	**77.53**	**335**	P	**P**	**17 29 18.2**	**+0.3**
	comp=Z,0.3nm,0.5s,mb3.5,baz=28,slow=6.0,SNR=4.8						

IDC 09 17:45:54.0±3.2, 001S×12421E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.4/14, mbtmp3.5/3, Error ellipse: s-maj=162.9km s-min=57.4km az=64.0, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.15**	**154**	P	P	17 50 51.9	+0.3
	0.4nm,0.4s,baz=331,slow=11,SNR=14						
ASAR	**Alice Springs**	**25.33**	**159**	P	P	17 51 22.7	+0.1
	0.6nm,0.7s,baz=338,slow=7.1,SNR=13						
ASAR				PcP	PcP	17 54 55.5	-0.3
	0.1nm,0.4s,baz=351,slow=2.0,SNR=7.5						
STKA	**Stephens Creek**	**35.70**	**154**	P	P	17 52 54.1	-0.2
	1.4nm,0.5s,baz=4.1,slow=6.1,SNR=7.6						

*CSEM **09** 17:50:48.6±0.8, 3735N×2482W, h10km, ML3.1, Error ellipse: s-maj=7.7km s-min=2.3km az=77.0, After PDA*
*PDA **09** 17:50:48.6±0.8, 3735N×2482W, h10km, MD3.9, ML3.1, Error ellipse: s-maj=7.7km s-min=2.3km az=77.0*

SVSA 09 17:50:48.6±0.8, 3735N×2482W, h10km, MD3.9, ML3.1, Error ellipse: s-maj=7.7km s-min=2.3km az=77.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSMN	**Pico do Norte,**	**0.40**	**209**	*e*P	Pg	17 50 55.1	-1.3
PSMN				*e*S	Sg	17 51 00.9	-0.8
PDA	**Ponta Delgada**	**0.78**	**301**	*e*P	Pg	17 51 01.2	-2.4
PDA				*e*S	Sg	17 51 09.5	-4.2
PID	**Ribeirinha**	**2.83**	**294**	*e*P	Pn	17 51 29.4	-4.4
PMAN	**Manadas**	**2.88**	**297**	*e*P	Pn	17 51 30.0	-4.5
PMAN				*e*S	Sn	17 52 01.2	-8.0
PMAN				A		17 52 05.2	
	29nm,0.3s						
PMAN	**Manadas**	**2.88**	**297**	*e*P	Pn	17 51 30.0	-4.5
PMAN				*e*S	Sn	17 52 01.2	-8.0
ROSA	**Rosais**	**3.02**	**298**	*e*P	Pn	17 51 32.1	-4.4
PICO	**Pico**	**3.07**	**293**	*e*P	Pn	17 51 33.1	-4.0
PICO				*e*S	Sn	17 52 05.8	-8.1
CALA	**Caldeira**	**3.30**	**293**	*e*P	Pn	17 51 36.1	-4.2
CALA				*e*S	Sn	17 52 12.1	-7.5

GUC 09 18:00:37.3±0.7, 3173S×7200W, h31km±2km, MD3.5, ML2.9, 4C-2D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHNG	**Los Chungos**	**0.45**	**109**	⇓*i*P	Pb	18 00 28.0	-19
CHNG				*i* S	Sb	18 00 34.6	-19
CMCH	**Combarbala**	**1.02**	**57**	*i* P	Pn	18 00 54.2	-1.3
CMCH				*i* S	Sn	18 01 08.4	-0.4
CMCH				AML	AML	18 01 14.1	
	comp=E,940nm,0.8s						
ROCH	**El Roble**	**1.49**	**146**	*i* P	Pn	18 01 03.0	+1.1
ROCH				*i* S	Sn	18 01 23.5	+3.1
JACH	**Jahuel**	**1.52**	**129**	⇑*i*P	Pn	18 01 03.8	+1.4
JACH				*i* S	Sn	18 01 23.6	+2.4
PEL	**Peldehue**	**1.79**	**142**	⇓*i*P	Pn	18 01 07.6	+1.5
PEL				*i* S	Sn	18 01 30.4	+2.6
PEL				AML	AML	18 01 39.7	
	comp=N,248nm,0.3s						
TLL	**Tololo Astrono**	**1.87**	**34**	*i* P	Pn	18 01 09.2	+2.1
TLL				*i* S	Sn	18 01 33.2	+3.5
TLL				AML	AML	18 01 39.8	
	comp=N,124nm,0.6s						
CLCH	**Cerro Calan**	**2.07**	**144**	⇑*i*P	Pn	18 01 11.9	+2.1
CLCH				*i* S	Sn	18 01 38.1	+3.5
CLCH				AML	AML	18 01 51.2	
	comp=E,187nm,0.6s						
TACH	**Talagante**	**2.11**	**155**	⇑*i*P	Pn	18 01 12.0	+1.5
TACH				*i* S	Sn	18 01 38.4	+2.6
FCH	**Farellones**	**2.15**	**138**	*i* P	Pn	18 01 12.8	+1.8
FCH				*i* S	Sn	18 01 40.3	+3.7
FCH				AML	AML	18 01 50.6	
	comp=N,64nm,0.2s						
PCH	**Pirque**	**2.26**	**147**	*i* P	Pn	18 01 14.2	+1.7
PCH				*i* S	Sn	18 01 42.1	+2.8
LMEL	**Las Melosas**	**2.59**	**145**	⇑*i*P	Pn	18 01 18.9	+1.8
LMEL				*i* S	Sn	18 01 50.5	+2.8
LMEL				AML	AML	18 02 05.3	
	comp=N,82nm,0.1s						

PGC 09 18:24:14.8±0.1, 4932N×12845W, h10km, ML2.9/11, Mw3.5, 170km southwest of Pt. Hardy, Bc Vancouver Island Region, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BPBC	**Brooks Peninsu**	**0.95**	**28**	Pn	Pn	18 24 31.8	-2.3
BPBC				Sn	Sn	18 24 43.7	-4.0
EDB	**Eliza Dome**	**1.03**	**57**	Pn	Pn	18 24 32.6	-2.7
EDB				Sn	Sn	18 24 45.3	-4.4
ETB	**Estevan Point**	**1.25**	**87**	Pn	Pn	18 24 36.0	-2.4
HOLB	**Holberg**	**1.34**	**9**	Pn	Pn	18 24 37.6	-1.9
HOLB				Sn	Sn	18 24 53.3	-4.1
MAYB	**Maynard**	**1.37**	**37**	Pn	Pn	18 24 37.9	-2.0
MAYB				Sn	Sn	18 24 54.9	-3.2
WOSB	**Woss**	**1.48**	**55**	Pn	Pn	18 24 39.8	-1.7
WOSB				Sn	Sn	18 24 57.7	-3.3
PHC	**Port Hardy**	**1.54**	**25**	Pn	Pn	18 24 40.4	-1.8
PHC				Sn	Sn	18 24 58.2	-4.1
GDR	**Gold River**	**1.64**	**73**	Pn	Pn	18 24 41.5	-2.2
GDR				Sn	Sn	18 25 00.4	-4.5
BTB	**Buttle Lake**	**1.92**	**84**	Pn	Pn	18 24 45.6	-1.9
BTB				Sn	Sn	18 25 08.2	-3.5
OZB	**Mount Ozzard**	**1.98**	**99**	Pn	Pn	18 24 46.3	-1.9
BBB	**Bella Bella**	**2.88**	**4**	Pn	Pn	18 24 60.0	-0.7
BBB				Sn	Sn	18 25 31.7	-3.6

NEIC 09 18:36:39.9, 3859S×17574E, h167km, MG3.8(WEL), After WEL., North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWVZ	**Taurewa**	**0.54**	**206**	P	Pn	18 37 03.1	-0.2
WTVZ	**West Tongariro**	**0.54**	**193**	P	Pn	18 37 03.3	0.0
NGZ	**Ngauruhoe**	**0.60**	**190**	P	Pn	18 37 03.7	+0.1
WPVZ	**Whakapapa**	**0.63**	**194**	P	Pn	18 37 03.9	+0.1
FWVZ	**Far West T-bar**	**0.68**	**192**	*e*P	Pn	18 37 04.2	+0.1
TUVZ	**Tukino**	**0.68**	**186**	P	Pn	18 37 04.2	+0.1
HIZ	**Hauiti**	**0.70**	**276**	P	Pn	18 37 04.0	-0.2
WNVZ	**Wahianoa**	**0.75**	**189**	P	Pn	18 37 04.6	+0.1
MOVZ	**Moawhango**	**0.82**	**179**	P	Pn	18 37 04.7	-0.2
BKZ	**Black Stump Fm**	**0.82**	**135**	P	Pn	18 37 05.1	+0.1
URZ	**Urewera**	**1.12**	**73**	*e*P	Pn	18 37 07.2	-0.1
WAZ	**Wanganui**	**1.30**	**206**	*e*P	Pn	18 37 09.1	+0.3
MWZ	**Matawai**	**1.43**	**80**	*e*P	Pn	18 37 10.5	+0.5
TSZ	**Takapari Road**	**1.48**	**173**	P	Pn	18 37 09.7	-0.8
PUZ	**Puketiti**	**2.05**	**76**	*e*P	Pn	18 37 17.2	+0.6
MRZ	**Mangatainoka R**	**2.07**	**183**	P	Pn	18 37 16.3	-0.5
BFZ	**Birch Farm**	**2.12**	**170**	*e*P	Pn	18 37 17.2	-0.2
MXZ	**Matakaoa Point**	**2.27**	**64**	P	Pn	18 37 20.2	+1.1
KIW	**Kapiti Island**	**2.36**	**195**	P	Pn	18 37 19.3	-0.8
MTW	**Mount Morrison**	**2.57**	**184**	P	Pn	18 37 21.5	-1.2
MRW	**Makara Radio**	**2.75**	**197**	P	Pn	18 37 23.6	-1.3
SNZO	**South Karori**	**2.83**	**196**	P	Pn	18 37 24.3	-1.5
MSWZ	**Moikau Station**	**2.85**	**187**	P	Pn	18 37 24.6	-1.4
TCW	**Tory Channel**	**2.85**	**203**	P	Pn	18 37 24.7	-1.3
NNZ	**Nelson**	**3.19**	**214**	*e*P	Pn	18 37 28.5	-1.8
QRZ	**Quartz Range**	**3.34**	**227**	P	Pn	18 37 30.0	-2.1
BSWZ	**Blackbirch Sta**	**3.43**	**204**	P	Pn	18 37 31.7	-1.6
THZ	**Tophouse**	**3.84**	**214**	*e*P	Pn	18 37 36.7	-1.8
KHZ	**Kahutara**	**4.17**	**203**	*e*P	Pn	18 37 41.0	-1.8

*ISCJB **09** 18:38:13.1±0.8, 866N±006×8361W±006, h10km, mb3.7/4, Error ellipse: s-maj=11.1km s-min=5.3km az=38.7*
*CASC **09** 18:38:14.2±2.5, 880N×8358W, h0km±8km, MD4.2, ML3.7*
*NEIC **09** 18:38:19.8±2.3, 887N×8351W, h59km±23km, Error ellipse: s-maj=40.5km s-min=14.6km az=210.0*
*IDC **09** 18:38:21.3±4.8, 890N×8343W, h73km±47km, mb3.5/4, mb1 3.8/6, mb1mx3.5/21, mbtmp3.7/6, ML3.9/2, Error ellipse: s-maj=56.5km s-min=20.9km az=48.0*

ISC 09 18:38:14.5±0.7, 875N±007×8358W±006, h10km, n25, σ1§32/27, mb3.7/4, 1C-4D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BAR1		**0.56**	**28**	⇑*i*P	**Pg**	**18 38 25.4**	**+0.1**
BUS	**Buena Vista**	**0.82**	**347**	*e*P	**Pg**	**18 38 29.6**	**-0.8**
LCR2	**La Lucha 2**	**1.07**	**337**	⇓*e*P	**Pg**	**18 38 33.3**	**-1.9**
URSC	**Urasca**	**1.10**	**350**	⇓*i*P	**Pb**	**18 38 34.3**	**-1.3**
LAJ	**Bijagual**	**1.23**	**334**	⇓*e*P	**Pn**	**18 38 37.9**	**+0.1**
CNI	**Changuinola**	**1.24**	**57**	*e*P	**Pn**	**18 38 37.4**	**-0.5**
SJS	**Escuela Geolog**	**1.27**	**338**	*e*P	**Pn**	**18 38 36.8**	**-1.5**
SJS				*e*S	**Sb**	**18 38 56.7**	**+1.7**
PRS1	**Puriscal**	**1.43**	**329**	*e*P	**Pn**	**18 38 37.8**	**-2.6**
CGA2	**Cerro Gallo 2**	**1.54**	**325**	*e*P	**Pn**	**18 38 40.8**	**-1.1**
CGA2				*e*S	**Sn**	**18 39 02.7**	**+0.7**
JCR	**Jicaral**	**1.87**	**306**	*e*P	**Pn**	**18 38 46.0**	**-0.6**
FORC	**Fortuna**	**2.02**	**328**	*e*P	**Pn**	**18 38 49.5**	**+0.9**
FORC				*e*S	**Sn**	**18 39 15.4**	**+1.4**
VCR	**Vista de Mar**	**2.45**	**304**	*e*P	**Pn**	**18 38 53.5**	**-1.0**
CUI		**2.47**	**320**	*e*P	**Pn**	**18 38 56.4**	**+1.5**
LIM1	**Limonal**	**2.55**	**320**	*e*P	**Pn**	**18 38 57.6**	**+1.7**
AZU	**Azuero**	**3.40**	**106**	*e*P	**Pn**	**18 39 09.2**	**+1.5**
BCIP	**Isla Barro Col**	**3.72**	**83**	*e*Pn	**Pn**	**18 39 12.6**	**+0.7**
BOAB	**BOACO BROADBAN**	**4.21**	**331**	*e*P	**Pn**	**18 39 19.3**	**+0.5**
SDV	**Santo Domingo**	**12.79**	**88**	P	**Pn**	**18 41 19.8**	**+3.3**
	0.4nm,0.3s,baz=283,slow=8.3,SNR=7.6						
CMIG	**Matias Romero**	**13.79**	**308**	P	**Pn**	**18 41 31.9**	**+1.8**
CMIG	**Matias Romero**	**13.79**	**308**	P	**Pn**	**18 41 31.9**	**+1.8**
	0.9nm,0.3s,baz=142,slow=10,SNR=7.5						
PTP	**Ponta Puerca**	**19.83**	**60**	⇓*i*P	Px	18 38 31.4	
SIV	**San Ignacio**	**33.18**	**138**	P	**P**	**18 44 50.9**	**-0.6**
	0.6nm,0.7s,mb3.6,baz=306,slow=16,SNR=3.1						
ULM	**Lac du Bonnet**	**42.62**	**348**	P	**P**	**18 46 08.1**	**-2.7**
	3.5nm,0.8s,mb4.1,baz=154,slow=6.3,SNR=7.3						
NVAR	**Mina Array Bea**	**42.98**	**319**	P	**P**	**18 46 14.8**	**+0.8**
	0.3nm,0.3s,mb3.4,baz=127,slow=7.1,SNR=3.0						
YKA	**Yellowknife Ar**	**58.19**	**344**	P	**P**	**18 48 06.8**	**-1.6**
	0.6nm,0.6s,mb3.8,baz=140,slow=6.7,SNR=14						

IDC 09 18:46:47.4±2.9, 1962S×17609W, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.7/14, mbtmp3.8/3, MS3.4/1, Ms1 3.4/1, ms1mx2.7/23, Error ellipse: s-maj=153.9km s-min=59.6km az=154.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**25.27**	**290**	LR	LR	19 00 09.0	
	comp=Z,85nm,18.4s,baz=0.2,slow=32						
STKA	**Stephens Creek**	**39.78**	**244**	P	P	18 54 21.1	-1.2
	1.1nm,0.5s,baz=85,slow=13,SNR=10						
ASAR	**Alice Springs**	**46.47**	**256**	P	P	18 55 16.9	+0.4
	0.7nm,0.4s,baz=85,slow=9.0,SNR=27						
ASAR				PcP	PcP	18 56 50.6	-0.7
	0.8nm,0.6s,baz=107,slow=3.8,SNR=12						
WRA	**Warramunga Arr**	**46.50**	**261**	P	P	18 55 17.7	+0.8
	0.3nm,0.3s,baz=96,slow=7.6,SNR=32						
WRA				PcP	PcP	18 56 51.6	+0.1
	0.5nm,0.5s,baz=95,slow=3.0,SNR=8.0						
AKASG	**Malin Array Be**	**143.08**	**333**	PKP	PKPdf	19 06 22.4	-0.8
	0.7nm,0.4s,baz=38,slow=4.3,SNR=6.0						

IDC 09 18:55:04.8±2.2, 528S×12807E, h0km, mb3.5/1, mb1 3.4/3, mb1mx3.2/14, mbtmp3.2/3, ML2.7/2, Error ellipse: s-maj=161.4km s-min=30.6km az=66.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**15.80**	**158**	Pn	Pn	18 58 50.8	+2.0
	0.0nm,0.3s,baz=340,slow=12,SNR=3.0						
ASAR	**Alice Springs**	**19.12**	**163**	P	Pn	18 59 28.8	-1.6
	0.1nm,0.3s,baz=345,slow=11,SNR=7.1						
MKAR	**Makanchi Array**	**65.75**	**327**	P	P	19 05 51.7	+0.1
	0.2nm,0.4s,baz=124,slow=8.0,SNR=4.4						

IDC 09 18:57:20.6±5.9, 801S×15710E, h0km, mb4.0/4, mb1 4.1/4, mb1mx3.7/13, mbtmp4.0/4, Error ellipse: s-maj=175.7km s-min=37.4km az=116.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**25.03**	**239**	P	P	19 02 46.6	0.0
	0.8nm,0.3s,baz=65,slow=9.4,SNR=19						
SONM	**Songino Array**	**71.32**	**327**	P	P	19 08 43.0	+0.9
	0.2nm,0.4s,baz=131,slow=5.7,SNR=2.3						
MKAR	**Makanchi Array**	**85.54**	**318**	P	P	19 10 00.8	+0.1
	0.8nm,0.7s,baz=105,slow=5.6,SNR=11						
ZALV	**Zalesovo Beam**	**86.19**	**326**	P	P	19 10 02.9	-0.8
	0.7nm,0.4s,baz=124,slow=4.7,SNR=4.6						

*IDC **09** 19:01:20.1±0.7, 3097S×7209W, h0km, mb4.2/6, mb1 4.3/10, mb1mx4.2/17, mbtmp4.1/10, ML3.9/4, MS3.8/5, Ms1 3.8/5, ms1mx3.4/24, Error ellipse: s-maj=24.6km s-min=20.5km az=62.0*
*GUC **09** 19:01:22.9±0.6, 3083S×7190W, h0km±3km, MD4.5, ML4.6*
*ISCJB **09** 19:01:23.1±1.4, 3075S±003×7205W±008, h21km±9km, mb4.3/9, MS4.3/3, Error ellipse: s-maj=11.0km s-min=4.1km az=172.1*
*NEIC **09** 19:01:24.1±3.5, 3088S×7205W, h23km±24km, mb4.7/2, Error ellipse: s-maj=18.7km s-min=10.2km az=84.0*

ISC 09 19:01:22.7±1.3, 3076S±003×7202W±006, h6km±7km, h10km±.4km: pP-P, n45, σ1§19/46, mb4.3/9, MS4.3/3, 3C, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OVCH	**Ovalle**	**0.72**	**78**	*i* P	**Pg**	**19 01 37.0**	**+0.3**
OVCH				*i* S	**Sg**	**19 01 47.0**	**+0.9**
OVCH				AML	AML	19 01 49.0	
	comp=N,29µm,0.3s						
CMCH	**Combarbala**	**0.97**	**115**	*e*P	**Pg**	**19 01 39.5**	**-1.9**
CMCH				*i* S	**Sg**	**19 01 52.8**	**-1.1**
CMCH				AML	AML	19 01 54.4	
	comp=N,56µm,1.0s						
LSCH	**La Serena**	**1.08**	**39**	⇑*i*P	**Pg**	**19 01 43.6**	**+0.1**
LSCH				*i* S	**Sg**	**19 01 59.1**	**+1.5**
CHNG	**Los Chungos**	**1.21**	**158**	⇑*i*P	Px	19 01 24.6	
CHNG				*i* S	Sx	19 01 40.8	
TLL	**Tololo Astrono**	**1.21**	**61**	*e*P	**Pg**	**19 01 45.5**	**-0.4**
TLL				*i* S	**Sg**	**19 02 02.0**	**+0.5**
TLL				AML	AML	19 02 07.4	
	comp=N,23µm,0.5s						
PTCH	**Petorca**	**1.77**	**148**	⇑*i*P	**Pn**	**19 01 52.3**	**-1.5**
PTCH				*i* S	**Sn**	**19 02 14.6**	**-2.0**
LCO	**Las Campanas**	**2.09**	**34**	*e*Pn	**Pn**	**19 01 58.4**	**+0.1**
LCO				*e*Sn	**Sn**	**19 02 23.0**	**-1.6**
JACH	**Jahuel**	**2.27**	**148**	*i* S	**Sn**	**19 02 29.4**	**+0.4**
ROCH	**El Roble**	**2.37**	**159**	*i* S	**Sn**	**19 02 32.9**	**+1.5**
PEL	**Peldehue**	**2.63**	**155**	*e*P	**Pn**	**19 02 04.3**	**-1.4**
PEL				*i* S	**Sn**	**19 02 37.7**	**-0.3**
PEL				AML	AML	19 02 44.5	
	comp=E,5µm,0.5s						
LCCH	**Las Cruces**	**2.73**	**172**	*i* P	**Pn**	**19 02 08.1**	**+1.0**
LCCH				*i* S	**Sn**	**19 02 42.2**	**+1.7**
CLCH	**Cerro Calan**	**2.92**	**155**	*e*P	**Pn**	**19 02 10.3**	**+0.7**
CLCH				*i* S	**Sn**	**19 02 46.3**	**+1.4**
CLCH				AML	AML	19 02 54.6	
	comp=E,3µm,0.4s						
CLCH				AML	AML	19 02 55.1	
	comp=E,4µm,0.4s						
FCH	**Farellones**	**2.95**	**151**	AML	AML	19 02 57.9	
	comp=E,1µm,0.8s						
PCH	**Pirque**	**3.12**	**156**	*i* P	**Pn**	**19 02 13.3**	**+0.8**
PCH				*i* S	**Sn**	**19 02 51.5**	**+1.4**
CFAA	**Coronel Fontan**	**3.35**	**105**	Pn	**Pn**	**19 02 15.8**	**+0.2**
	comp=E,3.8nm,0.3s,baz=299,slow=11,SNR=139						
CFAA				Sn	**Sn**	**19 03 01.4**	**+5.6**
	comp=E,11nm,0.3s,baz=213,slow=23,SNR=7.3						
CFAA				LR	LR	19 03 47.7	
	comp=E,367nm,18.1s,baz=298,slow=44						
LMEL	**Las Melosas**	**3.44**	**154**	*e*P	**Pn**	**19 02 16.1**	**-0.7**
LMEL				*i* S	**Sn**	**19 02 58.1**	**+0.2**
LMEL				AML	AML	19 03 13.5	
	comp=N,1µm,0.7s						
PLCA	**Paso Flores**	**10.02**	**174**	Pn	**Pn**	**19 03 43.7**	**-3.4**
PLCA				LR	LR	19 07 22.6	
PLCA	**Paso Flores**	**10.02**	**174**	Pn	**Pn**	**19 03 43.7**	**-3.4**
	comp=N,0.3nm,0.3s,baz=333,slow=15,SNR=5.0						
PLCA				LR	LR	19 07 22.6	
	comp=N,223nm,20.4s,baz=352,slow=37						
TRQA	**Tornquist**	**11.03**	**134**	*e*Pn	**Pn**	**19 04 01.8**	**+0.8**
	comp=N,24nm,1.3s						
LPAZ	**La Paz**	**14.84**	**15**	Pn	**Pn**	**19 04 54.3**	**+1.2**
	comp=N,0.2nm,0.3s,baz=185,slow=9.4,SNR=20						
SIV	**San Ignacio**	**17.79**	**37**	P	**P**	**19 05 31.7**	**+0.7**
	comp=N,0.5nm,0.3s,baz=228,slow=13,SNR=18						
BDFB	**Brasilia**	**26.63**	**61**	P	**P**	**19 07 02.2**	**0.0**
	comp=N,3.4nm,0.8s,mb4.0,baz=230,slow=16,SNR=5.2						
BDFB				PcP	PcP	19 10 22.6	-3.7
	comp=N,5.8nm,0.6s,baz=243,slow=0.6,SNR=9.5						
VNA3	**Neumayer Olymp**	**52.36**	**159**	*e*	**P**	**19 10 35.8**	**+0.8**
VNA3				*e*	pP	19 10 38.3	+1.4
VNA3				*e*		19 10 45.4	
VNA2	**Neumayer--Watz**	**52.99**	**158**	*e*	**P**	**19 10 38.8**	**-0.9**
	baz=283,slow=7.2						
VNA2				*e*	pP	19 10 41.6	-0.1
VNA2				*e*		19 10 48.1	
TEIG	**Tepich**	**53.05**	**341**	*e*P	**P**	**19 10 38.2**	**-2.4**
TEIG	**Tepich**	**53.05**	**341**	P	**P**	**19 10 38.2**	**-2.4**
	comp=N,11nm,1.1s,mb4.7,baz=117,slow=5.8,SNR=3.8						
SNAA	**Sanae**	**54.58**	**159**	*e*	**P**	**19 10 50.1**	**-1.2**
SNAA				*e*	pP	19 10 53.1	-0.2
SNAA				*e*		19 10 59.6	
JCT	**Junction City**	**66.38**	**334**	*e*P	**P**	**19 12 13.0**	**+0.6

LZG	**Guadaloupe-1**	**2.32 175**	*e*P	Pn	19 03 24.4 +1.5
LZG			*e*S	Sn	19 03 51.5 +1.3
SCG	**Saint Claude**	**2.44 173**	*e*P	Pn	19 03 26.4 +1.9
MTP	**Monte Pirata**	**3.40 264**	*e*P	Pn	19 03 38.3 +0.7

*ROM **09** 19:23:22.8±0.2, 43.16N×1137E, h3km±3km, Md2.5/10, Ml1.9/8, Error ellipse: s-maj=2.5km s-min=1.9km az=163.0*
*ISCJB **09** 19:23:23.2±0.4, 43.16N±003×1128E±004, h25km±4km, Error ellipse: s-maj=5.2km s-min=4.7km az=141.4*
*LDG **09** 19:23:24.2±0.1, 4321N×1136E, h10km, Ml2.4/4, Error ellipse: s-maj=2.9km s-min=1.7km az=166.0*

ISC 09 19:23:23.4±0.4, 4317N±003×1133E±004, h19km±4km, n25, σ0§67/35, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GRFL	**Gerfalco**	**0.26**	**266**	Pg	**Pg**	**19 23 29.5**	**+0.1**
GRFL				Sg	**Sg**	**19 23 33.1**	**-0.3**
	79nm,0.2s						
CSNT	**Castellina Chi**	**0.31**	**354**	Pg	**Pg**	**19 23 29.7**	**-0.4**
CSNT				Sg	**Sg**	**19 23 34.7**	**0.0**
	213nm,0.4s						
ARCI	**Arcidosso**	**0.33**	**161**	Pg	**Pg**	**19 23 29.9**	**-0.6**
ARCI				Sg	**Sg**	**19 23 35.8**	**+0.4**
	927nm,0.5s						
SACS	**San Casciano d**	**0.53**	**127**	Pg	**Pg**	**19 23 33.8**	**-0.2**
SACS				Sg	**Sg**	**19 23 41.2**	**0.0**
	51nm,0.4s						
CRE	**Caprese Michel**	**0.64**	**45**	Pg	**Pg**	**19 23 35.6**	**-0.5**
CRE				Sg	**Sg**	**19 23 45.0**	**+0.3**
	42nm,0.2s						
CRMI	**Carmignano**	**0.68**	**337**	Pg	**Pg**	**19 23 37.1**	**+0.3**
	13nm,0.6s						
BADI	**Badiali**	**0.75**	**62**	Pg	**Pg**	**19 23 37.2**	**-0.9**
	53nm,0.6s						
MAON	**Monte Argentar**	**0.75**	**191**	Pg	**Pg**	**19 23 38.1**	**-0.1**
	41nm,0.3s						
VMG	**Vicchio**	**0.81**	**11**	Pg	**Pg**	**19 23 39.8**	**+0.5**
	57nm,0.7s						
SFI	**Santa Sofia**	**0.83**	**27**	Pg	**Pg**	**19 23 39.3**	**-0.3**
SFI				Sg	**Sg**	**19 23 52.0**	**+1.4**
	34nm,0.4s						
SEI	**Scarperia**	**0.89**	**1**	Pg	**Pg**	**19 23 41.3**	**+0.6**
	69nm,0.3s						
BDI	**Bagni Di Lucca**	**1.04**	**329**	Pg	**Pg**	**19 23 43.3**	**-0.3**
	22nm,0.6s						
RSM	**Repubblica di**	**1.11**	**46**	Pg	**Pg**	**19 23 45.3**	**+0.3**
	19nm,0.6s						
FSSB	**Fossombrone**	**1.18**	**63**	Pg	**Pg**	**19 23 45.1**	**-1.1**
	13nm,0.4s						
PGF	**Pioggiola**	**1.82**	**251**	*e*Pn	**Pn**	**19 23 54.4**	**+0.7**
PGF				*e*Sn	**Sn**	**19 24 17.3**	**+1.1**
	5.9nm,0.4s						
SBF	**Sospel**	**2.92**	**285**	*e*Pn	**Pn**	**19 24 09.0**	**+0.3**
SBF				*e*Sn	**Sn**	**19 24 42.0**	**-1.2**
	2.1nm,0.4s						
FRF	**La Foret Royal**	**3.44**	**278**	*e*Pn	**Pn**	**19 24 16.3**	**+0.4**
LMR	**La Mourre**	**3.53**	**274**	*e*Pn	**Pn**	**19 24 17.2**	**+0.1**
MBDF	**Montbardon**	**3.64**	**297**	*e*Pn	**Pn**	**19 24 18.7**	**0.0**
MBDF				*e*Sn	**Sn**	**19 24 59.5**	**-1.6**
	1.4nm,0.4s						
LPL	**La Plagne**	**4.05**	**307**	*e*Pn	**Pn**	**19 24 24.2**	**-0.1**
SMRF	**Simiane la Rot**	**4.26**	**283**	*e*Pn	**Pn**	**19 24 28.1**	**+0.9**
CABF	**La Chapelle**	**5.07**	**315**	*e*Pn	**Pn**	**19 24 38.3**	**0.0**
LASF	**Ste Croix**	**5.50**	**282**	*e*Pn	**Pn**	**19 24 44.7**	**+0.5**
LASF				*e*Sn	**Sn**	**19 25 43.1**	**-3.8**
	1.1nm,0.3s						
CDF	**Champ du Feu**	**5.96**	**333**	*e*Pn	**Pn**	**19 24 49.9**	**-0.6**
CAF	**Calviac**	**6.91**	**288**	*e*Pn	**Pn**	**19 25 04.1**	**+0.6**

IDC 09 19:39:34.5±11.0, 1842S×17391W, h0km, mb4.5/4, mb1 4.7/4, mb1mx4.0/16, mbtmp4.5/4, Error ellipse: s-maj=289.1km s-min=48.0km az=121.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**37.58**	**261**	P	P	19 46 50.6	-0.4
	6.5nm,0.8s,baz=80,slow=11,SNR=3.2						
WRA	**Warramunga Arr**	**48.74**	**259**	P	P	19 48 21.2	-0.1
	2.5nm,0.4s,baz=98,slow=6.9,SNR=133						
ASAR	**Alice Springs**	**48.77**	**254**	P	P	19 48 21.9	+0.4
	7.2nm,0.6s,baz=91,slow=7.8,SNR=141						
MJAR	**Matsushiro Arr**	**70.93**	**321**	P	P	19 50 53.6	-0.1
	1.3nm,0.6s,baz=149,slow=6.9,SNR=6.1						

*NEIC **09** 19:40:13.4, 6987N×14462W, h10km, ML3.4(AEIC), ML3.4(PGC), After AEIC.*
*PGC **09** 19:40:17.1±3.1, 6968N×14485W, h10km, ML3.4/1, 147km east of Prudhoe Bay, Ak Alaska*

ISC 09 19:40:12.6±1.6, 700N±01×1446W±02, h10km, n17, σ0§83/23, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BM3	**Burnt Mountain**	**2.57**	**180**	P	**Pn**	**19 40 53.1**	**-1.1**
BM3				S	**Sn**	**19 41 25.6**	**+0.1**
COLD	**Coldfoot**	**3.44**	**219**	P	**Pn**	**19 41 07.0**	**+0.9**
COLD				S	**Sn**	**19 41 47.7**	**+0.9**
INK	**Inuvik**	**4.31**	**108**	*e*P	**Pn**	**19 41 21.7**	**+3.7**
INK	**Inuvik**	**4.31**	**108**	Pn	**Pn**	**19 41 22.5**	**+4.4**
INK				Sn	**Sn**	**19 42 09.4**	**+1.1**
IMA2	**Indian Mountai**	**5.19**	**225**	*e*P	**Pn**	**19 41 28.7**	**-1.5**
COLA	**College**	**5.28**	**195**	P	**Pn**	**19 41 32.5**	**+1.1**
COLA				S	**Sn**	**19 42 32.3**	**+0.2**
IM3	**Indian Mountai**	**5.28**	**225**	P	**Pn**	**19 41 32.4**	**+1.0**
IL1	**Eielson Array**	**5.30**	**191**	P	**Pn**	**19 41 31.2**	**-0.5**
DAWY	**Dawson**	**6.28**	**158**	P	**Pn**	**19 41 44.8**	**-0.3**
DAWY	**Dawson**	**6.28**	**158**	Pn	**Pn**	**19 41 45.0**	**-0.1**
DAWY				Sn	**Sn**	**19 42 50.7**	**-6.1**
DOT	**Dot Lake**	**6.36**	**178**	P	**Pn**	**19 41 46.6**	**+0.4**
MCK	**McKinley**	**6.50**	**197**	P	**Pn**	**19 41 48.2**	**+0.1**
KTH	**Kantishna Hill**	**6.91**	**204**	P	**Pn**	**19 41 53.5**	**-0.3**
TRF	**Thorofare Moun**	**6.92**	**202**	P	**Pn**	**19 41 53.3**	**-0.6**
BCA3	**Beaver Creek A**	**7.04**	**169**	P	**Pn**	**19 41 54.6**	**-0.8**
HYT	**Haines Junctio**	**9.65**	**159**	Pn	**Pn**	**19 42 30.0**	**-1.2**
HYT				Sn	**Sn**	**19 44 10.4**	**-9.1**
WHY	**Whitehorse**	**10.19**	**152**	Pn	**Pn**	**19 42 38.5**	**-0.1**

IDC 09 19:55:51.3±2.5, 583S×15094E, h0km, mb3.8/2, mb1 4.1/2, mb1mx3.5/12, mbtmp3.9/2, MS2.8/2, Ms1 2.8/2, ms1mx2.7/19, Error ellipse: s-maj=126.6km s-min=37.0km az=121.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**9.62**	**112**	LR	LR	20 00 21.3	
	comp=Z,49nm,19.8s,baz=176,slow=28						
CTA	**Charters Tower**	**14.88**	**197**	LR	LR	20 03 41.8	
	comp=Z,47nm,21.9s,baz=233,slow=32						
WRA	**Warramunga Arr**	**21.38**	**227**	P	P	20 00 41.0	+0.3
	3.0nm,0.9s,baz=54,slow=11,SNR=18						
ASAR	**Alice Springs**	**24.15**	**221**	P	P	20 01 09.2	-0.1
	2.6nm,0.7s,baz=55,slow=8.9,SNR=37						
GERES	**GERESS Array B**	**123.94**	**327**	PKP	PKPdf	20 14 51.9	+0.3
	0.3nm,0.5s,baz=45,slow=1.5,SNR=3.7						
TORD	**Torodi Ar. Bea**	**148.83**	**286**	PKPbc	PKPbc	20 15 41.3	-0.8
	0.7nm,0.8s,baz=101,slow=2.8,SNR=11						

IDC 09 20:04:53.7±5.8, 1301N×14603E, h42km±61km, mb3.5/3, mb1 3.6/3, mb1mx3.2/18, mbtmp3.5/3, Error ellipse: s-maj=267.1km s-min=37.9km az=28.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.27**	**297**	P	Pn	20 05 14.9	-0.1
	72nm,0.3s,baz=133,slow=5.2,SNR=31						
GUMO				S	Sn	20 05 30.9	0.0
	205nm,0.3s,baz=11,slow=24,SNR=27						
SONM	**Songino Array**	**47.86**	**325**	P	P	20 13 27.8	+0.5
	0.2nm,0.6s,baz=116,slow=6.6,SNR=2.6						
MKAR	**Makanchi Array**	**62.69**	**316**	P	P	20 15 14.8	+0.6
	0.4nm,0.3s,baz=99,slow=8.4,SNR=10.0						
FINES	**FINESS Array B**	**92.16**	**335**	P	P	20 17 57.0	-1.6
	0.9nm,0.7s,baz=67,slow=3.6,SNR=4.1						

*CSEM **09** 20:17:17.5±0.7, 3865N×2911W, h2km±6km, ML2.6, Error ellipse: s-maj=9.3km s-min=3.6km az=61.0, After PDA*
*PDA **09** 20:17:17.5±0.7, 3865N×2911W, h2km±6km, MD3.5, ML2.6, Error ellipse: s-maj=9.3km s-min=3.6km az=61.0*

SVSA 09 20:17:17.5±0.7, 3865N×2911W, h2km±6km, MD3.5, ML2.6, Error ellipse: s-maj=9.3km s-min=3.6km az=61.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CALA	**Caldeira**	**0.33**	**103**	*i* P	Pg	20 17 23.5	-0.3
CALA				*i* S	Sg	20 17 28.1	+0.1
CALA	**Caldeira**	**0.33**	**103**	*i* S	Sg	20 17 28.1	+0.1
HOR	**Horta**	**0.40**	**109**	*i* P	Pg	20 17 24.5	-0.6
HOR				*i* S	Sg	20 17 29.8	-0.4
HOR	**Horta**	**0.40**	**109**	*i* S	Sg	20 17 29.8	-0.4
PICO	**Pico**	**0.56**	**106**	*i* P	Pg	20 17 27.4	-0.8
PICO				*e*S	Sg	20 17 34.7	-0.7
PICO	**Pico**	**0.56**	**106**	*e*S	Sg	20 17 34.7	-0.7
ROSA	**Rosais**	**0.68**	**84**	*e*P	Pg	20 17 29.1	-1.5
ROSA				*e*S	Sg	20 17 37.3	-2.1
PMAN	**Manadas**	**0.80**	**91**	*e*P	Pg	20 17 30.4	-2.4
PMAN				*e*S	Sg	20 17 40.5	-2.6
PMAN				A		20 17 40.9	
	144nm,0.2s						
PMAN	**Manadas**	**0.80**	**91**	*e*P	Pg	20 17 30.4	-2.4
PMAN				*e*S	Sg	20 17 40.5	-2.6
PID	**Ribeirinha**	**0.80**	**105**	*e*P	Pg	20 17 30.6	-2.3
PID				*e*S	Sg	20 17 40.9	-2.4
SRBC	**Serra Branca**	**0.92**	**65**	*i* P	Pg	20 17 32.7	-2.4
SRBC				*e*S	Sg	20 17 43.5	-3.5
PSCM	**Serra do Cume**	**1.56**	**88**	*e*S	Sn	20 17 59.5	-7.4
PSCM				A		20 18 02.1	
	37nm,0.2s						

MOS 09 20:17:28.7±1.4, 4235N×4558E, h14km, mb3.6/1, 2C-2D, Error ellipse: s-maj=46.7km s-min=11.2km az=132.5, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LACR	**Lac**	**1.06**	**297**	⇑*i*PG	Pg	20 17 48.7	-0.5
LACR				*i* S	Sb	20 18 04.4	+1.9
ARNR	**Ardon**	**1.27**	**312**	*e*PG	Pg	20 17 53.0	-0.2
ARNR				*i* S	Sb	20 18 10.7	+2.0
BTKR	**Batakoyurt**	**1.27**	**324**	⇓*i*PG	Pg	20 17 53.5	+0.3
BTKR				*e*S	Sb	20 18 11.0	+2.3
ZEI	**Tsey**	**1.31**	**289**	⇑*i*PG	Pg	20 17 53.9	0.0
ZEI				*e*S	Sb	20 18 12.0	+2.2
KMSR	**Komsomolskaya**	**1.39**	**318**	*e*PG	Pg	20 17 55.6	+0.1
KMSR				*e*S	Sn	20 18 14.7	+2.9
DIGR	**Digorskoe uzhe**	**1.57**	**291**	⇓*i*PG	Pg	20 17 58.7	-0.2
DIGR				*e*S	Sn	20 18 18.9	+2.6
LSNR	**Lesken**	**1.59**	**306**	*e*PG	Pg	20 17 58.8	-0.5
LSNR				*e*S	Sn	20 18 20.3	+3.5
PRTR	**Priterechnaya**	**1.69**	**326**	*e*PN	Pn	20 17 58.8	+1.0
PRTR				*i* S	Sn	20 18 21.3	+2.0

IDC 09 20:40:52.5±7.2, 3343S×17982W, h89km±59km, mb4.0/2, mb1 4.2/3, mb1mx3.7/13, mbtmp3.9/3, ML3.6/1, Error ellipse: s-maj=51.5km s-min=34.6km az=41.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**5.43**	**206**	P	Pn	20 42 12.2	+1.3
	1.9nm,0.3s,baz=234,slow=1.7,SNR=21						
URZ				S	Sn	20 43 11.3	-0.6
	2.3nm,0.3s,baz=131,slow=16,SNR=4.2						
CTA	**Charters Tower**	**32.92**	**285**	P	P	20 47 23.6	+5.2
	9.0nm,0.9s,baz=117,slow=6.8,SNR=4.8						
ASAR	**Alice Springs**	**41.51**	**271**	P	P	20 48 31.5	+0.5
	2.1nm,0.4s,baz=108,slow=7.6,SNR=71						
WRA	**Warramunga Arr**	**42.77**	**276**	P	P	20 48 41.1	-0.3
	1.2nm,0.3s,baz=115,slow=7.9,SNR=40						
ARCES	**ARCESS Array B**	**141.18**	**346**	PKhKP		21 00 06.2	
	1.2nm,0.7s,baz=8.5,slow=1.8,SNR=4.7						
JOF	**Joensuu**	**144.60**	**336**	*ep*	PKPdf	21 00 08.3	-9.4
KAF	**Kangasniemi**	**146.82**	**338**	*ep*	PKPdf	21 00 21.2	-0.3
FINES	**FINESS Array B**	**147.38**	**337**	PKPbc	PKPbc	21 00 24.4	-0.7
	1.3nm,0.8s,baz=58,slow=2.8,SNR=12						
NB2	**NORSAR Subarra**	**151.46**	**349**	PKP	PKPdf	21 00 33.6	+4.6
	comp=Z,0.5nm,0.5s,baz=15,slow=4.1						
NOA	**NORSAR Array B**	**151.46**	**349**	PKPbc	PKPbc	21 00 34.4	-0.9
	comp=Z,0.7nm,0.6s,baz=14,slow=4.1,SNR=3.2						
TORD	**Torodi Ar. Bea**	**159.77**	**184**	PKPab	PKPab	21 01 20.6	0.0
	comp=Z,0.4nm,0.8s,baz=163,slow=5.5,SNR=5.4						

MAN 09 20:48:22, 1140N×12631E, h102km, mb4.3, ML3.1, MS2.9, Philippine Islands region

*SZGRF **09** 20:48:39.8, 285S×8940E, h37km, mb4.9, South Indian Ocean*
*ISCJB **09** 20:48:40.8±1.4, 127S±004×8950E±003, h12km±8km, mb4.7/102, MS4.3/21, Error ellipse: s-maj=7.6km s-min=5.3km az=11.3*
*IDC **09** 20:48:40.2±0.5, 132S×8937E, h0km, mb4.3/20, mb1 4.4/21, mb1mx4.4/24, mbtmp4.3/21, ML3.8/1, MS4.1/10, Ms1 4.1/10, ms1mx3.9/32, Error ellipse: s-maj=17.1km s-min=13.0km az=44.0*
*MOS **09** 20:48:40.3±0.7, 124S×8953E, h10km, mb5.0/46, Error ellipse: s-maj=10.3km s-min=5.6km az=121.0*
*NEIC **09** 20:48:41.9±0.2, 132S×8942E, h10km, mb4.8/57, Error ellipse: s-maj=5.6km s-min=3.9km az=210.0*
*GCMT **09** 20:48:41.9±0.3, 134S×8949E, h22km±1km, MW5.0/72, Moment Tensor Solution. s29,c43; s72,c115; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.45±.16; $M_{\theta\theta}$-1.62±.12; $M_{\phi\phi}$1.17±.14; $M_{r\theta}$-0.26±.21; $M_{\theta\phi}$-3.85±.12; $M_{\phi r}$-1.62±.25; Best double couple: $M_0$4.41900×10^{16} NP1:ϕ_s100.00000°, δ68.00000°, λ177.00000°. NP2: ϕ_s191.00000°, δ87.00000°, λ22.00000°. Principal axes: T 4.2510, Plg18.0000°, Azm57.0000°; N 0.3330, Plg68.0000°, Azm199.0000°; P -4.5860, Plg13.0000°, Azm323.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*BJI **09** 20:48:41.9, 130S×8940E, h10km, mB4.9, mb4.6, Ms4.6, Msz4.3*

ISC 09 20:48:43.8±1.3, 129S±004×8946E±003, h20km±9km, h29km±3.2km: pP-P, n277, σ0§95/273, mb4.7/102, MS4.3/21, 25C-16D, South Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**10.29**	**67**	Pn	**Pn**	**20 51 10.2**	**-0.2**
	0.8nm,0.3s,baz=260,slow=5.9,SNR=33						
PSI				LR	LR	20 54 32.9	
	comp=Z,1μm,22.0s,baz=230,slow=34						
PALK	**Pallekele**	**12.19**	**314**	*e*P	**Pn**	**20 51 34.2**	**-2.2**
	124nm,0.7s						
PALK				*e*S	Sn	20 53 27.1	-25
IPM	**Ipoh**	**12.90**	**64**	⇑P	**Pn**	**20 51 44.7**	**-1.4**
KULM	**Kulim**	**12.95**	**60**	*e*P	**Pn**	**20 51 44.7**	**-2.0**
KULM	**Kulim**	**12.95**	**60**	⇓P	**Pn**	**20 51 45.7**	**-1.0**
FRIM	**Kepong**	**12.96**	**70**	⇑P	**Pn**	**20 51 45.7**	**-1.3**
KGM	**Kluang**	**14.24**	**77**	⇑P	**Pn**	**20 52 04.4**	**0.0**
MYKOM	**Kota Tinggi**	**14.71**	**78**	⇓P	**Pn**	**20 52 09.3**	**-1.6**
TRD	**Trivandrum**	**15.81**	**308**	*e*P	**Pn**	**20 52 24.6**	**-0.8**
KOD	**Kodaikanal**	**16.54**	**314**	*e*P	**Pn**	**20 52 33.7**	**-1.0**
SALM	**Salem**	**17.04**	**319**	*e*P	**Pn**	**20 52 39.0**	**-2.1**
SALM				*ex*	x	20 55 36.0	
VIS	**Vishakhapatnam**	**19.83**	**343**	*e*P	**Pn**	**20 53 13.5**	**-1.5**
VIS				AMb	AMB	20 53 20.3	
	comp=Z,109nm,1.1s						
NST	**Nakhon Sawan**	**19.88**	**32**	P	**Pn**	**20 53 15.0**	**-0.6**
MNGI	**Mangalore**	**20.27**	**315**	*i* P	**P**	**20 53 19.5**	**+1.3**
MNGI				*ex*	x	20 53 24.9	
	comp=Z,149nm,2.1s						
MNGI				*i* x	x	20 57 10.1	
KSM	**Kuching**	**21.02**	**83**	*e*P	**P**	**20 53 27.8**	**+1.3**
KSM	**Kuching**	**21.02**	**83**	⇑P	**P**	**20 53 27.5**	**+1.0**
HYB	**Hyderabad**	**21.47**	**330**	*e*P	**P**	**20 53 32.0**	**+0.8**
	comp=Z,60nm,1.0s,mb4.9						
HYB				*e*		20 53 35.0	
HYB				*e*S	**S**	**20 57 21.0**	**-7.6**
HYB	**Hyderabad**	**21.47**	**330**	*e*P	**P**	**20 53 32.0**	**+0.8**
HYB				*e*		20 53 35.0	
HYB				*e*S	**S**	**20 57 21.0**	**-7.6**
HYB				pmax	pmax		
	comp=Z,60nm,1.0s,mb4.9						
HYB	**Hyderabad**	**21.47**	**330**	*i* P	**P**	**20 53 32.0**	**+0.8**
	comp=Z,60nm,1.0s,mb4.9						
HYB				*e*pP		20 53 35.0	
HYB				*e*S	**S**	**20 57 27.0**	**-1.6**
KKTK	**Khon Kaen**	**21.93**	**36**	P	**P**	**20 53 36.5**	**+0.4**
CHG	**Chiang Mai**	**22.04**	**25**	⇑P	**P**	**20 53 39.3**	**+2.0**
CHTO	**Chiang Mai**	**22.04**	**25**	*e*P	**P**	**20 53 36.8**	**-0.5**
	comp=Z,41nm,1.0s,mb4.8						
CHTO	**Chiang Mai**	**22.04**	**25**	*e*P	**P**	**20 53 36.8**	**-0.5**
CHTO				pmax	pmax		
	comp=Z,41nm,1.0s,mb4.8						
GOA	**Goa**	**22.74**	**318**	*e*P	**P**	**20 53 45.8**	**+1.1**
GOA				AMb	AMB	20 53 47.5	
	comp=Z,40nm,1.7s,mb4.6						
SBUM	**Sibu**	**23.05**	**81**	⇑P	**P**	**20 53 50.2**	**+2.1**
LATR	**Latur**	**23.33**	**328**	*ex*	**P**	**20 53 43.9**	**-7.2**
LATR				AMb	AMB	20 53 57.3	
	comp=Z,50nm,1.1s,mb4.9						
KAD	**Karad**	**23.84**	**321**	*e*P	**P**	**20 53 57.1**	**+1.3**
KAD				AMb	AMB	20 54 01.1	
	comp=Z,28nm,1.6s,mb4.5						
BLSP	**Bilaspur**	**24.35**	**343**	*e*P	**P**	**20 54 00.9**	**+0.5**
BLSP				AMb	AMB	20 54 04.5	
	comp=Z,30nm,1.1s,mb4.6						
NGP	**Nagpur**	**24.52**	**336**	*e*P	**P**	**20 54 02.2**	**+0.2**
NGP				AMb	AMB	20 54 17.6	
	comp=Z,24nm,1.1s,mb4.6						
POO	**Poona**	**24.97**	**323**	*e*P	**P**	**20 54 07.6**	**+1.4**
POO				AMb	AMB	20 54 18.7	
	comp=Z,38nm,1.0s,mb4.9						
AKL	**Akola**	**25.02**	**332**	*e*P	**P**	**20 54 08.3**	**+1.7**
AKL				AMb	AMB	20 54 23.3	
	comp=Z,49nm,1.7s,mb4.8						
AGT	**Agartala**	**25.08**	**4**	*ex*	x	20 54 15.0	
BOK	**Bokaro**	**25.17**	**352**	*e*P	**P**	**20 54 08.4**	**+0.5**
BOK				AMb	AMB	20 54 10.7	
	comp=Z,26nm,0.8s,mb4.8						
SHL	**Shillong**	**26.80**	**5**	*e*P	**P**	**20 54 23.5**	**+0.9**
SHL				*ex*	x	20 59 51.0	
BHPL	**Bhopal**	**27.05**	**335**	*ex*	x	20 54 34.5	
KKM	**Kota Kinabalu**	**27.69**	**74**	⇓P	**P**	**20 54 36.3**	**+5.5**
QIZ	**Qiongzhong**	**28.44**	**44**	P	**P**	**20 54 35.1**	**-2.3**
QIZ				S	**S**	**20 59 22.8**	**-1.1**
QIZ				LR	LR		
	comp=N,690nm,16.9s,MS4.5						
QIZ				LR	LR		
	comp=E,587nm,16.5s,MS4.5						
QIZ				LR	LR		
	comp=Z,600nm,14.9s,MS4.3						
SDKM	**Sandakan**	**28.54**	**76**	⇓P	**P**	**20 54 39.9**	**+1.5**
TSM	**Tawau**	**28.93**	**79**	⇓P	**P**	**20 54 44.3**	**+2.4**
JIRN	**Jiri**	**28.95**	**354**	*e*P	**P**	**20 54 43.4**	**+1.5**
KKN	**Kakani**	**29.19**	**352**	*e*P	**P**	**20 54 44.6**	**+0.6**
	comp=Z,33nm,0.9s,mb5.1						
KKN	**Kakani**	**29.19**	**352**	*e*P	**P**	**20 54 44.6**	**+0.6**
KKN				pmax	pmax		
	comp=Z,33nm,0.9s,mb5.1						
KOLN	**Koldanda**	**29.43**	**349**	*e*P	**P**	**20 54 47.1**	**+0.9**
	comp=Z,68nm,1.6s,mb5.1						
GKN	**Gorkha**	**29.49**	**351**	*e*P	**P**	**20 54 47.8**	**+1.2**
	comp=Z,29nm,0.8s,mb5.1						
LSA	**Lhasa**	**30.86**	**3**	*e*P	**P**	**20 54 54.6**	**-4.1**
	comp=Z,19nm,0.3s,mb5.4						
LSA	**Lhasa**	**30.86**	**3**	*e*P	**P**	**20 54 54.6**	**-4.1**
LSA				pmax	pmax		
	comp=Z,19nm,0.3s,mb5.4						
GYA	**Guiyang**	**32.20**	**30**	P	**P**	**20 55 12.9**	**+2.3**
GYA				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.6						
CD2	**Chengdu**	**34.79**	**22**	P	**P**	**20 55 35.4**	**+2.3**
FITZ	**Fitzroy Crossi**	**39.25**	**117**	*e*P	**P**	**20 56 12.0**	**+0.8**
	comp=Z,9.9nm,0.8s,mb4.6						
FITZ	**Fitzroy Crossi**	**39.25**	**117**	P	**P**	**20 56 12.0**	**+0.8**
	comp=Z,7.2nm,0.9s,mb4.4,baz=251,slow=5.0,SNR=9.1						
XAN	**Xi'an**	**39.62**	**26**	P	**P**	**20 56 14.4**	**+0.3**
XAN				AP	pP	20 56 22.8	+2.5
XAN				AMB	AMB		
	comp=Z,9.0nm,1.1s,mb4.4						
NWAO	**Narrogin (SRO)**	**40.88**	**143**	P	**P**	**20 56 23.7**	**-0.9**
NWAO	**Narrogin (SRO)**	**40.88**	**143**	P	**P**	**20 56 23.7**	**-0.9**
	comp=Z,11nm,1.0s,mb4.5,baz=288,slow=10,SNR=4.5						
GTA	**Gaotai**	**41.60**	**12**	*e*P	**P**	**20 56 31.4**	**+1.0**
GTA				AP	pP	20 56 38.3	+1.6
GTA				XP	sP	20 56 41.4	+2.3
GTA				AMB	AMB		
	comp=Z,6.0nm,1.6s,mb4.0						
GTA				AMB	AMB		
	comp=Z,92nm,7.2s						
GTA				LR	LR		
	comp=N,257nm,19.4s,MS4.3						
GTA				LR	LR		
	comp=E,237nm,15.6s,MS4.3						
GTA				LR	LR		
	comp=Z,276nm,18.6s,MS4.2						
NJ2	**Nanjing**	**43.29**	**37**	*e*P	**P**	**20 56 42.7**	**-1.6**
NJ2				S	**S**	**21 03 08.0**	**-2.8**
NJ2				AMB	AMB		
	comp=Z,20nm,1.2s,mb4.7						
NJ2				AMB	AMB		
	comp=Z,1μm,5.0s						
NJ2				LR	LR		
	comp=N,1μm,17.7s,MS5.1						
NJ2				LR	LR		
	comp=E,2μm,21.0s,MS5.1						
NJ2				LR	LR		
	comp=Z,5μm,24.0s,MS5.3						
KAKA	**Kakadu**	**44.06**	**107**	*e*P	**P**	**20 56 50.1**	**-0.6**
	comp=Z,8.2nm,0.8s,mb4.5						
SSE	**Sheshan**	**44.11**	**40**	P	**P**	**20 56 50.9**	**0.0**
SSE				S	**S**	**21 03 22.3**	**-0.5**
SSE				AMB	AMB		
	comp=Z,24nm,0.8s,mb5.0						
SSE				AMB	AMB		
	comp=Z,39nm,4.0s						
SSE

RDF AMb AMB 20 57 46.6
comp=Z,27nm,1.0s,mb5.2
UMR Umm Al-Rimmam 50.28 311 *e*P **P 20 57 37.6 -1.5**
UMR AMb AMB 20 57 39.6
comp=Z,28nm,0.7s,mb5.4
NAY Al-Naaiem 50.49 310 *e*P **P 20 57 39.3 -1.3**
NAY AMb AMB 20 57 41.0
comp=Z,15nm,0.8s,mb5.1
MIB Mutribah 50.69 311 *e*P **P 20 57 41.1 -1.1**
MIB AMb AMB 20 57 43.4
comp=Z,41nm,0.8s,mb5.4
SONM Songino Array 51.11 15 P **P 20 57 45.7 +0.7**
comp=Z,7.4nm,0.9s,mb4.6,baz=196,slow=8.0,SNR=38
SONM LR LR 21 20 46.9
comp=Z,469nm,21.5s,MS4.5,baz=302,slow=38
ULN Ulaanbaatar 51.30 15 *e*P **P 20 57 46.8 +0.4**
comp=Z,10nm,1.3s,mb4.6
ULN Ulaanbaatar 51.30 15 *e*P **P 20 57 46.8 +0.4**
ULN pmax pmax
comp=Z,10.0nm,1.3s,mb4.6
KMBO Kilima Mbogo 52.20 270 P **P 20 57 54.0 +0.2**
KMBO LR LR 21 14 41.2
KMBO Kilima Mbogo 52.20 270 P **P 20 57 54.0 +0.2**
comp=Z,0.8nm,0.6s,mb3.9,baz=218,slow=23,SNR=4.5
KMBO LR LR 21 14 41.2
comp=Z,166nm,21.4s,MS4.0,baz=87,slow=30
KSRS Korea Array 52.45 39 P **P 20 57 55.0 -0.2**
comp=Z,1.4nm,0.8s,mb3.9,baz=270,slow=29,SNR=3.7
KSRS LR LR 21 22 10.8
comp=Z,208nm,18.6s,MS4.2,baz=239,slow=38
KURK Kurchatov 52.63 351 *e*P **P 20 57 55.1 -1.1**
comp=Z,19nm,1.0s,mb5.0
KURK Kurchatov 52.63 351 *e*P **P 20 57 55.1 -1.1**
KURK pmax pmax
comp=Z,19nm,1.0s,mb5.0
ZAK Zakamensk 52.82 11 *e*P **P 20 57 57.2 -0.4**
TLY Talaya 54.12 11 *e*P **P 20 58 08.3 +1.1**
TLY *e*S **S 21 05 40.5 -2.3**
TLY pmax pmax
comp=Z,7.0nm,1.6s,mb4.3
TLY MLR MLR
comp=Z,141nm,18.0s,MS4.1
ZAL Zalesovo 55.17 357 P **P 20 58 13.9 -0.9**
ZAA0 Zalesovo Array 55.18 357 *e*P **P 20 58 13.5 -1.3**
ZALV Zalesovo Beam 55.18 357 P **P 20 58 13.9 -1.0**
comp=Z,3.6nm,0.6s,mb4.6,baz=187,slow=8.1,SNR=21
ZALV LR LR 21 25 07.4
comp=Z,59nm,18.1s,MS3.7,baz=1.6,slow=40
CN2 Changchun 55.23 31 *e*P **P 20 58 15.7 +0.3**
NVS Novosibirsk 56.17 356 *i*P **P 20 58 20.6 -1.4**
NVS pmax pmax
comp=Z,10.0nm,1.1s,mb4.8
NVS pmax pmax
comp=N,10.0nm,1.3s
NVS pmax pmax
comp=E,2.0nm,0.7s
HIA Hailar 56.72 23 *e*P **P 20 58 26.0 0.0**
comp=E,16nm,1.2s,mb4.9
HIA Hailar 56.72 23⇑*e*P **P 20 58 25.5 -0.5**
CIT Chita 56.88 18 *e*P **P 20 58 24.5 -2.5**
STKA Stephens Creek 57.74 127 *e*P **P 20 58 33.2 -0.3**
comp=E,6.0nm,0.8s,mb4.7
STKA Stephens Creek 57.74 127 P **P 20 58 33.5 0.0**
comp=E,4.7nm,0.8s,mb4.6,baz=307,slow=6.1,SNR=14
STKA LR LR 21 19 25.6
comp=E,216nm,20.4s,MS4.2,baz=124,slow=32
DGRG David-gareji 58.33 322 P **P 20 58 38.8 +1.4**
CTA Charters Tower 58.52 113 LR LR 21 23 52.5
comp=E,127nm,18.8s,MS4.1,baz=52,slow=36
MTA Mtatsminda 58.82 322 P **P 20 58 41.5 +0.6**
MJAR Matsushiro Arr 58.83 45 P **P 20 58 41.6 +0.5**
comp=E,0.5nm,0.4s,mb3.9,baz=235,slow=7.5,SNR=5.6
MJAR LR LR 21 27 34.9
comp=E,166nm,20.1s,MS4.2,baz=235,slow=40
TBLG Delisi 58.88 322 P **P 20 58 42.1 +0.8**
ONI Oni 60.15 322 P **P 20 58 50.8 +0.8**
MALT Malatya 61.26 316 ⇑P **P 20 58 59.0 +1.3**
MALT Malatya 61.26 316⇑*i*P **P 20 58 59.0 +1.3**
KIV Kislovodsk 61.38 323 ⇓P **P 20 58 59.3 +0.9**
KIV Kislovodsk 61.38 323⇓*i*P **P 20 58 58.6 +0.2**
KIV pmax pmax
comp=Z,23nm,1.0s,mb5.3
KIV MLR MLR
comp=Z,1μm,19.0s,MS5.1
KIV Kislovodsk 61.38 323⇓*i*P **P 20 58 59.3 +0.9**
LSZ Lusaka 61.99 253 P **P 20 59 01.0 -2.1**
comp=Z,2.3nm,0.8s,mb4.3,baz=79,slow=4.7,SNR=4.8
KLR Kul'dur 62.10 30 *e*P **P 20 59 02.9 -0.2**
BOD Bodaibo 62.11 15 *e*P **P 20 59 00.4 -2.6**
BOD pmax pmax
comp=Z,4.0nm,1.4s,mb4.4
SVE Sverdlovsk 62.43 343 *e*P **P 20 59 05.1 -0.1**
SVE pmax pmax
comp=Z,22nm,0.9s,mb5.3
ARU Arti 62.74 341 *e*P **P 20 59 07.0 -0.3**
comp=Z,20nm,1.1s,mb5.2
ARU Arti 62.74 341*d i*P **P 20 59 06.7 -0.6**
ARU *e* 20 59 44.1
ARU *e*S **S 21 07 34.6 -0.3**
ARU *e*SS SS 21 11 38.5 -1.5
ARU pmax pmax
comp=Z,17nm,1.0s,mb5.1
LBTB Lobatse 65.86 243 P **P 20 59 28.1 -0.4**
comp=Z,3.3nm,0.7s,mb4.5,baz=121,slow=6.7,SNR=7.8
VORD Divnogorie 67.19 328 *e*P **P 20 59 35.6 -0.8**
VORD pmax pmax
comp=E,20nm,0.9s
VORD pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
VORD pmax pmax
comp=N,10.0nm,1.2s
MAW Mawson 68.70 191 LR LR 21 23 48.0
comp=N,208nm,18.7s,MS4.4,baz=240,slow=31
YAK Yakutsk 70.11 19 *e*P **P 20 59 53.7 -0.6**
YAK pmax pmax
comp=E,5.0nm,1.3s
YAK pmax pmax
comp=Z,11nm,1.3s,mb4.6
YAK pmax pmax
comp=N,4.0nm,1.1s
MOS Moscow 70.67 332 *e*P **P 21 00 03.6 +5.7**
MOS pmax pmax
comp=Z,43nm,1.2s,mb5.2
OBN Obninsk 70.84 331⇓*e*P **P 20 59 58.6 -0.3**
OBN *e* 21 00 16.9
OBN pmax pmax
comp=Z,17nm,1.2s,mb4.8
SUR Sutherland 71.34 236 *e*P **P 21 00 03.0 +0.5**
KIS Kishinev 71.39 321 *e*P **P 21 00 05.0 +2.6**
KIS LRM 21 37 50.0
comp=Z,500nm,18.0s
VRI Vrincioaia 72.30 319 ⇑P **P 21 00 08.1 +0.2**
VRI Vrincioaia 72.30 319⇑*i*P **P 21 00 08.1 +0.2**
PLOR Plostina 72.34 319⇑*i*P **P 21 00 08.8 +0.6**
AKASG Malin Array Be 72.64 325 P **P 21 00 08.8 -1.1**
comp=Z,2.0nm,0.7s,mb4.2,baz=107,slow=4.3,SNR=14
MLR Muntele Rosu 72.68 319 ⇑P **P 21 00 10.9 +0.6**
MLR Muntele Rosu 72.68 319⇑*i*P **P 21 00 10.9 +0.7**
TMCR Tamitsa 75.34 339 *e*P **P 21 00 31.6 +6.2**
TMCR pmax pmax
comp=Z,26nm,1.1s,mb5.1
BZS Buzias 75.60 318 ⇑P **P 21 00 26.7 -0.6**
BZS Buzias 75.60 318⇑*i*P **P 21 00 26.7 -0.6**
KOLS Kolonicke sedl 76.18 321 *e*P **P 21 00 31.0 +0.5**
CRVS Cervenica-Dubn 76.68 321 *e*P **P 21 00 32.8 -0.6**
TIXI Tiksi 77.08 12 *e*P **P 21 00 33.5 -1.7**
comp=Z,11nm,0.9s,mb4.8
TIXI Tiksi 77.08 12 *e*P **P 21 00 32.7 -2.5**
TIXI pmax pmax
comp=Z,10.0nm,1.1s,mb4.7
TIXI MLR MLR
comp=Z,150nm,15.0s,MS4.4
KECS Kecovo 77.17 320 *e*P **P 21 00 36.2 0.0**
comp=Z,2.2nm,1.1s,mb4.0
KECS *e* 21 00 46.1
KECS Kecovo 77.17 320 *e*P **P 21 00 36.2 0.0**
KECS *e* 21 00 46.1
KECS pmax pmax
comp=Z,2.0nm,1.1s,mb4.0
VSU Vasula 77.19 331⇓*e*P **P 21 00 36.2 +0.2**
PKSM Moragy 77.76 318 ⇓P **P 21 00 38.5 -1.0**
PKSM Moragy 77.76 318⇓*i*P **P 21 00 38.5 -1.0**
VYHS Vyhne 78.23 320 *e*P **P 21 00 41.8 -0.3**
comp=Z,3.1nm,1.6s,mb4.0
VYHS *e* 21 00 50.9
VYHS Vyhne 78.23 320 *e*P **P 21 00 41.8 -0.3**
VYHS *e* 21 00 50.9
VYHS pmax pmax
comp=Z,3.0nm,1.6s,mb4.0
VYHS Vyhne 78.23 320 *e*P **P 21 00 41.8 -0.3**
VYHS *e*PCP PcP 21 00 50.8 -0.7
PET Petropavlovsk 78.65 35 *i*P **P 21 00 46.6 +2.3**
FINES FINESS Array B 78.72 334 P **P 21 00 43.9 -0.6**
comp=Z,2.7nm,0.7s,mb4.3,baz=120,slow=7.7,SNR=12
SEY Seymchan 79.14 25⇑*e*P **P 21 00 49.0 +2.2**
ARSA Arzberg 80.09 318⇑*e*P **P 21 00 52.6 +0.3**
comp=Z,3.1nm,1.2s,mb4.6
DPC Dobruska-Polom 80.29 322 *e*P **P 21 00 54.0 +0.7**
DPC *e*x x 21 01 03.7
KSP Ksiaz 80.43 322 *e*P **P 21 00 54.8 +0.8**
TREC Trest 80.57 320 *e*P **P 21 00 54.7 -0.1**
TREC *e*x x 21 01 05.1
PVCC Panska Ves 81.42 321 *e*P **P 21 01 00.4 +1.1**
PVCC *e*x x 21 01 10.2
KBA Koelnbreinsper 81.51 318⇓*i*P **P 21 00 59.8 0.0**
comp=Z,5.4nm,1.3s,mb4.3
KBA Koelnbreinsper 81.51 318⇓*i*P **P 21 00 59.8 0.0**
KBA pmax pmax
comp=Z,5.0nm,1.3s,mb4.3
GEC2 GERESS Array S 81.62 320 *e*P **P 21 01 00.8 +0.4**
GERES GERESS Array B 81.62 320 P **P 21 01 00.7 +0.3**
comp=Z,3.4nm,0.9s,mb4.3,baz=108,slow=4.3,SNR=29
KHC Kasperske Hory 81.76 320 *e*P **P 21 01 01.4 +0.3**
KHC *e*x x 21 01 10.9
KHC *e*x x 21 01 28.0
BRG Berggiesshubel 81.89 322 *e*P **P 21 01 02.4 +0.7**
BRG pmax pmax
comp=Z,4.0nm,1.1s,mb4.3
BRG Berggiesshubel 81.89 322 *e*P **P 21 01 02.4 +0.7**
comp=Z,18nm,1.8s,mb4.7
WET Wettzell 82.21 320 *e*P **P 21 01 03.7 +0.2**
WET pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
WET Wettzell 82.21 320 *e*P **P 21 01 03.7 +0.2**
comp=Z,8.0nm,1.0s,mb4.6
ARCES ARCESS Array B 82.33 341 P **P 21 01 03.6 -0.1**
comp=Z,4.7nm,1.1s,mb4.3,baz=77,slow=3.9,SNR=4.3
CLL Collm 82.56 322 *e*P **P 21 01 05.5 +0.3**
comp=Z,9.0nm,1.0s,mb4.8
CLL Collm 82.56 322 *i*P **P 21 01 05.5 +0.3**
comp=Z,5.0nm,1.0s,mb4.5
CLL *e*(pP) pP 21 01 11.0 -0.9
CLL *i*sP sP 21 01 14.5 +0.2
CLL *e*SS SS 21 16 42.0 -0.9
NKC Novy Kostel 82.69 321 *e*P **P 21 01 06.8 +0.8**
NKC *e*x x 21 01 16.8
TANN Tannenbergstha 82.72 321 *e*P **P 21 01 06.7 +0.6**
KEST Kesra 82.72 306 P **P 21 01 07.3 +0.8**
comp=Z,2.4nm,0.9s,mb4.2,baz=326,slow=5.2,SNR=7.2
ROTZ Rotzenmuhle 82.76 320 *e*P **P 21 01 07.1 +0.8**
MANZ Manzenberg 82.86 321 *e*P **P 21 01 07.9 +1.0**
SQTA Sankt Quirin 82.97 318⇑*i*P **P 21 01 07.0 -0.5**
comp=Z,2.0nm,0.6s,mb4.3
SQTA Sankt Quirin 82.97 318⇑*i*P **P 21 01 07.0 -0.5**
SQTA pmax pmax
comp=Z,2.0nm,0.6s,mb4.3
MOTA Moosalm 83.06 318⇑*i*P **P 21 01 07.5 -0.5**
comp=Z,3.6nm,0.8s,mb4.5
MOTA Moosalm 83.06 318⇑*i*P **P 21 01 07.5 -0.5**
MOTA pmax pmax
comp=Z,4.0nm,0.8s,mb4.5
FUR Furstenfeldbru 83.08 319 *e*P **P 21 01 07.8 -0.2**
FETA Feichten 83.26 317⇑*i*P **P 21 01 09.1 +0.1**
comp=Z,3.8nm,1.1s,mb4.3
MOX Moxa 83.29 321 *e*P **P 21 01 09.6 +0.5**
comp=Z,7.0nm,1.4s,mb4.5
MOX *e* 21 01 19.7
MOX
comp=Z,200nm,17.0s
MOX Moxa 83.29 321 *e*P **P 21 01 09.6 +0.5**
MOX pmax pmax
comp=Z,7.0nm,1.4s,mb4.5
MOX MLR MLR
comp=Z,200nm,17.0s,MS4.6
MOX Moxa 83.29 321 *e*P **P 21 01 09.4 +0.3**
comp=Z,6.0nm,1.3s,mb4.5
GRA1 Grafenberg Arr 83.38 320 *e*P **P 21 01 10.2 +0.7**
comp=Z,16nm,1.3s,mb4.9
GRA1 *e*pP pP 21 01 20.9 +4.7
GRF Grafenberg Arr 83.38 320 *e*P **P 21 01 10.2 +0.7**
GRF pmax pmax
comp=Z,16nm,1.3s,mb4.9
GRF Grafenberg Arr 83.38 320 *e*P **P 21 01 10.2 +0.7**
GRF pmax pmax
comp=Z,16nm,1.3s,mb4.9
GRF Grafenberg Arr 83.38 320 *e*P **P 21 01 10.2 +0.7**
comp=Z,16nm,1.3s,mb4.9
GRF *e*pP pP 21 01 20.9 +4.7
GRFO Grafenberg 83.38 320 P **P 21 01 10.3 +0.8**
comp=Z,9.6nm,1.0s,mb4.8
GRFO Grafenberg 83.38 320 P **P 21 01 10.3 +0.8**
GRFO pmax pmax
comp=Z,10.0nm,1.0s,mb4.8
PGF Pioggiola 83.84 313 *e*P **P 21 01 11.6 -0.5**
comp=Z,17nm,1.4s,mb4.7
PGF Pioggiola 83.84 313 *e*P **P 21 01 11.6 -0.5**
comp=Z,8.6nm,1.4s,mb4.7
PGF Pioggiola 83.84 313 *e*P **P 21 01 11.6 -0.5**
PGF pmax pmax
comp=Z,9.0nm,1.4s,mb4.7
DAVA Damuels 83.87 318⇓*i*P **P 21 01 12.4 +0.2**
comp=Z,7.8nm,0.8s,mb4.9
CLZ Clausthal 84.27 322 *e*P **P 21 01 14.4 +0.4**
CLZ pmax pmax
comp=Z,8.0nm,1.0s,mb4.8
CLZ Clausthal 84.27 322 *e*P **P 21 01 14.4 +0.4**
comp=Z,8.0nm,1.0s,mb4.8
BFO Black Forest 85.05 319 *e*P **P 21 01 17.9 -0.2**
comp=Z,4.6nm,1.0s,mb4.6
BFO Black Forest 85.05 319 *e*P **P 21 01 17.9 -0.2**
BFO pmax pmax
comp=Z,5.0nm,1.0s,mb4.6
BFO Black Forest 85.05 319 *e*P **P 21 01 18.0 -0.1**
SBF Sospel 85.13 314 *e*P **P 21 01 18.1 -0.5**
comp=Z,8.4nm,0.9s,mb4.6
SBF Sospel 85.13 314 *e*P **P 21 01 18.1 -0.5**
comp=Z,4.2nm,0.9s,mb4.6
SBF Sospel 85.13 314 *e*P **P 21 01 18.1 -0.5**
SBF pmax pmax
comp=Z,4.0nm,0.9s,mb4.5
NOA NORSAR Array B 85.43 331 P **P 21 01 19.5 -0.2**
comp=Z,2.1nm,0.9s,mb4.3,baz=98,slow=5.7,SNR=3.4
FRF La Foret Royal 85.67 314 *e*P **P 21 01 20.6 -0.7**
comp=Z,7.6nm,1.0s,mb4.6
FRF La Foret Royal 85.67 314 *e*P **P 21 01 20.6 -0.7**
comp=Z,3.8nm,1.0s,mb4.6
FRF La Foret Royal 85.67 314 *e*P **P 21 01 20.6 -0.7**
FRF pmax pmax
comp=Z,4.0nm,1.0s,mb4.6
MBDF Montbardon 85.70 315 *e*P **P 21 01 21.0 -0.4**
LMR La Mourre 85.74 313 *e*P **P 21 01 21.1 -0.6**
comp=Z,16nm,1.2s,mb4.8
LMR La Mourre 85.74 313 *e*P **P 21 01 21.1 -0.6**
comp=Z,7.8nm,1.2s,mb4.8
LMR La Mourre 85.74 313 *e*P **P 21 01 21.1 -0.6**
LMR pmax pmax
comp=Z,8.0nm,1.2s,mb4.8
LPG La Plagne 85.79 316 *e*P **P 21 01 21.6 -0.3**
comp=Z,2.5nm,0.7s,mb4.3
LPG La Plagne 85.79 316 *e*P **P 21 01 21.6 -0.3**
comp=Z,1.3nm,0.7s,mb4.3
LPG La Plagne 85.79 316 *e*P **P 21 01 21.6 -0.3**
LPG pmax pmax
comp=Z,1.0nm,0.7s,mb4.2
LPL La Plagne 85.81 316 *e*P **P 21 01 21.5 -0.4**
comp=Z,4.0nm,0.7s,mb4.4
LPL La Plagne 85.81 316 *e*P **P 21 01 21.5 -0.4**
comp=Z,2.0nm,0.7s,mb4.5
LPL La Plagne 85.81 316 *e*P **P 21 01 21.5 -0.4**
LPL pmax pmax
comp=Z,2.0nm,0.7s,mb4.5
IBBN Ibbenburen 85.93 322 *e*P **P 21 01 22.8 +0.4**
HINF Hinteralfeld 85.97 318 *e*P **P 21 01 22.3 -0.4**
HAU Haudompre 86.33 318 *e*P **P 21 01 23.8 -0.7**
comp=Z,11nm,0.9s,mb4.8
HAU *e*MLR MLR
comp=Z,95nm,22.0s,MS3.9
HAU Haudompre 86.33 318 *e*P **P 21 01 23.8 -0.7**
comp=Z,5.6nm,0.9s,mb4.8
HAU LR LR
comp=Z,100nm,22.0s,MS4.2
HAU Haudompre 86.33 318 *e*P **P 21 01 23.8 -0.7**
HAU pmax pmax
comp=Z,6.0nm,0.9s,mb4.8
HAU MLR MLR
comp=Z,100nm,22.0s,MS4.2
ORIF Oris-en-Rattie 86.35 315 *e*P **P 21 01 24.1 -0.5**
comp=Z,3.1nm,0.7s,mb4.3
ORIF *e*MLR MLR
comp=Z,70nm,19.2s,MS3.8
ORIF Oris-en-Rattie 86.35 315 *e*P **P 21 01 24.1 -0.5**
comp=Z,1.5nm,0.7s,mb4.3
ORIF Oris-en-Rattie 86.35 315 *e*P **P 21 01 24.1 -0.5**
ORIF pmax pmax
comp=Z,2.0nm,0.7s,mb4.5
CABF La Chapelle 86.37 317 *e*P **P 21 01 24.5 -0.2**
comp=Z,8.4nm,0.9s,mb4.7
CABF La Chapelle 86.37 317 *e*P **P 21 01 24.5 -0.2**
comp=Z,4.2nm,0.9s,mb4.7
CABF La Chapelle 86.37 317 *e*P **P 21 01 24.5 -0.2**
CABF pmax pmax
comp=Z,4.0nm,0.9s,mb4.7
SMRF Simiane la Rot 86.48 314 *e*P **P 21 01 24.8 -0.5**
comp=Z,8.9nm,1.2s,mb4.6
SMRF Simiane la Rot 86.48 314 *e*P **P 21 01 24.8 -0.5**
comp=Z,8.9nm,1.2s,mb4.9
VIVF Saint-Julien-l 87.20 315 *e*P **P 21 01 28.3 -0.5**
comp=Z,5.2nm,1.1s,mb4.4
VIVF Saint-Julien-l 87.20 315 *e*P **P 21 01 28.3 -0.5**
comp=Z,2.6nm,1.1s,mb4.4
VIVF Saint-Julien-l 87.20 315 *e*P **P 21 01 28.3 -0.5**
VIVF pmax pmax
comp=Z,3.0nm,1.1s,mb4.4
LASF Ste Croix 87.72 314 *e*P **P 21 01 31.3 0.0**
SMF Signal de Mont 87.91 317 *e*P **P 21 01 31.8 -0.4**
comp=Z,7.5nm,1.1s,mb4.5
SMF Signal de Mont 87.91 317 *e*P **P 21 01 31.8 -0.4**
comp=Z,3.8nm,1.0s,mb4.6
SMF Signal de Mont 87.91 317 *e*P **P 21 01 31.8 -0.4**
SMF pmax pmax
comp=Z,4.0nm,1.0s,mb4.6
BAIF Baives 87.92 320 *e*P **P 21 01 32.2 +0.1**
LOR Lormes 87.94 317 *e*P **P 21 01 32.4 +0.1**
comp=Z,6.6nm,1.0s,mb4.5
LOR Lormes 87.94 317 *e*P **P 21 01 32.4 +0.1**
comp=Z,3.3nm,1.0s,mb4.5
LOR Lormes 87.94 317 *e*P **P 21 01 32.4 +0.1**
LOR pmax pmax
comp=Z,3.0nm,1.0s,mb4.5
SSF Saint Saulge 88.17 317 *e*P **P 21 01 33.4 0.0**
AVF Avril sur Loir 88.26 317 *e*P **P 21 01 33.3 -0.5**
BGF Bois d'Agland 88.59 316 *e*P **P 21 01 35.1 -0.3**
comp=Z,4.2nm,0.6s,mb4.7
BGF Bois d'Agland 88.59 316 *e*P **P 21 01 35.1 -0.3**
comp=Z,2.1nm,0.6s,mb4.6
BGF Bois d'Agland 88.59 316 *e*P **P 21 01 35.1 -0.3**
BGF pmax pmax
comp=Z,2.0nm,0.6s,mb4.6
QSPA South Pole Qui 88.68 180 P **P 21 01 34.9 -0.2**
comp=Z,14nm,1.2s,mb5.2
QSPA South Pole Qui 88.68 180 P **P 21 01 34.2 -1.0**
comp=Z,3.9nm,1.1s,mb4.7,baz=270,slow=7.1,SNR=2.1
MTLF Montolieu 88.86 313 *e*P **P 21 01 36.3 -0.4**
comp=Z,13nm,1.4s,mb4.8
MTLF Montolieu 88.86 313 *e*P **P 21 01 36.3 -0.4**
comp=Z,6.3nm,1.4s,mb4.8
MTLF Montolieu 88.86 313 *e*P **P 21 01 36.3 -0.4**
MTLF pmax pmax
comp=Z,6.0nm,1.4s,mb4.7
TCF Toulx Ste Croi 89.02 316 *e*P **P 21 01 37.0 -0.4**
CAF Calviac 89.05 315 *e*P **P 21 01 37.3 -0.3**
RJF Les Rejaudoux 89.46 315 *e*P **P 21 01 38.9 -0.6**
RJF *e*MLR MLR
comp=Z,75nm,20.5s,MS3.8
RJF Les Rejaudoux 89.46 315 *e*P **P 21 01 38.9 -0.6**
RJF MLR MLR
comp=Z,80nm,20.5s,MS4.1
SNAA Sanae 89.51 198⇑*e*P **P 21 01 39.7 +0.5**
EPF Esparros 90.23 313 *e*P **P 21 01 42.7 -0.4**
MFF Saint Martin d 90.66 316 *e*P **P 21 01 44.8 -0.2**
comp=Z,9.1nm,1.2s,mb4.7
MFF Saint Martin d 90.66 316 *e*P **P 21 01 44.8 -0.2**
comp=Z,4.6nm,1.2s,mb4.7
MFF Saint Martin d 90.66 316 *e*P **P 21 01 44.8 -0.2**
MFF pmax pmax
comp=Z,5.0nm,1.2s,mb4.7
LDF La Druitiere 90.68 318 *e*P **P 21 01 44.6 -0.5**
comp=Z,22nm,1.3s,mb5.0
LDF La Druitiere 90.68 318 *e*P **P 21 01 44.6 -0.5**
comp=Z,11nm,1.3s,mb5.0
LDF La Druitiere 90.68 318 *e*P **P 21 01 44.6 -0.5**
LDF pmax pmax
comp=Z,11nm,1.3s,mb5.0
FLN La Foliniere 90.92 319 *e*P **P 21 01 45.5 -0.7**
comp=Z,16nm,1.1s,mb4.9
FLN *e*MLR MLR
comp=Z,154nm,20.8s,MS4.1
FLN La Foliniere 90.92 319 *e*P **P 21 01 45.5 -0.7**
comp=Z,7.8nm,1.1s,mb5.0
FLN LR LR
comp=Z,150nm,20.8s,MS4.4
FLN La Foliniere 90.92 319 *e*P **P 21 01 45.5 -0.7**
FLN pmax pmax
comp=Z,8.0nm,1.1s,mb5.0
FLN MLR MLR
comp=Z,150nm,20.8s,MS4.4
GRR Gorron 91.17 318 *e*P **P 21 01 47.0 -0.4**
SJPF Ste Jean 91.37 313 *e*P **P 21 01 47.8 -0.7**
comp=Z,4.9nm,0.7s,mb4.6
SJPF Ste Jean 91.37 313 *e*P **P 21 01 47.8 -0.7**
comp=Z,2.5nm,0.7s,mb4.7
SJPF Ste Jean 91.37 313 *e*P **P 21 01 47.8 -0.7**
SJPF pmax pmax
comp=Z,2.0nm,0.7s,mb4.6
SGMF Saint Gilles 92.30 318 *e*P **P 21 01 52.2 -0.4**
comp=Z,34nm,1.4s,mb5.2
SGMF Saint Gilles 92.30 318 *e*P **P 21 01 52.2 -0.4**
comp=Z,17nm,1.4s,mb5.2
SGMF Saint Gilles 92.30 318 *e*P **P 21 01 52.2 -0.4**
SGMF pmax pmax
comp=Z,17nm,1.4s,mb5.2
QUIF Quistinic 92.71 318 *e*P **P 21 01 54.0 -0.5**
PDAR Pinedale Array 135.33 20 PKP PKPdf 21 08 04.6 +2.1
comp=Z,0.4nm,0.7s,baz=347,slow=3.7,SNR=3.8
ANMO Albuquerque 143.37 22⇑*i*PKIKP PKPdf 21 08 22.8 +5.4
WVT Waverly 145.24 356 *e*PKPbc PKPbc 21 08 19.5 -0.7
WMOK Wichita Mounta 145.84 12 *e*PKPdf PKPdf 21 08 22.5 +0.8
MIAR Mount Ida 146.79 5 *e*PKPbc PKPbc 21 08 25.7 +0.8
TXAR Lajitas Array 149.43 23 PKPbc PKPbc 21 08 32.0 -0.2
comp=Z,0.4nm,0.6s,baz=345,slow=3.1,SNR=4.4
JCT Junction City 149.67 16 *e*PKPbc PKPbc 21 08 33.0 +0.3
LPAZ La Paz 151.81 231 PKPbc PKPbc 21 08 38.9 +0.8
comp=Z,1.2nm,0.6s,baz=87,slow=8.4,SNR=6.8

CSEM ***09*** *20:49:42.7, 1253N×4566E, h8km, ML3.9, After DHMR*
DHMR 09 20:49:42.7±1.3, 1253N×4566E, h9km±9km, ML3.9, 4C-1D, Western Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBOS		**1.39**	**343**	⇑*i*P	Pn	20 50 08.6	+0.3
LBOS				*i* S	Sb	20 50 28.8	+2.0
BDHA	**Al Bayda'**	**1.44**	**357**	⇑*i*P	Pn	20 50 08.4	-0.6
BDHA				AML	AML	20 50 22.7	
	comp=N,3μm,0.3s						
BDHA				*i* S	Sn	20 50 30.2	+2.1
BDHA	**Al Bayda'**	**1.44**	**357**	⇑*i*P	Pn	20 50 08.4	-0.6
	comp=N,2μm,0.3s						
BDHA				*i* S	Sn	20 50 30.2	+2.1
TRBA	**At Turbah**	**1.66**	**295**	⇑*i*P	Pn	20 50 13.3	+1.3
TRBA				*i* S	Sn	20 50 35.8	+2.4
TRBA				AML	AML	20 50 38.6	
	comp=N,909nm,0.5s						
UDYN	**Al 'Udayn**	**2.18**	**311**	⇓*i*P	Pn	20 50 20.9	+1.8
UDYN				*i* S	Sn	20 50 49.6	+3.3
DHBB	**Dhamar BB**	**2.37**	**329**	*i* P	Pn	20 50 23.5	+1.7
DHBB				*i* S	Sn	20 50 56.6	+5.4
HAJJ	**Hajjah**	**3.73**	**328**	*i* P	Pn	20 50 43.4	+2.9
HAJJ				*i* S	Sn	20 51 30.6	+6.0

NEIC ***09*** *21:16:44.5±1.6, 508S×15150E, h150km, mb4.6/5, Error ellipse: s-maj=49.6km s-min=13.9km az=111.0*
IDC ***09*** *21:16:46.8±6.4, 506S×15142E, h164km±32km, mb3.6/6, mb1 3.8/6, mb1mx3.6/13, mbtmp3.6/6, MS4.6/1, Ms1 4.6/1,*

ms1mx3.0/17, Error ellipse: s-maj=109.0km s-min=20.0km az=105.0

ISC 09 21:16:44.7±2.3, 51S±02×1515E±04, h150km, n15, σ0§83/13, mb4.1/7, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu** 26nm,0.6s	**20.28**	**247**	*e*P	**P**	**21 21 09.0**	**+0.2**
WRAB	**Tennant Creek** 7.4nm,0.4s,mb4.5	**22.28**	**227**	*e*P	**P**	**21 21 30.0**	**+0.1**
WB2	**Warramunga Arr**	**22.28**	**227**	*e*P	**P**	**21 21 30.1**	**+0.1**
WRA	**Warramunga Arr** 6.8nm,0.4s,mb4.4,baz=51,slow=10.0,SNR=130	**22.29**	**227**	P	**P**	**21 21 30.2**	**+0.1**
WRA	0.5nm,0.5s,baz=48,slow=2.8,SNR=12			ScP	ScP	21 28 41.9	-2.0
ASAR	**Alice Springs** 4.8nm,0.7s,mb4.1,baz=55,slow=9.0,SNR=71	**25.07**	**221**	P	**P**	**21 21 56.5**	**+1.1**
ASAR	1.1nm,0.8s,baz=50,slow=3.6,SNR=8.2			ScP	ScP	21 28 50.4	-1.0
FITZ	**Fitzroy Crossi** 6.1nm,1.3s,mb4.2	**28.39**	**241**	*e*P	**P**	**21 22 24.9**	**-0.2**
FITZ	**Fitzroy Crossi** 2.2nm,0.4s,mb4.2,baz=53,slow=9.1,SNR=21	**28.39**	**241**	P	**P**	**21 22 25.3**	**+0.2**
FORT	**Forrest** 6.4nm,0.5s,mb4.6	**33.76**	**218**	*e*P	**P**	**21 23 12.7**	**+0.6**
MBWA	**Marble Bar**	**34.71**	**240**	*e*P	**P**	**21 23 19.9**	**-0.6**
RAO	**Raoul Island** comp=Z,909nm,20.4s,baz=47,slow=31	**37.61**	**133**	LR	LR	21 36 02.7	
KLBR	**Kellerberrin** 180nm,1.6s	**41.17**	**226**	*e*P	**P**	**21 24 12.5**	**-2.0**
SONM	**Songino Array** 0.5nm,0.6s,mb3.5,baz=141,slow=4.9,SNR=8.3	**65.88**	**328**	P	**P**	**21 27 15.5**	**+1.3**
MKAR	**Makanchi Array** 0.1nm,0.3s,baz=102,slow=7.7,SNR=3.9	**79.69**	**319**	P	**P**	**21 28 35.8**	**+0.1**
ZALV	**Zalesovo Beam** 0.5nm,0.5s,mb3.4,baz=113,slow=6.8,SNR=3.5	**80.68**	**327**	P	**P**	**21 28 39.6**	**-1.2**
TORD	**Torodi Ar. Bea** 0.8nm,0.4s,baz=80,slow=2.1,SNR=24	**149.16**	**287**	PKPbc	PKPbc	21 36 16.1	-0.3

TEH ***09*** *21:25:33.4, 3900N×4442E, h6km, ML4.1*
NSSP ***09*** *21:25:46.1, 3890N×4453E, h9km, ML3.9*
TIF ***09*** *21:26:46.5, 3884N×4471E, h8km±3km*
DDA ***09*** *21:26:46.2, 3886N×4499E, h8km±9km, Md4.1, Ml4.5*
IDC ***09*** *21:26:48.0±0.9, 3884N×4445E, h0km, mb4.1/14, mb1 4.2/18, mb1mx4.1/24, mbtmp4.1/18, ML3.6/4, MS3.7/19, Ms1 3.7/19, ms1mx3.6/39, Error ellipse: s-maj=21.1km s-min=12.7km az=165.0*
ISCJB ***09*** *21:26:48.8±0.4, 3886N±002×4454E±002, h10km±2km, mb4.3/74, MS3.6/27, Error ellipse: s-maj=2.7km s-min=2.2km az=34.5*
CSEM ***09*** *21:26:48.2±0.0, 3877N×4448E, h10km, mb4.5/53, Ms3.4, Error ellipse: s-maj=1.9km s-min=1.2km az=48.0*
BJI ***09*** *21:26:48.0, 3890N×4450E, h5km, mB4.9, mb4.3, Ms4.0*
ISK ***09*** *21:26:49.7, 3893N×4444E, h5km, ML4.3*
THR ***09*** *21:26:49.4±0.5, 3898N×4452E, h14km±9km, ML4.2*
NEIC ***09*** *21:26:50.0, 3888N×4449E, h5km, mb4.4/50, ML4.3(ISK), ML4.2(THR), MN4.1(TEH), After ISK.*
MOS ***09*** *21:26:50.6±1.0, 3860N×4441E, h33km, mb4.6/43, Error ellipse: s-maj=7.6km s-min=3.9km az=133.9*
NAO ***09*** *21:26:51.4, 3892N×4459E, h33km, mb4.5*
SZGRF ***09*** *21:27:07.6, 3903N×4230E, h33km, mb4.7, Turkey*

ISC 09 21:26:49.5±0.4, 3890N±001×4456E±002, h4km±2km, n381, σ1§34/407, mb4.3/74, MS3.6/27, 22C-17D, Turkey-Iran border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAKU	**Maku**	**0.47**	**12**	*e*Pg	**Pg**	**21 26 57.4**	**-1.1**
MAKU				*e*Sg	**Sg**	**21 27 03.7**	**-0.9**
MAKU	comp=N,27μm,0.6s			AML	AML	21 27 05.3	
MAKU	comp=E,23μm,0.4s			AML	AML	21 27 05.9	
CLDR	**Caldiran**	**0.56**	**297**	PG	**Pg**	**21 26 59.1**	**-1.1**
CLDR				*e*SG	**Sg**	**21 27 07.6**	**+0.2**
NAX	**Nakhchivan** SNR=388	**0.78**	**69**	P	**Pg**	**21 27 03.7**	**-0.8**
NAX				S	**Sg**	**21 27 15.7**	**+1.0**
IMRD	**Marand**	**0.92**	**101**	Pg	**Pg**	**21 27 05.4**	**-1.7**
IMRD				Sg	**Sg**	**21 27 19.3**	**+0.4**
IMRD	**Marand**	**0.92**	**101**	*e*Pg	**Pg**	**21 27 05.5**	**-1.6**
IMRD				*e*Sg	**Sg**	**21 27 19.3**	**+0.4**
IMRD	comp=Z,81μm,0.2s			*e*		21 27 24.7	
VANB	**Van**	**0.96**	**252**	*e*PG	**Pg**	**21 27 07.1**	**-0.9**
TVAN	**Van**	**0.97**	**248**	*i* P	**Pg**	**21 27 07.6**	**-0.6**
VANT	**Van**	**1.02**	**244**	*e*PG	**Pg**	**21 27 10.7**	**+1.7**
ISHB	**Shabestar**	**1.03**	**126**	Pg	**Pg**	**21 27 07.5**	**-1.8**
ISHB	**Shabestar** comp=Z,93μm,0.3s	**1.03**	**126**	*e*	**Sn**	**21 27 25.6**	**-0.1**
VRNZ	**Vardanashen**	**1.19**	**346**	P	**Pg**	**21 27 11.3**	**-1.0**
VRNZ				S	**Sg**	**21 27 29.5**	**+1.8**
PAAR	**P'arak'ar**	**1.26**	**354**	P	**Pg**	**21 27 12.4**	**-1.3**
PAAR				S	**Sg**	**21 27 30.6**	**+0.6**
VNNZ	**Vanand**	**1.33**	**335**	P	**Pn**	**21 27 14.2**	**-0.7**
VNNZ				S	**Sg**	**21 27 33.5**	**+1.1**
AGRB	**Hanur-Agry**	**1.39**	**300**	*e*PN	**Pn**	**21 27 14.8**	**-0.9**
AKSZ	**Araks**	**1.39**	**338**	P	**Pn**	**21 27 14.9**	**-0.9**
AKSZ				S	**Sb**	**21 27 33.0**	**-1.3**
ITBZ	**Tabriz**	**1.41**	**117**	Pn	**Pn**	**21 27 13.9**	**-2.1**
ITBZ				Sn	**Sn**	**21 27 35.1**	**0.0**
ITBZ	**Tabriz**	**1.41**	**117**	*e*Pn	**Pn**	**21 27 14.0**	**-2.0**
ITBZ	comp=Z,18μm,0.2s			*e*		21 27 24.1	
ITBZ				*e*Sn	**Sn**	**21 27 35.1**	**0.0**
ARUZ	**Aruch**	**1.43**	**346**	P	**Pn**	**21 27 15.4**	**-0.9**
ARUZ				S	**Sb**	**21 27 34.9**	**-0.5**
TUTA	**Tutak**	**1.45**	**291**	*i* P	**Pn**	**21 27 15.3**	**-1.2**
TUTA				*i* S	**Sb**	**21 27 41.2**	**+5.5**
HKR	**Hakkari**	**1.46**	**206**	*e*PN	**Pn**	**21 27 17.5**	**+0.8**
HAKT	**HAKKARI**	**1.49**	**207**	*i* P	**Pn**	**21 27 16.3**	**-0.9**
GRS	**Goris**	**1.51**	**66**	S	**Sn**	**21 27 37.0**	**-0.4**
AMBZ	**Amberd**	**1.51**	**351**	||P	**Pn**	**21 27 17.6**	**+0.2**
AMBZ				S	**Sn**	**21 27 38.4**	**+0.9**
IAZR	**Azarshahr**	**1.65**	**137**	*e*Pn	**Pn**	**21 27 18.8**	**-0.5**
IAZR	comp=Z,42μm,0.3s			*e*		21 27 25.6	
IAZR	**Azarshahr**	**1.65**	**137**	Pn	**Pn**	**21 27 18.7**	**-0.6**
DIGO	**Kars**	**1.77**	**329**	*i* P	**Pn**	**21 27 21.1**	**+0.1**
DIGO				*i* S	**Sg**	**21 27 54.5**	**+8.1**
CUKT	**Cukurca**	**1.81**	**205**	*e*PN	**Pn**	**21 27 23.3**	**+1.8**
KARS	**Kars**	**2.05**	**327**	*e*PN	**Pn**	**21 27 25.3**	**+0.5**
STE	**Stepanavan**	**2.11**	**356**	P	**Pn**	**21 27 26.0**	**+0.4**
GANJ	**Ganja** SNR=66	**2.22**	**37**	P	**Pn**	**21 27 28.5**	**+1.4**
GANJ				S	**Sn**	**21 27 59.3**	**+4.4**
HOMI	**Horasan**	**2.35**	**300**	*i* P	**Pn**	**21 27 29.8**	**+0.9**
BRDA	**Brd** SNR=149	**2.44**	**55**	P	**Pn**	**21 27 33.4**	**+3.2**
BTMT	**Batman**	**2.50**	**255**	*e*PN	**Pn**	**21 27 34.0**	**+2.9**
GRMI	**Germi**	**2.61**	**91**	*e*Pn	**Pn**	**21 27 33.6**	**+1.1**
GRMI				*e*Sg	**Sg**	**21 28 11.9**	**-1.4**
GRMI	comp=E,656nm,0.5s			AML	AML	21 28 18.4	
GRMI	**Germi** SNR=52	**2.61**	**91**	*e*Pn	**Pn**	**21 27 33.6**	**+1.1**
GRMI	SNR=90			*e*Sg	**Sg**	**21 28 11.9**	**-1.4**
DGRG	**David-gareji**	**2.63**	**14**	P	**Pn**	**21 27 34.2**	**+1.5**
DGRG				S	**Sg**	**21 28 12.7**	**-1.2**
BNGL	**BINGOL**	**2.66**	**272**	*i* P	**Pn**	**21 27 33.8**	**+0.6**
EZM	**Erzurum**	**2.67**	**293**	*e*PN	**Pn**	**21 27 34.2**	**+0.9**
MTA	**Mtatsminda**	**2.80**	**4**	P	**Pn**	**21 27 38.7**	**+3.6**
MTA				S	**Sg**	**21 28 21.5**	**+2.0**
TBLG	**Delisi**	**2.84**	**3**	P	**Pn**	**21 27 38.9**	**+3.3**
TBLG				S	**Sg**	**21 28 22.3**	**+1.7**
MSL	**Mosul**	**2.85**	**205**	*ex*	x	21 27 37.0	
MSL				*ex*	x	21 28 13.0	
ARTV	**Artvin**	**3.05**	**319**	*i* P	**Pn**	**21 27 38.8**	**+0.3**
SEKA	**Sheki** SNR=29	**3.07**	**40**	P	**Pn**	**21 27 40.5**	**+1.6**
GOR	**Gori**	**3.10**	**354**	P	**Pn**	**21 27 44.8**	**+5.4**
GOR				S	**Sg**	**21 28 32.2**	**+2.9**
BINT	**Bingol**	**3.17**	**271**	*e*PN	**Pn**	**21 27 42.0**	**+1.8**
KOPT	**Kop Dagi**	**3.34**	**291**	*i* P	**Pn**	**21 27 41.1**	**-1.4**
KOPT				*i* S	**Sg**	**21 28 42.1**	**+5.5**
MARD	**Mardin**	**3.37**	**243**	*i* P	**Pn**	**21 27 43.0**	**0.0**
MARD				*i* S	**Sg**	**21 28 37.5**	**-0.4**
BCA	**Borcka**	**3.40**	**320**	*e*PN	**Pn**	**21 27 45.6**	**+2.3**
DIY	**Diyarbakir**	**3.54**	**255**	*e*PN	**Pn**	**21 27 47.7**	**+2.4**
PZAR	**Pazar-Rize**	**3.62**	**310**	*e*PN	**Pn**	**21 27 48.0**	**+1.7**
ONI	**Oni**	**3.77**	**348**	P	**Pb**	**21 27 55.3**	**-1.4**
ONI				S	**Sg**	**21 28 49.7**	**-1.1**
GUMT	**Gumushane**	**4.22**	**293**	*e*PN	**Pn**	**21 27 56.8**	**+2.2**
KTUT	**Trabzon**	**4.23**	**301**	*e*PN	**Pn**	**21 27 57.1**	**+2.3**
SNGE	**Sanandaj**	**4.40**	**149**	*e*Pn	**Pn**	**21 27 59.3**	**+2.2**
MAK	**Makhachkala**	**4.63**	**28**	*e*PN	**Pg**	**21 28 16.5**	**-1.8**
MAK				*e*S	**Sg**	**21 29 18.3**	**-0.1**
MAK	comp=Z,103nm,0.9s			pmax	pmax		
MAK	comp=Z,1μm,11.0s			MLR	MLR		
URFA	**Urfa**	**4.75**	**254**	*e*PN	**Pn**	**21 28 04.9**	**+3.0**
MYA	**Malataya**	**4.83**	**265**	*e*PN	**Pn**	**21 28 05.8**	**+2.7**
MALT	**Malatya**	**4.84**	**265**	*e*PN	**Pn**	**21 28 05.8**	**+2.7**
MALT	**Malatya**	**4.84**	**265**	⇑P	**Pb**	**21 28 15.3**	**+0.5**
MALT	**Malatya**	**4.84**	**265**	⇑*i*P	**Pb**	**21 28 15.3**	**+0.5**
ESPY	**Espiye-Giresun**	**4.92**	**296**	*e*PN	**Pn**	**21 28 06.8**	**+2.6**
ATAB	**Bozova**	**5.13**	**256**	*i* P	**Pg**	**21 28 25.1**	**-2.8**
KIV	**Kislovodsk**	**5.25**	**345**	*e*P	**Pn**	**21 28 14.2**	**+5.5**
KIV				*e*S	**Sn**	**21 29 12.8**	**+3.2**
KIV	comp=Z,17nm,1.0s			pmax	pmax		
KIV	comp=Z,807nm,7.0s			MLR	MLR		
KIV	**Kislovodsk** SNR=6.9	**5.25**	**345**	P	**Pg**	**21 28 27.7**	**-2.3**
KIV	**Kislovodsk**	**5.25**	**345**	⇑*i*P	**Pn**	**21 28 15.2**	**+6.5**
KIV	**Kislovodsk**	**5.25**	**345**	*e*P	**Pn**	**21 28 10.4**	**+1.7**
KIV				*e*S	**Sn**	**21 29 12.8**	**+3.2**
KIV	comp=Z,807nm,7.0s			pmax	pmax		
BHD	**Baghdad**	**5.62**	**182**	*ex*	x	21 28 15.0	
BHD				*ex*	x	21 29 22.0	
THKV	**Tehran--Karaj**	**5.85**	**119**	*e*Pn	**Pn**	**21 28 19.4**	**+2.4**
SOC	**Sochi**	**5.94**	**324**	*e*P	**Pn**	**21 28 20.3**	**+2.1**
SOC				*e*		21 29 26.5	
SOC	comp=Z,15nm,0.6s			pmax	pmax		
SOC	comp=Z,3μm,13.0s			MLR	MLR		
SOC	**Sochi** comp=Z,15nm,0.6s	**5.94**	**324**	*e*P	**Pn**	**21 28 20.3**	**+2.1**
SOC	comp=Z,3μm,13.0s			*e*S	**Sn**	**21 29 26.5**	**-0.1**
SVSK	**Karacayir**	**5.94**	**282**	*e*PN	**Pn**	**21 28 21.3**	**+3.0**
CHTH	**Charan**	**6.02**	**118**	*e*Pn	**Pn**	**21 28 21.0**	**+1.6**
GAZ	**Gaziantep**	**6.05**	**256**	*e*PN	**Pn**	**21 28 23.3**	**+3.5**
ASAO	**Ashtian**	**6.17**	**133**	*e*Pn	**Pn**	**21 28 23.5**	**+2.0**
GOF	**Gofitskoye**	**6.26**	**350**	*e*P	**Pn**	**21 28 27.8**	**+5.1**
GOF				pmax	pmax		
DAMV	**Damavand**	**6.75**	**117**	*e*Pn	**Pn**	**21 28 31.1**	**+1.7**
SHGR	**Shooshtar-Gavs**	**7.60**	**152**	*e*Pn	**Pn**	**21 28 43.3**	**+2.1**
ANN	**Anapa**	**7.94**	**320**	*e*P	**Pn**	**21 28 50.5**	**+4.8**
ANN				*e*S	**Sn**	**21 30 18.6**	**+2.7**
ANN	comp=Z,12nm,1.0s			pmax	pmax		
ANN	comp=N,1μm,11.0s			MLR	MLR		
ANN	comp=E,506nm,11.0s			MLR	MLR		
ANN	comp=Z,1μm,11.0s			MLR	MLR		
ASF	**Jabal al Asfar**	**9.16**	**225**	Pn	**Pn**	**21 29 01.1**	**-1.4**
ASF				Lg		21 31 31.2	
ASF				LR	LR	21 33 10.6	
ASF	**Jabal al Asfar** comp=Z,0.1nm,0.3s,baz=338,slow=12,SNR=2.2	**9.16**	**225**	Pn	**Pn**	**21 29 01.1**	**-1.4**
ASF	comp=Z,0.1nm,0.3s,baz=261,slow=23,SNR=3.5			Lg		21 31 31.2	
ASF	comp=Z,204nm,18.7s,baz=178,slow=42			LR	LR	21 33 10.6	
ANTO	**Ankara** comp=Z,14nm,1.1s	**9.16**	**280**	*e*P	**Pn**	**21 29 03.3**	**+0.9**
ANTO	**Ankara**	**9.16**	**280**	*e*P	**Pn**	**21 29 03.3**	**+0.8**
ANTO	comp=Z,14nm,1.1s			pmax	pmax		
ANTO	**Ankara** SNR=6.2	**9.16**	**280**	P	**Pn**	**21 29 09.9**	**+7.4**
ANTO	**Ankara** SNR=6.2	**9.16**	**280**	P	**Pn**	**21 29 09.9**	**+7.4**
ANTO	**Ankara** comp=Z,14nm,1.1s	**9.16**	**280**	*e*P	**Pn**	**21 29 03.3**	**+0.8**
MIB	**Mutribah**	**9.36**	**165**	*e*P	**Pn**	**21 29 04.9**	**-0.2**
MIB				AMb	AMB	21 29 08.1	
MIB	**Mutribah** comp=Z,24nm,0.7s	**9.36**	**165**	*e*P	**Pn**	**21 29 04.9**	**-0.3**
MMAI	**Mount Meron Ar** comp=Z,0.5nm,0.3s,baz=67,slow=15,SNR=5.9	**9.46**	**234**	Pn	**Pn**	**21 29 09.1**	**+2.6**
MMAI	comp=Z,0.2nm,0.3s,baz=211,slow=19,SNR=2.4			Lg		21 31 45.1	
MMAI				LR	LR	21 33 22.5	
RST	**Umm Al-Ruwaisa** comp=Z,417nm,20.3s,baz=40,slow=42	**9.59**	**167**	*e*P	**Pn**	**21 29 07.6**	**-0.7**
RST	comp=Z,20nm,0.6s			AMb	AMB	21 29 13.7	
RST	**Umm Al-Ruwaisa** comp=Z,20nm,0.6s	**9.59**	**167**	*e*P	**Pn**	**21 29 07.6**	**-0.7**
NAY	**Al-Naaiem**	**9.88**	**166**	*e*P	**Pn**	**21 29 11.6**	**-0.7**
NAY	comp=Z,16nm,0.8s			AMb	AMB	21 29 17.3	
NAY	**Al-Naaiem** comp=Z,16nm,0.8s	**9.88**	**166**	*e*P	**Pn**	**21 29 11.6**	**-0.7**
RDF	**Al-Radifah** comp=Z,24nm,0.5s	**10.25**	**165**	*e*P	**Pn**	**21 29 17.0**	**-0.4**
RDF	comp=Z,24nm,0.5s			AMb	AMB	21 29 19.9	
RDF	**Al-Radifah** comp=Z,24nm,0.5s	**10.25**	**165**	*e*P	**Pn**	**21 29 17.0**	**-0.4**
EIL	**Elat** comp=Z,0.1nm,0.3s,baz=267,slow=17,SNR=2.6	**12.15**	**224**	Lg		21 33 13.4	
EIL	comp=Z,164nm,21.1s,baz=261,slow=38			LR	LR	21 34 25.2	
KIS	**Kishinev**	**14.07**	**310**	*e*P	**Pn**	**21 30 10.0**	**+0.5**
SZH	**Strazhica**	**14.70**	**293**	P	**Pn**	**21 30 25.7**	**+7.5**
KDZ	**Kurdzhali**	**14.87**	**287**	P	**Pn**	**21 30 29.0**	**+8.5**
VRI	**Vrincioaia**	**14.89**	**304**	⇑*i*P	**Pn**	**21 30 22.8**	**+2.1**
PLOR	**Plostina**	**14.93**	**303**	⇑*i*P	**Pn**	**21 30 26.7**	**+5.4**
AKTK	**Aktyubinsk**	**14.96**	**35**	Pn	**Pn**	**21 30 19.5**	**-2.2**
AKTK				LR	LR	21 37 31.4	
AKTK	**Aktyubinsk**	**14.96**	**35**	Pn	**Pn**	**21 30 19.5**	**-2.2**
AKTO	**Aktyubinsk** comp=Z,0.3nm,0.3s,baz=228,slow=9.9,SNR=13	**14.96**	**35**	Pn	**Pn**	**21 30 19.5**	**-2.2**
AKTO	comp=Z,116nm,18.1s,baz=39,slow=43			LR	LR	21 37 31.4	
PVL	**Pavlikeni**	**15.12**	**293**	P	**Pn**	**21 30 27.5**	**+3.6**
MLR	**Muntele Rosu**	**15.27**	**302**	⇑P	**Pn**	**21 30 26.1**	**+0.2**
MLR	**Muntele Rosu** comp=Z,0.1nm,0.3s,baz=90,slow=10,SNR=3.9	**15.27**	**302**	Pn	**Pn**	**21 30 24.1**	**-1.8**
MLR	**Muntele Rosu**	**15.27**	**302**	⇑*i*P	**Pn**	**21 30 26.1**	**+0.2**
PGB	**Panagyurishte**	**15.88**	**290**	P	**Pn**	**21 30 35.4**	**+1.6**
AKASG	**Malin Array Be** comp=Z,0.2nm,0.3s,baz=129,slow=12,SNR=23	**16.02**	**322**	Pn	**Pn**	**21 30 34.1**	**-1.4**
KIEV	**Kiev** comp=Z,29nm,1.1s	**16.02**	**322**	*e*P	**Pn**	**21 30 36.8**	**+1.2**
KIEV	**Kiev** comp=Z,29nm,1.1s	**16.02**	**322**	*e*P	**Pn**	**21 30 36.8**	**+1.3**
KIEV				pmax	pmax		
KIEV	**Kiev** comp=Z,29nm,1.1s	**16.02**	**322**	*e*P	**Pn**	**21 30 36.8**	**+1.3**
MMB	**Musomiste**	**16.13**	**286**	P	**Pn**	**21 30 38.2**	**+1.2**
VTS	**Vitosha**	**16.59**	**290**	P	**Pn**	**21 30 44.3**	**+1.4**
KKB	**Krupnik**	**16.62**	**287**	P	**Pn**	**21 30 45.1**	**+1.7**
NAZ	**Nazwa, Dubai** SNR=11	**16.75**	**143**	P	**Pn**	**21 30 44.9**	**-0.1**
ASUD	**Al Ashush, Dub** SNR=11	**16.90**	**144**	P	**Pn**	**21 30 47.0**	**0.0**
VAY	**Valandovo**	**16.99**	**285**	*e*P	**Pn**	**21 30 50.3**	**+2.3**
OBN	**Obninsk** comp=Z,6.9nm,0.8s	**17.09**	**344**	*e*P	**Pn**	**21 30 53.4**	**+4.2**
OBN	**Obninsk** comp=Z,13nm,0.8s	**17.09**	**344**	||*i*P	**Pn**	**21 30 47.6**	**-1.6**
OBN				pmax	pmax		
OBN	comp=Z,500nm,20.0s			MLR	MLR		
HATD	**Hatta, Dubai** SNR=12	**17.11**	**142**	P	**Pn**	**21 30 52.7**	**+3.1**
ASHO	**Ashiyiah** SNR=9.1	**17.19**	**142**	P	**Pn**	**21 30 50.9**	**+0.3**
STIP	**Stip**	**17.29**	**286**	*e*P	**Pn**	**21 30 56.5**	**+4.8**
GZR	**Gura Zlata**	**17.38**	**299**	||P	**Pn**	**21 30 53.4**	**+0.6**
GZR	**Gura Zlata**	**17.38**	**299**	||*i*P	**Pn**	**21 30 53.4**	**+0.5**
MOS	**Moscow**	**17.48**	**347**	*e*P	**Pn**	**21 30 50.4**	**-3.6**
MOS				pmax	pmax		
DRGR	comp=Z,51nm,1.2s	**17.82**	**303**	||P	**Pn**	**21 31 00.4**	**+2.1**
DRGR		**17.82**	**303**	||*i*P	**Pn**	**21 31 00.4**	**+2.1**
SKO	**Skopje**	**17.85**	**287**	*e*P	**Pn**	**21 31 02.2**	**+3.5**
KRUS	**Krusevo**	**17.98**	**285**	*e*P	**Pn**	**21 31 03.0**	**+2.6**
BZS	**Buzias**	**18.23**	**299**	||P	**Pn**	**21 31 03.0**	**-0.4**
BZS	**Buzias**	**18.23**	**299**	||*i*P	**Pn**	**21 31 03.0**	**-0.3**
UZH	**Uzhgorod**	**18.73**	**309**	*e*P	**Pn**	**21 31 11.0**	**+1.5**
UZH				*e*S	**Sn**	**21 34 39.0**	**-0.3**
KOLS	**Kolonicke sedl**	**18.87**	**309**	*e*P	**Pn**	**21 31 10.2**	**-0.9**
KWP	**Kalwaria**	**18.91**	**312**	*e*P	**Pn**	**21 31 15.3**	**+3.8**
CRVS	**Cervenica-Dubn**	**19.35**	**309**	*e*P	**Pn**	**21 31 16.5**	**-0.4**
CRVS				*e*pP	pP	21 31 25.0	+8.1
BSY	**Bisya** SNR=10.0	**19.39**	**142**	P	**Pn**	**21 31 16.7**	**-0.8**
BSY	**Bisya** SNR=10.0	**19.39**	**142**	P	**Pn**	**21 31 16.7**	**-0.8**
BSYO	**Bisya** SNR=10.0	**19.42**	**142**	P	**Pn**	**21 31 16.7**	**-1.2**
SMDO	**Samad** SNR=12	**19.54**	**140**	P	**Pn**	**21 31 20.9**	**+1.6**
STHS	**Stebnicka Huta** comp=Z,5.4nm,1.1s	**19.68**	**310**	*e*P	**Pn**	**21 31 22.2**	**+1.3**
STHS				*e*		21 31 34.3	
STHS	**Stebnicka Huta**	**19.68**	**310**	*e*P	**Pn**	**21 31 22.2**	**+1.3**
STHS	comp=Z,5.0nm,1.1s			pmax	pmax		
STHS	**Stebnicka Huta**	**19.68**	**310**	*e*P	**Pn**	**21 31 22.2**	**+1.3**
STHS				*e*pP	pP	21 31 34.2	+14
STHS	**Stebnicka Huta** comp=Z,5.4nm,1.1s	**19.68**	**310**	*e*P	**Pn**	**21 31 22.2**	**+1.3**
KECS	**Kecovo** comp=Z,3.2nm,1.2s	**19.80**	**307**	*e*P	**Pn**	**21 31 22.1**	**-0.2**
KECS	**Kecovo** comp=Z,3.0nm,1.2s	**19.80**	**307**	*e*P	**Pn**	**21 31 22.1**	**-0.2**
KECS				pmax	pmax		
ARU	**Arti** comp=Z,30nm,1.3s	**19.85**	**23**	*e*P	**Pn**	**21 31 21.3**	**-1.5**
ARU	**Arti**	**19.85**	**23**	*d i*P	**Pn**	**21 31 21.5**	**-1.3**
ARU				*e*		21 31 49.8	
ARU				*e*S	**Sn**	**21 35 00.2**	**-5.9**
ARU	comp=Z,36nm,1.7s			pmax	pmax		
ARU	**Arti** comp=Z,30nm,1.3s	**19.85**	**23**	*e*P	**Pn**	**21 31 21.3**	**-1.5**
ARU				*e*S	**Sn**	**21 35 00.2**	**-5.9**
PSZ	**Piszkesteto**	**19.99**	**305**	⇑*e*pP	pP	21 31 26.0	+2.1
NIE	**Niedzica**	**20.24**	**309**	*e*P	**P**	**21 31 27.1**	**+1.5**
PKSM	**Moragy**	**20.38**	**299**	||P	**P**	**21 31 28.2**	**+1.0**
PKSM	**Moragy**	**20.38**	**299**	||*i*P	**P**	**21 31 28.2**	**+1.0**
PKSM	**Moragy**	**20.38**	**299**	⇑*e*P	**P**	**21 31 27.8**	**+0.6**
VYHS	**Vyhne** comp=Z,19nm,1.3s	**20.84**	**306**	*e*P	**P**	**21 31 32.7**	**+0.6**
VYHS				*e*		21 31 37.6	
VYHS	**Vyhne**	**20.84**	**306**	*e*P	**P**	**21 31 32.7**	**+0.6**
VYHS	comp=Z,19nm,1.3s			pmax	pmax		
SVE	**Sverdlovsk** comp=Z,74nm,1.9s	**20.84**	**25**	*e*P	**P**	**21 31 33.9**	**+1.9**
SVE				pmax	pmax		
SVE	**Sverdlovsk** comp=Z,74nm,1.9s	**20.84**	**25**	*e*P	**P**	**21 31 33.9**	**+1.9**
OJC	**Ojcow**	**20.86**	**311**	*e*P	**P**	**21 31 34.6**	**+2.3**
SUW	**Suwalki**	**20.98**	**323**	*e*P	**P**	**21 31 31.9**	**-1.6**
KOLL	**Kolacno**	**21.14**	**306**	*e*P	**P**	**21 31 35.8**	**+0.5**
KOLL				*e*pP		21 31 41.1	
TIP	**Timpagrande**	**21.57**	**280**	P	**P**	**21 31 39.5**	**-0.5**
OKC	**Ostrava-Krasne** comp=Z,200nm,13.4s,MS3.7	**21.70**	**309**	AMS	AMS	21 42 00.0	
ZST	**Bratislava** comp=Z,22nm,1.4s,mb4.4	**21.86**	**304**	*e*P	**P**	**21 31 43.2**	**+0.1**
ZST	comp=Z,200nm,14.8s,MS3.6			LR	LR		
MORC	**Moravsky Berou**	**22.05**	**308**	*e*P	**P**	**21 31 45.6**	**+0.5**
KOGS	**Kog**	**22.06**	**299**	*e*P	**P**	**21 31 44.9**	**-0.3**
SOP	**Sopron**	**22.09**	**303**	*e*pP	pP	21 31 50.1	+3.5
WHFO	**Wadi Hawf** SNR=22	**22.39**	**156**	P	**P**	**21 31 49.5**	**+0.6**
WHFO	**Wadi Hawf** SNR=22	**22.39**	**156**	P	**P**	**21 31 49.5**	**+0.6**
VRAC	**Vranov**	**22.50**	**307**	P	**P**	**21 31 49.5**	**-0.4**
VRAC	comp=Z,3.0nm,0.5s			pmax	pmax		
VRAC	**Vranov** comp=Z,2.5nm,0.5s,mb3.9,baz=82,slow=14,SNR=5.5	**22.50**	**307**	P	**P**	**21 31 49.5**	**-0.4**
CONA	**Conrad Observa** comp=Z,9.9nm,1.6s,mb4.0	**22.61**	**303**	||*i*P	**P**	**21 31 51.1**	**+0.1**
BOJS	**Bojanci**	**22.61**	**296**	*e*P	**P**	**21 31 53.2**	**+2.1**
BRVK	**Borovoye** comp=Z,9.4nm,0.8s,mb4.3	**22.65**	**43**	*e*P	**P**	**21 31 52.6**	**+1.2**
BRVK	**Borovoye** comp=Z,9.0nm,0.8s,mb4.2	**22.65**	**43**	*e*P	**P**	**21 31 52.6**	**+1.2**
BRVK	**Borovoye** SNR=5.5	**22.65**	**43**	P	**P**	**21 31 58.5**	**+7.1**
BRVK	**Borovoye** comp=Z,9.4nm,0.8s,mb4.3	**22.65**	**43**	*e*P	**P**	**21 31 52.6**	**+1.2**
ARSA	**Arzberg** comp=Z,15nm,1.3s,mb4.3,SNR=6.7	**22.69**	**301**	||*e*P	**P**	**21 31 53

KHC Kasperske Hory 24.36 305 *e*P **P 21 32 08.0 -0.4**
KHC *e*S **S 21 36 22.3 -6.0**
BRG Berggiesshubel 24.59 309 *e*P **P 21 32 11.1 +0.6**
BRG pmax pmax
comp=Z,2.0nm,1.1s,mb3.6
BRG Berggiesshubel 24.59 309 *e*P **P 21 32 11.0 +0.5**
BRG Berggiesshubel 24.59 309 *e*P **P 21 32 11.1 +0.6**
comp=Z,2.4nm,1.1s,mb3.6
ABTA Abfaltersbach 24.65 299⇑*i*P **P 21 32 11.6 +0.5**
comp=Z,16nm,1.7s,mb4.3,SNR=7.4
WET Wettzell 24.81 305 *e*P **P 21 32 12.2 -0.3**
WET pmax pmax
comp=Z,15nm,1.2s,mb4.4
WET Wettzell 24.81 305 *e*P **P 21 32 12.2 -0.3**
comp=Z,15nm,1.2s,mb4.4
CLL Collm 25.28 310 *e*P **P 21 32 16.0 -0.8**
CLL pmax pmax
comp=Z,13nm,1.4s,mb4.3
CLL Collm 25.28 310 *e*P **P 21 32 16.0 -0.8**
comp=Z,13nm,1.4s,mb4.3
CLL *e*S **S 21 36 54.0 +11**
FINES FINESS Array B 25.30 339 P **P 21 32 15.9 -1.0**
FINES pmax pmax
comp=Z,8.0nm,1.0s
FINES MLR MLR
comp=Z,216nm,18.7s
FINES FINESS Array B 25.30 339 P **P 21 32 15.9 -1.0**
comp=Z,8.0nm,1.0s,mb4.2,baz=123,slow=14,SNR=13
FINES LR LR 21 42 40.5
comp=Z,216nm,18.7s,MS3.7,baz=133,slow=38
WTTA Wattenberg 25.31 300⇑*i*P **P 21 32 17.3 +0.3**
comp=Z,28nm,1.4s,mb4.6,SNR=12
WTTA Wattenberg 25.31 300⇑*i*P **P 21 32 17.3 +0.3**
comp=Z,28nm,1.4s,mb4.6
WTTA Wattenberg 25.31 300⇑*i*pP pP 21 32 17.3 -0.8
comp=Z,28nm,1.4s,SNR=12
WTTA Wattenberg 25.31 300⇑*i*P **P 21 32 17.3 +0.2**
WTTA pmax pmax
comp=Z,28nm,1.4s,mb4.6
NKC Novy Kostel 25.33 307 *e*P **P 21 32 16.8 -0.5**
NKC AMS AMS 21 43 00.0
comp=Z,100nm,18.5s,MS3.4
JOF Joensuu 25.36 346 *e*p **P 21 32 12.5 -4.8**
WATA Walderalm 25.36 300⇑*i*P **P 21 32 17.4 -0.2**
comp=Z,36nm,1.2s,mb4.8
WATA Walderalm 25.36 300⇑*i*P **P 21 32 17.4 -0.1**
WATA pmax pmax
comp=Z,36nm,1.2s,mb4.8
ROTZ Rotzenmuhle 25.37 306 *e*P **P 21 32 18.1 +0.5**
SQTA Sankt Quirin 25.59 300 *i*P **P 21 32 19.2 -0.5**
comp=Z,8.2nm,0.7s,mb4.4,SNR=16
TMCR Tamitsa 25.60 353 *e*P **P 21 32 16.8 -2.7**
TMCR pmax pmax
comp=Z,29nm,1.3s,mb4.7
FUR Furstenfeldbru 25.67 302 *e*P **P 21 32 19.9 -0.5**
MOTA Moosalm 25.68 300 *i*P **P 21 32 20.2 -0.2**
comp=Z,32nm,1.0s,mb4.8,SNR=21
KAF Kangasniemi 25.79 340 *e*p **P 21 32 12.8 -8.5**
FETA Feichten 25.89 299⇓*i*P **P 21 32 22.1 -0.3**
comp=Z,10nm,1.1s,mb4.3,SNR=13
RETA Reutte 25.93 300⇓*i*P **P 21 32 21.8 -0.9**
comp=Z,14nm,1.4s,mb4.3
GRA1 Grafenberg Arr 25.98 305 *e*P **P 21 32 23.5 +0.3**
comp=Z,153nm,2.5s,mb5.1
GRF Grafenberg Arr 25.98 305 *e*P **P 21 32 23.5 +0.3**
GRF pmax pmax
comp=Z,153nm,2.5s,mb5.1
GRF Grafenberg Arr 25.98 305 *e*P **P 21 32 23.5 +0.3**
GRF pmax pmax
comp=Z,153nm,2.5s,mb5.1
GRF Grafenberg Arr 25.98 305 *e*P **P 21 32 23.5 +0.3**
comp=Z,153nm,2.5s,mb5.1
GRFO Grafenberg 25.98 305 *e*P **P 21 32 23.6 +0.4**
comp=Z,67nm,1.8s,mb4.9
GRFO Grafenberg 25.98 305 *e*P **P 21 32 23.6 +0.4**
GRFO pmax pmax
comp=Z,67nm,1.8s,mb4.9
GRFO Grafenberg 25.98 305 *e*P **P 21 32 23.6 +0.4**
comp=Z,67nm,1.8s,mb4.9
DAVOX Davos/Dischmat 26.45 299 P **P 21 32 27.0 -0.4**
comp=Z,5.5nm,1.0s,mb4.0,baz=113,slow=14,SNR=8.6
DAVOX LR LR 21 44 27.2
comp=Z,171nm,20.3s,MS3.6,baz=84,slow=40
DAVA Damuels 26.50 300⇑*i*P **P 21 32 26.7 -1.2**
comp=Z,22nm,1.1s,mb4.6
DAVA Damuels 26.50 300⇑*i*P **P 21 32 26.7 -1.2**
comp=Z,22nm,1.1s,mb4.6
KURK Kurchatov 26.66 53 *e*P **P 21 32 28.2 -1.1**
comp=Z,6.5nm,1.0s,mb4.1
KURK Kurchatov 26.66 53 *e*P **P 21 32 28.2 -1.1**
KURK pmax pmax
comp=Z,7.0nm,1.0s,mb4.2
KURK Kurchatov 26.66 53 *e*P **P 21 32 28.2 -1.1**
comp=Z,6.5nm,1.0s,mb4.1
CLZ Clausthal 27.01 310 *e*P **P 21 32 33.1 +0.7**
PGF Pioggiola 27.07 289 *e*P **P 21 32 31.7 -1.4**
comp=Z,27nm,1.2s,mb4.4
PGF Pioggiola 27.07 289 *e*P **P 21 32 31.7 -1.4**
PGF pmax pmax
comp=Z,13nm,1.2s,mb4.3
PGF Pioggiola 27.07 289 *e*P **P 21 32 31.7 -1.4**
comp=Z,13nm,1.2s,mb4.4
STU Stuttgart 27.13 303 *e*P **P 21 32 33.7 +0.1**
ATD Arta Tunnel 27.30 184 LR LR 21 44 40.4
comp=Z,82nm,18.2s,MS3.3,baz=120,slow=39
KEST Kesra 28.08 275 P **P 21 32 43.3 +1.1**
comp=Z,4.3nm,0.9s,mb4.1,baz=319,slow=3.2,SNR=12
KEST LR LR 21 46 19.7
comp=Z,72nm,19.4s,MS3.3,baz=258,slow=42
SBF Sospel 28.13 292 *e*P **P 21 32 40.8 -1.8**
comp=Z,34nm,1.1s,mb4.6
SBF Sospel 28.13 292 *e*P **P 21 32 40.8 -1.8**
SBF pmax pmax
comp=Z,17nm,1.1s,mb4.6
SBF Sospel 28.13 292 *e*P **P 21 32 40.8 -1.8**
comp=Z,17nm,1.1s,mb4.6
CDF Champ du Feu 28.36 302 *e*P **P 21 32 43.4 -1.1**
MKAR Makanchi Array 28.55 62 P **P 21 32 47.1 +0.8**
comp=Z,0.4nm,0.6s,mb3.4,baz=262,slow=8.5,SNR=5.9
MKAR LR LR 21 46 01.2
comp=Z,260nm,18.6s,MS3.9,baz=260,slow=40
MBDF Montbardon 28.57 294 *e*P **P 21 32 45.1 -1.4**
comp=Z,9.3nm,0.8s,mb4.3
MBDF Montbardon 28.57 294 *e*P **P 21 32 45.1 -1.4**
MBDF pmax pmax
comp=Z,5.0nm,0.8s,mb4.3
MBDF Montbardon 28.57 294 *e*P **P 21 32 45.1 -1.4**
comp=Z,4.7nm,0.8s,mb4.3
LPG La Plagne 28.58 296 *e*P **P 21 32 45.3 -1.2**
comp=Z,12nm,1.0s,mb4.3
LPG La Plagne 28.58 296 *e*P **P 21 32 45.3 -1.2**
LPG pmax pmax
comp=Z,6.0nm,1.0s,mb4.3
LPG La Plagne 28.58 296 *e*P **P 21 32 45.3 -1.2**
comp=Z,5.8nm,1.0s,mb4.2
HINF Hinteralfeld 28.59 301 *e*P **P 21 32 45.3 -1.3**
LPL La Plagne 28.59 296 *e*P **P 21 32 45.3 -1.3**
comp=Z,3.4nm,0.5s,mb4.0
LPL La Plagne 28.59 296 *e*P **P 21 32 45.3 -1.3**
LPL pmax pmax
comp=Z,2.0nm,0.5s,mb4.1
LPL La Plagne 28.59 296 *e*P **P 21 32 45.3 -1.3**
comp=Z,1.7nm,0.5s,mb4.0
IBBN Ibbenburen 28.69 310 *e*P **P 21 32 48.6 +1.2**
FRF La Foret Royal 28.72 292 *e*P **P 21 32 45.9 -1.9**
comp=Z,5.4nm,0.7s,mb4.1
FRF La Foret Royal 28.72 292 *e*P **P 21 32 45.9 -1.9**
FRF pmax pmax
comp=Z,3.0nm,0.7s,mb4.1
FRF La Foret Royal 28.72 292 *e*P **P 21 32 45.9 -1.9**
comp=Z,2.7nm,0.7s,mb4.1
HFS Hagfors 28.76 328 P **P 21 32 47.2 -0.8**
HFS pmax pmax
comp=Z,3.0nm,0.7s
HFS MLR MLR
comp=Z,334nm,18.7s
HFS Hagfors 28.76 328 P **P 21 32 47.2 -0.7**
comp=Z,3.4nm,0.7s,mb4.2,baz=164,slow=12,SNR=4.5
HFS LR LR 21 45 10.8
comp=Z,334nm,18.7s,MS4.0,baz=84,slow=38
LMR La Mourre 28.84 291 *e*P **P 21 32 47.0 -1.8**
CABF La Chapelle 29.05 298 *e*P **P 21 32 49.4 -1.3**
comp=Z,41nm,1.1s,mb4.8
CABF La Chapelle 29.05 298 *e*P **P 21 32 49.4 -1.3**
CABF pmax pmax
comp=Z,21nm,1.1s,mb4.8
CABF La Chapelle 29.05 298 *e*P **P 21 32 49.4 -1.3**
comp=Z,20nm,1.1s,mb4.8
ORIF Oris-en-Rattie 29.20 294 *e*P **P 21 32 50.5 -1.6**
ORIF *e*MLR MLR
comp=Z,164nm,19.2s,MS3.4
WLF Walferdange 29.23 304 *e*P **P 21 32 53.1 +0.9**
SMRF Simiane la Rot 29.47 293 *e*P **P 21 32 53.0 -1.4**
comp=Z,6.9nm,1.0s,mb4.0
SMRF Simiane la Rot 29.47 293 *e*P **P 21 32 53.0 -1.4**
comp=Z,3.5nm,1.0s,mb4.0
MEZF Maizieres J'vi 29.84 302 *e*P **P 21 32 56.3 -1.4**
VIVF Saint-Julien-l 30.06 294 *e*P **P 21 32 57.7 -2.0**
comp=Z,8.2nm,0.9s,mb4.2
VIVF Saint-Julien-l 30.06 294 *e*P **P 21 32 57.7 -2.0**
VIVF pmax pmax
comp=Z,4.0nm,0.9s,mb4.2
VIVF Saint-Julien-l 30.06 294 *e*P **P 21 32 57.7 -2.0**
comp=Z,4.1nm,0.9s,mb4.2
NB2 NORSAR Subarra 30.28 328 P **P 21 32 59.9 -1.5**
comp=Z,10nm,1.4s,mb4.4,baz=122,slow=9.3
NOA NORSAR Array B 30.28 328 P **P 21 32 59.6 -1.8**
NOA pmax pmax
comp=Z,2.0nm,0.8s
NOA MLR MLR
comp=Z,377nm,19.0s
NOA NORSAR Array B 30.28 328 P **P 21 32 59.5 -1.9**
comp=Z,1.6nm,0.8s,mb3.8,baz=123,slow=8.4,SNR=5.3
NOA LR LR 21 46 27.7
comp=Z,377nm,19.0s,MS4.1,baz=120,slow=39
BAIF Baives 30.52 305 *e*P **P 21 33 02.6 -1.1**
comp=Z,13nm,0.9s,mb4.5
BAIF Baives 30.52 305 *e*P **P 21 33 02.6 -1.1**
BAIF pmax pmax
comp=Z,7.0nm,0.9s,mb4.5
BAIF Baives 30.52 305 *e*P **P 21 33 02.6 -1.1**
comp=Z,6.7nm,0.9s,mb4.5
LOR Lormes 30.59 299 *e*P **P 21 33 02.8 -1.5**
comp=Z,9.6nm,1.0s,mb4.3
LOR *e*MLR MLR
comp=Z,105nm,22.2s
LOR Lormes 30.59 299 *e*P **P 21 33 02.8 -1.5**
comp=Z,4.8nm,1.0s,mb4.3
LOR LR LR
comp=Z,100nm,22.3s,MS3.4
LOR Lormes 30.59 299 *e*P **P 21 33 02.8 -1.5**
LOR pmax pmax
comp=Z,5.0nm,1.0s,mb4.3
LOR MLR MLR
comp=Z,100nm,22.3s,MS3.4
SMF Signal de Mont 30.60 298 *e*P **P 21 33 03.4 -1.0**
comp=Z,11nm,1.0s,mb4.3
SMF Signal de Mont 30.60 298 *e*P **P 21 33 03.4 -1.0**
SMF pmax pmax
comp=Z,5.0nm,1.0s,mb4.3
SMF Signal de Mont 30.60 298 *e*P **P 21 33 03.4 -1.0**
comp=Z,5.4nm,1.0s,mb4.3
LASF Ste Croix 30.70 293 *e*P **P 21 33 03.6 -1.7**
SSF Saint Saulge 30.83 299 *e*P **P 21 33 05.0 -1.4**
comp=Z,7.5nm,1.0s,mb4.2
SSF Saint Saulge 30.83 299 *e*P **P 21 33 05.0 -1.4**
SSF pmax pmax
comp=Z,4.0nm,1.0s,mb4.2
SSF Saint Saulge 30.83 299 *e*P **P 21 33 05.0 -1.4**
comp=Z,3.8nm,1.0s,mb4.2
AVF Avril sur Loir 30.93 298 *e*P **P 21 33 05.8 -1.6**
comp=Z,14nm,1.1s,mb4.4
AVF Avril sur Loir 30.93 298 *e*P **P 21 33 05.8 -1.6**
AVF pmax pmax
comp=Z,7.0nm,1.1s,mb4.4
AVF Avril sur Loir 30.93 298 *e*P **P 21 33 05.8 -1.6**
comp=Z,6.8nm,1.1s,mb4.4
ZAL Zalesovo 31.07 48 P **P 21 33 08.4 -0.1**
ZALV Zalesovo Beam 31.09 48 P **P 21 33 08.4 -0.3**
comp=Z,0.8nm,0.5s,mb3.8,baz=263,slow=9.5,SNR=4.4
ZALV LR LR 21 47 44.5
comp=Z,119nm,19.0s,MS3.6,baz=251,slow=40
TCF Toulx Ste Croi 31.73 297 *e*P **P 21 33 13.0 -1.4**
comp=Z,7.5nm,1.0s,mb4.2
TCF Toulx Ste Croi 31.73 297 *e*P **P 21 33 13.0 -1.4**
TCF pmax pmax
comp=Z,4.0nm,1.0s,mb4.2
TCF Toulx Ste Croi 31.73 297 *e*P **P 21 33 13.0 -1.4**
comp=Z,3.8nm,1.0s,mb4.2
CAF Calviac 31.91 295 *e*P **P 21 33 14.5 -1.5**
comp=Z,6.5nm,0.9s,mb4.2
CAF Calviac 31.91 295 *e*P **P 21 33 14.5 -1.5**
CAF pmax pmax
comp=Z,3.0nm,0.9s,mb4.1
CAF Calviac 31.91 295 *e*P **P 21 33 14.5 -1.5**
comp=Z,3.2nm,0.9s,mb4.2
MTLF Montolieu 31.95 292 *e*P **P 21 33 14.5 -1.9**
comp=Z,7.2nm,1.1s,mb4.1
MTLF Montolieu 31.95 292 *e*P **P 21 33 14.5 -1.9**
MTLF pmax pmax
comp=Z,4.0nm,1.1s,mb4.2
MTLF Montolieu 31.95 292 *e*P **P 21 33 14.5 -1.9**
comp=Z,3.6nm,1.1s,mb4.1
RJF Les Rejaudoux 32.27 296 *e*P **P 21 33 17.7 -1.4**
RJF *e*MLR MLR
comp=Z,148nm,20.0s,MS3.4
RJF Les Rejaudoux 32.27 296 *e*P **P 21 33 17.7 -1.4**
RJF MLR MLR
comp=Z,150nm,20.0s,MS3.7
LFF La Frestale 32.84 295 *e*P **P 21 33 22.5 -1.7**
comp=Z,14nm,0.9s,mb4.6
LFF La Frestale 32.84 295 *e*P **P 21 33 22.5 -1.7**
LFF pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
LFF La Frestale 32.84 295 *e*P **P 21 33 22.5 -1.7**
comp=Z,7.1nm,0.9s,mb4.6
LDF La Druitiere 33.28 302 *e*P **P 21 33 26.4 -1.5**
comp=Z,23nm,1.2s,mb4.7
LDF La Druitiere 33.28 302 *e*P **P 21 33 26.4 -1.5**
LDF pmax pmax
comp=Z,11nm,1.2s,mb4.7
LDF La Druitiere 33.28 302 *e*P **P 21 33 26.4 -1.5**
comp=Z,11nm,1.2s,mb4.7
MFF Saint Martin d 33.35 298 *e*P **P 21 33 27.1 -1.4**
comp=Z,15nm,1.1s,mb4.6
MFF Saint Martin d 33.35 298 *e*P **P 21 33 27.1 -1.4**
MFF pmax pmax
comp=Z,8.0nm,1.1s,mb4.6
MFF Saint Martin d 33.35 298 *e*P **P 21 33 27.1 -1.4**
comp=Z,7.7nm,1.1s,mb4.6
EPF Esparros 33.35 292 *e*P **P 21 33 26.6 -2.0**
FLN La Foliniere 33.52 302 *e*P **P 21 33 28.5 -1.5**
FLN *e*MLR MLR
comp=Z,154nm,20.8s,MS3.4
FLN La Foliniere 33.52 302 *e*P **P 21 33 28.5 -1.5**
FLN MLR MLR
comp=Z,150nm,20.8s,MS3.7
GRR Gorron 33.77 301 *e*P **P 21 33 30.6 -1.6**
comp=Z,34nm,1.0s,mb4.9
GRR Gorron 33.77 301 *e*P **P 21 33 30.6 -1.6**
GRR pmax pmax
comp=Z,17nm,1.0s,mb4.9
GRR Gorron 33.77 301 *e*P **P 21 33 30.6 -1.6**
comp=Z,17nm,1.0s,mb4.9
ETSF Etsaut 34.02 291 *e*P **P 21 33 32.6 -1.9**
SJPF Ste Jean 34.47 292 *e*P **P 21 33 36.5 -1.9**
SGMF Saint Gilles 34.91 301 *e*P **P 21 33 40.6 -1.4**
comp=Z,50nm,1.2s,mb5.0
SGMF Saint Gilles 34.91 301 *e*P **P 21 33 40.6 -1.4**
SGMF pmax pmax
comp=Z,25nm,1.2s,mb5.0
SGMF Saint Gilles 34.91 301 *e*P **P 21 33 40.6 -1.4**
comp=Z,25nm,1.2s,mb5.0
QUIF Quistinic 35.33 301 *e*P **P 21 33 44.2 -1.5**
comp=Z,32nm,1.2s,mb4.8
QUIF Quistinic 35.33 301 *e*P **P 21 33 44.2 -1.5**
QUIF pmax pmax
comp=Z,16nm,1.2s,mb4.8
QUIF Quistinic 35.33 301 *e*P **P 21 33 44.2 -1.5**
comp=Z,16nm,1.2s,mb4.8
ROSF Rostrenen 35.38 301 *e*P **P 21 33 44.5 -1.6**
comp=Z,8.6nm,0.8s,mb4.4
ROSF Rostrenen 35.38 301 *e*P **P 21 33 44.5 -1.6**
ROSF pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
ROSF Rostrenen 35.38 301 *e*P **P 21 33 44.5 -1.6**
comp=Z,4.3nm,0.8s,mb4.4
HYB Hyderabad 36.52 116 *i*P **P 21 33 56.5 +0.3**
HYB Hyderabad 36.52 116 *e*P **P 21 33 56.5 +0.3**
ESDC Sonseca Array 37.20 287 P **P 21 33 59.7 -2.1**
comp=Z,2.2nm,0.6s,mb4.2,baz=69,slow=8.4,SNR=9.2
ESDC LR LR 21 50 58.5
comp=Z,83nm,19.7s,MS3.5,baz=35,slow=39
LSA Lhasa 39.21 89 *e*P **P 21 34 19.8 +0.9**
comp=Z,5.9nm,0.9s,mb4.3
LSA Lhasa 39.21 89 *e*P **P 21 34 19.8 +0.9**
LSA pmax pmax
comp=Z,6.0nm,0.9s,mb4.3
LSA Lhasa 39.21 89 *e*P **P 21 34 19.8 +0.9**
comp=Z,5.8nm,0.9s,mb4.3
KMBO Kilima Mbogo 40.39 191 LR LR 21 50 48.8
comp=Z,55nm,19.0s,MS3.4,baz=84,slow=36
ZAK Zakamensk 42.29 54 *e*P **P 21 34 44.0 0.0**
ZAK *e* 21 36 25.5
ZAK pmax pmax
comp=Z,1.0nm,1.4s,mb3.2
ZAK Zakamensk 42.29 54 *e*P **P 21 34 44.0 0.0**
comp=Z,1.0nm,1.4s,mb3.2
TLY Talaya 42.36 52 *e*P **P 21 34 45.2 +0.6**
TLY *e* 21 37 06.1
TLY pmax pmax
comp=Z,4.0nm,1.7s,mb3.8
TLY MLR MLR
comp=Z,128nm,19.0s,MS3.8
TLY Talaya 42.36 52 *e*P **P 21 34 45.2 +0.6**
comp=Z,4.0nm,1.7s,mb3.8
SONM Songino Array 44.75 58 P **P 21 35 03.2 -0.6**
SONM LR LR 21 57 18.5
SONM Songino Array 44.75 58 P **P 21 35 03.2 -0.6**
comp=Z,0.4nm,0.9s,mb3.3,baz=281,slow=10,SNR=4.6
SONM LR LR 21 57 18.5
comp=Z,73nm,19.5s,MS3.6,baz=83,slow=41
ULN Ulaanbaatar 45.17 57 *e*P **P 21 35 08.1 +0.8**
comp=Z,4.4nm,0.9s,mb4.3
ULN Ulaanbaatar 45.17 57 *e*P **P 21 35 08.1 +0.8**
comp=Z,4.4nm,0.9s,mb4.3
TORD Torodi Ar. Bea 45.69 248 P **P 21 35 09.5 -2.3**
comp=Z,3.1nm,1.0s,mb4.2,baz=45,slow=6.6,SNR=15
LZH Lanzhou 46.41 74 *e*P **P 21 35 18.5 +1.3**
LZH AP pP 21 35 22.6 +4.3
LZH XP sP 21 35 24.5 +5.7
LZH AMB AMB
comp=Z,20nm,1.1s,mb5.0
LZH AMB AMB
comp=Z,87nm,4.1s
BOD Bodaibo 47.56 43 *e*P **P 21 35 24.9 -1.0**
BOD pmax pmax
comp=Z,6.0nm,0.9s,mb4.6
BOD Bodaibo 47.56 43 *e*P **P 21 35 24.9 -1.0**
comp=Z,6.0nm,0.9s,mb4.6
CIT Chita 48.36 51 *e*P **P 21 35 31.8 -0.3**
KMI Kunming 50.44 88 P **P 21 35 48.6 +0.2**
KMI AMB AMB
comp=Z,7.0nm,1.4s,mb4.5
XAN Xi'an 51.04 74 P **P 21 35 52.4 -0.5**
XAN AMB AMB
comp=Z,13nm,1.3s,mb4.7
TIXI Tiksi 51.86 24 *e*P **P 21 35 59.8 +1.4**
comp=Z,3.2nm,1.0s,mb4.2
TIXI Tiksi 51.86 24 *e*P **P 21 36 00.0 +1.6**
TIXI pmax pmax
comp=Z,5.0nm,1.1s,mb4.4
TIXI Tiksi 51.86 24 *e*P **P 21 35 59.8 +1.4**
comp=Z,3.2nm,1.0s,mb4.2
DBIC Dimbokro 54.80 247 P **P 21 36 19.0 -1.8**
DBIC pmax pmax
comp=Z,6.0nm,0.8s
DBIC MLR MLR
comp=Z,82nm,18.5s
DBIC Dimbokro 54.80 247 P **P 21 36 18.9 -1.9**
comp=Z,6.0nm,0.8s,mb4.7,baz=26,slow=6.7,SNR=9.1
DBIC LR LR 22 03 40.3
comp=Z,82nm,18.5s,MS3.8,baz=272,slow=40
WHN Wuhan 56.72 76 *e*P **P 21 36 35.0 +0.5**
NJ2 Nanjing 59.36 72 *e*P **P 21 36 53.2 +0.2**
NJ2 AMB AMB
comp=Z,20nm,1.1s,mb5.1
KSRS Korea Array 63.23 62 P **P 21 37 18.6 -0.4**
comp=Z,4.1nm,0.8s,mb4.6,baz=286,slow=7.0,SNR=11
KSRS LR LR 22 07 33.0
comp=Z,66nm,18.0s,MS3.9,baz=335,slow=39
SEY Seymchan 63.46 29⇑*e*P **P 21 37 22.6 +2.4**
BILL Bilibino 64.84 21⇑*e*P **P 21 37 30.7 +1.5**
BILL pmax pmax
comp=Z,5.0nm,1.2s,mb4.4
BILL Bilibino 64.84 21 *e*P **P 21 37 30.7 +1.5**
comp=Z,5.0nm,1.2s,mb4.4
MJAR Matsushiro Arr 70.69 58 LR LR 22 11 40.4
comp=Z,115nm,19.5s,MS4.1,baz=215,slow=38
YKA Yellowknife Ar 77.57 350 P **P 21 38 45.4 -0.9**
YKA pmax pmax
comp=Z,1.0nm,0.7s
YKA Yellowknife Ar 77.57 350 P **P 21 38 45.4 -0.9**
comp=Z,0.6nm,0.7s,mb3.6,baz=14,slow=6.0,SNR=10.0

CSEM ***09*** *21:34:25.5±0.4, 3734N×2466W, h5km, ML2.7, Error ellipse: s-maj=4.7km s-min=1.5km az=88.0, After PDA*
PDA ***09*** *21:34:25.5±0.4, 3734N×2466W, h5km, MD3.9, ML2.7, Error ellipse: s-maj=4.7km s-min=1.5km az=88.0*
SVSA 09 21:34:25.5±0.4, 3734N×2466W, h5km, MD3.9, ML2.7, Error ellipse: s-maj=4.7km s-min=1.5km az=88.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSMN	**Pico do Norte,**	**0.46**	**224**	*e*P	Pg	21 34 33.4	-1.0
PSMN				*e*S	Sg	21 34 39.8	-0.7
PDA	**Ponta Delgada**	**0.90**	**298**	*e*P	Pg	21 34 40.0	-2.7
PDA				*e*S	Sg	21 34 50.5	-3.8
PSET	**Sete Cidades**	**0.97**	**300**	*e*P	Pg	21 34 40.8	-3.4
PSET				*e*S	Sg	21 34 52.5	-4.3
PSET				A		21 34 54.5	
	141nm,0.2s						
PSET	**Sete Cidades**	**0.97**	**300**	*e*P	Pg	21 34 40.8	-3.4
PSET				*e*S	Sg	21 34 52.5	-4.3
PID	**Ribeirinha**	**2.95**	**293**	*e*P	Pn	21 35 08.5	-4.5
ROSA	**Rosais**	**3.15**	**297**	*e*P	Pn	21 35 11.4	-4.3
PICO	**Pico**	**3.20**	**292**	*e*P	Pn	21 35 12.0	-4.4
CALA	**Caldeira**	**3.43**	**292**	*e*P	Pn	21 35 15.3	-4.3

TEH ***09*** *21:35:45.8, 3894N×4457E, h12km, ML3.6*
DDA ***09*** *21:36:50.5, 3902N×4502E, h5km±11km, Md3.6*
ISK ***09*** *21:36:52.1, 3896N×4460E, h5km, MD3.7, ML3.6*
ISCJB ***09*** *21:36:54.0±0.3, 3897N±002×4458E±003, h10km, Error ellipse: s-maj=3.6km s-min=3.1km az=137.3*
CSEM ***09*** *21:36:54.0±0.2, 3898N×4456E, h16km, MD3.7, Error ellipse: s-maj=5.2km s-min=4.1km az=164.0*
THR ***09*** *21:36:55.3±0.5, 3904N×4469E, h14km±8km, ML3.3*
ISC 09 21:36:54.6±0.3, 3900N±003×4456E±003, h10km, n37, σ1§42/49, 1D, Turkey-Iran border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAKU	**Maku**	**0.37**	**15**	*e*Pg	**Pg**	**21 37 02.0**	**+0.1**
CLDR	**Caldiran**	**0.52**	**287**	*e*PG	**Pg**	**21 37 03.8**	**-0.9**
CLDR				*e*SG	**Sg**	**21 37 13.2**	**+1.6**
NAX	**Nakhchivan**	**0.75**	**76**	P	**Pg**	**21 37 08.1**	**-1.0**
	SNR=354						
NAX				S	**Sg**	**21 37 20.0**	**+1.1**
IMRD	**Marand**	**0.94**	**107**	*e*Pg	**Pg**	**21 37 10.0**	**-2.7**
IMRD				*e*		21 37 28.1	
	comp=Z,56μm,0.2s						
VANB	**Van**	**1.00**	**247**	*e*PG	**Pg**	**21 37 12.5**	**-1.3**
TVAN	**Van**	**1.01**	**243**	*i*P	**Pg**	**21 37 12.6**	**-1.5**
TVAN				*i*S	**Sg**	**21 37 32.6**	**+5.3**
VANT	**Van**	**1.07**	**239**	*e*PN	**Pn**	**21 37 15.9**	**+0.3**
ISHB	**Shabestar**	**1.09**	**130**	*e*Sg	**Sg**	**21 37 26.0**	**-3.8**
ISHB				*e*		21 37 29.9	
	comp=Z,22μm,0.2s						
AGRB	**Hanur-Agry**	**1.35**	**296**	*e*PN	**Pn**	**21 37 19.4**	**-0.1**
TUTA	**Tutak**	**1.42**	**287**	*i*P	**Pn**	**21 37 19.4**	**-1.0**
TUTA				*i*S	**Sg**	**21 37 44.9**	**+4.8**
ITBZ	**Tabriz**	**1.46**	**121**	*e*	**Pn**	**21 37 23.5**	**+2.5**
	comp=Z,6μm,0.1s						
GRS	**Goris**	**1.47**	**69**	⇓P	**Pn**	**21 37 20.0**	**-1.1**
GRS				S	**Sg**	**21 37 41.0**	**-0.8**
HKR	**Hakkari**	**1.56**	**205**	*e*PN	**Pn**	**21 37 21.1**	**-1.2**
HAKT	**HAKKARI**	**1.58**	**205**	*i*P	**Pn**	**21 37 21.2**	**-1.5**
HAKT				*i*S	**Sg**	**21 37 47.0**	**+1.4**
DIGO	**Kars**	**1.69**	**328**	*i*P	**Pg**	**21 37 25.9**	**-1.1**
IAZR	**Azarshahr**	**1.73**	**139**	*e*	**Sn**	**21 37 51.6**	**+4.8**
	comp=Z,14μm,0.4s						
CUKT	**Cukurca**	**1.90**	**204**	*e*PN	**Pn**	**21 37 27.0**	**0.0**
KARS	**Kars**	**1.97**	**325**	*e*PN	**Pn**	**21 37 29.2**	**+1.2**

SIRT	**Sirnak**	**2.24**	**229**	*e*PN	**Pn**	**21 37 32.5**	**+0.8**
HOMI	**Horasan**	**2.30**	**298**	*i* P	**Pg**	**21 37 37.7**	**-1.0**
DGRG	**David-gareji**	**2.53**	**14**	P	**Pg**	**21 37 43.2**	**+0.1**
DGRG				S	**Sg**	**21 38 20.9**	**+5.0**
BTMT	**Batman**	**2.54**	**253**	*e*PN	**Pb**	**21 37 39.4**	**-0.8**
GRMI	**Germi**	**2.61**	**93**	*e*Pn	**Pn**	**21 37 37.9**	**+1.1**
GRMI				*e*Sg	**Sg**	**21 38 14.0**	**-4.4**
GRMI				AML	AML	21 38 17.7	
	comp=E,142nm,0.5s						
GRMI				AML	AML	21 38 21.0	
	comp=N,114nm,0.6s						
GRMI	**Germi**	**2.61**	**93**	*e*Pn	**Pn**	**21 37 37.9**	**+1.1**
	SNR=52						
GRMI				*e*Sg	**Sg**	**21 38 14.0**	**-4.4**
	SNR=90						
EZM	**Erzurum**	**2.64**	**291**	*e*PN	**Pn**	**21 37 38.6**	**+1.4**
MTA	**Mtatsminda**	**2.70**	**4**	P	**Pg**	**21 37 44.2**	**-2.2**
MTA				S	**Sg**	**21 38 27.4**	**+6.1**
TBLG	**Delisi**	**2.73**	**3**	P	**Pg**	**21 37 46.7**	**-0.4**
TBLG				S	**Sg**	**21 38 29.0**	**+6.6**
MSL	**Mosul**	**2.94**	**204**	*ex*	x	21 37 43.0	
MSL				*ex*	x	21 37 49.5	
MSL				*ex*	x	21 38 15.5	
MSL				*i x*	x	21 38 24.0	
ARTV	**Artvin**	**2.98**	**318**	*i* P	**Pg**	**21 37 50.8**	**-0.8**
SEKA	**Sheki**	**3.00**	**42**	P	**Pn**	**21 37 44.7**	**+2.6**
	SNR=14						
GOR	**Gori**	**3.01**	**354**	P	**Pg**	**21 37 55.7**	**+3.5**
GOR				S	**Sg**	**21 38 37.3**	**+6.2**
BINT	**Bingol**	**3.18**	**269**	*e*PN	**Pn**	**21 37 46.3**	**+1.7**
KOPT	**Kop Dagi**	**3.30**	**289**	*i* P	**Pg**	**21 37 55.4**	**-2.5**
MARD	**Mardin**	**3.42**	**242**	*i* P	**Pn**	**21 37 50.2**	**+2.3**
ONI	**Oni**	**3.68**	**347**	P	**Pg**	**21 38 03.9**	**-1.2**
ONI				S	**Sg**	**21 38 55.0**	**+2.3**
SNGE	**Sanandaj**	**4.49**	**149**	*e*Pn	**Pn**	**21 38 05.1**	**+2.5**
THKV	**Tehran--Karaj**	**5.89**	**119**	*e*Pn	**Pn**	**21 38 23.4**	**+1.4**
THKV				AML	AML	21 40 06.5	
	comp=N,12nm,0.6s						

CSEM ***09*** *21:50:55.9±0.9, 3708N×2466W, h0km, ML2.9, Error ellipse: s-maj=6.5km s-min=4.1km az=100.0, After PDA*
PDA ***09*** *21:50:55.9±0.9, 3708N×2466W, h0km, MD3.9, ML2.9, Error ellipse: s-maj=6.5km s-min=4.1km az=100.0*
SVSA 09 21:50:55.9±0.9, 3708N×2466W, h0km, MD3.9, ML2.9, Error ellipse: s-maj=6.5km s-min=4.1km az=100.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSMN	**Pico do Norte,**	**0.34**	**257**	*e*P	Pg	21 51 01.9	-0.4
PSMN				*e*S	Sg	21 51 07.3	+0.6
PDA	**Ponta Delgada**	**1.04**	**310**	*e*S	Sg	21 51 25.4	-4.0
PSET	**Sete Cidades**	**1.13**	**312**	*e*P	Pg	21 51 14.1	-3.4
PSET				*e*S	Sg	21 51 27.9	-4.2
PSET				A		21 51 30.5	
	120nm,0.3s						
PSET	**Sete Cidades**	**1.13**	**312**	*e*P	Pg	21 51 14.1	-3.4
PSET				*e*S	Sg	21 51 27.9	-4.2
PID	**Ribeirinha**	**3.06**	**297**	*e*P	Pn	21 51 41.0	-4.5
PID				*e*S	Sn	21 52 14.3	-8.6
PMAN	**Manadas**	**3.13**	**301**	*e*S	Sn	21 52 16.6	-7.9
PMAN				A		21 52 19.2	
	8.3nm,0.2s						
ROSA	**Rosais**	**3.27**	**301**	*e*P	Pn	21 51 44.0	-4.4
ROSA				*e*S	Sn	21 52 20.3	-7.8
PICO	**Pico**	**3.31**	**297**	*e*P	Pn	21 51 44.4	-4.5
PICO				*e*S	Sn	21 52 20.3	-8.6
CALA	**Caldeira**	**3.54**	**296**	*e*P	Pn	21 51 47.5	-4.5
CALA				*e*S	Sn	21 52 25.9	-8.6

IDC 09 21:59:07.8±5.9, 1592S×7172W, h122km±20km, mb3.2/1, mb1 3.5/3, mb1mx3.2/18, mbtmp3.3/3, Error ellipse: s-maj=208.8km s-min=22.2km az=21.0, Southern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**3.47**	**97**	P	Pn	22 00 01.7	+1.4
	0.7nm,0.3s,baz=275,slow=9.1,SNR=25						
NNA	**Nana**	**5.32**	**308**	P	Pn	22 00 38.9	+0.3
	3.0nm,0.3s,baz=187,slow=10,SNR=5.8						
SIV	**San Ignacio**	**10.24**	**92**	P	Pn	22 01 29.7	-1.8
	1.0nm,0.3s,baz=265,slow=12,SNR=15						
TORD	**Torodi Ar. Bea**	**78.12**	**73**	P	P	22 10 54.5	+0.5
	1.2nm,0.8s,baz=255,slow=5.2,SNR=10						
YKA	**Yellowknife Ar**	**85.07**	**342**	P	P	22 11 29.3	-0.2
	0.3nm,0.6s,baz=144,slow=5.2,SNR=6.1						
ZALV	**Zalesovo Beam**	**137.86**	**21**	PKP	PKPdf	22 18 16.9	-0.7
	0.4nm,0.4s,baz=325,slow=1.8,SNR=3.2						
MKAR	**Makanchi Array**	**142.40**	**30**	PKhKP		22 18 22.5	
	0.4nm,0.3s,baz=279,slow=2.8,SNR=7.8						
SONM	**Songino Array**	**148.13**	**2**	PKPbc	PKPbc	22 18 38.5	-0.7
	0.2nm,0.5s,baz=358,slow=4.3,SNR=3.5						

CSEM ***09*** *22:00:23.7±0.5, 3708N×2459W, h0km, MD4.0, Error ellipse: s-maj=4.2km s-min=3.0km az=110.0, After PDA*
PDA ***09*** *22:00:23.7±0.5, 3708N×2459W, h0km, MD4.0, Error ellipse: s-maj=4.2km s-min=3.0km az=110.0*
SVSA 09 22:00:23.7±0.5, 3708N×2459W, h0km, MD4.0, Error ellipse: s-maj=4.2km s-min=3.0km az=110.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSMN	**Pico do Norte,**	**0.39**	**259**	*e*P	Pg	22 00 30.5	-0.7
PSMN				*e*S	Sg	22 00 36.7	+0.5
PDA	**Ponta Delgada**	**1.08**	**308**	*e*P	Pg	22 00 43.6	-0.9
PID	**Ribeirinha**	**3.11**	**297**	*e*P	Pn	22 01 09.5	-4.5
PID				*e*S	Sn	22 01 43.7	-8.2
ROSA	**Rosais**	**3.32**	**301**	*e*P	Pn	22 01 12.5	-4.4
ROSA				*e*S	Sn	22 01 48.9	-8.2
PICO	**Pico**	**3.35**	**296**	*e*P	Pn	22 01 13.0	-4.4
PICO				*e*S	Sn	22 01 49.7	-8.2
CALA	**Caldeira**	**3.59**	**296**	*e*P	Pn	22 01 16.2	-4.3
CALA				*e*S	Sn	22 01 55.2	-8.4

ISCJB ***09*** *22:00:24.7±0.9, 3829N±003×2041E±005, h7km±6km, Error ellipse: s-maj=7.1km s-min=4.6km az=138.7*
NEIC ***09*** *22:00:25.2, 3827N×2039E, h15km, MD3.7(ATH), After ATH.*
ATH ***09*** *22:00:25.2, 3827N×2039E, h15km, MD3.7/10*
CSEM ***09*** *22:00:26.4±0.1, 3834N×2046E, h5km, MD3.7, Error ellipse: s-maj=2.4km s-min=1.6km az=42.0*
THE ***09*** *22:00:26.6, 3835N×2043E, h3km, ML3.6*
ISC 09 22:00:26.2±0.6, 3831N±003×2048E±005, h11km±4km, n30, σ1§19/44, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.16**	**147**	*e*PB	**Pg**	**22 00 30.0**	**+0.2**
VLS				*e*SB	**Sg**	**22 00 33.2**	**+1.0**
LKD	**Levkas**	**0.42**	**19**	*e*Pg	**Pg**	**22 00 33.7**	**-0.8**
LKD				*e*Sg	**Sg**	**22 00 40.1**	**0.0**
RLS	**Riolos of Patr**	**0.82**	**108**	*e*PN	**Pn**	**22 00 41.8**	**-1.9**
RLS				*e*SN	**Sn**	**22 00 54.2**	**-1.7**
EVR	**Evrytania**	**1.20**	**59**	*e*PN	**Pn**	**22 00 49.2**	**+0.1**
IGT	**Igoumenitsa**	**1.22**	**355**	*e*Pg	**Pg**	**22 00 48.3**	**-1.5**
IGT				*e*Sg	**Sg**	**22 01 06.1**	**+0.5**
JAN	**Janina**	**1.37**	**12**	*e*PN	**Pn**	**22 00 52.2**	**+0.8**
JAN				*e*SN	**Sn**	**22 01 11.6**	**+2.0**
KEK	**Kerkira**	**1.50**	**339**	*e*PN	**Pn**	**22 00 53.7**	**+0.6**
MEV	**Metsovon**	**1.58**	**21**	*e*Pg	**Pg**	**22 00 55.5**	**-1.1**
ITM	**Ithomi**	**1.61**	**134**	*e*PN	**Pn**	**22 00 55.4**	**+0.8**
AGG	**Agios Georgios**	**1.61**	**63**	*e*Pb	**Pb**	**22 00 56.4**	**+0.4**
AGG				*e*Sb	**Sb**	**22 01 18.2**	**+1.7**
THL	**Klokotos Trika**	**1.73**	**43**	*e*PN	**Pn**	**22 00 58.0**	**+1.7**
LKR	**Lokris**	**2.01**	**80**	*e*PN	**Pn**	**22 01 01.8**	**+1.7**
NEO	**Neokhori**	**2.36**	**64**	*e*PB	**Pb**	**22 01 06.8**	**-2.0**
VLI	**Veliai**	**2.52**	**128**	*e*PB	**Pb**	**22 01 08.7**	**-2.8**
FNA	**Florina**	**2.56**	**15**	*e*Pn	**Pn**	**22 01 08.1**	**+0.3**
OHR	**Ohrid**	**2.81**	**5**	*e*Pn	**Pn**	**22 01 13.3**	**+2.2**
OHR				*e*Sn	**Sn**	**22 01 43.2**	**-1.8**
OHR	**Ohrid**	**2.81**	**5**	*e*Pn	**Pn**	**22 01 13.3**	**+2.2**
OHR				*e*Sn	**Sn**	**22 01 43.1**	**-1.8**
KRUS	**Krusevo**	**3.11**	**11**	*e*Pn	**Pn**	**22 01 16.4**	**+1.1**
KRUS				*e*Sn	**Sn**	**22 01 51.0**	**-1.4**
KRUS	**Krusevo**	**3.11**	**11**	*e*Pn	**Pn**	**22 01 16.3**	**+1.0**
KRUS				*e*Sn	**Sn**	**22 01 50.9**	**-1.5**
TA1	**Taranto**	**3.24**	**311**	*e*Pn	**Pn**	**22 01 17.7**	**+0.6**
VAY	**Valandovo**	**3.41**	**28**	*e*Pn	**Pn**	**22 01 19.4**	**+0.1**
VAY				*e*Sn	**Sn**	**22 01 52.2**	**-7.6**
VAY	**Valandovo**	**3.41**	**28**	*e*Pn	**Pn**	**22 01 19.4**	**0.0**
VAY				*e*Sn	**Sn**	**22 01 52.2**	**-7.6**
PE1	**Pezze di Greco**	**3.43**	**317**	*e*Pn	**Pn**	**22 01 19.8**	**+0.1**
SG1	**Sgolgore (BA)**	**3.87**	**312**	*e*Pn	**Pn**	**22 01 25.7**	**0.0**
BAI	**Bari**	**3.94**	**316**	*e*Pn	**Pn**	**22 01 26.2**	**-0.4**
CDT	**Castel del Mon**	**4.26**	**312**	*e*Pn	**Pn**	**22 01 30.8**	**-0.3**
MS1	**Monte Sant'Ang**	**4.86**	**316**	*e*Pn	**Pn**	**22 01 40.3**	**+1.0**
STON	**Ston**	**5.02**	**336**	*e*Pn	**Pn**	**22 01 40.5**	**-1.1**
STON				Sn	**Sn**	**22 02 35.1**	**-4.5**
STON	**Ston**	**5.02**	**336**	*e*Pn	**Pn**	**22 01 40.4**	**-1.1**
STON				Sn	**Sn**	**22 02 35.0**	**-4.5**
NVLJ	**Novalja**	**7.53**	**328**	*e*Pn	**Pn**	**22 02 15.0**	**-0.9**

IDC 09 22:07:14.4±6.7, 518N×12401E, h473km±93km, mb2.8/5, mb1 2.9/5, mb1mx2.8/17, mbtmp2.8/5, Error ellipse: s-maj=128.1km s-min=19.7km az=68.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**26.95**	**158**	P	P	22 12 16.3	-0.5
	0.3nm,0.3s,baz=335,slow=10,SNR=16						
ASAR	**Alice Springs**	**30.25**	**162**	P	P	22 12 46.3	+0.7
	0.6nm,0.3s,baz=338,slow=6.9,SNR=8.7						
SONM	**Songino Array**	**45.11**	**343**	P	P	22 14 47.6	+0.4
	0.4nm,0.8s,baz=158,slow=7.7,SNR=4.0						
MKAR	**Makanchi Array**	**54.84**	**326**	P	P	22 15 59.4	+0.4
	1.0nm,0.5s,baz=119,slow=7.7,SNR=22						
MKAR				PcP	PcP	22 16 54.2	0.0
	0.1nm,0.3s,baz=129,slow=3.4,SNR=2.6						
ZALV	**Zalesovo Beam**	**58.09**	**334**	P	P	22 16 20.4	-0.9
	0.4nm,0.5s,baz=116,slow=6.6,SNR=2.7						

SKHL ***09*** *22:14:01.7±1.8, 4830N×155.10E, h48km±26km, mb5.1/5, ms3.8/2, msh5.9/1*
MOS ***09*** *22:14:02.5±0.9, 4836N×15463E, h36km, mb4.7/29, Error ellipse: s-maj=11.0km s-min=5.9km az=94.6*
ISCJB ***09*** *22:14:02.5±0.9, 4836N±005×15482E±008, h37km±7km, mb4.4/61, MS3.9/10, Error ellipse: s-maj=11.2km s-min=5.1km az=41.4*
IDC ***09*** *22:14:03.6±8.2, 4846N×15468E, h33km±61km, mb3.8/16, mb1 3.9/17, mb1mx3.8/26, mbtmp3.8/17, ML3.8/1, MS3.5/7, Ms1 3.5/7, ms1mx3.2/37, Error ellipse: s-maj=21.0km s-min=15.6km az=120.0*
BJI ***09*** *22:14:05.7, 4879N×15501E, h89km, mB4.6, mb4.6, Ms4.4, Msz3.8*
NEIC ***09*** *22:14:06.8±1.1, 4835N×15464E, h61km±8km, mb4.5/41, Error ellipse: s-maj=9.5km s-min=5.4km az=121.0*
ISC 09 22:14:05.4±0.9, 4839N±005×15481E±009, h49km±6km, n189, σ0§93/192, mb4.4/61, MS3.9/10, 42C-15D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.45**	**20**	*e*PN	**Pn**	**22 14 40.2**	**-2.6**
SKR				*e*S	**Sn**	**22 15 07.7**	**-3.8**
SKR				pmax	pmax		
	comp=N,270nm,1.0s						
SKR				pmax	pmax		
	comp=E,270nm,1.0s						
SKR				pmax	pmax		
	comp=Z,490nm,1.0s						
SKR				smax			
	comp=N,1μm,0.9s						
SKR				smax			
	comp=E,660nm,0.9s						
SKR				MLR	MLR		
	comp=Z,3μm,16.0s						
SKR	**Severo-Kuril's**	**2.45**	**20**	*e*P	**Pn**	**22 14 40.2**	**-2.6**
SKR				AMB	AMB	22 14 46.4	
	comp=Z,270nm,1.0s						
SKR				AMB	AMB	22 14 46.4	
	comp=Z,490nm,1.0s						
SKR				*e*S	**Sn**	**22 15 07.7**	**-3.8**
SKR				A		22 15 16.0	
	comp=Z,1μm,0.9s						
SKR				A		22 15 16.0	
	comp=Z,660nm,0.9s						
SKR				A		22 15 16.0	
	comp=Z,310nm,0.5s						
SKR				AMS	AMS	22 15 41.0	
	comp=Z,3μm,16.0s						
PET	**Petropavlovsk**	**5.24**	**26**	*e*PN	**Pn**	**22 15 21.4**	**+0.3**
PET				pmax	pmax		
	comp=Z,34nm,0.7s						
PET				MLR	MLR		
	comp=Z,200nm,17.0s						
KUR	**Kuril'sk**	**5.72**	**239**	*e*PN	**Pn**	**22 15 26.8**	**-0.8**
KUR				*e*S	**Sn**	**22 16 32.0**	**+0.1**
KUR				pmax	pmax		
	comp=E,80nm,0.6s						
KUR				pmax	pmax		
	comp=Z,170nm,0.6s						
KUR				smax			
	comp=N,430nm,0.7s						
KUR				smax			
	comp=E,130nm,0.7s						
KUR				smax			
	comp=N,4μm,2.0s						
KUR				smax			
	comp=E,3μm,2.0s						
KUR	**Kuril'sk**	**5.72**	**239**	*e*P	**Pn**	**22 15 26.8**	**-0.8**
KUR				AMB	AMB	22 15 30.6	
	comp=E,76nm,0.6s						
KUR				AMB	AMB	22 15 30.6	
	comp=E,167nm,0.6s						
KUR				*e*S	**Sn**	**22 16 32.0**	**+0.1**
KUR				A		22 16 38.0	
	comp=E,430nm,0.7s						
KUR				A		22 16 38.0	
	comp=E,129nm,0.7s						
KUR				A		22 16 42.0	
	comp=E,4μm,2.0s						
KUR				A		22 16 42.0	
	comp=E,3μm,2.0s						
YUK	**Yuzh-Kuril'sk**	**7.58**	**238**	PN	**Pn**	**22 15 53.3**	**+0.1**
YUK				*e*S	**Sn**	**22 17 19.2**	**+1.5**
YUK				pmax	pmax		
	comp=Z,250nm,0.4s						
YUK				smax			
	comp=N,120nm,0.4s						
YUK				smax			
	comp=E,340nm,0.6s						
YUK	**Yuzh-Kuril'sk**	**7.58**	**238**	*e*P	**Pn**	**22 15 53.3**	**+0.1**
YUK				AMB	AMB	22 15 53.8	
	comp=E,250nm,0.3s						
YUK				*e*S	**Sn**	**22 17 19.2**	**+1.5**
YUK				A		22 17 26.5	
	comp=E,340nm,0.6s						
YUK				A		22 17 26.5	
	comp=E,120nm,0.3s						
YSS	**Yuzh-Sakhalins**	**8.27**	**265**	*e*Pn	**Pn**	**22 16 03.3**	**+0.7**
	comp=E,25nm,0.6s						
YSS				*e*Sn	**Sn**	**22 17 35.7**	**+1.3**
YSS	**Yuzh-Sakhalins**	**8.27**	**265**	‖ *e*PN	**Pn**	**22 16 05.4**	**+2.9**
YSS	**Yuzh-Sakhalins**	**8.27**	**265**	*e*P	**Pn**	**22 16 07.2**	**+4.7**
YSS				AMB	AMB	22 16 09.0	
	comp=E,30nm,0.8s						
YSS				*e*S	**Sn**	**22 17 37.5**	**+3.1**
YSS				AMS	AMS	22 19 00.0	
	comp=E,300nm,17.0s						
TYV	**Tymovskoe**	**8.27**	**292**	*e*P	**Pn**	**22 16 05.0**	**+2.4**
TYV				AMB	AMB	22 16 08.0	
	comp=E,26nm,1.0s						
TYV				AMB	AMB	22 16 08.0	
	comp=E,31nm,1.0s						
TYV				AMB	AMB	22 16 08.0	
	comp=E,40nm,1.0s						
TYV				AMS	AMS	22 19 28.0	
	comp=E,400nm,18.0s						
TYV				AMS	AMS	22 19 28.0	
	comp=E,700nm,18.0s						
ASAJ	**Asahikawa**	**9.48**	**248**	Pn	**Pn**	**22 16 21.7**	**+2.6**
	comp=E,3.2nm,0.3s,baz=79,slow=12,SNR=13						
ASAJ				LR	LR	22 19 36.6	
	comp=E,257nm,21.2s,baz=313,slow=35						
NKL	**Nikolayevsk**	**10.14**	**303**	*i* P	**Pn**	**22 16 28.7**	**+0.6**
NKL				*e*L		22 19 54.0	
NKL				AMS	AMS	22 21 33.0	
	comp=E,300nm,15.0s						
NKL				AMS	AMS	22 21 33.0	
	comp=E,600nm,15.0s						
ERM	**Erimo**	**10.40**	**237**	‖ *e*PN	**Pn**	**22 16 30.3**	**-1.4**
MA2	**Magadan**	**11.46**	**350**	*e*Pn	**Pn**	**22 16 48.4**	**+2.3**
SEY	**Seymchan**	**14.64**	**356**	‖ *e*P	**Pn**	**22 17 28.5**	**-0.8**
KLR	**Kul'dur**	**15.21**	**282**	*e*P	**Pn**	**22 17 38.0**	**+1.2**
KLR				MLR	MLR		
	comp=Z,900nm,13.5s						
MJAR	**Matsushiro Arr**	**16.99**	**232**	Pn	**Pn**	**22 17 56.3**	**-3.1**
	comp=Z,0.4nm,0.3s,baz=28,slow=13,SNR=8.5						
MJAR				LR	LR	22 24 11.4	
	comp=Z,84nm,18.6s,baz=35,slow=36						
MAJO	**Matsushiro**	**16.99**	**232**	*e*P	**Pn**	**22 17 59.2**	**-0.2**
	comp=Z,4.8nm,0.4s						
MAJO	**Matsushiro**	**16.99**	**232**	*e*P	**Pn**	**22 17 59.2**	**-0.2**
MAJO				pmax	pmax		
	comp=Z,5.0nm,0.4s						
MDJ	**Mudanjiang**	**17.74**	**267**	*e*P	**Pn**	**22 18 09.0**	**+0.4**
	comp=Z,7.9nm,0.7s						
ZEA	**Zeya**	**18.07**	**298**	*e*P	**Pn**	**22 18 12.3**	**-0.2**
JHJ	**Hachijo jima 2**	**18.98**	**222**	LR	LR	22 26 17.2	
	comp=Z,34nm,18.2s,baz=167,slow=39						
YAK	**Yakutsk**	**19.63**	**323**	‖ *e*P	**Pn**	**22 18 31.1**	**-0.1**
YAK				pmax	pmax		
	comp=Z,20nm,0.7s						
CLNS	**Chul'man**	**19.90**	**306**	*e*P	**Pn**	**22 18 32.2**	**-2.3**
CLNS				pmax	pmax		
	comp=Z,26nm,1.0s						
CLNS				pmax	pmax		
	comp=N,12nm,0.8s						
CLNS				pmax	pmax		
	comp=E,13nm,0.9s						
CLNS				MLR	MLR		
	comp=Z,200nm,15.0s						
CLNS				MLR	MLR		
	comp=N,100nm,14.0s						
CLNS				MLR	MLR		
	comp=E,200nm,13.0s						
BILL	**Bilibino**	**20.54**	**12**	P	**P**	**22 18 36.3**	**-3.0**
	comp=E,5.3nm,0.4s						
BILL	**Bilibino**	**20.54**	**12**	*e*P	**P**	**22 18 36.0**	**-3.3**
BILL				pmax	pmax		
	comp=Z,6.0nm,1.0s						
CN2	**Changchun**	**20.81**	**268**	*e*P	**P**	**22 18 40.7**	**-1.7**
CN2				AMB	AMB		
	comp=Z,20nm,0.7s						
KSRS	**Korea Array**	**22.41**	**251**	P	**P**	**22 18 59.6**	**+0.1**
	comp=Z,12nm,0.9s,mb4.3,baz=48,slow=9.7,SNR=16						
INCN	**Inchon**	**23.20**	**252**	*e*P	**P**	**22 19 07.5**	**-0.5**
	comp=Z,17nm,0.3s,mb5.0						
JNU	**Nakatsue**	**23.55**	**238**	P	**P**	**22 19 11.3**	**+0.1**
	comp=Z,2.9nm,0.8s,mb3.8,baz=266,slow=24,SNR=3.6						
BOD	**Bodaibo**	**25.88**	**307**	*e*P	**P**	**22 19 37.3**	**+5.1**
BOD				pmax	pmax		
	comp=Z,3.0nm,1.2s,mb3.7						
TIXI	**Tiksi**	**26.25**	**342**	*e*P	**P**	**22 19 34.9**	**-0.5**
	comp=Z,1.8nm,0.6s,mb3.8						
TIXI	**Tiksi**	**26.25**	**342**	*e*P	**P**	**22 19 33.8**	**-1.6**
TIXI				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb3.8						
ULN	**Ulaanbaatar**	**31.48**	**287**	*e*P	**P**	**22 20 21.5**	**-0.6**
	comp=Z,1.2nm,0.8s,mb3.8						
NJ2	**Nanjing**	**31.59**	**252**	*e*P	**P**	**22 20 27.9**	**+4.7**
NJ2				AMB	AMB		
	comp=Z,22nm,1.0s,mb4.9						
IMA2	**Indian Mountai**	**31.80**	**37**	P	**P**	**22 20 25.2**	**+0.4**
SONM	**Songino Array**	**31.91**	**288**	P	**P**	**22 20 24.8**	**-1.0**
SONM						22 23 14.4	
SONM				pmax	pmax		
	comp=Z,1.0nm,0.9s						
SONM				MLR	MLR		
	comp=Z,152nm,19.3s						
SONM	**Songino Array**	**31.91**	**288**	P	**P**	**22 20 24.8**	**-1.0**
	comp=Z,0.8nm,0.9s,mb3.5,baz=61,slow=9.2,SNR=6.9						
SONM				PcP	PcP	22 23 14.4	-0.8
	comp=Z,0.3nm,0.6s,baz=66,slow=1.7,SNR=3.4						
SONM				LR	LR	22 34 21.0	
	comp=Z,152nm,19.3s,MS3.7,baz=50,slow=38						
TLY	**Talaya**	**32.48**	**295**	*e*P	**P**	**22 20 28.2**	**-2.7**
	comp=Z,2.4nm,0.5s,mb4.3						
TLY	**Talaya**	**32.48**	**295**	‖ *e*P	**P**	**22 20 28.9**	**-2.0**
ZAK	**Zakamensk**	**33.06**	**293**	*e*P	**P**	**22 20 35.5**	**-0.4**
YHNB	**Yeheng**	**35.36**	**240**	P	**P**	**22 20 54.9**	**-1.2**
INK	**Inuvik**	**39.65**	**34**	*e*P	**P**	**22 21 32.0**	**+0.1**
	comp=Z,69nm,0.9s,mb5.4						
INK	**Inuvik**	**39.65**	**34**	P	**P**	**22 21 31.6**	**-0.3**
INK				pmax	pmax		
	comp=Z,1.0nm,0.6s						
INK	**Inuvik**	**39.65**	**34**	P	**P**	**22 21 31.6**	**-0.3**
	comp=Z,0.6nm,0.6s,mb3.5,baz=230,slow=9.2,SNR=4.2						
ZALV	**Zalesovo Beam**	**42.60**	**305**	P	**P**	**22 21 55.3**	**-1.0**
	comp=Z,0.3nm,0.4s,mb3.4,baz=115,slow=7.0,SNR=2.7						
ZALV				PcP	PcP	22 23 47.1	-0.5
	comp=Z,0.3nm,0.3s,baz=22,slow=4.7,SNR=3.1						
ZALV				LR	LR	22 40 36.2	
	comp=Z,37nm,18.2s,MS3.3,baz=54,slow=38						
ZAL	**Zalesovo**	**42.62**	**305**	P	**P**	**22 21 55.3**	**-1.1**
ZAL						22 23 47.1	
MKAR	**Makanchi Array**	**47.22**	**297**	P	**P**	**22 22 32.1**	**-1.0**
MKAR						22 24 04.3	
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
MKAR				MLR	MLR		
	comp=Z,66nm,21.2s						
MKAR	**Makanchi Array**	**47.22**	**297**	P	**P**	**22 22 32.0**	**-1.0**
	comp=Z,1.5nm,0.6s,mb4.1,baz=64,slow=8.4,SNR=21						
MKAR				PcP	PcP	22 24 04.3	+0.6
	comp=Z,0.2nm,0.2s,baz=45,slow=2.2,SNR=2.1						
MKAR				LR	LR	22 43 43.1	
	comp=Z,66nm,21.2s,MS3.6,baz=66,slow=38						
KURK	**Kurchatov**	**47.43**	**303**	*e*P	**P**	**22 22 34.0**	**-0.6**
	comp=Z,4.7nm,1.0s,mb4.4						
BRVK	**Borovoye**	**50.75**	**309**	P	**P**	**22 22 58.1**	**-1.9**
LSA	**Lhasa**	**51.34**	**273**	*e*P	**P**	**22 23 05.5**	**+0.8**
	comp=Z,5.5nm,0.6s,mb4.7						
LSA	**Lhasa**	**51.34**	**273**	*e*P	**P**	**22 23 05.5**	**+0.8**
LSA				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.7						
CHTO	**Chiang Mai**	**53.61**	**257**	*e*P	**P**	**22 23 21.6**	**0.0**
	comp=Z,3.6nm,0.6s,mb4.5						
CHTO	**Chiang Mai**	**53.61**	**257**	*e*P	**P**	**22 23 21.6**	**-0.1**
CHTO				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.5						

OKC Ostrava-Krasne 75.28 333 AMS AMS 22 54 40.0
UPC Upice 75.32 334 *e*P **P 22 25 43.1 +0.1**
DPC Dobruska-Polom 75.37 334 *e*P **P 22 25 43.8 +0.5**
DPC AMS AMS 22 54 00.0
CLL Collm 75.44 336 *e*P **P 22 25 43.0 -0.7**
comp=Z,6.0nm,1.2s,mb4.4
CLL Collm 75.44 336 *e*P **P 22 25 43.0 -0.7**
CLL pmax pmax
comp=Z,6.0nm,1.2s,mb4.4
CLL Collm 75.44 336 *i* P **P 22 25 43.5 -0.2**
comp=Z,6.0nm,1.2s,mb4.4
CLZ Clausthal 75.63 338 *e*P **P 22 25 45.5 +0.8**
TXAR Lajitas Array 75.70 62 P **P 22 25 45.9 +0.4**
TXAR pmax pmax
comp=Z,1.0nm,0.5s
TXAR Lajitas Array 75.70 62 P **P 22 25 45.9 +0.4**
comp=Z,0.5nm,0.5s,mb3.7,baz=292,slow=4.3,SNR=9.3
PVCC Panska Ves 75.71 335 AMS AMS 22 57 30.0
VYHS Vyhne 76.25 332 *e*P **P 22 25 47.2 -1.1**
comp=Z,2.3nm,1.2s,mb4.0
VYHS Vyhne 76.25 332 *e*P **P 22 25 47.2 -1.1**
VYHS pmax pmax
comp=Z,2.0nm,1.2s,mb3.9
MLR Muntele Rosu 76.38 326 ⇑P **P 22 25 49.8 +0.7**
MLR Muntele Rosu 76.38 326 ⇑*i*P **P 22 25 49.8 +0.7**
TREC Trest 76.56 334 *e*P **P 22 25 50.3 +0.2**
TREC AMS AMS 22 59 40.0
comp=Z,100nm,14.4s,MS4.3
NKC Novy Kostel 76.56 336 AMS AMS 22 56 20.0
KHC Kasperske Hory 77.25 335 *e*P **P 22 25 54.0 0.0**
KHC AMS AMS 23 02 30.0
comp=Z,100nm,15.3s,MS4.2
GRA1 Grafenberg Arr 77.38 337 *e*P **P 22 25 55.1 +0.4**
GRF Grafenberg Arr 77.38 337 *e*P **P 22 25 55.1 +0.4**
WET Wettzell 77.44 335 *e*P **P 22 25 55.5 +0.5**
GERES GERESS Array B 77.48 335 P **P 22 25 55.3 +0.1**
GERES pmax pmax
comp=Z,1.0nm,0.6s
GERES GERESS Array B 77.48 335 P **P 22 25 55.3 0.0**
comp=Z,1.2nm,0.6s,mb4.0,baz=35,slow=5.5,SNR=19
GZR Gura Zlata 77.62 328 ⇓P **P 22 25 56.0 0.0**
GZR Gura Zlata 77.62 328 ⇓*i*P **P 22 25 56.0 -0.1**
CONA Conrad Observa 77.67 333 ⇑*i*P **P 22 25 57.0 +0.7**
comp=Z,8.6nm,1.5s,mb4.5
BZS Buzias 77.83 328 ⇓P **P 22 25 57.1 -0.2**
BZS Buzias 77.83 328 ⇓*i*P **P 22 25 57.1 -0.2**
PKSM Moragy 78.32 331 ⇓P **P 22 25 59.4 -0.5**
PKSM Moragy 78.32 331 ⇓*i*P **P 22 25 59.4 -0.6**
PERS Pernice 79.05 333 *i* P **P 22 26 04.1 +0.1**
KBA Koelnbreinsper 79.18 334 ⇑*i*P **P 22 26 05.6 +0.9**
comp=Z,10nm,0.8s,mb4.8
KBA Koelnbreinsper 79.18 334 ⇑*i*P **P 22 26 05.6 +0.9**
KBA pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
WTTA Wattenberg 79.49 335 ⇑*i*P **P 22 26 07.2 +0.9**
comp=Z,8.1nm,0.7s,mb4.8
WTTA Wattenberg 79.49 335 ⇑*i*P **P 22 26 07.2 +0.8**
WTTA pmax pmax
comp=Z,8.0nm,0.7s,mb4.8
RETA Reutte 79.53 336⇑*e*P **P 22 26 06.9 +0.3**
comp=Z,3.3nm,0.8s,mb4.3
CDF Champ du Feu 79.56 339 ⇑*i*P **P 22 26 06.9 +0.2**
comp=Z,6.3nm,0.9s,mb4.2
CDF Champ du Feu 79.56 339 ⇑*i*P **P 22 26 06.9 +0.2**
comp=Z,3.2nm,0.9s,mb4.2
CDF Champ du Feu 79.56 339 ⇑*i*P **P 22 26 06.9 +0.2**
CDF pmax pmax
comp=Z,3.0nm,0.9s,mb4.2
MOTA Moosalm 79.56 336 ⇓*i*P **P 22 26 06.8 0.0**
comp=Z,7.8nm,0.9s,mb4.6
MOTA Moosalm 79.56 336 ⇓*i*P **P 22 26 06.8 0.0**
MOTA pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
GCIS Gornji Cirnik 79.59 332 *i* P **P 22 26 06.5 -0.5**
SQTA Sankt Quirin 79.65 336⇓*e*P **P 22 26 07.5 +0.3**
comp=Z,5.6nm,0.9s,mb4.5
SQTA Sankt Quirin 79.65 336⇓*e*P **P 22 26 07.5 +0.3**
SQTA pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
CRES Cresnjev 79.68 332 *i* P **P 22 26 07.1 -0.3**
ABTA Abfaltersbach 79.72 335 ⇓*i*P **P 22 26 07.7 +0.1**
comp=Z,3.7nm,1.2s,mb4.2
DAVA Damuels 79.95 337 ⇓*i*P **P 22 26 08.5 -0.3**
comp=Z,6.8nm,0.9s,mb4.6
MEZF Maizieres J'vi 80.00 340 ⇑*i*P **P 22 26 09.4 +0.3**
HAU Haudompre 80.17 339 *e*P **P 22 26 09.8 -0.2**
HAU *e*MLR MLR
comp=Z,78nm,22.2s,MS3.7
HAU Haudompre 80.17 339 *e*P **P 22 26 09.8 -0.2**
HAU MLR MLR
comp=Z,80nm,22.3s,MS4.0
HINF Hinteralfeld 80.22 339 *e*P **P 22 26 10.1 -0.2**
RAR Rarotonga 80.30 138 LR LR 22 56 37.4
comp=Z,158nm,21.1s,MS4.3,baz=225,slow=32
FLN La Foliniere 80.90 344 *e*P **P 22 26 14.9 +1.0**
FLN *e*MLR MLR
comp=Z,79nm,19.8s,MS3.8
FLN La Foliniere 80.90 344 *e*P **P 22 26 14.9 +1.0**
FLN MLR MLR
comp=Z,80nm,19.8s,MS4.1
LDF La Druitiere 80.99 343 *e*P **P 22 26 15.0 +0.6**
comp=Z,13nm,1.2s,mb4.4
LDF La Druitiere 80.99 343 *e*P **P 22 26 15.0 +0.6**
comp=Z,6.6nm,1.2s,mb4.4
LDF La Druitiere 80.99 343 *e*P **P 22 26 15.0 +0.6**
LDF pmax pmax
comp=Z,7.0nm,1.2s,mb4.5
GRR Gorron 81.33 344 *e*P **P 22 26 16.4 +0.2**
LOR Lormes 81.43 340 ⇑*i*P **P 22 26 16.8 0.0**
comp=Z,7.4nm,0.9s,mb4.3
LOR *e*MLR MLR
comp=Z,69nm,20.2s,MS3.7
LOR Lormes 81.43 340 ⇑*i*P **P 22 26 16.8 0.0**
comp=Z,3.7nm,0.9s,mb4.3
LOR LR LR
comp=Z,70nm,20.3s,MS4.0
LOR Lormes 81.43 340 ⇑*i*P **P 22 26 16.8 0.0**
LOR pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
LOR MLR MLR
comp=Z,70nm,20.3s,MS4.0
CABF La Chapelle 81.53 339 *e*P **P 22 26 17.6 +0.3**
comp=Z,13nm,1.2s,mb4.5
CABF La Chapelle 81.53 339 *e*P **P 22 26 17.6 +0.3**
comp=Z,6.7nm,1.2s,mb4.5
CABF La Chapelle 81.53 339 *e*P **P 22 26 17.6 +0.3**
CABF pmax pmax
comp=Z,7.0nm,1.2s,mb4.5
SSF Saint Saulge 81.71 341 *e*P **P 22 26 18.2 0.0**
comp=Z,10nm,1.0s,mb4.4
SSF Saint Saulge 81.71 341 *e*P **P 22 26 18.2 0.0**
comp=Z,5.2nm,1.0s,mb4.4
SSF Saint Saulge 81.71 341 *e*P **P 22 26 18.2 0.0**
SSF pmax pmax
comp=Z,5.0nm,1.0s,mb4.4
AVF Avril sur Loir 82.00 341 ⇑*i*P **P 22 26 19.9 +0.1**
comp=Z,10nm,0.9s,mb4.4
AVF Avril sur Loir 82.00 341 ⇑*i*P **P 22 26 19.9 +0.1**
comp=Z,5.2nm,0.9s,mb4.5
AVF Avril sur Loir 82.00 341 ⇑*i*P **P 22 26 19.9 +0.1**
AVF pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
SMF Signal de Mont 82.03 340 ⇑*i*P **P 22 26 20.1 +0.2**
comp=Z,10nm,1.0s,mb4.4
SMF Signal de Mont 82.03 340 ⇑*i*P **P 22 26 20.1 +0.2**
comp=Z,5.1nm,1.0s,mb4.4
SMF Signal de Mont 82.03 340 ⇑*i*P **P 22 26 20.1 +0.2**
SMF pmax pmax
comp=Z,5.0nm,1.0s,mb4.4
BGF Bois d'Agland 82.33 341 *e*P **P 22 26 21.6 +0.1**
LPL La Plagne 82.40 338 ⇑*i*P **P 22 26 23.0 +1.1**
comp=Z,14nm,1.0s,mb4.5
LPL La Plagne 82.40 338 ⇑*i*P **P 22 26 23.0 +1.1**
comp=Z,7.1nm,1.0s,mb4.5
LPL La Plagne 82.40 338 ⇑*i*P **P 22 26 23.0 +1.1**
LPL pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
LPG La Plagne 82.41 338 ⇑*i*P **P 22 26 23.2 +1.2**
comp=Z,16nm,1.0s,mb4.6
LPG La Plagne 82.41 338 ⇑*i*P **P 22 26 23.2 +1.2**
comp=Z,8.0nm,1.0s,mb4.6
LPG La Plagne 82.41 338 ⇑*i*P **P 22 26 23.2 +1.2**
LPG pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
MMAI Mount Meron Ar 82.58 312 P **P 22 26 23.6 +0.5**
comp=Z,3.7nm,0.6s,mb4.6,baz=40,slow=6.8,SNR=13

TCF Toulx Ste Croi 82.72 341 ⇑*i*P **P 22 26 23.9 +0.3**
comp=Z,9.4nm,1.0s,mb4.5
TCF Toulx Ste Croi 82.72 341 ⇑*i*P **P 22 26 23.9 +0.3**
comp=Z,4.7nm,1.0s,mb4.5
TCF Toulx Ste Croi 82.72 341 ⇑*i*P **P 22 26 23.9 +0.3**
TCF pmax pmax
comp=Z,5.0nm,1.0s,mb4.5
MFF Saint Martin d 82.91 343 *e*P **P 22 26 24.8 +0.3**
comp=Z,11nm,1.0s,mb4.5
MFF Saint Martin d 82.91 343 *e*P **P 22 26 24.8 +0.3**
comp=Z,5.6nm,1.0s,mb4.5
MFF Saint Martin d 82.91 343 *e*P **P 22 26 24.8 +0.3**
MFF pmax pmax
comp=Z,6.0nm,1.0s,mb4.6
MBDF Montbardon 83.13 338 *e*P **P 22 26 26.6 +0.9**
comp=Z,5.2nm,0.9s,mb4.3
MBDF Montbardon 83.13 338 *e*P **P 22 26 26.6 +0.9**
comp=Z,2.6nm,0.9s,mb4.3
MBDF Montbardon 83.13 338 *e*P **P 22 26 26.6 +0.9**
MBDF pmax pmax
comp=Z,3.0nm,0.9s,mb4.3
ORIF Oris-en-Rattie 83.17 338 ⇑*i*P **P 22 26 26.7 +0.8**
comp=Z,13nm,1.1s,mb4.5
ORIF *e*MLR MLR
comp=Z,61nm,22.8s,MS3.6
ORIF Oris-en-Rattie 83.17 338 ⇑*i*P **P 22 26 26.7 +0.8**
comp=Z,6.3nm,1.1s,mb4.6
ORIF Oris-en-Rattie 83.17 338 ⇑*i*P **P 22 26 26.7 +0.8**
ORIF pmax pmax
comp=Z,6.0nm,1.1s,mb4.5
VIVF Saint-Julien-l 83.52 339 ⇑*i*P **P 22 26 28.4 +0.7**
comp=Z,12nm,1.1s,mb4.6
VIVF Saint-Julien-l 83.52 339 ⇑*i*P **P 22 26 28.4 +0.7**
comp=Z,6.3nm,1.1s,mb4.7
VIVF Saint-Julien-l 83.52 339 ⇑*i*P **P 22 26 28.4 +0.7**
VIVF pmax pmax
comp=Z,6.0nm,1.1s,mb4.6
SBF Sospel 83.77 337 *e*P **P 22 26 28.9 -0.1**
comp=Z,20nm,1.0s,mb4.9
SBF Sospel 83.77 337 *e*P **P 22 26 28.9 -0.1**
comp=Z,9.9nm,1.0s,mb4.9
SBF Sospel 83.77 337 *e*P **P 22 26 28.9 -0.1**
SBF pmax pmax
comp=Z,10.0nm,1.0s,mb4.9
CAF Calviac 84.05 341 ⇑*i*P **P 22 26 31.2 +0.8**
comp=Z,6.2nm,0.9s,mb4.4
CAF Calviac 84.05 341 ⇑*i*P **P 22 26 31.2 +0.8**
comp=Z,3.1nm,0.9s,mb4.4
CAF Calviac 84.05 341 ⇑*i*P **P 22 26 31.2 +0.8**
CAF pmax pmax
comp=Z,3.0nm,0.9s,mb4.4
SMRF Simiane la Rot 84.13 338 *e*P **P 22 26 31.7 +0.9**
comp=Z,14nm,1.1s,mb4.7
SMRF Simiane la Rot 84.13 338 *e*P **P 22 26 31.7 +0.9**
comp=Z,14nm,1.1s,mb5.0
FRF La Foret Royal 84.25 337 *e*P **P 22 26 31.4 0.0**
comp=Z,11nm,1.1s,mb4.6
FRF La Foret Royal 84.25 337 *e*P **P 22 26 31.4 0.0**
comp=Z,5.7nm,1.1s,mb4.6
FRF La Foret Royal 84.25 337 *e*P **P 22 26 31.4 0.0**
FRF pmax pmax
comp=Z,6.0nm,1.1s,mb4.6
LMR La Mourre 84.50 337 *e*P **P 22 26 32.9 +0.2**
comp=Z,36nm,1.3s,mb5.0
LMR La Mourre 84.50 337 *e*P **P 22 26 32.9 +0.2**
comp=Z,18nm,1.3s,mb5.0
LMR La Mourre 84.50 337 *e*P **P 22 26 32.9 +0.2**
LMR pmax pmax
comp=Z,18nm,1.3s,mb5.0
MTLF Montolieu 85.53 340 *e*P **P 22 26 38.6 +0.8**
comp=Z,4.7nm,0.9s,mb4.4
MTLF Montolieu 85.53 340 *e*P **P 22 26 38.6 +0.8**
comp=Z,2.3nm,0.9s,mb4.4
MTLF Montolieu 85.53 340 *e*P **P 22 26 38.6 +0.8**
MTLF pmax pmax
comp=Z,2.0nm,0.9s,mb4.3
EPF Esparros 86.23 342 *e*P **P 22 26 42.2 +0.9**

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*CSEM **09** 22:22:12.3±1.0, 3741N×2477W, h10km, ML3.0, Error ellipse: s-maj=8.7km s-min=3.1km az=74.0, After PDA*
*PDA **09** 22:22:12.3±1.0, 3741N×2477W, h10km, MD3.9, ML3.0, Error ellipse: s-maj=8.7km s-min=3.1km az=74.0*
SVSA 09 22:22:12.3±1.0, 3741N×2477W, h10km, MD3.9, ML3.0, Error ellipse: s-maj=8.7km s-min=3.1km az=74.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSMN	**Pico do Norte,**	**0.47**	**210**	*e*P	Pg	22 22 20.5	-0.9
PSMN				*e*S	Sg	22 22 26.1	-1.5
PDA	**Ponta Delgada**	**0.79**	**296**	*e*P	Pg	22 22 24.4	-3.1
PDA				*e*S	Sg	22 22 34.0	-3.7
PSET	**Sete Cidades**	**0.86**	**299**	*e*P	Pg	22 22 25.2	-3.7
PSET				*e*S	Sg	22 22 35.7	-4.4
PSET				A		22 22 39.1	
	212nm,0.3s						
PSET	**Sete Cidades**	**0.86**	**299**	*e*P	Pg	22 22 25.2	-3.7
PSET				*e*S	Sg	22 22 35.7	-4.4
PID	**Ribeirinha**	**2.84**	**292**	*e*P	Pn	22 22 53.6	-4.1
PID				*e*S	Sn	22 23 23.9	-8.1
PMAN	**Manadas**	**2.89**	**296**	*e*P	Pn	22 22 54.4	-4.0
PMAN				*e*S	Sn	22 23 25.5	-7.7
PMAN				A		22 23 25.9	
	13nm,0.2s						
ROSA	**Rosais**	**3.04**	**297**	*e*P	Pn	22 22 56.6	-3.8
ROSA				*e*S	Sn	22 23 29.4	-7.4
PICO	**Pico**	**3.09**	**292**	*e*P	Pn	22 22 56.4	-4.7
PICO				*e*S	Sn	22 23 30.0	-8.0
HOR	**Horta**	**3.25**	**291**	*e*P	Pn	22 22 58.9	-4.4
CALA	**Caldeira**	**3.32**	**292**	*e*P	Pn	22 22 59.8	-4.5
CALA				*e*S	Sn	22 23 35.5	-8.2

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*CSEM **09** 22:24:22.1±0.1, 1393N×5160E, h2km, mb4.4/36, Ms3.4, Error ellipse: s-maj=3.8km s-min=2.7km az=168.0*
*ISCJB **09** 22:24:23.9±0.4, 1394N±005×5154E±004, h10km, mb4.3/57, MS3.8/13, Error ellipse: s-maj=8.2km s-min=4.7km az=152.4*
*IDC **09** 22:24:23.4±0.7, 1380N×5174E, h0km, mb4.1/19, mb1 4.2/19, mb1mx4.1/25, mbtmp4.1/19, ML4.8/1, MS3.7/11, Ms1 3.7/11, ms1mx3.5/32, Error ellipse: s-maj=18.4km s-min=14.0km az=118.0*
*NEIC **09** 22:24:25.0±0.4, 1381N×5166E, h10km, mb4.4/32, Error ellipse: s-maj=8.8km s-min=7.1km az=142.0*
*MOS **09** 22:24:26.6±1.0, 1381N×5160E, h33km, mb4.5/25, Error ellipse: s-maj=11.0km s-min=5.0km az=115.4*
*BJI **09** 22:24:29.0, 1333N×5194E, h18km, mB5.1, mb4.6, Ms4.2, Msz4.0*
*DHMR **09** 22:24:30.0±1.7, 1391N×5104E, h9km±48km, ML4.4*
*SZGRF **09** 22:24:35.6, 1461N×5102E, h33km, mb4.7, Eastern Gulf of Aden*
ISC 09 22:24:25.9±0.4, 1394N±005×5155E±004, h10km, n208, σ1§15/209, mb4.3/57, MS3.8/13, 22C-8D, Eastern Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MUKL	**Al Mukalla**	**2.50**	**283**	⇓*i*P	**Pn**	**22 25 05.5**	**-1.0**
MUKL				*i* S	**Sn**	**22 25 32.9**	**-4.2**
MUKL				AML	AML	22 25 35.4	
	comp=Z,5μm,0.2s						
ABTO	**Aybut**	**3.79**	**26**	P	**Pn**	**22 25 23.4**	**-1.1**
	SNR=26						
RBK	**Rabkut**	**4.37**	**35**	P	**Pn**	**22 25 31.9**	**-0.5**
	SNR=77						
WHFO	**Wadi Hawf**	**4.50**	**28**	P	**Pn**	**22 25 33.0**	**-1.2**
	SNR=35						
SHAO	**Shalim**	**5.65**	**43**	P	**Pn**	**22 25 49.5**	**-0.4**
	SNR=8.7						
BDHA	**Al Bayda'**	**5.81**	**271**	*i* P	**Pn**	**22 25 51.7**	**-0.4**
BDHA				*i* S	**Sn**	**22 26 56.0**	**-2.9**
BDHA				AML	AML	22 26 60.0	
	comp=N,1μm,0.4s						
LBOS		**6.12**	**270**	⇓*i*P	**Pn**	**22 25 56.4**	**0.0**
LBOS				*i* S	**Sn**	**22 27 03.7**	**-2.8**
DHBB	**Dhamar BB**	**6.97**	**276**	*i* S	**Sn**	**22 27 22.6**	**-4.9**
TRBA	**At Turbah**	**7.26**	**265**	*i* P	**Pn**	**22 26 10.4**	**-1.7**
TRBA				AML	AML	22 26 19.2	
	comp=Z,292nm,0.4s						
TRBA				*i* S	**Sn**	**22 27 29.5**	**-5.2**
TRBA	**At Turbah**	**7.26**	**265**	*i* P	**Pn**	**22 26 10.4**	**-1.7**

comp=Z,146nm,0.4s
ATD Arta Tunnel 8.82 255 Pn **Pn 22 26 34.8 +1.3**
comp=Z,11nm,0.3s,baz=71,slow=8.7,SNR=64
ATD LR LR 22 29 11.9
comp=Z,505nm,21.3s,baz=79,slow=32
ASUD Al Ashush, Dub 11.22 18 P **Pn 22 27 05.8 -0.5**
SNR=52
BANOM Banah 12.73 20 P **Pn 22 27 27.1 0.0**
SNR=10
QRN Al-Qurain 15.12 348 *e*P **Pn 22 27 56.7 -2.9**
QRN AMb AMB 22 28 07.6
comp=Z,205nm,0.7s
RDF Al-Radifah 15.37 347 *e*P **Pn 22 28 00.3 -2.6**
RDF AMb AMB 22 28 10.8
comp=Z,342nm,0.9s
RDF Al-Radifah 15.37 347 *e*P **Pn 22 28 00.3 -2.6**
comp=Z,342nm,0.9s
KBD Kabd 15.58 347 *e*P **Pn 22 28 02.6 -3.0**
KBD AMb AMB 22 28 13.1
comp=Z,674nm,0.9s
KBD Kabd 15.58 347 *e*P **Pn 22 28 02.6 -3.1**
comp=Z,674nm,0.9s
NAY Al-Naaiem 15.75 346 *e*P **Pn 22 28 04.6 -3.3**
NAY AMb AMB 22 28 14.9
comp=Z,62nm,0.8s
NAY Al-Naaiem 15.75 346 *e*P **Pn 22 28 04.6 -3.3**
comp=Z,62nm,0.8s
UMR Umm Al-Rimmam 15.94 348 *e*P **Pn 22 28 07.3 -3.1**
UMR AMb AMB 22 28 17.0
comp=Z,123nm,1.1s
UMR Umm Al-Rimmam 15.94 348 *e*P **Pn 22 28 07.3 -3.0**
comp=Z,123nm,1.1s
RST Umm Al-Ruwaisa 16.05 346 *e*P **Pn 22 28 08.9 -2.8**
RST AMb AMB 22 28 18.4
comp=Z,200nm,0.8s
RST Umm Al-Ruwaisa 16.05 346 *e*P **Pn 22 28 08.9 -2.9**
comp=Z,200nm,0.8s
MIB Mutribah 16.26 347 *e*P **Pn 22 28 12.0 -2.5**
MIB AMb AMB 22 28 20.9
comp=Z,90nm,0.8s
MIB Mutribah 16.26 347 *e*P **Pn 22 28 12.0 -2.5**
comp=Z,90nm,0.8s
BHD Baghdad 20.32 342 *ex* x 22 29 00.0
KMBO Kilima Mbogo 20.61 225 *e*P **P 22 29 04.5 -1.0**
KMBO *e*S **S 22 32 57.5 +1.6**
KMBO LR LR 22 37 49.2
KMBO Kilima Mbogo 20.61 225 *e*P **P 22 29 04.5 -0.9**
KMBO *e*S **S 22 32 57.5 +1.5**
KMBO Kilima Mbogo 20.61 225 P **P 22 29 03.5 -2.0**
comp=Z,5.2nm,0.8s,baz=42,slow=14,SNR=19
KMBO LR LR 22 37 49.2
comp=Z,175nm,19.2s,MS3.4,baz=107,slow=39
EIL Elat 21.92 318 P **P 22 29 21.9 +2.4**
comp=Z,8.1nm,0.9s,mb4.2,baz=178,slow=14,SNR=5.7
ASF Jabal al Asfar 22.56 326 P **P 22 29 28.6 +2.3**
comp=Z,6.6nm,1.0s,mb4.0,baz=22,slow=2.5,SNR=7.7
ASF LR LR 22 38 51.5
comp=Z,276nm,19.5s,MS3.7,baz=196,slow=38
MSL Mosul 23.52 343 *ex* x 22 29 37.5
MMAI Mount Meron Ar 24.02 325 P **P 22 29 43.5 +2.4**
comp=Z,6.6nm,1.0s,mb4.0,baz=108,slow=19,SNR=6.0
MMAI LR LR 22 39 36.8
comp=Z,212nm,18.1s,MS3.7,baz=140,slow=38
HYB Hyderabad 26.22 79 *e*P **P 22 30 08.0 +6.8**
HYB Hyderabad 26.22 79 *i* P **P 22 30 08.0 +6.8**
CSS Prodhromos 26.62 325 *e*P **P 22 30 05.7 +1.1**
MALT Malatya 26.92 337 ⇑P **P 22 30 10.8 +3.5**
MALT Malatya 26.92 337 ⇑*i*P **P 22 30 10.8 +3.5**
ANTO Ankara 30.64 331 *e*P **P 22 30 42.5 +2.2**
comp=Z,9.4nm,0.8s,mb4.7
ANTO Ankara 30.64 331 *e*P **P 22 30 42.5 +2.1**
ANTO pmax pmax
comp=Z,9.0nm,0.8s,mb4.7
ANTO Ankara 30.64 331 *e*P **P 22 30 42.5 +2.1**
comp=Z,9.4nm,0.8s,mb4.7
KIV Kislovodsk 30.86 347 *e*P **P 22 30 44.9 +2.6**
comp=Z,10.0nm,1.0s,mb4.6
KIV Kislovodsk 30.86 347 *e*P **P 22 30 44.7 +2.4**
KIV pmax pmax
comp=Z,12nm,1.1s,mb4.6
KIV MLR MLR
comp=Z,195nm,16.0s,MS3.9
KIV Kislovodsk 30.86 347 ⇑*i*P **P 22 30 45.3 +3.0**
KIV Kislovodsk 30.86 347 *e*P **P 22 30 44.7 +2.4**
comp=Z,195nm,16.0s
GVD Gavdhos 32.35 315 *e*P **P 22 30 55.2 -0.4**
comp=Z,37nm,0.8s,mb5.3
GVD Gavdhos 32.35 315 *e*P **P 22 30 55.2 -0.4**
comp=Z,37nm,0.8s,mb5.3
AML Almayashu 34.01 30 *e*P **P 22 31 09.5 -0.4**
comp=Z,4.8nm,0.9s,mb4.4
AML Almayashu 34.01 30 *e*P **P 22 31 09.5 -0.4**
comp=Z,4.8nm,0.9s,mb4.4
EKS2 Erkin-Say 34.46 30 *e*P **P 22 31 13.3 -0.5**
comp=Z,2.0nm,0.8s,mb4.1
EKS2 Erkin-Say 34.46 30 *e*P **P 22 31 13.3 -0.5**
comp=Z,2.0nm,0.8s,mb4.1
UCH Uchtor 34.49 31 *e*P **P 22 31 16.2 +2.1**
comp=Z,11nm,1.3s,mb4.6
UCH Uchtor 34.49 31 *e*P **P 22 31 16.2 +2.1**
comp=Z,11nm,1.3s,mb4.6
TKM2 Tokmak 2 35.54 31 *e*P **P 22 31 24.5 +1.4**
comp=Z,4.6nm,1.1s,mb4.3
TKM2 Tokmak 2 35.54 31 *e*P **P 22 31 24.5 +1.4**
TKM2 pmax pmax
comp=Z,5.0nm,1.1s,mb4.4
TKM2 Tokmak 2 35.54 31 *e*P **P 22 31 24.5 +1.4**
comp=Z,4.6nm,1.1s,mb4.3
AKTK Aktyubinsk 36.78 7 P **P 22 31 33.8 +0.2**
AKTK Aktyubinsk 36.78 7 P **P 22 31 33.8 +0.2**
AKTO Aktyubinsk 36.78 7 P **P 22 31 33.8 +0.2**
comp=Z,5.2nm,0.9s,mb4.4,baz=195,slow=9.1,SNR=26
LSZ Lusaka 37.10 219 P **P 22 31 36.5 -0.2**
comp=Z,0.8nm,0.6s,mb3.8,baz=89,slow=12,SNR=3.0
VRI Vrincioaia 38.10 332 ⇑P **P 22 31 46.8 +1.9**
VRI Vrincioaia 38.10 332 ⇑*i*P **P 22 31 46.8 +1.9**
PLOR Plostina 38.12 332 ⇓*i*P **P 22 31 47.4 +2.3**
MLR Muntele Rosu 38.19 331 ⇑P **P 22 31 47.5 +1.9**
MLR Muntele Rosu 38.19 331 ⇑*i*P **P 22 31 47.5 +1.9**
VRSR Storozhevoye 38.50 348 *e*P **P 22 31 48.6 +0.4**
VRSR pmax pmax
comp=N,6.0nm,0.9s
VRSR pmax pmax
comp=E,3.0nm,0.9s
VRSR pmax pmax
comp=Z,3.0nm,0.9s,mb4.0
LSA Lhasa 39.75 60 P **P 22 31 58.4 -0.5**
BZS Buzias 40.45 327 ⇓P **P 22 32 05.7 +1.2**
BZS Buzias 40.45 327 ⇓*i*P **P 22 32 05.7 +1.2**
DRGR 40.69 329 ⇑P **P 22 32 08.2 +1.8**
DRGR 40.69 329 ⇑*i*P **P 22 32 08.3 +1.8**
DRGR 40.69 329 ⇑P **P 22 32 08.2 +1.7**
AKASG Malin Array Be 40.90 338 *i* P **P 22 32 08.6 +0.4**
AKASG pmax pmax
comp=Z,4.0nm,0.7s
AKASG Malin Array Be 40.90 338 P **P 22 32 08.7 +0.6**
comp=Z,4.4nm,0.7s,mb4.2,baz=146,slow=7.2,SNR=22
AKASG Malin Array Be 40.90 338 *i* P **P 22 32 08.6 +0.4**
comp=Z,4.0nm,0.7s,mb4.2
KIEV Kiev 40.90 338 *e*P **P 22 32 08.7 +0.5**
comp=Z,5.5nm,1.0s,mb4.1
KIEV Kiev 40.90 338 *e*P **P 22 32 08.7 +0.5**
KIEV pmax pmax
comp=Z,6.0nm,1.0s,mb4.2
KIEV Kiev 40.90 338 *e*P **P 22 32 08.6 +0.4**
comp=Z,5.5nm,1.0s,mb4.1
MKAR Makanchi Array 41.65 32 P **P 22 32 14.6 +0.2**
comp=Z,1.1nm,0.6s,mb3.7,baz=218,slow=7.5,SNR=10
BRVK Borovoye 41.77 17 *e*P **P 22 32 14.3 -1.0**
BRVK pmax pmax
comp=Z,3.0nm,0.7s,mb4.0
BRVK Borovoye 41.77 17 *e*P **P 22 32 14.3 -1.0**
comp=Z,2.5nm,0.7s,mb4.0
KOLS Kolonicke sedl 42.40 331 *e*P **P 22 32 22.4 +1.9**
PKSM Moragy 42.42 326 ⇑P **P 22 32 21.7 +1.0**
PKSM Moragy 42.42 326 ⇑*i*P **P 22 32 21.7 +1.0**
OBN Obninsk 42.71 347 *e*P **P 22 32 23.9 +1.0**
comp=Z,13nm,0.8s,mb4.7
OBN Obninsk 42.71 347 ⇓*i*P **P 22 32 23.3 +0.4**
OBN pmax pmax
comp=Z,25nm,1.6s,mb4.7
OBN MLR MLR
comp=Z,100nm,20.0s,MS3.7
OBN Obninsk 42.71 347 *i* P **P 22 32 23.3 +0.4**
comp=Z,100nm,20.0s
KURK Kurchatov 42.75 25 *e*P **P 22 32 22.6 -0.7**

KURK Kurchatov 42.75 25 eP P 22 32 22.5 -0.8
ARU Arti 42.75 6 eP P 22 32 23.4 +0.2
comp=Z,4.2nm,0.9s,mb4.2
ARU Arti 42.75 6 eP P 22 32 23.4 +0.2
ARU pmax pmax
comp=Z,4.0nm,0.9s,mb4.2
ARU Arti 42.75 6 eP P 22 32 23.4 +0.2
comp=Z,4.2nm,0.9s,mb4.2
CRVS Cervenica-Dubn 42.76 331 eP P 22 32 24.9 +1.5
KECS Kecovo 42.94 330 eP P 22 32 24.8 -0.1
comp=Z,1.1nm,0.8s,mb3.6
KECS Kecovo 42.94 330 eP P 22 32 24.8 -0.1
KECS pmax pmax
comp=Z,1.0nm,0.8s,mb3.6
STHS Stebnicka Huta 43.22 331 eP P 22 32 27.3 +0.1
VYHS Vyhne 43.77 329 eP P 22 32 32.1 +0.5
VYHS pmax pmax
comp=Z,3.0nm,1.2s,mb3.9
VYHS Vyhne 43.77 329 eP P 22 32 32.1 +0.5
comp=Z,2.5nm,1.2s,mb3.8
BOJS Bojanci 43.91 323 i P P 22 32 33.7 +1.0
CRES Cresnjev 43.97 324 eP P 22 32 34.3 +1.1
GROS Grobnik 44.31 324 eP P 22 32 37.1 +1.2
VNDS Vrh nad Dolski 44.56 324 i P P 22 32 39.4 +1.5
ARSA Arzberg 44.75 325⇑ iP P 22 32 40.8 +1.3
comp=Z,3.1nm,0.6s,mb4.3
CONA Conrad Observa 44.97 326⇑ iP P 22 32 42.0 +0.8
comp=Z,5.3nm,0.9s,mb4.4
MORC Moravsky Berou 45.25 329 eP P 22 32 44.0 +0.6
MYKA Terra Mystica 45.46 324⇑ iP P 22 32 46.3 +1.1
comp=Z,6.1nm,0.7s,mb4.5
MOA Molln 45.80 325⇑ iP P 22 32 48.5 +0.8
comp=Z,6.1nm,1.1s,mb4.5
MOA Molln 45.80 325⇑ iP P 22 32 48.5 +0.8
comp=Z,6.1nm,1.0s,mb4.5
KBA Koelnbreinsper 45.88 324⇑ eP P 22 32 48.6 +0.2
comp=Z,4.3nm,0.9s,mb4.4
KBA Koelnbreinsper 45.88 324⇑ eP P 22 32 48.6 +0.2
KBA pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
TREC Trest 45.99 328 eP P 22 32 49.3 0.0
DPC Dobruska-Polom 46.22 329 eP P 22 32 51.1 0.0
LBTB Lobatse 46.25 213 P P 22 32 51.9 +0.3
LBTB Lobatse 46.25 213 P P 22 32 51.9 +0.3
comp=Z,6.3nm,1.2s,mb4.4,baz=37,slow=17,SNR=3.7
PGF Pioggiola 46.38 316 eP P 22 32 51.9 -0.6
comp=Z,4.5nm,0.8s,mb4.1
PGF Pioggiola 46.38 316 eP P 22 32 51.9 -0.6
PGF pmax pmax
comp=Z,2.0nm,0.8s,mb4.1
PGF Pioggiola 46.38 316 eP P 22 32 51.9 -0.6
comp=Z,2.2nm,0.8s,mb4.1
UPC Upice 46.48 329 eP P 22 32 53.8 +0.7
GEC2 GERESS Array S 46.67 326 eP P 22 32 55.2 +0.6
GEC2 pmax pmax
comp=Z,10.0nm,1.8s,mb4.4
GEC2 GERESS Array S 46.67 326 eP P 22 32 55.2 +0.6
comp=Z,10.0nm,1.8s,mb4.4
GERES GERESS Array B 46.67 326 P P 22 32 54.7 0.0
comp=Z,0.8nm,0.6s,mb3.9,baz=148,slow=7.7,SNR=11
KHC Kasperske Hory 46.91 326 eP P 22 32 54.9 -1.6
TSUM Tsumeb 46.94 226 P P 22 32 57.1 0.0
PVCC Panska Ves 47.21 328 eP P 22 32 58.8 0.0
MOTA Moosalm 47.32 323⇑ iP P 22 32 59.5 -0.2
comp=Z,4.3nm,0.6s,mb4.5
MOTA Moosalm 47.32 323⇑ iP P 22 32 59.5 -0.2
MOTA pmax pmax
comp=Z,4.0nm,0.6s,mb4.5
RETA Reutte 47.59 323⇑ eP P 22 33 01.7 -0.1
comp=Z,2.7nm,0.7s,mb4.4
FUR Furstenfeldbru 47.65 324 eP P 22 33 02.5 +0.3
NVS Novosibirsk 47.69 24 eP P 22 33 01.6 -0.9
NVS pmax pmax
comp=N,4.0nm,0.6s
NVS pmax pmax
comp=Z,5.0nm,0.6s,mb4.7
ZAL Zalesovo 47.69 26 P P 22 33 02.2 -0.3
ZAA0 Zalesovo Array 47.71 26 eP P 22 33 01.8 -0.9
ZAA0 Zalesovo Array 47.71 26 eP P 22 33 01.8 -0.8
ZALV Zalesovo Beam 47.71 26 P P 22 33 02.1 -0.5
comp=Z,2.0nm,0.6s,mb4.3,baz=230,slow=8.9,SNR=7.5
BRG Berggiesshubel 47.74 329 P P 22 33 02.9 0.0
BRG pmax pmax
comp=Z,2.0nm,1.1s,mb4.1
BRG Berggiesshubel 47.74 329 eP P 22 33 02.8 -0.1
BRG Berggiesshubel 47.74 329 e(P) P 22 33 02.9 0.0
comp=Z,3.5nm,1.1s,mb4.3
ROTZ Rotzenmuhle 48.00 326 eP P 22 33 04.4 -0.6
MANZ Manzenberg 48.18 327 eP P 22 33 06.0 -0.3
FRF La Foret Royal 48.37 317 eP P 22 33 07.3 -0.7
comp=Z,10nm,1.0s,mb4.5
FRF La Foret Royal 48.37 317 eP P 22 33 07.3 -0.7
FRF pmax pmax
comp=Z,5.0nm,1.0s,mb4.5
FRF La Foret Royal 48.37 317 eP P 22 33 07.3 -0.7
comp=Z,5.2nm,1.0s,mb4.5
LMR La Mourre 48.38 316 eP P 22 33 06.9 -1.1
comp=Z,10nm,1.1s,mb4.5
LMR La Mourre 48.38 316 eP P 22 33 06.9 -1.1
LMR pmax pmax
comp=Z,5.0nm,1.1s,mb4.5
LMR La Mourre 48.38 316 eP P 22 33 06.9 -1.1
comp=Z,5.1nm,1.1s,mb4.5
TORD Torodi Ar. Bea 48.40 275 P P 22 33 08.9 +0.3
comp=Z,1.2nm,0.8s,mb4.0,baz=92,slow=7.7,SNR=10
TORD LR LR 22 55 52.0
comp=Z,54nm,19.4s,MS3.5,baz=35,slow=39
TORD Torodi Ar. Bea 48.40 275 P P 22 33 08.9 +0.3
CLL Collm 48.47 329 eP P 22 33 06.0 -2.6
CLL pmax pmax
comp=Z,29nm,2.5s,mb4.9
CLL Collm 48.47 329 eP P 22 33 06.0 -2.6
comp=Z,29nm,2.5s,mb4.9
GRA1 Grafenberg Arr 48.49 326 eP P 22 33 08.5 -0.3
comp=Z,10.0nm,1.5s,mb4.6
GRF Grafenberg Arr 48.49 326 eP P 22 33 08.5 -0.3
GRF pmax pmax
comp=Z,10.0nm,1.5s,mb4.6
GRF Grafenberg Arr 48.49 326 eP P 22 33 08.5 -0.3
GRF pmax pmax
comp=Z,10.0nm,1.5s,mb4.6
GRF Grafenberg Arr 48.49 326 eP P 22 33 08.5 -0.3
comp=Z,10.0nm,1.5s,mb4.6
MBDF Montbardon 48.77 318 eP P 22 33 10.8 -0.2
MOX Moxa 48.81 327 eP P 22 33 11.6 +0.4
comp=Z,16nm,1.8s,mb4.8
LPG La Plagne 49.10 319 eP P 22 33 13.6 +0.1
comp=Z,3.7nm,0.8s,mb4.2
LPG La Plagne 49.10 319 eP P 22 33 13.6 +0.1
LPG pmax pmax
comp=Z,2.0nm,0.8s,mb4.2
LPG La Plagne 49.10 319 eP P 22 33 13.6 +0.1
comp=Z,1.9nm,0.8s,mb4.2
LPL La Plagne 49.12 319 eP P 22 33 13.5 -0.2
comp=Z,2.4nm,0.5s,mb4.2
LPL La Plagne 49.12 319 eP P 22 33 13.5 -0.2
LPL pmax pmax
comp=Z,1.0nm,0.5s,mb4.1
LPL La Plagne 49.12 319 eP P 22 33 13.5 -0.2
comp=Z,1.2nm,0.5s,mb4.2
SMRF Simiane la Rot 49.25 317 eP P 22 33 14.2 -0.5
KMI Kunming 49.26 69 P P 22 33 21.7 +6.6
KMI pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
KMI LR LR
comp=N,93nm,18.8s,MS4.0
KMI LR LR
comp=E,98nm,18.8s,MS4.0
KMI LR LR
comp=Z,124nm,26.0s
BFO Black Forest 49.43 323 eP P 22 33 16.2 +0.2
CABF La Chapelle 50.00 320 eP P 22 33 20.1 -0.2
comp=Z,3.4nm,0.7s,mb4.2
CABF La Chapelle 50.00 320 eP P 22 33 20.1 -0.2
CABF pmax pmax
comp=Z,2.0nm,0.7s,mb4.3
CABF La Chapelle 50.00 320 eP P 22 33 20.1 -0.2
comp=Z,1.7nm,0.7s,mb4.2
CDF Champ du Feu 50.09 323 eP P 22 33 20.8 -0.2
CLZ Clausthal 50.13 328 eP P 22 33 22.1 +0.9
VIVF Saint-Julien-l 50.19 317 eP P 22 33 21.0 -0.8
LASF Ste Croix 50.44 316 eP P 22 33 23.4 -0.3
FINES FINESS Array B 50.87 345 P P 22 33 26.9 +0.2
comp=Z,5.2nm,0.8s,mb4.5,baz=141,slow=12,SNR=20
FINES LR LR 22 57 25.3
comp=Z,37nm,18.3s,MS3.4,baz=122,slow=39

MTLF Montolieu 51.30 315 eP P 22 33 29.9 -0.3
WLF Walferdange 51.32 324 eP P 22 33 30.4 +0.1
KAF Kangasniemi 51.38 345 ep P 22 33 28.3 -2.2
MEZF Maizieres J'vi 51.45 322 eP P 22 33 30.9 -0.3
comp=Z,10nm,0.7s,mb4.6
MEZF Maizieres J'vi 51.45 322 eP P 22 33 30.9 -0.3
comp=Z,5.1nm,0.7s,mb4.6
LOR Lormes 51.66 320 eP P 22 33 32.5 -0.4
SSF Saint Saulge 51.80 320 eP P 22 33 33.0 -0.9
comp=Z,4.6nm,0.8s,mb4.2
SSF Saint Saulge 51.80 320 eP P 22 33 33.0 -0.9
SSF pmax pmax
comp=Z,2.0nm,0.8s,mb4.1
SSF Saint Saulge 51.80 320 eP P 22 33 33.0 -0.9
comp=Z,2.3nm,0.8s,mb4.2
BGF Bois d'Agland 52.02 319 eP P 22 33 35.3 -0.3
BAIF Baives 52.62 323 eP P 22 33 39.7 -0.3
comp=Z,16nm,1.0s,mb4.6
BAIF Baives 52.62 323 eP P 22 33 39.7 -0.3
BAIF pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
BAIF Baives 52.62 323 eP P 22 33 39.7 -0.3
comp=Z,7.9nm,1.0s,mb4.6
SJPF Ste Jean 53.62 314 eP P 22 33 47.4 -0.1
comp=Z,2.9nm,0.6s,mb4.1
SJPF Ste Jean 53.62 314 eP P 22 33 47.4 -0.1
SJPF pmax pmax
comp=Z,1.0nm,0.6s,mb3.9
SJPF Ste Jean 53.62 314 eP P 22 33 47.4 -0.1
comp=Z,1.5nm,0.6s,mb4.1
LDF La Druitiere 54.64 320 eP P 22 33 54.6 -0.2
ESDC Sonseca Array 54.80 309 P P 22 33 56.6 +0.5
comp=Z,2.3nm,0.8s,mb4.3,baz=84,slow=7.1,SNR=9.7
KONO Kongsberg 55.05 336 P P 22 34 00.3 +2.7
KONO Kongsberg 55.05 336 P P 22 34 00.3 +2.7
NOA NORSAR Array B 55.30 337 P P 22 33 58.8 -0.6
comp=Z,0.5nm,0.7s,mb3.7,baz=125,slow=7.6,SNR=3.3
DBIC Dimbokro 55.86 269 P P 22 34 04.5 +0.3
comp=Z,3.1nm,1.0s,mb4.3,baz=51,slow=7.0,SNR=3.2
DBIC LR LR 22 59 44.6
comp=Z,34nm,18.7s,MS3.5,baz=242,slow=38
DBIC Dimbokro 55.86 269 P P 22 34 04.4 +0.2
SONM Songino Array 56.39 41 P P 22 34 06.4 -1.0
comp=Z,0.2nm,0.4s,mb3.5,baz=238,slow=8.3,SNR=3.0
SONM LR LR 22 59 59.8
comp=Z,80nm,20.1s,MS3.8,baz=149,slow=38
ULN Ulaanbaatar 56.83 42⇓ eP P 22 34 16.7 +6.2
ARCES ARCESS Array B 57.94 350 P P 22 34 18.0 0.0
ARCES ARCESS Array B 57.94 350 P P 22 34 18.0 0.0
comp=Z,3.8nm,0.7s,mb4.5,baz=147,slow=6.8,SNR=12
ESK Eskdalemuir 58.89 327 P P 22 34 27.0 +2.2
ESK Eskdalemuir 58.89 327 P P 22 34 27.0 +2.1
JOW Kunigami 72.14 66 LR LR 23 06 05.6
comp=Z,42nm,19.3s,MS3.7,baz=155,slow=35
MAW Mawson 81.73 176 LR LR 23 06 55.5
comp=Z,80nm,18.1s,MS4.1,baz=66,slow=31
SEY Seymchan 82.57 27⇓ eP P 22 36 54.8 +5.9
BILL Bilibino 86.04 20 eP P 22 37 10.4 +4.0
BILL pmax pmax
comp=Z,5.0nm,1.6s,mb4.5
WRA Warramunga Arr 88.08 111 P P 22 37 15.0 -2.2
comp=Z,0.8nm,0.8s,mb4.0,baz=298,slow=3.7,SNR=4.4
ASAR Alice Springs 88.69 115 P P 22 37 18.0 -2.0
comp=Z,0.7nm,0.9s,mb4.0,baz=329,slow=2.2,SNR=4.3
STKA Stephens Creek 97.26 121 LR LR 23 16 55.1
comp=Z,89nm,18.9s,MS4.3,baz=206,slow=32

IDC 09 22:24:53.0±1.6, 269S×12847E, h0km, mb3.8/3, mb1 4.1/5, mb1mx3.8/16, mbtmp3.9/5, ML3.9/2, Error ellipse: s-maj=97.7km s-min=22.7km az=68.0, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	ISC	Res
FITZ	Fitzroy Crossi	15.57	190	Pn	Pn	22 28 35.2		+1.3
	0.1nm,0.3s,baz=9.0,slow=13,SNR=2.9							
WRA	Warramunga Arr	18.08	162	P	Pn	22 29 06.0		+0.2
	1.0nm,0.3s,baz=340,slow=12,SNR=26							
ASAR	Alice Springs	21.51	166	P	P	22 29 43.0		-0.6
	3.2nm,0.4s,baz=340,slow=12,SNR=60							
STKA	Stephens Creek	31.56	158	P	P	22 31 16.7		-0.5
	0.8nm,0.4s,baz=328,slow=14,SNR=5.0							
MKAR	Makanchi Array	63.81	326	P	P	22 35 27.5		+0.5
	0.2nm,0.6s,baz=111,slow=8.2,SNR=3.3							
TXAR	Lajitas Array	123.92	56	PKhKP		22 43 48.1		
	0.4nm,0.8s,baz=222,slow=2.4,SNR=4.2							

*NEIC **09** 22:37:39.3, 38.15N×2030E, h12km, MD3.6(ATH), After ATH.*
*ATH **09** 22:37:39.3, 38.15N×2030E, h12km±1km, MD3.6/7*
*ISCJB **09** 22:37:40.2±1.2, 3832N±004×2040E±009, h5km, Error ellipse: s-maj=10.4km s-min=4.2km az=156.6*
*THE **09** 22:37:40.3, 3832N×2043E, h3km, ML3.0*
*CSEM **09** 22:37:41.3±0.3, 38.34N×2055E, h5km, MD3.6, Error ellipse: s-maj=8.0km s-min=4.0km az=70.0*

ISC 09 22:37:40.7±1.1, 3832N±004×2044E±009, h3km±8km, n11, σ1§19/17, **Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	ISC	Res
VLS	Valsamata	0.18	140	ePG	Pg	22 37 44.5		+0.3
VLS				eSG	Sg	22 37 48.0		+1.5
LKD	Levkas	0.42	22	ePg	Pg	22 37 48.2		-0.7
LKD				eSg	Sg	22 37 54.7		+0.3
RLS	Riolos of Patr	0.85	107	ePG	Pg	22 37 56.7		-0.2
RLS				eSB	Sb	22 38 10.1		+0.4
IGT	Igoumenitsa	1.22	356	ePg	Pg	22 38 03.2		-0.9
IGT				eSg	Sg	22 38 21.1		+1.2
EVR	Evrytania	1.23	60	ePB	Pb	22 38 06.3		+1.8
KEK	Kerkira	1.48	340	ePB	Pb	22 38 09.4		+0.5
MEV	Metsovon	1.59	22	ePg	Pg	22 38 08.8		-2.3
ITM	Ithomi	1.63	133	ePB	Pb	22 38 10.6		-0.8
ITM				eSB	Sb	22 38 31.6		-0.8
AGG	Agios Georgios	1.64	64	ePb	Pb	22 38 09.7		-1.8
AGG				eSb	Sb	22 38 32.8		+0.3
THL	Klokotos Trika	1.75	44	ePN	Pn	22 38 14.3		+2.4
LKR	Lokris	2.03	80	ePB	Pb	22 38 16.9		-1.3

*IDC **09** 22:41:18.2±0.8, 3672N×6939E, h0km, mb4.0/11, mb1 4.1/13, mb1mx3.9/22, mbtmp4.0/13, ML3.8/2, Error ellipse: s-maj=21.5km s-min=15.7km az=34.0*
*NNC **09** 22:41:20.6±3.0, 3721N×6933E, h0km, mb4.3, mpv4.3, Error ellipse: s-maj=28.9km s-min=20.1km az=68.0*
*MOS **09** 22:41:21.7±1.0, 3688N×6936E, h33km, mb4.2/14, Error ellipse: s-maj=12.9km s-min=7.7km az=83.8*
*BJI **09** 22:41:23.1, 3731N×6930E, h36km, mB4.8, mb4.4, ML4.0, Ms4.0, Msz4.1*
*ISCJB **09** 22:41:23.5±0.7, 3699N±003×6936E±006, h51km±7km, mb3.9/18, Error ellipse: s-maj=7.9km s-min=4.0km az=169.9*
*NEIC **09** 22:41:25.0±1.5, 3689N×6944E, h46km±13km, mb4.0/7, Error ellipse: s-maj=12.6km s-min=8.1km az=221.0*

ISC 09 22:41:25.4±0.6, 3697N±003×6930E±006, h50km±6km, n93, σ1§33/109, **mb3.9**/18, **15C-4D, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	ISC	Res
CEP	Cherat	3.79	145	P	Pn	22 42 23.3		+2.0
THW	Thamme Wali	4.62	154	P	Pn	22 42 33.2		+0.5
CHCP	Chirah Chowk	4.63	134	P	Pn	22 42 34.1		+1.4
DRP	Derazinda	5.27	172	P	Pn	22 42 43.6		+2.1
KSH	Kashi	5.83	62	eP	Pn	22 42 49.8		+0.6
KSH				Smax				
	comp=N,565nm,0.8s							
KSH				Smax				
	comp=E,1μm,1.4s							
AML	Almayashu	6.17	32	ePn	Pn	22 42 54.2		+0.4
AML				eSn	Sn	22 44 06.2		+3.2
AML	Almayashu	6.17	32	P	Pn	22 42 54.4		+0.5
	SNR=86							
KK31	Karatay Array	6.20	8	Pn	Pn	22 42 54.1		-0.1
	comp=E,5.7nm,0.4s,baz=200,slow=15,SNR=165							
KK31				⇑Sn	Sn	22 44 04.9		+1.3
	comp=E,18nm,0.5s							
KK31				⇑Lg		22 44 31.0		
	comp=E,38nm,0.6s,baz=193,slow=26,SNR=7.2							
UCH	Uchtor	6.61	36	ePn	Pn	22 43 00.1		+0.2
	comp=E,33nm,0.6s							
UCH				eSn	Sn	22 44 15.7		+1.8
UCH	Uchtor	6.61	36	P	Pn	22 43 00.4		+0.5
	SNR=74							
EKS2	Erkin-Say	6.64	30	ePn	Pn	22 43 00.9		+0.5
	comp=E,17nm,0.7s							
EKS2				eSn	Sn	22 44 16.0		+1.4
EKS2	Erkin-Say	6.64	30	P	Pn	22 43 01.2		+0.8
	SNR=21							
KZA	Kyzart	6.86	40	P	Pn	22 43 03.6		+0.2
	SNR=19							
AAK	Ala-Archa	6.92	34	P	Pn	22 43 04.8		+0.7
	SNR=64							
THN	Thein Dam	6.95	129	eP	Pn	22 43 05.0		+0.4
DLH	Dalhousie	7.04	127	eP	Px	22 43 29.0		
DLH				eS	Sn	22 44 21.0		-3.5
FRU	Bishkek	7.14	33⇑ iPN		Pn	22 43 07.0		-0.1
FRU				i		22 44 34.0		
FRU				pmax	pmax			
	comp=Z,70nm,1.5s							
FRU				pmax	pmax			
	comp=E,480μm,1.5s							
KBK	Karagaybulak	7.15	36	P	Pn	22 43 08.0		+0.8
	SNR=47							
CHMS	Chumysh	7.33	33	P	Pn	22 43 09.9		+0.2
	SNR=74							
USP	Ospenovka	7.44	31	P	Pn	22 43 10.9		-0.3
	SNR=30							
ULHL	Ulahol	7.51	43	P	Pn	22 43 12.7		+0.5
	SNR=10							
TKM2	Tokmak 2	7.66	37	⇑Pn	Pn	22 43 13.7		-0.5
	comp=E,26nm,0.6s							
TKM2				⇑Sn	Sn	22 44 39.0		-0.6
	comp=E,18nm,0.7s							
TKM2	Tokmak 2	7.66	37	ePn	Pn	22 43 14.1		-0.1
	comp=E,28nm,0.6s							
TKM2				eSn	Sn	22 44 41.0		+1.4
TKM2	Tokmak 2	7.66	37	eP	Pn	22 43 14.1		-0.1
TKM2				e		22 44 41.0		
TKM2				pmax	pmax			
	comp=Z,28nm,0.6s							
TKM2	Tokmak 2	7.66	37	P	Pn	22 43 14.3		+0.1
	SNR=44							
SDNR	Sundarnagar	8.37	128	eP	Pn	22 43 29.1		+5.1
DDI	Dehra Dun	9.85	130	ex	x	22 44 35.0		
DDI				ex	x	22 46 04.0		
NDI	New Delhi	10.61	139	eP	Pn	22 43 53.0		-1.6
JOSI	Joshimath	10.66	124	eP	Pn	22 43 54.4		-1.0
JOSI				eS	Sn	22 45 52.3		-1.0
JOSI				AML	AML	22 46 04.5		
	comp=N,71nm,1.0s							
SONA	Sohna	10.89	141	eP	Pn	22 43 57.6		-0.9
SONA				eS	Sn	22 45 58.8		0.0
SONA				AML	AML	22 46 01.5		
	comp=N,12nm,0.9s							
SONA				AML	AML	22 46 10.3		
	comp=E,12nm,0.3s							
MK31	Makanchi Array	13.76	40	⇑Pn	Pn	22 44 35.0		-2.7
	comp=E,3.6nm,0.7s							
MK31				⇑Lg		22 48 26.5		
	comp=E,1.6nm,0.8s							
MKAR	Makanchi Array	13.76	40	Pn	Pn	22 44 35.5		-2.1
	comp=E,0.5nm,0.3s,baz=232,slow=14,SNR=34							
MKAR				Lg		22 48 29.4		
	comp=E,0.1nm,0.3s,baz=230,slow=22,SNR=2.5							
AB31	Akbulak array	14.04	334	⇑Pn	Pn	22 44 37.9		-3.5
	comp=E,2.3nm,0.2s							
AB31				⇑Sn	Sn	22 47 09.8		-5.7
	comp=E,11nm,0.6s							
KURK	Kurchatov	15.28	23	⇑Pn	Pn	22 44 56.7		-0.9
	comp=E,3.5nm,1.4s							
KURK				⇑Lg		22 49 20.4		
	comp=E,11nm,1.3s							
KURK	Kurchatov	15.28	23	ePn	Pn	22 44 58.5		+0.9
	comp=E,4.0nm,0.9s							
KURK				eSn	Sn	22 47 49.8		+4.2
KURK	Kurchatov	15.28	23	eP	Pn	22 44 58.5		+0.9
KURK				e		22 47 49.8		
KURK				pmax	pmax			
	comp=Z,4.0nm,0.9s							
AKTK	Aktyubinsk	15.71	332	Pn	Pn	22 45 01.0		-2.2
AKTK				Sn	Sn	22 47 49.0		-7.2
AKTK				Lg		22 49 41.1		
AKTO	Aktyubinsk	15.71	332	P	Pn	22 45 01.0		-2.2
AKTO						22 47 49.0		
AKTO	Aktyubinsk	15.71	332	Pn	Pn	22 45 01.0		-2.2
	comp=Z,0.3nm,0.3s,baz=149,slow=14,SNR=24							
AKTO				Sn	Sn	22 47 49.0		-7.2
	comp=Z,0.4nm,0.3s,baz=164,slow=20,SNR=6.3							
AKTO				Lg		22 49 41.1		
	baz=112,slow=20,SNR=2.1							
VOSK	Vostochnaya	15.80	4	⇑Pn	Pn	22 45 00.9		-3.3
	comp=Z,2.3nm,0.7s							
VOSK				⇑Sn	Sn	22 47 55.2		-2.9
	comp=Z,5.1nm,0.9s							
ZRNK	Zerenda	15.98	359	⇓Pn	Pn	22 45 04.4		-2.2
	comp=Z,2.5nm,0.7s							
ZRNK				⇓Sn	Sn	22 47 54.0		-8.6
	comp=Z,2.2nm,0.6s							
BVA0	Borovoye Array	16.07	2	⇑Pn	Pn	22 45 04.9		-2.9
	comp=Z,1.3nm,0.8s,baz=238,slow=40,SNR=16							
BVA0				⇓Sn	Sn	22 48 01.5		-3.3
	comp=Z,0.9nm,1.0s,baz=171,slow=24,SNR=3.6							
BRVK	Borovoye	16.10	2	ePn	Pn	22 45 08.3		+0.1
	comp=Z,6.9nm,0.6s							
BRVK	Borovoye	16.10	2	eP	Pn	22 45 08.3		+0.2
BRVK				pmax	pmax			
	comp=Z,7.0nm,0.6s							
CHKZ	Chkalovo	16.73	3	⇓Pn	Pn	22 45 14.1		-1.9
CHKZ				⇑Sn	Sn	22 48 20.9		+0.2
	comp=Z,2.5nm,0.8s							
LSA	Lhasa	19.62	105	P	Pn	22 45 52.0		+0.7
LSA	Lhasa	19.62	105	eP	Pn	22 45 50.0		-1.4
	comp=Z,6.4nm,0.8s							
LSA	Lhasa	19.62	105	eP	Pn	22 45 50.0		-1.3
LSA				pmax	pmax			
	comp=Z,6.0nm,0.8s							
ZAL	Zalesovo	20.07	27	P	P	22 45 53.5		-0.8
ZAA0	Zalesovo Array	20.09	27	eP	P	22 45 53.1		-1.4
ZALV	Zalesovo Beam	20.09	27	P	P	22 45 53.5		-1.0
	comp=Z,6.4nm,0.5s,baz=218,slow=11,SNR=44							
ARU	Arti	20.77	343	eP	P	22 46 03.5		+1.7
	comp=Z,5.9nm,0.7s							
ARU	Arti	20.77	343	eP	P	22 46 03.5		+1.7
ARU				e		22 46 14.7		
ARU				eS	S	22 49 43.0		-7.7
ARU				eSS		22 49 59.0		
HYB	Hyderabad	21.12	155	eP	P	22 46 06.5		+0.6
HYB	Hyderabad	21.12	155	i P	P	22 46 08.5		+2.6
KIV	Kislovodsk	21.36	297	eP	P	22 46 09.1		+0.8
	comp=Z,9.9nm,0.8s,mb4.2							
KIV	Kislovodsk	21.36	297	eP	P	22 46 09.1		+0.7
KIV				pmax	pmax			
	comp=Z,9.0nm,0.7s,mb4.2							
GTA	Gaotai	24.05	75	eP	P	22 46 36.2		+0.4
GTA				AMB	AMB			
	comp=Z,2.0nm,0.5s,mb3.8							
VRSR	Storozhevoye	25.67	313	eP	P	22 46 55.1		+4.7
VRSR				pmax	pmax			
	comp=E,4.0nm,0.9s							
VRSR				pmax	pmax			
	comp=Z,2.0nm,0.9s,mb3.6							
VRSR				pmax	pmax			
	comp=N,1.0nm,0.5s							
ZAK	Zakamensk	27.72	50	eP	P	22 47 09.6		+0.8
ZAK				pmax	pmax			
	comp=Z,2.0nm,0.9s,mb3.8							
SONM	Songino Array	29.20	56	P	P	22 47 23.3		+1.3
SONM				pmax	pmax			
	comp=Z,1.0nm,0.5s							
SONM	Songino Array	29.20	56	P	P	22 47 23.3		+1.3
	comp=Z,0.5nm,0.5s,mb3.5,baz=264,slow=8.7,SNR=7.0							
ULN	Ulaanbaatar	29.64	56	eP	P	22 47 26.1		+0.2
	comp=Z,0.9nm,0.6s,mb3.7							
ULN	Ulaanbaatar	29.64	56	eP	P	22 47 26.1		+0.2
ULN				pmax	pmax			
	comp=Z,1.0nm,0.6s,mb3.7							
AKASG	Malin Array Be	31.59	309	P	P	22 47 44.3		+1.3
AKASG				pmax	pmax			
	comp=Z,2.0nm,0.7s							
AKASG	Malin Array Be	31.59	309	P	P	22 47 44.3		+1.3
	comp=Z,2.1nm,0.7s,mb4.1,baz=80,slow=7.2,SNR=4.0							
JOF	Joensuu	34.78	330	ep	P	22 48 12.2		+1.5
BOD	Bodaibo	35.85	40	eP	P	22 48 19.6		-0.4
BOD				pmax	pmax			
	comp=Z,4.0nm,1.0s,mb4.3							
FINES	FINESS Array B	36.34	326	P	P	22 48 26.3		+2.2
FINES				pmax	pmax			
	comp=Z,1.0nm,0.7s							

FINES	FINESS Array B	36.34 326	P	P	22 48 26.3	+2.3
	comp=Z,1.2nm,0.7s,mb3.9,baz=126,slow=9.7,SNR=4.9					
ARCES	ARCESS Array B	40.19 338	P	P	22 48 57.7	+1.3
ARCES	ARCESS Array B	40.19 338	P	P	22 48 57.7	+1.3
ARCES			pmax	pmax		
	comp=Z,3.0nm,0.9s					
ARCES	ARCESS Array B	40.19 338	P	P	22 48 57.7	+1.3
	comp=Z,2.5nm,0.9s,mb4.0,baz=93,slow=6.3,SNR=4.6					
NB2	NORSAR Subarra	43.19 323	P	P	22 49 22.0	+1.1
	comp=Z,2.7nm,0.8s,mb4.0,baz=97,slow=8.6					
NOA	NORSAR Array B	43.19 323	P	P	22 49 22.2	+1.2
NOA	NORSAR Array B	43.19 323	P	P	22 49 22.2	+1.3
NOA			pmax	pmax		
	comp=Z,3.0nm,0.8s					
NOA	NORSAR Array B	43.19 323	P	P	22 49 22.2	+1.3
	comp=Z,2.5nm,0.8s,mb4.0,baz=98,slow=8.0,SNR=3.5					
PSI	Prapat	43.58 134	P	P	22 49 22.8	-1.8
PSI	Prapat	43.58 134	P	P	22 49 22.8	-1.8
PSI			pmax	pmax		
	comp=Z,3.0nm,0.4s,mb4.4					
PSI	Prapat	43.58 134	P	P	22 49 22.8	-1.8
	comp=Z,2.6nm,0.4s,mb4.3,baz=149,slow=6.3,SNR=5.2					
YAK	Yakutsk	44.38 36	P	P	22 49 31.5	+1.0
TIXI	Tiksi	45.85 22	eP	P	22 49 43.0	+0.9
	comp=Z,2.5nm,0.6s,mb4.3					
TIXI	Tiksi	45.85 22	eP	P	22 49 42.5	+0.4
TIXI			pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.4					
YHNB	Yeheng	45.86 90	P	P	22 49 41.4	-1.4
KSRS	Korea Array	46.01 71	P	P	22 49 44.9	+1.1
	comp=Z,1.1nm,0.5s,mb4.0,baz=286,slow=6.0,SNR=3.9					
TORD	Torodi Ar. Bea	64.37 267	P	P	22 51 56.8	+0.4
	comp=Z,0.3nm,0.5s,mb3.6,baz=46,slow=6.0,SNR=7.4					
YKA	Yellowknife Ar	80.83 2	P	P	22 53 34.9	+1.5
YKA			pmax	pmax		
	comp=Z,1.0nm,0.3s					
YKA	Yellowknife Ar	80.83 2	P	P	22 53 34.9	+1.5
	comp=Z,0.5nm,0.3s,mb3.9,baz=350,slow=5.4,SNR=15					
WRA	Warramunga Arr	83.40 121	P	P	22 53 45.4	-2.0
WRA			pmax	pmax		
	comp=Z,1.0nm,0.7s					
WRA	Warramunga Arr	83.40 121	P	P	22 53 45.4	-2.1
	comp=Z,0.9nm,0.7s,mb3.9,baz=322,slow=4.2,SNR=3.1					
WRAB	Tennant Creek	83.40 121	P	P	22 53 46.2	-1.2
ASAR	Alice Springs	85.64 124	P	P	22 53 57.7	-1.0
ASAR			pmax	pmax		
	comp=Z,1.0nm,0.9s					
ASAR	Alice Springs	85.64 124	P	P	22 53 57.7	-1.0
	comp=Z,0.7nm,0.9s,mb3.9,baz=310,slow=4.3,SNR=1.8					

*ISCJB **09** 22:44:35.1±1.9, 531S±009×14706E±009, h187km±19km, mb4.2/10, Error ellipse: s-maj=17.2km s-min=11.1km az=42.2*
*NEIC **09** 22:44:40.2±2.5, 544S×147.11E, h228km±24km, mb4.6/10, Error ellipse: s-maj=18.2km s-min=12.4km az=159.0*
*IDC **09** 22:44:41.1±2.7, 545S×14701E, h229km±25km, mb3.7/8, mb1 4.0/10, mb1mx3.8/15, mbtmp3.8/10, Error ellipse: s-maj=19.8km s-min=11.6km az=114.0*

ISC 09 22:44:39.4±1.8, 546S±009×14709E±009, h215km±19km, n34, σ1§05/28, mb4.2/10, 1D, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	13.35	108	ePn	Pn	22 47 39.8	-1.1
HNR	Honiara	13.35	108	P	Pn	22 47 39.9	-1.0
	15nm,0.3s,baz=258,slow=5.3,SNR=6.4						
CTA	Charters Tower	14.56	183	eP	Pn	22 47 57.0	+1.2
	19nm,1.4s						
CTA	Charters Tower	14.56	183	P	Pn	22 47 56.5	+0.8
	1.2nm,0.3s,baz=15,slow=11,SNR=8.6						
CTAO	Charters Tower	14.56	183	ePn	Pn	22 47 57.2	+1.4
	26nm,0.9s						
KAKA	Kakadu	16.15	242	eP	P	22 48 13.8	-0.4
	18nm,0.6s						
WRAB	Tennant Creek	18.99	220	eP	P	22 48 45.2	+0.2
	26nm,0.5s						
WB2	Warramunga Arr	18.99	220	∥iP	P	22 48 45.4	+0.3
WRA	Warramunga Arr	19.00	220	P	P	22 48 45.5	+0.3
	7.8nm,0.3s,baz=37,slow=11,SNR=304						
WRA				S	S	22 52 08.3	-1.1
	0.3nm,0.3s,baz=41,slow=21,SNR=6.2						
ASAR	Alice Springs	22.11	214	P	P	22 49 18.2	+0.7
	16nm,0.8s,mb4.6,baz=48,slow=8.6,SNR=116						
ASAR				S	S	22 53 06.5	+1.0
	3.6nm,1.0s,baz=37,slow=17,SNR=4.8						
FITZ	Fitzroy Crossi	24.43	237	eP	P	22 49 39.0	+0.4
	36nm,0.6s,mb5.2						
FITZ	Fitzroy Crossi	24.43	237	P	P	22 49 39.0	+0.4
	17nm,0.5s,mb4.9,baz=55,slow=9.9,SNR=67						
ARMA	Armidale	25.20	171	eP	P	22 49 44.8	-0.6
STKA	Stephens Creek	26.78	190	eP	P	22 49 59.5	-0.1
	6.7nm,0.7s,mb4.4						
STKA	Stephens Creek	26.78	190	P	P	22 49 59.4	-0.2
	3.3nm,0.9s,mb4.0,baz=343,slow=5.5,SNR=7.8						
MBWA	Marble Bar	30.77	237	eP	P	22 50 35.1	+0.1
	2.0nm,0.5s,mb4.0						
FORT	Forrest	30.90	213	eP	P	22 50 33.8	-2.2
	12nm,0.7s,mb4.7						
KLBR	Kellerberrin	37.82	223	eP	P	22 51 34.2	-1.2
	192nm,1.6s						
NWAO	Narrogin (SRO)	38.99	222	P	P	22 51 46.9	+1.8
URZ	Urewera	42.54	144	P	P	22 52 14.7	+0.7
	3.0nm,0.5s,mb4.0,baz=43,slow=20,SNR=4.4						
SONM	Songino Array	63.98	331	P	P	22 54 51.2	+1.4
	0.3nm,0.6s,baz=149,slow=3.7,SNR=4.2						
MKAR	Makanchi Array	77.14	320	P	P	22 56 08.9	-0.3
	0.2nm,0.3s,mb3.3,baz=90,slow=10.0,SNR=4.4						
ZALV	Zalesovo Beam	78.60	328	P	P	22 56 16.1	-1.0
	0.6nm,0.5s,mb3.5,baz=125,slow=5.4,SNR=4.1						
MCK	McKinley	83.70	24	eP	P	22 56 42.6	-1.2
	14nm,1.4s,mb4.5						
BRVK	Borovoye	86.45	324	P	P	22 56 53.5	-4.2
NVAR	Mina Array Bea	96.97	52	P	P	22 57 49.0	+2.2
	0.4nm,0.3s,mb4.2,baz=254,slow=6.5,SNR=1.9						
KIV	Kislovodsk	104.13	314	Pdif	Pdif	22 58 16.0	-2.4
GERES	GERESS Array B	121.51	326	PKP	PKPdf	23 03 06.7	-0.7
	0.3nm,0.5s,baz=90,slow=2.7,SNR=5.3						
PLCA	Paso Flores	122.53	147	PKP	PKPdf	23 03 10.2	+0.6
	0.9nm,0.6s,baz=249,slow=2.1,SNR=2.8						
NNA	Nana	133.00	112	ePKPdf	PKPdf	23 03 35.3	+5.0
SDV	Santo Domingo	142.43	83	PKhKP		23 03 44.2	
	2.0nm,0.4s,baz=300,slow=6.2,SNR=5.7						
SIV	San Ignacio	144.91	128	PKP	PKPdf	23 03 51.0	-0.8
	8.4nm,0.5s,baz=242,slow=6.0,SNR=54						
TORD	Torodi Ar. Bea	145.04	285	PKP	PKPdf	23 03 50.0	-2.1
TORD	Torodi Ar. Bea	145.04	285	PKP	PKPdf	23 03 50.0	-2.1
	0.6nm,0.5s,baz=67,slow=2.9,SNR=20						

*IDC **09** 22:50:38.6±1.1, 4674N×15259E, h0km, mb3.7/10, mb1 3.8/11, mb1mx3.7/23, mbtmp3.6/11, ML3.1/1, Error ellipse: s-maj=30.5km s-min=24.7km az=166.0*
*MOS **09** 22:50:43.9±0.8, 4676N×15238E, h52km, mb4.3/3, Error ellipse: s-maj=27.7km s-min=16.7km az=61.2*
*ISCJB **09** 22:50:44.3±1.2, 467N±0.1×1525E±0.1, h54km±11km, mb3.6/10, Error ellipse: s-maj=25.8km s-min=8.2km az=143.9*

ISC 09 22:50:46.4±1.1, 467N±01×1525E±01, h56km±10km, n30, σ1§25/37, mb3.6/10, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	Kuril'sk	3.58	247	PN	Pn	22 51 38.0	-1.4
KUR				eS	Sn	22 52 20.2	-0.2
KUR				pmax	pmax		
	comp=Z,80nm,0.5s						
KUR				smax			
	comp=N,150nm,0.6s						
KUR				smax			
	comp=E,230nm,0.6s						
SKR	Severo-Kuril's	4.62	30	ePN	Pn	22 51 52.9	-0.6
NEM2	Nemuro 2	5.87	238	P	Pn	22 52 09.6	-1.1
JRA	Rausu	5.92	245	P	Pn	22 52 13.7	+2.3
JNK	Nakash	6.36	243	P	Pn	22 52 18.6	+1.2
JNK				eS	Sn	22 53 30.4	+1.8
JTKR	Abashiri--Toko	6.68	249	P	Pn	22 52 24.3	+2.6
JAK	Akkeshi	6.70	239	P	Pn	22 52 21.3	-0.8
JAK				eS	Sn	22 53 34.7	-2.3
JAR	Ashorobuto	7.10	244	P	Pn	22 52 29.1	+1.6
JAR				eS	Sn	22 53 47.7	+1.0
ASAJ	Asahikawa	7.47	253	Pn	Pn	22 52 30.4	-2.1
	comp=E,0.3nm,0.3s,baz=182,slow=33,SNR=2.1						
JKK2	Kamakawa 2	7.47	251	P	Pn	22 52 35.5	+2.9
JCH	Churui	7.72	241	P	Pn	22 52 35.7	-0.4
JCH				eS	Sn	22 53 59.3	-2.8
JBT2	Biratori 2	8.25	245	P	Pn	22 52 44.5	+1.3
JNBK	Urakawa-nobuka	8.29	241	P	Pn	22 52 42.7	-1.1
JNBK				eS	Sn	22 54 11.3	-4.5
JNB	Noboribetsu	9.24	247	eS	Sn	22 54 39.2	-0.1
JKB	Kayabe	9.56	244	P	Pn	22 53 01.2	0.0
JKB				eS	Sn	22 54 42.4	-4.6
ZALV	Zalesovo Beam	42.31	306	P	P	22 58 33.3	-0.9
	comp=E,0.4nm,0.4s,mb3.4,baz=73,slow=6.3,SNR=3.1						
MKAR	Makanchi Array	46.61	297	P	P	22 59 08.8	+0.3
	comp=E,0.2nm,0.3s,mb3.5,baz=66,slow=8.3,SNR=3.3						
YKA	Yellowknife Ar	51.18	37	P	P	22 59 43.5	+0.1
YKA	Yellowknife Ar	51.18	37	P	P	22 59 43.5	+0.2
	comp=E,0.1nm,0.4s,mb3.1,baz=290,slow=7.6,SNR=4.1						
FINES	FINESS Array B	63.90	335	P	P	23 01 12.6	-0.1
FINES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
FINES	FINESS Array B	63.90	335	P	P	23 01 12.6	-0.1
	comp=Z,0.7nm,0.4s,mb4.0,baz=45,slow=7.3,SNR=15						
NB2	NORSAR Subarra	68.13	341	P	P	23 01 40.0	+0.1
	comp=Z,0.6nm,0.5s,mb3.9,baz=26,slow=6.2						
NOA	NORSAR Array B	68.13	341	P	P	23 01 40.1	+0.2
NOA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
NOA	NORSAR Array B	68.13	341	P	P	23 01 40.1	+0.2
	comp=Z,1.5nm,0.9s,mb4.0,baz=30,slow=6.2,SNR=3.4						
AKASG	Malin Array Be	71.35	326	P	P	23 01 58.6	-1.3
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.5s						
AKASG	Malin Array Be	71.35	326	P	P	23 01 58.5	-1.3
	comp=Z,1.1nm,0.5s,mb4.0,baz=34,slow=6.2,SNR=6.1						
ASAR	Alice Springs	72.06	198	P	P	23 02 04.3	0.0
	comp=Z,0.1nm,0.3s,mb3.2,baz=17,slow=5.6,SNR=4.1						
TXAR	Lajitas Array	77.85	60	P	P	23 02 37.9	0.0
	comp=Z,0.1nm,0.5s,mb3.0,baz=292,slow=2.4,SNR=2.3						
GERES	GERESS Array B	78.31	334	P	P	23 02 40.8	+0.7
	comp=Z,0.3nm,0.5s,mb3.5,baz=52,slow=5.1,SNR=3.2						
MMAI	Mount Meron Ar	82.54	311	P	P	23 03 04.0	+0.9
	comp=Z,0.9nm,0.6s,mb4.0,baz=15,slow=6.1,SNR=3.3						

*ISCJB **09** 22:51:07.8±1.8, 3083S±0.10×178.0W±0.3, h33km, mb4.4/6, Error ellipse: s-maj=40.6km s-min=6.4km az=18.4*
*NEIC **09** 22:51:09.3±1.8, 3082S×17777W, h43km±14km, mb4.4/3, Error ellipse: s-maj=30.9km s-min=14.1km az=112.0*
*IDC **09** 22:51:10.1±3.0, 3073S×17794W, h41km±25km, mb4.1/4, mb1 4.2/5, mb1mx3.9/14, mbtmp4.1/5, ML3.6/1, Error ellipse: s-maj=34.3km s-min=14.5km az=108.0*

ISC 09 22:51:09.3±2.3, 3081S±009×1779W±04, h35km, n16, σ0§94/14, mb4.4/6, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	1.56	360	ePn	Pn	22 51 35.1	+0.7
RAO				eSn	Sn	22 51 52.0	-1.4
RAO	Raoul Island	1.56	360	P	Pn	22 51 35.1	+0.7
	128nm,0.3s,baz=297,slow=23,SNR=7.0						
RAO				S	Sn	22 51 52.0	-1.4
	586nm,0.3s,baz=127,slow=23,SNR=10						
URZ	Urewera	8.49	208	P	Pn	22 53 09.7	0.0
	0.7nm,0.3s,baz=15,slow=16,SNR=6.4						
URZ				S	Sn	22 54 42.6	-1.5
	2.1nm,0.3s,baz=156,slow=20,SNR=9.8						
TAU	Tasmania Unive	30.11	237	eP	P	22 57 16.8	+1.3
	18nm,0.9s,mb4.8						
CTA	Charters Tower	33.94	280	P	P	22 57 50.0	+0.7
	14nm,1.1s,mb4.8,baz=151,slow=21,SNR=3.5						
STKA	Stephens Creek	34.46	258	eP	P	22 57 55.1	+1.4
	2.8nm,0.6s,mb4.4						
STKA	Stephens Creek	34.46	258	P	P	22 57 55.1	+1.4
	4.0nm,0.8s,mb4.4,baz=99,slow=9.8,SNR=8.5						
ASAR	Alice Springs	43.16	267	P	P	22 59 06.6	-0.1
	1.8nm,0.8s,mb3.9,baz=111,slow=7.8,SNR=12						
WB2	Warramunga Arr	44.18	273	eP	P	22 59 14.3	-0.6
WRAB	Tennant Creek	44.18	273	eP	P	22 59 15.4	+0.4
	3.1nm,0.6s,mb4.2						
WRA	Warramunga Arr	44.19	273	P	P	22 59 14.1	-0.9
	2.3nm,0.5s,mb4.2,baz=111,slow=8.1,SNR=33						
KURK	Kurchatov	121.39	314	PKPdf	PKPdf	23 09 59.6	+1.3
KAF	Kangasniemi	144.96	340	ep	PKPdf	23 10 38.3	-3.6
FINES	FINESS Array B	145.56	340	PKPbc	PKPbc	23 10 42.2	-1.0
	1.9nm,0.6s,baz=71,slow=3.5,SNR=16						
AKASG	Malin Array Be	151.67	322	PKPbc	PKPbc	23 10 58.9	-0.7
	0.8nm,0.5s,baz=52,slow=2.9,SNR=6.4						
TORD	Torodi Ar. Bea	162.42	179	PKPab	PKPab	23 11 55.7	+0.4
	0.4nm,0.6s,baz=176,slow=3.8,SNR=8.3						

*DDA **09** 23:00:32.4, 3893N×4493E, h7km±10km, Md3.2, Ml3.3*
*ISK **09** 23:00:34.1, 3899N×4452E, h5km, MD3.5*
*ISCJB **09** 23:00:37.2±1.4, 3894N±005×4432E±008, h2km±11km, Error ellipse: s-maj=10.8km s-min=6.7km az=26.7*
*CSEM **09** 23:00:38.0±0.1, 3894N×4425E, h15km, MD3.5, Error ellipse: s-maj=3.7km s-min=2.2km az=138.0*

ISC 09 23:00:38.1±1.4, 3895N±005×4428E±009, h6km±10km, n19, σ0§93/23, Turkey-Iran border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLDR	Caldiran	0.34	305	ePG	Pg	23 00 44.3	-0.5
CLDR				eSG	Sg	23 00 53.3	+3.9
DYDN	Diyadin	0.75	323	iP	Pg	23 00 51.8	-0.8
VANB	Van	0.78	244	ePG	Pg	23 00 53.6	+0.6
TVAN	Van	0.80	239	iP	Pg	23 00 54.0	+0.5
VANT	Van	0.86	235	ePN	Pn	23 00 56.5	-0.2
AGRB	Hanur-Agry	1.18	303	ePN	Pn	23 01 00.3	-0.9
TUTA	Tutak	1.23	292	iP	Pg	23 01 01.1	-0.5
TUTA				iS	Sg	23 01 26.6	+9.0
HKR	Hakkari	1.43	197	ePN	Pn	23 01 03.9	-0.7
HAKT	HAKKARI	1.46	198	iP	Pn	23 01 03.0	-1.9
HAKT	HAKKARI	1.46	198	iP	Pn	23 01 03.0	-2.0
DIGO	Kars	1.63	335	iP	Pn	23 01 07.7	+0.3
CUKT	Cukurca	1.78	198	ePN	Pn	23 01 09.4	0.0
KARS	Kars	1.90	332	ePN	Pn	23 01 09.9	-1.2
SIRT	Sirnak	2.04	226	ePN	Pn	23 01 13.9	+0.9
BTMT	Batman	2.31	252	ePN	Pn	23 01 19.7	+2.9
GANJ	Ganja	2.32	42	P	Pn	23 01 17.7	+0.9
	SNR=3.2						
GANJ				S	Sn	23 01 45.4	-0.2
EZM	Erzurum	2.46	294	ePN	Pn	23 01 19.3	+0.6
BRDA	Brd	2.60	59	P	Pn	23 01 20.7	0.0
	SNR=3.3						
BRDA				S	Sn	23 01 56.4	+3.9
SEKA	Sheki	3.18	44	P	Pn	23 01 29.2	+0.5
	SNR=5.3						

IDC 09 23:06:23.1±1.8, 861S×15743E, h0km, mb3.4/3, mb1 3.6/4, mb1mx3.5/15, mbtmp3.5/4, ML4.5/1, Error ellipse: s-maj=51.4km s-min=24.2km az=4.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	2.62	108	Pn	Pn	23 07 06.6	0.0
	87nm,0.3s,baz=265,slow=2.7,SNR=8.3						
HNR				Sn	Sn	23 07 39.8	+0.7
	48nm,0.3s,baz=96,slow=21,SNR=8.9						
WRA	Warramunga Arr	25.02	241	P	P	23 11 49.0	0.0
	1.6nm,0.9s,baz=66,slow=9.5,SNR=6.8						
ASAR	Alice Springs	27.04	234	P	P	23 12 07.0	-0.3
	0.5nm,0.9s,baz=62,slow=8.8,SNR=3.0						
MKAR	Makanchi Array	86.21	318	P	P	23 19 07.0	+0.5
	0.1nm,0.2s,baz=104,slow=6.1,SNR=2.2						

IDC 09 23:07:02.4±2.8, 848S×15738E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.6/14, mbtmp3.5/4, Error ellipse: s-maj=118.4km s-min=35.2km az=131.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	25.03	240	P	P	23 12 29.7	+1.3
	0.8nm,0.8s,baz=67,slow=9.3,SNR=3.4						
ASAR	Alice Springs	27.07	233	P	P	23 12 45.6	-1.2
	0.5nm,0.9s,baz=62,slow=9.1,SNR=3.0						
MKAR	Makanchi Array	86.08	318	P	P	23 19 45.2	0.0
	0.1nm,0.2s,baz=106,slow=5.6,SNR=3.6						
YKA	Yellowknife Ar	96.54	28	P	P	23 20 33.6	-0.1
	0.2nm,0.7s,baz=267,slow=4.9,SNR=3.9						

*ISCJB **09** 23:27:15.9±0.3, 3853N±001×2155E±002, h20km±3km, mb4.2/23, MS3.6/13, Error ellipse: s-maj=2.3km s-min=1.9km az=42.9*
*PDG **09** 23:27:15.8±0.6, 3857N×2163E, h11km±1km, ML4.0/10, Error ellipse: s-maj=0.9km s-min=1.0km az=0.0*
*MOS **09** 23:27:15.6±0.9, 3856N×2157E, h17km, mb4.4/14, Error ellipse: s-maj=4.3km s-min=2.6km az=108.1*
*BJI **09** 23:27:15.5, 3850N×2160E, h19km, mB4.7, mb4.5*
*ATH **09** 23:27:15.5, 3851N×2162E, h19km±1km, MD4.3/21, ML4.1*
*NEIC **09** 23:27:15.5, 3851N×2162E, h19km, mb3.9/22, MD4.1(ATH), ML4.0(PDG), After ATH.*
NEIC Felt at Aitolikon.
*CSEM **09** 23:27:16.5±0.0, 3853N×2151E, h25km, mb4.5/3, Ms3.2, Error ellipse: s-maj=1.2km s-min=0.9km az=52.0*
*THE **09** 23:27:16.3, 3853N×2163E, h8km, ML4.7*
*IDC **09** 23:27:18.9±3.1, 3861N×2158E, h30km±23km, mb4.0/16, mb1 4.0/26, mb1mx4.0/32, mbtmp3.9/26, ML4.0/8, MS3.6/14, Ms1 3.6/14, ms1mx3.4/33, Error ellipse: s-maj=14.8km s-min=12.1km az=151.0*
*HLW **09** 23:27:57.6, 3599N×2339E, h16km, Mb3.9*

ISC 09 23:27:16.3±0.3, 3853N±001×2159E±002, h9km±2km, n381, σ1§18/453, mb4.2/23, MS3.6/13, 32C-34D, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SELA	Sela	0.34	137	ePg	Pg	23 27 22.6	-0.4
SELA				eSg	Sg	23 27 28.3	+0.7
EVR	Evrytania	0.43	23	ePB	Pg	23 27 23.9	-0.7
RLS	Riolos of Patr	0.48	192	ePB	Pg	23 27 25.3	-0.2
KFL	Anninata	0.76	237	ePg	Pg	23 27 30.3	-0.6
AGG	Agios Georgios	0.76	49	ePg	Pg	23 27 29.5	-1.5
AGG				eSg	Sg	23 27 41.1	+0.2
LKD	Levkas	0.76	284	ePg	Pg	23 27 30.4	-0.6
LKD				eSg	Sg	23 27 43.1	+2.2
VLS	Valsamata	0.86	247	ePN	Pn	23 27 32.2	-2.4
THL	Klokotos Trika	1.09	17	ePB	Pb	23 27 35.4	-1.9
THL				eSN	Sn	23 27 51.7	-1.2
LKR	Lokris	1.11	83	ePB	Pb	23 27 35.4	-2.2
LKR				eSN	Sn	23 27 52.2	-1.2
LTK	Loutraki	1.19	114	ePg	Pg	23 27 38.1	-1.1
LTK				eSg	Sg	23 27 55.1	+0.5
JAN	Janina	1.27	333	ePN	Pn	23 27 40.1	-0.1
JAN				eSN	Sn	23 27 58.7	+1.3
MEV	Metsovon	1.29	347	ePg	Pg	23 27 39.5	-1.6
VLX	Vlachokerasia	1.31	151	ePg	Pg	23 27 39.8	-1.6
VLX				eSg	Sg	23 27 57.8	-0.6
ITM	Ithomi	1.37	169	ePN	Pn	23 27 41.0	-0.5
ITM				eSN	Sn	23 27 59.6	-0.2
IGT	Igoumenitsa	1.41	316	ePg	Pg	23 27 41.4	-1.9
IGT				eSg	Sg	23 28 01.3	-0.3
NEO	Neokhori	1.49	58	ePN	Pn	23 27 42.7	-0.5
PYL	PYLOS	1.63	176	ePb	Pb	23 27 44.9	-1.6
PYL				eSb	Sb	23 28 05.7	-1.5
DID	Didima	1.65	128	ePb	Pb	23 27 44.2	-1.2
DID				eSb	Sb	23 28 05.9	-1.8
LIT	Litokhoron	1.72	24	ePb	Pn	23 27 45.7	-0.7
LIT				eSb	Sb	23 28 08.2	-1.6
ATH	Athens Observa	1.76	108	ePN	Pn	23 27 46.9	0.0
ATH				eSN	Sn	23 28 09.3	-0.1
KZN	Kozani	1.79	4	ePN	Pn	23 27 48.1	+0.8
KZN				eSN	Sg	23 28 12.2	-1.5
KEK	Kerkira	1.83	311	ePN	Pn	23 27 49.0	+1.1
KEK				eSN	Sn	23 28 12.1	+0.9
SRN	Sarande	1.83	318	ePN	Pn	23 27 50.0	+2.1
SRN				iSN	Sg	23 28 19.1	+3.9
AOS	Alonnisos	1.90	69	ePb	Pb	23 27 47.5	-3.5
AOS				eSb	Sb	23 28 12.4	-2.4
VLI	Veliai	2.10	149	ePN	Pn	23 27 52.5	+1.0
VLI				eSN	Sn	23 28 18.9	+1.2
PAIG	Paliouri	2.14	49	ePn	Pn	23 27 51.0	-1.1
PAIG				eSn	Sn	23 28 18.2	-0.7
KBN	Korca	2.19	344	ePN	Pn	23 27 56.6	+3.8
KBN				iSN	Sg	23 28 34.4	+7.9
FNA	Florina	2.26	356	ePn	Pn	23 27 53.8	0.0
FNA				eSn	Sn	23 28 22.8	+1.0
PLG	Polygyros	2.34	37	ePn	Pn	23 27 53.9	-1.0
PLG	Polygyros	2.34	37	ePN	Pn	23 27 54.0	-0.9
THE	Thessaloniki	2.36	26	ePn	Pn	23 27 54.2	-0.9
HORT	Hortiatis	2.38	29	ePn	Pn	23 27 54.8	-0.6
HORT				eSn	Sn	23 28 24.2	-0.4
BIA	Bitola	2.50	355	ePn	Pn	23 27 59.5	+2.4
BIA				eSn	Sg	23 28 37.9	+1.3
BIA	Bitola	2.50	355	ePn	Pn	23 27 59.4	+2.3
GRG	Griva	2.51	14	ePn	Pn	23 27 56.6	-0.6
OUR	Ouranopolis	2.58	45	ePn	Pn	23 27 57.3	-1.0
OHR	Ohrid	2.66	347	ePn	Pn	23 27 58.5	-0.8
OHR				eSn	Sn	23 28 32.9	+1.3
OHR	Ohrid	2.66	347	ePn	Pn	23 28 01.2	+1.9
OHR				eSn	Sg	23 28 40.0	-1.5
OHR	Ohrid	2.66	347	ePn	Pn	23 27 58.5	-0.7
OHR				S	Sn	23 28 32.8	+1.3
SOH	Sokhos	2.67	30	ePn	Pn	23 27 59.1	-0.3
SOH				eSn	Sn	23 28 31.6	-0.2
KNT	Kendrikon	2.82	20	ePn	Pn	23 28 01.3	-0.2
KNT				eSn	Sn	23 28 35.2	-0.3
KRUS	Krusevo	2.85	355	ePn	Pn	23 28 04.9	+2.9
KRUS				eSn	Sn	23 28 42.2	+5.8
KRUS	Krusevo	2.85	355	ePn	Pn	23 28 04.8	+2.8
VAY	Valandovo	2.89

LAST **Lasithi** 4.58 136 *e*Pn Pn 23 28 26.7 +1.0
LAST *e*Sn Sn 23 29 20.2 +1.2
NKY **Niksic** 4.72 336⇓*i*Pn Pn 23 28 27.9 +0.3
NKY *e*Sn Sn 23 29 22.6 +0.3
CDT **Castel del Mon** 4.83 304 *e*Pn Pn 23 28 29.7 +0.6
BDRM **Kayabasi** 4.86 106 *e*P Pn 23 28 31.9 +2.4
AKHS **Akhisar** 4.88 84 *e*P Pn 23 28 31.1 +1.3
BRY **Bratogost** 4.95 333⇑*i*Pn Pn 23 28 30.6 -0.1
BRY *e*Sn Sn 23 29 28.6 +0.6
MGR **Morigerati** 4.95 291 Pg Pn 23 28 32.5 +1.7
PLE **Pljevlja** 5.08 342⇓*i*Pn Pn 23 28 33.4 +0.8
PLE *e*Sn Sn 23 29 31.0 -0.3
UPM **Unac-Piva** 5.10 337⇓*i*Pn Pn 23 28 33.5 +0.7
UPM *e*Sn Sn 23 29 31.9 +0.2
STON **Ston** 5.25 327 *e*Pn Pn 23 28 32.5 -2.5
STON Sn Sn 23 29 33.8 -1.8
STON **Ston** 5.25 327 *e*Pn Pn 23 28 32.4 -2.5
STON Sn Sn 23 29 33.7 -1.9
SGO **Sicignano** 5.27 295 Pg Pn 23 28 37.0 +1.9
FG4 **Candela** 5.35 301 Pg Pn 23 28 37.3 +1.0
HAVL **Avola** 5.36 255 Pg Pn 23 28 35.6 -0.8
FGMS **Monte Sant'Ang** 5.37 308 Pg Pn 23 28 37.0 +0.5
MS1 **Monte Sant'Ang** 5.37 308 *e*Pn Pn 23 28 36.7 +0.1
GRUS **Gruza** 5.40 353 *e*Pn Pn 23 28 36.9 0.0
JMB **Yambol** 5.47 42 *e*Pn Pn 23 28 37.7 -0.3
RGNG **Rignano Grg** 5.58 306 Pg Pn 23 28 39.6 +0.2
ARG **Arkhangelos** 5.69 112 *e*PN Pn 23 28 41.9 +1.0
DIVS **Divibare** 5.70 348 *e*Pn Pn 23 28 41.0 0.0
DIVS **Divibare** 5.70 348 *e*Pn Pn 23 28 41.0 0.0
VAE **Valguarnera** 5.77 262 Pn Pn 23 28 43.4 +1.4
0.8nm,0.3s,baz=348,slow=6.7,SNR=6.5
VAE Sn Sn 23 29 46.0 -2.3
2.5nm,0.3s,baz=328,slow=12,SNR=4.7
VAE **Valguarnera** 5.77 262 Sn Sn 23 29 46.0 -2.3
ZIMR 5.87 28⇑P Pn 23 28 45.7 +2.4
ZIMR 5.87 28⇑*i*P Pn 23 28 45.7 +2.4
LTBQ **Tobruq** 6.73 163 *i* P Pn 23 28 56.9 +1.7
SNR=147
FGSL **Fruska Gora** 6.76 349 *e*Pn Pn 23 28 55.0 -0.6
AKAS **Kas** 6.78 107 *i* P Pn 23 29 01.3 +5.4
GZR **Gura Zlata** 6.92 7 P Pn 23 28 59.5 +1.7
GZR **Gura Zlata** 6.92 7⇑*i*P Pn 23 28 59.5 +1.7
BZS **Buzias** 7.09 0⇑P Pn 23 29 00.9 +0.8
BZS **Buzias** 7.09 0⇑*i*P Pn 23 29 00.9 +0.8
AQU **L'Aquila** 7.33 304⇓P Pn 23 29 05.3 +2.0
AQU **L'Aquila** 7.33 304⇓*i*P Pn 23 29 05.3 +1.9
MLR **Muntele Rosu** 7.68 24 Pn Pn 23 29 09.9 +1.7
2.2nm,0.3s,baz=179,slow=9.6,SNR=25
MLR **Muntele Rosu** 7.68 24⇑*i*P Pn 23 29 10.5 +2.3
MLR **Muntele Rosu** 7.68 24 P Pn 23 29 11.1 +2.9
HARR **Harsova** 7.78 36 ⇓P Pn 23 29 11.1 +1.6
HARR **Harsova** 7.78 36⇓*i*P Pn 23 29 11.1 +1.6
TIRR **Tirgusor** 7.83 39⇑P Pn 23 29 12.3 +2.1
TIRR **Tirgusor** 7.83 39⇑*i*P Pn 23 29 12.3 +2.0
NVLJ **Novalja** 7.86 322 *e*Pn Pn 23 29 08.8 -1.9
NVLJ Sn Sn 23 30 37.7 -2.0
NVLJ **Novalja** 7.86 322 *e*Pn Pn 23 29 08.7 -2.0
NVLJ Sn Sn 23 30 37.7 -2.0
PKSM **Moragy** 7.99 345 P Pn 23 29 12.8 +0.3
PKSM **Moragy** 7.99 345⇑*i*P Pn 23 29 11.6 -0.8
PKSM **Moragy** 7.99 345 *i* Pn Pn 23 29 11.4 -1.0
PLOR **Plostina** 8.22 26⇓*i*P Pn 23 29 19.2 +3.5
PLOR **Plostina** 8.22 26 P Pn 23 29 18.5 +2.8
VRI **Vrincioaia** 8.27 26⇓*i*P Pn 23 29 19.1 +2.8
VRI **Vrincioaia** 8.27 26 P Pn 23 29 19.2 +2.9
DRGR 8.30 5⇑P Pn 23 29 18.9 +2.1
DRGR 8.30 5⇑*i*P Pn 23 29 18.9 +2.1
BOJS **Bojanci** 8.42 328 *e*Pn Pn 23 29 17.4 -0.9
BOJS *e*Sn Sn 23 30 51.0 -2.5
HMAT **Matruh** 8.68 147⇓*e*P Pn 23 29 22.2 +0.1
PDKS **Podkum** 8.97 329 *e*Pn Pn 23 29 24.6 -1.4
BUD **Budapest** 9.15 349⇑*e* Pn 23 29 29.5 +1.1
PKSG 9.17 346 *e*P Pn 23 29 29.0 +0.4
PENC **Penc** 9.41 350 *e*P Pn 23 29 36.0 +4.0
VOY **Vojsko** 9.42 325 *e*Pn Pn 23 29 31.3 -0.8
VOY *e* 23 29 34.6
VOY *e*Sn Sn 23 31 15.6 -2.5
VOJS **Vojsko** 9.43 325 *e*Pn Pn 23 29 31.9 -0.2
PSZ **Piszkesteto** 9.47 353 ⇓P Pn 23 29 34.2 +1.5
PSZ **Piszkesteto** 9.47 353⇓*i*P Pn 23 29 34.3 +1.5
PSZ **Piszkesteto** 9.47 353 *e* Pn 23 29 34.6 +1.8
PSZ **Piszkesteto** 9.47 353 ⇓P Pn 23 29 34.2 +1.4
OBKA **Obir** 9.52 329⇓*i*Pn Pn 23 29 32.8 -0.7
8.1nm,0.5s
OBKA ⇑*i*Sn Sn 23 31 17.4 -3.1
24nm,0.8s
ARSA **Arzberg** 9.79 335⇓*i*Pn Pn 23 29 36.7 -0.4
comp=Z,10.0nm,0.8s
SWA1 9.85 158⇓*e*P Pn 23 29 38.1 0.0
SWA1 S Sn 23 30 53.2 -36
KECS **Kecovo** 9.99 356 *e*PN Pn 23 29 39.9 +0.1
KECS *ep*PN 23 29 47.2
KIS **Kishinev** 9.99 30 *e*P Pn 23 29 45.0 +5.1
KIS MLR MLR
comp=N,400nm,10.0s
KIS MLR MLR
comp=Z,500nm,10.0s
KIS MLR MLR
comp=Z,700nm,10.0s
MYKA **Terra Mystica** 9.99 327⇓*i*Pn Pn 23 29 39.5 -0.5
comp=Z,1.7nm,0.4s
MYKA ⇑*i*Sn Sn 23 31 31.1 -1.0
comp=Z,16nm,1.1s
UZH **Uzhgorod** 10.12 3 *e*P Pn 23 29 48.0 +6.4
UZH *e*S Sn 23 31 37.0 +1.9
VYHS **Vyhne** 10.16 350 *e*Pn Pn 23 29 41.4 -0.9
VYHS *e* 23 29 47.1
VYHS *e*Sn Sn 23 31 36.5 +0.2
VYHS **Vyhne** 10.16 350 *e*PN Pn 23 29 41.4 -0.9
VYHS *ep*PN 23 29 47.1
VYHS **Vyhne** 10.16 350 *e*SN Sn 23 31 36.5 +0.2
VYHS **Vyhne** 10.16 350 *e*Pn Pn 23 29 41.4 -0.9
VYHS *e*S Sn 23 31 36.5 +0.2
KEST **Kesra** 10.17 258 Pn Pn 23 29 44.2 +1.8
comp=Z,0.1nm,0.3s,baz=240,slow=7.0,SNR=9.7
KEST Sn Sn 23 31 33.1 -3.4
comp=Z,0.0nm,0.3s,baz=207,slow=20,SNR=2.2
CONA **Conrad Observa** 10.28 338⇓*e*Pn Pn 23 29 43.1 -0.8
comp=Z,9.8nm,1.2s
KOLL **Kolacno** 10.31 348 *e*Pn Pn 23 29 42.8 -1.5
KOLL *e* 23 29 50.2
KOLL *e*Sn Sn 23 31 42.9 +3.0
KOLL **Kolacno** 10.31 348 *e*PN Pn 23 29 42.8 -1.5
KOLL *ep*PN 23 29 50.2
KOLL **Kolacno** 10.31 348 *e*SN Sn 23 31 42.9 +3.0
KOLL **Kolacno** 10.31 348 *e*Pn Pn 23 29 42.8 -1.5
KOLL *e*S Sn 23 31 42.9 +3.0
CRVS **Cervenica-Dubn** 10.37 360 *e*Pn Pn 23 29 44.8 -0.3
CRVS *e* 23 29 52.1
CRVS **Cervenica-Dubn** 10.37 360 *e*PN Pn 23 29 44.8 -0.3
CRVS *ep*PN 23 29 52.1
PGF **Pioggiola** 10.39 297 *e*P Pn 23 29 46.5 +1.1
comp=Z,25nm,0.9s
PGF **Pioggiola** 10.39 297 *e*P Pn 23 29 46.5 +1.1
PGF pmax pmax
comp=Z,12nm,0.9s
PGF **Pioggiola** 10.39 297 *e*P Pn 23 29 46.5 +1.1
comp=Z,12nm,0.9s
KOLS **Kolonicke sedl** 10.42 2 *e*P Pn 23 29 53.6 +7.9
KOLS **Kolonicke sedl** 10.42 2 *ep*PN Pn 23 29 53.6 +7.9
KBA **Koelnbreinsper** 10.47 327⇓*i*Pn Pn 23 29 46.0 -0.5
comp=Z,12nm,1.3s
KBA ⇑*i*Sn Sn 23 31 42.0 -1.9
comp=Z,6.5nm,0.7s
KBA **Koelnbreinsper** 10.47 327⇓*i*P Pn 23 29 46.0 -0.5
KBA *i* 23 31 42.0
KBA pmax pmax
comp=Z,12nm,1.3s
ABTA **Abfaltersbach** 10.59 324 *i* Pn Pn 23 29 47.4 -0.7
comp=Z,6.3nm,0.7s,SNR=15
ABTA ⇑*i*Sn Sn 23 31 43.0 -3.7
comp=Z,20nm,1.1s
MOA **Molln** 10.74 333⇑*i*Pn Pn 23 29 51.0 +0.9
comp=Z,9.5nm,1.1s,SNR=8.0
MOA ⇑*i*Sn Sn 23 31 50.0 -0.5
comp=Z,4.6nm,0.5s
STHS **Stebnicka Huta** 10.89 359 *e*P Pn 23 29 56.4 +4.2
STHS **Stebnicka Huta** 10.89 359 *ep*PN Pn 23 29 56.4 +4.2
KWP **Kalwaria** 11.13 4 Pn Pn 23 29 57.8 +2.2
comp=Z,17nm,0.9s
KWP **Kalwaria** 11.13 4 P Pn 23 29 57.8 +2.3
KWP pmax pmax
comp=Z,17nm,0.9s
KWP **Kalwaria** 11.13 4 P Pn 23 29 57.8 +2.3
comp=Z,17nm,0.9s
WTTA **Wattenberg** 11.38 323⇑*i*Pn Pn 23 30 00.4 +1.5
comp=Z,6.4nm,0.5s
WTTA **Wattenberg** 11.38 323⇑*i*P Pn 23 30 00.4 +1.5
WTTA pmax pmax
comp=Z,6.0nm,0.5s
LVV **L'vov** 11.43 8 *e*P Pn 23 29 50.4 -9.1
WATA **Walderalm** 11.46 323⇓*i*Pn Pn 23 30 01.4 +1.4
comp=Z,5.4nm,0.5s
WATA ⇑*i*Sn Sn 23 32 02.1 -5.8
comp=Z,12nm,0.7s
WATA **Walderalm** 11.46 323⇓*i*P Pn 23 30 01.4 +1.4
WATA *i* 23 32 02.1
WATA pmax pmax
comp=Z,5.0nm,0.5s
SQTA **Sankt Quirin** 11.55 322 *i* Pn Pn 23 30 02.3 +1.1
comp=Z,3.5nm,0.4s,SNR=12
SQTA **Sankt Quirin** 11.55 322 *i* P Pn 23 30 02.3 +1.1
SQTA pmax pmax
comp=Z,4.0nm,0.4s
OKC **Ostrava-Krasne** 11.58 349 *e*P Pn 23 30 01.6 0.0
OKC **Ostrava-Krasne** 11.58 349 *e*P Pn 23 30 01.6 0.0
OKC AMS AMS 23 35 00.0
comp=Z,500nm,12.6s
TREC **Trest** 11.63 340 *e*P Pn 23 30 01.4 -0.9
TREC AMS AMS 23 35 00.0
comp=Z,1µm,10.7s
TREC **Trest** 11.63 340 *e*P Pn 23 30 01.4 -0.9
comp=Z,1µm,10.7s
FETA **Feichten** 11.64 320⇓*i*Pn Pn 23 30 02.6 +0.1
comp=Z,6.0nm,0.9s
FETA ⇑*i*Sn Sn 23 32 07.1 -5.5
comp=Z,8.9nm,1.3s
MOTA **Moosalm** 11.69 322 *i* Pn Pn 23 30 02.7 -0.4
comp=Z,8.1nm,0.6s,SNR=23
MOTA **Moosalm** 11.69 322 *i* P Pn 23 30 02.7 -0.4
MOTA pmax pmax
comp=Z,8.0nm,0.6s
OJC **Ojcow** 11.76 354 *e*P Pn 23 30 09.8 +5.7
GEC2 **GERESS Array S** 11.78 334 *e*P Pn 23 30 01.4 -3.0
GERES **GERESS Array B** 11.78 334 Pn Pn 23 30 03.3 -1.2
comp=Z,0.4nm,0.3s,baz=156,slow=13,SNR=13
SBF **Sospel** 11.92 301 *e*P Pn 23 30 06.4 +0.1
comp=Z,13nm,0.9s
SBF **Sospel** 11.92 301 *e*P Pn 23 30 06.4 +0.1
SBF pmax pmax
comp=Z,7.0nm,0.9s
SBF **Sospel** 11.92 301 *e*P Pn 23 30 06.4 +0.1
comp=Z,6.6nm,0.9s
DAVOX **Dos/Dischmat** 11.92 318 Pn Pn 23 30 07.7 +1.3
comp=Z,0.3nm,0.3s,baz=109,slow=21,SNR=6.4
DAVOX Sn Sn 23 32 14.9 -4.6
comp=Z,0.3nm,0.3s,baz=307,slow=19,SNR=2.7
RETA **Reutte** 11.95 322⇑*e*Pn Pn 23 30 07.3 +0.6
comp=Z,2.8nm,0.6s
RETA ⇑*i*Sn Sn 23 32 18.5 -1.6
comp=Z,16nm,1.0s
RETA **Reutte** 11.95 322 Pn Pn 23 30 07.3 +0.6
comp=Z,2.8nm,0.6s
KHC **Kasperske Hory** 12.07 334 *e*P Pn 23 30 09.0 +0.7
KHC *e* 23 30 23.0
KHC *e* 23 32 20.5
KHC **Kasperske Hory** 12.07 334 *e*P Pn 23 30 09.0 +0.7
KHC *ex* x 23 30 23.0
KHC *e*S Sn 23 32 20.5 -2.5
KHC AMS AMS 23 35 20.0
comp=Z,900nm,13.3s
GLL **Jalalah** 12.24 134⇑*e*P Pn 23 30 11.7 +1.0
DAVA **Damuels** 12.25 319⇓*e*Pn Pn 23 30 10.8 0.0
comp=Z,5.3nm,0.7s
DAVA ⇑*i*Sn Sn 23 32 25.4 -2.1
comp=Z,18nm,1.4s
WET **Wettzell** 12.33 332 *e*P Pn 23 30 17.4 +5.5
FRF **La Foret Royal** 12.35 299 *e*P Pn 23 30 12.1 -0.1
comp=Z,3.7nm,0.5s
FRF **La Foret Royal** 12.35 299 *e*P Pn 23 30 12.1 -0.1
FRF pmax pmax
comp=Z,2.0nm,0.5s
FRF **La Foret Royal** 12.35 299 *e*P Pn 23 30 12.1 -0.1
comp=Z,1.9nm,0.5s
LMR **La Mourre** 12.38 298 *e*P Pn 23 30 12.4 -0.1
comp=Z,18nm,1.3s
LMR **La Mourre** 12.38 298 *e*P Pn 23 30 12.4 -0.1
LMR pmax pmax
comp=Z,9.0nm,1.3s
LMR **La Mourre** 12.38 298 *e*P Pn 23 30 12.4 -0.1
comp=Z,9.1nm,1.3s
AMAG **Maghara** 12.38 126 ⇑P Pn 23 30 16.5 +3.9
DPC **Dobruska-Polom** 12.40 344 *e*P Pn 23 30 13.5 +0.6
DPC AMS AMS 23 35 40.0
comp=Z,600nm,10.5s
MMAI **Mount Meron Ar** 12.48 112 Pn Pn 23 30 16.5 +2.4
comp=Z,1.0nm,0.3s,baz=327,slow=12,SNR=7.7
UPC **Upice** 12.62 343 *e*P Pn 23 30 21.6 +5.8
HFRF **Wahat Farafira** 12.67 152⇑*e*P Pn 23 30 16.2 -0.4
MBDF **Montbardon** 12.70 304 *e*P Pn 23 30 17.0 +0.1
comp=Z,8.0nm,0.6s
MBDF **Montbardon** 12.70 304 *e*P Pn 23 30 17.0 +0.1
MBDF pmax pmax
comp=Z,4.0nm,0.6s
MBDF **Montbardon** 12.70 304 *e*P Pn 23 30 17.0 +0.1
comp=Z,4.0nm,0.6s
LPG **La Plagne** 13.04 307 *e*P Pn 23 30 21.7 +0.1
comp=Z,14nm,0.7s
LPG **La Plagne** 13.04 307 *e*P Pn 23 30 21.7 +0.1
LPG pmax pmax
comp=Z,7.0nm,0.7s
LPG **La Plagne** 13.04 307 *e*P Pn 23 30 21.7 +0.1
comp=Z,7.2nm,0.7s
LPL **La Plagne** 13.06 307 *e*P Pn 23 30 21.7 -0.2
comp=Z,9.6nm,0.7s
LPL **La Plagne** 13.06 307 *e*P Pn 23 30 21.7 -0.2
LPL pmax pmax
comp=Z,5.0nm,0.7s
LPL **La Plagne** 13.06 307 *e*P Pn 23 30 21.7 -0.2
comp=Z,4.8nm,0.7s
SMRF **Simiane la Rot** 13.22 299 *e*P Pn 23 30 22.0 -2.1
comp=Z,12nm,1.1s
SMRF **Simiane la Rot** 13.22 299 *e*P Pn 23 30 22.0 -2.1
comp=Z,12nm,1.1s
AKASG **Malin Array Be** 13.32 21 Pn Pn 23 30 24.7 -0.7
comp=Z,0.2nm,0.3s,baz=208,slow=12,SNR=6.3
ORIF **Oris-en-Rattie** 13.35 304 *e*P Pn 23 30 25.8 -0.1
comp=Z,3.3nm,0.6s
ORIF *e*MLR MLR
comp=Z,371nm,21.8s
ORIF **Oris-en-Rattie** 13.35 304 *e*P Pn 23 30 25.8 -0.1
ORIF pmax pmax
comp=Z,2.0nm,0.6s
ORIF **Oris-en-Rattie** 13.35 304 *e*P Pn 23 30 25.8 -0.1
comp=Z,1.6nm,0.6s
NKC **Novy Kostel** 13.39 334 *e*P Pn 23 30 31.8 +5.4
NKC AMS AMS 23 36 10.0
comp=Z,800nm,12.8s
BFO **Black Forest** 13.73 320 *e*P Pn 23 30 29.0 -2.0
CABF **La Chapelle** 13.98 310 *e*P Pn 23 30 34.1 -0.3
comp=Z,6.4nm,0.7s
CABF **La Chapelle** 13.98 310 *e*P Pn 23 30 34.1 -0.3
CABF pmax pmax
comp=Z,3.0nm,0.7s
CABF **La Chapelle** 13.98 310 *e*P Pn 23 30 34.1 -0.3
comp=Z,3.2nm,0.7s
ASF **Jabal al Asfar** 14.00 112 Pn Pn 23 30 35.6 +0.9
comp=Z,0.1nm,0.3s,baz=194,slow=12,SNR=2.2
MOX **Moxa** 14.03 333 *e*(P) Pn 23 30 33.8 -1.3
MOX
comp=Z,500nm,16.0s
VIVF **Saint-Julien-l** 14.13 302 *e*P Pn 23 30 36.3 -0.1
CLL **Collm** 14.14 337 *e*PP 23 30 44.0
comp=Z,11nm,1.0s
EIL **Elat** 14.15 125 Pn Pn 23 30 37.9 +1.1
comp=Z,0.2nm,0.3s,baz=281,slow=5.2,SNR=4.0
EIL Sn Sn 23 33 09.2 -4.7
comp=Z,0.7nm,0.3s,baz=344,slow=20,SNR=6.7
EIL **Elat** 14.15 125 Sn Sn 23 33 09.2 -4.7
HINF **Hinteralfeld** 14.19 316 *e*P Pn 23 30 37.0 -0.3
CDF **Champ du Feu** 14.32 318 *e*P Pn 23 30 38.9 -0.2
comp=Z,4.6nm,0.6s
CDF **Champ du Feu** 14.32 318 *e*P Pn 23 30 38.9 -0.2
CDF pmax pmax
comp=Z,2.0nm,0.6s
CDF **Champ du Feu** 14.32 318 *e*P Pn 23 30 38.9 -0.2
comp=Z,2.3nm,0.6s
LASF **Ste Croix** 14.43 298 *e*P Pn 23 30 40.1 -0.5
comp=Z,14nm,1.3s
LASF **Ste Croix** 14.43 298 *e*P Pn 23 30 40.1 -0.5
comp=Z,7.1nm,1.3s
HAU **Haudompre** 14.58 315 *e*P Pn 23 30 42.3 -0.2
comp=Z,11nm,0.7s
HAU *e*MLR MLR
comp=Z,255nm,18.8s
HAU **Haudompre** 14.58 315 *e*P Pn 23 30 42.3 -0.2
HAU pmax pmax
comp=Z,6.0nm,0.7s
HAU **Haudompre** 14.58 315 *e*P Pn 23 30 42.3 -0.2
comp=Z,5.7nm,0.7s
SMF **Signal de Mont** 15.37 308 *e*P Pn 23 30 53.3 +0.1
comp=Z,14nm,0.7s
SMF **Signal de Mont** 15.37 308 *e*P Pn 23 30 53.3 +0.1
SMF pmax pmax
comp=Z,7.0nm,0.7s
SMF **Signal de Mont** 15.37 308 *e*P Pn 23 30 53.3 +0.1
comp=Z,7.0nm,0.7s
MTLF **Montolieu** 15.41 294 *e*P Pn 23 30 53.4 -0.3
comp=Z,11nm,1.1s
MTLF **Montolieu** 15.41 294 *e*P Pn 23 30 53.4 -0.3
MTLF pmax pmax
comp=Z,6.0nm,1.1s
MTLF **Montolieu** 15.41 294 *e*P Pn 23 30 53.4 -0.3
comp=Z,5.7nm,1.1s
CLZ **Clausthal** 15.46 333 *e*P Pn 23 31 00.0 +5.6
SUW **Suwalki** 15.53 3 *e*P Pn 23 30 58.4 +3.2
MEZF **Maizieres J'vi** 15.57 315 *e*P Pn 23 30 55.7 -0.1
comp=Z,24nm,0.9s
MEZF **Maizieres J'vi** 15.57 315 *e*P Pn 23 30 55.7 -0.1
comp=Z,12nm,0.9s
LOR **Lormes** 15.63 310 *e*P Pn 23 30 56.7 0.0
comp=Z,5.4nm,0.7s
LOR *e*MLR MLR
comp=Z,134nm,21.8s
LOR **Lormes** 15.63 310 *e*P Pn 23 30 56.7 0.0
LOR pmax pmax
comp=Z,3.0nm,0.7s
LOR **Lormes** 15.63 310 *e*P Pn 23 30 56.7 0.0
comp=Z,2.7nm,0.7s
AVF **Avril sur Loir** 15.73 308 *e*P Pn 23 30 58.0 +0.1
comp=Z,30nm,1.2s
AVF **Avril sur Loir** 15.73 308 *e*P Pn 23 30 58.0 +0.1
AVF pmax pmax
comp=Z,15nm,1.2s
AVF **Avril sur Loir** 15.73 308 *e*P Pn 23 30 58.0 +0.1
comp=Z,15nm,1.2s
SSF **Saint Saulge** 15.76 309 *e*P Pn 23 30 58.6 +0.4
comp=Z,24nm,0.9s
SSF **Saint Saulge** 15.76 309 *e*P Pn 23 30 58.6 +0.4
SSF pmax pmax
comp=Z,12nm,0.9s
SSF **Saint Saulge** 15.76 309 *e*P Pn 23 30 58.6 +0.4
comp=Z,12nm,0.9s
CAF **Calviac** 15.90 300 *e*P Pn 23 31 00.5 +0.3
comp=Z,10nm,1.1s
CAF **Calviac** 15.90 300 *e*P Pn 23 31 00.5 +0.3
CAF pmax pmax
comp=Z,5.0nm,1.1s
CAF **Calviac** 15.90 300 *e*P Pn 23 31 00.5 +0.3
comp=Z,5.2nm,1.1s
BGF **Bois d'Agland** 15.95 306 *e*P Pn 23 31 01.1 +0.3
comp=Z,7.0nm,0.7s
BGF **Bois d'Agland** 15.95 306 *e*P Pn 23 31 01.1 +0.3
BGF pmax pmax
comp=Z,4.0nm,0.7s
BGF **Bois d'Agland** 15.95 306 *e*P Pn 23 31 01.1 +0.3
comp=Z,3.5nm,0.7s
TCF **Toulx Ste Croi** 16.26 305 *e*P Pn 23 31 05.4 +0.7
comp=Z,4.3nm,0.8s
TCF **Toulx Ste Croi** 16.26 305 *e*P Pn 23 31 05.4 +0.7
TCF pmax pmax
comp=Z,2.0nm,0.8s
TCF **Toulx Ste Croi** 16.26 305 *e*P Pn 23 31 05.4 +0.7
comp=Z,2.2nm,0.8s
RJF **Les Rejaudoux** 16.39 301 *e*P Pn 23 31 05.6 -0.8
RJF *e*MLR MLR
comp=Z,194nm,18.8s
EPF **Esparros** 16.71 292 *e*P Pn 23 31 11.6 +1.1
comp=Z,4.7nm,0.8s
EPF **Esparros** 16.71 292 *e*P Pn 23 31 11.6 +1.1
EPF pmax pmax
comp=Z,2.0nm,0.8s
EPF **Esparros** 16.71 292 *e*P Pn 23 31 11.6 +1.1
comp=Z,2.3nm,0.8s
KIV **Kislovodsk** 16.75 64 ⇓P Pn 23 31 15.7 +4.7
KIV **Kislovodsk** 16.75 64 *e*P Pn 23 31 17.5 +6.5
KIV pmax pmax
comp=Z,14nm,1.1s
KIV MLR MLR
comp=Z,44nm,14.0s
KIV **Kislovodsk** 16.75 64⇓*i*P Pn 23 31 15.7 +4.7
LFF **La Frestale** 16.81 299 *e*P Pn 23 31 12.5 +0.7
BAIF **Baives** 16.92 319 *e*P Pn 23 31 13.7 +0.6
comp=Z,23nm,1.0s
BAIF **Baives** 16.92 319 *e*P Pn 23 31 13.7 +0.6
BAIF pmax pmax
comp=Z,12nm,1.0s
BAIF **Baives** 16.92 319 *e*P Pn 23 31 13.7 +0.6
comp=Z,12nm,1.0s
ETSF **Etsaut** 17.34 292 *e*P Pn 23 31 18.6 +0.1
SJPF **Ste Jean** 17.85 292 *e*P Pn 23 31 25.5 +0.7
comp=Z,9.5nm,0.9s
SJPF **Ste Jean** 17.85 292 *e*P Pn 23 31 25.5 +0.7
SJPF pmax pmax
comp=Z,5.0nm,0.9s
SJPF **Ste Jean** 17.85 292 *e*P Pn 23 31 25.5 +0.7
comp=Z,4.8nm,0.9s
MFF **Saint Martin d** 17.89 304 *e*P Pn 23 31 24.7 -0.6
comp=Z,16nm,1.0s
MFF **Saint Martin d** 17.89 304 *e*P Pn 23 31 24.7 -0.6
MFF pmax pmax
comp=Z,8.0nm,1.0s
MFF **Saint Martin d** 17.89 304 *e*P Pn 23 31 24.7 -0.6
comp=Z,7.9nm,1.0s
LDF **La Druitiere** 18.62 310 *e*P Pn 23 31 33.8 -0.4
comp=Z,7.2nm,0.7s
LDF **La Druitiere** 18.62 310 *e*P Pn 23 31 33.8 -0.4
LDF pmax pmax
comp=Z,4.0nm,0.7s
LDF **La Druitiere** 18.62 310 *e*P Pn 23 31 33.8 -0.4
comp=Z,3.6nm,0.7s
FLN **La Foliniere** 18.91 310 *e*P Pn 23 31 37.6 0.0
comp=Z,21nm,0.9s
FLN *e*MLR MLR
comp=Z,256nm,21.8s
FLN **La Foliniere** 18.91 310 *e*P Pn 23 31 37.6 0.0
FLN pmax pmax
comp=Z,11nm,0.9s
FLN **La Foliniere** 18.91 310 *e*P Pn 23 31 37.6 0.0
comp=Z,10nm,0.9s
GRR **Gorron** 18.99 309 *e*P Pn 23 31 39.4 +0.8
comp=Z,13nm,0.7s
GRR **Gorron** 18.99 309 *e*P Pn 23 31 39.4 +0.8
GRR pmax pmax
comp=Z,6.0nm,0.7s
GRR **Gorron** 18.99 309 *e*P Pn 23 31 39.4 +0.8
comp=Z,6.4nm,0.7s
OBN **Obninsk** 19.43 27⇑*e*P Pn 23 31 43.3 -0.6
OBN pmax pmax
comp=Z,3.0nm,0.7s
OBN MLR MLR
comp=Z,200nm,18.0s
OBN **Obninsk** 19.43 27 *e*P Pn 23 31 43.3 -0.6
comp=Z,200nm,18.0s
ESDC **Sonseca Array** 19.85 281 P Pn 23 31 47.1 -1.9
comp=Z,0.2nm,0.3s,baz=82,slow=11,SNR=8.0
ESDC LR LR 23 39 30.2
comp=Z,60nm,19.7s,baz=30,slow=37
SGMF **Saint Gilles** 19.99 307 *e*P Pn 23 31 49.8 -0.8
QUIF **Quistinic** 20.27 306 *e*P P 23 31 52.4 +0.5
comp=Z,14nm,0.8s
QUIF **Quistinic** 20.27 306 *e*P P 23 31 52.4 +0.5
QUIF pmax pmax
comp=Z,7.0nm,0.8s
QUIF **Quistinic** 20.27 306 *e*P P 23 31 52.4 +0.5
comp=Z,7.2nm,0.8s
MOS **Moscow** 20.30 27 *e*P P 23 31 57.1 +5.0
MOS pmax pmax
comp=Z,51nm,1.2s
ROSF **Rostrenen** 20.47 307 *e*P P 23 31 53.7 -0.4
comp=Z,80nm,1.5s
ROSF **Rostrenen** 20.47 307 *e*P P 23 31 53.7 -0.4
ROSF pmax pmax
comp=Z,40nm,1.5s
ROSF **Rostrenen** 20.47 307 *e*P P 23 31 53.7 -0.4

comp=Z,40nm,1.5s
HFS Hagfors 22.20 350 P **P 23 32 11.1 -1.5**
HFS pmax pmax
comp=Z,6.0nm,0.5s
HFS MLR MLR
comp=Z,149nm,18.1s
HFS Hagfors 22.20 350 P **P 23 32 11.1 -1.5**
comp=Z,6.2nm,0.5s,mb4.3,baz=169,slow=12,SNR=18
HFS LR LR 23 41 16.3
comp=Z,149nm,18.1s,MS3.5,baz=133,slow=38
FINES FINESS Array B 23.11 5 P **P 23 32 20.2 -2.1**
FINES pmax pmax
comp=Z,8.0nm,0.8s
FINES MLR MLR
comp=Z,150nm,19.1s
FINES FINESS Array B 23.11 5 P **P 23 32 20.2 -2.0**
comp=Z,8.3nm,0.8s,mb4.2,baz=168,slow=9.8,SNR=25
FINES LR LR 23 42 12.5
comp=Z,150nm,19.1s,MS3.5,baz=212,slow=39
NB2 NORSAR Subarra 23.45 347 P **P 23 32 24.4 -1.5**
comp=Z,13nm,1.1s,mb4.3,baz=159,slow=9.3
NOA NORSAR Array B 23.45 347 P **P 23 32 23.8 -2.1**
NOA pmax pmax
comp=Z,5.0nm,0.7s
NOA MLR MLR
comp=Z,89nm,20.6s
NOA NORSAR Array B 23.45 347 P **P 23 32 23.8 -2.1**
comp=Z,5.0nm,0.7s,mb4.1,baz=159,slow=8.7,SNR=23
NOA LR LR 23 41 55.1
comp=Z,89nm,20.6s,MS3.2,baz=180,slow=38
EKA Eskdalemuir Ar 23.64 323 P **P 23 32 25.5 -2.3**
EKA pmax pmax
comp=Z,10.0nm,0.9s
EKA Eskdalemuir Ar 23.64 323 P **P 23 32 25.4 -2.3**
comp=Z,10nm,0.9s,mb4.2,baz=124,slow=10.0,SNR=18
KAF Kangasniemi 23.79 5 *ep* **P 23 32 24.9 -4.2**
JOF Joensuu 25.13 10 *ep* **P 23 32 38.2 -3.0**
AKTK Aktyubinsk 28.30 53 P **P 23 33 09.3 -0.6**
AKTK LR LR 23 47 21.4
AKTK Aktyubinsk 28.30 53 P **P 23 33 09.4 -0.5**
AKTO Aktyubinsk 28.30 53 P **P 23 33 09.4 -0.5**
AKTO pmax pmax
comp=Z,1.0nm,0.4s,mb3.8
AKTO MLR MLR
comp=Z,82nm,18.0s,MS3.4
AKTO Aktyubinsk 28.30 53 P **P 23 33 09.3 -0.6**
comp=Z,0.5nm,0.4s,mb3.5,baz=196,slow=1.4,SNR=3.4
AKTO LR LR 23 47 21.4
comp=Z,82nm,18.0s,MS3.4,baz=113,slow=43
TORD Torodi Ar. Bea 30.84 220 P **P 23 33 32.8 +0.1**
comp=Z,7.1nm,0.9s,mb4.5,baz=31,slow=8.9,SNR=36
TORD LR LR 23 46 35.4
comp=Z,48nm,18.8s,MS3.2,baz=10.0,slow=37
ARCES ARCESS Array B 31.14 3 P **P 23 33 33.7 -1.2**
ARCES LR LR 23 47 12.2
ARCES ARCESS Array B 31.14 3 P **P 23 33 33.7 -1.2**
ARCES pmax pmax
comp=Z,2.0nm,0.8s
ARCES MLR MLR
comp=Z,202nm,19.3s
ARCES ARCESS Array B 31.14 3 P **P 23 33 33.7 -1.2**
comp=Z,2.0nm,0.8s,mb4.0,baz=191,slow=9.1,SNR=12
ARCES LR LR 23 47 12.2
comp=Z,202nm,19.3s,MS3.8,baz=359,slow=38
BORG Borgarnes 36.22 330 *eP* **P 23 34 16.4 -2.7**
comp=Z,133nm,0.6s
BORG Borgarnes 36.22 330 *eP* **P 23 34 16.5 -2.6**
comp=Z,133nm,0.6s
EKS2 Erkin-Say 39.33 67 *eP* **P 23 34 45.0 -0.7**
comp=Z,12nm,0.9s,mb4.6
EKS2 Erkin-Say 39.33 67 *eP* **P 23 34 45.0 -0.6**
comp=Z,12nm,0.9s,mb4.6
AML Almayashu 39.38 68 *eP* **P 23 34 43.7 -2.3**
comp=Z,2.6nm,0.7s,mb4.1
AML Almayashu 39.38 68 *eP* **P 23 34 43.7 -2.4**
comp=Z,2.6nm,0.7s,mb4.1
DBIC Dimbokro 39.72 224 P **P 23 34 48.2 -1.0**
DBIC pmax pmax
comp=Z,4.0nm,0.8s
DBIC MLR MLR
comp=Z,82nm,19.1s
DBIC Dimbokro 39.72 224 P **P 23 34 48.2 -1.0**
comp=Z,3.6nm,0.8s,mb4.2,baz=20,slow=15,SNR=6.1
DBIC LR LR 23 52 17.6
comp=Z,82nm,19.1s,MS3.6,baz=13,slow=38
FRU Bishkek 39.89 66 *eP* **P 23 34 51.5 +1.2**
FRU pmax pmax
comp=Z,40nm,2.0s,mb4.8
FRU Bishkek 39.89 66 *eP* **P 23 34 51.5 +1.2**
comp=Z,40nm,2.0s,mb4.8
UCH Uchtor 39.95 67 *eP* **P 23 34 51.2 +0.3**
comp=Z,7.1nm,1.2s,mb4.3
UCH Uchtor 39.95 67 *eP* **P 23 34 51.2 +0.4**
comp=Z,7.1nm,1.2s,mb4.3
TKM2 Tokmak 2 40.58 66 P **P 23 34 53.8 -2.2**
comp=Z,3.0nm,0.9s,mb3.9
TKM2 Tokmak 2 40.58 66 P **P 23 34 53.8 -2.2**
TKM2 pmax pmax
comp=Z,3.0nm,0.9s,mb3.9
TKM2 Tokmak 2 40.58 66 P **P 23 34 53.8 -2.2**
comp=Z,3.0nm,0.9s,mb3.9
KMBO Kilima Mbogo 42.01 156 LR LR 23 52 47.8
comp=Z,53nm,21.3s,MS3.4,baz=91,slow=36
NVS Novosibirsk 43.82 47 *eP* **P 23 35 21.5 -0.8**
MKAR Makanchi Array 44.40 59 P **P 23 35 26.4 -0.6**
MKAR PcP PcP 23 37 10.3 -0.4
MKAR LR LR 23 56 16.7
MKAR Makanchi Array 44.40 59 P **P 23 35 26.4 -0.7**
MKAR 23 37 10.3
MKAR pmax pmax
comp=Z,4.0nm,0.5s
MKAR MLR MLR
comp=Z,74nm,20.9s
MKAR Makanchi Array 44.40 59 P **P 23 35 26.4 -0.6**
comp=Z,3.5nm,0.5s,mb4.4,baz=274,slow=7.4,SNR=44
MKAR PcP PcP 23 37 10.3 -0.4
comp=Z,0.3nm,0.3s,baz=287,slow=3.7,SNR=2.5
MKAR LR LR 23 56 16.7
comp=Z,74nm,20.9s,MS3.6,baz=146,slow=39
ZAL Zalesovo 44.82 48 P **P 23 35 29.3 -1.0**
ZAA0 Zalesovo Array 44.83 48 *eP* **P 23 35 28.9 -1.4**
ZAA0 Zalesovo Array 44.83 48 *eP* **P 23 35 28.9 -1.5**
ZALV Zalesovo Beam 44.83 48 P **P 23 35 29.3 -1.1**
comp=Z,5.8nm,0.5s,mb4.7,baz=276,slow=8.7,SNR=25
ZALV LR LR 23 55 54.4
comp=Z,64nm,18.7s,MS3.6,baz=280,slow=38
SCHQ Schefferville 58.78 317 P **P 23 37 13.8 -0.6**
comp=Z,4.7nm,0.9s,mb4.5,baz=12,slow=15,SNR=5.6
GTA Gaotai 58.92 62 P **P 23 37 15.1 -0.6**
GTA AP pP 23 37 19.7 +1.1
GTA XP sP 23 37 23.3 +3.6
GTA AMB AMB
comp=Z,4.0nm,1.1s,mb4.4
SONM Songino Array 59.59 51 P **P 23 37 19.2 -1.0**
SONM pmax pmax
comp=Z,1.0nm,0.6s
SONM Songino Array 59.59 51 P **P 23 37 19.2 -1.0**
comp=Z,0.5nm,0.6s,mb3.8,baz=286,slow=6.0,SNR=6.4
YKA Yellowknife Ar 73.35 340 P **P 23 38 47.9 -0.1**
YKA pmax pmax
comp=Z,1.0nm,0.8s
YKA MLR MLR
comp=Z,75nm,18.1s
YKA Yellowknife Ar 73.35 340 P **P 23 38 47.9 -0.1**
comp=Z,1.3nm,0.8s,mb3.9,baz=34,slow=5.4,SNR=18
YKA LR LR 00 13 07.7
comp=Z,75nm,18.1s,MS4.0,baz=275,slow=38
ULM Lac du Bonnet 75.92 324 P **P 23 39 03.1 +0.1**
comp=Z,3.3nm,0.8s,mb4.3,baz=51,slow=6.8,SNR=6.3
KSRS Korea Array 78.46 51 P **P 23 39 15.6 -1.9**
comp=Z,0.7nm,0.4s,mb3.9,baz=319,slow=7.2,SNR=3.8
KSRS LR LR 00 17 25.1
comp=Z,42nm,18.6s,MS3.8,baz=284,slow=38
PDAR Pinedale Array 87.73 326 P **P 23 40 05.2 -0.3**
comp=Z,0.5nm,0.8s,mb3.8,baz=90,slow=5.9,SNR=4.3
TXAR Lajitas Array 95.34 314 P **P 23 40 41.5 +0.4**
TXAR LR LR 00 26 05.7
TXAR Lajitas Array 95.34 314 P **P 23 40 41.5 +0.5**
TXAR pmax pmax
comp=Z,1.0nm,0.9s
TXAR MLR MLR
comp=Z,58nm,18.5s
TXAR Lajitas Array 95.34 314 P **P 23 40 41.5 +0.4**
comp=Z,0.6nm,0.9s,mb4.0,baz=57,slow=4.6,SNR=5.0
TXAR LR LR 00 26 05.7
comp=Z,58nm,18.5s,MS4.1,baz=180,slow=37
WRA Warramunga Arr 119.71 93 PKP PKPdf 23 46 04.1 -2.9
comp=Z,0.2nm,0.3s,baz=292,slow=9.1,SNR=4.7
ASAR Alice Springs 121.37 97 PKP PKPdf 23 46 08.4 -1.7
comp=Z,0.2nm,0.4s,baz=288,slow=1.3,SNR=3.6

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*THE **09** 23:34:52.6, 3844N×2166E, h3km, ML3.4*
*ATH **09** 23:34:52.9, 3852N×2165E, h10km±3km, MD3.3/4*
*ISCJB **09** 23:34:53.3±0.8, 3854N±004×2164E±005, h9km±8km, Error ellipse: s-maj=8.1km s-min=5.2km az=143.4*
*CSEM **09** 23:34:53.6±0.3, 3853N×2164E, h2km, ML3.4, Error ellipse: s-maj=7.3km s-min=5.8km az=139.0*
ISC 09 23:34:53.1±1.1, 3848N±005×2166E±005, h0km±14km, n10, σ1§12/15, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EVR	**Evrytania**	**0.45**	**15**	*e*PB	**Pg**	**23 35 01.0**	**-0.7**
EVR				*e*SB	**Sg**	**23 35 06.9**	**-0.7**
AGG	**Agios Georgios**	**0.75**	**44**	*e*Pg	**Pg**	**23 35 07.0**	**-0.5**
AGG				*e*Sg	**Sg**	**23 35 18.8**	**+1.5**
LKD	**Levkas**	**0.82**	**286**	*e*Pg	**Pg**	**23 35 08.1**	**-0.8**
LKD				*e*Sg	**Sg**	**23 35 20.4**	**+0.8**
VLS	**Valsamata**	**0.90**	**251**	*e*PG	**Pg**	**23 35 09.8**	**-0.4**
VLS				*e*SB	**Sb**	**23 35 23.1**	**-0.8**
ITM	**Ithomi**	**1.31**	**171**	*e*PB	**Pb**	**23 35 18.5**	**-0.1**
ITM	**Ithomi**	**1.31**	**171**	*e*Pn	**Pn**	**23 35 20.0**	**+1.4**
MEV	**Metsovon**	**1.35**	**346**	*e*Pg	**Pg**	**23 35 18.8**	**-0.1**
MEV				*e*Sg	**Sg**	**23 35 38.8**	**+2.4**
AOS	**Alonnisos**	**1.87**	**68**	*e*Pb	**Pb**	**23 35 25.9**	**-2.1**
VLI	**Veliai**	**2.03**	**150**	*e*PN	**Pn**	**23 35 30.0**	**+1.5**
PLG	**Polygyros**	**2.34**	**36**	*e*Pn	**Pn**	**23 35 32.0**	**-0.8**

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*IDC **09** 23:37:33.5±4.2, 4201N×14195E, h0km, mb3.6/4, mb1 3.5/5, mb1mx3.4/21, mbtmp3.5/5, ML3.1/1, Error ellipse: s-maj=89.7km s-min=38.8km az=98.0*
*ISCJB **09** 23:37:39.3±0.5, 4159N±004×14189E±006, h71km±5km, mb3.4/4, Error ellipse: s-maj=8.3km s-min=5.3km az=27.8*
*JMA **09** 23:37:40.0±0.1, 4160N×14191E, h66km±2km, M3.3*
JMA Felt I J1.
ISC 09 23:37:40.1±0.5, 4159N±004×14190E±006, h65km±6km, n19, σ0§58/26, mb3.4/4, 1C-7D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOT	**Ohata**	**0.67**	**252**	⇓P	**Pn**	**23 37 54.4**	**+0.1**
JOT				*e*S	**Sn**	**23 38 05.1**	**+0.3**
JKB	**Kayabe**	**0.71**	**295**	⇓P	**Pn**	**23 37 54.6**	**-0.2**
JKB				*e*S	**Sn**	**23 38 05.3**	**-0.3**
JNBK	**Urakawa-nobuka**	**0.94**	**43**	⇑P	**Pn**	**23 37 56.7**	**-0.8**
JTM	**Tenmabayashi**	**1.02**	**218**	⇓P	**Pn**	**23 37 58.9**	**+0.3**
JTM				*e*S	**Sn**	**23 38 12.4**	**+0.1**
JEM	**Erimo**	**1.03**	**65**	P	**Pn**	**23 37 58.5**	**-0.2**
JNB	**Noboribetsu**	**1.09**	**324**	⇓P	**Pn**	**23 37 59.1**	**-0.4**
JNB				*e*S	**Sn**	**23 38 13.4**	**-0.4**
JSR	**Shiriuchi**	**1.11**	**267**	P	**Pn**	**23 38 00.0**	**+0.2**
JBT2	**Biratori 2**	**1.23**	**16**	P	**Pn**	**23 38 01.5**	**+0.1**
JANG	**Nango**	**1.25**	**194**	⇓P	**Pn**	**23 38 01.3**	**-0.3**
JANG				*e*S	**Sn**	**23 38 16.6**	**-1.1**
JYM2	**Yakumo 2**	**1.26**	**295**	⇓P	**Pn**	**23 38 02.4**	**+0.7**
JEW	**Eniwo**	**1.29**	**345**	⇓P	**Pn**	**23 38 02.4**	**+0.3**
JEW				*e*S	**Sn**	**23 38 18.7**	**+0.1**
JCH	**Churui**	**1.49**	**46**	P	**Pn**	**23 38 05.1**	**+0.3**
JCH				*e*S	**Sn**	**23 38 24.0**	**+0.6**
JFR	**Furan**	**1.65**	**18**	*e*S	**Sn**	**23 38 27.3**	**+0.1**
JOSM	**Okushiri--Mats**	**1.88**	**286**	P	**Pn**	**23 38 09.9**	**-0.1**
MJAR	**Matsushiro Arr**	**5.80**	**211**	Pn	**Pn**	**23 39 06.2**	**+2.6**
	0.4nm,0.3s,baz=27,slow=11,SNR=3.5						
SONM	**Songino Array**	**25.83**	**296**	P	**P**	**23 43 04.6**	**-0.5**
	0.2nm,0.5s,mb2.8,baz=81,slow=8.9,SNR=2.9						
ZALV	**Zalesovo Beam**	**39.25**	**308**	P	**P**	**23 45 02.2**	**+0.2**
	0.6nm,0.3s,mb3.9,baz=97,slow=8.7,SNR=4.0						
MKAR	**Makanchi Array**	**42.16**	**298**	P	**P**	**23 45 26.0**	**-0.1**
	0.2nm,0.3s,mb3.4,baz=78,slow=7.6,SNR=4.1						
FINES	**FINESS Array B**	**64.98**	**331**	P	**P**	**23 48 12.2**	**-0.4**
	0.6nm,0.5s,mb3.6,baz=53,slow=7.4,SNR=6.6						

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*NEIC **09** 23:40:58.4±0.6, 680S×15574E, h10km, mb4.6/4, Error ellipse: s-maj=13.3km s-min=12.9km az=68.0*
*ISCJB **09** 23:41:03.2±2.6, 69S±01×15584E±009, h61km±25km, mb4.1/12, Error ellipse: s-maj=18.6km s-min=14.3km az=161.9*
*IDC **09** 23:41:03.8±1.1, 692S×15581E, h54km±5km, mb3.8/8, mb1 3.9/8, mb1mx3.8/15, mbtmp3.8/8, MS3.0/3, Ms1 3.0/3, ms1mx2.7/20, Error ellipse: s-maj=38.5km s-min=16.9km az=115.0*
ISC 09 23:41:04.7±2.3, 69S±01×15582E±010, h60km±24km, h55km±3.0km: pP-P, n29, σ0§61/25, mb4.1/12, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.79**	**122**	Pn	**Pn**	**23 42 14.3**	**-0.1**
HNR				Sn	**Sn**	**23 43 08.6**	**-0.1**
HNR	**Honiara**	**4.79**	**122**	LR	LR	23 43 14.3	
	comp=Z,84nm,20.7s,baz=351,slow=27						
CTA	**Charters Tower**	**16.05**	**214**	LR	LR	23 49 47.8	
	comp=Z,81nm,19.3s,baz=49,slow=33						
KAKA	**Kakadu**	**23.73**	**254**	*e*P	**P**	**23 46 12.1**	**+0.5**
	9.2nm,0.6s,mb4.4						
KAKA	**Kakadu**	**23.73**	**254**	*e*P	**P**	**23 46 12.1**	**+0.4**
WRAB	**Tennant Creek**	**24.52**	**236**	*e*P	**P**	**23 46 19.1**	**+0.3**
WB2	**Warramunga Arr**	**24.53**	**236**	*e*P	**P**	**23 46 18.9**	**+0.1**
WRA	**Warramunga Arr**	**24.54**	**236**	P	**P**	**23 46 19.1**	**+0.2**
	2.0nm,0.5s,mb3.9,baz=63,slow=10,SNR=13						
WRA				PcP	PcP	23 49 55.5	-0.6
	0.5nm,1.0s,baz=98,slow=6.0,SNR=4.6						
ASAR	**Alice Springs**	**26.84**	**229**	P	**P**	**23 46 39.2**	**-0.5**
	0.9nm,0.5s,mb3.6,baz=58,slow=10.0,SNR=14						
ASAR				PcP	PcP	23 50 00.5	-0.8
	0.7nm,0.6s,baz=62,slow=2.6,SNR=6.3						
STKA	**Stephens Creek**	**28.16**	**206**	*e*P	**P**	**23 46 54.2**	**+2.8**
	1.2nm,0.6s,mb3.7						
STKA	**Stephens Creek**	**28.16**	**206**	P	**P**	**23 46 51.2**	**-0.3**
STKA				pP	pP	23 47 05.7	-0.5
STKA				LR	LR	23 58 37.4	
STKA	**Stephens Creek**	**28.16**	**206**	P	**P**	**23 46 51.2**	**-0.3**
	2.1nm,0.8s,mb3.8,baz=307,slow=21,SNR=4.0						
STKA				pP	pP	23 47 05.7	-0.5
	1.5nm,0.7s,baz=29,slow=9.3,SNR=2.3						
STKA				LR	LR	23 58 37.4	
	comp=Z,51nm,18.1s,baz=24,slow=37						
FITZ	**Fitzroy Crossi**	**31.43**	**246**	*e*P	**P**	**23 47 20.3**	**-0.3**
	7.0nm,0.5s,mb4.8						
FITZ	**Fitzroy Crossi**	**31.43**	**246**	P	**P**	**23 47 20.2**	**-0.4**
	3.5nm,0.6s,mb4.4,baz=73,slow=6.1,SNR=17						
FITZ				pP	pP	23 47 33.6	-1.9
	2.1nm,0.7s,baz=97,slow=9.1,SNR=2.2						
TAU	**Tasmania Unive**	**36.63**	**190**	P	**P**	**23 48 05.5**	**+0.3**
MBWA	**Marble Bar**	**37.65**	**244**	*e*P	**P**	**23 48 13.8**	**-0.5**
	7.9nm,0.9s,mb4.4						
NACB	**Ninganchiao**	**45.48**	**314**	*e*P	**P**	**23 49 18.5**	**+0.2**
SONM	**Songino Array**	**69.71**	**327**	P	**P**	**23 52 09.2**	**+1.1**
	2.0nm,0.8s,mb4.1,baz=137,slow=6.4,SNR=15						
SONM				pP	pP	23 52 23.0	-1.5
	0.2nm,0.4s,baz=122,slow=7.1,SNR=2.3						
SBA	**Scott Base**	**71.14**	**178**	P	**P**	**23 52 16.4**	**0.0**
QSPA	**South Pole Qui**	**83.06**	**180**	*e*P	**P**	**23 53 23.2**	**0.0**
	2.6nm,0.5s,mb4.5						
MKAR	**Makanchi Array**	**83.88**	**318**	P	**P**	**23 53 27.8**	**-0.2**
MKAR				pP	pP	23 53 43.0	-1.8
MKAR	**Makanchi Array**	**83.88**	**318**	P	**P**	**23 53 27.8**	**-0.2**
	0.9nm,0.6s,mb4.0,baz=94,slow=6.1,SNR=10						
MKAR				pP	pP	23 53 43.0	-1.8
	0.5nm,0.6s,baz=101,slow=6.3,SNR=4.9						
ZALV	**Zalesovo Beam**	**84.57**	**326**	P	**P**	**23 53 30.4**	**-0.9**
	0.4nm,0.4s,mb3.9,baz=95,slow=4.6,SNR=3.1						
ZALV				pP	pP	23 53 47.5	-0.6
	0.5nm,0.4s,baz=113,slow=5.9,SNR=2.7						
BRVK	**Borovoye**	**92.79**	**323**	*e*P	**P**	**23 54 09.2**	**-1.3**
	4.2nm,1.6s,mb4.6						
YKA	**Yellowknife Ar**	**95.88**	**28**	P	**P**	**23 54 25.4**	**+1.0**
YKA				pP	pP	23 54 39.0	-2.5
YKA	**Yellowknife Ar**	**95.88**	**28**	P	**P**	**23 54 25.4**	**+1.0**
	0.1nm,0.3s,mb3.8,baz=273,slow=4.3,SNR=3.3						
YKA				pP	pP	23 54 39.0	-2.5
	0.1nm,0.4s,baz=266,slow=4.7,SNR=2.4						
GERES	**GERESS Array B**	**127.40**	**329**	PKP	PKPdf	00 00 02.7	-0.1
	0.3nm,0.4s,baz=48,slow=1.5,SNR=4.6						
TORD	**Torodi Ar. Bea**	**153.79**	**286**	PKPbc	PKPbc	00 00 56.7	-1.4
	0.3nm,0.5s,baz=109,slow=1.7,SNR=11						
TORD				PKPab	PKPab	00 01 10.2	-1.0
	0.4nm,0.5s,baz=89,slow=3.3,SNR=6.4						
DBIC	**Dimbokro**	**160.81**	**270**	PKPab	PKPab	00 01 41.4	-0.3
	1.9nm,1.0s,baz=69,slow=9.5,SNR=4.1						

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*ATH **09** 23:48:00.7, 3888N×2163E, h9km, MD3.5/4*
*CSEM **09** 23:48:04.7±0.2, 3841N×2165E, h8km, ML3.2, Error ellipse: s-maj=5.3km s-min=2.6km az=155.0*
*ISCJB **09** 23:48:05.8±0.7, 3850N±004×2158E±005, h10km, Error ellipse: s-maj=5.7km s-min=5.2km az=163.3*
*THE **09** 23:48:05.8, 3848N×2162E, h1km, ML3.2*
ISC 09 23:48:06.5±0.7, 3850N±004×2158E±005, h10km, n12, σ1§20/18, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKD	**Levkas**	**0.76**	**286**	*e*Pg	**Pg**	**23 48 20.7**	**-0.4**
LKD				*e*Sg	**Sg**	**23 48 31.8**	**+0.8**
AGG	**Agios Georgios**	**0.79**	**48**	*e*Pg	**Pg**	**23 48 19.8**	**-1.9**
AGG				*e*Sg	**Sg**	**23 48 31.5**	**-0.5**
VLS	**Valsamata**	**0.84**	**248**	*e*PB	**Pb**	**23 48 21.4**	**-1.7**
MEV	**Metsovon**	**1.31**	**348**	*e*Pg	**Pg**	**23 48 31.0**	**-0.7**
ITM	**Ithomi**	**1.34**	**168**	*e*PG	**Pg**	**23 48 32.5**	**+0.2**
IGT	**Igoumenitsa**	**1.42**	**317**	*e*Pg	**Pg**	**23 48 32.1**	**-1.6**
IGT				*e*Sg	**Sg**	**23 48 52.8**	**+0.7**
VLI	**Veliai**	**2.08**	**148**	*e*PN	**Pn**	**23 48 43.0**	**+1.6**
FNA	**Florina**	**2.29**	**356**	*e*Pn	**Pn**	**23 48 44.7**	**+0.4**
KRUS	**Krusevo**	**2.88**	**355**	*e*Pn	**Pn**	**23 48 55.4**	**+3.0**
KRUS				*e*Sn	**Sb**	**23 49 33.0**	**-0.2**
KRUS	**Krusevo**	**2.88**	**355**	*e*Pn	**Pn**	**23 48 55.3**	**+2.9**
VAY	**Valandovo**	**2.92**	**15**	*e*Pn	**Pn**	**23 48 53.0**	**0.0**
VAY				*e*Sn	**Sn**	**23 49 30.0**	**+1.9**
VAY	**Valandovo**	**2.92**	**15**	*e*Pn	**Pn**	**23 48 52.9**	**-0.1**
VAY				*e*Sn	**Sn**	**23 49 30.0**	**+1.9**

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*ISCJB **10** 00:04:52.8±0.5, 4862N±002×647E±004, h0km, Error ellipse: s-maj=3.6km s-min=3.0km az=159.9*
*STR **10** 00:04:52.2±1.2, 4894N×643E, h5km, Ml2.3, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
*CSEM **10** 00:04:53.9±0.1, 4865N×663E, h2km, ML2.4/14, Error ellipse: s-maj=1.4km s-min=1.0km az=52.0*
*NEIC **10** 00:04:54.0, 4865N×662E, h2km, ML2.5(LDG), ML2.3(STR), After LDG.*
*LDG **10** 00:04:54.0±0.1, 4865N×662E, h2km, Md2.6/4, Ml2.5/11, Error ellipse: s-maj=1.2km s-min=1.0km az=130.0*
ISC 10 00:04:53.8±0.5, 4863N±002×654E±004, h0km, n37, σ0§94/72, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CDF	**Champ du Feu**	**0.53**	**114**	*e*Pg	**Pg**	**00 05 03.4**	**-0.6**
CDF				*e*Sg	**Sg**	**00 05 10.1**	**-0.8**
	23nm,0.6s						
CDF	**Champ du Feu**	**0.53**	**114**	*e*Pg	**Pg**	**00 05 03.4**	**-0.6**
CDF				*e*Sg	**Sg**	**00 05 10.1**	**-0.8**
	11nm,0.6s						
THEF	**They Montfort**	**0.55**	**223**	Pg	**Pg**	**00 05 05.6**	**+1.4**
THEF				Sg	**Sg**	**00 05 18.2**	**+6.9**
ECH	**Echery**	**0.58**	**135**	Pg	**Pg**	**00 05 09.4**	**+4.5**
ECH				Sg	**Sg**	**00 05 20.4**	**+8.0**
HAU	**Haudompre**	**0.64**	**192**	*e*Pg	**Pg**	**00 05 06.8**	**+0.8**
HAU				*e*Sg	**Sg**	**00 05 15.6**	**+1.4**
	26nm,0.6s						
HAU	**Haudompre**	**0.64**	**192**	*e*Pg	**Pg**	**00 05 06.8**	**+0.8**
HAU				*e*Sg	**Sg**	**00 05 15.6**	**+1.4**
	13nm,0.6s						
RFYF	**Reffroy**	**0.71**	**270**	*e*Pg	**Pg**	**00 05 08.3**	**+0.9**
	baz=92						
RFYF				*e*Sn	**Sg**	**00 05 21.5**	**+4.9**
	40nm,0.6s						
RFYF	**Reffroy**	**0.71**	**270**	*e*Pg	**Pg**	**00 05 08.3**	**+0.9**
RFYF				*e*Sn	**Sg**	**00 05 21.5**	**+4.9**
	20nm,0.6s						
HINF	**Hinteralfeld**	**0.84**	**166**	*e*Pg	**Pg**	**00 05 09.9**	**+0.1**
HINF				*e*Sg	**Sg**	**00 05 20.3**	**-0.4**
	24nm,0.6s						
HINF	**Hinteralfeld**	**0.84**	**166**	*e*Pg	**Pg**	**00 05 09.9**	**+0.1**
HINF				*e*Sg	**Sg**	**00 05 20.3**	**-0.4**
	12nm,0.6s						
MOF	**Molkenrain**	**0.87**	**153**	Pg	**Pg**	**00 05 15.3**	**+4.8**
MOF				Sg	**Sg**	**00 05 30.8**	**+9.1**
MEZF	**Maizieres J'vi**	**1.00**	**263**	*e*Pg	**Pg**	**00 05 13.8**	**+0.9**
MEZF				*e*Sg	**Sg**	**00 05 27.7**	**+1.8**
	32nm,0.7s						
MEZF	**Maizieres J'vi**	**1.00**	**263**	*e*Pg	**Pg**	**00 05 13.8**	**+0.9**
MEZF				*e*Sg	**Sg**	**00 05 27.7**	**+1.8**
	16nm,0.7s						
WLF	**Walferdange**	**1.07**	**346**	*e*Sg	**Sg**	**00 05 29.5**	**+1.4**
	SNR=2.6						
SFTF	**Sexfontaines**	**1.09**	**248**	*e*Pg	**Pg**	**00 05 15.0**	**+0.4**
SFTF				*e*Sg	**Sg**	**00 05 29.2**	**+0.5**
	19nm,0.7s,baz=76						
SFTF	**Sexfontaines**	**1.09**	**248**	*e*Pg	**Pg**	**00 05 15.0**	**+0.4**
SFTF				*e*Sg	**Sg**	**00 05 29.2**	**+0.5**
	9.6nm,0.7s						
BFO	**Black Forest**	**1.23**	**103**	*e*Sg	**Sg**	**00 05 40.9**	**+7.8**
	SNR=4.3						
FELD	**Feldberg im Sc**	**1.23**	**127**	Pg	**Pg**	**00 05 20.1**	**+2.7**
GIVF	**Givet**	**1.85**	**323**	*e*Pg	**Pg**	**00 05 28.8**	**-0.5**
GIVF				*e*Sg	**Sg**	**00 05 52.2**	**-1.2**
	14nm,0.6s						
GIVF	**Givet**	**1.85**	**323**	*e*Pg	**Pg**	**00 05 28.8**	**-0.5**
GIVF				*e*Sg	**Sg**	**00 05 52.2**	**-1.2**
	6.8nm,0.6s						
CABF	**La Chapelle**	**2.04**	**189**	*e*Pg	**Pg**	**00 05 32.6**	**-0.3**
CABF				*e*Sg	**Sg**	**00 05 59.1**	**-0.2**
	36nm,0.7s						
CABF	**La Chapelle**	**2.04**	**189**	*e*Pg	**Pg**	**00 05 32.6**	**-0.3**
CABF				*e*Sg	**Sg**	**00 05 59.1**	**-0.2**
	18nm,0.7s						
BAIF	**Baives**	**2.09**	**314**	*e*Pg	**Pg**	**00 05 33.4**	**-0.5**
BAIF				*e*Sg	**Sg**	**00 06 00.8**	**-0.2**
	8.0nm,0.6s						
BAIF	**Baives**	**2.09**	**314**	*e*Pg	**Pg**	**00 05 33.4**	**-0.5**
BAIF				*e*Sg	**Sg**	**00 06 00.8**	**-0.2**
	4.0nm,0.6s						
LOR	**Lormes**	**2.26**	**234**	*e*Pg	**Pg**	**00 05 37.0**	**-0.1**
	baz=58						
LOR				*e*Sn	**Sn**	**00 05 58.8**	**-2.1**
	baz=51						
LOR				*e*Sg	**Sg**	**00 06 07.1**	**+0.7**
	7.9nm,0.6s,baz=54						
LOR	**Lormes**	**2.26**	**234**	*e*Pg	**Pg**	**00 05 37.0**	**-0.1**
LOR				*e*Sn	**Sn**	**00 05 58.8**	**-2.1**
LOR				*e*Sg	**Sg**	**00 06 07.1**	**+0.7**
	4.0nm,0.6s						
SSF	**Saint Saulge**	**2.58**	**234**	*e*Pg	**Pg**	**00 05 43.1**	**-0.1**
SSF				*e*Sg	**Sg**	**00 06 16.6**	**+0.1**

mb1 3.8/3, mb1mx3.7/11, mbtmp3.6/3, MS3.2/1, Ms1 3.1/1, ms1mx2.6/16, Error ellipse: s-maj=146.8km s-min=29.8km az=145.0

ISC 10 00:09:57.3±2.6, 217S±07×1691E±03, h38km, h38km±5km: pP-P, n8, σ0°78/5, mb3.8/3, MS3.0/1, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**2.47**	**261**	*eP*	**Pn**	**00 10 34.4**	**-0.7**
DZM				*eS*	**Sn**	**00 11 04.3**	**+0.3**
STKA	**Stephens Creek**	**26.48**	**242**	pP	pP	00 15 46.5	+4.9
	2.7nm,1.0s,baz=86,slow=13,SNR=2.6						
STKA				LR	LR	00 25 32.7	
	comp=Z,51nm,20.6s,MS3.0,baz=23,slow=36						
ASAR	**Alice Springs**	**32.46**	**260**	P	**P**	**00 16 25.1**	**+0.8**
	1.3nm,0.6s,mb3.9,baz=79,slow=8.8,SNR=19						
ASAR				pP	pP	00 16 35.0	+0.1
	5.1nm,0.8s,baz=82,slow=8.9,SNR=21						
WRA	**Warramunga Arr**	**32.48**	**267**	P	**P**	**00 16 23.9**	**-0.6**
	0.3nm,0.3s,mb3.5,baz=102,slow=7.8,SNR=2.8						
WRA				pP	pP	00 16 34.1	-0.9
	1.6nm,0.8s,baz=92,slow=9.9,SNR=4.4						
SONM	**Songino Array**	**89.07**	**323**	P	**P**	**00 22 48.5**	**+0.1**
	0.3nm,0.5s,mb3.9,baz=133,slow=6.3,SNR=4.1						
SONM				pP	pP	00 22 59.9	-0.2
	0.5nm,0.8s,baz=134,slow=4.3,SNR=3.5						
BRG	**Berggiesshubel**	**144.97**	**332**	*eP*	PKPdf	00 29 33.7	+3.4
	2.0nm,0.2s						
KHC	**Kasperske Hory**	**146.40**	**331**	*eP*	PKPdf	00 29 35.0	+2.2
GERES	**GERESS Array B**	**146.54**	**330**	PKPbc	PKPbc	00 29 35.8	+1.3
	1.4nm,0.7s,baz=31,slow=3.1,SNR=18						
GERES				pPKPbc	pPKPbc	00 29 46.7	+0.2
	1.4nm,0.8s,baz=35,slow=3.3,SNR=7.6						
GERES				sPKPbc		00 29 57.7	
	0.4nm,0.7s,baz=18,slow=4.8,SNR=3.7						

*ISCJB **10** 00:33:37.6±2.1, 40N±01×77.1W±0.1, h127km±19km, mb3.7/6, Error ellipse: s-maj=20.7km s-min=18.8km az=149.3*
*NEIC **10** 00:33:38.4±1.9, 403N×76.97W, h120km±17km, mb3.9/2, Error ellipse: s-maj=24.4km s-min=13.3km az=53.0*
*IDC **10** 00:33:39.1±2.8, 399N×77.05W, h127km±23km, mb3.5/3, mb1 3.5/5, mb1mx3.3/19, mbtmp3.5/5, Error ellipse: s-maj=27.7km s-min=19.7km az=42.0*

ISC 10 00:33:38.2±2.1, 40N±01×771W±01, h118km±20km, n12, σ1°11/15, mb3.7/6, Near west coast of Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ROSC	**El Rosal**	**2.93**	**72**	P	**Pn**	**00 34 22.2**	**-1.4**
	14nm,0.3s,baz=40,slow=2.3,SNR=13						
ROSC				S	**Sn**	**00 34 59.9**	**+1.5**
	2.1nm,0.3s,baz=107,slow=23,SNR=3.5						
SDV	**Santo Domingo**	**8.10**	**53**	*ePn*	**Pn**	**00 35 31.2**	**-2.0**
SDV				S	**Sn**	**00 37 03.8**	**+0.7**
SDV	**Santo Domingo**	**8.10**	**53**	P	**Pn**	**00 35 31.4**	**-1.7**
	0.9nm,0.3s,baz=223,slow=10.0,SNR=4.7						
SDV				S	**Sn**	**00 37 03.8**	**+0.7**
	1.1nm,0.3s,baz=58,slow=15,SNR=3.2						
LPAZ	**La Paz**	**22.00**	**156**	*eP*	**P**	**00 38 23.5**	**+0.5**
	1.1nm,0.9s,mb3.2						
LPAZ	**La Paz**	**22.00**	**156**	P	**P**	**00 38 24.2**	**+1.2**
	0.6nm,0.4s,mb3.2,baz=293,slow=9.5,SNR=4.6						
TXAR	**Lajitas Array**	**35.63**	**318**	P	**P**	**00 40 26.3**	**+1.5**
	0.1nm,0.6s,mb2.9,baz=131,slow=11,SNR=1.5						
WMOK	**Wichita Mounta**	**36.62**	**329**	*eP*	**P**	**00 40 32.5**	**-0.7**
	20nm,2.3s,mb4.6						
SDCO	**Great Sand Dun**	**42.46**	**326**	P	**P**	**00 41 22.6**	**+1.0**
YKA	**Yellowknife Ar**	**64.64**	**342**	P	**P**	**00 44 02.4**	**-0.5**
YKA				pP	pP	00 44 22.4	-9.4
YKA	**Yellowknife Ar**	**64.64**	**342**	P	**P**	**00 44 02.4**	**-0.5**
	0.6nm,0.6s,mb3.6,baz=134,slow=6.4,SNR=16						
YKA				pP	pP	00 44 22.4	-9.4
	0.4nm,0.9s,baz=127,slow=7.5,SNR=3.3						
DBIC	**Dimbokro**	**71.96**	**84**	P	**P**	**00 44 49.5**	**-0.1**
	5.7nm,1.2s,mb4.3,baz=264,slow=7.4,SNR=7.7						
TORD	**Torodi Ar. Bea**	**78.24**	**77**	P	**P**	**00 45 24.5**	**-1.1**
	0.7nm,0.8s,mb3.4,baz=280,slow=6.7,SNR=6.3						

*SZGRF **10** 00:35:06.1, 15.11S×1269W, h33km, mb4.6, MS4.3, Southern Mid-Atlantic Ridge*
*ISCJB **10** 00:35:19.3±0.4, 1141S±007×1423W±007, h10km, mb4.3/38, MS4.2/39, Error ellipse: s-maj=11.7km s-min=8.4km az=136.3*
*IDC **10** 00:35:19.5±0.7, 1157S×1430W, h0km, mb4.0/11, mb1 4.1/11, mb1mx4.0/20, mbtmp4.0/11, MS4.2/34, Ms1 4.2/34, ms1mx4.1/38, Error ellipse: s-maj=25.1km s-min=17.1km az=127.0*
*GCMT **10** 00:35:20.9±0.3, 1175S×14.13W, h12km, MW4.9/63, Moment Tensor Solution. s13,c13; s63,c91; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr 0.21±.09; Mθθ -1.06±.09; Mφφ 0.85±.09; Mrθ -1.34±.28; Mθφ 2.04±.07; Mφr -0.81±.26; Best double couple: M=2.73400×10^16 NP1:φs 164.00000°, δ58.00000°, λ171.00000°. NP2: φs 259.00000°, δ82.00000°, λ33.00000°. Principal axes: T 2.9040, Plg28.0000°, Azm127.0000°; N -0.3390, Plg57.0000°, Azm271.0000°; P -2.5630, Plg16.0000°, Azm27.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **10** 00:35:20.9±0.3, 1149S×1425W, h10km, mb4.5/27, MS4.4/4 Error ellipse: s-maj=10.4km s-min=7.6km az=134.0*

ISC 10 00:35:21.2±0.4, 1147S±007×1426W±007, h10km, n109, σ1°10/82, mb4.3/38, MS4.2/39, 1C-3D, Ascension Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DBIC	**Dimbokro**	**20.30**	**28**	P	**P**	**00 39 59.8**	**+2.3**
	11nm,0.9s,baz=174,slow=13,SNR=9.1						
DBIC				LR	LR	00 46 03.4	
	comp=Z,734nm,19.1s,MS4.0,baz=357,slow=32						
RCBR	**Riachuelo**	**22.11**	**283**	*eP*	**P**	**00 40 17.6**	**+0.6**
	16nm,0.8s,mb4.5						
BBTS	**Babate**	**26.06**	**355**	LR	LR	00 48 55.1	
	comp=Z,167nm,18.1s,MS3.6,baz=160,slow=31						
TORD	**Torodi Ar. Bea**	**29.13**	**33**	P	**P**	**00 41 22.4**	**-0.2**
	3.9nm,1.0s,mb4.1,baz=221,slow=8.0,SNR=15						
TORD				LR	LR	00 51 31.0	
	comp=Z,576nm,18.8s,MS4.2,baz=215,slow=33						
TSUM	**Tsumeb**	**31.61**	**108**	*eP*	**P**	**00 41 43.6**	**-1.0**
	3.4nm,1.0s,mb4.1						
TSUM	**Tsumeb**	**31.61**	**108**	LR	LR	00 52 07.7	
	comp=Z,473nm,18.5s,MS4.2,baz=273,slow=32						
SUR	**Sutherland**	**38.36**	**128**	LR	LR	00 55 08.6	
	comp=Z,529nm,18.6s,MS4.4,baz=33,slow=31						
LBTB	**Lobatse**	**40.02**	**115**	LR	LR	00 56 44.1	
	comp=Z,449nm,18.9s,MS4.3,baz=295,slow=32						
LSZ	**Lusaka**	**41.42**	**100**	*eP*	**P**	**00 43 07.4**	**-0.9**
	6.3nm,1.0s,mb4.2						
LSZ				LR	LR	00 57 20.3	
LSZ	**Lusaka**	**41.42**	**100**	P	**P**	**00 43 07.7**	**-0.6**
	6.9nm,1.0s,mb4.2,baz=266,slow=5.4,SNR=7.8						
LSZ				LR	LR	00 57 20.3	
	comp=Z,380nm,18.2s,MS4.3,baz=337,slow=32						
MDT	**Midelt**	**44.99**	**12**	LR	LR	01 01 24.3	
	comp=Z,217nm,19.3s,MS4.1,baz=21,slow=35						
SIV	**San Ignacio**	**45.62**	**259**	P	**P**	**00 43 45.9**	**+3.7**
	0.6nm,0.7s,mb3.6,baz=66,slow=6.2,SNR=3.8						
TRQA	**Tornquist**	**50.07**	**230**	*eP*	**P**	**00 44 15.9**	**-0.4**
	15nm,1.2s,mb4.9						
EVO	**Evora**	**50.08**	**6**	*eP*	**P**	**00 44 14.4**	**-1.9**
	5.8nm,1.0s,mb4.3						
EVO				*e*MLR	MLR		
	comp=Z,199nm,22.8s,MS3.8						
ESDC	**Sonseca Array**	**51.77**	**10**	LR	LR	01 05 35.0	
	comp=Z,100nm,19.9s,MS3.9,baz=155,slow=35						
KEST	**Kesra**	**51.98**	**24**	P	**P**	**00 44 32.3**	**+1.7**
	comp=Z,1.8nm,0.9s,mb4.0,baz=189,slow=10,SNR=6.2						
KEST				LR	LR	01 06 35.5	
	comp=Z,151nm,18.5s,MS4.1,baz=204,slow=36						
KMBO	**Kilima Mbogo**	**52.13**	**82**	*eP*	**P**	**00 44 32.2**	**-0.1**
	comp=Z,6.9nm,1.3s,mb4.4						
KMBO				LR	LR	01 04 21.8	
KMBO	**Kilima Mbogo**	**52.13**	**82**	P	**P**	**00 44 33.1**	**+0.8**
	comp=Z,3.1nm,1.1s,mb4.2,baz=238,slow=10,SNR=5.3						
KMBO				LR	LR	01 04 21.8	
	comp=Z,128nm,19.7s,MS4.0,baz=264,slow=33						
LPAZ	**La Paz**	**52.40**	**258**	*eP*	**P**	**00 44 35.2**	**+1.0**
	comp=Z,1.1nm,0.7s,mb3.9						
LPAZ	**La Paz**	**52.40**	**258**	P	**P**	**00 44 35.3**	**+1.1**
	comp=Z,0.9nm,0.7s,mb3.8,baz=206,slow=5.7,SNR=5.5						
CFAA	**Coronel Fontan**	**53.49**	**239**	P	**P**	**00 44 40.5**	**-1.6**
	comp=Z,0.9nm,1.1s,mb3.6,baz=73,slow=9.8,SNR=6.6						
PCRV	**Puerto La Cruz**	**54.49**	**291**	LR	LR	01 04 49.5	
	comp=Z,172nm,21.1s,MS4.1,baz=109,slow=32						
ETSF	**Etsaut**	**55.54**	**12**	*eP*	**P**	**00 44 55.7**	**-0.9**
SJPF	**Ste Jean**	**55.61**	**12**	*eP*	**P**	**00 44 55.8**	**-1.3**
VAE	**Valguarnera**	**55.63**	**28**	LR	LR	01 10 11.2	
	comp=Z,441nm,18.5s,MS4.6,baz=188,slow=38						
MTLF	**Montolieu**	**56.58**	**14**	*eP*	**P**	**00 45 03.0**	**-1.1**
PLCA	**Paso Flores**	**57.19**	**229**	LR	LR	01 06 47.2	
	comp=Z,150nm,19.7s,MS4.1,baz=83,slow=33						
LASF	**Ste Croix**	**57.69**	**15**	*eP*	**P**	**00 45 11.3**	**-0.6**
LMR	**La Mourre**	**57.74**	**18**	*eP*	**P**	**00 45 11.3**	**-1.0**
	comp=Z,15nm,1.3s,mb4.6						
LMR	**La Mourre**	**57.74**	**18**	*eP*	**P**	**00 45 11.3**	**-1.0**
	comp=Z,7.6nm,1.3s,mb4.6						
LFF	**La Frestale**	**57.76**	**13**	*eP*	**P**	**00 45 11.4**	**-1.0**
FRF	**La Foret Royal**	**57.99**	**18**	*eP*	**P**	**00 45 13.4**	**-0.6**
	comp=Z,4.9nm,0.9s,mb4.2						
FRF	**La Foret Royal**	**57.99**	**18**	*eP*	**P**	**00 45 13.4**	**-0.6**
	comp=Z,2.5nm,0.9s,mb4.2						
SMRF	**Simiane la Rot**	**58.06**	**17**	*eP*	**P**	**00 45 13.6**	**-0.9**
VIVF	**Saint-Julien-l**	**58.63**	**16**	*eP*	**P**	**00 45 17.2**	**-1.2**
	comp=Z,4.8nm,0.9s,mb4.2						
VIVF	**Saint-Julien-l**	**58.63**	**16**	*eP*	**P**	**00 45 17.2**	**-1.2**
	comp=Z,2.4nm,0.9s,mb4.2						
ORIF	**Oris-en-Rattie**	**59.01**	**17**	*eP*	**P**	**00 45 20.6**	**-0.5**
	comp=Z,5.7nm,1.0s,mb4.3						
ORIF				*e*MLR	MLR		
	comp=Z,544nm,17.5s,MS4.4						
ORIF	**Oris-en-Rattie**	**59.01**	**17**	*eP*	**P**	**00 45 20.6**	**-0.5**
	comp=Z,2.8nm,1.0s,mb4.2						
SJG	**San Juan**	**59.05**	**299**	P	**P**	**00 45 21.4**	**-0.5**
SJG	**San Juan**	**59.05**	**299**	LR	LR	01 05 08.1	
	comp=Z,131nm,20.4s,MS4.0,baz=94,slow=30						
MBDF	**Montbardon**	**59.09**	**17**	*eP*	**P**	**00 45 21.2**	**-0.5**
	comp=Z,8.8nm,1.2s,mb4.3						
MBDF	**Montbardon**	**59.09**	**17**	*eP*	**P**	**00 45 21.2**	**-0.5**
	comp=Z,4.4nm,1.2s,mb4.4						
BNI	**Bardonecchia**	**59.36**	**17**	*eP*	**P**	**00 45 23.8**	**+0.3**
	comp=Z,6.4nm,1.2s,mb4.5						
TCF	**Toulx Ste Croi**	**59.37**	**13**	*eP*	**P**	**00 45 22.8**	**-0.8**
	comp=Z,5.4nm,0.9s,mb4.3						
TCF	**Toulx Ste Croi**	**59.37**	**13**	*eP*	**P**	**00 45 22.8**	**-0.8**
	comp=Z,2.7nm,0.9s,mb4.3						
SDV	**Santo Domingo**	**59.59**	**287**	*eP*	**P**	**00 45 26.1**	**+0.3**
	comp=Z,9.0nm,1.3s,mb4.6						
SDV	**Santo Domingo**	**59.59**	**287**	LR	LR	01 08 05.5	
	comp=Z,85nm,21.5s,MS3.8,baz=149,slow=33						
LPG	**La Plagne**	**59.79**	**17**	*eP*	**P**	**00 45 25.9**	**-0.6**
	comp=Z,6.3nm,1.0s,mb4.3						
LPG	**La Plagne**	**59.79**	**17**	*eP*	**P**	**00 45 25.9**	**-0.6**
	comp=Z,3.2nm,1.0s,mb4.3						
LPL	**La Plagne**	**59.80**	**17**	*eP*	**P**	**00 45 26.1**	**-0.5**
SGMF	**Saint Gilles**	**60.36**	**9**	*eP*	**P**	**00 45 29.3**	**-1.0**
	comp=Z,53nm,1.5s,mb5.0						
SGMF	**Saint Gilles**	**60.36**	**9**	*eP*	**P**	**00 45 29.3**	**-1.0**
	comp=Z,27nm,1.5s,mb5.0						
SSF	**Saint Saulge**	**60.39**	**14**	*eP*	**P**	**00 45 29.7**	**-0.9**
SNAA	**Sanae**	**60.56**	**176**	P	**P**	**00 45 30.1**	**-1.4**
	comp=Z,0.6nm,0.9s,mb3.7,baz=231,slow=20,SNR=2.4						
CABF	**La Chapelle**	**60.63**	**16**	*eP*	**P**	**00 45 31.2**	**-1.0**
	comp=Z,22nm,1.2s,mb4.9						
CABF	**La Chapelle**	**60.63**	**16**	*eP*	**P**	**00 45 31.2**	**-1.0**
	comp=Z,11nm,1.2s,mb4.9						
LOR	**Lormes**	**60.67**	**14**	*eP*	**P**	**00 45 31.6**	**-0.9**
LOR				*e*MLR	MLR		
	comp=Z,357nm,18.5s,MS4.2						
LOR	**Lormes**	**60.67**	**14**	*eP*	**P**	**00 45 31.6**	**-0.9**
LOR				LR	LR		
	comp=Z,360nm,18.5s,MS4.5						
LDF	**La Druitiere**	**61.10**	**11**	*eP*	**P**	**00 45 34.5**	**-0.9**
FLN	**La Foliniere**	**61.19**	**10**	*eP*	**P**	**00 45 35.3**	**-0.7**
	comp=Z,58nm,1.7s,mb5.1						
FLN				*e*MLR	MLR		
	comp=Z,295nm,19.2s,MS4.2						
FLN	**La Foliniere**	**61.19**	**10**	*eP*	**P**	**00 45 35.3**	**-0.7**
	comp=Z,29nm,1.7s,mb5.1						
FLN				LR	LR		
	comp=Z,290nm,19.3s,MS4.4						
DAVOX	**Davos/Dischmat**	**61.88**	**19**	LR	LR	01 11 45.8	
	comp=Z,338nm,21.4s,MS4.5,baz=246,slow=35						
ROSC	**El Rosal**	**61.92**	**282**	LR	LR	01 12 31.3	
	comp=Z,203nm,18.4s,MS4.3,baz=44,slow=36						
EIL	**Elat**	**62.61**	**48**	LR	LR	01 12 14.8	
	comp=Z,148nm,18.8s,MS4.2,baz=281,slow=35						
BFO	**Black Forest**	**62.82**	**17**	*eP*	**P**	**00 45 49.1**	**+2.2**
	comp=Z,6.0nm,1.2s,mb4.6						
BAIF	**Baives**	**63.37**	**13**	*eP*	**P**	**00 45 49.7**	**-0.9**
FUR	**Furstenfeldbru**	**63.55**	**19**	*eP*	**P**	**00 45 53.0**	**+1.2**
	comp=Z,8.0nm,1.1s,mb4.7						
CSS	**Prodhromos**	**64.51**	**42**	P	**P**	**00 45 59.3**	**+0.8**
PKSM	**Moragy**	**64.57**	**25**	↓*iP*	**P**	**00 46 01.1**	**+2.5**
GRA1	**Grafenberg Arr**	**64.88**	**18**	*eP*	**P**	**00 46 01.0**	**+0.5**
	comp=Z,3.0nm,0.9s,mb4.3						
GRA1				LR	LR		
	comp=Z,200nm,21.3s,MS4.3						
GRF	**Grafenberg Arr**	**64.88**	**18**	*eP*	**P**	**00 46 01.0**	**+0.5**
	comp=Z,3.0nm,0.9s,mb4.3						
GRF				*e*L		01 13 06.3	
	comp=Z,175nm,21.3s						
WET	**Wettzell**	**64.92**	**19**	*eP*	**P**	**00 46 01.7**	**+0.9**
	comp=Z,3.0nm,1.2s,mb4.2						
GERES	**GERESS Array B**	**64.93**	**20**	P	**P**	**00 46 01.1**	**+0.2**
	comp=Z,0.4nm,0.7s,mb3.5,baz=207,slow=1.5,SNR=5.5						
GERES				PP	PP	00 48 23.8	-0.1
	comp=Z,0.4nm,0.7s,baz=212,slow=9.4,SNR=3.6						
GERES				LR	LR	01 13 03.9	
	comp=Z,270nm,21.9s,MS4.4,baz=240,slow=35						
ROTZ	**Rotzenmuhle**	**65.25**	**19**	*eP*	**P**	**00 46 03.9**	**+1.0**
	comp=Z,6.0nm,1.4s,mb4.4						
BZS	**Buzias**	**65.37**	**27**	↑*iP*	**P**	**00 46 06.0**	**+2.2**
ASF	**Jabal al Asfar**	**65.37**	**47**	LR	LR	01 12 46.0	
	comp=Z,132nm,20.6s,MS4.1,baz=202,slow=34						
TANN	**Tannenbergstha**	**65.90**	**18**	*eP*	**P**	**00 46 08.3**	**+1.2**
	comp=Z,2.0nm,1.0s,mb4.1						
VRAC	**Vranov**	**66.33**	**21**	LR	LR	01 15 58.9	
	comp=Z,243nm,18.6s,MS4.4,baz=222,slow=37						
KOLL	**Kolacno**	**66.40**	**23**	*eP*	**P**	**00 46 12.7**	**+2.3**
PSZ	**Piszkesteto**	**66.45**	**24**	*eP*	**P**	**00 46 12.4**	**+1.7**
	comp=Z,11nm,1.4s,mb4.7						
PSZ	**Piszkesteto**	**66.45**	**24**	↓*iP*	**P**	**00 46 12.7**	**+2.0**
VYHS	**Vyhne**	**66.50**	**23**	*eP*	**P**	**00 46 12.3**	**+1.3**
	comp=Z,2.1nm,1.1s,mb4.1						
MORC	**Movsky Berou**	**67.06**	**22**	*eP*	**P**	**00 46 15.0**	**+0.4**
	comp=Z,2.0nm,0.9s,mb4.2						
KECS	**Kecovo**	**67.14**	**24**	*eP*	**P**	**00 46 12.7**	**-2.4**
KECS	**Kecovo**	**67.14**	**24**	*eP*	**P**	**00 46 12.6**	**-2.5**
MLR	**Muntele Rosu**	**67.28**	**29**	LR	LR	01 15 53.6	
	comp=Z,204nm,20.3s,MS4.3,baz=39,slow=36						
MLR	**Muntele Rosu**	**67.28**	**29**	↓*iP*	**P**	**00 46 17.4**	**+1.4**
CRVS	**Cervenica-Dubn**	**67.87**	**25**	*ep*P	pP	00 46 25.7	+2.7
MALT	**Malatya**	**69.79**	**42**	*eP*	**P**	**00 46 32.1**	**+0.2**
AKASG	**Malin Array Be**	**72.55**	**27**	P	**P**	**00 46 48.6**	**+0.2**
	comp=Z,2.2nm,0.8s,mb4.1,baz=226,slow=6.5,SNR=13						
AKASG				LR	LR	01 19 50.2	
	comp=Z,163nm,19.8s,MS4.3,baz=245,slow=37						
MAW	**Mawson**	**74.56**	**157**	P	**P**	**00 47 01.4**	**+1.4**
	comp=Z,3.6nm,0.9s,mb4.3,baz=316,slow=4.1,SNR=3.8						
MAW				LR	LR	01 13 11.2	
	comp=Z,184nm,18.7s,MS4.4,baz=256,slow=30						
HFS	**Hagfors**	**74.79**	**14**	LR	LR	01 18 49.3	
	comp=Z,93nm,18.4s,MS4.1,baz=239,slow=35						
NOA	**NORSAR Array B**	**75.04**	**13**	LR	LR	01 18 46.4	
	comp=Z,64nm,20.9s,MS3.9,baz=225,slow=35						
KIV	**Kislovodsk**	**75.55**	**39**	*eP*	**P**	**00 47 05.5**	**-0.6**
BRNJ	**Basking Ridge**	**76.06**	**317**	P	**P**	**00 47 09.4**	**+0.4**
QSPA	**South Pole Qui**	**78.67**	**180**	*eP*	**P**	**00 47 23.6**	**+0.5**
	comp=Z,4.7nm,0.7s,mb4.5						
FINES	**FINESS Array B**	**79.29**	**18**	LR	LR	01 22 09.8	
	comp=Z,127nm,20.5s,MS4.2,baz=247,slow=35						
SCHQ	**Schefferville**	**79.42**	**332**	LR	LR	01 16 19.2	
	comp=Z,139nm,19.2s,MS4.3,baz=114,slow=31						
SWET	**Sewanee**	**82.01**	**308**	P	**P**	**00 47 41.5**	**-0.3**
JMIC	**Jan Mayen**	**82.36**	**2**	LR	LR	01 18 07.2	
	comp=Z,68nm,19.8s,MS4.0,baz=228,slow=31						
WVT	**Waverly**	**83.77**	**309**	P	**P**	**00 47 51.4**	**+0.5**
ARCES	**ARCESS Array B**	**85.41**	**13**	LR	LR	01 25 03.5	
	comp=Z,72nm,19.0s,MS4.1,baz=36,slow=35						
AKTO	**Aktyubinsk**	**87.77**	**38**	LR	LR	01 31 42.5	
	comp=Z,53nm,18.2s,MS4.0,baz=76,slow=38						
SBA	**Scott Base**	**90.83**	**180**	P	**P**	**00 48 28.9**	**+4.5**
VNDA	**Vanda**	**91.14**	**179**	LR	LR	01 22 08.6	
	comp=Z,223nm,18.1s,MS4.6,baz=179,slow=31						
ULM	**Lac du Bonnet**	**93.42**	**320**	LR	LR	01 22 56.4	
	comp=Z,144nm,19.9s,MS4.4,baz=53,slow=31						
LTX	**Lajitas**	**95.02**	**299**	P	**P**	**00 48 46.3**	**+1.7**
TXAR	**Lajitas Array**	**95.02**	**299**	P	**P**	**00 48 44.4**	**-0.3**
	comp=Z,0.3nm,0.8s,mb3.8,baz=90,slow=7.5,SNR=4.2						
SDCO	**Great Sand Dun**	**97.89**	**307**	*eP*	**P**	**00 48 57.2**	**-0.3**

*ATH **10** 00:45:57.4, 39.12N×2259E, h10km, MD3.2/3*
*CSEM **10** 00:46:03.0±0.5, 3847N×2163E, h15km, MD3.2*

THE 10 00:46:02.3, 3844N×2164E, h1km, ML3.0, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EVR	**Evrytania**	**0.49**	**16**	*e*PB	Pg	00 46 09.7	-2.0
AGG	**Agios Georgios**	**0.79**	**43**	*e*Pg	Pg	00 46 17.2	-0.3
AGG				*e*Sg	Sg	00 46 28.5	+0.8
LKD	**Levkas**	**0.82**	**289**	*e*Pg	Pg	00 46 18.3	+0.3
LKD				*e*Sg	Sg	00 46 29.1	+0.5
MEV	**Metsovon**	**1.38**	**347**	*e*Pg	Pg	00 46 27.8	-0.9
MEV				*e*Sg	Sg	00 46 47.7	+1.1
IGT	**Igoumenitsa**	**1.49**	**317**	*e*Pg	Pg	00 46 29.0	-1.9
IGT				*e*Sg	Sg	00 46 50.3	+0.1
LIT	**Litokhoron**	**1.78**	**21**	*e*Pb	Pb	00 46 33.5	-2.3
AOS	**Alonnisos**	**1.89**	**67**	*e*Pb	Pb	00 46 34.7	-3.0

*ISCJB **10** 00:50:09.5±0.6, 245S±009×1280E±0.1, h33km, mb4.4/10, Error ellipse: s-maj=19.8km s-min=8.2km az=149.1*
*IDC **10** 00:50:11.7±1.1, 245S×12800E, h33km±6km, mb3.5/4, mb1 3.7/5, mb1mx3.5/15, mbtmp3.5/5, ML3.4/1, Error ellipse: s-maj=143.0km s-min=12.5km az=71.0*
*NEIC **10** 00:50:12.6±1.8, 249S×12795E, h45km±16km, mb4.3/4, Error ellipse: s-maj=19.0km s-min=6.2km az=57.0*

ISC 10 00:50:11.3±3.5, 246S±009×1280E±01, h31km±25km, n19, σ0°55/19, mb4.4/10, 1D, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNE	**Ternate**	**3.29**	**349**	↓*eP*	**Pn**	**00 50 53.3**	**-7.4**
KKM	**Kota Kinabalu**	**14.48**	**306**	Pn	**Pn**	**00 53 34.4**	**+0.1**
FITZ	**Fitzroy Crossi**	**15.71**	**188**	Pn	**Pn**	**00 53 50.5**	**0.0**
KSM	**Kuching**	**18.11**	**282**	*e*Pn	**Pn**	**00 54 20.4**	**-0.3**
WRAB	**Tennant Creek**	**18.44**	**161**	*eP*	**Pn**	**00 54 24.6**	**0.0**
	6.0nm,1.0s						
WRA	**Warramunga Arr**	**18.45**	**161**	P	**Pn**	**00 54 24.2**	**-0.5**
	0.1nm,0.3s,baz=344,slow=12,SNR=6.5						
WRA				pP	pP	00 54 33.2	+0.5
	0.2nm,0.3s,baz=343,slow=12,SNR=6.5						
ASAR	**Alice Springs**	**21.84**	**165**	P	**P**	**00 55 02.5**	**+1.1**
	4.1nm,0.8s,mb3.9,baz=348,slow=12,SNR=36						
ASAR				pP		00 55 11.9	
	5.5nm,0.8s,baz=345,slow=12,SNR=12						
ASAR				S	**S**	**00 59 01.8**	**+0.6**
	0.6nm,0.7s,baz=347,slow=21,SNR=4.5						
STKA	**Stephens Creek**	**31.94**	**158**	P	**P**	**00 56 34.8**	**+0.4**
	0.4nm,0.4s,mb3.6,baz=337,slow=7.7,SNR=3.0						
HNR	**Honiara**	**32.51**	**104**	P	**P**	**00 56 39.2**	**-0.3**
	78nm,0.7s,mb5.8						
LSA	**Lhasa**	**47.58**	**315**	*eP*	**P**	**00 58 44.1**	**-0.2**
	2.5nm,0.4s,mb4.6						
SONM	**Songino Array**	**53.53**	**342**	P	**P**	**00 59 29.2**	**+0.3**
	0.5nm,0.7s,mb3.5,baz=153,slow=10.0,SNR=4.4						
SONM				pP	pP	00 59 39.0	+0.6
	1.6nm,0.9s,baz=148,slow=7.4,SNR=9.1						
MKAR	**Makanchi Array**	**63.36**	**327**	P	**P**	**01 00 38.1**	**+0.6**
	0.2nm,0.3s,mb3.7,baz=120,slow

CDT	**Castel del Mon**	4.89 304	*e*Pn	Pn	00 56 10.7	+0.1
MGR	**Morigerati**	5.01 291	Pn	Pn	00 56 12.8	+0.5
SGO	**Sicignano**	5.33 295	Pn	Pn	00 56 17.8	+1.2
	12nm,0.4s					
SLNA	**Salina**	5.35 273	Pn	Pn	00 56 17.5	+0.6
	29nm,0.4s					
FGMS	**Monte Sant'Ang**	5.43 308	Pn	Pn	00 56 17.8	-0.2
MS1	**Monte Sant'Ang**	5.43 308	*e*Pn	Pn	00 56 17.7	-0.4
FG5	**Orsara di Pugl**	5.65 302	Pn	Pn	00 56 21.5	+0.5
	19nm,0.6s					
DIVS	**Divibare**	5.75 348	*e*Pn	Pn	00 56 22.3	-0.1
MRB1	**Monte Rocchett**	5.78 299	Pn	Pn	00 56 24.2	+1.4
	42nm,0.6s					
BZS	**Buzias**	7.13 360	⇑*i*P	Pn	00 56 50.3	+9.0
MLR	**Muntele Rosu**	7.70 23	Pn	Pn	00 56 52.9	+3.7
	0.5nm,0.3s,baz=326,slow=23,SNR=8.3					
MLR	**Muntele Rosu**	7.70 23	⇑*i*P	Pn	00 56 53.4	+4.3
PKSM	**Moragy**	8.04 345	⇓*i*P	Pn	00 56 52.7	-1.1
PSZ	**Piszkesteto**	9.52 353	⇑*i*P	Pn	00 57 19.5	+5.4
VYHS	**Vyhne**	10.21 349	*e*PN	Pn	00 57 26.0	+2.4
HFS	**Hagfors**	22.25 349	P	P	00 59 53.5	-0.4
	3.2nm,0.8s,mb3.8,baz=140,slow=9.5,SNR=6.8					
FINES	**FINESS Array B**	23.15 5	P	P	01 00 02.6	-0.9
	1.8nm,1.0s,mb3.5,baz=183,slow=15,SNR=3.0					
NB2	**NORSAR Subarra**	23.50 347	P	P	01 00 05.3	-1.9
	comp=Z,0.9nm,0.7s,mb3.3,baz=159,slow=9.3					
NOA	**NORSAR Array B**	23.50 347	P	P	01 00 05.7	-1.5
	comp=Z,1.1nm,0.8s,mb3.4,baz=159,slow=8.7,SNR=3.9					
TORD	**Torodi Ar. Bea**	30.83 220	P	P	01 01 13.6	0.0
	comp=Z,0.7nm,0.7s,mb3.6,baz=32,slow=9.0,SNR=6.0					
ARCES	**ARCESS Array B**	31.18 3	P	P	01 01 17.4	+1.2
	comp=Z,2.1nm,1.0s,mb3.9,baz=194,slow=2.5,SNR=3.9					
MKAR	**Makanchi Array**	44.38 59	P	P	01 03 07.5	-0.4
	comp=Z,0.3nm,0.3s,mb3.4,baz=297,slow=5.7,SNR=4.4					
ZALV	**Zalesovo Beam**	44.83 48	P	P	01 03 10.7	-0.6
	comp=Z,0.7nm,0.5s,mb3.8,baz=277,slow=9.3,SNR=4.6					

IDC 10 01:03:37.1±1.9,1927S×16982E,h0km,mb4.2/5,
mb1 4.4/5,mb1mx4.1/13,mbtmp4.2/5,MS3.4/4,Ms1 3.4/4,
ms1mx3.0/22,Error ellipse: s-maj=53.4km
s-min=35.9km az=115.0,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	13.68	314	LR	LR	01 11 15.8	
	comp=Z,83nm,18.2s,baz=181,slow=34						
CTA	**Charters Tower**	22.20	264	LR	LR	01 14 22.7	
	comp=Z,60nm,21.3s,baz=50,slow=29						
STKA	**Stephens Creek**	28.29	238	LR	LR	01 19 11.1	
	comp=Z,144nm,21.6s,baz=25,slow=33						
WRA	**Warramunga Arr**	33.40	263	P	P	01 10 17.5	0.0
	0.5nm,0.6s,baz=101,slow=8.2,SNR=2.9						
WRA				LR	LR	01 22 24.7	
	comp=Z,72nm,18.4s,baz=150,slow=34						
ASAR	**Alice Springs**	33.65	256	P	P	01 10 19.6	-0.2
	5.8nm,0.6s,baz=84,slow=8.8,SNR=81						
PPT	**Papeete**	38.50	94	*e*LR	LR	01 21 52.6	
	93nm,28.2s						
MJAR	**Matsushiro Arr**	63.04	332	P	P	01 14 06.1	0.0
	0.7nm,0.4s,baz=163,slow=7.3,SNR=4.2						
MAW	**Mawson**	78.61	202	P	P	01 15 41.0	+0.6
	2.4nm,0.8s,baz=144,slow=1.3,SNR=3.8						
SONM	**Songino Array**	87.58	323	P	P	01 16 27.9	+0.9
	1.2nm,0.8s,baz=144,slow=5.7,SNR=9.8						
GERES	**GERESS Array B**	144.78	332	PKP	PKPdf	01 23 13.1	-2.8
	0.7nm,0.8s,baz=54,slow=2.3,SNR=7.4						
BAIF	**Baives**	147.21	343	*e*PKP1	PKPbc	01 23 21.7	-0.5
CDF	**Champ du Feu**	147.68	338	*e*PKP1	PKPbc	01 23 23.0	-0.6
	3.7nm,0.7s						
LOR	**Lormes**	149.81	341	*e*PKP1	PKPbc	01 23 28.7	-0.4
	2.2nm,0.6s						
SSF	**Saint Saulge**	150.10	341	*e*PKP1	PKPbc	01 23 29.5	-0.3
	9.2nm,1.1s						
LPL	**La Plagne**	150.31	336	*e*PKP1	PKPbc	01 23 30.2	-0.1
LPG	**La Plagne**	150.32	336	*e*PKP1	PKPbc	01 23 30.2	-0.2
MBDF	**Montbardon**	150.95	335	*e*PKP1	PKPbc	01 23 31.7	-0.2
ORIF	**Oris-en-Rattie**	151.15	336	*e*PKP1	PKPbc	01 23 32.1	-0.2
	3.7nm,0.8s						
PGF	**Pioggiola**	151.69	329	*e*PKP1	PKPbc	01 23 33.2	-0.5
	5.5nm,0.8s						

NIED ***10*** *01:22:00,3900N×14160E,h83km,Mw4.0 Best double couple: M0 9.48000×10^14 NP1:ϕs192.00000°,δ57.00000°, λ98.00000°. NP2:ϕs357.00000°,δ34.00000°,λ78.00000°.*
MOS ***10*** *01:22:15.0±4.1,3850N×14167E,h89km,mb4.2/6,Error ellipse: s-maj=21.8km s-min=14.8km az=100.5*
NEIC ***10*** *01:22:20.2±1.9,3757N×14176E,h109km±17km,mb4.5/2, MW3.9(NIED),Error ellipse: s-maj=17.4km s-min=14.0km az=63.0*
NEIC Recorded [3 JMA] in Iwate, [2 JMA] in Miyagi and [1 JMA] in Akita Prefectures.
ISCJB ***10*** *01:22:23.0±0.6,3896N±004×14171E±008,h80km±3km, mb3.9/11,Error ellipse: s-maj=10.3km s-min=5.6km az=22.7*
IDC ***10*** *01:22:24.5±1.3,3905N×14161E,h71km±6km,mb3.6/10, mb1 3.7/13,mb1mx3.7/24,mbtmp3.7/13,Error ellipse: s-maj=29.7km s-min=16.5km az=165.0*
JMA ***10*** *01:22:24.2,3896N×14165E,h74km±1km,M4.0 Broadband fault plane solution: P waves. NP1: ϕs18.00000°,δ26.00000°,λ122.00000°. NP2: ϕs163.00000°,δ68.00000°,λ75.00000°. Principal axes: T Plg64.0000°, Azm49.0000°; N Plg13.0000°, Azm168.0000°; P Plg22.0000°, Azm264.0000°;*
JMA Felt II J1.

ISC 10 01:22:24.1±0.6,3896N±004×14170E±007,h74km±3km,
h71km±1.6km:pP-P,n50,σ0s62/54,mb3.9/11,5C-3D,Near
east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	0.12	354	⇑P	Pn	01 22 35.1	+0.2
OFUJ				S	Sn	01 22 42.8	0.0
JMK	**Ichinoseki**	0.37	269	⇑P	Pn	01 22 36.0	-0.2
JMK				S	Sn	01 22 44.5	-0.6
JIO	**Ouri**	0.57	209	⇑P	Pn	01 22 37.8	-0.2
JIO				S	Sn	01 22 47.8	-0.4
JOM	**Ohasama**	0.60	329	⇑P	Pn	01 22 38.3	+0.1
JOM				S	Sn	01 22 48.6	-0.1
JOU	**Okura**	1.00	234	⇑P	Pn	01 22 42.8	0.0
JOU				S	Sn	01 22 56.5	-0.3
JYK	**Kaneyama**	1.04	268	P	Pn	01 22 43.4	+0.1
JYK				S	Sn	01 22 57.6	-0.1
JMM	**Marumori**	1.30	213	P	Pn	01 22 46.1	-0.5
JMM				S	Sn	01 23 02.7	-0.8
JANG	**Nango**	1.42	354	⇓P	Pn	01 22 47.9	-0.2
JANG				S	Sn	01 23 06.2	0.0
JAH	**Hinai**	1.48	327	P	Pn	01 22 49.3	+0.4
JAH				S	Sn	01 23 08.2	+0.7
JYS	**Shiratake**	1.48	241	⇓P	Pn	01 22 49.1	+0.2
JYS				S	Sn	01 23 07.8	+0.3
JYA	**Atsumi**	1.59	257	⇓P	Pn	01 22 50.4	0.0
JYA				*e*S	Sn	01 23 10.3	0.0
MJAR	**Matsushiro Arr**	3.67	230	P	Pn	01 23 19.6	+1.1
MJAR				pmax	pmax		
	comp=Z,6.0nm,0.3s						
MJAR	**Matsushiro Arr**	3.67	230	P	Pn	01 23 19.6	+1.1
	comp=Z,6.1nm,0.3s,baz=36,slow=12,SNR=64						
MAT	**Matsushiro**	3.67	230	P	Pn	01 23 19.9	+1.4
ASAJ	**Asahikawa**	5.20	7	P	Pn	01 23 38.5	-0.7
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ASAJ	**Asahikawa**	5.20	7	P	Pn	01 23 38.5	-0.8
	comp=Z,2.4nm,0.3s,baz=207,slow=14,SNR=5.0						
KSRS	**Korea Array**	10.95	266	P	Pn	01 24 59.5	+1.8
	comp=Z,0.5nm,0.3s,baz=80,slow=14,SNR=5.6						
MA2	**Magadan**	21.43	13	P	P	01 27 14.7	+8.9
SONM	**Songino Array**	26.95	301	P	P	01 27 58.1	-0.3
	comp=Z,0.6nm,0.5s,mb3.4,baz=94,slow=8.6,SNR=6.9						
ZAA0	**Zalesovo Array**	40.81	311	*e*P	P	01 29 57.5	-0.6
ZALV	**Zalesovo Beam**	40.81	311	P	P	01 29 57.6	-0.4
	comp=Z,5.7nm,0.4s,mb4.7,baz=88,slow=7.6,SNR=25						
ZAL	**Zalesovo**	40.82	311	P	P	01 29 57.6	-0.5
MKAR	**Makanchi Array**	43.31	300	P	P	01 30 18.2	-0.3
MKAR	**Makanchi Array**	43.31	300	P	P	01 30 18.2	-0.3
MKAR				pmax	pmax		
	comp=Z,6.0nm,0.7s						
MKAR	**Makanchi Array**	43.31	300	P	P	01 30 18.2	-0.3
	comp=Z,5.8nm,0.7s,mb4.4,baz=85,slow=9.7,SNR=33						
KURK	**Kurchatov**	44.94	307	*e*P	P	01 30 30.0	-1.5
	comp=Z,7.5nm,0.9s,mb4.4						
KURK	**Kurchatov**	44.94	307	*e*P	P	01 30 30.0	-1.5
KURK				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.5						
BRVK	**Borovoye**	49.51	311	P	P	01 31 05.9	-1.0
INK	**Inuvik**	52.58	28	P	P	01 31 30.7	+1.0
INK				pP	pP	01 31 48.8	+0.6
INK	**Inuvik**	52.58	28	P	P	01 31 30.7	+1.0
INK				*PP	pP	01 31 48.8	+0.5
INK				pmax	pmax		
	comp=Z,1.0nm,0.5s						
INK	**Inuvik**	52.58	28	P	P	01 31 30.6	+1.0
	comp=Z,1.2nm,0.5s,mb4.2,baz=314,slow=7.7,SNR=21						
INK				pP	pP	01 31 48.8	+0.5
	comp=Z,0.4nm,0.4s,baz=327,slow=6.9,SNR=2.4						
AKTK	**Aktyubinsk**	57.57	311	P	P	01 32 06.0	+0.1
AKTO	**Aktyubinsk**	57.57	311	P	P	01 32 06.0	+0.1
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.1						
AKTO	**Aktyubinsk**	57.57	311	P	P	01 32 06.0	+0.1
	comp=Z,1.1nm,0.5s,mb4.1,baz=75,slow=14,SNR=6.3						
YKA	**Yellowknife Ar**	62.04	31	P	P	01 32 36.7	+0.4
YKA	**Yellowknife Ar**	62.04	31	P	P	01 32 36.7	+0.4
	comp=Z,0.1nm,0.5s,mb3.1,baz=308,slow=6.5,SNR=5.2						
JOF	**Joensuu**	64.38	332	*e*p	P	01 32 44.3	-7.5
KAF	**Kangasniemi**	66.70	332	*e*p	pP	01 33 23.4	-2.7
	comp=Z,2.3nm,0.6s						
FINES	**FINESS Array B**	67.22	332	P	P	01 33 10.6	+0.5
FINES				*PP	pP	01 33 28.3	-1.1
FINES				pmax	pmax		
	comp=Z,1.0nm,0.8s						
FINES	**FINESS Array B**	67.22	332	P	P	01 33 10.6	+0.5
	comp=Z,1.0nm,0.8s,mb3.7,baz=44,slow=4.2,SNR=3.2						
FINES				pP	pP	01 33 28.3	-1.1
	comp=Z,1.9nm,0.7s,baz=70,slow=8.3,SNR=5.4						
NB2	**NORSAR Subarra**	72.50	337	P	pP	01 34 01.0	-1.0
	comp=Z,1.2nm,0.8s,baz=37,slow=5.9						
NOA	**NORSAR Array B**	72.50	337	P	P	01 33 42.4	-0.1
NOA				*PP	pP	01 34 01.3	-0.7
NOA				pmax	pmax		
	comp=Z,1.0nm,0.9s						
NOA	**NORSAR Array B**	72.50	337	P	P	01 33 42.4	-0.1
	comp=Z,1.0nm,0.9s,mb3.7,baz=162,slow=9.8,SNR=2.6						
NOA				pP	pP	01 34 01.3	-0.7
	comp=Z,1.4nm,0.6s,baz=39,slow=6.0,SNR=4.7						
AKASG	**Malin Array Be**	72.92	322	P	P	01 33 44.5	-0.6
	comp=Z,0.2nm,0.3s,mb3.4,baz=46,slow=6.0,SNR=3.6						
AKASG				pP	pP	01 34 03.5	-1.2
	comp=Z,0.7nm,0.4s,baz=45,slow=5.6,SNR=4.4						
PDAR	**Pinedale Array**	76.16	46	P	P	01 34 05.1	+1.0
	comp=Z,1.0nm,0.6s,mb3.7,baz=277,slow=1.5,SNR=10						
GERES	**GERESS Array B**	81.20	328	pP	pP	01 34 50.3	-1.2
	comp=Z,0.3nm,0.6s,baz=344,slow=4.3,SNR=3.5						
LPAZ	**La Paz**	145.50	57	PKPbc	PKPbc	01 41 54.7	+0.4
LPAZ	**La Paz**	145.50	57	PKP2	PKPab	01 41 54.7	+0.2
LPAZ				pmax	pmax		
	comp=Z,1.0nm,0.7s						
LPAZ	**La Paz**	145.50	57	PKPbc	PKPbc	01 41 54.7	+0.4
	comp=Z,1.4nm,0.7s,baz=349,slow=4.2,SNR=9.9						
SIV	**San Ignacio**	149.64	47	PKPbc	PKPbc	01 42 04.9	-0.7
	comp=Z,0.6nm,0.5s,baz=218,slow=19,SNR=5.5						

CSEM ***10*** *01:23:41.8±2.2,3812N×2007E,h5km,MD3.6,Error ellipse: s-maj=53.7km s-min=21.7km az=43.0*
NEIC ***10*** *01:23:45.0,3817N×2034E,h18km,MD3.6(ATH),After ATH.*

ATH 10 01:23:45.0,3817N×2034E,h18km±4km,MD3.6/5,Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	0.20	88	*e*PB	Pg	01 23 50.1	+0.2
VLS				*e*SB	Sg	01 23 53.7	+0.5
LKD	**Levkas**	0.59	24	*e*P	Pg	01 23 53.0	-3.7
LKD				*e*S	Sg	01 23 59.3	-5.3
RLS	**Riolos of Patr**	0.90	97	*e*PN	Pn	01 24 02.4	-0.3
IGT	**Igoumenitsa**	1.36	360	*e*P	Pn	01 24 07.5	-1.5
IGT				*e*S	Sn	01 24 26.4	-0.2
EVR	**Evrytania**	1.37	57	*e*PN	Pn	01 24 11.6	+2.4
AGG	**Agios Georgios**	1.78	61	*e*P	Pn	01 24 11.8	-3.0
THL	**Klokotos Trika**	1.91	43	*e*PN	Pn	01 24 18.5	+1.9
NEO	**Neokhori**	2.52	62	*e*PN	Pn	01 24 27.5	+2.4

NIED ***10*** *01:23:00,3900N×14170E,h80km,Mw4.1 Best double couple: M0 1.39000×10^15 NP1:ϕs206.00000°,δ58.00000°, λ79.00000°. NP2:ϕs46.00000°,δ34.00000°,λ107.00000°.*
ISCJB ***10*** *01:23:44.4±0.5,3896N±004×14170E±007,h82km±2km, mb4.0/17,Error ellipse: s-maj=9.6km s-min=5.2km az=25.0*
JMA ***10*** *01:23:45.7,3896N×14165E,h74km±1km,M4.1*
JMA Felt III J1.
MOS ***10*** *01:23:45.9±0.8,3914N×14148E,h85km,mb4.0/7,Error ellipse: s-maj=14.8km s-min=9.6km az=98.6*
IDC ***10*** *01:23:46.1±1.2,3916N×14161E,h71km±6km,mb3.8/11, mb1 3.9/14,mb1mx3.8/25,mbtmp3.8/14,Error ellipse: s-maj=29.6km s-min=16.6km az=169.0*
BJI ***10*** *01:23:47.9,3879N×14155E,h119km,mB4.6,mb4.5*
NEIC ***10*** *01:23:48.7±0.8,3893N×14148E,h107km±7km,mb4.5/3, MW4.0(NIED),Error ellipse: s-maj=11.8km s-min=7.1km az=133.0*

ISC 10 01:23:45.5±0.5,3896N±004×14168E±007,h76km±3km,
h70km±2.6km:pP-P,n65,σ0s83/70,mb4.0/17,8C-1D,Near
east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	0.12	354	⇑P	Pn	01 23 56.5	0.0
OFUJ				S	Sn	01 24 04.2	-0.5
JMK	**Ichinoseki**	0.36	268	⇑P	Pn	01 23 57.4	-0.3
JMK				S	Sn	01 24 06.1	-0.7
JIO	**Ouri**	0.57	207	⇑P	Pn	01 23 59.3	-0.2
JIO				S	Sn	01 24 09.1	-0.8
JOM	**Ohasama**	0.59	329	⇑P	Pn	01 23 59.7	0.0
JOM				S	Sn	01 24 09.9	-0.4
JOU	**Okura**	1.00	234	⇑P	Pn	01 24 04.2	0.0
JOU				S	Sn	01 24 18.0	-0.2
JYK	**Kaneyama**	1.03	268	⇑P	Pn	01 24 04.7	0.0
JYK				S	Sn	01 24 19.2	+0.1
JMM	**Marumori**	1.30	213	P	Pn	01 24 07.8	-0.2
JMM				S	Sn	01 24 24.1	-0.9
JANG	**Nango**	1.42	355	P	Pn	01 24 09.3	-0.2
JANG				S	Sn	01 24 28.0	+0.4
JAH	**Hinai**	1.47	327	⇓P	Pn	01 24 10.7	+0.5
JAH				*e*S	Sn	01 24 29.7	+0.8
JYS	**Shiratake**	1.47	240	⇑P	Pn	01 24 10.5	+0.3
JYS				S	Sn	01 24 29.2	+0.3
JYA	**Atsumi**	1.58	257	P	Pn	01 24 12.0	+0.3
JYA				S	Sn	01 24 31.6	0.0
MAJO	**Matsushiro**	3.66	230	*e*Pn	Pn	01 24 41.4	+1.6
MAT	**Matsushiro**	3.66	230	P	Pn	01 24 41.4	+1.6
MJAR	**Matsushiro Arr**	3.66	230	P	Pn	01 24 42.0	+2.2
MJAR				pmax	pmax		
	comp=Z,3.0nm,0.3s						
MJAR	**Matsushiro Arr**	3.66	230	P	Pn	01 24 42.0	+2.2
	comp=Z,3.3nm,0.3s,baz=35,slow=12,SNR=5.4						
ASAJ	**Asahikawa**	5.20	7	P	Pn	01 24 59.7	-0.9
ASAJ				pmax	pmax		
	comp=Z,8.0nm,0.3s						
ASAJ	**Asahikawa**	5.20	7	P	Pn	01 24 59.6	-0.9
	comp=Z,7.6nm,0.3s,baz=275,slow=7.1,SNR=6.2						
YSS	**Yuzh-Sakhalins**	8.03	5	Pn	Pn	01 25 43.5	+4.3
MDJ	**Mudanjiang**	10.65	306	P	Pn	01 26 18.6	+3.6
MDJ				AMB	AMB		
	comp=Z,7.0nm,0.7s						
MDJ				AMB	AMB		
	comp=Z,43nm,3.7s						
KSRS	**Korea Array**	10.93	266	P	Pn	01 26 21.3	+2.4
	comp=Z,0.4nm,0.3s,baz=80,slow=14,SNR=4.8						
MA2	**Magadan**	21.43	13	P	P	01 28 28.1	+1.1
NACB	**Ninganchiao**	22.52	235	P	P	01 28 37.7	-1.1
YAK	**Yakutsk**	24.24	346	*e*P	P	01 28 54.2	-0.7
BOD	**Bodaibo**	26.04	326	*e*P	P	01 29 10.5	-0.7
BOD				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.0						
ULN	**Ulaanbaatar**	26.50	301	*e*P	P	01 29 14.7	-0.8
	comp=Z,1.1nm,0.6s,mb3.5						
ULN	**Ulaanbaatar**	26.50	301	*e*P	P	01 29 14.7	-0.8
ULN				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.4						
SONM	**Songino Array**	26.93	301	P	P	01 29 19.2	-0.2
SONM				pmax	pmax		
	comp=Z,1.0nm,0.5s						
SONM	**Songino Array**	26.93	301	P	P	01 29 19.2	-0.2
	comp=Z,0.9nm,0.5s,mb3.5,baz=105,slow=8.5,SNR=5.9						
TLY	**Talaya**	29.27	308	P	P	01 29 40.3	+0.2
ZAK	**Zakamensk**	29.28	306	*e*P	P	01 29 39.8	-0.5
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.0s,mb3.7						
GYA	**Guiyang**	31.80	257	⇑*i*P	P	01 30 02.1	-0.6
GYA				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.5						
BILL	**Bilibino**	32.12	17	P	P	01 30 06.1	+1.0
BILL	**Bilibino**	32.12	17	P	P	01 30 06.1	+1.0
ZALV	**Zalesovo Beam**	40.80	311	P	P	01 31 18.6	-0.5
	comp=Z,9.6nm,0.4s,mb4.9,baz=86,slow=8.0,SNR=29						
ZAL	**Zalesovo**	40.81	311	P	P	01 31 18.6	-0.5
NVS	**Novosibirsk**	41.69	312	*e*P	P	01 31 26.3	0.0
LSA	**Lhasa**	42.28	273	*e*P	P	01 31 30.1	-1.3
	comp=Z,4.7nm,0.3s,mb4.7						
LSA	**Lhasa**	42.28	273	*e*P	P	01 31 30.1	-1.4
LSA				pmax	pmax		
	comp=Z,5.0nm,0.3s,mb4.7						
MKAR	**Makanchi Array**	43.30	300	P	P	01 31 39.0	-0.5
MKAR				pmax	pmax		
	comp=Z,10.0nm,0.7s						
MKAR	**Makanchi Array**	43.30	300	P	P	01 31 39.0	-0.5
	comp=Z,9.5nm,0.7s,mb4.7,baz=85,slow=9.9,SNR=33						
KURK	**Kurchatov**	44.93	307	*e*P	P	01 31 51.8	-0.7
	comp=Z,6.3nm,0.6s,mb4.5						
KURK	**Kurchatov**	44.93	307	*e*P	P	01 31 51.8	-0.7
KURK				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.5						
INK	**Inuvik**	52.58	28	P	P	01 32 51.4	+0.7
INK	**Inuvik**	52.58	28	P	P	01 32 51.4	+0.6
INK				pmax	pmax		
	comp=Z,1.0nm,0.5s						
INK	**Inuvik**	52.58	28	P	P	01 32 51.4	+0.7
	comp=Z,1.3nm,0.5s,mb4.2,baz=303,slow=8.8,SNR=12						
AKTK	**Aktyubinsk**	57.56	311	P	P	01 33 26.5	-0.4
AKTO	**Aktyubinsk**	57.56	311	P	P	01 33 26.5	-0.4
AKTO				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.3						
AKTO	**Aktyubinsk**	57.56	311	P	P	01 33 26.5	-0.4
	comp=Z,2.1nm,0.6s,mb4.3,baz=75,slow=13,SNR=6.8						
YKA	**Yellowknife Ar**	62.04	31	P	P	01 33 56.7	-0.7
YKA	**Yellowknife Ar**	62.04	31	P	P	01 33 56.7	-0.7
	comp=Z,0.4nm,0.8s,mb3.5,baz=299,slow=6.4,SNR=4.8						
JOF	**Joensuu**	64.37	332	*e*p	P	01 34 11.7	-1.1
KAF	**Kangasniemi**	66.70	332	*e*p	pP	01 34 45.1	-2.6
	comp=Z,1.3nm,0.4s						
FINES	**FINESS Array B**	67.21	332	P	P	01 34 31.0	-0.1
FINES				*PP	pP	01 34 49.5	-1.5
FINES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
FINES	**FINESS Array B**	67.21	332	P	P	01 34 31.0	-0.1
	comp=Z,1.1nm,0.7s,mb3.8,baz=39,slow=9.0,SNR=3.6						
FINES				pP	pP	01 34 49.5	-1.5
	comp=Z,1.9nm,0.6s,baz=52,slow=7.5,SNR=5.7						
NB2	**NORSAR Subarra**	72.50	337	P	pP	01 35 22.4	-1.2
	comp=Z,1.2nm,0.6s,baz=37,slow=6.2						
NOA	**NORSAR Array B**	72.50	337	P	P	01 35 05.2	+1.7
NOA				*PP	pP	01 35 22.7	-0.9
NOA				pmax	pmax		
	comp=Z,1.0nm,0.9s						
NOA	**NORSAR Array B**	72.50	337	P	P	01 35 05.2	+1.7
	comp=Z,0.9nm,0.9s,mb3.6,baz=38,slow=7.2,SNR=2.5						
NOA				pP	pP	01 35 22.7	-0.9
	comp=Z,2.0nm,0.6s,baz=38,slow=6.0,SNR=5.2						
AKASG	**Malin Array Be**	72.91	322	P	P	01 35 05.7	-0.4
AKASG				*PP	pP	01 35 24.9	-1.4
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.5s						
AKASG	**Malin Array Be**	72.91	322	P	P	01 35 05.7	-0.5
	comp=Z,0.9nm,0.5s,mb3.8,baz=45,slow=6.5,SNR=5.5						
AKASG				pP	pP	01 35 24.9	-1.4
	comp=Z,0.9nm,0.4s,baz=45,slow=5.7,SNR=6.8						
NVAR	**Mina Array Bea**	73.67	54	P	P	01 35 11.9	+1.1
	comp=Z,0.3nm,0.3s,mb3.5,baz=297,slow=6.5,SNR=4.7						
PDAR	**Pinedale Array**	76.17	46	P	P	01 35 26.2	+1.1
	comp=Z,1.2nm,0.6s,mb3.8,baz=270,slow=2.3,SNR=11						
STHS	**Stebnicka Huta**	77.51	325	*e*P	pP	01 35 52.9	0.0
LPAZ	**La Paz**	145.50	57	PKP2	PKPab	01 43 16.5	+0.9
LPAZ				pmax	pmax		
	comp=Z,3.0nm,0.9s						
LPAZ	**La Paz**	145.50	57	PKPbc	PKPbc	01 43 16.4	+1.2
	comp=Z,2.6nm,0.9s,baz=341,slow=4.5,SNR=10						
SIV	**San Ignacio**	149.65	47	PKPbc	PKPbc	01 43 27.2	+0.6
	comp=Z,0.7nm,0.5s,baz=296,slow=2.8,SNR=4.6						

IDC ***10*** *01:27:05.7±0.6,350S×13537E,h0km,mb4.3/11, mb1 4.6/15,mb1mx4.5/18,mbtmp4.5/15,ML4.8/4,MS3.8/2, Ms1 3.8/2,ms1mx3.2/13,Error ellipse: s

LSA	Lhasa	53.70	311	eP	P	01 36 32.1	+2.4
	comp=Z,8.7nm,0.8s,mb4.7						
GTA	Gaotai	53.84	326	eP	P	01 36 32.3	+1.7
GTA				AMB	AMB		
	comp=Z,9.0nm,0.6s,mb4.9						
JIRN	Jiri	56.62	306	eP	P	01 36 46.7	-4.1
ULN	Ulaanbaatar	56.90	338	eP	P	01 36 52.0	-0.4
	comp=Z,8.1nm,1.1s,mb4.7						
SONM	Songino Array	57.13	337	P	P	01 36 54.8	+0.7
	comp=Z,1.2nm,0.7s,mb4.0,baz=152,slow=8.7,SNR=9.3						
SONM				PcP	PcP	01 37 48.9	+0.1
	comp=Z,0.9nm,0.7s,baz=155,slow=3.0,SNR=3.7						
KKN	Kakani	57.40	306	eP	P	01 36 54.8	-1.6
	comp=Z,33nm,0.8s,mb5.4						
GKN	Gorkha	58.01	306	eP	P	01 37 01.7	+1.0
	comp=Z,39nm,0.8s,mb5.5						
KOLN	Koldanda	58.75	305	eP	P	01 37 07.3	+1.4
	comp=Z,34nm,0.9s,mb5.4						
TLY	Talaya	61.30	338	eP	P	01 37 23.0	+0.2
	comp=Z,2.9nm,0.4s,mb4.8						
MKAR	Makanchi Array	68.46	324	P	P	01 38 10.6	+0.9
	comp=Z,3.4nm,0.5s,mb4.7,baz=110,slow=8.2,SNR=44						
TKM2	Tokmak 2	70.90	318	eP	P	01 38 25.7	+0.9
	comp=Z,2.8nm,0.3s,mb4.7						
ZAA0	Zalesovo Array	71.03	331	eP	P	01 38 24.5	-0.8
ZAA0				e		01 38 39.4	
ZALV	Zalesovo Beam	71.03	331	P	P	01 38 24.6	-0.6
	comp=Z,1.9nm,0.6s,mb4.2,baz=111,slow=5.9,SNR=12						
UCH	Uchtor	71.35	317	eP	P	01 38 29.4	+1.8
	comp=Z,2.2nm,0.7s,mb4.2						
AML	Almayashu	71.88	316	eP	P	01 38 32.0	+1.3
	comp=Z,175nm,0.8s						
EKS2	Erkin-Say	72.03	317	eP	P	01 38 32.9	+1.3
	comp=Z,3.2nm,0.8s,mb4.3						
KURK	Kurchatov	72.53	326	eP	P	01 38 33.3	-1.1
	comp=Z,7.5nm,1.0s,mb4.6						
VNDA	Vanda	75.25	174	P	P	01 38 49.6	-0.3
	comp=Z,0.6nm,0.7s,mb3.6,baz=310,slow=8.1,SNR=3.9						
BRVK	Borovoye	78.19	326	eP	P	01 39 07.2	+0.3
	comp=Z,4.7nm,0.8s,mb4.5						
BRVK				e		01 39 21.0	
AKTK	Aktyubinsk	84.70	321	P	P	01 39 40.8	-0.7
AKTO	Aktyubinsk	84.70	321	P	P	01 39 40.8	-0.7
	comp=Z,2.7nm,0.9s,mb4.4,baz=81,slow=6.7,SNR=10						
ARU	Arti	85.69	327	P	P	01 39 45.2	-1.1
QSPA	South Pole Qui	86.39	180	eP	P	01 39 49.7	+0.3
	comp=Z,2.2nm,0.4s,mb4.7						
QSPA				e		01 40 03.0	
MCK	McKinley	86.88	26	eP	P	01 39 50.7	-1.3
COLA	College	87.61	25	P	P	01 39 55.3	-0.2
INK	Inuvik	93.70	22	P	P	01 40 22.1	-1.7
	comp=Z,0.4nm,0.6s,mb4.0,baz=276,slow=5.7,SNR=3.7						
ARCES	ARCESS Array B	100.20	340	P	Pdif	01 40 51.7	-1.8
ARCES	ARCESS Array B	100.20	340	P	Pdif	01 40 51.7	-1.8
	comp=Z,2.7nm,0.6s,baz=92,slow=4.6,SNR=21						
TXAR	Lajitas Array	118.59	59	PKP	PKPdf	01 45 55.5	-0.7
TXAR	Lajitas Array	118.59	59	PKP	PKPdf	01 45 55.5	-0.7
	comp=Z,0.2nm,0.6s,baz=294,slow=1.2,SNR=4.0						
TORD	Torodi Ar. Bea	133.26	285	PKP	PKPdf	01 46 23.9	-0.7
	comp=Z,1.0nm,0.8s,baz=83,slow=2.3,SNR=6.8						
CFAA	Coronel Fontan	138.43	149	PKP	PKPdf	01 46 32.2	-1.6
	comp=Z,0.5nm,1.0s,baz=115,slow=2.6,SNR=4.6						
DBIC	Dimbokro	140.27	276	PKhKP		01 46 28.6	
	comp=Z,0.8nm,0.5s,baz=21,slow=3.3,SNR=4.4						
LPAZ	La Paz	149.52	131	PKPbc	PKPbc	01 46 60.0	+2.0
	comp=Z,8.4nm,1.1s,baz=251,slow=2.0,SNR=18						
ROSC	El Rosal	150.36	86	PKPbc	PKPbc	01 47 00.5	+0.4
	comp=Z,9.4nm,0.6s,baz=284,slow=18,SNR=5.6						
SIV	San Ignacio	154.66	140	PKPbc	PKPbc	01 47 10.1	+0.4
	comp=Z,1.2nm,0.8s,baz=209,slow=0.8,SNR=5.8						
SIV				PKPab	PKPab	01 47 23.1	-1.1
	comp=Z,1.2nm,0.7s,baz=112,slow=1.7,SNR=4.1						

*CSEM **10** 01:32:11.7±0.2, 38.49N×21.75E, h20km, ML2.9, Error ellipse: s-maj=4.1km s-min=3.6km az=127.0*
*THE **10** 01:32:13.1, 38.62N×21.66E, h3km, ML2.9*
ATH 10 01:32:07.0, 38.70N×21.29E, h43km, MD3.3/3, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EVR	Evrytania	0.46	62	eP	Pn	01 32 18.9	+1.6
EVR				eS	Sn	01 32 25.7	+1.1
LKD	Levkas	0.50	271	ePg	Pn	01 32 28.6	+11
LKD				eSg	Sn	01 32 40.0	+14
RLS	Riolos of Patr	0.66	168	eP	Pn	01 32 20.8	+0.9
AGG	Agios Georgios	0.87	68	ePg	Pn	01 32 25.0	+2.1
AGG				eSg	Sn	01 32 35.9	+1.6
THL	Klokotos Trika	1.03	33	eP	Pn	01 32 26.0	+1.0
MEV	Metsovon	1.08	358	ePg	Pn	01 32 36.0	+10
IGT	Igoumenitsa	1.12	318	ePg	Pn	01 32 38.3	+12
IGT				eSg	Sn	01 32 58.3	+18

IDC 10 01:36:50.3±4.8, 1288S×1267W, h0km, mb3.8/4, mb1 3.9/4, mb1mx3.6/18, mbtmp3.9/4, MS4.0/16, Ms1 4.0/16, ms1mx3.9/21, Error ellipse: s-maj=322.0km s-min=86.6km az=121.0, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DBIC	Dimbokro	20.91	22	P	P	01 41 35.0	+0.4
	5.8nm,0.9s,baz=191,slow=13,SNR=5.9						
DBIC				LR	LR	01 47 36.9	
	comp=Z,474nm,19.1s,baz=184,slow=31						
TORD	Torodi Ar. Bea	29.52	29	P	P	01 42 56.1	-0.5
	1.2nm,0.8s,baz=214,slow=9.8,SNR=9.8						
TORD				LR	LR	01 53 04.2	
	comp=Z,370nm,18.4s,baz=225,slow=33						
TSUM	Tsumeb	29.71	106	LR	LR	01 53 20.9	
	comp=Z,298nm,19.4s,baz=287,slow=33						
KMBO	Kilima Mbogo	50.79	81	LR	LR	02 06 55.2	
	comp=Z,97nm,18.7s,baz=89,slow=36						
KEST	Kesra	52.64	23	P	P	01 46 06.5	+0.2
	1.4nm,1.0s,baz=185,slow=3.4,SNR=3.4						
KEST				LR	LR	02 08 59.9	
	comp=Z,99nm,18.1s,baz=345,slow=37						
ESDC	Sonseca Array	52.91	8	LR	LR	02 07 08.8	
	comp=Z,66nm,20.6s,baz=150,slow=34						
PLCA	Paso Flores	57.46	230	LR	LR	02 07 02.2	
	comp=Z,103nm,18.1s,baz=115,slow=32						
ROSC	El Rosal	63.73	282	LR	LR	02 14 14.7	
	comp=Z,139nm,18.8s,baz=131,slow=35						
GERES	GERESS Array B	65.74	19	LR	LR	02 15 00.1	
	comp=Z,158nm,21.9s,baz=32,slow=35						
MAW	Mawson	72.67	157	LR	LR	02 14 05.8	
	comp=Z,171nm,18.6s,baz=253,slow=31						
AKASG	Malin Array Be	73.10	26	P	P	01 48 22.9	+0.6
	0.3nm,0.4s,baz=226,slow=7.0,SNR=4.2						
AKASG				LR	LR	02 21 33.6	
	comp=Z,103nm,20.7s,baz=285,slow=37						
NOA	NORSAR Array B	76.08	12	LR	LR	02 24 48.4	
	comp=Z,38nm,16.5s,baz=210,slow=38						
FINES	FINESS Array B	80.14	18	P	P	01 49 01.7	-0.3
	2.4nm,1.0s,baz=218,slow=14,SNR=2.9						
FINES				LR	LR	02 23 44.5	
	comp=Z,65nm,21.6s,baz=257,slow=35						
ARCES	ARCESS Array B	86.43	13	LR	LR	02 29 02.5	
	comp=Z,63nm,18.4s,baz=273,slow=36						
VNDA	Vanda	89.71	179	LR	LR	02 24 12.8	
	comp=Z,128nm,18.4s,baz=187,slow=32						
ULM	Lac du Bonnet	95.50	320	LR	LR	02 27 02.4	
	comp=Z,95nm,22.0s,baz=98,slow=32						

*NEIC **10** 02:07:40.7, 69.79N×144.85W, h10km, ML4.1(PMR), ML3.7(AEIC), After AEIC.*
*ISCJB **10** 02:07:41.7±1.3, 69.59N±0.09×144.6W±0.1, h10km, Error ellipse: s-maj=13.1km s-min=6.5km az=169.1*
*PGC **10** 02:07:43.8±0.7, 69.75N×144.76W, h10km, ML3.7/1, 147km east of Prudhoe Bay, Ak Alaska*
ISC 10 02:07:41.6±1.3, 69.79N±0.09×144.8W±0.1, h10km, n19, σ0=82/27, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BM3	Burnt Mountain	2.39	179	P	Pn	02 08 19.9	-0.8
BM3				S	Sn	02 08 50.9	+1.1
COLD	Coldfoot	3.26	220	P	Pn	02 08 32.4	-0.3
COLD				S	Sn	02 09 10.9	-0.5
INK	Inuvik	4.30	105	Pn	Pn	02 08 48.3	+1.4
INK				Sn	Sn	02 09 36.0	-1.1
IMA2	Indian Mountai	5.03	226	eP	Pn	02 08 58.8	+1.9
COLA	College	5.08	195	P	Pn	02 08 57.8	+0.1
IL1	Eielson Array	5.11	190	P	Pn	02 08 58.6	+0.6
IM3	Indian Mountai	5.11	226	P	Pn	02 08 56.9	-1.1
EGAK	Eagle	5.23	163	ePn	Pn	02 08 58.7	-0.9
	40nm,0.6s						
EGAK				eSn	Sn	02 09 55.9	-4.0
DAWY	Dawson	6.13	157	P	Pn	02 09 12.3	+0.4
DAWY				S	Sn	02 10 22.1	+0.1
DAWY	Dawson	6.13	157	Pn	Pn	02 09 12.4	+0.5
DAWY				Sn	Sn	02 10 17.5	-4.5
MCK	McKinley	6.31	197	P	Pn	02 09 13.8	-0.6
MCK				S	Sn	02 10 26.7	+0.3
KTH	Kantishna Hill	6.72	204	P	Pn	02 09 19.9	-0.3
TRF	Thorofare Moun	6.74	202	P	Pn	02 09 19.6	-0.7
PAX	Paxson	6.86	183	P	Pn	02 09 22.4	+0.3
BCA3	Beaver Creek A	6.86	169	P	Pn	02 09 21.9	-0.1
MENT	Mentasta	6.90	176	P	Pn	02 09 22.9	+0.3
HYT	Haines Junctio	9.49	158	Pn	Pn	02 09 59.2	+1.1
WHY	Whitehorse	10.04	151	P	Pn	02 10 05.4	-0.2
WHY	Whitehorse	10.04	151	Pn	Pn	02 10 05.1	-0.6
WHY				Sn	Sn	02 11 51.3	-6.8

*ISCJB **10** 02:15:20.0±1.5, 38.34N±0.04×204E±0.1, h2km±12km, Error ellipse: s-maj=14.9km s-min=6.2km az=162.6*
*ATH **10** 02:15:20.0, 38.28N×203.2E, h5km, MD3.4/5*
*CSEM **10** 02:15:21.8±0.2, 38.35N×204.2E, h2km, MD3.4, Error ellipse: s-maj=5.0km s-min=1.7km az=72.0*
*NEIC **10** 02:15:21.5, 38.32N×204.3E, h5km, MD3.4(ATH), After ATH.*
*THE **10** 02:15:23.4, 38.44N×204.2E, h3km, ML3.1*
ISC 10 02:15:20.9±1.5, 3833N±005×204E±01, h9km±9km, n10, σ0=84/14, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	Valsamata	0.23	131	ePG	Pg	02 15 25.9	+0.4
VLS				eSG	Sg	02 15 29.1	+0.6
LKD	Levkas	0.44	30	ePg	Pg	02 15 29.2	-0.2
LKD				eSg	Sg	02 15 34.8	-0.4
RLS	Riolos of Patr	0.90	107	ePB	Pb	02 15 37.8	-0.9
IGT	Igoumenitsa	1.21	358	ePg	Pg	02 15 43.9	-0.1
IGT				eSg	Sg	02 15 59.9	+0.2
EVR	Evrytania	1.27	62	ePG	Pg	02 15 45.1	-0.1
MEV	Metsovon	1.60	24	ePg	Pg	02 15 50.9	-0.7
AGG	Agios Georgios	1.68	65	ePg	Pg	02 15 52.2	-0.9
THL	Klokotos Trika	1.78	45	ePG	Pg	02 15 54.5	-0.5
THL				eSN	Sg	02 16 20.4	+2.3
NEO	Neokhori	2.43	65	ePN	Pb	02 16 04.3	-0.5
FNA	Florina	2.57	17	ePn	Pn	02 16 04.3	+1.5

*NEIC **10** 02:25:42.9±11.0, 36.82N×71.57E, h35km, mb4.4/1, Error ellipse: s-maj=207.0km s-min=7.9km az=72.0*
*ISCJB **10** 02:25:47.2±1.1, 37.28N±0.06×72.0E±0.1, h187km±19km, Error ellipse: s-maj=19.5km s-min=7.6km az=159.0*
ISC 10 02:25:47.3±1.2, 3724N±006×719E±02, h163km±21km, n10, σ1§10/16, 2C-2D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	Almayashu	5.08	16	⇓ePn	Pn	02 27 03.4	+1.5
	24nm,0.3s						
AML				eSn	Sn	02 27 58.7	-1.6
UCH	Uchtor	5.38	22	ePn	Pn	02 27 08.0	+2.1
	6.3nm,0.5s						
UCH				eSn	Sn	02 28 06.8	-0.7
EKS2	Erkin-Say	5.61	15	ePn	Pn	02 27 10.1	+1.2
	3.8nm,0.5s						
THN	Thein Dam	5.76	145	eP	Pn	02 27 11.7	+0.8
THN				eS	Sn	02 28 15.4	-1.0
KK31	Karatay Array	5.94	351	⇑P	Pn	02 27 12.7	-0.5
	6.7nm,0.3s,baz=176,slow=13,SNR=160						
KK31				⇓S	Sn	02 28 15.9	-4.8
	2.8nm,0.3s,baz=169,slow=26						
KOLN	Koldanda	13.68	130	eP	Pn	02 28 53.9	-0.8
	3.3nm,0.2s						
GKN	Gorkha	14.17	127	eP	Pn	02 29 00.3	-0.4
	6.3nm,0.3s						
GKN				eS	Sn	02 31 29.8	-8.3
DMN	Daman	14.74	127	eP	Pn	02 29 07.6	-0.2
AB31	Akbulak array	14.79	328	⇑P	Pn	02 29 07.2	-1.1
	0.7nm,0.3s						
JIRN	Jiri	15.41	124	eP	Pn	02 29 17.2	+1.1
	4.3nm,0.2s						
JIRN				eS	S	02 31 58.9	-8.8

*CSEM **10** 02:56:06.8, 63.73N×23.30W, h11km, ML3.6, After REY*
REY 10 02:56:06.8, 63.73N×23.30W, h11km, ML3.6, ML3.1, Iceland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGRV	Grindav??k	0.40	70	P	Pg	02 56 14.1	-0.5
IGRV				S	Sg	02 56 19.7	-0.2
IVOG	Vogar	0.47	58	P	Pg	02 56 15.3	-0.7
IVOG				S	Sg	02 56 22.0	-0.2
IKRI	Krysuvik	0.56	74	P	Pg	02 56 16.8	-0.9
IKRI				S	Sg	02 56 24.4	-0.7
IKAS	Kald??rsel	0.70	64	P	Pg	02 56 19.0	-1.4
IKAS				S	Sg	02 56 29.0	-0.6
IVOS	Vogsosar	0.72	79	P	Pg	02 56 19.3	-1.4
IVOS				S	Sg	02 56 29.0	-1.0
ISAN	Sandskeio	0.83	66	P	Pg	02 56 21.0	-1.8
ISAN				S	Sg	02 56 32.6	-1.1
IKUD	Kuludalsa	0.86	46	P	Pg	02 56 21.7	-1.8
IKUD				S	Sg	02 56 33.1	-1.6
IBJA	Bjarnastaoir	0.91	75	P	Pg	02 56 22.5	-1.8
IBJA				S	Sg	02 56 34.3	-1.9
IHEI	Heioarbar	1.03	61	P	Pg	02 56 23.8	-2.7
IHEI				S	Sg	02 56 37.7	-2.1
IKRO	Krokur	1.03	68	P	Pb	02 56 24.2	-2.4
IKRO				S	Sg	02 56 38.4	-1.6
ISOL	Solvholt	1.06	78	P	Pb	02 56 24.6	-2.5
ISOL				S	Sb	02 56 38.4	-2.6
IASM	Asmuli	1.20	84	P	Pn	02 56 26.7	-2.7
IASM				S	Sb	02 56 41.9	-2.9
ISAU	Saurbar	1.30	77	P	Pn	02 56 28.7	-2.2
ISAU				S	Sb	02 56 45.4	-2.5
IASB	`sbjarnarst	1.34	39	P	Pn	02 56 29.3	-2.1
IASB				S	Sb	02 56 47.0	-2.0
IGYG	Gygjarholskot	1.47	66	P	Pn	02 56 31.2	-1.9
IGYG				S	Sn	02 56 50.6	-1.7
IHAU	Haukadalur	1.50	79	P	Pn	02 56 31.5	-2.0
IHAU				S	Sn	02 56 50.9	-2.1
IMID	Miomork	1.52	91	S	Sn	02 56 51.5	-2.1
IESK	Eystri-Skogar	1.73	95	S	Sn	02 56 57.4	-1.3
IVAT	Vatnsfell	1.99	75	S	Sn	02 57 04.4	-0.7
IHVE	Hveravellir	1.99	53	S	Sn	02 57 04.5	-0.7

*CSEM **10** 02:56:29.5±0.6, 37.16N×24.56W, h0km, ML3.4, Error ellipse: s-maj=4.0km s-min=2.5km az=95.0, After PDA*
*PDA **10** 02:56:29.5±0.6, 37.16N×24.56W, h0km, MD3.9, ML3.4, Error ellipse: s-maj=4.0km s-min=2.5km az=95.0*
SVSA 10 02:56:29.5±0.6, 3716N×2456W, h0km, MD3.9, ML3.4, Error ellipse: s-maj=4.0km s-min=2.5km az=95.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSMN	Pico do Norte,	0.43	249	eP	Pg	02 56 37.6	-0.2
PSMN				eS	Sg	02 56 43.5	+0.1
PDA	Ponta Delgada	1.06	304	eP	Pg	02 56 46.5	-3.3
PDA				eS	Sg	02 56 59.6	-3.9
PSCM	Serra do Cume	2.54	308	eP	Pn	02 57 07.1	-4.9
PSCM				eS	Sn	02 57 35.7	-8.0
PSCM				A		02 57 39.5	
	144nm,0.4s						
PSCM	Serra do Cume	2.54	308	eP	Pn	02 57 07.1	-4.9
PSCM				eS	Sn	02 57 35.7	-8.0
ADH	Angra Heroismo	2.59	306	eP	Pn	02 57 07.9	-4.8
ADH				eS	Sn	02 57 36.7	-8.2
PID	Ribeirinha	3.10	296	eP	Pn	02 57 15.3	-4.3
PID				eS	Sn	02 57 49.2	-8.2
PMAN	Manadas	3.16	299	eP	Pn	02 57 15.9	-4.5
PMAN				eS	Sn	02 57 51.1	-7.7
PMAN				A		02 57 54.4	
	26nm,0.3s						
PMAN	Manadas	3.16	299	eP	Pn	02 57 15.9	-4.5
PMAN				eS	Sn	02 57 51.1	-7.7
ROSA	Rosais	3.30	299	eP	Pn	02 57 18.0	-4.4
ROSA				eS	Sn	02 57 53.8	-8.6
PICO	Pico	3.34	295	eP	Pn	02 57 18.4	-4.6
PICO				eS	Sn	02 57 55.0	-8.4
CALA	Caldeira	3.57	295	eP	Pn	02 57 21.5	-4.7
CALA				eS	Sn	02 58 00.8	-8.3

*ISCJB **10** 03:15:50.5±0.2, 41.24N±0.02×25.46E±0.02, h2km, Error ellipse: s-maj=2.6km s-min=2.2km az=22.6*
*CSEM **10** 03:15:50.9±0.1, 41.27N×25.48E, h2km, MD3.0, Error ellipse: s-maj=1.4km s-min=1.1km az=20.0*
*THE **10** 03:15:50.9, 41.26N×25.52E, h3km, ML4.0*
*SOF **10** 03:15:50.4, 41.25N×25.58E, h10km, MD3.0*
*NEIC **10** 03:15:53.0, 41.12N×25.49E, h10km, ML3.9(ATH), After ATH.*
ISC 10 03:15:51.2±0.4, 4124N±002×2545E±002, h2km±3km, n58, σ0=96/80, 2C-3D, Greece-Bulgaria border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RDO	Rodhopi	0.11	145	P	Pg	03 15 54.1	+0.8
KDZ	Kurdzhali	0.41	356	i P	Pg	03 15 59.3	+0.2
ALN	Alexandroupoli	0.56	127	ePg	Pg	03 16 01.7	-0.2
ALN				eSg	Sg	03 16 09.0	-0.3
RZN	Rozhen	0.71	309	i P	Pg	03 16 05.9	+1.0
ENEZ	Enez	0.73	133	ePG	Pg	03 16 05.1	-0.1
ENEZ				eSG	Sg	03 16 14.1	-0.4
DIM	Dimitrovgrad	0.81	4	i P	Pg	03 16 06.3	-0.5
PLD	Plovdiv	1.03	327	ePg	Pg	03 16 10.4	-0.6
PLD				eSg	Sg	03 16 25.3	+0.9
PLD	Plovdiv	1.03	327	i P	Pg	03 16 11.7	+0.7
PLD				eSg	Sg	03 16 25.3	+0.9
GADA	Gvkgeada	1.10	162	ePG	Pg	03 16 12.8	+0.5
GADA				eSG	Sg	03 16 27.3	+0.8
NVR	Nevrokopi	1.20	276	P	Pg	03 16 14.9	+0.6
LPK	Lapseki	1.31	131	ePN	Pn	03 16 16.1	-0.5
LOS	Limnos	1.33	192	ePg	Pg	03 16 15.2	-1.4
LOS				eSg	Sg	03 16 34.6	+0.7
LOS	Limnos	1.33	192	ePg	Pg	03 16 15.2	-1.5
LOS				eSg	Sg	03 16 34.7	+0.8
MMB	Musomiste	1.34	286	i P	Pg	03 16 17.3	+0.4
SART	Tekirdag	1.42	112	i P	Pn	03 16 16.9	-1.0
OUR	Ouranopolis	1.44	232	ePg	Pg	03 16 17.6	-1.1
OUR				eSg	Sg	03 16 38.0	+0.7
MFT	Murefte	1.46	107	ePN	Pn	03 16 18.0	-0.5
BOZC	Bozcaada	1.47	162	i P	Pn	03 16 17.7	-1.0
JMB	Yambol	1.49	34	ePg	Pn	03 16 16.9	-2.1
JMB				eSg	Sn	03 16 37.2	-1.8
JMB	Yambol	1.49	34	i P	Pn	03 16 17.3	-1.7
JMB				eSg	Sn	03 16 37.2	-1.9
EZN	Ezine	1.56	154	ePN	Pn	03 16 20.7	+0.8
SOH	Sokhos	1.64	256	ePb	Pb	03 16 20.7	-1.5
SOH				eSb	Sb	03 16 43.1	-0.2
PLG	Polygyros	1.75	241	ePb	Pb	03 16 22.1	-1.9
PLG				eSb	Sb	03 16 46.7	+0.2
PLG	Polygyros	1.75	241	P	Pn	03 16 23.3	+0.7
PLG				eSb	Sb	03 16 46.7	+0.3
KKB	Krupnik	1.89	290	i P	Pg	03 16 26.9	-0.4
HORT	Hortiatis	1.89	251	ePb	Pn	03 16 24.4	-0.1
HORT				eSb	Sb	03 16 49.4	-1.2
KNT	Kendrikon	1.93	269	ePb	Pn	03 16 25.0	0.0
KNT				eSb	Sb	03 16 50.8	-0.8
THE	Thessaloniki	1.98	253	ePn	Pn	03 16 25.3	-0.4
THE				eSn	Sn	03 16 51.8	+0.8
EDC	Edincik	2.04	115	ePN	Pn	03 16 27.3	+0.9
SZH	Strazhica	2.06	10	i P	Pg	03 16 29.8	-0.9
BNT	Bandirma	2.07	114	ePN	Pn	03 16 27.4	+0.5
PRK	Paraskevi	2.08	162	P	Pn	03 16 27.5	+0.4
AYVA	Ayvalik	2.15	153	i P	Pg	03 16 32.0	-0.3
AYVA				i S	Sn	03 16 53.2	-2.0
VTS	Vitosha	2.15	310	ePn	Pn	03 16 27.4	-0.7
VTS				eSn	Sn	03 16 55.6	+0.3
VTS	Vitosha	2.15	310	i P	Pb	03 16 32.0	+1.1
VTS	Vitosha	2.15	310	⇑iP	Pb	03 16 32.1	+1.2
VTS				eSn	Sn	03 16 55.6	+0.2
VAY	Valandovo	2.17	273	ePn	Pn	03 16 27.6	-0.8
VAY				eSn	Sn	03 16 56.8	+0.9
CTT	Catalca	2.25	91	ePN	Pn	03 16 30.2	+0.8
ELBA	Catalca	2.25	91	i P	Pn	03 16 27.7	-1.7
AOS	Alonnisos	2.39	211	ePn	Pn	03 16 30.4	-0.9
BALB	Balikesir	2.44	130	ePN	Pn	03 16 33.2	+1.1
BTOK	Tokmak	2.46	126	i P	Pn	03 16 30.8	-1.5
LIT	Litokhoron	2.52	244	ePn	Pn	03 16 33.1	-0.1
LIT				eSn	Sn	03 17 05.8	+1.3
NEO	Neokhori	2.57	222	P	Pn	03 16 33.3	-0.6
ISK	Istanbul-Kandi	2.73	92	ePN	Pn	03 16 37.8	+1.7
CHOS	Chios island	2.88	171	ePn	Pn	03 16 37.6	-0.5
DST	Dursunbey	2.92	123	ePN	Pn	03 16 39.7	+1.0
GEMT	Gemlik	2.95	105	ePN	Pn	03 16 40.5	+1.5
FNA	Florina	3.12	263	ePn	Pn	03 16 40.7	-0.6
PSN	Preselentsi	3.17	39	i P	Pn	03 16 40.9	-1.2
IZI	Iznik	3.18	105	ePN	Pn	03 16 43.6	+1.4
HRT	Hereke	3.22	96	ePN	Pn	03 16 44.0	+1.2
AGG	Agios Georgios	3.26	228	ePn	Pn	03 16 43.1	-0.2
AGG				eSn	Sn	03 17 24.2	+1.6
ADVT	Abdulvahap	3.35	102	ePN	Pn	03 16 45.8	+1.3
MLR	Muntele Rosu	4.27	5	⇓iP	Pn	03 16 58.2	+1.0
PLOR	Plostina	4.69	10	⇑iP	Pn	03 17 04.1	+1.1
VRI	Vrincioaia	4.72	11	⇓iP	Pn	03 17 04.2	+0.8
BZS	Buzias	5.19	329	⇓iP	Pn	03 17 09.3	-0.6

*PRU **10** 03:17:49.4, 38.03N×21.07E, h0km, M4.7*
*BJI **10** 03:17:53.0, 38.29N×21.68E, h9km, mB5.1, mb5.0, Ms5.0, Msz4.7*
*IDC **10** 03:17:55.0±0.5, 38.64N×21.63E, h0km, mb4.8/20, mb1 4.8/30, mb1mx

VLS	Valsamata	0.87	246	P	Pg	03 18 04.3	-9.0
VLS				ePb	Pb	03 18 13.0	-0.9
VLS				eSn	Sn	03 18 26.9	-1.0
VLS	Valsamata	0.87	246	ePN	Pb	03 18 13.0	-0.9
VLS				eSN	Sn	03 18 26.9	-1.0
THL	Klokotos Trika	1.07	18	ePB	Pb	03 18 15.0	-2.4
THL				eSN	Sn	03 18 29.9	-3.1
LKR	Lokris	1.11	84	ePN	Pn	03 18 15.9	-2.5
LKR				eSN	Sn	03 18 31.1	-2.8
LTK	Loutraki	1.20	115	ePg	Pg	03 18 18.3	-1.3
LTK				eSg	Sg	03 18 35.6	+0.5
JAN	Janina	1.25	333	ePn	Pn	03 18 19.3	-1.1
JAN				eSb	Sb	03 18 38.6	+1.8
MEV	Metsovon	1.27	347	ePg	Pg	03 18 19.4	-1.6
VLX	Vlachokerasia	1.32	152	ePg	Pg	03 18 19.9	-2.0
VLX				eSg	Sg	03 18 39.6	+0.4
ITM	Ithomi	1.38	169	ePB	Pb	03 18 21.1	-1.6
IGT	Igoumenitsa	1.39	316	ePg	Pg	03 18 21.7	-1.6
IGT				eSg	Sg	03 18 41.8	+0.4
NEO	Neokhori	1.48	58	ePN	Pn	03 18 22.2	-1.4
PYL	PYLOS	1.65	176	ePb	Pb	03 18 25.6	-1.6
PYL				eSb	Sb	03 18 48.4	+0.4
DID	Didima	1.66	128	ePb	Pb	03 18 26.2	-1.2
DID				eSb	Sb	03 18 47.6	-0.9
LIT	Litokhoron	1.71	24	ePb	Pb	03 18 26.2	-2.0
LIT				eSb	Sb	03 18 49.7	-0.1
ATH	Athens Observa	1.77	108	ePn	Pn	03 18 27.0	-0.4
ATH				eSn	Sn	03 18 50.2	+0.1
KZN	Kozani	1.77	4	ePN	Pn	03 18 27.6	+0.1
KEK	Kerkira	1.82	311	ePN	Pn	03 18 28.5	+0.3
SRN	Sarande	1.82	318	ePN	Pn	03 18 30.4	+2.2
AOS	Alonnisos	1.89	70	ePb	Pb	03 18 28.3	-3.1
VLI	Veliai	2.11	149	ePB	Pb	03 18 31.6	-3.5
PAIG	Paliouri	2.13	49	ePn	Pn	03 18 31.3	-1.2
PAIG				eSn	Sn	03 18 59.6	+0.4
KBN	Korca	2.17	344	ePN	Pn	03 18 36.9	+3.9
KBN				i SN	Sg	03 19 15.3	+9.0
FNA	Florina	2.25	356	ePn	Pn	03 18 33.5	-0.6
FNA				eSn	Sn	03 19 03.0	+1.0
PLG	Polygyros	2.33	37	ePn	Pn	03 18 34.0	-1.1
PLG	Polygyros	2.33	37	ePN	Pn	03 18 33.5	-1.6
THE	Thessaloniki	2.34	26	ePn	Pn	03 18 34.5	-0.9
THE				eSn	Sn	03 19 05.0	+0.6
HORT	Hortiatis	2.36	29	ePn	Pn	03 18 34.7	-1.0
HORT				eSn	Sn	03 19 04.9	+0.1
BIA	Bitola	2.48	355	ePn	Pn	03 18 37.0	-0.3
BIA				eSn	Sn	03 19 09.0	+1.2
BIA	Bitola	2.48	355	ePn	Pn	03 18 39.4	+2.1
GRG	Griva	2.49	14	ePn	Pn	03 18 37.6	+0.2
VLO	Vlora	2.52	321	ePN	Pn	03 18 44.0	+6.2
OUR	Ouranopolis	2.58	45	ePn	Pn	03 18 37.8	-0.8
OHR	Ohrid	2.64	347	ePn	Pn	03 18 38.1	-1.4
OHR	Ohrid	2.64	347	i Pn	Pn	03 18 41.5	+2.0
SOH	Sokhos	2.65	30	ePn	Pn	03 18 39.4	-0.2
SOH				eSn	Sn	03 19 12.2	+0.3
KNT	Kendrikon	2.80	21	ePn	Pn	03 18 42.1	+0.4
KNT				eSn	Sn	03 19 17.0	+1.3
KRUS	Krusevo	2.84	355	i Pn	Pn	03 18 45.5	+3.4
VAY	Valandovo	2.88	15	ePn	Pn	03 18 42.7	0.0
VAY				eSn	Sn	03 19 19.3	+1.8
VAY	Valandovo	2.88	15	i Pn	Pn	03 18 42.8	+0.1
LOS	Limnos	3.04	62	ePn	Pn	03 18 43.9	-1.1
LIA	Limnos Island	3.10	63	P	Pn	03 18 52.2	+6.4
TIR	Tirane	3.10	335	ePN	Pn	03 18 48.3	+2.5
TIR				i SN	Sg	03 19 39.6	+3.4
TIR	Tirane	3.10	335	ePn	Pn	03 18 47.0	+1.2
STIP	Stip	3.18	8	i Pn	Pn	03 18 48.4	+1.5
STIP	Stip	3.18	8	i Pn	Pn	03 18 48.3	+1.4
LCI	Lecce	3.24	305	P	Pn	03 18 47.8	+0.1
QSH	Qafa e Shtames	3.25	337	ePN	Pn	03 18 49.0	+1.2
NVR	Nevrokopi	3.30	31	ePN	Pn	03 18 48.3	-0.3
SKO	Skopje	3.43	358	i Pn	Pn	03 18 52.6	+2.3
APE	Apeiranthos	3.45	114	ePn	Pn	03 18 51.1	+0.5
APE				eSn	Sn	03 19 32.0	+0.4
APE	Apeiranthos	3.45	114	⇑iP	Pn	03 18 51.6	+1.0
APE	Apeiranthos	3.45	114	ePn	Pn	03 18 50.3	-0.3
APE	Apeiranthos	3.45	114	P	Pn	03 18 51.6	+1.0
APE				eSn	Sn	03 19 32.0	+0.4
CHOS	Chios island	3.51	91	ePn	Pn	03 18 51.8	+0.4
BOZC	Bozcaada	3.70	68	i P	Pn	03 18 53.3	-0.7
PRK	Paraskevi	3.72	78	ePN	Pn	03 18 54.3	0.0
GADA	Gvkgeada	3.72	62	eP	Pn	03 18 52.5	-1.9
PUK	Puka	3.73	340	ePN	Pn	03 18 56.8	+2.3
VAM	Vamos	3.76	145	ePN	Pn	03 18 55.7	+0.8
TA1	Taranto	3.82	301	ePn	Pn	03 18 56.8	+1.1
TIP	Timpagrande	3.83	281	P	Pn	03 18 56.4	+0.6
ULC	Ulcinj	3.86	333	⇓iPn	Pn	03 18 56.4	+0.2
ULC				eSn	Sn	03 19 42.9	+1.1
EZN	Ezine	3.90	69	eP	Pn	03 18 56.0	-0.7
URLA	Izmir	3.93	91	i P	Pn	03 18 58.0	+0.8
PE1	Pezze di Greco	3.93	306	ePn	Pn	03 18 57.9	+0.7
AYVA	Ayvalik	4.05	78	⇓iP	Pn	03 19 00.1	+1.2
GRI	Girifalco	4.06	276	P	Pn	03 18 59.6	+0.6
ENEZ	Enez	4.15	57	eP	Pn	03 18 57.7	-2.5
ALN	Alexandroupoli	4.16	54	ePn	Pn	03 18 59.1	-1.3
ALN				eSn	Sn	03 19 50.6	+1.4
GVD	Gavdhos	4.20	151	ePn	Pn	03 19 01.0	+0.1
GVD				eSn	Sn	03 19 52.2	+1.9
SMG	Samos	4.22	100	ePN	Pn	03 19 01.2	0.0
VTS	Vitosha	4.23	16	ePn	Pn	03 19 02.5	+1.2
VTS				eSn	Sn	03 19 51.9	+1.0
VTS	Vitosha	4.23	16	⇓iP	Pn	03 19 03.2	+1.9
PVY	Plav	4.23	344	⇓iPn	Pn	03 19 02.9	+1.5
PVY				eSn	Sn	03 19 52.8	+1.0
TDS	Terranova Siba	4.24	287	P	Pn	03 19 02.7	+1.3
ORI	Oriolo Calabro	4.27	292	P	Pn	03 19 02.2	+0.3
PDG	Podgorica	4.27	336	⇓iPn	Pn	03 19 02.1	+0.2
PDG				eSn	Sn	03 19 52.5	+0.6
TTG	Podgorica	4.27	336	⇓iPn	Pn	03 19 02.1	+0.2
TTG				eSn	Sn	03 19 52.5	+0.6
BARS	Barje	4.28	2	⇓iPn	Pn	03 19 03.7	+1.8
BLCB	Balcova	4.28	90	eP	Pn	03 19 02.0	0.0
BLCB	Balcova	4.28	90	ePn	Pn	03 19 02.6	+0.6
PLD	Plovdiv	4.28	33	ePn	Pn	03 19 01.9	-0.1
PLD				eSn	Sn	03 19 52.6	+0.5
BUM	Brajici-Budva	4.28	332	⇓iPn	Pn	03 19 02.3	+0.3
BUM				eSn	Sn	03 19 52.7	+0.5
SOI	Samo	4.38	266	P	Pn	03 19 03.8	+0.4
LPK	Lapseki	4.40	64	eP	Pn	03 19 03.2	-0.4
SG1	Sgolgore (BA)	4.43	303	ePn	Pn	03 19 03.8	-0.3
BAI	Bari	4.44	307	ePn	Pn	03 19 04.8	+0.3
KDAG	Bornova	4.46	90	i P	Pn	03 19 06.1	+1.7
BEY	Berane	4.51	344	⇓iPn	Pn	03 19 06.2	+1.0
BEY				eSn	Sn	03 19 59.0	+1.1
IVA	Berane	4.51	344	⇓iPn	Pn	03 19 06.2	+1.0
IVA				eSn	Sn	03 19 59.0	+1.1
HCY	Herceg Novi	4.56	330	⇓iPn	Pn	03 19 05.4	-0.4
HCY				eSn	Sn	03 19 59.1	+0.1
NPS	Neapolis	4.59	134	ePN	Pn	03 19 07.2	+0.9
LAST	Lasithi	4.59	136	ePn	Pn	03 19 06.2	-0.1
LAST				eSn	Sn	03 20 00.9	+1.1
SCLL	Scilla	4.63	268	P	Pn	03 19 07.2	+0.4
MTTG	Motta San Giov	4.67	265	P	Pn	03 19 07.6	+0.2
NKY	Niksic	4.70	336	⇓iPn	Pn	03 19 07.9	+0.1
NKY				eSn	Sn	03 20 03.3	+0.8
MSI	Messina ING	4.76	268	P	Pn	03 19 10.5	+1.9
BODT	Bodrum	4.76	106	eP	Pn	03 19 09.3	+0.6
RKY	Sarkoy-Tekirda	4.82	62	eP	Pn	03 19 08.1	-1.3
CDT	Castel del Mon	4.82	303	ePn	Pn	03 19 09.9	+0.5
BDRM	Kayabasi	4.86	106	i P	Pn	03 19 11.3	+1.3
SJES	Sjenica	4.87	346	⇓iPn	Pn	03 19 10.9	+0.8
AKS	Akhisar	4.88	84	eP	Pn	03 19 10.7	+0.5
AKHS	Akhisar	4.88	84	i P	Pn	03 19 14.0	+3.8
MFT	Murefte	4.93	61	eP	Pn	03 19 10.4	-0.5
BRY	Bratogost	4.93	333	⇓iPn	Pn	03 19 10.7	-0.3
BRY				eSn	Sn	03 20 09.2	+1.0
MGR	Morigerati	4.95	291	P	Pn	03 19 12.0	+0.8
BALB	Balikesir	5.01	75	eP	Pn	03 19 12.3	+0.2
MLSB	Milas	5.04	102	eP	Pn	03 19 13.3	+0.8
PLE	Pljevlja	5.07	342	⇓iPn	Pn	03 19 13.7	+0.9
PLE				eSn	Sn	03 20 12.5	+1.0
UPM	Unac-Piva	5.08	337	⇓iPn	Pn	03 19 14.0	+1.0
UPM				eSn	Sn	03 20 12.2	+0.3
DAT	Datca	5.08	109	eP	Pn	03 19 14.3	+1.2
BTOK	Tokmak	5.15	74	⇓iP	Pn	03 19 14.9	+0.9
EDC	Edincik	5.18	68	eP	Pn	03 19 14.1	-0.2
AGST	Augusta-Monte	5.20	258	P	Pn	03 19 12.3	-2.3
MRLC	Muro Lucano	5.21	297	P	Pn	03 19 12.3	-2.4
BNT	Bandirma	5.22	68	eP	Pn	03 19 14.5	-0.4
SGO	Sicignano	5.26	295	P	Pn	03 19 16.8	+1.3
SLNA	Salina	5.30	272	P	Pn	03 19 16.2	+0.2
FG4	Candela	5.34	301	P	Pn	03 19 17.3	+0.7
FGMS	Monte Sant'Ang	5.36	308	P	Pn	03 19 16.7	-0.1
MS1	Monte Sant'Ang	5.36	308	i Pn	Pn	03 19 16.7	-0.2
HAVL	Avola	5.36	255	P	Pn	03 19 15.1	-1.8
KARP	Karpathos	5.36	122	ePN	Pn	03 19 17.7	+0.8
GRUS	Gruza	5.38	353	⇓iPn	Pn	03 19 17.1	-0.1
MSAG	Monte S. Angel	5.38	308	P	Pn	03 19 17.1	-0.1
JMB	Yambol	5.46	43	ePn	Pn	03 19 18.6	+0.4
JMB	Yambol	5.46	43	ePn	Pn	03 19 18.6	+0.4
YER	Yerkesik	5.48	103	eP	Pn	03 19 19.3	+0.8
SGRT	San Giovanni R	5.51	307	P	Pn	03 19 18.7	-0.2
KULA	Kula-Manisa	5.54	88	eP	Pn	03 19 19.6	+0.2
RGNG	Rignano Grg	5.57	306	Pn	Pn	03 19 19.6	-0.1
CSSN	Cassano Irpino	5.57	297	P	Pn	03 19 20.3	+0.6
DST	Dursunbey	5.58	77	eP	Pn	03 19 20.5	+0.6
FG5	Orsara di Pugl	5.58	301	P	Pn	03 19 20.9	+1.0
HVZN	Vizzini	5.61	258	P	Pn	03 19 18.6	-1.7
HMDC	Modica	5.62	256	P	Pn	03 19 18.8	-1.7
DIVS	Divibare	5.68	348	ePn	Pn	03 19 21.4	+0.2
ARG	Arkhangelos	5.70	112	ePn	Pn	03 19 22.6	+1.1
ARG				P		03 19 26.5	
MRB1	Monte Rocchett	5.71	299	P	Pn	03 19 22.9	+1.2
VAE	Valguarnera	5.77	262	Pn	Pn	03 19 23.2	+0.8
	2.4nm,0.3s,baz=292,slow=9.3,SNR=14						
VAE				Sn	Sn	03 20 31.8	+3.0
	7.8nm,0.3s,baz=320,slow=10,SNR=5.2						
ZIMR		5.85	28	P	Pn	03 19 24.8	+1.3
ZIMR		5.85	28	⇓iP	Pn	03 19 25.1	+1.5
PSB1	Pescosannita	5.86	299	P	Pn	03 19 24.8	+1.0
RAFF	Raffo Rosso	5.87	259	P	Pn	03 19 22.5	-1.3
CTT	Catalca	5.87	62	eP	Pn	03 19 23.6	-0.3
ELBA	Catalca	5.87	62	eP	Pn	03 19 24.8	+0.9
FG2	Serracapriola	5.91	306	P	Pn	03 19 24.5	+0.2
DENT	Denizli	5.92	95	eP	Pn	03 19 26.4	+1.9
CSLB	Castelbuono	5.96	267	P	Pn	03 19 26.3	+1.2
GIB	Gibilmanna	5.98	267	P	Pn	03 19 26.9	+1.5
CIGN	Sant'Elia a Pi	6.00	303	P	Pn	03 19 26.4	+0.8
GEMT	Gemlik	6.17	70	eP	Pn	03 19 29.2	+1.2
GDZ	Gediz	6.18	82	i P	Pn	03 19 32.0	+3.8
SGG	Gregorio Mates	6.23	299	P	Pn	03 19 27.5	-1.3
KHL	Karahalli	6.23	90	eP	Pn	03 19 30.1	+1.3
WDD	Wield Dalam	6.24	247	P	Pn	03 19 28.2	-0.8
FETY	Fethiye	6.25	105	eP	Pn	03 19 32.1	+3.1
ISK	Istanbul-Kandi	6.28	64	eP	Pn	03 19 29.2	-0.2
YLV	Yalova	6.34	69	eP	Pn	03 19 31.0	+0.7
MCT	Mte Cammarata	6.34	264	P	Pn	03 19 35.4	+5.0
IZI	Iznik	6.36	71	eP	Pn	03 19 30.6	+0.1
MIDA	Miranda	6.42	301	P	Pn	03 19 32.6	+1.2
GOLH	Golhisar	6.43	99	i P	Pn	03 19 36.1	+4.4
RFI	Roccamonfina	6.46	298	P	Pn	03 19 33.2	+1.2
RNI2	Rionero Sannit	6.52	301	P	Pn	03 19 33.7	+1.0
ADVT	Abdulvahap	6.58	71	eP	Pn	03 19 32.8	-0.7
USI	Ustica	6.59	274	P	Pn	03 19 33.5	-0.2
HRT	Hereke	6.63	67	eP	Pn	03 19 34.6	+0.3
ALT	Altintas	6.67	83	eP	Pn	03 19 35.7	+0.8
VENT	Ventotene	6.69	292	P	Pn	03 19 34.9	-0.3
LTBQ	Tobruq	6.74	163	i P	Pn	03 19 36.3	+0.4
	SNR=23						
LTBQ				eS	Sn	03 20 38.7	-14
	42nm,0.7s,SNR=23						
SDI	San Donato	6.75	300	P	Pn	03 19 36.5	+0.6
AKAS	Kas	6.78	107	eP	Pn	03 19 41.5	+5.1
INTR	Introdacqua	6.82	303	P	Pn	03 19 36.6	-0.3
ELL	Elmali	6.84	103	eP	Pn	03 19 38.5	+1.4
GZR	Gura Zlata	6.90	7	P	Pn	03 19 40.2	+2.2
GZR	Gura Zlata	6.90	7	⇑iP	Pn	03 19 38.8	+0.8
VVLD	Villa Vallelon	6.95	301	Pn	Pn	03 19 40.1	+1.5
GPA	Golpazari	6.97	73	eP	Pn	03 19 39.3	+0.4
SHUT	Suhut-Afyon	7.02	87	eP	Pn	03 19 41.3	+1.6
ISP	Isparta	7.06	93	eP	Pn	03 19 42.1	+1.9
ISP	Isparta	7.06	93	P	Pn	03 19 40.6	+0.5
ISP				P		03 19 45.9	
ISP	Isparta	7.06	93	ePn	Pn	03 19 40.6	+0.5
ISP	Isparta	7.06	93	d iP	Pn	03 19 42.6	+2.4
ISP	Isparta	7.06	93	⇓iP	Pn	03 19 43.0	+2.8
BZS	Buzias	7.07	0	P	Pn	03 19 42.0	+1.7
BZS	Buzias	7.07	0	⇑iP	Pn	03 19 42.0	+1.7
ERC	Erice	7.10	269	P	Pn	03 19 43.5	+2.7
GUAR	Guarcino	7.12	300	P	Pn	03 19 41.5	+0.4
GULT	Gulveren	7.16	72	eP	Pn	03 19 41.6	+0.1
BCK	Bucak	7.18	96	eP	Pn	03 19 42.6	+0.7
ESKT	Eskisehir	7.27	79	eP	Pn	03 19 43.7	+0.5
AQU	L'Aquila	7.32	304	⇑iP	Pn	03 19 44.2	+0.5
TERO	Teramo	7.32	306	P	Pn	03 19 44.1	+0.4
VOIR		7.36	19	⇓iP	Pn	03 19 45.9	+1.7
VOIR		7.36	19	P	Pn	03 19 45.8	+1.6
ANTB	Antalya	7.37	100	eP	Pn	03 19 45.4	+1.0
CERT	Cerreto	7.41	300	P	Pn	03 19 44.7	-0.3
OFFI	Offida	7.44	309	P	Pn	03 19 46.1	+0.8
FIAM	Fiamignano	7.46	303	P	Pn	03 19 47.1	+1.4
LAV9	Lanuvio	7.50	297	P	Pn	03 19 47.3	+1.1
RDP	Rocca di Papa	7.52	298	P	Pn	03 19 46.9	+0.4
MA9	Marino	7.56	298	P	Pn	03 19 48.1	+1.0
MTCE	Montecelio	7.61	300	P	Pn	03 19 48.1	+0.4
MLR	Muntele Rosu	7.66	24	P	Pn	03 19 50.4	+2.0
MLR	Muntele Rosu	7.66	24	⇓iP	Pn	03 19 50.7	+2.3
MLR	Muntele Rosu	7.66	24	Pn	Pn	03 19 48.1	-0.3
	2.8nm,0.3s,baz=211,slow=5.2,SNR=23						
MLR				Lg		03 21 55.1	
	0.6nm,0.3s,baz=188,slow=18,SNR=1.5						
MLR	Muntele Rosu	7.66	24	⇓iP	Pn	03 19 51.8	+3.4
MLR	Muntele Rosu	7.66	24	P	Pn	03 19 50.4	+2.0
LJBD	Adjabya	7.70	189	i P	Pn	03 19 47.1	-1.8
	SNR=22						
NRCA	Norcia	7.74	306	P	Pn	03 19 49.9	+0.4
HARR	Harsova	7.76	36	⇑iP	Pn	03 19 51.7	+1.9
HARR	Harsova	7.76	36	⇑iP	Pn	03 19 51.7	+1.9
MNS	Montasola	7.80	302	P	Pn	03 19 49.8	-0.6
PTS	Pantelleria	7.80	260	P	Pn	03 19 53.0	+2.6
TIRR	Tirgusor	7.82	39	⇓P	Pn	03 19 52.4	+1.8
TIRR	Tirgusor	7.82	39	⇓iP	Pn	03 19 52.4	+1.8
AOI	Ancona	7.84	312	P	Pn	03 19 49.7	-1.2
PKSM	Moragy	7.97	345	P	Pn	03 19 51.8	-0.9
PKSM	Moragy	7.97	345	⇑iP	Pn	03 19 51.2	-1.5
PKSM	Moragy	7.97	345	⇓ePn	Pn	03 19 51.5	-1.2
CING	Cingoli	7.98	310	P	Pn	03 19 51.6	-1.2
KIZT	Kizilcal	8.05	84	eP	Pn	03 19 54.6	+0.8
KDZE	Karadeniz Ereo	8.06	67	eP	Pn	03 19 53.3	-0.6
SNTG	Esanatoglia	8.07	308	P	Pn	03 19 53.4	-0.6
TOLF	Tolfa	8.13	299	P	Pn	03 19 55.4	+0.5
ASS	Assisi	8.15	307	P	Pn	03 19 56.4	+1.3
PLOR	Plostina	8.21	26	⇑iP	Pn	03 19 58.2	+2.2
PLOR	Plostina	8.21	26	P	Pn	03 19 57.9	+1.9
LMSR	Misrath	8.21	223	i P	Pn	03 19 57.4	+1.4
	SNR=22						
CFR	Carcaliu	8.23	34	P	Pn	03 19 56.7	+0.4
VRI	Vrincioaia	8.25	26	P	Pn	03 19 58.4	+1.9
VRI	Vrincioaia	8.25	26	⇑iP	Pn	03 19 58.8	+2.3
VRI	Vrincioaia	8.25	26	P	Pn	03 19 58.4	+1.9
DRGR		8.29	5	P	Pn	03 19 59.2	+2.2
DRGR		8.29	5	⇓iP	Pn	03 19 58.3	+1.3
MURB	Monte Urbino	8.33	307	P	Pn	03 19 58.2	+0.6
BOJS	Bojanci	8.40	328	i Pn	Pn	03 19 57.5	-1.1
BOJS				i Sn	Sn	03 21 32.1	-1.5
FSSB	Fossombrone	8.41	311	P	Pn	03 19 57.7	-1.0
KONT	Konya--Tatoy	8.49	91	eP	Pn	03 20 00.7	+0.9
PESA	Pesaro	8.52	312	P	Pn	03 20 00.0	-0.2
CDCA	Citt' di Caste	8.61	308	P	Pn	03 19 58.9	-2.6
BADI	Badiali	8.63	308	P	Pn	03 20 02.4	+0.7
PKS7	Kunszentmiklos	8.69	349	eP	Pn	03 20 02.9	+0.4
HMAT	Matruh	8.70	147	⇓eP	Pn	03 20 02.8	+0.1
HMAT				S	Sn	03 21 35.5	-5.4
RSM	Repubblica di	8.74	311	P	Pn	03 20 02.7	-0.5
LOD	Lodumlu	8.78	78	eP	Pn	03 20 03.6	-0.2
ANTO	Ankara	8.80	78	eP	Pn	03 20 04.3	+0.3
ANTO	Ankara	8.80	78	ePn	Pn	03 20 05.4	+1.4
	35nm,0.9s						
ANTO	Ankara	8.80	78	⇑iP	Pn	03 20 06.7	+2.7
ANTO	Ankara	8.80	78	Pn	Pn	03 20 09.4	+5.4
	SNR=15						
KOGS	Kog	8.83	335	i Pn	Pn	03 20 02.8	-1.6
MAON	Monte Argentar	8.87	299	P	Pn	03 20 05.6	+0.6
CRE	Caprese Michel	8.87	308	P	Pn	03 20 06.0	+1.0
CEY	Cerknica	8.94	326	i Pn	Pn	03 20 05.0	-1.1
CEY				i Sn	Sn	03 21 46.2	-0.7
CEY	Cerknica	8.94	326	i Pn	Pn	03 20 04.9	-1.1
CEY				i Sn	Sn	03 21 46.2	-0.7
SAFT	Safranbolu	8.94	69	eP	Pn	03 20 05.5	-0.5
SFI	Santa Sofia	9.09	309	P	Pn	03 20 08.1	+0.1
VNDS	Vrh nad Dolski	9.11	328	ePn	Pn	03 20 06.8	-1.5
VNDS				i Sn	Sn	03 21 51.9	+0.9
VNDS	Vrh nad Dolski	9.11	328	ePn	Pn	03 20 06.8	-1.5
BUD	Budapest	9.13	349	P	Pn	03 20 08.8	+0.2
BUD	Budapest	9.13	349	e	Pn	03 20 08.9	+0.3
LJU	Ljubljana	9.14	327	ePn	Pn	03 20 07.2	-1.5
CSNT	Castellina Chi	9.21	306	P	Pn	03 20 10.6	+0.9
VMG	Vicchio	9.30	309	P	Pn	03 20 12.0	+1.1
ELDT	Eldivan	9.35	74	⇑iP	Pn	03 20 13.3	+1.7
PERS	Pernice	9.39	332	ePn	Pn	03 20 12.1	0.0
PERS				i Sn	Sn	03 21 56.3	-1.5
LUJL	Ujela	9.40	182	i P	Pn	03 20 09.5	-2.8
	SNR=22						
VOY	Vojsko	9.41	325	ePn	Pn	03 20 11.0	-1.4
VOY				eSn	Sn	03 21 54.2	-4.1
DGI	Dorgali Grotta	9.44	285	P	Pn	03 20 13.3	+0.4
PSZ	Piszkesteto	9.46	353	P	Pn	03 20 13.2	+0.2
PSZ	Piszkesteto	9.46	353	⇑iP	Pn	03 20 14.4	+1.4
PSZ	Piszkesteto	9.46	353	e	Pn	03 20 13.8	+0.8
PSZ	Piszkesteto	9.46	353	ePn	Pn	03 20 13.8	+0.8
PSZ	Piszkesteto	9.46	353	P	Pn	03 20 14.4	+1.4
SEI	Scarperia	9.47	309	P	Pn	03 20 16.0	+2.8
KAMT	Kaman	9.48	81	eP	Pn	03 20 13.5	+0.2
OBKA	Obir	9.51	329	i Pn	Pn	03 20 12.7	-1.0
	22nm,0.5s,SNR=16						
OBKA				⇑iSn	Sn	03 22 00.0	-0.7
	99nm,1.0s						
CANT	Cankiri	9.51	74	eP	Pn	03 20 13.6	-0.3
BALT	Daday	9.53	68	i P	Pn	03 20 16.6	+2.6
VSL	Villasalto	9.56	280	P	Pn	03 20 15.3	+0.9
GORS	Gorjuse	9.58	327	i Pn	Pn	03 20 12.7	-2.1
TRPA	Tarpa	9.61	4	⇑iP	Pn	03 20 17.3	+2.2
FNVD	Fontana Vidola	9.67	309	P	Pn	03 20 18.2	+2.2
ARSA	Arzberg	9.77	335	⇑iPn	Pn	03 20 16.6	-0.7
	10nm,0.5s,SNR=23						
ARSA				⇓iSn	Sn	03 22 06.1	-1.2
	42nm,1.1s						
SOP	Sopron	9.85	340	P	Pn	03 20 16.0	-2.4
SWA1		9.86	159	⇓eP	Pn	03 20 18.4	-0.3
SWA1				S	Sn	03 22 02.7	-6.9
TOS	Tosya	9.89	71	eP	Pn	03 20 18.2	-0.8
IKL	Isikli	9.89	100	eP	Pn	03 20 19.3	+0.2
ALAS	Alassa	9.91	238	i P	Pn	03 20 24.8	+5.6
	SNR=22						
MAIM		9.93	306	Pn	Pn	03 20 22.0	+2.4
	42nm,0.7s						
KECS	Kecovo	9.97	356	i Pn	Pn	03 20 21.0	+0.9
KECS				e		03 20 31.0	
KECS				eSn	Sn	03 22 16.8	+4.7
KECS	Kecovo	9.97

SIM Simferopol' 11.33 52 eP Pn 03 20 40.3 +1.6
comp=Z,980nm,13.0s
VRAC Vranov 11.35 343 P Pn 03 20 38.5 -0.4
VRAC Vranov 11.35 343 Pn Pn 03 20 38.2 -0.7
comp=Z,0.6nm,0.3s,baz=174,slow=12,SNR=20
VRAC Sn Sn 03 22 48.6 +2.7
comp=Z,0.4nm,0.3s,baz=73,slow=21,SNR=2.3
VRAC Vranov 11.35 343⇑iP Pn 03 20 38.2 -0.7
VRAC Vranov 11.35 343 P Pn 03 20 38.6 -0.3
WTTA Wattenberg 11.36 323⇓iPn Pn 03 20 39.0 -0.2
comp=Z,23nm,0.4s
WTTA Wattenberg 11.36 323⇓iP Pn 03 20 39.0 -0.1
WTTA pmax pmax
comp=Z,23nm,0.4s
CMAH Djebel Manchou 11.41 265 P 03 20 50.0
LVV L'vov 11.41 8 iP Pn 03 20 43.8 +4.1
WATA Walderalm 11.44 323 iPn Pn 03 20 40.3 0.0
comp=Z,43nm,0.5s,SNR=40
WATA Walderalm 11.44 323 iP Pn 03 20 40.3 +0.1
WATA pmax pmax
comp=Z,43nm,0.5s
SQTA Sankt Quirin 11.54 322 iPn Pn 03 20 41.4 -0.1
comp=Z,35nm,0.4s,SNR=40
SQTA Sankt Quirin 11.54 322 iP Pn 03 20 41.4 -0.1
SQTA pmax pmax
comp=Z,35nm,0.4s
OKC Ostrava-Krasne 11.56 349 eP Pn 03 20 41.4 -0.4
OKC AMS AMS 03 25 40.0
comp=Z,4μm,12.1s
OKC Ostrava-Krasne 11.56 349 eP Pn 03 20 41.4 -0.4
comp=Z,4μm,12.1s
MORC Moravsky Berou 11.60 347 P Pn 03 20 42.1 -0.3
MORC Moravsky Berou 11.60 347⇑iP Pn 03 20 41.7 -0.7
MORC Moravsky Berou 11.60 347 P Pn 03 20 42.1 -0.3
HNAT Natroun 11.61 137⇓eP Pn 03 20 42.6 0.0
TREC Trest 11.61 340 eP Pn 03 20 41.7 -0.8
TREC AMS AMS 03 25 40.0
comp=Z,11μm,9.9s
TREC Trest 11.61 340 eP Pn 03 20 41.7 -0.8
comp=Z,11μm,9.9s
FETA Feichten 11.63 320⇑iPn Pn 03 20 41.8 -1.0
comp=Z,38nm,0.6s,SNR=38
FETA ⇓iSn Sn 03 22 52.3 -0.5
comp=Z,78nm,1.2s
ANDN Andirin 11.67 90⇑iP Pn 03 20 46.5 +3.1
MOTA Moosalm 11.67 322 iPn Pn 03 20 42.8 -0.6
comp=Z,102nm,0.7s,SNR=61
MOTA ⇑iSn Sn 03 22 51.6 -2.2
comp=Z,49nm,0.8s
MOTA Moosalm 11.67 322 iP Pn 03 20 42.8 -0.6
MOTA i 03 22 51.7
MOTA pmax pmax
comp=Z,102nm,0.7s
OJC Ojcow 11.75 354 eP Pn 03 20 46.4 +2.0
OJC eS Sn 03 22 57.2 +1.6
OJC L 03 26 05.0
comp=Z,4.4nm,15.4s
OJC Ojcow 11.75 354 eP Pn 03 20 46.4 +2.0
OJC eS Sn 03 22 57.2 +1.6
OJC Ojcow 11.75 354 eP Pn 03 20 46.4 +2.0
comp=Z,4μm,15.4s
GEC2 GERESS Array S 11.77 334 ePn Pn 03 20 44.3 -0.4
GERES GERESS Array B 11.77 334 P Pn 03 20 44.1 -0.6
GERES 03 22 55.2
GERES pmax pmax
comp=Z,1.0nm,0.3s
GERES smax
comp=N,2.0nm,0.3s
GERES GERESS Array B 11.77 334 Pn Pn 03 20 44.1 -0.5
comp=N,1.3nm,0.3s,baz=157,slow=13,SNR=37
GERES Sn Sn 03 22 55.2 -1.0
comp=N,1.5nm,0.3s,baz=151,slow=23,SNR=5.9
COBT Iskenderun 11.82 95⇑iP Pn 03 20 50.5 +5.1
CAEH 'Ain El Ouahch 11.82 266 P Pn 03 20 51.0 +5.6
AYT Al 'Ayyat 11.84 135 ⇑P Pn 03 20 45.8 0.0
SAOF Saorge 11.88 302 eP Pn 03 20 47.2 +1.0
DAVOX Davos/Dischmat 11.91 317 Pn Pn 03 20 46.5 -0.2
comp=N,1.6nm,0.3s,baz=107,slow=15,SNR=21
DAVOX Sn Sn 03 22 59.8 +0.2
comp=N,1.9nm,0.3s,baz=334,slow=18,SNR=4.1
DAVOX LR LR 03 25 32.2
comp=N,891nm,20.2s,baz=116,slow=39
SBF Sospel 11.91 301 eP Pn 03 20 46.9 +0.3
comp=N,98nm,0.9s
SBF Sospel 11.91 301 eP Pn 03 20 46.9 +0.3
SBF pmax pmax
comp=Z,49nm,0.9s
SBF Sospel 11.91 301 eP Pn 03 20 46.9 +0.3
comp=Z,49nm,0.9s
RETA Reutte 11.94 322⇓iPn Pn 03 20 47.0 0.0
comp=Z,42nm,0.9s,SNR=11
RETA ⇓iSn Sn 03 22 58.6 -1.7
comp=Z,81nm,1.0s
AUTN L'Aution 11.97 302 eP Pn 03 20 48.0 +0.6
LUCF Luceram 11.98 301 eP Pn 03 20 49.4 +1.8
TUE Stuetta 12.01 315 P Pn 03 20 47.2 -0.8
CKFL Kef-Lekhel 12.01 264 P Pn 03 20 52.0 +4.0
KHC Kasperske Hory 12.06 334 eP Pn 03 20 47.6 -1.0
KHC e 03 21 06.5
KHC e 03 21 47.0
KHC e 03 22 57.0
KHC Kasperske Hory 12.06 334⇑iP Pn 03 20 45.8 -2.8
KHC Kasperske Hory 12.06 334 eP Pn 03 20 47.6 -1.0
KHC x x 03 21 06.5
KHC x x 03 21 47.0
KHC ex x 03 22 57.0
KHC AMS AMS 03 26 00.0
comp=Z,7μm,12.0s
KOT Kottamia 12.06 132⇑iP Pn 03 20 48.7 0.0
KOT S Sn 03 22 55.5 -7.8
TOUF Mont Tournerai 12.09 301 eP Pn 03 20 50.1 +1.0
MVIF Mont Vial 12.11 301 eP Pn 03 20 49.6 +0.2
HSAF As Saff 12.13 134 ⇓P Pn 03 20 49.8 0.0
FUR Furstenfeldbru 12.19 325 P Pn 03 20 52.3 +1.9
CASM Ain Smara 12.23 264 P Pn 03 20 54.0 +3.0
DAVA Damuels 12.24 319 iPn Pn 03 20 51.6 +0.5
SNR=19
DAVA Damuels 12.24 319 Pn Pn 03 20 51.6 +0.5
comp=Z,19nm,4.0s
CALN Calern 12.24 300 eP Pn 03 20 51.5 +0.4
GLL Jalalah 12.25 134⇑eP Pn 03 20 51.2 -0.1
BHL Bhannes 12.26 108 ePn Pn 03 20 49.1 -2.3
WET Wettzell 12.31 332 ePn Pn 03 20 51.2 -0.9
HWQ Hawqa 12.32 106 ePn Pn 03 20 52.8 +0.6
FRF La Foret Royal 12.34 299 eP Pn 03 20 52.5 0.0
comp=Z,26nm,0.9s
FRF La Foret Royal 12.34 299 eP Pn 03 20 52.5 0.0
FRF pmax pmax
comp=Z,13nm,0.9s
FRF La Foret Royal 12.34 299 eP Pn 03 20 52.5 0.0
comp=Z,13nm,0.9s
CTEI Djebel Teioual 12.35 263 P Pn 03 20 56.0 +3.4
LMR La Mourre 12.37 298 eP Pn 03 20 52.2 -0.7
comp=Z,31nm,0.9s
LMR La Mourre 12.37 298 eP Pn 03 20 52.2 -0.7
LMR pmax pmax
comp=Z,16nm,0.9s
LMR La Mourre 12.37 298 eP Pn 03 20 52.2 -0.7
comp=Z,16nm,0.9s
AMAG Maghara 12.39 126⇓eP Pn 03 20 53.3 +0.1
DPC Dobruska-Polom 12.39 344 eP Pn 03 20 52.7 -0.4
DPC AMS AMS 03 26 20.0
comp=Z,5μm,11.6s
DPC Dobruska-Polom 12.39 344 eP Pn 03 20 52.7 -0.4
comp=Z,5μm,11.6s
UBR Ueberruh 12.39 321 P Pn 03 20 53.6 +0.4
MMAI Mount Meron Ar 12.49 112 Pn Pn 03 20 54.7 0.0
comp=Z,4.0nm,0.3s,baz=315,slow=11,SNR=11
MMAI Sn Sn 03 23 11.9 -2.1
comp=Z,1.3nm,0.3s,baz=286,slow=10,SNR=2.7
PRU Pruhonice 12.50 339 eP Pn 03 20 53.5 -1.2
PRU ex x 03 21 01.0
SURF Saint Ours 12.56 303 eP Pn 03 20 58.3 +2.8
UPC Upice 12.60 343 eP Pn 03 20 55.7 -0.4
PRA Prague 12.61 338 P Pn 03 21 00.0 +3.9
DFRA Djebel Bou Aff 12.63 266 P 03 21 07.0
HFRF Wahat Farafira 12.68 152⇑eP Pn 03 20 56.7 -0.6
MBDF Montbardon 12.69 304 eP Pn 03 20 57.2 0.0
comp=Z,56nm,0.8s
MBDF Montbardon 12.69 304 eP Pn 03 20 57.2 0.0
MBDF pmax pmax
comp=Z,28nm,0.8s
MBDF Montbardon 12.69 304 eP Pn 03 20 57.2 0.0
comp=Z,28nm,0.8s

SUZ 12.71 130⇓eP Pn 03 20 57.5 -0.2
TAVF Tavernes 12.77 298 eP Pn 03 20 58.8 +0.5
KSP Ksiaz 12.86 345 eP Pn 03 20 58.6 -0.9
KSP Ksiaz 12.86 345 eP Pn 03 20 58.4 -1.2
KSP e 03 21 05.1
CMER Merouana 12.87 262 P Pn 03 21 02.0 +2.3
BNI Bardonecchia 12.88 305 ePn Pn 03 21 02.3 +2.4
comp=Z,18nm,0.8s
BNI Bardonecchia 12.88 305 eP Pn 03 21 02.3 +2.4
BNI pmax pmax
comp=Z,18nm,0.8s
BNI Bardonecchia 12.88 305 eP Pn 03 21 02.3 +2.4
comp=Z,18nm,0.8s
ZAF 12.95 132⇓eP Pn 03 21 00.5 -0.5
SISB Singen-Schiene 12.97 319 P Pn 03 21 02.1 +1.0
PVCC Panska Ves 12.98 340 eP Pn 03 20 59.6 -1.6
PVCC AMS AMS 03 26 20.0
comp=Z,9μm,10.5s
PVCC Panska Ves 12.98 340 eP Pn 03 20 59.6 -1.6
comp=Z,9μm,10.5s
HDH Heidenheim-Cha 12.98 324 P Pn 03 21 01.5 +0.3
STOF St-Etienne Org 12.99 300 eP Pn 03 21 02.0 +0.6
LPG La Plagne 13.03 307 eP Pn 03 21 01.9 0.0
comp=Z,72nm,0.8s
LPG La Plagne 13.03 307 eP Pn 03 21 01.9 0.0
LPG pmax pmax
comp=Z,36nm,0.8s
LPG La Plagne 13.03 307 eP Pn 03 21 01.9 0.0
comp=Z,36nm,0.8s
LPL La Plagne 13.05 307 eP Pn 03 21 01.8 -0.4
comp=Z,48nm,0.8s
LPL La Plagne 13.05 307 eP Pn 03 21 01.8 -0.4
LPL pmax pmax
comp=Z,24nm,0.8s
LPL La Plagne 13.05 307 eP Pn 03 21 01.8 -0.4
comp=Z,24nm,0.8s
CKHR Kef el Ahmar 13.05 264 P Pn 03 21 08.0 +5.7
ZNM 13.08 131⇓iP Pn 03 21 02.4 -0.3
VILF Villemus 13.08 299 eP Pn 03 21 03.5 +0.9
SET Setif 13.09 265 P Pn 03 21 10.0 +7.2
GELF Grande-Etoile 13.14 297 eP Pn 03 21 02.4 -1.0
GUT Gutenstein 13.15 320 P Pn 03 21 03.1 -0.4
MALT Malatya 13.21 86 ePn Pn 03 21 08.1 +3.8
comp=Z,58nm,0.8s
MALT Malatya 13.21 86⇑iP Pn 03 21 06.8 +2.4
SMRF Simiane la Rot 13.21 299 eP Pn 03 21 04.0 -0.4
comp=Z,40nm,1.0s
SMRF Simiane la Rot 13.21 299 eP Pn 03 21 04.0 -0.4
comp=Z,20nm,1.0s
ATAB Bozova 13.22 89 eP 03 21 15.3
TREF Trevaresse 13.24 298 eP Pn 03 21 04.7 0.0
BUCH Bad Urach 13.29 322 P Pn 03 21 03.0 -2.4
KIEV Kiev 13.30 21 ePn Pn 03 21 04.7 -0.9
comp=Z,51nm,1.2s
KIEV Kiev 13.30 21 eP Pn 03 21 04.7 -0.8
KIEV pmax pmax
comp=Z,51nm,1.2s
KIEV Kiev 13.30 21 eP Pn 03 21 04.7 -0.8
comp=Z,51nm,1.2s
AKASG Malin Array Be 13.31 22 Pn Pn 03 21 03.7 -2.0
AKASG Sn Sn 03 23 32.5 -1.2
AKASG PcP PcP 03 26 35.0 +0.1
AKASG ScP ScP 03 30 07.6 -1.0
AKASG Malin Array Be 13.31 22 iP Pn 03 21 00.0 -5.7
AKASG pmax pmax
comp=Z,1.0nm,0.4s
AKASG Malin Array Be 13.31 22 Pn Pn 03 21 03.7 -2.0
comp=Z,1.0nm,0.3s,baz=210,slow=13,SNR=14
AKASG Sn Sn 03 23 32.5 -1.2
baz=332,slow=11,SNR=2.0
AKASG PcP PcP 03 26 35.0 +0.1
comp=Z,0.6nm,0.3s,baz=250,slow=1.3,SNR=9.4
AKASG ScP ScP 03 30 07.6 -1.0
comp=Z,0.4nm,0.3s,baz=242,slow=1.2,SNR=12
SPAK Spaichingen-Ko 13.33 320 eP Pn 03 21 04.3 -1.7
ORIF Oris-en-Rattie 13.34 304 eP Pn 03 21 05.4 -0.8
comp=Z,45nm,0.9s
ORIF eMLR MLR
comp=Z,3μm,18.2s
ORIF Oris-en-Rattie 13.34 304 eP Pn 03 21 05.4 -0.8
ORIF pmax pmax
comp=Z,22nm,0.9s
ORIF Oris-en-Rattie 13.34 304 eP Pn 03 21 05.4 -0.8
comp=Z,22nm,0.9s
HNKL Nakhl 13.36 126⇑eP Pn 03 21 06.4 -0.1
NKC Novy Kostel 13.38 334 eP Pn 03 21 07.0 +0.3
NKC AMS AMS 03 26 50.0
comp=Z,6μm,12.4s
NKC Novy Kostel 13.38 334 eP Pn 03 21 07.0 +0.3
comp=Z,6μm,12.4s
ANN Anapa 13.38 57 eP Pn 03 21 15.4 +8.7
ANN pmax pmax
comp=Z,34nm,1.2s
GRFO Grafenberg 13.39 330 ePn Pn 03 21 03.4 -3.4
comp=Z,30nm,0.9s
GRFO Grafenberg 13.39 330 eP Pn 03 21 03.4 -3.4
GRFO pmax pmax
comp=Z,30nm,0.9s
GRFO Grafenberg 13.39 330 ePn Pn 03 21 03.4 -3.4
comp=Z,30nm,0.9s
PRAF Pradon 13.44 298 eP Pn 03 21 06.1 -1.4
BRG Berggiesshubel 13.47 339 eP Pn 03 21 06.2 -1.6
comp=Z,8.8nm,1.6s
BRG i 03 21 38.2
BRG S Sn 03 24 08.0 +30
BRG Berggiesshubel 13.47 339 eP Pn 03 21 06.2 -1.6
BRG pmax pmax
comp=Z,9.0nm,1.6s
BRG MLR MLR
comp=N,3μm,10.2s
BRG MLR MLR
comp=E,3μm,13.4s
BRG MLR MLR
comp=Z,5μm,10.6s
BRG Berggiesshubel 13.47 339 eP Pn 03 21 06.2 -1.6
comp=Z,15nm,1.6s
BRG i 03 21 38.2
comp=Z,23nm,1.1s
BRG S Sn 03 24 08.0 +30
BRG
comp=N,5μm,10.2s
BRG
comp=E,6μm,13.4s
BRG
comp=Z,8μm,10.6s
TANN Tannenbergstha 13.53 334 ePn Pn 03 21 09.6 +0.9
STU Stuttgart 13.59 323 P Pn 03 21 06.5 -3.0
STU ePn Pn 03 21 09.7 +0.2
STU Stuttgart 13.59 323 ePn Pn 03 21 09.7 +0.2
FELD Feldberg im Sc 13.59 318 eP Pn 03 21 08.7 -0.9
LUMB Murzuk 13.64 207 iP Pn 03 21 06.8 -3.6
SNR=22
KIZ Kirchzarten 13.69 318 P Pn 03 21 11.7 +0.8
LBG Lerchenberg 13.71 322 P Pn 03 21 10.4 -0.7
WAR Warsaw 13.71 359 eP 03 21 21.6
BFO Black Forest 13.71 320 Pn Pn 03 21 09.4 -1.8
comp=Z,167nm,0.5s,SNR=11
BFO Black Forest 13.71 320 ePn Pn 03 21 09.9 -1.3
BFO eSn Sn 03 23 39.8 -3.9
SIND Sindeldorf 13.81 325 P Pn 03 21 12.7 +0.1
ASUT 13.90 140⇓eP Pn 03 21 13.8 0.0
LOMF Lomont 13.93 314 eP Pn 03 21 15.7 +1.6
CABF La Chapelle 13.97 310 eP Pn 03 21 14.4 -0.3
comp=Z,50nm,0.8s
CABF La Chapelle 13.97 310 eP Pn 03 21 14.4 -0.3
CABF pmax pmax
comp=Z,25nm,0.8s
CABF La Chapelle 13.97 310 eP Pn 03 21 14.4 -0.3
comp=Z,25nm,0.8s
ASF Jabal al Asfar 14.01 112 Pn Pn 03 21 15.5 +0.2
comp=Z,0.3nm,0.3s,baz=158,slow=6.0,SNR=8.1
MOX Moxa 14.02 333 P Pn 03 21 15.4 0.0
MOX e 03 24 23.0
MOX Moxa 14.02 333 e(P) Pn 03 21 15.4 0.0
MOX e 03 24 23.0
MOX
comp=Z,4μm,15.0s
MOX Moxa 14.02 333 ePn Pn 03 21 15.2 -0.2
MOX Moxa 14.02 333 eP Pn 03 21 15.4 0.0
comp=Z,4μm,15.0s
MOF Molkenrain 14.04 316 eP Pn 03 21 15.5 -0.2
VIVF Saint-Julien-I 14.12 302 eP Pn 03 21 16.0 -0.8
comp=Z,37nm,1.2s
VIVF Saint-Julien-I 14.12 302 eP Pn 03 21 16.0 -0.8
VIVF pmax pmax

comp=Z,18nm,1.2s
VIVF Saint-Julien-I 14.12 302 eP Pn 03 21 16.0 -0.8
comp=Z,18nm,1.2s
CLL Collm 14.13 337 eP Pn 03 21 16.0 -0.8
CLL pmax pmax
comp=Z,25nm,1.9s
CLL MLR MLR
comp=Z,6μm,15.8s
CLL Collm 14.13 337 ePn Pn 03 21 18.0 +1.2
CLL Collm 14.13 337 eP Pn 03 21 16.0 -0.8
comp=Z,25nm,1.9s
CLL i PP 03 21 24.9
comp=Z,65nm,1.3s
EIL Elat 14.16 125 Pn Pn 03 21 17.6 +0.2
comp=Z,1.3nm,0.3s,baz=329,slow=9.1,SNR=8.6
EIL Sn Sn 03 23 48.9 -5.8
comp=Z,1.1nm,0.3s,baz=329,slow=19,SNR=4.6
HINF Hinteralfeld 14.18 316 eP Pn 03 21 15.8 -1.8
comp=Z,29nm,0.6s
HINF Hinteralfeld 14.18 316 eP Pn 03 21 15.8 -1.8
HINF pmax pmax
comp=Z,15nm,0.6s
HINF Hinteralfeld 14.18 316 eP Pn 03 21 15.8 -1.8
comp=Z,15nm,0.6s
ECH Echery 14.25 317 eP Pn 03 21 18.2 -0.3
CDF Champ du Feu 14.31 318 eP Pn 03 21 17.6 -1.7
comp=Z,42nm,0.8s
CDF Champ du Feu 14.31 318 eP Pn 03 21 17.6 -1.7
CDF pmax pmax
comp=Z,21nm,0.8s
CDF Champ du Feu 14.31 318 eP Pn 03 21 17.6 -1.7
comp=Z,21nm,0.8s
HKAT Jabal Katrina 14.37 130⇓eP Pn 03 21 20.0 -0.2
LKFR Kufra 14.40 174 iP Pn 03 21 14.1 -6.6
SNR=22
LANF Langenberg 14.40 321 P Pn 03 21 20.2 -0.4
LASF Ste Croix 14.42 298 eP Pn 03 21 20.3 -0.6
comp=Z,42nm,1.2s
LASF Ste Croix 14.42 298 eP Pn 03 21 20.3 -0.6
comp=Z,21nm,1.2s
HDK1 Dakhla 14.54 151⇓eP Pn 03 21 22.0 -0.7
HAU Haudompre 14.56 315 eP Pn 03 21 21.3 -1.5
comp=Z,59nm,0.8s
HAU eMLR MLR
comp=Z,2μm,18.8s
HAU Haudompre 14.56 315 eP Pn 03 21 21.3 -1.5
HAU pmax pmax
comp=Z,30nm,0.8s
HAU Haudompre 14.56 315 eP Pn 03 21 21.3 -1.5
comp=Z,30nm,0.8s
SOC Sochi 14.56 64 eP Pn 03 21 19.9 -3.0
SOC e 03 24 04.4
SOC pmax pmax
comp=Z,8.0nm,0.6s
SOC MLR MLR
comp=Z,603nm,13.0s
EJON La Jonquera 14.76 291 P Pn 03 21 21.3 -4.2
comp=Z,2.1nm,0.3s
THEF They Montfort 14.89 316 P Pn 03 21 27.4 +0.1
RUE Ruedersdorf 14.96 341 ePn Pn 03 21 33.5 +5.3
comp=Z,193nm,1.1s
FILF Fillols 15.01 292 eP Pn 03 21 35.1 +6.1
GKP Gorka Klasztor 15.04 350 eP Pn 03 21 35.4 +6.2
LRDF Laroque-de-Fa 15.09 293 eP Pn 03 21 33.2 +3.2
LBL Lubilhac 15.20 302 eP Pn 03 21 35.7 +4.3
RUP Ruppelstein 15.25 322 eP Pn 03 21 34.2 +2.2
SMF Signal de Mont 15.36 308 eP Pn 03 21 32.3 -1.2
comp=Z,65nm,0.7s
SMF Signal de Mont 15.36 308 eP Pn 03 21 32.3 -1.2
SMF pmax pmax
comp=Z,32nm,0.7s
SMF Signal de Mont 15.36 308 eP Pn 03 21 32.3 -1.2
comp=Z,32nm,0.7s
VALF Valcebollere 15.39 291 eP Pn 03 21 34.2 +0.3
MTLF Montolieu 15.40 294 eP Pn 03 21 32.9 -1.2
comp=Z,77nm,1.2s
MTLF Montolieu 15.40 294 eP Pn 03 21 32.9 -1.2
MTLF pmax pmax
comp=Z,39nm,1.2s
MTLF Montolieu 15.40 294 eP Pn 03 21 32.9 -1.2
comp=Z,39nm,1.2s
SUW Suwalki 15.51 4 eP Pn 03 21 35.5 0.0
PYM Petit Puy Mans 15.53 304 eP Pn 03 21 40.1 +4.3
AGO Saint Agoulin 15.57 305 eP Pn 03 21 40.6 +4.4
LOR Lormes 15.62 310 eP Pn 03 21 35.2 -1.8
comp=Z,56nm,0.9s
LOR eMLR MLR
comp=Z,1μm,18.0s
LOR Lormes 15.62 310 eP Pn 03 21 35.2 -1.8
LOR pmax pmax
comp=Z,28nm,0.9s
LOR Lormes 15.62 310 eP Pn 03 21 35.2 -1.8
comp=Z,28nm,0.9s
WLF Walferdange 15.67 320 ePn Pn 03 21 37.9 +0.4
comp=Z,39nm,0.9s
WLF Walferdange 15.67 320 eP Pn 03 21 37.9 +0.3
WLF pmax pmax
comp=Z,39nm,0.9s
WLF Walferdange 15.67 320 P Pn 03 21 38.3 +0.7
comp=Z,58nm,2.4s
WLF Walferdange 15.67 320 ePn Pn 03 21 39.2 +1.6
WLF Walferdange 15.67 320 eP Pn 03 21 37.9 +0.3
comp=Z,39nm,0.9s
AVF Avril sur Loir 15.72 307 eP Pn 03 21 35.8 -2.5
comp=Z,202nm,1.3s
AVF Avril sur Loir 15.72 307 eP Pn 03 21 35.8 -2.5
AVF pmax pmax
comp=Z,101nm,1.3s
AVF Avril sur Loir 15.72 307 eP Pn 03 21 35.8 -2.5
comp=Z,101nm,1.3s
SSF Saint Saulge 15.74 309 eP Pn 03 21 37.2 -1.4
comp=Z,105nm,0.8s
SSF Saint Saulge 15.74 309 eP Pn 03 21 37.2 -1.4
SSF pmax pmax
comp=Z,52nm,0.8s
SSF Saint Saulge 15.74 309 eP Pn 03 21 37.2 -1.4
comp=Z,52nm,0.8s
CAF Calviac 15.90 300 eP Pn 03 21 39.0 -1.5
comp=Z,42nm,1.0s
CAF Calviac 15.90 300 eP Pn 03 21 39.0 -1.5
CAF pmax pmax
comp=Z,21nm,1.0s
CAF Calviac 15.90 300 eP Pn 03 21 39.0 -1.5
comp=Z,21nm,1.0s
BGF Bois d'Agland 15.94 306 eP Pn 03 21 39.2 -1.9
comp=Z,168nm,1.1s
BGF Bois d'Agland 15.94 306 eP Pn 03 21 39.2 -1.9
BGF pmax pmax
comp=Z,84nm,1.1s
BGF Bois d'Agland 15.94 306 eP Pn 03 21 39.2 -1.9
comp=Z,84nm,1.1s
EPOB Poblet 15.98 287 P Pn 03 21 44.4 +2.8
comp=Z,15nm,1.0s
EBNR Beni Rached 16.10 268 P sP 03 21 55.4 +5.6
MLS Moulis 16.14 292 eP Pn 03 21 45.3 +1.6
TCF Toulx Ste Croi 16.25 305 eP Pn 03 21 43.6 -1.5
comp=Z,33nm,1.0s
TCF Toulx Ste Croi 16.25 305 eP Pn 03 21 43.6 -1.5
TCF pmax pmax
comp=Z,16nm,1.0s
TCF Toulx Ste Croi 16.25 305 eP Pn 03 21 43.6 -1.5
comp=Z,16nm,1.0s
ECHA Ech Chlef 16.26 268 P pP 03 21 54.6 +4.0
MEM Membach 16.36 323 P Pn 03 21 46.9 +0.5
comp=Z,30nm,1.5s
HYF Humbligny 16.37 308 eP Pn 03 21 45.3 -1.3
MELF Melles 16.37 292 eP Pn 03 21 52.4 +5.7
RJF Les Rejaudoux 16.38 301 eP Pn 03 21 45.3 -1.4
comp=Z,50nm,1.1s
RJF eMLR MLR
comp=Z,2μm,22.0s
RJF Les Rejaudoux 16.38 301 eP Pn 03 21 45.3 -1.4
RJF pmax pmax
comp=Z,25nm,1.1s
RJF Les Rejaudoux 16.38 301 eP Pn 03 21 45.3 -1.4
comp=Z,25nm,1.1s
HGN Heimansgroeve 16.50 323 eP Pn 03 21 48.8 +0.6
comp=Z,50nm,1.2s
HGN Heimansgroeve 16.50 323 eS Sx 03 25 18.1
ETRT Tiaret 16.52 265 P Pn 03 21 53.0 +4.4
MNK Minsk 16.52 13 eP Pn 03 21 48.0 -0.5
MNK eS Sn 03 24 50.0 -1.9
MNK MLR MLR
comp=Z,4μm,8.0s
EANR 'Ain N'Sour 16.52 267 P Pn 03 21 49.4 +0.8
ERTA Horta de San J 16.52 285 P Pn 03 21 52.7 +4.1

comp=Z,20nm,1.1s
GIVF Givet 16.62 319 *e*P **Pn 03 21 48.1 -1.6**
comp=Z,150nm,1.2s
GIVF Givet 16.62 319 *e*P **Pn 03 21 48.1 -1.6**
GIVF pmax pmax
comp=Z,75nm,1.2s
GIVF Givet 16.62 319 *e*P **Pn 03 21 48.1 -1.6**
comp=Z,75nm,1.2s
RESF Ens 16.67 292 *e*P **Pn 03 21 52.2 +1.8**
EPF Esparros 16.70 292 *e*P **Pn 03 21 49.6 -1.2**
comp=Z,26nm,1.0s
EPF Esparros 16.70 292 *e*P **Pn 03 21 49.6 -1.2**
EPF pmax pmax
comp=Z,13nm,1.0s
EPF Esparros 16.70 292 *e*P **Pn 03 21 49.6 -1.2**
comp=Z,13nm,1.0s
DOU Dourbes 16.73 319 P **Pn 03 21 51.2 +0.1**
comp=Z,34nm,1.5s
KIV Kislovodsk 16.75 64 P **Pn 03 21 54.7 +3.3**
comp=Z,310nm,1.1s,SNR=6.5
KIV Kislovodsk 16.75 64 *e*P **Pn 03 21 51.8 +0.4**
KIV *e*S **Sn 03 24 57.7 +0.2**
KIV pmax pmax
comp=Z,68nm,1.2s
KIV MLR MLR
comp=Z,503nm,14.0s
KIV Kislovodsk 16.75 64 Pn **Pn 03 21 54.8 +3.4**
SNR=17
KIV Kislovodsk 16.75 64 P **Pn 03 21 54.8 +3.4**
SNR=17
KIV Kislovodsk 16.75 64⇓ *i*P **Pn 03 21 53.8 +2.4**
KIV Kislovodsk 16.75 64 *e*P **Pn 03 21 51.8 +0.4**
comp=Z,68nm,1.2s
KIV Kislovodsk 16.75 64 *e*Pn **Pn 03 21 53.4 +2.0**
comp=Z,74nm,1.1s
EBIE Bielsa 16.80 291 P **Pn 03 21 55.0 +2.9**
comp=Z,18nm,0.9s
LFF La Frestale 16.80 299 *e*P **Pn 03 21 50.4 -1.7**
comp=Z,98nm,1.3s
LFF La Frestale 16.80 299 *e*P **Pn 03 21 50.4 -1.7**
LFF pmax pmax
comp=Z,49nm,1.3s
LFF La Frestale 16.80 299 *e*P **Pn 03 21 50.4 -1.7**
comp=Z,49nm,1.3s
BAIF Baives 16.91 319 *e*P **Pn 03 21 51.6 -1.8**
comp=Z,59nm,0.8s
BAIF Baives 16.91 319 *e*P **Pn 03 21 51.6 -1.8**
BAIF pmax pmax
comp=Z,29nm,0.8s
BAIF Baives 16.91 319 *e*P **Pn 03 21 51.6 -1.8**
comp=Z,29nm,0.8s
VIEF Viey 16.91 292 *e*P **Pn 03 21 54.7 +1.2**
DIGO Kars 16.92 77⇑ *i*P **Pn 03 21 59.0 +5.4**
WTSB Winterswijk 16.95 327 *e*P **Pn 03 21 57.5 +3.6**
comp=Z,56nm,1.6s
EBEN Beniarda 17.05 277 P **Pn 03 22 02.4 +7.1**
comp=Z,32nm,1.0s
ONI Oni 17.08 69 P **Pn 03 21 57.6 +1.9**
ONI S **Sn 03 25 21.7 +16**
EMOS Mosqueruela 17.14 283 P **Pn 03 22 01.4 +5.0**
comp=Z,29nm,0.8s
SNF Seneffe 17.14 320 P **Pn 03 21 56.8 +0.5**
comp=Z,28nm,2.3s
ESAC San Caprasio 17.16 288 P **Pn 03 22 01.6 +4.9**
comp=Z,36nm,1.0s
BSD Bornholm Skovb 17.18 347 *i*P **Pn 03 21 56.0 -0.8**
BSD *i* 03 25 06.7
BSD pmax pmax
comp=Z,51nm,1.0s
BSD MLR MLR
comp=Z,1μm,18.0s
BSD Bornholm Skovb 17.18 347 *i*P **Pn 03 21 56.0 -0.8**
comp=Z,51nm,1.0s
BSD *i* 03 25 06.7
BSD
comp=Z,1μm,18.0s
MSL Mosul 17.22 91 *e*x x 03 22 04.0
MSL *e*x x 03 22 16.0
MSL *e*x x 03 22 21.0
MSL *e*x x 03 25 23.0
MSL *e*x x 03 28 20.0
REYF Montagne du Re 17.24 292 *e*P **Pn 03 21 57.7 +0.1**
UCC Uccle 17.28 321 P **Pn 03 21 58.9 +0.8**
comp=Z,49nm,2.1s
ETSF Etsaut 17.34 292 *e*P **Pn 03 21 57.7 -1.1**
comp=Z,37nm,1.0s
ETSF Etsaut 17.34 292 *e*P **Pn 03 21 57.7 -1.1**
ETSF pmax pmax
comp=Z,18nm,1.0s
ETSF Etsaut 17.34 292 *e*P **Pn 03 21 57.7 -1.1**
comp=Z,18nm,1.0s
GOR Gori 17.52 72 P **Pn 03 22 04.2 +3.1**
GOR S sS 03 25 50.9 +23
ECHE Chera 17.55 281 P **Pn 03 22 06.0 +4.5**
comp=Z,9.4nm,0.7s
ECHE Chera 17.55 281 P **Pn 03 22 06.0 +4.5**
ECHE pmax pmax
comp=Z,9.0nm,0.7s
VORD Divnogorie 17.62 39 *e*P **Pn 03 22 03.1 +0.9**
VORD pmax pmax
comp=Z,20nm,0.9s
VORD pmax pmax
comp=N,50nm,0.6s
VORD pmax pmax
comp=E,30nm,1.0s
VORD MLR MLR
comp=E,1μm,12.0s
VORD MLR MLR
comp=Z,2μm,12.0s
VORD MLR MLR
comp=N,2μm,14.0s
VORD Divnogorie 17.62 39 *e*P **Pn 03 22 03.1 +0.9**
comp=N,2μm,14.0s
VRSR Storozhevoye 17.72 39 *e*P **Pn 03 22 04.0 +0.5**
VRSR MLR MLR
comp=N,190nm,15.0s
VRSR MLR MLR
comp=Z,330nm,15.0s
VRSR MLR MLR
comp=E,170nm,14.0s
SJPF Ste Jean 17.85 292 *e*P **Pn 03 22 04.1 -1.1**
comp=E,80nm,1.1s
SJPF Ste Jean 17.85 292 *e*P **Pn 03 22 04.1 -1.1**
SJPF pmax pmax
comp=Z,40nm,1.1s
SJPF Ste Jean 17.85 292 *e*P **Pn 03 22 04.1 -1.1**
comp=Z,40nm,1.1s
MFF Saint Martin d 17.89 304 *e*P **Pn 03 22 04.3 -1.3**
comp=Z,127nm,1.3s
MFF Saint Martin d 17.89 304 *e*P **Pn 03 22 04.3 -1.3**
MFF pmax pmax
comp=Z,63nm,1.3s
MFF Saint Martin d 17.89 304 *e*P **Pn 03 22 04.3 -1.3**
comp=Z,63nm,1.3s
TBLG Delisi 17.97 72 P **Pn 03 22 11.2 +4.5**
TBLG S **Sn 03 25 41.7 +14**
MTA Mtatsminda 18.01 73 P **Pn 03 22 10.1 +2.9**
MTA S **Sn 03 25 40.6 +12**
ELIZ Elizondo 18.07 292 P **Pn 03 22 09.1 +1.2**
comp=Z,9.9nm,0.8s
ELIZ Elizondo 18.07 292 P **Pn 03 22 09.1 +1.1**
ELIZ pmax pmax
comp=Z,10.0nm,0.8s
ELIZ Elizondo 18.07 292 P **Pn 03 22 09.1 +1.1**
comp=Z,9.9nm,0.8s
ETOB Tobarra 18.09 278 P **Pn 03 22 13.3 +5.2**
comp=Z,10nm,0.7s
COP Copenhagen 18.22 343⇓ *i*P **Pn 03 22 09.2 -0.5**
COP pmax pmax
comp=Z,44nm,1.3s
COP MLR MLR
comp=Z,660nm,16.0s
COP Copenhagen 18.22 343⇓ *i*P **Pn 03 22 09.2 -0.5**
comp=Z,44nm,1.3s
COP *i* S **Sn 03 25 38.8 +5.8**
COP
comp=Z,650nm,16.0s
MENF Mencas 18.27 317 *e*P **Pn 03 22 11.8 +1.5**
ETOR Torete 18.34 285 P **Pn 03 22 13.5 +2.3**
comp=Z,13nm,0.5s
ETOR Torete 18.34 285 P **Pn 03 22 13.5 +2.3**
ETOR pmax pmax
comp=Z,13nm,0.5s
DGRG David-gareji 18.44 73 P **Pn 03 22 20.5 +8.0**
DGRG S **Sn 03 25 51.2 +13**
LDF La Druitiere 18.61 310 *e*P **Pn 03 22 13.7 -0.8**
comp=Z,72nm,0.9s
LDF La Druitiere 18.61 310 *e*P **Pn 03 22 13.7 -0.8**
LDF pmax pmax
comp=Z,36nm,0.9s
LDF La Druitiere 18.61 310 *e*P **Pn 03 22 13.7 -0.8**
comp=Z,36nm,0.9s
ECRI Cripan 18.74 290 P **Pn 03 22 16.8 +0.7**
comp=Z,21nm,0.8s
ECRI Cripan 18.74 290 P **Pn 03 22 16.8 +0.7**
ECRI pmax pmax
comp=Z,21nm,0.8s
ECRI Cripan 18.74 290 P **Pn 03 22 16.8 +0.7**
comp=Z,21nm,0.8s
EVIA Vianos 18.83 278 P **Pn 03 22 19.4 +2.2**
comp=Z,38nm,1.1s
EVIA Vianos 18.83 278 P **Pn 03 22 19.4 +2.2**
EVIA pmax pmax
comp=Z,38nm,1.1s
ENIJ Nijar 18.88 273 P **Pn 03 22 17.3 -0.5**
comp=Z,114nm,2.1s
ENIJ Nijar 18.88 273 P **Pn 03 22 17.3 -0.5**
ENIJ pmax pmax
comp=Z,114nm,2.1s
ENIJ Nijar 18.88 273 P **Pn 03 22 17.3 -0.5**
comp=Z,114nm,2.1s
FLN La Foliniere 18.90 310 *e*P **Pn 03 22 16.7 -1.3**
comp=Z,116nm,0.9s
FLN *e*MLR MLR
comp=Z,1μm,17.4s
FLN La Foliniere 18.90 310 *e*P **Pn 03 22 16.7 -1.3**
FLN pmax pmax
comp=Z,58nm,0.9s
FLN La Foliniere 18.90 310 *e*P **Pn 03 22 16.7 -1.3**
comp=Z,58nm,0.9s
GRR Gorron 18.98 308 *e*P **Pn 03 22 17.6 -1.3**
comp=Z,67nm,0.9s
GRR Gorron 18.98 308 *e*P **Pn 03 22 17.6 -1.3**
GRR pmax pmax
comp=Z,34nm,0.9s
GRR Gorron 18.98 308 *e*P **Pn 03 22 17.6 -1.3**
comp=Z,34nm,0.9s
EQES Quesada 19.40 276 P **Pn 03 22 26.1 +2.1**
comp=Z,16nm,0.9s
OBN Obninsk 19.42 27 *e*P **Pn 03 22 22.7 -1.5**
comp=Z,82nm,0.9s
OBN Obninsk 19.42 27⇑ *e*P **Pn 03 22 22.2 -2.0**
OBN *e*S **Sn 03 26 03.0 +1.1**
OBN pmax pmax
comp=Z,71nm,1.4s
OBN MLR MLR
comp=Z,2μm,22.0s
OBN Obninsk 19.42 27 *e*P **Pn 03 22 22.7 -1.5**
comp=Z,82nm,0.9s
EBER Berja 19.43 273 P **Pn 03 22 27.3 +2.9**
comp=Z,20nm,0.9s
ELAN Lanestosa 19.47 292 P **Pn 03 22 23.8 -1.1**
comp=Z,54nm,1.0s
ELAN Lanestosa 19.47 292 P **Pn 03 22 23.8 -1.0**
comp=Z,54nm,1.0s
MUD Monsted U'grnd 19.73 339 *e*P **Pn 03 22 27.6 -0.3**
MUD pmax pmax
comp=Z,26nm,0.8s
MUD MLR MLR
comp=Z,1μm,18.0s
MUD Monsted U'grnd 19.73 339 *i*P **Pn 03 22 27.6 -0.3**
comp=Z,26nm,0.8s
MUD *i* S **Sn 03 26 17.9 +8.4**
MUD
comp=Z,1μm,18.0s
MUD Monsted U'grnd 19.73 339 *e*P **Pn 03 22 27.6 -0.3**
comp=Z,1μm,18.0s
ESDC Sonseca Array 19.85 281 P **Pn 03 22 28.4 -1.0**
comp=Z,12nm,0.8s
ESDC Sonseca Array 19.85 281 P **Pn 03 22 28.0 -1.5**
comp=Z,1.3nm,0.3s,baz=78,slow=11,SNR=22
ESDC LR LR 03 30 29.1
comp=Z,545nm,18.5s,baz=80,slow=38
ESDC Sonseca Array 19.85 281 P **Pn 03 22 28.4 -1.1**
comp=Z,12nm,0.8s
ECOG Cogollos-Vega 19.88 274 P **Pn 03 22 31.8 +2.0**
comp=Z,6.2nm,0.6s
ECOG Cogollos-Vega 19.88 274 P **Pn 03 22 31.8 +2.0**
ECOG pmax pmax
comp=Z,6.0nm,0.6s
EBAN Banos Encina 19.89 277 P **Pn 03 22 32.2 +2.2**
comp=Z,12nm,0.6s
EBAN Banos Encina 19.89 277 P **Pn 03 22 32.2 +2.2**
EBAN pmax pmax
comp=Z,13nm,0.6s
EBAN Banos Encina 19.89 277 P **Pn 03 22 32.2 +2.2**
comp=Z,12nm,0.6s
GUD Guadarrama 19.93 284 P **Pn 03 22 29.7 -0.8**
comp=Z,23nm,0.8s
GUD Guadarrama 19.93 284 P **Pn 03 22 29.7 -0.8**
GUD pmax pmax
comp=Z,23nm,0.8s
GUD Guadarrama 19.93 284 P **Pn 03 22 29.7 -0.8**
comp=Z,23nm,0.8s
EGUA Guajares 19.97 273 P **Pn 03 22 30.3 -0.6**
comp=Z,2.3nm,1.6s
EGUA Guajares 19.97 273 P **Pn 03 22 30.3 -0.6**
EGUA pmax pmax
comp=Z,2.0nm,1.6s
EGUA Guajares 19.97 273 P **Pn 03 22 30.3 -0.6**
comp=Z,2.3nm,1.6s
SGMF Saint Gilles 19.98 307 *e*P **Pn 03 22 28.9 -2.0**
comp=Z,62nm,0.9s
SGMF Saint Gilles 19.98 307 *e*P **Pn 03 22 28.9 -2.0**
SGMF pmax pmax
comp=Z,31nm,0.9s
SGMF Saint Gilles 19.98 307 *e*P **Pn 03 22 28.9 -2.0**
comp=Z,31nm,0.9s
MAK Makhachkala 20.09 69 *e*P **P 03 22 33.2 +2.7**
MAK *e* 03 22 49.8
MAK *e*SS 03 26 43.2
MAK *e*SSS 03 26 57.9
MAK pmax pmax
comp=Z,269nm,1.4s
MAK MLR MLR
comp=Z,1μm,17.0s,MS4.2
MAK Makhachkala 20.09 69 *e*P **P 03 22 33.2 +2.7**
comp=Z,269nm,1.4s
ERON Agron 20.12 274 P **P 03 22 35.4 +4.6**
comp=Z,4.6nm,0.6s
ERON Agron 20.12 274 P **P 03 22 35.4 +4.6**
comp=Z,4.6nm,0.6s
PAB San Pablo 20.16 281 *e*P **P 03 22 31.4 +0.1**
comp=Z,60nm,1.3s
PAB San Pablo 20.16 281 *e*P **P 03 22 31.4 +0.2**
PAB pmax pmax
comp=Z,60nm,1.3s
PAB San Pablo 20.16 281 *e*P **P 03 22 31.4 +0.2**
comp=Z,60nm,1.3s
VSU Vasula 20.21 8 *d*/*i*P **P 03 22 30.8 -0.9**
VSU Vasula 20.21 8 *i*P **P 03 22 30.8 -0.9**
QUIF Quistinic 20.25 306 *e*P **P 03 22 31.4 -0.8**
MOS Moscow 20.28 27 *e*P **P 03 22 31.2 -1.2**
MOS *e* 03 22 37.3
MOS *e* 03 22 46.4
MOS *e*SS 03 26 46.3
MOS pmax pmax
comp=Z,80nm,1.0s
MOS MLR MLR
comp=Z,1μm,11.5s,MS4.6
MOS MLR MLR
comp=N,2μm,11.0s
ELOJ Sierra Loja 20.36 274 P **P 03 22 37.4 +3.9**
comp=N,1.4nm,0.4s
ELOJ Sierra Loja 20.36 274 P **P 03 22 37.4 +3.9**
ELOJ pmax pmax
comp=Z,1.0nm,0.4s
ELOJ Sierra Loja 20.36 274 P **P 03 22 37.4 +3.9**
comp=Z,1.4nm,0.4s
ELUQ Luque 20.37 275 P **P 03 22 37.8 +4.2**
comp=Z,5.2nm,0.4s
ELUQ Luque 20.37 275 P **P 03 22 37.8 +4.2**
ELUQ pmax pmax
comp=Z,5.0nm,0.4s
ELUQ Luque 20.37 275 P **P 03 22 37.8 +4.2**
comp=Z,5.2nm,0.4s
ROSF Rostrenen 20.46 307 *e*P **P 03 22 34.0 -0.4**
comp=Z,100nm,0.9s
ROSF Rostrenen 20.46 307 *e*P **P 03 22 34.0 -0.4**
ROSF pmax pmax
comp=Z,50nm,0.9s
ROSF Rostrenen 20.46 307 *e*P **P 03 22 34.0 -0.4**
comp=Z,50nm,0.9s
SKP1 Kophill 20.47 317⇑ *e*P **P 03 22 34.6 0.0**
WOL Wolverton 20.49 316 *e*P **P 03 22 34.2 -0.5**
EADA Adamuz 20.51 277 P **P 03 22 36.7 +1.6**
comp=Z,12nm,0.9s
EADA Adamuz 20.51 277 P **P 03 22 36.7 +1.6**
comp=Z,12nm,0.9s
EMAL Malaga-Limoner 20.66 273 *i*P **P 03 22 37.2 +0.5**
EARI Arriondas 20.76 292 P **P 03 22 37.1 -0.7**
comp=Z,21nm,0.7s
EARI Arriondas 20.76 292 P **P 03 22 37.1 -0.7**
comp=Z,21nm,0.7s
EMIJ Mijas 20.98 273 P **P 03 22 45.8 +5.6**
comp=Z,22nm,0.7s
EMIJ Mijas 20.98 273 P **P 03 22 45.8 +5.7**
comp=Z,22nm,0.7s
SSW Stow on the Wo 21.15 317⇑ *e*P **P 03 22 42.2 +0.3**
ECAB El Cabril 21.18 277 P **P 03 22 45.9 +3.6**
comp=Z,59nm,1.1s,mb4.8
ECAB El Cabril 21.18 277 P **P 03 22 45.9 +3.6**
comp=Z,59nm,1.1s,mb4.8
CWF Charnwood Fore 21.27 319 *e*P **P 03 22 42.7 -0.5**
CWF AMb AMB 03 22 47.3
comp=Z,117nm,1.3s,mb5.0
EJIF Jimena Fronter 21.55 273 P **P 03 22 49.0 +2.7**
comp=Z,274nm,3.4s
EJIF Jimena Fronter 21.55 273 P **P 03 22 49.0 +2.7**
EJIF pmax pmax
comp=Z,274nm,3.4s
EJIF Jimena Fronter 21.55 273 P **P 03 22 49.0 +2.7**
comp=Z,274nm,3.4s
HAE Alders End 21.56 317⇑ *i*P **P 03 22 46.1 -0.3**
DYA Yadsworthy 21.63 312 P **P 03 22 46.4 -0.6**
DYA AMb AMB 03 22 51.0
comp=Z,131nm,1.3s,mb5.2
DYA Yadsworthy 21.63 312 *e*P **P 03 22 46.4 -0.6**
DYA AMb AMB 03 22 51.0
comp=Z,131nm,1.3s,mb5.2
DYA AMS AMS 03 34 33.8
comp=Z,387nm,18.5s,MS3.8
KBI1 Birley Grange 21.67 320⇑ *e*P **P 03 22 47.0 -0.4**
KWE Weaver Farm 21.70 319 *e*P **P 03 22 46.3 -1.5**
ESPR Espera 21.75 274 P **P 03 22 51.5 +2.9**
comp=Z,16nm,0.8s,mb4.5
ESPR Espera 21.75 274 P **P 03 22 51.5 +3.0**
comp=Z,16nm,0.8s,mb4.5
MCH1 Michaelchurch 21.79 316⇑ *e*P **P 03 22 48.4 -0.4**
HEX Exmoor 21.82 313⇑ *e*P **P 03 22 48.8 -0.2**
ECAL Calabor 21.85 288 P **P 03 22 47.1 -2.4**
comp=Z,20nm,0.7s,mb4.7
ECAL Calabor 21.85 288 P **P 03 22 47.1 -2.4**
comp=Z,20nm,0.7s,mb4.7
PBRG Braganca 21.85 288 *e*P **P 03 22 49.8 +0.3**
comp=Z,38nm,1.1s,mb4.7
HTR Trewern Hill 21.97 316⇑ *i*P **P 03 22 50.0 -0.7**
HLM1 Long Mynd 21.98 317⇑ *i*P **P 03 22 50.1 -0.7**
LHO Holmfirth 21.99 321⇑ *i*P **P 03 22 50.2 -0.7**
MDT Midelt 22.00 263 P **P 03 22 51.4 +0.2**
comp=Z,8.2nm,0.8s,mb4.2,baz=82,slow=13,SNR=20
MDT LR LR 03 31 21.9
comp=Z,154nm,21.8s,baz=70,slow=37
MVO Moncorvo 22.09 286 *e*P **P 03 22 52.0 -0.1**
comp=Z,50nm,1.1s,mb4.9
MVO *e*S **S 03 26 57.5 +1.8**
MVO *e*LR LR 03 31 04.7
comp=Z,460nm,20.0s
MVO Moncorvo 22.09 286 *e*P **P 03 22 52.0 -0.1**
comp=Z,50nm,1.1s,mb4.9
MVO *e*S **S 03 26 57.5 +1.8**
CSA1 St Austell 22.16 311⇑ *e*P **P 03 22 52.2 -0.6**
HTL Hartland 22.18 313 P **P 03 22 53.7 +0.8**
HTL AMb AMB 03 22 56.1
comp=Z,158nm,1.2s,mb5.3
HTL Hartland 22.18 313 *e*P **P 03 22 53.7 +0.8**
HTL AMb AMB 03 22 56.1
comp=Z,158nm,1.2s,mb5.3
HTL AMS AMS 03 33 11.1
comp=Z,414nm,17.8s,MS3.9
EPON Pontenova 22.18 292 P **P 03 22 54.0 +1.0**
comp=Z,28nm,0.7s,mb4.8
EPON Pontenova 22.18 292 P **P 03 22 54.0 +1.0**
comp=Z,28nm,0.7s,mb4.8
HFS Hagfors 22.19 350 P **P 03 22 51.4 -1.5**
HFS pmax pmax
comp=Z,31nm,0.5s
HFS MLR MLR
comp=Z,970nm,19.9s
HFS Hagfors 22.19 350 P **P 03 22 51.4 -1.5**
comp=Z,31nm,0.5s,mb5.0,baz=157,slow=8.0,SNR=107
HFS LR LR 03 31 57.2
comp=Z,970nm,19.9s,MS4.2,baz=169,slow=38
HFA0 Hagfors New Ar 22.20 350 P **P 03 22 50.8 -2.2**
EMIN Mina Concepcio 22.21 277 P **P 03 22 54.4 +1.0**
comp=Z,46nm,1.2s,mb4.8
EMIN Mina Concepcio 22.21 277 P **P 03 22 54.4 +1.0**
comp=Z,46nm,1.2s,mb4.8
CCA1 Carnmenellis 22.30 310 *e*P **P 03 22 54.8 +0.6**
EBAD Badajoz 22.31 280 P **P 03 22 52.2 -2.2**
comp=Z,8.7nm,0.7s,mb4.3
EBAD Badajoz 22.31 280 P **P 03 22 52.2 -2.2**
comp=Z,8.7nm,0.7s,mb4.3
SBD1 Bryn Du 22.37 318 *e*P **P 03 22 54.0 -0.9**
PBAR Barrancos 22.42 278 *e*P **P 03 22 54.3 -1.3**
comp=Z,57nm,1.2s,mb4.9
PBAR *e*S **S 03 27 09.4 +7.2**
PBAR *e*LR LR 03 30 03.7
comp=Z,332nm,22.0s
PBAR Barrancos 22.42 278 *e*P **P 03 22 54.3 -1.3**
comp=Z,57nm,1.2s,mb4.9
PBAR *e*S **S 03 27 09.4 +7.2**
KONO Kongsberg 22.47 344 *e*P **P 03 22 53.1 -2.9**
comp=Z,72nm,1.2s,mb5.0
KONO Kongsberg 22.47 344⇑ *e*P **P 03 22 54.3 -1.6**
KONO Kongsberg 22.47 344 *e*P **P 03 22 53.1 -2.8**
comp=Z,72nm,1.2s,mb5.0
OSL Oslo 22.50 346 *e*P **P 03 22 54.4 -1.9**
OSL AMb AMB 03 22 56.8
comp=Z,105nm,1.6s,mb5.0
OSL Oslo 22.50 346 *e*P **P 03 22 54.4 -1.9**
comp=Z,105nm,1.6s,mb5.0,SNR=34
MTE Manteigas 22.53 284 *e*P **P 03 22 56.1 -0.7**
comp=Z,35nm,1.1s,mb4.7
MTE *e*S **S 03 27 01.9 -2.4**
MTE *e*LR LR 03 30 20.6
comp=Z,1μm,18.1s
MTE Manteigas 22.53 284 *e*P **P 03 22 54.9 -1.9**
comp=Z,20nm,0.8s,mb4.6
MTE Manteigas 22.53 284 *e*P **P 03 22 56.1 -0.7**
comp=Z,35nm,1.1s,mb4.7
MTE *e*S **S 03 27 01.9 -2.4**
PCBR Castelo Branco 22.53 282 *e*P **P 03 22 58.3 +1.5**
comp=Z,31nm,2.0s,mb4.4
PVRL Vila Real 22.60 286 *e*P **P 03 23 00.9 +3.4**
PESTR Estremoz 22.74 280 *e*P **P 03 22 57.5 -1.5**
comp=Z,45nm,1.1s,mb4.8
PESTR *e*S **S 03 27 04.4 -3.8**
PESTR *e*LR LR 03 30 31.6
comp=Z,371nm,22.0s
PESTR Estremoz 22.74 280 *e*P **P 03 22 57.5 -1.5**
comp=Z,45nm,1.1s,mb4.8
PESTR *e*S **S 03 27 04.4 -3.8**
PVIS Viseu 22.77 285 *e*P **P 03 22 59.2 -0.1**
comp=Z,37nm,1.1s,mb4.7
ELOB Lobios 22.84 288 P **P 03 22 56.0 -4.0**
comp=Z,12nm,0.8s,mb4.4
ELOB Lobios 22.84 288 P **P 03 22 56.0 -4.0**
comp=Z,12nm,0.8s,mb4.4
RST Umm Al-Ruwaisa 22.85 106 *e*P **P 03 22 58.7 -1.6**
RST AMb AMB 03 23 14.3
comp=Z,90nm,0.7s,mb5.3
EGRO El Granado 22.89 277 P **P 03 22 59.2 -1.4**
comp=Z,24nm,1.0s,mb4.6
EGRO El Granado 22.89 277 P **P 03 22 59.2 -1.4**
comp=Z,24nm,1.0s,mb4.6
XAL Allendale 22.91 323 *e*P **P 03 23 00.5 -0.2**
MIB Mutribah 22.96 105 *e*P **P 03 22 59.7 -1.7**
MIB AMb AMB 03 23 12.0
comp=Z,142nm,0.8s,mb5.5
PBEJ Beja 23.09 278 *e*P **P 03 23 01.0 -1.7**
comp=Z,43nm,1.3s,mb4.7
PVAQ Vaqueiros 23.09 276 *e*P **P 03 23 02.9 +0.1**
comp=Z,71nm,1.0s,mb5.0
PVAQ *e*S **S 03 27 12.5 -1.5**
PVAQ A 03 37 00.1
comp=Z,179nm,18.0s
PVAQ Vaqueiros 23.09 276 *e*P **P 03 23 02.9 +0.1**
comp=Z,71nm,1.0s,mb5.0

PVAQ *e*S **S** **03 27 12.5 -1.5**
comp=Z,179nm,18.0s
FINES FINESS Array B 23.10 5 P **P** **03 23 00.7 -1.9**
comp=Z,46nm,0.8s,mb5.0,baz=166,slow=9.8,SNR=64
FINES PcP PcP 03 26 51.4 +0.2
comp=Z,2.8nm,0.6s,baz=152,slow=3.5,SNR=4.7
FINES ScP ScP 03 30 29.1 -0.2
comp=Z,3.6nm,1.0s,baz=81,slow=6.4,SNR=5.5
FINES LR LR 03 32 53.1
comp=Z,1μm,20.1s,MS4.3,baz=356,slow=39
FINES FINESS Array B 23.10 5 PcP PcP 03 26 51.3 +0.1
EVO Evora 23.12 279 *e*P **P** **03 23 02.5 -0.5**
comp=Z,14nm,0.8s,mb4.2
EVO *e*MLR MLR
comp=Z,335nm,20.5s,MS3.5
EVO Evora 23.12 279 *e*P **P** **03 23 01.5 -1.5**
EVO *e*S **S** **03 27 10.4 -4.0**
NAY Al-Naaiem 23.16 106 *e*P **P** **03 23 01.9 -1.7**
NAY AMb AMB 03 23 09.3
comp=Z,38nm,0.8s,mb4.9
PBDV Barranco-do-Ve 23.30 276 *e*P **P** **03 23 04.6 -0.3**
comp=Z,54nm,1.5s,mb4.8
PBDV *e*S **S** **03 27 18.2 +0.9**
PBDV A 03 33 04.9
comp=Z,220nm,20.0s
PBDV Barranco-do-Ve 23.30 276 *e*P **P** **03 23 04.6 -0.3**
comp=Z,54nm,1.5s,mb4.8
PBDV *e*S **S** **03 27 18.2 +0.9**
comp=Z,220nm,20.0s
XSO Sourhope Farm 23.30 324 *e*P **P** **03 23 03.7 -1.1**
NB2 NORSAR Subarra 23.44 347 P **P** **03 23 04.1 -2.1**
comp=Z,34nm,0.7s,mb4.9,baz=159,slow=11
NOA NORSAR Array B 23.44 347 P **P** **03 23 04.2 -2.0**
NOA 03 26 51.9
NOA pmax pmax
comp=Z,28nm,0.6s
NOA MLR MLR
comp=Z,625nm,18.9s
NOA NORSAR Array B 23.44 347 P **P** **03 23 04.2 -2.0**
comp=Z,28nm,0.6s,mb4.9,baz=159,slow=8.5,SNR=95
NOA PcP PcP 03 26 51.9 0.0
comp=Z,2.7nm,0.8s,baz=139,slow=2.2,SNR=4.1
NOA LR LR 03 32 57.6
comp=Z,625nm,18.9s,MS4.1,baz=170,slow=39
NOA NORSAR Array B 23.44 347 PcP PcP 03 26 51.8 -0.1
ECK Cauldkaine Hil 23.53 323⇑ *e*P **P** **03 23 05.8 -1.4**
RDF Al-Radifah 23.55 106 *e*P **P** **03 23 06.0 -1.7**
RDF AMb AMB 03 23 19.9
comp=Z,42nm,1.1s,mb4.8
EKA Eskdalemuir Ar 23.63 323 P **P** **03 23 06.8 -1.3**
EKA 03 26 53.3
EKA pmax pmax
comp=Z,60nm,0.9s
EKA pmax pmax
comp=Z,2.0nm,0.7s
EKA Eskdalemuir Ar 23.63 323 P **P** **03 23 06.8 -1.3**
comp=Z,60nm,0.9s,mb5.0,baz=126,slow=10,SNR=75
EKA PcP PcP 03 26 53.3 +0.9
comp=Z,1.9nm,0.7s,baz=79,slow=3.8,SNR=4.9
EKA Eskdalemuir Ar 23.63 323 PcP PcP 03 26 53.3 +0.9
ESK Eskdalemuir 23.64 323 P **P** **03 23 07.0 -1.2**
comp=Z,457nm,0.8s,mb6.0,SNR=13
ESK Eskdalemuir 23.64 323 P **P** **03 23 07.1 -1.2**
ESK AMb AMB 03 23 10.5
comp=Z,82nm,1.4s,mb5.0
ESK Eskdalemuir 23.64 323⇑ *e*P **P** **03 23 07.1 -1.2**
ESK AMb AMB 03 23 10.5
comp=Z,82nm,1.4s,mb5.0
ESK AMS AMS 03 34 04.2
comp=Z,606nm,21.2s,MS4.0
ESK Eskdalemuir 23.64 323 *e*P **P** **03 23 07.0 -1.2**
comp=Z,59nm,0.8s,mb5.1
ESK Eskdalemuir 23.64 323 *e*P **P** **03 23 07.1 -1.1**
comp=Z,59nm,0.8s,mb5.1
ESY Stoneypath 23.72 325⇑ *e*P **P** **03 23 08.5 -0.4**
KAF Kangasniemi 23.78 5 *e*p **P** **03 23 05.9 -3.5**
comp=Z,17nm,0.6s,mb4.6
KAF Kangasniemi 23.78 5 *e*P **P** **03 23 05.9 -3.5**
KAF pmax pmax
comp=Z,17nm,0.6s,mb4.7
EBL Broad Law 23.83 324⇑ *e*P **P** **03 23 09.5 -0.4**
MORF Marmelete 23.84 277 *e*S **S** **03 27 23.7 -2.5**
MORF *e*LR LR 03 31 16.1
comp=Z,296nm,20.0s
PTEO Sao Teotonio 23.85 277 *e*P **P** **03 23 09.8 -0.5**
comp=Z,82nm,1.2s,mb5.0
QRN Al-Qurain 23.93 106 *e*P **P** **03 23 08.8 -2.2**
QRN AMb AMB 03 23 21.1
comp=Z,94nm,0.8s,mb5.2
EDI Edinburgh 23.99 325 P **P** **03 23 11.5 +0.2**
EDI AMb AMB 03 23 13.7
comp=Z,153nm,2.1s,mb5.1
EDI Edinburgh 23.99 325⇑ *e*P **P** **03 23 11.5 +0.2**
EDI AMb AMB 03 23 13.7
comp=Z,153nm,2.1s,mb5.1
EDI AMS AMS 03 34 58.0
comp=Z,2μm,18.4s,MS4.6
PFVI Vila Bisbo 24.02 276 *e*S **S** **03 27 27.1 -1.9**
PFVI A 03 33 14.9
comp=Z,212nm,20.0s
PMAFR Mafra 24.03 281 *e*S **S** **03 27 31.0 +1.8**
PMAFR A 03 37 54.8
comp=Z,469nm,16.0s
GAL1 Galloway 24.12 321 P **P** **03 23 13.3 +0.8**
GAL1 AMb AMB 03 23 14.1
comp=Z,94nm,1.4s,mb5.0
GAL1 Galloway 24.12 321 *e*P **P** **03 23 13.3 +0.8**
GAL1 AMb AMB 03 23 14.1
comp=Z,94nm,1.4s,mb5.0
GAL1 AMS AMS 03 35 09.9
comp=Z,720nm,17.5s,MS4.2
DSB Dublin 24.19 317 *e*P **P** **03 23 12.0 -1.3**
comp=Z,38nm,1.1s,mb4.7
DSB Dublin 24.19 317 *e*P **P** **03 23 12.0 -1.3**
comp=Z,38nm,1.1s,mb4.7
DLF Lyons Farm 24.30 317 *e*P **P** **03 23 13.5 -0.7**
EBH Black Hill 24.32 325 *e*P **P** **03 23 14.8 +0.3**
ELO Logie Almond 24.55 325 *e*P **P** **03 23 16.0 -0.5**
EAB Aberfoyle 24.67 324⇑ *i*P **P** **03 23 17.3 -0.3**
DCN Croghan 24.72 316 *e*P **P** **03 23 17.3 -0.8**
DOMB Dombas 24.76 346 *e*P **P** **03 23 18.0 -0.4**
DOMB AMb AMB 03 23 21.7
comp=Z,192nm,1.2s,mb5.5
DOMB Dombas 24.76 346 *e*P **P** **03 23 18.0 -0.4**
comp=Z,192nm,1.2s,mb5.5,SNR=28
DMUB Kingscourt 24.77 318 *e*P **P** **03 23 19.7 +1.2**
MCD Coleburn Disti 25.03 328 *e*P **P** **03 23 20.3 -0.5**
JOF Joensuu 25.11 10 *e*p **P** **03 23 19.1 -2.5**
comp=Z,8.6nm,0.5s,mb4.5
JOF Joensuu 25.11 10 *e*P **P** **03 23 19.1 -2.5**
JOF pmax pmax
comp=Z,9.0nm,0.5s,mb4.6
MDO Dochfour 25.41 327 *e*P **P** **03 23 23.2 -1.2**
MLA1 Latheron 25.53 329 *e*P **P** **03 23 24.4 -1.0**
MVH1 Achvaich 25.63 328 *e*P **P** **03 23 26.0 -0.3**
ORE Reay 25.85 329 *e*P **P** **03 23 28.2 -0.1**
VAL Valentia 25.88 312 *e*P **P** **03 23 22.2 -6.4**
KPL Plockton 25.92 325 P **P** **03 23 28.6 -0.3**
KPL AMb AMB 03 23 31.8
comp=Z,105nm,2.5s,mb4.9
KPL Plockton 25.92 325 *e*P **P** **03 23 28.6 -0.3**
KPL AMb AMB 03 23 31.8
comp=Z,105nm,2.5s,mb4.9
KPL AMS AMS 03 36 16.8
comp=Z,2μm,17.4s,MS4.6
TMCR Tamitsa 27.46 16 *e*P **P** **03 23 39.1 -3.6**
TMCR *e*S **S** **03 28 15.9 -7.3**
MOR8 Moi Rana 27.98 354 *e*P **P** **03 23 47.3 -0.1**
MOR8 AMb AMB 03 24 02.0
comp=Z,27nm,1.4s,mb4.7
MOR8 Moi Rana 27.98 354 *e*P **P** **03 23 47.3 -0.1**
comp=Z,27nm,1.4s,mb4.7,SNR=28
AKTK Aktyubinsk 28.29 53 P **P** **03 23 49.2 -1.1**
AKTK LR LR 03 38 02.1
AKTK Aktyubinsk 28.29 53 P **P** **03 23 49.2 -1.1**
AKTO Aktyubinsk 28.29 53 P **P** **03 23 49.3 -1.0**
AKTO pmax pmax
comp=Z,3.0nm,0.7s,mb4.0
AKTO MLR MLR
comp=Z,488nm,18.1s,MS4.1
AKTO Aktyubinsk 28.29 53 P **P** **03 23 49.2 -1.1**
comp=Z,3.0nm,0.7s,mb4.0,baz=270,slow=10,SNR=12
AKTO LR LR 03 38 02.1
comp=Z,488nm,18.1s,MS4.1,baz=110,slow=43
APA Apatity 29.82 9⇑ *i*P **P** **03 24 02.0 -1.7**
APA pmax pmax
comp=Z,18nm,1.2s,mb4.7
APA MLR MLR
comp=Z,2μm,10.0s,MS4.9
ARU Arti 30.23 42 *e*P **P** **03 24 06.2 -1.3**
comp=Z,9.3nm,0.6s,mb4.7
ARU Arti 30.23 42 *d i*P **P** **03 24 06.0 -1.5**
ARU *e*PPP 03 25 10.5
ARU *e* 03 27 03.9
ARU *e*S **S** **03 29 05.4 -1.5**
ARU *e*SSS 03 30 49.9
ARU pmax pmax
comp=Z,23nm,1.5s,mb4.7
ARU MLR MLR
comp=Z,872nm,16.0s,MS4.5
ARU Arti 30.23 42 *e*P **P** **03 24 06.2 -1.3**
comp=Z,9.3nm,0.6s,mb4.7
TORD Torodi Ar. Bea 30.85 220 P **P** **03 24 13.2 -0.1**
comp=Z,19nm,0.5s,mb5.2,baz=29,slow=9.1,SNR=314
TORD ScP ScP 03 30 53.8 +0.6
comp=Z,1.3nm,0.9s,baz=28,slow=1.2,SNR=4.5
TORD LR LR 03 37 50.1
comp=Z,377nm,20.1s,MS4.0,baz=10.0,slow=39
ARCES ARCESS Array B 31.13 3 P **P** **03 24 13.7 -1.5**
ARCES 03 27 09.5
ARCES pmax pmax
comp=Z,7.0nm,0.6s
ARCES MLR MLR
comp=Z,2μm,18.9s
ARCES ARCESS Array B 31.13 3 P **P** **03 24 13.7 -1.6**
comp=Z,7.4nm,0.6s,mb4.7,baz=195,slow=8.9,SNR=51
ARCES PcP PcP 03 27 09.5 -0.6
comp=Z,1.9nm,0.7s,baz=188,slow=2.5,SNR=4.9
ARCES LR LR 03 37 52.5
comp=Z,2μm,18.9s,MS4.7,baz=182,slow=39
ARCES ARCESS Array B 31.13 3 PcP PcP 03 27 09.5 -0.6
TRO Tromso 31.19 358 *e*P **P** **03 24 13.3 -2.4**
TRO AMb AMB 03 24 29.3
comp=Z,76nm,1.7s,mb5.2
TRO Tromso 31.19 358 *e*P **P** **03 24 13.3 -2.5**
comp=Z,76nm,1.7s,mb5.2,SNR=27
KEV Kevo 31.41 4 *e*p **P** **03 24 16.0 -1.7**
comp=Z,6.8nm,0.6s,mb4.7
KEV Kevo 31.41 4 *e*P **P** **03 24 16.0 -1.7**
KEV pmax pmax
comp=Z,7.0nm,0.6s,mb4.7
SVE Sverdlovsk 31.44 42⇓ *e*P **P** **03 24 17.9 -0.3**
SVE pmax pmax
comp=Z,39nm,0.9s,mb5.2
SVE MLR MLR
comp=Z,905nm,13.0s,MS4.6
BSY Bisya 34.20 107 P **P** **03 24 43.2 +0.6**
SNR=6.3
BSY Bisya 34.20 107 P **P** **03 24 43.2 +0.6**
SNR=6.3
SMDO Samad 34.65 106 P **P** **03 24 46.3 -0.3**
SNR=10
SMDO Samad 34.65 106 P **P** **03 24 46.3 -0.3**
SNR=10
ZRNK Zerenda 35.40 50 *i*P **P** **03 24 52.1 -0.6**
ZRNK pmax pmax
comp=Z,11nm,1.1s,mb4.7
WBK Wadi Bani Khal 35.61 106 P **P** **03 24 57.1 +2.3**
SNR=7.2
WBK Wadi Bani Khal 35.61 106 P **P** **03 24 57.1 +2.3**
SNR=7.2
BRVK Borovoye 36.18 50 *e*P **P** **03 24 59.0 -0.4**
comp=Z,12nm,0.9s,mb4.8
BRVK Borovoye 36.18 50 *e*P **P** **03 24 59.0 -0.3**
BRVK pmax pmax
comp=Z,12nm,0.9s,mb4.8
BRVK Borovoye 36.18 50 P **P** **03 24 59.2 -0.1**
SNR=7.1
BRVK Borovoye 36.18 50 P **P** **03 24 59.2 -0.1**
SNR=7.1
BRVK Borovoye 36.18 50 *e*P **P** **03 24 59.0 -0.3**
comp=Z,12nm,0.9s,mb4.8
KK31 Karatay Array 36.88 67 *i*P **P** **03 25 05.5 0.0**
KK31 pmax pmax
comp=Z,33nm,0.5s,mb5.4
EKS2 Erkin-Say 39.32 67 P **P** **03 25 26.5 +0.5**
SNR=55
AML Almayashu 39.37 68 *e*P **P** **03 25 26.3 -0.2**
comp=Z,17nm,0.6s,mb4.9
AML Almayashu 39.37 68 P **P** **03 25 26.7 +0.2**
SNR=12
AML Almayashu 39.37 68 *e*P **P** **03 25 26.3 -0.2**
comp=Z,17nm,0.6s,mb4.9
USP Osenovka 39.71 66 P **P** **03 25 28.3 -1.0**
SNR=9.9
DBIC Dimbokro 39.73 224 P **P** **03 25 29.5 -0.2**
DBIC pmax pmax
comp=Z,16nm,0.7s
DBIC MLR MLR
comp=Z,580nm,20.5s
DBIC Dimbokro 39.73 224 P **P** **03 25 29.5 -0.3**
comp=Z,16nm,0.7s,mb4.8,baz=21,slow=12,SNR=21
DBIC LR LR 03 42 58.9
comp=Z,580nm,20.5s,MS4.4,baz=13,slow=38
AAK Ala-Archa 39.84 67 P **P** **03 25 30.6 +0.2**
comp=Z,341nm,0.8s,mb6.1,SNR=25
AAK Ala-Archa 39.84 67 P **P** **03 25 30.6 +0.2**
SNR=43
FRU Bishkek 39.89 66⇓ *i*P **P** **03 25 30.5 -0.3**
FRU *e* 03 31 38.0
FRU pmax pmax
comp=Z,133nm,1.6s,mb5.4
FRU Bishkek 39.89 66 *e*S **S** **03 31 38.0 +2.3**
UCH Uchtor 39.95 67 *e*P **P** **03 25 29.0 -2.2**
comp=Z,36nm,1.1s,mb5.0
UCH Uchtor 39.95 67 P **P** **03 25 32.5 +1.2**
SNR=20
UCH Uchtor 39.95 67 *e*P **P** **03 25 29.0 -2.3**
comp=Z,36nm,1.1s,mb5.0
CHMS Chumysh 39.95 66 P **P** **03 25 31.3 0.0**
SNR=11
KBK Karagaybulak 40.16 67 P **P** **03 25 34.0 +1.0**
SNR=16
KZA Kyzart 40.51 67 P **P** **03 25 37.7 +1.7**
SNR=20
TKM2 Tokmak 2 40.57 66 *e*P **P** **03 25 36.0 -0.4**
comp=Z,13nm,0.7s,mb4.7
TKM2 Tokmak 2 40.57 66 *e*P **P** **03 25 36.0 -0.4**
TKM2 pmax pmax
comp=Z,13nm,0.7s,mb4.7
TKM2 Tokmak 2 40.57 66 P **P** **03 25 36.3 -0.1**
SNR=8.6
TKM2 Tokmak 2 40.57 66 *e*P **P** **03 25 36.0 -0.4**
comp=Z,13nm,0.7s,mb4.7
ULHL Ulahol 41.19 67 P **P** **03 25 42.6 +1.0**
SNR=22
KURK Kurchatov 41.38 54 P **P** **03 25 42.7 -0.3**
comp=Z,165nm,1.0s,mb5.6,SNR=8.1
KURK Kurchatov 41.38 54 *e*P **P** **03 25 41.8 -1.2**
comp=Z,34nm,1.0s,mb4.9
KURK *e* 03 25 47.6
KURK Kurchatov 41.38 54 *e*P **P** **03 25 41.8 -1.2**
KURK *e* 03 25 47.7
KURK pmax pmax
comp=Z,34nm,1.0s,mb4.9
KURK Kurchatov 41.38 54 P **P** **03 25 42.8 -0.3**
SNR=16
KURK Kurchatov 41.38 54 P **P** **03 25 42.8 -0.3**
SNR=16
KSH Kashi 41.71 71 *e*P **P** **03 25 47.3 +1.5**
KSH *e*AP pP 03 25 51.2 +2.9
KSH *e*XP sP 03 25 53.6 +4.4
KSH *e*PP PP 03 27 25.6 +3.5
KSH *e*PCP PcP 03 27 43.0 +0.7
KSH *e*SCP ScP 03 31 32.3 -0.5
KSH PCS PcS 03 31 33.6 -0.1
KSH S **S** **03 32 03.0 +0.1**
KSH XS sS 03 32 10.4 +3.5
KSH SS SS 03 35 02.1 -6.0
KSH SCS ScS 03 35 47.5 -2.0
KSH AMB AMB
comp=Z,115nm,0.6s,mb5.7
KSH AMB AMB
comp=Z,519nm,3.3s
KSH LR LR
comp=N,554nm,7.9s
KSH LR LR
comp=E,563nm,6.6s
KSH LR LR
comp=Z,466nm,4.9s
KMBO Kilima Mbogo 42.03 156 *e*P **P** **03 25 49.0 +0.3**
comp=Z,2.1nm,0.8s,mb3.8
KMBO Kilima Mbogo 42.03 156 P **P** **03 25 50.6 +2.0**
KMBO pmax pmax
comp=Z,1.0nm,0.6s
KMBO MLR MLR
comp=Z,161nm,20.5s
KMBO Kilima Mbogo 42.03 156 P **P** **03 25 50.5 +1.9**
comp=Z,1.4nm,0.6s,mb3.8,baz=26,slow=6.7,SNR=6.2
KMBO LR LR 03 43 59.2
comp=Z,161nm,20.5s,MS3.9,baz=318,slow=37
KMBO Kilima Mbogo 42.03 156 *e*P **P** **03 25 49.0 +0.4**
comp=Z,2.1nm,0.8s,mb3.8
NVS Novosibirsk 43.81 47 *i*P **P** **03 26 02.3 -0.4**
NVS *e* 03 27 45.2
NVS *e*S **S** **03 32 31.2 -2.2**
NVS pmax pmax
comp=Z,39nm,1.2s,mb5.0
NVS pmax pmax
comp=N,4.0nm,0.5s
NVS pmax pmax
comp=E,10.0nm,1.0s
NVS smax
comp=N,8.0nm,0.6s
NVS smax
comp=E,4.0nm,0.6s
MK31 Makanchi Array 44.39 59 *i*P **P** **03 26 06.7 -0.8**
MK31 pmax pmax
comp=Z,16nm,0.4s,mb5.1
MKAR Makanchi Array 44.39 59 P **P** **03 26 06.2 -1.2**
MKAR PcP PcP 03 27 50.1 -1.1
MKAR ScP ScP 03 31 42.7 -0.8
MKAR LR LR 03 46 57.2
MKAR Makanchi Array 44.39 59 P **P** **03 26 06.2 -1.2**
comp=Z,22nm,0.6s,mb5.1,baz=276,slow=7.4,SNR=87
MKAR PcP PcP 03 27 50.1 -1.1
comp=Z,8.8nm,0.8s,baz=250,slow=2.9,SNR=2.9
MKAR ScP ScP 03 31 42.7 -0.8
comp=Z,1.8nm,0.7s,baz=314,slow=3.5,SNR=6.0
MKAR LR LR 03 46 57.2
comp=Z,524nm,21.7s,MS4.4,baz=269,slow=39
ZAL Zalesovo 44.81 48 P **P** **03 26 09.7 -1.0**
ZAA0 Zalesovo Array 44.82 48 *e*P **P** **03 26 09.4 -1.4**
ZAA0 Zalesovo Array 44.82 48 *e*P **P** **03 26 09.4 -1.4**
ZALV Zalesovo Beam 44.82 48 P **P** **03 26 09.7 -1.1**
comp=Z,22nm,0.6s,mb5.2,baz=276,slow=8.5,SNR=75
ZALV LR LR 03 47 07.3
comp=Z,343nm,19.7s,MS4.3,baz=122,slow=39
WMQ Urumqi 48.85 62 P **P** **03 26 42.2 -0.2**
WMQ XP sP 03 26 50.0 +4.2
WMQ PCP PcP 03 28 07.0 0.0
WMQ S **S** **03 33 44.0 -1.9**
WMQ XS sS 03 33 53.0 +3.0
WMQ SCS ScS 03 36 31.0 -4.1
WMQ AMB AMB
comp=Z,35nm,0.8s,mb5.4
WMQ AMB AMB
comp=Z,163nm,5.6s
WMQ LR LR
comp=N,617nm,21.1s,MS4.8
WMQ LR LR
comp=E,651nm,16.7s,MS4.8
WMQ LR LR
comp=Z,540nm,19.8s,MS4.5
POO Poona 49.35 99 *e*P **P** **03 26 48.0 +1.4**
HYB Hyderabad 53.64 96 *i*P **P** **03 27 20.0 +1.2**
HYB Hyderabad 53.64 96 *e*P **P** **03 27 20.0 +1.2**
LSZ Lusaka 53.89 172 *e*P **P** **03 27 18.9 -1.5**
comp=Z,91nm,0.7s,mb5.8
LSZ Lusaka 53.89 172 *e*P **P** **03 27 18.9 -1.5**
LSZ pmax pmax
comp=Z,91nm,0.7s,mb5.8
LSZ Lusaka 53.89 172 *e*P **P** **03 27 18.9 -1.5**
comp=Z,91nm,0.7s,mb5.8
MOY Mondy 54.88 48 *e*P **P** **03 27 27.3 0.0**
TLY Talaya 56.42 48 *e*P **P** **03 27 36.9 -1.5**
comp=Z,15nm,1.2s,mb4.9
TLY Talaya 56.42 48⇓ *i*P **P** **03 27 37.4 -1.0**
TLY *e*S **S** **03 35 25.9 -3.3**
TLY *e* 03 37 29.9
TLY *e*SS SS 03 39 12.9 -2.8
TLY pmax pmax
comp=Z,9.0nm,1.0s,mb4.8
TLY MLR MLR
comp=Z,570nm,17.0s,MS4.7
TLY Talaya 56.42 48 P **P** **03 27 38.3 -0.1**
SNR=9.7
TLY Talaya 56.42 48 P **P** **03 27 38.3 -0.1**
SNR=9.7
TLY Talaya 56.42 48 *e*P **P** **03 27 36.9 -1.5**
comp=Z,15nm,1.2s,mb4.9
ZAK Zakamensk 56.69 49 *e*P **P** **03 27 39.9 -0.4**
ZAK pmax pmax
comp=Z,5.0nm,0.9s,mb4.5
LSA Lhasa 57.03 76 P **P** **03 27 42.8 -0.3**
TSUM Tsumeb 57.56 184 *e*P **P** **03 27 43.3 -3.4**
comp=Z,5.3nm,0.9s,mb4.6
TSUM Tsumeb 57.56 184 *e*P **P** **03 27 43.3 -3.4**
comp=Z,5.2nm,0.9s,mb4.6
SCHQ Schefferville 58.77 317 P **P** **03 27 53.3 -1.5**
comp=Z,8.0nm,0.5s,mb5.0,baz=65,slow=7.7,SNR=36
SCHQ LR LR 03 50 25.6
comp=Z,266nm,18.2s,MS4.4,baz=238,slow=33
GTA Gaotai 58.91 62 *e*P **P** **03 27 55.1 -1.0**
GTA AP pP 03 27 59.2 +0.6
GTA XP sP 03 28 02.4 +2.8
GTA PCP PcP 03 28 46.2 +0.8
GTA PP PP 03 30 06.8 +0.8
GTA PCS PcS 03 32 46.8 -0.3
GTA S **S** **03 35 57.8 -4.5**
GTA SCS ScS 03 37 41.4 -5.0
GTA SS SS 03 39 49.7 -5.7
GTA AMB AMB
comp=Z,13nm,1.0s,mb4.9
GTA AMB AMB
comp=Z,132nm,5.3s
GTA LR LR
comp=N,283nm,22.4s,MS4.4
GTA LR LR
comp=E,226nm,24.3s,MS4.4
GTA LR LR
comp=Z,415nm,25.1s,MS4.5
TIXI Tiksi 59.02 21 *e*P **P** **03 27 55.0 -1.3**
comp=Z,5.8nm,0.8s,mb4.7
TIXI Tiksi 59.02 21⇑ *e*P **P** **03 27 54.7 -1.6**
TIXI pmax pmax
comp=Z,16nm,2.4s,mb4.6
TIXI MLR MLR
comp=Z,800nm,22.0s,MS4.8
TIXI Tiksi 59.02 21 *e*P **P** **03 27 55.0 -1.3**
comp=Z,5.8nm,0.8s,mb4.7
BOD Bodaibo 59.57 38 *e*P **P** **03 27 57.8 -2.6**
BOD pmax pmax
comp=Z,8.0nm,1.0s,mb4.7
SONM Songino Array 59.58 51 P **P** **03 28 00.0 -0.6**
SONM pmax pmax
comp=Z,4.0nm,0.6s
SONM pmax pmax
comp=N,1.0nm,0.8s
SONM MLR MLR
comp=Z,336nm,19.4s
SONM Songino Array 59.58 51 P **P** **03 27 60.0 -0.6**
comp=Z,3.7nm,0.6s,mb4.6,baz=288,slow=8.7,SNR=38
SONM ScP ScP 03 32 50.8 +1.8
comp=Z,1.0nm,0.8s,baz=298,slow=5.1,SNR=4.2
SONM LR LR 03 56 12.7
comp=Z,336nm,19.4s,MS4.5,baz=154,slow=39
RES Resolute Bay 59.65 344 *e*P **P** **03 28 00.7 0.0**
comp=Z,347nm,1.0s,mb6.3
RES Resolute Bay 59.65 344 *e*P **P** **03 28 00.7 0.0**
comp=Z,347nm,1.0s,mb6.3
SHL Shillong 59.66 80 *e*P **P** **03 28 00.5 -1.0**
ULN Ulaanbaatar 59.96 51 *e*P **P** **03 28 02.1 -1.2**
comp=Z,11nm,0.8s,mb4.9
ULN Ulaanbaatar 59.96 51 *e*P **P** **03 28 02.1 -1.1**
ULN pmax pmax
comp=Z,11nm,0.8s,mb4.9
ULN Ulaanbaatar 59.96 51 *e*P **P** **03 28 02.1 -1.1**
comp=Z,11nm,0.8s,mb4.9
LZH Lanzhou 63.29 64 *e*P **P** **03 28 25.4 -0.5**
LZH AP pP 03 28 28.4 0.0
LZH XP sP 03 28 30.2 +0.9
LZH PP PP 03 30 46.0 +1.2
LZH *e*S **S** **03 36 54.1 -4.0**
LZH SS SS 03 41 03.0 -1.0
LZH AMB AMB
comp=Z,28nm,1.0s,mb5.3
LZH AMB AMB

comp=Z,89nm,4.4s
LZH LR LR
comp=N,480nm,15.6s
LZH LR LR
comp=Z,778nm,16.5s,MS5.0
YAK Yakutsk 64.38 30⇑ eP P 03 28 31.5 -1.1
YAK pmax pmax
comp=Z,18nm,0.7s,mb5.2
YAK MLR MLR
comp=Z,600nm,23.0s,MS4.7
CD2 Chengdu 65.86 69 P P 03 28 41.8 -0.9
CD2 AP pP 03 28 46.6 +1.3
CD2 XP sP 03 28 49.0 +2.8
CD2 PP PP 03 31 09.0 +1.6
CD2 S S 03 37 26.5 -3.5
CD2 XS sS 03 37 34.2 +0.1
CD2 SS SS 03 41 42.5 -1.8
CD2 AMB AMB
comp=Z,30nm,0.9s,mb5.3
CD2 AMB AMB
comp=Z,80nm,5.8s
CD2 LR LR
comp=N,300nm,20.4s
CD2 LR LR
comp=Z,320nm,20.4s,MS4.5
HHC Hu-ho-hao-te 66.14 56 eP P 03 28 40.3 -4.1
HHC PP PP 03 31 08.9 -0.7
HHC PCS 03 33 16.3
HHC S S 03 37 23.7 -9.4
HHC SCS ScS 03 38 30.7 -10
HHC SS SS 03 41 44.1 -4.0
HHC AMB AMB
comp=Z,13nm,0.5s,mb5.2
HHC AMB AMB
comp=Z,103nm,7.2s
HHC LR LR
comp=N,365nm,21.1s,MS4.7
HHC LR LR
comp=E,444nm,24.9s,MS4.7
HHC LR LR
comp=Z,446nm,17.3s
XAN Xi'an 67.91 64 P P 03 28 54.0 -1.8
XAN AP pP 03 29 03.7 +5.4
XAN XP sP 03 29 07.0 +7.8
XAN AMB AMB
comp=Z,10.0nm,1.4s,mb4.7
XAN AMB AMB
comp=Z,86nm,7.4s
XAN LR LR
comp=E,179nm,29.5s
XAN LR LR
comp=Z,277nm,19.7s
ACCN Adirondack Com 68.14 309 eP P 03 28 57.4 +0.3
comp=Z,18nm,0.9s,mb5.1
ACCN Adirondack Com 68.14 309 eP P 03 28 57.4 +0.3
comp=Z,18nm,0.9s,mb5.1
KMI Kunming 68.20 75 P P 03 28 55.4 -2.3
KMI AP pP 03 29 00.9 +0.6
KMI XP sP 03 29 03.1 +1.9
KMI PP PP 03 31 28.1 +0.1
KMI S S 03 37 57.1 -1.3
KMI XS sS 03 38 06.0 +3.4
KMI AMB AMB
comp=Z,5.0nm,1.0s,mb4.5
KMI AMB AMB
comp=Z,84nm,4.2s
KMI LR LR
comp=N,202nm,22.2s,MS4.4
KMI LR LR
comp=E,185nm,24.9s,MS4.4
KMI LR LR
comp=Z,140nm,33.7s
CHTO Chiang Mai 68.80 82 eP P 03 28 59.8 -1.8
comp=Z,8.7nm,1.0s,mb4.6
CHTO Chiang Mai 68.80 82 eP P 03 28 59.8 -1.8
CHTO pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
CHTO Chiang Mai 68.80 82 eP P 03 28 59.8 -1.8
comp=Z,8.7nm,1.0s,mb4.6
GYA Guiyang 70.41 71 P P 03 29 11.6 +0.2
GYA AP pP 03 29 15.8 +1.9
GYA XP sP 03 29 18.7 +3.8
GYA PCP PcP 03 29 34.2 +1.3
GYA PP PP 03 31 49.7 +2.7
GYA S S 03 38 22.4 -2.0
GYA SKS 03 39 09.3
GYA SS SS 03 42 54.6 -0.2
GYA AMB AMB
comp=Z,20nm,1.0s,mb5.0
GYA AMB AMB
comp=Z,120nm,6.8s
GYA LR LR
comp=N,690nm,21.0s,MS5.0
GYA LR LR
comp=E,580nm,22.8s,MS5.0
GYA LR LR
comp=Z,510nm,23.4s,MS4.7
BILL Bilibino 70.47 13 eP P 03 29 10.1 -1.0
comp=Z,12nm,0.9s,mb4.8
BILL Bilibino 70.47 13⇑ iP P 03 29 09.9 -1.2
BILL pmax pmax
comp=Z,19nm,1.2s,mb4.9
BILL MLR MLR
comp=Z,400nm,25.0s,MS4.6
BILL Bilibino 70.47 13 eP P 03 29 10.1 -1.0
comp=Z,12nm,0.9s,mb4.8
SEY Seymchan 71.50 21⇑ eP P 03 29 17.5 +0.1
INK Inuvik 71.85 351 eP P 03 29 18.4 -1.0
comp=Z,298nm,0.9s,mb6.2
INK Inuvik 71.85 351 eP P 03 29 18.5 -0.9
comp=Z,298nm,0.9s,mb6.2
SSPA Standing Stone 72.29 308 eP P 03 29 22.6 +0.1
comp=Z,19nm,1.0s,mb5.0
SSPA Standing Stone 72.29 308 eP P 03 29 22.6 +0.1
comp=Z,19nm,1.0s,mb5.0
CN2 Changchun 73.02 47 eP P 03 29 25.8 -1.1
CN2 eAP pP 03 29 30.4 +1.0
CN2 PCP PcP 03 29 44.5 +0.8
CN2 eS S 03 38 42.3 -12
CN2 AMB AMB
comp=Z,20nm,0.9s,mb5.0
CN2 LR LR
comp=N,300nm,14.0s,MS4.9
CN2 LR LR
comp=E,300nm,14.0s,MS4.9
CN2 LR LR
comp=Z,400nm,14.0s,MS4.8
KLR Kul'dur 73.06 40 eP P 03 29 22.0 -5.0
SNY Shenyang 73.11 50 ⇓P P 03 29 29.7 +2.3
SNY S S 03 38 53.1 -2.0
SNY AMB AMB
comp=Z,17nm,1.1s,mb4.9
SNY AMB AMB
comp=Z,124nm,5.0s
SNY LR LR
comp=N,472nm,19.6s
SNY LR LR
comp=Z,461nm,19.8s,MS4.8
YKA Yellowknife Ar 73.34 340 P P 03 29 27.7 -0.6
comp=Z,6.8nm,0.7s,mb4.7,baz=34,slow=5.5,SNR=85
MA2 Magadan 73.62 24 P P 03 29 30.2 +0.1
MA2 e 03 29 49.0
MA2 e 03 32 10.3
MA2 eS S 03 39 00.2 -0.1
MA2 e 03 39 41.8
MA2 pmax pmax
comp=Z,20nm,0.9s,mb5.0
MA2 MLR MLR
comp=Z,700nm,22.2s,MS4.9
WHN Wuhan 73.67 64 eP P 03 29 31.6 +0.7
GLMI Grayling 73.73 315 eP P 03 29 31.8 +0.8
comp=Z,30nm,0.8s,mb5.3
MCWV Mont Chateau 74.08 308 eP P 03 29 32.2 -0.9
comp=Z,16nm,0.7s,mb5.1
MCWV Mont Chateau 74.08 308 eP P 03 29 32.2 -0.9
comp=Z,16nm,0.7s,mb5.1
MDJ Mudanjiang 74.86 45 P P 03 29 42.4 +4.8
MDJ PP PP 03 32 31.0 +6.6
MDJ AMB AMB
comp=Z,7.0nm,0.8s,mb4.6
MDJ AMB AMB
comp=Z,31nm,4.5s
MDJ LR LR
comp=N,62nm,31.1s,MS3.8
MDJ LR LR
comp=E,44nm,28.4s,MS3.8
MDJ LR LR
comp=Z,70nm,25.3s,MS3.9
FFC Flin Flon 75.29 330 P P 03 29 40.4 +0.5
comp=Z,52nm,0.7s,mb5.6,SNR=5.0
COWI Conover 75.37 318 eP P 03 29 40.5 0.0
comp=Z,16nm,0.9s,mb4.9
COWI Conover 75.37 318 eP P 03 29 40.5 0.0
comp=Z,16nm,0.9s,mb4.9
ACSO Alum Creek Sta 75.63 310 eP P 03 29 42.7 +0.6
comp=Z,16nm,0.8s,mb5.0
ACSO Alum Creek Sta 75.63 310 eP P 03 29 42.7 +0.6
comp=Z,16nm,0.8s,mb5.0
IMA2 Indian Mountai 75.66 358 eP P 03 29 42.4 +0.6
NJ2 Nanjing 75.91 60 eP P 03 29 44.7 +0.9
NJ2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.9
ULM Lac du Bonnet 75.91 324 P P 03 29 42.6 -0.9
comp=Z,19nm,0.9s,mb5.0,baz=44,slow=5.8,SNR=31
ULM LR LR 04 02 18.8
comp=Z,231nm,18.1s,MS4.5,baz=38,slow=35
COLA College 76.59 355⇑ eP P 03 29 47.4 +0.3
DAWY Dawson 76.63 352 eP P 03 29 47.6 +0.3
DAWY Dawson 76.63 352 eP P 03 29 47.7 +0.4
AGMN Agassiz Refuge 77.26 323 eP P 03 29 50.1 -1.1
comp=Z,6.4nm,0.8s,mb4.6
AGMN Agassiz Refuge 77.26 323 eP P 03 29 50.1 -1.1
comp=Z,6.4nm,0.8s,mb4.6
MCK McKinley 77.79 356 eP P 03 29 52.8 -1.1
MCK pmax pmax
comp=Z,19nm,1.0s,mb5.0
MCK McKinley 77.79 356 eP P 03 29 52.8 -1.1
comp=Z,20nm,1.0s,mb5.0
BLO Bloomington 78.42 311 eP P 03 29 57.7 -0.1
comp=Z,20nm,0.8s,mb5.1
BLO Bloomington 78.42 311 eP P 03 29 57.7 -0.1
BLO pmax pmax
comp=Z,20nm,0.8s,mb5.1
BLO Bloomington 78.42 311 eP P 03 29 57.7 -0.1
comp=Z,20nm,0.8s,mb5.1
KSRS Korea Array 78.45 51 P P 03 29 55.8 -2.3
comp=Z,7.4nm,0.7s,mb4.7,baz=312,slow=4.7,SNR=22
KSRS LR LR 04 08 49.1
comp=Z,298nm,20.2s,MS4.6,baz=315,slow=39
TTA Tatalina 78.86 359 eP P 03 30 00.0 +0.2
TTA pmax pmax
comp=Z,22nm,1.3s,mb4.9
TTA Tatalina 78.86 359 eP P 03 30 00.0 +0.2
comp=Z,22nm,1.3s,mb4.9
SML Sawmill 79.67 355 eP P 03 30 03.7 -0.5
SML Sawmill 79.67 355 eP P 03 30 03.7 -0.5
YSS Yuzh-Sakhalins 79.98 37⇑ eP P 03 30 04.3 -1.9
YSS pmax pmax
comp=Z,28nm,1.2s,mb5.1
YSS MLR MLR
comp=Z,300nm,16.0s,MS4.7
GOGA Godfrey 80.23 305 eP P 03 30 05.7 -2.2
comp=Z,13nm,1.1s,mb4.8
GOGA Godfrey 80.23 305 eP P 03 30 05.7 -2.1
GOGA pmax pmax
comp=Z,13nm,1.1s,mb4.8
GOGA Godfrey 80.23 305 eP P 03 30 05.7 -2.1
comp=Z,13nm,1.1s,mb4.8
EDM Edmonton 80.64 334 eP P 03 30 09.3 -0.3
SVW2 Sparrevohn 80.69 359 eP P 03 30 10.5 +0.8
ECSD EROS,Sioux Fal 80.86 320 eP P 03 30 10.6 -0.4
comp=Z,9.9nm,0.9s,mb4.7
ECSD EROS,Sioux Fal 80.86 320 eP P 03 30 10.6 -0.4
comp=Z,9.9nm,0.9s,mb4.7
WVT Waverly 81.19 309 eP P 03 30 12.2 -0.7
comp=Z,10nm,1.1s,mb4.7
WVT Waverly 81.19 309 eP P 03 30 12.2 -0.7
WVT pmax pmax
comp=Z,10.0nm,1.1s,mb4.7
WVT Waverly 81.19 309 eP P 03 30 12.2 -0.7
comp=Z,10nm,1.1s,mb4.7
FVM French Village 81.49 312 eP P 03 30 13.9 -0.6
comp=Z,8.4nm,0.8s,mb4.7
FVM French Village 81.49 312 eP P 03 30 13.9 -0.6
FVM pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
FVM French Village 81.49 312 eP P 03 30 13.9 -0.6
comp=Z,8.4nm,0.8s,mb4.7
PET Petropavlovsk 81.51 25 eP P 03 30 13.2 -1.1
PET eS S 03 40 22.7 -3.2
PET MLR MLR
comp=Z,800nm,18.0s,MS5.1
PET MLR MLR
comp=Z,700nm,15.0s
CCM Cathedral Cave 81.92 313 eP P 03 30 16.3 -0.4
CCM pmax pmax
comp=Z,6.0nm,0.6s,mb4.7
CCM Cathedral Cave 81.92 313 eP P 03 30 16.3 -0.4
comp=Z,6.1nm,0.6s,mb4.7
ASAJ Asahikawa 81.98 39 LR LR 04 10 28.5
comp=Z,772nm,18.3s,MS5.1,baz=348,slow=38
PLAL Pickwick Lake 82.10 309 eP P 03 30 17.0 -0.7
comp=Z,12nm,0.9s,mb4.8
PLAL Pickwick Lake 82.10 309 eP P 03 30 17.0 -0.8
comp=Z,12nm,0.9s,mb4.8
LRAL Lakeview Retre 82.72 307 eP P 03 30 20.8 -0.2
comp=Z,20nm,0.9s,mb5.1
WRAK Wrangell Islan 82.86 346 eP P 03 30 11.8 -9.4
JNU Nakatsue 83.10 53 LR LR 04 12 07.1
comp=Z,280nm,18.8s,MS4.7,baz=169,slow=39
LAO LASA Array 83.16 327 eP P 03 30 23.5 +0.4
comp=Z,55nm,1.4s,mb5.4
LAO LASA Array 83.16 327 eP P 03 30 23.5 +0.5
comp=Z,55nm,1.4s,mb5.4
EGMT Eagleton 83.56 330 ⇓P P 03 30 25.7 +0.6
baz=83
EGMT Eagleton 83.56 330 eP P 03 30 25.6 +0.5
comp=Z,31nm,1.1s,mb5.4
RSSD Black Hills 84.18 324 eP P 03 30 27.9 -0.5
comp=Z,5.4nm,0.8s,mb4.7
RSSD Black Hills 84.18 324 eP P 03 30 27.9 -0.4
RSSD pmax pmax
comp=Z,5.0nm,0.8s,mb4.7
RSSD Black Hills 84.18 324 eP P 03 30 27.9 -0.4
comp=Z,5.4nm,0.8s,mb4.7
KSU1 Kansas State U 84.18 316 eP P 03 30 27.1 -1.3
comp=Z,28nm,1.0s,mb5.3
KSU1 Kansas State U 84.18 316 eP P 03 30 27.1 -1.3
comp=Z,28nm,1.0s,mb5.3
BDFB Brasilia 84.43 245 P P 03 30 32.6 +2.7
BDFB pmax pmax
comp=Z,2.0nm,0.7s
BDFB MLR MLR
comp=Z,228nm,19.0s
BDFB Brasilia 84.43 245 P P 03 30 32.6 +2.7
comp=Z,1.7nm,0.7s,mb4.3,baz=64,slow=16,SNR=3.9
BDFB LR LR 04 09 25.9
comp=Z,228nm,19.0s,MS4.6,baz=278,slow=37
A13A Flathead Natio 84.58 333 ⇑P P 03 30 30.7 +0.5
baz=84
UALR University of 84.81 311 eP P 03 30 32.1 +0.4
comp=Z,9.8nm,0.8s,mb5.0
UALR University of 84.81 311 eP P 03 30 32.1 +0.4
comp=Z,9.8nm,0.8s,mb5.0
B13A Whitefish 85.07 332 ⇑P P 03 30 33.0 +0.2
baz=85
MAT Matsushiro 85.13 46 P P 03 30 31.9 -1.4
MAT S S 03 41 00.4 -2.8
MJAR Matsushiro Arr 85.13 46 P P 03 30 32.2 -1.1
comp=Z,6.1nm,0.8s,mb4.8,baz=313,slow=4.8,SNR=15
MJAR LR LR 04 16 37.2
comp=Z,256nm,18.1s,MS4.7,baz=325,slow=41
A11A Hall Mountain, 85.25 334 ⇓P P 03 30 34.3 +0.7
baz=85
C14A Swan Lake 85.31 332 ⇓P P 03 30 34.2 +0.3
baz=85
GCMT Greycliff 85.33 328 eP P 03 30 30.0 -4.1
GCMT Greycliff 85.33 328 eP P 03 30 30.0 -4.1
D15A Lincoln 85.45 330 ⇑P P 03 30 35.0 +0.4
baz=85
JOW Kunigami 85.56 59 LR LR 04 13 54.9
comp=Z,160nm,20.7s,MS4.4,baz=130,slow=39
C13A Hot Springs 85.69 332 ⇑P P 03 30 36.6 +0.8
baz=85
MIAR Mount Ida 85.70 311 eP P 03 30 36.5 +0.4
comp=Z,16nm,0.9s,mb5.2
MIAR Mount Ida 85.70 311 eP P 03 30 36.5 +0.3
MIAR pmax pmax
comp=Z,16nm,0.9s,mb5.2
MIAR Mount Ida 85.70 311 eP P 03 30 36.5 +0.3
comp=Z,16nm,0.9s,mb5.2
D14A Greenough 85.79 331 P P 03 30 36.5 +0.2
baz=85,SNR=8.9
A09A Danville 85.99 335 ⇑P P 03 30 38.3 +1.0
baz=86
E15A Deer Lodge 86.00 330 P P 03 30 38.3 +0.9
baz=86,SNR=7.3
NEW Newport 86.11 334 eP P 03 30 37.8 -0.1
comp=Z,8.0nm,0.8s,mb5.0
NEW Newport 86.11 334 eP P 03 30 37.8 -0.1
NEW pmax pmax
comp=Z,8.0nm,0.8s
NEW Newport 86.11 334 eP P 03 30 37.8 -0.1
comp=Z,7.9nm,0.8s,mb5.0
D13A Huson 86.14 332 P P 03 30 38.4 +0.3
baz=86,SNR=15
BOZ Bozeman (W) 86.25 329 eP P 03 30 38.7 +0.1
comp=Z,9.0nm,1.3s,mb4.8
BOZ Bozeman (W) 86.25 329 eP P 03 30 38.7 +0.1
BOZ pmax pmax
comp=Z,9.0nm,1.3s,mb4.8
BOZ Bozeman (W) 86.25 329 ⇑P P 03 30 39.3 +0.6
baz=86
BOZ Bozeman (W) 86.25 329 eP P 03 30 38.7 +0.1
comp=Z,9.0nm,1.3s,mb4.8
SDV Santo Domingo 86.27 278 eP P 03 30 38.1 -1.1
comp=Z,19nm,1.4s,mb5.1
B09A Rice 86.32 334 P P 03 30 39.8 +0.9
baz=86,SNR=6.9
E14A Clinton 86.34 331 P P 03 30 39.5 +0.4
baz=86,SNR=8.3
F15A Butte 86.43 330 P P 03 30 40.1 +0.5
baz=86,SNR=7.4
D12A Red Ives Fores 86.51 332 ⇓P P 03 30 40.6 +0.7
baz=86
E13A Victor 86.58 331 P P 03 30 40.7 +0.4
baz=86,SNR=8.5
F14A Wisdom 86.80 330 ⇑P P 03 30 41.7 +0.3
baz=86
QLMT Earthquake Lak 86.83 329 eP P 03 30 42.4 +0.9
C09A Chrisman Ranch 86.90 334 ⇓P P 03 30 42.3 +0.5
baz=86
G15A Dillon 86.98 329 P P 03 30 43.3 +1.0
baz=87,SNR=5.0
C08A Higginbotham F 87.18 335 ⇑P P 03 30 43.5 +0.3
baz=87
F13A Darby 87.19 331 ⇓P P 03 30 43.5 +0.2
baz=87
E11A Bogner Ranch, 87.41 332 ⇑P P 03 30 43.7 -0.6
baz=87
D09A Jones Farm, Ri 87.55 334 ⇓P P 03 30 44.9 0.0
baz=87
F12A Elk City 87.56 331 P P 03 30 45.1 +0.1
baz=87,SNR=8.9
PDAR Pinedale Array 87.72 326 P P 03 30 45.6 -0.2
comp=Z,4.1nm,0.8s,mb4.7,baz=46,slow=2.5,SNR=21
PDAR LR LR 04 08 17.1
comp=Z,326nm,19.0s,MS4.8,baz=36,slow=34
G13A Cobalt 87.73 330 ⇓P P 03 30 46.0 +0.1
baz=87
F11A Grangeville 87.79 332 ⇓P P 03 30 45.7 -0.4
baz=87
F10A Beach Ranch, E 88.11 333 ⇓P P 03 30 48.0 +0.4
baz=88
H13A Challis 88.18 330 ⇓P P 03 30 49.3 +1.3
baz=88
ISCO Idaho Springs 88.27 322 eP P 03 30 48.7 +0.2
comp=Z,3.4nm,0.7s,mb4.7
ISCO Idaho Springs 88.27 322 eP P 03 30 48.7 +0.2
ISCO pmax pmax
comp=Z,3.0nm,0.7s,mb4.6
ISCO Idaho Springs 88.27 322 eP P 03 30 48.7 +0.2
comp=Z,3.4nm,0.7s,mb4.7
WMOK Wichita Mounta 88.55 315 eP P 03 30 48.7 -1.3
comp=Z,6.1nm,0.8s,mb5.0
WMOK Wichita Mounta 88.55 315 eP P 03 30 48.7 -1.2
WMOK pmax pmax
comp=Z,6.0nm,0.8s,mb5.0
WMOK Wichita Mounta 88.55 315 eP P 03 30 48.7 -1.2
comp=Z,6.1nm,0.8s,mb5.0
HAWA Hanford 88.55 334 eP P 03 30 49.3 -0.4
comp=Z,9.6nm,0.8s,mb5.2
G10A Bishop Farm, J 88.65 332 ⇑P P 03 30 49.7 -0.5
baz=88
I13A Wildhorse Cree 88.67 330 ⇓P P 03 30 50.2 -0.2
baz=88,SNR=6.9
H10A Noah's Angus R 89.11 332 ⇑P P 03 30 52.0 -0.4
baz=89
HWUT Hardware Ranch 89.53 327 eP P 03 30 54.0 -0.4
comp=Z,204nm,1.2s,mb6.3
HWUT Hardware Ranch 89.53 327 eP P 03 30 54.0 -0.4
comp=Z,204nm,1.2s,mb6.3
I10A Payette 89.56 331 ⇑P P 03 30 54.7 +0.1
baz=89
K13A Stover Farm, H 89.72 329 ⇓P P 03 30 55.4 +0.1
baz=89
MFID Camas Ranch 89.76 330 ⇓P P 03 30 56.0 +0.5
baz=89
H07A Lands Inn, Kim 90.13 333 ⇓P P 03 30 58.4 +1.2
baz=90
K11A Parker Ranch, 90.39 330 ⇑P P 03 30 58.9 +0.5
baz=90
L12A House Creek Ra 90.52 329 ⇓P P 03 30 59.5 +0.4
baz=90
J09A Fry Pan Ranch, 90.55 332 ⇓P P 03 30 59.8 +0.7
baz=90
I07A Izee 90.55 333 ⇓P P 03 30 59.6 +0.4
baz=90
N14A Grayback Hills 90.84 327 ⇓P P 03 31 01.0 +0.4
baz=90
I06A Prineville 90.92 333 ⇓P P 03 31 01.4 +0.5
baz=90
M12A Wells 91.09 329 ⇑P P 03 31 02.8 +1.1
baz=91
K09A Rome 91.10 331 ⇓P P 03 31 01.8 +0.1
baz=91
L10A Juniper Basin 91.15 330 ⇑P P 03 31 02.2 +0.2
baz=91
DUG Dugway 91.23 327 eP P 03 31 02.2 -0.1
comp=Z,8.2nm,0.9s,mb5.1
DUG Dugway 91.23 327 eP P 03 31 02.3 -0.1
DUG pmax pmax
comp=Z,8.0nm,0.9s,mb5.0
DUG Dugway 91.23 327 ⇓P P 03 31 03.1 +0.7
baz=91
DUG Dugway 91.23 327 eP P 03 31 02.2 -0.2
comp=Z,8.2nm,0.9s,mb5.1
N13A Wendover, West 91.27 328 ⇓P P 03 31 03.6 +1.0
baz=91
J06A Christmas Vall 91.51 333 ⇓P P 03 31 04.9 +1.3
baz=91
N12A Clover Valley, 91.61 329 ⇓P P 03 31 05.2 +1.1
baz=91
ROSC El Rosal 91.63 277 LR LR 04 08 52.8
comp=Z,72nm,20.7s,MS4.1,baz=189,slow=33
L09A Wilkinson Ranc 91.66 331 ⇑P P 03 31 05.6 +1.3
baz=91
WVOR Wild Horse Val 91.67 332 eP P 03 31 04.8 +0.4
WVOR pmax pmax
comp=Z,9.0nm,1.1s,mb5.0
WVOR Wild Horse Val 91.67 332 eP P 03 31 04.8 +0.4
comp=Z,9.4nm,1.1s,mb5.0
K07A Rock Creek Ran 91.67 332 ⇑P P 03 31 05.3 +0.9
baz=91
MVCO Mesa Verde 91.69 322 eP P 03 31 03.6 -1.0
comp=Z,3.3nm,0.9s,mb4.7
MVCO Mesa Verde 91.69 322 eP P 03 31 03.6 -1.0
comp=Z,3.3nm,0.9s,mb4.7
L08A Fields 91.77 331 ⇓P P 03 31 06.0 +1.2
baz=91
K05A Summer Lake 92.23 333 ⇑P P 03 31 08.2 +1.2
baz=92
L07A Adell 92.29 332 ⇑P P 03 31 08.1 +0.9
baz=92
MSU Marysvale 92.34 325 eP P 03 31 08.0 +0.4
MSU Marysvale 92.34 325 eP P 03 31 07.9 +0.3
P13A Bates Ranch, G 92.36 327 ⇓P P 03 31 08.8 +1.1
baz=92
O11A Cowboy Ranch, 92.47 329 ⇓P P 03 31 08.5 +0.3
baz=92
ANMO Albuquerque 92.48 320 eP P 03 31 08.9 +0.6
P12A McGill 92.72 328 ⇑P P 03 31 10.0 +0.7
baz=92
L05A Lakeview 92.80 333 ⇓P P 03 31 10.5 +0.9
baz=92
Q12A Willow Creek R 93.05 327 ⇑P P 03 31 11.5 +0.7
baz=93
BNM Barren Site 93.19 319 eP P 03 31 11.3 -0.3
BNM Barren Site 93.19 319 eP P 03 31 11.3 -0.3
N06A Buffalo Meadow 93.58 332 ⇓P P 03 31 12.8 -0.4
baz=93

T15A	Red Dirt Ranch	93.66	325	⇑P		P	03 31 13.6 -0.1
	baz=93						
R11A	Troy Canyon, C	93.95	328	⇑P		P	03 31 15.1 +0.1
	baz=94						
R10A	Warm Springs	94.30	328	⇓P		P	03 31 17.2 +0.6
	baz=94						
T13A	Saint George	94.34	326	⇑P		P	03 31 17.6 +0.8
	baz=94						
WUAZ	Wupatki	94.43	323	⇑P		P	03 31 17.5 +0.3
	baz=94						
U14A	Mt Trumbull	94.52	325	⇓P		P	03 31 18.5 +0.9
	baz=94						
T11A	Corn Creek, Al	94.73	327	⇑P		P	03 31 19.4 +0.9
	baz=94						
NVAR	Mina Array Bea	94.99	329	P		P	03 31 20.1 +0.3
	comp=Z,1.0nm,0.5s,mb4.5,baz=75,slow=4.2,SNR=5.0						
V14A	Boquillas Ranc	95.13	324	⇑P		P	03 31 21.5 +1.0
	baz=95						
S09A	Goldfield	95.16	328	⇑P		P	03 31 21.5 +1.0
	baz=95						
ORV	Oroville	95.23	332	⇑P		P	03 31 20.9 +0.1
	baz=95						
TXAR	Lajitas Array	95.33	314	P		P	03 31 22.3 +0.8
TXAR				PP		PP	03 35 15.4 +4.4
TXAR				LR		LR	04 18 43.9
TXAR	Lajitas Array	95.33	314	P		P	03 31 22.3 +0.8
	comp=Z,3.3nm,0.8s,mb4.8,baz=61,slow=3.7,SNR=29						
TXAR				PP		PP	03 35 15.4 +4.4
	comp=Z,1.4nm,1.1s,baz=68,slow=6.9,SNR=4.2						
TXAR				LR		LR	04 18 43.9
	comp=Z,148nm,18.7s,MS4.5,baz=330,slow=38						
TXAR	Lajitas Array	95.33	314	PP		PP	03 35 15.4 +4.4
X16A	Lo Mia Camp, P	95.36	323	⇓P		P	03 31 22.5 +1.0
	baz=95						
TPNV	Topopah Spring	95.41	327	⇑P		P	03 31 21.2 -0.5
	baz=95						
W14A	Seligman	95.47	324	⇑P		P	03 31 22.9 +0.9
	baz=95						
X15A	Humboldt	95.67	323	⇓P		P	03 31 24.1 +1.1
	baz=95						
Y16A	Circle Bar Ran	95.81	322	⇓P		P	03 31 24.5 +0.9
	baz=96						
X14A	Yava	95.99	324	⇑P		P	03 31 25.7 +1.2
	baz=96						
Y15A	Casa Rosa Ranc	96.16	323	⇑P		P	03 31 25.7 +0.5
	baz=96						
X13A	Yucca	96.32	324	⇑P		P	03 31 26.6 +0.7
	baz=96						
218A	Dragoon	96.65	320	⇑P		P	03 31 28.0 +0.5
	baz=96						
PDMCI	Parker Dam,Lak	96.71	324	⇓P		P	03 31 28.2 +0.6
	baz=96						
LPAZ	La Paz	99.75	257	LR		LR	04 18 15.4
	comp=Z,115nm,18.6s,MS4.4,baz=63,slow=36						
MIDW	Midway	111.26	18	*e*PKIKP		PKiKP	03 36 28.5 -2.8
WRA	Warramunga Arr	119.71	93	PKIKP		PKPdf	03 36 45.8 -1.7
WRA				pmax		pmax	
	comp=Z,2.0nm,0.6s						
WRA	Warramunga Arr	119.71	93	PKP		PKPdf	03 36 45.8 -1.7
	comp=Z,1.5nm,0.6s,baz=325,slow=1.9,SNR=15						
WB2	Warramunga Arr	119.72	93	*e*PKP		PKPdf	03 36 45.8 -1.7
ASAR	Alice Springs	121.38	97	PKIKP		PKPdf	03 36 49.7 -0.9
ASAR				pmax		pmax	
	comp=Z,2.0nm,0.6s						
ASAR	Alice Springs	121.38	97	PKP		PKPdf	03 36 49.6 -1.0
	comp=Z,1.8nm,0.6s,baz=310,slow=1.7,SNR=15						
STKA	Stephens Creek	131.28	101	*e*PKP		PKPdf	03 37 11.4 +2.1
	comp=Z,1.9nm,0.6s						
STKA	Stephens Creek	131.28	101	PKP		PKPdf	03 37 10.6 +1.3
	comp=Z,2.6nm,0.7s,baz=259,slow=1.7,SNR=6.4						
PPT	Papeete	157.72	337	*e*LR		LR	04 31 02.1
	comp=Z,172nm,24.5s						
TBI	Tubuai	163.04	331	*e*LR		LR	04 33 31.9
	comp=Z,197nm,23.8s						

IDC ***10*** *03:27:37.1±1.2,3845N×2158E,h0km,mb3.7/8, mb1 3.8/11,mb1mx3.7/24,mbtmp3.6/11,ML3.6/3,MS3.7/1, Ms1 3.7/1,ms1mx2.7/35,Error ellipse: s-maj=25.9km s-min=18.3km az=119.0*

MOS ***10*** *03:27:38.4±0.9,3845N×2165E,h18km,mb3.8/6,Error ellipse: s-maj=9.2km s-min=5.2km az=82.7*

ISCJB ***10*** *03:27:38.0±0.4,3851N±002×2158E±003,h9km±3km, mb3.7/9,Error ellipse: s-maj=4.1km s-min=2.9km az=37.2*

NEIC ***10*** *03:27:39.1,3851N×2162E,h4km,ML4.1(THE), ML3.3(ATH),After THE.*

CSEM ***10*** *03:27:39.0±0.1,3853N×2160E,h5km,mb3.7/4,Error ellipse: s-maj=1.8km s-min=1.4km az=44.0*

THE ***10*** *03:27:39.1,3851N×2162E,h3km,ML4.1*

ISC 10 03:27:39.0±0.4,3852N±002×2163E±003,h5km±3km,n88, σ1°**18**/105**,mb3.7/9,1C-3D,Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SELA	Sela	0.32	140	*e*Pg	Pg	03 27 44.7	-0.5
SELA				*e*Sg	Sg	03 27 50.4	+1.0
EVR	Evrytania	0.42	20	P	Pg	03 27 46.9	-0.1
RLS	Riolos of Patr	0.48	195	P	Pg	03 27 49.3	+1.1
AGG	Agios Georgios	0.74	48	*e*Pg	Pg	03 27 52.7	-0.5
AGG				*e*Sg	Sg	03 28 04.3	+1.5
KFL	Anninata	0.78	238	*e*Pg	Pg	03 27 53.6	-0.3
LKD	Levkas	0.79	284	*e*Pg	Pg	03 27 53.2	-0.8
LKD				*e*Sg	Sg	03 28 05.0	+0.7
LTK	Loutraki	1.17	115	*e*Pg	Pg	03 28 01.8	+0.5
LTK				*e*Sg	Sg	03 28 18.1	+1.7
VLX	Vlachokerasia	1.29	152	*e*Pg	Pg	03 28 02.2	-1.6
VLX				*e*Sg	Sg	03 28 21.5	+1.0
MEV	Metsovon	1.30	346	*e*Pg	Pg	03 28 03.4	-0.4
IGT	Igoumenitsa	1.43	315	*e*Pg	Pg	03 28 04.6	-1.7
IGT				*e*Sg	Sg	03 28 24.6	-0.2
DID	Didima	1.63	128	*e*Pb	Pb	03 28 08.3	-1.2
DID				*e*Sb	Sb	03 28 29.6	-0.7
DID	Didima	1.63	128	*e*Pb	Pb	03 28 08.3	-1.1
DID				*e*Sb	Sb	03 28 29.5	-0.8
PYL	PYLOS	1.63	177	*e*Pg	Pg	03 28 08.3	-1.8
LIT	Litokhoron	1.71	23	*e*Pb	Pb	03 28 09.7	-1.2
LIT				*e*Sb	Sb	03 28 32.6	-0.2
KZN	Kozani	1.79	4	P	Pg	03 28 14.4	+1.2
SRN	Sarande	1.85	318	*e*PN	Pg	03 28 14.6	+0.1
SRN				*i* SN	Sg	03 28 45.0	+6.5
AOS	Alonnisos	1.88	69	*e*Pb	Pb	03 28 11.1	-2.6
PAIG	Paliouri	2.12	48	*e*Pn	Pn	03 28 13.9	-1.2
KBN	Korca	2.20	343	*e*PN	Pn	03 28 19.3	+3.2
KBN				*i* SN	Sg	03 28 57.0	+7.5
FNA	Florina	2.27	355	*e*Pn	Pn	03 28 17.5	+0.4
FNA				*e*Sn	Sn	03 28 46.9	+1.4
PLG	Polygyros	2.33	37	*e*Pn	Pn	03 28 17.3	-0.6
THE	Thessaloniki	2.35	26	*e*Pn	Pn	03 28 18.5	+0.3
HORT	Hortiatis	2.37	28	*e*Pn	Pn	03 28 18.5	+0.1
GRG	Griva	2.50	14	*e*Pn	Pn	03 28 20.7	+0.3
BIA	Bitola	2.50	355	*e*Pn	Pn	03 28 20.6	+0.3
BIA	Bitola	2.50	355	*e*Pn	Pn	03 28 22.2	+1.9
OUR	Ouranopolis	2.57	44	*e*Pn	Pn	03 28 20.4	-0.8
SOH	Sokhos	2.66	30	*e*Pn	Pn	03 28 22.0	-0.5
OHR	Ohrid	2.66	346	*e*Pn	Pn	03 28 28.3	+5.7
KNT	Kendrikon	2.81	20	*e*Pn	Pn	03 28 24.6	0.0
KRUS	Krusevo	2.86	354	*e*Pn	Pn	03 28 27.6	+2.3
KRUS	Krusevo	2.86	354	*e*Pn	Pn	03 28 27.5	+2.3
VAY	Valandovo	2.89	14	*e*Pn	Pn	03 28 26.5	+0.9
TIR	Tirane	3.13	335	*e*PN	Pg	03 28 38.7	-0.2
TIR				*i* SN	Sg	03 29 28.5	+9.0
LCI	Lecce	3.27	305	Pn	Pn	03 28 29.5	-1.4
QSH	Qafa e Shtames	3.27	337	*e*PN	Pn	03 28 33.0	+2.0
QSH				*i* SN	Sg	03 29 22.0	-2.1
NVR	Nevrokopi	3.31	31	P	Pn	03 28 35.5	+4.1
APE	Apeiranthos	3.42	114	*e*Pn	Pn	03 28 32.4	-0.5
CHOS	Chios island	3.48	91	*e*Pn	Pn	03 28 34.2	+0.5
CHOS	Chios island	3.48	91	*e*Pn	Pn	03 28 34.2	+0.4
KARN	Karanos	3.61	149	*e*Pn	Pn	03 28 36.3	+0.7
TIP	Timpagrande	3.86	281	P	Pn	03 28 39.4	+0.4
GRI	Girifalco	4.09	276	Pn	Pn	03 28 43.4	+1.3
ALN	Alexandroupoli	4.15	54	*e*Pn	Pn	03 28 42.9	-0.2
SMG	Samos	4.19	100	P	Pn	03 28 45.1	+1.6
VTS	Vitosha	4.24	16	*e*Pn	Pn	03 28 44.8	+0.6
VTS	Vitosha	4.24	16	⇑*i*P	Pn	03 28 45.2	+1.0
SGO	Sicignano	5.29	295	P	Pn	03 28 59.5	+0.8
SGO				pmax	pmax		
	comp=Z,23nm,0.5s						
SGO	Sicignano	5.29	295	Pn	Pn	03 28 59.5	+0.8
	comp=Z,23nm,0.5s						
FGMS	Monte Sant'Ang	5.39	308	Pn	Pn	03 28 59.4	-0.6
	comp=Z,13nm,0.3s						
RGNG	Rignano Grg	5.60	306	Pn	Pn	03 29 01.7	-1.2
CSSN	Cassano Irpino	5.60	297	Pn	Pn	03 29 04.6	+1.6
	comp=Z,11nm,0.3s						
FG5	Orsara di Pugl	5.61	301	P	Pn	03 29 03.5	+0.4
FG5				pmax	pmax		
	comp=Z,21nm,0.5s						
FG5	Orsara di Pugl	5.61	301	Pn	Pn	03 29 03.5	+0.4
	comp=Z,21nm,0.5s						
SDI	San Donato	6.78	300	P	Pn	03 29 21.3	+2.1
SDI				pmax	pmax		
	comp=Z,26nm,1.0s						
SDI	San Donato	6.78	300	P	Pn	03 29 21.3	+2.1
	comp=Z,26nm,1.0s						
MLR	Muntele Rosu	7.67	23	Pn	Pn	03 29 34.3	+3.0
	comp=Z,0.7nm,0.3s,baz=204,slow=9.6,SNR=8.3						
MLR	Muntele Rosu	7.67	23	⇓*i*P	Pn	03 29 33.7	+2.4
NRCA	Norcia	7.77	306	Pn	Pn	03 29 33.2	+0.5
	comp=Z,9.9nm,0.7s						
SNTG	Esanatoglia	8.10	308	Pn	Pn	03 29 38.7	+1.5
PLOR	Plostina	8.22	25	⇓*i*P	Pn	03 29 42.6	+3.8
VRI	Vrincioaia	8.26	26	⇓*i*P	Pn	03 29 42.6	+3.3
BOJS	Bojanci	8.44	328	*i* Pn	Pn	03 29 40.2	-1.6
BOJS				*i* Sn	Sn	03 31 18.0	+0.6
BOJS	Bojanci	8.44	328	*i* Sn	Sn	03 31 18.0	+0.6
FSSB	Fossombrone	8.44	311	Pn	Pn	03 29 42.2	+0.3
CEY	Cerknica	8.97	326	*i* Pn	Pn	03 29 49.0	-0.2
CEY				*i* Sn	Sn	03 31 31.5	+0.9
PERS	Pernice	9.42	331	*i* Pn	Pn	03 29 57.9	+2.6
PERS				*i* Sn	Sn	03 31 39.9	-1.7
KECS	Kecovo	9.99	356	*e*PN	Pn	03 30 00.0	-3.1
VYHS	Vyhne	10.17	349	*e*PN	Pn	03 30 03.6	-2.0
GERES	GERESS Array B	11.80	334	Pn	Pn	03 30 27.9	0.0
	comp=Z,0.1nm,0.3s,baz=165,slow=11,SNR=4.1						
GERES				LR	LR	03 35 37.3	
	comp=Z,350nm,18.0s,baz=147,slow=40						
AKASG	Malin Array Be	13.31	21	Pn	Pn	03 30 48.8	+0.3
	comp=Z,0.1nm,0.3s,baz=210,slow=13,SNR=2.1						
HFS	Hagfors	22.21	349	P	P	03 32 35.4	-0.6
HFS				pmax	pmax		
	comp=Z,2.0nm,0.7s						
HFS	Hagfors	22.21	349	P	P	03 32 35.4	-0.6
	comp=Z,1.9nm,0.7s,mb3.7,baz=139,slow=9.2,SNR=8.1						
FINES	FINESS Array B	23.11	5	P	P	03 32 44.6	-1.0
FINES				pmax	pmax		
	comp=Z,2.0nm,0.8s						
FINES	FINESS Array B	23.11	5	P	P	03 32 44.6	-1.0
	comp=Z,1.7nm,0.8s,mb3.5,baz=168,slow=9.8,SNR=4.6						
NB2	NORSAR Subarra	23.46	347	P	P	03 32 47.8	-1.5
	comp=Z,2.0nm,0.8s,mb3.6,baz=159,slow=9.3						
NOA	NORSAR Array B	23.46	347	P	P	03 32 47.9	-1.4
NOA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
NOA	NORSAR Array B	23.46	347	P	P	03 32 47.9	-1.3
	comp=Z,1.1nm,0.7s,mb3.4,baz=159,slow=8.7,SNR=5.0						
EKA	Eskdalemuir Ar	23.66	323	P	P	03 32 51.4	+0.1
EKA				pmax	pmax		
	comp=Z,3.0nm,0.9s						
EKA	Eskdalemuir Ar	23.66	323	P	P	03 32 51.4	+0.1
	comp=Z,3.1nm,0.9s,mb3.7,baz=140,slow=6.6,SNR=4.0						
TORD	Torodi Ar. Bea	30.85	220	P	P	03 33 55.2	-1.0
	comp=Z,1.5nm,0.9s,mb3.8,baz=30,slow=8.8,SNR=22						
ARCES	ARCESS Array B	31.14	3	P	P	03 33 57.5	-0.8
ARCES				pmax	pmax		
	comp=Z,3.0nm,1.1s						
ARCES	ARCESS Array B	31.14	3	P	P	03 33 57.5	-0.8
	comp=Z,2.6nm,1.1s,mb4.0,baz=196,slow=9.4,SNR=3.8						
MKAR	Makanchi Array	44.38	59	P	P	03 35 48.9	-1.4
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
MKAR	Makanchi Array	44.38	59	P	P	03 35 48.9	-1.4
	comp=Z,0.6nm,0.6s,mb3.5,baz=266,slow=9.2,SNR=4.6						
ZALV	Zalesovo Beam	44.81	48	P	P	03 35 51.9	-1.7
	comp=Z,0.9nm,0.5s,mb3.9,baz=281,slow=10,SNR=3.8						
YKA	Yellowknife Ar	73.36	340	P	P	03 39 10.3	-1.1
YKA	Yellowknife Ar	73.36	340	P	P	03 39 10.3	-1.1
	comp=Z,0.3nm,0.7s,mb3.3,baz=30,slow=5.0,SNR=4.9						

IGQ 10 03:28:17.7,217S×7965W,h26km±4km,Mb4.0,Ms3.8, 7C-6D,Error ellipse: s-maj=6.6km s-min=3.2km az=74.4, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGUA	Igualata	1.21	56	⇑P	Pn	03 28 41.1	+2.1
IGUA	Igualata	1.21	56	⇑S	Sn	03 28 58.0	+3.4
ARRY	Arrayan	1.36	61	⇓P	Pn	03 28 42.8	+1.8
ARRY	Arrayan	1.36	61	⇓S	Sn	03 29 00.9	+2.6
PATA	Patacocha	1.38	61	⇑P	Pn	03 28 43.5	+2.1
PATA	Patacocha	1.38	61	⇑S	Sn	03 29 01.7	+2.9
TAMB	Tambo	1.95	41	⇑P	Pn	03 28 52.5	+3.4
VC1	Cotopaxi 1	1.96	39	⇑P	Pn	03 28 52.9	+3.6
TERV	Terraza Guagua	2.24	28	⇓P	Pn	03 28 56.2	+3.0
TERV	Terraza Guagua	2.24	28	⇓S	Sn	03 29 24.6	+4.6
GGP	Refugio Guagua	2.25	28	⇑P	Pn	03 28 56.4	+3.2
PINO	Pino	2.25	28	⇓P	Pn	03 28 56.1	+2.8
PINO	Pino	2.25	28	⇓S	Sn	03 29 23.2	+2.9
ANTI	Antisana	2.27	41	P	Pn	03 28 56.4	+2.9

ISCJB ***10*** *03:28:31.2±0.8,3844N±007×2165E±007,h33km±10km, Error ellipse: s-maj=12.7km s-min=8.7km az=156.3*

CSEM ***10*** *03:28:31.9±0.2,3850N×2160E,h10km,ML3.9,Error ellipse: s-maj=6.6km s-min=4.6km az=179.0*

THE ***10*** *03:28:31.6,3851N×2161E,h14km,ML3.9*

NEIC ***10*** *03:28:31.6,3851N×2161E,h15km,ML3.9(THE),After THE.*

ISC 10 03:28:31.8±0.7,3850N±006×2161E±005,h14km±10km,n7, σ0°**81**/11**,Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SELA	Sela	0.32	135	*e*Pg	Pg	03 28 37.9	-0.5
SELA				*e*Sg	Sg	03 28 43.4	+0.6
SELA	Sela	0.32	135	*e*Pg	Pg	03 28 37.9	-0.5
SELA				*e*Sg	Sg	03 28 43.3	+0.6
KFL	Anninata	0.75	239	*e*Pg	Pg	03 28 46.3	-0.2
AGG	Agios Georgios	0.77	47	*e*Pg	Pg	03 28 46.3	-0.5
AGG				*e*Sg	Sg	03 28 57.4	+0.4
LKD	Levkas	0.78	286	*e*Pg	Pg	03 28 45.9	-1.0
LKD				*e*Sg	Sg	03 28 57.9	+0.8
SOI	Samo	4.39	266	Pn	Pn	03 29 37.0	-1.0
SCLL	Scilla	4.64	269	Pn	Pn	03 29 42.9	+1.5

IDC ***10*** *03:32:32.8±1.2,3845N×2160E,h0km,mb3.8/9, mb1 3.9/11,mb1mx3.8/23,mbtmp3.8/11,ML3.9/2,Error ellipse: s-maj=25.0km s-min=19.3km az=118.0*

CSEM ***10*** *03:32:34.8±0.1,3853N×2156E,h12km,mb3.8/5,Error ellipse: s-maj=1.5km s-min=1.2km az=42.0*

THE ***10*** *03:32:34.8,3853N×2163E,h3km,ML4.1*

ISCJB ***10*** *03:32:34.2±0.4,3853N±002×2159E±003,h10km±3km, mb3.7/10,Error ellipse: s-maj=3.9km s-min=2.7km az=139.5*

NEIC ***10*** *03:32:34.8,3853N×2163E,h0km,ML4.1(THE), ML3.3(ATH),After THE.*

MOS ***10*** *03:32:34.1±0.9,3848N×2164E,h14km,mb4.0/6,Error ellipse: s-maj=10.4km s-min=4.9km az=79.2*

ISC 10 03:32:35.2±0.4,3852N±002×2161E±003,h9km±3km,n99, σ1°**21**/122**,mb3.7**/10**,1C,Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SELA	Sela	0.33	138	*e*Pg	Pg	03 32 40.9	-0.8
SELA				*e*Sg	Sg	03 32 46.6	+0.6
SELA	Sela	0.33	138	*e*Pg	Pg	03 32 40.8	-0.8
SELA				*e*Sg	Sg	03 32 46.6	+0.6
EVR	Evrytania	0.43	21	P	Pg	03 32 42.9	-0.6
RLS	Riolos of Patr	0.47	194	P	Pg	03 32 44.8	+0.4
AGG	Agios Georgios	0.75	48	*e*Pg	Pg	03 32 48.3	-1.4
AGG				*e*Sg	Sg	03 32 60.0	+0.5
KFL	Anninata	0.77	238	*e*Pg	Pg	03 32 48.9	-1.0
LKD	Levkas	0.78	284	*e*Pg	Pg	03 32 49.0	-1.1
LKD				*e*Sg	Sg	03 33 01.9	+1.7
LTK	Loutraki	1.18	114	*e*Pg	Pg	03 32 57.4	-0.3
LTK				*e*Sg	Sg	03 33 14.4	+1.4
JAN	Janina	1.28	333	P	Pn	03 32 59.6	+0.3
VLX	Vlachokerasia	1.30	152	*e*Pg	Pg	03 32 58.4	-1.6
VLX				*e*Sg	Sg	03 33 18.1	+1.2
MEV	Metsovon	1.30	347	*e*Pg	Pg	03 32 58.6	-1.5
MEV				*e*Sg	Sg	03 33 18.5	+1.6
ITM	Ithomi	1.36	169	P	Pn	03 33 04.8	+4.5
IGT	Igoumenitsa	1.42	316	*e*Pg	Pg	03 33 01.0	-1.4
IGT				*e*Sg	Sg	03 33 21.7	+0.9
NEO	Neokhori	1.48	57	P	Pn	03 33 02.1	+0.1
PYL	PYLOS	1.62	176	*e*Pb	Pb	03 33 04.6	-0.7
PYL				*e*Sb	Sb	03 33 25.9	0.0
DID	Didima	1.63	128	*e*Pb	Pb	03 33 04.6	-0.9
DID				*e*Sb	Sb	03 33 27.2	+1.0
LIT	Litokhoron	1.72	23	*e*Pb	Pb	03 33 05.5	-1.4
KZN	Kozani	1.79	4	P	Pn	03 33 08.4	+2.1
SRN	Sarande	1.85	318	*e*PN	Pn	03 33 09.4	+2.4
SRN				*i* SN	Sg	03 33 41.1	+6.6
AOS	Alonnisos	1.89	69	*e*Pb	Pb	03 33 07.0	-2.7
AOS				*e*Sb	Sb	03 33 32.2	-1.3
PAIG	Paliouri	2.13	48	*e*Pn	Pn	03 33 10.1	-0.9
KBN	Korca	2.20	343	*e*PN	Pn	03 33 15.0	+3.2
KBN				*i* SN	Sg	03 33 51.1	+5.4
FNA	Florina	2.27	355	*e*Pn	Pn	03 33 13.7	+0.8
PLG	Polygyros	2.33	37	*e*Pn	Pn	03 33 12.7	-1.0
THE	Thessaloniki	2.36	26	*e*Pn	Pn	03 33 14.2	+0.1
THE				*e*Sn	Sn	03 33 44.6	+1.5
HORT	Hortiatis	2.37	29	*e*Pn	Pn	03 33 13.3	-1.0
BIA	Bitola	2.51	355	*e*Pn	Pn	03 33 16.5	+0.4
BIA	Bitola	2.51	355	*e*Pn	Pn	03 33 18.1	+2.0
GRG	Griva	2.51	14	*e*Pn	Pn	03 33 16.2	+0.1
OUR	Ouranopolis	2.58	45	*e*Pn	Pn	03 33 16.4	-0.7
OHR	Ohrid	2.66	347	*e*Pn	Pn	03 33 19.0	+0.7
SOH	Sokhos	2.66	30	*e*Pn	Pn	03 33 18.2	-0.1
KNT	Kendrikon	2.82	20	*e*Pn	Pn	03 33 20.8	+0.4
KRUS	Krusevo	2.86	355	*i* Pn	Pn	03 33 23.3	+2.3
KRUS	Krusevo	2.86	355	*i* Pn	Pn	03 33 23.2	+2.2
VAY	Valandovo	2.89	14	*e*Pn	Pn	03 33 21.6	+0.1
VAY	Valandovo	2.89	14	*i* Pn	Pn	03 33 22.6	+1.2
LOS	Limnos	3.04	61	*e*Pn	Pn	03 33 23.1	-0.4
TIR	Tirane	3.13	335	*e*PN	Pg	03 33 34.0	-1.1
STIP	Stip	3.20	8	*e*Pn	Pn	03 33 25.8	+0.1
STIP	Stip	3.20	8	*i* Pn	Pn	03 33 27.8	+2.1
QSH	Qafa e Shtames	3.27	337	*e*PN	Pn	03 33 28.0	+1.4
QSH				*i* SN	Sg	03 34 20.5	+0.2
NVR	Nevrokopi	3.31	31	P	Pn	03 33 31.0	+3.8
APE	Apeiranthos	3.42	114	*c i*P	Pn	03 33 29.8	+1.1
APE	Apeiranthos	3.42	114	*i* P	Pn	03 33 29.8	+1.1
CHOS	Chios island	3.49	91	*e*Pn	Pn	03 33 30.4	+0.7
PUK	Puka	3.76	340	*e*PN	Pn	03 33 34.7	+1.4
TA1	Taranto	3.84	301	*e*Pn	Pn	03 33 35.5	+1.0
TIP	Timpagrande	3.85	281	P	Pn	03 33 35.5	+1.0
PE1	Pezze di Greco	3.96	307	*e*Pn	Pn	03 33 35.9	-0.1
ALN	Alexandroupoli	4.16	54	*e*Pn	Pn	03 33 39.8	+0.9
SMG	Samos	4.20	99	P	Pn	03 33 40.8	+1.4
VTS	Vitosha	4.25	16	*e*Pn	Pn	03 33 41.4	+1.4
BARS	Barje	4.30	2	*e*Pn	Pg	03 33 42.1	+1.4
SGI	Sgolgore (BA)	4.46	303	*e*Pn	Pn	03 33 43.3	+0.4
MS1	Monte Sant'Ang	5.39	308	*e*Pn	Pn	03 33 55.7	0.0
GRUS	Gruza	5.41	353	*e*Pn	Pn	03 33 55.7	-0.3
DIVS	Divibare	5.71	348	*e*Pn	Pn	03 33 59.6	-0.5
VAE	Valguarnera	5.78	262	Pn	Pn	03 34 05.5	+4.4
	0.7nm,0.3s,baz=242,slow=8.9,SNR=5.0						
VAE				Sn	Sn	03 35 14.8	+7.3
	1.9nm,0.3s,baz=215,slow=11,SNR=3.9						
ISP	Isparta	7.04	93	*e*P	Pn	03 34 20.1	+1.7
MLR	Muntele Rosu	7.68	23	Pn	Pn	03 34 30.2	+3.1
	0.9nm,0.3s,baz=194,slow=18,SNR=7.8						
BOJS	Bojanci	8.43	328	*i* Pn	Pn	03 34 37.4	-0.1
BOJS				*i* Sn	Sn	03 36 09.9	-2.8
CEY	Cerknica	8.97	326	*i* Pn	Pn	03 34 43.1	-1.7
CEY				*i* Sn	Sn	03 36 24.8	-1.2
PERS	Pernice	9.42	332	*i* Pn	Pn	03 34 50.0	-0.9
PERS				*e*Sn	Sn	03 36 32.0	-4.9
ROBS	Robic	9.77	325	*i* Pn	Pn	03 34 57.0	+1.2
ROBS				*i* Sn	Sn	03 36 40.2	-5.4
KECS	Kecovo	9.99	356	*e*Pn	Pn	03 34 55.7	-3.2
KECS				*e*		03 35 04.6	
KECS				*e*Sn	Sn	03 36 54.5	+3.4
KECS	Kecovo	9.99	356	*e*PN	Pn	03 34 55.7	-3.2
KECS				*e*		03 35 04.6	
KECS	Kecovo	9.99	356	*e*SN	Sn	03 36 54.5	+3.4
KECS	Kecovo	9.99	356	*e*Pn	Pn	03 34 55.7	-3.2
KECS				*e*S	Sn	03 36 54.5	+3.4
VYHS	Vyhne	10.17	349	*e*Pn	Pn	03 34 57.7	-3.6
VYHS				*e*		03

0.2nm,0.4s,baz=96,slow=1.5,SNR=5.4
TORD PKPab PKPab 03 58 52.4 -1.7
0.2nm,0.6s,baz=58,slow=2.1,SNR=3.8

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*ISCJB **10** 03:39:18.5±0.4,3856N±002×2166E±003,h0km±4km, Error ellipse: s-maj=3.6km s-min=3.0km az=154.2*
*CSEM **10** 03:39:19.4±0.1,3853N×2167E,h2km,ML3.6,Error ellipse: s-maj=1.7km s-min=1.3km az=102.0*
*THE **10** 03:39:19.4,3856N×2167E,h3km,ML3.6*
*NEIC **10** 03:39:19.4,3856N×2167E,h0km,MD3.7(ATH), ML3.6(THE),After THE.*
*ATH **10** 03:39:19.0,3854N×2165E,h14km±3km,MD3.7/10*
ISC 10 03:39:19.4±0.4,3855N±002×2167E±003,h6km±4km,n42, σ1§06/57,Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SELA	Sela	0.32	147	ePg	Pg	03 39 25.5	-0.2
SELA				eSg	Sg	03 39 31.2	+1.3
EVR	Evrytania	0.38	17	ePB	Pg	03 39 26.7	-0.2
EVR				eSB	Sg	03 39 33.2	+1.3
RLS	Riolos of Patr	0.52	198	ePB	Pg	03 39 29.0	-0.3
AGG	Agios Georgios	0.70	47	ePg	Pg	03 39 32.4	-0.5
AGG				eSg	Sg	03 39 42.6	+0.6
LKD	Levkas	0.81	282	ePg	Pg	03 39 34.3	-0.8
LKD				eSg	Sg	03 39 47.3	+1.7
KFL	Anninata	0.82	238	ePg	Pg	03 39 34.2	-0.9
KFL	Anninata	0.82	238	ePg	Pg	03 39 34.2	-0.9
VLS	Valsamata	0.93	247	ePG	Pg	03 39 36.2	-1.0
VLS				eSB	Sb	03 39 49.5	-0.9
LKR	Lokris	1.05	84	ePG	Pg	03 39 38.9	-0.6
LKR				eSB	Sb	03 39 54.5	+0.5
LKR	Lokris	1.05	84	ePg	Pg	03 39 38.1	-1.4
THL	Klokotos Trika	1.05	15	ePG	Pg	03 39 38.5	-1.1
LTK	Loutraki	1.15	117	ePg	Pg	03 39 41.9	+0.4
LTK				eSg	Sg	03 39 58.1	+1.8
LTK	Loutraki	1.15	117	ePg	Pg	03 39 41.8	+0.4
LTK				eSg	Sg	03 39 58.1	+1.8
JAN	Janina	1.28	330	ePB	Pb	03 39 43.7	-0.2
MEV	Metsovon	1.28	345	ePg	Pg	03 39 43.9	-0.1
MEV				eSg	Sg	03 40 01.3	+0.6
VLX	Vlachokerasia	1.30	154	ePg	Pg	03 39 43.5	-0.8
VLX				eSg	Sg	03 40 02.8	+1.5
VLX	Vlachokerasia	1.30	154	ePg	Pg	03 39 43.5	-0.9
VLX				eSg	Sg	03 40 02.8	+1.5
ITM	Ithomi	1.38	171	ePB	Pb	03 39 45.1	-0.6
NEO	Neokhori	1.43	58	ePG	Pg	03 39 45.7	-1.1
IGT	Igoumenitsa	1.43	314	ePg	Pg	03 39 45.5	-1.4
IGT				eSg	Sg	03 40 07.0	+1.6
DID	Didima	1.62	130	ePb	Pb	03 39 48.1	-1.6
DID				eSb	Sb	03 40 11.6	+1.3
PYL	PYLOS	1.65	178	ePb	Pb	03 39 49.8	-0.5
PYL				eSb	Sb	03 40 11.8	+0.5
LIT	Litokhoron	1.68	22	ePb	Pb	03 39 48.8	-1.9
LIT				eSb	Sb	03 40 11.8	-0.3
KZN	Kozani	1.76	3	ePN	Pn	03 39 51.4	+0.9
AOS	Alonnisos	1.83	70	ePb	Pb	03 39 51.5	-1.9
KEK	Kerkira	1.86	309	ePN	Pn	03 39 52.9	+1.0
PAIG	Paliouri	2.08	48	ePn	Pn	03 39 54.0	-0.9
FNA	Florina	2.24	354	ePn	Pn	03 39 57.6	+0.5
PLG	Polygyros	2.28	36	ePn	Pn	03 39 56.9	-0.8
PLG	Polygyros	2.28	36	ePn	Pn	03 39 56.8	-0.9
HORT	Hortiatis	2.33	28	ePn	Pn	03 39 58.0	-0.3
GRG	Griva	2.47	13	ePn	Pn	03 40 00.9	+0.6
OUR	Ouranopolis	2.53	44	ePn	Pn	03 40 00.8	-0.2
SOH	Sokhos	2.62	29	ePn	Pn	03 40 02.6	+0.3
OHR	Ohrid	2.65	346	ePn	Pn	03 40 04.3	+1.6
KNT	Kendrikon	2.78	20	ePn	Pn	03 40 04.7	+0.2
KRUS	Krusevo	2.84	354	i Pn	Pn	03 40 08.1	+2.8
VAY	Valandovo	2.85	14	ePn	Pn	03 40 05.6	+0.1
VAY	Valandovo	2.85	14	ePn	Pn	03 40 05.5	0.0
SGO	Sicignano	5.31	294	Pn	Pn	03 40 41.0	+1.7
SLNA	Salina	5.36	272	Pn	Pn	03 40 39.9	0.0
NB2	NORSAR Subarra	23.45	347	P	P	03 44 27.1	-2.3
	comp=Z,0.6nm,0.6s,baz=162,slow=11						

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*ATH **10** 03:43:05.8,3856N×2163E,h18km±7km,MD3.7/6*
*CSEM **10** 03:43:06.8±0.1,3852N×2161E,h5km,ML3.6,Error ellipse: s-maj=3.1km s-min=2.5km az=93.0*
*ISCJB **10** 03:43:07.1±0.5,3851N±003×2163E±005,h19km±8km, Error ellipse: s-maj=6.1km s-min=5.5km az=10.6*
*THE **10** 03:43:07.3,3853N×2162E,h3km,ML3.6*
*NEIC **10** 03:43:07.3,3853N×2161E,h0km,MD3.7(ATH), ML3.6(THE),After THE.*
ISC 10 03:43:07.0±0.5,3855N±003×2162E±004,h12km±6km,n18, σ1§23/25,Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SELA	Sela	0.34	142	ePg	Pg	03 43 13.0	-1.0
SELA				eSg	Sg	03 43 18.9	+0.3
EVR	Evrytania	0.40	21	ePB	Pg	03 43 13.7	-1.2
EVR				eSB	Sg	03 43 19.6	-0.7
RLS	Riolos of Patr	0.50	194	ePN	Pg	03 43 15.6	-1.3
RLS				eSN	Sg	03 43 24.2	+0.6
AGG	Agios Georgios	0.73	49	ePg	Pg	03 43 20.9	-0.3
AGG				eSg	Sg	03 43 32.6	+1.9
LKD	Levkas	0.78	282	ePg	Pg	03 43 21.6	-0.6
LKD				eSg	Sg	03 43 33.5	+1.2
LKD	Levkas	0.78	282	ePg	Pg	03 43 21.6	-0.5
LKD				eSg	Sg	03 43 33.5	+1.2
KFL	Anninata	0.79	237	ePg	Pg	03 43 22.1	-0.2
THL	Klokotos Trika	1.06	17	ePN	Pn	03 43 25.7	-2.0
LKR	Lokris	1.08	84	ePN	Pn	03 43 25.9	-2.1
LTK	Loutraki	1.18	116	ePg	Pg	03 43 29.8	0.0
LTK				eSg	Sg	03 43 47.4	+2.4
ITM	Ithomi	1.39	170	ePN	Pn	03 43 32.4	+0.3
NEO	Neokhori	1.46	58	ePN	Pn	03 43 33.8	+0.6
DID	Didima	1.64	129	ePb	Pb	03 43 37.2	0.0
LIT	Litokhoron	1.69	23	ePb	Pb	03 43 38.2	+0.1
AOS	Alonnisos	1.87	70	ePb	Pb	03 43 39.8	-1.2
BIA	Bitola	2.48	355	ePn	Pn	03 43 49.6	+2.5
KRUS	Krusevo	2.83	354	ePn	Pn	03 43 55.0	+3.0
KRUS	Krusevo	2.83	354	ePn	Pn	03 43 55.0	+3.0

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*ISCJB **10** 03:52:44.6±0.5,3858N±003×2153E±004,h8km±5km, Error ellipse: s-maj=5.2km s-min=4.0km az=30.1*
*NEIC **10** 03:52:44.1,3860N×2145E,h27km,MD3.8(ATH),After ATH.*
*ATH **10** 03:52:44.2,3860N×2140E,h20km±3km,MD3.6/7*
*CSEM **10** 03:52:45.0±0.1,3859N×2164E,h2km,MD3.6,Error ellipse: s-maj=2.5km s-min=2.0km az=72.0*
*THE **10** 03:52:46.6,3867N×2155E,h3km,ML3.4*
ISC 10 03:52:45.2±0.5,3856N±003×2154E±004,h11km±5km,n25, σ1§06/38,Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EVR	Evrytania	0.41	31	ePb	Pg	03 52 53.1	-0.2
EVR				ePb	Pg	03 52 53.3	0.0
EVR	Evrytania	0.41	31	ePB	Pg	03 52 53.1	-0.2
EVR				eSB	Sg	03 52 59.6	+0.7
EVR	Evrytania	0.41	31	ePB	Pg	03 52 53.3	0.0
RLS	Riolos of Patr	0.51	187	ePn	Pg	03 52 54.8	-0.3
RLS				ePb	Pg	03 52 55.2	+0.1
RLS	Riolos of Patr	0.51	187	ePN	Pg	03 52 54.8	-0.3
RLS				eSN	Sg	03 53 03.5	+1.7
RLS	Riolos of Patr	0.51	187	ePB	Pg	03 52 55.2	+0.1
LKD	Levkas	0.71	282	ePg	Pg	03 53 00.1	+1.1
LKD				eSg	Sg	03 53 09.7	+1.4
AGG	Agios Georgios	0.77	53	ePg	Pg	03 52 59.2	-0.9
AGG				eSg	Sg	03 53 10.8	+0.6
VLS	Valsamata	0.84	243	ePn	Pg	03 52 59.5	-1.9
VLS				ePn	Pn	03 53 02.3	-0.6
VLS	Valsamata	0.84	243	ePN	Pg	03 52 59.5	-1.9
VLS				eSN	Sg	03 53 09.7	-2.7
VLS	Valsamata	0.84	243	ePN	Pn	03 53 02.3	-0.6
THL	Klokotos Trika	1.07	20	ePN	Pn	03 53 05.3	-0.8
THL	Klokotos Trika	1.07	20	ePN	Pn	03 53 06.1	0.0
LKR	Lokris	1.15	85	ePn	Pn	03 53 05.3	-1.9
LKR				ePn	Pb	03 53 06.7	-0.3
LKR	Lokris	1.15	85	ePB	Pb	03 53 06.7	-0.3
LKR	Lokris	1.15	85	ePN	Pn	03 53 05.3	-1.9
JAN	Janina	1.22	334	ePN	Pn	03 53 09.7	+1.6
MEV	Metsovon	1.25	349	ePg	Pg	03 53 08.0	-1.2
MEV				eSg	Sg	03 53 24.7	-0.7
IGT	Igoumenitsa	1.35	316	ePg	Pg	03 53 10.8	-0.3
IGT				eSg	Sg	03 53 29.2	+0.5
ITM	Ithomi	1.41	167	ePN	Pn	03 53 12.0	+1.2
NEO	Neokhori	1.51	60	ePn	Pn	03 53 08.9	-3.2
NEO				ePn	Pn	03 53 12.8	+0.7
NEO	Neokhori	1.51	60	ePN	Pn	03 53 12.7	+0.6
NEO	Neokhori	1.51	60	ePN	Pn	03 53 12.8	+0.7
LIT	Litokhoron	1.71	25	ePg	Pn	03 53 15.2	+0.4
LIT				eSg	Sn	03 53 36.7	+0.1
FNA	Florina	2.22	357	ePn	Pn	03 53 22.2	+0.2

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*CSEM **10** 03:53:04.5,3859N×2159E,h1km,ML3.6,After THE*
THE 10 03:53:04.5,3859N×2159E,h1km,ML3.6,Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGG	Agios Georgios	0.72	53	ePg	Pg	03 53 18.5	+0.1
AGG				eSg	Sg	03 53 28.2	+0.4
LKD	Levkas	0.74	279	ePg	Pg	03 53 17.6	-1.1
LKD				eSg	Sg	03 53 29.7	+1.3
LKD	Levkas	0.74	279	ePg	Pg	03 53 17.6	-1.1
LKD				eSg	Sg	03 53 29.7	+1.3
MEV	Metsovon	1.22	347	ePg	Pg	03 53 27.9	-0.1
MEV				eSg	Sg	03 53 45.0	+1.1
IGT	Igoumenitsa	1.35	314	ePg	Pg	03 53 29.7	-0.8
IGT				eSg	Sg	03 53 48.9	+0.9
LIT	Litokhoron	1.66	25	ePb	Pb	03 53 34.2	-1.8
LIT				eSb	Sb	03 53 57.0	-0.4
FNA	Florina	2.19	356	ePn	Pn	03 53 41.1	-1.1

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*CSEM **10** 03:53:27.2,3853N×2158E,h1km,ML3.8,After THE*
THE 10 03:53:27.2,3853N×2158E,h1km,ML3.8,Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKD	Levkas	0.75	284	ePg	Pg	03 53 41.0	-0.6
LKD				eSg	Sg	03 53 52.0	+0.8
AGG	Agios Georgios	0.76	50	ePg	Pg	03 53 41.0	-0.9
AGG				eSg	Sg	03 53 52.5	+0.7
MEV	Metsovon	1.28	348	ePg	Pg	03 53 51.7	0.0
MEV				eSg	Sg	03 54 09.8	+1.4
IGT	Igoumenitsa	1.39	316	ePg	Pg	03 53 53.5	-0.4
IGT				eSg	Sg	03 54 12.0	0.0
LIT	Litokhoron	1.72	24	ePb	Pb	03 53 57.6	-2.0
LIT				eSb	Sb	03 54 21.0	-0.7
FNA	Florina	2.25	356	ePn	Pn	03 54 05.3	-0.3

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*CSEM **10** 03:55:17.9,3854N×2168E,h2km,ML3.6,After THE*
THE 10 03:55:17.9,3854N×2168E,h2km,ML3.6,Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGG	Agios Georgios	0.70	46	ePg	Pg	03 55 30.9	-0.5
AGG				eSg	Sg	03 55 41.5	+0.9
LKD	Levkas	0.82	282	ePg	Pg	03 55 32.5	-1.2
LKD				eSg	Sg	03 55 45.7	+1.3
MEV	Metsovon	1.30	345	ePg	Pg	03 55 42.1	-0.7
MEV				eSg	Sg	03 56 01.0	+1.4
IGT	Igoumenitsa	1.45	314	ePg	Pg	03 55 44.3	-1.4
IGT				eSg	Sg	03 56 04.7	+0.3
LIT	Litokhoron	1.69	22	ePb	Pb	03 55 48.0	-1.7
LIT				eSb	Sb	03 56 10.0	-1.3
AOS	Alonnisos	1.83	69	ePb	Pb	03 55 49.8	-2.4
FNA	Florina	2.26	354	ePn	Pn	03 55 56.3	0.0

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*NEIC **10** 04:00:10.3,3859N×2145E,h21km,MD3.4(ATH),After ATH.*
*ATH **10** 04:00:10.4,3858N×2145E,h22km±2km,MD3.4/8*
*ISCJB **10** 04:00:14.9±0.6,3837N±003×2171E±004,h10km,Error ellipse: s-maj=4.8km s-min=4.6km az=139.9*
*CSEM **10** 04:00:15.0±0.4,3831N×2177E,h10km,MD3.4,Error ellipse: s-maj=9.1km s-min=7.6km az=96.0*
*THE **10** 04:00:20.6,3856N×2164E,h2km,ML3.3*
ISC 10 04:00:15.8±0.6,3834N±003×2172E±004,h10km,n16, σ1§33/26,Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RLS	Riolos of Patr	0.34	215	ePN	Pg	04 00 20.8	-1.8
RLS				eSN	Sg	04 00 28.5	+1.4
EVR	Evrytania	0.58	7	ePB	Pg	04 00 19.3	-7.9
AGG	Agios Georgios	0.84	35	ePg	Pg	04 00 33.5	+1.6
AGG				eSg	Sg	04 00 44.2	+1.4
AGG	Agios Georgios	0.84	35	ePg	Pg	04 00 33.5	+1.5
AGG				eSg	Sg	04 00 44.2	+1.3
VLS	Valsamata	0.90	260	ePN	Pg	04 00 26.0	-7.2
LKD	Levkas	0.91	294	ePg	Pg	04 00 35.8	+2.4
LKD				eSg	Sg	04 00 46.7	+1.4
LKR	Lokris	1.05	72	ePN	Pg	04 00 34.2	-1.9
LKR				eSN	Sg	04 00 50.3	+0.5
ITM	Ithomi	1.17	172	ePN	Pn	04 00 37.7	-0.5
THL	Klokotos Trika	1.25	11	ePn	Pn	04 00 31.8	-7.5
THL				eSN	Sn	04 00 45.7	-1.0
THL	Klokotos Trika	1.25	11	ePn	Pn	04 00 32.1	-7.2
THL				eSn	Sn	04 00 45.2	-1.1
MEV	Metsovon	1.49	345	ePg	Pg	04 00 44.6	+0.1
MEV				eSg	Sg	04 01 02.5	-1.4
MEV	Metsovon	1.49	345	ePg	Pg	04 00 44.6	+0.1
MEV				eSg	Sg	04 01 02.5	-1.4
NEO	Neokhori	1.52	50	ePN	Pn	04 00 38.6	-4.5
IGT	Igoumenitsa	1.61	318	ePg	Pg	04 00 45.7	-1.0
IGT				eSg	Sg	04 01 06.3	-1.2
LIT	Litokhoron	1.86	19	ePb	Pb	04 00 50.7	+0.8
KEK	Kerkira	2.03	313	ePN	Pn	04 00 40.6	-9.4

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*IDC **10** 04:01:22.5±1.1,2622N×12880E,h0km,mb3.5/5, mb1 3.7/5,mb1mx3.5/19,mbtmp3.5/5,Error ellipse: s-maj=47.7km s-min=17.3km az=64.0*
*JMA **10** 04:01:24.7±0.4,2613N×12875E,h30km,M3.2*
*ISCJB **10** 04:01:25.1±0.6,2618N±004×12879E±004,h33km, mb3.5/5,Error ellipse: s-maj=6.2km s-min=5.0km az=14.2*
ISC 10 04:01:26.5±0.6,2620N±005×12874E±004,h35km,n15, σ1§06/23,mb3.5/5,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOW	Kunigami	0.76	327	P	Pn	04 01 40.1	-0.6
JOW				S	Sn	04 01 49.9	-1.0
JOW	Kunigami	0.76	327	Pn	Pn	04 01 40.2	-0.5
	187nm,0.3s,baz=122,slow=19,SNR=325						
JOW				Sn	Sn	04 01 49.8	-1.1
	194nm,0.3s,baz=127,slow=20,SNR=26						
JJT2	Tamagusuku 2	0.89	266	P	Pn	04 01 40.7	-1.8
NAH1	Naha	0.94	270	P	Pn	04 01 42.5	-0.7
NAH1				S	Sn	04 01 54.9	-0.6
JIH	Iheya	1.08	320	P	Pn	04 01 45.2	0.0
JIH				S	Sn	04 01 59.7	+0.8
JAGN	Aguni-jima	1.40	286	P	Pn	04 01 49.4	-0.1
JAGN				S	Sn	04 02 07.4	+0.7
JTK	Tokunoshima	1.59	7	P	Pn	04 01 52.6	+0.5
JTK				S	Sn	04 02 10.9	-0.6
JKE	Kume jima 2	1.76	275	P	Pn	04 01 53.7	-0.8
JMZ	Minamidaito 2	2.26	99	P	Pn	04 02 00.3	-1.1
JMZ				S	Sn	04 02 24.8	-3.3
JAM	Amami Oshima	2.33	19	P	Pn	04 02 02.5	+0.1
JAM				S	Sn	04 02 29.9	+0.1
SONM	Songino Array	27.83	327	P	P	04 07 15.0	+2.6
	0.7nm,0.6s,mb3.4,baz=137,slow=9.9,SNR=4.4						
MKAR	Makanchi Array	41.90	312	P	P	04 09 14.2	+0.8
	0.4nm,0.3s,mb3.5,baz=96,slow=12,SNR=2.7						
WRA	Warramunga Arr	46.19	173	P	P	04 09 48.7	+0.7
	0.6nm,0.4s,mb3.8,baz=354,slow=8.4,SNR=3.5						
ASAR	Alice Springs	49.82	174	P	P	04 10 18.1	+2.1
	0.3nm,0.5s,mb3.6,baz=5.5,slow=13,SNR=4.5						
YKA	Yellowknife Ar	78.36	25	P	P	04 13 24.2	+1.3
	0.2nm,0.7s,mb3.2,baz=297,slow=5.6,SNR=2.8						

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*ISCJB **10** 04:03:55.0±0.7,3850N±004×2158E±007,h10km,Error ellipse: s-maj=8.1km s-min=4.3km az=25.0*
*NEIC **10** 04:03:54.3,3853N×2151E,h25km,MD3.2(ATH),After ATH.*
*ATH **10** 04:03:54.4,3855N×2152E,h22km±3km,MD3.2/5*
*CSEM **10** 04:03:57.6±0.5,3827N×2173E,h20km,MD3.2,Error ellipse: s-maj=14.2km s-min=10.9km az=152.0*
*THE **10** 04:04:02.6,3860N×2155E,h15km,ML2.7*
ISC 10 04:03:55.5±0.7,3848N±004×2162E±007,h10km,n9, σ1§37/15,Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RLS	Riolos of Patr	0.43	197	ePB	Pg	04 04 04.0	0.0
RLS				eSB	Sg	04 04 11.6	+1.8
EVR	Evrytania	0.46	18	ePB	Pg	04 04 04.0	-0.6
EVR				eSB	Sg	04 04 09.3	-1.4
AGG	Agios Georgios	0.78	45	ePg	Pg	04 04 16.3	+5.7
AGG				eSg	Sg	04 04 27.8	+7.2
LKD	Levkas	0.80	287	ePg	Pg	04 04 15.8	+4.9
LKD				eSg	Sg	04 04 26.9	+5.6
VLS	Valsamata	0.87	250	ePN	Pg	04 04 10.4	-1.8
VLS				eSN	Sg	04 04 22.6	-0.9
LKR	Lokris	1.09	80	ePN	Pn	04 04 17.2	+0.3
THL	Klokotos Trika	1.13	16	ePN	Pn	04 04 15.1	-2.3
MEV	Metsovon	1.34	347	ePg	Pg	04 04 24.8	+3.4
MEV				eSg	Sg	04 04 40.5	+1.7
NEO	Neokhori	1.50	56	ePN	Pn	04 04 22.2	-0.3

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*CSEM **10** 04:20:47.3±0.1,3675N×2824E,h60km,MD3.3,Error ellipse: s-maj=2.6km s-min=1.8km az=62.0*
*ISCJB **10** 04:20:48.1±0.4,3674N±003×28.16E±004,h82km±5km, Error ellipse: s-maj=5.8km s-min=4.6km az=154.7*
*ISK **10** 04:20:49.1,3683N×2818E,h68km,MD3.3*
*ATH **10** 04:20:50.3,3677N×2800E,h59km±3km,MD3.3/3*
*NEIC **10** 04:20:50.3,3677N×2800E,h59km,MD3.3(ATH),After ATH.*
*DDA **10** 04:20:52.4,37.10N×2823E,h4km±8km,Md3.3*
*HLW **10** 04:20:59.5,3602N×2838E,h33km,Mb3.5*
ISC 10 04:20:49.4±0.5,3676N±003×2815E±004,h73km±6km,n33, σ0§74/46,4C-3D,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YER	Yerkesik	0.39	16	ePG	Pn	04 21 01.1	-0.4
YER				eSG	Sn	04 21 09.4	-0.9
DAT	Datca	0.46	266	ePG	Pn	04 21 01.8	-0.3
ARG	Arkhangelos	0.54	182	eP	Pn	04 21 03.4	+0.6
ARG				eS	Sn	04 21 13.4	+0.7
MLSB	Milas	0.61	331	ePG	Pn	04 21 03.4	-0.2
MLSB				eSG	Sn	04 21 12.6	-1.4
BDRM	Kayabasi	0.64	298	i P	Pn	04 21 03.4	-0.5
BDRM				i S	Sn	04 21 14.8	+0.3
BDRM	Kayabasi	0.64	298	i P	Pn	04 21 03.3	-0.6
BDRM				i S	Sn	04 21 14.9	+0.4
BODT	Bodrum	0.74	294	ePG	Pn	04 21 05.1	+0.2
FETY	Fethiye	0.76	99	ePG	Pn	04 21 05.2	+0.1
FETY				eSG	Sn	04 21 16.4	-0.3
DENT	Denizli	1.22	35	ePN	Pn	04 21 10.0	-0.7
GOLH	Golhisar	1.22	67	i P	Pn	04 21 11.8	+1.0
GOLH				i S	Sn	04 21 29.1	+2.2
AKAS	Kas	1.28	114	i P	Pn	04 21 11.9	+0.3
AKAS				i S	Sn	04 21 35.4	+7.1
ELL	Elmali	1.41	90	ePN	Pn	04 21 14.3	+1.0
SMG	Samos	1.41	312	eP	Pn	04 21 13.8	+0.5
SMG				eS	Sn	04 21 30.6	-0.7
KARP	Karpathos	1.45	214	eP	Pn	04 21 14.6	+0.8
KARP				eS	Sn	04 21 32.5	+0.3
KDAG	Bornova	1.78	337	i P	Pn	04 21 18.5	+0.3
KDAG				i S	Sn	04 21 40.5	+0.5
KULA	Kula-Manisa	1.80	13	ePN	Pn	04 21 18.0	-0.3
BLCB	Balcova	1.85	332	ePN	Pn	04 21 19.2	+0.2
KHL	Karahalli	1.90	35	ePN	Pn	04 21 19.6	-0.2
URLA	Izmir	2.02	323	i P	Pn	04 21 22.4	+1.0
URLA				i S	Sn	04 21 46.5	+0.8
AKHS	Akhisar	2.13	353	i P	Pn	04 21 22.9	0.0
AKS	Akhisar	2.13	353	ePN	Pn	04 21 22.8	-0.1
NPS	Neapolis	2.54	235	eP	Pn	04 21 29.1	+0.7
GDZ	Gediz	2.55	24	i P	Pn	04 21 26.7	-1.8
SHUT	Suhut-Afyon	2.61	46	ePN	Pn	04 21 29.7	+0.4
HMAT	Matruh	5.72	189⇑	eP	Pn	04 22 11.8	+0.1
HMAT				S	Sn	04 23 05.6	-10
HNAT	Natroun	7.40	163⇑	eP	Pn	04 22 33.7	-1.1
HNAT	Natroun	7.40	163	P	Pn	04 22 33.7	-1.0
	1μm,0.2s						
AMAG	Maghara	7.41	144⇓	eP	Pn	04 22 34.4	-0.5
GLL	Jalalah	7.76	156⇓	eP	Pn	04 22 38.6	-1.0
SUZ		7.93	149⇓	eP	Pn	04 22 41.6	-0.4
HNKL	Nakhl	8.38	143⇑	eP	Pn	04 22 48.0	0.0
HFRF	Wahat Farafira	9.58	179⇑	eP	Pn	04 23 03.5	-1.0
HFRF	Wahat Farafira	9.58	179	P	Pn	04 23 03.5	-1.0

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*IDC **10** 04:29:56.7±1.3,3851N×2154E,h0km,mb3.5/3,mb1 3.7/3, mb1mx3.4/19,mbtmp3.5/3,Error ellipse: s-maj=61.0km s-min=25.9km az=135.0*
*CSEM **10** 04:29:58.8±0.1,3853N×2161E,h2km,ML3.8,Error ellipse: s-maj=2.0km s-min=1.8km az=77.0*
*THE **10** 04:29:58.6,3854N×2160E,h3km,ML3.8*
*ISCJB **10** 04:29:58.0±0.4,3853N±002×2159E±003,h7km±3km, mb3.4/4,Error ellipse: s-maj=3.4km s-min=3.0km az=156.5*
*ATH **10** 04:29:58.0,3853N×2164E,h15km±1km,MD3.7/14,ML3.4*
*NEIC **10** 04:30:00.0,3856N×2154E,h10km,ML3.9(THE), ML3.1(ATH),After ATH.*
ISC 10 04:29:58.9±0.4,3852N±002×2161E±003,h10km±3km,n54, σ1§11/70,mb3.4/4,1C-1D,Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SELA	Sela	0.33	137	ePg	Pg	04 30 04.9	-0.4
SELA				eSg	Sg	04 30 10.9	+1.2
EVR	Evrytania	0.43	21	ePB	Pg	04 30 06.3	-1.0
EVR				eSB	Sg	04 30 12.2	-0.8
RLS	Riolos of Patr	0.47	194	ePB	Pg	04 30 07.7	-0.4
RLS				eSB	Sg	04 30 14.9	+0.6
AGG	Agios Georgios	0.76	48	ePg	Pg	04 30 12.4	-1.1
AGG				eSg	Sg	04 30 23.7	+0.4
KFL	Anninata	0.77	238	ePg	Pg	04 30 13.0	-0.6
LKD	Levkas	0.78	284	ePg	Pg	04 30 12.8	-1.1
LKD				eSg	Sg	04 30 24.4	+0.4
VLS	Valsamata	0.87	248	ePB	Pb	04 30 14.4	-1.7
VLS				eSB	Sb	04 30 28.2	+0.3
THL	Klokotos Trika	1.09	17	ePN	Pn	04 30 17.9	-2.4
THL				eSB	Sb	04 30 34.0	-0.2
LKR	Lokris	1.09	83	ePn	Pn	04 30 18.3	-2.0
LKR				P		04 30 22.1	
LKR				eSb	Sb	04 30 33.9	-0.4
LKR	Lokris

SOH	**Sokhos**	**2.67**	**30**	*e*Pn	**Pn**	**04 30 42.6**	**+0.7**
KNT	**Kendrikon**	**2.82**	**20**	*e*Pn	**Pn**	**04 30 44.4**	**+0.3**
KRUS	**Krusevo**	**2.86**	**355**	*i* Pn	**Pn**	**04 30 47.4**	**+2.8**
VAY	**Valandovo**	**2.90**	**14**	*e*Pn	**Pn**	**04 30 45.9**	**+0.8**
VAY	**Valandovo**	**2.90**	**14**	*i* Pn	**Pn**	**04 30 46.3**	**+1.2**
QSH	**Qafa e Shtames**	**3.28**	**337**	*e*PN	**Pn**	**04 30 56.0**	**+5.7**
QSH				*i* SN	**Sg**	**04 31 46.0**	**+1.9**
NVR	**Nevrokopi**	**3.32**	**31**	*e*PN	**Pn**	**04 30 51.2**	**+0.4**
TIP	**Timpagrande**	**3.85**	**281**	P	**Pn**	**04 30 59.0**	**+0.9**
SG1	**Sgolgore (BA)**	**4.46**	**303**	*e*Pn	**Pn**	**04 31 06.8**	**+0.3**
MS1	**Monte Sant'Ang**	**5.39**	**308**	*e*Pn	**Pn**	**04 31 19.8**	**+0.5**
MLR	**Muntele Rosu**	**7.68**	**23**	‖ *i*P	**Pn**	**04 31 55.4**	**+4.7**
VRI	**Vrincioaia**	**8.27**	**26**	‖ *i*P	**Pn**	**04 32 02.6**	**+3.8**
CLL	**Collm**	**14.16**	**337**	*es*P	sP	04 33 22.0	-8.9
TORD	**Torodi Ar. Bea**	**30.84**	**220**	P	**P**	**04 36 14.1**	**-1.1**
TORD	**Torodi Ar. Bea**	**30.84**	**220**	P	**P**	**04 36 14.1**	**-1.1**
	0.3nm,0.5s,mb3.4,baz=32,slow=9.3,SNR=13						
MKAR	**Makanchi Array**	**44.39**	**59**	P	**P**	**04 38 09.6**	**+0.1**
	0.4nm,0.5s,mb3.4,baz=287,slow=6.7,SNR=4.2						
ZALV	**Zalesovo Beam**	**44.83**	**48**	P	**P**	**04 38 12.0**	**-0.9**
	0.9nm,0.5s,mb3.8,baz=270,slow=8.1,SNR=4.3						
YKA	**Yellowknife Ar**	**73.36**	**340**	P	**P**	**04 41 29.9**	**-0.6**
YKA	**Yellowknife Ar**	**73.36**	**340**	P	**P**	**04 41 29.9**	**-0.6**
	0.2nm,0.8s,mb3.1,baz=34,slow=5.6,SNR=4.4						

*IDC **10** 04:30:15.4±1.3, 744N×9359E, h0km, mb3.8/8, mb1 3.9/9, mb1mx3.8/20, mbtmp3.8/9, ML3.5/1, Error ellipse: s-maj=59.7km s-min=17.5km az=56.0*
*ISCJB **10** 04:30:18.7±1.2, 75N±02×938E±03, h33km, mb3.8/8, Error ellipse: s-maj=54.4km s-min=12.9km az=145.8*
*NEIC **10** 04:30:20.8±1.1, 748N×9377E, h35km, Error ellipse: s-maj=55.0km s-min=12.9km az=56.0*

ISC 10 04:30:20.9±1.2, 75N±02×937E±03, h35km, n9, σ0§85/9, mb3.8/8, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**6.95**	**132**	Pn	**Pn**	**04 31 58.9**	**-1.5**
	0.9nm,0.3s,baz=322,slow=16,SNR=3.9						
MKAR	**Makanchi Array**	**40.38**	**348**	P	**P**	**04 37 56.3**	**+0.9**
	0.2nm,0.3s,mb3.3,baz=168,slow=7.4,SNR=2.7						
SONM	**Songino Array**	**41.63**	**13**	P	**P**	**04 38 05.6**	**0.0**
	0.3nm,0.6s,mb3.1,baz=205,slow=7.5,SNR=1.8						
ZALV	**Zalesovo Beam**	**46.89**	**353**	P	**P**	**04 38 47.1**	**-0.5**
	1.6nm,0.3s,mb4.4,baz=169,slow=8.3,SNR=11						
WRA	**Warramunga Arr**	**48.37**	**125**	P	**P**	**04 38 59.7**	**+0.1**
	0.9nm,0.6s,mb4.0,baz=307,slow=8.7,SNR=5.2						
ASAR	**Alice Springs**	**49.98**	**129**	P	**P**	**04 39 12.8**	**+0.9**
	0.4nm,0.5s,mb3.7,baz=308,slow=7.4,SNR=5.6						
STKA	**Stephens Creek**	**60.13**	**133**	P	**P**	**04 40 26.4**	**+1.3**
	1.0nm,0.5s,mb4.1,baz=275,slow=12,SNR=3.0						
FINES	**FINESS Array B**	**72.87**	**332**	P	**P**	**04 41 45.2**	**-0.8**
	1.3nm,0.9s,mb3.9,baz=93,slow=9.5,SNR=4.0						
GERES	**GERESS Array B**	**77.85**	**318**	P	**P**	**04 42 14.5**	**-0.4**
	0.6nm,0.4s,mb3.9,baz=90,slow=7.8,SNR=9.8						

IDC 10 04:41:08.1±25.0, 1818S×17369W, h0km, mb4.0/4, mb1 4.2/4, mb1mx3.8/17, mbtmp4.0/4, Error ellipse: s-maj=474.0km s-min=157.0km az=72.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**37.84**	**260**	P	P	04 48 27.7	+1.0
	3.9nm,0.7s,baz=72,slow=6.7,SNR=3.9						
STKA	**Stephens Creek**	**42.47**	**242**	P	P	04 49 05.0	-0.1
	2.1nm,0.9s,baz=56,slow=7.3,SNR=5.0						
WRA	**Warramunga Arr**	**49.00**	**259**	P	P	04 49 56.2	-0.7
	0.8nm,0.4s,baz=97,slow=8.0,SNR=12						
ASAR	**Alice Springs**	**49.04**	**257**	P	P	04 49 56.9	-0.3
	0.9nm,0.4s,baz=86,slow=8.0,SNR=17						

*ISCJB **10** 04:47:17.5±0.4, 3855N±002×2156E±003, h3km±4km, Error ellipse: s-maj=3.5km s-min=2.9km az=149.0*
*THE **10** 04:47:18.2, 3854N×2158E, h3km, ML3.8*
*ATH **10** 04:47:18.7, 3855N×2157E, h16km±1km, MD3.6/16, ML3.3*
*CSEM **10** 04:47:18.5±0.1, 3856N×2159E, h2km, ML3.8, Error ellipse: s-maj=1.7km s-min=1.4km az=35.0*
*NEIC **10** 04:47:18.8, 3855N×2156E, h19km, ML3.8(THE), ML3.3(ATH), After ATH.*

ISC 10 04:47:18.4±0.4, 3855N±002×2157E±003, h6km±3km, n46, σ1§11/66, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SELA	**Sela**	**0.37**	**137**	*e*Pg	**Pg**	**04 47 24.7**	**-1.0**
SELA				*e*Sg	**Sg**	**04 47 31.0**	**+0.5**
EVR	**Evrytania**	**0.41**	**27**	*e*PB	**Pg**	**04 47 26.9**	**+0.4**
EVR				*e*SB	**Sg**	**04 47 32.3**	**+0.4**
RLS	**Riolos of Patr**	**0.49**	**189**	*e*PN	**Pg**	**04 47 28.9**	**+0.9**
RLS				*e*SN	**Sg**	**04 47 35.7**	**+1.3**
LKD	**Levkas**	**0.74**	**283**	*e*Pg	**Pg**	**04 47 32.7**	**+0.1**
LKD				*e*Sg	**Sg**	**04 47 42.7**	**+0.6**
KFL	**Anninata**	**0.75**	**235**	*e*Pg	**Pg**	**04 47 32.0**	**-0.9**
AGG	**Agios Georgios**	**0.76**	**51**	*e*Pg	**Pg**	**04 47 31.9**	**-1.2**
AGG				*e*Sg	**Sg**	**04 47 43.4**	**+0.4**
VLS	**Valsamata**	**0.85**	**245**	*e*PB	**Pb**	**04 47 34.8**	**-0.8**
VLS				*e*SN	**Sn**	**04 47 47.9**	**-1.9**
THL	**Klokotos Trika**	**1.07**	**19**	*e*PN	**Pn**	**04 47 38.8**	**-1.2**
THL				*e*SN	**Sn**	**04 47 54.0**	**-1.2**
LKR	**Lokris**	**1.13**	**84**	*e*PN	**Pn**	**04 47 40.2**	**-0.5**
LKR				*e*SN	**Sn**	**04 47 55.0**	**-1.5**
LTK	**Loutraki**	**1.22**	**115**	*e*Pg	**Pg**	**04 47 41.2**	**-0.6**
LTK				*e*Sg	**Sg**	**04 47 58.9**	**+1.3**
LTK	**Loutraki**	**1.22**	**115**	*e*Pg	**Pg**	**04 47 41.2**	**-0.6**
LTK				*e*Sg	**Sg**	**04 47 58.9**	**+1.3**
JAN	**Janina**	**1.24**	**333**	*e*PN	**Pn**	**04 47 42.7**	**+0.4**
MEV	**Metsovon**	**1.26**	**348**	*e*Pg	**Pg**	**04 47 42.8**	**+0.1**
VLX	**Vlachokerasia**	**1.34**	**151**	*e*Pg	**Pg**	**04 47 42.6**	**-1.5**
VLX				*e*Sg	**Sg**	**04 48 02.0**	**+0.6**
IGT	**Igoumenitsa**	**1.38**	**316**	*e*Pg	**Pg**	**04 47 44.4**	**-0.5**
IGT	**Igoumenitsa**	**1.38**	**316**	*e*Pg	**Pg**	**04 47 44.3**	**-0.5**
ITM	**Ithomi**	**1.39**	**168**	*e*PN	**Pn**	**04 47 44.7**	**+0.3**
NEO	**Neokhori**	**1.50**	**59**	*e*PN	**Pn**	**04 47 46.3**	**+0.5**
PYL	**PYLOS**	**1.65**	**175**	*e*Pb	**Pb**	**04 47 48.5**	**-0.8**
PYL				*e*Sb	**Sb**	**04 48 09.4**	**-0.9**
DID	**Didima**	**1.68**	**128**	*e*Pb	**Pb**	**04 47 48.0**	**-1.7**
DID				*e*Sb	**Sb**	**04 48 11.6**	**+0.6**
NAIG	**Nisos Aigina**	**1.71**	**117**	*e*PN	**Pn**	**04 47 49.5**	**+0.8**
LIT	**Litokhoron**	**1.71**	**24**	*e*Pb	**Pb**	**04 47 48.6**	**-1.7**
LIT				*e*Sb	**Sb**	**04 48 12.2**	**+0.2**
KZN	**Kozani**	**1.76**	**5**	*e*PN	**Pn**	**04 47 51.0**	**+1.5**
ATH	**Athens Observa**	**1.79**	**108**	*e*PN	**Pn**	**04 47 50.4**	**+0.6**
KEK	**Kerkira**	**1.80**	**311**	*e*PB	**Pb**	**04 47 50.0**	**-1.8**
PTL	**Penteli**	**1.87**	**105**	*e*PN	**Pn**	**04 47 52.5**	**+1.5**
KVR	**Kavouri**	**1.88**	**112**	*e*PN	**Pn**	**04 47 53.5**	**+2.5**
AOS	**Alonnisos**	**1.91**	**70**	*e*Pb	**Pb**	**04 47 50.5**	**-3.2**
VLI	**Veliai**	**2.12**	**149**	*e*PN	**Pn**	**04 47 56.3**	**+1.9**
PAIG	**Paliouri**	**2.14**	**49**	*e*Pn	**Pn**	**04 47 53.8**	**-0.9**
KBN	**Korca**	**2.16**	**344**	*e*PN	**Pg**	**04 48 01.5**	**+1.7**
KBN				*i* SN	**Sg**	**04 48 35.0**	**+7.2**
FNA	**Florina**	**2.24**	**356**	*e*Pn	**Pn**	**04 47 55.7**	**-0.4**
FNA				*e*Sn	**Sn**	**04 48 25.9**	**+1.9**
PLG	**Polygyros**	**2.33**	**38**	*e*Pn	**Pn**	**04 47 57.4**	**+0.1**
PLG	**Polygyros**	**2.33**	**38**	*e*Pb	**Pb**	**04 47 58.3**	**-2.6**
HORT	**Hortiatis**	**2.37**	**30**	*e*Pn	**Pn**	**04 47 57.9**	**+0.1**
HORT				*e*Sn	**Sn**	**04 48 28.5**	**+1.4**
HORT	**Hortiatis**	**2.37**	**30**	*e*Pn	**Pn**	**04 47 57.8**	**0.0**
GRG	**Griva**	**2.49**	**15**	*e*Pn	**Pn**	**04 47 59.5**	**0.0**
OUR	**Ouranopolis**	**2.58**	**46**	*e*Pn	**Pn**	**04 48 00.2**	**-0.6**
SOH	**Sokhos**	**2.66**	**31**	*e*Pn	**Pn**	**04 48 01.7**	**0.0**
KNT	**Kendrikon**	**2.81**	**21**	*e*Pn	**Pn**	**04 48 04.3**	**+0.4**
KRUS	**Krusevo**	**2.83**	**355**	*e*Pn	**Pn**	**04 48 07.7**	**+3.5**
KRUS	**Krusevo**	**2.83**	**355**	*e*Pn	**Pn**	**04 48 07.6**	**+3.5**
QSH	**Qafa e Shtames**	**3.23**	**337**	*e*PN	**Pg**	**04 48 20.5**	**+0.1**
QSH				*i* SN	**Sg**	**04 49 06.5**	**+4.2**
PUK	**Puka**	**3.72**	**340**	*e*PN	**Pb**	**04 48 23.8**	**-0.7**
TIP	**Timpagrande**	**3.81**	**281**	*e*Pn	**Pn**	**04 48 18.3**	**+0.7**
TIP				*e*Sn	**Sn**	**04 49 04.3**	**+1.7**
TIP	**Timpagrande**	**3.81**	**281**	*e*Pn	**Pn**	**04 48 18.3**	**+0.7**
TIP				*e*Sn	**Sn**	**04 49 04.3**	**+1.6**

*ISCJB **10** 04:50:29.3±1.0, 6365N±005×2329W±009, h10km±4km, mb3.2/3, Error ellipse: s-maj=8.7km s-min=6.2km az=162.5*
*IDC **10** 04:50:31.5±1.5, 6391N×2345W, h0km, mb3.3/2, mb1 3.6/3, mb1mx3.3/22, mbtmp3.4/3, ML3.5/1, Error ellipse: s-maj=26.8km s-min=16.0km az=139.0*

ISC 10 04:50:29.0±1.1, 6361N±005×2327W±009, h6km±3km, n26, σ0§99/47, mb3.2/3, Iceland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGRV	**Grindav??k**	**0.44**	**55**	P	**Pg**	**04 50 38.8**	**+1.3**
IGRV				S	**Sg**	**04 50 44.9**	**+1.7**
IVOG	**Vogar**	**0.53**	**46**	P	**Pg**	**04 50 39.9**	**+0.6**
IVOG				S	**Sg**	**04 50 46.8**	**+0.6**
IKRI	**Krysuvik**	**0.60**	**62**	P	**Pg**	**04 50 41.2**	**+0.8**
IKRI				S	**Sg**	**04 50 49.8**	**+1.6**
IVOS	**Vogsosar**	**0.74**	**70**	P	**Pg**	**04 50 43.7**	**+0.5**
IVOS				S	**Sg**	**04 50 53.7**	**+1.0**
IKAS	**Kald??rsel**	**0.76**	**56**	P	**Pg**	**04 50 43.6**	**+0.1**
IKAS				S	**Sg**	**04 50 53.8**	**+0.5**
ISAN	**Sandskeio**	**0.88**	**58**	P	**Pg**	**04 50 45.6**	**-0.2**
ISAN				S	**Sg**	**04 50 57.7**	**+0.5**
IBJA	**Bjarnastaoir**	**0.94**	**68**	P	**Pg**	**04 50 46.9**	**-0.1**
IBJA				S	**Sg**	**04 50 59.5**	**+0.4**
IKUD	**Kuludalsa**	**0.95**	**40**	P	**Pg**	**04 50 46.2**	**-0.9**
IKUD				S	**Sg**	**04 50 58.1**	**-1.3**
IKRO	**Krokur**	**1.07**	**62**	P	**Pg**	**04 50 49.3**	**-0.2**
IKRO				S	**Sg**	**04 51 03.2**	**-0.2**
IHEI	**Heioarbar**	**1.08**	**55**	P	**Pg**	**04 50 48.4**	**-1.3**
IHEI				S	**Sg**	**04 51 02.9**	**-0.7**
ISOL	**Solvholt**	**1.08**	**71**	P	**Pg**	**04 50 49.2**	**-0.5**
ISOL				S	**Sg**	**04 51 03.2**	**-0.5**
IASM	**Asmuli**	**1.20**	**78**	P	**Pg**	**04 50 51.1**	**-0.9**
IASM				S	**Sg**	**04 51 07.2**	**-0.4**
ISAU	**Saurbar**	**1.32**	**72**	P	**Pn**	**04 50 53.0**	**-0.9**
ISAU				S	**Sb**	**04 51 10.2**	**-1.1**
BORG	**Borgarnes**	**1.43**	**36**	Pg	**Pg**	**04 50 53.9**	**-2.4**
	101nm,0.3s,baz=228,slow=7.1,SNR=98						
BORG				Lg		04 51 12.3	
	142nm,0.3s,baz=289,slow=23,SNR=34						
IASB	**`sbjarnarst**	**1.43**	**36**	P	**Pn**	**04 50 54.0**	**-1.4**
IASB				S	**Sb**	**04 51 12.2**	**-2.1**
IGYG	**Gygjarholskot**	**1.51**	**62**	P	**Pn**	**04 50 56.2**	**-0.3**
IGYG				S	**Sn**	**04 51 15.7**	**-0.7**
IMID	**Miomork**	**1.51**	**86**	P	**Pn**	**04 50 55.0**	**-1.5**
IMID				S	**Sn**	**04 51 16.5**	**+0.1**
IHAU	**Haukadalur**	**1.51**	**75**	P	**Pn**	**04 50 56.1**	**-0.4**
IHAU				S	**Sn**	**04 51 16.0**	**-0.4**
IVAT	**Vatnsfell**	**2.01**	**71**	P	**Pn**	**04 51 04.0**	**+0.7**
IVAT				S	**Sn**	**04 51 29.4**	**+0.7**
IHVE	**Hveravellir**	**2.06**	**50**	P	**Pn**	**04 51 04.0**	**0.0**
IHVE				S	**Sn**	**04 51 30.0**	**+0.1**
ISNB	**Snabyli**	**2.07**	**84**	P	**Pn**	**04 51 04.9**	**+0.7**
ISNB				S	**Sn**	**04 51 31.4**	**+1.2**
IHRN	**Hraun**	**2.85**	**27**	P	**Pn**	**04 51 16.4**	**+1.5**
IHRN				S	**Sn**	**04 51 51.6**	**+2.2**
EKA	**Eskdalemuir Ar**	**13.10**	**120**	Pn	**Pn**	**04 53 42.4**	**+7.1**
	0.1nm,0.3s,baz=322,slow=14,SNR=5.0						
FINES	**FINESS Array B**	**22.42**	**73**	P	**P**	**04 55 33.1**	**+5.3**
	1.9nm,0.8s,mb3.5,baz=310,slow=15,SNR=4.0						
YKA	**Yellowknife Ar**	**38.05**	**311**	P	**P**	**04 57 49.0**	**+1.5**
	0.2nm,0.8s,mb2.9,baz=49,slow=8.8,SNR=4.8						
TORD	**Torodi Ar. Bea**	**53.35**	**149**	P	**P**	**04 59 53.8**	**+5.0**
	0.3nm,0.7s,mb3.3,baz=342,slow=7.3,SNR=4.1						

*ISCJB **10** 04:51:36.3±0.9, 6371N±006×2323W±007, h9km±5km, mb3.6/8, MS3.8/5, Error ellipse: s-maj=10.1km s-min=5.1km az=170.7*
*CSEM **10** 04:51:36.3±0.2, 6370N×2321W, h12km, ML4.0, Error ellipse: s-maj=6.7km s-min=2.7km az=170.0*
*IDC **10** 04:51:37.3±0.9, 6389N×2334W, h0km, mb3.7/7, mb1 3.9/8, mb1mx3.6/22, mbtmp3.7/8, ML3.6/1, MS3.8/5, Ms1 3.8/5, ms1mx3.3/28, Error ellipse: s-maj=22.1km s-min=11.5km az=153.0*
*REY **10** 04:51:37.4, 6363N×2327W, h9km, ML4.0, ML3.8*
*NEIC **10** 04:51:38.4±0.6, 6394N×2329W, h10km, mb3.9/1, Error ellipse: s-maj=13.3km s-min=8.5km az=174.0*

ISC 10 04:51:36.8±1.0, 6373N±006×2315W±007, h1km±5km, n34, σ1§11/39, mb3.6/8, MS3.8/5, Iceland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGRV	**Grindav??k**	**0.33**	**66**	P	**Pg**	**04 51 45.2**	**+2.0**
IVOG	**Vogar**	**0.41**	**53**	P	**Pg**	**04 51 46.6**	**+1.9**
IKRI	**Krysuvik**	**0.50**	**72**	P	**Pg**	**04 51 47.7**	**+1.4**
IASM	**Asmuli**	**1.13**	**83**	P	**Pg**	**04 51 57.2**	**-1.2**
IASM				S	**Sg**	**04 52 13.5**	**+0.5**
ISAU	**Saurbar**	**1.24**	**76**	P	**Pg**	**04 51 59.6**	**-0.9**
ISAU				S	**Sg**	**04 52 16.9**	**+0.4**
BORG	**Borgarnes**	**1.30**	**37**	Pg	**Pg**	**04 52 00.6**	**-1.0**
	256nm,0.3s,baz=220,slow=9.8,SNR=16						
BORG				Lg		04 52 17.8	
	511nm,0.3s,baz=22,slow=17,SNR=23						
IASB	**`sbjarnarst**	**1.30**	**37**	P	**Pg**	**04 52 00.6**	**-1.0**
IASB				S	**Sg**	**04 52 18.4**	**-0.1**
IGYG	**Gygjarholskot**	**1.41**	**65**	P	**Pn**	**04 52 02.8**	**-0.7**
IGYG				S	**Sg**	**04 52 21.8**	**-0.1**
IHAU	**Haukadalur**	**1.43**	**79**	P	**Pn**	**04 52 02.6**	**-1.2**
IHAU				S	**Sg**	**04 52 21.9**	**-0.8**
IMID	**Miomork**	**1.45**	**91**	P	**Pn**	**04 52 02.2**	**-1.9**
IMID				S	**Sb**	**04 52 21.2**	**-2.3**
IVAT	**Vatnsfell**	**1.92**	**74**	P	**Pn**	**04 52 10.2**	**-0.3**
IVAT				S	**Sn**	**04 52 35.6**	**+0.3**
IHVE	**Hveravellir**	**1.94**	**52**	P	**Pn**	**04 52 10.3**	**-0.4**
IHVE				S	**Sn**	**04 52 36.3**	**+0.6**
ISNB	**Snabyli**	**2.01**	**88**	P	**Pn**	**04 52 10.8**	**-0.9**
ISNB				S	**Sn**	**04 52 37.9**	**+0.5**
IKAL	**Kalfafell**	**2.43**	**82**	P	**Pn**	**04 52 17.1**	**-0.4**
IKAL				S	**Sn**	**04 52 48.0**	**+0.2**
IHRN	**Hraun**	**2.72**	**27**	P	**Pn**	**04 52 22.6**	**+1.1**
ISVA	**Svartarkot**	**3.02**	**55**	P	**Pn**	**04 52 26.8**	**+1.2**
EKA	**Eskdalemuir Ar**	**13.12**	**121**	Pn	**Pn**	**04 54 46.5**	**+2.5**
	0.2nm,0.3s,baz=318,slow=13,SNR=5.1						
KONO	**Kongsberg**	**15.94**	**90**	*e*Pn	**Pn**	**04 55 14.1**	**-7.9**
	7.3nm,0.8s						
FINES	**FINESS Array B**	**22.33**	**73**	P	**P**	**04 56 36.4**	**+1.0**
	3.8nm,1.0s,mb3.8,baz=289,slow=11,SNR=7.1						
CLL	**Collm**	**22.68**	**106**	*e*(sP)	sP	04 56 49.0	+9.4
	comp=Z,22nm,1.6s						
SCHQ	**Schefferville**	**23.57**	**268**	P	**P**	**04 56 47.2**	**-1.3**
	comp=Z,3.3nm,0.9s,mb3.9,baz=53,slow=15,SNR=3.5						
DAVOX	**Davos/Dischmat**	**24.91**	**117**	LR	LR	05 07 29.3	
	comp=Z,179nm,18.2s,MS3.6,baz=267,slow=38						
VAE	**Valguarnera**	**34.59**	**121**	LR	LR	05 12 52.1	
	comp=Z,208nm,18.4s,MS3.9,baz=131,slow=37						
YKA	**Yellowknife Ar**	**38.02**	**311**	P	**P**	**04 58 54.5**	**-1.2**
YKA	**Yellowknife Ar**	**38.02**	**311**	P	**P**	**04 58 54.5**	**-1.2**
	comp=Z,0.6nm,0.9s,mb3.3,baz=48,slow=9.4,SNR=6.7						
YKA	**Yellowknife Ar**	**38.02**	**311**	P	**P**	**04 58 54.5**	**-1.3**
ULM	**Lac du Bonnet**	**39.52**	**286**	P	**P**	**04 59 08.8**	**+0.3**
ULM	**Lac du Bonnet**	**39.52**	**286**	P	**P**	**04 59 08.8**	**+0.3**
	comp=Z,1.8nm,0.8s,mb3.7,baz=45,slow=5.7,SNR=2.7						
PDAR	**Pinedale Array**	**51.22**	**289**	P	**P**	**05 00 41.1**	**-0.2**
	comp=Z,0.6nm,0.7s,mb3.6,baz=65,slow=6.8,SNR=5.1						
TORD	**Torodi Ar. Bea**	**53.43**	**149**	P	**P**	**05 01 00.4**	**+2.4**
	comp=Z,0.6nm,1.0s,mb3.5,baz=336,slow=7.0,SNR=3.2						
MKAR	**Makanchi Array**	**55.30**	**54**	P	**P**	**05 01 11.1**	**-0.2**
	comp=Z,0.2nm,0.3s,mb3.6,baz=332,slow=9.0,SNR=4.2						
TXAR	**Lajitas Array**	**59.97**	**276**	P	**P**	**05 01 45.4**	**+1.0**
	comp=Z,0.4nm,0.9s,mb3.4,baz=76,slow=3.8,SNR=4.0						
TXAR				LR	LR	05 29 13.2	
	comp=Z,69nm,18.1s,MS3.8,baz=0.0,slow=38						
PCRV	**Puerto La Cruz**	**60.96**	**228**	LR	LR	05 23 55.8	
	comp=Z,61nm,21.5s,MS3.7,baz=300,slow=32						
LPAZ	**La Paz**	**86.98**	**223**	LR	LR	05 38 06.5	
	comp=Z,55nm,21.9s,MS3.9,baz=150,slow=32						

*ISCJB **10** 04:53:13.6±0.5, 6366N±004×2318W±008, h10km, mb3.7/12, MS3.5/8, Error ellipse: s-maj=6.7km s-min=3.7km az=140.4*
*REY **10** 04:53:13.7, 6366N×2333W, h9km, ML3.9, ML3.6*
*CSEM **10** 04:53:14.1±0.2, 6375N×2302W, h19km±1km, mb4.0/6, Ms3.5, Error ellipse: s-maj=3.6km s-min=2.7km az=178.0*
*NEIC **10** 04:53:15.8±0.9, 6376N×2307W, h10km, mb4.1/8, Error ellipse: s-maj=17.6km s-min=11.5km az=66.0*
*IDC **10** 04:53:15.3±1.1, 6388N×2333W, h0km, mb3.5/6, mb1 3.8/8, mb1mx3.6/23, mbtmp3.6/8, ML3.2/2, MS3.6/7, Ms1 3.6/7, ms1mx3.3/24, Error ellipse: s-maj=25.7km s-min=13.6km az=155.0*

ISC 10 04:53:15.2±0.5, 6369N±004×2306W±008, h10km, n53, σ1§25/61, mb3.7/12, MS3.5/8, Iceland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGRV	**Grindav??k**	**0.32**	**57**	P	**Pg**	**04 53 21.7**	**+0.2**
IVOG	**Vogar**	**0.41**	**46**	P	**Pg**	**04 53 23.0**	**-0.2**
IVOG				S	**Sg**	**04 53 30.4**	**+1.7**
IKRI	**Krysuvik**	**0.48**	**66**	P	**Pg**	**04 53 24.2**	**-0.3**
IKRI				S	**Sg**	**04 53 32.4**	**+1.6**
IVOS	**Vogsosar**	**0.62**	**74**	P	**Pg**	**04 53 26.6**	**-0.7**
IVOS				S	**Sg**	**04 53 37.0**	**+1.5**
IKAS	**Kald??rsel**	**0.63**	**57**	P	**Pg**	**04 53 26.9**	**-0.5**
IKAS				S	**Sg**	**04 53 37.2**	**+1.5**
ISAN	**Sandskeio**	**0.76**	**60**	P	**Pg**	**04 53 29.0**	**-0.8**
ISAN				S	**Sg**	**04 53 40.5**	**+0.9**
IBJA	**Bjarnastaoir**	**0.82**	**71**	P	**Pg**	**04 53 29.9**	**-1.1**
IBJA				S	**Sg**	**04 53 42.4**	**+0.7**
IKUD	**Kuludalsa**	**0.82**	**39**	P	**Pg**	**04 53 29.2**	**-1.9**
IKUD				S	**Sg**	**04 53 40.9**	**-0.9**
IKRO	**Krokur**	**0.95**	**63**	P	**Pg**	**04 53 32.2**	**-1.3**
IKRO				S	**Sg**	**04 53 46.8**	**+0.9**
IHEI	**Heioarbar**	**0.96**	**57**	P	**Pg**	**04 53 32.2**	**-1.4**
IHEI				S	**Sg**	**04 53 46.5**	**+0.5**
ISOL	**Solvholt**	**0.97**	**74**	P	**Pg**	**04 53 32.2**	**-1.6**
ISOL				S	**Sg**	**04 53 46.3**	**-0.1**
IASM	**Asmuli**	**1.10**	**81**	P	**Pb**	**04 53 33.9**	**-2.3**
IASM				S	**Sg**	**04 53 49.9**	**-0.6**
ISAU	**Saurbar**	**1.21**	**74**	P	**Pn**	**04 53 36.1**	**-2.0**
ISAU				S	**Sb**	**04 53 53.4**	**-0.4**
IVES	**Vestmannaeyjar**	**1.26**	**100**	S	**Sb**	**04 53 53.7**	**-1.7**
BORG	**Borgarnes**	**1.31**	**35**	Pg	**Pg**	**04 53 37.1**	**-3.2**
	134nm,0.3s,baz=225,slow=9.6,SNR=3.9						
BORG				Lg		04 53 55.4	
	384nm,0.3s,baz=64,slow=15,SNR=6.3						
EKA	**Eskdalemuir Ar**	**13.06**	**121**	Pn	**Pn**	**04 56 23.6**	**+3.0**
	0.1nm,0.3s,baz=324,slow=16,SNR=3.3						
NOA	**NORSAR Array B**	**16.00**	**84**	LR	LR	05 02 19.4	
	comp=Z,233nm,20.4s,baz=305,slow=34						
ROSF	**Rostrenen**	**18.81**	**136**	*e*P	**Pn**	**04 57 36.6**	**+1.5**
	62nm,1.4s						
ROSF	**Rostrenen**	**18.81**	**136**	*e*P	**Pn**	**04 57 36.6**	**+1.5**
	31nm,1.4s						
FLN	**La Foliniere**	**19.35**	**130**	*e*P	**Pn**	**04 57 41.4**	**-0.2**
	14nm,0.8s						
FLN				*e*MLR	MLR		
	comp=Z,453nm,22.2s						
FLN	**La Foliniere**	**19.35**	**130**	*e*P	**Pn**	**04 57 41.4**	**-0.2**
	comp=Z,7.2nm,0.8s						
GRR	**Gorron**	**19.55**	**131**	*e*P	**Pn**	**04 57 42.9**	**-1.0**
LDF	**La Druitiere**	**19.62**	**130**	*e*P	**Pn**	**04 57 44.0**	**-0.8**
ARCES	**ARCESS Array B**	**19.66**	**52**	P	**Pn**	**04 57 46.2**	**+1.1**
ARCES				LR	LR	05 03 45.9	
ARCES	**ARCESS Array B**	**19.66**	**52**	P	**Pn**	**04 57 46.2**	**+1.1**
	comp=Z,0.1nm,0.3s,baz=273,slow=7.2,SNR=4.0						
ARCES				LR	LR	05 03 45.9	
	comp=Z,215nm,20.5s,baz=117,slow=32						
MFF	**Saint Martin d**	**21.34**	**132**	*e*P	**P**	**04 58 01.8**	**-0.3**
LOR	**Lormes**	**22.16**	**125**	*e*P	**P**	**04 58 11.8**	**+1.0**
	comp=Z,10nm,0.9s,mb4.0

az=57.0
*NEIC **10** 04:58:12.7±0.8, 455N×9632E, h30km, mb4.1/2, Error ellipse: s-maj=25.2km s-min=10.0km az=52.0*
*ISCJB **10** 04:58:15.2±2.4, 465N±0.10×965E±0.1, h66km±20km, mb3.9/9, Error ellipse: s-maj=23.3km s-min=13.5km az=153.3*

ISC 10 04:58:16.5±2.3, 462N±010×965E±01, h60km±20km, n14, σ1°17/17, mb3.9/9, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**3.06**	**126**	Pn	**Pn**	**04 59 02.0**	**-0.3**
PSI				Sn	**Sn**	**04 59 40.7**	**+2.9**
PSI				LR	LR	05 00 28.8	
PSI	**Prapat**	**3.06**	**126**	Pn	**Pn**	**04 59 02.0**	**-0.3**
	5.9nm,0.3s,baz=315,slow=13,SNR=30						
PSI				Sn	**Sn**	**04 59 40.7**	**+2.9**
	4.1nm,0.3s,baz=135,slow=20,SNR=4.5						
PSI				LR	LR	05 00 28.7	
	comp=Z,336nm,18.6s,baz=294,slow=42						
KULM	**Kulim**	**4.23**	**81**	*e*Pn	**Pn**	**04 59 16.5**	**-2.0**
KULM				*e*Sn	**Sn**	**05 00 06.7**	**+0.1**
SHL	**Shillong**	**21.28**	**349**	*e*P	**P**	**05 03 01.0**	**+3.0**
FITZ	**Fitzroy Crossi**	**36.58**	**129**	P	**P**	**05 05 16.3**	**-0.6**
	1.9nm,0.7s,mb4.0,baz=140,slow=5.1,SNR=5.9						
EKS2	**Erkin-Say**	**42.90**	**335**	P	**P**	**05 06 08.5**	**-0.6**
	1.0nm,0.3s,mb4.0						
MKAR	**Makanchi Array**	**43.76**	**346**	P	**P**	**05 06 15.7**	**-0.2**
	0.3nm,0.3s,mb3.5,baz=151,slow=6.3,SNR=3.5						
SONM	**Songino Array**	**43.89**	**10**	P	**P**	**05 06 19.1**	**+2.1**
	0.3nm,0.3s,mb3.5,baz=184,slow=11,SNR=3.9						
WRA	**Warramunga Arr**	**44.52**	**125**	P	**P**	**05 06 21.9**	**-0.6**
	1.7nm,0.6s,mb4.1,baz=302,slow=9.2,SNR=11						
WRAB	**Tennant Creek**	**44.53**	**125**	*e*P	**P**	**05 06 21.9**	**-0.6**
	2.6nm,0.8s,mb4.1						
ASAR	**Alice Springs**	**46.08**	**129**	P	**P**	**05 06 34.5**	**-0.2**
	1.4nm,0.7s,mb4.0,baz=305,slow=7.7,SNR=11						
ZALV	**Zalesovo Beam**	**50.08**	**351**	P	**P**	**05 07 04.5**	**-0.6**
ZALV	**Zalesovo Beam**	**50.08**	**351**	P	**P**	**05 07 04.5**	**-0.6**
	0.6nm,0.4s,mb4.0,baz=183,slow=8.2,SNR=3.2						
STKA	**Stephens Creek**	**56.21**	**133**	P	**P**	**05 07 51.3**	**+0.7**
	1.6nm,0.8s,mb4.1,baz=288,slow=7.9,SNR=4.0						

*ISCJB **10** 05:19:48.5±1.6, 284S±007×1276E±02, h53km±19km, mb4.0/5, Error ellipse: s-maj=31.8km s-min=10.5km az=172.5*
*NEIC **10** 05:19:48.9±0.6, 285S×12753E, h35km, mb4.0/3, Error ellipse: s-maj=32.4km s-min=8.8km az=78.0*
*IDC **10** 05:19:52.8±3.0, 290S×12756E, h76km±30km, mb3.7/5, mb1 3.9/8, mb1mx3.8/17, mbtmp3.8/8, MS3.5/1, Ms1 3.5/1, ms1mx2.5/22, Error ellipse: s-maj=45.7km s-min=10.4km az=72.0*

ISC 10 05:19:50.2±1.3, 284S±006×1277E±02, h50km±16km, n13, σ0°72/15, mb4.0/5, 1D, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNE	**Ternate**	**3.61**	**355**	⇓*e*P	**Pn**	**05 20 43.0**	**-0.7**
BATI	**Kupang**	**8.36**	**209**	P	**Pn**	**05 21 49.6**	**+0.8**
	5.4nm,0.3s,baz=294,slow=20,SNR=2.2						
BATI				LR	LR	05 25 19.1	
	comp=Z,327nm,19.4s,baz=212,slow=40						
FITZ	**Fitzroy Crossi**	**15.31**	**187**	*e*P	**Pn**	**05 23 21.9**	**-1.3**
	7.9nm,0.8s						
FITZ	**Fitzroy Crossi**	**15.31**	**187**	P	**Pn**	**05 23 21.6**	**-1.6**
	0.3nm,0.3s,baz=38,slow=13,SNR=6.7						
WRAB	**Tennant Creek**	**18.19**	**160**	*e*P	**Pn**	**05 23 59.7**	**+0.5**
	9.9nm,0.6s						
WRA	**Warramunga Arr**	**18.19**	**160**	P	**Pn**	**05 23 59.1**	**-0.2**
	1.3nm,0.3s,baz=340,slow=11,SNR=26						
WRA				S	**S**	**05 27 24.3**	**-0.5**
	0.2nm,0.3s,baz=330,slow=22,SNR=4.3						
WB2	**Warramunga Arr**	**18.20**	**160**	*e*P	**Pn**	**05 24 00.7**	**+1.4**
ASAR	**Alice Springs**	**21.56**	**164**	P	**P**	**05 24 35.6**	**0.0**
	11nm,0.8s,mb4.3,baz=346,slow=12,SNR=24						
ASAR				S	**S**	**05 28 31.6**	**-0.2**
	2.9nm,1.0s,baz=348,slow=24,SNR=7.7						
STKA	**Stephens Creek**	**31.71**	**157**	*e*P	**P**	**05 26 09.5**	**+0.2**
	2.6nm,1.1s,mb4.0						
STKA	**Stephens Creek**	**31.71**	**157**	P	**P**	**05 26 08.3**	**-1.0**
	1.7nm,0.6s,mb4.0,baz=309,slow=8.5,SNR=5.7						
MJAR	**Matsushiro Arr**	**40.38**	**13**	P	**P**	**05 27 23.7**	**+0.4**
	1.9nm,0.6s,mb4.0,baz=188,slow=9.3,SNR=4.6						
SONM	**Songino Array**	**53.80**	**342**	P	**P**	**05 29 08.3**	**+0.5**
	1.5nm,0.8s,mb4.0,baz=155,slow=8.8,SNR=10						
MKAR	**Makanchi Array**	**63.52**	**327**	P	**P**	**05 30 15.2**	**-0.2**
	0.4nm,0.4s,mb3.8,baz=128,slow=7.9,SNR=6.9						

*ISCJB **10** 05:19:60.0±0.4, 3853N±002×2160E±003, h2km±5km, Error ellipse: s-maj=3.5km s-min=3.3km az=7.7*
*CSEM **10** 05:20:00.8±0.1, 3852N×2161E, h5km, ML3.2, Error ellipse: s-maj=1.7km s-min=1.5km az=73.0*
*ATH **10** 05:20:00.5, 3852N×2156E, h9km±2km, MD3.5/4*
*THE **10** 05:20:01.1, 3852N×2162E, h3km, ML3.2*
*NEIC **10** 05:20:01.1, 3852N×2162E, h0km, MD3.5(ATH), ML3.2(THE), After THE.*

ISC 10 05:20:00.8±0.4, 3853N±002×2160E±003, h10km±4km, n26, σ1°00/44, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SELA	**Sela**	**0.34**	**138**	*e*Pg	**Pg**	**05 20 07.5**	**-0.1**
SELA				*e*Sg	**Sg**	**05 20 12.3**	**+0.1**
EVR	**Evrytania**	**0.42**	**23**	*e*PG	**Pg**	**05 20 08.5**	**-0.5**
EVR				*e*SB	**Sg**	**05 20 15.4**	**+0.8**
RLS	**Riolos of Patr**	**0.48**	**192**	*e*PB	**Pg**	**05 20 09.8**	**-0.4**
RLS				*e*SB	**Sg**	**05 20 17.0**	**+0.5**
AGG	**Agios Georgios**	**0.76**	**49**	*e*Pg	**Pg**	**05 20 15.8**	**+0.4**
AGG				*e*Sg	**Sg**	**05 20 25.7**	**+0.5**
KFL	**Anninata**	**0.76**	**237**	*e*Pg	**Pg**	**05 20 15.3**	**-0.2**
KFL				*e*Sg	**Sg**	**05 20 26.9**	**+1.5**
LKD	**Levkas**	**0.76**	**284**	*e*Pg	**Pg**	**05 20 15.4**	**-0.1**
LKD				*e*Sg	**Sg**	**05 20 27.6**	**+2.2**
LKD	**Levkas**	**0.76**	**284**	*e*Pg	**Pg**	**05 20 15.4**	**-0.1**
LKD				*e*Sg	**Sg**	**05 20 27.6**	**+2.1**
VLS	**Valsamata**	**0.87**	**246**	*e*Pg	**Pg**	**05 20 16.0**	**-1.5**
VLS				*e*Pg	**Pg**	**05 20 16.5**	**-1.0**
VLS				*e*Sb	**Sb**	**05 20 28.1**	**-1.5**
VLS	**Valsamata**	**0.87**	**246**	*e*PG	**Pg**	**05 20 16.5**	**-1.0**
VLS				*e*SB	**Sb**	**05 20 28.1**	**-1.5**
THL	**Klokotos Trika**	**1.08**	**17**	*e*PN	**Pn**	**05 20 21.5**	**-0.5**
THL				*e*SB	**Sb**	**05 20 36.4**	**+0.6**
LKR	**Lokris**	**1.10**	**83**	*e*PN	**Pn**	**05 20 21.9**	**-0.4**
LKR				*e*SB	**Sb**	**05 20 37.6**	**+1.2**
LTK	**Loutraki**	**1.19**	**115**	*e*Pg	**Pg**	**05 20 22.6**	**-1.0**
LTK				*e*Sg	**Sg**	**05 20 40.4**	**+1.3**
JAN	**Janina**	**1.27**	**333**	*e*PB	**Pb**	**05 20 24.9**	**+0.1**
MEV	**Metsovon**	**1.29**	**347**	*e*Pg	**Pg**	**05 20 25.3**	**-0.2**
VLX	**Vlachokerasia**	**1.31**	**152**	*e*Pg	**Pg**	**05 20 24.8**	**-1.2**
IGT	**Igoumenitsa**	**1.41**	**316**	*e*Pg	**Pg**	**05 20 27.6**	**-0.1**
IGT				*e*Sg	**Sg**	**05 20 48.3**	**+2.3**
NEO	**Neokhori**	**1.49**	**58**	*e*PG	**Pg**	**05 20 28.4**	**-0.9**
PYL	**PYLOS**	**1.64**	**176**	*e*Pb	**Pb**	**05 20 30.2**	**-0.8**
PYL				*e*Sb	**Sb**	**05 20 52.2**	**+0.6**
PYL	**PYLOS**	**1.64**	**176**	*e*Pb	**Pb**	**05 20 30.2**	**-0.8**
PYL				*e*Sb	**Sb**	**05 20 52.2**	**+0.5**
DID	**Didima**	**1.65**	**128**	*e*Pb	**Pb**	**05 20 31.0**	**-0.3**
DID				*e*Sb	**Sb**	**05 20 53.1**	**+1.0**
LIT	**Litokhoron**	**1.71**	**24**	*e*Pb	**Pb**	**05 20 32.0**	**-0.4**
LIT				*e*Sb	**Sb**	**05 20 54.6**	**+0.6**
KZN	**Kozani**	**1.78**	**4**	*e*PG	**Pg**	**05 20 33.1**	**-1.8**
KEK	**Kerkira**	**1.83**	**311**	*e*PG	**Pg**	**05 20 35.0**	**-0.9**
AOS	**Alonnisos**	**1.89**	**70**	*e*Pb	**Pb**	**05 20 33.4**	**-2.0**
VLI	**Veliai**	**2.10**	**149**	*e*PN	**Pn**	**05 20 38.2**	**+2.2**
PAIG	**Paliouri**	**2.14**	**49**	*e*Pn	**Pn**	**05 20 36.4**	**-0.1**

*INMG **10** 05:26:53.4±1.5, 3626N×797W, h15km±5km, ML1.9, Error ellipse: s-maj=6.8km s-min=5.9km az=80.0*

MDD 10 05:26:54.2±1.4, 3629N×797W, h21km±21km, mb3.8/3, mbLg2.2/10, Error ellipse: s-maj=21.4km s-min=7.0km az=13.0, PRXIMO, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBDV	**Barranco-do-Ve**	**0.95**	**2**	*e*P	Pb	05 27 11.0	-0.9
PBDV				*e*S	Sb	05 27 24.4	+0.3
PBDV				A		05 27 25.6	
	15nm,0.2s						
PBDV	**Barranco-do-Ve**	**0.95**	**2**	P	Pb	05 27 11.0	-0.9
PBDV				S	Sb	05 27 24.4	+0.3
	7.5nm,0.2s						
PFVI	**Vila Bisbo**	**1.08**	**321**	*e*P	Pn	05 27 12.8	-1.4
PFVI				*e*S	Sb	05 27 27.6	-0.3
PFVI				A		05 27 29.7	
	9.6nm,0.1s						
PFVI	**Vila Bisbo**	**1.08**	**321**	P	Pn	05 27 12.8	-1.4
PFVI				S	Sb	05 27 27.6	-0.3
	4.8nm,0.1s						
PVAQ	**Vaqueiros**	**1.13**	**10**	*e*P	Pn	05 27 13.4	-1.4
PVAQ				*e*S	Sb	05 27 29.4	+0.2
PVAQ				A		05 27 30.0	
	14nm,0.1s						
PVAQ	**Vaqueiros**	**1.13**	**10**	P	Pn	05 27 13.4	-1.4
PVAQ				S	Sb	05 27 29.4	+0.2
	7.2nm,0.1s						
MORF	**Marmelete**	**1.15**	**332**	*e*P	Pn	05 27 13.9	-1.2
MORF				*e*S	Sb	05 27 28.3	-1.5
MORF				A		05 27 30.5	
	21nm,0.1s						
MORF	**Marmelete**	**1.15**	**332**	P	Pn	05 27 13.5	-1.6
MORF				S	Sb	05 27 28.3	-1.5
EGRO	**El Granado**	**1.30**	**17**	P	Pn	05 27 16.0	-1.2
	0.3nm,0.0s,SNR=16						
EGRO				S	Sn	05 27 32.7	-1.1
	13nm,0.1s,SNR=12						
PTEO	**Sao Teotonio**	**1.39**	**334**	*e*P	Pn	05 27 17.2	-1.1
PTEO				*e*S	Sn	05 27 34.5	-1.5
PTEO				A		05 27 38.7	
	4.8nm,0.1s						
PTEO	**Sao Teotonio**	**1.39**	**334**	P	Pn	05 27 17.2	-1.1
PTEO				S	Sn	05 27 34.5	-1.5
	2.4nm,0.1s						
PBEJ	**Beja**	**1.73**	**3**	*e*Pg	Pn	05 27 26.3	+3.2
PBEJ				*e*Sn	Sn	05 27 43.7	-0.8
PBEJ				*e*Sg	Sn	05 27 48.2	+3.7
PBEJ				A		05 27 48.9	
	6.5nm,0.1s						
PBEJ	**Beja**	**1.73**	**3**	P	Pn	05 27 26.3	+3.2
PBEJ				S	Sn	05 27 43.7	-0.8
ESPR	**Espera**	**1.80**	**71**	P	Pn	05 27 23.2	-0.8
	0.3nm,0.1s,SNR=7.9						
ESPR				S	Sn	05 27 44.1	-2.1
	10nm,0.2s,SNR=7.9						
EMIN	**Mina Concepcio**	**1.80**	**35**	P	Pn	05 27 22.5	-1.5
	0.1nm,0.1s,SNR=7.9						
EMIN				S	Sn	05 27 43.3	-3.0
	0.9nm,0.1s,SNR=7.6						
PBAR	**Barrancos**	**2.02**	**21**	*e*Pn	Pn	05 27 26.4	-0.7
PBAR	**Barrancos**	**2.02**	**21**	*e*Pg	Pn	05 27 28.1	+1.0
PBAR				*e*Sn	Sn	05 27 49.1	-2.6
PBAR				*e*Sg	Sn	05 27 56.8	+5.1
PBAR				A		05 27 58.7	
	4.2nm,0.2s						
PBAR	**Barrancos**	**2.02**	**21**	P	Pn	05 27 26.4	-0.7
PBAR				S	Sn	05 27 49.1	-2.6
EVO	**Evora**	**2.23**	**359**	*e*Sn	Sn	05 27 54.8	-2.1
EVO				A		05 27 56.2	
	7.3nm,0.1s						
EVO				*e*Sg	Sn	05 28 03.3	+6.3
EVO	**Evora**	**2.23**	**359**	S	Sn	05 27 54.8	-2.1
	3.7nm,0.1s						
MOE	**Montemor**	**2.25**	**352**	*e*Sn	Sn	05 27 55.7	-1.5
EBAD	**Badajoz**	**2.57**	**17**	P	Pn	05 27 33.3	-1.4
	0.3nm,0.1s,SNR=5.9						
EBAD				S	Sn	05 28 02.2	-3.1
	1.8nm,0.0s,SNR=5.8						
PESTR	**Estremoz**	**2.59**	**7**	*e*Pn	Pn	05 27 33.9	-0.9
PESTR				*e*Sn	Sn	05 28 03.4	-2.2
ECAB	**El Cabril**	**2.71**	**48**	P	Pn	05 27 37.1	+0.6
	1.4nm,0.1s,SNR=5.7						
ECAB				S	Sn	05 28 03.4	-5.2
	1.0nm,0.1s,SNR=5.0						
PMAFR	**Mafra**	**2.85**	**339**	*e*Pn	Pn	05 27 38.1	-0.4
PMAFR				*e*Sn	Sn	05 28 10.5	-1.7
EADA	**Adamuz**	**3.29**	**54**	P	Pn	05 27 43.9	-0.6
	0.3nm,0.1s,SNR=7.9						
EADA				S	Sn	05 28 19.8	-3.3
	2.1nm,0.1s,SNR=7.9						
PCBR	**Castelo Branco**	**3.56**	**6**	*e*Sn	Sn	05 28 26.0	-3.7
EQUE	**Quentar**	**3.75**	**75**	S	Sn	05 28 28.6	-5.8
	0.4nm,0.0s,SNR=4.0						
EBAN	**Banos Encina**	**3.83**	**60**	P	Pn	05 27 51.4	-0.5
	1.1nm,0.1s,SNR=7.9						

*NEIC **10** 05:34:56.8, 3859N×2143E, h38km, MD3.0(ATH), After ATH.*
*ATH **10** 05:34:56.8, 3859N×2143E, h38km±2km, MD3.0/5*
*THE **10** 05:34:57.3, 3833N×2169E, h5km, ML2.7*
*ISCJB **10** 05:34:59.8±0.7, 3852N±005×2163E±006, h24km±8km, Error ellipse: s-maj=9.0km s-min=6.4km az=39.6*
*CSEM **10** 05:34:59.6±0.3, 3852N×2164E, h25km, MD3.0, Error ellipse: s-maj=7.3km s-min=5.8km az=150.0*

ISC 10 05:34:59.3±0.7, 3854N±005×2156E±007, h26km±8km, n9, σ1°23/15, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EVR	**Evrytania**	**0.42**	**27**	*e*PB	**Pb**	**05 35 07.1**	**-1.2**
EVR				*e*SB	**Sb**	**05 35 14.3**	**-0.1**
RLS	**Riolos of Patr**	**0.49**	**189**	*e*PN	**Pb**	**05 35 08.8**	**-0.6**
RLS				*e*SN	**Sb**	**05 35 16.9**	**+0.7**
LKD	**Levkas**	**0.73**	**283**	*e*Pg	**Pb**	**05 35 14.0**	**+0.6**
LKD				*e*Sg	**Sb**	**05 35 27.2**	**+4.1**
AGG	**Agios Georgios**	**0.77**	**51**	*e*Pg	**Pb**	**05 35 13.2**	**-0.8**
AGG				*e*Sg	**Sb**	**05 35 25.6**	**+1.4**
AGG	**Agios Georgios**	**0.77**	**51**	*e*Pg	**Pb**	**05 35 13.2**	**-0.9**
AGG				*e*Sg	**Sb**	**05 35 25.5**	**+1.4**
VLS	**Valsamata**	**0.85**	**245**	*e*PN	**Pn**	**05 35 12.3**	**-3.2**
THL	**Klokotos Trika**	**1.08**	**19**	*e*PN	**Pn**	**05 35 17.2**	**-1.6**
LKR	**Lokris**	**1.13**	**84**	*e*PN	**Pn**	**05 35 18.9**	**-0.6**
LKR				*e*SN	**Sn**	**05 35 35.0**	**+0.8**
MEV	**Metsovon**	**1.27**	**348**	*e*Pg	**Pn**	**05 35 23.9**	**+2.5**

*NEIC **10** 05:44:41.0, 32.15S×7177W, h9km, ML2.7(GUC), After GUC.*

GUC 10 05:44:41.0±0.9, 3215S×7177W, h9km±3km, MD3.7, ML2.7, 11C-7D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHNG	**Los Chungos**	**0.35**	**42**	⇓*i*P	Pg	05 44 31.3	-17
CHNG				*i* S	Sg	05 44 37.4	-15
CHNG				AML	AML	05 44 38.0	
	comp=E,271nm,0.2s						
PACH	**Papudo**	**0.48**	**144**	⇑*i*P	Pg	05 44 51.2	+0.8
PACH				*i* S	Sg	05 44 58.4	+1.6
PTCH	**Petorca**	**0.72**	**100**	⇑*i*P	Pg	05 44 55.6	+0.6
PTCH				*i* S	Sg	05 45 05.7	+1.3
PTCH	**Petorca**	**0.72**	**100**	⇑*i*P	Pg	05 44 55.6	+0.6
PTCH				*i* S	Sg	05 45 05.7	+1.3
PTCH				AML	AML	05 45 06.4	
	comp=N,265nm,0.2s						
IHA	**Instituto Hidr**	**0.88**	**173**	*e*P	Pg	05 44 57.8	-0.2
IHA				*i* S	Sg	05 45 09.8	+0.3
JACH	**Jahuel**	**1.13**	**118**	⇓*i*P	Pb	05 45 01.8	-1.0
JACH				*i* S	Sg	05 45 17.1	-0.4
CMCH	**Combarbala**	**1.17**	**34**	⇑*i*P	Pb	05 45 01.8	-1.6
CMCH				*i* S	Sb	05 45 18.0	-0.6
CMCH	**Combarbala**	**1.17**	**34**	⇑*i*P	Pb	05 45 01.8	-1.6
CMCH				*i* S	Sb	05 45 18.0	-0.6
CMCH				AML	AML	05 45 24.1	
	comp=E,1μm,0.7s						
PEL	**Peldehue**	**1.35**	**138**	⇓*i*P	Pn	05 45 05.1	-0.9
PEL				*i* S	Sb	05 45 23.5	-0.4
PEL				AML	AML	05 45 26.0	
	comp=E,640nm,0.3s						
STL	**Santa Lucia**	**1.60**	**144**	AML	AML	05 45 34.6	
	comp=N,42nm,0.6s						
DSCH	**Colegio Aleman**	**1.61**	**141**	⇑*i*P	Pn	05 45 08.7	-0.8
DSCH				*e*S	Sn	05 45 30.3	-0.1
DSCH	**Colegio Aleman**	**1.61**	**141**	⇑*i*P	Pn	05 45 08.7	-0.8
DSCH				*e*S	Sn	05 45 30.3	-0.1
DSCH				AML	AML	05 45 33.9	
	comp=N,71nm,0.4s						
CLCH	**Cerro Calan**	**1.62**	**140**	⇓*i*P	Pn	05 45 09.4	-0.3
CLCH				AML	AML	05 45 33.9	
	comp=E,223nm,0.4s						
TACH	**Talagante**	**1.66**	**155**	⇑*i*P	Pn	05 45 10.4	+0.1
TACH				*i* S	Sn	05 45 31.7	0.0
FSR	**Penalolen**	**1.69**	**142**	⇓*i*P	Pn	05 45 10.6	-0.1
FSR				*i* S	Sn	05 45 33.1	+0.7
FSR	**Penalolen**	**1.69**	**142**	⇓*i*P	Pn	05 45 10.6	-0.1
FSR				*i* S	Sn	05 45 33.1	+0.7
FSR				AML	AML	05 45 37.8	
	comp=E,212nm,0.3s						
ANTU	**Antumapu**	**1.71**	**146**	*e*P	Pn	05 45 10.4	-0.6
ANTU				*i* S	Sn	05 45 33.3	+0.3
ANTU	**Antumapu**	**1.71**	**146**	*e*P	Pn	05 45 10.4	-0.6
ANTU				*i* S	Sn	05 45 33.3	+0.3
ANTU				AML	AML	05 45 40.1	
	comp=E,186nm,0.3s						
FCH	**Farellones**	**1.72**	**134**	⇓*i*P	Pn	05 45 11.0	0.0
FCH				*i* S	Sn	05 45 34.2	+1.1
FCH				AML	AML	05 45 36.1	
	comp=E,212nm,0.2s						
PCH	**Pirque**	**1.81**	**145**	*e*P	Pn	05 45 12.2	-0.2
PCH				*i* S	Sn	05 45 36.3	+0.9
CHCH	**Chadas Angostu**	**2.02**	**152**	⇑*i*P	Pn	05 45 15.4	+0.3
CHCH				*i* S	Sn	05 45 40.9	+0.5
TLL	**Tololo Astrono**	**2.14**	**23**	*e*P	Pn	05 45 18.1	+1.3
TLL				S	Sn	05 45 46.8	+3.2
TLL	**Tololo Astrono**	**2.14**	**23**	*e*P	Pn	05 45 18.1	+1.3
TLL				*i* S	Sn	05 45 46.8	+3.2
TLL				AML	AML	05 45 54.8	
	comp=N,108nm,0.5s						
LMEL	**Las Melosas**	**2.15**	**143**	⇑*i*P	Pn	05 45 17.7	+0.8
LMEL				S	Sn	05 45 45.1	+1.3
LMEL	**Las Melosas**	**2.15**	**143**	⇑*i*P	Pn	05 45 17.7	+0.8
LMEL				*i* S	Sn	05 45 45.1	+1.3
LMEL				AML	AML	05 45 52.9	
	comp=N,167nm,0.2s						
CACH	**El Canelo**	**2.20**	**154**	*e*P	Pn	05 45 19.7	+2.0
CACH				*i* S	Sn	05 45 48.8	+3.8

*ISCJB **10** 05:55:12.1±0.4, 3853N±002×2159E±003, h8km±4km, Error ellipse: s-maj=3.6km s-min=3.0km az=159.3*
*CSEM **10** 05:55:12.8±0.1, 3853N×2159E, h2km, ML3.5, Error ellipse: s-maj=2.5km s-min=2.3km az=84.0*
*THE **10** 05:55:12.7, 3853N×2160E, h3km, ML3.5*
*NEIC **10** 05:55:12.7, 3853N×2160E, h0km, MD3.6(ATH), ML3.5(THE), After THE.*
*ATH **10** 05:55:12.2, 3853N×2160E, h21km±1km, MD3.6/11*

ISC 10 05:55:12.8±0.4, 3852N±002×2159E±003, h14km±3km, n28, σ1°07/45, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SELA	**Sela**	**0.34**	**136**	*e*Pg	**Pg**	**05 55 18.9**	**-0.9**
SELA				*e*Sg	**Sg**	**05 55 24.8**	**+0.3**
EVR	**Evrytania**	**0.43**	**24**	*e*PB	**Pg**	**05 55 20.4**	**-1.0**
EVR				*e*SB	**Sg**	**05 55 27.1**	**0.0**
RLS	**Riolos of Patr**	**0.48**	**192**	*e*PB	**Pb**	**05 55 22.0**	**-0.9**
RLS				*e*SB	**Sg**	**05 55 30.0**	**+1.4**
KFL	**Anninata**	**0.75**	**237**	*e*Pg	**Pg**	**05 55 26.9**	**-0.5**
LKD	**Levkas**	**0.76**	**284**	*e*Pg	**Pg**	**05 55 26.8**	**-0.8**
LKD				*e*Sg	**Sg**	**05 55 38.6**	**+1.2**
AGG	**Agios Georgios**	**0.76**	**49**	*e*Pg	**Pg**	**05 55 26.7**	**-0.9**
AGG				*e*Sg	**Sg**	**05 55 38.0**	**+0.3**
VLS	**Valsamata**	**0.86**	**247**	*e*PB	**Pb**	**05 55 28.5**	**-1.0**
VLS				*e*SN	**Sn**	**05 55 41.8**	**-1.0**
THL	**Klokotos Trika**	**1.09**	**18**	*e*PN	**Pn**	**05 55 33.1**	**-0.5**
THL				*e*SN	**Sn**	**05 55 48.0**	**-0.5**
LKR	**Lokris**	**1.11**	**83**	*e*PN	**Pn**	**05 55 33.1**	**-0.8**
LKR				*e*SN	**Sn**	**05 55 48.2**	**-0.8**
LTK	**Loutraki**	**1.19**	**114**	*e*Pg	**Pg**	**05 55 35.5**	**-0.3**
LTK				*e*Sg	**Sg**	**05 55 53.2**	**+1.9**
JAN	**Janina**	**1.27**	**333**	*e*PN	**Pn**	**05 55 36.5**	**+0.4**
MEV	**Metsovon**	**1.29**	**348**	*e*Pg	**Pg**	**05 55 36.6**	**-1.0**
MEV				*e*Sg	**Sg**	**05 55 55.6**	**+1.2**
VLX	**Vlachokerasia**	**1.31**	**151**	*e*Pg	**Pg**	**05 55 36.4**	**-1.7**
VLX				*e*Sg	**Sg**	**05 55 57.0**	**+2.0**
VLX	**Vlachokerasia**	**1.31**	**151**	*e*Pg	**Pg**	**05 55 36.3**	**-1.7**
ITM	**Ithomi**	**1.37**	**169**	*e*PN	**Pn**	**05 55 38.7**	**+1.3**
IGT	**Igoumenitsa**	**1.40**	**316**	*e*Pg	**Pg**	**05 55 39.0**	**-0.8**
IGT				*e*Sg	**Sg**	**05 55 58.7**	**+0.7**
NEO	**Neokhori**	**1.50**	**58**	*e*PN	**Pn**	**05 55 39.9**	**+0.7**
PYL	**PYLOS**	**1.63**	**176**	*e*Pb	**Pb**	**05 55 41.8**	**-0.9**
PYL				*e*Sb	**Sb**	**05 56 04.0**	**+1.0**
DID	**Didima**	**1.65**	**127**	*e*Pb	**Pb**	**05 55 42.4**	**-0.5**
DID				*e*Sb	**Sb**	**05 56 04.9**	**+1.3**
LIT	**Litokhoron**	**1.72**	**24**	*e*Pb	**Pb**	**05 55 43.2**	**-1.0**
LIT				*e*Sb	**Sb**	**05 56 06.8**	**+1.1**
LIT	**Litokhoron**	**1.72**	**24**	*e*Pb	**Pb**	**05 55 43.2**	**-1.0**
LIT				*e*Sb	**Sb**	**05 56 06.8**	**+1.1**
KZN	**Kozani**	**1.79**	**4**	*e*PN	**Pn**	**05 55 44.6**	**+1.4**
KEK	**Kerkira**	**1.83**	**311**	*e*PN	**Pn**	**05 55 44.5**	**+0.7**
AOS	**Alonnisos**	**1.90**	**69**	*e*Pb	**Pb**	**05 55 45.3**	**-2.0**
AOS				*e*Sb	**Sb**	**05 56 10.6**	**-0.3**
VLI	**Veliai**	**2.10**	**149**	*e*PB	**Pb**

FCH				AML	AML	05 59 30.3	
	comp=E,502nm,0.3s						
PCH	**Pirque**	**1.78**	**144**	⇑*i*P	Pn	05 59 08.9	+0.4
LNV	**Longovilo**	**1.80**	**171**	*e*P	Pn	05 59 08.4	-0.3
LNV				*i* S	Sn	05 59 31.8	+0.1
CHCH	**Chadas Angostu**	**1.98**	**152**	⇓*i*P	Pn	05 59 11.7	+0.4
CHCH				*i* S	Sn	05 59 37.1	+0.9
LMEL	**Las Melosas**	**2.12**	**142**	*i* P	Pn	05 59 13.5	+0.4
LMEL				*i* S	Sn	05 59 41.3	+1.7
LMEL	**Las Melosas**	**2.12**	**142**	*i* P	Pn	05 59 13.5	+0.4
LMEL				*i* S	Sn	05 59 41.3	+1.7
LMEL				AML	AML	05 59 47.6	
	comp=N,490nm,0.2s						
TLL	**Tololo Astrono**	**2.16**	**22**	*e*P	Pn	05 59 14.6	+0.9
TLL				*i* S	Sn	05 59 43.7	+3.0
TLL	**Tololo Astrono**	**2.16**	**22**	*e*P	Pn	05 59 14.6	+0.9
TLL				*i* S	Sn	05 59 43.7	+3.0
TLL				AML	AML	05 59 50.7	
	comp=N,501nm,0.6s						
CACH	**El Canelo**	**2.17**	**154**	*e*P	Pn	05 59 15.2	+1.4
CICH	**Cipreses**	**2.41**	**153**	*i* P	Pn	05 59 18.4	+1.3
LCO	**Las Campanas**	**3.28**	**16**	*e*Pn	Pn	05 59 28.3	-0.9
LCO				*e*Sn	Sn	06 00 12.8	+4.5

NEIC ***10*** *06:01:41.1±0.3, 1462S×16753E, h35km, mb4.7/9, Error ellipse: s-maj=14.8km s-min=10.0km az=128.0*
LDG ***10*** *06:01:49.8±0.2, 1453S×16682E, h100km, Mb4.2/2, Error ellipse: s-maj=43.1km s-min=6.2km az=87.0*
IDC ***10*** *06:01:51.2±2.5, 1487S×16734E, h124km±19km, mb4.3/11, mb1 4.4/11, mb1mx4.2/18, mbtmp4.3/11, MS2.8/1, Ms1 2.8/1, ms1mx2.6/20, Error ellipse: s-maj=20.5km s-min=17.4km az=75.0*
ISCJB ***10*** *06:01:57.1±6.5, 150S±0.1×1672E±02, h190km±57km, mb4.4/16, Error ellipse: s-maj=30.5km s-min=15.2km az=138.4*

ISC 10 06:02:00.2±6.0, 150S±01×1672E±02, h205km±53km, n77, σ0$75/28, mb4.3/16, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**9.01**	**307**	LR	LR	06 06 17.1	
	comp=Z,63nm,20.8s,baz=180,slow=30						
EIDS	**Eidsvold**	**18.30**	**233**	*e*P	**P**	**06 05 59.3**	**+0.3**
	24nm,0.8s						
CTA	**Charters Tower**	**20.61**	**253**	*e*P	**P**	**06 06 24.2**	**+0.4**
	18nm,0.8s						
CTA	**Charters Tower**	**20.61**	**253**	P	**P**	**06 06 22.9**	**-0.8**
	29nm,0.9s,baz=81,slow=12,SNR=12						
ARMA	**Armidale**	**20.98**	**220**	*e*P	**P**	**06 06 28.9**	**+1.3**
URZ	**Urewera**	**24.76**	**161**	P	**P**	**06 07 01.9**	**-1.0**
	4.0nm,0.3s,mb4.5,baz=318,slow=0.6,SNR=6.1						
STKA	**Stephens Creek**	**28.77**	**230**	*e*P	**P**	**06 07 40.3**	**+1.4**
	15nm,0.4s,mb5.0						
STKA	**Stephens Creek**	**28.77**	**230**	P	**P**	**06 07 40.5**	**+1.6**
	19nm,0.5s,mb5.0,baz=50,slow=8.3,SNR=42						
STKA				PcP	PcP	06 10 44.2	+0.6
	2.3nm,0.8s,baz=114,slow=6.9,SNR=3.0						
STKA				ScP	ScP	06 14 14.8	+9.2
	2.8nm,0.9s,baz=18,slow=7.4,SNR=3.6						
RPZ	**Rata Peaks**	**28.80**	**174**	P	**P**	**06 07 38.3**	**-0.6**
	7.3nm,0.6s,mb4.5,baz=145,slow=6.0,SNR=4.5						
WB2	**Warramunga Arr**	**31.70**	**256**	*e*P	**P**	**06 08 03.7**	**-1.1**
WRA	**Warramunga Arr**	**31.71**	**256**	P	**P**	**06 08 03.7**	**-1.2**
WRA				PcP	PcP	06 10 51.3	-0.2
WRA	**Warramunga Arr**	**31.71**	**256**	P	**P**	**06 08 03.7**	**-1.2**
	5.3nm,0.8s,mb4.1,baz=84,slow=9.0,SNR=23						
WRA				PcP	PcP	06 10 51.3	-0.2
	1.2nm,1.1s,baz=87,slow=3.2,SNR=3.0						
WRA				ScP	ScP	06 14 24.2	+8.8
	0.7nm,0.9s,baz=85,slow=3.6,SNR=4.6						
ASAR	**Alice Springs**	**32.53**	**249**	P	**P**	**06 08 11.4**	**-0.5**
ASAR				PcP	PcP	06 10 54.8	+1.1
ASAR	**Alice Springs**	**32.53**	**249**	P	**P**	**06 08 11.4**	**-0.5**
	10nm,0.5s,mb4.6,baz=78,slow=9.1,SNR=134						
ASAR				PcP	PcP	06 10 54.8	+1.1
	0.7nm,0.7s,baz=88,slow=2.8,SNR=5.7						
ASAR				ScP	ScP	06 14 27.6	+9.4
	1.1nm,0.8s,baz=98,slow=3.2,SNR=8.0						
KAKA	**Kakadu**	**33.82**	**269**	*e*P	**P**	**06 08 22.7**	**-0.5**
	7.2nm,0.6s,mb4.4						
FORT	**Forrest**	**39.11**	**239**	*e*P	**P**	**06 09 08.1**	**+0.3**
	19nm,0.6s,mb4.8						
FITZ	**Fitzroy Crossi**	**39.91**	**260**	*e*P	**P**	**06 09 14.4**	**-0.2**
	17nm,0.4s,mb4.8						
VNDA	**Vanda**	**62.58**	**181**	P	**P**	**06 12 02.5**	**+0.6**
	1.9nm,0.5s,mb4.0,baz=355,slow=7.4,SNR=22						
SBA	**Scott Base**	**62.86**	**180**	*e*P	**P**	**06 12 04.9**	**+1.2**
	7.3nm,0.8s,mb4.4						
ULN	**Ulaanbaatar**	**82.33**	**324**	*e*P	**P**	**06 13 59.6**	**+0.8**
	3.9nm,0.7s,mb4.2						
SONM	**Songino Array**	**82.69**	**324**	P	**P**	**06 14 01.1**	**+0.4**
	1.5nm,0.7s,mb3.8,baz=149,slow=7.7,SNR=14						
TLY	**Talaya**	**86.19**	**326**	*e*P	**P**	**06 14 18.3**	**+0.2**
	2.3nm,0.8s,mb4.0						
SNAA	**Sanae**	**93.27**	**183**	*e*	**P**	**06 14 50.5**	**-0.5**
VNA3	**Neumayer Olymp**	**93.94**	**181**	*e*	**P**	**06 14 53.5**	**-0.6**
VNA2	**Neumayer--Watz**	**94.20**	**182**	*e*	**P**	**06 14 55.1**	**-0.2**
	baz=181,slow=5.5						
VNA1	**Neumayer--Stat**	**94.50**	**182**	*e*	**P**	**06 14 52.2**	**-4.5**
TXAR	**Lajitas Array**	**96.45**	**61**	P	**P**	**06 15 06.5**	**+0.1**
	0.2nm,0.8s,mb3.4,baz=243,slow=1.0,SNR=3.1						
MKAR	**Makanchi Array**	**97.37**	**316**	P	**P**	**06 15 10.7**	**+0.6**
	1.7nm,0.7s,mb4.4,baz=100,slow=6.0,SNR=16						
ZALV	**Zalesovo Beam**	**97.58**	**324**	P	**P**	**06 15 10.3**	**-0.5**
	2.0nm,0.7s,mb4.6,baz=120,slow=4.5,SNR=9.0						
ARCES	**ARCESS Array B**	**120.51**	**345**	PKP	PKPdf	06 20 26.1	-0.4
	2.3nm,0.5s,baz=69,slow=1.3,SNR=25						
FINES	**FINESS Array B**	**125.96**	**338**	PKP	PKPdf	06 20 37.3	+0.1
	0.5nm,0.4s,baz=102,slow=4.5,SNR=5.2						
NOA	**NORSAR Array B**	**130.88**	**345**	PKP	PKPdf	06 20 48.5	+1.9
	0.7nm,0.8s,baz=344,slow=1.8,SNR=3.0						
AKASG	**Malin Array Be**	**130.94**	**326**	SKPbc	SKPbc	06 23 59.3	+7.1
	0.6nm,0.6s,baz=51,slow=4.5,SNR=4.1						
TIP	**Timpagrande**	**144.62**	**319**	*e*PKPdf	PKPdf	06 21 12.7	+0.2
CABF	**La Chapelle**	**144.76**	**337**	*e*PKP1	PKPdf	06 21 12.6	+0.1
	17nm,0.6s						
FLN	**La Foliniere**	**144.85**	**346**	*e*PKP1	PKPdf	06 21 11.6	-1.0
	32nm,0.5s						
LDF	**La Druitiere**	**144.92**	**345**	*e*PKP1	PKPdf	06 21 11.8	-0.9
	20nm,0.6s						
LOR	**Lormes**	**144.98**	**340**	*e*PKP1	PKPdf	06 21 12.8	-0.1
	17nm,0.5s						
SSF	**Saint Saulge**	**145.28**	**340**	*e*PKP1	PKPbc	06 21 13.9	+0.4
	60nm,0.6s						
GRR	**Gorron**	**145.29**	**346**	*e*PKP1	PKPbc	06 21 13.4	-0.1
	45nm,0.6s						
LPL	**La Plagne**	**145.42**	**336**	*e*PKP1	PKPbc	06 21 15.0	+0.9
	32nm,0.6s						
LPG	**La Plagne**	**145.43**	**336**	*e*PKP1	PKPbc	06 21 15.0	+0.9
	36nm,0.6s						
SMF	**Signal de Mont**	**145.53**	**340**	*e*PKP1	PKPbc	06 21 14.7	+0.4
	43nm,1.0s						
AVF	**Avril sur Loir**	**145.57**	**340**	*e*PKP1	PKPbc	06 21 14.7	+0.3
	10nm,0.4s						
SGMF	**Saint Gilles**	**145.79**	**348**	*e*PKP1	PKPbc	06 21 14.8	-0.3
	16nm,0.5s						
ROSF	**Rostrenen**	**145.85**	**349**	*e*PKP1	PKPbc	06 21 15.2	-0.1
BGF	**Bois d'Agland**	**145.94**	**341**	*e*PKP1	PKPbc	06 21 15.7	+0.1
	20nm,0.5s						
MBDF	**Montbardon**	**146.06**	**335**	*e*PKP1	PKPbc	06 21 16.7	+0.7
	20nm,0.6s						
PLDF	**La Plantade**	**146.19**	**339**	PKP	PKPbc	06 21 17.4	+1.1
QUIF	**Quistinic**	**146.23**	**348**	*e*PKP1	PKPbc	06 21 16.1	-0.3
ORIF	**Oris-en-Rattie**	**146.26**	**336**	*e*PKP1	PKPbc	06 21 17.0	+0.4
	17nm,0.6s						
AGO	**Saint Agoulin**	**146.29**	**340**	PKP	PKPbc	06 21 17.2	+0.6
SAOF	**Saorge**	**146.32**	**333**	PKP	PKPbc	06 21 17.3	+0.5
AUTN	**L'Aution**	**146.37**	**333**	PKP	PKPbc	06 21 18.5	+1.6
TCF	**Toulx Ste Croi**	**146.38**	**341**	*e*PKP1	PKPbc	06 21 17.0	+0.1
TOUF	**Mont Tournerai**	**146.43**	**333**	PKP	PKPbc	06 21 18.0	+0.9
SBF	**Sospel**	**146.47**	**333**	*e*PKP1	PKPbc	06 21 18.2	+1.0
	32nm,0.6s						
LUCF	**Luceram**	**146.48**	**333**	PKP	PKPbc	06 21 17.8	+0.5
MVIF	**Mont Vial**	**146.56**	**333**	PKP	PKPbc	06 21 19.3	+1.8
PYM	**Petit Puy Mans**	**146.59**	**340**	PKP	PKPbc	06 21 18.2	+0.7
PGF	**Pioggiola**	**146.77**	**330**	*e*PKP1	PKPbc	06 21 18.3	+0.2
	9.6nm,0.5s						
MFF	**Saint Martin d**	**146.77**	**344**	*e*PKP1	PKPbc	06 21 17.5	-0.5
	11nm,0.6s						
VIVF	**Saint-Julien-l**	**146.78**	**337**	*e*PKP1	PKPbc	06 21 18.4	+0.4
	5.6nm,0.5s						
CALN	**Calern**	**146.79**	**334**	PKP	PKPbc	06 21 19.0	+0.9
LBL	**Lubilhac**	**146.97**	**339**	PKP	PKPbc	06 21 20.1	+1.5
FRF	**La Foret Royal**	**147.05**	**334**	*e*PKP1	PKPbc	06 21 18.8	-0.1
	20nm,0.7s						
SMRF	**Simiane la Rot**	**147.16**	**335**	*e*PKP1	PKPbc	06 21 19.7	+0.6
	12nm,0.6s						
LMR	**La Mourre**	**147.29**	**334**	*e*PKP1	PKPbc	06 21 19.5	0.0
RJF	**Les Rejaudoux**	**147.47**	**341**	*e*PKP1	PKPbc	06 21 20.2	+0.2
	15nm,0.6s						
CAF	**Calviac**	**147.64**	**340**	*e*PKP1	PKPbc	06 21 20.9	+0.5
	7.3nm,0.6s						
LASF	**Ste Croix**	**147.75**	**337**	*e*PKP1	PKPbc	06 21 21.2	+0.5
	14nm,0.6s						
LFF	**La Frestale**	**148.04**	**342**	*e*PKP1	PKPbc	06 21 21.8	+0.3
	18nm,0.5s						
MTLF	**Montolieu**	**148.98**	**339**	*e*PKP1	PKPbc	06 21 24.2	+0.3
	14nm,0.6s						
ETSF	**Etsaut**	**150.29**	**342**	*e*PKP1	PKPbc	06 21 27.9	+0.8
	15nm,0.6s						
KEST	**Kesra**	**151.39**	**320**	PKPbc	PKPbc	06 21 31.1	+1.2
	0.9nm,0.4s,baz=96,slow=3.6,SNR=4.5						
MDT	**Midelt**	**160.78**	**339**	PKPab	PKPab	06 22 20.4	+1.2
	1.2nm,0.8s,baz=351,slow=3.3,SNR=4.3						
TORD	**Torodi Ar. Bea**	**165.83**	**264**	PKP	PKPdf	06 21 40.7	-0.6
	0.5nm,0.6s,baz=59,slow=0.7,SNR=6.9						
TORD				PKPab	PKPab	06 22 43.2	+1.1
	0.4nm,0.6s,baz=120,slow=3.5,SNR=2.7						

ISCJB ***10*** *06:03:38.7±0.3, 3858N±002×2159E±002, h4km±3km, mb3.8/12, Error ellipse: s-maj=3.1km s-min=2.5km az=142.8*
THE ***10*** *06:03:39.7, 3855N×2160E, h3km, ML3.9*
NEIC ***10*** *06:03:39.9, 3860N×2163E, h8km, ML3.6(ATH), After ATH.*
ATH ***10*** *06:03:39.9, 3860N×2163E, h8km±2km, MD3.8/15, ML3.6*
CSEM ***10*** *06:03:40.0±0.1, 3859N×2162E, h2km, ML3.9, Error ellipse: s-maj=1.4km s-min=1.3km az=55.0*
IDC ***10*** *06:03:42.3±7.0, 3859N×2163E, h30km±49km, mb3.7/11, mb1 3.9/12, mb1mx3.7/22, mbtmp3.7/12, ML3.8/1, MS2.7/1, Ms1 2.7/1, ms1mx2.1/35, Error ellipse: s-maj=26.1km s-min=20.3km az=149.0*

ISC 10 06:03:39.8±0.3, 3856N±002×2163E±002, h3km±3km, n90, σ1$35/115, mb3.8/12, 2C-3D, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SELA	**Sela**	**0.36**	**144**	*e*Pg	**Pg**	**06 03 46.1**	**-0.6**
SELA				*e*Sg	**Sg**	**06 03 52.2**	**+1.0**
EVR	**Evrytania**	**0.38**	**22**	*e*Pg	**Pg**	**06 03 46.6**	**-0.5**
EVR				*e*SB	**Sg**	**06 03 52.7**	**+0.6**
RLS	**Riolos of Patr**	**0.52**	**194**	*e*PG	**Pg**	**06 03 50.3**	**+0.5**
RLS				*e*SB	**Sg**	**06 03 58.9**	**+2.4**
AGG	**Agios Georgios**	**0.71**	**50**	*e*Pg	**Pg**	**06 03 53.5**	**-0.1**
AGG				*e*Sg	**Sg**	**06 04 04.5**	**+1.6**
AGG	**Agios Georgios**	**0.71**	**50**	*e*Pg	**Pg**	**06 03 53.5**	**0.0**
AGG				*e*Sg	**Sg**	**06 04 04.4**	**+1.6**
LKD	**Levkas**	**0.78**	**281**	*e*Pg	**Pg**	**06 03 54.0**	**-0.7**
LKD				*e*Sg	**Sg**	**06 04 05.6**	**+0.8**
KFL	**Anninata**	**0.80**	**236**	*e*Pg	**Pg**	**06 03 53.4**	**-1.7**
VLS	**Valsamata**	**0.90**	**245**	*e*PG	**Pg**	**06 03 56.9**	**-0.2**
VLS				*e*SB	**Sb**	**06 04 10.3**	**-0.2**
THL	**Klokotos Trika**	**1.04**	**17**	*e*PG	**Pg**	**06 03 58.8**	**-1.0**
THL				*e*SB	**Sb**	**06 04 12.4**	**-2.2**
LKR	**Lokris**	**1.08**	**85**	*e*PG	**Pg**	**06 03 59.8**	**-0.7**
LKR				*e*SB	**Sb**	**06 04 15.5**	**-0.1**
LTK	**Loutraki**	**1.19**	**117**	*e*Pg	**Pg**	**06 04 02.0**	**-0.5**
LTK				*e*Sg	**Sg**	**06 04 19.8**	**+1.9**
JAN	**Janina**	**1.25**	**331**	*e*PG	**Pg**	**06 04 02.6**	**-1.1**
MEV	**Metsovon**	**1.26**	**346**	*e*Pg	**Pg**	**06 04 03.9**	**0.0**
MEV				*e*Sg	**Sg**	**06 04 22.1**	**+1.9**
VLX	**Vlachokerasia**	**1.33**	**153**	*e*Pg	**Pg**	**06 04 03.7**	**-1.6**
VLX				*e*Sg	**Sg**	**06 04 23.1**	**+0.4**
VLX	**Vlachokerasia**	**1.33**	**153**	*e*Pg	**Pg**	**06 04 03.7**	**-1.6**
VLX				*e*Sg	**Sg**	**06 04 23.0**	**+0.4**
IGT	**Igoumenitsa**	**1.40**	**314**	*e*Pg	**Pg**	**06 04 05.2**	**-1.4**
IGT				*e*Sg	**Sg**	**06 04 25.1**	**+0.4**
ITM	**Ithomi**	**1.40**	**170**	*e*PG	**Pg**	**06 04 06.4**	**-0.3**
ITM				*e*SB	**Sb**	**06 04 27.4**	**+2.5**
NEO	**Neokhori**	**1.45**	**59**	*e*PG	**Pg**	**06 04 06.5**	**-1.1**
NEO				*e*SB	**Sb**	**06 04 26.0**	**-0.3**
DID	**Didima**	**1.65**	**129**	*e*Pb	**Pb**	**06 04 08.7**	**-2.2**
DID				*e*Sb	**Sb**	**06 04 31.9**	**-0.3**
PYL	**PYLOS**	**1.67**	**177**	*e*Pb	**Pb**	**06 04 09.3**	**-1.9**
LIT	**Litokhoron**	**1.67**	**23**	*e*Pb	**Pb**	**06 04 09.3**	**-2.0**
LIT				*e*Sb	**Sb**	**06 04 32.3**	**-0.5**
NAIG	**Nisos Aigina**	**1.67**	**118**	*e*PG	**Pg**	**06 04 11.0**	**-0.9**
KZN	**Kozani**	**1.74**	**4**	*e*PN	**Pn**	**06 04 12.7**	**+1.7**
ATH	**Athens Observa**	**1.75**	**109**	*e*PN	**Pn**	**06 04 12.3**	**+1.2**
SRN	**Sarande**	**1.82**	**317**	*e*PN	**Pn**	**06 04 15.8**	**+3.7**
SRN				*i* SN	**Sg**	**06 04 44.4**	**+6.0**
KEK	**Kerkira**	**1.83**	**309**	*e*PG	**Pg**	**06 04 14.0**	**-0.8**
PTL	**Penteli**	**1.83**	**106**	*e*PN	**Pn**	**06 04 13.0**	**+0.8**
KVR	**Kavouri**	**1.84**	**113**	*e*PN	**Pn**	**06 04 14.0**	**+1.7**
AOS	**Alonnisos**	**1.86**	**70**	*e*Pb	**Pb**	**06 04 11.3**	**-3.2**
PAIG	**Paliouri**	**2.10**	**49**	*e*Pn	**Pn**	**06 04 15.0**	**-0.9**
VLI	**Veliai**	**2.12**	**150**	*e*PN	**Pn**	**06 04 17.5**	**+1.4**
KBN	**Korca**	**2.16**	**343**	*e*PN	**Pn**	**06 04 19.8**	**+3.1**
KBN				*i* SN	**Sg**	**06 04 56.3**	**+7.2**
FNA	**Florina**	**2.23**	**355**	*e*Pn	**Pn**	**06 04 17.7**	**+0.1**
PLG	**Polygyros**	**2.29**	**37**	*e*Pn	**Pn**	**06 04 17.7**	**-0.8**
PLG	**Polygyros**	**2.29**	**37**	*e*Pn	**Pn**	**06 04 19.1**	**+0.6**
HORT	**Hortiatis**	**2.33**	**29**	*e*Pn	**Pn**	**06 04 19.2**	**+0.2**
OUR	**Ouranopolis**	**2.54**	**45**	*e*Pn	**Pn**	**06 04 21.4**	**-0.5**
KYTH	**Kithira**	**2.54**	**153**	*e*PN	**Pn**	**06 04 25.5**	**+3.5**
SOH	**Sokhos**	**2.62**	**30**	*e*Pn	**Pn**	**06 04 23.0**	**-0.1**
OHR	**Ohrid**	**2.62**	**346**	*i* Pn	**Pn**	**06 04 24.8**	**+1.8**
KNT	**Kendrikon**	**2.77**	**20**	*e*Pn	**Pn**	**06 04 24.8**	**-0.4**
KRUS	**Krusevo**	**2.82**	**354**	*i* Pn	**Pn**	**06 04 28.1**	**+2.3**
KRUS	**Krusevo**	**2.82**	**354**	*i* Pn	**Pn**	**06 04 28.0**	**+2.3**
VAY	**Valandovo**	**2.85**	**14**	*e*Pn	**Pn**	**06 04 26.1**	**0.0**
VAY	**Valandovo**	**2.85**	**14**	*i* Pn	**Pn**	**06 04 25.7**	**-0.5**
TIR	**Tirane**	**3.09**	**335**	*e*PN	**Pn**	**06 04 38.0**	**-1.1**
TIR				*i* SN	**Sg**	**06 05 28.6**	**+9.5**
QSH	**Qafa e Shtames**	**3.24**	**336**	*e*PN	**Pn**	**06 04 36.0**	**+4.5**
QSH				*i* SN	**Sg**	**06 05 24.2**	**+0.5**
APE	**Apeiranthos**	**3.43**	**115**	*e*PN	**Pn**	**06 04 36.0**	**+1.8**
PUK	**Puka**	**3.72**	**340**	*e*PN	**Pb**	**06 04 46.6**	**+0.5**
PUK				*i* SN	**Sb**	**06 05 34.2**	**+2.6**
TIP	**Timpagrande**	**3.85**	**281**	*e*Pn	**Pn**	**06 04 39.5**	**-0.5**
TIP	**Timpagrande**	**3.85**	**281**	*e*Pn	**Pn**	**06 04 39.5**	**-0.4**
RDO	**Rodhopi**	**3.96**	**48**	*e*PN	**Pn**	**06 04 43.1**	**+1.6**
BARS	**Barje**	**4.25**	**2**	*e*Pn	**Pn**	**06 04 47.4**	**+1.9**
MGR	**Morigerati**	**4.96**	**290**	Pn	**Pn**	**06 04 56.2**	**+1.0**
SGO	**Sicignano**	**5.27**	**294**	Pn	**Pn**	**06 05 01.4**	**+1.9**
	23nm,0.6s						
FGMS	**Monte Sant'Ang**	**5.36**	**308**	Pn	**Pn**	**06 05 00.0**	**-0.7**
GRUS	**Gruza**	**5.36**	**353**	*i* Pn	**Pn**	**06 05 02.3**	**+1.6**
CIGN	**Sant'Elia a Pi**	**6.00**	**303**	Pn	**Pn**	**06 05 11.1**	**+1.5**
	28nm,0.6s						
GZR	**Gura Zlata**	**6.88**	**7**	⇓*i*P	**Pn**	**06 05 23.0**	**+1.5**
VOIR		**7.33**	**19**	⇓*i*P	**Pn**	**06 05 28.6**	**+0.9**
MLR	**Muntele Rosu**	**7.63**	**24**	Pn	**Pn**	**06 05 33.0**	**+1.1**
	0.4nm,0.3s,baz=160,slow=8.4,SNR=7.9						
MLR	**Muntele Rosu**	**7.63**	**24**	⇑*i*P	**Pn**	**06 05 34.2**	**+2.4**
PLOR	**Plostina**	**8.18**	**25**	⇓*i*P	**Pn**	**06 05 42.2**	**+2.8**
VRI	**Vrincioaia**	**8.22**	**26**	⇑*i*P	**Pn**	**06 05 41.8**	**+1.9**
BOJS	**Bojanci**	**8.40**	**328**	*e*Pn	**Pn**	**06 05 45.2**	**+2.8**
BOJS				*i* Sn	**Sn**	**06 07 17.8**	**+0.1**
CEY	**Cerknica**	**8.94**	**326**	*e*Pn	**Pn**	**06 05 48.5**	**-1.3**
CEY				*i* Sn	**Sn**	**06 07 31.0**	**0.0**
PSZ	**Piszkesteto**	**9.44**	**353**	*e*Pn	**Pn**	**06 05 57.6**	**+1.1**
PSZ	**Piszkesteto**	**9.44**	**353**	*e*Pn	**Pn**	**06 05 57.6**	**+1.0**
ROBS	**Robic**	**9.74**	**325**	*i* Pn	**Pn**	**06 05 59.8**	**-1.0**
ROBS				*i* Sn	**Sn**	**06 07 42.7**	**-7.9**
KECS	**Kecovo**	**9.95**	**356**	*e*PN	**Pn**	**06 06 01.1**	**-2.5**
VYHS	**Vyhne**	**10.13**	**349**	*e*PN	**Pn**	**06 06 06.2**	**+0.1**
CRVS	**Cervenica-Dubn**	**10.34**	**359**	*e*PN	**Pn**	**06 06 04.8**	**-4.1**
DAVOX	**Davos/Dischmat**	**11.91**	**317**	LR	LR	06 12 01.9	
	comp=Z,34nm,19.4s,baz=7.2,slow=42						
ESDC	**Sonseca Array**	**19.87**	**281**	P	**Pn**	**06 08 15.4**	**+1.8**
	0.5nm,0.3s,baz=156,slow=16,SNR=2.4						
HFS	**Hagfors**	**22.17**	**349**	P	**P**	**06 08 35.6**	**-1.0**
	2.2nm,0.6s,mb3.8,baz=163,slow=11,SNR=5.7						
FINES	**FINESS Array B**	**23.07**	**5**	P	**P**	**06 08 44.7**	**-1.6**
	2.7nm,0.7s,mb3.8,baz=156,slow=10.0,SNR=8.9						
NB2	**NORSAR Subarra**	**23.42**	**347**	P	**P**	**06 08 47.9**	**-2.1**
	comp=Z,2.8nm,1.0s,mb3.6,baz=159,slow=9.3						
NB2	**NORSAR Subarra**	**23.42**	**347**	P	**P**	**06 08 48.0**	**-2.0**
	comp=Z,2.0nm,0.7s,mb3.7,baz=153,slow=10						
NOA	**NORSAR Array B**	**23.42**	**347**	P	**P**	**06 08 47.7**	**-2.2**
	comp=Z,1.8nm,0.7s,mb3.6,baz=159,slow=8.8,SNR=7.8						
EKA	**Eskdalemuir Ar**	**23.63**	**323**	P	**P**	**06 08 50.0**	**-2.1**
	comp=Z,2.5nm,0.8s,mb3.7,baz=125,slow=10,SNR=5.3						
KAF	**Kangasniemi**	**23.75**	**5**	*e*pkp	**P**	**06 08 53.1**	**-0.1**
JOF	**Joensuu**	**25.09**	**10**	*e*pkp	**P**	**06 09 00.6**	**-4.7**
TORD	**Torodi Ar. Bea**	**30.88**	**220**	P	**P**	**06 09 56.1**	**-1.5**
	comp=Z,1.3nm,0.7s,mb3.9,baz=31,slow=9.6,SNR=11						
ARCES	**ARCESS Array B**	**31.10**	**3**	P	**P**	**06 09 56.4**	**-2.7**
	comp=Z,1.6nm,0.8s,mb3.9,baz=185,slow=10.0,SNR=3.5						
MKAR	**Makanchi Array**	**44.36**	**59**	P	**P**	**06 11 49.3**	**-2.0**
	comp=Z,1.6nm,0.5s,mb4.0,baz=281,slow=7.4,SNR=19						
ZALV	**Zalesovo Beam**	**44.79**	**48**	P	**P**	**06 11 52.8**	**-1.8**
	comp=Z,2.6nm,0.5s,mb4.3,baz=276,slow=8.9,SNR=13						
SONM	**Songino Array**	**59.54**	**51**	P	**P**	**06 13 42.7**	**-1.7**
	comp=Z,0.2nm,0.5s,mb3.4,baz=303,slow=8.0,SNR=3.0						
YKA	**Yellowknife Ar**	**73.32**	**340**	P	**P**	**06 15 10.6**	**-1.8**
	comp=Z,0.4nm,0.7s,mb3.5,baz=31,slow=5.7,SNR=10						
ULM	**Lac du Bonnet**	**75.90**	**324**	P	**P**	**06 15 26.6**	**-0.9**
	comp=Z,1.5nm,0.8s,mb4.0,baz=80,slow=5.5,SNR=3.9						
TXAR	**Lajitas Array**	**95.33**	**314**	P	**P**	**06 17 04.5**	**-1.0**
	comp=Z,0.2nm,0.7s,mb3.7,baz=64,slow=5.8,SNR=3.7						

CSEM ***10*** *06:10:44.3±0.1, 4045N×4137E, h2km, MD3.1, Error ellipse: s-maj=4.9km s-min=3.1km az=108.0*
ISCJB ***10*** *06:10:45.4±0.6, 4040N±003×4153E±006, h2km, Error ellipse: s-maj=6.5km s-min=4.2km az=9.8*
DDA ***10*** *06:10:46.9, 4035N×4154E, h2km±6km, Md3.1*

ISC 10 06:10:46.1±0.7, 4040N±003×4152E±006, h1km±17km, n6, σ1$28/12, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOMI	**Horasan**	**0.46**	**140**	*i* P	**Pg**	**06 10 54.7**	**-0.1**
HOMI				*i* S	**Sg**	**06 10 59.8**	**-1.0**
EZM	**Erzurum**	**0.51**	**194**	*e*PG	**Pg**	**06 10 55.0**	**-0.8**
EZM				*e*SG	**Sg**	**06 11 03.0**	**+0.7**
ARTV	**Artvin**	**0.85**	**21**	*i* P	**Pg**	**06 11 02.7**	**+0.3**
ARTV				*i* S	**Sg**	**06 11 16.0**	**+2.7**
KOPT	**Kop Dagi**	**0.87**	**245**	*i* P	**Pg**	**06 11 01.4**	**-1.4**

VLI	Veliai	2.58	126	ePN		Pb	06 59 14.5	-1.8
FNA	Florina	2.62	17	ePn		Pn	06 59 11.8	-0.9
FNA				eSn		Sn	06 59 44.2	-0.8
OHR	Ohrid	2.84	7	ePn		Pn	06 59 13.5	-2.3
OHR	Ohrid	2.84	7	ePn		Pn	06 59 13.4	-2.4
AOS	Alonnisos	2.90	71	ePn		Pn	06 59 16.9	+0.4
AOS				eSn		Sn	06 59 52.2	+0.4
AOS	Alonnisos	2.90	71	ePn		Pn	06 59 16.9	+0.4
AOS				eSn		Sn	06 59 52.2	+0.4
TIP	Timpagrande	2.95	289	P		Pb	06 59 21.1	-1.6
KRUS	Krusevo	3.16	12	ePn		Pn	06 59 21.1	+1.1
KRUS	Krusevo	3.16	12	ePn		Pn	06 59 21.1	+1.0
PLG	Polygyros	3.18	48	ePn		Pn	06 59 20.5	+0.1
PLG	Polygyros	3.18	48	ePN		Pn	06 59 23.0	+2.6
TA1	Taranto	3.19	313	ePn		Pn	06 59 21.6	+1.1
PE1	Pezze di Greco	3.39	319	ePn		Pn	06 59 23.1	-0.1
KNT	Kendrikon	3.48	34	ePn		Pn	06 59 24.8	+0.3
OUR	Ouranopolis	3.48	53	ePn		Pn	06 59 25.1	+0.6
LOS	Limnos	4.03	64	ePn		Pn	06 59 32.9	+0.9
SGO	Sicignano	4.52	302	Pn		Pn	06 59 41.2	+2.4
MS1	Monte Sant'Ang	4.81	317	ePn		Pn	06 59 44.1	+1.3
TERO	Teramo	6.73	312	Pn		Pn	07 00 11.8	+2.7
BOJS	Bojanci	8.15	334	*i* Pn		Pn	07 00 28.2	-0.5
BOJS				*i* Sn		Sn	07 01 57.2	-4.1
PERS	Pernice	9.20	337	ePn		Pn	07 00 38.9	-4.1
ROBS	Robic	9.43	330	ePn		Pn	07 00 46.1	-0.1
ROBS				*i* Sn		Sn	07 02 24.7	-8.1
GERES	GERESS Array B	11.60	338	LR		LR	07 06 12.6	
	comp=Z,36nm,18.1s,baz=278,slow=39							
FINES	FINESS Array B	23.46	7	P		P	07 03 42.5	+2.5
	2.3nm,0.8s,mb3.7,baz=191,slow=11,SNR=5.3							
NOA	NORSAR Array B	23.49	349	P		P	07 03 41.4	+1.1
	1.1nm,0.8s,mb3.3,baz=150,slow=10.0,SNR=3.4							
MKAR	Makanchi Array	45.36	58	P		P	07 06 47.3	-1.6
	0.4nm,0.5s,mb3.5,baz=281,slow=6.7,SNR=8.0							
ZALV	Zalesovo Beam	45.72	48	P		P	07 06 50.6	-1.0
	1.6nm,0.5s,mb4.2,baz=272,slow=8.3,SNR=5.4							
SONM	Songino Array	60.49	51	P		P	07 08 40.3	-0.3
	0.1nm,0.3s,mb3.3,baz=280,slow=8.6,SNR=3.9							

*IDC **10** 07:01:34.0±1.5, 37.11N×24.43W, h0km, mb3.5/2, mb1 3.8/2, mb1mx3.3/21, mbtmp3.5/2, Error ellipse: s-maj=56.2km s-min=34.2km az=23.0*
*ISCJB **10** 07:01:37.9±1.2, 3731N±005×2493W±0.10, h10km, mb3.5/3, Error ellipse: s-maj=11.7km s-min=6.0km az=164.3*
*CSEM **10** 07:01:39.1±0.9, 3705N×2467W, h10km, ML3.8, Error ellipse: s-maj=6.0km s-min=4.2km az=80.0, After PDA*
*PDA **10** 07:01:39.1±0.9, 3705N×2467W, h10km, MD4.1, ML3.8, Error ellipse: s-maj=6.0km s-min=4.2km az=80.0*
*SVSA **10** 07:01:39.1±0.9, 3705N×2467W, h10km, MD4.1, ML3.8, Error ellipse: s-maj=6.0km s-min=4.2km az=80.0*
ISC 10 07:01:37.2±1.0, 3728N±005×2478W±008, h10km, n19, σ1§17/33, mb3.5/3, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSMN	Pico do Norte,	0.36	219	eP	Pg	07 01 44.4	+0.1
PSMN				eS	Sg	07 01 49.3	+0.3
PDA	Ponta Delgada	0.84	304	eS	Sg	07 02 07.6	+3.3
PDA	Ponta Delgada	0.84	304	eP	Pg	07 01 54.7	+1.3
PDA				eS	Sg	07 02 06.8	+2.5
PSET	Sete Cidades	0.92	306	eP	Pg	07 01 56.1	+1.2
PSET				eS	Sg	07 02 09.4	+2.5
PSET				A		07 02 13.6	
	952nm,0.3s						
PSET	Sete Cidades	0.92	306	eP	Pg	07 01 56.1	+1.2
PSET				eS	Sg	07 02 09.4	+2.5
PSCM	Serra do Cume	2.33	308	eP	Pn	07 02 16.1	+0.6
PSCM				eS	Sn	07 02 43.9	-0.2
PSCM				A		07 02 48.8	
	206nm,0.4s						
PSCM	Serra do Cume	2.33	308	eP	Pn	07 02 16.1	+0.6
PSCM				eS	Sn	07 02 43.9	-0.2
ADH	Angra Heroismo	2.37	306	eP	Pn	07 02 16.2	0.0
ADH				eS	Sn	07 02 44.9	-0.4
PID	Ribeirinha	2.88	295	eP	Pn	07 02 23.2	0.0
PID				eS	Sn	07 02 55.6	-2.3
PMAN	Manadas	2.94	298	eP	Pn	07 02 24.4	+0.5
PMAN				eS	Sn	07 02 57.7	-1.6
PMAN				A		07 03 02.6	
	75nm,0.3s						
PMAN	Manadas	2.94	298	eP	Pn	07 02 24.4	+0.5
PMAN				eS	Sn	07 02 57.7	-1.6
ROSA	Rosais	3.09	299	eP	Pn	07 02 26.4	+0.5
ROSA				eS	Sn	07 03 01.8	-1.1
SRBC	Serra Branca	3.11	305	eP	Pn	07 02 27.0	+0.7
SRBC				eS	Sn	07 03 02.2	-1.2
PICO	Pico	3.13	294	eP	Pn	07 02 26.9	+0.4
PICO				eS	Sn	07 03 02.0	-1.9
HOR	Horta	3.29	293	eP	Pn	07 02 29.7	+1.0
CALA	Caldeira	3.36	294	eP	Pn	07 02 29.8	+0.1
CALA				eS	Sn	07 03 08.0	-1.6
TORD	Torodi Ar. Bea	33.72	129	P	P	07 08 14.2	-4.6
	0.9nm,1.0s,mb3.7,baz=326,slow=8.2,SNR=4.1						
TXAR	Lajitas Array	64.64	289	P	P	07 12 15.8	+0.7
	0.3nm,0.7s,mb3.4,baz=84,slow=6.7,SNR=4.3						
MKAR	Makanchi Array	73.90	43	P	P	07 13 10.4	-1.8
	0.4nm,0.7s,mb3.4,baz=301,slow=6.5,SNR=5.8						

IDC 10 07:06:30.8±2.4, 749S×15557E, h0km, mb3.6/6, mb1 3.7/6, mb1mx3.7/14, mbtmp3.6/6, MS3.3/1, Ms1 3.2/1, ms1mx2.6/17, Error ellipse: s-maj=82.2km s-min=27.1km az=120.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	24.01	237	P	P	07 11 48.5	+0.9
	0.5nm,0.5s,baz=58,slow=9.1,SNR=8.6						
ASAR	Alice Springs	26.28	230	P	P	07 12 07.5	-0.6
	0.3nm,0.8s,baz=62,slow=9.9,SNR=3.0						
STKA	Stephens Creek	27.54	206	LR	LR	07 22 03.6	
	comp=Z,56nm,19.0s,baz=205,slow=34						
SONM	Songino Array	70.06	327	P	P	07 17 45.1	+0.5
	0.3nm,0.4s,baz=136,slow=5.4,SNR=9.5						
MKAR	Makanchi Array	84.15	319	P	P	07 19 03.6	-0.3
	0.3nm,0.7s,baz=123,slow=5.3,SNR=3.0						
ZALV	Zalesovo Beam	84.90	326	P	P	07 19 07.5	-0.1
	0.3nm,0.3s,baz=116,slow=6.6,SNR=2.4						
YKA	Yellowknife Ar	96.51	28	P	P	07 20 02.0	+0.1
	0.1nm,0.5s,baz=268,slow=4.7,SNR=5.9						

*CSEM **10** 07:11:59.6±0.3, 2990N×3623E, h1km, ML2.7, Error ellipse: s-maj=5.9km s-min=3.1km az=48.0, Mining explosion.*
*ISCJB **10** 07:12:00.6±1.1, 2987N±004×3623E±006, h0km, Error ellipse: s-maj=7.4km s-min=5.8km az=6.9*
*SGS **10** 07:12:01.7, 3003N×3611E, h6km*
*GII **10** 07:12:01.3±1.4, 2986N×3617E, h0km, ML2.7/5*
ISC 10 07:12:00.6±1.2, 2986N±004×3628E±006, h0km, n14, σ0§85/23, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HRFI	Mount Harif	1.09	280	Pg	Pg	07 12 20.7	-0.9
HRFI				Sg	Sg	07 12 36.9	+1.1
EIL	Elat	1.17	261	Pg	Pg	07 12 22.4	-0.7
EIL				Sg	Sg	07 12 39.0	+0.8
MBH	Mount Berech	1.19	267	Pg	Pg	07 12 22.9	-0.4
MBH				Sg	Sg	07 12 39.8	+1.1
HQLS		1.20	243	P	Pg	07 12 22.9	-0.7
HQLS		1.20	243	P	Sg	07 12 22.9	-0.6
HQLS				S	Sg	07 12 38.2	-0.8
PRNI	Paran	1.21	294	Pg	Pg	07 12 23.2	-0.6
PRNI				Sg	Sg	07 12 39.4	-0.1
PRNI	Paran	1.21	294	Pg	Pg	07 12 23.2	-0.6
PRNI				Sg	Sg	07 12 39.4	-0.1
JLOS		1.31	212	P	Pg	07 12 25.7	-0.1
JLOS		1.31	212	P	Sg	07 12 25.7	0.0
JLOS				S	Sg	07 12 44.1	+1.4
KRMI	Paran Flat	1.38	281	Pg	Pg	07 12 25.8	-1.1
KRMI				Sg	Sg	07 12 44.0	-0.8
MZDA	Masada	1.65	332	Pn	Pn	07 12 30.4	-0.4
MZDA				Sn	Sn	07 12 53.7	+1.0
DSI	Dead Sea	1.88	336	Pn	Pn	07 12 35.2	+1.3
DSI	Dead Sea	1.88	336	Pn	Pn	07 12 35.2	+1.3
RSHS		2.02	220	P	Pn	07 12 41.8	+5.8

*ISCJB **10** 07:13:02.8±0.3, 3858N±001×2156E±001, h4km±2km, mb4.5/55, MS4.7/10, Error ellipse: s-maj=2.2km s-min=1.6km az=35.0*
*BJI **10** 07:13:02.3, 3857N×2150E, h16km, mB5.0, mb4.8, Ms4.9, Msz4.7*
*CRAAG **10** 07:13:03.3, 3855N×2152E, Mb5.0*
*THE **10** 07:13:03.9, 3854N×2163E, h4km, ML4.9*
*PDG **10** 07:13:03.8±0.8, 3849N×2147E, h12km±4km, MD4.9/10, ML4.7/10, Error ellipse: s-maj=2.8km s-min=2.7km az=90.0*
*ATH **10** 07:13:04.0, 3853N×2166E, h10km±1km, ML4.4*
*CSEM **10** 07:13:04.4±0.0, 3859N×2154E, h20km, mb4.5/20, Ms4.1, Error ellipse: s-maj=1.2km s-min=1.0km az=5.0*
*MOS **10** 07:13:04.5±1.1, 3862N×2155E, h16km, mb4.8/16, MS4.7/6, Error ellipse: s-maj=4.0km s-min=2.4km az=106.4*
*NEIC **10** 07:13:04.0, 3853N×2166E, h10km, mb4.4/46, ML4.4(ATH), After ATH.*
*NAO **10** 07:13:07.0, 3864N×2160E, h33km, mb4.4*
*IDC **10** 07:13:08.3±1.8, 3866N×2159E, h37km±15km, mb4.3/19, mb1 4.3/30, mb1mx4.3/35, mbtmp4.2/30, ML4.1/11, Error ellipse: s-maj=14.3km s-min=10.9km az=153.0*
*SZGRF **10** 07:13:11.9, 3854N×2087E, h10km, mb4.6, Greece*
ISC 10 07:13:04.3±0.3, 3855N±001×2161E±001, h3km±2km, h21km±1.6km; pP-P, n563, σ1§28/620, mb4.5/55, MS4.7/10, 41C-26D, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SELA	Sela	0.36	141	ePg	Pg	07 13 10.2	-1.0
SELA				eSg	Sg	07 13 15.9	+0.1
EVR	Evrytania	0.40	24	ePB	Pg	07 13 12.0	+0.1
EVR				eSB	Sg	07 13 18.0	+0.9
RLS	Riolos of Patr	0.51	192	ePB	Pg	07 13 13.7	-0.4
RLS				eSB	Sg	07 13 21.2	+0.6
AGG	Agios Georgios	0.73	50	ePg	Pg	07 13 17.6	-0.9
AGG				eSg	Sg	07 13 28.0	+0.1
AGG	Agios Georgios	0.73	50	ePg	Pg	07 13 17.5	-0.9
AGG				eSg	Sg	07 13 28.0	+0.1
LKD	Levkas	0.76	282	ePg	Pg	07 13 18.1	-0.8
LKD				eSg	Sg	07 13 30.9	+2.1
KFL	Anninata	0.78	236	ePg	Pg	07 13 17.9	-1.4
VLS	Valsamata	0.88	245	ePG	Pg	07 13 20.7	-0.5
THL	Klokotos Trika	1.06	17	ePN	Pn	07 13 24.4	-1.6
LKR	Lokris	1.10	85	ePG	Pg	07 13 23.7	-1.6
LKR				eSB	Sb	07 13 38.7	-1.8
LTK	Loutraki	1.20	116	ePg	Pg	07 13 25.5	-1.7
LTK				eSg	Sg	07 13 43.3	+0.6
JAN	Janina	1.25	332	ePB	Pb	07 13 28.7	+0.2
MEV	Metsovon	1.26	347	ePg	Pg	07 13 27.2	-1.4
VLX	Vlachokerasia	1.33	152	ePg	Pg	07 13 27.0	-2.8
VLX				eSg	Sg	07 13 47.8	+0.7
IGT	Igoumenitsa	1.39	315	ePg	Pg	07 13 28.6	-2.4
IGT				eSg	Sg	07 13 49.3	+0.2
ITM	Ithomi	1.40	169	ePg	Pg	07 13 29.2	-1.9
ITM				P		07 13 33.4	
ITM				eSb	Sb	07 13 49.0	-0.1
ITM	Ithomi	1.40	169	P	Pn	07 13 33.4	+2.8
ITM				eSb	Sb	07 13 49.0	-0.1
NEO	Neokhori	1.47	59	ePB	Pb	07 13 31.6	-0.6
NEO				eSB	Sb	07 13 50.8	-0.5
DID	Didima	1.66	129	ePb	Pb	07 13 32.5	-3.0
DID				eSb	Sb	07 13 55.4	-1.3
PYL	PYLOS	1.66	176	ePb	Pb	07 13 32.9	-2.6
PYL				eSb	Sb	07 13 54.9	-1.9
NAIG	Nisos Aigina	1.68	118	ePG	Pg	07 13 34.0	-2.6
LIT	Litokhoron	1.69	24	ePb	Pb	07 13 33.7	-2.3
LIT				eSb	Sb	07 13 56.0	-1.6
KZN	Kozani	1.75	4	ePG	Pg	07 13 37.3	-0.7
ATH	Athens Observa	1.76	109	ePN	Pn	07 13 35.7	+0.1
ATH				eSN	Sn	07 13 59.6	+1.1
SRN	Sarande	1.82	317	ePN	Pn	07 13 38.3	+1.9
SRN				*i* SN	Sg	07 14 10.9	+8.2
KEK	Kerkira	1.82	310	ePN	Pn	07 13 37.4	+0.9
KEK				eSN	Sn	07 14 03.6	+3.6
PTL	Penteli	1.85	105	ePN	Pn	07 13 36.0	-0.8
KVR	Kavouri	1.85	112	ePN	Pn	07 13 36.2	-0.7
AOS	Alonnisos	1.88	70	ePb	Pb	07 13 36.1	-3.1
PAIG	Paliouri	2.12	49	ePn	Pn	07 13 39.3	-1.2
VLI	Veliai	2.12	150	ePN	Pn	07 13 41.6	+1.1
KBN	Korca	2.16	343	ePN	Pn	07 13 44.3	+3.2
KBN				*i* SN	Sn	07 14 16.6	+8.2
FNA	Florina	2.23	356	ePn	Pn	07 13 42.1	0.0
PLG	Polygyros	2.31	38	ePn	Pn	07 13 42.0	-1.2
PLG	Polygyros	2.31	38	ePb	Pb	07 13 43.0	-3.5
THE	Thessaloniki	2.33	26	ePn	Pn	07 13 42.4	-1.0
HORT	Hortiatis	2.34	29	ePn	Pn	07 13 42.3	-1.4
BIA	Bitola	2.47	355	ePn	Pn	07 13 44.9	-0.5
GRG	Griva	2.48	14	ePn	Pn	07 13 45.2	-0.3
KYTH	Kithira	2.54	153	ePN	Pn	07 13 47.8	+1.5
OUR	Ouranopolis	2.56	45	ePn	Pn	07 13 44.8	-1.8
OHR	Ohrid	2.63	347	ePn	Pn	07 13 47.2	-0.4
SOH	Sokhos	2.64	30	ePn	Pn	07 13 47.3	-0.4
KNT	Kendrikon	2.79	21	ePn	Pn	07 13 49.8	0.0
VAY	Valandovo	2.86	15	ePn	Pn	07 13 50.7	0.0
SRS	Serrai	2.98	30	ePn	Pn	07 13 51.9	-0.5
LOS	Limnos	3.03	62	ePn	Pn	07 13 51.9	-1.2
TIR	Tirane	3.09	335	ePN	Pg	07 14 04.3	+0.7
TIR				*i* SN	Sg	07 14 49.0	+5.3
TIR	Tirane	3.09	335	P	Pn	07 13 55.0	+1.0
QSH	Qafa e Shtames	3.24	337	ePN	Pn	07 13 57.0	+1.0
QSH				*i* SN	Sg	07 14 56.5	+8.2
NVR	Nevrokopi	3.29	31	ePN	Pn	07 13 57.4	+0.8
APE	Apeiranthos	3.44	114	ePn	Pn	07 13 58.6	-0.1
APE				eSn	Sn	07 14 39.1	-1.0
APE	Apeiranthos	3.44	114	⇓ePn	Pn	07 13 58.5	-0.3
APE	Apeiranthos	3.44	114	ePN	Pn	07 14 00.7	+1.9
APE				eSN	Sn	07 14 44.0	+3.9
APE	Apeiranthos	3.44	114	⇑*i*P	Pn	07 13 58.5	-0.3
CHOS	Chios island	3.50	91	ePn	Pn	07 13 59.5	0.0
PRK	Paraskevi	3.71	78	ePN	Pn	07 14 03.4	+1.0
GADA	Gvkgeada	3.71	62	eP	Pn	07 14 01.9	-0.5
PUK	Puka	3.72	340	ePN	Pn	07 14 06.0	+3.4
PUK				*i* SN	Sg	07 15 06.2	+2.3
VAM	Vamos	3.77	146	ePN	Pn	07 14 05.5	+2.3
TA1	Taranto	3.82	300	ePn	Pn	07 14 05.2	+1.2
TIP	Timpagrande	3.83	281	P	Pn	07 14 04.8	+0.6
ULC	Ulcinj	3.85	333	⇓*i*Pn	Pn	07 14 04.5	+0.1
ULC				eSn	Sn	07 14 50.5	+0.4
EZN	Ezine	3.88	69	eP	Pn	07 14 06.4	+1.6
PE1	Pezze di Greco	3.93	306	ePn	Pn	07 14 05.3	-0.2
RDO	Rodhopi	3.98	48	ePN	Pn	07 14 05.0	-1.2
ENEZ	Enez	4.13	57	eP	Pn	07 14 06.9	-1.3
ALN	Alexandroupoli	4.15	54	ePn	Pn	07 14 07.2	-1.3
GVD	Gavdhos	4.21	151	ePN	Pn	07 14 12.0	+2.7
SMG	Samos	4.21	100	ePN	Pn	07 14 11.1	+1.8
VTS	Vitosha	4.21	16	ePn	Pn	07 14 09.2	-0.1
VTS	Vitosha	4.21	16	⇓*i*P	Pn	07 14 10.6	+1.2
VTS	Vitosha	4.21	16	P	Pn	07 14 11.1	+1.7
PVY	Plav	4.22	343	⇓*i*Pn	Pn	07 14 10.7	+1.2
PVY				eSn	Sn	07 15 00.3	+1.0
BARS	Barje	4.26	2	P	Pn	07 14 11.4	+1.4
BARS	Barje	4.26	2	ePn	Pn	07 14 12.0	+2.0
PDG	Podgorica	4.26	336	⇑*i*Pn	Pn	07 14 10.3	+0.3
TTG	Podgorica	4.26	336	⇑*i*Pn	Pn	07 14 10.3	+0.3
TTG				eSn	Sn	07 15 01.1	+0.7
BLCB	Balcova	4.27	91	eP	Pn	07 14 14.1	+4.0
BLCB	Balcova	4.27	91	ePn	Pn	07 14 09.0	-1.2
BUM	Brajici-Budva	4.27	332	⇑*i*Pn	Pn	07 14 10.1	-0.1
BUM				eSn	Sn	07 15 01.4	+0.9
SG1	Sgolgore (BA)	4.43	303	ePn	Pn	07 14 12.6	+0.2
BAI	Bari	4.44	307	ePn	Pn	07 14 12.7	+0.2
BEY	Berane	4.50	344	⇓*i*Pn	Pn	07 14 13.7	+0.4
IVA	Berane	4.50	344	⇓*i*Pn	Pn	07 14 13.7	+0.4
IVA				eSn	Sn	07 15 07.0	+0.8
HCY	Herceg Novi	4.55	330	⇓*i*Pn	Pn	07 14 13.4	-0.6
HCY				eSn	Sn	07 15 06.9	-0.5
NPS	Neapolis	4.59	134	ePN	Pn	07 14 17.0	+2.4
LAST	Lasithi	4.59	136	ePn	Pn	07 14 14.3	-0.3
NKY	Niksic	4.69	336	⇑*i*Pn	Pn	07 14 16.1	+0.2
NKY				eSn	Sn	07 15 11.8	+1.0
BODT	Bodrum	4.76	106	eP	Pn	07 14 17.5	+0.7
RKY	Sarkoy-Tekirda	4.80	62	eP	Pn	07 14 19.7	+2.2
CDT	Castel del Mon	4.82	303	ePn	Pn	07 14 17.7	0.0
BRY	Bratogost	4.92	333	⇑*i*Pn	Pn	07 14 18.7	-0.4
BRY				eSn	Sn	07 15 16.5	-0.1
XRY	Khrisi	4.93	137	ePN	Pn	07 14 22.0	+2.8
MLSB	Milas	5.04	103	eP	Pn	07 14 21.7	+1.0
PLE	Pljevlja	5.06	341	⇓*i*Pn	Pn	07 14 21.1	+0.2
PLE				eSn	Sn	07 15 20.5	+0.7
UPM	Unac-Piva	5.07	337	⇓*i*Pn	Pn	07 14 21.6	+0.4
UPM				eSn	Sn	07 15 20.7	+0.5
DAT	Datca	5.08	109	eP	Pn	07 14 22.6	+1.3
BNT	Bandirma	5.21	68	eP	Pn	07 14 24.3	+1.2
STON	Ston	5.23	327	ePn	Pn	07 14 20.3	-3.1
STON				Sn	Sn	07 15 21.4	-2.8
STON	Ston	5.23	327	P	Pn	07 14 22.2	-1.2
STON				Sn	Sn	07 15 21.3	-2.9
MS1	Monte Sant'Ang	5.36	308	ePn	Pn	07 14 25.1	0.0
KARP	Karpathos	5.36	122	ePN	Pn	07 14 28.1	+3.0
KARP				eSN	Sn	07 15 29.7	+2.3
GRUS	Gruza	5.37	353	ePn	Pn	07 14 25.5	+0.2
JMB	Yambol	5.45	43	P	Pn	07 14 29.1	+2.8
YER	Yerkesik	5.47	103	eP	Pn	07 14 27.1	+0.5
KULA	Kula-Manisa	5.53	88	eP	Pn	07 14 27.1	-0.3
DIVS	Divibare	5.67	348	ePn	Pn	07 14 29.2	-0.1
ARG	Arkhangelos	5.69	112	ePN	Pn	07 14 33.0	+3.3
VAE	Valguarnera	5.78	262	Pn	Pn	07 14 33.5	+2.6
	2.6nm,0.3s,baz=114,slow=2.1,SNR=6.8						
VAE				Sn	Sn	07 15 33.7	-4.0
	2.4nm,0.3s,baz=44,slow=1.6,SNR=4.8						
ZIMR		5.83	28	P	Pn	07 14 34.4	+2.7
GEMT	Gemlik	6.16	70	eP	Pn	07 14 39.4	+3.3
FETY	Fethiye	6.24	106	eP	Pn	07 14 39.5	+2.3
WDD	Weleti Dalam	6.26	247	P	Pn	07 14 37.4	0.0
ISK	Istanbul-Kandi	6.26	64	eP	Pn	07 14 41.0	+3.5
YLV	Yalova	6.33	69	eP	Pn	07 14 39.9	+1.5
IZI	Iznik	6.34	71	eP	Pn	07 14 38.5	-0.1
ADVT	Abdulvahap	6.56	71	eP	Pn	07 14 45.1	+3.4
ALT	Altintas	6.66	83	eP	Pn	07 14 45.6	+2.6
ELL	Elmali	6.83	103	eP	Pn	07 14 51.6	+6.3
GZR	Gura Zlata	6.89	7	P	Pn	07 14 47.0	+0.9
GZR	Gura Zlata	6.89	7	⇑*i*P	Pn	07 14 47.5	+1.4
GZR	Gura Zlata	6.89	7	P	Pn	07 14 47.0	+0.9
GPA	Golpazari	6.96	73	eP	Pn	07 14 49.1	+2.1
SHUT	Suhut-Afyon	7.01	87	eP	Pn	07 14 51.6	+3.8
ISP	Isparta	7.05	93	eP	Pn	07 14 50.1	+1.8
ISP	Isparta	7.05	93	*i* P	Pn	07 14 50.3	+2.0
BZS	Buzias	7.06	0	⇑P	Pn	07 14 49.0	+0.6
BZS	Buzias	7.06	0	⇑*i*P	Pn	07 14 49.0	+0.6
GULT	Gulveren	7.14	72	eP	Pn	07 14 49.1	-0.4
MTUR	Matau	7.15	20	⇑P	Pn	07 14 51.3	+1.7
MTUR	Matau	7.15	20	⇑*i*P	Pn	07 14 51.3	+1.7
BCK	Bucak	7.18	96	eP	Pn	07 15 00.5	+10
ESKT	Eskisehir	7.26	79	eP	Pn	07 14 51.6	+0.4
AQU	L'Aquila	7.32	304	⇑P	Pn	07 14 48.6	-3.3
AQU				P		07 14 53.7	
AQU	L'Aquila	7.32	304	⇑*i*P	Pn	07 14 48.6	-3.4
AQU	L'Aquila	7.32	304	P	Pn	07 14 53.7	+1.7
VOIR		7.34	19	P	Pn	07 14 54.0	+1.7
VOIR		7.34	19	⇓*i*P	Pn	07 14 54.2	+1.9
VOIR		7.34	19	P	Pn	07 14 54.0	+1.7
ANTB	Antalya	7.36	100	eP	Pn	07 14 57.3	+4.7
ISR	Istrita	7.52	28	⇑*i*P	Pn	07 14 55.9	+1.1
MLR	Muntele Rosu	7.65	24	P	Pn	07 14 58.2	+1.8
MLR	Muntele Rosu	7.65	24	Pn	Pn	07 14 57.4	+0.9
	1.6nm,0.3s,baz=186,slow=8.1,SNR=33						
MLR	Muntele Rosu	7.65	24	⇑*i*P	Pn	07 14 58.1	+1.6
MLR	Muntele Rosu	7.65	24	P	Pn	07 14 58.2	+1.7
RHK3	Tenkes	7.74	342	⇑eP	Pn	07 14 56.4	-1.3
HARR	Harsova	7.75	36	⇑*i*P	Pn	07 14 57.7	-0.1
HARR	Harsova	7.75	36	P	Pn	07 15 01.6	+3.8
TIRR	Tirgusor	7.80	39	⇑P	Pn	07 14 60.0	+1.4
TIRR	Tirgusor	7.80	39	⇑*i*P	Pn	07 15 00.0	+1.4
NVLJ	Novalja	7.84	322	ePn	Pn	07 14 56.7	-2.4
PKSM	Moragy	7.96	345	⇓*i*P	Pn	07 14 59.6	-1.2
PKSM	Moragy	7.96	345	⇓ePn	Pn	07 14 59.4	-1.4
PKSM	Moragy	7.96	345	P	Pn	07 15 00.0	-0.8
KIZT	Kizilcal	8.04	84	eP	Pn	07 15 01.4	-0.6
KDZE	Karadeniz Ereo	8.04	67	eP	Pn	07 15 04.6	+2.6
PLOR	Plostina	8.19	26	⇓*i*P	Pn	07 15 06.9	+2.9
PLOR	Plostina	8.19	26	P	Pn	07 15 06.7	+2.7
VRI	Vrincioaia	8.23	26	P	Pn	07 15 06.8	+2.3
VRI	Vrincioaia	8.23	26	⇓*i*P	Pn	07 15 06.2	+1.7

KBA e 07 17 31.9
KBA pmax pmax
comp=Z,19nm,1.3s
ABTA Abfaltersbach 10.57 324 ⇓*i*Pn **Pn 07 15 35.7 -0.8**
comp=Z,19nm,0.7s
ABTA ⇑*i*Sn **Sn 07 17 36.9 +1.5**
comp=Z,83nm,1.1s
JAVC Velka Javorina 10.69 346 P **Pn 07 15 37.5 -0.6**
KARA Karaisali 10.71 93 *e*P **Pn 07 15 42.9 +4.4**
MOA Molln 10.72 332 *i* Pn **Pn 07 15 39.3 +0.7**
SNR=9.1
MOA Molln 10.72 332 Pn **Pn 07 15 39.3 +0.7**
comp=Z,9.0nm,1.0s
BNN Bunyan 11.13 84 *e*P **Pn 07 15 48.6 +4.3**
KOZT Kozan 11.27 91 *e*P **Pn 07 15 52.7 +6.5**
CEYT Ceyhan 11.30 93 *e*P **Pn 07 15 53.5 +6.9**
SIM Simferopol' 11.31 52 P **Pn 07 15 47.1 +0.4**
SIM pmax pmax
comp=Z,13nm,0.5s
SIM Simferopol' 11.31 52 P **Pn 07 15 47.1 +0.4**
comp=Z,13nm,0.5s
VRAC Vranov 11.34 343 P **Pn 07 15 46.5 -0.5**
VRAC Vranov 11.34 343 P **Pn 07 15 46.9 -0.1**
VRAC pmax pmax
comp=Z,1.0nm,0.3s
VRAC Vranov 11.34 343 Pn **Pn 07 15 46.9 -0.1**
comp=Z,0.5nm,0.3s,baz=175,slow=14,SNR=12
WTTA Wattenberg 11.36 323 ⇓*i*Pn **Pn 07 15 47.6 +0.3**
comp=Z,34nm,1.1s
WTTA ⇓*e*Sn **Sn 07 17 56.5 +1.8**
comp=Z,38nm,0.7s
WTTA Wattenberg 11.36 323 ⇓*i*P **Pn 07 15 47.6 +0.3**
WTTA *e* 07 17 56.5
WTTA pmax pmax
comp=Z,35nm,1.1s
KVT Kavak 11.39 73 *e*P **Pn 07 15 49.5 +1.7**
LVV L'vov 11.39 8 *e*P **Pn 07 15 53.0 +5.2**
CMAH Djebel Manchou 11.42 265 P **Pn 07 15 57.0 +8.8**
WATA Walderalm 11.44 323 ⇓*e*Pn **Pn 07 15 49.3 +0.8**
comp=Z,12nm,0.5s
WATA ⇑*i*Sn **Sn 07 17 54.9 -1.8**
comp=Z,15nm,0.6s
WATA Walderalm 11.44 323 ⇓*e*P **Pn 07 15 49.3 +0.9**
WATA *i* 07 17 54.9
WATA pmax pmax
comp=Z,12nm,0.5s
WATA Walderalm 11.44 323 ⇓*e*Pn **Pn 07 15 49.2 +0.8**
comp=Z,12nm,0.5s
WATA *i* S **Sn 07 17 54.9 -1.7**
SQTA Sankt Quirin 11.53 322 ⇑*i*Pn **Pn 07 15 50.5 +0.8**
comp=Z,11nm,0.5s,SNR=7.4
SQTA ⇑*i*Sn **Sn 07 18 01.3 +2.4**
comp=Z,17nm,0.6s
SQTA Sankt Quirin 11.53 322 ⇑*i*P **Pn 07 15 50.5 +0.8**
SQTA *i* 07 18 01.3
SQTA pmax pmax
comp=Z,11nm,0.5s
OKC Ostrava-Krasne 11.55 349 *e*P **Pn 07 15 50.0 +0.1**
MORC Moravsky Berou 11.59 347 ⇑*i*P **Pn 07 15 48.9 -1.6**
MORC Moravsky Berou 11.59 347 P **Pn 07 15 50.1 -0.4**
FETA Feichten 11.63 320 *e*Pn **Pn 07 15 50.8 -0.2**
comp=Z,26nm,1.6s,SNR=8.5
MOTA Moosalm 11.67 322 *i* Pn **Pn 07 15 50.8 -0.7**
comp=Z,31nm,0.9s,SNR=17
MOTA ⇑*i*Sn **Sn 07 18 03.0 +0.7**
comp=Z,19nm,0.8s
MOTA Moosalm 11.67 322 *i* P **Pn 07 15 50.8 -0.8**
MOTA *i* 07 18 03.0
MOTA pmax pmax
comp=Z,31nm,0.9s
OJC Ojcow 11.73 354 *e*P **Pn 07 15 59.1 +6.7**
GEC2 GERESS Array S 11.76 334 *e*P **Pn 07 15 52.3 -0.5**
GEC2 *e*L 07 23 38.5
comp=Z,6μm,19.2s
GEC2 GERESS Array S 11.76 334 *e*P **Pn 07 15 52.3 -0.5**
comp=Z,6μm,19.2s
GERES GERESS Array B 11.76 334 Pn **Pn 07 15 52.1 -0.7**
comp=Z,0.2nm,0.3s,baz=152,slow=15,SNR=9.9
CAEH 'Ain El Ouahch 11.83 266 P **Pn 07 16 02.0 +8.2**
SAOF Saorge 11.88 302 *e*P **Pn 07 15 54.1 -0.4**
DAVOX Davos/Dischmat 11.91 317 Pn **Pn 07 15 55.5 +0.6**
DAVOX Davos/Dischmat 11.91 317 Pn **Pn 07 15 55.5 +0.6**
comp=Z,0.6nm,0.3s,baz=124,slow=12,SNR=6.9
SBF Sospel 11.91 301 *e*P **Pn 07 15 54.7 -0.2**
RETA Reutte 11.93 322 ⇑*e*Pn **Pn 07 15 55.3 +0.1**
comp=Z,15nm,1.3s
LUCF Luceram 11.98 301 *e*P **Pn 07 15 57.5 +1.6**
CKFL Kef-Lekhel 12.02 264 P **Pn 07 16 02.0 +5.5**
KHC Kasperske Hory 12.05 334 *e*P **Pn 07 15 59.9 +3.2**
KHC *e* 07 16 32.5
KHC Kasperske Hory 12.05 334 *e*P **Pn 07 15 59.9 +3.2**
KHC x x 07 16 32.5
TOUF Mont Tournerai 12.09 301 *e*P **Pn 07 16 00.0 +2.6**
MVIF Mont Vial 12.12 301 *e*P **Pn 07 15 59.3 +1.6**
DAVA Damuels 12.24 319 ⇑*e*Pn **Pn 07 15 59.0 -0.4**
comp=Z,7.8nm,0.6s
CALN Calern 12.24 300 *e*P **Pn 07 15 59.7 +0.3**
WET Wettzell 12.31 332 *e*P **Pn 07 16 00.1 -0.2**
CTEI Djebel Teioual 12.36 263 P **Pn 07 16 03.0 +2.0**
LMR La Mourre 12.37 297 *e*P **Pn 07 16 00.6 -0.6**
comp=Z,16nm,1.0s
LMR La Mourre 12.37 297 *e*P **Pn 07 16 00.6 -0.6**
LMR pmax pmax
comp=Z,8.0nm,1.0s
LMR La Mourre 12.37 297 *e*P **Pn 07 16 00.6 -0.6**
comp=Z,8.1nm,1.0s
DPC Dobruska-Polom 12.38 344 *e*P **Pn 07 16 01.6 +0.4**
MMAI Mount Meron Ar 12.49 112 Pn **Pn 07 16 05.0 +2.1**
comp=Z,1.4nm,0.3s,baz=299,slow=11,SNR=9.3
PRU Pruhonice 12.49 338 *e*P **Pn 07 16 02.0 -0.8**
SURF Saint Ours 12.56 303 *e*P **Pn 07 16 07.3 +3.5**
MBDF Montbardon 12.69 304 *e*P **Pn 07 16 05.2 -0.3**
comp=Z,24nm,1.0s
MBDF Montbardon 12.69 304 *e*P **Pn 07 16 05.2 -0.3**
MBDF pmax pmax
comp=Z,12nm,1.0s
MBDF Montbardon 12.69 304 *e*P **Pn 07 16 05.2 -0.3**
comp=Z,12nm,1.0s
KSP Ksiaz 12.85 345 *e*P **Pn 07 16 13.7 +6.0**
KSP *e*S **Sn 07 18 36.0 +4.9**
STOF St-Etienne Org 12.99 300 *e*P **Pn 07 16 11.4 +1.7**
LPG La Plagne 13.03 307 *e*P **Pn 07 16 10.6 +0.4**
LPL La Plagne 13.05 307 *e*P **Pn 07 16 10.9 +0.4**
ROTZ Rotzenmuhle 13.07 332 *e*P **Pn 07 16 09.2 -1.5**
LGHD Ghdames 13.17 233 *i* P **Pn 07 16 11.8 -0.4**
SNR=103
SMRF Simiane la Rot 13.21 299 *e*P **Pn 07 16 12.4 -0.3**
KIEV Kiev 13.28 21 *e*Pn **Pn 07 16 15.8 +2.2**
comp=Z,20nm,1.3s
KIEV Kiev 13.28 21 *e*P **Pn 07 16 15.8 +2.2**
KIEV pmax pmax
comp=Z,20nm,1.3s
KIEV Kiev 13.28 21 *e*P **Pn 07 16 15.8 +2.2**
comp=Z,20nm,1.3s
MANZ Manzenberg 13.29 332 *e*P **Pn 07 16 13.6 -0.1**
MANZ *e*S **Sn 07 18 48.7 +6.9**
AKASG Malin Array Be 13.29 22 *i* P **Pn 07 16 15.8 +2.1**
AKASG pmax pmax
comp=Z,7.0nm,1.0s
AKASG Malin Array Be 13.29 22 Pn **Pn 07 16 13.7 -0.1**
comp=Z,0.4nm,0.3s,baz=211,slow=13,SNR=15
AKASG Malin Array Be 13.29 22 *i* P **Pn 07 16 15.8 +2.1**
comp=Z,7.0nm,1.0s
ANN Anapa 13.37 57 *e*P **Pn 07 16 23.7 +8.9**
ANN pmax pmax
comp=Z,33nm,1.4s
GRF Grafenberg Arr 13.38 330 *e*S **Sn 07 18 50.6 +6.4**
GRF *e*L 07 24 42.3
comp=Z,6μm,21.0s
BRG Berggiesshubel 13.46 339 *e*S **Sn 07 18 52.5 +6.6**
BRG *e*L 07 24 14.4
comp=Z,4μm,20.0s
TANN Tannenbergstha 13.52 334 *e*P **Pn 07 16 24.5 +7.6**
TANN *e*S **Sn 07 18 52.8 +5.3**
TANN *e*L 07 24 33.3
comp=Z,5μm,19.3s
STU Stuttgart 13.58 323 *e*S **Sn 07 18 51.0 +2.0**
FELD Feldberg im Sc 13.59 318 *e*P **Pn 07 16 17.3 -0.5**
URFA Urfa 13.63 89 *e*P **Pn 07 16 26.9 +8.5**
BFO Black Forest 13.71 320 *e*P **Pn 07 16 18.6 -0.8**
LOMF Lomont 13.92 314 *e*P **Pn 07 16 24.6 +2.2**
CABF La Chapelle 13.97 310 *e*P **Pn 07 16 22.2 -0.8**
ASF Jabal al Asfar 14.00 112 Pn **Pn 07 16 25.2 +1.7**
comp=Z,0.2nm,0.3s,baz=183,slow=8.3,SNR=3.8

MOX Moxa 14.01 333 *e*P **Pn 07 16 23.1 -0.4**
MOX Moxa 14.01 333 *e*P **Pn 07 16 23.1 -0.4**
MOX *e* 07 19 02.2
MOX
comp=Z,5μm,20.0s
MOX Moxa 14.01 333 *e*P **Pn 07 16 23.3 -0.2**
MOX *e*S **Sn 07 19 00.0 +0.6**
MOX *e*L 07 24 59.1
comp=Z,6μm,20.0s
MOX Moxa 14.01 333 *e*P **Pn 07 16 23.1 -0.4**
comp=Z,5μm,20.0s
MOF Molkenrain 14.04 316 *e*P **Pn 07 16 23.2 -0.8**
CLL Collm 14.12 337 *e*P **Pn 07 16 29.0 +4.0**
comp=Z,30nm,1.8s
CLL *i* 07 16 32.8
CLL Collm 14.12 337 *e*P **Pn 07 16 32.7 +7.7**
CLL *e*L 07 24 58.6
comp=Z,5μm,18.3s
CLL Collm 14.12 337 *e*(sP) sP 07 16 29.0 -5.2
comp=Z,30nm,1.8s
CLL *i* PP 07 16 32.8
comp=Z,30nm,1.1s
CLL LmV 07 22 00.0
comp=Z,900nm,19.2s
VIVF Saint-Julien-l 14.12 302 *e*P **Pn 07 16 24.6 -0.4**
EIL Elat 14.16 125 Pn **Pn 07 16 27.9 +2.2**
comp=Z,0.6nm,0.3s,baz=351,slow=9.4,SNR=5.3
HINF Hinteralfeld 14.18 316 *e*P **Pn 07 16 25.1 -0.7**
ECH Echery 14.25 317 *e*P **Pn 07 16 25.8 -1.0**
CDF Champ du Feu 14.30 318 *e*P **Pn 07 16 26.8 -0.8**
LASF Ste Croix 14.43 298 *e*P **Pn 07 16 28.7 -0.5**
comp=Z,25nm,1.2s
LASF Ste Croix 14.43 298 *e*P **Pn 07 16 28.7 -0.5**
comp=Z,12nm,1.2s
SOC Sochi 14.55 64 *e*P **Pn 07 16 32.6 +1.7**
SOC *e* 07 19 18.8
SOC pmax pmax
comp=Z,7.0nm,0.7s
SOC MLR MLR
comp=Z,471nm,17.0s
SOC Sochi 14.55 64 *e*P **Pn 07 16 32.6 +1.7**
comp=Z,7.0nm,0.7s
HAU Haudompre 14.56 315 *e*P **Pn 07 16 30.7 -0.4**
HAU *e*MLR MLR
comp=Z,2μm,19.2s
UBBA Unterbreizbach 14.76 330 *e*P **Pn 07 16 37.4 +3.7**
THEF They Montfort 14.89 316 *e*P **Pn 07 16 41.9 +6.4**
RUP Ruppelstein 15.24 322 *e*P **Pn 07 16 43.1 +2.8**
SMF Signal de Mont 15.36 307 *e*P **Pn 07 16 41.2 -0.6**
comp=Z,37nm,0.9s
SMF Signal de Mont 15.36 307 *e*P **Pn 07 16 41.2 -0.6**
SMF pmax pmax
comp=Z,19nm,0.9s
SMF Signal de Mont 15.36 307 *e*P **Pn 07 16 41.2 -0.6**
comp=Z,19nm,0.9s
MTLF Montolieu 15.40 294 *e*P **Pn 07 16 42.3 -0.1**
comp=Z,22nm,1.0s
MTLF Montolieu 15.40 294 *e*P **Pn 07 16 42.3 -0.1**
MTLF pmax pmax
comp=Z,11nm,1.0s
MTLF Montolieu 15.40 294 *e*P **Pn 07 16 42.3 -0.1**
comp=Z,11nm,1.0s
CLZ Clausthal 15.44 333 *e*P **Pn 07 16 47.7 +4.9**
CLZ *e*L 07 25 53.4
comp=Z,6μm,18.7s
PYM Petit Puy Mans 15.54 304 *e*P **Pn 07 16 48.3 +4.2**
BCA Borcka 15.61 73 *e*P **Pn 07 16 49.7 +4.6**
LOR Lormes 15.62 310 *e*P **Pn 07 16 45.1 -0.1**
comp=Z,34nm,1.0s
LOR *e*MLR MLR
comp=Z,2μm,17.8s
LOR Lormes 15.62 310 *e*P **Pn 07 16 45.1 -0.1**
LOR pmax pmax
comp=Z,17nm,1.0s
LOR Lormes 15.62 310 *e*P **Pn 07 16 45.1 -0.1**
comp=Z,17nm,1.0s
AVF Avril sur Loir 15.72 307 *e*P **Pn 07 16 45.9 -0.7**
comp=Z,64nm,1.1s
AVF Avril sur Loir 15.72 307 *e*P **Pn 07 16 45.9 -0.7**
AVF pmax pmax
comp=Z,32nm,1.1s
AVF Avril sur Loir 15.72 307 *e*P **Pn 07 16 45.9 -0.7**
comp=Z,32nm,1.1s
SSF Saint Saulge 15.74 308 *e*P **Pn 07 16 46.7 -0.1**
comp=Z,94nm,1.1s
SSF Saint Saulge 15.74 308 *e*P **Pn 07 16 46.7 -0.1**
SSF pmax pmax
comp=Z,47nm,1.1s
SSF Saint Saulge 15.74 308 *e*P **Pn 07 16 46.7 -0.1**
comp=Z,47nm,1.1s
CAF Calviac 15.90 300 *e*P **Pn 07 16 48.5 -0.4**
BGF Bois d'Agland 15.94 306 *e*P **Pn 07 16 49.3 -0.1**
EPOB Poblet 15.98 287 P **Pn 07 16 53.1 +3.1**
comp=Z,25nm,1.4s
TCF Toulx Ste Croi 16.25 305 *e*P **Pn 07 16 53.6 +0.2**
MEM Membach 16.35 323 P **Pn 07 16 58.6 +3.9**
comp=Z,15nm,1.5s
RJF Les Rejaudoux 16.38 301 *e*P **Pn 07 16 54.8 -0.3**
RJF *e*MLR MLR
comp=Z,2μm,23.0s
HGN Heimansgroeve 16.49 323 *e*P **Pn 07 17 00.5 +4.0**
comp=Z,26nm,1.4s
MNK Minsk 16.50 13 *e*P **Pn 07 16 51.0 -5.6**
ERTA Horta de San J 16.53 285 P **Pn 07 17 04.4 +7.4**
comp=Z,111nm,1.8s
GIVF Givet 16.61 319 *e*P **Pn 07 16 58.5 +0.5**
comp=Z,117nm,1.3s
GIVF Givet 16.61 319 *e*P **Pn 07 16 58.5 +0.5**
GIVF pmax pmax
comp=Z,59nm,1.3s
GIVF Givet 16.61 319 *e*P **Pn 07 16 58.5 +0.5**
comp=Z,59nm,1.3s
AGRB Hanur-Agry 16.64 80 *e*P **Pn 07 17 02.7 +4.3**
EPF Esparros 16.70 292 *e*P **Pn 07 16 59.6 +0.4**
DOU Dourbes 16.73 319 P **Pn 07 17 00.0 +0.6**
comp=Z,17nm,1.5s
KIV Kislovodsk 16.73 64 *e*Pn **Pn 07 17 02.8 +3.3**
comp=Z,29nm,0.9s
KIV Kislovodsk 16.73 64 *e*P **Pn 07 16 57.8 -1.7**
KIV pmax pmax
comp=Z,24nm,1.0s
KIV Kislovodsk 16.73 64 *e*P **Pn 07 16 57.8 -1.7**
comp=Z,24nm,1.0s
EBIE Bielsa 16.80 291 P **Pn 07 17 03.2 +2.8**
comp=Z,41nm,1.5s
LFF La Frestale 16.81 299 *e*P **Pn 07 17 01.2 +0.7**
comp=Z,22nm,0.8s
LFF La Frestale 16.81 299 *e*P **Pn 07 17 01.2 +0.7**
LFF pmax pmax
comp=Z,11nm,0.8s
LFF La Frestale 16.81 299 *e*P **Pn 07 17 01.2 +0.7**
comp=Z,11nm,0.8s
BAIF Baives 16.90 318 *e*P **Pn 07 17 02.4 +0.7**
WTSB Winterswijk 16.94 327 *e*P **Pn 07 17 05.9 +3.9**
comp=Z,39nm,1.4s
VANB Van 17.04 83 *e*P **Pn 07 17 08.4 +5.0**
EMOS Mosqueruela 17.14 283 P **Pn 07 17 07.4 +2.6**
comp=Z,79nm,1.7s
MSL Mosul 17.21 91 *ex* x 07 17 11.0
ETSF Etsaut 17.34 292 *e*P **Pn 07 17 08.3 +1.1**
comp=Z,37nm,1.1s
ETSF Etsaut 17.34 292 *e*P **Pn 07 17 08.3 +1.1**
ETSF pmax pmax
comp=Z,19nm,1.1s
ETSF Etsaut 17.34 292 *e*P **Pn 07 17 08.3 +1.1**
comp=Z,19nm,1.1s
CLDR Caldiran 17.39 81 *e*P **Pn 07 17 13.6 +5.8**
ECHE Chera 17.56 280 P **Pn 07 17 14.0 +4.1**
comp=Z,52nm,1.5s
ECHE Chera 17.56 280 P **Pn 07 17 14.0 +4.1**
ECHE pmax pmax
comp=Z,52nm,1.5s
VRSR Storozhevoye 17.70 39 *e*P **Pn 07 17 12.3 +0.7**
VRSR pmax pmax
comp=N,6.0nm,1.1s
VRSR pmax pmax
comp=Z,4.0nm,1.1s
VRSR pmax pmax
comp=E,9.0nm,1.0s
SJPF Ste Jean 17.85 292 *e*P **Pn 07 17 15.0 +1.5**
comp=E,29nm,1.2s
SJPF Ste Jean 17.85 292 *e*P **Pn 07 17 15.0 +1.5**
SJPF pmax pmax
comp=Z,15nm,1.2s
SJPF Ste Jean 17.85 292 *e*P **Pn 07 17 15.0 +1.5**
comp=Z,14nm,1.2s

MFF Saint Martin d 17.89 304 *e*P **Pn 07 17 15.0 +1.1**
ELIZ Elizondo 18.08 292 P **Pn 07 17 17.1 +0.8**
comp=Z,3.7nm,0.6s
ELIZ Elizondo 18.08 292 P **Pn 07 17 17.1 +0.8**
ELIZ pmax pmax
comp=Z,4.0nm,0.6s
ELIZ Elizondo 18.08 292 P **Pn 07 17 17.1 +0.8**
comp=Z,3.7nm,0.6s
ETOR Torete 18.34 285 P **Pn 07 17 20.7 +1.2**
comp=Z,5.5nm,0.9s
ETOR Torete 18.34 285 P **Pn 07 17 20.7 +1.1**
ETOR pmax pmax
comp=Z,6.0nm,0.9s
ETOR Torete 18.34 285 P **Pn 07 17 20.7 +1.1**
comp=Z,5.5nm,0.9s
LDF La Druitiere 18.61 310 *e*P **Pn 07 17 26.6 +3.8**
ECRI Cripan 18.74 290 P **Pn 07 17 24.9 +0.4**
comp=Z,10.0nm,0.8s
ECRI Cripan 18.74 290 P **Pn 07 17 24.9 +0.5**
ECRI pmax pmax
comp=Z,10.0nm,0.8s
ECRI Cripan 18.74 290 P **Pn 07 17 24.9 +0.5**
comp=Z,10.0nm,0.8s
FLN La Foliniere 18.90 310 *e*P **Pn 07 17 26.4 +0.1**
comp=Z,38nm,1.0s
FLN *e*MLR MLR
comp=Z,2μm,22.0s
FLN La Foliniere 18.90 310 *e*P **Pn 07 17 26.4 +0.1**
FLN pmax pmax
comp=Z,19nm,1.0s
FLN La Foliniere 18.90 310 *e*P **Pn 07 17 26.4 +0.1**
comp=Z,19nm,1.0s
BHD Baghdad 19.17 99 *ex* x 07 17 28.0
OBN Obninsk 19.40 27 ⇓*e*P **Pn 07 17 31.0 -1.3**
OBN *e*S **Sn 07 21 07.8 -2.3**
OBN pmax pmax
comp=Z,32nm,1.1s
OBN MLR MLR
comp=Z,2μm,15.0s
OBN Obninsk 19.40 27 *e*P **Pn 07 17 31.0 -1.3**
comp=Z,2μm,15.0s
EQES Quesada 19.40 275 P **Pn 07 17 36.5 +4.1**
comp=Z,6.9nm,0.7s
EBER Berja 19.44 273 P **Pn 07 17 37.6 +4.8**
comp=Z,20nm,1.0s
ELAN Lanestosa 19.47 292 P **Pn 07 17 32.0 -1.2**
comp=Z,81nm,1.3s
ELAN Lanestosa 19.47 292 P **Pn 07 17 32.0 -1.2**
comp=Z,81nm,1.3s
ESDC Sonseca Array 19.86 281 P **Pn 07 17 37.7 -0.2**
comp=Z,1.7nm,0.4s
ESDC Sonseca Array 19.86 281 P **Pn 07 17 36.2 -1.7**
comp=Z,0.7nm,0.3s,baz=77,slow=11,SNR=17
ESDC Sonseca Array 19.86 281 P **Pn 07 17 37.7 -0.2**
comp=Z,1.7nm,0.4s
ECOG Cogollos-Vega 19.89 274 P **Pn 07 17 39.2 +1.0**
comp=Z,5.2nm,0.6s
ECOG Cogollos-Vega 19.89 274 P **Pn 07 17 39.2 +0.9**
ECOG pmax pmax
comp=Z,5.0nm,0.6s
ECOG Cogollos-Vega 19.89 274 P **Pn 07 17 39.2 +0.9**
comp=Z,5.2nm,0.6s
GUD Guadarrama 19.94 284 P **Pn 07 17 37.3 -1.5**
comp=Z,24nm,1.2s
GUD Guadarrama 19.94 284 P **Pn 07 17 37.3 -1.6**
GUD pmax pmax
comp=Z,24nm,1.2s
GUD Guadarrama 19.94 284 P **Pn 07 17 37.3 -1.6**
comp=Z,24nm,1.2s
SGMF Saint Gilles 19.98 307 *e*P **Pn 07 17 37.3 -2.0**
comp=Z,58nm,1.1s
SGMF Saint Gilles 19.98 307 *e*P **Pn 07 17 37.3 -2.0**
SGMF pmax pmax
comp=Z,29nm,1.1s
SGMF Saint Gilles 19.98 307 *e*P **Pn 07 17 37.3 -2.0**
comp=Z,29nm,1.1s
PAB San Pablo 20.16 281 *e*P **P 07 17 40.3 +0.7**
comp=Z,56nm,1.4s
PAB San Pablo 20.16 281 *e*P **P 07 17 40.3 +0.6**
PAB pmax pmax
comp=Z,56nm,1.4s
PAB San Pablo 20.16 281 *e*P **P 07 17 40.3 +0.6**
comp=Z,56nm,1.4s
VSU Vasula 20.20 8 *e*P **P 07 17 39.2 -0.7**
QUIF Quistinic 20.25 305 *e*P **P 07 17 41.0 +0.4**
comp=Z,85nm,1.3s
QUIF Quistinic 20.25 305 *e*P **P 07 17 41.0 +0.4**
QUIF pmax pmax
comp=Z,42nm,1.3s
QUIF Quistinic 20.25 305 *e*P **P 07 17 41.0 +0.4**
comp=Z,42nm,1.3s
MOS Moscow 20.27 27 *e*P **P 07 17 38.5 -2.1**
MOS pmax pmax
comp=Z,60nm,1.0s
ROSF Rostrenen 20.46 307 *e*P **P 07 17 40.8 -2.0**
comp=Z,107nm,1.3s
ROSF Rostrenen 20.46 307 *e*P **P 07 17 40.8 -2.0**
ROSF pmax pmax
comp=Z,54nm,1.3s
ROSF Rostrenen 20.46 307 *e*P **P 07 17 40.8 -2.0**
comp=Z,54nm,1.3s
EADA Adamuz 20.52 277 P **P 07 17 42.8 -0.8**
comp=Z,12nm,1.1s
EADA Adamuz 20.52 277 P **P 07 17 42.8 -0.7**
comp=Z,12nm,1.1s
EARI Arriondas 20.77 292 P **P 07 17 46.1 -0.1**
comp=Z,16nm,1.0s
EARI Arriondas 20.77 292 P **P 07 17 46.1 -0.1**
comp=Z,16nm,1.0s
EMIJ Mijas 20.98 273 P **P 07 17 49.3 +0.7**
comp=Z,7.7nm,0.7s
EMIJ Mijas 20.98 273 P **P 07 17 49.3 +0.7**
comp=Z,7.7nm,0.7s
ECAB El Cabril 21.19 277 P **P 07 17 50.9 +0.1**
comp=Z,16nm,1.1s,mb4.3
ESPR Espera 21.76 274 P **P 07 17 57.5 +0.5**
comp=Z,2.5nm,0.7s,mb3.8
ESPR Espera 21.76 274 P **P 07 17 57.5 +0.5**
comp=Z,2.5nm,0.7s,mb3.8
MDT Midelt 22.02 263 P **P 07 17 59.4 -0.4**
comp=Z,6.2nm,1.0s,mb4.0,baz=80,slow=13,SNR=10.0
HFS Hagfors 22.17 349 P **P 07 17 59.7 -1.4**
comp=Z,9.9nm,0.5s,mb4.5,baz=156,slow=11,SNR=28
EPON Pontenova 22.18 292 P **P 07 18 03.0 +1.6**
comp=Z,14nm,0.9s,mb4.4
EMIN Mina Concepcio 22.22 277 P **P 07 18 00.9 -0.9**
comp=Z,19nm,1.1s,mb4.4
EMIN Mina Concepcio 22.22 277 P **P 07 18 00.9 -0.9**
comp=Z,19nm,1.1s,mb4.4
EBAD Badajoz 22.32 280 P **P 07 18 00.8 -2.0**
comp=Z,8.2nm,1.3s,mb4.0
EBAD Badajoz 22.32 280 P **P 07 18 00.8 -2.1**
comp=Z,8.2nm,1.3s,mb4.0
KONO Kongsberg 22.46 344 *e*P **P 07 18 02.9 -1.3**
KONO Kongsberg 22.46 344 *e*P **P 07 18 02.9 -1.3**
EGRO El Granado 22.89 277 P **P 07 18 07.7 -1.4**
comp=Z,2.4nm,0.5s,mb3.9
EGRO El Granado 22.89 277 P **P 07 18 07.7 -1.3**
comp=Z,2.4nm,0.5s,mb3.9
FINES FINESS Array B 23.08 5 *i* P **P 07 18 09.8 -1.0**
FINES pmax pmax
comp=Z,17nm,0.9s
FINES FINESS Array B 23.08 5 P **P 07 18 08.7 -2.1**
comp=Z,17nm,0.9s,mb4.5,baz=167,slow=12,SNR=33
FINES FINESS Array B 23.08 5 *i* P **P 07 18 09.8 -1.0**
comp=Z,17nm,0.9s,mb4.5
NB2 NORSAR Subarra 23.43 347 P **P 07 18 12.0 -2.4**
comp=Z,23nm,1.0s,mb4.6,baz=159,slow=11
NOA NORSAR Array B 23.43 347 P **P 07 18 12.3 -2.1**
NOA NORSAR Array B 23.43 347 P **P 07 18 12.3 -2.1**
comp=Z,28nm,1.2s,mb4.6,baz=158,slow=9.5,SNR=21
EKA Eskdalemuir Ar 23.62 323 P **P 07 18 14.2 -2.3**
comp=Z,22nm,0.9s,mb4.6,baz=124,slow=9.1,SNR=28
ESK Eskdalemuir 23.64 323 P **P 07 18 15.0 -1.6**
comp=Z,194nm,1.2s,mb5.4,SNR=5.0
ESK Eskdalemuir 23.64 323 *e*P **P 07 18 15.2 -1.4**
comp=Z,48nm,1.1s,mb4.8
ESK Eskdalemuir 23.64 323 *e*P **P 07 18 15.2 -1.4**
ESK pmax pmax
comp=Z,48nm,1.1s,mb4.8
ESK Eskdalemuir 23.64 323 *e*P **P 07 18 15.1 -1.5**
comp=Z,48nm,1.1s,mb4.8
KAF Kangasniemi 23.76 5 *ep* **P 07 18 13.0 -4.7**
DCN Croghan 24.72 316 *e*P **P 07 18 25.5 -1.0**
JOF Joensuu 25.10 10 *ep* **P 07 18 25.6 -4.2**
comp=Z,8.8nm,0.9s,mb4.3
JOF Joensuu 25.10 10 *e*P **P 07 18 25.6 -4.2**

JOF pmax pmax
comp=Z,9.0nm,0.9s,mb4.3
AKTK Aktyubinsk 28.27 53 P **P 07 18 57.0 -1.5**
AKTK Aktyubinsk 28.27 53 P **P 07 18 57.0 -1.6**
AKTO Aktyubinsk 28.27 53 P **P 07 18 57.0 -1.6**
comp=Z,1.5nm,0.8s,mb3.7,baz=257,slow=9.8,SNR=6.6
APA Apatity 29.81 9⇑ *e*P **P 07 19 15.6 +3.6**
APA pmax pmax
comp=Z,10.0nm,1.0s,mb4.5
APA MLR MLR
comp=Z,2μm,13.0s,MS5.0
ARU Arti 30.21 42 *c i*P **P 07 19 14.1 -1.6**
ARU *e* 07 20 08.7
ARU *e*S **S 07 24 13.7 -1.8**
ARU *e*SS SS 07 25 46.1 -38
ARU pmax pmax
comp=Z,11nm,1.7s,mb4.3
ARU Arti 30.21 42 *i* P **P 07 19 14.1 -1.6**
comp=Z,11nm,1.7s,mb4.3
ARU *e*S **S 07 24 13.7 -1.8**
TORD Torodi Ar. Bea 30.86 220 P **P 07 19 20.8 -1.0**
TORD Torodi Ar. Bea 30.86 220 P **P 07 19 20.8 -1.0**
comp=Z,6.0nm,0.6s,mb4.6,baz=29,slow=9.5,SNR=53
ARCES ARCESS Array B 31.11 3 P **P 07 19 21.1 -2.4**
comp=Z,2.3nm,0.5s,mb4.3,baz=186,slow=8.5,SNR=16
KEV Kevo 31.40 4 *e*p **P 07 19 23.2 -2.8**
comp=Z,2.8nm,0.5s,mb4.3
KEV Kevo 31.40 4 *e*P **P 07 19 23.2 -2.8**
KEV pmax pmax
comp=Z,3.0nm,0.5s,mb4.4
BRVK Borovoye 36.16 50 *e*P **P 07 20 06.3 -1.3**
BRVK Borovoye 36.16 50 *e*P **P 07 20 06.3 -1.3**
DBIC Dimbokro 39.75 224 P **P 07 20 37.3 -1.0**
comp=Z,4.1nm,0.7s,mb4.3,baz=14,slow=8.1,SNR=6.8
AAK Ala-Archa 39.83 67 P **P 07 20 38.6 -0.1**
comp=Z,93nm,0.8s,mb5.6,SNR=11
FRU Bishkek 39.87 66⇑ *i*P **P 07 20 39.0 -0.1**
FRU pmax pmax
comp=Z,108nm,1.6s,mb5.3
FRU Bishkek 39.87 66 *i* P **P 07 20 39.0 -0.1**
comp=Z,108nm,1.6s,mb5.3
KURK Kurchatov 41.37 54 *e*P **P 07 20 49.7 -1.6**
KURK Kurchatov 41.37 54 *e*P **P 07 20 49.7 -1.6**
KSH Kashi 41.70 71 *e*P **P 07 20 55.2 +1.0**
KSH *e*AP pP 07 20 59.7 +4.5
KSH *e*XP sP 07 21 02.8 +7.2
KSH *e*PP PP 07 22 33.2 +2.9
KSH *e*PCP PcP 07 22 52.5 +1.7
KSH AMB AMB
comp=Z,41nm,0.5s,mb5.3
KSH LR LR
comp=N,867nm,12.4s
KSH LR LR
comp=E,883nm,8.8s
KSH LR LR
comp=Z,1μm,14.4s,MS4.9
NVS Novosibirsk 43.80 47 *i*P **P 07 21 10.4 -0.6**
NVS pmax pmax
comp=Z,24nm,1.5s,mb4.7
NVS pmax pmax
comp=N,6.0nm,1.1s
NVS pmax pmax
comp=E,4.0nm,1.0s
NVS Novosibirsk 43.80 47 *i*P **P 07 21 10.4 -0.6**
comp=E,6.0nm,1.1s,mb4.2
MKAR Makanchi Array 44.38 59 P **P 07 21 14.5 -1.3**
MKAR Makanchi Array 44.38 59 P **P 07 21 14.5 -1.3**
comp=E,8.6nm,0.5s,mb4.7,baz=280,slow=6.4,SNR=37
ZAL Zalesovo 44.79 49 P **P 07 21 17.5 -1.5**
ZALV Zalesovo Beam 44.80 48 P **P 07 21 17.5 -1.6**
comp=E,12nm,0.6s,mb4.9,baz=273,slow=8.3,SNR=23
WMQ Urumqi 48.83 62 *e*P **P 07 21 50.2 -0.5**
WMQ XP sP 07 21 59.0 +6.8
WMQ AMB AMB
comp=Z,14nm,1.0s,mb5.0
WMQ AMB AMB
comp=Z,120nm,3.5s
WMQ LR LR
comp=N,682nm,22.0s,MS4.8
WMQ LR LR
comp=E,743nm,17.3s,MS4.8
WMQ LR LR
comp=Z,710nm,23.6s
TLY Talaya 56.41 48⇑ *e*P **P 07 22 44.6 -2.1**
TLY pmax pmax
comp=Z,1.0nm,1.6s,mb3.6
TLY Talaya 56.41 48 *e*P **P 07 22 44.6 -2.1**
comp=Z,1.0nm,1.6s,mb3.6
ZAK Zakamensk 56.67 49 *e*P **P 07 22 45.3 -3.3**
ZAK pmax pmax
comp=Z,2.0nm,1.2s,mb4.0
LSA Lhasa 57.02 76 P **P 07 22 49.0 -2.4**
SCHQ Schefferville 58.76 317 P **P 07 23 02.4 -0.9**
comp=Z,2.9nm,0.3s,mb4.7,baz=88,slow=6.9,SNR=23
GTA Gaotai 58.90 62 *e*P **P 07 23 03.1 -1.4**
GTA AP pP 07 23 07.5 +2.0
GTA XP sP 07 23 10.8 +4.8
GTA PCP PcP 07 23 53.5 -0.3
GTA PP PP 07 25 13.3 -1.0
GTA SCP ScP 07 27 52.8 -2.3
GTA S **S 07 31 04.6 -6.4**
GTA SS SS 07 34 58.0 -6.0
GTA AMB AMB
comp=Z,5.0nm,1.6s,mb4.3
GTA AMB AMB
comp=Z,71nm,4.9s
GTA LR LR
comp=N,364nm,23.6s,MS4.7
GTA LR LR
comp=E,522nm,23.6s,MS4.7
GTA LR LR
comp=Z,288nm,25.8s,MS4.3
TIXI Tiksi 59.00 21 *i*P **P 07 23 02.7 -2.0**
TIXI pmax pmax
comp=Z,4.0nm,1.3s,mb4.3
TIXI Tiksi 59.00 21 *i*P **P 07 23 02.7 -2.0**
comp=Z,4.0nm,1.3s,mb4.3
BOD Bodaibo 59.55 38 *e*P **P 07 23 08.9 +0.2**
BOD pmax pmax
comp=Z,4.0nm,0.9s,mb4.5
BOD Bodaibo 59.55 38 *e*P **P 07 23 08.9 +0.2**
comp=Z,4.0nm,0.9s,mb4.5
SONM Songino Array 59.56 51 P **P 07 23 07.7 -1.2**
comp=Z,3.1nm,0.8s,mb4.4,baz=287,slow=8.6,SNR=14
RES Resolute Bay 59.64 344 *e*P **P 07 23 09.0 -0.1**
RES Resolute Bay 59.64 344 *e*P **P 07 23 09.0 -0.1**
ULN Ulaanbaatar 59.95 51 *e*P **P 07 23 12.8 +1.2**
comp=Z,3.6nm,0.8s,mb4.5
ULN Ulaanbaatar 59.95 51 *e*P **P 07 23 12.8 +1.2**
ULN pmax pmax
comp=Z,4.0nm,0.8s,mb4.5
ULN Ulaanbaatar 59.95 51 *e*P **P 07 23 12.8 +1.2**
comp=Z,3.6nm,0.8s,mb4.5
LZH Lanzhou 63.27 64 *e*P **P 07 23 33.7 -0.5**
LZH AP pP 07 23 40.8 +5.5
LZH XP sP 07 23 42.8 +7.1
LZH PP PP 07 25 53.8 +0.8
LZH AMB AMB
comp=Z,28nm,1.5s,mb5.2
LZH AMB AMB
comp=Z,75nm,5.2s
LZH LR LR
comp=N,420nm,13.5s
LZH LR LR
comp=Z,778nm,15.0s,MS5.0
CD2 Chengdu 65.84 69 *e*P **P 07 23 49.6 -1.5**
CD2 PP PP 07 26 15.9 +0.2
CD2 AMB AMB
comp=Z,10.0nm,1.3s,mb4.7
CD2 AMB AMB
comp=Z,50nm,6.4s
HHC Hu-ho-hao-te 66.12 56 *e*P **P 07 23 49.4 -3.3**
HHC AP pP 07 23 55.5 +1.7
HHC XP sP 07 23 58.8 +4.6
HHC PP PP 07 26 18.8 +1.0
HHC SCP 07 28 21.0
HHC PCS 07 28 25.5
HHC S S 07 32 36.7 -5.1
HHC SCS ScS 07 33 40.0 -10
HHC SS SS 07 36 50.1 -6.6
HHC AMB AMB
comp=Z,14nm,0.3s,mb5.5
HHC LR LR
comp=N,412nm,13.1s,MS5.0
HHC LR LR
comp=E,452nm,15.7s,MS5.0
HHC LR LR
comp=Z,508nm,19.6s,MS4.7
XAN Xi'an 67.89 64 P **P 07 24 03.3 -0.8**
XAN AP pP 07 24 09.2 +4.0
XAN AMB AMB
comp=Z,5.0nm,0.9s,mb4.5
KMI Kunming 68.19 75 P **P 07 24 05.7 -0.4**
KMI AP pP 07 24 13.0 +5.8
KMI XP sP 07 24 15.5 +7.9
KMI AMB AMB
comp=Z,8.0nm,0.7s,mb4.9
KMI AMB AMB
comp=Z,86nm,4.7s
KMI LR LR
comp=N,205nm,23.5s
KMI LR LR
comp=E,198nm,29.7s
KMI LR LR
comp=Z,286nm,24.3s,MS4.4
FCC Fort Churchill 69.36 330 *e*P **P 07 24 12.6 -0.3**
comp=Z,8.0nm,0.6s,mb4.8
FCC Fort Churchill 69.36 330 *e*P **P 07 24 12.6 -0.2**
FCC pmax pmax
comp=Z,8.0nm,0.6s,mb4.8
FCC Fort Churchill 69.36 330 *e*P **P 07 24 12.6 -0.2**
comp=Z,8.0nm,0.6s,mb4.8
GYA Guiyang 70.39 71 P **P 07 24 18.2 -1.6**
GYA AP pP 07 24 26.2 +5.3
GYA XP sP 07 24 28.6 +7.3
GYA PCP PcP 07 24 42.8 +1.5
GYA PP PP 07 26 57.2 +1.9
GYA AMB AMB
comp=Z,20nm,1.0s,mb5.0
GYA AMB AMB
comp=Z,140nm,6.9s
GYA LR LR
comp=N,670nm,21.4s,MS5.0
GYA LR LR
comp=E,560nm,22.2s,MS5.0
GYA LR LR
comp=Z,590nm,23.6s,MS4.8
BILL Bilibino 70.46 13 *e*P **P 07 24 18.6 -0.9**
comp=Z,4.5nm,0.6s,mb4.6
BILL Bilibino 70.46 13 *e*P **P 07 24 18.3 -1.1**
BILL pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
BILL Bilibino 70.46 13 *e*P **P 07 24 18.6 -0.8**
comp=Z,4.5nm,0.6s,mb4.6
INK Inuvik 71.84 351 *e*P **P 07 24 26.9 -0.9**
INK Inuvik 71.84 351 *e*P **P 07 24 26.9 -0.9**
CN2 Changchun 73.01 47 *e*P **P 07 24 34.5 -0.7**
CN2 *e*AP pP 07 24 39.5 +3.2
CN2 PCP PcP 07 24 54.4 +2.3
CN2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.8
CN2 AMB AMB
comp=Z,200nm,5.0s
CN2 LR LR
comp=N,200nm,20.0s,MS4.5
CN2 LR LR
comp=E,200nm,20.0s,MS4.5
CN2 LR LR
comp=Z,200nm,21.0s,MS4.4
KLR Kul'dur 73.04 40 *e*P **P 07 24 30.2 -5.1**
YKW3 Yellowknife Ar 73.27 340 *e*P **P 07 24 35.6 -0.8**
YKW3 Yellowknife Ar 73.27 340 *e*P **P 07 24 35.6 -0.8**
YKA Yellowknife Ar 73.33 340 P **P 07 24 35.2 -1.5**
YKA Yellowknife Ar 73.33 340 P **P 07 24 35.2 -1.5**
comp=Z,4.6nm,1.1s,mb4.3,baz=38,slow=5.5,SNR=35
FFC Flin Flon 75.29 330 *e*P **P 07 24 48.4 +0.1**
FFC Flin Flon 75.29 330 *e*P **P 07 24 48.4 +0.1**
COWI Conover 75.37 318 *e*P **P 07 24 49.5 +0.6**
COWI Conover 75.37 318 *e*P **P 07 24 49.5 +0.5**
IMA2 Indian Mountai 75.64 358 *e*P **P 07 24 49.8 -0.4**
IMA2 Indian Mountai 75.64 358 *e*P **P 07 24 49.8 -0.4**
NJ2 Nanjing 75.89 60 *e*P **P 07 24 54.6 +2.4**
NJ2 AMB AMB
comp=Z,20nm,0.8s,mb5.1
ULM Lac du Bonnet 75.90 324 P **P 07 24 50.6 -1.3**
comp=Z,11nm,1.0s,mb4.8,baz=43,slow=6.3,SNR=16
DAWY Dawson 76.62 352 *e*P **P 07 24 55.3 -0.5**
DAWY Dawson 76.62 352 *e*P **P 07 24 55.3 -0.4**
QIZ Qiongzhong 77.06 76 P **P 07 24 57.8 -1.2**
QIZ S S 07 34 41.0 -7.7
QIZ LR LR
comp=E,182nm,29.3s
QIZ LR LR
comp=Z,290nm,31.6s,MS4.4
MCK McKinley 77.78 356 *e*P **P 07 25 02.2 -0.1**
MCK McKinley 77.78 356 *e*P **P 07 25 02.2 -0.1**
KSRS Korea Array 78.43 51 P **P 07 25 04.2 -2.2**
comp=Z,3.5nm,0.7s,mb4.4,baz=311,slow=4.5,SNR=9.1
CPCT Cooper Cave 79.60 307 *e*P **P 07 25 13.2 +0.3**
CPCT Cooper Cave 79.60 307 *e*P **P 07 25 13.2 +0.4**
EDM Edmonton 80.63 334 *e*P **P 07 25 18.2 +0.1**
EDM Edmonton 80.63 334 *e*P **P 07 25 18.2 +0.2**
SVW2 Sparrevohn 80.67 359 *e*P **P 07 25 17.5 -0.7**
SVW2 Sparrevohn 80.67 359 *e*P **P 07 25 17.5 -0.6**
ECSD EROS,Sioux Fal 80.86 320 *e*P **P 07 25 19.3 -0.1**
ECSD EROS,Sioux Fal 80.86 320 *e*P **P 07 25 19.3 -0.2**
CCM Cathedral Cave 81.91 313 *e*P **P 07 25 24.3 -0.9**
CCM Cathedral Cave 81.91 313 *e*P **P 07 25 24.3 -0.9**
LRAL Lakeview Retre 82.72 307 *e*P **P 07 25 29.5 0.0**
comp=Z,19nm,1.4s,mb4.9
LRAL Lakeview Retre 82.72 307 *e*P **P 07 25 29.5 0.0**
comp=Z,19nm,1.4s,mb4.9
LAO LASA Array 83.16 327 *e*P **P 07 25 32.4 +0.9**
LAO LASA Array 83.16 327 *e*P **P 07 25 32.4 +0.9**
EGMT Eagleton 83.56 330 *e*P **P 07 25 32.3 -1.2**
comp=Z,11nm,0.8s,mb5.0
EGMT Eagleton 83.56 330 *e*P **P 07 25 32.3 -1.2**
comp=Z,11nm,0.8s,mb5.0
RSSD Black Hills 84.17 324 *e*P **P 07 25 36.9 +0.1**
comp=Z,2.3nm,0.8s,mb4.4
RSSD Black Hills 84.17 324 *e*P **P 07 25 36.9 +0.1**
RSSD pmax pmax
comp=Z,2.0nm,0.8s,mb4.3
RSSD Black Hills 84.17 324 *e*P **P 07 25 36.9 +0.1**
comp=Z,2.3nm,0.8s,mb4.4
KSU1 Kansas State U 84.18 316 *e*P **P 07 25 37.2 +0.3**
KSU1 Kansas State U 84.18 316 *e*P **P 07 25 37.2 +0.3**
MJAR Matsushiro Arr 85.11 46 P **P 07 25 40.5 -1.2**
comp=Z,1.0nm,0.5s,mb4.2,baz=357,slow=8.5,SNR=4.3
RLMT Red Lodge 85.69 328 *e*P **P 07 25 45.6 +1.2**
BOZ Bozeman (W) 86.24 329 *e*P **P 07 25 47.7 +0.6**
SDV Santo Domingo 86.27 278 *e*P **P 07 25 47.4 -0.3**
DLMT Dillon 86.86 330 *e*P **P 07 25 50.9 +0.8**
PDAR Pinedale Array 87.71 326 P **P 07 25 52.8 -1.6**
comp=Z,1.4nm,0.8s,mb4.2,baz=349,slow=1.5,SNR=9.7
REDW Red Top Meadow 87.79 327 *e*P **P 07 25 53.8 -0.8**
ISCO Idaho Springs 88.26 322 *e*P **P 07 25 57.7 +0.7**
WMOK Wichita Mounta 88.54 315 *e*P **P 07 25 58.8 +0.4**
BMO Blue Mountains 89.09 332 *e*P **P 07 26 00.1 -0.6**
SDCO Great Sand Dun 89.81 321 *e*P **P 07 26 03.9 -0.4**
SRU San Rafael 91.10 325 *e*P **P 07 26 09.7 -0.6**
ANMO Albuquerque 92.47 320 P **P 07 26 15.8 -0.9**
ANMO Albuquerque 92.47 320 P **P 07 26 15.8 -0.9**
comp=Z,0.5nm,0.7s,mb3.9,baz=103,slow=14,SNR=2.0
TXAR Lajitas Array 95.33 314 P **P 07 26 30.2 +0.2**
TXAR Lajitas Array 95.33 314 P **P 07 26 30.2 +0.2**
comp=Z,3.1nm,1.1s,mb4.7,baz=79,slow=4.1,SNR=14
GSC Goldstone 97.04 327 *e*P **P 07 26 37.1 -0.5**

IDC ***10*** *07:14:10.4±1.1,3852N×2174E,h0km,mb4.4/12, mb1 4.5/16,mb1mx4.3/25,mbtmp4.3/16,ML4.3/2,Error ellipse: s-maj=23.3km s-min=16.6km az=135.0*
NEIC ***10*** *07:14:12.8,3855N×2156E,h10km,ML4.2(ATH),After ATH.*
ATH ***10*** *07:14:12.8,3855N×2156E,h10km±5km,ML4.2*
ISCJB ***10*** *07:14:13.1±0.3,3858N±002×2155E±003,h24km±3km, mb4.3/15,Error ellipse: s-maj=4.3km s-min=4.0km az=25.9*
CSEM ***10*** *07:14:13.4±0.1,3856N×2155E,h2km,ML4.9,Error ellipse: s-maj=1.8km s-min=1.6km az=137.0*
THE ***10*** *07:14:13.4,3857N×2158E,h1km,ML4.9*
ISC 10 07:14:12.9±0.4,**3857N**±002×**2157E**±003,**h14**km±3km,**n44,** σ1§**02**/55,**mb4.3**/15,**Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SELA	**Sela**	**0.39**	**139**	*e*Pg	**Pg**	**07 14 20.0**	**-0.8**
SELA				*e*Sg	**Sg**	**07 14 26.4**	**+0.4**
EVR	**Evrytania**	**0.40**	**28**	*e*PG	**Pg**	**07 14 20.0**	**-0.9**
EVR				*e*SB	**Sg**	**07 14 26.5**	**+0.2**
RLS	**Riolos of Patr**	**0.51**	**189**	*e*PB	**Pb**	**07 14 22.9**	**-0.8**
RLS				*e*SB	**Sb**	**07 14 29.8**	**-1.2**
LKD	**Levkas**	**0.73**	**281**	*e*Pg	**Pg**	**07 14 27.1**	**-0.1**
LKD				*e*Sg	**Sg**	**07 14 38.5**	**+1.6**
AGG	**Agios Georgios**	**0.75**	**52**	*e*Pg	**Pg**	**07 14 26.9**	**-0.6**
AGG				*e*Sg	**Sg**	**07 14 38.1**	**+0.8**
KFL	**Anninata**	**0.77**	**234**	*e*Pg	**Pg**	**07 14 27.8**	**0.0**
VLS	**Valsamata**	**0.86**	**244**	*e*PG	**Pg**	**07 14 28.8**	**-0.8**
VLS				*e*SB	**Sb**	**07 14 40.8**	**-0.2**
THL	**Klokotos Trika**	**1.05**	**19**	*e*PG	**Pg**	**07 14 32.9**	**-0.4**
LKR	**Lokris**	**1.12**	**85**	*e*PG	**Pg**	**07 14 33.8**	**-0.8**
JAN	**Janina**	**1.22**	**333**	*e*PB	**Pb**	**07 14 36.4**	**+0.6**
LTK	**Loutraki**	**1.23**	**116**	*e*Pg	**Pg**	**07 14 36.2**	**-0.4**
LTK				*e*Sg	**Sg**	**07 14 53.9**	**+1.3**
LTK	**Loutraki**	**1.23**	**116**	*e*Pg	**Pg**	**07 14 36.2**	**-0.4**
LTK				*e*Sg	**Sg**	**07 14 53.8**	**+1.3**
VLX	**Vlachokerasia**	**1.35**	**152**	*e*Pg	**Pg**	**07 14 38.4**	**-0.6**
VLX				*e*Sg	**Sg**	**07 14 57.6**	**+0.9**
ITM	**Ithomi**	**1.41**	**168**	*e*PB	**Pb**	**07 14 39.1**	**+0.1**
NEO	**Neokhori**	**1.49**	**60**	*e*PG	**Pg**	**07 14 40.9**	**-0.6**
DID	**Didima**	**1.69**	**128**	*e*Pb	**Pb**	**07 14 43.8**	**0.0**
DID				*e*Sb	**Sb**	**07 15 06.0**	**+1.2**
LIT	**Litokhoron**	**1.69**	**25**	*e*Pb	**Pb**	**07 14 43.7**	**-0.1**
LIT				*e*Sb	**Sb**	**07 15 05.5**	**+0.7**
ATH	**Athens Observa**	**1.79**	**109**	*e*PN	**Pn**	**07 14 45.6**	**+2.3**
HORT	**Hortiatis**	**2.35**	**30**	*e*Pn	**Pn**	**07 14 52.8**	**+1.8**
MLR	**Muntele Rosu**	**7.65**	**24**	Pn	**Pn**	**07 16 04.2**	**+0.4**
	baz=203,slow=7.7,SNR=1.8						
GERES	**GERESS Array B**	**11.74**	**334**	Pn	**Pn**	**07 17 02.3**	**+2.5**
	0.4nm,0.3s,baz=162,slow=14,SNR=2.8						
SVSK	**Karacayir**	**12.04**	**79**	*e*P	**Pn**	**07 17 01.9**	**-2.1**
KMRS	**Kahramanmaras**	**12.14**	**90**	*e*P	**Pn**	**07 16 58.4**	**-7.0**
MYA	**Malataya**	**13.22**	**86**	*e*P	**Pn**	**07 17 19.5**	**-0.6**
MALT	**Malatya**	**13.22**	**86**	*e*P	**Pn**	**07 17 22.9**	**+2.7**
AKASG	**Malin Array Be**	**13.29**	**22**	Pn	**Pn**	**07 17 20.2**	**-0.8**
	baz=211,slow=11,SNR=2.6						
ESDC	**Sonseca Array**	**19.83**	**281**	P	**Pn**	**07 18 46.0**	**+1.4**
	0.3nm,0.3s,baz=73,slow=10,SNR=2.4						
HFS	**Hagfors**	**22.16**	**350**	P	**P**	**07 19 08.7**	**+0.7**
	9.9nm,0.6s,mb4.4,baz=160,slow=14,SNR=8.7						
FINES	**FINESS Array B**	**23.07**	**6**	P	**P**	**07 19 17.1**	**-0.6**
	6.8nm,0.7s,mb4.2,baz=181,slow=12,SNR=6.4						
NB2	**NORSAR Subarra**	**23.41**	**347**	P	**P**	**07 19 19.9**	**-1.3**
	comp=Z,12nm,1.1s,mb4.2,baz=152,slow=10						
NOA	**NORSAR Array B**	**23.41**	**347**	P	**P**	**07 19 20.4**	**-0.8**
	comp=Z,5.3nm,0.7s,mb4.1,baz=158,slow=8.7,SNR=4.3						
EKA	**Eskdalemuir Ar**	**23.60**	**323**	P	**P**	**07 19 25.0**	**+1.8**
	comp=Z,7.6nm,0.7s,mb4.2,baz=126,slow=11,SNR=6.0						
KAF	**Kangasniemi**	**23.75**	**6**	*e*p	**P**	**07 19 22.6**	**-1.9**
	comp=Z,8.4nm,0.6s,mb4.3						
JOF	**Joensuu**	**25.09**	**11**	*e*p	**P**	**07 19 34.6**	**-2.1**
TORD	**Torodi Ar. Bea**	**30.85**	**220**	P	**P**	**07 20 28.8**	**+0.1**
	comp=Z,2.5nm,0.5s,mb4.3,baz=32,slow=9.1,SNR=7.6						
ARCES	**ARCESS Array B**	**31.10**	**3**	P	**P**	**07 20 29.6**	**-0.7**
	comp=Z,3.4nm,0.7s,mb4.3,baz=193,slow=9.5,SNR=6.4						
KEV	**Kevo**	**31.39**	**4**	*e*p	**P**	**07 20 31.5**	**-1.3**
	comp=Z,1.7nm,0.4s,mb4.2						
MKAR	**Makanchi Array**	**44.40**	**59**	P	**P**	**07 22 22.3**	**-0.5**
	comp=Z,7.2nm,0.5s,mb4.6,baz=274,slow=7.5,SNR=7.8						
ZALV	**Zalesovo Beam**	**44.82**	**48**	P	**P**	**07 22 25.8**	**-0.3**
	comp=Z,11nm,0.5s,mb4.9,baz=275,slow=8.4,SNR=8.2						
SCHQ	**Schefferville**	**58.73**	**317**	P	**P**	**07 24 10.2**	**+0.3**
	comp=Z,3.4nm,0.7s,mb4.5,baz=56,slow=14,SNR=2.6						
YKA	**Yellowknife Ar**	**73.31**	**340**	P	**P**	**07 25 43.8**	**+0.4**
	comp=Z,1.6nm,0.7s,mb4.0,baz=32,slow=5.4,SNR=6.9						
ULM	**Lac du Bonnet**	**75.87**	**324**	P	**P**	**07 25 58.6**	**+0.1**
	comp=Z,5.2nm,1.0s,mb4.4,baz=53,slow=4.6,SNR=4.2						
PDAR	**Pinedale Array**	**87.69**	**326**	P	**P**	**07 27 00.9**	**-0.1**
	comp=Z,0.8nm,0.8s,mb4.0,baz=48,slow=4.4,SNR=3.9						
TXAR	**Lajitas Array**	**95.30**	**314**	P	**P**	**07 27 36.9**	**+0.3**
	comp=Z,1.2nm,0.9s,mb4.3,baz=64,slow=3.2,SNR=4.0						

ISCJB ***10*** *07:15:40.6±0.4,3854N±001×2155E±002,h9km±2km, mb4.9/81,MS4.7/35,Error ellipse: s-maj=2.5km s-min=2.0km az=25.9*
CRAAG ***10*** *07:15:40.8,3805N×2154E,Mw5.1*
THE ***10*** *07:15:41.3,3853N×2153E,h4km,ML5.3*
MOS ***10*** *07:15:41.5±1.2,3861N×2158E,h17km,mb5.2/26, MS4.6/19,Error ellipse: s-maj=5.6km s-min=3.5km az=92.1*
GCMT ***10*** *07:15:41.6±0.2,3850N×2147E,h14km,MW5.1/80, Moment Tensor Solution. s36,c53; s80,c148; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-4.87±.27; $M_{\theta\theta}$5.34±.18; $M_{\phi\phi}$-0.47±.17; $M_{r\theta}$-0.36±.31; $M_{r\phi}$-3.97±.13; $M_{\theta\phi}$1.05±.45; Best double couple: $M_0$6.27600×10^{16} NP1:ϕ_s281.00000°,δ44.00000°,λ-114.00000°. NP2: ϕ_s132.00000°,δ51.00000°,λ-69.00000°. Principal axes: T 7.4060, Plg4.0000°, Azm207.0000°; N -2.2620, Plg16.0000°, Azm298.0000°; P -5.1460, Plg73.0000°, Azm105.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
BJI ***10*** *07:15:41.5,3850N×2150E,h6km,mB5.2,mb5.0,Ms5.1, Msz4.6*
ATH ***10*** *07:15:41.1,3852N×2159E,h21km±1km,MD4.7/20,ML4.6*
NEIC ***10*** *07:15:41.6±0.7,3853N×2154E,h6km±4km,mb5.0/29, ML4.6(ATH),Error ellipse: s-maj=4.3km s-min=3.5km az=215.0*
CSEM ***10*** *07:15:41.6±0.0,3857N×2148E,h15km,mb5.1/42,Ms4.4, Mw5.1,Error ellipse: s-maj=1.6km s-min=1.1km az=28.0*
BGS ***10*** *07:15:43.2±1.7,3920N×2188E,h5km,mb4.9,MS4.4*
SFS ***10*** *07:15:43.0,3870N×2140E,h10km,ML5.2*
IDC ***10*** *07:15:44.5±2.0,3864N×2160E,h31km±14km,mb4.6/19, mb1 4.7/30,mb1mx4.6/33,mbtmp4.6/30,ML4.5/10, MS4.6/11,Ms1 4.6/11,ms1mx4.3/22,Error ellipse: s-maj=12.3km s-min=10.8km az=142.0*
ISC 10 07:15:42.0±0.3,**3854N**±001×**2155E**±002,**h9**km±2km, **h15**km±.7km:**pP-P,n515,**σ1§**30**/569,**mb4.9**/81,**MS4.7**/35, **34C-19D,Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SELA	**Sela**	**0.38**	**135**	*e*Pg	**Pg**	**07 15 48.2**	**-1.2**
SELA				*e*Sg	**Sg**	**07 15 53.9**	**-0.5**
EVR	**Evrytania**	**0.42**	**28**	*e*PB	**Pg**	**07 15 50.6**	**+0.3**
EVR				*e*SB	**Sg**	**07 15 56.1**	**+0.2**
RLS	**Riolos of Patr**	**0.49**	**188**	*e*PB	**Pg**	**07 15 50.4**	**-1.1**
RLS				*e*SB	**Sg**	**07 15 58.0**	**+0.1**
LKD	**Levkas**	**0.72**	**283**	*e*Pg	**Pg**	**07 15 55.3**	**-0.6**
LKD				*e*Sg	**Sg**	**07 16 04.1**	**-1.3**
KFL	**Anninata**	**0.74**	**234**	*e*Pg	**Pg**	**07 15 55.5**	**-0.7**
AGG	**Agios Georgios**	**0.77**	**52**	*e*Pg	**Pg**	**07 15 56.5**	**-0.4**
AGG				*e*Sg	**Sg**	**07 16 07.4**	**+0.4**
VLS	**Valsamata**	**0.84**	**245**	*e*PB	**Pb**	**07 15 57.3**	**-1.4**
VLS				*e*SN	**Sn**	**07 16 10.7**	**-1.7**
THL	**Klokotos Trika**	**1.08**	**19**	*e*PN	**Pn**	**07 16 02.4**	**-0.9**
LKR	**Lokris**	**1.14**	**84**	*e*PN	**Pn**	**07 16 02.8**	**-1.3**
LTK	**Loutraki**	**1.23**	**115**	*e*Pg	**Pg**	**07 16 04.2**	**-1.4**
LTK				*e*Sg	**Sg**	**07 16 22.4**	**+0.9**
JAN	**Janina**	**1.24**	**334**	*e*PN	**Pn**	**07 16 05.4**	**-0.1**
JAN				*e*SN	**Sn**	**07 16 22.7**	**+0.4**
VLX	**Vlachokerasia**	**1.34**	**151**	*e*Pg	**Pg**	**07 16 05.2**	**-2.5**
VLX				*e*Sg	**Sg**	**07 16 24.8**	**-0.3**
ITM	**Ithomi**	**1.39**	**168**	*e*PN	**Pn**	**07 16 06.8**	**-0.8**
ITM				*e*SN	**Sn**	**07 16 25.5**	**-0.6**
NEO	**Neokhori**	**1.51**	**59**	*e*PN	**Pn**	**07 16 08.1**	**-1.1**
PYL	**PYLOS**	**1.65**	**175**	*e*Pb	**Pb**	**07 16 09.2**	**-3.4**
DID	**Didima**	**1.69**	**127**	*e*Pb	**Pb**	**07 16 11.6**	**-1.6**
DID				*e*Sb	**Sb**	**07 16 34.0**	**-0.4**
DID	**Didima**	**1.69**	**127**	*e*Pb	**Pb**	**07 16 11.6**	**-1.5**
DID				*e*Sb	**Sb**	**07 16 34.0**	**-0.4**
LIT	**Litokhoron**	**1.72**	**25**	*e*Pb	**Pb**	**07 16 11.7**	**-2.0**
LIT				*e*Sb	**Sb**	**07 16 34.2**	**-1.1**
LIT	**Litokhoron**	**1.72**	**25**	*e*Pb	**Pb**	**07 16 11.7**	**-2.0**
LIT				*e*Sb	**Sb**	**07 16 34.2**	**-1.2**
KZN	**Kozani**	**1.77**	**5**	*e*PN	**Pn**	**07 16 12.8**	**0.0**
KEK	**Kerkira**	**1.80**	**311**	*e*PN	**Pn**	**07 16 13.7**	**+0.6**
ATH	**Athens Observa**	**1.80**	**108**	*e*PN	**Pn**	**07 16 12.2**	**-0.9**
ATH				*e*SN	**Sn**	**07 16 36.2**	**+0.2**
SRN	**Sarande**	**1.80**	**318**	*e*PN	**Pn**	**07 16 16.3**	**+3.1**
KVR	**Kavouri**	**1.89**	**112**	*e*PN	**Pn**	**07 16 14.5**	**+0.1**
VLI	**Veliai**	**2.13**	**148**	*e*PB	**Pb**	**07 16 16.9**	**-3.8**
PAIG	**Paliouri**	**2.15**	**49**	*e*Pn	**Pn**	**07 16 16.9**	**-1.1**
KBN	**Korca**	**2.16**	**344**	*e*PN	**Pn**	**07 16 21.0**	**+2.9**
FNA	**Florina**	**2.24**	**357**	*e*Pn	**Pn**	**07 16 18.6**	**-0.7**

PLG	**Polygyros**	**2.34**	**38**	*e*Pn	**Pn**	**07 16 20.1**	**-0.5**
PLG	**Polygyros**	**2.34**	**38**	*e*Pn	**Pn**	**07 16 19.9**	**-0.7**
THE	**Thessaloniki**	**2.35**	**27**	*e*Pn	**Pn**	**07 16 20.5**	**-0.3**
HORT	**Hortiatis**	**2.38**	**30**	*e*Pn	**Pn**	**07 16 20.7**	**-0.4**
HORT				*e*Sn	**Sn**	**07 16 51.4**	**+1.1**
BIA	**Bitola**	**2.48**	**356**	*e*Pn	**Pn**	**07 16 26.7**	**+4.1**
BIA	**Bitola**	**2.48**	**356**	*e*Pn	**Pn**	**07 16 27.2**	**+4.7**
GRG	**Griva**	**2.50**	**15**	*e*Pn	**Pn**	**07 16 23.4**	**+0.7**
KYTH	**Kithira**	**2.55**	**152**	*e*PB	**Pb**	**07 16 24.0**	**-3.9**
SOH	**Sokhos**	**2.67**	**31**	*e*Pn	**Pn**	**07 16 24.9**	**-0.2**
KNT	**Kendrikon**	**2.81**	**21**	*e*Pn	**Pn**	**07 16 26.5**	**-0.6**
KRUS	**Krusevo**	**2.83**	**355**	*i* Pn	**Pn**	**07 16 29.9**	**+2.6**
KRUS	**Krusevo**	**2.83**	**355**	*i* Pn	**Pn**	**07 16 29.8**	**+2.5**
KRUS	**Krusevo**	**2.83**	**355**	*i* Pn	**Pn**	**07 16 29.8**	**+2.4**
LOS	**Limnos**	**3.07**	**62**	*e*Pn	**Pn**	**07 16 30.9**	**+0.3**
TIR	**Tirane**	**3.09**	**336**	*e*PN	**Pn**	**07 16 33.9**	**+3.0**
TIR				*i* SN	**Sg**	**07 17 23.7**	**+2.6**
QSH	**Qafa e Shtames**	**3.23**	**337**	*e*PN	**Pn**	**07 16 33.0**	**+0.1**
APE	**Apeiranthos**	**3.48**	**114**	*e*Pn	**Pn**	**07 16 35.9**	**-0.3**
APE	**Apeiranthos**	**3.48**	**114**	*e*PN	**Pn**	**07 16 37.0**	**+0.8**
APE	**Apeiranthos**	**3.48**	**114**	*e*P	**Pn**	**07 16 37.9**	**+1.7**
CHOS	**Chios island**	**3.54**	**91**	*e*Pn	**Pn**	**07 16 37.0**	**0.0**
PUK	**Puka**	**3.72**	**341**	*e*PN	**Pn**	**07 16 42.0**	**+2.5**
PRK	**Paraskevi**	**3.75**	**78**	*e*PN	**Pn**	**07 16 40.3**	**+0.3**
VAM	**Vamos**	**3.78**	**145**	*e*PN	**Pn**	**07 16 40.8**	**+0.4**
TA1	**Taranto**	**3.79**	**301**	*e*Pn	**Pn**	**07 16 41.9**	**+1.3**
PE1	**Pezze di Greco**	**3.91**	**307**	*e*Pn	**Pn**	**07 16 43.3**	**+1.2**
RDO	**Rodhopi**	**4.02**	**48**	*e*PN	**Pn**	**07 16 43.9**	**+0.2**
SMG	**Samos**	**4.25**	**100**	*e*PN	**Pn**	**07 16 48.0**	**+1.1**
SG1	**Sgolgore (BA)**	**4.40**	**303**	*e*Pn	**Pn**	**07 16 49.5**	**+0.5**
BAI	**Bari**	**4.42**	**307**	*e*Pn	**Pn**	**07 16 49.5**	**+0.4**
NPS	**Neapolis**	**4.62**	**134**	*e*PN	**Pn**	**07 16 51.5**	**-0.4**
CDT	**Castel del Mon**	**4.79**	**304**	*e*Pn	**Pn**	**07 16 54.3**	**0.0**
XRY	**Khrisi**	**4.95**	**136**	*e*PN	**Pn**	**07 16 56.5**	**+0.1**
MS1	**Monte Sant'Ang**	**5.33**	**308**	*e*Pn	**Pn**	**07 17 02.3**	**+0.5**
KARP	**Karpathos**	**5.39**	**122**	*e*PN	**Pn**	**07 17 03.7**	**+1.2**
ARG	**Arkhangelos**	**5.73**	**112**	*e*PN	**Pn**	**07 17 07.5**	**+0.3**
VAE	**Valguarnera**	**5.74**	**262**	Pn	**Pn**	**07 17 09.8**	**+2.5**
	4.3nm,0.3s,baz=110,slow=12,SNR=4.1						
VAE				Sn	**Sn**	**07 18 13.8**	**+0.5**
	8.7nm,0.3s,baz=260,slow=19,SNR=3.2						
KSL	**Kastellorizon**	**6.83**	**108**	*e*PN	**Pn**	**07 17 24.0**	**+1.7**
ISP	**Isparta**	**7.09**	**93**	*e*P	**Pn**	**07 17 27.1**	**+1.2**
MLR	**Muntele Rosu**	**7.67**	**24**	Pn	**Pn**	**07 17 35.4**	**+1.5**
	2.2nm,0.3s,baz=136,slow=17,SNR=7.6						
ANTO	**Ankara**	**8.83**	**78**	*e*Pn	**Pn**	**07 17 53.1**	**+3.4**
	18nm,0.8s						
ANTO	**Ankara**	**8.83**	**78**	*e*P	**Pn**	**07 17 53.2**	**+3.5**
ANTO				pmax	pmax		
	comp=Z,18nm,0.8s						
ANTO	**Ankara**	**8.83**	**78**	*e*Pn	**Pn**	**07 17 53.2**	**+3.5**
	comp=Z,18nm,0.8s						
OBKA	**Obir**	**9.49**	**329**	⇓*i*Sn	**Sn**	**07 19 42.5**	**-2.9**
	comp=Z,68nm,0.5s						
OBKA	**Obir**	**9.49**	**329**	⇑*i*Pn	**Pn**	**07 17 59.8**	**+1.1**
	comp=Z,46nm,0.5s						
OBKA				*i* Sn	**Sn**	**07 19 42.5**	**-2.9**
OBKA	**Obir**	**9.49**	**329**	⇑*i*Pn	**Pn**	**07 17 59.8**	**+1.1**
	comp=Z,46nm,0.5s						
OBKA				⇓*i*Sn	**Sn**	**07 19 47.0**	**+1.6**
	comp=Z,68nm,0.5s						
OBKA	**Obir**	**9.49**	**329**	⇑*i*Pn	**Pn**	**07 17 59.8**	**+1.1**
	comp=Z,46nm,0.5s						
OBKA				*i* Sn	**Sn**	**07 19 42.5**	**-2.9**
ARSA	**Arzberg**	**9.76**	**335**	⇑*i*Pn	**Pn**	**07 18 03.6**	**+1.1**
	comp=Z,31nm,0.7s						
MYKA	**Terra Mystica**	**9.96**	**327**	⇑*e*Pn	**Pn**	**07 18 07.0**	**+1.8**
	comp=Z,75nm,1.1s						
KECS	**Kecovo**	**9.97**	**356**	*e*PN	**Pn**	**07 18 09.6**	**+4.3**
UZH	**Uzhgorod**	**10.10**	**3**	*e*P	**Pn**	**07 18 13.0**	**+5.9**
UZH				*e*S	**Sn**	**07 20 11.0**	**+11**
UZH				MLR	MLR		
	comp=Z,4μm,16.0s						
VYHS	**Vyhne**	**10.14**	**350**	*e*PN	**Pn**	**07 18 12.4**	**+4.8**
KEST	**Kesra**	**10.14**	**258**	Pn	**Pn**	**07 18 09.8**	**+2.1**
	comp=Z,0.2nm,0.3s,baz=17,slow=14,SNR=5.5						
CONA	**Conrad Observa**	**10.26**	**338**	⇓Pn	**Pn**	**07 18 12.7**	**+3.5**
	comp=Z,42nm,1.1s						
KOLL	**Kolacno**	**10.29**	**348**	*e*PN	**Pn**	**07 18 16.8**	**+7.1**
CRVS	**Cervenica-Dubn**	**10.36**	**360**	*e*PN	**Pn**	**07 18 14.4**	**+3.8**
KOLS	**Kolonicke sedl**	**10.40**	**3**	*e*PN	**Pn**	**07 18 16.7**	**+5.5**
KBA	**Koelnbreinsper**	**10.44**	**327**	⇑*i*Pn	**Pn**	**07 18 14.1**	**+2.3**
	comp=Z,19nm,0.5s						
KBA				⇓*i*Sn	**Sn**	**07 20 03.4**	**-5.3**
	comp=Z,52nm,0.9s						
KBA	**Koelnbreinsper**	**10.44**	**327**	⇑*i*P	**Pn**	**07 18 14.1**	**+2.4**
KBA				*i*		07 20 03.4	
KBA				pmax	pmax		
	comp=Z,19nm,0.5s						
ABTA	**Abfaltersbach**	**10.55**	**324**	⇑*e*Pn	**Pn**	**07 18 13.1**	**-0.2**
	comp=Z,39nm,0.6s						
ABTA				⇑*e*Sn	**Sn**	**07 20 06.8**	**-4.8**
	comp=Z,137nm,1.0s						
MOA	**Molln**	**10.71**	**333**	⇑*i*Sn	**Sn**	**07 20 09.7**	**-5.6**
	comp=Z,71nm,1.5s						
MOA	**Molln**	**10.71**	**333**	⇑*e*Pn	**Pn**	**07 18 15.5**	**+0.1**
	comp=Z,34nm,0.6s						
MOA				*i* Sn	**Sn**	**07 20 09.7**	**-5.6**
MOA	**Molln**	**10.71**	**333**	⇑*e*Pn	**Pn**	**07 18 15.5**	**+0.1**
	comp=Z,34nm,0.6s						
MOA				⇑*i*Sn	**Sn**	**07 20 18.7**	**+3.3**
	comp=Z,71nm,1.5s						
MOA	**Molln**	**10.71**	**333**	⇑*e*Pn	**Pn**	**07 18 15.5**	**+0.1**
	comp=Z,34nm,0.6s						
MOA				*i* Sn	**Sn**	**07 20 09.7**	**-5.7**
NIE	**Niedzica**	**10.91**	**356**	*e*P	**Pn**	**07 18 27.1**	**+8.9**
KWP	**Kalwaria**	**11.12**	**4**	*e*P	**Pn**	**07 18 26.8**	**+5.8**
VRAC	**Vranov**	**11.34**	**343**	Pn	**Pn**	**07 18 24.7**	**+0.7**
	comp=Z,0.7nm,0.3s,baz=170,slow=13,SNR=6.1						
WTTA	**Wattenberg**	**11.34**	**323**	⇑*e*Sn	**Sn**	**07 20 26.0**	**-4.9**
	comp=Z,129nm,1.2s						
WTTA	**Wattenberg**	**11.34**	**323**	⇑*e*Pn	**Pn**	**07 18 26.7**	**+2.6**
	comp=Z,34nm,0.5s						
WTTA				*e*Sn	**Sn**	**07 20 26.0**	**-4.9**
WTTA	**Wattenberg**	**11.34**	**323**	⇑*e*Pn	**Pn**	**07 18 26.7**	**+2.6**
	comp=Z,34nm,0.5s						
WTTA				⇓*e*Sn	**Sn**	**07 20 30.4**	**-0.5**
	comp=Z,129nm,1.2s						
WTTA	**Wattenberg**	**11.34**	**323**	⇑*e*P	**Pn**	**07 18 26.7**	**+2.6**
WTTA				*e*		07 20 26.0	
WTTA				pmax	pmax		
	comp=Z,34nm,0.5s						
SIM	**Simferopol'**	**11.35**	**52**	P	**Pn**	**07 18 22.8**	**-1.5**
SIM				pmax	pmax		
	comp=Z,24nm,0.8s						
SIM				MLR	MLR		
	comp=Z,2μm,17.4s						
CMAH	**Djebel Manchou**	**11.38**	**265**	P	**Pn**	**07 18 32.5**	**+7.9**
WATA	**Walderalm**	**11.42**	**323**	⇓*e*Sn	**Sn**	**07 20 29.4**	**-3.5**
	comp=Z,39nm,0.6s						
WATA	**Walderalm**	**11.42**	**323**	⇓*i*Pn	**Pn**	**07 18 26.5**	**+1.3**
WATA				*e*Sn	**Sn**	**07 20 29.4**	**-3.5**
WATA	**Walderalm**	**11.42**	**323**	⇓*i*Pn	**Pn**	**07 18 26.5**	**+1.3**
WATA				⇓*e*Sn	**Sn**	**07 20 32.9**	**0.0**
	comp=Z,39nm,0.6s						
WATA	**Walderalm**	**11.42**	**323**	Pn	**Pn**	**07 18 26.5**	**+1.3**
WATA				*e*Sn	**Sn**	**07 20 29.4**	**-3.4**
SQTA	**Sankt Quirin**	**11.51**	**322**	⇓*i*Pn	**Pn**	**07 18 26.5**	**0.0**
	comp=Z,33nm,0.5s						
SQTA				⇓*e*Sn	**Sn**	**07 20 33.6**	**-1.5**
	comp=Z,56nm,0.8s						
SQTA	**Sankt Quirin**	**11.51**	**322**	⇓*i*P	**Pn**	**07 18 26.5**	**+0.1**
SQTA				*e*		07 20 33.6	
SQTA				pmax	pmax		
	comp=Z,33nm,0.5s						
OKC	**Ostrava-Krasne**	**11.55**	**349**	*e*P	**Pn**	**07 18 30.4**	**+3.5**
OKC				AMS	AMS	07 23 20.0	
	comp=Z,6μm,10.8s						
OKC	**Ostrava-Krasne**	**11.55**	**349**	*e*P	**Pn**	**07 18 30.4**	**+3.5**
	comp=Z,6μm,10.8s						
TREC	**Trest**	**11.60**	**340**	AMS	AMS	07 23 20.0	
	comp=Z,10μm,11.7s						
FETA	**Feichten**	**11.61**	**320**	⇑*e*Pn	**Pn**	**07 18 35.2**	**+7.4**
	comp=Z,27nm,0.6s						
FETA				⇑*e*Sn	**Sn**	**07 20 37.0**	**-0.4**
	comp=Z,57nm,1.2s						
MOTA	**Moosalm**	**11.65**	**322**	⇓*i*Pn	**Pn**	**07 18 27.5**	**-0.8**
	comp=Z,50nm,0.7s						
MOTA				*i* Sn	**Sn**	**07 20 37.2**	**-1.3**
MOTA	**Moosalm**	**11.65**	**322**	⇓*i*Pn	**Pn**	**07 18 27.5**	**-0.8**
	comp=Z,50nm,0.7s						
MOTA				⇑*i*Sn	**Sn**	**07 20 37.2**	**-1.3**
	comp=Z,48nm,0.8s						
MOTA	**Moosalm**	**11.65**	**322**	⇓*i*P	**Pn**	**07 18 27.5**	**-0.8**
MOTA				*i*		07 20 37.2	
MOTA				pmax	pmax		
	comp=Z,50nm,0.7s						
OJC	**Ojcow**	**11.74**	**354**	*e*P	**Pn**	**07 18 35.2**	**+5.7**
OJC				*e*S	**Sn**	**07 20 52.4**	**+12**
OJC				L		07 23 50.1	
	comp=Z,7.4nm,15.6s						
OJC	**Ojcow**	**11.74**	**354**	*e*P	**Pn**	**07 18 35.2**	**+5.7**
OJC				*e*S	**Sn**	**07 20 52.4**	**+12**
GERES	**GERESS Array B**	**11.75**	**334**	Pn	**Pn**	**07 18 29.5**	**-0.2**
	comp=Z,2.2nm,0.3s,baz=159,slow=14,SNR=11						
CAEH	**'Ain El Ouahch**	**11.79**	**266**	P	**Pn**	**07 18 35.0**	**+4.8**
DAVOX	**Davos/Dischmat**	**11.89**	**318**	Pn	**Pn**	**07 18 32.8**	**+1.2**
	comp=Z,2.5nm,0.3s,baz=146,slow=16,SNR=5.7						
DAVOX				Sn	**Sn**	**07 20 43.5**	**-0.8**
	comp=Z,2.0nm,0.3s,baz=313,slow=20,SNR=3.6						
DAVOX				LR	LR	07 23 16.2	
	comp=Z,2μm,18.8s,baz=118,slow=38						
RETA	**Reutte**	**11.92**	**322**	⇑*e*Sn	**Sn**	**07 20 43.4**	**-1.6**
	comp=Z,93nm,1.2s						
CKFL	**Kef-Lekhel**	**11.98**	**264**	P	**Pn**	**07 18 36.0**	**+3.1**
KHC	**Kasperske Hory**	**12.04**	**334**	*e*P	**Pn**	**07 18 36.1**	**+2.5**
KHC				*e*		07 19 00.0	
KHC				*e*		07 20 48.0	
KHC	**Kasperske Hory**	**12.04**	**334**	*e*P	**Pn**	**07 18 36.1**	**+2.5**
KHC				*ex*	x	07 19 00.0	
KHC				*e*S	**Sn**	**07 20 48.0**	**+0.1**
KHC				AMS	AMS	07 23 30.0	
	comp=Z,7μm,21.0s						
KHC	**Kasperske Hory**	**12.04**	**334**	*e*P	**Pn**	**07 18 36.1**	**+2.5**
KHC				*e*S	**Sn**	**07 20 48.0**	**+0.1**
	comp=Z,7μm,21.0s						
CASM	**Ain Smara**	**12.20**	**264**	P	**Pn**	**07 18 40.0**	**+4.2**
DAVA	**Damuels**	**12.22**	**319**	⇓Pn	**Pn**	**07 18 33.8**	**-2.3**
	comp=Z,24nm,1.0s						
DAVA				*i* Sn	**Sn**	**07 20 51.1**	**-1.2**
DAVA	**Damuels**	**12.22**	**319**	⇑Pn	**Pn**	**07 18 36.3**	**+0.2**
	comp=Z,24nm,1.0s						
DAVA				⇑*i*Sn	**Sn**	**07 20 51.1**	**-1.2**
	comp=Z,64nm,0.8s						
CTEI	**Djebel Teioual**	**12.31**	**263**	P	**Pn**	**07 18 41.0**	**+3.6**
DPC	**Dobruska-Polom**	**12.38**	**344**	*e*P	**Pn**	**07 18 39.7**	**+1.5**
DPC				AMS	AMS	07 23 50.0	
	comp=Z,4μm,11.2s						
DPC	**Dobruska-Polom**	**12.38**	**344**	*e*P	**Pn**	**07 18 39.7**	**+1.5**
	comp=Z,4μm,11.2s						
MMAI	**Mount Meron Ar**	**12.52**	**112**	Pn	**Pn**	**07 18 42.2**	**+1.9**
	comp=Z,2.9nm,0.3s,baz=306,slow=11,SNR=8.1						
DFRA	**Djebel Bou Aff**	**12.60**	**266**	P	**Pn**	**07 18 44.0**	**+2.6**
CMER	**Merouana**	**12.84**	**262**	P	**Pn**	**07 18 47.0**	**+2.4**
KSP	**Ksiaz**	**12.85**	**345**	*e*P	**Pn**	**07 18 52.3**	**+7.6**
KSP				*e*S	**Sn**	**07 21 06.0**	**-1.7**
PVCC	**Panska Ves**	**12.97**	**340**	AMS	AMS	07 24 00.0	
	comp=Z,8μm,11.9s						
SET	**Setif**	**13.06**	**265**	P	**Pn**	**07 18 49.0**	**+1.4**
KIEV	**Kiev**	**13.31**	**22**	*e*Pn	**Pn**	**07 18 52.2**	**+1.3**
KIEV	**Kiev**	**13.31**	**22**	*e*P	**Pn**	**07 18 52.2**	**+1.3**
AKASG	**Malin Array Be**	**13.32**	**22**	Pn	**Pn**	**07 18 50.1**	**-1.0**
AKASG				PcP	PcP	07 24 19.7	-0.5
AKASG				ScP	ScP	07 27 48.6	-4.9
AKASG	**Malin Array Be**	**13.32**	**22**	Pn	**Pn**	**07 18 50.1**	**-1.0**
	comp=Z,1.3nm,0.3s,baz=210,slow=12,SNR=7.2						
AKASG				PcP	PcP	07 24 19.7	-0.5
	comp=Z,0.4nm,0.3s,baz=245,slow=1.2,SNR=5.6						
AKASG				ScP	ScP	07 27 48.6	-4.9
	comp=Z,0.2nm,0.3s,baz=250,slow=0.8,SNR=4.0						
ANN	**Anapa**	**13.41**	**57**	*e*P	**Pn**	**07 18 54.1**	**+1.8**
ANN				*e*S	**Sn**	**07 21 27.6**	**+6.2**
ANN				pmax	pmax		
	comp=Z,54nm,1.8s						
ANN	**Anapa**	**13.41**	**57**	*e*P	**Pn**	**07 18 54.1**	**+1.8**
	comp=Z,54nm,1.8s						
BRG	**Berggiesshubel**	**13.45**	**339**	*e*P	**Pn**	**07 19 00.0**	**+7.1**
BRG				pmax	pmax		
	comp=Z,3.0nm,0.8s						
BRG	**Berggiesshubel**	**13.45**	**339**	*e*P	**Pn**	**07 19 00.0**	**+7.1**
	comp=Z,4.7nm,0.8s						
BFO	**Black Forest**	**13.69**	**320**	*e*Pn	**Pn**	**07 18 55.5**	**-0.6**
BFO	**Black Forest**	**13.69**	**320**	*e*P	**Pn**	**07 18 55.6**	**-0.6**
ASF	**Jabal al Asfar**	**14.04**	**112**	Pn	**Pn**	**07 19 02.7**	**+1.7**
	comp=Z,0.3nm,0.3s,baz=124,slow=5.7,SNR=7.1						
CLL	**Collm**	**14.11**	**337**	*e*P	**Pn**	**07 19 02.0**	**+0.1**
	comp=Z,12nm,1.4s						
CLL				*e*		07 19 09.0	
CLL	**Collm**	**14.11**	**337**	*e*P	**Pn**	**07 19 02.0**	**+0.1**
	comp=Z,12nm,1.4s						
CLL				*e*PP		07 19 09.0	
	comp=Z,19nm,0.8s						
CLL				*e*(PPP)		07 19 18.0	
	comp=Z,46nm,1.1s						
CLL				LmV		07 25 00.0	
	comp=Z,6μm,18.3s						
EIL	**Elat**	**14.18**	**125**	Pn	**Pn**	**07 19 03.4**	**+0.3**
	comp=Z,1.9nm,0.3s,baz=346,slow=11,SNR=5.7						
SOC	**Sochi**	**14.59**	**64**	*e*P	**Pn**	**07 19 04.5**	**-4.0**
SOC				*e*		07 21 47.4	
SOC				pmax	pmax		
	comp=Z,6.0nm,0.6s						
SOC				MLR	MLR		
	comp=Z,916nm,18.0s						
EMHD	**Djebel Mahouad**	**14.97**	**267**	P	**Pn**	**07 19 23.0**	**+9.3**
SUW	**Suwalki**	**15.51**	**4**	*e*P	**Pn**	**07 19 23.4**	**+2.6**
EPOB	**Poblet**	**15.95**	**287**	S	**Pn**	**07 19 32.7**	**+6.2**
EBNR	**Beni Rached**	**16.07**	**268**	P	**Pn**	**07 19 24.0**	**-4.1**
MEM	**Membach**	**16.34**	**323**	P	**Pn**	**07 19 36.1**	**+4.7**
	comp=Z,28nm,1.3s						
HGN	**Heimansgroeve**	**16.47**	**323**	*e*S	**Sn**	**07 22 34.6**	**-1.4**
HGN	**Heimansgroeve**	**16.47**	**323**	*e*P	**Pn**	**07 19 36.0**	**+2.9**
	comp=Z,45nm,1.3s						
ETRT	**Tiaret**	**16.49**	**265**	P	**Pn**	**07 19 37.5**	**+4.1**
EANR	**'Ain N'Sour**	**16.49**	**267**	P	**Pn**	**07 19 35.0**	**+1.5**
ERTA	**Horta de San J**	**16.49**	**285**	S	**Pn**	**07 19 37.8**	**+4.3**
EBIE	**Bielsa**	**16.77**	**291**	S	**Pn**	**07 19 40.2**	**+3.3**
KIV	**Kislovodsk**	**16.77**	**64**	P	**Pn**	**07 19 40.0**	**+3.0**
	comp=Z,258nm,0.9s,SNR=5.5						
KIV	**Kislovodsk**	**16.77**	**64**	*e*Pn	**Pn**	**07 19 39.9**	**+2.9**
KIV	**Kislovodsk**	**16.77**	**64**	*e*P	**Pn**	**07 19 36.1**	**-0.9**
KIV				*e*S	**Sn**	**07 22 45.7**	**+2.4**
KIV				pmax	pmax		
	comp=Z,47nm,1.1s						
KIV				MLR	MLR		
	comp=Z,525nm,13.0s						
KIV	**Kislovodsk**	**16.77**	**64**	P	**Pn**	**07 19 41.5**	**+4.5**
	SNR=9.1						
KIV	**Kislovodsk**	**16.77**	**64**	Pn	**Pn**	**07 19 41.5**	**+4.5**
	SNR=9.1						
KIV	**Kislovodsk**	**16.77**	**64**	*e*P	**Pn**	**07 19 36.1**	**-0.9**
	comp=Z,47nm,1.1s						
KIV	**Kislovodsk**	**16.77**	**64**	*e*Pn	**Pn**	**07 19 39.9**	**+2.9**
KIV				*e*S	**Sn**	**07 22 45.7**	**+2.4**
	comp=Z,525nm,13.0s						
WTSB	**Winterswijk**	**16.93**	**327**	*e*P	**Pn**	**07 19 41.7**	**+2.9**
	comp=Z,38nm,2.8s						
EMOS	**Mosqueruela**	**17.10**	**283**	S	**Pn**	**07 19 45.5**	**+4.3**
ONI	**Oni**	**17.11**	**69**	P	**Pn**	**07 19 40.9**	**-0.4**
ONI				S	**Sn**	**07 23 06.4**	**+15**
BSD	**Bornholm Skovb**	**17.17**	**347**	*i* P	**Pn**	**07 19 40.8**	**-1.1**
BSD				*e*S	**Sn**	**07 22 53.2**	**+0.3**
BSD				pmax	pmax		
	comp=Z,40nm,0.9s						
BSD				MLR	MLR		
	comp=Z,2μm,19.0s						
BSD	**Bornholm Skovb**	**17.17**	**347**	*i* P	**Pn**	**07 19 40.8**	**-1.1**
	comp=Z,40nm,0.9s						
BSD				*e*S	**Sn**	**07 22 53.2**	**+0.3**
BSD							
	comp=Z,2μm,19.0s						
BSD	**Bornholm Skovb**	**17.17**	**347**	*i* P	**Pn**	**07 19 40.8**	**-1.1**
	comp=Z,40nm,0.9s						
BSD				*e*S	**Sn**	**07 22 53.2**	**+0.3**
MSL	**Mosul**	**17.26**	**91**	*ex*	x	07 19 47.5	
MSL				*ex*	x	07 23 07.5	
MSL				*ex*	x	07 26 04.0	
ECHE	**Chera**	**17.52**	**280**	S	**Pn**	**07 19 49.7**	**+3.4**
VRSR	**Storozhevoye**	**17.74**	**39**	*e*P	**Pn**	**07 19 46.8**	**-2.2**
VRSR				pmax	pmax		
	comp=Z,1.0nm,1.1s						
VRSR				pmax	pmax		
	comp=N,4.0nm,0.9s						
VRSR				pmax	pmax		
	comp=E,2.0nm,1.0s						
VRSR				MLR	MLR		
	comp=Z,510nm,18.0s						
VRSR				MLR	MLR		
	comp=N,280nm,17.0s						
VRSR				MLR	MLR		
	comp=E,370nm,17.0s						
CART	**Cartagena**	**17.78**	**274**	*i* P	**Pn**	**07 19 48.0**	**-1.7**
MTA	**Mtatsminda**	**18.04**	**73**	P	**Pn**	**07 19 57.2**	**+4.4**
MTA				S	**Sn**	**07 23 27.3**	**+13**
ELIZ	**Elizondo**	**18.04**	**292**	S	**Pn**	**07 19 57.3**	**+4.5**
ETOR	**Torete**	**18.30**	**285**	S	**Pn**	**07 19 57.1**	**+1.1**
DGRG	**David-gareji**	**18.47**	**73**	P	**Pn**	**07 20 03.4**	**+5.3**
DGRG				S	**Sn**	**07 23 37.8**	**+13**
ECRI	**Cripan**	**18.70**	**290**	S	**Pn**	**07 20 01.1**	**+0.2**
BHD	**Baghdad**	**19.21**	**99**	*ex*	x	07 20 06.0	
BHD				*ex*	x	07 23 44.0	
EQES	**Quesada**	**19.36**	**276**	S	**Pn**	**07 20 11.4**	**+2.5**
EBER	**Berja**	**19.39**	**273**	S	**Pn**	**07 20 12.8**	**+3.6**
OBN	**Obninsk**	**19.43**	**27**	*e*P	**Pn**	**07 20 05.7**	**-3.9**
OBN				*i* S	**Sn**	**07 23 48.6**	**+1.2**
OBN				pmax	pmax		
	comp=Z,34nm,0.8s						
OBN				MLR	MLR		
	comp=Z,2μm,17.0s						
ELAN	**Lanestosa**	**19.43**	**292**	S	**Pn**	**07 20 09.0**	**-0.7**
MUD	**Monsted U'grnd**	**19.72**	**339**	*e*P	**Pn**	**07 20 14.6**	**+1.6**
MUD				*i*		07 24 00.4	
MUD				MLR	MLR		
	comp=Z,2μm,18.0s						
MUD	**Monsted U'grnd**	**19.72**	**339**	*i* P	**Pn**	**07 20 14.6**	**+1.6**
MUD				*i*		07 24 00.4	
MUD							
	comp=Z,2μm,18.0s						
MUD	**Monsted U'grnd**	**19.72**	**339**	*e*P	**Pn**	**07 20 14.6**	**+1.6**
	comp=Z,2μm,18.0s						
ESDC	**Sonseca Array**	**19.82**	**281**	P	**Pn**	**07 20 12.7**	**-1.6**
	comp=Z,1.4nm,0.3s,baz=75,slow=11,SNR=19						
ESDC				LR	LR	07 28 12.3	
	comp=Z,646nm,19.9s,baz=70,slow=38						
ESDC	**Sonseca Array**	**19.82**	**281**	S	**Pn**	**07 20 12.8**	**-1.5**
ECOG	**Cogollos-Vega**	**19.85**	**274**	S	**Pn**	**07 20 19.0**	**+4.3**
GUD	**Guadarrama**	**19.90**	**284**	S	**Pn**	**07 20 14.8**	**-0.5**
MAK	**Makhachkala**	**20.12**	**69**	*e*P	**P**	**07 20 16.1**	**+0.1**
MAK				*e*S	**S**	**07 24 02.7**	**+0.7**
MAK				pmax	pmax		
	comp=Z,415nm,1.6s						
MAK				MLR	MLR		
	comp=Z,1μm,17.0s,MS4.4						
MAK	**Makhachkala**	**20.12**	**69**	*e*P	**P**	**07 20 16.1**	**+0.1**
	comp=Z,1μm,17.0s						
PAB	**San Pablo**	**20.12**	**281**	*e*P	**P**	**07 20 16.1**	**0.0**
	comp=Z,38nm,1.0s						
PAB	**San Pablo**	**20.12**	**281**	*e*P	**P**	**07 20 16.1**	**0.0**
PAB				pmax	pmax		
	comp=Z,38nm,1.0s						
PAB	**San Pablo**	**20.12**	**281**	*e*P	**P**	**07 20 16.1**	**0.0**
	comp=Z,38nm,1.0s						
VSU	**Vasula**	**20.22**	**8**	*d i* P	**P**	**07 20 14.9**	**-2.0**
MOS	**Moscow**	**20.29**	**27**	*e*P	**P**	**07 20 16.5**	**-1.3**
MOS				*e*S	**S**	**07 24 06.3**	**+1.1**
MOS				*e*		07 24 15.9	
MOS				pmax	pmax		
	comp=Z,87nm,1.0s						
MOS				MLR	MLR		
	comp=E,3μm,13.0s						
MOS				MLR	MLR		
	comp=Z,3μm,13.0s,MS4.8						
EADA	**Adamuz**	**20.48**	**277**	S	**P**	**07 20 23.7**	**+3.7**
EMAL	**Malaga-Limoner**	**20.63**	**273**	*e*S	**S**	**07 24 07.3**	**-4.9**
EARI	**Arriondas**	**20.73**	**292**	S	**P**	**07 20 22.6**	**-0.1**
**E

comp=Z,60nm,1.4s,mb4.8
PBDV eS **S** **07 25 00.0 -1.9**
PBDV eLR LR 07 27 16.7
comp=Z,401nm,18.0s
NB2 NORSAR Subarra 23.43 347 P **P** **07 20 49.0 -2.3**
comp=Z,52nm,1.1s,mb4.9,baz=160,slow=10
NOA NORSAR Array B 23.43 347 P **P** **07 20 48.8 -2.5**
NOA PcP PcP 07 24 36.0 -1.1
NOA LR LR 07 30 42.7
NOA NORSAR Array B 23.43 347 P **P** **07 20 48.8 -2.5**
NOA 07 24 36.0
NOA NORSAR Array B 23.43 347 P **P** **07 20 48.8 -2.5**
comp=Z,13nm,0.7s,mb4.5,baz=159,slow=8.7,SNR=12
NOA PcP PcP 07 24 36.0 -1.1
comp=Z,2.4nm,0.8s,baz=137,slow=2.4,SNR=3.7
NOA LR LR 07 30 42.7
comp=Z,953nm,18.6s,MS4.3,baz=175,slow=38
EKA Eskdalemuir Ar 23.61 323 P **P** **07 20 51.1 -2.0**
comp=Z,43nm,0.9s,mb4.9,baz=126,slow=9.7,SNR=11
EKA PcP PcP 07 24 35.9 -1.7
comp=Z,3.7nm,0.9s,baz=131,slow=2.2,SNR=3.1
ESK Eskdalemuir 23.62 323 P **P** **07 20 51.3 -2.0**
ESK AMb AMB 07 20 57.0
comp=Z,53nm,1.0s,mb4.9
ESK Eskdalemuir 23.62 323 eP **P** **07 20 51.3 -2.0**
ESK AMb AMB 07 20 57.0
comp=Z,53nm,1.0s,mb4.9
ESK AMS AMS 07 30 59.6
comp=Z,744nm,18.2s,MS4.2
ESK Eskdalemuir 23.62 323 eP **P** **07 20 51.2 -2.0**
comp=Z,67nm,0.9s,mb5.1
ESK Eskdalemuir 23.62 323 eP **P** **07 20 51.3 -2.0**
comp=Z,67nm,0.9s,mb5.1
MORF Marmelete 23.81 276 eP **P** **07 20 53.8 -1.4**
MORF eS **S** **07 25 14.2 +3.4**
MORF eLR LR 07 27 58.8
comp=Z,421nm,18.0s
PTEO Sao Teotonio 23.82 277 eP **P** **07 20 56.5 +1.3**
comp=Z,70nm,1.0s,mb5.0
EDI Edinburgh 23.97 325 P **P** **07 20 55.5 -0.9**
EDI AMb AMB 07 20 57.2
comp=Z,71nm,2.4s,mb4.7
EDI Edinburgh 23.97 325 eP **P** **07 20 55.5 -0.9**
EDI AMb AMB 07 20 57.2
comp=Z,71nm,2.4s,mb4.7
EDI AMS AMS 07 32 43.1
comp=Z,2μm,18.4s,MS4.6
PFVI Vila Bisbo 23.98 276 eP **P** **07 20 57.0 +0.2**
PFVI eS **S** **07 25 10.6 -3.0**
PFVI eLR LR 07 28 26.1
comp=Z,450nm,18.0s
PMAFR Mafra 24.00 281 eS **S** **07 25 12.8 -1.0**
PMAFR eLR LR 07 28 32.9
comp=Z,504nm,20.0s
GAL1 Galloway 24.10 321 AMS AMS 07 32 07.5
comp=Z,1μm,17.5s
GAL1 Galloway 24.10 321 AMS AMS 07 32 07.5
comp=Z,1μm,17.5s,MS4.4
BER Bergen 24.14 340 eS **S** **07 25 17.0 +1.4**
BER eScP ScP 07 28 15.1 -2.1
BER AMS AMS 07 32 20.1
comp=Z,2μm,16.8s,MS4.7
DLF Lyons Farm 24.27 317 eP **P** **07 20 58.5 -0.7**
DCN Croghan 24.70 316 eP **P** **07 21 02.4 -0.7**
MCD Coleburn Disti 25.01 328 eP **P** **07 21 03.9 -2.0**
MDO Dochfour 25.39 327 eP **P** **07 21 07.6 -1.8**
MLA1 Latheron 25.51 329 eP **P** **07 21 08.9 -1.5**
ORE Reay 25.83 329 eP **P** **07 21 10.4 -2.9**
KPL Plockton 25.90 325 AMS AMS 07 34 02.9
comp=Z,2μm,17.7s
KPL Plockton 25.90 325 AMS AMS 07 34 02.9
comp=Z,2μm,17.7s,MS4.7
TMCR Tamitsa 27.47 16 eP **P** **07 21 25.3 -2.7**
AKTK Aktyubinsk 28.31 53 P **P** **07 21 33.5 -2.2**
AKTK LR LR 07 35 03.5
AKTO Aktyubinsk 28.31 53 P **P** **07 21 33.5 -2.2**
comp=Z,1.3nm,0.4s,mb4.0,baz=278,slow=5.5,SNR=3.6
AKTO LR LR 07 35 03.5
comp=Z,732nm,21.8s,MS4.2,baz=120,slow=41
APA Apatity 29.82 9⇑ iP **P** **07 21 49.5 +0.5**
APA pmax pmax
comp=Z,13nm,1.0s,mb4.6
APA MLR MLR
comp=Z,2μm,10.0s,MS4.9
APA Apatity 29.82 9 iP **P** **07 21 49.5 +0.5**
comp=Z,2μm,10.0s
ARU Arti 30.25 42 diP **P** **07 21 50.7 -2.1**
ARU ePPP 07 22 54.8
ARU e 07 24 49.9
ARU eS **S** **07 26 49.5 -2.8**
ARU pmax pmax
comp=Z,19nm,1.7s,mb4.5
ARU MLR MLR
comp=Z,2μm,23.0s,MS4.6
SOKR Solikamsk 30.67 35 ciP **P** **07 21 57.6 +1.1**
SOKR pmax pmax
comp=Z,40nm,0.9s,mb5.2
SOKR MLR MLR
comp=Z,2μm,18.0s,MS4.8
SOKR Solikamsk 30.67 35 iP **P** **07 21 57.6 +1.1**
comp=Z,2μm,18.0s
TORD Torodi Ar. Bea 30.83 220 P **P** **07 21 57.4 -0.9**
TORD PcP PcP 07 24 54.7 -0.7
TORD Torodi Ar. Bea 30.83 220 P **P** **07 21 57.4 -0.9**
comp=Z,36nm,0.9s,mb5.2,baz=32,slow=9.0,SNR=24
TORD PcP PcP 07 24 54.7 -0.7
comp=Z,1.7nm,0.9s,baz=32,slow=2.9,SNR=3.6
ARCES ARCESS Array B 31.13 3 P **P** **07 21 58.6 -1.8**
ARCES 07 24 54.1
ARCES ARCESS Array B 31.13 3 P **P** **07 21 58.6 -1.8**
comp=Z,2.6nm,0.4s,mb4.4,baz=192,slow=9.2,SNR=8.2
ARCES PcP PcP 07 24 54.1 -1.2
comp=Z,2.0nm,0.5s,baz=151,slow=2.8,SNR=4.2
ARCES LR LR 07 35 38.0
comp=Z,3μm,18.9s,MS5.0,baz=184,slow=38
TRO Tromso 31.18 358 eS **S** **07 27 03.9 -2.8**
TRO AMS AMS 07 35 51.1
comp=Z,1μm,20.5s,MS4.6
HATD Hatta, Dubai 32.25 105 P **P** **07 22 11.7 +0.9**
SNR=6.5
HATD Hatta, Dubai 32.25 105 P **P** **07 22 11.7 +0.9**
SNR=6.5
ASHO Ashiyiah 32.27 105 P **P** **07 22 10.4 -0.6**
SNR=5.9
SMDO Samad 34.69 106 P **P** **07 22 32.7 +0.6**
SNR=7.2
SMDO Samad 34.69 106 P **P** **07 22 32.7 +0.6**
SNR=7.2
ABTO Aybut 34.83 118 P **P** **07 22 35.5 +2.1**
SNR=6.5
ABTO Aybut 34.83 118 P **P** **07 22 35.5 +2.1**
SNR=6.5
RBK Rabkut 35.36 117 P **P** **07 22 39.0 +1.1**
SNR=5.4
RBK Rabkut 35.36 117 P **P** **07 22 39.0 +1.1**
SNR=5.4
JMIC Jan Mayen 36.03 344 eS **S** **07 28 22.9 +1.1**
JMIC AMS AMS 07 37 52.0
comp=Z,423nm,20.4s,MS4.2
BRVK Borovoye 36.20 50 eP **P** **07 22 46.6 +1.9**
BRVK Borovoye 36.20 50 eP **P** **07 22 46.6 +1.8**
DBIC Dimbokro 39.71 224 P **P** **07 23 13.9 -0.8**
comp=Z,14nm,0.8s,mb4.8,baz=6.5,slow=7.7,SNR=9.3
AAK Ala-Archa 39.87 67 P **P** **07 23 14.5 -1.4**
comp=Z,191nm,1.2s,mb5.7,SNR=7.3
FRU Bishkek 39.92 66⇑ iP **P** **07 23 15.5 -0.7**
FRU pmax pmax
comp=Z,270nm,1.5s,mb5.8
FRU Bishkek 39.92 66 iP **P** **07 23 15.5 -0.7**
comp=Z,270nm,1.5s,mb5.8
KBS Kingsbay 40.69 357 e **P** **07 23 15.2 -7.0**
KBS AMS AMS 07 40 15.8
comp=Z,244nm,20.1s,MS4.1
KURK Kurchatov 41.41 54 P **P** **07 23 29.4 +1.0**
comp=Z,97nm,0.8s,mb5.5,SNR=5.7
KURK Kurchatov 41.41 54 eP **P** **07 23 29.6 +1.1**
comp=Z,17nm,1.0s,mb4.6
KURK Kurchatov 41.41 54 eP **P** **07 23 29.6 +1.2**
KURK pmax pmax
comp=Z,17nm,1.0s,mb4.6
KURK Kurchatov 41.41 54 eP **P** **07 23 29.6 +1.2**
comp=Z,17nm,1.0s,mb4.6
KSH Kashi 41.74 71 eP **P** **07 23 31.5 +0.2**
KSH eAP pP 07 23 35.5 +1.4
KSH eXP sP 07 23 38.8 +3.6
KSH ePP PP 07 25 10.3 +2.7
KSH ePCP PcP 07 25 29.0 +1.4
KSH eSCP ScP 07 29 17.5 -0.5
KSH PCS PcS 07 29 19.7 +0.7
KSH S **S** **07 29 45.1 -3.3**
KSH SCS ScS 07 33 32.1 -2.6
KSH AMB AMB
comp=Z,136nm,0.9s,mb5.6
KSH AMB AMB
comp=Z,820nm,4.0s
KSH LR LR
comp=N,1μm,10.7s
KSH LR LR
comp=E,846nm,7.6s
KSH LR LR
comp=Z,1μm,17.2s
KMBO Kilima Mbogo 42.04 156 P **P** **07 23 34.7 +0.7**
KMBO pmax pmax
comp=Z,2.0nm,0.8s
KMBO Kilima Mbogo 42.04 156 P **P** **07 23 34.7 +0.7**
comp=Z,2.3nm,0.8s,mb3.9,baz=7.5,slow=11,SNR=4.3
NVS Novosibirsk 43.83 47 iP **P** **07 23 47.0 -1.1**
NVS iS **S** **07 30 18.5 -0.3**
NVS pmax pmax
comp=Z,37nm,1.6s,mb4.9
NVS pmax pmax
comp=N,12nm,1.1s
NVS pmax pmax
comp=E,13nm,1.1s
NVS smax
comp=N,37nm,2.0s
NVS smax
comp=E,20nm,2.2s
NVS Novosibirsk 43.83 47 iP **P** **07 23 47.0 -1.1**
comp=E,37nm,1.6s,mb4.9
MKAR Makanchi Array 44.42 59 P **P** **07 23 50.7 -2.2**
MKAR 07 25 34.2
MKAR Makanchi Array 44.42 59 P **P** **07 23 50.6 -2.3**
comp=E,9.3nm,0.4s,mb4.9,baz=276,slow=7.4,SNR=18
MKAR PcP PcP 07 25 34.1 -2.4
comp=E,5.1nm,0.8s,baz=289,slow=4.4,SNR=2.5
MKAR ScP ScP 07 29 27.4 -1.3
comp=E,1.1nm,0.8s,baz=296,slow=4.0,SNR=4.5
ZAL Zalesovo 44.83 48 P **P** **07 23 53.4 -2.7**
ZALV Zalesovo Beam 44.84 48 P **P** **07 23 53.4 -2.8**
comp=E,23nm,0.5s,mb5.2,baz=274,slow=8.6,SNR=16
NDI New Delhi 46.77 85 ex x 07 24 09.0
WMQ Urumqi 48.87 62 eP **P** **07 24 27.8 -0.1**
WMQ eS **S** **07 31 30.0 -1.4**
WMQ AMB AMB
comp=Z,24nm,1.4s,mb5.0
WMQ AMB AMB
comp=Z,154nm,4.0s
WMQ LR LR
comp=N,963nm,19.7s,MS4.9
WMQ LR LR
comp=E,894nm,19.6s,MS4.9
WMQ LR LR
comp=Z,645nm,21.6s,MS4.6
POO Poona 49.38 99 ex x 07 24 32.0
MOY Mondy 54.90 48 eP **P** **07 25 14.5 +1.8**
TLY Talaya 56.44 48 eP **P** **07 25 25.6 +1.8**
TLY Talaya 56.44 48 eP **P** **07 25 23.1 -0.7**
TLY eS **S** **07 33 16.0 +1.4**
TLY e 07 35 16.5
TLY eSS SS 07 36 58.3 -2.9
TLY eSSS 07 39 12.1
TLY pmax pmax
comp=Z,17nm,1.2s,mb5.0
TLY MLR MLR
comp=Z,923nm,17.0s,MS4.9
TLY Talaya 56.44 48 P **P** **07 25 24.7 +0.9**
SNR=7.0
TLY Talaya 56.44 48 eP **P** **07 25 25.6 +1.8**
SCHQ Schefferville 58.74 317 P **P** **07 25 37.7 -2.2**
comp=Z,12nm,0.8s,mb5.0,baz=55,slow=8.2,SNR=13
SCHQ LR LR 07 51 06.6
comp=Z,543nm,18.4s,MS4.7,baz=229,slow=36
TIXI Tiksi 59.03 21 eP **P** **07 25 46.5 +4.9**
TIXI Tiksi 59.03 21 eP **P** **07 25 46.5 +4.9**
BOD Bodaibo 59.59 38 eP **P** **07 25 42.9 -2.8**
BOD pmax pmax
comp=Z,8.0nm,1.0s,mb4.7
SONM Songino Array 59.60 51 ScP ScP 07 30 30.3 -3.9
comp=Z,0.4nm,0.8s,baz=250,slow=4.2,SNR=2.4
SONM LR LR 07 53 58.6
comp=Z,580nm,20.9s,MS4.7,baz=292,slow=39
RES Resolute Bay 59.64 344 eP **P** **07 25 45.2 -0.6**
RES Resolute Bay 59.64 344 eP **P** **07 25 45.2 -0.7**
SHL Shillong 59.69 80 eP **P** **07 25 44.0 -2.9**
ULN Ulaanbaatar 59.99 51 ciP **P** **07 25 48.5 -0.1**
ULN Ulaanbaatar 59.99 51 P **P** **07 25 44.2 -4.4**
SNR=36
LZH Lanzhou 63.31 64 eP **P** **07 26 11.5 +0.2**
LZH PP PP 07 28 32.0 +1.8
LZH eS **S** **07 34 39.5 -4.1**
LZH AMB AMB
comp=Z,42nm,1.5s,mb5.3
LZH AMB AMB
comp=Z,149nm,5.0s
LZH LR LR
comp=N,420nm,13.5s
LZH LR LR
comp=Z,778nm,15.0s,MS5.0
CD2 Chengdu 65.88 69 P **P** **07 26 28.0 -0.1**
CD2 AP pP 07 26 32.7 +1.6
CD2 XP sP 07 26 36.0 +3.9
CD2 PP PP 07 28 55.1 +2.2
CD2 PCS 07 31 02.0
CD2 S S 07 35 12.6 -2.8
CD2 SCS ScS 07 36 19.7 -4.8
CD2 SS SS 07 39 28.6 -1.2
CD2 AMB AMB
comp=Z,20nm,1.8s,mb4.8
CD2 AMB AMB
comp=Z,50nm,6.4s
CD2 LR LR
comp=N,400nm,28.8s,MS4.5
CD2 LR LR
comp=E,290nm,33.6s,MS4.5
CD2 LR LR
comp=Z,290nm,28.8s,MS4.3
LBNH Lisbon 66.59 309 eP **P** **07 26 33.2 +0.8**
LBNH Lisbon 66.59 309 eP **P** **07 26 33.2 +0.7**
HIA Hailar 66.69 45 eP **P** **07 26 34.2 +1.2**
comp=Z,10.0nm,0.8s,mb4.9
HIA Hailar 66.69 45 eP **P** **07 26 34.2 +1.2**
HIA pmax pmax
comp=Z,10.0nm,0.8s
HIA Hailar 66.69 45 eP **P** **07 26 34.2 +1.2**
comp=Z,10.0nm,0.8s,mb4.9
WES Weston 67.19 307 eP **P** **07 26 36.0 -0.3**
WES Weston 67.19 307 eP **P** **07 26 36.0 -0.3**
ACCN Adirondack Com 68.12 309 eP **P** **07 26 44.6 +2.5**
ACCN Adirondack Com 68.12 309 eP **P** **07 26 44.6 +2.5**
KMI Kunming 68.23 75 P **P** **07 26 47.4 +4.3**
KMI AP pP 07 26 52.5 +6.5
KMI XP sP 07 26 54.6 +7.5
KMI PP PP 07 29 15.3 +1.9
KMI S S 07 35 45.3 +1.5
KMI SS SS 07 40 09.2 +2.8
KMI AMB AMB
comp=Z,8.0nm,0.7s,mb4.9
KMI AMB AMB
comp=Z,86nm,4.6s
KMI LR LR
comp=N,181nm,23.4s
KMI LR LR
comp=E,177nm,28.7s
KMI LR LR
comp=Z,258nm,23.4s,MS4.4
FCC Fort Churchill 69.34 330 eP **P** **07 26 48.8 -0.7**
comp=Z,11nm,0.7s,mb4.9
FCC Fort Churchill 69.34 330 eP **P** **07 26 48.8 -0.7**
FCC pmax pmax
comp=Z,11nm,0.7s,mb4.9
FCC Fort Churchill 69.34 330 eP **P** **07 26 48.8 -0.7**
comp=Z,11nm,0.7s,mb4.9
BINY Binghamton 70.19 308 eP **P** **07 26 55.4 +0.3**
BINY Binghamton 70.19 308 eP **P** **07 26 55.4 +0.4**
GYA Guiyang 70.44 71 P **P** **07 26 58.6 +1.8**
GYA AP pP 07 27 02.7 +3.0
GYA XP sP 07 27 05.6 +4.8
GYA PCP PcP 07 27 21.5 +3.3
GYA PP PP 07 29 37.4 +4.9
GYA S S 07 36 10.6 +0.7
GYA SKS 07 36 56.9
GYA SS SS 07 40 42.8 +2.5
GYA AMB AMB
comp=Z,40nm,1.0s,mb5.3
GYA AMB AMB
comp=Z,140nm,6.9s
GYA LR LR
comp=N,670nm,21.7s,MS5.0
GYA LR LR
comp=E,760nm,22.6s,MS5.0
GYA LR LR
comp=Z,690nm,23.0s,MS4.8
BILL Bilibino 70.48 13⇑ eP **P** **07 26 55.1 -1.2**
BILL pmax pmax
comp=Z,22nm,1.6s,mb4.8
BILL MLR MLR
comp=Z,400nm,16.0s,MS4.8
BILL Bilibino 70.48 13 eP **P** **07 26 57.8 +1.5**
comp=Z,9.2nm,0.7s,mb4.8
SEY Seymchan 71.50 21 eP **P** **07 27 03.0 +0.4**
INK Inuvik 71.84 351 eP **P** **07 27 02.8 -1.8**
INK Inuvik 71.84 351 eP **P** **07 27 02.8 -1.8**
SSPA Standing Stone 72.26 308 eP **P** **07 27 08.1 +0.5**
SDMD Soldier's Deli 72.32 306 eP **P** **07 27 11.2 +3.2**
SDMD Soldier's Deli 72.32 306 eP **P** **07 27 11.2 +3.2**
ERPA Erie 72.67 310 eP **P** **07 27 10.4 +0.4**
comp=Z,32nm,0.8s,mb5.3
ERPA Erie 72.67 310 eP **P** **07 27 10.4 +0.4**
comp=Z,32nm,0.8s,mb5.3
CN2 Changchun 73.04 47 eP **P** **07 27 12.6 +0.4**
CN2 eXP sP 07 27 19.2 +3.0
CN2 ePP PP 07 29 56.0 +1.7
CN2 eS S 07 36 36.4 -3.0
CN2 AMB AMB
comp=Z,10.0nm,1.0s,mb4.7
CN2 AMB AMB
comp=Z,200nm,5.0s
CN2 LR LR
comp=N,400nm,19.0s,MS4.9
CN2 LR LR
comp=E,400nm,19.0s,MS4.9
CN2 LR LR
comp=Z,200nm,21.0s,MS4.4
KLR Kul'dur 73.08 40 eP **P** **07 27 05.0 -7.3**
KLR eS S 07 36 33.5 -6.1
KLR MLR MLR
comp=Z,2μm,13.0s,MS5.6
SNY Shenyang 73.13 50 ⇑P **P** **07 27 14.8 +2.1**
SNY AMB AMB
comp=Z,11nm,0.7s,mb4.9
SNY AMB AMB
comp=Z,133nm,4.4s
SNY LR LR
comp=E,452nm,18.4s
SNY LR LR
comp=Z,283nm,29.4s
YKA Yellowknife Ar 73.32 340 P **P** **07 27 12.0 -1.5**
YKA LR LR 08 01 16.5
YKA Yellowknife Ar 73.32 340⇑ eP **P** **07 27 15.6 +2.1**
YKA Yellowknife Ar 73.32 340 P **P** **07 27 12.0 -1.5**
comp=Z,6.1nm,0.8s,mb4.6,baz=34,slow=5.5,SNR=15
YKA LR LR 08 01 16.5
comp=Z,478nm,18.8s,MS4.8,baz=175,slow=37
CBN Corbin 73.36 306 eP **P** **07 27 17.5 +3.3**
comp=Z,33nm,0.9s,mb5.3
CBN Corbin 73.36 306 eP **P** **07 27 17.5 +3.3**
comp=Z,33nm,0.9s,mb5.3
MA2 Magadan 73.63 24 eP **P** **07 27 16.4 +1.1**
MA2 Magadan 73.63 24 eP **P** **07 27 14.4 -0.9**
MA2 e 07 27 25.4
MA2 eS S 07 36 43.0 -2.5
MA2 e 07 37 17.9
MA2 eSS SS 07 41 22.9 -4.5
MA2 eSSS 07 44 35.6
MA2 pmax pmax
comp=Z,20nm,1.0s,mb5.0
MA2 MLR MLR
comp=Z,1μm,21.7s,MS5.2
MA2 Magadan 73.63 24 eP **P** **07 27 16.5 +1.2**
GLMI Grayling 73.71 315 eP **P** **07 27 16.6 +0.5**
comp=Z,79nm,1.1s,mb5.6
GLMI Grayling 73.71 315 eP **P** **07 27 16.6 +0.5**
comp=Z,79nm,1.1s,mb5.6
URVA University of 73.84 305 eP **P** **07 27 17.2 +0.2**
URVA University of 73.84 305 eP **P** **07 27 17.2 +0.2**
MCWV Mont Chateau 74.05 308 eP **P** **07 27 18.8 +0.6**
MCWV Mont Chateau 74.05 308 eP **P** **07 27 18.8 +0.6**
COWI Conover 75.35 318 eP **P** **07 27 25.3 -0.3**
COWI Conover 75.35 318 eP **P** **07 27 25.3 -0.3**
ACSO Alum Creek Sta 75.61 310 eP **P** **07 27 28.0 +0.8**
comp=Z,19nm,0.8s,mb5.1
ACSO Alum Creek Sta 75.61 310 eP **P** **07 27 28.0 +0.8**
comp=Z,19nm,0.8s,mb5.1
IMA2 Indian Mountai 75.66 358 eP **P** **07 27 26.9 -0.1**
IMA2 Indian Mountai 75.66 358 eP **P** **07 27 26.9 -0.1**
ULM Lac du Bonnet 75.89 324 P **P** **07 27 27.6 -0.9**
comp=Z,25nm,0.8s,mb5.2,baz=44,slow=4.5,SNR=13
ULM Lac du Bonnet 75.89 324 P **P** **07 27 27.6 -1.0**
NJ2 Nanjing 75.93 60 eP **P** **07 27 35.2 +6.0**
NJ2 AMB AMB
comp=Z,30nm,0.9s,mb5.2
TNA Tin City 75.97 4 eP **P** **07 27 28.1 -0.7**
TNA Tin City 75.97 4 eP **P** **07 27 28.1 -0.7**
COLA College 76.58 355 iP **P** **07 27 32.5 +0.2**
DAWY Dawson 76.62 352 eP **P** **07 27 32.1 -0.4**
DAWY Dawson 76.62 352 eP **P** **07 27 32.1 -0.4**
HUMP Col San Antoni 76.95 283 eP **P** **07 27 39.6 +4.4**
HUMP Col San Antoni 76.95 283 eP **P** **07 27 39.6 +4.5**
CPD Cerro la Pandu 77.06 283 eP **P** **07 27 35.6 -0.2**
CPD Cerro la Pandu 77.06 283 eP **P** **07 27 35.6 -0.2**
AGMN Agassiz Refuge 77.24 323 eP **P** **07 27 36.8 +0.5**
AGMN Agassiz Refuge 77.24 323 eP **P** **07 27 36.8 +0.5**
MCK McKinley 77.79 356 eP **P** **07 27 38.3 -0.7**
JFWS Jewell Farm 78.05 316 eP **P** **07 27 41.7 +0.8**
JFWS Jewell Farm 78.05 316 eP **P** **07 27 41.7 +0.8**
PSI Prapat 78.38 96 LR LR 08 02 13.2
comp=Z,258nm,20.1s,MS4.5,baz=48,slow=36
BLO Bloomington 78.39 311 eP **P** **07 27 42.7 -0.2**
BLO pmax pmax
comp=Z,28nm,0.9s,mb5.2
BLO Bloomington 78.39 311 eP **P** **07 27 42.7 -0.2**
comp=Z,28nm,0.9s,mb5.2
KSRS Korea Array 78.47 51 P **P** **07 27 41.1 -2.3**
comp=Z,5.1nm,0.7s,mb4.6,baz=333,slow=5.6,SNR=13
WCI Wyandotte Cave 78.86 310 eP **P** **07 27 45.3 -0.2**
comp=Z,18nm,0.9s,mb5.0
WCI Wyandotte Cave 78.86 310 eP **P** **07 27 45.3 -0.2**
WCI pmax pmax
comp=Z,18nm,0.9s,mb5.0
WCI Wyandotte Cave 78.86 310 eP **P** **07 27 45.3 -0.2**
comp=Z,18nm,0.9s,mb5.0
CPCT Cooper Cave 79.57 307 eP **P** **07 27 49.8 +0.3**
CPCT Cooper Cave 79.57 307 eP **P** **07 27 49.8 +0.4**
YSS Yuzh-Sakhalins 79.99 37⇓ eP **P** **07 27 49.0 -2.5**
YSS MLR MLR
comp=N,700nm,17.0s,MS5.3
YSS MLR MLR
comp=E,900nm,17.0s,MS5.3
YSS MLR MLR
comp=Z,600nm,17.0s,MS5.0
GOGA Godfrey 80.21 305 eP **P** **07 27 53.7 +0.8**
GOGA Godfrey 80.21 305 eP **P** **07 27 53.7 +0.8**
SDDR Presa de Saban 80.57 287 eP **P** **07 27 55.9 +0.8**
SDDR Presa de Saban 80.57 287 eP **P** **07 27 55.9 +0.8**
EDM Edmonton 80.62 334 eP **P** **07 27 54.2 -0.6**
EDM Edmonton 80.62 334 eP **P** **07 27 54.2 -0.5**
ECSD EROS,Sioux Fal 80.84 320 eP **P** **07 27 55.5 -0.6**
ECSD EROS,Sioux Fal 80.84 320 eP **P** **07 27 55.5 -0.6**
SIUC Southern Illin 80.94 311 eP **P** **07 27 58.0 +1.2**
comp=Z,14nm,0.8s,mb5.0
WVT Waverly 81.17 309 eP **P** **07 27 58.7 +0.7**
WVT Waverly 81.17 309 eP **P** **07 27 58.7 +0.7**
FVM French Village 81.47 312 eP **P** **07 28 01.2 +1.6**
FVM French Village 81.47 312 eP **P** **07 28 01.2 +1.6**
CCM Cathedral Cave 81.89 313 eP **P** **07 28 01.3 -0.5**
comp=Z,11nm,0.8s,mb4.8
CCM Cathedral Cave 81.89 313 eP **P** **07 28 01.3 -0.5**
CCM pmax pmax
comp=Z,11nm,0.8s,mb4.8
CCM Cathedral Cave 81.89 313 eP **P** **07 28 01.3 -0.5**
comp=Z,11nm,0.8s,mb4.8
PLAL Pickwick Lake 82.08 309 eP **P** **07 28 02.1 -0.8**
comp=Z,12nm,0.9s,mb4.8
PLAL Pickwick Lake 82.08 309 eP **P** **07 28 02.1 -0.7**

comp=Z,12nm,0.9s,mb4.8
LRAL Lakeview Retre 82.70 307 *e*P **P 07 28 06.1 0.0**
LRAL Lakeview Retre 82.70 307 *e*P **P 07 28 06.1 0.0**
LAO LASA Array 83.14 327 *e*P **P 07 28 08.9 +0.7**
LAO LASA Array 83.14 327 *e*P **P 07 28 08.9 +0.7**
EGMT Eagleton 83.55 330 *e*P **P 07 28 10.6 +0.4**
EGMT Eagleton 83.55 330 *e*P **P 07 28 10.6 +0.4**
RSSD Black Hills 84.16 324 *e*P **P 07 28 13.6 +0.2**
comp=Z,5.2nm,0.8s,mb4.7
RSSD Black Hills 84.16 324 *e*P **P 07 28 13.6 +0.2**
RSSD pmax pmax
comp=Z,5.0nm,0.8s,mb4.7
RSSD Black Hills 84.16 324 *e*P **P 07 28 13.6 +0.2**
comp=Z,5.2nm,0.8s,mb4.7
KSU1 Kansas State U 84.16 316 *e*P **P 07 28 14.2 +0.7**
KSU1 Kansas State U 84.16 316 *e*P **P 07 28 14.2 +0.7**
WALA Waterton Lakes 84.28 332 *e*P **P 07 28 13.8 -0.2**
WALA Waterton Lakes 84.28 332 *e*P **P 07 28 13.8 -0.1**
UALR University of 84.79 311 *e*P **P 07 28 17.0 +0.2**
UALR University of 84.79 311 *e*P **P 07 28 17.0 +0.2**
MJAR Matsushiro Arr 85.15 46 P **P 07 28 16.5 -2.1**
MJAR Matsushiro Arr 85.15 46 P **P 07 28 16.5 -2.1**
comp=Z,3.2nm,0.7s,mb4.5,baz=322,slow=3.4,SNR=6.0
HRY Holter Researc 85.43 330 *e*P **P 07 28 18.6 -1.2**
HRY Holter Researc 85.43 330 *e*P **P 07 28 18.5 -1.3**
MIAR Mount Ida 85.67 311 *e*P **P 07 28 21.6 +0.4**
comp=Z,19nm,0.9s,mb5.3
MIAR Mount Ida 85.67 311 *e*P **P 07 28 21.7 +0.5**
MIAR pmax pmax
comp=Z,19nm,0.9s,mb5.3
MIAR Mount Ida 85.67 311 *e*P **P 07 28 21.6 +0.4**
comp=Z,19nm,0.9s,mb5.3
RLMT Red Lodge 85.68 327 *e*P **P 07 28 21.7 +0.7**
RLMT Red Lodge 85.68 327 *e*P **P 07 28 21.7 +0.7**
NEW Newport 86.09 334 *e*P **P 07 28 23.3 +0.3**
NEW pmax pmax
comp=Z,8.0nm,0.9s
NEW Newport 86.09 334 *e*P **P 07 28 23.3 +0.3**
comp=Z,8.2nm,0.9s,mb5.0
BOZ Bozeman (W) 86.23 329 *e*P **P 07 28 24.2 +0.4**
comp=Z,5.5nm,0.9s,mb4.8
BOZ Bozeman (W) 86.23 329 *e*P **P 07 28 24.2 +0.5**
BOZ pmax pmax
comp=Z,5.0nm,0.9s,mb4.7
BOZ Bozeman (W) 86.23 329 *e*P **P 07 28 24.2 +0.5**
comp=Z,5.5nm,0.9s,mb4.8
SDV Santo Domingo 86.23 278 *e*P **P 07 28 24.3 0.0**
comp=Z,10nm,0.9s,mb5.1
SDV Santo Domingo 86.23 278 *e*P **P 07 28 24.3 0.0**
comp=Z,10nm,0.9s,mb5.1
LRM Limekiln Ridge 86.41 330 *e*P **P 07 28 27.6 +2.9**
LRM Limekiln Ridge 86.41 330 *e*P **P 07 28 27.6 +3.0**
YMR Madison River 86.76 328 *e*P **P 07 28 27.6 +1.3**
comp=Z,8.1nm,0.8s,mb5.0
YMR Madison River 86.76 328 *e*P **P 07 28 27.6 +1.2**
comp=Z,8.1nm,0.8s,mb5.0
DLMT Dillon 86.85 330 *e*P **P 07 28 27.7 +0.9**
comp=Z,4.9nm,0.9s,mb4.7
DLMT Dillon 86.85 330 *e*P **P 07 28 27.7 +0.9**
comp=Z,4.9nm,0.9s,mb4.7
YFT Old Faithful 86.88 328 *e*P **P 07 28 28.1 +1.1**
YFT Old Faithful 86.88 328 *e*P **P 07 28 28.1 +1.1**
FLWY Flagg Ranch 87.12 328 *e*P **P 07 28 29.1 +1.0**
FLWY Flagg Ranch 87.12 328 *e*P **P 07 28 29.1 +0.9**
IMW Indian Meadow 87.37 328 *e*P **P 07 28 30.9 +1.5**
IMW Indian Meadow 87.37 328 *e*P **P 07 28 30.9 +1.5**
MOOW Moose Ponds 87.41 328 *e*P **P 07 28 30.0 +0.4**
MOOW Moose Ponds 87.41 328 *e*P **P 07 28 30.0 +0.4**
SNOW Snow King Moun 87.65 327 *e*P **P 07 28 31.7 +1.0**
SNOW Snow King Moun 87.65 327 *e*P **P 07 28 31.7 +1.0**
PDAR Pinedale Array 87.70 326 P **P 07 28 29.4 -1.6**
comp=Z,5.3nm,0.8s,mb4.8,baz=66,slow=4.2,SNR=14
TPAW Teton Pass 87.71 328 *e*P **P 07 28 32.0 +1.0**
DCID1 Drake Creek 87.72 328 *e*P **P 07 28 31.7 +0.7**
DCID1 Drake Creek 87.72 328 *e*P **P 07 28 31.7 +0.6**
REDW Red Top Meadow 87.77 327 *e*P **P 07 28 34.4 +3.1**
REDW Red Top Meadow 87.77 327 *e*P **P 07 28 34.4 +3.1**
ISCO Idaho Springs 88.24 322 *e*P **P 07 28 33.6 0.0**
ISCO pmax pmax
comp=Z,5.0nm,0.8s,mb4.8
ISCO Idaho Springs 88.24 322 *e*P **P 07 28 33.6 0.0**
comp=Z,4.6nm,0.8s,mb4.8
WMOK Wichita Mounta 88.52 315 *e*P **P 07 28 35.9 +0.8**
WMOK Wichita Mounta 88.52 315 *e*P **P 07 28 35.9 +0.9**
HWUT Hardware Ranch 89.51 327 *e*P **P 07 28 38.8 -0.7**
comp=Z,14nm,0.7s,mb5.4
HWUT Hardware Ranch 89.51 327 *e*P **P 07 28 38.8 -0.8**
comp=Z,14nm,0.7s,mb5.4
HKT Hockley 90.28 310 *e*P **P 07 28 44.0 +0.6**
comp=Z,8.0nm,0.9s,mb5.0
HKT Hockley 90.28 310 *e*P **P 07 28 44.0 +0.6**
HKT pmax pmax
comp=Z,8.0nm,0.9s,mb5.0
HKT Hockley 90.28 310 *e*P **P 07 28 44.0 +0.6**
comp=Z,8.0nm,0.9s,mb5.0
CTU Camp Tracy 90.34 326 *e*P **P 07 28 44.3 +0.9**
CTU Camp Tracy 90.34 326 *e*P **P 07 28 44.3 +0.9**
BGU Big Grassy Mou 90.70 327 *e*P **P 07 28 46.4 +1.3**
SRU San Rafael 91.09 325 *e*P **P 07 28 46.6 -0.3**
comp=Z,8.1nm,0.9s,mb5.0
SRU San Rafael 91.09 325 *e*P **P 07 28 46.6 -0.4**
SRU pmax pmax
comp=Z,8.0nm,0.9s,mb5.0
SRU San Rafael 91.09 325 *e*P **P 07 28 46.6 -0.4**
comp=Z,8.1nm,0.9s,mb5.0
DUG Dugway 91.21 327 *e*P **P 07 28 47.2 -0.3**
comp=Z,8.5nm,0.8s,mb5.1
DUG Dugway 91.21 327 *e*P **P 07 28 47.2 -0.3**
DUG pmax pmax
comp=Z,9.0nm,0.8s,mb5.2
DUG Dugway 91.21 327 *e*P **P 07 28 47.2 -0.3**
comp=Z,8.5nm,0.8s,mb5.1
JCT Junction City 92.24 312 *e*P **P 07 28 52.4 0.0**
comp=Z,5.3nm,0.8s,mb4.9
JCT Junction City 92.24 312 *e*P **P 07 28 52.4 0.0**
JCT pmax pmax
comp=Z,5.0nm,0.8s,mb4.9
JCT Junction City 92.24 312 *e*P **P 07 28 52.4 0.0**
comp=Z,5.3nm,0.8s,mb4.9
ANMO Albuquerque 92.45 320⇑*e*P **P 07 28 53.4 0.0**
MNTX Cornudas Mount 94.43 317 *e*P **P 07 29 01.9 -0.6**
comp=Z,6.0nm,0.8s,mb5.1
MNTX Cornudas Mount 94.43 317 *e*P **P 07 29 01.9 -0.6**
comp=Z,6.0nm,0.8s,mb5.1
NVAR Mina Array Bea 94.97 329 P **P 07 29 05.2 +0.3**
comp=Z,0.8nm,0.5s,mb4.4,baz=43,slow=5.1,SNR=5.3
TXAR Lajitas Array 95.31 314 P **P 07 29 06.8 +0.2**
comp=Z,6.6nm,0.8s,mb5.1,baz=68,slow=4.2,SNR=16
WRA Warramunga Arr 119.74 93 PKP PKPdf 07 34 31.6 -1.2
comp=Z,0.9nm,0.5s,baz=316,slow=1.9,SNR=4.8
ASAR Alice Springs 121.41 97 PKP PKPdf 07 34 35.0 -0.9
comp=Z,1.5nm,0.7s,baz=324,slow=1.4,SNR=7.7
QSPA South Pole Qui 128.40 180 PKP PKPdf 07 34 50.3 +2.7
QSPA South Pole Qui 128.40 180 PKP PKPdf 07 34 50.3 +2.7
comp=Z,1.8nm,0.7s,baz=270,slow=2.8,SNR=3.9
STKA Stephens Creek 131.31 101 PKP PKPdf 07 34 57.1 +2.5
comp=Z,1.8nm,0.8s,baz=359,slow=9.6,SNR=3.0

*CSEM **10** 07:21:48.5±0.8, 3717N×2472W, h0km, ML3.5, Error ellipse: s-maj=4.9km s-min=2.6km az=89.0, After PDA*
*PDA **10** 07:21:48.5±0.8, 3717N×2472W, h0km, MD4.0, ML3.5, Error ellipse: s-maj=4.9km s-min=2.6km az=89.0*
SVSA 10 07:21:48.5±0.8, 3717N×2472W, h0km, MD4.0, ML3.5, Error ellipse: s-maj=4.9km s-min=2.6km az=89.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSMN	**Pico do Norte,**	**0.32**	**238**	*e*P	Pg	07 21 54.5	-0.1
PSMN				*e*S	Sg	07 21 59.0	+0.2
PDA	**Ponta Delgada**	**0.94**	**308**	*e*P	Pg	07 22 04.0	-2.6
PDA				*e*S	Sg	07 22 15.5	-3.3
PSET	**Sete Cidades**	**1.02**	**310**	*e*P	Pg	07 22 05.1	-3.0
PSET				*e*S	Sg	07 22 17.8	-3.6
PSET				A		07 22 22.2	
	594nm,0.3s						
PSET	**Sete Cidades**	**1.02**	**310**	*e*P	Pg	07 22 05.1	-3.0
PSET				*e*S	Sg	07 22 17.8	-3.6
PSCM	**Serra do Cume**	**2.43**	**310**	*e*P	Pn	07 22 24.3	-5.1
PSCM				*e*S	Sn	07 22 51.8	-8.1
PSCM				A		07 22 54.7	
	146nm,0.3s						
PSCM	**Serra do Cume**	**2.43**	**310**	*e*P	Pn	07 22 24.3	-5.1
PSCM				*e*S	Sn	07 22 51.8	-8.1
ADH	**Angra Heroismo**	**2.48**	**307**	*e*P	Pn	07 22 26.0	-4.1
ADH				*e*S	Sn	07 22 53.5	-7.5
PID	**Ribeirinha**	**2.97**	**296**	*e*P	Pn	07 22 32.3	-4.6
PID				*e*S	Sn	07 23 04.9	-8.3
PMAN	**Manadas**	**3.03**	**300**	*e*P	Pn	07 22 32.8	-4.9
PMAN				*e*S	Sn	07 23 06.8	-8.0
PMAN				A		07 23 10.9	
	49nm,0.2s						
PMAN	**Manadas**	**3.03**	**300**	*e*P	Pn	07 22 32.8	-4.9
PMAN				*e*S	Sn	07 23 06.8	-8.0
ROSA	**Rosais**	**3.18**	**300**	*e*P	Pn	07 22 35.3	-4.5
ROSA				*e*S	Sn	07 23 10.3	-8.1
PICO	**Pico**	**3.22**	**295**	*e*P	Pn	07 22 36.3	-3.9
PICO				*e*S	Sn	07 23 11.3	-8.0
CALA	**Caldeira**	**3.45**	**295**	*e*P	Pn	07 22 39.4	-4.0
CALA				*e*S	Sn	07 23 17.0	-8.0

*ISCJB **10** 07:22:26.9±3.4, 3874N×008×212E±03, h20km±20km, mb3.8/3, Error ellipse: s-maj=42.9km s-min=11.7km az=8.9*
*NEIC **10** 07:22:27.4, 3865N×2146E, h11km, MD3.6(ATH), After ATH.*
*ATH **10** 07:22:27.4, 3865N×2146E, h11km±2km, MD3.6/5*
*CSEM **10** 07:22:27.4, 3865N×2146E, h11km, MD3.6/5, After ATH*
*IDC **10** 07:22:28.4±48.0, 3893N×2186E, h0km, mb3.8/3, mb1 3.9/3, mb1mx3.5/18, mbtmp3.8/3, Error ellipse: s-maj=926.5km s-min=60.4km az=35.0*
ISC 10 07:22:28.3±5.3, 3870N±006×214E±03, h14km±32km, n8, σ0°95/9, mb3.7/3, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEO	**Neokhori**	**1.54**	**66**	*e*PB	**Pb**	**07 22 56.0**	**-0.5**
ITM	**Ithomi**	**1.57**	**165**	*e*PB	**Pb**	**07 22 56.0**	**-1.1**
ITM				*e*SB	**Sb**	**07 23 16.5**	**-0.3**
PLG	**Polygyros**	**2.30**	**43**	*e*PN	**Pn**	**07 23 07.0**	**+1.3**
VLI	**Veliai**	**2.32**	**148**	*e*PN	**Pn**	**07 23 07.0**	**+1.0**
KYTH	**Kithira**	**2.74**	**151**	*e*PN	**Pn**	**07 23 13.0**	**+1.3**
ARCES	**ARCESS Array B**	**30.98**	**3**	P	**P**	**07 28 44.9**	**+0.3**
	1.4nm,0.8s,mb3.8,baz=196,slow=11,SNR=5.4						
MKAR	**Makanchi Array**	**44.44**	**59**	P	**P**	**07 30 37.7**	**-0.8**
	0.5nm,0.4s,mb3.6,baz=284,slow=6.9,SNR=6.6						
ZALV	**Zalesovo Beam**	**44.83**	**49**	P	**P**	**07 30 40.2**	**-1.3**
	0.8nm,0.6s,mb3.8,baz=280,slow=8.6,SNR=3.3						

*ISCJB **10** 07:22:57.6±0.7, 3132S±006×1782W±01, h55km, mb4.6/14, MS3.6/4, Error ellipse: s-maj=16.5km s-min=6.8km az=17.0*
*NEIC **10** 07:22:59.2±0.4, 3070S×178.17W, mb4.9/6, Error ellipse: s-maj=13.1km s-min=11.3km az=138.0*
*IDC **10** 07:22:59.9±0.8, 3066S×17822W, h60km±7km, mb4.2/10, mb1 4.5/10, mb1mx4.3/14, mbtmp4.2/10, MS3.7/5, Ms1 3.7/5, ms1mx3.5/16, Error ellipse: s-maj=18.7km s-min=7.7km az=99.0*
ISC 10 07:22:59.5±0.7, 3135S±005×1782W±01, h57km, h57km±.5km: pP-P, n70, σ1°35/50, mb4.6/14, MS3.6/4, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.10**	**6**	*e*Pn	**Pn**	**07 23 23.3**	**-9.0**
RAO				S	**Sn**	**07 23 41.1**	**-16**
RAO	**Raoul Island**	**2.10**	**6**	P	**Pn**	**07 23 23.8**	**-8.5**
	293nm,0.3s,baz=144,slow=6.5,SNR=15						
RAO				S	**Sn**	**07 23 41.1**	**-16**
	856nm,0.3s,baz=94,slow=23,SNR=16						
MXZ	**Matakaoa Point**	**6.85**	**204**	PN	**Pn**	**07 24 37.8**	**+0.5**
MXZ				*e*SN	**Sn**	**07 25 59.3**	**+5.5**
PUZ	**Puketiti**	**7.33**	**203**	*e*P	**Pn**	**07 24 41.9**	**-1.9**
PUZ	**Puketiti**	**7.33**	**203**	*e*Pn	**Pn**	**07 24 43.6**	**-0.2**
PUZ				*e*SN	**Sn**	**07 26 07.3**	**+1.8**
WCZ	**Waipu Caves**	**7.74**	**232**	*e*P	**Pn**	**07 24 57.7**	**+8.2**
WCZ	**Waipu Caves**	**7.74**	**232**	*e*PN	**Pn**	**07 24 57.9**	**+8.4**
MWZ	**Matawai**	**7.82**	**206**	P	**Pn**	**07 24 53.2**	**+2.7**
OUZ	**Omahuta**	**7.90**	**239**	P	**Pn**	**07 24 59.2**	**+7.5**
OUZ	**Omahuta**	**7.90**	**239**	PN	**Pn**	**07 24 59.2**	**+7.6**
URZ	**Urewera**	**7.91**	**208**	*e*P	**Pn**	**07 24 51.8**	**0.0**
URZ	**Urewera**	**7.91**	**208**	P	**Pn**	**07 24 52.3**	**+0.4**
	1.4nm,0.3s,baz=290,slow=10.0,SNR=15						
URZ				S	**Sn**	**07 26 24.5**	**+4.6**
	8.8nm,0.3s,baz=174,slow=24,SNR=14						
URZ	**Urewera**	**7.91**	**208**	*e*SN	**Sn**	**07 26 24.5**	**+4.6**
KNZ	**Kokohu**	**8.38**	**203**	*e*PN	**Pn**	**07 24 58.3**	**+0.1**
BKZ	**Black Stump Fm**	**8.94**	**208**	*e*P	**Pn**	**07 25 05.2**	**-0.7**
BKZ	**Black Stump Fm**	**8.94**	**208**	*e*PN	**Pn**	**07 25 04.3**	**-1.6**
PXZ	**Pawanui**	**9.56**	**204**	PN	**Pn**	**07 25 12.3**	**-2.0**
PXZ				*e*SN	**Sn**	**07 26 59.9**	**-0.3**
TSZ	**Takapari Road**	**9.91**	**207**	P	**Pn**	**07 25 18.7**	**-0.5**
TSZ	**Takapari Road**	**9.91**	**207**	*e*PN	**Pn**	**07 25 16.3**	**-2.9**
MRZ	**Mangatainoka R**	**10.58**	**207**	P	**Pn**	**07 25 25.3**	**-3.0**
MRZ	**Mangatainoka R**	**10.58**	**207**	*e*PN	**Pn**	**07 25 24.5**	**-3.8**
MRZ				*e*SN	**Sn**	**07 27 24.2**	**-1.0**
NNZ	**Nelson**	**11.97**	**212**	*e*SN	**Sn**	**07 27 55.9**	**-3.3**
THZ	**Tophouse**	**12.62**	**212**	*e*SN	**Sn**	**07 28 10.8**	**-4.2**
RPZ	**Rata Peaks**	**15.00**	**212**	LR	LR	07 32 21.8	
	comp=Z,346nm,18.8s,baz=4.0,slow=36						
ARMA	**Armidale**	**25.90**	**264**	*e*P	**P**	**07 28 30.5**	**+4.4**
TBI	**Tubuai**	**26.66**	**80**	*e*LR	LR	07 35 13.5	
	260nm,26.2s						
PPT	**Papeete**	**29.32**	**69**	*e*LR	LR	07 36 19.4	
	259nm,27.0s						
PPT	**Papeete**	**29.32**	**69**	LR	LR	07 39 43.4	
	comp=Z,96nm,18.2s,MS3.5,baz=208,slow=34						
HNR	**Honiara**	**29.81**	**312**	LR	LR	07 38 50.5	
	comp=Z,79nm,20.1s,MS3.3,baz=24,slow=32						
CTA	**Charters Tower**	**33.81**	**281**	*e*P	**P**	**07 29 37.6**	**+1.3**
	7.1nm,0.6s,mb4.8						
CTAO	**Charters Tower**	**33.81**	**281**	*e*P	**P**	**07 29 36.5**	**+0.2**
	27nm,1.1s,mb5.1						
STKA	**Stephens Creek**	**34.13**	**258**	*e*P	**P**	**07 29 41.5**	**+2.6**
	15nm,0.9s,mb4.9						
STKA	**Stephens Creek**	**34.13**	**258**	P	**P**	**07 29 41.5**	**+2.6**
	16nm,0.7s,mb5.1,baz=96,slow=9.5,SNR=37						
STKA				LR	LR	07 41 33.7	
	comp=Z,175nm,18.2s,MS3.8,baz=24,slow=32						
ASAR	**Alice Springs**	**42.92**	**268**	P	**P**	**07 30 52.7**	**0.0**
	14nm,0.9s,mb4.7,baz=104,slow=7.0,SNR=94						
WB2	**Warramunga Arr**	**43.98**	**273**	*e*P	**P**	**07 31 00.8**	**-0.5**
WRAB	**Tennant Creek**	**43.98**	**273**	*e*P	**P**	**07 31 00.7**	**-0.7**
	19nm,0.8s,mb4.9						
WRA	**Warramunga Arr**	**43.99**	**273**	P	**P**	**07 31 00.9**	**-0.5**
	13nm,0.5s,mb4.9,baz=111,slow=8.1,SNR=108						
WRA				LR	LR	07 47 51.6	
	comp=Z,92nm,19.9s,MS3.7,baz=95,slow=34						
FORT	**Forrest**	**45.67**	**256**	*e*P	**P**	**07 31 14.8**	**+0.2**
	20nm,0.6s,mb5.2						
SBA	**Scott Base**	**47.09**	**184**	*e*P	**P**	**07 31 30.2**	**+5.1**
	9.0nm,1.1s,mb4.6						
VNDA	**Vanda**	**47.14**	**186**	P	**P**	**07 31 30.9**	**+5.4**
VNDA	**Vanda**	**47.14**	**186**	P	**P**	**07 31 30.9**	**+5.4**
	0.7nm,0.8s,mb3.6,baz=34,slow=3.9,SNR=7.3						
QSPA	**South Pole Qui**	**58.77**	**180**	P	**P**	**07 32 56.2**	**+5.1**
	9.6nm,0.7s,mb4.9,baz=58,slow=2.5,SNR=33						
MAW	**Mawson**	**71.37**	**201**	P	**P**	**07 34 15.6**	**+2.7**
	3.8nm,0.7s,mb4.4,baz=140,slow=10,SNR=6.1						
PLCA	**Paso Flores**	**81.97**	**133**	P	**P**	**07 35 16.6**	**+3.3**
	5.7nm,1.0s,mb4.5,baz=212,slow=4.2,SNR=5.3						
PLCA				pP	pP	07 35 32.6	+3.2
	4.8nm,1.0s,baz=234,slow=6.9,SNR=4.5						
NVAR	**Mina Array Bea**	**89.03**	**43**	P	**P**	**07 35 47.5**	**-0.5**
	2.8nm,0.8s,mb4.7,baz=209,slow=6.6,SNR=10						
NVAR				pP	pP	07 36 03.5	-0.9
	2.3nm,0.7s,baz=205,slow=6.6,SNR=4.3						
TXAR	**Lajitas Array**	**93.02**	**57**	P	**P**	**07 36 07.0**	**+0.2**
TXAR				pP	pP	07 36 23.0	-0.2
TXAR	**Lajitas Array**	**93.02**	**57**	P	**P**	**07 36 07.0**	**+0.2**
	0.8nm,1.0s,mb4.1,baz=216,slow=6.2,SNR=4.7						
TXAR				pP	pP	07 36 23.0	-0.2
	0.3nm,0.8s,baz=202,slow=1.9,SNR=2.4						
PDAR	**Pinedale Array**	**96.92**	**44**	P	**P**	**07 36 23.1**	**-1.2**
	0.2nm,0.4s,mb3.9,baz=231,slow=5.7,SNR=2.9						
YKA	**Yellowknife Ar**	**106.36**	**26**	PKPdf	PKiKP	07 41 15.3	-1.4
YKA				PKKPbc	PKKPbc	07 52 38.2	-1.1
YKA	**Yellowknife Ar**	**106.36**	**26**	PKiKP	PKiKP	07 41 15.3	-1.5
	0.3nm,0.5s,baz=260,slow=1.6,SNR=15						
YKA				PKKPbc	PKKPbc	07 52 38.2	-1.1
	0.6nm,0.7s,baz=40,slow=3.2,SNR=8.3						
MKAR	**Makanchi Array**	**118.26**	**310**	PKP	PKPdf	07 41 37.9	-2.0
MKAR	**Makanchi Array**	**118.26**	**310**	PKP	PKPdf	07 41 37.9	-2.0
	0.7nm,0.5s,baz=96,slow=1.4,SNR=7.6						
ZALV	**Zalesovo Beam**	**118.63**	**318**	PKP	PKPdf	07 41 37.3	-3.1
ZALV	**Zalesovo Beam**	**118.63**	**318**	PKP	PKPdf	07 41 37.3	-3.1
	0.5nm,0.5s,baz=52,slow=2.6,SNR=4.4						
KURK	**Kurchatov**	**121.59**	**313**	*e*PKPdf	PKPdf	07 41 44.1	-2.0
SCHQ	**Schefferville**	**127.04**	**42**	PKP	PKPdf	07 41 55.5	-1.0
	3.5nm,0.8s,baz=243,slow=6.8,SNR=3.3						
AKTK	**Aktyubinsk**	**134.62**	**312**	PKP	PKPdf	07 42 09.5	-1.5
AKTO	**Aktyubinsk**	**134.62**	**312**	PKP	PKPdf	07 42 09.5	-1.5
	1.7nm,0.6s,baz=137,slow=3.0,SNR=5.7						
ARCES	**ARCESS Array B**	**139.48**	**347**	PKhKP		07 42 10.8	
	1.6nm,0.6s,baz=55,slow=2.7,SNR=11						
ARCES				PKP	PKPdf	07 42 18.2	-1.2
	3.1nm,0.6s,baz=48,slow=1.8,SNR=9.6						
JOF	**Joensuu**	**143.24**	**338**	*e*pkp	PKPdf	07 42 19.9	-6.4
KAF	**Kangasniemi**	**145.38**	**340**	*e*pkp	PKPdf	07 42 26.5	-3.6
FINES	**FINESS Array B**	**145.98**	**339**	PKPbc	PKPbc	07 42 29.4	-2.6
	23nm,0.7s,baz=69,slow=3.5,SNR=84						
NB2	**NORSAR Subarra**	**149.66**	**351**	PKP	PKPdf	07 42 39.9	+2.7
	comp=Z,5.8nm,0.6s,baz=15,slow=2.6						
NOA	**NORSAR Array B**	**149.66**	**351**	PKPbc	PKPbc	07 42 40.2	-1.7
NOA	**NORSAR Array B**	**149.66**	**351**	PKPbc	PKPbc	07 42 40.2	-1.7
	comp=Z,6.9nm,0.6s,baz=14,slow=4.1,SNR=18						
AKASG	**Malin Array Be**	**151.95**	**322**	PKPbc	PKPbc	07 42 45.8	-1.8
	comp=Z,8.7nm,0.6s,baz=51,slow=2.6,SNR=22						
KIEV	**Kiev**	**151.96**	**322**	*e*PKPbc	PKPbc	07 42 45.9	-1.8
GERES	**GERESS Array B**	**160.34**	**336**	PKPab	PKPab	07 43 30.3	-2.8
	comp=Z,0.2nm,0.3s,baz=354,slow=8.7,SNR=4.1						
TORD	**Torodi Ar. Bea**	**161.89**	**180**	PKP	PKPdf	07 42 55.0	+0.1
TORD				PKPab	PKPab	07 43 42.0	+1.4
TORD	**Torodi Ar. Bea**	**161.89**	**180**	PKP	PKPdf	07 42 55.0	+0.1
	comp=Z,1.5nm,1.0s,baz=174,slow=1.4,SNR=4.8						
TORD				PKPab	PKPab	07 43 42.0	+1.4
	comp=Z,2.9nm,0.6s,baz=174,slow=3.6,SNR=20						

*NEIC **10** 07:27:18.0, 3891S×17582E, h3km, ML3.8(WEL), After WEL.*
WEL 10 07:27:17.9±0.1, 3890S×17579E, h3km, ML3.8/34, 2C, Error ellipse: s-maj=0.8km s-min=0.4km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RATZ	**Rangitukua**	**0.03**	**334**	P	Pg	07 27 19.4	+0.7
RATZ	**Rangitukua**	**0.03**	**334**	P*	Pg	07 27 19.4	+0.7
RATZ				S*	Sg	07 27 20.8	+1.6
RITZ	**Rihia Road**	**0.10**	**146**	P	Pg	07 27 20.7	+0.9
RITZ				S	Sg	07 27 22.5	+1.4
RITZ	**Rihia Road**	**0.10**	**146**	P*	Pg	07 27 20.7	+0.8
RITZ				S*	Sg	07 27 22.8	+1.6
KATZ	**Kakaramea**	**0.11**	**224**	P	Pg	07 27 20.9	+0.9
KATZ	**Kakaramea**	**0.11**	**224**	P*	Pg	07 27 20.9	+0.9
WATZ	**Wairara**	**0.19**	**347**	⇑PG	Pg	07 27 22.2	+0.5
WATZ				SG	Sg	07 27 25.3	+1.2
KRVZ	**Karewarewa**	**0.23**	**210**	PG	Pg	07 27 23.1	+0.8
HATZ	**Hinemaiaia**	**0.24**	**89**	P	Pg	07 27 22.6	+0.2
HATZ	**Hinemaiaia**	**0.24**	**89**	PG	Pg	07 27 22.6	+0.1
WHTZ	**Whakaora**	**0.27**	**30**	P	Pg	07 27 23.9	+0.9
WHTZ	**Whakaora**	**0.27**	**30**	PG	Pg	07 27 23.9	+0.9
WTVZ	**West Tongariro**	**0.27**	**215**	P	Pg	07 27 23.8	+0.7
WTVZ	**West Tongariro**	**0.27**	**215**	PG	Pg	07 27 23.8	+0.8
OTVZ	**Oturere**	**0.28**	**200**	PG	Pg	07 27 24.2	+0.9
NGZ	**Ngauruhoe**	**0.31**	**208**	P	Pg	07 27 24.8	+0.9
NGZ	**Ngauruhoe**	**0.31**	**208**	PG	Pg	07 27 24.8	+0.8
TWVZ	**Taurewa**	**0.33**	**238**	P	Pg	07 27 24.7	+0.6
TWVZ	**Taurewa**	**0.33**	**238**	PG	Pg	07 27 24.7	+0.6
WPVZ	**Whakapapa**	**0.36**	**212**	P	Pg	07 27 25.6	+0.8
WPVZ	**Whakapapa**	**0.36**	**212**	PG	Pg	07 27 25.6	+0.8
TUVZ	**Tukino**	**0.39**	**196**	P	Pg	07 27 26.2	+0.9
TUVZ	**Tukino**	**0.39**	**196**	PG	Pg	07 27 26.2	+0.9
FWVZ	**Far West T-bar**	**0.40**	**207**	P	Pg	07 27 26.3	+0.7
FWVZ	**Far West T-bar**	**0.40**	**207**	PG	Pg	07 27 26.3	+0.7
DRZ	**Dome Shelter**	**0.42**	**205**	P	Pg	07 27 26.7	+0.8
DRZ	**Dome Shelter**	**0.42**	**205**	PG	Pg	07 27 26.7	+0.8
TRVZ	**Turoa**	**0.44**	**205**	PG	Pg	07 27 27.1	+0.7
WNVZ	**Wahianoa**	**0.46**	**199**	P	Pg	07 27 27.4	+0.8
WNVZ	**Wahianoa**	**0.46**	**199**	PG	Pg	07 27 27.4	+0.8
MOVZ	**Moawhango**	**0.51**	**183**	P	Pg	07 27 28.0	+0.3
MOVZ	**Moawhango**	**0.51**	**183**	PG	Pg	07 27 28.0	+0.3
PKVZ	**Pokaka**	**0.52**	**221**	PG	Pg	07 27 28.4	+0.5
MTVZ	**Mangateitei**	**0.55**	**207**	PG	Pg	07 27 28.8	+0.4
BKZ	**Black Stump Fm**	**0.61**	**116**	⇑PG	Pg	07 27 30.0	+0.4
HRRZ	**Handcock Road**	**0.64**	**38**	P*	Pg	07 27 30.6	+0.5
UTU	**Utuhina**	**0.79**	**24**	P	Pg	07 27 34.0	+1.1
UTU	**Utuhina**	**0.79**	**24**	P*	Pb	07 27 33.7	-0.5
HIZ	**Hauiti**	**0.82**	**297**

THL	Klokotos Trika	1.07	17	ePN	Pn	07 33 27.9	-1.3
THL				eSB	Sb	07 33 41.5	-1.3
LKR	Lokris	1.09	84	ePG	Pg	07 33 27.8	-1.1
LKR				eSB	Sb	07 33 43.8	+0.5
LTK	Loutraki	1.18	115	ePg	Pg	07 33 30.9	+0.2
LTK				eSg	Sg	07 33 47.7	+1.8
JAN	Janina	1.27	332	ePN	Pn	07 33 30.3	-1.6
MEV	Metsovon	1.28	346	ePg	Pg	07 33 32.1	-0.5
MEV				eSg	Sg	07 33 50.5	+1.3
VLX	Vlachokerasia	1.31	152	ePg	Pg	07 33 31.7	-1.5
VLX				eSg	Sg	07 33 51.9	+1.8
ITM	Ithomi	1.38	170	ePB	Pb	07 33 34.0	+0.1
IGT	Igoumenitsa	1.41	315	ePg	Pg	07 33 33.9	-1.2
IGT				eSg	Sg	07 33 55.6	+2.2
NEO	Neokhori	1.47	58	ePG	Pg	07 33 34.6	-1.6
DID	Didima	1.64	128	ePb	Pb	07 33 37.9	-0.5
DID				eSb	Sb	07 33 59.2	0.0
PYL	PYLOS	1.64	177	ePb	Pb	07 33 37.8	-0.6
PYL				eSb	Sb	07 33 59.6	+0.4
LIT	Litokhoron	1.70	23	ePb	Pb	07 33 38.8	-0.6
LIT				eSb	Sb	07 34 02.0	+1.1
KZN	Kozani	1.77	4	ePN	Pn	07 33 39.3	+0.5
KEK	Kerkira	1.84	310	ePG	Pg	07 33 42.0	-1.3
AOS	Alonnisos	1.88	70	ePb	Pb	07 33 40.2	-2.2
AOS				eSb	Sb	07 34 05.8	-0.1
VLI	Veliai	2.10	150	ePN	Pn	07 33 45.3	+2.0
PAIG	Paliouri	2.12	48	ePn	Pn	07 33 43.5	-0.1
FNA	Florina	2.25	355	ePn	Pn	07 33 46.8	+1.4
FNA				eSn	Sn	07 34 15.4	+2.1
PLG	Polygyros	2.32	37	ePn	Pn	07 33 46.9	+0.6
HORT	Hortiatis	2.35	29	ePn	Pn	07 33 47.0	+0.2
GRG	Griva	2.49	14	ePn	Pn	07 33 48.9	+0.2
KNT	Kendrikon	2.80	20	ePn	Pn	07 33 54.4	+1.4
KRUS	Krusevo	2.84	354	ePn	Pn	07 33 56.3	+2.8
KRUS	Krusevo	2.84	354	ePn	Pn	07 33 56.2	+2.7
TORD	Torodi Ar. Bea	30.86	220	P	P	07 39 22.1	-2.5
	0.2nm,0.6s,mb3.2,baz=33,slow=8.8,SNR=4.1						
MKAR	Makanchi Array	44.38	59	P	P	07 41 18.4	-0.2
	0.3nm,0.4s,mb3.3,baz=270,slow=7.2,SNR=9.8						
ZALV	Zalesovo Beam	44.81	48	P	P	07 41 20.8	-1.1
	0.7nm,0.5s,mb3.7,baz=278,slow=8.7,SNR=3.8						

*ISCJB **10** 07:35:26.0±0.4, 3855N±002×2157E±002, h3km±4km, Error ellipse: s-maj=3.0km s-min=2.8km az=164.8*
*NEIC **10** 07:35:25.8, 3855N×2160E, h17km, MD3.3(ATH), ML3.5(THE), After ATH.*
*ATH **10** 07:35:26.7, 3858N×2156E, h12km±2km, MD3.4/7*
*CSEM **10** 07:35:27.4±0.1, 3855N×2157E, h5km, ML3.5, Error ellipse: s-maj=1.5km s-min=1.2km az=79.0*
*THE **10** 07:35:27.0, 3853N×2158E, h1km, ML3.5*

ISC 10 07:35:26.8±0.3, 3854N±002×2157E±002, h10km±3km, n50, σ1§10/91, 5C, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SELA	Sela	0.37	136	ePg	Pg	07 35 33.5	-0.5
SELA				eSg	Sg	07 35 38.9	0.0
EVR	Evrytania	0.42	27	⇑iPb	Pg	07 35 33.7	-1.3
EVR				⇑iPb	Sg	07 35 34.6	-0.4
EVR				eSb	Sg	07 35 40.0	-0.6
EVR				eSb	Sg	07 35 40.4	-0.2
EVR	Evrytania	0.42	27	⇑iPB	Pg	07 35 33.7	-1.3
EVR				eSB	Sg	07 35 40.0	-0.6
EVR	Evrytania	0.42	27	⇑iPB	Pg	07 35 34.6	-0.4
EVR				eSB	Sg	07 35 40.4	-0.2
EVR	Evrytania	0.42	27	⇑iPb	Pg	07 35 34.6	-0.4
EVR				eSb	Sg	07 35 40.4	-0.2
RLS	Riolos of Patr	0.49	189	ePn	Pn	07 35 35.6	-0.7
RLS				eSn	Sg	07 35 44.0	+1.3
RLS				eSb	Sg	07 35 45.0	+2.3
RLS	Riolos of Patr	0.49	189	ePg	Pg	07 35 36.6	+0.3
RLS				eSn	Sg	07 35 44.0	+1.3
RLS				eSb	Sg	07 35 45.0	+2.3
LKD	Levkas	0.74	283	ePg	Pg	07 35 40.9	-0.1
LKD				eSg	Sg	07 35 51.5	+0.9
KFL	Anninata	0.75	235	ePg	Pg	07 35 40.7	-0.5
KFL				eSg	Sg	07 35 52.4	+1.5
AGG	Agios Georgios	0.77	51	ePg	Pg	07 35 41.1	-0.4
AGG				eSg	Sg	07 35 52.5	+0.9
VLS	Valsamata	0.85	245	ePb	Pb	07 35 41.8	-1.8
VLS				ePg	Pg	07 35 42.7	-0.4
VLS				eSn	Sn	07 35 55.6	-1.7
VLS				eSb	Sb	07 35 56.3	+1.2
VLS	Valsamata	0.85	245	ePB	Pb	07 35 41.8	-1.8
VLS				eSB	Sb	07 35 56.3	+1.2
VLS	Valsamata	0.85	245	ePG	Pg	07 35 42.7	-0.4
VLS				eSB	Sb	07 35 56.3	+1.2
VLS	Valsamata	0.85	245	ePg	Pg	07 35 42.7	-0.4
VLS				eSn	Sn	07 35 55.6	-1.7
VLS				eSb	Sb	07 35 56.3	+1.2
THL	Klokotos Trika	1.08	19	ePG	Pg	07 35 45.7	-1.8
THL				eSB	Sb	07 36 00.8	-0.9
THL	Klokotos Trika	1.08	19	ePG	Pg	07 35 46.3	-1.2
THL				eSB	Sb	07 36 01.3	-0.4
THL	Klokotos Trika	1.08	19	ePg	Pg	07 35 46.3	-1.2
THL				eSb	Sb	07 36 01.3	-0.4
LKR	Lokris	1.13	84	ePn	Pn	07 35 46.2	-2.4
LKR				ePg	Pg	07 35 47.2	-1.2
LKR				eSb	Sb	07 36 03.7	+0.6
LKR	Lokris	1.13	84	ePG	Pg	07 35 47.2	-1.2
LKR				eSB	Sb	07 36 03.7	+0.6
LKR	Lokris	1.13	84	ePg	Pg	07 35 47.2	-1.2
LKR				eSb	Sb	07 36 03.7	+0.6
LTK	Loutraki	1.22	115	ePg	Pg	07 35 49.9	-0.2
LTK				eSg	Sg	07 36 06.7	+0.8
JAN	Janina	1.25	334	ePB	Pb	07 35 49.7	-0.7
JAN	Janina	1.25	334	ePN	Pn	07 35 49.0	-1.2
MEV	Metsovon	1.27	348	ePg	Pg	07 35 51.2	0.0
MEV				eSg	Sg	07 36 10.2	+2.5
VLX	Vlachokerasia	1.33	151	ePg	Pg	07 35 51.0	-1.3
VLX				eSg	Sg	07 36 11.1	+1.5
VLX	Vlachokerasia	1.33	151	ePg	Pg	07 35 51.0	-1.3
VLX				eSg	Sg	07 36 11.1	+1.5
IGT	Igoumenitsa	1.38	316	ePg	Pg	07 35 52.9	-0.3
IGT				eSg	Sg	07 36 12.5	+1.3
ITM	Ithomi	1.39	168	ePn	Pn	07 35 51.6	-0.6
ITM				ePg	Pg	07 35 53.2	-0.2
ITM	Ithomi	1.39	168	ePG	Pg	07 35 53.2	-0.2
ITM	Ithomi	1.39	168	ePg	Pg	07 35 53.2	-0.2
NEO	Neokhori	1.50	59	ePn	Pn	07 35 54.1	+0.4
NEO				ePb	Pb	07 35 55.1	+0.4
NEO				eSb	Sb	07 36 15.4	+1.6
NEO	Neokhori	1.50	59	ePB	Pb	07 35 55.1	+0.4
NEO				eSB	Sb	07 36 15.4	+1.6
NEO	Neokhori	1.50	59	ePb	Pb	07 35 55.1	+0.4
NEO				eSb	Sb	07 36 15.4	+1.6
PYL	PYLOS	1.65	175	ePb	Pb	07 35 56.7	-0.5
PYL				eSb	Sb	07 36 18.7	+0.6
DID	Didima	1.68	128	ePb	Pb	07 35 56.8	-0.8
DID				eSb	Sb	07 36 18.9	+0.1
LIT	Litokhoron	1.71	24	ePb	Pb	07 35 57.4	-0.9
KZN	Kozani	1.77	5	ePN	Pn	07 35 57.6	+0.1
KZN	Kozani	1.77	5	ePN	Pn	07 35 58.6	+1.1
KEK	Kerkira	1.81	311	ePn	Pn	07 35 58.7	+0.8
KEK				ePg	Pg	07 35 59.6	-1.8
KEK	Kerkira	1.81	311	ePG	Pg	07 35 59.6	-1.8
KEK	Kerkira	1.81	311	ePg	Pg	07 35 59.6	-1.8
AOS	Alonnisos	1.91	70	ePb	Pb	07 35 59.5	-2.2
VLI	Veliai	2.12	149	ePN	Pn	07 36 03.0	+0.8
VLI	Veliai	2.12	149	ePN	Pn	07 36 05.0	+2.8
PAIG	Paliouri	2.15	49	ePn	Pn	07 36 03.4	+0.8
HORT	Hortiatis	2.37	29	ePn	Pn	07 36 06.3	+0.6
GRG	Griva	2.50	15	ePn	Pn	07 36 08.4	+1.0
KNT	Kendrikon	2.81	21	ePn	Pn	07 36 12.6	+0.8
KRUS	Krusevo	2.83	355	*i* Pn	Pn	07 36 14.8	+2.7
KRUS	Krusevo	2.83	355	*i* Pn	Pn	07 36 14.7	+2.6

IDC 10 07:39:32.1±4.0, 2046S×16811E, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.8/13, mbtmp3.9/3, MS3.3/1, Ms1 3.3/1, ms1mx2.8/22, Error ellipse: s-maj=128.0km s-min=50.3km az=139.0, Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	2.23	224	eP	Pn	07 40 08.9	-1.5
DZM				eS	Sn	07 40 37.5	-1.2
STKA	Stephens Creek	26.31	239	P	P	07 45 09.8	+0.2
	0.8nm,0.5s,baz=84,slow=13,SNR=4.5						
WRA	Warramunga Arr	31.67	265	P	P	07 45 57.3	-0.2
	0.8nm,0.9s,baz=96,slow=8.2,SNR=3.4						
WRA				LR	LR	07 57 14.5	
	comp=Z,49nm,18.4s,baz=65,slow=34						
ASAR	Alice Springs	31.82	258	P	P	07 45 58.9	+0.1
	2.7nm,0.7s,baz=86,slow=8.9,SNR=44						
ASAR				pP		07 46 09.2	
	1.3nm,0.6s,baz=88,slow=8.7,SNR=9.6						
GERES	GERESS Array B	145.04	330	PKPbc	PKPbc	07 59 10.1	-0.6
	1.2nm,0.7s,baz=46,slow=3.9,SNR=5.2						
GERES				pPKPbc		07 59 21.4	
	2.2nm,0.7s,baz=2.7,slow=2.8,SNR=8.8						

*NEIC **10** 07:41:34.0, 5922N×13637W, h10km, mb3.6/1, ML3.9(PGC), ML3.5(AEIC), After PGC.*
NEIC Felt at Haines, Klukwan and Mosquito Lake.

PGC 10 07:41:33.8±2.3, 5924N×13636W, h1km, ML3.9/4, 66km west of Haines, Ak Southeastern Alaska, Southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKAG	Skagway	0.57	67	ePg	Pg	07 41 44.5	-0.2
SKAG				eSg	Sg	07 41 52.3	+0.1
WHY	Whitehorse	1.60	27	P	Pn	07 42 02.2	-1.1
WHY				S	Sn	07 42 23.5	-1.0
HYT	Haines Junctio	1.69	341	P	Pn	07 42 03.3	-1.1
HYT				S	Sn	07 42 26.2	-0.4
SIT	Sitka	2.26	166	ePn	Pn	07 42 10.9	-1.3
SIT				eSn	Sn	07 42 39.7	-0.9
DLBC	Dease Lake	3.39	101	ePn	Pn	07 42 26.2	-1.5
DLBC	Dease Lake	3.39	101	Pn	Pn	07 42 26.4	-1.4
DLBC				Pg	Pg	07 42 34.9	-3.8
DLBC				Sg	Sg	07 43 19.2	-3.4
WRAK	Wrangell Islan	3.55	141	ePn	Pn	07 42 28.4	-1.5
WRAK				eSn	Sn	07 43 13.4	+0.9
CRAG	Craig	4.17	154	ePn	Pn	07 42 33.8	-4.6
CRAG				eSn	Sn	07 43 21.1	-6.6
DAWY	Dawson	5.05	345	ePn	Pn	07 42 49.8	-0.8
DAWY	Dawson	5.05	345	Pn	Pn	07 42 49.6	-1.0
DAWY				Sg	Sg	07 44 11.7	-4.1
MENT	Mentasta	5.15	319	ePn	Pn	07 42 50.9	-1.0
NDB	Naden	5.63	159	Pn	Pn	07 42 57.5	-1.0
NDB				Sg	Sg	07 44 28.4	-5.9
SML	Sawmill	6.45	299	ePn	Pn	07 43 14.1	+4.4
MOBC	Moresby Island	6.55	156	Pn	Pn	07 43 10.7	-0.4
FNBB	Fort Nelson	6.89	87	Pn	Pn	07 43 14.7	-1.1
FNBB				Sg	Sg	07 45 07.1	-7.9
COLA	College	7.80	321	ePn	Pn	07 43 26.5	-1.8
INK	Inuvik	9.19	7	ePn	Pn	07 43 48.9	+1.7
	80nm,0.6s						
INK	Inuvik	9.19	7	Pn	Pn	07 43 46.9	-0.3
YKW3	Yellowknife Ar	11.08	63	Pn	Pn	07 44 10.4	-2.6
EDM	Edmonton	14.10	105	ePn	Pn	07 44 52.8	-1.7
FFC	Flin Flon	19.13	89	eP	Pn	07 45 56.4	-2.3
	3.5nm,0.9s						

IDC 10 07:43:06.2±9.7, 2012S×16833E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.7/13, mbtmp3.6/3, Error ellipse: s-maj=277.0km s-min=57.1km az=136.0, Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	31.90	264	P	P	07 49 34.3	+0.8
	0.4nm,0.5s,baz=95,slow=8.5,SNR=5.4						
ASAR	Alice Springs	32.09	257	P	P	07 49 34.5	-0.7
	0.4nm,0.6s,baz=78,slow=9.0,SNR=6.0						
SONM	Songino Array	87.41	323	P	P	07 55 55.5	+0.3
	0.7nm,0.9s,baz=134,slow=4.2,SNR=4.3						

*NEIC **10** 07:47:29.8, 3855N×2161E, h5km, MD3.2(ATH), ML3.4(THE), After ATH.*
*ATH **10** 07:47:30.1, 3855N×2158E, h6km, MD3.2/5*
*ISCJB **10** 07:47:31.4±0.4, 3856N±002×2159E±003, h10km±3km, Error ellipse: s-maj=3.3km s-min=2.9km az=175.6*
*CSEM **10** 07:47:32.9±0.1, 3856N×2158E, h15km, ML3.4, Error ellipse: s-maj=1.6km s-min=1.4km az=75.0*
*THE **10** 07:47:32.5, 3856N×2162E, h3km, ML3.4*

ISC 10 07:47:32.1±0.3, 3857N±002×2160E±003, h15km±3km, n40, σ1§32/79, 4C, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SELA	Sela	0.37	142	ePg	Pg	07 47 39.0	-0.6
SELA				eSg	Sg	07 47 45.0	+0.4
EVR	Evrytania	0.39	25	⇑iPb	Pg	07 47 37.7	-2.2
EVR				⇑iPb	Pg	07 47 39.7	-0.2
EVR				eSb	Sg	07 47 43.8	-1.4
EVR				eSb	Sg	07 47 46.4	+1.2
EVR	Evrytania	0.39	25	⇑iPG	Pg	07 47 37.7	-2.2
EVR				eSB	Sg	07 47 43.8	-1.4
EVR	Evrytania	0.39	25	⇑iPB	Pg	07 47 39.7	-0.2
EVR				eSB	Sg	07 47 46.4	+1.2
EVR	Evrytania	0.39	25	*i* Pb	Pg	07 47 39.7	-0.2
EVR				eSb	Sg	07 47 46.4	+1.2
RLS	Riolos of Patr	0.52	192	ePb	Pb	07 47 40.2	-2.7
RLS				ePn	Pg	07 47 42.2	-0.1
RLS				eSb	Sb	07 47 47.3	-2.9
RLS				eSn	Sg	07 47 50.6	+1.4
RLS	Riolos of Patr	0.52	192	ePB	Pb	07 47 40.2	-2.7
RLS				eSB	Sb	07 47 47.3	-2.9
RLS	Riolos of Patr	0.52	192	ePN	Pg	07 47 42.2	-0.1
RLS				eSN	Sg	07 47 50.6	+1.4
RLS	Riolos of Patr	0.52	192	ePn	Pg	07 47 42.2	-0.1
RLS				eSb	Sb	07 47 47.3	-2.9
RLS				eSn	Sg	07 47 50.6	+1.4
AGG	Agios Georgios	0.73	51	ePg	Pg	07 47 46.1	-0.2
AGG				eSg	Sg	07 47 56.8	+0.8
LKD	Levkas	0.76	281	ePg	Pg	07 47 46.6	-0.3
LKD				eSg	Sg	07 47 58.2	+1.3
KFL	Anninata	0.79	235	ePg	Pg	07 47 46.9	-0.5
VLS	Valsamata	0.89	244	ePg	Pg	07 47 46.3	-2.9
VLS				ePb	Pb	07 47 48.3	-0.9
VLS				eSb	Sb	07 48 00.4	-0.4
VLS				eSn	Sn	07 48 02.6	0.0
VLS	Valsamata	0.89	244	ePb	Pb	07 47 48.3	-0.9
VLS				eSb	Sb	07 48 00.4	-0.4
VLS				eSn	Sn	07 48 02.6	0.0
THL	Klokotos Trika	1.05	18	ePG	Pg	07 47 49.5	-2.9
THL				eSB	Sb	07 48 04.8	-0.8
THL	Klokotos Trika	1.05	18	ePN	Pn	07 47 51.4	-0.9
THL				eSN	Sn	07 48 06.6	-0.1
THL	Klokotos Trika	1.05	18	ePn	Pn	07 47 51.4	-0.9
THL				eSb	Sb	07 48 04.8	-0.8
THL				eSn	Sn	07 48 06.6	-0.1
LKR	Lokris	1.10	85	ePG	Pg	07 47 50.4	-2.9
LKR				eSB	Sb	07 48 06.4	-0.6
LKR	Lokris	1.10	85	ePB	Pb	07 47 52.2	-0.6
LKR	Lokris	1.10	85	ePn	Pb	07 47 52.2	-0.6
LKR				eSb	Sb	07 48 06.4	-0.6
LTK	Loutraki	1.20	116	ePg	Pg	07 47 54.9	-0.4
LTK				eSg	Sg	07 48 12.7	+1.7
JAN	Janina	1.24	332	ePB	Pb	07 47 54.1	-1.1
MEV	Metsovon	1.25	347	ePg	Pg	07 47 56.7	+0.5
MEV				eSg	Sg	07 48 14.5	+1.9
VLX	Vlachokerasia	1.34	152	ePg	Pg	07 47 57.3	-0.7
VLX				eSg	Sg	07 48 16.6	+1.2
IGT	Igoumenitsa	1.38	315	ePg	Pg	07 47 58.6	-0.1
IGT				eSg	Sg	07 48 19.1	+2.5
IGT	Igoumenitsa	1.38	315	ePg	Pg	07 47 58.6	-0.1
IGT				eSg	Sg	07 48 19.1	+2.4
ITM	Ithomi	1.41	169	ePb	Pb	07 47 56.3	-1.8
ITM				ePn	Pn	07 47 58.3	+1.1
ITM				eSn	Sn	07 48 18.0	+2.5
ITM	Ithomi	1.41	169	ePN	Pn	07 47 58.3	+1.1
ITM				eSN	Sn	07 48 18.0	+2.5
ITM	Ithomi	1.41	169	ePn	Pn	07 47 58.3	+1.1
ITM				eSn	Sn	07 48 18.0	+2.5
NEO	Neokhori	1.47	59	ePb	Pb	07 47 57.4	-1.7
NEO				ePn	Pn	07 47 59.3	+1.3
NEO	Neokhori	1.47	59	ePN	Pn	07 47 59.3	+1.3
NEO	Neokhori	1.47	59	ePn	Pn	07 47 59.3	+1.3
DID	Didima	1.67	129	ePb	Pb	07 48 02.0	-0.5
DID				eSb	Sb	07 48 25.7	+2.3
PYL	PYLOS	1.67	176	ePb	Pb	07 48 03.0	+0.4
LIT	Litokhoron	1.68	24	ePb	Pb	07 48 02.1	-0.6
LIT				eSb	Sb	07 48 26.4	+2.7
KEK	Kerkira	1.81	310	ePN	Pn	07 48 03.9	+1.1
AOS	Alonnisos	1.88	71	ePb	Pb	07 48 04.6	-1.6
PAIG	Paliouri	2.11	49	ePn	Pn	07 48 08.1	+1.2
VLI	Veliai	2.13	150	ePN	Pn	07 48 08.4	+1.3
VLI	Veliai	2.13	150	ePg	Pn	07 48 08.9	+1.8

*IDC **10** 07:50:17.6±1.5, 3839N×2165E, h0km, mb3.5/2, mb1 3.7/3, mb1mx3.4/20, mbtmp3.5/3, Error ellipse: s-maj=51.0km s-min=21.5km az=121.0*
*NEIC **10** 07:50:18.3, 3858N×2151E, h17km, ML3.8(THE), ML3.3(ATH), After ATH.*
*ATH **10** 07:50:18.3, 3858N×2152E, h18km, MD3.6/6, ML3.3*
*CSEM **10** 07:50:18.7±0.1, 3855N×2155E, h10km, ML3.6, Error ellipse: s-maj=2.7km s-min=2.2km az=73.0*
*THE **10** 07:50:19.0, 3856N×2156E, h1km, ML3.6*
*ISCJB **10** 07:50:19.2±0.5, 3857N±003×2152E±004, h16km±7km, mb3.5/3, Error ellipse: s-maj=4.8km s-min=4.6km az=2.0*

ISC 10 07:50:18.8±0.5, 3856N±002×2153E±003, h9km±4km, n25, σ1§01/34, mb3.5/3, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SELA	Sela	0.40	135	ePg	Pg	07 50 25.7	-1.0
SELA				eSg	Sg	07 50 31.4	-0.6
EVR	Evrytania	0.42	31	ePB	Pg	07 50 26.4	-0.6
EVR				eSB	Sg	07 50 32.8	+0.3
RLS	Riolos of Patr	0.50	186	ePN	Pg	07 50 28.5	-0.1
RLS				eSN	Sg	07 50 36.1	+0.9
LKD	Levkas	0.71	282	ePg	Pg	07 50 32.1	-0.4
LKD				eSg	Sg	07 50 43.1	+1.3
KFL	Anninata	0.74	233	ePg	Pg	07 50 33.6	+0.5
AGG	Agios Georgios	0.78	53	ePg	Pg	07 50 33.3	-0.5
AGG				eSg	Sg	07 50 44.3	+0.4
VLS	Valsamata	0.83	243	ePN	Pn	07 50 34.4	-2.4
VLS				eSN	Sn	07 50 47.3	-1.9
THL	Klokotos Trika	1.07	20	ePN	Pn	07 50 38.5	-1.6
LKR	Lokris	1.15	85	ePN	Pn	07 50 40.6	-0.6
LTK	Loutraki	1.25	115	ePg	Pg	07 50 41.9	-0.9
LTK				eSg	Sg	07 50 59.8	+0.8
VLX	Vlachokerasia	1.36	150	ePg	Pg	07 50 43.8	-1.1
VLX				eSg	Sg	07 51 03.2	+0.6
ITM	Ithomi	1.41	167	ePN	Pn	07 50 45.5	+0.8
PYL	PYLOS	1.67	174	ePb	Pb	07 50 49.0	-0.8
PYL				eSb	Sb	07 51 11.4	+0.5
DID	Didima	1.71	127	ePb	Pb	07 50 49.0	-1.4
NAIG	Nisos Aigina	1.74	117	ePN	Pn	07 50 50.0	+0.8
KEK	Kerkira	1.77	311	ePN	Pn	07 50 50.0	+0.3
ATH	Athens Observa	1.81	108	ePN	Pn	07 50 51.0	+0.7
VLI	Veliai	2.15	148	ePN	Pn	07 50 57.0	+2.1
KYTH	Kithira	2.57	152	ePN	Pn	07 51 02.0	+1.3
KRUS	Krusevo	2.81	356	ePn	Pn	07 51 05.6	+1.6
MLR	Muntele Rosu	7.66	24	Pn	Pn	07 52 14.7	+4.0
	baz=204,slow=12						
NOA	NORSAR Array B	23.41	347	P	P	07 55 28.7	+0.7
NOA	NORSAR Array B	23.41	347	P	P	07 55 28.7	+0.7
	1.0nm,0.7s,mb3.4,baz=154,slow=6.8,SNR=3.9						
TORD	Torodi Ar. Bea	30.83	220	P	P	07 56 35.1	-0.1
	0.5nm,0.6s,mb3.5,baz=31,slow=9.2,SNR=8.5						
MKAR	Makanchi Array	44.42	59	P	P	07 58 29.4	-0.4
	0.4nm,0.4s,mb3.5,baz=278,slow=7.4,SNR=7.4						

*IDC **10** 07:56:47.4±1.1, 8485N×15703E, h0km, mb4.0/6, mb1 4.1/7, mb1mx3.9/15, mbtmp4.0/7, ML4.2/1, MS3.0/2, Ms1 3.0/2, ms1mx2.8/19, Error ellipse: s-maj=26.2km s-min=24.7km az=164.0*
*NEIC **10** 07:56:48.6±0.9, 8515N×157.12E, h10km, Error ellipse: s-maj=23.8km s-min=18.0km az=4.0*
*ISCJB **10** 07:56:51.5±0.8, 8535N±01.0×15690E±008, h33km, mb3.8/6, Error ellipse: s-maj=21.8km s-min=10.4km az=10.9*

ISC 10 07:56:53.4±0.8, 8585N±02×15690E±008, h35km, n9, σ0§86/9, mb3.8/6, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	3.15	107	Pn	Pn	07 57 35.0	-5.6
	30nm,0.3s,baz=295,slow=1.5,SNR=12						
HNR				Sn	Sn	07 58 16.7	-0.2
	55nm,0.3s,baz=108,slow=20,SNR=4.6						
CTA	Charters Tower	15.46	221	LR	LR	08 04 27.3	
	comp=Z,27nm,20.6s,baz=60,slow=30						
WRA	Warramunga Arr	24.62	240	P	P	08 02 09.6	-1.1
	4.0nm,0.8s,mb4.0,baz=65,slow=9.2,SNR=14						
WRA				LR	LR	08 11 11.0	
	comp=Z,67nm,20.8s,baz=295,slow=35						
ASAR	Alice Springs	26.69	233	P	P	08 02 28.9	-0.6
	1.0nm,0.9s,mb3.4,baz=60,slow=9.3,SNR=8.1						
STKA	Stephens Creek	27.27	209	P	P	08 02 36.1	+1.6
	1.2nm,0.5s,mb3.6,baz=41,slow=15,SNR=5.7						
SONM	Songino Array	71.61	327	P	P	08 08 11.1	-0.2
	0.8nm,0.8s,mb3.7,baz=132,slow=4.8,SNR=6.6						
MKAR	Makanchi Array	85.77	318	P	P	08 09 28.7	-0.4
MKAR	Makanchi Array	85.77	318	P	P	08 09 28.7	-0.4
	0.5nm,0.6s,mb4.0,baz=92,slow=6.6,SNR=7.0						
ZALV	Zalesovo Beam	86.47	326	P	P	08 09 33.4	+1.0
	0.4nm,0.3s,mb4.1,baz=130,slow=6.0,SNR=3.5						

WEL 10 08:10:41.3±0.3, 3824S×17618E, h152km±3km, ML3.5/4, Error ellipse: s-maj=2.7km s-min=2.6km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	0.73	92	PN	Pn	08 11 04.2	0.0
URZ				SN	Sn	08 11 21.1	-0.5
BK

ML3.5(ATH), After ATH.
ISC 10 08:13:46.1±0.4,3850N±002×2161E±002,h5km±3km,n190,
σ1°39/228,mb3.9/17,11C-13D,Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SELA	**Sela**	**0.31**	**135**	*e*Pg	**Pg**	**08 13 52.3**	**0.0**
SELA				*e*Sg	**Sg**	08 13 58.2	+1.8
EVR	**Evrytania**	**0.44**	**20**	*e*PB	**Pg**	**08 13 53.8**	**-0.9**
EVR				*e*SB	**Sg**	08 14 00.7	+0.2
RLS	**Riolos of Patr**	**0.46**	**195**	P	**Pg**	**08 13 55.6**	**+0.7**
KFL	**Anninata**	**0.76**	**239**	*e*Pg	**Pg**	**08 13 59.2**	**-1.4**
KFL	**Anninata**	**0.76**	**239**	*e*Pg	**Pg**	**08 13 59.2**	**-1.5**
AGG	**Agios Georgios**	**0.77**	**47**	*e*Pg	**Pg**	**08 13 59.5**	**-1.3**
AGG				*e*Sg	**Sg**	08 14 11.3	+0.5
LKD	**Levkas**	**0.78**	**286**	*e*Pg	**Pg**	**08 14 00.0**	**-1.1**
LKD				*e*Sg	**Sg**	08 14 10.9	-0.4
VLS	**Valsamata**	**0.87**	**248**	*e*PB	**Pb**	**08 14 01.7**	**-1.9**
VLS				*e*SN	**Sn**	08 14 15.8	-2.1
LKR	**Lokris**	**1.10**	**82**	P	**Pg**	**08 14 08.4**	**+1.2**
LTK	**Loutraki**	**1.17**	**114**	*e*Pg	**Pg**	**08 14 08.7**	**+0.2**
LTK				*e*Sg	**Sg**	08 14 26.6	+2.9
VLX	**Vlachokerasia**	**1.28**	**152**	*e*Pg	**Pg**	**08 14 09.5**	**-1.2**
VLX				*e*Sg	**Sg**	08 14 29.4	+2.2
JAN	**Janina**	**1.30**	**333**	*e*PN	**Pn**	**08 14 10.1**	**-0.8**
JAN				*e*SN	**Sn**	08 14 27.3	-1.3
MEV	**Metsovon**	**1.32**	**347**	*e*Pg	**Pg**	**08 14 09.5**	**-1.9**
ITM	**Ithomi**	**1.34**	**169**	*e*PN	**Pn**	**08 14 11.0**	**-0.5**
ITM				*e*SN	**Sn**	08 14 30.4	+0.7
IGT	**Igoumenitsa**	**1.43**	**316**	*e*Pg	**Pg**	**08 14 11.5**	**-2.2**
IGT				*e*Sg	**Sg**	08 14 32.2	-0.1
NEO	**Neokhori**	**1.49**	**57**	*e*PN	**Pn**	**08 14 13.0**	**-0.6**
NEO				*e*SN	**Sn**	08 14 33.6	+0.2
PYL	**PYLOS**	**1.60**	**176**	*e*Pb	**Pb**	**08 14 15.1**	**-1.1**
PYL				*e*Sb	**Sb**	08 14 36.9	+0.2
DID	**Didima**	**1.62**	**127**	*e*Pb	**Pb**	**08 14 15.7**	**-0.8**
DID				*e*Sb	**Sb**	08 14 37.9	+0.7
NAIG	**Nisos Aigina**	**1.65**	**116**	*e*PN	**Pn**	**08 14 16.5**	**+0.7**
LIT	**Litokhoron**	**1.74**	**23**	*e*Pb	**Pb**	**08 14 16.2**	**-2.3**
LIT				*e*Sb	**Sb**	08 14 39.7	-0.9
ATH	**Athens Observa**	**1.74**	**107**	*e*PN	**Pn**	**08 14 17.3**	**+0.4**
KZN	**Kozani**	**1.81**	**4**	*e*PN	**Pn**	**08 14 18.3**	**+0.4**
KVR	**Kavouri**	**1.83**	**111**	*e*PN	**Pn**	**08 14 19.0**	**+0.8**
PTL	**Penteli**	**1.83**	**104**	*e*PN	**Pn**	**08 14 18.0**	**-0.2**
KEK	**Kerkira**	**1.86**	**311**	*e*PN	**Pn**	**08 14 18.3**	**-0.3**
AOS	**Alonnisos**	**1.89**	**69**	*e*Pb	**Pb**	**08 14 18.1**	**-3.0**
VLI	**Veliai**	**2.07**	**149**	*e*PN	**Pn**	**08 14 22.7**	**+1.2**
VLI				*e*SN	**Sn**	08 14 48.5	+0.9
FNA	**Florina**	**2.29**	**355**	*e*Pn	**Pn**	**08 14 23.4**	**-1.1**
PLG	**Polygyros**	**2.35**	**37**	*e*Pn	**Pn**	**08 14 24.4**	**-0.9**
PLG	**Polygyros**	**2.35**	**37**	*e*PN	**Pn**	**08 14 24.8**	**-0.5**
THE	**Thessaloniki**	**2.37**	**26**	*e*Pn	**Pn**	**08 14 25.3**	**-0.4**
HORT	**Hortiatis**	**2.39**	**28**	*e*Pn	**Pn**	**08 14 25.5**	**-0.4**
KYTH	**Kithira**	**2.49**	**152**	*e*PB	**Pb**	**08 14 30.0**	**-1.3**
BIA	**Bitola**	**2.53**	**355**	*e*Pn	**Pn**	**08 14 27.4**	**-0.4**
BIA	**Bitola**	**2.53**	**355**	*i* Pn	**Pn**	**08 14 28.5**	**+0.7**
GRG	**Griva**	**2.53**	**14**	*e*Pn	**Pn**	**08 14 27.4**	**-0.3**
OUR	**Ouranopolis**	**2.59**	**44**	*e*Pn	**Pn**	**08 14 27.9**	**-0.8**
SOH	**Sokhos**	**2.68**	**30**	*e*Pn	**Pn**	**08 14 29.8**	**-0.1**
OHR	**Ohrid**	**2.68**	**347**	*i* Pn	**Pn**	**08 14 31.3**	**+1.4**
OHR				*i*		08 14 35.2	
OHR	**Ohrid**	**2.68**	**347**	*e*Pn	**Pn**	**08 14 29.0**	**-0.9**
KNT	**Kendrikon**	**2.84**	**20**	*e*Pn	**Pn**	**08 14 31.8**	**-0.3**
KRUS	**Krusevo**	**2.88**	**355**	*i* Pn	**Pn**	**08 14 34.4**	**+1.8**
VAY	**Valandovo**	**2.91**	**14**	*i* Pn	**Pn**	**08 14 33.3**	**+0.2**
VAY				*i*		08 14 38.7	
VAY	**Valandovo**	**2.91**	**14**	*e*Pn	**Pn**	**08 14 32.8**	**-0.3**
LOS	**Limnos**	**3.05**	**61**	*e*Pn	**Pn**	**08 14 34.2**	**-0.8**
LCI	**Lecce**	**3.27**	**305**	Pn	**Pn**	**08 14 40.0**	**+2.0**
APE	**Apeiranthos**	**3.42**	**114**	*e*Pn	**Pn**	**08 14 40.5**	**+0.5**
APE	**Apeiranthos**	**3.42**	**114**	*e*P	**Pn**	**08 14 41.5**	**+1.5**
SKO	**Skopje**	**3.47**	**358**	*i* Pn	**Pn**	**08 14 45.5**	**+4.7**
CHOS	**Chios island**	**3.49**	**90**	*e*Pn	**Pn**	**08 14 41.5**	**+0.4**
PRK	**Paraskevi**	**3.71**	**77**	*e*PN	**Pn**	**08 14 44.4**	**+0.3**
VAM	**Vamos**	**3.72**	**145**	*e*PB	**Pb**	**08 14 47.4**	**-4.9**
TIP	**Timpagrande**	**3.85**	**282**	P	**Pn**	**08 14 47.2**	**+1.2**
TA1	**Taranto**	**3.86**	**301**	*e*Pn	**Pn**	**08 14 44.3**	**-1.7**
ULC	**Ulcinj**	**3.90**	**333**	⇑*i*Pn	**Pn**	**08 14 48.2**	**+1.5**
ULC				*e*Sn	**Sn**	08 15 33.9	+1.0
PE1	**Pezze di Greco**	**3.97**	**307**	*e*Pn	**Pn**	**08 14 48.1**	**+0.5**
RDO	**Rodhopi**	**4.01**	**48**	*e*PN	**Pn**	**08 14 50.6**	**+2.4**
ALN	**Alexandroupoli**	**4.17**	**54**	*e*Pn	**Pn**	**08 14 50.5**	**+0.1**
VTS	**Vitosha**	**4.26**	**16**	*e*Pn	**Pn**	**08 14 52.7**	**+1.1**
VTS	**Vitosha**	**4.26**	**16**	⇓*i*P	**Pn**	**08 14 54.1**	**+2.4**
VTS	**Vitosha**	**4.26**	**16**	P	**Pn**	**08 14 54.1**	**+2.4**
PVY	**Plav**	**4.28**	**344**	⇓*i*Pn	**Pn**	**08 14 53.5**	**+1.7**
PVY				*e*Sn	**Sn**	08 15 43.2	+1.1
BARS	**Barje**	**4.31**	**2**	*e*Pn	**Pn**	**08 14 52.5**	**+0.2**
PDG	**Podgorica**	**4.32**	**336**	⇑*i*Pn	**Pn**	**08 14 53.8**	**+1.4**
PDG				*e*Sn	**Sn**	08 15 44.1	+1.1
TTG	**Podgorica**	**4.32**	**336**	⇑*i*Pn	**Pn**	**08 14 53.8**	**+1.4**
TTG				*e*Sn	**Sn**	08 15 44.1	+1.1
BUM	**Brajici-Budva**	**4.33**	**332**	⇑*i*Pn	**Pn**	**08 14 54.1**	**+1.6**
BUM				*e*Sn	**Sn**	08 15 44.4	+1.1
SG1	**Sgolgore (BA)**	**4.47**	**303**	*e*Pn	**Pn**	**08 14 54.8**	**+0.4**
BEY	**Berane**	**4.56**	**344**	⇑*i*Pn	**Pn**	**08 14 57.4**	**+1.7**
BEY				*e*Sn	**Sn**	08 15 50.1	+1.1
IVA	**Berane**	**4.56**	**344**	⇑*i*Pn	**Pn**	**08 14 57.4**	**+1.7**
IVA				*e*Sn	**Sn**	08 15 50.1	+1.1
HCY	**Herceg Novi**	**4.60**	**330**	⇓*i*Pn	**Pn**	**08 14 58.1**	**+1.8**
HCY				*e*Sn	**Sn**	08 15 51.0	+0.9
NKY	**Niksic**	**4.74**	**336**	⇓*i*Pn	**Pn**	**08 15 00.0**	**+1.7**
NKY				*e*Sn	**Sn**	08 15 54.3	+0.7
CDT	**Castel del Mon**	**4.85**	**304**	*e*Pn	**Pn**	**08 14 59.3**	**-0.5**
MGR	**Morigerati**	**4.97**	**291**	Pn	**Pn**	**08 15 02.2**	**+0.8**
BRY	**Bratogost**	**4.98**	**333**	⇑*i*Pn	**Pn**	**08 15 03.0**	**+1.6**
BRY				*e*Sn	**Sn**	**08 16 00.0**	**+0.7**
PLE	**Pljevlja**	**5.11**	**342**	⇑*i*Pn	**Pn**	**08 15 05.1**	**+1.8**
PLE				*e*Sn	**Sn**	**08 16 03.3**	**+0.7**
UPM	**Unac-Piva**	**5.12**	**337**	⇓*i*Pn	**Pn**	**08 15 05.1**	**+1.6**
UPM				*e*Sn	**Sn**	**08 16 03.7**	**+0.7**
STON	**Ston**	**5.28**	**327**	*e*Pn	**Pn**	**08 15 03.3**	**-2.4**
STON				Sn	**Sn**	**08 16 01.4**	**-5.4**
STON	**Ston**	**5.28**	**327**	*e*Pn	**Pn**	**08 15 03.3**	**-2.4**
STON				Sn	**Sn**	**08 16 01.4**	**-5.5**
SGO	**Sicignano**	**5.29**	**295**	P	**Pn**	**08 15 07.5**	**+1.7**
SGO				pmax	pmax		
	comp=Z,19nm,0.4s						
SGO	**Sicignano**	**5.29**	**295**	Pn	**Pn**	**08 15 07.5**	**+1.7**
	comp=Z,19nm,0.4s						
FGMS	**Monte Sant'Ang**	**5.39**	**308**	Pn	**Pn**	**08 15 06.4**	**-0.8**
	comp=Z,19nm,0.4s						
MS1	**Monte Sant'Ang**	**5.40**	**308**	*e*Pn	**Pn**	**08 15 06.7**	**-0.5**
GRUS	**Gruza**	**5.43**	**353**	*e*Pn	**Pn**	**08 15 06.6**	**-1.0**
RGNG	**Rignano Grg**	**5.60**	**306**	Pn	**Pn**	**08 15 09.6**	**-0.5**
DIVS	**Divibare**	**5.72**	**348**	*e*Pn	**Pn**	**08 15 11.0**	**-0.8**
MRB1	**Monte Rocchett**	**5.75**	**299**	Pn	**Pn**	**08 15 13.3**	**+1.3**
	comp=Z,132nm,0.6s						
VAE	**Valguarnera**	**5.78**	**262**	Pn	**Pn**	**08 15 17.4**	**+4.9**
	comp=Z,2.7nm,0.3s,baz=284,slow=2.5,SNR=3.6						
VAE				Sn	**Sn**	**08 16 26.0**	**+6.9**
	comp=Z,2.3nm,0.3s,baz=133,slow=20,SNR=3.8						
PSB1	**Pescosannita**	**5.90**	**300**	Pn	**Pn**	**08 15 17.2**	**+3.1**
	comp=Z,64nm,0.8s						
CIGN	**Sant'Elia a Pi**	**6.03**	**304**	Pn	**Pn**	**08 15 16.3**	**+0.4**
	comp=Z,47nm,0.6s						
SDI	**San Donato**	**6.79**	**301**	P	**Pn**	**08 15 28.3**	**+2.0**
SDI				pmax	pmax		
	comp=Z,13nm,0.9s						
SDI	**San Donato**	**6.79**	**301**	Pn	**Pn**	**08 15 28.3**	**+2.0**
	comp=Z,13nm,0.9s						
INTR	**Introdacqua**	**6.86**	**303**	Pn	**Pn**	**08 15 27.1**	**-0.2**
	comp=Z,72nm,0.5s						
VVLD	**Villa Vallelon**	**6.98**	**301**	Pn	**Pn**	**08 15 30.5**	**+1.5**
	comp=Z,66nm,0.9s						
BZS	**Buzias**	**7.11**	**0**	⇓*i*P	**Pn**	**08 15 31.5**	**+0.8**
GUAR	**Guarcino**	**7.16**	**300**	Pn	**Pn**	**08 15 34.7**	**+3.3**
	comp=Z,28nm,0.5s						
AQU	**L'Aquila**	**7.35**	**304**	*e*P	**Pn**	**08 15 35.7**	**+1.7**
AQU				pmax	pmax		
	comp=Z,26nm,0.8s						
AQU	**L'Aquila**	**7.35**	**304**	*e*Pn	**Pn**	**08 15 35.7**	**+1.7**
	comp=Z,26nm,0.8s						
TERO	**Teramo**	**7.36**	**307**	Pn	**Pn**	**08 15 34.3**	**+0.2**
	comp=Z,24nm,0.5s						
VOIR		**7.39**	**19**	⇑P	**Pn**	**08 15 36.9**	**+2.4**
VOIR		**7.39**	**19**	⇑*i*P	**Pn**	**08 15 36.9**	**+2.3**
MLR	**Muntele Rosu**	**7.69**	**23**	⇓P	**Pn**	**08 15 41.7**	**+3.0**
MLR	**Muntele Rosu**	**7.69**	**23**	Pn	**Pn**	**08 15 41.1**	**+2.4**
	comp=Z,0.5nm,0.3s,baz=274,slow=15,SNR=6.5						
MLR				LR	LR	08 17 57.8	
	comp=Z,40nm,19.4s,baz=112,slow=34						
MLR	**Muntele Rosu**	**7.69**	**23**	⇓*i*P	**Pn**	**08 15 41.7**	**+3.0**
TIRR	**Tirgusor**	**7.84**	**38**	⇓P	**Pn**	**08 15 41.8**	**+1.1**
TIRR	**Tirgusor**	**7.84**	**38**	⇓*i*P	**Pn**	**08 15 41.8**	**+1.1**
NVLJ	**Novalja**	**7.89**	**322**	*e*Pn	**Pn**	**08 15 39.2**	**-2.2**
NVLJ				Sn	**Sn**	08 17 05.7	-5.3
VRI	**Vrincioaia**	**8.28**	**26**	⇓P	**Pn**	**08 15 48.5**	**+1.7**
VRI	**Vrincioaia**	**8.28**	**26**	⇓*i*P	**Pn**	**08 15 48.5**	**+1.7**
BOJS	**Bojanci**	**8.45**	**328**	*e*Pn	**Pn**	**08 15 48.8**	**-0.3**
BOJS				*i* Sn	**Sn**	08 17 21.2	-3.6
CEY	**Cerknica**	**8.99**	**326**	*e*Pn	**Pn**	**08 15 54.3**	**-2.2**
CEY				*e*Sn	**Sn**	08 17 35.0	-3.0
CEY	**Cerknica**	**8.99**	**326**	*e*Sn	**Sn**	08 17 35.0	-3.0
PERS	**Pernice**	**9.43**	**332**	*e*Pn	**Pn**	08 16 02.0	-0.6
VOY	**Vojsko**	**9.45**	**325**	*e*Pn	**Pn**	08 16 01.2	-1.6
VOY				*e*		08 16 03.8	
VOY				*e*Sn	**Sn**	08 17 46.8	-2.6
VOY	**Vojsko**	**9.45**	**325**	*e*P	**Pn**	08 16 03.8	+1.0
VOY				*e*Sn	**Sn**	08 17 46.8	-2.6
PSZ	**Piszkesteto**	**9.50**	**353**	*e*Pn	**Pn**	08 16 05.4	+2.0
	comp=Z,8.8nm,0.8s						
PSZ	**Piszkesteto**	**9.50**	**353**	*e*P	**Pn**	08 16 05.4	+2.0
PSZ				pmax	pmax		
	comp=Z,9.0nm,0.8s						
PSZ	**Piszkesteto**	**9.50**	**353**	⇑*i*P	**Pn**	08 16 04.5	+1.1
PSZ	**Piszkesteto**	**9.50**	**353**	⇓*e*	**Pn**	08 16 08.4	+5.0
PSZ	**Piszkesteto**	**9.50**	**353**	*e*Pn	**Pn**	08 16 05.4	+2.0
	comp=Z,8.8nm,0.8s						
ROBS	**Robic**	**9.78**	**325**	*i* Pn	**Pn**	08 16 05.8	-1.6
KECS	**Kecovo**	**10.01**	**356**	*e*PN	**Pn**	08 16 17.1	+6.6
KEST	**Kesra**	**10.18**	**258**	Pn	**Pn**	08 16 16.1	+3.2
	comp=Z,0.1nm,0.3s,baz=121,slow=3.5,SNR=3.8						
VYHS	**Vyhne**	**10.19**	**350**	*e*PN	**Pn**	08 16 16.6	+3.7
VYHS				*e*SN	**Sn**	08 18 10.2	+2.7
PGF	**Pioggiola**	**10.42**	**297**	*e*P	**Pn**	08 16 21.8	+5.7
	comp=Z,26nm,1.2s						
PGF	**Pioggiola**	**10.42**	**297**	*e*P	**Pn**	08 16 21.8	+5.7
PGF				pmax	pmax		
	comp=Z,13nm,1.2s						
PGF	**Pioggiola**	**10.42**	**297**	*e*P	**Pn**	08 16 21.8	+5.7
	comp=Z,13nm,1.2s						
GERES	**GERESS Array B**	**11.81**	**334**	Pn	**Pn**	08 16 34.7	-0.5
	comp=Z,0.4nm,0.3s,baz=147,slow=15,SNR=4.6						
GERES				Sn	**Sn**	08 18 43.9	-3.4
	comp=Z,0.2nm,0.3s,baz=157,slow=23,SNR=2.8						
SBF	**Sospel**	**11.95**	**301**	*e*P	**Pn**	08 16 42.7	+5.7
DAVOX	**Davos/Dischmat**	**11.95**	**318**	Sn	**Sn**	08 18 45.8	-4.9
	comp=Z,0.2nm,0.3s,baz=193,slow=12,SNR=2.3						
KHC	**Kasperske Hory**	**12.10**	**334**	P	**Pn**	08 16 38.1	-0.9
MBDF	**Montbardon**	**12.72**	**304**	*e*P	**Pn**	08 16 52.9	+5.3
	comp=Z,11nm,1.0s						
MBDF	**Montbardon**	**12.72**	**304**	*e*P	**Pn**	08 16 52.9	+5.3
MBDF				pmax	pmax		
	comp=Z,6.0nm,1.0s						
MBDF	**Montbardon**	**12.72**	**304**	*e*P	**Pn**	08 16 52.9	+5.3
	comp=Z,5.6nm,1.0s						
LPG	**La Plagne**	**13.07**	**307**	*e*P	**Pn**	08 16 57.5	+5.2
LPL	**La Plagne**	**13.09**	**307**	*e*P	**Pn**	08 16 57.6	+5.0
AKASG	**Malin Array Be**	**13.34**	**21**	Pn	**Pn**	08 16 55.7	-0.3
	comp=Z,0.4nm,0.3s,baz=210,slow=12,SNR=7.3						
ANN	**Anapa**	**13.39**	**57**	*e*P	**Pn**	08 17 00.5	+3.8
ANN				pmax	pmax		
	comp=Z,14nm,1.1s						
CABF	**La Chapelle**	**14.01**	**310**	*e*P	**Pn**	08 17 09.1	+4.0
	comp=Z,8.2nm,0.8s						
CABF	**La Chapelle**	**14.01**	**310**	*e*P	**Pn**	08 17 09.1	+4.0
CABF				pmax	pmax		
	comp=Z,4.0nm,0.8s						
CABF	**La Chapelle**	**14.01**	**310**	*e*P	**Pn**	08 17 09.1	+4.0
	comp=Z,4.1nm,0.8s						
LASF	**Ste Croix**	**14.46**	**298**	*e*P	**Pn**	08 17 15.9	+4.6
	comp=Z,2.0nm,0.5s						
LASF	**Ste Croix**	**14.46**	**298**	*e*P	**Pn**	08 17 15.9	+4.6
	comp=Z,1.0nm,0.5s						
SMF	**Signal de Mont**	**15.39**	**308**	*e*P	**Pn**	08 17 27.7	+3.8
	comp=Z,5.8nm,0.7s						
SMF	**Signal de Mont**	**15.39**	**308**	*e*P	**Pn**	08 17 27.7	+3.8
SMF				pmax	pmax		
	comp=Z,3.0nm,0.7s						
SMF	**Signal de Mont**	**15.39**	**308**	*e*P	**Pn**	08 17 27.7	+3.8
	comp=Z,2.9nm,0.7s						
MTLF	**Montolieu**	**15.43**	**294**	*e*P	**Pn**	08 17 28.5	+4.1
	comp=Z,1.6nm,0.5s						
MTLF	**Montolieu**	**15.43**	**294**	*e*P	**Pn**	08 17 28.5	+4.1
MTLF				pmax	pmax		
	comp=Z,1.0nm,0.5s						
MTLF	**Montolieu**	**15.43**	**294**	*e*P	**Pn**	08 17 28.5	+4.1
	comp=Z,0.8nm,0.5s						
LOR	**Lormes**	**15.66**	**310**	*e*P	**Pn**	08 17 30.7	+3.3
	comp=Z,2.7nm,0.5s						
LOR	**Lormes**	**15.66**	**310**	*e*P	**Pn**	08 17 30.7	+3.3
LOR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
LOR	**Lormes**	**15.66**	**310**	*e*P	**Pn**	08 17 30.7	+3.3
	comp=Z,1.4nm,0.5s						
AVF	**Avril sur Loir**	**15.76**	**308**	*e*P	**Pn**	08 17 32.1	+3.5
	comp=Z,12nm,1.0s						
AVF	**Avril sur Loir**	**15.76**	**308**	*e*P	**Pn**	08 17 32.1	+3.5
AVF				pmax	pmax		
	comp=Z,6.0nm,1.0s						
AVF	**Avril sur Loir**	**15.76**	**308**	*e*P	**Pn**	08 17 32.1	+3.5
	comp=Z,6.1nm,1.0s						
SSF	**Saint Saulge**	**15.78**	**309**	*e*P	**Pn**	08 17 32.6	+3.7
	comp=Z,6.3nm,0.6s						
SSF	**Saint Saulge**	**15.78**	**309**	*e*P	**Pn**	08 17 32.6	+3.7
SSF				pmax	pmax		
	comp=Z,3.0nm,0.6s						
SSF	**Saint Saulge**	**15.78**	**309**	*e*P	**Pn**	08 17 32.6	+3.7
	comp=Z,3.2nm,0.6s						
KIV	**Kislovodsk**	**16.75**	**64**	*e*P	**Pn**	08 17 38.8	-2.5
KIV				pmax	pmax		
	comp=Z,5.0nm,0.9s						
KIV	**Kislovodsk**	**16.75**	**64**	*e*P	**Pn**	08 17 38.8	-2.5
	comp=Z,5.0nm,0.9s						
GRR	**Gorron**	**19.01**	**309**	*e*P	**Pn**	08 18 13.3	+4.0
OBN	**Obninsk**	**19.45**	**26**	*e*P	**Pn**	08 18 11.2	-3.2
OBN				pmax	pmax		
	comp=Z,4.0nm,0.5s						
OBN	**Obninsk**	**19.45**	**26**	*e*P	**Pn**	08 18 11.2	-3.2
	comp=Z,4.0nm,0.5s						
ESDC	**Sonseca Array**	**19.87**	**281**	P	**Pn**	08 18 20.8	+1.1
	comp=Z,0.4nm,0.3s,baz=83,slow=11,SNR=4.7						
VSU	**Vasula**	**20.25**	**8**	P	**P**	08 18 19.4	-2.6
HFS	**Hagfors**	**22.23**	**349**	P	**P**	08 18 41.6	-1.7
	comp=Z,2.2nm,0.5s,mb3.9,baz=143,slow=10,SNR=6.2						
FINES	**FINESS Array B**	**23.14**	**5**	P	**P**	08 18 49.5	-3.4
	comp=Z,4.0nm,0.8s,mb3.9,baz=178,slow=8.8,SNR=13						
FINES	**FINESS Array B**	**23.14**	**5**	P	**P**	08 18 50.9	-2.0
NB2	**NORSAR Subarra**	**23.48**	**347**	P	**P**	08 18 53.9	-2.6
	comp=Z,2.6nm,0.7s,mb3.8,baz=158,slow=11						
NOA	**NORSAR Array B**	**23.48**	**347**	P	**P**	08 18 53.1	-3.4
	comp=Z,3.5nm,0.8s,mb3.9,baz=171,slow=8.2,SNR=8.5						
EKA	**Eskdalemuir Ar**	**23.67**	**323**	P	**P**	08 18 56.0	-2.5
	comp=Z,6.1nm,0.9s,mb4.0,baz=125,slow=9.6,SNR=8.0						
KAF	**Kangasniemi**	**23.82**	**5**	*e*p	**P**	08 17 58.6	-2.1
	comp=Z,1.2nm,0.4s,mb3.7						
KAF	**Kangasniemi**	**23.82**	**5**	*e*P	**P**	08 17 58.6	-2.1
KAF				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb3.6						
JOF	**Joensuu**	**25.15**	**10**	*e*p	**P**	08 19 08.9	-3.0
	comp=Z,5.4nm,0.9s,mb4.1						
ARU	**Arti**	**30.25**	**42**	*e*P	**P**	08 19 56.7	-0.9
ARU				*e*S	**S**	08 24 52.1	-5.3
ARU	**Arti**	**30.25**	**42**	P	**P**	08 19 56.5	-1.1
TORD	**Torodi Ar. Bea**	**30.82**	**220**	P	**P**	08 20 02.5	-0.6
	comp=Z,1.5nm,0.5s,mb4.1,baz=30,slow=8.8,SNR=14						
ARCES	**ARCESS Array B**	**31.17**	**3**	P	**P**	08 20 03.1	-2.5
	comp=Z,1.1nm,0.6s,mb3.9,baz=193,slow=10.0,SNR=4.0						
EKS2	**Erkin-Say**	**39.32**	**67**	*e*P	**P**	08 21 16.3	+0.3
	comp=Z,4.2nm,0.8s,mb4.2						
DBIC	**Dimbokro**	**39.72**	**224**	P	**P**	08 21 19.0	-0.5
	comp=Z,3.7nm,1.1s,mb4.0,baz=162,slow=6.4,SNR=2.6						
KURK	**Kurchatov**	**41.40**	**54**	*e*P	**P**	08 21 32.5	-0.6
KURK	**Kurchatov**	**41.40**	**54**	*e*P	**P**	08 21 32.5	-0.6
MKAR	**Makanchi Array**	**44.40**	**59**	P	**P**	08 21 55.9	-1.6
	comp=Z,1.3nm,0.5s,mb3.9,baz=281,slow=7.0,SNR=9.6						
ZAL	**Zalesovo**	**44.83**	**48**	P	**P**	08 21 58.9	-1.9
ZALV	**Zalesovo Beam**	**44.84**	**48**	P	**P**	08 21 58.9	-2.0
	comp=Z,2.6nm,0.5s,mb4.3,baz=276,slow=8.3,SNR=10.0						
TLY	**Talaya**	**56.44**	**48**	P	**P**	08 23 26.7	-1.8
SCHQ	**Schefferville**	**58.80**	**317**	P	**P**	08 23 43.7	-1.4
	comp=Z,1.1nm,0.4s,mb4.3,baz=230,slow=16,SNR=6.3						
SONM	**Songino Array**	**59.59**	**51**	P	**P**	08 23 48.8	-1.9
	comp=Z,0.2nm,0.4s,mb3.5,baz=280,slow=8.2,SNR=2.7						
YKA	**Yellowknife Ar**	**73.38**	**340**	P	**P**	08 25 16.8	-1.8
	comp=Z,0.5nm,0.8s,mb3.5,baz=31,slow=5.3,SNR=3.9						
ULM	**Lac du Bonnet**	**75.95**	**324**	P	**P**	**08 25 32.4**	**-1.3**
	comp=Z,2.1nm,0.9s,mb4.0,baz=39,slow=8.0,SNR=3.4						
PDAR	**Pinedale Array**	**87.76**	**326**	P	**P**	**08 26 34.9**	**-1.2**
	comp=Z,0.2nm,0.5s,mb3.6,baz=49,slow=6.7,SNR=3.7						

IDC 10 08:20:26.0±1.1,3108N×1420E,h0km,mb3.5/6,
mb1 3.6/8,mb1mx3.6/20,mbtmp3.5/8,ML3.5/2,Error
ellipse: s-maj=40.2km s-min=18.2km az=78.0
ISCJB 10 08:20:26.9±3.8,3099N±008×1420E±03,h21km±28km,
mb3.5/6,Error ellipse: s-maj=41.0km s-min=8.5km
az=165.3
NEIC 10 08:20:31.2±2.0,3106N×1419E,h37km±18km,
MG3.9(JMA),Error ellipse: s-maj=29.7km s-min=15.3km
az=78.0
ISC 10 08:20:30.8±3.7,3100N±008×1420E±03,h34km±28km,n12,
σ0°87/14,mb3.5/6,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**3.90**	**177**	Pn	**Pn**	**08 21 30.3**	**+2.0**
	4.4nm,0.3s,baz=138,slow=23,SNR=5.0						
CBIJ				Sn	**Sn**	**08 22 11.6**	**-1.3**
	3.1nm,0.3s,baz=246,slow=17,SNR=2.7						
MJAR	**Matsushiro Arr**	**6.36**	**331**	Pn	**Pn**	**08 22 01.4**	**-0.7**
MJAR	**Matsushiro Arr**	**6.36**	**331**	Pn	**Pn**	**08 22 01.4**	**-0.7**
	1.4nm,0.3s,baz=157,slow=11,SNR=14						
MAJO	**Matsushiro**	**6.36**	**331**	*e*Pn	**Pn**	**08 22 01.6**	**-0.5**
MAT	**Matsushiro**	**6.36**	**331**	P	**Pn**	**08 22 01.7**	**-0.4**
MAT				*e*S	**Sn**	**08 23 14.8**	**+1.3**
SONM	**Songino Array**	**31.87**	**312**	P	**P**	**08 26 51.8**	**-0.9**
	0.5nm,0.8s,mb3.4,baz=108,slow=9.0,SNR=4.7

THL	Klokotos Trika	1.05	18	*e*PN	Pn	08 38 59.7	-0.7
THL				*e*SB	Sb	08 39 14.8	+1.1
LKR	Lokris	1.11	85	‖ *i*PB	Pb	08 39 00.2	-0.6
LKR	Lokris	1.11	85	‖ *e*Pb	Pb	08 39 00.2	-0.6
JAN	Janina	1.23	333	*e*PB	Pb	08 39 03.2	+0.4
ITM	Ithomi	1.41	169	*e*PG	Pn	08 39 04.9	-0.4
ITM	Ithomi	1.41	169	*e*Pb	Pb	08 39 06.8	+0.9
NEO	Neokhori	1.48	59	*e*PG	Pg	08 39 06.6	-0.9
KEK	Kerkira	1.80	310	*e*PG	Pg	08 39 12.8	-0.9
VLI	Veliai	2.14	149	*e*PN	Pb	08 39 18.1	-0.1

*ISCJB **10** 08:43:13.6±0.4, 2691S±003×2671E±004, h10km, mb4.1/9, Error ellipse: s-maj=5.2km s-min=4.3km az=37.3*
*PRE **10** 08:43:13.5±0.5, 2690S×2676E, h2km, ML3.9*
*NEIC **10** 08:43:13.6, 2700S×2672E, h2km, ML4.1(PRE), After PRE.*
*IDC **10** 08:43:13.9±0.7, 2693S×2666E, h0km, mb4.1/9, mb1 4.3/14, mb1mx4.1/27, mbtmp4.2/14, ML4.4/4, Error ellipse: s-maj=22.8km s-min=11.9km az=81.0*

ISC 10 08:43:15.1±0.4, 2690S±003×2676E±003, h10km, n37, σ0§99/49, mb4.1/9, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRYS	**Parys**	**0.54**	**93**	*e*P	**Pg**	**08 43 23.9**	**-1.7**
PRYS				*e*S	**Sg**	**08 43 31.3**	**-1.4**
PRYS				AML	AML	08 43 38.2	
	comp=Z,5μm,0.7s						
KSR	**Koster**	**1.05**	**7**	*e*P	**Pg**	**08 43 33.6**	**-1.8**
KSR				*e*S	**Sg**	**08 43 48.6**	**-0.4**
KSR				AML	AML	08 43 55.2	
	comp=Z,2μm,0.2s						
SWZ	**Schweizer**	**1.30**	**257**	*e*P	**Pn**	**08 43 38.2**	**-1.1**
SWZ				*e*S	**Sb**	**08 43 56.5**	**+0.1**
SWZ				AML	AML	08 43 58.3	
	comp=Z,4μm,0.2s						
ERPM	**east rand prop**	**1.48**	**64**	*e*P	**Pn**	**08 43 41.7**	**-0.1**
ERPM				*e*S	**Sn**	**08 44 02.3**	**+1.1**
ERPM				AML	AML	08 44 04.7	
	comp=Z,473nm,0.7s						
SEK	**Senekal**	**1.61**	**152**	*e*P	**Pn**	**08 43 43.5**	**-0.1**
SEK				*e*S	**Sn**	**08 44 05.3**	**+0.9**
SEK				AML	AML	08 44 07.7	
	comp=Z,2μm,0.6s						
LBTB	**Lobatse**	**2.15**	**331**	Pn	**Pn**	**08 43 52.9**	**+1.9**
	comp=Z,126nm,0.3s,baz=166,slow=14,SNR=410						
LBTB				Lg		08 44 20.7	
	comp=Z,658nm,0.3s,baz=258,slow=16,SNR=52						
LBTB				Rg		08 44 32.2	
	comp=Z,1μm,0.8s,baz=14,slow=5.0,SNR=25						
HVD	**Gariep Dam**	**3.85**	**196**	*e*P	**Pn**	**08 44 14.8**	**+0.5**
HVD				*e*S	**Sn**	**08 44 59.4**	**-0.3**
HVD				AML	AML	08 45 15.7	
	comp=Z,279nm,0.6s						
MATP	**Matopo**	**6.64**	**14**	Pn	**Pn**	**08 44 54.1**	**+1.4**
MATP				Pg	**Pg**	**08 45 14.8**	**-7.5**
MATP				Sn	**Sn**	**08 46 00.9**	**-7.6**
MATP				Lg		08 46 38.3	
MATP	**Matopo**	**6.64**	**14**	Pn	**Pn**	**08 44 54.1**	**+1.4**
	comp=Z,4.4nm,0.3s,baz=193,slow=13,SNR=51						
MATP				Pg	**Pg**	**08 45 14.8**	**-7.5**
	comp=Z,2.8nm,0.3s,baz=191,slow=15,SNR=6.1						
MATP				Sn	**Sn**	**08 46 00.9**	**-7.6**
	comp=Z,4.9nm,0.3s,baz=279,slow=14,SNR=4.2						
MATP				Lg		08 46 38.3	
	comp=Z,9.7nm,0.3s,baz=284,slow=23,SNR=6.2						
SUR	**Sutherland**	**7.52**	**222**	*e*P	**Pn**	**08 45 05.2**	**+0.4**
SUR				*e*S	**Sn**	**08 46 27.0**	**-3.1**
SUR	**Sutherland**	**7.52**	**222**	*e*Pn	**Pn**	**08 45 03.8**	**-0.9**
	comp=Z,16nm,0.3s						
SUR				*e*Sn	**Sn**	**08 46 23.4**	**-6.7**
SUR	**Sutherland**	**7.52**	**222**	Pn	**Pn**	**08 45 03.5**	**-1.3**
	comp=Z,9.8nm,0.3s,baz=58,slow=12,SNR=60						
SUR				Sn	**Sn**	**08 46 19.2**	**-11**
	comp=Z,6.2nm,0.3s,baz=53,slow=14,SNR=4.0						
SUR				Lg		08 47 00.5	
	comp=Z,17nm,0.3s,baz=335,slow=21,SNR=8.6						
KOMG	**Komaggas**	**8.66**	**248**	*e*P	**Pn**	**08 45 20.8**	**+0.3**
KOMG				*e*S	**Sn**	**08 46 54.3**	**-4.0**
KOMG				AML	AML	08 47 53.5	
	comp=Z,27nm,0.8s						
TSUM	**Tsumeb**	**11.40**	**310**	*e*Pn	**Pn**	**08 45 56.5**	**-1.6**
	comp=Z,4.0nm,0.4s						
TSUM				*e*Sn	**Sn**	**08 47 58.5**	**-7.0**
TSUM	**Tsumeb**	**11.40**	**310**	Pn	**Pn**	**08 45 56.7**	**-1.3**
	comp=Z,1.6nm,0.3s,baz=143,slow=14,SNR=11						
TSUM				Sn	**Sn**	**08 47 58.0**	**-7.5**
	comp=Z,0.8nm,0.3s,baz=181,slow=22,SNR=2.9						
TSUM				Lg		08 49 07.6	
	comp=Z,0.6nm,0.3s,baz=240,slow=16,SNR=4.0						
LSZ	**Lusaka**	**11.64**	**7**	*e*Pn	**Pn**	**08 46 00.9**	**-0.5**
LSZ				Sn	**Sn**	**08 48 06.1**	**-5.4**
LSZ				*e*Sn	**Sn**	**08 48 06.4**	**-5.1**
LSZ				Lg		08 49 12.8	
LSZ	**Lusaka**	**11.64**	**7**	Pn	**Pn**	**08 46 00.6**	**-0.8**
	comp=Z,2.0nm,0.3s,baz=187,slow=12,SNR=24						
LSZ				Sn	**Sn**	**08 48 06.1**	**-5.4**
	comp=Z,1.9nm,0.3s,baz=80,slow=16,SNR=3.5						
LSZ				Lg		08 49 12.8	
	comp=Z,0.9nm,0.3s,baz=274,slow=23,SNR=3.4						
OPO	**Ambohidratompo**	**20.57**	**70**	P	**P**	**08 47 56.0**	**+1.8**
	comp=Z,5.6nm,0.9s,baz=249,slow=11,SNR=5.0						
TORD	**Torodi Ar. Bea**	**46.66**	**325**	P	**P**	**08 51 44.2**	**+0.1**
TORD	**Torodi Ar. Bea**	**46.66**	**325**	P	**P**	**08 51 44.2**	**+0.2**
	comp=Z,3.6nm,0.7s,mb4.4,baz=135,slow=6.1,SNR=32						
SNAA	**Sanae**	**47.73**	**192**	P	**P**	**08 51 51.8**	**+0.1**
	comp=Z,2.5nm,0.9s,mb4.2,baz=40,slow=8.2,SNR=15						
QSPA	**South Pole Qui**	**63.29**	**180**	P	**P**	**08 53 43.4**	**-0.1**
	comp=Z,1.7nm,0.6s,mb4.3,baz=250,slow=5.4,SNR=7.9						
BDFB	**Brasília**	**69.72**	**262**	P	**P**	**08 54 25.9**	**+0.3**
	comp=Z,1.5nm,0.6s,mb4.1,baz=108,slow=11,SNR=5.6						
ESDC	**Sonseca Array**	**72.16**	**336**	P	**P**	**08 54 40.3**	**+0.4**
	comp=Z,1.9nm,0.7s,mb4.2,baz=145,slow=6.5,SNR=6.6						
VNDA	**Vanda**	**72.44**	**171**	P	**P**	**08 54 41.4**	**+0.2**
	comp=Z,0.3nm,0.4s,mb3.6,baz=270,slow=6.6,SNR=4.1						
GERES	**GERESS Array B**	**76.30**	**351**	P	**P**	**08 55 05.4**	**+1.6**
	comp=Z,0.7nm,0.6s,mb3.8,baz=164,slow=10,SNR=5.5						
AKASG	**Malin Array Be**	**77.29**	**2**	P	**P**	**08 55 09.1**	**-0.2**
AKASG	**Malin Array Be**	**77.29**	**2**	P	**P**	**08 55 09.1**	**-0.2**
	comp=Z,0.8nm,0.5s,mb3.9,baz=184,slow=5.4,SNR=8.8						
LPAZ	**La Paz**	**87.00**	**253**	P	**P**	**08 56 01.5**	**+0.3**
LPAZ	**La Paz**	**87.00**	**253**	P	**P**	**08 56 01.5**	**+0.4**
	comp=Z,1.4nm,0.8s,mb4.2,baz=96,slow=5.2,SNR=5.9						
YKA	**Yellowknife Ar**	**136.26**	**335**	PKP	PKPdf	09 02 36.2	+0.1
YKA	**Yellowknife Ar**	**136.26**	**335**	PKhKP		09 02 25.1	
	comp=Z,0.2nm,1.0s,baz=39,slow=2.4,SNR=2.4						
YKA				PKP	PKPdf	09 02 36.2	+0.1
	comp=Z,0.3nm,0.7s,baz=48,slow=2.5,SNR=5.1						
TXAR	**Lajitas Array**	**136.47**	**285**	PKP	PKPdf	09 02 39.0	+1.3
	comp=Z,0.7nm,0.8s,baz=132,slow=6.9,SNR=4.0						
PDAR	**Pinedale Array**	**141.26**	**306**	PKP	PKPdf	09 02 45.6	-0.3
	comp=Z,0.3nm,0.6s,baz=112,slow=4.4,SNR=2.6						
GSC	**Goldstone**	**147.84**	**294**	*e*PKPdf	PKPdf	09 03 02.4	+4.8
NVAR	**Mina Array Bea**	**148.60**	**300**	PKPbc	PKPbc	09 03 04.3	+1.9
NVAR	**Mina Array Bea**	**148.60**	**300**	PKPbc	PKPbc	09 03 04.3	+1.9
	comp=Z,3.1nm,0.8s,baz=96,slow=3.6,SNR=16						

*NEIC **10** 08:46:11.8, 3598N×2686E, h22km, MD3.1(ATH), After ATH.*
*ATH **10** 08:46:11.8, 3601N×2684E, h21km±9km, MD3.1/5*
*ISCJB **10** 08:46:12.0±0.7, 3584N±005×2699E±009, h5km, Error ellipse: s-maj=10.6km s-min=5.9km az=19.8*
*CSEM **10** 08:46:12.3±0.3, 3598N×2682E, h10km±3km, MD3.1, Error ellipse: s-maj=7.0km s-min=4.1km az=109.0*
*ISK **10** 08:46:14.9, 3596N×2722E, h5km, MD3.1*

ISC 10 08:46:12.8±1.4, 3596N±005×2681E±010, h7km±12km, n10, σ1§00/13, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.50**	**145**	*e*PN	**Pg**	**08 46 22.0**	**-0.4**
KARP				*e*SN	**Sg**	**08 46 30.0**	**+1.1**
KARP	**Karpathos**	**0.50**	**145**	*e*Pn	**Pg**	**08 46 22.0**	**-0.4**
KARP				*e*Sn	**Sg**	**08 46 28.6**	**-0.3**
DAT	**Datca**	**0.98**	**39**	*e*PG	**Pg**	**08 46 31.8**	**+0.1**
DAT				*e*SG	**Sg**	**08 46 44.4**	**-0.1**
ARG	**Arkhangelos**	**1.09**	**76**	*e*PN	**Pn**	**08 46 32.5**	**-2.0**
BODT	**Bodrum**	**1.17**	**20**	*e*PN	**Pn**	**08 46 37.4**	**+1.8**
NPS	**Neapolis**	**1.20**	**235**	*e*PN	**Pn**	**08 46 35.5**	**-0.5**
XRY	**Khrisi**	**1.42**	**220**	*e*PN	**Pn**	**08 46 40.0**	**+1.0**
APE	**Apeiranthos**	**1.51**	**317**	*e*PN	**Pn**	**08 46 39.1**	**-1.2**
YER	**Yerkesik**	**1.67**	**45**	*e*PN	**Pn**	**08 46 43.3**	**+0.9**
FETY	**Fethiye**	**1.96**	**69**	*e*PN	**Pn**	**08 46 46.2**	**-0.1**

IDC 10 09:29:09.3±2.1, 2063S×16839E, h0km, mb3.7/5, mb1 3.8/5, mb1mx3.7/13, mbtmp3.6/5, Error ellipse: s-maj=92.0km s-min=32.4km az=150.0, Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**26.44**	**239**	P	P	09 34 48.5	+0.5
	1.5nm,1.0s,baz=331,slow=15,SNR=3.3						
WRA	**Warramunga Arr**	**31.92**	**265**	P	P	09 35 36.5	-0.3
	0.2nm,0.7s,baz=96,slow=8.2,SNR=3.2						
ASAR	**Alice Springs**	**32.04**	**258**	P	P	09 35 37.5	-0.3
	1.3nm,0.8s,baz=85,slow=8.9,SNR=14						
SONM	**Songino Array**	**87.85**	**323**	P	P	09 42 00.4	0.0
	0.3nm,0.6s,baz=140,slow=5.4,SNR=2.9						
TXAR	**Lajitas Array**	**98.12**	**62**	P	P	09 42 47.5	-0.8
	0.1nm,0.5s,baz=198,slow=5.7,SNR=2.0						
GERES	**GERESS Array B**	**145.32**	**330**	PKPbc	PKPbc	09 48 49.0	+0.2
	1.2nm,0.6s,baz=46,slow=3.9,SNR=7.6						

*ATH **10** 09:31:02.1, 3879N×2119E, h42km, MD3.0/3*
*CSEM **10** 09:31:07.6±0.2, 3854N×2161E, h15km, ML2.7, Error ellipse: s-maj=5.4km s-min=5.0km az=85.0*

THE 10 09:31:08.0, 3853N×2161E, h2km, ML2.7, 1C-2D, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SELA	**Sela**	**0.34**	**139**	*e*Pg	Pg	09 31 14.1	-0.4
SELA				*e*Sg	Sg	09 31 20.1	+1.1
EVR	**Evrytania**	**0.41**	**23**	↑ *i*P	Pg	09 31 14.2	-1.7
EVR				*e*S	Sg	09 31 21.6	+0.3
EVR	**Evrytania**	**0.41**	**23**	Pb	Pg	09 31 14.9	-1.0
RLS	**Riolos of Patr**	**0.49**	**193**	‖ *i*P	Pg	09 31 17.4	+0.1
AGG	**Agios Georgios**	**0.75**	**49**	*e*Pg	Pg	09 31 21.8	-0.5
AGG				*e*Sg	Sg	09 31 33.0	+0.9
LKD	**Levkas**	**0.77**	**283**	*e*Pg	Pg	09 31 21.9	-0.7
LKD				*e*Sg	Sg	09 31 33.9	+1.2
LKD	**Levkas**	**0.77**	**283**	*e*Pg	Pg	09 31 21.9	-0.8
LKD				*e*Sg	Sg	09 31 33.8	+1.2
THL	**Klokotos Trika**	**1.08**	**17**	‖ *i*P	Pg	09 31 21.0	-7.6
MEV	**Metsovon**	**1.28**	**347**	*e*Pg	Pg	09 31 31.7	-0.8
MEV				*e*Sg	Sg	09 31 50.9	+1.7

IDC 10 09:50:44.2±1.4, 1851S×17443W, h0km, mb4.0/5, mb1 4.2/5, mb1mx3.9/17, mbtmp4.0/5, MS3.8/6, Ms1 3.7/6, ms1mx3.3/24, Error ellipse: s-maj=54.6km s-min=25.9km az=141.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**21.02**	**199**	P	P	09 55 29.4	-0.1
	4.8nm,0.4s,baz=45,slow=18,SNR=8.3						
STKA	**Stephens Creek**	**41.69**	**243**	P	P	09 58 35.4	+0.5
	1.8nm,0.7s,baz=35,slow=11,SNR=5.8						
STKA				LR	LR	10 13 12.7	
	comp=Z,86nm,19.9s,baz=26,slow=32						
WRA	**Warramunga Arr**	**48.25**	**260**	P	P	09 59 26.2	-1.0
	1.2nm,0.7s,baz=97,slow=7.6,SNR=29						
ASAR	**Alice Springs**	**48.28**	**255**	P	P	09 59 28.0	+0.5
	2.4nm,0.7s,baz=97,slow=8.1,SNR=16						
GUMO	**Guam**	**51.26**	**306**	LR	LR	10 18 27.8	
	comp=Z,18nm,19.1s,baz=100,slow=32						
LPIG	**La Paz**	**75.50**	**58**	LR	LR	10 31 18.4	
	comp=Z,73nm,18.9s,baz=187,slow=32						
NVAR	**Mina Array Bea**	**77.28**	**42**	P	P	10 02 40.9	+0.4
	0.3nm,0.6s,baz=209,slow=7.2,SNR=2.3						
TXAR	**Lajitas Array**	**83.15**	**56**	LR	LR	10 35 07.3	
	comp=Z,62nm,19.3s,baz=180,slow=32						
MAW	**Mawson**	**84.55**	**199**	LR	LR	10 38 49.8	
	comp=Z,78nm,20.7s,baz=66,slow=34						
PDAR	**Pinedale Array**	**85.22**	**42**	LR	LR	10 33 57.3	
	comp=Z,81nm,19.4s,baz=7.9,slow=30						

*TIR **10** 09:58:54.2±2.3, 3826N×2210E, h0km±999km*
*CSEM **10** 09:59:01.9±0.1, 3858N×2159E, h2km, ML3.8, Error ellipse: s-maj=1.5km s-min=1.3km az=161.0*
*ISCJB **10** 09:59:01.3±0.4, 3854N±002×2158E±002, h5km±3km, Error ellipse: s-maj=3.4km s-min=2.7km az=144.4*
*ATH **10** 09:59:01.5, 3856N×2158E, h15km±1km, MD3.7/18, ML3.4*
*NEIC **10** 09:59:01.5, 3856N×2158E, h15km, ML3.4(ATH), After ATH.*
*THE **10** 09:59:02.0, 3856N×2162E, h3km, ML3.8*

ISC 10 09:59:02.1±0.4, 3854N±002×2161E±003, h3km±3km, n53, σ1§18/80, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SELA	**Sela**	**0.34**	**140**	*e*Pg	**Pg**	**09 59 08.5**	**-0.2**
SELA				*e*Sg	**Sg**	**09 59 14.3**	**+1.1**
EVR	**Evrytania**	**0.41**	**22**	*e*PB	**Pg**	**09 59 09.2**	**-0.8**
EVR				*e*SB	**Sg**	**09 59 16.0**	**+0.8**
RLS	**Riolos of Patr**	**0.49**	**193**	*e*PN	**Pg**	**09 59 12.0**	**+0.4**
AGG	**Agios Georgios**	**0.74**	**49**	*e*Pg	**Pg**	**09 59 15.3**	**-1.0**
AGG				*e*Sg	**Sg**	**09 59 26.5**	**+0.6**
LKD	**Levkas**	**0.77**	**283**	*e*Pg	**Pg**	**09 59 16.2**	**-0.8**
LKD				*e*Sg	**Sg**	**09 59 28.0**	**+1.0**
KFL	**Anninata**	**0.78**	**237**	*e*Pg	**Pg**	**09 59 16.2**	**-0.8**
VLS	**Valsamata**	**0.88**	**246**	*e*PN	**Pn**	**09 59 18.0**	**-3.4**
VLS				*e*SN	**Sn**	**09 59 30.5**	**-4.2**
THL	**Klokotos Trika**	**1.07**	**17**	*e*PN	**Pn**	**09 59 21.5**	**-2.5**
LKR	**Lokris**	**1.09**	**84**	*e*PB	**Pb**	**09 59 21.6**	**-2.0**
LTK	**Loutraki**	**1.18**	**115**	*e*Pg	**Pg**	**09 59 24.8**	**0.0**
LTK				*e*Sg	**Sg**	**09 59 42.6**	**+2.4**
JAN	**Janina**	**1.26**	**332**	*e*PN	**Pn**	**09 59 25.2**	**-1.4**
MEV	**Metsovon**	**1.28**	**347**	*e*Pg	**Pg**	**09 59 25.7**	**-1.0**
MEV				*e*Sg	**Sg**	**09 59 44.8**	**+1.6**
VLX	**Vlachokerasia**	**1.31**	**152**	*e*Pg	**Pg**	**09 59 26.4**	**-0.9**
VLX				*e*Sg	**Sg**	**09 59 46.3**	**+1.9**
ITM	**Ithomi**	**1.38**	**170**	*e*PN	**Pn**	**09 59 27.1**	**-1.1**
IGT	**Igoumenitsa**	**1.41**	**315**	*e*Pg	**Pg**	**09 59 28.3**	**-0.8**
IGT				*e*Sg	**Sg**	**09 59 48.1**	**+0.8**
NEO	**Neokhori**	**1.47**	**58**	*e*PN	**Pn**	**09 59 29.1**	**-0.4**
NEO				*e*SN	**Sn**	**09 59 48.8**	**-0.4**
PYL	**PYLOS**	**1.65**	**176**	*e*Pb	**Pb**	**09 59 32.7**	**-0.4**
PYL				*e*Sb	**Sb**	**09 59 55.5**	**+1.4**
PYL	**PYLOS**	**1.65**	**176**	*e*Pb	**Pb**	**09 59 32.7**	**-0.3**
PYL				*e*Sb	**Sb**	**09 59 55.5**	**+1.4**
DID	**Didima**	**1.65**	**128**	*e*Pb	**Pb**	**09 59 32.1**	**-0.9**
DID				*e*Sb	**Sb**	**09 59 54.5**	**+0.3**
NAIG	**Nisos Aigina**	**1.67**	**117**	*e*PN	**Pn**	**09 59 32.2**	**0.0**
LIT	**Litokhoron**	**1.70**	**23**	*e*Pb	**Pb**	**09 59 32.0**	**-2.0**
LIT				*e*Sb	**Sb**	**09 59 54.7**	**-1.0**
LIT	**Litokhoron**	**1.70**	**23**	*e*Pb	**Pb**	**09 59 32.0**	**-2.0**
LIT				*e*Sb	**Sb**	**09 59 54.7**	**-1.1**
ATH	**Athens Observa**	**1.75**	**108**	*e*PN	**Pn**	**09 59 34.2**	**+0.9**
KZN	**Kozani**	**1.77**	**4**	*e*PN	**Pn**	**09 59 33.6**	**0.0**
KZN				*e*SN	**Sn**	**09 59 56.7**	**+0.1**
SRN	**Sarande**	**1.83**	**317**	*e*PN	**Pg**	**09 59 37.7**	**+0.4**
SRN				*i* SN	**Sg**	**10 00 07.5**	**+6.5**
KEK	**Kerkira**	**1.83**	**310**	*e*PN	**Pn**	**09 59 33.8**	**-0.7**
PTL	**Penteli**	**1.84**	**105**	*e*PN	**Pn**	**09 59 35.0**	**+0.5**
KVR	**Kavouri**	**1.84**	**112**	*e*PN	**Pn**	**09 59 36.0**	**+1.4**
AOS	**Alonnisos**	**1.88**	**70**	*e*Pb	**Pb**	**09 59 34.0**	**-3.0**
AOS				*e*Sb	**Sb**	**09 59 59.3**	**-1.6**
AOS	**Alonnisos**	**1.88**	**70**	*e*Pb	**Pb**	**09 59 34.0**	**-3.0**
AOS				*e*Sb	**Sb**	**09 59 59.3**	**-1.6**
VLI	**Veliai**	**2.10**	**150**	*e*PN	**Pn**	**09 59 39.3**	**+1.2**
PAIG	**Paliouri**	**2.12**	**49**	*e*Pn	**Pn**	**09 59 37.4**	**-1.1**
PAIG				*e*Sn	**Sn**	**10 00 06.1**	**+0.8**
KBN	**Korca**	**2.18**	**343**	*e*PN	**Pn**	**09 59 41.7**	**+2.5**
KBN				*i* SN	**Sg**	**10 00 15.6**	**+3.5**
FNA	**Florina**	**2.25**	**355**	*e*Pn	**Pn**	**09 59 39.2**	**-1.0**
FNA				*e*Sn	**Sn**	**10 00 09.7**	**+1.3**
PLG	**Polygyros**	**2.32**	**37**	*e*Pn	**Pn**	**09 59 41.0**	**-0.1**
PLG	**Polygyros**	**2.32**	**37**	*e*PN	**Pn**	**09 59 41.8**	**+0.7**
THE	**Thessaloniki**	**2.34**	**26**	*e*Pn	**Pn**	**09 59 41.6**	**+0.3**
THE				*e*Sn	**Sn**	**10 00 11.9**	**+1.4**
HORT	**Hortiatis**	**2.35**	**29**	*e*Pn	**Pn**	**09 59 40.5**	**-1.2**
GRG	**Griva**	**2.49**	**14**	*e*Pn	**Pn**	**09 59 42.6**	**-0.9**
GRG				*e*Sn	**Sn**	**10 00 15.1**	**+0.8**
KYTH	**Kithira**	**2.52**	**153**	*e*PB	**Pb**	**09 59 45.0**	**-3.0**
OUR	**Ouranopolis**	**2.56**	**45**	*e*Pn	**Pn**	**09 59 43.4**	**-1.1**
OUR				*e*Sn	**Sn**	**10 00 17.1**	**+0.9**
KNT	**Kendrikon**	**2.80**	**20**	*e*Pn	**Pn**	**09 59 47.5**	**-0.3**
KRUS	**Krusevo**	**2.84**	**354**	*i* Pn	**Pn**	**09 59 50.9**	**+2.6**
VAY	**Valandovo**	**2.87**	**15**	*e*Pn	**Pn**	**09 59 48.0**	**-0.7**
VAY	**Valandovo**	**2.87**	**15**	*e*Pn	**Pn**	**09 59 48.0**	**-0.8**
QSH	**Qafa e Shtames**	**3.25**	**337**	*e*PN	**Pn**	**09 59 56.0**	**+2.0**
TIP	**Timpagrande**	**3.84**	**281**	*e*Pn	**Pn**	**10 00 01.6**	**-0.5**
TIP				*e*Sn	**Sn**	**10 00 47.4**	**-0.3**
TIP	**Timpagrande**	**3.84**	**281**	*e*Pn	**Pn**	**10 00 01.6**	**-0.5**
TIP				*e*Sn	**Sn**	**10 00 47.4**	**-0.3**
RDO	**Rodhopi**	**3.99**	**48**	*e*PN	**Pn**	**10 00 04.0**	**-0.1**
VTS	**Vitosha**	**4.23**	**16**	*e*Pn	**Pn**	**10 00 08.2**	**+0.8**
BARS	**Barje**	**4.28**	**2**	*e*Pn	**Pn**	**10 00 08.7**	**+0.6**
FGMS	**Monte Sant'Ang**	**5.37**	**308**	Pn	**Pn**	**10 00 22.8**	**-0.2**
	9.4nm,0.3s						
GRUS	**Gruza**	**5.39**	**353**	*e*Pn	**Pn**	**10 00 25.5**	**+2.2**

IDC 10 10:06:29.8±47.0, 2232S×17280W, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.7/16, mbtmp3.9/3, Error ellipse: s-maj=905.0km s-min=177.1km az=87.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**41.45**	**247**	P	P	10 14 16.8	-1.6
	1.9nm,1.0s,baz=90,slow=11,SNR=5.1						
ASAR	**Alice Springs**	**48.85**	**258**	P	P	10 15 17.4	+0.1
	0.3nm,0.3s,baz=90,slow=7.5,SNR=23						
WRA	**Warramunga Arr**	**49.16**	**262**	P	P	10 15 20.8	+1.0
	1.3nm,0.3s,baz=99,slow=6.9,SNR=102						

*NEIC **10** 10:08:08.4±0.6, 4965N×15625E, h10km, mb4.0/1, Error ellipse: s-maj=19.6km s-min=11.3km az=137.0*
NEIC Felt [II] at Severo-Kuril'sk.
*KRSC **10** 10:08:11.8±1.2, 4955N×15708E, h33km±32km, ML4.6*
*ISCJB **10** 10:08:13.0±0.9, 4964N±006×1564E±01, h65km±8km, mb3.9/14, Error ellipse: s-maj=14.0km s-min=6.0km az=44.3*
*MOS **10** 10:08:13.0±1.1, 4981N×156.14E, h60km, mb4.0/3, Error ellipse: s-maj=20.0km s-min=7.2km az=68.5*
MOS Felt (II) at Severo-Kuril'sk.
*IDC **10** 10:08:17.2±4.0, 4972N×156.18E, h84km±37km, mb3.7/13, mb1 3.9/15, mb1mx3.8/26, mbtmp3.7/15, MS3.4/3, Ms1 3.4/3, ms1mx2.8/36, Error ellipse: s-maj=22.8km s-min=13.1km az=147.0*

ISC 10 10:08:14.5±0.8, 4967N±006×1563E±01, h61km±7km, n45, σ1§25/57, mb3.9/14, 1C-1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.03**	**352**	*e*PN	**Pn**	**10 08 32.0**	**-0.9**
SKR				*i* S	**Sn**	**10 08 46.5**	**0.0**
SKR				pmax	pmax		
	comp=Z,540nm,0.5s						
SKR				pmax	pmax		
	comp=N,330nm,0.4s						
SKR				pmax	pmax		
	comp=E,180nm,0.4s						
SKR				smax			
	comp=N,8μm,0.2s						
SKR				smax			
	comp=E,8μm,0.2s						
SKR				smax			
	comp=N,5μm,2.0s						
SKR				smax			
	comp=E,2μm,2.0s						
ALID	**Alaid**	**1.30**	**337**	*e*P	**Pn**	**10 08 37.9**	**+1.3**
ALID				*i* S	**Sn**	**10 08 56.8**	**+3.7**
MIPR	**Malaya Ipel'ka**	**2.62**	**6**	*e*P	**Pn**	**10 08 55.2**	**+0.8**
MIPR				*i* S	**Sn**	**10 09 26.8**	**+1.7**
GRL	**Gorelyy**	**3.09**	**20**	*e*P	**Pn**	**10 09 01.2**	**+0.5**
GRL				*i* S	**Sn**	**10 09 37.5**	**+1.1**
RUS	**Russkaya**	**3.09**	**26**	*e*P	**Pn**	**10 08 59.4**	**-1.4**
RUS				*i* S	**Sn**	**10 09 34.3**	**-2.1**
PET	**Petropavlovsk**	**3.66**	**22**	*e*Pn	**Pn**	**10 09 08.3**	**-0.2**
PET				*e*Sn	**Sn**	**10 09 49.3**	**-1.1**
PET	**Petropavlovsk**	**3.66**	**22**	*e*PN	**Pn**	**10 09 09.2**	**+0.6**
PET				*e*S	**Sn**	**10 09 50.4**	**0.0**
PET				pmax	pmax		
	comp=Z,41nm,0.5s						
PET				smax			
	comp=N,

ASAR	Alice Springs	75.69	201	*e*P	P	10 19 54.2	+1.2
ASAR	Alice Springs	75.69	201	P	P	10 19 53.0	-0.1
	comp=Z,0.5nm,0.7s,mb3.6,baz=20,slow=5.6,SNR=7.4						
MMAI	Mount Meron Ar	82.44	313	P	P	10 20 29.3	-0.7
	comp=Z,2.5nm,0.6s,mb4.3,baz=11,slow=4.7,SNR=2.7						

NEIC ***10*** *10:17:03.9±3.0, 3626M×6950E, h160km±23km, mb4.6/3, Error ellipse: s-maj=30.1km s-min=15.5km az=216.0*
MOS ***10*** *10:17:04.2±1.4, 3629M×6938E, h179km, mb4.6/1, Error ellipse: s-maj=30.9km s-min=14.7km az=80.9*
IDC ***10*** *10:17:05.5±9.6, 3631M×6956E, h174km±82km, mb3.1/6, mb1 3.2/8, mb1mx3.1/21, mbtmp3.1/8, Error ellipse: s-maj=61.4km s-min=23.6km az=38.0*
ISCJB ***10*** *10:17:06.8±1.3, 3655N±006×697E±0.1, h188km±12km, mb3.1/5, Error ellipse: s-maj=17.4km s-min=8.5km az=158.5*

ISC 10 10:17:07.7±1.3, 3654M±006×697E±01, h183km±12km, n26, σ0§91/29, mb3.1/5, 2C, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	Almayashu	6.40	28	*e*P	Pn	10 18 39.9	+0.1
	13nm,0.4s						
AML				*e*S	Sn	10 19 50.0	-2.5
AML	Almayashu	6.40	28	P	Pn	10 18 39.9	+0.2
	SNR=24						
THN	Thein Dam	6.46	128	*e*P	Pn	10 18 40.2	-0.5
THN				*e*S	Sn	10 19 54.3	+0.3
KK31	Karatay Array	6.59	5	⇑Pg	Pn	10 18 41.2	-1.1
	0.9nm,0.4s,baz=184,slow=13,SNR=6.4						
KK31				⇑Lg		10 19 51.2	
	7.7nm,0.5s,baz=187,slow=22						
UCH	Uchtor	6.81	32	*e*P	Pn	10 18 45.5	+0.4
	22nm,0.4s						
UCH				*e*S	Sn	10 20 00.6	-1.6
UCH	Uchtor	6.81	32	P	Pn	10 18 45.6	+0.4
	SNR=28						
KZA	Kyzart	7.02	36	P	Pn	10 18 48.4	+0.4
	SNR=26						
AAK	Ala-Archa	7.14	30	P	Pn	10 18 50.1	+0.7
	SNR=6.8						
CHMS	Chumysh	7.55	30	P	Pn	10 18 55.6	+0.8
	SNR=5.6						
ULHL	Ulahol	7.64	40	P	Pn	10 18 56.6	+0.5
	SNR=8.2						
TKM2	Tokmak 2	7.84	34	*e*P	Pn	10 18 59.2	+0.5
	5.4nm,0.8s						
TKM2	Tokmak 2	7.84	34	*e*PN	Pn	10 18 59.2	+0.5
TKM2				pmax	pmax		
	comp=Z,5.0nm,0.8s						
MKAR	Makanchi Array	13.91	39	P	Pn	10 20 19.8	+2.8
	comp=Z,0.1nm,0.3s,baz=238,slow=22,SNR=2.1						
AKTK	Aktyubinsk	16.23	332	P	Pn	10 20 45.3	0.0
AKTO	Aktyubinsk	16.23	332	P	Pn	10 20 45.3	0.0
	comp=Z,0.2nm,0.3s,baz=138,slow=12,SNR=7.8						
ZAL	Zalesovo	20.33	26	P	P	10 21 29.9	+0.5
ZAA0	Zalesovo Array	20.34	26	*e*P	P	10 21 30.2	+0.6
ZALV	Zalesovo Beam	20.34	26	P	P	10 21 29.9	+0.3
	comp=Z,2.4nm,0.4s,baz=220,slow=9.2,SNR=15						
NVS	Novosibirsk	20.55	23	*e*P	P	10 21 32.1	+0.4
ARCES	ARCESS Array B	40.70	338	P	P	10 24 29.9	+0.1
	comp=Z,0.9nm,0.5s,mb3.6,baz=107,slow=8.4,SNR=8.3						
NOA	NORSAR Array B	43.71	323	P	P	10 24 53.6	-0.5
	comp=Z,0.6nm,0.7s,mb3.3,baz=354,slow=16,SNR=2.8						
YKA	Yellowknife Ar	81.25	2	P	P	10 29 03.2	+0.4
YKA	Yellowknife Ar	81.25	2	P	P	10 29 03.2	+0.4
	comp=Z,0.1nm,0.7s,mb2.6,baz=56,slow=2.7,SNR=4.2						
WRA	Warramunga Arr	82.92	121	P	P	10 29 10.6	-1.5
WRA				pmax	pmax		
	comp=Z,9.0nm,0.5s						
WRA	Warramunga Arr	82.92	121	P	P	10 29 10.6	-1.5
	comp=Z,0.1nm,0.3s,mb3.0,baz=324,slow=4.7,SNR=7.4						
ASAR	Alice Springs	85.16	124	P	P	10 29 22.1	-1.2
	comp=Z,0.2nm,0.6s,mb3.1,baz=311,slow=5.2,SNR=4.5						

ISCJB ***10*** *10:24:19.8±1.0, 3431N±006×2692E±005, h1km±6km, mb3.8/7, Error ellipse: s-maj=11.4km s-min=4.5km az=25.9*
IDC ***10*** *10:24:22.4±1.1, 3474N×2632E, h0km, mb3.8/6, mb1 3.8/6, mb1mx3.6/17, mbtmp3.8/6, Error ellipse: s-maj=40.8km s-min=18.9km az=140.0*
ATH ***10*** *10:24:23.4, 3420N×2667E, h13km±3km, MD3.7/8*
NEIC ***10*** *10:24:23.4, 3420N×2667E, h13km, MD3.7(ATH), After ATH.*
THE ***10*** *10:24:26.7, 3459N×2670E, h3km, ML3.4*
CSEM ***10*** *10:24:26.3±0.2, 3449N×2679E, h20km, ML3.4, Error ellipse: s-maj=10.8km s-min=3.3km az=28.0*
GII ***10*** *10:24:37.8±0.9, 3389N×2766E, h1km±12km, mb4.7/2, ML4.7/2*

ISC 10 10:24:22.1±1.0, 3436M±006×2684E±004, h4km±6km, n35, σ1§28/52, mb3.8/7, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZKR	Zakros	0.91	326	*e*Pg	Pg	10 24 40.4	+0.8
ZKR				*e*Sg	Sg	10 24 50.8	-0.6
ZKR	Zakros	0.91	326	*e*Pg	Pg	10 24 40.4	+0.9
ZKR				*e*Sg	Sg	10 24 50.2	-1.2
ZKR	Zakros	0.91	326	*e*Pg	Pg	10 24 40.4	+0.8
ZKR				*e*Sg	Sg	10 24 50.2	-1.2
XRY	Khrisi	1.07	299	*e*PG	Pg	10 24 43.0	+0.3
XRY				*e*SB	Sb	10 24 58.0	+0.4
KARP	Karpathos	1.22	13	*e*PB	Pb	10 24 50.0	+4.4
NPS	Neapolis	1.35	312	*e*PG	Pg	10 24 49.3	+1.3
NPS				*e*SB	Sb	10 25 06.9	+1.3
LAST	Lasithi	1.38	306	*e*Pg	Pg	10 24 47.8	-0.6
LAST				*e*Sg	Sg	10 25 04.8	-1.5
LAST	Lasithi	1.38	306	*e*Pg	Pg	10 24 47.8	-0.6
LAST				*e*Sg	Sg	10 25 06.2	-0.1
LAST	Lasithi	1.38	306	*e*Pg	Pg	10 24 47.8	-0.6
LAST				*e*Sg	Sg	10 25 06.2	-0.1
SIVA	Sivas	1.79	292	*e*Pb	Pb	10 24 55.6	+0.1
SIVA				*e*Sb	Sb	10 25 17.6	-0.7
SIVA	Sivas	1.79	292	*e*Pg	Pg	10 24 55.5	-1.0
SIVA				*e*Sg	Sg	10 25 17.4	-2.3
SIVA	Sivas	1.79	292	*e*Pg	Pg	10 24 55.5	-1.0
SIVA				*e*Sg	Sg	10 25 17.4	-2.3
ARG	Arkhangelos	2.13	29	*e*PN	Pn	10 25 03.5	+5.0
GVD	Gavdhos	2.32	283	*e*Pn	Pn	10 25 02.8	+1.8
GVD	Gavdhos	2.32	283	*e*Pn	Pn	10 25 02.0	+1.0
GVD	Gavdhos	2.32	283	*e*Pn	Pn	10 25 02.0	+1.0
VAM	Vamos	2.41	297	*e*PN	Pn	10 25 04.5	+2.3
KARN	Karanos	2.62	294	*e*Pn	Pn	10 25 06.6	+1.5
KARN				*e*Sn	Sn	10 25 36.3	-1.0
KARN	Karanos	2.62	294	*e*Pn	Pn	10 25 06.8	+1.7
KARN				*e*Sn	Sn	10 25 36.3	-1.0
KARN	Karanos	2.62	294	*e*Pn	Pn	10 25 06.8	+1.7
KARN				*e*Sn	Sn	10 25 36.3	-1.0
APE	Apeiranthos	2.91	339	*e*Pn	Pn	10 25 09.4	+0.3
APE				*e*Sn	Sn	10 25 42.7	-1.8
APE	Apeiranthos	2.91	339	*e*PB	Pb	10 25 14.0	-0.4
KYTH	Kithira	3.65	303	*e*PN	Pn	10 25 22.0	+2.7
KZIT	Kziot	7.25	116	Sn	Sn	10 27 30.0	-1.5
MMLI	Mount Malkishu	7.43	103	Sn	Sn	10 27 36.0	0.0
KSDI	Kefar Szold	7.44	97	Sn	Sn	10 27 36.8	+0.6
HRFI	Mount Harif	8.18	120	Pn	Pn	10 26 27.6	+6.1
HRFI				Sn	Sn	10 27 53.5	-0.9
EIL	Elat	8.32	122	Pn	Pn	10 26 29.5	+6.0
EIL				Sn	Sn	10 27 57.2	-0.8
TORD	Torodi Ar. Bea	31.07	233	P	P	10 30 41.5	+0.2
	1.0nm,0.8s,mb3.7,baz=41,slow=9.5,SNR=6.8						
ARCES	ARCESS Array B	35.24	359	P	P	10 31 15.0	-2.2
	0.5nm,0.4s,mb3.8,baz=177,slow=7.7,SNR=12						
DBIC	Dimbokro	40.18	234	P	P	10 31 59.4	-0.2
	1.4nm,0.7s,mb3.8,baz=29,slow=13,SNR=3.1						
MKAR	Makanchi Array	43.07	56	P	P	10 32 25.8	+2.8
	0.2nm,0.3s,mb3.4,baz=297,slow=4.7,SNR=2.2						
ZALV	Zalesovo Beam	44.57	46	P	P	10 32 35.1	+0.2
	0.4nm,0.4s,mb3.6,baz=285,slow=13,SNR=2.6						
SONM	Songino Array	58.93	51	P	P	10 34 24.2	+1.9
	0.5nm,0.6s,mb3.7,baz=281,slow=6.9,SNR=4.4						
SCHQ	Schefferville	64.69	320	P	P	10 34 58.3	-2.6
	6.0nm,1.1s,mb4.5,baz=63,slow=14,SNR=4.1						

CSEM ***10*** *10:24:55.9, 3854M×2160E, h32km, MD3.5/8, After ATH*
NEIC ***10*** *10:24:55.9, 3854N×2160E, h32km, MD3.5(ATH), After ATH.*

ATH 10 10:24:55.7, 3853N×2158E, h29km±2km, MD3.5/8, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EVR	Evrytania	0.43	25	*e*PB	Pb	10 25 04.9	0.0
EVR				*e*SB	Sb	10 25 12.3	+1.1
RLS	Riolos of Patr	0.48	191	*e*PB	Pb	10 25 06.3	+0.6
RLS				*e*SB	Sb	10 25 14.0	+1.4
RLS	Riolos of Patr	0.48	191	*e*Pb	Pb	10 25 06.3	+0.6
RLS				*e*Sb	Sb	10 25 15.0	+2.4
VLS	Valsamata	0.85	246	*e*PN	Pn	10 25 12.9	+1.2
VLS				*e*SN	Sn	10 25 24.6	+1.3
THL	Klokotos Trika	1.09	18	*e*PN	Pn	10 25 17.0	+2.0
LKR	Lokris	1.12	83	*e*PN	Pn	10 25 16.5	+1.1
JAN	Janina	1.26	333	*e*PN	Pn	10 25 20.0	+2.7
ITM	Ithomi	1.38	168	*e*PN	Pn	10 25 21.0	+2.1
KEK	Kerkira	1.82	311	*e*PB	Pb	10 25 27.7	-0.6

ISCJB ***10*** *10:34:47.9±0.3, 3855N±002×2159E±002, h3km, Error ellipse: s-maj=2.8km s-min=2.3km az=153.5*
ATH ***10*** *10:34:47.7, 3854N×2159E, h13km±2km, MD3.6/10, ML3.3*
CSEM ***10*** *10:34:48.2±0.1, 3853N×2161E, h2km, ML3.8, Error ellipse: s-maj=1.5km s-min=1.4km az=64.0*
THE ***10*** *10:34:48.5, 3854N×2161E, h3km, ML3.8*
NEIC ***10*** *10:34:48.5, 3854N×2161E, h0km, ML3.8(THE), ML3.3(ATH), After THE.*

ISC 10 10:34:48.4±0.4, 3854M±002×2159E±003, h5km±4km, n31, σ1§15/50, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SELA	Sela	0.35	138	*e*Pg	Pg	10 34 55.0	-0.2
SELA				*e*Sg	Sg	10 35 01.0	+1.1
AGG	Agios Georgios	0.75	50	*e*Pg	Pg	10 35 01.8	-1.0
AGG				*e*Sg	Sg	10 35 13.2	+0.7
LKD	Levkas	0.76	283	*e*Pg	Pg	10 35 02.6	-0.3
LKD				*e*Sg	Sg	10 35 14.8	+2.1
KFL	Anninata	0.77	236	*e*Pg	Pg	10 35 02.6	-0.4
KFL				*e*Sg	Sg	10 35 14.6	+1.7
VLS	Valsamata	0.87	246	*e*PG	Pg	10 35 03.9	-1.1
VLS				*e*SB	Sb	10 35 16.7	-1.1
LTK	Loutraki	1.20	115	*e*Pg	Pg	10 35 11.5	+0.2
LTK				*e*Sg	Sg	10 35 29.2	+2.4
JAN	Janina	1.25	333	*e*PB	Pb	10 35 11.7	-0.8
JAN				*e*SB	Sb	10 35 28.3	-0.7
JAN	Janina	1.25	333	*e*Pn	Pn	10 35 12.5	0.0
MEV	Metsovon	1.27	347	*e*Pg	Pg	10 35 12.4	-0.4
MEV				*e*Sg	Sg	10 35 31.6	+2.2
VLX	Vlachokerasia	1.32	152	*e*Pg	Pg	10 35 12.6	-1.2
VLX				*e*Sg	Sg	10 35 32.9	+2.0
VLX	Vlachokerasia	1.32	152	*e*Pg	Pg	10 35 12.6	-1.1
VLX				*e*Sg	Sg	10 35 32.8	+1.9
ITM	Ithomi	1.38	169	*e*PB	Pb	10 35 14.1	-0.6
ITM				*e*SB	Sb	10 35 33.0	+0.4
IGT	Igoumenitsa	1.39	316	*e*Pg	Pg	10 35 14.2	-0.9
IGT				*e*Sg	Sg	10 35 35.2	+2.0
NEO	Neokhori	1.48	58	*e*PG	Pg	10 35 15.5	-1.3
NEO				*e*SB	Sb	10 35 36.1	+0.5
PYL	PYLOS	1.65	176	*e*Pb	Pb	10 35 17.3	-1.9
PYL				*e*Sb	Sb	10 35 40.7	+0.5
DID	Didima	1.66	128	*e*Pb	Pb	10 35 18.4	-0.9
DID				*e*Sb	Sb	10 35 41.4	+0.8
NAIG	Nisos Aigina	1.69	117	*e*PB	Pb	10 35 19.0	-0.9
LIT	Litokhoron	1.71	24	*e*Pb	Pb	10 35 18.7	-1.5
LIT				*e*Sb	Sb	10 35 41.7	-0.3
ATH	Athens Observa	1.77	108	*e*PN	Pn	10 35 19.2	-0.4
KEK	Kerkira	1.82	311	*e*PG	Pg	10 35 21.3	-2.0
KVR	Kavouri	1.86	112	*e*PN	Pn	10 35 21.0	+0.2
AOS	Alonnisos	1.89	70	*e*Pb	Pb	10 35 20.6	-2.8
AOS				*e*Sb	Sb	10 35 46.8	-0.5
VLI	Veliai	2.11	149	*e*PN	Pn	10 35 25.3	+1.0
PAIG	Paliouri	2.13	49	*e*Pn	Pn	10 35 24.3	-0.3
FNA	Florina	2.25	356	*e*Pn	Pn	10 35 26.8	+0.6
FNA				*e*Sn	Sn	10 35 56.1	+1.9
PLG	Polygyros	2.33	37	*e*Pn	Pn	10 35 26.7	-0.6
PLG	Polygyros	2.33	37	*e*Pn	Pn	10 35 27.6	+0.3
HORT	Hortiatis	2.36	29	*e*Pn	Pn	10 35 27.6	-0.2
GRG	Griva	2.49	14	*e*Pn	Pn	10 35 29.9	+0.3
GRG				*e*Sn	Sn	10 36 01.8	+1.5
OUR	Ouranopolis	2.58	45	*e*Pn	Pn	10 35 30.3	-0.4
KRUS	Krusevo	2.84	355	*i* Pn	Pn	10 35 37.6	+3.3

TIF ***10*** *10:36:18.6, 4068N×4613E, h25km±2km*
CSEM ***10*** *10:36:19.9±0.1, 4080N×4613E, h5km, ML3.1, Error ellipse: s-maj=3.9km s-min=1.9km az=176.0*
NSSP ***10*** *10:36:19.8, 4063N×4602E, h5km, ML3.1*
ISCJB ***10*** *10:36:21.6±0.3, 4073N±002×4611E±003, h10km, Error ellipse: s-maj=3.5km s-min=2.7km az=8.2*
MOS ***10*** *10:36:21.5±1.2, 4300N×4770E, h119km, mb4.1/1, Error ellipse: s-maj=76.8km s-min=20.5km az=174.3*

ISC 10 10:36:21.9±0.3, 4073M±003×4611E±003, h10km, n30, σ1§34/54, 2D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GANJ	Ganja	0.18	118	P	Pg	10 36 25.3	-0.5
	SNR=67						
DGRG	David-gareji	0.91	322	P	Pg	10 36 38.1	-1.2
DGRG				S	Sg	10 36 52.7	+1.6
BRDA	Brd	0.94	120	P	Pg	10 36 39.3	-0.7
	SNR=20						
BRDA				S	Sg	10 36 54.7	+2.4
SEKA	Sheki	0.95	60	P	Pg	10 36 38.5	-1.7
	SNR=109						
SEKA				S	Sg	10 36 52.0	-0.6
GRS	Goris	1.25	172	P	Pn	10 36 42.0	-3.3
GRS				S	Sb	10 36 59.0	-2.5
STE	Stepanavan	1.34	282	P	Pn	10 36 46.0	-0.7
STE				S	Sb	10 37 01.0	-3.4
ERE	Yerevan	1.37	246	S	Sb	10 37 06.0	+0.9
MTA	Mtatsminda	1.38	314	P	Pn	10 36 45.0	-2.2
MTA				S	Sb	10 37 03.4	-2.0
TBLG	Delisi	1.44	314	P	Sn	10 37 05.3	-1.5
TBLG	Delisi	1.44	314	P	Pn	10 36 45.9	-2.0
TBLG				S	Sn	10 37 05.3	-1.5
PAAR	P'arak'ar	1.44	247	P	Pn	10 36 46.3	-1.7
PAAR				S	Sn	10 37 05.3	-1.7
AMBZ	Amberd	1.45	257	P	Pn	10 36 47.3	-0.8
AMBZ				S	Sn	10 37 07.2	0.0
HNAZ	Hnaberd	1.50	267	⇓P	Pn	10 36 48.3	-0.4
HNAZ				S	Sn	10 37 07.6	-0.7
ARUZ	Aruch	1.60	254	P	Pn	10 36 49.7	-0.5
ARUZ				S	Sn	10 37 11.2	+0.3
NAX	Nakhchivan	1.63	197	P	Pn	10 36 51.6	+1.1
	SNR=60						
NAX				S	Sn	10 37 13.6	+2.1
KAMZ	Kamo	1.64	274	⇓P	Pn	10 36 50.8	+0.1
KAMZ				S	Sn	10 37 12.6	+0.7
AKSZ	Araks	1.78	253	P	Pn	10 36 52.7	+0.1
AKSZ				S	Sn	10 37 16.0	+0.7
VNNZ	Vanand	1.85	251	P	Pn	10 36 53.8	+0.1
VNNZ				S	Sn	10 37 17.5	+0.4
PQL	Pirkuli	1.89	88	P	Pn	10 36 53.6	-0.5
	SNR=34						
PQL				S	Sn	10 37 19.3	+1.3
GOR	Gori	1.96	310	P	Pn	10 36 55.1	0.0
GOR				S	Sn	10 37 21.1	+1.4
DIGO	Kars	2.11	262	*i* P	Pn	10 36 59.0	+1.8
DIGO	Kars	2.11	262	*i* P	Pn	10 36 59.0	+1.9
DIGO				*i* S	Sb	10 37 26.7	+0.4
SIZA	Siyzn	2.14	80	P	Pn	10 36 58.5	+0.9
	SNR=9.1						
LACR	Lac	2.49	328	*i* P	Pn	10 37 02.6	+0.2
LACR				*e*S	Sn	10 37 32.8	0.0
SNJR	Sundja	2.52	338	*e*P	Pn	10 36 57.8	-5.1
SNJR				*e*S	Sn	10 37 24.2	-9.5
ZEI	Tsey	2.62	322	*i* P	Pn	10 37 06.6	+2.4
ZEI				*i* S	Sn	10 37 39.4	+3.3
ONI	Oni	2.71	314	P	Pn	10 37 07.8	+2.3
ONI				S	Sn	10 37 43.1	+4.7
ARNR	Ardon	2.81	332	*e*P	Pn	10 37 02.8	-4.0
ARNR				*e*S	Sn	10 37 32.9	-7.7
DIGR	Digorskoe uzhe	2.87	320	*e*P	Pn	10 37 09.7	+2.0
DIGR				*e*S	Sn	10 37 44.6	+2.4
ARTV	Artvin	3.20	279	*i* P	Pb	10 37 18.2	-0.5

ORF ***10*** *10:40:11.6, 3550N×2505E, h30km, mb4.5*

BJI ***10*** *10:40:58.5, 39.17N×2137E, h2km, mB5.2, mb4.9, Ms5.1, Msz4.7*
ISCJB ***10*** *10:40:59.7±0.3, 3857N±001×2156E±001, h8km±2km, mb4.9/144, MS4.7/60, Error ellipse: s-maj=1.8km s-min=1.3km az=20.6*
IDC ***10*** *10:40:59.3±0.4, 3870N×2163E, h0km, mb4.6/23, mb1 4.7/31, mb1mx4.6/34, mbtmp4.5/31, ML4.2/8, MS4.6/26, Ms1 4.6/26, ms1mx4.5/35, Error ellipse: s-maj=11.5km s-min=9.2km az=79.0*
PRU ***10*** *10:40:59.4, 3833N×1998E, h0km, M4.9*
NEIC ***10*** *10:41:00.2, 3855N×2164E, h0km, mb4.9/113, ML5.3(THE), ML4.8(ATH), ML4.7(PDG), After THE.*
CSEM ***10*** *10:41:00.2±0.0, 3857N×2156E, h10km, mb5.0/77, Ms4.4, Mw5.1, Error ellipse: s-maj=1.2km s-min=0.9km az=7.0*
THE ***10*** *10:41:00.2, 3855N×2164E, h3km, ML5.3*
GCMT ***10*** *10:41:00.2±0.2, 3855N×2148E, h12km, MW5.2/84, Moment Tensor Solution. s41,c54; s84,c152; Duration: 0 Moment tensor: Scale 10^16Nm; M_{rr}-4.90±.20; $M_{\theta\theta}$5.23±.15; $M_{\phi\phi}$-0.33±.16; $M_{r\theta}$-0.77±.46; $M_{\theta\phi}$-4.84±.14; $M_{\phi r}$1.60±.58; Best double couple: $M_0$6.84000×10^16 NP1:ϕ_s277.00000°, δ43.00000°, λ-124.00000°. NP2: ϕ_s140.00000°, δ55.00000°, λ-62.00000°. Principal axes: T 8.1970, Plg6.0000°, Azm211.0000°; N -2.7150, Plg23.0000°, Azm303.0000°; P -5.4840, Plg66.0000°, Azm106.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ATH ***10*** *10:41:00.2, 3853N×2160E, h15km±1km, MD4.6/26, ML4.8*
CRAAG ***10*** *10:41:01.0, 3874N×2160E, Mw5.1*
MOS ***10*** *10:41:01.0±1.2, 3860N×2153E, h19km, mb5.2/46, MS4.8/33, Error ellipse: s-maj=3.3km s-min=2.0km az=111.7*
SZGRF ***10*** *10:41:02.3, 3846N×2152E, h10km, mb4.6, Greece*
PDG ***10*** *10:41:02.2±0.9, 3855N×2152E, h20km±6km, MD4.8/9, ML4.7/10, Error ellipse: s-maj=3.2km s-min=2.4km az=90.0*
SFS ***10*** *10:41:03.0, 3890N×2160E, h10km, ML5.0*
GII ***10*** *10:41:04.8±0.0, 3775N×2158E, h0km, mb4.8/1, ML4.8/1*
BGS ***10*** *10:41:07.2±1.6, 3951N×2165E, h5km, mb5.2, MS4.3*
HLW ***10*** *10:41:20.7, 37.19N×2236E, h14km, Mb4.6*

ISC 10 10:41:01.6±0.3, 3855M±001×2159E±001, h10km±2km, h16km±1.5km: pP-P, n1080, σ1§31/1162, mb4.9/144, MS4.7/60, 41C-57D, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SELA	Sela	0.36	139	*e*Pg	Pg	10 41 06.8	-1.9
SELA				*e*Sg	Sg	10 41 11.4	-2.2
EVR	Evrytania	0.40	25	*e*PB	Pg	10 41 08.8	-0.7
EVR				*e*SB	Sg	10 41 14.9	0.0
EVR	Evrytania	0.40	25	*e*Pb	Pg	10 41 08.8	-0.7
EVR				*e*Sg	Sg	10 41 13.7	-1.2
RLS	Riolos of Patr	0.50	191	*e*PB	Pg	10 41 09.5	-1.8
RLS				*e*SB	Sg	10 41 17.2	-0.7
AGG	Agios Georgios	0.75	51	*e*Pg	Pg	10 41 13.5	-2.5
AGG				*e*Sg	Sg	10 41 24.5	-1.3
LKD	Levkas	0.75	282	*e*Pg	Pg	10 41 14.6	-1.5
LKD				*e*Sg	Sg	10 41 27.0	+1.1
KFL	Anninata	0.77	235	*e*Pg	Pg	10 41 15.6	-0.8
VLS	Valsamata	0.87	245	*e*PB	Pb	10 41 16.4	-2.4
VLS				*e*SN	Sn	10 41 29.5	-3.1
THL	Klokotos Trika	1.07	18	*e*PN	Pn	10 41 20.4	-2.2
THL				*e*SN	Sn	10 41 35.8	-1.7
LKR	Lokris	1.11	84	*e*PN	Pn	10 41 21.5	-1.6
LKR				*e*SN	Sn	10 41 36.2	-2.3
LTK	Loutraki	1.20	115	*e*Pg	Pg	10 41 22.6	-2.1
LTK				*e*Sg	Sg	10 41 39.6	-0.8
JAN	Janina	1.25	333	*e*PN	Pn	10 41 24.2	-0.9
MEV	Metsovon	1.27	347	*e*Pg	Pg	10 41 23.4	-2.5
VLX	Vlachokerasia	1.33	152	*e*Pg	Pg	10 41 24.1	-3.0
VLX				*e*Sg	Sg	10 41 44.0	-0.4
IGT	Igoumenitsa	1.39	315	*e*Pg	Pg	10 41 26.3	-1.9
IGT				*e*Sg	Sg	10 41 46.8	+0.6
ITM	Ithomi	1.39	169	*e*PN	Pn	10 41 25.3	-1.8
NEO	Neokhori	1.48	59	*e*PN	Pn	10 41 27.6	-0.7
NEO				*e*SN	Sn	10 41 48.1	+0.4
PYL	PYLOS	1.66	176	*e*Pb	Pb	10 41 30.1	-2.1
PYL				*e*Sb	Sb	10 41 53.0	0.0
PYL	PYLOS	1.66	176	*e*Pb	Pb	10 41 30.0	-2.2
PYL				*e*Sb	Sb	10 41 53.0	-0.1
DID	Didima	1.67	128	*e*Pb	Pb	10 41 29.7	-2.7
DID				*e*Sb	Sb	10 41 52.5	-0.8
DID	Didima	1.67	128	*e*Pb	Pb	10 41 29.7	-2.6
DID				*e*Sb	Sb	10 41 52.5	-0.9
NAIG	Nisos Aigina	1.69	117	*e*PN	Pn	10 41 30.8	-0.4
LIT	Litokhoron	1.70	24	*e*Pb	Pb	10 41 30.3	-2.6
LIT				*e*Sb	Sb	10 41 53.5	-0.8
KZN	Kozani	1.76	4	*e*PN	Pn	10 41 32.8	+0.7
ATH	Athens Observa	1.77	108	*e*PN	Pn	10 41 32.3	+0.1
KEK	Kerkira	1.81	310	*e*PN	Pn	10 41 32.8	-0.1
PTL	Penteli	1.86	105	*e*PN	Pn	10 41 33.0	-0.4
KVR	Kavouri	1.86	112	*e*PN	Pn	10 41 32.9	-0.6
VLI	Veliai	2.12	149	*e*PN	Pn	10 41 37.8	+0.8
PAIG	Paliouri	2.13	49	*e*Pn	Pn	10 41 35.3	-1.9
FNA	Florina	2.24	356	*e*Pn	Pn	10 41 38.3	-0.1
FNA				*e*Sn	Sn	10 42 07.1	+0.7
PLG	Polygyros	2.32	38	*e*Pn	Pn	10 41 38.1	-1.7
PLG	Polygyros	2.32	38	*e

PDG eSn Sn 10 42 56.1 -0.2
TTG Podgorica 4.26 336 ⇓iPn Pn 10 42 07.0 +0.5
TTG eSn Sn 10 42 56.1 -0.2
ORI Oriolo Calabro 4.26 292 P Pn 10 42 07.5 +1.0
KDZ Kurdzhali 4.27 42 P Pn 10 42 06.6 +0.1
BARS Barje 4.27 2 P Pn 10 42 07.7 +1.1
BUM Brajici-Budva 4.27 332 ⇓iPn Pn 10 42 06.4 -0.2
BUM eSn Sn 10 42 56.0 -0.5
PLD Plovdiv 4.27 33 ePn Pn 10 42 06.4 -0.2
BLCB Balcova 4.28 91 eP Pn 10 42 08.7 +1.9
BLCB Balcova 4.28 91 ePn Pn 10 42 06.4 -0.4
SOI Samo 4.38 265 P Pn 10 42 08.5 +0.4
KDAG Bornova 4.46 90 iP Pn 10 42 10.1 +0.9
BEY Berane 4.50 344 ⇓iPn Pn 10 42 11.3 +1.5
BEY eSn Sn 10 43 02.0 -0.3
IVA Berane 4.50 344 ⇓iPn Pn 10 42 11.3 +1.5
IVA eSn Sn 10 43 02.0 -0.3
HCY Herceg Novi 4.55 330 ⇓iPn Pn 10 42 09.6 -0.9
HCY eSn Sn 10 43 03.0 -0.4
NPS Neapolis 4.60 134 ePN Pn 10 42 11.6 +0.5
DIM Dimitrovgrad 4.62 40 P Pn 10 42 13.7 +2.3
SCLL Scilla 4.62 268 P Pn 10 42 12.2 +0.7
MTTG Motta San Giov 4.67 265 P Pn 10 42 12.2 +0.1
NKY Niksic 4.69 336 ⇓iPn Pn 10 42 13.2 +0.8
NKY eSn Sn 10 43 06.4 -0.5
BODT Bodrum 4.77 106 eP Pn 10 42 12.8 -0.7
RKY Sarkoy-Tekirda 4.81 62 eP Pn 10 42 16.0 +1.9
SART Tekirdag 4.82 62 iP Pn 10 42 12.7 -1.4
BDRM Kayabasi 4.87 106 iP Pn 10 42 16.8 +2.0
AKS Akhisar 4.88 84 eP Pn 10 42 16.1 +1.1
AKHS Akhisar 4.88 84 iP Pn 10 42 16.5 +1.5
BRY Bratogost 4.92 333 ⇓iPn Pn 10 42 15.6 0.0
BRY eSn Sn 10 43 12.1 -0.5
XRY Khrisi 4.93 137 ePN Pn 10 42 16.0 +0.3
MGR Morigerati 4.94 291 P Pn 10 42 16.2 +0.4
MLSB Milas 5.05 102 eP Pn 10 42 20.9 +3.6
PLE Pljevlja 5.06 342 ⇓iPn Pn 10 42 18.2 +0.8
PLE eSn Sn 10 43 15.2 -0.7
UPM Unac-Piva 5.07 337 ⇓iPn Pn 10 42 18.3 +0.7
UPM eSn Sn 10 43 15.6 -0.7
DAT Datca 5.09 109 eP Pn 10 42 20.9 +3.0
BNT Bandirma 5.22 68 eP Pn 10 42 19.9 +0.2
STON Ston 5.23 327 ePn Pn 10 42 17.6 -2.2
STON Sn Sn 10 43 17.0 -3.2
SGO Sicignano 5.25 294 P Pn 10 42 20.7 +0.6
SLNA Salina 5.30 272 P Pn 10 42 21.2 +0.5
FG4 Candela 5.34 301 P Pn 10 42 22.2 +0.9
FGMS Monte Sant'Ang 5.35 308 P Pn 10 42 20.5 -0.9
KARP Karpathos 5.37 122 ePN Pn 10 42 24.0 +2.3
MSAG Monte S. Angel 5.38 308 P Pn 10 42 20.9 -0.9
JMB Yambol 5.46 43 P Pn 10 42 24.8 +1.9
PZI Palazzolo 5.47 256 P Pn 10 42 21.1 -2.0
YER Yerkesik 5.48 103 eP Pn 10 42 26.9 +3.6
SGRT San Giovanni R 5.50 307 P Pn 10 42 22.6 -1.0
KULA Kula-Manisa 5.54 88 eP Pn 10 42 25.4 +1.3
RGNG Rignano Grg 5.56 306 P Pn 10 42 23.6 -0.7
CSSN Cassano Irpino 5.56 297 P Pn 10 42 25.2 +0.8
FG5 Orsara di Pugl 5.57 301 P Pn 10 42 25.4 +0.9
DST Dursunbey 5.58 77 eP Pn 10 42 28.2 +3.7
HMDC Modica 5.62 256 P Pn 10 42 24.2 -1.0
ARG Arkhangelos 5.70 112 ePN Pn 10 42 28.2 +1.9
MRB1 Monte Rocchett 5.71 299 P Pn 10 42 26.7 +0.4
SZH Strazhica 5.75 34 P Pn 10 42 28.7 +1.8
VAE Valguarnera 5.77 262 Pn Pn 10 42 29.1 +1.9
2.7nm,0.3s,baz=280,slow=6.0,SNR=9.1
VAE Sn Sn 10 43 37.0 +3.6
8.8nm,0.3s,baz=341,slow=14,SNR=3.5
ZIMR 5.84 28 P Pn 10 42 30.8 +2.6
PSB1 Pescosannita 5.86 299 P Pn 10 42 28.9 +0.5
CTT Catalca 5.87 62 eP Pn 10 42 32.8 +4.2
ELBA Catalca 5.87 62 iP Pn 10 42 33.3 +4.7
RAFF Raffo Rosso 5.87 259 P Pn 10 42 27.5 -1.1
DENT Denizli 5.92 95 eP Pn 10 42 28.2 -1.0
CSLB Castelbuono 5.96 266 P Pn 10 42 31.5 +1.7
GIB Gibilmanna 5.98 267 P Pn 10 42 31.4 +1.3
CIGN Sant'Elia a Pi 5.99 303 P Pn 10 42 31.0 +0.8
GEMT Gemlik 6.17 70 eP Pn 10 42 40.0 +7.3
GDZ Gediz 6.19 83 iP Pn 10 42 38.6 +5.7
SGG Gregorio Mates 6.22 299 P Pn 10 42 34.8 +1.4
KHL Karahalli 6.23 90 eP Pn 10 42 31.2 -2.3
WDD Wield Dalam 6.24 247 P Pn 10 42 32.7 -1.0
FETY Fethiye 6.25 105 eP Pn 10 42 38.8 +5.0
ISK Istanbul-Kandi 6.28 64 eP Pn 10 42 35.6 +1.4
YLV Yalova 6.34 69 eP Pn 10 42 36.1 +1.1
IZI Iznik 6.36 71 eP Pn 10 42 33.1 -2.2
MIDA Miranda 6.42 301 P Pn 10 42 36.8 +0.7
GOLH Golhisar 6.44 99 iP Pn 10 42 40.6 +4.2
RFI Roccamonfina 6.46 298 P Pn 10 42 37.4 +0.7
RNI2 Rionero Sannit 6.51 301 P Pn 10 42 39.2 +1.8
ADVT Abdulvahap 6.58 71 eP Pn 10 42 38.8 +0.5
USI Ustica 6.59 274 P Pn 10 42 38.3 -0.2
ALT Altintas 6.67 83 eP Pn 10 42 38.8 -0.8
BUC1 Bucharest 6.68 28 ⇑iP Pg 10 43 06.8 -2.7
VENT Ventotene 6.69 292 P Pn 10 42 38.6 -1.2
SDI San Donato 6.75 300 P Pn 10 42 43.1 +2.5
AKAS Kas 6.79 107 iP Pn 10 42 44.4 +3.2
INTR Introdacqua 6.82 303 P Pn 10 42 40.9 -0.7
ELL Elmali 6.84 103 eP Pn 10 42 46.1 +4.2
GZR Gura Zlata 6.89 7 P Pn 10 42 46.3 +3.7
GZR Gura Zlata 6.89 7 ⇑iP Pn 10 42 44.2 +1.9
GZR Gura Zlata 6.89 7 P Pn 10 42 46.3 +3.6
VVLD Villa Vallelon 6.94 301 P Pn 10 42 44.5 +1.2
BORA Eskisehir 7.01 76 iP Pn 10 42 45.6 +1.4
SHUT Suhut-Afyon 7.02 87 eP Pn 10 42 52.1 +7.7
ISP Isparta 7.06 93 eP Pn 10 42 45.5 +0.6
ISP Isparta 7.06 93 ⇓P Pn 10 42 50.1 +5.1
ISP Isparta 7.06 93 iP Pn 10 42 47.3 +2.4
ISP Isparta 7.06 93 ⇓iP Pn 10 42 50.1 +5.2
BZS Buzias 7.06 0 P Pn 10 42 47.6 +2.7
BZS Buzias 7.06 0 ⇑iP Pn 10 42 45.7 +0.8
BZS Buzias 7.06 0 P Pn 10 42 47.6 +2.7
GUAR Guarcino 7.12 300 P Pn 10 42 47.2 +1.5
PSN Preselentsi 7.14 42 P Pn 10 42 48.4 +2.3
BCK Bucak 7.19 96 eP Pn 10 42 48.6 +1.9
ESKT Eskisehir 7.27 79 eP Pn 10 42 50.2 +2.4
ESKT Eskisehir 7.27 79 iP Pn 10 42 49.4 +1.5
AQU L'Aquila 7.31 304 ⇓P Pn 10 42 46.4 -2.0
AQU ePn Pn 10 42 49.8 +1.4
AQU P 10 42 49.9
AQU eSn Sn 10 44 11.8 +0.5
AQU L'Aquila 7.31 304 ⇓iP Pn 10 42 46.4 -1.9
TERO Teramo 7.31 306 P Pn 10 42 49.2 +0.8
VOIR 7.35 19 P Pn 10 42 51.3 +2.5
VOIR 7.35 19 ⇓iP Pn 10 42 51.5 +2.6
VOIR 7.35 19 P Pn 10 42 51.3 +2.4
ANTB Antalya 7.37 100 eP Pn 10 42 52.7 +3.5
CERT Cerreto 7.41 300 P Pn 10 42 50.9 +1.2
OFFI Offida 7.43 309 P Pn 10 42 51.0 +1.0
FIAM Fiamignano 7.46 303 P Pn 10 42 52.6 +2.3
LAV9 Lanuvio 7.50 297 P Pn 10 42 52.5 +1.6
RDP Rocca di Papa 7.51 298 P Pn 10 42 52.0 +0.8
MA9 Marino 7.56 298 P Pn 10 42 54.1 +2.3
MTCE Montecelio 7.60 300 P Pn 10 42 53.9 +1.6
MLR Muntele Rosu 7.66 24 P Pn 10 42 54.5 +1.4
MLR Muntele Rosu 7.66 24 Pn Pn 10 42 54.8 +1.7
2.5nm,0.3s,baz=215,slow=5.8,SNR=47
MLR Muntele Rosu 7.66 24 ⇑iP Pn 10 42 56.4 +3.3
MLR Muntele Rosu 7.66 24 P Pn 10 42 54.5 +1.4
NRCA Norcia 7.73 306 P Pn 10 42 54.6 +0.5
HARR Harsova 7.76 36 ⇓iP Pn 10 42 57.8 +3.3
HARR Harsova 7.76 36 P Pn 10 42 57.4 +2.9
MNS Montasola 7.80 302 P Pn 10 42 52.7 -2.3
TIRR Tirgusor 7.81 39 ⇓P Pn 10 42 58.6 +3.4
TIRR Tirgusor 7.81 39 ⇓iP Pn 10 42 58.6 +3.4
AOI Ancona 7.83 312 P Pn 10 42 54.4 -1.1
NVLJ Novalja 7.84 322 ePn Pn 10 42 55.4 -0.2
NVLJ Sn Sn 10 44 20.7 -3.6
SISC Sisak 7.93 332 ePn Pn 10 42 53.9 -3.0
PKSM Moragy 7.96 345 P Pn 10 42 56.8 -0.5
PKSM Moragy 7.96 345 ⇑iP Pn 10 42 56.7 -0.6
PKSM Moragy 7.96 345 P Pn 10 42 56.8 -0.5
CING Cingoli 7.97 310 P Pn 10 42 56.4 -1.0
KIZT Kizilcal 8.05 84 eP Pn 10 42 59.7 +1.1
KDZE Karadeniz Ereo 8.06 67 eP Pn 10 42 58.6 -0.1
SNTG Esanatoglia 8.06 308 P Pn 10 42 58.2 -0.4
TOLF Tolfa 8.12 299 P Pn 10 43 00.7 +1.2
ASS Assisi 8.14 306 P Pn 10 43 00.5 +0.8
PLOR Plostina 8.20 26 P Pn 10 43 02.3 +1.7
PLOR Plostina 8.20 26 ⇑iP Pn 10 43 04.2 +3.6

VRI Vrincioaia 8.24 26 P Pn 10 43 03.1 +2.0
VRI Vrincioaia 8.24 26 ⇑iP Pn 10 43 04.1 +3.0
VRI Vrincioaia 8.24 26 P Pn 10 43 03.1 +2.0
KDHN Kadinhani 8.25 87 iP Pn 10 43 06.1 +4.8
DRGR 8.28 5 ⇓iP Pn 10 43 03.5 +1.9
DRGR 8.28 5 P Pn 10 43 04.2 +2.6
MURB Monte Urbino 8.32 307 P Pn 10 43 03.4 +1.2
BOJS Bojanci 8.40 328 iPn Pn 10 43 02.3 -0.9
BOJS iSn Sn 10 44 36.7 -1.3
FSSB Fossombrone 8.40 310 P Pn 10 43 02.4 -0.9
PIEI Pieia 8.46 309 P Pn 10 43 03.7 -0.4
LATE Laterza 8.48 302 P Pn 10 43 04.7 +0.3
KONT Konya--Tatoy 8.50 91 eP Pn 10 43 11.2 +6.6
PESA Pesaro 8.51 312 P Pn 10 43 05.0 +0.2
CDCA Citt' di Caste 8.61 308 P Pn 10 43 08.9 +2.8
BADI Badiali 8.63 308 P Pn 10 43 04.6 -1.8
HMAT Matruh 8.70 147 P Pn 10 43 06.2 -1.3
RSM Repubblica di 8.73 311 P Pn 10 43 08.0 +0.1
LOD Lodumlu 8.78 78 eP Pn 10 43 15.2 +6.7
ANTO Ankara 8.80 78 eP Pn 10 43 11.4 +2.6
ANTO Ankara 8.80 78 ⇑P Pn 10 43 14.5 +5.7
ANTO Ankara 8.80 78 ⇑iP Pn 10 43 14.5 +5.7
MAON Monte Argentar 8.86 299 P Pn 10 43 10.9 +1.3
CRE Caprese Michel 8.87 308 P Pn 10 43 10.8 +1.1
CEY Cerknica 8.94 326 iPn Pn 10 43 09.1 -1.6
CEY iSn Sn 10 44 50.7 -0.6
SFI Santa Sofia 9.08 309 P Pn 10 43 14.1 +1.5
GROS Grobnik 9.09 332 iPn Pn 10 43 12.1 -0.6
BUD Budapest 9.12 349 ⇓e Pn 10 43 13.4 +0.2
BUD Budapest 9.12 349 P Pn 10 43 13.0 -0.2
LJU Ljubljana 9.13 327 ePn Pn 10 43 11.6 -1.7
LJU Ljubljana 9.13 327 P Pn 10 43 13.4 +0.1
CSNT Castellina Chi 9.21 306 P Pn 10 43 16.1 +1.8
GRFL Gerfalco 9.26 303 P Pn 10 43 18.2 +3.1
VMG Vicchio 9.30 309 P Pn 10 43 16.8 +1.2
PERS Pernice 9.38 332 ePn Pn 10 43 15.4 -1.4
PERS eSn Sn 10 44 59.3 -3.0
VOY Vojsko 9.40 325 ePn Pn 10 43 16.2 -0.8
VOY eSn Sn 10 45 00.7 -2.0
VOJS Vojsko 9.40 325 iPn Pn 10 43 16.3 -0.8
DGI Dorgali Grotta 9.44 285 P Pn 10 43 18.9 +1.3
PSZ Piszkesteto 9.45 353 ePn Pn 10 43 16.5 -1.1
PSZ Piszkesteto 9.45 353 P Pn 10 43 20.0 +2.4
PSZ Piszkesteto 9.45 353 ⇑iP Pn 10 43 17.8 +0.2
PSZ Piszkesteto 9.45 353 ⇓e Pn 10 43 19.6 +2.0
PSZ Piszkesteto 9.45 353 ePn Pn 10 43 16.5 -1.1
SEI Scarperia 9.46 309 P Pn 10 43 20.7 +2.9
KAMT Kaman 9.48 81 eP Pn 10 43 20.7 +2.5
OBKA Obir 9.50 329 ⇓iPn Pn 10 43 17.3 -1.0
27nm,0.5s
OBKA ⇓iSn Sn 10 45 06.6 +1.5
49nm,0.7s
CANT Cankiri 9.51 74 eP Pn 10 43 24.9 +6.3
VSL Villasalto 9.55 279 ePn Pn 10 43 19.1 0.0
VSL Villasalto 9.55 279 ePn Pn 10 43 19.1 0.0
FNVD Fontana Vidola 9.66 309 P Pn 10 43 23.5 +2.9
LEF Lefka 9.68 107 eP Pn 10 43 20.4 -0.6
ROBS Robic 9.73 325 ePn Pn 10 43 19.9 -1.6
ROBS eSn Sn 10 45 07.8 -3.1
ARSA Arzberg 9.77 335 ⇓iPn Pn 10 43 21.2 -0.8
comp=Z,38nm,0.8s
ARSA Arzberg 9.77 335 ⇓iPn Pn 10 43 21.1 -0.9
38nm,0.8s
SOP Sopron 9.84 340 P Pn 10 43 24.1 +1.1
SWA1 9.87 159 ⇓P Pn 10 43 22.3 -1.2
GMNA Gemona 9.88 324 P Pn 10 43 23.0 -0.6
IKL Isikli 9.90 100 eP Pn 10 43 27.2 +3.4
PTCC Patocco-Chiusa 9.93 325 P Pn 10 43 23.1 -1.1
KECS Kecovo 9.96 356 ePN Pn 10 43 25.1 +0.4
KIS Kishinev 9.97 30 eP Pn 10 43 30.0 +5.2
KIS eS Sn 10 45 20.0 +3.3
KIS MLR MLR
comp=N,8µm,13.0s
KIS MLR MLR
comp=Z,9µm,13.0s
KIS MLR MLR
comp=E,5µm,12.0s
KIS MLR MLR
comp=Z,6µm,12.0s
KIS Kishinev 9.97 30 eP Pn 10 43 30.0 +5.2
KIS eS Sn 10 45 20.0 +3.3
KIS eLi 10 46 20.0
KIS eLQ 10 46 40.0
KIS LRM 10 48 16.0
comp=Z,6µm,12.0s
MYKA Terra Mystica 9.97 327 ⇓iPn Pn 10 43 23.7 -1.1
comp=Z,32nm,0.7s
CSS Prodhromos 10.08 107 ePn Pn 10 43 28.4 +2.1
comp=Z,75nm,0.8s
CSS Prodhromos 10.08 107 ePn Pn 10 43 28.4 +2.1
comp=Z,75nm,0.8s
BZK Bozkurt 10.08 66 eP Pn 10 43 34.5 +8.1
UZH Uzhgorod 10.09 3 eP Pn 10 43 30.0 +3.6
UZH eS Sn 10 45 26.0 +6.4
UZH MLR MLR
comp=Z,4µm,16.0s
LFK Lefkose 10.10 105 eP Pn 10 43 32.6 +5.9
VYHS Vyhne 10.14 350 ePN Pn 10 43 26.3 -0.8
VYHS eSN Sn 10 45 18.6 -2.2
KEST Kesra 10.17 258 Pn Pn 10 43 28.5 +0.9
comp=Z,0.2nm,0.3s,baz=293,slow=3.6,SNR=11
KEST Sn Sn 10 45 21.2 -0.5
comp=Z,0.3nm,0.3s,baz=200,slow=23,SNR=3.3
ZST Bratislava 10.18 343 eP Pn 10 43 28.4 +0.8
ZST MLR MLR
comp=Z,7µm,13.7s
ZST Bratislava 10.18 343 ePN Pn 10 43 28.4 +0.8
CORF Corte 10.19 295 eP Pn 10 43 29.9 +2.0
CORM Corum 10.23 77 eP Pn 10 43 34.3 +5.9
ERBM Eremo 10.23 309 P Pn 10 43 26.8 -1.6
ERBM Pn Pn 10 43 31.9 +3.5
ERBM Eremo 10.23 309 Pn Pn 10 43 31.9 +3.5
CONA Conrad Observa 10.26 338 ⇓iPn Pn 10 43 28.1 -0.6
comp=Z,24nm,1.0s
FVI Forni Avoltri 10.33 324 P Pn 10 43 29.0 -0.8
CRVS Cervenica-Dubn 10.35 360 ePN Pn 10 43 36.6 +6.6
PGF Pioggiola 10.38 297 eP Pn 10 43 29.6 -0.8
comp=Z,214nm,1.0s
PGF Pioggiola 10.38 297 eP Pn 10 43 29.6 -0.8
PGF pmax pmax
comp=Z,107nm,1.0s
PGF Pioggiola 10.38 297 eP Pn 10 43 29.6 -0.8
comp=Z,107nm,1.0s
MERS Mersin 10.38 95 eP Pn 10 43 37.4 +6.8
KOLS Kolonicke sedl 10.39 2 ePN Pn 10 43 36.6 +6.0
KBA Koelnbreinsper 10.45 327 ⇓iPn Pn 10 43 31.0 -0.4
comp=Z,42nm,0.7s
KBA Koelnbreinsper 10.45 327 ⇓iP Pn 10 43 31.0 -0.4
KBA pmax pmax
comp=Z,42nm,0.6s
EREN Erenkoy 10.50 103 eP Pn 10 43 29.4 -2.7
CTI Castel Tesino 10.50 319 P Pn 10 43 30.2 -1.8
ABTA Abfaltersbach 10.57 324 ⇓iPn Pn 10 43 32.1 -0.9
comp=Z,82nm,1.1s
JAVC Velka Javorina 10.69 346 P Pn 10 43 33.9 -0.7
SEST Monte Rota 10.71 323 P Pn 10 43 36.4 +1.5
MOA Molln 10.72 332 ⇓iPn Pn 10 43 33.9 -1.1
comp=Z,70nm,0.8s
KARA Karaisali 10.72 93 eP Pn 10 43 36.6 +1.6
STHS Stebnicka Huta 10.87 359 ePN Pn 10 43 40.4 +3.3
MAGA Magasa 10.87 315 P Pn 10 43 37.3 +0.2
BOB Bobbio (Coli) 11.00 308 Pn Pn 10 43 40.9 +2.0
MABI Malga Bissina 11.11 316 Pn Pn 10 43 39.8 -0.6
KWP Kalwaria 11.11 4 eP Pn 10 43 44.1 +3.7
KWP Kalwaria 11.11 4 ⇓iP Pn 10 43 41.5 +1.1
BNN Bunyan 11.15 84 eP Pn 10 43 42.4 +1.4
KRUC Moravsky 11.15 342 P Pn 10 43 40.0 -1.0
KOZT Kozan 11.28 91 eP Pn 10 43 47.2 +4.4
CEYT Ceyhan 11.31 93 eP Pn 10 43 38.2 -5.0
SIM Simferopol' 11.33 52 eP Pn 10 43 44.1 +0.7
SIM pmax pmax
comp=Z,21nm,0.9s
SIM MLR MLR
comp=Z,1µm,17.4s
VRAC Vranov 11.34 343 P Pn 10 43 43.1 -0.4
VRAC Vranov 11.34 343 Pn Pn 10 43 42.9 -0.7
comp=Z,0.6nm,0.3s,baz=182,slow=13,SNR=16
VRAC Vranov 11.34 343 ⇑iP Pn 10 43 43.5 0.0
VRAC Vranov 11.34 343 P Pn 10 43 43.2 -0.3
WTTA Wattenberg 11.35 323 ⇑iPn Pn 10 43 43.4 -0.3
comp=E,65nm,1.3s
WTTA Wattenberg 11.35 323 ⇑iP Pn 10 43 43.4 -0.3

WTTA pmax pmax
comp=Z,65nm,1.3s
LVV L'vov 11.40 8 iP Pn 10 43 51.0 +6.6
LVV MLR MLR
comp=Z,1µm,11.0s
KVT Kavak 11.40 73 eP Pn 10 43 46.4 +2.0
CMAH Djebel Manchou 11.41 265 P Pn 10 43 45.0 +0.5
WATA Walderalm 11.44 323 ⇓iPn Pn 10 43 44.7 -0.1
comp=Z,137nm,1.0s
WATA Walderalm 11.44 323 ⇓iP Pn 10 43 44.7 -0.1
WATA pmax pmax
comp=Z,137nm,1.0s
BRMO Bormio 11.45 317 Pn Pn 10 43 45.5 +0.5
comp=Z,18nm,1.0s
QLNO Quiliano 11.49 304 Pn Pn 10 43 47.0 +1.4
SQTA Sankt Quirin 11.53 322 ⇑iPn Pn 10 43 45.6 -0.5
comp=Z,57nm,0.5s
SQTA Sankt Quirin 11.53 322 ⇑iP Pn 10 43 45.6 -0.5
SQTA pmax pmax
comp=Z,57nm,0.5s
FIN Finale Ligure 11.53 304 Pn Pn 10 43 48.4 +2.2
OKC Ostrava-Krasne 11.55 349 eP Pn 10 43 46.3 -0.1
OKC AMS AMS 10 48 50.0
comp=Z,6µm,10.9s
MORC Moravsky Berou 11.59 347 ePn Pn 10 43 46.6 -0.3
MORC Moravsky Berou 11.59 347 P Pn 10 43 47.1 +0.1
MORC Moravsky Berou 11.59 347 ⇓iP Pn 10 43 46.8 -0.2
MORC Moravsky Berou 11.59 347 ePn Pn 10 43 46.7 -0.3
TREC Trest 11.60 340 AMS AMS 10 48 40.0
comp=Z,10µm,12.1s
IMI Imperia 11.62 302 Pn Pn 10 43 49.3 +1.9
FETA Feichten 11.62 320 ⇓iPn Pn 10 43 47.5 +0.1
comp=Z,40nm,1.1s
MOTA Moosalm 11.66 322 ⇓iPn Pn 10 43 46.6 -1.4
comp=Z,100nm,0.6s
MOTA ⇑eSn Sn 10 45 58.3 +0.1
comp=Z,133nm,1.2s
MOTA Moosalm 11.66 322 ⇓iP Pn 10 43 46.6 -1.4
MOTA e 10 45 58.3
MOTA pmax pmax
comp=Z,100nm,0.6s
MOTA Moosalm 11.66 322 ⇓iPn Pn 10 43 46.5 -1.5
comp=Z,100nm,0.6s
MOTA eSn Sn 10 45 58.3 +0.1
OJC Ojcow 11.74 354 eP Pn 10 43 56.5 +7.5
GEC2 GERESS Array S 11.76 334 eP Pn 10 43 48.8 -0.5
GEC2 eL 10 48 59.1
comp=Z,6µm,19.0s
GERES GERESS Array B 11.76 334 Pn Pn 10 43 48.2 -1.1
comp=Z,0.8nm,0.3s,baz=159,slow=16,SNR=31
SAOF Saorge 11.87 302 eP Pn 10 43 51.9 +1.1
DAVOX Davos/Dischmat 11.90 317 Pn Pn 10 43 52.0 +0.8
comp=Z,2.9nm,0.3s,baz=122,slow=13,SNR=17
DAVOX Sn Sn 10 46 02.4 -1.6
comp=Z,1.1nm,0.3s,baz=7.6,slow=19,SNR=2.8
SBF Sospel 11.90 301 eP Pn 10 43 49.6 -1.7
comp=Z,140nm,0.9s
SBF Sospel 11.90 301 eP Pn 10 43 49.6 -1.7
SBF pmax pmax
comp=Z,70nm,0.9s
SBF Sospel 11.90 301 eP Pn 10 43 49.6 -1.7
comp=Z,70nm,0.9s
REVF Revere 11.91 300 eP Pn 10 43 52.9 +1.6
AUTN L'Aution 11.96 302 eP Pn 10 43 58.2 +6.2
AUTN L'Aution 11.96 302 eP Pn 10 43 56.9 +4.9
AUTN eP 10 43 58.2
AUTN L'Aution 11.96 302 eP Pn 10 43 58.2 +6.2
LUCF Luceram 11.98 301 eP Pn 10 43 54.4 +2.1
VAI Varese 11.98 312 P Pn 10 43 51.6 -0.8
VAI pmax pmax
comp=Z,16nm,0.9s
VAI Varese 11.98 312 Pn Pn 10 43 51.6 -0.8
comp=Z,16nm,0.9s
TUE Stuetta 12.00 315 P Pn 10 43 52.0 -0.6
CKFL Kef-Lekhel 12.01 264 P Pn 10 43 58.0 +5.2
SVSK Karacayir 12.03 79 eP Pn 10 43 54.6 +1.6
KHC Kasperske Hory 12.05 334 eP Pn 10 43 52.5 -0.7
KHC e 10 43 57.1
KHC e 10 44 19.5
KHC Kasperske Hory 12.05 334 eP Pn 10 43 52.5 -0.7
KHC ex x 10 43 57.1
KHC ex x 10 44 19.5
KHC AMS AMS 10 48 50.0
comp=Z,6µm,12.3s
TOUF Mont Tournerai 12.09 301 eP Pn 10 43 55.8 +2.0
MVIF Mont Vial 12.11 301 eP Pn 10 43 56.0 +1.9
STV Sta Anna Valdi 12.12 303 Pn Pn 10 43 56.0 +1.7
FUR Furstenfeldbru 12.18 325 eL 10 49 41.1
comp=Z,3µm,18.3s
CASM Ain Smara 12.23 264 P Pn 10 43 59.0 +3.3
DAVA Damuels 12.23 319 ⇓iPn Pn 10 43 56.3 +0.6
comp=Z,12nm,0.5s
CALN Calern 12.23 300 eP Pn 10 43 56.9 +1.1
GLL Jalalah 12.26 134 ⇓P Pn 10 43 56.6 +0.4
DOI San Damiano 12.28 304 Pn Pn 10 43 58.9 +2.5
WET Wettzell 12.31 332 eP Pn 10 43 56.1 -0.6
WET eL 10 49 18.5
comp=Z,6µm,20.9s
ORO Oropa 12.33 309 P Pn 10 43 56.3 -0.8
ORO pmax pmax
comp=Z,6.0nm,0.4s
ORO Oropa 12.33 309 Pn Pn 10 43 56.3 -0.8
comp=Z,6.0nm,0.4s
FRF La Foret Royal 12.34 299 eP Pn 10 43 56.0 -1.2
comp=Z,66nm,1.1s
FRF La Foret Royal 12.34 299 eP Pn 10 43 56.0 -1.2
FRF pmax pmax
comp=Z,33nm,1.1s
FRF La Foret Royal 12.34 299 eP Pn 10 43 56.0 -1.2
comp=Z,33nm,1.1s
LMR La Mourre 12.36 298 eP Pn 10 43 56.3 -1.2
comp=Z,75nm,1.0s
LMR La Mourre 12.36 298 eP Pn 10 43 56.3 -1.2
LMR pmax pmax
comp=Z,38nm,1.0s
LMR La Mourre 12.36 298 eP Pn 10 43 56.3 -1.2
comp=Z,38nm,1.0s
DPC Dobruska-Polom 12.38 344 eP Pn 10 43 57.5 -0.2
DPC AMS AMS 10 49 20.0
comp=Z,5µm,10.8s
GAZ Gaziantep 12.43 92 eP Pn 10 44 04.3 +5.9
PRU Pruhonice 12.49 339 eP Pn 10 43 58.5 -0.8
MMA0B Mount Meron ar 12.50 112 Sn Sn 10 46 18.1 -0.6
MMA0B Mount Meron ar 12.50 112 Sn Sn 10 46 18.1 -0.6
MMAI Mount Meron Ar 12.50 112 Pn Pn 10 43 59.3 -0.1
comp=Z,1.7nm,0.3s,baz=303,slow=48,SNR=4.9
MMAI Sn Sn 10 46 16.9 -1.8
comp=Z,1.1nm,0.3s,baz=297,slow=16,SNR=2.4
SURF Saint Ours 12.55 303 eP Pn 10 44 03.2 +3.0
UPC Upice 12.60 343 eP Pn 10 44 00.6 -0.1
KSDI Kefar Szold 12.60 111 Pn Pn 10 44 02.5 +1.7
KSDI Sn Sn 10 46 21.0 -0.2
PRA Prague 12.60 338 P Pn 10 44 00.0 -0.7
DFRA Djebel Bou Aff 12.63 266 P Pn 10 44 05.0 +3.7
MBDF Montbardon 12.68 304 eP Pn 10 44 01.1 -0.8
comp=Z,128nm,1.0s
MBDF Montbardon 12.68 304 eP Pn 10 44 01.1 -0.8
MBDF pmax pmax
comp=Z,64nm,1.0s
MBDF Montbardon 12.68 304 eP Pn 10 44 01.1 -0.8
comp=Z,64nm,1.0s
HFRF Wahat Farafira 12.69 152 ⇓P Pn 10 44 01.4 -0.7
SUZ 12.72 130 ⇓P Pn 10 44 03.6 +1.1
TAVF Tavernes 12.76 298 eP Pn 10 44 03.6 +0.6
MMLI Mount Malkishu 12.81 114 Pn Pn 10 44 04.8 +1.1
MMLI Sn Sn 10 46 24.8 -1.6
KSP Ksiaz 12.85 345 eP Pn 10 44 03.5 -0.7
KSP ePP 10 44 12.1
CMER Merouana 12.87 262 P Pn 10 44 11.0 +6.5
BNI Bardonecchia 12.88 305 eP Pn 10 44 02.7 -1.8
BNI pmax pmax
comp=Z,22nm,0.8s
BNI Bardonecchia 12.88 305 ePn Pn 10 44 02.7 -1.8
comp=Z,22nm,0.8s
PVCC Panska Ves 12.97 340 eP Pn 10 44 05.2 -0.6
PVCC AMS AMS 10 49 30.0
comp=Z,8µm,11.8s
HMDT Nahal Hemdat 12.98 115 Sn Sn 10 46 29.6 -0.9
HMDT Nahal Hemdat 12.98 115 Sn Sn 10 46 29.6 -1.0
STOF St-Etienne Org 12.99 300 eP Pn 10 44 10.0 +3.9
KZIT Kziot 12.99 122 Pn Pn 10 44 05.2 -1.1
KZIT Sn Sn 10 46 27.3 -3.5
LPG La Plagne 13.03 307 eP Pn 10 44 05.7 -0.9
comp=Z,80nm,0.8s

LPG La Plagne 13.03 307 *e*P **Pn 10 44 05.7 -0.9**
LPG pmax pmax
comp=Z,40nm,0.8s
LPG La Plagne 13.03 307 *e*P **Pn 10 44 05.7 -0.9**
comp=Z,40nm,0.8s
LPL La Plagne 13.04 307 *e*P **Pn 10 44 06.0 -0.9**
comp=Z,137nm,1.2s
LPL La Plagne 13.04 307 *e*P **Pn 10 44 06.0 -0.9**
LPL pmax pmax
comp=Z,68nm,1.2s
LPL La Plagne 13.04 307 *e*P **Pn 10 44 06.0 -0.9**
comp=Z,68nm,1.2s
ROTZ Rotzenmuhle 13.07 332 *e*P **Pn 10 44 07.4 +0.2**
SET Setif 13.09 265 P **Pn 10 44 09.0 +1.4**
GELF Grande-Etoile 13.13 297 *e*P **Pn 10 44 10.2 +2.2**
SMRF Simiane la Rot 13.21 299 *e*P **Pn 10 44 08.1 -1.0**
comp=Z,76nm,1.1s
SMRF Simiane la Rot 13.21 299 *e*P **Pn 10 44 08.1 -1.0**
comp=Z,38nm,1.1s
MALT Malatya 13.21 86 *e*P **Pn 10 44 14.8 +5.6**
MALT Malatya 13.21 86 *e*Pn 10 44 18.3
MALT Malatya 13.21 86 ⇓*i*P 10 44 19.9
MALT Malatya 13.21 86 *e*Pn 10 44 18.3
DSI Dead Sea 13.26 118 Sn **Sn 10 46 35.7 -1.7**
MANZ Manzenberg 13.29 332 *e*P **Pn 10 44 10.5 +0.4**
KIEV Kiev 13.29 22 *e*Pn **Pn 10 44 12.8 +2.6**
comp=Z,31nm,0.9s
KIEV Kiev 13.29 22 *e*P **Pn 10 44 12.8 +2.6**
KIEV pmax pmax
comp=Z,31nm,0.9s
KIEV Kiev 13.29 22 *e*Pn **Pn 10 44 12.8 +2.6**
comp=Z,31nm,0.9s
AKASG Malin Array Be 13.30 22 Pn **Pn 10 44 10.3 0.0**
AKASG PcP PcP 10 49 37.6 -2.0
AKASG Malin Array Be 13.30 22 Pn **Pn 10 44 10.3 0.0**
comp=Z,0.8nm,0.3s,baz=211,slow=13,SNR=9.8
AKASG PcP PcP 10 49 37.6 -2.0
comp=Z,0.5nm,0.3s,baz=260,slow=0.7,SNR=4.4
AKASG Malin Array Be 13.30 22 PcP PcP 10 49 37.6 -2.0
SPAK Spaichingen-Ko 13.33 320 *e*P **Pn 10 44 07.8 -2.9**
ORIF Oris-en-Rattie 13.34 303 *e*P **Pn 10 44 09.7 -1.2**
comp=Z,53nm,1.0s
ORIF *e*MLR MLR
comp=Z,6μm,21.5s
ORIF Oris-en-Rattie 13.34 303 *e*P **Pn 10 44 09.7 -1.2**
ORIF pmax pmax
comp=Z,26nm,1.0s
ORIF Oris-en-Rattie 13.34 303 *e*P **Pn 10 44 09.7 -1.2**
comp=Z,26nm,1.0s
HNKL Nakhl 13.37 126 ⇓P **Pn 10 44 13.5 +2.1**
NKC Novy Kostel 13.37 334 *e*P **Pn 10 44 13.4 +2.1**
NKC *e* 10 44 19.0
NKC Novy Kostel 13.37 334 *e*P **Pn 10 44 13.4 +2.1**
NKC *ex* x 10 44 19.0
NKC AMS AMS 10 49 40.0
comp=Z,7μm,16.7s
GRA1 Grafenberg Arr 13.38 330 *e*P **Pn 10 44 13.5 +2.0**
GRF Grafenberg Arr 13.38 330 *e*P **Pn 10 44 13.5 +2.0**
GRF *e*L 10 50 03.0
comp=Z,6μm,21.0s
GRFO Grafenberg 13.38 330 *e*Pn **Pn 10 44 09.1 -2.4**
comp=Z,55nm,0.9s
GRFO Grafenberg 13.38 330 *e*P **Pn 10 44 09.1 -2.3**
GRFO pmax pmax
comp=Z,55nm,0.9s
GRFO Grafenberg 13.38 330 *e*Pn **Pn 10 44 09.1 -2.3**
comp=Z,55nm,0.9s
MZDA Masada 13.40 118 Sn **Sn 10 46 37.9 -2.9**
PRAF Pradon 13.43 298 *e*P **Pn 10 44 12.8 +0.7**
BRG Berggiesshubel 13.46 339 *e*P **Pn 10 44 15.3 +2.9**
comp=Z,3.6nm,1.0s
BRG *e* 10 44 20.4
BRG S Sn 10 47 21.0 +39
BRG Berggiesshubel 13.46 339 *e*P **Pn 10 44 15.4 +2.9**
BRG pmax pmax
comp=Z,4.0nm,1.0s
BRG MLR MLR
comp=N,2μm,10.4s
BRG MLR MLR
comp=E,5μm,15.8s
BRG MLR MLR
comp=Z,5μm,11.4s
BRG Berggiesshubel 13.46 339 *e*L 10 49 35.4
comp=Z,4μm,19.5s
BRG Berggiesshubel 13.46 339 *e*P **Pn 10 44 15.3 +2.9**
comp=Z,6.0nm,1.0s
BRG *e* 10 44 20.4
comp=Z,22nm,1.5s
BRG S Sn 10 47 21.0 +39
BRG
comp=N,4μm,10.4s
BRG
comp=E,8μm,15.8s
BRG
comp=Z,8μm,11.4s
MAHO Mahon 13.50 281 *e*P **Pn 10 44 14.2 +1.1**
MAHO *e*S **Sn 10 46 54.8 +12**
TANN Tannenbergstha 13.52 334 *e*P **Pn 10 44 15.4 +2.1**
TANN *e*L 10 49 54.2
comp=Z,6μm,18.8s
GUNZ Gunzen 13.52 334 *e*P **Pn 10 44 14.8 +1.5**
STU Stuttgart 13.58 323 *e*P **Pn 10 44 12.4 -1.7**
STU *e*L 10 49 45.2
comp=Z,2μm,21.1s
FELD Feldberg im Sc 13.59 318 *e*P **Pn 10 44 12.2 -2.0**
WERD Werda 13.60 334 *e*P **Pn 10 44 16.5 +2.1**
URFA Urfa 13.64 89 *e*P **Pn 10 44 20.1 +5.1**
FBE Freiberg 13.67 337 *e*P **Pn 10 44 15.4 0.0**
WAR Warsaw 13.70 359 *e*P **Pn 10 44 24.4 +8.6**
BFO Black Forest 13.71 320 Pn **Pn 10 44 13.0 -2.9**
comp=Z,209nm,1.0s,SNR=7.3
BFO Black Forest 13.71 320 *e*P **Pn 10 44 13.4 -2.5**
BFO *e*L 10 50 00.9
comp=Z,3μm,18.7s
BFO Black Forest 13.71 320 *e*Pn **Pn 10 44 13.8 -2.1**
KRMI Paran Flat 13.72 124 Sn **Sn 10 46 43.7 -4.9**
PRNI Paran 13.75 122 Sn **Sn 10 46 46.6 -2.7**
GRB Gharib 13.86 134 ⇓P **Pn 10 44 19.5 +1.4**
LOMF Lomont 13.92 314 *e*P **Pn 10 44 19.9 +1.1**
GUMT Gumushane 13.95 77 *e*P **Pn 10 44 22.2 +3.0**
CABF La Chapelle 13.96 310 *e*P **Pn 10 44 17.9 -1.4**
comp=Z,86nm,0.9s
CABF La Chapelle 13.96 310 *e*P **Pn 10 44 17.9 -1.4**
CABF pmax pmax
comp=Z,43nm,0.9s
CABF La Chapelle 13.96 310 *e*P **Pn 10 44 17.9 -1.4**
comp=Z,43nm,0.9s
HRFI Mount Harif 13.98 123 Pn **Pn 10 44 18.3 -1.3**
HRFI Sn **Sn 10 46 51.2 -3.6**
MOX Moxa 14.01 333 *e*P **Pn 10 44 20.6 +0.6**
comp=Z,44nm,1.2s
MOX *e* 10 47 29.0
MOX Moxa 14.01 333 *e*P **Pn 10 44 20.6 +0.6**
comp=Z,44nm,1.2s
MOX *e* 10 47 29.0
MOX
comp=Z,5μm,20.0s
MOX Moxa 14.01 333 *e*P **Pn 10 44 20.6 +0.6**
MOX pmax pmax
comp=Z,44nm,1.2s
MOX MLR MLR
comp=Z,5μm,20.0s
MOX Moxa 14.01 333 *e*P **Pn 10 44 20.3 +0.3**
MOX *e*L 10 50 19.9
comp=Z,6μm,19.9s
ASF Jabal al Asfar 14.01 112 Pn **Pn 10 44 21.6 +1.5**
comp=Z,0.3nm,0.3s,baz=158,slow=4.2,SNR=8.7
MOF Molkenrain 14.04 316 *e*P **Pn 10 44 20.5 +0.1**
VIVF Saint-Julien-l 14.11 302 *e*P **Pn 10 44 19.8 -1.6**
comp=Z,120nm,1.3s
VIVF Saint-Julien-l 14.11 302 *e*P **Pn 10 44 19.8 -1.6**
VIVF pmax pmax
comp=Z,60nm,1.3s
VIVF Saint-Julien-l 14.11 302 *e*P **Pn 10 44 19.8 -1.6**
comp=Z,60nm,1.3s
CLL Collm 14.12 337 *e*P **Pn 10 44 21.6 +0.1**
CLL *e*L 10 50 28.3
comp=Z,5μm,18.8s
CLL Collm 14.12 337 *e*(P) **Pn 10 44 24.0 +2.5**
comp=Z,17nm,1.6s
CLL *i* PP 10 44 30.0
comp=Z,58nm,1.2s
EIL Elat 14.16 125 Pn **Pn 10 44 24.0 +1.8**
comp=Z,1.1nm,0.3s,baz=343,slow=11,SNR=4.8
EIL Sn **Sn 10 46 57.4 -2.0**
comp=Z,0.9nm,0.3s,baz=187,slow=23,SNR=3.3
EIL Elat 14.16 125 Pn **Pn 10 44 20.1 -2.1**
EIL Sn **Sn 10 46 55.5 -3.9**
EIL Elat 14.16 125 Pn **Pn 10 44 24.0 +1.8**
EIL Sn **Sn 10 46 55.5 -3.9**
HINF Hinteralfeld 14.17 316 *e*P **Pn 10 44 20.8 -1.4**
comp=Z,94nm,1.1s
HINF Hinteralfeld 14.17 316 *e*P **Pn 10 44 20.8 -1.4**
HINF pmax pmax
comp=Z,47nm,1.1s
HINF Hinteralfeld 14.17 316 *e*P **Pn 10 44 20.8 -1.4**
comp=Z,47nm,1.1s
KTUT Trabzon 14.19 74 *e*P **Pn 10 44 16.3 -6.3**
ECH Echery 14.24 317 *e*P **Pn 10 44 21.9 -1.3**
CDF Champ du Feu 14.30 318 *e*P **Pn 10 44 22.7 -1.3**
comp=Z,59nm,0.9s
CDF Champ du Feu 14.30 318 *e*P **Pn 10 44 22.7 -1.3**
CDF pmax pmax
comp=Z,30nm,0.9s
CDF Champ du Feu 14.30 318 *e*P **Pn 10 44 22.7 -1.3**
comp=Z,30nm,0.9s
HBST Basata 14.33 127 ⇓P **Pn 10 44 26.7 +2.2**
HKAT Jabal Katrina 14.37 130 ⇓P **Pn 10 44 27.4 +2.3**
LANF Langenberg 14.39 321 *e*P **Pn 10 44 24.2 -1.1**
LASF Ste Croix 14.42 298 *e*P **Pn 10 44 24.4 -1.2**
comp=Z,60nm,1.1s
LASF Ste Croix 14.42 298 *e*P **Pn 10 44 24.4 -1.2**
comp=Z,30nm,1.1s
HDK1 Dakhla 14.55 151 ⇓P **Pn 10 44 26.3 -1.2**
HAU Haudompre 14.56 315 *e*P **Pn 10 44 26.1 -1.4**
comp=Z,135nm,1.0s
HAU *e*MLR MLR
comp=Z,3μm,19.0s
HAU Haudompre 14.56 315 *e*P **Pn 10 44 26.1 -1.4**
HAU pmax pmax
comp=Z,68nm,1.0s
HAU Haudompre 14.56 315 *e*P **Pn 10 44 26.1 -1.4**
comp=Z,68nm,1.0s
SOC Sochi 14.56 64 *e*P **Pn 10 44 27.2 -0.4**
SOC *e* 10 47 10.4
SOC pmax pmax
comp=Z,5.0nm,0.5s
SOC MLR MLR
comp=Z,1μm,14.0s
ETOS Mallorca 14.62 281 P **Pn 10 44 33.4 +5.0**
comp=Z,314nm,2.7s
UBBA Unterbreizbach 14.76 330 *e*P **Pn 10 44 32.6 +2.5**
THEF They Montfort 14.88 316 *e*P **Pn 10 44 32.3 +0.4**
RUE Ruedersdorf 14.95 341 *e*Pn **Pn 10 44 38.8 +6.0**
comp=Z,98nm,0.8s
RUE Ruedersdorf 14.95 341 *e*Pn **Pn 10 44 38.8 +6.0**
comp=Z,98nm,0.8s
COLF Collangettes 14.99 303 *e*P **Pn 10 44 40.4 +7.0**
EMHD Djebel Mahouad 15.01 267 P **Pn 10 44 43.0 +9.4**
GKP Gorka Klasztor 15.03 350 *e*P **Pn 10 44 39.6 +5.8**
LRDF Laroque-de-Fa 15.09 293 *e*P **Pn 10 44 39.7 +5.0**
LBL Lubilhac 15.19 302 *e*P **Pn 10 44 39.2 +3.2**
PLDF La Plantade 15.21 305 *e*P **Pn 10 44 41.9 +5.6**
RUP Ruppelstein 15.24 322 *e*P **Pn 10 44 38.8 +2.1**
SMF Signal de Mont 15.35 307 *e*P **Pn 10 44 37.0 -1.1**
comp=Z,82nm,0.8s
SMF Signal de Mont 15.35 307 *e*P **Pn 10 44 37.0 -1.1**
SMF pmax pmax
comp=Z,41nm,0.8s
SMF Signal de Mont 15.35 307 *e*P **Pn 10 44 37.0 -1.1**
comp=Z,41nm,0.8s
VALF Valcebollere 15.38 291 *e*P **Pn 10 44 45.3 +6.7**
EZM Erzurum 15.38 79 *e*P **Pn 10 44 46.3 +7.6**
MTLF Montolieu 15.39 294 *e*P **Pn 10 44 37.0 -1.7**
comp=Z,58nm,0.9s
MTLF Montolieu 15.39 294 *e*P **Pn 10 44 37.0 -1.7**
MTLF pmax pmax
comp=Z,29nm,0.9s
MTLF Montolieu 15.39 294 *e*P **Pn 10 44 37.0 -1.7**
comp=Z,29nm,0.9s
CLZ Clausthal 15.44 333 *e*P **Pn 10 44 41.5 +2.2**
CLZ *e*L 10 51 14.0
comp=Z,6μm,18.7s
SUW Suwalki 15.51 4 *e*P **Pn 10 44 43.3 +3.2**
PYM Petit Puy Mans 15.53 304 *e*P **Pn 10 44 43.7 +3.2**
MEZF Maizieres J'vi 15.55 315 *e*P **Pn 10 44 39.6 -1.2**
comp=Z,169nm,0.9s
MEZF Maizieres J'vi 15.55 315 *e*P **Pn 10 44 39.6 -1.2**
comp=Z,85nm,0.9s
AGO Saint Agoulin 15.56 305 *e*P **Pn 10 44 47.7 +6.8**
LOR Lormes 15.62 310 *e*P **Pn 10 44 40.9 -0.7**
comp=Z,180nm,1.5s
LOR *e*MLR MLR
comp=Z,2μm,18.2s
LOR Lormes 15.62 310 *e*P **Pn 10 44 40.9 -0.7**
LOR pmax pmax
comp=Z,90nm,1.5s
LOR Lormes 15.62 310 *e*P **Pn 10 44 40.9 -0.7**
comp=Z,90nm,1.5s
WLF Walferdange 15.66 320 *e*P **Pn 10 44 42.7 +0.5**
WLF pmax pmax
comp=Z,90nm,1.0s
WLF Walferdange 15.66 320 P **Pn 10 44 41.8 -0.4**
comp=Z,60nm,1.7s
WLF Walferdange 15.66 320 *e*P **Pn 10 44 40.7 -1.5**
WLF Walferdange 15.66 320 *e*Pn **Pn 10 44 42.7 +0.5**
comp=Z,90nm,1.0s
AVF Avril sur Loir 15.71 307 *e*P **Pn 10 44 41.8 -1.1**
comp=Z,124nm,1.0s
AVF Avril sur Loir 15.71 307 *e*P **Pn 10 44 41.8 -1.1**
AVF pmax pmax
comp=Z,62nm,1.0s
AVF Avril sur Loir 15.71 307 *e*P **Pn 10 44 41.8 -1.1**
comp=Z,62nm,1.0s
SSF Saint Saulge 15.74 309 *e*P **Pn 10 44 42.4 -0.8**
comp=Z,157nm,0.9s
SSF Saint Saulge 15.74 309 *e*P **Pn 10 44 42.4 -0.8**
SSF pmax pmax
comp=Z,79nm,0.9s
SSF Saint Saulge 15.74 309 *e*P **Pn 10 44 42.4 -0.8**
comp=Z,79nm,0.9s
EIBI Ibiza 15.80 278 P **Pn 10 44 49.7 +5.7**
comp=Z,397nm,2.9s
EIBI Ibiza 15.80 278 P **Pn 10 44 49.7 +5.7**
comp=Z,397nm,2.9s
VERF Verneugheol 15.87 303 *e*P **Pn 10 44 44.8 -0.1**
CAF Calviac 15.89 300 *e*P **Pn 10 44 44.7 -0.5**
comp=Z,63nm,1.0s
CAF Calviac 15.89 300 *e*P **Pn 10 44 44.7 -0.5**
CAF pmax pmax
comp=Z,31nm,1.0s
CAF Calviac 15.89 300 *e*P **Pn 10 44 44.7 -0.5**
comp=Z,31nm,1.0s
BGF Bois d'Agland 15.94 306 *e*P **Pn 10 44 44.8 -1.0**
comp=Z,85nm,0.9s
BGF Bois d'Agland 15.94 306 *e*P **Pn 10 44 44.8 -1.0**
BGF pmax pmax
comp=Z,42nm,0.9s
BGF Bois d'Agland 15.94 306 *e*P **Pn 10 44 44.8 -1.0**
comp=Z,42nm,0.9s
EPOB Poblet 15.98 287 P **Pn 10 44 49.5 +3.2**
comp=Z,100nm,2.0s
EPOB Poblet 15.98 287 P **Pn 10 44 49.5 +3.2**
comp=Z,100nm,2.0s
EBNR Beni Rached 16.10 268 P **Pn 10 44 52.0 +4.1**
MLS Moulis 16.14 292 *e*P **Pn 10 44 51.4 +3.0**
TCF Toulx Ste Croi 16.24 305 *e*P **Pn 10 44 49.3 -0.4**
comp=Z,48nm,1.1s
TCF Toulx Ste Croi 16.24 305 *e*P **Pn 10 44 49.3 -0.4**
TCF pmax pmax
comp=Z,24nm,1.1s
TCF Toulx Ste Croi 16.24 305 *e*P **Pn 10 44 49.3 -0.4**
comp=Z,24nm,1.1s
MEM Membach 16.35 323 P **Pn 10 44 49.6 -1.5**
comp=Z,32nm,1.4s
RJF Les Rejaudoux 16.37 301 *e*P **Pn 10 44 50.8 -0.6**
comp=Z,41nm,0.9s
RJF *e*MLR MLR
comp=Z,2μm,22.8s
RJF Les Rejaudoux 16.37 301 *e*P **Pn 10 44 50.8 -0.6**
RJF pmax pmax
comp=Z,21nm,0.9s
RJF Les Rejaudoux 16.37 301 *e*P **Pn 10 44 50.8 -0.6**
comp=Z,20nm,0.9s
HGN Heimansgroeve 16.49 323 *e*P **Pn 10 44 54.4 +1.6**
comp=Z,51nm,1.3s
HGN Heimansgroeve 16.49 323 *e*S **Sn 10 48 10.2 +14**
MNK Minsk 16.51 13 *e*P **Pn 10 44 51.0 -2.1**
ETRT Tiaret 16.52 265 P **Pn 10 44 57.0 +3.7**
EANR 'Ain N'Sour 16.52 267 P **Pn 10 44 54.0 +0.7**
ERTA Horta de San J 16.52 285 P **Pn 10 44 57.0 +3.7**
comp=Z,91nm,2.0s
ERTA Horta de San J 16.52 285 P **Pn 10 44 57.0 +3.7**
comp=Z,91nm,2.0s
GIVF Givet 16.61 319 *e*P **Pn 10 44 53.8 -0.5**
comp=Z,141nm,1.0s
GIVF Givet 16.61 319 *e*P **Pn 10 44 53.8 -0.5**
GIVF pmax pmax
comp=Z,71nm,1.0s
GIVF Givet 16.61 319 *e*P **Pn 10 44 53.8 -0.5**
comp=Z,71nm,1.0s
AGRB Hanur-Agry 16.65 80 *e*P **Pn 10 44 56.0 +1.0**
RESF Ens 16.66 292 *e*P **Pn 10 44 55.5 +0.4**
EPF Esparros 16.69 292 *e*P **Pn 10 44 55.6 +0.1**
comp=Z,42nm,1.2s
EPF Esparros 16.69 292 *e*P **Pn 10 44 55.6 +0.1**
EPF pmax pmax
comp=Z,21nm,1.2s
EPF Esparros 16.69 292 *e*P **Pn 10 44 55.6 +0.1**
comp=Z,21nm,1.2s
DOU Dourbes 16.72 319 P **Pn 10 44 55.3 -0.4**
comp=Z,33nm,1.1s
KIV Kislovodsk 16.74 64 *e*P **Pn 10 45 03.2 +7.1**
comp=Z,50nm,1.1s
KIV Kislovodsk 16.74 64 *e*P **Pn 10 44 57.9 +1.8**
KIV *e*S **Sn 10 48 03.8 +1.8**
KIV pmax pmax
comp=Z,27nm,1.1s
KIV MLR MLR
comp=Z,606nm,13.0s
KIV Kislovodsk 16.74 64 ⇑*i*P **Pn 10 44 50.8 -5.3**
KIV Kislovodsk 16.74 64 *e*P **Pn 10 45 03.2 +7.1**
comp=Z,50nm,1.1s
EBIE Bielsa 16.79 291 P **Pn 10 44 56.7 -0.1**
comp=Z,106nm,1.5s
EBIE Bielsa 16.79 291 P **Pn 10 44 56.7 0.0**
comp=Z,106nm,1.5s
LFF La Frestale 16.80 299 *e*P **Pn 10 44 56.6 -0.2**
comp=Z,95nm,1.2s
LFF La Frestale 16.80 299 *e*P **Pn 10 44 56.6 -0.2**
LFF pmax pmax
comp=Z,48nm,1.2s
LFF La Frestale 16.80 299 *e*P **Pn 10 44 56.6 -0.2**
comp=Z,48nm,1.2s
LABF Labassere 16.89 292 *e*P **Pn 10 45 02.6 +4.6**
BAIF Baives 16.90 319 *e*P **Pn 10 44 57.9 -0.1**
comp=Z,127nm,0.8s
BAIF Baives 16.90 319 *e*P **Pn 10 44 57.9 -0.1**
BAIF pmax pmax
comp=Z,63nm,0.8s
BAIF Baives 16.90 319 *e*P **Pn 10 44 57.9 -0.1**
comp=Z,63nm,0.8s
VIEF Viey 16.90 292 *e*P **Pn 10 45 00.1 +2.0**
WTSB Winterswijk 16.94 327 *e*P **Pn 10 45 02.4 +3.9**
comp=Z,56nm,1.5s
VANB Van 17.05 83 *e*P **Pn 10 45 02.0 +2.0**
EBEN Beniarda 17.05 277 P **Pn 10 45 02.9 +3.0**
comp=Z,140nm,1.8s
EBEN Beniarda 17.05 277 P **Pn 10 45 02.9 +2.9**
comp=Z,140nm,1.8s
ONI Oni 17.08 69 P **Pn 10 45 04.9 +4.6**
EMOS Mosqueruela 17.13 283 P **Pn 10 45 04.4 +3.3**
comp=Z,105nm,1.4s
EMOS Mosqueruela 17.13 283 P **Pn 10 45 04.4 +3.4**
comp=Z,105nm,1.4s
ESAC San Caprasio 17.16 288 P **Pn 10 45 03.0 +1.7**
comp=Z,133nm,1.3s
ESAC San Caprasio 17.16 288 P **Pn 10 45 03.0 +1.7**
comp=Z,133nm,1.3s
BSD Bornholm Skovb 17.17 347 *i* P **Pn 10 45 04.9 +3.5**
BSD *e*S **Sn 10 48 15.9 +3.6**
BSD pmax pmax
comp=Z,44nm,0.8s
BSD MLR MLR
comp=Z,2μm,19.0s
BSD Bornholm Skovb 17.17 347 *i* P **Pn 10 45 04.9 +3.5**
comp=Z,44nm,0.8s
BSD *e*S **Sn 10 48 15.9 +3.6**
BSD
comp=Z,2μm,19.0s
MSL Mosul 17.23 91 *ex* x 10 45 06.5
MSL *ex* x 10 48 24.0
MSL *ex* x 10 51 09.0
REYF Montagne du Re 17.23 292 *e*P **Pn 10 45 02.0 -0.2**
GOF Gofitskoye 17.24 61 *e*P **Pn 10 44 55.7 -6.6**
GOF pmax pmax
comp=Z,130nm,1.3s
ETSF Etsaut 17.33 292 *e*P **Pn 10 45 04.2 +0.7**
comp=Z,85nm,1.2s
ETSF Etsaut 17.33 292 *e*P **Pn 10 45 04.2 +0.7**
ETSF pmax pmax
comp=Z,42nm,1.2s
ETSF Etsaut 17.33 292 *e*P **Pn 10 45 04.2 +0.7**
comp=Z,42nm,1.2s
CLDR Caldiran 17.40 81 *e*P **Pn 10 45 06.8 +2.4**
HKR Hakkari 17.47 86 *e*P **Pn 10 45 09.2 +4.0**
ECHE Chera 17.55 280 P **Pn 10 45 09.1 +2.9**
comp=Z,41nm,1.1s
ECHE Chera 17.55 280 P **Pn 10 45 09.1 +2.9**
ECHE pmax pmax
comp=Z,41nm,1.1s
ECHE Chera 17.55 280 P **Pn 10 45 09.1 +2.9**
comp=Z,41nm,1.1s
LARF Larrau 17.66 292 *e*P **Pn 10 45 08.1 +0.5**
VRSR Storozhevoye 17.71 39 *e*P **Pn 10 45 08.8 +0.6**
VRSR pmax pmax
comp=N,4.0nm,1.2s
VRSR pmax pmax
comp=Z,2.0nm,1.2s
VRSR MLR MLR
comp=Z,530nm,18.0s
VRSR MLR MLR
comp=N,350nm,17.0s
VRSR MLR MLR
comp=E,350nm,17.0s
CART Cartagena 17.81 274 *i* P **Pn 10 45 06.6 -2.9**
CART *i* S **Sn 10 48 27.3 -0.7**
SJPF Ste Jean 17.84 292 *e*P **Pn 10 45 10.9 +1.1**
comp=E,61nm,0.9s
SJPF Ste Jean 17.84 292 *e*P **Pn 10 45 10.9 +1.1**
SJPF pmax pmax
comp=Z,31nm,0.9s
SJPF Ste Jean 17.84 292 *e*P **Pn 10 45 10.9 +1.1**
comp=Z,30nm,0.9s
MFF Saint Martin d 17.88 304 *e*P **Pn 10 45 10.9 +0.7**
OSSF Osses 17.89 293 *e*P **Pn 10 45 08.6 -1.8**
TBLG Delisi 17.97 72 P **Pn 10 45 17.8 +6.4**
MTA Mtatsminda 18.01 73 P **Pn 10 45 18.6 +6.7**
ELIZ Elizondo 18.07 292 P **Pn 10 45 11.8 -0.8**
comp=Z,39nm,1.6s
ELIZ Elizondo 18.07 292 P **Pn 10 45 11.8 -0.8**
ELIZ pmax pmax
comp=Z,39nm,1.6s
ELIZ Elizondo 18.07 292 P **Pn 10 45 11.8 -0.8**
comp=Z,39nm,1.6s
ETOB Tobarra 18.08 278 P **Pn 10 45 14.2 +1.3**
comp=Z,341nm,3.8s
ETOB Tobarra 18.08 278 P **Pn 10 45 14.1 +1.3**
comp=Z,341nm,3.8s
COP Copenhagen 18.21 343 *i* P **Pn 10 45 16.9 +2.6**
COP *i* S **Sn 10 48 49.2 +12**
COP
comp=Z,860nm,20.0s
LCHF La Chataignera 18.29 304 *e*P **Pn 10 45 16.3 +1.0**
ETOR Torete 18.33 285 P **Pn 10 45 16.4 +0.6**
comp=Z,16nm,1.4s
ETOR Torete 18.33 285 P **Pn 10 45 16.4 +0.5**
ETOR pmax pmax
comp=Z,17nm,1.4s
ETOR Torete 18.33 285 P **Pn 10 45 16.4 +0.5**
comp=Z,16nm,1.4s
DGRG David-gareji 18.44 73 P **Pn 10 45 22.5 +5.4**
LDF La Druitiere 18.60 310 *e*P **Pn 10 45 19.0 -0.1**
comp=Z,120nm,1.1s
LDF La Druitiere 18.60 310 *e*P **Pn 10 45 19.0 -0.1**
LDF pmax pmax
comp=Z,60nm,1.1s
LDF La Druitiere 18.60 310 *e*P **Pn 10 45 19.0 -0.1**
comp=Z,60nm,1.1s
NAX Nakhchivan 18.62 81 P **Pn 10 45 22.1 +2.7**
SNR=16
ECRI Cripan 18.73 290 P **Pn 10 45 19.8 -0.9**
ECRI pmax pmax
comp=Z,62nm,1.2s
ECRI Cripan 18.73 290 P **Pn 10 45 19.8 -0.9**
comp=Z,62nm,1.2s
EVIA Vianos 18.83 278 P **Pn 10 45 22.8 +0.9**

comp=Z,18nm,1.8s
EVIA Vianos 18.83 278 P Pn 10 45 22.8 +0.9
EVIA pmax pmax
comp=Z,18nm,1.8s
EVIA Vianos 18.83 278 P Pn 10 45 22.8 +0.9
comp=Z,18nm,1.8s
ENIJ Nijar 18.87 273 P Pn 10 45 25.5 +3.0
comp=Z,16nm,0.8s
ENIJ Nijar 18.87 273 P Pn 10 45 25.5 +3.0
ENIJ pmax pmax
comp=Z,16nm,0.8s
ENIJ Nijar 18.87 273 P Pn 10 45 25.5 +3.0
comp=Z,16nm,0.8s
FLN La Foliniere 18.89 310 *eP* **Pn 10 45 22.3 -0.3**
FLN *e*MLR MLR
comp=Z,2µm,21.2s
FLN La Foliniere 18.89 310 *eP* **Pn 10 45 22.3 -0.3**
FLN pmax pmax
comp=Z,50nm,0.9s
FLN La Foliniere 18.89 310 *eP* **Pn 10 45 22.3 -0.3**
comp=Z,50nm,0.9s
GRR Gorron 18.97 308 *eP* **Pn 10 45 22.5 -1.0**
comp=Z,83nm,0.8s
GRR Gorron 18.97 308 *eP* **Pn 10 45 22.5 -1.0**
GRR pmax pmax
comp=Z,42nm,0.8s
GRR Gorron 18.97 308 *eP* **Pn 10 45 22.5 -1.0**
comp=Z,42nm,0.8s
GANJ Ganja 19.16 76 P Pn 10 45 29.8 +3.9
SNR=7.7
BHD Baghdad 19.18 99 *ex* x 10 45 25.0
BHD *ex* x 10 49 01.5
EQES Quesada 19.39 276 P Pn 10 45 29.8 +1.1
comp=Z,303nm,2.5s
EQES Quesada 19.39 276 P Pn 10 45 29.8 +1.1
comp=Z,303nm,2.5s
OBN Obninsk 19.41 27⇑ *eP* **Pn 10 45 28.7 -0.1**
OBN pmax pmax
comp=Z,54nm,1.2s
OBN MLR MLR
comp=Z,3µm,19.0s
EBER Berja 19.43 273 P Pn 10 45 30.5 +1.4
comp=Z,179nm,2.6s
ELAN Lanestosa 19.46 292 P Pn 10 45 27.7 -1.8
comp=Z,206nm,1.7s
ELAN Lanestosa 19.46 292 P Pn 10 45 27.7 -1.8
comp=Z,206nm,1.7s
MUD Monsted U'grnd 19.72 339 *i* P **Pn 10 45 33.0 +0.5**
MUD *i* S **Sn 10 49 22.3 +8.4**
MUD pmax pmax
comp=Z,41nm,0.9s
MUD MLR MLR
comp=Z,2µm,18.0s
MUD Monsted U'grnd 19.72 339 *i* P **Pn 10 45 33.0 +0.5**
comp=Z,41nm,0.9s
MUD *i* S **Sn 10 49 22.3 +8.4**
MUD
comp=Z,2µm,18.0s
SEKA Sheki 19.81 74 P Pn 10 45 37.0 +3.3
SNR=5.3
BRDA Brd 19.83 77 P Pn 10 45 34.9 +1.0
SNR=8.8
ESDC Sonseca Array 19.85 281 P Pn 10 45 33.4 -0.7
ESDC Sonseca Array 19.85 281 P Pn 10 45 32.1 -2.0
comp=Z,0.8nm,0.3s,baz=76,slow=11,SNR=40
ESDC LR LR 10 53 42.3
comp=Z,898nm,18.0s,baz=75,slow=38
ESDC Sonseca Array 19.85 281 P Pn 10 45 33.4 -0.7
ECOG Cogollos-Vega 19.88 274 P Pn 10 45 35.6 +1.1
comp=Z,30nm,1.4s
ECOG Cogollos-Vega 19.88 274 P Pn 10 45 35.6 +1.1
ECOG pmax pmax
comp=Z,30nm,1.4s
ECOG Cogollos-Vega 19.88 274 P Pn 10 45 35.6 +1.1
comp=Z,30nm,1.4s
EBAN Banos Encina 19.89 277 P Pn 10 45 33.8 -0.9
comp=Z,5.7nm,1.6s
EBAN Banos Encina 19.89 277 P Pn 10 45 33.8 -0.9
EBAN pmax pmax
comp=Z,6.0nm,1.6s
EBAN Banos Encina 19.89 277 P Pn 10 45 33.8 -0.9
comp=Z,5.7nm,1.6s
GUD Guadarrama 19.93 284 P Pn 10 45 33.6 -1.5
comp=Z,47nm,1.2s
GUD Guadarrama 19.93 284 P Pn 10 45 33.6 -1.5
GUD pmax pmax
comp=Z,47nm,1.2s
GUD Guadarrama 19.93 284 P Pn 10 45 33.6 -1.5
comp=Z,47nm,1.2s
EGUA Guajares 19.97 273 P Pn 10 45 36.8 +1.2
comp=Z,15nm,1.6s
EGUA Guajares 19.97 273 P Pn 10 45 36.8 +1.2
EGUA pmax pmax
comp=Z,15nm,1.6s
EGUA Guajares 19.97 273 P Pn 10 45 36.8 +1.2
comp=Z,15nm,1.6s
SGMF Saint Gilles 19.97 307 *eP* **Pn 10 45 33.6 -2.0**
comp=Z,137nm,1.2s
SGMF Saint Gilles 19.97 307 *eP* **Pn 10 45 33.6 -2.0**
SGMF pmax pmax
comp=Z,68nm,1.2s
SGMF Saint Gilles 19.97 307 *eP* **Pn 10 45 33.6 -2.0**
comp=Z,68nm,1.2s
MAK Makhachkala 20.09 69 *eP* **P 10 45 36.9 +1.7**
MAK *i* 10 45 48.7
MAK *e*S **S 10 49 22.8 +2.1**
MAK *e*SS 10 49 42.2
MAK pmax pmax
comp=Z,86nm,0.6s
MAK MLR MLR
comp=Z,1µm,16.0s,MS4.4
ERON Agron 20.12 274 P P 10 45 38.4 +2.9
comp=Z,22nm,0.8s
ERON Agron 20.12 274 P P 10 45 38.4 +2.9
comp=Z,22nm,0.8s
PAB San Pablo 20.15 281 *eP* **P 10 45 37.5 +1.6**
comp=Z,100nm,1.3s
PAB San Pablo 20.15 281 *eP* **P 10 45 37.5 +1.6**
PAB pmax pmax
comp=Z,100nm,1.3s
PAB San Pablo 20.15 281 *eP* **P 10 45 37.5 +1.6**
comp=Z,100nm,1.3s
VSU Vasula 20.20 8⇓ *eP* **P 10 45 35.4 -0.9**
QUIF Quistinic 20.25 306 *eP* **P 10 45 36.9 0.0**
comp=Z,71nm,0.8s
QUIF Quistinic 20.25 306 *eP* **P 10 45 36.9 0.0**
QUIF pmax pmax
comp=Z,36nm,0.8s
QUIF Quistinic 20.25 306 *eP* **P 10 45 36.9 0.0**
comp=Z,36nm,0.8s
MOS Moscow 20.27 27 *eP* **P 10 45 36.2 -0.9**
MOS *e*S **S 10 49 27.4 +3.2**
MOS pmax pmax
comp=Z,153nm,1.2s
MOS MLR MLR
comp=Z,3µm,13.0s,MS4.8
ROSF Rostrenen 20.45 307 *eP* **P 10 45 39.1 0.0**
comp=Z,256nm,1.4s
ROSF Rostrenen 20.45 307 *eP* **P 10 45 39.1 0.0**
ROSF pmax pmax
comp=Z,128nm,1.4s
ROSF Rostrenen 20.45 307 *eP* **P 10 45 39.1 0.0**
comp=Z,128nm,1.4s
SKP1 Kophill 20.46 317 *eP* **P 10 45 38.8 -0.3**
EADA Adamuz 20.51 277 P P 10 45 40.2 +0.5
comp=Z,131nm,2.5s
EMAL Malaga-Limoner 20.66 273 *i* P **P 10 45 38.7 -2.7**
EARI Arriondas 20.76 292 P P 10 45 41.3 -1.1
comp=Z,204nm,2.6s
EARI Arriondas 20.76 292 P P 10 45 41.3 -1.1
comp=Z,204nm,2.6s
SWK Warminster 20.97 315⇑ *eP* **P 10 45 44.1 -0.5**
EMIJ Mijas 20.97 273 P P 10 45 46.8 +1.9
comp=Z,52nm,1.0s
EMIJ Mijas 20.97 273 P P 10 45 46.8 +2.0
comp=Z,52nm,1.0s
SIZA Siyzn 21.10 74 P P 10 45 52.4 +6.3
SNR=7.2
SSW Stow on the Wo 21.14 317⇑ *eP* **P 10 45 46.2 -0.3**
ECAB El Cabril 21.18 277 P P 10 45 47.7 +0.7
comp=Z,341nm,1.8s,mb5.4
ECAB El Cabril 21.18 277 P P 10 45 47.7 +0.7
comp=Z,341nm,1.8s,mb5.4
ALIB Ii-Bayraml 21.25 78 P P 10 45 55.2 +7.4
SNR=3.5
CWF Charnwood Fore 21.26 319⇑ *eP* **P 10 45 46.9 -0.9**
CWF AMb AMB 10 45 55.1
comp=Z,93nm,1.0s,mb5.1
HGH Gray Hill 21.50 315⇑ *eP* **P 10 45 49.7 -0.7**
HAE Alders End 21.55 317⇑ *eP* **P 10 45 49.9 -1.0**
DYA Yadsworthy 21.62 312 *eP* **P 10 45 51.8 +0.1**
DYA AMb AMB 10 45 57.0
comp=Z,133nm,1.3s,mb5.2
DYA AMS AMS 10 55 07.7
comp=Z,594nm,19.1s,MS4.0
KBI1 Birley Grange 21.66 320⇑ *eP* **P 10 45 51.2 -0.8**
KWE Weaver Farm 21.69 319⇑ *eP* **P 10 45 51.5 -0.8**
ESPR Espera 21.75 274 P P 10 45 54.7 +1.5
comp=Z,40nm,1.0s,mb4.8
ESPR Espera 21.75 274 P P 10 45 54.7 +1.5
comp=Z,40nm,1.0s,mb4.8
GOBA Gobu 21.77 76 P P 10 46 02.2 +8.9
SNR=2.9
MCH1 Michaelchurch 21.78 316⇑ *eP* **P 10 45 52.2 -1.1**
MCH1 ⇑ *eP* 10 45 52.2
MCH1 AMb AMB 10 45 57.5
comp=Z,171nm,1.2s,mb5.3
PBRG Braganca 21.85 288 *eP* **P 10 45 54.7 +0.5**
comp=Z,52nm,1.4s,mb4.8
HTR Trewern Hill 21.97 316⇑ *eP* **P 10 45 54.1 -1.3**
HLM1 Long Mynd 21.97 317⇑ *eP* **P 10 45 54.1 -1.3**
LHO Holmfirth 21.98 321⇑ *eP* **P 10 45 54.5 -1.0**
MDT Midelt 22.00 263 P P 10 45 56.4 +0.4
MDT LR LR 10 55 51.3
MDT Midelt 22.00 263 P P 10 45 56.4 +0.4
comp=Z,13nm,0.8s,mb4.4,baz=84,slow=11,SNR=19
MDT LR LR 10 55 51.3
comp=Z,288nm,18.4s,MS3.7,baz=72,slow=40
MVO Moncorvo 22.09 286 *eP* **P 10 45 57.2 +0.5**
comp=Z,44nm,1.0s,mb4.8
MVO *e*S **S 10 50 03.5 +3.4**
MVO *e*LR LR 10 51 52.0
comp=Z,732nm,18.0s
MVO Moncorvo 22.09 286 *eP* **P 10 45 57.2 +0.5**
comp=Z,44nm,1.0s,mb4.8
MVO *e*S **S 10 50 03.5 +3.4**
HPK Haverah Park 22.10 322⇑ *eP* **P 10 45 55.5 -1.3**
HPK AMb AMB 10 45 59.8
comp=Z,218nm,1.5s,mb5.4
HPK AMS AMS 10 55 43.0
comp=Z,940nm,17.9s,MS4.2
CSA1 St Austell 22.16 311 *eP* **P 10 45 57.0 -0.4**
HTL Hartland 22.17 313 P P 10 45 57.9 +0.4
HTL AMb AMB 10 46 05.9
comp=Z,170nm,1.7s,mb5.2
HTL Hartland 22.17 313 *eP* **P 10 45 57.9 +0.4**
HTL AMb AMB 10 46 05.9
comp=Z,170nm,1.7s,mb5.2
HTL AMS AMS 10 57 01.1
comp=Z,912nm,20.7s,MS4.2
EPON Pontenova 22.17 292 P P 10 45 53.9 -3.7
comp=Z,318nm,2.3s,mb5.3
EPON Pontenova 22.17 292 P P 10 45 53.9 -3.7
comp=Z,318nm,2.3s,mb5.3
HFS Hagfors 22.18 350 P P 10 45 55.6 -1.9
comp=Z,13nm,0.5s,mb4.6,baz=155,slow=11,SNR=45
HFS S **S 10 49 58.2 -3.4**
comp=Z,2.4nm,0.7s,baz=196,slow=15,SNR=2.5
HFS LR LR 10 55 40.5
comp=Z,2µm,19.4s,MS4.4,baz=170,slow=40
HFS Hagfors 22.18 350 P P 10 45 55.6 -1.9
HFS S **S 10 49 58.2 -3.4**
HFA0 Hagfors New Ar 22.19 349 P P 10 45 55.3 -2.3
CMA1 Manaccan 22.20 310 *eP* **P 10 45 58.2 +0.4**
EMIN Mina Concepcio 22.21 277 P P 10 45 57.4 -0.6
comp=Z,133nm,1.4s,mb5.2
EMIN Mina Concepcio 22.21 277 P P 10 45 57.4 -0.6
comp=Z,133nm,1.4s,mb5.2
CRQ2 Rosemanowes 2 22.25 310 *eP* **P 10 45 59.5 +1.1**
CCA1 Carnmenellis 22.30 310 *eP* **P 10 45 59.5 +0.6**
EBAD Badajoz 22.31 280 P P 10 45 58.5 -0.6
comp=Z,108nm,2.2s,mb4.9
EBAD Badajoz 22.31 280 P P 10 45 58.5 -0.6
comp=Z,108nm,2.2s,mb4.9
SBD1 Bryn Du 22.36 318⇑ *eP* **P 10 45 58.9 -0.7**
PBAR Barrancos 22.42 278 *eP* **P 10 45 59.0 -1.3**
comp=Z,72nm,1.3s,mb4.9
PBAR *e*S **S 10 50 08.7 +2.0**
PBAR *e*LR LR 10 51 08.3
comp=Z,497nm,22.0s
PBAR Barrancos 22.42 278 *eP* **P 10 45 59.0 -1.3**
comp=Z,72nm,1.3s,mb4.9
PBAR *e*S **S 10 50 08.7 +2.0**
KONO Kongsberg 22.46 344 *e* **P 10 45 55.9 -4.6**
KONO *e*S **S 10 50 02.4 -4.6**
KONO AMS AMS 10 56 27.6
comp=Z,1µm,17.4s,MS4.5
KONO Kongsberg 22.46 344 *eP* **P 10 45 55.9 -4.6**
KONO *e* 10 45 59.0
KONO *i* 10 50 07.1
KONO MLR MLR
comp=Z,1µm,17.4s,MS4.5
KONO Kongsberg 22.46 344 *eP* **P 10 45 55.9 -4.6**
KONO *e*S **S 10 50 02.4 -4.7**
SNR=36
OSL Oslo 22.49 346 *eP* **P 10 46 04.1 +3.3**
OSL Oslo 22.49 346 *e* **P 10 46 04.1 +3.3**
CPZ Penzance 22.50 310⇑ *eP* **P 10 46 01.4 +0.3**
MTE Manteigas 22.52 284 *eP* **P 10 46 00.9 -0.5**
comp=Z,72nm,1.1s,mb5.0
MTE *e*S **S 10 50 08.8 +0.1**
MTE *e*LR LR 10 52 20.2
comp=Z,1µm,18.0s
MTE Manteigas 22.52 284 *eP* **P 10 46 00.4 -1.0**
comp=Z,45nm,1.1s,mb4.8
MTE Manteigas 22.52 284 *eP* **P 10 46 00.4 -1.0**
comp=Z,45nm,1.1s,mb4.8
MTE *e*S **S 10 50 08.8 +0.1**
PCBR Castelo Branco 22.53 282 *eP* **P 10 46 00.8 -0.6**
comp=Z,38nm,1.3s,mb4.7
PESTR Estremoz 22.74 280 *eP* **P 10 46 02.5 -1.2**
comp=Z,48nm,1.4s,mb4.7
PESTR *e*S **S 10 50 09.7 -2.9**
PESTR *e*LR LR 10 50 36.9
comp=Z,659nm,20.0s
PESTR Estremoz 22.74 280 *eP* **P 10 46 02.5 -1.2**
comp=Z,48nm,1.4s,mb4.7
PESTR *e*S **S 10 50 09.7 -2.9**
PVIS Viseu 22.77 285 *eP* **P 10 46 04.6 +0.6**
comp=Z,65nm,1.3s,mb4.9
RST Umm Al-Ruwaisa 22.85 106 *eP* **P 10 46 03.7 -1.3**
RST AMb AMB 10 46 09.6
comp=Z,123nm,0.7s,mb5.4
EGRO El Granado 22.88 277 P P 10 46 04.8 -0.4
comp=Z,147nm,2.2s,mb5.0
EGRO El Granado 22.88 277 P P 10 46 04.8 -0.4
comp=Z,147nm,2.2s,mb5.0
MIB Mutribah 22.96 105 *eP* **P 10 46 04.7 -1.5**
MIB AMb AMB 10 46 10.4
comp=Z,132nm,0.7s,mb5.5
PBEJ Beja 23.09 278 *eP* **P 10 46 06.6 -0.8**
comp=Z,46nm,1.5s,mb4.7
FINES FINESS Array B 23.09 6 P P 10 46 04.8 -2.3
FINES PcP PcP 10 49 57.0 +1.3
FINES LR LR 10 56 09.6
FINES FINESS Array B 23.09 6 *i P* **P 10 46 05.6 -1.6**
FINES pmax pmax
comp=Z,19nm,0.6s
FINES FINESS Array B 23.09 6 P P 10 46 04.8 -2.3
comp=Z,19nm,0.6s,mb4.7,baz=163,slow=7.0,SNR=29
FINES PcP PcP 10 49 57.0 +1.3
comp=Z,2.4nm,0.6s,baz=132,slow=2.8,SNR=5.1
FINES LR LR 10 56 09.5
comp=Z,3µm,18.9s,MS4.8,baz=9.9,slow=40
FINES FINESS Array B 23.09 6 PcP PcP 10 49 57.0 +1.2
PVAQ Vaqueiros 23.09 276 *eP* **P 10 46 05.7 -1.7**
comp=Z,61nm,1.1s,mb5.0
PVAQ *e*S **S 10 50 14.3 -4.2**
PVAQ *e*LR LR 10 51 06.8
comp=Z,367nm,18.0s
PVAQ Vaqueiros 23.09 276 *eP* **P 10 46 05.7 -1.7**
comp=Z,61nm,1.1s,mb5.0
PVAQ *e*S **S 10 50 14.3 -4.2**
EVO Evora 23.11 279 *eP* **P 10 46 06.9 -0.8**
comp=Z,26nm,0.8s,mb4.4
EVO *e*MLR MLR
comp=Z,1µm,20.0s,MS4.0
EVO Evora 23.11 279 *eP* **P 10 46 06.3 -1.4**
NAY Al-Naaiem 23.16 106 *eP* **P 10 46 07.3 -1.0**
NAY AMb AMB 10 46 14.1
comp=Z,56nm,0.7s,mb5.1
EVOP Sao Brissos 23.20 279 *eP* **P 10 46 06.9 -1.7**
comp=Z,13nm,0.8s,mb4.4
PBDV Barranco-do-Ve 23.29 276 *eP* **P 10 46 09.5 -0.1**
comp=Z,94nm,1.3s,mb5.1
PBDV *e*S **S 10 50 17.3 -4.4**
PBDV *e*LR LR 10 51 14.0
comp=Z,435nm,18.0s
PBDV Barranco-do-Ve 23.29 276 *eP* **P 10 46 09.5 -0.1**
comp=Z,94nm,1.3s,mb5.1
PBDV *e*S **S 10 50 17.3 -4.4**
XSO Sourhope Farm 23.30 324 *eP* **P 10 46 07.8 -1.6**
NB2 NORSAR Subarra 23.43 347 P P 10 46 08.6 -2.2
comp=Z,46nm,0.8s,mb5.0,baz=159,slow=10
NOA NORSAR Array B 23.43 347 P P 10 46 08.5 -2.3
NOA 10 49 56.8
NOA NORSAR Array B 23.43 347 P P 10 46 08.4 -2.3
comp=Z,15nm,0.8s,mb4.5,baz=158,slow=8.6,SNR=29
NOA PcP PcP 10 49 56.8 +0.3
comp=Z,1.8nm,0.8s,baz=145,slow=2.2,SNR=3.4
NOA LR LR 10 56 24.1
comp=Z,508nm,18.5s,MS4.0,baz=175,slow=40
NOA NORSAR Array B 23.43 347 P P 10 46 08.4 -2.4
NOA NORSAR Array B 23.43 347 PcP PcP 10 49 56.8 +0.3
ECK Cauldkaine Hil 23.52 323 *eP* **P 10 46 10.2 -1.6**
RDF Al-Radifah 23.56 106 *eP* **P 10 46 12.1 -0.3**
RDF AMb AMB 10 46 20.0
comp=Z,64nm,0.9s,mb5.0
EKA Eskdalemuir Ar 23.62 323 P P 10 46 11.2 -1.5
comp=Z,67nm,0.8s,mb5.1,baz=125,slow=10.0,SNR=33
ESK Eskdalemuir 23.63 323 P P 10 46 11.6 -1.2
comp=Z,581nm,0.8s,mb6.1,SNR=11
ESK Eskdalemuir 23.63 323 *eP* **P 10 46 11.8 -1.0**
comp=Z,82nm,0.8s,mb5.2
ESK Eskdalemuir 23.63 323 *eP* **P 10 46 11.8 -1.0**
ESK pmax pmax
comp=Z,82nm,0.8s,mb5.2
ESK Eskdalemuir 23.63 323 *eP* **P 10 46 11.8 -1.0**
comp=Z,82nm,0.8s,mb5.2
ESY Stoneypath 23.72 325 *eP* **P 10 46 11.7 -1.9**
KAF Kangasniemi 23.77 6 *ep* **P 10 46 10.8 -3.2**
EBL Broad Law 23.82 324 *eP* **P 10 46 13.8 -0.8**
MORF Marmelete 23.84 276 *eP* **P 10 46 14.0 -0.9**
comp=Z,39nm,1.7s,mb4.6
MORF *e*S **S 10 50 35.3 +4.7**
MORF *e*LR LR 10 54 03.3
comp=Z,497nm,18.0s
MORF Marmelete 23.84 276 *eP* **P 10 46 14.0 -0.9**
comp=Z,39nm,1.7s,mb4.6
MORF *e*S **S 10 50 35.3 +4.7**
PTEO Sao Teotonio 23.85 277 *eP* **P 10 46 14.7 -0.3**
comp=Z,69nm,1.2s,mb5.0
QRN Al-Qurain 23.93 106 *eP* **P 10 46 15.2 -0.6**
QRN AMb AMB 10 46 20.6
comp=Z,96nm,0.8s,mb5.3
EDI Edinburgh 23.98 325 P P 10 46 15.2 -0.8
EDI AMb AMB 10 46 18.6
comp=Z,170nm,1.3s,mb5.3
EDI Edinburgh 23.98 325 *eP* **P 10 46 15.2 -0.8**
EDI AMb AMB 10 46 18.6
comp=Z,170nm,1.3s,mb5.3
EDI AMS AMS 10 58 03.9
comp=Z,2µm,18.4s,MS4.6
PFVI Vila Bisbo 24.01 276 *eP* **P 10 46 15.3 -1.2**
comp=Z,59nm,1.8s,mb4.7
PFVI *e*S **S 10 50 33.6 +0.2**
PFVI *e*LR LR 10 50 38.5
comp=Z,497nm,18.0s
PFVI Vila Bisbo 24.01 276 *eP* **P 10 46 15.3 -1.2**
comp=Z,59nm,1.8s,mb4.7
PFVI *e*S **S 10 50 33.6 +0.2**
PMAFR Mafra 24.03 281 *eS* **S 10 50 36.6 +3.0**
PMAFR *e*LR LR 10 53 49.7
comp=Z,543nm,18.0s
GAL1 Galloway 24.11 321 P P 10 46 17.8 +0.6
GAL1 AMb AMB 10 46 19.5
comp=Z,108nm,1.4s,mb5.1
GAL1 Galloway 24.11 321 *eP* **P 10 46 17.8 +0.6**
GAL1 AMb AMB 10 46 19.5
comp=Z,108nm,1.4s,mb5.1
GAL1 AMS AMS 10 57 28.0
comp=Z,1µm,17.5s,MS4.4
BER Bergen 24.14 340 *eS* **S 10 50 34.1 -0.9**
BER AMS AMS 10 57 40.8
comp=Z,2µm,16.9s,MS4.7
DSB Dublin 24.18 317 *eP* **P 10 46 17.1 -0.7**
comp=Z,95nm,1.4s,mb5.0
DSB Dublin 24.18 317 *eP* **P 10 46 17.1 -0.8**
comp=Z,95nm,1.4s,mb5.0
DLF Lyons Farm 24.29 317 *eP* **P 10 46 16.8 -2.0**
EBH Black Hill 24.32 325 *eP* **P 10 46 19.4 +0.3**
EAB Aberfoyle 24.66 324 *eP* **P 10 46 21.6 -0.5**
DCN Croghan 24.71 316 *eP* **P 10 46 22.7 0.0**
DOMB Dombas 24.75 346 *eP* **P 10 46 22.1 -0.8**
DOMB Dombas 24.75 346 *eP* **P 10 46 22.4 -0.6**
DMUB Kingscourt 24.76 318 *eP* **P 10 46 29.4 +6.3**
JOF Joensuu 25.11 10 *ep* **P 10 46 23.9 -2.3**
comp=Z,6.3nm,0.5s,mb4.4
JOF Joensuu 25.11 10 *eP* **P 10 46 23.9 -2.3**
JOF pmax pmax
comp=Z,6.0nm,0.5s,mb4.4
MDO Dochfour 25.41 327⇑ *eP* **P 10 46 28.5 -0.4**
ORE Reay 25.84 329⇑ *eP* **P 10 46 32.0 -0.9**
TMCR Tamitsa 27.45 16 *eP* **P 10 46 53.2 +5.9**
TMCR *e**PP pP 10 46 58.1 +7.7
TMCR *e*S **S 10 51 32.8 +5.2**
TMCR pmax pmax
comp=Z,24nm,0.8s,mb4.8
AKTK Aktyubinsk 28.29 53 P P 10 46 53.2 -1.7
AKTK LR LR 11 00 01.2
AKTO Aktyubinsk 28.29 53 P P 10 46 53.2 -1.7
comp=Z,2.9nm,0.7s,mb4.0,baz=263,slow=8.4,SNR=11
AKTO LR LR 11 00 01.3
comp=Z,787nm,21.5s,MS4.3,baz=120,slow=40
APA Apatity 29.81 9⇓ *iP* **P 10 47 07.0 -1.3**
APA *i* 10 47 19.4
APA pmax pmax
comp=Z,16nm,0.8s,mb4.8
APA MLR MLR
comp=Z,2µm,10.0s,MS5.1
ARU Arti 30.23 42 *eP* **P 10 47 10.9 -1.2**
comp=Z,22nm,1.0s,mb4.8
ARU Arti 30.23 42 *d iP* **P 10 47 11.2 -0.9**
ARU *e* 10 48 07.1
ARU *e* 10 50 11.0
ARU *e*S **S 10 52 09.6 -1.7**
ARU pmax pmax
comp=Z,21nm,1.7s,mb4.6
ARU MLR MLR
comp=Z,2µm,22.0s,MS4.6
ARU Arti 30.23 42 *eP* **P 10 47 10.9 -1.2**
comp=Z,22nm,1.0s,mb4.8
SOKR Solikamsk 30.64 35 *c iP* **P 10 47 14.0 -1.7**
SOKR pmax pmax
comp=Z,30nm,1.0s,mb5.1
SOKR MLR MLR
comp=Z,2µm,19.0s,MS4.8
TORD Torodi Ar. Bea 30.85 220 P P 10 47 17.4 -0.6
comp=Z,6.1nm,0.5s,mb4.7,baz=33,slow=8.5,SNR=61
TORD LR LR 11 01 27.5
comp=Z,763nm,18.3s,MS4.4,baz=5.0,slow=40
ARCES ARCESS Array B 31.12 3 P P 10 47 17.7 -2.1
ARCES 10 50 14.1
ARCES ARCESS Array B 31.12 3 P P 10 47 17.7 -2.1
comp=Z,4.4nm,0.6s,mb4.5,baz=194,slow=10,SNR=38
ARCES PcP PcP 10 50 14.1 -0.6
comp=Z,3.1nm,0.7s,baz=163,slow=1.8,SNR=5.2
ARCES LR LR 11 00 58.8
comp=Z,3µm,18.8s,MS5.0,baz=184,slow=39
ARCES ARCESS Array B 31.12 3 PcP PcP 10 50 14.1 -0.6
TRO Tromso 31.18 358 *eP* **P 10 47 17.6 -2.8**
TRO *e*S **S 10 52 28.1 +2.1**
TRO AMS AMS 11 01 12.0
comp=Z,1µm,20.7s,MS4.6
TRO Tromso 31.18 358 *eP* **P 10 47 18.5 -1.8**
TRO *i* 10 52 24.7
TRO MLR MLR
comp=Z,1µm,20.7s,MS4.6
TRO Tromso 31.18 358 *eP* **P 10 47 18.5 -1.8**
TRO *e*S **S 10 52 28.1 +2.1**
SNR=28
KEV Kevo 31.40 4 *ep* **P 10 47 20.1 -2.2**
SVE Sverdlovsk 31.44 42 *eP* **P 10 47 20.7 -2.1**
SVE MLR MLR
comp=Z,1µm,11.0s,MS4.8
JMIC Jan Mayen 36.04 344 *eS* **S 10 53 42.9 +1.8**

JMIC AMS AMS 11 03 23.5
comp=Z,458nm,20.5s,MS4.2
JMIC Jan Mayen 36.04 344 LR LR 11 03 11.5
comp=Z,563nm,20.2s,MS4.3,baz=94,slow=37
BRVK Borovoye 36.17 50 *e*P **P 10 48 03.9 -0.1**
comp=Z,12nm,0.8s,mb4.9
BRVK Borovoye 36.17 50 *e*P **P 10 48 03.9 -0.1**
BRVK pmax pmax
comp=Z,12nm,0.8s,mb4.9
BRVK Borovoye 36.17 50 *e*P **P 10 48 03.9 -0.1**
comp=Z,12nm,0.8s,mb4.9
BORG Borgarnes 36.20 330 LR LR 11 03 31.8
comp=Z,1μm,19.4s,MS4.8,baz=288,slow=38
KK31 Karatay Array 36.88 67 *i* P **P 10 48 09.6 -0.5**
KK31 pmax pmax
comp=Z,15nm,0.5s,mb5.1
EKS2 Erkin-Say 39.32 67 P **P 10 48 31.2 +0.5**
SNR=25
EKS2 Erkin-Say 39.32 67 *e*P **P 10 48 31.2 +0.5**
comp=Z,38nm,0.8s,mb5.2
AML Almayashu 39.37 68 *e*P **P 10 48 31.9 +0.7**
comp=Z,26nm,1.0s,mb4.9
AML Almayashu 39.37 68 P **P 10 48 32.0 +0.8**
SNR=12
AML Almayashu 39.37 68 *e*P **P 10 48 31.9 +0.8**
comp=Z,26nm,1.0s,mb4.9
USP Ospenovka 39.71 66 P **P 10 48 33.3 -0.7**
SNR=9.8
DBIC Dimbokro 39.74 224 P **P 10 48 33.7 -0.8**
DBIC LR LR 11 06 03.1
DBIC Dimbokro 39.74 224 P **P 10 48 33.7 -0.8**
comp=Z,9.5nm,0.7s,mb4.6,baz=20,slow=9.4,SNR=13
DBIC LR LR 11 06 03.1
comp=Z,1μm,20.0s,MS4.7,baz=14,slow=38
AAK Ala-Archa 39.84 67 P **P 10 48 34.3 -0.7**
comp=Z,179nm,0.8s,mb5.8,SNR=12
AAK Ala-Archa 39.84 67 P **P 10 48 35.4 +0.4**
SNR=16
FRU Bishkek 39.89 66 *e*P **P 10 48 35.2 -0.2**
FRU pmax pmax
comp=Z,74nm,1.4s,mb5.2
UCH Uchtor 39.94 67 *e*P **P 10 48 36.4 +0.5**
comp=Z,34nm,1.4s,mb4.9
UCH Uchtor 39.94 67 P **P 10 48 36.7 +0.8**
SNR=12
UCH Uchtor 39.94 67 *e*P **P 10 48 36.4 +0.5**
comp=Z,34nm,1.4s,mb4.9
KBK Karagaybulak 40.16 67 P **P 10 48 39.4 +1.6**
SNR=9.1
KZA Kyzart 40.51 67 P **P 10 48 41.7 +1.1**
SNR=22
TKM2 Tokmak 2 40.57 66 *e*P **P 10 48 40.8 -0.3**
comp=Z,8.6nm,0.8s,mb4.4
TKM2 Tokmak 2 40.57 66 *e*P **P 10 48 40.8 -0.3**
TKM2 pmax pmax
comp=Z,9.0nm,0.8s,mb4.5
TKM2 Tokmak 2 40.57 66 P **P 10 48 43.5 +2.4**
SNR=7.4
TKM2 Tokmak 2 40.57 66 *e*P **P 10 48 40.8 -0.3**
comp=Z,8.6nm,0.8s,mb4.4
KBS Kingsbay 40.68 357 *e*PP PP 10 50 18.8 +3.8
KBS AMS AMS 11 05 35.5
comp=Z,252nm,20.2s,MS4.1
BBTS Babate 41.14 245 LR LR 11 08 52.4
comp=Z,911nm,18.1s,MS4.7,baz=219,slow=41
ULHL Ulahol 41.19 67 P **P 10 48 46.6 +0.4**
SNR=20
KURK Kurchatov 41.38 54 *e*P **P 10 48 46.7 -1.0**
comp=Z,17nm,1.0s,mb4.6
KURK Kurchatov 41.38 54 *e*P **P 10 48 46.7 -1.0**
KURK pmax pmax
comp=Z,17nm,1.0s,mb4.6
KURK Kurchatov 41.38 54 *e*P **P 10 48 46.7 -1.0**
comp=Z,17nm,1.0s,mb4.6
KSH Kashi 41.71 71 *e*P **P 10 48 54.2 +3.7**
KSH *e*AP pP 10 48 59.6 +6.0
KSH *e*XP sP 10 49 01.4 +6.6
KSH *e*PP PP 10 50 34.0 +7.2
KSH *e*PCP PcP 10 50 50.3 +3.3
KSH PCS PcS 10 54 40.0 +1.6
KSH S **S 10 55 10.8 +3.5**
KSH XS sS 10 55 18.4 +6.0
KSH SCS ScS 10 58 54.4 +0.5
KSH AMB AMB
comp=Z,105nm,0.7s,mb5.6
KSH AMB AMB
comp=Z,743nm,4.0s
KSH LR LR
comp=N,1μm,9.8s
KSH LR LR
comp=E,1μm,10.6s
KSH LR LR
comp=Z,1μm,18.4s
KMBO Kilima Mbogo 42.03 156 P **P 10 48 54.1 +0.8**
KMBO *e*P pP 10 48 58.0 +1.6
KMBO LR LR 11 06 42.9
KMBO Kilima Mbogo 42.03 156 P **P 10 48 54.1 +0.7**
KMBO *e* pP 10 48 58.0 +1.5
KMBO Kilima Mbogo 42.03 156 P **P 10 48 54.1 +0.8**
comp=Z,2.4nm,0.8s,mb3.9,baz=280,slow=6.1,SNR=3.3
KMBO LR LR 11 06 42.9
comp=Z,500nm,21.0s,MS4.4,baz=285,slow=37
KMBO Kilima Mbogo 42.03 156 *e*P **P 10 48 58.0 +4.6**
NVS Novosibirsk 43.81 47⇑ *i*P **P 10 49 06.9 -0.4**
NVS *e* 10 50 51.2
NVS *e*S **S 10 55 37.5 -0.3**
NVS pmax pmax
comp=Z,39nm,1.3s,mb5.0
NVS pmax pmax
comp=E,24nm,1.1s
NVS smax
comp=N,23nm,1.5s
MK31 Makanchi Array 44.39 59 *i* P **P 10 49 11.0 -1.1**
MK31 pmax pmax
comp=Z,6.0nm,0.3s,mb4.8
MKAR Makanchi Array 44.39 59 P **P 10 49 10.9 -1.2**
MKAR 10 50 57.1
MKAR Makanchi Array 44.39 59 P **P 10 49 10.9 -1.2**
comp=Z,11nm,0.4s,mb4.9,baz=282,slow=6.8,SNR=33
MKAR PcP PcP 10 50 57.1 +1.2
comp=Z,5.5nm,0.7s,baz=270,slow=4.0,SNR=4.2
MKAR ScP ScP 10 54 45.8 -2.1
comp=Z,1.4nm,0.9s,baz=267,slow=2.9,SNR=2.8
MKAR LR LR 11 10 13.3
comp=Z,941nm,20.4s,MS4.7,baz=142,slow=40
ZAL Zalesovo 44.81 48 P **P 10 49 13.8 -1.5**
ZAA0 Zalesovo Array 44.82 48 *e*P **P 10 49 13.8 -1.6**
ZAA0 Zalesovo Array 44.82 48 *e*P **P 10 49 13.8 -1.6**
ZALV Zalesovo Beam 44.82 48 P **P 10 49 13.8 -1.6**
comp=Z,19nm,0.6s,mb5.1,baz=274,slow=8.4,SNR=43
ZALV LR LR 11 10 14.0
comp=Z,540nm,19.9s,MS4.5,baz=23,slow=39
WMQ Urumqi 48.84 62 P **P 10 49 46.9 -0.2**
WMQ XP sP 10 49 54.0 +2.6
WMQ SCP ScP 10 55 05.0 -1.6
WMQ S **S 10 56 47.0 -3.3**
WMQ XS sS 10 56 54.5 -1.0
WMQ SS SS 11 00 14.0 -6.5
WMQ AMB AMB
comp=Z,38nm,1.0s,mb5.4
WMQ AMB AMB
comp=Z,148nm,6.2s
WMQ LR LR
comp=N,1μm,18.0s,MS5.0
WMQ LR LR
comp=E,734nm,16.0s,MS5.0
WMQ LR LR
comp=Z,757nm,20.6s,MS4.7
LSZ Lusaka 53.90 172 P **P 10 50 25.9 +0.8**
comp=Z,5.0nm,0.7s,mb4.6,baz=45,slow=11,SNR=3.3
MOY Mondy 54.88 48 *e*P **P 10 50 32.1 +0.2**
TLY Talaya 56.42 48 *e*P **P 10 50 44.0 +1.0**
TLY *e*S **S 10 58 33.0 -0.6**
TLY pmax pmax
comp=Z,14nm,1.8s,mb4.7
TLY MLR MLR
comp=Z,920nm,18.0s,MS4.9
ZAK Zakamensk 56.68 49 *e*P **P 10 50 43.4 -1.5**
ZAK pmax pmax
comp=Z,4.0nm,1.0s,mb4.4
LSA Lhasa 57.03 76 P **P 10 50 46.0 -1.7**
LSA Lhasa 57.03 76 *e*P **P 10 50 51.0 +3.3**
comp=Z,9.9nm,0.8s,mb4.9
LSA Lhasa 57.03 76 *e*P **P 10 50 51.0 +3.3**
LSA pmax pmax
comp=Z,10.0nm,0.8s,mb4.9
LSA Lhasa 57.03 76 *e*P **P 10 50 51.0 +3.3**
comp=Z,9.9nm,0.8s,mb4.9
TSUM Tsumeb 57.57 184 P **P 10 50 50.1 -1.3**
TSUM Tsumeb 57.57 184 P **P 10 50 50.1 -1.3**
comp=Z,3.0nm,0.7s,mb4.4,baz=30,slow=8.1,SNR=3.3
SCHQ Schefferville 58.76 317 P **P 10 50 57.3 -2.1**
comp=Z,7.1nm,0.5s,mb5.0,baz=73,slow=7.8,SNR=38
SCHQ LR LR 11 16 18.0
comp=Z,499nm,18.0s,MS4.7,baz=242,slow=36
GTA Gaotai 58.91 62 *e*P **P 10 50 59.5 -1.3**
GTA PP PP 10 53 10.3 -0.4
GTA PCS PcS 10 55 49.8 -1.9
GTA S **S 10 58 56.4 -10**
GTA AMB AMB
comp=Z,8.0nm,1.4s,mb4.6
GTA AMB AMB
comp=Z,100nm,5.3s
GTA LR LR
comp=N,400nm,21.4s,MS4.6
GTA LR LR
comp=E,354nm,24.8s,MS4.6
GTA LR LR
comp=Z,678nm,23.3s,MS4.7
TIXI Tiksi 59.01 21 P **P 10 51 00.1 -0.9**
comp=Z,3.6nm,0.5s,mb4.7
TIXI Tiksi 59.01 21⇑ *e*P **P 10 50 59.4 -1.5**
TIXI pmax pmax
comp=Z,7.0nm,1.3s,mb4.5
TIXI MLR MLR
comp=Z,2μm,20.0s,MS5.2
TIXI Tiksi 59.01 21 P **P 10 51 00.1 -0.8**
comp=Z,3.5nm,0.5s,mb4.7
BOD Bodaibo 59.56 38 *e*P **P 10 51 03.0 -2.0**
BOD pmax pmax
comp=Z,8.0nm,1.0s,mb4.7
SONM Songino Array 59.57 51 P **P 10 51 03.6 -1.6**
comp=Z,3.7nm,0.7s,mb4.5,baz=285,slow=7.9,SNR=16
SONM ScP ScP 10 55 52.6 -0.8
comp=Z,0.3nm,0.7s,baz=294,slow=7.1,SNR=2.2
SONM LR LR 11 19 19.2
comp=Z,600nm,21.3s,MS4.7,baz=292,slow=39
RES Resolute Bay 59.65 344 *e*P **P 10 51 05.5 +0.2**
comp=Z,111nm,0.8s,mb5.9
RES Resolute Bay 59.65 344 *e*P **P 10 51 05.5 +0.2**
comp=Z,111nm,0.8s,mb5.9
ULN Ulaanbaatar 59.96 51 *e*P **P 10 51 09.7 +1.8**
ULN pmax pmax
comp=Z,6.0nm,0.8s,mb4.7
ULN Ulaanbaatar 59.96 51 *e*P **P 10 51 09.7 +1.8**
comp=Z,6.5nm,0.8s,mb4.7
PALK Pallekele 61.48 104 *e*P **P 10 51 20.8 +2.1**
comp=Z,12nm,0.8s,mb5.1
PALK Pallekele 61.48 104 *e*P **P 10 51 20.8 +2.1**
comp=Z,12nm,0.8s,mb5.1
LZH Lanzhou 63.28 64 *e*P **P 10 51 31.1 +0.6**
LZH AP pP 10 51 34.5 +0.8
LZH XP sP 10 51 35.9 +1.0
LZH PP PP 10 53 51.0 +1.6
LZH *e*S **S 10 59 59.0 -3.5**
LZH AMB AMB
comp=Z,23nm,1.0s,mb5.3
LZH AMB AMB
comp=Z,170nm,4.5s
LZH LR LR
comp=E,790nm,16.0s
LZH LR LR
comp=Z,1μm,16.9s,MS5.1
YAK Yakutsk 64.37 30⇑ *e*P **P 10 51 34.7 -2.5**
YAK pmax pmax
comp=Z,10.0nm,0.7s,mb5.0
YAK MLR MLR
comp=Z,800nm,16.0s,MS5.0
CD2 Chengdu 65.85 69 P **P 10 51 46.2 -1.2**
CD2 AP pP 10 51 50.9 +0.3
CD2 XP sP 10 51 53.8 +2.0
CD2 PP PP 10 54 12.8 +0.7
CD2 S S 11 00 29.7 -4.7
CD2 XS sS 11 00 37.4 -2.3
CD2 SS SS 11 04 45.0 -3.7
CD2 AMB AMB
comp=Z,20nm,1.0s,mb5.1
CD2 AMB AMB
comp=Z,40nm,5.2s
CD2 LR LR
comp=N,400nm,26.4s,MS4.7
CD2 LR LR
comp=E,440nm,27.6s,MS4.7
CD2 LR LR
comp=Z,270nm,26.4s,MS4.3
HHC Hu-ho-hao-te 66.13 56 *e*P **P 10 51 48.5 -0.5**
HHC AP pP 10 51 53.3 +1.1
HHC XP sP 10 51 56.5 +3.1
HHC PP PP 10 54 16.3 +2.1
HHC PCS 10 56 23.9
HHC S S 11 00 38.4 +0.9
HHC XS sS 11 00 41.7 -1.1
HHC SCS ScS 11 01 40.4 -5.0
HHC SS SS 11 04 51.6 -0.9
HHC AMB AMB
comp=Z,17nm,0.4s,mb5.4
HHC AMB AMB
comp=Z,118nm,6.5s
HHC LR LR
comp=N,412nm,13.5s,MS5.0
HHC LR LR
comp=E,525nm,18.1s,MS5.0
HHC LR LR
comp=Z,662nm,19.6s,MS4.8
LBNH Lisbon 66.61 309 *e*P **P 10 51 53.6 +1.5**
comp=Z,24nm,0.9s,mb5.2
LBNH Lisbon 66.61 309 *e*P **P 10 51 53.6 +1.6**
LBNH pmax pmax
comp=Z,24nm,0.9s,mb5.2
LBNH Lisbon 66.61 309 *e*P **P 10 51 53.6 +1.6**
comp=Z,24nm,0.9s,mb5.2
WES Weston 67.21 307 *e*P **P 10 51 56.4 +0.5**
comp=Z,30nm,0.8s,mb5.4
WES Weston 67.21 307 *e*P **P 10 51 56.4 +0.5**
WES pmax pmax
comp=Z,30nm,0.8s,mb5.4
WES Weston 67.21 307 *e*P **P 10 51 56.4 +0.5**
comp=Z,30nm,0.8s,mb5.4
XAN Xi'an 67.91 64 P **P 10 51 58.9 -1.5**
XAN AP pP 10 52 06.7 +3.0
XAN XP sP 10 52 11.0 +6.2
XAN AMB AMB
comp=Z,5.0nm,1.2s,mb4.4
XAN LR LR
comp=N,295nm,19.0s,MS4.7
XAN LR LR
comp=E,212nm,16.5s,MS4.7
XAN LR LR
comp=Z,394nm,18.4s,MS4.7
MSNY Massena 67.99 310 *e*P **P 10 52 01.4 +0.6**
MSNY Massena 67.99 310 *e*P **P 10 52 01.4 +0.7**
ACCN Adirondack Com 68.14 309 *e*P **P 10 52 00.4 -1.3**
comp=Z,22nm,0.8s,mb5.2
ACCN Adirondack Com 68.14 309 *e*P **P 10 52 00.4 -1.3**
comp=Z,22nm,0.8s,mb5.2
KMI Kunming 68.20 75 P **P 10 52 03.9 +1.5**
KMI AP pP 10 52 06.4 +0.8
KMI XP sP 10 52 07.8 +1.0
KMI PP PP 10 54 36.7 +4.1
KMI S S 11 01 01.0 -1.8
KMI SS SS 11 05 21.8 -3.5
KMI AMB AMB
comp=Z,8.0nm,0.7s,mb4.9
KMI AMB AMB
comp=Z,88nm,5.8s
KMI LR LR
comp=N,251nm,20.2s
KMI LR LR
comp=E,214nm,25.3s
KMI LR LR
comp=Z,328nm,28.3s
FCC Fort Churchill 69.35 330 *e*P **P 10 52 09.1 +0.1**
comp=Z,9.8nm,0.8s,mb4.8
FCC Fort Churchill 69.35 330 *e*P **P 10 52 09.1 +0.1**
FCC pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
FCC Fort Churchill 69.35 330 *e*P **P 10 52 09.1 +0.1**
comp=Z,9.8nm,0.8s,mb4.8
BJI Beijing 69.54 55 P **P 10 52 09.6 -0.9**
BJI S S 11 01 15.0 -3.3
BJI SS SS 11 05 41.7 -3.5
BJI AMB AMB
comp=Z,7.0nm,1.2s,mb4.5
BJI LR LR
comp=N,598nm,15.8s,MS5.1
BJI LR LR
comp=E,694nm,18.8s,MS5.1
BJI LR LR
comp=Z,791nm,20.6s,MS4.9
GYA Guiyang 70.40 71 P **P 10 52 16.4 +0.4**
GYA AP pP 10 52 20.8 +1.5
GYA XP sP 10 52 23.9 +3.4
GYA PCP PcP 10 52 39.5 +2.0
GYA PP PP 10 54 54.3 +2.7
GYA S S 11 01 26.6 -2.2
GYA SKS 11 02 14.0
GYA SS SS 11 05 58.0 -1.2
GYA AMB AMB
comp=Z,20nm,1.0s,mb5.0
GYA AMB AMB
comp=Z,120nm,6.7s
GYA LR LR
comp=N,600nm,21.8s,MS4.9
GYA LR LR
comp=E,520nm,22.6s,MS4.9
GYA LR LR
comp=Z,560nm,23.0s,MS4.8
BILL Bilibino 70.47 13⇓ *e*P **P 10 52 13.5 -2.2**
BILL pmax pmax
comp=Z,11nm,1.3s,mb4.6
BILL MLR MLR
comp=Z,700nm,22.0s,MS4.9
BILL Bilibino 70.47 13 *e*P **P 10 52 14.7 -1.0**
comp=Z,11nm,0.9s,mb4.8
SEY Seymchan 71.49 21 *i* P **P 10 52 20.6 -1.4**
INK Inuvik 71.84 351 *e*P **P 10 52 23.3 -0.7**
comp=Z,166nm,0.6s,mb6.1
INK Inuvik 71.84 351 *e*P **P 10 52 23.3 -0.7**
comp=Z,166nm,0.6s,mb6.1
SSPA Standing Stone 72.28 308 *e*P **P 10 52 28.6 +1.4**
comp=Z,22nm,0.9s,mb5.1
SSPA Standing Stone 72.28 308 *e*P **P 10 52 28.6 +1.4**
comp=Z,22nm,0.9s,mb5.1
ERPA Erie 72.69 310 *e*P **P 10 52 30.4 +0.8**
comp=Z,39nm,0.7s,mb5.4
ERPA Erie 72.69 310 *e*P **P 10 52 30.4 +0.9**
comp=Z,39nm,0.7s,mb5.4
CN2 Changchun 73.02 47 *e*P **P 10 52 31.2 -0.3**
CN2 *e*XP sP 10 52 38.9 +3.0
CN2 PCP PcP 10 52 50.6 +2.3
CN2 *e*PP PP 10 55 15.7 +2.2
CN2 *e*S S 11 01 53.3 -5.1
CN2 SS SS 11 06 32.9 -5.4
CN2 AMB AMB
comp=Z,10.0nm,1.0s,mb4.7
CN2 AMB AMB
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,500nm,15.0s,MS5.0
CN2 LR LR
comp=E,400nm,15.0s,MS5.0
CN2 LR LR
comp=Z,500nm,15.0s,MS4.9
KLR Kul'dur 73.05 40 *e*P **P 10 52 26.7 -4.9**
KLR MLR MLR
comp=Z,2μm,12.5s,MS5.6
SNY Shenyang 73.11 50⇑ P **P 10 52 31.4 -0.6**
SNY AMB AMB
comp=Z,7.0nm,0.5s,mb4.8
SNY AMB AMB
comp=Z,151nm,5.9s
SNY LR LR
comp=N,501nm,17.6s,MS5.0
SNY LR LR
comp=E,551nm,19.2s,MS5.0
SNY LR LR
comp=Z,640nm,17.7s,MS5.0
YKA Yellowknife Ar 73.33 340 P **P 10 52 32.4 -0.5**
YKA Yellowknife Ar 73.33 340 P **P 10 52 32.4 -0.5**
comp=Z,3.3nm,0.7s,mb4.4,baz=31,slow=5.3,SNR=41
YKA Yellowknife Ar 73.33 340 P **P 10 52 32.4 -0.5**
MA2 Magadan 73.61 24 *e*P **P 10 52 40.8 +6.1**
comp=Z,13nm,0.8s,mb4.9
MA2 Magadan 73.61 24 *e*P **P 10 52 40.5 +5.8**
MA2 *e* 11 02 41.0
MA2 pmax pmax
comp=Z,20nm,0.8s,mb5.1
MA2 MLR MLR
comp=Z,1μm,21.7s,MS5.1
MA2 Magadan 73.61 24 *e*P **P 10 52 40.8 +6.1**
comp=Z,13nm,0.8s,mb4.9
URVA University of 73.86 305 *e*P **P 10 52 37.8 +1.2**
URVA University of 73.86 305 *e*P **P 10 52 37.8 +1.3**
COWI Conover 75.37 318 *e*P **P 10 52 45.9 +0.7**
comp=Z,18nm,0.7s,mb5.1
COWI Conover 75.37 318 *e*P **P 10 52 45.9 +0.8**
comp=Z,18nm,0.7s,mb5.1
ACSO Alum Creek Sta 75.63 310 *e*P **P 10 52 48.1 +1.4**
comp=Z,26nm,0.8s,mb5.2
IMA2 Indian Mountai 75.65 358 *e*P **P 10 52 47.0 +0.6**
ULM Lac du Bonnet 75.90 324 P **P 10 52 47.7 -0.4**
comp=Z,25nm,0.8s,mb5.2,baz=44,slow=6.0,SNR=17
ULM LR LR 11 25 12.7
comp=Z,429nm,19.0s,MS4.8,baz=38,slow=35
NJ2 Nanjing 75.90 60 *e*P **P 10 52 49.6 +1.1**
NJ2 AP pP 10 52 54.3 +2.6
NJ2 XP sP 10 52 56.4 +3.5
NJ2 PP PP 10 55 41.4 +3.1
NJ2 S S 11 02 30.0 -1.1
NJ2 XS sS 11 02 38.0 +1.5
NJ2 AMB AMB
comp=Z,20nm,0.6s,mb5.2
NJ2 AMB AMB
comp=Z,1μm,5.4s
NJ2 LR LR
comp=N,2μm,22.3s,MS5.5
NJ2 LR LR
comp=E,2μm,23.3s,MS5.5
NJ2 LR LR
comp=Z,2μm,18.8s,MS5.4
TNA Tin City 75.96 4 *e*P **P 10 52 47.3 -0.8**
TNA Tin City 75.96 4 *e*P **P 10 52 47.3 -0.9**
ELN Prospectdale 76.11 307 *e*P **P 10 52 51.0 +1.5**
ELN Prospectdale 76.11 307 *e*P **P 10 52 51.0 +1.5**
COLA College 76.58 355 *e*P **P 10 52 52.2 +0.5**
comp=Z,6.9nm,1.1s,mb4.5
COLA College 76.58 355 *e*P **P 10 52 52.2 +0.5**
COLA pmax pmax
comp=Z,7.0nm,1.1s,mb4.5
COLA College 76.58 355 *e*P **P 10 52 52.2 +0.5**
comp=Z,6.9nm,1.1s,mb4.5
DAWY Dawson 76.62 352 *e*P **P 10 52 51.7 -0.3**
DAWY Dawson 76.62 352 *e*P **P 10 52 51.7 -0.2**
QIZ Qiongzhong 77.07 76 P **P 10 52 54.6 -0.7**
QIZ S S 11 02 42.8 -1.5
QIZ LR LR
comp=N,233nm,26.3s,MS4.4
QIZ LR LR
comp=E,163nm,30.1s,MS4.4
QIZ LR LR
comp=Z,301nm,33.1s,MS4.4
PSI Prapat 78.35 96 LR LR 11 34 14.0
comp=Z,227nm,19.4s,MS4.5,baz=53,slow=41
BLO Bloomington 78.41 311 *e*P **P 10 53 03.5 +1.1**
comp=Z,35nm,0.8s,mb5.3
BLO Bloomington 78.41 311 *e*P **P 10 53 03.5 +1.1**
BLO pmax pmax
comp=Z,35nm,0.8s,mb5.3
BLO Bloomington 78.41 311 *e*P **P 10 53 03.5 +1.1**
comp=Z,35nm,0.8s,mb5.3
KSRS Korea Array 78.44 51 P **P 10 53 00.7 -2.0**
comp=Z,4.7nm,0.8s,mb4.5,baz=320,slow=4.8,SNR=15
KSRS LR LR 11 30 49.9
comp=Z,411nm,19.5s,MS4.8,baz=315,slow=38
TTA Tatalina 78.85 359 *e*P **P 10 53 04.8 +0.5**
comp=Z,39nm,1.7s,mb5.1
TTA Tatalina 78.85 359 *e*P **P 10 53 04.8 +0.4**
TTA pmax pmax
comp=Z,39nm,1.7s,mb5.1
TTA Tatalina 78.85 359 *e*P **P 10 53 04.8 +0.4**
comp=Z,39nm,1.7s,mb5.1
WCI Wyandotte Cave 78.88 310 *e*P **P 10 53 05.5 +0.5**
comp=Z,22nm,0.9s,mb5.1
WCI Wyandotte Cave 78.88 310 *e*P **P 10 53 05.5 +0.4**
WCI pmax pmax
comp=Z,22nm,0.9s,mb5.1
WCI Wyandotte Cave 78.88 310 *e*P **P 10 53 05.5 +0.4**
comp=Z,22nm,0.9s,mb5.1

HDIL Hopedale 79.11 314 *eP* **P 10 53 07.3 +1.1**
comp=Z,16nm,0.8s,mb5.0
HDIL Hopedale 79.11 314 *eP* **P 10 53 07.3 +1.1**
comp=Z,16nm,0.8s,mb5.0
CPCT Cooper Cave 79.59 307 *eP* **P 10 53 10.1 +1.1**
SML Sawmill 79.66 355 *eP* **P 10 53 09.4 +0.6**
SML Sawmill 79.66 355 *eP* **P 10 53 09.4 +0.6**
YSS Yuzh-Sakhalins 79.97 37 *i P* **P 10 53 08.2 -2.6**
YSS pmax pmax
comp=Z,23nm,1.3s,mb5.0
GOGA Godfrey 80.23 305 *eP* **P 10 53 12.8 +0.4**
comp=Z,12nm,1.0s,mb4.8
GOGA Godfrey 80.23 305 *eP* **P 10 53 12.8 +0.4**
GOGA pmax pmax
comp=Z,12nm,1.0s,mb4.8
GOGA Godfrey 80.23 305 *eP* **P 10 53 12.8 +0.4**
comp=Z,12nm,1.0s,mb4.8
SWET Sewanee 80.62 308 *eP* **P 10 53 14.8 +0.3**
SWET Sewanee 80.62 308 *eP* **P 10 53 14.8 +0.3**
EDM Edmonton 80.63 334 *eP* **P 10 53 14.2 0.0**
EDM Edmonton 80.63 334 *eP* **P 10 53 14.2 0.0**
SVW2 Sparrevohn 80.68 359 *eP* **P 10 53 14.2 -0.1**
SVW2 *eP* 10 53 14.7
SVW2 Sparrevohn 80.68 359 *eP* **P 10 53 14.7 +0.4**
ECSD EROS,Sioux Fal 80.86 320 *eP* **P 10 53 15.9 +0.3**
comp=Z,14nm,0.8s,mb4.9
ECSD EROS,Sioux Fal 80.86 320 *eP* **P 10 53 15.9 +0.3**
comp=Z,14nm,0.8s,mb4.9
SIUC Southern Illin 80.96 311 *eP* **P 10 53 13.9 -2.4**
comp=Z,14nm,0.9s,mb4.9
SIUC Southern Illin 80.96 311 *eP* **P 10 53 13.9 -2.4**
comp=Z,14nm,0.9s,mb4.9
WVT Waverly 81.19 309 *eP* **P 10 53 17.0 -0.5**
comp=Z,7.6nm,0.8s,mb4.7
WVT Waverly 81.19 309 *eP* **P 10 53 17.0 -0.5**
WVT pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
WVT Waverly 81.19 309 *eP* **P 10 53 17.0 -0.5**
comp=Z,7.6nm,0.8s,mb4.7
FVM French Village 81.48 312 *eP* **P 10 53 19.3 +0.2**
comp=Z,18nm,0.8s,mb5.0
FVM French Village 81.48 312 *eP* **P 10 53 19.3 +0.2**
FVM pmax pmax
comp=Z,18nm,0.8s,mb5.0
FVM French Village 81.48 312 *eP* **P 10 53 19.3 +0.2**
comp=Z,18nm,0.8s,mb5.0
PET Petropavlovsk 81.50 25 *eP* **P 10 53 23.5 +4.6**
PET *eS* S 11 03 29.2 -1.1
PET *e*PPS 11 04 24.6
PET MLR MLR
comp=Z,1μm,18.0s,MS5.3
PET MLR MLR
comp=Z,1μm,20.0s
CCM Cathedral Cave 81.91 313 *eP* **P 10 53 21.4 +0.1**
comp=Z,15nm,0.8s,mb5.0
CCM Cathedral Cave 81.91 313 *eP* **P 10 53 21.4 +0.1**
CCM pmax pmax
comp=Z,15nm,0.8s,mb5.0
CCM Cathedral Cave 81.91 313 *eP* **P 10 53 21.4 +0.1**
comp=Z,15nm,0.8s,mb5.0
PLAL Pickwick Lake 82.10 309 *eP* **P 10 53 20.8 -1.5**
comp=Z,15nm,0.9s,mb4.9
PLAL Pickwick Lake 82.10 309 *eP* **P 10 53 20.8 -1.6**
comp=Z,15nm,0.9s,mb4.9
LRAL Lakeview Retre 82.72 307 *eP* **P 10 53 25.9 +0.3**
comp=Z,20nm,0.8s,mb5.2
LRAL Lakeview Retre 82.72 307 *eP* **P 10 53 25.9 +0.2**
comp=Z,20nm,0.8s,mb5.2
LAO LASA Array 83.15 327 *eP* **P 10 53 28.4 +0.8**
comp=Z,16nm,0.8s,mb5.1
LAO LASA Array 83.15 327 *eP* **P 10 53 28.4 +0.8**
comp=Z,16nm,0.8s,mb5.1
EGMT Eagleton 83.55 330 *eP* **P 10 53 30.3 +0.7**
comp=Z,20nm,0.8s,mb5.3
EGMT Eagleton 83.55 330 *eP* **P 10 53 30.3 +0.6**
comp=Z,20nm,0.8s,mb5.3
RSSD Black Hills 84.17 324 *eP* **P 10 53 33.6 +0.7**
comp=Z,5.1nm,0.8s,mb4.7
RSSD Black Hills 84.17 324 *eP* **P 10 53 33.6 +0.7**
RSSD pmax pmax
comp=Z,5.0nm,0.8s,mb4.7
RSSD Black Hills 84.17 324 *eP* **P 10 53 33.6 +0.7**
comp=Z,5.1nm,0.8s,mb4.7
KSU1 Kansas State U 84.17 316 *eP* **P 10 53 33.9 +0.8**
comp=Z,42nm,0.9s,mb5.6
KSU1 Kansas State U 84.17 316 *eP* **P 10 53 33.9 +0.9**
comp=Z,42nm,0.9s,mb5.6
WALA Waterton Lakes 84.29 332 *eP* **P 10 53 31.9 -1.5**
BDFB Brasilia 84.43 245 LR LR 11 32 30.8
comp=Z,380nm,18.7s,MS4.8,baz=216,slow=37
UALR University of 84.81 311 *eP* **P 10 53 37.1 +0.8**
comp=Z,12nm,0.8s,mb5.1
UALR University of 84.81 311 *eP* **P 10 53 37.1 +0.8**
comp=Z,12nm,0.8s,mb5.1
MAT Matsushiro 85.12 46 P **P 10 53 35.8 -2.1**
MAT *eS* S 11 03 55.0 -13
MJAR Matsushiro Arr 85.12 46 P **P 10 53 35.6 -2.3**
comp=Z,2.2nm,0.9s,mb4.3,baz=300,slow=5.7,SNR=5.2
MJAR LR LR 11 37 03.9
comp=Z,260nm,18.2s,MS4.7,baz=35,slow=40
MIAR Mount Ida 85.69 311 *eP* **P 10 53 41.6 +0.9**
comp=Z,18nm,0.9s,mb5.3
MIAR Mount Ida 85.69 311 *eP* **P 10 53 41.6 +0.8**
MIAR pmax pmax
comp=Z,18nm,0.9s,mb5.3
MIAR Mount Ida 85.69 311 *eP* **P 10 53 41.6 +0.8**
comp=Z,18nm,0.9s,mb5.3
NEW Newport 86.10 334 *eP* **P 10 53 41.4 -1.1**
NEW pmax pmax
comp=Z,6.0nm,0.7s
NEW Newport 86.10 334 *eP* **P 10 53 41.4 -1.1**
comp=Z,5.5nm,0.7s,mb4.9
MSO Missoula 86.16 331 *eP* **P 10 53 43.3 +0.5**
comp=Z,4.0nm,1.0s,mb4.6
MSO Missoula 86.16 331 *eP* **P 10 53 43.3 +0.5**
comp=Z,4.0nm,1.0s,mb4.6
SDV Santo Domingo 86.26 278 *eP* **P 10 53 44.8 +1.0**
comp=Z,14nm,0.8s,mb5.2
SDV Santo Domingo 86.26 278 *eP* **P 10 53 44.8 +0.9**
comp=Z,14nm,0.8s,mb5.2
LKWY Lake 86.62 328 *eP* **P 10 53 51.4 +6.3**
comp=Z,4.1nm,0.7s,mb4.8
LKWY Lake 86.62 328 *eP* **P 10 53 51.4 +6.3**
LKWY pmax pmax
comp=Z,4.0nm,0.7s,mb4.8
LKWY Lake 86.62 328 *eP* **P 10 53 51.4 +6.3**
comp=Z,4.1nm,0.7s,mb4.8
IMW Indian Meadow 87.39 328 *eP* **P 10 53 50.4 +1.5**
comp=Z,5.1nm,0.9s,mb4.8
BW06 Boulder Array 87.71 326 *eP* **P 10 53 50.5 0.0**
comp=Z,3.4nm,0.8s,mb4.6
BW06 Boulder Array 87.71 326 *eP* **P 10 53 50.5 0.0**
comp=Z,3.4nm,0.8s,mb4.6
PDAR Pinedale Array 87.71 326 P **P 10 53 49.5 -1.0**
PDAR LR LR 11 31 22.1
PDAR Pinedale Array 87.71 326 P **P 10 53 49.5 -1.0**
comp=Z,4.4nm,0.8s,mb4.8,baz=69,slow=4.4,SNR=11
PDAR LR LR 11 31 22.1
comp=Z,587nm,18.1s,MS5.0,baz=130,slow=34
TPAW Teton Pass 87.72 328 *eP* **P 10 53 51.9 +1.4**
comp=Z,8.6nm,0.8s,mb5.0
DCID1 Drake Creek 87.73 328 *eP* **P 10 53 52.1 +1.5**
DCID1 Drake Creek 87.73 328 *eP* **P 10 53 52.1 +1.5**
ISCO Idaho Springs 88.26 322 *eP* **P 10 53 54.0 +0.9**
comp=Z,5.3nm,0.8s,mb4.8
ISCO Idaho Springs 88.26 322 *eP* **P 10 53 54.0 +0.9**
ISCO pmax pmax
comp=Z,5.0nm,0.8s,mb4.8
ISCO Idaho Springs 88.26 322 *eP* **P 10 53 54.0 +0.9**
comp=Z,5.3nm,0.8s,mb4.8
WMOK Wichita Mounta 88.54 315 *eP* **P 10 53 55.6 +1.1**
WMOK pmax pmax
comp=Z,13nm,0.9s,mb5.3
WMOK Wichita Mounta 88.54 315 *eP* **P 10 53 55.6 +1.1**
comp=Z,13nm,0.9s,mb5.3
HWUT Hardware Ranch 89.52 327 *eP* **P 10 53 59.1 +0.1**
comp=Z,12nm,0.7s,mb5.3
HWUT Hardware Ranch 89.52 327 *eP* **P 10 53 59.1 +0.1**
comp=Z,12nm,0.7s,mb5.3
SDCO Great Sand Dun 89.80 321 *eP* **P 10 54 00.3 -0.1**
comp=Z,3.3nm,0.9s,mb4.7
SDCO Great Sand Dun 89.80 321 *eP* **P 10 54 00.3 -0.1**
comp=Z,3.3nm,0.9s,mb4.7
SRU San Rafael 91.10 325 *eP* **P 10 54 06.6 +0.1**
comp=Z,8.7nm,0.9s,mb5.1
SRU San Rafael 91.10 325 *eP* **P 10 54 06.6 +0.2**
SRU pmax pmax
comp=Z,9.0nm,0.9s,mb5.1
SRU San Rafael 91.10 325 *eP* **P 10 54 06.6 +0.2**
comp=Z,8.6nm,0.9s,mb5.1
DUG Dugway 91.22 327 *eP* **P 10 54 06.4 -0.6**
comp=Z,8.9nm,0.9s,mb5.1
DUG Dugway 91.22 327 *eP* **P 10 54 06.4 -0.6**
DUG pmax pmax
comp=Z,9.0nm,0.9s,mb5.1
DUG Dugway 91.22 327 *eP* **P 10 54 06.4 -0.6**
comp=Z,8.9nm,0.9s,mb5.1
MVCO Mesa Verde 91.69 322 *eP* **P 10 54 10.1 +0.9**
comp=Z,12nm,1.2s,mb5.1
MVCO Mesa Verde 91.69 322 *eP* **P 10 54 10.1 +0.9**
comp=Z,12nm,1.2s,mb5.1
JCT Junction City 92.26 312 *eP* **P 10 54 13.0 +1.1**
comp=Z,5.1nm,0.7s,mb5.0
JCT Junction City 92.26 312 *eP* **P 10 54 13.0 +1.0**
JCT pmax pmax
comp=Z,5.0nm,0.7s,mb5.0
JCT Junction City 92.26 312 *eP* **P 10 54 13.0 +1.0**
comp=Z,5.1nm,0.7s,mb5.0
SIV San Ignacio 94.22 253 P **P 10 54 20.8 -0.3**
comp=Z,0.7nm,0.8s,mb4.1,baz=196,slow=21,SNR=4.3
CBIJ Chichi jima 94.28 50 LR LR 11 39 05.7
comp=Z,244nm,19.3s,MS4.7,baz=132,slow=37
MNTX Cornudas Mount 94.44 317 *eP* **P 10 54 22.1 +0.1**
comp=Z,4.6nm,0.8s,mb5.0
MNTX Cornudas Mount 94.44 317 *eP* **P 10 54 22.1 +0.1**
comp=Z,4.6nm,0.8s,mb5.0
NVAR Mina Array Bea 94.98 329 P **P 10 54 23.4 -0.9**
comp=Z,0.3nm,0.5s,mb4.0,baz=56,slow=40,SNR=3.3
NVAR PKKPbc PKKPbc 11 11 19.1 +0.4
comp=Z,0.6nm,0.7s,baz=180,slow=4.8,SNR=4.8
TXAR Lajitas Array 95.32 314 P **P 10 54 25.8 -0.3**
comp=Z,5.8nm,0.9s,mb5.0,baz=67,slow=4.2,SNR=24
TXAR LR LR 11 38 33.2
comp=Z,330nm,21.2s,MS4.8,baz=180,slow=36
LPAZ La Paz 99.75 257 LR LR 11 41 19.5
comp=Z,224nm,20.7s,MS4.7,baz=61,slow=36
WRA Warramunga Arr 119.71 93 PKP PKPdf 10 59 51.0 -1.2
comp=Z,0.9nm,0.6s,baz=316,slow=1.8,SNR=12
ASAR Alice Springs 121.38 97 PKP PKPdf 10 59 53.2 -2.0
comp=Z,1.4nm,0.6s,baz=304,slow=1.5,SNR=18
STKA Stephens Creek 131.28 101 PKP PKPdf 11 00 15.1 +1.2
comp=Z,2.4nm,0.8s,baz=318,slow=7.1,SNR=5.6

IDC 10 11:01:59.4±2.0, 794S×12889E, h0km, mb3.9/1, mb1 3.6/5, mb1mx3.4/14, mbtmp3.5/5, ML3.2/4, Error ellipse: s-maj=47.8km s-min=26.1km az=73.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Kupang**	**5.63**	**246**	Pn	Pn	11 03 24.2	-0.2
3.4nm,0.3s,baz=109,slow=6.3,SNR=4.7							
FITZ	**Fitzroy Crossi**	**10.59**	**197**	Pn	Pn	11 04 33.2	+0.7
0.1nm,0.3s,baz=16,slow=18,SNR=4.5							
FITZ				Sn	Sn	11 06 29.0	-2.9
0.1nm,0.3s,baz=108,slow=14,SNR=4.4							
WRA	**Warramunga Arr**	**13.05**	**157**	Pn	Pn	11 05 06.1	-0.1
0.1nm,0.3s,baz=333,slow=13,SNR=6.5							
WRA				Sn	Sn	11 07 32.0	-0.3
0.2nm,0.3s,baz=335,slow=24,SNR=6.9							
ASAR	**Alice Springs**	**16.36**	**163**	Pn	Pn	11 05 50.9	+0.2
0.1nm,0.3s,baz=340,slow=9.4,SNR=11							
MKAR	**Makanchi Array**	**68.41**	**328**	P	P	11 13 03.1	+0.1
0.6nm,0.4s,baz=121,slow=8.8,SNR=5.7							

IDC 10 11:03:03.0±9.2, 292S×12796E, h0km, mb3.7/2, mb1 3.9/3, mb1mx3.5/15, mbtmp3.7/3, ML3.8/1, Error ellipse: s-maj=169.8km s-min=126.5km az=83.0, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.04**	**160**	P	Pn	11 07 15.9	+0.7
0.3nm,0.3s,baz=342,slow=12,SNR=14							
ASAR	**Alice Springs**	**21.42**	**165**	P	P	11 07 52.8	+0.1
1.7nm,0.7s,baz=346,slow=12,SNR=18							
STKA	**Stephens Creek**	**31.54**	**157**	P	P	11 09 26.9	-0.3
1.5nm,0.8s,baz=325,slow=8.5,SNR=3.4							

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*IDC **10** 11:16:35.7±1.7, 1020S×11889E, h0km, mb3.9/3, mb1 4.2/6, mb1mx3.9/14, mbtmp4.1/6, ML4.1/3, MS3.2/1, Ms1 3.2/1, ms1mx2.9/21, Error ellipse: s-maj=68.4km s-min=22.0km az=48.0*
*ISCJB **10** 11:16:37.8±0.8, 1032S±008×11909E±008, h33km, mb4.0/3, Error ellipse: s-maj=13.3km s-min=9.1km az=38.1*
*NEIC **10** 11:16:40.2±0.8, 1020S×11920E, h35km, Error ellipse: s-maj=27.7km s-min=10.9km az=60.0*

ISC 10 11:16:40.4±0.8, 1024S±010×11911E±010, h35km, n11, σ1§14/18, mb4.0/3, Sumba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Kupang**	**4.48**	**90**	Pn	**Pn**	**11 17 47.8**	**+1.9**
18nm,0.3s,baz=278,slow=1.5,SNR=14							
BATI				Sn	**Sn**	**11 18 37.0**	**+0.2**
21nm,0.3s,baz=230,slow=23,SNR=17							
FITZ	**Fitzroy Crossi**	**10.05**	**142**	*e*P	**Pn**	**11 19 02.9**	**+0.6**
11nm,0.6s							
FITZ				*e*S	**Sn**	**11 20 46.0**	**-7.9**
FITZ	**Fitzroy Crossi**	**10.05**	**142**	Pn	**Pn**	**11 19 02.4**	**0.0**
0.7nm,0.3s,baz=316,slow=7.6,SNR=19							
FITZ				Sn	**Sn**	**11 20 44.2**	**-10**
1.2nm,0.3s,baz=332,slow=18,SNR=3.0							
MBWA	**Marble Bar**	**10.87**	**177**	*e*P	**Pn**	**11 19 13.8**	**+0.2**
5.0nm,0.4s							
KAKA	**Kakadu**	**13.29**	**102**	*e*P	**Pn**	**11 19 50.2**	**+3.5**
8.5nm,0.5s							
KAKA				*e*S	**Sn**	**11 22 00.7**	**-13**
WRA	**Warramunga Arr**	**17.57**	**125**	Pn	**Pn**	**11 20 41.0**	**-1.7**
0.6nm,0.3s,baz=297,slow=15,SNR=47							
WRA				Sn	**Sn**	**11 23 42.8**	**-15**
0.8nm,0.3s,baz=305,slow=25,SNR=7.5							
WRA				LR	LR	11 28 18.9	
comp=Z,80nm,19.3s,baz=230,slow=40							
WB2	**Warramunga Arr**	**17.58**	**125**	*e*P	**Pn**	**11 20 42.2**	**-0.5**
WB2				*e*S	**Sn**	**11 23 43.1**	**-14**
ASAR	**Alice Springs**	**19.43**	**135**	P	**Pn**	**11 21 06.8**	**+1.6**
0.6nm,0.3s,baz=323,slow=14,SNR=36							
ASAR				S	**S**	**11 24 33.9**	**-7.9**
0.3nm,0.3s,baz=316,slow=24,SNR=7.4							
SONM	**Songino Array**	**58.91**	**350**	P	**P**	**11 26 36.8**	**+0.9**
1.2nm,0.7s,mb4.0,baz=169,slow=7.2,SNR=9.7							
MKAR	**Makanchi Array**	**65.61**	**333**	P	**P**	**11 27 20.8**	**+0.1**
1.0nm,0.6s,mb4.0,baz=143,slow=7.8,SNR=7.4							
ZALV	**Zalesovo Beam**	**70.23**	**339**	P	**P**	**11 27 48.5**	**-1.1**
0.9nm,0.5s,mb4.0,baz=147,slow=5.4,SNR=4.8							

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*NEIC **10** 11:24:56.1, 32.13S×7180W, h22km, MD3.6(GUC), After GUC.*

GUC 10 11:24:56.1±0.7, 3213S×7180W, h22km±5km, MD3.6, ML2.6, 4C-6D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHNG	**Los Chungos**	**0.35**	**47**	⇓*i*P	Pb	11 24 46.1	-18
CHNG				*i* S	Sb	11 24 52.0	-17
CHNG				AML	AML	11 24 52.3	
comp=E,346nm,0.3s							
PACH	**Papudo**	**0.51**	**143**	⇑*i*P	Pb	11 25 06.0	-0.5
PACH				*i* S	Sb	11 25 13.4	0.0
ROCH	**El Roble**	**1.08**	**142**	⇑*i*P	Pn	11 25 15.2	-0.6
ROCH				*i* S	Sb	11 25 29.9	+0.3
JACH	**Jahuel**	**1.16**	**119**	⇓*i*P	Pn	11 25 16.6	-0.5
JACH				*i* S	Sb	11 25 32.0	-0.2
CMCH	**Combarbala**	**1.17**	**36**	⇑*i*P	Pn	11 25 16.6	-0.5
CMCH				*i* S	Sb	11 25 32.4	0.0
CMCH	**Combarbala**	**1.17**	**36**	⇑*i*P	Pn	11 25 16.6	-0.5
CMCH				*i* S	Sb	11 25 32.4	0.0
CMCH				AML	AML	11 25 38.9	
comp=E,365nm,0.7s							
PEL	**Peldehue**	**1.39**	**137**	⇓*i*P	Pn	11 25 20.0	0.0
PEL				*i* S	Sn	11 25 38.6	+1.0
PEL				AML	AML	11 25 40.7	
comp=E,358nm,0.3s							
CLCH	**Cerro Calan**	**1.66**	**140**	*e*P	Pn	11 25 24.5	+0.7
CLCH				*i* S	Sn	11 25 46.2	+1.8
CLCH				AML	AML	11 25 50.7	
comp=N,120nm,0.4s							
TACH	**Talagante**	**1.69**	**155**	⇓*i*P	Pn	11 25 25.0	+0.7
TACH				*e*S	Sn	11 25 46.5	+1.4
FCH	**Farellones**	**1.75**	**134**	⇓*i*P	Pn	11 25 25.8	+0.7
FCH				*i* S	Sn	11 25 49.0	+2.3
FCH				AML	AML	11 25 50.9	
comp=E,119nm,0.2s							
LNV	**Longovilo**	**1.85**	**170**	*i* S	Sn	11 25 51.4	+2.2
CHCH	**Chadas Angostu**	**2.04**	**152**	⇓*i*P	Pn	11 25 30.7	+1.5
TLL	**Tololo Astrono**	**2.13**	**24**	*e*P	Pn	11 25 32.4	+2.0
TLL				AML	AML	11 26 09.5	
comp=N,44nm,0.5s							
LMEL	**Las Melosas**	**2.18**	**142**	*e*P	Pn	11 25 32.5	+1.5
LMEL				*i* S	Sn	11 25 60.0	+2.7
LMEL	**Las Melosas**	**2.18**	**142**	*e*P	Pn	11 25 32.5	+1.5
LMEL				*i* S	Sn	11 25 60.0	+2.7
LMEL				AML	AML	11 26 07.3	
comp=N,91nm,0.1s							

CASC 10 11:25:29.3±1.9, 989N×8401W, h6km±3km, MD3.6, ML3.1, 6C-3D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAJ	**Bijagual**	**0.11**	**255**	⇓*e*P	Pg	11 25 41.6	+10
LAJ				*e*S	Sg	11 25 50.9	+18
LCR2	**La Lucha 2**	**0.15**	**177**	⇓*i*P	Pg	11 25 34.0	+1.6
URSC	**Urasca**	**0.24**	**104**	⇑*i*P	Pg	11 25 34.7	+0.8
URSC				*e*S	Sg	11 25 39.9	+2.8
PRS1	**Puriscal**	**0.31**	**287**	⇑*e*P	Pg	11 25 36.8	+1.4
BUS	**Buena Vista**	**0.42**	**144**	*e*P	Pg	11 25 38.5	+1.1
CGA2	**Cerro Gallo 2**	**0.47**	**285**	⇑*e*P	Pg	11 25 38.4	+0.1
CGA2				*e*S	Sg	11 25 45.3	+0.9
FORC	**Fortuna**	**0.87**	**312**	⇑*e*P	Pg	11 25 45.3	-0.7
FORC				*e*S	Sg	11 25 57.4	+0.2
BAR1		**0.94**	**133**	⇓*e*P	Pg	11 25 47.3	-0.2
BAR1				*e*S	Sg	11 26 00.3	+0.5
JCR	**Jicaral**	**1.09**	**268**	⇑*e*P	Pg	11 25 49.4	-0.8
JCR				*e*S	Sg	11 26 03.8	-0.5
CUI		**1.38**	**304**	*e*P	Pn	11 25 53.6	-1.6
CUI				*e*S	Sb	11 26 13.8	+0.4
LIM1	**Limonal**	**1.46**	**303**	⇑*e*P	Pn	11 25 55.0	-1.3
LIM1				*e*S	Sn	11 26 16.4	+0.7
BOAB	**BOACO BROADBAN**	**8.02**	**328**	*e*P	Pn	11 26 20.1	+2.5

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*ATH **10** 11:27:22.0, 3858N×2162E, h37km±1km, MD3.3/3*
*NEIC **10** 11:27:22.0, 3858N×2162E, h37km, MD3.3(ATH), After ATH.*
*CSEM **10** 11:27:23.2±0.2, 3854N×2167E, h30km, ML2.8, Error ellipse: s-maj=7.0km s-min=5.0km az=132.0*

THE 10 11:27:23.6, 3854N×2165E, h6km, ML2.8, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SELA	**Sela**	**0.33**	**144**	*e*Pg	Pg	11 27 30.1	+0.2
SELA				*e*Sg	Sg	11 27 34.5	+0.3
EVR	**Evrytania**	**0.40**	**18**	*e*PB	Pg	11 27 31.3	+0.1
EVR				*e*SB	Sg	11 27 38.0	+1.6
RLS	**Riolos of Patr**	**0.50**	**197**	*e*PN	Pg	11 27 33.7	+0.5
RLS				*e*SN	Sg	11 27 42.3	+2.6
AGG	**Agios Georgios**	**0.72**	**48**	*e*Pg	Pg	11 27 37.0	-0.3
AGG				*e*Sg	Sg	11 27 47.6	+0.9
AGG	**Agios Georgios**	**0.72**	**48**	*e*Pg	Pg	11 27 37.0	-0.4
AGG				*e*Sg	Sg	11 27 47.6	+0.9
LKD	**Levkas**	**0.80**	**282**	*e*Pg	Pg	11 27 38.0	-0.9
LKD				*e*Sg	Sg	11 27 50.5	+1.2
KFL	**Anninata**	**0.80**	**238**	*e*Pg	Pg	11 27 38.7	-0.2
VLS	**Valsamata**	**0.91**	**247**	*e*PN	Pn	11 27 39.8	-3.0

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*THE **10** 11:44:42.3, 3837N×2169E, h1km, ML2.6*
*ATH **10** 11:44:42.8, 3852N×2179E, h32km±3km, MD2.7/3*
*CSEM **10** 11:44:44.7±0.3, 3854N×2164E, h25km, ML2.6, Error ellipse: s-maj=9.8km s-min=5.9km az=128.0*
*ISCJB **10** 11:44:45.1±0.8, 3854N±005×2166E±007, h16km±23km, Error ellipse: s-maj=10.8km s-min=6.0km az=38.2*

ISC 10 11:44:44.9±0.9, 3852N±004×2166E±006, h17km±12km, n6, σ1§12/11, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EVR	**Evrytania**	**0.41**	**17**	*e*PB	**Pg**	**11 44 52.3**	**-0.9**
EVR				*e*SB	**Sg**	**11 44 58.7**	**-0.1**
RLS	**Riolos of Patr**	**0.49**	**198**	*e*PN	**Pg**	**11 44 54.0**	**-0.7**
RLS				*e*SN	**Sg**	**11 45 02.8**	**+1.5**
AGG	**Agios Georgios**	**0.72**	**46**	*e*Pg	**Pg**	**11 44 58.3**	**-0.7**
AGG				*e*Sg	**Sg**	**11 45 09.4**	**+0.8**
LKD	**Levkas**	**0.81**	**283**	*e*Pg	**Pg**	**11 44 58.6**	**-2.0**
LKD				*e*Sg	**Sg**	**11 45 12.0**	**+0.6**
VLS	**Valsamata**	**0.91**	**248**	*e*PN	**Pg**	**11 45 02.2**	**-0.3**
MEV	**Metsovon**	**1.30**	**345**	*e*Pg	**Pn**	**11 45 08.6**	**+0.3**
MEV				*e*Sg	**Sg**	**11 45 29.8**	**+2.8**

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*IDC **10** 11:47:56.5±1.2, 7.19S×15555E, h0km, mb3.8/5, mb1 3.8/6, mb1mx3.7/15, mbtmp3.8/6, ML4.0/1, Error ellipse: s-maj=29.1km s-min=27.4km az=39.0*
*NEIC **10** 11:47:58.2±0.8, 7.16S×15553E, h10km, Error ellipse: s-maj=22.2km s-min=15.6km az=202.0*
*ISCJB **10** 11:47:59.5±7.3, 72S±02×15558E±010, h31km±54km, mb3.7/5, Error ellipse: s-maj=33.5km s-min=14.3km az=15.9*

ISC 10 11:48:00.3±7.6, 72S±02×1556E±01, h24km±55km, n7, σ0§86/8, mb3.7/5, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.89**	**117**	Pn	**Pn**	**11 49 12.3**	**-0.1**
6.7nm,0.3s,baz=86,slow=19,SNR=3.4							
HNR				Sn	**Sn**	**11 50 08.5**	**+0.1**
14nm,0.3s,baz=263,slow=17,SNR=4.2							
WRA	**Warramunga Arr**	**24.16**	**236**	P	**P**	**11 53 15.7**	**+0.8**
0.7nm,0.6s,mb3.3,baz=63,slow=9.5,SNR=6.1							
ASAR	**Alice Springs**	**26.46**	**229**	P	**P**	**11 53 35.0**	**-0.7**
0.3nm,0.7s,mb2.9,baz=56,slow=10.0,SNR=8.5							
SONM	**Songino Array**	**69.80**	**327**	P	**P**	**11 59 09.6**	**+0.8**
0.6nm,0.5s,mb3.8,baz=142,slow=6.5,SNR=7.8							
MKAR	**Makanchi Array**	**83.91**	**319**	P	**P**	**12 00 28.3**	**-0.1**
MKAR	**Makanchi Array**	**83.91**	**319**	P	**P**	**12 00 28.3**	**-0.1**
1.6nm,0.9s,mb4.2,baz=98,slow=6.5,SNR=8.7							
ZALV	**Zalesovo Beam**	**84.65**	**326**	P	**P**	**12 00 31.1**	**-0.8**
0.8nm,0.4s,mb4.2,baz=124,slow=5.3,SNR=4.3							

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*ISCJB **10** 11:51:28.0±0.5, 3853N±003×2156E±004, h10km±5km, Error ellipse: s-maj=5.0km s-min=4.2km az=136.1*
*ATH **10** 11:51:28.6, 3860N×2146E, h24km±4km, MD3.2/5*
*CSEM **10** 11:51:29.3±0.1, 3853N×2160E, h2km, ML3.0, Error ellipse: s-maj=2.6km s-min=2.2km az=71.0*
*THE **10** 11:51:29.1, 3855N×2159E, h5km, ML3.0*
*NEIC **10** 11:51:29.0, 3854N×2159E, h5km, MD3.2(ATH), ML3.0(THE), After THE.*

ISC 10 11:51:28.9±0.5, 3855N±003×2157E±004, h14km±7km, n16, σ0§99/25, 2D, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SELA	**Sela**	**0.37**	**137**	*e*Pg	**Pg**	**11 51 35.5**	**-0.9**
SELA				*e*Sg	**Sg**	**11 51 41.6**	**+0.2**
EVR	**Evrytania**	**0.41**	**27**	⇓*i*PB	**Pg**	**11 51 37.1**	**-0.1**
EVR				*e*SB	**Sg**	**11 51 44.0**	**+1.2**
EVR	**Evrytania**	**0.41**	**27**	⇓*e*Pb	**Pg**	**11 51 37.1**	**-0.1**
EVR				*e*Sb	**Sg**	**11 51 44.0**	**+1.2**
RLS	**Riolos of Patr**	**0.49**	**189**	*e*PN	**Pg**	**11 51 38.7**	**0.0**
RLS				*e*SN	**Sg**	**11 51 48.3**	**+3.0**
LKD	**Levkas**	**0.74**	**283**	*e*Pg	**Pg**	**11 51 43.7**	**+0.5**
LKD				*e*Sg	**Sg**	**11 51 53.8**	**+0.9**
KFL	**Anninata**	**0.75**	**235**	*e*Pg	**Pg**	**11 51 43.3**	**-0.2**
AGG	**Agios Georgios**	**0.76**	**51**	*e*Pg	**Pg**	**11

DID *e*Sb **Sb** **11 52 20.1 -0.3**

*NEIC **10** 12:08:29.7, 3266S×7198W, h42km, MD3.5(GUC), After GUC.*

GUC 10 12:08:29.7±0.7, 3266S×7198W, h42km±4km, MD3.5, ML2.5, 3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PACH	**Papudo**	**0.48**	**75**	‖*i*P	Pn	12 08 40.3	+0.2
PACH				*i*S	Sn	12 08 48.6	+1.0
ROCH	**El Roble**	**0.88**	**111**	*i*S	Sn	12 08 58.9	+1.8
JACH	**Jahuel**	**1.17**	**91**	‖*i*P	Pn	12 08 52.2	+2.6
JACH				*i*S	Sn	12 09 06.7	+2.3
PEL	**Peldehue**	**1.19**	**114**	*e*P	Pn	12 08 51.2	+1.3
PEL				*e*S	Sn	12 09 07.3	+2.4
PEL				AML	AML	12 09 09.0	
	comp=E,181nm,0.3s						
TACH	**Talagante**	**1.32**	**139**	*e*P	Pn	12 08 52.3	+0.6
TACH				*i*S	Sn	12 09 08.8	+0.7
PCH	**Pirque**	**1.56**	**128**	‖*i*P	Pn	12 08 56.1	+1.1
PCH				*i*S	Sn	12 09 16.6	+2.6
FCH	**Farellones**	**1.57**	**116**	*i*S	Sn	12 09 17.1	+2.9
FCH				AML	AML	12 09 17.8	
	comp=E,74nm,0.1s						
LMEL	**Las Melosas**	**1.90**	**129**	*e*P	Pn	12 09 01.1	+1.4
LMEL				*i*S	Sn	12 09 24.9	+2.5
LMEL	**Las Melosas**	**1.90**	**129**	*e*P	Pn	12 09 01.1	+1.4
LMEL				*i*S	Sn	12 09 24.9	+2.5
LMEL				AML	AML	12 09 27.4	
	comp=N,65nm,0.2s						

*CSEM **10** 12:11:00.6, 3853N×2163E, h22km, MD2.8/4, After ATH*
*NEIC **10** 12:11:00.6, 3853N×2163E, h22km, MD2.8(ATH), After ATH.*

ATH 10 12:11:00.6, 3855N×2161E, h25km±2km, MD2.8/3, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EVR	**Evrytania**	**0.40**	**23**	*e*PB	Pb	12 11 08.7	-0.4
EVR				*e*SB	Sb	12 11 15.8	+0.9
RLS	**Riolos of Patr**	**0.50**	**193**	*e*PN	Pn	12 11 10.7	-1.5
RLS				*e*SN	Sb	12 11 19.1	+1.3
VLS	**Valsamata**	**0.88**	**245**	*e*PN	Pn	12 11 18.2	+0.8
ITM	**Ithomi**	**1.39**	**170**	*e*PN	Pn	12 11 26.5	+2.1

IDC 10 12:11:20.6±0.9, 653S×15198E, h0km, mb3.7/9, mb1 3.9/9, mb1mx3.8/14, mbtmp3.7/9, Error ellipse: s-maj=31.4km s-min=19.8km az=117.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.70**	**230**	P	P	12 16 14.6	+1.2
	0.6nm,0.4s,baz=54,slow=9.8,SNR=11						
ASAR	**Alice Springs**	**24.33**	**224**	P	P	12 16 40.0	-0.2
	1.8nm,0.5s,baz=57,slow=9.3,SNR=47						
STKA	**Stephens Creek**	**27.02**	**200**	P	P	12 17 04.8	+0.3
	1.2nm,0.6s,baz=24,slow=9.0,SNR=3.6						
FITZ	**Fitzroy Crossi**	**28.14**	**243**	P	P	12 17 13.7	-1.0
	1.4nm,0.6s,baz=67,slow=7.7,SNR=4.0						
BATI	**Kupang**	**28.24**	**261**	P	P	12 17 15.4	-0.2
	6.2nm,0.4s,baz=63,slow=4.5,SNR=2.5						
SONM	**Songino Array**	**67.35**	**329**	P	P	12 22 19.5	+2.0
	0.1nm,0.4s,baz=130,slow=6.3,SNR=2.7						
VNDA	**Vanda**	**71.14**	**178**	P	P	12 22 41.5	+0.9
	0.6nm,1.0s,baz=346,slow=5.9,SNR=2.8						
ZALV	**Zalesovo Beam**	**82.13**	**327**	P	P	12 23 42.4	-0.6
	0.4nm,0.4s,baz=114,slow=9.6,SNR=2.7						
NVAR	**Mina Array Bea**	**93.79**	**52**	P	P	12 24 38.6	-1.2
	0.1nm,0.3s,baz=261,slow=4.7,SNR=2.2						
YKA	**Yellowknife Ar**	**97.33**	**28**	P	P	12 24 56.1	+0.7
	0.1nm,0.7s,baz=271,slow=4.1,SNR=2.7						
TORD	**Torodi Ar. Bea**	**150.01**	**285**	PKPbc	PKPbc	12 31 12.4	-1.8
	0.5nm,0.6s,baz=79,slow=1.9,SNR=4.1						

*ISCJB **10** 12:23:40.6±1.5, 196S±0.1×69.1W±0.1, h93km±17km, mb3.9/11, Error ellipse: s-maj=20.6km s-min=13.4km az=41.4*
*NEIC **10** 12:23:43.6±0.4, 1973S×6909W, Error ellipse: s-maj=14.9km s-min=9.4km az=105.0*
*IDC **10** 12:23:43.9±0.7, 1959S×6906W, h107km±4km, mb4.0/9, mb1 4.2/10, mb1mx4.1/17, mbtmp4.1/10, MS3.3/3, Ms1 3.3/3, ms1mx2.8/27, Error ellipse: s-maj=21.0km s-min=15.7km az=24.0*

ISC 10 12:23:43.1±1.2, 1966S±010×691W±01, h101km±14km, h110km±2.2km; pP-P, n32, σ1§03/23, mb3.9/11, 1C, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**3.48**	**16**	P	**Pn**	**12 24 39.5**	**+4.2**
	6.3nm,0.3s,baz=191,slow=8.8,SNR=224						
LPAZ				LR	LR	12 25 35.1	
	comp=Z,183nm,21.0s,baz=88,slow=33						
CEN1	**Los Morros**	**3.85**	**195**	*e*P	**Pn**	**12 24 40.9**	**+0.7**
ANCH	**Antofagasta**	**4.18**	**197**	*e*P	**Pn**	**12 24 42.2**	**-2.5**
CPN1	**Cerro Paranal**	**5.08**	**193**	*e*P	**Pn**	**12 24 54.9**	**-2.0**
SIV	**San Ignacio**	**8.48**	**66**	P	**Pn**	**12 25 42.8**	**-0.3**
	8.0nm,0.3s,baz=258,slow=11,SNR=337						
TLL	**Tololo Astrono**	**10.57**	**188**	*e*P	**Pn**	**12 26 12.9**	**+1.4**
CFAA	**Coronel Fontan**	**11.92**	**176**	P	**Pn**	**12 26 34.2**	**+4.6**
CFAA	**Coronel Fontan**	**11.92**	**176**	P	**Pn**	**12 26 34.2**	**+4.6**
	0.1nm,0.3s,baz=9.5,slow=14,SNR=3.5						
BDFB	**Brasilia**	**20.49**	**82**	P	**P**	**12 28 13.5**	**+0.4**
	18nm,0.6s,baz=237,slow=18,SNR=21						
PLCA	**Paso Flores**	**21.04**	**183**	P	**P**	**12 28 19.7**	**+1.0**
PLCA	**Paso Flores**	**21.04**	**183**	P	**P**	**12 28 19.7**	**+1.0**
	7.1nm,0.9s,mb4.0,baz=7.4,slow=12,SNR=9.4						
SDV	**Santo Domingo**	**28.41**	**357**	P	**P**	**12 29 28.3**	**+0.1**
SDV	**Santo Domingo**	**28.41**	**357**	P	**P**	**12 29 28.3**	**+0.1**
	1.9nm,0.3s,mb4.1,baz=149,slow=12,SNR=4.7						
SDV				LR	LR	12 42 23.5	
	comp=Z,50nm,18.2s,baz=356,slow=40						
TXAR	**Lajitas Array**	**59.02**	**325**	P	**P**	**12 33 32.0**	**-0.4**
	0.1nm,0.5s,mb3.1,baz=155,slow=8.3,SNR=4.4						
TXAR				pP	pP	12 33 59.0	+1.7
	0.3nm,0.7s,baz=133,slow=5.5,SNR=3.8						
DBIC	**Dimbokro**	**68.40**	**74**	P	**P**	**12 34 34.0**	**-0.5**
	10nm,0.8s,mb4.7,baz=218,slow=5.6,SNR=16						
DBIC				pP	pP	12 35 01.6	+1.7
	5.2nm,0.6s,baz=218,slow=7.6,SNR=2.6						
PSMN	**Pico do Norte,**	**70.01**	**36**	*e*S	S	12 43 43.2	-3.1
PDAR	**Pinedale Array**	**72.43**	**330**	P	**P**	**12 34 58.6**	**+0.3**
	0.2nm,0.4s,mb3.3,baz=140,slow=6.1,SNR=4.7						
ULM	**Lac du Bonnet**	**73.52**	**342**	P	**P**	**12 35 03.6**	**-1.0**
	1.5nm,0.7s,mb3.9,baz=148,slow=8.7,SNR=4.9						
NVAR	**Mina Array Bea**	**73.94**	**322**	P	**P**	**12 35 08.2**	**+0.9**
	0.4nm,0.7s,mb3.2,baz=147,slow=7.3,SNR=5.8						
SCHQ	**Schefferville**	**74.22**	**1**	P	**P**	**12 35 08.2**	**-0.3**
	2.6nm,0.8s,mb4.0,baz=203,slow=7.7,SNR=3.0						
TORD	**Torodi Ar. Bea**	**76.92**	**71**	P	**P**	**12 35 24.2**	**-0.7**
	5.5nm,0.6s,mb4.4,baz=254,slow=5.4,SNR=61						
TORD				pP	pP	12 35 52.4	+1.6
	3.8nm,0.6s,baz=251,slow=5.2,SNR=4.0						
BOSA	**Boshof**	**84.47**	**118**	LR	LR	13 09 43.4	
	comp=Z,51nm,19.1s,baz=280,slow=33						
ESDC	**Sonseca Array**	**84.66**	**45**	P	**P**	**12 36 09.2**	**+3.6**
	0.2nm,0.4s,mb3.4,baz=256,slow=2.5,SNR=4.1						
YKA	**Yellowknife Ar**	**89.40**	**341**	P	**P**	**12 36 28.0**	**+0.1**
YKA				pP	pP	12 36 55.4	+0.9
YKA				sP	sP	12 37 06.9	+1.7
YKA	**Yellowknife Ar**	**89.40**	**341**	P	**P**	**12 36 28.0**	**+0.1**
	5.4nm,0.8s,mb4.6,baz=133,slow=4.6,SNR=89						
YKA				pP	pP	12 36 55.4	+0.9
	2.5nm,0.7s,baz=134,slow=4.8,SNR=6.0						
YKA				sP	sP	12 37 06.9	+1.7
	3.0nm,0.9s,baz=134,slow=4.8,SNR=4.0						
ASAR	**Alice Springs**	**131.44**	**209**	PKP	PKPdf	12 42 44.3	-0.1
	0.6nm,0.5s,baz=135,slow=1.7,SNR=24						
WRA	**Warramunga Arr**	**134.43**	**212**	PKP	PKPdf	12 42 50.3	+0.1
	1.0nm,0.5s,baz=147,slow=1.7,SNR=21						
ZALV	**Zalesovo Beam**	**140.37**	**24**	PKhKP		12 42 55.1	
	0.8nm,0.6s,baz=243,slow=1.7,SNR=4.2						
ZALV				PKP	PKPdf	12 43 00.9	+0.9
	0.6nm,0.5s,baz=318,slow=4.2,SNR=4.8						
ZALV				pPKP	pPKPdf	12 43 30.6	+2.8
	1.2nm,0.6s,baz=314,slow=2.6,SNR=3.6						
MKAR	**Makanchi Array**	**144.24**	**34**	PKP	PKPdf	12 43 05.9	-1.2
	0.8nm,0.6s,baz=320,slow=3.3,SNR=10.0						
MKAR				pPKP	pPKPdf	12 43 36.6	+1.7
	0.6nm,0.6s,baz=344,slow=3.1,SNR=3.1						
MJAR	**Matsushiro Arr**	**150.76**	**311**	PKPbc	PKPbc	12 43 24.0	+0.1
MJAR				pPKPbc	pPKPbc	12 43 51.9	+0.4
MJAR	**Matsushiro Arr**	**150.76**	**311**	PKPbc	PKPbc	12 43 24.0	+0.1
	1.3nm,0.7s,baz=106,slow=3.9,SNR=5.1						
MJAR				pPKPbc	pPKPbc	12 43 51.9	+0.4
	2.7nm,0.8s,baz=71,slow=1.9,SNR=4.9						
SONM	**Songino Array**	**151.66**	**6**	PKP	PKPdf	12 43 20.9	+1.7
	1.4nm,1.2s,baz=356,slow=0.7,SNR=3.8						
SONM				PKPbc	PKPbc	12 43 26.3	+0.8
	2.3nm,0.5s,baz=352,slow=2.9,SNR=28						
SONM				pPKP	pPKPdf	12 43 46.8	-0.3
	0.6nm,0.4s,baz=342,slow=1.3,SNR=4.1						

*NEIC **10** 12:40:04.8, 3858N×2149E, h19km, MD3.2(ATH), ML2.8(THE), After ATH.*
*ATH **10** 12:40:04.8, 3858N×2149E, h19km±7km, MD3.2/4*
*ISCJB **10** 12:40:05.4±0.6, 3848N±004×2161E±006, h18km±8km, Error ellipse: s-maj=7.5km s-min=6.0km az=167.1*
*CSEM **10** 12:40:05.8±0.1, 3852N×2158E, h10km, ML2.8, Error ellipse: s-maj=2.5km s-min=2.1km az=21.0*
*THE **10** 12:40:05.5, 3852N×2159E, h2km, ML2.8*

ISC 10 12:40:05.7±0.6, 3855N±003×2160E±004, h12km±9km, n10, σ0§80/16, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SELA	**Sela**	**0.36**	**139**	*e*Pg	**Pg**	**12 40 11.8**	**-1.0**
SELA				*e*Sg	**Sg**	**12 40 17.0**	**-0.6**
EVR	**Evrytania**	**0.41**	**24**	*e*PB	**Pg**	**12 40 13.0**	**-0.8**
EVR				*e*SB	**Sg**	**12 40 19.9**	**+0.7**
EVR	**Evrytania**	**0.41**	**24**	*e*Sb	**Sg**	**12 40 19.9**	**+0.7**
RLS	**Riolos of Patr**	**0.50**	**192**	*e*PN	**Pg**	**12 40 14.8**	**-0.7**
RLS				*e*SN	**Sg**	**12 40 23.2**	**+1.1**
AGG	**Agios Georgios**	**0.74**	**50**	*e*Pg	**Pg**	**12 40 20.4**	**+0.2**
AGG				*e*Sg	**Sg**	**12 40 30.8**	**+0.9**
LKD	**Levkas**	**0.76**	**283**	*e*Pg	**Pg**	**12 40 19.7**	**-0.7**
LKD				*e*Sg	**Sg**	**12 40 30.9**	**+0.6**
THL	**Klokotos Trika**	**1.07**	**18**	*e*PN	**Pn**	**12 40 25.3**	**-1.1**
LTK	**Loutraki**	**1.20**	**115**	*e*Sg	**Sg**	**12 40 44.7**	**+0.3**
ITM	**Ithomi**	**1.39**	**169**	*e*PN	**Pn**	**12 40 32.1**	**+1.3**
IGT	**Igoumenitsa**	**1.39**	**315**	*e*Pg	**Pg**	**12 40 31.7**	**-0.7**
IGT				*e*Sg	**Sg**	**12 40 51.1**	**+0.5**

MAN 10 12:50:07, 1802N×12072E, h8km, mb3.8, ML2.6, MS2.2, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PIP	**Pasuquin**	**0.32**	**342**	↑*i*P	Pg	12 50 14.7	+1.3
PIP				*e*S	Sg	12 50 21.4	+3.7
ABRA	**Dolores**	**0.36**	**182**	*e*P	Pg	12 50 15.1	+1.0
APYP	**Conner**	**0.52**	**107**	*e*P	Pg	12 50 18.0	+0.9
APYP				*e*S	Sg	12 50 26.1	+2.3
CAUP	**Cauayan**	**1.50**	**135**	*e*P	Pn	12 50 34.8	+0.6

*ISCJB **10** 12:55:17.4±0.4, 3853N±002×2158E±003, h5km±4km, Error ellipse: s-maj=4.1km s-min=3.2km az=140.9*
*ATH **10** 12:55:17.6, 3856N×2153E, h19km±1km, MD3.6/12, ML3.4*
*CSEM **10** 12:55:18.4±0.1, 3854N×2157E, h0km, ML3.6, Error ellipse: s-maj=1.7km s-min=1.3km az=65.0*
*THE **10** 12:55:18.4, 3854N×2161E, h3km, ML3.6*
*NEIC **10** 12:55:18.0, 3852N×2162E, h9km, MD3.6(ATH), ML3.6(THE), After ATH.*

ISC 10 12:55:18.2±0.4, 3854N±002×2159E±003, h7km±4km, n40, σ1§22/50, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SELA	**Sela**	**0.35**	**138**	*e*Pg	**Pg**	**12 55 24.5**	**-0.5**
SELA				*e*Sg	**Sg**	**12 55 30.4**	**+0.7**
EVR	**Evrytania**	**0.41**	**24**	*e*PB	**Pg**	**12 55 25.9**	**-0.3**
EVR				*e*SB	**Sg**	**12 55 32.1**	**+0.5**
RLS	**Riolos of Patr**	**0.49**	**192**	*e*PN	**Pg**	**12 55 27.5**	**-0.2**
RLS				*e*SN	**Sg**	**12 55 36.1**	**+2.0**
RLS	**Riolos of Patr**	**0.49**	**192**	*e*Pb	**Pg**	**12 55 27.7**	**0.0**
AGG	**Agios Georgios**	**0.75**	**50**	*e*Pg	**Pg**	**12 55 31.8**	**-0.9**
AGG				*e*Sg	**Sg**	**12 55 42.7**	**+0.4**
LKD	**Levkas**	**0.76**	**283**	*e*Pg	**Pg**	**12 55 32.4**	**-0.3**
LKD				*e*Sg	**Sg**	**12 55 44.4**	**+1.9**
KFL	**Anninata**	**0.77**	**236**	*e*Pg	**Pg**	**12 55 32.4**	**-0.5**
VLS	**Valsamata**	**0.87**	**246**	*e*PN	**Pg**	**12 55 33.7**	**-1.1**
VLS	**Valsamata**	**0.87**	**246**	*e*Pb	**Pb**	**12 55 34.0**	**-1.5**
THL	**Klokotos Trika**	**1.07**	**18**	*e*PN	**Pn**	**12 55 38.3**	**-1.3**
THL				*e*SN	**Sn**	**12 55 52.5**	**-2.3**
THL	**Klokotos Trika**	**1.07**	**18**	*e*Pn	**Pn**	**12 55 38.7**	**-0.9**
THL				*e*Sb	**Sb**	**12 55 54.2**	**+0.9**
LKR	**Lokris**	**1.11**	**84**	*e*PN	**Pn**	**12 55 39.3**	**-0.8**
LKR	**Lokris**	**1.11**	**84**	*e*Pg	**Pg**	**12 55 38.0**	**-1.4**
LTK	**Loutraki**	**1.20**	**115**	*e*Pg	**Pg**	**12 55 41.3**	**+0.1**
LTK				*e*Sg	**Sg**	**12 55 58.9**	**+2.3**
JAN	**Janina**	**1.25**	**333**	*e*PN	**Pn**	**12 55 42.0**	**-0.1**
JAN	**Janina**	**1.25**	**333**	*e*Pb	**Pb**	**12 55 42.7**	**+0.6**
MEV	**Metsovon**	**1.27**	**347**	*e*Pg	**Pg**	**12 55 42.1**	**-0.5**
VLX	**Vlachokerasia**	**1.32**	**152**	*e*Pg	**Pg**	**12 55 43.1**	**-0.4**
ITM	**Ithomi**	**1.38**	**169**	*e*PN	**Pg**	**12 55 44.4**	**+0.6**
IGT	**Igoumenitsa**	**1.40**	**316**	*e*Pg	**Pg**	**12 55 44.0**	**-1.0**
IGT				*e*Sg	**Sg**	**12 56 05.6**	**+2.6**
NEO	**Neokhori**	**1.48**	**58**	*e*PN	**Pn**	**12 55 45.2**	**0.0**
PYL	**PYLOS**	**1.65**	**176**	*e*Pb	**Pb**	**12 55 47.6**	**-1.2**
DID	**Didima**	**1.66**	**128**	*e*Pb	**Pb**	**12 55 48.5**	**-0.5**
DID				*e*Sb	**Sb**	**12 56 10.2**	**+0.1**
NAIG	**Nisos Aigina**	**1.69**	**117**	*e*PN	**Pn**	**12 55 49.5**	**+1.5**
LIT	**Litokhoron**	**1.71**	**24**	*e*Pb	**Pb**	**12 55 49.0**	**-0.9**
ATH	**Athens Observa**	**1.77**	**108**	*e*PN	**Pn**	**12 55 50.0**	**+0.9**
KZN	**Kozani**	**1.77**	**4**	*e*PN	**Pn**	**12 55 49.1**	**-0.1**
KZN	**Kozani**	**1.77**	**4**	*e*Pn	**Pn**	**12 55 51.6**	**+2.4**
KEK	**Kerkira**	**1.82**	**311**	*e*PN	**Pn**	**12 55 49.5**	**-0.4**
KEK	**Kerkira**	**1.82**	**311**	*e*Pg	**Pg**	**12 55 52.3**	**-0.8**
PTL	**Penteli**	**1.85**	**105**	*e*PN	**Pn**	**12 55 51.0**	**+0.7**
AOS	**Alonnisos**	**1.89**	**70**	*e*Pb	**Pb**	**12 55 50.4**	**-2.6**
VLI	**Veliai**	**2.11**	**149**	*e*PB	**Pb**	**12 55 54.2**	**-2.5**
FNA	**Florina**	**2.25**	**356**	*e*Pn	**Pn**	**12 55 57.9**	**+2.2**
GRG	**Griva**	**2.49**	**14**	*e*Pn	**Pn**	**12 55 59.6**	**+0.5**
KYTH	**Kithira**	**2.53**	**153**	*e*PB	**Pb**	**12 56 01.0**	**-2.9**
KYTH	**Kithira**	**2.53**	**153**	*e*Pn	**Pn**	**12 56 02.0**	**+2.4**
SOH	**Sokhos**	**2.65**	**30**	*e*Pn	**Pn**	**12 56 02.5**	**+1.2**
KRUS	**Krusevo**	**2.84**	**355**	*i* Pn	**Pn**	**12 56 07.4**	**+3.6**
TIP	**Timpagrande**	**3.83**	**281**	*e*Pn	**Pn**	**12 56 17.3**	**-0.2**

*CSEM **10** 12:57:09.1, 6370N×2329W, h8km, ML3.7, After REY*

REY 10 12:57:09.1, 6370N×2329W, h8km, ML3.7, ML3.0, Iceland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
INYL	**Nylenda**	**0.37**	**41**	P	Pg	12 57 16.2	-0.1
INYL				S	Sg	12 57 21.5	+0.2
IGRV	**Grindav??k**	**0.41**	**66**	P	Pg	12 57 16.7	-0.3
IVOG	**Vogar**	**0.48**	**55**	P	Pg	12 57 18.0	-0.5
IVOG				S	Sg	12 57 24.9	+0.1
IKRI	**Krysuvik**	**0.57**	**71**	P	Pg	12 57 19.3	-0.8
IKRI				S	Sg	12 57 27.4	-0.1
IKAS	**Kald??rsel**	**0.72**	**62**	P	Pg	12 57 21.8	-1.1
IKAS				S	Sg	12 57 31.8	-0.4
IVOS	**Vogsosar**	**0.72**	**77**	P	Pg	12 57 21.8	-1.2
IVOS				S	Sg	12 57 31.7	-0.7
ISAN	**Sandskeio**	**0.84**	**64**	P	Pg	12 57 23.4	-1.9
ISAN				S	Sg	12 57 35.3	-1.0
IKUD	**Kuludalsa**	**0.89**	**44**	P	Pg	12 57 24.2	-1.9
IKUD				S	Sg	12 57 36.0	-1.6
IBJA	**Bjarnastaoir**	**0.92**	**73**	P	Pg	12 57 25.0	-1.7
IBJA				S	Sg	12 57 37.5	-1.1
IHEI	**Heioarbar**	**1.04**	**60**	P	Pg	12 57 26.4	-2.6
IHEI				S	Sg	12 57 41.2	-1.3
IKRO	**Krokur**	**1.04**	**66**	P	Pg	12 57 26.7	-2.4
IKRO				S	Sg	12 57 41.5	-1.1
ISOL	**Solvholt**	**1.07**	**76**	P	Pg	12 57 27.3	-2.3
ISOL				S	Sg	12 57 41.4	-2.0
IASM	**Asmuli**	**1.20**	**82**	P	Pb	12 57 29.4	-2.6
IASM				S	Sb	12 57 44.7	-2.9
ISAU	**Saurbar**	**1.31**	**76**	P	Pn	12 57 31.1	-2.5
ISAU				S	Sb	12 57 48.1	-2.7
IASB	**`sbjarnarst**	**1.36**	**38**	P	Pn	12 57 32.0	-2.3
IASB				S	Sb	12 57 49.7	-2.6
IGYG	**Gygjarholskot**	**1.48**	**65**	P	Pn	12 57 34.3	-1.6
IGYG				S	Sn	12 57 52.5	-2.9
IHAU	**Haukadalur**	**1.50**	**78**	P	Pn	12 57 33.4	-2.8
IHAU				S	Sn	12 57 54.1	-1.8
IMID	**Miomork**	**1.52**	**90**	P	Pn	12 57 33.0	-3.5
IMID				S	Sn	12 57 54.7	-1.7
IHVO	**Lagu-Hvolar**	**1.99**	**93**	P	Pn	12 57 42.3	-0.7
IVAT	**Vatnsfell**	**1.99**	**74**	P	Pn	12 57 41.4	-1.6
IVAT				S	Sn	12 58 08.3	+0.2
IKAL	**Kalfafell**	**2.50**	**82**	P	Pn	12 57 48.9	-1.0

IDC 10 13:16:46.7±3.2, 2058S×17824W, h561km±42km, mb3.2/7, mb1 3.5/7, mb1mx3.2/16, mbtmp3.2/7, Error ellipse: s-maj=56.6km s-min=17.4km az=166.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**8.64**	**178**	P	P	13 18 50.2	-0.7
	114nm,0.3s,baz=359,slow=9.8,SNR=4.3						
CTA	**Charters Tower**	**33.25**	**265**	P	P	13 22 38.5	+0.1
	3.2nm,0.4s,baz=108,slow=16,SNR=5.7						
ASAR	**Alice Springs**	**44.28**	**257**	P	P	13 24 07.4	+0.1
	2.1nm,0.4s,baz=89,slow=8.2,SNR=102						
ASAR				PcP	PcP	13 25 39.7	+0.4
	0.4nm,0.5s,baz=96,slow=4.0,SNR=6.0						
WRA	**Warramunga Arr**	**44.36**	**262**	P	P	13 24 07.7	-0.3
	1.0nm,0.3s,baz=96,slow=7.5,SNR=102						
WRA				PcP	PcP	13 25 40.1	+0.4
	0.2nm,0.8s,baz=103,slow=3.6,SNR=3.4						
NVAR	**Mina Array Bea**	**81.24**	**43**	P	P	13 28 05.5	+1.0
	0.7nm,0.7s,baz=206,slow=7.8,SNR=6.5						
TXAR	**Lajitas Array**	**87.29**	**57**	P	P	13 28 35.6	+1.2
	0.9nm,0.8s,baz=230,slow=7.8,SNR=8.0						
PDAR	**Pinedale Array**	**89.17**	**43**	P	P	13 28 43.2	+0.3
	0.5nm,0.6s,baz=242,slow=3.2,SNR=4.9						
INK	**Inuvik**	**94.41**	**15**	P	P	13 29 05.2	-1.2
	0.8nm,1.1s,baz=222,slow=4.7,SNR=2.7						
SCHQ	**Schefferville**	**118.88**	**38**	PKP	PKPdf	13 34 30.2	-1.2
	2.8nm,0.8s,baz=277,slow=1.9,SNR=3.0						
AKASG	**Malin Array Be**	**142.97**	**331**	PKP	PKPdf	13 35 13.6	-3.1
	1.7nm,0.5s,baz=43,slow=4.2,SNR=20						
GERES	**GERESS Array B**	**150.21**	**344**	PKPbc	PKPbc	13 35 34.7	+0.1
	0.4nm,0.2s,baz=18,slow=2.5,SNR=3.6						

*IDC **10** 13:22:08.5±1.1, 878S×157.47E, h0km, mb4.0/6, mb1 4.1/7, mb1mx3.9/15, mbtmp4.0/7, ML3.8/1, MS2.2/1, Ms1 2.2/1, ms1mx2.0/28, Error ellipse: s-maj=28.2km s-min=24.3km az=114.0*
*ISCJB **10** 13:22:09.8±0.8, 87S±0.1×15721E±007, h10km, mb3.8/6, Error ellipse: s-maj=19.5km s-min=9.0km az=9.6*

ISC 10 13:22:11.3±0.8, 87S±01×15726E±007, h10km, n11, σ0§82/10, mb3.8/6, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.74**	**105**	Pn	**Pn**	**13 22 50.5**	**-4.8**
	21nm,0.3s,baz=260,slow=7.0,SNR=30						
HNR				Sn	**Sb**	**13 23 33.9**	**-0.1**
	59nm,0.3s,baz=279,slow=21,SNR=11						
WB2	**Warramunga Arr**	**24.80**	**241**	*e*P	**P**	**13 27 33.5**	**-0.1**
WRA	**Warramunga Arr**	**24.81**	**241**	P	**P**	**13 27 33.0**	**-0.7**
	3.3nm,0.8s,mb3.9,baz=68,slow=10,SNR=12						
ASAR	**Alice Springs**	**26.83**	**234**	P	**P**	**13 27 51.5**	**-0.5**
	1.5nm,1.1s,mb3.5,baz=58,slow=10,SNR=5.9						
STKA	**Stephens Creek**	**27.24**	**210**	*e*P	**P**	**13 27 58.2**	**+2.6**
	4.4nm,0.8s,mb4.0						
STKA	**Stephens Creek**	**27.24**	**210**	P	**P**	**13 27 56.6**	**+1.0**
	5.2nm,0.7s,mb4.2,baz=31,slow=12,SNR=14						
RAR	**Rarotonga**	**43.18**	**112**	LR	LR	13 45 13.9	
	comp=Z,2.8nm,20.0s,baz=22,slow=32						
KSRS	**Korea Array**	**53.53**	**331**	P	**P**	**13 31 33.4**	**+1.1**
	1.9nm,0.9s,mb4.0,baz=153,slow=9.5,SNR=6.6						
SONM	**Songino Array**	**72.01**	**327**	P	**P**	**13 33 34.6**	**-0.6**
	1.0nm,1.1s,mb3.6,baz=141,slow=5.0,SNR=4.9						
MKAR	**Makanchi Array**	**86.19**	**318**	P	**P**	**13 34 52.6**	**-0.3**
	0.5nm,0.6s,mb3.9,baz=98,slow=5.5,SNR=3.8						
BDFB	**Brasilia**	**145.16**	**134**	PKP	PKPdf	13 41 47.7	-2.5
	1.5nm,0.4s,baz=256,slow=10,SNR=3.1

comp=E,4.3nm,1.1s,baz=34,slow=11,SNR=2.6
SONM Songino Array 30.88 291 P **P** **13 35 32.3 +1.5**
comp=E,0.5nm,0.8s,mb3.4,baz=86,slow=7.6,SNR=4.4
KDAK Kodiak Island 35.59 49 P **P** **13 36 11.0 -0.7**
comp=E,5.8nm,1.1s,mb4.4,baz=304,slow=3.6,SNR=2.7
INK Inuvik 43.17 32 P **P** **13 37 14.9 +0.2**
comp=E,0.4nm,0.8s,mb3.2,baz=188,slow=3.0,SNR=5.9
MKAR Makanchi Array 46.68 298 P **P** **13 37 43.2 +0.3**
comp=E,0.2nm,0.3s,mb3.6,baz=60,slow=9.0,SNR=2.5
YKA Yellowknife Ar 52.45 36 P **P** **13 38 24.4 -2.2**
YKA Yellowknife Ar 52.45 36 P **P** **13 38 24.4 -2.2**
comp=E,0.3nm,0.6s,mb3.4,baz=283,slow=3.5,SNR=7.0
ARCES ARCESS Array B 58.69 341 P **P** **13 39 10.7 -0.7**
comp=E,1.2nm,0.7s,mb4.1,baz=50,slow=7.1,SNR=7.7
KAF Kangasniemi 64.15 335 *ep* **P** **13 39 46.4 -1.9**
FINES FINESS Array B 64.74 334 P **P** **13 39 51.9 -0.3**
comp=E,1.8nm,0.4s,mb4.4,baz=42,slow=8.0,SNR=18
PDAR Pinedale Array 66.22 53 P **P** **13 40 03.1 +1.1**
comp=E,0.2nm,0.4s,mb3.5,baz=302,slow=1.7,SNR=2.5
WRA Warramunga Arr 67.07 198 P **P** **13 40 07.8 +0.3**
comp=E,0.3nm,0.8s,mb3.4,baz=16,slow=6.4,SNR=3.6
ULM Lac du Bonnet 68.05 40 P **P** **13 40 08.0 -5.6**
comp=E,0.7nm,0.4s,mb4.1,baz=238,slow=9.5,SNR=4.1
NOA NORSAR Array B 69.07 341 P **P** **13 40 20.1 +0.4**
comp=E,0.8nm,0.6s,mb3.9,baz=28,slow=6.4,SNR=3.4
ASAR Alice Springs 70.77 197 P **P** **13 40 30.4 -0.1**
comp=E,0.2nm,0.9s,mb3.0,baz=7.8,slow=6.2,SNR=3.1
AKASG Malin Array Be 72.03 326 P **P** **13 40 37.5 -0.4**
comp=E,0.4nm,0.3s,mb3.8,baz=39,slow=6.2,SNR=4.0
TXAR Lajitas Array 78.90 59 P **P** **13 41 17.9 +0.1**
comp=E,0.2nm,0.5s,mb3.3,baz=314,slow=5.6,SNR=3.6
GERES GERESS Array B 79.13 333 P **P** **13 41 18.8 +0.2**
comp=E,0.2nm,0.3s,mb3.5,baz=32,slow=5.9,SNR=2.2
RAO Raoul Island 79.37 153 P **P** **13 41 22.3 +2.4**
comp=E,377nm,0.3s,baz=182,slow=21,SNR=6.3
ASF Jabal al Asfar 82.75 309 LR LR 14 19 15.5
comp=E,199nm,21.4s,baz=205,slow=36

*BJI **10** 13:30:09.8, 806S×15786E, h4km, mB5.2, mb4.4*
*IDC **10** 13:30:09.0±0.7, 865S×15747E, h0km, mb4.1/12, mb1 4.2/13, mb1mx4.1/17, mbtmp4.1/13, ML3.6/1, MS3.6/3, Ms1 3.5/3, ms1mx3.0/24, Error ellipse: s-maj=19.6km s-min=18.5km az=141.0*
*NEIC **10** 13:30:10.5±0.6, 867S×15747E, h10km, mb4.4/1, Error ellipse: s-maj=19.5km s-min=14.4km az=166.0*
*ISCJB **10** 13:30:12.8±0.5, 875S±009×15745E±006, h33km, mb4.1/16, MS3.4/2, Error ellipse: s-maj=13.6km s-min=7.9km az=12.9*
ISC 10 13:30:14.8±0.5, 875S±009×15748E±006, h35km, (h12km±5.2km: pP-P), n24, σ1 22/23, mb4.1/16, MS3.4/2, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.53**	**106**	Pn	**Pn**	**13 30 52.0**	**-1.4**
	12nm,0.3s,baz=268,slow=6.8,SNR=8.1						
HNR				Sn	**Sn**	**13 31 23.4**	**+0.4**
	52nm,0.3s,baz=270,slow=19,SNR=5.5						
CTA	**Charters Tower**	**15.65**	**223**	LR	LR	13 39 16.8	
	comp=Z,207nm,18.6s,baz=48,slow=35						
WB2	**Warramunga Arr**	**24.98**	**241**	*e*P	**P**	**13 35 34.1**	**-1.2**
WRA	**Warramunga Arr**	**24.99**	**241**	P	**P**	**13 35 33.8**	**-1.6**
	7.2nm,0.9s,mb4.2,baz=66,slow=9.3,SNR=19						
WRA				LR	LR	13 45 05.1	
	comp=Z,170nm,18.7s,MS3.6,baz=75,slow=36						
ASAR	**Alice Springs**	**27.00**	**234**	P	**P**	**13 35 51.4**	**-2.1**
	1.0nm,0.9s,mb3.3,baz=68,slow=8.5,SNR=7.7						
STKA	**Stephens Creek**	**27.34**	**210**	*e*P	**P**	**13 35 58.3**	**+1.8**
	5.7nm,0.7s,mb4.2						
STKA	**Stephens Creek**	**27.34**	**210**	P	**P**	**13 35 58.0**	**+1.4**
	6.7nm,0.7s,mb4.3,baz=29,slow=12,SNR=20						
STKA				LR	LR	13 45 54.9	
	comp=Z,80nm,21.0s,MS3.3,baz=23,slow=34						
FITZ	**Fitzroy Crossi**	**32.29**	**250**	P	**P**	**13 36 41.2**	**+0.7**
	3.2nm,1.1s,mb4.1,baz=76,slow=8.8,SNR=2.2						
KSRS	**Korea Array**	**53.64**	**331**	P	**P**	**13 39 31.2**	**-1.6**
	1.5nm,0.9s,mb3.9,baz=152,slow=6.7,SNR=6.6						
XAN	**Xi'an**	**62.67**	**316**	P	**P**	**13 40 36.9**	**+0.8**
XAN				AP	pP	13 40 43.6	-3.2
XAN				AMB	AMB		
	comp=Z,4.0nm,1.1s,mb4.5						
KMI	**Kunming**	**63.03**	**304**	P	**P**	**13 40 41.0**	**+2.3**
KMI				AMB	AMB		
	comp=Z,5.0nm,1.0s,mb4.6						
LZH	**Lanzhou**	**67.28**	**315**	*e*P	**P**	**13 41 07.4**	**+1.3**
LZH				AP	pP	13 41 11.1	-5.8
LZH				XP	sP	13 41 13.0	-8.0
LZH				AMB	AMB		
	comp=Z,29nm,1.2s,mb5.2						
LZH				AMB	AMB		
	comp=Z,120nm,4.0s						
VNDA	**Vanda**	**68.79**	**179**	P	**P**	**13 41 16.2**	**+1.3**
VNDA	**Vanda**	**68.79**	**179**	P	**P**	**13 41 16.2**	**+1.3**
	comp=Z,1.0nm,0.8s,mb3.8,baz=331,slow=6.8,SNR=4.8						
GTA	**Gaotai**	**71.69**	**316**	*e*P	**P**	**13 41 33.5**	**+0.2**
GTA				AP	pP	13 41 37.9	-6.2
GTA				XP	sP	13 41 41.1	-7.1
GTA				AMB	AMB		
	comp=Z,5.0nm,1.6s,mb4.2						
SONM	**Songino Array**	**72.14**	**327**	P	**P**	**13 41 35.9**	**+0.2**
	comp=Z,1.1nm,1.0s,mb3.7,baz=129,slow=4.6,SNR=7.1						
QSPA	**South Pole Qui**	**81.24**	**180**	P	**P**	**13 42 27.4**	**+0.7**
	comp=Z,3.1nm,1.0s,mb4.2,baz=23,slow=1.9,SNR=3.6						
MKAR	**Makanchi Array**	**86.34**	**318**	P	**P**	**13 42 53.3**	**0.0**
	comp=Z,1.0nm,0.5s,mb4.3,baz=100,slow=6.0,SNR=9.0						
ZALV	**Zalesovo Beam**	**87.00**	**326**	P	**P**	**13 42 55.3**	**-1.0**
	comp=Z,0.3nm,0.4s,mb3.9,baz=93,slow=5.8,SNR=3.7						
NVAR	**Mina Array Bea**	**90.87**	**51**	P	**P**	**13 43 15.8**	**+0.8**
NVAR	**Mina Array Bea**	**90.87**	**51**	P	**P**	**13 43 15.8**	**+0.8**
	comp=Z,0.1nm,0.3s,mb3.6,baz=242,slow=7.8,SNR=3.5						
YKA	**Yellowknife Ar**	**96.72**	**28**	P	**P**	**13 43 40.0**	**-1.3**
YKA	**Yellowknife Ar**	**96.72**	**28**	P	**P**	**13 43 40.0**	**-1.3**
	comp=Z,0.1nm,0.5s,mb3.5,baz=252,slow=4.7,SNR=5.0						
BDFB	**Brasilia**	**145.00**	**134**	PKPbc	PKPbc	13 49 46.4	-2.3
	comp=Z,3.3nm,0.7s,baz=225,slow=3.4,SNR=4.7						

NNC 10 13:30:26.8±1.0, 3698N×7045E, h225km±17km, mb2.5, mpv3.6, 2C-2D, Error ellipse: s-maj=11.4km s-min=6.1km az=7.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.12**	**0**	⇑P	Pn	13 31 55.8	0.0
	0.5nm,0.2s,baz=169,slow=11,SNR=35						
KK31				⇓S	S	13 33 07.4	+0.6
	14nm,0.5s,baz=187,slow=24						
TKM2	**Tokmak 2**	**7.13**	**32**	⇑P	Pn	13 32 09.1	+0.3
	5.7nm,0.5s						
TKM2				⇓S	S	13 33 31.1	+0.8
	5.7nm,0.8s						
AB31	**Akbulak array**	**14.45**	**331**	P	Pn	13 33 41.2	0.0
	0.9nm,0.9s,baz=145,slow=13,SNR=3.6						

*ATH **10** 13:30:52.9, 3852N×2168E, h35km±5km, MD2.8/4*
*NEIC **10** 13:30:52.9, 3852N×2168E, h35km, MD2.8(ATH), ML2.7(THE), After ATH.*
*CSEM **10** 13:30:54.1±0.2, 3851N×2163E, h25km, ML2.7, Error ellipse: s-maj=5.9km s-min=4.1km az=133.0*
THE 10 13:30:54.2, 3849N×2160E, h2km, ML2.7, 1C, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SELA	**Sela**	**0.32**	**133**	*e*Pg	Pg	13 31 00.5	+0.2
SELA				*e*Sg	Sg	13 31 04.9	+0.5
RLS	**Riolos of Patr**	**0.45**	**193**	*e*PB	Pg	13 31 04.0	+1.2
RLS				*e*SB	Sg	13 31 11.6	+3.0
EVR	**Evrytania**	**0.45**	**21**	⇑/PB	Pg	13 31 02.7	-0.2
EVR				*e*SB	Sg	13 31 09.7	+0.9
KFL	**Anninata**	**0.74**	**239**	*e*Pg	Pg	13 31 07.9	-0.5
LKD	**Levkas**	**0.77**	**286**	*e*Pg	Pg	13 31 08.8	-0.2
LKD				*e*Sg	Sg	13 31 20.0	+0.9
AGG	**Agios Georgios**	**0.78**	**47**	*e*Pg	Pg	13 31 08.8	-0.3
AGG				*e*Sg	Sg	13 31 20.0	+0.8
VLS	**Valsamata**	**0.85**	**249**	*e*PB	Pb	13 31 10.0	-1.7
VLS				*e*SN	Sg	13 31 24.5	+2.9
THL	**Klokotos Trika**	**1.12**	**17**	*e*PN	Pn	13 31 13.2	-3.6

*ISCJB **10** 13:44:49.9±5.4, 199S±02×1779W±02, h442km±55km, mb3.9/11, Error ellipse: s-maj=33.7km s-min=19.6km az=141.7*
*IDC **10** 13:44:50.4±6.6, 1984S×17784W, h436km±72km, mb3.5/10, mb1 3.5/11, mb1mx3.4/19, mbtmp3.4/11, Error ellipse: s-maj=31.0km s-min=16.8km az=58.0*
ISC 10 13:44:47.8±4.4, 199S±02×1778W±02, h408km±46km, n18, σ0 81/18, mb3.9/11, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**18.87**	**192**	P	**P**	**13 48 40.1**	**-0.9**
	0.4nm,0.3s,baz=350,slow=7.9,SNR=3.3						
HNR	**Honiara**	**23.86**	**293**	P	**P**	**13 49 28.9**	**+2.0**
	14nm,0.3s,mb4.8,baz=146,slow=3.6,SNR=2.4						
CTA	**Charters Tower**	**33.75**	**263**	*e*P	**P**	**13 50 54.0**	**+0.5**
	8.9nm,0.4s,mb4.5						
CTA	**Charters Tower**	**33.75**	**263**	P	**P**	**13 50 54.2**	**+0.7**
	15nm,0.6s,mb4.5,baz=99,slow=10,SNR=16						
STKA	**Stephens Creek**	**38.24**	**243**	*e*P	**P**	**13 51 31.1**	**+0.1**
	3.8nm,0.9s,mb3.7						
STKA	**Stephens Creek**	**38.24**	**243**	P	**P**	**13 51 30.2**	**-0.8**
	4.3nm,0.8s,mb3.9,baz=96,slow=8.2,SNR=9.1						
ASAR	**Alice Springs**	**44.86**	**256**	P	**P**	**13 52 23.7**	**-0.3**
	6.0nm,0.6s,mb4.1,baz=96,slow=8.4,SNR=149						
WB2	**Warramunga Arr**	**44.87**	**261**	*e*P	**P**	**13 52 23.4**	**-0.7**
WRA	**Warramunga Arr**	**44.88**	**261**	P	**P**	**13 52 23.7**	**-0.6**
	1.4nm,0.5s,mb3.6,baz=96,slow=8.6,SNR=36						
FORT	**Forrest**	**49.73**	**246**	*e*P	**P**	**13 53 00.4**	**-0.5**
	8.3nm,0.5s,mb4.3						
FITZ	**Fitzroy Crossi**	**53.31**	**262**	*e*P	**P**	**13 53 27.1**	**-0.1**
	8.4nm,1.2s,mb3.9						
FITZ	**Fitzroy Crossi**	**53.31**	**262**	P	**P**	**13 53 27.2**	**0.0**
	0.7nm,0.5s,mb3.1,baz=104,slow=7.2,SNR=3.4						
VNDA	**Vanda**	**58.57**	**185**	P	**P**	**13 54 03.9**	**+0.9**
	0.7nm,0.8s,mb3.1,baz=356,slow=7.5,SNR=4.1						
QSPA	**South Pole Qui**	**70.21**	**180**	P	**P**	**13 55 18.9**	**+1.4**
	3.0nm,0.9s,mb3.8,baz=42,slow=0.8,SNR=7.7						
KSRS	**Korea Array**	**76.53**	**318**	P	**P**	**13 55 53.5**	**-1.0**
	2.0nm,0.3s,mb4.2,baz=94,slow=31,SNR=7.9						
TXAR	**Lajitas Array**	**86.55**	**57**	P	**P**	**13 56 46.0**	**-0.4**
	0.2nm,0.8s,mb2.9,baz=199,slow=4.5,SNR=3.1						
VNA3	**Neumayer Olymp**	**88.77**	**176**	*e*	**P**	**13 56 56.2**	**0.0**
VNA3				*e*		13 56 58.0	
VNA2	**Neumayer--Watz**	**89.22**	**177**	*e*	**P**	**13 56 58.0**	**-0.3**
	baz=184,slow=5.3						
VNA2				*e*		13 56 59.5	
VNA2				*e*		13 57 04.5	

*ISCJB **10** 13:46:56.9±0.5, 3860N±002×2160E±003, h2km±5km, Error ellipse: s-maj=3.8km s-min=3.3km az=147.8*
*CSEM **10** 13:46:57.6±0.1, 3855N×2160E, h8km, MD3.5, Error ellipse: s-maj=1.5km s-min=1.2km az=58.0*
*THE **10** 13:46:57.8, 3858N×2160E, h3km, ML3.2*
*ATH **10** 13:46:57.1, 3860N×2154E, h5km, MD3.5/6*
*NEIC **10** 13:46:58.0, 3863N×2153E, h14km, MD3.5(ATH), ML3.2(THE), After ATH.*
ISC 10 13:46:57.7±0.4, 3859N±002×2159E±003, h10km±5km, n25, σ1 10/38, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EVR	**Evrytania**	**0.37**	**27**	*e*PB	**Pg**	**13 47 05.0**	**0.0**
EVR				*e*SB	**Sg**	**13 47 11.0**	**+1.0**
SELA	**Sela**	**0.39**	**142**	*e*Pg	**Pg**	**13 47 04.6**	**-0.8**
SELA				*e*Sg	**Sg**	**13 47 10.1**	**-0.5**
RLS	**Riolos of Patr**	**0.54**	**190**	*e*PG	**Pg**	**13 47 07.6**	**-0.6**
RLS				*e*SB	**Sg**	**13 47 15.5**	**+0.3**
AGG	**Agios Georgios**	**0.72**	**53**	*e*Pg	**Pg**	**13 47 10.9**	**-0.8**
AGG				*e*Sg	**Sg**	**13 47 22.5**	**+1.4**
AGG	**Agios Georgios**	**0.72**	**53**	*e*Pg	**Pg**	**13 47 10.9**	**-0.8**
AGG				*e*Sg	**Sg**	**13 47 22.5**	**+1.3**
LKD	**Levkas**	**0.74**	**280**	*e*Pg	**Pg**	**13 47 12.0**	**-0.1**
LKD				*e*Sg	**Sg**	**13 47 23.9**	**+2.0**
KFL	**Anninata**	**0.79**	**233**	*e*Pg	**Pg**	**13 47 11.9**	**-1.0**
VLS	**Valsamata**	**0.89**	**243**	*e*Pb	**Pb**	**13 47 13.7**	**-1.5**
VLS				*e*Sg	**Sg**	**13 47 27.7**	**+1.4**
LKR	**Lokris**	**1.11**	**86**	*e*PG	**Pg**	**13 47 18.1**	**-0.9**
LKR				*e*SB	**Sb**	**13 47 34.0**	**+0.6**
JAN	**Janina**	**1.21**	**332**	*e*PB	**Pb**	**13 47 20.0**	**-0.8**
JAN				*e*SB	**Sb**	**13 47 35.9**	**-0.6**
LTK	**Loutraki**	**1.22**	**117**	*e*Pg	**Pg**	**13 47 20.9**	**-0.3**
LTK				*e*Sg	**Sg**	**13 47 39.1**	**+2.1**
MEV	**Metsovon**	**1.23**	**347**	*e*Pg	**Pg**	**13 47 20.6**	**-0.7**
IGT	**Igoumenitsa**	**1.36**	**314**	*e*Pg	**Pg**	**13 47 23.7**	**-0.1**
IGT				*e*Sg	**Sg**	**13 47 43.0**	**+1.5**
VLX	**Vlachokerasia**	**1.37**	**153**	*e*Pg	**Pg**	**13 47 22.5**	**-1.4**
VLX				*e*Sg	**Sg**	**13 47 42.4**	**+0.7**
ITM	**Ithomi**	**1.43**	**169**	*e*PB	**Pb**	**13 47 25.5**	**+1.0**
LIT	**Litokhoron**	**1.67**	**25**	*e*Pb	**Pb**	**13 47 27.8**	**-0.7**
DID	**Didima**	**1.69**	**129**	*e*Pb	**Pb**	**13 47 28.4**	**-0.5**
PYL	**PYLOS**	**1.69**	**176**	*e*Pb	**Pb**	**13 47 28.4**	**-0.6**
PYL				*e*Sb	**Sb**	**13 47 51.3**	**+1.0**
KEK	**Kerkira**	**1.79**	**309**	*e*PG	**Pg**	**13 47 29.3**	**-2.7**
AOS	**Alonnisos**	**1.88**	**71**	*e*Pb	**Pb**	**13 47 29.9**	**-2.2**
VLI	**Veliai**	**2.15**	**150**	*e*PN	**Pn**	**13 47 37.2**	**+3.5**
PLG	**Polygyros**	**2.29**	**38**	*e*Pn	**Pn**	**13 47 36.7**	**+1.1**
GRG	**Griva**	**2.45**	**15**	*e*Pn	**Pn**	**13 47 39.0**	**+1.2**
OUR	**Ouranopolis**	**2.54**	**46**	*e*Pn	**Pn**	**13 47 39.2**	**+0.2**
OUR	**Ouranopolis**	**2.54**	**46**	*e*Pn	**Pn**	**13 47 39.2**	**+0.1**

*ISCJB **10** 13:51:00.3±0.4, 3854N±001×2158E±002, h8km±3km, mb3.9/14, Error ellipse: s-maj=2.8km s-min=2.2km az=136.5*
*PDG **10** 13:51:00.0±0.4, 3853N×2144E, h0km±11km, ML3.8/10, Error ellipse: s-maj=14.1km s-min=2.5km az=90.0*
*NEIC **10** 13:51:00.8, 3854N×2158E, h15km, ML4.3(THE), ML3.7(ATH), ML3.8(PDG), After ATH.*
*IDC **10** 13:51:00.3±0.9, 3862N×2156E, h0km, mb3.9/12, mb1 4.0/15, mb1mx3.9/25, mbtmp3.9/15, ML4.0/3, MS2.7/2, Ms1 2.7/2, ms1mx2.3/40, Error ellipse: s-maj=20.3km s-min=13.9km az=130.0*
*CSEM **10** 13:51:01.6±0.1, 3858N×2164E, h5km, ML4.2, Error ellipse: s-maj=1.6km s-min=1.1km az=63.0*
*ATH **10** 13:51:01.0, 3855N×2159E, h16km±1km, MD3.9/16, ML3.7*
*THE **10** 13:51:01.0, 3856N×2161E, h3km, ML4.2*
ISC 10 13:51:01.4±0.4, 3854N±001×2162E±002, h4km±3km, n145, σ1 20/185, mb3.9/14, 8C-17D, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SELA	**Sela**	**0.34**	**140**	*e*Pg	**Pg**	**13 51 08.3**	**+0.4**
SELA				*e*Sg	**Sg**	**13 51 13.3**	**+1.0**
EVR	**Evrytania**	**0.41**	**21**	*e*PB	**Pg**	**13 51 08.7**	**-0.5**
EVR				*e*SB	**Sg**	**13 51 15.6**	**+1.1**
RLS	**Riolos of Patr**	**0.49**	**194**	*e*PN	**Pg**	**13 51 10.7**	**-0.1**
RLS				*e*SN	**Sg**	**13 51 18.8**	**+1.6**
AGG	**Agios Georgios**	**0.74**	**49**	*e*Pg	**Pg**	**13 51 14.6**	**-1.0**
AGG				*e*Sg	**Sg**	**13 51 25.8**	**+0.7**
LKD	**Levkas**	**0.78**	**283**	*e*Pg	**Pg**	**13 51 15.5**	**-0.8**
LKD				*e*Sg	**Sg**	**13 51 26.2**	**-0.1**
KFL	**Anninata**	**0.78**	**237**	*e*Pg	**Pg**	**13 51 15.2**	**-1.1**
VLS	**Valsamata**	**0.89**	**246**	⇑/PB	**Pb**	**13 51 17.0**	**-2.3**
VLS				*e*SN	**Sn**	**13 51 30.1**	**-3.7**
VLS	**Valsamata**	**0.89**	**246**	*e*Pn	**Pb**	**13 51 17.0**	**-2.3**
THL	**Klokotos Trika**	**1.07**	**17**	*e*Pb	**Pb**	**13 51 20.2**	**-2.3**
THL				*e*Sn	**Sn**	**13 51 36.0**	**-2.5**
LKR	**Lokris**	**1.09**	**84**	*e*PB	**Pb**	**13 51 21.0**	**-1.7**
LKR				*e*SN	**Sn**	**13 51 38.0**	**-0.8**
LTK	**Loutraki**	**1.18**	**115**	*e*Pg	**Pg**	**13 51 23.8**	**-0.1**
LTK				*e*Sg	**Sg**	**13 51 40.2**	**+1.0**
JAN	**Janina**	**1.27**	**332**	*e*PN	**Pn**	**13 51 24.7**	**-1.1**
JAN				*e*SN	**Sn**	**13 51 41.5**	**-1.8**
MEV	**Metsovon**	**1.28**	**346**	*e*Pg	**Pg**	**13 51 24.2**	**-1.8**
MEV				*e*Sg	**Sg**	**13 51 43.7**	**+1.1**
VLX	**Vlachokerasia**	**1.31**	**152**	*e*Pg	**Pg**	**13 51 25.4**	**-1.1**
VLX				*e*Sg	**Sg**	**13 51 45.4**	**+2.0**
ITM	**Ithomi**	**1.38**	**170**	*e*PN	**Pn**	**13 51 27.6**	**+0.3**
IGT	**Igoumenitsa**	**1.41**	**315**	*e*Pg	**Pg**	**13 51 26.9**	**-1.5**
IGT				*e*Sg	**Sg**	**13 51 47.8**	**+1.1**
NEO	**Neokhori**	**1.47**	**58**	*e*PN	**Pn**	**13 51 28.3**	**-0.3**
NEO				*e*SN	**Sn**	**13 51 49.5**	**+1.2**
DID	**Didima**	**1.64**	**128**	*e*Pb	**Pb**	**13 51 31.2**	**-0.9**
DID				*e*Sb	**Sb**	**13 51 54.2**	**+1.0**
PYL	**PYLOS**	**1.64**	**177**	*e*Pb	**Pb**	**13 51 31.4**	**-0.7**
PYL				*e*Sb	**Sb**	**13 51 52.6**	**-0.5**
NAIG	**Nisos Aigina**	**1.67**	**117**	*e*PN	**Pn**	**13 51 31.8**	**+0.5**
LIT	**Litokhoron**	**1.70**	**23**	*e*Pb	**Pb**	**13 51 31.0**	**-2.2**
LIT				*e*Sb	**Sb**	**13 51 54.0**	**-0.9**
LIT	**Litokhoron**	**1.70**	**23**	*e*Pb	**Pb**	**13 51 31.0**	**-2.2**
LIT				*e*Sb	**Sb**	**13 51 54.0**	**-0.9**
ATH	**Athens Observa**	**1.75**	**108**	*e*PN	**Pn**	**13 51 32.8**	**+0.4**
KZN	**Kozani**	**1.77**	**4**	*e*PN	**Pn**	**13 51 33.5**	**+0.7**
PTL	**Penteli**	**1.83**	**105**	*e*PB	**Pb**	**13 51 33.5**	**-1.9**
KVR	**Kavouri**	**1.84**	**112**	*e*PN	**Pn**	**13 51 33.8**	**+0.1**
SRN	**Sarande**	**1.84**	**317**	*e*PN	**Pn**	**13 51 34.4**	**+0.7**
SRN				*i* SN	**Sn**	**13 52 04.3**	**+6.9**
KEK	**Kerkira**	**1.84**	**310**	*e*PN	**Pn**	**13 51 33.9**	**+0.2**
AOS	**Alonnisos**	**1.88**	**70**	*e*Pb	**Pb**	**13 51 33.4**	**-2.7**
VLI	**Veliai**	**2.10**	**150**	*e*PN	**Pn**	**13 51 38.6**	**+1.4**
PAIG	**Paliouri**	**2.12**	**48**	*e*Pn	**Pn**	**13 51 36.2**	**-1.3**
KBN	**Korca**	**2.18**	**343**	*e*PN	**Pn**	**13 51 41.4**	**+3.0**
KBN				*i* SN	**Sn**	**13 52 13.8**	**+8.0**
PLG	**Polygyros**	**2.32**	**37**	*e*Pn	**Pn**	**13 51 39.3**	**-1.0**
PLG	**Polygyros**	**2.32**	**37**	*e*Pb	**Pb**	**13 51 39.6**	**-4.1**
THE	**Thessaloniki**	**2.34**	**26**	*e*Pn	**Pn**	**13 51 39.3**	**-1.2**
HORT	**Hortiatis**	**2.35**	**29**	*e*Pn	**Pn**	**13 51 39.8**	**-1.0**
BIA	**Bitola**	**2.49**	**355**	*e*Pn	**Pn**	**13 51 42.1**	**-0.5**
BIA	**Bitola**	**2.49**	**355**	*i* Pn	**Pn**	**13 51 44.1**	**+1.5**
GRG	**Griva**	**2.49**	**14**	*e*Pn	**Pn**	**13 51 42.1**	**-0.5**
KYTH	**Kithira**	**2.52**	**153**	*e*PB	**Pb**	**13 51 45.0**	**-2.1**
SOH	**Sokhos**	**2.65**	**30**	*e*Pn	**Pn**	**13 51 44.5**	**-0.3**
SOH				*e*Sn	**Sn**	**13 52 17.2**	**-0.1**
OHR	**Ohrid**	**2.65**	**346**	*i* Pn	**Pn**	**13 51 46.5**	**+1.7**
OHR	**Ohrid**	**2.65**	**346**	*i* Pn	**Pn**	**13 51 46.4**	**+1.6**
KNT	**Kendrikon**	**2.80**	**20**	*e*Pn	**Pn**	**13 51 47.1**	**+0.2**
KRUS	**Krusevo**	**2.84**	**354**	*i* Pn	**Pn**	**13 51 49.9**	**+2.4**
VAY	**Valandovo**	**2.88**	**14**	*e*Pn	**Pn**	**13 51 47.3**	**-0.6**
VAY	**Valandovo**	**2.88**	**14**	*i* Pn	**Pn**	**13 51 47.3**	**-0.7**
LOS	**Limnos**	**3.03**	**61**	*e*Pn	**Pn**	**13 51 49.1**	**-0.9**
LIA	**Limnos Island**	**3.08**	**63**	P	**Pn**	**13 51 56.9**	**+6.1**
TIR	**Tirane**	**3.11**	**335**	*e*PN	**Pg**	**13 52 00.5**	**-0.5**
TIR				*i* SN	**Sg**	**13 52 48.4**	**+7.0**
STIP	**Stip**	**3.18**	**8**	*i* Pn	**Pn**	**13 51 53.2**	**+1.0**
STIP	**Stip**	**3.18**	**8**	*i* Pn	**Pn**	**13 51 53.1**	**+0.9**
QSH	**Qafa e Shtames**	**3.26**	**337**	*e*PN	**Pn**	**13 51 51.8**	**-1.4**
QSH				*i* SN	**Sn**	**13 52 36.0**	**+3.6**
NVR	**Nevrokopi**	**3.30**	**31**	*e*PN	**Pn**	**13 51 54.9**	**+1.2**
APE	**Apeiranthos**	**3.43**	**114**	*e*Pn	**Pn**	**13 51 56.1**	**+0.6**
APE	**Apeiranthos**	**3.43**	**114**	⇑/P	**Pn**	**13 51 56.3**	**+0.8**
SKO	**Skopje**	**3.43**	**358**	*i* Pn	**Pn**	**13 51 57.6**	**+2.0**
SKO	**Skopje**	**3.43**	**358**	*i* Pn	**Pn**	**13 51 57.5**	**+1.9**
CHOS	**Chios island**	**3.49**	**91**	*e*Pn	**Pn**	**13 51 57.0**	**+0.7**
KARN	**Karanos**	**3.63**	**149**	*e*Pn	**Pn**	**13 51 58.7**	**+0.4**
BOZC	**Bozcaada**	**3.68**	**68**	*i* P	**Pn**	**13 51 58.9**	**-0.2**
PUK	**Puka**	**3.74**	**340**	*e*PN	**Pn**	**13 52 02.5**	**+2.7**
VAM	**Vamos**	**3.75**	**146**	*e*PN	**Pn**	**13 52 01.9**	**+2.0**
TIP	**Timpagrande**	**3.85**	**281**	P	**Pn**	**13 52 01.7**	**+0.4**
ULC	**Ulcinj**	**3.87**	**333**	⇓/Pn	**Pn**	**13 52 01.5**	**-0.1**
ULC				*e*Sn	**Sn**	**13 52 48.5**	**+1.0**
URLA	**Izmir**	**3.91**	**91**	*i* P	**Pn**	**13 52 00.2**	**-2.0**
PE1	**Pezze di Greco**	**3.95**	**306**	*e*Pn	**Pn**	**13 52 03.1**	**+0.4**
RDO	**Rodhopi**	**3.99**	**48**	*e*PN	**Pn**	**13 52 04.3**	**+1.1**
ALN	**Alexandroupoli**	**4.15**	**54**	*e*Pn	**Pn**	**13 52 04.6**	**-0.8**
SMG	**Samos**	**4.20**	**100**	P	**Pn**	**13 52 07.8**	**+1.7**
VTS	**Vitosha**	**4.23**	**16**	*e*Pn	**Pn**	**13 52 06.3**	**-0.2**
VTS	**Vitosha**	**4.23**	**16**	⇓/P	**Pn**	**13 52 07.7**	**+1.2**
PVY	**Plav**	**4.24**	**343**	⇓/Pn	**Pn**	**13 52 07.4**	**+0.7**
PVY				*e*Sn	**Sn**	**13 52 57.8**	**+1.1**
BARS	**Barje**	**4.28**	**2**	*i* Pn	**Pn**	**

comp=Z,3.8nm,1.0s,mb4.1,baz=15,slow=12,SNR=2.1
MKAR Makanchi Array 44.38 59 P P 13 59 11.9 -0.8
comp=Z,2.0nm,0.5s,mb4.1,baz=274,slow=7.3,SNR=22
ZALV Zalesovo Beam 44.81 48 P P 13 59 14.8 -1.2
comp=Z,2.1nm,0.5s,mb4.2,baz=276,slow=9.4,SNR=7.5
SCHQ Schefferville 58.78 317 P P 14 00 59.1 -1.3
comp=Z,3.4nm,0.8s,mb4.4,baz=66,slow=10.0,SNR=3.2
SONM Songino Array 59.56 51 P P 14 01 05.0 -0.9
comp=Z,0.2nm,0.5s,mb3.4,baz=275,slow=6.9,SNR=2.0
YKA Yellowknife Ar 73.35 340 P P 14 02 32.5 -1.3
YKA Yellowknife Ar 73.35 340 P P 14 02 32.5 -1.3
comp=Z,0.3nm,0.6s,mb3.4,baz=33,slow=5.4,SNR=4.3
PDAR Pinedale Array 87.73 326 P P 14 03 50.5 -0.8
comp=Z,0.3nm,0.8s,mb3.6,baz=70,slow=3.0,SNR=3.2

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*SZGRF **10** 13:56:45.4, 1150N×9301E, h28km, mb5.5, MS4.9, Andaman Islands, India, region*
*CRAAG **10** 13:56:49.3, 1305N×9255E, Mw5.4*
*ISCJB **10** 13:56:50.3±0.7, 1301N±002×9251E±002, h15km±4km, mb5.5/293, MS5.1/174, Error ellipse: s-maj=3.9km s-min=2.9km az=14.6*
*MOS **10** 13:56:51.9±0.9, 1295N×9256E, h33km, mb5.6/114, MS5.0/46, Error ellipse: s-maj=7.5km s-min=4.0km az=117.9*
*BJI **10** 13:56:51.8, 1294N×9255E, h32km, mB5.4, mb5.3, Ms5.2, Msz5.0*
*GCMT **10** 13:56:53.9±0.1, 1313N×9259E, h18km, MW5.5/85, Moment Tensor Solution. s78,c134; s85,c160; Duration: 1ŝ3 Moment tensor: Scale 10^{17}Nm; M_{rr}~1.35±.03; $M_{\theta\theta}$0.26±.02; $M_{\phi\phi}$1.09±.03; $M_{r\theta}$1.10±.07; $M_{\theta\phi}$0.82±.02; $M_{\phi r}$-0.92±.06; Best double couple: $M_0$1.97300×10^{17} NP1:ϕ_s238.00000°,δ49.00000°, λ-42.00000°. NP2:ϕ_s360.00000°,δ60.00000°, λ-130.00000°. Principal axes: T 1.6180, Plg6.0000°, Azm117.0000°; N 0.7120, Plg34.0000°, Azm23.0000°; P -2.3280, Plg56.0000°, Azm216.0000°; nsta1 refers to body waves, cutoff=50s. nsta2 refers to surface waves, cutoff=50s.*
*IDC **10** 13:56:53.0±0.4, 1294N×9270E, h24km±2km, mb5.2/36, mb1 5.2/37, mb1mx5.2/37, mbtmp5.1/37, ML4.5/1, MS4.9/24, Ms1 4.9/24, ms1mx4.9/30 Error ellipse: s-maj=11.5km s-min=7.5km az=48.0*
*NEIC **10** 13:56:53.9±0.1, 1299N×9253E, h30km, mb5.5/141, MS5.2/103, MW5.4, Error ellipse: s-maj=3.8km s-min=2.5km az=36.0, Moment Tensor Solution. s23 Moment tensor: Scale 1017Nm; M_{rr}~1.13; $M_{\theta\theta}$0.90; $M_{\phi\phi}$0.23; $M_{r\theta}$0.09; $M_{\theta\phi}$0.80; $M_{\phi r}$~0.80; Best double couple: $M_0$1.50000×10^{17} NP1:ϕ_s262.00000°,δ44.00000°, λ-47.00000°. NP2:ϕ_s30.00000°,δ60.00000°, λ-123.00000°. Principal axes: T 1.5000, Plg9.0000°, Azm143.0000°; N 0.0800, Plg28.0000°, Azm48.0000°; P -1.5800, Plg60.0000°, Azm249.0000°;*
*BGS **10** 13:57:05.3±1.5, 1440N×9085E, h33km, mb5.2, MS5.0*
ISC 10 13:56:54.4±0.6, 1302N±002×9252E±002, h31km±4km, h27km±.2km:pP-P, n1198, σ0°92/953, mb5.5/293, MS5.1/174, 93C-254D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.38**	**171**	*e*P	Px	13 57 29.3	
PBA				*e*S	Sx	13 57 49.1	
NNT	**Nongplab**	**7.05**	**93**	P	**Pn**	**13 58 37.3**	**+1.8**
CHG	**Chiang Mai**	**8.44**	**46**	⇓P	**Pn**	**13 58 53.4**	**-1.2**
	150nm,0.7s						
CHTO	**Chiang Mai**	**8.44**	**46**	*e*Pn	**Pn**	**13 58 53.1**	**-1.5**
	70nm,0.8s						
CHTO				*e*Sn	**Sn**	**14 00 21.4**	**-7.5**
CHTO	**Chiang Mai**	**8.44**	**46**	*e*P	**Pn**	**13 58 53.1**	**-1.5**
CHTO				*e*		14 00 21.4	
CHTO				pmax	pmax		
	comp=Z,70nm,0.8s						
CHTO	**Chiang Mai**	**8.44**	**46**	Pn	**Pn**	**13 58 54.2**	**-0.4**
	SNR=30						
CHTO	**Chiang Mai**	**8.44**	**46**	P	**Pn**	**13 58 54.2**	**-0.4**
	SNR=30						
BWNR	**Bhubaneshwar**	**9.68**	**319**	*e*P	Px	13 59 38.0	
BWNR				*e*S	Sx	14 01 14.0	
CHRT	**Chiangrai**	**9.74**	**45**	⇓P	**Pn**	**13 59 14.0**	**+1.6**
	comp=Z,1μm,0.8s						
SNG	**Songkhla**	**9.86**	**125**	P	**Pn**	**13 59 16.0**	**+1.9**
	comp=Z,380nm,0.5s						
VIS	**Vishakhapatnam**	**10.02**	**299**	*e*P	**Pn**	**13 59 13.3**	**-3.0**
VIS				*e*x	**Sn**	**14 00 57.4**	**-10**
CAL	**Calcutta**	**10.27**	**338**	*e*x	**Sn**	**14 01 07.2**	**-6.6**
KKTK	**Khon Kaen**	**10.50**	**70**	P	**Pn**	**13 59 25.0**	**+2.2**
	comp=Z,2μm,0.9s						
AGT	**Agartala**	**10.87**	**354**	*i* x	**Pn**	**13 59 24.0**	**-3.9**
AGT				*i* x	**Sn**	**14 01 39.0**	**+11**
KULM	**Kulim**	**11.11**	**133**	*e*Pn	**Pn**	**13 59 32.6**	**+1.5**
KULM				*e*Sn	**Sn**	**14 01 29.5**	**-4.9**
KULM	**Kulim**	**11.11**	**133**	⇓P	**Pn**	**13 59 34.8**	**+3.6**
IMP	**Imphal**	**11.77**	**6**	*e*x	**Pn**	**13 59 39.0**	**-1.3**
IMP				*e*x	**Sn**	**14 01 45.0**	**-5.7**
IPM	**Ipoh**	**11.94**	**135**	⇓P	**Pn**	**13 59 44.0**	**+1.4**
MDRS	**Chennai**	**11.96**	**272**	*e*P	**Pn**	**13 59 39.5**	**-3.4**
PSI	**Prapat**	**11.97**	**148**	Pn	**Pn**	**13 59 43.0**	**0.0**
PSI				Sn	**Sn**	**14 01 57.5**	**+2.0**
PSI				LR	LR	14 05 19.2	
PSI	**Prapat**	**11.97**	**148**	P	**Pn**	**13 59 43.0**	**0.0**
PSI						14 01 57.5	
PSI	**Prapat**	**11.97**	**148**	Pn	**Pn**	**13 59 43.0**	**0.0**
	comp=Z,3.2nm,0.3s,baz=331,slow=11,SNR=41						
PSI				Sn	**Sn**	**14 01 57.5**	**+2.0**
	baz=348,slow=20,SNR=2.7						
PSI				LR	LR	14 05 19.2	
	comp=Z,6μm,19.4s,baz=110,slow=42						
BOK	**Bokaro**	**12.42**	**331**	*e*P	**Pn**	**13 59 46.8**	**-2.3**
BOK				AMb	AMB	14 00 00.6	
	comp=Z,355nm,0.9s						
BOK				*e*x	**Sn**	**14 01 56.4**	**-10**
SHL	**Shillong**	**12.49**	**357**	*e*P	**Pn**	**13 59 51.1**	**+1.0**
SHL				*e*S	**Sn**	**14 01 56.5**	**-12**
PALK	**Pallekele**	**12.96**	**245**	Pn	**Pn**	**13 59 57.1**	**+0.6**
	comp=Z,424nm,0.4s,SNR=22						
PALK	**Pallekele**	**12.96**	**245**	*e*Pn	**Pn**	**13 59 55.7**	**-0.9**
	comp=Z,100nm,0.8s						
PALK				*e*Sn	**Sn**	**14 02 02.5**	**-17**
KTGM	**Kuala Trenggan**	**12.96**	**125**	⇓P	**Pn**	**13 59 59.1**	**+2.5**
SHBG	**Sahibganj**	**12.97**	**340**	*e*x	**Sn**	**14 02 09.0**	**-11**
FRIM	**Kepong**	**13.25**	**136**	⇓P	**Pn**	**14 00 02.9**	**+2.4**
SALM	**Salem**	**14.06**	**266**	*e*P	**Pn**	**14 00 10.0**	**-1.6**
SALM				*e*x	x	14 03 23.0	
HYB	**Hyderabad**	**14.17**	**290**	*e*P	**Pn**	**14 00 11.0**	**-2.1**
	comp=Z,150nm,1.0s						
HYB				*e*		14 00 20.0	
HYB				*e*		14 07 08.0	
HYB	**Hyderabad**	**14.17**	**290**	*e*P	**Pn**	**14 00 11.0**	**-2.1**
HYB				pmax	pmax		
	comp=Z,150nm,1.0s						
HYB	**Hyderabad**	**14.17**	**290**	*i* P	**Pn**	**14 00 13.5**	**+0.4**
	comp=Z,150nm,1.0s						
HYB				*e*		14 00 20.0	
HYB				*e*S	**Sn**	**14 02 56.0**	**+6.7**
HYB				LR	LR	14 07 08.0	
	comp=Z,11nm,16.0s						
KOD	**Kodaikanal**	**15.01**	**261**	*e*P	**Pn**	**14 00 23.1**	**-1.3**
KOD				AMb	AMB	14 00 29.1	
	comp=Z,129nm,0.9s						
NGP	**Nagpur**	**15.20**	**304**	*e*P	**Pn**	**14 00 24.6**	**-2.3**
NGP				*e*x	x	14 00 26.9	
	comp=Z,479nm,1.1s						
NGP				*e*S	**Sn**	**14 03 03.6**	**-11**
KGM	**Kluang**	**15.29**	**135**	⇓P	**Pn**	**14 00 29.2**	**+1.1**
KMI	**Kunming**	**15.42**	**37**	P	**Pn**	**14 00 32.1**	**+2.4**
KMI				AP	pP	14 00 36.1	-6.1
KMI				XP	sP	14 00 38.4	-7.8
KMI				PP		14 00 44.4	
KMI				S	**Sn**	**14 03 25.1**	**+5.4**
KMI				XS	sS	14 03 31.2	-17
KMI				AMB	AMB		
	comp=Z,21nm,1.5s						
KMI				AMB	AMB		
	comp=Z,289nm,3.8s						
KMI				LR	LR		
	comp=N,5μm,17.6s						
KMI				LR	LR		
	comp=E,6μm,16.7s						
KMI				LR	LR		
	comp=Z,6μm,16.4s						
JBP	**Jabalpur**	**15.61**	**312**	⇓*e*P	**Pn**	**14 00 31.4**	**-0.8**
JBP				*e*x	x	14 00 35.1	
	comp=Z,736nm,1.7s						
JBP				*i* S	**Sn**	**14 03 17.3**	**-6.9**
JIRN	**Jiri**	**15.72**	**339**	*e*P	**Pn**	**14 00 32.8**	**-0.8**
	comp=Z,158nm,0.4s						
MYKOM	**Kota Tinggi**	**15.82**	**134**	⇓P	**Pn**	**14 00 37.6**	**+2.6**
ALBI	**Allahabad**	**15.86**	**322**	*e*P	**Pn**	**14 00 33.0**	**-2.4**
TRD	**Trivandrum**	**15.93**	**255**	*e*P	**Pn**	**14 00 35.5**	**-1.0**
TRD				AMb	AMB	14 00 43.5	
	comp=Z,231nm,0.8s						
TRD				*e*x	**Sn**	**14 03 15.8**	**-17**
KKN	**Kakani**	**16.18**	**336**	*e*P	**Pn**	**14 00 37.0**	**-2.5**
	comp=Z,157nm,0.6s						
KKN				*e*S	**Sn**	**14 03 27.4**	**-11**
KKN	**Kakani**	**16.18**	**336**	*e*P	**Pn**	**14 00 37.0**	**-2.5**
KKN				pmax	pmax		
	comp=Z,157nm,0.6s						
LATR	**Latur**	**16.27**	**291**	*e*P	**Pn**	**14 00 37.9**	**-2.9**
LATR				AMb	AMB	14 00 48.8	
	comp=Z,282nm,1.5s						
GKN	**Gorkha**	**16.62**	**335**	*e*P	**Pn**	**14 00 42.8**	**-2.4**
	comp=Z,408nm,0.5s						
GKN				*e*S	**Sn**	**14 03 36.5**	**-12**
LSA	**Lhasa**	**16.64**	**356**	P	**Pn**	**14 00 44.9**	**-0.5**
LSA				LR	LR		
	comp=E,5μm,23.3s						
LSA				LR	LR		
	comp=Z,5μm,14.5s						
LSA	**Lhasa**	**16.64**	**356**	*e*Pn	**Pn**	**14 00 44.9**	**-0.5**
	comp=Z,115nm,0.6s						
LSA	**Lhasa**	**16.64**	**356**	*e*P	**Pn**	**14 00 44.9**	**-0.5**
LSA				pmax	pmax		
	comp=Z,115nm,0.6s						
AKL	**Akola**	**16.68**	**299**	*e*P	**Pn**	**14 00 45.4**	**-0.6**
AKL				*e*x	x	14 00 53.5	
	comp=Z,320nm,2.2s						
AKL				*i* x	**Sn**	**14 03 36.1**	**-14**
KOLN	**Koldanda**	**16.88**	**332**	*e*P	**Pn**	**14 00 44.2**	**-4.2**
	comp=Z,453nm,0.6s						
KOLN				*e*S	**Sn**	**14 03 40.8**	**-14**
MNGI	**Mangalore**	**17.25**	**272**	*i* P	**Pn**	**14 00 50.5**	**-2.6**
MNGI				*e*x	x	14 00 57.1	
	comp=Z,154nm,0.6s						
MNGI				*i* x	**Sn**	**14 03 46.9**	**-17**
BHPL	**Bhopal**	**17.57**	**307**	*e*P	**Pn**	**14 00 56.2**	**-0.8**
BHPL				AMb	AMB	14 01 02.5	
	comp=Z,509nm,1.7s						
BHPL				*e*x	**Sn**	**14 03 59.4**	**-12**
QIZ	**Qiongzhong**	**17.68**	**68**	P	**Pn**	**14 00 57.2**	**-1.2**
QIZ				XP	sP	14 01 06.5	-4.8
QIZ				S	**Sn**	**14 04 14.1**	**-0.5**
QIZ				SS		14 04 35.8	
QIZ				LR	LR		
	comp=N,5μm,17.9s						
QIZ				LR	LR		
	comp=E,2μm,18.8s						
QIZ				LR	LR		
	comp=Z,5μm,17.5s						
QIZ	**Qiongzhong**	**17.68**	**68**	*e*P	**Pn**	**14 00 59.4**	**+1.0**
	comp=Z,49nm,1.0s						
GOA	**Goa**	**18.29**	**280**	*e*P	**Pn**	**14 01 04.9**	**-1.0**
GOA				AMb	AMB	14 01 12.2	
	comp=Z,96nm,1.3s						
POO	**Poona**	**18.78**	**289**	*e*P	**Pn**	**14 01 09.8**	**-2.1**
POO				AMb	AMB	14 01 18.9	
	comp=Z,174nm,1.0s						
POO				*i* SS		14 04 47.5	
GYA	**Guiyang**	**18.84**	**43**	⇓*i*P	**Pn**	**14 01 12.2**	**-0.3**
GYA				AP	pP	14 01 18.6	-1.5
GYA				XP	sP	14 01 21.7	-2.3
GYA				PP		14 01 30.8	
GYA				S	**Sn**	**14 04 40.2**	**-2.3**
GYA				XS	sS	14 04 48.7	-9.0
GYA				SS		14 05 05.2	
GYA				PCP	PcP	14 05 40.3	+2.2
GYA				AMB	AMB		
	comp=Z,90nm,0.8s						
GYA				AMB	AMB		
	comp=Z,850nm,5.1s						
GYA				LR	LR		
	comp=N,4μm,14.6s						
GYA				LR	LR		
	comp=E,3μm,12.8s						
GYA				LR	LR		
	comp=Z,4μm,15.2s						
BOM	**Bombay**	**19.82**	**290**	*e*x	**Pn**	**14 01 30.6**	**+6.3**
	comp=Z,305nm,1.2s						
BOM				*e*S	Sn	14 04 39.5	-27
LGTI	**Lohaghat**	**19.93**	**327**	*e*P	**Pn**	**14 01 27.7**	**+2.2**
LGTI				*e*x	**Sn**	**14 04 56.0**	**-13**
PTH	**Pithoragarh**	**20.02**	**327**	*e*x	**P**	**14 01 33.0**	**+8.3**
PTH				*e*x	**S**	**14 04 56.0**	**-12**
CD2	**Chengdu**	**20.60**	**28**	⇓*i*P	**P**	**14 01 30.7**	**-0.3**
CD2				PP		14 01 49.1	
CD2				S	**S**	**14 05 15.5**	**-4.2**
CD2				XS	sS	14 05 27.4	-5.6
CD2				SS		14 05 47.4	
CD2				AMB	AMB		
	comp=Z,180nm,0.6s						
CD2				AMB	AMB		
	comp=Z,660nm,4.4s						
CD2				LR	LR		
	comp=N,6μm,18.0s,MS5.1						
CD2				LR	LR		
	comp=E,3μm,18.0s,MS5.1						
CD2				LR	LR		
	comp=Z,4μm,17.4s,MS4.9						
KSM	**Kuching**	**21.02**	**122**	*e*P	**P**	**14 01 33.9**	**-1.8**
KSM	**Kuching**	**21.02**	**122**	⇑P	**P**	**14 01 36.0**	**+0.3**
NDI	**New Delhi**	**21.11**	**320**	*e*P	**P**	**14 01 36.6**	**0.0**
NDI				AMb	AMB	14 01 43.8	
	comp=Z,409nm,1.9s,mb5.4						
NDI				*e*x	**S**	**14 05 17.0**	**-13**
AJM	**Ajmer**	**21.47**	**311**	*e*P	**P**	**14 01 40.2**	**-0.2**
AJM				AMb	AMB	14 01 50.7	
	comp=Z,273nm,1.2s,mb5.5						
DDI	**Dehra Dun**	**21.80**	**324**	*i* P	**P**	**14 01 45.5**	**+1.5**
DDI				*e*x	S	14 05 21.8	-22
SBUM	**Sibu**	**22.14**	**117**	⇑P	**P**	**14 01 47.6**	**-0.1**
BTM	**Bintulu**	**22.55**	**114**	⇓P	**P**	**14 01 53.2**	**+1.1**
HKC	**Hong Kong Obse**	**22.57**	**63**	P	**P**	**14 01 52.0**	**-0.3**
HKC				S	**S**	**14 05 58.0**	**-0.5**
SMLA	**Simla**	**22.91**	**324**	*e*P	**P**	**14 01 56.6**	**+0.8**
SMLA				AMb	AMB	14 02 01.7	
	comp=Z,732nm,1.5s,mb5.9						
ENH	**Enshi**	**23.25**	**40**	PFAKE		14 02 10.0	+11
ENH				LR	LR		
	comp=Z,2.0nm,19.0s						
SDNR	**Sundarnagar**	**23.30**	**325**	*e*P	**P**	**14 02 00.5**	**+0.7**
SDNR				*e*x	**S**	**14 06 10.9**	**+0.8**
BHK	**Bhakra**	**23.55**	**324**	*e*P	**P**	**14 02 04.8**	**+2.5**
BHK				*e*x	**S**	**14 06 20.7**	**+6.4**
BHJ	**Bhuj**	**23.96**	**298**	*e*x	**P**	**14 02 08.3**	**+2.2**
BHJ				AMb	AMB	14 02 11.3	
	comp=Z,118nm,1.9s,mb5.0						
KKM	**Kota Kinabalu**	**24.36**	**104**	*e*P	**P**	**14 02 09.1**	**-0.7**
KKM	**Kota Kinabalu**	**24.36**	**104**	⇑P	**P**	**14 02 10.2**	**+0.4**
DLH	**Dalhousie**	**24.64**	**325**	*e*x	**P**	**14 02 11.0**	**-1.3**
THN	**Thein Dam**	**24.70**	**324**	*e*P	**P**	**14 02 12.5**	**-0.3**
THN				*e*x	**S**	**14 06 45.4**	**+13**
LZH	**Lanzhou**	**25.12**	**22**	*e*P	**P**	**14 02 17.1**	**+0.5**
LZH				AP	pP	14 02 24.5	-1.1
LZH				XP	sP	14 02 28.5	-0.9
LZH				PP		14 02 55.4	
LZH				*e*S	**S**	**14 06 38.3**	**-1.2**
LZH				SS		14 07 38.2	
LZH				SCS	ScS	14 13 16.5	+0.6
LZH				AMB	AMB		
	comp=Z,339nm,1.2s,mb5.8						
LZH				AMB	AMB		
	comp=Z,810nm,4.0s						
LZH				LR	LR		
	comp=N,6μm,18.2s						
LZH				LR	LR		
	comp=Z,10μm,19.8s,MS5.3						
SDKM	**Sandakan**	**25.41**	**104**	⇑P	**P**	**14 02 20.0**	**+0.6**
XAN	**Xi'an**	**25.69**	**33**	P	**P**	**14 02 20.4**	**-1.4**
XAN				AP	pP	14 02 28.5	-2.2
XAN				XP	sP	14 02 32.3	-2.2
XAN				PP		14 03 02.1	
XAN				S	**S**	**14 06 44.8**	**-3.7**
XAN				SS		14 07 53.6	
XAN				AMB	AMB		
	comp=Z,97nm,0.8s,mb5.4						
XAN				AMB	AMB		
	comp=Z,206nm,7.1s						
XAN				LR	LR		
	comp=N,2μm,15.7s,MS5.0						
XAN				LR	LR		
	comp=E,3μm,15.7s,MS5.0						
XAN				LR	LR		
	comp=Z,3μm,13.9s,MS4.9						
TSM	**Tawau**	**26.49**	**107**	⇓P	**P**	**14 02 28.5**	**-0.8**
WHN	**Wuhan**	**26.65**	**46**	⇑P	**P**	**14 02 29.6**	**-0.9**
WHN				S	**S**	**14 07 01.9**	**-1.8**
WHN				AMB	AMB		
	comp=Z,456nm,8.3s						
WHN				LR	LR		
	comp=Z,10μm,17.0s,MS5.4						
GTA	**Gaotai**	**27.06**	**12**	⇓P	**P**	**14 02 35.2**	**+1.1**
GTA				PP		14 03 21.4	
GTA				PCP	PcP	14 05 56.0	+1.2
GTA				S	**S**	**14 07 10.8**	**+0.8**
GTA				XS	sS	14 07 22.3	-2.6
GTA				SCP	ScP	14 09 34.2	+1.2
GTA				PCS	PcS	14 09 36.6	+0.4
GTA				SCS	ScS	14 13 23.7	-0.3
GTA				AMB	AMB		
	comp=Z,60nm,0.9s,mb5.1						
GTA				AMB	AMB		
	comp=Z,512nm,6.9s						
GTA				LR	LR		
	comp=N,2μm,18.7s,MS4.9						
GTA				LR	LR		
	comp=E,2μm,17.2s,MS4.9						
GTA				LR	LR		
	comp=Z,2μm,20.2s,MS4.7						
YHNB	**Yeheng**	**29.59**	**63**	*e*P	**P**	**14 02 57.8**	**+1.0**
KSH	**Kashi**	**30.17**	**334**	P	**P**	**14 03 03.4**	**+1.7**
KSH				*e*AP	pP	14 03 10.4	-0.4
KSH				*e*XP	sP	14 03 13.8	-0.7
KSH				*e*PP	PP	14 04 02.4	-7.8
KSH				*e*PCP	PcP	14 06 04.3	+1.8
KSH				S	**S**	**14 07 59.6**	**+0.7**
KSH				XS	sS	14 08 12.1	-1.7
KSH				SS	SS	14 09 38.0	-30
KSH				*e*SCP	ScP	14 09 43.8	+1.1
KSH				PCS	PcS	14 09 46.4	+0.5
KSH				SCS	ScS	14 13 37.1	-1.2
KSH				AMB	AMB		
	comp=Z,288nm,1.3s,mb5.8						
KSH				LR	LR		
	comp=N,11μm,14.5s,MS5.8						
KSH				LR	LR		
	comp=E,11μm,13.7s,MS5.8						
KSH				LR	LR		
	comp=Z,10μm,16.5s,MS5.5						
NJ2	**Nanjing**	**30.68**	**48**	*e*P	**P**	**14 03 06.8**	**+0.4**
NJ2				AP	pP	14 03 14.6	-0.8
NJ2				XP	sP	14 03 18.2	-1.0
NJ2				S	**S**	**14 08 08.0**	**+0.8**
NJ2				XS	sS	14 08 21.0	-1.1
NJ2				AMB	AMB		
	comp=Z,100nm,1.1s,mb5.6						
NJ2				AMB	AMB		
	comp=Z,140nm,10.0s						
NJ2				LR	LR		
	comp=N,7μm,22.0s,MS5.3						
NJ2				LR	LR		
	comp=E,5μm,24.0s,MS5.3						
NJ2				LR	LR		
	comp=Z,5μm,18.0s						
WMQ	**Urumqi**	**30.97**	**353**	⇓*i*P	**P**	**14 03 10.2**	**+1.4**
WMQ				AP	pP	14 03 16.0	-1.8
WMQ				XP	sP	14 03 19.5	-2.1
WMQ				PP	PP	14 04 12.0	-7.0
WMQ				PCP	PcP	14 06 06.0	+1.5
WMQ				S	**S**	**14 08 13.5**	**+2.2**
WMQ				XS	sS	14 08 24.0	-2.3
WMQ				SCS	ScS	14 13 42.0	0.0
WMQ				AMB	AMB		
	comp=Z,48nm,0.9s,mb5.3						
WMQ				AMB	AMB		
	comp=Z,426nm,3.5s						
WMQ				LR	LR		
	comp=N,3μm,16.0s,MS5.1						
WMQ				LR	LR		
	comp=E,3μm,19.0s,MS5.1						
WMQ				LR	LR		
	comp=Z,3μm,18.8s,MS5.0						
BTO	**Baotou**	**31.48**	**26**	*e*P	**P**	**14 03 11.6**	**-1.7**
SSE	**Sheshan**	**31.93**	**51**	P	**P**	**14 03 17.6**	**+0.2**
SSE				XP	sP	14 03 30.2	-0.1
SSE				S	**S**	**14 08 26.2**	**-0.5**
SSE				XS	sS	14 08 41.2	-0.5
SSE				AMB	AMB		
	comp=Z,56nm,0.8s,mb5.5						
SSE				AMB	AMB		
	comp=Z,112nm,5.1s						
SSE				LR	LR		
	comp=N,3μm,12.5s,MS5.4						
SSE				LR	LR		
	comp=E,4μm,12.5s,MS5.4						
SSE				LR	LR		
	comp=Z,6μm,10.9s,MS5.6						
TIA	**Tai'an**	**31.97**	**39**	*e*P	**P**	**14 03 17.0**	**-0.7**
TIA				S	**S**	**14 08 25.0**	**-2.2**
TIA				AMB	AMB		
	comp=Z,106nm,0.9s,mb5.7						
TIA				LR	LR		
	comp=N,628nm,13.0s						
HHC	**Hu-ho-hao-te**	**32.35**	**28**	*e*P	**P**	**14 03 21.6**	**+0.6**
HHC				AP	pP	14 03 27.1	-2.9
HHC				PP	PP	14 04 30.5	-3.9
HHC				PCP	PcP	14 06 08.8	+0.5
HHC				S	**S**	**14 08 33.8**	**+0.8**
HHC				SCP	ScP	14 09 50.6	+0.6
HHC				PCS	PcS	14 09 55.1	+1.9
HHC				SS	SS	14 10 28.6	-24
HHC				SCS	ScS	14 13 46.9	-2.1
HHC				AMB	AMB		
	comp=Z,70nm,1.1s,mb5.4						
HHC				LR	LR		
	comp=N,2μm,13.3s,MS5.2						
HHC				LR	LR		
	comp=E,2μm,13.1s,MS5.2						
HHC				LR	LR		
	comp=Z,2μm,17.8s,MS4.8						
ULHL	**Ulahol**	**32.37**	**337**	P	**P**	**14 03 22.4**	**+1.3**
	SNR=37						
KAPI	**Kappang**	**32.45**	**122**	P	**P**	**14 03 20.3**	**-1.8**
	comp=Z,245nm,1.1s,mb6.0,SNR=5.7						
KZA	**Kyzart**	**32.61**	**336**	P	**P**	**14 03 25.1**	**+1.8**
	SNR=24						
UCH	**Uchtor**	**33.04**	**335**	*e*P	**P**	**14 03 28.6**	**+1.7**
UCH	**Uchtor**	**33.04**	**335**	P	**P**	**14 03 28.7**	**+1.8**
	SNR=48						
DAV	**Davao City (W)**	**33.06**	**97**	PFAKE		14 03 40.0	+13
DAV				LR	LR		
	comp=Z,832nm,19.0s,MS4.5						
TKM2	**Tokmak 2**	**33.19**	**337**	*e*P	**P**	**14 03 29.3**	**+1.0**
	comp=Z,32nm,0.9s,mb5.2						
TKM2				*e*PcP	PcP	14 06 11.0	+0.4
TKM2	**Tokmak 2**	**33.19**	**337**	*e*P	**P**	**14 03 29.3**	**+1.0**
TKM2				*e*		14 06 11.0	
TKM2				pmax	pmax		
	comp=Z,32nm,0.9s,mb5.2						
TKM2	**Tokmak 2**	**33.19**	**337**	P	**P**	**14 03 29.4**	**+1.1**
	SNR=30						
KBK	**Karagaybulak**	**33.22**	**336**	P	**P**	**14 03 30.5**	**+1.9**
	SNR=24						
AML	**Almayashu**	**33.30**	**334**	*e*P	**P**	**14 03 31.1**	**+1.9**
	comp=Z,88nm,1.0s,mb5.6						
AML				LR	LR		
	comp=Z,2μm,20.0s,MS4.7						
AML	**Almayashu**	**33.30**	**334**	P	**P**	**14 03 31.2**	**+2.0**
	SNR=57						
AAK	**Ala-Archa**	**33.38**	**335**	P	**P**

comp=Z,3μm,19.0s,MS5.1
CHMS Chumysh 33.59 336 P **P 14 03 32.9 +1.1**
SNR=24
EKS2 Erkin-Say 33.70 335 *e*P **P 14 03 34.5 +1.8**
comp=Z,62nm,0.8s,mb5.6
EKS2 LR LR
comp=Z,3μm,21.0s,MS5.0
EKS2 Erkin-Say 33.70 335 P **P 14 03 34.7 +2.0**
SNR=39
USP Ospenovka 33.91 336 P **P 14 03 35.8 +1.3**
SNR=84
BJT Baijiatuau 34.00 33 *e*P **P 14 03 36.1 +0.8**
comp=Z,69nm,0.8s,mb5.6
BJT LR LR
comp=Z,4μm,22.0s,MS5.1
BJT Baijiatuau 34.00 33 *e*P **P 14 03 36.1 +0.7**
BJT pmax pmax
comp=Z,69nm,0.8s
BJT MLR MLR
comp=Z,4μm,22.0s
SMDO Samad 34.19 292 P **P 14 03 40.4 +3.2**
SNR=10
SMDO Samad 34.19 292 P **P 14 03 40.4 +3.2**
SNR=10
MK31 Makanchi Array 34.75 348 *i* P **P 14 03 42.0 +0.3**
MKAR Makanchi Array 34.75 348 P **P 14 03 42.4 +0.6**
MKAR pP pP 14 03 50.2 -0.7
MKAR PcP PcP 14 06 14.9 0.0
MKAR S **S 14 09 12.1 +2.1**
MKAR Makanchi Array 34.75 348 P **P 14 03 42.4 +0.6**
comp=Z,37nm,0.7s,mb5.4,baz=166,slow=8.3,SNR=306
MKAR pP pP 14 03 50.2 -0.7
comp=Z,84nm,0.8s,baz=159,slow=6.7,SNR=35
MKAR PcP PcP 14 06 14.9 0.0
comp=Z,11nm,0.8s,baz=145,slow=2.5,SNR=4.9
MKAR S **S 14 09 12.1 +2.1**
comp=Z,0.3nm,0.3s,baz=156,slow=19,SNR=2.6
BSY Bisya 34.90 291 P **P 14 03 46.6 +3.2**
SNR=20
BSY Bisya 34.90 291 P **P 14 03 46.6 +3.2**
SNR=20
KK31 Karatay Array 35.49 332 *i* P **P 14 03 48.7 +0.5**
HATD Hatta, Dubai 36.26 294 P **P 14 03 58.4 +3.4**
SNR=19
HATD Hatta, Dubai 36.26 294 P **P 14 03 58.4 +3.4**
SNR=19
ASHO Ashiyiah 36.29 294 P **P 14 03 58.6 +3.2**
SNR=14
ASHO Ashiyiah 36.29 294 P **P 14 03 58.6 +3.2**
SNR=14
DL2 Dalian 36.44 40 *i* P **P 14 03 57.0 +0.6**
DL2 AP pP 14 04 04.1 -1.4
DL2 PCP PcP 14 06 16.9 -3.2
DL2 S **S 14 09 37.6 +1.4**
DL2 SCP ScP 14 10 05.3 +0.7
DL2 PCS PcS 14 10 09.0 +1.1
DL2 SCS ScS 14 14 08.3 -2.6
DL2 AMB AMB
comp=Z,50nm,0.8s,mb5.5
DL2 AMB AMB
comp=Z,120nm,3.8s
DL2 LR LR
comp=N,1μm,15.0s,MS4.9
DL2 LR LR
comp=E,1μm,15.8s,MS4.9
DL2 LR LR
comp=Z,1μm,13.9s,MS4.8
SONM Songino Array 36.59 16 P **P 14 03 58.3 +0.8**
SONM *PP pP 14 04 05.3 -1.3
SONM 14 06 21.0
SONM Songino Array 36.59 16 P **P 14 03 58.3 +0.8**
comp=Z,24nm,1.0s,mb5.0,baz=203,slow=7.5,SNR=144
SONM pP pP 14 04 05.3 -1.3
comp=Z,60nm,1.1s,baz=195,slow=4.0,SNR=23
SONM PcP PcP 14 06 21.0 +0.6
comp=Z,12nm,0.7s,baz=195,slow=3.6,SNR=8.7
SONM ScP ScP 14 10 04.5 -0.4
comp=Z,1.2nm,0.8s,baz=184,slow=4.6,SNR=4.1
SONM LR LR 14 21 36.5
comp=Z,2μm,18.3s,MS4.9,baz=200,slow=40
ULN Ulaanbaatar 36.79 16 *i* P **P 14 03 59.6 +0.3**
ULN Ulaanbaatar 36.79 16 P **P 14 04 00.1 +0.8**
SNR=24
ULN Ulaanbaatar 36.79 16 P **P 14 04 00.1 +0.8**
SNR=24
WHFO Wadi Hawf 37.62 282 P **P 14 04 08.9 +2.2**
SNR=12
WHFO Wadi Hawf 37.62 282 P **P 14 04 08.9 +2.2**
SNR=12
ABTO Aybut 38.05 282 P **P 14 04 12.9 +2.5**
SNR=6.0
ABTO Aybut 38.05 282 P **P 14 04 12.9 +2.5**
SNR=6.0
ZAK Zakamensk 38.28 11 *e*P **P 14 04 11.5 -0.3**
ZAK pmax pmax
comp=Z,15nm,1.3s,mb4.6
INCN Inchon 38.96 45 *e*P **P 14 04 17.2 -0.5**
comp=Z,23nm,0.8s,mb5.0
INCN LR LR
comp=Z,3μm,20.0s,MS5.1
MOY Mondy 39.15 8 *e*P **P 14 04 19.8 +0.8**
MOY pmax pmax
comp=Z,79nm,2.6s,mb5.0
KURK Kurchatov 39.26 346 P **P 14 04 20.6 +0.6**
comp=Z,730nm,1.2s,mb6.3,SNR=21
KURK Kurchatov 39.26 346 *i* P **P 14 04 20.6 +0.6**
KURK LR LR
comp=Z,4μm,19.0s,MS5.2
KURK Kurchatov 39.26 346 *i* P **P 14 04 20.6 +0.6**
KURK MLR MLR
comp=Z,4μm,19.0s,MS5.2
KURK Kurchatov 39.26 346 P **P 14 04 19.8 -0.2**
SNR=84
KURK Kurchatov 39.26 346 P **P 14 04 19.8 -0.2**
SNR=84
SNY Shenyang 39.40 37 ⇓P **P 14 04 21.1 -0.2**
SNY AP pP 14 04 28.6 -1.9
SNY XP sP 14 04 32.2 -2.0
SNY S **S 14 10 15.9 -5.0**
SNY SS SS 14 13 10.4 -5.2
SNY AMB AMB
comp=Z,47nm,1.6s,mb5.0
SNY AMB AMB
comp=Z,442nm,4.9s
SNY LR LR
comp=N,1μm,16.5s,MS5.3
SNY LR LR
comp=E,4μm,17.4s,MS5.3
SNY LR LR
comp=Z,3μm,17.3s,MS5.2
VAN Vannovskaya 39.40 315 *i* P **P 14 04 23.0 +1.6**
VAN S **S 14 10 23.0 +1.9**
TLY Talaya 39.59 11 P **P 14 04 24.4 +1.6**
comp=Z,185nm,1.1s,mb5.7,SNR=12
TLY Talaya 39.59 11 *i* P **P 14 04 23.8 +1.0**
TLY Talaya 39.59 11 *d i*P **P 14 04 24.2 +1.4**
TLY *e* 14 05 51.9
TLY *e*S **S 14 10 26.0 +2.5**
TLY pmax pmax
comp=Z,39nm,1.0s,mb5.1
TLY MLR MLR
comp=Z,1μm,20.0s,MS4.8
TLY Talaya 39.59 11 P **P 14 04 24.8 +2.0**
SNR=20
TLY Talaya 39.59 11 P **P 14 04 24.8 +2.0**
SNR=20
KSRS Korea Array 39.84 46 P **P 14 04 24.4 -0.8**
comp=Z,46nm,0.7s,mb5.3,baz=240,slow=8.5,SNR=206
KSRS PcP PcP 14 06 30.8 0.0
comp=Z,3.6nm,0.6s,baz=253,slow=4.0,SNR=5.4
KSRS ScP ScP 14 10 16.6 -1.0
comp=Z,2.3nm,0.8s,baz=236,slow=3.9,SNR=8.9
KSRS LR LR 14 23 18.2
comp=Z,3μm,19.4s,MS5.2,baz=239,slow=40
IRK Irkutsk 40.24 11 *e*P **P 14 04 28.6 +0.4**
IRK *e* 14 06 26.5
IRK pmax pmax
comp=Z,123nm,2.4s,mb5.2
ZAL Zalesovo 41.27 353 P **P 14 04 36.8 +0.2**
ZAL *PP pP 14 04 44.5 -1.3
ZAA0 Zalesovo Array 41.28 353 *e*P **P 14 04 36.8 +0.1**
ZALV Zalesovo Beam 41.28 353 P **P 14 04 36.8 +0.1**
comp=Z,44nm,0.7s,mb5.2,baz=174,slow=9.0,SNR=217
ZALV pP pP 14 04 44.5 -1.5
comp=Z,130nm,1.0s,baz=180,slow=7.1,SNR=25
ZALV LR LR 14 25 52.6
comp=Z,1μm,20.0s,MS4.7,baz=177,slow=42
CN2 Changchun 41.69 36 *e*P **P 14 04 39.9 -0.3**
CN2 *e*PP PP 14 06 19.7 +2.8
CN2 PCP PcP 14 06 36.3 -0.2
CN2 SCP ScP 14 10 24.6 -0.1
CN2 *e*S **S 14 10 55.4 +0.4**
CN2 *e*SS SS 14 13 55.7 -5.5
CN2 AMB AMB
comp=Z,10.0nm,1.0s,mb4.4
CN2 LR LR
comp=N,2μm,16.0s,MS5.3
CN2 LR LR
comp=E,2μm,16.0s,MS5.3
CN2 LR LR
comp=Z,3μm,17.0s,MS5.2
NVS Novosibirsk 42.35 352 ⇓*i*P **P 14 04 44.8 -0.7**
NVS *e* 14 06 28.2
NVS *e*S **S 14 11 01.4 -3.1**
NVS pmax pmax
comp=Z,79nm,1.1s,mb5.3
NVS pmax pmax
comp=N,87nm,1.3s
NVS pmax pmax
comp=E,29nm,1.2s
NVS smax
comp=E,105nm,2.9s
CIT Chita 42.42 19 *e*P **P 14 04 46.3 +0.2**
CIT *e* pP 14 04 54.5 -0.8
CIT *e* 14 06 39.6
CIT pmax pmax
comp=Z,120nm,2.1s,mb5.2
HIA Hailar 42.53 26 *e*P **P 14 04 47.0 0.0**
comp=Z,43nm,1.3s,mb5.0
HIA LR LR
comp=Z,2μm,20.0s,MS5.1
HIA Hailar 42.53 26 *e*P **P 14 04 47.0 0.0**
HIA pmax pmax
comp=Z,43nm,1.3s
HIA MLR MLR
comp=Z,2μm,20.0s
MBWA Marble Bar 43.22 141 *e*P **P 14 04 51.0 -1.9**
comp=Z,56nm,1.1s,mb5.2
MBWA LR LR
comp=Z,2μm,22.0s,MS4.9
MBWA Marble Bar 43.22 141 P **P 14 04 51.6 -1.3**
SNR=7.0
MBWA Marble Bar 43.22 141 P **P 14 04 51.6 -1.3**
SNR=7.0
BRVK Borovoye 43.70 341 P **P 14 04 56.6 +0.2**
comp=Z,298nm,0.9s,mb6.0,SNR=7.4
BRVK Borovoye 43.70 341 *i* P **P 14 04 56.1 -0.3**
BRVK LR LR
comp=Z,1μm,20.0s,MS4.8
BRVK Borovoye 43.70 341 P **P 14 04 56.4 0.0**
BRVK pmax pmax
comp=Z,48nm,1.0s,mb5.2
BRVK Borovoye 43.70 341 P **P 14 04 56.8 +0.5**
SNR=14
BRVK Borovoye 43.70 341 P **P 14 04 56.8 +0.5**
SNR=14
ZRNK Zerenda 44.03 340 *i* P **P 14 04 58.8 -0.2**
ZRNK pmax pmax
comp=Z,50nm,1.0s,mb5.2
CHKZ Chkalovo 44.12 341 *i* P **P 14 05 00.1 +0.4**
QRN Al-Qurain 44.24 298 *e*P **P 14 05 01.0 -0.1**
QRN AMb AMB 14 05 02.5
comp=Z,210nm,0.7s,mb6.0
RDF Al-Radifah 44.59 298 *e*P **P 14 05 04.2 +0.3**
RDF AMb AMB 14 05 05.4
comp=Z,227nm,0.6s,mb6.2
MDJ Mudanjiang 44.59 38 P **P 14 05 03.7 0.0**
MDJ PCP PcP 14 06 46.4 +0.1
MDJ PP PP 14 06 47.9 -0.2
MDJ S **S 14 11 34.5 -3.1**
MDJ XS sS 14 11 50.0 -2.9
MDJ AMB AMB
comp=Z,17nm,1.0s,mb4.8
MDJ AMB AMB
comp=Z,145nm,5.2s
MDJ LR LR
comp=N,1μm,16.4s,MS5.0
MDJ LR LR
comp=E,1μm,15.8s,MS5.0
MDJ LR LR
comp=Z,996nm,16.4s,MS4.8
MDJ Mudanjiang 44.59 38 PFAKE 14 05 20.0 +16
MDJ LR LR
comp=Z,1μm,20.0s,MS4.8
NAY Al-Naaiem 44.92 298 *e*P **P 14 05 06.6 +0.1**
NAY AMb AMB 14 05 07.9
comp=Z,91nm,0.7s,mb5.7
FITZ Fitzroy Crossi 44.99 133 ⇓*i*P **P 14 05 05.1 -2.0**
comp=Z,164nm,0.7s,mb6.0
FITZ *e* 14 06 48.2
FITZ *e* 14 10 38.9
AB31 Akbulak array 44.99 330 *i* P **P 14 05 07.3 +0.5**
RST Umm Al-Ruwaisa 45.18 299 *e*P **P 14 05 08.6 0.0**
RST AMb AMB 14 05 09.7
comp=Z,179nm,0.6s,mb6.1
VLA Vladivostok 45.24 41 *i* P **P 14 05 08.2 -0.7**
DHBB Dhamar BB 46.70 278 ⇓*e*P **P 14 05 23.5 +2.7**
DHBB AMb AMB 14 05 24.2
comp=Z,94nm,0.6s,mb5.9
AKTK Aktyubinsk 46.71 330 P **P 14 05 20.6 +0.3**
AKTK ScP ScP 14 10 45.1 0.0
AKTK LR LR 14 27 31.0
AKTO Aktyubinsk 46.71 330 P **P 14 05 20.6 +0.3**
comp=Z,24nm,0.7s,mb5.2,baz=121,slow=8.3,SNR=85
AKTO ScP ScP 14 10 45.1 0.0
comp=Z,6.6nm,0.9s,baz=128,slow=6.8,SNR=5.5
AKTO LR LR 14 27 31.0
comp=Z,1μm,18.6s,MS4.9,baz=297,slow=39
MAJO Matsushiro 47.07 52 *e*P **P 14 05 23.7 +0.3**
comp=Z,36nm,0.8s,mb5.4
MAJO LR LR
comp=Z,2μm,19.0s,MS5.2
MAJO Matsushiro 47.07 52 *e*P **P 14 05 23.7 +0.3**
MAJO pmax pmax
comp=Z,36nm,0.8s,mb5.3
MAJO MLR MLR
comp=Z,2μm,19.0s,MS5.2
MAT Matsushiro 47.07 52 P **P 14 05 22.9 -0.5**
MAT S **S 14 12 12.0 -1.6**
MJAR Matsushiro Arr 47.07 52 P **P 14 05 23.7 +0.3**
MJAR 14 06 55.1
MJAR Matsushiro Arr 47.07 52 P **P 14 05 23.6 +0.2**
comp=Z,17nm,0.9s,mb5.0,baz=261,slow=7.6,SNR=39
MJAR PcP PcP 14 06 55.1 0.0
comp=Z,18nm,0.8s,baz=238,slow=2.8,SNR=22
MJAR ScP ScP 14 10 46.8 -0.1
comp=Z,7.7nm,1.1s,baz=254,slow=4.4,SNR=11
MJAR LR LR 14 28 18.6
comp=Z,2μm,18.3s,MS5.2,baz=260,slow=40
TRBA At Turbah 47.08 276 ⇑*e*P **P 14 05 26.4 +2.6**
TRBA AMb AMB 14 05 26.8
comp=Z,32nm,0.4s,mb5.6
KAKA Kakadu 47.12 121 *e*P **P 14 05 21.8 -2.2**
comp=Z,15nm,0.5s,mb5.2
HAJJ Hajjah 47.39 279 ⇓*e*P **P 14 05 28.8 +2.6**
HAJJ AMb AMB 14 05 30.2
comp=N,120nm,1.4s
BOD Bodaibo 47.59 15 *e*P **P 14 05 26.9 -0.1**
BOD *e* pP 14 05 35.3 -1.1
BOD pmax pmax
comp=Z,56nm,1.2s,mb5.5
BOD pmax pmax
comp=Z,75nm,1.2s,mb5.6
BHD Baghdad 48.16 303 *ex* x 14 05 29.5
BHD *ex* x 14 12 23.0
KLR Kul'dur 48.39 34 *e*P **P 14 05 28.9 -4.5**
KLR *e*S **S 14 12 33.5 +1.6**
KLR *e* 14 15 17.5
KLR pmax pmax
comp=E,63nm,2.0s
KLR pmax pmax
comp=Z,63nm,2.0s,mb5.3
KLR MLR MLR
comp=Z,6μm,13.5s,MS5.8
MAK Makhachkala 48.87 316 *e*P **P 14 05 38.9 +1.7**
MAK *e* 14 07 05.8
MAK *i* 14 07 33.6
MAK *i* S **S 14 12 42.3 +3.5**
MAK pmax pmax
comp=Z,338nm,1.5s,mb6.2
MAK MLR MLR
comp=Z,2μm,18.0s,MS5.1
DGRG David-gareji 49.77 314 P **P 14 05 46.4 +2.3**
HAKT HAKKARI 49.77 308 *i* P **P 14 05 44.1 -0.1**
HABR Khabarovsk 49.83 36 ⇓*i*P **P 14 05 43.6 -0.8**
HABR *e* 14 07 04.5
HABR *e*S **S 14 12 52.4 +0.3**
HABR *e*SS SS 14 16 26.9 +2.0
HABR pmax pmax
comp=Z,42nm,1.4s,mb5.3
MSL Mosul 49.91 307 *ex* x 14 05 44.5
MSL *ex* x 14 12 50.0
NRGR Nerungri 50.05 23 *e*P **P 14 05 45.0 -1.0**
NRGR S **S 14 12 56.9 +2.0**
NRGR smax
comp=N,217nm,2.4s
SVE Sverdlovsk 50.06 338 *c i*P **P 14 05 46.4 +0.3**
SVE *e*S **S 14 13 07.6 +13**
SVE pmax pmax
comp=Z,181nm,1.1s,mb6.0
SVE MLR MLR
comp=Z,2μm,17.0s,MS5.1
CLDR Caldiran 50.07 310 *e*P **P 14 05 48.0 +1.6**
MUN Mundaring 50.17 154 *e*P **P 14 05 46.7 -0.5**
CLNS Chul'man 50.25 23 *e*P **P 14 05 46.8 -0.7**
MTA Mtatsminda 50.26 314 P **P 14 05 49.3 +1.5**
TBLG Delisi 50.31 314 P **P 14 05 49.8 +1.6**
DYDN Diyadin 50.35 311 *i* P **P 14 05 50.1 +1.6**
KLBR Kellerberrin 50.53 152 ⇓*i*P **P 14 05 48.6 -1.3**
comp=Z,61nm,0.8s,mb5.6
ARU Arti 50.56 336 P **P 14 05 50.6 +0.8**
comp=Z,451nm,0.8s,mb6.5,SNR=8.2
ARU Arti 50.56 336 ⇓*i*P **P 14 05 49.8 0.0**
ARU LR LR
comp=Z,3μm,21.0s,MS5.2
ARU Arti 50.56 336 *d i*P **P 14 05 49.9 +0.1**
ARU *e* 14 07 03.7
ARU *e* 14 07 39.6
ARU *e*PPP 14 08 40.5
ARU *e*S **S 14 13 02.3 +0.3**
ARU pmax pmax
comp=Z,107nm,1.7s,mb5.5
ARU MLR MLR
comp=Z,2μm,18.0s,MS5.2
GUMO Guam 50.86 83 PFAKE 14 06 00.0 +7.2
GUMO LR LR
comp=Z,730nm,20.0s,MS4.7
AGRB Hanur-Agry 50.88 311 *e*P **P 14 05 53.5 +1.0**
TUTA Tutak 50.96 310 *i* P **P 14 05 54.2 +1.0**
KARS Kars 51.12 312 *e*P **P 14 05 55.8 +1.5**
NWAO Narrogin (SRO) 51.43 153 *e*P **P 14 05 55.4 -1.2**
comp=Z,69nm,1.0s,mb5.5
NWAO LR LR
comp=Z,906nm,20.0s,MS4.8
NWAO Narrogin (SRO) 51.43 153 *e*P **P 14 05 55.4 -1.3**
NWAO pmax pmax
comp=Z,69nm,1.0s
NWAO MLR MLR
comp=Z,906nm,20.0s
NWAO Narrogin (SRO) 51.43 153 P **P 14 05 55.5 -1.1**
comp=Z,49nm,0.8s,mb5.5,baz=326,slow=8.6,SNR=43
NWAO LR LR 14 30 25.9
comp=Z,1μm,18.8s,MS4.9,baz=330,slow=39
ONI Oni 51.50 315 P **P 14 05 59.1 +1.9**
BTMT Batman 51.63 309 *e*P **P 14 05 58.6 +0.4**
HOMI Horasan 51.82 311 *i* P **P 14 06 01.4 +1.8**
MARD Mardin 51.96 307 *i* P **P 14 05 59.9 -0.8**
ARTV Artvin 52.13 312 *i* P **P 14 06 02.9 +1.0**
ERZM Erzurum 52.17 311 *i* P **P 14 06 02.1 -0.1**
EZM Erzurum 52.18 311 *e*P **P 14 06 04.2 +1.9**
ERM Erimo 52.41 47 PFAKE 14 06 20.0 +16
ERM LR LR
comp=Z,1μm,19.0s,MS4.9
BCA Borcka 52.43 313 *e*P **P 14 06 04.4 +0.3**
KIV Kislovodsk 52.49 316 P **P 14 06 05.1 +0.6**
comp=Z,779nm,0.8s,SNR=11
KIV Kislovodsk 52.49 316 *e*P **P 14 06 05.6 +1.0**
comp=Z,98nm,0.8s,mb5.8
KIV LR LR
comp=Z,959nm,19.0s,MS4.9
KIV Kislovodsk 52.49 316 *d i*P **P 14 06 05.9 +1.4**
KIV *e* 14 07 15.7
KIV *e* 14 08 06.3
KIV *e*S **S 14 13 31.3 +2.2**
KIV pmax pmax
comp=Z,62nm,2.7s,mb5.1
KIV pmax pmax
comp=Z,135nm,1.1s,mb5.8
KIV MLR MLR
comp=Z,771nm,16.0s,MS4.8
KIV Kislovodsk 52.49 316 P **P 14 06 06.1 +1.6**
SNR=39
KIV Kislovodsk 52.49 316 P **P 14 06 06.1 +1.6**
SNR=39
KIV Kislovodsk 52.49 316 ⇓*i*P **P 14 06 05.8 +1.3**
BINT Bingol 52.56 309 *e*P **P 14 06 06.2 +1.1**
WRA Warramunga Arr 52.59 128 P **P 14 06 03.9 -1.7**
WRA PcP PcP 14 07 15.2 -0.3
WRA ScP ScP 14 11 09.4 -1.3
WRA S **S 14 13 25.1 -5.9**
WRA ⇑*e* 14 36 45.6
WRA Warramunga Arr 52.59 128 P **P 14 06 03.9 -1.7**
WRA 14 07 15.2
WRA S **S 14 13 25.1 -5.9**
WRA Warramunga Arr 52.59 128 P **P 14 06 03.9 -1.7**
comp=Z,46nm,0.7s,mb5.5,baz=306,slow=8.5,SNR=516
WRA PcP PcP 14 07 15.2 -0.3
comp=Z,20nm,0.4s,baz=322,slow=3.1,SNR=22
WRA ScP ScP 14 11 09.4 -1.3
comp=Z,5.3nm,0.9s,baz=313,slow=3.9,SNR=6.3
WRA S **S 14 13 25.1 -5.9**
comp=Z,5.7nm,0.9s,baz=299,slow=16,SNR=14
WRA PKP2bc 14 36 45.6
comp=Z,1.2nm,0.7s,baz=118,slow=2.2,SNR=6.2
WRAB Tennant Creek 52.60 128 P **P 14 06 04.9 -0.7**
comp=Z,571nm,0.6s,SNR=67
WRAB Tennant Creek 52.60 128 *e*P **P 14 06 03.8 -1.8**
comp=Z,50nm,0.6s,mb5.6
WRAB *e*PcP PcP 14 07 15.0 -0.6
WRAB Tennant Creek 52.60 128 ⇓*i*P **P 14 06 04.1 -1.5**
WB2 Warramunga Arr 52.60 128 *e*P **P 14 06 04.0 -1.7**
WB2 *e*PCP PcP 14 07 15.4 -0.2
WB2 *e*SCP ScP 14 11 08.8 -2.0
WB2 *e*S **S 14 13 25.4 -5.7**
ASAJ Asahikawa 52.71 44 P **P 14 06 06.5 +0.4**
comp=Z,28nm,0.7s,mb5.3,baz=250,slow=12,SNR=16
KOPT Kop Dagi 52.85 311 *i* P **P 14 06 08.2 +1.0**
EZC Erzincan 53.28 310 *e*P **P 14 06 14.1 +3.6**
SOKR Solikamsk 53.46 338 *d i*P **P 14 06 11.8 +0.5**
SOKR S **S 14 13 45.1 +3.4**
SOKR pmax pmax
comp=Z,130nm,1.0s,mb5.8
SOKR MLR MLR
comp=Z,2μm,22.0s,MS5.0
URFA Urfa 53.50 307 *e*P **P 14 06 12.5 +0.4**
MACK Trabzon 53.63 312 *i* P **P 14 06 12.8 -0.2**
KTUT Trabzon 53.64 312 *e*P **P 14 06 13.5 +0.4**
GUMT Gumushane 53.72 311 *e*P **P 14 06 15.3 +1.7**
YSS Yuzh-Sakhalins 53.83 41 *i* P **P 14 06 14.5 +0.2**
YSS Yuzh-Sakhalins 53.83 41 *d i*P **P 14 06 14.4 +0.1**
YSS pmax pmax
comp=Z,117nm,1.2s,mb5.7
YSS MLR MLR
comp=Z,1μm,19.0s,MS5.0
MALT Malatya 54.00 308 *e*P **P 14 06 15.1 -0.6**
MALT Malatya 54.00 308 *e*P **P 14 06 16.8 +1.1**
comp=Z,47nm,1.1s,mb5.3
MALT Malatya 54.00 308 *e*P **P 14 06 16.8 +1.1**
MALT pmax pmax
comp=Z,47nm,1.1s,mb5.3
MALT Malatya 54.00 308 ⇓*i*P **P 14 06 16.7 +1.0**
MYA Malataya 54.00 308 *e*P **P 14 06 16.9 +1.1**
ASF Jabal al Asfar 54.18 300 P **P 14 06 18.0 +0.9**
comp=Z,15nm,0.8s,mb5.0,baz=344,slow=2.7,SNR=21
ESPY Espiye-Giresun 54.38 311 *e*P **P 14 06 19.2 +0.8**
SOC Sochi 54.41 315 *i* P **P 14 06 19.4 +0.8**
SOC Sochi 54.41 315 *d i*P **P 14 06 18.8 +0.2**
SOC *e*PP pP 14 06 27.1 -1.0
SOC *e* 14 07 26.2
SOC *e* 14 08 17.4
SOC *e*S **S 14 13 55.9 +0.8**
SOC *e*SS SS 14 17 39.9 +2.2
SOC pmax pmax
comp=Z,80nm,1.0s,mb5.6
SOC MLR MLR

comp=Z,936nm,18.0s,MS4.9
GZT Gaziantep 54.47 307 *i* P **P 14 06 19.5 +0.3**
ASAR Alice Springs 54.47 132 P **P 14 06 17.8 -1.5**
ASAR 14 07 23.1
ASAR S **S 14 13 50.6 -5.7**
ASAR Alice Springs 54.47 132 P **P 14 06 17.8 -1.5**
comp=Z,22nm,0.5s,mb5.4,baz=312,slow=6.6,SNR=378
ASAR PcP PcP 14 07 23.1 +0.5
comp=Z,31nm,0.8s,baz=311,slow=4.0,SNR=14
ASAR ScP ScP 14 11 17.6 -1.3
comp=Z,9.1nm,1.1s,baz=310,slow=4.4,SNR=7.7
ASAR S **S 14 13 50.5 -5.8**
comp=Z,7.2nm,0.8s,baz=301,slow=14,SNR=28
GAZ Gaziantep 54.71 306 *e*P **P 14 06 21.5 +0.6**
GRSN GIRESUNGRSN 54.72 311 *i* P **P 14 06 21.1 +0.1**
KMRS Kahramanmaras 55.01 307 *e*P **P 14 06 23.4 +0.2**
COBT Iskenderun 55.34 305 *i* P **P 14 06 25.8 +0.3**
FORT Forrest 55.35 143 ⇓*i*P **P 14 06 24.6 -0.9**
comp=Z,38nm,0.5s,mb5.7
SVSK Karacayir 55.43 310 *e*P **P 14 06 26.1 0.0**
ANDN Andirin 55.46 307 *i* P **P 14 06 26.9 +0.6**
MMAI Mount Meron Ar 55.53 301 P **P 14 06 27.5 +0.6**
comp=Z,8.5nm,0.8s,mb4.8,baz=115,slow=13,SNR=9.3
MMAI PcP PcP 14 07 28.3 +1.6
comp=Z,5.0nm,0.6s,baz=89,slow=9.3,SNR=4.2
EIL Elat 55.59 297 P **P 14 06 27.9 +0.5**
comp=Z,35nm,0.7s,mb5.5,baz=77,slow=2.1,SNR=25
YAK Yakutsk 55.69 20 *i* P **P 14 06 26.8 -0.7**
YAK Yakutsk 55.69 20*d i*P **P 14 06 26.9 -0.6**
YAK *i* *PP pP 14 06 34.5 -2.5
YAK *e* 14 07 26.3
YAK *e* 14 08 29.5
YAK *e*S **S 14 14 09.3 -2.4**
YAK *e**SS sS 14 14 26.4 -0.9
YAK *i* 14 16 10.9
YAK *e*SS SS 14 17 59.2 +2.1
YAK *e*SSS 14 20 01.4
YAK pmax pmax
comp=Z,63nm,0.8s,mb5.7
YAK pmax pmax
comp=N,26nm,1.4s
YAK pmax pmax
comp=E,32nm,1.6s
YAK smax
comp=N,348nm,8.5s
YAK smax
comp=Z,79nm,3.3s
YAK smax
comp=E,215nm,2.3s
YAK MLR MLR
comp=Z,2μm,22.0s,MS5.2
YAK MLR MLR
comp=N,1μm,19.0s,MS5.1
YAK MLR MLR
comp=E,845nm,15.0s,MS5.1
CEYT Ceyhan 55.83 306 *e*P **P 14 06 29.5 +0.5**
KOZT Kozan 55.85 307 *e*P **P 14 06 30.4 +1.3**
VRHR Novokhopersk 55.85 324 *e*P **P 14 06 28.7 -0.2**
VRHR pmax pmax
comp=N,20nm,0.6s
VRHR pmax pmax
comp=Z,80nm,0.6s,mb5.9
VRHR pmax pmax
comp=E,50nm,1.3s
TOKT Tokat 55.86 310 *e*P **P 14 06 29.0 -0.2**
BNN Bunyan 56.09 308 *e*P **P 14 06 30.7 -0.1**
ANN Anapa 56.34 315 *e*P **P 14 06 31.0 -1.5**
ANN Anapa 56.34 315 *e*P **P 14 06 30.2 -2.3**
ANN *e*S **S 14 14 17.4 -3.4**
ANN pmax pmax
comp=Z,33nm,1.2s,mb5.2
ANN MLR MLR
comp=N,980nm,20.0s,MS5.0
ANN MLR MLR
comp=E,924nm,20.0s,MS5.0
ANN MLR MLR
comp=Z,1μm,20.0s,MS5.0
KVT Kavak 56.40 311 *e*P **P 14 06 33.4 +0.4**
KARA Karaisali 56.42 306 *e*P **P 14 06 33.5 +0.3**
KMBO Kilima Mbogo 56.58 260 P **P 14 06 36.7 +2.0**
KMBO LR LR 14 28 31.5
KMBO Kilima Mbogo 56.58 260 P **P 14 06 36.9 +2.2**
SNR=10
KMBO Kilima Mbogo 56.58 260 P **P 14 06 36.9 +2.2**
SNR=10
KMBO Kilima Mbogo 56.58 260 P **P 14 06 36.7 +2.0**
comp=Z,16nm,0.9s,mb5.1,baz=48,slow=10,SNR=35
KMBO LR LR 14 28 31.5
comp=Z,2μm,20.4s,MS5.2,baz=96,slow=34
MERS Mersin 56.78 306 *e*P **P 14 06 35.9 +0.1**
DIKM Dikmen 57.10 311 *e*P **P 14 06 37.1 -0.8**
VORD Divnogorie 57.16 323 *e*P **P 14 06 37.7 -0.5**
VORD *e**PP pP 14 06 46.2 -1.5
VORD pmax pmax
comp=Z,70nm,0.9s,mb5.7
VORD pmax pmax
comp=N,20nm,0.6s
VORD pmax pmax
comp=E,2μm,17.8s
VORD MLR MLR
comp=E,2μm,18.0s
VORD MLR MLR
comp=Z,1μm,18.0s,MS5.1
VORD MLR MLR
comp=N,2μm,24.0s
CTKT Corum 57.23 310 *i* P **P 14 06 38.7 -0.2**
CORM Corum 57.26 310 *e*P **P 14 06 39.3 +0.2**
VRSR Storozhevoye 57.31 323 *e*P **P 14 06 38.8 -0.4**
VRSR *e**PP pP 14 06 47.0 -1.7
VRSR *e**SP sP 14 06 51.9 -0.5
VRSR *e* 14 07 32.9
VRSR *e*S **S 14 14 31.7 -1.7**
VRSR pmax pmax
comp=N,5.0nm,1.0s
VRSR pmax pmax
comp=Z,10.0nm,1.0s,mb4.8
VRSR pmax pmax
comp=E,10.0nm,0.9s
VRSR smax
comp=Z,1.0nm,0.8s
VRSR smax
comp=N,10.0nm,1.2s
VRSR smax
comp=E,3.0nm,1.0s
VRSR MLR MLR
comp=Z,160nm,18.0s,MS4.2
VRSR MLR MLR
comp=N,100nm,17.0s,MS4.2
VRSR MLR MLR
comp=E,140nm,21.0s,MS4.2
BOYT Boyabat 57.31 311 *i* P **P 14 06 39.1 -0.4**
CDAG Cicekdag 57.36 309 *i* P **P 14 06 37.0 -2.8**
BYBT Boyabat 57.42 311 *e*P **P 14 06 40.5 +0.3**
CSS Prodhromos 57.47 303 *e*P **P 14 06 39.9 -0.8**
comp=E,208nm,1.8s,mb5.9
VOR Voronezh 57.49 324 *e*P **P 14 06 39.0 -1.5**
VOR pmax pmax
comp=Z,200nm,1.4s,mb6.0
TOS Tosya 57.88 310 *e*P **P 14 06 43.3 -0.2**
BZK Bozkurt 58.08 311 *e*P **P 14 06 44.8 0.0**
ELDT Eldivan 58.23 310 *i* P **P 14 06 45.4 -0.5**
BALT Daday 58.45 311 *i* P **P 14 06 47.4 0.0**
ANTO Ankara 58.60 309 ⇓P **P 14 06 48.2 -0.3**
ANTO Ankara 58.60 309 P **P 14 06 48.4 -0.1**
ANTO pmax pmax
comp=Z,51nm,1.2s,mb5.4
ANTO Ankara 58.60 309 P **P 14 06 48.6 +0.1**
SNR=11
ANTO Ankara 58.60 309 P **P 14 06 48.6 +0.1**
SNR=11
ANTO Ankara 58.60 309 ⇓*i*P **P 14 06 48.2 -0.3**
SIM Simferopol' 58.65 315*d i*P **P 14 06 49.7 +0.9**
SIM *e*S **S 14 14 52.2 +0.9**
SIM pmax pmax
comp=Z,84nm,0.8s,mb5.8
SIM MLR MLR
comp=Z,720nm,20.9s,MS4.8
KDHN Kadinhani 58.91 307 *i* P **P 14 06 46.1 -4.6**
MOS Moscow 59.89 328 *e*P **P 14 06 56.7 -0.5**
MOS Moscow 59.89 328 ⇑*i*P **P 14 06 56.4 -0.8**
MOS *i* pP 14 07 05.0 -1.7
MOS *e* 14 07 14.9
MOS *e* 14 07 39.7
MOS *e* 14 09 11.2
MOS *e*PPP 14 10 38.6
MOS pmax pmax
comp=Z,500nm,2.2s,mb6.2
MOS pmax pmax
comp=Z,137nm,1.6s,mb5.7
MOS MLR MLR
comp=Z,2μm,18.0s,MS5.3
ESKT Eskisehir 60.03 308 *i* P **P 14 06 57.1 -1.3**
ISP Isparta 60.08 306 *e*P **P 14 06 57.9 -0.9**
ISP Isparta 60.08 306 P **P 14 06 58.2 -0.6**
HENT Hendek 60.18 310 *i* P **P 14 06 58.5 -0.9**
OBN Obninsk 60.22 327 P **P 14 06 59.7 +0.3**
comp=Z,494nm,1.2s,mb6.4,SNR=5.6
OBN Obninsk 60.22 327 *i* P **P 14 06 59.3 -0.1**
OBN LR LR
comp=Z,2μm,18.0s,MS5.3
OBN Obninsk 60.22 327*d i*P **P 14 06 59.2 -0.2**
OBN *i* pP 14 07 07.2 -1.7
OBN *i* 14 07 17.9
OBN *e* 14 07 44.0
OBN *e*S **S 14 15 10.3 -0.8**
OBN *e*SS SS 14 19 13.5 +5.0
OBN pmax pmax
comp=Z,88nm,1.2s,mb5.7
OBN MLR MLR
comp=Z,2μm,18.0s,MS5.3
GOLH Golhisar 60.76 305 *i* P **P 14 07 02.3 -1.2**
GDZ Gediz 61.02 308 *i* P **P 14 07 02.7 -2.5**
CTA Charters Tower 62.26 121 *e*P **P 14 07 13.2 -0.6**
comp=Z,27nm,1.2s,mb5.3
CTA Charters Tower 62.26 121 *e*P **P 14 07 13.2 -0.6**
CTA pmax pmax
comp=Z,27nm,1.2s
CTA Charters Tower 62.26 121 P **P 14 07 13.0 -0.7**
comp=Z,17nm,0.8s,mb5.2,baz=307,slow=8.4,SNR=10
CTAO Charters Tower 62.26 121 *e*P **P 14 07 13.0 -0.8**
comp=Z,71nm,1.3s,mb5.6
CTAO LR LR
comp=Z,894nm,20.0s,MS4.9
CTAO Charters Tower 62.26 121 *e*P **P 14 07 13.0 -0.8**
CTAO pmax pmax
comp=Z,71nm,1.3s,mb5.6
CTAO MLR MLR
comp=Z,894nm,20.0s,MS4.9
BDRM Kayabasi 62.43 305 *i* P **P 14 07 12.9 -1.8**
TIRR Tirgusor 62.55 313 P **P 14 07 15.8 +0.4**
TIRR Tirgusor 62.55 313 ⇓*i*P **P 14 07 15.6 +0.2**
TIXI Tiksi 62.55 12 *i* P **P 14 07 13.0 -1.9**
TIXI Tiksi 62.55 12*d i*P **P 14 07 13.9 -1.0**
TIXI pmax pmax
comp=Z,272nm,1.9s,mb6.1
TIXI MLR MLR
comp=Z,800nm,18.0s,MS4.9
PSN Preselentsi 62.59 313 *e*P **P 14 07 15.0 -0.7**
KDAG Bornova 62.68 307 *i* P **P 14 07 15.7 -0.7**
KIS Kishinev 62.69 316 *e*P **P 14 07 15.0 -1.3**
KIS *e* pP 14 07 23.0 -2.9
KIS *e* 14 11 00.0
KIS *e*S **S 14 15 40.0 -2.8**
KIS *e* 14 15 57.0
KIS MLR MLR
comp=Z,1μm,16.0s,MS5.1
KIS MLR MLR
comp=Z,800nm,16.0s
KIS Kishinev 62.69 316 *e*P **P 14 07 15.0 -1.3**
KIS *e*S **S 14 15 40.0 -2.8**
KIS LRM 14 37 38.0
comp=Z,800nm,16.0s
BLCB Balcova 62.85 307 *e*P **P 14 07 17.6 +0.1**
HARR Harsova 62.92 314 P **P 14 07 18.4 +0.6**
HARR Harsova 62.92 314 ⇑*i*P **P 14 07 18.1 +0.2**
MA2 Magadan 63.01 29*d i*P **P 14 07 17.6 -0.6**
MA2 *e* 14 07 57.7
MA2 *e* 14 09 34.6
MA2 *e*PPP 14 11 11.9
MA2 *e*S **S 14 15 44.5 -1.9**
MA2 *e* 14 17 05.6
MA2 pmax pmax
comp=Z,40nm,1.0s,mb5.5
MA2 MLR MLR
comp=N,1μm,21.4s
AKASG Malin Array Be 63.17 320 P **P 14 07 18.7 -0.7**
comp=N,21nm,0.7s,mb5.4,baz=86,slow=4.9,SNR=97
AKASG LR LR 14 41 03.7
comp=N,621nm,19.2s,MS4.8,baz=100,slow=42
KIEV Kiev 63.18 320 *e*P **P 14 07 18.6 -0.8**
comp=N,30nm,0.8s,mb5.5
KIEV LR LR
comp=Z,528nm,19.0s,MS4.7
KIEV Kiev 63.18 320 *e*P **P 14 07 18.6 -0.9**
KIEV pmax pmax
comp=Z,30nm,0.8s,mb5.5
KIEV MLR MLR
comp=Z,528nm,19.0s,MS4.7
TMCR Tamitsa 63.30 336 ⇓*i*P **P 14 07 19.8 -0.2**
TMCR *e**PP pP 14 07 27.2 -2.4
TMCR pmax pmax
comp=Z,62nm,1.0s,mb5.7
SKR Severo-Kuril's 63.35 40 *e*P **P 14 07 19.0 -1.6**
JMB Yambol 63.60 311 *e*P **P 14 07 22.8 +0.4**
CHOS Chios island 63.62 306 *e*P **P 14 07 23.0 +0.3**
ALN Alexandroupoli 63.84 309 *e*P **P 14 07 23.6 -0.4**
VRI Vrincioaia 63.94 315 P **P 14 07 25.6 +1.0**
VRI Vrincioaia 63.94 315 ⇓*i*P **P 14 07 25.9 +1.4**
PLOR Plostina 63.99 315 ⇑*i*P **P 14 07 26.1 +1.2**
BUC1 Bucharest 64.22 313 P **P 14 07 28.0 +1.5**
KDZ Kurdzhali 64.38 310 *e*P **P 14 07 27.0 -0.5**
MLR Muntele Rosu 64.43 314 P **P 14 07 28.9 +1.1**
MLR Muntele Rosu 64.43 314 P **P 14 07 28.8 +1.0**
comp=Z,96nm,0.8s,mb5.8,baz=93,slow=1.8,SNR=146
MLR Muntele Rosu 64.43 314 ⇓*i*P **P 14 07 28.7 +0.9**
PVL Pavlikeni 64.60 312 *e*P **P 14 07 30.0 +1.1**
ZIMR 64.62 312 P **P 14 07 29.7 +0.6**
ADE Adelaide 64.76 139 *e*P **P 14 07 30.0 0.0**
STKA Stephens Creek 64.81 135 ⇓*i*P **P 14 07 29.4 -1.0**
comp=Z,13nm,0.7s,mb5.1
STKA Stephens Creek 64.81 135 P **P 14 07 29.6 -0.9**
comp=Z,11nm,0.7s,mb5.0,baz=309,slow=7.5,SNR=37
STKA LR LR 14 39 20.4
comp=Z,903nm,19.4s,MS5.0,baz=298,slow=39
MNK Minsk 64.86 324 *e*P **P 14 07 27.0 -3.4**
MNK pmax pmax
comp=Z,340nm,1.0s,mb6.3
MNK pmax pmax
comp=E,270nm,1.5s
RZN Rozhen 64.91 310 *e*P **P 14 07 31.0 0.0**
PLD Plovdiv 64.95 310 *e*P **P 14 07 31.0 -0.2**
PUL Pulkovo 64.97 330 ⇑*e*P **P 14 07 31.6 +0.6**
SEY Seymchan 64.98 26 ⇑*e*P **P 14 07 30.2 -0.8**
VOIR 65.05 314 P **P 14 07 32.4 +0.6**
VOIR 65.05 314 ⇑*i*P **P 14 07 31.7 -0.1**
KARN Karanos 65.19 303 *e*P **P 14 07 32.1 -0.9**
OUR Ouranopolis 65.36 308 *e*P **P 14 07 33.5 -0.4**
AOS Alonnisos 65.37 307 *e*P **P 14 07 33.3 -0.8**
PET Petropavlovsk 65.38 37 ⇑*e*P **P 14 07 33.3 -0.5**
PET Petropavlovsk 65.38 37 *e*P **P 14 07 32.3 -1.5**
PET *e*S S 14 16 11.5 -4.3
PET pmax pmax
comp=Z,28nm,0.7s,mb5.4
PET MLR MLR
comp=Z,2μm,17.0s,MS5.3
PET MLR MLR
comp=Z,2μm,15.0s
PGB Panagyurishte 65.39 311 *e*P **P 14 07 34.0 -0.1**
JOF Joensuu 65.55 334 *e*p **P 14 07 33.0 -1.7**
comp=Z,52nm,0.5s,mb5.8
JOF Joensuu 65.55 334 *e*P **P 14 07 33.0 -1.7**
JOF pmax pmax
comp=Z,53nm,0.5s,mb5.8
PLG Polygyros 65.77 309 *e*P **P 14 07 36.0 -0.6**
SOH Sokhos 65.87 309 *e*P **P 14 07 36.5 -0.7**
HORT Hortiatis 66.05 309 *e*P **P 14 07 37.4 -1.0**
VTS Vitosha 66.10 311 *e*P **P 14 07 38.5 -0.1**
VTS Vitosha 66.10 311 ⇑*i*P **P 14 07 38.1 -0.5**
VTS Vitosha 66.10 311 *e*P **P 14 07 38.0 -0.6**
KKB Krupnik 66.14 310 *e*P **P 14 07 38.0 -0.9**
LVZ Lovozero 66.21 339 PFAKE 14 07 50.0 +11
LVZ LR LR
comp=Z,2μm,19.0s,MS5.3
LVV L'vov 66.30 319 *e*P **P 14 07 38.4 -1.4**
LVV MLR MLR
comp=Z,600nm,18.0s,MS4.8
LVV MLR MLR
comp=N,600nm,18.5s,MS5.0
LVV MLR MLR
comp=E,500nm,17.0s,MS5.0
VSU Vasula 66.39 328 *i* P **P 14 07 39.7 -0.5**
LIT Litokhoron 66.49 308 *e*P **P 14 07 40.0 -1.2**
VAY Valandovo 66.49 309 *e*P **P 14 07 39.9 -1.3**
VAY Valandovo 66.49 309 ⇓*i* **P 14 07 39.9 -1.3**
VAY ⇑*e*1 pP 14 07 47.7 -3.1
APA Apatity 66.50 339 ⇑*i*P **P 14 07 40.0 -0.8**
APA *i* pP 14 07 48.2 -2.2
APA *i* 14 08 04.7
APA *e*S S 14 16 26.0 -3.1
APA pmax pmax
comp=Z,60nm,1.1s,mb5.5
APA MLR MLR
comp=Z,2μm,16.0s,MS5.5
AGG Agios Georgios 66.57 307 *e*P **P 14 07 39.7 -2.1**
GZR Gura Zlata 66.63 314 P **P 14 07 42.4 +0.3**
GZR Gura Zlata 66.63 314 ⇑*i*P **P 14 07 42.2 +0.2**
DRGR 66.81 315 P **P 14 07 43.9 +0.8**
DRGR 66.81 315 ⇑*i*P **P 14 07 43.6 +0.5**
KWP Kalwaria 67.12 319 *i* P **P 14 07 45.5 +0.5**
comp=Z,700nm,2.7s,mb6.2
KWP *e*pP pP 14 07 53.2 -1.5
KWP LMZ 14 41 44.7
comp=Z,800nm,20.2s
KWP Kalwaria 67.12 319 ⇓*i*P **P 14 07 45.5 +0.4**
KWP *e*pP pP 14 07 53.2 -1.5
KWP Kalwaria 67.12 319 ⇓*i*P **P 14 07 45.5 +0.4**
KWP *e**PP pP 14 07 53.2 -1.5
KWP pmax pmax
comp=Z,700nm,2.7s,mb6.2
KWP MLR MLR
comp=Z,800nm,20.2s,MS4.9
KWP Kalwaria 67.12 319 ⇑*i*P **P 14 07 45.4 +0.3**
UZH Uzhgorod 67.28 317 ⇑*i*P **P 14 07 46.0 -0.1**
UZH *i* pP 14 07 54.8 -0.9
UZH *e* 14 08 01.0
UZH *i* 14 08 09.0
UZH *e*S S 14 16 40.0 +0.9
UZH *e*PS 14 17 16.0
UZH *i* SSS 14 23 52.0
KOLS Kolonicke sedl 67.33 318 *e*P **P 14 07 46.8 +0.4**
FNA Florina 67.37 309 *e*P **P 14 07 45.4 -1.4**
SKO Skopje 67.37 310 ⇓*e* **P 14 07 45.8 -1.0**
SKO ⇑*e*1 pP 14 07 54.1 -2.3
SUW Suwalki 67.44 323 *i* P **P 14 07 46.5 -0.5**
comp=Z,200nm,0.6s,mb6.3
SUW *e*pP pP 14 07 54.7 -2.0
SUW *e*S S 14 16 39.7 -1.1
SUW LMZ 14 42 05.6
comp=Z,2μm,17.4s
SUW Suwalki 67.44 323 ⇓*i*P **P 14 07 46.5 -0.5**
SUW *e*pP pP 14 07 54.7 -1.9
SUW *e*S S 14 16 39.7 -1.1
SUW Suwalki 67.44 323 ⇓*i*P **P 14 07 46.5 -0.5**
SUW *e**PP pP 14 07 54.7 -1.9
SUW *e*S S 14 16 39.7 -1.1
SUW pmax pmax
comp=Z,200nm,0.6s,mb6.3
SUW MLR MLR
comp=Z,2μm,17.4s,MS5.3
FINES FINESS Array B 67.45 332 P **P 14 07 47.0 +0.1**
FINES *PP pP 14 07 54.4 -2.2
FINES FINESS Array B 67.45 332 P **P 14 07 47.0 +0.1**
comp=Z,33nm,0.6s,mb5.5,baz=101,slow=7.2,SNR=113
FINES pP pP 14 07 54.4 -2.2
comp=Z,36nm,0.6s,baz=104,slow=8.0,SNR=23
FINES LR LR 14 40 50.0
comp=Z,917nm,18.9s,MS5.0,baz=159,slow=39
BZS Buzias 67.47 314 ⇓P **P 14 07 47.3 0.0**
BZS Buzias 67.47 314 ⇓*i*P **P 14 07 47.3 0.0**
KRUS Krusevo 67.49 309 ⇓*e* **P 14 07 46.7 -0.8**
KRUS ⇑*e*1 pP 14 07 54.4 -2.8
KAF Kangasniemi 67.52 332 *ep* **P 14 07 45.9 -1.4**
comp=Z,16nm,0.6s,mb5.2,baz=103,slow=5.9
KAF Kangasniemi 67.52 332 *e*P **P 14 07 45.9 -1.4**
KAF pmax pmax
comp=Z,16nm,0.6s,mb5.2
OHR Ohrid 67.82 309 *e*P **P 14 07 47.4 -2.2**
OHR Ohrid 67.82 309 ⇓*i* **P 14 07 47.4 -2.2**
OHR ⇑*e*1 pP 14 07 55.3 -4.0
CRVS Cervenica-Dubn 67.86 318 *e*P **P 14 07 50.4 +0.7**
CRVS Cervenica-Dubn 67.86 318 *e*P **P 14 07 50.3 +0.6**
LKD Levkas 67.87 307 *e*P **P 14 07 48.8 -1.2**
STHS Stebnicka Huta 68.05 318 *i* P **P 14 07 51.0 +0.1**
comp=Z,22nm,0.9s,mb5.2
STHS Stebnicka Huta 68.05 318 *i* P **P 14 07 51.0 +0.1**
STHS pmax pmax
comp=Z,22nm,0.9s,mb5.2
IGT Igoumenitsa 68.13 307 *e*P **P 14 07 49.9 -1.8**
KECS Kecovo 68.46 317 *i* P **P 14 07 53.6 +0.1**
comp=Z,17nm,0.8s,mb5.1
KECS Kecovo 68.46 317 *i* P **P 14 07 53.6 +0.1**
KECS pmax pmax
comp=Z,17nm,0.8s,mb5.1
PVY Plav 68.48 311 ⇑*i*P **P 14 07 52.9 -0.9**
WAR Warsaw 68.49 321 *e*P **P 14 07 54.1 +0.5**
WAR *e*pP pP 14 08 00.9 -2.3
DIVS Divibare 68.53 312 *e*P **P 14 07 53.4 -0.6**
IVA Berane 68.55 311 ⇑*i*P **P 14 07 53.6 -0.6**
PSZ Piszkesteto 68.81 316 ⇓P **P 14 07 55.7 0.0**
PSZ Piszkesteto 68.81 316 ⇓*i*P **P 14 07 55.7 0.0**
PSZ Piszkesteto 68.81 316 ⇓*e*P **P 14 07 56.0 +0.3**
PLE Pljevlja 68.93 312 ⇑*i*P **P 14 07 56.6 0.0**
ULC Ulcinj 69.00 310 ⇑*i*P **P 14 07 56.2 -0.8**
TTG Podgorica 69.00 311 ⇑*i*P **P 14 07 56.0 -1.0**
OJC Ojcow 69.05 319 *i* P **P 14 07 57.3 +0.1**
OJC *e*sP sP 14 08 05.1 -5.4
OJC *e*S S 14 17 01.5 +1.3
OJC L 14 42 35.4
comp=Z,0.5nm,21.5s
NKY Niksic 69.21 311 ⇑*i*P **P 14 07 57.1 -1.2**
BUM Brajici-Budva 69.27 310 ⇑*i*P **P 14 07 57.6 -1.1**
UPM Unac-Piva 69.28 311 ⇑*i*P **P 14 07 57.7 -1.0**
BUD Budapest 69.37 316 ⇓*e*P **P 14 07 59.1 -0.1**
KEV Kevo 69.48 340 *ep* **P 14 07 58.2 -1.3**
comp=Z,22nm,0.6s,mb5.3
KEV Kevo 69.48 340 P **P 14 07 59.5 0.0**
KEV pmax pmax
comp=Z,86nm,1.1s,mb5.6
BRY Bratogost 69.54 311 ⇑*i*P **P 14 07 59.2 -1.1**
VYHS Vyhne 69.56 317 *i* P **P 14 08 00.4 +0.1**
comp=Z,15nm,0.9s,mb4.9
VYHS *e* 14 08 07.5
VYHS Vyhne 69.56 317 *i* P **P 14 08 00.4 +0.1**
VYHS *e* 14 08 07.5
VYHS pmax pmax
comp=Z,15nm,0.9s,mb4.9
HCY Hercog Novi 69.57 311 ⇑*i*P **P 14 07 59.6 -0.9**
PKSM Moragy 69.57 315 ⇓P **P 14 08 00.2 -0.3**
PKSM Moragy 69.57 315 ⇓*i*P **P 14 08 00.2 -0.3**
LSZ Lusaka 69.59 248 P **P 14 08 02.4 +1.3**
LSZ *e*P 14 08 02.4
LSZ LR LR
comp=Z,3μm,20.0s,MS5.5
LSZ Lusaka 69.59 248 P **P 14 08 02.3 +1.3**
comp=Z,31nm,0.8s,mb5.3,baz=63,slow=6.2,SNR=32
KOLL Kolacno 69.85 317 *e*P **P 14 08 02.2 +0.1**
ARCES ARCESS Array B 69.91 340 P **P 14 08 02.5 +0.3**
ARCES pP pP 14 08 10.7 -1.1
ARCES LR LR 14 41 49.6
ARCES ARCESS Array B 69.91 340 P **P 14 08 02.5 +0.4**
ARCES *PP pP 14 08 10.7 -1.1
ARCES ARCESS Array B 69.91 340 P **P 14 08 02.5 +0.4**
comp=Z,24nm,0.7s,mb5.2,baz=91,slow=6.4,SNR=122
ARCES pP pP 14 08 10.7 -1.1
comp=Z,36nm,0.8s,baz=102,slow=5.1,SNR=13
ARCES LR LR 14 41 49.6
comp=Z,2μm,18.9s,MS5.4,baz=112,slow=38
OKC Ostrava-Krasne 70.09 318 ⇓*i*P **P 14 08 03.9 +0.3**
OKC *e*pP pP 14 08 12.0 -1.3
OKC Ostrava-Krasne 70.09 318 ⇓*i*P **P 14 08 03.9 +0.3**
OKC *e*pP pP 14 08 12.0 -1.3
OKC AMS AMS 14 45 40.0
comp=Z,400nm,17.4s,MS4.7
MORC Moravsky Berou 70.48 318 ⇓P **P 14 08 06.4 +0.5**
MORC Moravsky Berou 70.48 318 ⇓*i*P **P 14 08 06.4 +0.5**
HNR Honiara 70.57 105 *e*P **P 14 08 06.5 -0.6**
comp=Z,99nm,0.8s,mb5.8
HNR LR LR
comp=Z,420nm,20.0s,MS4.7
HNR Honiara 70.57 105 P **P 14 08 06.6 -0.5**
ZST Bratislava 70.70 317 *e*P **P 14 08 07.6 +0.3**
comp=Z,50nm,1.2s,mb5.3

ZST e pP 14 08 15.4 -1.6
ZST eS S 14 17 31.3 +12
ZST LR LR
comp=Z,500nm,16.0s,MS4.9
ZST Bratislava 70.70 317 eP **P 14 08 07.6 +0.3**
ZST e pP 14 08 15.4 -1.6
ZST pmax pmax
comp=Z,51nm,1.2s,mb5.3
ZST Bratislava 70.70 317 eP **P 14 08 07.6 +0.3**
ZST epP pP 14 08 15.3 -1.7
ZST eS S 14 17 31.3 +12
GKP Gorka Klasztor 70.87 322 eP **P 14 08 07.9 -0.3**
GKP epP pP 14 08 16.6 -1.4
GKP LMZ 14 44 27.4
comp=Z,1μm,18.3s
TIP Timpagrande 70.91 307 P **P 14 08 08.6 -0.2**
VRAC Vranov 71.07 318 P **P 14 08 09.6 +0.1**
comp=Z,9.5nm,0.8s,mb4.8,baz=93,slow=8.7,SNR=11
KSP Ksiaz 71.32 319 i P **P 14 08 11.8 +0.7**
comp=Z,600nm,2.4s,mb6.1
KSP epP pP 14 08 20.0 -0.8
KSP LMZ 14 43 49.3
comp=Z,1μm,19.8s
KSP Ksiaz 71.32 319⇓iP **P 14 08 11.6 +0.5**
KSP e*PP pP 14 08 19.5 -1.3
KSP MLR MLR
comp=Z,1μm,19.8s,MS5.2
ARMA Armidale 71.37 129⇓iP **P 14 08 12.6 +1.0**
FGMS Monte Sant'Ang 71.46 310 P **P 14 08 11.3 -0.8**
comp=Z,57nm,0.7s,mb5.6
UPC Upice 71.49 319⇓iP **P 14 08 12.7 +0.6**
UPC epP pP 14 08 20.7 -1.1
CONA Conrad Observa 71.52 316 i P **P 14 08 12.5 +0.1**
comp=Z,16nm,0.9s,mb5.0,SNR=13
ARSA Arzberg 71.75 316⇓iP **P 14 08 14.1 +0.4**
comp=Z,22nm,1.1s,mb5.0
SCLL Scilla 71.75 306 P **P 14 08 14.5 +0.6**
comp=Z,24nm,0.8s,mb5.2
GROS Grobnik 71.75 315 i P **P 14 08 13.8 +0.1**
TREC Trest 71.80 318 ⇓AMS AMS 14 45 50.0
comp=Z,600nm,16.9s,MS4.9
MGR Morigerati 71.81 308 P **P 14 08 13.1 -1.1**
BOJS Bojanci 71.93 314 i P **P 14 08 14.6 -0.2**
BOJS i pP 14 08 22.5 -2.0
BILL Bilibino 71.94 22 i P **P 14 08 13.7 -0.7**
BILL Bilibino 71.94 22d iP **P 14 08 13.6 -0.8**
BILL i pP 14 08 22.2 -2.0
BILL e 14 08 30.2
BILL eS S 14 17 40.1 +6.8
BILL pmax pmax
comp=Z,48nm,1.6s,mb5.2
BILL MLR MLR
comp=Z,2μm,19.0s,MS5.3
PERS Pernice 72.02 315 i P **P 14 08 15.4 +0.1**
PERS i pP 14 08 23.4 -1.7
CNB Canberra Magne 72.11 134⇓iP **P 14 08 15.3 -0.7**
comp=Z,48nm,1.4s,mb5.2
TRO Tromso 72.18 339 eP **P 14 08 14.8 -1.1**
TRO AMS AMS 14 43 18.2
comp=Z,2μm,18.8s,MS5.4
BSD Bornholm Skovb 72.34 324 eP **P 14 08 16.4 -0.7**
BSD pmax pmax
comp=Z,58nm,1.0s,mb5.5
BSD MLR MLR
comp=Z,76nm,16.0s,MS4.1
BSD Bornholm Skovb 72.34 324 i P **P 14 08 16.4 -0.7**
comp=Z,58nm,1.0s,mb5.5
BSD i 14 11 09.7
BSD
comp=Z,70nm,16.0s
PVCC Panska Ves 72.41 319⇓iP **P 14 08 18.4 +0.8**
PVCC epP pP 14 08 26.4 -0.9
PVCC AMS AMS 14 44 20.0
comp=Z,600nm,17.6s,MS4.9
OBKA Obir 72.41 315 i P **P 14 08 18.2 +0.5**
comp=Z,34nm,0.9s,mb5.3,SNR=15
PRU Pruhonice 72.42 319⇓iP **P 14 08 18.3 +0.6**
PRU e pP 14 08 26.5 -0.9
PRU Pruhonice 72.42 319⇓iP **P 14 08 18.3 +0.6**
PRU x x 14 08 26.5
LJU Ljubljana 72.43 314 i P **P 14 08 18.1 +0.3**
LJU i pP 14 08 26.0 -1.6
PRA Prague 72.49 319 ⇓P **P 14 08 18.0 -0.1**
PRA ex x 14 08 26.0
MOA Molln 72.60 316 i P **P 14 08 18.6 -0.2**
comp=Z,22nm,0.9s,mb5.1,SNR=12
GORS Gorjuse 72.80 315 i P **P 14 08 19.9 -0.1**
BRG Berggiesshubel 72.81 319⇓iP **P 14 08 20.4 +0.5**
comp=Z,28nm,0.9s,mb5.2
BRG i 14 08 26.4
BRG ePP PP 14 10 54.9 -7.1
BRG S S 14 17 46.0 +2.1
BRG LR LR
comp=Z,560nm,20.4s,MS4.8
BRG Berggiesshubel 72.81 319⇓iP **P 14 08 20.4 +0.4**
BRG i 14 08 26.4
BRG S S 14 17 46.0 +2.1
BRG pmax pmax
comp=Z,28nm,0.9s,mb5.2
BRG MLR MLR
comp=N,268nm,17.5s,MS4.8
BRG MLR MLR
comp=E,344nm,19.7s,MS4.8
BRG MLR MLR
comp=Z,555nm,20.4s,MS4.8
BRG Berggiesshubel 72.81 319 eP **P 14 08 20.5 +0.5**
comp=Z,46nm,0.9s,mb5.4
BRG Berggiesshubel 72.81 319⇓iP **P 14 08 20.4 +0.5**
comp=Z,46nm,0.9s,mb5.4
BRG i 14 08 26.4
comp=Z,70nm,1.4s
BRG ePP PP 14 10 54.9 -7.1
comp=Z,7.8nm,1.3s
BRG S S 14 17 46.0 +2.1
BRG
comp=N,448nm,17.5s
BRG
comp=E,574nm,19.7s
BRG
comp=Z,927nm,20.4s
VOY Vojsko 72.87 314⇓eP **P 14 08 20.2 -0.2**
VOY e pP 14 08 27.8 -2.4
VOY e 14 08 39.5
RUE Ruedersdorf 72.93 321 eP **P 14 08 20.8 +0.1**
comp=Z,60nm,0.7s,mb5.6
RUE epP pP 14 08 29.4 -1.0
GEC2 GERESS Array S 72.97 317 eP **P 14 08 21.3 +0.4**
GEC2 e*PP pP 14 08 29.4 -1.3
GEC2 pmax pmax
comp=Z,53nm,0.9s,mb5.5
GEC2 GERESS Array S 72.97 317 eP **P 14 08 21.3 +0.4**
comp=Z,53nm,0.9s,mb5.5
GEC2 epP pP 14 08 29.4 -1.3
GERES GERESS Array B 72.97 317 P **P 14 08 21.3 +0.4**
GERES *PP pP 14 08 29.0 -1.7
GERES GERESS Array B 72.97 317 P **P 14 08 21.3 +0.4**
comp=Z,30nm,0.8s,mb5.3,baz=87,slow=5.5,SNR=134
GERES pP pP 14 08 29.0 -1.7
comp=Z,26nm,0.9s,baz=86,slow=5.5,SNR=10
GERES LR LR 14 47 03.5
comp=Z,593nm,18.2s,MS4.9,baz=266,slow=41
MYKA Terra Mystica 73.04 315⇓iP **P 14 08 21.3 -0.1**
comp=Z,21nm,0.8s,mb5.1
KHC Kasperske Hory 73.05 318⇓iP **P 14 08 21.4 0.0**
KHC epP pP 14 08 29.5 -1.7
KHC eS S 14 17 46.0 -0.6
KHC AMS AMS 14 46 40.0
comp=Z,500nm,16.4s,MS4.9
KBA Koelnbreinsper 73.23 315 i P **P 14 08 22.3 -0.3**
comp=Z,19nm,1.1s,mb4.9,SNR=9.7
KBA Koelnbreinsper 73.23 315 i P **P 14 08 22.3 -0.2**
KBA pmax pmax
comp=Z,19nm,1.1s,mb4.9
HFS Hagfors 73.24 329 P **P 14 08 22.3 -0.1**
comp=Z,39nm,0.7s,mb5.5,baz=106,slow=5.4,SNR=70
HFS pP pP 14 08 30.5 -1.6
comp=Z,51nm,0.8s,baz=112,slow=6.6,SNR=17
GMNA Gemona 73.33 315 P **P 14 08 23.2 +0.1**
comp=Z,171nm,0.9s,mb6.0
AQU L'Aquila 73.34 311 P **P 14 08 23.0 -0.3**
MOR8 Moi Rana 73.36 335 eP **P 14 08 22.3 -0.6**
comp=Z,72nm,1.1s,mb5.5
MOR8 Moi Rana 73.36 335 eP **P 14 08 22.3 -0.6**
MOR8 AMb AMB 14 08 25.9
comp=Z,72nm,1.1s,mb5.5

MOR8 epP pP 14 08 30.5 -2.2
CLL Collm 73.41 320⇓iP **P 14 08 23.4 -0.1**
comp=Z,40nm,1.1s,mb5.3
CLL epP pP 14 08 31.0 -2.2
CLL eS S 14 17 43.0 -7.6
CLL LR LR
comp=Z,800nm,18.4s,MS5.0
CLL Collm 73.41 320⇓iP **P 14 08 23.4 -0.1**
CLL e*PP pP 14 08 31.0 -2.2
CLL eS S 14 17 43.0 -7.6
CLL pmax pmax
comp=Z,40nm,1.1s,mb5.3
CLL MLR MLR
comp=Z,800nm,18.4s,MS5.0
CLL Collm 73.41 320 eP **P 14 08 23.5 0.0**
comp=Z,245nm,2.5s,mb5.7
CLL epP pP 14 08 31.5 -1.7
CLL Collm 73.41 320⇓iP **P 14 08 23.4 -0.1**
comp=Z,40nm,1.1s,mb5.3
CLL i pP pP 14 08 31.8 -1.4
CLL e(S) S 14 17 42.0 -8.6
CLL LmV 14 45 00.0
comp=Z,800nm,18.4s
CING Cingoli 73.45 312 P **P 14 08 23.5 -0.4**
WET Wettzell 73.51 318 eP **P 14 08 24.4 +0.3**
WET e*PP pP 14 08 32.2 -1.7
WET pmax pmax
comp=Z,43nm,1.0s,mb5.3
WET Wettzell 73.51 318 eP **P 14 08 24.4 +0.3**
comp=Z,43nm,1.0s,mb5.3
WET epP pP 14 08 32.2 -1.7
TANN Tannenbergstha 73.76 319 eP **P 14 08 25.9 +0.3**
comp=Z,33nm,1.2s,mb5.1
TANN epP pP 14 08 33.7 -1.6
NKC Novy Kostel 73.77 319⇓iP **P 14 08 26.2 +0.6**
NKC epP pP 14 08 34.2 -1.2
NKC Novy Kostel 73.77 319⇓iP **P 14 08 26.2 +0.6**
NKC epP pP 14 08 34.2 -1.2
NKC AMS AMS 14 45 30.0
comp=Z,900nm,19.7s,MS5.1
ABTA Abfaltersbach 73.81 315⇓iP **P 14 08 25.3 -0.6**
comp=Z,19nm,1.1s,mb4.9
LOF Lofoten 73.90 337 eP **P 14 08 27.8 +1.8**
comp=Z,138nm,1.8s,mb5.6
LOF Lofoten 73.90 337 eP **P 14 08 27.6 +1.5**
LOF AMb AMB 14 08 30.2
comp=Z,138nm,1.8s,mb5.6
ROTZ Rotzenmuhle 73.93 318 eP **P 14 08 27.4 +0.8**
comp=Z,58nm,1.1s,mb5.4
ROTZ ePP PP 14 11 16.3 +4.7
MURB Monte Urbino 73.95 312 P **P 14 08 27.2 +0.4**
MANZ Manzenberg 73.99 319 eP **P 14 08 27.7 +0.7**
comp=Z,54nm,1.0s,mb5.4
BADI Badiali 74.14 312 P **P 14 08 28.0 +0.1**
NSS Namsos 74.28 334 eP **P 14 08 27.3 -1.0**
MOX Moxa 74.29 319 i P **P 14 08 29.1 +0.4**
comp=Z,92nm,1.8s,mb5.4
MOX e pP 14 08 37.2 -1.3
MOX
comp=Z,600nm,17.0s
MOX Moxa 74.29 319 i P **P 14 08 29.1 +0.4**
MOX e pP 14 08 37.2 -1.3
MOX pmax pmax
comp=Z,92nm,1.8s,mb5.4
MOX MLR MLR
comp=Z,600nm,17.0s,MS5.0
MOX Moxa 74.29 319 eP **P 14 08 29.0 +0.3**
comp=Z,36nm,0.9s,mb5.3
MOX epP pP 14 08 37.0 -1.5
MOX ePP PP 14 11 19.3 +4.6
WTTA Wattenberg 74.39 316 i P **P 14 08 28.9 -0.5**
comp=Z,48nm,1.0s,mb5.4,SNR=10
WTTA Wattenberg 74.39 316 i P **P 14 08 28.9 -0.4**
WTTA pmax pmax
comp=Z,48nm,1.0s,mb5.4
CTI Castel Tesino 74.44 314 P **P 14 08 29.9 +0.3**
comp=Z,95nm,0.8s,mb5.8
CTI Castel Tesino 74.44 314 P **P 14 08 29.9 +0.3**
CTI pmax pmax
comp=Z,95nm,0.8s,mb5.8
NB2 NORSAR Subarra 74.50 330 P **P 14 08 28.9 -0.8**
comp=Z,30nm,0.7s,mb5.3,baz=91,slow=5.9
NOA NORSAR Array B 74.50 330 P **P 14 08 29.2 -0.5**
NOA pP pP 14 08 37.2 -2.3
NOA LR LR 14 46 55.6
NOA NORSAR Array B 74.50 330 P **P 14 08 29.2 -0.5**
NOA *PP pP 14 08 37.2 -2.2
NOA NORSAR Array B 74.50 330 P **P 14 08 29.2 -0.5**
comp=Z,24nm,0.7s,mb5.3,baz=91,slow=5.7,SNR=69
NOA pP pP 14 08 37.2 -2.3
comp=Z,29nm,0.8s,baz=91,slow=5.7,SNR=17
NOA LR LR 14 46 55.6
comp=Z,779nm,18.4s,MS5.0,baz=90,slow=40
GRA1 Grafenberg Arr 74.58 318 eP **P 14 08 31.1 +0.8**
comp=Z,57nm,1.0s,mb5.5
GRA1 epP pP 14 08 38.8 -1.3
GRA1 ePP PP 14 11 19.3 +2.2
GRA1 eS S 14 18 04.3 +0.5
GRA1 LR LR
comp=Z,500nm,19.8s,MS4.8
GRF Grafenberg Arr 74.58 318 eP **P 14 08 31.1 +0.8**
GRF e*PP pP 14 08 38.8 -1.3
GRF e 14 11 19.3
GRF eS S 14 18 04.3 +0.5
GRF pmax pmax
comp=Z,57nm,1.0s,mb5.5
GRF MLR MLR
comp=Z,500nm,19.8s,MS4.8
GRF Grafenberg Arr 74.58 318 eP **P 14 08 31.1 +0.8**
comp=Z,57nm,1.0s,mb5.5
GRF epP pP 14 08 38.8 -1.3
GRF ePP PP 14 11 19.3 +2.2
GRF eS S 14 18 04.3 +0.5
GRF eL 14 48 16.6
comp=Z,530nm,19.8s
GRFO Grafenberg 74.58 318 eP **P 14 08 31.3 +0.9**
comp=Z,48nm,1.2s,mb5.3
GRFO Grafenberg 74.58 318 eP **P 14 08 31.3 +0.9**
GRFO pmax pmax
comp=Z,48nm,1.2s,mb5.3
FUR Furstenfeldbru 74.60 317 eP **P 14 08 30.3 -0.2**
FUR pmax pmax
comp=Z,24nm,0.8s,mb5.2
FUR Furstenfeldbru 74.60 317 eP **P 14 08 30.3 -0.2**
comp=Z,24nm,0.8s,mb5.2
SMY Shemya 74.66 39 eP **P 14 08 30.7 0.0**
comp=Z,275nm,1.1s,mb6.1
SMY epP pP 14 08 38.8 -1.7
SMY Shemya 74.66 39 eP **P 14 08 30.7 -0.1**
SMY e*PP pP 14 08 38.8 -1.7
SMY pmax pmax
comp=Z,275nm,1.1s,mb6.1
SQTA Sankt Quirin 74.68 316 i P **P 14 08 30.6 -0.4**
comp=Z,15nm,0.5s,mb5.2,SNR=8.7
SQTA Sankt Quirin 74.68 316 i P **P 14 08 30.6 -0.4**
SQTA pmax pmax
comp=Z,15nm,0.5s,mb5.2
MOTA Moosalm 74.75 316⇓iP **P 14 08 30.7 -0.7**
comp=Z,30nm,0.9s,mb5.2
MOTA Moosalm 74.75 316⇓iP **P 14 08 30.7 -0.7**
MOTA pmax pmax
comp=Z,30nm,0.9s,mb5.2
TAU Tasmania Unive 74.88 142 eP **P 14 08 32.4 +0.3**
comp=Z,22nm,0.8s,mb5.1
TAU Tasmania Unive 74.88 142 eP **P 14 08 32.4 +0.3**
TAU pmax pmax
comp=Z,22nm,0.8s,mb5.1
FNVD Fontana Vidola 74.91 313 P **P 14 08 33.3 +0.9**
RETA Reutte 74.97 316 i P **P 14 08 32.3 -0.4**
comp=Z,45nm,1.0s,mb5.3,SNR=17
FETA Feichten 75.02 315⇓iP **P 14 08 32.8 -0.2**
comp=Z,31nm,1.0s,mb5.2,SNR=12
CLZ Clausthal 75.04 320 eP **P 14 08 33.4 +0.4**
CLZ pmax pmax
comp=Z,61nm,0.9s,mb5.5
CLZ Clausthal 75.04 320 eP **P 14 08 33.4 +0.4**
comp=Z,61nm,0.9s,mb5.5
GRFL Gerfalco 75.08 311 P **P 14 08 32.4 -1.0**
comp=Z,33nm,1.3s,mb5.1
MABI Malga Bissina 75.22 315 P **P 14 08 34.2 0.0**
BDI Bagni Di Lucca 75.30 312 P **P 14 08 33.8 -0.8**
KONO Kongsberg 75.30 329⇓eP **P 14 08 33.4 -0.9**
KONO LR LR
comp=Z,1μm,20.0s,MS5.3
KONO Kongsberg 75.30 329 e sS 14 18 29.7 +2.1

KONO AMS AMS 14 47 10.9
comp=Z,1μm,17.2s,MS5.3
BRMO Bormio 75.30 315 P **P 14 08 34.7 +0.1**
UBBA Unterbreizbach 75.31 319 eP **P 14 08 34.7 +0.1**
comp=Z,52nm,1.8s,mb5.2
UBBA ePP PP 14 11 27.3 +4.0
KBS Kingsbay 75.49 349 PFAKE 14 08 50.0 +15
KBS LR LR
comp=Z,1μm,20.0s,MS5.2
KBS Kingsbay 75.49 349 eS S 14 18 14.8 +1.7
KBS AMS AMS 14 48 47.5
comp=Z,697nm,18.8s,MS5.0
DOMB Dombas 75.53 331 eP **P 14 08 35.8 +0.1**
DOMB epP pP 14 08 43.1 -2.3
BERNI Berninapass 75.54 315⇓iP **P 14 08 36.4 +0.4**
comp=Z,282nm,2.3s,mb5.8
DAVA Damuels 75.58 316⇓iP **P 14 08 36.2 0.0**
comp=Z,64nm,0.9s,mb5.5,SNR=9.3
DAVA Damuels 75.58 316⇓iP **P 14 08 36.2 -0.1**
comp=Z,64nm,0.9s,mb5.5
MUD Monsted U'grnd 75.59 325 eP **P 14 08 37.4 +1.4**
MUD pmax pmax
comp=Z,68nm,1.0s,mb5.5
MUD MLR MLR
comp=Z,110nm,16.0s,MS4.3
MUD Monsted U'grnd 75.59 325 i P **P 14 08 37.4 +1.4**
comp=Z,68nm,1.0s,mb5.5
MUD
comp=Z,100nm,16.0s
DAVOX Davos/Dischmat 75.62 315 P **P 14 08 36.4 0.0**
baz=90,slow=5.1
DAVOX Davos/Dischmat 75.62 315⇓iP **P 14 08 36.6 +0.2**
comp=Z,242nm,2.7s,mb5.7
VDL Val di Lei 75.93 315⇓iP **P 14 08 38.4 +0.2**
VDL Val di Lei 75.93 315⇓iP **P 14 08 38.1 -0.1**
comp=Z,318nm,2.6s,mb5.8
PLONS Plons/SG 75.94 316⇓iP **P 14 08 38.1 -0.2**
PLONS Plons/SG 75.94 316⇓iP **P 14 08 38.4 +0.1**
comp=Z,266nm,2.1s,mb5.8
STU Stuttgart 75.95 317 eP **P 14 08 38.2 -0.1**
comp=Z,29nm,0.5s,mb5.5
TUE Stuetta 76.00 315 P **P 14 08 38.8 +0.2**
BOB Bobbio (Coli) 76.06 313 P **P 14 08 39.5 +0.5**
LLS Linth-Limmern 76.21 315⇓iP **P 14 08 39.9 +0.1**
LLS Linth-Limmern 76.21 315⇓iP **P 14 08 39.2 -0.6**
comp=Z,296nm,2.7s,mb5.7
MUGIO Muggio 76.26 314⇓iP **P 14 08 39.2 -0.9**
MUGIO Muggio 76.26 314⇓iP **P 14 08 39.9 -0.2**
comp=Z,81nm,0.7s,mb5.8
SPAK Spaichingen-Ko 76.27 317⇓eP **P 14 08 40.1 0.0**
VAI Varese 76.45 314 P **P 14 08 40.5 -0.7**
comp=Z,60nm,0.8s,mb5.6
VAI Varese 76.45 314 P **P 14 08 40.5 -0.7**
VAI pmax pmax
comp=Z,60nm,0.8s,mb5.6
MUO Muotathal 76.45 316⇓iP **P 14 08 41.6 +0.4**
comp=Z,559nm,2.0s,mb6.1
CORF Corte 76.49 311 eP **P 14 08 41.2 -0.3**
BFO Black Forest 76.55 317 eP **P 14 08 41.4 -0.3**
comp=Z,32nm,1.3s,mb5.1
BFO LR LR
comp=Z,552nm,19.0s,MS4.9
PGF Pioggiola 76.58 311 eP **P 14 08 41.6 -0.4**
comp=Z,59nm,1.0s,mb5.2
PGF Pioggiola 76.58 311 eP **P 14 08 41.6 -0.4**
comp=Z,30nm,1.0s,mb5.2
PGF Pioggiola 76.58 311 eP **P 14 08 41.6 -0.4**
PGF pmax pmax
comp=Z,30nm,1.0s,mb5.2
BNALP Bannalp 76.61 315⇓iP **P 14 08 42.3 +0.3**
comp=Z,288nm,2.0s,mb5.9
IBBN Ibbenburen 76.63 321 eP **P 14 08 42.4 +0.4**
comp=Z,73nm,0.8s,mb5.7
SULZ Cheisacher 76.77 316⇓iP **P 14 08 42.7 -0.2**
comp=Z,214nm,1.6s,mb5.8
FELD Feldberg im Sc 76.81 317⇓eP **P 14 08 43.1 -0.1**
LANF Langenberg 76.85 318⇓eP **P 14 08 43.7 +0.3**
FIN Finale Ligure 77.00 313 P **P 14 08 43.8 -0.5**
BOSA Boshof 77.03 236 P **P 14 08 45.8 +1.0**
comp=Z,79nm,0.7s,mb5.7,baz=76,slow=4.9,SNR=120
BOSA LR LR 14 39 05.3
comp=Z,793nm,19.0s,MS5.0,baz=65,slow=33
KEST Kesra 77.03 304 P **P 14 08 44.7 0.0**
comp=Z,12nm,0.8s,mb4.9,baz=293,slow=1.2,SNR=29
KEST LR LR 14 47 48.7
comp=Z,152nm,19.0s,MS4.3,baz=15,slow=40
BALST Balsthal 77.06 316⇓iP **P 14 08 44.4 -0.2**
comp=Z,220nm,2.0s,mb5.7
LKBD Leukerbad 77.20 315⇓iP **P 14 08 45.6 +0.2**
comp=Z,156nm,0.9s,mb5.9
WTSB Winterswijk 77.24 321 eP **P 14 08 45.6 +0.1**
comp=Z,89nm,2.0s,mb5.3
WTSB Winterswijk 77.24 321 ex pP 14 08 54.1 -1.2
CDF Champ du Feu 77.25 317 eP **P 14 08 45.2 -0.4**
comp=Z,50nm,1.1s,mb5.1
CDF Champ du Feu 77.25 317 eP **P 14 08 45.2 -0.4**
comp=Z,25nm,1.1s,mb5.1
CDF Champ du Feu 77.25 317 eP **P 14 08 45.2 -0.4**
CDF pmax pmax
comp=Z,25nm,1.1s,mb5.1
IMI Imperia 77.25 312 P **P 14 08 45.7 -0.1**
RUP Ruppelstein 77.27 318⇓eP **P 14 08 46.1 +0.4**
ECH Echery 77.34 317⇓eP **P 14 08 45.7 -0.5**
DIX Grande Dixence 77.38 315⇓iP **P 14 08 47.1 +0.7**
comp=Z,379nm,2.0s,mb6.0
MOF Molkenrain 77.39 317⇓eP **P 14 08 46.3 -0.2**
BER Bergen 77.41 329 eS S 14 18 35.2 +0.6
BER AMS AMS 14 48 37.7
comp=Z,1μm,17.8s,MS5.3
SAOF Saorge 77.49 313⇓eP **P 14 08 46.9 -0.2**
GRYON Gryon 77.57 315⇓iP **P 14 08 47.7 +0.2**
comp=Z,194nm,1.9s,mb5.7
AUTN L'Aution 77.58 313⇓eP **P 14 08 47.8 +0.2**
HINF Hinteralfeld 77.58 317 eP **P 14 08 47.1 -0.4**
SBF Sospel 77.59 312 eP **P 14 08 47.1 -0.5**
comp=Z,53nm,0.7s,mb5.2
SBF Sospel 77.59 312 eP **P 14 08 47.1 -0.5**
comp=Z,26nm,0.7s,mb5.3
SBF Sospel 77.59 312 eP **P 14 08 47.1 -0.5**
SBF pmax pmax
comp=Z,27nm,0.7s,mb5.3
TORNY Torny/Romont 77.62 315⇓iP **P 14 08 47.9 +0.2**
comp=Z,224nm,1.2s,mb6.0
LUCF Luceram 77.65 312⇓eP **P 14 08 48.0 0.0**
LOMF Lomont 77.65 316⇓eP **P 14 08 47.4 -0.5**
SALAN Lac Salanfe 77.67 315⇓iP **P 14 08 48.4 +0.3**
comp=Z,339nm,2.3s,mb5.9
TOUF Mont Tournerai 77.70 313⇓eP **P 14 08 48.4 +0.1**
EMV Vieux Emosson 77.73 315⇓iP **P 14 08 48.8 +0.4**
comp=Z,387nm,2.6s,mb5.9
MVIF Mont Vial 77.79 313⇓eP **P 14 08 48.8 +0.1**
WLF Walferdange 77.86 318 P **P 14 08 50.0 +1.0**
comp=Z,41nm,2.1s,mb5.0
WLF Walferdange 77.86 318 eP **P 14 08 49.7 +0.7**
comp=Z,85nm,1.5s,mb5.5
HGN Heimansgroeve 77.89 320 eP **P 14 08 48.5 -0.7**
comp=Z,42nm,2.2s,mb5.0
HGN Heimansgroeve 77.89 320 ex pP 14 08 57.4 -1.6
LPG La Plagne 77.90 314 eP **P 14 08 49.6 +0.3**
comp=Z,109nm,0.8s,mb5.5
LPG La Plagne 77.90 314 eP **P 14 08 49.6 +0.3**
comp=Z,54nm,0.8s,mb5.5
LPG La Plagne 77.90 314 eP **P 14 08 49.6 +0.3**
LPG pmax pmax
comp=Z,54nm,0.8s,mb5.5
HAU Haudompre 77.90 317 eP **P 14 08 48.8 -0.5**
comp=Z,77nm,0.9s,mb5.3
HAU eMLR MLR
comp=Z,765nm,19.5s,MS4.7
HAU Haudompre 77.90 317 eP **P 14 08 48.8 -0.5**
comp=Z,38nm,0.9s,mb5.3
HAU LR LR
comp=Z,770nm,19.5s,MS5.0
HAU Haudompre 77.90 317 eP **P 14 08 48.8 -0.5**
HAU pmax pmax
comp=Z,38nm,0.9s,mb5.3
HAU MLR MLR
comp=Z,770nm,19.5s,MS5.0
LPL La Plagne 77.91 314 eP **P 14 08 49.7 +0.3**
comp=Z,134nm,0.7s,mb5.7
LPL La Plagne 77.91 314 eP **P 14 08 49.7 +0.3**
comp=Z,67nm,0.7s,mb5.7
LPL La Plagne 77.91 314 eP **P 14 08 49.7 +0.3**
LPL pmax pmax
comp=Z,67nm,0.7s,mb5.7
BRANT Les Verrieres 77.93 316⇓iP **P 14 08 49.6 +0.1**

comp=Z,148nm,2.0s,mb5.6
SURF Saint Ours 77.97 313⇓eP P 14 08 50.1 +0.4
MBDF Montbardon 77.97 313 eP P 14 08 49.0 -0.7
comp=Z,86nm,0.9s,mb5.4
MBDF Montbardon 77.97 313 eP P 14 08 49.0 -0.7
comp=Z,43nm,0.9s,mb5.4
MBDF Montbardon 77.97 313 eP P 14 08 49.0 -0.7
MBDF pmax pmax
comp=Z,43nm,0.9s,mb5.4
CALN Calern 77.99 312⇓eP P 14 08 50.2 +0.3
BNI Bardonecchia 78.00 314 P P 14 08 49.8 -0.1
THEF They Montfort 78.12 317⇓eP P 14 08 50.2 -0.3
FRF La Foret Royal 78.19 312 eP P 14 08 50.7 -0.3
comp=Z,139nm,1.1s,mb5.5
FRF La Foret Royal 78.19 312 eP P 14 08 50.7 -0.3
comp=Z,70nm,1.1s,mb5.5
FRF La Foret Royal 78.19 312 eP P 14 08 50.7 -0.3
FRF pmax pmax
comp=Z,70nm,1.1s,mb5.5
CABF La Chapelle 78.23 315 eP P 14 08 51.3 +0.1
comp=Z,114nm,1.2s,mb5.4
CABF La Chapelle 78.23 315 eP P 14 08 51.3 +0.1
comp=Z,57nm,1.2s,mb5.4
CABF La Chapelle 78.23 315 eP P 14 08 51.3 +0.1
CABF pmax pmax
comp=Z,57nm,1.2s,mb5.4
LMR La Mourre 78.31 312 eP P 14 08 51.4 -0.3
comp=Z,85nm,1.1s,mb5.3
LMR La Mourre 78.31 312 eP P 14 08 51.4 -0.3
comp=Z,42nm,1.1s,mb5.3
LMR La Mourre 78.31 312 eP P 14 08 51.4 -0.3
LMR pmax pmax
comp=Z,42nm,1.1s,mb5.3
GDM Grand'Maison 78.37 314⇓eP P 14 08 52.0 0.0
ORIF Oris-en-Rattie 78.57 314 eP P 14 08 52.5 -0.6
ORIF eMLR MLR
comp=Z,728nm,22.2s,MS4.7
TAVF Tavernes 78.61 312⇓eP P 14 08 53.9 +0.6
GRN Grenoble 78.63 314⇓eP P 14 08 53.8 +0.4
STOF St-Etienne Org 78.67 313⇓eP P 14 08 54.6 +1.0
GIVF Givet 78.67 319 eP P 14 08 53.4 -0.1
comp=Z,43nm,1.0s,mb5.0
GIVF Givet 78.67 319 eP P 14 08 53.4 -0.1
comp=Z,22nm,1.0s,mb5.0
GIVF Givet 78.67 319 eP P 14 08 53.4 -0.1
GIVF pmax pmax
comp=Z,22nm,1.0s,mb5.0
MEZF Maizieres J'vi 78.71 317 eP P 14 08 53.5 -0.2
DOU Dourbes 78.82 319 P P 14 08 54.3 0.0
comp=Z,13nm,2.2s,mb4.5
SMRF Simiane la Rot 78.91 313 eP P 14 08 55.3 +0.4
comp=Z,120nm,1.1s,mb5.4
SMRF Simiane la Rot 78.91 313 eP P 14 08 55.3 +0.4
comp=Z,120nm,1.1s,mb5.7
SNF Seneffe 78.96 319 P P 14 08 55.2 +0.1
comp=Z,20nm,1.4s,mb4.8
BAIF Baives 79.07 319 eP P 14 08 55.8 +0.1
comp=Z,75nm,1.0s,mb5.3
BAIF Baives 79.07 319 eP P 14 08 55.8 +0.1
comp=Z,38nm,1.0s,mb5.3
BAIF Baives 79.07 319 eP P 14 08 55.8 +0.1
BAIF pmax pmax
comp=Z,38nm,1.0s,mb5.3
GELF Grande-Etoile 79.09 312⇓eP P 14 08 56.4 +0.4
PRAF Pradon 79.22 313⇓eP P 14 08 57.3 +0.6
MIR Mirnyy 79.35 180⇓iP P 14 08 57.0 +0.3
MIR pmax pmax
comp=Z,200nm,1.0s,mb6.0
VIVF Saint-Julien-l 79.43 314 eP P 14 08 57.7 -0.1
comp=Z,91nm,1.0s,mb5.3
VIVF Saint-Julien-l 79.43 314 eP P 14 08 57.7 -0.1
comp=Z,46nm,1.0s,mb5.4
VIVF Saint-Julien-l 79.43 314 eP P 14 08 57.7 -0.1
VIVF pmax pmax
comp=Z,46nm,1.0s,mb5.4
MSKU Masuku 79.58 266 PFAKE 14 09 10.0 +11
MSKU LR LR
comp=Z,4.0nm,22.0s
LOR Lormes 79.66 316 eP P 14 08 58.6 -0.4
comp=Z,72nm,1.0s,mb5.2
LOR eMLR MLR
comp=Z,598nm,20.0s,MS4.6
LOR Lormes 79.66 316 eP P 14 08 58.6 -0.4
comp=Z,36nm,1.0s,mb5.3
LOR LR LR
comp=Z,600nm,20.0s,MS4.9
LOR Lormes 79.66 316 eP P 14 08 58.6 -0.4
LOR pmax pmax
comp=Z,36nm,1.0s,mb5.3
LOR MLR MLR
comp=Z,600nm,20.0s,MS4.9
SMF Signal de Mont 79.76 316 eP P 14 08 59.1 -0.4
comp=Z,80nm,1.0s,mb5.3
SMF Signal de Mont 79.76 316 eP P 14 08 59.1 -0.4
comp=Z,40nm,1.0s,mb5.3
SMF Signal de Mont 79.76 316 eP P 14 08 59.1 -0.4
SMF pmax pmax
comp=Z,40nm,1.0s,mb5.3
SSF Saint Saulge 79.93 316 eP P 14 09 00.1 -0.3
comp=Z,61nm,1.0s,mb5.2
SSF Saint Saulge 79.93 316 eP P 14 09 00.1 -0.3
comp=Z,30nm,1.0s,mb5.2
SSF Saint Saulge 79.93 316 eP P 14 09 00.1 -0.3
SSF pmax pmax
comp=Z,31nm,1.0s,mb5.2
PLDF La Plantade 80.01 315⇓eP P 14 09 01.1 +0.2
AVF Avril sur Loir 80.08 316 eP P 14 09 00.8 -0.4
comp=Z,60nm,0.9s,mb5.2
AVF Avril sur Loir 80.08 316 eP P 14 09 00.8 -0.4
comp=Z,30nm,0.9s,mb5.2
AVF Avril sur Loir 80.08 316 eP P 14 09 00.8 -0.4
AVF pmax pmax
comp=Z,30nm,0.9s,mb5.2
LASF Ste Croix 80.12 313 eP P 14 09 01.8 +0.3
comp=Z,142nm,1.1s,mb5.5
CASY Casey 80.20 173⇓iP P 14 09 01.3 0.0
AGO Saint Agoulin 80.34 315 eP P 14 09 02.5 -0.2
LBL Lubilhac 80.38 314⇓eP P 14 09 03.3 +0.4
TSUM Tsumeb 80.44 248 eP P 14 09 05.2 +1.6
comp=Z,22nm,0.9s,mb5.1
BGF Bois d'Agland 80.45 316 eP P 14 09 03.1 -0.2
comp=Z,45nm,0.9s,mb5.1
BGF Bois d'Agland 80.45 316 eP P 14 09 03.1 -0.2
comp=Z,22nm,0.9s,mb5.1
BGF Bois d'Agland 80.45 316 eP P 14 09 03.1 -0.2
BGF pmax pmax
comp=Z,22nm,0.9s,mb5.1
PYM Petit Puy Mans 80.47 315 eP P 14 09 03.3 -0.1
HYF Humbligny 80.49 316 eP P 14 09 03.7 +0.3
TCF Toulx Ste Croi 80.93 315 eP P 14 09 05.9 +0.1
comp=Z,122nm,1.2s,mb5.4
TCF Toulx Ste Croi 80.93 315 eP P 14 09 05.9 +0.1
comp=Z,61nm,1.2s,mb5.4
TCF Toulx Ste Croi 80.93 315 eP P 14 09 05.9 +0.1
TCF pmax pmax
comp=Z,61nm,1.2s,mb5.4
GAMB Gambell 80.97 27 eP P 14 09 05.8 +0.1
comp=Z,57nm,1.3s,mb5.3
EJON La Jonquera 81.07 311 P P 14 09 03.1 -3.6
comp=Z,38nm,1.6s,mb5.1
LRDF Laroque-de-Fa 81.25 312⇓eP P 14 09 07.8 +0.2
CAF Calviac 81.26 314 eP P 14 09 07.8 +0.2
comp=Z,64nm,1.1s,mb5.2
CAF Calviac 81.26 314 eP P 14 09 07.8 +0.2
comp=Z,32nm,1.1s,mb5.2
CAF Calviac 81.26 314 eP P 14 09 07.8 +0.2
CAF pmax pmax
comp=Z,32nm,1.1s,mb5.2
FILF Fillols 81.30 312⇓eP P 14 09 08.4 +0.5
JMIC Jan Mayen 81.35 341 eSKS 14 19 22.7
JMIC AMS AMS 14 47 54.9
comp=Z,662nm,19.2s,MS5.0
MTLF Montolieu 81.41 312 eP P 14 09 08.5 0.0
comp=Z,93nm,1.0s,mb5.4
MTLF Montolieu 81.41 312 eP P 14 09 08.5 0.0
comp=Z,46nm,1.0s,mb5.4
MTLF Montolieu 81.41 312 eP P 14 09 08.5 0.0
MTLF pmax pmax
comp=Z,46nm,1.0s,mb5.4
RJF Les Rejaudoux 81.57 314 eP P 14 09 09.6 +0.3
comp=Z,97nm,1.0s,mb5.4
RJF eMLR MLR
comp=Z,452nm,20.2s,MS4.5
RJF Les Rejaudoux 81.57 314 eP P 14 09 09.6 +0.3
comp=Z,49nm,1.0s,mb5.4
RJF LR LR
comp=Z,450nm,20.3s,MS4.8
RJF Les Rejaudoux 81.57 314 eP P 14 09 09.6 +0.3
RJF pmax pmax
comp=Z,49nm,1.0s,mb5.4
RJF MLR MLR
comp=Z,450nm,20.3s,MS4.8
VALF Valcebollere 81.72 312⇓eP P 14 09 10.9 +0.8
SKP1 Kophill 81.95 321⇓eP P 14 09 10.9 -0.2
SUR Sutherland 81.98 234 P P 14 09 13.5 +1.9
comp=Z,960nm,0.8s,SNR=29
SUR Sutherland 81.98 234 eP P 14 09 13.7 +2.0
comp=Z,106nm,0.8s,mb5.8
HPK Haverah Park 82.01 323 P P 14 09 11.6 +0.2
HPK AMb AMB 14 09 20.1
comp=Z,63nm,1.7s,mb5.3
HPK Haverah Park 82.01 323 eP P 14 09 11.6 +0.2
HPK AMb AMB 14 09 20.1
comp=Z,63nm,1.7s,mb5.3
HPK AMS AMS 14 53 03.6
comp=Z,500nm,18.9s,MS4.9
CWF Charnwood Fore 82.06 322⇓eP P 14 09 10.9 -0.7
CWF AMb AMB 14 09 13.5
comp=Z,35nm,2.1s,mb4.9
EMHD Djebel Mahouad 82.09 305 P P 14 09 12.8 +0.6
LDF La Druitiere 82.09 318 eP P 14 09 11.6 -0.3
comp=Z,83nm,1.0s,mb5.3
LDF La Druitiere 82.09 318 eP P 14 09 11.6 -0.3
comp=Z,42nm,1.0s,mb5.3
LDF La Druitiere 82.09 318 eP P 14 09 11.6 -0.3
LDF pmax pmax
comp=Z,42nm,1.0s,mb5.3
DAG Danmarks Havn 82.14 347⇑iP P 14 09 10.8 -0.9
DAG pmax pmax
comp=Z,14nm,1.0s,mb4.8
DAG Danmarks Havn 82.14 347⇑iP P 14 09 10.8 -0.9
comp=Z,14nm,1.0s,mb4.8
EMIR Miracle 82.16 311 P P 14 09 12.0 -0.5
comp=Z,92nm,1.0s,mb5.7
TNA Tin City 82.17 24 eP P 14 09 12.0 0.0
comp=Z,21nm,0.9s,mb5.1
LFF La Frestale 82.18 314 eP P 14 09 12.7 +0.2
comp=Z,70nm,0.9s,mb5.3
LFF La Frestale 82.18 314 eP P 14 09 12.7 +0.2
comp=Z,35nm,0.9s,mb5.3
LFF La Frestale 82.18 314 eP P 14 09 12.7 +0.2
LFF pmax pmax
comp=Z,35nm,0.9s,mb5.3
LHO Holmfirth 82.23 323⇓eP P 14 09 12.3 -0.2
MLS Moulis 82.29 312⇓eP P 14 09 12.5 -0.6
FLN La Foliniere 82.30 318 eP P 14 09 12.7 -0.3
comp=Z,75nm,0.9s,mb5.3
FLN eMLR MLR
comp=Z,722nm,18.5s,MS4.8
FLN La Foliniere 82.30 318 eP P 14 09 12.7 -0.3
comp=Z,38nm,0.9s,mb5.3
FLN LR LR
comp=Z,720nm,18.5s,MS5.1
FLN La Foliniere 82.30 318 eP P 14 09 12.7 -0.3
FLN pmax pmax
comp=Z,38nm,0.9s,mb5.3
FLN MLR MLR
comp=Z,720nm,18.5s,MS5.1
KWE Weaver Farm 82.32 323⇓eP P 14 09 13.0 0.0
EBL Broad Law 82.46 325⇓eP P 14 09 13.8 +0.1
MFF Saint Martin d 82.48 316 eP P 14 09 13.7 -0.3
comp=Z,95nm,0.9s,mb5.4
MFF Saint Martin d 82.48 316 eP P 14 09 13.7 -0.3
comp=Z,47nm,0.9s,mb5.4
MFF Saint Martin d 82.48 316 eP P 14 09 13.7 -0.3
MFF pmax pmax
comp=Z,47nm,0.9s,mb5.4
EDI Edinburgh 82.50 326 P P 14 09 14.2 +0.3
EDI AMb AMB 14 09 17.4
comp=Z,72nm,1.9s,mb5.4
EDI Edinburgh 82.50 326⇓eP P 14 09 14.2 +0.3
EDI AMb AMB 14 09 17.4
comp=Z,72nm,1.9s,mb5.4
EDI AMS AMS 14 52 45.3
comp=Z,613nm,18.5s,MS5.0
EPOB Poblet 82.60 311 P P 14 09 13.8 -0.9
comp=Z,84nm,1.1s,mb5.7
EBH Black Hill 82.61 326⇓eP P 14 09 14.2 -0.3
EKA Eskdalemuir Ar 82.61 325 P P 14 09 14.7 +0.2
comp=Z,14nm,0.7s,mb5.2,baz=87,slow=5.3,SNR=49
EKA pP pP 14 09 22.4 -2.0
comp=Z,22nm,1.0s,baz=87,slow=5.4,SNR=10
GRR Gorron 82.61 318 eP P 14 09 14.4 -0.3
ECK Cauldkaine Hil 82.62 325 eP P 14 09 14.6 0.0
ESK Eskdalemuir 82.64 325 P P 14 09 15.3 +0.7
comp=Z,174nm,1.3s,mb5.9,SNR=5.0
ESK Eskdalemuir 82.64 325 P P 14 09 14.3 -0.3
ESK AMb AMB 14 09 18.0
comp=Z,58nm,2.0s,mb5.3
ESK Eskdalemuir 82.64 325⇓eP P 14 09 14.3 -0.3
ESK AMb AMB 14 09 18.0
comp=Z,58nm,2.0s,mb5.3
ESK AMS AMS 14 54 04.9
comp=Z,587nm,17.9s,MS5.0
ESK Eskdalemuir 82.64 325 eP P 14 09 14.8 +0.1
comp=Z,30nm,1.0s,mb5.3
ESK LR LR
comp=Z,698nm,21.0s,MS5.0
ESK Eskdalemuir 82.64 325 eP P 14 09 14.8 +0.2
ESK pmax pmax
comp=Z,30nm,1.0s,mb5.3
ESK MLR MLR
comp=Z,698nm,21.0s,MS5.0
EAU Auchinoon 82.66 326⇓eP P 14 09 14.9 +0.1
ELO Logie Almond 82.67 326 eP P 14 09 14.8 0.0
MDO Dochfour 82.81 327⇓eP P 14 09 15.6 +0.1
EPF Esparros 82.82 312 eP P 14 09 15.1 -0.7
RESF Ens 82.86 312 eP P 14 09 16.7 +0.6
HAE Alders End 82.94 322⇓eP P 14 09 16.1 -0.2
EBIE Bielsa 83.03 312 P P 14 09 14.8 -2.1
comp=Z,164nm,2.2s,mb5.7
HLM1 Long Mynd 83.04 322⇓eP P 14 09 16.7 -0.1
VIEF Viey 83.08 312 eP P 14 09 17.5 +0.3
EAB Aberfoyle 83.08 326⇓eP P 14 09 17.2 +0.3
HGH Gray Hill 83.18 321⇓eP P 14 09 17.2 -0.3
SBD1 Bryn Du 83.18 323⇓eP P 14 09 17.6 +0.1
EBNR Beni Rached 83.21 306 P P 14 09 15.8 -2.2
ERTA Horta de San J 83.22 310 P P 14 09 18.1 +0.1
comp=Z,300nm,2.2s,mb5.9
MCH1 Michaelchurch 83.22 322 eP P 14 09 17.2 -0.5
MCH1 ⇓eP 14 09 17.2
MCH1 AMb AMB 14 09 18.9
comp=Z,36nm,0.9s,mb5.4
MAW Mawson 83.24 191⇓iP P 14 09 17.9 +0.6
comp=Z,23nm,0.8s,mb5.3
MAW Mawson 83.24 191⇓iP P 14 09 17.9 +0.6
MAW pmax pmax
comp=Z,23nm,0.8s
MAW Mawson 83.24 191 P P 14 09 18.1 +0.8
comp=Z,28nm,0.8s,mb5.3,baz=2.0,slow=5.9,SNR=32
MAW LR LR 14 38 09.7
comp=Z,733nm,21.8s,MS5.0,baz=39,slow=30
REYF Montagne du Re 83.34 313 eP P 14 09 19.1 +0.6
ECHA Ech Chlef 83.36 305 P P 14 09 12.9 -5.9
HTR Trewern Hill 83.37 322⇓eP P 14 09 18.2 -0.3
ETSF Etsaut 83.49 312 eP P 14 09 19.7 +0.4
comp=Z,45nm,0.9s,mb5.2
ETSF Etsaut 83.49 312 eP P 14 09 19.7 +0.4
comp=Z,22nm,0.9s,mb5.2
ETSF Etsaut 83.49 312 eP P 14 09 19.7 +0.4
ETSF pmax pmax
comp=Z,23nm,0.9s,mb5.2
ETRT Tiaret 83.56 305 P P 14 09 21.2 +1.3
GAL1 Galloway 83.58 325 P P 14 09 19.4 -0.1
GAL1 AMb AMB 14 09 23.0
comp=Z,62nm,2.1s,mb5.4
GAL1 Galloway 83.58 325⇓eP P 14 09 19.4 -0.1
GAL1 AMb AMB 14 09 23.0
comp=Z,62nm,2.1s,mb5.4
GAL1 AMS AMS 14 55 13.9
comp=Z,610nm,16.1s,MS5.1
EANR 'Ain N'Sour 83.61 305 P P 14 09 21.0 +0.9
ESAC San Caprasio 83.66 311 P P 14 09 19.4 -0.9
comp=Z,305nm,2.2s,mb6.0
SGMF Saint Gilles 83.75 318 eP P 14 09 20.4 -0.1
comp=Z,58nm,0.9s,mb5.4
SGMF Saint Gilles 83.75 318 eP P 14 09 20.4 -0.1
comp=Z,29nm,0.9s,mb5.4
SGMF Saint Gilles 83.75 318 eP P 14 09 20.4 -0.1
SGMF pmax pmax
comp=Z,29nm,0.9s,mb5.4
ALE Alert 83.91 357 P P 14 09 20.0 -0.8
comp=Z,185nm,0.7s,mb6.3,SNR=6.9
SJPF Ste Jean 83.93 313 eP P 14 09 21.7 +0.2
EMOS Mosqueruela 83.94 310 P P 14 09 21.6 -0.1
comp=Z,528nm,2.3s,mb6.3
MIDW Midway 84.05 63 PFAKE 14 09 30.0 +7.5
MIDW LR LR
comp=Z,1μm,19.0s,MS5.4
EBEN Beniarda 84.10 308 P P 14 09 21.8 -0.7
comp=Z,369nm,2.5s,mb6.1
ELIZ Elizondo 84.13 313 P P 14 09 22.8 +0.2
comp=Z,12nm,0.6s,mb5.2
ELIZ Elizondo 84.13 313 P P 14 09 22.8 +0.2
ELIZ pmax pmax
comp=Z,12nm,0.6s,mb5.2
DYA Yadsworthy 84.14 320 P P 14 09 22.4 -0.1
DYA AMb AMB 14 09 24.8
comp=Z,62nm,2.0s,mb5.4
DYA Yadsworthy 84.14 320⇓eP P 14 09 22.4 -0.1
DYA AMb AMB 14 09 24.8
comp=Z,62nm,2.0s,mb5.4
DYA AMS AMS 14 55 29.1
comp=Z,797nm,17.3s,MS5.2
ROSF Rostrenen 84.20 318 eP P 14 09 22.6 -0.2
comp=Z,70nm,1.0s,mb5.4
ROSF Rostrenen 84.20 318 eP P 14 09 22.6 -0.2
comp=Z,35nm,1.0s,mb5.4
ROSF Rostrenen 84.20 318 eP P 14 09 22.6 -0.2
ROSF pmax pmax
comp=Z,35nm,1.0s,mb5.4
QUIF Quistinic 84.22 318 eP P 14 09 22.4 -0.5
comp=Z,35nm,0.8s,mb5.2
QUIF Quistinic 84.22 318 eP P 14 09 22.4 -0.5
comp=Z,18nm,0.8s,mb5.2
QUIF Quistinic 84.22 318 eP P 14 09 22.4 -0.5
QUIF pmax pmax
comp=Z,18nm,0.8s,mb5.2
HTL Hartland 84.36 321 P P 14 09 23.7 +0.2
HTL AMb AMB 14 09 25.4
comp=Z,59nm,1.4s,mb5.5
HTL Hartland 84.36 321 eP P 14 09 23.7 +0.2
HTL AMb AMB 14 09 25.4
comp=Z,59nm,1.4s,mb5.5
HTL AMS AMS 14 52 20.7
comp=Z,439nm,19.2s,MS4.9
ECHE Chera 84.48 309 P P 14 09 25.0 +0.6
comp=Z,32nm,0.8s,mb5.5
ECHE Chera 84.48 309 P P 14 09 25.0 +0.6
ECHE pmax pmax
comp=Z,32nm,0.8s,mb5.5
ECRI Cripan 84.96 312 P P 14 09 26.9 +0.1
comp=Z,14nm,0.8s,mb5.2
ECRI Cripan 84.96 312 P P 14 09 26.9 +0.1
ECRI pmax pmax
comp=Z,14nm,0.8s,mb5.1
CCA1 Carnmenellis 85.01 320 eP P 14 09 27.1 +0.2
DLF Lyons Farm 85.01 323⇓iP P 14 09 27.4 +0.6
ETOR Torete 85.02 311 P P 14 09 26.8 -0.3
comp=Z,27nm,0.8s,mb5.4
ETOR Torete 85.02 311 P P 14 09 26.8 -0.4
ETOR pmax pmax
comp=Z,27nm,0.8s,mb5.4
DMUB Kingscourt 85.07 324⇓iP P 14 09 28.1 +1.0
ETOB Tobarra 85.12 308 P P 14 09 27.3 -0.4
comp=Z,198nm,1.8s,mb5.9
DCN Croghan 85.43 324⇓iP P 14 09 29.8 +0.9
ELAN Lanestosa 85.48 313 P P 14 09 28.9 -0.4
comp=Z,156nm,2.4s,mb5.7
EVIA Vianos 85.85 309 P P 14 09 31.5 +0.1
comp=Z,26nm,1.0s,mb5.4
EVIA Vianos 85.85 309 P P 14 09 31.5 +0.2
EVIA pmax pmax
comp=Z,26nm,1.0s,mb5.4
ENIJ Nijar 86.00 307 P P 14 09 32.0 -0.1
comp=Z,8.2nm,0.5s,mb5.2
ENIJ Nijar 86.00 307 P P 14 09 32.0 -0.1
ENIJ pmax pmax
comp=Z,8.0nm,0.5s,mb5.2
EQES Quesada 86.48 308 P P 14 09 32.5 -1.9
comp=Z,202nm,3.4s
EBER Berja 86.55 307 P P 14 09 34.4 -0.4
comp=Z,385nm,2.9s,mb6.1
GUD Guadarrama 86.62 311 P P 14 09 35.2 +0.2
comp=Z,47nm,0.7s,mb5.8
GUD Guadarrama 86.62 311 P P 14 09 35.2 +0.1
GUD pmax pmax
comp=Z,47nm,0.7s,mb5.8
ESDC Sonseca Array 86.71 310 P P 14 09 35.2 -0.3
comp=Z,34nm,0.9s,mb5.6
ESDC Sonseca Array 86.71 310 P P 14 09 35.7 +0.1
comp=Z,14nm,0.7s,mb5.3,baz=54,slow=4.7,SNR=40
ESDC pP pP 14 09 43.9 -1.5
comp=Z,15nm,1.0s,baz=64,slow=4.5,SNR=5.4
ESDC LR LR 14 54 49.0
comp=Z,277nm,19.7s,MS4.7,baz=125,slow=40
EARI Arriondas 86.72 314 P P 14 09 34.8 -0.7
comp=Z,68nm,1.3s,mb5.7
EBAN Banos Encina 86.94 308 P P 14 09 36.1 -0.6
comp=Z,17nm,0.7s,mb5.4
EBAN Banos Encina 86.94 308 P P 14 09 36.1 -0.6
EBAN pmax pmax
comp=Z,17nm,0.7s,mb5.4
PAB San Pablo 87.03 310 eP P 14 09 37.6 +0.5
comp=Z,10nm,0.7s,mb5.2
PAB San Pablo 87.03 310 eP P 14 09 37.7 +0.6
PAB pmax pmax
comp=Z,10.0nm,0.7s,mb5.2
EGUA Guajares 87.09 307 P P 14 09 36.6 -0.9
comp=Z,3.6nm,0.7s,mb4.7
EGUA Guajares 87.09 307 P P 14 09 36.6 -0.9
EGUA pmax pmax
comp=Z,4.0nm,0.7s,mb4.8
ERON Agron 87.24 307 P P 14 09 37.2 -1.0
comp=Z,4.3nm,1.0s,mb4.6
ELUQ Luque 87.46 308 P P 14 09 38.3 -0.9
comp=Z,12nm,0.6s,mb5.3
ELUQ Luque 87.46 308 P P 14 09 38.3 -0.9
ELUQ pmax pmax
comp=Z,12nm,0.6s,mb5.3
ELOJ Sierra Loja 87.47 307 P P 14 09 37.7 -1.6
comp=Z,7.1nm,0.7s,mb5.0
ELOJ Sierra Loja 87.47 307 P P 14 09 37.7 -1.6
ELOJ pmax pmax
comp=Z,7.0nm,0.7s,mb5.0
IMA2 Indian Mountai 87.48 22 eP P 14 09 39.2 +0.5
EADA Adamuz 87.55 308 P P 14 09 39.1 -0.6
comp=Z,228nm,2.9s,mb5.9
TORD Torodi Ar. Bea 87.89 283 P P 14 09 41.9 +0.2
comp=Z,19nm,0.7s,mb5.5,baz=82,slow=4.4,SNR=151
TORD pP pP 14 09 50.4 -1.3
comp=Z,14nm,1.0s,baz=73,slow=4.7,SNR=9.6
TORD PP PP 14 13 08.7 +0.7
comp=Z,4.5nm,0.9s,baz=82,slow=7.5,SNR=8.7
TORD PKKPbc PKKPbc 14 27 27.7 +0.1
comp=Z,1.1nm,0.6s,baz=313,slow=1.9,SNR=11
TORD LR LR 14 47 44.8
comp=Z,638nm,20.9s,MS5.0,baz=95,slow=35
TTA Tatalina 87.94 25 eP P 14 09 41.7 +0.7
comp=Z,137nm,1.7s,mb5.9
TTA eP 14 09 41.9
TTA epP pP 14 09 50.1 -0.8
TTA Tatalina 87.94 25 eP P 14 09 41.7 +0.7
TTA e*PP pP 14 09 50.1 -0.8
TTA pmax pmax
comp=Z,137nm,1.7s,mb5.9
EMIJ Mijas 88.10 307 P P 14 09 40.5 -1.9
comp=Z,66nm,1.1s,mb5.8
ECAL Calabor 88.16 313 P P 14 09 41.4 -1.1
comp=Z,131nm,2.7s,mb5.7
PBRG Braganca 88.20 312 eP P 14 09 42.7 0.0
comp=Z,32nm,1.6s,mb5.3
ECAB El Cabril 88.21 309 P P 14 09 42.7 -0.1
comp=Z,420nm,2.6s,mb6.2
MVO Moncorvo 88.58 312 iP P 14 09 45.0 +0.5
comp=Z,46nm,1.6s,mb5.6
MVO Moncorvo 88.58 312 A 14 56 47.3
comp=Z,278nm,20.0s
FUNA Funafuti 88.68 99 PFAKE 14 10 00.0 +15
FUNA LR LR
comp=Z,9μm,20.0s,MS6.2
SDPT Sand Point 88.80 33 eP P 14 09 44.0 -1.2
comp=Z,49nm,0.7s,mb6.0
ESPR Espera 88.86 307 P P 14 09 44.6 -1.3
comp=Z,150nm,3.1s
SVW2 Sparrevohn 88.90 27 eP P 14 09 46.4 +0.8
MDT Midelt 88.92 303 P P 14 09 47.1 +0.9
comp=Z,11nm,0.9s,mb5.2,baz=72,slow=6.6,SNR=34
MDT pP pP 14 09 55.6 -0.7

comp=Z,5.7nm,1.0s,baz=75,slow=13,SNR=4.6
ELOB Lobios 89.13 313 P **P 14 09 46.4 -0.7**
comp=Z,63nm,1.0s,mb5.9
PCAB Cabril 89.15 313 *e*P **P 14 09 47.7 +0.5**
comp=Z,52nm,0.7s,mb6.0
MTE Manteigas 89.17 311 *i* P **P 14 09 48.0 +0.7**
comp=Z,60nm,1.7s,mb5.7
MTE Manteigas 89.17 311 *e*S S 14 20 32.2 -2.3
MTE A 14 57 12.6
comp=Z,226nm,20.0s
STS Santiago 89.19 314 P **P 14 09 47.2 0.0**
comp=Z,34nm,1.1s,mb5.6
STS Santiago 89.19 314 P **P 14 09 47.2 -0.1**
STS pmax pmax
comp=Z,35nm,1.1s,mb5.6
EBAD Badajoz 89.24 310 P **P 14 09 47.1 -0.5**
comp=Z,139nm,2.3s,mb5.9
EMIN Mina Concepcio 89.25 309 P **P 14 09 46.9 -0.8**
comp=Z,181nm,2.7s,mb5.9
PCBR Castelo Branco 89.28 311 *e*P **P 14 09 48.1 +0.3**
comp=Z,36nm,1.9s,mb5.4
PVIS Viseu 89.34 312 *e*P **P 14 09 48.9 +0.8**
comp=Z,46nm,1.5s,mb5.6
PBAR Barrancos 89.42 309 *i* P **P 14 09 49.1 +0.6**
comp=Z,94nm,1.7s,mb5.8
PBAR Barrancos 89.42 309 *e*S S 14 20 34.8 -2.1
PBAR Barrancos 89.42 309 *e*LR LR 14 40 58.4
comp=Z,374nm,22.0s
EMAZ Mazaricos 89.47 314 P **P 14 09 48.0 -0.6**
comp=Z,66nm,0.8s,mb6.0
CHGN Chignik 89.52 32 *e*P **P 14 09 47.9 -0.6**
PESTR Estremoz 89.64 310 *e*P **P 14 09 50.0 +0.5**
comp=Z,34nm,2.2s,mb5.3
PESTR Estremoz 89.64 310 *e*S S 14 20 37.2 -1.7
PESTR Estremoz 89.64 310 *e*LR LR 14 40 52.7
comp=Z,319nm,20.0s
SYO Syowa Base 89.84 197‖*e*X **P 14 09 47.0 -2.6**
SYO Syowa Base 89.84 197‖*e*X **P 14 09 49.2 -0.4**
EGRO El Granado 89.93 308 P **P 14 09 49.8 -1.1**
comp=Z,210nm,2.1s,mb6.1
EVO Evora 90.05 310 *e*P **P 14 09 51.8 +0.4**
comp=Z,44nm,1.1s,mb5.4
EVO *e*MLR MLR
comp=Z,784nm,21.2s,MS4.8
PBEJ Beja 90.08 309 *e*P **P 14 09 52.1 +0.5**
comp=Z,52nm,1.8s,mb5.6
PVAQ Vaqueiros 90.15 308 *i* P **P 14 09 52.4 +0.5**
comp=Z,95nm,2.0s,mb5.8
PVAQ Vaqueiros 90.15 308 *e*S S 14 20 39.3 -4.4
PVAQ Vaqueiros 90.15 308 *e*LR LR 14 41 16.5
comp=Z,286nm,20.0s
COLA College 90.19 22 *i* P **P 14 09 50.9 -0.6**
COLA College 90.19 22 P **P 14 09 51.2 -0.3**
COLA pmax pmax
comp=Z,12nm,1.0s,mb5.2
PBDV Barranco-do-Ve 90.36 308 *i* P **P 14 09 53.7 +0.8**
comp=Z,100nm,1.8s,mb5.8
PBDV Barranco-do-Ve 90.36 308 *e*LR LR 14 41 08.0
comp=Z,265nm,20.0s
RPZ Rata Peaks 90.78 135 LR LR 14 52 05.4
comp=Z,1μm,20.6s,MS5.3,baz=231,slow=37
PTEO Sao Teotonio 90.87 309 *e*P **P 14 09 56.1 +0.8**
comp=Z,71nm,0.9s,mb6.0
PMAFR Mafra 90.88 310 *e*P **P 14 09 55.8 +0.5**
comp=Z,87nm,1.7s,mb5.8
PMAFR Mafra 90.88 310 *e*S S 14 20 42.7 -7.6
PMAFR Mafra 90.88 310 *e*LR LR 14 42 01.7
comp=Z,278nm,20.0s
MORF Marmelete 90.89 309 *e*P **P 14 09 56.1 +0.7**
comp=Z,68nm,1.6s,mb5.7
MORF Marmelete 90.89 309 *e*S S 14 20 51.2 +0.7
MORF A 14 56 28.4
comp=Z,434nm,20.0s
PFVI Vila Bisbo 91.07 308 *e*P **P 14 09 57.1 +0.9**
comp=Z,74nm,1.5s,mb5.8
PFVI Vila Bisbo 91.07 308 *e*S S 14 20 45.9 -6.3
PFVI Vila Bisbo 91.07 308 *e*LR LR 14 41 30.8
comp=Z,348nm,18.0s
PMR Palmer 91.41 25 *e*P **P 14 09 57.5 +0.3**
comp=Z,20nm,0.7s,mb5.6
PMR Palmer 91.41 25 *e*P **P 14 09 57.5 +0.3**
PMR pmax pmax
comp=Z,20nm,0.7s,mb5.6
SLKM Skilak Lake 91.51 26 *e*P **P 14 09 57.5 -0.2**
SLKM Skilak Lake 91.51 26 P **P 14 09 57.9 +0.2**
SML Sawmill 91.63 25 *e*P **P 14 09 58.6 +0.4**
KDAK Kodiak Island 91.76 29 P **P 14 09 59.0 +0.1**
comp=Z,243nm,1.2s,mb6.4,SNR=12
KDAK Kodiak Island 91.76 29 PFAKE 14 10 10.0 +11
KDAK LR LR
comp=Z,221nm,21.0s,MS4.6
RES Resolute Bay 92.35 2 *e*P **P 14 10 01.5 +0.1**
comp=Z,411nm,1.0s
INK Inuvik 92.50 16 P **P 14 10 02.1 0.0**
comp=Z,11nm,0.6s,mb5.5,baz=342,slow=5.4,SNR=51
EGAK Eagle 92.58 20 *e*P **P 14 10 03.0 +0.4**
comp=Z,12nm,1.0s,mb5.3
EGAK *e*pP pP 14 10 11.1 -1.5
MENT Mentasta 92.79 22 *e*P **P 14 10 04.6 +1.0**
DAWY Dawson 93.63 20 *e*P **P 14 10 07.6 +0.2**
DAWY *e*pP pP 14 10 16.1 -1.3
URZ Urewera 93.77 128 P **P 14 10 07.0 -1.5**
comp=Z,50nm,0.8s,mb6.0,baz=315,slow=1.9,SNR=21
DBIC Dimbokro 95.65 278 P **P 14 10 18.1 +0.3**
comp=Z,4.0nm,0.6s,mb5.0,baz=44,slow=7.1,SNR=10
DBIC LR LR 14 52 57.6
comp=Z,488nm,20.6s,MS5.0,baz=59,slow=35
SFJD Kangerlussuaq 95.78 346 LR LR 15 01 07.2
comp=Z,636nm,19.1s,MS5.1,baz=340,slow=40
RAO Raoul Island 95.87 119 LR LR 14 54 01.4
comp=Z,564nm,21.9s,MS5.0,baz=66,slow=36
VNDA Vanda 98.26 168 P **P 14 10 27.2 -0.9**
comp=Z,0.9nm,0.5s,mb4.5,baz=303,slow=4.5,SNR=5.2
VNDA LR LR 14 52 11.9
comp=Z,943nm,18.0s,MS5.3,baz=298,slow=34
AFI Afiamalu 98.48 102 PFAKE 14 10 40.0 +10
AFI LR LR
comp=Z,767nm,19.0s,MS5.2
YKA Yellowknife Ar 101.80 12 P Pdif 14 10 43.7 -0.7
YKA pP 14 10 52.3
YKA Yellowknife Ar 101.80 12 P Pdif 14 10 43.7 -0.7
comp=Z,2.0nm,0.8s,baz=331,slow=4.2,SNR=28
YKA pP 14 10 52.3
comp=Z,1.1nm,0.7s,baz=332,slow=4.9,SNR=7.1
FFC Flin Flon 111.41 9 PFAKE 14 15 40.0 +15
FFC LR LR
comp=Z,635nm,19.0s,MS5.2
NLWA Neilton Lookou 111.64 26 PFAKE 14 15 40.0 +14
NLWA LR LR
comp=Z,779nm,20.0s,MS5.3
B05A Bryant 111.68 24 ⇓P PKiKP 14 15 25.4 -0.6
baz=111
B09A Rice 113.04 22 ⇑P PKiKP 14 15 28.5 -0.2
baz=113
A11A Hall Mountain, 113.21 20 ⇓P PKiKP 14 15 29.3 +0.4
baz=113
D07A Quincy 113.38 24 ⇑P PKiKP 14 15 29.6 +0.3
baz=113
F04A Amboy 113.41 26 ⇓P PKiKP 14 15 28.7 -0.7
baz=113
C09A Chrisman Ranch 113.52 22 ⇓P PKiKP 14 15 29.3 -0.3
baz=113
NEW Newport 113.54 21 PFAKE 14 15 40.0 +10
NEW LR LR
comp=Z,729nm,20.0s,MS5.3
D09A Jones Farm, Ri 114.13 23 ⇓P PKiKP 14 15 30.6 -0.2
baz=114
B13A Whitefish 114.34 19 ⇑P PKiKP 14 15 30.8 -0.3
baz=114
H04A Detroit Lake 114.50 27 ⇑P PKiKP 14 15 31.4 -0.1
baz=114
H05A Madras 114.94 26 ⇑P PKiKP 14 15 32.1 -0.3
baz=115
I04A Tendick Farm, 115.10 27 ⇓P PKiKP 14 15 32.7 -0.1
baz=115
H06A Lindquist Farm 115.24 25 ⇑P PKiKP 14 15 33.1 +0.1
baz=115
G08A Pilot Rock 115.35 24 ⇓P PKiKP 14 15 33.1 0.0
baz=115
F10A Beach Ranch, E 115.45 23 ⇓P PKiKP 14 15 33.2 -0.1
baz=115,SNR=6.0
D13A Huson 115.46 20 ⇓P PKiKP 14 15 32.9 -0.5
baz=115
E11A Bogner Ranch, 115.49 22 P PKiKP 14 15 33.0 -0.5
baz=115,SNR=5.1
J04A Umpqua Nationa 115.67 27 ⇓P PKiKP 14 15 34.0 +0.2
baz=115
HUMO Hull Mountain 115.78 28 ⇑P PKiKP 14 15 33.9 -0.2
baz=116
MSO Missoula 115.87 20 PFAKE 14 15 50.0 +16
MSO LR LR
comp=Z,401nm,20.0s,MS5.0
F11A Grangeville 115.91 22 P PKiKP 14 15 33.8 -0.5
baz=116,SNR=5.2
J05A Fort Rock 116.03 27 ⇑P PKiKP 14 15 34.6 0.0
baz=116
EGMT Eagleton 116.07 16 PFAKE 14 15 50.0 +16
EGMT LR LR
comp=Z,622nm,21.0s,MS5.2
I07A Izee 116.12 25 ⇓P PKiKP 14 15 35.2 +0.6
baz=116
E13A Victor 116.12 20 ⇓P PKiKP 14 15 34.1 -0.5
baz=116
G11A Walters Elk Ra 116.29 22 P PKiKP 14 15 35.4 +0.4
baz=116,SNR=7.1
F12A Elk City 116.35 21 ⇓P PKiKP 14 15 34.2 -0.9
baz=116
BMO Blue Mountains 116.36 23 PFAKE 14 15 50.0 +15
BMO LR LR
comp=Z,470nm,21.0s,MS5.1
J06A Christmas Vall 116.52 26 ⇓P PKPdf 14 15 35.8 +0.3
baz=116
ULM Lac du Bonnet 116.57 6 PKP PKPdf 14 15 34.1 -1.3
comp=Z,4.7nm,0.7s,baz=352,slow=2.6,SNR=10
ULM PKKPbc PKKPbc 14 26 01.4 -3.3
comp=Z,5.1nm,0.7s,baz=169,slow=3.7,SNR=11
YBH Yreka Blue Hor 116.58 29 ⇑P PKPdf 14 15 35.9 +0.2
baz=116
K05A Summer Lake 116.62 27 ⇓P PKPdf 14 15 36.0 +0.3
baz=116
F13A Darby 116.64 21 ⇑P PKPdf 14 15 35.0 -0.7
baz=116
M02C Callahan 116.77 29 ⇑P PKPdf 14 15 35.9 -0.1
baz=116
J07A Hines 116.78 26 ⇓P PKPdf 14 15 36.4 +0.4
baz=116
K06A Valley Falls 116.84 27 ⇑P PKPdf 14 15 36.6 +0.5
baz=117
M04C Macdoel 116.94 28 ⇓P PKPdf 14 15 36.3 0.0
baz=117
H11A Donnelly 116.98 22 P PKPdf 14 15 36.7 +0.4
baz=117,SNR=5.8
N02C Big Bar 116.99 30 ⇓P PKPdf 14 15 36.7 +0.2
baz=117
DGMT Dagmar 117.01 12 PFAKE 14 15 50.0 +14
DGMT LR LR
comp=Z,875nm,20.0s,MS5.4
J08A Circle Bar Ran 117.14 25 ⇑P PKPdf 14 15 37.1 +0.4
baz=117
L05A Lakeview 117.19 27 ⇑P PKPdf 14 15 36.8 0.0
baz=117
M03C McCloud 117.21 29 ⇓P PKPdf 14 15 36.5 -0.4
baz=117
F15A Butte 117.21 19 ⇑P PKPdf 14 15 36.6 -0.2
baz=117
G13A Cobalt 117.28 21 ⇑P PKPdf 14 15 36.1 -0.8
baz=117
K07A Rock Creek Ran 117.36 26 ⇓P PKPdf 14 15 37.4 +0.2
baz=117
G14A Jackson 117.42 20 ⇑P PKPdf 14 15 37.6 +0.4
baz=117
J09A Fry Pan Ranch, 117.44 24 ⇓P PKPdf 14 15 36.9 -0.4
baz=117
H12A Diamond D Ranc 117.53 22 P PKPdf 14 15 37.4 0.0
baz=117,SNR=7.0
MOD Modoc 117.54 27 *e*PKPdf PKPdf 14 15 38.4 +0.9
MOD LR LR
comp=Z,402nm,20.0s,MS5.0
MOD Modoc 117.54 27 ⇑P PKPdf 14 15 37.6 +0.1
baz=117
WDC Whiskeytown Da 117.55 30 ⇑P PKPdf 14 15 37.3 -0.3
baz=117
M05C Lookout 117.59 28 ⇓P PKPdf 14 15 37.7 +0.1
baz=117
K08A Mann Creek Ran 117.65 25 ⇓P PKPdf 14 15 38.2 +0.5
baz=117
BOZ Bozeman (W) 117.66 19 PFAKE 14 15 50.0 +12
BOZ LR LR
comp=Z,573nm,19.0s,MS5.2
H13A Challis 117.74 21 ⇓P PKPdf 14 15 38.0 +0.2
baz=118
O02C Red Bluff 117.74 30 ⇓P PKPdf 14 15 38.7 +0.8
baz=118
G15A Dillon 117.81 20 ⇓P PKPdf 14 15 38.3 +0.4
baz=118
L07A Adell 117.87 26 ⇓P PKPdf 14 15 38.9 +0.7
baz=118
HATC Hat Creek Radi 117.88 29 ⇓P PKPdf 14 15 38.6 +0.4
baz=118
K09A Rome 117.99 25 ⇑P PKPdf 14 15 38.7 +0.4
baz=118
MFID Camas Ranch 118.14 23 P PKPdf 14 15 39.1 +0.5
baz=118,SNR=6.9
L08A Fields 118.16 26 ⇓P PKPdf 14 15 39.1 +0.5
baz=118
GASB Alder Springs 118.18 30 ⇑P PKPdf 14 15 39.5 +0.7
baz=118
LAO LASA Array 118.23 15 *e*PKPdf PKPdf 14 15 39.7 +1.0
LAO LR LR
comp=Z,641nm,19.0s,MS5.3
I13A Wildhorse Cree 118.35 22 ⇓P PKPdf 14 15 39.1 +0.1
baz=118
O04C Chester 118.44 29 ⇓P PKPdf 14 15 39.7 +0.4
baz=118
AGMN Agassiz Refuge 118.50 6 PFAKE 14 15 50.0 +11
AGMN LR LR
comp=Z,799nm,20.0s,MS5.3
HOPS Hopland 118.51 31 ⇑P PKPdf 14 15 39.6 +0.1
baz=118
HLID Hailey 118.55 22 *e*PKPdf PKPdf 14 15 40.1 +0.8
HLID LR LR
comp=Z,506nm,20.0s,MS5.2
HLID Hailey 118.55 22 ⇓P PKPdf 14 15 40.3 +0.9
baz=118
J12A Stokes Ranch, 118.56 23 P PKPdf 14 15 40.3 +0.9
baz=118,SNR=6.2
L09A Wilkinson Ranc 118.58 25 ⇓P PKPdf 14 15 40.3 +0.8
baz=118
K11A Parker Ranch, 118.61 24 ⇑P PKPdf 14 15 39.9 +0.4
baz=118
N06A Buffalo Meadow 118.68 28 ⇓P PKPdf 14 15 40.3 +0.6
baz=118
M08A Happy Creek Ra 118.75 26 ⇑P PKPdf 14 15 40.9 +1.1
baz=118
J13A Cove Ranch, Pi 118.78 22 ⇓P PKPdf 14 15 40.4 +0.6
baz=118
O05C Quincy 118.81 29 ⇓P PKPdf 14 15 40.6 +0.7
baz=119
ORV Oroville 118.85 30 ⇓P PKPdf 14 15 40.5 +0.4
baz=119
MNRC McLaughlin Nat 118.91 31 ⇑P PKPdf 14 15 40.6 +0.4
baz=119
YFT Old Faithful 118.98 19 *e*PKPdf PKPdf 14 15 42.5 +2.3
LKWY Lake 119.02 19 PFAKE 14 15 50.0 +10
LKWY LR LR
comp=Z,1μm,21.0s,MS5.5
L10A Juniper Basin 119.02 24 ⇓P PKPdf 14 15 41.5 +1.2
baz=119
N07B Gerlach 119.04 27 ⇓P PKPdf 14 15 41.2 +0.8
baz=119
BEKR Beckwourth 119.14 29 ⇑P PKPdf 14 15 40.5 -0.1
baz=119
O06A Flanigan 119.15 28 ⇓P PKPdf 14 15 41.2 +0.5
baz=119
K12A Draper Farm, C 119.16 23 ⇑P PKPdf 14 15 41.1 +0.5
baz=119
EYMN Ely 119.20 3 *e*PKPdf PKPdf 14 15 40.1 -0.4
EYMN LR LR
comp=Z,784nm,20.0s,MS5.3
N08A GE Springer Mi 119.41 26 ⇓P PKPdf 14 15 41.9 +0.8
baz=119
K13A Stover Farm, H 119.46 22 ⇓P PKPdf 14 15 42.0 +0.8
baz=119
M10A I.L. Ranch, Tu 119.46 25 ⇑P PKPdf 14 15 42.3 +1.1
baz=119
N09A Rock Creek Ran 119.61 26 ⇓P PKPdf 14 15 42.4 +0.9
baz=119
PKME Peaks-Kenny Pk 119.70 345 PFAKE 14 15 50.0 +8.5
PKME LR LR
comp=Z,547nm,21.0s,MS5.2
LOHW Long Hollow 119.81 19 *e*PKPdf PKPdf 14 15 42.2 +0.4
M11A Holland Ranch, 119.84 24 P PKPdf 14 15 43.2 +1.3
baz=120,SNR=6.0
LAVA Lava Cap Winer 119.84 30 ⇓P PKPdf 14 15 42.4 +0.4
baz=120
WCN Washoe City 119.87 29 ⇑P PKPdf 14 15 42.8 +0.7
baz=120
K14A Jones Ranch, D 119.88 22 ⇓P PKPdf 14 15 42.3 +0.3
baz=120
SNOW Snow King Moun 119.90 19 *e*PKPdf PKPdf 14 15 43.1 +1.2
REDW Red Top Meadow 119.95 20 *e*PKPdf PKPdf 14 15 42.9 +0.8
L13A Double Diamond 119.99 23 ⇑P PKPdf 14 15 42.8 +0.6
baz=120
PPT Papeete 120.15 103 *e*PP PP 14 17 01.0 -7.6
comp=Z,66nm,26.5s
PPT Papeete 120.15 103 *e*PS PS 14 26 54.5 -4.8
comp=Z,93nm,24.2s
PPT *e*SS SS 14 33 28.7 -5.8
comp=Z,214nm,25.5s
PPT Papeete 120.15 103 *e*LR LR 14 52 33.8
comp=Z,209nm,23.2s
M12A Wells 120.20 24 P PKPdf 14 15 43.5 +0.9
baz=120,SNR=10
R05C Kirkwood Meado 120.20 29 ⇓P PKPdf 14 15 43.1 +0.4
baz=120
AHID Auburn Hatcher 120.41 20 PFAKE 14 15 50.0 +7.0
AHID LR LR
comp=Z,815nm,20.0s,MS5.4
O10A Cortez Mining, 120.51 26 ⇓P PKPdf 14 15 43.9 +0.6
baz=120
CMB Columbia Colle 120.58 30 PFAKE 14 15 50.0 +6.5
CMB LR LR
comp=Z,201nm,19.0s,MS4.8
CMB Columbia Colle 120.58 30 ⇑P PKPdf 14 15 43.7 +0.2
baz=120
TBI Tubuai 120.60 110 *e*LR LR 14 52 51.1
comp=Z,353nm,24.5s
N12A Clover Valley, 120.63 24 P PKPdf 14 15 44.5 +1.0
baz=120,SNR=11
R06C Coleville 120.64 29 ⇑P PKPdf 14 15 44.6 +1.1
baz=120
M14A Sheep Mountain 120.72 22 ⇓P PKPdf 14 15 44.4 +0.8
baz=120
P09A Austin 120.85 26 ⇓P PKPdf 14 15 44.8 +0.9
baz=121
BW06 Boulder Array 120.90 19 PFAKE 14 16 00.0 +16
BW06 LR LR
comp=Z,583nm,19.0s,MS5.2
PDAR Pinedale Array 120.90 19 PKP PKPdf 14 15 43.6 -0.3
comp=Z,5.9nm,0.6s,baz=84,slow=0.6,SNR=56
PDAR PKKPbc PKKPbc 14 25 46.0 -2.7
comp=Z,0.9nm,0.6s,baz=148,slow=4.7,SNR=7.5
PACP Pacheco Peak 120.93 31 ⇑P PKPdf 14 15 45.3 +1.2
baz=121
N13A Wendover, West 120.96 23 ⇓P PKPdf 14 15 44.6 +0.5
baz=121
O11A Cowboy Ranch, 120.99 25 P PKPdf 14 15 45.1 +0.9
baz=121,SNR=19
P10A Eureka 121.08 26 ⇓P PKPdf 14 15 44.6 +0.2
baz=121
COWI Conover 121.14 1 *e*PKPdf PKPdf 14 15 44.0 -0.3
COWI LR LR
comp=Z,985nm,19.0s,MS5.5
S05C Merced 121.15 30 ⇓P PKPdf 14 15 44.9 +0.3
baz=121
RSSD Black Hills 121.17 14 *e*PKPdf PKPdf 14 15 44.2 -0.2
O12A Currie 121.25 24 P PKPdf 14 15 45.6 +0.9
baz=121,SNR=22
NVAR Mina Array Bea 121.25 28 PKP PKPdf 14 15 45.8 +1.1
comp=Z,12nm,0.8s,baz=351,slow=1.3,SNR=68
NVAR PKKPbc PKKPbc 14 25 46.5 -0.8
comp=Z,1.1nm,0.7s,baz=158,slow=3.6,SNR=8.5
HWUT Hardware Ranch 121.28 21 *e*PKPdf PKPdf 14 15 45.0 +0.3
HWUT LR LR
comp=Z,615nm,20.0s,MS5.2
LBNH Lisbon 121.28 347 PFAKE 14 16 00.0 +15
LBNH LR LR
comp=Z,733nm,19.0s,MS5.3
N14A Grayback Hills 121.35 23 ⇓P PKPdf 14 15 44.9 0.0
baz=121
LONY Lake Ozonia 121.45 349 PFAKE 14 16 00.0 +15
LONY LR LR
comp=Z,678nm,20.0s,MS5.3
KCC Kaiser Creek 121.66 30 ⇓P PKPdf 14 15 45.7 +0.2
baz=121
O13A Hicks Ranch, I 121.67 24 P PKPdf 14 15 46.3 +0.8
baz=121,SNR=5.3
T06C Millerton Lake 121.72 30 ⇓P PKPdf 14 15 45.7 0.0
baz=122
Q10A Clear Creek Ra 121.77 26 ⇓P PKPdf 14 15 46.2 +0.5
baz=122
P12A McGill 121.86 25 P PKPdf 14 15 46.8 +0.9
baz=122,SNR=8.5
R09A Tonopah 121.96 27 ⇓P PKPdf 14 15 46.4 +0.3
baz=122
MTUM Tungsten Hills 122.00 29 *e*PKPdf PKPdf 14 15 47.3 +1.1
NCB Newcomb 122.01 349 PFAKE 14 16 00.0 +14
NCB LR LR
comp=Z,628nm,20.0s,MS5.3
DUG Dugway 122.06 23 PFAKE 14 16 00.0 +14
DUG LR LR
comp=Z,409nm,19.0s,MS5.1
DUG Dugway 122.06 23 PKIKP PKPdf 14 15 47.0 +0.8
S08C White Mtn Res 122.06 29 ⇑P PKPdf 14 15 46.6 +0.3
baz=122
Q11A Duckwater 122.08 26 P PKPdf 14 15 46.9 +0.6
baz=122,SNR=6.1
PKD Parkfield 122.14 32 ⇑P PKPdf 14 15 46.9 +0.4
baz=122
P13A Bates Ranch, G 122.23 24 P PKPdf 14 15 47.1 +0.6
baz=122,SNR=9.6
Q12A Willow Creek R 122.26 25 P PKPdf 14 15 47.7 +1.1
baz=122,SNR=5.3
R10A Warm Springs 122.26 27 ⇑P PKPdf 14 15 47.1 +0.4
baz=122
HELL Mitchell Peak 122.31 30 ⇓P PKPdf 14 15 47.0 +0.1
baz=122
S09A Goldfield 122.31 28 ⇓P PKPdf 14 15 47.5 +0.7
baz=122
GLMI Grayling 122.37 358 PFAKE 14 16 00.0 +13
GLMI LR LR
comp=Z,864nm,19.0s,MS5.4
S10A Tonopah Range, 122.43 27 ⇑P PKPdf 14 15 47.6 +0.5
baz=122
R11A Troy Canyon, C 122.52 26 P PKPdf 14 15 48.1 +0.9
baz=122,SNR=23
NLU North Lily Min 122.55 22 *e*PKPdf PKPdf 14 15 47.9 +0.7
MPU Maple Canyon 122.65 22 PFAKE 14 16 00.0 +13
MPU LR LR
comp=Z,783nm,20.0s,MS5.4
HOPE Hope Point 122.76 213 PFAKE 14 16 00.0 +13
HOPE LR LR
comp=Z,5.0nm,20.0s
HRV Adam Dziewonsk 122.84 346 PFAKE 14 16 00.0 +12
HRV LR LR
comp=Z,730nm,21.0s,MS5.3
ECSD EROS,Sioux Fal 122.91 8 *e*PKPdf PKPdf 14 15 47.2 -0.5
ECSD LR LR
comp=Z,618nm,21.0s,MS5.2
CWC Cottonwood Cre 122.96 29 ⇓P PKPdf 14 15 48.5 +0.4
baz=123
S11A Rachel 123.04 27 ⇑P PKPdf 14 15 48.8 +0.7
baz=123
PKM Peak Mountain 123.32 32 ⇓P PKPdf 14 15 49.7 +0.9
baz=123
TMUT Trail Mountain 123.44 22 *e*PKPdf PKPdf 14 15 49.9 +0.9
S12A Delamar Landin 123.46 26 ⇑P PKPdf 14 15 50.0 +1.0
baz=123
FURC Furnace Creek, 123.51 28 ⇓P PKPdf 14 15 50.0 +0.9
baz=123
MPMC Manual Prospec 123.55 29 ⇑P PKPdf 14 15 50.1 +0.9
baz=123
T11A Corn Creek, Al 123.61 26 ⇓P PKPdf 14 15 50.3 +1.0
baz=123
U10A Ash Meadows, A 123.79 28 ⇓P PKPdf 14 15 50.5 +0.9
baz=124
S13A Holt Ranch, En 123.90 25 P PKPdf 14 15 51.0 +1.1
baz=124,SNR=12
LRMC Laurel Mountai 123.92 30 ⇓P PKPdf 14 15 50.7 +0.7
baz=124
BINY Binghamton 124.05 350 *e*PKPdf PKPdf 14 15 49.7 -0.3
BINY LR LR
comp=Z,982nm,20.0s,MS5.5
EDW2 Edwards Air Fo 124.25 30 ⇑P PKPdf 14 15 51.1 +0.4
baz=124
JFWS Jewell Farm 124.28 2 *e*PKPdf PKPdf 14 15 49.4 -1.0
JFWS LR LR
comp=Z,584nm,22.0s,MS5.2
JFWS Jewell Farm 124.28 2 PKIKP PKPdf 14 15 49.6 -0.8
T13A Saint George 124.35 26 ⇓P PKPdf 14 15 51.5 +0.7
baz=124
GSC Goldstone 124.49 29 ⇓P PKPdf 14 15 51.6 +0.6

baz=124
U12A Valley of Fire 124.58 26 ⇓P PKPdf 14 15 51.9 +0.7
baz=124
T14A Hurricane 124.66 25 ⇑P PKPdf 14 15 52.6 +1.2
baz=124
ERPA Erie 124.70 353 PFAKE 14 16 00.0 +8.7
ERPA LR LR
comp=Z,806nm,22.0s,MS5.3
TUQ Turquoise Mtn. 124.79 28 ⇓P PKPdf 14 15 52.6 +0.9
baz=124
ISCO Idaho Springs 124.81 17 *e*PKPdf PKPdf 14 15 51.6 0.0
ISCO LR LR
comp=Z,607nm,20.0s,MS5.3
AAM Ann Arbor 124.84 357 PFAKE 14 16 00.0 +8.5
AAM LR LR
comp=Z,606nm,19.0s,MS5.3
U13A Pakoon Wash 124.84 26 ⇓P PKPdf 14 15 52.5 +0.8
baz=125
SMCO Snowmass 124.98 18 *e*PKPdf PKPdf 14 15 52.5 +0.7
T15A Red Dirt Ranch 124.98 24 P PKPdf 14 15 52.8 +0.9
baz=125,SNR=6.5
V12A Nelson 125.03 27 ⇓P PKPdf 14 15 52.9 +0.8
baz=125
U14A Mt Trumbull 125.17 25 ⇓P PKPdf 14 15 53.3 +1.0
baz=125
GMRC Granite Mounta 125.45 29 ⇓P PKPdf 14 15 53.6 +0.7
baz=125
V14A Boquillas Ranc 125.87 26 P PKPdf 14 15 55.1 +1.5
baz=126,SNR=12
SSPA Standing Stone 125.88 351 *e*PKPdf PKPdf 14 15 53.1 -0.5
BELC Belle Mtn. 125.93 29 ⇓P PKPdf 14 15 54.9 +1.0
baz=126
W13A Hualapai Mount 125.99 27 P PKPdf 14 15 55.5 +1.5
baz=126,SNR=8.1
PFO Pinyon Flat Ob 126.03 30 ⇑P PKPdf 14 15 55.0 +1.0
baz=126
IRM Iron Mountain 126.20 29 ⇑P PKPdf 14 15 55.4 +1.0
baz=126
W14A Seligman 126.24 26 P PKPdf 14 15 56.0 +1.6
baz=126,SNR=12
MVL Millersville 126.25 349 *e*PKPdf PKPdf 14 15 54.1 -0.1
MVCO Mesa Verde 126.26 21 PFAKE 14 16 10.0 +16
MVCO LR LR
comp=Z,697nm,19.0s,MS5.3
X13A Yucca 126.44 27 P PKPdf 14 15 56.0 +1.2
baz=126,SNR=12
PDMCI Parker Dam,Lak 126.55 28 ⇑P PKPdf 14 15 56.0 +1.0
baz=126
W15A Williams 126.61 25 ⇓P PKPdf 14 15 56.4 +1.3
baz=126
MONP Monument Peak 126.63 30 ⇑P PKPdf 14 15 55.8 +0.6
baz=126
HDIL Hopedale 126.67 2 PFAKE 14 16 10.0 +15
HDIL LR LR
comp=Z,1μm,20.0s,MS5.5
Y12C Blythe 126.83 28 ⇓P PKPdf 14 15 56.6 +1.0
baz=127
ACSO Alum Creek Sta 126.86 356 PFAKE 14 16 10.0 +15
ACSO LR LR
comp=Z,481nm,19.0s,MS5.2
SWSC Sam W. Stewart 126.89 30 ⇓P PKPdf 14 15 56.7 +1.0
baz=127
Y13A Salome 127.09 28 ⇓P PKPdf 14 15 57.2 +1.1
baz=127
MCWV Mont Chateau 127.11 353 PFAKE 14 16 10.0 +14
MCWV LR LR
comp=Z,1μm,22.0s,MS5.5
CBKS Cedar Bluff 127.18 12 PFAKE 14 16 10.0 +14
CBKS LR LR
comp=Z,739nm,21.0s,MS5.3
X15A Humboldt 127.22 26 P PKPdf 14 15 58.0 +1.6
baz=127,SNR=8.2
GLA Glamis 127.27 29 *e*PKPdf PKPdf 14 15 57.7 +1.3
GLA Glamis 127.27 29 ⇓P PKPdf 14 15 57.3 +0.8
baz=127
Y14A Wickenburg 127.36 27 P PKPdf 14 15 58.0 +1.4
baz=127,SNR=6.7
KSU1 Kansas State U 127.45 9 *e*PKPdf PKPdf 14 15 56.1 -0.6
KSU1 LR LR
comp=Z,718nm,22.0s,MS5.3
X16A Lo Mia Camp, P 127.61 25 P PKPdf 14 15 58.5 +1.5
baz=127,SNR=8.6
Y15A Casa Rosa Ranc 127.63 26 P PKPdf 14 15 58.3 +1.2
baz=127,SNR=16
Z14A Wintersburg 127.87 27 ⇑P PKPdf 14 15 58.5 +1.0
baz=128
Y16A Circle Bar Ran 128.06 25 ⇑P PKPdf 14 15 59.0 +1.1
baz=128
CBN Corbin 128.17 350 PFAKE 14 16 10.0 +12
CBN LR LR
comp=Z,897nm,20.0s,MS5.5
TAOE Nuku Hiva Isla 128.19 91 *e*PS PS 14 28 05.0 -5.4
comp=Z,2μm,25.1s
TAOE Nuku Hiva Isla 128.19 91 *e*LR LR 14 56 23.8
comp=Z,8μm,30.8s
RCBR Riachuelo 128.70 273 PFAKE 14 16 10.0 +10
RCBR LR LR
comp=Z,722nm,19.0s,MS5.4
115A Sonoran Desert 128.75 27 ⇑P PKPdf 14 16 00.6 +1.3
baz=128
ANMO Albuquerque 129.00 20 *e*PKPdf PKPdf 14 16 00.1 +0.4
ANMO LR LR
comp=Z,665nm,19.0s,MS5.3
CCM Cathedral Cave 129.07 4 PFAKE 14 16 10.0 +10
CCM LR LR
comp=Z,869nm,19.0s,MS5.5
116A Eloy 129.09 27 ⇑P PKPdf 14 16 01.1 +1.2
baz=129
BLA Blacksburg 129.60 353 PFAKE 14 16 10.0 +9.2
BLA LR LR
comp=Z,553nm,19.0s,MS5.3
216A Three Points, 129.68 27 ⇓P PKPdf 14 16 02.5 +1.4
baz=129
TUC Tucson 129.71 26 *e*PKPdf PKPdf 14 16 02.3 +1.2
BBSR BB Station 129.88 335 PFAKE 14 16 10.0 +8.6
BBSR LR LR
comp=Z,318nm,20.0s,MS5.0
119A Ashpeak Ranch, 129.92 24 ⇑P PKPdf 14 16 02.4 +0.9
baz=130
217A Green Valley 130.15 26 ⇓P PKPdf 14 16 03.5 +1.5
baz=130,SNR=9.1
218A Dragoon 130.31 25 ⇓P PKPdf 14 16 03.1 +0.9
baz=130
AMTX Amarillo 130.49 15 PFAKE 14 16 10.0 +7.5
AMTX LR LR
comp=Z,656nm,19.0s,MS5.3
TZTN Tazewell 130.56 356 *e*PKPdf PKPdf 14 16 03.0 +0.3
318A Bisbee 130.79 26 ⇓P PKPdf 14 16 03.8 +0.6
baz=131
WVT Waverly 131.12 0 *e*PKPdf PKPdf 14 16 03.1 -0.5
WVT Waverly 131.12 0 PKIKP PKPdf 14 16 03.2 -0.5
319A Douglas 131.15 25 ⇓P PKPdf 14 16 04.6 +0.7
baz=131
CNNC Cliffs of the 131.15 350 PFAKE 14 16 20.0 +16
CNNC LR LR
comp=Z,543nm,19.0s,MS5.3
WMOK Wichita Mounta 131.31 12 *e*PKPdf PKPdf 14 16 04.2 +0.1
WMOK Wichita Mounta 131.31 12 PKIKP PKPdf 14 16 04.4 +0.3
CPCT Cooper Cave 131.71 357 *e*PKPdf PKPdf 14 16 05.3 +0.5
PLAL Pickwick Lake 132.26 1 PFAKE 14 16 20.0 +14
PLAL LR LR
comp=Z,739nm,21.0s,MS5.4
MNTX Cornudas Mount 132.33 21 *e*PKPdf PKPdf 14 16 06.7 +0.6
MNTX LR LR
comp=Z,464nm,21.0s,MS5.2
MIAR Mount Ida 132.34 7 *e*PKPdf PKPdf 14 16 06.1 +0.1
MIAR LR LR
comp=Z,840nm,20.0s,MS5.5
NHSC New Hope 133.60 352 PFAKE 14 16 20.0 +12
NHSC LR LR
comp=Z,519nm,20.0s,MS5.2
GOGA Godfrey 133.67 355 PFAKE 14 16 20.0 +11
GOGA LR LR
comp=Z,792nm,22.0s,MS5.4
LRAL Lakeview Retre 134.20 359 PFAKE 14 16 20.0 +10
LRAL LR LR
comp=Z,903nm,21.0s,MS5.5
NATX Nacogdoches 134.94 9 PFAKE 14 16 20.0 +9.0
NATX LR LR
comp=Z,599nm,20.0s,MS5.3
LTX Lajitas 135.08 20 PFAKE 14 16 20.0 +8.7
LTX LR LR
comp=Z,208nm,22.0s,MS4.8
TXAR Lajitas Array 135.08 20 PKP PKPdf 14 16 12.9 +1.5
TXAR Lajitas Array 135.08 20 PKhKP 14 15 59.9
comp=Z,0.7nm,0.7s,baz=126,slow=1.2,SNR=6.3
TXAR PKP PKPdf 14 16 12.9 +1.5
comp=Z,5.1nm,0.6s,baz=178,slow=0.3,SNR=38
JCT Junction City 135.15 15 *e*PKPdf PKPdf 14 16 11.6 +0.2
JCT LR LR
comp=Z,617nm,20.0s,MS5.3
BRAL Brewton 136.22 359 PFAKE 14 16 20.0 +6.6
BRAL LR LR
comp=Z,769nm,20.0s,MS5.4
HKT Hockley 136.53 11 PFAKE 14 16 30.0 +16
HKT LR LR
comp=Z,669nm,19.0s,MS5.4
DWPF Disney 138.69 352 PFAKE 14 16 30.0 +12
DWPF LR LR
comp=Z,545nm,19.0s,MS5.3
BDFB Brasilia 141.71 261 PKIKP PKPdf 14 16 17.9 -5.8
BDFB 14 16 26.6
BDFB Brasilia 141.71 261 PKhKP 14 16 17.9
comp=Z,3.4nm,0.7s,baz=123,slow=9.7,SNR=5.7
BDFB PKP PKPdf 14 16 26.6 +2.9
comp=Z,2.2nm,0.4s,baz=172,slow=12,SNR=3.1
BDFB PKKPab 14 24 31.7
comp=Z,2.6nm,0.4s,baz=304,slow=5.4,SNR=3.7
MTP Monte Pirata 142.26 325 *e*PKPpre 14 16 17.4
GRGR Grenville 144.21 313 *e*PKPdf PKPdf 14 16 26.3 -2.0
SDDR Presa de Saban 144.42 333 *e*PKPdf PKPdf 14 16 26.5 -2.0
MASC Masc 144.53 338 *e*P PKPdf 14 16 28.4 -0.3
CCCC Cccc 144.68 344 *e*P PKPdf 14 16 28.6 -0.3
RCC Rio Carpintero 145.20 340 *e*P PKPbc 14 16 28.8 -0.6
LMGC Las Mercedes 145.54 342 *e*P PKPdf 14 16 31.0 +0.6
TRQA Tornquist 146.29 218 *e*PKPbc PKPbc 14 16 32.0 -0.3
TEIG Tepich 146.95 1 *e*PKPbc PKPbc 14 16 34.8 +0.1
CMJ Castle Mountai 147.16 340 ⇑*i*P PKPdf 14 16 35.0 +1.8
BBJ Bamboo Saint A 147.21 342 ⇑*i*P PKPdf 14 16 36.5 +3.3
STH Stony Hill 147.36 341 ⇑*i*P PKPdf 14 16 36.5 +3.0
MCJ Malvern 147.77 342 ⇑*i*P PKPdf 14 16 38.0 +3.8
PLCA Paso Flores 148.66 205 PKPbc PKPbc 14 16 39.0 +0.2
comp=Z,24nm,0.8s,baz=185,slow=3.1,SNR=7.1
SDV Santo Domingo 152.55 322 *e*PKPdf PKPdf 14 16 41.5 -0.3
SDV *e*PKPbc PKPbc 14 16 48.2 -0.6
TGUH Tegucigalpa,Un 153.09 360 *e*PKPdf PKPdf 14 16 41.7 -0.8
TGUH *e*PKPbc PKPbc 14 16 50.4 +0.4
LCO Las Campanas 157.72 222 PFAKE 14 17 00.0 +12
LCO LR LR
comp=Z,641nm,21.0s,MS5.4
ROSC El Rosal 157.95 323 PKP PKPdf 14 16 49.2 0.0
comp=Z,8.3nm,0.4s,baz=83,slow=23,SNR=10
ROSC PKPab PKPab 14 17 23.8 +1.6
comp=Z,37nm,0.8s,baz=102,slow=8.0,SNR=9.9
LPAZ La Paz 161.00 258 PKP PKPdf 14 16 53.1 +0.5
comp=Z,5.9nm,0.7s,baz=22,slow=1.0,SNR=34
LPAZ PKPab PKPab 14 17 36.0 +0.5
comp=Z,11nm,0.9s,baz=117,slow=4.5,SNR=12
NNA Nana 169.56 274 PFAKE 14 17 10.0 +10
NNA LR LR
comp=Z,838nm,19.0s

*CSEM **10** 13:59:51.5, 3871N×2277E, h1km, ML2.8, After THE*
THE 10 13:59:51.5, 3871N×2277E, h1km, ML2.8, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGG	**Agios Georgios**	**0.46**	**312**	*e*Pg	Pg	13 59 59.8	-0.5
AGG				*e*Sg	Sg	14 00 07.3	+0.9
AOS	**Alonnisos**	**0.98**	**62**	*e*Pg	Pg	14 00 10.4	+0.1
AOS				*e*Sg	Sg	14 00 23.8	+0.8
LIT	**Litokhoron**	**1.41**	**351**	*e*Pg	Pg	14 00 17.6	-0.9
LIT				*e*Sg	Sg	14 00 37.0	+0.4
MEV	**Metsovon**	**1.61**	**312**	*e*Pg	Pg	14 00 19.5	-2.8
MEV				*e*Sg	Sg	14 00 42.8	-0.4

*IDC **10** 14:15:36.0±1.2, 3735N×2456W, h0km, mb3.9/10, mb1 4.1/10, mb1mx3.8/24, mbtmp3.9/10, Error ellipse: s-maj=33.6km s-min=20.7km az=14.0*
*ISCJB **10** 14:15:35.6±0.3, 3738N±004×2471W±003, h10km, mb4.0/21, MS3.4/2, Error ellipse: s-maj=6.1km s-min=3.0km az=7.0*
*NEIC **10** 14:15:36.9±0.4, 37.14N×2457W, h10km, mb4.2/11, Error ellipse: s-maj=7.9km s-min=6.6km az=199.0*
*CSEM **10** 14:15:36.4±0.1, 3732N×2469W, h20km, mb4.2/10, Ms3.2, Error ellipse: s-maj=3.7km s-min=1.6km az=4.0*
*SVSA **10** 14:15:38.6±1.0, 37.18N×2459W, h5km, MD4.1, ML4.1, Error ellipse: s-maj=6.5km s-min=3.9km az=82.0*
*PDA **10** 14:15:38.6±1.0, 37.18N×2459W, h5km, MD4.1, ML4.1, Error ellipse: s-maj=6.5km s-min=3.9km az=82.0*
ISC 10 14:15:36.9±0.3, 3735N±004×2473W±003, h10km, n70, σ0°98/84, mb4.0/21, MS3.4/2, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSMN	**Pico do Norte,**	**0.43**	**218**	*e*P	**Pg**	**14 15 46.2**	**+0.8**
PSMN				*e*S	**Sg**	**14 15 51.4**	**+0.2**
PDA	**Ponta Delgada**	**0.84**	**299**	*e*P	**Pg**	**14 15 54.1**	**+1.0**
PDA				*e*S	**Sg**	**14 16 06.2**	**+2.1**
PSCM	**Serra do Cume**	**2.32**	**306**	*e*P	**Pn**	**14 16 14.9**	**-0.2**
PSCM				*e*S	**Sn**	**14 16 42.3**	**-1.3**
PSCM				A		14 16 51.5	
709nm,0.3s							
PSCM	**Serra do Cume**	**2.32**	**306**	*e*P	**Pn**	**14 16 14.9**	**-0.2**
PSCM				*e*S	**Sn**	**14 16 42.3**	**-1.3**
ADH	**Angra Heroismo**	**2.37**	**304**	*e*P	**Pn**	**14 16 16.1**	**+0.3**
ADH				*e*S	**Sn**	**14 16 44.2**	**-0.7**
PID	**Ribeirinha**	**2.89**	**293**	*i* P	**Pn**	**14 16 23.2**	**+0.2**
PID				*e*S	**Sn**	**14 16 56.8**	**-1.1**
PMAN	**Manadas**	**2.94**	**297**	*e*P	**Pn**	**14 16 23.8**	**0.0**
PMAN				*e*S	**Sn**	**14 16 57.6**	**-1.5**
PMAN				A		14 17 03.8	
96nm,0.3s							
PMAN	**Manadas**	**2.94**	**297**	*e*P	**Pn**	**14 16 23.8**	**0.0**
PMAN				*e*S	**Sn**	**14 16 57.6**	**-1.5**
ROSA	**Rosais**	**3.09**	**297**	*e*P	**Pn**	**14 16 26.0**	**+0.3**
ROSA				*e*S	**Sn**	**14 17 01.9**	**-0.8**
SRBC	**Serra Branca**	**3.10**	**304**	*e*P	**Pn**	**14 16 26.6**	**+0.7**
SRBC				*e*S	**Sn**	**14 17 02.4**	**-0.7**
PICO	**Pico**	**3.14**	**293**	*e*P	**Pn**	**14 16 26.9**	**+0.5**
PICO				*e*S	**Sn**	**14 17 02.7**	**-1.2**
HOR	**Horta**	**3.30**	**292**	*e*P	**Pn**	**14 16 28.8**	**+0.2**
HOR				*e*S	**Sn**	**14 17 06.3**	**-1.5**
CALA	**Caldeira**	**3.37**	**293**	*e*P	**Pn**	**14 16 29.9**	**+0.3**
CALA				*e*S	**Sn**	**14 17 08.3**	**-1.3**
PMAR	**Madeira**	**7.90**	**123**	*e*Pn	**Pn**	**14 17 30.6**	**-1.2**
PMAR				*e*T		14 24 57.8	
PMPS	**Porto Santo**	**8.10**	**119**	*e*Pn	**Pn**	**14 17 30.3**	**-4.3**
PMPS				*e*T		14 25 20.4	
EGOM	**La Gomera**	**11.13**	**143**	P	**Pn**	**14 18 11.6**	**-4.6**
18nm,0.3s							
CCAN	**Las Canadas**	**11.38**	**141**	P	**Pn**	**14 18 15.5**	**-4.1**
1.2nm,0.2s							
CFTV	**Fuerteventura**	**12.62**	**132**	P	**Pn**	**14 18 34.1**	**-2.4**
0.4nm,0.2s							
EVOP	**Sao Brissos**	**13.17**	**80**	*e*Pn	**Pn**	**14 18 38.0**	**-5.9**
EVOP				*e*Sn	**Sn**	**14 20 54.3**	**-16**
EVO	**Evora**	**13.26**	**80**	*e*Pn	**Pn**	**14 18 38.0**	**-7.1**
EVO				*e*Sn	**Sn**	**14 20 54.3**	**-18**
2.6nm,0.4s							
EVO				*e*MLR	MLR		
comp=Z,96nm,20.2s							
PCAB	**Cabril**	**13.61**	**66**	*e*T		14 31 49.1	
SJPF	**Ste Jean**	**18.82**	**65**	*e*P	**Pn**	**14 19 56.8**	**-0.4**
QUIF	**Quistinic**	**19.00**	**49**	*e*P	**Pn**	**14 20 00.0**	**+0.7**
ETSF	**Etsaut**	**19.27**	**66**	*e*P	**Pn**	**14 20 02.1**	**-0.5**
MFF	**Saint Martin d**	**20.42**	**55**	*e*P	**P**	**14 20 14.6**	**+0.5**
comp=Z,11nm,0.8s							
MFF	**Saint Martin d**	**20.42**	**55**	*e*P	**P**	**14 20 14.6**	**+0.5**
comp=Z,5.7nm,0.8s							
GRR	**Gorron**	**20.60**	**50**	*e*P	**P**	**14 20 17.2**	**+1.2**
comp=Z,31nm,1.1s							
GRR	**Gorron**	**20.60**	**50**	*e*P	**P**	**14 20 17.2**	**+1.2**
comp=Z,15nm,1.1s							
MTLF	**Montolieu**	**21.35**	**65**	*e*P	**P**	**14 20 25.6**	**+1.5**
CAF	**Calviac**	**21.49**	**61**	*e*P	**P**	**14 20 25.2**	**-0.5**
comp=Z,26nm,1.2s,mb4.1							
CAF	**Calviac**	**21.49**	**61**	*e*P	**P**	**14 20 25.2**	**-0.5**
comp=Z,13nm,1.2s,mb4.1							
TCF	**Toulx Ste Croi**	**21.89**	**57**	*e*P	**P**	**14 20 30.6**	**+0.6**
comp=Z,13nm,0.9s,mb4.0							
TCF	**Toulx Ste Croi**	**21.89**	**57**	*e*P	**P**	**14 20 30.6**	**+0.6**
comp=Z,6.5nm,0.9s,mb4.0							
BGF	**Bois d'Agland**	**22.39**	**57**	*e*P	**P**	**14 20 34.5**	**-0.7**
LASF	**Ste Croix**	**22.62**	**64**	*e*P	**P**	**14 20 36.8**	**-0.9**
comp=Z,15nm,1.0s,mb4.0							
LASF	**Ste Croix**	**22.62**	**64**	*e*P	**P**	**14 20 36.8**	**-0.9**
comp=Z,7.3nm,1.0s,mb4.0							
AVF	**Avril sur Loir**	**22.78**	**57**	*e*P	**P**	**14 20 38.8**	**-0.6**
comp=Z,5.2nm,0.8s,mb3.7							
AVF	**Avril sur Loir**	**22.78**	**57**	*e*P	**P**	**14 20 38.8**	**-0.6**
comp=Z,2.6nm,0.8s,mb3.7							
SMF	**Signal de Mont**	**23.07**	**57**	*e*P	**P**	**14 20 41.7**	**-0.8**
LOR	**Lormes**	**23.24**	**56**	*e*P	**P**	**14 20 44.5**	**+0.3**
comp=Z,6.9nm,0.8s,mb3.9							
LOR				*e*MLR	MLR		
comp=Z,206nm,23.0s,MS3.2							
LOR	**Lormes**	**23.24**	**56**	*e*P	**P**	**14 20 44.5**	**+0.3**
comp=Z,3.5nm,0.8s,mb3.8							
LOR				LR	LR		
comp=Z,210nm,23.0s,MS3.5							
VIVF	**Saint-Julien-l**	**23.30**	**62**	*e*P	**P**	**14 20 43.8**	**-1.2**
comp=Z,10nm,0.9s,mb4.0							
VIVF	**Saint-Julien-l**	**23.30**	**62**	*e*P	**P**	**14 20 43.8**	**-1.2**
comp=Z,5.1nm,0.9s,mb4.0							
BAIF	**Baives**	**24.31**	**49**	*e*P	**P**	**14 20 54.7**	**+0.3**
CABF	**La Chapelle**	**24.58**	**58**	*e*P	**P**	**14 20 55.8**	**-1.1**
comp=Z,19nm,1.1s,mb4.2							
CABF	**La Chapelle**	**24.58**	**58**	*e*P	**P**	**14 20 55.8**	**-1.1**
comp=Z,9.6nm,1.1s,mb4.2							
GIVF	**Givet**	**24.69**	**50**	*e*P	**P**	**14 20 57.7**	**-0.2**
comp=Z,11nm,0.5s,mb4.3							
GIVF	**Givet**	**24.69**	**50**	*e*P	**P**	**14 20 57.7**	**-0.2**
comp=Z,5.6nm,0.5s,mb4.3							
HAU	**Haudompre**	**25.05**	**55**	*e*P	**P**	**14 21 02.3**	**+1.1**
HAU				*e*MLR	MLR		
comp=Z,205nm,23.0s,MS3.3							
HAU	**Haudompre**	**25.05**	**55**	*e*P	**P**	**14 21 02.3**	**+1.1**
HAU				LR	LR		
comp=Z,210nm,23.0s,MS3.6							
HINF	**Hinteralfeld**	**25.34**	**56**	*e*P	**P**	**14 21 04.0**	**+0.2**
PGF	**Pioggiola**	**26.27**	**68**	*e*P	**P**	**14 21 11.4**	**-0.9**
comp=Z,13nm,1.0s,mb4.1							
PGF	**Pioggiola**	**26.27**	**68**	*e*P	**P**	**14 21 11.4**	**-0.9**
comp=Z,6.5nm,1.0s,mb4.1							
SCHQ	**Schefferville**	**33.40**	**315**	P	**P**	**14 22 16.3**	**+0.9**
comp=Z,1.3nm,0.5s,mb4.1,baz=269,slow=7.9,SNR=3.8							
TORD	**Torodi Ar. Bea**	**33.73**	**129**	P	**P**	**14 22 18.0**	**-0.6**
comp=Z,1.6nm,0.8s,mb4.0,baz=316,slow=7.5,SNR=8.6							
AKASG	**Malin Array Be**	**40.15**	**53**	P	**P**	**14 23 11.8**	**-1.1**
comp=Z,0.2nm,0.3s,mb3.3,baz=280,slow=7.6,SNR=5.0							
ARCES	**ARCESS Array B**	**41.86**	**24**	P	**P**	**14 23 26.8**	**0.0**
comp=Z,1.9nm,0.8s,mb3.8,baz=236,slow=6.4,SNR=3.4							
RES	**Resolute Bay**	**49.14**	**341**	*e*P	**P**	**14 24 26.0**	**+1.7**
comp=Z,171nm,1.0s							
RES	**Resolute Bay**	**49.14**	**341**	*e*P	**P**	**14 24 26.0**	**+1.7**
comp=Z,171nm,1.0s							
LRAL	**Lakeview Retre**	**50.26**	**285**	*e*P	**P**	**14 24 36.3**	**+2.9**
comp=Z,22nm,0.7s							
YKA	**Yellowknife Ar**	**57.60**	**327**	P	**P**	**14 25 27.7**	**+1.1**
YKA	**Yellowknife Ar**	**57.60**	**327**	P	**P**	**14 25 27.7**	**+1.1**
comp=Z,0.4nm,0.7s,mb3.6,baz=68,slow=7.2,SNR=5.5							
AKTK	**Aktyubinsk**	**58.08**	**48**	P	**P**	**14 25 30.1**	**-0.1**
AKTO	**Aktyubinsk**	**58.08**	**48**	P	**P**	**14 25 30.1**	**-0.1**
comp=Z,2.2nm,0.8s,mb4.2,baz=288,slow=9.0,SNR=7.5							
JCT	**Junction City**	**61.17**	**288**	P	**P**	**14 25 53.6**	**+1.8**
comp=Z,10nm,1.0s,mb4.9							
INK	**Inuvik**	**62.27**	**337**	P	**P**	**14 25 59.3**	**+0.8**
comp=Z,1.1nm,0.9s,mb4.0,baz=343,slow=6.0,SNR=4.7							
TXAR	**Lajitas Array**	**64.66**	**289**	P	**P**	**14 26 16.8**	**+1.8**
comp=Z,2.0nm,0.7s,mb4.3,baz=78,slow=7.8,SNR=12							
ZALV	**Zalesovo Beam**	**70.76**	**36**	P	**P**	**14 26 53.5**	**+0.5**
comp=Z,0.9nm,0.7s,mb3.8,baz=297,slow=6.5,SNR=4.1							
MKAR	**Makanchi Array**	**73.82**	**43**	P	**P**	**14 27 12.2**	**+0.6**
comp=Z,0.6nm,0.6s,mb3.7,baz=308,slow=5.9,SNR=6.3							
SONM	**Songino Array**	**84.65**	**31**	P	**P**	**14 28 11.6**	**+0.9**
comp=Z,0.7nm,0.8s,mb3.8,baz=312,slow=4.7,SNR=6.9							

IDC 10 14:39:28.5±2.7, 865S×15622E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.5/14, mbtmp3.7/3, Error ellipse: s-maj=85.3km s-min=37.0km az=159.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.96**	**240**	P	P	14 44 45.3	+0.5
2.1nm,0.6s,baz=67,slow=9.4,SNR=16							
ASAR	**Alice Springs**	**26.07**	**232**	P	P	14 45 03.2	-0.7
0.4nm,0.8s,baz=60,slow=9.7,SNR=3.2							
STKA	**Stephens Creek**	**26.82**	**208**	P	P	14 45 10.6	0.0
1.6nm,0.7s,baz=42,slow=11,SNR=5.7							
BDFB	**Brasilia**	**145.96**	**135**	PKPbc	PKPbc	14 59 10.9	-0.3
5.8nm,0.9s,baz=217,slow=3.6,SNR=7.2							

*IDC **10** 14:42:42.3±1.2, 858S×157.15E, h0km, mb4.1/8, mb1 4.2/8, mb1mx4.1/14, mbtmp4.1/8, MS3.5/3, Ms1 3.5/3, ms1mx3.2/26, Error ellipse: s-maj=41.1km s-min=21.2km az=95.0*
*BJI **10** 14:42:43.6, 850S×15720E, h10km, mB5.1, mb4.4*
*NEIC **10** 14:42:43.6±0.9, 855S×15720E, h10km, mb4.4/2, Error ellipse: s-maj=26.7km s-min=18.1km az=112.0*
*ISCJB **10** 14:42:45.8±1.3, 87S±01×1572E±02, h33km, mb4.2/13, MS3.3/2, Error ellipse: s-maj=33.7km s-min=14.4km az=12.1*
ISC 10 14:42:48.2±1.3, 87S±01×1572E±02, h35km, (h12km±6.3km:pP-P), n19, σ1°25/16, mb4.2/13, MS3.3/2, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**15.48**	**222**	LR	LR	14 51 19.5	
comp=Z,266nm,19.3s,baz=196,slow=33							
WRAB	**Tennant Creek**	**24.74**	**241**	*e*P	**P**	**14 48 06.5**	**-0.1**
6.7nm,0.9s,mb4.2							
WB2	**Warramunga Arr**	**24.74**	**241**	*e*P	**P**	**14 48 06.3**	**-0.3**
WRA	**Warramunga Arr**	**24.75**	**241**	P	**P**	**14 48 06.4**	**-0.3**
4.9nm,0.9s,mb4.0,baz=68,slow=9.5,SNR=14							
WRA				LR	LR	14 57 17.6	
comp=Z,171nm,19.6s,MS3.5,baz=10.0,slow=35							
GUMO	**Guam**	**25.30**	**331**	LR	LR	14 55 58.3	
comp=Z,66nm,21.4s,MS3.1,baz=124,slow=32							
ASAR	**Alice Springs**	**26.78**	**234**	P	**P**	**14 48 24.1**	**-1.0**
0.8nm,0.8s,mb3.3,baz=67,slow=9.2,SNR=8.0							
STKA	**Stephens Creek**	**27.22**	**210**	*e*P	**P**	**14 48 30.3**	**+1.4**
6.7nm,0.8s,mb4.2							
STKA	**Stephens Creek**	**27.22**	**210**	P	**P**	**14 48 29.8**	**+0.8**
8.4nm,0.8s,mb4.3,baz=34,slow=13,SNR=22							
KSRS	**Korea Array**	**53.47**	**331**	P	**P**	**14 52 03.7**	**-1.3**
1.7nm,0.9s,mb4.0,baz=144,slow=9.2,SNR=6.9							
XAN	**Xi'an**	**62.44**	**316**	P	**P**	**14 53 07.3**	**-0.7**
XAN				AP	pP	14 53 15.0	-3.8
XAN				XP	sP	14 53 18.9	-3.9
XAN				AMB	AMB		
comp=Z,5.0nm,1.4s,mb4.5							
KMI	**Kunming**	**62.77**	**304**	P	**P**	**14 53 12.1**	**+1.7**
KMI				AMB	AMB		
comp=Z,6.0nm,1.3s,mb4.6							
LZH	**Lanzhou**	**67.05**	**315**	*e*P	**P**	**14 53 40.1**	**+2.0**
LZH				AP	pP	14 53 44.3	-4.6
LZH				XP	sP	14 53 46.5	-6.4
LZH				AMB	AMB		
comp=Z,17nm,1.3s,mb4.9							
LZH				AMB	AMB		
comp=Z,88nm,4.1s							
VNDA	**Vanda**	**68.83**	**179**	P	**P**	**14 53 48.7**	**+0.1**
VNDA	**Vanda**	**68.83**	**179**	P	**P**	**14 53 48.7**	**+0.1**
comp=Z,1.1nm,0.8s,mb3.8,baz=349,slow=7.5,SNR=4.1							
GTA	**Gaotai**	**71.47**	**317**	*e*P	**P**	**14 54 07.3**	**+2.0**
GTA				AP	pP	14 54 10.7	-5.5
GTA				XP	sP	14 54 13.9	-6.4
GTA				AMB	AMB		
comp=Z,4.0nm,1.1s,mb4.3							
SONM	**Songino Array**	**71.95**	**327**	P	**P**	**14 54 08.5**	**+0.5**
comp=Z,0.8nm,0.7s,mb3.8,baz=134,slow=4.4,SNR=7.1							
MKAR	**Makanchi Array**	**86.12**	**318**	P	**P**	**14 55 24.2**	**-1.4**
comp=Z,1.3nm,0.6s,mb4.4,baz=100,slow=6

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WTVZ	**West Tongariro**	**0.61**	**195**	P	Pn	14 47 20.6	+0.3
WTVZ	**West Tongariro**	**0.61**	**195**	PN	Pn	14 47 20.6	+0.3
TWVZ	**Taurewa**	**0.61**	**207**	P	Pn	14 47 20.2	-0.1
TWVZ	**Taurewa**	**0.61**	**207**	PN	Pn	14 47 20.2	-0.1
WPVZ	**Whakapapa**	**0.71**	**196**	P	Pn	14 47 21.0	+0.2
WPVZ	**Whakapapa**	**0.71**	**196**	PN	Pn	14 47 21.0	+0.2
TUVZ	**Tukino**	**0.75**	**189**	P	Pn	14 47 21.4	+0.3
TUVZ	**Tukino**	**0.75**	**189**	PN	Pn	14 47 21.4	+0.4
TUVZ				*e*SN	Sn	14 47 41.1	+0.4
FWVZ	**Far West T-bar**	**0.75**	**195**	P	Pn	14 47 21.3	+0.2
FWVZ	**Far West T-bar**	**0.75**	**195**	PN	Pn	14 47 21.3	+0.2
BKZ	**Black Stump Fm**	**0.84**	**140**	P	Pn	14 47 22.1	+0.5
BKZ				S	Sn	14 47 41.7	+0.2
BKZ	**Black Stump Fm**	**0.84**	**140**	PN	Pn	14 47 22.1	+0.4
BKZ				SN	Sn	14 47 41.7	+0.2
PKVZ	**Pokaka**	**0.84**	**205**	PN	Pn	14 47 21.5	-0.1
MOVZ	**Moawhango**	**0.88**	**182**	P	Pn	14 47 21.9	0.0
MOVZ	**Moawhango**	**0.88**	**182**	PN	Pn	14 47 21.9	-0.1
URZ	**Urewera**	**1.06**	**76**	*e*P	Pn	14 47 23.0	-0.3
URZ	**Urewera**	**1.06**	**76**	PN	Pn	14 47 23.0	-0.3
URZ				SN	Sn	14 47 44.2	-0.1
MWZ	**Matawai**	**1.37**	**83**	*e*P	Pn	14 47 26.2	+0.2
MWZ	**Matawai**	**1.37**	**83**	PN	Pn	14 47 26.2	+0.2
MWZ				SN	Sn	14 47 48.9	-0.2
WAZ	**Wanganui**	**1.38**	**207**	P	Pn	14 47 25.6	-0.4
WAZ	**Wanganui**	**1.38**	**207**	PN	Pn	14 47 25.6	-0.4
TSZ	**Takapari Road**	**1.54**	**175**	P	Pn	14 47 27.3	-0.2
TSZ				S	Sn	14 47 50.3	-1.8
TSZ	**Takapari Road**	**1.54**	**175**	PN	Pn	14 47 27.3	-0.2
TSZ				SN	Sn	14 47 50.3	-1.8
KNZ	**Kokohu**	**1.55**	**109**	PN	Pn	14 47 28.1	+0.5
WPHZ	**Waipukurau**	**1.62**	**162**	PN	Pn	14 47 28.4	+0.1
PXZ	**Pawanui**	**1.71**	**152**	PN	Pn	14 47 29.5	+0.2
PUZ	**Puketiti**	**1.99**	**78**	PN	Pn	14 47 33.0	+0.7
MRZ	**Mangatainoka R**	**2.14**	**184**	*e*P	Pn	14 47 32.7	-1.2
MRZ	**Mangatainoka R**	**2.14**	**184**	PN	Pn	14 47 32.7	-1.2
MRZ				SN	Sn	14 48 00.8	-2.7
KIW	**Kapiti Island**	**2.43**	**196**	P	Pn	14 47 35.2	-2.1
KIW	**Kapiti Island**	**2.43**	**196**	PN	Pn	14 47 35.2	-2.1
CAW	**Cannon Point**	**2.64**	**192**	P	Pn	14 47 37.7	-2.0
CAW	**Cannon Point**	**2.64**	**192**	PN	Pn	14 47 37.7	-2.0
MTW	**Mount Morrison**	**2.64**	**185**	P	Pn	14 47 37.5	-2.2
MTW	**Mount Morrison**	**2.64**	**185**	PN	Pn	14 47 37.5	-2.2
DUWZ	**D'Urville Isla**	**2.70**	**212**	PN	Pn	14 47 37.7	-2.7
MRW	**Makara Radio**	**2.83**	**197**	P	Pn	14 47 39.6	-2.4
MRW	**Makara Radio**	**2.83**	**197**	PN	Pn	14 47 39.6	-2.4
WEL	**Wellington**	**2.87**	**196**	P	Pn	14 47 40.1	-2.4
WEL	**Wellington**	**2.87**	**196**	PN	Pn	14 47 40.1	-2.4
TRWZ	**Traveller**	**2.87**	**182**	PN	Pn	14 47 40.4	-2.1
SNZO	**South Karori**	**2.91**	**196**	P	Pn	14 47 40.2	-2.7
SNZO	**South Karori**	**2.91**	**196**	PN	Pn	14 47 40.2	-2.7
MSWZ	**Moikau Station**	**2.92**	**188**	P	Pn	14 47 40.5	-2.6
MSWZ	**Moikau Station**	**2.92**	**188**	PN	Pn	14 47 40.5	-2.5
TCW	**Tory Channel**	**2.93**	**203**	P	Pn	14 47 40.6	-2.6
TCW	**Tory Channel**	**2.93**	**203**	PN	Pn	14 47 40.6	-2.6
TUWZ	**Tuamarina**	**3.23**	**206**	PN	Pn	14 47 43.7	-3.2
NNZ	**Nelson**	**3.27**	**214**	*e*P	Pn	14 47 43.7	-3.7
NNZ	**Nelson**	**3.27**	**214**	PN	Pn	14 47 43.7	-3.7
QRZ	**Quartz Range**	**3.41**	**227**	*e*P	Pn	14 47 44.8	-4.4
QRZ	**Quartz Range**	**3.41**	**227**	PN	Pn	14 47 44.8	-4.5
BSWZ	**Blackbirch Sta**	**3.51**	**204**	P	Pn	14 47 47.5	-2.9
BSWZ	**Blackbirch Sta**	**3.51**	**204**	PN	Pn	14 47 47.5	-2.9
THZ	**Tophouse**	**3.92**	**214**	*e*P	Pn	14 47 51.7	-3.9
THZ	**Tophouse**	**3.92**	**214**	*e*PN	Pn	14 47 51.5	-4.2
KHZ	**Kahutara**	**4.25**	**203**	P	Pn	14 47 56.5	-3.4
KHZ	**Kahutara**	**4.25**	**203**	PN	Pn	14 47 56.5	-3.4
DSZ	**Denniston Nort**	**4.44**	**222**	*e*P	Pn	14 47 57.1	-5.2
DSZ	**Denniston Nort**	**4.44**	**222**	PN	Pn	14 47 57.1	-5.2
LTZ	**Lake Taylor**	**5.03**	**211**	*e*P	Pn	14 48 05.4	-4.5
LTZ	**Lake Taylor**	**5.03**	**211**	PN	Pn	14 48 05.3	-4.6
ODZ	**Otahua Downs**	**7.56**	**209**	*e*P	Pn	14 48 38.3	-5.0

*ISCJB **10** 14:51:40.4±3.0, 2386N±005×12582E±007, h6km±22km, mb3.2/3, Error ellipse: s-maj=11.1km s-min=8.1km az=144.4*
*JMA **10** 14:51:40.9±0.3, 2385N×12571E, h0km, M3.4*
*IDC **10** 14:51:40.8±1.4, 2404N×12567E, h0km, mb3.3/3, mb1 3.4/4, mb1mx3.3/19, mbtmp3.3/4, ML3.1/1, Error ellipse: s-maj=44.6km s-min=25.4km az=76.0*

ISC 10 14:51:41.7±2.4, 2389N±009×12575E±007, h7km±16km, n14, σ0°98/17, mb3.2/3, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOGS	**Gusukube**	**0.92**	**340**	P	**Pg**	**14 51 59.7**	**+0.2**
JOGS				*e*S	**Sg**	**14 52 13.0**	**+1.5**
JMJ	**Miyako jima 2**	**1.01**	**336**	P	**Pg**	**14 52 01.0**	**-0.2**
JMJ				*e*S	**Sg**	**14 52 14.8**	**+0.4**
JTJ	**Tarama**	**1.22**	**308**	P	**Pg**	**14 52 04.0**	**-1.1**
JTJ				*e*S	**Sg**	**14 52 20.4**	**-0.5**
JIJ	**Ishigaki jima**	**1.55**	**288**	P	**Pn**	**14 52 09.5**	**-0.2**
JKRS	**Kuro-shima**	**1.63**	**283**	P	**Pn**	**14 52 11.3**	**+0.4**
HATJ	**Hateruma jima**	**1.79**	**276**	P	**Pn**	**14 52 13.0**	**-0.1**
IRIF	**Iriomote-Funau**	**1.90**	**284**	P	**Pn**	**14 52 14.5**	**-0.1**
JKE	**Kume jima 2**	**2.60**	**21**	P	**Pn**	**14 52 25.1**	**+0.8**
JOW	**Kunigami**	**3.71**	**37**	P	**Pn**	**14 52 38.8**	**-0.8**
JOW	**Kunigami**	**3.71**	**37**	Pn	**Pn**	**14 52 38.2**	**-1.4**
	2.9nm,0.3s,baz=192,slow=14,SNR=13						
JMZ	**Minamidaito 2**	**5.32**	**68**	P	**Pn**	**14 52 58.9**	**-2.8**
MKAR	**Makanchi Array**	**41.49**	**314**	P	**P**	**14 59 28.3**	**-1.2**
	0.3nm,0.5s,mb3.2,baz=111,slow=7.9,SNR=3.0						
WRA	**Warramunga Arr**	**44.36**	**168**	P	**P**	**14 59 54.5**	**+1.6**
	0.3nm,0.5s,mb3.2,baz=348,slow=8.9,SNR=7.1						
ASAR	**Alice Springs**	**47.93**	**170**	P	**P**	**15 00 21.9**	**+1.0**
	0.1nm,0.5s,mb3.1,baz=354,slow=9.1,SNR=5.7						

IGQ 10 14:55:09.7, 343S×7902W, h31km±3km, Mb4.0, Ms3.8, 7C-8D, Error ellipse: s-maj=18.8km s-min=4.5km az=9.7, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGUA	**Igualata**	**1.96**	**11**	⇓P	Pn	14 55 43.9	+3.0
ARRY	**Arrayan**	**1.99**	**16**	⇓P	Pn	14 55 43.9	+2.6
ARRY	**Arrayan**	**1.99**	**16**	⇓S	Sn	14 56 06.4	+1.2
PATA	**Patacocha**	**2.00**	**17**	⇓P	Pn	14 55 44.6	+3.2
PATA	**Patacocha**	**2.00**	**17**	⇓S	Sn	14 56 09.7	+4.3
TAMB	**Tambo**	**2.79**	**13**	⇑P	Pn	14 55 55.2	+2.9
VC1	**Cotopaxi 1**	**2.84**	**13**	⇑P	Pn	14 55 56.4	+3.5
ANTI	**Antisana**	**3.08**	**16**	⇑P	Pn	14 55 59.1	+2.8
TERV	**Terraza Guagua**	**3.26**	**7**	P	Pn	14 56 01.8	+3.1
TERV	**Terraza Guagua**	**3.26**	**7**	S	Sn	14 56 41.3	+4.8
GGP	**Refugio Guagua**	**3.26**	**7**	⇑P	Pn	14 56 01.1	+2.4
GGP	**Refugio Guagua**	**3.26**	**7**	⇑S	Sn	14 56 38.0	+1.4
PINO	**Pino**	**3.28**	**7**	⇑P	Pn	14 56 01.6	+2.6
PINO	**Pino**	**3.28**	**7**	⇑S	Sn	14 56 38.9	+2.0
CAYR	**Refugio Cayamb**	**3.57**	**17**	⇓P	Pn	14 56 06.5	+3.5
CAYA	**Cayambe**	**3.63**	**17**	P	Pn	14 56 07.7	+3.9
COTA	**Cotacachi**	**3.80**	**10**	⇓P	Pn	14 56 09.8	+3.6
COTA	**Cotacachi**	**3.80**	**10**	⇓S	Sn	14 56 58.2	+8.3

*IDC **10** 14:59:04.8±1.0, 1.13N×12729E, h0km, mb3.9/6, mb1 4.0/7, mb1mx3.9/16, mbtmp3.9/7, ML4.0/1, Error ellipse: s-maj=80.8km s-min=16.6km az=75.0*
*ISCJB **10** 14:59:23.1±1.0, 1.1N±01×1274E±03, h186km±10km, mb3.8/9, Error ellipse: s-maj=48.7km s-min=12.5km az=164.6*
*NEIC **10** 14:59:29.0±3.2, 0.95N×12741E, h231km±34km, mb4.1/5, Error ellipse: s-maj=33.5km s-min=12.3km az=71.0*

ISC 10 14:59:24.1±1.0, 10N±01×1274E±03, h180km±10km, n15, σ0°81/15, mb3.8/9, 1D, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNE	**Ternate**	**0.25**	**188**	⇓*e*P	**Pn**	**14 59 48.0**	**-0.2**
KAKA	**Kakadu**	**14.54**	**160**	*e*P	**Pn**	**15 02 43.7**	**+2.1**
	9.8nm,1.1s						
FITZ	**Fitzroy Crossi**	**19.09**	**185**	*e*P	**P**	**15 03 33.6**	**+0.4**
	1.6nm,0.3s						
FITZ	**Fitzroy Crossi**	**19.09**	**185**	P	**P**	**15 03 30.6**	**-2.6**
	0.3nm,0.3s,baz=240,slow=22,SNR=11						
WRAB	**Tennant Creek**	**21.92**	**162**	*e*P	**P**	**15 04 03.0**	**-0.3**
	3.7nm,0.3s,mb4.3						
WRA	**Warramunga Arr**	**21.93**	**162**	P	**P**	**15 04 02.6**	**-0.8**
	2.5nm,0.3s,mb4.1,baz=342,slow=10,SNR=78						
WB2	**Warramunga Arr**	**21.93**	**162**	*e*P	**P**	**15 04 02.9**	**-0.5**
MBWA	**Marble Bar**	**23.30**	**198**	*e*P	**P**	**15 04 15.9**	**0.0**
	1.0nm,0.4s,mb3.6						
ASAR	**Alice Springs**	**25.35**	**166**	P	**P**	**15 04 34.9**	**+0.3**
	1.3nm,0.5s,mb3.8,baz=346,slow=7.6,SNR=74						
STKA	**Stephens Creek**	**35.39**	**159**	*e*P	**P**	**15 06 03.0**	**+0.3**
	1.4nm,0.6s,mb3.8						
STKA	**Stephens Creek**	**35.39**	**159**	P	**P**	**15 06 02.2**	**-0.4**
	1.5nm,0.5s,mb3.9,baz=339,slow=9.1,SNR=8.0						
KSRS	**Korea Array**	**36.24**	**1**	P	**P**	**15 06 09.0**	**-0.9**
	0.7nm,0.8s,mb3.3,baz=204,slow=11,SNR=4.4						
SONM	**Songino Array**	**50.05**	**342**	P	**P**	**15 08 00.8**	**+0.5**
	0.2nm,0.5s,mb3.0,baz=166,slow=9.3,SNR=3.7						
MKAR	**Makanchi Array**	**60.14**	**326**	P	**P**	**15 09 12.9**	**+0.3**
	1.0nm,0.3s,mb4.1,baz=117,slow=8.4,SNR=7.9						
KURK	**Kurchatov**	**64.36**	**328**	*e*P	**P**	**15 09 40.9**	**+0.4**
	2.4nm,0.4s,mb4.4						

IDC 10 15:00:50.3±9.4, 623S×15491E, h0km, mb3.8/4, mb1 3.9/4, mb1mx3.7/14, mbtmp3.8/4, Error ellipse: s-maj=284.3km s-min=30.2km az=109.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.19**	**234**	P	P	15 06 09.6	+0.9
	1.5nm,0.5s,baz=60,slow=10.0,SNR=12						
ASAR	**Alice Springs**	**26.62**	**227**	P	P	15 06 30.1	-0.6
	0.5nm,0.5s,baz=59,slow=9.3,SNR=6.9						
SONM	**Songino Array**	**68.65**	**327**	P	P	15 11 56.2	+0.8
	0.3nm,0.5s,baz=130,slow=6.6,SNR=3.1						
MKAR	**Makanchi Array**	**82.78**	**319**	P	P	15 13 15.7	-0.6
	0.2nm,0.4s,baz=106,slow=4.7,SNR=2.3						

IDC 10 15:01:54.3±4.2, 4819S×12521E, h0km, mb3.7/2, mb1 3.8/2, mb1mx3.6/12, mbtmp3.8/2, Error ellipse: s-maj=121.3km s-min=72.4km az=122.0, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**20.50**	**43**	P	P	15 06 34.4	+0.7
	1.7nm,0.8s,baz=202,slow=12,SNR=2.4						
ASAR	**Alice Springs**	**25.43**	**19**	P	P	15 07 23.4	-0.2
	2.0nm,0.8s,baz=188,slow=9.6,SNR=15						
YKA	**Yellowknife Ar**	**144.53**	**44**	PKP	PKPdf	15 21 30.7	-0.5
	0.7nm,0.8s,baz=277,slow=3.5,SNR=10						

IDC 10 15:19:07.7±8.8, 621S×15403E, h0km, mb4.1/4, mb1 4.3/4, mb1mx3.9/15, mbtmp4.1/4, MS3.8/2, Ms1 3.8/2, ms1mx3.1/24, Error ellipse: s-maj=141.4km s-min=75.9km az=39.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**15.73**	**208**	LR	LR	15 27 28.8	
	comp=Z,81nm,20.5s,baz=47,slow=32						
WB2	**Warramunga Arr**	**23.49**	**233**	*e*P	P	15 24 19.6	+0.1
WRA	**Warramunga Arr**	**23.50**	**233**	P	P	15 24 20.3	+0.7
	3.5nm,0.5s,baz=60,slow=9.9,SNR=43						
ASAR	**Alice Springs**	**26.00**	**226**	P	P	15 24 41.0	-1.5
	1.7nm,0.6s,baz=58,slow=9.5,SNR=37						
STKA	**Stephens Creek**	**28.06**	**203**	P	P	15 25 02.0	+1.1
	1.3nm,0.9s,baz=28,slow=12,SNR=4.1						
FITZ	**Fitzroy Crossi**	**30.11**	**244**	*e*P	P	15 25 20.9	+1.6
	6.9nm,0.9s						
FITZ	**Fitzroy Crossi**	**30.11**	**244**	P	P	15 25 19.5	+0.2
	3.5nm,0.8s,baz=90,slow=9.1,SNR=4.5						
FORT	**Forrest**	**34.52**	**222**	*e*P	P	15 25 54.9	-2.9
	10.0nm,0.7s						
RAR	**Rarotonga**	**47.09**	**113**	LR	LR	15 43 27.3	
	comp=Z,416nm,18.1s,baz=61,slow=31						

*IDC **10** 15:22:39.6±0.5, 4650N×15629E, h0km, mb4.3/22, mb1 4.5/24, mb1mx4.5/28, mbtmp4.4/24, ML4.4/2, MS3.6/12, Ms1 3.6/12, ms1mx3.4/39, Error ellipse: s-maj=15.8km s-min=11.7km az=140.0*
*ISCJB **10** 15:22:39.9±1.0, 4647N±004×15609E±005, h7km±6km, mb4.7/82, MS3.8/26, Error ellipse: s-maj=8.0km s-min=4.7km az=151.7*
*BJI **10** 15:22:41.7, 4665N×15586E, h5km, mB4.8, mb4.7, Ms4.2, Msz4.0*
*NEIC **10** 15:22:41.4±0.2, 4650N×15629E, h10km, mb4.9/41, Error ellipse: s-maj=6.6km s-min=5.0km az=134.0*
*SKHL **10** 15:22:41.0±0.1, 4670N×15630E, h47km±33km, mb5.1/6, ms4.0/3*
*MOS **10** 15:22:44.5±0.9, 4646N×15606E, h41km, mb5.1/36, Error ellipse: s-maj=10.0km s-min=6.6km az=112.8*
*SZGRF **10** 15:22:50.5, 47.19N×15605E, h33km, mb4.9, East of Kuril Islands, Russia*

ISC 10 15:22:42.7±1.1, 4648N±004×15621E±005, h16km±7km, h17km±1.4km: pP-P, n235, σ1°05/258, mb4.7/82, MS3.8/26, 12C-6D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**4.21**	**359**	*e*P	**Pn**	**15 23 41.5**	**-4.6**
SKR				*e*S	**Sn**	**15 24 27.0**	**-7.9**
SKR				pmax	pmax		
	comp=Z,450nm,1.0s						
SKR				pmax	pmax		
	comp=N,80nm,0.5s						
SKR				pmax	pmax		
	comp=E,80nm,0.5s						
SKR				smax			
	comp=N,1μm,0.3s						
SKR				smax			
	comp=E,1μm,0.3s						
SKR				MLR	MLR		
	comp=E,3μm,10.0s						
SKR				MLR	MLR		
	comp=Z,3μm,10.0s						
SKR	**Severo-Kuril's**	**4.21**	**359**	*e*P	**Pn**	**15 23 41.5**	**-4.6**
SKR				AMB	AMB	15 23 47.0	
	comp=Z,80nm,0.5s						
SKR				AMB	AMB	15 23 47.0	
	comp=Z,450nm,1.0s						
SKR				*e*S	**Sn**	**15 24 27.0**	**-7.9**
SKR				A		15 24 30.7	
	comp=Z,1μm,0.3s						
SKR				A		15 24 30.7	
	comp=Z,1μm,0.3s						
SKR				A		15 24 30.7	
	comp=Z,150nm,0.5s						
SKR				AMS	AMS	15 25 28.0	
	comp=Z,3μm,10.0s						
SKR				AMS	AMS	15 25 28.0	
	comp=Z,3μm,10.0s						
KUR	**Kuril'sk**	**5.96**	**261**	⇑*i*P	**Pn**	**15 24 08.0**	**-2.2**
KUR				S	**Sn**	**15 25 13.2**	**-4.9**
KUR				pmax	pmax		
	comp=N,340nm,0.5s						
KUR				pmax	pmax		
	comp=E,150nm,0.5s						
KUR				pmax	pmax		
	comp=Z,840nm,0.5s						
KUR				smax			
	comp=N,860nm,0.7s						
KUR				smax			
	comp=E,490nm,0.7s						
KUR	**Kuril'sk**	**5.96**	**261**	⇑*i*P	**Pn**	**15 24 08.0**	**-2.2**
KUR				AMB	AMB	15 24 13.2	
	comp=E,342nm,0.5s						
KUR				AMB	AMB	15 24 13.2	
	comp=E,152nm,0.5s						
KUR				AMB	AMB	15 24 13.2	
	comp=E,836nm,0.5s						
KUR				*e*S	**Sn**	**15 25 13.2**	**-4.9**
KUR				A		15 25 14.3	
	comp=E,860nm,0.7s						
KUR				A		15 25 14.3	
	comp=E,490nm,0.7s						
PET	**Petropavlovsk**	**6.74**	**13**	*e*Pn	**Pn**	**15 24 16.1**	**-4.8**
	comp=E,52nm,0.4s						
PET				*e*Sn	**Sn**	**15 25 24.1**	**-13**
PET	**Petropavlovsk**	**6.74**	**13**	⇑*e*P	**Pn**	**15 24 16.7**	**-4.1**
YUK	**Yuzh-Kuril'sk**	**7.70**	**255**	*e*P	**Pn**	**15 24 34.5**	**+0.4**
YUK				*e*S	**Sn**	**15 25 56.0**	**-5.0**
YUK				pmax	pmax		
	comp=Z,170nm,0.3s						
YUK				smax			
	comp=N,3μm,0.8s						
YUK				smax			
	comp=N,770nm,0.5s						
YUK				smax			
	comp=E,460nm,0.5s						
NEM2	**Nemuro 2**	**8.06**	**251**	P	**Pn**	**15 24 37.3**	**-1.7**
NEM2				*e*S	**Sn**	**15 26 00.2**	**-9.5**
JRA	**Rausu**	**8.23**	**256**	P	**Pn**	**15 24 41.7**	**+0.3**
JNK	**Nakash**	**8.64**	**255**	P	**Pn**	**15 24 47.0**	**0.0**
JNK				*e*S	**Sn**	**15 26 17.9**	**-6.1**
JAK	**Akkeshi**	**8.91**	**251**	P	**Pn**	**15 24 49.2**	**-1.4**
JAK				*e*S	**Sn**	**15 26 19.9**	**-11**
JTKR	**Abashiri--Toko**	**9.04**	**258**	P	**Pn**	**15 24 52.6**	**+0.1**
YSS	**Yuzh-Sakhalins**	**9.26**	**278**	*e*Pn	**Pn**	**15 24 55.9**	**+0.5**
	comp=E,23nm,0.8s						
YSS	**Yuzh-Sakhalins**	**9.26**	**278**	⇑*i*P	**Pn**	**15 24 58.0**	**+2.5**
YSS				*e*S	**Sn**	**15 26 39.5**	**+0.3**
YSS				pmax	pmax		
	comp=Z,30nm,0.9s						
YSS				MLR	MLR		
	comp=E,300nm,15.0s						
YSS				MLR	MLR		
	comp=Z,400nm,15.0s						
YSS	**Yuzh-Sakhalins**	**9.26**	**278**	⇑*i*P	**Pn**	**15 24 58.0**	**+2.5**
YSS				AMB	AMB	15 24 59.0	
	comp=Z,30nm,0.9s						
YSS				*e*S	**Sn**	**15 26 39.5**	**+0.3**
YSS				*e*LQ		15 27 22.0	
YSS				AMS	AMS	15 30 02.0	
	comp=Z,300nm,15.0s						
YSS				AMS	AMS	15 30 02.0	
	comp=Z,400nm,15.0s						
JAR	**Ashorobuto**	**9.39**	**255**	P	**Pn**	**15 24 57.0**	**-0.2**
JMP	**Maruseppu**	**9.40**	**259**	P	**Pn**	**15 24 57.9**	**+0.5**
JOB	**Onbets**	**9.51**	**252**	P	**Pn**	**15 24 58.2**	**-0.7**
JOB				*e*S	**Sn**	**15 26 35.0**	**-10**
JKK2	**Kamakawa 2**	**9.86**	**260**	P	**Pn**	**15 25 04.2**	**+0.5**
ASAJ	**Asahikawa**	**9.88**	**261**	P	**Pn**	**15 25 04.9**	**+0.9**
ASAJ	**Asahikawa**	**9.88**	**261**	Pn	**Pn**	**15 25 04.6**	**+0.6**
	comp=Z,7.1nm,0.3s,baz=86,slow=21,SNR=32						
ASAJ				LR	LR	15 28 33.0	
	comp=Z,161nm,18.8s,baz=181,slow=36						
JCH	**Churui**	**9.95**	**252**	P	**Pn**	**15 25 03.8**	**-1.2**
JCH				*e*S	**Sn**	**15 26 44.7**	**-12**
TYV	**Tymovskoe**	**9.98**	**301**	*e*P	**Pn**	**15 25 05.8**	**+0.5**
TYV				AMB	AMB	15 25 07.0	
	comp=Z,22nm,0.8s						
TYV				AMB	AMB	15 25 07.0	
	comp=Z,22nm,1.0s						
TYV				AMB	AMB	15 25 07.0	
	comp=Z,31nm,1.0s						
JFR	**Furan**	**10.23**	**256**	P	**Pn**	**15 25 09.3**	**+0.6**
JAB	**Ashibetsu**	**10.35**	**258**	P	**Pn**	**15 25 11.9**	**+1.5**
JEM	**Erimo**	**10.37**	**249**	P	**Pn**	**15 25 11.8**	**+1.1**
ERM	**Erimo**	**10.37**	**249**	*e*P	**Pn**	**15 25 12.7**	**+2.0**
JNBK	**Urakawa-nobuka**	**10.51**	**251**	*e*S	**Sn**	**15 26 58.5**	**-11**
OKH	**Okha**	**11.08**	**315**	*e*P	**Pn**	**15 25 22.3**	**+1.9**
OKH				*e*S	**Sn**	**15 27 23.9**	**+0.1**
OKH				*e*LQ		15 28 36.0	
OKH				AMS	AMS	15 31 18.0	
	comp=Z,600nm,16.0s						
OKH				AMS	AMS	15 31 18.0	
	comp=Z,500nm,13.0s						
JEW	**Eniwo**	**11.13**	**256**	P	**Pn**	**15 25 19.9**	**-1.1**
JNB	**Noboribetsu**	**11.56**	**255**	P	**Pn**	**15 25 26.0**	**-0.9**
JKB	**Kayabe**	**11.82**	**253**	P	**Pn**	**15 25 28.1**	**-2.5**
JKB				*e*S	**Sn**	**15 27 27.3**	**-15**
NKL	**Nikolayevsk**	**12.04**	**309**	*e*P	**Pn**	**15 25 30.5**	**-2.9**
NKL				AMB	AMB	15 25 35.8	
	comp=Z,13nm,1.0s						
NKL				AMB	AMB	15 25 35.8	
	comp=Z,20nm,1.0s						
JYM2	**Yakumo 2**	**12.16**	**255**	P	**Pn**	**15 25 33.6**	**-1.5**
JTH	**Tanohata**	**12.33**	**243**	*e*S	**Sn**	**15 27 38.1**	**-17**
OFUJ	**Ofunato**	**12.98**	**240**	P	**Pn**	**15 25 43.4**	**-3.0**
OFUJ				*e*S	**Sn**	**15 27 54.4**	**-16**
JRG	**Rokugo**	**13.42**	**244**	*e*S	**Sn**	**15 28 09.3**	**-12**
MA2	**Magadan**	**13.51**	**348**	P	**Pn**	**15 25 51.5**	**-2.0**
MA2	**Magadan**	**13.51**	**348**	⇑*e*P	**Pn**	**15 25 50.6**	**-2.9**
MA2				pmax	pmax		
	comp=Z,13nm,1.0s						
MA2				MLR	MLR		
	comp=Z,200nm,16.0s						
JIO	**Ouri**	**13.58**	**239**	P	**Pn**	**15 25 51.2**	**-3.3**
JIO				*e*S	**Sn**	**15 28 10.9**	**-14**
HABR	**Khabarovsk**	**14.45**	**286**	*e*P	**Pn**	**15 26 02.0**	**-4.3**
HABR				*e*S	**Sn**	**15 28 40.4**	**-5.6**
KLR	**Kul'dur**	**16.63**	**288**	*e*P	**Pn**	**15 26 34.3**	**-0.6**
KLR				pmax	pmax		
	comp=E,45nm,1.4s						
KLR				pmax	pmax		
	comp=Z,38nm,1.4s						
KLR				MLR	MLR		
	comp=E,500nm,12.5s						
KLR				MLR	MLR		
	comp=Z,1μm,12.5s						
SEY	**Seymchan**	**16.63**	**354**	⇑*e*P	**Pn**	**15 26 30.6**	**-4.2**
MJAR	**Matsushiro Arr**	**16.71**	**240**	Pn	**Pn**	**15 26 35.1**	**-0.9**
	comp=Z,0.4nm,0.3s,baz=33,slow=11,SNR=12						
MJAR				LR	LR	15 31 24.9	
	comp=Z,116nm,21.9s,baz=25,slow=31						
MAJO	**Matsushiro**	**16.71**	**240**	*e*P	**Pn**	**15 26 35.6**	**-0.4**
	comp=Z,43nm,0.9s						
MAJO	**

CLNS MLR MLR
comp=E,200nm,15.0s,MS3.7
NRGR Nerungri 21.87 309 *e*P **P 15 27 34.0 -0.5**
NRGR S **S 15 31 25.9 -9.5**
NRGR pmax pmax
comp=Z,46nm,0.7s,mb5.0
NRGR smax
comp=N,18nm,0.5s
BILL Bilibino 22.23 10 *e*P **P 15 27 38.7 +0.5**
comp=N,9.9nm,0.4s,mb4.6
BILL Bilibino 22.23 10⇓*i*P **P 15 27 38.8 +0.6**
BILL *i* 15 27 51.0
BILL *e* 15 27 58.2
BILL *e*S **S 15 31 40.9 -1.3**
BILL pmax pmax
comp=Z,15nm,0.8s,mb4.5
BILL MLR MLR
comp=Z,100nm,14.0s,MS3.4
KSRS Korea Array 22.79 257 P **P 15 27 45.8 +1.3**
comp=Z,5.3nm,1.1s,mb3.9,baz=53,slow=9.9,SNR=11
KSRS LR LR 15 34 55.7
comp=Z,99nm,20.7s,MS3.2,baz=156,slow=32
JNU Nakatsue 23.48 244 P **P 15 27 50.4 -1.3**
comp=Z,7.9nm,0.8s,mb4.2,baz=71,slow=9.2,SNR=11
SNY Shenyang 23.77 271 ⇑P **P 15 27 55.8 +1.4**
SNY AMB AMB
comp=Z,18nm,1.1s,mb4.4
SNY AMB AMB
comp=Z,269nm,6.4s
SNY LR LR
comp=N,115nm,11.8s,MS3.7
SNY LR LR
comp=E,136nm,13.1s,MS3.7
SNY LR LR
comp=Z,186nm,10.8s,MS3.8
BOD Bodaibo 27.81 310 *e*P **P 15 28 29.6 -1.1**
BOD pmax pmax
comp=Z,11nm,1.3s,mb4.3
TIXI Tiksi 28.35 342 *e*P **P 15 28 35.0 -0.5**
comp=Z,26nm,1.1s,mb4.8
TIXI Tiksi 28.35 342⇓*i*P **P 15 28 35.1 -0.4**
TIXI pmax pmax
comp=Z,20nm,1.6s,mb4.5
TIXI MLR MLR
comp=Z,100nm,17.0s,MS3.5
BJI Beijing 29.62 272 P **P 15 28 53.4 +6.4**
BJI S **S 15 33 39.0 -2.6**
BJI AMB AMB
comp=Z,6.0nm,1.2s,mb4.2
BJI LR LR
comp=N,136nm,16.1s,MS3.8
BJI LR LR
comp=E,114nm,14.9s,MS3.8
BJI LR LR
comp=Z,123nm,29.5s
NJ2 Nanjing 31.99 257 *e*P **P 15 29 09.2 +1.2**
NJ2 AMB AMB
comp=Z,20nm,1.2s,mb4.8
HHC Hu-ho-hao-te 32.45 276 *e*P **P 15 29 14.2 +2.3**
HHC AP pP 15 29 18.5 +1.7
HHC XP sP 15 29 21.6 +2.8
HHC PP PP 15 30 21.7 -3.5
HHC PCP PcP 15 32 00.5 +1.7
HHC S **S 15 34 30.3 +4.5**
HHC XS sS 15 34 34.3 +0.5
HHC SCP ScP 15 35 45.2 +3.4
HHC SS SS 15 36 19.5 -26
HHC SCS ScS 15 39 43.9 +2.9
HHC AMB AMB
comp=Z,155nm,2.3s,mb5.4
HHC LR LR
comp=N,122nm,14.7s,MS4.0
HHC LR LR
comp=E,155nm,10.8s,MS4.0
HHC LR LR
comp=Z,161nm,10.6s,MS4.0
KDAK Kodiak Island 32.62 51 P **P 15 29 11.3 -1.9**
comp=Z,3.4nm,0.5s,mb4.5,baz=281,slow=12,SNR=6.6
IMA2 Indian Mountai 32.78 35 P **P 15 29 17.2 +2.7**
ULN Ulaanbaatar 33.00 291 *e*P **P 15 29 16.8 +0.1**
comp=Z,3.1nm,0.9s,mb4.2
ULN Ulaanbaatar 33.00 291 *i*P **P 15 29 16.5 -0.2**
SONM Songino Array 33.43 291 P **P 15 29 20.6 +0.1**
SONM 15 32 00.5
SONM Songino Array 33.43 291 P **P 15 29 20.6 +0.1**
comp=Z,2.6nm,0.8s,mb4.2,baz=68,slow=7.5,SNR=15
SONM PcP PcP 15 32 00.5 -0.9
comp=Z,0.7nm,0.7s,baz=87,slow=3.2,SNR=4.1
SONM LR LR 15 43 38.7
comp=Z,109nm,19.2s,MS3.6,baz=73,slow=38
GUMO Guam 34.15 200 LR LR 15 41 49.7
comp=Z,34nm,21.9s,MS3.0,baz=66,slow=34
ZAK Zakamensk 34.72 296 *e*P **P 15 29 31.7 +0.1**
ZAK *e* 15 32 01.4
COLA College 35.03 38 *i*P **P 15 29 38.7 +4.6**
WHN Wuhan 35.95 259 ⇑P **P 15 29 43.2 +0.7**
XAN Xi'an 37.63 268 P **P 15 29 57.4 +0.7**
XAN AP pP 15 30 04.5 +2.9
XAN AMB AMB
comp=Z,10.0nm,1.0s,mb4.5
LZH Lanzhou 40.04 274 *e*P **P 15 30 19.0 +2.1**
LZH AP pP 15 30 23.0 +1.2
LZH XP sP 15 30 26.5 +2.8
LZH PP PP 15 31 54.8 +6.0
LZH *e*S **S 15 36 21.2 -0.7**
LZH XS sS 15 36 26.5 -3.5
LZH SS SS 15 39 12.0 -7.0
LZH AMB AMB
comp=Z,28nm,1.1s,mb4.9
LZH AMB AMB
comp=Z,110nm,4.0s
LZH LR LR
comp=E,510nm,14.0s
LZH LR LR
comp=Z,778nm,15.1s,MS4.7
INK Inuvik 40.73 32 *e*P **P 15 30 21.7 -0.5**
comp=Z,151nm,0.9s,mb5.6
INK Inuvik 40.73 32 P **P 15 30 22.1 -0.1**
INK pmax pmax
comp=Z,4.0nm,1.0s
INK Inuvik 40.73 32 P **P 15 30 22.1 -0.1**
comp=Z,4.1nm,1.0s,mb4.0,baz=283,slow=6.0,SNR=4.2
GTA Gaotai 41.12 281 *e*P **P 15 30 27.8 +2.0**
GTA PP PP 15 32 05.8 +5.2
GTA PCP PcP 15 32 25.5 +0.5
GTA S **S 15 36 36.5 -1.5**
GTA SS SS 15 39 34.4 -6.1
GTA AMB AMB
comp=Z,11nm,1.1s,mb4.4
GTA AMB AMB
comp=Z,155nm,8.4s
GTA LR LR
comp=N,96nm,18.3s,MS3.9
GTA LR LR
comp=E,116nm,15.2s,MS3.9
GTA LR LR
comp=Z,92nm,15.2s,MS3.8
CD2 Chengdu 43.00 268 P **P 15 30 42.2 +1.0**
CD2 AP pP 15 30 46.7 +0.6
CD2 XP sP 15 30 49.5 +1.4
CD2 PP PP 15 32 24.2 +3.3
CD2 S **S 15 37 05.6 -0.3**
CD2 XS sS 15 37 13.0 -1.0
CD2 SS SS 15 40 10.3 -7.5
CD2 AMB AMB
comp=Z,20nm,0.9s,mb4.8
CD2 AMB AMB
comp=Z,40nm,5.2s
CD2 LR LR
comp=N,150nm,15.6s
CD2 LR LR
comp=Z,100nm,12.0s,MS3.9
GYA Guiyang 43.76 260 P **P 15 30 47.2 -0.2**
GYA AP pP 15 30 51.8 -0.5
GYA XP sP 15 30 54.6 +0.3
GYA PP PP 15 32 32.0 +2.8
GYA PCP PcP 15 32 36.9 +2.9
GYA SCP ScP 15 36 27.2 +2.4
GYA S **S 15 37 17.6 +0.4**
GYA SS SS 15 40 25.0 -7.9
GYA SCS ScS 15 40 46.2 +0.1
GYA AMB AMB
comp=Z,10.0nm,0.8s,mb4.6
GYA AMB AMB
comp=Z,90nm,5.2s
GYA LR LR
comp=N,470nm,19.7s,MS4.6
GYA LR LR
comp=E,460nm,18.6s,MS4.6
GYA LR LR
comp=Z,490nm,19.0s,MS4.4
ZAA0 Zalesovo Array 44.49 307 *e*P **P 15 30 51.5 -1.4**
ZALV Zalesovo Beam 44.49 307 P **P 15 30 52.9 0.0**
comp=Z,3.2nm,0.9s,mb4.0,baz=71,slow=6.4,SNR=12
ZALV PcP PcP 15 32 34.8 -1.2
comp=Z,5.0nm,0.9s,baz=64,slow=3.4,SNR=8.4
ZALV LR LR 15 50 30.9
comp=Z,62nm,19.3s,MS3.5,baz=223,slow=38
ZAL Zalesovo 44.51 307 P **P 15 30 52.9 -0.1**
ZAL 15 32 34.8
NVS Novosibirsk 45.04 309 *i*P **P 15 30 57.1 -0.2**
NVS *e* 15 32 37.2
NVS pmax pmax
comp=N,15nm,1.8s
NVS pmax pmax
comp=Z,31nm,1.8s,mb4.8
NVS pmax pmax
comp=E,25nm,1.7s
WMQ Urumqi 47.01 293⇓*i*P **P 15 31 14.6 +1.7**
WMQ AP pP 15 31 20.0 +2.1
WMQ PCP PcP 15 32 49.0 +4.0
WMQ *e*S **S 15 38 02.0 -1.7**
WMQ AMB AMB
comp=Z,22nm,0.8s,mb5.1
WMQ AMB AMB
comp=Z,128nm,6.2s
WMQ LR LR
comp=N,156nm,17.4s,MS4.1
WMQ LR LR
comp=E,118nm,21.6s,MS4.1
WMQ LR LR
comp=Z,138nm,19.5s,MS3.9
KMI Kunming 47.31 262 P **P 15 31 16.5 +1.0**
KMI AP pP 15 31 20.7 +0.2
KMI XP sP 15 31 23.0 +0.6
KMI PP PP 15 33 08.0 +1.5
KMI S **S 15 38 08.2 -0.2**
KMI XS sS 15 38 13.2 -3.4
KMI SS SS 15 41 28.7 -7.0
KMI AMB AMB
comp=Z,6.0nm,1.4s,mb4.3
KMI AMB AMB
comp=Z,120nm,6.1s
KMI LR LR
comp=N,64nm,11.4s,MS4.1
KMI LR LR
comp=E,116nm,15.6s,MS4.1
KMI LR LR
comp=Z,69nm,16.2s,MS3.7
MK31 Makanchi Array 48.95 299 *i*P **P 15 31 28.0 +0.1**
MK31 pmax pmax
comp=Z,10.0nm,0.7s,mb5.0
MKAR Makanchi Array 48.95 299 P **P 15 31 28.5 +0.5**
comp=Z,8.5nm,0.9s,mb4.8,baz=64,slow=8.4,SNR=62
MKAR LR LR 15 52 41.8
comp=Z,82nm,19.0s,MS3.7,baz=247,slow=37
KURK Kurchatov 49.28 305 *e*P **P 15 31 30.7 +0.3**
comp=Z,20nm,0.8s,mb5.2
KURK Kurchatov 49.28 305 *i*P **P 15 31 30.4 0.0**
KURK pmax pmax
comp=Z,10.0nm,0.8s,mb4.9
YKA Yellowknife Ar 49.85 37 P **P 15 31 34.2 -0.3**
YKA LR LR 15 53 28.1
YKA Yellowknife Ar 49.85 37 P **P 15 31 34.2 -0.3**
comp=Z,0.3nm,0.4s,mb3.7,baz=294,slow=7.3,SNR=5.8
YKA LR LR 15 53 28.1
comp=Z,32nm,19.8s,MS3.3,baz=130,slow=37
BRVK Borovoye 52.71 311 *e*P **P 15 31 56.4 +0.3**
comp=Z,21nm,0.9s,mb5.1
BRVK Borovoye 52.71 311 *e*P **P 15 31 56.4 +0.3**
BRVK pmax pmax
comp=Z,21nm,0.9s,mb5.1
CHTO Chiang Mai 54.15 259 *e*P **P 15 32 07.8 +0.7**
comp=Z,4.4nm,0.8s,mb4.4
CHTO Chiang Mai 54.15 259 *e*P **P 15 32 07.8 +0.6**
CHTO pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
ULHL Ulahol 55.00 297 P **P 15 32 14.8 +1.7**
SNR=23
TKM2 Tokmak 2 55.02 298 *e*P **P 15 32 14.6 +1.4**
comp=Z,25nm,1.3s,mb5.1
TKM2 Tokmak 2 55.02 298 *e*P **P 15 32 14.6 +1.4**
TKM2 pmax pmax
comp=Z,25nm,1.3s,mb5.1
TKM2 Tokmak 2 55.02 298 P **P 15 32 14.7 +1.5**
SNR=11
SVE Sverdlovsk 55.47 318 *e*P **P 15 32 16.9 +0.7**
SVE pmax pmax
comp=Z,15nm,0.7s,mb5.1
CHMS Chumysh 55.50 298 P **P 15 32 17.6 +0.9**
SNR=5.2
USP Ospenovka 55.50 299 P **P 15 32 18.1 +1.5**
SNR=16
KBK Karagaybulak 55.57 298 P **P 15 32 18.8 +1.7**
SNR=13
KZA Kyzart 55.71 297 P **P 15 32 20.7 +2.5**
SNR=13
AAK Ala-Archa 55.86 298 P **P 15 32 20.3 +1.0**
SNR=20
UCH Uchtor 56.08 298 *e*P **P 15 32 21.3 +0.5**
comp=Z,3.1nm,0.8s,mb4.4
EKS2 Erkin-Say 56.28 298 *e*P **P 15 32 23.5 +1.3**
comp=Z,14nm,0.8s,mb5.0
EKS2 Erkin-Say 56.28 298 P **P 15 32 23.9 +1.7**
SNR=21
AML Almayashu 56.63 298 *e*P **P 15 32 24.7 -0.1**
comp=Z,10nm,0.9s,mb4.8
AML Almayashu 56.63 298 P **P 15 32 26.9 +2.1**
SNR=9.2
ARU Arti 56.64 319*c i*P **P 15 32 24.4 -0.2**
ARU *e* 15 33 20.8
ARU *e* 15 34 27.5
ARU *e*S **S 15 40 15.3 -0.5**
ARU *e*SS SS 15 43 59.7 -3.0
ARU pmax pmax
comp=Z,36nm,0.8s,mb5.5
JIRN Jiri 57.10 277 *e*P **P 15 32 28.6 +0.3**
comp=Z,1.4nm,0.2s,mb4.7
KKN Kakani 57.64 278 *e*P **P 15 32 33.1 +1.0**
comp=Z,61nm,0.9s,mb5.6
KKN Kakani 57.64 278 *e*P **P 15 32 33.1 +1.0**
KKN pmax pmax
comp=Z,61nm,0.9s,mb5.6
GKN Gorkha 57.95 278 *e*P **P 15 32 35.4 +1.2**
comp=Z,68nm,0.9s,mb5.7
ARCES ARCESS Array B 58.79 342 P **P 15 32 37.9 -1.6**
comp=Z,3.8nm,0.9s,mb4.4,baz=15,slow=5.1,SNR=5.5
KOLN Koldanda 58.80 279 *e*P **P 15 32 41.5 +1.3**
comp=Z,55nm,0.9s,mb5.6
TMCR Tamitsa 59.55 333 *e*P **P 15 32 43.6 -1.2**
NVAR Mina Array Bea 60.65 64 P **P 15 32 52.6 -0.2**
comp=Z,1.4nm,0.6s,mb4.3,baz=299,slow=5.1,SNR=11
PDAR Pinedale Array 63.16 55 P **P 15 33 08.6 -1.0**
comp=Z,2.0nm,0.9s,mb4.2,baz=298,slow=3.2,SNR=13
FINES FINESS Array B 65.17 336 P **P 15 33 21.8 -0.7**
comp=Z,2.7nm,0.8s,mb4.3,baz=59,slow=11,SNR=6.9
FINES LR LR 16 03 13.2
comp=Z,76nm,18.5s,MS3.9,baz=347,slow=37
ULM Lac du Bonnet 65.31 42 P **P 15 33 22.4 -1.1**
comp=Z,1.8nm,0.6s,mb4.3,baz=302,slow=7.5,SNR=6.9
OBN Obninsk 66.72 327⇑*i*P **P 15 33 32.1 -0.4**
OBN pmax pmax
comp=Z,27nm,1.7s,mb5.0
CTA Charters Tower 66.86 190 P **P 15 33 32.3 -1.4**
comp=Z,5.3nm,0.9s,mb4.6,baz=319,slow=9.3,SNR=2.7
WB2 Warramunga Arr 69.00 202 *e*P **P 15 33 46.7 -0.5**
WRA Warramunga Arr 69.01 202 *i*P **P 15 33 46.5 -0.8**
WRA pmax pmax
comp=Z,7.0nm,0.7s
WRA Warramunga Arr 69.01 202 P **P 15 33 46.6 -0.6**
comp=Z,7.2nm,0.7s,mb4.7,baz=22,slow=6.7,SNR=57
HYB Hyderabad 69.14 274 *e*P **P 15 33 48.5 +0.2**
HYB Hyderabad 69.14 274 *i*P **P 15 33 48.5 +0.2**
NB2 NORSAR Subarra 69.15 343 P **P 15 33 47.2 -0.5**
comp=Z,1.2nm,0.7s,mb3.9,baz=25,slow=6.5
NOA NORSAR Array B 69.15 343 P **P 15 33 47.2 -0.5**
NOA LR LR 16 06 33.8
NOA NORSAR Array B 69.15 343 P **P 15 33 47.2 -0.5**
comp=Z,3.6nm,0.9s,mb4.3,baz=26,slow=6.3,SNR=5.3
NOA LR LR 16 06 33.8
comp=Z,38nm,18.0s,MS3.7,baz=295,slow=38
FITZ Fitzroy Crossi 69.96 211 *e*P **P 15 33 54.1 +0.9**
comp=Z,8.4nm,0.9s,mb4.7
FITZ Fitzroy Crossi 69.96 211 P **P 15 33 53.7 +0.5**
comp=Z,4.3nm,0.9s,mb4.4,baz=28,slow=8.4,SNR=5.3
KIV Kislovodsk 72.50 316 *e*P **P 15 34 09.5 +1.1**
comp=Z,20nm,0.8s,mb5.1
KIV Kislovodsk 72.50 316 *e*P **P 15 34 09.3 +0.9**
KIV pmax pmax
comp=Z,22nm,1.0s,mb5.0
KIV MLR MLR
comp=Z,71nm,19.0s,MS4.0
ASAR Alice Springs 72.68 201 P **P 15 34 09.8 +0.3**
comp=Z,3.6nm,0.7s,mb4.4,baz=15,slow=5.2,SNR=42
AKASG Malin Array Be 72.94 328 *i*P **P 15 34 06.0 -4.9**
AKASG pmax pmax
comp=Z,7.0nm,0.7s
AKASG Malin Array Be 72.94 328 P **P 15 34 09.8 -1.1**
comp=Z,6.6nm,0.7s,mb4.7,baz=32,slow=5.9,SNR=4.5
MTA Mtatsminda 73.14 313 P **P 15 34 13.3 +1.0**
ONI Oni 73.15 315 P **P 15 34 13.9 +1.6**
SOC Sochi 74.19 317*d i*P **P 15 34 14.6 -3.7**
SOC *e* 15 34 32.9
SOC *e* 15 37 02.3
SOC *e*PPP 15 38 58.3
SOC *e*S S 15 43 42.5 -8.4
SOC *e*SS SS 15 48 29.3 -5.9
SOC pmax pmax
comp=Z,7.0nm,0.6s,mb4.8
SOC MLR MLR
comp=Z,96nm,17.0s,MS4.2
ANN Anapa 74.29 320 *e*P **P 15 34 17.5 -1.4**
ANN *e*S S 15 43 48.4 -3.7
ANN pmax pmax
comp=Z,27nm,1.6s,mb4.9
TXAR Lajitas Array 75.74 62 P **P 15 34 27.3 -0.3**
TXAR Lajitas Array 75.74 62 P **P 15 34 27.3 -0.3**
comp=Z,4.9nm,0.6s,mb4.7,baz=301,slow=4.0,SNR=46
KWP Kalwaria 76.12 331 *e*P **P 15 34 29.4 0.0**
STHS Stebnicka Huta 76.80 332 *e*P **P 15 34 33.8 +0.6**
comp=Z,8.3nm,1.6s,mb4.4
STHS Stebnicka Huta 76.80 332 *e*P **P 15 34 33.8 +0.6**
STHS pmax pmax
comp=Z,8.0nm,1.6s,mb4.4
KOLS Kolonicke sedl 76.87 331 *e*P **P 15 34 33.2 -0.4**
KSP Ksiaz 77.07 335 *e*P **P 15 34 34.8 +0.1**
KSP Ksiaz 77.07 335 *e*P **P 15 34 34.5 -0.2**
UPC Upice 77.45 335 *e*P **P 15 34 36.9 0.0**
CLL Collm 77.57 337 *i*P **P 15 34 37.2 -0.3**
CLL pmax pmax
comp=Z,19nm,1.2s,mb4.9
CLL Collm 77.57 337 *e*P **P 15 34 37.4 -0.1**
comp=Z,19nm,1.2s,mb4.9
CLL Collm 77.57 337 *i*P **P 15 34 37.2 -0.3**
comp=Z,19nm,1.2s,mb4.9
BRG Berggiesshubel 77.71 337 *e*P **P 15 34 38.4 +0.1**
BRG pmax pmax
comp=Z,7.0nm,1.4s,mb4.4
BRG Berggiesshubel 77.71 337 *e*P **P 15 34 38.4 +0.1**
comp=Z,12nm,1.4s,mb4.6
CLZ Clausthal 77.75 339 *e*P **P 15 34 37.3 -1.2**
CLZ pmax pmax
comp=Z,13nm,1.4s,mb4.7
CLZ Clausthal 77.75 339 *e*P **P 15 34 37.3 -1.2**
comp=Z,13nm,1.4s,mb4.7
KECS Kecovo 77.85 332 *e*P **P 15 34 35.0 -4.2**
comp=Z,1.6nm,0.8s,mb4.0
KECS Kecovo 77.85 332 *e*P **P 15 34 35.0 -4.2**
KECS pmax pmax
comp=Z,2.0nm,0.8s,mb4.1
KECS Kecovo 77.85 332 *e*P **P 15 34 35.0 -4.2**
BOYT Boyabat 78.09 319 *i*P **P 15 34 40.9 +0.3**
VYHS Vyhne 78.38 333 *e*P **P 15 34 41.9 -0.2**
MLR Muntele Rosu 78.49 327 ⇓P **P 15 34 43.0 +0.2**
MOX Moxa 78.53 338 *e*P **P 15 34 43.3 +0.4**
comp=Z,7.0nm,0.9s,mb4.6
BALT Daday 78.69 320 *i*P **P 15 34 43.9 0.0**
NKC Novy Kostel 78.69 337 *e*P **P 15 34 43.7 0.0**
CTKT Corum 78.78 319 *i*P **P 15 34 44.9 +0.5**
MANZ Manzenberg 79.01 337 *e*P **P 15 34 45.9 +0.4**
comp=Z,7.0nm,1.0s,mb4.5
STKA Stephens Creek 79.10 193 *e*P **P 15 34 45.8 -0.2**
comp=Z,0.9nm,0.6s,mb3.9
STKA Stephens Creek 79.10 193 P **P 15 34 45.3 -0.7**
comp=Z,1.5nm,0.7s,mb4.0,baz=322,slow=9.6,SNR=4.2
STKA LR LR 16 09 49.6
comp=Z,80nm,20.8s,MS4.0,baz=205,slow=36
ROTZ Rotzenmuhle 79.18 337 *e*P **P 15 34 47.2 +0.8**
comp=Z,12nm,1.2s,mb4.7
KHC Kasperske Hory 79.38 336*d i*P **P 15 34 47.4 -0.2**
KHC Kasperske Hory 79.38 336 *e*P **P 15 34 48.0 +0.4**
ELDT Eldivan 79.51 319 *i*P **P 15 34 48.7 +0.3**
GRA1 Grafenberg Arr 79.51 338 *e*P **P 15 34 48.6 +0.4**
comp=Z,37nm,1.5s,mb5.1
GRF Grafenberg Arr 79.51 338 *e*P **P 15 34 48.6 +0.4**
GRF pmax pmax
comp=Z,37nm,1.5s,mb5.1
GRF Grafenberg Arr 79.51 338 *e*P **P 15 34 48.6 +0.4**
GRF pmax pmax
comp=Z,37nm,1.5s,mb5.1
GRF Grafenberg Arr 79.51 338 *e*P **P 15 34 48.6 +0.4**
comp=Z,37nm,1.5s,mb5.1
WET Wettzell 79.56 337 *e*P **P 15 34 48.6 +0.1**
WET pmax pmax
comp=Z,14nm,1.2s,mb4.8
WET Wettzell 79.56 337 *e*P **P 15 34 48.6 +0.1**
comp=Z,14nm,1.2s,mb4.8
GEC2 GERESS Array S 79.61 336 *e*P **P 15 34 48.8 0.0**
GEC2 pmax pmax
comp=Z,5.0nm,1.0s,mb4.4
GEC2 GERESS Array S 79.61 336 *e*P **P 15 34 48.8 0.0**
comp=Z,5.0nm,1.0s,mb4.4
GERES GERESS Array B 79.61 336 P **P 15 34 48.9 +0.1**
comp=Z,1.8nm,0.7s,mb4.1,baz=27,slow=6.6,SNR=7.9
GERES LR LR 16 12 37.3
comp=Z,63nm,18.8s,MS4.0,baz=272,slow=38
BFO Black Forest 81.50 339 *e*P **P 15 34 59.1 +0.1**
BFO pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
BFO Black Forest 81.50 339 *e*P **P 15 34 59.1 +0.1**
comp=Z,8.0nm,1.0s,mb4.6
CDF Champ du Feu 81.69 340 *e*P **P 15 34 59.8 -0.1**
comp=Z,15nm,0.9s,mb4.6
CDF Champ du Feu 81.69 340 *e*P **P 15 34 59.8 -0.1**
comp=Z,7.3nm,0.9s,mb4.6
CDF Champ du Feu 81.69 340 *e*P **P 15 34 59.8 -0.1**
CDF pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
HAU Haudompre 82.29 340 *e*P **P 15 35 02.8 -0.3**
FLN La Foliniere 82.99 345 *e*P **P 15 35 06.5 -0.3**
comp=Z,29nm,1.2s,mb4.9
FLN La Foliniere 82.99 345 *e*P **P 15 35 06.5 -0.3**
comp=Z,14nm,1.2s,mb4.9
FLN La Foliniere 82.99 345 *e*P **P 15 35 06.5 -0.3**
FLN pmax pmax
comp=Z,14nm,1.2s,mb4.9
LDF La Druitiere 83.09 344 *e*P **P 15 35 06.9 -0.4**
GRR Gorron 83.42 345 *e*P **P 15 35 08.9 -0.1**
comp=Z,36nm,1.2s,mb5.0
GRR Gorron 83.42 345 *e*P **P 15 35 08.9 -0.1**
comp=Z,18nm,1.2s,mb5.0
GRR Gorron 83.42 345 *e*P **P 15 35 08.9 -0.1**
GRR pmax pmax
comp=Z,18nm,1.2s,mb5.0
LOR Lormes 83.55 341 *e*P **P 15 35 09.4 -0.2**
comp=Z,36nm,1.3s,mb5.1
LOR Lormes 83.55 341 *e*P **P 15 35 09.4 -0.2**
comp=Z,18nm,1.3s,mb5.0
LOR Lormes 83.55 341 *e*P **P 15 35 09.4 -0.2**
LOR pmax pmax
comp=Z,18nm,1.3s,mb5.0
CABF La Chapelle 83.66 340 *e*P **P 15 35 10.3 +0.1**
comp=Z,32nm,1.4s,mb5.0
CABF La Chapelle 83.66 340 *e*P **P 15 35 10.3 +0.1**
comp=Z,16nm,1.4s,mb5.0
CABF La Chapelle 83.66 340 *e*P **P 15 35 10.3 +0.1**
CABF pmax pmax
comp=Z,16nm,1.4s,mb5.0
SSF Saint Saulge 83.82 342 *e*P **P 15 35 10.8 -0.2**
comp=Z,16nm,1.1s,mb4.8
SSF Saint Saulge 83.82 342 *e*P **P 15 35 10.8 -0.2**
comp=Z,8.0nm,1.1s,mb4.8
SSF Saint Saulge 83.82 342 *e*P **P 15 35 10.8 -0.2**
SSF pmax pmax
comp=Z,8.0nm,1.1s,mb4.8
SGMF Saint Gilles 83.85 346 *e*P **P 15 35 09.6 -1.6**
AVF Avril sur Loir 84.11 342 *e*P **P 15 35 12.4 -0.1**

comp=Z,37nm,1.4s,mb5.0
AVF **Avril sur Loir** **84.11 342** *e*P **P** **15 35 12.4 -0.1**
comp=Z,18nm,1.4s,mb5.0
AVF **Avril sur Loir** **84.11 342** *e*P **P** **15 35 12.4 -0.1**
AVF pmax pmax
comp=Z,18nm,1.4s,mb5.0
SMF **Signal de Mont** **84.14 341** *e*P **P** **15 35 12.5 -0.2**
comp=Z,43nm,1.2s,mb5.2
SMF **Signal de Mont** **84.14 341** *e*P **P** **15 35 12.5 -0.2**
comp=Z,22nm,1.2s,mb5.2
SMF **Signal de Mont** **84.14 341** *e*P **P** **15 35 12.5 -0.2**
SMF pmax pmax
comp=Z,22nm,1.2s,mb5.2
QUIF **Quistinic** **84.28 346** *e*P **P** **15 35 12.5 -0.9**
LPL **La Plagne** **84.52 339** *e*P **P** **15 35 15.5 +0.8**
comp=Z,12nm,1.0s,mb4.7
LPL **La Plagne** **84.52 339** *e*P **P** **15 35 15.5 +0.8**
comp=Z,5.8nm,1.0s,mb4.7
LPL **La Plagne** **84.52 339** *e*P **P** **15 35 15.5 +0.8**
LPL pmax pmax
comp=Z,6.0nm,1.0s,mb4.7
LPG **La Plagne** **84.54 339** *e*P **P** **15 35 15.7 +1.0**
comp=Z,43nm,1.4s,mb5.1
LPG **La Plagne** **84.54 339** *e*P **P** **15 35 15.7 +1.0**
comp=Z,21nm,1.4s,mb5.1
LPG **La Plagne** **84.54 339** *e*P **P** **15 35 15.7 +1.0**
LPG pmax pmax
comp=Z,21nm,1.4s,mb5.1
TCF **Toulx Ste Croi** **84.83 342** *e*P **P** **15 35 16.2 0.0**
comp=Z,11nm,1.1s,mb4.6
TCF **Toulx Ste Croi** **84.83 342** *e*P **P** **15 35 16.2 0.0**
comp=Z,5.4nm,1.1s,mb4.6
TCF **Toulx Ste Croi** **84.83 342** *e*P **P** **15 35 16.2 0.0**
TCF pmax pmax
comp=Z,5.0nm,1.1s,mb4.6
TORD **Torodi Ar. Bea** **116.38 332** PKP PKPdf 15 41 24.3 -1.5
TORD **Torodi Ar. Bea** **116.38 332** PKP PKPdf 15 41 24.3 -1.5
comp=Z,0.7nm,0.6s,baz=7.8,slow=4.1,SNR=4.9
DBIC **Dimbokro** **124.46 337** PKP PKPdf 15 41 40.5 -1.0
comp=Z,3.7nm,0.9s,baz=255,slow=4.7,SNR=4.2
PLCA **Paso Flores** **146.05 98** PKPbc PKPbc 15 42 20.6 -0.7
comp=Z,2.9nm,0.7s,baz=227,slow=1.4,SNR=8.5
USHA **Ushuaia** **150.93 123** PKPbc PKPbc 15 42 35.0 +1.5
comp=Z,4.4nm,0.5s,baz=16,slow=19,SNR=6.0
SNAA **Sanae** **152.86 194** *e*PKPdf PKPbc 15 42 36.2 -1.3
SNAA *e* 15 42 39.6
VNA2 **Neumayer--Watz** **154.24 192** *e*PKPdf PKPbc 15 42 39.7 -0.8
baz=12,slow=2.1
VNA2 *e* 15 42 44.2
VNA2 *e* 15 42 58.8
VNA3 **Neumayer Olymp** **154.26 190** *e*PKPdf PKPbc 15 42 39.6 -0.9
VNA3 *e* 15 42 44.5
VNA3 *e* 15 42 57.9

CSEM ***10*** *15:29:01.6±0.1,3939N×27.16E,h8km,MD3.0,Error ellipse: s-maj=1.8km s-min=1.5km az=100.0*
ISK ***10*** *15:29:01.9,3939N×27.14E,h9km,MD3.1*
ISCJB ***10*** *15:29:02.1±0.5,3938N±002×27.13E±003,h9km±5km, Error ellipse: s-maj=4.0km s-min=3.1km az=137.1*
DDA ***10*** *15:29:02.9,3939N×27.17E,h7km±1km,Md3.0*
THE ***10*** *15:29:03.8,3933N×2708E,h8km,ML3.5*
NEIC ***10*** *15:29:04.7,3881N×2575E,h27km,MD3.3(ATH),After ATH.*
ATH ***10*** *15:29:04.7,3881N×2575E,h27km±8km,MD3.3/4*
ISC 10 15:29:02.5±0.4,3939N±002×2714E±003,h11km±4km,n38, σ0992/53,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AYVA	**Ayvalik**	**0.35**	**257**	*i* P	**Pg**	**15 29 10.1**	**+0.6**
AYVA				*i* S	**Sg**	**15 29 15.3**	**+0.9**
PRK	**Paraskevi**	**0.69**	**258**	*e*Pn	**Pn**	**15 29 16.5**	**-1.7**
PRK				*e*Sn	**Sg**	**15 29 25.8**	**+1.0**
AKS	**Akhisar**	**0.73**	**134**	PG	**Pg**	**15 29 16.4**	**-0.3**
AKS				*e*SG	**Sg**	**15 29 27.2**	**+0.9**
AKHS	**Akhisar**	**0.73**	**134**	*i* P	**Pg**	**15 29 16.1**	**-0.6**
AKHS				*i* S	**Sg**	**15 29 26.6**	**+0.2**
EZN	**Ezine**	**0.76**	**305**	*e*PG	**Pg**	**15 29 17.1**	**-0.1**
EZN				*e*SG	**Sg**	**15 29 27.9**	**+0.7**
BTOK	**Tokmak**	**0.79**	**62**	*i* P	**Pg**	**15 29 17.2**	**-0.5**
BTOK				*i* S	**Sg**	**15 29 26.8**	**-1.2**
BOZC	**Bozcaada**	**0.95**	**299**	*i* P	**Pg**	**15 29 20.8**	**-0.1**
BOZC				*i* S	**Sg**	**15 29 33.9**	**+0.7**
KDAG	**Bornova**	**0.99**	**174**	*i* P	**Pg**	**15 29 21.4**	**-0.2**
KDAG				*i* S	**Sg**	**15 29 33.8**	**-0.8**
BLCB	**Balcova**	**1.01**	**184**	*e*PG	**Pg**	**15 29 21.7**	**-0.2**
BLCB	**Balcova**	**1.01**	**184**	*e*Pg	**Pg**	**15 29 21.6**	**-0.3**
BLCB				*e*Sg	**Sg**	**15 29 35.0**	**0.0**
URLA	**Izmir**	**1.11**	**202**	*i* P	**Pb**	**15 29 23.4**	**-0.3**
URLA				*i* S	**Sg**	**15 29 40.1**	**+1.7**
BNT	**Bandirma**	**1.14**	**32**	*e*PN	**Pn**	**15 29 23.7**	**-0.7**
DST	**Dursunbey**	**1.18**	**79**	*e*PN	**Pn**	**15 29 24.6**	**-0.3**
GADA	**Gvkgeada**	**1.24**	**310**	*e*PN	**Pn**	**15 29 26.2**	**+0.3**
KCT	**Karacabey**	**1.28**	**47**	*e*PN	**Pn**	**15 29 26.0**	**-0.4**
RKY	**Sarkoy-Tekirda**	**1.29**	**1**	*e*PN	**Pn**	**15 29 26.7**	**+0.2**
SART	**Tekirdag**	**1.30**	**2**	*i* P	**Pn**	**15 29 26.4**	**-0.2**
SART				*i* S	**Sb**	**15 29 40.9**	**-2.7**
CHOS	**Chios island**	**1.31**	**220**	*e*Pg	**Pg**	**15 29 26.0**	**-1.7**
CHOS				*e*Sg	**Sg**	**15 29 43.7**	**-1.0**
MANT	**Manisa**	**1.43**	**129**	*i* P	**Pn**	**15 29 28.2**	**-0.1**
MANT				*i* S	**Sn**	**15 29 47.7**	**+0.5**
MANT	**Manisa**	**1.43**	**129**	*i* P	**Pn**	**15 29 28.2**	**-0.2**
MANT				*i* S	**Sn**	**15 29 47.7**	**+0.5**
KULA	**Kula-Manisa**	**1.48**	**126**	*e*PN	**Pn**	**15 29 28.6**	**-0.4**
ENEZ	**Enez**	**1.54**	**331**	*e*PN	**Pn**	**15 29 30.9**	**+1.0**
LIA	**Limnos Island**	**1.59**	**289**	*e*PN	**Pn**	**15 29 27.1**	**-3.5**
LOS	**Limnos**	**1.68**	**290**	*e*Pb	**Pb**	**15 29 32.4**	**-1.0**
SMG	**Samos**	**1.70**	**188**	*e*PN	**Pn**	**15 29 30.4**	**-1.7**
ALN	**Alexandroupoli**	**1.72**	**331**	*e*Pb	**Pb**	**15 29 33.4**	**-0.8**
ALN				*e*Sb	**Sb**	**15 29 55.9**	**+0.1**
GDZ	**Gediz**	**1.85**	**99**	*i* P	**Pn**	**15 29 36.2**	**+2.1**
CTT	**Catalca**	**2.02**	**29**	*e*PN	**Pn**	**15 29 36.9**	**+0.5**
ELBA	**Catalca**	**2.02**	**29**	*i* P	**Pn**	**15 29 35.9**	**-0.6**
IZI	**Iznik**	**2.03**	**62**	*e*PN	**Pn**	**15 29 36.4**	**-0.3**
YLV	**Yalova**	**2.08**	**55**	*e*PN	**Pn**	**15 29 38.2**	**+0.8**
RDO	**Rodhopi**	**2.14**	**326**	*e*PN	**Pn**	**15 29 43.2**	**+5.0**
ISK	**Istanbul-Kandi**	**2.23**	**41**	*e*PN	**Pn**	**15 29 40.9**	**+1.5**
ADVT	**Abdulvahap**	**2.26**	**62**	*e*PN	**Pn**	**15 29 40.0**	**+0.2**
ALT	**Altintas**	**2.33**	**97**	*e*PN	**Pn**	**15 29 42.0**	**+1.2**
HRT	**Hereke**	**2.41**	**53**	*e*PN	**Pn**	**15 29 42.6**	**+0.7**
OUR	**Ouranopolis**	**2.60**	**292**	*e*Pn	**Pn**	**15 29 44.6**	**+0.1**
GULT	**Gulveren**	**2.80**	**67**	*e*PN	**Pn**	**15 29 48.8**	**+1.5**

ISCJB ***10*** *15:30:34.7±1.4,4077N±005×214E±0.1,h7km±9km,Error ellipse: s-maj=17.2km s-min=8.0km az=171.6*
SKO ***10*** *15:30:34.0,4074N×2136E,h15km,M1.5,ML1.9*
CSEM ***10*** *15:30:35.3±0.1,4083N×2137E,h1km,ML2.9,Error ellipse: s-maj=3.8km s-min=1.2km az=81.0*
THE ***10*** *15:30:35.3,4082N×2144E,h1km,ML2.9*
ISC 10 15:30:35.3±1.4,4078N±005×214E±01,h4km±16km,n7, σ0963/13,3C,Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FNA	**Florina**	**0.05**	**275**	*e*Pg	**Pg**	**15 30 36.4**	**-0.1**
FNA				*e*Sg	**Sg**	**15 30 37.4**	**+0.1**
BIA	**Bitola**	**0.26**	**340**	*e*Pg	**Pg**	**15 30 39.4**	**-0.9**
BIA				*e*Sg	**Sg**	**15 30 43.1**	**-0.6**
BIA	**Bitola**	**0.26**	**340**	⇑*e*Pg	**Pg**	**15 30 39.6**	**-0.7**
BIA				*i* Sg	**Sg**	**15 30 43.6**	**-0.1**
OHR	**Ohrid**	**0.59**	**304**	⇑*e*Pg	**Pg**	**15 30 45.6**	**-1.1**
OHR				*i* Sg	**Sg**	**15 30 55.1**	**+0.8**
OHR				*e*Lg		15 30 55.2	
comp=E,44nm,0.3s
OHR *e*Lg 15 30 55.2
comp=N,34nm,0.6s
OHR **Ohrid** **0.59** **304** *e*Pg **Pg** **15 30 45.6 -1.0**
OHR *e*Sg **Sg** **15 30 54.5 +0.2**
KRUS **Krusevo** **0.61** **346** ⇑*e*Pg **Pg** **15 30 47.1 +0.1**
KRUS *i* Sg **Sg** **15 30 55.9 +1.0**
MEV **Metsovon** **1.01** **189** *e*Pg **Pg** **15 30 55.1 +0.5**

IDC ***10*** *15:41:32.6±1.4,3540N×2263E,h0km,mb3.9/5,mb1 3.7/7, mb1mx3.5/24,mbtmp3.7/7,ML3.6/2,Error ellipse: s-maj=31.1km s-min=25.1km az=121.0*
NEIC ***10*** *15:41:35.3±2.5,3550N×2231E,h14km±15km,ML3.9(ATH), Error ellipse: s-maj=18.3km s-min=11.0km az=61.0*
ISCJB ***10*** *15:41:36.1±1.2,3550N±005×2242E±006,h2km±6km, mb3.7/6,Error ellipse: s-maj=10.8km s-min=4.4km az=137.3*
CSEM ***10*** *15:41:36.6±0.3,3541N×2235E,h2km,ML3.9,Error ellipse: s-maj=7.8km s-min=2.4km az=48.0*
THE ***10*** *15:41:37.9,3548N×2245E,h1km,ML3.7*
ATH ***10*** *15:41:37.5,3552N×2245E,h5km±3km,MD3.8/13,ML3.9*
ISC 10 15:41:37.0±1.2,3550N±005×2239E±006,h14km±6km,n41, σ1933/51,mb3.7/6,Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KYTH	**Kithira**	**0.94**	**34**	*e*Pn	**Pn**	**15 41 54.0**	**-1.8**
KYTH				*e*Pg	**Pg**	**15 41 54.5**	**-0.7**
KYTH	**Kithira**	**0.94**	**34**	*e*PG	**Pg**	**15 41 54.5**	**-0.7**
KYTH				*e*SB	**Sg**	**15 42 07.0**	**-0.5**
KARN	**Karanos**	**1.25**	**94**	*e*Pg	**Pg**	**15 42 00.6**	**-0.6**
KARN				*e*Sg	**Sg**	**15 42 17.9**	**+0.4**
VLI	**Veliai**	**1.29**	**20**	*e*PB	**Pb**	**15 42 01.5**	**+0.4**
VAM	**Vamos**	**1.48**	**93**	*e*Pn	**Pn**	**15 42 04.0**	**+0.7**
VAM				*e*Pb	**Pb**	**15 42 05.0**	**+0.6**
VAM				*e*Sn	**Sn**	**15 42 21.0**	**-1.5**
VAM	**Vamos**	**1.48**	**93**	*e*PB	**Pb**	**15 42 05.0**	**+0.6**
VAM				*e*SB	**Sg**	**15 42 25.1**	**+0.3**
GVD	**Gavdhos**	**1.54**	**115**	*e*Pg	**Pn**	**15 42 04.9**	**+0.8**
GVD	**Gavdhos**	**1.54**	**115**	*e*PG	**Pg**	**15 42 05.5**	**-1.2**
GVD	**Gavdhos**	**1.54**	**115**	*e*Pg	**Pn**	**15 42 05.0**	**+0.9**
ITM	**Ithomi**	**1.71**	**348**	*e*Pn	**Pn**	**15 42 06.8**	**+0.3**
ITM				*e*Pg	**Pg**	**15 42 09.5**	**-0.5**
ITM	**Ithomi**	**1.71**	**348**	*e*PG	**Pg**	**15 42 09.5**	**-0.5**
ITM				*e*SN	**Sg**	**15 42 33.6**	**+1.3**
SIVA	**Sivas**	**2.04**	**103**	*e*Pn	**Pn**	**15 42 11.8**	**+0.8**
NAIG	**Nisos Aigina**	**2.42**	**21**	*e*PG	**Pb**	**15 42 21.0**	**+0.6**
LAST	**Lasithi**	**2.55**	**97**	*e*Pn	**Pn**	**15 42 19.4**	**+1.4**
KVR	**Kavouri**	**2.57**	**25**	*e*PN	**Pb**	**15 42 22.0**	**-1.0**
THR1	**Thera Island**	**2.64**	**70**	*e*Pn	**Pn**	**15 42 20.4**	**+1.2**
NPS	**Neapolis**	**2.65**	**94**	*e*Pn	**Pn**	**15 42 20.0**	**+0.7**
NPS				*e*Pn	**Pb**	**15 42 23.5**	**-0.7**
NPS	**Neapolis**	**2.65**	**94**	*e*PN	**Pb**	**15 42 23.5**	**-0.7**
RLS	**Riolos of Patr**	**2.66**	**344**	*e*PN	**Pb**	**15 42 24.6**	**+0.2**
ATH	**Athens Observa**	**2.69**	**23**	*e*PN	**Pb**	**15 42 23.6**	**-1.3**
XRY	**Khrisi**	**2.78**	**102**	*e*Pn	**Pn**	**15 42 23.0**	**+1.9**
PTL	**Penteli**	**2.81**	**25**	*e*PN	**Pb**	**15 42 25.5**	**-1.4**
APE	**Apeiranthos**	**2.98**	**57**	*e*Pn	**Pn**	**15 42 25.2**	**+1.3**
APE	**Apeiranthos**	**2.98**	**57**	*e*PN	**Pb**	**15 42 28.2**	**-1.8**
APE	**Apeiranthos**	**2.98**	**57**	*e*Pn	**Pn**	**15 42 25.2**	**+1.3**
ZKR	**Zakros**	**3.16**	**96**	*e*Pn	**Pn**	**15 42 27.0**	**+0.7**
EVR	**Evrytania**	**3.44**	**352**	*e*PB	**Pn**	**15 42 35.1**	**+4.9**
LKD	**Levkas**	**3.49**	**337**	*e*Pn	**Pn**	**15 42 33.2**	**+2.4**
AGG	**Agios Georgios**	**3.51**	**359**	*e*Pn	**Pn**	**15 42 33.8**	**+2.5**
AGG				*e*Sn	**Sn**	**15 43 17.2**	**+4.6**
AOS	**Alonnisos**	**3.85**	**18**	*e*Pn	**Pn**	**15 42 38.0**	**+2.2**
KARP	**Karpathos**	**3.90**	**88**	*e*PN	**Pb**	**15 42 40.3**	**-5.2**
THL	**Klokotos Trika**	**4.07**	**356**	*e*PN	**Pn**	**15 42 42.8**	**+4.0**
CHOS	**Chios island**	**4.11**	**45**	*e*Pn	**Pn**	**15 42 41.0**	**+1.6**
MMAI	**Mount Meron Ar**	**11.05**	**99**	Pn	**Pn**	**15 44 07.2**	**-7.5**
0.3nm,0.3s,baz=291,slow=12,SNR=2.3
AKASG **Malin Array Be** **15.98** **16** Pn **Pn** **15 45 18.1 -3.1**
0.3nm,0.3s,baz=204,slow=9.6,SNR=2.9
HFS **Hagfors** **25.28** **350** P **P** **15 47 01.3 -1.4**
1.2nm,0.6s,mb3.6,baz=147,slow=14,SNR=4.1
FINES **FINESS Array B** **26.07** **4** P **P** **15 47 08.9 -0.9**
0.9nm,0.7s,mb3.4,baz=163,slow=9.9,SNR=2.9
TORD **Torodi Ar. Bea** **29.05** **225** P **P** **15 47 35.4 -1.5**
0.3nm,0.5s,mb3.3,baz=32,slow=9.3,SNR=4.3
ARCES **ARCESS Array B** **34.13** **2** P **P** **15 48 18.4 -2.6**
3.9nm,1.0s,mb4.3,baz=190,slow=9.1,SNR=3.3
MKAR **Makanchi Array** **45.48** **56** P **P** **15 49 53.4 -2.3**
0.5nm,0.5s,mb3.6,baz=278,slow=6.9,SNR=7.8
ZALV **Zalesovo Beam** **46.41** **46** P **P** **15 49 59.9 -3.0**
0.4nm,0.3s,mb3.8,baz=285,slow=7.7,SNR=2.7

IDC 10 15:49:09.4±46.0,1805S×17595W,h0km,mb4.0/3, mb1 4.1/3,mb1mx3.7/15,mbtmp4.0/3,Error ellipse: s-maj=861.6km s-min=163.0km az=80.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**40.62**	**242**	P	P	15 56 51.6	+0.4
1.0nm,0.9s,baz=66,slow=10.0,SNR=4.1
WRA **Warramunga Arr** **46.90** **259** P P 15 57 41.9 -0.1
0.8nm,0.3s,baz=98,slow=7.5,SNR=34
ASAR **Alice Springs** **47.00** **254** P P 15 57 42.4 -0.3
0.8nm,0.4s,baz=86,slow=8.2,SNR=51

IDC ***10*** *15:56:25.6±28.0,1736N×12281E,h0km,mb3.9/3, mb1 4.1/3,mb1mx3.5/19,mbtmp3.4/3,Error ellipse: s-maj=517.9km s-min=308.2km az=148.0*
MAN 10 15:56:06,2016N×12128E,h63km,mb4.6,ML3.5,MS3.4, 1D,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APYP	**Conner**	**2.29**	**181**	*e*P	Pn	15 56 42.8	+1.4
APYP				*e*S	Sn	15 57 09.7	+1.3
CVP	**Callao Caves**	**2.50**	**168**	⇓*e*P	Pn	15 56 46.5	+2.2
CVP				*e*S	Sn	15 57 16.8	+3.2
ABRA	**Dolores**	**2.55**	**192**	*e*P	Pn	15 56 46.7	+1.7
CAUP	**Cauayan**	**3.24**	**171**	*e*P	Pn	15 56 57.9	+3.5
PALP	**Palanan**	**3.27**	**160**	*e*P	Pn	15 56 56.7	+2.0
BOLP	**Bolinao**	**3.98**	**199**	*e*P	Pn	15 57 15.1	+11
BALP	**Baler**	**4.40**	**176**	*e*P	Pn	15 57 13.3	+3.0
WRA	**Warramunga Arr**	**41.85**	**161**	P	P	16 03 52.0	+2.0
0.9nm,0.4s,baz=342,slow=9.1,SNR=6.7
ASAR **Alice Springs** **45.26** **164** P P 16 04 20.4 +3.1
0.7nm,0.4s,baz=345,slow=6.9,SNR=25
STKA **Stephens Creek** **55.28** **159** P P 16 05 37.7 +4.7
1.4nm,1.0s,baz=343,slow=14,SNR=3.0

ATH ***10*** *16:00:19.3,3863N×2133E,h45km,MD2.6/3*
ISCJB ***10*** *16:00:22.8±0.6,3848N±004×2173E±006,h33km,Error ellipse: s-maj=6.9km s-min=5.3km az=5.0*
CSEM ***10*** *16:00:22.5±0.2,3848N×2161E,h15km,ML2.5,Error ellipse: s-maj=6.1km s-min=4.8km az=46.0*
THE ***10*** *16:00:23.0,3852N×2162E,h3km,ML2.5*
NEIC ***10*** *16:00:23.0,3852N×2162E,h0km,MD2.6(ATH), ML2.5(THE),After THE.*
ISC 10 16:00:23.0±0.8,3853N±003×2165E±005,h17km±11km, n11,σ1906/19,Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SELA	**Sela**	**0.32**	**143**	*e*Pg	**Pg**	**16 00 29.4**	**-0.4**
SELA				*e*Sg	**Sg**	**16 00 34.3**	**0.0**
EVR	**Evrytania**	**0.40**	**18**	*e*P	**Pg**	**16 00 30.6**	**-0.7**
EVR				*e*S	**Sg**	**16 00 37.5**	**+0.7**
RLS	**Riolos of Patr**	**0.49**	**197**	*e*P	**Pg**	**16 00 32.2**	**-0.7**
RLS				*e*S	**Sg**	**16 00 41.3**	**+1.7**
AGG	**Agios Georgios**	**0.72**	**47**	*e*Pg	**Pg**	**16 00 36.9**	**-0.3**
AGG				*e*Sg	**Sg**	**16 00 48.4**	**+1.6**
AGG	**Agios Georgios**	**0.72**	**47**	*e*S	**Sg**	**16 00 48.3**	**+1.6**
AGG	**Agios Georgios**	**0.72**	**47**	*e*Pg	**Pg**	**16 00 36.8**	**-0.4**
AGG				*e*Sg	**Sg**	**16 00 48.4**	**+1.6**
LKD	**Levkas**	**0.80**	**283**	*e*Pg	**Pg**	**16 00 37.6**	**-1.0**
LKD				*e*Sg	**Sg**	**16 00 49.4**	**+0.1**
LKD	**Levkas**	**0.80**	**283**	*e*P	**Pb**	**16 00 37.2**	**-1.3**
LKD				*e*S	**Sb**	**16 00 50.8**	**+1.8**
THL	**Klokotos Trika**	**1.07**	**15**	*e*P	**Pb**	**16 00 38.9**	**-4.2**
MEV	**Metsovon**	**1.29**	**346**	*e*Pg	**Pg**	**16 00 47.1**	**-0.9**
IGT	**Igoumenitsa**	**1.43**	**315**	*e*Pg	**Pg**	**16 00 49.3**	**-1.3**
IGT				*e*Sg	**Sg**	**16 01 10.4**	**+1.2**

IDC ***10*** *16:02:03.4±0.9,863S×15739E,h0km,mb4.0/7,mb1 4.1/8, mb1mx4.0/15,mbtmp4.0/8,ML4.3/1,Error ellipse: s-maj=26.4km s-min=23.6km az=104.0*
NEIC ***10*** *16:02:05.0±0.6,866S×15744E,h10km,mb4.1/2,Error ellipse: s-maj=18.2km s-min=12.7km az=171.0*
ISCJB ***10*** *16:02:08.1±0.6,86S±01×157.14E±007,h33km,mb3.9/8, Error ellipse: s-maj=17.0km s-min=9.5km az=8.5*
ISC 10 16:02:10.2±0.7,86S±01×15714E±008,h35km,n15, σ0994/16,mb3.9/8,1D,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.90**	**107**	*e*Pn	**Pn**	**16 02 46.3**	**-7.4**
HNR				*e*Pg	**Pn**	**16 02 51.9**	**-1.9**
HNR				*e*S	**Sn**	**16 03 28.2**	**+0.8**
HNR	**Honiara**	**2.90**	**107**	Pn	**Pn**	**16 02 46.3**	**-7.5**
50nm,0.3s,baz=252,slow=3.6,SNR=21
WRAB **Tennant Creek** **24.76** **240** *e*P **P** **16 07 28.4 -0.3**
3.7nm,0.8s,mb4.0
WB2 **Warramunga Arr** **24.76** **240** *e*P **P** **16 07 29.1 +0.3**
WRA **Warramunga Arr** **24.77** **240** P **P** **16 07 29.0 +0.2**
4.5nm,0.9s,mb4.0,baz=66,slow=9.6,SNR=15
WRA PcP PcP 16 11 04.4 -0.7
0.3nm,0.5s,baz=68,slow=2.8,SNR=6.3
ASAR **Alice Springs** **26.82** **233** P **P** **16 07 46.4 -1.0**
1.0nm,0.9s,mb3.4,baz=62,slow=9.0,SNR=7.0
STKA **Stephens Creek** **27.31** **210** *e*P **P** **16 07 52.7 +1.1**
2.4nm,0.6s,mb3.9
STKA **Stephens Creek** **27.31** **210** P **P** **16 07 50.9 -0.7**
3.1nm,0.8s,mb3.9,baz=39,slow=14,SNR=9.5
KSRS **Korea Array** **53.34** **331** P **P** **16 11 24.7 -1.4**
0.6nm,0.6s,mb3.7,baz=146,slow=7.6,SNR=5.3
CHG **Chiang Mai** **63.51** **296** ⇓P **P** **16 12 39.3 +2.0**
66nm,0.6s
SONM **Songino Array** **71.82** **327** P **P** **16 13 29.2 0.0**
0.5nm,0.7s,mb3.5,baz=148,slow=7.4,SNR=3.7
MKAR **Makanchi Array** **86.00** **318** P **P** **16 14 47.8 +0.8**
1.3nm,0.6s,mb4.3,baz=97,slow=5.8,SNR=11
ZALV **Zalesovo Beam** **86.69** **326** P **P** **16 14 49.7 -0.5**
ZALV **Zalesovo Beam** **86.69** **326** P **P** **16 14 49.7 -0.5**
0.5nm,0.4s,mb4.1,baz=131,slow=7.3,SNR=3.6
BDFB **Brasilia** **145.35** **134** PKPbc PKPbc 16 21 43.6 -1.6
baz=158,slow=19

ISCJB ***10*** *16:10:13.6±0.9,2256N±007×9447E±009,h90km±10km, mb3.7/9,Error ellipse: s-maj=17.0km s-min=7.7km az=139.9*
NEIC ***10*** *16:10:14.7±0.9,2250N×9447E,h84km±10km,mb3.9/1, Error ellipse: s-maj=14.8km s-min=8.3km az=51.0*
BJI ***10*** *16:10:16.1,2272N×9424E,h77km,mb4.5*
IDC ***10*** *16:10:17.7±1.3,2256N×9460E,h112km±10km,mb3.6/6, mb1 3.8/6,mb1mx3.5/19,mbtmp3.6/6,Error ellipse: s-maj=38.6km s-min=14.8km az=59.0*
ISC 10 16:10:15.1±0.8,2255N±007×9446E±009,h85km±9km, h116km±2.8km:pP-P,n21,σ0992/26,mb3.7/9,1C,Myanmar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHL	**Shillong**	**3.82**	**322**	*e*PN	**Pn**	**16 11 13.2**	**+1.6**
SHL				*i* SN	**Sn**	**16 11 54.3**	**-1.1**
CHTO	**Chiang Mai**	**5.61**	**131**	*e*Pn	**Pn**	**16 11 35.1**	**-0.9**
4.1nm,0.5s
CHRT **Chiangrai** **5.63** **117** ⇑P **Pn** **16 11 37.0 +0.6**
184nm,0.5s
LSA **Lhasa** **7.72** **338** P **Pn** **16 12 07.0 +2.3**
LSA S **Sn** **16 13 29.5 -1.0**
LSA **Lhasa** **7.72** **338** *e*Pn **Pn** **16 12 07.2 +2.5**
31nm,0.5s
KMI **Kunming** **8.00** **70** P **Pn** **16 12 14.9 +6.3**
KMI XP 16 12 33.0
KMI AMB AMB
comp=Z,17nm,1.0s
JIRN **Jiri** **9.06** **306** *e*P **Pn** **16 12 23.8 +0.8**
comp=Z,40nm,0.3s
JIRN *e*S **Sn** **16 13 58.5 -4.8**
KKN **Kakani** **9.82** **304** *e*P **Pn** **16 12 33.0 -0.3**
GKN **Gorkha** **10.41** **303** *e*P **Pn** **16 12 41.2 -0.3**
comp=Z,47nm,0.4s
GKN *e*S **Sn** **16 14 29.1 -7.3**
KOLN **Koldanda** **11.12** **300** *e*P **Pn** **16 12 49.8 -1.4**
comp=Z,15nm,0.3s
KOLN *e*S **Sn** **16 14 46.2 -7.5**
PALK **Pallekele** **20.16** **223** *e*P **P** **16 14 43.5 +0.8**
MKAR **Makanchi Array** **26.11** **341** P **P** **16 15 40.6 -0.3**
comp=Z,2.3nm,0.6s,mb3.8,baz=150,slow=9.8,SNR=16
MKAR pP pP 16 16 05.9 +5.6
comp=Z,2.7nm,0.6s,baz=144,slow=9.8,SNR=7.4
SONM **Songino Array** **26.98** **18** P **P** **16 15 48.7 0.0**
comp=Z,0.2nm,0.7s,mb2.8,baz=216,slow=7.1,SNR=2.1
SONM pP pP 16 16 13.4 +5.3
comp=Z,0.2nm,0.5s,baz=191,slow=12,SNR=1.5
KURK **Kurchatov** **30.72** **340** *e*P **P** **16 16 22.7 +0.9**
comp=Z,1.8nm,0.6s,mb4.0
ZALV **Zalesovo Beam** **32.19** **349** P **P** **16 16 34.6 -0.1**
ZALV pP pP 16 16 59.2 +4.8
ZALV **Zalesovo Beam** **32.19** **349** P **P** **16 16 34.6 -0.1**
comp=Z,0.4nm,0.3s,mb3.6,baz=170,slow=9.0,SNR=4.6
ZALV pP pP 16 16 59.2 +4.8
comp=Z,0.6nm,0.4s,baz=165,slow=8.6,SNR=3.1
WRA **Warramunga Arr** **57.44** **134** P **P** **16 19 54.2 -1.1**
comp=Z,2.1nm,0.6s,mb4.4,baz=321,slow=7.5,SNR=37
ASAR **Alice Springs** **59.84** **138** P **P** **16 20 11.2 -0.7**
comp=Z,1.3nm,0.6s,mb4.1,baz=319,slow=6.7,SNR=30
ARCES **ARCESS Array B** **61.73** **338** P **P** **16 20 24.8 +0.8**
comp=Z,1.6nm,0.8s,mb4.1,baz=105,slow=10,SNR=4.0
NOA **NORSAR Array B** **67.30** **328** P **P** **16 21 00.3 -0.1**
comp=Z,0.5nm,0.6s,mb3.5,baz=82,slow=6.6,SNR=3.0
TORD **Torodi Ar. Bea** **87.55** **283** P **P** **16 22 54.4 +0.2**
comp=Z,0.3nm,0.7s,mb3.4,baz=80,slow=4.4,SNR=2.5

ISCJB ***10*** *16:15:46.9±0.2,602S±004×10653E±004,h136km, mb4.6/62,Error ellipse: s-maj=7.2km s-min=4.4km az=44.2*
MOS ***10*** *16:15:46.4±1.1,599S×10656E,h132km,mb4.5/18,Error ellipse: s-maj=12.6km s-min=7.1km az=117.3*
BJI ***10*** *16:15:48.1,600S×10650E,h136km,mB5.1,mb4.8*
IDC ***10*** *16:15:48.3±0.4,606S×10656E,h138km±3km,mb4.4/25, mb1 4.5/26,mb1mx4.4/29,mbtmp4.4/26,MS3.6/1, Ms1 3.5/1,ms1mx2.9/26,Error ellipse: s-maj=9.8km s-min=6.9km az=46.0*
NEIC ***10*** *16:15:48.1±0.2,602S×10653E,mb4.8/23,Error ellipse: s-maj=8.7km s-min=4.5km az=50.0*
NEIC Felt [III] at Jakarta.

84nm,0.7s,mb5.3
TNE Ternate 21.87 73⇓ *e*P P **16 20 32.0 +1.5**
FITZ Fitzroy Crossi 22.14 124⇓ *i*P P **16 20 32.9 -0.4**
21nm,0.8s,mb4.6
FITZ *e*pP 16 21 00.6
FITZ *e*SCP ScP 16 27 48.8 -1.3
FITZ Fitzroy Crossi 22.14 124 P P **16 20 32.7 -0.6**
8.8nm,0.6s,mb4.4,baz=298,slow=7.6,SNR=26
FITZ SCP ScP 16 27 48.9 -1.2
6.1nm,0.8s,baz=333,slow=5.1,SNR=5.1
CHG Chiang Mai 25.83 343 ⇓P P **16 21 08.3 +1.1**
22nm,1.1s,mb4.7
CHTO Chiang Mai 25.83 343 *e*P P **16 21 07.1 -0.2**
7.4nm,0.8s,mb4.4
CHTO Chiang Mai 25.83 343 *e*P P **16 21 07.1 -0.1**
CHTO pmax pmax
comp=Z,7.0nm,0.8s,mb4.3
KAKA Kakadu 26.36 106 *e*P P **16 21 12.1 0.0**
comp=Z,300nm,0.6s
KAKA *e*SCP ScP 16 28 00.7 -1.1
NWAO Narrogin (SRO) 28.52 161 *e*P P **16 21 30.3 -0.8**
NWAO Narrogin (SRO) 28.52 161 P P **16 21 29.6 -1.5**
comp=Z,8.7nm,0.6s,mb4.7,baz=342,slow=7.7,SNR=9.2
WRA Warramunga Arr 30.32 120 P P **16 21 47.4 +0.2**
WRA *PP pP 16 22 17.9 +1.2
WRA 16 24 44.2
WRA Warramunga Arr 30.32 120 P P **16 21 47.4 +0.2**
comp=Z,8.6nm,0.4s,mb4.8,baz=309,slow=8.8,SNR=100
WRA pP pP 16 22 17.9 +1.1
comp=Z,9.3nm,0.9s,baz=292,slow=10,SNR=3.9
WRA PcP PcP 16 24 44.2 -0.1
comp=Z,1.8nm,0.5s,baz=304,slow=2.1,SNR=5.3
WRA pPcP 16 25 20.5
comp=Z,1.7nm,0.4s,baz=309,slow=1.8,SNR=4.5
WRA ScP ScP 16 28 13.1 -1.0
comp=Z,4.7nm,0.8s,baz=305,slow=2.5,SNR=13
WRAB Tennant Creek 30.32 120 *e*P P **16 21 47.0 -0.2**
comp=Z,19nm,0.8s,mb4.9
WRAB Tennant Creek 30.32 120 *e*P P **16 21 47.0 -0.2**
WRAB pmax pmax
comp=Z,19nm,0.8s,mb4.9
WB2 Warramunga Arr 30.32 120⇓ *i*P P **16 21 47.1 -0.2**
WB2 *e*SCP ScP 16 28 14.1 0.0
KMI Kunming 31.22 353 P P **16 21 56.3 +1.3**
KMI AMB AMB
comp=Z,6.0nm,1.2s,mb4.2
ASAR Alice Springs 31.60 126 P P **16 21 58.8 +0.4**
ASAR 16 24 47.9
ASAR S S **16 26 54.4 -2.9**
ASAR Alice Springs 31.60 126 P P **16 21 58.8 +0.4**
comp=Z,17nm,0.5s,mb5.1,baz=297,slow=7.9,SNR=273
ASAR PcP PcP 16 24 47.9 +0.2
comp=Z,0.7nm,0.5s,baz=344,slow=2.1,SNR=5.0
ASAR pPcP 16 25 23.9
comp=Z,2.8nm,1.0s,baz=319,slow=2.5,SNR=5.0
ASAR S S **16 26 54.4 -3.0**
comp=Z,5.0nm,0.8s,baz=290,slow=15,SNR=16
ASAR ScP ScP 16 28 17.6 -0.7
comp=Z,6.9nm,0.9s,baz=301,slow=3.3,SNR=16
FORT Forrest 31.82 143 *e*P P **16 22 02.0 +1.8**
comp=Z,8.2nm,0.6s,mb4.6
LSA Lhasa 38.51 338 P P **16 22 58.0 +0.4**
LSA Lhasa 38.51 338 *e*P P **16 22 57.7 +0.2**
comp=Z,13nm,0.4s,mb4.9
LSA Lhasa 38.51 338 *e*P P **16 22 57.7 +0.1**
LSA pmax pmax
comp=Z,13nm,0.4s,mb4.9
JIRN Jiri 38.87 331 *e*P P **16 23 00.3 -0.3**
comp=Z,9.5nm,0.2s,mb5.0
KKN Kakani 39.43 330 *e*P P **16 23 04.3 -1.0**
comp=Z,19nm,0.8s,mb4.8
KKN Kakani 39.43 330 *e*P P **16 23 04.3 -1.0**
KKN pmax pmax
comp=Z,19nm,0.8s,mb4.8
NJ2 Nanjing 39.67 16 *e*P P **16 23 09.4 +2.2**
NJ2 AMB AMB
comp=Z,33nm,1.0s,mb4.9
GKN Gorkha 39.93 329 *e*P P **16 23 08.3 -1.1**
comp=Z,29nm,0.3s,mb5.4
KOLN Koldanda 40.29 328 *e*P P **16 23 11.3 -1.0**
comp=Z,46nm,0.5s,mb5.3
CTA Charters Tower 40.98 114⇓ *i*P P **16 23 19.1 +0.9**
comp=Z,14nm,0.9s,mb4.6
CTA Charters Tower 40.98 114⇓ *i*P P **16 23 19.1 +0.9**
CTA pmax pmax
comp=Z,14nm,0.9s
CTAO Charters Tower 40.98 114 *e*P P **16 23 18.9 +0.8**
comp=Z,25nm,1.0s,mb4.8
CTAO Charters Tower 40.98 114 *e*P P **16 23 19.0 +0.8**
CTAO pmax pmax
comp=Z,25nm,1.0s,mb4.8
STKA Stephens Creek 41.60 133 *e*P P **16 23 23.5 +0.5**
comp=Z,41nm,0.6s,mb5.2
STKA *e*pP pP 16 23 54.3 +0.5
STKA *e*SCP ScP 16 29 28.9 +34
STKA Stephens Creek 41.60 133 P P **16 23 23.9 +0.8**
comp=Z,82nm,0.8s,mb5.4,baz=306,slow=8.0,SNR=213
STKA pP pP 16 23 53.2 -0.6
comp=Z,16nm,0.7s,baz=302,slow=9.7,SNR=2.9
STKA S S **16 29 28.2 -0.8**
comp=Z,7.6nm,0.8s,baz=35,slow=23,SNR=13
STKA LR LR 16 40 11.9
comp=Z,78nm,19.3s,baz=204,slow=35
LZH Lanzhou 42.00 357 *e*P P **16 23 27.9 +1.7**
LZH PP PP 16 25 11.4 +5.0
LZH PCP PcP 16 25 19.5 +0.7
LZH SCP ScP 16 28 56.0 -0.6
LZH *e*S S **16 29 36.0 +1.2**
LZH SS SS 16 32 41.0 -6.6
LZH AMB AMB
comp=Z,13nm,1.0s,mb4.5
LZH AMB AMB
comp=Z,53nm,4.0s
GUMO Guam 42.76 63 P P **16 23 32.7 0.0**
comp=Z,24nm,0.4s,mb5.2,baz=149,slow=11,SNR=7.3
NDI New Delhi 44.63 322 *e*x x 16 23 45.0
GTA Gaotai 45.67 353 *e*P P **16 23 57.1 +1.6**
GTA AMB AMB
comp=Z,11nm,0.7s,mb4.6
BJI Beijing 46.73 10 P P **16 24 05.2 +1.5**
BJI S S **16 30 51.0 +8.0**
BJI AMB AMB
comp=Z,10.0nm,0.6s,mb4.6
BJI LR LR
comp=N,79nm,15.7s
BJI LR LR
comp=E,96nm,15.2s
KSRS Korea Array 47.66 23 P P **16 24 12.0 +1.0**
comp=E,2.7nm,0.6s,mb4.1,baz=214,slow=7.7,SNR=20
KSRS pP pP 16 24 44.5 +2.1
comp=E,2.8nm,0.8s,baz=225,slow=7.9,SNR=5.0
KSRS ScP ScP 16 29 20.6 +0.7
comp=E,1.0nm,0.9s,baz=194,slow=3.5,SNR=4.3
THN Thein Dam 48.23 324 *e*P P **16 24 13.1 -2.4**
MAT Matsushiro 51.72 33 P P **16 24 41.5 -0.2**
MJAR Matsushiro Arr 51.72 33 P P **16 24 41.3 -0.4**
MJAR *PP pP 16 25 14.4 +0.7
MJAR Matsushiro Arr 51.72 33 P P **16 24 41.3 -0.4**
comp=E,1.8nm,0.5s,mb4.0,baz=205,slow=8.0,SNR=12
MJAR pP pP 16 25 14.4 +0.7
comp=E,10nm,1.1s,baz=212,slow=8.5,SNR=9.6
MJAR ScP ScP 16 29 37.3 0.0
comp=E,2.2nm,0.9s,baz=219,slow=4.4,SNR=4.3
CN2 Changchun 52.49 17 *e*P P **16 24 48.2 +0.9**
CN2 AMB AMB
comp=Z,20nm,0.9s,mb4.8
WMQ Urumqi 52.50 343 *e*P P **16 24 49.2 +1.9**
WMQ AMB AMB
comp=Z,24nm,0.6s,mb5.0
WMQ AMB AMB
comp=Z,114nm,5.6s
SONM Songino Array 53.67 360 P P **16 24 57.0 +1.2**
comp=Z,10nm,0.8s,mb4.6,baz=179,slow=8.8,SNR=57
SONM ScP ScP 16 29 44.5 -0.9
comp=Z,5.6nm,0.7s,baz=175,slow=3.7,SNR=30
ULN Ulaanbaatar 53.70 0 *e*P P **16 24 56.3 +0.3**
comp=Z,6.8nm,0.7s,mb4.5
ULN Ulaanbaatar 53.70 0⇑ *e*P P **16 24 56.9 +0.9**
MDJ Mudanjiang 54.54 20 P P **16 25 03.4 +1.2**
MDJ AP pP 16 25 40.2 +5.8
MDJ XP sP 16 25 56.0 +6.4
MDJ AMB AMB
comp=Z,5.0nm,0.6s,mb4.4
MDJ AMB AMB
comp=Z,60nm,8.7s
TKM2 Tokmak 2 56.27 333 *e*P P **16 25 13.3 -1.3**
comp=Z,11nm,0.5s,mb5.0
TKM2 Tokmak 2 56.27 333 *e*P P **16 25 13.3 -1.3**
TKM2 pmax pmax
comp=Z,11nm,0.5s,mb4.9
ZAK Zakamensk 56.29 357 *e*P P **16 25 14.8 +0.2**
ZAK pmax pmax
comp=Z,2.0nm,0.9s,mb4.0
AML Almayashu 56.55 331 *e*P P **16 25 15.5 -1.1**
comp=Z,4.4nm,0.6s,mb4.5
MKAR Makanchi Array 56.86 340 P P **16 25 17.7 -1.0**
comp=Z,3.6nm,0.5s,mb4.4,baz=144,slow=7.7,SNR=28
MKAR ScP ScP 16 29 59.1 -0.4
comp=Z,1.9nm,0.7s,baz=134,slow=6.9,SNR=7.6
EKS2 Erkin-Say 56.91 332 *e*P P **16 25 17.8 -1.4**
comp=Z,5.3nm,0.7s,mb4.5
OPO Ambohidratompo 59.07 252 P P **16 25 35.4 +0.6**
comp=Z,24nm,0.9s,mb5.0,baz=86,slow=5.2,SNR=30
KLR Kul'dur 59.29 19 *e*P P **16 25 32.0 -3.6**
KLR *e* pP 16 26 05.7 -2.6
HABR Khabarovsk 59.78 22 *e*P P **16 25 37.2 -1.8**
HABR *e*S S **16 33 36.2 -3.1**
HABR *e*SS SS 16 37 35.2 -2.8
KURK Kurchatov 61.47 340 *e*P P **16 25 49.2 -1.2**
comp=Z,3.3nm,0.6s,mb4.3
KURK Kurchatov 61.47 340 *e*P P **16 25 49.3 -1.1**
KURK pmax pmax
comp=Z,3.0nm,0.6s,mb4.3
YSS Yuzh-Sakhalins 61.75 27⇑ *e*P P **16 25 52.3 -0.1**
YSS pmax pmax
comp=Z,40nm,2.3s,mb4.8
ZAL Zalesovo 62.52 346 P P **16 25 56.0 -1.3**
ZAL S S **16 34 08.8 -4.9**
ZAA0 Zalesovo Array 62.52 346 *e*P P **16 25 56.1 -1.2**
ZALV Zalesovo Beam 62.52 346 P P **16 25 56.0 -1.3**
ZALV ScP ScP 16 30 22.8 -1.7
ZALV S S **16 34 08.8 -5.0**
ZALV Zalesovo Beam 62.52 346 P P **16 25 56.0 -1.3**
comp=Z,2.9nm,0.4s,mb4.5,baz=163,slow=5.4,SNR=20
ZALV ScP ScP 16 30 22.8 -1.7
comp=Z,0.9nm,0.6s,baz=177,slow=3.0,SNR=3.7
ZALV S S **16 34 08.8 -5.0**
comp=Z,0.7nm,0.6s,baz=143,slow=19,SNR=5.7
BOD Bodaibo 63.95 4 *e*P P **16 26 06.8 +0.1**
BOD pmax pmax
comp=Z,4.0nm,1.1s,mb4.2
BRVK Borovoye 66.40 337 *e*P P **16 26 21.0 -1.6**
comp=Z,3.3nm,0.7s,mb4.3
BRVK Borovoye 66.40 337 *e*P P **16 26 21.0 -1.6**
BRVK pmax pmax
comp=Z,3.0nm,0.7s,mb4.2
MAW Mawson 68.13 197 P P **16 26 32.9 -0.4**
comp=Z,20nm,0.7s,mb5.0,baz=41,slow=5.8,SNR=32
KMBO Kilima Mbogo 69.30 271 *e*P P **16 26 42.0 +0.4**
comp=Z,22nm,1.3s,mb4.7
KMBO Kilima Mbogo 69.30 271 *i*P P **16 26 42.5 +0.9**
KMBO pmax pmax
comp=Z,14nm,1.0s
KMBO Kilima Mbogo 69.30 271 P P **16 26 42.1 +0.5**
comp=Z,14nm,0.9s,mb4.7,baz=62,slow=9.2,SNR=20
AKTK Aktyubinsk 70.10 329 P P **16 26 44.3 -1.4**
AKTO Aktyubinsk 70.10 329 P P **16 26 44.3 -1.4**
comp=Z,1.1nm,0.5s,mb3.8,baz=112,slow=9.6,SNR=6.8
YAK Yakutsk 70.21 11 *e*P P **16 26 46.0 -0.1**
YAK pmax pmax
comp=Z,15nm,1.0s,mb4.7
YAK pmax pmax
comp=N,6.0nm,1.2s
YAK pmax pmax
comp=E,4.0nm,1.2s
PET Petropavlovsk 73.42 30⇑ *e*P P **16 27 05.9 +0.4**
PET pmax pmax
comp=Z,61nm,1.5s,mb5.1
ZEI Tsey 74.61 317 *e*P P **16 27 12.5 -0.2**
ZEI *e*S pP 16 27 46.9 +0.2
KIV Kislovodsk 75.89 318 *e*P P **16 27 18.9 -1.1**
KIV *e**PP pP 16 27 54.6 +0.5
KIV *e*S S 16 36 50.3 -1.0
KIV pmax pmax
comp=Z,4.0nm,1.0s,mb4.0
ASF Jabal al Asfar 76.25 305 P P **16 27 23.8 +1.5**
comp=Z,3.8nm,0.8s,mb4.1,baz=345,slow=7.7,SNR=5.4
ASF pP pP 16 27 55.8 -0.7
comp=Z,14nm,0.9s,baz=338,slow=3.1,SNR=9.4
MATP Matopo 76.73 251 P P **16 27 25.3 +0.1**
comp=Z,25nm,0.7s,mb5.0,baz=98,slow=5.1,SNR=63
MATP pP pP 16 27 57.8 -1.7
comp=Z,12nm,1.0s,baz=95,slow=6.8,SNR=4.0
MALT Malatya 76.90 311⇓ *i*P P **16 27 25.0 -0.8**
VNDA Vanda 76.96 169 P P **16 27 25.1 -0.3**
comp=Z,4.0nm,0.7s,mb4.2,baz=320,slow=8.2,SNR=29
VNDA pP pP 16 27 56.6 -3.1
comp=Z,2.2nm,0.7s,baz=293,slow=5.9,SNR=2.7
SEY Seymchan 77.07 20⇑ *e*P P **16 27 25.9 -0.3**
LSZ Lusaka 77.23 256 P P **16 27 27.9 -0.2**
comp=Z,12nm,0.7s,mb4.6,baz=94,slow=5.1,SNR=31
LSZ pP pP 16 28 00.6 -1.7
comp=Z,9.1nm,0.9s,baz=93,slow=6.3,SNR=3.8
MMAI Mount Meron Ar 77.70 306 P P **16 27 31.7 +1.3**
comp=Z,2.7nm,0.5s,mb4.1,baz=91,slow=8.3,SNR=9.0
MMAI pP pP 16 28 04.2 -0.5
comp=Z,12nm,0.8s,baz=84,slow=8.5,SNR=6.9
SBA Scott Base 78.04 169 *e*P P **16 27 31.9 +0.5**
comp=Z,5.2nm,1.0s,mb4.1
SBA Scott Base 78.04 169 *e*P P **16 27 31.9 +0.5**
SBA pmax pmax
comp=Z,5.0nm,1.0s,mb4.1
TIXI Tiksi 78.94 7⇑ *e*P P **16 27 35.2 -1.1**
TIXI pmax pmax
comp=Z,6.0nm,0.6s,mb4.4
BOSA Boshof 79.50 242 P P **16 27 40.1 -0.2**
comp=Z,11nm,0.7s,mb4.6,baz=100,slow=4.9,SNR=22
OBN Obninsk 83.70 327 *e*P P **16 28 02.1 +0.3**
OBN pmax pmax
comp=Z,5.0nm,0.8s,mb4.3
QSPA South Pole Qui 83.92 180 *e*P P **16 28 02.2 -0.3**
comp=Z,14nm,0.4s,mb5.0
QSPA South Pole Qui 83.92 180 P P **16 28 02.4 -0.1**
comp=Z,12nm,0.5s,mb4.9,baz=292,slow=0.4,SNR=63
BILL Bilibino 84.76 19 *e*P P **16 28 05.6 -1.2**
BILL pmax pmax
comp=Z,2.0nm,0.9s,mb3.9
TIRR Tirgusor 85.81 315 ⇓P P **16 28 12.3 -0.3**
TIRR Tirgusor 85.81 315⇓ *i*P P **16 28 12.3 -0.3**
HARR Harsova 86.19 316 ⇓P P **16 28 14.9 +0.5**
HARR Harsova 86.19 316⇓ *i*P P **16 28 14.9 +0.4**
AKASG Malin Array Be 86.69 322 *i*P P **16 28 15.8 -1.0**
AKASG pmax pmax
comp=Z,4.0nm,0.6s
AKASG Malin Array Be 86.69 322 P P **16 28 15.4 -1.4**
comp=Z,3.6nm,0.6s,mb4.3,baz=87,slow=4.7,SNR=26
AKASG pP pP 16 28 50.4 -1.4
comp=Z,2.8nm,0.7s,baz=88,slow=4.7,SNR=4.1
TSUM Tsumeb 87.06 251 *e*P P **16 28 19.5 +0.2**
comp=Z,19nm,1.0s,mb4.9
VRI Vrincioaia 87.27 316 ⇑P P **16 28 20.6 +0.9**
VRI Vrincioaia 87.27 316⇑ *i*P P **16 28 20.6 +0.9**
PLOR Plostina 87.32 316⇑ *i*P P **16 28 20.8 +0.9**
MLR Muntele Rosu 87.73 316 ⇓P P **16 28 22.7 +0.8**
MLR Muntele Rosu 87.73 316⇓ *i*P P **16 28 22.7 +0.8**
VOIR 88.34 316 ⇑P P **16 28 24.6 -0.2**
VOIR 88.34 316⇑ *i*P P **16 28 24.6 -0.2**
JOF Joensuu 88.70 334 *e*p P **16 28 25.0 -1.1**
comp=Z,4.5nm,0.7s,mb4.5
GZR Gura Zlata 89.91 316 ⇓P P **16 28 33.3 +1.2**
GZR Gura Zlata 89.91 316⇓ *i*P P **16 28 33.3 +1.2**
SNAA Sanae 90.28 197 *e*P P **16 28 34.4 +1.0**
SNAA *e* 16 28 38.3
SNAA *e* pP 16 29 08.3 -0.3
FINES FINESS Array B 90.74 332 *i*P P **16 28 35.5 -0.1**
FINES pmax pmax
comp=Z,1.0nm,0.5s
FINES FINESS Array B 90.74 332 P P **16 28 34.8 -0.8**
comp=Z,0.9nm,0.5s,mb4.1,baz=115,slow=7.5,SNR=8.7
FINES pP pP 16 29 12.1 +1.3
comp=Z,1.3nm,0.6s,baz=116,slow=4.4,SNR=2.0
BZS Buzias 90.75 316 ⇓P P **16 28 35.8 -0.2**
BZS Buzias 90.75 316⇓ *i*P P **16 28 35.8 -0.2**
KOLS Kolonicke sedl 90.77 319 *e*P P **16 28 36.3 +0.2**
CRVS Cervenica-Dubn 91.30 319 *e*P P **16 28 36.1 -2.4**
STHS Stebnicka Huta 91.51 319 *e*P P **16 28 39.9 +0.4**
comp=Z,3.3nm,0.8s,mb4.4
STHS *e* pP 16 29 16.4 +1.7
STHS Stebnicka Huta 91.51 319 *e*P P **16 28 39.9 +0.4**
STHS *e* pP 16 29 16.4 +1.7
STHS pmax pmax
comp=Z,3.0nm,0.8s,mb4.4
VNA2 Neumayer--Watz 91.93 197 *e*P P **16 28 42.0 +1.0**
baz=89,slow=4.0
VNA2 *e* 16 28 45.2
VNA2 *e* 16 28 53.4
VNA2 *e* 16 29 09.0
VNA2 *e* pP 16 29 15.9 -0.3
VNA1 Neumayer--Stat 92.30 198 *e*P P **16 28 43.9 +1.1**
VNA1 *e* 16 28 47.9
VNA1 *e* 16 28 56.6
VNA3 Neumayer Olymp 92.46 197 *e*P P **16 28 43.7 +0.3**
VNA3 *e* 16 28 47.6
VNA3 *e* 16 28 56.5
VNA3 *e* 16 29 10.9
VNA3 *e* pP 16 29 17.8 -0.9
ARCES ARCESS Array B 92.51 340 P P **16 28 43.1 -0.6**
comp=Z,2.3nm,0.9s,mb4.3,baz=99,slow=4.7,SNR=3.8
TORD Torodi Ar. Bea 105.79 282 PKiKP PKiKP 16 33 55.5 -1.3
comp=Z,0.2nm,0.4s,baz=12,slow=1.1,SNR=2.4
TORD PKKPbc PKKPbc 16 45 23.9 +3.7
comp=Z,0.1nm,0.4s,baz=303,slow=5.1,SNR=4.1
INK Inuvik 106.37 20 PKiKP PKiKP 16 33 56.1 -0.3
comp=Z,0.7nm,0.4s,baz=269,slow=5.0,SNR=4.8
YKA Yellowknife Ar 116.14 20 PKP PKPdf 16 34 14.4 -0.7
YKA pPKP pPKPdf 16 34 50.5 -1.3
YKA Yellowknife Ar 116.14 20 PKP PKPdf 16 34 14.4 -0.7
comp=Z,1.3nm,0.6s,baz=326,slow=1.7,SNR=18
YKA pPKP pPKPdf 16 34 50.5 -1.3
comp=Z,0.5nm,0.6s,baz=330,slow=1.5,SNR=2.9
NVAR Mina Array Bea 128.22 45 PKP PKPdf 16 34 40.4 +1.4
comp=Z,1.4nm,0.6s,baz=343,slow=0.5,SNR=10
NVAR SKPbc 16 37 44.7
comp=Z,1.1nm,0.6s,baz=270,slow=2.9,SNR=6.1
BOZ Bozeman (W) 128.55 34 *e*PKPdf PKPdf 16 34 38.8 -0.6
SCHQ Schefferville 131.08 355 PKP PKPdf 16 34 44.3 +0.4
comp=Z,5.6nm,0.6s,baz=45,slow=3.9,SNR=20
SCHQ SKPbc SKPbc 16 37 54.9 -1.1
comp=Z,20nm,0.6s,baz=22,slow=4.9,SNR=41
PDAR Pinedale Array 131.50 35 PKP PKPdf 16 34 45.5 +0.4
comp=Z,1.9nm,0.6s,baz=168,slow=0.9,SNR=17
PDAR SKPbc SKPbc 16 37 57.9 +0.1
comp=Z,6.8nm,1.0s,baz=27,slow=1.7,SNR=18
ULM Lac du Bonnet 132.11 19 PKP PKPdf 16 34 45.6 -0.4
comp=Z,5.4nm,0.8s,baz=337,slow=3.9,SNR=15
ULM SKPbc SKPbc 16 37 57.5 -2.2
comp=Z,11nm,0.6s,baz=337,slow=5.3,SNR=9.3
PLCA Paso Flores 133.36 183 SKPbc SKPbc 16 38 03.1 -1.3
comp=Z,4.1nm,0.8s,baz=136,slow=4.1,SNR=9.0
RSSD Black Hills 133.58 30 *e*PKPdf PKPdf 16 34 49.0 0.0
ECSD EROS,Sioux Fal 137.31 25 *e*PKPdf PKPdf 16 34 55.9 0.0
TXAR Lajitas Array 143.27 47 PKhKP 16 35 05.5
comp=Z,2.3nm,0.5s,baz=277,slow=1.1,SNR=29
TXAR SKPbc SKPbc 16 38 32.4 -0.6
comp=Z,3.6nm,0.6s,baz=253,slow=1.2,SNR=15
CCM Cathedral Cave 144.28 24 *e*PKPdf PKPdf 16 35 06.2 -2.4
JCT Junction City 145.31 42 *e*PKPdf PKPdf 16 35 11.7 +1.0
WCI Wyandotte Cave 145.92 18 *e*PKPdf PKPdf 16 35 10.2 -1.2
WCI *e*PKPbc PKPbc 16 35 11.9 -0.5
MCWV Mont Chateau 146.06 9 *e*PKPbc PKPbc 16 35 12.3 -0.4
MIAR Mount Ida 146.10 31 *e*PKPdf PKPdf 16 35 11.4 -0.4
BDFB Brasilia 146.84 229 PKPbc PKPbc 16 35 15.7 +0.1
comp=Z,4.5nm,0.5s,baz=113,slow=7.5,SNR=7.3
BDFB pPKPbc pPKPbc 16 35 52.4 +0.4
comp=Z,2.7nm,0.5s,baz=76,slow=19,SNR=2.7
WVT Waverly 147.29 22 *e*PKPbc PKPbc 16 35 16.2 -0.2
PLAL Pickwick Lake 148.21 23 *e*PKPdf PKPdf 16 35 14.5 -0.9
PLAL *e*PKPbc PKPbc 16 35 18.1 -0.8
TZTN Tazewell 148.28 16 *e*PKPbc PKPbc 16 35 18.8 -0.1
SWET Sewanee 148.79 20 *e*PKPbc PKPbc 16 35 19.5 -0.8
CPCT Cooper Cave 149.03 18 *e*PKPbc PKPbc 16 35 20.8 -0.1
LRAL Lakeview Retre 150.35 23 *e*PKPbc PKPbc 16 35 23.8 -0.4
JSC Jenkinsville 151.00 13 *e*PKPbc PKPbc 16 35 25.4 -0.3
LPAZ La Paz 157.18 193 PKP PKPdf 16 35 29.2 +0.2
comp=Z,0.3nm,0.4s,baz=233,slow=10,SNR=2.0
LPAZ PKPab PKPab 16 36 00.7 +0.7
comp=Z,2.3nm,0.9s,baz=137,slow=3.8,SNR=7.5

CSEM ***10*** *16:18:44.5±0.2, 40.17N×34.15E, h0km±1km, MD2.8, Error ellipse: s-maj=4.4km s-min=1.9km az=34.0*
ISCJB ***10*** *16:18:45.4±0.5, 40.15N±003×34.11E±004, h6km±6km, Error ellipse: s-maj=5.6km s-min=4.0km az=139.7*
ISK ***10*** *16:18:45.3, 40.15N×34.11E, h7km, MD2.8*
DDA ***10*** *16:18:46.2, 40.16N×34.14E, h5km±3km, Md2.9*
ISC 10 16:18:46.0±0.5, 4015N±003×3411E±004, h10km±5km, n16, σ0§86/23, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CORM	**Corum**	**0.40**	**86**	*e*PG	**Pg**	**16 18 53.8**	**0.0**
CORM				*e*SG	**Sg**	**16 18 59.9**	**+0.8**
CDAG	**Cicekdag**	**0.56**	**159**	*i* P	**Pg**	**16 18 55.9**	**-1.0**
CDAG				*i* S	**Sg**	**16 19 03.9**	**-0.4**
CANT	**Cankiri**	**0.59**	**321**	*e*PG	**Pg**	**16 18 57.4**	**-0.1**
CANT				*e*SG	**Sg**	**16 19 06.1**	**+0.9**
ELDT	**Eldivan**	**0.62**	**303**	*i* P	**Pg**	**16 18 58.1**	**+0.1**
ELDT				*i* S	**Sg**	**16 19 07.1**	**+0.8**
CTKT	**Corum**	**0.70**	**47**	*i* P	**Pg**	**16 18 59.5**	**-0.1**
CTKT				*i* S	**Sg**	**16 19 09.6**	**+0.9**
KAMT	**Kaman**	**0.84**	**202**	*e*PG	**Pg**	**16 19 01.5**	**-0.7**
TOS	**Tosya**	**0.89**	**356**	*e*PG	**Pg**	**16 19 01.9**	**-1.2**
ANTO	**Ankara**	**1.05**	**255**	*e*PG	**Pg**	**16 19 06.4**	**+0.2**
YOZ	**Yozgat**	**1.06**	**118**	*e*PG	**Pg**	**16 19 05.5**	**-0.9**
BOYT	**Boyabat**	**1.41**	**25**	*i* P	**Pn**	**16 19 10.2**	**-1.5**
BOYT	**Boyabat**	**1.41**	**25**	*i* P	**Pn**	**16 19 10.1**	**-1.6**
AVNT	**Avonos**	**1.48**	**157**	*i* P	**Pn**	**16 19 12.9**	**+0.1**
AVNT				*i* S	**Sn**	**16 19 33.7**	**+1.5**
BALT	**Daday**	**1.49**	**339**	*i* P	**Pn**	**16 19 13.3**	**+0.5**
BALT				*i* S	**Sn**	**16 19 30.7**	**-1.7**
SAFT	**Safranbolu**	**1.54**	**316**	*e*PN	**Pn**	**16 19 14.5**	**+1.0**
DIKM	**Dikmen**	**1.73**	**30**	*e*PN	**Pn**	**16 19 15.7**	**-0.5**
SVSK	**Karacayir**	**2.23**	**95**	*e*PN	**Pn**	**16 19 24.2**	**+1.2**

LDG ***10*** *16:23:09.0±0.2, 4393N×773E, h5km, Md2.6/1, Ml2.6/7, Error ellipse: s-maj=3.2km s-min=2.3km az=80.0*
ROM ***10*** *16:23:12.3±0.4, 4398N×740E, h7km±1km, Md2.4/6, Ml1.4/1, Error ellipse: s-maj=5.2km s-min=1.7km az=164.0*
CSEM ***10*** *16:23:12.7±0.1, 4395N×739E, h8km, ML2.3/8, Error ellipse: s-maj=1.2km s-min=1.1km az=143.0*
ISCJB ***10*** *16:23:12.4±0.5, 4396N±002×739E±003, h10km±4km, Error ellipse: s-maj=3.6km s-min=3.2km az=43.0*
STR ***10*** *16:23:13.0±0.1, 4395N×740E, h2km, Ml2.4, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
NEIC ***10*** *16:23:13.0, 4395N×740E, h2km, ML2.6(LDG), ML2.4(STR), After STR.*
ISC 10 16:23:13.0±0.5, 4396N±002×740E±003, h7km±4km, n31, σ0§72/61, Near south coast of France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AUTN	**L'Aution**	**0.04**	**29**	Pg	**Pg**	**16 23 14.3**	**-0.2**
AUTN				Sg	**Sg**	**16 23 15.4**	**-0.2**
LUCF	**Luceram**	**0.08**	**210**	Pg	**Pg**	**16 23 14.5**	**-0.4**
LUCF				Sg	**Sg**	**16 23 15.9**	**-0.3**
SBF	**Sospel**	**0.10**	**164**	*e*Pg	**Pg**	**16 23 15.0**	**-0.2**
SBF				*e*Sg	**Sg**	**16 23 16.7**	**-0.1**
	969nm,0.6s						
SBF	**Sospel**	**0.10**	**164**	*e*Pg	**Pg**	**16 23 15.0**	**-0.2**
SBF				*e*Sg	**Sg**	**16 23 16.7**	**-0.1**
	485nm,0.6s						
SAOF	**Saorge**	**0.12**	**76**	Pg	**Pg**	**16 23 15.5**	**0.0**
SAOF				Sg	**Sg**	**16 23 17.5**	**+0.2**
SAOF	**Saorge**	**0.12**	**76**	Pg	**Pg**	**16 23 15.2**	**-0.3**
SAOF				Sg	**Sg**	**16 23 17.3**	**0.0**
SAOF	**Saorge**	**0.12**	**76**	Pg	**Pg**	**16 23 15.5**	**0.0**
SAOF				Sg	**Sg**	**16 23 17.3**	**0.0**
TOUF	**Mont Tournerai**	**0.12**	**297**	Pg	**Pg**	**16 23 15.3**	**-0.3**
TOUF				Sg	**Sg**	**16 23 17.2**	**-0.2**
MVIF	**Mont Vial**	**0.19**	**251**	Pg	**Pg**	**16 23 16.4**	**-0.4**
MVIF				Sg	**Sg**	**16 23 19.5**	**+0.2**
STV	**Sta Anna Valdi**	**0.29**	**349**	Pg	**Pg**	**16 23 18.7**	**0.0**
STV				Sg	**Sg**	**16 23 22.8**	**+0.2**
	48nm,0.3s						
IMI	**Imperia**	**0.36**	**98**	Pg	**Pg**	**16 23 20.0**	**+0.1**
IMI				Sg	**Sg**	**16 23 25.6**	**+0.9**
CALN	**Calern**	**0.42**	**241**	Pg	**Pg**	**16 23 21.2**	**+0.1**
CALN				Sg	**Sg**	**16 23 27.3**	**+0.6**
DOI	**San Damiano**	**0.56**	**349**	Pg	**Pg**	**16 23 23.8**	**+0.1**
DOI				Sg	**Sg**	**16 23 31.6**	**+0.6**
	22nm,0.2s						

PZZ	**Prazzo**	**0.59**	**339**	Pg	**Pg**	**16 23 24.2**	**-0.1**
PZZ				Sg	**Sg**	**16 23 32.2**	**+0.2**
FIN	**Finale Ligure**	**0.64**	**66**	Pg	**Pg**	**16 23 25.4**	**+0.2**
FIN				Sg	**Sg**	**16 23 34.5**	**+1.0**
SURF	**Saint Ours**	**0.67**	**321**	Pg	**Pg**	**16 23 25.8**	**-0.1**
SURF				Sg	**Sg**	**16 23 35.8**	**+1.2**
FRF	**La Foret Royal**	**0.67**	**234**	*e*Pg	**Pg**	**16 23 25.4**	**-0.5**
FRF				*e*Sg	**Sg**	**16 23 34.7**	**0.0**
	20nm,0.2s						
FRF	**La Foret Royal**	**0.67**	**234**	*e*Pg	**Pg**	**16 23 25.4**	**-0.5**
FRF				*e*Sg	**Sg**	**16 23 34.7**	**0.0**
	9.8nm,0.2s						
MBDF	**Montbardon**	**0.89**	**330**	*e*Pg	**Pg**	**16 23 28.9**	**-1.2**
MBDF				*e*Sg	**Sg**	**16 23 42.4**	**+0.7**
	9.6nm,0.3s						
MBDF	**Montbardon**	**0.89**	**330**	*e*Pg	**Pg**	**16 23 28.9**	**-1.2**
MBDF				*e*Sg	**Sg**	**16 23 42.4**	**+0.7**
	4.8nm,0.3s						
LMR	**La Mourre**	**0.90**	**226**	*e*Pg	**Pg**	**16 23 29.5**	**-0.7**
LMR				*e*Sg	**Sg**	**16 23 42.7**	**+0.8**
	55nm,0.3s						
LMR	**La Mourre**	**0.90**	**226**	*e*Pg	**Pg**	**16 23 29.5**	**-0.7**
LMR				*e*Sg	**Sg**	**16 23 42.7**	**+0.8**
	28nm,0.3s						
SMRF	**Simiane la Rot**	**1.32**	**271**	*e*Pg	**Pg**	**16 23 37.8**	**-0.4**
SMRF				*e*Sg	**Sg**	**16 23 57.4**	**+2.1**
	17nm,0.3s						
SMRF	**Simiane la Rot**	**1.32**	**271**	*e*Pg	**Pg**	**16 23 37.8**	**-0.4**
SMRF				*e*Sg	**Sg**	**16 23 57.4**	**+2.1**
	8.6nm,0.3s						
ORIF	**Oris-en-Rattie**	**1.45**	**312**	*e*Pg	**Pg**	**16 23 39.6**	**-1.2**
ORIF				*e*Sg	**Sg**	**16 24 00.8**	**+1.2**
	8.7nm,0.4s						
ORIF	**Oris-en-Rattie**	**1.45**	**312**	*e*Pg	**Pg**	**16 23 39.6**	**-1.2**
ORIF				*e*Sg	**Sg**	**16 24 00.8**	**+1.2**
	4.3nm,0.4s						
LPG	**La Plagne**	**1.61**	**344**	*e*Pg	**Pg**	**16 23 41.6**	**-2.2**
LPG				*e*Sg	**Sg**	**16 24 03.4**	**-1.2**
	5.2nm,0.4s						
LPG	**La Plagne**	**1.61**	**344**	*e*Pg	**Pg**	**16 23 41.6**	**-2.2**
LPG				*e*Sg	**Sg**	**16 24 03.4**	**-1.2**
	2.6nm,0.4s						
PGF	**Pioggiola**	**1.83**	**140**	*e*Pn	**Pn**	**16 23 36.9**	**-7.9**
VIVF	**Saint-Julien-I**	**2.15**	**296**	*e*P	**Pn**	**16 23 49.5**	**+0.3**
VIVF				*e*Sn	**Sn**	**16 24 15.4**	**-0.7**
	2.5nm,0.3s						
VIVF	**Saint-Julien-I**	**2.15**	**296**	*e*P	**Pn**	**16 23 49.5**	**+0.3**
VIVF				*e*Sn	**Sn**	**16 24 15.4**	**-0.7**
	1.2nm,0.3s						

BJI ***10*** *16:34:20.0, 6960N×14460W, h19km, mB4.9, mb4.7, Ms4.7, Msz4.4*
ISCJB ***10*** *16:34:21.4±0.3, 6961N±004×1446W±0.1, h10km, mb4.3/26, MS3.9/10, Error ellipse: s-maj=6.0km s-min=4.8km az=152.3*
IDC ***10*** *16:34:22.6±0.9, 6972N×14476W, h0km, mb3.9/12, mb1 4.2/14, mb1mx4.1/21, mbtmp4.0/14, ML3.9/2, MS3.7/10, Ms1 3.7/10, ms1mx3.3/46, Error ellipse: s-maj=25.4km s-min=14.5km az=44.0*
NEIC ***10*** *16:34:24.0, 6962N×14462W, h20km, mb4.4/6, ML4.4(PGC), ML4.3(AEIC), MW4.5(SLM), After AEIC.*
PGC ***10*** *16:34:24.6±1.1, 6968N×14438W, h5km, ML4.4/1, 163km east of Prudhoe Bay, Ak Alaska*

ISC 10 16:34:23.5±0.3, 6963N±003×1445W±01, h10km, n57, σ1§44/64, mb4.3/26, MS3.9/10, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
INK	**Inuvik**	**4.16**	**104**	*e*Pn	**Pn**	**16 35 28.1**	**+1.3**
INK	**Inuvik**	**4.16**	**104**	Pn	**Pn**	**16 35 28.2**	**+1.3**
	2.1nm,0.3s,baz=300,slow=12,SNR=69						
INK				Sn	**Sn**	**16 36 14.4**	**-0.9**
	9.0nm,0.3s,baz=278,slow=24,SNR=5.5						
INK				Lg		16 36 29.8	
	15nm,0.3s,baz=154,slow=25,SNR=9.2						
INK				LR	LR	16 37 42.1	
	comp=Z,556nm,19.9s,baz=281,slow=47						
INK	**Inuvik**	**4.16**	**104**	Pn	**Pn**	**16 35 27.6**	**+0.8**
INK				Sn	**Sn**	**16 36 14.0**	**-1.4**
INK				Sg	**Sg**	**16 36 33.3**	**-3.5**
COLA	**College**	**4.96**	**197**	*e*Pn	**Pn**	**16 35 37.7**	**-0.2**
IMA2	**Indian Mountai**	**5.00**	**229**	*e*P	**Pn**	**16 35 36.3**	**-2.1**
DAWY	**Dawson**	**5.94**	**158**	*e*Pn	**Pn**	**16 35 51.2**	**0.0**
DAWY				*e*Sn	**Sn**	**16 36 55.7**	**-3.4**
DAWY	**Dawson**	**5.94**	**158**	Pn	**Pn**	**16 35 51.6**	**+0.4**
DAWY				Sn	**Sn**	**16 36 57.5**	**-1.7**
DAWY				Sg	**Sg**	**16 37 29.9**	**-3.9**
MENT	**Mentasta**	**6.73**	**177**	*e*P	**Pn**	**16 36 01.7**	**-0.5**
SML	**Sawmill**	**8.02**	**193**	*e*Pn	**Pn**	**16 36 20.5**	**+0.7**
TTA	**Tatalina**	**8.17**	**220**	*e*P	**Pn**	**16 36 21.6**	**-0.3**
EYAK	**Cordova Ski Ar**	**9.14**	**184**	Pn	**Pn**	**16 36 36.6**	**+1.4**
	60nm,1.3s						
HYT	**Haines Junctio**	**9.30**	**158**	Pn	**Pn**	**16 36 39.2**	**+1.8**
HYT				Sn	**Sn**	**16 38 17.3**	**-4.7**
SLKM	**Skilak Lake**	**9.48**	**198**	*e*P	**Pn**	**16 36 41.4**	**+1.6**
SVW2	**Sparrevohn**	**9.73**	**214**	*e*P	**Pn**	**16 36 42.3**	**-0.9**
TNA	**Tin City**	**9.80**	**257**	*e*Pn	**Pn**	**16 36 41.3**	**-2.9**
	8.1nm,0.7s						
WHY	**Whitehorse**	**9.85**	**151**	Pn	**Pn**	**16 36 45.1**	**+0.2**
WHY				Sn	**Sn**	**16 38 29.8**	**-5.6**
SKAG	**Skagway**	**10.92**	**155**	*e*P	**Pn**	**16 37 01.9**	**+2.4**
	7.5nm,0.4s						
DLBC	**Dease Lake**	**12.84**	**144**	*e*P	**Pn**	**16 37 27.4**	**+1.7**
YKA	**Yellowknife Ar**	**13.92**	**106**	Pn	**Pn**	**16 37 37.7**	**-2.7**
YKA				Sn	**Sn**	**16 40 04.5**	**-10**
YKA	**Yellowknife Ar**	**13.92**	**106**	Pn	**Pn**	**16 37 37.7**	**-2.7**
	1.1nm,0.3s,baz=311,slow=13,SNR=46						
YKA				Sn	**Sn**	**16 40 04.5**	**-10**
	1.3nm,0.3s,baz=309,slow=24,SNR=7.8						
RES	**Resolute Bay**	**15.55**	**49**	*e*Pn	**Pn**	**16 38 00.0**	**-2.3**
	257nm,0.5s						
RES				*e*Sn	**Sn**	**16 40 44.2**	**-10**
BILL	**Bilibino**	**17.48**	**288**	*e*P	**Pn**	**16 38 25.2**	**-1.6**
	14nm,1.0s						
BBB	**Bella Bella**	**19.10**	**148**	LR	LR	16 45 39.1	
	comp=Z,197nm,20.6s,baz=83,slow=35						
EDM	**Edmonton**	**21.77**	**123**	*e*P	**P**	**16 39 16.8**	**+2.0**
FCC	**Fort Churchill**	**23.68**	**92**	*e*P	**P**	**16 39 34.6**	**-0.2**
	14nm,1.1s,mb4.3						
NEW	**Newport**	**25.21**	**134**	LR	LR	16 50 26.6	
	comp=Z,392nm,19.8s,MS3.9,baz=343,slow=38						
TIXI	**Tiksi**	**26.50**	**315**	*e*P	**P**	**16 40 01.0**	**+0.6**
	3.1nm,0.8s,mb3.9						
ULM	**Lac du Bonnet**	**29.90**	**105**	LR	LR	16 53 10.7	
	comp=Z,178nm,18.9s,MS3.7,baz=272,slow=38						
PDAR	**Pinedale Array**	**32.31**	**128**	P	**P**	**16 40 53.7**	**+1.6**
	2.4nm,0.7s,mb4.2,baz=14,slow=5.0,SNR=14						
NVAR	**Mina Array Bea**	**34.25**	**142**	P	**P**	**16 41 11.0**	**+2.0**
NVAR	**Mina Array Bea**	**34.25**	**142**	P	**P**	**16 41 11.0**	**+2.0**
	0.9nm,0.7s,mb3.8,baz=316,slow=7.7,SNR=4.7						
SCHQ	**Schefferville**	**36.15**	**73**	P	**P**	**16 41 27.3**	**+2.0**
	2.9nm,0.7s,mb4.3,baz=325,slow=11,SNR=4.4						
PFO	**Pinyon Flat Ob**	**39.28**	**142**	LR	LR	16 58 02.1	
	comp=Z,155nm,20.6s,MS3.8,baz=155,slow=36						
ARCES	**ARCESS Array B**	**40.92**	**5**	P	**P**	**16 42 05.3**	**+0.2**
ARCES	**ARCESS Array B**	**40.92**	**5**	P	**P**	**16 42 05.3**	**+0.2**
	7.3nm,1.1s,mb4.2,baz=346,slow=6.7,SNR=9.3						
TXAR	**Lajitas Array**	**46.53**	**128**	P	**P**	**16 42 53.9**	**+3.2**
	0.4nm,0.5s,mb3.6,baz=345,slow=4.4,SNR=3.6						
TXAR				LR	LR	17 02 24.9	
	comp=Z,114nm,21.4s,MS3.8,baz=5.0,slow=36						
JOF	**Joensuu**	**47.70**	**3**	*e*p	**P**	**16 42 59.9**	**+0.5**
	2.3nm,0.4s,mb4.6						
KAF	**Kangasniemi**	**48.38**	**6**	*e*p	**P**	**16 43 05.0**	**+0.3**
	2.0nm,0.4s,mb4.5						
NOA	**NORSAR Array B**	**48.47**	**16**	P	**P**	**16 43 04.6**	**-0.8**
	1.5nm,0.9s,mb4.0,baz=339,slow=5.7,SNR=2.3						
FINES	**FINESS Array B**	**49.04**	**6**	P	**P**	**16 43 10.4**	**+0.7**
	1.0nm,0.4s,mb4.2,baz=357,slow=8.0,SNR=10						
FINES				LR	LR	17 04 53.0	
	comp=Z,43nm,19.8s,MS3.5,baz=50,slow=37						
CN2	**Changchun**	**49.79**	**289**	*e*P	**P**	**16 43 15.4**	**-0.3**
CN2				*e*S	**S**	**16 50 23.3**	**-1.3**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb5.0						
CN2				AMB	AMB		
	comp=Z,200nm,3.0s						
CN2				LR	LR		
	comp=N,200nm,18.0s,MS4.3						
CN2				LR	LR		
	comp=E,200nm,18.0s,MS4.3						
CN2				LR	LR		
	comp=Z,200nm,14.0s,MS4.3						
ZALV	**Zalesovo Beam**	**51.65**	**325**	P	**P**	**16 43 30.1**	**+0.5**
	comp=Z,0.7nm,0.4s,mb3.9,baz=13,slow=8.1,SNR=4.8						
ZALV				LR	LR	17 09 00.2	
	comp=Z,67nm,18.3s,MS3.7,baz=156,slow=40						
MJAR	**Matsushiro Arr**	**51.90**	**273**	P	**P**	**16 43 31.2**	**-0.4**
	comp=Z,1.1nm,0.5s,mb4.0,baz=2.1,slow=7.6,SNR=4.7						
SONM	**Songino Array**	**52.06**	**306**	P	**P**	**16 43 35.9**	**+3.2**
	comp=Z,1.9nm,1.0s,mb4.0,baz=28,slow=6.5						
KSRS	**Korea Array**	**54.64**	**283**	LR	LR	17 09 03.8	
	comp=Z,35nm,19.0s,MS3.4,baz=56,slow=38						
KURK	**Kurchatov**	**55.91**	**328**	*e*P	**P**	**16 44 01.0**	**+0.1**
	comp=Z,4.9nm,1.1s,mb4.5						
MKAR	**Makanchi Array**	**58.95**	**324**	P	**P**	**16 44 21.9**	**-0.4**
MKAR				LR	LR	17 11 00.9	
MKAR	**Makanchi Array**	**58.95**	**324**	P	**P**	**16 44 21.9**	**-0.4**
	comp=Z,0.5nm,0.4s,mb3.9,baz=41,slow=7.2,SNR=9.0						
MKAR				LR	LR	17 11 00.9	
	comp=Z,94nm,20.1s,MS3.9,baz=10,slow=37						
AKASG	**Malin Array Be**	**59.89**	**5**	P	**P**	**16 44 27.6**	**-1.2**
	comp=Z,1.7nm,0.6s,mb4.2,baz=355,slow=6.8,SNR=11						
GERES	**GERESS Array B**	**60.75**	**16**	P	**P**	**16 44 36.1**	**+1.4**
	comp=Z,0.6nm,0.6s,mb3.9,baz=349,slow=5.4,SNR=4.5						
GTA	**Gaotai**	**61.67**	**308**	*e*P	**P**	**16 44 43.1**	**+2.1**
GTA				AP	pP	16 44 48.2	+3.9
GTA				XP	sP	16 44 52.0	+6.5
GTA				AMB	AMB		
	comp=Z,2.0nm,1.0s,mb4.2						
LZH	**Lanzhou**	**63.61**	**303**	*e*P	**P**	**16 44 49.9**	**-4.1**
LZH				AMB	AMB		
	comp=Z,15nm,1.0s,mb5.0						
LZH				AMB	AMB		
	comp=Z,68nm,4.1s						
EKS2	**Erkin-Say**	**64.56**	**330**	*e*P	**P**	**16 45 01.3**	**+1.2**
	comp=Z,5.5nm,0.6s,mb4.8						
CD2	**Chengdu**	**68.46**	**301**	*e*P	**P**	**16 45 21.7**	**-3.6**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.8						
GYA	**Guiyang**	**71.73**	**297**	P	**P**	**16 45 43.0**	**-2.4**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.8						
KMI	**Kunming**	**74.19**	**300**	P	**P**	**16 45 58.4**	**-1.6**
KMI				AP	pP	16 46 00.9	-2.3
KMI				PP	PP	16 48 43.8	-1.3
KMI				S	S	16 55 29.4	-3.7
KMI				AMB	AMB		
	comp=Z,5.0nm,0.9s,mb4.4						
KMI				AMB	AMB		
	comp=Z,76nm,4.3s						
KMI				LR	LR		
	comp=N,169nm,14.6s,MS4.6						
KMI				LR	LR		
	comp=E,155nm,15.5s,MS4.6						
KMI				LR	LR		
	comp=Z,170nm,12.6s,MS4.5						
TORD	**Torodi Ar. Bea**	**94.10**	**33**	P	**P**	**16 47 37.8**	**-4.1**
	comp=Z,0.6nm,1.1s,mb4.0,baz=336,slow=3.2,SNR=3.0						

ISCJB ***10*** *16:44:21.4±1.6, 6965N±008×1444W±02, h10km±14km, Error ellipse: s-maj=13.8km s-min=7.7km az=156.5*
NEIC ***10*** *16:44:23.1, 6958N×14462W, h10km, ML3.9(AEIC), ML3.9(PGC), After AEIC.*
PGC ***10*** *16:44:27.9±1.1, 6947N×14452W, h10km, ML3.9/1, 170km Ese of Prudhoe Bay, Ak Alaska*

ISC 10 16:44:23.4±1.5, 6967N±007×1445W±01, h9km±12km, n21, σ0§90/31, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BM3	**Burnt Mountain**	**2.26**	**181**	P	**Pn**	**16 45 01.2**	**+0.4**
BM3				S	**Sn**	**16 45 27.9**	**-0.8**
COLD	**Coldfoot**	**3.24**	**224**	P	**Pn**	**16 45 14.7**	**+0.4**
COLD				S	**Sn**	**16 45 53.1**	**+0.3**
INK	**Inuvik**	**4.17**	**104**	*e*Pn	**Pn**	**16 45 30.3**	**+3.3**
INK	**Inuvik**	**4.17**	**104**	Pn	**Pn**	**16 45 30.6**	**+3.6**
INK				Sn	**Sn**	**16 46 16.2**	**+0.4**
INK				Sg	**Sg**	**16 46 36.6**	**-0.4**
COLA	**College**	**4.99**	**197**	P	**Pn**	**16 45 37.9**	**-0.4**
IL1	**Eielson Array**	**5.01**	**192**	P	**Pn**	**16 45 38.2**	**-0.3**
IMA2	**Indian Mountai**	**5.02**	**228**	*e*P	**Pn**	**16 45 36.3**	**-2.4**
EGAK	**Eagle**	**5.08**	**164**	P	**Pn**	**16 45 39.1**	**-0.4**
IM3	**Indian Mountai**	**5.10**	**228**	P	**Pn**	**16 45 40.5**	**+0.7**
DAWY	**Dawson**	**5.97**	**158**	*e*Pn	**Pn**	**16 45 50.8**	**-0.9**
DAWY				*e*Sn	**Sn**	**16 46 57.0**	**-3.0**
DAWY	**Dawson**	**5.97**	**158**	Pn	**Pn**	**16 45 51.2**	**-0.5**
DAWY				Sn	**Sn**	**16 46 56.5**	**-3.5**
DOT	**Dot Lake**	**6.05**	**178**	P	**Pn**	**16 45 52.8**	**0.0**
DOT				S	**Sn**	**16 47 03.8**	**+1.8**
KTH	**Kantishna Hill**	**6.65**	**206**	P	**Pn**	**16 46 00.8**	**-0.3**
KTH				S	**Sn**	**16 47 15.9**	**-1.0**
BCA3	**Beaver Creek A**	**6.72**	**170**	P	**Pn**	**16 46 02.1**	**+0.2**
BCA3				S	**Sn**	**16 47 18.4**	**-0.1**
PAX	**Paxson**	**6.74**	**184**	P	**Pn**	**16 46 03.0**	**+0.8**
MENT	**Mentasta**	**6.76**	**177**	P	**Pn**	**16 46 02.6**	**-0.1**
SML	**Sawmill**	**8.05**	**193**	*e*Pn	**Pn**	**16 46 21.5**	**+1.2**
HYT	**Haines Junctio**	**9.34**	**159**	Pn	**Pn**	**16 46 39.0**	**+1.1**
SVW2	**Sparrevohn**	**9.75**	**214**	*e*P	**Pn**	**16 46 44.1**	**+0.5**
WHY	**Whitehorse**	**9.88**	**151**	Pn	**Pn**	**16 46 45.0**	**-0.3**
RES	**Resolute Bay**	**15.53**	**49**	*e*Pn	**Pn**	**16 48 01.5**	**-0.6**
	93nm,0.4s						
RES				*e*Sn	**Sn**	**16 50 44.9**	**-9.0**

GCMT ***10*** *16:45:44.5±0.3, 1173N×8630W, h134km±2km, MW5.2/95, Moment Tensor Solution. s49,c62; s95,c131; Duration: 0 Moment tensor: Scale 10^16Nm; M_rr3.41±.20; M_θθ-2.21±.28; M_φφ-1.19±.32; M_rt4.12±.14; M_θφ0.60±.25; M_θr-4.92±.18; Best double couple: M_0 7.03500×10^16 NP1:φ_b295.00000°, δ13.00000°, λ68.00000°. NP2: φ_s138.00000°, δ78.00000°, λ95.00000°. Principal axes: T 7.6200, Plg57.0000°, Azm54.0000°; N -1.1600, Plg5.0000°, Azm317.0000°; P -6.4500, Plg33.0000°, Azm223.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
BJI ***10*** *16:45:44.4, 1130N×8630W, h135km, mB5.1*
NEIC ***10*** *16:45:44.5±0.5, 1126N×8630W, mb5.1/99, Error ellipse: s-maj=9.6km s-min=4.6km az=193.0*
MOS ***10*** *16:45:45.3±1.0, 1142N×8621W, h150km, mb4.8/27, Error ellipse: s-maj=9.8km s-min=5.3km az=95.7*
ISCJB ***10*** *16:45:47.5±0.1, 1185N±003×8616W±002, h135km, mb5.0/110, Error ellipse: s-maj=4.6km s-min=2.1km az=40.7*
IDC ***10*** *16:45:48.2±0.8, 1203N×8585W, h132km±6km, mb4.3/20, mb1 4.4/20, mb1mx4.3/25, mbtmp4.3/20, MS3.8/11, Ms1 3.8/11, ms1mx3.4/32, Error ellipse: s-maj=18.2km s-min=9.6km az=60.0*
CASC ***10*** *16:45:49.2±2.2, 1175N×8625W, h120km±5km, MD4.3, ML4.8, mb5.1(NEIC)*

ISC 10 16:45:48.8±0.1, 1179N±003×8616W±002, h137km, h137km±1.4km: pP-P, n534, σ1§19/510, mb5.0/110, 74C-62D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APON	**Apoyo**	**0.16**	**35**	↑*i*P	**Pn**	**16 46 06.0**	**-1.4**
MASN	**Masaya**	**0.20**	**2**	↑*i*P	**Pn**	**16 46 05.0**	**-2.6**
MASN				*e*S	**Sn**	**16 46 18.4**	**-3.4**
MASN				*i*		16 46 21.3	
	comp=E,37μm,0.6s						
CRUN	**El Crucero**	**0.24**	**325**	↓*i*P	**Pn**	**16 46 06.2**	**-1.5**
TICN	**Ticuantepe**	**0.26**	**344**	↑*i*P	**Pn**	**16 46 06.2**	**-1.5**
MGAN	**Managua**	**0.37**	**347**	↓*i*P	**Pn**	**16 46 06.6**	**-1.5**
MGAN				*e*S	**Sn**	**16 46 20.0**	**-2.7**
	comp=N,37μm,0.7s						
TISN	**Laguna Tiscapa**	**0.37**	**343**	↓*i*P	**Pn**	**16 46 06.4**	**-1.7**
TISN				*e*S	**Sn**	**16 46 23.1**	**+0.4**
XAVN	**Gruta Xavier**	**0.40**	**336**	↑*e*P	**Pn**	**16 46 06.5**	**-1.7**
XAVN				*e*S	**Sn**	**16 46 22.3**	**-0.7**
CSAN		**0.47**	**327**	↓*i*P	**Pn**	**16 46 06.8**	**-1.8**
HUEN		**0.55**	**359**	↓*e*P	**Pn**	**16 46 08.2**	**-0.8**
HUEN				*e*S	**Sn**	**16 46 23.8**	**-0.5**
CONN	**Concepcion**	**0.57**	**113**	↑*i*P	**Pn**	**16 46 08.8**	**-0.3**
COPN	**Copaltepe**	**0.58**	**313**	↓*i*P	**Pn**	**16 46 06.8**	**-2.4**
SSNN	**San Juan del S**	**0.58**	**148**	↑*i*P	**Pn**	**16 46 08.4**	**-0.8**
SSNN				*e*S	**Sn**	**16 46 22.5**	**-2.2**
MADN	**Villa Maderas**	**0.72**	**121**	↑*e*P	**Pn**	**16 46 10.0**	**-0.1**
MADN				*e*S	**Sn**	**16 46 25.9**	**-0.3**
MOMJ	**Momotombo**	**0.72**	**329**	↑*i*P	**Pn**	**16 46 08.1**	**-2.0**
MOMJ				*e*S	**Sn**	**16 46 23.1**	**-3.3**
BOAB	**BOACO BROADBAN**	**0.82**	**36**	↓*i*P	**Pn**	**16 46 10.1**	**-0.8**
BOAB				*e*S	**Sn**	**16 46 26.9**	**-0.8**
MIRN	**Miramar**	**0.85**	**320**	↑*e*P	**Pn**	**16 46 09.4**	**-1.7**
CNGN	**Cerro Negro**	**0.88**	**323**	↑*i*P	**Pn**	**16 46 08.6**	**-2.8**
CNGN				*i*		16 46 25.4	
	comp=N,61μm,0.6s						
TEL3	**Telica 3**	**1.03**	**319**	↑*e*P	**Pn**	**16 46 11.0**	**-1.7**
TEL3				*e*S	**Sn**	**16 46 27.7**	**-3.2**
TELN	**Telica**	**1.05**	**321**	↑*e*P	**Pn**	**16 46 11.0**	**-1.8**
TELN				*e*S	**Sn**	**16 46 27.8**	**-3.3**
CRIN	**San Cristobal**	**1.26**	**316**	*e*P	**Pn**	**16 46 12.4**	**-2.5**
CRIN				*i*		16 46 32.6	
	comp=E,229μm,0.7s						
LIM1	**Limonal**	**1.40**	**140**	*i* P	**Pn**	**16 46 16.3**	**0.0**
LIM1				*i* S	**Sn**	**16 46 36.4**	**-0.9**
CUI		**1.47**	**139**	*i* P	**Pn**	**16 46 17.2**	**0.0**
CUI				*i* S	**Sn**	**16 46 40.0**	**+1.2**
2RIO	**Dos Rios de Up**	**1.54**	**144**	*i* P	**Pn**	**16 46 13.1**	**-4.9**
VCR	**Vista de Mar**	**1.73**	**162**	↑*i*P	**Pn**	**16 46 19.3**	**-0.8**
JCR	**Jicaral**	**2.18**	**152**	*e*P	**Pn**	**16 46 25.6**	**+0.2**
CGA2	**Cerro Gallo 2**	**2.42**	**136**	*e*P	**Pn**	**16 46 29.2**	**+0.8**
CGA2				*e*S	**Sn**	**16 47 00.1**	**+1.3**
TGUH	**Tegucigalpa,Un**	**2.50**	**334**	*e*Pn	**Pn**	**16 46 28.8**	**-0.7**
PRS1	**Puriscal**	**2.55**	**134**	*e*P	**Pn**	**16 46 31.5**	**+1.5**
BLLM	**Bellamira**	**2.61**	**309**	*e*P	x	16 46 31.4	
VSM	**San Miguel**	**2.63**	**309**	*e*P	x	16 46 31.7	
SJS	**Escuela Geolog**	**2.77**	**131**	*e*P	**Pn**	**16 46 34.7**	**+2.0**
SJS				*e*S	**Sn**	**16 47 06.6**	**+0.1**
LAJ	**Bijagual**	**2.77**	**133**	↓*e*P	**Pn**	**16 46 31.5**	**-1.2**
LCR2	**La Lucha 2**	**2.94**	**134**	↓*e*P	**Pn**	**16 46 35.5**	**+0.6**
LCR2				*e*S	**Sn**	**16 47 11.6**	**+1.1**
URSC	**Urasca**	**3.04**	**129**	↓*e*P	**Pn**	**16 46 37.7**	**+1.5**
SNVI	**San Vicente**	**3.18**	**305**	*e*P	x	16 46 38.7	
BUS	**Buena Vista**	**3.24**	**133**	*e*P	**Pn**	**16 46 40.4**	**+1.6**
LCBS	**La Ceiba**	**3.32**	**304**	↓*e*P	x	16 46 40.4	
LFRS	**El Faro**	**3.37**	**303**	↓*e*P	x	16 46 41.1	
LBRS	**Las Brisas**	**3.42**	**305**	*e*P	x	16 46 41.8	
BOQS	**Boqueron**	**3.61**	**303**	*e*P	x	16 46 44.9	
BAR1		**3.77**	**132**	*e*P	**Pn**	**16 46 47.6**	**+1.8**
SBLS	**San Blas**	**3.95**	**302**	↑*e*P	x	16 46 49.3	
SNJE	**San Jose**	**3.95**	**302**	*e*P	x	16 46 49.1	
RTR	**El Retiro**	**4.00**	**302**	*e*P	x	16 46 50.1	
RBDL	**Robledal**	**4.14**	**304**	*e*P	x	16 46 51.2	
CNI	**Changuinola**	**4.29**	**123**	*e*P	**Pn**	**16 46 54.4**	**+1.8**
PCG	**Pacaya**	**5.05**	**301**	*e*P	**Pn**	**16 47 02.7**	**0.0**
FUG	**Fuego 3**	**5.27**	**301**	↑*e*P	**Pn**	**16 47 05.3**	**-0.4**
JAT	**Jato**	**5.90**	**296**	*e*P	**Pn**	**16 47 13.8**	**-0.3**
BCIP	**Isla Barro Col**	**6.74**	**112**	*e*P	**Pn**	**16 47 27.6**	**+2.2**
	comp=E,275nm,1.1s						
CCIG	**Comitan**	**7.32**	**308**	*i* P	**Pn**	**16 47 32.4**	**-0.8**
CCIG				*i* S	**Sn**	**16 48 54.5**	**-0.4**
SCX	**San Cristobal**	**7.97**	**309**	*i* P	**Pn**	**16 47 39.0**	**-3.0**
TEIG	**Tepich**	**8.64**	**347**	*e*P	**Pn**	**16 47 52.9**	**+2.1**
	comp=E,40nm,0.8s						
TEIG	**Tepich**	**8.64**	**347**	P	**Pn**	**16 47 52.6**	**+1.7**
	comp=E,2.3nm,0.3s,baz=145,slow=9.3,SNR=18						
CMIG	**Matias Romero**	**9.96**	**303**	P	**Pn**	**16 48 06.3**	**-2.2**
CMIG				S	**Sn**	**16 49 54.7**	**-4.0**
CMIG	**Matias Romero**	**9.96**	**303**	P	**Pn**	**16 48 06.3**	**-2.2**
	comp=E,15nm,0.3s,baz=92,slow=10.0,SNR=92						
CMIG				S	**Sn**	**16 49 54.7**	**-4.0**
	comp=E,7.7nm,0.3s,baz=143,slow=24,SNR=4.5						
HUIG	**Huatulco**	**10.44**	**293**	*i* P	**Pn**	**16 48 12.1**	**-2.9**
VHO	**Vista Hermosa**	**11.51**	**298**	*i* P	**Pn**	**16 48 26.9**	**-2.1**
LMGC	**Las Mercedes**	**12.05**	**46**	*e*P	**Pn**	**16 48 38.5**	**+2.4**
CCCC	**Cccc**	**12.34**	**40**	*e*P	**Pn**	**16 48 46.8**	**+6.9**
PNIG	**Pinotepa**	**12.48**	**293**	*i* P	**Pn**	**16 48 39.5**	**-2.2**
RCC	**Rio Carpintero**	**12.95**	**50**	*e*P	**Pn**	**16 48 50.2**	**+2.4**
ROSC	**El Rosal**	**13.57**	**120**	P	**Pn**	**16 49 05.1**	**+9.1**
	comp=

WMOK Wichita Mounta 25.57 335 *eP* **P 16 51 04.3 -0.7**
comp=Z,72nm,0.9s,mb5.3
WMOK Wichita Mounta 25.57 335 *eP* **P 16 51 04.3 -0.7**
WMOK pmax pmax
comp=Z,72nm,0.9s,mb5.3
ELN Prospectdale 25.80 10 *eP* **P 16 51 08.9 +1.8**
BLA Blacksburg 25.84 11 *eP* **P 16 51 08.8 +1.4**
comp=Z,206nm,1.2s,mb5.6
BLA Blacksburg 25.84 11 *eP* **P 16 51 08.9 +1.5**
BLA pmax pmax
comp=Z,205nm,1.2s,mb5.6
SIUC Southern Illin 25.96 354 P **P 16 51 07.1 -1.4**
comp=Z,79nm,0.8s,mb5.4
USIN University of 26.10 357 *eP* **P 16 51 09.4 -0.4**
comp=Z,106nm,1.1s,mb5.4
WCI Wyandotte Cave 26.33 360 *eP* **P 16 51 12.0 +0.2**
comp=Z,90nm,0.9s,mb5.4
WCI Wyandotte Cave 26.33 360 *eP* **P 16 51 12.0 +0.1**
WCI pmax pmax
comp=Z,90nm,0.9s,mb5.4
FVM French Village 26.37 352 *eP* **P 16 51 11.3 -0.8**
comp=Z,10.0nm,0.5s,mb4.7
FVM French Village 26.37 352 *eP* **P 16 51 11.3 -0.9**
FVM pmax pmax
comp=Z,10.0nm,0.5s,mb4.7
CCM Cathedral Cave 26.55 351 *eP* **P 16 51 12.8 -1.0**
comp=Z,64nm,0.9s,mb5.2
CCM Cathedral Cave 26.55 351 *eP* **P 16 51 12.8 -1.0**
CCM pmax pmax
comp=Z,64nm,0.9s,mb5.2
MNTX Cornudas Mount 26.59 321 *eP* **P 16 51 12.2 -2.0**
comp=Z,12nm,0.8s,mb4.6
MNTX pP pP 16 51 42.4 -0.9
URVA University of 26.82 15 *eP* **P 16 51 16.4 +0.2**
SLM Saint Louis 26.98 353 *eP* **P 16 51 17.2 -0.4**
BLO Bloomington 27.28 359 *eP* **P 16 51 20.1 -0.2**
comp=Z,58nm,0.8s,mb5.3
BLO Bloomington 27.28 359 *eP* **P 16 51 20.1 -0.2**
BLO pmax pmax
comp=Z,58nm,0.8s,mb5.3
MCWV Mont Chateau 28.32 10 *eP* **P 16 51 31.0 +1.4**
comp=Z,182nm,1.3s,mb5.7
BBSR BB Station 28.44 41 *eP* **P 16 51 33.5 +2.8**
comp=Z,147nm,1.1s,mb5.6
ACSO Alum Creek Sta 28.47 5 P **P 16 51 31.6 +0.7**
comp=Z,140nm,0.8s,mb5.7
KSU1 Kansas State U 28.75 343 *eP* **P 16 51 32.2 -1.2**
comp=Z,50nm,0.7s,mb5.3
HDIL Hopedale 28.79 355 *eP* **P 16 51 33.0 -0.7**
comp=Z,180nm,1.0s,mb5.8
319A Douglas 28.91 316 P **P 16 51 36.0 +1.1**
baz=29,SNR=8.6
BNM Barren Site 29.05 323 *eP* **P 16 51 36.2 +0.1**
LENM Lemitar 29.27 323 *eP* **P 16 51 38.1 +0.1**
MVL Millersville 29.41 15 *eP* **P 16 51 41.1 +1.9**
comp=Z,241nm,1.3s,mb5.8
318A Bisbee 29.43 315 P **P 16 51 40.7 +1.1**
baz=29,SNR=10
ANMO Albuquerque 29.53 325 *eP* **P 16 51 40.3 0.0**
comp=Z,22nm,1.1s,mb4.8
ANMO Albuquerque 29.53 325 *eP* **P 16 51 40.3 0.0**
ANMO pmax pmax
comp=Z,22nm,1.1s
ANMO Albuquerque 29.53 325 P **P 16 51 40.0 -0.3**
comp=Z,15nm,0.9s,mb4.7,baz=145,slow=5.7,SNR=19
SSPA Standing Stone 29.65 13 *eP* **P 16 51 42.9 +1.6**
comp=Z,134nm,0.9s,mb5.7
119A Ashpeak Ranch, 29.78 318 P **P 16 51 43.7 +1.1**
baz=30,SNR=9.9
218A Dragoon 29.79 316 ⇑P **P 16 51 43.4 +0.7**
baz=30
217A Green Valley 30.20 315 P **P 16 51 47.2 +0.9**
baz=30,SNR=7.0
ALLY Alegheny Colle 30.21 9 *eP* **P 16 51 46.8 +0.6**
comp=Z,205nm,1.1s,mb5.8
Z18A Geronimo 30.46 318 ⇓P **P 16 51 49.4 +0.8**
baz=30
AAM Ann Arbor 30.48 4 *eP* **P 16 51 49.1 +0.5**
comp=Z,133nm,1.1s,mb5.6
AAM Ann Arbor 30.48 4 *eP* **P 16 51 49.1 +0.5**
AAM pmax pmax
comp=Z,133nm,1.1s,mb5.6
TUC Tucson 30.49 316 *eP* **P 16 51 49.5 +0.7**
comp=Z,6.8nm,1.0s,mb4.3
TUC Tucson 30.49 316 *eP* **P 16 51 49.6 +0.7**
TUC pmax pmax
comp=Z,7.0nm,1.0s,mb4.3
ERPA Erie 30.69 9 *eP* **P 16 51 51.4 +0.8**
comp=Z,400nm,1.1s,mb6.1
216A Three Points, 30.77 315 ⇓P **P 16 51 52.0 +0.6**
baz=31
PAL Palisades 31.04 18 *eP* **P 16 51 54.9 +1.4**
comp=Z,149nm,1.4s,mb5.5
PAL Palisades 31.04 18 *eP* **P 16 51 54.9 +1.4**
PAL pmax pmax
comp=Z,149nm,1.4s,mb5.5
SDCO Great Sand Dun 31.12 329 P **P 16 51 51.1 -3.1**
comp=Z,14nm,0.8s,mb4.7
JFWS Jewell Farm 31.22 354 *eP* **P 16 51 53.8 -1.3**
comp=Z,124nm,1.0s,mb5.6
JFWS Jewell Farm 31.22 354 *eP* **P 16 51 53.8 -1.3**
JFWS pmax pmax
comp=Z,124nm,1.0s,mb5.6
116A Eloy 31.27 315 ⇓P **P 16 51 56.4 +0.7**
baz=31
BINY Binghamton 31.57 15 *eP* **P 16 51 59.6 +1.4**
comp=Z,271nm,0.9s,mb6.0
115A Sonoran Desert 31.71 315 ⇓P **P 16 52 00.4 +0.8**
baz=32
Y16A Circle Bar Ran 31.90 318 P **P 16 52 02.5 +1.3**
baz=32,SNR=12
X16A Lo Mia Camp, P 32.20 319 P **P 16 52 05.0 +1.1**
baz=32,SNR=16
MVCO Mesa Verde 32.30 325 *eP* **P 16 52 04.9 +0.3**
comp=Z,18nm,0.9s,mb4.8
Y15A Casa Rosa Ranc 32.51 317 ⇓P **P 16 52 06.8 +0.2**
baz=32
Z14A Wintersburg 32.58 316 ⇓P **P 16 52 08.4 +1.2**
baz=32
BRYW Bryant College 32.63 20 *eP* **P 16 52 08.6 +1.1**
comp=Z,81nm,1.2s,mb5.3
QUA2 Belchertown 32.68 19 *eP* **P 16 52 09.6 +1.7**
comp=Z,247nm,1.3s,mb5.8
X15A Humboldt 32.77 318 P **P 16 52 09.9 +1.1**
baz=33,SNR=10
Y14A Wickenburg 32.95 316 P **P 16 52 11.1 +0.7**
baz=33,SNR=6.3
ECSD EROS,Sioux Fal 33.09 346 *eP* **P 16 52 09.9 -1.6**
comp=Z,33nm,0.7s,mb5.2
LPAZ La Paz 33.11 147 P **P 16 52 13.4 +1.5**
LPAZ ScP ScP 16 58 26.4 +2.6
LPAZ La Paz 33.11 147 P **P 16 52 13.4 +1.5**
comp=Z,1.0nm,0.5s,baz=336,slow=8.9,SNR=6.7
LPAZ ScP ScP 16 58 26.4 +2.6
comp=Z,1.3nm,0.9s,baz=287,slow=5.2,SNR=4.4
WES Weston 33.12 20 *eP* **P 16 52 12.7 +1.0**
comp=Z,276nm,1.4s,mb5.8
WES Weston 33.12 20 *eP* **P 16 52 12.7 +1.0**
WES pmax pmax
comp=Z,276nm,1.4s,mb5.8
X14A Yava 33.19 317 P **P 16 52 13.2 +0.8**
baz=33,SNR=9.7
W15A Williams 33.21 319 ⇓P **P 16 52 13.7 +1.1**
baz=33,SNR=5.2
ACCN Adirondack Com 33.29 17 *eP* **P 16 52 14.2 +1.0**
comp=Z,130nm,1.4s,mb5.5
SADO Sadowa 33.42 9 P **P 16 52 14.6 +0.3**
SADO Sadowa 33.42 9 P **P 16 52 14.6 +0.3**
baz=209,slow=9.0
Y13A Salome 33.44 315 P **P 16 52 15.8 +1.0**
baz=33,SNR=6.9
NCB Newcomb 33.68 16 *eP* **P 16 52 17.3 +0.7**
comp=Z,92nm,1.2s,mb5.4
GLA Glamis 33.72 313 P **P 16 52 18.3 +1.1**
baz=34,SNR=7.7
W14A Seligman 33.76 318 P **P 16 52 18.9 +1.5**
baz=34,SNR=6.3
T16A Glen Canyon Da 33.88 322 ⇑P **P 16 52 19.6 +1.1**
baz=34
Y12C Blythe 33.89 315 ⇑P **P 16 52 19.5 +0.9**
baz=34
X13A Yucca 33.89 317 P **P 16 52 19.4 +0.8**
baz=34,SNR=9.0
PDMCI Parker Dam,Lak 33.93 316 P **P 16 52 19.9 +0.9**
baz=34,SNR=9.5
FFD Franklin Falls 33.98 19 *eP* **P 16 52 20.2 +1.1**
comp=Z,249nm,1.2s,mb5.8

HNH Hanover 33.99 18 *eP* **P 16 52 20.7 +1.4**
comp=Z,50nm,0.9s,mb5.2
V14A Boquillas Ranc 34.03 319 ⇑P **P 16 52 20.8 +1.0**
baz=34,SNR=11
LONY Lake Ozonia 34.20 15 *eP* **P 16 52 21.6 +0.6**
comp=Z,293nm,1.2s,mb5.9
W13A Hualapai Mount 34.22 317 P **P 16 52 22.9 +1.5**
baz=34,SNR=13
COWI Conover 34.29 356 *eP* **P 16 52 20.6 -1.2**
comp=Z,69nm,0.8s,mb5.4
SWSC Sam W. Stewart 34.36 313 ⇑P **P 16 52 23.8 +1.1**
baz=34
DVTC Desert V Tower 34.44 312 ⇓P **P 16 52 24.1 +0.8**
baz=34
T15A Red Dirt Ranch 34.44 321 P **P 16 52 24.6 +1.3**
baz=34,SNR=6.8
MSNY Massena 34.48 14 *eP* **P 16 52 24.5 +1.0**
IRM Iron Mountain 34.55 315 ⇓P **P 16 52 25.2 +1.0**
baz=34
U14A Mt Trumbull 34.56 320 ⇓P **P 16 52 25.0 +0.7**
baz=34,SNR=12
LBNH Lisbon 34.58 18 *eP* **P 16 52 25.9 +1.6**
comp=Z,102nm,1.2s,mb5.3
LBNH Lisbon 34.58 18 *eP* **P 16 52 26.0 +1.6**
LBNH pmax pmax
comp=Z,102nm,1.2s,mb5.3
FRNY Flat Rock 34.65 16 *eP* **P 16 52 25.4 +0.4**
comp=Z,124nm,1.4s,mb5.3
SRU San Rafael 34.77 326 *eP* **P 16 52 26.6 +0.5**
comp=Z,14nm,0.7s,mb4.7
SRU San Rafael 34.77 326 *eP* **P 16 52 26.6 +0.5**
SRU pmax pmax
comp=Z,14nm,0.7s,mb4.7
T14A Hurricane 34.90 321 ⇑P **P 16 52 27.7 +0.4**
baz=35
BELC Belle Mtn. 35.05 314 ⇑P **P 16 52 29.6 +1.0**
baz=35
U13A Pakon Wash 35.05 319 P **P 16 52 29.9 +1.3**
baz=35,SNR=11
PFO Pinyon Flat Ob 35.18 313 P **P 16 52 30.3 +0.7**
comp=Z,11nm,1.1s,mb4.4,baz=108,slow=4.4,SNR=4.2
PFO Pinyon Flat Ob 35.18 313 ⇑P **P 16 52 30.3 +0.7**
baz=35
V12A Nelson 35.23 317 ⇑P **P 16 52 31.0 +1.0**
baz=35
GMRC Granite Mounta 35.24 315 ⇑P **P 16 52 31.4 +1.3**
baz=35
MSU Marysvale 35.30 323 *eP* **P 16 52 31.3 +0.7**
T13A Saint George 35.39 320 ⇑P **P 16 52 32.2 +0.8**
baz=35
ARUT Antelope Range 35.58 321 *eP* **P 16 52 33.5 +0.5**
V11A Goodsprings 35.67 317 ⇑P **P 16 52 34.7 +0.9**
baz=36
S13A Holt Ranch, En 35.71 321 P **P 16 52 35.7 +1.6**
baz=36,SNR=15
RSSD Black Hills 35.71 338 P **P 16 52 34.2 +0.2**
comp=Z,3.0nm,0.4s,mb4.3
RSSD Black Hills 35.71 338 P **P 16 52 34.2 +0.2**
RSSD pmax pmax
comp=Z,3.0nm,0.4s,mb4.3
HEC Hector,Ludlow 35.73 315 ⇑P **P 16 52 35.7 +1.3**
baz=36
TUQ Turquoise Mtn. 35.78 316 ⇓P **P 16 52 36.1 +1.3**
baz=36
MPU Maple Canyon 36.01 326 *eP* **P 16 52 37.2 +0.5**
comp=Z,30nm,1.2s,mb4.8
DAU Daniels Canyon 36.09 327 *eP* **P 16 52 36.9 -0.4**
EYMN Ely 36.32 354 *eP* **P 16 52 37.4 -1.8**
comp=Z,42nm,1.1s,mb5.0
S12A Delamar Landin 36.34 320 ⇓P **P 16 52 40.6 +1.1**
baz=36
PKME Peaks-Kenny Pk 36.35 20 *eP* **P 16 52 41.1 +1.6**
comp=Z,174nm,1.2s,mb5.6
T11A Corn Creek, Al 36.35 319 ⇓P **P 16 52 40.3 +0.6**
baz=36
U10A Ash Meadows, A 36.60 317 ⇑P **P 16 52 42.4 +0.6**
baz=37,SNR=5.7
R12A Pony Springs, 36.63 321 P **P 16 52 43.4 +1.4**
baz=37,SNR=9.4
DUG Dugway 36.79 325 *eP* **P 16 52 43.3 0.0**
comp=Z,16nm,1.3s,mb4.5
DUG Dugway 36.79 325 *eP* **P 16 52 43.3 0.0**
DUG pmax pmax
comp=Z,17nm,1.3s,mb4.5
TPNV Topopah Spring 36.85 318 *eP* **P 16 52 44.6 +0.7**
comp=Z,15nm,0.9s,mb4.6
TPNV Topopah Spring 36.85 318 *eP* **P 16 52 44.6 +0.7**
TPNV pmax pmax
comp=Z,15nm,0.9s,mb4.6
EDW2 Edwards Air Fo 36.92 314 ⇑P **P 16 52 45.7 +1.2**
baz=37
S11A Rachel 36.93 319 P **P 16 52 46.4 +1.9**
baz=37,SNR=7.1
PDAR Pinedale Array 36.96 331 P **P 16 52 44.1 -0.5**
comp=Z,6.3nm,0.7s,mb4.3,baz=130,slow=10,SNR=42
PDAR PcP PcP 16 55 03.1 +0.1
comp=Z,0.4nm,0.6s,baz=112,slow=1.6,SNR=2.4
PDAR ScP ScP 16 58 37.8 +0.5
comp=Z,0.8nm,0.9s,baz=116,slow=3.4,SNR=4.8
FURC Furnace Creek, 36.99 317 ⇓P **P 16 52 46.3 +1.3**
baz=37
P13A Bates Ranch, G 36.99 323 P **P 16 52 46.2 +1.2**
baz=37,SNR=20
LRMC Laurel Mountai 37.02 315 P **P 16 52 46.4 +1.2**
baz=37,SNR=6.4
HWUT Hardware Ranch 37.10 328 *eP* **P 16 52 45.5 -0.4**
comp=Z,22nm,0.8s,mb4.8
MPMC Manual Prospec 37.19 316 P **P 16 52 47.7 +1.0**
baz=37,SNR=7.2
Q12A Willow Creek R 37.21 322 P **P 16 52 48.1 +1.2**
baz=37,SNR=6.6
R11A Troy Canyon, C 37.25 320 P **P 16 52 48.2 +1.0**
baz=37,SNR=11
AGMN Agassiz Refuge 37.29 349 *eP* **P 16 52 45.9 -1.4**
comp=Z,47nm,0.5s,mb5.4
BGU Big Grassy Mou 37.41 326 *eP* **P 16 52 48.2 -0.3**
O13A Hicks Ranch, I 37.42 324 ⇑P **P 16 52 49.1 +0.5**
baz=37
N14A Grayback Hills 37.45 325 ⇑P **P 16 52 49.2 +0.4**
baz=38
M15A Larsen Ranch, 37.47 327 ⇓P **P 16 52 49.4 +0.4**
baz=38
P12A McGill 37.53 322 P **P 16 52 50.5 +1.0**
baz=38,SNR=10.0
Q11A Duckwater 37.60 321 ⇓P **P 16 52 50.9 +0.8**
baz=38
GRAC Grapevine Rang 37.62 317 P **P 16 52 51.9 +1.6**
baz=38,SNR=6.2
S10A Tonopah Range, 37.64 319 P **P 16 52 51.7 +1.2**
baz=38,SNR=5.4
R10A Warm Springs 37.67 320 P **P 16 52 52.2 +1.5**
baz=38,SNR=7.3
S09A Goldfield 37.93 318 ⇓P **P 16 52 53.5 +0.5**
baz=38
O12A Currie 37.95 323 P **P 16 52 53.7 +0.7**
baz=38,SNR=11
M14A Sheep Mountain 37.98 326 P **P 16 52 53.8 +0.5**
baz=38,SNR=13
N13A Wendover, West 38.02 325 P **P 16 52 54.9 +1.2**
baz=38,SNR=11
REDW Red Top Meadow 38.03 330 P **P 16 52 51.9 -1.8**
comp=Z,27nm,0.7s,mb5.0
Q10A Clear Creek Ra 38.05 320 P **P 16 52 55.4 +1.4**
baz=38,SNR=22
SNOW Snow King Moun 38.06 331 *eP* **P 16 52 52.6 -1.3**
comp=Z,13nm,0.4s,mb4.9
LOHW Long Hollow 38.10 331 *eP* **P 16 52 53.7 -0.5**
comp=Z,8.0nm,0.5s,mb4.6
R09A Tonopah 38.13 319 P **P 16 52 55.9 +1.3**
baz=38,SNR=11
VES Vestal, Richgr 38.17 314 ⇓P **P 16 52 55.7 +0.7**
baz=38
TPAW Teton Pass 38.17 330 *eP* **P 16 52 55.7 +0.9**
comp=Z,21nm,1.0s,mb4.7
MOOW Moose Ponds 38.27 331 *eP* **P 16 52 54.2 -1.5**
comp=Z,7.2nm,0.9s,mb4.3
M13A Montello 38.34 325 ⇑P **P 16 52 56.6 +0.4**
baz=38
O11A Cowboy Ranch, 38.40 323 P **P 16 52 57.7 +0.9**
baz=38,SNR=5.8
S08C White Mtn Res 38.43 317 ⇑P **P 16 52 58.1 +1.0**
baz=38,SNR=11
IMW Indian Meadow 38.47 331 *eP* **P 16 52 55.5 -1.9**
comp=Z,8.9nm,0.7s,mb4.5
N12A Clover Valley, 38.50 324 P **P 16 52 58.6 +1.0**
baz=38,SNR=18
FLWY Flagg Ranch 38.50 331 *eP* **P 16 52 57.7 +0.1**
comp=Z,13nm,0.9s,mb4.6

Q09A Carvers 38.55 320 ⇑P **P 16 52 59.4 +1.3**
baz=38
HELL Mitchell Peak 38.56 316 P **P 16 52 59.5 +1.2**
baz=38,SNR=10
P10A Eureka 38.57 321 ⇓P **P 16 52 59.0 +0.8**
baz=39
K14A Jones Ranch, D 38.61 327 ⇑P **P 16 52 58.5 0.0**
baz=39
L13A Double Diamond 38.71 326 ⇓P **P 16 52 59.9 +0.5**
baz=39
M12A Wells 38.80 325 P **P 16 53 00.5 +0.3**
baz=39,SNR=5.9
P09A Austin 38.94 321 ⇑P **P 16 53 01.8 +0.4**
baz=39
O10A Cortez Mining, 39.00 322 ⇓P **P 16 53 02.6 +0.8**
baz=39,SNR=6.4
NVAR Mina Array Bea 39.03 318 P **P 16 53 02.9 +0.8**
NVAR PcP PcP 16 55 10.3 +0.7
NVAR ScP ScP 16 58 46.6 +1.3
NVAR Mina Array Bea 39.03 318 P **P 16 53 02.9 +0.8**
comp=Z,9.5nm,0.8s,mb4.5,baz=122,slow=8.8,SNR=51
NVAR PcP PcP 16 55 10.3 +0.7
comp=Z,0.9nm,0.6s,baz=119,slow=3.7,SNR=4.8
NVAR ScP ScP 16 58 46.6 +1.3
comp=Z,0.2nm,0.3s,baz=120,slow=4.7,SNR=3.8
Q08A Gabbs 39.04 319 ⇓P **P 16 53 02.7 +0.6**
baz=39,SNR=6.7
KCC Kaiser Creek 39.10 316 P **P 16 53 03.6 +0.9**
baz=39,SNR=5.9
ULM Lac du Bonnet 39.18 350 P **P 16 53 01.2 -2.0**
ULM Lac du Bonnet 39.18 350 P **P 16 53 01.2 -1.9**
comp=Z,35nm,0.8s,mb5.0,baz=168,slow=8.3,SNR=52
O09A Fish Creek Ran 39.34 321 ⇓P **P 16 53 05.3 +0.6**
baz=39
DGMT Dagmar 39.55 341 *eP* **P 16 53 05.9 -0.3**
comp=Z,30nm,0.6s,mb5.1
K12A Draper Farm, C 39.60 326 P **P 16 53 07.1 +0.3**
baz=40,SNR=5.4
J13A Cove Ranch, Pi 39.73 328 P **P 16 53 08.1 +0.2**
baz=40,SNR=7.7
S05C Merced 39.80 316 ⇑P **P 16 53 09.4 +0.9**
baz=40
R06C Coleville 39.83 318 ⇑P **P 16 53 09.4 +0.6**
baz=40,SNR=13
N09A Rock Creek Ran 39.96 322 P **P 16 53 10.1 +0.3**
baz=40,SNR=22
HLID Hailey 39.97 328 *eP* **P 16 53 09.4 -0.4**
comp=Z,7.4nm,0.6s,mb4.5
HLID Hailey 39.97 328 P **P 16 53 09.8 0.0**
baz=40,SNR=14
I13A Wildhorse Cree 40.06 328 ⇓P **P 16 53 11.1 +0.5**
baz=40,SNR=22
BOZ Bozeman (W) 40.12 332 *eP* **P 16 53 10.2 -0.7**
comp=Z,6.0nm,0.6s,mb4.4
BOZ Bozeman (W) 40.12 332 *eP* **P 16 53 10.2 -0.8**
BOZ pmax pmax
comp=Z,6.0nm,0.6s,mb4.4
G15A Dillon 40.16 331 P **P 16 53 12.2 +0.8**
baz=40,SNR=10
CMB Columbia Colle 40.20 317 ⇓P **P 16 53 11.8 0.0**
baz=40
N08A GE Springer Mi 40.29 322 P **P 16 53 12.6 +0.1**
baz=40,SNR=8.0
K11A Parker Ranch, 40.31 325 P **P 16 53 12.7 0.0**
baz=40,SNR=13
R05C Kirkwood Meado 40.34 318 ⇓P **P 16 53 13.7 +0.7**
baz=40,SNR=11
H13A Challis 40.59 329 P **P 16 53 15.3 +0.4**
baz=41,SNR=15
MFID Camas Ranch 40.63 326 P **P 16 53 16.6 +1.4**
baz=41,SNR=6.1
F15A Butte 40.66 332 P **P 16 53 15.8 +0.3**
baz=41,SNR=12
G14A Jackson 40.68 330 ⇓P **P 16 53 15.7 0.0**
baz=41
R04C Big Horse Ranc 40.68 316 ⇑P **P 16 53 16.8 +1.0**
baz=41
L09A Wilkinson Ranc 40.76 323 P **P 16 53 16.7 +0.3**
baz=41,SNR=6.8
N07B Gerlach 40.80 321 ⇑P **P 16 53 17.7 +1.0**
baz=41
LAVA Lava Cap Winer 40.81 317 ⇓P **P 16 53 16.9 0.0**
baz=41
M08A Happy Creek Ra 40.84 322 P **P 16 53 17.3 +0.3**
baz=41,SNR=7.1
H12A Diamond D Ranc 40.89 328 P **P 16 53 17.7 +0.4**
baz=41,SNR=14
G13A Cobalt 40.95 329 P **P 16 53 17.8 -0.1**
baz=41,SNR=6.9
O06A Flanigan 40.98 320 P **P 16 53 18.7 +0.5**
baz=41,SNR=14
P05C Yuba Gap, Truc 41.02 318 ⇑P **P 16 53 18.7 +0.2**
baz=41,SNR=5.7
BEKR Beckwourth 41.16 319 P **P 16 53 19.8 +0.2**
baz=41,SNR=17
E15A Deer Lodge 41.16 332 P **P 16 53 19.6 0.0**
baz=41,SNR=8.2
K09A Rome 41.22 324 P **P 16 53 20.6 +0.5**
baz=41,SNR=43
L08A Fields 41.27 323 P **P 16 53 20.6 +0.1**
baz=41,SNR=12
M07A Soldier Meadow 41.28 322 P **P 16 53 20.4 -0.2**
baz=41,SNR=7.5
Q04C Lincoln 41.28 317 ⇑P **P 16 53 21.3 +0.6**
baz=41
N06A Buffalo Meadow 41.32 320 P **P 16 53 20.5 -0.4**
baz=41,SNR=8.1
F13A Darby 41.50 330 P **P 16 53 22.0 -0.3**
baz=42,SNR=13
E14A Clinton 41.55 331 ⇑P **P 16 53 22.5 -0.3**
baz=42,SNR=6.4
O05C Quincy 41.57 319 ⇑P **P 16 53 23.4 +0.4**
baz=42
D15A Lincoln 41.57 333 P **P 16 53 22.9 0.0**
baz=42,SNR=5.8
H11A Donnelly 41.59 328 P **P 16 53 22.9 -0.2**
baz=42,SNR=9.8
I10A Payette 41.60 326 ⇑P **P 16 53 23.8 +0.6**
baz=42
OHCM Honcut 41.61 318 *eP* **P 16 53 22.9 -0.4**
J09A Fry Pan Ranch, 41.65 325 P **P 16 53 24.1 +0.5**
baz=42,SNR=5.7
K08A Mann Creek Ran 41.68 324 P **P 16 53 24.2 +0.3**
baz=42,SNR=22
ORV Oroville 41.73 318 P **P 16 53 25.3 +0.9**
baz=42,SNR=10
L07A Adell 41.75 322 P **P 16 53 24.2 -0.2**
baz=42,SNR=21
SUTB Sutter Butte 41.75 317 ⇑P **P 16 53 25.1 +0.6**
baz=42
CVS Carmenet Viney 41.76 316 ⇓P **P 16 53 25.6 +1.0**
baz=42
ELFS Eagle Lake Fie 41.81 320 P **P 16 53 26.0 +1.1**
baz=42,SNR=15
O04C Chester 41.87 319 ⇑P **P 16 53 26.1 +0.7**
baz=42
E13A Victor 41.90 331 P **P 16 53 25.4 -0.2**
baz=42,SNR=11
F12A Elk City 41.93 329 P **P 16 53 25.4 -0.5**
baz=42,SNR=25
M06C Likely Place G 41.98 321 ⇓P **P 16 53 26.5 +0.2**
baz=42
MNRC McLaughlin Nat 42.02 316 ⇑P **P 16 53 27.0 +0.3**
baz=42
I09A Lost Marbles R 42.04 326 P **P 16 53 26.6 -0.2**
baz=42,SNR=13
D14A Greenough 42.05 332 ⇓P **P 16 53 26.3 -0.5**
baz=42
J08A Circle Bar Ran 42.06 324 P **P 16 53 26.9 0.0**
baz=42,SNR=7.7
K07A Rock Creek Ran 42.10 323 P **P 16 53 26.9 -0.4**
baz=42,SNR=20
G11A Walters Elk Ra 42.20 328 P **P 16 53 27.2 -0.8**
baz=42,SNR=16
MOD Modoc 42.27 321 ⇑P **P 16 53 28.3 -0.3**
baz=42
BMO Blue Mountains 42.38 327 *eP* **P 16 53 27.5 -2.0**
comp=Z,20nm,1.3s,mb4.6
HATC Hat Creek Radi 42.38 319 ⇑P **P 16 53 29.6 0.0**
baz=42
H09A Durkee 42.45 326 ⇓P **P 16 53 29.1 -1.0**
baz=42
I08A Drewsey 42.46 325 ⇑P **P 16 53 29.9 -0.3**
baz=42
M05C Lookout 42.48 320 ⇑P **P 16 53 29.9 -0.5**
baz=42
D13A Huson 42.50 331 P **P 16 53 30.1 -0.3**
baz=42,SNR=5.7

G10A	Bishop Farm, J	42.57	328	P	P	16 53 30.1	-0.9
	baz=43,SNR=6.5						
GASB	Alder Springs	42.59	317	⇓P	P	16 53 32.3	+1.0
	baz=42						
C14A	Swan Lake	42.67	333	⇑P	P	16 53 31.5	-0.3
	baz=43						
K06A	Valley Falls	42.76	323	⇑P	P	16 53 32.3	-0.3
	baz=43						
E11A	Bogner Ranch,	42.83	329	P	P	16 53 31.5	-1.6
	baz=43,SNR=8.5						
D12A	Red Ives Fores	42.90	331	P	P	16 53 33.0	-0.6
	baz=43,SNR=7.3						
H08A	Prairie City	42.90	326	⇑P	P	16 53 33.5	-0.2
	baz=43						
O02C	Red Bluff	42.90	318	⇑P	P	16 53 32.4	-1.4
	baz=43						
P01C	Double 8 Ranch	42.91	317	⇑P	P	16 53 35.1	+1.2
	baz=43						
WDC	Whiskeytown Da	42.95	318	⇓P	P	16 53 31.6	-2.6
	baz=43						
J06A	Christmas Vall	42.97	323	P	P	16 53 33.5	-0.8
	baz=43,SNR=6.7						
C13A	Hot Springs	42.98	332	⇓P	P	16 53 33.7	-0.6
	baz=43						
F10A	Beach Ranch, E	43.08	328	P	P	16 53 34.5	-0.6
	baz=43,SNR=9.4						
I07A	Izee	43.10	325	P	P	16 53 34.8	-0.5
	baz=43,SNR=6.7						
K05A	Summer Lake	43.10	322	⇓P	P	16 53 35.8	+0.5
	baz=43						
M04C	Macdoel	43.15	320	P	P	16 53 35.8	0.0
	baz=43,SNR=5.3						
KIPM	Iron Peak	43.18	317	eP	P	16 53 36.4	+0.4
I06A	Prineville	43.42	324	P	P	16 53 37.7	-0.2
	baz=43,SNR=6.5						
B13A	Whitefish	43.44	333	P	P	16 53 38.1	+0.2
	baz=44,SNR=5.0						
H07A	Lands Inn, Kim	43.45	325	P	P	16 53 37.4	-0.7
	baz=43,SNR=8.3						
K04A	Chilquin	43.54	321	⇓P	P	16 53 38.5	-0.4
	baz=44						
N02C	Big Bar	43.57	318	⇓P	P	16 53 39.0	-0.2
	baz=44						
J05A	Fort Rock	43.63	323	⇑P	P	16 53 39.2	-0.3
	baz=44						
YBH	Yreka Blue Hor	43.67	320	⇓P	P	16 53 39.3	-0.6
	baz=44						
D10A	Wagner Farm, O	43.84	329	P	P	16 53 40.2	-1.0
	baz=44,SNR=8.9						
G07A	Ruggs Ranch, H	43.92	326	⇑P	P	16 53 42.1	+0.1
	baz=44						
JCC	Jacoby Creek	44.04	318	⇓P	P	16 53 43.3	+0.4
	baz=44						
J04A	Umpqua Nationa	44.13	322	⇑P	P	16 53 43.7	+0.2
	baz=44						
B11A	Sandpoint	44.36	331	P	P	16 53 44.8	-0.5
	baz=44,SNR=5.4						
D09A	Jones Farm, Ri	44.37	329	P	P	16 53 46.1	+0.7
	baz=44,SNR=6.3						
HAWA	Hanford	44.56	327	eP	P	16 53 46.1	-0.8
	comp=Z,7.0nm,0.6s,mb4.5						
NEW	Newport	44.60	331	P	P	16 53 45.9	-1.3
NEW	Newport	44.60	331	P	P	16 53 45.9	-1.3
	comp=Z,2.4nm,0.5s,mb4.1,baz=115,slow=14,SNR=3.7						
FFC	Flin Flon	44.62	347	eP	P	16 53 46.2	-1.0
	comp=Z,14nm,0.7s,mb4.7						
FFC	Flin Flon	44.62	347	eP	P	16 53 46.2	-1.0
FFC				pmax	pmax		
	comp=Z,14nm,0.7s,mb4.7						
I04A	Tendick Farm,	44.62	322	P	P	16 53 46.7	-0.8
	baz=45,SNR=5.4						
D08A	Wollman Farm,	44.68	328	⇑P	P	16 53 47.6	-0.3
	baz=45						
J03A	Ideyld Park	44.72	322	⇓P	P	16 53 49.0	+0.7
	baz=45						
A11A	Hall Mountain,	44.73	332	P	P	16 53 48.5	+0.2
	baz=45,SNR=6.0						
G05A	Wamic	44.83	325	⇑P	P	16 53 49.7	+0.6
	baz=45						
E07A	Sunnyside	44.84	327	P	P	16 53 49.1	-0.1
	baz=45,SNR=9.8						
F06A	Goldendale	44.85	326	⇓P	P	16 53 49.7	+0.4
	baz=45						
H04A	Detroit Lake	45.00	324	P	P	16 53 50.1	-0.3
	baz=45,SNR=10						
J02A	Umpqua	45.09	321	⇓P	P	16 53 51.1	0.0
	baz=45						
B09A	Rice	45.20	330	⇑P	P	16 53 51.1	-1.0
	baz=45						
I03A	Eugene	45.24	322	⇓P	P	16 53 52.3	-0.1
	baz=45						
F05A	White Salmon	45.30	325	⇓P	P	16 53 52.8	+0.1
	baz=45						
E06A	Yakima	45.44	326	⇑P	P	16 53 53.9	0.0
	baz=45						
SCHQ	Schefferville	45.56	16	P	P	16 53 53.8	-0.9
	comp=Z,65nm,1.0s,mb5.2,baz=212,slow=6.0,SNR=35						
SCHQ				LR	LR	17 12 41.8	
	comp=Z,140nm,19.8s,baz=77,slow=36						
B08A	Colville Reser	45.74	329	⇓P	P	16 53 55.4	-0.9
	baz=46						
A09A	Danville	45.79	330	⇓P	P	16 53 55.6	-1.0
	baz=46						
E05A	Randle	45.87	326	⇓P	P	16 53 57.3	0.0
	baz=46						
G03A	Yamhill	46.00	324	⇑P	P	16 53 58.1	-0.2
	baz=46						
A08A	Turner Farm, O	46.11	330	⇑P	P	16 53 58.5	-0.7
	baz=46						
D05A	Enumclaw	46.38	327	⇓P	P	16 54 00.9	-0.3
	baz=46						
E04A	Onalaska	46.42	325	⇓P	P	16 54 01.7	+0.1
	baz=46						
C05A	Tolt Reservoir	46.53	327	⇑P	P	16 54 02.4	0.0
	baz=46						
BDFB	Brasilia	46.56	125	P	P	16 54 02.0	-1.1
	comp=Z,4.5nm,0.9s,mb4.1,baz=288,slow=14,SNR=7.2						
EDM	Edmonton	46.70	338	P	P	16 54 01.4	-2.2
A07A	Ashnola River,	46.72	329	P	P	16 54 04.2	+0.3
	baz=47,SNR=6.0						
B06A	Marblemount	46.94	328	⇑P	P	16 54 05.5	0.0
	baz=47						
FCC	Fort Churchill	47.26	354	eP	P	16 54 06.1	-1.8
	comp=Z,50nm,1.1s,mb5.1						
FCC	Fort Churchill	47.26	354	eP	P	16 54 06.1	-1.8
FCC				pmax	pmax		
	comp=Z,50nm,1.1s,mb5.1						
PLCA	Paso Flores	54.21	165	P	P	16 55 01.0	+0.8
PLCA				PcP	PcP	16 56 03.6	+0.7
PLCA	Paso Flores	54.21	165	P	P	16 55 01.0	+0.8
	comp=Z,32nm,0.9s,mb5.0,baz=339,slow=7.9,SNR=36						
PLCA				PcP	PcP	16 56 03.6	+0.7
	comp=Z,5.3nm,0.9s,baz=327,slow=5.9,SNR=2.4						
YKA	Yellowknife Ar	54.59	344	P	P	16 55 00.9	-1.7
YKA				pP	pP	16 55 31.2	-3.5
YKA				ScP	ScP	16 59 49.5	-0.1
YKA	Yellowknife Ar	54.59	344	P	P	16 55 00.9	-1.7
YKA				*PP	pP	16 55 31.2	-3.5
YKA	Yellowknife Ar	54.59	344	P	P	16 55 00.9	-1.7
	comp=Z,3.5nm,0.5s,mb4.3,baz=137,slow=7.3,SNR=37						
YKA				pP	pP	16 55 31.2	-3.5
	comp=Z,2.9nm,0.9s,baz=137,slow=7.6,SNR=2.9						
YKA				ScP	ScP	16 59 49.5	-0.1
	comp=Z,0.2nm,0.3s,baz=303,slow=32,SNR=4.2						
RKT	Rikitea	59.04	234	eT		17 59 31.1	
	comp=Z,3.1nm,0.3s						
SFJD	Kangerlussuaq	60.02	15	eP	P	16 55 39.0	-1.7
	comp=Z,42nm,1.3s,mb5.1						
SFJD	Kangerlussuaq	60.02	15	⇑iP	P	16 55 39.8	-0.8
SFJD				pmax	pmax		
	comp=Z,23nm,1.1s,mb4.9						
SFJD	Kangerlussuaq	60.02	15	P	P	16 55 39.7	-1.0
	comp=Z,23nm,1.1s,mb4.9,baz=186,slow=6.8,SNR=5.9						
SFJD	Kangerlussuaq	60.02	15	⇑iP	P	16 55 39.8	-0.8
	comp=Z,23nm,1.1s,mb4.9						
SFJD				e		17 00 16.5	
DAWY	Dawson	63.90	337	eP	P	16 56 05.0	-1.7
INK	Inuvik	64.22	342	eP	P	16 56 06.7	-1.9
	comp=Z,537nm,1.1s						
INK	Inuvik	64.22	342	P	P	16 56 07.7	-1.0
	comp=Z,11nm,1.0s,mb4.6,baz=140,slow=9.0,SNR=21						
COLA	College	67.56	336	iP	P	16 56 28.8	-1.3
BORG	Borgarnes	68.78	25	LR	LR	17 27 46.5	
	comp=Z,115nm,20.8s,baz=135,slow=37						
PPT	Papeete	69.08	246	eLR	LR	17 17 49.3	
	comp=Z,420nm,39.5s						
PPT	Papeete	69.08	246	LR	LR	17 21 14.7	
	comp=Z,11nm,19.5s,baz=79,slow=31						
SVW2	Sparrevohn	69.84	331	eP	P	16 56 40.8	-3.5
TTA	Tatalina	70.44	333	eP	P	16 56 46.3	-1.6
TBI	Tubuai	71.07	240	eLR	LR	17 18 44.7	
	comp=Z,116nm,32.2s						
EVO	Evora	73.52	53	eP	P	16 57 04.5	-2.3
	comp=Z,16nm,1.1s,mb4.3						
EVO				eMLR	MLR		
	comp=Z,122nm,20.2s						
UNV	Unalaska Valle	74.88	323	P	P	16 57 13.5	-0.9
	comp=Z,10.0nm,0.5s,mb4.7						
JMIC	Jan Mayen	74.91	19	LR	LR	17 31 05.5	
	comp=Z,119nm,19.2s,baz=17,slow=36						
EKA	Eskdalemuir Ar	76.42	36	P	P	16 57 19.6	-3.5
	comp=Z,10.0nm,1.0s,mb4.4,baz=272,slow=5.8,SNR=9.3						
EKA				pP	pP	16 57 54.5	-2.7
	comp=Z,3.5nm,1.0s,baz=266,slow=7.4,SNR=3.4						
ROSF	Rostrenen	76.58	43	eP	P	16 57 22.4	-1.7
	comp=Z,25nm,1.2s,mb4.4						
ROSF	Rostrenen	76.58	43	eP	P	16 57 22.4	-1.7
	comp=Z,13nm,1.2s,mb4.4						
ROSF	Rostrenen	76.58	43	eP	P	16 57 22.4	-1.7
ROSF				pmax	pmax		
	comp=Z,13nm,1.2s,mb4.4						
ESDC	Sonseca Array	76.61	52	P	P	16 57 23.2	-1.3
	comp=Z,1.5nm,0.6s,baz=282,slow=5.1,SNR=9.5						
ESDC				pP	pP	16 57 56.0	-2.6
	comp=Z,2.9nm,0.9s,baz=286,slow=6.1,SNR=3.7						
MDT	Midelt	76.66	59	LR	LR	17 25 23.2	
	comp=Z,91nm,21.5s,baz=98,slow=31						
QUIF	Quistinic	76.67	43	eP	P	16 57 22.4	-2.3
	comp=Z,44nm,1.3s,mb4.6						
QUIF				epP	pP	16 57 56.8	-2.0
QUIF	Quistinic	76.67	43	eP	P	16 57 22.4	-2.3
	comp=Z,22nm,1.3s,mb4.6						
QUIF				epP	pP	16 57 56.8	-2.0
QUIF	Quistinic	76.67	43	eP	P	16 57 22.4	-2.3
QUIF				e*PP	pP	16 57 56.8	-2.0
QUIF				pmax	pmax		
	comp=Z,22nm,1.3s,mb4.6						
SGMF	Saint Gilles	77.06	43	eP	P	16 57 24.7	-2.1
GRR	Gorron	78.19	43	eP	P	16 57 31.1	-2.0
	comp=Z,16nm,0.7s,mb4.5						
GRR				epP	pP	16 58 05.1	-2.2
GRR	Gorron	78.19	43	eP	P	16 57 31.1	-2.0
	comp=Z,7.9nm,0.7s,mb4.5						
GRR				epP	pP	16 58 05.1	-2.2
GRR	Gorron	78.19	43	eP	P	16 57 31.1	-2.0
GRR				e*PP	pP	16 58 05.1	-2.2
GRR				pmax	pmax		
	comp=Z,8.0nm,0.7s,mb4.5						
SJPF	Ste Jean	78.38	48	eP	P	16 57 32.0	-2.2
	comp=Z,35nm,1.3s,mb4.5						
SJPF				epP	pP	16 58 06.9	-1.6
SJPF	Ste Jean	78.38	48	eP	P	16 57 32.0	-2.2
	comp=Z,17nm,1.3s,mb4.5						
SJPF				epP	pP	16 58 06.9	-1.6
SJPF	Ste Jean	78.38	48	eP	P	16 57 32.0	-2.2
SJPF				e*PP	pP	16 58 06.9	-1.6
SJPF				pmax	pmax		
	comp=Z,17nm,1.3s,mb4.5						
FLN	La Foliniere	78.41	42	eP	P	16 57 32.6	-1.7
FLN				eMLR	MLR		
	comp=Z,66nm,18.0s						
FLN	La Foliniere	78.41	42	eP	P	16 57 32.6	-1.7
FLN				MLR	MLR		
	comp=Z,70nm,18.0s						
LDF	La Druitiere	78.66	42	eP	P	16 57 33.7	-1.9
	comp=Z,37nm,1.2s,mb4.6						
LDF	La Druitiere	78.66	42	eP	P	16 57 33.7	-1.9
	comp=Z,18nm,1.2s,mb4.6						
LDF	La Druitiere	78.66	42	eP	P	16 57 33.7	-1.9
LDF				pmax	pmax		
	comp=Z,18nm,1.2s,mb4.6						
MFF	Saint Martin d	78.82	45	eP	P	16 57 34.7	-1.9
	comp=Z,22nm,1.1s,mb4.4						
MFF	Saint Martin d	78.82	45	eP	P	16 57 34.7	-1.9
	comp=Z,11nm,1.1s,mb4.4						
MFF	Saint Martin d	78.82	45	eP	P	16 57 34.7	-1.9
MFF				pmax	pmax		
	comp=Z,11nm,1.1s,mb4.4						
ETSF	Etsaut	78.88	48	eP	P	16 57 34.9	-2.1
EPF	Esparros	79.52	48	eP	P	16 57 38.3	-2.2
EPF				epP	pP	16 58 12.9	-1.9
RJF	Les Rejaudoux	80.11	46	eP	P	16 57 41.6	-2.0
RJF				eMLR	MLR		
	comp=Z,84nm,19.2s						
RJF	Les Rejaudoux	80.11	46	eP	P	16 57 41.6	-2.0
RJF				MLR	MLR		
	comp=Z,80nm,19.3s						
TCF	Toulx Ste Croi	80.47	45	eP	P	16 57 43.5	-2.0
TCF				epP	pP	16 58 17.3	-2.6
CAF	Calviac	80.54	46	eP	P	16 57 43.8	-2.1
	comp=Z,27nm,1.5s,mb4.4						
CAF				epP	pP	16 58 18.0	-2.3
CAF	Calviac	80.54	46	eP	P	16 57 43.8	-2.1
	comp=Z,14nm,1.5s,mb4.3						
CAF				epP	pP	16 58 18.0	-2.3
CAF	Calviac	80.54	46	eP	P	16 57 43.8	-2.1
CAF				e*PP	pP	16 58 18.0	-2.3
CAF				pmax	pmax		
	comp=Z,14nm,1.5s,mb4.4						
MTLF	Montolieu	80.85	48	eP	P	16 57 45.2	-2.4
	comp=Z,26nm,1.3s,mb4.4						
MTLF				epP	pP	16 58 19.7	-2.3
MTLF	Montolieu	80.85	48	eP	P	16 57 45.2	-2.4
	comp=Z,13nm,1.3s,mb4.4						
MTLF				epP	pP	16 58 19.7	-2.3
MTLF	Montolieu	80.85	48	eP	P	16 57 45.2	-2.4
MTLF				e*PP	pP	16 58 19.7	-2.3
MTLF				pmax	pmax		
	comp=Z,13nm,1.3s,mb4.4						
AVF	Avril sur Loir	81.19	44	eP	P	16 57 47.3	-2.0
	comp=Z,3.7nm,0.7s,mb3.9						
AVF				epP	pP	16 58 20.7	-3.1
AVF	Avril sur Loir	81.19	44	eP	P	16 57 47.3	-2.0
	comp=Z,1.9nm,0.6s,mb3.9						
AVF				epP	pP	16 58 20.7	-3.1
AVF	Avril sur Loir	81.19	44	eP	P	16 57 47.3	-2.0
AVF				e*PP	pP	16 58 20.7	-3.1
AVF				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb3.9						
SSF	Saint Saulge	81.26	44	eP	P	16 57 47.5	-2.2
LOR	Lormes	81.47	44	eP	P	16 57 48.4	-2.4
	comp=Z,11nm,0.9s,mb4.2						
LOR				epP	pP	16 58 22.5	-2.8
LOR				eMLR	MLR		
	comp=Z,83nm,19.5s						
LOR	Lormes	81.47	44	eP	P	16 57 48.4	-2.4
	comp=Z,5.4nm,0.9s,mb4.2						
LOR				epP	pP	16 58 22.5	-2.8
LOR				LR	LR		
	comp=Z,80nm,19.5s						
LOR	Lormes	81.47	44	eP	P	16 57 48.4	-2.4
LOR				e*PP	pP	16 58 22.5	-2.8
LOR				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.1						
LOR				MLR	MLR		
	comp=Z,80nm,19.5s						
SMF	Signal de Mont	81.54	44	eP	P	16 57 48.9	-2.3
LASF	Ste Croix	81.92	47	eP	P	16 57 51.1	-2.1
VIVF	Saint-Julien-l	82.38	46	eP	P	16 57 53.5	-2.1
HAU	Haudompre	83.02	43	eP	P	16 57 56.7	-2.1
HAU				eMLR	MLR		
	comp=Z,82nm,21.2s						
HAU	Haudompre	83.02	43	eP	P	16 57 56.7	-2.1
HAU				MLR	MLR		
	comp=Z,80nm,21.3s						
CABF	La Chapelle	83.08	44	eP	P	16 57 57.0	-2.2
	comp=Z,9.8nm,0.8s,mb4.3						
CABF	La Chapelle	83.08	44	eP	P	16 57 57.0	-2.2
	comp=Z,4.9nm,0.8s,mb4.3						
CABF	La Chapelle	83.08	44	eP	P	16 57 57.0	-2.2
CABF				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.3						
NOA	NORSAR Array B	83.33	29	P	P	16 57 58.0	-2.2
	comp=Z,6.4nm,1.1s,mb4.2,baz=285,slow=5.2,SNR=3.6						
NOA				LR	LR	17 31 02.7	
	comp=Z,34nm,19.8s,baz=170,slow=33						
HINF	Hinteralfeld	83.38	43	eP	P	16 57 58.5	-2.2
CDF	Champ du Feu	83.56	42	eP	P	16 57 59.5	-2.1
LPL	La Plagne	83.71	45	eP	P	16 58 00.3	-2.1
LPG	La Plagne	83.73	45	eP	P	16 58 00.5	-2.0
SBF	Sospel	84.51	46	eP	P	16 58 04.2	-2.3
HFS	Hagfors	84.73	30	P	P	16 58 05.3	-1.9
	comp=Z,2.4nm,0.7s,mb4.0,baz=30,slow=3.6,SNR=4.7						
TORD	Torodi Ar. Bea	85.32	78	P	P	16 58 08.3	-2.8
	comp=Z,0.7nm,1.0s,baz=262,slow=5.5,SNR=3.0						
BILL	Bilibino	85.59	339	eP	P	16 58 09.6	-1.8
	comp=Z,10nm,1.1s,mb4.5						
BILL	Bilibino	85.59	339	⇑eP	P	16 58 09.2	-2.2
BILL				pmax	pmax		
	comp=Z,16nm,1.5s,mb4.5						
ARCES	ARCESS Array B	86.40	19	P	P	16 58 13.9	-1.5
	comp=Z,2.7nm,0.9s,mb4.0,baz=295,slow=4.7,SNR=5.2						
ARCES				LR	LR	17 36 08.5	
	comp=Z,35nm,21.6s,baz=33,slow=35						
CLL	Collm	86.55	38	eP	P	16 58 15.0	-1.5
	comp=Z,8.0nm,1.0s,mb4.5						
CLL				epP	pP	16 58 49.0	-2.3
CLL				ePP	PP	17 01 45.0	+5.2
	comp=Z,27nm,1.8s						
BRG	Berggiesshubel	87.24	39	eP	P	16 58 19.5	-0.3
BRG				pmax	pmax		
	comp=Z,5.0nm,1.3s,mb4.2						
BRG	Berggiesshubel	87.24	39	eP	P	16 58 19.6	-0.2
	comp=Z,7.7nm,1.3s,mb4.4						
GERES	GERESS Array B	87.62	41	P	P	16 58 19.4	-2.2
GERES				*PP	pP	16 58 54.1	-2.5
GERES	GERESS Array B	87.62	41	P	P	16 58 19.4	-2.2
	comp=Z,0.3nm,0.4s,baz=318,slow=1.8,SNR=9.1						
GERES				pP	pP	16 58 54.1	-2.5
	comp=Z,0.7nm,0.7s,baz=354,slow=5.5,SNR=2.5						
GERES				LR	LR	17 30 57.5	
	comp=Z,68nm,21.6s,baz=271,slow=31						
TIXI	Tiksi	93.53	350	eP	P	16 58 46.4	-2.3
	comp=Z,2.0nm,0.8s,mb4.3						
TIXI	Tiksi	93.53	350	⇑iP	P	16 58 46.1	-2.6
TIXI				pmax	pmax		
	comp=Z,5.0nm,1.4s,mb4.5						
AKASG	Malin Array Be	96.33	35	LR	LR	17 37 52.3	
	comp=Z,56nm,20.8s,baz=300,slow=33						
VNA3	Neumayer Olymp	96.78	162	eP	P	16 59 04.6	+1.2
VNA3				e		16 59 06.8	
VNA3				e		16 59 14.0	
VNA1	Neumayer--Stat	97.06	161	eP	P	16 59 04.6	0.0
VNA1				e		16 59 06.4	
VNA1				e		16 59 13.7	
VNA2	Neumayer--Watz	97.41	161	eP	P	16 59 05.4	-0.8
VNA2				e		16 59 07.4	
VNA2				e		16 59 15.0	
SYO	Syowa Base	113.29	161	⇑ePdiff	Pdif	17 00 17.0	-0.4
ZALV	Zalesovo Beam	114.08	6	PKKPbc	PKKPbc	17 14 50.2	-4.9
	comp=Z,0.8nm,0.7s,baz=128,slow=9.6,SNR=4.3						
SONM	Songino Array	119.60	350	PKKPbc	PKKPbc	17 14 32.3	-3.1
	comp=Z,0.9nm,0.7s,baz=153,slow=4.8,SNR=5.5						
MKAR	Makanchi Array	120.78	9	PKP	PKPdf	17 04 22.9	-1.9
MKAR				PKKPbc	PKKPbc	17 14 28.9	-2.2
MKAR	Makanchi Array	120.78	9	PKP	PKPdf	17 04 22.9	-1.9
	comp=Z,0.2nm,0.2s,baz=330,slow=2.0,SNR=4.3						
MKAR				PKKPbc	PKKPbc	17 14 28.9	-2.2
	comp=Z,0.3nm,0.6s,baz=149,slow=5.0,SNR=5.3						
KSRS	Korea Array	121.50	328	PKP	PKPdf	17 04 25.1	-1.4
	comp=Z,0.6nm,0.5s,baz=17,slow=3.0,SNR=5.3						
WMQ	Urumqi	124.38	5	ePKP	PKPdf	17 04 29.0	-2.8
HHC	Hu-ho-hao-te	125.12	344	ePKP	PKPdf	17 04 29.6	-3.7
HHC				PKS		17 08 07.8	
HHC				SKS	SKSdf	17 11 22.8	-10
HHC				PP	PP		
	comp=Z,160nm,4.9s						
HHC				LR	LR		
	comp=N,232nm,15.1s						
HHC				LR	LR		
	comp=E,166nm,20.2s						
HHC				LR	LR		
	comp=Z,114nm,16.9s						
NJ2	Nanjing	130.27	332	ePKP	PKPdf	17 04 40.2	-3.2
LZH	Lanzhou	131.46	349	ePKP	PKPdf	17 04 42.1	-3.4
LZH				PP	PP	17 07 06.3	+2.0
LZH				SKKS	SKKSac	17 13 43.3	-5.5
LZH				PP	PP		
	comp=Z,80nm,4.0s						
STKA	Stephens Creek	131.81	238	ePKP	PKPdf	17 04 46.7	+0.4
	comp=Z,6.3nm,1.7s						
STKA				epPKP	pPKPdf	17 05 21.6	-1.3
STKA	Stephens Creek	131.81	238	PKP	PKPdf	17 04 46.3	0.0
	comp=Z,2.8nm,0.7s,baz=121,slow=3.6,SNR=11						
CD2	Chengdu	136.50	348	ePKP	PKPdf	17 04 51.4	-3.7
CD2				PP	PP	17 07 38.1	+1.8
CD2				PKS		17 08 26.3	
CD2				SKS	SKSdf	17 11 44.2	-9.4
CD2				SKKS	SKKSac	17 14 12.2	-7.2
CD2				SS	SS	17 25 25.9	-0.8
CD2				PP	PP		
	comp=Z,120nm,10.2s						
CD2				LR	LR		
	comp=N,150nm,15.6s						
CD2				LR	LR		
	comp=Z,150nm,15.6s						
GYA	Guiyang	139.99	342	ePDIF	Pdif	17 02 12.2	-3.9
GYA				PKP	PKPdf	17 04 59.0	-2.7
GYA				PP	PP	17 08 01.0	+2.9
GYA				SKS	SKSdf	17 11 52.7	-6.9
GYA				SKKS	SKKSac	17 14 34.4	-5.8
GYA				SS	SS	17 26 06.0	-2.2
GYA				PP	PP		
	comp=Z,140nm,7.9s						
GYA				LR	LR		
	comp=N,440nm,22.7s						
GYA				LR	LR		
	comp=E,460nm,24.6s						
GYA				LR	LR		
	comp=Z,480nm,25.0s						
ASAR	Alice Springs	140.19	247	PKhKP		17 04 54.6	
	comp=Z,1.7nm,0.8s,baz=113,slow=3.8,SNR=22						
ASAR				SKP		17 08 26.9	
	comp=Z,2.3nm,0.9s,baz=125,slow=2.8,SNR=8.7						
WB2	Warramunga Arr	140.28	253	ePKP	PKPdf	17 04 56.2	-6.1
WRAB	Tennant Creek	140.28	253	ePKPdf	PKPdf	17 05 02.8	+0.5
WRA	Warramunga Arr	140.29	253	PKhKP		17 04 54.4	
	comp=Z,2.8nm,0.9s,baz=93,slow=3.5,SNR=26						
KMI	Kunming	142.30	347	PKP	PKPdf	17 05 03.0	-2.9
FORT	Forrest	143.15	234	ePKP	PKPdf	17 05 05.8	-1.3
	comp=Z,14nm,0.9s						
FITZ	Fitzroy Crossi	148.67	255	ePKP	PKPbc	17 05 21.4	+0.7
	comp=Z,33nm,0.9s						
FITZ				epPKP	pPKPdf	17 05 57.2	+3.6
KLBR	Kellerberrin	150.42	224	ePKP	PKPbc	17 05 24.8

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULA	**Kula-Manisa**	**0.27**	**1**	*e*PG	**Pg**	**16 47 49.1**	**-0.4**
KULA				*e*SG	**Sg**	**16 47 53.5**	**+0.4**
KHL	**Karahalli**	**0.69**	**83**	*e*PG	**Pg**	**16 47 57.5**	**0.0**
KHL				*e*SG	**Sg**	**16 48 06.4**	**-0.1**
AKHS	**Akhisar**	**0.91**	**314**	*i* P	**Pg**	**16 48 01.3**	**-0.6**
AKHS				*i* S	**Sg**	**16 48 14.4**	**+0.7**
AKS	**Akhisar**	**0.92**	**314**	*e*PG	**Pg**	**16 48 01.7**	**-0.2**
AKS				*e*SG	**Sg**	**16 48 14.7**	**+1.0**
GDZ	**Gediz**	**1.06**	**37**	*i* P	**Pg**	**16 48 03.7**	**-1.1**
GDZ				*i* S	**Sg**	**16 48 17.9**	**-0.6**
KDAG	**Bornova**	**1.10**	**279**	*i* P	**Pg**	**16 48 05.8**	**+0.3**
KDAG				*i* S	**Sg**	**16 48 18.4**	**-1.4**
YER	**Yerkesik**	**1.15**	**195**	*e*PN	**Pn**	**16 48 06.5**	**-1.0**
MLSB	**Milas**	**1.17**	**217**	*e*PN	**Pn**	**16 48 07.4**	**-0.6**
GOLH	**Golhisar**	**1.24**	**144**	*i* P	**Pg**	**16 48 08.7**	**+0.7**
GOLH				*i* S	**Sg**	**16 48 27.6**	**+3.6**
BLCB	**Balcova**	**1.28**	**277**	*e*PN	**Pn**	**16 48 09.2**	**-0.1**
DST	**Dursunbey**	**1.36**	**359**	*e*PN	**Pn**	**16 48 10.6**	**+0.1**
ALT	**Altintas**	**1.40**	**54**	*e*PN	**Pn**	**16 48 10.0**	**-1.0**
BDRM	**Kayabasi**	**1.52**	**220**	*i* P	**Pn**	**16 48 12.9**	**+0.3**
BDRM				*i* S	**Sn**	**16 48 32.7**	**-0.4**
SHUT	**Suhut-Afyon**	**1.52**	**78**	*e*PN	**Pn**	**16 48 11.9**	**-0.9**
BODT	**Bodrum**	**1.59**	**223**	*e*PN	**Pn**	**16 48 13.8**	**+0.2**
BTOK	**Tokmak**	**1.59**	**342**	*i* P	**Pn**	**16 48 13.6**	**-0.1**
BTOK				*i* S	**Sn**	**16 48 31.4**	**-3.5**
URLA	**Izmir**	**1.62**	**275**	*i* P	**Pn**	**16 48 15.3**	**+1.1**
URLA				*i* S	**Sn**	**16 48 35.5**	**-0.2**
DAT	**Datca**	**1.74**	**210**	*e*PN	**Pn**	**16 48 16.0**	**+0.3**
ESKT	**Eskisehir**	**2.14**	**53**	*i* P	**Pn**	**16 48 22.6**	**+1.4**
SEYT	**Eskypehyr**	**2.14**	**53**	*i* P	**Pn**	**16 48 22.6**	**+1.4**
BORA	**Eskisehir**	**2.15**	**40**	*i* P	**Pb**	**16 48 24.0**	**-0.2**
BORA				*i* S	**Sb**	**16 48 51.7**	**+0.3**
BNT	**Bandirma**	**2.19**	**345**	*e*PN	**Pn**	**16 48 22.4**	**+0.6**
IZI	**Iznik**	**2.19**	**17**	*e*PN	**Pn**	**16 48 22.0**	**+0.1**
YLV	**Yalova**	**2.39**	**13**	*e*PN	**Pn**	**16 48 25.3**	**+0.7**
RKY	**Sarkoy-Tekirda**	**2.69**	**335**	*e*PN	**Pn**	**16 48 29.7**	**+0.9**
HENT	**Hendek**	**3.11**	**33**	*i* P	**Pb**	**16 48 40.1**	**-0.3**

*ISCJB **10** 17:05:27.0±0.9, 1583S±006×7339W±007, h83km±8km, mb4.4/18, Error ellipse: s-maj=14.1km s-min=6.6km az=142.0*
*BJI **10** 17:05:28.4, 1590S×7330W, h81km, mB5.0*
*IDC **10** 17:05:28.6±0.5, 1581S×7331W, h81km±3km, mb4.0/11, mb1 4.2/14, mb1mx4.1/21, mbtmp4.0/14, MS3.6/8, Ms1 3.6/8, ms1mx3.4/23, Error ellipse: s-maj=16.8km s-min=10.4km az=61.0*
*NEIC **10** 17:05:28.4±0.3, 1587S×7332W, mb4.6/6, Error ellipse: s-maj=11.0km s-min=6.3km az=61.0*
NEIC Felt [IV] at Caraveli, Chuquibamba and Pampacolca; [III] at Ocona and Pausa; [II] at Arequipa.

ISC 10 17:05:28.1±0.8, 1583S±006×7334W±007, h76km±7km, h82km±1.4km: pP-P, n51, σ0°77/41, mb4.4/18, 1D, Southern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARE	**Arequipa**	**1.89**	**110**	⇓*i*P	**Pn**	**17 05 59.1**	**+0.7**
ARE				*i* S	**Sn**	**17 06 22.1**	**+0.7**
LPAZ	**La Paz**	**5.03**	**96**	P	**Pn**	**17 06 45.7**	**+4.6**
LPAZ				LR	LR	17 08 58.0	
LPAZ	**La Paz**	**5.03**	**96**	P	**Pn**	**17 06 45.7**	**+4.6**
	6.0nm,0.3s,baz=276,slow=10,SNR=159						
LPAZ				LR	LR	17 08 58.0	
	comp=Z,175nm,19.3s,baz=271,slow=42						
NNA	**Nana**	**5.11**	**318**	*e*Pn	**Pn**	**17 06 42.0**	**-0.3**
	297nm,0.5s						
NNA	**Nana**	**5.11**	**318**	P	**Pn**	**17 06 42.0**	**-0.2**
	27nm,0.3s,baz=148,slow=7.1,SNR=39						
NNA				S	**Sn**	**17 07 39.9**	**-0.1**
	38nm,0.3s,baz=237,slow=17,SNR=2.8						
ATAH	**Atahualpa**	**10.07**	**330**	P	**Pn**	**17 07 54.2**	**+4.2**
	6.2nm,0.3s,baz=137,slow=6.8,SNR=36						
SIV	**San Ignacio**	**11.80**	**92**	P	**Pn**	**17 08 12.1**	**-1.5**
	2.4nm,0.3s,baz=276,slow=13,SNR=18						
CFAA	**Coronel Fontan**	**16.38**	**164**	P	**Pn**	**17 09 12.8**	**-0.6**
	0.3nm,0.3s,baz=336,slow=13,SNR=18						
ROSC	**El Rosal**	**20.57**	**357**	P	**P**	**17 10 04.2**	**+3.3**
	40nm,0.8s,baz=82,slow=20,SNR=11						
ROSC				LR	LR	17 18 59.1	
	comp=Z,207nm,21.8s,baz=294,slow=40						
TRQA	**Tornquist**	**24.31**	**158**	P	**P**	**17 10 37.6**	**-0.9**
	24nm,1.1s,mb4.4						
SDV	**Santo Domingo**	**24.70**	**6**	*e*P	**P**	**17 10 42.7**	**+0.4**
	14nm,0.8s,mb4.5						
SDV	**Santo Domingo**	**24.70**	**6**	P	**P**	**17 10 42.7**	**+0.4**
	15nm,0.8s,mb4.5,baz=181,slow=6.7,SNR=15						
SDV				LR	LR	17 21 31.4	
	comp=Z,228nm,19.2s,baz=169,slow=39						
PLCA	**Paso Flores**	**24.93**	**175**	P	**P**	**17 10 44.0**	**-0.1**
	16nm,0.8s,mb4.5,baz=344,slow=11,SNR=25						
PLCA				PcP	PcP	17 14 18.1	+0.1
	3.4nm,0.8s,baz=322,slow=2.4,SNR=3.7						
PLCA				LR	LR	17 20 13.6	
	comp=Z,117nm,19.4s,baz=342,slow=36						
PCRV	**Puerto La Cruz**	**27.24**	**19**	LR	LR	17 22 47.2	
	comp=Z,290nm,21.6s,baz=194,slow=38						
USHA	**Ushuaia**	**39.11**	**176**	P	**P**	**17 12 46.7**	**-1.1**
	11nm,0.8s,mb4.7,baz=298,slow=1.2,SNR=4.7						
LRAL	**Lakeview Retre**	**50.31**	**345**	*e*P	**P**	**17 14 17.1**	**0.0**
	5.9nm,0.7s,mb4.6						
TXAR	**Lajitas Array**	**53.60**	**327**	P	**P**	**17 14 42.1**	**+0.4**
	1.8nm,0.7s,mb4.2,baz=153,slow=8.7,SNR=11						
TXAR				pP	pP	17 15 02.5	+1.6
	1.9nm,0.6s,baz=153,slow=8.7,SNR=8.9						
SADO	**Sadowa**	**60.53**	**355**	P	**P**	**17 15 29.3**	**-1.0**
SDCO	**Great Sand Dun**	**61.27**	**331**	*e*P	**P**	**17 15 36.7**	**+1.3**
	5.3nm,1.0s,mb4.5						
ECSD	**EROS,Sioux Fal**	**62.98**	**341**	*e*P	**P**	**17 15 46.3**	**-0.5**
	13nm,1.3s,mb4.7						
VNA3	**Neumayer Olymp**	**66.76**	**162**	*e*	**P**	**17 16 11.2**	**+0.2**
VNA3				*e*		17 16 15.3	
VNA3				*e*		17 16 23.4	
VNA3				*e*	pP	17 16 31.9	+1.1
AGMN	**Agassiz Refuge**	**66.92**	**344**	*e*P	**P**	**17 16 12.4**	**+0.2**
	5.0nm,0.7s,mb4.5						
VNA1	**Neumayer--Stat**	**67.00**	**161**	*e*	**P**	**17 16 13.6**	**+1.1**
VNA1				*e*		17 16 17.6	
VNA1				*e*		17 16 26.2	
VNA1				*e*	pP	17 16 34.1	+1.7
PDAR	**Pinedale Array**	**67.14**	**332**	P	**P**	**17 16 13.7**	**0.0**
	0.8nm,0.8s,mb3.6,baz=149,slow=7.9,SNR=3.6						
VNA2	**Neumayer--Watz**	**67.36**	**161**	*e*	**P**	**17 16 15.5**	**+0.7**
	baz=281,slow=8.3						
VNA2				*e*		17 16 19.5	
VNA2				*e*		17 16 27.9	
VNA2				*e*	pP	17 16 35.6	+0.9
ULM	**Lac du Bonnet**	**68.72**	**345**	P	**P**	**17 16 22.2**	**-1.3**
ULM				pP	pP	17 16 44.9	+1.4
ULM	**Lac du Bonnet**	**68.72**	**345**	P	**P**	**17 16 22.2**	**-1.3**
	3.5nm,0.7s,mb4.3,baz=176,slow=6.4,SNR=9.1						
ULM				pP	pP	17 16 44.9	+1.4
	2.3nm,0.5s,baz=150,slow=5.8,SNR=4.6						
SNAA	**Sanae**	**68.97**	**161**	*e*	**P**	**17 16 24.8**	**-0.1**
SNAA				*e*		17 16 29.3	
SNAA				*e*		17 16 37.6	
SNAA				*e*	pP	17 16 45.3	+0.5
SCHQ	**Schefferville**	**70.59**	**4**	P	**P**	**17 16 34.4**	**-0.5**
SCHQ				pP	pP	17 16 56.8	+1.9
SCHQ	**Schefferville**	**70.59**	**4**	P	**P**	**17 16 34.4**	**-0.5**
	3.6nm,0.9s,mb4.2,baz=163,slow=6.9,SNR=5.8						
SCHQ				pP	pP	17 16 56.8	+1.9
	3.7nm,0.9s,baz=150,slow=5.0,SNR=2.4						
DBIC	**Dimbokro**	**71.37**	**77**	P	**P**	**17 16 39.6**	**-1.0**
	2.5nm,0.8s,mb4.1,baz=204,slow=8.3,SNR=3.2						
DBIC				pP	pP	17 17 00.8	+0.2
	9.2nm,1.1s,baz=233,slow=5.6,SNR=4.2						
QSPA	**South Pole Qui**	**74.33**	**180**	*e*P	**P**	**17 16 57.5**	**+0.6**
	125nm,0.7s,mb5.8						
EDM	**Edmonton**	**76.89**	**337**	*e*P	**P**	**17 17 11.8**	**0.0**
TOA0	**Torodi Ar. Sit**	**79.58**	**73**	*e*P	**P**	**17 17 27.0**	**-0.5**
TORD	**Torodi Ar. Bea**	**79.58**	**73**	P	**P**	**17 17 27.5**	**0.0**
	5.3nm,0.7s,mb4.5,baz=257,slow=5.1,SNR=36						
TORD				pP	pP	17 17 48.5	+0.5
	4.9nm,0.8s,baz=247,slow=6.0,SNR=8.2						
TORD				LR	LR	17 52 05.1	
	comp=Z,46nm,19.2s,baz=325,slow=35						
VNDA	**Vanda**	**81.66**	**190**	P	**P**	**17 17 38.4**	**+0.8**
	3.5nm,0.9s,mb4.2,baz=135,slow=3.2,SNR=15						
YKA	**Yellowknife Ar**	**84.50**	**342**	P	**P**	**17 17 52.1**	**-0.1**
YKA				pP	pP	17 18 14.2	+1.4
YKA	**Yellowknife Ar**	**84.50**	**342**	P	**P**	**17 17 52.1**	**-0.1**
	1.7nm,0.8s,mb4.0,baz=136,slow=5.0,SNR=23						
YKA				pP	pP	17 18 14.2	+1.4
	3.7nm,0.7s,baz=135,slow=5.1,SNR=14						
ESDC	**Sonseca Array**	**84.88**	**46**	P	**P**	**17 17 55.8**	**+1.1**
	0.5nm,0.5s,mb3.7,baz=248,slow=5.5,SNR=3.6						
ESDC				pP	pP	17 18 16.4	+1.1
	1.7nm,0.6s,baz=245,slow=4.9,SNR=4.8						
ESDC				LR	LR	17 52 36.7	
	comp=Z,39nm,18.6s,baz=180,slow=33						
TSUM	**Tsumeb**	**85.76**	**109**	*e*P	**P**	**17 18 00.0**	**+0.4**
KEST	**Kesra**	**93.32**	**54**	LR	LR	17 59 06.4	
	comp=Z,21nm,19.7s,baz=213,slow=34						
ASAR	**Alice Springs**	**132.57**	**215**	PKP	PKPdf	17 24 34.4	-0.4
	1.8nm,0.9s,baz=123,slow=2.3,SNR=18						
ASAR				pPKP	pPKPdf	17 24 56.2	-0.2
	0.8nm,0.5s,baz=126,slow=1.5,SNR=4.3						
WRA	**Warramunga Arr**	**135.24**	**218**	PKP	PKPdf	17 24 38.4	-1.5
	2.9nm,0.8s,baz=141,slow=1.9,SNR=22						
WRA				pPKP	pPKPdf	17 25 01.8	+0.4
	1.1nm,0.6s,baz=136,slow=1.8,SNR=3.8						
ZALV	**Zalesovo Beam**	**138.31**	**19**	PKP	PKPdf	17 24 44.3	-0.2
	2.5nm,0.8s,baz=270,slow=1.5,SNR=8.0						
ZALV				pPKP	pPKPdf	17 25 06.3	+0.3
	2.7nm,0.8s,baz=318,slow=2.0,SNR=3.8						
MJAR	**Matsushiro Arr**	**145.21**	**312**	PKPbc	PKPbc	17 24 55.8	-1.4
	3.8nm,0.9s,baz=122,slow=1.8,SNR=9.8						
MJAR				pPKPbc	pPKPbc	17 25 19.1	+0.6
	2.6nm,0.8s,baz=102,slow=1.8,SNR=4.0						
MAJO	**Matsushiro**	**145.22**	**312**	*e*PKP	PKPdf	17 24 56.6	-0.8
ULN	**Ulaanbaatar**	**148.05**	**359**	*e*PKPbc	PKPbc	17 25 06.2	+1.2
SONM	**Songino Array**	**148.08**	**0**	PKPbc	PKPbc	17 25 06.1	+1.0
	3.0nm,0.8s,baz=342,slow=1.5,SNR=13						
SONM				pPKPbc	pPKPbc	17 25 27.3	+0.7
	2.4nm,0.6s,baz=347,slow=2.0,SNR=5.7						
BATI	**Kupang**	**149.14**	**214**	PKPbc	PKPbc	17 25 08.8	0.0
	13nm,0.8s,baz=9.5,slow=6.1,SNR=3.2						
KSRS	**Korea Array**	**151.40**	**323**	PKP	PKPdf	17 25 06.9	-0.6
	0.8nm,0.7s,baz=128,slow=32,SNR=5.0						
KSRS				PKPbc	PKPbc	17 25 14.1	+0.5
	4.6nm,0.8s,baz=357,slow=2.0,SNR=19						
KSRS				pPKPbc	pPKPbc	17 25 35.8	+0.8
	3.6nm,0.8s,baz=4.2,slow=1.8,SNR=6.8						
LZH	**Lanzhou**	**159.67**	**7**	*e*PKP	PKPdf	17 25 15.0	-3.5
LZH				XPKP		17 25 49.0	

IDC 10 17:10:52.5±4.1, 997S×15699E, h0km, mb3.9/3, mb1 4.0/3, mb1mx3.7/14, mbtmp3.9/3, Error ellipse: s-maj=82.2km s-min=56.5km az=166.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.99**	**243**	P	P	17 16 08.6	-0.5
	1.5nm,0.7s,baz=71,slow=9.8,SNR=15						
ASAR	**Alice Springs**	**25.90**	**235**	P	P	17 16 26.4	0.0
	1.1nm,0.6s,baz=62,slow=10,SNR=29						
STKA	**Stephens Creek**	**26.05**	**211**	P	P	17 16 28.4	+0.7
	2.8nm,0.8s,baz=39,slow=15,SNR=7.3						

*ISCJB **10** 17:16:19.4±0.4, 5005N±003×1856E±003, h0km, Error ellipse: s-maj=3.9km s-min=2.3km az=16.7*
*IPEC **10** 17:16:20.8±0.2, 5000N×1864E, h2km±3km, ML2.5/3, Error ellipse: s-maj=2.5km s-min=1.1km az=163.0*
*WAR **10** 17:16:20.9, 4996N×1865E, ML2.7, Mining Induced*
*NEIC **10** 17:16:20.6±0.6, 5001N×1861E, h5km, ML2.6(BUC), ML2.2(BRA), Error ellipse: s-maj=9.1km s-min=4.8km az=199.0*
*IDC **10** 17:16:20.9±1.0, 4989N×1864E, h0km, mb1 3.4/4, mb1mx3.2/20, mbtmp3.2/4, ML3.0/4, Error ellipse: s-maj=24.4km s-min=8.4km az=154.0*
*CSEM **10** 17:16:21.6±0.2, 5003N×1861E, h0km±1km, ML3.2/4, Error ellipse: s-maj=6.6km s-min=2.6km az=18.0*
*PRU **10** 17:16:22.7, 4999N×1855E, h0km*

ISC 10 17:16:20.8±0.4, 5000N±003×1861E±003, h0km, n47, σ1°24/83, 2C-6D, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAC	**Raciborz**	**0.28**	**288**	*e*Pg	**Pg**	**17 16 28.3**	**+2.1**
RAC				*e*Sg	**Sg**	**17 16 33.3**	**+3.4**
OKC	**Ostrava-Krasne**	**0.34**	**242**	*e*PG	**Pg**	**17 16 28.3**	**+1.0**
OKC				*e*SG	**Sg**	**17 16 31.7**	**+0.1**
OKC	**Ostrava-Krasne**	**0.34**	**242**	*e*Pg	**Pg**	**17 16 27.8**	**+0.5**
OKC				*e*Sg	**Sg**	**17 16 31.7**	**+0.1**
MORC	**Moravsky Berou**	**0.72**	**253**	⇓P	**Pg**	**17 16 34.9**	**+0.2**
MORC				S	**Sg**	**17 16 46.7**	**+2.7**
MORC	**Moravsky Berou**	**0.72**	**253**	⇓*i*P	**Pg**	**17 16 34.9**	**+0.2**
MORC				S	**Sg**	**17 16 46.7**	**+2.7**
MORC	**Moravsky Berou**	**0.72**	**253**	*e*Pg	**Pg**	**17 16 34.9**	**+0.2**
MORC				S	**Sg**	**17 16 46.7**	**+2.7**
OJC	**Ojcow**	**0.80**	**73**	*e*Pg	**Pg**	**17 16 36.0**	**-0.1**
OJC				*e*Sg	**Sg**	**17 16 46.8**	**+0.3**
NIE	**Niedzica**	**1.25**	**117**	*e*Pg	**Pg**	**17 16 44.4**	**-0.3**
NIE				*e*Sg	**Sg**	**17 17 02.9**	**+2.0**
JAVC	**Velka Javorina**	**1.29**	**209**	*e*Pg	**Pg**	**17 16 45.8**	**+0.2**
JAVC				*e*Sg	**Sg**	**17 17 05.1**	**+2.8**
	90nm,0.9s						
KOLL	**Kolacno**	**1.42**	**186**	*i* PN	**Pn**	**17 16 47.7**	**-0.2**
KOLL				*e*SN	**Sn**	**17 17 07.1**	**-0.2**
VRAC	**Vranov**	**1.48**	**243**	Pg	**Pg**	**17 16 47.8**	**-1.3**
	8.4nm,0.3s,baz=62,slow=14,SNR=28						
VRAC				Lg		17 17 08.8	
	9.3nm,0.3s,baz=161,slow=22,SNR=12						
VRAC	**Vranov**	**1.48**	**243**	⇑*i*P	**Pn**	**17 16 47.7**	**-1.0**
VRAC				S	**Sg**	**17 17 09.4**	**+1.1**
VRAC	**Vranov**	**1.48**	**243**	*e*Pg	**Pg**	**17 16 47.9**	**-1.3**
VRAC				*e*Sg	**Sg**	**17 17 07.8**	**-0.5**
	33nm,0.5s						
VRAC				S	**Sg**	**17 17 09.4**	**+1.1**
VYHS	**Vyhne**	**1.51**	**174**	*e*PN	**Pn**	**17 16 48.3**	**-0.8**
VYHS				*e*SN	**Sn**	**17 17 09.1**	**-0.3**
DPC	**Dobruska-Polom**	**1.51**	**284**	*e*SG	**Sg**	**17 17 11.1**	**+1.7**
DPC	**Dobruska-Polom**	**1.51**	**284**	*e*Sg	**Sg**	**17 17 08.7**	**-0.7**
KSP	**Ksiaz**	**1.71**	**301**	*e*Pn	**Pn**	**17 16 51.7**	**-0.1**
KSP				*e*Pg	**Pg**	**17 16 56.7**	**+3.2**
KSP				*e*Sg	**Sg**	**17 17 16.2**	**+0.5**
KSP	**Ksiaz**	**1.71**	**301**	*e*Pn	**Pn**	**17 16 51.4**	**-0.4**
KSP				*e*Pg	**Pg**	**17 16 53.6**	**+0.1**
KSP				*e*Sg	**Sg**	**17 17 15.6**	**0.0**
KSP	**Ksiaz**	**1.71**	**301**	*e*Pg	**Pg**	**17 16 53.6**	**+0.1**
KSP				*e*Sg	**Sg**	**17 17 15.6**	**0.0**
KRUC	**Moravsky**	**1.72**	**238**	*e*Pn	**Pn**	**17 16 51.9**	**0.0**
KRUC				*e*Sg	**Sg**	**17 17 15.0**	**-1.0**
	40nm,0.9s						
UPC	**Upice**	**1.74**	**288**	*e*PG	**Pg**	**17 16 53.3**	**-0.9**
UPC				*e*SG	**Sg**	**17 17 18.0**	**+1.2**
STHS	**Stebnicka Huta**	**1.81**	**108**	*e*PN	**Pn**	**17 16 54.9**	**+1.7**
STHS				*e*SN	**Sn**	**17 17 22.1**	**+5.4**
KECS	**Kecovo**	**1.95**	**140**	*e*P	**Pn**	**17 16 54.2**	**-0.9**
KECS				*e*Pg	**Pg**	**17 16 58.2**	**0.0**
KECS				*e*Sn	**Sn**	**17 17 21.3**	**+1.0**
KECS	**Kecovo**	**1.95**	**140**	*e*PG	**Pg**	**17 16 58.2**	**0.0**
KECS				*e*SN	**Sn**	**17 17 21.3**	**+1.0**
KECS	**Kecovo**	**1.95**	**140**	*e*	**Pn**	**17 16 54.2**	**-0.9**
ZST	**Bratislava**	**2.06**	**209**	*e*PN	**Pn**	**17 16 56.6**	**0.0**
ZST				*e*SN	**Sn**	**17 17 23.0**	**+0.1**
TREC	**Trest**	**2.15**	**252**	*e*PG	**Pg**	**17 16 59.6**	**-2.3**
CRVS	**Cervenica-Dubn**	**2.16**	**119**	*e*PN	**Pn**	**17 17 00.6**	**+2.6**
CRVS				*e*SN	**Sn**	**17 17 30.1**	**+4.7**
PSZ	**Piszkesteto**	**2.25**	**157**	⇑*e*Pn	**Pn**	**17 17 04.0**	**+4.8**
PSZ				*e*Sn	**Sn**	**17 17 32.6**	**+5.1**
KOLS	**Kolonicke sedl**	**2.62**	**113**	*e*PG	**Pg**	**17 17 10.7**	**-0.2**
PRU	**Pruhonice**	**2.62**	**271**	*e*PG	**Pg**	**17 17 09.0**	**-2.1**
BRG	**Berggiesshubel**	**3.11**	**288**	PG	**Pg**	**17 17 18.1**	**-2.3**
BRG				SG	**Sg**	**17 18 00.1**	**-0.6**
	12nm,0.7s						
KHC	**Kasperske Hory**	**3.39**	**257**	*e*PN	**Pn**	**17 17 14.2**	**-0.7**
KHC				*e*PG	**Pg**	**17 17 21.3**	**-4.4**
KHC				*e*SG	**Sg**	**17 18 09.0**	**-0.6**
	12nm,0.4s						
GERES	**GERESS Array B**	**3.40**	**252**	Pn	**Pn**	**17 17 13.8**	**-1.3**
	0.5nm,0.3s,baz=64,slow=15,SNR=9.8						
GERES				Pg	**Pg**	**17 17 23.6**	**-2.5**
	2.5nm,0.3s,baz=66,slow=17,SNR=27						
GERES				Lg		17 18 04.1	
	1.7nm,0.3s,baz=75,slow=21,SNR=4.0						
GERES	**GERESS Array B**	**3.40**	**252**	Pg	**Pg**	**17 17 23.6**	**-2.4**
CLL	**Collm**	**3.80**	**292**	*i* Pg	**Pg**	**17 17 34.2**	**+0.5**
CLL				*e*Sg	**Sg**	**17 18 24.0**	**+1.1**
	comp=Z,15nm,1.0s						
NKC	**Novy Kostel**	**3.97**	**276**	*e*PN	**Pn**	**17 17 22.9**	**0.0**
NKC				*e*SG	**Sg**	**17 18 29.4**	**+1.0**
	comp=Z,7.9nm,0.4s						
DRGR		**4.21**	**138**	⇓P	**Pn**	**17 17 21.7**	**-4.5**
DRGR				S	**Sn**	**17 18 11.3**	**-4.8**
DRGR		**4.21**	**138**	⇓*i*P	**Pn**	**17 17 21.7**	**-4.5**
DRGR		**4.21**	**138**	S	**Sn**	**17 18 11.3**	**-4.8**
MOX	**Moxa**	**4.53**	**281**	(PG)	**Pg**	**17 17 47.5**	**-0.1**
MOX				*e*SG	**Sg**	**17 18 48.7**	**+2.5**
BZS	**Buzias**	**4.83**	**154**	⇓P	**Pn**	**17 17 30.3**	**-4.3**
BZS	**Buzias**	**4.83**	**154**	⇓*i*P	**Pn**	**17 17 30.3**	**-4.4**
AKASG	**Malin Array Be**	**6.83**	**80**	Pn	**Pn**	**17 17 59.7**	**-2.5**
AKASG				Lg		17 19 55.6	
AKASG	**Malin Array Be**	**6.83**	**80**	Pn	**Pn**	**17 17 59.7**	**-2.5**
	comp=Z,0.5nm,0.3s,baz=260,slow=13,SNR=5.6						
AKASG				Lg		17 19 55.6	
	comp=Z,0.4nm,0.3s,baz=273,slow=24,SNR=3.6						
FINES	**FINESS Array B**	**12.21**	**17**	Pn	**Pn**	**17 19 12.1**	**-3.7**
	comp=Z,0.3nm,0.3s,baz=195,slow=11,SNR=6.8						
ARCES	**ARCESS Array B**	**19.88**	**7**	Pn	**Pn**	**17 20 50.4**	**-4.5**
	comp=Z,0.1nm,0.3s,baz=186,slow=14,SNR=4.4						

*IDC **10** 17:16:59.1±0.7, 2042N×9356E, h0km, mb3.9/14, mb1 4.0/14, mb1mx3.9/23, mbtmp3.9/14, Error ellipse: s-maj=43.3km s-min=14.3km az=54.0*
*ISCJB **10** 17:17:05.8±1.1, 2057N±008×9366E±009, h65km±10km, mb3.8/14, Error ellipse: s-maj=18.2km s-min=6.6km az=136.4*
*BJI **10** 17:17:05.3, 2056N×9368E, h49km, mB4.5, mb4.2, Ms4.3, Msz3.8*
*NEIC **10** 17:17:07.2±0.9, 2048N×9365E, h61km±8km, Error ellipse: s-maj=19.2km s-min=7.1km az=221.0*

ISC 10 17:17:07.8±0.9, 2057N±008×9368E±008, h64km±8km, n26, σ0°89/32, mb3.9/14, 1C-1D, Myanmar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHL	**Shillong**	**5.24**	**342**	⇓*i*PN	**Pn**	**17 18 24.5**	**+0.9**
SHL				*e*SN	**Sn**	**17 19 23.0**	**+0.3**
CHG	**Chiang Mai**	**5.25**	**109**	PG	**Pn**	**17 18 23.7**	**-0.1**
CHG				SG	**Sn**	**17 19 32.6**	**+10**
CHTO	**Chiang Mai**	**5.25**	**109**	*e*P	**Pn**	**17 18 23.0**	**-0.8**
	29nm,0.4s						
CHRT	**Chiangrai**	**5.77**	**96**	⇑P	**Pn**	**17 18 31.0**	**+0.2**
	2μm,0.2s						
BDT	**Bhumibol Dam**	**6.02**	**122**	P	**Pn**	**17 18 34.0**	**-0.3**
LSA	**Lhasa**	**9.38**	**346**	*e*P	**Pn**	**17 19 21.2**	**+1.0**
	26nm,0.5s						
LSA				*e*S	**Sn**	**17 21 03.1**	**-1.0**
JIRN	**Jiri**	**9.83**	**317**	*e*Pn	**Pn**	**17 19 27.9**	**+1.5**
KKN	**Kakani**	**10.51**	**315**	*e*Pn	**Pn**	**17 19 36.6**	**+0.9**
KKN				*e*Sn	**Sn**	**17 21 30.2**	**-1.6**
	27nm,0.4s						
GKN	**Gorkha**	**11.08**	**314**	*e*Pn	**Pn**	**17 19 43.3**	**-0.1**
GKN				*e*Sn	**Sn**	**17 21 41.3**	**-4.4**
	36nm,0.3s						
KOLN	**Koldanda**	**11.66**	**310**	*e*Pn	**Pn**	**17 19 50.3**	**-1.1**
KOLN				*e*Sn	**Sn**	**17 21 53.6**	**-6.3**
	53nm,0.5s						
GTA	**Gaotai**	**19.50**	**14**	*e*P	**Pn**	**17 21 30.1**	**-1.4**
GTA				AMB	AMB		
	comp=Z,4.0nm,1.2s						
MKAR	**Makanchi Array**	**27.76**	**343**	P	**P**	**17 22 52.3**	**+1.9**
	comp=Z,0.7nm,0.5s,mb3.6,baz=154,slow=9.4,SNR=10						
SONM	**Songino Array**	**29.08**	**18**	P	**P**	**17 23 03.2**	**+1.1**
	comp=Z,0.4nm,0.4s,mb3.5

comp=N,804nm,0.8s
ROCH El Roble 1.53 148 *e*P Pn 17 33 38.4 +1.8
JACH Jahuel 1.54 131 *i* P Pn 17 33 38.5 +1.8
JACH *i* S Sn 17 33 59.2 +3.6
TLL Tololo Astrono 1.81 34⇑*i*P Pn 17 33 43.8 +3.3
TLL *i* S Sn 17 34 07.9 +5.5
TLL Tololo Astrono 1.81 34⇑*i*P Pn 17 33 43.8 +3.3
TLL *i* S Sn 17 34 07.9 +5.5
TLL AML AML 17 34 14.2
comp=N,480nm,0.5s
PEL Peldehue 1.83 143 *e*P Pn 17 33 41.9 +1.3
PEL *i* S Sn 17 34 04.8 +2.2
PEL AML AML 17 34 10.8
comp=E,747nm,0.2s
CLCH Cerro Calan 2.10 145 *e*P Pn 17 33 46.0 +1.6
CLCH *i* S Sn 17 34 12.0 +2.5
CLCH AML AML 17 34 21.9
comp=N,635nm,0.5s
TACH Talagante 2.16 156 *e*P Pn 17 33 46.5 +1.3
FCH Farellones 2.18 139⇑*i*P Pn 17 33 48.0 +2.5
FCH *i* S Sn 17 34 15.0 +3.7
FCH AML AML 17 34 22.4
comp=E,145nm,0.2s
LMEL Las Melosas 2.63 146⇑*i*P Pn 17 33 53.8 +2.1
LMEL *i* S Sn 17 34 25.9 +3.4
LMEL Las Melosas 2.63 146⇑*i*P Pn 17 33 53.8 +2.1
LMEL *i* S Sn 17 34 25.9 +3.4
LMEL AML AML 17 34 37.4
comp=N,161nm,0.2s

IDC ***10*** *17:35:14.2±1.0, 33.14N×8761E, h0km, mb3.5/9, mb1 3.7/10, mb1mx3.7/20, mbtmp3.5/10, ML2.7/1, MS3.3/3, Ms1 3.3/3, ms1mx2.9/32, Error ellipse: s-maj=29.7km s-min=18.1km az=42.0*
ISCJB ***10*** *17:35:20.1±1.5, 33.3N±0.1×877E±0.1, h54km±16km, mb3.6/9, MS3.3/3, Error ellipse: s-maj=22.8km s-min=10.6km az=42.9*
BJI ***10*** *17:35:21.7, 33.14N×8763E, h45km, mb4.0, Ms3.5, Msz3.6*
NEIC ***10*** *17:35:21.4±1.1, 3326N×8765E, h48km±12km, mb3.8/1, Error ellipse: s-maj=19.5km s-min=9.5km az=46.0*
ISC 10 17:35:21.9±1.2,333N±01×**877E**±01,**h53**km±14km,**n21,** σ1§**08/19,mb3.6/9,MS3.3/3,Xizang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSA	**Lhasa**	**4.64 139**		P	**Pn**	**17 36 29.5**	**+0.1**
LSA				LR	LR		
	comp=E,650nm,10.1s						
LSA				LR	LR		
	comp=Z,750nm,12.3s						
LSA	**Lhasa**	**4.64 139**		*e*P	**Pn**	**17 36 29.6**	**+0.2**
UCH	**Uchtor**	**13.71 314**		*e*P	**Pn**	**17 38 33.8**	**+0.4**
	comp=Z,1.9nm,0.7s						
MKAR	**Makanchi Array**	**14.11 345**		Pn	**Pn**	**17 38 36.9**	**-1.8**
	comp=Z,0.0nm,0.3s,baz=150,slow=12,SNR=5.7						
AML	**Almayashu**	**14.15 313**		P	**Pn**	**17 38 40.0**	**+0.7**
EKS2	**Erkin-Say**	**14.40 315**		P	**Pn**	**17 38 43.1**	**+0.5**
	comp=Z,3.5nm,1.1s						
SONM	**Songino Array**	**20.26 39**		P	**P**	**17 39 53.3**	**+0.6**
SONM				LR	LR	17 48 34.1	
SONM	**Songino Array**	**20.26 39**		P	**P**	**17 39 53.3**	**+0.6**
	baz=226,slow=10						
SONM				LR	LR	17 48 34.1	
	comp=Z,82nm,21.5s,MS3.0,baz=75,slow=39						
ZALV	**Zalesovo Beam**	**20.76 355**		P	**P**	**17 39 57.1**	**-1.0**
	comp=Z,0.5nm,0.6s,baz=177,slow=8.7,SNR=3.4						
KSRS	**Korea Array**	**32.90 71**		P	**P**	**17 41 49.8**	**-1.2**
	comp=Z,0.7nm,0.6s,mb3.8,baz=276,slow=8.1,SNR=4.2						
JOW	**Kunigami**	**35.55 89**		LR	LR	17 56 41.1	
	comp=Z,50nm,19.4s,MS3.3,baz=129,slow=36						
MJAR	**Matsushiro Arr**	**41.18 71**		P	**P**	**17 43 02.1**	**+0.9**
	comp=Z,0.5nm,0.6s,mb3.3,baz=272,slow=12,SNR=2.9						
TIXI	**Tiksi**	**44.13 17**		*e*P	**P**	**17 43 26.4**	**+1.8**
	comp=Z,1.2nm,0.6s,mb3.8						
AKASG	**Malin Array Be**	**45.56 311**		P	**P**	**17 43 35.2**	**-1.0**
	comp=Z,0.4nm,0.5s,mb3.6,baz=81,slow=7.6,SNR=4.4						
FINES	**FINESS Array B**	**47.90 325**		P	**P**	**17 43 52.8**	**-1.6**
	comp=Z,1.1nm,0.8s,mb4.0,baz=106,slow=10,SNR=2.2						
GERES	**GERESS Array B**	**55.76 310**		P	**P**	**17 44 54.4**	**+1.3**
	comp=Z,0.2nm,0.5s,mb3.5,baz=65,slow=7.9,SNR=3.4						
DAVOX	**Davos/Dischmat**	**58.78 308**		LR	LR	18 14 40.1	
	comp=Z,34nm,19.9s,MS3.5,baz=265,slow=40						
WRA	**Warramunga Arr**	**69.16 133**		P	**P**	**17 46 21.6**	**-1.3**
	comp=Z,0.2nm,0.4s,mb3.4,baz=325,slow=6.3,SNR=5.9						
ASAR	**Alice Springs**	**71.73 136**		P	**P**	**17 46 38.7**	**+0.2**
	comp=Z,0.2nm,0.5s,mb3.3,baz=323,slow=7.3,SNR=6.8						
YKA	**Yellowknife Ar**	**82.89 10**		P	**P**	**17 47 41.5**	**+1.1**
YKA	**Yellowknife Ar**	**82.89 10**		P	**P**	**17 47 41.5**	**+1.1**
	comp=Z,0.4nm,0.7s,mb3.5,baz=334,slow=5.3,SNR=4.5						

MOS ***10*** *17:55:40.5±1.6, 4251N×4609E, h12km, mb3.7/1, Error ellipse: s-maj=43.2km s-min=19.2km az=22.0*
TIF ***10*** *17:55:40.1, 4195N×4584E, h20km±2km*
CSEM ***10*** *17:55:40.5, 4251N×4609E, h12km, mb3.7, After OBN*
ISC 10 17:55:39.7±1.4,4204N±004×**4590E**±009,**h6**km±6km,**n11,** σ1§**12/22,Eastern Caucasus**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DGRG	**David-gareji**	**0.70 214**		P	**Pg**	**17 55 53.2**	**0.0**
DGRG				S	**Sg**	**17 56 03.3**	**+0.9**
MTA	**Mtatsminda**	**0.89 248**		P	**Pg**	**17 55 56.1**	**-0.8**
MTA				S	**Sg**	**17 56 08.0**	**-0.5**
TBLG	**Delisi**	**0.92 251**		P	**Pg**	**17 55 56.5**	**-0.8**
TBLG				S	**Sg**	**17 56 09.0**	**-0.2**
GOR	**Gori**	**1.33 268**		P	**Pn**	**17 56 04.7**	**-0.1**
GOR				S	**Sb**	**17 56 21.9**	**-0.5**
VLKR	**Vladikavkaz**	**1.35 319**		*e*Pg	**Pg**	**17 56 03.7**	**-2.0**
VLKR				*e*Sg	**Sg**	**17 56 20.4**	**-2.8**
LACR	**Lac**	**1.42 304**		*i* Pg	**Pg**	**17 56 06.9**	**-0.1**
LACR				*i* Sg	**Sg**	**17 56 26.3**	**+0.8**
ZEI	**Tsey**	**1.65 297**		*i* Pn	**Pn**	**17 56 11.2**	**+2.0**
ZEI				*i* Sg	**Sg**	**17 56 34.2**	**+1.4**
ARNR	**Ardon**	**1.66 315**		*e*Pg	**Pn**	**17 56 08.9**	**-0.4**
ARNR				*e*Sg	**Sn**	**17 56 29.7**	**-1.2**
ONI	**Oni**	**1.90 287**		P	**Pn**	**17 56 14.0**	**+1.5**
ONI				S	**Sb**	**17 56 38.2**	**-0.4**
DIGR	**Digorskoe uzhe**	**1.92 297**		*i* Pn	**Pg**	**17 56 15.4**	**-1.1**
DIGR				*i* Sg	**Sg**	**17 56 41.2**	**-0.2**
LSNR	**Lesken**	**1.97 310**		*e*Pn	**Pg**	**17 56 19.4**	**+1.9**
LSNR				*e*Sg	**Sg**	**17 56 44.5**	**+1.4**

ISCJB ***10*** *17:57:28.3±1.2, 2313S±006×687W±0.1, h70km±12km, mb4.1/9, Error ellipse: s-maj=22.4km s-min=9.8km az=12.9*
NEIC ***10*** *17:57:32.0±0.6, 2314S×6865W, mb4.4/1, Error ellipse: s-maj=20.9km s-min=9.7km az=103.0*
IDC ***10*** *17:57:33.0±0.7, 2305S×6865W, h104km±5km, mb3.9/8, mb1 3.9/9, mb1mx3.8/16, mbtmp3.8/9, MS3.3/1, Ms1 3.3/1, ms1mx2.4/21, Error ellipse: s-maj=22.7km s-min=17.8km az=96.0*
ISC 10 17:57:30.3±1.0,2312S±007×**687W**±01,**h72**km±10km,**n29,** σ0§**97/26,mb4.1/9,Northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCO	**Las Campanas**	**6.14 197**		*e*Pn	**Pn**	**17 58 57.2**	**-1.2**
	59nm,0.4s						
LPAZ	**La Paz**	**6.82 4**		P	**Pn**	**17 59 09.6**	**+1.9**
	0.9nm,0.3s,baz=186,slow=9.1,SNR=16						
ARE	**Arequipa**	**7.14 338**		*e*P	**Pn**	**17 59 20.0**	**+7.9**
CFAA	**Coronel Fontan**	**8.46 178**		P	**Pn**	**17 59 30.4**	**+0.4**
CFAA				S	**Sn**	**18 00 58.5**	**-5.3**
CFAA	**Coronel Fontan**	**8.46 178**		P	**Pn**	**17 59 30.4**	**+0.4**
	0.5nm,0.3s,baz=354,slow=14,SNR=30						
CFAA				S	**Sn**	**18 00 58.5**	**-5.3**
	0.1nm,0.3s,baz=342,slow=20,SNR=1.7						
SIV	**San Ignacio**	**10.08 47**		P	**Pn**	**17 59 51.3**	**-0.9**
	2.9nm,0.3s,baz=239,slow=11,SNR=45						
SIV				S	**Sn**	**18 01 37.5**	**-6.1**
	0.7nm,0.3s,baz=142,slow=22,SNR=6.2						
TRQA	**Tornquist**	**15.95 160**		*e*P	**Pn**	**18 01 10.3**	**+0.1**
	21nm,0.8s						
PLCA	**Paso Flores**	**17.63 185**		P	**Pn**	**18 01 29.7**	**-1.3**
	0.4nm,0.3s,baz=4.3,slow=14,SNR=8.6						
PLCA				LR	LR	18 08 31.4	
	comp=Z,93nm,19.4s,baz=183,slow=37						
BDFB	**Brasilia**	**20.84 73**		P	**P**	**18 02 06.5**	**+0.2**
	20nm,0.9s,baz=233,slow=17,SNR=16						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA3	**Neumayer Olymp**	**58.47 161**		*e*	**P**	**18 07 19.5**	**+1.1**
VNA3				*e*		18 07 21.8	
VNA3				*e*		18 07 25.8	
VNA1	**Neumayer--Stat**	**58.69 160**		*e*	**P**	**18 07 21.4**	**+1.5**
VNA1				*e*		18 07 23.8	
VNA1				*e*		18 07 28.4	
VNA2	**Neumayer--Watz**	**59.05 160**		*e*	**P**	**18 07 23.5**	**+1.1**
VNA2				*e*		18 07 25.9	
VNA2				*e*		18 07 29.8	
SNAA	**Sanae**	**60.68 161**		*e*	**P**	**18 07 34.6**	**+1.0**
SNAA				*e*		18 07 37.0	
SNAA				*e*		18 07 40.7	
SNAA	**Sanae**	**60.68 161**		P	**P**	**18 07 33.1**	**-0.4**
	2.6nm,0.7s,mb4.4,baz=289,slow=6.0,SNR=27						
QSPA	**South Pole Qui**	**67.08 180**		*e*P	**P**	**18 08 16.5**	**+1.1**
	6.7nm,0.4s,mb4.8						
DBIC	**Dimbokro**	**68.99 73**		P	**P**	**18 08 27.7**	**-0.8**
	2.6nm,0.6s,mb4.2,baz=221,slow=11,SNR=5.9						
VNDA	**Vanda**	**75.30 190**		P	**P**	**18 09 05.5**	**+0.4**
	1.3nm,0.9s,mb3.7,baz=102,slow=4.6,SNR=5.9						
PDAR	**Pinedale Array**	**75.62 330**		P	**P**	**18 09 07.0**	**-0.4**
	0.4nm,0.8s,mb3.2,baz=74,slow=10,SNR=2.8						
ULM	**Lac du Bonnet**	**76.92 342**		pP	pP	18 09 38.5	+4.7
	2.5nm,0.5s,baz=159,slow=7.3,SNR=5.8						
TORD	**Torodi Ar. Bea**	**77.69 70**		P	**P**	**18 09 18.9**	**-0.7**
	10nm,0.8s,mb4.6,baz=255,slow=5.2,SNR=79						
TORD				pP	pP	18 09 45.4	+6.4
	3.5nm,0.6s,baz=250,slow=5.4,SNR=3.7						
BOSA	**Boshof**	**82.49 118**		P	**P**	**18 09 44.5**	**-0.9**
	3.2nm,0.8s,mb4.2,baz=46,slow=3.9,SNR=4.5						
MAW	**Mawson**	**82.72 163**		P	**P**	**18 09 45.2**	**-0.6**
	2.9nm,0.5s,mb4.3,baz=236,slow=23,SNR=12						
YKA	**Yellowknife Ar**	**92.78 340**		P	**P**	**18 10 32.9**	**-1.3**
YKA				pP	pP	18 10 59.5	+5.6
YKA	**Yellowknife Ar**	**92.78 340**		P	**P**	**18 10 32.9**	**-1.3**
	0.3nm,0.7s,mb3.7,baz=135,slow=4.5,SNR=5.8						
YKA				pP	pP	18 10 59.5	+5.6
	1.6nm,0.7s,baz=133,slow=4.5,SNR=17						
ASAR	**Alice Springs**	**128.58 207**		PKP	PKPdf	18 16 27.4	-2.3
	0.7nm,0.6s,baz=131,slow=2.2,SNR=14						
ASAR				pPKP	pPKPdf	18 16 57.4	+7.2
	0.5nm,0.8s,baz=137,slow=1.8,SNR=2.9						
WRA	**Warramunga Arr**	**131.67 209**		PKP	PKPdf	18 16 34.6	-1.0
	0.6nm,0.6s,baz=153,slow=1.6,SNR=15						
WRA				pPKP	pPKPdf	18 17 03.5	+7.3
	0.4nm,0.7s,baz=151,slow=1.8,SNR=1.9						
ZALV	**Zalesovo Beam**	**143.31 26**		PKhKP		18 16 49.3	
	0.3nm,0.4s,baz=298,slow=3.1,SNR=2.1						
MK31	**Makanchi Array**	**146.79 38**		*e*PKPbc	PKPbc	18 17 02.2	-1.9
MKAR	**Makanchi Array**	**146.79 38**		PKPbc	PKPbc	18 17 01.7	-2.4
	0.6nm,0.5s,baz=335,slow=2.6,SNR=12						
MKAR				pPKPbc	pPKPbc	18 17 29.9	+5.5
	3.4nm,0.7s,baz=340,slow=2.3,SNR=14						

NIED ***10*** *18:18:00, 3090N×142.40E, h5km, Mw3.8 Best double couple: M0=5.62000×10^14 NP1:φ=178.00000°, δ=64.00000°, λ=88.00000°. NP2:φ=2.00000°, δ=26.00000°, λ=94.00000°.*
NEIC ***10*** *18:18:51.9±0.9, 3086N×142.11E, h10km, mb4.2/2, Error ellipse: s-maj=28.4km s-min=13.5km az=70.0*
JMA ***10*** *18:18:52.9±0.2, 3086N×142.38E, h8km, M3.5*
MOS ***10*** *18:18:53.6±0.9, 3088N×141.98E, h33km, mb4.6/1, Error ellipse: s-maj=45.1km s-min=13.1km az=118.2*
ISCJB ***10*** *18:18:53.1±0.7, 3086N±005×142.1E±0.1, h33km, mb3.8/8, Error ellipse: s-maj=18.8km s-min=5.4km az=161.7*
IDC ***10*** *18:18:56.0±1.1, 3086N×142.08E, h37km±7km, mb3.5/6, mb1 3.7/10, mb1mx3.5/23, mbtmp3.6/10, ML3.4/4, MS3.1/4, Ms1 3.1/4, ms1mx2.8/30, Error ellipse: s-maj=35.4km s-min=16.7km az=71.0*
ISC 10 18:18:54.8±0.7,3081N±005×**1422E**±01,**h35**km, **(h41**km±1.1km**:pP-P),n29,**σ1§**12/36,mb3.8/8,Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**3.04 320**		P	**Pn**	**18 19 40.9**	**+0.6**
JHJ2				*e*S	**Sn**	**18 20 17.3**	**+1.9**
JHJ	**Hachijo jima 2**	**3.06 319**		Pn	**Pn**	**18 19 38.3**	**-2.3**
	4.1nm,0.3s,baz=229,slow=19,SNR=5.7						
JHJ				Sn	**Sn**	**18 20 12.4**	**-3.6**
	19nm,0.3s,baz=61,slow=16,SNR=7.1						
JHJ				LR	LR	18 20 18.0	
	comp=Z,242nm,19.6s,baz=23,slow=28						
CBIJ	**Chichi jima**	**3.70 180**		Pn	**Pn**	**18 19 49.5**	**0.0**
	7.8nm,0.3s,baz=284,slow=19,SNR=32						
CBIJ				Sn	**Sn**	**18 20 30.1**	**-1.8**
	16nm,0.3s,baz=311,slow=22,SNR=7.3						
CBIJ				LR	LR	18 21 14.2	
	comp=Z,115nm,18.4s,baz=248,slow=37						
JOD2	**Odawara 2**	**5.13 331**		P	**Pn**	**18 20 09.1**	**0.0**
JOD2				*e*S	**Sn**	**18 21 08.9**	**+1.8**
JHU	**Hanno**	**5.57 335**		P	**Pn**	**18 20 14.3**	**-0.8**
JHU				*e*S	**Sn**	**18 21 16.1**	**-1.8**
JYT	**Yasato**	**5.64 344**		P	**Pn**	**18 20 16.4**	**+0.3**
JYT				*e*S	**Sn**	**18 21 20.6**	**+0.9**
JNY	**Yasuok**	**5.79 323**		P	**Pn**	**18 20 19.3**	**+1.2**
JRY	**Ryogami san**	**5.86 333**		P	**Pn**	**18 20 19.5**	**+0.4**
JRY				S	**Sn**	**18 21 24.1**	**-0.9**
JHO	**Hitachi**	**5.93 348**		P	**Pn**	**18 20 18.1**	**-2.0**
JAG	**Ashikaga**	**6.03 339**		P	**Pn**	**18 20 20.3**	**-1.2**
MJAR	**Matsushiro Arr**	**6.59 331**		Pn	**Pn**	**18 20 28.6**	**-0.5**
	2.2nm,0.3s,baz=156,slow=11,SNR=24						
MAJO	**Matsushiro**	**6.59 331**		*e*Pn	**Pn**	**18 20 27.6**	**-1.6**
	11nm,0.6s						
MAJO	**Matsushiro**	**6.59 331**		*e*P	**Pn**	**18 20 27.6**	**-1.6**
MAJO				pmax	pmax		
	comp=Z,11nm,0.6s						
MAT	**Matsushiro**	**6.59 331**		P	**Pn**	**18 20 28.7**	**-0.5**
MAT				*e*S	**Sn**	**18 21 42.6**	**-0.5**
MAT	**Matsushiro**	**6.59 331**		P	**Pn**	**18 20 29.2**	**0.0**
KSRS	**Korea Array**	**13.52 303**		Pn	**Pn**	**18 22 04.0**	**+0.1**
	comp=Z,0.1nm,0.3s,baz=120,slow=14,SNR=4.0						
KSRS				LR	LR	18 27 16.4	
	comp=Z,26nm,19.4s,baz=220,slow=37						
ULN	**Ulaanbaatar**	**31.70 313**		*e*P	**P**	**18 25 16.0**	**+1.1**
	comp=Z,1.4nm,0.7s,mb3.9						
ULN	**Ulaanbaatar**	**31.70 313**		*e*P	**P**	**18 25 16.0**	**+1.1**
ULN				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb3.8						
SONM	**Songino Array**	**32.11 312**		P	**P**	**18 25 19.9**	**+1.3**
	comp=Z,0.7nm,0.7s,mb3.6,baz=110,slow=7.9,SNR=5.1						
BOD	**Bodaibo**	**33.23 333**		*e*P	**P**	**18 25 29.3**	**+1.2**
MKAR	**Makanchi Array**	**48.16 307**		P	**P**	**18 27 31.9**	**+0.5**
	comp=Z,1.0nm,0.7s,mb4.0,baz=91,slow=9.4,SNR=16						
MKAR				pP	pP	18 27 43.3	+1.5
	comp=Z,1.5nm,0.7s,baz=92,slow=9.1,SNR=13						
KURK	**Kurchatov**	**50.42 312**		*e*P	**P**	**18 27 47.8**	**-0.8**
	comp=Z,4.6nm,0.9s,mb4.5						
KURK				*e*	pP	18 27 59.1	0.0
KURK	**Kurchatov**	**50.42 312**		*e*P	**P**	**18 27 47.8**	**-0.8**
KURK				*e*	pP	18 27 59.1	+0.1
KURK				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.5						
WRA	**Warramunga Arr**	**51.02 189**		P	**P**	**18 27 54.6**	**+1.2**
	comp=Z,0.7nm,0.3s,mb4.0,baz=5.9,slow=7.5,SNR=11						
WRA				pP	pP	18 28 06.0	+2.2
	comp=Z,1.2nm,0.6s,baz=7.5,slow=7.8,SNR=3.6						
AKTK	**Aktyubinsk**	**63.38 315**		P	**P**	**18 29 20.7**	**+0.3**
AKTO	**Aktyubinsk**	**63.38 315**		P	**P**	**18 29 20.7**	**+0.3**
	comp=Z,0.9nm,0.8s,mb4.0,baz=69,slow=9.8,SNR=4.1						
YKA	**Yellowknife Ar**	**68.90 29**		P	**P**	**18 29 56.7**	**+1.1**
	comp=Z,0.2nm,0.6s,mb3.2,baz=292,slow=6.6,SNR=3.9						
URZ	**Urewera**	**76.06 152**		LR	LR	19 00 33.8	
	comp=Z,80nm,18.7s,baz=302,slow=33						
AKASG	**Malin Array Be**	**79.62 323**		P	**P**	**18 30 58.8**	**+0.5**
	comp=Z,0.2nm,0.2s,mb3.6,baz=48,slow=6.0,SNR=5.1						
AKASG				pP	pP	18 31 09.8	+0.5
	comp=Z,0.4nm,0.5s,baz=50,slow=5.5,SNR=2.2						

MAN ***10*** *18:20:15, 1182N×126.28E, h33km, mb5.1, ML4.0, MS4.1*
ISCJB ***10*** *18:20:15.8±1.5, 1168N±003×126.28E±0.04, h24km±10km, mb4.4/40, MS3.7/3, Error ellipse: s-maj=6.6km s-min=5.2km az=177.0*
MOS ***10*** *18:20:16.8±0.8, 1163N×126.13E, h33km, mb4.5/7, Error ellipse: s-maj=23.6km s-min=9.2km az=107.2*
BJI ***10*** *18:20:18.3, 1165N×126.13E, h39km, mB4.6, mb4.5, Ms4.1, Msz3.9*
NEIC ***10*** *18:20:20.0±1.6, 1162N×126.09E, h43km±15km, mb4.7/18, Error ellipse: s-maj=9.6km s-min=4.9km az=81.0*
IDC ***10*** *18:20:20.5±4.3, 1164N×126.01E, h44km±42km, mb4.0/16, mb1 4.1/17, mb1mx4.0/24, mbtmp4.0/17, ML3.8/1, Error ellipse: s-maj=35.1km s-min=11.2km az=77.0*
ISC 10 18:20:17.6±1.6,1167N±003×**1264E**±004,**h43**km±11km, **n97,**σ1§**10/103,mb4.4/40,MS3.7/3,8C-2D,Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLP	**Palo**	**1.33 248**		*e*P	**Pn**	**18 20 38.3**	**-2.6**
OCLP	**Ormoc**	**1.71 249**		*e*P	**Pn**	**18 20 45.1**	**-1.1**
OCLP				*e*S	**Sn**	**18 21 06.8**	**-0.5**
CNP	**Catarman**	**1.76 299**		*e*P	**Pn**	**18 20 44.7**	**-2.1**
CNP				*e*S	**Sn**	**18 21 04.2**	**-4.2**
SCPH	**Surigao**	**2.02 202**⇓*e*P			**Pn**	**18 20 49.7**	**-0.6**
MSLP	**Maasin**	**2.04 222**		*e*P	**Pn**	**18 20 51.3**	**+0.6**
LLP	**Lapu-Lapu**	**2.61 239**⇑*e*P			**Pn**	**18 20 57.8**	**-0.6**
LLP				*e*S	**Sn**	**18 21 30.8**	**+1.4**
PVCP	**Virac**	**2.80 313**⇓*i*P			**Pn**	**18 21 00.5**	**-0.6**
PVCP				*i* S	**Sn**	**18 21 35.5**	**+1.4**
PVCP	**Virac**	**2.80 313**		*e*P	**Pn**	**18 20 57.7**	**-3.4**
TBP	**Tagbilaran**	**3.06 230**		*e*P	**Pn**	**18 21 05.6**	**+1.0**
TBP				*e*S	**Sn**	**18 21 41.3**	**+0.8**
RCP	**Roxas**	**3.43 269**⇑*e*P			**Pn**	**18 21 10.1**	**+0.4**
GUIM	**Jordan**	**3.73 254**		*e*P	**Pn**	**18 21 12.7**	**-1.2**
KALP	**Kalibo**	**3.82 271**⇑*e*P			**Pn**	**18 21 16.7**	**+1.5**
BUKP	**Musuan**	**3.94 197**		*e*P	**Pn**	**18 21 18.2**	**+1.4**
OTRP	**Odiongan**	**4.19 280**		*e*P	**Pn**	**18 21 19.9**	**-0.3**
PAGZ	**Pagadian**	**4.73 217**		*e*P	**Pn**	**18 21 27.6**	**0.0**
POLP	**Polillo Island**	**5.18 306**		*e*P	**Pn**	**18 21 36.0**	**+2.2**
CUYO	**Cuyo Island**	**5.19 262**		*e*P	**Pn**	**18 21 35.0**	**+1.1**
BUSP	**Coron**	**5.93 274**		*e*P	**Pn**	**18 21 44.1**	**0.0**
BALP	**Baler**	**6.08 312**		*e*P	**Pn**	**18 21 53.0**	**+6.9**
LUBP	**Lubang**	**6.20 290**		*e*P	**Pn**	**18 21 47.8**	**-0.1**
PALP	**Palanan**	**6.51 326**		*e*P	**Pn**	**18 22 00.0**	**+7.8**
CAUP	**Cauayan**	**6.77 321**		*e*P	**Pn**	**18 21 53.1**	**-2.6**
APYP	**Conner**	**7.83 322**		*e*P	**Pn**	**18 22 08.3**	**-2.0**
JOW	**Kunigami**	**15.21 7**		P	**Pn**	**18 23 52.4**	**+1.3**
	0.8nm,0.3s,baz=152,slow=18,SNR=3.5						
QIZ	**Qiongzhong**	**17.42 297**		*e*P	**Pn**	**18 24 20.0**	**+0.7**
QIZ				*e*S	**Sn**	**18 27 33.3**	**+0.6**
QIZ				LR	LR		
	comp=N,231nm,15.2s						
QIZ				LR	LR		
	comp=Z,233nm,18.0s						
KSM	**Kuching**	**18.77 239**		*e*P	**Pn**	**18 24 35.9**	**-0.2**
KSM				*e*		18 24 45.7	
NJ2	**Nanjing**	**21.40 343**		*e*P	**P**	**18 25 07.5**	**+3.6**
NJ2				AMB	AMB		
	comp=Z,56nm,0.5s,mb5.2						
WHN	**Wuhan**	**21.78 331**		P	**P**	**18 25 04.9**	**-3.1**
BATI	**Kupang**	**21.88 187**		P	**P**	**18 25 10.7**	**+1.5**
	comp=Z,78nm,0.6s,mb5.3,baz=333,slow=2.3,SNR=21						
KSRS	**Korea Array**	**25.72 3**		P	**P**	**18 25 46.8**	**+0.5**
	comp=Z,3.1nm,0.8s,mb3.9,baz=186,slow=10,SNR=13						
KMI	**Kunming**	**25.95 304**		P	**P**	**18 25 47.7**	**-0.9**
KMI				AMB	AMB		
	comp=Z,4.0nm,0.8s,mb4.0						
KULM	**Kulim**	**26.08 258**		P	**P**	**18 25 46.9**	**-3.0**
MAJO	**Matsushiro**	**27.02 22**		P	**P**	**18 25 59.1**	**+1.1**
	comp=Z,2.4nm,0.7s,mb3.8						
MAJO	**Matsushiro**	**27.02 22**		P	**P**	**18 25 59.1**	**+1.0**
MAJO				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb3.8						
XAN	**Xi'an**	**27.31 327**		P	**P**	**18 25 59.6**	**-1.2**
XAN				AP	pP	18 26 08.5	+1.0
XAN				AMB	AMB		
	comp=Z,3.0nm,1.0s,mb3.8						
XAN				LR	LR		
	comp=N,83nm,17.7s,MS3.5						
XAN				LR	LR		
	comp=E,82nm,15.3s,MS3.5						
XAN				LR	LR		
	comp=Z,160nm,15.3s,MS3.7						
CD2	**Chengdu**	**28.28 316**		*e*P	**P**	**18 26 12.0**	**+2.6**
CD2				PP	PP	18 27 05.2	-8.3
CD2				S	**S**	**18 30 53.2**	**-1.3**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.6						
CD2				AMB	AMB		
	comp=Z,30nm,4.2s						
CD2				LR	LR		
	comp=N,230nm,12.8s,MS4.0						
CD2				LR	LR		
	comp=E,100nm,14.0s,MS4.0						
CD2				LR	LR		
	comp=Z,210nm,15.2s,MS3.9						
FITZ	**Fitzroy Crossi**	**29.59 181**		P	**P**	**18 26 20.2**	**-0.9**
	comp=Z,2.4nm,0.8s,mb4.0,baz=353,slow=8.1,SNR=3.3						
LZH	**Lanzhou**	**31.63 324**		*e*P	**P**	**18 26 40.4**	**+1.3**
LZH				AP	pP	18 26 55.1	+9.2
LZH				AMB	AMB		
	comp=Z,21nm,1.2s,mb4.8

comp=Z,8.8nm,0.7s,mb4.8
UCH e 18 29 51.5
UCH Uchtor 54.18 314 P **P 18 29 42.5 +1.1**
SNR=11
SEY Seymchan 54.48 14⇑ *e*P **P 18 29 42.8 -0.4**
USP Ospenovka 54.53 315 P **P 18 29 43.6 -0.3**
SNR=5.6
NVS Novosibirsk 54.67 331 *e*P **P 18 29 37.1 -7.6**
AML Almayashu 54.73 314 *e*P **P 18 29 45.9 +0.4**
comp=Z,7.1nm,0.8s,mb4.8
AML e 18 29 55.1
EKS2 Erkin-Say 54.84 314 *e*P **P 18 29 46.1 -0.1**
comp=Z,4.8nm,0.8s,mb4.6
EKS2 e 18 29 55.0
EKS2 Erkin-Say 54.84 314 P **P 18 29 46.5 +0.3**
SNR=5.7
KURK Kurchatov 54.91 325 *e*P **P 18 29 45.7 -0.8**
comp=Z,16nm,1.1s,mb5.0
KURK e 18 29 55.2
KURK Kurchatov 54.91 325⇑ *e*P **P 18 29 46.0 -0.5**
TIXI Tiksi 59.96 1 *e*P **P 18 30 21.3 -0.5**
comp=Z,2.0nm,0.8s,mb4.2
TIXI Tiksi 59.96 1⇑ *e*P **P 18 30 20.9 -0.9**
TIXI pmax pmax
comp=Z,7.0nm,2.1s,mb4.3
BRVK Borovoye 60.58 325 *e*P **P 18 30 26.1 -0.3**
comp=Z,4.4nm,0.7s,mb4.7
BRVK e 18 30 35.4
BRVK Borovoye 60.58 325 *e*P **P 18 30 26.1 -0.3**
BRVK e 18 30 35.4
BRVK pmax pmax
comp=Z,4.0nm,0.7s,mb4.7
AKTK Aktyubinsk 67.24 320 P **P 18 31 09.7 -0.5**
AKTO Aktyubinsk 67.24 320 P **P 18 31 09.7 -0.5**
comp=Z,0.9nm,0.5s,mb4.0,baz=166,slow=6.0,SNR=4.3
RPZ Rata Peaks 68.56 147 P **P 18 31 19.3 +0.8**
comp=Z,11nm,0.7s,mb4.9,baz=271,slow=6.5,SNR=5.3
IMA2 Indian Mountai 75.38 25 *e*P **P 18 32 00.5 +1.3**
KIV Kislovodsk 77.39 313 *e*P **P 18 32 10.9 -0.1**
comp=Z,9.5nm,0.8s,mb4.8
KIV e 18 32 19.9
KIV Kislovodsk 77.39 313 *e*P **P 18 32 10.0 -1.0**
KIV pmax pmax
comp=Z,11nm,0.9s,mb4.8
KIV MLR MLR
comp=Z,24nm,17.0s,MS3.6
ARCES ARCESS Array B 82.88 340 P **P 18 32 39.9 -0.3**
comp=Z,2.1nm,0.6s,mb4.4,baz=76,slow=5.1,SNR=10
INK Inuvik 83.00 22 *e*P **P 18 32 40.0 -0.8**
comp=Z,46nm,0.6s
INK Inuvik 83.00 22 P **P 18 32 41.8 +1.0**
comp=Z,1.3nm,0.6s,mb4.1,baz=262,slow=4.4,SNR=7.2
FINES FINESS Array B 84.66 332 P **P 18 32 49.0 -0.3**
comp=Z,2.6nm,0.7s,mb4.5,baz=84,slow=5.9,SNR=7.8
AKASG Malin Array Be 85.47 321 P **P 18 32 52.6 -1.1**
comp=Z,1.9nm,0.6s,mb4.4,baz=65,slow=4.7,SNR=16
RES Resolute Bay 90.14 10 *e*P **P 18 33 15.8 +0.2**
comp=Z,57nm,0.9s
YKA Yellowknife Ar 92.50 24 P **P 18 33 26.9 +0.2**
YKA Yellowknife Ar 92.50 24 P **P 18 33 26.9 +0.2**
comp=Z,0.2nm,0.4s,mb3.8,baz=304,slow=4.5,SNR=4.5
TORD Torodi Ar. Bea 119.72 293 PKP PKPdf 18 39 05.9 -1.0
comp=Z,0.4nm,0.8s,baz=74,slow=3.0,SNR=4.2

BJI ***10*** *18:27:55.6, 487S×12957E, h43km, mB4.9, mb4.8, Ms4.7, Ms2.4*
IDC ***10*** *18:27:59.8±0.6, 385S×12894E, h0km, mb4.4/12, mb1 4.4/15, mb1mx4.4/21, mbtmp4.4/15, ML3.7/3, MS3.2/2, Ms1 3.2/2, ms1mx2.9/26, Error ellipse: s-maj=27.8km s-min=13.0km az=75.0*
ISCJB ***10*** *18:28:00.9±1.8, 389S±005×12896E±008, h20km±13km, mb4.5/34, MS3.1/2, Error ellipse: s-maj=14.1km s-min=6.3km az=156.9*
MOS ***10*** *18:28:02.6±0.9, 391S×12881E, h33km, mb4.6/10, Error ellipse: s-maj=21.0km s-min=8.1km az=109.9*
NEIC ***10*** *18:28:05.5±1.5, 387S×12899E, h44km±15km, mb4.5/22, Error ellipse: s-maj=11.4km s-min=7.2km az=64.0*
ISC 10 18:28:06.2±1.3, 394S±006×12898E±008, h49km±13km, n76, σ1°01/76, mb4.5/34, MS3.1/2, 3C-1D, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAI	**Ambon**	**0.82**	**288**	P	**Pn**	**18 28 14.7**	**-6.8**
	8μm,0.9s						
BATI	**Kupang**	**8.16**	**220**	Pn	**Pn**	**18 30 02.0**	**0.0**
	1.0nm,0.3s,baz=90,slow=5.1,SNR=3.3						
KAKA	**Kakadu**	**9.36**	**159**	*e*P	**Pn**	**18 30 20.0**	**+1.5**
	18nm,0.6s						
KAKA	**Kakadu**	**9.36**	**159**	*e*Pn	**Pn**	**18 30 19.4**	**+0.8**
KAKA				*e*Sn	**Sn**	**18 32 01.6**	**-0.8**
PCI	**Palu**	**9.62**	**288**	P	**Pn**	**18 30 23.6**	**+1.5**
	57nm,1.1s						
FITZ	**Fitzroy Crossi**	**14.45**	**193**	*e*P	**Pn**	**18 31 29.6**	**+1.7**
	9.4nm,0.6s						
FITZ	**Fitzroy Crossi**	**14.45**	**193**	Pn	**Pn**	**18 31 28.1**	**+0.1**
	0.1nm,0.3s,baz=20,slow=9.6,SNR=4.4						
WRAB	**Tennant Creek**	**16.73**	**162**	*e*Pn	**Pn**	**18 31 56.0**	**-1.3**
	20nm,1.1s						
WRAB	**Tennant Creek**	**16.73**	**162**	*e*P	**Pn**	**18 31 56.0**	**-1.3**
WRAB				pmax	pmax		
	comp=Z,20nm,1.1s						
WRA	**Warramunga Arr**	**16.74**	**162**	Pn	**Pn**	**18 31 55.8**	**-1.6**
	comp=Z,0.4nm,0.3s,baz=348,slow=13,SNR=24						
WB2	**Warramunga Arr**	**16.74**	**162**	*e*P	**Pn**	**18 31 55.8**	**-1.6**
MBWA	**Marble Bar**	**19.33**	**207**	*e*P	**Pn**	**18 32 28.9**	**-0.1**
	comp=Z,12nm,0.8s						
KSM	**Kuching**	**19.42**	**286**	*e*P	**Pn**	**18 32 28.6**	**-1.5**
ASAR	**Alice Springs**	**20.18**	**167**	P	**P**	**18 32 38.8**	**+2.0**
	comp=Z,40nm,0.8s,baz=346,slow=10,SNR=312						
ASAR				PcP	PcP	18 36 50.6	+0.6
	comp=Z,1.3nm,0.5s,baz=4.6,slow=1.6,SNR=13						
CTA	**Charters Tower**	**23.26**	**135**	*e*P	**P**	**18 33 10.9**	**+1.2**
	comp=Z,11nm,0.8s,mb4.3						
CTA	**Charters Tower**	**23.26**	**135**	*e*P	**P**	**18 33 10.9**	**+1.2**
CTA				pmax	pmax		
	comp=Z,11nm,0.8s						
CTA	**Charters Tower**	**23.26**	**135**	P	**P**	**18 33 11.1**	**+1.3**
	comp=Z,21nm,1.0s,mb4.5,baz=321,slow=11,SNR=9.7						
CTA				LR	LR	18 41 07.3	
	comp=Z,56nm,19.4s,MS3.0,baz=224,slow=34						
CTAO	**Charters Tower**	**23.26**	**135**	*e*P	**P**	**18 33 10.6**	**+0.9**
	comp=Z,19nm,0.9s,mb4.5						
CTAO	**Charters Tower**	**23.26**	**135**	*e*P	**P**	**18 33 10.6**	**+0.9**
CTAO				pmax	pmax		
	comp=Z,19nm,0.9s,mb4.5						
FORT	**Forrest**	**26.71**	**182**	*e*P	**P**	**18 33 41.8**	**+0.8**
	comp=Z,16nm,0.8s,mb4.6						
KULM	**Kulim**	**29.75**	**288**	*e*P	**P**	**18 34 07.7**	**-0.6**
STKA	**Stephens Creek**	**30.21**	**158**	P	**P**	**18 34 12.9**	**+0.8**
	comp=Z,1.6nm,0.5s,mb4.0,baz=332,slow=11,SNR=5.9						
PSI	**Prapat**	**30.77**	**282**	P	**P**	**18 34 16.2**	**-1.2**
	comp=Z,4.0nm,0.5s,mb4.5,baz=45,slow=7.1,SNR=4.9						
NWAO	**Narrogin (SRO)**	**30.86**	**199**	*e*P	**P**	**18 34 17.5**	**-0.4**
	comp=Z,44nm,1.4s,mb5.1						
NWAO	**Narrogin (SRO)**	**30.86**	**199**	*e*P	**P**	**18 34 17.5**	**-0.4**
NWAO				pmax	pmax		
	comp=Z,44nm,1.4s						
JNU	**Nakatsue**	**36.91**	**3**	P	**P**	**18 35 10.3**	**0.0**
	comp=Z,3.7nm,0.8s,mb4.2,baz=198,slow=3.2,SNR=3.7						
NJ2	**Nanjing**	**37.07**	**346**	*e*P	**P**	**18 35 11.5**	**-0.2**
NJ2				AMB	AMB		
	comp=Z,20nm,0.7s,mb5.1						
MJAR	**Matsushiro Arr**	**41.19**	**11**	P	**P**	**18 35 44.5**	**-1.6**
	comp=Z,3.1nm,1.0s,mb3.9,baz=185,slow=9.8,SNR=5.7						
MAJO	**Matsushiro**	**41.19**	**11**	P	**P**	**18 35 45.5**	**-0.5**
	comp=Z,4.0nm,0.8s,mb4.1						
MAJO	**Matsushiro**	**41.19**	**11**	P	**P**	**18 35 45.5**	**-0.6**
MAJO				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.1						
KSRS	**Korea Array**	**41.20**	**359**	P	**P**	**18 35 46.5**	**+0.4**
	comp=Z,1.3nm,0.6s,mb3.7,baz=177,slow=8.9,SNR=7.9						
KSRS				LR	LR	18 52 04.4	
	comp=Z,36nm,19.2s,MS3.3,baz=198,slow=35						
CD2	**Chengdu**	**42.20**	**327**	*e*P	**P**	**18 35 56.8**	**+2.4**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.5						
CD2				AMB	AMB		
	comp=Z,30nm,5.2s						
LZH	**Lanzhou**	**46.25**	**332**	*e*P	**P**	**18 36 27.9**	**+1.1**
LZH				AP	pP	18 36 43.3	+3.3
LZH				AMB	AMB		
	comp=Z,20nm,1.2s,mb4.9						
LZH				AMB	AMB		
	comp=Z,102nm,4.8s						
LSA Lhasa 49.31 315 *e*P **P 18 36 51.3 +0.6**							
	comp=Z,1.6nm,0.7s,mb4.2						
LSA Lhasa 49.31 315 *e*P **P 18 36 51.3 +0.7**							
LSA				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.3						
PALK Pallekele 49.45 283 P **P 18 36 51.3 -0.6**							
	comp=Z,8.9nm,1.1s,mb4.7						
GTA Gaotai 50.82 331 *e*P **P 18 37 02.5 +0.6**							
GTA				AMB	AMB		
	comp=Z,4.0nm,0.9s,mb4.3						
KLR Kul'dur 53.01 2 *e*P **P 18 37 13.4 -4.6**							
ULN Ulaanbaatar 55.06 342 *e*P **P 18 37 33.3 +0.3**							
	comp=Z,3.0nm,0.9s,mb4.3						
ULN				*e*		18 37 39.0	
ULN Ulaanbaatar 55.06 342 *c i*P **P 18 37 32.8 -0.2**							
SONM Songino Array 55.24 342 P **P 18 37 35.2 +0.9**							
	comp=Z,1.6nm,1.0s,mb4.0,baz=157,slow=8.0,SNR=7.8						
ZAK Zakamensk 58.46 341 *e*P **P 18 37 55.6 -1.4**							
TLY Talaya 59.47 342 P **P 18 38 00.7 -3.4**							
BOD Bodaibo 62.74 351 *e*P **P 18 38 26.6 +0.6**							
BOD				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.6						
CASY Casey 63.55 188 *e*P **P 18 38 27.5 -3.8**							
	comp=Z,10nm,0.4s,mb5.2						
MK31 Makanchi Array 65.13 327 *e*P **P 18 38 41.6 -0.4**							
MKAR Makanchi Array 65.13 327 P **P 18 38 42.1 +0.2**							
	comp=Z,3.8nm,0.7s,mb4.5,baz=128,slow=7.7,SNR=66						
YAK Yakutsk 65.79 0 *e*P **P 18 38 46.1 +0.2**							
	comp=Z,24nm,0.8s,mb5.3						
YAK				*e*		18 38 52.0	
YAK Yakutsk 65.79 0 *e*P **P 18 38 46.3 +0.4**							
YAK				pmax	pmax		
	comp=E,2.0nm,0.9s						
YAK				pmax	pmax		
	comp=Z,22nm,0.9s,mb5.2						
YAK				pmax	pmax		
	comp=N,7.0nm,1.3s						
TKM2 Tokmak 2 67.00 320 *e*P **P 18 38 54.0 -0.1**							
	comp=N,3.7nm,0.8s,mb4.5						
TKM2				*e*		18 38 60.0	
TKM2 Tokmak 2 67.00 320 *e*P **P 18 38 54.0 -0.1**							
TKM2				*e*		18 39 00.0	
TKM2				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.5						
UCH Uchtor 67.36 319 *e*P **P 18 38 56.7 +0.3**							
	comp=Z,1.0nm,0.6s,mb4.0						
AML Almayashu 67.85 319 *e*P **P 18 39 00.0 +0.5**							
	comp=Z,4.2nm,0.8s,mb4.5						
EKS2 Erkin-Say 68.05 319 *e*P **P 18 39 01.0 +0.3**							
	comp=Z,2.4nm,0.8s,mb4.3						
ZALV Zalesovo Beam 68.41 334 P **P 18 39 01.9 -0.8**							
	comp=Z,4.0nm,0.7s,mb4.5,baz=115,slow=5.6,SNR=20						
ZAL Zalesovo 68.41 334 P **P 18 39 01.9 -0.8**							
SEY Seymchan 69.02 11⇓ *e*P **P 18 39 08.2 +1.9**							
KURK Kurchatov 69.40 328 *e*P **P 18 39 07.7 -1.2**							
	comp=Z,11nm,0.9s,mb4.8						
KURK Kurchatov 69.40 328⇑ *e*P **P 18 39 07.9 -1.0**							
NVS Novosibirsk 69.69 334 *e*P **P 18 39 09.6 -1.1**							
BRVK Borovoye 75.02 328 *e*P **P 18 39 42.3 -0.2**							
	comp=Z,3.8nm,0.9s,mb4.3						
BRVK Borovoye 75.02 328 *e*P **P 18 39 42.3 -0.2**							
BRVK				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.3						
TIXI Tiksi 75.45 360 *e*P **P 18 39 44.2 -0.4**							
	comp=Z,3.0nm,0.7s,mb4.3						
TIXI				*e*		18 39 50.1	
TIXI Tiksi 75.45 360⇑ *e*P **P 18 39 44.5 -0.1**							
TIXI				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.3						
VNDA Vanda 75.58 173 P **P 18 39 45.9 +0.5**							
	comp=Z,1.4nm,0.8s,mb4.0,baz=321,slow=6.6,SNR=18						
SBA Scott Base 76.48 172 *e*P **P 18 39 51.3 +0.9**							
	comp=Z,3.6nm,0.8s,mb4.3						
SBA Scott Base 76.48 172 *e*P **P 18 39 51.3 +0.9**							
SBA				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
AKTK Aktyubinsk 81.05 322 P **P 18 40 16.3 +0.4**							
AKTO Aktyubinsk 81.05 322 P **P 18 40 16.3 +0.3**							
	baz=113,slow=9.2						
ARU Arti 82.59 328 P **P 18 40 23.2 -0.8**							
	comp=Z,7.5nm,0.9s,mb4.7						
ARU Arti 82.59 328 P **P 18 40 23.2 -0.7**							
ARU				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.7						
QSPA South Pole Qui 86.01 180 *e*P **P 18 40 41.0 0.0**							
	comp=Z,2.5nm,0.6s,mb4.6						
GOF Gofitskoye 89.90 315 *e*P **P 18 41 02.8 +2.7**							
INK Inuvik 96.42 22 P **P 18 41 28.7 -1.0**							
INK Inuvik 96.42 22 P **P 18 41 28.7 -1.0**							
	comp=Z,0.7nm,0.7s,mb4.2,baz=309,slow=6.5,SNR=3.8						
TORD Torodi Ar. Bea 127.17 283 PKP PKPdf 18 47 06.4 +0.1							
	comp=Z,2.2nm,0.7s,baz=69,slow=1.8,SNR=14						

IDC 10 18:51:11.9±1.6, 856S×15747E, h0km, mb3.7/4, mb1 3.8/5, mb1mx3.6/14, mbtmp3.8/5, ML4.2/1, Error ellipse: s-maj=38.8km s-min=28.8km az=175.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.60**	**110**	Pn	Pn	18 51 54.4	-0.8
	41nm,0.3s,baz=265,slow=6.8,SNR=21						
HNR				Sn	Sn	18 52 35.4	+8.0
	25nm,0.3s,baz=312,slow=1.1,SNR=5.6						
WRA	**Warramunga Arr**	**25.08**	**241**	P	P	18 56 37.6	-0.8
	1.3nm,0.8s,baz=67,slow=9.9,SNR=10.0						
ASAR	**Alice Springs**	**27.11**	**234**	P	P	18 56 55.5	-1.1
	0.5nm,1.0s,baz=58,slow=8.9,SNR=3.2						
STKA	**Stephens Creek**	**27.50**	**210**	P	P	18 57 02.0	+1.9
	1.0nm,0.7s,baz=22,slow=14,SNR=3.8						
MKAR	**Makanchi Array**	**86.19**	**318**	P	P	19 03 56.0	+0.8
	0.5nm,0.6s,baz=102,slow=5.9,SNR=7.7						

ISCJB ***10*** *18:59:50.0±0.9, 585N±0.10×12665E±009, h33km, mb3.5/4, Error ellipse: s-maj=17.4km s-min=9.3km az=42.4*
MAN ***10*** *18:59:52, 6.14N×12676E, h22km, mb5.0, ML3.9, MS4.0*
IDC ***10*** *19:00:13.5±7.5, 3.10N×12800E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.4/18, mbtmp3.6/4, Error ellipse: s-maj=123.9km s-min=97.3km az=134.0*
ISC 10 18:59:51.4±0.9, 59N±01×12662E±009, h35km, n7, σ0°69/9, mb3.5/4, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**1.09**	**341**	*e*P	**Pn**	**19 00 09.3**	**-0.8**
MATI				*e*S	**Sn**	**19 00 18.2**	**-5.7**
GSPH	**General Santos**	**1.67**	**276⇓**	*e*P	**Pn**	**19 00 17.9**	**-0.2**
GSPH				*e*S	**Sn**	**19 00 38.2**	**-0.1**
BUKP	**Musuan**	**2.49**	**322**	*e*P	**Pn**	**19 00 30.9**	**+1.4**
FITZ	**Fitzroy Crossi**	**23.88**	**182**	P	**P**	**19 05 02.2**	**+0.3**
	1.6nm,0.7s,mb3.6,baz=0.0,slow=3.0,SNR=3.7						
WRA	**Warramunga Arr**	**26.79**	**164**	P	**P**	**19 05 28.8**	**+0.5**
	0.7nm,0.5s,mb3.4,baz=342,slow=11,SNR=11						
ASAR	**Alice Springs**	**30.25**	**167**	P	**P**	**19 05 58.1**	**-0.9**
	0.3nm,0.5s,mb3.2,baz=340,slow=6.6,SNR=5.4						
STKA	**Stephens Creek**	**40.20**	**160**	P	**P**	**19 07 24.6**	**0.0**
	1.8nm,1.0s,mb3.8,baz=340,slow=9.3,SNR=5.1						

IDC ***10*** *19:04:29.5±3.1, 6343N×17004E, h0km, mb3.7/5, mb1 4.0/5, mb1mx3.6/23, mbtmp3.7/5, MS2.9/1, Ms1 2.9/1, ms1mx2.5/38, Error ellipse: s-maj=112.9km s-min=26.4km az=175.0*
ISCJB ***10*** *19:04:30.2±1.2, 636N±02×1698E±02, h10km, mb3.9/6, Error ellipse: s-maj=22.9km s-min=10.7km az=21.5*
MOS ***10*** *19:04:30.3±1.5, 6360N×16990E, h10km, mb4.4/1, Error ellipse: s-maj=41.4km s-min=21.3km az=91.9*
NEIC ***10*** *19:04:32.7±1.7, 6372N×16997E, h10km, mb3.7/4, Error ellipse: s-maj=38.9km s-min=13.0km az=192.0*
ISC 10 19:04:33.3±1.0, 6389N±009×1699E±02, h10km, n18, σ1°23/19, mb3.9/6, Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BILL	**Bilibino**	**4.42**	**342**	*e*Pn	**Pn**	**19 05 41.5**	**+1.2**
BILL				*e*Pb	**Pb**	**19 05 53.0**	**+2.1**
BILL				*e*Sn	**Sg**	**19 06 54.0**	**-1.1**
BILL	**Bilibino**	**4.42**	**342**	*e*P	**Pn**	**19 05 41.7**	**+1.4**
BILL				pmax	pmax		
	comp=Z,3.0nm,0.6s						
SVW2	**Sparrevohn**	**16.07**	**84**	*e*Pn	**Pn**	**19 08 20.8**	**+1.8**
TIXI	**Tiksi**	**16.99**	**315**	*e*Pn	**Pn**	**19 08 34.7**	**+4.1**
	comp=Z,2.5nm,1.0s						
TIXI	**Tiksi**	**16.99**	**315**	*e*P	**Pn**	**19 08 34.7**	**+4.1**
TIXI				pmax	pmax		
	comp=Z,2.0nm,1.0s						
COLA	**College**	**18.06**	**68**	P	**Pn**	**19 08 45.0**	**+1.1**
	comp=Z,4.5nm,1.0s						
COLA	**College**	**18.06**	**68**	P	**Pn**	**19 08 45.0**	**+1.1**
COLA				pmax	pmax		
	comp=Z,5.0nm,1.0s						
EGAK	**Eagle**	**20.81**	**65**	*e*P	**P**	**19 09 12.4**	**-1.9**
	comp=Z,4.5nm,0.8s						
DAWY	**Dawson**	**21.79**	**67**	*e*P	**P**	**19 09 25.1**	**+0.3**
INK	**Inuvik**	**22.62**	**54**	P	**P**	**19 09 33.0**	**-0.8**
	comp=Z,1.6nm,1.0s,mb3.4,baz=302,slow=8.4,SNR=6.1						
YKA	**Yellowknife Ar**	**32.26**	**57**	P	**P**	**19 11 01.7**	**+0.4**
	comp=Z,0.9nm,0.8s,mb3.6,baz=307,slow=8.5,SNR=12						
KSRS	**Korea Array**	**36.40**	**244**	LR	LR	19 27 01.5	
	comp=Z,17nm,20.1s,baz=225,slow=37						
EDM	**Edmonton**	**38.98**	**69**	*e*P	**P**	**19 11 59.0**	**0.0**
KURK	**Kurchatov**	**46.68**	**299**	*e*P	**P**	**19 13 01.2**	**-0.3**
	comp=Z,5.5nm,1.3s,mb4.3						
KURK	**Kurchatov**	**46.68**	**299**	*e*P	**P**	**19 13 01.2**	**-0.4**
KURK				pmax	pmax		
	comp=Z,6.0nm,1.3s,mb4.4						
ULM	**Lac du Bonnet**	**48.20**	**59**	P	**P**	**19 13 10.9**	**-2.5**
	comp=Z,2.6nm,0.8s,mb4.3,baz=318,slow=9.3,SNR=6.4						
MKAR	**Makanchi Array**	**48.37**	**293**	P	**P**	**19 13 14.3**	**-0.3**
	comp=Z,0.2nm,0.2s,mb3.7,baz=38,slow=7.3,SNR=1.9						
PDAR	**Pinedale Array**	**48.69**	**75**	P	**P**	**19 13 16.6**	**-0.6**
	comp=Z,1.1nm,0.8s,mb3.9,baz=336,slow=3.3,SNR=4.2						

IDC ***10*** *19:17:31.4±1.1, 3700N×1305E, h0km, mb3.6/4, mb1 3.7/9, mb1mx3.6/24, mbtmp3.5/9, ML3.7/5, MS3.0/5, Ms1 3.0/5, ms1mx2.7/39, Error ellipse: s-maj=26.7km s-min=16.5km az=139.0*
CSEM ***10*** *19:17:32.9±0.1, 3700N×1279E, h35km, ML3.9/2, Error ellipse: s-maj=3.8km s-min=1.3km az=12.0*
NEIC ***10*** *19:17:32.1, 3693N×1291E, h22km, mb4.0/3, ML3.8(ROM), After ROM.*
BJI ***10*** *19:17:32.1, 3690N×1290E, h21km, mB4.9, mb4.2*
ROM ***10*** *19:17:32.0±0.2, 3693N×1291E, h22km±3km, Ml3.8/47, Error ellipse: s-maj=2.9km s-min=2.7km az=31.0*
LDG ***10*** *19:17:32.5±0.3, 3688N×1289E, h30km, Ml4.0/6, Error ellipse: s-maj=7.0km s-min=3.6km az=5.0*
ISCJB ***10*** *19:17:33.5±0.4, 3706N±003×1284E±002, h33km±7km, mb3.6/8, MS3.0/2, Error ellipse: s-maj=4.9km s-min=3.0km az=13.7*
STR ***10*** *19:17:45.5±0.6, 3767N×1242E, h30km, Ml4.0, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
ISC 10 19:17:33.9±0.8, 3699N±003×1292E±002, h22km±7km, n172, σ1°18/190, mb3.6/8, MS3.0/2, 14C-7D, Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTS	**Pantelleria**	**0.76**	**256⇑**	*i*Pg	**Pb**	**19 17 46.7**	**-1.8**
MCT	**Mte Cammarata**	**0.85**	**42⇓**	*i*Pg	**Pb**	**19 17 50.4**	**+0.4**
CORL	**Corleone**	**0.95**	**19⇑**	*i*Pg	**Pb**	**19 17 50.4**	**-1.2**
CORL				Sg	**Sb**	**19 18 05.2**	**+1.4**
	18μm,0.7s						
ERC	**Erice**	**1.07**	**346⇓**	*i*Pg	**Pn**	**19 17 52.0**	**-1.6**
RAFF	**Raffo Rosso**	**1.17**	**78⇑**	*e*Pg	**Pn**	**19 17 53.9**	**-1.0**
RAFF				Sg	**Sn**	**19 18 10.9**	**+0.7**
	10μm,0.8s						
VAE	**Valguarnera**	**1.28**	**67**	Pn	**Pn**	**19 17 55.8**	**-0.7**
	36nm,0.3s,baz=275,slow=11,SNR=61						
CSLB	**Castelbuono**	**1.30**	**43⇑**	*i*Pg	**Pn**	**19 17 56.2**	**-0.5**
	2μm,0.8s						
GIB	**Gibilmanna**	**1.33**	**41⇑**	*e*Pg	**Pn**	**19 17 56.5**	**-0.5**
GIB				Sg	**Sn**	**19 18 16.3**	**+2.3**
	7μm,0.8s						
HVZN	**Vizzini**	**1.45**	**82⇑**	*e*Pg	**Pn**	**19 17 57.6**	**-1.1**
	8μm,0.6s						
HMDC	**Modica**	**1.49**	**91**	Pg	**Pn**	**19 17 57.9**	**-1.4**
	3μm,0.5s						
GALF	**Gagliano Caste**	**1.49**	**61**	Pg	**Pn**	**19 18 00.0**	**+0.7**
	3μm,0.5s						
WDD	**Wield Dalam**	**1.71**	**131**	Pg	**Pn**	**19 18 00.8**	**-1.5**
WDD				Sg	**Sn**	**19 18 23.6**	**+0.1**
	2μm,0.8s						
USI	**Ustica**	**1.72**	**7**	Pg	**Pn**	**19 18 00.6**	**-1.9**
SSY	**Sortino**	**1.73**	**84**	Pg	**Pn**	**19 18 01.5**	**-1.0**
	4μm,0.7s						
HAVL	**Avola**	**1.77**	**90**	Pg	**Pn**	**19 18 01.7**	**-1.4**
	3μm,0.7s						
ESLN	**Serra La Nave**	**1.78**	**66**	Pg	**Pn**	**19 18 03.3**	**0.0**
	3μm,0.8s						
HAGA	**Augusta**	**1.81**	**80**	Pg	**Pn**	**19 18 02.5**	**-1.2**
HAGA				Sg	**Sn**	**19 18 25.2**	**-0.7**
	3μm,0.6s						
AGST	**Augusta-Monte**	**1.86**	**81**	Pg	**Pn**	**19 18 03.5**	**-0.9**
AGST				Sg	**Sn**	**19 18 27.1**	**-0.1**
	690nm,0.4s						
VPL	**Vulcano Piano**	**2.14**	**49⇑**	*i*Pg	**Pn**	**19 18 07.3**	**-0.9**
	1μm,0.7s						
LLI	**Lipari**	**2.16**	**47⇑**	*e*Pg	**Pn**	**19 18 07.8**	**-0.7**
	4μm,0.5s						
SLNA	**Salina**	**2.18**	**43**	Pg	**Pn**	**19 18 07.4**	**-1.4**
	584nm,0.3s						
MSRU	**Castanea**	**2.41**	**58**	Pg	**Pn**	**19 18 11.9**	**-0.1**
	932nm,1.1s						
MTTG	**Motta San Giov**	**2.42**	**65**	Pg	**Pn**	**19 18 12.5**	**+0.4**
	647nm,0.7s						
SCLL	**Scilla**	**2.55**	**60**	Pg	**Pn**	**19 18 13.4**	**-0.5**
	59nm,0.5s						
MPAZ	**Palizzi**	**2.63**	**68**	Pg	**Pn**	**19 18 14.8**	**-0.2**
	318nm,0.7s						
SOI	**Samo**	**2.71**	**66**	Pg	**Pn**	**19 18 16.6**	**+0.5**
	98nm,0.4s						
JOPP	**Joppolo**	**2.

46nm,0.6s
MRB1 Monte Rocchett 4.42 21 Pg **Pn 19 18 41.2 +1.6**
67nm,0.6s
MOCO Biccari - m.te 4.47 12 Pg **Pn 19 18 45.5 +5.2**
MIGL Miglionico 4.53 36 Pg **Pn 19 18 43.1 +2.0**
174nm,0.8s
PALZ Palazzo San Ge 4.60 30 Pg **Pn 19 18 46.0 +4.0**
98nm,1.3s
POFI Posta Fibreno 4.76 7 Pg **Pn 19 18 45.4 +1.2**
11nm,0.6s
GUAR Guarcino 4.80 3 Pg **Pn 19 18 46.1 +1.3**
26nm,0.5s
SG1 Sgolgore (BA) 4.83 36 *e*Pn **Pn 19 18 46.2 +1.0**
OSKI Oschiri 4.84 323 Pg **Pn 19 18 45.4 0.0**
38nm,0.5s
AMUR Altamura 4.85 35 Pg **Pn 19 18 46.2 +0.8**
22nm,0.5s
VVLD Villa Vallelon 4.90 6 Pg **Pn 19 18 46.7 +0.5**
24nm,0.6s
TOLF Tolfa 5.11 352 Pg **Pn 19 18 50.1 +1.0**
60nm,0.4s
MSAG Monte S. Angel 5.25 25 Pg **Pn 19 18 51.9 +1.0**
40nm,0.8s
MS1 Monte Sant'Ang 5.25 26 *e*Pn **Pn 19 18 55.0 +4.0**
FIAM Fiamignano 5.27 2 Pg **Pn 19 18 53.6 +2.4**
65nm,0.4s
AQU L'Aquila 5.37 4 *e*Pn **Pn 19 18 52.9 +0.4**
AQU L'Aquila 5.37 4 *e*Pn **Pn 19 18 52.9 +0.4**
OSPF L'Ospedale 5.49 329 P **Pn 19 18 53.9 -0.3**
MAON Monte Argentar 5.60 346 Pg **Pn 19 18 57.1 +1.3**
49nm,0.9s
TERO Teramo 5.65 5 Pg **Pn 19 19 00.3 +3.9**
ARCI Arcidosso 5.96 350 Pg **Pn 19 19 02.9 +2.3**
CORF Corte 6.04 332 P **Pn 19 19 02.7 +0.9**
PGF Pioggiola 6.32 333 *e*Pn **Pn 19 19 05.8 +0.2**
PGF *e*Sn **Sn 19 20 12.6 -4.4**
73nm,0.4s
PGF Pioggiola 6.32 333 *e*Pn **Pn 19 19 05.8 +0.2**
PGF *e*Sn **Sn 19 20 12.6 -4.4**
37nm,0.4s
MAIM 7.16 346 P **Pn 19 19 15.6 -1.5**
VLC Villacollemand 7.41 346 Pn **Pn 19 19 18.6 -2.0**
VLC Villacollemand 7.41 346 Pn **Pn 19 19 18.6 -2.0**
SARO Sassorosso 7.43 346 P **Pn 19 19 20.3 -0.6**
BACM 7.59 344 P **Pn 19 19 21.5 -1.6**
GRAM 7.80 345 P **Pn 19 19 25.6 -0.3**
IMI Imperia 7.90 333 P **Pn 19 19 26.5 -0.8**
NEGI Negi 7.92 331 P **Pn 19 19 26.9 -0.7**
LMR La Mourre 8.01 324 *e*Pn **Pn 19 19 27.1 -1.7**
LMR *e*Sn Sx 19 20 51.8
6.5nm,0.3s
LMR La Mourre 8.01 324 *e*Pn **Pn 19 19 27.1 -1.7**
LMR *e*Sn Sx 19 20 51.8
3.2nm,0.3s
SBF Sospel 8.03 330 *e*Pn **Pn 19 19 28.4 -0.8**
SBF *e*Sn Sx 19 20 52.1
36nm,0.5s
SBF Sospel 8.03 330 *e*Pn **Pn 19 19 28.4 -0.8**
SBF *e*Sn Sx 19 20 52.1
18nm,0.5s
FIN Finale Ligure 8.05 335 P **Pn 19 19 29.4 0.0**
SAOF Saorge 8.09 331 P **Pn 19 19 30.0 +0.1**
SAOF S **Sn 19 20 58.1 -2.6**
LUCF Luceram 8.09 330 P **Pn 19 19 29.0 -1.0**
LUCF S **Sn 19 20 55.5 -5.2**
MONE Monesi 8.10 333 P **Pn 19 19 29.6 -0.4**
FRF La Foret Royal 8.12 326 *e*Pn **Pn 19 19 29.1 -1.3**
FRF *e*Sn Sx 19 20 54.0
7.2nm,0.4s
FRF La Foret Royal 8.12 326 *e*Pn **Pn 19 19 29.1 -1.3**
FRF *e*Sn Sx 19 20 54.0
3.6nm,0.4s
AUTN L'Aution 8.15 331 P **Pn 19 19 31.1 +0.4**
AUTN S **Sn 19 21 00.8 -1.3**
CALN Calern 8.17 328 P **Pn 19 19 31.1 +0.1**
MVIF Mont Vial 8.18 329 P **Pn 19 19 30.9 -0.2**
TOUF Mont Tournerai 8.23 330 P **Pn 19 19 32.5 +0.6**
TOUF S **Sn 19 21 00.8 -3.4**
PCP Pian Castagno 8.24 338 P **Pn 19 19 32.1 +0.2**
ROB Roburent 8.24 334 P **Pn 19 19 32.1 +0.1**
ENR Entracque 8.35 332 P **Pn 19 19 33.1 -0.3**
STV Sta Anna Valdi 8.40 331 P **Pn 19 19 34.1 -0.1**
ETOS Mallorca 8.41 292 P **Pn 19 19 34.4 +0.1**
ETOS S **Sn 19 21 04.6 -3.9**
TAVF Tavernes 8.44 324 P **Pn 19 19 34.8 +0.1**
TAVF S **Sn 19 21 07.5 -1.7**
PZZ Prazzo 8.70 331 P **Pn 19 19 38.6 +0.3**
SMRF Simiane la Rot 8.94 324 *e*Pn **Pn 19 19 39.8 -1.8**
SMRF *e*Sn Sx 19 21 13.9
4.9nm,0.6s
SMRF Simiane la Rot 8.94 324 *e*Pn **Pn 19 19 39.8 -1.8**
SMRF *e*Sn Sx 19 21 13.9
2.5nm,0.6s
MBDF Montbardon 9.02 331 *e*P **Pn 19 19 44.6 +1.9**
MBDF *e*Sn Sx 19 21 16.2
15nm,0.5s
MBDF Montbardon 9.02 331 *e*Pn **Pn 19 19 40.4 -2.3**
MBDF *e*P 19 19 44.6
MBDF *e*Sn **Sn 19 21 16.2 -7.2**
MBDF Montbardon 9.02 331 *e*P **Pn 19 19 44.6 +1.9**
MBDF *e*Sn Sx 19 21 16.2
7.3nm,0.5s
RRL Cesana Torines 9.18 332 P **Pn 19 19 46.2 +1.4**
BNI Bardonecchia 9.33 332 *e*Pn **Pn 19 19 48.3 +1.4**
6.3nm,0.6s
BNI *e*Sn **Sn 19 21 28.1 -2.9**
EIBI Ibiza 9.36 286 P **Pn 19 19 48.5 +1.1**
EIBI S **Sn 19 21 28.1 -3.8**
EIBI Ibiza 9.36 286 P **Pn 19 19 48.5 +1.1**
LSD Ceresole Reale 9.50 335 P **Pn 19 19 50.4 +1.1**
ORIF Oris-en-Rattie 9.54 328 *e*Pn **Pn 19 19 48.6 -1.2**
LPG La Plagne 9.68 333 *e*P **Pn 19 19 54.3 +2.6**
LPL La Plagne 9.70 333 *e*P **Pn 19 19 54.2 +2.2**
ABTA Abfaltersbach 9.75 358⇑*i*Pn **Pn 19 19 54.4 +1.7**
3.3nm,0.7s
LASF Ste Croix 9.88 319 *e*Pn **Pn 19 19 51.1 -3.3**
VIVF Saint-Julien-l 10.03 324 *e*Pn **Pn 19 19 54.0 -2.5**
DAVOX Davos/Dischmat 10.04 348 Pn **Pn 19 20 02.7 +6.1**
0.9nm,0.3s,baz=298,slow=9.1,SNR=9.7
DAVOX LR 19 23 54.9
comp=Z,100nm,18.3s,baz=75,slow=38
FETA Feichten 10.15 351⇑*i*P **Pn 19 20 04.7 +6.5**
5.4nm,0.9s
EPOB Poblet 10.17 299 P **Pn 19 19 58.4 -0.1**
1.0nm,0.2s
EPOB Poblet 10.17 299 P **Pn 19 19 58.4 -0.1**
1.0nm,0.2s
SQTA Sankt Quirin 10.30 353⇓*i*P **Pn 19 20 08.2 +8.1**
comp=Z,2.8nm,0.6s
SQTA Sankt Quirin 10.30 353⇓*i*P **Pn 19 20 08.2 +8.1**
2.8nm,0.6s
MTLF Montolieu 10.35 311 *e*Pn **Pn 19 19 57.9 -3.0**
DAVA Damuels 10.53 349⇑*i*P **Pn 19 20 07.8 +4.5**
comp=Z,3.9nm,0.5s
EBEN Beniarda 10.54 283 P **Pn 19 20 04.7 +1.2**
3.1nm,0.3s
EBEN Beniarda 10.54 283 P **Pn 19 20 04.7 +1.2**
3.1nm,0.3s
MOA Molln 10.89 5⇓*i*P **Pn 19 20 12.8 +4.5**
comp=Z,2.5nm,0.6s
EMOS Mosqueruela 11.00 292 P **Pn 19 20 10.2 +0.4**
1.3nm,0.3s
EMOS Mosqueruela 11.00 292 P **Pn 19 20 10.2 +0.4**
1.3nm,0.3s
CART Cartagena 11.11 277 Pn **Pn 19 19 19.3 +7.9**
CONA Conrad Observa 11.14 10⇓*i*Pn **Pn 19 20 13.6 +1.9**
3.2nm,0.9s
ECHE Chera 11.22 288 P **Pn 19 20 14.4 +1.6**
2.1nm,0.3s
EBIE Bielsa 11.35 304 P **Pn 19 20 14.4 -0.2**
0.6nm,0.3s
EBIE S **Sn 19 22 12.9 -7.7**
EBIE Bielsa 11.35 304 P **Pn 19 20 14.4 -0.1**
0.6nm,0.3s
ESAC San Caprasio 11.39 299 P **Pn 19 20 15.3 +0.1**
10nm,0.3s
ESAC San Caprasio 11.39 299 P **Pn 19 20 15.3 +0.2**
10nm,0.3s
ETOB Tobarra 11.56 283 P **Pn 19 20 19.7 +2.2**
3.5nm,0.4s
ETOB Tobarra 11.56 283 P **Pn 19 20 19.7 +2.1**
3.5nm,0.4s
GERES GERESS Array B 11.86 3 Pn **Pn 19 20 23.2 +1.7**
0.1nm,0.3s,baz=174,slow=14,SNR=2.9
ETOR Torete 12.28 293 P **Pn 19 20 28.6 +1.3**
2.8nm,0.2s
ETOR Torete 12.28 293 P **Pn 19 20 28.6 +1.3**
2.8nm,0.2s
VYHS Vyhne 12.28 19 *e*PN **Pn 19 20 35.8 +8.5**
VRAC Vranov 12.59 11 LR LR 19 25 01.6
comp=Z,39nm,18.2s,baz=268,slow=36
EQES Quesada 12.75 278 P **Pn 19 20 37.5 +3.8**
10nm,0.7s
ESDC Sonseca Array 13.52 287 Pn **Pn 19 20 45.5 +1.2**
0.4nm,0.3s,baz=93,slow=14,SNR=4.2
CLL Collm 14.31 0 *e*PP 19 21 04.0
comp=Z,10.0nm,0.9s
CLL *e*sPP 19 21 11.0
MDT Midelt 14.98 259 Pn **Pn 19 21 05.6 +1.4**
comp=Z,0.1nm,0.3s,baz=27,slow=6.8,SNR=3.6
MDT LR LR 19 27 36.1
comp=Z,75nm,18.1s,baz=67,slow=40
AKASG Malin Array Be 18.00 35 P **Pn 19 21 40.6 -1.8**
comp=Z,0.4nm,0.3s,baz=228,slow=9.8,SNR=10
MALT Malatya 20.22 79 *e*P **P 19 22 08.5 +1.2**
comp=Z,2.7nm,0.8s
MALT Malatya 20.22 79 *e*P **P 19 22 08.5 +1.2**
comp=Z,2.7nm,0.8s
NOA NORSAR Array B 24.09 358 P **P 19 22 47.0 -0.5**
NOA NORSAR Array B 24.09 358 P **P 19 22 47.0 -0.5**
comp=Z,0.8nm,0.7s,mb3.3,baz=185,slow=8.9,SNR=2.3
TORD Torodi Ar. Bea 25.79 206 P **P 19 23 05.5 +2.2**
TORD LR LR 19 34 23.6
TORD Torodi Ar. Bea 25.79 206 P **P 19 23 05.5 +2.2**
comp=Z,0.8nm,1.0s,mb3.2,baz=21,slow=10,SNR=4.2
TORD LR LR 19 34 23.6
comp=Z,40nm,21.4s,MS2.9,baz=225,slow=39
FINES FINESS Array B 25.83 15 P **P 19 23 03.0 -0.3**
FINES FINESS Array B 25.83 15 P **P 19 23 03.0 -0.3**
comp=Z,0.8nm,0.4s,mb3.6,baz=192,slow=9.3,SNR=5.2
DBIC Dimbokro 34.27 213 LR LR 19 37 45.8
comp=Z,28nm,20.6s,MS3.0,baz=265,slow=35
KURK Kurchatov 47.78 51 *e*P **P 19 26 09.2 0.0**
comp=Z,1.4nm,0.6s,mb4.2
KURK Kurchatov 47.78 51 *e*P **P 19 26 09.2 0.0**
MKAR Makanchi Array 51.01 56 P **P 19 26 32.6 -1.3**
comp=Z,0.6nm,0.6s,mb3.7,baz=286,slow=6.2,SNR=9.7
TSUM Tsumeb 56.06 175 P **P 19 27 15.8 +4.7**
comp=Z,1.7nm,0.9s,mb4.1
LZH Lanzhou 70.07 59 *e*P **P 19 28 49.0 +4.8**
LZH AP pP 19 28 53.4 +2.0
LZH XP sP 19 28 55.0 +0.9
LZH AMB AMB
comp=Z,66nm,4.1s
YKA Yellowknife Ar 72.29 337 P **P 19 29 00.2 +3.1**
YKA Yellowknife Ar 72.29 337 P **P 19 29 00.2 +3.1**
comp=Z,0.4nm,0.7s,mb3.4,baz=52,slow=5.3,SNR=5.1
NJ2 Nanjing 82.54 55 *e*P **P 19 29 56.9 +1.8**
PDAR Pinedale Array 84.91 321 P **P 19 30 11.5 +4.5**
comp=Z,0.5nm,0.9s,mb3.6,baz=58,slow=3.7,SNR=3.7

IDC ***10*** *19:19:03.3±1.1,3.13N×12704E,h0km,mb3.8/8,mb1 3.9/8, mb1mx3.8/18,mbtmp3.8/8,Error ellipse: s-maj=104.6km s-min=15.3km az=70.0*
NEIC ***10*** *19:19:04.5±0.5,323N×12724E,h10km,mb4.2/7,Error ellipse: s-maj=20.8km s-min=8.0km az=66.0*
ISCJB ***10*** *19:19:10.3±4.7,3.1N±01×127.1E±02,h72km±43km, mb3.9/12,Error ellipse: s-maj=38.3km s-min=11.6km az=147.8*
ISC 10 19:19:11.6±4.3,31N±01×1271E±02,h67km±40km,n21, σ0§65/20,mb3.9/12,Talaud Islands
Code Station Name Δ° AZ° Phase ID Op ISC Time h m s ISC
KAKA Kakadu 16.57 161 *e*P **Pn 19 23 00.1 +0.3**
15nm,0.6s
KSM Kuching 16.86 265 *e*Pn **Pn 19 23 03.9 +0.4**
FITZ Fitzroy Crossi 21.12 184 *e*P **P 19 23 51.1 +0.2**
15nm,1.9s,mb4.0
FITZ Fitzroy Crossi 21.12 184 *e*P **P 19 23 50.3 -0.7**
5.4nm,0.8s,mb3.9
FITZ Fitzroy Crossi 21.12 184 P **P 19 23 50.2 -0.7**
2.1nm,0.8s,mb3.5,baz=16,slow=11,SNR=6.5
WRAB Tennant Creek 23.97 163 *e*P **P 19 24 19.3 -0.7**
19nm,1.4s,mb4.2
WRA Warramunga Arr 23.97 163 P **P 19 24 20.0 +0.1**
1.6nm,0.5s,mb3.6,baz=339,slow=10,SNR=32
WB2 Warramunga Arr 23.98 163 *e*P **P 19 24 19.6 -0.4**
MBWA Marble Bar 25.17 196 *e*P **P 19 24 30.4 -0.5**
7.9nm,1.1s,mb4.1
ASAR Alice Springs 27.41 166 P **P 19 24 51.5 +0.5**
0.4nm,0.5s,mb3.2,baz=350,slow=7.6,SNR=8.5
ASAR PcP PcP 19 28 10.9 +2.3
0.3nm,0.7s,baz=333,slow=3.0,SNR=4.1
STKA Stephens Creek 37.41 159 *e*P **P 19 26 19.3 +1.0**
1.9nm,0.7s,mb4.1
STKA Stephens Creek 37.41 159 P **P 19 26 17.1 -1.2**
1.3nm,0.5s,mb4.1,baz=329,slow=11,SNR=6.1
LSA Lhasa 43.14 312 *e*P **P 19 27 05.8 +0.1**
1.7nm,0.6s,mb4.0
SONM Songino Array 48.01 341 P **P 19 27 44.6 +0.8**
0.5nm,0.6s,mb3.6,baz=154,slow=7.6,SNR=4.1
MKAR Makanchi Array 58.29 325 P **P 19 28 59.0 -0.4**
0.7nm,0.5s,mb4.0,baz=121,slow=7.8,SNR=10
ZALV Zalesovo Beam 61.32 333 P **P 19 29 19.8 -0.3**
0.8nm,0.6s,mb3.9,baz=115,slow=7.0,SNR=5.4
KURK Kurchatov 62.47 328 *e*P **P 19 29 26.8 -1.1**
2.9nm,0.7s,mb4.4
AKTK Aktyubinsk 74.39 322 P **P 19 30 42.4 +0.1**
AKTO Aktyubinsk 74.39 322 P **P 19 30 42.4 +0.1**
baz=80,slow=13
VNDA Vanda 82.76 173 P **P 19 31 29.3 +1.6**
0.4nm,0.4s,mb3.6,baz=297,slow=6.8,SNR=5.6
TORD Torodi Ar. Bea 123.47 288 PKP PKPdf 19 38 03.6 +1.2
0.6nm,0.8s,baz=59,slow=1.7,SNR=4.4

ISCJB ***10*** *19:20:47.5±0.8,3837N±003×2050E±007,h6km±7km, Error ellipse: s-maj=9.5km s-min=5.3km az=164.6*
CSEM ***10*** *19:20:47.2±0.2,3835N×2041E,h2km,ML3.3,Error ellipse: s-maj=4.0km s-min=1.7km az=72.0*
NEIC ***10*** *19:20:47.5,3829N×2043E,h12km,MD3.7(ATH),After ATH.*
ATH ***10*** *19:20:47.6,3830N×2045E,h13km±2km,MD3.7/5*
THE ***10*** *19:20:49.9,3849N×2041E,h3km,ML3.3*
ISC 10 19:20:47.8±0.9,3835N±004×2047E±007,h10km±6km,n13, σ0§95/19,1C,Greece
Code Station Name Δ° AZ° Phase ID Op ISC Time h m s ISC
VLS Valsamata 0.19 152⇑*i*PG **Pg 19 20 51.3 -0.7**
VLS *e*SG **Sg 19 20 55.0 +0.3**
LKD Levkas 0.39 21 *e*Pg **Pg 19 20 54.9 -0.6**
LKD *e*Sg **Sg 19 20 59.8 -0.8**
LKD Levkas 0.39 21 *e*Pg **Pg 19 20 54.8 -0.6**
LKD *e*Sg **Sg 19 20 59.8 -0.8**
RLS Riolos of Patr 0.83 110 *e*PB **Pb 19 21 03.6 -0.8**
IGT Igoumenitsa 1.19 355 *e*Pg **Pn 19 21 09.4 -1.0**
IGT *e*Sg **Sn 19 21 24.8 -1.8**
EVR Evrytania 1.19 61 *e*PB **Pb 19 21 11.8 +1.4**
JAN Janina 1.34 13 *e*PG **Pn 19 21 13.3 +0.8**
KEK Kerkira 1.46 339 *e*PB **Pb 19 21 16.0 +0.9**
KEK *e*SB **Sg 19 21 36.3 +1.4**
MEV Metsovon 1.55 22 *e*Pg **Pn 19 21 15.3 -0.2**
AGG Agios Georgios 1.60 65 *e*Pg **Pg 19 21 18.9 +0.4**
AGG *e*Sg **Sg 19 21 39.9 +0.5**
ITM Ithomi 1.64 135 *e*PB **Pg 19 21 18.9 -0.4**
THL Klokotos Trika 1.71 44 *e*PN **Pg 19 21 19.6 -1.0**
LKR Lokris 2.00 81 *e*PN **Pn 19 21 23.2 +1.5**

GUC 10 19:22:39.0±0.8,3162S×7206W,h19km±9km,MD3.9, ML3.5,3C-1D,Off coast of central Chile
Code Station Name Δ° AZ° Phase ID Op ISC Time h m s ISC Res
CHNG Los Chungos 0.54 119⇑*i*P Pb 19 22 30.8 -19
CHNG *i* S Sg 19 22 38.8 -18
CMCH Combarbala 1.01 64⇓*i*P Pb 19 22 56.5 -1.4
CMCH *i* S Sb 19 23 10.4 -0.2
CMCH AML AML 19 23 17.0
comp=E,2μm,0.8s
PACH Papudo 1.05 150 *e*P Pb 19 22 57.6 -0.9
PACH *i* S Sb 19 23 11.8 -0.2
PTCH Petorca 1.15 124⇑*i*P Pn 19 22 59.5 -0.5
PTCH *i* S Sb 19 23 14.3 -0.5
PTCH AML AML 19 23 15.8
comp=N,567nm,0.3s

JACH Jahuel 1.63 131⇑*i*P Pn 19 23 07.0 +0.4
JACH *i* S Sn 19 23 28.0 +0.9
TLL Tololo Astrono 1.81 37 *e*P Pn 19 23 10.2 +1.1
TLL *i* S Sn 19 23 34.0 +2.5
TLL AML AML 19 23 38.7
comp=N,279nm,0.7s
PEL Peldehue 1.91 143 *e*P Pn 19 23 10.9 +0.4
PEL *i* S Sn 19 23 37.3 +3.3
PEL AML AML 19 23 42.3
comp=N,1μm,0.5s
RCDM Rinconada Maip 2.14 151 *e*P Pn 19 23 14.6 +1.0
RCDM *i* S Sn 19 23 42.4 +2.8
RCDM AML AML 19 23 42.6
comp=E,448nm,0.2s
CLCH Cerro Calan 2.19 144 AML AML 19 23 41.2
comp=E,1μm,0.4s
CLCH AML AML 19 23 41.7
comp=E,1μm,0.4s
FCH Farellones 2.26 139 *e*P Pn 19 23 15.7 +0.3
FCH *i* S Sn 19 23 44.5 +1.8
FCH AML AML 19 23 45.2
comp=E,217nm,0.2s
PCH Pirque 2.38 147 *e*P Pn 19 23 18.9 +1.9
CHCH Chadas Angostu 2.59 153 *e*P Pn 19 23 20.6 +0.8
LMEL Las Melosas 2.71 145 AML AML 19 24 08.5
comp=N,118nm,0.3s
CICH Cipreses 3.02 153 *e*P Pn 19 23 26.9 +1.1

NEIC ***10*** *19:25:18.7,3906N×2198E,h20km,MD3.3(ATH), ML3.0(THE),After ATH.*
ATH ***10*** *19:25:18.7,3906N×2198E,h20km±3km,MD3.3/6*
THE ***10*** *19:25:19.9,3915N×2173E,h2km,ML3.0*
ISCJB ***10*** *19:25:20.0±0.5,3910N±003×2179E±004,h21km±7km, Error ellipse: s-maj=5.7km s-min=5.0km az=139.7*
CSEM ***10*** *19:25:20.0±0.1,3915N×2178E,h2km,MD3.3,Error ellipse: s-maj=2.6km s-min=2.2km az=96.0*
ISC 10 19:25:19.9±0.5,3913N±003×2175E±004,h12km±5km,n15, σ1§12/24,Greece
Code Station Name Δ° AZ° Phase ID Op ISC Time h m s ISC Res
EVR Evrytania 0.22 167 *e*PB **Pg 19 25 24.2 -0.3**
EVR SB **Sg 19 25 27.6 0.0**
AGG Agios Georgios 0.47 103 *e*Pg **Pg 19 25 28.9 -0.2**
AGG *e*Sg **Sg 19 25 36.6 +1.4**
THL Klokotos Trika 0.48 25 *e*PN **Pg 19 25 28.4 -1.0**
THL *e*SN **Sg 19 25 36.8 +1.0**
MEV Metsovon 0.77 329 *e*Pg **Pg 19 25 33.5 -1.3**
MEV *e*Sg **Sg 19 25 45.2 +0.4**
JAN Janina 0.87 307 *e*PB **Pb 19 25 38.1 +1.1**
LKD Levkas 0.95 244 *e*Pg **Pg 19 25 37.4 -0.9**
LKD *e*Sg **Sg 19 25 51.9 +1.2**
RLS Riolos of Patr 1.09 192 *e*PN **Pn 19 25 38.8 -2.2**
LIT Litokhoron 1.13 30 *e*Pg **Pg 19 25 40.7 -0.9**
LIT *e*Sg **Sg 19 25 57.5 +1.2**
IGT Igoumenitsa 1.17 291 *e*Pg **Pg 19 25 41.9 -0.5**
IGT *e*Sg **Sg 19 25 57.4 -0.2**
VLS Valsamata 1.31 224 *e*PN **Pn 19 25 46.5 +2.5**
KEK Kerkira 1.62 292 *e*PN **Pn 19 25 50.9 +2.7**
FNA Florina 1.68 350 *e*Pb **Pb 19 25 49.1 -1.6**
FNA *e*Sb **Sb 19 26 12.1 +0.4**
HORT Hortiatis 1.80 35 *e*Pb **Pb 19 25 51.1 -1.6**
HORT *e*Sb **Sb 19 26 15.4 +0.2**
SOH Sokhos 2.09 36 *e*Pn **Pn 19 25 54.6 -0.1**
KNT Kendrikon 2.21 23 *e*Pn **Pn 19 25 56.5 +0.1**

PGC ***10*** *19:29:25.9±0.8,6962N×14487W,h10km,ML3.2/1,149km east of Prudhoe Bay, Ak Alaska*
NEIC 10 19:29:21.3,6981N×14464W,h10km,ML3.2(AEIC)**,After AEIC.,Northern Alaska**
Code Station Name Δ° AZ° Phase ID Op ISC Time h m s ISC Res
BM3 Burnt Mountain 2.40 180 P Pn 19 30 00.8 +0.3
BM3 S Sn 19 30 32.1 +2.2
COLD Coldfoot 3.30 221 P Pn 19 30 13.6 +0.7
COLD S Sn 19 30 54.3 +2.2
INK Inuvik 4.27 105 *e*Pn Pn 19 30 23.2 -3.0
INK Inuvik 4.27 105 Pn Pn 19 30 30.2 +4.1
INK Sn Sn 19 31 18.4 +2.5
IMA2 Indian Mountai 5.07 227 *e*Pn Pn 19 30 38.7 +1.6
COLA College 5.11 196 P Pn 19 30 38.0 +0.3
IL1 Eielson Array 5.13 191 P Pn 19 30 38.4 +0.3
IM3 Indian Mountai 5.15 226 P Pn 19 30 40.1 +1.8
EGAK Eagle 5.23 163 *e*Pn Pn 19 30 39.9 +0.5
14nm,0.6s
DAWY Dawson 6.12 158 P Pn 19 30 53.7 +2.0
DAWY Dawson 6.12 158 Pn Pn 19 30 52.5 +0.9
DAWY Sn Sn 19 31 58.2 -3.4
DOT Dot Lake 6.19 178 P Pn 19 30 54.3 +1.7
BCA3 Beaver Creek A 6.87 169 P Pn 19 31 01.8 0.0
HYT Haines Junctio 9.49 158 Pn Pn 19 31 39.9 +2.1
HYT Sn Sn 19 33 16.1 -8.2
WHY Whitehorse 10.04 151 Pn Pn 19 31 46.0 +0.8

IDC ***10*** *19:46:23.0±3.1,3686N×892W,h0km,mb1 4.6/2, mb1mx3.6/23,mbtmp4.5/2,ML4.7/2,Error ellipse: s-maj=68.5km s-min=29.0km az=101.0*
CSEM ***10*** *19:46:26.8±0.1,3684N×870W,h20km,ML4.3/16,Error ellipse: s-maj=3.1km s-min=1.4km az=55.0*
SFS ***10*** *19:46:27.0,3700N×885W,h0km,ML3.7*
IGIL ***10*** *19:46:27.5,3689N×889W,h26km,ML3.8*
NEIC ***10*** *19:46:27.7,3695N×891W,h32km,MN3.7(MDD),After MDD.*
NEIC Felt at Aljezur and Lagos, Portugal.
LDG ***10*** *19:46:28.2±0.2,3699N×888W,h20km,Ml3.9/9,Error ellipse: s-maj=4.8km s-min=2.3km az=45.0*
CNRM ***10*** *19:46:28.1,3663N×899W,h19km,MD3.7*
INMG ***10*** *19:46:28.4±1.0,3693N×887W,h28km±2km,MD3.1,ML3.5, Error ellipse: s-maj=3.8km s-min=1.5km az=58.0*
MDD 10 19:46:27.2±0.5,3691N×894W,h31km±4km,mbLg3.6/50, 21C-7D,Error ellipse: s-maj=5.5km s-min=3.4km az=64.0,PRXIMO,West of Gibraltar
Code Station Name Δ° AZ° Phase ID Op ISC Time h m s ISC Res
PFVI Vila Bisbo 0.24 22 *e*Pg Pb 19 46 34.0 0.0
PFVI *e*Sg Sb 19 46 38.5 -0.1
PFVI A 19 46 38.9
5μm,0.1s
PFVI Vila Bisbo 0.24 22 P Pb 19 46 33.9 -0.1
PFVI S Sb 19 46 38.2 -0.4
MORF Marmelete 0.45 30 *e*Pg Pb 19 46 36.9 -0.1
MORF *e*Sg Sb 19 46 43.5 -0.2
MORF A 19 46 44.1
4μm,0.1s
MORF Marmelete 0.45 30 P Pb 19 46 35.8 -1.2
MORF S Sb 19 46 43.3 -0.4
MORF Marmelete 0.45 30 *e*Pg Pb 19 46 36.9 -0.1
MORF *e*Sg Sb 19 46 43.5 -0.2
4μm,0.1s
PTEO Sao Teotonio 0.65 15 *e*Pg Pb 19 46 39.9 -0.3
PTEO *e*Sg Sb 19 46 49.0 -0.1
PTEO A 19 46 51.8
1μm,0.2s
PTEO Sao Teotonio 0.65 15 *e*Pg Pb 19 46 39.9 -0.3
PTEO *e*Sg Sb 19 46 49.0 -0.1
1μm,0.2s
PBDV Barranco-do-Ve 0.87 67 *e*P Pn 19 46 42.6 -0.6
PBDV *e*S Sn 19 46 53.2 -1.6
PBDV A 19 47 01.3
500nm,0.2s
PBDV Barranco-do-Ve 0.87 67 *e*P Pn 19 46 42.6 -0.6
PBDV *e*S Sn 19 46 53.2 -1.6
500nm,0.2s
PVAQ Vaqueiros 1.09 63 *e*P Pn 19 46 45.6 -0.7
PVAQ *e*S Sn 19 46 58.6 -1.7
PVAQ A 19 47 12.3
552nm,0.3s
PVAQ Vaqueiros 1.09 63⇑P Pn 19 46 45.6 -0.7
PVAQ S Sn 19 46 58.6 -1.7
276nm,0.3s
EGRO El Granado 1.32 61⇑P Pn 19 46 48.5 -0.8
50nm,0.1s,SNR=18
EGRO S Sn 19 47 04.1 -1.8
296nm,0.1s,SNR=16
EGRO El Granado 1.32 61 P Pn 19 46 48.5 -0.9

50nm,0.1s,SNR=18
EGRO S Sn 19 47 04.1 -1.8
296nm,0.1s,SNR=16
PBEJ Beja 1.40 37 eP Pn 19 46 49.8 -0.8
PBEJ eS Sn 19 47 06.1 -1.8
PBEJ A 19 47 19.8
525nm,0.4s
PBEJ Beja 1.40 37 eP Pn 19 46 49.8 -0.8
PBEJ eS Sn 19 47 06.1 -1.8
525nm,0.4s
MOE Montemor 1.67 16 ePn Pn 19 46 54.0 -0.3
MOE eSn Sn 19 47 13.4 -1.3
MOE Montemor 1.67 16 P Pn 19 46 53.4 -0.9
MOE S Sn 19 47 13.4 -1.3
MOE Montemor 1.67 16 ePn Pn 19 46 54.0 -0.3
MOE eSn Sn 19 47 13.4 -1.3
EVOP Sao Brissos 1.74 22 ePn Pn 19 46 54.3 -0.9
EVOP eSn Sn 19 47 14.6 -1.6
153nm,0.2s
EVO Evora 1.77 24 ePn Pn 19 46 54.3 -1.4
EVO eSn Sn 19 47 14.6 -2.6
306nm,0.2s
EVO Evora 1.77 24 ePn Pn 19 46 54.9 -0.8
EVO eSn Sn 19 47 15.4 -1.8
EVO A 19 47 16.5
305nm,0.2s
EVO Evora 1.77 24 ePn Pn 19 46 54.9 -0.8
EVO eSn Sn 19 47 15.4 -1.8
305nm,0.2s
LIS Lisbon 1.81 355 eP Pn 19 46 55.7 -0.5
LIS eS Sn 19 47 16.7 -1.4
LIS eS Sn 19 47 16.7 -1.3
LIS AML AML 19 47 20.1
comp=E,1µm,0.5s
LIS Lisbon 1.81 355 P Pn 19 46 55.7 -0.5
LIS S Sn 19 47 16.7 -1.3
LIS Lisbon 1.81 355 eP Pn 19 46 55.7 -0.5
LIS eS Sn 19 47 16.7 -1.3
INMG Instituto de M 1.86 355 ePn Pn 19 46 57.4 +0.5
INMG eSn Sn 19 47 18.9 -0.5
INMG A 19 47 20.6
comp=E,525nm,0.5s
INMG Instituto de M 1.86 355 P Pn 19 46 57.1 +0.2
INMG S Sn 19 47 18.9 -0.5
comp=E,262nm,0.5s
INMG Instituto de M 1.86 355 ePn Pn 19 46 57.4 +0.5
INMG eSn Sn 19 47 18.9 -0.5
comp=E,525nm,0.5s
PBAR Barrancos 1.96 50 ePn Pn 19 46 57.4 -0.9
PBAR eSn Sn 19 47 19.6 -2.3
PBAR A 19 47 34.8
comp=E,146nm,0.1s
PBAR Barrancos 1.96 50 ePn Pn 19 46 57.4 -0.9
PBAR eSn Sn 19 47 19.6 -2.3
comp=E,146nm,0.1s
EMIN Mina Concepcio 2.00 64 ⇑P Pn 19 46 57.5 -1.3
comp=E,22nm,0.1s,SNR=18
EMIN S Sn 19 47 19.8 -2.8
comp=E,150nm,0.2s,SNR=17
EMIN Mina Concepcio 2.00 64 P Pn 19 46 57.5 -1.2
comp=E,22nm,0.1s,SNR=18
EMIN S Sn 19 47 19.8 -2.8
comp=E,150nm,0.2s,SNR=17
PMAFR Mafra 2.06 352 ePn Pn 19 46 59.6 0.0
PMAFR eSn Sn 19 47 23.0 -1.2
PMAFR A 19 47 27.1
comp=E,514nm,0.3s
PMAFR Mafra 2.06 352 ePn Pn 19 46 59.6 0.0
PMAFR eSn Sn 19 47 23.0 -1.2
comp=E,514nm,0.3s
PESTR Estremoz 2.22 28 ePn Pn 19 47 00.8 -1.1
PESTR eSn Sn 19 47 26.3 -1.9
PESTR A 19 47 43.6
comp=E,173nm,0.5s
PESTR Estremoz 2.22 28 ePn Pn 19 47 00.8 -1.1
PESTR eSn Sn 19 47 26.3 -1.9
comp=E,173nm,0.5s
ALMR Almeirim 2.26 7 eP Pn 19 47 02.0 -0.3
ALMR eS Sn 19 47 27.1 -2.0
ALMR eS Sn 19 47 27.1 -1.9
ALMR AML AML 19 47 42.4
comp=N,412nm,0.7s
ALMR Almeirim 2.26 7 eP Pn 19 47 02.0 -0.3
ALMR eS Sn 19 47 27.1 -2.0
CNIL Conil 2.38 102 eP Pn 19 47 04.0 0.0
GIBL Gibalbin 2.38 91 eP Pn 19 47 04.0 -0.1
GIBL eS Sn 19 47 33.0 +0.8
EBAD Badajoz 2.39 39 ⇑P Pn 19 47 03.0 -1.2
comp=N,50nm,0.1s,SNR=18
EBAD S Sn 19 47 30.4 -1.9
comp=N,240nm,0.3s,SNR=7.3
EBAD Badajoz 2.39 39 P Pn 19 47 03.0 -1.1
comp=N,50nm,0.1s,SNR=18
EBAD S Sn 19 47 30.4 -1.9
comp=N,240nm,0.3s,SNR=7.3
ESPR Espera 2.47 90 ⇓P Pn 19 47 04.6 -0.6
comp=N,139nm,0.2s,SNR=18
ESPR S Sn 19 47 32.2 -2.2
comp=N,302nm,0.3s
ESPR Espera 2.47 90 P Pn 19 47 04.6 -0.7
comp=N,139nm,0.2s,SNR=18
ESPR S Sn 19 47 32.2 -2.1
comp=N,302nm,0.3s
EJIF Jimena Fronter 2.83 98 ⇑P Pn 19 47 10.3 +0.2
comp=N,22nm,0.2s,SNR=18
EJIF S Sn 19 47 40.3 -2.8
comp=N,21nm,0.3s,SNR=7.9
LIJA Lijar 2.83 89 eP Pn 19 47 09.5 -0.7
LIJA eS Sn 19 47 41.0 -2.3
MDAL Dalia 2.96 109 i P Pn 19 47 12.5 +0.4
MDAL eS Sn 19 47 45.0 -1.6
REAL Reales 3.03 97 eP Pn 19 47 12.0 -0.9
REAL eS Sn 19 47 45.0 -3.1
ECAB El Cabril 3.03 66 ⇑P Pn 19 47 12.2 -0.7
comp=N,151nm,0.2s,SNR=18
ECAB S Sn 19 47 44.4 -3.8
comp=N,457nm,0.4s,SNR=5.1
ECAB El Cabril 3.03 66 P Pn 19 47 12.2 -0.7
comp=N,151nm,0.2s,SNR=18
ECAB S Sn 19 47 44.4 -3.7
comp=N,457nm,0.4s,SNR=5.1
PCBR Castelo Branco 3.14 21 ePn Pn 19 47 13.8 -0.7
PCBR eSn Sn 19 47 49.1 -1.8
PCBR A 19 47 50.3
comp=N,130nm,0.2s
PCBR Castelo Branco 3.14 21 ePn Pn 19 47 13.8 -0.7
PCBR eSn Sn 19 47 49.1 -1.8
comp=N,130nm,0.2s
DKH Dar Kharkhour 3.22 115 i P Pn 19 47 16.0 +0.4
DKH i S Sn 19 47 52.0 -0.9
EMIJ Mijas 3.36 95 P Pn 19 47 16.9 -0.6
comp=N,6.7nm,0.1s,SNR=34
EMIJ S Sn 19 47 53.2 -3.2
comp=N,27nm,0.3s
MTE Manteigas 3.65 17 ePn Pn 19 47 20.7 -0.8
MTE eSn Sn 19 48 00.1 -3.3
MTE A 19 48 02.3
comp=N,151nm,0.2s
MTE Manteigas 3.65 17 P Pn 19 47 20.1 -1.4
MTE S Sn 19 48 01.2 -2.2
MTE Manteigas 3.65 17 ePn Pn 19 47 20.7 -0.8
MTE eSn Sn 19 48 00.1 -3.3
comp=N,151nm,0.2s
EADA Adamuz 3.68 69 ⇑P Pn 19 47 21.0 -0.9
comp=N,18nm,0.1s,SNR=18
EADA S Sn 19 47 59.9 -4.4
comp=N,96nm,0.2s
EADA Adamuz 3.68 69 P Pn 19 47 21.0 -0.9
comp=N,18nm,0.1s,SNR=18
ELUQ Luque 3.78 79 ⇑P Pn 19 47 22.7 -0.6
comp=N,14nm,0.2s,SNR=18
ELUQ S Sn 19 48 04.2 -2.5
comp=N,43nm,0.2s,SNR=4.6
AVE Averroes 3.82 160 P Pn 19 47 23.0 -0.8
AVE S Sn 19 48 02.5 -5.1
ELOJ Sierra Loja 3.83 85 P Pn 19 47 23.9 -0.2
comp=N,6.3nm,0.2s,SNR=14
ELOJ S Sn 19 48 04.5 -3.5
comp=N,12nm,0.2s,SNR=15
PVIS Viseu 3.88 12 ePn Pn 19 47 24.0 -0.7
PVIS eSn Sn 19 48 05.8 -3.4
PVIS A 19 48 08.5
comp=N,72nm,0.1s
PVIS Viseu 3.88 12 ePn Pn 19 47 24.0 -0.7
PVIS eSn Sn 19 48 05.8 -3.4
comp=N,72nm,0.1s
ERON Agron 4.11 87 P Pn 19 47 28.5 +0.7
comp=N,9.0nm,0.2s,SNR=4.0
ERON S Sn 19 48 10.5 -4.3
comp=N,19nm,0.2s,SNR=5.0
PTO Porto 4.23 3 ePn Pn 19 47 28.8 -0.6
PTO eSn Sn 19 48 14.1 -3.6
PTO A 19 48 16.9
comp=N,122nm,0.1s
PTO Porto 4.23 3 P Pn 19 47 28.8 -0.6
PTO S Sn 19 48 14.1 -3.6
comp=N,61nm,0.1s
TGT Taghat 4.25 131 i P Pn 19 47 28.0 -1.8
TGT i S Sn 19 48 14.0 -4.3
EBAN Banos Encina 4.28 71 ⇑P Pn 19 47 29.1 -1.0
EBAN S Sn 19 48 13.3 -5.7
EBAN Banos Encina 4.28 71 ⇑P Pn 19 47 29.1 -1.0
comp=N,30nm,0.2s,SNR=18
EBAN S Sn 19 48 13.6 -5.4
comp=N,47nm,0.2s,SNR=4.0
EGUA Guajares 4.31 89 ⇑P Pn 19 47 30.3 -0.3
EGUA S Sn 19 48 18.8 -0.9
EGUA Guajares 4.31 89 ⇑P Pn 19 47 30.3 -0.3
comp=N,14nm,0.2s,SNR=18
EGUA S Sn 19 48 13.3 -6.3
comp=N,16nm,0.4s,SNR=7.9
EGUA Guajares 4.31 89 P Pn 19 47 30.3 -0.2
comp=N,14nm,0.2s,SNR=18
EGUA S Sn 19 48 18.8 -0.9
comp=N,16nm,0.4s,SNR=7.9
ECOG Cogollos-Vega 4.31 84 ⇑P Pn 19 47 31.0 +0.5
ECOG S Sn 19 48 17.4 -2.3
ECOG Cogollos-Vega 4.31 84 ⇑P Pn 19 47 31.0 +0.5
comp=N,22nm,0.3s,SNR=18
ECOG S Sn 19 48 16.0 -3.7
comp=N,21nm,0.2s
ECOG Cogollos-Vega 4.31 84 P Pn 19 47 31.0 +0.5
comp=N,22nm,0.3s,SNR=18
ECOG S Sn 19 48 17.4 -2.3
comp=N,21nm,0.2s
EQUE Quentar 4.41 85 P Pn 19 47 31.8 0.0
comp=N,14nm,0.3s,SNR=42
EQUE S Sn 19 48 18.9 -3.2
comp=N,47nm,0.3s,SNR=6.9
EQUE Quentar 4.41 85 P Pn 19 47 31.8 -0.1
comp=N,14nm,0.3s,SNR=42
EQUE S Sn 19 48 19.5 -2.6
comp=N,47nm,0.3s,SNR=6.9
PVRL Vila Real 4.46 12 ePn Pn 19 47 31.9 -0.7
PVRL eSn Sn 19 48 19.7 -3.7
PVRL A 19 48 22.9
comp=N,129nm,0.1s
PVRL Vila Real 4.46 12 P Pn 19 47 31.9 -0.7
PVRL S Sn 19 48 19.7 -3.7
comp=N,64nm,0.1s
PAB San Pablo 4.47 53 ePn Pn 19 47 31.6 -1.1
PAB eSn Sn 19 48 18.1 -5.5
PAB San Pablo 4.47 53 ePn Pn 19 47 31.6 -1.1
PAB eSn Sn 19 48 18.1 -5.5
MVO Moncorvo 4.50 19 ePn Pn 19 47 32.1 -1.0
MVO eSn Sn 19 48 20.7 -3.6
MVO A 19 48 22.8
comp=N,57nm,0.2s
MVO Moncorvo 4.50 19 P Pn 19 47 31.6 -1.5
MVO S Sn 19 48 20.8 -3.5
MIF Mishlifen 4.63 138 i P Pn 19 47 35.0 0.0
MIF i S Sn 19 48 23.5 -4.1
EQES Quesada 4.76 77 ⇑P Pn 19 47 35.6 -1.1
comp=N,5.6nm,0.1s,SNR=18
EQES S Sn 19 48 26.6 -4.1
comp=N,135nm,0.4s
EQES Quesada 4.76 77 P Pn 19 47 35.6 -1.1
comp=N,5.6nm,0.1s,SNR=18
ESDC Sonseca Array 4.79 53 Pn Pn 19 47 35.9 -1.2
comp=N,20nm,0.3s,baz=239,slow=13,SNR=150
ESDC Sn Sn 19 48 27.0 -4.4
comp=N,37nm,0.3s,baz=238,slow=24,SNR=30
ESDC Sonseca Array 4.79 53 P Pn 19 47 35.9 -1.1
comp=N,133nm,0.1s,baz=239,slow=13,SNR=507
ESDC S Sn 19 48 27.2 -4.3
comp=N,89nm,0.2s,baz=239,slow=24,SNR=59
TZK Tazeka 4.79 125 i P Pn 19 47 36.0 -1.2
TZK i S Sn 19 48 27.0 -4.6
PCAB Cabril 4.84 8 ePn Pn 19 47 37.2 -0.7
PCAB eSn Sn 19 48 28.5 -4.3
PCAB A 19 48 32.6
comp=N,52nm,0.2s
PCAB Cabril 4.84 8 P Pn 19 47 37.2 -0.7
PCAB S Sn 19 48 28.5 -4.3
comp=N,26nm,0.2s
EBER Berja 4.85 88 P Pn 19 47 38.6 +0.6
comp=N,12nm,0.2s,SNR=44
EBER S Sn 19 48 28.9 -4.1
comp=N,41nm,0.4s
EBER Berja 4.85 88 P Pn 19 47 38.6 +0.7
comp=N,12nm,0.2s,SNR=44
ELOB Lobios 4.99 8 ⇑P Pn 19 47 39.1 -0.9
comp=N,54nm,0.2s,SNR=18
ELOB S Sn 19 48 31.7 -4.8
comp=N,95nm,0.2s
CZD Col de Zad 5.02 139 P Pn 19 47 39.0 -1.3
CZD S Sn 19 48 30.0 -7.2
CZD Col de Zad 5.02 139 i P Pn 19 47 39.0 -1.3
PBRG Braganca 5.17 19 ePn Pn 19 47 41.4 -1.0
PBRG eSn Sn 19 48 36.8 -4.2
PBRG A 19 49 24.1
comp=N,29nm,0.5s
PBRG Braganca 5.17 19 P Pn 19 47 41.4 -1.0
PBRG S Sn 19 48 36.8 -4.2
comp=N,14nm,0.5s
GUD Guadarrama 5.28 44 ⇑P Pn 19 47 42.5 -1.3
GUD S Sn 19 48 40.0 -3.5
GUD Lg 19 49 02.8
GUD Guadarrama 5.28 44 ⇑P Pn 19 47 42.5 -1.3
comp=N,10nm,0.2s,SNR=18
GUD S Sn 19 48 40.0 -3.5
comp=N,17nm,0.3s,SNR=7.9
ECAL Calabor 5.30 18 ⇓P Pn 19 47 43.5 -0.7
ECAL S Sn 19 48 40.7 -3.5
ECAL Lg 19 49 05.8
ECAL Calabor 5.30 18 ⇓P Pn 19 47 43.5 -0.7
comp=N,18nm,0.1s,SNR=18
ECAL S Sn 19 48 40.7 -3.5
comp=N,28nm,0.2s,SNR=6.7
CIA Chichaoua 5.34 178 P Pn 19 47 43.0 -1.7
CIA S Sn 19 48 36.0 -9.1
CIA Chichaoua 5.34 178 eP Pn 19 47 43.0 -1.7
EVIA Vianos 5.38 69 P Pn 19 47 43.9 -1.4
comp=N,5.4nm,0.2s,SNR=22
EVIA S Sn 19 48 38.4 -7.7
comp=N,18nm,0.2s,SNR=6.8
ENIJ Nijar 5.39 87 ⇑P Pn 19 47 45.4 0.0
comp=N,16nm,0.3s,SNR=18
ENIJ S Sn 19 48 41.8 -4.5
comp=N,10nm,0.4s
MDT Midelt 5.41 138 Pn Pn 19 47 44.2 -1.5
comp=N,13nm,0.3s,baz=328,slow=11,SNR=412
MDT Sn Sn 19 48 40.6 -6.4
comp=N,9.5nm,0.3s,baz=179,slow=22,SNR=15
STS Santiago 5.97 3 P Pn 19 47 52.9 -0.4
comp=N,15nm,0.2s,SNR=8.5
STS S Sn 19 48 56.1 -4.6
comp=N,16nm,0.1s,SNR=7.9
EMAZ Mazaricos 6.03 360 ⇑P Pn 19 47 53.0 -1.1
comp=N,24nm,0.2s,SNR=18
EMAZ S Sn 19 48 55.8 -6.2
comp=N,25nm,0.1s,SNR=6.7
ETOB Tobarra 6.10 71 P Pn 19 47 53.7 -1.4
ETOB S Sn 19 48 56.9 -7.0
ETOB Lg 19 49 33.5
ETOB Tobarra 6.10 71 P Pn 19 47 53.7 -1.4
comp=N,7.5nm,0.2s,SNR=66
ETOB S Sn 19 48 58.7 -5.2
comp=N,6.8nm,0.2s,SNR=7.9
ETOB Tobarra 6.10 71 P Pn 19 47 53.7 -1.5
comp=N,7.5nm,0.2s,SNR=66
TIO Tiouine 6.13 166 P Pn 19 47 55.0 -0.6
ZFT Errachidia 6.17 141 P Pn 19 47 55.5 -0.6
ZFT S Sn 19 49 01.0 -4.5
ZFT Errachidia 6.17 141 i P Pn 19 47 55.5 -0.6
EPON Pontenova 6.55 12 P Pn 19 48 00.3 -1.0
EPON S Sn 19 49 09.4 -5.5
EPON Lg 19 49 43.6
EPON Pontenova 6.55 12 P Pn 19 48 00.3 -1.0
comp=N,5.6nm,0.2s,SNR=24
EPON S Sn 19 49 09.4 -5.5
comp=N,6.5nm,0.2s,SNR=8.6
ETOR Torete 6.64 52 ⇓P Pn 19 48 01.4 -1.1
comp=N,83nm,0.2s,SNR=18
ETOR S Sn 19 49 10.3 -6.6
comp=N,59nm,0.2s,SNR=6.1
ECHE Chera 6.82 64 P Pn 19 48 04.0 -1.0
comp=N,1.6nm,0.2s,SNR=8.5
ECHE S Sn 19 49 15.5 -6.0
comp=N,3.1nm,0.2s,SNR=7.8
EARI Arriondas 6.99 23 P Pn 19 48 06.9 -0.4
EARI S Sn 19 49 19.5 -6.2
EARI Lg 19 49 56.0
EARI Arriondas 6.99 23 P Pn 19 48 06.9 -0.4
comp=N,2.6nm,0.2s,SNR=24
EARI S Sn 19 49 19.5 -6.2
comp=N,2.1nm,0.2s,SNR=5.7
EBEN Beniarda 7.12 73 ⇓P Pn 19 48 08.0 -1.2
EBEN S Sn 19 49 22.7 -6.4
EBEN Lg 19 50 05.6
EBEN Beniarda 7.12 73 ⇓P Pn 19 48 08.0 -1.2
comp=N,2.7nm,0.1s,SNR=18
EBEN S Sn 19 49 22.7 -6.4
comp=N,11nm,0.3s,SNR=7.9
EBEN Beniarda 7.12 73 P Pn 19 48 08.0 -1.2
comp=N,2.7nm,0.1s,SNR=18
PMPS Porto Santo 7.19 240 ePn Pn 19 48 08.1 -2.0
PMPS eSn Sn 19 49 17.5 -13
PMPS A 19 49 24.4
comp=N,29nm,0.2s
PMPS Porto Santo 7.19 240 P Pn 19 48 08.1 -2.0
PMPS S Sn 19 49 17.5 -13
comp=N,14nm,0.2s
EMOS Mosqueruela 7.47 60 P Pn 19 48 13.7 -0.2
comp=N,3.4nm,0.1s,SNR=38
EMOS S Sn 19 49 30.3 -7.2
comp=N,30nm,0.3s,SNR=8.2
EMOS Mosqueruela 7.47 60 P Pn 19 48 13.7 -0.2
comp=N,3.4nm,0.1s,SNR=38
ECRI Cripan 7.54 39 P Pn 19 48 14.3 -0.6
comp=N,4.3nm,0.1s,SNR=9.7
ECRI S Sn 19 49 32.9 -6.3
comp=N,4.6nm,0.2s,SNR=7.9
ELAN Lanestosa 7.59 32 P Pn 19 48 14.3 -1.3
comp=N,1.2nm,0.1s,SNR=12
ELAN S Sn 19 49 33.6 -6.8
comp=N,3.6nm,0.3s,SNR=4.0
PMAR Madeira 7.78 240 ePn Pn 19 48 16.1 -2.1
PMAR eSn Sn 19 49 36.0 -9.1
PMAR A 19 49 40.9
comp=N,46nm,0.2s
PMAR Madeira 7.78 240 P Pn 19 48 16.1 -2.1
PMAR S Sn 19 49 36.0 -9.1
comp=N,23nm,0.2s
ESAC San Caprasio 8.13 51 P Pn 19 48 23.1 +0.1
comp=N,5.8nm,0.1s,SNR=8.1
ESAC S Sn 19 49 46.5 -7.2
comp=N,35nm,0.3s
ESAC San Caprasio 8.13 51 P Pn 19 48 23.1 +0.1
comp=N,5.8nm,0.1s,SNR=8.1
EARA Aranguren 8.14 42 P Pn 19 48 22.6 -0.5
comp=N,1.4nm,0.1s,SNR=7.9
ERTA Horta de San J 8.28 58 P Pn 19 48 24.8 -0.1
comp=N,2.7nm,0.2s,SNR=11
ERTA S Sn 19 49 50.8 -6.5
comp=N,7.7nm,0.4s
ERTA Horta de San J 8.28 58 P Pn 19 48 24.8 -0.2
comp=N,2.7nm,0.2s,SNR=11
IUSE Utxeti 8.28 41 ⇓P Pn 19 48 24.6 -0.4
comp=N,2.9nm,0.2s,SNR=18
IUSE Utxeti 8.28 41 P Pn 19 48 24.6 -0.4
comp=N,2.9nm,0.2s,SNR=18
EIBI Ibiza 8.39 72 P Pn 19 48 25.2 -1.4
comp=N,0.8nm,0.2s,SNR=7.9
EIBI S Sn 19 49 52.5 -7.6
comp=N,8.6nm,0.4s,SNR=7.9
EIBI Ibiza 8.39 72 P Pn 19 48 25.2 -1.4
comp=N,0.8nm,0.2s,SNR=7.9
ELIZ Elizondo 8.44 40 ⇑P Pn 19 48 26.1 -1.1
comp=N,16nm,0.3s,SNR=18
ELIZ S Sn 19 49 53.0 -8.3
comp=N,3.5nm,0.3s
SJPF Ste Jean 8.56 41 ePn Pn 19 48 28.0 -0.9
SJPF eSn Sn 19 49 57.2 -7.2
comp=N,11nm,0.3s
SJPF Ste Jean 8.56 41 ePn Pn 19 48 28.0 -0.9
SJPF eSn Sn 19 49 57.2 -7.2
comp=N,5.6nm,0.3s
LARF Larrau 8.64 42 P Pn 19 48 29.6 -0.3
ETSF Etsaut 8.78 45 ePn Pn 19 48 31.1 -0.8
ETSF eSn Sn 19 50 02.8 -7.0
comp=N,7.4nm,0.3s
ETSF Etsaut 8.78 45 ePn Pn 19 48 31.1 -0.8
ETSF eSn Sn 19 50 02.8 -7.0
comp=N,3.7nm,0.3s
EPOB Poblet 8.95 57 P Pn 19 48 32.9 -1.4
comp=N,1.6nm,0.2s,SNR=6.9
EPOB S Sn 19 50 07.4 -6.6
comp=N,1.9nm,0.2s,SNR=7.9
EBIE Bielsa 9.06 48 P Pn 19 48 34.4 -1.2
comp=N,3.3nm,0.3s,SNR=33
EBIE S Sn 19 50 08.6 -7.9
comp=N,4.7nm,0.2s,SNR=6.1
LABF Labassere 9.24 46 P Pn 19 48 37.5 -0.6
CFUE Fuerteventura 9.25 208 P Pn 19 48 31.3 -7.1
comp=N,2.8nm,0.2s,SNR=7.9
CFUE S Sn 19 50 11.3 -10
comp=N,8.6nm,0.2s,SNR=7.9
EPF Esparros 9.38 46 ePn Pn 19 48 39.3 -0.8
EPF eSn Sn 19 50 16.8 -7.6
comp=N,12nm,0.3s
EPF Esparros 9.38 46 ePn Pn 19 48 39.3 -0.8
EPF eSn Sn 19 50 16.8 -7.6
comp=N,6.0nm,0.3s
EMIR Miracle 9.51 55 S Sn 19 50 19.7 -8.0
comp=N,5.0nm,0.2s,SNR=4.0
CFTV Fuerteventura 9.52 209 S Sn 19 50 16.7 -11
comp=N,1.7nm,0.2s,SNR=7.9
MTLF Montolieu 10.68 50 ePn Pn 19 48 55.9 -2.0
MTLF eSn Sn 19 50 47.6 -8.7
comp=N,3.2nm,0.4s
MTLF Montolieu 10.68 50 ePn Pn 19 48 55.9 -2.0
MTLF eSn Sn 19 50 47.6 -8.7
comp=N,1.6nm,0.4s
LFF La Frestale 10.85 39 ePn Pn 19 48 58.1 -2.1
LFF eSn Sn 19 50 51.9 -8.6
comp=N,2.9nm,0.4s
LFF La Frestale 10.85 39 ePn Pn 19 48 58.1 -2.1
LFF eSn Sn 19 50 51.9 -8.6
comp=N,1.5nm,0.4s
RJF Les Rejaudoux 11.50 40 ePn Pn 19 49 06.2 -2.9
RJF eSn Sn 19 51 06.9 -9.5
comp=N,2.3nm,0.3s
RJF Les Rejaudoux 11.50 40 ePn Pn 19 49 06.2 -2.9
RJF eSn Sn 19 51 06.9 -9.5
comp=N,1.1nm,0.3s
CAF Calviac 11.54 43 ePn Pn 19 49 07.5 -2.1
CAF eSn Sn 19 51 07.2 -10
comp=N,2.8nm,0.3s
CAF Calviac 11.54 43 ePn Pn 19 49 07.5 -2.1
CAF eSn Sn 19 51 07.2 -10
comp=N,1.4nm,0.3s
MFF Saint Martin d 11.69 31 ePn Pn 19 49 09.0 -2.7
QUIF Quistinic 11.79 19 ePn Pn 19 49 11.2 -1.9
QUIF eSn Sn 19 51 14.1 -9.3
comp=N,1.8nm,0.3s
QUIF Quistinic 11.79 19 ePn Pn 19 49 11.2 -1.9
QUIF eSn Sn 19 51 14.1 -9.3
comp=N,0.9nm,0.3s
LASF Ste Croix 12.08 50 ePn Pn 19 49 15.2 -1.8
ROSF Rostrenen 12.15 18 ePn Pn 19 49 16.3 -1.7
SGMF Saint Gilles 12.26 20 ePn Pn 19 49 17.3 -2.2
TCF Toulx Ste Croi 12.53 38 ePn Pn 19 49 20.5 -2.7
GRR Gorron 12.91 25 ePn Pn 19 49 26.3 -2.0
BGF Bois d'Agland 13.04 39 ePn Pn 19 49 27.9 -2.2
LDF La Druitiere 13.34 26 ePn Pn 19 49 31.8 -2.4
FLN La Foliniere 13.36 25 ePn Pn 19 49 32.3 -2.2
AVF Avril sur Loir 13.45 39 ePn Pn 19 49 33.4 -2.3
SSF Saint Saulge 13.71 38 ePn Pn 19 49 36.4 -2.9
GERES GERESS Array B 20.34 47 P P 19 51 02.0 +1.2
comp=N,0.2nm,0.5s,baz=258,slow=6.4,SNR=4.7
TORD Torodi Ar. Bea 25.51 155 P P 19 51 52.7 -0.2
comp=N,1.6nm,0.9s,baz=344,slow=9.4,SNR=9.3
ASAR Alice Springs 145.52 78 PKP PKPdf 20 06 02.9 +0.5
comp=N,0.2nm,0.8s,baz=304,slow=1.5,SNR=4.1

IDC 10 20:14:29.7±1.8, 228N×12530E, h0km, mb3.5/4, mb1 3.6/4, mb1mx3.4/17, mbtmp3.5/4, Error ellipse: s-maj=174.0km s-min=25.1km az=64.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.80**	**159**	P	P	20 19 44.1	-0.2
	0.7nm,0.4s,baz=337,slow=11,SNR=15						
ASAR	**Alice Springs**	**27.11**	**162**	P	P	20 20 15.6	+1.1
	0.2nm,0.5s,baz=339,slow=7.3,SNR=5.8						
STKA	**Stephens Creek**	**37.32**	**157**	P	P	20 21 43.1	-0.7
	1.2nm,0.8s,baz=336,slow=10.0,SNR=3.5						
MKAR	**Makanchi Array**	**57.95**	**326**	P	P	20 24 23.7	-0.1
	0.4nm,0.6s,baz=119,slow=8.3,SNR=4.5						

*MOS **10** 20:15:41.1±1.8, 56.10N×111.48E, h18km, mb4.3/1, Error ellipse: s-maj=25.8km s-min=15.3km az=58.7*

BYKL 10 20:15:41.0±0.3, 5609N×11139E, h16km±3km, 8C-4D, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOA	**Uoyan**	**0.19**	**77**	⇑iPG	Pg	20 15 45.5	-0.1
YOA				*i*		20 15 49.7	
YOA				pmax	pmax		
	comp=Z,696nm,0.2s						
YOA				smax			
	comp=N,9μm,0.3s						
YOA	**Uoyan**	**0.19**	**77**	⇑iPg	Pg	20 15 45.6	0.0
YOA				*i* Sg	Sg	20 15 49.7	+1.0
YOA				Pmax			
	comp=N,690nm,0.2s						
YOA				Smax			
	comp=N,8μm,0.4s						
KMO	**Kumora**	**0.23**	**208**	⇑iPG	Pg	20 15 46.1	-0.1
KMO				pmax	pmax		
	comp=Z,196nm,0.1s						
KMO	**Kumora**	**0.23**	**208**	⇑iPg	Pg	20 15 46.0	-0.2
KMO				⇑*i*		20 15 46.3	
KMO				*e*Sg	Sg	20 15 50.0	+0.3
KMO				max			
	comp=Z,194nm,0.1s						
KMO				Smax			
	comp=Z,5μm,0.4s						
NIZ	**Nizh Angarsk**	**1.09**	**254**	*e*PG	Pg	20 16 01.2	-0.8
NIZ				*e*		20 16 16.3	
NIZ				pmax	pmax		
	comp=Z,44nm,0.4s						
NIZ				smax			
	comp=N,610nm,0.5s						
NIZ	**Nizh Angarsk**	**1.09**	**254**	⇑iPg	Pg	20 16 01.2	-0.8
	comp=N,9.0nm,0.4s						
NIZ				⇑*i*Pg	Pg	20 16 01.2	-0.8
	comp=N,23nm,0.4s						
NIZ				⇓*i*Pg	Pg	20 16 01.2	-0.8
	comp=N,30nm,0.4s						
NIZ				*e*Sg	Sg	20 16 16.4	+0.2
NIZ				Pmax			
	comp=N,44nm,0.4s						
NIZ				Smax			
	comp=N,609nm,0.3s						
SVKR	**Severomuysk**	**1.22**	**88**	*e*PG	Pg	20 16 03.2	-1.2
SVKR				*e*		20 16 19.0	
SVKR				pmax	pmax		
	comp=Z,203nm,0.4s						
SVKR				smax			
	comp=N,419nm,0.7s						
SVKR	**Severomuysk**	**1.22**	**88**	⇓iPg	Pg	20 16 03.0	-1.4
SVKR				*e*Sg	Sg	20 16 19.6	-0.7
SVKR				Pmax			
	comp=N,231nm,0.4s						
SVKR				Smax			
	comp=N,401nm,0.4s						
YLYR	**Ulyunkhan**	**1.22**	**186**	*e*PG	Pg	20 16 03.2	-1.4
YLYR				*e*		20 16 19.9	
YLYR				pmax	pmax		
	comp=Z,132nm,0.3s						
YLYR				smax			
	comp=E,348nm,0.7s						
YLYR	**Ulyunkhan**	**1.22**	**186**	⇓iPg	Pg	20 16 03.2	-1.4
	comp=E,139nm,0.3s						
YLYR				⇓*i*Pg	Pg	20 16 03.2	-1.4
	comp=E,9.0nm,0.3s						
YLYR				⇑*i*Pg	Pg	20 16 03.2	-1.4
	comp=E,137nm,0.3s						
YLYR				*e*Sg	Sg	20 16 19.9	-0.6
YLYR				Pmax			
	comp=E,133nm,0.3s						
YLYR				Smax			
	comp=E,338nm,0.4s						
UKT	**Uakit**	**1.40**	**115**	*e*PN	Pn	20 16 05.9	+0.1
UKT				*e*		20 16 24.4	
UKT				pmax	pmax		
	comp=Z,121nm,0.7s						
UKT				smax			
	comp=N,222nm,1.4s						
UKT	**Uakit**	**1.40**	**115**	*e*Pg	Pg	20 16 06.0	-1.9
UKT				*e*Pb	Pb	20 16 06.9	+0.2
UKT				*e*Sg	Sg	20 16 24.4	-1.7
UKT				max			
	comp=N,118nm,0.7s						
UKT				Smax			
	comp=N,259nm,0.9s						
BOD	**Bodaibo**	**2.25**	**38**	*e*Pn	Pn	20 16 18.7	+1.2
BOD				*e*Pg	Pg	20 16 21.3	-2.8
BOD				*e*Sn	Sn	20 16 46.4	+1.6
BOD				*e*Sg	Sg	20 16 50.0	-3.2
BOD				Pmax			
	comp=N,13nm,0.3s						
BOD				Smax			
	comp=N,181nm,0.5s						
NLYR	**Nelyaty**	**2.44**	**79**	*e*Pn	Pn	20 16 20.3	+0.2
NLYR				*e*Pg	Pg	20 16 24.1	-3.6
NLYR				*e*Sg	Sg	20 16 56.9	-2.4
NLYR				Pmax			
	comp=N,22nm,0.6s						
NLYR				Smax			
	comp=N,101nm,0.8s						
SYVR	**Suvo**	**2.57**	**199**	*e*Pg	Pg	20 16 26.4	-3.8
SYVR				*e*Sg	Sg	20 17 00.8	-2.6
SYVR				Pmax			
	comp=N,21nm,0.4s						
SYVR				Smax			
	comp=N,85nm,0.4s						
MXMB	**Maximikha**	**3.22**	**210**	*e*Pn	Pn	20 16 32.3	+1.4
MXMB				*e*Pg	Pg	20 16 40.1	-2.6
MXMB				*e*Sg	Sg	20 17 22.5	-1.9
MXMB				Pmax			
	comp=N,11nm,0.5s						
MXMB				Smax			
	comp=N,193nm,0.5s						
OGRR	**Ongureny**	**3.29**	**223**	*e*Pn	Pn	20 16 33.4	+1.6
OGRR				*e*Pg	Pg	20 16 40.6	-3.4
OGRR				*e*Sn	Sn	20 17 12.9	+2.4
OGRR				*e*Sg	Sg	20 17 23.0	-3.6
OGRR				Pmax			
	comp=N,5.0nm,0.2s						
OGRR				Smax			
	comp=N,62nm,0.3s						
CRS	**Chara**	**3.90**	**75**	*e*PN	Pn	20 16 49.7	+10
CRS				*e*		20 17 41.2	
CRS				pmax	pmax		
	comp=Z,19nm,0.7s						
CRS				smax			
	comp=N,78nm,1.2s						
CRS	**Chara**	**3.90**	**75**	*e*Pn	Pn	20 16 41.0	+0.9
CRS				*e*Pg	Pg	20 16 51.5	-4.1
CRS				*e*Sg	Sg	20 17 41.8	-4.3
CRS				Pmax			
	comp=N,18nm,0.9s						
CRS				Smax			
	comp=N,78nm,1.1s						
CIT	**Chita**	**4.27**	**162**	*e*Pg	Pg	20 16 57.2	-5.5
CIT				*e*Sg	Sg	20 17 52.3	-5.7
CIT				Pmax			
	comp=N,15nm,1.0s						
CIT				Smax			
	comp=N,86nm,1.1s						
ZRHB	**Zarechye**	**4.33**	**217**	*e*Sg	Sg	20 17 54.8	-4.9
ZRHB				Smax			
	comp=N,67nm,1.2s						
TRG	**Tyrgan**	**4.45**	**224**	*e*Pn	Pn	20 16 50.0	+2.3
TRG				*e*Pg	Pg	20 17 02.3	-3.8
TRG				*e*Sn	Sn	20 17 40.2	+1.1
TRG				*e*Sg	Sg	20 17 59.9	-3.8
TRG				Pmax			
	comp=N,3.0nm,0.6s						
TRG				Smax			
	comp=N,30nm,0.4s						
TRTB	**Turuntaevo**	**4.45**	**211**	*e*	Pn	20 16 54.4	+6.6
TRTB				*e*Pg	Pg	20 17 01.4	-4.8
TRTB				*e*Sg	Sg	20 17 59.2	-4.7
TRTB				Pmax			
	comp=N,4.0nm,0.8s						
TRTB				Smax			
	comp=N,22nm,1.1s						
UUDB	**Ulan-Yde**	**4.77**	**209**	*e*Sg	Sg	20 18 08.6	-5.3
UUDB				Smax			
	comp=N,37nm,1.4s						
KHNR	**Khani**	**4.83**	**77**	*e*Sg	Sg	20 18 10.1	-5.8
TUP	**Tupik**	**5.17**	**105**	*e*Pn	Pn	20 16 57.7	0.0
TUP				*e*Pg	Pg	20 17 15.0	-5.0
TUP				*e*Sg	Sg	20 18 21.2	-5.7
TUP				Pmax			
	comp=N,5.0nm,0.7s						
TUP				Smax			
	comp=N,29nm,1.5s						
LSTR	**Listvyanka**	**5.73**	**225**	*e*Pg	Pg	20 17 23.2	-7.4
LSTR				*e*Sg	Sg	20 18 36.2	-8.6
LSTR				Smax			
	comp=N,33nm,1.4s						
TLY	**Talaya**	**6.36**	**229**	*e*PN	Pn	20 17 18.7	+4.8
TLY				*e*		20 17 37.3	
TLY				pmax	pmax		
	comp=Z,2.0nm,0.7s						
TLY	**Talaya**	**6.36**	**229**	*e*Sg	Sg	20 18 56.2	-8.7
TLY				Smax			
	comp=Z,30nm,1.6s						
KPC	**Khapcheranga**	**6.42**	**174**	*e*Pg	Pg	20 17 37.1	-6.8
KPC				*e*Sg	Sg	20 19 00.1	-6.9
KPC				Smax			
	comp=Z,20nm,0.8s						
ARS	**Arshan**	**6.74**	**235**	*e*PG	Pn	20 17 43.5	+24
ARS				pmax	pmax		
	comp=Z,2.0nm,0.1s						
MOY	**Mondy**	**7.57**	**239**	*e*PN	Pn	20 17 35.8	+5.2
MOY				*e*		20 17 57.7	
MOY				*e*S	Sn	20 18 58.4	+2.4
MOY				pmax	pmax		
	comp=Z,2.0nm,0.2s						
MOY				smax			
	comp=E,31nm,1.1s						
MOY	**Mondy**	**7.57**	**239**	*e*Sn	Sn	20 18 54.3	-1.7
MOY				*e*Sg	Sn	20 19 34.8	+39
MOY				Smax			
	comp=E,30nm,1.0s						
ORL	**Orlik**	**7.65**	**247**	*e*	Pn	20 17 36.4	+4.8
ORL				*e*Sn	Sn	20 18 56.2	-1.6
ORL				*e*Sg	Sn	20 19 36.4	+39
ORL				Smax			
	comp=E,29nm,1.6s						

*ISCJB **10** 20:21:13.5±1.2, 1028N±005×6028W±008, h97km±10km, Error ellipse: s-maj=12.8km s-min=9.0km az=3.6*
*FUNV **10** 20:21:14.5, 1037N×6012W, h73km, MW3.5*
*TRN **10** 20:21:16.3, 1033N×6023W, h63km, MD3.5*

ISC 10 20:21:15.0±1.3, 1027N±005×6030W±007, h85km±13km, n14, σ1§19/25, 2D, Trinidad

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TBH	**Brigand Hill**	**0.79**	**286**	*e*P	Pn	20 21 32.6	+0.6
TBH				*e*S	Sn	20 21 44.3	-0.4
TPR	**Prospect**	**1.03**	**333**	*e*P	Pn	20 21 33.8	-1.0
TPR				*e*S	Sn	20 21 48.6	-0.9
TCE	**Chacachacare**	**1.50**	**287**	*e*P	Pn	20 21 42.6	+2.1
TCE				*e*S	Sn	20 22 00.1	+0.3
GUIV	**Guiria**	**1.93**	**281**	⇓iP	Pn	20 21 46.2	+0.1
GUIV				*e*S	Sn	20 22 10.5	+0.6
GUNV	**Guanoco**	**2.61**	**268**	⇓iP	Pn	20 21 56.8	+1.7
GUNV				*e*S	Sn	20 22 27.4	+1.4
RIOV	**Rio Grande**	**2.65**	**215**	*e*S	Sn	20 22 27.4	+0.4
ITEV	**Isla Los Testi**	**2.99**	**291**	*e*P	Pn	20 21 59.9	-0.4
ITEV				*e*S	Sn	20 22 33.4	-1.8
ORIV	**Oritupano**	**3.29**	**249**	*e*P	Pn	20 22 06.3	+1.9
ORIV				*e*S	Sn	20 22 43.3	+0.7
GURV	**El Guri**	**3.71**	**228**	*e*S	Sn	20 22 52.3	-0.5
PCRV	**Puerto La Cruz**	**4.27**	**269**	*e*P	Pn	20 22 17.0	-0.8
PCRV				*e*S	Sn	20 23 03.7	-2.7
LUEV	**Luepa**	**4.54**	**195**	*e*P	Pn	20 22 21.4	0.0
LUEV				*e*S	Sn	20 23 10.8	-2.2
PRGV	**PARIAGUAN**	**4.54**	**251**	*e*P	Pn	20 22 22.4	+1.0
CAOV	**Caicara del Or**	**6.63**	**244**	*e*P	Pn	20 22 50.4	+0.5
CAOV				*e*S	Sn	20 24 00.9	-3.2
BAUV	**El Baul**	**7.75**	**261**	*e*P	Pn	20 23 04.7	-0.5
BAUV				*e*S	Sn	20 24 26.2	-5.1

*IDC **10** 20:56:11.6±1.0, 5690S×2601W, h0km, mb3.7/2, mb1 3.9/2, mb1mx3.6/14, mbtmp3.7/2, Error ellipse: s-maj=45.7km s-min=31.4km az=87.0*
*ISCJB **10** 20:56:28.3±6.1, 5705S×02±02×2631W±06, h151km±63km, mb3.5/3, Error ellipse: s-maj=50.1km s-min=37.1km az=167.9*

ISC 10 20:56:29.6±6.1, 570S±02×263W±05, h146km±63km, n9, σ1§74/6, mb3.5/3, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**15.70**	**158**	*e*P	Pn	21 00 03.8	+1.4
VNA1				*e*		21 00 08.1	
VNA1				*e*		21 00 12.2	
VNA3	**Neumayer Olymp**	**15.90**	**160**	*e*P	Pn	21 00 02.7	-2.2
VNA3				*e*		21 00 06.4	
VNA3				*e*		21 00 09.4	
VNA2	**Neumayer--Watz**	**16.10**	**157**	*e*P	Pn	21 00 07.6	+0.4
	baz=322,slow=14						
VNA2				*e*		21 00 11.9	
VNA2				*e*		21 00 16.1	
VNDA	**Vanda**	**45.63**	**182**	P	P	21 04 34.6	+0.1
	0.3nm,0.5s,mb3.1,baz=143,slow=5.1,SNR=3.5						
LPAZ	**La Paz**	**51.36**	**305**	P	P	21 05 19.1	+0.1
	0.7nm,0.4s,mb3.6,baz=167,slow=4.3,SNR=5.0						
TORD	**Torodi Ar. Bea**	**73.65**	**28**	P	P	21 07 46.8	-0.1
	1.5nm,0.8s,mb3.8,baz=202,slow=6.3,SNR=8.7						
YKA	**Yellowknife Ar**	**137.24**	**317**	PKP	PKPdf	21 15 33.2	-0.6
	0.3nm,0.8s,baz=118,slow=2.3,SNR=6.0						
INK	**Inuvik**	**146.88**	**319**	PKPbc	PKPbc	21 15 52.5	-0.4
	1.3nm,0.8s,baz=103,slow=4.2,SNR=5.0						
SONM	**Songino Array**	**150.26**	**87**	PKPbc	PKPbc	21 16 01.9	-0.3
	1.2nm,0.7s,baz=227,slow=2.7,SNR=7.2						

IDC 10 21:07:56.6±38.0, 2251S×17610W, h382km±120km, mb3.7/4, mb1 3.9/4, mb1mx3.4/16, mbtmp3.7/4, Error ellipse: s-maj=497.9km s-min=108.1km az=76.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**35.10**	**267**	*e*P	P	21 14 15.9	+0.2
	8.2nm,0.4s						
CTA	**Charters Tower**	**35.10**	**267**	P	P	21 14 16.1	+0.4
	9.3nm,0.4s,baz=94,slow=11,SNR=19						
STKA	**Stephens Creek**	**38.56**	**247**	*e*P	P	21 14 43.4	-1.0
	1.2nm,0.4s						
STKA	**Stephens Creek**	**38.56**	**247**	P	P	21 14 43.6	-0.8
	1.2nm,0.4s,baz=100,slow=11,SNR=4.5						
ASAR	**Alice Springs**	**45.81**	**258**	P	P	21 15 42.1	-0.1
	3.9nm,0.8s,baz=100,slow=7.2,SNR=41						
ASAR				ScP	ScP	21 20 27.9	-0.4
	0.7nm,0.9s,baz=110,slow=3.1,SNR=4.7						
WB2	**Warramunga Arr**	**46.09**	**264**	*e*P	P	21 15 44.3	-0.2
WRA	**Warramunga Arr**	**46.10**	**264**	P	P	21 15 44.5	-0.1
	3.4nm,0.3s,baz=95,slow=8.4,SNR=165						
FORT	**Forrest**	**50.16**	**248**	*e*P	P	21 16 14.6	-0.4
	17nm,0.6s						

*ISCJB **10** 21:34:56.3±0.9, 3806N×002×3101E±003, h1km±7km, Error ellipse: s-maj=4.1km s-min=3.8km az=30.4*
*CSEM **10** 21:34:56.2±0.1, 3806N×3099E, h5km, MD3.6, Error ellipse: s-maj=1.4km s-min=1.1km az=154.0*
*ISK **10** 21:34:56.7, 3803N×3098E, h9km, ML3.6*
*DDA **10** 21:34:59.3, 38.12N×3090E, h5km±6km, Md3.6*

ISC 10 21:34:57.7±0.7, 3804N±002×3100E±003, h7km±6km, n53, σ0§83/61, 3C, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BCK	**Bucak**	**0.66**	**210**	*e*PG	Pg	21 35 09.7	-0.7
BCK				*e*SG	Sg	21 35 18.6	-0.4
KDHN	**Kadinhani**	**1.01**	**61**	*i* P	Pg	21 35 17.0	-0.1
KDHN				*i* S	Sg	21 35 33.7	+3.6
KONT	**Konya--Tatoy**	**1.08**	**94**	*e*PN	Pn	21 35 18.0	-1.3
KIZT	**Kizilcal**	**1.09**	**39**	*e*PN	Pn	21 35 18.6	-0.9
ANTB	**Antalya**	**1.17**	**194**	*e*PN	Pn	21 35 19.8	-0.6
KHL	**Karahalli**	**1.20**	**284**	*e*PN	Pn	21 35 20.2	-0.7
ALT	**Altintas**	**1.23**	**326**	*e*PN	Pn	21 35 20.5	-0.9
GOLH	**Golhisar**	**1.39**	**236**	*i* P	Pn	21 35 23.2	-0.3
GOLH				*i* S	Sb	21 35 43.2	+1.3
GOLH	**Golhisar**	**1.39**	**236**	*i* P	Pn	21 35 23.2	-0.3
GOLH				*i* S	Sb	21 35 43.2	+1.2
ESKT	**Eskisehir**	**1.49**	**356**	*i* P	Pn	21 35 24.9	0.0
SEYT	**Eskypehyr**	**1.49**	**356**	*i* P	Pn	21 35 24.9	0.0
DENT	**Denizli**	**1.58**	**260**	*e*PN	Pn	21 35 25.1	-1.0
GDZ	**Gediz**	**1.59**	**312**	*i* P	Pn	21 35 25.4	-0.8
GDZ				*i* S	Sg	21 35 50.1	+1.3
BORA	**Eskisehir**	**1.89**	**347**	*i* P	Pn	21 35 30.4	0.0
BORA				*i* S	Sg	21 35 59.6	+1.1
KULA	**Kula-Manisa**	**1.90**	**285**	*e*PN	Pn	21 35 30.3	-0.3
ERMK	**Ermenek**	**2.06**	**132**	*i* P	Pn	21 35 35.5	+2.7
ERMK				*i* S	Sn	21 36 03.0	+4.2
FETY	**Fethiye**	**2.07**	**228**	*e*PN	Pn	21 35 33.0	+0.2
AKAS	**Kas**	**2.11**	**212**	*i* P	Pn	21 35 33.9	+0.4
ANTO	**Ankara**	**2.31**	**37**	*e*PN	Pn	21 35 35.9	-0.2
GPA	**Golpazari**	**2.31**	**347**	*e*PN	Pn	21 35 36.1	-0.1
YER	**Yerkesik**	**2.34**	**248**	*e*PN	Pn	21 35 36.4	-0.1
GULT	**Gulveren**	**2.42**	**351**	*e*PN	Pn	21 35 37.7	-0.1
DST	**Dursunbey**	**2.43**	**311**	*e*PN	Pn	21 35 37.9	+0.1
KAMT	**Kaman**	**2.51**	**57**	*e*PN	Pn	21 35 38.7	-0.2
IZI	**Iznik**	**2.59**	**333**	*e*PN	Pn	21 35 39.9	0.0
ADVT	**Abdulvahap**	**2.59**	**338**	*e*PN	Pn	21 35 39.8	-0.2
AKS	**Akhisar**	**2.64**	**290**	*e*PN	Pn	21 35 40.5	-0.1
MLSB	**Milas**	**2.66**	**255**	*e*PN	Pn	21 35 40.9	-0.1
IKL	**Isikli**	**2.80**	**129**	*e*PN	Pn	21 35 43.6	+0.8
YLV	**Yalova**	**2.83**	**334**	*e*PN	Pn	21 35 43.1	-0.1
BTOK	**Tokmak**	**2.89**	**308**	*i* P	Pn	21 35 42.2	-1.9
DAT	**Datca**	**3.02**	**245**	*e*PN	Pn	21 35 46.2	+0.3
MERS	**Mersin**	**3.04**	**111**	*e*PN	Pn	21 35 46.6	+0.4
CDAG	**Cicekdag**	**3.08**	**58**	*i* P	Pn	21 35 45.5	-1.2
CDAG				*i* S	Sn	21 36 23.6	-0.1
AVNT	**Avonos**	**3.12**	**75**	*i* P	Pg	21 35 55.7	-1.8
BLCB	**Balcova**	**3.14**	**278**	*e*PN	Pn	21 35 47.6	+0.1
CANT	**Cankiri**	**3.27**	**38**	*e*PN	Pn	21 35 49.8	+0.4
LEF	**Lefka**	**3.28**	**152**	*e*PN	Pn	21 35 49.0	-0.6
BNT	**Bandirma**	**3.33**	**315**	*e*PN	Pn	21 35 50.6	+0.4
LFK	**Lefkose**	**3.42**	**143**	*e*PN	Pn	21 35 52.1	+0.6
SAFT	**Safranbolu**	**3.46**	**22**	*e*PN	Pn	21 35 52.6	+0.7
CORM	**Corum**	**3.54**	**52**	*e*PN	Pn	21 35 53.6	+0.4
EREN	**Erenkoy**	**3.57**	**134**	*e*PN	Pn	21 35 54.1	+0.6
CTKT	**Corum**	**3.92**	**48**	*i* P	Pn	21 35 58.3	+0.1
RKY	**Sarkoy-Tekirda**	**3.97**	**313**	*e*PN	Pn	21 35 59.3	+0.2
EZN	**Ezine**	**4.06**	**298**	*e*PN	Pn	21 36 00.6	+0.4
COBT	**Iskenderun**	**4.46**	**108**	*i* P	Pn	21 36 07.4	+1.7
GADA	**Gvkgeada**	**4.51**	**300**	*e*PN	Pn	21 36 06.7	+0.3
BOYT	**Boyabat**	**4.53**	**40**	*i* P	Pn	21 36 06.6	-0.1
ENEZ	**Enez**	**4.62**	**307**	*e*PN	Pn	21 36 08.1	+0.2
TIRR	**Tirgusor**	**6.71**	**344**	⇑iP	Pn	21 36 37.0	+0.4
HARR	**Harsova**	**7.04**	**342**	⇑iP	Pn	21 36 39.4	-1.7
MLR	**Muntele Rosu**	**8.35**	**335**	⇑iP	Pn	21 37 01.8	+2.7

*SZGRF **10** 21:39:11.0, 3734N×3184E, h10km, mb4.4, MS3.6, Turkey*
*BJI **10** 21:39:16.0, 3800N×3100E, h6km, mB5.1, mb4.8, Ms4.5, Msz4.5*
*MOS **10** 21:39:17.9±1.0, 3797N×3096E, h14km, mb4.6/33, Error ellipse: s-maj=4.7km s-min=2.8km az=123.3*
*ISK **10** 21:39:18.4, 3801N×3095E, h7km, ML4.7*
*HLW **10** 21:39:18.6, 3826N×3078E, h34km, Mb4.5*
*NEIC **10** 21:39:18.0, 3801N×3095E, h7km, mb4.4/61, ML4.6(ISK), After ISK.*
NEIC Felt at Isparta.
*CSEM **10** 21:39:18.9±0.0, 3802N×3093E, h15km, mb4.5/29, Ms3.3, Mw3.9, Error ellipse: s-maj=1.1km s-min=0.8km az=16.0*
*ISCJB **10** 21:39:20.0±0.4, 3796N±001×3094E±001, h28km±3km, mb4.4/62, MS3.6/7, Error ellipse: s-maj=2.2km s-min=1.6km az=36.4*
*THE **10** 21:39:20.6, 3788N×3083E, h3km*
*DDA **10** 21:39:20.8, 3807N×3092E, h18km, Md4.4*
*NIC **10** 21:39:21.2±0.3, 3787N×3068E, h56km, mb4.7, ML4.4, MW3.9*
*GII **10** 21:39:21.7±0.0, 3749N×3022E, h15km±1km, mb4.3/10, ML4.2/10*
*IDC **10** 21:39:22.6±2.0, 3799N×3091E, h36km±17km, mb4.1/18, mb1 4.2/26, mb1mx4.1/31, mbtmp4.1/26, ML3.9/8, MS3.4/8, Ms1 3.4/8, ms1mx3.2/36, Error ellipse: s-maj=14.0km s-min=11.7km az=41.0*

ISC 10 21:39:20.7±0.5, 3796N±001×3094E±001, h17km±3km, h24km±1.9km: pP-P, n597, σ1§15/637, mb4.4/62, MS3.6/7, 41C-17D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ISP	**Isparta**	**0.36**	**251**	PG	Pg	21 39 25.9	-2.3
ISP				*e*SG	Sg	21 39 32.5	-0.7
ISP	**Isparta**	**0.36**	**251**	*e*Pg	Pg	21 39 25.6	-2.5
ISP	**Isparta**	**0.36**	**251**	*c i*P	Pg	21 39 25.8	-2.4
ISP	**Isparta**	**0.36**	**251**	⇑iP	Pg	21 39 26.0	-2.2
BCK	**Bucak**	**0.57**	**209**	PG	Pg	21 39 29.9	-2.1
SHUT	**Suhut-Afyon**	**0.67**	**333**	*e*PG	Pg	21 39 31.6	-2.2
KDHN	**Kadinhani**	**1.08**	**59**	*i* P	Pb	21 39 38.8	-2.2
KDHN				*i* S	Sb	21 39 56.3	+1.5
ANTB	**Antalya**	**1.08**	**192**	*e*PN	Pn	21 39 40.7	-0.4
KONT	**Konya--Tatoy**	**1.12**	**90**	*e*PN	Pn	21 39 40.0	-1.6
KHL	**Karahalli**	**1.17**	**288**	*e*PN	Pn	21 39 41.0	-1.3
KIZT	**Kizilcal**	**1.18**	**39**	*e*PN	Pn	21 39 40.9	-1.5
ALT	**Altintas**	**1.27**	**329**	*e*PN	Pn	21 39 42.3	-1.3
GOLH	**Golhisar**	**1.31**	**237**	*i* P	Pn	21 39 42.9	-1.3
GOLH				*i* S	Sg	21 40 04.2	+1.1
ELL	**Elmali**	**1.46**	**214**	*e*PN	Pn	21 39 47.1	+0.8
DENT	**Denizli**	**1.52**	**263**	*e*PN	Pn	21 39 47.1	0.0
ESKT	**Eskisehir**	**1.56**	**357**	*e*PN	Pn	21 39 46.8	-0.8
ESKT	**Eskisehir**	**1.56**	**357**	*i* P	Pn	21 39 45.6	-2.0
SEYT	**Eskypehyr**	**1.56**	**357**	*i* P	Pn	21 39 45.6	-2.0
GDZ	**Gediz**	**1.60**	**315**	*i* P	Pn	21 39 47.4	-0.8
GDZ				*i* S	Sn	21 40 08.2	-0.3
KULA	**Kula-Manisa**	**1.88**	**288**	*e*PN	Pn	21 39 51.5	-0.5
FETY	**Fethiye**	**1.99**	**229**	*e*PN	Pn	21 39 54.7	+1.2
AKAS	**Kas**	**2.03**	**212**	*i* P	Pg	21 39 56.1	-3.5
AKAS				*i* S	Sg	21 40 21.7	-4.3
ERMK	**Ermenek**	**2.05**	**129**	*i* P	Pn	21 39 55.3	+0.9
ERMK				*i* S	Sg	21 40 24.3	-2.4
KSL	**Kastellorizon**	**2.11**	**211**	*e*P	Pg	21 39 57.0	-4.2
GEDT	**Gedikpinar**	**2.22**	**335**	*e*PN	Pn	21 39 56.3	-0.4

BLCB Balcova 3.10 279 *e*PN **Pn 21 40 09.0 +0.2**
BLCB Balcova 3.10 279 *e*Pn **Pn 21 40 08.5 -0.3**
ALFC Alevga 3.10 154 P **Pn 21 40 08.1 -0.7**
26nm,0.5s
ALFC S **Sn 21 40 45.1 -0.4**
AKMC Akamas 3.14 159 P **Pn 21 40 09.0 -0.3**
CDAG Cicekdag 3.15 57 *i* P **Pn 21 40 07.7 -1.9**
ELDT Eldivan 3.18 37 *i* P **Pn 21 40 09.3 -0.6**
AVNT Avonos 3.18 74 *i* P **Pn 21 40 09.4 -0.5**
LEF Lefka 3.24 150 *e*PN **Pn 21 40 11.0 +0.3**
SMG Samos 3.26 267 *e*P **Pn 21 40 10.7 -0.3**
SMG Samos 3.26 267 P **Pn 21 40 11.0 0.0**
PPCY Paphos 3.27 159 P **Pn 21 40 11.0 -0.2**
NISR Nisiros 3.32 247 *e*P **Pg 21 40 22.0 -2.4**
MAMC Mammari 3.33 146 P **Pn 21 40 12.3 +0.3**
KARA Karaisali 3.34 101 *e*PN **Pn 21 40 13.3 +1.2**
BNT Bandirma 3.35 316 *e*PN **Pn 21 40 11.9 -0.3**
CANT Cankiri 3.36 37 *e*PN **Pn 21 40 12.2 -0.2**
KDZE Karadeniz Ereo 3.37 6 *e*PN **Pn 21 40 12.0 -0.5**
LFK Lefkose 3.39 141 *e*PN **Pn 21 40 13.8 +1.0**
ISK Istanbul-Kandi 3.42 335 *e*PN **Pn 21 40 12.9 -0.3**
URLA Izmir 3.45 278 *i* P **Pn 21 40 12.6 -0.9**
SAFT Safranbolu 3.54 22 *e*PN **Pn 21 40 14.6 -0.3**
EREN Erenkoy 3.55 132 *e*PN **Pn 21 40 16.5 +1.5**
CSS Prodhromos 3.56 147 P **Pn 21 40 15.2 +0.1**
13nm,0.8s
CSS S **Sn 21 40 57.9 +1.1**
CSS Prodhromos 3.56 147 *e*Pn **Pn 21 40 14.7 -0.4**
SZAC Souni-Zanaja 3.56 153 P **Pn 21 40 17.4 +2.2**
SZAC S **Sg 21 41 06.3 -8.8**
AYVA Ayvalik 3.59 293 *i* P **Pn 21 40 15.7 +0.2**
CORM Corum 3.63 51 *e*PN **Pn 21 40 16.2 +0.2**
MRMT Marmara Adasi 3.70 317 *e*PN **Pn 21 40 16.9 -0.1**
ELBA Catalca 3.73 329 *i* P **Pn 21 40 16.4 -1.0**
ELBA *i* S **Sg 21 41 15.7 -4.5**
CTT Catalca 3.73 329 *e*PN **Pn 21 40 17.4 0.0**
YOZ Yozgat 3.81 63 *e*PN **Pn 21 40 18.3 -0.2**
PHNC Paralimni 3.86 139 P **Pn 21 40 22.9 +3.6**
CHOS Chios island 3.87 278 *e*Pn **Pn 21 40 19.4 0.0**
KARP Karpathos 3.87 233 *e*P **Pn 21 40 19.9 +0.5**
KARP Karpathos 3.87 233 P **Pn 21 40 20.7 +1.3**
PRK Paraskevi 3.88 291 *e*P **Pn 21 40 19.5 +0.1**
PRK Paraskevi 3.88 291 P **Pn 21 40 20.2 +0.8**
TOS Tosya 3.89 37 *e*PN **Pn 21 40 19.9 +0.2**
KOZT Kozan 3.91 96 *e*PN **Pn 21 40 20.4 +0.5**
CEYT Ceyhan 3.94 102 *e*PN **Pn 21 40 21.3 +0.9**
BNN Bunyan 3.95 76 *e*PN **Pn 21 40 21.5 +0.9**
RKY Sarkoy-Tekirda 3.99 314 *e*PN **Pn 21 40 21.2 +0.1**
CTKT Corum 4.00 47 *i* P **Pn 21 40 21.1 -0.1**
CTKT Corum 4.00 47 *i* P **Pn 21 40 21.0 -0.1**
MFT Murefte 4.00 316 *e*PN **Pn 21 40 20.8 -0.4**
EZN Ezine 4.05 299 *e*PN **Pn 21 40 22.4 +0.5**
BOZC Bozcaada 4.25 298 *i* P **Pn 21 40 24.1 -0.5**
ANDN Andirin 4.30 93 *i* P **Pn 21 40 26.5 +1.2**
APE Apeiranthos 4.39 260 *e*Pn **Pn 21 40 25.9 -0.7**
APE Apeiranthos 4.39 260 *e*P **Pn 21 40 27.0 +0.5**
APE Apeiranthos 4.39 260 ⇓*i*P **Pn 21 40 27.1 +0.6**
APE Apeiranthos 4.39 260 *i* P **Pn 21 40 26.5 0.0**
COBT Iskenderun 4.48 107 *i* P **Pn 21 40 30.0 +2.2**
GADA Gvkgeada 4.51 301 *e*PN **Pn 21 40 28.7 +0.5**
BYBT Boyabat 4.58 39 *e*PN **Pn 21 40 29.0 -0.1**
BOYT Boyabat 4.61 40 *i* P **Pn 21 40 29.4 -0.2**
ENEZ Enez 4.63 308 *e*PN **Pn 21 40 30.1 +0.3**
BZK Bozkurt 4.64 30 *e*PN **Pn 21 40 30.2 +0.3**
ZKR Zakros 4.75 235 *e*Pn **Pn 21 40 31.5 +0.1**
ZKR *e*Sn **Sn 21 41 25.6 -0.5**
KMRS Kahramanmaras 4.75 94 *e*PN **Pn 21 40 31.8 +0.4**
ALN Alexandroupoli 4.79 309 *e*Pn **Pn 21 40 31.8 -0.2**
LIA Limnos Island 4.89 295 P **Pb 21 40 41.3 -4.5**
LIA Limnos Island 4.89 295 *e*P **Pn 21 40 30.2 -3.1**
TOKT Tokat 4.95 60 *e*PN **Pn 21 40 35.3 +1.0**
DIKM Dikmen 4.96 41 *e*PN **Pn 21 40 34.9 +0.5**
LOS Limnos 4.97 295 *e*Pn **Pn 21 40 34.9 +0.4**
KVT Kavak 5.03 50 *e*PN **Pn 21 40 35.4 +0.1**
GAZ Gaziantep 5.04 97 *e*PN **Pn 21 40 37.1 +1.6**
NPS Neapolis 5.06 239 *e*P **Pn 21 40 35.5 -0.3**
NPS Neapolis 5.06 239 P **Pn 21 40 36.4 +0.6**
SVSK Karacayir 5.11 66 *e*PN **Pn 21 40 38.0 +1.5**
LAST Lasithi 5.21 239 *e*Pn **Pn 21 40 36.8 -1.0**
XRY Khrisi 5.23 236 *e*P **Pn 21 40 38.5 +0.4**
RDO Rodhopi 5.25 309 *e*P **Pn 21 40 38.3 0.0**
RDO Rodhopi 5.25 309 P **Pn 21 40 39.0 +0.7**
GZT Gaziantep 5.29 95 *i* P **Pn 21 40 40.6 +1.7**
HWQ Hawqa 5.47 131 *e*Pn **Pn 21 40 42.0 +0.6**
IDI Anoyia 5.55 243 P **Pn 21 40 43.4 +0.9**
BHL Bhannes 5.57 135 *e*Pn **Pn 21 40 44.0 +1.2**
PTL Penteli 5.59 273 *e*P **Pn 21 40 43.5 +0.5**
JMB Yambol 5.60 325 *e*Pn **Pn 21 40 43.5 +0.4**
AOS Alonnisos 5.66 284 *e*Pn **Pn 21 40 44.2 +0.2**
KVR Kavouri 5.67 271 *e*P **Pn 21 40 45.0 +0.9**
ATH Athens Observa 5.71 272 *e*P **Pn 21 40 45.8 +1.2**
SIVA Sivas 5.75 241 P **Pn 21 40 44.1 -1.0**
SIVA P 21 40 47.6
SIVA Sivas 5.75 241 *e*Pn **Pn 21 40 44.1 -1.0**
SIVA Sivas 5.75 241 P **Pn 21 40 47.6 +2.4**
DIM Dimitrovgrad 5.82 316 P **Pn 21 40 46.1 -0.1**
ATAB Bozova 5.85 93 *i* P **Pn 21 40 46.1 -0.6**
NAIG Nisos Aigina 5.90 270 *e*P **Pn 21 40 48.0 +0.7**
OUR Ouranopolis 5.90 296 *e*Pn **Pn 21 40 47.6 +0.3**
MALT Malatya 5.91 84 *e*Pn **Pn 21 40 48.1 +0.7**
58nm,0.9s
MALT Malatya 5.91 84 *e*P **Pn 21 40 48.2 +0.7**
MALT pmax pmax
comp=Z,58nm,0.9s
MALT Malatya 5.91 84 *e*Pn **Pn 21 40 48.2 +0.7**
comp=Z,58nm,0.9s
MALT Malatya 5.91 84 ⇑*i*P **Pn 21 40 49.3 +1.8**
HNTI Hanita 5.97 143 Pn **Pn 21 40 49.4 +1.2**
HNTI Sn **Sn 21 41 57.7 +1.6**
RCY Rachaya 5.97 137 *e*Pn **Pn 21 40 49.4 +1.1**
VAM Vamos 5.99 247 *e*P **Pn 21 40 50.9 +2.4**
HRI Mount Hermon 6.10 139 Pn **Pn 21 40 51.4 +1.4**
KSDI Kefar Szold 6.12 140 Pn **Pn 21 40 51.6 +1.3**
KSDI Sn **Sn 21 42 02.5 +2.6**
MMA4 Mount Meron ar 6.13 142 Pn **Pn 21 40 51.6 +1.1**
MMAI Mount Meron Ar 6.13 142 Pn **Pn 21 40 51.2 +0.7**
comp=Z,15nm,0.3s,baz=336,slow=12,SNR=60
MMAI Sn **Sn 21 42 04.1 +3.8**
comp=Z,11nm,0.3s,baz=344,slow=30,SNR=5.8
MMA0 Mount Meron ar 6.13 142 Pn **Pn 21 40 51.4 +0.9**
KARN Karanos 6.19 248 *e*Pn **Pn 21 40 49.8 -1.5**
LKR Lokris 6.28 279 P **Pn 21 40 54.4 +1.9**
PLG Polygyros 6.30 295 *e*Pn **Pn 21 40 53.2 +0.4**
PLG Polygyros 6.30 295 *e*P **Pn 21 40 53.4 +0.6**
PLD Plovdiv 6.33 313 *e*Pn **Pn 21 40 53.1 0.0**
GVD Gavdhos 6.34 243 *e*Pn **Pn 21 40 54.6 +1.2**
comp=Z,72nm,0.9s
GVD Gavdhos 6.34 243 *e*P **Pn 21 40 54.0 +0.6**
GVD Gavdhos 6.34 243 *e*Pn **Pn 21 40 54.6 +1.2**
comp=Z,72nm,0.9s
ELZG Elazig 6.36 83 *i* P **Pn 21 40 54.6 +1.0**
KSHT Keshet 6.36 140 Pn **Pn 21 40 55.0 +1.4**
NVR Nevrokopi 6.42 304 *e*P **Pn 21 40 55.1 +0.7**
NVR Nevrokopi 6.42 304 P **Pn 21 40 56.2 +1.8**
VLI Veliai 6.50 261 *e*P **Pn 21 40 56.6 +1.1**
KYTH Kithira 6.53 258 *e*P **Pn 21 40 00.0 +4.0**
MMLI Mount Malkishu 6.62 145 Pn **Pn 21 40 57.8 +0.6**
MMLI Sn **Sn 21 42 13.6 +1.4**
SLTI Sal'it 6.62 148 Pn **Pn 21 40 57.2 0.0**
SLTI Sn **Sn 21 42 11.6 -0.7**
TIRR Tirgusor 6.76 344 P **Pn 21 40 59.0 -0.1**
TIRR Tirgusor 6.76 344 ⇓*i*P **Pn 21 40 58.6 -0.5**
TIRR Tirgusor 6.76 344 P **Pn 21 40 59.0 -0.1**
HMDT Nahal Hemdat 6.82 145 Pn **Pn 21 41 00.6 +0.6**
HMDT Sn **Sn 21 42 19.3 +2.0**
AGG Agios Georgios 6.83 282 *e*Pn **Pn 21 40 59.9 -0.2**
SEV Sevastopol' 6.89 16 *e*P **Pn 21 40 59.8 -1.0**
SEV *e*S **Sn 21 42 14.6 -4.2**
SEV pmax pmax
comp=Z,5.0nm,0.3s
SEV smax
comp=N,20nm,0.4s
SEV smax
comp=E,5.0nm,0.4s
SEV Sevastopol' 6.89 16 *e*P **Pn 21 40 59.8 -1.0**
comp=E,5.0nm,0.3s
SEV *e*S **Sn 21 42 14.6 -4.2**
PGB Panagyurishte 6.91 314 P **Pn 21 41 01.1 -0.1**
LIT Litokhoron 6.92 291 *e*Pn **Pn 21 41 02.2 +1.0**
YAL Yalta 6.96 19 *e*P **Pn 21 41 02.1 +0.4**
YAL *e*S **Sn 21 42 18.5 -1.9**
YAL pmax pmax
comp=Z,49nm,0.1s
YAL smax
comp=N,15nm,0.7s
YAL Yalta 6.96 19 *e*P **Pn 21 41 02.1 +0.4**
comp=N,49nm,0.1s
YAL *e*S **Sn 21 42 18.5 -1.9**
comp=N,15nm,0.7s
KNT Kendrikon 6.99 300 *e*Pn **Pn 21 41 02.7 +0.6**
MANS Anshas 7.00 176 P **Pn 21 41 10.6 +8.1**
ZIMR 7.09 325 P **Pn 21 41 03.7 +0.1**
HARR Harsova 7.09 342 P **Pn 21 41 03.5 -0.1**
HARR Harsova 7.09 342 ⇓*i*P **Pn 21 41 03.2 -0.4**
HARR Harsova 7.09 342 P **Pn 21 41 03.5 -0.1**
THL Klokotos Trika 7.16 286 *e*P **Pn 21 41 05.8 +1.3**
ITM Ithomi 7.20 267 *e*P **Pn 21 41 08.5 +3.4**
ALU Alushta 7.20 20 *e*P **Pn 21 41 04.7 -0.4**
ALU *i* S **Sn 21 42 22.8 -3.7**
ALU pmax pmax
comp=Z,65nm,0.6s
ALU smax
comp=N,39nm,0.7s
ALU Alushta 7.20 20 *e*P **Pn 21 41 04.7 -0.4**
comp=N,65nm,0.6s
ALU *i* S **Sn 21 42 22.8 -3.7**
comp=N,39nm,0.7s
EVR Evrytania 7.23 280 *e*P **Pn 21 41 07.9 +2.4**
DSI Dead Sea 7.35 149 Pn **Pn 21 41 07.5 +0.3**
DSI Sn **Sn 21 42 30.1 0.0**
SIM Simferopol' 7.38 18 *de*P **Pn 21 41 08.6 +1.1**
SIM *e*S **Sn 21 42 30.2 -0.6**
SIM pmax pmax
comp=Z,50nm,0.7s
SIM MLR MLR
comp=Z,160nm,9.4s
SIM Simferopol' 7.38 18 *e*P **Pn 21 41 08.6 +1.1**
comp=Z,50nm,0.7s
SIM *e*S **Sn 21 42 30.2 -0.6**
comp=Z,160nm,9.4s
YTIR Yattir 7.43 151 Pn **Pn 21 41 08.1 -0.2**
YTIR Yattir 7.43 151 Pn **Pn 21 41 08.0 -0.3**
VTS Vitosha 7.50 310 P **Pn 21 41 10.4 +1.1**
VTS Vitosha 7.50 310 ⇓*i*P **Pn 21 41 09.4 +0.1**
VTS Vitosha 7.50 310 P **Pn 21 41 10.4 +1.1**
AMAG Maghara 7.54 165 ⇑*e*P **Pn 21 41 09.1 -0.7**
HMAT Matruh 7.55 206 ⇓*e*P **Pn 21 41 07.9 -2.0**
ASF Jabal al Asfar 7.56 138 Pn **Pn 21 41 12.1 +2.0**
comp=Z,0.7nm,0.3s,baz=206,slow=18,SNR=6.9
ASF Sn **Sn 21 42 42.2 +6.7**
comp=Z,0.8nm,0.3s,baz=12,slow=20,SNR=2.9
SUDU Sudak 7.56 22 ⇓*i*P **Pn 21 41 09.6 -0.5**
SUDU *i* S **Sn 21 42 34.1 -1.3**
SUDU pmax pmax
comp=Z,1.0nm,0.2s
SUDU smax
comp=N,9.0nm,0.5s
SUDU smax
comp=E,7.0nm,0.5s
SUDU Sudak 7.56 22 *i* P **Pn 21 41 09.6 -0.5**
comp=E,1.0nm,0.2s
SUDU *i* S **Sn 21 42 34.1 -1.3**
comp=E,9.0nm,0.5s
MZDA Masada 7.57 150 Pn **Pn 21 41 10.6 +0.4**
KZIT Kziot 7.59 157 Pn **Pn 21 41 09.0 -1.6**
KZIT Sn **Sn 21 42 33.1 -3.1**
AANS 7.66 177 ⇓*e*P **Pn 21 41 10.6 -0.8**
FNA Florina 7.92 294 *e*Pn **Pn 21 41 16.1 +1.0**
KOT Kottamia 8.05 174 ⇓*e*P **Pn 21 41 16.1 -0.7**
JAN Janina 8.06 285 *e*P **Pn 21 41 23.0 +6.1**
KRUS Krusevo 8.21 297 *i* Pn **Pn 21 41 21.1 +2.1**
AYT Al 'Ayyat 8.24 179 ⇓*e*P **Pn 21 41 18.3 -1.1**
SUZ 8.25 168 ⇑*e*P **Pn 21 41 18.9 -0.6**
PRNI Paran 8.30 155 Pn **Pn 21 41 19.2 -1.1**
HSAF As Saff 8.34 176 ⇑*e*P **Pn 21 41 20.1 -0.7**
GLL Jalalah 8.39 175 ⇑*e*P **Pn 21 41 20.9 -0.6**
ANN Anapa 8.39 33 *e*P **Pn 21 41 21.2 -0.3**
ANN *e*S **Sn 21 42 59.4 +3.6**
ANN pmax pmax
comp=Z,37nm,1.0s
ANN MLR MLR
comp=Z,402nm,12.0s
ANN Anapa 8.39 33 *e*P **Pn 21 41 21.2 -0.3**
comp=Z,37nm,1.0s
ANN *e*S **Sn 21 42 59.4 +3.6**
comp=Z,402nm,12.0s
MLR Muntele Rosu 8.40 335 P **Pn 21 41 22.8 +1.3**
MLR Muntele Rosu 8.40 335 Pn **Pn 21 41 22.7 +1.2**
comp=Z,1.5nm,0.3s,baz=154,slow=3.1,SNR=30
MLR LR LR 21 44 45.9
comp=Z,211nm,19.1s,baz=150,slow=39
MLR Muntele Rosu 8.40 335 ⇑*i*P **Pn 21 41 22.7 +1.2**
HNKL Nakhl 8.40 162 ⇓*e*P **Pn 21 41 21.3 -0.3**
KRMI Paran Flat 8.43 157 Pn **Pn 21 41 19.8 -2.3**
KRMI Sn **Sn 21 42 54.2 -2.6**
BARS Barje 8.48 308 P **Pn 21 41 23.8 +1.1**
VRI Vrincioaia 8.50 340 ⇑*i*P **Pn 21 41 23.4 +0.5**
PLOR Plostina 8.51 339 ⇓P **Pn 21 41 23.6 +0.6**
PLOR Plostina 8.51 339 ⇓*i*P **Pn 21 41 23.5 +0.5**
HRFI Mount Harif 8.61 156 Pn **Pn 21 41 23.3 -1.1**
HRFI Sn **Sn 21 42 58.7 -2.4**
VOIR 8.67 331 ⇑P **Pn 21 41 26.2 +1.0**
VOIR 8.67 331 ⇑*i*P **Pn 21 41 26.3 +1.1**
SOC Sochi 8.71 47 *e*P **Pn 21 41 24.8 -1.0**
SOC *e* 21 43 04.0
SOC pmax pmax
comp=Z,11nm,0.8s
SOC MLR MLR
comp=Z,1μm,15.0s
SOC Sochi 8.71 47 *e*P **Pn 21 41 24.8 -1.0**
comp=Z,11nm,0.8s
SOC *e*S **Sn 21 43 04.0 +0.5**
comp=Z,1μm,15.0s
HOMI Horasan 8.79 73 *i* P **Pn 21 41 31.0 +4.1**
EIL Elat 8.92 157 Pn **Pn 21 41 28.6 -0.2**
comp=Z,2.0nm,0.3s,baz=330,slow=6.9,SNR=16
EIL Sn **Sn 21 43 06.3 -2.5**
comp=Z,1.4nm,0.3s,baz=65,slow=18,SNR=2.8
EIL LR LR 21 45 51.9
comp=Z,208nm,20.0s,baz=281,slow=44
EIL Elat 8.92 157 Pn **Pn 21 41 26.8 -1.9**
EIL Sn **Sn 21 43 06.2 -2.6**
EIL Elat 8.92 157 Pn **Pn 21 41 28.5 -0.2**
EIL Sn **Sn 21 43 06.2 -2.6**
KIS Kishinev 9.16 351 *e*P **Pn 21 41 41.0 +9.0**
KIS MLR MLR
comp=Z,400nm,13.0s
KIS MLR MLR
comp=Z,400nm,12.0s
KIS Kishinev 9.16 351 *e*P **Pn 21 41 41.0 +9.0**
comp=Z,400nm,12.0s
GZR Gura Zlata 9.61 323 P **Pn 21 41 39.2 +1.1**
GZR Gura Zlata 9.61 323 ⇓*i*P **Pn 21 41 38.4 +0.3**
GZR Gura Zlata 9.61 323 P **Pn 21 41 39.2 +1.1**
MSL Mosul 9.85 96 *ex* x 21 42 24.5
MSL *ex* x 21 30 56.0
MSL *ex* x 21 44 28.5
BZS Buzias 10.34 321 P **Pn 21 41 48.1 0.0**
BZS Buzias 10.34 321 ⇑*i*P **Pn 21 41 47.8 -0.3**
BZS Buzias 10.34 321 P **Pn 21 41 48.1 0.0**
ONI Oni 10.61 60 P **Pn 21 41 54.7 +2.9**
KIV Kislovodsk 10.71 52 *e*Pn **Pn 21 41 53.5 +0.4**
comp=Z,16nm,1.0s
KIV Kislovodsk 10.71 52 *e*P **Pn 21 41 54.5 +1.3**
KIV *e*S **Sn 21 43 56.2 +3.6**
KIV pmax pmax
comp=Z,17nm,1.0s
KIV MLR MLR
comp=Z,210nm,13.0s
KIV Kislovodsk 10.71 52 ⇑*i*P **Pn 21 41 54.0 +0.8**
KIV Kislovodsk 10.71 52 *e*Pn **Pn 21 41 53.5 +0.3**
comp=Z,16nm,1.0s
KIV Kislovodsk 10.71 52 *e*P **Pn 21 41 54.5 +1.3**
comp=Z,17nm,1.0s
KIV *e*S **Sn 21 43 56.2 +3.6**
comp=Z,210nm,13.0s
HFRF Wahat Farafira 11.01 192 ⇑*e*P **Pn 21 41 56.1 -1.2**
KMPD K-Podol'skiy 11.09 344 P **Pn 21 41 57.0 -1.3**
TIP Timpagrande 11.17 281 *e*Pn **Pn 21 41 59.3 -0.3**
comp=Z,25nm,1.1s
TIP Timpagrande 11.17 281 *e*Pn **Pn 21 41 59.3 -0.2**
comp=Z,25nm,1.1s
NAX Nakhchivan 11.46 79 P **Pn 21 42 08.6 +5.1**
SNR=23
DGRG David-gareji 11.65 68 P **Pn 21 42 10.9 +4.8**
MGR Morigerati 12.16 285 P **Pn 21 42 15.1 +2.0**
comp=Z,74nm,1.4s
GANJ Ganja 12.22 73 P **Pn 21 42 20.5 +6.7**
SNR=9.2
GANJ S **Sn 21 44 40.3 +11**
PKSM Moragy 12.29 316 ⇓*i*P **Pn 21 42 15.0 +0.2**
PKSM Moragy 12.29 316 P **Pn 21 42 15.1 +0.3**
GTR Jabal at Tayr 12.42 182 ⇑*e*P **Pn 21 42 15.1 -1.6**
AKRG Al Kharijah 12.43 182 ⇑*e*P **Pn 21 42 15.2 -1.6**
HDK1 Dakhla 12.45 186 ⇓*e*P **Pn 21 42 15.3 -1.8**
KOLS Kolonicke sedl 12.63 333 *e*PN **Pn 21 42 23.1 +3.6**
CSSN Cassano Irpino 12.65 288 P **Pn 21 42 23.0 +3.3**
comp=Z,1.8nm,0.2s
SLNA Salina 12.68 278 P **Pn 21 42 20.5 +0.4**
comp=Z,9.8nm,0.4s
KIEV Kiev 12.79 355 *e*Pn **Pn 21 42 18.8 -2.8**
comp=Z,14nm,0.8s
KIEV *e*Sn **Sn 21 44 47.8 +4.3**
KIEV Kiev 12.79 355 *e*P **Pn 21 42 18.8 -2.8**
KIEV *e* 21 44 47.8
KIEV pmax pmax
comp=Z,14nm,0.8s
KIEV Kiev 12.79 355 *e*Pn **Pn 21 42 18.8 -2.8**
comp=Z,14nm,0.8s
KIEV *e*S **Sn 21 44 47.8 +4.3**
AKASG Malin Array Be 12.80 355 Pn **Pn 21 42 19.4 -2.3**
comp=Z,2.1nm,0.3s,baz=174,slow=10,SNR=10.0
AKASG Sn **Sn 21 44 48.3 +4.7**
comp=Z,1.4nm,0.3s,baz=183,slow=26,SNR=13
PSZ Piszkesteto 12.81 324 *e*Pn **Pn 21 42 22.8 +0.9**
comp=Z,16nm,1.4s
PSZ Piszkesteto 12.81 324 *e*P **Pn 21 42 22.8 +0.9**
PSZ pmax pmax
comp=Z,16nm,1.4s
PSZ Piszkesteto 12.81 324 ⇑*e*P **Pn 21 42 23.1 +1.2**
PSZ Piszkesteto 12.81 324 *e*Pn **Pn 21 42 22.8 +0.9**
comp=Z,16nm,1.4s
BRDA Brd 12.82 75 P **Pn 21 42 26.8 +4.7**
SNR=12
LVV L'vov 12.85 339 *e*P **Pn 21 42 27.0 +4.6**
CRVS Cervenica-Dubn 12.91 331 *e*PN **Pn 21 42 25.5 +2.2**
SEKA Sheki 12.96 70 P **Pn 21 42 29.3 +5.4**
SNR=5.8
SEKA S **Sn 21 45 00.2 +13**
KECS Kecovo 12.97 327 *e*Pn **Pn 21 42 28.8 +4.7**
KWP Kalwaria 13.08 336 *e*Pn **Pn 21 42 26.8 +1.2**
comp=Z,114nm,1.8s
KWP Kalwaria 13.08 336 *e*P **Pn 21 42 26.8 +1.2**
KWP pmax pmax
comp=Z,114nm,1.8s
KWP Kalwaria 13.08 336 ⇑*i*P **Pn 21 42 28.6 +3.0**
KWP Kalwaria 13.08 336 *e*P **Pn 21 42 26.8 +1.2**
comp=Z,114nm,1.8s
VAE Valguarnera 13.10 273 Pn **Pn 21 42 32.0 +6.1**
comp=Z,0.6nm,0.3s,baz=84,slow=10,SNR=3.8
SGG Gregorio Mates 13.21 290 P **Pn 21 42 30.5 +3.1**
comp=Z,83nm,2.4s
STHS Stebnicka Huta 13.41 332 *e*PN **Pn 21 42 33.9 +3.8**
MAK Makhachkala 13.56 63 *e*P **Pn 21 42 38.9 +6.7**
MAK pmax pmax
comp=Z,329nm,2.1s
MAK MLR MLR
comp=Z,424nm,10.0s
MAK Makhachkala 13.56 63 *e*P **Pn 21 42 38.9 +6.7**
comp=Z,424nm,10.0s
VYHS Vyhne 13.72 324 *e*PN **Pn 21 42 43.5 +9.2**
AQU L'Aquila 14.11 294 *e*Pn **Pn 21 42 40.1 +0.4**
AQU L'Aquila 14.11 294 *e*P **Pn 21 42 40.1 +0.5**
MODS Modra-Piesok 14.39 321 *e*P **Pn 21 42 51.7 +8.3**
VRSR Storozhevoye 14.48 21 *e*P **Pn 21 42 43.6 -1.1**
VRSR pmax pmax
comp=Z,5.0nm,1.3s
VRSR pmax pmax
comp=N,10.0nm,1.1s
VRSR pmax pmax
comp=E,5.0nm,1.1s
VRSR Storozhevoye 14.48 21 *e*P **Pn 21 42 43.6 -1.1**
comp=E,5.0nm,1.3s
OJC Ojcow 14.62 331 *e*P **Pn 21 42 54.1 +7.6**
ARSA Arzberg 14.64 314 ⇑*i*P **Pn 21 42 47.7 +0.8**
comp=E,22nm,1.2s,SNR=5.4
ARSA Arzberg 14.64 314 ⇑*i*P **Pn 21 42 47.6 +0.8**
comp=E,22nm,1.2s
SNTG Esanatoglia 14.65 297 P **Pn 21 42 47.8 +0.8**
OBKA Obir 14.82 310 ⇑*i*P pP 21 42 56.6 -3.3
comp=E,17nm,1.1s,SNR=6.0
OBKA Obir 14.82 310 ⇑*i*pP pP 21 42 56.6 -3.3
comp=E,17nm,1.1s,SNR=6.0
CONA Conrad Observa 14.85 317 ⇑*i*P **Pn 21 42 49.9 +0.3**
comp=E,12nm,1.2s
FSSB Fossombrone 14.88 298 P **Pn 21 42 50.4 +0.2**
OKC Ostrava-Krasne 15.01 326 *e*P **Pn 21 42 54.8 +3.0**
OKC AMS AMS 21 49 40.0
comp=Z,1μm,13.3s
OKC Ostrava-Krasne 15.01 326 *e*P **Pn 21 42 54.8 +3.0**
comp=Z,1μm,13.3s
BADI Badiali 15.21 297 P **Pn 21 42 58.1 +3.6**
MORC Moravsky Berou 15.23 325 *e*Pn **Pn 21 42 52.5 -2.3**
comp=Z,24nm,1.8s
MORC *e* 21 43 00.5
MORC Moravsky Berou 15.23 325 *e*P **Pn 21 42 52.5 -2.3**
MORC pmax pmax
comp=Z,24nm,1.8s
MORC Moravsky Berou 15.23 325 *e*P **Pn 21 42 52.5 -2.3**
comp=Z,24nm,1.8s
VRAC Vranov 15.35 322 Pn **Pn 21 43 00.3 +4.0**
comp=Z,0.1nm,0.3s,baz=137,slow=11,SNR=12
VRAC LR LR 21 49 45.3
comp=Z,162nm,18.5s,baz=133,slow=41
MOA Molln 15.68 314 *i* P **Pn 21 43 06.6 +5.9**
comp=Z,30nm,1.0s,SNR=16
VMG Vicchio 15.82 298 P **Pn 21 43 06.1 +3.6**
KBA Koelnbreinsper 15.82 311 ⇑*i*P **Pn 21 43 08.0 +5.5**
comp=Z,20nm,1.3s,SNR=8.1
KBA Koelnbreinsper 15.82 311 ⇑*i*P **Pn 21 43 08.0 +5.5**
KBA pmax pmax
comp=Z,20nm,1.3s
TREC Trest 15.89 320 AMS AMS 21 50 20.0
comp=Z,700nm,8.2s
ABTA Abfaltersbach 16.18 309 ⇑*i*P **Pn 21 43 13.1 +6.0**
comp=Z,14nm,1.4s
DPC Dobruska-Polom 16.19 325 *e*P **Pn 21 43 07.5 +0.3**
DPC Dobruska-Polom 16.19 325 *e*P **Pn 21 43 07.5 +0.3**
DPC AMS AMS 21 50 30.0
comp=Z,1μm,12.0s
DPC Dobruska-Polom 16.19 325 *e*P **Pn 21 43 07.5 +0.3**
comp=Z,1μm,12.0s
CTI Castel Tesino 16.43 306 P **Pn 21 43 13.0 +2.7**
UPC Upice 16.44 324 *e*P **Pn 21 43 13.9 +3.5**
GEC2 GERESS Array S 16.55 317 *e*P **Pn 21 43 13.2 +1.4**
GEC2 pmax pmax
comp=Z,28nm,1.4s
GEC2 GERESS Array S 16.55 317 *e*P **Pn 21 43 13.2 +1.4**
comp=Z,28nm,1.4s
GERES GERESS Array B 16.55 317 Pn **Pn 21 43 11.4 -0.4**
comp=Z,0.1nm,0.3s,baz=125,slow=13,SNR=7.0
GERES LR LR 21 50 03.4
comp=Z,169nm,20.0s,baz=129,slow=39
KSP Ksiaz 16.55 326 *e*P **Pn 21 43 12.1 +0.3**
ERBM Eremo 16.72 299 P **Pn 21 43 16.9 +2.9**
KHC Kasperske Hory 16.78 317 *e*P **Pn 21 43 14.4 -0.3**
KHC *e* 21 43 17.5
KHC Kasperske Hory 16.78 317 *e*P **Pn 21 43 14.4 -0.3**
KHC pP pP 21 43 17.5 -4.1
KHC AMS AMS 21 50 50.0
comp=Z,600nm,12.6s
PRU Pruhonice 16.80 321 *e*P **Pn 21 43 18.0 +3.0**
VSL Villasalto 16.89 282 Pn **Pn 21 43 18.5 +2.3**
comp=Z,26nm,1.1s
VSL Villasalto 16.89 282 Pn **Pn 21 43 18.5 +2.3**
comp=Z,26nm,1.1s
PRA Prague 16.91 321 P **Pn 21 43 20.0 +3.7**
PRA *ex* x 21 43 26.0
WTTA Wattenberg 16.94 309 ⇑*i*P **Pn 21 43 20.0 +3.2**
comp=Z,13nm,1.0s
WTTA Wattenberg 16.94 309 ⇑*i*pP **Pn 21 43 20.0 +3.2**
comp=Z,13nm,1.0s
WTTA Wattenberg 16.94 309 ⇑*i*P **Pn 21 43 20.0 +3.2**
WTTA pmax pmax
comp=Z,13nm,1.0s
PVCC Panska Ves 17.14 322 AMS AMS 21 51 00.0
comp=Z,1μm,9.9s
PVCC Panska Ves 17.14 322 P **Pn 21 43 20.5 +1.3**
WET Wettzell 17.17 316 *e*P **Pn 21 43 21.6 +2.0**
WET pmax pmax

comp=Z,30nm,1.3s
WET Wettzell 17.17 316 *e*P **Pn 21 43 21.6 +2.0**
comp=Z,30nm,1.3s
SQTA Sankt Quirin 17.18 309⇑*i*P **Pn 21 43 22.6 +2.8**
SQTA Sankt Quirin 17.18 309⇑*i*pP **Pn 21 43 22.6 +2.8**
MOTA Moosalm 17.30 309 *i* P **Pn 21 43 23.6 +2.3**
comp=Z,8.3nm,1.0s,SNR=6.0
MOTA Moosalm 17.30 309 *i* pP **Pn 21 43 23.6 +2.3**
MOTA Moosalm 17.30 309 *i* P **Pn 21 43 23.6 +2.3**
MOTA pmax pmax
comp=Z,8.0nm,1.0s
PGF Pioggiola 17.35 292 *e*P **Pn 21 43 19.8 -2.1**
comp=Z,18nm,1.0s
PGF Pioggiola 17.35 292 *e*P **Pn 21 43 19.8 -2.1**
PGF pmax pmax
comp=Z,9.0nm,1.0s
PGF Pioggiola 17.35 292 *e*P **Pn 21 43 19.8 -2.1**
comp=Z,9.0nm,1.0s
FETA Feichten 17.40 308 *i* P **Pn 21 43 24.8 +2.3**
comp=Z,19nm,1.1s,SNR=14
KEST Kesra 17.42 269 P **Pn 21 43 23.9 +1.0**
comp=Z,0.0nm,0.3s,baz=26,slow=6.5,SNR=8.6
KEST LR LR 21 49 10.2
comp=Z,56nm,21.8s,baz=302,slow=34
FUR Furstenfeldbru 17.57 312 *e*P **Pn 21 43 25.3 +0.7**
FUR pmax pmax
comp=Z,54nm,1.5s
FUR MLR MLR
comp=Z,3μm,18.3s
FUR Furstenfeldbru 17.57 312 *e*P **Pn 21 43 25.3 +0.7**
comp=Z,54nm,1.5s
RETA Reutte 17.57 309 *i* P **Pn 21 43 27.6 +3.0**
comp=Z,10.0nm,1.1s,SNR=6.1
OBN Obninsk 17.58 11 *e*P **Pn 21 43 25.6 +1.0**
OBN pmax pmax
comp=Z,13nm,1.2s
OBN MLR MLR
comp=Z,200nm,15.0s
OBN Obninsk 17.58 11 *e*P **Pn 21 43 25.6 +1.0**
comp=Z,200nm,15.0s
BRG Berggiesshubel 17.66 322 *e*P **Pn 21 43 25.4 -0.3**
BRG pmax pmax
comp=Z,13nm,1.7s
BRG MLR MLR
comp=N,384nm,12.3s
BRG MLR MLR
comp=E,379nm,13.4s
BRG MLR MLR
comp=Z,668nm,12.1s
BRG Berggiesshubel 17.66 322 *e*P **Pn 21 43 25.4 -0.3**
comp=Z,22nm,1.7s
BRG S **Sn 21 47 01.0 +19**
BRG
comp=N,641nm,12.3s
BRG
comp=E,633nm,13.4s
BRG
comp=Z,1μm,12.1s
DAVOX Davos/Dischmat 17.84 306 P **Pn 21 43 29.7 +1.7**
comp=Z,0.2nm,0.3s,baz=128,slow=9.9,SNR=10
DAVOX LR LR 21 50 06.4
comp=Z,133nm,19.5s,baz=106,slow=36
ROTZ Rotzenmuhle 17.88 317 *e*P **Pn 21 43 29.4 +1.0**
comp=Z,31nm,1.2s
NKC Novy Kostel 18.02 319 AMS AMS 21 51 30.0
comp=Z,600nm,11.6s
DAVA Damuels 18.04 308 *e*P **Pn 21 43 31.7 +1.3**
comp=Z,22nm,1.5s,SNR=6.5
MANZ Manzenberg 18.05 318 *e*P **Pn 21 43 31.5 +0.9**
comp=Z,25nm,1.2s
TANN Tannenbergstha 18.12 319 *e*P **Pn 21 43 32.0 +0.7**
comp=Z,11nm,1.1s
MOS Moscow 18.35 12 *e*P **Pn 21 43 35.5 +1.4**
MOS pmax pmax
comp=Z,44nm,1.2s
MOS Moscow 18.35 12 *e*P **Pn 21 43 35.5 +1.4**
comp=Z,44nm,1.2s
GRA1 Grafenberg Arr 18.37 316 *e*P **Pn 21 43 35.0 +0.6**
comp=Z,17nm,1.4s
GRA1 Grafenberg Arr 18.37 316 *e*P **Pn 21 43 35.0 +0.6**
comp=Z,300nm,19.2s
GRF Grafenberg Arr 18.37 316 *e*P **Pn 21 43 35.0 +0.6**
GRF pmax pmax
comp=Z,17nm,1.4s
GRF MLR MLR
comp=Z,300nm,19.2s
GRF Grafenberg Arr 18.37 316 *e*P **Pn 21 43 35.0 +0.6**
comp=Z,17nm,1.4s
GRF *e*L 21 52 25.2
comp=Z,258nm,19.2s
CLL Collm 18.40 322⇑*i*P **Pn 21 43 36.6 +1.8**
CLL pmax pmax
comp=Z,42nm,1.9s
CLL MLR MLR
comp=Z,1μm,11.9s
CLL Collm 18.40 322 *e*P **Pn 21 43 36.2 +1.4**
comp=Z,42nm,1.9s
CLL Collm 18.40 322⇑*i*sP sP 21 43 36.6 -5.1
comp=Z,42nm,1.9s
CLL *e*S **Sn 21 47 06.0 +6.2**
LLS Linth-Limmern 18.42 306⇑⇑P **Pn 21 43 36.1 +1.0**
SBF Sospel 18.69 296 *e*P **Pn 21 43 37.9 -0.5**
comp=Z,46nm,1.2s
SBF Sospel 18.69 296 *e*P **Pn 21 43 37.9 -0.5**
SBF pmax pmax
comp=Z,23nm,1.2s
SBF Sospel 18.69 296 *e*P **Pn 21 43 37.9 -0.5**
comp=Z,23nm,1.2s
MOX Moxa 18.69 319 *i* P **Pn 21 43 40.2 +1.9**
comp=Z,62nm,1.5s
MOX *e* 21 47 20.0
MOX Moxa 18.69 319 *i* P **Pn 21 43 40.2 +1.9**
comp=Z,62nm,1.5s
MOX *e* 21 47 20.0
MOX
comp=Z,500nm,14.0s
MOX Moxa 18.69 319 *i* P **Pn 21 43 40.2 +1.9**
MOX pmax pmax
comp=Z,62nm,1.5s
MOX MLR MLR
comp=Z,500nm,14.0s
MOX Moxa 18.69 319 *e*P **Pn 21 43 39.1 +0.8**
comp=Z,50nm,1.2s
MUO Muotathal 18.70 306⇓⇓P **Pn 21 43 38.8 +0.3**
LUCF Luceram 18.76 296 *e*P **Pn 21 43 40.5 +1.3**
TOUF Mont Tournerai 18.85 296 *e*P **Pn 21 43 41.5 +1.2**
ZUR Degenried 18.88 307 P **Pn 21 43 40.8 +0.1**
SPAK Spaichingen-Ko 19.04 309 *e*P **Pn 21 43 42.6 0.0**
CALN Calern 19.06 295 *e*P **Pn 21 43 43.4 +0.6**
STU Stuttgart 19.08 311 *e*P **Pn 21 43 42.9 -0.1**
comp=Z,42nm,1.1s
SLE Schleitheim 19.09 308 P **Pn 21 43 45.2 +2.0**
LKBD Leukerbad 19.17 303⇑⇑P **Pn 21 43 43.9 -0.2**
FRF La Foret Royal 19.20 295 *e*P **Pn 21 43 43.7 -0.9**
comp=Z,20nm,1.0s
FRF La Foret Royal 19.20 295 *e*P **Pn 21 43 43.7 -0.9**
FRF pmax pmax
comp=Z,10.0nm,1.0s
FRF La Foret Royal 19.20 295 *e*P **Pn 21 43 43.7 -0.9**
comp=Z,10.0nm,1.0s
DIX Grande Dixence 19.22 302 P **Pn 21 43 45.6 +0.8**
SULZ Cheisacher 19.24 307⇑⇑P **Pn 21 43 45.6 +0.6**
SURF Saint Ours 19.25 297 *e*P **Pn 21 43 51.3 +6.2**
LMR La Mourre 19.27 294 *e*P **Pn 21 43 44.6 -0.8**
comp=Z,28nm,1.3s
LMR La Mourre 19.27 294 *e*P **Pn 21 43 44.6 -0.8**
LMR pmax pmax
comp=Z,14nm,1.3s
LMR La Mourre 19.27 294 *e*P **Pn 21 43 44.6 -0.8**
comp=Z,14nm,1.3s
MBDF Montbardon 19.32 298 *e*P **Pn 21 43 45.3 -0.7**
comp=Z,43nm,0.9s
MBDF Montbardon 19.32 298 *e*P **Pn 21 43 45.3 -0.7**
MBDF pmax pmax
comp=Z,21nm,0.9s
MBDF Montbardon 19.32 298 *e*P **Pn 21 43 45.3 -0.7**
comp=Z,21nm,0.9s
BFO Black Forest 19.41 309 *e*P **Pn 21 43 46.9 -0.1**
BFO pmax pmax
comp=Z,37nm,1.5s
BFO Black Forest 19.41 309 *e*P **Pn 21 43 46.9 -0.1**
comp=Z,37nm,1.5s
FELD Feldberg im Sc 19.44 308 *e*P **Pn 21 43 45.6 -1.7**
BNI Bardonecchia 19.46 299 *e*P **Pn 21 43 46.9 -0.7**
comp=Z,69nm,1.3s
BNI Bardonecchia 19.46 299 *e*P **Pn 21 43 46.9 -0.7**

BNI pmax pmax
comp=Z,69nm,1.3s
BNI Bardonecchia 19.46 299 *e*P **Pn 21 43 46.9 -0.7**
comp=Z,69nm,1.3s
LPG La Plagne 19.51 300 *e*P **Pn 21 43 47.7 -0.6**
comp=Z,140nm,1.3s
LPG La Plagne 19.51 300 *e*P **Pn 21 43 47.7 -0.6**
LPG pmax pmax
comp=Z,70nm,1.3s
LPG La Plagne 19.51 300 *e*P **Pn 21 43 47.7 -0.6**
comp=Z,70nm,1.3s
LPL La Plagne 19.53 300 *e*P **Pn 21 43 47.7 -0.8**
comp=Z,105nm,1.3s
LPL La Plagne 19.53 300 *e*P **Pn 21 43 47.7 -0.8**
LPL pmax pmax
comp=Z,52nm,1.3s
LPL La Plagne 19.53 300 *e*P **Pn 21 43 47.7 -0.8**
comp=Z,52nm,1.3s
EMV Vieux Emosson 19.56 302⇑P **Pn 21 43 48.1 -0.7**
TAVF Tavernes 19.63 295 *e*P **Pn 21 43 49.1 -0.6**
UBBA Unterbreizbach 19.64 318 *e*P **Pn 21 43 49.0 -0.7**
comp=Z,28nm,1.5s
MOF Molkenrain 19.97 307 *e*P **Pn 21 43 50.1 -3.6**
ORIF Oris-en-Rattie 19.98 298 *e*P **Pn 21 43 52.6 -1.3**
comp=Z,22nm,0.8s
ORIF *e*MLR MLR
comp=Z,205nm,20.8s
ORIF Oris-en-Rattie 19.98 298 *e*P **Pn 21 43 52.6 -1.3**
ORIF pmax pmax
comp=Z,11nm,0.8s
ORIF Oris-en-Rattie 19.98 298 *e*P **Pn 21 43 52.6 -1.3**
comp=Z,11nm,0.8s
CLZ Clausthal 20.02 320 *e*P **P 21 43 52.9 +0.4**
CLZ pmax pmax
comp=Z,60nm,1.0s
CLZ Clausthal 20.02 320 *e*P **P 21 43 52.9 +0.4**
comp=Z,60nm,1.0s
SMRF Simiane la Rot 20.03 295 *e*P **P 21 43 52.8 +0.1**
comp=Z,25nm,0.9s
SMRF Simiane la Rot 20.03 295 *e*P **P 21 43 52.8 +0.1**
comp=Z,12nm,0.9s
GELF Grande-Etoile 20.06 294 *e*P **P 21 43 54.7 +1.8**
ECH Echery 20.09 308 *e*P **P 21 43 53.2 0.0**
CDF Champ du Feu 20.09 309 *e*P **P 21 43 53.4 +0.2**
comp=Z,95nm,1.4s
CDF Champ du Feu 20.09 309 *e*P **P 21 43 53.4 +0.2**
CDF pmax pmax
comp=Z,48nm,1.4s
CDF Champ du Feu 20.09 309 *e*P **P 21 43 53.4 +0.2**
comp=Z,48nm,1.4s
HINF Hinteralfeld 20.14 307 *e*P **P 21 43 53.8 +0.1**
CABF La Chapelle 20.25 303 *e*P **P 21 43 55.3 +0.3**
comp=Z,48nm,1.1s
CABF La Chapelle 20.25 303 *e*P **P 21 43 55.3 +0.3**
CABF pmax pmax
comp=Z,24nm,1.1s
CABF La Chapelle 20.25 303 *e*P **P 21 43 55.3 +0.3**
comp=Z,24nm,1.1s
PRAF Pradon 20.30 295 *e*P **P 21 43 55.7 +0.2**
HAU Haudompre 20.52 307 *e*P **P 21 43 57.6 -0.3**
comp=Z,39nm,1.0s
HAU *e*MLR MLR
comp=Z,286nm,17.1s,MS3.4
HAU Haudompre 20.52 307 *e*P **P 21 43 57.6 -0.3**
comp=Z,20nm,1.0s
HAU LR LR
comp=Z,290nm,17.1s,MS3.7
HAU Haudompre 20.52 307 *e*P **P 21 43 57.6 -0.3**
HAU pmax pmax
comp=Z,20nm,1.0s
HAU MLR MLR
comp=Z,290nm,17.1s,MS3.7
ABH Alteburg 20.54 313 *e*P **P 21 44 00.6 +2.5**
VSU Vasula 20.70 354 *i* P **P 21 43 58.7 -1.0**
RUP Ruppelstein 20.75 312 *e*P **P 21 44 00.4 +0.1**
VIVF Saint-Julien-l 20.82 298 *e*P **P 21 44 00.8 -0.3**
comp=Z,12nm,0.8s
VIVF Saint-Julien-l 20.82 298 *e*P **P 21 44 00.8 -0.3**
VIVF pmax pmax
comp=Z,6.0nm,0.8s
VIVF Saint-Julien-l 20.82 298 *e*P **P 21 44 00.8 -0.3**
comp=Z,6.0nm,0.8s
WLF Walferdange 21.27 311 *e*P **P 21 44 06.4 +0.4**
comp=Z,13nm,1.1s,mb4.2
WLF Walferdange 21.27 311 *e*P **P 21 44 06.4 +0.5**
WLF pmax pmax
comp=Z,13nm,1.1s,mb4.2
WLF Walferdange 21.27 311 *e*P **P 21 44 07.0 +1.1**
comp=Z,17nm,1.2s,mb4.2
WLF Walferdange 21.27 311 *e*P **P 21 44 06.4 +0.5**
comp=Z,13nm,1.1s,mb4.2
LASF Ste Croix 21.27 295 *e*P **P 21 44 06.0 -0.1**
comp=Z,37nm,1.0s,mb4.3
LASF Ste Croix 21.27 295 *e*P **P 21 44 06.0 -0.1**
comp=Z,18nm,1.0s,mb4.3
MEZF Maizieres J'vi 21.50 308 *e*P **P 21 44 08.2 -0.3**
IBBN Ibbenburen 21.62 319 *e*P **P 21 44 10.3 +0.5**
comp=Z,44nm,1.0s,mb4.8
PLDF La Plantade 21.75 300 *e*P **P 21 44 10.9 -0.3**
SMF Signal de Mont 21.76 302 *e*P **P 21 44 10.4 -0.8**
comp=Z,51nm,1.2s,mb4.5
SMF Signal de Mont 21.76 302 *e*P **P 21 44 10.4 -0.8**
SMF pmax pmax
comp=Z,26nm,1.2s,mb4.5
SMF Signal de Mont 21.76 302 *e*P **P 21 44 10.4 -0.8**
comp=Z,26nm,1.2s,mb4.5
LBL Lubilhac 21.88 298 *e*P **P 21 44 13.7 +1.2**
LOR Lormes 21.90 304 *e*P **P 21 44 12.1 -0.7**
comp=Z,15nm,0.9s,mb4.1
LOR *e*MLR MLR
comp=Z,319nm,17.2s,MS3.5
LOR Lormes 21.90 304 *e*P **P 21 44 12.1 -0.7**
comp=Z,7.4nm,0.9s,mb4.1
LOR LR LR
comp=Z,320nm,17.3s,MS3.8
LOR Lormes 21.90 304 *e*P **P 21 44 12.1 -0.7**
LOR pmax pmax
comp=Z,7.0nm,0.9s,mb4.1
LOR MLR MLR
comp=Z,320nm,17.3s,MS3.8
SSF Saint Saulge 22.08 303 *e*P **P 21 44 14.0 -0.7**
comp=Z,33nm,1.1s,mb4.4
SSF Saint Saulge 22.08 303 *e*P **P 21 44 14.0 -0.7**
SSF pmax pmax
comp=Z,16nm,1.1s,mb4.4
SSF Saint Saulge 22.08 303 *e*P **P 21 44 14.0 -0.7**
comp=Z,16nm,1.1s,mb4.4
AGO Saint Agoulin 22.11 300 *e*P **P 21 44 15.2 +0.2**
AVF Avril sur Loir 22.12 302 *e*P **P 21 44 14.0 -1.1**
comp=Z,34nm,1.2s,mb4.4
AVF Avril sur Loir 22.12 302 *e*P **P 21 44 14.0 -1.1**
AVF pmax pmax
comp=Z,17nm,1.2s,mb4.3
AVF Avril sur Loir 22.12 302 *e*P **P 21 44 14.0 -1.1**
comp=Z,17nm,1.2s,mb4.3
PYM Petit Puy Mans 22.13 299 *e*P **P 21 44 15.6 +0.3**
MTLF Montolieu 22.38 293 *e*P **P 21 44 17.0 -1.0**
comp=Z,54nm,1.2s,mb4.6
MTLF Montolieu 22.38 293 *e*P **P 21 44 17.0 -1.0**
MTLF pmax pmax
comp=Z,27nm,1.2s,mb4.5
MTLF Montolieu 22.38 293 *e*P **P 21 44 17.0 -1.0**
comp=Z,27nm,1.2s,mb4.5
BGF Bois d'Agland 22.40 302 *e*P **P 21 44 17.1 -1.1**
BAIF Baives 22.58 311 *e*P **P 21 44 18.7 -1.3**
CAF Calviac 22.66 297 *e*P **P 21 44 19.7 -1.2**
TCF Toulx Ste Croi 22.78 301 *e*P **P 21 44 20.9 -1.3**
comp=Z,52nm,1.6s,mb4.4
TCF Toulx Ste Croi 22.78 301 *e*P **P 21 44 20.9 -1.3**
TCF pmax pmax
comp=Z,26nm,1.6s,mb4.4
TCF Toulx Ste Croi 22.78 301 *e*P **P 21 44 20.9 -1.3**
comp=Z,26nm,1.6s,mb4.4
AKTK Aktyubinsk 22.93 48 P **P 21 44 24.4 +0.7**
AKTK Aktyubinsk 22.93 48 P **P 21 44 24.4 +0.7**
AKTO Aktyubinsk 22.93 48 P **P 21 44 24.4 +0.7**
comp=Z,5.2nm,1.0s,mb3.9,baz=248,slow=13,SNR=12
RJF Les Rejaudoux 23.09 298 *e*P **P 21 44 24.0 -1.5**
comp=Z,133nm,1.7s,mb4.8
RJF *e*MLR MLR
comp=Z,110nm,18.8s
RJF Les Rejaudoux 23.09 298 *e*P **P 21 44 24.0 -1.5**
comp=Z,66nm,1.7s,mb4.8
RJF LR LR
comp=Z,110nm,18.8s,MS3.3
RJF Les Rejaudoux 23.09 298 *e*P **P 21 44 24.0 -1.5**

RJF pmax pmax
comp=Z,67nm,1.7s,mb4.8
RJF MLR MLR
comp=Z,110nm,18.8s,MS3.3
LFF La Frestale 23.59 297 *e*P **P 21 44 28.4 -2.2**
comp=Z,21nm,1.1s,mb4.2
LFF La Frestale 23.59 297 *e*P **P 21 44 28.4 -2.2**
LFF pmax pmax
comp=Z,10.0nm,1.1s,mb4.2
LFF La Frestale 23.59 297 *e*P **P 21 44 28.4 -2.2**
comp=Z,10.0nm,1.1s,mb4.2
FINES FINESS Array B 23.70 354 P **P 21 44 30.8 -0.6**
comp=Z,1.8nm,0.7s,mb3.6,baz=153,slow=10,SNR=6.9
FINES PcP PcP 21 48 12.5 -2.5
comp=Z,2.2nm,1.0s,baz=147,slow=3.9,SNR=3.3
FINES FINESS Array B 23.70 354 PcP PcP 21 48 12.5 -2.5
EPF Esparros 23.74 292 *e*P **P 21 44 30.3 -1.7**
KAF Kangasniemi 24.35 355 *e*p **P 21 44 32.1 -5.2**
ETSF Etsaut 24.40 292 *e*P **P 21 44 36.8 -1.2**
comp=Z,36nm,0.9s,mb4.5
ETSF Etsaut 24.40 292 *e*P **P 21 44 36.8 -1.2**
ETSF pmax pmax
comp=Z,18nm,0.9s,mb4.5
ETSF Etsaut 24.40 292 *e*P **P 21 44 36.8 -1.2**
comp=Z,18nm,0.9s,mb4.5
MFF Saint Martin d 24.44 301 *e*P **P 21 44 37.1 -1.2**
comp=Z,26nm,1.2s,mb4.2
MFF Saint Martin d 24.44 301 *e*P **P 21 44 37.1 -1.2**
MFF pmax pmax
comp=Z,13nm,1.2s,mb4.2
MFF Saint Martin d 24.44 301 *e*P **P 21 44 37.1 -1.2**
comp=Z,13nm,1.2s,mb4.2
HFS Hagfors 24.75 339 P **P 21 44 40.7 -0.3**
comp=Z,2.8nm,0.8s,mb3.9,baz=181,slow=11,SNR=2.9
LDF La Druitiere 24.82 305 *e*P **P 21 44 39.6 -2.2**
comp=Z,8.2nm,0.5s,mb4.2
LDF La Druitiere 24.82 305 *e*P **P 21 44 39.6 -2.2**
LDF pmax pmax
comp=Z,4.0nm,0.5s,mb4.2
LDF La Druitiere 24.82 305 *e*P **P 21 44 39.6 -2.2**
comp=Z,4.0nm,0.5s,mb4.2
SJPF Ste Jean 24.89 292 *e*P **P 21 44 41.3 -1.1**
comp=Z,42nm,1.1s,mb4.6
SJPF Ste Jean 24.89 292 *e*P **P 21 44 41.3 -1.1**
SJPF pmax pmax
comp=Z,21nm,1.1s,mb4.6
SJPF Ste Jean 24.89 292 *e*P **P 21 44 41.3 -1.1**
comp=Z,21nm,1.1s,mb4.6
JOF Joensuu 24.99 0 *e*p **P 21 44 39.9 -3.2**
FLN La Foliniere 25.09 306 *e*P **P 21 44 42.2 -2.1**
comp=Z,16nm,0.8s,mb4.3
FLN *e*MLR MLR
comp=Z,245nm,17.9s,MS3.5
FLN La Foliniere 25.09 306 *e*P **P 21 44 42.2 -2.1**
comp=Z,7.8nm,0.8s,mb4.3
FLN LR LR
comp=Z,250nm,17.9s,MS3.8
FLN La Foliniere 25.09 306 *e*P **P 21 44 42.2 -2.1**
FLN pmax pmax
comp=Z,8.0nm,0.8s,mb4.3
FLN MLR MLR
comp=Z,250nm,17.9s,MS3.8
GRR Gorron 25.25 305 *e*P **P 21 44 43.9 -1.8**
comp=Z,81nm,1.0s,mb4.9
GRR Gorron 25.25 305 *e*P **P 21 44 43.9 -1.8**
GRR pmax pmax
comp=Z,40nm,1.0s,mb4.9
GRR Gorron 25.25 305 *e*P **P 21 44 43.9 -1.8**
comp=Z,40nm,1.0s,mb4.9
ARU Arti 26.05 36 *e*P **P 21 44 52.5 -0.4**
comp=Z,14nm,1.0s,mb4.5
ARU Arti 26.05 36*d* *i*P **P 21 44 53.1 +0.2**
ARU *e* 21 45 28.7
ARU *e* 21 48 18.0
ARU *e*S **S 21 49 25.2 +2.2**
ARU *e*SS 21 50 22.2
ARU pmax pmax
comp=Z,20nm,1.7s,mb4.4
ARU Arti 26.05 36 *e*P **P 21 44 52.5 -0.4**
comp=Z,14nm,1.0s,mb4.5
ARU Arti 26.05 36 *e*PcP PcP 21 48 18.0 -2.3
ARU *e*S **S 21 49 25.2 +2.2**
NB2 NORSAR Subarra 26.20 338 P **P 21 44 53.2 -1.0**
comp=Z,1.2nm,0.7s,mb3.5,baz=158,slow=10
NOA NORSAR Array B 26.20 338 P **P 21 44 52.9 -1.3**
comp=Z,1.6nm,0.6s,mb3.7,baz=141,slow=9.5,SNR=4.6
SGMF Saint Gilles 26.34 304 *e*P **P 21 44 53.1 -2.4**
comp=Z,40nm,1.1s,mb4.6
SGMF Saint Gilles 26.34 304 *e*P **P 21 44 53.1 -2.4**
SGMF pmax pmax
comp=Z,20nm,1.1s,mb4.6
SGMF Saint Gilles 26.34 304 *e*P **P 21 44 53.1 -2.4**
comp=Z,20nm,1.1s,mb4.6
QUIF Quistinic 26.68 303 *e*P **P 21 44 55.5 -3.1**
ROSF Rostrenen 26.82 304 *e*P **P 21 44 56.1 -3.8**
comp=Z,25nm,1.0s,mb4.4
ROSF Rostrenen 26.82 304 *e*P **P 21 44 56.1 -3.8**
ROSF pmax pmax
comp=Z,12nm,1.0s,mb4.4
ROSF Rostrenen 26.82 304 *e*P **P 21 44 56.1 -3.8**
comp=Z,12nm,1.0s,mb4.4
ESDC Sonseca Array 27.15 285 P **P 21 45 02.7 -0.3**
comp=Z,4.0nm,1.0s,mb3.9,baz=72,slow=9.7,SNR=9.9
EKA Eskdalemuir Ar 28.75 318 P **P 21 45 15.8 -1.2**
comp=Z,2.7nm,0.9s,mb4.0,baz=105,slow=9.6,SNR=4.9
ESK Eskdalemuir 28.77 318 P **P 21 45 14.9 -2.3**
ESK pmax pmax
comp=Z,13nm,1.1s,mb4.6
ESK Eskdalemuir 28.77 318 P **P 21 45 14.9 -2.3**
comp=Z,13nm,1.1s,mb4.6
BRVK Borovoye 30.98 48 P **P 21 45 38.1 +1.3**
comp=Z,1.6nm,0.8s,mb3.9
BRVK Borovoye 30.98 48 P **P 21 45 38.1 +1.3**
BRVK pmax pmax
comp=Z,2.0nm,0.8s,mb4.0
BRVK Borovoye 30.98 48 P **P 21 45 38.1 +1.3**
comp=Z,1.6nm,0.8s,mb3.9
ARCES ARCESS Array B 31.77 356 P **P 21 45 43.3 -0.3**
comp=Z,3.6nm,0.9s,mb4.2,baz=181,slow=7.3,SNR=5.0
ARCES LR LR 22 00 17.8
comp=Z,152nm,18.6s,MS3.7,baz=214,slow=40
FRU Bishkek 33.34 68 *e*P **P 21 45 58.6 +1.0**
KURK Kurchatov 35.79 53 *e*P **P 21 46 18.2 -0.6**
KURK pmax pmax
comp=Z,9.0nm,1.1s,mb4.6
KURK Kurchatov 35.79 53 *e*P **P 21 46 18.2 -0.6**
comp=Z,9.0nm,1.1s,mb4.6
TORD Torodi Ar. Bea 35.88 234 P **P 21 46 19.6 -0.3**
comp=Z,5.5nm,0.9s,mb4.5,baz=32,slow=9.3,SNR=39
TORD LR LR 22 03 16.4
comp=Z,72nm,21.1s,MS3.4,baz=30,slow=40
MKAR Makanchi Array 38.35 60 P **P 21 46 40.7 +0.2**
comp=Z,1.9nm,0.6s,mb4.0,baz=274,slow=6.7,SNR=19
MKAR PcP PcP 21 48 52.8 -1.2
comp=Z,1.9nm,0.8s,baz=267,slow=5.2,SNR=3.9
NVS Novosibirsk 38.80 47 *i* P **P 21 46 44.3 +0.1**
NVS *e* 21 48 22.8
NVS pmax pmax
comp=Z,14nm,1.8s,mb4.4
NVS pmax pmax
comp=E,5.0nm,1.1s
NVS Novosibirsk 38.80 47 *i* P **P 21 46 44.3 +0.1**
comp=E,14nm,1.8s,mb4.4
ZAL Zalesovo 39.68 48 P **P 21 46 51.4 -0.2**
ZALV Zalesovo Beam 39.69 48 P **P 21 46 51.4 -0.3**
comp=E,1.4nm,0.7s,mb3.8,baz=260,slow=8.0,SNR=6.6
WMQ Urumqi 42.58 63 P **P 21 47 15.2 -0.4**
WMQ XP sP 21 47 25.0 +2.0
WMQ *e*S **S 21 53 37.0 -0.5**
WMQ AMB AMB
comp=Z,11nm,1.2s,mb4.5
WMQ AMB AMB
comp=Z,203nm,5.0s
WMQ LR LR
comp=N,168nm,24.0s,MS4.1
WMQ LR LR
comp=E,199nm,21.0s,MS4.1
WMQ LR LR
comp=Z,146nm,24.5s,MS3.8
HYB Hyderabad 46.30 103 *i* P **P 21 47 45.0 -0.6**
HYB Hyderabad 46.30 103 *e*P **P 21 47 45.0 -0.6**
LSA Lhasa 49.94 81 P **P 21 48 13.6 0.0**
LSA Lhasa 49.94 81 *e*P **P 21 48 13.3 -0.4**
comp=Z,3.4nm,0.9s,mb4.4
LSA *e*PcP PcP 21 49 33.4 -0.3
LSA Lhasa 49.94 81 *e*P **P 21 48 13.3 -0.3**

LSA				*e*			21 49 33.4	
LSA				pmax	pmax			
comp=Z,3.0nm,0.9s,mb4.3								
LSA	**Lhasa**	**49.94**	**81**	*e*P	**P**		**21 48 13.3**	**-0.3**
comp=Z,3.4nm,0.9s,mb4.4								
LSA	**Lhasa**	**49.94**	**81**	*e*PcP	PcP		21 49 33.4	-0.3
TLY	**Talaya**	**51.27**	**50**	P	**P**		**21 48 23.0**	**-0.4**
comp=Z,4.6nm,1.1s,mb4.3								
TLY	**Talaya**	**51.27**	**50**	*i* P	**P**		**21 48 24.7**	**+1.3**
ZAK	**Zakamensk**	**51.39**	**51**	*e*P	**P**		**21 48 24.3**	**0.0**
ZAK				pmax	pmax			
comp=Z,2.0nm,1.0s,mb4.0								
ZAK	**Zakamensk**	**51.39**	**51**	*e*P	**P**		**21 48 24.3**	**0.0**
comp=Z,2.0nm,1.0s,mb4.0								
GTA	**Gaotai**	**52.55**	**66**	*e*P	**P**		**21 48 33.0**	**-0.1**
GTA				AP	pP		21 48 38.8	+0.3
GTA				XP	sP		21 48 42.1	+1.5
GTA				AMB	AMB			
comp=Z,7.0nm,2.2s,mb4.2								
SONM	**Songino Array**	**54.10**	**54**	P	**P**		**21 48 44.0**	**-0.3**
comp=Z,1.2nm,0.6s,mb4.0,baz=289,slow=7.8,SNR=5.7								
ULN	**Ulaanbaatar**	**54.51**	**53**	*e*P	**P**		**21 48 46.7**	**-0.6**
comp=Z,38nm,0.6s,mb5.6								
BOD	**Bodaibo**	**55.35**	**40**	*e*P	**P**		**21 48 52.1**	**-1.2**
BOD				pmax	pmax			
comp=Z,5.0nm,1.7s,mb4.3								
BOD	**Bodaibo**	**55.35**	**40**	*e*P	**P**		**21 48 52.1**	**-1.2**
comp=Z,5.0nm,1.7s,mb4.3								
LZH	**Lanzhou**	**56.81**	**68**	*e*P	**P**		**21 49 04.0**	**-0.1**
LZH				AP	pP		21 49 12.0	+2.5
LZH				XP	sP		21 49 16.0	+4.5
LZH				AMB	AMB			
comp=Z,23nm,1.0s,mb5.2								
LZH				AMB	AMB			
comp=Z,90nm,4.5s								
CD2	**Chengdu**	**59.08**	**73**	*e*P	**P**		**21 49 20.9**	**+0.8**
CD2				AMB	AMB			
comp=Z,10.0nm,0.6s,mb5.0								
CD2				AMB	AMB			
comp=Z,20nm,5.2s								
XAN	**Xi'an**	**61.45**	**68**	P	**P**		**21 49 35.1**	**-1.1**
XAN				AP	pP		21 49 42.6	+0.9
XAN				AMB	AMB			
comp=Z,5.0nm,1.1s,mb4.6								
RES	**Resolute Bay**	**62.13**	**346**	*e*P	**P**		**21 49 38.6**	**-1.6**
comp=Z,96nm,1.0s								
RES	**Resolute Bay**	**62.13**	**346**	*e*P	**P**		**21 49 38.6**	**-1.5**
comp=Z,96nm,1.0s								
SCHQ	**Schefferville**	**64.04**	**320**	P	**P**		**21 49 51.8**	**-1.3**
comp=Z,3.0nm,0.8s,mb4.4,baz=80,slow=9.5,SNR=4.2								
BOSA	**Boshof**	**66.44**	**185**	P	**P**		**21 50 08.1**	**-0.8**
comp=Z,3.5nm,0.9s,mb4.4,baz=13,slow=7.7,SNR=3.9								
CN2	**Changchun**	**67.82**	**51**	*e*P	**P**		**21 50 17.0**	**-0.7**
CN2				AMB	AMB			
comp=Z,10.0nm,1.0s,mb4.8								
KLR	**Kul'dur**	**68.57**	**44**	*e*P	**P**		**21 50 17.8**	**-4.5**
BILL	**Bilibino**	**69.14**	**16**	*e*P	**P**		**21 50 23.7**	**-1.8**
BILL				pmax	pmax			
comp=Z,16nm,1.3s,mb4.8								
BILL	**Bilibino**	**69.14**	**16**	*e*P	**P**		**21 50 23.7**	**-1.8**
comp=Z,16nm,1.3s,mb4.8								
SEY	**Seymchan**	**69.14**	**25⇑**	*e*P	**P**		**21 50 26.0**	**+0.4**
PSI	**Prapat**	**70.99**	**102**	P	**P**		**21 50 36.2**	**-1.5**
comp=Z,13nm,0.9s,mb4.9,baz=326,slow=11,SNR=11								
KSRS	**Korea Array**	**72.88**	**56**	P	**P**		**21 50 47.7**	**-1.0**
comp=Z,5.1nm,1.0s,mb4.4,baz=305,slow=5.3,SNR=15								
FCC	**Fort Churchill**	**73.36**	**334**	*e*P	**P**		**21 50 49.5**	**-1.6**
comp=Z,12nm,1.8s,mb4.5								
FCC	**Fort Churchill**	**73.36**	**334**	*e*P	**P**		**21 50 49.5**	**-1.7**
FCC				pmax	pmax			
comp=Z,12nm,1.8s,mb4.5								
FCC	**Fort Churchill**	**73.36**	**334**	*e*P	**P**		**21 50 49.5**	**-1.7**
comp=Z,12nm,1.8s,mb4.5								
YSS	**Yuzh-Sakhalins**	**75.82**	**41⇑**	*e*P	**P**		**21 51 04.2**	**-1.5**
YSS				pmax	pmax			
comp=Z,28nm,1.8s,mb4.9								
YSS	**Yuzh-Sakhalins**	**75.82**	**41**	*e*P	**P**		**21 51 04.2**	**-1.5**
comp=Z,28nm,1.8s,mb4.9								
YKA	**Yellowknife Ar**	**76.12**	**344**	P	**P**		**21 51 06.5**	**-0.6**
YKA	**Yellowknife Ar**	**76.12**	**344**	P	**P**		**21 51 06.5**	**-0.6**
comp=Z,5.0nm,1.0s,mb4.4,baz=26,slow=5.8,SNR=36								
IMA2	**Indian Mountai**	**76.24**	**2**	*e*P	**P**		**21 51 04.2**	**-3.5**
MJAR	**Matsushiro Arr**	**79.97**	**51**	P	**P**		**21 51 28.4**	**-0.6**
comp=Z,5.3nm,0.9s,mb4.5,baz=310,slow=4.5,SNR=13								
ULM	**Lac du Bonnet**	**80.47**	**329**	P	**P**		**21 51 29.8**	**-1.6**
comp=Z,3.6nm,1.0s,mb4.2,baz=53,slow=2.8,SNR=5.5								
ACSO	**Alum Creek Sta**	**81.45**	**315**	P	**P**		**21 51 35.6**	**-1.2**
comp=Z,12nm,0.8s,mb4.9								
ACSO	**Alum Creek Sta**	**81.45**	**315**	P	**P**		**21 51 35.6**	**-1.2**
comp=Z,12nm,0.8s,mb4.9								
CPCT	**Cooper Cave**	**85.63**	**312**	*e*P	**P**		**21 51 57.5**	**-0.8**
CPCT	**Cooper Cave**	**85.63**	**312**	*e*P	**P**		**21 51 57.5**	**-0.9**
NEW	**Newport**	**89.57**	**339**	*e*P	**P**		**21 52 15.9**	**-1.2**
comp=Z,2.7nm,0.8s,mb4.6								
NEW	**Newport**	**89.57**	**339**	*e*P	**P**		**21 52 15.9**	**-1.2**
NEW				pmax	pmax			
comp=Z,3.0nm,0.8s								
NEW	**Newport**	**89.57**	**339**	*e*P	**P**		**21 52 15.9**	**-1.2**
comp=Z,3.0nm,0.8s,mb4.7								
PDAR	**Pinedale Array**	**91.99**	**332**	P	**P**		**21 52 27.4**	**-1.0**
comp=Z,1.1nm,0.7s,mb4.3,baz=76,slow=4.0,SNR=7.3								
HLID	**Hailey**	**92.98**	**336**	*e*P	**P**		**21 52 31.8**	**-1.2**
comp=Z,1.5nm,0.7s,mb4.5								
HLID	**Hailey**	**92.98**	**336**	*e*P	**P**		**21 52 31.8**	**-1.2**
comp=Z,1.5nm,0.7s,mb4.5								
HWUT	**Hardware Ranch**	**93.73**	**333**	*e*P	**P**		**21 52 34.8**	**-1.7**
comp=Z,4.7nm,0.9s,mb4.9								
HWUT	**Hardware Ranch**	**93.73**	**333**	*e*P	**P**		**21 52 34.8**	**-1.7**
comp=Z,4.7nm,0.9s,mb4.9								
WMOK	**Wichita Mounta**	**93.93**	**321**	P	**P**		**21 52 34.0**	**-3.5**
comp=Z,1.9nm,0.8s,mb4.6								
WMOK	**Wichita Mounta**	**93.93**	**321**	P	**P**		**21 52 34.0**	**-3.5**
WMOK				pmax	pmax			
comp=Z,2.0nm,0.8s,mb4.6								
WMOK	**Wichita Mounta**	**93.93**	**321**	P	**P**		**21 52 34.0**	**-3.5**
comp=Z,2.0nm,0.8s,mb4.6								

ISC 10 21:41:05.6±0.6, 4636N±003×1321E±004, h10km, n10, σ0°51/18, 5C-2D, Austria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOO	**Bordano**	**0.09**	**242**	⇓*i*P*g*	**Pg**	**21 41 07.7**	**-0.2**
BAD	**Bernadia**	**0.13**	**169**	⇑*i*P*g*	**Pg**	**21 41 08.2**	**-0.4**
BAD				*i* S*g*	**Sg**	**21 41 10.3**	**-0.3**
BUA	**Buia**	**0.15**	**203**	⇓*i*P*g*	**Pg**	**21 41 08.9**	**0.0**
BUA				*i* S*g*	**Sg**	**21 41 11.7**	**+0.4**
MPRI	**Monte Prat**	**0.19**	**232**	⇑*i*P*g*	**Pg**	**21 41 09.6**	**-0.1**
MPRI				*i* S*g*	**Sg**	**21 41 12.7**	**+0.3**
PLRO	**Paularo**	**0.19**	**348**	⇑*i*P*g*	**Pg**	**21 41 09.8**	**+0.1**
PLRO				*i* S*g*	**Sg**	**21 41 13.0**	**+0.5**
ROBS	**Robic**	**0.24**	**119**	*i* P*g*	**Pg**	**21 41 09.8**	**-0.7**
ROBS				*i* S*g*	**Sg**	**21 41 13.4**	**-0.4**
ROBS							
comp=Z,6.0nm,0.1s							
COLI	**Coloredo**	**0.26**	**153**	⇑*i*P*g*	**Pg**	**21 41 10.6**	**-0.2**
COLI				*e*S*g*	**Sg**	**21 41 14.7**	**+0.5**
DRE	**Drenchia**	**0.35**	**122**	⇑*i*P*g*	**Pg**	**21 41 11.7**	**-0.9**
DRE				*e*S*g*	**Sg**	**21 41 17.4**	**+0.1**
GORS	**Gorjuse**	**0.55**	**94**	*i* P*g*	**Pg**	**21 41 15.6**	**-0.6**
GORS				*i* S*g*	**Sg**	**21 41 24.1**	**+0.7**
GORS							
comp=Z,1.0nm,0.1s							
JAVS	**Javornik**	**0.76**	**128**	*i* S*g*	**Sg**	**21 41 31.1**	**+1.1**

*NIC **10** 21:51:18.7±0.3, 3832N×3120E, h55km, ML3.4, MW3.6*
*CSEM **10** 21:51:18.0±0.0, 3804N×3091E, h10km, Mw3.6, Error ellipse: s-maj=1.1km s-min=1.0km az=10.0*
*ISK **10** 21:51:18.0, 3803N×3093E, h10km, ML3.7*
*ISCJB **10** 21:51:18.4±0.7, 3804N±002×3092E±003, h9km±6km, Error ellipse: s-maj=3.5km s-min=3.1km az=142.8*
*DDA **10** 21:51:19.1, 3806N×3108E, h10km±3km, Md3.6*
*NEIC **10** 21:51:20.5±0.6, 3805N×3088E, h10km, ML3.7(ISK), ML3.0(ATH), Error ellipse: s-maj=10.8km s-min=5.9km az=128.0*

ISC 10 21:51:19.3±0.7, 3804N±002×3091E±002, h7km±5km, n92, σ0°77/101, 9C-7D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ISP	**Isparta**	**0.37**	**238**	PG	**Pg**	**21 51 25.8**	**-0.7**
ISP				*e*SG	**Sg**	**21 51 32.1**	**+0.7**
ISP	**Isparta**	**0.37**	**238**	⇓P	**Pg**	**21 51 26.1**	**-0.5**
ISP	**Isparta**	**0.37**	**238**	⇓*i*P	**Pg**	**21 51 26.1**	**-0.4**
ISP	**Isparta**	**0.37**	**238**	⇓P	**Pg**	**21 51 26.1**	**-0.4**
ISP				*e*Sg	**Sg**	**21 51 32.2**	**+0.8**
SHUT	**Suhut-Afyon**	**0.58**	**331**	PG	**Pg**	**21 51 31.0**	**+0.4**
BCK	**Bucak**	**0.63**	**204**	*e*PG	**Pg**	**21 51 30.4**	**-1.0**
KDHN	**Kadinhani**	**1.06**	**63**	*i* P	**Pg**	**21 51 35.8**	**-4.0**
KDHN				*i* S	**Sg**	**21 51 53.9**	**+0.4**
KHL	**Karahalli**	**1.13**	**285**	*e*PN	**Pn**	**21 51 40.0**	**-1.5**
KIZT	**Kizilcal**	**1.13**	**42**	*e*PN	**Pn**	**21 51 40.1**	**-1.5**
KONT	**Konya--Tatoy**	**1.15**	**94**	*e*PN	**Pn**	**21 51 39.7**	**-2.0**
ANTB	**Antalya**	**1.16**	**190**	*e*PN	**Pn**	**21 51 40.3**	**-1.6**
ALT	**Altintas**	**1.19**	**329**	*e*PN	**Pn**	**21 51 41.5**	**-0.9**
GOLH	**Golhisar**	**1.34**	**234**	*i* P	**Pn**	**21 51 44.5**	**+0.1**
GOLH				*i* S	**Sb**	**21 52 06.7**	**+4.7**
ESKT	**Eskisehir**	**1.48**	**358**	*e*PN	**Pn**	**21 51 46.2**	**-0.1**
ESKT	**Eskisehir**	**1.48**	**358**	*i* P	**Pn**	**21 51 45.6**	**-0.7**
ESKT				*i* S	**Sn**	**21 52 04.8**	**-1.0**
SEYT	**Eskypehyr**	**1.48**	**358**	*i* S	**Sn**	**21 52 04.8**	**-1.0**
DENT	**Denizli**	**1.51**	**260**	*e*PN	**Pn**	**21 51 45.5**	**-1.2**
ELL	**Elmali**	**1.52**	**212**	*e*PN	**Pn**	**21 51 46.5**	**-0.3**
GDZ	**Gediz**	**1.53**	**314**	*i* P	**Pn**	**21 51 47.4**	**+0.3**
GDZ				*i* S	**Sn**	**21 52 06.1**	**-1.0**
KULA	**Kula-Manisa**	**1.83**	**286**	*e*PN	**Pn**	**21 51 50.3**	**-0.8**
FETY	**Fethiye**	**2.02**	**227**	*e*PN	**Pn**	**21 51 53.8**	**0.0**
AKAS	**Kas**	**2.08**	**210**	*i* P	**Pn**	**21 51 55.4**	**+0.8**
ERMK	**Ermenek**	**2.12**	**131**	*i* P	**Pn**	**21 51 54.0**	**-1.1**
ERMK				*i* S	**Sn**	**21 52 24.3**	**+2.6**
YER	**Yerkesik**	**2.27**	**247**	*e*PN	**Pn**	**21 51 56.7**	**-0.5**
GPA	**Golpazari**	**2.29**	**348**	*e*PN	**Pn**	**21 51 57.2**	**-0.3**
ANTO	**Ankara**	**2.34**	**38**	*e*PN	**Pn**	**21 51 57.9**	**-0.2**
ANTO	**Ankara**	**2.34**	**38**	⇓P	**Pn**	**21 51 59.9**	**+1.7**
ANTO	**Ankara**	**2.34**	**38**	⇓*i*P	**Pn**	**21 51 59.9**	**+1.7**
LOD	**Lodumlu**	**2.34**	**37**	*e*PN	**Pn**	**21 51 57.8**	**-0.4**
DST	**Dursunbey**	**2.37**	**312**	*e*PN	**Pn**	**21 51 58.5**	**0.0**
GULT	**Gulveren**	**2.41**	**353**	*e*PN	**Pn**	**21 51 58.5**	**-0.5**
IZI	**Iznik**	**2.55**	**334**	*e*PN	**Pn**	**21 52 01.6**	**+0.6**
ADVT	**Abdulvahap**	**2.56**	**340**	*e*PN	**Pn**	**21 52 01.1**	**0.0**
KAMT	**Kaman**	**2.56**	**58**	*e*PN	**Pn**	**21 52 00.6**	**-0.6**
AKS	**Akhisar**	**2.57**	**290**	*e*PN	**Pn**	**21 52 01.2**	**-0.1**
MLSB	**Milas**	**2.59**	**254**	*e*PN	**Pn**	**21 52 01.1**	**-0.5**
HENT	**Hendek**	**2.78**	**360**	*i* P	**Pn**	**21 52 04.3**	**+0.2**
YLV	**Yalova**	**2.79**	**335**	*e*PN	**Pn**	**21 52 03.6**	**-0.7**
IKL	**Isikli**	**2.85**	**128**	*e*PN	**Pn**	**21 52 05.0**	**-0.2**
ARG	**Arkhangelos**	**2.87**	**232**	P	**Pn**	**21 52 07.4**	**+1.9**
BDRM	**Kayabasi**	**2.92**	**252**	*i* P	**Pn**	**21 52 05.6**	**-0.5**
NIG	**Nigde**	**2.92**	**87**	*e*PN	**Pn**	**21 52 05.5**	**-0.6**
HRT	**Hereke**	**2.94**	**341**	*e*PN	**Pn**	**21 52 06.3**	**-0.1**
DAT	**Datca**	**2.96**	**245**	*e*PN	**Pn**	**21 52 06.2**	**-0.4**
KCT	**Karacabey**	**2.98**	**315**	*e*PN	**Pn**	**21 52 06.7**	**-0.2**
BODT	**Bodrum**	**3.02**	**252**	*e*PN	**Pn**	**21 52 07.3**	**-0.2**
BLCB	**Balcova**	**3.07**	**278**	*e*PN	**Pn**	**21 52 08.0**	**-0.1**
MERS	**Mersin**	**3.10**	**111**	*e*PN	**Pn**	**21 52 08.1**	**-0.5**
ELDT	**Eldivan**	**3.13**	**38**	*i* P	**Pn**	**21 52 09.2**	**+0.3**
ALFC	**Alevga** 4.4nm,0.4s	**3.18**	**154**	P	**Pn**	**21 52 09.3**	**-0.4**
ALFC				S	**Sn**	**21 52 48.4**	**+0.6**
AVNT	**Avonos**	**3.19**	**75**	*i* P	**Pb**	**21 52 17.3**	**+1.1**
SMG	**Samos**	**3.24**	**265**	P	**Pn**	**21 52 11.5**	**+1.0**
BNT	**Bandirma**	**3.28**	**316**	*e*PN	**Pn**	**21 52 11.6**	**+0.6**
KDZE	**Karadeniz Ereo**	**3.29**	**7**	*e*PN	**Pn**	**21 52 11.2**	**-0.1**
LEF	**Lefka**	**3.32**	**151**	*e*PN	**Pn**	**21 52 10.7**	**-0.9**
ISK	**Istanbul-Kandi**	**3.34**	**335**	*e*PN	**Pn**	**21 52 11.9**	**0.0**
PPCY	**Paphos**	**3.35**	**159**	P	**Pn**	**21 52 12.2**	**+0.1**
KARA	**Karaisali**	**3.38**	**102**	*e*PN	**Pn**	**21 52 12.2**	**-0.2**
MAMC	**Mammari**	**3.41**	**146**	P	**Pn**	**21 52 12.2**	**-0.7**
URLA	**Izmir**	**3.41**	**277**	*i* P	**Pn**	**21 52 13.1**	**+0.2**
LFK	**Lefkose**	**3.47**	**142**	*e*PN	**Pn**	**21 52 13.3**	**-0.3**
SAFT	**Safranbolu**	**3.48**	**23**	*e*PN	**Pn**	**21 52 13.4**	**-0.4**
CORM	**Corum**	**3.60**	**52**	*e*PN	**Pn**	**21 52 15.7**	**+0.3**
EREN	**Erenkoy**	**3.62**	**133**	*e*PN	**Pn**	**21 52 16.6**	**+0.8**
CSS	**Prodhromos** 2.6nm,0.6s	**3.64**	**147**	P	**Pn**	**21 52 14.6**	**-1.4**
CSS				S	**Sn**	**21 52 59.3**	**+0.2**
CSS	**Prodhromos**	**3.64**	**147**	*e*PN	**Pn**	**21 52 15.6**	**-0.4**
CTT	**Catalca**	**3.65**	**329**	*e*PN	**Pn**	**21 52 16.3**	**+0.2**
RKY	**Sarkoy-Tekirda**	**3.92**	**314**	*e*PN	**Pn**	**21 52 20.2**	**+0.4**
SART	**Tekirdag**	**3.92**	**314**	*i* P	**Pn**	**21 52 19.5**	**-0.3**
KOZT	**Kozan**	**3.94**	**97**	*e*PN	**Pn**	**21 52 20.6**	**+0.5**
BNN	**Bunyan**	**3.96**	**77**	*e*PN	**Pn**	**21 52 20.9**	**+0.5**
EZN	**Ezine**	**4.00**	**298**	*e*PN	**Pn**	**21 52 20.6**	**-0.2**
BOZC	**Bozcaada**	**4.19**	**297**	*i* P	**Pn**	**21 52 24.5**	**+0.9**
GADA	**Gvkgeada**	**4.45**	**300**	*e*PN	**Pn**	**21 52 27.7**	**+0.6**
COBT	**Iskenderun**	**4.53**	**108**	*i* P	**Pn**	**21 52 28.8**	**+0.7**
ENEZ	**Enez**	**4.56**	**308**	*e*PN	**Pn**	**21 52 29.3**	**+0.7**
BZK	**Bozkurt**	**4.58**	**30**	*e*PN	**Pn**	**21 52 29.2**	**+0.4**
ZKR	**Zakros**	**4.77**	**234**	P	**Pn**	**21 52 33.0**	**+1.4**
KMRS	**Kahramanmaras**	**4.78**	**95**	*e*PN	**Pn**	**21 52 31.9**	**+0.3**
NPS	**Neapolis**	**5.08**	**239**	P	**Pn**	**21 52 36.2**	**+0.4**
LAST	**Lasithi**	**5.23**	**238**	P	**Pn**	**21 52 38.6**	**+0.8**
MALT	**Malatya**	**5.93**	**85**	⇓P	**Pn**	**21 52 48.2**	**+0.7**
MALT	**Malatya**	**5.93**	**85**	⇓*i*P	**Pn**	**21 52 48.2**	**+0.8**
TIRR	**Tirgusor**	**6.68**	**344**	⇑P	**Pn**	**21 52 58.3**	**+0.5**
TIRR	**Tirgusor**	**6.68**	**344**	⇑*i*P	**Pn**	**21 52 58.3**	**+0.5**
HARR	**Harsova**	**7.01**	**342**	⇑P	**Pn**	**21 53 03.2**	**+0.9**
HARR	**Harsova**	**7.01**	**342**	⇑*i*P	**Pn**	**21 53 03.2**	**+0.9**
MLR	**Muntele Rosu**	**8.32**	**335**	⇑P	**Pn**	**21 53 20.9**	**+0.7**
MLR	**Muntele Rosu**	**8.32**	**335**	⇑*i*P	**Pn**	**21 53 20.9**	**+0.7**
VRI	**Vrincioaia**	**8.42**	**340**	⇑P	**Pn**	**21 53 21.6**	**+0.1**
VRI	**Vrincioaia**	**8.42**	**340**	⇑*i*P	**Pn**	**21 53 21.6**	**0.0**
PLOR	**Plostina**	**8.42**	**339**	⇑*i*P	**Pn**	**21 53 23.3**	**+1.6**

*NEIC **10** 21:58:20.3, 3649S×17796E, h44km, ML3.7(WEL), After WEL.*

WEL 10 21:58:20.9±0.9, 3653S×17812E, h33km, ML3.6/4, Error ellipse: s-maj=7.4km s-min=6.9km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.04**	**172**	P	Pn	21 58 38.5	-0.7
MXZ				S	Sn	21 58 52.0	-0.5
MXZ	**Matakaoa Point**	**1.04**	**172**	P*	Pb	21 58 38.5	-1.9
MXZ				*e*S*	Sb	21 58 51.6	-2.1
PUZ	**Puketiti**	**1.54**	**176**	P	Pn	21 58 45.9	-0.2
PUZ				S	Sn	21 59 04.7	-0.2
PUZ	**Puketiti**	**1.54**	**176**	PN	Pn	21 58 45.9	-0.2
PUZ				SN	Sn	21 59 04.7	-0.2
MWZ	**Matawai**	**1.86**	**194**	P*	Pn	21 58 50.8	+0.4
MWZ				S	Sn	21 59 12.7	-0.1
MWZ	**Matawai**	**1.86**	**194**	P*	Pb	21 58 50.8	-3.5
MWZ				S*	Sb	21 59 12.7	-4.4
URZ	**Urewera**	**1.90**	**205**	P	Pn	21 58 51.3	+0.3
URZ	**Urewera**	**1.90**	**205**	P*	Pb	21 58 51.3	-3.7
URZ				S*	Sb	21 59 12.8	-5.5
KNZ	**Kokohu**	**2.51**	**188**	P	Pn	21 58 57.9	-1.5
KNZ	**Kokohu**	**2.51**	**188**	PN	Pn	21 58 57.9	-1.5
BKZ	**Black Stump Fm**	**2.93**	**206**	*e*P	Pn	21 59 05.0	-0.1
BKZ	**Black Stump Fm**	**2.93**	**206**	*e*P*	Pb	21 59 03.3	-9.1
FWVZ	**Far West T-bar**	**3.39**	**216**	*e*P	Pn	21 59 14.7	+3.2
MOVZ	**Moawhango**	**3.42**	**212**	P	Pn	21 59 12.2	+0.3
MOVZ	**Moawhango**	**3.42**	**212**	*e*P*	Pb	21 59 11.9	-8.9
PXZ	**Pawanui**	**3.63**	**195**	*e*PN	Pn	21 59 10.8	-4.0
MRZ	**Mangatainoka R**	**4.58**	**205**	*e*P	Pn	21 59 24.1	-3.7
MRZ	**Mangatainoka R**	**4.58**	**205**	*e*PN	Pn	21 59 24.0	-3.8

*NAO **10** 22:00:25.8, 3691N×3184E, h33km, mb4.6*
*SZGRF **10** 22:00:25.2, 37.12N×3192E, h10km, mb4.6, MS4.2, Turkey*
*HLW **10** 22:00:28.5, 3844N×3113E, h25km, Mb3.7*
*NIC **10** 22:00:30.6±0.4, 3823N×3042E, h61km, mb4.9, ML4.6, MW4.3*
*BJI **10** 22:00:32.0, 3802N×3048E, h22km, mB5.2, mb4.8, Ms4.7, Msz4.4*
*MOS **10** 22:00:33.8±1.1, 3793N×3100E, h14km, mb4.8/46, MS4.3/17, Error ellipse: s-maj=3.9km s-min=2.1km az=122.6*
*CSEM **10** 22:00:34.3±0.0, 3800N×3094E, h10km, mb4.6/10, Ms3.7, Mw4.7, Error ellipse: s-maj=0.9km s-min=0.7km az=22.0*
*GCMT **10** 22:00:34.2±0.3, 3796N×3087E, h15km, MW5.1/75, Moment Tensor Solution. s46,c63; s75,c129; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-4.35±.18; $M_{\theta\theta}$-0.69±.11; $M_{\phi\phi}$5.04±.13; $M_{r\theta}$-2.01±.27; $M_{\theta\phi}$0.27±.09; $M_{\phi r}$0.07±.20; Best double couple: $M_0$5.14700×10^{16} NP1:ϕ_s161.00000°, δ50.00000°, λ-122.00000°. NP2: ϕ_s25.00000°, δ50.00000°, λ-58.00000°. Principal axes: T 5.0530, Plg0.0000°, Azm93.0000°; N 0.1840, Plg24.0000°, Azm183.0000°; P -5.2420, Plg66.0000°, Azm2.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*ISK **10** 22:00:34.0, 3800N×3094E, h5km, ML4.9*
*NEIC **10** 22:00:34.2, 3801N×3092E, h6km, mb4.6/74, ML4.9(ISK), After ISK.*
*ISCJB **10** 22:00:35.7±0.3, 3794N±001×3097E±001, h26km±2km, mb4.6/98, MS4.2/35, Error ellipse: s-maj=2.0km s-min=1.5km az=27.4*
*THE **10** 22:00:35.5, 3783N×3081E, h3km*
*DDA **10** 22:00:36.0, 3805N×3095E, h14km±2km, Md4.9*
*GII **10** 22:00:37.4±0.9, 3794N×3072E, h29km±19km, mb4.6/6, ML4.4/7*
*IDC **10** 22:00:39.0±1.4, 3793N×3093E, h50km±14km, mb4.2/23, mb1 4.2/31, mb1mx4.2/34, mbtmp4.2/31, ML4.1/8, MS4.1/25, Ms1 4.1/25, ms1mx4.0/36, Error ellipse: s-maj=11.1km s-min=8.4km az=37.0*
*NSSC **10** 22:00:40.3, 3759N×3094E, h40km*

ISC 10 22:00:36.8±0.4, 3794N±001×3096E±001, h19km±3km, h34km±2.2km: pP-P, n807, σ1°22/873, mb4.6/98, MS4.2/35, 44C-38D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ISP	**Isparta**	**0.37**	**255**	PG	**Pg**	**22 00 41.5**	**-3.1**
ISP				*e*SG	**Sg**	**22 00 47.7**	**-2.2**
ISP	**Isparta**	**0.37**	**255**	*e*P*g*	**Pg**	**22 00 40.7**	**-3.9**
ISP	**Isparta**	**0.37**	**255**	*c i*P	**Pg**	**22 00 41.4**	**-3.2**
BCK	**Bucak**	**0.56**	**212**	*e*PG	**Pg**	**22 00 45.5**	**-2.5**
BCK				*e*SG	**Sg**	**22 00 54.8**	**-0.8**
BCK	**Bucak**	**0.56**	**212**	P	**Pg**	**22 00 44.8**	**-3.3**
SHUT	**Suhut-Afyon**	**0.69**	**332**	*e*PG	**Pg**	**22 00 47.6**	**-2.9**
ANTB	**Antalya**	**1.07**	**193**	*e*PN	**Pg**	**22 00 56.2**	**-1.3**
KDHN	**Kadinhani**	**1.08**	**57**	*i* P	**Pb**	**22 00 54.0**	**-2.8**
KDHN				*i* S	**Sb**	**22 01 10.1**	**-0.5**
KONT	**Konya--Tatoy**	**1.10**	**89**	*e*PN	**Pn**	**22 00 55.4**	**-1.9**
KONT	**Konya--Tatoy**	**1.10**	**89**	Pn	**Pn**	**22 00 55.2**	**-2.0**
KIZT	**Kizilcal**	**1.18**	**37**	*e*PN	**Pn**	**22 00 56.4**	**-2.0**
KIZT	**Kizilcal**	**1.18**	**37**	Pn	**Pn**	**22 00 56.5**	**-1.8**
KIZT	**Kizilcal**	**1.18**	**37**	Pn	**Pn**	**22 00 56.5**	**-1.9**
KHL	**Karahalli**	**1.20**	**289**	*e*PN	**Pn**	**22 00 56.9**	**-1.7**
KHL	**Karahalli**	**1.20**	**289**	Pn	**Pn**	**22 00 57.4**	**-1.2**
KHL	**Karahalli**	**1.20**	**289**	Pn	**Pn**	**22 00 57.4**	**-1.2**
ALT	**Altintas**	**1.30**	**329**	*e*PN	**Pn**	**22 00 58.1**	**-1.8**
ALT	**Altintas**	**1.30**	**329**	Pn	**Pn**	**22 00 58.6**	**-1.4**
ALT	**Altintas**	**1.30**	**329**	Pn	**Pn**	**22 00 58.6**	**-1.4**
GOLH	**Golhisar**	**1.32**	**238**	*i* P	**Pn**	**22 00 59.7**	**-0.5**
GOLH				*i* S	**Sn**	**22 01 19.7**	**+2.4**
ELL	**Elmali**	**1.46**	**216**	*e*PN	**Pn**	**22 01

CEYT Ceyhan 3.92 102 Pn **Pn 22 01 38.2 +2.3**
BNN Bunyan 3.94 75 *e*PN **Pn 22 01 37.5 +1.2**
BNN Bunyan 3.94 75 Pn **Pn 22 01 37.9 +1.6**
CTKT Corum 4.00 47 *i* P **Pn 22 01 36.9 -0.2**
RKY Sarkoy-Tekirda 4.02 314 *e*PN **Pn 22 01 37.4 0.0**
BALT Daday 4.05 27 *i* P **Pn 22 01 35.8 -1.9**
EZN Ezine 4.08 299 *e*PN **Pn 22 01 38.3 +0.1**
EZN Ezine 4.08 299 P **Pn 22 01 38.6 +0.4**
BOZC Bozcaada 4.28 298 *i* P **Pn 22 01 36.6 -4.3**
BOZC *i* S **Sn 22 02 28.5 -1.7**
ANDN Andirin 4.28 93 *i* P **Pn 22 01 42.9 +1.9**
APE Apeiranthos 4.41 260 *e*Pn **Pn 22 01 40.5 -2.2**
APE Apeiranthos 4.41 260 *e*P **Pn 22 01 42.0 -0.7**
APE Apeiranthos 4.41 260⇓ *i*P **Pn 22 01 42.7 0.0**
APE Apeiranthos 4.41 260 P **Pn 22 01 42.7 0.0**
COBT Iskenderun 4.45 107 *i* P **Pn 22 01 44.6 +1.3**
ARNB Al Arnab 4.52 116⇑P **Pn 22 01 45.8 +1.6**
ARNB ⇑S **Sn 22 02 32.8 -3.5**
ARNB Al Arnab 4.52 116⇑*i*P **Pn 22 01 45.8 +1.6**
ARNB ⇑*i*S **Sn 22 02 32.8 -3.4**
BYBT Boyabat 4.58 39 *e*PN **Pn 22 01 45.2 +0.1**
BYBT Boyabat 4.58 39 Pn **Pn 22 01 44.1 -1.0**
BOYT Boyabat 4.62 40 *i* P **Pn 22 01 43.5 -2.0**
ENEZ Enez 4.66 308 *e*PN **Pn 22 01 46.1 0.0**
KMRS Kahramanmaras 4.73 93 *e*PN **Pn 22 01 48.5 +1.5**
DRWC Darouich 4.73 104⇑P **Pn 22 01 48.4 +1.3**
DRWC Darouich 4.73 104⇑*i*P **Pn 22 01 48.4 +1.2**
ZKR Zakros 4.75 235 *e*Pn **Pn 22 01 45.8 -1.6**
BTCH Batrach 4.79 112⇑P **Pn 22 01 49.1 +1.1**
BTCH Batrach 4.79 112⇑*i*P **Pn 22 01 49.1 +1.1**
ALN Alexandroupoli 4.82 309 *e*Pn **Pn 22 01 47.5 -0.9**
SLNF Slenfeh 4.83 117⇑P **Pn 22 01 49.2 +0.7**
SLNF ⇑S **Sn 22 02 39.4 -4.5**
SLNF Slenfeh 4.83 117⇑*i*P **Pn 22 01 49.2 +0.7**
TOKT Tokat 4.95 60 *e*PN **Pn 22 01 51.3 +1.2**
TOKT Tokat 4.95 60 Pn **Pn 22 01 52.1 +2.0**
DIKM Dikmen 4.96 40 *e*PN **Pn 22 01 51.3 +1.0**
LOS Limnos 5.00 295 *e*Pn **Pn 22 01 50.5 -0.3**
GAZ Gaziantep 5.02 97 *e*PN **Pn 22 01 53.2 +2.1**
GAZ Gaziantep 5.02 97 Pn **Pn 22 01 53.9 +2.7**
KVT Kavak 5.03 50 *e*PN **Pn 22 01 51.9 +0.7**
KVT Kavak 5.03 50 P **Pn 22 01 51.6 +0.4**
KVT Kavak 5.03 50 *e*Pn **Pn 22 01 51.9 +0.7**
NPS Neapolis 5.07 240 *e*P **Pn 22 01 51.0 -0.8**
SVSK Karacayir 5.10 65 *e*PN **Pn 22 01 53.6 +1.3**
SVSK Karacayir 5.10 65 Pn **Pn 22 01 55.2 +2.9**
BIDA Albida 5.21 122⇑P **Pn 22 01 53.5 -0.3**
BIDA ⇑S **Sn 22 02 47.3 -6.0**
BIDA Albida 5.21 122⇑*i*P **Pn 22 01 53.5 -0.2**
LAST Lasithi 5.21 240 *e*Pn **Pn 22 01 51.6 -2.2**
XRY Khrisi 5.24 236 *e*P **Pn 22 01 53.0 -1.1**
GZT Gaziantep 5.27 94 *i* P **Pn 22 01 54.8 +0.3**
RDO Rodhopi 5.28 309 *e*P **Pn 22 01 54.5 -0.1**
RDO Rodhopi 5.28 309 P **Pn 22 01 53.7 -0.9**
HWQ Hawqa 5.44 131 *e*Pn **Pn 22 01 56.8 -0.1**
BHL Bhannes 5.54 135 *e*Pn **Pn 22 01 60.0 +1.7**
PTL Penteli 5.61 273 *e*P **Pn 22 02 00.5 +1.3**
JMB Yambol 5.63 325 *e*Pn **Pn 22 01 59.0 -0.4**
KDZ Kurdzhali 5.65 313 P **Pn 22 02 00.2 +0.4**
AOS Alonnisos 5.69 285 *e*Pn **Pn 22 01 58.2 -2.0**
KVR Kavouri 5.69 271 *e*P **Pn 22 02 01.0 +0.6**
ATH Athens Observa 5.73 273 *e*P **Pn 22 02 02.0 +1.2**
FKH Fakeheh 5.75 128 *e*Pn **Pn 22 02 02.0 +0.9**
SIVA Sivas 5.75 241 *e*Pn **Pn 22 01 58.3 -2.9**
SLMH Al Salmeh 5.83 105⇑P **Pn 22 02 04.4 +2.2**
SLMH Al Salmeh 5.83 105⇑*i*P **Pn 22 02 04.4 +2.2**
ATAB Bozova 5.83 92 *i* P **Pn 22 02 01.8 -0.5**
DIM Dimitrovgrad 5.85 316 P **Pn 22 02 02.0 -0.5**
MALT Malatya 5.90 84 P **Pn 22 02 06.1 +3.0**
MALT Malatya 5.90 84⇓*i*P **Pn 22 02 05.8 +2.7**
MALT Malatya 5.90 84 Pn **Pn 22 02 04.6 +1.5**
MALT Malatya 5.90 84 P **Pn 22 02 05.8 +2.7**
NAIG Nisos Aigina 5.92 271 *e*P **Pn 22 02 05.5 +2.0**
OUR Ouranopolis 5.93 296 *e*Pn **Pn 22 02 03.3 -0.3**
HNTI Hanita 5.94 143 Pn **Pn 22 02 04.4 +0.7**
HNTI Sn **Sn 22 03 11.9 +0.6**
RCY Rachaya 5.95 137 *e*Pn **Pn 22 02 04.1 +0.2**
VAM Vamos 6.00 247 *e*P **Pn 22 02 06.5 +2.0**
HRI Mount Hermon 6.07 139 Pn **Pn 22 02 06.4 +0.9**
BRBR Barbar 6.07 137⇑P **Pn 22 02 05.5 0.0**
BRBR ⇑S **Sn 22 03 07.1 -7.4**
BRBR Barbar 6.07 137⇑*i*P **Pn 22 02 05.6 0.0**
KSDI Kefar Szold 6.09 140 Pn **Pn 22 02 06.5 +0.7**
KSDI Sn **Sn 22 03 15.7 +0.7**
MMB3 Mount Meron ar 6.10 142 Pn **Pn 22 02 06.2 +0.3**
MMAI Mount Meron Ar 6.10 142 P **Pn 22 02 05.8 -0.2**
20nm,0.3s,baz=339,slow=12,SNR=77
MMAI S **Sn 22 03 15.3 0.0**
5.8nm,0.3s,baz=317,slow=23,SNR=3.1
MMAI LR LR 22 05 07.0
comp=Z,2µm,18.9s,baz=0.0,slow=44
MMB2 Mount Meron ar 6.10 142 Pn **Pn 22 02 06.0 0.0**
QASN Qassioun 6.16 134⇑P **Pn 22 02 06.0 -0.8**
QASN Qassioun 6.16 134⇑*i*P **Pn 22 02 06.0 -0.8**
KARN Karanos 6.20 248 *e*Pn **Pn 22 02 06.1 -1.3**
PLG Polygyros 6.33 295 *e*Pn **Pn 22 02 08.6 -0.5**
PLG Polygyros 6.33 295 *e*P **Pn 22 02 09.0 -0.1**
KSHT Keshet 6.33 140 Pn **Pn 22 02 10.2 +1.0**
ELZG Elazig 6.34 82 *i* P **Pn 22 02 11.5 +2.3**
GVD Gavdhos 6.35 243 *e*P **Pn 22 02 10.0 +0.6**
PLD Plovdiv 6.36 313 *e*Pn **Pn 22 02 09.1 -0.3**
ROOS tl_alroos 6.36 124⇑P **Pn 22 02 10.2 +0.7**
ROOS tl_alroos 6.36 124⇑*i*P **Pn 22 02 10.2 +0.7**
TOTH TOTAH 6.38 134⇑P **Pn 22 02 10.0 +0.3**
TOTH TOTAH 6.38 134⇑*i*P **Pn 22 02 10.0 +0.3**
VLI Veliai 6.51 262 *e*P **Pn 22 02 12.5 +0.9**
KYTH Kithira 6.55 258 *e*P **Pn 22 02 14.5 +2.4**
SZH Strazhica 6.55 326 P **Pn 22 02 12.1 -0.1**
SOH Sokhos 6.56 298 *e*Pn **Pn 22 02 12.2 0.0**
MMLI Mount Malkishu 6.59 145 Pn **Pn 22 02 12.9 +0.2**
MMLI Sn **Sn 22 03 28.6 +1.3**
SLTI Sal'it 6.59 148 Pn **Pn 22 02 13.4 +0.6**
SLTI Sn **Sn 22 03 27.9 +0.5**
HORT Hortiatis 6.65 296 *e*Pn **Pn 22 02 13.3 -0.2**
MMB Musomiste 6.66 305 P **Pn 22 02 14.5 +0.9**
TIRR Tirgusor 6.79 344 P **Pn 22 02 14.3 -1.1**
TIRR Tirgusor 6.79 344⇑*i*P **Pn 22 02 14.5 -0.9**
PVL Pavlikeni 6.79 323 P **Pn 22 02 15.2 -0.2**
HMDT Nahal Hemdat 6.79 145 Pn **Pn 22 02 16.2 +0.7**
AGG Agios Georgios 6.86 282 *e*Pn **Pn 22 02 14.8 -1.6**
SEV Sevastopol' 6.91 16 *e*P **Pn 22 02 16.4 -0.6**
SEV *e*S **Sn 22 03 32.6 -2.4**
SEV pmax pmax
comp=Z,16nm,0.6s
SEV smax
comp=N,29nm,0.5s
SEV smax
comp=E,3.0nm,0.5s
SEV Sevastopol' 6.91 16 *e*P **Pn 22 02 16.4 -0.6**
comp=E,16nm,0.6s
SEV *e*S **Sn 22 03 32.6 -2.4**
LIT Litokhoron 6.94 291 *e*Pn **Pn 22 02 16.9 -0.6**
PGB Panagyurishte 6.94 314 P **Pn 22 02 17.5 0.0**
YAL Yalta 6.97 19 *e*P **Pn 22 02 18.2 +0.4**
YAL *e*S **Sn 22 03 35.6 -0.9**
YAL pmax pmax
comp=Z,63nm,0.7s
YAL smax
comp=N,25nm,0.6s
YAL smax
comp=E,19nm,0.7s
YAL Yalta 6.97 19 *e*P **Pn 22 02 18.2 +0.4**
comp=E,63nm,0.7s
YAL *e*S **Sn 22 03 35.6 -0.9**
comp=E,25nm,0.6s
MANS Anshas 6.98 176 P **Pn 22 02 23.8 +5.7**
KNT Kendrikon 7.01 300 *e*Pn **Pn 22 02 18.4 -0.1**
SALA Sala 7.03 136⇑P **Pn 22 02 18.1 -0.6**
SALA Sala 7.03 136⇑*i*P **Pn 22 02 18.1 -0.6**
ZIMR 7.12 325 P **Pn 22 02 19.7 -0.1**
HARR Harsova 7.12 342⇓P **Pn 22 02 19.0 -0.9**
HARR Harsova 7.12 342 P **Pn 22 02 19.1 -0.8**
ALU Alushta 7.21 20 *e*P **Pn 22 02 21.3 +0.1**
ALU *i* S **Sn 22 03 43.0 +0.4**
ALU pmax pmax
comp=Z,70nm,0.6s
ALU smax
comp=N,50nm,0.8s
ALU Alushta 7.21 20 *e*P **Pn 22 02 21.3 +0.1**
comp=N,70nm,0.6s
ALU *i* S **Sn 22 03 43.0 +0.4**
comp=N,50nm,0.8s
KKB Krupnik 7.22 305 P **Pn 22 02 22.2 +1.0**
ITM Ithomi 7.22 267 *e*P **Pn 22 02 23.0 +1.7**
ITM Ithomi 7.22 267 P **Pn 22 02 24.3 +3.0**
DSI Dead Sea 7.32 149 Pn **Pn 22 02 22.6 -0.1**
SIM Simferopol' 7.39 18 *e*P **Pn 22 02 24.0 +0.4**
SIM *e*S **Sn 22 03 48.2 +1.3**
SIM pmax pmax
comp=Z,100nm,0.7s
SIM smax
comp=N,98nm,1.0s
SIM smax
comp=E,200nm,0.8s
SIM Simferopol' 7.39 18 *e*P **Pn 22 02 24.0 +0.4**
comp=E,100nm,0.7s
SIM *e*S **Sn 22 03 48.2 +1.3**
comp=E,98nm,1.0s
YTIR Yattir 7.40 151 Pn **Pn 22 02 24.4 +0.6**
YTIR Yattir 7.40 151 Pn **Pn 22 02 24.3 +0.5**
MACK Trabzon 7.44 64 *i* P **Pn 22 02 28.9 +4.5**
AMAG Maghara 7.51 165⇓*e*P **Pn 22 02 21.8 -3.6**
VTS Vitosha 7.53 311 P **Pn 22 02 27.5 +2.0**
VTS Vitosha 7.53 311⇑*i*P **Pn 22 02 25.4 -0.2**
VTS Vitosha 7.53 311 P **Pn 22 02 27.5 +1.9**
ASF Jabal al Asfar 7.53 138 P **Pn 22 02 27.1 +1.4**
comp=E,1.6nm,0.3s,baz=196,slow=12,SNR=14
ASF S **Sn 22 03 53.9 +3.3**
baz=221,slow=20,SNR=2.0
HMAT Matruh 7.54 206⇓*e*P **Pn 22 02 22.4 -3.3**
MZDA Masada 7.54 150 Pn **Pn 22 02 26.1 +0.3**
KZIT Kziot 7.57 157 Pn **Pn 22 02 26.7 +0.6**
KZIT Sn **Sn 22 03 52.0 +0.6**
SUDU Sudak 7.58 22⇑*i*P **Pn 22 02 25.7 -0.5**
SUDU *i* S **Sn 22 03 50.6 -0.9**
SUDU pmax pmax
comp=Z,2.0nm,0.4s
SUDU smax
comp=N,5.0nm,0.3s
SUDU Sudak 7.58 22 *i* P **Pn 22 02 25.7 -0.5**
comp=N,2.0nm,0.4s
SUDU *i* S **Sn 22 03 50.6 -0.9**
comp=N,5.0nm,0.3s
AANS 7.64 177⇑*e*P **Pn 22 02 23.8 -3.3**
KOPT Kop Dagi 7.71 71 *i* P **Pn 22 02 31.8 +3.8**
STIP Stip 7.72 302 *e*Pn **Pn 22 02 28.2 -0.1**
FEO Feodosiya 7.81 24 *e*P **Pb 22 02 44.0 -7.6**
MARD Mardin 7.81 92 *i* P **Pn 22 02 29.7 +0.2**
ISR Istrita 7.90 337⇑P **Pn 22 02 31.3 +0.7**
ISR Istrita 7.90 337⇑*i*P **Pn 22 02 31.3 +0.7**
FNA Florina 7.95 294 *e*Pn **Pn 22 02 31.0 -0.4**
KOT Kottamia 8.02 175⇑*e*P **Pn 22 02 28.6 -3.7**
KOT Kottamia 8.02 175 P **Pn 22 02 28.6 -3.8**
BNGL BINGOL 8.06 80 *i* P **Pn 22 02 39.0 +6.1**
BIA Bitola 8.06 295 *i* Pn **Pn 22 02 34.3 +1.4**
BIA Bitola 8.06 295 *i* Pn **Pn 22 02 34.2 +1.3**
JAN Janina 8.08 285 *e*P **Pn 22 02 38.0 +4.9**
ZFRI Zfri 8.15 153 Pn **Pn 22 02 34.4 +0.3**
VLS Valsamata 8.19 275 *e*P **Pn 22 02 37.5 +2.9**
AYT Al 'Ayyat 8.22 179⇑*e*P **Pn 22 02 31.8 -3.3**
SUZ 8.23 169⇑*e*P **Pn 22 02 31.6 -3.6**
FYM Al Fayyum 8.23 180⇓*e*P **Pn 22 02 32.1 -3.1**
KRUS Krusevo 8.24 298 *i* Pn **Pn 22 02 37.2 +1.9**
PRNI Paran 8.28 155 Pn **Pn 22 02 36.9 +1.0**
HSAF As Saff 8.31 176⇓*e*P **Pn 22 02 32.7 -3.7**
ERZM Erzurum 8.34 73 *i* P **Pn 22 02 40.6 +3.9**
GLL Jalalah 8.36 176⇑*e*P **Pn 22 02 33.7 -3.4**
GLL S **Sn 22 04 06.3 -4.6**
GLL Jalalah 8.36 176 P **Pn 22 02 33.7 -3.4**
GLL S **Sn 22 04 06.3 -4.7**
HNKL Nakhl 8.37 162⇓*e*P **Pn 22 02 33.3 -3.9**
ANN Anapa 8.40 33 *e*P **Pn 22 02 37.5 0.0**
ANN *e*S **Sn 22 04 15.2 +3.4**
ANN pmax pmax
comp=Z,26nm,1.1s
ANN MLR MLR
comp=Z,642nm,8.0s
ANN Anapa 8.40 33 *e*P **Pn 22 02 37.5 0.0**
comp=Z,26nm,1.1s
KRMI Paran Flat 8.40 157 Pn **Pn 22 02 37.6 0.0**
MLR Muntele Rosu 8.42 335⇑P **Pn 22 02 38.4 +0.6**
MLR Muntele Rosu 8.42 335 P **Pn 22 02 38.0 +0.2**
comp=Z,3.6nm,0.3s,baz=126,slow=4.7,SNR=50
MLR S **Sn 22 04 15.7 +3.3**
baz=270,slow=18,SNR=1.1
MLR LR LR 22 06 16.8
comp=Z,2µm,18.5s,baz=165,slow=40
MLR Muntele Rosu 8.42 335⇑*i*P **Pn 22 02 38.4 +0.6**
BARS Barje 8.51 308 P **Pn 22 02 39.9 +0.9**
VRI Vrincioaia 8.53 340 P **Pn 22 02 38.7 -0.5**
VRI Vrincioaia 8.53 340⇑*i*P **Pn 22 02 39.0 -0.2**
PLOR Plostina 8.53 339⇓*i*P **Pn 22 02 39.2 -0.1**
HRFI Mount Harif 8.58 156 Pn **Pn 22 02 39.8 -0.2**
VOIR 8.70 331⇑P **Pn 22 02 41.6 +0.1**
VOIR 8.70 331⇑*i*P **Pn 22 02 41.6 +0.1**
SOC Sochi 8.71 47 *e*P **Pn 22 02 43.6 +1.9**
SOC *e* 22 04 24.2
SOC pmax pmax
comp=Z,4.0nm,0.5s
SOC MLR MLR
comp=Z,3µm,13.0s
SOC Sochi 8.71 47 *e*P **Pn 22 02 43.6 +1.9**
comp=Z,4.0nm,0.5s
HOMI Horasan 8.78 73 *i* P **Pn 22 02 45.1 +2.4**
EIL Elat 8.89 157 P **Pn 22 02 43.9 -0.3**
EIL S **Sn 22 04 23.0 -0.9**
EIL LR LR 22 07 34.7
EIL Elat 8.89 157 P **Pn 22 02 43.9 -0.3**
comp=Z,4.9nm,0.3s,baz=336,slow=7.2,SNR=34
EIL S **Sn 22 04 23.0 -0.9**
comp=Z,3.5nm,0.3s,baz=66,slow=20,SNR=3.8
EIL LR LR 22 07 34.7
comp=Z,680nm,20.2s,baz=348,slow=47
EIL Elat 8.89 157 Pn **Pn 22 02 44.6 +0.3**
EIL Sn **Sn 22 04 25.0 +1.1**
EIL Elat 8.89 157 Pn **Pn 22 02 44.6 +0.3**
HBNS Bani Suwayf 8.97 179⇑*e*P **Pn 22 02 41.9 -3.4**
ARTV Artvin 9.07 66 *i* P **Pn 22 02 46.6 0.0**
KIS Kishinev 9.19 351 *e*P **Pn 22 02 52.0 +3.7**
KIS MLR MLR
comp=Z,2µm,12.0s
KIS MLR MLR
comp=N,1µm,10.0s
KIS MLR MLR
comp=Z,2µm,12.0s
HBST Basata 9.25 159⇓*e*P **Pn 22 02 44.2 -5.0**
TUTA Tutak 9.38 77 *i* P **Pn 22 02 49.5 -1.5**
GZR Gura Zlata 9.64 323 P **Pn 22 02 54.9 +0.4**
GZR Gura Zlata 9.64 323⇓*i*P **Pn 22 02 54.6 +0.2**
GZR Gura Zlata 9.64 323 P **Pn 22 02 54.9 +0.5**
HDHB Dhahab 9.69 161⇑*e*P **Pn 22 02 51.1 -4.1**
SWA1 9.70 208⇓*e*P **Pn 22 02 51.5 -3.8**
DIGO Kars 9.95 72 *i* P **Pn 22 03 02.1 +3.4**
HAKT HAKKARI 10.10 88 *i* P **Pn 22 03 01.5 +0.7**
BZS Buzias 10.37 321 P **Pn 22 03 05.2 +0.8**
BZS Buzias 10.37 321⇑*i*P **Pn 22 03 03.6 -0.8**
BZS Buzias 10.37 321 P **Pn 22 03 05.2 +0.8**
ONI Oni 10.61 60 P **Pn 22 03 11.1 +3.4**
KIV Kislovodsk 10.71 52 *e*Pn **Pn 22 03 12.6 +3.5**
comp=Z,34nm,1.1s
KIV Kislovodsk 10.71 52 *e*P **Pn 22 03 11.9 +2.8**
KIV *e*S **Sn 22 05 13.2 +4.9**
KIV pmax pmax
comp=Z,7.0nm,1.0s
KIV MLR MLR
comp=Z,712nm,11.0s
KIV Kislovodsk 10.71 52⇑*i*P **Pn 22 03 11.6 +2.5**
KIV Kislovodsk 10.71 52 *e*P **Pn 22 03 11.9 +2.8**
comp=Z,7.0nm,1.0s
HFRF Wahat Farafira 10.99 192⇓*e*P **Pn 22 03 09.3 -3.8**
KMPD K-Podol'skiy 11.11 344 P **Pn 22 03 13.0 -1.6**
TIP Timpagrande 11.19 281 P **Pn 22 03 16.9 +1.1**
STON Ston 11.25 300 *e*Pn **Pn 22 03 14.3 -2.2**
STON Sn **Sn 22 05 42.2 +21**
TBLG Delisi 11.25 66 P **Pn 22 03 26.1 +10**
MTA Mtatsminda 11.28 66 P **Pn 22 03 20.4 +3.5**
GOF Gofitskoye 11.50 48 *e*P **Pn 22 03 12.8 -7.2**
GOF pmax pmax
comp=Z,30nm,1.3s
DGRG David-gareji 11.64 68 P **Pn 22 03 27.0 +5.1**
MTTG Motta San Giov 12.05 275 P **Pn 22 03 28.7 +1.1**
MSAG Monte S. Angel 12.17 293 P **Pn 22 03 29.9 +0.8**
PKSM Moragy 12.32 316⇓*i*P **Pn 22 03 31.2 0.0**
PKSM Moragy 12.32 316 P **Pn 22 03 31.4 +0.2**
KOLS Kolonicke sedl 12.66 333 *e*PN **Pn 22 03 36.5 +0.7**
KIEV Kiev 12.81 355 *e*Pn **Pn 22 03 34.7 -3.1**
comp=Z,21nm,0.9s
KIEV *e*Sn **Sn 22 05 54.7 -5.2**
KIEV Kiev 12.81 355 *e*P **Pn 22 03 34.7 -3.1**
KIEV *e* 22 05 54.7
KIEV pmax pmax
comp=Z,21nm,0.9s
AKASG Malin Array Be 12.82 355 *i* P **Pn 22 03 38.5 +0.6**
AKASG pmax pmax
comp=Z,1.0nm,0.4s
AKASG Malin Array Be 12.82 355 P **Pn 22 03 35.4 -2.5**
comp=Z,2.1nm,0.3s,baz=175,slow=11,SNR=12
AKASG S **Sn 22 06 03.6 +3.6**
comp=Z,1.3nm,0.3s,baz=184,slow=25,SNR=13
AKASG Malin Array Be 12.82 355 *i* P **Pn 22 03 38.5 +0.6**
comp=Z,1.0nm,0.4s
PSZ Piszkesteto 12.84 324⇑P **Pn 22 03 38.6 +0.3**
PSZ Piszkesteto 12.84 324⇑*i*P **Pn 22 03 38.6 +0.4**
PSZ Piszkesteto 12.84 324⇓*e*P **Pn 22 03 40.4 +2.2**
LVV L'vov 12.88 339 *e*P **Pn 22 03 38.0 -0.7**
LVV MLR MLR
comp=Z,700nm,14.0s
LVV MLR MLR
comp=N,700nm,15.0s
LVV MLR MLR
comp=E,600nm,14.6s
LVV L'vov 12.88 339 *e*P **Pn 22 03 38.0 -0.7**
comp=E,700nm,15.0s
CRVS Cervenica-Dubn 12.94 331 *e*PN **Pn 22 03 42.9 +3.3**
CRVS *e* 22 03 47.8
BUD Budapest 12.95 321⇓e*P 22 03 44.5
KECS Kecovo 13.00 327 *e*PN **Pn 22 03 40.6 +0.2**
KWP Kalwaria 13.11 336 *e*P **Pn 22 03 43.5 +1.6**
KWP Kalwaria 13.11 336⇓*i*P **Pn 22 03 46.8 +4.9**
VAE Valguarnera 13.12 273 P **Pn 22 03 43.1 +1.0**
comp=E,0.4nm,0.3s,baz=12,slow=1.4,SNR=8.3
WDD Wield Dalam 13.32 266 P **Pn 22 03 46.3 +1.4**
STHS Stebnicka Huta 13.44 332 *e*PN **Pn 22 03 48.5 +2.1**
VYHS Vyhne 13.75 324 *e*Pn **Pn 22 03 51.8 +1.2**
VYHS *e* 22 04 00.8
VYHS Vyhne 13.75 324 *e*P **Pn 22 03 51.8 +1.2**
VYHS MLR MLR
comp=Z,3µm,14.7s
VYHS Vyhne 13.75 324 *e*PN **Pn 22 03 51.8 +1.2**
VYHS *e* 22 04 00.8
VYHS Vyhne 13.75 324 *e*P **Pn 22 03 51.8 +1.2**
comp=Z,3µm,14.7s
NVLJ Novalja 13.79 304 *e*Pn **Pn 22 03 45.6 -5.6**
NVLJ Sn **Sn 22 06 40.0 +16**
NIE Niedzica 13.80 330 *e*P **Pn 22 03 52.5 +1.1**
TERO Teramo 14.05 295 P **Pn 22 03 56.2 +1.4**
AQU L'Aquila 14.13 294 *e*Pn **Pn 22 03 55.6 -0.4**
comp=Z,12nm,0.7s
AQU L'Aquila 14.13 294 *e*P **Pn 22 03 55.6 -0.3**
AQU pmax pmax
comp=Z,12nm,0.7s
AQU L'Aquila 14.13 294 *e*P **Pn 22 03 55.6 -0.3**
comp=Z,12nm,0.7s
FIAM Fiamignano 14.32 293 P **Pn 22 04 02.3 +3.8**
SOP Sopron 14.35 317⇑*e*P **Pn 22 03 59.8 +0.9**
SOP Sopron 14.35 317 P **Pn 22 03 59.3 +0.5**
ZST Bratislava 14.39 320 *e*P **Pn 22 04 04.3 +4.9**
ZST MLR MLR
comp=Z,6µm,11.5s
ZST Bratislava 14.39 320 *e*P **Pn 22 04 04.3 +4.9**
ZST *e*pP pP 22 04 08.3 -3.1
MODS Modra-Piesok 14.42 321 *e*Pn **Pn 22 04 00.8 +1.1**
MODS *e* 22 04 08.3
MODS Modra-Piesok 14.42 321 *e*P **Pn 22 04 08.3 +8.6**
VRSR Storozhevoye 14.49 21 *e*P **Pn 22 03 59.9 -0.9**
VRSR pmax pmax
comp=Z,2.0nm,1.1s
VRSR Storozhevoye 14.49 21 *e*P **Pn 22 03 59.9 -0.9**
comp=Z,2.0nm,1.1s
JAVC Velka Javorina 14.55 323 P **Pn 22 04 03.2 +1.6**
OJC Ojcow 14.64 331 *e*P **Pn 22 04 04.9 +2.1**
ARSA Arzberg 14.67 314 *i* P **Pn 22 04 04.6 +1.4**
comp=Z,30nm,1.4s,SNR=12
ASS Assisi 14.84 296 P **Pn 22 04 07.8 +2.3**
CONA Conrad Observa 14.87 317 *i* P **Pn 22 04 06.9 +1.0**
comp=Z,31nm,1.6s,SNR=12
VOR Voronezh 14.96 20 P **Pn 22 04 16.0 +8.9**
VOR pmax pmax
comp=Z,100nm,1.6s
MURB Monte Urbino 14.97 297 P **Pn 22 04 10.2 +2.8**
OKC Ostrava-Krasne 15.03 326 *e*P **Pn 22 04 08.8 +0.7**
OKC AMS AMS 22 11 00.0
comp=Z,5µm,11.2s
OKC Ostrava-Krasne 15.03 326 *e*P **Pn 22 04 08.8 +0.7**
comp=Z,5µm,11.2s
TOLF Tolfa 15.10 292 P **Pn 22 04 11.6 +2.5**
VRHR Novokhopersk 15.17 26 *e*P **Pn 22 04 14.6 +4.7**
VRHR pmax pmax
comp=E,30nm,0.8s
VRHR pmax pmax
comp=Z,40nm,0.8s
VRHR pmax pmax
comp=N,60nm,0.9s
RSM Repubblica di 15.21 299 P **Pn 22 04 13.2 +2.8**
MORC Moravsky Berou 15.26 325 *e*Pn **Pn 22 04 10.6 -0.4**
comp=N,8.1nm,0.9s
MORC Moravsky Berou 15.26 325 *e*P **Pn 22 04 10.6 -0.5**
MORC pmax pmax
comp=Z,8.0nm,0.9s
MORC Moravsky Berou 15.26 325⇓*i*P **Pn 22 04 17.9 +6.8**
MORC Moravsky Berou 15.26 325 *e*P **Pn 22 04 10.6 -0.5**
comp=Z,8.0nm,0.9s
LATE Laterza 15.35 294 P **Pn 22 04 15.0 +2.8**
VRAC Vranov 15.38 322 P **Pn 22 04 11.5 -1.2**
comp=Z,0.1nm,0.3s,baz=166,slow=4.2,SNR=3.4
VRAC LR LR 22 10 06.7
comp=Z,337nm,20.0s,baz=325,slow=37
VRAC Vranov 15.38 322⇓*i*P **Pn 22 04 17.0 +4.4**
CRE Caprese Michel 15.47 297 P **Pn 22 04 14.3 +0.4**
PTCC Patocco-Chiusa 15.53 309 P **Pn 22 04 13.4 -1.3**
SFI Santa Sofia 15.62 298 P **Pn 22 04 19.2 +3.4**
MOA Molln 15.71 314⇑*i*P **Pn 22 04 20.2 +3.2**
comp=Z,49nm,1.3s,SNR=11
MOA Molln 15.71 314⇑*i*pP **Pn 22 04 20.2 +3.2**
comp=Z,49nm,1.3s,SNR=11
RST Umm Al-Ruwaisa 15.76 118 *e*P **Pn 22 04 17.1 -0.6**
RST AMb AMB 22 04 31.2
comp=Z,153nm,1.2s
RST Umm Al-Ruwaisa 15.76 118 *e*P **Pn 22 04 17.1 -0.6**
comp=Z,153nm,1.2s
MAON Monte Argentar 15.80 293 P **Pn 22 04 20.2 +2.0**
VMG Vicchio 15.84 298 P **Pn 22 04 22.5 +3.8**
KBA Koelnbreinsper 15.85 311⇑*e*P **Pn 22 04 23.4 +4.6**
comp=Z,24nm,1.2s,SNR=7.0
KBA Koelnbreinsper 15.85 311⇑*e*pP **Pn 22 04 23.4 +4.6**
comp=Z,24nm,1.2s,SNR=7.0
KBA Koelnbreinsper 15.85 311⇑*e*P **Pn 22 04 23.4 +4.6**
KBA pmax pmax
comp=Z,24nm,1.2s
CSNT Castellina Chi 15.90 297 P **Pn 22 04 21.6 +2.2**
TREC Trest 15.91 320 *e*P **Pn 22 04 24.5 +4.9**
TREC AMS AMS 22 11 50.0
comp=Z,2µm,8.9s
FVI Forni Avoltri 15.97 309 P **Pn 22 04 22.5 +2.1**
GRFL Gerfalco 16.05 295 P **Pn 22 04 23.3 +1.9**
FIU Minerbio Fiu 16.08 301 P **Pn 22 04 24.5 +2.8**
NAY Al-Naaiem 16.08 118 *e*P **Pn 22 04 21.1 -0.7**
NAY AMb AMB 22 04 34.9
comp=Z,80nm,1.2s
NAY Al-Naaiem 16.08 118 *e*P **Pn 22 04 21.1 -0.8**
comp=Z,80nm,1.2s
FNVD Fontana Vidola 16.19 299 P **Pn 22 04 26.5 +3.3**
ABTA Abfaltersbach 16.20 309⇓*e*pP **Pn 22 04 25.8 +2.4**
comp=Z,26nm,1.5s
DPC Dobruska-Polom 16.22 325 *e*P **Pn 22 04 24.4 +0.9**
DPC AMS AMS 22 11 40.0
comp=Z,6µm,10.8s
DPC Dobruska-Polom 16.22 325 *e*P **Pn 22 04 24.4 +0.9**
comp=Z,6µm,10.8s
UMR Umm Al-Rimmam 16.23 116 *e*P **Pn 22 04 23.8 0.0**
UMR AMb AMB 22 04 36.8
comp=Z,300nm,1.0s
UMR Umm Al-Rimmam 16.23 116 *e*P **Pn 22 04 23.8 -0.1**
comp=Z,300nm,1.0s
KBD Kabd 16.44 117 *e*P **Pn 22 04 25.8 -0.6**
KBD AMb AMB 22 04 35.7
comp=Z,709nm,1.2s
KBD Kabd 16.44 117 *e*P **Pn 22 04 25.8 -0.7**
comp=Z,709nm,1.2s

CTI Castel Tesino 16.46 306 P Pn 22 04 27.3 +0.7
UPC Upice 16.47 324 eP Pn 22 04 30.9 +4.2
BDI Bagni Di Lucca 16.53 298 P Pn 22 04 28.9 +1.4
GEC2 GERESS Array S 16.58 317 eP Pn 22 04 28.5 +0.4
GEC2 pmax pmax
comp=Z,93nm,1.7s
GEC2 GERESS Array S 16.58 317 eP Pn 22 04 28.5 +0.4
comp=Z,93nm,1.7s
GERES GERESS Array B 16.58 317 P Pn 22 04 27.8 -0.3
baz=119,slow=8.2,SNR=20
GERES LR LR 22 11 19.2
comp=Z,779nm,20.1s,baz=124,slow=39
KSP Ksiaz 16.58 326 eP Pn 22 04 30.6 +2.5
KSP Ksiaz 16.58 326 eP Pn 22 04 28.2 +0.1
KSP epP pP 22 04 37.2 +1.4
KSP eS Sn 22 07 36.0 +4.4
KSP Ksiaz 16.58 326 eP Pn 22 04 28.2 +0.1
KSP epP pP 22 04 37.2 +1.4
VLC Villacollemand 16.70 298 P Pn 22 04 33.4 +3.7
MNK Minsk 16.70 354 eP Pn 22 04 30.0 +0.4
MNK pmax pmax
comp=Z,190nm,1.0s
MNK Minsk 16.70 354 eP Pn 22 04 30.0 +0.4
comp=Z,190nm,1.0s
ERBM Eremo 16.75 299 P Pn 22 04 32.7 +2.4
KHC Kasperske Hory 16.81 317 eP Pn 22 04 30.5 -0.5
KHC e 22 04 34.5
KHC Kasperske Hory 16.81 317⇑eP Pn 22 04 30.9 -0.1
KHC Kasperske Hory 16.81 317 eP Pn 22 04 30.5 -0.5
KHC pP pP 22 04 34.5 -3.8
KHC AMS AMS 22 12 10.0
comp=Z,2µm,12.6s
KHC Kasperske Hory 16.81 317 eP Pn 22 04 30.5 -0.5
comp=Z,2µm,12.6s
PRU Pruhonice 16.83 321 eP Pn 22 04 34.0 +2.7
VSL Villasalto 16.92 282 ePn Pn 22 04 32.2 -0.2
comp=Z,80nm,1.4s
VSL Villasalto 16.92 282 ePn Pn 22 04 32.2 -0.2
comp=Z,80nm,1.4s
PRA Prague 16.94 321 P Pn 22 04 37.0 +4.4
SUW Suwalki 16.94 344 eP Pn 22 04 34.8 +2.1
WTTA Wattenberg 16.97 309⇓iP Pn 22 04 35.8 +2.8
comp=Z,29nm,1.7s,SNR=8.8
WTTA Wattenberg 16.97 309⇓iPP Pn 22 04 35.8 +2.8
comp=Z,29nm,1.7s,SNR=8.8
WTTA Wattenberg 16.97 309⇓iP Pn 22 04 35.8 +2.8
WTTA pmax pmax
comp=Z,29nm,1.7s
WATA Walderalm 17.04 310⇓iP Pn 22 04 37.7 +3.8
comp=Z,11nm,0.7s
WATA Walderalm 17.04 310⇓iPP Pn 22 04 37.7 +3.8
comp=Z,11nm,0.7s
WATA Walderalm 17.04 310⇓iP Pn 22 04 37.7 +3.8
WATA pmax pmax
comp=Z,11nm,0.7s
PVCC Panska Ves 17.17 322 eP Pn 22 04 37.7 +2.2
PVCC AMS AMS 22 12 30.0
comp=Z,4µm,11.8s
WET Wettzell 17.20 316 eP Pn 22 04 37.4 +1.6
WET pmax pmax
comp=Z,80nm,1.6s
WET Wettzell 17.20 316 eP Pn 22 04 37.4 +1.6
comp=Z,80nm,1.6s
CORF Corte 17.23 291 eP Pn 22 04 37.8 +1.5
MOTA Moosalm 17.33 309⇓iP Pn 22 04 39.5 +1.9
comp=Z,10nm,0.9s
MOTA Moosalm 17.33 309⇓iPP Pn 22 04 39.5 +1.9
comp=Z,10nm,0.9s
MOTA Moosalm 17.33 309⇓iP Pn 22 04 39.5 +1.9
MOTA pmax pmax
comp=Z,10.0nm,0.9s
PGF Pioggiola 17.38 292 eP Pn 22 04 37.2 -0.9
comp=Z,90nm,1.5s
PGF Pioggiola 17.38 292 eP Pn 22 04 37.2 -0.9
PGF pmax pmax
comp=Z,45nm,1.5s
PGF Pioggiola 17.38 292 eP Pn 22 04 37.2 -0.9
comp=Z,45nm,1.5s
FETA Feichten 17.43 308 iP Pn 22 04 41.0 +2.3
comp=Z,39nm,1.2s,SNR=19
BRMO Bormio 17.44 306 P Pn 22 04 41.1 +2.2
KEST Kesra 17.44 269 P Pn 22 04 39.1 +0.1
comp=Z,0.1nm,0.3s,baz=13,slow=3.5,SNR=22
KEST LR LR 22 12 46.4
comp=Z,103nm,19.3s,baz=181,slow=42
BOB Bobbio (Coli) 17.51 300 P Pn 22 04 38.9 -0.9
BOB P 22 04 42.3
OBN Obninsk 17.60 11 Pn Pn 22 04 39.7 -1.0
OBN Obninsk 17.60 11⇑eP Pn 22 04 39.8 -1.0
OBN eS Sn 22 08 02.7 +6.6
OBN pmax pmax
comp=Z,55nm,1.9s
OBN MLR MLR
comp=Z,500nm,15.0s
OBN Obninsk 17.60 11 eP Pn 22 04 39.8 -1.0
comp=Z,55nm,1.9s
RETA Reutte 17.60 309 iP Pn 22 04 44.0 +3.1
comp=Z,22nm,1.9s,SNR=9.6
BRG Berggiesshubel 17.69 322 eP Pn 22 04 42.6 +0.6
BRG pmax pmax
comp=Z,30nm,1.6s
BRG MLR MLR
comp=N,1µm,12.0s
BRG MLR MLR
comp=E,2µm,12.0s
BRG MLR MLR
comp=Z,3µm,11.8s
BRG Berggiesshubel 17.69 322 eP Pn 22 04 43.2 +1.2
comp=Z,50nm,1.6s
BRG Berggiesshubel 17.69 322 eP Pn 22 04 42.6 +0.6
comp=Z,50nm,1.6s
BRG S Sn 22 08 19.0 +20
BRG
comp=N,2µm,12.0s
BRG
comp=E,3µm,12.0s
BRG
comp=Z,4µm,11.8s
DAVOX Davos/Dischmat 17.87 306 P Pn 22 04 45.2 +0.9
comp=Z,0.1nm,0.3s,baz=108,slow=11,SNR=18
DAVOX LR LR 22 11 56.0
comp=Z,430nm,21.6s,baz=111,slow=38
ROTZ Rotzenmuhle 17.91 317 eP Pn 22 04 45.5 +0.8
comp=Z,41nm,1.3s
BERN Bernov 18.01 319 ⇑P Pn 22 04 44.4 -1.6
VDL Val di Lei 18.04 305 ⇑P Pn 22 04 49.1 +2.8
NKC Novy Kostel 18.05 319 eP Pn 22 04 46.5 +0.1
NKC AMS AMS 22 12 50.0
comp=Z,2µm,13.4s
NKC Novy Kostel 18.05 319 eP Pn 22 04 46.5 +0.1
comp=Z,2µm,13.4s
DAVA Damuels 18.07 308⇓iP Pn 22 04 46.0 -0.6
comp=Z,21nm,1.1s
MANZ Manzenberg 18.08 318 eP Pn 22 04 48.2 +1.4
comp=Z,49nm,1.4s
UBR Ueberruh 18.09 309 P Pn 22 04 48.5 +1.6
TUE Stuetta 18.10 305 P Pn 22 04 49.8 +2.7
TANN Tannenbergstha 18.15 319 eP Pn 22 04 48.4 +0.8
comp=Z,70nm,1.9s
VAI Varese 18.28 303 P Pn 22 04 50.6 +1.3
MOS Moscow 18.36 12 eP Pn 22 04 50.3 +0.1
MOS pmax pmax
comp=Z,50nm,1.2s
MOS MLR MLR
comp=Z,1µm,13.0s
MOS Moscow 18.36 12 eP Pn 22 04 50.3 +0.1
comp=Z,1µm,13.0s
GRA1 Grafenberg Arr 18.40 316 eP Pn 22 04 51.2 +0.5
comp=Z,53nm,1.8s
GRA1 eS Sn 22 08 16.5 +0.8
GRF Grafenberg Arr 18.40 316 eP Pn 22 04 51.2 +0.5
comp=Z,53nm,1.8s
GRF eS Sn 22 08 16.5 +0.8
GRF Grafenberg Arr 18.40 316 eP Pn 22 04 51.2 +0.5
GRF eS Sn 22 08 16.5 +0.8
GRF pmax pmax
comp=Z,53nm,1.8s
GRF MLR MLR
comp=Z,1µm,19.3s
GRF Grafenberg Arr 18.40 316 eP Pn 22 04 51.2 +0.5
comp=Z,53nm,1.8s
GRF eS Sn 22 08 16.5 +0.8
GRF eL 22 13 41.4
comp=Z,1µm,19.3s
IMI Imperia 18.40 296 P Pn 22 04 51.8 +1.0
CLL Collm 18.43 322 eP Pn 22 04 52.2 +1.2
comp=Z,46nm,1.6s
CLL Collm 18.43 322⇑iP Pn 22 04 51.1 +0.1
comp=Z,46nm,1.6s
CLL ePP 22 04 58.0
CLL eS Sn 22 08 24.0 +7.7
comp=N,700nm,13.4s
CLL eS Sn 22 08 24.0 +7.7
CLL eS Sn 22 08 24.0 +7.7
CLL LmH 22 11 00.0
comp=N,1µm,19.7s
CLL LmH 22 11 00.0
comp=E,1µm,20.5s
LLS Linth-Limmern 18.45 306 ⇑P Pn 22 04 52.8 +1.5
SAOF Saorge 18.65 296 eP Pn 22 04 54.5 +0.7
SBF Sospel 18.72 296 eP Pn 22 04 54.7 +0.1
comp=E,73nm,1.1s
SBF Sospel 18.72 296 eP Pn 22 04 54.7 +0.1
SBF pmax pmax
comp=Z,36nm,1.1s
SBF Sospel 18.72 296 eP Pn 22 04 54.7 +0.1
comp=Z,36nm,1.1s
MOX Moxa 18.72 319 iP Pn 22 04 56.7 +2.1
comp=Z,117nm,1.6s
MOX e 22 08 35.0
MOX Moxa 18.72 319 iP Pn 22 04 56.7 +2.1
comp=Z,117nm,1.6s
MOX e 22 08 35.0
MOX
comp=Z,2µm,14.0s
MOX Moxa 18.72 319 iP Pn 22 04 56.7 +2.1
MOX pmax pmax
comp=Z,117nm,1.6s
MOX MLR MLR
comp=Z,2µm,14.0s
MOX Moxa 18.72 319 eP Pn 22 04 55.9 +1.3
comp=Z,90nm,1.4s
WILA Wila 18.72 307 ⇑P Pn 22 04 55.1 +0.4
ORO Oropa 18.74 301 P Pn 22 04 54.4 -0.5
REVF Revere 18.74 295 eP Pn 22 04 55.6 +0.7
AUTN L'Aution 18.75 296 eP Pn 22 04 52.7 -2.2
LUCF Luceram 18.78 296 eP Pn 22 04 56.4 +1.0
STV Sta Anna Valdi 18.87 297 P Pn 22 04 57.3 +0.9
MMK Matmark 18.87 303 ⇓P Pn 22 04 58.3 +1.8
BUCH Bad Urach 18.87 311 P Pn 22 04 58.6 +2.1
TOUF Mont Tournerai 18.88 296 eP Pn 22 04 58.3 +1.8
MVIF Mont Vial 18.92 296 eP Pn 22 04 58.3 +1.2
DOI San Damiano 18.97 298 P Pn 22 04 58.3 +0.6
SPAK Spaichingen-Ko 19.07 309 eP Pn 22 04 58.6 -0.2
CALN Calern 19.09 295 eP Pn 22 04 58.5 -0.6
STU Stuttgart 19.11 311 eP Pn 22 04 59.2 -0.1
comp=Z,57nm,1.2s
SLE Schleitheim 19.12 308 P Pn 22 04 59.6 +0.2
SIND Sindeldorf 19.14 313 P Pn 22 04 59.7 +0.1
LKBD Leukerbad 19.20 303 ⇑P Pn 22 05 00.5 +0.1
LKBD ⇓P 22 05 01.4
FRF La Foret Royal 19.23 295 eP Pn 22 05 00.6 -0.2
comp=Z,74nm,1.4s
FRF La Foret Royal 19.23 295 eP Pn 22 05 00.6 -0.2
FRF pmax pmax
comp=Z,37nm,1.4s
FRF La Foret Royal 19.23 295 eP Pn 22 05 00.6 -0.2
comp=Z,37nm,1.4s
DIX Grande Dixence 19.25 302 P Pn 22 05 01.0 0.0
SULZ Cheisacher 19.27 307 ⇑P Pn 22 05 02.0 +0.8
SURF Saint Ours 19.27 297 eP Pn 22 05 04.0 +2.7
LMR La Mourre 19.30 294 eP Pn 22 05 01.1 -0.5
comp=Z,89nm,1.6s
LMR La Mourre 19.30 294 eP Pn 22 05 01.1 -0.5
LMR pmax pmax
comp=Z,45nm,1.6s
LMR La Mourre 19.30 294 eP Pn 22 05 01.1 -0.5
comp=Z,44nm,1.6s
LBG Lerchenberg 19.30 311 P Pn 22 05 01.5 -0.1
MBDF Montbardon 19.35 298 eP Pn 22 05 01.9 -0.3
comp=Z,38nm,0.8s
MBDF Montbardon 19.35 298 eP Pn 22 05 01.9 -0.3
MBDF pmax pmax
comp=Z,19nm,0.8s
MBDF Montbardon 19.35 298 eP Pn 22 05 01.9 -0.3
comp=Z,19nm,0.8s
BFO Black Forest 19.44 310 eP Pn 22 05 02.8 -0.5
BFO pmax pmax
comp=Z,123nm,2.1s
BFO Black Forest 19.44 310 eP Pn 22 05 02.8 -0.5
comp=Z,123nm,2.1s
FELD Feldberg im Sc 19.46 308 eP Pn 22 05 01.2 -2.4
BNI Bardonecchia 19.49 299 P Pn 22 05 04.4 +0.5
LPG La Plagne 19.54 300 eP Pn 22 05 04.7 +0.2
comp=Z,322nm,1.3s
LPG La Plagne 19.54 300 eP Pn 22 05 04.7 +0.2
LPG pmax pmax
comp=Z,161nm,1.3s
LPG La Plagne 19.54 300 eP Pn 22 05 04.7 +0.2
comp=Z,161nm,1.3s
LPL La Plagne 19.56 300 eP Pn 22 05 04.8 +0.1
comp=Z,176nm,1.3s
LPL La Plagne 19.56 300 eP Pn 22 05 04.8 +0.1
LPL pmax pmax
comp=Z,88nm,1.3s
LPL La Plagne 19.56 300 eP Pn 22 05 04.8 +0.1
comp=Z,88nm,1.3s
TAVF Tavernes 19.66 295 eP Pn 22 05 05.1 -0.9
UBBA Unterbreizbach 19.67 318 eP Pn 22 05 05.6 -0.4
comp=Z,31nm,1.5s
RSL Roselend 19.67 301 eP Pn 22 05 07.8 +1.7
OG01 Vacheresse 19.81 303 eP Pn 22 05 06.3 -1.3
LIBD Limburg 19.82 308 P Pn 22 05 09.6 +1.8
STOF St-Etienne Org 19.82 296 eP Pn 22 05 07.2 -0.7
STR Strasbourg 19.89 310 eP Pn 22 05 08.7 +0.1
MOF Molkenrain 20.00 307 eP P 22 05 08.1 -0.1
MOF P 22 05 12.8
ORIF Oris-en-Rattie 20.01 298 eP P 22 05 09.1 +0.8
comp=Z,100nm,1.3s
ORIF eMLR MLR
comp=Z,397nm,20.5s,MS3.5
ORIF Oris-en-Rattie 20.01 298 eP P 22 05 09.1 +0.8
ORIF pmax pmax
comp=Z,50nm,1.3s
ORIF Oris-en-Rattie 20.01 298 eP P 22 05 09.1 +0.8
comp=Z,50nm,1.3s
LOMF Lomont 20.02 306 eP P 22 05 10.1 +1.7
LANF Langenberg 20.03 311 eP P 22 05 08.6 +0.2
LANF P 22 05 11.7
CLZ Clausthal 20.05 320 eP P 22 05 08.9 +0.2
CLZ pmax pmax
comp=Z,102nm,1.2s
CLZ Clausthal 20.05 320 eP P 22 05 08.9 +0.2
comp=Z,102nm,1.2s
SMRF Simiane la Rot 20.06 296 eP P 22 05 09.7 +0.9
comp=Z,26nm,0.8s
SMRF Simiane la Rot 20.06 296 eP P 22 05 09.7 +0.9
comp=Z,13nm,0.8s
GELF Grande-Etoile 20.09 294 eP P 22 05 07.9 -1.2
ECH Echery 20.12 308 eP P 22 05 09.3 -0.1
CDF Champ du Feu 20.12 309 eP P 22 05 09.7 +0.2
comp=Z,192nm,1.5s
CDF Champ du Feu 20.12 309 eP P 22 05 09.7 +0.2
CDF pmax pmax
comp=Z,96nm,1.5s
CDF Champ du Feu 20.12 309 eP P 22 05 09.7 +0.2
comp=Z,96nm,1.5s
HINF Hinteralfeld 20.16 307 eP P 22 05 11.1 +1.1
comp=Z,36nm,1.1s
HINF Hinteralfeld 20.16 307 eP P 22 05 11.1 +1.1
HINF pmax pmax
comp=Z,18nm,1.1s
HINF Hinteralfeld 20.16 307 eP P 22 05 11.1 +1.1
comp=Z,18nm,1.1s
CABF La Chapelle 20.28 303 eP P 22 05 11.5 +0.3
comp=Z,135nm,1.5s
CABF La Chapelle 20.28 303 eP P 22 05 11.5 +0.3
CABF pmax pmax
comp=Z,68nm,1.5s
CABF La Chapelle 20.28 303 eP P 22 05 11.5 +0.3
comp=Z,68nm,1.5s
PRAF Pradon 20.32 295 eP P 22 05 11.7 0.0
BSD Bornholm Skovb 20.34 333 iP P 22 05 10.7 -1.0
BSD i 22 09 01.0
BSD pmax pmax
comp=Z,46nm,1.0s
BSD MLR MLR
comp=Z,2µm,18.0s,MS4.4
BSD Bornholm Skovb 20.34 333 iP P 22 05 10.7 -1.0
comp=Z,46nm,1.0s
BSD i 22 09 01.0
BSD
comp=Z,2µm,18.0s
HAU Haudompre 20.55 307 eP P 22 05 14.5 +0.4
comp=Z,48nm,0.9s
HAU eMLR MLR
comp=Z,236nm,18.2s
HAU Haudompre 20.55 307 eP P 22 05 14.5 +0.4
comp=Z,24nm,0.9s
HAU LR LR
comp=Z,240nm,18.3s,MS3.6
HAU Haudompre 20.55 307 eP P 22 05 14.5 +0.4
HAU pmax pmax
comp=Z,24nm,0.9s
HAU MLR MLR
comp=Z,240nm,18.3s,MS3.6
OG05 Jujurieux 20.55 301 eP P 22 05 17.1 +2.9
ABH Alteburg 20.57 313 eP P 22 05 14.0 -0.3
ABH P 22 05 19.0
RUP Ruppelstein 20.77 312 eP P 22 05 17.1 +0.6
VIVF Saint-Julien-l 20.84 298 eP P 22 05 17.3 0.0
comp=Z,166nm,1.6s
VIVF Saint-Julien-l 20.84 298 eP P 22 05 17.3 0.0
comp=Z,83nm,1.6s
VIVF Saint-Julien-l 20.84 298 eP P 22 05 17.3 0.0
VIVF pmax pmax
comp=Z,83nm,1.6s
THEF They Montfort 20.85 308 eP P 22 05 14.7 -2.7
THEF P 22 05 21.3
WLF Walferdange 21.30 311 eP P 22 05 22.5 +0.4
comp=Z,31nm,1.4s,mb4.4
WLF Walferdange 21.30 311 eP P 22 05 22.5 +0.3
WLF pmax pmax
comp=Z,31nm,1.4s,mb4.5
WLF Walferdange 21.30 311 eP P 22 05 23.7 +1.5
comp=Z,23nm,1.4s,mb4.3
WLF Walferdange 21.30 311 P P 22 05 23.8 +1.6
comp=Z,12nm,1.5s,mb4.0
LASF Ste Croix 21.30 295 eP P 22 05 22.4 +0.1
comp=Z,60nm,1.0s,mb4.6
MEZF Maizieres J'vi 21.53 308 eP P 22 05 25.3 +0.6
comp=Z,86nm,1.2s,mb4.7
MEZF Maizieres J'vi 21.53 308 eP P 22 05 25.3 +0.6
comp=Z,86nm,1.2s,mb5.0
COLF Collangettes 21.64 299 eP P 22 05 25.5 -0.4
IBBN Ibbenburen 21.65 319 eP P 22 05 26.6 +0.6
comp=Z,41nm,0.9s,mb4.9
MEM Membach 21.78 314 P P 22 05 28.8 +1.4
comp=Z,9.8nm,1.3s,mb4.1
MEM Membach 21.78 314 P P 22 05 28.7 +1.4
comp=Z,9.8nm,1.3s,mb4.1
PLDF La Plantade 21.78 300 eP P 22 05 27.4 0.0
SMF Signal de Mont 21.78 302 eP P 22 05 27.4 0.0
comp=Z,98nm,1.2s,mb4.8
SMF Signal de Mont 21.78 302 eP P 22 05 27.4 0.0
comp=Z,49nm,1.2s,mb4.8
SMF Signal de Mont 21.78 302 eP P 22 05 27.4 0.0
SMF pmax pmax
comp=Z,49nm,1.2s,mb4.8
EJON La Jonquera 21.87 291 P P 22 05 29.9 +1.5
comp=Z,29nm,1.3s,mb4.5
HGN Heimansgroeve 21.89 314 eP P 22 05 28.8 +0.3
comp=Z,22nm,1.8s,mb4.3
HGN Heimansgroeve 21.89 314 ex x 22 05 36.3
HGN Heimansgroeve 21.89 314 eS S 22 09 37.0 +7.6
LBL Lubilhac 21.90 298 eP P 22 05 30.0 +1.3
LOR Lormes 21.93 304 eP P 22 05 28.8 -0.2
comp=Z,160nm,1.7s,mb4.9
LOR eMLR MLR
comp=Z,231nm,21.0s
LOR Lormes 21.93 304 eP P 22 05 28.8 -0.2
comp=Z,80nm,1.7s,mb4.9
LOR LR LR
comp=Z,230nm,21.0s,MS3.6
LOR Lormes 21.93 304 eP P 22 05 28.8 -0.2
LOR pmax pmax
comp=Z,80nm,1.7s,mb4.9
LOR MLR MLR
comp=Z,230nm,21.0s,MS3.6
ETOS Mallorca 21.96 284 P P 22 05 29.9 +0.5
comp=Z,16nm,0.7s,mb4.6
WTSB Winterswijk 21.98 317 eP P 22 05 29.7 +0.3
comp=Z,41nm,1.3s,mb4.7
BCLA Clavier 22.11 313 P P 22 05 31.2 +0.4
BCLA Clavier 22.11 313 P P 22 05 31.1 +0.3
SSF Saint Saulge 22.11 303 eP P 22 05 31.1 +0.2
comp=Z,36nm,1.0s,mb4.5
SSF Saint Saulge 22.11 303 eP P 22 05 31.1 +0.2
comp=Z,18nm,1.0s,mb4.5
SSF Saint Saulge 22.11 303 eP P 22 05 31.1 +0.2
SSF pmax pmax
comp=Z,18nm,1.0s,mb4.5
AGO Saint Agoulin 22.13 300 eP P 22 05 30.9 -0.3
AVF Avril sur Loir 22.14 302 eP P 22 05 31.1 -0.2
comp=Z,57nm,1.3s,mb4.5
AVF Avril sur Loir 22.14 302 eP P 22 05 31.1 -0.2
comp=Z,28nm,1.3s,mb4.5
AVF Avril sur Loir 22.14 302 eP P 22 05 31.1 -0.2
AVF pmax pmax
comp=Z,28nm,1.3s,mb4.5
LRDF Laroque-de-Fa 22.15 292 eP P 22 05 30.9 -0.5
PYM Petit Puy Mans 22.16 300 eP P 22 05 31.8 +0.3
FRNF Fournols 22.41 298 eP P 22 05 33.6 -0.5
MTLF Montolieu 22.41 293 eP P 22 05 32.9 -1.3
comp=Z,99nm,1.4s,mb4.8
MTLF Montolieu 22.41 293 eP P 22 05 32.9 -1.3
comp=Z,49nm,1.4s,mb4.8
MTLF Montolieu 22.41 293 eP P 22 05 32.9 -1.3
MTLF pmax pmax
comp=Z,49nm,1.4s,mb4.7
BGF Bois d'Agland 22.43 302 eP P 22 05 33.9 -0.4
comp=Z,55nm,1.2s,mb4.5
BGF Bois d'Agland 22.43 302 eP P 22 05 33.9 -0.4
comp=Z,28nm,1.2s,mb4.6
BGF Bois d'Agland 22.43 302 eP P 22 05 33.9 -0.4
BGF pmax pmax
comp=Z,28nm,1.2s,mb4.6
BAIF Baives 22.61 311 eP P 22 05 36.0 -0.2
CAF Calviac 22.68 297 eP P 22 05 36.9 -0.1
HYF Humbligny 22.73 303 eP P 22 05 37.0 -0.5
TCF Toulx Ste Croi 22.81 301 eP P 22 05 38.0 -0.3
comp=Z,115nm,1.6s,mb4.8
TCF Toulx Ste Croi 22.81 301 eP P 22 05 38.0 -0.3
comp=Z,58nm,1.6s,mb4.8
TCF Toulx Ste Croi 22.81 301 eP P 22 05 38.0 -0.3
TCF pmax pmax
comp=Z,58nm,1.6s,mb4.8
AKTK Aktyubinsk 22.93 48 P P 22 05 39.1 -0.4
AKTK S S 22 09 47.4 -1.2
AKTK LR LR 22 18 43.2
AKTO Aktyubinsk 22.93 48 P P 22 05 39.2 -0.3
AKTO S S 22 09 47.4 -1.2
AKTO Aktyubinsk 22.93 48 P P 22 05 39.1 -0.4
comp=Z,7.8nm,1.1s,mb4.1,baz=246,slow=11,SNR=12
AKTO S S 22 09 47.4 -1.2
comp=Z,0.4nm,0.6s,baz=50,slow=16,SNR=2.3
AKTO LR LR 22 18 43.2
comp=Z,540nm,18.0s,MS4.0,baz=78,slow=47
RJF Les Rejaudoux 23.12 298 eP P 22 05 40.7 -1.0
RJF eMLR MLR
comp=Z,202nm,18.2s
RJF Les Rejaudoux 23.12 298 eP P 22 05 40.7 -1.0
RJF MLR MLR
comp=Z,200nm,18.3s,MS3.6
MLS Moulis 23.21 292 eP P 22 05 41.6 -1.0
MUD Monsted U'grnd 23.53 329 eP P 22 05 45.8 0.0
MUD pmax pmax
comp=Z,58nm,1.3s,mb4.8
MUD MLR MLR
comp=Z,1µm,19.0s,MS4.3
MUD Monsted U'grnd 23.53 329 iP P 22 05 45.8 0.0
comp=Z,58nm,1.3s,mb4.8
MUD
comp=Z,1µm,19.0s
MUD Monsted U'grnd 23.53 329 eP P 22 05 45.8 0.0
comp=Z,58nm,1.3s,mb4.8
LFF La Frestale 23.62 297 eP P 22 05 45.7 -1.0
FINES FINESS Array B 23.73 354 P P 22 05 45.9 -1.7
comp=Z,3.4nm,0.8s,mb3.9,baz=156,slow=12,SNR=14
FINES LR LR 22 16 03.0
comp=Z,485nm,18.2s,MS4.0,baz=5.5,slow=39
EPF Esparros 23.77 292 eP P 22 05 47.0 -1.1
ERTA Horta de San J 23.79 287 P P 22 05 47.8 -0.5
comp=Z,27nm,1.0s,mb4.6
EBIE Bielsa 23.90 291 P P 22 05 47.8 -1.5
comp=Z,18nm,2.0s,mb4.2
VIEF Viey 23.99 292 eP P 22 05 50.6 +0.4

KAF Kangasniemi 24.37 355 *ep* **P 22 05 51.3 -2.1**
comp=Z,4.7nm,0.7s,mb4.0
KAF Kangasniemi 24.37 355 *eP* **P 22 05 51.3 -2.1**
KAF pmax pmax
comp=Z,5.0nm,0.7s,mb4.0
ETSF Etsaut 24.42 292 *eP* **P 22 05 53.4 -0.7**
comp=Z,38nm,0.8s,mb4.6
ETSF Etsaut 24.42 292 *eP* **P 22 05 53.4 -0.7**
comp=Z,19nm,0.8s,mb4.6
ETSF Etsaut 24.42 292 *eP* **P 22 05 53.4 -0.7**
ETSF pmax pmax
comp=Z,19nm,0.8s,mb4.6
MFF Saint Martin d 24.47 301 *eP* **P 22 05 52.8 -1.6**
comp=Z,42nm,1.1s,mb4.5
MFF Saint Martin d 24.47 301 *eP* **P 22 05 52.8 -1.6**
comp=Z,21nm,1.1s,mb4.5
MFF Saint Martin d 24.47 301 *eP* **P 22 05 52.8 -1.6**
MFF pmax pmax
comp=Z,21nm,1.1s,mb4.5
LARF Larrau 24.74 292 *eP* **P 22 05 56.2 -0.8**
HFS Hagfors 24.78 339 P **P 22 05 55.8 -1.3**
comp=Z,4.6nm,0.9s,mb4.0,baz=153,slow=9.3,SNR=2.7
LDF La Druitiere 24.85 305 *eP* **P 22 05 56.5 -1.4**
comp=Z,13nm,0.8s,mb4.2
LDF La Druitiere 24.85 305 *eP* **P 22 05 56.5 -1.4**
comp=Z,6.6nm,0.8s,mb4.2
LDF La Druitiere 24.85 305 *eP* **P 22 05 56.5 -1.4**
LDF pmax pmax
comp=Z,7.0nm,0.8s,mb4.2
SJPF Ste Jean 24.91 292 *eP* **P 22 05 58.1 -0.5**
comp=Z,48nm,1.0s,mb4.7
SJPF Ste Jean 24.91 292 *eP* **P 22 05 58.1 -0.5**
comp=Z,24nm,1.0s,mb4.7
SJPF Ste Jean 24.91 292 *eP* **P 22 05 58.1 -0.5**
SJPF pmax pmax
comp=Z,24nm,1.0s,mb4.7
JOF Joensuu 25.01 0 *ep* **P 22 05 56.7 -2.5**
comp=Z,6.9nm,0.7s,mb4.3
JOF Joensuu 25.01 0 *eP* **P 22 05 56.7 -2.5**
JOF pmax pmax
comp=Z,7.0nm,0.7s,mb4.3
HATD Hatta, Dubai 25.06 114 P **P 22 06 01.0 +1.0**
SNR=6.7
HATD Hatta, Dubai 25.06 114 P **P 22 06 01.0 +1.0**
SNR=6.7
ASHO Ashiyiah 25.09 115 P **P 22 06 00.7 +0.3**
SNR=9.9
ASHO Ashiyiah 25.09 115 P **P 22 06 00.7 +0.3**
SNR=9.9
FLN La Foliniere 25.12 306 *eP* **P 22 05 58.9 -1.5**
comp=Z,21nm,0.9s,mb4.4
FLN *e*MLR MLR
comp=Z,326nm,17.8s,MS3.6
FLN La Foliniere 25.12 306 *eP* **P 22 05 58.9 -1.5**
comp=Z,10nm,0.9s,mb4.4
FLN LR LR
comp=Z,330nm,17.8s,MS3.9
FLN La Foliniere 25.12 306 *eP* **P 22 05 58.9 -1.5**
FLN pmax pmax
comp=Z,10.0nm,0.9s,mb4.3
FLN MLR MLR
comp=Z,330nm,17.8s,MS3.9
ELIZ Elizondo 25.14 292 P **P 22 06 01.7 +1.1**
comp=Z,53nm,1.7s,mb4.8
ELIZ Elizondo 25.14 292 P **P 22 06 01.7 +1.1**
ELIZ pmax pmax
comp=Z,53nm,1.7s,mb4.8
CART Cartagena 25.21 279 *eP* **P 22 06 01.1 -0.2**
GRR Gorron 25.28 305 *eP* **P 22 05 59.0 -2.8**
comp=Z,66nm,0.9s,mb4.9
GRR Gorron 25.28 305 *eP* **P 22 05 59.0 -2.8**
comp=Z,33nm,0.9s,mb4.9
GRR Gorron 25.28 305 *eP* **P 22 05 59.0 -2.8**
GRR pmax pmax
comp=Z,33nm,0.9s,mb4.9
ETOB Tobarra 25.46 282 P **P 22 06 03.1 -0.5**
comp=Z,49nm,1.8s,mb4.7
KONO Kongsberg 25.66 335 *eP* **P 22 06 04.8 -0.4**
ECRI Cripan 25.86 291 P **P 22 06 07.4 +0.3**
comp=Z,15nm,1.0s,mb4.5
ECRI Cripan 25.86 291 P **P 22 06 07.4 +0.3**
ECRI pmax pmax
comp=Z,15nm,1.0s,mb4.5
ARU Arti 26.06 36 *eP* **P 22 06 05.7 -3.1**
comp=Z,22nm,0.9s,mb4.7
ARU Arti 26.06 36 *d i P* **P 22 06 08.2 -0.6**
ARU *e*PPP 22 06 52.8
ARU *e* 22 09 33.1
ARU *e*S **S 22 10 39.8 +1.0**
ARU *e*SS 22 11 46.8
ARU pmax pmax
comp=Z,28nm,1.2s,mb4.7
EVIA Vianos 26.20 282 P **P 22 06 10.9 +0.6**
comp=Z,6.7nm,0.7s,mb4.3
EVIA Vianos 26.20 282 P **P 22 06 10.9 +0.6**
EVIA pmax pmax
comp=Z,7.0nm,0.7s,mb4.3
NB2 NORSAR Subarra 26.23 338 P **P 22 06 08.1 -2.2**
comp=Z,9.4nm,1.0s,mb4.3,baz=142,slow=9.3
NOA NORSAR Array B 26.23 338 P **P 22 06 08.6 -1.7**
NOA LR LR 22 18 10.6
NOA NORSAR Array B 26.23 338 P **P 22 06 08.6 -1.7**
comp=Z,4.1nm,0.9s,mb4.0,baz=142,slow=9.2,SNR=6.9
NOA LR LR 22 18 10.6
comp=Z,557nm,18.7s,MS4.1,baz=155,slow=40
SGMF Saint Gilles 26.37 304 *eP* **P 22 06 09.6 -2.1**
ELAN Lanestosa 26.53 292 P **P 22 06 12.8 -0.4**
comp=Z,151nm,2.0s,mb5.2
TMCR Tamitsa 26.60 7 *eP* **P 22 06 12.3 -1.3**
TMCR pmax pmax
comp=Z,27nm,1.2s,mb4.7
QUIF Quistinic 26.71 303 *eP* **P 22 06 13.3 -1.5**
ROSF Rostrenen 26.85 304 *eP* **P 22 06 13.5 -2.5**
ESDC Sonseca Array 27.17 285 P **P 22 06 17.2 -1.8**
comp=Z,5.6nm,1.1s,mb4.0,baz=71,slow=9.4,SNR=12
GUD Guadarrama 27.21 287 P **P 22 06 20.6 +1.3**
comp=Z,14nm,1.3s,mb4.3
GUD Guadarrama 27.21 287 P **P 22 06 20.7 +1.4**
GUD pmax pmax
comp=Z,15nm,1.3s,mb4.4
SVE Sverdlovsk 27.24 36⇓ *eP* **P 22 06 18.2 -1.2**
SVE pmax pmax
comp=Z,22nm,1.5s,mb4.5
SVE MLR MLR
comp=Z,754nm,15.0s,MS4.4
EBAN Banos Encina 27.27 281 P **P 22 06 19.1 -0.8**
comp=Z,6.0nm,0.7s,mb4.2
EBAN Banos Encina 27.27 281 P **P 22 06 19.1 -0.8**
EBAN pmax pmax
comp=Z,6.0nm,0.7s,mb4.2
EADA Adamuz 27.89 282 P **P 22 06 24.6 -0.8**
comp=Z,31nm,1.3s,mb4.8
ATD Arta Tunnel 28.37 155 LR LR 22 17 24.6
comp=Z,248nm,18.6s,MS3.8,baz=358,slow=35
EKA Eskdalemuir Ar 28.78 318 P **P 22 06 31.0 -2.2**
comp=Z,4.4nm,1.1s,mb4.1,baz=86,slow=9.0,SNR=3.9
ESK Eskdalemuir 28.80 318 *eP* **P 22 06 32.1 -1.3**
ECAL Calabor 29.02 290 P **P 22 06 34.9 -0.6**
PBRG Braganca 29.04 290 *eP* **P 22 06 35.5 -0.2**
comp=Z,24nm,1.2s,mb4.8
MVO Moncorvo 29.32 288 *eP* **P 22 06 37.9 -0.2**
comp=Z,21nm,1.6s,mb4.6
MVO *e*S **S 22 11 47.4 +17**
MVO *e*LR LR 22 19 24.2
comp=Z,392nm,16.0s
MVO Moncorvo 29.32 288 *eP* **P 22 06 37.9 -0.2**
comp=Z,21nm,1.6s,mb4.6
MVO *e*S **S 22 11 47.4 +17**
MDT Midelt 29.34 271 P **P 22 06 37.8 -0.7**
comp=Z,1.9nm,1.0s,mb3.8,baz=81,slow=13,SNR=3.4
EMIN Mina Concepcio 29.59 281 P **P 22 06 38.1 -2.5**
comp=Z,8.8nm,1.0s,mb4.4
PBAR Barrancos 29.79 282 *eS* Sx 22 12 09.5
PBAR *e*LR LR 22 19 18.5
comp=Z,406nm,18.0s
MTE Manteigas 29.80 287 *eS* **S 22 11 48.8 +11**
MTE *e*LR LR 22 18 35.1
comp=Z,496nm,16.0s
MTE Manteigas 29.80 287 P **P 22 06 40.2 -2.2**
PCBR Castelo Branco 29.83 286 *eP* **P 22 06 42.4 -0.3**
comp=Z,17nm,1.2s,mb4.7
PESTR Estremoz 30.08 284 *eS* Sx 22 12 17.9
PESTR *e*LR LR 22 19 04.7
comp=Z,469nm,16.0s
EGRO El Granado 30.27 281 P **P 22 06 45.5 -1.0**
comp=Z,4.2nm,0.9s,mb4.2

PBEJ Beja 30.46 282 *eP* **P 22 06 48.1 -0.2**
comp=Z,22nm,1.5s,mb4.7
PVAQ Vaqueiros 30.48 281 *eP* **P 22 06 47.7 -0.7**
comp=Z,21nm,1.2s,mb4.7
PVAQ *e*S **S 22 11 52.3 +3.6**
PVAQ A 22 21 59.6
comp=Z,276nm,16.0s
PVAQ Vaqueiros 30.48 281 *eP* **P 22 06 47.7 -0.7**
comp=Z,21nm,1.2s,mb4.7
PVAQ *e*S **S 22 11 52.3 +3.6**
comp=Z,276nm,16.0s
PBDV Barranco-do-Ve 30.68 281 *eP* **P 22 06 49.7 -0.5**
PBDV *e*S **S 22 11 57.3 +5.4**
PBDV *e*LR LR 22 20 15.6
comp=Z,268nm,18.0s
PBDV Barranco-do-Ve 30.68 281 *eP* **P 22 06 49.7 -0.5**
PBDV *e*S **S 22 11 57.3 +5.4**
BRVK Borovoye 30.98 48 *eP* **P 22 06 51.9 -0.8**
MORF Marmelete 31.22 281 *eS* Sx 22 12 28.4
MORF *e*LR LR 22 20 59.0
comp=Z,250nm,18.0s
PMAFR Mafra 31.36 285 *eS* **S 22 12 21.5 +19**
PMAFR *e*LR LR 22 20 16.7
comp=Z,371nm,16.0s
PFVI Vila Bisbo 31.40 281 *eS* **S 22 12 06.1 +2.9**
PFVI *e*LR LR 22 21 13.2
comp=Z,320nm,18.0s
ARCES ARCESS Array B 31.79 356 P **P 22 06 58.5 -1.2**
comp=Z,5.4nm,0.8s,mb4.4,baz=171,slow=8.5,SNR=9.7
ARCES LR LR 22 20 44.7
comp=Z,453nm,20.1s,MS4.2,baz=274,slow=38
EKS2 Erkin-Say 32.73 68 *eP* **P 22 07 08.4 +0.2**
comp=Z,8.2nm,1.2s,mb4.5
UCH Uchtor 33.32 69 *eP* **P 22 07 14.4 +1.0**
comp=Z,25nm,1.9s,mb4.8
UCH *e*PcP PcP 22 09 59.6 +4.6
FRU Bishkek 33.33 68 *eP* **P 22 07 13.5 +0.1**
FRU pmax pmax
comp=Z,53nm,1.8s,mb5.2
TKM2 Tokmak 2 34.03 67 *eP* **P 22 07 20.4 +0.9**
comp=Z,48nm,2.1s,mb5.1
TKM2 Tokmak 2 34.03 67 *eP* **P 22 07 20.4 +0.9**
TKM2 pmax pmax
comp=Z,49nm,2.1s,mb5.1
KURK Kurchatov 35.79 53 *eP* **P 22 07 33.7 -0.9**
comp=Z,15nm,1.0s,mb4.9
KURK *e*PP PP 22 08 57.6 +1.7
KURK Kurchatov 35.79 53 *eP* **P 22 07 33.7 -0.9**
KURK *e* 22 08 57.6
KURK pmax pmax
comp=Z,15nm,1.0s,mb4.9
KURK Kurchatov 35.79 53 P **P 22 07 35.0 +0.4**
SNR=7.1
TORD Torodi Ar. Bea 35.88 234 P **P 22 07 34.4 -1.3**
TORD PP PP 22 08 58.0 +0.7
TORD LR LR 22 24 31.9
TORD Torodi Ar. Bea 35.88 234 P **P 22 07 34.4 -1.3**
comp=Z,8.4nm,1.0s,mb4.6,baz=34,slow=6.5,SNR=40
TORD PP PP 22 08 58.0 +0.7
comp=Z,3.8nm,1.0s,baz=40,slow=11,SNR=3.8
TORD LR LR 22 24 31.9
comp=Z,476nm,18.7s,MS4.3,baz=35,slow=40
MKAR Makanchi Array 38.34 60 P **P 22 07 55.3 -1.1**
comp=Z,4.9nm,0.8s,mb4.3,baz=273,slow=8.6,SNR=38
MKAR LR LR 22 26 01.2
comp=Z,238nm,19.2s,MS4.0,baz=274,slow=40
NVS Novosibirsk 38.80 47 *eP* **P 22 07 59.6 -0.5**
NVS *e* 22 09 29.9
NVS *e*S **S 22 13 55.4 -1.2**
NVS pmax pmax
comp=Z,48nm,2.4s,mb4.8
NVS pmax pmax
comp=N,21nm,2.3s
NVS pmax pmax
comp=Z,19nm,1.6s,mb4.6
NVS pmax pmax
comp=E,7.0nm,1.4s
NVS smax
comp=N,15nm,2.0s
NVS smax
comp=E,28nm,2.8s
KMBO Kilima Mbogo 39.30 170 P **P 22 08 03.6 -1.0**
KMBO Kilima Mbogo 39.30 170⇑ *eP* **P 22 08 07.0 +2.3**
KMBO Kilima Mbogo 39.30 170 LR LR 22 26 05.6
comp=E,173nm,18.0s,MS3.9,baz=287,slow=39
ZAL Zalesovo 39.68 48 P **P 22 08 06.3 -1.1**
ZAA0 Zalesovo Array 39.69 48 *eP* **P 22 08 06.5 -1.0**
ZALV Zalesovo Beam 39.69 48 P **P 22 08 06.3 -1.2**
comp=E,1.8nm,0.6s,mb4.0,baz=267,slow=8.8,SNR=12
ZALV LR LR 22 25 42.9
comp=E,168nm,19.5s,MS3.9,baz=268,slow=38
WMQ Urumqi 42.58 63⇓ *i P* **P 22 08 32.3 +0.9**
WMQ AP pP 22 08 42.0 +4.8
WMQ XP sP 22 08 46.0 +6.5
WMQ PP PP 22 10 14.0 +3.9
WMQ S **S 22 14 51.0 -2.0**
WMQ XS sS 22 15 08.0 +5.4
WMQ AMB AMB
comp=Z,22nm,1.2s,mb4.8
WMQ AMB AMB
comp=Z,196nm,3.8s
WMQ LR LR
comp=N,517nm,16.3s,MS4.7
WMQ LR LR
comp=E,621nm,17.2s,MS4.7
WMQ LR LR
comp=Z,794nm,18.6s,MS4.6
DBIC Dimbokro 44.97 235 P **P 22 08 49.2 -1.8**
DBIC LR LR 22 29 45.7
DBIC Dimbokro 44.97 235 P **P 22 08 49.2 -1.8**
comp=Z,5.4nm,0.9s,mb4.3,baz=10,slow=12,SNR=3.7
DBIC LR LR 22 29 45.7
comp=Z,355nm,19.4s,MS4.3,baz=22,slow=39
HYB Hyderabad 46.27 103 *eP* **P 22 09 01.0 -0.2**
HYB Hyderabad 46.27 103 *i P* **P 22 09 01.0 -0.2**
MOY Mondy 49.67 50 *eP* **P 22 09 28.8 +1.7**
LSA Lhasa 49.92 81 P **P 22 09 28.7 -0.7**
LSA Lhasa 49.92 81 *eP* **P 22 09 28.5 -0.9**
comp=Z,6.3nm,1.0s,mb4.6
LSA Lhasa 49.92 81 *eP* **P 22 09 28.5 -0.9**
LSA pmax pmax
comp=Z,6.0nm,1.0s,mb4.6
TLY Talaya 51.27 50 *eP* **P 22 09 39.2 0.0**
comp=Z,8.7nm,1.1s,mb4.6
TLY Talaya 51.27 50 *eP* **P 22 09 39.3 +0.1**
TLY pmax pmax
comp=Z,9.0nm,1.4s,mb4.5
ZAK Zakamensk 51.38 51 *eP* **P 22 09 39.2 -0.9**
ZAK pmax pmax
comp=Z,4.0nm,1.3s,mb4.2
SHL Shillong 52.42 85 *eP* **P 22 09 44.0 -4.2**
GTA Gaotai 52.54 66 *eP* **P 22 09 48.8 -0.1**
GTA AP pP 22 09 58.0 +3.2
GTA XP sP 22 10 02.0 +4.9
GTA PP PP 22 11 51.6 +3.9
GTA S **S 22 17 13.2 -1.6**
GTA XS sS 22 17 30.7 +6.2
GTA SS SS 22 20 49.2 -3.5
GTA AMB AMB
comp=Z,14nm,1.4s,mb4.7
GTA AMB AMB
comp=Z,262nm,6.5s
GTA LR LR
comp=N,294nm,18.6s,MS4.5
GTA LR LR
comp=E,286nm,17.1s,MS4.5
GTA LR LR
comp=Z,231nm,15.6s,MS4.3
SONM Songino Array 54.10 54 P **P 22 09 59.9 -0.3**
comp=Z,4.0nm,1.0s,mb4.3,baz=287,slow=7.7,SNR=14
SONM LR LR 22 37 26.0
comp=Z,278nm,18.4s,MS4.4,baz=106,slow=41
PALK Pallekele 54.27 111 *eP* **P 22 10 03.4 +1.5**
ULN Ulaanbaatar 54.50 53 *eP* **P 22 10 02.5 -0.6**
comp=Z,8.6nm,1.1s,mb4.7
ULN Ulaanbaatar 54.50 53 *eP* **P 22 10 02.5 -0.7**
ULN pmax pmax
comp=Z,9.0nm,1.1s,mb4.7
ULN Ulaanbaatar 54.50 53 P **P 22 10 03.9 +0.7**
SNR=7.5
BOD Bodaibo 55.36 40 *eP* **P 22 10 08.2 -1.0**
BOD pmax pmax
comp=Z,9.0nm,1.4s,mb4.6
LZH Lanzhou 56.80 68 *eP* **P 22 10 20.6 +0.8**
LZH PP PP 22 12 28.0 +2.0

LZH *e*S **S 22 18 06.5 -5.6**
LZH XS sS 22 18 23.2 +1.3
LZH AMB AMB
comp=Z,38nm,1.4s,mb5.2
LZH AMB AMB
comp=Z,120nm,4.5s
LZH LR LR
comp=E,470nm,15.6s
LZH LR LR
comp=Z,690nm,16.4s,MS4.8
TIXI Tiksi 56.89 22 *eP* **P 22 10 17.8 -2.2**
comp=Z,9.2nm,1.0s,mb4.8
TIXI Tiksi 56.89 22 *d i P* **P 22 10 18.6 -1.3**
TIXI pmax pmax
comp=Z,17nm,1.7s,mb4.8
TSUM Tsumeb 58.21 195 *eP* **P 22 10 29.7 -0.1**
CD2 Chengdu 59.07 73 P **P 22 10 35.6 -0.3**
HHC Hu-ho-hao-te 60.21 60 *eP* **P 22 10 43.6 +0.1**
HHC AP pP 22 10 48.1 -1.4
HHC XP sP 22 10 51.1 -0.7
HHC S **S 22 19 00.3 +4.0**
HHC AMB AMB
comp=Z,21nm,0.8s,mb5.2
HHC AMB AMB
comp=Z,130nm,4.7s
HHC LR LR
comp=N,189nm,15.6s,MS4.6
HHC LR LR
comp=E,286nm,12.6s,MS4.6
HHC LR LR
comp=Z,231nm,18.1s
YAK Yakutsk 61.09 32 *eP* **P 22 10 49.6 +0.4**
YAK Yakutsk 61.09 32⇑ *eP* **P 22 10 49.1 -0.1**
YAK pmax pmax
comp=Z,35nm,1.9s,mb5.2
KMI Kunming 61.14 79 P **P 22 10 50.9 +0.8**
KMI AP pP 22 11 01.7 +5.6
KMI XP sP 22 11 05.6 +7.2
KMI PCP PcP 22 11 32.7 -0.2
KMI PP PP 22 13 08.4 +3.7
KMI S **S 22 19 06.4 -2.3**
KMI SS SS 22 23 06.6 -1.9
KMI AMB AMB
comp=Z,4.0nm,1.2s,mb4.4
KMI AMB AMB
comp=Z,115nm,3.6s
KMI LR LR
comp=N,147nm,13.5s
KMI LR LR
comp=E,167nm,22.1s
KMI LR LR
comp=Z,180nm,21.1s
XAN Xi'an 61.44 68 P **P 22 10 50.9 -1.1**
XAN AP pP 22 10 59.6 +1.6
XAN XP sP 22 11 04.2 +3.9
XAN AMB AMB
comp=Z,11nm,1.3s,mb4.8
XAN LR LR
comp=N,130nm,15.5s,MS4.4
XAN LR LR
comp=E,208nm,19.1s,MS4.4
XAN LR LR
comp=Z,278nm,19.6s,MS4.4
HIA Hailar 61.73 48 *eP* **P 22 10 53.9 +0.2**
comp=Z,46nm,1.4s,mb5.4
HIA Hailar 61.73 48 *eP* **P 22 10 53.9 +0.2**
HIA pmax pmax
comp=Z,46nm,1.4s
GYA Guiyang 63.49 76 P **P 22 11 05.9 +0.1**
GYA AP pP 22 11 17.9 +6.0
GYA XP sP 22 11 22.6 +8.5
GYA PCP PcP 22 11 44.2 +1.7
GYA PP PP 22 13 28.7 +3.4
GYA SCP ScP 22 15 42.8 -1.1
GYA S **S 22 19 35.0 -3.2**
GYA XS sS 22 19 52.6 +4.4
GYA SKS 22 20 53.7
GYA SS SS 22 23 43.0 -2.1
GYA AMB AMB
comp=Z,10.0nm,0.9s,mb5.0
GYA AMB AMB
comp=Z,80nm,5.2s
GYA LR LR
comp=N,480nm,21.7s,MS4.8
GYA LR LR
comp=E,440nm,20.6s,MS4.8
GYA LR LR
comp=Z,460nm,22.0s,MS4.6
BJI Beijing 63.70 59 P **P 22 11 07.0 -0.1**
BJI XP sP 22 11 18.8 +3.5
BJI S **S 22 19 39.4 -1.2**
BJI XS sS 22 19 53.2 +2.7
BJI SS SS 22 23 45.2 -2.7
BJI AMB AMB
comp=Z,15nm,1.1s,mb4.9
BJI AMB AMB
comp=Z,252nm,4.9s
BJI LR LR
comp=N,336nm,26.5s
BJI LR LR
comp=E,182nm,20.0s
BJI LR LR
comp=Z,342nm,25.5s,MS4.4
BJT Baijiatuau 63.71 59 *eP* **P 22 11 07.3 +0.2**
comp=Z,14nm,1.0s,mb4.9
BJT Baijiatuau 63.71 59 *eP* **P 22 11 07.3 +0.2**
BJT pmax pmax
comp=Z,14nm,1.0s
SCHQ Schefferville 64.07 320 P **P 22 11 07.1 -2.1**
comp=Z,5.4nm,1.0s,mb4.5,baz=101,slow=6.2,SNR=5.2
SCHQ LR LR 22 39 30.3
comp=Z,171nm,18.8s,MS4.3,baz=78,slow=36
BOSA Boshof 66.42 185 P **P 22 11 23.7 -0.9**
BOSA Boshof 66.42 185 P **P 22 11 23.7 -0.9**
comp=Z,6.5nm,1.1s,mb4.6,baz=359,slow=16,SNR=3.2
SNY Shenyang 67.68 54⇑ P **P 22 11 32.2 -0.5**
SNY S S 22 20 25.0 -4.0
SNY AMB AMB
comp=Z,9.0nm,0.5s,mb5.1
SNY AMB AMB
comp=Z,135nm,5.1s
SNY LR LR
comp=N,147nm,23.3s,MS4.5
SNY LR LR
comp=E,297nm,19.6s,MS4.5
SNY LR LR
comp=Z,307nm,21.0s,MS4.5
CN2 Changchun 67.82 51 *eP* **P 22 11 33.0 -0.5**
CN2 *e*AP pP 22 11 43.3 +3.7
CN2 *e*S S 22 20 25.0 -5.7
CN2 AMB AMB
comp=Z,10.0nm,1.3s,mb4.7
CN2 AMB AMB
comp=Z,300nm,6.0s
CN2 LR LR
comp=N,200nm,21.0s,MS4.5
CN2 LR LR
comp=E,200nm,21.0s,MS4.5
CN2 LR LR
comp=Z,200nm,21.0s,MS4.3
KLR Kul'dur 68.57 44 *eP* **P 22 11 32.8 -5.3**
SEY Seymchan 69.15 25⇑ *eP* **P 22 11 42.1 +0.6**
BILL Bilibino 69.15 16 *eP* **P 22 11 41.3 -0.2**
comp=Z,36nm,1.3s,mb5.1
BILL Bilibino 69.15 16⇓ *eP* **P 22 11 41.0 -0.4**
BILL pmax pmax
comp=Z,24nm,1.2s,mb5.0
NJ2 Nanjing 69.63 65 *eP* **P 22 11 46.7 +1.7**
QIZ Qiongzhong 69.96 81 P **P 22 11 49.1 +1.9**
QIZ S S 22 20 54.2 -2.5
QIZ LR LR
comp=E,203nm,23.6s
MA2 Magadan 70.91 28 *eP* **P 22 11 52.7 +0.3**
MA2 pmax pmax
comp=Z,40nm,1.3s,mb5.2
PSI Prapat 70.97 102 P **P 22 11 51.9 -1.5**
PSI Prapat 70.97 102 P **P 22 11 51.9 -1.5**
comp=Z,19nm,1.0s,mb5.0,baz=273,slow=8.6,SNR=16
KSRS Korea Array 72.87 56 P **P 22 12 02.6 -1.9**
comp=Z,14nm,1.0s,mb4.8,baz=301,slow=5.5,SNR=35
KSRS LR LR 22 47 11.0
comp=Z,261nm,19.7s,MS4.5,baz=127,slow=38
INK Inuvik 73.43 354 *eP* **P 22 12 05.9 -1.4**
comp=Z,242nm,1.3s
INK *e*PP PP 22 14 47.2 -3.1

YSS	**Yuzh-Sakhalins**	**75.82**	**41**	*e*P		**P**	**22 12 21.7**	**+0.1**
YSS	**Yuzh-Sakhalins**	**75.82**	**41**	⇑*i*P		**P**	**22 12 20.7**	**-0.8**
YSS				pmax	pmax			
	comp=Z,60nm,1.3s,mb5.4							
YKA	**Yellowknife Ar**	**76.14**	**344**	P		**P**	**22 12 21.4**	**-1.7**
YKA				LR	LR		22 48 52.3	
YKA	**Yellowknife Ar**	**76.14**	**344**	P		**P**	**22 12 21.4**	**-1.7**
	comp=Z,8.5nm,1.1s,mb4.6,baz=26,slow=6.1,SNR=43							
YKA				LR	LR		22 48 52.3	
	comp=Z,95nm,19.2s,MS4.1,baz=205,slow=38							
IMA2	**Indian Mountai**	**76.26**	**2**	*e*P		**P**	**22 12 23.5**	**-0.2**
JNU	**Nakatsue**	**77.37**	**58**	P		**P**	**22 12 28.8**	**-1.7**
	comp=Z,13nm,1.1s,mb4.8,baz=338,slow=11,SNR=4.3							
COLA	**College**	**77.52**	**359**	⇑*i*P		**P**	**22 12 31.8**	**+1.0**
ASAJ	**Asahikawa**	**77.60**	**43**	P		**P**	**22 12 29.4**	**-2.2**
ASAJ				pmax	pmax			
	comp=Z,5.0nm,0.8s							
ASAJ	**Asahikawa**	**77.60**	**43**	P		**P**	**22 12 29.4**	**-2.2**
	comp=Z,5.1nm,0.8s,mb4.5,baz=238,slow=13,SNR=3.1							
DAWY	**Dawson**	**78.05**	**356**	*e*P		**P**	**22 12 33.6**	**-0.2**
FFC	**Flin Flon**	**79.27**	**334**	*e*P		**P**	**22 12 39.4**	**-1.2**
	comp=Z,12nm,1.1s,mb4.7							
FFC	**Flin Flon**	**79.27**	**334**	*e*P		**P**	**22 12 39.4**	**-1.2**
FFC				pmax	pmax			
	comp=Z,12nm,1.1s,mb4.7							
JOW	**Kunigami**	**79.34**	**64**	P		**P**	**22 12 39.1**	**-2.4**
	comp=Z,20nm,1.0s,mb5.0,baz=86,slow=5.6,SNR=3.6							
MAT	**Matsushiro**	**79.97**	**51**	P		**P**	**22 12 43.8**	**-1.0**
MJAR	**Matsushiro Arr**	**79.97**	**51**	P		**P**	**22 12 41.7**	**-3.1**
	comp=Z,7.2nm,1.0s,mb4.6,baz=314,slow=4.5,SNR=17							
MJAR				LR	LR		22 53 39.0	
	comp=Z,205nm,18.2s,MS4.5,baz=320,slow=40							
ULM	**Lac du Bonnet**	**80.50**	**329**	P		**P**	**22 12 45.0**	**-2.4**
	comp=Z,1.7nm,0.8s,mb4.0,baz=61,slow=4.7,SNR=5.3							
ULM				LR	LR		22 49 35.7	
	comp=Z,245nm,20.0s,MS4.5,baz=39,slow=36							
EDM	**Edmonton**	**84.09**	**339**	*e*P		**P**	**22 13 04.7**	**-1.4**
BDFB	**Brasilia**	**91.06**	**251**	LR	LR		22 54 57.3	
	comp=Z,160nm,20.4s,MS4.5,baz=7.0,slow=36							
PDAR	**Pinedale Array**	**92.02**	**332**	P		**P**	**22 13 42.4**	**-2.1**
	comp=Z,0.8nm,0.8s,mb4.1,baz=49,slow=4.6,SNR=6.5							
ROSC	**El Rosal**	**98.99**	**283**	LR	LR		22 54 36.5	
	comp=Z,57nm,18.2s,MS4.1,baz=37,slow=33							

NIED ***10*** *22:04:00,2490N×122.10E,h101km,Mw4.1 Best double couple: M0 1.38000×1015 NP1:*ϕ_s*77.00000°,*δ*68.00000°,*λ*-146.00000°. NP2:*ϕ_s*333.00000°,*δ*59.00000°,*λ*-26.00000°*

ISCJB ***10*** *22:04:44.6±0.4,2488N±006×12208E±003,h121km±4km, mb3.7/5, Error ellipse: s-maj=10.7km s-min=4.5km az=4.1*

NEIC ***10*** *22:04:45.4±0.5,2497N×122.11E,h112km±5km, MG3.7(JMA), Error ellipse: s-maj=12.5km s-min=12.0km az=174.0*

JMA ***10*** *22:04:45.7±0.2,2492N×122.11E,h112km±3km,M3.7*

BJI ***10*** *22:04:45.5,2489N×122.03E,h115km,mB4.4,mb4.4*

IDC ***10*** *22:04:46.2±4.2,2504N×122.25E,h120km±42km,mb3.4/5, mb1 3.6/6,mb1mx3.4/20,mbtmp3.4/6, Error ellipse: s-maj=33.0km s-min=16.8km az=66.0*

ISC 10 22:04:45.7±0.4,2488N±006×12208E±003,h115km±4km, n27,σ**0°89/40,mb3.7/5,1C,Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TATO	**Taipei**	**0.55**	**280**	*e*Pn	**Pn**	**22 05 03.0**	**-0.4**
TATO				*e*Sn	**Sn**	**22 05 18.2**	**+1.4**
YHNB	**Yeheng**	**0.68**	**252**	*e*Pn	**Pn**	**22 05 04.5**	**+0.1**
YHNB				*e*Sn	**Sn**	**22 05 18.6**	**+0.2**
NACB	**Ninganchiao**	**0.83**	**212**	*e*Pn	**Pn**	**22 05 05.7**	**0.0**
NACB				*e*Sn	**Sn**	**22 05 20.2**	**-0.5**
YOJ	**Yonaguni jima**	**0.94**	**116**	P	**Pn**	**22 05 06.6**	**-0.1**
YOJ				S	**Sn**	**22 05 22.4**	**-0.2**
IRIF	**Iriomote-Funau**	**1.59**	**110**	P	**Pn**	**22 05 13.6**	**-0.3**
IRIF				S	**Sn**	**22 05 35.3**	**-0.1**
HATJ	**Hateruma jima**	**1.77**	**117**	P	**Pn**	**22 05 16.4**	**+0.3**
HATJ				S	**Sn**	**22 05 40.1**	**+0.9**
JKRS	**Kuro-shima**	**1.87**	**110**	P	**Pn**	**22 05 17.3**	**+0.1**
JKRS				S	**Sn**	**22 05 41.0**	**-0.3**
JIJ	**Ishigaki jima**	**1.94**	**105**	P	**Pn**	**22 05 18.0**	**-0.2**
JIJ				S	**Sn**	**22 05 42.3**	**-0.7**
JTJ	**Tarama**	**2.39**	**95**	P	**Pn**	**22 05 24.6**	**+0.7**
JTJ				S	**Sn**	**22 05 52.8**	**-0.4**
JMJ	**Miyako jima 2**	**2.92**	**91**	S	**Sn**	**22 06 06.3**	**+0.8**
JOGS	**Gusukube**	**3.02**	**92**	P	**Pn**	**22 05 32.1**	**0.0**
JOGS				S	**Sn**	**22 06 08.4**	**+0.5**
QZH	**Quanzhou**	**3.17**	**272**	⇑*i*P	**Pn**	**22 05 34.2**	**+0.1**
QZH				S	**Sn**	**22 06 09.4**	**-2.0**
QZH				Smax			
	comp=N,380nm,1.0s						
QZH				Smax			
	comp=E,200nm,0.5s						
JKE	**Kume jima 2**	**4.48**	**70**	P	**Pn**	**22 05 52.4**	**+0.8**
JAGN	**Aguni-jima**	**4.95**	**69**	P	**Pn**	**22 05 59.0**	**+1.1**
JOW	**Kunigami**	**5.91**	**69**	P	**Pn**	**22 06 09.8**	**-1.0**
JOW				S	**Sn**	**22 07 15.2**	**-2.0**
JOW	**Kunigami**	**5.91**	**69**	P	**Pn**	**22 06 09.8**	**-1.0**
	comp=E,5.2nm,0.3s,baz=254,slow=8.3,SNR=82						
JOW				S	**Sn**	**22 07 13.2**	**-4.0**
	comp=E,3.9nm,0.3s,baz=121,slow=26,SNR=5.8						
JTK	**Tokunoshima**	**6.81**	**63**	P	**Pn**	**22 06 21.5**	**-1.5**
JAM	**Amami Oshima**	**7.59**	**61**	P	**Pn**	**22 06 31.9**	**-1.8**
NJ2	**Nanjing**	**7.69**	**339**	*e*P	**Pn**	**22 06 36.1**	**+1.2**
NJ2				AMB	AMB		
	comp=Z,132nm,1.2s						
KSRS	**Korea Array**	**13.49**	**20**	P	**Pn**	**22 07 54.6**	**+2.3**
	baz=201,slow=12,SNR=4.5						
XAN	**Xi'an**	**14.64**	**312**	P	**Pn**	**22 08 11.2**	**+4.1**
XAN				AP		22 08 17.4	
XAN				AMB	AMB		
	comp=Z,6.0nm,0.8s						
MKAR	**Makanchi Array**	**38.42**	**315**	P	**P**	**22 11 56.1**	**+0.2**
	comp=Z,0.7nm,0.5s,mb3.7,baz=102,slow=10,SNR=6.0						
MKAR				pP	pP	22 12 22.4	+0.7
	comp=Z,0.5nm,0.5s,baz=96,slow=10,SNR=2.5						
ZALV	**Zalesovo Beam**	**40.12**	**326**	P	**P**	**22 12 09.0**	**-0.8**
ZALV				pP	pP	22 12 35.9	0.0
ZALV	**Zalesovo Beam**	**40.12**	**326**	P	**P**	**22 12 09.0**	**-0.8**
	comp=Z,0.5nm,0.5s,mb3.6,baz=111,slow=8.7,SNR=2.7						
ZALV				pP	pP	22 12 35.9	0.0
	comp=Z,1.6nm,0.6s,baz=119,slow=8.3,SNR=6.4						
WRA	**Warramunga Arr**	**46.12**	**164**	P	**P**	**22 12 59.1**	**+0.6**
	comp=Z,2.0nm,0.5s,mb4.1,baz=347,slow=8.6,SNR=35						
ASAR	**Alice Springs**	**49.60**	**166**	P	**P**	**22 13 26.4**	**+1.1**
	comp=Z,1.0nm,0.6s,mb3.9,baz=338,slow=6.8,SNR=14						
YKA	**Yellowknife Ar**	**82.01**	**23**	P	**P**	**22 16 51.9**	**-0.8**
	comp=Z,0.2nm,0.5s,mb3.2,baz=310,slow=5.1,SNR=3.8						

IDC 10 22:31:18.1±20.0,679S×14775E,h250km±173km,mb3.8/2, mb1 3.8/3,mb1mx3.1/14,mbtmp3.6/3,Error ellipse: s-maj=118.3km s-min=79.1km az=37.0,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.45**	**224**	P	P	22 35 14.1	-1.6
	0.6nm,0.3s,baz=47,slow=11,SNR=36						
ASAR	**Alice Springs**	**21.42**	**217**	P	P	22 35 47.5	+0.6
	3.8nm,0.5s,baz=53,slow=8.5,SNR=43						
FITZ	**Fitzroy Crossi**	**24.31**	**240**	P	P	22 36 13.4	+0.1
	5.2nm,0.4s,baz=58,slow=12,SNR=21						
TORD	**Torodi Ar. Bea**	**146.00**	**283**	PKPbc	PKPbc	22 50 29.0	-0.6
	0.3nm,0.8s,baz=87,slow=3.5,SNR=5.7						

IDC 10 22:57:57.8±1.7,486N×7637W,h0km,mb3.7/1,mb1 3.9/3, mb1mx3.5/19,mbtmp3.8/3,ML3.7/1,Error ellipse: s-maj=49.8km s-min=16.7km az=5.0,Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSC	**El Rosal**	**2.03**	**90**	Pn	Pn	22 58 35.9	+2.6
	25nm,0.3s,baz=284,slow=16,SNR=17						
ROSC				Lg		22 59 01.4	
	15nm,0.3s,baz=90,slow=21,SNR=12						
SDV	**Santo Domingo**	**6.96**	**55**	Pn	Pn	22 59 40.8	-0.3
	1.4nm,0.3s,baz=225,slow=11,SNR=7.3						
SDV				Sn	Sn	23 00 58.3	-2.7
	1.5nm,0.3s,baz=33,slow=15,SNR=4.5						
YKA	**Yellowknife Ar**	**64.03**	**341**	P	P	23 08 33.2	+0.1
	0.3nm,0.5s,baz=136,slow=6.4,SNR=7.8						
ASAR	**Alice Springs**	**145.35**	**234**	PKPbc	PKPbc	23 17 37.0	-1.3
	0.2nm,0.4s,baz=94,slow=5.4,SNR=2.5						

NIED ***10*** *23:06:00,3160N×13050E,h190km,Mw4.3 Best double couple: M0 3.44000×1015 NP1:*ϕ_s*166.00000°,*δ*87.00000°,*λ*-31.00000°. NP2:*ϕ_s*258.00000°,*δ*59.00000°,*λ*-176.00000°.*

ISCJB ***10*** *23:06:13.3±0.5,3152N±005×13037E±008,h192km±4km, mb3.2/4, Error ellipse: s-maj=11.4km s-min=6.9km az=25.5*

NEIC ***10*** *23:06:14.2±0.7,3153N×13033E,h187km±9km,mb4.5/2, MW4.3(NIED), Error ellipse: s-maj=14.0km s-min=10.4km az=101.0*

BJI ***10*** *23:06:14.3,3157N×13057E,h208km,mB4.4,mb4.3*

IDC ***10*** *23:06:14.2±0.8,3159N×13033E,h188km±10km,mb3.0/4, mb1 3.5/8,mb1mx3.3/24,mbtmp3.4/8, Error ellipse: s-maj=24.1km s-min=13.3km az=80.0*

JMA ***10*** *23:06:15.2±0.1,3161N×13048E,h182km±1km,M3.7 Broadband fault plane solution: P waves. NP1:*ϕ_s*247.00000°,*δ*63.00000°,*λ*180.00000°. NP2:*ϕ_s*337.00000°,*δ*90.00000°,*λ*27.00000°. Principal axes: T Plg19.0000°, Azm206.0000°; N Plg63.0000°, Azm337.0000°; P Plg19.0000°, Azm109.0000°;*

ISC 10 23:06:14.3±0.5,3152N±005×13038E±007,h187km±4km, n20,σ**0°93/26,mb3.3/4,3C-3D,Kyushu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSU	**Suzuyama**	**0.06**	**102**	⇓P	**Pn**	**23 06 39.4**	**+0.6**
JSJ	**Shimokoshiki**	**0.59**	**286**	⇓P	**Pn**	**23 06 40.8**	**+0.6**
JSJ				*e*S	**Sn**	**23 07 00.7**	**+0.5**
JTZ	**Takazaki**	**0.71**	**57**	⇑P	**Pn**	**23 06 40.7**	**-0.1**
JTZ				S	**Sn**	**23 06 59.5**	**-1.8**
JTN	**Tanegashima 3**	**1.00**	**149**	⇓P	**Pn**	**23 06 43.7**	**+1.0**
JIU2	**Izumi 2**	**1.09**	**20**	⇑P	**Pn**	**23 06 43.0**	**-0.3**
JNU	**Nakatsue**	**1.65**	**15**	P	**Pn**	**23 06 48.0**	**-0.3**
	180nm,0.3s,baz=194,slow=4.5,SNR=485						
JNU				S	**Sn**	**23 07 13.8**	**-0.9**
	41nm,0.3s,baz=256,slow=23,SNR=6.8						
JNN	**Nakanoshima**	**1.73**	**195**	⇑P	**Pn**	**23 06 50.3**	**+1.2**
JOW	**Kunigami**	**5.02**	**202**	P	**Pn**	**23 07 28.1**	**-0.5**
	9.2nm,0.3s,baz=88,slow=16,SNR=99						
JOW				S	**Sn**	**23 08 25.8**	**-1.4**
	23nm,0.3s,baz=101,slow=17,SNR=4.8						
KSRS	**Korea Array**	**6.26**	**342**	P	**Pn**	**23 07 45.5**	**+0.8**
	1.1nm,0.3s,baz=165,slow=13,SNR=53						
INCN	**Inchon**	**6.71**	**334**	*e*Pn	**Pn**	**23 07 51.3**	**+0.8**
	20nm,0.6s						
MAJO	**Matsushiro**	**8.20**	**50**	*e*Pn	**Pn**	**23 08 10.2**	**+0.1**
	18nm,0.8s						
MAJO				*e*Sn	**Sn**	**23 09 35.6**	**-6.4**
MAT	**Matsushiro**	**8.20**	**50**	P	**Pn**	**23 08 09.7**	**-0.4**
MAT				*e*S	**Sn**	**23 09 43.5**	**+1.4**
MJAR	**Matsushiro Arr**	**8.20**	**50**	P	**Pn**	**23 08 10.4**	**+0.4**
	2.5nm,0.3s,baz=240,slow=14,SNR=79						
BJI	**Beijing**	**14.31**	**310**	P	**Pn**	**23 09 29.2**	**+0.7**
BJI				AMB	AMB		
	comp=Z,7.0nm,0.8s						
ASAJ	**Asahikawa**	**15.83**	**34**	P	**Pn**	**23 09 44.6**	**-2.4**
	comp=Z,2.7nm,0.3s,baz=218,slow=15,SNR=17						
XAN	**Xi'an**	**18.22**	**284**	P	**P**	**23 10 19.1**	**+5.8**
XAN				AMB	AMB		
	comp=Z,7.0nm,0.9s						
SONM	**Songino Array**	**24.48**	**319**	P	**P**	**23 11 15.1**	**-0.8**
	comp=Z,0.2nm,0.5s,mb3.0,baz=133,slow=7.1,SNR=3.4						
MKAR	**Makanchi Array**	**39.65**	**307**	P	**P**	**23 13 26.7**	**-1.1**
	comp=Z,0.3nm,0.7s,mb3.0,baz=83,slow=12,SNR=4.1						
MKAR				ScP	ScP	23 18 59.6	-2.2
	comp=Z,0.3nm,0.7s,baz=110,slow=3.2,SNR=3.9						
WRA	**Warramunga Arr**	**51.31**	**175**	P	**P**	**23 14 59.7**	**+0.3**
	comp=Z,1.1nm,0.8s,mb3.6,baz=354,slow=7.9,SNR=10						
ASAR	**Alice Springs**	**54.98**	**176**	P	**P**	**23 15 26.9**	**+0.7**
	comp=Z,1.2nm,0.8s,mb3.7,baz=4.6,slow=9.0,SNR=13						

CSEM ***10*** *23:19:56.6±0.1,3804N×3093E,h5km,MD3.5, Error ellipse: s-maj=1.3km s-min=1.0km az=163.0*

ISK ***10*** *23:19:56.0,3802N×3094E,h2km,MD3.5,ML3.4*

ISCJB ***10*** *23:19:57.6±0.3,3802N±002×3094E±003,h10km, Error ellipse: s-maj=3.4km s-min=3.0km az=164.4*

DDA ***10*** *23:19:58.4,3803N×3099E,h7km±3km,Md3.5*

ISC 10 23:19:58.3±0.3,3801N±002×3095E±003,h10km,n60,
σ**0°89/65,2C-3D,Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ISP	**Isparta**	**0.38**	**244**	PG	**Pg**	**23 20 04.2**	**-1.6**
ISP				*e*SG	**Sg**	**23 20 11.1**	**+0.1**
ISP	**Isparta**	**0.38**	**244**	⇑*i*P	**Pg**	**23 20 04.3**	**-1.5**
BCK	**Bucak**	**0.62**	**207**	*e*PG	**Pg**	**23 20 08.9**	**-1.4**
SHUT	**Suhut-Afyon**	**0.62**	**330**	*e*PG	**Pg**	**23 20 09.6**	**-0.7**
KDHN	**Kadinhani**	**1.05**	**61**	*i* P	**Pg**	**23 20 16.4**	**-2.1**
KDHN				*i* S	**Sg**	**23 20 31.0**	**-1.2**
KDHN	**Kadinhani**	**1.05**	**61**	*i* S	**Sg**	**23 20 31.0**	**-1.2**
KONT	**Konya--Tatoy**	**1.12**	**93**	*e*PN	**Pn**	**23 20 18.1**	**-1.9**
ANTB	**Antalya**	**1.14**	**192**	*e*PN	**Pn**	**23 20 18.6**	**-1.6**
KIZT	**Kizilcal**	**1.14**	**40**	*e*PN	**Pn**	**23 20 18.6**	**-1.6**
KHL	**Karahalli**	**1.16**	**286**	*e*PN	**Pn**	**23 20 19.5**	**-1.1**
ALT	**Altintas**	**1.23**	**328**	*e*PN	**Pn**	**23 20 20.4**	**-1.2**
GOLH	**Golhisar**	**1.34**	**235**	*i* P	**Pn**	**23 20 21.1**	**-2.0**
GOLH				*i* S	**Sb**	**23 20 41.6**	**+0.8**
ESKT	**Eskisehir**	**1.51**	**357**	*e*PN	**Pn**	**23 20 25.0**	**-0.3**
ESKT	**Eskisehir**	**1.51**	**357**	*i* P	**Pn**	**23 20 24.8**	**-0.5**
SEYT	**Eskypehyr**	**1.51**	**357**	*i* P	**Pn**	**23 20 24.8**	**-0.5**
ELL	**Elmali**	**1.51**	**213**	*e*PN	**Pn**	**23 20 25.2**	**-0.1**
DENT	**Denizli**	**1.54**	**261**	*e*PN	**Pn**	**23 20 25.5**	**-0.2**
GDZ	**Gediz**	**1.57**	**314**	*i* P	**Pn**	**23 20 25.6**	**-0.6**
GDZ				*i* S	**Sn**	**23 20 47.7**	**+1.1**
KULA	**Kula-Manisa**	**1.87**	**286**	*e*PN	**Pn**	**23 20 29.7**	**-0.6**
FETY	**Fethiye**	**2.02**	**228**	*e*PN	**Pn**	**23 20 32.5**	**+0.1**
AKAS	**Kas**	**2.07**	**211**	*i* P	**Pn**	**23 20 34.0**	**+0.9**
ERMK	**Ermenek**	**2.08**	**131**	*i* P	**Pn**	**23 20 34.3**	**+1.1**
ERMK				*i* S	**Sg**	**23 21 03.8**	**-1.4**
YER	**Yerkesik**	**2.29**	**248**	*e*PN	**Pn**	**23 20 35.9**	**-0.2**
GPA	**Golpazari**	**2.33**	**348**	*e*PN	**Pn**	**23 20 37.1**	**+0.5**
ANTO	**Ankara**	**2.35**	**37**	*e*PN	**Pn**	**23 20 37.0**	**+0.1**
ANTO	**Ankara**	**2.35**	**37**	⇓*i*P	**Pb**	**23 20 41.6**	**+0.9**
LOD	**Lodumlu**	**2.35**	**37**	*e*PN	**Pn**	**23 20 36.9**	**-0.1**
DST	**Dursunbey**	**2.41**	**312**	*e*PN	**Pn**	**23 20 37.8**	**0.0**
GULT	**Gulveren**	**2.44**	**352**	*e*PN	**Pn**	**23 20 38.2**	**0.0**
DERT	**Derbent**	**2.54**	**338**	*e*PN	**Pn**	**23 20 39.0**	**-0.6**
KAMT	**Kaman**	**2.56**	**57**	*e*PN	**Pn**	**23 20 39.5**	**-0.2**
IZI	**Iznik**	**2.59**	**334**	*e*PN	**Pn**	**23 20 39.7**	**-0.4**
AKS	**Akhisar**	**2.61**	**290**	*e*PN	**Pn**	**23 20 40.0**	**-0.4**
MLSB	**Milas**	**2.61**	**255**	*e*PN	**Pn**	**23 20 40.6**	**+0.1**
IKL	**Isikli**	**2.82**	**128**	*e*PN	**Pn**	**23 20 44.3**	**+0.9**
YLV	**Yalova**	**2.83**	**335**	*e*PN	**Pn**	**23 20 43.2**	**-0.3**
DAT	**Datca**	**2.97**	**245**	*e*PN	**Pn**	**23 20 46.0**	**+0.5**
KCT	**Karacabey**	**3.02**	**319**	*e*PN	**Pn**	**23 20 46.3**	**+0.2**
BODT	**Bodrum**	**3.04**	**253**	*e*PN	**Pn**	**23 20 46.9**	**+0.5**
MERS	**Mersin**	**3.07**	**111**	*e*PN	**Pn**	**23 20 47.4**	**+0.6**
BLCB	**Balcova**	**3.10**	**278**	*e*PN	**Pn**	**23 20 47.5**	**+0.3**
ELDT	**Eldivan**	**3.14**	**37**	*i* P	**Pn**	**23 20 47.4**	**-0.3**
AVNT	**Avonos**	**3.17**	**75**	*i* P	**Pb**	**23 20 55.9**	**+1.3**
BADT	**Buyukada**	**3.17**	**334**	*e*PN	**Pn**	**23 20 48.2**	**0.0**
LEF	**Lefka**	**3.29**	**151**	*e*PN	**Pn**	**23 20 50.1**	**+0.4**
BNT	**Bandirma**	**3.32**	**316**	*e*PN	**Pn**	**23 20 50.7**	**+0.5**
CANT	**Cankiri**	**3.32**	**38**	*e*PN	**Pn**	**23 20 50.6**	**+0.4**
KARA	**Karaisali**	**3.35**	**102**	*e*PN	**Pn**	**23 20 51.6**	**+1.0**
ISK	**Istanbul-Kandi**	**3.38**	**335**	*e*PN	**Pn**	**23 20 51.1**	**+0.1**
LFK	**Lefkose**	**3.43**	**142**	*e*PN	**Pn**	**23 20 52.4**	**+0.7**
EREN	**Erenkoy**	**3.58**	**133**	*e*PN	**Pn**	**23 20 54.7**	**+0.8**
CORM	**Corum**	**3.59**	**52**	*e*PN	**Pn**	**23 20 54.8**	**+0.8**
CSS	**Prodhromos**	**3.60**	**147**	*e*PN	**Pn**	**23 20 55.2**	**+1.1**
KOZT	**Kozan**	**3.91**	**96**	*e*PN	**Pn**	**23 20 59.4**	**+1.1**
RKY	**Sarkoy-Tekirda**	**3.96**	**314**	*e*PN	**Pn**	**23 20 59.6**	**+0.6**
EZN	**Ezine**	**4.03**	**298**	*e*PN	**Pn**	**23 21 00.5**	**+0.5**
ENEZ	**Enez**	**4.60**	**308**	*e*PN	**Pn**	**23 21 08.7**	**+0.8**
TIRR	**Tirgusor**	**6.72**	**344**	⇑*i*P	**Pn**	**23 21 37.3**	**+0.4**
MLR	**Muntele Rosu**	**8.35**	**335**	⇓*i*P	**Pn**	**23 22 01.6**	**+2.3**
VRI	**Vrincioaia**	**8.45**	**340**	⇓*i*P	**Pn**	**23 22 05.6**	**+4.9**

PGC ***10*** *23:29:45.0±2.1,6967N×145.10W,h10km,ML3.7/1,139km east of Prudhoe Bay, Ak Alaska*

NEIC 10 23:29:41.8,6981N×14479W,h10km,ML3.6(AEIC)**,After AEIC.,Northern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BM3	**Burnt Mountain**	**2.41**	**178**	P	Pn	23 30 21.3	+0.1
BM3				S	Sn	23 30 53.0	+2.4
COLD	**Coldfoot**	**3.27**	**220**	P	Pn	23 30 33.9	+0.8
INK	**Inuvik**	**4.32**	**105**	*e*Pn	Pn	23 30 49.0	+1.6
INK				*e*Sn	Sn	23 31 36.4	-1.3
INK	**Inuvik**	**4.32**	**105**	Pn	Pn	23 30 49.9	+2.5
INK				Sn	Sn	23 31 39.6	+1.9
IMA2	**Indian Mountai**	**5.04**	**226**	*e*P	Pn	23 30 59.7	+2.4
IMA2				*e*Sn	Sn	23 31 55.0	-0.4
COLA	**College**	**5.10**	**195**	P	Pn	23 31 00.1	+1.9
IM3	**Indian Mountai**	**5.12**	**226**	P	Pn	23 30 59.6	+1.2
IM3				S	Sn	23 32 02.6	+5.2
IL1	**Eielson Array**	**5.13**	**190**	P	Pn	23 30 59.6	+1.1
EGAK	**Eagle**	**5.25**	**163**	*e*Pn	Pn	23 31 00.3	+0.1
	25nm,0.3s						
EGAK				*e*Sn	Sn	23 31 57.5	-3.2
DAWY	**Dawson**	**6.15**	**157**	P	Pn	23 31 13.7	+1.2
DAWY	**Dawson**	**6.15**	**157**	Pn	Pn	23 31 13.2	+0.7
DAWY				Sn	Sn	23 32 18.1	-4.7
DOT	**Dot Lake**	**6.20**	**177**	P	Pn	23 31 14.9	+1.7
KTH	**Kantishna Hill**	**6.74**	**204**	P	Pn	23 31 21.9	+1.3
BCA3	**Beaver Creek A**	**6.88**	**169**	P	Pn	23 31 23.3	+0.7
HYT	**Haines Junctio**	**9.52**	**158**	Pn	Pn	23 32 00.4	+1.7
HYT				Sn	Sn	23 33 39.1	-6.4
SVW2	**Sparrevohn**	**9.81**	**212**	*e*Pn	Pn	23 32 01.0	-1.7
SVW2				*e*Sn	Sn	23 33 49.2	-3.6
WHY	**Whitehorse**	**10.07**	**151**	Pn	Pn	23 32 06.5	+0.2
RES	**Resolute Bay**	**15.52**	**49**	*e*Pn	Pn	23 33 21.6	+1.3
	116nm,0.9s						

MOS 10 23:30:01.9±0.2,4239N×4617E,h86km,mb3.7/1,5C-2D, Error ellipse: s-maj=59.2km s-min=11.5km az=37.8, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNJR	**Sundja**	**1.21**	**305**	⇑*i*P	Pn	23 30 24.4	+0.6
SNJR				*i* S	Sn	23 30 41.0	+0.7
VLKR	**Vladikavkaz**	**1.28**	**301**	*e*P	Pn	23 30 25.6	+0.9
VLKR				*e*S	Sn	23 30 42.4	+0.5
LACR	**Lac**	**1.45**	**288**	⇑*i*P	Pn	23 30 27.6	+0.8
LACR				*i* S	Sn	23 30 46.2	+0.5
BTKR	**Batakoyurt**	**1.55**	**310**	⇓*i*P	Pn	23 30 28.9	+0.9
BTKR				*i* S	Sn	23 30 47.9	0.0
ARNR	**Ardon**	**1.61**	**300**	⇑*i*P	Pn	23 30 29.5	+0.7
ARNR				*i* S	Sn	23 30 49.2	0.0
KMSR	**Komsomolskaya**	**1.69**	**306**	*i* P	Pn	23 30 31.3	+1.4
KMSR				*e*S	Sn	23 30 52.0	+0.8
ZEI	**Tsey**	**1.72**	**284**	⇓*i*P	Pn	23 30 31.3	+1.0
ZEI				*i* S	Sn	23 30 52.3	+0.5
PRTR	**Priterechnaya**	**1.94**	**315**	⇑*i*P	Pn	23 30 33.8	+0.6
PRTR				*e*S	Sn	23 30 56.6	-0.4
LSNR	**Lesken**	**1.95**	**298**	⇑*i*P	Pn	23 30 33.9	+0.7
LSNR				*e*S	Sn	23 30 57.0	-0.1
DIGR	**Digorskoe uzhe**	**1.98**	**286**	*e*P	Pn	23 30 34.3	+0.7
DIGR				*i* S	Sn	23 30 58.0	+0.1

ATH ***10*** *23:32:13.4,3856N×2155E,h27km±8km,MD3.1/4*

ISCJB ***10*** *23:32:14.0±0.6,3849N±004×2165E±006,h27km±7km, Error ellipse: s-maj=8.2km s-min=6.7km az=11.6*

CSEM ***10*** *23:32:14.2±0.3,3852N×2162E,h25km,ML2.3, Error ellipse: s-maj=7.5km s-min=5.7km az=123.0*

THE ***10*** *23:32:14.8,3853N×2162E,h3km,ML2.3*

NEIC ***10*** *23:32:14.8,3853N×2162

ESKT	Eskisehir	1.55 358	Pn	Pn	00 23 51.8	-0.1
ESKT	Eskisehir	1.55 358	*i* P	Pn	00 23 51.4	-0.5
ESKT			*i* S	Sn	00 24 08.5	-3.8
ESKT	Eskisehir	1.55 358	*e*Pn	Pn	00 23 51.1	-0.8
SEYT	Eskypehyr	1.55 358	*i* P	Pn	00 23 51.4	-0.5
SEYT			*i* S	Sn	00 24 08.5	-3.9
GDZ	Gediz	1.58 315	*i* P	Pn	00 23 51.9	-0.6
GDZ	Gediz	1.58 315	*i* P	Pn	00 23 51.8	-0.6
KULA	Kula-Manisa	1.86 288	*e*PN	Pn	00 23 55.5	-0.7
BORA	Eskisehir	1.94 349	*i* P	Pn	00 23 57.0	-0.3
BORA			*i* S	Sn	00 24 25.6	+3.5
FETY	Fethiye	1.98 228	*e*PN	Pn	00 23 57.6	-0.2
FETY	Fethiye	1.98 228	Pn	Pn	00 23 57.9	+0.1
AKAS	Kas	2.03 212	*i* P	Pn	00 23 59.7	+1.3
AKAS			*i* S	Sn	00 24 28.9	+4.8
ERMK	Ermenek	2.07 129	*i* P	Pn	00 23 59.9	+0.8
ERMK			*i* S	Sn	00 24 26.9	+1.6
YER	Yerkesik	2.25 249	*e*PN	Pn	00 24 01.3	-0.3
GPA	Golpazari	2.36 349	*e*PN	Pn	00 24 02.7	-0.4
ANTO	Ankara	2.40 37	*e*PN	Pn	00 24 03.9	+0.3
ANTO	Ankara	2.40 37	Pn	Pn	00 24 03.4	-0.1
ANTO	Ankara	2.40 37	Pn	Pn	00 24 03.4	-0.2
ANTO	Ankara	2.40 37	⇑*i*P	Pn	00 24 04.5	+0.9
LOD	Lodumlu	2.40 36	*e*PN	Pn	00 24 03.1	-0.4
DST	Dursunbey	2.42 313	*e*PN	Pn	00 24 04.2	+0.3
GULT	Gulveren	2.48 353	*e*PN	Pn	00 24 04.2	-0.5
DERT	Derbent	2.57 338	*e*PN	Pn	00 24 04.9	-1.0
MLSB	Milas	2.58 256	*e*PN	Pn	00 24 05.1	-1.0
KAMT	Kaman	2.60 57	*e*PN	Pn	00 24 05.4	-0.9
AKS	Akhisar	2.60 291	*e*PN	Pn	00 24 06.1	-0.3
IZI	Iznik	2.62 335	*e*PN	Pn	00 24 06.1	-0.5
ADVT	Abdulvahap	2.62 340	*e*PN	Pn	00 24 06.5	-0.2
ADVT	Abdulvahap	2.62 340	Pn	Pn	00 24 06.6	-0.1
GEMT	Gemlik	2.80 332	*e*PN	Pn	00 24 09.0	-0.2
IKL	Isikli	2.81 127	*e*PN	Pn	00 24 09.5	+0.2
ARG	Arkhangelos	2.84 233	P	Pn	00 24 12.5	+2.9
HENT	Hendek	2.85 360	*i* P	Pn	00 24 10.0	+0.3
YLV	Yalova	2.85 336	*e*PN	Pn	00 24 09.6	-0.3
BTOK	Tokmak	2.87 309	*i* P	Pn	00 24 10.4	+0.3
BDRM	Kayabasi	2.90 253	*i* P	Pn	00 24 08.4	-2.2
KDAG	Bornova	2.91 280	*i* P	Pn	00 24 09.7	-0.9
NIG	Nigde	2.92 86	*e*PN	Pn	00 24 10.9	+0.1
DAT	Datca	2.93 246	*e*PN	Pn	00 24 11.0	+0.1
BODT	Bodrum	3.01 254	*e*PN	Pn	00 24 12.0	0.0
BODT	Bodrum	3.01 254	Pn	Pn	00 24 11.4	-0.6
HRT	Hereke	3.01 342	*e*PN	Pn	00 24 11.5	-0.4
HRT	Hereke	3.01 342	*e*PN	Pn	00 24 12.1	+0.1
KCT	Karacabey	3.03 320	*e*PN	Pn	00 24 12.1	-0.3
MERS	Mersin	3.08 110	*e*PN	Pn	00 24 13.2	+0.3
BLCB	Balcova	3.08 279	*e*PN	Pn	00 24 13.0	0.0
BLCB	Balcova	3.08 279	Pn	Pn	00 24 13.4	+0.4
ALFC	Alevga	3.12 154	P	Pn	00 24 11.3	-2.2
	6.9nm,0.3s					
ALFC			S	Sn	00 24 49.8	-1.3
AKMC	Akamas	3.15 158	P	Pn	00 24 13.9	-0.1
CDAG	Cicekdag	3.17 58	*i* P	Pn	00 24 11.9	-2.2
ELDT	Eldivan	3.18 37	*i* P	Pn	00 24 14.0	-0.4
SMG	Samos	3.24 267	P	Pn	00 24 16.5	+1.3
LEF	Lefka	3.26 150	*e*PN	Pn	00 24 14.9	-0.5
LEF	Lefka	3.26 150	Pn	Pn	00 24 14.1	-1.3
PPCY	Paphos	3.29 159	P	Pn	00 24 16.6	+0.8
BNT	Bandirma	3.33 317	*e*PN	Pn	00 24 15.8	-0.7
MAMC	Mammari	3.35 146	P	Pn	00 24 17.2	+0.5
KARA	Karaisali	3.36 101	*e*PN	Pn	00 24 18.1	+1.2
CANT	Cankiri	3.37 38	*e*PN	Pn	00 24 17.3	+0.4
ISK	Istanbul-Kandi	3.41 336	*e*PN	Pn	00 24 17.6	+0.1
ISK	Istanbul-Kandi	3.41 336	Pn	Pn	00 24 17.4	0.0
ISK	Istanbul-Kandi	3.41 336	Pn	Pn	00 24 17.4	-0.1
LFK	Lefkose	3.41 141	*e*PN	Pn	00 24 18.6	+1.1
URLA	Izmir	3.43 278	*i* P	Pn	00 24 18.8	+1.1
SAFT	Safranbolu	3.54 22	*e*PN	Pn	00 24 20.1	+0.8
EREN	Erenkoy	3.57 132	*e*PN	Pn	00 24 20.8	+1.1
CSS	Prodhromos	3.58 146	*e*Pn	Pn	00 24 18.8	-1.0
CSS			*e*Sn	Sn	00 25 00.8	-1.7
CSS	Prodhromos	3.58 146	*e*Pn	Pn	00 24 18.8	-1.0
CSS	Prodhromos	3.58 146	P	Pn	00 24 20.5	+0.7
	3.3nm,0.8s					
CSS			*e*Sn	Sn	00 25 00.8	-1.7
CSS			S	Sn	00 25 01.5	-1.0
SZAC	Souni-Zanaja	3.58 153	P	Pn	00 24 25.2	+5.3
CORM	Corum	3.64 52	*e*PN	Pn	00 24 20.9	+0.2
MRMT	Marmara Adasi	3.68 317	*e*PN	Pn	00 24 21.9	+0.7
ELBA	Catalca	3.71 330	*i* P	Pg	00 24 33.9	-0.8
CTT	Catalca	3.71 330	*e*PN	Pn	00 24 21.9	+0.3
CTT	Catalca	3.71 330	Pn	Pn	00 24 22.6	+1.0
YOZ	Yozgat	3.82 63	*e*PN	Pn	00 24 23.8	+0.6
PRK	Paraskevi	3.85 291	P	Pn	00 24 24.7	+1.1
KARP	Karpathos	3.87 232	P	Pn	00 24 25.4	+1.6
TOS	Tosya	3.89 37	*e*PN	Pn	00 24 24.9	+0.8
KOZT	Kozan	3.92 96	*e*PN	Pn	00 24 25.6	+1.1
CEYT	Ceyhan	3.96 103	*e*PN	Pn	00 24 26.0	+0.9
RKY	Sarkoy-Tekirda	3.97 314	*e*PN	Pn	00 24 25.1	-0.1
BNN	Bunyan	3.97 76	*e*PN	Pn	00 24 25.9	+0.7
MFT	Murefte	3.98 316	*e*PN	Pn	00 24 25.9	+0.6
CTKT	Corum	4.01 47	*i* P	Pn	00 24 25.7	0.0
EZN	Ezine	4.03 299	*e*PN	Pn	00 24 25.8	-0.3
EZN	Ezine	4.03 299	Pn	Pn	00 24 26.4	+0.4
EZN	Ezine	4.03 299	Pn	Pn	00 24 26.4	+0.4
BALT	Daday	4.04 27	*i* P	Pn	00 24 25.5	-0.6
BOZC	Bozcaada	4.23 298	*i* P	Pn	00 24 28.6	+0.1
ANDN	Andirin	4.32 94	*i* P	Pn	00 24 31.7	+1.7
APE	Apeiranthos	4.37 260	P	Pn	00 24 32.6	+1.8
GADA	Gvkgeada	4.49 301	*e*PN	Pn	00 24 32.9	+0.5
BYBT	Boyabat	4.58 39	*e*PN	Pn	00 24 34.5	+0.9
ENEZ	Enez	4.61 308	*e*PN	Pn	00 24 34.1	+0.1
BOYT	Boyabat	4.62 41	*i* P	Pn	00 24 33.6	-0.5
BZK	Bozkurt	4.64 30	*e*PN	Pn	00 24 34.6	+0.2
KMRS	Kahramanmaras	4.77 94	*e*PN	Pn	00 24 37.0	+0.8
LIA	Limnos Island	4.87 295	P	Pn	00 24 46.4	+8.9
NPS	Neapolis	5.05 239	P	Pn	00 24 42.3	+2.3
SVSK	Karacayir	5.12 66	*e*PN	Pn	00 24 41.9	+0.8
SVSK	Karacayir	5.12 66	Pn	Pn	00 24 42.2	+1.1
SVSK	Karacayir	5.12 66	Pn	Pn	00 24 42.2	+1.1
MALT	Malatya	5.93 84	⇓P	Pn	00 24 54.4	+2.2
MALT	Malatya	5.93 84	⇓*i*P	Pn	00 24 54.4	+2.2
TIRR	Tirgusor	6.75 345	⇑P	Pn	00 25 03.4	+0.1
TIRR	Tirgusor	6.75 345	⇑*i*P	Pn	00 25 03.4	0.0
AMAG	Maghara	7.55 165	⇓*e*P	Pn	00 25 11.9	-2.5
AANS		7.67 177	⇓*e*P	Pn	00 25 14.6	-1.4
SUZ		8.27 168	⇑*e*P	Pn	00 25 22.0	-2.2
HNAT	Natroun	8.32 182	⇑*e*P	Pn	00 25 24.3	-0.7
MLR	Muntele Rosu	8.38 335	⇓P	Pn	00 25 25.7	0.0
MLR	Muntele Rosu	8.38 335	⇓*i*P	Pn	00 25 25.7	0.0
VRI	Vrincioaia	8.48 340	⇑P	Pn	00 25 28.2	+1.0
VRI	Vrincioaia	8.48 340	⇑*i*P	Pn	00 25 28.2	+1.1
PLOR	Plostina	8.49 339	⇓*i*P	Pn	00 25 28.5	+1.3
BZS	Buzias	10.32 321	⇓P	Pn	00 25 51.5	-0.8
BZS	Buzias	10.32 321	⇓*i*P	Pn	00 25 51.5	-0.8
HFRF	Wahat Farafira	11.01 192	⇑P	Pn	00 26 02.3	+0.4
HDK1	Dakhla	12.46 186	⇑*e*P	Pn	00 26 20.5	-1.2

*ISCJB **11** 00:31:14.6±1.1, 241N±02×946E±02, h10km, mb3.5/4, Error ellipse: s-maj=31.3km s-min=11.7km az=34.9*
*IDC **11** 00:31:15.2±2.1, 241.9N×9467E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.4/21, mbtmp3.5/4, Error ellipse: s-maj=90.5km s-min=24.1km az=68.0*

ISC 11 00:31:16.7±1.1, 242N±02×946E±02, h10km, n5, σ0§42/6, mb3.5/4, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHL	Shillong	2.83	300	*i* PNC	Pn	00 32 06.2	+4.3
SHL				*e*SN	Sn	00 32 36.0	-0.1
MKAR	Makanchi Array	24.64	339	P	P	00 36 37.4	+0.1
	0.5nm,0.6s,mb3.2,baz=144,slow=9.2,SNR=9.0						
SONM	Songino Array	25.41	19	P	P	00 36 44.3	-0.1
	0.7nm,0.7s,mb3.3,baz=205,slow=9.8,SNR=5.6						
WRA	Warramunga Arr	58.49	135	P	P	00 41 13.1	-0.2
	0.4nm,0.7s,mb3.6,baz=319,slow=8.0,SNR=3.7						
ASAR	Alice Springs	60.96	138	P	P	00 41 30.4	+0.1
	0.2nm,0.3s,mb3.7,baz=331,slow=6.8,SNR=4.2						

*ISK **11** 00:35:08.6, 3801N×3094E, h7km, ML3.6*
*NEIC **11** 00:35:08.4, 3801N×3094E, h6km, MD3.7(ISK), After ISK.*
*CSEM **11** 00:35:08.3±0.0, 3800N×3094E, h5km, MD3.7, Error ellipse: s-maj=1.1km s-min=0.8km az=171.0*
*ISCJB **11** 00:35:08.9±0.2, 3802N±002×3094E±002, h5km, Error ellipse: s-maj=2.6km s-min=2.4km az=171.7*
*THE **11** 00:35:09.9, 3783N×3086E, h3km*
*DDA **11** 00:35:10.7, 3802N×3097E, h7km±3km, Md3.5*

ISC 11 00:35:09.9±0.6, 3800N±002×3092E±002, h5km±5km, n125, σ0§89/136, 9C-6D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ISP	Isparta	0.36	244	PG	Pg	00 35 15.6	-1.3
ISP				*e*SG	Sg	00 35 22.5	+0.9
ISP	Isparta	0.36	244	*e*Pg	Pg	00 35 16.1	-0.8
ISP	Isparta	0.36	244	⇑*i*P	Pg	00 35 16.5	-0.4
ISP	Isparta	0.36	244	P	Pg	00 35 16.1	-0.8
ISP				*e*Sg	Sg	00 35 22.5	+0.9
BCK	Bucak	0.60	206	*e*PG	Pg	00 35 20.1	-1.3
BCK				*e*SG	Sg	00 35 29.9	+0.7
BCK	Bucak	0.60	206	Pg	Pg	00 35 19.9	-1.5
SHUT	Suhut-Afyon	0.62	332	*e*PG	Pg	00 35 21.5	-0.4
KDHN	Kadinhani	1.08	61	*i* P	Pg	00 35 29.4	-1.1
KDHN				*i* S	Sg	00 35 46.0	+1.5
ANTB	Antalya	1.12	191	*e*PN	Pn	00 35 31.0	-1.2
KONT	Konya--Tatoy	1.14	92	*e*PN	Pn	00 35 30.6	-1.9
KONT	Konya--Tatoy	1.14	92	Pn	Pn	00 35 29.5	-3.0
KHL	Karahalli	1.15	287	*e*PN	Pn	00 35 31.2	-1.4
KIZT	Kizilcal	1.16	40	*e*PN	Pn	00 35 30.7	-2.1
ALT	Altintas	1.23	329	*e*PN	Pn	00 35 31.9	-1.8
GOLH	Golhisar	1.32	235	*i* P	Pn	00 35 34.3	-0.7
GOLH				*i* S	Sg	00 35 53.7	+1.3
ELL	Elmali	1.49	213	*e*PN	Pn	00 35 36.8	-0.5
DENT	Denizli	1.51	261	*e*PN	Pn	00 35 37.1	-0.6
ESKT	Eskisehir	1.52	358	*i* P	Pn	00 35 37.8	+0.1
ESKT				*i* S	Sn	00 35 57.2	-0.7
ESKT	Eskisehir	1.52	358	*e*Pn	Pn	00 35 36.7	-1.0
SEYT	Eskypehyr	1.52	358	*i* P	Pn	00 35 37.8	+0.1
SEYT				*i* S	Sn	00 35 57.2	-0.7
GDZ	Gediz	1.57	314	*i* P	Pn	00 35 38.2	-0.1
GDZ				*i* S	Sn	00 35 59.5	+0.5
KULA	Kula-Manisa	1.85	287	*e*PN	Pn	00 35 41.2	-1.1
BORA	Eskisehir	1.91	349	*i* P	Pn	00 35 43.0	-0.1
BORA				*i* S	Sn	00 36 10.0	+2.5
FETY	Fethiye	2.00	228	*e*PN	Pn	00 35 44.6	+0.2
AKAS	Kas	2.05	211	*i* P	Pn	00 35 46.4	+1.3
ERMK	Ermenek	2.09	130	*i* P	Pn	00 35 46.3	+0.7
ERMK				*i* S	Sn	00 36 13.6	+1.6
YER	Yerkesik	2.27	248	*e*PN	Pn	00 35 47.8	-0.2
GPA	Golpazari	2.33	348	*e*PN	Pn	00 35 48.3	-0.6
ANTO	Ankara	2.37	38	*e*PN	Pn	00 35 49.6	+0.1
ANTO	Ankara	2.37	38	⇑P	Pn	00 35 50.2	+0.7
ANTO	Ankara	2.37	38	⇑*i*P	Pn	00 35 50.2	+0.8
ANTO	Ankara	2.37	38	⇑P	Pn	00 35 50.2	+0.8
LOD	Lodumlu	2.37	37	*e*PN	Pn	00 35 49.0	-0.4
DST	Dursunbey	2.40	313	*e*PN	Pn	00 35 49.5	-0.4
GULT	Gulveren	2.45	353	*e*PN	Pn	00 35 50.7	+0.1
DERT	Derbent	2.54	338	*e*PN	Pn	00 35 51.0	-0.8
KAMT	Kaman	2.58	57	*e*PN	Pn	00 35 51.6	-0.7
IZI	Iznik	2.59	335	*e*PN	Pn	00 35 52.5	0.0
IZI	Iznik	2.59	335	Pn	Pn	00 35 52.7	+0.3
AKS	Akhisar	2.59	291	*e*PN	Pn	00 35 52.2	-0.3
MLSB	Milas	2.59	255	*e*PN	Pn	00 35 52.1	-0.4
ADVT	Abdulvahap	2.60	340	*e*PN	Pn	00 35 52.6	+0.1
GEMT	Gemlik	2.78	332	*e*PN	Pn	00 35 54.8	-0.3
IKL	Isikli	2.83	128	*e*PN	Pn	00 35 55.4	-0.3
YLV	Yalova	2.83	335	*e*PN	Pn	00 35 55.6	-0.1
BTOK	Tokmak	2.86	309	*i* P	Pn	00 35 56.5	+0.3
KDAG	Bornova	2.91	279	*i* P	Pn	00 35 57.2	+0.4
BDRM	Kayabasi	2.92	252	*i* P	Pn	00 35 56.2	-0.8
NIG	Nigde	2.92	87	*e*PN	Pn	00 35 56.4	-0.6
NIG	Nigde	2.92	87	Pn	Pn	00 35 55.6	-1.4
DAT	Datca	2.95	246	*e*PN	Pn	00 35 57.5	+0.1
HRT	Hereke	2.98	341	*e*PN	Pn	00 35 57.6	-0.2
KCT	Karacabey	3.01	319	*e*PN	Pn	00 35 58.1	-0.2
KCT	Karacabey	3.01	319	Pn	Pn	00 35 58.9	+0.6
BODT	Bodrum	3.02	253	*e*PN	Pn	00 35 58.2	-0.1
BLCB	Balcova	3.08	278	*e*PN	Pn	00 35 59.2	0.0
BLCB	Balcova	3.08	278	*e*PN	Pn	00 35 57.4	-1.8
BLCB	Balcova	3.08	278	*e*Pn	Pn	00 35 59.2	0.0
MERS	Mersin	3.08	110	*e*PN	Pn	00 35 59.1	-0.1
ALFC	Alevga	3.14	154	P	Pn	00 35 57.3	-2.8
CDAG	Cicekdag	3.15	58	*i* P	Pn	00 35 58.6	-1.5
CDAG				*i* S	Sn	00 36 35.2	-2.8
ELDT	Eldivan	3.16	37	*i* P	Pn	00 36 00.1	-0.1
AVNT	Avonos	3.19	75	*i* P	Pn	00 36 00.9	+0.2
LEF	Lefka	3.29	151	*e*PN	Pn	00 36 01.0	-1.0
LEF	Lefka	3.29	151	Pn	Pn	00 36 00.2	-1.8
LEF	Lefka	3.29	151	Pn	Pn	00 36 00.2	-1.8
BNT	Bandirma	3.31	316	*e*PN	Pn	00 36 02.7	+0.3
PPCY	Paphos	3.32	159	P	Pn	00 36 03.8	+1.4
KDZE	Karadeniz Ereo	3.33	7	*e*PN	Pn	00 36 02.5	-0.2
CANT	Cankiri	3.34	38	*e*PN	Pn	00 36 02.9	+0.2
KARA	Karaisali	3.37	101	*e*PN	Pn	00 36 03.2	+0.1
MAMC	Mammari	3.38	146	P	Pn	00 36 01.6	-1.7
ISK	Istanbul-Kandi	3.38	335	*e*PN	Pn	00 36 02.8	-0.5
URLA	Izmir	3.43	277	*i* P	Pn	00 36 04.1	+0.1
LFK	Lefkose	3.43	141	*e*PN	Pn	00 36 04.7	+0.6
SAFT	Safranbolu	3.51	22	*e*PN	Pn	00 36 05.2	0.0
SAFT	Safranbolu	3.51	22	Pn	Pn	00 36 05.4	+0.3
EREN	Erenkoy	3.59	132	*e*PN	Pn	00 36 06.4	+0.2
CSS	Prodhromos	3.60	147	P	Pn	00 36 07.1	+0.7
CSS	Prodhromos	3.60	147	*e*Pn	Pn	00 36 04.1	-2.3
SZAC	Souni-Zanaja	3.60	153	P	Pn	00 36 08.2	+1.8
CORM	Corum	3.62	52	*e*PN	Pn	00 36 06.5	0.0
MRMT	Marmara Adasi	3.66	316	*e*PN	Pn	00 36 08.0	+0.8
CTT	Catalca	3.68	329	*e*PN	Pn	00 36 07.6	+0.1
YOZ	Yozgat	3.81	63	*e*PN	Pn	00 36 09.3	+0.2
CHOS	Chios island	3.85	277	*e*Pn	Pn	00 36 09.2	-0.6
TOS	Tosya	3.87	37	*e*PN	Pn	00 36 10.0	0.0
TOS	Tosya	3.87	37	Pn	Pn	00 36 09.9	-0.1
KOZT	Kozan	3.92	96	*e*PN	Pn	00 36 10.9	+0.1
SART	Tekirdag	3.95	314	*i* P	Pn	00 36 12.1	+0.9
RKY	Sarkoy-Tekirda	3.95	314	*e*PN	Pn	00 36 11.6	+0.4
RKY	Sarkoy-Tekirda	3.95	314	Pn	Pn	00 36 11.0	-0.1
MFT	Murefte	3.96	316	*e*PN	Pn	00 36 12.2	+0.9
BNN	Bunyan	3.96	76	*e*PN	Pn	00 36 11.7	+0.4
CEYT	Ceyhan	3.96	103	*e*PN	Pn	00 36 11.7	+0.3
BALT	Daday	4.01	28	*i* P	Pn	00 36 12.1	+0.1
EZN	Ezine	4.02	298	*e*PN	Pn	00 36 12.6	+0.5
EZN	Ezine	4.02	298	Pn	Pn	00 36 11.7	-0.4
BOZC	Bozcaada	4.22	297	*i* P	Pn	00 36 15.1	+0.2
ANDN	Andirin	4.32	94	*i* P	Pn	00 36 18.3	+2.0
GADA	Gvkgeada	4.48	301	*e*PN	Pn	00 36 19.0	+0.6
BYBT	Boyabat	4.56	39	*e*PN	Pn	00 36 20.1	+0.6
BYBT	Boyabat	4.56	39	Pn	Pn	00 36 19.7	+0.2
ENEZ	Enez	4.59	308	*e*PN	Pn	00 36 20.9	+0.9
BOYT	Boyabat	4.59	41	*i* P	Pn	00 36 19.4	-0.6
BZK	Bozkurt	4.61	30	*e*PN	Pn	00 36 20.7	+0.5
ALN	Alexandroupoli	4.75	309	*e*Pn	Pn	00 36 22.8	+0.6
KMRS	Kahramanmaras	4.77	94	*e*PN	Pn	00 36 23.0	+0.6
DIKM	Dikmen	4.94	41	*e*PN	Pn	00 36 25.4	+0.6
KVT	Kavak	5.02	51	*e*PN	Pn	00 36 26.5	+0.7
KVT	Kavak	5.02	51	Pn	Pn	00 36 26.7	+0.9
SVSK	Karacayir	5.11	66	*e*PN	Pn	00 36 26.9	-0.2
SVSK	Karacayir	5.11	66	Pn	Pn	00 36 27.4	+0.4
SVSK	Karacayir	5.11	66	Pn	Pn	00 36 27.4	+0.3
MALT	Malatya	5.93	85	⇓P	Pn	00 36 40.5	+2.2
MALT	Malatya	5.93	85	⇓*i*P	Pn	00 36 40.5	+2.2
TIRR	Tirgusor	6.72	344	⇓P	Pn	00 36 49.5	+0.2
TIRR	Tirgusor	6.72	344	⇓*i*P	Pn	00 36 49.5	+0.3
HARR	Harsova	7.05	342	⇑P	Pn	00 36 54.1	+0.4
HARR	Harsova	7.05	342	⇑*i*P	Pn	00 36 54.1	+0.4
VRI	Vrincioaia	8.46	340	⇓P	Pn	00 37 13.5	+0.5
VRI	Vrincioaia	8.46	340	⇓*i*P	Pn	00 37 13.5	+0.5
PLOR	Plostina	8.46	339	⇑*i*P	Pn	00 37 13.6	+0.5
PKSM	Moragy	12.25	316	⇑P	Pn	00 38 05.5	+0.5
PKSM	Moragy	12.25	316	⇑*i*P	Pn	00 38 05.5	+0.5

*ISCJB **11** 00:56:32.1±0.4, 3855N±002×2162E±003, h2km±5km, Error ellipse: s-maj=4.2km s-min=3.2km az=172.8*
*ATH **11** 00:56:32.1, 3853N×2157E, h3km, MD3.5/5*
*CSEM **11** 00:56:33.0±0.1, 3855N×2162E, h2km, ML3.2, Error ellipse: s-maj=1.6km s-min=1.2km az=74.0*
*THE **11** 00:56:33.1, 3855N×2164E, h1km, ML3.2*
*NEIC **11** 00:56:33.1, 3855N×2164E, h2km, MD3.4(ATH), ML3.2(THE), After THE.*

ISC 11 00:56:32.7±0.4, 3854N±002×2163E±003, h8km±5km, n24, σ0§94/35, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SELA	Sela	0.34	141	*e*Pg	Pg	00 56 39.3	0.0
SELA				*e*Sg	Sg	00 56 44.7	+0.9
EVR	Evrytania	0.41	21	*e*PG	Pg	00 56 40.5	-0.2
EVR				*e*SG	Sg	00 56 46.3	+0.3
RLS	Riolos of Patr	0.49	195	*e*PG	Pg	00 56 42.1	-0.2
RLS				*e*SG	Sg	00 56 47.7	-1.1
AGG	Agios Georgios	0.73	48	*e*Pg	Pg	00 56 46.7	-0.2
AGG				*e*Sg	Sg	00 56 57.6	+1.1
LKD	Levkas	0.78	283	*e*Pg	Pg	00 56 47.5	-0.3
LKD				*e*Sg	Sg	00 56 59.6	+1.6
VLS	Valsamata	0.89	246	*e*PB	Pb	00 56 48.3	-2.1
THL	Klokotos Trika	1.07	16	*e*PG	Pg	00 56 53.3	0.0
THL				*e*SG	Sg	00 57 06.8	-0.4
LKR	Lokris	1.08	84	*e*PB	Pb	00 56 52.7	-1.0
LTK	Loutraki	1.17	116	*e*Pg	Pg	00 56 55.1	-0.2
LTK				*e*Sg	Sg	00 57 11.8	+1.2
JAN	Janina	1.27	332	*e*PB	Pb	00 56 56.1	-0.8
MEV	Metsovon	1.28	346	*e*Pg	Pg	00 56 56.9	-0.5
MEV				*e*Sg	Sg	00 57 15.3	+1.2
VLX	Vlachokerasia	1.31	153	*e*Pg	Pg	00 56 57.0	-0.9
ITM	Ithomi	1.38	170	*e*PN	Pn	00 56 59.0	+0.8
IGT	Igoumenitsa	1.42	315	*e*Pg	Pg	00 56 59.1	-0.8
IGT				*e*Sg	Sg	00 57 19.3	+1.1
NEO	Neokhori	1.46	58	*e*PG	Pg	00 57 00.0	-0.8
DID	Didima	1.64	128	*e*Pb	Pb	00 57 02.6	-0.6
PYL	PYLOS	1.64	177	*e*Pb	Pb	00 57 02.7	-0.5
PYL				*e*Sb	Sb	00 57 25.5	+1.5
LIT	Litokhoron	1.70	23	*e*Pb	Pb	00 57 03.5	-0.7
LIT				*e*Sb	Sb	00 57 25.3	-0.4
AOS	Alonnisos	1.87	70	*e*Pb	Pb	00 57 05.3	-1.8
VLI	Veliai	2.09	150	*e*PN	Pn	00 57 10.6	+2.6
PAIG	Paliouri	2.12	48	*e*Pn	Pn	00 57 08.4	0.0
PLG	Polygyros	2.31	37	*e*Pn	Pn	00 57 11.7	+0.7
OUR	Ouranopolis	2.56	45	*e*Pn	Pn	00 57 14.6	+0.1
KNT	Kendrikon	2.80	20	*e*Pn	Pn	00 57 18.5	+0.7

IDC 11 01:00:36.1±1.8, 1257N×14392E, h0km, mb3.8/3, mb1 4.2/3, mb1mx3.6/19, mbtmp3.8/3, Error ellipse: s-maj=123.5km s-min=20.3km az=123.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	Guam	1.37	42	Pn	Pn	01 01 03.1	+0.6
	54nm,0.3s,baz=200,slow=4.8,SNR=13						
GUMO				Sn	Sn	01 01 20.7	-0.7
	90nm,0.3s,baz=74,slow=22,SNR=20						
WRA	Warramunga Arr	33.66	196	P	P	01 07 18.6	-0.2
	0.9nm,0.5s,baz=19,slow=9.8,SNR=9.9						
YKA	Yellowknife Ar	84.18	27	P	P	01 13 08.3	-0.8
	0.2nm,0.4s,baz=285,slow=5.1,SNR=7.0						
NVAR	Mina Array Bea	88.27	51	P	P	01 13 31.2	+1.4
	0.8nm,0.6s,baz=249,slow=

ELDT	Eldivan	3.21	37	*i* P	Pn	01 07 22.2	-0.6
LEF	Lefka	3.23	150	*e*PN	Pn	01 07 23.1	-0.1
LEF	Lefka	3.23	150	Pn	Pn	01 07 22.5	-0.6
LEF	Lefka	3.23	150	Pn	Pn	01 07 22.5	-0.7
PPCY	Paphos	3.26	159	P	Pn	01 07 22.8	-0.7
MAMC	Mammari	3.33	145	P	Pn	01 07 24.5	0.0
BNT	Bandirma	3.35	317	*e*PN	Pn	01 07 24.7	-0.1
KARA	Karaisali	3.36	100	*e*PN	Pn	01 07 25.4	+0.5
CANT	Cankiri	3.39	37	*e*PN	Pn	01 07 25.4	+0.1
LFK	Lefkose	3.39	141	*e*PN	Pn	01 07 25.8	+0.5
LFK	Lefkose	3.39	141	Pn	Pn	01 07 26.4	+1.1
KDZE	Karadeniz Ereo	3.39	7	*e*PN	Pn	01 07 25.3	0.0
URLA	Izmir	3.43	278	*i* P	Pn	01 07 21.4	-4.5
ISK	Istanbul-Kandi	3.43	336	*e*PN	Pn	01 07 25.7	-0.2
ISK	Istanbul-Kandi	3.43	336	Pn	Pn	01 07 25.2	-0.7
EREN	Erenkoy	3.55	132	*e*PN	Pn	01 07 28.3	+0.7
EREN	Erenkoy	3.55	132	Pn	Pn	01 07 29.1	+1.6
CSS	Prodhromos 2.3nm,0.5s	3.55	146	P	Pn	01 07 27.3	-0.3
CSS				S	Sn	01 08 12.0	+2.4
CSS	Prodhromos	3.55	146	*e*PN	Pn	01 07 27.8	+0.2
CSS	Prodhromos	3.55	146	*e*Pn	Pn	01 07 26.5	-1.1
CSS	Prodhromos 2.3nm,0.5s	3.55	146	P	Pn	01 07 27.3	-0.3
CSS				S	Sn	01 08 12.0	+2.4
SZAC	Souni-Zanaja	3.55	153	P	Pn	01 07 31.6	+4.0
SZAC				S	Sn	01 08 15.3	+5.7
SAFT	Safranbolu	3.57	22	*e*PN	Pn	01 07 27.9	+0.2
SAFT	Safranbolu	3.57	22	Pn	Pn	01 07 27.7	0.0
SAFT	Safranbolu	3.57	22	Pn	Pn	01 07 27.7	0.0
AYVA	Ayvalik	3.58	294	*i* P	Pn	01 07 28.3	+0.3
CORM	Corum	3.65	51	*e*PN	Pn	01 07 29.2	+0.3
MRMT	Marmara Adasi	3.70	317	*e*PN	Pn	01 07 30.0	+0.4
CTT	Catalca	3.73	330	*e*PN	Pn	01 07 30.1	+0.1
YOZ	Yozgat	3.84	62	*e*PN	Pn	01 07 31.8	+0.4
YOZ	Yozgat	3.84	62	Pn	Pn	01 07 31.5	0.0
CHOS	Chios island	3.86	278	*e*Pn	Pn	01 07 31.9	+0.1
TOS	Tosya	3.92	37	*e*PN	Pn	01 07 32.8	+0.3
TOS	Tosya	3.92	37	Pn	Pn	01 07 32.4	-0.1
KOZT	Kozan	3.92	95	*e*PN	Pn	01 07 33.3	+0.7
CEYT	Ceyhan	3.96	102	*e*PN	Pn	01 07 33.8	+0.7
CEYT	Ceyhan	3.96	102	Pn	Pn	01 07 34.1	+1.0
BNN	Bunyan	3.98	75	*e*PN	Pn	01 07 34.0	+0.6
BNN	Bunyan	3.98	75	Pn	Pn	01 07 33.9	+0.5
RKY	Sarkoy-Tekirda	3.99	315	*e*PN	Pn	01 07 33.7	+0.1
RKY	Sarkoy-Tekirda	3.99	315	Pn	Pn	01 07 33.4	-0.2
MFT	Murefte	4.00	315	*e*PN	Pn	01 07 34.1	+0.4
CTKT	Corum	4.03	47	*i* P	Pn	01 07 33.2	-0.8
BALT	Daday	4.06	27	*i* P	Pn	01 07 34.0	-0.5
BALT	Daday	4.06	27	*i* P	Pn	01 07 34.0	-0.5
BOZC	Bozcaada	4.24	298	*i* P	Pn	01 07 36.4	-0.7
GADA	Gvkgeada	4.50	301	*e*PN	Pn	01 07 41.1	+0.4
GADA	Gvkgeada	4.50	301	Pn	Pn	01 07 40.7	0.0
BYBT	Boyabat	4.61	39	*e*PN	Pn	01 07 42.8	+0.8
BYBT	Boyabat	4.61	39	Pn	Pn	01 07 42.7	+0.6
BYBT	Boyabat	4.61	39	Pn	Pn	01 07 42.7	+0.7
ENEZ	Enez	4.63	309	*e*PN	Pn	01 07 42.9	+0.6
BZK	Bozkurt	4.66	30	*e*PN	Pn	01 07 43.5	+0.8
BZK	Bozkurt	4.66	30	Pn	Pn	01 07 43.1	+0.3
BZK	Bozkurt	4.66	30	Pn	Pn	01 07 43.1	+0.3
ZKR	Zakros	4.72	235	P	Pn	01 07 40.0	-3.6
ZKR	Zakros	4.72	235	*e*Pn	Pn	01 07 41.4	-2.2
ZKR	Zakros	4.72	235	P	Pn	01 07 40.0	-3.6
ZKR	Zakros	4.72	235	*e*Pn	Pn	01 07 41.4	-2.2
KMRS	Kahramanmaras	4.76	93	*e*PN	Pn	01 07 45.4	+1.2
ALN	Alexandroupoli	4.79	310	*e*Pn	Pn	01 07 44.7	+0.1
LOS	Limnos	4.96	295	*e*Pn	Pn	01 07 47.7	+0.7
SVSK	Karacayir	5.14	66	*e*PN	Pn	01 07 50.5	+1.2
LAST	Lasithi	5.18	239	P	Pn	01 07 47.1	-2.9
LAST	Lasithi	5.18	239	*e*Pn	Pn	01 07 47.5	-2.5
JMB	Yambol	5.61	325	P	Pn	01 07 56.2	+0.4
JMB	Yambol	5.61	325	*e*Pn	Pn	01 07 56.5	+0.7
OUR	Ouranopolis	5.90	296	*e*Pn	Pn	01 08 00.3	+0.5
MALT	Malatya	5.93	84	⇓P	Pn	01 08 01.2	+0.9
MALT	Malatya	5.93	84	⇓*i*P	Pn	01 08 01.2	+0.9
KARN	Karanos	6.17	248	*e*Pn	Pn	01 08 03.0	-0.5
KARN	Karanos	6.17	248	*e*Pn	Pn	01 08 03.0	-0.5
PLD	Plovdiv	6.33	313	*e*Pn	Pn	01 08 06.2	+0.5
TIRR	Tirgusor	6.78	345	⇑*i*P	Pn	01 08 11.8	0.0
EZC	Erzincan	7.18	73	*e*PN	Pn	01 08 14.3	-3.0
EZC	Erzincan	7.18	73	Pn	Pn	01 08 14.3	-3.0
HMAT	Matruh	7.52	206	⇓*e*P	Pn	01 08 22.3	+0.2
AMAG	Maghara	7.52	165	⇓*e*P	Pn	01 08 21.1	-1.0
SUZ		8.24	168	⇑*e*P	Pn	01 08 31.1	-0.8
MLR	Muntele Rosu	8.41	335	⇓P	Pn	01 08 34.0	-0.2
MLR	Muntele Rosu	8.41	335	⇓*i*P	Pn	01 08 34.0	-0.2
VRI	Vrincioaia	8.51	340	⇑P	Pn	01 08 36.2	+0.6
VRI	Vrincioaia	8.51	340	⇑*i*P	Pn	01 08 36.2	+0.6
PLOR	Plostina	8.52	339	⇓*i*P	Pn	01 08 36.6	+0.9
HFRF	Wahat Farafira	10.98	192	⇑*e*P	Pn	01 09 08.0	-1.5
PKSM	Moragy	12.29	316	⇑P	Pn	01 09 27.6	+0.2
PKSM	Moragy	12.29	316	⇑*i*P	Pn	01 09 27.6	+0.2
HDK1	Dakhla	12.43	186	⇑*e*P	Pn	01 09 28.1	-1.2
PGF	Pioggiola 6.5nm,0.8s	17.34	292	*e*P	Pn	01 10 38.0	+3.6
PGF	Pioggiola 3.3nm,0.8s	17.34	292	*e*P	Pn	01 10 38.0	+3.6
SBF	Sospel 3.1nm,0.6s	18.68	296	*e*P	Pn	01 10 54.5	+3.6
SBF	Sospel 1.5nm,0.6s	18.68	296	*e*P	Pn	01 10 54.5	+3.6
FRF	La Foret Royal 5.2nm,0.8s	19.19	295	*e*P	Pn	01 11 00.4	+3.3
FRF	La Foret Royal 2.6nm,0.8s	19.19	295	*e*P	Pn	01 11 00.4	+3.3
MBDF	Montbardon 3.9nm,0.7s	19.32	298	*e*P	Pn	01 11 01.5	+2.9
MBDF	Montbardon 2.0nm,0.7s	19.32	298	*e*P	Pn	01 11 01.5	+2.9
LPG	La Plagne 8.2nm,0.8s	19.51	300	*e*P	Pn	01 11 03.6	+2.8
LPG	La Plagne 4.1nm,0.8s	19.51	300	*e*P	Pn	01 11 03.6	+2.8
LPL	La Plagne 17nm,1.3s	19.52	300	*e*P	Pn	01 11 03.9	+2.9
LPL	La Plagne 8.7nm,1.3s	19.52	300	*e*P	Pn	01 11 03.9	+2.9
ORIF	Oris-en-Rattie 9.2nm,1.1s	19.98	298	*e*P	Pn	01 11 08.8	+2.4
ORIF	Oris-en-Rattie 4.6nm,1.1s	19.98	298	*e*P	Pn	01 11 08.8	+2.4
SMRF	Simiane la Rot 11nm,1.1s	20.02	296	*e*P	P	01 11 09.5	+4.2
SMRF	Simiane la Rot 11nm,1.1s	20.02	296	*e*P	P	01 11 09.5	+4.2
SMF	Signal de Mont	21.75	302	*e*P	P	01 11 27.6	+3.7
LOR	Lormes	21.90	304	*e*P	P	01 11 29.1	+3.7
SSF	Saint Saulge	22.07	303	*e*P	P	01 11 30.8	+3.4
AVF	Avril sur Loir 5.0nm,0.9s,mb3.7	22.11	302	*e*P	P	01 11 31.2	+3.5
AVF	Avril sur Loir 2.5nm,0.9s,mb3.6	22.11	302	*e*P	P	01 11 31.2	+3.5
MTLF	Montolieu 2.8nm,0.8s,mb3.4	22.38	293	*e*P	P	01 11 33.9	+3.3
MTLF	Montolieu 1.4nm,0.8s,mb3.4	22.38	293	*e*P	P	01 11 33.9	+3.3
LFF	La Frestale	23.59	297	*e*P	P	01 11 45.6	+2.3
MFF	Saint Martin d 11nm,1.2s,mb3.9	24.43	301	*e*P	P	01 11 53.2	+2.2
MFF	Saint Martin d 5.4nm,1.2s,mb3.9	24.43	301	*e*P	P	01 11 53.2	+2.2
LDF	La Druitiere	24.82	305	*e*P	P	01 11 57.5	+3.0
GRR	Gorron	25.25	305	*e*P	P	01 12 01.4	+3.0
ROSF	Rostrenen	26.82	304	*e*P	P	01 12 16.3	+3.7

ISCJB ***11*** *01:42:34.4±1.4, 6971N±007×1445W±0.1, h3km±10km, Error ellipse: s-maj=12.7km s-min=6.6km az=168.3*
NEIC ***11*** *01:42:36.6, 6970N×14474W, h10km, ML3.6(PMR), ML3.2(AEIC), After AEIC.*
PGC ***11*** *01:42:39.4±1.9, 6960N×14458W, h1km, ML3.2/1, 160km east of Prudhoe Bay, Ak Alaska*

ISC 11 01:42:37.6±1.5, 6974N±007×1446W±01, h14km±10km, n18, σ0§98/29, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BM3	Burnt Mountain	2.34	180	P	Pn	01 43 14.7	-0.8
BM3				S	Sn	01 43 44.6	+0.7
COLD	Coldfoot	3.25	222	P	Pn	01 43 27.3	-0.8
COLD				S	Sn	01 44 08.4	+1.9
INK	Inuvik	4.25	105	*e*Pn	Pn	01 43 43.0	+1.2
INK				*e*Pg	Pg	01 43 59.2	+0.3
INK				*e*Sn	Sn	01 44 30.8	-0.3
INK				*e*Sg	Sg	01 44 53.6	-0.2
INK	Inuvik	4.25	105	Pn	Pn	01 43 43.5	+1.8
INK				Sn	Sn	01 44 31.0	0.0
IMA2	Indian Mountai	5.03	227	*e*P	Pn	01 43 52.4	0.0
IMA2				*e*Sn	Sn	01 44 48.4	-1.7
COLA	College	5.05	196	P	Pn	01 43 52.5	-0.2
IL1	Eielson Array	5.07	191	P	Pn	01 43 53.5	+0.5
IM3	Indian Mountai	5.11	227	P	Pn	01 43 51.9	-1.6
IM3				S	Sn	01 44 54.8	+2.6
EGAK	Eagle	5.17	163	P	Pn	01 43 54.7	+0.3
EGAK				*e*Sn	Sn	01 44 51.9	-1.7
DAWY	Dawson	6.06	158	P	Pn	01 44 06.7	+0.1
DAWY	Dawson	6.06	158	Pn	Pn	01 44 06.5	-0.1
DAWY				Sn	Sn	01 45 11.9	-3.8
DOT	Dot Lake	6.13	178	P	Pn	01 44 07.9	+0.4
KTH	Kantishna Hill	6.70	205	P	Pn	01 44 14.6	-0.7
BCA3	Beaver Creek A	6.80	169	P	Pn	01 44 17.0	+0.2
MENT	Mentasta	6.85	176	*e*P	Pn	01 44 17.8	+0.4
HYT	Haines Junctio	9.43	158	Pn	Pn	01 44 53.3	+0.5
WHY	Whitehorse	9.98	151	Pn	Pn	01 45 00.3	0.0
RES	Resolute Bay	15.53	49	*e*Pn	Pn	01 46 15.2	-0.4
RES				*e*Sn	Sn	01 48 58.6	-8.5

ISCJB ***11*** *01:45:36.9±0.3, 4285N±001×187W±002, h4km±2km, Error ellipse: s-maj=2.8km s-min=1.7km az=141.2*
MDD ***11*** *01:45:40.8±0.2, 4275N×171W, h3km±2km, mbLg2.9/38, Error ellipse: s-maj=1.7km s-min=1.4km az=137.0, PRXIMO ZARIQUIEGUI II-III LARRAYA II ARRAIZA AIN PAMPLONA I ESPARZA DE GALAR ESQUROZ (ESPARZA).NA, GALAR*
MDD EMS: III IN MURU UNDIANO.
CSEM ***11*** *01:45:41.0±0.0, 4276N×169W, h2km, ML3.3/39, Error ellipse: s-maj=0.8km s-min=0.5km az=134.0*
INMG ***11*** *01:45:41.0±1.4, 4274N×169W, h0km, ML2.9, Error ellipse: s-maj=2.3km s-min=1.9km az=88.0*
NEIC ***11*** *01:45:41.1, 4276N×168W, h3km, ML3.4(STR), ML3.3(LDG), MN2.9(MDD), After LDG.*
NEIC Felt [III] at Astrain, Larraya, Muru-Astrain, Undiano and Zariquiegui; [II] at Arraiza, Baranain and Pamplona, Spain.
LDG ***11*** *01:45:41.1±0.1, 4276N×168W, h3km, Md3.4/3, Ml3.3/30, Error ellipse: s-maj=1.6km s-min=1.0km az=140.0*
STR ***11*** *01:45:44.3±0.9, 4284N×161W, h5km, Ml3.5, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*

ISC 11 01:45:39.1±0.2, 4281N±001×179W±001, h8km±1km, n263, σ1§54/498, 2C-2D, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EARA	Aranguren SNR=18	0.16	103	⇑Pg	Pg	01 45 42.5	+0.1
EARA				Lg		01 45 44.2	
	743nm,0.1s,SNR=7.9						
EARA	Aranguren 263nm,0.1s,SNR=18	0.16	103	Pg	Pg	01 45 42.5	+0.1
EARA				Lg		01 45 44.2	
	743nm,0.1s,SNR=7.9						
IUSE	Utxeti 103nm,0.3s,SNR=18	0.23	51	⇓Pg	Pg	01 45 45.0	+1.4
IUSE				Lg		01 45 47.8	
	530nm,0.3s,SNR=7.9						
IUSE	Utxeti 103nm,0.3s,SNR=18	0.23	51	Pg	Pg	01 45 45.0	+1.4
IUSE				Lg		01 45 47.8	
	530nm,0.3s,SNR=7.9						
IZUN	Zunzarren 39nm,0.2s,SNR=18	0.25	77	⇓Pg	Pg	01 45 44.7	+0.7
IZUN				Lg		01 45 48.4	
	716nm,0.3s,SNR=7.9						
IZUN	Zunzarren 39nm,0.2s,SNR=18	0.25	77	Pg	Pg	01 45 44.7	+0.6
IZUN				Lg		01 45 48.4	
	716nm,0.3s,SNR=7.9						
IPRE	Itoiz 24nm,0.2s,SNR=36	0.32	90	Pg	Pg	01 45 45.8	+0.5
IPRE				Lg		01 45 48.9	
	147nm,0.4s,SNR=7.9						
IPRE	Itoiz 24nm,0.2s,SNR=36	0.32	90	Pg	Pg	01 45 45.8	+0.5
IPRE				Lg		01 45 48.9	
	147nm,0.4s,SNR=7.9						
ELIZ	Elizondo 180nm,0.3s,SNR=18	0.40	28	⇑Pg	Pg	01 45 49.0	+2.0
ELIZ				Lg		01 45 55.0	
	138nm,0.2s,SNR=11						
SJPF	Ste Jean	0.51	53	*e*Pn	Pg	01 45 52.1	+3.0
SJPF				*e*Sg	Sg	01 45 56.9	+1.1
SJPF				*e*Sn	Sg	01 46 00.5	+4.7
	559nm,0.4s						
SJPF	Ste Jean	0.51	53	*e*Pg	Pg	01 45 50.2	+1.1
SJPF				*e*Pn	Pg	01 45 52.1	+3.0
SJPF				*e*Sg	Sg	01 45 56.9	+1.1
SJPF				*e*Sn	Sg	01 46 00.5	+4.7
SJPF	Ste Jean	0.51	53	Pg	Pg	01 45 50.2	+1.1
SJPF				Lg		01 45 56.9	
SJPF	Ste Jean	0.51	53	*e*Pn	Pg	01 45 52.1	+3.0
SJPF				*e*Sg	Sg	01 45 56.9	+1.1
SJPF				*e*Sn	Sg	01 46 00.5	+4.7
	279nm,0.4s						
ECRI	Cripan 48nm,0.3s,SNR=57	0.57	250	Pg	Pg	01 45 51.8	+1.7
ECRI				Lg		01 46 01.2	
	140nm,0.2s,SNR=7.9						
OSSF	Osses	0.59	40	Pg	Pg	01 45 52.1	+1.6
OSSF				Sg	Sg	01 46 01.5	+3.2
OSSF	Osses	0.59	40	Pg	Pg	01 45 52.0	+1.4
OSSF				Lg		01 46 01.1	
LARF	Larrau	0.63	68	Pg	Pg	01 45 52.3	+1.0
LARF				Sg	Sg	01 46 02.7	+3.2
LARF	Larrau	0.63	68	Pg	Pg	01 45 52.4	+1.1
LARF				Lg		01 46 00.7	
ORDF	Ordiarp	0.74	57	Pg	Pg	01 45 54.6	+1.1
ORDF				Lg		01 46 05.3	
FDAF	Les Forges d'A	0.90	89	Pg	Pg	01 45 57.6	+1.2
FDAF				Lg		01 46 09.3	
ETSF	Etsaut	0.91	84	*e*P	Pg	01 45 59.2	+2.7
ETSF				*e*Sg	Sg	01 46 08.3	0.0
	344nm,0.6s,SNR=1.0						
ETSF	Etsaut	0.91	84	*e*Pg	Pg	01 45 57.0	+0.5
ETSF				*e*P		01 45 59.2	
ETSF				*e*Sg	Sg	01 46 08.3	0.0
ETSF	Etsaut	0.91	84	Pg	Pg	01 45 57.0	+0.5
ETSF				Lg		01 46 08.3	
	172nm,0.6s						
ETSF	Etsaut	0.91	84	*e*P	Pg	01 45 59.2	+2.7
ETSF				*e*Sg	Sg	01 46 08.3	0.0
	172nm,0.6s,SNR=1.0						
REYF	Montagne du Re	1.06	75	Pg	Pg	01 46 00.6	+1.2
REYF				Sg	Sg	01 46 15.3	+2.2
REYF	Montagne du Re	1.06	75	Pg	Pg	01 46 00.2	+0.8
REYF				Lg		01 46 13.4	
ELAN	Lanestosa 35nm,0.2s,SNR=299	1.28	290	Pg	Pg	01 46 05.7	+2.1
ELAN				Lg		01 46 24.7	
	351nm,0.5s,SNR=10						
ELAN	Lanestosa 35nm,0.2s,SNR=299	1.28	290	Pg	Pg	01 46 05.7	+2.0
VIEF	Viey	1.33	86	Pg	Pg	01 46 04.6	-0.1
VIEF				Sg	Sg	01 46 24.8	+2.8
LABF	Labassere	1.39	79	Pg	Pg	01 46 06.3	+0.6
LABF				Sg	Sg	01 46 26.6	+2.9
LABF	Labassere	1.39	79	Pg	Pg	01 46 07.2	+1.4
LABF				Lg		01 46 28.2	
EBIE	Bielsa 2.6nm,0.1s,SNR=82	1.43	94	Pg	Pg	01 46 06.6	+0.1
EBIE				Lg		01 46 24.5	
	49nm,0.3s,SNR=15						
EBIE	Bielsa 2.6nm,0.1s,SNR=82	1.43	94	Pg	Pg	01 46 06.6	+0.1
ESAC	San Caprasio 251nm,0.3s,SNR=137	1.46	138	Pg	Pg	01 46 05.9	-1.2
ESAC				Lg		01 46 25.4	
	2µm,0.4s,SNR=7.9						
ESAC	San Caprasio 251nm,0.3s,SNR=137	1.46	138	Pg	Pg	01 46 05.9	-1.2
RESF	Ens	1.56	89	Pg	Pg	01 46 09.3	+0.2
RESF				Sg	Sg	01 46 30.5	+1.1
RESF	Ens	1.56	89	Pg	Pg	01 46 09.3	+0.2
RESF				Lg		01 46 30.9	
EPF	Esparros	1.58	81	*e*Pg	Pg	01 46 09.1	-0.3
EPF				*e*Sn	Sn	01 46 25.9	-2.1
EPF				*e*Sg	Sg	01 46 29.9	+0.1
	153nm,0.4s,SNR=1.0						
EPF	Esparros	1.58	81	*e*Pg	Pg	01 46 09.1	-0.3
EPF				*e*Sn	Sn	01 46 25.9	-2.1
EPF				*e*Sg	Sg	01 46 29.9	+0.1
	76nm,0.4s,SNR=1.0						
MELF	Melles	1.87	87	Pg	Pg	01 46 15.5	+0.5
MELF				Lg		01 46 38.0	
ETOR	Torete	2.00	186	Pn	Pn	01 46 13.9	+0.7
ETOR				Pg	Pg	01 46 16.9	-0.4
ETOR				Sn	Sn	01 46 39.5	+1.1
ETOR				Lg		01 46 42.9	
ETOR	Torete 6.2nm,0.2s,SNR=132	2.00	186	Pn	Pn	01 46 13.9	+0.7
ETOR				Pg	Pg	01 46 16.9	-0.4
	172nm,0.4s,SNR=7.9						
ETOR				Sn	Sn	01 46 38.7	+0.3
	123nm,0.5s,SNR=7.9						
ETOR				Lg		01 46 42.9	
	470nm,0.3s,SNR=7.2						
ETOR	Torete 172nm,0.4s,SNR=7.9	2.00	186	Pg	Pg	01 46 16.9	-0.5
ETOR	Torete 123nm,0.5s,SNR=7.9	2.00	186	Pg	Pg	01 46 17.0	-0.4
ETOR				Sn	Sn	01 46 39.5	+1.2
MLS	Moulis	2.12	85	Pn	Pn	01 46 19.7	+4.8
MLS				Sg	Sg	01 46 47.5	+0.2
MLS	Moulis	2.12	85	Pg	Pg	01 46 19.8	0.0
MLS				Lg		01 46 45.0	
SALF	Salau	2.19	90	Pn	Pn	01 46 20.4	+4.6
SALF	Salau	2.19	90	Pg	Pg	01 46 18.8	-2.3
SALF				Lg		01 46 48.3	
ERTA	Horta de San J 1.6nm,0.2s,SNR=7.3	2.43	139	Pn	Pn	01 46 19.0	-0.2
ERTA				Sn	Sn	01 46 48.7	-0.4
	13nm,0.2s,SNR=7.9						
ERTA				Lg		01 46 55.3	
	80nm,0.3s,SNR=6.6						
ERTA	Horta de San J 1.6nm,0.2s,SNR=7.3	2.43	139	Pn	Pn	01 46 19.0	-0.2
ERTA				Sn	Sn	01 46 48.7	-0.4
	13nm,0.2s,SNR=7.9						
PAND	Andorre	2.48	95	Pg	Pg	01 46 26.7	+0.2
PAND				Lg		01 46 57.0	
EARI	Arriondas 1.5nm,0.2s,SNR=7.9	2.56	282	Pn	Pn	01 46 23.6	+2.7
EARI				Pg	Pg	01 46 31.1	+3.0
	SNR=7.9						
EARI				Sn	Sn	01 46 55.3	+3.1
	21nm,0.4s,SNR=7.9						
EARI				Lg		01 47 05.2	
	25nm,0.4s,SNR=5.1						
EARI	Arriondas 1.5nm,0.2s,SNR=7.9	2.56	282	Pn	Pn	01 46 23.6	+2.7
EARI	Arriondas SNR=7.9	2.56	282	Pg	Pg	01 46 31.1	+3.0
EARI				Sn	Sn	01 46 55.3	+3.1
	21nm,0.4s,SNR=7.9						
EPOB	Poblet 0.6nm,0.1s,SNR=7.9	2.58	123	Pn	Pn	01 46 21.0	-0.3
EPOB				Pg	Pg	01 46 26.6	-1.9
	2.7nm,0.2s,SNR=7.9						
EPOB				Sn	Sn	01 46 51.5	-1.3
	7.7nm,0.2s,SNR=7.9						
EPOB				Lg		01 47 00.1	
	26nm,0.4s,SNR=7.9						
EPOB	Poblet 0.6nm,0.1s,SNR=7.9	2.58	123	Pn	Pn	01 46 21.0	-0.2
EPOB	Poblet 2.7nm,0.2s,SNR=7.9	2.58	123	Pg	Pg	01 46 26.6	-2.0
EPOB				Sn	Sn	01 46 51.5	-1.3
	7.7nm,0.2s,SNR=7.9						
EMIR	Miracle SNR=7.9	2.61	109	Lg		01 47 02.8	
EMOS	Mosqueruela 0.3nm,0.2s,SNR=7.9	2.63	158	Pn	Pn	01 46 23.0	+1.1
EMOS				Pg	Pg	01 46 27.3	-2.3
	1.2nm,0.1s,SNR=7.9						
EMOS				Lg		01 47 01.0	
	41nm,0.5s,SNR=7.9						
EMOS	Mosqueruela 0.3nm,0.2s,SNR=7.9	2.63	158	Pn	Pn	01 46 23.0	+1.1
EMOS	Mosqueruela 1.2nm,0.1s,SNR=7.9	2.63	158	Pg	Pg	01 46 27.3	-2.3
LPEF	Le Peyrat	2.72	86	Pg	Pg	01 46 26.3	-4.9
LPEF				Lg		01 47 05.9	
GUD	Guadarrama	2.79	220	Pn	Pn	01 46 25.5	+1.3
GUD				Pg	Pg	01 46 33.6	+1.0
GUD				Sn	Sn	01 46 59.1	+1.0
GUD				Lg		01 47 09.0	
GUD	Guadarrama SNR=7.9	2.79	220	Pn	Pn	01 46 25.5	+1.3
GUD				Pg	Pg	01 46 31.7	-1.0
	23nm,0.7s,SNR=7.9						
GUD				Sn	Sn	01 46 59.1	+1.0
	13nm,0.4s,SNR=7.9						
GUD				Lg		01 47 09.0	
	29nm,0.4s,SNR=7.9						
GUD	Guadarrama 23nm,0.7s,SNR=7.9	2.79	220	Pg	Pg	01 46 33.6	+0.9
GUD				Sn	Sn	01 46 59.1	+1.1
	13nm,0.4s,SNR=7.9						
LFF	La Frestale	2.81	40	*e*P	Pn	01 46 27.5	+3.2
LFF	La Frestale	2.81	40	*e*Pg	Pg	01 46 33.5	+0.6
	SNR=1.0						
LFF				*e*Sn	Sn	01 46 55.9	-2.5
LFF				*e*Sg	Sg	01 47 09.7	+0.4
	67nm,0.6s,SNR=1.0						
LFF	La Frestale	2.81	40	*e*Pn	Pn	01 46 24.9	+0.6
LFF				*e*P		01 46 27.5	
LFF				*e*Pg	Pg	01 46 33.5	+0.6
LFF				*e*Sn	Sn	01 46 55.9	-2.5
LFF				*e*Sg	Sg	01 47 09.7	+0.4
LFF	La Frestale	2.81

RJF	**Les Rejaudoux**	**3.45**	**43**	*e*Pn	**Pn**	**01 46 34.7**	**+1.6**
	SNR=1.0						
RJF				*e*Sn	**Sn**	**01 47 13.0**	**-1.2**
	35nm,0.5s,SNR=1.0						
RJF	**Les Rejaudoux**	**3.45**	**43**	*e*Pn	**Pn**	**01 46 34.7**	**+1.6**
	SNR=1.0						
RJF				*e*Sn	**Sn**	**01 47 13.0**	**-1.2**
	18nm,0.5s,SNR=1.0						
EJON	**La Jonquera**	**3.47**	**94**	Pn	**Pn**	**01 46 35.5**	**+2.1**
EJON				Pg	**Pg**	**01 46 43.6**	**-2.0**
EJON				Lg		01 47 31.6	
EJON	**La Jonquera**	**3.47**	**94**	Pn	**Pn**	**01 46 34.4**	**+1.0**
	0.4nm,0.2s,SNR=7.9						
EJON				Pg	**Pg**	**01 46 43.6**	**-2.0**
	5.4nm,0.4s,SNR=7.9						
EJON				Lg		01 47 29.1	
	18nm,0.5s,SNR=7.9						
EJON	**La Jonquera**	**3.47**	**94**	Pn	**Pn**	**01 46 35.5**	**+2.1**
	0.4nm,0.2s,SNR=7.9						
EJON	**La Jonquera**	**3.47**	**94**	Pg	**Pg**	**01 46 43.6**	**-2.0**
	5.4nm,0.4s,SNR=7.9						
CAF	**Calviac**	**3.50**	**51**	*e*Pn	**Pn**	**01 46 35.5**	**+1.7**
	SNR=1.0						
CAF				*e*Sn	**Sn**	**01 47 13.6**	**-1.8**
	14nm,0.2s,SNR=1.0						
CAF	**Calviac**	**3.50**	**51**	*e*Pn	**Pn**	**01 46 35.5**	**+1.7**
	SNR=1.0						
CAF				*e*Sn	**Sn**	**01 47 13.6**	**-1.8**
	6.8nm,0.2s,SNR=1.0						
ESDC	**Sonseca Array**	**3.53**	**208**	Pn	**Pn**	**01 46 34.1**	**-0.2**
	6.0nm,0.5s,baz=37,slow=13,SNR=7.9						
ESDC				Pg	**Pg**	**01 46 45.4**	**-1.4**
	9.5nm,0.5s,baz=33,slow=16,SNR=7.9						
ESDC				Sn	**Sn**	**01 47 14.5**	**-1.8**
	baz=32,slow=24,SNR=7.9						
ESDC				Lg		01 47 29.4	
	11nm,0.3s,baz=34,slow=30,SNR=7.9						
ESDC	**Sonseca Array**	**3.53**	**208**	Pn	**Pn**	**01 46 34.1**	**-0.2**
	6.0nm,0.5s,SNR=7.9						
ESDC	**Sonseca Array**	**3.53**	**208**	Pg	**Pg**	**01 46 45.4**	**-1.4**
	9.5nm,0.5s,SNR=7.9						
ESDC				Sn	**Sn**	**01 47 14.5**	**-1.8**
	SNR=7.9						
ECAL	**Calabor**	**3.77**	**258**	Pn	**Pn**	**01 46 38.9**	**+1.3**
	3.9nm,0.2s,SNR=7.9						
ECAL				Sn	**Sn**	**01 47 23.2**	**+1.2**
	12nm,0.3s,SNR=7.9						
ECAL				Lg		01 47 42.3	
	51nm,0.4s,SNR=7.9						
ECAL	**Calabor**	**3.77**	**258**	Pn	**Pn**	**01 46 38.9**	**+1.4**
	3.9nm,0.2s,SNR=7.9						
ECAL				Sn	**Sn**	**01 47 23.2**	**+1.2**
	12nm,0.3s,SNR=7.9						
PAB	**San Pablo**	**3.79**	**212**	*e*Pn	**Pn**	**01 46 38.2**	**+0.5**
PAB				*e*Pg	**Pg**	**01 46 52.9**	**+1.2**
PAB				*e*Sn	**Sn**	**01 47 24.7**	**+2.2**
PAB				*e*Sg	**Sg**	**01 47 41.0**	**+0.2**
PAB	**San Pablo**	**3.79**	**212**	*e*Pn	**Pn**	**01 46 38.2**	**+0.4**
PAB	**San Pablo**	**3.79**	**212**	*e*Pg	**Pg**	**01 46 52.9**	**+1.2**
PBRG	**Braganca**	**3.81**	**256**	*e*Pn	**Pn**	**01 46 39.4**	**+1.3**
PBRG				*e*Sn	**Sn**	**01 47 22.9**	**-0.1**
PBRG				*e*Sg	**Sg**	**01 47 41.3**	**-0.1**
PBRG				A		01 47 51.3	
	18nm,0.4s						
PBRG	**Braganca**	**3.81**	**256**	*e*Pn	**Pn**	**01 46 39.4**	**+1.3**
PBRG				*e*Sn	**Sn**	**01 47 22.9**	**-0.1**
PBRG				*e*Sg	**Sg**	**01 47 41.3**	**-0.1**
	18nm,0.4s						
EPON	**Pontenova**	**3.96**	**279**	Pn	**Pn**	**01 46 42.1**	**+1.9**
EPON				Sn	**Sn**	**01 47 29.4**	**+2.5**
EPON				Lg		01 47 50.4	
EPON	**Pontenova**	**3.96**	**279**	Pn	**Pn**	**01 46 42.1**	**+1.9**
	0.9nm,0.2s,SNR=12						
EPON				Sn	**Sn**	**01 47 29.0**	**+2.2**
	9.8nm,0.4s,SNR=7.9						
EPON				Lg		01 47 50.4	
	16nm,0.4s,SNR=7.9						
EPON	**Pontenova**	**3.96**	**279**	Pn	**Pn**	**01 46 42.1**	**+1.9**
	0.9nm,0.2s,SNR=12						
EPON				Sn	**Sn**	**01 47 29.4**	**+2.5**
	9.8nm,0.4s,SNR=7.9						
MFF	**Saint Martin d**	**3.97**	**17**	*e*Pg	**Pg**	**01 46 55.2**	**0.0**
	SNR=1.0						
MFF				*e*Sn	**Sn**	**01 47 26.5**	**-0.5**
MFF				*e*Sg	**Sg**	**01 47 46.1**	**-0.5**
	28nm,0.7s,SNR=1.0						
MFF	**Saint Martin d**	**3.97**	**17**	*e*Pn	**Pn**	**01 46 41.6**	**+1.3**
MFF				*e*Pg	**Pg**	**01 46 55.2**	**0.0**
MFF				*e*Sn	**Sn**	**01 47 26.5**	**-0.5**
MFF				*e*Sg	**Sg**	**01 47 46.1**	**-0.5**
MFF	**Saint Martin d**	**3.97**	**17**	Pn	**Pn**	**01 46 41.6**	**+1.3**
MFF				Pg	**Pg**	**01 46 55.2**	**0.0**
MFF				Sn	**Sn**	**01 47 26.5**	**-0.5**
MFF				Lg		01 47 46.1	
	14nm,0.7s						
MFF	**Saint Martin d**	**3.97**	**17**	*e*Pn	**Pn**	**01 46 41.6**	**+1.3**
	SNR=1.0						
MFF	**Saint Martin d**	**3.97**	**17**	*e*Pg	**Pg**	**01 46 55.2**	**0.0**
	SNR=1.0						
MFF				*e*Sn	**Sn**	**01 47 26.5**	**-0.5**
MFF				*e*Sg	**Sg**	**01 47 46.1**	**-0.5**
	14nm,0.7s,SNR=1.0						
ETOB	**Tobarra**	**4.16**	**177**	Pn	**Pn**	**01 46 44.1**	**+1.2**
	8.3nm,0.5s,SNR=14						
ETOB				Pg	**Pg**	**01 46 56.1**	**-2.7**
	8.5nm,0.5s,SNR=7.9						
ETOB				Lg		01 47 52.9	
	17nm,0.6s,SNR=4.5						
ETOB	**Tobarra**	**4.16**	**177**	Pn	**Pn**	**01 46 44.1**	**+1.2**
	8.3nm,0.5s,SNR=14						
ETOB	**Tobarra**	**4.16**	**177**	Pg	**Pg**	**01 46 56.2**	**-2.6**
	8.5nm,0.5s,SNR=7.9						
EVIA	**Vianos**	**4.20**	**188**	Pn	**Pn**	**01 46 45.0**	**+1.6**
EVIA				Pg	**Pg**	**01 46 58.0**	**-1.5**
EVIA				Lg		01 47 52.0	
EVIA	**Vianos**	**4.20**	**188**	Pn	**Pn**	**01 46 45.1**	**+1.6**
	5.4nm,0.2s,SNR=10						
EVIA				Pg	**Pg**	**01 46 56.6**	**-3.0**
	24nm,0.6s,SNR=7.9						
EVIA				Lg		01 47 52.1	
	58nm,0.6s,SNR=8.4						
EVIA	**Vianos**	**4.20**	**188**	Pn	**Pn**	**01 46 45.0**	**+1.5**
EVIA	**Vianos**	**4.20**	**188**	Pg	**Pg**	**01 46 58.0**	**-1.6**
	24nm,0.6s,SNR=7.9						
MVO	**Moncorvo**	**4.24**	**249**	*e*Pn	**Pn**	**01 46 45.0**	**+1.0**
MVO				*e*Sn	**Sn**	**01 47 33.8**	**+0.2**
MVO				*e*Sg	**Sg**	**01 47 53.9**	**-1.3**
MVO				A		01 47 54.6	
	23nm,0.4s						
MVO	**Moncorvo**	**4.24**	**249**	*e*Pn	**Pn**	**01 46 45.0**	**+1.0**
MVO				*e*Sn	**Sn**	**01 47 33.8**	**+0.2**
MVO				*e*Sg	**Sg**	**01 47 53.9**	**-1.3**
	23nm,0.4s						
EBEN	**Beniarda**	**4.27**	**163**	Pn	**Pn**	**01 46 45.9**	**+1.5**
EBEN				Lg		01 47 52.2	
EBEN	**Beniarda**	**4.27**	**163**	Pn	**Pn**	**01 46 45.9**	**+1.5**
	SNR=7.9						
EBEN				Lg		01 47 52.2	
	47nm,1.0s,SNR=7.9						
EBEN	**Beniarda**	**4.27**	**163**	Pn	**Pn**	**01 46 45.9**	**+1.5**
	SNR=7.9						
LASF	**Ste Croix**	**4.30**	**71**	*e*P	**Pn**	**01 46 48.3**	**+3.5**
LASF	**Ste Croix**	**4.30**	**71**	*e*Pg	**Pg**	**01 46 59.6**	**-1.9**
LASF				*e*Sn	**Sn**	**01 47 31.2**	**-4.0**
	24nm,0.5s,SNR=1.0						
LASF	**Ste Croix**	**4.30**	**71**	*e*Pn	**Pn**	**01 46 44.5**	**-0.3**
LASF				*e*P		01 46 48.3	
LASF				*e*Pg	**Pg**	**01 46 59.6**	**-1.9**
LASF				*e*Sn	**Sn**	**01 47 31.2**	**-4.0**
LASF	**Ste Croix**	**4.30**	**71**	Pn	**Pn**	**01 46 44.5**	**-0.3**
LASF				Pg	**Pg**	**01 46 59.6**	**-1.9**
LASF				Sn	**Sn**	**01 47 31.2**	**-4.0**
	12nm,0.5s						
LASF	**Ste Croix**	**4.30**	**71**	*e*Pn	**Pn**	**01 46 44.5**	**-0.3**
	SNR=1.0						
LASF	**Ste Croix**	**4.30**	**71**	*e*P	**Pn**	**01 46 48.3**	**+3.5**
LASF	**Ste Croix**	**4.30**	**71**	*e*Pg	**Pg**	**01 46 59.6**	**-1.9**
LASF				*e*Sn	**Sn**	**01 47 31.2**	**-4.0**
	12nm,0.5s,SNR=1.0						
LBL	**Lubilhac**	**4.37**	**55**	Pn	**Pn**	**01 46 48.3**	**+2.6**
EIBI	**Ibiza**	**4.46**	**147**	Pn	**Pn**	**01 46 48.9**	**+1.9**
EIBI				Sn	**Sn**	**01 47 36.1**	**-3.0**
EIBI	**Ibiza**	**4.46**	**147**	Pn	**Pn**	**01 46 47.2**	**+0.2**
	0.1nm,0.2s,SNR=7.9						
EIBI				Sn	**Sn**	**01 47 36.1**	**-3.0**
	3.5nm,0.3s,SNR=7.9						
EIBI	**Ibiza**	**4.46**	**147**	Pn	**Pn**	**01 46 48.9**	**+1.9**
	0.1nm,0.2s,SNR=7.9						
EIBI				Sn	**Sn**	**01 47 36.1**	**-3.0**
	3.5nm,0.3s,SNR=7.9						
TCF	**Toulx Ste Croi**	**4.50**	**38**	*e*Pn	**Pn**	**01 46 49.0**	**+1.4**
	SNR=1.0						
TCF				*e*Sn	**Sn**	**01 47 37.6**	**-2.5**
	14nm,0.4s,SNR=1.0						
TCF				*e*Sg	**Sg**	**01 48 03.0**	**-0.6**
TCF	**Toulx Ste Croi**	**4.50**	**38**	*e*Pn	**Pn**	**01 46 49.0**	**+1.4**
	SNR=1.0						
TCF				*e*Sn	**Sn**	**01 47 37.6**	**-2.5**
	6.9nm,0.4s,SNR=1.0						
TCF				*e*Sg	**Sg**	**01 48 03.0**	**-0.6**
PYM	**Petit Puy Mans**	**4.53**	**48**	Pn	**Pn**	**01 46 50.1**	**+2.1**
PVRL	**Vila Real**	**4.67**	**253**	*e*Pn	**Pn**	**01 46 51.5**	**+1.5**
PVRL				*e*Sg	**Sg**	**01 48 05.9**	**-3.2**
PVRL				A		01 48 14.7	
	18nm,0.4s						
PVRL	**Vila Real**	**4.67**	**253**	*e*Pn	**Pn**	**01 46 51.5**	**+1.5**
PVRL				*e*Sg	**Sg**	**01 48 05.9**	**-3.2**
	18nm,0.4s						
ELOB	**Lobios**	**4.74**	**261**	Pn	**Pn**	**01 46 51.9**	**+1.0**
	1.7nm,0.2s,SNR=11						
ELOB				Sn	**Sn**	**01 47 45.9**	**-0.2**
	0.4nm,0.2s,SNR=7.9						
ELOB				Lg		01 48 13.1	
	10.0nm,0.4s,SNR=7.9						
ELOB	**Lobios**	**4.74**	**261**	Pn	**Pn**	**01 46 51.9**	**+1.0**
	1.7nm,0.2s,SNR=11						
ELOB				Sn	**Sn**	**01 47 45.9**	**-0.2**
	0.4nm,0.2s,SNR=7.9						
PCAB	**Cabril**	**4.76**	**259**	*e*Pn	**Pn**	**01 46 52.7**	**+1.6**
PCAB				*e*Sg	**Sg**	**01 48 09.7**	**-2.2**
PCAB				A		01 48 14.8	
	14nm,0.3s						
PCAB	**Cabril**	**4.76**	**259**	*e*Pn	**Pn**	**01 46 52.7**	**+1.6**
PCAB				*e*Sg	**Sg**	**01 48 09.7**	**-2.2**
	14nm,0.3s						
AGO	**Saint Agoulin**	**4.79**	**46**	Pn	**Pn**	**01 46 53.0**	**+1.5**
EBAN	**Banos Encina**	**4.88**	**199**	Pn	**Pn**	**01 46 53.9**	**+1.1**
	3.4nm,0.2s,SNR=6.2						
EBAN				Pg	**Pg**	**01 47 10.0**	**-2.6**
	5.6nm,0.3s,SNR=7.9						
EBAN				Lg		01 48 14.4	
	13nm,0.4s,SNR=7.9						
MTE	**Manteigas**	**4.94**	**243**	*e*Pn	**Pn**	**01 46 54.8**	**+1.2**
MTE				*e*Sg	**Sg**	**01 48 13.9**	**-3.8**
MTE				A		01 48 22.1	
	18nm,0.6s						
MTE	**Manteigas**	**4.94**	**243**	*e*Pn	**Pn**	**01 46 54.8**	**+1.2**
MTE				*e*Sg	**Sg**	**01 48 13.9**	**-3.8**
	18nm,0.6s						
STS	**Santiago**	**4.97**	**273**	Pn	**Pn**	**01 46 56.6**	**+2.5**
STS				Sn	**Sn**	**01 47 53.0**	**+1.2**
STS	**Santiago**	**4.97**	**273**	Pn	**Pn**	**01 46 56.6**	**+2.5**
	2.0nm,0.2s,SNR=7.9						
STS				Sn	**Sn**	**01 47 50.9**	**-0.8**
	4.6nm,0.5s,SNR=7.9						
STS	**Santiago**	**4.97**	**273**	Pn	**Pn**	**01 46 56.6**	**+2.5**
	2.0nm,0.2s,SNR=7.9						
STS				Sn	**Sn**	**01 47 53.0**	**+1.2**
	4.6nm,0.5s,SNR=7.9						
BGF	**Bois d'Agland**	**5.00**	**40**	*e*Pn	**Pn**	**01 46 55.2**	**+0.8**
	SNR=1.0						
BGF				*e*Sn	**Sn**	**01 47 49.7**	**-2.6**
	39nm,0.4s,SNR=1.0						
BGF				*e*Sg	**Sg**	**01 48 18.3**	**-1.2**
BGF	**Bois d'Agland**	**5.00**	**40**	*e*Pn	**Pn**	**01 46 55.2**	**+0.8**
	SNR=1.0						
BGF				*e*Sn	**Sn**	**01 47 49.7**	**-2.6**
	20nm,0.4s,SNR=1.0						
BGF				*e*Sg	**Sg**	**01 48 18.3**	**-1.2**
PLDF	**La Plantade**	**5.00**	**49**	Pn	**Pn**	**01 46 57.6**	**+3.1**
PVIS	**Viseu**	**5.02**	**247**	*e*Pn	**Pn**	**01 46 55.7**	**+0.9**
PVIS				*e*Sn	**Sn**	**01 47 51.2**	**-1.8**
PVIS				*e*Sg	**Sg**	**01 48 19.0**	**-1.4**
PVIS				A		01 48 24.1	
	11nm,0.4s						
PVIS	**Viseu**	**5.02**	**247**	*e*Pn	**Pn**	**01 46 55.7**	**+0.9**
PVIS				*e*Sn	**Sn**	**01 47 51.2**	**-1.8**
PVIS				*e*Sg	**Sg**	**01 48 19.0**	**-1.4**
	11nm,0.4s						
EQES	**Quesada**	**5.09**	**192**	Pn	**Pn**	**01 46 57.1**	**+1.3**
	1.5nm,0.3s,SNR=4.6						
EQES				Pg	**Pg**	**01 47 15.0**	**-1.6**
	12nm,0.5s,SNR=7.9						
EQES				Lg		01 48 22.3	
	30nm,0.7s,SNR=7.9						
EQES	**Quesada**	**5.09**	**192**	Pn	**Pn**	**01 46 57.1**	**+1.4**
	1.5nm,0.3s,SNR=4.6						
EQES	**Quesada**	**5.09**	**192**	Pg	**Pg**	**01 47 15.0**	**-1.7**
	12nm,0.5s,SNR=7.9						
EADA	**Adamuz**	**5.10**	**206**	Pn	**Pn**	**01 46 56.8**	**+1.0**
	0.4nm,0.1s,SNR=7.9						
EADA				Pg	**Pg**	**01 47 14.9**	**-1.8**
	10nm,0.7s,SNR=7.9						
EADA				Sn	**Sn**	**01 47 52.6**	**-2.3**
	0.6nm,0.1s,SNR=7.9						
EADA				Lg		01 48 22.6	
	18nm,0.6s,SNR=7.9						
EADA	**Adamuz**	**5.10**	**206**	Pn	**Pn**	**01 46 56.8**	**+1.0**
	0.4nm,0.1s,SNR=7.9						
EADA	**Adamuz**	**5.10**	**206**	Pg	**Pg**	**01 47 14.9**	**-1.9**
	10nm,0.7s,SNR=7.9						
EADA				Sn	**Sn**	**01 47 52.6**	**-2.3**
	0.6nm,0.1s,SNR=7.9						
VIVF	**Saint-Julien-l**	**5.10**	**64**	*e*P	**Pn**	**01 46 59.6**	**+3.8**
VIVF				*e*Sn	**Sn**	**01 47 51.6**	**-3.3**
	10nm,0.4s,SNR=1.0						
VIVF	**Saint-Julien-l**	**5.10**	**64**	*e*Pn	**Pn**	**01 46 56.1**	**+0.3**
VIVF				*e*P		01 46 59.6	
VIVF				*e*Sn	**Sn**	**01 47 51.6**	**-3.3**
VIVF	**Saint-Julien-l**	**5.10**	**64**	Pn	**Pn**	**01 46 56.1**	**+0.3**
VIVF				Sn	**Sn**	**01 47 51.6**	**-3.3**
	5.2nm,0.4s						
VIVF	**Saint-Julien-l**	**5.10**	**64**	*e*Pn	**Pn**	**01 46 56.1**	**+0.3**
	SNR=1.0						
VIVF	**Saint-Julien-l**	**5.10**	**64**	*e*P	**Pn**	**01 46 59.6**	**+3.8**
VIVF				*e*Sn	**Sn**	**01 47 51.6**	**-3.3**
	5.2nm,0.4s,SNR=1.0						
QUIF	**Quistinic**	**5.20**	**350**	*e*Pn	**Pn**	**01 46 58.4**	**+1.2**
	SNR=1.0						
QUIF				*e*Sn	**Sn**	**01 47 55.9**	**-1.4**
	12nm,0.3s						
QUIF	**Quistinic**	**5.20**	**350**	*e*Pn	**Pn**	**01 46 58.4**	**+1.2**
	SNR=1.0						
QUIF				*e*Sn	**Sn**	**01 47 55.9**	**-1.4**
	6.2nm,0.3s						
PCBR	**Castelo Branco**	**5.21**	**237**	*e*Pn	**Pn**	**01 46 57.3**	**0.0**
PCBR				*e*Sn	**Sn**	**01 47 55.1**	**-2.5**
PCBR				*e*Sg	**Sg**	**01 48 25.0**	**-1.3**
PCBR				A		01 48 29.2	
	12nm,0.9s						
PCBR	**Castelo Branco**	**5.21**	**237**	*e*Pn	**Pn**	**01 46 57.3**	**0.0**
PCBR				*e*Sn	**Sn**	**01 47 55.1**	**-2.5**
PCBR				*e*Sg	**Sg**	**01 48 25.0**	**-1.3**
	12nm,0.9s						
EMAZ	**Mazaricos**	**5.29**	**274**	Pn	**Pn**	**01 46 59.4**	**+1.1**
	6.6nm,0.2s,SNR=6.1						
EMAZ				Sn	**Sn**	**01 47 57.8**	**-1.6**
	21nm,1.0s,SNR=7.9						
EMAZ	**Mazaricos**	**5.29**	**274**	Pn	**Pn**	**01 46 59.5**	**+1.1**
AVF	**Avril sur Loir**	**5.41**	**41**	*e*Pn	**Pn**	**01 47 00.0**	**0.0**
	SNR=1.0						
AVF				*e*Sn	**Sn**	**01 47 59.6**	**-2.8**
	SNR=1.0						
AVF				*e*Sg	**Sg**	**01 48 29.6**	**-3.0**
	13nm,0.5s,SNR=1.0						
AVF	**Avril sur Loir**	**5.41**	**41**	*e*Pn	**Pn**	**01 47 00.0**	**0.0**
	SNR=1.0						
AVF				*e*Sn	**Sn**	**01 47 59.6**	**-2.8**
	SNR=1.0						
AVF				*e*Sg	**Sg**	**01 48 29.6**	**-3.0**
	6.3nm,0.5s,SNR=1.0						
HYF	**Humbligny**	**5.45**	**34**	*e*Pn	**Pn**	**01 47 01.2**	**+0.6**
HYF				*e*Sn	**Sn**	**01 48 00.4**	**-3.1**
HYF				*e*Sg	**Sg**	**01 48 31.7**	**-2.4**
SGMF	**Saint Gilles**	**5.47**	**355**	*e*Pn	**Pn**	**01 47 02.4**	**+1.5**
	SNR=1.0						
SGMF				*e*Sn	**Sn**	**01 48 04.7**	**+0.6**
	5.3nm,0.4s,SNR=1.0						
SGMF				*e*Sg	**Sg**	**01 48 34.9**	**+0.1**
SGMF	**Saint Gilles**	**5.47**	**355**	*e*Pn	**Pn**	**01 47 02.4**	**+1.5**
	SNR=1.0						
SGMF				*e*Sn	**Sn**	**01 48 04.7**	**+0.6**
	2.7nm,0.4s,SNR=1.0						
SGMF				*e*Sg	**Sg**	**01 48 34.9**	**+0.1**
ECAB	**El Cabril**	**5.48**	**212**	Pn	**Pn**	**01 47 02.1**	**+1.0**
	1.3nm,0.3s,SNR=7.9						
ECAB				Pg	**Pg**	**01 47 23.6**	**-0.4**
	2.6nm,0.3s,SNR=7.9						
ECAB				Lg		01 48 35.5	
	SNR=7.9						
ECAB	**El Cabril**	**5.48**	**212**	Pn	**Pn**	**01 47 02.1**	**+1.1**
	1.3nm,0.3s,SNR=7.9						
SMRF	**Simiane la Rot**	**5.49**	**75**	*e*P	**Pn**	**01 47 04.8**	**+3.6**
SMRF				*e*Sg	**Sg**	**01 48 32.0**	**-3.3**
	6.1nm,0.6s,SNR=1.0						
SMRF	**Simiane la Rot**	**5.49**	**75**	*e*Pn	**Pn**	**01 47 00.7**	**-0.5**
SMRF				*e*P		01 47 04.8	
SMRF				*e*Sg	**Sg**	**01 48 32.0**	**-3.3**
SMRF	**Simiane la Rot**	**5.49**	**75**	Pn	**Pn**	**01 47 00.7**	**-0.5**
SMRF				Lg		01 48 32.0	
	6.1nm,0.6s						
SMRF	**Simiane la Rot**	**5.49**	**75**	*e*P	**Pn**	**01 47 04.8**	**+3.6**
SMRF				*e*Sg	**Sg**	**01 48 32.0**	**-3.3**
	3.0nm,0.6s,SNR=1.0						
SMF	**Signal de Mont**	**5.55**	**44**	*e*Pn	**Pn**	**01 47 02.6**	**+0.6**
SMF				*e*Sn	**Sn**	**01 48 02.7**	**-3.2**
	SNR=1.0						
SMF				*e*Sg	**Sg**	**01 48 34.6**	**-2.6**
	21nm,0.9s						
SMF	**Signal de Mont**	**5.55**	**44**	*e*Pn	**Pn**	**01 47 02.6**	**+0.6**
SMF				*e*Sn	**Sn**	**01 48 02.7**	**-3.2**
	SNR=1.0						
SMF				*e*Sg	**Sg**	**01 48 34.6**	**-2.6**
	11nm,0.9s						
ELUQ	**Luque**	**5.57**	**201**	Pn	**Pn**	**01 47 03.0**	**+0.7**
	SNR=7.9						
ELUQ				Lg		01 48 37.0	
	4.6nm,0.4s,SNR=7.9						
GRR	**Gorron**	**5.62**	**6**	*e*Pg	**Pg**	**01 47 25.6**	**-1.1**
	SNR=1.0						
GRR				*e*Sn	**Sn**	**01 48 05.7**	**-1.9**
	7.2nm,0.4s						
GRR	**Gorron**	**5.62**	**6**	*e*Pn	**Pn**	**01 47 04.5**	**+1.6**
GRR				*e*Pg	**Pg**	**01 47 25.6**	**-1.1**
GRR				*e*Sn	**Sn**	**01 48 05.7**	**-1.9**
GRR	**Gorron**	**5.62**	**6**	Pn	**Pn**	**01 47 04.5**	**+1.6**
GRR				Pg	**Pg**	**01 47 25.6**	**-1.1**
GRR				Sn	**Sn**	**01 48 05.7**	**-1.9**
	3.6nm,0.4s						
GRR	**Gorron**	**5.62**	**6**	*e*Pn	**Pn**	**01 47 04.5**	**+1.6**
GRR	**Gorron**	**5.62**	**6**	*e*Pg	**Pg**	**01 47 25.6**	**-1.1**
	SNR=1.0						
GRR				*e*Sn	**Sn**	**01 48 05.7**	**-1.9**
	3.6nm,0.4s						
ROSF	**Rostrenen**	**5.63**	**350**	*e*Pn	**Pn**	**01 47 04.6**	**+1.6**
	SNR=1.0						
ROSF				*e*Sn	**Sn**	**01 48 05.2**	**-2.6**
	6.7nm,0.3s,SNR=1.0						
ROSF	**Rostrenen**	**5.63**	**350**	*e*Pn	**Pn**	**01 47 04.6**	**+1.6**
	SNR=1.0						
ROSF				*e*Sn	**Sn**	**01 48 05.2**	**-2.6**
	3.3nm,0.3s,SNR=1.0						
EBAD	**Badajoz**	**5.67**	**226**	Pn	**Pn**	**01 47 03.7**	**+0.1**
	0.7nm,0.2s,SNR=5.8						
EBAD				Sn	**Sn**	**01 48 07.8**	**-1.0**
	2.1nm,0.3s,SNR=7.9						
EBAD				Lg		01 48 41.3	
	4.6nm,0.3s,SNR=7.9						
EBAD	**Badajoz**	**5.67**	**226**	Pn	**Pn**	**01 47 03.7**	**+0.1**
	0.7nm,0.2s,SNR=5.8						
EBAD				Sn	**Sn**	**01 48 07.8**	**-1.0**
	2.1nm,0.3s,SNR=7.9						
SSF	**Saint Saulge**	**5.67**	**40**	*e*Pn	**Pn**	**01 47 04.3**	**+0.6**
	SNR=1.0						
SSF				*e*Sn	**Sn**	**01 48 05.3**	**-3.7**
	SNR=1.0						
SSF				*e*Sg	**Sg**	**01 48 38.7**	**-2.5**
	9.4nm,0.7s,SNR=1.0						
SSF	**Saint Saulge**	**5.67**	**40**	*e*Pn	**Pn**	**01 47 04.3**	**+0.6**
	SNR=1.0						
SSF				*e*Sn	**Sn**	**01 48 05.3**	**-3.7**
	SNR=1.0						
SSF				*e*Sg	**Sg**	**01 48 38.7**	**-2.5**
	4.7nm,0.7s,SNR=1.0						
ECOG	**Cogollos-Vega**	**5.69**	**194**	Pn	**Pn**	**01 47 04.8**	**+0.9**
	SNR=7.9						
ECOG				Lg		01 48 40.6	
	3.3nm,0.4s,SNR=7.9						
EQUE	**Quentar**	**5.74**	**193**	Pn	**Pn**	**01 47 06.3**	**+1.7**
	0.3nm,0.1s,SNR=8.5						
EQUE				Lg		01 48 42.5	
	13nm,0.6s,SNR=7.9						
LDF	**La Druitiere**	**5.90**	**11**	*e*Pn	**Pn**	**01 47 06.9**	**+0.1**
	SNR=1.0						
LDF				*e*Sn	**Sn**	**01 48 11.3**	**-3.3**
	SNR=1.0						
LDF				*e*Sg	**Sg**	**01 48 47.8**	**-0.7**
	12nm,0.6s,SNR=1.0						
LDF	**La Druitiere**	**5.90**	**11**	*e*Pn	**Pn**	**01 47 06.9**	**+

EGUA	**Guajares**	**6.12**	**194**	Pn	**Pn**	**01 47 12.1**	**+2.3**
EGUA	**Guajares**	**6.12**	**194**	Pn	**Pn**	**01 47 10.3**	**+0.5**
	2.2nm,0.6s,SNR=7.9						
EGUA	**Guajares**	**6.12**	**194**	Pn	**Pn**	**01 47 12.1**	**+2.2**
	2.2nm,0.6s,SNR=7.9						
FRF	**La Foret Royal**	**6.21**	**80**	*e*P	**Pn**	**01 47 14.2**	**+3.1**
FRF	**La Foret Royal**	**6.21**	**80**	*e*Pn	**Pn**	**01 47 09.9**	**-1.2**
FRF				*e*P		01 47 14.2	
FRF	**La Foret Royal**	**6.21**	**80**	*e*P	**Pn**	**01 47 14.2**	**+3.1**
EMIN	**Mina Concepcio**	**6.27**	**218**	Pn	**Pn**	**01 47 12.3**	**+0.4**
	0.2nm,0.1s,SNR=7.9						
EMIN				Sn	**Sn**	**01 48 19.1**	**-4.5**
	3.4nm,0.6s,SNR=7.9						
EMIN				Lg		01 48 59.3	
	2.0nm,0.9s,SNR=7.9						
EMIN	**Mina Concepcio**	**6.27**	**218**	Pn	**Pn**	**01 47 12.3**	**+0.4**
EVO	**Evora**	**6.37**	**230**	*e*Pn	**Pn**	**01 47 14.2**	**+0.9**
EVO				*e*Sn	**Sn**	**01 48 25.4**	**-0.9**
EVO				*e*Sg	**Sg**	**01 49 05.1**	**+1.4**
	30nm,0.8s						
EVO	**Evora**	**6.37**	**230**	*e*Pn	**Pn**	**01 47 14.4**	**+1.1**
EVO				*e*Sn	**Sn**	**01 48 24.1**	**-2.2**
EVO				*e*Sg	**Sg**	**01 49 00.3**	**-3.4**
EVO				A		01 49 10.7	
	6.8nm,0.8s						
EVO	**Evora**	**6.37**	**230**	Pn	**Pn**	**01 47 14.4**	**+1.1**
EVO				Sn	**Sn**	**01 48 24.1**	**-2.2**
EVO				Lg		01 49 00.3	
	3.4nm,0.8s						
EVO	**Evora**	**6.37**	**230**	*e*Pn	**Pn**	**01 47 14.4**	**+1.1**
EVO				*e*Sn	**Sn**	**01 48 24.1**	**-2.2**
EVOP	**Sao Brissos**	**6.44**	**231**	*e*Pn	**Pn**	**01 47 14.2**	**0.0**
EVOP				*e*Sn	**Sn**	**01 48 25.4**	**-2.5**
EVOP				*e*Sg	**Sg**	**01 49 05.1**	**-0.7**
	15nm,0.8s						
MBDF	**Montbardon**	**6.49**	**70**	*e*P	**Pn**	**01 47 19.9**	**+5.0**
MBDF				*e*Sn	**Sn**	**01 48 24.4**	**-4.6**
	5.5nm,0.7s						
MBDF	**Montbardon**	**6.49**	**70**	*e*Pn	**Pn**	**01 47 14.2**	**-0.7**
MBDF				*e*P		01 47 19.9	
MBDF				*e*Sn	**Sn**	**01 48 24.4**	**-4.6**
MBDF	**Montbardon**	**6.49**	**70**	Pn	**Pn**	**01 47 14.2**	**-0.7**
MBDF				Sn	**Sn**	**01 48 24.4**	**-4.6**
	2.8nm,0.7s						
MBDF	**Montbardon**	**6.49**	**70**	*e*P	**Pn**	**01 47 19.9**	**+5.0**
BNI	**Bardonecchia**	**6.51**	**67**	*e*Pn	**Pn**	**01 47 18.7**	**+3.5**
	4.1nm,0.6s						
BNI				*e*Sn	**Sn**	**01 48 31.7**	**+2.1**
BNI	**Bardonecchia**	**6.51**	**67**	*e*Pn	**Pn**	**01 47 18.7**	**+3.5**
	4.1nm,0.6s						
MOE	**Montemor**	**6.57**	**232**	*e*Sn	**Sn**	**01 48 27.6**	**-3.6**
MOE				*e*Sg	**Sg**	**01 49 06.1**	**-4.0**
PBEJ	**Beja**	**6.66**	**226**	*e*Sn	**Sn**	**01 48 29.7**	**-3.5**
PBEJ				*e*Sg	**Sg**	**01 49 12.0**	**-0.7**
PBEJ				A		01 49 15.6	
	4.6nm,0.9s						
PBEJ	**Beja**	**6.66**	**226**	*e*Sn	**Sn**	**01 48 29.7**	**-3.5**
PBEJ				*e*Sg	**Sg**	**01 49 12.0**	**-0.7**
	4.6nm,0.9s						
LPL	**La Plagne**	**6.70**	**63**	*e*P	**Pn**	**01 47 22.9**	**+5.1**
LPL				*e*Sn	**Sn**	**01 48 30.1**	**-4.1**
	4.0nm,0.7s						
LPG	**La Plagne**	**6.71**	**63**	*e*P	**Pn**	**01 47 22.2**	**+4.4**
LPG				*e*Sn	**Sn**	**01 48 29.6**	**-4.8**
	2.2nm,0.4s,SNR=1.0						
CABF	**La Chapelle**	**6.78**	**53**	*e*Pn	**Pn**	**01 47 18.7**	**-0.1**
CABF				*e*Sg	**Sg**	**01 49 14.0**	**-2.6**
	9.6nm,0.7s,SNR=1.0						
CABF	**La Chapelle**	**6.78**	**53**	*e*Pn	**Pn**	**01 47 18.7**	**-0.1**
CABF				*e*Sg	**Sg**	**01 49 14.0**	**-2.6**
	4.8nm,0.7s,SNR=1.0						
EGRO	**El Granado**	**6.84**	**222**	Pn	**Pn**	**01 47 19.4**	**-0.3**
	SNR=7.9						
EGRO				Sn	**Sn**	**01 48 33.2**	**-4.5**
	SNR=7.9						
EGRO				Lg		01 49 16.8	
	SNR=7.9						
PVAQ	**Vaqueiros**	**7.05**	**222**	*e*Pn	**Pn**	**01 47 22.8**	**+0.1**
PVAQ				*e*Sn	**Sn**	**01 48 39.1**	**-3.9**
PVAQ				*e*Sg	**Sg**	**01 49 20.3**	**-5.2**
PVAQ				A		01 49 30.7	
	6.4nm,0.5s						
PVAQ	**Vaqueiros**	**7.05**	**222**	Pn	**Pn**	**01 47 22.8**	**+0.1**
PVAQ				Sn	**Sn**	**01 48 39.1**	**-3.9**
PVAQ				Lg		01 49 20.3	
	3.2nm,0.5s						
SFTF	**Sexfontaines**	**7.22**	**39**	*e*Pn	**Pn**	**01 47 24.7**	**-0.2**
SFTF				*e*Sn	**Sn**	**01 48 42.3**	**-4.7**
	baz=219						
SFTF				*e*Sg	**Sg**	**01 49 27.5**	**-3.2**
	12nm,0.7s,baz=215						
SFTF	**Sexfontaines**	**7.22**	**39**	*e*Pn	**Pn**	**01 47 24.7**	**-0.2**
SFTF				*e*Sn	**Sn**	**01 48 42.3**	**-4.7**
SFTF				*e*Sg	**Sg**	**01 49 27.5**	**-3.2**
	6.2nm,0.7s						
PBDV	**Barranco-do-Ve**	**7.29**	**222**	*e*Sn	**Sn**	**01 48 44.1**	**-4.6**
PBDV				*e*Sg	**Sg**	**01 49 30.4**	**-2.5**
PBDV				A		01 49 44.4	
	5.8nm,0.8s						
PBDV	**Barranco-do-Ve**	**7.29**	**222**	Sn	**Sn**	**01 48 44.1**	**-4.6**
PBDV				Lg		01 49 30.4	
	2.9nm,0.8s						
MEZF	**Maizieres J'vi**	**7.44**	**38**	*e*Pn	**Pn**	**01 47 28.0**	**+0.1**
MEZF				*e*Sg	**Sg**	**01 49 34.7**	**-3.1**
	16nm,0.8s						
MEZF	**Maizieres J'vi**	**7.44**	**38**	*e*Pn	**Pn**	**01 47 28.0**	**+0.1**
MEZF				*e*Sg	**Sg**	**01 49 34.7**	**-3.1**
	8.2nm,0.8s						
PTEO	**Sao Teotonio**	**7.47**	**228**	*e*Sn	**Sn**	**01 48 50.1**	**-3.2**
PTEO				*e*Sg	**Sg**	**01 49 34.7**	**-4.1**
PTEO				A		01 49 56.5	
	7.7nm,0.8s						
PTEO	**Sao Teotonio**	**7.47**	**228**	Sn	**Sn**	**01 48 50.1**	**-3.2**
PTEO				Lg		01 49 34.7	
	3.8nm,0.8s						
MORF	**Marmelete**	**7.61**	**226**	*e*Pn	**Pn**	**01 47 30.8**	**+0.6**
MORF				*e*Sg	**Sg**	**01 49 42.9**	**-0.3**
MORF				A		01 49 53.6	
	2.3nm,0.4s						
MORF	**Marmelete**	**7.61**	**226**	Pn	**Pn**	**01 47 30.8**	**+0.6**
MORF				Lg		01 49 42.9	
	2.3nm,0.4s						
PFVI	**Vila Bisbo**	**7.83**	**226**	*e*Pn	**Pn**	**01 47 33.9**	**+0.6**
PFVI				*e*Sn	**Sn**	**01 49 00.2**	**-1.9**
PFVI				*e*Sg	**Sg**	**01 49 40.1**	**-10**
PFVI				A		01 49 57.4	
	4.1nm,0.6s						
PFVI	**Vila Bisbo**	**7.83**	**226**	Pn	**Pn**	**01 47 33.9**	**+0.6**
PFVI				Sn	**Sn**	**01 49 00.2**	**-1.9**
PFVI				Lg		01 49 40.1	
	2.0nm,0.6s						
HINF	**Hinteralfeld**	**7.88**	**48**	*e*Pn	**Pn**	**01 47 32.9**	**-1.1**
BAIF	**Baives**	**8.35**	**28**	*e*Pn	**Pn**	**01 47 40.7**	**+0.3**
CDF	**Champ du Feu**	**8.47**	**45**	*e*Pn	**Pn**	**01 47 40.9**	**-1.1**

IDC 11 01:48:51.0±4.7, 532S×10118E, h0km, mb3.5/5, mb1 3.6/5, mb1mx3.5/18, mbtmp3.5/5, Error ellipse: s-maj=201.7km s-min=24.7km az=53.0, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**35.37**	**117**	P	P	01 55 48.7	+0.1
	0.2nm,0.4s,baz=295,slow=8.7,SNR=3.4						
ASAR	**Alice Springs**	**36.41**	**123**	P	P	01 55 58.0	+0.6
	0.2nm,0.4s,baz=297,slow=8.2,SNR=3.7						
SONM	**Songino Array**	**53.12**	**4**	P	P	01 58 10.5	+0.2
	0.4nm,0.6s,baz=181,slow=7.7,SNR=3.2						
MKAR	**Makanchi Array**	**54.52**	**344**	P	P	01 58 21.1	+0.6
	0.5nm,0.6s,baz=153,slow=8.2,SNR=4.9						
ZALV	**Zalesovo Beam**	**60.62**	**349**	P	P	01 59 03.6	+0.2
	0.6nm,0.7s,baz=178,slow=4.2,SNR=3.7						
TXAR	**Lajitas Array**	**146.50**	**42**	PKPbc	PKPbc	02 08 32.9	-2.1
	0.1nm,0.4s,baz=237,slow=4.1,SNR=3.1						

NIED ***11*** *02:18:00, 34.30N×140.30E, h80km, Mw3.9 Best double couple: M0:6.92000×10^14 NP1:φ0:191.00000°, δ65.00000°, λ91.00000°. NP2:φ0:9.00000°, δ25.00000°, λ88.00000°.*
MOS ***11*** *02:18:18.1±1.9, 34.04N×140.68E, h33km, mb4.3/11, Error ellipse: s-maj=27.0km s-min=12.1km az=116.9*
JMA ***11*** *02:18:25.9±0.2, 34.31N×140.31E, h77km±2km, M4.0*

Broadband fault plane solution: P waves. NP1: φ0:355.00000°, δ19.00000°, λ110.00000°. NP2: φ0:154.00000°, δ72.00000°, λ83.00000°. Principal axes: T Plg62.0000°, Azm54.0000°; N Plg6.0000°, Azm156.0000°; P Plg27.0000°, Azm249.0000°;
JMA Felt I J1.
BJI ***11*** *02:18:25.3, 34.30N×140.30E, h87km, mB4.2, mb4.3, Ms4.2, Msz3.9*
ISCJB ***11*** *02:18:25.5±0.4, 34.29N±0.03×140.33E±0.04, h83km±2km, mb3.9/23, Error ellipse: s-maj=5.8km s-min=4.8km az=0.3*
NEIC ***11*** *02:18:27.4±1.5, 34.30N×140.34E, h87km±12km, mb3.9/10, Error ellipse: s-maj=15.1km s-min=12.4km az=137.0*
IDC ***11*** *02:18:27.4±1.1, 34.27N×140.26E, h86km±11km, mb3.6/9, mb1 3.8/12, mb1mx3.7/23, mbtmp3.6/12, MS2.5/2, Ms1 2.5/2, ms1mx2.3/33, Error ellipse: s-maj=22.4km s-min=8.3km az=71.0*

ISC 11 02:18:26.5±0.4, 34.29N±0.03×140.33E±0.04, h77km±2km, n60, o0.88/77, mb3.9/23, 4C-3D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO3	**Boso 3**	**0.54**	**16**	⇓P	**Pn**	**02 18 39.8**	**-0.5**
BSO3				S	**Sn**	**02 18 51.2**	**+0.7**
BSO2	**Boso 2**	**0.58**	**37**	S	**Sn**	**02 18 52.1**	**+0.8**
BSO1	**Boso 1**	**0.65**	**55**	⇓P	**Pn**	**02 18 40.7**	**-0.7**
BSO4	**Boso 4**	**0.70**	**1**	P	**Pn**	**02 18 41.8**	**-0.2**
BSO4				S	**Sn**	**02 18 54.3**	**+0.8**
JMY	**Miyakejima3**	**0.71**	**253**	P	**Pn**	**02 18 41.7**	**-0.4**
JMY				S	**Sn**	**02 18 52.9**	**-0.7**
TATJ	**Tateyama 2**	**0.83**	**334**	⇑P	**Pn**	**02 18 43.3**	**-0.1**
TATJ				S	**Sn**	**02 18 56.9**	**+1.0**
JIM2	**Oshima 3**	**0.86**	**300**	⇑P	**Pn**	**02 18 43.0**	**-0.7**
JIM2				S	**Sn**	**02 18 55.1**	**-1.4**
KTR	**Katsuura**	**0.86**	**359**	S	**Sn**	**02 18 56.1**	**-0.5**
JKO	**Kozu shima**	**0.99**	**265**	P	**Pn**	**02 18 45.2**	**-0.1**
JKO				S	**Sn**	**02 18 59.3**	**0.0**
KTJJ	**Kamata 2**	**1.22**	**302**	⇑P	**Pn**	**02 18 47.3**	**-0.9**
KTJJ				S	**Sn**	**02 19 03.0**	**-1.4**
JHJ2	**Mitsune**	**1.25**	**200**	P	**Pn**	**02 18 48.5**	**0.0**
JHJ2				S	**Sn**	**02 19 05.2**	**+0.3**
JHJ	**Hachijo jima 2**	**1.25**	**202**	P	**Pn**	**02 18 48.7**	**+0.2**
	553nm,0.3s,baz=65,slow=4.0,SNR=111						
JHJ				S	**Sn**	**02 19 05.7**	**+0.7**
	662nm,0.3s,baz=267,slow=21,SNR=7.8						
JIZS	**Izushimoda**	**1.27**	**290**	⇑P	**Pn**	**02 18 48.5**	**-0.3**
JIZS				S	**Sn**	**02 19 04.8**	**-0.7**
JOD2	**Odawara 2**	**1.41**	**314**	P	**Pn**	**02 18 49.9**	**-0.7**
JOD2				S	**Sn**	**02 19 07.7**	**-1.0**
JYN	**Shimob**	**1.90**	**310**	⇓P	**Pn**	**02 18 57.2**	**+0.2**
JYN				S	**Sn**	**02 19 20.8**	**+0.6**
MJAR	**Matsushiro Arr**	**2.84**	**323**	P	**Pn**	**02 19 09.9**	**+0.3**
MJAR				S	**Sn**	**02 19 43.0**	**+0.2**
MJAR				pmax	pmax		
	comp=Z,21nm,0.3s						
MJAR				smax			
	comp=N,19nm,0.3s						
MJAR	**Matsushiro Arr**	**2.84**	**323**	P	**Pn**	**02 19 09.9**	**+0.3**
	comp=N,21nm,0.3s,baz=153,slow=11,SNR=69						
MJAR				S	**Sn**	**02 19 43.0**	**+0.2**
	comp=N,19nm,0.3s,baz=132,slow=17,SNR=5.7						
MAJO	**Matsushiro**	**2.84**	**323**	*e*Pn	**Pn**	**02 19 10.3**	**+0.7**
MAJO				*e*Sn	**Sn**	**02 19 43.4**	**+0.5**
MAT	**Matsushiro**	**2.84**	**323**	P	**Pn**	**02 19 10.2**	**+0.5**
MAT				S	**Sn**	**02 19 43.2**	**+0.4**
JNU	**Nakatsue**	**7.96**	**264**	P	**Pn**	**02 20 21.2**	**+1.8**
	comp=N,1.2nm,0.3s,baz=74,slow=19,SNR=11						
JNU				LR	LR	02 23 22.2	
	comp=N,36nm,21.1s,baz=226,slow=37						
KSRS	**Korea Array**	**10.55**	**291**	P	**Pn**	**02 20 57.0**	**+2.2**
	comp=N,0.2nm,0.3s,baz=108,slow=14,SNR=4.4						
KSRS				LR	LR	02 24 52.8	
	comp=N,23nm,18.6s,baz=335,slow=37						
MDJ	**Mudanjiang**	**13.22**	**324**	P	**Pn**	**02 21 31.2**	**+0.2**
MDJ				AMB	AMB		
	comp=Z,4.0nm,0.7s						
MDJ				AMB	AMB		
	comp=Z,38nm,5.0s						
HHC	**Hu-ho-hao-te**	**23.66**	**295**	*e*P	**P**	**02 23 31.1**	**+0.3**
HHC				AP		02 23 48.3	
HHC				XP	sP	02 23 57.3	-0.1
HHC				PP		02 24 06.5	
HHC				PCP	PcP	02 27 15.1	+1.9
HHC				S	**S**	**02 27 44.0**	**+4.2**
HHC				XS	sS	02 28 07.1	-3.2
HHC				SS		02 28 30.9	
HHC				SCP	ScP	02 30 45.5	+0.9
HHC				PCS	PcS	02 30 55.9	+3.3
HHC				SCS	ScS	02 34 31.7	+0.5
HHC				AMB	AMB		
	comp=Z,13nm,0.3s,mb4.7						
HHC				AMB	AMB		
	comp=Z,86nm,9.0s						
HHC				LR	LR		
	comp=N,152nm,6.5s						
HHC				LR	LR		
	comp=E,166nm,13.1s						
HHC				LR	LR		
	comp=Z,138nm,14.1s						
ULN	**Ulaanbaatar**	**28.28**	**309**	*e*P	**P**	**02 24 12.7**	**+0.3**
	comp=Z,2.6nm,0.7s,mb3.9						
ULN	**Ulaanbaatar**	**28.28**	**309**	*e*P	**P**	**02 24 12.7**	**+0.3**
ULN				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb3.9						
SONM	**Songino Array**	**28.69**	**308**	P	**P**	**02 24 16.7**	**+0.6**
SONM				pmax	pmax		
	comp=Z,2.0nm,0.7s						
SONM	**Songino Array**	**28.69**	**308**	P	**P**	**02 24 16.7**	**+0.6**
	comp=Z,1.8nm,0.7s,mb3.8,baz=107,slow=8.3,SNR=6.8						
CD2	**Chengdu**	**30.89**	**274**	*e*P	**P**	**02 24 38.4**	**+2.7**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.7						
ZAK	**Zakamensk**	**31.37**	**312**	*e*P	**P**	**02 24 39.8**	**+0.1**
ZAK				pmax	pmax		
	comp=Z,1.0nm,0.8s,mb3.6						
BILL	**Bilibino**	**36.91**	**16**	*e*P	**P**	**02 25 23.3**	**-4.1**
BILL				pmax	pmax		
	comp=Z,1.0nm,1.0s,mb3.7						
ZALV	**Zalesovo Beam**	**43.16**	**315**	P	**P**	**02 26 19.3**	**0.0**
ZALV	**Zalesovo Beam**	**43.16**	**315**	P	**P**	**02 26 19.3**	**0.0**
	comp=Z,1.3nm,0.3s,mb4.1,baz=108,slow=8.5,SNR=7.4						
ZAL	**Zalesovo**	**43.17**	**315**	P	**P**	**02 26 19.3**	**-0.1**
MKAR	**Makanchi Array**	**44.88**	**304**	P	**P**	**02 26 32.9**	**-0.3**
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.7s						
MKAR	**Makanchi Array**	**44.88**	**304**	P	**P**	**02 26 32.9**	**-0.3**
	comp=Z,2.5nm,0.7s,mb4.0,baz=88,slow=9.9,SNR=21						
AML	**Almayashu**	**51.76**	**300**	*e*P	**P**	**02 27 26.8**	**+0.6**
	comp=Z,9.1nm,0.9s,mb4.8						
WRA	**Warramunga Arr**	**54.23**	**187**	P	**P**	**02 27 43.7**	**-0.7**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.3s						
WRA	**Warramunga Arr**	**54.23**	**187**	P	**P**	**02 27 43.7**	**-0.7**
	comp=Z,0.6nm,0.3s,mb4.1,baz=2.6,slow=7.8,SNR=28						
INK	**Inuvik**	**57.23**	**26**	*e*P	**P**	**02 28 05.8**	**+0.4**
RES	**Resolute Bay**	**65.48**	**14**	*e*P	**P**	**02 29 00.8**	**-0.1**
FORT	**Forrest**	**65.74**	**192**	*e*P	**P**	**02 29 03.1**	**+0.1**
	comp=Z,0.7nm,0.6s,mb3.7						
YKA	**Yellowknife Ar**	**66.63**	**29**	P	**P**	**02 29 08.4**	**0.0**
YKA	**Yellowknife Ar**	**66.63**	**29**	P	**P**	**02 29 08.4**	**0.0**
	comp=Z,0.4nm,0.8s,mb3.3,baz=299,slow=6.4,SNR=9.0						
KIV	**Kislovodsk**	**72.04**	**311**	*e*P	**P**	**02 29 41.9**	**-0.2**
	comp=Z,3.1nm,0.7s,mb4.2						
KIV	**Kislovodsk**	**72.04**	**311**	*e*P	**P**	**02 29 41.9**	**-0.3**
KIV				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.2						
NEW	**Newport**	**72.72**	**43**	*e*P	**P**	**02 29 46.4**	**+0.2**
	comp=Z,1.6nm,0.8s,mb3.9						
NEW	**Newport**	**72.72**	**43**	*e*P	**P**	**02 29 46.4**	**+0.3**
NEW				pmax	pmax		
	comp=Z,2.0nm,0.8s						
AKASG	**Malin Array Be**	**75.93**	**322**	P	**P**	**02 30 02.5**	**-2.2**
	comp=Z,0.3nm,0.3s,mb3.5,baz=46,slow=5.8,SNR=4.6						
FCC	**Fort Churchill**	**76.85**	**26**	*e*P	**P**	**02 30 09.1**	**-0.6**
	comp=Z,1.8nm,0.9s,mb3.8						
FCC	**Fort Churchill**	**76.85**	**26**	*e*P	**P**	**02 30 09.1**	**-0.7**
FCC				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb3.9						
NVAR	**Mina Array Bea**	**77.36**	**52**	P	**P**	**02 30 14.8**	**+1.8**
NVAR	**Mina Array Bea**	**77.36**	**52**	P	**P**	**02 30 14.8**	**+1.8**
	comp=Z,0.4nm,0.4s,mb3.5,baz=289,slow=4.1,SNR=5.0						
TPAW	**Teton Pass**	**78.98**	**45**	*e*P	**P**	**02 30 18.7**	**-3.1**
	comp=Z,1.5nm,0.5s,mb4.1						
DUG	**Dugway**	**79.83**	**48**	*e*P	**P**	**02 30 24.7**	**-1.9**
	comp=Z,0.8nm,0.5s,mb3.8						
DUG	**Dugway**	**79.83**	**48**	*e*P	**P**	**02 30 24.7**	**-1.9**
DUG				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb3.9						
BW06	**Boulder Array**	**80.23**	**45**	*e*P	**P**	**02 30 29.2**	**+0.6**
	comp=Z,0.5nm,0.4s,mb3.7						
PDAR	**Pinedale Array**	**80.23**	**45**	P	**P**	**02 30 29.1**	**+0.4**
	comp=Z,0.4nm,0.6s,mb3.4,baz=0.0,slow=0.1,SNR=4.2						
SDCO	**Great Sand Dun**	**85.81**	**46**	*e*P	**P**	**02 30 55.3**	**-2.3**
	comp=Z,1.2nm,0.9s,mb3.8						
TXAR	**Lajitas Array**	**92.50**	**52**	P	**P**	**02 31 29.4**	**+0.1**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
TXAR	**Lajitas Array**	**92.50**	**52**	P	**P**	**02 31 29.4**	**0.0**
	comp=Z,0.5nm,0.9s,mb3.9,baz=218,slow=1.4,SNR=5.1						

NEIC ***11*** *02:32:17.5, 43.33N×76.97W, h7km, ML2.6(LDO), After LDO.*
NEIC Felt at Sterling.

OTT 11 02:32:16.8±0.1, 43.33N×76.97W, h4km, MN2.5/8, Southern shore of Lake Ontario. 76km south from Picton, On Eastern Background Seismic Zone., New York

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PECO	**Prince Edward**	**0.61**	**358**	P	Pg	02 32 28.3	-0.2
PECO				S	Sg	02 32 36.4	-0.1
PECO	**Prince Edward**	**0.61**	**358**	PG	Pg	02 32 28.3	-0.2
PECO				SG	Sg	02 32 36.3	-0.1
PECO				Trac		02 32 39.1	
	comp=Z,30nm,0.1s						
PRNY	**Paleo Inst,Ith**	**0.91**	**160**	P	Pg	02 32 33.8	-0.6
PRNY				S	Sg	02 32 45.6	-0.6
KGNO	**Kingston**	**0.97**	**21**	PG	Pg	02 32 34.2	-1.1
KGNO				SG	Sg	02 32 46.7	-1.2
KGNO				Trac		02 32 47.0	
	comp=Z,20nm,0.1s						
MEDO	**Medina**	**1.10**	**262**	P	Pg	02 32 37.2	-0.7
MEDO				S	Sg	02 32 51.9	-0.2
MEDO	**Medina**	**1.10**	**262**	PG	Pg	02 32 37.2	-0.7
MEDO				SG	Sg	02 32 51.4	-0.6
CTNY	**Carthage**	**1.17**	**55**	P	Pg	02 32 37.7	-1.5
CTNY				S	Sg	02 32 53.8	-0.5
CTNY	**Carthage**	**1.17**	**55**	PG	Pg	02 32 37.6	-1.6
CTNY				SG	Sg	02 32 53.6	-0.7
WLVO	**Wesleyville**	**1.20**	**300**	P	Pg	02 32 38.3	-1.4
WLVO				S	Sg	02 32 54.4	-0.9
WLVO	**Wesleyville**	**1.20**	**300**	PG	Pg	02 32 39.5	-0.3
WLVO				SG	Sg	02 32 54.5	-0.8
WLVO				Trac		02 32 58.4	
	comp=Z,13nm,0.1s						
DELO	**Deloro Mine**	**1.28**	**339**	PG	Pg	02 32 40.3	-1.1
DELO				SG	Sg	02 32 56.8	-1.2
DELO				Trac		02 33 00.8	
	comp=Z,9.4nm,0.1s						
BINY	**Binghamton**	**1.34**	**147**	PG	Pg	02 32 40.8	-1.6
BINY				SG	Sg	02 32 58.2	-1.5
MPPO	**Murphy's Point**	**1.53**	**19**	PG	Pg	02 32 44.2	-2.0
MPPO				SG	Sg	02 33 04.2	-1.8
MPPO				Trac		02 33 11.5	
	comp=Z,5.8nm,0.1s						
STCO	**Saint Catharin**	**1.61**	**267**	PG	Pg	02 32 48.1	+0.4
STCO				SG	Sg	02 33 07.0	-1.6
STCO				Trac		02 33 09.0	
	comp=Z,12nm,0.1s						
PKRO	**Pickering**	**1.66**	**293**	PG	Pg	02 32 46.9	-1.7
PKRO				SG	Sg	02 33 07.7	-2.3
PKRO				Trac		02 33 10.8	
	comp=Z,40nm,0.2s						
PLVO	**Plevna**	**1.72**	**357**	PG	Pg	02 32 47.4	-2.3
PLVO				SG	Sg	02 33 09.4	-2.6
PLVO				Trac		02 33 12.2	
	comp=Z,6.2nm,0.1s						
EFO	**Effingham**	**1.73**	**263**	PG	Pg	02 32 47.5	-2.5
EFO				SG	Sg	02 33 09.8	-2.5
EFO				Trac		02 33 12.9	
	comp=Z,10nm,0.1s						
TORO	**Toronto--Lesli**	**1.75**	**280**	PG	Pg	02 32 51.4	+1.0
TORO				SG	Sg	02 33 11.0	-2.1
TORO				Trac		02 33 13.8	
	comp=Z,19nm,0.1s						
BANO	**Bancroft**	**1.83**	**338**	PG	Pg	02 32 49.6	-2.3
BANO				SG	Sg	02 33 14.0	-1.6
BANO				Trac		02 33 22.0	
	comp=Z,7.9nm,0.1s						
WBO	**Williamsburg**	**2.07**	**35**	PN	Pn	02 32 52.1	-0.2
WBO				PG	Pg	02 32 52.9	-3.6
WBO				SN	Sn	02 33 16.5	-2.0
WBO				SG	Sg	02 33 20.5	-2.8
WBO				Trac		02 33 24.8	
	comp=Z,8.0nm,0.1s						
RD01	**Burlington**	**2.09**	**273**	SG	Sg	02 33 20.9	-3.2
RD01				Trac		02 33 23.8	
	comp=Z,8.3nm,0.1s						
NCB	**Newcomb**	**2.10**	**71**	*e*Pn	Pn	02 32 52.2	-0.4
NCB				*e*Sn	Sn	02 33 20.5	+1.4
NCB	**Newcomb**	**2.10**	**71**	PN	Pn	02 32 51.2	-1.4
NCB				SN	Sn	02 33 15.8	-3.2
NCB				SG	Sg	02 33 21.2	-2.9
RD02	**Waterdown**	**2.12**	**271**	SG	Sg	02 33 24.0	-1.0
RD02				Trac		02 33 27.1	
	comp=Z,9.

KLBO			SN	Sn	02 33 37.7	-5.9
KLBO			SG	Sg	02 33 48.5	-7.5
KLBO			Trac		02 33 52.6	
comp=Z,2.5nm,0.1s						
ELFO	**Elginfield**	**3.18 269**	PN	Pn	02 33 04.2	-3.3
ELFO			SN	Sn	02 33 44.3	-1.5
ELFO			SG	Sg	02 33 51.8	-7.1
ELFO			Trac		02 33 55.1	
comp=Z,5.4nm,0.1s						
MRHQ	**Morin Heights**	**3.23 37**	PN	Pn	02 33 06.6	-1.6
MRHQ			SN	Sn	02 33 44.8	-2.2
MRHQ			SG	Sg	02 33 55.7	-4.9
MRHQ			Trac		02 34 00.1	
comp=Z,4.4nm,0.1s						
BRCO	**Bruce Peninsul**	**3.37 287**	SN	Sn	02 33 48.8	-1.6
BRCO			SG	Sg	02 33 59.9	-5.0
TRQ	**Mont Tremblant**	**3.37 30**	PN	Pn	02 33 07.4	-2.7
TRQ			SN	Sn	02 33 48.7	-1.8
TRQ			SG	Sg	02 34 02.7	-2.3
TRQ			Trac		02 34 07.8	
comp=Z,2.9nm,0.2s						
GRQ	**Grand Remous**	**3.38 13**	PN	Pn	02 33 10.6	+0.4
GRQ			SG	Sg	02 34 00.4	-4.8
GRQ			Trac		02 34 07.2	
comp=Z,1.6nm,0.1s						
RSPO	**Restoule Provi**	**3.39 325**	PN	Pn	02 33 10.2	-0.3
RSPO			SN	Sn	02 33 47.8	-3.3
RSPO			SG	Sg	02 34 01.0	-4.8
RSPO			Trac		02 34 06.1	
comp=Z,2.3nm,0.2s						
EEO	**Eldee**	**3.64 336**	PN	Pn	02 33 13.3	-0.5
EEO			SN	Sn	02 33 57.1	0.0
EEO			SG	Sg	02 34 08.4	-5.2
EEO			Trac		02 34 14.7	
comp=Z,1.6nm,0.1s						
TOBO	**Tobermory, Bru**	**3.78 302**	PN	Pn	02 33 15.4	-0.4
TOBO			SN	Sn	02 33 59.8	-0.9
MOQ	**Mont Orford**	**3.92 58**	SG	Sg	02 34 16.1	-6.7
MOQ			Trac		02 34 22.2	
comp=Z,0.4nm,0.0s						
PLIO	**Pelee Island,**	**4.47 251**	SN	Sn	02 34 13.8	-3.8
PLIO			SG	Sg	02 34 32.6	-7.6
DPQ	**Saint Jean**	**4.48 40**	SG	Sg	02 34 31.8	-8.9
DPQ			Trac		02 34 37.3	
comp=Z,1.8nm,0.2s						

*ISK **11** 02:50:09.4,3882N×2425E,h8km,ML3.6*
*ISCJB **11** 02:50:15.1±0.7,3886N±002×2488E±002,h7km±5km, Error ellipse: s-maj=3.2km s-min=3.1km az=150.2*
*NEIC **11** 02:50:15.2,3884N×2490E,h24km,ML3.4(ATH), After ATH.*
*ATH **11** 02:50:15.1,3886N×2488E,h23km±2km,MD3.6/15,ML3.4*
*CSEM **11** 02:50:18.0±0.1,3888N×2489E,h40km,ML3.9, Error ellipse: s-maj=1.6km s-min=1.4km az=145.0*
*THE **11** 02:50:19.0,3880N×2485E,h25km,ML3.9*
*DDA **11** 02:50:21.0,3894N×2535E,h7km±4km,Md3.5*
ISC 11 02:50:16.3±0.8,3885N±002×2489E±003,h11km±5km,n68,σ1§08/84,5C-2D,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOS	**Chios island**	**1.02**	**116**	*e*Pg	**Pg**	**02 50 35.5**	**-0.5**
CHOS				*e*Sg	**Sg**	**02 50 49.7**	**+0.4**
LIA	**Limnos Island**	**1.07**	**12**	⇑*i*PB	**Pb**	**02 50 34.6**	**-2.3**
LIA				*e*SN	**Sn**	**02 50 49.2**	**-2.9**
PTL	**Penteli**	**1.13**	**225**	*e*PN	**Pn**	**02 50 37.0**	**-1.0**
PRK	**Paraskevi**	**1.15**	**69**	*e*PN	**Pn**	**02 50 37.3**	**-1.0**
PRK				*e*SN	**Sn**	**02 50 53.2**	**-0.8**
ATH	**Athens Observa**	**1.27**	**227**	*e*PN	**Pn**	**02 50 39.4**	**-0.5**
ATH				*e*SN	**Sn**	**02 50 56.9**	**+0.1**
KVR	**Kavouri**	**1.34**	**221**	*e*PN	**Pn**	**02 50 40.5**	**-0.4**
KVR				*e*SN	**Sn**	**02 50 59.0**	**+0.3**
BOZC	**Bozcaada**	**1.34**	**42**	*i* P	**Pn**	**02 50 39.8**	**-1.2**
BOZC				*i* S	**Sb**	**02 50 57.0**	**-1.7**
NEO	**Neokhori**	**1.37**	**290**	*e*PN	**Pn**	**02 50 41.1**	**-0.2**
URLA	**Izmir**	**1.43**	**109**	*i* P	**Pn**	**02 50 41.2**	**-0.9**
URLA				*i* S	**Sn**	**02 50 59.6**	**-1.2**
AYVA	**Ayvalik**	**1.48**	**71**	*i* P	**Pn**	**02 50 41.7**	**-1.1**
AYVA				*i* S	**Sn**	**02 51 02.6**	**+0.5**
EZN	**Ezine**	**1.48**	**48**	*e*PN	**Pn**	**02 50 42.4**	**-0.4**
LKR	**Lokris**	**1.49**	**263**	*e*PN	**Pn**	**02 50 42.6**	**-0.3**
NAIG	**Nisos Aigina**	**1.54**	**226**	*e*PN	**Pn**	**02 50 43.5**	**-0.2**
GADA	**Gvkgeada**	**1.56**	**30**	*e*PN	**Pn**	**02 50 42.7**	**-1.2**
GADA				*e*SN	**Sg**	**02 51 06.7**	**+0.4**
BLCB	**Balcova**	**1.75**	**105**	*e*Pb	**Pb**	**02 50 48.0**	**-0.4**
BLCB				*e*Sb	**Sb**	**02 51 09.4**	**-0.9**
BLCB	**Balcova**	**1.75**	**105**	*e*Pn	**Pn**	**02 50 47.8**	**+1.3**
BLCB	**Balcova**	**1.75**	**105**	*e*Pb	**Pb**	**02 50 48.0**	**-0.4**
BLCB				*e*Sb	**Sb**	**02 51 09.4**	**-1.0**
APE	**Apeiranthos**	**1.85**	**164**	*e*Pb	**Pn**	**02 50 46.6**	**-1.2**
APE				*e*Sb	**Sn**	**02 51 09.0**	**-2.2**
APE	**Apeiranthos**	**1.85**	**164**	*e*PB	**Pn**	**02 50 46.8**	**-1.0**
APE	**Apeiranthos**	**1.85**	**164**	⇓*i*P	**Pn**	**02 50 47.0**	**-0.8**
PLG	**Polygyros**	**1.89**	**324**	*e*Pb	**Pb**	**02 50 48.6**	**-2.1**
PLG				*e*Sb	**Sb**	**02 51 12.3**	**-2.0**
PLG	**Polygyros**	**1.89**	**324**	*e*PN	**Pn**	**02 50 48.5**	**+0.1**
SMG	**Samos**	**1.91**	**126**	*e*PN	**Pn**	**02 50 48.5**	**-0.2**
KDAG	**Bornova**	**1.92**	**103**	*i* P	**Pg**	**02 50 52.0**	**-1.0**
ENEZ	**Enez**	**2.12**	**27**	*e*PN	**Pn**	**02 50 50.4**	**-1.3**
HORT	**Hortiatis**	**2.23**	**322**	*e*Pn	**Pn**	**02 50 53.9**	**+0.8**
HORT				*e*Sn	**Sn**	**02 51 20.2**	**-0.3**
AKS	**Akhisar**	**2.29**	**88**	*e*PN	**Pn**	**02 50 55.6**	**+1.8**
THL	**Klokotos Trika**	**2.34**	**289**	*e*PB	**Pn**	**02 50 55.6**	**+0.9**
RDO	**Rodhopi**	**2.35**	**12**	*e*PN	**Pn**	**02 50 54.2**	**-0.6**
EVR	**Evrytania**	**2.40**	**273**	*e*PB	**Pn**	**02 50 56.1**	**+0.6**
RKY	**Sarkoy-Tekirda**	**2.55**	**43**	*e*PN	**Pn**	**02 50 57.5**	**0.0**
SART	**Tekirdag**	**2.55**	**43**	*i* P	**Pn**	**02 50 56.8**	**-0.8**
SART				*i* S	**Sn**	**02 51 29.6**	**+1.0**
SART	**Tekirdag**	**2.55**	**43**	*i* P	**Pn**	**02 50 56.8**	**-0.7**
SART				*i* S	**Sn**	**02 51 29.5**	**+0.9**
BTOK	**Tokmak**	**2.61**	**68**	*i* P	**Pn**	**02 50 58.2**	**-0.1**
BODT	**Bodrum**	**2.62**	**132**	*e*PN	**Pn**	**02 50 58.0**	**-0.4**
NVR	**Nevrokopi**	**2.62**	**343**	*e*PN	**Pn**	**02 50 58.6**	**+0.1**
VLI	**Velias**	**2.63**	**217**	*e*PN	**Pn**	**02 50 58.1**	**-0.5**
MFT	**Murefte**	**2.68**	**43**	*e*PN	**Pn**	**02 50 58.6**	**-0.6**
MRMT	**Marmara Adasi**	**2.73**	**49**	*e*PN	**Pn**	**02 51 01.2**	**+1.2**
BNT	**Bandirma**	**2.79**	**56**	*e*PN	**Pn**	**02 51 01.4**	**+0.7**
RLS	**Riolos of Patr**	**2.80**	**255**	*e*PN	**Pn**	**02 51 00.3**	**-0.6**
KDZ	**Kurdzhali**	**2.83**	**8**	*i* P	**Pn**	**02 51 00.0**	**-1.4**
RZN	**Rozhen**	**2.84**	**357**	*i* P	**Pn**	**02 51 02.0**	**+0.5**
ITM	**Ithomi**	**2.87**	**235**	*e*PB	**Pb**	**02 51 03.8**	**-3.6**
MMB	**Musomiste**	**2.88**	**342**	*i* P	**Pn**	**02 51 02.0**	**0.0**
KYTH	**Kithira**	**2.95**	**210**	*e*PN	**Pn**	**02 51 03.0**	**-0.1**
KULA	**Kula-Manisa**	**2.97**	**95**	*e*PN	**Pn**	**02 51 04.9**	**+1.6**
DAT	**Datca**	**3.00**	**134**	*e*PN	**Pn**	**02 51 03.5**	**-0.3**
DST	**Dursunbey**	**3.00**	**74**	*e*PN	**Pn**	**02 51 05.2**	**+1.4**
KCT	**Karacabey**	**3.04**	**61**	*e*PN	**Pn**	**02 51 05.4**	**+1.2**
YER	**Yerkesik**	**3.18**	**121**	*e*PN	**Pn**	**02 51 07.4**	**+1.2**
KKB	**Krupnik**	**3.32**	**336**	*i* P	**Pn**	**02 51 08.0**	**0.0**
VAM	**Vamos**	**3.48**	**189**	*e*PN	**Pn**	**02 51 10.5**	**+0.2**
STIP	**Stip**	**3.52**	**325**	*e*Pn	**Pn**	**02 51 12.6**	**+1.9**
KARN	**Karanos**	**3.52**	**193**	*e*Pn	**Pn**	**02 51 12.1**	**+1.2**
CTT	**Catalca**	**3.56**	**49**	*e*PN	**Pn**	**02 51 12.4**	**+0.9**
GDZ	**Gediz**	**3.59**	**85**	*i* P	**Pn**	**02 51 12.9**	**+1.1**
LAST	**Lasithi**	**3.71**	**172**	*e*Pn	**Pn**	**02 51 14.3**	**+0.8**
KRUS	**Krusevo**	**3.76**	**313**	*i* Pn	**Pn**	**02 51 16.5**	**+2.4**
YLV	**Yalova**	**3.86**	**62**	*e*PN	**Pn**	**02 51 18.0**	**+2.4**
VTS	**Vitosha**	**3.95**	**342**	⇓*i*P	**Pn**	**02 51 18.6**	**+1.8**
VTS	**Vitosha**	**3.95**	**342**	*i* P	**Pn**	**02 51 18.0**	**+1.2**
FETY	**Fethiye**	**3.99**	**122**	*e*PN	**Pn**	**02 51 19.0**	**+1.6**
SZH	**Strazhica**	**4.49**	**10**	*i* P	**Pn**	**02 51 24.4**	**+0.3**
MLR	**Muntele Rosu**	**6.69**	**6**	⇑*i*P	**Pn**	**02 51 55.7**	**+1.4**
GZR	**Gura Zlata**	**6.73**	**347**	⇑*i*P	**Pn**	**02 51 55.4**	**+0.5**
PLOR	**Plostina**	**7.12**	**10**	⇑*i*P	**Pn**	**02 52 03.2**	**+2.9**
BZS	**Buzias**	**7.19**	**341**	⇑*i*P	**Pn**	**02 52 01.3**	**+0.1**

*LDG **11** 02:52:50.3±0.6,2162S×169.13E,h10km, Error ellipse: s-maj=73.5km s-min=3.4km az=161.0*
*SZGRF **11** 02:52:54.3,2174S×16904E,h36km, Southeast of Loyalty Islands*
*ISCJB **11** 02:52:55.2±0.4,2094S±007×16854E±008,h33km, mb4.6/24,MS4.0/8, Error ellipse: s-maj=11.5km s-min=8.9km az=138.1*
*NEIC **11** 02:52:57.0±0.3,2084S×16847E,mb4.7/6, Error ellipse: s-maj=10.8km s-min=7.7km az=156.0*
*BJI **11** 02:52:56.1,2056S×16896E,h44km,mB4.9,mb4.8,Ms4.9, Msz4.8*
*IDC **11** 02:52:57.1±0.8,2084S×16843E,h36km±5km,mb4.1/11, mb1 4.3/12,mb1mx4.2/17,mbtmp4.1/12,ML3.7/1,MS3.6/7, Ms1 3.6/7,ms1mx3.4/23, Error ellipse: s-maj=20.1km s-min=17.9km az=149.0*
ISC 11 02:52:57.1±0.4,2094S±007×16854E±007,h35km, h35km±1.0km:pP-P,n122,σ0§99/34,mb4.6/24,MS4.0/8,4C, Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**2.25**	**240**	*e*P	**Pn**	**02 53 30.1**	**-1.8**
DZM				*e*S	**Sn**	**02 54 00.0**	**+1.6**
HNR	**Honiara**	**14.12**	**323**	LR	LR	03 00 03.3	
comp=Z,95nm,21.4s,baz=175,slow=30							
URZ	**Urewera**	**18.78**	**159**	P	**Pn**	**02 57 14.1**	**+0.1**
0.2nm,0.3s,baz=339,slow=10,SNR=4.9							
URZ				LR	LR	03 03 40.8	
comp=Z,108nm,18.7s,baz=18,slow=34							
CTA	**Charters Tower**	**20.89**	**268**	P	**P**	**02 57 33.8**	**-2.7**
3.7nm,0.8s,baz=348,slow=8.0,SNR=2.4							
CTA				LR	LR	03 04 55.5	
comp=Z,235nm,20.6s,MS3.5,baz=59,slow=34							
CTAO	**Charters Tower**	**20.89**	**268**	*e*P	**P**	**02 57 36.7**	**+0.3**
68nm,1.4s							
RPZ	**Rata Peaks**	**22.81**	**175**	LR	LR	03 05 43.2	
comp=Z,261nm,21.4s,MS3.6,baz=147,slow=33							
STKA	**Stephens Creek**	**26.41**	**240**	P	**P**	**02 58 31.1**	**+0.7**
3.0nm,0.7s,mb3.9,baz=82,slow=5.1,SNR=5.7							
STKA				LR	LR	03 08 07.5	
comp=Z,252nm,21.3s,MS3.7,baz=25,slow=34							
WRA	**Warramunga Arr**	**32.03**	**266**	P	**P**	**02 59 18.6**	**-1.9**
2.3nm,0.9s,mb4.0,baz=94,slow=9.1,SNR=7.9							
WRA				pP	pP	02 59 29.3	-1.4
9.5nm,1.1s,baz=92,slow=8.5,SNR=13							
WRA				LR	LR	03 12 12.3	
comp=Z,216nm,19.3s,MS3.9,baz=110,slow=36							
ASAR	**Alice Springs**	**32.11**	**259**	P	**P**	**02 59 20.6**	**-0.7**
11nm,0.8s,mb4.7,baz=82,slow=9.1,SNR=77							
ASAR				pP	pP	02 59 31.0	-0.4
20nm,0.9s,baz=83,slow=8.2,SNR=20							
FORT	**Forrest**	**37.55**	**246**	*e*P	**P**	**03 00 08.0**	**-0.1**
2.9nm,1.0s,mb4.0							
TBI	**Tubuai**	**38.88**	**102**	*e*LR	LR	03 10 50.0	
99nm,25.5s							
PPT	**Papeete**	**39.61**	**93**	*e*LR	LR	03 11 27.5	
213nm,28.5s							
PPT	**Papeete**	**39.61**	**93**	LR	LR	03 13 47.1	
comp=Z,23nm,19.3s,MS3.0,baz=266,slow=32							
FITZ	**Fitzroy Crossi**	**40.45**	**266**	P	**P**	**03 00 32.0**	**-0.5**
6.9nm,0.9s,mb4.4,baz=140,slow=6.4,SNR=5.6							
FITZ				pP	pP	03 00 41.9	-0.9
13nm,0.9s,baz=126,slow=10.0,SNR=7.7							
MBWA	**Marble Bar**	**45.40**	**261**	*e*P	**P**	**03 01 12.1**	**-0.5**
6.1nm,0.9s,mb4.4							
MBWA				*e*pP	pP	03 01 22.3	-0.7
VNDA	**Vanda**	**56.72**	**182**	P	**P**	**03 02 37.3**	**+0.5**
1.2nm,0.8s,mb4.0,baz=13,slow=8.8,SNR=5.8							
KSM	**Kuching**	**61.12**	**284**	*e*P	**P**	**03 03 07.2**	**-1.1**
KSM				*e*pP	pP	03 03 18.1	-1.0
MJAR	**Matsushiro Arr**	**63.95**	**333**	P	**P**	**03 03 24.8**	**-1.9**
0.6nm,0.3s,mb4.0,baz=167,slow=6.1,SNR=5.2							
QSPA	**South Pole Qui**	**69.12**	**180**	P	**P**	**03 03 59.6**	**+0.4**
QSPA	**South Pole Qui**	**69.12**	**180**	P	**P**	**03 03 59.6**	**+0.4**
6.3nm,0.9s,mb4.5,baz=318,slow=6.2,SNR=13							
QIZ	**Qiongzhong**	**69.86**	**301**	P	**P**	**03 04 04.6**	**-0.1**
QIZ				S	S	03 13 13.1	+0.9
QIZ				AMB	AMB		
comp=Z,15nm,1.9s,mb4.6							
QIZ				AMB	AMB		
comp=Z,138nm,6.3s							
QIZ				LR	LR		
comp=E,204nm,16.1s							
QIZ				LR	LR		
comp=Z,200nm,13.1s,MS4.5							
NJ2	**Nanjing**	**70.98**	**317**	*e*P	**P**	**03 04 12.7**	**+1.5**
NJ2				AMB	AMB		
comp=Z,20nm,0.6s,mb5.2							
MDJ	**Mudanjiang**	**74.30**	**332**	P	**P**	**03 04 30.8**	**+0.1**
MDJ				AMB	AMB		
comp=Z,8.0nm,1.1s,mb4.6							
MDJ				AMB	AMB		
comp=Z,89nm,5.6s							
GYA	**Guiyang**	**76.26**	**306**	P	**P**	**03 04 43.6**	**+1.2**
GYA				PP	PP	03 07 38.0	+3.8
GYA				S	S	03 14 25.2	+0.6
GYA				XS	sS	03 14 43.5	+0.7
GYA				SKS		03 14 47.6	
GYA				SCS	ScS	03 14 53.9	-1.3
GYA				SS	SS	03 19 22.8	+3.4
GYA				AMB	AMB		
comp=Z,10.0nm,0.8s,mb4.8							
GYA				AMB	AMB		
comp=Z,80nm,4.9s							
GYA				LR	LR		
comp=N,430nm,18.9s,MS4.9							
GYA				LR	LR		
comp=E,420nm,19.4s,MS4.9							
GYA				LR	LR		
comp=Z,470nm,19.0s,MS4.8							
KMI	**Kunming**	**78.62**	**302**	P	**P**	**03 04 56.9**	**+1.3**
KMI				AMB	AMB		
comp=Z,11nm,0.7s,mb4.9							
CHTO	**Chiang Mai**	**78.77**	**295**	*e*P	**P**	**03 04 57.0**	**+0.5**
comp=Z,7.7nm,1.0s,mb4.6							
CHTO				*e*pP	pP	03 05 07.9	+0.3
CD2	**Chengdu**	**80.75**	**308**	*e*P	**P**	**03 05 07.6**	**+0.5**
CD2				AP	pP	03 05 18.3	+0.1
CD2				XP	sP	03 05 22.2	0.0
CD2				S	S	03 15 12.5	-0.1
CD2				XS	sS	03 15 30.2	-0.8
CD2				SS	SS	03 20 30.7	+3.8
CD2				AMB	AMB		
comp=Z,10.0nm,0.6s,mb4.9							
CD2				AMB	AMB		
comp=Z,30nm,5.2s							
CD2				LR	LR		
comp=N,150nm,16.8s							
CD2				LR	LR		
comp=Z,140nm,14.6s,MS4.5							
HHC	**Hu-ho-hao-te**	**81.08**	**320**	*e*P	**P**	**03 05 10.3**	**+1.7**
HHC				AP	pP	03 05 20.8	+1.1
HHC				XP	sP	03 05 24.9	+1.2
HHC				PP	PP	03 08 20.2	+5.9
HHC				S	S	03 15 20.7	+5.0
HHC				XS	sS	03 15 36.2	+2.2
HHC				PS		03 16 08.9	
HHC				SS	SS	03 20 35.0	+3.5
HHC				AMB	AMB		
comp=Z,22nm,0.3s,mb5.6							
HHC				AMB	AMB		
comp=Z,146nm,5.9s							
HHC				LR	LR		
comp=N,129nm,7.4s							
HHC				LR	LR		
comp=E,215nm,14.3s							
HHC				LR	LR		
comp=Z,196nm,7.8s							
LZH	**Lanzhou**	**83.38**	**313**	*e*P	**P**	**03 05 22.0**	**+1.2**
LZH				AP	pP	03 05 32.5	+0.6
LZH				XP	sP	03 05 37.6	+1.7
LZH				AMB	AMB		
comp=Z,15nm,1.0s,mb5.0							
LZH				AMB	AMB		
comp=Z,70nm,5.0s							
GTA	**Gaotai**	**87.82**	**314**	*e*P	**P**	**03 05 43.1**	**+0.4**
GTA				AP	pP	03 05 52.7	-1.2
GTA				XP	sP	03 05 57.9	-0.1
GTA				AMB	AMB		
comp=Z,3.0nm,1.3s,mb4.4							
ULN	**Ulaanbaatar**	**87.83**	**324**	*e*P	**P**	**03 05 42.1**	**-0.5**
comp=Z,10nm,1.4s,mb4.9							
ULN				*e*pP	pP	03 05 53.4	-0.4
VNA3	**Neumayer Olymp**	**88.06**	**181**	*e*P	**P**	**03 05 43.0**	**-0.4**
VNA3				*e*	pP	03 05 52.2	-2.4
SONM	**Songino Array**	**88.18**	**323**	P	**P**	**03 05 44.2**	**-0.1**
comp=Z,2.7nm,0.8s,mb4.5,baz=138,slow=5.2,SNR=13							
VNA2	**Neumayer--Watz**	**88.34**	**181**	*e*P	**P**	**03 05 44.2**	**-0.6**
VNA2				*e*	pP	03 05 53.6	-2.4
BILL	**Bilibino**	**88.73**	**359**	*e*P	**P**	**03 05 45.2**	**-1.2**
HUMO	**Hull Mountain**	**89.24**	**43**	*e*P	**P**	**03 05 48.9**	**-0.5**
comp=Z,4.0nm,0.8s,mb4.8							
NVAR	**Mina Array Bea**	**90.41**	**49**	P	**P**	**03 05 54.3**	**-0.6**
comp=Z,4.2nm,0.8s,mb4.8,baz=212,slow=6.3,SNR=24							
PDAR	**Pinedale Array**	**98.25**	**47**	P	**P**	**03 06 31.9**	**+1.1**
comp=Z,0.3nm,0.6s,mb4.0,baz=223,slow=6.1,SNR=3.8							
YKA	**Yellowknife Ar**	**102.47**	**28**	P	Pdif	03 06 48.0	-1.5
YKA	**Yellowknife Ar**	**102.47**	**28**	P	Pdif	03 06 48.0	-1.5
comp=Z,0.4nm,0.9s,baz=256,slow=4.8,SNR=6.3							
MKAR	**Makanchi Array**	**102.48**	**315**	P	Pdif	03 06 48.3	-1.3
comp=Z,0.2nm,0.3s,baz=93,slow=6.3,SNR=3.7							
MALT	**Malatya**	**133.88**	**303**	*e*PKPdf	PKPdf	03 12 10.4	-0.3
VYHS	**Vyhne**	**143.34**	**326**	*e*PKP	PKPdf	03 12 34.7	+7.1
DPC	**Dobruska-Polom**	**143.38**	**330**	*e*PKP	PKPdf	03 12 27.3	-0.3
UPC	**Upice**	**143.42**	**330**	*e*PKP	PKPdf	03 12 22.4	-5.3
PVCC	**Panska Ves**	**144.06**	**331**	*e*PKP	PKPdf	03 12 24.8	-4.0
BRG	**Berggiesshubel**	**144.08**	**332**	*e*PKPbc	PKPdf	03 12 25.9	-2.9
BRG	**Berggiesshubel**	**144.08**	**332**	*e*PKP	PKPdf	03 12 26.2	-2.7
comp=Z,24nm,1.7s							
CLL	**Collm**	**144.16**	**334**	*e*PKPbc	PKPdf	03 12 26.4	-2.5
CLL	**Collm**	**144.16**	**334**	⇑*i*PKPdf	PKPdf	03 12 26.5	-2.4
comp=Z,11nm,1.4s							
CLL				*e*pPKPdf	pPKPdf	03 12 38.0	-2.5
PRU	**Pruhonice**	**144.45**	**331**	*e*PKP	PKPdf	03 12 27.0	-2.5
CLZ	**Clausthal**	**144.78**	**336**	*e*PKPbc	PKPdf	03 12 28.7	-1.3
SOP	**Sopron**	**145.03**	**326**	⇑*e*PKP	PKPdf	03 12 30.2	-0.4
TANN	**Tannenbergstha**	**145.06**	**333**	*e*PKPbc	PKPbc	03 12 29.5	-0.5
NKC	**Novy Kostel**	**145.20**	**333**	*e*PKP	PKPdf	03 12 30.2	-0.6
NKC				*e*pPKP	pPKPdf	03 12 40.6	-1.7
CONA	**Conrad Observa**	**145.23**	**327**	*i* PKPdf	PKPdf	03 12 31.1	+0.2
comp=Z,28nm,1.7s,SNR=9.7							
MOX	**Moxa**	**145.23**	**334**	*e*P	PKPbc	03 12 30.1	-0.4
comp=Z,18nm,1.1s							
MOX				*e*		03 12 40.8	
IBBN	**Ibbenburen**	**145.32**	**339**	*e*PKPbc	PKPbc	03 12 30.2	-0.6
KHC	**Kasperske Hory**	**145.51**	**331**	*e*PKP	PKPdf	03 12 31.2	-0.1
KHC				*e*pPKP	pPKPdf	03 12 41.1	-1.8
MANZ	**Manzenberg**	**145.53**	**333**	*e*PKPbc	PKPbc	03 12 31.3	-0.2
ROTZ	**Rotzenmuhle**	**145.65**	**333**	*e*PKPbc	PKPbc	03 12 31.8	-0.1
GEC2	**GERESS Array S**	**145.65**	**330**	*e*PKPbc	PKPbc	03 12 31.3	-0.6
GERES	**GERESS Array B**	**145.65**	**330**	PKPbc	PKPbc	03 12 31.4	-0.5
comp=Z,8.5nm,0.9s,baz=46,slow=3.9,SNR=47							
GERES				pPKPbc	pPKPbc	03 12 42.6	-0.8
comp=Z,4.3nm,0.8s,baz=33,slow=3.2,SNR=11							
UBBA	**Unterbreizbach**	**145.74**	**336**	*e*PKPbc	PKPbc	03 12 31.7	-0.4
WET	**Wettzell**	**145.81**	**331**	*e*PKPbc	PKPbc	03 12 32.3	-0.1
GRA1	**Grafenberg Arr**	**146.13**	**333**	*e*PKPbc	PKPbc	03 12 32.9	-0.5
GRA1				*e*pPKPbc	pPKPbc	03 12 43.7	-1.1
GRF	**Grafenberg Arr**	**146.13**	**333**	*e*PKPbc	PKPbc	03 12 32.9	-0.5
GRF				*e*pPKPbc	pPKPbc	03 12 43.7	-1.1
CRES	**Cresnjev**	**146.80**	**325**	*e*PKPbc	PKPbc	03 12 35.0	-0.5
CRES				*i*		03 12 46.2	
KBA	**Koelnbreinsper**	**147.06**	**328**	⇑*i*P	PKPdf	03 12 34.7	+0.6
comp=Z,11nm,1.3s							
BOJS	**Bojanci**	**147.12**	**324**	*e*PKPbc	PKPbc	03 12 36.2	-0.2
LJU	**Ljubljana**	**147.16**	**326**	*i* PKPbc	PKPbc	03 12 36.0	-0.4
LJU				*i*		03 12 47.2	
MEM	**Membach**	**147.35**	**339**	PKP	PKPdf	03 12 36.3	+1.8
CEY	**Cerknica**	**147.41**	**325**	*e*PKPbc	PKPbc	03 12 36.6	-0.6
ABH	**Alteburg**	**147.42**	**337**	PKP	PKPbc	03 12 37.0	-0.1
STU	**Stuttgart**	**147.68**	**334**	*e*PKPbc	PKPbc	03 12 37.7	-0.1
ABTA	**Abfaltersbach**	**147.70**	**328**	⇑*i*PKPbc	PKPbc	03 12 36.5	-1.4
comp=Z,9.9nm,1.0s,SNR=8.6							
BCLA	**Clavier**	**147.74**	**340**	PKP	PKPdf	03 12 36.5	+1.5
RUP	**Ruppelstein**	**147.75**	**337**	PKP	PKPbc	03 12 37.9	-0.1
WLF	**Walferdange**	**148.10**	**338**	*e*PKPbc	PKPbc	03 12 38.7	-0.2
WLF				*e*pPKPdf	pPKPdf	03 12 50.3	+3.0
WLF	**Walferdange**	**148.10**	**338**	PKP	PKPbc	03 12 39.3	+0.4
WLF	**Walferdange**	**148.10**	**338**	*e*PKPbc	PKPbc	03 12 38.9	0.0
GIVF	**Givet**	**148.17**	**340**	*e*PKP1	PKPbc	03 12 38.1	-1.0
comp=Z,23nm,0.9s							
DOU	**Dourbes**	**148.25**	**340**	PKP	PKPdf	03 12 38.6	+2.7
SPAK	**Spaichingen-Ko**	**148.38**	**334**	PKP	PKPbc	03 12 39.1	-0.6
BFO	**Black Forest**	**148.38**	**334**	*e*PKPbc	PKPbc	03 12 38.8	-0.9
BAIF	**Baives**	**148.40**	**341**	*e*PKP1	PKPbc	03 12 38.9	-0.8
comp=Z,21nm,1.1s							
CDF	**

5.6nm,0.6s
ARMA Armidale 22.18 194 *e*P **P 03 26 09.8 +3.1**
WB2 Warramunga Arr 25.27 242 *e*P **P 03 26 35.6 -1.2**
WRA Warramunga Arr 25.28 242 P **P 03 26 35.5 -1.4**
7.2nm,0.5s,mb4.5,baz=67,slow=9.4,SNR=51
WRA PcP PcP 03 30 09.4 -0.4
1.2nm,0.9s,baz=94,slow=1.6,SNR=4.8
WRA LR LR 03 36 03.1
comp=Z,375nm,20.2s,MS3.9,baz=55,slow=36
KAKA Kakadu 25.29 259 *e*P **P 03 26 35.4 -1.6**
26nm,0.9s,mb4.8
GUMO Guam 25.84 330 LR LR 03 35 16.5
comp=Z,126nm,18.8s,MS3.5,baz=131,slow=33
ASAR Alice Springs 27.24 235 P **P 03 26 52.4 -2.2**
1.8nm,0.8s,mb3.7,baz=66,slow=8.7,SNR=13
STKA Stephens Creek 27.41 211 *e*P **P 03 26 58.0 +2.0**
4.2nm,0.6s,mb4.2
STKA Stephens Creek 27.41 211 P **P 03 26 57.1 +1.1**
3.5nm,0.6s,mb4.0,baz=24,slow=15,SNR=8.4
STKA LR LR 03 36 35.7
comp=Z,136nm,19.8s,MS3.5,baz=201,slow=34
FITZ Fitzroy Crossi 32.62 250 P **P 03 27 40.4 -1.9**
6.7nm,1.2s,mb4.4,baz=54,slow=8.7,SNR=4.4
BATI Kupang 33.78 265 LR LR 03 42 36.2
comp=Z,419nm,18.4s,MS4.2,baz=112,slow=38
URZ Urewera 33.95 152 LR LR 03 39 16.7
comp=Z,304nm,21.5s,MS4.0,baz=322,slow=32
RPZ Rata Peaks 36.51 164 LR LR 03 41 33.8
comp=Z,285nm,19.7s,MS4.0,baz=247,slow=33
RAR Rarotonga 42.52 112 LR LR 03 44 57.9
comp=Z,189nm,18.0s,MS4.0,baz=306,slow=34
NWAO Narrogin (SRO) 44.47 231 LR LR 03 46 51.8
comp=Z,224nm,20.4s,MS4.1,baz=20,slow=35
JNU Nakatsue 49.09 330 LR LR 03 46 50.8
comp=Z,79nm,21.1s,MS3.7,baz=75,slow=32
PPT Papeete 51.70 105 *e*LR LR 03 44 47.2
74nm,22.2s
TBI Tubuai 52.28 113 *e*LR LR 03 45 06.6
154nm,34.5s
KSRS Korea Array 54.00 331 P **P 03 30 32.8 -1.5**
3.4nm,0.9s,mb4.2,baz=146,slow=8.0,SNR=11
KSRS LR LR 03 50 53.3
comp=Z,75nm,20.4s,MS3.7,baz=358,slow=33
QIZ Qiongzhong 54.91 301 P **P 03 30 44.1 +2.8**
QIZ S **S 03 38 27.0 +5.7**
QIZ AMB AMB
comp=Z,16nm,1.8s,mb4.8
QIZ AMB AMB
comp=Z,124nm,6.0s
QIZ LR LR
comp=N,259nm,15.4s
QIZ LR LR
comp=Z,212nm,21.3s
NJ2 Nanjing 55.23 319 *e*P **P 03 30 45.8 +2.4**
NJ2 AMB AMB
comp=Z,40nm,1.1s,mb5.4
MDJ Mudanjiang 59.11 337 P **P 03 31 10.8 +0.2**
MDJ AMB AMB
comp=Z,6.0nm,1.1s,mb4.5
MDJ AMB AMB
comp=Z,80nm,8.0s
MDJ LR LR
comp=N,71nm,20.8s,MS4.0
MDJ LR LR
comp=E,81nm,17.6s,MS4.0
MDJ LR LR
comp=Z,71nm,19.9s,MS3.8
GYA Guiyang 60.90 307 P **P 03 31 24.9 +1.6**
GYA AP pP 03 31 36.9 +4.1
GYA XP sP 03 31 41.2 +4.7
GYA PCP PcP 03 32 08.9 +2.2
GYA PP PP 03 33 42.6 +4.8
GYA SCP ScP 03 36 05.9 -0.2
GYA PCS PcS 03 36 10.0 +0.5
GYA S **S 03 39 40.0 +0.5**
GYA XS sS 03 39 58.2 +3.0
GYA PS 03 40 01.2
GYA SCS ScS 03 41 10.0 -2.5
GYA SS SS 03 43 41.3 +2.0
GYA AMB AMB
comp=Z,10.0nm,0.8s,mb5.0
GYA AMB AMB
comp=Z,80nm,4.7s
GYA LR LR
comp=N,470nm,19.9s,MS4.8
GYA LR LR
comp=E,440nm,18.4s,MS4.8
GYA LR LR
comp=Z,370nm,18.0s,MS4.6
KMI Kunming 63.47 304 P **P 03 31 41.7 +1.2**
KMI S **S 03 40 11.7 -0.3**
KMI AMB AMB
comp=Z,16nm,0.5s,mb5.4
KMI LR LR
comp=Z,82nm,25.4s,MS3.8
CHTO Chiang Mai 64.33 296 *e*P **P 03 31 45.5 -0.8**
comp=Z,8.4nm,1.0s,mb4.7
CD2 Chengdu 65.25 310 P **P 03 31 52.7 +0.6**
CD2 XP sP 03 32 06.9 +1.6
CD2 PP PP 03 34 18.3 +2.3
CD2 S S 03 40 33.1 -0.6
CD2 XS sS 03 40 50.0 +0.4
CD2 SS SS 03 44 48.2 +1.1
CD2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.9
CD2 AMB AMB
comp=Z,30nm,5.8s
CD2 LR LR
comp=N,120nm,16.4s
CD2 LR LR
comp=Z,110nm,12.6s,MS4.2
HHC Hu-ho-hao-te 65.35 323 *e*P **P 03 31 54.3 +1.8**
HHC PP PP 03 34 21.3 +4.6
HHC SCP 03 36 24.8
HHC S S 03 40 38.9 +4.4
HHC PS 03 41 01.5
HHC SCS ScS 03 41 42.3 -3.4
HHC SS SS 03 44 49.1 +0.8
HHC AMB AMB
comp=Z,22nm,0.4s,mb5.5
HHC AMB AMB
comp=Z,102nm,6.9s
HHC LR LR
comp=N,141nm,17.1s,MS4.5
HHC LR LR
comp=E,205nm,12.8s,MS4.5
HHC LR LR
comp=Z,140nm,11.3s,MS4.4
LZH Lanzhou 67.70 315 *e*P **P 03 32 10.9 +3.3**
LZH AP pP 03 32 20.0 +2.7
LZH XP sP 03 32 23.9 +3.0
LZH AMB AMB
comp=Z,25nm,1.0s,mb5.2
LZH AMB AMB
comp=Z,120nm,4.5s
LZH LR LR
comp=N,690nm,18.0s
LZH LR LR
comp=Z,895nm,18.9s,MS5.0
GTA Gaotai 72.11 316 *e*P **P 03 32 37.0 +2.3**
GTA AP pP 03 32 46.4 +2.0
GTA XP sP 03 32 51.3 +3.3
GTA PP PP 03 35 20.8 +5.5
GTA PPP 03 37 03.1
GTA S S 03 41 58.1 +3.3
GTA XS sS 03 42 14.9 +4.0
GTA PS 03 42 34.6
GTA SKS 03 42 35.8
GTA AMB AMB
comp=Z,5.0nm,1.2s,mb4.3
GTA AMB AMB
comp=Z,63nm,4.9s
GTA LR LR
comp=N,149nm,15.2s,MS4.5
GTA LR LR
comp=E,152nm,17.1s,MS4.5
GTA LR LR
comp=Z,211nm,14.5s,MS4.5
ULN Ulaanbaatar 72.17 327 *e*P **P 03 32 34.8 -0.1**
comp=Z,11nm,1.5s,mb4.6
SONM Songino Array 72.51 326 P **P 03 32 36.9 +0.1**
comp=Z,2.1nm,1.0s,mb4.0,baz=130,slow=4.8,SNR=6.7
SHL Shillong 72.75 300 *e*P **P 03 32 38.0 -0.8**
BILL Bilibino 77.00 3 *e*P **P 03 33 01.8 -0.7**
comp=Z,11nm,0.9s,mb4.8
TNA Tin City 78.46 14 *e*P **P 03 33 09.9 -0.7**
comp=Z,21μm,1.2s
SVW2 Sparrevohn 78.72 21 *e*P **P 03 33 12.1 -0.1**
TTA Tatalina 79.83 20 *e*P **P 03 33 17.6 -0.6**
comp=Z,23nm,1.1s,mb5.0
SLKM Skilak Lake 80.33 23 *e*P **P 03 33 20.5 -0.4**
PMR Palmer 81.41 23 *e*P **P 03 33 25.9 -0.8**
comp=Z,6.4nm,0.9s,mb4.5
SML Sawmill 81.85 23 *e*P **P 03 33 28.8 -0.2**
IMA2 Indian Mountai 82.71 18 *e*P **P 03 33 32.4 -1.0**
COLA College 83.85 20 *e*P **P 03 33 37.4 -1.9**
comp=Z,14nm,0.8s,mb5.2
EGAK Eagle 86.19 22 *e*P **P 03 33 50.8 -0.3**
comp=Z,8.7nm,1.2s,mb4.9
MKAR Makanchi Array 86.75 318 P **P 03 33 53.0 -1.1**
comp=Z,0.9nm,0.6s,mb4.2,baz=98,slow=6.0,SNR=5.4
KURK Kurchatov 90.12 321 *e*P **P 03 34 10.0 -0.1**
comp=Z,1.1nm,0.7s,mb4.3
INK Inuvik 90.51 20 *e*P **P 03 34 11.6 +0.1**
comp=Z,143nm,1.3s
NVAR Mina Array Bea 90.66 51 P **P 03 34 14.4 +1.5**
comp=Z,4.3nm,0.9s,mb4.8,baz=230,slow=5.0,SNR=17
WVOR Wild Horse Val 91.16 47 *e*P **P 03 34 15.9 +0.7**
comp=Z,3.8nm,1.1s,mb4.6
NEW Newport 93.25 42 *e*P **P 03 34 24.9 +0.2**
comp=Z,3.3nm,1.1s,mb4.7
HLID Hailey 94.40 47 *e*P **P 03 34 31.4 +1.3**
comp=Z,1.5nm,1.0s,mb4.4
BOZ Bozeman (W) 96.63 45 *e*P **P 03 34 39.4 -0.8**
comp=Z,1.0nm,0.8s,mb4.3
YKA Yellowknife Ar 96.68 28 P **P 03 34 39.7 -0.3**
YKA Yellowknife Ar 96.68 28 P **P 03 34 39.7 -0.3**
comp=Z,0.4nm,0.6s,mb4.0,baz=262,slow=4.6,SNR=9.5
BW06 Boulder Array 97.84 48 *e*P **P 03 34 45.8 0.0**
comp=Z,0.8nm,0.8s,mb4.3
PDAR Pinedale Array 97.84 48 P **P 03 34 46.2 +0.5**
comp=Z,0.8nm,0.9s,mb4.3,baz=237,slow=4.9,SNR=6.3
NNA Nana 121.75 110 *e*PKPdf PKPdf 03 40 05.0 -0.1
SDV Santo Domingo 132.08 86 *e*PKPdf PKPdf 03 40 23.6 -1.2
BDFB Brasilia 144.58 133 PKP PKPdf 03 40 45.9 -1.7
comp=Z,6.8nm,0.9s,baz=182,slow=6.6,SNR=13
ESDC Sonseca Array 145.35 335 PKPbc PKPbc 03 40 46.7 -1.4
comp=Z,0.1nm,0.4s,baz=66,slow=6.3,SNR=2.3
TORD Torodi Ar. Bea 156.28 282 PKP PKPdf 03 41 07.3 +1.6
comp=Z,1.1nm,1.2s,baz=248,slow=0.8,SNR=3.6

*ISCJB **11** 03:28:39.3±1.4, 660S±006×12985E±007, h160km±13km, mb4.0/7, Error ellipse: s-maj=11.8km s-min=8.4km az=143.4*
*NEIC **11** 03:28:40.3±2.1, 659S×12965E, h148km±22km, mb4.2/8, Error ellipse: s-maj=19.0km s-min=13.6km az=66.0*
*IDC **11** 03:28:43.8±3.0, 668S×12965E, h188km±30km, mb3.7/5, mb1 4.1/8, mb1mx3.8/15, mbtmp4.0/8, MS3.1/1, Ms1 3.1/1, ms1mx2.8/16, Error ellipse: s-maj=27.2km s-min=14.1km az=69.0*
ISC 11 03:28:43.2±1.1,**679S**±006×**12976E**±007,**h182**km±10km, **n25**,σ1§**17**/34,**mb4.0**/7,**Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**6.45**	**156**	*e*P	**Sn**	**03 31 28.0**	**-1.5**
	1μm,0.4s						
KAKA	**Kakadu**	**6.45**	**156**	*e*Pn	**Pn**	**03 30 17.5**	**+1.4**
KAKA				*e*Sn	**Sn**	**03 31 26.7**	**-2.8**
BATI	**Kupang**	**6.92**	**240**	P	**Pn**	**03 30 22.3**	**0.0**
	92nm,0.3s,baz=126,slow=2.9,SNR=60						
BATI				S	**Sn**	**03 31 40.8**	**+0.3**
	42nm,0.3s,baz=70,slow=22,SNR=7.4						
BATI				LR	LR	03 33 09.9	
	comp=Z,136nm,18.1s,baz=97,slow=39						
FITZ	**Fitzroy Crossi**	**11.94**	**199**	*e*P	**Pn**	**03 31 27.6**	**-0.3**
	32nm,0.3s						
FITZ				*e*S	**Sn**	**03 33 33.9**	**-6.7**
FITZ	**Fitzroy Crossi**	**11.94**	**199**	P	**Pn**	**03 31 28.1**	**+0.3**
	6.5nm,0.3s,baz=31,slow=13,SNR=52						
FITZ				S	**Sn**	**03 33 35.6**	**-5.0**
	6.0nm,0.3s,baz=228,slow=22,SNR=8.4						
WRAB	**Tennant Creek**	**13.80**	**162**	*e*Pn	**Pn**	**03 31 51.0**	**-0.4**
	23nm,0.4s						
WRAB				*e*Sn	**Sn**	**03 34 16.0**	**-9.2**
WRA	**Warramunga Arr**	**13.81**	**162**	P	**Pn**	**03 31 51.1**	**-0.5**
	1.2nm,0.3s,baz=347,slow=10.0,SNR=48						
WRA				S	**Sn**	**03 34 21.1**	**-4.3**
	8.2nm,0.3s,baz=338,slow=22,SNR=10						
WB2	**Warramunga Arr**	**13.81**	**162**	*e*P	**Pn**	**03 31 51.6**	**0.0**
WB2				*e*S	**Sn**	**03 34 18.6**	**-6.8**
ASAR	**Alice Springs**	**17.25**	**167**	P	**Pn**	**03 32 35.0**	**+1.7**
	9.0nm,0.3s,baz=342,slow=9.6,SNR=301						
ASAR				S	**S**	**03 35 41.2**	**-1.1**
	1.9nm,0.3s,baz=351,slow=22,SNR=6.3						
MBWA	**Marble Bar**	**17.27**	**213**	*e*P	**Pn**	**03 32 33.5**	**-0.2**
	5.5nm,0.5s						
MBWA				*e*S	**S**	**03 35 42.0**	**-0.7**
CTA	**Charters Tower**	**20.76**	**131**	*e*P	**P**	**03 33 13.1**	**+3.0**
	9.6nm,0.9s						
CTA	**Charters Tower**	**20.76**	**131**	P	**P**	**03 33 13.1**	**+3.0**
	12nm,0.8s,baz=349,slow=8.7,SNR=3.9						
CTAO	**Charters Tower**	**20.76**	**131**	*e*P	**P**	**03 33 12.8**	**+2.8**
	31nm,1.1s						
FORT	**Forrest**	**23.92**	**184**	*e*P	**P**	**03 33 43.4**	**+2.9**
	11nm,0.7s,mb4.5						
STKA	**Stephens Creek**	**27.30**	**158**	*e*P	**P**	**03 34 12.6**	**+1.7**
	1.8nm,0.5s,mb4.0						
STKA	**Stephens Creek**	**27.30**	**158**	P	**P**	**03 34 12.7**	**+1.8**
	1.5nm,0.4s,mb4.0,baz=344,slow=7.8,SNR=11						
MJAR	**Matsushiro Arr**	**43.83**	**10**	P	**P**	**03 36 28.7**	**-2.5**
	2.0nm,0.8s,mb3.8,baz=184,slow=9.0,SNR=6.6						
ULN	**Ulaanbaatar**	**57.99**	**342**	*e*P	**P**	**03 38 15.8**	**-0.9**
	1.7nm,0.7s,mb4.0						
MK31	**Makanchi Array**	**67.92**	**327**	*e*P	**P**	**03 39 21.8**	**-0.4**
MKAR	**Makanchi Array**	**67.92**	**327**	P	**P**	**03 39 22.0**	**-0.2**
MKAR	**Makanchi Array**	**67.92**	**327**	P	**P**	**03 39 22.0**	**-0.2**
	1.4nm,0.3s,mb4.2,baz=120,slow=8.8,SNR=8.8						
TKM2	**Tokmak 2**	**69.67**	**321**	*e*P	**P**	**03 39 33.6**	**+0.5**
	2.7nm,0.9s,mb4.0						
VNDA	**Vanda**	**72.68**	**173**	P	**P**	**03 39 51.7**	**+1.1**
VNDA	**Vanda**	**72.68**	**173**	P	**P**	**03 39 51.7**	**+1.1**
	0.6nm,0.5s,mb3.6,baz=329,slow=5.0,SNR=7.1						
BRVK	**Borovoye**	**77.83**	**328**	*e*P	**P**	**03 40 20.1**	**-0.3**

IDC 11 03:34:52.9±1.4,**866S**×**15764E**,**h0**km,**mb3.8**/3,**mb1 4.0**/4, **mb1mx3.7**/15,**mbtmp3.8**/4,**ML4.3**/1,**MS3.7**/3,**Ms1 3.7**/3, **ms1mx3.2**/24,**Error ellipse: s-maj=48.2km s-min=25.0km az=8.0,Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.41**	**109**	Pn	Pn	03 35 32.8	-0.8
	68nm,0.3s,baz=256,slow=6.5,SNR=7.7						
HNR				Sn	Sn	03 36 05.7	+1.9
	136nm,0.3s,baz=85,slow=22,SNR=12						
CTA	**Charters Tower**	**15.82**	**223**	LR	LR	03 43 10.3	
	comp=Z,87nm,21.1s,baz=48,slow=31						
WRA	**Warramunga Arr**	**25.17**	**241**	P	P	03 40 20.3	+0.1
	2.3nm,0.8s,baz=66,slow=9.0,SNR=4.5						
WRA				LR	LR	03 49 36.3	
	comp=Z,91nm,19.2s,baz=335,slow=35						
RPZ	**Rata Peaks**	**36.83**	**164**	LR	LR	03 53 12.4	
	comp=Z,730nm,19.6s,baz=174,slow=30						
MKAR	**Makanchi Array**	**86.38**	**318**	P	P	03 47 36.9	-0.2
	0.4nm,0.7s,baz=89,slow=7.4,SNR=3.6						
YKA	**Yellowknife Ar**	**96.58**	**28**	P	P	03 48 24.8	+0.4
	0.2nm,0.8s,baz=259,slow=4.7,SNR=4.0						

*ISCJB **11** 03:39:35.9±0.4, 3859N±003×2162E±003, h2km, Error ellipse: s-maj=4.2km s-min=3.3km az=24.7*
*CSEM **11** 03:39:36.9±0.1, 3857N×2158E, h2km, ML3.2, Error ellipse: s-maj=3.3km s-min=2.1km az=11.0*
*ATH **11** 03:39:36.1, 3855N×2165E, h3km, MD3.3/5*
*THE **11** 03:39:37.5, 3850N×2157E, h3km, ML3.2*
*NEIC **11** 03:39:37.5, 3850N×2157E, h0km, MD3.3(ATH), ML3.2(THE), After THE.*
ISC 11 03:39:36.7±0.5,**3859N**±003×**2163E**±003,**h7**km±7km,**n16**, σ0§**99**/25,**Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SELA	**Sela**	**0.38**	**146**	*e*Pg	**Pg**	**03 39 43.5**	**-0.4**
SELA				*e*Sg	**Sg**	**03 39 49.5**	**+0.7**
RLS	**Riolos of Patr**	**0.54**	**193**	*e*PG	**Pg**	**03 39 46.4**	**-0.7**
LKD	**Levkas**	**0.77**	**279**	*e*Pg	**Pg**	**03 39 51.2**	**-0.3**
LKD				*e*Sg	**Sg**	**03 40 03.2**	**+1.7**
LKD	**Levkas**	**0.77**	**279**	*e*Pg	**Pg**	**03 39 51.2**	**-0.3**
LKD				S	**Sg**	**03 40 03.2**	**+1.6**
KFL	**Anninata**	**0.81**	**234**	*e*Pg	**Pg**	**03 39 51.0**	**-1.3**
VLS	**Valsamata**	**0.91**	**244**	*e*PG	**Pg**	**03 39 52.8**	**-1.4**
VLS				*e*SG	**Sg**	**03 40 06.6**	**+0.6**
THL	**Klokotos Trika**	**1.02**	**17**	*e*PG	**Pg**	**03 39 56.0**	**-0.3**
THL				*e*SG	**Sg**	**03 40 10.5**	**+1.0**
LKR	**Lokris**	**1.08**	**86**	*e*PB	**Pb**	**03 39 55.7**	**-1.9**
LKR				*e*SG	**Sg**	**03 40 10.6**	**-0.7**
LTK	**Loutraki**	**1.20**	**118**	*e*Pg	**Pg**	**03 39 59.7**	**+0.1**
LTK				*e*Sg	**Sg**	**03 40 17.9**	**+2.7**
JAN	**Janina**	**1.23**	**331**	*e*PN	**Pn**	**03 40 00.5**	**+0.3**
VLX	**Vlachokerasia**	**1.35**	**154**	*e*Pg	**Pg**	**03 40 01.8**	**-0.8**
VLX				*e*Sg	**Sg**	**03 40 20.8**	**+0.6**
IGT	**Igoumenitsa**	**1.38**	**314**	*e*Pg	**Pg**	**03 40 03.6**	**+0.4**
ITM	**Ithomi**	**1.43**	**170**	*e*PN	**Pn**	**03 40 02.5**	**-0.5**
NEO	**Neokhori**	**1.44**	**60**	*e*PB	**Pb**	**03 40 03.2**	**-0.6**
DID	**Didima**	**1.67**	**130**	*e*Pb	**Pb**	**03 40 07.1**	**-0.6**
DID				*e*Sb	**Sb**	**03 40 29.8**	**+0.9**
VLI	**Veliai**	**2.14**	**150**	*e*PN	**Pn**	**03 40 14.3**	**+1.6**

*NEIC **11** 03:41:25.8, 35.11N×2426E, h14km, MD3.1(ATH), After ATH.*
*ATH **11** 03:41:25.6, 35.13N×2430E, h14km±2km, MD3.1/4*
*ISCJB **11** 03:41:26.2±0.6, 35.12N±003×2423E±005, h13km±6km, Error ellipse: s-maj=7.1km s-min=5.3km az=161.7*
*CSEM **11** 03:41:26.7±0.2, 35.13N×2422E, h10km, MD3.1, Error ellipse: s-maj=4.4km s-min=3.6km az=64.0*
*THE **11** 03:41:26.4, 35.14N×2421E, h15km*
ISC 11 03:41:26.8±0.7,**3513N**±004×**2422E**±005,**h7**km±11km,**n9**, σ0§**71**/16,**Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VAM	**Vamos**	**0.28**	**357**	*e*PG	**Pg**	**03 41 32.0**	**-0.3**
VAM				*e*SG	**Sg**	**03 41 36.2**	**+0.3**
GVD	**Gavdhos**	**0.31**	**200**	*e*Pb	**Pg**	**03 41 32.5**	**-0.4**
GVD				*e*Sb	**Sg**	**03 41 36.5**	**-0.5**
GVD	**Gavdhos**	**0.31**	**200**	*e*Pg	**Pg**	**03 41 32.7**	**-0.2**
GVD				*e*Sg	**Sg**	**03 41 38.1**	**+1.1**
GVD	**Gavdhos**	**0.31**	**200**	*e*Pg	**Pg**	**03 41 32.7**	**-0.2**
GVD				*e*Sb	**Sg**	**03 41 36.5**	**-0.5**
GVD				*e*Sg	**Sg**	**03 41 38.2**	**+1.2**
KARN	**Karanos**	**0.37**	**318**	*e*Pg	**Pg**	**03 41 33.2**	**-0.8**
KARN				*e*Sg	**Sg**	**03 41 39.4**	**+0.7**
SIVA	**Sivas**	**0.50**	**103**	*e*Pg	**Pg**	**03 41 36.1**	**-0.3**
SIVA				*e*Sg	**Sg**	**03 41 44.3**	**+1.3**
LAST	**Lasithi**	**1.03**	**88**	*e*Pg	**Pg**	**03 41 45.4**	**-1.3**
KYTH	**Kithira**	**1.50**	**320**	*e*PB	**Pb**	**03 41 55.0**	**0.0**
VLI	**Veliai**	**1.90**	**327**	*e*PN	**Pn**	**03 42 00.0**	**+0.4**

*BJI **11** 03:47:17.5, 3534N×7838E, h25km, mb4.5, ML4.5*
*MOS **11** 03:47:19.4±1.0, 3566N×7816E, h33km, mb4.5/24, Error ellipse: s-maj=13.3km s-min=6.2km az=112.1*
*ISCJB **11** 03:47:26.8±0.4, 3585N±002×7837E±005, h104km±5km, mb4.3/29, Error ellipse: s-maj=6.7km s-min=3.8km az=175.0*
*IDC **11** 03:47:26.2±5.3, 3583N×7826E, h75km±47km, mb3.7/11, mb1 3.9/13, mb1mx3.7/22, mbtmp3.8/13, ML4.2/2, Error ellipse: s-maj=27.3km s-min=16.6km az=27.0*
*NEIC **11** 03:47:27.5±0.5, 3587N×7831E, h88km±6km, mb4.4/17, Error ellipse: s-maj=8.2km s-min=4.2km az=65.0*
*LDG **11** 03:47:31.3±0.5, 3577N×7941E, h200km, Mb4.1/15, Error ellipse: s-maj=78.9km s-min=4.4km az=52.0*
*NNC **11** 03:47:31.4±2.7, 3683N×7818E, h0km, mb3.9, mpv3.9, Error ellipse: s-maj=23.4km s-min=14.9km az=177.0*
ISC 11 03:47:28.1±0.3,**3586N**±002×**7841E**±005,**h97**km±4km, **n135**,σ1§**04**/153,**mb4.3**/29,**4C-3D**,**Eastern Kashmir**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DLH	**Dalhousie**	**3.88**	**212**	*e*P	**Pn**	**03 48 37.0**	**+11**
DLH				*e*S	**Sn**	**03 49 09.0**	**-1.1**
THN	**Thein Dam**	**4.08**	**214**	*e*P	**Pn**	**03 48 29.8**	**+1.5**
THN				*e*S	**Sn**	**03 49 14.4**	**-0.6**
KSH	**Kashi**	**4.13**	**333**	⇓*i*P	**Pn**	**03 48 30.1**	**+1.3**
KSH				S	**Sn**	**03 49 11.3**	**-4.7**
KSH				Smax			
	comp=N,1μm,0.4s						
KSH				Smax			
	comp=E,2μm,0.4s						
KLP	**Kalpa**	**4.32**	**182**	*e*P	**Pn**	**03 48 36.0**	**+4.5**
KLP				*e*x	x	03 48 36.0	
KLP				*e*S	**Sn**	**03 49 22.4**	**+1.7**
KLP				AML	AML	03 49 28.7	
	comp=E,426nm,0.5s						
KLP				AML	AML	03 49 29.5	
	comp=N,271nm,0.3s						
SDNR	**Sundarnagar**	**4.51**	**196**	*e*P	**Pn**	**03 48 35.0**	**+0.9**
SDNR				*e*S	**Sn**	**03 49 24.4**	**-1.0**
CHCP	**Chirah Chowk**	**4.77**	**244**	P	**Pn**	**03 48 37.4**	**-0.2**
JOSI	**Joshimath**	**5.38**	**169**	*e*P	**Pn**	**03 48 49.5**	**+3.6**
JOSI				*e*S	**Sn**	**03 49 48.7**	**+2.1**
JOSI				AML	AML	03 49 52.7	
	comp=N,385nm,0.2s						
JOSI				AML	AML	03 49 54.1	
	comp=E,318nm,0.5s						
DDI	**Dehra Dun**	**5.53**	**183**	*e*P	**Pn**	**03 48 51.5**	**+3.5**
DDI				*e*S	**Sn**	**03 49 49.0**	**-1.3**
CEP	**Cherat**	**5.71**	**251**	⇑P	**Pn**	**03 48 49.0**	**-1.4**
CEP				S	**Sn**	**03 49 48.0**	**-6.7**
THW	**Thamme Wali**	**6.30**	**243**	P	**Pn**	**03 48 57.8**	**-0.6**
ULHL	**Ulahol**	**6.59**	**346**	P	**Pn**	**03 49 04.2**	**+1.9**
	SNR=5.8						
KZA	**Kyzart**	**6.67**	**339**	P	**Pn**	**03 49 04.3**	**+0.9**
	SNR=18						
RTK	**Rohtak**	**7.01**	**194**	*e*P	**Pn**	**03 49 15.1**	**+7.0**
UCH	**Uchtor**	**7.04**	**336**	*e*Pn	**Pn**	**03 49 08.8**	**+0.4**
	comp=E,21nm,0.5s						
UCH	**Uchtor**	**7.04**	**336**	P	**Pn**	**03 49 08.8**	**+0.5**
	SNR=24						
AML	**Almayashu**	**7.25**	**331**	*e*Pn	**Pn**	**03 49 11.3**	**+0.1**
	comp=E,12nm,0.5s						
AML	**Almayashu**	**7.25**	**331**	P	**Pn**	**03 49 13.0**	**+1.7**
	SNR=6.5						
KBK	**Karagaybulak**	**7.29**	**339**	P	**Pn**	**03 49 15.1**	**+3.2**
	SNR=9.2						
TKM2	**Tokmak 2**	**7.38**	**344**	⇓Pn	**Pn**	**03 49 13.4**	**+0.5**
	comp=E,11nm,0.5s						
TKM2				⇑Sn	**Sn**	**03 50 24.8**	**-10**
	comp=E,21nm,0.8s						
TKM2	**Tokmak 2**	**7.38**	**344**	*e*Pn	**Pn**	**03 49 14.3**	**+1.4**
	comp=E,14nm,0.5s						
TKM2	**Tokmak 2**	**7.38**	**344**	*e*P	**Pn**	**03 49 14.4**	**+1.5**
TKM2				pmax	pmax		
	comp=Z,14nm,0.5s						
TKM2	**Tokmak 2**	**7.38**	**344**	P	**Pn**	**03 49 14.9**	**+2.0**
	SNR=15						
AAK	**Ala-Archa**	**7.41**	**337**	P	**Pn**	**03 49 14.9**	**+1.5**
	SNR=12						
FRU	**Bishkek**	**7.55**	**338**	*e*P	**Pn**	**03 49 14.0**	**-1.4**
SONA	**Sohna**	**7.67**	**189**	*e*S	**Sn**	**03 50 37.1**	**-5.3**
SONA				AML	AML	03 50 38.5	
	comp=N,51nm,0.2s						
EKS2	**Erkin-Say**	**7.68**	**334**	*e*Pn	**Pn**	**03 49 18.7**	**+1.7**
	comp=N,8.0nm,0.7s						
EKS2	**Erkin-Say**	**7.68**	**334**	P	**Pn**	**03 49 19.1**	**+2.0**
	SNR=8.9						
KUDL	**Kundal**	**7.87**	**192**	*e*P	**Pn**	**03 49 20.3**	**+0.6**
KUDL				*e*S	**Sn**	**03 50 42.5**	**-4.5**
KUDL				AML	AML	03 50 47.6	
	comp=E,95nm,0.3s						
DRP	**Derazinda**	**7.96**	**241**	P	**Pn**	**03 49 19.2**	**-1.8**
KOLN	**Koldanda**	**9.20**	**150**	*e*Pn	**Pn**	**03 49 38.9**	**+1.1**
KOLN				*e*Sn	**Sn**	**03 51 16.7**	**-2.8**
	comp=E,64nm,0.5s						
GKN	**Gorkha**	**9.45**	**144**	*e*Pn	**Pn**	**03 49 42.0**	**+0.7**
GKN				*e*Sn	**Sn**	**03 51 21.1**	**-4.7**
	comp=E,42nm,0.3s						
KK31	**Karatay Array**	**9.46**	**322**	Pn	**Pn**	**03 49 40.0**	**-1.3**
	comp=E,1.0nm,0.3s,baz=136,slow=13,SNR=7.3						
KK31				⇑Sn	**Sn**	**03 51 19.9**	**-5.8**
	comp=E,3.0nm,0.4s,baz=138,slow=24,SNR=5.3						
AJM	**Ajmer**	**9.89**	**200**	*e*P	**Pn**	**03 49 47.0**	**-0.3**
AJM				*i* S	**Sn**	**03 51 29.0**	**-7.5**
KKN	**Kakani**	**9.95**	**142**	*e*Pn	**Pn**	**03 49 47.6**	**-0.4**
KKN				*e*Sn	**Sn**	**03 51 33.7**	**-4.0**
	comp=E,70nm,0.8s						

JIRN	**Jiri**	**10.52**	**139**	*e*Pn	**Pn**	**03 49 56.3**	**+0.5**
JIRN				*e*Sn	**Sn**	**03 51 50.4**	**-1.3**
comp=E,18nm,0.2s							
WMQ	**Urumqi**	**10.68**	**39**	P	**Pn**	**03 49 56.8**	**-1.1**
MK31	**Makanchi Array**	**11.30**	**14**	Pn	**Pn**	**03 50 04.6**	**-1.7**
comp=E,5.5nm,0.5s,baz=191,slow=12,SNR=82							
MK31				Sn	**Sn**	**03 52 04.6**	**-5.8**
comp=E,23nm,0.7s,baz=196,slow=19,SNR=4.4							
MK31	**Makanchi Array**	**11.30**	**14**	*e*Pn	**Pn**	**03 50 04.7**	**-1.6**
MK31				*e*Sn	**Sn**	**03 51 55.7**	**-15**
MKAR	**Makanchi Array**	**11.30**	**14**	*i* P	**Pn**	**03 50 04.6**	**-1.7**
MKAR				pmax	pmax		
comp=Z,12nm,0.4s							
MKAR	**Makanchi Array**	**11.30**	**14**	P	**Pn**	**03 50 04.7**	**-1.6**
comp=Z,4.4nm,0.3s,baz=194,slow=13,SNR=94							
KURK	**Kurchatov**	**14.85**	**1**	*e*Pn	**Pn**	**03 50 51.9**	**-0.9**
comp=Z,2.8nm,0.6s							
KURK	**Kurchatov**	**14.85**	**1**	*e*P	**Pn**	**03 50 51.9**	**-0.8**
KURK				pmax	pmax		
comp=Z,3.0nm,0.6s							
BVA0	**Borovoye Array**	**18.07**	**344**	P	**Pn**	**03 51 32.5**	**+0.1**
comp=Z,0.4nm,0.8s,baz=168,slow=12,SNR=8.6							
BRVK	**Borovoye**	**18.12**	**344**	*e*P	**Pn**	**03 51 33.7**	**+0.6**
comp=Z,2.1nm,0.5s							
BRVK	**Borovoye**	**18.12**	**344**	*e*P	**Pn**	**03 51 33.7**	**+0.6**
BRVK				pmax	pmax		
comp=Z,2.0nm,0.5s							
ZRNK	**Zerenda**	**18.33**	**342**	*i* P	**Pn**	**03 51 34.6**	**-1.0**
ZRNK				pmax	pmax		
comp=Z,2.0nm,0.7s							
ZAL	**Zalesovo**	**18.62**	**12**	P	**Pn**	**03 51 37.4**	**-1.6**
ZAA0	**Zalesovo Array**	**18.63**	**12**	*e*P	**Pn**	**03 51 39.0**	**-0.2**
ZALV	**Zalesovo Beam**	**18.63**	**12**	P	**Pn**	**03 51 37.4**	**-1.8**
comp=Z,0.3nm,0.3s,baz=201,slow=11,SNR=9.8							
AB31	**Akbulak array**	**19.01**	**320**	⇓P	**Pn**	**03 51 44.7**	**+1.0**
comp=Z,0.6nm,0.5s,baz=125,slow=11,SNR=13							
NVS	**Novosibirsk**	**19.27**	**8**	*e*P	**Pn**	**03 51 44.4**	**-2.3**
AKTK	**Aktyubinsk**	**20.72**	**321**	P	**P**	**03 52 00.5**	**0.0**
AKTO	**Aktyubinsk**	**20.72**	**321**	P	**P**	**03 52 00.5**	**+0.1**
AKTO				pmax	pmax		
comp=Z,2.0nm,0.5s							
AKTO	**Aktyubinsk**	**20.72**	**321**	P	**P**	**03 52 00.5**	**0.0**
comp=Z,1.9nm,0.5s,baz=133,slow=9.3,SNR=8.6							
SONM	**Songino Array**	**23.90**	**51**	P	**P**	**03 52 35.4**	**+2.8**
SONM				pmax	pmax		
comp=Z,1.0nm,0.6s							
SONM	**Songino Array**	**23.90**	**51**	P	**P**	**03 52 35.4**	**+2.8**
comp=Z,0.9nm,0.6s,baz=239,slow=10,SNR=4.8							
AKASG	**Malin Array Be**	**38.02**	**309**	P	**P**	**03 54 36.2**	**-0.3**
AKASG	**Malin Array Be**	**38.02**	**309**	P	**P**	**03 54 36.2**	**-0.3**
AKASG				pmax	pmax		
comp=Z,1.0nm,0.4s							
AKASG	**Malin Array Be**	**38.02**	**309**	P	**P**	**03 54 36.2**	**-0.3**
comp=Z,1.2nm,0.4s,mb4.1,baz=76,slow=8.4,SNR=13							
JOF	**Joensuu**	**39.49**	**328**	*ep*	**P**	**03 54 48.7**	**0.0**
comp=Z,3.3nm,0.5s,mb4.4							
FINES	**FINESS Array B**	**41.41**	**325**	P	**P**	**03 55 04.8**	**+0.4**
FINES				pmax	pmax		
comp=Z,2.0nm,0.5s							
FINES	**FINESS Array B**	**41.41**	**325**	P	**P**	**03 55 04.8**	**+0.4**
comp=Z,2.0nm,0.5s,mb4.2,baz=117,slow=8.8,SNR=18							
GVD	**Gavdhos**	**43.83**	**285**	*e*P	**P**	**03 55 24.2**	**-0.2**
comp=Z,19nm,0.8s,mb4.9							
ARCES	**ARCESS Array B**	**44.08**	**336**	P	**P**	**03 55 26.3**	**+0.3**
ARCES				pmax	pmax		
comp=Z,3.0nm,0.6s							
ARCES	**ARCESS Array B**	**44.08**	**336**	P	**P**	**03 55 26.3**	**+0.3**
comp=Z,3.4nm,0.6s,mb4.2,baz=108,slow=8.1,SNR=12							
MORC	**Moravsky Berou**	**45.53**	**307**	*e*P	**P**	**03 55 38.6**	**+0.9**
comp=Z,1.3nm,0.5s,mb3.9							
MORC	**Moravsky Berou**	**45.53**	**307**	*e*P	**P**	**03 55 38.6**	**+0.9**
MORC				pmax	pmax		
comp=Z,1.0nm,0.5s,mb3.8							
GERES	**GERESS Array B**	**48.15**	**307**	P	**P**	**03 55 59.0**	**+0.9**
GERES				pmax	pmax		
comp=Z,1.0nm,0.5s							
GERES	**GERESS Array B**	**48.15**	**307**	P	**P**	**03 55 59.0**	**+0.8**
comp=Z,0.5nm,0.5s,mb3.6,baz=66,slow=7.6,SNR=5.8							
KHC	**Kasperske Hory**	**48.18**	**307**⇑	*e*P	**P**	**03 55 58.4**	**0.0**
NB2	**NORSAR Subarra**	**48.49**	**323**	P	**P**	**03 56 00.2**	**-0.3**
comp=Z,1.8nm,0.5s,mb4.2,baz=91,slow=7.9							
NOA	**NORSAR Array B**	**48.49**	**323**	P	**P**	**03 56 00.6**	**+0.1**
NOA				pmax	pmax		
comp=Z,3.0nm,0.6s							
NOA	**NORSAR Array B**	**48.49**	**323**	P	**P**	**03 56 00.6**	**0.0**
comp=Z,2.8nm,0.6s,mb4.2,baz=90,slow=7.6,SNR=6.0							
CDF	**Champ du Feu**	**52.41**	**307**	*e*P	**P**	**03 56 31.1**	**+0.8**
comp=Z,1.9nm,0.4s,mb4.2							
CDF	**Champ du Feu**	**52.41**	**307**	*e*P	**P**	**03 56 31.1**	**+0.8**
comp=Z,0.9nm,0.4s,mb4.2							
CDF	**Champ du Feu**	**52.41**	**307**	*e*P	**P**	**03 56 31.1**	**+0.8**
CDF				pmax	pmax		
comp=Z,1.0nm,0.4s,mb4.2							
HINF	**Hinteralfeld**	**52.84**	**307**	*e*P	**P**	**03 56 33.2**	**-0.2**
comp=Z,4.6nm,0.5s,mb4.4							
HINF	**Hinteralfeld**	**52.84**	**307**	*e*P	**P**	**03 56 33.2**	**-0.2**
comp=Z,2.3nm,0.5s,mb4.5							
HINF	**Hinteralfeld**	**52.84**	**307**	*e*P	**P**	**03 56 33.2**	**-0.2**
HINF				pmax	pmax		
comp=Z,2.0nm,0.5s,mb4.4							
HAU	**Haudompre**	**53.11**	**307**	*e*P	**P**	**03 56 35.3**	**-0.1**
LPG	**La Plagne**	**53.53**	**304**	*e*P	**P**	**03 56 39.1**	**+0.6**
comp=Z,9.4nm,0.8s,mb4.6							
LPG	**La Plagne**	**53.53**	**304**	*e*P	**P**	**03 56 39.1**	**+0.6**
comp=Z,4.7nm,0.8s,mb4.6							
LPG	**La Plagne**	**53.53**	**304**	*e*P	**P**	**03 56 39.1**	**+0.6**
LPG				pmax	pmax		
comp=Z,5.0nm,0.8s,mb4.6							
LPL	**La Plagne**	**53.53**	**304**	*e*P	**P**	**03 56 39.0**	**+0.4**
comp=Z,7.8nm,0.6s,mb4.6							
LPL	**La Plagne**	**53.53**	**304**	*e*P	**P**	**03 56 39.0**	**+0.4**
comp=Z,3.9nm,0.6s,mb4.6							
LPL	**La Plagne**	**53.53**	**304**	*e*P	**P**	**03 56 39.0**	**+0.4**
LPL				pmax	pmax		
comp=Z,4.0nm,0.6s,mb4.6							
GIVF	**Givet**	**53.55**	**310**	*e*P	**P**	**03 56 39.0**	**+0.4**
CABF	**La Chapelle**	**53.66**	**305**	*e*P	**P**	**03 56 39.9**	**+0.5**
comp=Z,12nm,1.1s,mb4.6							
CABF	**La Chapelle**	**53.66**	**305**	*e*P	**P**	**03 56 39.9**	**+0.5**
comp=Z,6.2nm,1.1s,mb4.5							
CABF	**La Chapelle**	**53.66**	**305**	*e*P	**P**	**03 56 39.9**	**+0.5**
CABF				pmax	pmax		
comp=Z,6.0nm,1.1s,mb4.5							
BNI	**Bardonecchia**	**53.70**	**303**	*e*P	**P**	**03 56 39.8**	**0.0**
comp=Z,3.0nm,1.0s,mb4.3							
BNI	**Bardonecchia**	**53.70**	**303**	*e*P	**P**	**03 56 39.8**	**0.0**
BNI				pmax	pmax		
comp=Z,3.0nm,1.0s,mb4.3							
MBDF	**Montbardon**	**53.74**	**303**	*e*P	**P**	**03 56 40.2**	**+0.2**
comp=Z,5.8nm,0.8s,mb4.3							
MBDF	**Montbardon**	**53.74**	**303**	*e*P	**P**	**03 56 40.2**	**+0.2**
comp=Z,2.9nm,0.8s,mb4.4							
MBDF	**Montbardon**	**53.74**	**303**	*e*P	**P**	**03 56 40.2**	**+0.2**
MBDF				pmax	pmax		
comp=Z,3.0nm,0.8s,mb4.4							
LOR	**Lormes**	**54.94**	**307**	*e*P	**P**	**03 56 48.0**	**-0.7**
SMF	**Signal de Mont**	**55.13**	**306**	*e*P	**P**	**03 56 49.7**	**-0.4**
comp=Z,6.7nm,0.6s,mb4.5							
SMF	**Signal de Mont**	**55.13**	**306**	*e*P	**P**	**03 56 49.7**	**-0.4**
comp=Z,3.3nm,0.6s,mb4.5							
SMF	**Signal de Mont**	**55.13**	**306**	*e*P	**P**	**03 56 49.7**	**-0.4**
SMF				pmax	pmax		
comp=Z,3.0nm,0.6s,mb4.5							
SSF	**Saint Saulge**	**55.23**	**307**	*e*P	**P**	**03 56 50.3**	**-0.5**
comp=Z,3.9nm,0.6s,mb4.3							
SSF	**Saint Saulge**	**55.23**	**307**	*e*P	**P**	**03 56 50.3**	**-0.5**
comp=Z,2.0nm,0.6s,mb4.3							
SSF	**Saint Saulge**	**55.23**	**307**	*e*P	**P**	**03 56 50.3**	**-0.5**
SSF				pmax	pmax		
comp=Z,2.0nm,0.6s,mb4.3							
AVF	**Avril sur Loir**	**55.41**	**306**	*e*P	**P**	**03 56 51.6**	**-0.5**
comp=Z,3.8nm,0.6s,mb4.3							
AVF	**Avril sur Loir**	**55.41**	**306**	*e*P	**P**	**03 56 51.6**	**-0.5**
comp=Z,1.9nm,0.6s,mb4.3							
AVF	**Avril sur Loir**	**55.41**	**306**	*e*P	**P**	**03 56 51.6**	**-0.5**
AVF				pmax	pmax		
comp=Z,2.0nm,0.6s,mb4.3							
BGF	**Bois d'Agland**	**55.81**	**306**	*e*P	**P**	**03 56 55.7**	**+0.7**
LASF	**Ste Croix**	**55.92**	**303**	*e*P	**P**	**03 56 55.9**	**+0.1**
TCF	**Toulx Ste Croi**	**56.31**	**306**	*e*P	**P**	**03 56 58.5**	**-0.1**
comp=Z,3.7nm,0.7s,mb4.2							
TCF	**Toulx Ste Croi**	**56.31**	**306**	*e*P	**P**	**03 56 58.5**	**-0.1**
comp=Z,1.9nm,0.7s,mb4.2							
TCF	**Toulx Ste Croi**	**56.31**	**306**	*e*P	**P**	**03 56 58.5**	**-0.1**
TCF				pmax	pmax		
comp=Z,2.0nm,0.7s,mb4.3							
CAF	**Calviac**	**56.85**	**304**	*e*P	**P**	**03 57 02.4**	**0.0**
comp=Z,4.0nm,0.8s,mb4.2							
CAF	**Calviac**	**56.85**	**304**	*e*P	**P**	**03 57 02.4**	**0.0**
comp=Z,2.0nm,0.8s,mb4.2							
CAF	**Calviac**	**56.85**	**304**	*e*P	**P**	**03 57 02.4**	**0.0**
CAF				pmax	pmax		
comp=Z,2.0nm,0.8s,mb4.2							
LDF	**La Druitiere**	**57.08**	**309**	*e*P	**P**	**03 57 03.4**	**-0.6**
comp=Z,8.6nm,0.6s,mb4.7							
LDF	**La Druitiere**	**57.08**	**309**	*e*P	**P**	**03 57 03.4**	**-0.6**
comp=Z,4.3nm,0.6s,mb4.7							
LDF	**La Druitiere**	**57.08**	**309**	*e*P	**P**	**03 57 03.4**	**-0.6**
LDF				pmax	pmax		
comp=Z,4.0nm,0.6s,mb4.6							
GRR	**Gorron**	**57.61**	**309**	*e*P	**P**	**03 57 07.1**	**-0.6**
comp=Z,5.7nm,0.5s,mb4.6							
GRR	**Gorron**	**57.61**	**309**	*e*P	**P**	**03 57 07.1**	**-0.6**
comp=Z,2.8nm,0.5s,mb4.5							
GRR	**Gorron**	**57.61**	**309**	*e*P	**P**	**03 57 07.1**	**-0.6**
GRR				pmax	pmax		
comp=Z,3.0nm,0.5s,mb4.6							
SGMF	**Saint Gilles**	**58.73**	**309**	*e*P	**P**	**03 57 15.0**	**-0.5**
ROSF	**Rostrenen**	**59.15**	**310**	*e*P	**P**	**03 57 17.2**	**-1.2**
QUIF	**Quistinic**	**59.23**	**309**	*e*P	**P**	**03 57 18.3**	**-0.6**
comp=Z,7.5nm,0.7s,mb4.5							
QUIF	**Quistinic**	**59.23**	**309**	*e*P	**P**	**03 57 18.3**	**-0.6**
comp=Z,3.8nm,0.7s,mb4.5							
QUIF	**Quistinic**	**59.23**	**309**	*e*P	**P**	**03 57 18.3**	**-0.6**
QUIF				pmax	pmax		
comp=Z,4.0nm,0.7s,mb4.6							
RES	**Resolute Bay**	**69.64**	**358**	*e*P	**P**	**03 58 26.5**	**+0.1**
comp=Z,12nm,0.6s,mb4.9							
TORD	**Torodi Ar. Bea**	**71.72**	**273**	P	**P**	**03 58 39.5**	**-0.4**
comp=Z,0.5nm,0.5s,mb3.6,baz=47,slow=5.2,SNR=30							
WRA	**Warramunga Arr**	**76.69**	**127**	P	**P**	**03 59 09.8**	**+1.3**
WRA				pmax	pmax		
comp=Z,1.0nm,0.7s							
WRA	**Warramunga Arr**	**76.69**	**127**	P	**P**	**03 59 09.8**	**+1.3**
comp=Z,0.8nm,0.7s,mb3.6,baz=331,slow=6.1,SNR=4.2							
ASAR	**Alice Springs**	**79.10**	**130**	P	**P**	**03 59 23.1**	**+1.2**
ASAR				pmax	pmax		
comp=Z,1.0nm,0.7s							
ASAR	**Alice Springs**	**79.10**	**130**	P	**P**	**03 59 23.1**	**+1.2**
comp=Z,1.1nm,0.7s,mb3.8,baz=314,slow=5.8,SNR=12							
BOSA	**Boshof**	**81.35**	**225**	P	**P**	**03 59 34.4**	**+0.6**
BOSA				pmax	pmax		
comp=Z,2.0nm,0.6s,mb4.1							
BOSA	**Boshof**	**81.35**	**225**	P	**P**	**03 59 34.4**	**+0.5**
comp=Z,1.8nm,0.6s,mb4.1,baz=173,slow=14,SNR=6.3							
YKA	**Yellowknife Ar**	**81.43**	**6**	P	**P**	**03 59 34.0**	**+0.2**
YKA	**Yellowknife Ar**	**81.43**	**6**	P	**P**	**03 59 34.0**	**+0.2**
YKA				pmax	pmax		
comp=Z,1.0nm,0.4s							
YKA	**Yellowknife Ar**	**81.43**	**6**	P	**P**	**03 59 34.0**	**+0.2**
comp=Z,1.1nm,0.4s,mb4.1,baz=343,slow=5.5,SNR=44							

BJI ***11*** *03:59:50.7,853S×15802E,h5km,mB4.8,mb4.8,Ms4.9, Msz4.5*
IDC ***11*** *03:59:50.8±0.8,863S×15768E,h0km,mb4.2/8, mb1 4.4/10,mb1mx4.3/15,mbtmp4.2/10,ML4.3/2,MS3.6/2, Ms1 3.6/2,ms1mx3.3/14,Error ellipse: s-maj=21.6km s-min=14.8km az=2.0*
ISCJB ***11*** *03:59:51.1±0.4,883S±008×15775E±007,h10km, mb4.5/23,MS4.2/3,Error ellipse: s-maj=13.0km s-min=8.9km az=145.3*
NEIC ***11*** *03:59:52.3±0.4,875S×15773E,h10km,mb4.6/6,Error ellipse: s-maj=16.4km s-min=8.6km az=142.0*
ISC 11 03:59:54.5±4.1,90S±01×15784E±009,h24km±30km, h15km±3.2km:pP-P,n35,σ1°03/36,mb4.5/23,MS4.2/3,
Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.14**	**103**	*e*Pn	**Pn**	**04 00 29.0**	**+0.3**
HNR				*e*Sn	**Sb**	**04 01 05.1**	**+6.5**
HNR	**Honiara**	**2.14**	**103**	Pn	**Pn**	**04 00 29.2**	**+0.5**
154nm,0.3s,baz=256,slow=6.3,SNR=18							
HNR				Lg		04 01 06.2	
181nm,0.3s,baz=90,slow=22,SNR=13							
CTA	**Charters Tower**	**15.75**	**224**	Pn	**Pn**	**04 03 35.7**	**+0.8**
CTA				LR	LR	04 08 44.9	
CTA	**Charters Tower**	**15.75**	**224**	Pn	**Pn**	**04 03 35.7**	**+0.8**
0.4nm,0.3s,baz=65,slow=17,SNR=2.3							
CTA				LR	LR	04 08 44.9	
comp=Z,208nm,18.5s,baz=52,slow=34							
WRAB	**Tennant Creek**	**25.19**	**242**	*e*P	**P**	**04 05 17.9**	**-0.5**
8.9nm,0.8s,mb4.3							
WB2	**Warramunga Arr**	**25.20**	**242**	*e*P	**P**	**04 05 18.4**	**-0.1**
WRA	**Warramunga Arr**	**25.21**	**242**	P	**P**	**04 05 18.4**	**-0.2**
8.5nm,0.9s,mb4.3,baz=66,slow=9.0,SNR=17							
WRA				LR	LR	04 14 36.4	
comp=Z,160nm,19.3s,MS3.5,baz=70,slow=35							
KAKA	**Kakadu**	**25.22**	**259**	*e*P	**P**	**04 05 16.2**	**-2.5**
39nm,1.5s,mb4.7							
ASAR	**Alice Springs**	**27.17**	**235**	P	**P**	**04 05 35.6**	**-0.7**
1.7nm,0.8s,mb3.6,baz=62,slow=9.2,SNR=13							
STKA	**Stephens Creek**	**27.35**	**211**	*e*P	**P**	**04 05 41.4**	**+3.6**
5.3nm,0.8s,mb4.1							
STKA	**Stephens Creek**	**27.35**	**211**	P	**P**	**04 05 40.8**	**+3.0**
7.2nm,0.8s,mb4.2,baz=29,slow=11,SNR=13							
KSRS	**Korea Array**	**53.99**	**331**	P	**P**	**04 09 12.6**	**-4.1**
0.5nm,0.3s,mb3.9,baz=142,slow=9.8,SNR=3.1							
NJ2	**Nanjing**	**55.21**	**319**	*e*P	**P**	**04 09 25.8**	**+0.1**
NJ2				AMB	AMB		
comp=Z,20nm,1.2s,mb5.0							
MDJ	**Mudanjiang**	**59.11**	**337**	P	**P**	**04 09 53.7**	**+0.7**
MDJ				AMB	AMB		
comp=Z,4.0nm,0.8s,mb4.5							
MDJ				AMB	AMB		
comp=Z,149nm,14.8s							
GYA	**Guiyang**	**60.87**	**307**	P	**P**	**04 10 05.8**	**+0.4**
GYA				AP	pP	04 10 09.7	-3.2
GYA				XP	sP	04 10 12.4	-3.3
GYA				PCP	PcP	04 10 50.5	+1.5
GYA				PP	PP	04 12 23.0	+3.2
GYA				SCP	ScP	04 14 50.5	+1.3
GYA				S	**S**	**04 18 23.0**	**+0.9**
GYA				PS		04 18 39.3	
GYA				SCS	ScS	04 19 54.0	-1.5
GYA				AMB	AMB		
comp=Z,10.0nm,0.8s,mb5.0							
GYA				AMB	AMB		
comp=Z,70nm,4.7s							
GYA				LR	LR		
comp=N,370nm,18.9s,MS4.7							
GYA				LR	LR		
comp=E,410nm,19.4s,MS4.7							
GYA				LR	LR		
comp=Z,370nm,19.0s,MS4.5							
XAN	**Xi'an**	**63.06**	**315**	P	**P**	**04 10 23.0**	**+3.0**
XAN				AP	pP	04 10 30.6	+3.1
XAN				XP	sP	04 10 33.9	+3.6
XAN				AMB	AMB		
comp=Z,8.0nm,0.7s,mb5.0							
KMI	**Kunming**	**63.44**	**304**	P	**P**	**04 10 21.1**	**-1.6**
KMI				AMB	AMB		
comp=Z,12nm,0.6s,mb5.2							
CD2	**Chengdu**	**65.22**	**310**	*e*P	**P**	**04 10 35.4**	**+1.1**
CD2				XP	sP	04 10 42.4	-2.2
CD2				PP	PP	04 13 01.0	+2.9
CD2				S	S	04 19 16.5	+0.1
CD2				XS	sS	04 19 24.3	-4.5
CD2				SS	SS	04 23 30.8	+1.2
CD2				AMB	AMB		
comp=Z,20nm,0.8s,mb5.2							
CD2				AMB	AMB		
comp=Z,30nm,5.8s							
CD2				LR	LR		
comp=N,150nm,12.8s							
CD2				LR	LR		
comp=Z,130nm,14.4s,MS4.3							
HHC	**Hu-ho-hao-te**	**65.33**	**323**	*e*P	**P**	**04 10 36.0**	**+1.2**
HHC				AP	pP	04 10 40.2	-2.1
HHC				XP	sP	04 10 43.1	-2.0
HHC				PP	PP	04 13 01.0	+2.2
HHC				PCS		04 15 08.8	
HHC				S	S	04 19 25.4	+8.0
HHC				XS	sS	04 19 29.1	-0.7
HHC				PS		04 19 38.7	
HHC				SCS	ScS	04 20 27.2	-1.6
HHC				SS	SS	04 23 30.4	-0.6
HHC				AMB	AMB		
comp=Z,18nm,0.4s,mb5.5							
HHC				AMB	AMB		
comp=Z,129nm,10.6s							
HHC				LR	LR		
comp=N,178nm,8.2s							
HHC				LR	LR		
comp=E,249nm,7.2s							
HHC				LR	LR		
comp=Z,145nm,8.2s							
LZH	**Lanzhou**	**67.67**	**315**	*e*P	**P**	**04 10 50.9**	**+1.0**
LZH				AP	pP	04 10 53.6	-3.8
LZH				XP	sP	04 10 55.5	-4.7
LZH				AMB	AMB		
comp=Z,15nm,1.0s,mb5.0							
LZH				AMB	AMB		
comp=Z,70nm,4.0s							
GTA	**Gaotai**	**72.08**	**316**	*e*P	**P**	**04 11 22.1**	**+5.2**
GTA				AMB	AMB		
comp=Z,3.0nm,1.0s,mb4.2							
BILL	**Bilibino**	**77.03**	**3**	*e*P	**P**	**04 11 43.3**	**-1.8**
comp=Z,5.1nm,0.9s,mb4.5							
SVW2	**Sparrevohn**	**78.76**	**21**	*e*P	**P**	**04 11 55.1**	**+0.2**
TTA	**Tatalina**	**79.88**	**20**	*e*P	**P**	**04 12 00.9**	**+0.1**
comp=Z,8.7nm,0.8s,mb4.7							
SML	**Sawmill**	**81.90**	**23**	*e*P	**P**	**04 12 11.2**	**-0.5**
IMA2	**Indian Mountai**	**82.75**	**18**	*e*P	**P**	**04 12 15.7**	**-0.3**
COLA	**College**	**83.89**	**20**	*e*P	**P**	**04 12 20.9**	**-1.0**
comp=Z,11nm,0.8s,mb5.0							
EGAK	**Eagle**	**86.24**	**22**	*e*P	**P**	**04 12 33.7**	**0.0**
comp=Z,2.0nm,0.8s,mb4.4							
MKAR	**Makanchi Array**	**86.72**	**318**	P	**P**	**04 12 36.3**	**-0.2**
comp=Z,0.5nm,0.6s,mb3.9,baz=104,slow=5.8,SNR=3.8							
INK	**Inuvik**	**90.55**	**20**	*e*P	**P**	**04 12 53.0**	**-1.2**
NVAR	**Mina Array Bea**	**90.72**	**51**	P	**P**	**04 12 56.7**	**+1.0**
comp=Z,1.6nm,0.8s,mb4.4,baz=233,slow=4.8,SNR=10							
YKA	**Yellowknife Ar**	**96.74**	**28**	P	**P**	**04 13 22.1**	**-0.7**
YKA	**Yellowknife Ar**	**96.74**	**28**	P	**P**	**04 13 22.1**	**-0.6**
comp=Z,0.3nm,0.6s,mb3.9,baz=260,slow=4.6,SNR=8.9							
PDAR	**Pinedale Array**	**97.91**	**48**	P	**P**	**04 13 29.4**	**+0.8**
comp=Z,0.5nm,0.8s,mb4.1,baz=279,slow=3.9,SNR=4.3							
BDFB	**Brasilia**	**144.61**	**134**	PKP	PKPdf	04 19 29.9	-0.3
comp=Z,3.7nm,0.8s,baz=182,slow=7.3,SNR=7.5							

CSEM ***11*** *04:02:40.9±0.1,3804N×3093E,h5km,MD3.5,Error ellipse: s-maj=1.4km s-min=1.1km az=169.0*
ISCJB ***11*** *04:02:41.1±0.9,3804N±002×3094E±003,h1km±8km, Error ellipse: s-maj=4.2km s-min=3.7km az=12.2*
ISK ***11*** *04:02:41.3,3802N×3093E,h8km,ML3.3*
DDA ***11*** *04:02:42.5,3799N×3097E,h7km±2km,Md3.5*
ISC 11 04:02:42.0±0.7,3804N±002×3093E±003,h3km±5km,n57, σ0°73/65,1C-1D,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ISP	**Isparta**	**0.38**	**240**	*e*PG	**Pg**	**04 02 49.1**	**-0.3**
ISP				*e*SG	**Sg**	**04 02 55.0**	**+0.7**
SHUT	**Suhut-Afyon**	**0.59**	**330**	*e*PG	**Pg**	**04 02 53.8**	**+0.4**
BCK	**Bucak**	**0.64**	**205**	*e*PG	**Pg**	**04 02 53.6**	**-1.1**
KDHN	**Kadinhani**	**1.05**	**62**	*i* P	**Pg**	**04 03 01.6**	**-0.6**
KDHN				*i* S	**Sg**	**04 03 15.6**	**-0.3**
KIZT	**Kizilcal**	**1.12**	**41**	*e*PN	**Pn**	**04 03 03.5**	**-1.1**
KONT	**Konya--Tatoy**	**1.14**	**94**	*e*PN	**Pn**	**04 03 02.4**	**-2.3**
KHL	**Karahalli**	**1.14**	**285**	*e*PN	**Pn**	**04 03 04.1**	**-0.7**
ANTB	**Antalya**	**1.16**	**191**	*e*PN	**Pn**	**04 03 04.4**	**-0.6**
ALT	**Altintas**	**1.20**	**328**	*e*PN	**Pn**	**04 03 04.8**	**-0.9**
GOLH	**Golhisar**	**1.35**	**234**	*i* P	**Pn**	**04 03 06.4**	**-1.2**
GOLH				*i* S	**Sg**	**04 03 27.6**	**+2.3**
ESKT	**Eskisehir**	**1.48**	**358**	*i* P	**Pn**	**04 03 09.7**	**+0.2**
ESKT				*i* S	**Sb**	**04 03 30.2**	**+0.9**
ESKT	**Eskisehir**	**1.48**	**358**	*e*Pn	**Pn**	**04 03 09.7**	**+0.2**
SEYT	**Eskypehyr**	**1.48**	**358**	*i* P	**Pn**	**04 03 09.6**	**+0.1**
SEYT				*i* S	**Sb**	**04 03 30.2**	**+0.9**
ELL	**Elmali**	**1.52**	**213**	*e*PN	**Pn**	**04 03 09.5**	**-0.5**
DENT	**Denizli**	**1.53**	**260**	*e*PN	**Pn**	**04 03 09.0**	**-1.1**
GDZ	**Gediz**	**1.54**	**313**	*i* P	**Pn**	**04 03 10.4**	**0.0**
GDZ				*i* S	**Sn**	**04 03 31.5**	**+0.6**
KULA	**Kula-Manisa**	**1.85**	**286**	*e*PN	**Pn**	**04 03 14.0**	**-0.5**
FETY	**Fethiye**	**2.03**	**227**	*e*PN	**Pn**	**04 03 17.5**	**+0.5**
AKAS	**Kas**	**2.09**	**211**	*i* P	**Pn**	**04 03 18.3**	**+0.5**
ERMK	**Ermenek**	**2.11**	**131**	*i* P	**P

0.2nm,0.5s,mb3.2,baz=133,slow=6.3,SNR=6.3
TORD Torodi Ar. Bea 73.67 78 P **P 04 26 55.9 -0.1**
0.4nm,1.0s,mb3.1,baz=287,slow=5.5,SNR=2.8
WRA Warramunga Arr 150.43 241 PKPbc PKPbc 04 35 11.7 -1.0
0.1nm,0.4s,baz=104,slow=2.6,SNR=3.8

TRN 11 04:20:25.3, 1145N×5988W, h10km, MD3.6, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRN	**Trinidad (W)**	**1.70**	**242**	*e*P	Pn	04 20 55.8	+0.8
TRN	**Trinidad (W)**	**1.70**	**242**	*e*	Pn	04 21 08.4	+13
TRN				*e*S	Sn	04 21 24.8	+8.0
GRW	**Mount Saint Ca**	**1.88**	**292**	*e*P	Pn	04 20 58.5	+0.9
GRW				*e*S	Sn	04 21 23.9	+2.6
FCV	**Fort Charlotte**	**2.16**	**322**	*e*P	Pn	04 21 04.7	+3.4
FCV				*e*S	Sn	04 21 30.9	+2.7
SVB	**Belmont**	**2.25**	**324**	*e*P	Pn	04 21 05.0	+2.3
SVB				*e*S	Sn	04 21 33.4	+2.9
SSV	**Crater Summit**	**2.26**	**326**	*e*P	Pn	04 21 06.0	+3.2
SSV				*e*S	Sn	04 21 31.7	+1.0
SLB	**Belfond**	**2.62**	**334**	*e*P	Pn	04 21 09.4	+1.8
SLB				*e*S	Sn	04 21 41.1	+1.6
MVM	**Montagne Vaucl**	**3.24**	**342**	*e*P	Pn	04 21 18.1	+1.9
MVM				*e*S	Sn	04 21 55.4	+0.6
BIM	**Bigot**	**3.26**	**339**	*e*P	Pn	04 21 18.8	+2.3

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*IDC **11** 04:34:41.4±1.2, 702S×156.13E, h0km, mb4.1/4, mb1 4.2/5, mb1mx3.9/14, mbtmp4.2/5, ML4.5/1, MS3.4/5, Ms1 3.4/5, ms1mx3.2/22, Error ellipse: s-maj=33.3km s-min=28.1km az=33.0*
*NEIC **11** 04:34:43.0±0.8, 709S×156.15E, h10km, mb3.9/1, Error ellipse: s-maj=24.2km s-min=18.4km az=196.0*
*ISCJB **11** 04:34:45.6±0.8, 7.1S±0.1×15609E±009, h33km, mb3.9/5, MS3.4/3, Error ellipse: s-maj=22.3km s-min=9.9km az=25.4*
ISC 11 04:34:47.4±0.8, 71S±01×15607E±010, h35km, n13, σ1§05/10, mb3.9/5, MS3.4/3, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.49**	**122**	Pn	**Pn**	**04 35 50.4**	**-2.6**
HNR				Sn	**Sn**	**04 36 45.1**	**+1.0**
HNR				LR	LR	04 37 34.2	
HNR	**Honiara**	**4.49**	**122**	Pn	**Pn**	**04 35 50.4**	**-2.6**
24nm,0.3s,baz=61,slow=19,SNR=3.2
HNR 16nm,0.3s,baz=261,slow=10,SNR=4.0 Sn **Sn 04 36 45.1 +1.0**
HNR LR LR 04 37 34.2
comp=Z,355nm,18.0s,baz=354,slow=39
CTA Charters Tower 16.05 215 LR LR 04 43 39.5
comp=Z,102nm,18.8s,baz=49,slow=33
WRA Warramunga Arr 24.65 237 P **P 04 40 05.8 +0.9**
3.6nm,1.1s,mb3.8,baz=61,slow=9.3,SNR=7.6
ASAR Alice Springs 26.92 230 P **P 04 40 24.8 -0.7**
0.4nm,0.7s,mb3.1,baz=55,slow=9.9,SNR=6.4
STKA Stephens Creek 28.12 207 LR LR 04 51 47.2
comp=Z,142nm,18.6s,MS3.6,baz=27,slow=36
MJAR Matsushiro Arr 46.52 340 LR LR 05 00 49.2
comp=Z,62nm,19.1s,MS3.6,baz=20,slow=34
KSRS Korea Array 51.52 331 LR LR 05 01 07.3
comp=Z,21nm,20.0s,MS3.2,baz=345,slow=31
MKAR Makanchi Array 84.18 318 P **P 04 47 15.8 +0.7**
5.2nm,0.8s,mb4.7,baz=101,slow=6.3,SNR=31
ZALV Zalesovo Beam 84.85 326 P **P 04 47 17.9 -0.4**
ZALV Zalesovo Beam 84.85 326 P **P 04 47 17.9 -0.4**
0.8nm,0.4s,mb4.2,baz=134,slow=8.5,SNR=4.8
EGAK Eagle 85.19 22 *e*P **P 04 47 20.0 +0.2**
0.8nm,1.1s,mb3.8
TORD Torodi Ar. Bea 154.08 285 PKPbc PKPbc 04 54 42.5 -2.0
0.7nm,0.7s,baz=60,slow=1.6,SNR=7.1

IDC 11 04:40:22.8±1.2, 263N×12837E, h0km, mb3.8/5, mb1 4.0/5, mb1mx3.8/15, mbtmp3.8/5, Error ellipse: s-maj=98.4km s-min=20.1km az=74.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.19**	**166**	P	P	04 45 30.1	-1.3
1.1nm,0.4s,baz=347,slow=11,SNR=6.4
ASAR Alice Springs 26.69 169 P P 04 46 04.4 +0.6
0.4nm,0.5s,baz=354,slow=8.3,SNR=5.0
KSRS Korea Array 34.66 359 P P 04 47 14.0 0.0
0.7nm,0.4s,baz=182,slow=10,SNR=4.6
STKA Stephens Creek 36.55 161 P P 04 47 30.9 +0.5
1.2nm,0.4s,baz=348,slow=13,SNR=4.5
MKAR Makanchi Array 59.38 325 P P 04 50 26.9 -0.1
0.5nm,0.4s,baz=122,slow=8.1,SNR=6.0

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*NEIC **11** 04:47:33.1±2.8, 3631N×7120E, h83km±21km, mb3.9/1, Error ellipse: s-maj=28.3km s-min=19.1km az=198.0*
*ISCJB **11** 04:47:34.7±0.6, 3655N±003×712E±0.1, h104km±9km, mb3.6/6, Error ellipse: s-maj=15.7km s-min=5.3km az=5.5*
*NNC **11** 04:47:35.4±7.2, 3694N×7074E, h0km, mb4.4, mpv4.3, Error ellipse: s-maj=72.7km s-min=50.3km az=45.0*
*IDC **11** 04:47:36.8±7.5, 3624N×7100E, h115km±66km, mb3.4/4, mb1 3.6/6, mb1mx3.3/21, mbtmp3.4/6, Error ellipse: s-maj=38.5km s-min=28.4km az=22.0*
ISC 11 04:47:35.9±0.5, 3654N±003×711E±01, h99km±9km, n35, σ0§99/41, mb3.6/6, 5C-1D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**2.78**	**166**	⇓P	**Pn**	**04 48 18.7**	**0.0**
CEP				S	**Sn**	**04 48 53.0**	**+1.4**
CHCP	**Chirah Chowk**	**3.37**	**148**	P	**Pn**	**04 48 26.6**	**+0.1**
THW	**Thamme Wali**	**3.77**	**172**	⇑P	**Pn**	**04 48 31.2**	**-0.7**
SARP	**Sargodha**	**4.78**	**164**	P	**Pn**	**04 48 43.8**	**-1.8**
DRP	**Derazinda**	**4.84**	**189**	P	**Pn**	**04 48 46.2**	**-0.2**
AML	**Almayashu**	**5.93**	**19**	*e*Pn	**Pn**	**04 49 01.4**	**+0.3**
55nm,0.3s
AML *e*Sn **Sn 04 50 06.9 -0.8**
AML Almayashu 5.93 19 P **Pn 04 49 01.7 +0.5**
SNR=90
UCH Uchtor 6.26 24 *e*Pn **Pn 04 49 05.8 +0.3**
12nm,0.4s
UCH *e*Sn **Sn 04 50 15.3 -0.4**
UCH Uchtor 6.26 24 P **Pn 04 49 06.1 +0.5**
SNR=34
KZA Kyzart 6.39 29 P **Pn 04 49 07.5 +0.2**
SNR=17
EKS2 Erkin-Say 6.45 18 *e*Pn **Pn 04 49 08.3 +0.1**
12nm,0.5s
EKS2 *e*Sn **Sn 04 50 16.6 -3.7**
EKS2 Erkin-Say 6.45 18 P **Pn 04 49 08.6 +0.5**
SNR=20
KK31 Karatay Array 6.58 356 P **Pn 04 49 09.9 0.0**
14nm,0.3s,baz=175,slow=12,SNR=647
KK31 ⇑S **Sn 04 50 20.2 -3.1**
2.9nm,0.4s,baz=183,slow=22,SNR=4.5
AAK Ala-Archa 6.62 22 P **Pn 04 49 11.3 +0.8**
SNR=9.2
KBK Karagaybulak 6.79 25 P **Pn 04 49 13.9 +1.1**
SNR=5.6
CHMS Chumysh 7.03 22 P **Pn 04 49 16.3 +0.3**
SNR=9.5
USP Ospenovka 7.20 20 P **Pn 04 49 18.5 +0.1**
SNR=21
TKM2 Tokmak 2 7.25 27 ⇑P **Pn 04 49 18.5 -0.5**
6.7nm,0.5s
TKM2 Tokmak 2 7.25 27 *e*Pn **Pn 04 49 18.9 -0.1**
10nm,0.4s
TKM2 Tokmak 2 7.25 27 P **Pn 04 49 19.1 +0.1**
SNR=17
MKAR Makanchi Array 13.20 36 P **Pn 04 50 44.0 +4.7**
0.3nm,0.3s,baz=219,slow=12,SNR=4.0
AB31 Akbulak array 15.10 331 ⇑P **Pn 04 51 02.6 -1.1**
1.1nm,0.4s,baz=157,slow=11,SNR=39
AB31 ⇑S **S 04 53 43.9 -17**
0.8nm,0.6s,baz=152,slow=24,SNR=3.2
AKTK Aktyubinsk 16.80 330 P **Pn 04 51 25.5 +0.7**
AKTO Aktyubinsk 16.80 330 P **Pn 04 51 25.5 +0.7**
0.4nm,0.3s,baz=134,slow=7.1,SNR=6.5
ZALV Zalesovo Beam 19.84 24 P **Pn 04 51 57.4 -3.7**
ZALV Zalesovo Beam 19.84 24 P **Pn 04 51 57.4 -3.7**
1.8nm,0.5s,baz=223,slow=11,SNR=6.4
FINES FINESS Array B 37.51 326 P **P 04 54 42.0 +2.2**
2.4nm,1.0s,mb4.0,baz=134,slow=8.0,SNR=3.3
ARCES ARCESS Array B 41.15 338 P **P 04 55 11.1 +1.2**
ARCES ARCESS Array B 41.15 338 P **P 04 55 11.1 +1.2**
2.0nm,0.8s,mb4.0,baz=92,slow=8.5,SNR=5.9
BNI Bardonecchia 48.37 301 *e*P **P 04 56 03.1 -4.4**
1.0nm,0.6s,mb3.8
TORD Torodi Ar. Bea 65.82 269 P **P 04 58 09.2 -1.7**
0.2nm,0.4s,mb3.3,baz=50,slow=5.9,SNR=7.6
INK Inuvik 73.85 9 *e*P **P 04 58 59.7 +0.4**
YKA Yellowknife Ar 81.20 3 P **P 04 59 40.4 +0.2**
YKA Yellowknife Ar 81.20 3 P **P 04 59 40.4 +0.2**
0.3nm,0.4s,mb3.5,baz=349,slow=5.4,SNR=12
WRA Warramunga Arr 81.92 122 P **P 04 59 43.6 -1.1**
0.1nm,0.3s,mb3.1,baz=321,slow=4.8,SNR=5.1

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*IDC **11** 04:49:14.7±1.6, 1331S×16766E, h0km, mb4.3/5, mb1 4.4/5, mb1mx4.0/15, mbtmp4.3/5, MS2.8/1, Ms1 2.8/1, ms1mx2.6/20, Error ellipse: s-maj=76.5km s-min=29.8km az=140.0*
*ISCJB **11** 04:49:20.8±2.0, 133S±04×1672E±04, h33km, mb4.2/6, Error ellipse: s-maj=76.3km s-min=22.6km az=43.3*
*NEIC **11** 04:49:40.0±0.8, 1359S×16721E, h200km, mb3.8/1, Error ellipse: s-maj=37.4km s-min=12.9km az=136.0*
ISC 11 04:49:22.9±2.0, 132S±04×1672E±04, h35km, n28, σ0§44/7, mb4.2/6, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**8.03**	**297**	LR	LR	04 53 57.6	
comp=Z,59nm,20.2s,baz=182,slow=33
STKA Stephens Creek 29.98 227 P **P 04 55 28.4 +0.3**
STKA Stephens Creek 29.98 227 P **P 04 55 28.4 +0.3**
4.2nm,0.4s,mb4.5,baz=52,slow=9.2,SNR=16
WRA Warramunga Arr 32.18 253 P **P 04 55 47.2 -0.5**
1.1nm,0.5s,mb3.9,baz=86,slow=9.4,SNR=10
WRA PcP PcP 04 58 33.0 -3.2
0.2nm,0.3s,baz=78,slow=3.3,SNR=5.0
ASAR Alice Springs 33.20 247 P **P 04 55 56.0 -0.6**
3.5nm,0.6s,mb4.5,baz=75,slow=9.2,SNR=49
ASAR PcP PcP 04 58 36.0 -2.9
0.6nm,0.5s,baz=78,slow=2.3,SNR=5.7
FITZ Fitzroy Crossi 40.27 258 P **P 04 56 57.6 +0.7**
1.0nm,0.6s,mb3.8,baz=75,slow=12,SNR=4.3
COLA College 84.86 18 *e*P **P 05 01 53.4 -0.2**
1.0nm,0.6s,mb4.1
MKAR Makanchi Array 96.04 317 P **P 05 02 46.8 +0.2**
0.8nm,0.6s,mb4.3,baz=96,slow=6.2,SNR=4.4
ARCES ARCESS Array B 118.74 346 PKP PKPdf 05 08 04.3 -2.5
6.2nm,1.1s,baz=52,slow=2.8,SNR=7.0
GERES GERESS Array B 138.23 334 PKP PKPdf 05 08 43.4 -1.0
0.4nm,0.2s,baz=37,slow=5.2,SNR=5.3
GRR Gorron 143.52 347 *e*PKP2 PKPdf 05 08 50.5 -3.4
4.3nm,0.4s
SMF Signal de Mont 143.81 340 *e*PKP2 PKPdf 05 08 51.0 -3.5
AVF Avril sur Loir 143.84 341 *e*PKP2 PKPdf 05 08 51.1 -3.4
4.7nm,0.5s
SGMF Saint Gilles 144.00 348 *e*PKP2 PKPdf 05 08 52.2 -2.6
13nm,0.6s
ROSF Rostrenen 144.06 349 *e*PKP2 PKPdf 05 08 52.3 -2.6
6.2nm,0.6s
BGF Bois d'Agland 144.21 341 *e*PKP2 PKPdf 05 08 53.1 -2.1
11nm,0.6s
QUIF Quistinic 144.44 349 *e*PKP2 PKPdf 05 08 53.5 -2.0
8.8nm,0.6s
TCF Toulx Ste Croi 144.64 342 *e*PKP2 PKPdf 05 08 54.0 -1.9
4.5nm,0.7s
SBF Sospel 144.83 334 *e*PKP2 PKPdf 05 08 55.0 -1.3
18nm,0.8s
MFF Saint Martin d 145.01 345 *e*PKP2 PKPab 05 08 54.3 -1.6
3.7nm,0.5s
PGF Pioggiola 145.18 331 *e*PKP2 PKPab 05 08 56.1 -0.5
14nm,0.8s
FRF La Foret Royal 145.41 335 *e*PKP2 PKPab 05 08 56.7 -0.7
SMRF Simiane la Rot 145.49 336 *e*PKP2 PKPab 05 08 57.5 -0.3
8.4nm,0.8s
LMR La Mourre 145.65 335 *e*PKP2 PKPab 05 08 57.4 -1.0
4.3nm,0.4s
LASF Ste Croix 146.05 338 *e*PKP2 PKPab 05 08 57.9 -2.0
5.7nm,0.8s
MTLF Montolieu 147.27 340 *e*PKP2 PKPab 05 09 02.5 -2.1
4.7nm,0.7s
KEST Kesra 149.96 322 PKPbc PKPbc 05 09 09.3 -0.7
0.6nm,0.6s,baz=98,slow=4.7,SNR=5.0
TORD Torodi Ar. Bea 165.89 272 PKP PKPdf 05 09 22.9 -2.1
0.6nm,1.0s,baz=191,slow=4.4,SNR=2.7
TORD PKPab PKPab 05 10 22.6 -2.3
0.3nm,0.7s,baz=85,slow=4.4,SNR=4.9

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*NEIC **11** 05:12:48.8, 3578S×17979E, h234km, MG4.3(WEL), After WEL.*
WEL 11 05:12:45.1±0.7, 3524S×17897E, h258km±8km, ML4.3/7, Error ellipse: s-maj=18.3km s-min=8.9km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**2.38**	**193**	P	Pn	05 13 32.0	+0.4
MXZ S S 05 14 03.4 -5.1
MXZ Matakaoa Point 2.38 193 PN Pn 05 13 32.0 +0.4
MXZ SN S 05 14 07.6 -1.0
PUZ Puketiti 2.88 191 P Pn 05 13 32.2 -4.6
PUZ Puketiti 2.88 191 PN Pn 05 13 37.4 +0.7
PUZ SN S 05 14 17.1 -0.7
MWZ Matawai 3.30 200 P Pn 05 13 42.1 +0.9
MWZ S S 05 14 26.2 +0.4
MWZ Matawai 3.30 200 PN Pn 05 13 42.1 +0.8
MWZ SN S 05 14 25.5 -0.3
URZ Urewera 3.36 206 P Pn 05 13 42.0 +0.1
URZ Urewera 3.36 206 PN Pn 05 13 42.0 +0.1
URZ SN S 05 14 26.3 -0.7
KNZ Kokohu 3.91 195 *e*P Pn 05 13 48.2 +0.1
KNZ Kokohu 3.91 195 PN Pn 05 13 48.2 +0.1
BKZ Black Stump Fm 4.39 206 P Pn 05 13 54.1 +0.4
BKZ Black Stump Fm 4.39 206 PN Pn 05 13 54.1 +0.3
FWVZ Far West T-bar 4.85 213 P Pn 05 13 59.3 +0.1
FWVZ Far West T-bar 4.85 213 PN Pn 05 13 59.3 +0.1
MOVZ Moawhango 4.89 211 P Pn 05 13 58.6 -1.1
MOVZ Moawhango 4.89 211 PN Pn 05 13 58.6 -1.1
WNVZ Wahianoa 4.89 212 P Pn 05 13 59.6 -0.1
WNVZ Wahianoa 4.89 212 PN Pn 05 13 59.6 0.0
PXZ Pawanui 5.07 199 PN Pn 05 14 01.1 -0.7
TSZ Takapari Road 5.37 205 P Pn 05 14 04.2 -1.3
WAZ Wanganui 5.51 214 *e*P Pn 05 14 07.1 -0.1
WAZ Wanganui 5.51 214 PN Pn 05 14 07.1 -0.1
MRZ Mangatainoka R 6.04 205 P Pn 05 14 12.5 -1.3
MRZ Mangatainoka R 6.04 205 PN Pn 05 14 12.5 -1.3
KIW Kapiti Island 6.46 208 P Pn 05 14 17.2 -1.8
KIW Kapiti Island 6.46 208 PN Pn 05 14 17.2 -1.8
MTW Mount Morrison 6.51 204 P Pn 05 14 14.8 -4.8
MTW Mount Morrison 6.51 204 PN Pn 05 14 17.9 -1.7
TRWZ Traveller 6.67 202 PN Pn 05 14 20.3 -1.3
PAWZ Paruwai Farm 6.73 203 P Pn 05 14 20.7 -1.7
PAWZ Paruwai Farm 6.73 203 PN Pn 05 14 20.7 -1.7
MSWZ Moikau Station 6.82 204 P Pn 05 14 21.9 -1.6
MSWZ Moikau Station 6.82 204 PN Pn 05 14 21.9 -1.7
DUWZ D'Urville Isla 6.83 214 PN Pn 05 14 21.6 -2.1
MRW Makara Radio 6.86 208 P Pn 05 14 21.8 -2.2
MRW Makara Radio 6.86 208 PN Pn 05 14 21.8 -2.2
SNZO South Karori 6.92 208 P Pn 05 14 22.4 -2.4
SNZO South Karori 6.92 208 PN Pn 05 14 22.4 -2.4
TCW Tory Channel 7.01 210 P Pn 05 14 23.4 -2.5
TCW Tory Channel 7.01 210 PN Pn 05 14 23.4 -2.5
TUWZ Tuamarina 7.33 211 PN Pn 05 14 27.2 -2.7
NNZ Nelson 7.41 215 *e*P Pn 05 14 28.6 -2.3
NNZ Nelson 7.41 215 PN Pn 05 14 27.8 -3.1
BSWZ Blackbirch Sta 7.60 210 P Pn 05 14 31.1 -2.1
BSWZ Blackbirch Sta 7.60 210 PN Pn 05 14 31.1 -2.2
THZ Tophouse 8.06 214 *e*P Pn 05 14 37.2 -1.9
THZ Tophouse 8.06 214 PN Pn 05 14 37.2 -1.9
KHZ Kahutara 8.32 209 *e*P Pn 05 14 40.2 -2.2
KHZ Kahutara 8.32 209 PN Pn 05 14 40.2 -2.2
LTZ Lake Taylor 9.16 213 *e*P Pn 05 14 50.1 -2.8
LTZ Lake Taylor 9.16 213 PN Pn 05 14 50.1 -2.7
MQZ McQueen's Vall 9.76 208 *e*P Pn 05 14 57.2 -3.2
MQZ McQueen's Vall 9.76 208 PN Pn 05 14 57.2 -3.2
ODZ Otahua Downs 11.68 210 *e*P Pn 05 15 23.0 -1.3
ODZ Otahua Downs 11.68 210 PN Pn 05 15 23.6 -0.7

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*IDC **11** 05:21:15.4±1.3, 2732N×9233E, h0km, mb3.8/5, mb1 4.0/5, mb1mx3.7/21, mbtmp3.8/5, Error ellipse: s-maj=93.7km s-min=20.9km az=58.0*
*ISCJB **11** 05:21:23.9±2.6, 275N±03×926E±04, h83km±22km, mb3.7/6, Error ellipse: s-maj=66.5km s-min=19.5km az=143.3*
*NEIC **11** 05:21:24.8±1.8, 2752N×9259E, h71km±16km, mb3.7/4, Error ellipse: s-maj=40.5km s-min=12.3km az=53.0*
ISC 11 05:21:25.2±2.5, 276N±03×927E±04, h74km±22km, n11, σ0§38/12, mb3.7/6, Eastern Xizang-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSA	**Lhasa**	**2.52**	**329**	*e*Pn	**Pn**	**05 22 03.8**	**-0.1**
LSA *e*Sn **Sn 05 22 38.4 +4.9**
TKM2 Tokmak 2 20.66 322 *e*P **P 05 25 59.6 +0.8**
2.8nm,0.6s
UCH Uchtor 20.81 319 *e*P **P 05 26 00.6 +0.1**
1.8nm,0.6s
MKAR Makanchi Array 20.87 340 P **P 05 26 00.6 -0.6**
2.3nm,0.6s,baz=144,slow=14,SNR=21
EKS2 Erkin-Say 21.51 319 *e*P **P 05 26 07.9 -0.1**
2.0nm,0.7s,mb3.6
KURK Kurchatov 25.48 339 *e*P **P 05 26 46.2 -0.1**
2.4nm,0.6s,mb3.8
ZALV Zalesovo Beam 27.00 350 P **P 05 27 00.3 +0.4**
ZALV Zalesovo Beam 27.00 350 P **P 05 27 00.3 +0.4**
1.0nm,0.4s,mb3.7,baz=169,slow=7.5,SNR=5.7
WRA Warramunga Arr 62.11 135 P **P 05 31 38.7 +0.1**
0.4nm,0.4s,mb3.8,baz=323,slow=7.2,SNR=6.1
GERES GERESS Array B 62.75 313 P **P 05 31 42.1 -0.5**
0.6nm,0.6s,mb3.7,baz=79,slow=7.5,SNR=3.8
ASAR Alice Springs 64.64 138 P **P 05 31 55.2 0.0**
0.5nm,0.5s,mb3.6,baz=322,slow=6.8,SNR=8.3

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*IDC **11** 05:42:15.0±5.0, 1773N×12131E, h0km, mb3.6/4, mb1 3.9/4, mb1mx3.5/19, mbtmp3.6/4, Error ellipse: s-maj=329.7km s-min=27.0km az=87.0*
*ISCJB **11** 05:42:19.3±1.7, 1789N±007×1202E±0.1, h55km±13km, mb3.5/4, Error ellipse: s-maj=24.1km s-min=11.1km az=11.4*
*MAN **11** 05:42:19, 1788N×12020E, h15km, mb4.2, ML3.0, MS2.7*
MAN INTENSITY I - STO. DOMINGO, ILOCOS SUR.
ISC 11 05:42:19.9±1.7, 1789N±007×1202E±01, h51km±13km, n7, σ1§16/9, mb3.5/4, 1C-1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PIP	**Pasuquin**	**0.61**	**44**	*i* S	**Sn**	**05 42 41.2**	**-0.4**
BCPH	**Baguio City Da**	**1.55**	**165**	⇓*i*P	**Pn**	**05 42 44.6**	**-0.5**
BCPH *i* S **Sn 05 43 05.4 +1.3**
CVP Callao Caves 1.58 96 ⇑*i*P **Pn 05 42 45.5 -0.1**
CVP *i* S **Sn 05 43 05.0 +0.2**
WRA Warramunga Arr 40.08 159 P **P 05 49 47.5 -3.1**
0.4nm,0.6s,mb3.4,baz=339,slow=9.0,SNR=5.0
ASAR Alice Springs 43.42 162 P **P 05 50 16.1 -1.7**
0.4nm,0.3s,mb3.6,baz=340,slow=7.4,SNR=9.3
INK Inuvik 79.40 21 P **P 05 54 21.0 +0.7**
1.8nm,1.2s,mb3.9,baz=336,slow=5.6,SNR=5.6
YKA Yellowknife Ar 89.12 22 P **P 05 55 11.1 +1.5**
0.1nm,0.6s,mb3.4,baz=306,slow=4.6,SNR=5.3

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*CSEM **11** 05:46:22.4±0.1, 3800N×3098E, h10km, MD3.3, Error ellipse: s-maj=2.0km s-min=1.4km az=140.0*
*ISCJB **11** 05:46:23.5±0.8, 3801N±003×3099E±005, h13km±6km, Error ellipse: s-maj=6.7km s-min=4.7km az=24.0*
*ISK **11** 05:46:23.0, 3799N×3097E, h14km, MD3.3, ML3.3*
*DDA **11** 05:46:25.0, 3808N×3098E, h9km, Md3.2*
ISC 11 05:46:23.8±0.8, 3798N±003×3099E±005, h11km±6km, n29, σ0§87/39, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ISP	**Isparta**	**0.40**	**251**	PG	**Pg**	**05 46 30.9**	**-0.9**
ISP *e*SG **Sg 05 46 37.7 +0.5**
BCK Bucak 0.60 212 *e*PG **Pg 05 46 35.1 -0.4**
SHUT Suhut-Afyon 0.67 329 *e*PG **Pg 05 46 36.4 -0.4**
SHUT *e*SG **Sg 05 46 45.9 +0.2**
KDHN Kadinhani 1.04 58 *i* P **Pb 05 46 43.1 -0.6**
KDHN *i* S **Sb 05 47 00.2 +2.8**
KONT Konya--Tatoy 1.08 91 *e*PN **Pn 05 46 44.5 -0.4**
ANTB Antalya 1.11 194 *e*PN **Pn 05 46 45.2 0.0**
KIZT Kizilcal 1.14 37 *e*PN **Pn 05 46 45.2 -0.4**
KHL Karahalli 1.21 287 *e*PN **Pn 05 46 45.6 -0.9**
ALT Altintas 1.28 328 *e*PN **Pn 05 46 46.1 -1.4**
GOLH Golhisar 1.35 237 *i* P **Pn 05 46 49.1 +0.5**
GOLH *i* S **Sg 05 47 11.1 +3.7**
ELL Elmali 1.50 216 *e*PN **Pn 05 46 51.0 +0.5**
ESKT Eskisehir 1.55 356 *i* P **Pn 05 46 51.0 -0.2**
ESKT *i* S **Sn 05 47 13.6 +2.4**
ESKT Eskisehir 1.55 356 *e*Pn **Pn 05 46 50.6 -0.6**
SEYT Eskypehyr 1.55 356 *i* P **Pn 05 46 51.0 -0.2**
SEYT *i* S **Sn 05 47 13.6 +2.3**
DENT Denizli 1.57 262 *e*PN **Pn 05 46 51.0 -0.4**
GDZ Gediz 1.62 314 *i* P **Pn 05 46 52.3 0.0**
GDZ *i* S **Sg 05 47 17.3 +1.3**
KULA Kula-Manisa 1.91 287 *e*PN **Pn 05 46 55.7 -0.6**
FETY Fethiye 2.03 229 *e*PN **Pn 05 46 57.7 -0.1**
ERMK Ermenek 2.03 130 *i* P **Pn 05 47 01.7 +3.8**
ERMK *i* S **Sg 05 47 38.6 +10**
AKAS Kas 2.06 213 *i* P **Pn 05 47 00.8 +2.5**
AKAS *i* S **Sn 05 47 29.4 +5.4**
YER Yerkesik 2.31 250 *e*PN **Pn 05 47 01.1 -0.6**
DST Dursunbey 2.46 312 *e*PN **Pn 05 47 03.8 0.0**
GULT Gulveren 2.48 352 *e*PN **Pn 05 47 03.8 -0.3**
IZI Iznik 2.64 334 *e*PN **Pn 05 47 05.9 -0.3**
ADVT Abdulvahap 2.64 339 *e*PN **Pn 05 47 06.2 0.0**
AKS Akhisar 2.66 291 *e*PN **Pn 05 47 06.3 -0.2**
DAT Datca 2.99 246 *e*PN **Pn 05 47 11.0 0.0**
BODT Bodrum 3.07 254 *e*PN **Pn 05 47 12.0 -0.1**
CDAG Cicekdag 3.11 57 *i* P **Pn 05 47 12.3 -0.4**
CDAG *i* S **Sn 05 47 49.6 -0.3**

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*IDC **11** 05:50:39.2±0.8, 4535S×7268W, h0km, mb4.3/9, mb1 4.3/10, mb1mx4.2/18, mbtmp4.2/10, ML3.6/2, MS4.2/17, Ms1 4.2/17, ms1mx4.0/29, Error ellipse: s-maj=37.0km s-min=16.2km az=87.0*
*ISCJB **11** 05:50:43.8±2.0, 4524S±006×727W±02, h45km±18km, mb4.4/21, MS4.3/14, Error ellipse: s-maj=27.1km s-min=9.7km az=174.2*
*BJI **11** 05:50:45.2, 4520S×7270W, h54km, mB4.9, Ms5.5, Msz5.3*
*NEIC **11** 05:50:46.2±1.4, 4524S×7269W, h55km±13km, mb4.6/13, Error ellipse: s-maj=21.6km s-min=8.3km az=90.0*
ISC 11 05:50:46.3±1.6, 4523S±006×727W±02, h51km±14km, n52, σ0§99/31, mb4.4/21, MS4.3/14, Southern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**4.77**	**20**	Pn	**Pn**	**05 51 55.3**	**-0.3**
1.3nm,0.3s,baz=196,slow=13,SNR=31
PLCA Lg 05 53 09.2
53nm,0.3s,baz=297,slow=23,SNR=7.5
PLCA LR LR 05 54 04.4
comp=Z,2μm,18.4s,baz=210,slow=42
USHA Ushuaia 9.99 166 Pn **Pn 05 53 07.1 +0.1**
0.1nm,0.3s,baz=332,slow=12,SNR=2.4
USHA LR LR 05 56 57.7
comp=Z,1μm,19.8s,baz=323,slow=38
TRQA Tornquist 10.76 52 *e*Pn **Pn 05 53 17.7 +0.1**
176nm,0.6s
CFAA Coronel Fontan 14.05 16 Pn **Pn 05 54 01.8 -0.7**
CFAA Lg 05 58 13.1
CFAA LR LR 05 59 05.2
CFAA Coronel Fontan 14.05 16 Pn **Pn 05 54 01.8 -0.7**
0.0nm,0.3s,baz=189,slow=11,SNR=6.6
CFAA Lg 05 58 13.1
0.1nm,0.3s,baz=230,slow=7.7,SNR=8.4
CFAA LR LR 05 59 05.2
comp=Z,156nm,20.1s,baz=199,slow=36
ARE Arequipa 28.70 2 *e*P **P 05 56 39.0 +0.5**
LPAZ La Paz 29.11 9 P **P 05 56 43.1 +1.0**
3.9nm,0.6s,mb4.3,baz=174,slow=7.4,SNR=23
RPN Rapa Nui 34.27 289 LR LR 06 07 50.8
comp=Z,430nm,21.7s,MS4.1,baz=252,slow=30
BDFB Brasilia 36.09 43 P **P 05 57 43.7 +0.6**
1.4nm,0.5s,mb4.1,baz=197,slow=10,SNR=5.1
ATAH Atahualpa 38.40 351 P **P 05 58 04.4 +1.7**
13nm,0.9s,mb4.6,baz=161,slow=8.7,SNR=5.9
VNA3 Neumayer Olymp 39.36 153 *e* **P 05 58 11.6 +1.5**

VNA3				*e*		05 58 16.8	
VNA3				*e*	pP	05 58 25.3	+1.7
VNA3				*e*		05 58 32.7	
VNA2	**Neumayer--Watz**	**40.07**	**152**	*e*	**P**	**05 58 15.5**	**-0.5**
	baz=278,slow=9.4						
VNA2				*e*		05 58 20.0	
VNA2				*e*	pP	05 58 29.1	-0.4
VNA2				*e*		05 58 37.0	
SNAA	**Sanae**	**41.57**	**153**	P	**P**	**05 58 28.3**	**0.0**
	2.1nm,1.0s,mb3.7,baz=298,slow=6.0,SNR=6.1						
QSPA	**South Pole Qui**	**45.02**	**180**	*eP*	**P**	**05 58 55.1**	**-0.9**
	15nm,1.1s,mb4.7						
QSPA	**South Pole Qui**	**45.02**	**180**	P	**P**	**05 58 55.9**	**-0.1**
	6.6nm,1.0s,mb4.4,baz=154,slow=3.9,SNR=8.7						
ROSC	**El Rosal**	**49.88**	**358**	P	**P**	**05 59 35.6**	**+1.1**
	2.9nm,0.6s,mb4.5,baz=90,slow=22,SNR=4.9						
ROSC				LR	LR	06 21 04.4	
	comp=Z,140nm,18.8s,MS4.0,baz=194,slow=36						
SDV	**Santo Domingo**	**53.90**	**3**	*eP*	**P**	**06 00 03.5**	**-0.9**
	3.6nm,0.8s,mb4.3						
SDV	**Santo Domingo**	**53.90**	**3**	P	**P**	**06 00 04.5**	**+0.2**
	3.1nm,0.8s,mb4.3,baz=298,slow=10,SNR=4.8						
SDV				LR	LR	06 22 45.5	
	comp=Z,154nm,19.4s,MS4.1,baz=0.0,slow=36						
RKT	**Rikitea**	**54.61**	**272**	*e*LR	LR	06 15 55.7	
	247nm,29.2s						
PCRV	**Puerto La Cruz**	**55.63**	**10**	LR	LR	06 26 52.0	
	comp=Z,472nm,19.1s,MS4.6,baz=165,slow=39						
MAW	**Mawson**	**62.60**	**162**	LR	LR	06 26 19.7	
	comp=Z,371nm,19.2s,MS4.6,baz=355,slow=34						
TBI	**Tubuai**	**64.67**	**262**	*e*LR	LR	06 20 37.4	
	258nm,27.2s						
CMIG	**Matias Romero**	**65.22**	**337**	LR	LR	06 23 23.9	
	comp=Z,272nm,21.1s,MS4.4,baz=189,slow=30						
TEIG	**Tepich**	**66.67**	**344**	LR	LR	06 27 17.6	
	comp=Z,80nm,21.0s,MS3.9,baz=324,slow=33						
TAOE	**Nuku Hiva Isla**	**67.90**	**280**	*e*LR	LR	06 21 58.6	
	4μm,24.5s						
PPT	**Papeete**	**68.56**	**266**	*e*LR	LR	06 22 23.7	
	137nm,24.2s						
RAR	**Rarotonga**	**73.24**	**257**	LR	LR	06 26 04.3	
	comp=Z,163nm,19.2s,MS4.3,baz=237,slow=29						
RPZ	**Rata Peaks**	**74.88**	**222**	LR	LR	06 29 12.8	
	comp=Z,151nm,18.8s,MS4.3,baz=53,slow=31						
BOSA	**Boshof**	**75.47**	**116**	LR	LR	06 28 57.5	
	comp=Z,195nm,20.0s,MS4.4,baz=158,slow=30						
BBTS	**Babate**	**78.31**	**55**	LR	LR	06 34 17.7	
	comp=Z,117nm,20.6s,MS4.2,baz=26,slow=33						
LRAL	**Lakeview Retre**	**78.97**	**348**	*eP*	**P**	**06 02 43.5**	**-0.6**
	4.8nm,0.7s,mb4.5						
JCT	**Junction City**	**79.28**	**336**	*eP*	**P**	**06 02 46.8**	**+1.0**
	12nm,1.1s,mb4.8						
TXAR	**Lajitas Array**	**79.38**	**333**	P	**P**	**06 02 46.4**	**-0.1**
	0.9nm,0.9s,mb3.7,baz=141,slow=8.1,SNR=5.8						
TXAR				LR	LR	06 31 46.3	
	comp=Z,145nm,19.9s,MS4.3,baz=85,slow=31						
PLAL	**Pickwick Lake**	**81.05**	**347**	*eP*	**P**	**06 02 54.3**	**-1.0**
	11nm,1.2s,mb4.7						
MNTX	**Cornudas Mount**	**82.12**	**332**	*eP*	**P**	**06 02 59.8**	**-1.2**
	3.3nm,1.1s,mb4.2						
WVT	**Waverly**	**82.13**	**348**	*eP*	**P**	**06 02 59.7**	**-1.3**
	6.2nm,1.1s,mb4.5						
WMOK	**Wichita Mounta**	**83.03**	**339**	*eP*	**P**	**06 03 04.7**	**-1.0**
	7.4nm,1.3s,mb4.6						
WCI	**Wyandotte Cave**	**83.98**	**349**	*eP*	**P**	**06 03 08.8**	**-1.7**
	2.7nm,0.6s,mb4.5						
CCM	**Cathedral Cave**	**84.58**	**345**	*eP*	**P**	**06 03 12.5**	**-1.0**
	8.8nm,0.8s,mb4.9						
TORD	**Torodi Ar. Bea**	**88.56**	**70**	P	**P**	**06 03 32.5**	**-1.1**
	1.1nm,0.6s,mb4.3,baz=237,slow=3.6,SNR=6.4						
DUG	**Dugway**	**92.34**	**330**	*eP*	**P**	**06 03 50.0**	**-0.5**
	2.5nm,1.0s,mb4.5						
BW06	**Boulder Array**	**93.57**	**334**	*eP*	**P**	**06 03 57.5**	**+1.4**
	4.4nm,1.4s,mb4.7						
PDAR	**Pinedale Array**	**93.57**	**334**	P	**P**	**06 03 57.5**	**+1.4**
	1.5nm,1.1s,mb4.3,baz=134,slow=6.5,SNR=2.7						
PDAR				LR	LR	06 40 22.9	
	comp=Z,128nm,20.1s,MS4.4,baz=73,slow=32						
TPAW	**Teton Pass**	**94.66**	**333**	*eP*	**P**	**06 04 02.8**	**+1.7**
	2.8nm,0.9s,mb4.7						
SCHQ	**Schefferville**	**99.81**	**3**	LR	LR	06 49 24.9	
	comp=Z,123nm,18.3s,MS4.4,baz=159,slow=35						
GERES	**GERESS Array B**	**120.14**	**50**	PKP	PKPdf	06 09 30.2	-0.2
	0.3nm,0.3s,baz=225,slow=1.3,SNR=5.2						
KMI	**Kunming**	**159.60**	**168**	PKP	PKPdf	06 10 36.7	-2.4
MKAR	**Makanchi Array**	**162.59**	**76**	PKP	PKPdf	06 10 42.4	+0.8
	0.2nm,0.4s,baz=116,slow=2.8,SNR=3.6						
MKAR				PKPab	PKPab	06 11 29.3	-1.0
	0.4nm,0.4s,baz=276,slow=3.5,SNR=5.7						
NJ2	**Nanjing**	**164.06**	**218**	*e*PKP	PKPdf	06 10 39.4	-4.1
CD2	**Chengdu**	**165.44**	**168**	*e*PKP	PKPdf	06 10 44.5	-0.2
HHC	**Hu-ho-hao-te**	**174.61**	**217**	*e*PKP	PKPdf	06 10 51.5	+1.9
HHC				SKKS	SKKSac	06 22 55.9	-1.6
HHC				PP	PP		
	comp=Z,213nm,6.5s						
HHC				LR	LR		
	comp=N,192nm,8.6s						
HHC				LR	LR		
	comp=E,217nm,6.9s						
HHC				LR	LR		
	comp=Z,275nm,8.3s						
SONM	**Songino Array**	**177.33**	**13**	PKPab	PKPab	06 12 36.4	+1.2
	comp=Z,0.2nm,0.3s,baz=344,slow=4.8,SNR=3.6						

NEIC 11 05:58:58.0±21.0, 367N×8305W, h10km, MD4.4(CASC), 1C, Error ellipse: s-maj=251.0km s-min=19.1km az=191.0, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AZU	**Azuero**	**4.94**	**34**	*e*P	Pn	06 00 12.3	-0.1
CNI	**Changuinola**	**5.74**	**5**	*e*P	Pn	06 00 23.3	0.0
LCR2	**La Lucha 2**	**6.11**	**351**	*e*P	Pn	06 00 28.7	+0.3
LCR2				*e*S	Sn	06 01 26.9	-12
URSC	**Urasca**	**6.17**	**353**	*e*P	Pn	06 00 29.7	+0.4
URSC				*e*S	Sn	06 01 30.4	-9.5
LAJ	**Bijagual**	**6.25**	**350**	⇑*e*P	Pn	06 00 30.0	-0.3
LAJ				*e*S	Sn	06 01 32.2	-10
BCIP	**Isla Barro Col**	**6.33**	**30**	*e*Pn	Pn	06 00 31.5	0.0
PRS1	**Puriscal**	**6.40**	**349**	*e*P	Pn	06 00 31.8	-0.6
CGA2	**Cerro Gallo 2**	**6.46**	**348**	*e*P	Pn	06 00 34.3	+1.0

DDA 11 06:01:02.3, 3825N×3107E, h5km±26km, Md3.0
CSEM 11 06:01:03.6±0.2, 3802N×3088E, h22km±1km, MD3.0, Error ellipse: s-maj=2.9km s-min=2.3km az=170.0
ISK 11 06:01:03.5, 3799N×3089E, h22km, MD3.0
ISCJB 11 06:01:04.3±0.6, 3799N±004×3090E±005, h24km±7km, Error ellipse: s-maj=8.0km s-min=6.2km az=147.5
ISC 11 06:01:04.1±0.7, 3800N±004×3092E±004, h18km±6km, n18, σ0°93/24, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ISP	**Isparta**	**0.36**	**244**	*e*PG	**Pg**	**06 01 10.9**	**-0.8**
ISP				*e*SG	**Sg**	**06 01 17.0**	**+0.1**
BCK	**Bucak**	**0.60**	**206**	*e*PG	**Pg**	**06 01 16.4**	**+0.4**
SHUT	**Suhut-Afyon**	**0.62**	**332**	*e*PG	**Pg**	**06 01 17.1**	**+0.7**
KDHN	**Kadinhani**	**1.07**	**61**	*i* P	**Pb**	**06 01 18.8**	**-5.3**
KDHN				*i* S	**Sb**	**06 01 38.9**	**+1.1**
ANTB	**Antalya**	**1.12**	**191**	*e*PN	**Pn**	**06 01 24.9**	**0.0**
KONT	**Konya--Tatoy**	**1.14**	**92**	*e*PN	**Pn**	**06 01 24.5**	**-0.6**
KHL	**Karahalli**	**1.15**	**287**	*e*PN	**Pn**	**06 01 24.7**	**-0.6**
KIZT	**Kizilcal**	**1.15**	**40**	*e*PN	**Pn**	**06 01 25.6**	**+0.2**
ALT	**Altintas**	**1.23**	**329**	*e*PN	**Pn**	**06 01 25.9**	**-0.5**
GOLH	**Golhisar**	**1.32**	**235**	*i* P	**Pn**	**06 01 29.9**	**+2.2**
GOLH				*i* S	**Sn**	**06 01 50.6**	**+5.7**
ELL	**Elmali**	**1.49**	**213**	*e*PN	**Pn**	**06 01 29.0**	**-1.0**
DENT	**Denizli**	**1.52**	**261**	*e*PN	**Pn**	**06 01 29.6**	**-0.7**
ESKT	**Eskisehir**	**1.52**	**358**	*e*PN	**Pn**	**06 01 29.8**	**-0.6**
GDZ	**Gediz**	**1.57**	**314**	*i* P	**Pn**	**06 01 29.1**	**-1.9**
GDZ				*i* S	**Sn**	**06 01 53.2**	**+2.3**
KULA	**Kula-Manisa**	**1.85**	**287**	*e*PN	**Pn**	**06 01 34.5**	**-0.5**
FETY	**Fethiye**	**2.00**	**228**	*e*PN	**Pn**	**06 01 36.9**	**-0.1**
AKAS	**Kas**	**2.06**	**211**	*i* P	**Pg**	**06 01 43.2**	**-0.4**
AKAS				*i* S	**Sg**	**06 02 11.5**	**+1.2**
ERMK	**Ermenek**	**2.09**	**130**	*i* P	**Pn**	**06 01 38.7**	**+0.5**
ERMK				*i* S	**Sg**	**06 02 10.9**	**-0.4**

NEIC 11 06:06:28.8, 3844N×2181E, h32km, MD3.2(ATH), ML3.0(THE), After ATH.
ATH 11 06:06:28.8, 3844N×2181E, h32km±1km, MD3.2/4

CSEM 11 06:06:32.2±0.3, 3850N×2159E, h25km, ML3.0, Error ellipse: s-maj=6.4km s-min=5.3km az=3.0
THE 11 06:06:32.8, 3857N×2157E, h3km, ML3.0, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SELA	**Sela**	**0.39**	**139**	*e*Pg	Pg	06 06 40.0	-0.2
SELA				*e*Sg	Sg	06 06 46.3	+1.1
EVR	**Evrytania**	**0.39**	**28**	*e*PB	Pg	06 06 39.7	-0.6
EVR				*e*SB	Sg	06 06 47.0	+1.6
RLS	**Riolos of Patr**	**0.52**	**189**	*e*PB	Pg	06 06 39.2	-3.5
LKD	**Levkas**	**0.73**	**281**	*e*Pg	Pg	06 06 46.5	-0.4
LKD				*e*Sg	Sg	06 06 57.3	+0.8
AGG	**Agios Georgios**	**0.74**	**52**	*e*Pg	Pg	06 06 46.4	-0.6
AGG				*e*Sg	Sg	06 06 57.6	+0.9
KFL	**Anninata**	**0.77**	**234**	*e*Pg	Pg	06 06 47.7	+0.1
VLS	**Valsamata**	**0.87**	**243**	*e*PN	Pn	06 06 48.2	-3.7
VLS				*e*SN	Sn	06 07 02.1	-2.9
THL	**Klokotos Trika**	**1.05**	**19**	*e*PN	Pn	06 06 49.9	-4.5
MEV	**Metsovon**	**1.24**	**348**	*e*Pg	Pg	06 06 56.3	-0.3
MEV				*e*Sg	Sg	06 07 14.5	+1.8
LIT	**Litokhoron**	**1.69**	**25**	*e*Pb	Pb	06 07 03.1	-1.4
LIT				*e*Sb	Sb	06 07 26.4	+0.4

CSEM 11 06:07:41.0±0.2, 3799N×3090E, h5km, MD2.8, Error ellipse: s-maj=7.0km s-min=5.6km az=120.0
ISK 11 06:07:41.7, 3792N×3093E, h21km, ML3.1
ISCJB 11 06:07:42.3±1.0, 3797N±003×3093E±005, h6km±9km, Error ellipse: s-maj=7.3km s-min=5.3km az=176.4
DDA 11 06:07:43.5, 3799N×3090E, h6km±4km, Md2.8
ISC 11 06:07:42.5±0.8, 3793N±004×3093E±005, h12km±7km, n16, σ1°12/24, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ISP	**Isparta**	**0.34**	**255**	*e*PG	**Pg**	**06 07 49.4**	**0.0**
ISP				*e*SG	**Sg**	**06 07 55.0**	**+1.0**
BCK	**Bucak**	**0.54**	**210**	*e*PG	**Pg**	**06 07 52.8**	**-0.3**
SHUT	**Suhut-Afyon**	**0.69**	**335**	*e*PG	**Pg**	**06 07 55.9**	**+0.1**
ANTB	**Antalya**	**1.05**	**192**	*e*PG	**Pg**	**06 08 01.6**	**-1.2**
KDHN	**Kadinhani**	**1.11**	**58**	*i* P	**Pb**	**06 08 03.0**	**-0.6**
KDHN				*i* S	**Sb**	**06 08 18.9**	**+1.0**
KONT	**Konya--Tatoy**	**1.13**	**89**	*e*PN	**Pn**	**06 08 02.8**	**-1.3**
KHL	**Karahalli**	**1.17**	**290**	*e*PN	**Pn**	**06 08 03.2**	**-1.5**
KIZT	**Kizilcal**	**1.21**	**38**	*e*PN	**Pn**	**06 08 04.2**	**-0.9**
GOLH	**Golhisar**	**1.29**	**238**	*i* P	**Pn**	**06 08 07.0**	**+0.8**
GOLH				*i* S	**Sb**	**06 08 30.1**	**+7.0**
ALT	**Altintas**	**1.29**	**331**	*e*PN	**Pn**	**06 08 04.6**	**-1.7**
ESKT	**Eskisehir**	**1.59**	**358**	*i* P	**Pn**	**06 08 09.7**	**-0.7**
ESKT				*i* S	**Sn**	**06 08 31.8**	**+1.1**
SEYT	**Eskypehyr**	**1.59**	**358**	*i* P	**Pn**	**06 08 09.7**	**-0.7**
SEYT				*i* S	**Sn**	**06 08 31.8**	**+1.0**
GDZ	**Gediz**	**1.62**	**316**	*i* P	**Pn**	**06 08 10.8**	**0.0**
GDZ				*i* S	**Sg**	**06 08 36.9**	**+2.3**
FETY	**Fethiye**	**1.96**	**229**	*e*PN	**Pn**	**06 08 14.7**	**-0.8**
AKAS	**Kas**	**2.00**	**212**	*i* P	**Pn**	**06 08 20.0**	**+4.0**
AKAS				*i* S	**Sg**	**06 08 52.5**	**+5.8**
ERMK	**Ermenek**	**2.04**	**129**	*i* P	**Pn**	**06 08 18.2**	**+1.5**
ERMK				*i* S	**Sn**	**06 08 45.8**	**+3.8**

ISCJB 11 06:16:02.1±0.8, 1901N±005×6769W±002, h24km±6km, mb4.0/10, Error ellipse: s-maj=8.1km s-min=3.2km az=18.1
NEIC 11 06:16:03.2, 1896N×6769W, h3km, MD3.8(RSPR), After RSPR.
RSPR 11 06:16:03.2, 1896N×6769W, h3km±1km, MD3.8/20, MD3.8/20
IDC 11 06:16:06.3±2.4, 1880N×6778W, h52km±25km, mb3.7/8, mb1 3.9/9, mb1mx3.7/20, mbtmp3.7/9, ML3.5/1, Error ellipse: s-maj=18.9km s-min=16.1km az=35.0
ISC 11 06:16:02.7±1.2, 1896N±004×6770W±002, h18km±8km, n42, σ0°98/65, mb4.0/10, 16C-5D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGPR	**Aguadilla, PR**	**0.74**	**131**	⇑*i* P	**Pb**	**06 16 16.8**	**-0.1**
AGPR				*e*S	**Sb**	**06 16 27.6**	**+0.9**
IMO	**Isla Mona**	**0.87**	**193**	⇑*e*P	**Pb**	**06 16 18.6**	**-0.6**
IMO				*e*S	**Sb**	**06 16 30.6**	**+0.2**
MPR	**Mayaguez**	**0.91**	**144**	⇑*e*P	**Pb**	**06 16 19.5**	**-0.4**
MPR				*e*S	**Sb**	**06 16 32.5**	**+0.8**
LSP	**Las Mesas**	**0.97**	**143**	⇓*e*P	**Pb**	**06 16 20.5**	**-0.4**
LRS	**Lares**	**1.04**	**129**	⇑*i* P	**Pb**	**06 16 21.4**	**-0.8**
AOPR	**Arecibo Observ**	**1.08**	**124**	⇑*i* P	**Pn**	**06 16 22.1**	**-0.8**
AOPR				*e*S	**Sb**	**06 16 36.4**	**-0.2**
CRPR	**Cabo Rojo, PR**	**1.10**	**149**	⇑*e*P	**Pn**	**06 16 22.2**	**-0.9**
CRPR				*e*S	**Sb**	**06 16 38.1**	**+1.0**
GBPR	**Guanica, Bosqu**	**1.25**	**141**	⇑*e*P	**Pn**	**06 16 25.5**	**+0.4**
GBPR	**Guanica, Bosqu**	**1.25**	**141**	*e*S	**Sb**	**06 16 42.1**	**+0.7**
CELP	**Cerrillos**	**1.38**	**129**	⇑*e*P	**Pn**	**06 16 26.9**	**0.0**
CELP				*e*S	**Sn**	**06 16 44.3**	**-0.3**
OBIP	**Obispado Ponce**	**1.38**	**131**	⇑*e*P	**Pn**	**06 16 26.8**	**-0.2**
OBIP				*e*S	**Sn**	**06 16 44.4**	**-0.3**
SMN1	**Samana, DR**	**1.51**	**279**	⇑*e*P	**Pn**	**06 16 27.8**	**-1.0**
SMN1	**Samana, DR**	**1.51**	**279**	*e*S	**Sn**	**06 16 47.2**	**-0.8**
ICM	**Isla Caja Muer**	**1.54**	**133**	⇑*e*P	**Pn**	**06 16 29.7**	**+0.5**
ICM				*e*S	**Sn**	**06 16 49.6**	**+1.0**
SJG	**San Juan**	**1.69**	**120**	⇑*e*P	**Pn**	**06 16 31.0**	**-0.3**
SJG				*e*S	**Sn**	**06 16 52.4**	**-0.1**
SJG	**San Juan**	**1.69**	**120**	⇑*e*P	**Pn**	**06 16 31.0**	**-0.3**
SJG				*e*S	**Sn**	**06 16 52.4**	**-0.1**
SJG	**San Juan**	**1.69**	**120**	P	**Pn**	**06 16 31.6**	**+0.3**
	149nm,0.3s,baz=308,slow=9.7,SNR=237						
SJG				S	**Sn**	**06 16 54.6**	**+2.2**
	309nm,0.3s,baz=112,slow=24,SNR=23						
CBYP	**Canovanas**	**1.87**	**111**	⇑*e*P	**Pn**	**06 16 32.0**	**-1.7**
CBYP				*e*S	**Sn**	**06 16 56.1**	**-0.8**
HUMP	**Col San Antoni**	**1.93**	**115**	⇑*e*P	**Pn**	**06 16 35.0**	**+0.5**
HUMP				*e*S	**Sn**	**06 16 59.0**	**+0.6**
STDO	**Santo Domingo**	**2.17**	**257**	⇓*e*P	**Pn**	**06 16 38.2**	**+0.3**
STDO				*e*S	**Sn**	**06 17 04.2**	**-0.1**
MTP	**Monte Pirata**	**2.21**	**112**	⇑*e*P	**Pn**	**06 16 36.6**	**-1.8**
MTP				*e*S	**Sn**	**06 17 04.4**	**-0.8**
STVI	**Saint Thomas**	**2.67**	**103**	⇓*e*P	**Pn**	**06 16 44.9**	**+0.2**
STVI				*e*S	**Sn**	**06 17 16.8**	**+0.2**
TBVI	**Tortola**	**2.97**	**100**	⇓*e*P	**Pn**	**06 16 49.2**	**+0.4**
TBVI				*e*S	**Sn**	**06 17 24.1**	**+0.1**
CDVI	**St. Croix**	**3.03**	**113**	⇑*e*P	**Pn**	**06 16 51.5**	**+1.8**
CDVI				*e*S	**Sn**	**06 17 24.4**	**-1.1**
SDDR	**Presa de Saban**	**3.40**	**271**	⇓*e*P	**Pn**	**06 16 56.6**	**+1.9**
SDDR				*e*S	**Sn**	**06 17 35.9**	**+1.2**
MASC	**Masc**	**6.28**	**282**	*e*P	**Pn**	**06 17 32.6**	**-1.8**
	baz=95						
MASC				*e*S	**Sn**	**06 18 42.1**	**-3.6**
	comp=N,1.0nm,0.7s						
MASC				*e*			
	comp=E,0.9nm,0.5s						
RCC	**Rio Carpintero**	**7.62**	**279**	*e*P	**Pn**	**06 17 57.8**	**+5.0**
	baz=95						
RCC				*e*S	**Sn**	**06 19 10.4**	**-8.2**
	comp=N,10nm,0.5s						
RCC				*e*			
	comp=E,11nm,0.5s						
LMGC	**Las Mercedes**	**8.85**	**279**	*e*P	**Pn**	**06 18 09.3**	**-0.4**
	baz=94						
LMGC				*e*S	**Sn**	**06 19 44.1**	**-4.8**
	comp=N,7.4nm,0.4s						
LMGC				*e*			
	comp=E,8.4nm,0.4s						
PCRV	**Puerto La Cruz**	**9.22**	**161**	P	**Pn**	**06 18 16.3**	**+1.5**
	comp=E,0.5nm,0.3s,baz=23,slow=7.7,SNR=5.2						
PCRV				S	**Sn**	**06 19 56.2**	**-1.9**
	comp=E,0.6nm,0.3s,baz=247,slow=6.4,SNR=2.4						
SDV	**Santo Domingo**	**10.41**	**196**	P	**Pn**	**06 18 34.2**	**+3.2**
	comp=E,0.6nm,0.3s,baz=64,slow=10,SNR=4.7						
ROSC	**El Rosal**	**15.44**	**206**	P	**Pn**	**06 19 44.8**	**+5.2**
	comp=E,0.7nm,0.3s,baz=70,slow=8.3,SNR=15						
TKL	**Tuckaleechee C**	**21.88**	**323**	P	**P**	**06 21 00.3**	**+5.8**
	comp=E,3.3nm,0.9s,mb3.8,baz=86,slow=14,SNR=3.2						
TKL				S	**S**	**06 24 50.5**	**-5.0**
	comp=E,1.9nm,0.4s,baz=35,slow=19,SNR=4.9						
TXAR	**Lajitas Array**	**34.29**	**294**	P	**P**	**06 22 48.1**	**+0.1**
	comp=E,0.5nm,0.6s,mb3.6,baz=116,slow=10,SNR=6.1						
SIV	**San Ignacio**	**35.34**	**169**	P	**P**	**06 22 55.3**	**-1.7**
	comp=E,1.6nm,0.7s,mb4.1,baz=23,slow=10.0,SNR=12						
SCHQ	**Schefferville**	**35.82**	**1**	P	**P**	**06 23 01.4**	**+0.6**
	comp=E,3.3nm,0.5s,mb4.5,baz=185,slow=7.4,SNR=19						
ULM	**Lac du Bonnet**	**38.45**	**331**	P	**P**	**06 23 25.2**	**+2.0**
	comp=E,0.8nm,0.4s,mb3.8,baz=134,slow=13,SNR=3.1						
NVAR	**Mina Array Bea**	**47.81**	**305**	P	**P**	**06 24 40.1**	**+1.0**
	comp=E,0.9nm,0.8s,mb3.9,baz=92,slow=7.5,SNR=5.2						
YKA	**Yellowknife Ar**	**54.11**	**335**	P	**P**	**06 25 25.2**	**-1.0**
	comp=E,2.3nm,0.9s,mb4.1,baz=111,slow=7.4,SNR=22						
ESDC	**Sonseca Array**	**58.09**	**55**	P	**P**	**06 25 56.4**	**+1.4**
	comp=E,0.4nm,0.3s,mb3.9,baz=271,slow=6.8,SNR=6.6						
TORD	**Torodi Ar. Bea**	**66.58**	**84**	P	**P**	**06 26 51.9**	**-0.4**
	comp=E,0.6nm,0.6s,mb3.8,baz=294,slow=7.0,SNR=6.1						
ARCES	**ARCESS Array B**	**73.52**	**21**	P	**P**	**06 27 34.0**	**+0.1**
	comp=E,2.6nm,0.8s,mb4.2,baz=298,slow=3.9,SNR=10.0						
ASAR	**Alice Springs**	**159.34**	**253**	PKPab	PKPab	06 36 36.5	-1.7
	comp=E,0.4nm,0.6s,baz=100,slow=4.6,SNR=6.2						

ISCJB 11 06:22:39.1±1.5, 2014N±007×1218E±01, h61km±18km, mb3.8/6, Error ellipse: s-maj=23.8km s-min=8.7km az=17.2
IDC 11 06:22:39.0±5.0, 2007N×1216E, h43km±50km, mb3.7/6, mb1 3.9/8, mb1mx3.7/20, mbtmp3.8/8, ML4.0/2, MS3.2/4, Ms1 3.2/4, ms1mx3.0/29, Error ellipse: s-maj=39.3km s-min=17.5km az=72.0
ISC 11 06:22:40.6±1.4, 2011N±006×1217E±02, h59km±16km, n10, σ0°77/11, mb3.8/6, 1C, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CVP	**Callao Caves**	**2.40**	**177**	⇑*e*P	**Pn**	**06 23 16.5**	**-1.0**
CVP				*i* S	**Sn**	**06 23 46.5**	**+0.8**
JOW	**Kunigami**	**9.00**	**41**	P	**Pn**	**06 24 48.9**	**+1.0**
	4.4nm,0.3s,baz=198,slow=8.1,SNR=12						
JOW				S	**Sn**	**06 26 27.0**	**-0.8**
	0.7nm,0.3s,baz=134,slow=27,SNR=2.4						
JOW				LR	LR	06 28 14.8	
	comp=Z,148nm,20.8s,baz=154,slow=37						
JNU	**Nakatsue**	**15.32**	**30**	LR	LR	06 31 55.1	
	comp=Z,73nm,19.1s,baz=50,slow=36						
KSRS	**Korea Array**	**18.11**	**16**	P	**Pn**	**06 26 48.1**	**+0.2**
	0.3nm,0.3s,baz=193,slow=11,SNR=4.3						
KSRS				LR	LR	06 34 37.3	
	comp=Z,38nm,19.8s,baz=330,slow=40						
SONM	**Songino Array**	**30.31**	**339**	P	**P**	**06 28 47.3**	**+1.0**
	0.7nm,0.6s,mb3.5,baz=156,slow=7.8,SNR=3.8						
MKAR	**Makanchi Array**	**41.65**	**319**	P	**P**	**06 30 22.6**	**-0.6**
	0.6nm,0.5s,mb3.5,baz=110,slow=9.7,SNR=6.6						
WRA	**Warramunga Arr**	**41.68**	**162**	P	**P**	**06 30 22.9**	**-0.8**
	2.8nm,0.6s,mb4.1,baz=343,slow=8.9,SNR=22						
WRA				LR	LR	06 46 56.0	
	comp=Z,59nm,18.8s,baz=30,slow=35						
ZALV	**Zalesovo Beam**	**43.95**	**329**	P	**P**	**06 30 40.9**	**-0.7**
	0.9nm,0.6s,mb3.7,baz=111,slow=8.1,SNR=5.2						
ASAR	**Alice Springs**	**45.11**	**164**	P	**P**	**06 30 51.3**	**+0.1**
	1.8nm,0.4s,mb4.2,baz=340,slow=6.9,SNR=24						
YKA	**Yellowknife Ar**	**86.52**	**23**	P	**P**	**06 35 17.8**	**+0.9**
	0.6nm,0.5s,mb4.1,baz=307,slow=4.6,SNR=26						

ISCJB 11 06:41:50.3±1.1, 125N±005×9716E±005, h10km±7km, mb4.9/60, MS4.4/30, Error ellipse: s-maj=9.7km s-min=7.5km az=31.2
BJI 11 06:41:50.3, 1120N×9725E, h19km, mB5.1, mb5.0, Ms4.8, Msz4.6
IDC 11 06:41:50.6±0.9, 1280N×9706E, h0km, mb4.4/12, mb1 4.5/13, mb1mx4.3/20, mbtmp4.4/13, MS4.2/10, Ms1 4.1/10, ms1mx3.9/33, Error ellipse: s-maj=28.9km s-min=16.4km az=51.0
MOS 11 06:41:54.4±0.8, 1300N×9713E, h40km, mb5.2/21, MS4.4/5, Error ellipse: s-maj=13.7km s-min=7.0km az=93.8
NEIC 11 06:41:55.0±0.4, 1270N×9714E, h30km, mb4.9/23, Error ellipse: s-maj=10.4km s-min=6.2km az=39.0
ISC 11 06:41:54.4±1.2, 1280N±005×9720E±005, h23km±8km, h21km±8km: pP-P, n119, σ0°88/123, mb4.9/60, MS4.4/30, 11C-4D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.29**	**49**	Pn	**Pn**	**06 42 31.1**	**+0.2**
	22nm,0.3s

comp=Z,40nm,1.0s,mb5.1
CD2 AMB AMB
comp=Z,80nm,4.2s
CD2 LR LR
comp=N,2μm,15.0s,MS4.9
CD2 LR LR
comp=E,1μm,16.4s,MS4.9
CD2 LR LR
comp=Z,1μm,15.6s,MS4.7
LGTI Lohaghat 32.34 332 *e*P **P 06 48 23.5 +1.5**
WHN Wuhan 33.35 28 *e*P **P 06 48 30.9 +0.1**
WHN LR LR
comp=Z,1μm,15.6s,MS4.8
XAN Xi'an 34.39 17 P **P 06 48 38.6 -1.3**
XAN AP pP 06 48 44.0 -2.9
XAN AMB AMB
comp=Z,45nm,1.3s,mb5.2
XAN AMB AMB
comp=Z,124nm,6.4s
XAN LR LR
comp=N,223nm,15.8s,MS4.5
XAN LR LR
comp=E,622nm,15.3s,MS4.5
XAN LR LR
comp=Z,974nm,15.3s,MS4.7
LZH Lanzhou 35.18 9 *e*P **P 06 48 46.6 -0.1**
LZH AP pP 06 48 53.0 -0.7
LZH XP sP 06 48 56.4 -0.2
LZH PP PP 06 50 06.0 -0.8
LZH *e*S **S 06 54 18.0 -0.6**
LZH SS SS 06 56 36.4 -16
LZH AMB AMB
comp=Z,32nm,1.4s,mb5.1
LZH AMB AMB
comp=Z,110nm,4.3s
LZH LR LR
comp=E,1μm,13.5s
LZH LR LR
comp=Z,2μm,15.9s,MS4.8
NJ2 Nanjing 36.80 32 *e*P **P 06 49 01.3 +0.7**
NJ2 AP pP 06 49 08.0 +0.3
NJ2 XP sP 06 49 10.2 -0.4
NJ2 PP PP 06 50 26.9 +2.2
NJ2 S **S 06 54 43.0 -0.5**
NJ2 XS sS 06 54 52.0 -3.3
NJ2 AMB AMB
comp=Z,40nm,0.7s,mb5.4
NJ2 AMB AMB
comp=Z,1μm,4.2s
SSE Sheshan 37.35 35 P **P 06 49 06.4 +1.1**
SSE AMB AMB
comp=Z,44nm,0.7s,mb5.4
SSE AMB AMB
comp=Z,122nm,12.0s
SSE LR LR
comp=N,375nm,16.5s,MS4.4
SSE LR LR
comp=E,368nm,16.5s,MS4.4
SSE LR LR
comp=Z,463nm,16.0s,MS4.4
KAKA Kakadu 37.63 113 *e*P **P 06 49 07.2 -0.7**
comp=Z,15nm,1.0s,mb4.7
GTA Gaotai 38.03 3 *e*P **P 06 49 10.6 -0.3**
GTA XP sP 06 49 20.9 0.0
GTA PP PP 06 50 41.5 +3.4
GTA PPP 06 51 02.4
GTA PCP PcP 06 51 26.4 +0.3
GTA S **S 06 55 01.9 -0.1**
GTA SS SS 06 57 39.3 -10
GTA AMB AMB
comp=Z,16nm,0.9s,mb4.8
GTA AMB AMB
comp=Z,156nm,6.9s
GTA LR LR
comp=N,554nm,20.1s,MS4.6
GTA LR LR
comp=E,685nm,16.7s,MS4.6
GTA LR LR
comp=Z,750nm,13.7s,MS4.7
JOW Kunigami 39.19 47 LR LR 07 04 02.0
comp=Z,178nm,20.3s,MS3.9,baz=147,slow=34
BTO Baotou 40.84 15 *e*P **P 06 49 33.8 -0.5**
HHC Hu-ho-hao-te 41.49 17 *e*P **P 06 49 40.1 +0.5**
HHC AP pP 06 49 45.9 -0.9
HHC XP sP 06 49 48.8 -0.9
HHC PP PP 06 51 18.6 +2.8
HHC PCS PcS 06 55 28.4 +0.1
HHC S **S 06 55 57.9 +4.1**
HHC XS sS 06 56 03.6 -2.0
HHC SS SS 06 58 53.1 -5.7
HHC SCS ScS 06 59 41.9 -0.2
HHC AMB AMB
comp=Z,22nm,0.6s,mb5.0
HHC AMB AMB
comp=Z,260nm,6.0s
HHC LR LR
comp=N,768nm,16.7s
HHC LR LR
comp=E,451nm,10.0s
HHC LR LR
comp=Z,737nm,17.8s,MS4.6
WRA Warramunga Arr 42.07 122 P **P 06 49 44.8 0.0**
comp=Z,3.2nm,0.7s,mb4.0,baz=302,slow=9.1,SNR=22
WRA LR LR 07 10 36.3
comp=Z,168nm,18.1s,MS4.0,baz=300,slow=41
WRAB Tennant Creek 42.08 122 *e*P **P 06 49 44.6 -0.3**
comp=Z,9.4nm,1.1s,mb4.3
WRAB Tennant Creek 42.08 122 *e*P **P 06 49 44.6 -0.2**
WRAB pmax pmax
comp=Z,9.0nm,1.1s,mb4.3
WB2 Warramunga Arr 42.08 122 *e*P **P 06 49 44.7 -0.2**
BJT Baijiatuau 42.25 22 *e*P **P 06 49 46.1 +0.2**
comp=Z,22nm,0.6s,mb5.0
BJT *e* 06 49 57.0
BJT Baijiatuau 42.25 22 *e*P **P 06 49 46.1 +0.2**
BJT *e* 06 49 57.0
BJT pmax pmax
comp=Z,23nm,0.6s
BJI Beijing 42.27 22 P **P 06 49 46.5 +0.4**
BJI S **S 06 56 08.3 +2.9**
BJI AMB AMB
comp=Z,31nm,0.8s,mb5.0
BJI AMB AMB
comp=Z,196nm,6.7s
BJI LR LR
comp=N,508nm,16.0s,MS4.6
BJI LR LR
comp=E,207nm,14.0s,MS4.6
BJI LR LR
comp=Z,212nm,22.1s
WMQ Urumqi 43.20 350 P **P 06 49 54.7 +1.1**
WMQ AP pP 06 50 01.0 +0.3
WMQ XP sP 06 50 04.0 +0.4
WMQ *e*S **S 06 56 20.0 +1.0**
WMQ AMB AMB
comp=Z,32nm,1.0s,mb5.0
WMQ AMB AMB
comp=Z,408nm,4.9s
WMQ LR LR
comp=N,382nm,17.0s,MS4.5
WMQ LR LR
comp=E,482nm,20.4s,MS4.5
WMQ LR LR
comp=Z,315nm,21.4s,MS4.2
FORT Forrest 43.33 140 *e*P pP 06 50 04.2 +2.2
comp=Z,17nm,0.8s
ASAR Alice Springs 43.44 127 P **P 06 49 56.5 +0.7**
comp=Z,1.2nm,0.5s,mb3.9,baz=296,slow=7.0,SNR=16
UCH Uchtor 45.58 336 *e*P **P 06 50 13.7 +1.0**
comp=Z,19nm,0.9s,mb5.0
UCH Uchtor 45.58 336 P **P 06 50 13.8 +1.2**
SNR=13
TKM2 Tokmak 2 45.75 338 *e*P **P 06 50 14.4 +0.4**
comp=Z,16nm,1.2s,mb4.8
TKM2 Tokmak 2 45.75 338 *e*P **P 06 50 14.4 +0.4**
TKM2 pmax pmax
comp=Z,15nm,1.2s,mb4.8
TKM2 Tokmak 2 45.75 338 P **P 06 50 14.6 +0.6**
SNR=6.8
KBK Karagaybulak 45.77 337 P **P 06 50 15.6 +1.5**
SNR=10
KSRS Korea Array 45.78 35 P **P 06 50 14.0 -0.4**
comp=Z,19nm,0.9s,mb5.0,baz=222,slow=9.1,SNR=67
KSRS LR LR 07 09 57.5
comp=Z,214nm,20.7s,MS4.1,baz=108,slow=37
AML Almayashu 45.83 336 *e*P **P 06 50 15.1 +0.5**
comp=Z,20nm,1.1s,mb5.0
AML Almayashu 45.83 336 P **P 06 50 15.8 +1.1**
SNR=9.0
FRU Bishkek 46.05 337 *e*P **P 06 50 16.0 -0.3**
EKS2 Erkin-Say 46.24 336 *e*P **P 06 50 18.2 +0.4**
comp=Z,11nm,0.8s,mb4.8
EKS2 Erkin-Say 46.24 336 P **P 06 50 19.0 +1.1**
SNR=7.5
USP Ospenovka 46.46 337 P **P 06 50 19.9 +0.4**
SNR=16
SNY Shenyang 46.84 27 ⇑P **P 06 50 22.1 -0.4**
SNY AP pP 06 50 26.5 -3.3
SNY XP sP 06 50 29.0 -3.6
SNY S **S 06 57 16.7 +5.0**
SNY SS SS 07 00 32.2 -6.4
SNY AMB AMB
comp=Z,18nm,0.6s,mb5.2
SNY AMB AMB
comp=Z,160nm,5.1s
SNY LR LR
comp=E,501nm,15.1s
SNY LR LR
comp=Z,473nm,14.9s,MS4.6
SONM Songino Array 47.06 8 P **P 06 50 24.4 +0.3**
comp=Z,15nm,0.8s,mb5.0,baz=190,slow=8.5,SNR=47
MK31 Makanchi Array 47.17 346 *i* P **P 06 50 24.9 -0.1**
MK31 pmax pmax
comp=Z,24nm,1.0s,mb5.1
MKAR Makanchi Array 47.17 346 P **P 06 50 25.1 0.0**
comp=Z,11nm,0.8s,mb4.8,baz=153,slow=8.2,SNR=92
ULN Ulaanbaatar 47.19 9 *e*P **P 06 50 25.0 -0.1**
comp=Z,15nm,1.1s,mb4.8
ULN Ulaanbaatar 47.19 9⇑*e*P **P 06 50 25.4 +0.3**
CN2 Changchun 49.24 27 *e*P **P 06 50 40.4 -0.7**
CN2 *e*AP pP 06 50 46.3 -2.0
CN2 *e*S **S 06 57 45.7 0.0**
CN2 SS SS 07 01 15.5 -1.9
CN2 AMB AMB
comp=Z,20nm,0.9s,mb5.2
CN2 AMB AMB
comp=Z,150nm,6.0s
CN2 LR LR
comp=N,310nm,16.0s,MS4.6
CN2 LR LR
comp=E,380nm,16.0s,MS4.6
CN2 LR LR
comp=Z,550nm,17.0s,MS4.6
MOY Mondy 50.31 3 *e*P **P 06 50 49.4 +0.3**
TLY Talaya 50.52 5 *e*P **P 06 50 51.2 +0.6**
comp=Z,7.6nm,0.8s,mb4.7
TLY Talaya 50.52 5 *e*P **P 06 50 51.2 +0.5**
TLY pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
TLY MLR MLR
comp=Z,421nm,16.0s,MS4.5
HIA Hailar 51.57 19 *e*P **P 06 50 58.6 0.0**
comp=Z,8.2nm,0.8s,mb4.7
HIA Hailar 51.57 19 *e*P **P 06 50 58.6 0.0**
HIA pmax pmax
comp=Z,8.0nm,0.8s
MJAR Matsushiro Arr 51.63 42 P **P 06 50 59.1 -0.2**
comp=Z,2.7nm,0.8s,mb4.2,baz=222,slow=7.4,SNR=7.2
KURK Kurchatov 51.72 345 *e*P **P 06 50 59.0 -0.7**
comp=Z,13nm,0.9s,mb4.8
KURK Kurchatov 51.72 345⇑*i*P **P 06 50 59.6 -0.1**
KURK pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
MDJ Mudanjiang 51.80 29 P **P 06 51 00.7 +0.3**
MDJ AP pP 06 51 07.0 -0.7
MDJ SCP ScP 06 56 08.9 0.0
MDJ PCS PcS 06 56 11.5 +0.3
MDJ S **S 06 58 22.3 +1.0**
MDJ XS sS 06 58 33.8 +0.5
MDJ AMB AMB
comp=Z,13nm,1.2s,mb4.7
MDJ AMB AMB
comp=Z,126nm,8.8s
MDJ LR LR
comp=N,351nm,15.8s
MDJ LR LR
comp=Z,367nm,16.4s,MS4.5
MDJ Mudanjiang 51.80 29 *e*P **P 06 50 59.6 -0.9**
comp=Z,10nm,0.8s,mb4.8
CIT Chita 52.40 13 *e*P **P 06 51 05.6 +0.9**
CIT *e* pP 06 51 13.0 +1.0
CIT pmax pmax
comp=Z,46nm,1.4s,mb5.2
STKA Stephens Creek 53.41 132 *e*P **P 06 51 13.9 +1.3**
comp=Z,4.5nm,1.0s,mb4.3
STKA Stephens Creek 53.41 132 P **P 06 51 14.0 +1.4**
comp=Z,3.8nm,0.8s,mb4.4,baz=304,slow=9.5,SNR=4.4
STKA LR LR 07 15 46.7
comp=Z,297nm,19.1s,MS4.4,baz=25,slow=38
ZAL Zalesovo 53.48 351 P **P 06 51 12.6 0.0**
ZAA0 Zalesovo Array 53.48 351 *e*P **P 06 51 12.5 -0.2**
ZALV Zalesovo Beam 53.48 351 P **P 06 51 12.6 -0.2**
comp=Z,21nm,0.7s,mb5.2,baz=181,slow=6.2,SNR=109
NVS Novosibirsk 54.60 350 *i* P **P 06 51 20.1 -0.8**
NVS pmax pmax
comp=Z,17nm,0.9s,mb5.1
NVS pmax pmax
comp=N,15nm,1.1s
KLR Kul'dur 56.19 27 *e*P **P 06 51 29.2 -3.2**
KLR pmax pmax
comp=E,20nm,1.2s
KLR pmax pmax
comp=Z,47nm,1.2s,mb5.4
BRVK Borovoye 56.24 341 *e*P **P 06 51 31.9 -0.8**
comp=Z,11nm,0.9s,mb4.9
BRVK Borovoye 56.24 341 *e*P **P 06 51 31.9 -0.8**
BRVK pmax pmax
comp=Z,11nm,0.9s,mb4.9
ZRNK Zerenda 56.58 340 *i* P **P 06 51 34.2 -0.9**
ZRNK pmax pmax
comp=Z,8.0nm,1.0s,mb4.7
HABR Khabarovsk 57.19 29 *e*P **P 06 51 37.2 -2.3**
HABR *e* 06 51 51.2
HABR *e* 06 52 31.4
HABR *e*S **S 06 59 40.3 +6.6**
HABR *e* 06 59 47.8
HABR *e* 07 01 25.8
HABR *e* 07 03 21.0
BOD Bodaibo 57.94 11 *e*P **P 06 51 43.7 -0.9**
BOD pmax pmax
comp=Z,15nm,1.0s,mb5.0
EIDS Eidsvold 58.42 121 *e*P **P 06 51 48.2 -0.4**
comp=Z,14nm,1.2s,mb4.8
KMBO Kilima Mbogo 59.99 268 LR LR 07 16 43.6
comp=Z,109nm,18.2s,MS4.0,baz=272,slow=35
YSS Yuzh-Sakhalins 60.28 34 *e*P **P 06 52 01.1 0.0**
comp=Z,32nm,1.0s,mb5.3
YSS Yuzh-Sakhalins 60.28 34 *i* P **P 06 52 01.9 +0.8**
YSS pmax pmax
comp=Z,30nm,1.1s,mb5.2
YSS MLR MLR
comp=Z,200nm,18.0s,MS4.3
SVE Sverdlovsk 62.62 338 *e*P **P 06 52 16.3 -0.4**
SVE pmax pmax
comp=Z,19nm,0.9s,mb5.2
ARU Arti 63.11 337 *e*P **P 06 52 18.9 -1.1**
comp=Z,5.9nm,0.7s,mb4.8
ARU Arti 63.11 337*c i*P **P 06 52 18.8 -1.2**
ARU *e* 06 54 35.5
ARU *e*S **S 07 00 47.5 -2.0**
ARU *e*SS SS 07 04 50.1 -5.6
ARU pmax pmax
comp=Z,21nm,1.5s,mb5.0
KIV Kislovodsk 64.25 319 *e*P **P 06 52 27.6 -0.1**
KIV pmax pmax
comp=Z,12nm,1.1s,mb4.8
YAK Yakutsk 65.35 16 *e*P **P 06 52 33.6 -0.9**
YAK pmax pmax
comp=Z,64nm,1.1s,mb5.6
YAK pmax pmax
comp=N,22nm,1.2s
YAK pmax pmax
comp=E,21nm,1.3s
SOKR Solikamsk 66.01 339 *e*P **P 06 52 38.8 -0.1**
SOKR pmax pmax
comp=Z,20nm,0.8s,mb5.2
MA2 Magadan 71.26 26 *e*P **P 06 53 11.5 -0.1**
MA2 *e*S S 07 02 22.7 -4.9
MA2 *e*PS 07 02 58.5
MA2 pmax pmax
comp=Z,20nm,0.8s,mb5.1
MA2 MLR MLR
comp=Z,100nm,19.0s,MS4.1
OBN Obninsk 72.56 328⇓*e*P **P 06 53 18.8 -0.7**
OBN *e**PP pP 06 53 25.9 -1.1
OBN *e* 06 55 59.0
OBN *e*SS SS 07 07 18.5 -3.3
OBN pmax pmax
comp=Z,8.0nm,0.4s,mb5.0
OBN MLR MLR
comp=Z,300nm,15.0s,MS4.7
MAW Mawson 72.78 193 LR LR 07 18 59.8
comp=Z,272nm,19.9s,MS4.5,baz=254,slow=31
TIXI Tiksi 73.11 10 *e*P **P 06 53 20.8 -1.7**
comp=Z,11nm,0.9s,mb4.8
TIXI Tiksi 73.11 10⇑*e*P **P 06 53 21.4 -1.1**
TIXI pmax pmax
comp=Z,14nm,1.1s,mb4.8
TIXI MLR MLR
comp=Z,300nm,19.0s,MS4.6
SEY Seymchan 73.69 23⇓*e*P **P 06 53 26.1 +0.1**
BOSA Boshof 74.82 240 LR LR 07 22 46.8
comp=Z,88nm,18.9s,MS4.1,baz=260,slow=33
AKASG Malin Array Be 75.20 322 P **P 06 53 33.5 -1.6**
comp=Z,1.1nm,0.5s,mb4.1,baz=91,slow=4.8,SNR=9.4
RPZ Rata Peaks 79.26 135 LR LR 07 28 49.6
comp=Z,297nm,21.2s,MS4.6,baz=185,slow=36
FINES FINESS Array B 79.93 332 *i* P **P 06 54 02.0 +0.7**
FINES pmax pmax
comp=Z,2.0nm,0.9s
FINES FINESS Array B 79.93 332 P **P 06 54 00.3 -1.0**
comp=Z,2.1nm,0.8s,mb4.1,baz=103,slow=6.0,SNR=4.0
BILL Bilibino 81.09 21⇑*e*P **P 06 54 07.3 -0.1**
BILL *e* 06 57 11.3
BILL pmax pmax
comp=Z,2.0nm,0.9s,mb4.0
BILL pmax pmax
comp=Z,4.0nm,1.7s,mb4.1
ARCES ARCESS Array B 82.47 340 P **P 06 54 14.4 -0.2**
comp=Z,9.2nm,1.0s,mb4.7,baz=81,slow=5.6,SNR=7.4
GERES GERESS Array B 84.76 319 P **P 06 54 27.1 +0.3**
comp=Z,0.5nm,0.4s,mb4.0,baz=94,slow=5.6,SNR=11
VNDA Vanda 85.90 169 LR LR 07 29 00.4
comp=Z,112nm,18.8s,MS4.3,baz=332,slow=33
SNAA Sanae 94.36 198 LR LR 07 33 11.3
comp=Z,72nm,18.6s,MS4.2,baz=33,slow=33
IMA2 Indian Mountai 96.51 23 *e*P **P 06 55 21.6 -0.1**
NVAR Mina Array Bea 128.72 36 PKP PKPdf 07 01 02.1 +1.8
comp=Z,0.9nm,0.8s,baz=241,slow=7.1,SNR=5.7
TXAR Lajitas Array 143.60 32 PKP PKPdf 07 01 26.0 -2.1
comp=Z,0.9nm,0.7s,baz=73,slow=0.8,SNR=8.7
JCT Junction City 144.51 26 *e*PKPdf PKPdf 07 01 26.7 -2.9

IDC 11 07:17:29.1±37.0**,2198S**×**17783W,h520**km±357km**,**
mb3.1/4**,mb1 3.2**/4**,mb1mx2.9**/15**,mbtmp3.1**/4**,Error**
ellipse: s-maj=227.0km s-min=105.1km az=76.0,Fiji
Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**33.53**	**267**	P	P	07 23 25.9	+0.4
	6.4nm,1.0s,baz=100,slow=13,SNR=4.4						
STKA	**Stephens Creek**	**37.31**	**246**	P	P	07 23 56.4	-0.4
	1.0nm,0.5s,baz=94,slow=8.7,SNR=5.4						
ASAR	**Alice Springs**	**44.35**	**258**	P	P	07 24 53.0	-0.1
	1.5nm,0.7s,baz=100,slow=7.6,SNR=12						
WRA	**Warramunga Arr**	**44.57**	**263**	P	P	07 24 54.6	-0.2
	0.5nm,0.3s,baz=96,slow=8.4,SNR=10						
TORD	**Torodi Ar. Bea**	**171.20**	**177**	PKP	PKPdf	07 36 37.9	-0.4
	0.2nm,0.3s,baz=180,slow=1.3,SNR=4.6						

MAN ***11*** *07:17:46,659N*×*12702E,h1km*
ISCJB ***11*** *07:17:48.5*±*1.3,63N*±*0.1*×*12692E*±*009,h43km,mb3.7/4,*
Error ellipse: s-maj=22.1km s-min=10.8km az=21.9
IDC ***11*** *07:17:48.2*±*1.6,649N*×*12657E,h40km*±*9km,mb3.6/4,*
mb1 3.7/4,mb1mx3.4/18,mbtmp3.6/4,MS3.9/1,Ms1 3.9/1,
ms1mx3.0/21,Error ellipse: s-maj=142.8km s-min=17.7km
az=65.0
ISC 11 07:17:49.3±1.1**,65N**±01×**12690E**±009**,h45**km,
h45km±1.2km**:pP-P,n7,**σ**1$41/7,mb3.7/**4**,1C-1D,Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSPH	**General Santos**	**1.98**	**259**⇑	*e*P	**Pn**	**07 18 19.4**	**-1.0**
GSPH				*e*S	**Sn**	**07 18 44.1**	**+0.2**
CGP	**Cagayan de Oro**	**2.95**	**312**⇓	*e*P	**Pn**	**07 18 36.0**	**+2.3**
WRA	**Warramunga Arr**	**27.24**	**165**	P	**P**	**07 23 31.4**	**+2.1**
	0.7nm,0.4s,mb3.5,baz=344,slow=10,SNR=7.4						
ASAR	**Alice Springs**	**30.71**	**167**	P	**P**	**07 23 59.7**	**-0.5**
	0.3nm,0.4s,mb3.4,baz=342,slow=7.2,SNR=6.0						
ASAR				pP	pP	07 24 11.5	-0.6
	0.3nm,0.4s,baz=349,slow=7.7,SNR=2.8						
ASAR				PcP	PcP	07 26 56.4	-1.0
	0.3nm,0.4s,baz=343,slow=2.5,SNR=4.1						
MJAR	**Matsushiro Arr**	**31.68**	**17**	LR	LR	07 36 06.9	
	comp=Z,193nm,18.1s,baz=65,slow=35						
STKA	**Stephens Creek**	**40.62**	**161**	P	**P**	**07 25 24.4**	**-0.5**
	0.9nm,0.5s,mb3.6,baz=0.0,slow=10,SNR=3.6						
STKA				pP	pP	07 25 36.7	-0.5
	1.0nm,0.5s,baz=336,slow=5.3,SNR=2.9						
MKAR	**Makanchi Array**	**55.44**	**324**	P	**P**	**07 27 17.2**	**-2.1**
	1.5nm,0.5s,mb4.3,baz=117,slow=7.7,SNR=32						
MKAR				pP	pP	07 27 28.9	-3.1
	0.3nm,0.4s,baz=111,slow=7.2,SNR=3.9						

NEIC ***11*** *07:53:13.6,3856N*×*2170E,h55km,MD3.5(ATH),After*
ATH.
ATH ***11*** *07:53:13.9,3857N*×*2169E,h49km*±*3km,MD3.5/4*
CSEM ***11*** *07:53:14.3*±*0.2,3847N*×*2164E,h60km,ML2.5,Error*
ellipse: s-maj=7.9km s-min=4.8km az=173.0
ISCJB ***11*** *07:53:16.6*±*1.2,3857N*±*005*×*2169E*±*010,h35km*±*22km,*
Error ellipse: s-maj=13.9km s-min=7.2km az=26.9
THE ***11*** *07:53:17.5,3861N*×*2161E,h3km,ML2.5*
ISC 11 07:53:16.5±1.1**,3857N**±005×**2171E**±010**,h38**km±18km**,n9,**
σ**1$30/13,Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SELA	**Sela**	**0.33**	**153**	*e*Pg	**Pn**	**07 53 24.7**	**-0.3**
SELA				*e*Sg	**Sn**	**07 53 31.2**	**+0.4**
EVR	**Evrytania**	**0.35**	**13**	*e*P	**Pn**	**07 53 24.4**	**-0.9**
EVR				*e*S	**Sn**	**07 53 31.4**	**0.0**
RLS	**Riolos of Patr**	**0.55**	**200**	*e*P	**Pn**	**07 53 26.1**	**-1.7**
AGG	**Agios Georgios**	**0.67**	**47**	*e*Pg	**Pn**	**07 53 31.0**	**+1.6**
LKD	**Levkas**	**0.84**	**280**	*e*Pg	**Pn**	**07 53 31.1**	**-0.7**
KFL	**Anninata**	**0.86**	**238**	*e*Pg	**Pn**	**07 53 33.7**	**+1.7**
KFL				*e*Sg	**Sn**	**07 53 45.1**	**+1.8**
VLS	**Valsamata**	**0.96**	**246**	*e*P	**Pn**	**07 53 32.2**	**-1.3**
VLS				*e*S	**Sn**	**07 53 45.2**	**-0.7**
THL	**Klokotos Trika**	**1.02**	**14**	*e*P	**Pn**	**07 53 32.8**	**-1.5**
MEV	**Metsovon**	**1.27**	**343**	*e*Pg	**Pn**	**07 53 40.3**	**+2.6**

CSEM ***11*** *08:36:50.3*±*0.1,3789N*×*3095E,h15km,MD3.2,Error*
ellipse: s-maj=4.1km s-min=1.8km az=103.0
ISK ***11*** *08:36:50.0,3789N*×*3099E,h12km,MD3.2*
ISCJB ***11*** *08:36:51.4*±*0.6,3789N*±*003*×*3091E*±*004,h14km*±*6km,*
Error ellipse: s-maj=5.8km s-min=5.0km az=41.2
DDA ***11*** *08:36:53.2,3802N*×*3087E,h10km*±*2km,Md3.0*
ISC 11 08:36:51.8±0.7**,3788N**×003×**3092E**±005**,h16**km±6km**,n21,**
σ**1$02/30,Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ISP	**Isparta**	**0.33**	**264**	PG	**Pg**	**08 36 57.7**	**-1.0**
ISP				*e*SG	**Sg**	**08 37 03.6**	**+0.4**
BCK	**Bucak**	**0.49**	**212**	*e*PG	**Pg**	**08 37 00.9**	**-0.7**
BCK				*e*SG	**Sg**	**08 37 09.0**	**+0.7**
SHUT	**Suhut-Afyon**	**0.73**	**337**	*e*PG	**Pg**	**08 37 05.4**	**-0.7**
ANTB	**Antalya**	**1.00**	**192**	*e*PG	**Pg**	**08 37 10.0**	**-1.2**
KDHN	**Kadinhani**	**1.14**	**55**	*i* P	**Pn**	**08 37 12.7**	**-0.4**
KDHN				*i* S	**Sb**	**08 37 29.0**	**+1.3**
KDHN	**Kadinhani**	**1.14**	**55**	*i* P	**Pn**	**08 37 12.6**	**-0.5**
KDHN				*i* S	**Sb**	**08 37 29.0**	**+1.3**
KONT	**Konya--Tatoy**	**1.14**	**86**	*e*PN	**Pn**	**08 37 11.2**	**-1.9**
KHL	**Karahalli**	**1.19**	**292**	*e*PN	**Pn**	**08 37 13.3**	**-0.4**
KIZT	**Kizilcal**	**1.25**	**37**	*e*PN	**Pn**	**08 37 13.2**	**-1.4**
GOLH	**Golhisar**	**1.25**	**240**	*i* P	**Pn**	**08 37 15.8**	**+1.2**
GOLH				*i* S	**Sb**	**08 37 38.2**	**+7.2**
ALT	**Altintas**	**1.33**	**332**	*e*PN	**Pn**	**08 37 14.8**	**-0.9**
ELL	**Elmali**	**1.39**	**216**	*e*PN	**Pn**	**08 37 16.7**	**+0.3**
ESKT	**Eskisehir**	**1.64**	**358**	*i* P	**Pn**	**08 37 19.1**	**-0.8**

ESKT				*i* S	**Sn**	**08 37 41.4**	**+0.8**
ESKT	**Eskisehir**	**1.64**	**358**	*e*Pn	**Pn**	**08 37 19.2**	**-0.7**
SEYT	**Eskypehyr**	**1.64**	**358**	*i* P	**Pn**	**08 37 19.1**	**-0.8**
SEYT				*i* S	**Sn**	**08 37 41.4**	**+0.8**
GDZ	**Gediz**	**1.65**	**317**	*i* P	**Pn**	**08 37 20.4**	**+0.3**
GDZ				*i* S	**Sg**	**08 37 47.1**	**+2.1**
KULA	**Kula-Manisa**	**1.89**	**290**	*e*PN	**Pn**	**08 37 23.1**	**-0.2**
FETY	**Fethiye**	**1.92**	**230**	*e*PN	**Pn**	**08 37 24.4**	**+0.7**
ERMK	**Ermenek**	**2.02**	**127**	*i* P	**Pb**	**08 37 29.2**	**+1.2**
ERMK				*i* S	**Sg**	**08 37 59.7**	**+3.0**
YER	**Yerkesik**	**2.22**	**251**	*e*PN	**Pn**	**08 37 27.5**	**-0.4**
GULT	**Gulveren**	**2.57**	**353**	*e*PN	**Pn**	**08 37 33.0**	**+0.3**

NIED ***11*** *08:42:00, 37.10N×141.10E, h86km, Mw3.9 Best double couple: M0 7.35000×10^14 NP1:φ=211.00000°, δ=49.00000°, λ=-107.00000°. NP2:φ=56.00000°, δ=44.00000°, λ=-71.00000°.*

ISCJB ***11*** *08:42:42.4±0.6, 3708N±004×141.10E±006, h90km±4km, mb3.5/5, Error ellipse: s-maj=8.9km s-min=5.5km az=27.8*

IDC ***11*** *08:42:43.8±2.2, 3707N×141.12E, h89km±21km, mb3.1/4, mb1 3.4/8, mb1mx3.3/24, mbtmp3.3/8, MS2.8/1, Ms1 2.8/1, ms1mx2.2/13, Error ellipse: s-maj=27.7km s-min=18.9km az=91.0*

NEIC ***11*** *08:42:43.5±2.8, 3703N×141.10E, h87km±24km, mb4.5/1, MW3.8(NIED), Error ellipse: s-maj=34.8km s-min=22.6km az=74.0*

NEIC Recorded [2 JMA] in Fukushima and [1 JMA] in Ibaraki and Tochigi Prefectures.

JMA ***11*** *08:42:43.4±0.1, 3707N×141.02E, h88km±1km, M3.8 Broadband fault plane solution: P waves. NP1: φ=244.00000°, δ=51.00000°, λ=-79.00000°. NP2:φ=47.00000°, δ=41.00000°, λ=-103.00000°. Principal axes: T Plg5.0000°, Azm326.0000°; N Plg9.0000°, Azm57.0000°; P Plg80.0000°, Azm207.0000°;*

JMA Felt II J1.

ISC 11 08:42:43.6±0.6, 3709N±004×14108E±006, h84km±4km, n25, σ0°61/40, mb3.5/5, 5C-5D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.23**	**273**	⇓P	**Pn**	**08 42 56.1**	**+0.1**
ONAJ				*e*S	**Sn**	**08 43 05.5**	**+0.3**
JFK	**Kawauchi**	**0.32**	**329**	⇓P	**Pn**	**08 42 56.6**	**+0.1**
JFK				*e*S	**Sn**	**08 43 06.2**	**+0.1**
JHO	**Hitachi**	**0.63**	**221**	⇓P	**Pn**	**08 42 58.6**	**-0.3**
JHO				*e*S	**Sn**	**08 43 09.5**	**-0.8**
JFT	**Otama**	**0.73**	**306**	⇓P	**Pn**	**08 43 00.0**	**+0.1**
JFT				*e*S	**Sn**	**08 43 12.3**	**+0.2**
JMM	**Marumori**	**0.81**	**344**	⇓P	**Pn**	**08 43 00.9**	**+0.1**
JMM				*e*S	**Sn**	**08 43 13.7**	**+0.1**
JFY	**Yanaizu**	**1.14**	**287**	⇑P	**Pn**	**08 43 04.3**	**-0.3**
JFY				*e*S	**Sn**	**08 43 20.2**	**-0.2**
JOU	**Okura**	**1.32**	**346**	⇑P	**Pn**	**08 43 07.0**	**+0.2**
JOU				*e*S	**Sn**	**08 43 24.7**	**+0.5**
JIO	**Ouri**	**1.38**	**9**	P	**Pn**	**08 43 07.5**	**-0.1**
JIO				*e*S	**Sn**	**08 43 25.3**	**-0.3**
JYS	**Shirataka**	**1.39**	**325**	⇑P	**Pn**	**08 43 07.7**	**0.0**
JYS				*e*S	**Sn**	**08 43 26.7**	**+0.9**
JAG	**Ashikaga**	**1.47**	**244**	P	**Pn**	**08 43 08.1**	**-0.5**
JAG				*e*S	**Sn**	**08 43 26.4**	**-1.2**
JKT	**Katashina**	**1.50**	**258**	P	**Pn**	**08 43 09.4**	**+0.3**
JKT				*e*S	**Sn**	**08 43 29.5**	**+1.1**
JNS	**Sasagawa**	**1.58**	**298**	*e*S	**Sn**	**08 43 29.5**	**-0.7**
JHK	**Hiroka**	**1.66**	**276**	⇑P	**Pn**	**08 43 10.9**	**-0.2**
JHK				*e*S	**Sn**	**08 43 31.7**	**-0.2**
JYA	**Atsumi**	**1.85**	**325**	⇑P	**Pn**	**08 43 13.9**	**+0.3**
JYA				*e*S	**Sn**	**08 43 34.5**	**-2.0**
MJAR	**Matsushiro Arr**	**2.37**	**258**	P	**Pn**	**08 43 20.4**	**-0.1**
	14nm,0.3s,baz=66,slow=12,SNR=85						
MAJO	**Matsushiro**	**2.37**	**258**	*e*Pn	**Pn**	**08 43 20.8**	**+0.2**
MAJO				*e*Sn	**Sn**	**08 43 41.3**	**-7.5**
MAT	**Matsushiro**	**2.37**	**258**	P	**Pn**	**08 43 20.8**	**+0.3**
MAT				*e*S	**Sn**	**08 43 49.2**	**+0.4**
JHJ	**Hachijo jima 2**	**4.10**	**195**	P	**Pn**	**08 43 44.9**	**+0.9**
	9.3nm,0.3s,baz=139,slow=11,SNR=5.0						
ASAJ	**Asahikawa**	**7.11**	**9**	P	**Pn**	**08 44 24.6**	**-0.3**
	1.2nm,0.3s,baz=225,slow=10.0,SNR=7.8						
ASAJ				LR	LR	08 48 17.5	
	comp=Z,62nm,18.9s,baz=254,slow=47						
KSRS	**Korea Array**	**10.49**	**276**	P	**Pn**	**08 45 12.4**	**+1.4**
	baz=87,slow=13,SNR=8.4						
SONM	**Songino Array**	**27.53**	**304**	P	**P**	**08 48 23.0**	**+0.8**
	0.2nm,0.5s,mb2.9,baz=105,slow=11,SNR=2.8						
ZALV	**Zalesovo Beam**	**41.68**	**312**	P	**P**	**08 50 23.1**	**-0.5**
	0.6nm,0.6s,mb3.5,baz=57,slow=5.5,SNR=3.4						
KURK	**Kurchatov**	**45.69**	**308**	*e*P	**P**	**08 50 49.7**	**-6.1**
	3.9nm,0.5s,mb4.4						
WRA	**Warramunga Arr**	**57.08**	**188**	P	**P**	**08 52 20.2**	**-0.8**
	0.3nm,0.4s,mb3.7,baz=3.9,slow=7.2,SNR=10						
YKA	**Yellowknife Ar**	**63.90**	**30**	P	**P**	**08 53 06.9**	**-0.1**
	0.2nm,0.7s,mb3.1,baz=304,slow=7.0,SNR=6.5						

IDC 11 08:52:42.6±12.0, 1136S×16574E, h113km±77km, mb3.9/4, mb1 4.0/5, mb1mx3.6/16, mbtmp4.0/5, Error ellipse: s-maj=129.0km s-min=38.5km az=104.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.01**	**288**	P	Pn	08 54 09.2	0.0
	13nm,0.3s,baz=276,slow=14,SNR=5.5						
STKA	**Stephens Creek**	**30.21**	**224**	P	P	08 58 42.5	0.0
	2.9nm,0.9s,baz=41,slow=7.5,SNR=5.2						
WRA	**Warramunga Arr**	**31.37**	**250**	P	P	08 58 53.1	+0.2
	2.4nm,0.9s,baz=81,slow=9.0,SNR=10						
ASAR	**Alice Springs**	**32.65**	**244**	P	P	08 59 03.8	-0.2
	2.0nm,0.7s,baz=70,slow=9.7,SNR=21						
MKAR	**Makanchi Array**	**93.75**	**317**	P	P	09 05 46.7	0.0
	1.5nm,0.7s,baz=97,slow=6.2,SNR=10						

CSEM ***11*** *08:59:13.0±0.4, 3808N×3096E, h8km, mb4.2/6, Ms3.6, Mw3.9, Error ellipse: s-maj=1.5km s-min=1.0km az=63.0*

MOS ***11*** *08:59:13.6±1.1, 3800N×3094E, h11km, mb4.2/11, Error ellipse: s-maj=7.2km s-min=4.4km az=118.1*

ISCJB ***11*** *08:59:14.5±0.5, 3799N±002×3096E±002, h21km±5km, mb3.8/20, MS3.8/6, Error ellipse: s-maj=3.3km s-min=2.3km az=140.9*

THE ***11*** *08:59:14.1, 3786N×3096E, h3km*

ISK ***11*** *08:59:14.2, 3804N×3096E, h19km, MD3.9*

NEIC ***11*** *08:59:14.1, 3803N×3091E, h23km, mb4.2/12, ML4.3(ISK), After ISK.*

DDA ***11*** *08:59:14.9, 38.10N×3087E, h7km±6km, Md3.9*

GII ***11*** *08:59:15.8±0.9, 3802N×3097E, h100km, mb4.2/9, ML4.0/10*

NIC ***11*** *08:59:17.8±0.4, 3796N×3084E, h66km, mb4.6, ML4.3, MW3.9*

IDC ***11*** *08:59:17.6±1.9, 3792N×3084E, h38km±18km, mb3.6/12, mb1 3.8/20, mb1mx3.8/28, mbtmp3.7/20, ML3.9/4, MS3.8/9, Ms1 3.7/9, ms1mx3.5/40, Error ellipse: s-maj=14.2km s-min=12.5km az=60.0*

HLW ***11*** *08:59:18.8, 3778N×3105E, h33km, Mb3.7*

ISC 11 08:59:15.0±0.6, 3800N±002×3097E±002, h12km±4km, n238, σ1°25/258, mb3.8/20, MS3.8/6, 14C-13D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ISP	**Isparta**	**0.40**	**247**	*e*Pg	**Pg**	**08 59 21.5**	**-1.3**
ISP	**Isparta**	**0.40**	**247**	⇑*i*P	**Pg**	**08 59 21.8**	**-1.0**
BCK	**Bucak**	**0.62**	**210**	*e*PG	**Pg**	**08 59 26.6**	**-0.3**
BCK	**Bucak**	**0.62**	**210**	Pg	**Pg**	**08 59 26.7**	**-0.3**
BCK				Sg	**Sg**	**08 59 36.7**	**+1.6**
BCK	**Bucak**	**0.62**	**210**	*e*Pg	**Pg**	**08 59 26.7**	**-0.3**
BCK				Sg	**Sg**	**08 59 36.7**	**+1.6**
SHUT	**Suhut-Afyon**	**0.65**	**329**	*e*PG	**Pg**	**08 59 27.4**	**-0.2**
SHUT				*e*SG	**Sg**	**08 59 35.8**	**-0.2**
KDHN	**Kadinhani**	**1.04**	**60**	*i* P	**Pb**	**08 59 34.0**	**-0.9**
KDHN				*i* S	**Sb**	**08 59 51.6**	**+3.0**
KONT	**Konya--Tatoy**	**1.10**	**92**	*e*PN	**Pn**	**08 59 35.2**	**-1.0**
KONT	**Konya--Tatoy**	**1.10**	**92**	Pn	**Pn**	**08 59 35.6**	**-0.6**
KONT				Sg	**Sg**	**08 59 50.6**	**+0.1**
ANTB	**Antalya**	**1.12**	**193**	*e*PN	**Pn**	**08 59 36.7**	**+0.1**
KIZT	**Kizilcal**	**1.13**	**39**	*e*PN	**Pn**	**08 59 35.3**	**-1.4**
KIZT	**Kizilcal**	**1.13**	**39**	Pn	**Pn**	**08 59 35.5**	**-1.2**
KIZT	**Kizilcal**	**1.13**	**39**	Pn	**Pn**	**08 59 35.5**	**-1.2**
KHL	**Karahalli**	**1.19**	**286**	*e*PN	**Pn**	**08 59 35.1**	**-2.3**
ALT	**Altintas**	**1.25**	**328**	*e*PN	**Pn**	**08 59 37.3**	**-1.0**
ALT	**Altintas**	**1.25**	**328**	Pn	**Pn**	**08 59 36.3**	**-2.1**
ALT	**Altintas**	**1.25**	**328**	Pn	**Pn**	**08 59 36.3**	**-2.0**
GOLH	**Golhisar**	**1.35**	**236**	*i* P	**Pn**	**08 59 40.8**	**+1.1**
GOLH				*i* S	**Sb**	**09 00 01.8**	**+4.3**
ELL	**Elmali**	**1.51**	**214**	*e*PN	**Pn**	**08 59 42.0**	**+0.1**
ELL	**Elmali**	**1.51**	**214**	P	**Pn**	**08 59 40.3**	**-1.5**
ELL	**Elmali**	**1.51**	**214**	*e*Pn	**Pn**	**08 59 42.0**	**+0.2**
ESKT	**Eskisehir**	**1.52**	**356**	*e*PN	**Pn**	**08 59 41.3**	**-0.7**
ESKT	**Eskisehir**	**1.52**	**356**	Pn	**Pn**	**08 59 40.6**	**-1.4**
ESKT	**Eskisehir**	**1.52**	**356**	Pn	**Pn**	**08 59 40.6**	**-1.5**
DENT	**Denizli**	**1.55**	**262**	*e*PN	**Pn**	**08 59 41.4**	**-1.0**
DENT	**Denizli**	**1.55**	**262**	Pn	**Pn**	**08 59 40.3**	**-2.2**
GDZ	**Gediz**	**1.60**	**313**	*i* P	**Pn**	**08 59 42.7**	**-0.4**
GDZ				*i* S	**Sn**	**09 00 10.0**	**+6.4**
KULA	**Kula-Manisa**	**1.89**	**287**	*e*PN	**Pn**	**08 59 46.0**	**-1.1**
FETY	**Fethiye**	**2.03**	**228**	*e*PN	**Pn**	**08 59 49.5**	**+0.5**
FETY	**Fethiye**	**2.03**	**228**	Pn	**Pn**	**08 59 48.4**	**-0.6**
FETY	**Fethiye**	**2.03**	**228**	Pn	**Pn**	**08 59 48.4**	**-0.6**
ERMK	**Ermenek**	**2.06**	**131**	*i* P	**Pn**	**08 59 53.2**	**+3.9**
ERMK				*i* S	**Sn**	**09 00 20.9**	**+5.9**
KSL	**Kastellorizon**	**2.15**	**211**	*e*P	**Pn**	**08 59 53.0**	**+2.3**
GEDT	**Gedikpinar**	**2.20**	**334**	*e*PN	**Pn**	**08 59 49.8**	**-1.6**
YER	**Yerkesik**	**2.30**	**249**	*e*PN	**Pn**	**08 59 52.2**	**-0.5**
YER	**Yerkesik**	**2.30**	**249**	P	**Pn**	**08 59 51.3**	**-1.5**
YER	**Yerkesik**	**2.30**	**249**	*e*Pn	**Pn**	**08 59 52.2**	**-0.6**
GPA	**Golpazari**	**2.34**	**348**	*e*PN	**Pn**	**08 59 52.8**	**-0.6**
GPA	**Golpazari**	**2.34**	**348**	Pn	**Pn**	**08 59 51.8**	**-1.6**
ANTO	**Ankara**	**2.35**	**37**	⇑P	**Pn**	**08 59 55.1**	**+1.7**
ANTO	**Ankara**	**2.35**	**37**	⇑*i*P	**Pn**	**08 59 55.1**	**+1.7**
LOD	**Lodumlu**	**2.35**	**36**	*e*PN	**Pn**	**08 59 52.4**	**-1.0**
DST	**Dursunbey**	**2.43**	**312**	*e*PN	**Pn**	**08 59 53.0**	**-1.6**
DST	**Dursunbey**	**2.43**	**312**	P	**Pn**	**08 59 53.6**	**-1.0**
KAMT	**Kaman**	**2.55**	**57**	*e*PN	**Pn**	**08 59 55.3**	**-0.8**
IZI	**Iznik**	**2.61**	**334**	*e*PN	**Pn**	**08 59 56.0**	**-1.0**
IZI	**Iznik**	**2.61**	**334**	Pn	**Pn**	**08 59 55.3**	**-1.7**
ADVT	**Abdulvahap**	**2.61**	**339**	*e*PN	**Pn**	**08 59 55.6**	**-1.5**
ADVT	**Abdulvahap**	**2.61**	**339**	Pn	**Pn**	**08 59 55.3**	**-1.8**
MLSB	**Milas**	**2.63**	**256**	*e*PN	**Pn**	**08 59 56.8**	**-0.5**
MLSB	**Milas**	**2.63**	**256**	Pn	**Pn**	**08 59 55.9**	**-1.4**
AKS	**Akhisar**	**2.63**	**291**	*e*PN	**Pn**	**08 59 56.6**	**-0.6**
AKS	**Akhisar**	**2.63**	**291**	Pn	**Pn**	**08 59 55.3**	**-2.0**
IKL	**Isikli**	**2.79**	**128**	*e*PN	**Pn**	**09 00 00.3**	**+0.8**
IKL	**Isikli**	**2.79**	**128**	Pn	**Pn**	**08 59 59.9**	**+0.4**
GEMT	**Gemlik**	**2.80**	**331**	*e*PN	**Pn**	**08 59 58.7**	**-0.9**
GEMT	**Gemlik**	**2.80**	**331**	Pn	**Pn**	**08 59 58.4**	**-1.2**
GEMT	**Gemlik**	**2.80**	**331**	Pn	**Pn**	**08 59 58.4**	**-1.2**
YLV	**Yalova**	**2.85**	**335**	*e*PN	**Pn**	**08 59 59.9**	**-0.4**
NIG	**Nigde**	**2.88**	**87**	*e*PN	**Pn**	**09 00 00.5**	**-0.2**
ARG	**Arkhangelos**	**2.89**	**233**	*e*P	**Pn**	**09 00 00.0**	**-0.8**
DAT	**Datca**	**2.98**	**246**	*e*PN	**Pn**	**09 00 01.5**	**-0.7**
HRT	**Hereke**	**3.00**	**341**	*e*PN	**Pn**	**09 00 01.1**	**-1.2**
HRT	**Hereke**	**3.00**	**341**	*e*PN	**Pn**	**09 00 01.5**	**-0.8**
KCT	**Karacabey**	**3.04**	**319**	*e*PN	**Pn**	**09 00 01.5**	**-1.5**
KCT	**Karacabey**	**3.04**	**319**	Pn	**Pn**	**09 00 01.1**	**-1.9**
MERS	**Mersin**	**3.04**	**111**	*e*PN	**Pn**	**09 00 03.1**	**+0.2**
BODT	**Bodrum**	**3.06**	**253**	*e*PN	**Pn**	**09 00 02.2**	**-0.9**
CDAG	**Cicekdag**	**3.11**	**58**	*i* P	**Pn**	**09 00 03.0**	**-0.9**
CDAG				*i* S	**Sg**	**09 01 02.8**	**+7.8**
BLCB	**Balcova**	**3.12**	**278**	*e*PN	**Pn**	**09 00 02.6**	**-1.4**
BLCB	**Balcova**	**3.12**	**278**	*e*Pn	**Pn**	**09 00 02.6**	**-1.4**
ALFC	**Alevga**	**3.12**	**155**	P	**Pn**	**09 00 05.1**	**+1.0**
	23nm,0.4s						
ALFC				S	**Sn**	**09 00 43.3**	**+2.0**
AKMC	**Akamas**	**3.16**	**159**	P	**Pn**	**09 00 05.7**	**+1.1**
BADT	**Buyukada**	**3.19**	**334**	*e*PN	**Pn**	**09 00 03.8**	**-1.2**
BADT	**Buyukada**	**3.19**	**334**	Pn	**Pn**	**09 00 02.8**	**-2.2**
LEF	**Lefka**	**3.26**	**151**	*e*PN	**Pn**	**09 00 06.0**	**0.0**
LEF	**Lefka**	**3.26**	**151**	Pn	**Pn**	**09 00 06.8**	**+0.8**
SMG	**Samos**	**3.28**	**266**	*e*P	**Pn**	**09 00 07.0**	**+0.7**
PPCY	**Paphos**	**3.30**	**160**	P	**Pn**	**09 00 08.2**	**+1.7**
CANT	**Cankiri**	**3.32**	**37**	*e*PN	**Pn**	**09 00 05.7**	**-1.1**
KARA	**Karaisali**	**3.33**	**102**	*e*PN	**Pn**	**09 00 06.8**	**0.0**
KDZE	**Karadeniz Ereo**	**3.33**	**6**	*e*PN	**Pn**	**09 00 06.0**	**-0.9**
BNT	**Bandirma**	**3.34**	**316**	*e*PN	**Pn**	**09 00 05.9**	**-1.2**
BNT	**Bandirma**	**3.34**	**316**	P	**Pn**	**09 00 05.3**	**-1.7**
MAMC	**Mammari**	**3.35**	**147**	P	**Pn**	**09 00 09.5**	**+2.3**
LFK	**Lefkose**	**3.41**	**142**	*e*PN	**Pn**	**09 00 08.0**	**0.0**
EREN	**Erenkoy**	**3.56**	**133**	*e*PN	**Pn**	**09 00 10.3**	**+0.2**
CSS	**Prodhromos**	**3.58**	**147**	P	**Pn**	**09 00 11.9**	**+1.6**
	12nm,0.9s						
CSS				S	**Sn**	**09 00 54.2**	**+1.7**
CSS	**Prodhromos**	**3.58**	**147**	*e*Pn	**Pn**	**09 00 11.7**	**+1.3**
CSS	**Prodhromos**	**3.58**	**147**	*e*Pn	**Pn**	**09 00 08.1**	**-2.2**
CSS	**Prodhromos**	**3.58**	**147**	*e*Pn	**Pn**	**09 00 11.6**	**+1.3**
CSS				S	**Sn**	**09 00 54.2**	**+1.7**
SZAC	**Souni-Zanaja**	**3.58**	**154**	P	**Pn**	**09 00 14.1**	**+3.7**
SZAC				S	**Sn**	**09 01 01.8**	**+9.1**
MRMT	**Marmara Adasi**	**3.69**	**316**	*e*PN	**Pn**	**09 00 11.7**	**-0.1**
CTT	**Catalca**	**3.71**	**329**	*e*PN	**Pn**	**09 00 11.3**	**-0.8**
CTT	**Catalca**	**3.71**	**329**	P	**Pn**	**09 00 10.9**	**-1.2**
CTT	**Catalca**	**3.71**	**329**	*e*Pn	**Pn**	**09 00 11.3**	**-0.8**
PRK	**Paraskevi**	**3.88**	**290**	*e*P	**Pn**	**09 00 15.0**	**+0.5**
CHOS	**Chios island**	**3.89**	**277**	*e*Pn	**Pn**	**09 00 14.8**	**+0.2**
KARP	**Karpathos**	**3.92**	**232**	*e*P	**Pn**	**09 00 17.0**	**+2.0**
APE	**Apeiranthos**	**4.42**	**260**	*e*Pn	**Pn**	**09 00 21.4**	**-0.6**
APE	**Apeiranthos**	**4.42**	**260**	*e*P	**Pn**	**09 00 23.0**	**+1.1**
APE	**Apeiranthos**	**4.42**	**260**	⇓*i*P	**Pn**	**09 00 23.0**	**+1.1**
ALN	**Alexandroupoli**	**4.79**	**309**	*e*Pn	**Pn**	**09 00 27.3**	**+0.4**
ZKR	**Zakros**	**4.79**	**234**	*e*Pn	**Pn**	**09 00 24.1**	**-2.9**
ZKR	**Zakros**	**4.79**	**234**	*e*Pn	**Pn**	**09 00 24.0**	**-2.9**
LOS	**Limnos**	**4.98**	**295**	*e*Pn	**Pn**	**09 00 29.6**	**0.0**
NPS	**Neapolis**	**5.10**	**239**	*e*P	**Pn**	**09 00 32.0**	**+0.8**
RDO	**Rodhopi**	**5.24**	**309**	*e*P	**Pn**	**09 00 33.0**	**-0.2**
LAST	**Lasithi**	**5.25**	**239**	*e*Pn	**Pn**	**09 00 31.7**	**-1.5**
XRY	**Khrisi**	**5.27**	**235**	*e*P	**Pn**	**09 00 34.0**	**+0.4**
HWQ	**Hawqa**	**5.48**	**131**	*e*Pn	**Pn**	**09 00 38.4**	**+2.0**
JMB	**Yambol**	**5.58**	**324**	*e*Pn	**Pn**	**09 00 38.6**	**+0.7**
AOS	**Alonnisos**	**5.68**	**284**	*e*Pn	**Pn**	**09 00 39.7**	**+0.6**
FKH	**Fakeheh**	**5.78**	**129**	*e*Pn	**Pn**	**09 00 40.8**	**+0.2**
MALT	**Malatya**	**5.89**	**85**	⇑P	**Pn**	**09 00 43.5**	**+1.5**
MALT	**Malatya**	**5.89**	**85**	⇑*i*P	**Pn**	**09 00 43.5**	**+1.5**
MALT	**Malatya**	**5.89**	**85**	Pn	**Pn**	**09 00 42.5**	**+0.5**
MALT	**Malatya**	**5.89**	**85**	⇑P	**Pn**	**09 00 43.5**	**+1.5**
OUR	**Ouranopolis**	**5.91**	**295**	*e*Pn	**Pn**	**09 00 42.0**	**-0.4**
RCY	**Rachaya**	**5.99**	**137**	*e*Pn	**Pn**	**09 00 45.2**	**+1.9**
HRI	**Mount Hermon**	**6.11**	**139**	Pn	**Pn**	**09 00 45.0**	**-0.1**
HRI	**Mount Hermon**	**6.11**	**139**	Pn	**Pn**	**09 00 45.0**	**-0.1**
KSDI	**Kefar Szold**	**6.13**	**140**	Pn	**Pn**	**09 00 45.1**	**-0.3**
KSDI				Sn	**Sn**	**09 01 56.0**	**+0.5**
MMAI	**Mount Meron Ar**	**6.15**	**143**	Pn	**Pn**	**09 00 46.0**	**+0.4**
	9.7nm,0.3s,baz=341,slow=12,SNR=13						
MMAI				Sn	**Sn**	**09 01 59.1**	**+3.3**
	6.3nm,0.3s,baz=316,slow=27,SNR=2.9						
MMA2	**Mount Meron ar**	**6.15**	**143**	Pn	**Pn**	**09 00 46.2**	**+0.5**
PLG	**Polygyros**	**6.31**	**294**	*e*Pn	**Pn**	**09 00 47.5**	**-0.3**
GVD	**Gavdhos**	**6.38**	**242**	*e*P	**Pn**	**09 00 50.0**	**+1.2**
VLI	**Veliai**	**6.53**	**261**	*e*P	**Pn**	**09 00 51.0**	**+0.2**
KYTH	**Kithira**	**6.57**	**257**	*e*P	**Pn**	**09 00 57.5**	**+6.1**
MMLI	**Mount Malkishu**	**6.64**	**145**	Pn	**Pn**	**09 00 50.9**	**-1.4**
MMLI				Sn	**Sn**	**09 02 06.9**	**-1.0**
SLTI	**Sal'it**	**6.64**	**149**	Pn	**Pn**	**09 00 51.3**	**-1.1**
TIRR	**Tirgusor**	**6.74**	**344**	⇓P	**Pn**	**09 00 54.5**	**+0.9**
TIRR	**Tirgusor**	**6.74**	**344**	⇓*i*P	**Pn**	**09 00 54.5**	**+0.8**
HMDT	**Nahal Hemdat**	**6.84**	**146**	Pn	**Pn**	**09 00 54.5**	**-0.6**
HARR	**Harsova**	**7.07**	**342**	⇑P	**Pn**	**09 00 58.9**	**+0.7**
HARR	**Harsova**	**7.07**	**342**	⇑*i*P	**Pn**	**09 00 58.9**	**+0.7**
DSI	**Dead Sea**	**7.37**	**149**	Pn	**Pn**	**09 01 01.5**	**-0.9**
DSI				Sn	**Sn**	**09 02 24.4**	**-1.5**
VTS	**Vitosha**	**7.50**	**310**	⇓P	**Pn**	**09 01 06.5**	**+2.3**
VTS	**Vitosha**	**7.50**	**310**	⇓*i*P	**Pn**	**09 01 06.5**	**+2.4**
AMAG	**Maghara**	**7.57**	**165**	P	**Pn**	**09 01 04.0**	**-1.1**
AMAG				S	**Sn**	**09 02 21.6**	**-9.2**
ASF	**Jabal al Asfar**	**7.57**	**138**	Pn	**Pn**	**09 01 06.6**	**+1.4**
	0.4nm,0.3s,baz=328,slow=14,SNR=2.7						
HMAT	**Matruh**	**7.59**	**206**	⇓*e*P	**Pn**	**09 01 05.5**	**0.0**
HMAT				S	**Sn**	**09 02 23.2**	**-8.2**
KZIT	**Kziot**	**7.62**	**157**	Sn	**Sn**	**09 02 30.9**	**-1.2**
KOT	**Kottamia**	**8.08**	**175**	⇓*e*P	**Pn**	**09 01 10.9**	**-1.3**
SUZ		**8.28**	**169**	*i* P	**Pn**	**09 01 14.2**	**-0.8**
HNAT	**Natroun**	**8.35**	**182**	⇓*e*P	**Pn**	**09 01 15.9**	**0.0**
HSAF	**As Saff**	**8.37**	**177**	⇑*i*P	**Pn**	**09 01 15.9**	**-0.3**
MLR	**Muntele Rosu**	**8.37**	**335**	⇓P	**Pn**	**09 01 18.8**	**+2.7**
MLR	**Muntele Rosu**	**8.37**	**335**	Pn	**Pn**	**09 01 18.6**	**+2.5**
	1.3nm,0.3s,baz=196,slow=4.2,SNR=9.4						
MLR	**Muntele Rosu**	**8.37**	**335**	⇓*i*P	**Pn**	**09 01 18.8**	**+2.7**
GLL	**Jalalah**	**8.42**	**176**	P	**Pn**	**09 01 16.6**	**-0.2**
HNKL	**Nakhl**	**8.43**	**162**	⇑*e*P	**Pn**	**09 01 16.1**	**-0.9**
VRI	**Vrincioaia**	**8.47**	**339**	⇓P	**Pn**	**09 01 19.1**	**+1.7**
VRI	**Vrincioaia**	**8.47**	**339**	⇓*i*P	**Pn**	**09 01 19.1**	**+1.6**
PLOR	**Plostina**	**8.48**	**339**	⇓*i*P	**Pn**	**09 01 19.2**	**+1.6**
HRFI	**Mount Harif**	**8.63**	**156**	Pn	**Pn**	**09 01 18.4**	**-1.3**
HRFI				Sn	**Sn**	**09 02 55.6**	**-1.3**
VOIR		**8.65**	**331**	⇑P	**Pn**	**09 01 22.1**	**+2.2**
VOIR		**8.65**	**331**	⇑*i*P	**Pn**	**09 01 22.1**	**+2.2**
EIL	**Elat**	**8.94**	**157**	Pn	**Pn**	**09 01 23.1**	**-0.9**
	1.8nm,0.3s,baz=346,slow=8.1,SNR=7.0						
EIL				Sn	**Sn**	**09 03 02.4**	**-2.3**
	1.8nm,0.3s,baz=0.9,slow=21,SNR=2.9						
EIL				LR	LR	09 05 48.8	
	comp=Z,248nm,20.5s,baz=283,slow=44						
EIL	**Elat**	**8.94**	**157**	Pn	**Pn**	**09 01 21.7**	**-2.3**
EIL				Sn	**Sn**	**09 03 02.7**	**-1.9**
EIL	**Elat**	**8.94**	**157**	Pn	**Pn**	**09 01 23.0**	**-1.0**
EIL				Sn	**Sn**	**09 03 02.3**	**-2.3**
SWA1		**9.75**	**208**	⇑*e*P	**Pn**	**09 01 35.6**	**+0.5**
TIP	**Timpagrande**	**11.19**	**280**	*e*Pn	**Pn**	**09 01 56.4**	**+1.6**
	11nm,1.0s						
BHD	**Baghdad**	**11.88**	**109**	*ex*	x	09 03 05.0	
BHD				*ex*	x	09 05 06.0	
PKSM	**Moragy**	**12.28**	**316**	⇑*i*P	**Pn**	**09 02 11.2**	**+1.5**
AKASG	**Malin Array Be**	**12.76**	**355**	P	**Pn**	**09 02 16.5**	**+0.3**
AKASG						09 04 33.4	
AKASG				pmax	pmax		
	comp=Z,3.0nm,0.3s						
AKASG				smax			
	comp=N,1.0nm,0.3s						
AKASG	**Malin Array Be**	**12.76**	**355**	Pn	**Pn**	**09 02 16.5**	**+0.3**
	comp=N,2.7nm,0.3s,baz=161,slow=12,SNR=5.1						
AKASG				Sn	**Sn**	**09 04 33.4**	**-4.6**
	comp=N,0.5nm,0.3s,baz=120,slow=12,SNR=2.9						
MODS	**Modra-Piesok**	**14.38**	**321**	*e*P	**Pn**	**09 02 45

DBIC	**Dimbokro**	**45.01 235**	P	**P**	**09 07 28.4**	**-2.1**
DBIC			pmax	pmax		
	comp=Z,1.0nm,0.5s					
DBIC			MLR	MLR		
	comp=Z,93nm,18.6s					
DBIC	**Dimbokro**	**45.01 235**	P	**P**	**09 07 28.4**	**-2.1**
	comp=Z,1.4nm,0.5s,mb4.0,baz=180,slow=4.0,SNR=2.5					
DBIC			LR	LR	09 29 05.3	
	comp=Z,93nm,18.6s,MS3.7,baz=4.1,slow=40					
SONM	**Songino Array**	**54.06 54**	P	**P**	**09 08 40.5**	**+1.3**
	comp=Z,0.3nm,0.5s,mb3.5,baz=299,slow=9.5,SNR=3.7					
SONM			LR	LR	09 38 14.5	
	comp=Z,120nm,18.4s,MS4.0,baz=254,slow=43					
SCHQ	**Schefferville**	**64.03 320**	P	**P**	**09 09 45.8**	**-2.4**
	comp=Z,2.1nm,0.8s,mb4.2,baz=333,slow=9.0,SNR=2.7					
BOSA	**Boshof**	**66.48 185**	LR	LR	09 41 38.5	
	comp=Z,53nm,18.8s,MS3.8,baz=180,slow=38					
KSRS	**Korea Array**	**72.83 56**	P	**P**	**09 10 42.2**	**-1.4**
	comp=Z,0.8nm,0.6s,mb3.9,baz=308,slow=5.9,SNR=3.2					
KSRS			LR	LR	09 49 55.3	
	comp=Z,98nm,18.9s,MS4.1,baz=141,slow=42					
YKA	**Yellowknife Ar**	**76.09 344**	P	**P**	**09 11 02.2**	**+0.1**
YKA			pmax	pmax		
	comp=Z,1.0nm,0.6s					
YKA	**Yellowknife Ar**	**76.09 344**	P	**P**	**09 11 02.2**	**+0.1**
	comp=Z,0.5nm,0.6s,mb3.6,baz=24,slow=5.3,SNR=17					
PDAR	**Pinedale Array**	**91.97 332**	P	**P**	**09 12 23.0**	**-0.5**
	comp=Z,0.4nm,0.6s,mb3.9,baz=61,slow=5.0,SNR=5.8					

*IDC **11** 09:02:22.1±2.6,3395S×17897W,h0km,mb4.2/4, mb1 4.4/5,mb1mx4.0/15,mbtmp4.3/5,ML4.5/1,Error ellipse: s-maj=63.3km s-min=32.1km az=124.0*

ISC 11 09:02:23.1±2.3,343S±04×1780W±06,h59km±40km,n15, σ0§60/17,mb4.2/4,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**4.41**	**221**	PN	**Pn**	**09 03 28.8**	**+1.4**
MXZ				SN	**Sn**	**09 04 18.1**	**+0.7**
PUZ	**Puketiti**	**4.81**	**218**	PN	**Pn**	**09 03 32.5**	**-0.5**
PUZ				SN	**Sn**	**09 04 28.1**	**+0.7**
MWZ	**Matawai**	**5.39**	**220**	PN	**Pn**	**09 03 40.0**	**-0.8**
MWZ				SN	**Sn**	**09 04 41.1**	**-0.5**
URZ	**Urewera**	**5.57**	**223**	Pn	**Pn**	**09 03 43.1**	**-0.2**
URZ				Sn	**Sn**	**09 04 45.7**	**-0.2**
URZ	**Urewera**	**5.57**	**223**	PN	**Pn**	**09 03 42.8**	**-0.5**
URZ				SN	**Sn**	**09 04 45.3**	**-0.6**
KNZ	**Kokohu**	**5.84**	**215**	PN	**Pn**	**09 03 47.4**	**+0.4**
KNZ				SN	**Sn**	**09 04 52.1**	**-0.5**
STKA	**Stephens Creek**	**33.76**	**263**	P	**P**	**09 08 59.8**	**+0.6**
	1.5nm,0.9s,mb3.9,baz=118,slow=9.1,SNR=6.1						
ASAR	**Alice Springs**	**43.02**	**271**	P	**P**	**09 10 17.1**	**+0.2**
	4.1nm,0.7s,mb4.3,baz=112,slow=7.2,SNR=54						
WB2	**Warramunga Arr**	**44.34**	**276**	*e*P	**P**	**09 10 27.3**	**-0.3**
WRA	**Warramunga Arr**	**44.35**	**276**	P	**P**	**09 10 27.1**	**-0.6**
	4.3nm,0.7s,mb4.3,baz=117,slow=7.8,SNR=46						
FITZ	**Fitzroy Crossi**	**52.43**	**273**	P	**P**	**09 11 30.0**	**+0.2**
	2.7nm,0.8s,mb4.2,baz=218,slow=5.6,SNR=3.6						
JOF	**Joensuu**	**146.00**	**336**	*e*pkp	PKPdf	09 21 55.9	+1.5
KAF	**Kangasniemi**	**148.18**	**338**	*e*pkp	PKPbc	09 22 02.8	+1.4
FINES	**FINESS Array B**	**148.77**	**338**	PKPbc	PKPbc	09 22 07.3	+4.3
	7.6nm,1.0s,baz=84,slow=5.7,SNR=7.3						
AKASG	**Malin Array Be**	**154.28**	**318**	PKPab	PKPab	09 22 35.9	+5.6
	0.5nm,0.4s,baz=79,slow=2.3,SNR=5.1						

*IDC **11** 09:07:21.2±0.9,756S×15627E,h0km,mb4.0/8,mb1 4.1/9, mb1mx4.0/15,mbtmp4.1/9,ML4.0/1,MS3.5/3,Ms1 3.5/3, ms1mx3.3/19,Error ellipse: s-maj=22.4km s-min=19.2km az=48.0*

*ISCJB **11** 09:07:24.7±0.7,76S±0.1×1562E±0.1,h33km,mb4.0/10, MS3.5/2,Error ellipse: s-maj=16.9km s-min=14.3km az=174.3*

ISC 11 09:07:26.8±4.1,76S±02×1562E±02,h38km±48km,n14, σ0§59/13,mb4.0/10,MS3.5/2,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.08**	**116**	Pn	**Pn**	**09 08 26.8**	**0.0**
	9.9nm,0.3s,baz=263,slow=0.7,SNR=6.0						
HNR				Lg		09 09 29.5	
	60nm,0.3s,baz=93,slow=18,SNR=7.0						
CTA	**Charters Tower**	**15.72**	**217**	LR	LR	09 16 31.0	
	comp=Z,126nm,18.1s,baz=44,slow=35						
KAKA	**Kakadu**	**23.96**	**256**	*e*P	**P**	**09 12 38.1**	**+0.3**
	13nm,0.7s,mb4.5						
WB2	**Warramunga Arr**	**24.50**	**238**	*e*P	**P**	**09 12 41.5**	**-1.1**
WRA	**Warramunga Arr**	**24.50**	**238**	P	**P**	**09 12 42.9**	**+0.2**
	1.6nm,0.6s,mb3.8,baz=60,slow=9.2,SNR=13						
WRA				LR	LR	09 22 11.6	
	comp=Z,69nm,18.6s,MS3.2,baz=300,slow=36						
ASAR	**Alice Springs**	**26.71**	**231**	P	**P**	**09 13 02.9**	**+0.2**
	0.7nm,0.8s,mb3.3,baz=61,slow=8.4,SNR=5.2						
STKA	**Stephens Creek**	**27.73**	**208**	*e*P	**P**	**09 13 16.5**	**+4.8**
	2.8nm,1.0s,mb3.9						
STKA	**Stephens Creek**	**27.73**	**208**	P	**P**	**09 13 12.3**	**+0.6**
	0.8nm,0.8s,mb3.4,baz=354,slow=18,SNR=1.9						
STKA				LR	LR	09 24 09.3	
	comp=Z,215nm,18.5s,MS3.8,baz=28,slow=36						
FITZ	**Fitzroy Crossi**	**31.55**	**248**	*e*P	**P**	**09 13 54.8**	**+9.0**
	6.9nm,0.8s,mb4.5						
KSRS	**Korea Array**	**52.07**	**331**	P	**P**	**09 16 32.5**	**-0.4**
	0.5nm,0.7s,mb3.5,baz=270,slow=24,SNR=2.9						
SONM	**Songino Array**	**70.53**	**327**	P	**P**	**09 18 38.7**	**+1.0**
	1.6nm,0.8s,mb4.0,baz=142,slow=6.1,SNR=7.5						
MKAR	**Makanchi Array**	**84.69**	**318**	P	**P**	**09 19 57.1**	**+0.4**
	4.7nm,0.8s,mb4.7,baz=104,slow=5.7,SNR=38						
ZALV	**Zalesovo Beam**	**85.39**	**326**	P	**P**	**09 19 59.3**	**-0.7**
	1.8nm,0.5s,mb4.4,baz=105,slow=5.7,SNR=11						
YKA	**Yellowknife Ar**	**96.31**	**28**	P	**P**	**09 20 50.8**	**-0.2**
	0.3nm,0.7s,mb3.8,baz=268,slow=4.7,SNR=8.1						

IGQ 11 09:23:52.3,310S×7738W,h13km±2km,Mb4.0,Ms3.8,5D, Error ellipse: s-maj=24.1km s-min=2.2km az=146.2, Peru-Ecuador border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PATA	**Patacocha**	**1.90**	**326**	‖P	Pn	09 24 27.3	+2.9
PATA	**Patacocha**	**1.90**	**326**	‖S	Sn	09 24 52.8	+4.5
ARRY	**Arrayan**	**1.91**	**326**	‖P	Pn	09 24 27.0	+2.5
ARRY	**Arrayan**	**1.91**	**326**	‖S	Sn	09 24 51.5	+3.0
RETU	**Refugio**	**1.95**	**327**	P	Pn	09 24 28.4	+3.3
IGUA	**Igualata**	**2.03**	**322**	P	Pn	09 24 29.5	+3.3
IGUA	**Igualata**	**2.03**	**322**	S	Sn	09 24 55.8	+4.3
TAMB	**Tambo**	**2.59**	**338**	P	Pn	09 24 40.6	+6.8
VC1	**Cotopaxi 1**	**2.65**	**337**	‖P	Pn	09 24 42.4	+7.8
GGP	**Refugio Guagua**	**3.15**	**337**	P	Pn	09 24 49.3	+7.7
PINO	**Pino**	**3.17**	**337**	P	Pn	09 24 48.1	+6.2

*IDC **11** 09:34:44.0±0.7,32.14S×68.18W,h0km,mb3.6/4,mb1 3.8/6, mb1mx3.7/17,mbtmp3.6/6,ML3.2/2,MS3.5/2,Ms1 3.4/2, ms1mx3.0/31,Error ellipse: s-maj=34.2km s-min=8.0km az=83.0*

*ISCJB **11** 09:34:46.0±1.1,3202S±004×6785W±005,h14km±7km, mb3.6/5,Error ellipse: s-maj=6.9km s-min=5.9km az=2.2*

*GUC **11** 09:34:48.4±1.0,3204S×68.16W,h5km,MD4.3,ML4.1*

*NEIC **11** 09:34:48.4,3204S×68.16W,h5km,MD4.0(SJA), ML4.1(GUC),After GUC.*

NEIC Felt [III] at San Juan.

ISC 11 09:34:46.7±1.2,3203S±004×6790W±005,h7km±8km,n35, σ1§04/44,mb3.6/5,2C-4D,Mendoza Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**0.51**	**326**	Pg	**Pg**	**09 34 55.0**	**-1.6**
	28nm,0.3s,baz=173,slow=16,SNR=5815						
CFAA				Lg		09 35 01.2	
	183nm,0.3s,baz=169,slow=18,SNR=122						
JACH	**Jahuel**	**2.37**	**253**	*e*P	**Pn**	**09 35 25.6**	**-0.4**
JACH				*i* S	**Sn**	**09 35 54.0**	**-1.3**
FCH	**Farellones**	**2.39**	**237**	‖*i*P	**Pn**	**09 35 26.9**	**+0.5**
FCH				*i* S	**Sn**	**09 35 56.6**	**+0.6**
FCH				AML	AML	09 35 59.5	
	comp=E,755nm,0.1s						
PEL	**Peldehue**	**2.60**	**244**	⇑*e*P	**Pn**	**09 35 29.5**	**+0.3**
PEL				*i* S	**Sn**	**09 36 00.8**	**-0.2**
CLCH	**Cerro Calan**	**2.61**	**238**	‖*e*P	**Pn**	**09 35 30.0**	**+0.7**
CLCH				*i* S	**Sn**	**09 36 01.3**	**+0.2**
CLCH				AML	AML	09 36 07.1	
	comp=N,1μm,0.6s						
FSR	**Penalolen**	**2.64**	**236**	*e*P	**Pn**	**09 35 30.5**	**+0.8**
FSR				AML	AML	09 36 05.0	
	comp=N,996nm,0.3s						
LMEL	**Las Melosas**	**2.65**	**226**	*e*P	**Pn**	**09 35 29.7**	**-0.2**
LMEL				*i* S	**Sn**	**09 36 02.4**	**+0.1**
LMEL	**Las Melosas**	**2.65**	**226**	*e*P	**Pn**	**09 35 29.7**	**-0.2**
LMEL				*i* S	**Sn**	**09 36 02.4**	**+0.1**
LMEL				AML	AML	09 36 09.4	
	comp=N,460nm,0.9s						
PCH	**Pirque**	**2.71**	**233**	*e*P	**Pn**	**09 35 31.4**	**+0.7**
CMCH	**Combarbala**	**2.78**	**287**	P	**Pn**	**09 35 31.2**	**-0.5**
CMCH				*i* S	**Sn**	**09 36 05.0**	**-0.4**
CMCH	**Combarbala**	**2.78**	**287**	*e*P	**Pn**	**09 35 31.2**	**-0.5**
CMCH				*i* S	**Sn**	**09 36 05.0**	**-0.4**
CMCH				AML	AML	09 36 10.3	
	comp=E,3μm,0.7s						
ROCH	**El Roble**	**2.79**	**249**	⇑*i*P	**Pn**	**09 35 32.9**	**+1.1**
ROCH				*i* S	**Sn**	**09 36 03.6**	**-2.1**
CHCH	**Chadas Angostu**	**2.99**	**230**	*e*P	**Pn**	**09 35 36.7**	**+2.1**
TACH	**Talagante**	**3.02**	**237**	*e*P	**Pn**	**09 35 33.9**	**-1.1**
PACH	**Papudo**	**3.04**	**259**	*e*P	**Pn**	**09 35 34.3**	**-0.8**
CHNG	**Los Chungos**	**3.06**	**272**	*e*P	Pn	09 35 15.3	-20
CHNG				*i* S	**Sn**	**09 35 53.7**	**-19**
TLL	**Tololo Astrono**	**3.10**	**306**	P	**Pn**	**09 35 39.0**	**+2.9**
TLL				*i* S	**Sn**	**09 36 15.5**	**+2.0**
TLL	**Tololo Astrono**	**3.10**	**306**	‖*i*P	**Pn**	**09 35 39.0**	**+2.9**
TLL				*i* S	**Sn**	**09 36 15.5**	**+2.0**
TLL				AML	AML	09 36 22.8	
	comp=E,759nm,0.4s						
OVCH	**Ovalle**	**3.16**	**296**	*e*P	**Pn**	**09 35 36.9**	**0.0**
OVCH				*i* S	**Sn**	**09 36 14.0**	**-0.8**
LSCH	**La Serena**	**3.56**	**305**	‖*e*P	**Pn**	**09 35 43.0**	**+0.6**
LSCH				*i* S	**Sn**	**09 36 28.1**	**+3.2**
LCO	**Las Campanas**	**3.86**	**321**	*e*Pn	**Pn**	**09 35 47.0**	**+0.5**
LCO				*e*Sn	**Sn**	**09 36 32.5**	**+0.5**
TRQA	**Tornquist**	**7.73**	**143**	*e*Pn	**Pn**	**09 36 40.7**	**+1.1**
	comp=E,9.9nm,0.6s						
PLCA	**Paso Flores**	**8.94**	**193**	Pn	**Pn**	**09 36 52.3**	**-4.0**
PLCA				Lg		09 39 26.2	
PLCA				LR	LR	09 40 59.9	
PLCA	**Paso Flores**	**8.94**	**193**	Pn	**Pn**	**09 36 52.3**	**-4.0**
	comp=E,0.0nm,0.3s,baz=216,slow=19,SNR=2.4						
PLCA				Lg		09 39 26.2	
	comp=E,0.3nm,0.3s,baz=24,slow=20,SNR=3.1						
PLCA				LR	LR	09 40 59.9	
	comp=E,100nm,19.0s,baz=350,slow=43						
LPAZ	**La Paz**	**15.67**	**359**	Pn	**Pn**	**09 38 28.1**	**+0.1**
	comp=E,0.1nm,0.3s,baz=14,slow=19,SNR=2.7						
SNAA	**Sanae**	**52.12**	**159**	P	**P**	**09 43 56.5**	**-0.6**
	comp=E,0.6nm,0.6s,mb3.7,baz=270,slow=11,SNR=15						
TXAR	**Lajitas Array**	**69.84**	**327**	P	**P**	**09 45 56.6**	**-1.4**
	comp=E,0.1nm,0.4s,mb3.1,baz=175,slow=12,SNR=4.1						
BOSA	**Boshof**	**77.86**	**116**	P	**P**	**09 46 44.6**	**-0.7**
	comp=E,1.9nm,0.8s,mb4.1,baz=238,slow=9.5,SNR=2.9						
TORD	**Torodi Ar. Bea**	**80.26**	**68**	P	**P**	**09 46 58.5**	**0.0**
	comp=E,1.2nm,0.7s,mb4.0,baz=281,slow=7.2,SNR=12						
RAR	**Rarotonga**	**80.56**	**251**	LR	LR	10 14 04.1	
	comp=E,75nm,21.8s,baz=248,slow=29						
PDAR	**Pinedale Array**	**83.67**	**330**	P	**P**	**09 47 14.4**	**-1.4**
	comp=E,0.1nm,0.5s,mb3.2,baz=20,slow=2.9,SNR=2.8						
ASAR	**Alice Springs**	**120.82**	**203**	PKP	PKPdf	09 53 37.2	-3.0
	comp=E,0.2nm,0.4s,baz=141,slow=1.5,SNR=4.9						
WRA	**Warramunga Arr**	**124.10**	**205**	PKP	PKPdf	09 53 43.6	-2.9
	comp=E,0.7nm,0.5s,baz=162,slow=1.6,SNR=22						
ZALV	**Zalesovo Beam**	**150.69**	**34**	PKPbc	PKPbc	09 54 37.5	-1.5
	comp=E,3.2nm,0.6s,baz=306,slow=2.9,SNR=17						
MKAR	**Makanchi Array**	**152.85**	**48**	PKPbc	PKPbc	09 54 43.0	-1.2
	comp=E,0.5nm,0.7s,baz=315,slow=2.6,SNR=6.0						

*ISCJB **11** 09:52:17.8±1.6,2896N×006×1423E±03,h38km±14km, mb3.8/8,Error ellipse: s-maj=37.9km s-min=7.8km az=168.2*

*IDC **11** 09:52:19.9±3.1,2893N×14229E,h39km±28km,mb3.6/8, mb1 3.7/10,mb1mx3.6/20,mbtmp3.6/10,ML3.5/2,MS2.9/3, Ms1 2.9/3,ms1mx2.8/33,Error ellipse: s-maj=37.3km s-min=15.4km az=78.0*

ISC 11 09:52:19.7±1.5,2891N±006×1423E±02,h38km±12km,n14, σ0§91/14,mb3.8/8,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**1.81**	**184**	Pn	**Pn**	**09 52 49.0**	**+0.7**
	8.1nm,0.3s,baz=336,slow=18,SNR=4.4						
CBIJ				Sn	**Sn**	**09 53 09.1**	**-1.0**
	24nm,0.3s,baz=254,slow=22,SNR=6.4						
JHJ	**Hachijo jima 2**	**4.72**	**333**	LR	LR	09 55 17.6	
	comp=Z,128nm,18.4s,baz=105,slow=38						
MJAR	**Matsushiro Arr**	**8.36**	**337**	Pn	**Pn**	**09 54 18.0**	**-0.2**
	1.2nm,0.3s,baz=156,slow=9.8,SNR=10						
MAT	**Matsushiro**	**8.36**	**337**	P	**Pn**	**09 54 18.8**	**+0.5**
MAT				*e*S	**Sn**	**09 55 50.5**	**-0.9**
JNU	**Nakatsue**	**10.67**	**296**	LR	LR	09 58 42.1	
	comp=Z,106nm,18.2s,baz=233,slow=36						
KSRS	**Korea Array**	**14.75**	**309**	Pn	**Pn**	**09 55 47.0**	**+1.4**
	0.1nm,0.3s,baz=122,slow=15,SNR=2.5						
KSRS				LR	LR	10 01 20.8	
	comp=Z,30nm,18.9s,baz=335,slow=37						
SONM	**Songino Array**	**33.51**	**314**	P	**P**	**09 58 53.6**	**-1.8**
	0.6nm,0.5s,mb3.8,baz=133,slow=10,SNR=3.7						
ZALV	**Zalesovo Beam**	**48.21**	**318**	P	**P**	**10 00 55.0**	**-1.2**
	0.3nm,0.3s,mb3.8,baz=111,slow=3.2,SNR=2.8						
WRA	**Warramunga Arr**	**49.17**	**190**	P	**P**	**10 01 04.5**	**+0.5**
	0.7nm,0.3s,mb4.1,baz=7.8,slow=7.8,SNR=34						
MKAR	**Makanchi Array**	**49.43**	**308**	P	**P**	**10 01 06.5**	**+0.7**
	0.6nm,0.5s,mb3.9,baz=86,slow=11,SNR=5.7						
ASAR	**Alice Springs**	**52.90**	**190**	P	**P**	**10 01 31.8**	**-0.1**
	0.2nm,0.5s,mb3.3,baz=12,slow=6.9,SNR=6.2						
AKTO	**Aktyubinsk**	**64.82**	**315**	P	**P**	**10 02 55.7**	**+1.2**
	1.0nm,0.5s,mb4.1,baz=84,slow=14,SNR=5.1						
YKA	**Yellowknife Ar**	**70.50**	**29**	P	**P**	**10 03 30.1**	**+0.1**
	0.5nm,0.6s,mb3.7,baz=296,slow=5.3,SNR=10						
NOA	**NORSAR Array B**	**81.97**	**338**	P	**P**	**10 04 35.2**	**0.0**
	0.7nm,0.6s,mb3.8,baz=190,slow=14,SNR=2.3						

*ATH **11** 09:53:19.7,3855N×2170E,h40km,MD3.0/3*

*NEIC **11** 09:53:20.8,3856N×2160E,h24km,MD3.0(ATH), ML2.8(THE),After ATH.*

*ISCJB **11** 09:53:21.7±0.8,3853N±004×2166E±006,h26km±9km, Error ellipse: s-maj=9.0km s-min=5.9km az=30.0*

*CSEM **11** 09:53:21.4±0.1,3853N×2166E,h30km,ML2.8,Error ellipse: s-maj=3.3km s-min=2.8km az=148.0*

*THE **11** 09:53:22.0,3856N×2163E,h2km,ML2.8*

ISC 11 09:53:21.8±0.7,3853N±004×2166E±006,h24km±10km,n9, σ0§77/15,Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SELA	**Sela**	**0.32**	**144**	*e*Pg	**Pb**	**09 53 28.5**	**-0.5**
SELA				*e*Sg	**Sb**	**09 53 34.1**	**+0.3**
EVR	**Evrytania**	**0.40**	**17**	*e*P	**Pb**	**09 53 29.3**	**-1.0**
EVR				*e*S	**Sb**	**09 53 36.3**	**+0.2**
EVR	**Evrytania**	**0.40**	**17**	*e*Pb	**Pb**	**09 53 29.3**	**-1.0**
EVR				*e*Sb	**Sb**	**09 53 35.4**	**-0.7**
RLS	**Riolos of Patr**	**0.50**	**198**	*e*P	**Pb**	**09 53 31.4**	**-0.5**
RLS				*e*S	**Sb**	**09 53 39.9**	**+1.1**
AGG	**Agios Georgios**	**0.72**	**47**	*e*Pg	**Pb**	**09 53 35.4**	**-0.2**
AGG				*e*Sg	**Sb**	**09 53 45.8**	**+0.7**
KFL	**Anninata**	**0.80**	**239**	*e*Pg	**Pb**	**09 53 36.4**	**-0.7**
LKD	**Levkas**	**0.81**	**283**	*e*Pg	**Pb**	**09 53 36.8**	**-0.4**
LKD				*e*Sg	**Sb**	**09 53 48.4**	**+0.8**
VLS	**Valsamata**	**0.91**	**247**	*e*P	**Pn**	**09 53 38.2**	**-0.9**
MEV	**Metsovon**	**1.29**	**345**	*e*Pg	**Pn**	**09 53 45.7**	**+1.4**

*SZGRF **11** 09:57:49.8,3749N×3268E,h33km,mb4.0,Turkey*

*IDC **11** 09:57:58.2±0.9,3794N×3094E,h0km,mb3.8/5, mb1 3.9/11,mb1mx3.8/25,mbtmp3.7/11,ML3.8/5,Error ellipse: s-maj=21.6km s-min=15.2km az=61.0*

*NEIC **11** 09:57:58.7,3805N×3092E,h4km,mb4.0/11,ML4.2(ISK), After ISK.*

*CSEM **11** 09:57:59.0±0.0,3807N×3091E,h5km,mb4.0/11,Error ellipse: s-maj=0.9km s-min=0.7km az=19.0*

*ISK **11** 09:57:59.2,3805N×3092E,h6km,ML4.2*

*ISCJB **11** 09:57:60.0±0.6,3799N±002×3095E±002,h13km±4km, mb3.8/8,Error ellipse: s-maj=3.2km s-min=2.5km az=138.8*

*DDA **11** 09:58:01.4,3805N×3095E,h10km±1km,Md4.0,Ml4.1*

*GII **11** 09:58:03.4±0.0,3796N×3097E,h15km±1km,mb4.4/3, ML4.3/3*

*HLW **11** 09:58:06.4,3784N×3158E,h29km,Mb3.8*

ISC 11 09:58:00.6±0.6,3801N±002×3095E±002,h5km±4km,n185, σ1§11/200,mb3.8/8,7C-14D,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ISP	**Isparta**	**0.39**	**245**	PG	**Pg**	**09 58 07.1**	**-1.0**
ISP				*e*SG	**Sg**	**09 58 13.4**	**+0.3**
ISP	**Isparta**	**0.39**	**245**	Pg	**Pg**	**09 58 07.0**	**-1.1**
ISP				Sg	**Sg**	**09 58 14.0**	**+0.9**
BCK	**Bucak**	**0.62**	**208**	*e*PG	**Pg**	**09 58 11.2**	**-1.2**
BCK	**Bucak**	**0.62**	**208**	Pg	**Pg**	**09 58 11.3**	**-1.1**
BCK	**Bucak**	**0.62**	**208**	Pg	**Pg**	**09 58 11.4**	**-1.1**
SHUT	**Suhut-Afyon**	**0.63**	**330**	*e*PG	**Pg**	**09 58 11.5**	**-1.2**
KDHN	**Kadinhani**	**1.05**	**60**	*i* P	**Pg**	**09 58 19.5**	**-1.2**
KDHN				*i* S	**Sg**	**09 58 35.8**	**+1.4**
KONT	**Konya--Tatoy**	**1.11**	**93**	*e*PN	**Pn**	**09 58 21.0**	**-1.9**
KONT	**Konya--Tatoy**	**1.11**	**93**	Pn	**Pn**	**09 58 21.0**	**-1.9**
ANTB	**Antalya**	**1.13**	**192**	*e*PN	**Pn**	**09 58 21.8**	**-1.3**
KIZT	**Kizilcal**	**1.14**	**40**	*e*PN	**Pn**	**09 58 20.5**	**-2.7**
KHL	**Karahalli**	**1.17**	**286**	*e*PN	**Pn**	**09 58 21.1**	**-2.6**
KHL	**Karahalli**	**1.17**	**286**	Pn	**Pn**	**09 58 21.1**	**-2.6**
ALT	**Altintas**	**1.24**	**328**	*e*PN	**Pn**	**09 58 22.4**	**-2.2**
GOLH	**Golhisar**	**1.35**	**236**	*i* P	**Pn**	**09 58 25.3**	**-0.8**
GOLH				*i* S	**Sg**	**09 58 46.9**	**+3.1**
ELL	**Elmali**	**1.51**	**214**	*e*PN	**Pn**	**09 58 27.6**	**-0.7**
ELL	**Elmali**	**1.51**	**214**	Pn	**Pn**	**09 58 28.6**	**+0.3**
ESKT	**Eskisehir**	**1.51**	**357**	*i* P	**Pn**	**09 58 27.3**	**-1.0**
ESKT				*i* S	**Sn**	**09 58 54.8**	**+6.3**
ESKT	**Eskisehir**	**1.51**	**357**	*e*Pn	**Pn**	**09 58 27.4**	**-1.0**
SEYT	**Eskypehyr**	**1.51**	**357**	*i* P	**Pn**	**09 58 27.3**	**-1.1**
DENT	**Denizli**	**1.54**	**261**	*e*PN	**Pn**	**09 58 27.6**	**-1.2**
DENT	**Denizli**	**1.54**	**261**	Pn	**Pn**	**09 58 27.2**	**-1.5**
GDZ	**Gediz**	**1.58**	**314**	*i* P	**Pn**	**09 58 28.4**	**-0.9**
GDZ				*i* S	**Sn**	**09 58 52.3**	**+2.2**
KULA	**Kula-Manisa**	**1.87**	**286**	*e*PN	**Pn**	**09 58 31.6**	**-1.7**
FETY	**Fethiye**	**2.02**	**228**	*e*PN	**Pn**	**09 58 35.5**	**+0.1**
FETY	**Fethiye**	**2.02**	**228**	Pn	**Pn**	**09 58 31.6**	**-3.8**
AKAS	**Kas**	**2.07**	**212**	*i* P	**Pn**	**09 58 36.9**	**+0.9**
AKAS				*i* S	**Sn**	**09 59 07.3**	**+5.1**
ERMK	**Ermenek**	**2.08**	**131**	*i* P	**Pn**	**09 58 36.9**	**+0.8**
ERMK				*i* S	**Sn**	**09 59 05.8**	**+3.5**
KSL	**Kastellorizon**	**2.15**	**211**	*e*P	**Pn**	**09 58 39.0**	**+1.8**
YER	**Yerkesik**	**2.29**	**248**	*e*PN	**Pn**	**09 58 38.5**	**-0.5**
YER	**Yerkesik**	**2.29**	**248**	Pn	**Pn**	**09 58 38.5**	**-0.6**
GPA	**Golpazari**	**2.33**	**348**	*e*PN	**Pn**	**09 58 38.7**	**-0.9**
GPA	**Golpazari**	**2.33**	**348**	Pn	**Pn**	**09 58 38.5**	**-1.2**
GPA	**Golpazari**	**2.33**	**348**	Pn	**Pn**	**09 58 38.5**	**-1.1**
ANTO	**Ankara**	**2.35**	**37**	‖*i*P	Pn	**09 58 39.9**	**0.0**
LOD	**Lodumlu**	**2.35**	**36**	*e*PN	**Pn**	**09 58 38.9**	**-1.0**
DST	**Dursunbey**	**2.42**	**312**	*e*PN	**Pn**	**09 58 39.6**	**-1.1**
DST	**Dursunbey**	**2.42**	**312**	Pn	**Pn**	**09 58 39.5**	**-1.3**
DST	**Dursunbey**	**2.42**	**312**	Pn	**Pn**	**09 58 39.5**	**-1.3**
KAMT	**Kaman**	**2.55**	**57**	*e*PN	**Pn**	**09 58 42.2**	**-0.5**
KAMT	**Kaman**	**2.55**	**57**	Pn	**Pn**	**09 58 41.4**	**-1.3**
IZI	**Iznik**	**2.59**	**334**	*e*PN	**Pn**	**09 58 41.9**	**-1.3**
ADVT	**Abdulvahap**	**2.60**	**339**	*e*PN	**Pn**	**09 58 42.2**	**-1.0**
ADVT	**Abdulvahap**	**2.60**	**339**	Pn	**Pn**	**09 58 42.2**	**-1.1**
AKS	**Akhisar**	**2.61**	**290**	*e*PN	**Pn**	**09 58 42.4**	**-1.1**
MLSB	**Milas**	**2.62**	**255**	*e*PN	**Pn**	**09 58 42.9**	**-0.7**
GEMT	**Gemlik**	**2.78**	**331**	*e*PN	**Pn**	**09 58 44.8**	**-1.1**
IKL	**Isikli**	**2.81**	**128**	*e*PN	**Pn**	**09 58 46.7**	**+0.5**
YLV	**Yalova**	**2.83**	**335**	*e*PN	**Pn**	**09 58 45.7**	**-0.8**
ARG	**Arkhangelos**	**2.88**	**232**	*e*P	**Pn**	**09 58 48.0**	**+0.8**
NIG	**Nigde

MZDA Masada 7.61 150 Pn **Pn 09 59 52.8 +0.7**
MZDA Sn **Sn 10 01 18.2 -0.5**
KZIT Kziot 7.63 157 Pn **Pn 09 59 52.9 +0.4**
KZIT Sn **Sn 10 01 18.9 -0.6**
KOT Kottamia 8.09 175 ⇓P **Pn 09 59 58.3 -0.6**
MLR Muntele Rosu 8.36 335 ⇑P **Pn 10 00 02.7 +0.4**
MLR Muntele Rosu 8.36 335 Pn **Pn 10 00 02.7 +0.3**
0.8nm,0.3s,baz=145,slow=9.0,SNR=9.4
MLR Muntele Rosu 8.36 335 ⇑*i*P **Pn 10 00 02.7 +0.3**
HNAT Natroun 8.36 182 *e*P **Pn 10 00 02.1 -0.4**
VRI Vrincioaia 8.46 340 ⇓P **Pn 10 00 04.2 +0.4**
VRI Vrincioaia 8.46 340 ⇓*i*P **Pn 10 00 04.2 +0.5**
KRMI Paran Flat 8.47 157 Pn **Pn 10 00 04.5 +0.5**
KRMI Sn **Sn 10 01 39.3 -0.6**
VOIR 8.63 331 ⇑P **Pn 10 00 06.8 +0.6**
VOIR 8.63 331 ⇑*i*P **Pn 10 00 06.8 +0.7**
EIL Elat 8.96 157 Pn **Pn 10 00 08.7 -2.0**
0.3nm,0.3s,baz=353,slow=8.4,SNR=4.9
EIL Elat 8.96 157 Pn **Pn 10 00 11.0 +0.3**
EIL Sn **Sn 10 01 52.2 +0.3**
GZR Gura Zlata 9.58 323 ⇓P **Pn 10 00 19.9 +0.8**
GZR Gura Zlata 9.58 323 ⇓*i*P **Pn 10 00 19.9 +0.8**
TIP Timpagrande 11.17 280 *e*Pn **Pn 10 00 40.8 -0.1**
12nm,1.1s
TIP Timpagrande 11.17 280 *e*Pn **Pn 10 00 40.8 -0.2**
12nm,1.1s
PKSM Moragy 12.27 316 ⇑P **Pn 10 00 57.0 +1.1**
PKSM Moragy 12.27 316 ⇑*i*P **Pn 10 00 57.0 +1.1**
AKASG Malin Array Be 12.75 355 Pn **Pn 10 01 02.0 -0.4**
0.7nm,0.3s,baz=52,slow=12,SNR=3.0
GERES GERESS Array B 16.52 316 Pn **Pn 10 01 54.2 +1.2**
baz=126,slow=9.0,SNR=6.0
WET Wettzell 17.14 316 *e*P **Pn 10 02 02.7 +1.9**
comp=Z,6.0nm,1.0s
ROTZ Rotzenmuhle 17.85 317 *e*P **Pn 10 02 11.4 +1.8**
comp=Z,6.0nm,1.1s
MOX Moxa 18.66 319 *e*P **Pn 10 02 20.7 +1.2**
comp=Z,19nm,1.4s
LMR La Mourre 19.26 294 *e*P **Pn 10 02 28.1 +1.3**
comp=Z,12nm,0.8s
LMR La Mourre 19.26 294 *e*P **Pn 10 02 28.1 +1.3**
comp=Z,5.9nm,0.8s
MBDF Montbardon 19.31 298 *e*P **Pn 10 02 29.4 +2.0**
comp=Z,19nm,0.9s
MBDF Montbardon 19.31 298 *e*P **Pn 10 02 29.4 +2.0**
comp=Z,9.4nm,0.9s
BFO Black Forest 19.39 309 *e*P **Pn 10 02 28.7 +0.3**
comp=Z,12nm,1.4s
BNI Bardonecchia 19.44 299 *e*P **Pn 10 02 29.0 0.0**
comp=Z,8.7nm,1.3s
BNI Bardonecchia 19.44 299 *e*P **Pn 10 02 29.0 0.0**
comp=Z,8.7nm,1.3s
LPG La Plagne 19.50 300 *e*P **Pn 10 02 31.4 +1.7**
comp=Z,49nm,1.1s
LPG La Plagne 19.50 300 *e*P **Pn 10 02 31.4 +1.7**
comp=Z,25nm,1.1s
LPL La Plagne 19.52 300 *e*P **Pn 10 02 31.9 +2.0**
comp=Z,18nm,0.9s
LPL La Plagne 19.52 300 *e*P **Pn 10 02 31.9 +2.0**
comp=Z,9.0nm,0.9s
ORIF Oris-en-Rattie 19.97 298 *e*P **Pn 10 02 36.3 +1.0**
comp=Z,11nm,0.7s
ORIF Oris-en-Rattie 19.97 298 *e*P **Pn 10 02 36.3 +1.0**
comp=Z,5.7nm,0.7s
CLZ Clausthal 20.00 320 *e*P **Pn 10 02 33.7 -1.8**
comp=Z,20nm,1.2s
CABF La Chapelle 20.23 303 *e*P **P 10 02 38.6 +2.1**
comp=Z,7.0nm,0.7s
CABF La Chapelle 20.23 303 *e*P **P 10 02 38.6 +2.1**
comp=Z,3.5nm,0.7s
NRDL Niedersach Rie 20.51 322 *e*P **P 10 02 39.1 -0.4**
comp=Z,41nm,2.1s
LASF Ste Croix 21.26 295 *e*P **P 10 02 49.3 +1.6**
comp=Z,9.6nm,0.8s,mb3.9
MTLF Montolieu 22.38 293 *e*P **P 10 03 00.0 +0.4**
comp=Z,12nm,0.9s,mb4.0
MTLF Montolieu 22.38 293 *e*P **P 10 03 00.0 +0.4**
comp=Z,6.2nm,0.9s,mb4.0
SJPF Ste Jean 24.88 292 *e*P **P 10 03 24.7 +0.5**
TORD Torodi Ar. Bea 35.91 234 P **P 10 04 59.9 -2.1**
comp=Z,1.8nm,0.9s,mb4.0,baz=31,slow=8.9,SNR=10
MKAR Makanchi Array 38.32 60 P **P 10 05 20.5 -1.6**
comp=Z,0.3nm,0.5s,mb3.3,baz=280,slow=6.8,SNR=4.7
ZALV Zalesovo Beam 39.65 48 P **P 10 05 32.6 -0.6**
comp=Z,0.4nm,0.4s,mb3.5,baz=253,slow=7.4,SNR=2.6
SONM Songino Array 54.06 54 P **P 10 07 24.9 -1.1**
comp=Z,0.3nm,0.6s,mb3.4,baz=92,slow=8.7,SNR=3.0
PSI Prapat 70.99 102 P **P 10 09 16.7 -2.9**
comp=Z,2.1nm,0.5s,mb4.3,baz=286,slow=6.7,SNR=3.6
YKA Yellowknife Ar 76.08 344 P **P 10 09 46.8 -2.0**
comp=Z,0.9nm,0.9s,mb3.7,baz=30,slow=5.7,SNR=12

IDC 11 10:02:20.9±8.8, 692S×12966E, h127km±85km, mb3.5/2, mb1 3.6/6, mb1mx3.4/15, mbtmp3.5/6, Error ellipse: s-maj=90.8km s-min=22.5km az=49.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Kupang**	**6.77**	**241**	P	Pn	10 03 59.2	+1.3
	8.6nm,0.3s,baz=117,slow=3.3,SNR=7.8						
FITZ	**Fitzroy Crossi**	**11.79**	**199**	P	Pn	10 05 03.5	-1.6
	0.3nm,0.3s,baz=289,slow=17,SNR=11						
FITZ				S	Sn	10 07 06.0	-9.0
	1.1nm,0.3s,baz=282,slow=23,SNR=11						
WRA	**Warramunga Arr**	**13.72**	**161**	P	Pn	10 05 28.7	-1.6
	0.5nm,0.3s,baz=343,slow=13,SNR=24						
WRA				S	Sn	10 07 53.8	-8.0
	1.1nm,0.3s,baz=338,slow=22,SNR=9.5						
ASAR	**Alice Springs**	**17.14**	**167**	P	Pn	10 06 13.8	+1.0
	0.7nm,0.3s,baz=346,slow=11,SNR=63						
ASAR				S	S	10 09 17.7	-6.1
	0.3nm,0.3s,baz=341,slow=24,SNR=7.4						
STKA	**Stephens Creek**	**27.22**	**157**	P	P	10 07 53.0	+0.1
	1.0nm,0.7s,baz=9.5,slow=6.1,SNR=3.5						
URZ	**Urewera**	**52.96**	**133**	P	P	10 11 24.6	+0.1
	9.8nm,0.3s,baz=266,slow=5.9,SNR=32						
MKAR	**Makanchi Array**	**67.97**	**327**	P	P	10 13 06.0	-0.2
	0.4nm,0.3s,baz=130,slow=8.0,SNR=3.7						

*ISCJB **11** 10:05:11.8±5.1, 466N±0.1×1535E±04, h48km±42km, mb3.7/8, Error ellipse: s-maj=44.0km s-min=24.6km az=3.1*
*MOS **11** 10:05:14.7±0.8, 4657N×15325E, h75km, mb4.2/4, Error ellipse: s-maj=33.3km s-min=22.7km az=59.0*
*IDC **11** 10:05:15.5±6.2, 4657N×15348E, h65km±53km, mb3.5/8, mb1 3.7/9, mb1mx3.4/22, mbtmp3.5/9, ML3.6/1, Error ellipse: s-maj=40.0km s-min=20.6km az=92.0*
ISC 11 10:05:14.2±3.8, 466N±01×**1536E**±04, **h53**km±32km, **n15,** σ0**52/15, mb3.7/8, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAJ	**Asahikawa**	**8.10**	**256**	PN	**Pn**	**10 07 09.3**	**+0.2**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ	**Asahikawa**	**8.10**	**256**	P	**Pn**	**10 07 09.2**	**+0.1**
	comp=Z,0.9nm,0.3s,baz=107,slow=15,SNR=7.9						
ERM	**Erimo**	**8.74**	**242**	*i* PN	**Pn**	**10 07 17.4**	**-0.4**
KSRS	**Korea Array**	**21.04**	**254**	P	**P**	**10 09 54.4**	**+0.9**
	comp=Z,0.9nm,0.5s,mb3.3,baz=58,slow=9.8,SNR=5.4						
FINES	**FINESS Array B**	**64.33**	**335**	P	**P**	**10 15 43.4**	**-0.3**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
FINES	**FINESS Array B**	**64.33**	**335**	P	**P**	**10 15 43.4**	**-0.3**
	comp=Z,1.3nm,0.5s,mb4.2,baz=49,slow=9.4,SNR=5.3						
WRA	**Warramunga Arr**	**68.45**	**199**	P	**P**	**10 16 09.6**	**-0.9**
	comp=Z,0.2nm,0.7s,mb3.3,baz=18,slow=6.7,SNR=3.1						
NOA	**NORSAR Array B**	**68.49**	**341**	P	**P**	**10 16 10.4**	**+0.1**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
NOA	**NORSAR Array B**	**68.49**	**341**	P	**P**	**10 16 10.4**	**+0.1**
	comp=Z,1.3nm,0.7s,mb4.1,baz=26,slow=6.0,SNR=3.8						
HFS	**Hagfors**	**68.73**	**340**	P	**P**	**10 16 11.5**	**-0.3**
HFS				pmax	pmax		
	comp=Z,2.0nm,0.8s						
HFS	**Hagfors**	**68.73**	**340**	P	**P**	**10 16 11.5**	**-0.4**
	comp=Z,1.9nm,0.8s,mb4.1,baz=30,slow=6.7,SNR=5.7						
AKASG	**Malin Array Be**	**71.86**	**326**	P	**P**	**10 16 31.0**	**-0.1**
	comp=Z,0.4nm,0.3s,mb3.8,baz=36,slow=6.1,SNR=4.6						
ASAR	**Alice Springs**	**72.14**	**199**	P	**P**	**10 16 33.4**	**+0.4**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ASAR	**Alice Springs**	**72.14**	**199**	P	**P**	**10 16 33.4**	**+0.4**
	comp=Z,0.5nm,0.6s,mb3.6,baz=11,slow=5.3,SNR=9.3						

TXAR Lajitas Array 77.31 61 P **P 10 17 03.8 +0.6**
comp=Z,0.3nm,0.5s,mb3.5,baz=301,slow=4.4,SNR=6.1

*HLW **11** 10:06:38.4, 3824N×3111E, h33km, Mb4.0*
*ISK **11** 10:06:38.6, 3804N×3093E, h5km, ML4.3*
*ISCJB **11** 10:06:40.5±0.5, 3794N±001×3095E±002, h21km±4km, mb3.9/18, Error ellipse: s-maj=2.7km s-min=2.0km az=136.1*
*NEIC **11** 10:06:40.0±1.8, 3791N×3099E, h4km±12km, mb4.1/20, ML4.3(ISK), Error ellipse: s-maj=7.9km s-min=5.9km az=207.0*
*DDA **11** 10:06:40.3, 3802N×3096E, h8km, Md4.3, Ml4.2*
*THE **11** 10:06:41.4, 3783N×3083E, h1km*
*NIC **11** 10:06:41.9±0.1, 3758N×3026E, h66km, mb4.4, ML4.1, MW3.9*
*IDC **11** 10:06:43.1±2.5, 3794N×3092E, h35km±22km, mb3.6/9, mb1 3.9/16, mb1mx3.8/26, mbtmp3.7/16, ML3.9/7, MS3.4/4, Ms1 3.4/4, ms1mx3.1/41, Error ellipse: s-maj=18.5km s-min=13.2km az=59.0*
*GII **11** 10:06:44.0±0.0, 3750N×3073E, h0km, mb4.1/1, ML4.0/1*
*SZGRF **11** 10:06:53.9, 3877N×3089E, h33km, mb4.1, Turkey*
ISC 11 10:06:41.0±0.5, 3797N±001×**3096E**±002, **h10**km±3km, **n221,** σ1**9/18**/253, **mb3.9**/18, **19C-17D, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ISP	**Isparta**	**0.38**	**250**	PG	**Pg**	**10 06 47.3**	**-1.1**
ISP				*e*SG	**Sg**	**10 06 54.2**	**+0.8**
ISP	**Isparta**	**0.38**	**250**	*e*Pg	**Pg**	**10 06 46.5**	**-1.9**
ISP				*e*Sg	**Sg**	**10 06 51.1**	**-2.2**
BCK	**Bucak**	**0.59**	**210**	*e*PG	**Pg**	**10 06 51.5**	**-0.8**
SHUT	**Suhut-Afyon**	**0.66**	**331**	*e*PG	**Pg**	**10 06 51.5**	**-2.2**
KDHN	**Kadinhani**	**1.07**	**59**	⇑*i*P	**Pg**	**10 06 59.5**	**-2.0**
KDHN				*i* S	**Sg**	**10 07 15.9**	**+0.6**
ANTB	**Antalya**	**1.10**	**193**	*e*PN	**Pn**	**10 07 02.2**	**-0.2**
KONT	**Konya--Tatoy**	**1.11**	**91**	*e*PN	**Pn**	**10 07 00.9**	**-1.7**
KIZT	**Kizilcal**	**1.16**	**38**	*e*PN	**Pn**	**10 07 01.3**	**-2.0**
KHL	**Karahalli**	**1.18**	**288**	*e*PN	**Pn**	**10 07 01.6**	**-2.0**
ALT	**Altintas**	**1.27**	**329**	*e*PN	**Pn**	**10 07 03.1**	**-1.6**
GOLH	**Golhisar**	**1.33**	**237**	⇓*i*P	**Pn**	**10 07 04.4**	**-1.2**
GOLH				*i* S	**Sb**	**10 07 25.3**	**+2.2**
ELL	**Elmali**	**1.48**	**215**	*e*PN	**Pn**	**10 07 08.1**	**+0.4**
DENT	**Denizli**	**1.54**	**262**	*e*PN	**Pn**	**10 07 07.8**	**-0.7**
ESKT	**Eskisehir**	**1.55**	**357**	*e*PN	**Pn**	**10 07 07.9**	**-0.7**
ESKT	**Eskisehir**	**1.55**	**357**	⇓*i*P	**Pn**	**10 07 07.6**	**-1.0**
ESKT				*i* S	**Sn**	**10 07 26.9**	**-1.9**
GDZ	**Gediz**	**1.61**	**314**	⇓*i*P	**Pn**	**10 07 08.7**	**-0.8**
GDZ				*i* S	**Sn**	**10 07 30.3**	**+0.1**
KULA	**Kula-Manisa**	**1.89**	**287**	*e*PN	**Pn**	**10 07 12.7**	**-0.5**
BORA	**Eskisehir**	**1.94**	**349**	⇓*i*P	**Pn**	**10 07 13.1**	**-1.0**
BORA				*i* S	**Sn**	**10 07 42.6**	**+4.0**
FETY	**Fethiye**	**2.00**	**229**	*e*PN	**Pn**	**10 07 16.0**	**+1.2**
AKAS	**Kas**	**2.04**	**212**	⇓*i*P	**Pn**	**10 07 16.2**	**+0.8**
AKAS				*i* S	**Sg**	**10 07 54.2**	**+7.5**
ERMK	**Ermenek**	**2.05**	**130**	*i* P	**Pn**	**10 07 16.2**	**+0.7**
ERMK				*i* S	**Sn**	**10 07 44.7**	**+3.6**
KSL	**Kastellorizon**	**2.12**	**212**	*e*P	**Pn**	**10 07 18.5**	**+2.0**
GEDT	**Gedikpinar**	**2.22**	**335**	*e*PN	**Pn**	**10 07 16.9**	**-0.9**
YER	**Yerkesik**	**2.28**	**249**	*e*PN	**Pn**	**10 07 19.6**	**+0.9**
GPA	**Golpazari**	**2.37**	**348**	*e*PN	**Pn**	**10 07 18.7**	**-1.1**
ANTO	**Ankara**	**2.38**	**37**	*e*Pn	**Pn**	**10 07 19.3**	**-0.6**
LOD	**Lodumlu**	**2.38**	**36**	*e*PN	**Pn**	**10 07 19.7**	**-0.4**
DST	**Dursunbey**	**2.44**	**313**	*e*PN	**Pn**	**10 07 20.3**	**-0.6**
KAMT	**Kaman**	**2.57**	**56**	*e*PN	**Pn**	**10 07 22.1**	**-0.5**
MLSB	**Milas**	**2.61**	**256**	*e*PN	**Pn**	**10 07 23.3**	**+0.1**
IZI	**Iznik**	**2.63**	**334**	*e*PN	**Pn**	**10 07 22.6**	**-0.9**
AKS	**Akhisar**	**2.63**	**291**	*e*PN	**Pn**	**10 07 23.1**	**-0.4**
ADVT	**Abdulvahap**	**2.63**	**339**	*e*PN	**Pn**	**10 07 23.1**	**-0.4**
IKL	**Isikli**	**2.79**	**128**	*e*PN	**Pn**	**10 07 27.6**	**+2.0**
GEMT	**Gemlik**	**2.82**	**331**	*e*PN	**Pn**	**10 07 25.5**	**-0.5**
HENT	**Hendek**	**2.85**	**359**	⇓*i*P	**Pn**	**10 07 26.5**	**0.0**
HENT				*i* S	**Sn**	**10 07 59.3**	**-1.5**
ARG	**Arkhangelos**	**2.86**	**233**	*e*P	**Pn**	**10 07 28.0**	**+1.3**
YLV	**Yalova**	**2.87**	**335**	*e*PN	**Pn**	**10 07 26.2**	**-0.5**
NIG	**Nigde**	**2.89**	**86**	*e*PN	**Pn**	**10 07 27.9**	**+0.8**
BTOK	**Tokmak**	**2.90**	**309**	⇑*i*P	**Pn**	**10 07 27.1**	**-0.1**
BTOK				*i* S	**Sg**	**10 08 16.4**	**+2.4**
BDRM	**Kayabasi**	**2.94**	**253**	⇓*i*P	**Pn**	**10 07 27.8**	**+0.2**
BDRM				*i* S	**Sg**	**10 08 13.7**	**-1.6**
KDAG	**Bornova**	**2.94**	**280**	*i* P	**Pn**	**10 07 25.3**	**-2.4**
KDAG				*i* S	**Sn**	**10 08 09.4**	**+6.4**
HRT	**Hereke**	**3.02**	**341**	*e*PN	**Pn**	**10 07 27.5**	**-1.3**
HRT	**Hereke**	**3.02**	**341**	*e*PN	**Pn**	**10 07 28.0**	**-0.8**
BODT	**Bodrum**	**3.04**	**254**	*e*PN	**Pn**	**10 07 29.5**	**+0.5**
MERS	**Mersin**	**3.05**	**110**	*e*PN	**Pn**	**10 07 31.3**	**+2.1**
ALFC	**Alevga**	**3.11**	**154**	P	**Pn**	**10 07 28.5**	**-1.5**
19nm,0.5s							
ALFC				S	**Sn**	**10 08 05.3**	**-1.9**
BLCB	**Balcova**	**3.11**	**279**	*e*PN	**Pn**	**10 07 29.6**	**-0.5**
BLCB	**Balcova**	**3.11**	**279**	*e*Pn	**Pn**	**10 07 29.3**	**-0.8**
CDAG	**Cicekdag**	**3.14**	**57**	⇑*i*P	**Pn**	**10 07 28.7**	**-1.8**
CDAG				*i* S	**Sn**	**10 08 05.3**	**-2.7**
AKMC	**Akamas**	**3.14**	**159**	P	**Pn**	**10 07 28.5**	**-2.0**
ELDT	**Eldivan**	**3.16**	**37**	⇓*i*P	**Pn**	**10 07 30.1**	**-0.8**
ELDT				*i* S	**Sn**	**10 08 10.0**	**+1.4**
AVNT	**Avonos**	**3.17**	**74**	⇓*i*P	**Pn**	**10 07 30.4**	**-0.5**
AVNT				*i* S	**Sn**	**10 08 14.6**	**+5.9**
BADT	**Buyukada**	**3.21**	**334**	*e*PN	**Pn**	**10 07 30.4**	**-1.0**
LEF	**Lefka**	**3.25**	**151**	*e*PN	**Pn**	**10 07 32.6**	**+0.7**
SMG	**Samos**	**3.27**	**267**	*e*P	**Pn**	**10 07 32.0**	**-0.3**
PPCY	**Paphos**	**3.28**	**160**	P	**Pn**	**10 07 30.8**	**-1.6**
KARA	**Karaisali**	**3.33**	**101**	*e*PN	**Pn**	**10 07 34.4**	**+1.2**
MAMC	**Mammari**	**3.34**	**146**	P	**Pn**	**10 07 33.1**	**-0.1**
CANT	**Cankiri**	**3.34**	**37**	*e*PN	**Pn**	**10 07 33.3**	**0.0**
BNT	**Bandirma**	**3.35**	**316**	*e*PN	**Pn**	**10 07 33.4**	**0.0**
KDZE	**Karadeniz Ereo**	**3.36**	**6**	*e*PN	**Pn**	**10 07 33.7**	**+0.2**
LFK	**Lefkose**	**3.39**	**142**	*e*PN	**Pn**	**10 07 36.2**	**+2.2**
URLA	**Izmir**	**3.46**	**278**	⇑*i*P	**Pn**	**10 07 34.1**	**-0.8**
URLA				*i* S	**Sg**	**10 08 34.4**	**+2.4**
SAFT	**Safranbolu**	**3.53**	**22**	*e*PN	**Pn**	**10 07 35.5**	**-0.3**
EREN	**Erenkoy**	**3.55**	**132**	*e*PN	**Pn**	**10 07 38.0**	**+1.9**
CSS	**Prodhromos**	**3.56**	**147**	P	**Pn**	**10 07 36.3**	**0.0**
6.5nm,0.6s							
CSS				S	**Sn**	**10 08 18.6**	**+0.1**
CSS	**Prodhromos**	**3.56**	**147**	*e*PN	**Pn**	**10 07 37.4**	**+1.1**
CSS	**Prodhromos**	**3.56**	**147**	*e*Pn	**Pn**	**10 07 35.0**	**-1.3**
SZAC	**Souni-Zanaja**	**3.57**	**154**	P	**Pn**	**10 07 39.3**	**+2.9**
CORM	**Corum**	**3.61**	**51**	*e*PN	**Pn**	**10 07 37.0**	**+0.1**
CTT	**Catalca**	**3.72**	**329**	*e*PN	**Pn**	**10 07 38.1**	**-0.4**
YOZ	**Yozgat**	**3.79**	**63**	*e*PN	**Pn**	**10 07 39.5**	**0.0**
TOS	**Tosya**	**3.87**	**37**	*e*PN	**Pn**	**10 07 40.2**	**-0.3**
PRK	**Paraskevi**	**3.88**	**291**	*e*P	**Pn**	**10 07 41.0**	**+0.3**
CHOS	**Chios island**	**3.88**	**278**	*e*Pn	**Pn**	**10 07 39.5**	**-1.2**
KARP	**Karpathos**	**3.89**	**233**	*e*P	**Pn**	**10 07 41.0**	**+0.2**
KOZT	**Kozan**	**3.89**	**96**	*e*PN	**Pn**	**10 07 42.3**	**+1.5**
CEYT	**Ceyhan**	**3.93**	**103**	*e*PN	**Pn**	**10 07 42.8**	**+1.5**
BNN	**Bunyan**	**3.94**	**76**	*e*PN	**Pn**	**10 07 42.6**	**+1.1**
CTKT	**Corum**	**3.98**	**47**	⇑*i*P	**Pn**	**10 07 41.9**	**-0.2**
CTKT				*i* S	**Sn**	**10 08 23.6**	**-5.2**
RKY	**Sarkoy-Tekirda**	**3.99**	**314**	*e*PN	**Pn**	**10 07 42.0**	**-0.2**
EZN	**Ezine**	**4.06**	**299**	*e*PN	**Pn**	**10 07 43.4**	**+0.3**
BOZC	**Bozcaada**	**4.26**	**298**	⇓*i*P	**Pn**	**10 07 45.8**	**0.0**
BOZC				*i* S	**Sn**	**10 08 31.7**	**-3.8**
ANDN	**Andirin**	**4.29**	**94**	*i* P	**Pn**	**10 07 45.6**	**-0.7**
ANDN				*i* S	**Sg**	**10 08 58.1**	**-0.6**
APE	**Apeiranthos**	**4.41**	**260**	*e*Pn	**Pn**	**10 07 46.8**	**-1.1**
APE	**Apeiranthos**	**4.41**	**260**	⇑*i*P	**Pn**	**10 07 48.4**	**+0.5**
COBT	**Iskenderun**	**4.47**	**107**	⇓*i*P	**Pn**	**10 07 50.5**	**+1.7**
COBT				*i* S	**Sb**	**10 08 52.6**	**-0.9**
GADA	**Gvkgeada**	**4.52**	**301**	*e*PN	**Pn**	**10 07 50.0**	**+0.6**
BOYT	**Boyabat**	**4.60**	**40**	*i* P	**Pn**	**10 07 49.5**	**-1.0**
BOYT				*i* S	**Sn**	**10 08 39.1**	**-4.8**
BZK	**Bozkurt**	**4.62**	**29**	*e*PN	**Pn**	**10 07 51.7**	**+0.9**
ENEZ	**Enez**	**4.63**	**308**	*e*PN	**Pn**	**10 07 51.5**	**+0.5**
KMRS	**Kahramanmaras**	**4.74**	**94**	*e*PN	**Pn**	**10 07 54.5**	**+2.0**
ZKR	**Zakros**	**4.76**	**235**	*e*Pn	**Pn**	**10 07 51.4**	**-1.5**
ALN	**Alexandroupoli**	**4.79**	**309**	*e*Pn	**Pn**	**10 07 53.0**	**-0.3**
DIKM	**Dikmen**	**4.95**	**41**	*e*PN	**Pn**	**10 07 57.0**	**+1.7**
KVT	**Kavak**	**5.01**	**50**	*e*PN	**Pn**	**10 07 57.9**	**+1.7**
GAZ	**Gaziantep**	**5.03**	**97**	*e*PN	**Pn**	**10 07 59.1**	**+2.5**
SVSK	**Karacayir**	**5.09**	**66**	*e*PN	**Pn**	**10 07 59.2**	**+1.8**
RDO	**Rodhopi**	**5.25**	**309**	*e*P	**Pn**	**10 07 59.5**	**0.0**
HWQ	**Hawqa**	**5.47**	**131**	*e*Pn	**Pn**	**10 08 02.3**	**-0.2**
JMB	**Yambol**	**5.60**	**325**	*e*Pn	**Pn**	**10 08 04.4**	**+0.1**
MALT	**Malatya**	**5.90**	**84**	*e*PN	**Pn**	**10 08 11.2**	**+2.8**
MALT	**Malatya**	**5.90**	**84**	⇑P	**Pn**	**10 08 11.1**	**+2.7**
MALT	**Malatya**	**5.90**	**84**	⇑*i*P	**Pn**	**10 08 11.1**	**+2.7**
MALT	**Malatya**	**5.90**	**84**	Pn	**Pn**	**10 08 16.6**	**+8.2**
RCY	**Rachaya**	**5.97**	**137**	*e*Pn	**Pn**	**10 08 09.0**	**-0.4**
PSN	**Preselentsi**	**6.08**	**341**	*i* P	**Pg**	**10 08 32.1**	**-5.2**
KSDI	**Kefar Szold**	**6.12**	**140**	Pn	**Pn**	**10 08 11.8**	**+0.4**
KSDI				Sn	**Sn**	**10 09 21.3**	**-0.2**
MMB3	**Mount Meron ar**	**6.13**	**142**	Pn	**Pn**	**10 08 12.3**	**+0.8**
MMAI	**Mount Meron ar**	**6.13**	**142**	Pn	**Pn**	**10 08 11.9**	**+0.2**
9.1nm,0.3s,baz=339,slow=12,SNR=21							
MMAI				Sn	**Sn**	**10 09 21.5**	**-0.4**
baz=318,slow=26,SNR=1.8							
MMA3	**Mount Meron ar**	**6.13**	**142**	Pn	**Pn**	**10 08 11.8**	**+0.1**
MMA3				Sn	**Sn**	**10 09 22.5**	**+0.6**
KARN	**Karanos**	**6.21**	**248**	*e*Pn	**Pn**	**10 08 10.2**	**-2.5**
URFA	**Urfa**	**6.26**	**92**	*e*PN	**Pn**	**10 08 16.2**	**+2.8**
KSHT	**Keshet**	**6.36**	**140**	Pn	**Pn**	**10 08 16.4**	**+1.6**
MMLI	**Mount Malkishu**	**6.62**	**145**	Pn	**Pn**	**10 08 18.7**	**+0.4**
MMLI				Sn	**Sn**	**10 09 33.8**	**-0.1**
TIRR	**Tirgusor**	**6.76**	**344**	⇑P	**Pn**	**10 08 20.1**	**-0.1**
TIRR	**Tirgusor**	**6.76**	**344**	⇑*i*P	**Pn**	**10 08 20.1**	**-0.1**
PVL	**Pavlikeni**	**6.76**	**323**	*i* P	**Pn**	**10 08 20.0**	**-0.2**
HMDT	**Nahal Hemdat**	**6.82**	**145**	Pn	**Pn**	**10 08 21.6**	**+0.5**
PGB	**Panagyurishte**	**6.92**	**314**	*i* P	**Pn**	**10 08 22.3**	**-0.1**
KKB	**Krupnik**	**7.19**	**305**	*i* P	**Pn**	**10 08 27.7**	**+1.6**
DSI	**Dead Sea**	**7.35**	**149**	Pn	**Pn**	**10 08 28.7**	**+0.3**
DSI				Sn	**Sn**	**10 09 50.9**	**-1.0**
YTIR	**Yattir**	**7.43**	**151**	Pn	**Pn**	**10 08 29.9**	**+0.4**
VTS	**Vitosha**	**7.51**	**310**	⇑*i*P	**Pn**	**10 08 32.0**	**+1.5**
VTS	**Vitosha**	**7.51**	**310**	P	**Pn**	**10 08 32.1**	**+1.6**
AMAG	**Maghara**	**7.54**	**165**	⇓P	**Pn**	**10 08 29.3**	**-1.7**
ASF	**Jabal al Asfar**	**7.56**	**138**	Pn	**Pn**	**10 08 32.1**	**+0.8**
0.6nm,0.3s,baz=225,slow=7.1,SNR=4.2							
ASF				LR	LR	10 11 29.4	
comp=Z,99nm,20.6s,baz=196,slow=38							
HMAT	**Matruh**	**7.56**	**206**	P	**Pn**	**10 08 30.6**	**-0.7**
MZDA	**Masada**	**7.57**	**150**	Pn	**Pn**	**10 08 31.9**	**+0.5**
MZDA				Sn	**Sn**	**10 09 56.3**	**-1.0**
AANS		**7.67**	**177**	P	**Pn**	**10 08 32.3**	**-0.5**
KOT	**Kottamia**	**8.06**	**175**	P	**Pn**	**10 08 37.4**	**-0.6**
KOT				S	**Sn**	**10 10 04.1**	**-5.2**
ZFRI	**Zfri**	**8.18**	**153**	Pn	**Pn**	**10 08 39.8**	**0.0**
FYM	**Al Fayyum**	**8.26**	**179**	⇑P	**Pn**	**10 08 41.2**	**+0.3**
SUZ		**8.26**	**169**	⇓P	**Pn**	**10 08 39.7**	**-1.1**
PRNI	**Paran**	**8.31**	**155**	Pn	**Pn**	**10 08 41.5**	**-0.1**
HNAT	**Natroun**	**8.32**	**182**	⇓P	**Pn**	**10 08 41.7**	**0.0**
MLR	**Muntele Rosu**	**8.39**	**335**	⇑P	**Pn**	**10 08 44.1**	**+1.5**
MLR	**Muntele Rosu**	**8.39**	**335**	Pn	**Pn**	**10 08 44.6**	**+2.0**
1.5nm,0.3s,baz=25,slow=20,SNR=7.5							
MLR	**Muntele Rosu**	**8.39**	**335**	⇑*i*P	**Pn**	**10 08 44.1**	**+1.5**
GLL	**Jalalah**	**8.40**	**176**	⇓P	**Pn**	**10 08 42.4**	**-0.3**
HNKL	**Nakhl**	**8.41**	**162**	P	**Pn**	**10 08 41.6**	**-1.3**
VRI	**Vrincioaia**	**8.49**	**340**	⇓P	**Pn**	**10 08 44.2**	**+0.3**
VRI	**Vrincioaia**	**8.49**	**340**	⇓*i*P	**Pn**	**10 08 44.2**	**+0.2**

ETSF	**Etsaut**	**24.40**	**292**	*e*P	**P**	**10 11 59.5**	**+0.1**
	comp=Z,11nm,0.8s,mb4.1						
ETSF	**Etsaut**	**24.40**	**292**	*e*P	**P**	**10 11 59.5**	**+0.1**
	comp=Z,5.6nm,0.8s,mb4.0						
SJPF	**Ste Jean**	**24.90**	**292**	*e*P	**P**	**10 12 03.8**	**-0.1**
	comp=Z,12nm,0.9s,mb4.2						
SJPF	**Ste Jean**	**24.90**	**292**	*e*P	**P**	**10 12 03.8**	**-0.1**
	comp=Z,6.2nm,0.9s,mb4.1						
GRR	**Gorron**	**25.26**	**305**	*e*P	**P**	**10 12 04.1**	**-3.0**
ARCES	**ARCESS Array B**	**31.76**	**356**	P	**P**	**10 13 03.2**	**-1.7**
ARCES	**ARCESS Array B**	**31.76**	**356**	P	**P**	**10 13 03.2**	**-1.7**
	comp=Z,3.2nm,0.8s,mb4.2,baz=187,slow=4.9,SNR=3.7						
TORD	**Torodi Ar. Bea**	**35.89**	**234**	P	**P**	**10 13 40.0**	**-1.3**
	comp=Z,1.8nm,0.9s,mb4.0,baz=35,slow=9.0,SNR=10						
TORD				LR	LR	10 30 37.0	
	comp=Z,157nm,19.0s,baz=10.0,slow=40						
MKAR	**Makanchi Array**	**38.33**	**60**	P	**P**	**10 14 01.8**	**0.0**
	comp=Z,0.5nm,0.4s,mb3.6,baz=289,slow=9.0,SNR=3.8						
ZALV	**Zalesovo Beam**	**39.67**	**48**	P	**P**	**10 14 12.3**	**-0.7**
	comp=Z,0.5nm,0.5s,mb3.5,baz=294,slow=11,SNR=2.4						
SONM	**Songino Array**	**54.08**	**54**	P	**P**	**10 16 04.7**	**-1.0**
	comp=Z,0.4nm,0.4s,mb3.7,baz=295,slow=7.1,SNR=3.6						
KSRS	**Korea Array**	**72.86**	**56**	P	**P**	**10 18 07.0**	**-3.1**
	comp=Z,1.3nm,0.9s,mb3.9,baz=310,slow=7.5,SNR=5.0						
YKA	**Yellowknife Ar**	**76.11**	**344**	P	**P**	**10 18 27.0**	**-1.5**
	comp=Z,1.0nm,0.9s,mb3.7,baz=29,slow=6.0,SNR=12						
PDAR	**Pinedale Array**	**91.99**	**332**	P	**P**	**10 19 47.5**	**-2.4**
	comp=Z,0.3nm,0.6s,mb3.8,baz=359,slow=5.9,SNR=3.5						

NIED ***11*** *10:13:00,4650N×15390E,h8km,Mw4.6 Best double couple: M0=8.68000×10^15 NP1:φ=203.00000°,δ=68.00000°,λ=134.00000°. NP2:φ=315.00000°,δ=48.00000°,λ=31.00000°.*
BJI ***11*** *10:13:35.2,4678N×15344E,h5km,mB4.9,mb4.6,Ms4.4,Msz4.2*
ISCJB ***11*** *10:13:35.1±0.9,4639N±004×15350E±004,h12km±6km,mb4.6/82,MS4.1/14,Error ellipse: s-maj=7.8km s-min=3.1km az=147.6*
JMA ***11*** *10:13:35.5±0.9,4653N×15395E,h30km,M4.9*
SKHL ***11*** *10:13:35.8±0.7,4650N×15380E,h36km±1km,mb5.3/7,ms4.4/3*
NEIC ***11*** *10:13:37.5±2.7,4650N×15356E,h14km±16km,mb4.7/47,Error ellipse: s-maj=7.7km s-min=4.7km az=148.0*
MOS ***11*** *10:13:40.3±1.4,4651N×15330E,h46km,mb4.8/40,Error ellipse: s-maj=8.2km s-min=5.7km az=101.9*
SZGRF ***11*** *10:13:44.8,47.16N×15360E,h33km,mb4.6,Kuril Islands, Russia*
IDC ***11*** *10:13:44.5±3.6,4653N×15340E,h72km±32km,mb4.0/22,mb1 4.2/23,mb1mx4.1/29,mbtmp4.1/23,ML4.2/1,MS3.9/3,Ms1 3.9/3,ms1mx3.4/35,Error ellipse: s-maj=15.6km s-min=13.0km az=125.0*
ISC 11 10:13:37.7±1.0,4646N±004×15351E±004,h16km±6km,h22km±3.2km:pP-P,n277,σ1°26/306,mb4.6/82,MS4.1/14,14C-13D,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**4.13**	**255**	⇓*i*PN	**Pn**	**10 14 40.8**	**+0.7**
KUR				*i*S	**Sn**	**10 15 30.0**	**+2.0**
KUR				pmax	pmax		
	comp=N,240nm,0.5s						
KUR				pmax	pmax		
	comp=E,110nm,0.5s						
KUR				pmax	pmax		
	comp=Z,910nm,0.5s						
KUR				smax			
	comp=N,750nm,0.8s						
KUR				smax			
	comp=E,2μm,0.8s						
KUR	**Kuril'sk**	**4.13**	**255**	⇓*i*P	**Pn**	**10 14 40.8**	**+0.7**
KUR				AMB	AMB	10 14 41.5	
	comp=E,243nm,0.5s						
KUR				AMB	AMB	10 14 41.5	
	comp=E,114nm,0.5s						
KUR				AMB	AMB	10 14 41.5	
	comp=E,912nm,0.5s						
KUR				*i*S	**Sn**	**10 15 30.0**	**+2.0**
KUR				A		10 15 45.0	
	comp=E,752nm,0.8s						
KUR				A		10 15 45.0	
	comp=E,2μm,0.8s						
SKR	**Severo-Kuril's**	**4.57**	**21**	*e*P	**Pn**	**10 14 43.0**	**-3.1**
SKR				AMB	AMB	10 14 49.8	
	comp=E,40nm,0.5s						
SKR				AMB	AMB	10 14 49.8	
	comp=E,50nm,0.7s						
SKR				AMB	AMB	10 14 49.8	
	comp=E,90nm,0.7s						
SKR				pP		10 14 53.0	
SKR				sP		10 14 57.0	
SKR				*e*S	**Sn**	**10 15 33.5**	**-5.2**
SKR				A		10 15 40.0	
	comp=E,1μm,10.0s						
SKR				A		10 15 40.0	
	comp=E,1μm,6.0s						
SKR				A		10 15 40.0	
	comp=E,2μm,6.0s						
SKR				A		10 15 58.4	
	comp=E,190nm,0.7s						
SKR				A		10 15 58.4	
	comp=E,310nm,0.7s						
SKR				A		10 15 58.4	
	comp=E,140nm,0.7s						
SKR				AMS	AMS	10 16 55.0	
	comp=E,2μm,12.0s						
SKR				AMS	AMS	10 16 55.0	
	comp=E,1μm,12.0s						
SKR				AMS	AMS	10 16 55.0	
	comp=E,2μm,12.0s						
YUK	**Yuzh-Kuril'sk**	**5.92**	**249**	*e*PN	**Pn**	**10 15 06.4**	**+1.7**
YUK				*i*S	**Sn**	**10 16 13.7**	**+1.6**
YUK				pmax	pmax		
	comp=Z,400nm,0.3s						
YUK				pmax	pmax		
	comp=E,140nm,0.4s						
YUK				smax			
	comp=N,1μm,0.8s						
YUK				smax			
	comp=E,2μm,1.0s						
YUK				smax			
	comp=N,6μm,1.5s						
YUK				smax			
	comp=E,3μm,1.0s						
YUK	**Yuzh-Kuril'sk**	**5.92**	**249**	*e*P	**Pn**	**10 15 06.4**	**+1.7**
YUK				AMB	AMB	10 15 09.0	
	comp=E,140nm,0.3s						
YUK				AMB	AMB	10 15 09.0	
	comp=E,400nm,0.3s						
YUK				*i*S	**Sn**	**10 16 13.7**	**+1.6**
YUK				A		10 16 35.5	
	comp=E,1μm,0.8s						
YUK				A		10 16 35.5	
	comp=E,2μm,1.0s						
YUK				A		10 16 45.9	
	comp=E,3μm,1.0s						
YUK				A		10 16 45.9	
	comp=E,6μm,1.5s						
NEM2	**Nemuro 2**	**6.32**	**243**	P	**Pn**	**10 15 10.0**	**-0.2**
NEM2				*e*S	**Sn**	**10 16 19.6**	**-2.5**
JRA	**Rausu**	**6.44**	**250**	P	**Pn**	**10 15 14.2**	**+2.4**
JNK	**Nakash**	**6.86**	**248**	P	**Pn**	**10 15 19.2**	**+1.6**
JNK				*e*S	**Sn**	**10 16 35.1**	**-0.2**
JAK	**Akkeshi**	**7.17**	**244**	P	**Pn**	**10 15 21.5**	**-0.3**
JAK				*e*S	**Sn**	**10 16 40.1**	**-2.8**
JTKR	**Abashiri--Toko**	**7.22**	**253**	P	**Pn**	**10 15 24.9**	**+2.3**
PET	**Petropavlovsk**	**7.36**	**25**	*e*Pn	**Pn**	**10 15 21.9**	**-2.5**
	comp=E,25nm,0.9s						
PET				*e*Sn	**Sn**	**10 16 40.3**	**-7.4**
PET	**Petropavlovsk**	**7.36**	**25**	*e*PN	**Pn**	**10 15 22.5**	**-2.0**
PET				pmax	pmax		
	comp=Z,23nm,0.6s						
PET				MLR	MLR		
	comp=Z,600nm,22.0s						
YSS	**Yuzh-Sakhalins**	**7.41**	**278**	*e*Pn	**Pn**	**10 15 28.4**	**+3.3**
	comp=Z,44nm,0.7s						
YSS	**Yuzh-Sakhalins**	**7.41**	**278**	⇓*e*PN	**Pn**	**10 15 29.3**	**+4.2**
YSS	**Yuzh-Sakhalins**	**7.41**	**278**	*e*P	**Pn**	**10 15 28.4**	**+3.3**
YSS				AMB	AMB	10 15 30.2	
	comp=Z,30nm,0.9s						
YSS				AMB	AMB	10 15 30.2	
	comp=Z,30nm,0.9s						
YSS				*e*S	**Sn**	**10 16 57.4**	**+8.6**
YSS				*e*LQ		10 17 12.0	
YSS				AMS	AMS	10 18 10.0	
	comp=Z,1μm,17.0s						
YSS				AMS	AMS	10 18 10.0	
	comp=Z,400nm,15.0s						
YSS				AMS	AMS	10 18 10.0	
	comp=Z,1μm,15.0s						
JMP	**Maruseppu**	**7.57**	**255**	P	**Pn**	**10 15 30.0**	**+2.6**
JAR	**Ashorobuto**	**7.61**	**249**	P	**Pn**	**10 15 29.3**	**+1.5**
JAR				*e*S	**Sn**	**10 16 54.1**	**+0.4**
JOB	**Onbets**	**7.76**	**246**	P	**Pn**	**10 15 30.4**	**+0.5**
JOB				*e*S	**Sn**	**10 16 56.2**	**-1.2**
JKK2	**Kamakawa 2**	**8.03**	**255**	P	**Pn**	**10 15 36.5**	**+2.8**
ASAJ	**Asahikawa**	**8.04**	**257**	P	**Pn**	**10 15 37.2**	**+3.4**
ASAJ	**Asahikawa**	**8.04**	**257**	PN	**Pn**	**10 15 37.3**	**+3.5**
ASAJ				pmax	pmax		
	comp=Z,3.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,599nm,21.3s						
ASAJ	**Asahikawa**	**8.04**	**257**	P	**Pn**	**10 15 37.3**	**+3.5**
	comp=Z,3.1nm,0.3s,baz=99,slow=16,SNR=30						
ASAJ				LR	LR	10 18 23.4	
	comp=Z,598nm,21.3s,baz=354,slow=35						
UGL	**Uglegorsk**	**8.14**	**293**	*e*PN	**Pn**	**10 15 40.0**	**+4.9**
UGL				*e*		10 17 13.5	
UGL				pmax	pmax		
	comp=Z,140nm,0.8s						
UGL				pmax	pmax		
	comp=Z,300nm,1.2s						
UGL				MLR	MLR		
	comp=Z,1μm,15.0s						
UGL				MLR	MLR		
	comp=N,700nm,14.0s						
UGL				MLR	MLR		
	comp=E,1μm,15.0s						
UGL	**Uglegorsk**	**8.14**	**293**	*e*P	**Pn**	**10 15 40.0**	**+4.9**
UGL				AMB	AMB	10 15 42.0	
	comp=E,140nm,0.8s						
UGL				AMB	AMB	10 15 42.0	
	comp=E,300nm,1.2s						
UGL				*e*L		10 17 52.0	
UGL				AMS	AMS	10 19 02.0	
	comp=E,700nm,14.0s						
UGL				AMS	AMS	10 19 02.0	
	comp=E,1μm,15.0s						
UGL				AMS	AMS	10 19 02.0	
	comp=E,1μm,15.0s						
JWK2	**Keihoku**	**8.18**	**266**	P	**Pn**	**10 15 41.8**	**+6.1**
JCH	**Churui**	**8.20**	**246**	P	**Pn**	**10 15 36.1**	**+0.1**
JCH				*e*S	**Sn**	**10 17 05.0**	**-3.4**
TYV	**Tymovskoe**	**8.43**	**305**	*e*P	**Pn**	**10 15 41.0**	**+2.0**
TYV				AMB	AMB	10 15 54.0	
	comp=E,66nm,0.8s						
TYV				AMB	AMB	10 15 54.0	
	comp=E,31nm,1.0s						
TYV				AMB	AMB	10 15 54.0	
	comp=E,44nm,1.0s						
TYV				*e*rx	rx	10 17 14.0	
TYV				AMS	AMS	10 19 18.0	
	comp=E,1μm,15.0s						
TYV				AMS	AMS	10 19 18.0	
	comp=E,2μm,15.0s						
TYV				AMS	AMS	10 19 18.0	
	comp=E,2μm,14.0s						
JFR	**Furan**	**8.43**	**251**	P	**Pn**	**10 15 41.0**	**+1.9**
JAB	**Ashibetsu**	**8.53**	**254**	P	**Pn**	**10 15 43.8**	**+3.3**
JEM	**Erimo**	**8.66**	**243**	P	**Pn**	**10 15 43.2**	**+1.0**
JEM				*e*S	**Sn**	**10 17 18.4**	**-1.1**
ERM	**Erimo**	**8.66**	**243**	*e*Pn	**Pn**	**10 15 43.6**	**+1.3**
	comp=E,73nm,0.6s						
ERM				*e*Sn	**Sn**	**10 17 24.9**	**+5.4**
ERM	**Erimo**	**8.66**	**243**	*e*PN	**Pn**	**10 15 43.6**	**+1.4**
ERM				*e*		10 17 24.9	
ERM				pmax	pmax		
	comp=Z,73nm,0.6s						
JBT2	**Biratori 2**	**8.76**	**249**	P	**Pn**	**10 15 43.9**	**+0.3**
JNBK	**Urakawa-nobuka**	**8.76**	**245**	P	**Pn**	**10 15 43.3**	**-0.4**
JNBK				*e*S	**Sn**	**10 17 19.0**	**-3.1**
JEW	**Eniwo**	**9.33**	**252**	P	**Pn**	**10 15 53.3**	**+1.9**
JNB	**Noboribetsu**	**9.77**	**250**	P	**Pn**	**10 15 58.3**	**+0.9**
JKB	**Kayabe**	**10.06**	**247**	P	**Pn**	**10 16 01.0**	**-0.5**
JKB				*e*S	**Sn**	**10 17 48.0**	**-5.9**
JOT	**Ohata**	**10.32**	**245**	P	**Pn**	**10 16 03.4**	**-1.6**
JSH	**Shimam**	**10.34**	**253**	P	**Pn**	**10 16 07.2**	**+1.9**
JYM2	**Yakumo 2**	**10.37**	**250**	P	**Pn**	**10 16 06.1**	**+0.4**
JANG	**Nango**	**10.63**	**239**	P	**Pn**	**10 16 06.8**	**-2.5**
JANG				*e*S	**Sn**	**10 17 57.7**	**-10**
JSR	**Shiriuchi**	**10.64**	**247**	P	**Pn**	**10 16 08.3**	**-1.1**
NKL	**Nikolayevsk**	**10.65**	**314**	*e*P	**Pn**	**10 16 09.2**	**-0.2**
NKL				AMB	AMB	10 16 22.2	
	comp=Z,150nm,2.0s						
NKL				AMB	AMB	10 16 22.2	
	comp=Z,230nm,2.0s						
NKL				*e*L		10 18 33.0	
NKL				AMS	AMS	10 21 29.0	
	comp=Z,1μm,15.0s						
JTM	**Tenmabayashi**	**10.65**	**242**	P	**Pn**	**10 16 08.0**	**-1.5**
JTM				*e*S	**Sn**	**10 18 00.8**	**-7.6**
JTH	**Tanohata**	**10.71**	**237**	P	**Pn**	**10 16 07.8**	**-2.5**
JTH				*e*S	**Sn**	**10 17 59.6**	**-10**
JOSM	**Okushiri--Mats**	**10.97**	**252**	P	**Pn**	**10 16 14.0**	**+0.1**
JOM	**Ohasama**	**11.35**	**236**	P	**Pn**	**10 16 16.7**	**-2.4**
JOM				*e*S	**Sn**	**10 18 16.2**	**-9.2**
OFUJ	**Ofunato**	**11.40**	**234**	P	**Pn**	**10 16 17.5**	**-2.3**
OFUJ				*e*S	**Sn**	**10 18 16.6**	**-10**
JRG	**Rokugo**	**11.78**	**238**	P	**Pn**	**10 16 23.2**	**-1.8**
JRG				*e*S	**Sn**	**10 18 28.7**	**-7.3**
JIO	**Ouri**	**12.02**	**233**	P	**Pn**	**10 16 25.6**	**-2.7**
HABR	**Khabarovsk**	**12.65**	**286**	*e*PN	**Pn**	**10 16 35.2**	**-1.7**
JYA	**Atsumi**	**12.85**	**237**	P	**Pn**	**10 16 38.0**	**-1.6**
MA2	**Magadan**	**13.24**	**354**	*e*PN	**Pn**	**10 16 46.5**	**+1.7**
MA2				*e*		10 19 20.0	
MA2				pmax	pmax		
	comp=Z,10.0nm,1.5s						
JSD	**Sado**	**14.07**	**239**	P	**Pn**	**10 16 52.9**	**-3.4**
KLR	**Kul'dur**	**14.86**	**289**	*e*P	**Pn**	**10 17 04.8**	**-2.2**
KLR				MLR	MLR		
	comp=E,700nm,13.0s						
KLR				MLR	MLR		
	comp=Z,2μm,13.0s						
JRY	**Ryogami san**	**15.13**	**232**	P	**Pn**	**10 17 09.0**	**-1.6**
MAJO	**Matsushiro**	**15.13**	**235**	*e*Pn	**Pn**	**10 17 08.8**	**-1.9**
	comp=Z,25nm,0.7s						
MAJO	**Matsushiro**	**15.13**	**235**	*e*P	**Pn**	**10 17 08.8**	**-1.9**
MAJO				pmax	pmax		
	comp=Z,25nm,0.7s						
MAT	**Matsushiro**	**15.13**	**235**	P	**Pn**	**10 17 07.5**	**-3.2**
MAT				*e*S	**Sn**	**10 20 04.0**	**+6.2**
MAT	**Matsushiro**	**15.13**	**235**	P	**Pn**	**10 17 07.6**	**-3.1**
MJAR	**Matsushiro Arr**	**15.13**	**235**	P	**Pn**	**10 17 08.9**	**-1.8**
	comp=Z,0.3nm,0.3s,baz=32,slow=11,SNR=12						
MDJ	**Mudanjiang**	**16.85**	**272**	P	**Pn**	**10 17 33.6**	**+0.9**
MDJ				AP	pP	10 17 38.5	-0.7
MDJ				S	**Sn**	**10 20 42.8**	**+3.4**
MDJ				PCS	PcS	10 25 56.3	+0.8
MDJ				AMB	AMB		
	comp=Z,13nm,0.9s						
MDJ				AMB	AMB		
	comp=Z,147nm,12.0s						
MDJ				LR	LR		
	comp=E,332nm,17.6s						
MDJ				LR	LR		
	comp=Z,437nm,16.2s						
MDJ	**Mudanjiang**	**16.85**	**272**	*e*Pn	**Pn**	**10 17 33.8**	**+1.0**
	comp=Z,23nm,0.9s						
JWT	**Wachi**	**17.63**	**237**	P	**Pn**	**10 17 40.6**	**-1.9**
JHS	**Saijyo**	**19.17**	**241**	P	**Pn**	**10 17 57.6**	**-3.8**
JMN	**Monobe**	**19.61**	**237**	P	**Pn**	**10 18 07.2**	**+0.5**
CN2	**Changchun**	**19.93**	**273**	*e*P	**Pn**	**10 18 06.4**	**-4.0**
CN2				*e*XP	sP	10 18 14.6	-0.6
CN2				*e*S	**Sn**	**10 21 46.1**	**-8.0**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.6s						
CLNS	**Chul'man**	**20.42**	**311**	*e*P	**P**	**10 18 11.4**	**-2.4**
CLNS				*e*		10 18 27.1	
CLNS				*e*PPP		10 18 33.3	
CLNS				*e*S	**S**	**10 21 58.1**	**-3.6**
CLNS				*e*		10 22 19.2	
CLNS				pmax	pmax		
	comp=Z,5.0nm,0.8s						
CLNS				pmax	pmax		
	comp=N,3.0nm,1.0s						
CLNS				pmax	pmax		
	comp=E,3.0nm,0.9s						
CLNS				pmax	pmax		
	comp=Z,11nm,1.0s						
CLNS				pmax	pmax		
	comp=N,11nm,1.1s						
CLNS				pmax	pmax		
	comp=E,5.0nm,0.8s						
CLNS				smax			
	comp=E,88nm,11.0s						
CLNS				smax			
	comp=Z,62nm,13.7s						
CLNS				smax			
	comp=N,57nm,13.9s						
CLNS				MLR	MLR		
	comp=Z,600nm,15.0s,MS4.1						
CLNS				MLR	MLR		
	comp=N,400nm,13.0s,MS4.1						
CLNS				MLR	MLR		
	comp=E,400nm,12.0s,MS4.1						
YAK	**Yakutsk**	**20.71**	**327**	*i*P	**P**	**10 18 13.1**	**-3.9**
YAK				pmax	pmax		
	comp=Z,18nm,0.6s						
KSRS	**Korea Array**	**20.98**	**254**	P	**P**	**10 18 22.4**	**+2.3**
	comp=Z,9.1nm,0.6s,baz=59,slow=10.0,SNR=41						
JNU	**Nakatsue**	**21.81**	**240**	P	**P**	**10 18 27.9**	**-1.2**
JNU	**Nakatsue**	**21.81**	**240**	P	**P**	**10 18 30.9**	**+1.8**
	comp=Z,13nm,0.9s,mb4.3,baz=6.7,slow=5.7,SNR=6.1						
JNU				LR	LR	10 27 51.3	
	comp=Z,234nm,18.1s,MS3.6,baz=42,slow=39						
INCN	**Inchon**	**21.82**	**255**	*e*P	**P**	**10 18 30.5**	**+1.4**
	comp=Z,39nm,0.7s,mb4.9						
SNY	**Shenyang**	**21.90**	**269**	⇓P	**P**	**10 18 30.9**	**+0.9**
SNY				S	**S**	**10 22 31.8**	**+0.6**
SNY				AMB	AMB		
	comp=Z,22nm,0.9s,mb4.6						
SNY				AMB	AMB		
	comp=Z,101nm,3.5s						
SNY				LR	LR		
	comp=E,446nm,15.3s						
SNY				LR	LR		
	comp=Z,419nm,16.3s,MS3.9						
BILL	**Bilibino**	**22.61**	**12**	*e*P	**P**	**10 18 36.5**	**-0.8**
	comp=Z,13nm,1.0s,mb4.3						
BILL	**Bilibino**	**22.61**	**12**	⇑*e*P	**P**	**10 18 37.0**	**-0.3**
BILL				*e*		10 22 29.5	
BILL				pmax	pmax		
	comp=Z,5.0nm,1.2s,mb3.8						
BILL				MLR	MLR		
	comp=Z,300nm,17.0s,MS3.8						
HIA	**Hailar**	**22.72**	**289**	*i*P	**P**	**10 18 35.4**	**-3.2**
GAMB	**Gambell**	**25.90**	**35**	*e*P	**P**	**10 19 08.6**	**+0.1**
	comp=Z,11nm,1.2s,mb4.2						
BOD	**Bodaibo**	**26.38**	**310**	*e*P	**P**	**10 19 10.5**	**-2.5**
BJI	**Beijing**	**27.75**	**270**	P	**P**	**10 19 25.7**	**+0.3**
BJI				S	**S**	**10 24 06.7**	**-0.5**
BJI				AMB	AMB		
	comp=Z,6.0nm,1.0s,mb4.2						
BJI				LR	LR		
	comp=N,252nm,12.3s,MS4.3						
BJI				LR	LR		
	comp=E,473nm,13.9s,MS4.3						
BJI				LR	LR		
	comp=Z,271nm,17.3s,MS3.9						
TIXI	**Tiksi**	**27.82**	**344**	*i*P	**P**	**10 19 23.4**	**-2.4**
TIXI				pmax	pmax		
	comp=Z,4.0nm,1.6s,mb3.8						
HHC	**Hu-ho-hao-te**	**30.59**	**275**	*e*P	**P**	**10 19 52.2**	**+1.6**
HHC				AP	pP	10 19 56.9	+1.4
HHC				XP	sP	10 20 00.0	+2.6
HHC				PP	PP	10 20 54.0	-5.6
HHC				PCP	PcP	10 22 51.5	+2.6
HHC				S	**S**	**10 24 58.1**	**+6.3**
HHC				SCS	ScS	10 30 28.1	+1.3
HHC				AMB	AMB		
	comp=Z,26nm,0.9s,mb5.1						
HHC				AMB	AMB		
	comp=Z,189nm,7.2s						
HHC				LR	LR		
	comp=N,161nm,14.9s,MS4.3						
HHC				LR	LR		
	comp=E,373nm,11.0s,MS4.3						
HHC				LR	LR		
	comp=Z,361nm,13.4s,MS4.2						
ULN	**Ulaanbaatar**	**31.25**	**290**	P	**P**	**10 19 58.5**	**+2.1**
	comp=Z,8.0nm,1.1s,mb4.5						
ULN	**Ulaanbaatar**	**31.25**	**290**	*i*P	**P**	**10 19 59.0**	**+2.6**
SONM	**Songino Array**	**31.69**	**290**	P	**P**	**10 20 00.3**	**+0.1**
SONM				pmax	pmax		
	comp=Z,2.0nm,0.8s						
SONM				MLR	MLR		
	comp=Z,390nm,18.3s						
SONM	**Songino Array**	**31.69**	**290**	P	**P**	**10 20 00.3**	**0.0**
	comp=Z,1.5nm,0.8s,mb3.9,baz=87,slow=8.7,SNR=6.3						
SONM				LR	LR	10 33 45.7	
	comp=Z,390nm,18.3s,MS4.1,baz=166,slow=38						
SVW2	**Sparrevohn**	**32.51**	**45**	*e*P	**P**	**10 20 06.6**	**-0.6**
TLY	**Talaya**	**32.55**	**298**	*e*P	**P**	**10 20 06.7**	**-1.1**
TLY				*e*		10 21 18.6	
TLY				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.3						
TLY				MLR	MLR		
	comp=Z,440nm,14.0s,MS4.3						
ZAK	**Zakamensk**	**33.05**	**296**	*e*P	**P**	**10 20 09.7**	**-2.4**
ZAK				*e*		10 22 55.9	
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.2s,mb4.1						
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.1s,mb3.7						
IMA2	**Indian Mountai**	**33.88**	**36**	*e*P	**P**	**10 20 18.9**	**-0.3**
XAN	**Xi'an**	**35.77**	**266**	P	**P**	**10 20 36.3**	**+0.5**
XAN				AP	pP	10 20 45.4	+4.7
XAN				AMB	AMB		
	comp=Z,10.0nm,1.8s,mb4.4						
SML	**Sawmill**	**35.99**	**43**	*e*P	**P**	**10 20 37.1**	**-0.3**
COLA	**College**	**36.20**	**38**	*e*P	**P**	**10 20 38.6**	**-0.5**
	comp=Z,7.8nm,0.9s,mb4.6						
COLA	**College**	**36.20**	**38**	*i*P	**P**	**10 20 38.8**	**-0.4**
LZH	**Lanzhou**	**38.17**	**272**	*e*P	**P**	**10 20 57.9**	**+1.6**
LZH				AP	pP	10 21 01.3	+0.1
LZH				XP	sP	10 21 03.2	+0.1
LZH				PP	PP	10 22 28.5	+5.0
LZH				*e*S	**S**	**10 26 47.0**	**-1.9**
LZH				XS	sS	10 26 55.0	-1.9
LZH				SS	SS	10 29 29.0	-7.6
LZH				AMB	AMB		
	comp=Z,46nm,1.1s,mb5.1						
LZH				AMB	AMB		
	comp=Z,145nm,6.4s						
LZH				LR	LR		
	comp=E,450nm,12.4s						
LZH				LR	LR		
	comp=Z,751nm,13.0s,MS4.7						
EGAK	**Eagle**	**39.06**	**38**	*e*P	**P**	**10 21 02.7**	**-0.6**
	comp=Z,7.3nm,1.0s,mb4.4						
GTA	**Gaotai**	**39.29**	**280**	*e*P	**P**	**10 21 07.1**	**+1.5**
GTA				AP	pP	10 21 11.6	+1.1
GTA				XP	sP	10 21 13.9	+1.5
GTA				PP	PP	10 22 42.7	+7.1
GTA				PPP		10 23 07.4	
GTA				PCP	PcP	10 23 15.7	+1.6
GTA				S	**S**	**10 27 09.6**	**+4.0**
GTA				XS	sS	10 27 19.5	+5.8
GTA				AMB	AMB		
	comp=Z,9.0nm,1.2s,mb4.4						
GTA				AMB	AMB		
	comp=Z,183nm,5.3s						
GTA				LR	LR		
	comp=N,442nm,12.9s						
GTA				LR	LR		
	comp=E,420nm,18.3s						
GTA				LR	LR		
	comp=Z,496nm,11.4s,MS4.6						
CD2	**Chengdu**	**41.13**	**266**	P	**P**	**10 21 22.0**	**+1.0**
CD2				XP	sP	10 21 29.0	+1.2
CD2				PP	PP	10 23 00.5	+4.7
CD2				S	**S**	**10 27 34.9**	**+1.5**

INK	**Inuvik**	**41.75**	**32**	P	**P**	**10 21 26.3**	**+0.7**
	comp=Z,1.2nm,0.7s,mb3.7,baz=312,slow=6.4,SNR=15						
GYA	**Guiyang**	**41.92**	**258**	P	**P**	**10 21 27.9**	**+0.4**
GYA				AP	pP	10 21 32.2	-0.2
GYA				XP	sP	10 21 34.8	+0.4
GYA				PP	PP	10 23 10.2	+5.7
GYA				SCP	ScP	10 27 14.9	+2.5
GYA				S	**S**	**10 27 48.4**	**+3.2**
GYA				SCS	ScS	10 31 30.6	+0.9
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.5						
GYA				AMB	AMB		
	comp=Z,70nm,6.8s						
GYA				LR	LR		
	comp=N,470nm,19.0s,MS4.5						
GYA				LR	LR		
	comp=E,460nm,19.6s,MS4.5						
GYA				LR	LR		
	comp=Z,390nm,19.8s,MS4.3						
ZALV	**Zalesovo Beam**	**43.00**	**306**	P	**P**	**10 21 34.0**	**-1.9**
	comp=Z,1.4nm,0.5s,mb3.9,baz=64,slow=6.4,SNR=8.3						
ZALV				PcP	PcP	10 23 25.6	-0.3
	comp=Z,1.5nm,0.7s,baz=96,slow=4.5,SNR=5.5						
ZAL	**Zalesovo**	**43.02**	**306**	P	**P**	**10 21 34.1**	**-2.0**
ZAL						10 23 25.7	
WMQ	**Urumqi**	**45.29**	**292**	*e*P	**P**	**10 21 56.2**	**+1.8**
WMQ				AMB	AMB		
	comp=Z,7.0nm,0.6s,mb4.7						
WMQ				LR	LR		
	comp=Z,204nm,16.5s,MS4.1						
KMI	**Kunming**	**45.46**	**260**	P	**P**	**10 21 57.2**	**+1.2**
KMI				S	**S**	**10 28 39.2**	**+2.3**
KMI				AMB	AMB		
	comp=Z,13nm,0.9s,mb4.8						
KMI				LR	LR		
	comp=Z,86nm,18.6s,MS3.7						
MKAR	**Makanchi Array**	**47.32**	**298**	P	**P**	**10 22 09.6**	**-0.7**
MKAR				pmax	pmax		
	comp=Z,7.0nm,0.8s						
MKAR	**Makanchi Array**	**47.32**	**298**	P	**P**	**10 22 09.6**	**-0.8**
	comp=Z,6.5nm,0.8s,mb4.6,baz=64,slow=8.5,SNR=33						
KURK	**Kurchatov**	**47.75**	**304**	*e*P	**P**	**10 22 11.2**	**-2.5**
	comp=Z,7.8nm,0.8s,mb4.8						
KURK	**Kurchatov**	**47.75**	**304**	*e*P	**P**	**10 22 11.2**	**-2.4**
KURK				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.8						
YKA	**Yellowknife Ar**	**50.99**	**37**	P	**P**	**10 22 38.3**	**+0.1**
YKA	**Yellowknife Ar**	**50.99**	**37**	P	**P**	**10 22 38.3**	**+0.1**
YKA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
YKA	**Yellowknife Ar**	**50.99**	**37**	P	**P**	**10 22 38.3**	**+0.1**
	comp=Z,1.7nm,0.7s,mb4.1,baz=296,slow=6.9,SNR=20						
RES	**Resolute Bay**	**51.02**	**19**	*e*P	**P**	**10 22 39.9**	**+1.6**
	comp=Z,154nm,1.1s,mb5.8						
BRVK	**Borovoye**	**51.29**	**310**	*e*P	**P**	**10 22 39.0**	**-1.6**
	comp=Z,3.6nm,0.6s,mb4.5						
BRVK	**Borovoye**	**51.29**	**310**	*e*P	**P**	**10 22 39.0**	**-1.6**
BRVK				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.5						
CHTO	**Chiang Mai**	**52.32**	**257**	*e*P	**P**	**10 22 50.3**	**+1.6**
	comp=Z,14nm,0.8s,mb4.9						
CHTO	**Chiang Mai**	**52.32**	**257**	*e*P	**P**	**10 22 50.3**	**+1.6**
CHTO				pmax	pmax		
	comp=Z,14nm,0.8s,mb4.9						
TKM2	**Tokmak 2**	**53.37**	**296**	*e*P	**P**	**10 22 56.5**	**+0.3**
	comp=Z,4.1nm,1.1s,mb4.3						
TKM2	**Tokmak 2**	**53.37**	**296**	*e*P	**P**	**10 22 56.5**	**+0.3**
TKM2				pmax	pmax		
	comp=Z,4.0nm,1.1s,mb4.3						
EKS2	**Erkin-Say**	**54.64**	**297**	*e*P	**P**	**10 23 05.7**	**+0.3**
AML	**Almayashu**	**54.98**	**297**	*e*P	**P**	**10 23 08.8**	**+0.9**
JIRN	**Jiri**	**55.24**	**275**	*e*P	**P**	**10 23 12.3**	**+2.3**
ARU	**Arti**	**55.41**	**318**	*e*P	**P**	**10 23 09.4**	**-1.4**
	comp=Z,4.4nm,0.7s,mb4.6						
ARU	**Arti**	**55.41**	**318***c*	*i*P	**P**	**10 23 09.3**	**-1.5**
ARU				*e*		10 25 11.2	
ARU				*e*S	**S**	**10 30 52.6**	**-1.8**
ARU				*e*SS	SS	10 34 32.2	-6.2
ARU				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.7						
KKN	**Kakani**	**55.79**	**276**	*e*P	**P**	**10 23 15.8**	**+1.9**
	comp=Z,33nm,0.6s,mb5.5						
KKN	**Kakani**	**55.79**	**276**	*e*P	**P**	**10 23 15.8**	**+1.9**
KKN				pmax	pmax		
	comp=Z,33nm,0.6s,mb5.5						
GKN	**Gorkha**	**56.10**	**276**	*e*P	**P**	**10 23 17.6**	**+1.5**
	comp=Z,29nm,0.6s,mb5.5						
EDM	**Edmonton**	**56.32**	**46**	*e*P	**P**	**10 23 17.5**	**+0.2**
KOLN	**Koldanda**	**56.95**	**277**	*e*P	**P**	**10 23 23.8**	**+1.5**
	comp=Z,29nm,0.9s,mb5.3						
NEW	**Newport**	**57.13**	**53**	*e*P	**P**	**10 23 23.1**	**-0.1**
WALA	**Waterton Lakes**	**58.41**	**50**	*e*P	**P**	**10 23 32.6**	**+0.4**
AKTK	**Aktyubinsk**	**59.12**	**312**	P	**P**	**10 23 35.7**	**-1.4**
AKTO	**Aktyubinsk**	**59.12**	**312**	P	**P**	**10 23 35.7**	**-1.4**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb4.0						
AKTO	**Aktyubinsk**	**59.12**	**312**	P	**P**	**10 23 35.7**	**-1.4**
	comp=Z,1.2nm,0.6s,mb4.1,baz=89,slow=7.6,SNR=5.5						
THN	**Thein Dam**	**59.38**	**286**	*e*P	**P**	**10 23 39.2**	**0.0**
MSO	**Missoula**	**59.72**	**53**	P	**P**	**10 23 40.3**	**-1.0**
	comp=Z,5.5nm,1.1s,mb4.5						
CHMT	**Chamberlain Mo**	**60.05**	**52**	*e*P	**P**	**10 23 43.6**	**+0.1**
FFC	**Flin Flon**	**60.78**	**40**	*e*P	**P**	**10 23 49.0**	**+0.5**
	comp=Z,4.6nm,1.0s,mb4.6						
FFC	**Flin Flon**	**60.78**	**40**	*e*P	**P**	**10 23 49.0**	**+0.5**
FFC				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.6						
FCC	**Fort Churchill**	**61.35**	**33**	*e*P	**P**	**10 23 52.1**	**-0.2**
HLID	**Hailey**	**61.45**	**56**	*e*P	**P**	**10 23 53.9**	**+0.8**
JOF	**Joensuu**	**61.72**	**334**	*e*p	**P**	**10 23 52.2**	**-2.4**
	comp=Z,4.6nm,0.6s,mb4.8						
KAKA	**Kakadu**	**61.87**	**203**	*e*P	**P**	**10 23 56.2**	**0.0**
	comp=Z,8.4nm,0.6s,mb5.0						
NVAR	**Mina Array Bea**	**62.33**	**62**	P	**P**	**10 23 59.6**	**+0.4**
	comp=Z,1.3nm,0.7s,mb4.2,baz=297,slow=7.9,SNR=11						
KBL	**Kabul**	**62.43**	**292**	*e*P	**P**	**10 23 59.8**	**0.0**
	comp=Z,8.0nm,0.8s,mb4.9						
TPAW	**Teton Pass**	**63.45**	**54**	*e*P	**P**	**10 24 00.2**	**-6.4**
	comp=Z,5.7nm,0.9s,mb4.7						
SNOW	**Snow King Moun**	**63.58**	**54**	*e*P	**P**	**10 24 08.9**	**+1.5**
	comp=Z,6.8nm,1.1s,mb4.6						
SNOW				*e*pP	pP	10 24 17.9	+5.4
REDW	**Red Top Meadow**	**63.59**	**54**	*e*P	**P**	**10 24 08.9**	**+1.4**
	comp=Z,12nm,1.3s,mb4.8						
REDW				*e*pP	pP	10 24 17.2	+4.7
REDW				*e*sP	sP	10 24 21.2	+6.7
KAF	**Kangasniemi**	**63.82**	**335**	*e*p	**P**	**10 24 07.1**	**-1.6**
	comp=Z,4.3nm,0.6s,mb4.7						
KAF	**Kangasniemi**	**63.82**	**335**	*e*P	**P**	**10 24 07.1**	**-1.6**
KAF				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.6						
FINES	**FINESS Array B**	**64.42**	**335**	P	**P**	**10 24 11.8**	**-0.8**
FINES				pmax	pmax		
	comp=Z,5.0nm,0.5s						
FINES	**FINESS Array B**	**64.42**	**335**	P	**P**	**10 24 11.8**	**-0.8**
	comp=Z,4.8nm,0.5s,mb4.8,baz=44,slow=6.9,SNR=17						
DUG	**Dugway**	**64.50**	**58**	*e*P	**P**	**10 24 14.4**	**+0.9**
	comp=Z,6.1nm,1.1s,mb4.5						
DUG	**Dugway**	**64.50**	**58**	*e*P	**P**	**10 24 14.4**	**+0.9**
DUG				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.5						
BW06	**Boulder Array**	**64.70**	**54**	*e*P	**P**	**10 24 15.3**	**+0.6**
	comp=Z,3.9nm,0.8s,mb4.5						
PDAR	**Pinedale Array**	**64.70**	**54**	P	**P**	**10 24 14.8**	**+0.1**
	comp=Z,1.0nm,0.7s,mb3.9,baz=279,slow=2.4,SNR=12						
OBN	**Obninsk**	**65.70**	**326**	*e*P	**P**	**10 24 19.0**	**-2.0**
OBN				*e*		10 24 50.6	
OBN				*e*SS	SS	10 37 12.8	-6.6
OBN				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.7						
RSSD	**Black Hills**	**66.80**	**50**	*e*P	**P**	**10 24 28.1**	**-0.1**
WRAB	**Tennant Creek**	**68.32**	**199**	*e*P	**P**	**10 24 38.1**	**+0.2**
WB2	**Warramunga Arr**	**68.33**	**199**	*e*P	**P**	**10 24 37.8**	**-0.2**
WRA	**Warramunga Arr**	**68.33**	**199**	P	**P**	**10 24 37.9**	**-0.1**
WRA				pmax	pmax		
	comp=Z,7.0nm,0.8s						
WRA	**Warramunga Arr**	**68.33**	**199**	P	**P**	**10 24 37.9**	**-0.1**
	comp=Z,6.6nm,0.8s,mb4.7,baz=17,slow=6.8,SNR=34						
NB2	**NORSAR Subarra**	**68.59**	**341**	P	**P**	**10 24 38.8**	**-0.5**
	comp=Z,3.9nm,0.6s,mb4.5,baz=27,slow=6.5						
NOA	**NORSAR Array B**	**68.59**	**341**	P	**P**	**10 24 39.5**	**+0.2**
NOA	**NORSAR Array B**	**68.59**	**341**	P	**P**	**10 24 39.5**	**+0.2**
NOA				pmax	pmax		
	comp=Z,6.0nm,0.7s						
NOA	**NORSAR Array B**	**68.59**	**341**	P	**P**	**10 24 39.5**	**+0.2**
	comp=Z,6.3nm,0.7s,mb4.7,baz=27,slow=6.3,SNR=13						
HFS	**Hagfors**	**68.82**	**340**	P	**P**	**10 24 40.5**	**-0.2**
HFS				pmax	pmax		
	comp=Z,9.0nm,0.7s						
HFS	**Hagfors**	**68.82**	**340**	P	**P**	**10 24 40.5**	**-0.2**
	comp=Z,9.2nm,0.7s,mb4.8,baz=55,slow=5.6,SNR=13						
FITZ	**Fitzroy Crossi**	**69.02**	**208**	*e*P	**P**	**10 24 42.9**	**+0.5**
	comp=Z,12nm,0.6s,mb5.0						
POO	**Poona**	**69.76**	**276**	*ex*	**P**	**10 24 47.5**	**+0.3**
KIV	**Kislovodsk**	**71.20**	**315**	*e*P	**P**	**10 24 56.4**	**+0.8**
KIV				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.5						
AKASG	**Malin Array Be**	**71.94**	**326**	P	**P**	**10 24 58.9**	**-1.0**
AKASG	**Malin Array Be**	**71.94**	**326**	P	**P**	**10 24 58.9**	**-1.0**
AKASG				pmax	pmax		
	comp=Z,7.0nm,0.7s						
AKASG	**Malin Array Be**	**71.94**	**326**	P	**P**	**10 24 58.9**	**-1.0**
	comp=Z,6.9nm,0.7s,mb4.7,baz=33,slow=6.1,SNR=28						
ASAR	**Alice Springs**	**72.02**	**199**	P	**P**	**10 25 01.5**	**+0.9**
ASAR				pmax	pmax		
	comp=Z,8.0nm,0.7s						
ASAR	**Alice Springs**	**72.02**	**199**	P	**P**	**10 25 01.5**	**+0.9**
	comp=Z,7.8nm,0.7s,mb4.8,baz=10,slow=5.1,SNR=106						
KWP	**Kalwaria**	**75.21**	**329**	⇓P	**P**	**10 25 20.1**	**+0.9**
KWP	**Kalwaria**	**75.21**	**329**	⇓*i*P	**P**	**10 25 20.1**	**+0.9**
STHS	**Stebnicka Huta**	**75.90**	**330**	*e*P	**P**	**10 25 23.5**	**+0.3**
	comp=Z,5.4nm,0.8s,mb4.5						
STHS				*e*		10 25 33.9	
STHS	**Stebnicka Huta**	**75.90**	**330**	*e*P	**P**	**10 25 23.5**	**+0.3**
STHS				*e*		10 25 33.9	
STHS				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.5						
KOLS	**Kolonicke sedl**	**75.95**	**329**	*e*P	**P**	**10 25 26.4**	**+2.9**
CRVS	**Cervenica-Dubn**	**76.27**	**330**	*e*P	**P**	**10 25 29.9**	**+4.7**
UPC	**Upice**	**76.66**	**334**	*e*P	**P**	**10 25 28.4**	**+0.9**
EKA	**Eskdalemuir Ar**	**76.69**	**347**	P	**P**	**10 25 27.5**	**0.0**
EKA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
EKA	**Eskdalemuir Ar**	**76.69**	**347**	P	**P**	**10 25 27.4**	**0.0**
	comp=Z,1.1nm,0.7s,mb3.9,baz=18,slow=5.6,SNR=4.3						
DPC	**Dobruska-Polom**	**76.71**	**333**	*e*P	**P**	**10 25 28.1**	**+0.4**
DPC				*e*PCP	PcP	10 25 38.8	-0.2
MORC	**Moravsky Berou**	**76.82**	**332**	*e*P	**P**	**10 25 28.7**	**+0.4**
	comp=Z,6.5nm,0.9s,mb4.6						
MORC				⇑P		10 25 29.1	
MORC	**Moravsky Berou**	**76.82**	**332**	*e*P	**P**	**10 25 28.7**	**+0.3**
MORC				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.6						
MORC	**Moravsky Berou**	**76.82**	**332**	⇑*i*P	**P**	**10 25 29.1**	**+0.7**
VRI	**Vrincioaia**	**76.84**	**325**	⇓*i*P	**P**	**10 25 32.1**	**+3.6**
CLL	**Collm**	**76.84**	**336**	*i*P	**P**	**10 25 28.5**	**0.0**
CLL				pmax	pmax		
	comp=Z,11nm,0.7s,mb4.9						
CLL	**Collm**	**76.84**	**336**	*i*P	**P**	**10 25 28.5**	**0.0**
	comp=Z,11nm,0.7s,mb4.9						
KECS	**Kecovo**	**76.96**	**330**	*e*P	**P**	**10 25 29.6**	**+0.4**
	comp=Z,2.1nm,0.7s,mb4.2						
KECS	**Kecovo**	**76.96**	**330**	*e*P	**P**	**10 25 29.6**	**+0.4**
KECS				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.2						
TXAR	**Lajitas Array**	**77.40**	**61**	P	**P**	**10 25 32.0**	**0.0**
TXAR				pmax	pmax		
	comp=Z,3.0nm,0.7s						
TXAR	**Lajitas Array**	**77.40**	**61**	P	**P**	**10 25 32.0**	**+0.1**
	comp=Z,2.7nm,0.7s,mb4.3,baz=303,slow=4.2,SNR=31						
MLR	**Muntele Rosu**	**77.46**	**325**	⇑*i*P	**P**	**10 25 33.1**	**+1.1**
VYHS	**Vyhne**	**77.51**	**331**	*e*P	**P**	**10 25 32.4**	**+0.1**
VRAC	**Vranov**	**77.53**	**333**	P	**P**	**10 25 32.3**	**-0.1**
VRAC				pmax	pmax		
	comp=Z,2.0nm,0.4s						
VRAC	**Vranov**	**77.53**	**333**	P	**P**	**10 25 32.3**	**-0.1**
	comp=Z,1.9nm,0.4s,mb4.4,baz=14,slow=5.6,SNR=3.4						
MALT	**Malatya**	**77.55**	**313**	*e*P	**P**	**10 25 33.5**	**+0.8**
	comp=Z,14nm,1.3s,mb4.7						
MALT				⇑P		10 25 34.7	
MALT	**Malatya**	**77.55**	**313**	*e*P	**P**	**10 25 33.5**	**+0.8**
MALT				pmax	pmax		
	comp=Z,13nm,1.3s,mb4.7						
MALT	**Malatya**	**77.55**	**313**	⇑*i*P	**P**	**10 25 34.7**	**+2.0**
VOIR		**77.86**	**326**	⇓P	**P**	**10 25 34.9**	**+0.7**
VOIR		**77.86**	**326**	⇓*i*P	**P**	**10 25 34.9**	**+0.7**
KHC	**Kasperske Hory**	**78.62**	**334**	*e*P	**P**	**10 25 38.6**	**+0.2**
KHC				*e*PCP	PcP	10 25 49.5	+2.1
STKA	**Stephens Creek**	**78.71**	**190**	P	**P**	**10 25 38.8**	**-0.1**
	comp=Z,0.9nm,0.7s,mb3.8,baz=300,slow=11,SNR=3.1						
GZR	**Gura Zlata**	**78.76**	**327**	⇓P	**P**	**10 25 39.7**	**+0.5**
GZR	**Gura Zlata**	**78.76**	**327**	⇓*i*P	**P**	**10 25 39.7**	**+0.4**
GRA1	**Grafenberg Arr**	**78.80**	**336**	*e*P	**P**	**10 25 39.4**	**0.0**
	comp=Z,5.0nm,1.0s,mb4.4						
GRF	**Grafenberg Arr**	**78.80**	**336**	*e*P	**P**	**10 25 39.4**	**0.0**
GRF				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.4						
GRF	**Grafenberg Arr**	**78.80**	**336**	*e*P	**P**	**10 25 39.4**	**0.0**
GRF				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.4						
GRF	**Grafenberg Arr**	**78.80**	**336**	*e*P	**P**	**10 25 39.4**	**0.0**
	comp=Z,5.0nm,1.0s,mb4.4						
GERES	**GERESS Array B**	**78.84**	**334**	P	**P**	**10 25 39.6**	**0.0**
GERES				pmax	pmax		
	comp=Z,2.0nm,0.6s						
GERES	**GERESS Array B**	**78.84**	**334**	P	**P**	**10 25 39.6**	**0.0**
	comp=Z,1.6nm,0.6s,mb4.1,baz=20,slow=4.4,SNR=11						
BZS	**Buzias**	**79.00**	**328**	⇑*i*P	**P**	**10 25 40.9**	**+0.3**
NCB	**Newcomb**	**80.55**	**33**	*e*P	**P**	**10 25 46.2**	**-2.8**
	comp=Z,3.1nm,0.6s,mb4.4						
VTS	**Vitosha**	**80.97**	**325**	⇓P	**P**	**10 25 51.6**	**+0.3**
VTS	**Vitosha**	**80.97**	**325**	⇓*i*P	**P**	**10 25 51.6**	**+0.4**
CDF	**Champ du Feu**	**81.03**	**338**	*e*P	**P**	**10 25 51.3**	**-0.2**
MEZF	**Maizieres J'vi**	**81.50**	**339**	*e*P	**P**	**10 25 53.9**	**-0.1**
HAU	**Haudompre**	**81.64**	**338**	*e*P	**P**	**10 25 54.3**	**-0.4**
HINF	**Hinteralfeld**	**81.69**	**338**	*e*P	**P**	**10 25 53.7**	**-1.3**
DAVOX	**Davos/Dischmat**	**81.81**	**336**	P	**P**	**10 25 55.5**	**-0.2**
	comp=Z,2.9nm,0.9s,mb4.2,baz=292,slow=15,SNR=3.4						
FLN	**La Foliniere**	**82.49**	**343**	*e*P	**P**	**10 25 58.6**	**-0.6**
	comp=Z,3.8nm,0.5s,mb4.3						
FLN	**La Foliniere**	**82.49**	**343**	*e*P	**P**	**10 25 58.6**	**-0.6**
	comp=Z,1.9nm,0.5s,mb4.3						
FLN	**La Foliniere**	**82.49**	**343**	*e*P	**P**	**10 25 58.6**	**-0.6**
FLN				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.3						
LDF	**La Druitiere**	**82.58**	**343**	*e*P	**P**	**10 25 58.9**	**-0.7**
GRR	**Gorron**	**82.92**	**343**	*e*P	**P**	**10 26 01.1**	**-0.3**
	comp=Z,14nm,0.9s,mb4.7						
GRR	**Gorron**	**82.92**	**343**	*e*P	**P**	**10 26 01.1**	**-0.3**
	comp=Z,6.8nm,0.9s,mb4.7						
GRR	**Gorron**	**82.92**	**343**	*e*P	**P**	**10 26 01.1**	**-0.3**
GRR				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.7						
LOR	**Lormes**	**82.94**	**340**	*e*P	**P**	**10 26 01.2**	**-0.4**
CABF	**La Chapelle**	**83.00**	**338**	*e*P	**P**	**10 26 01.8**	**-0.1**
SSF	**Saint Saulge**	**83.22**	**340**	*e*P	**P**	**10 26 02.7**	**-0.3**
SGMF	**Saint Gilles**	**83.38**	**344**	*e*P	**P**	**10 26 03.5**	**-0.3**
	comp=Z,9.9nm,0.7s,mb4.6						
SGMF	**Saint Gilles**	**83.38**	**344**	*e*P	**P**	**10 26 03.5**	**-0.3**
	comp=Z,4.9nm,0.7s,mb4.7						
SGMF	**Saint Gilles**	**83.38**	**344**	*e*P	**P**	**10 26 03.5**	**-0.3**
SGMF				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.7						
ROSF	**Rostrenen**	**83.44**	**345**	*e*P	**P**	**10 26 03.9**	**-0.2**
	comp=Z,6.8nm,0.7s,mb4.5						
ROSF	**Rostrenen**	**83.44**	**345**	*e*P	**P**	**10 26 03.9**	**-0.2**
	comp=Z,3.4nm,0.7s,mb4.5						
ROSF	**Rostrenen**	**83.44**	**345**	*e*P	**P**	**10 26 03.9**	**-0.2**
ROSF				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.4						
AVF	**Avril sur Loir**	**83.51**	**340**	⇑*i*P	**P**	**10 26 04.3**	**-0.2**
	comp=Z,13nm,0.9s,mb4.7						
AVF	**Avril sur Loir**	**83.51**	**340**	⇑*i*P	**P**	**10 26 04.3**	**-0.2**
	comp=Z,6.3nm,0.9s,mb4.8						
AVF	**Avril sur Loir**	**83.51**	**340**	⇑*i*P	**P**	**10 26 04.3**	**-0.2**
AVF				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.7						
SMF	**Signal de Mont**	**83.53**	**340**	⇑*i*P	**P**	**10 26 04.4**	**-0.2**
	comp=Z,35nm,1.1s,mb5.1						
SMF	**Signal de Mont**	**83.53**	**340**	⇑*i*P	**P**	**10 26 04.4**	**-0.2**
	comp=Z,17nm,1.1s,mb5.1						
SMF	**Signal de Mont**	**83.53**	**340**	⇑*i*P	**P**	**10 26 04.4**	**-0.2**
SMF				pmax	pmax		
	comp=Z,17nm,1.1s,mb5.1						
LPL	**La Plagne**	**83.84**	**337**	*e*P	**P**	**10 26 06.8**	**+0.6**
LPG	**La Plagne**	**83.86**	**337**	*e*P	**P**	**10 26 07.0**	**+0.7**
	comp=Z,5.0nm,0.7s,mb4.5						
LPG	**La Plagne**	**83.86**	**337**	*e*P	**P**	**10 26 07.0**	**+0.7**
	comp=Z,2.5nm,0.7s,mb4.5						
LPG	**La Plagne**	**83.86**	**337**	*e*P	**P**	**10 26 07.0**	**+0.7**
LPG				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.5						
TCF	**Toulx Ste Croi**	**84.25**	**340**	*e*P	**P**	**10 26 08.2**	**-0.1**
MFF	**Saint Martin d**	**84.48**	**342**	*e*P	**P**	**10 26 09.1**	**-0.3**
MBDF	**Montbardon**	**84.56**	**337**	*e*P	**P**	**10 26 09.9**	**0.0**
	comp=Z,6.2nm,0.8s,mb4.5						
MBDF	**Montbardon**	**84.56**	**337**	*e*P	**P**	**10 26 09.9**	**0.0**
	comp=Z,3.1nm,0.8s,mb4.5						
MBDF	**Montbardon**	**84.56**	**337**	*e*P	**P**	**10 26 09.9**	**0.0**
MBDF				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.5						
ORIF	**Oris-en-Rattie**	**84.63**	**338**	*e*P	**P**	**10 26 10.7**	**+0.5**
	comp=Z,6.8nm,0.6s,mb4.7						
ORIF	**Oris-en-Rattie**	**84.63**	**338**	*e*P	**P**	**10 26 10.7**	**+0.5**
	comp=Z,3.4nm,0.6s,mb4.7						
ORIF	**Oris-en-Rattie**	**84.63**	**338**	*e*P	**P**	**10 26 10.7**	**+0.5**
ORIF				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.6						
VIVF	**Saint-Julien-l**	**85.00**	**338**	*e*P	**P**	**10 26 12.4**	**+0.3**
	comp=Z,7.9nm,0.9s,mb4.6						
VIVF	**Saint-Julien-l**	**85.00**	**338**	*e*P	**P**	**10 26 12.4**	**+0.3**
	comp=Z,4.0nm,0.9s,mb4.5						
VIVF	**Saint-Julien-l**	**85.00**	**338**	*e*P	**P**	**10 26 12.4**	**+0.3**
VIVF				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.5						
SBF	**Sospel**	**85.18**	**336**	*e*P	**P**	**10 26 13.5**	**+0.5**
CAF	**Calviac**	**85.57**	**340**	*e*P	**P**	**10 26 14.7**	**-0.3**
SMRF	**Simiane la Rot**	**85.58**	**337**	*e*P	**P**	**10 26 15.6**	**+0.6**
	comp=Z,9.7nm,0.9s,mb4.7						
SMRF	**Simiane la Rot**	**85.58**	**337**	*e*P	**P**	**10 26 15.6**	**+0.6**
	comp=Z,9.7nm,0.9s,mb5.0						
LFF	**La Frestale**	**85.86**	**341**	*e*P	**P**	**10 26 15.7**	**-0.7**
LMR	**La Mourre**	**85.92**	**337**	*e*P	**P**	**10 26 16.6**	**-0.1**
	comp=Z,19nm,0.9s,mb5.0						
LMR	**La Mourre**	**85.92**	**337**	*e*P	**P**	**10 26 16.6**	**-0.1**
	comp=Z,9.4nm,0.9s,mb5.0						
LMR	**La Mourre**	**85.92**	**337**	*e*P	**P**	**10 26 16.6**	**-0.1**
LMR				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb5.0						
PGF	**Pioggiola**	**85.94**	**335**	*e*P	**P**	**10 26 16.2**	**-0.6**
TORD	**Torodi Ar. Bea**	**115.48**	**329**	PKP	PKPdf	10 32 17.6	-1.5
	comp=Z,0.5nm,0.7s,baz=18,slow=1.8,SNR=3.0						
VNDA	**Vanda**	**123.81**	**178**	PKP	PKPdf	10 32 31.4	-1.8
VNDA	**Vanda**	**123.81**	**178**	PKIKP	PKPdf	10 32 31.4	-1.8
VNDA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
VNDA	**Vanda**	**123.81**	**178**	PKP	PKPdf	10 32 31.4	-1.8
	comp=Z,0.7nm,0.8s,baz=343,slow=10,SNR=5.3						
SNAA	**Sanae**	**152.35**	**196**	*e*PKPdf	PKPbc	10 33 30.7	-0.7
SNAA				*e*		10 33 40.1	
VNA2	**Neumayer--Watz**	**153.79**	**194**	*e*PKPdf	PKPbc	10 33 34.0	-0.5
	baz=78,slow=0.3						
VNA2				*e*		10 33 47.1	
VNA3	**Neumayer Olymp**	**153.87**	**192**	*e*PKPdf	PKPbc	10 33 34.8	+0.1
VNA3				*e*		10 33 47.8	

DDA 11 10:30:41.1, 4065N×3521E, h4km, Md2.8, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTKT	**Corum**	**0.32**	**265**	*i*P	Pg

KUR				AMS	AMS	10 33 52.0
	comp=Z,27μm,15.0s					
SKR	**Severo-Kuril's**	**4.60**	**21**	*e*P	**Pn**	**10 32 04.0 -3.3**
SKR				AMB	AMB	10 32 08.0
	comp=Z,2μm,4.0s					
SKR				AMB	AMB	10 32 08.0
	comp=Z,3μm,4.0s					
SKR				AMB	AMB	10 32 08.0
	comp=Z,2μm,4.0s					
SKR				AMB	AMB	10 32 08.0
	comp=Z,3μm,4.0s					
SKR				AMB	AMB	10 32 08.0
	comp=Z,2μm,4.0s					
SKR				AMB	AMB	10 32 13.1
	comp=Z,80nm,0.5s					
SKR				AMB	AMB	10 32 13.1
	comp=Z,120nm,0.5s					
SKR				AMB	AMB	10 32 13.1
	comp=Z,320nm,0.6s					
SKR				A		10 33 04.0
	comp=Z,8μm,8.0s					
SKR				A		10 33 04.0
	comp=Z,6μm,8.0s					
SKR				A		10 33 04.0
	comp=Z,1μm,8.0s					
SKR				A		10 33 04.0
	comp=Z,4μm,8.0s					
SKR				A		10 33 04.0
	comp=Z,6μm,8.0s					
SKR				A		10 33 24.9
	comp=Z,400nm,0.6s					
SKR				A		10 33 24.9
	comp=Z,700nm,0.6s					
SKR				A		10 33 24.9
	comp=Z,1μm,1.0s					
SKR				AMS	AMS	10 34 10.0
	comp=Z,6μm,12.0s					
SKR				AMS	AMS	10 34 10.0
	comp=Z,10μm,12.0s					
SKR				AMS	AMS	10 34 10.0
	comp=Z,12μm,10.0s					
SKR				AMS	AMS	10 34 10.0
	comp=Z,6μm,12.0s					
SKR				AMS	AMS	10 34 10.0
	comp=Z,10μm,12.0s					
SKR				AMS	AMS	10 34 10.0
	comp=Z,13μm,10.0s					
YUK	**Yuzh-Kuril'sk**	**5.90**	**249**	*e*PN	**Pn**	**10 32 26.8 +1.6**
YUK				*i* S	**Sn**	**10 33 39.3 +6.3**
YUK				pmax	pmax	
	comp=Z,8μm,1.2s					
YUK				pmax	pmax	
	comp=E,6μm,1.0s					
YUK				pmax	pmax	
	comp=N,6μm,1.1s					
YUK				pmax	pmax	
	comp=Z,1μm,0.5s					
YUK				smax		
	comp=N,8μm,0.8s					
YUK				smax		
	comp=E,5μm,0.7s					
YUK				smax		
	comp=N,28μm,1.7s					
YUK				smax		
	comp=E,20μm,2.0s					
YUK				MLR	MLR	
	comp=Z,11μm,16.0s					
YUK				MLR	MLR	
	comp=N,17μm,17.0s					
YUK	**Yuzh-Kuril'sk**	**5.90**	**249**	*e*P	**Pn**	**10 32 26.8 +1.6**
YUK				AMB	AMB	10 32 40.3
	comp=N,6μm,1.0s					
YUK				AMB	AMB	10 32 40.3
	comp=N,6μm,1.1s					
YUK				AMB	AMB	10 32 40.3
	comp=N,8μm,1.2s					
YUK				AMB	AMB	10 32 41.5
	comp=N,1μm,0.5s					
YUK				AMB	AMB	10 32 41.5
	comp=N,2μm,0.7s					
YUK				AMB	AMB	10 32 41.5
	comp=N,7μm,1.0s					
YUK				*i* S	**Sn**	**10 33 39.3 +6.3**
YUK				A		10 34 03.4
	comp=N,5μm,0.7s					
YUK				A		10 34 03.4
	comp=N,8μm,0.8s					
YUK				A		10 34 06.8
	comp=N,28μm,1.7s					
YUK				A		10 34 06.8
	comp=N,20μm,2.0s					
YUK				AMS	AMS	10 34 53.5
	comp=N,8μm,16.0s					
YUK				AMS	AMS	10 34 53.5
	comp=N,11μm,16.0s					
YUK				AMS	AMS	10 34 53.5
	comp=N,17μm,17.0s					
NEM2	**Nemuro 2**	**6.30**	**244**	⇑P	**Pn**	**10 32 30.6 -0.1**
NEM2				*e*S	**Sn**	**10 33 39.9 -3.0**
JRA	**Rausu**	**6.42**	**250**	P	**Pn**	**10 32 34.7 +2.3**
JNK	**Nakash**	**6.84**	**249**	P	**Pn**	**10 32 40.2 +2.1**
JAK	**Akkeshi**	**7.15**	**244**	P	**Pn**	**10 32 42.2 -0.1**
JAK				*e*S	**Sn**	**10 34 00.2 -3.5**
JTKR	**Abashiri--Toko**	**7.21**	**254**	P	**Pn**	**10 32 45.8 +2.6**
PET	**Petropavlovsk**	**7.40**	**25**	*e*Pn	**Pn**	**10 32 42.5 -3.2**
	comp=N,493nm,1.4s					
PET				*e*Sn	**Sn**	**10 34 03.1 -6.6**
PET	**Petropavlovsk**	**7.40**	**25**	⇑*i*PN	**Pn**	**10 32 42.6 -3.1**
PET				pmax	pmax	
	comp=Z,900nm,7.8s					
PET				pmax	pmax	
	comp=Z,258nm,1.3s					
PET				MLR	MLR	
	comp=Z,6μm,20.0s					
PET				MLR	MLR	
	comp=Z,4μm,17.0s					
YSS	**Yuzh-Sakhalins**	**7.41**	**278**	*e*Pn	**Pn**	**10 32 49.6 +3.7**
	comp=Z,153nm,0.8s					
YSS	**Yuzh-Sakhalins**	**7.41**	**278**	*αe*PN	**Pn**	**10 32 49.4 +3.5**
YSS				pmax	pmax	
	comp=E,190nm,1.0s					
YSS				pmax	pmax	
	comp=Z,160nm,1.0s					
YSS				MLR	MLR	
	comp=E,9μm,16.0s					
YSS				MLR	MLR	
	comp=Z,11μm,16.0s					
YSS				MLR	MLR	
	comp=N,4μm,15.0s					
YSS	**Yuzh-Sakhalins**	**7.41**	**278**	⇑*e*P	**Pn**	**10 32 49.4 +3.5**
YSS				AMB	AMB	10 32 51.1
	comp=N,160nm,1.0s					
YSS				AMB	AMB	10 32 51.1
	comp=N,190nm,1.0s					
YSS				*e*LQ		10 34 19.0
YSS				AMS	AMS	10 35 32.0
	comp=N,5μm,15.0s					
YSS				AMS	AMS	10 35 32.0
	comp=N,4μm,15.0s					
YSS				AMS	AMS	10 35 32.0
	comp=N,9μm,16.0s					
YSS				AMS	AMS	10 35 32.0
	comp=N,11μm,16.0s					
YSS				AMS	AMS	10 35 32.0
	comp=N,14μm,16.0s					
YSS				AMS	AMS	10 35 32.0
	comp=N,9μm,16.0s					
JMP	**Maruseppu**	**7.56**	**255**	⇑P	**Pn**	**10 32 50.7 +2.7**
JAR	**Ashorobuto**	**7.59**	**249**	P	**Pn**	**10 32 50.2 +1.8**
JAR				*e*S	**Sn**	**10 34 15.4 +0.8**
JOB	**Onbets**	**7.74**	**246**	P	**Pn**	**10 32 51.1 +0.7**
JOB				*e*S	**Sn**	**10 34 17.0 -1.2**
JSE	**Soyaes**	**7.78**	**263**	⇑P	**Pn**	**10 32 55.4 +4.3**
JKK2	**Kamakawa 2**	**8.02**	**255**	P	**Pn**	**10 32 57.4 +3.1**
ASAJ	**Asahikawa**	**8.03**	**257**	⇑P	**Pn**	**10 32 58.1 +3.7**
ASAJ	**Asahikawa**	**8.03**	**257**	PN	**Pn**	**10 32 57.4 +3.0**
ASAJ				S	**Sn**	**10 34 32.9 +7.5**
ASAJ				pmax	pmax	
	comp=Z,9.0nm,0.3s					
ASAJ				smax		
	comp=N,1.0nm,0.3s					
ASAJ	**Asahikawa**	**8.03**	**257**	P	**Pn**	**10 32 57.4 +3.0**
	comp=N,9.1nm,0.3s,baz=93,slow=15,SNR=129					
ASAJ				S	**Sn**	**10 34 32.9 +7.4**
	comp=N,1.3nm,0.3s,baz=144,slow=15,SNR=1.2					
UGL	**Uglegorsk**	**8.15**	**293**	*e*PN	**Pn**	**10 33 00.5 +4.5**
UGL				*e*		10 34 39.0
UGL				pmax	pmax	
	comp=Z,680nm,1.0s					
UGL				pmax	pmax	
	comp=Z,2μm,4.0s					
UGL				MLR	MLR	
	comp=N,6μm,14.0s					
UGL				MLR	MLR	
	comp=E,8μm,15.0s					
UGL				MLR	MLR	
	comp=Z,10μm,15.0s					
UGL	**Uglegorsk**	**8.15**	**293**	*e*P	**Pn**	**10 33 00.5 +4.5**
UGL				AMB	AMB	10 33 03.0
	comp=Z,680nm,1.0s					
UGL				AMB	AMB	10 33 07.0
	comp=Z,2μm,4.0s					
UGL				AMB	AMB	10 33 07.0
	comp=Z,1μm,4.0s					
UGL				AMB	AMB	10 33 07.0
	comp=Z,2μm,4.0s					
UGL				A		10 34 36.5
	comp=Z,140nm,0.6s					
UGL				A		10 34 36.5
	comp=Z,190nm,0.7s					
UGL				*e*L		10 35 08.0
UGL				AMS	AMS	10 36 24.0
	comp=Z,6μm,14.0s					
UGL				AMS	AMS	10 36 24.0
	comp=Z,8μm,15.0s					
UGL				AMS	AMS	10 36 24.0
	comp=Z,10μm,15.0s					
JWK2	**Keihoku**	**8.17**	**266**	P	**Pn**	**10 33 02.2 +5.8**
JCH	**Churui**	**8.18**	**246**	P	**Pn**	**10 32 56.7 +0.1**
JCH				*e*S	**Sn**	**10 34 25.6 -3.6**
JFR	**Furan**	**8.41**	**251**	P	**Pn**	**10 33 01.6 +1.9**
TYV	**Tymovskoe**	**8.44**	**306**	*e*P	**Pn**	**10 33 01.8 +1.8**
TYV				AMB	AMB	10 33 12.0
	comp=Z,900nm,7.0s					
TYV				AMB	AMB	10 33 12.0
	comp=Z,1μm,7.0s					
TYV				AMB	AMB	10 33 12.0
	comp=Z,1μm,8.0s					
TYV				AMB	AMB	10 33 13.2
	comp=Z,46nm,0.8s					
TYV				AMB	AMB	10 33 13.2
	comp=Z,233nm,0.8s					
TYV				AMB	AMB	10 33 13.2
	comp=Z,106nm,1.0s					
TYV				AMS	AMS	10 36 48.0
	comp=Z,6μm,19.0s					
JAB	**Ashibetsu**	**8.51**	**254**	P	**Pn**	**10 33 04.4 +3.3**
JEM	**Erimo**	**8.63**	**243**	P	**Pn**	**10 33 03.1 +0.3**
ERM	**Erimo**	**8.64**	**243**	Pn	**Pn**	**10 33 05.4 +2.6**
	comp=Z,2μm,0.5s,SNR=14					
ERM	**Erimo**	**8.64**	**243**	*e*Pn	**Pn**	**10 33 04.1 +1.3**
	comp=Z,328nm,0.6s					
ERM				*e*Sn	**Sn**	**10 34 38.0 -2.4**
ERM	**Erimo**	**8.64**	**243**	*e*PN	**Pn**	**10 33 04.1 +1.3**
ERM				pmax	pmax	
	comp=Z,328nm,0.6s					
JBT2	**Biratori 2**	**8.74**	**249**	P	**Pn**	**10 33 04.1 -0.1**
JNBK	**Urakawa-nobuka**	**8.74**	**246**	P	**Pn**	**10 33 03.5 -0.7**
JNBK				*e*S	**Sn**	**10 34 38.6 -4.4**
JHR	**Hokuryu**	**8.75**	**256**	P	**Pn**	**10 33 07.8 +3.4**
JEW	**Eniwo**	**9.31**	**252**	P	**Pn**	**10 33 13.7 +1.7**
JNB	**Noboribetsu**	**9.75**	**251**	P	**Pn**	**10 33 19.1 +1.1**
JNB				*e*S	**Sn**	**10 35 04.3 -3.4**
OKH	**Okha**	**9.85**	**320**	*e*PN	**Pn**	**10 33 23.8 +4.5**
OKH				*e*S	**Sn**	**10 35 16.0 +6.1**
OKH				pmax	pmax	
	comp=Z,1μm,6.0s					
OKH				smax		
	comp=N,2μm,7.0s					
OKH				smax		
	comp=Z,6μm,13.0s					
OKH	**Okha**	**9.85**	**320**	*e*P	**Pn**	**10 33 23.8 +4.5**
OKH				AMB	AMB	10 33 26.2
	comp=Z,600nm,5.0s					
OKH				AMB	AMB	10 33 26.2
	comp=Z,700nm,5.0s					
OKH				AMB	AMB	10 33 26.2
	comp=Z,1μm,6.0s					
OKH				*e*S	**Sn**	**10 35 16.0 +6.1**
OKH				A		10 35 20.0
	comp=Z,2μm,7.0s					
OKH				A		10 35 20.0
	comp=Z,6μm,7.0s					
OKH				*e*LQ		10 35 56.0
OKH				AMS	AMS	10 38 24.0
	comp=Z,6μm,13.0s					
OKH				AMS	AMS	10 38 24.0
	comp=Z,7μm,14.0s					
OKH				AMS	AMS	10 38 24.0
	comp=Z,7μm,12.0s					
JKB	**Kayabe**	**10.04**	**248**	P	**Pn**	**10 33 21.9 -0.1**
JKB				*e*S	**Sn**	**10 35 08.8 -6.0**
JOT	**Ohata**	**10.30**	**245**	P	**Pn**	**10 33 24.4 -1.2**
JOT				*e*S	**Sn**	**10 35 13.7 -7.5**
JSH	**Shimam**	**10.32**	**253**	P	**Pn**	**10 33 27.4 +1.5**
JYM2	**Yakumo 2**	**10.35**	**250**	P	**Pn**	**10 33 26.5 +0.2**
JANG	**Nango**	**10.61**	**239**	P	**Pn**	**10 33 27.5 -2.3**
JANG				*e*S	**Sn**	**10 35 18.3 -10**
JSR	**Shiriuchi**	**10.62**	**247**	P	**Pn**	**10 33 29.1 -0.8**
JTM	**Tenmabayashi**	**10.63**	**242**	P	**Pn**	**10 33 28.4 -1.6**
JTM				*e*S	**Sn**	**10 35 19.4 -10**
NKL	**Nikolayevsk**	**10.66**	**314**	*i* P	**Pn**	**10 33 30.0 -0.5**
NKL				AMB	AMB	10 33 35.6
	comp=Z,36nm,1.1s					
NKL				AMB	AMB	10 33 35.6
	comp=Z,60nm,1.1s					
NKL				AMB	AMB	10 33 35.6
	comp=Z,90nm,1.1s					
NKL				AMB	AMB	10 33 36.0
	comp=Z,500nm,5.5s					
NKL				AMB	AMB	10 33 36.0
	comp=Z,1μm,5.5s					
NKL				AMB	AMB	10 33 36.0
	comp=Z,1μm,5.5s					
NKL				*e*L		10 36 16.0
NKL				AMS	AMS	10 38 52.0
	comp=Z,7μm,15.0s					
NKL				AMS	AMS	10 38 52.0
	comp=Z,2μm,15.0s					
NKL				AMS	AMS	10 38 52.0
	comp=Z,8μm,15.0s					
JTH	**Tanohata**	**10.68**	**237**	P	**Pn**	**10 33 28.3 -2.5**
JTH				*e*S	**Sn**	**10 35 19.4 -11**
JOSM	**Okushiri--Mats**	**10.95**	**252**	P	**Pn**	**10 33 35.0 +0.5**
JAH	**Hinai**	**11.25**	**241**	P	**Pn**	**10 33 36.9 -1.7**
JOM	**Ohasama**	**11.32**	**236**	P	**Pn**	**10 33 37.0 -2.5**
JOM				*e*S	**Sn**	**10 35 38.6 -7.6**
OFUJ	**Ofunato**	**11.37**	**234**	P	**Pn**	**10 33 37.6 -2.7**
OFUJ				*e*S	**Sn**	**10 35 36.9 -11**
JRG	**Rokugo**	**11.75**	**238**	P	**Pn**	**10 33 43.1 -2.4**
TEY	**Ternei**	**11.89**	**269**	*e*P	**Pn**	**10 33 48.0 +0.7**
TEY				AMB	AMB	10 33 52.5
	comp=Z,50nm,1.0s					
TEY				AMB	AMB	10 33 52.5
	comp=Z,220nm,1.2s					
TEY				AMB	AMB	10 33 56.0
	comp=Z,3μm,5.0s					
TEY				AMB	AMB	10 33 56.0
	comp=Z,4μm,9.0s					
TEY				*e*LR	LR	10 36 45.0
TEY				AMS	AMS	10 38 32.0
	comp=Z,4μm,16.0s					
TEY				AMS	AMS	10 38 32.0
	comp=Z,3μm,16.0s					
TEY				AMS	AMS	10 38 32.0
	comp=Z,5μm,15.0s					
JIO	**Ouri**	**11.99**	**233**	P	**Pn**	**10 33 46.2 -2.5**
JIO				*e*S	**Sn**	**10 35 50.5 -12**
HABR	**Khabarovsk**	**12.65**	**286**	⇑*i*PN	**Pn**	**10 34 01.7 +4.0**
HABR				*e*		10 36 28.2
HABR				pmax	pmax	
	comp=Z,53nm,1.5s					
HABR				MLR	MLR	
	comp=Z,7μm,13.9s					
JMM	**Marumori**	**12.72**	**232**	P	**Pn**	**10 33 53.5 -5.2**
JMM				*e*S	**Sn**	**10 36 11.1 -9.3**
JYA	**Atsumi**	**12.82**	**237**	P	**Pn**	**10 33 58.4 -1.7**
MA2	**Magadan**	**13.27**	**354**	*e*Pn	**Pn**	**10 34 07.5 +1.4**
	comp=Z,15nm,0.6s					
MA2	**Magadan**	**13.27**	**354**	*e*PN	**Pn**	**10 34 07.4 +1.4**
MA2				pmax	pmax	
	comp=N,60nm,1.5s					
MA2				pmax	pmax	
	comp=Z,80nm,1.5s					
MA2				MLR	MLR	
	comp=Z,3μm,15.0s					
JFY	**Yanaizu**	**13.65**	**234**	P	**Pn**	**10 34 10.0 -1.3**
JSD	**Sado**	**14.04**	**239**	P	**Pn**	**10 34 13.8 -3.0**
JYT	**Yasato**	**14.26**	**229**	P	**Pn**	**10 34 17.8 -1.8**
JAG	**Ashikaga**	**14.50**	**231**	P	**Pn**	**10 34 21.0 -2.0**
KLR	**Kul'dur**	**14.87**	**289**	*e*P	**Pn**	**10 34 27.2 -0.7**
KLR				pmax	pmax	
	comp=E,340nm,2.2s					
KLR				pmax	pmax	
	comp=Z,230nm,2.2s					
KLR				pmax	pmax	
	comp=N,700nm,11.0s					
KLR				pmax	pmax	
	comp=E,1μm,11.0s					
KLR				pmax	pmax	
	comp=Z,3μm,11.0s					
KLR				MLR	MLR	
	comp=Z,20μm,13.5s					
JRY	**Ryogami san**	**15.10**	**232**	P	**Pn**	**10 34 29.0 -2.2**
JRY				*e*S	**Sn**	**10 37 10.1 -8.5**
MAJO	**Matsushiro**	**15.10**	**235**	*e*Pn	**Pn**	**10 34 29.6 -1.6**
	comp=Z,239nm,1.1s					
MAJO	**Matsushiro**	**15.10**	**235**	*e*P	**Pn**	**10 34 29.6 -1.6**
MAJO				pmax	pmax	
	comp=Z,239nm,1.1s					
MAT	**Matsushiro**	**15.10**	**235**	P	**Pn**	**10 34 28.5 -2.7**
MAT				*e*S	**Sn**	**10 37 15.9 -2.7**
MAT	**Matsushiro**	**15.10**	**235**	P	**Pn**	**10 34 28.7 -2.5**
MJAR	**Matsushiro Arr**	**15.10**	**235**	P	**Pn**	**10 34 29.5 -1.7**
MJAR				pmax	pmax	
	comp=Z,1.0nm,0.3s					
MJAR	**Matsushiro Arr**	**15.10**	**235**	P	**Pn**	**10 34 29.5 -1.7**
	comp=Z,0.7nm,0.3s,baz=28,slow=13,SNR=46					
JOD2	**Odawara 2**	**15.57**	**229**	P	**Pn**	**10 34 34.5 -2.8**
JGN	**Niukaw**	**15.84**	**236**	P	**Pn**	**10 34 39.8 -1.0**
JSG	**Sagara**	**16.50**	**230**	P	**Pn**	**10 34 54.7 +5.4**
SEY	**Seymchan**	**16.55**	**358**	⇑*e*P	**Pn**	**10 34 51.3 +1.5**
MDJ	**Mudanjiang**	**16.84**	**272**	P	**Pn**	**10 34 53.8 +0.3**
MDJ				AP	pP	10 34 58.4 +0.7
MDJ				XP	sP	10 34 59.7 +1.1
MDJ				S	**Sn**	**10 38 01.8 +1.1**
MDJ				AMB	AMB	
	comp=Z,128nm,1.3s					
MDJ				AMB	AMB	
	comp=Z,694nm,10.0s					
MDJ				LR	LR	
	comp=E,3μm,17.2s					
MDJ				LR	LR	
	comp=Z,4μm,16.3s					
MDJ	**Mudanjiang**	**16.84**	**272**	*e*P	**Pn**	**10 34 54.5 +0.9**
	comp=Z,151nm,1.0s					
JHJ2	**Mitsune**	**16.92**	**223**	P	**Pn**	**10 34 58.9 +4.3**
JHJ	**Hachijo jima 2**	**16.93**	**223**	P	**Pn**	**10 34 55.9 +1.1**
	comp=Z,5.3nm,0.3s,baz=218,slow=7.3,SNR=9.7					
JIE	**Ise**	**17.51**	**233**	P	**Pn**	**10 35 01.7 -0.3**
JWT	**Wachi**	**17.60**	**237**	P	**Pn**	**10 35 00.4 -2.7**
ZEA	**Zeya**	**18.29**	**303**	*e*P	**Pn**	**10 35 08.5 -3.0**
ZEA				AMB	AMB	10 35 15.0
	comp=Z,300nm,6.0s					
ZEA				AMB	AMB	10 35 15.0
	comp=Z,1μm,8.0s					
ZEA				AMB	AMB	10 35 15.0
	comp=Z,800nm,8.0s					
ZEA				AMB	AMB	10 35 15.1
	comp=Z,130nm,2.0s					
ZEA				AMB	AMB	10 35 15.1
	comp=Z,150nm,2.0s					
ZEA				*e*S	**Sn**	**10 38 34.5 -1.1**
ZEA				A		10 38 53.0
	comp=Z,2μm,15.0s					
ZEA				A		10 38 53.0
	comp=Z,1μm,13.0s					
JAD	**Aida**	**18.56**	**239**	P	**Pn**	**10 35 13.1 -1.8**
JWZ	**Kozaga**	**18.70**	**233**	P	**Pn**	**10 35 17.5 +0.9**
JHS	**Saijyo**	**19.15**	**241**	P	**Pn**	**10 35 21.5 -0.6**
JMN	**Monobe**	**19.59**	**237**	P	**Pn**	**10 35 28.2 +0.9**
CN2	**Changchun**	**19.93**	**273**	*e*P	**Pn**	**10 35 27.0 -4.3**
CN2				*e*S	**Sn**	**10 39 03.9 -11**
CN2				AMB	AMB	
	comp=Z,30nm,0.7s					
CN2				AMB	AMB	
	comp=Z,350nm,6.0s					
CN2				LR	LR	
	comp=N,2μm,18.0s					
CN2				LR	LR	
	comp=E,3μm,18.0s					
CN2				LR	LR	
	comp=Z,3μm,18.0s					
CLNS	**Chul'man**	**20.43**	**311**	*e*P	**P**	**10 35 33.9 -1.1**
CLNS				*e*		10 35 45.8
CLNS				*e*S	**S**	**10 39 14.3 -9.5**
CLNS				*e*SS		10 39 42.4
CLNS				pmax	pmax	
	comp=E,14nm,1.0s					
CLNS				pmax	pmax	
	comp=Z,16nm,1.0s					
CLNS				pmax	pmax	
	comp=N,12nm,1.1s					
CLNS				smax		
	comp=N,85nm,10.6s					
CLNS				smax		
	comp=Z,81nm,9.0s					
CLNS				smax		
	comp=E,175nm,13.4s					
CLNS				MLR	MLR	
	comp=E,4μm,15.0s,MS5.1					
CLNS				MLR	MLR	
	comp=Z,3μm,15.0s,MS4.8					
CLNS				MLR	MLR	
	comp=N,4μm,14.0s,MS5.1					
NRGR	**Nerungri**	**20.46**	**311**	*e*P	**P**	**10 35 37.0 +1.6**
NRGR				S	**S**	**10 39 27.3 +2.9**
NRGR				smax		
	comp=E,23nm,0.5s					
YAK	**Yakutsk**	**20.73**	**327**	*e*P	**P**	**10 35 45.0 +6.8**
YAK				*e**PP		10 35 58.4
YAK				*e*		10 36 05.9
YAK				*e*S	**S**	**10 39 29.6 -0.1**
YAK				*e*SS		10 39 51.1
YAK				pmax	pmax	
	comp=Z,50nm,1.0s					
YAK				pmax	pmax	
	comp=N,23nm,1.1s					
YAK				pmax	pmax	
	comp=E,31nm,1.3s					
YAK				smax		
	comp=N,553nm,2.7s					
YAK				smax		
	comp=Z,283nm,3.8s					
YAK				smax		
	comp=E,621nm,3.3s					
YAK				MLR	MLR	
	comp=N,2μm,15.0s,MS4.7					
YAK				MLR	MLR	
	comp=E,1μm,13.0s,MS4.7					
YAK				MLR	MLR	
	comp=Z,2μm,13.0s,MS4.7					
KSRS	**Korea Array**	**20.96**	**254**	P	**P**	**10 35 42.2 +1.3**
	comp=Z,78nm,1.0s,baz=57,slow=9.7,SNR=94					
CBIJ	**Chichi jima**	**21.28**	**209**	P	**P**	**10 35 44.8 +0.4**
	comp=Z,126nm,0.9s,mb5.3,baz=295,slow=22,SNR=3.6					
JTU	**Tsushima**	**21.76**	**245**	P	**P**	**10 35 49.7 +0.2**
JNU	**Nakatsue**	**21.79**	**240**	P	**P**	**10 35 51.1 +1.3**
JNU	**Nakatsue**	**21.79**	**240**	P	**P**	**10 35 50.6 +0.8**
	comp=Z,65nm,1.0s,mb5.0,baz=57,slow=13,SNR=23					
JNU				LR	LR	10 45 13.6
	comp=Z,2μm,19.0s,MS4.5,baz=40,slow=39					
INCN	**Inchon**	**21.80**	**255**	*e*P	**P**	**10 35 51.9 +1.9**
	comp=Z,223nm,1.0s,mb5.5					
INCN	**Inchon**	**21.80**	**255**	P	**P**	**10 35 51.9 +2.0**
	SNR=17					
INCN	**Inchon**	**21.80**	**255**	P	**P**	**10 35 51.9 +2.0**
	SNR=17					
SNY	**Shenyang**	**21.89**	**269**	⇑P	**P**	**10 35 50.8 -0.1**
SNY				AP		10 35 53.0
SNY				XP	sP	10 35 58.2 +4.3
SNY				S	**S**	**10 39 54.8 +2.0**
SNY				XS	sS	10 40 01.6 +5.5
SNY				AMB	AMB	
	comp=Z,80nm,1.0s,mb5.1					
SNY				AMB	AMB	
	comp=Z,530nm,3.5s					
SNY				LR	LR	

comp=E,3µm,14.9s
SNY LR LR
comp=Z,4µm,16.3s,MS4.9
BILL Bilibino 22.65 12 *e*P **P 10 35 56.2 -2.5**
comp=Z,72nm,1.1s,mb5.0
BILL Bilibino 22.65 12 *i* P **P 10 35 56.1 -2.6**
BILL *e*S **S 10 40 03.3 -3.7**
BILL pmax pmax
comp=Z,28nm,1.3s,mb4.5
BILL MLR MLR
comp=Z,2µm,20.0s,MS4.6
HIA Hailar 22.72 290 *e*P **P 10 35 56.8 -2.9**
comp=Z,33nm,1.1s,mb4.7
HIA Hailar 22.72 290⇑*e*P **P 10 35 56.4 -3.3**
JSU Suzuyama 23.19 238 P **P 10 36 05.6 +0.9**
JFU Fukue jima 2 23.40 243 P **P 10 36 07.8 +0.8**
DL2 Dalian 24.49 264⇑*i*P **P 10 36 17.9 +0.8**
DL2 *e*S **S 10 40 37.3 -0.2**
DL2 AMB AMB
comp=Z,100nm,1.1s,mb5.2
DL2 AMB AMB
comp=Z,660nm,5.5s
DL2 LR LR
comp=N,780nm,16.5s,MS4.3
DL2 LR LR
comp=E,450nm,16.2s,MS4.3
DL2 LR LR
comp=Z,690nm,15.7s,MS4.2
GAMB Gambell 25.93 35 *e*P **P 10 36 29.6 -0.3**
comp=Z,42nm,1.2s,mb4.8
JAM Amami Oshima 25.98 235 P **P 10 36 34.3 +3.6**
BOD Bodaibo 26.40 310 *e*P **P 10 36 31.6 -2.6**
BOD pmax pmax
comp=Z,21nm,1.7s,mb4.4
CIT Chita 26.43 297 *e*P **P 10 36 33.0 -1.5**
BJI Beijing 27.74 270 P **P 10 36 47.0 +0.5**
BJI XP sP 10 36 50.2 +0.6
BJI S **S 10 41 28.0 -1.1**
BJI XS sS 10 41 33.4 +0.7
BJI AMB AMB
comp=Z,33nm,1.0s,mb4.9
BJI AMB AMB
comp=Z,1µm,8.2s
BJI LR LR
comp=N,1µm,15.5s,MS5.1
BJI LR LR
comp=E,4µm,15.5s,MS5.1
BJI LR LR
comp=Z,2µm,18.2s,MS4.8
BJT Baijiatuau 27.76 270 *e*P **P 10 36 49.8 +3.2**
comp=Z,38nm,1.0s,mb5.0
BJT Baijiatuau 27.76 270 *e*P **P 10 36 49.8 +3.2**
BJT pmax pmax
comp=Z,38nm,1.0s
TIXI Tiksi 27.85 344 *e*P **P 10 36 44.8 -2.3**
comp=Z,21nm,1.3s,mb4.6
TIXI Tiksi 27.85 344⇑*e*P **P 10 36 45.3 -1.8**
TIXI pmax pmax
comp=Z,4.0nm,1.1s,mb4.0
TIXI MLR MLR
comp=Z,2µm,25.0s,MS4.6
JOW Kunigami 27.95 234 P **P 10 36 48.2 -0.2**
comp=Z,53nm,0.9s,mb5.2,baz=70,slow=7.4,SNR=7.2
TNA Tin City 28.15 33 *e*P **P 10 36 48.2 -1.7**
comp=Z,18nm,0.9s,mb4.7
TIA Tai'an 28.93 262 *e*P **P 10 36 57.9 +0.8**
TIA AMB AMB
comp=Z,135nm,1.9s,mb5.3
SSE Sheshan 29.23 250 P **P 10 37 01.8 +2.0**
SSE XP sP 10 37 06.2 +3.3
SSE S **S 10 41 52.4 -0.3**
SSE AMB AMB
comp=Z,40nm,0.8s,mb5.2
SSE AMB AMB
comp=Z,428nm,9.5s
SSE LR LR
comp=N,940nm,20.7s,MS4.5
SSE LR LR
comp=E,758nm,20.7s,MS4.5
SSE LR LR
comp=Z,1µm,18.5s,MS4.6
NJ2 Nanjing 30.16 254 *e*P **P 10 37 09.4 +1.4**
NJ2 AP pP 10 37 14.4 +4.2
NJ2 XP sP 10 37 16.1 +5.0
NJ2 PP PP 10 38 07.9 -8.0
NJ2 S **S 10 42 08.0 +0.8**
NJ2 XS sS 10 42 18.0 +7.2
NJ2 AMB AMB
comp=Z,70nm,1.1s,mb5.3
NJ2 AMB AMB
comp=Z,1µm,4.5s
NJ2 LR LR
comp=N,4µm,14.0s,MS5.3
NJ2 LR LR
comp=E,4µm,15.4s,MS5.3
HHC Hu-ho-hao-te 30.58 275⇑*i*P **P 10 37 12.4 +0.7**
HHC AP pP 10 37 16.6 +2.7
HHC XP sP 10 37 19.8 +5.0
HHC PP PP 10 38 12.1 -8.4
HHC PCP PcP 10 40 08.7 -1.4
HHC S **S 10 42 15.1 +1.4**
HHC XS sS 10 42 21.1 +3.8
HHC SS SS 10 43 49.3 -34
HHC PCS PcS 10 43 56.0 +2.2
HHC SCS ScS 10 47 48.1 -0.9
HHC AMB AMB
comp=Z,79nm,0.9s,mb5.5
HHC AMB AMB
comp=Z,396nm,10.4s
HHC LR LR
comp=N,1µm,11.5s,MS5.0
HHC LR LR
comp=E,2µm,15.3s,MS5.0
HHC LR LR
comp=Z,2µm,17.3s,MS4.8
ULN Ulaanbaatar 31.26 290 *e*P **P 10 37 16.4 -1.2**
comp=Z,22nm,1.0s,mb4.9
ULN Ulaanbaatar 31.26 290⇑*e*P **P 10 37 16.7 -0.8**
ULN Ulaanbaatar 31.26 290 P **P 10 37 17.2 -0.3**
SNR=12
ULN Ulaanbaatar 31.26 290 P **P 10 37 17.2 -0.3**
SNR=12
TIY Taiyuan 31.41 269 P **P 10 37 18.0 -1.0**
TIY PP PP 10 38 19.4 -10
TIY S **S 10 42 17.2 -9.4**
TIY LR LR
comp=N,944nm,11.8s,MS4.9
TIY LR LR
comp=E,1µm,15.7s,MS4.9
TIY LR LR
comp=Z,2µm,17.0s,MS4.9
SONM Songino Array 31.69 290 P **P 10 37 20.5 -0.9**
SONM 10 40 10.7
SONM pmax pmax
comp=Z,3.0nm,0.8s
SONM MLR MLR
comp=Z,4µm,18.0s
SONM Songino Array 31.69 290 P **P 10 37 20.5 -0.9**
comp=Z,3.2nm,0.8s,mb4.2,baz=72,slow=8.8,SNR=18
SONM PcP PcP 10 40 10.7 -2.2
comp=Z,2.3nm,0.8s,baz=79,slow=3.8,SNR=3.6
SONM LR LR 10 51 16.0
comp=Z,4µm,18.0s,MS5.1,baz=73,slow=38
BTO Baotou 31.75 275 *e*P **P 10 37 21.8 -0.2**
TTA Tatalina 32.49 41 *e*P **P 10 37 28.0 -0.2**
TLY Talaya 32.56 298 P **P 10 37 28.0 -1.0**
comp=Z,76nm,0.9s,mb5.6,SNR=8.0
TLY Talaya 32.56 298 *e*P **P 10 37 28.0 -1.0**
comp=Z,25nm,1.3s,mb5.0
TLY Talaya 32.56 298 *e*P **P 10 37 27.6 -1.4**
TLY *e*PPP 10 38 51.1
TLY *e*SS SS 10 45 07.3 +3.3
TLY pmax pmax
comp=Z,18nm,1.1s,mb4.9
TLY MLR MLR
comp=Z,4µm,15.0s,MS5.2
TLY Talaya 32.56 298 P **P 10 37 28.5 -0.5**
SNR=13
TLY Talaya 32.56 298 P **P 10 37 28.5 -0.5**
SNR=13
ZAK Zakamensk 33.05 296⇑*i*P **P 10 37 32.2 -1.1**
ZAK *e* 10 40 16.2
ZAK pmax pmax
comp=Z,9.0nm,1.2s,mb4.6
KDAK Kodiak Island 34.10 51 P **P 10 37 40.9 -1.4**
comp=Z,294nm,1.0s,mb6.2,SNR=9.8
KDAK Kodiak Island 34.10 51 *e*P **P 10 37 40.6 -1.7**
comp=Z,224nm,1.8s,mb5.8
WHN Wuhan 34.11 256⇓P **P 10 37 42.9 +0.2**
WHN AP pP 10 37 46.0 +1.1
WHN AMB AMB
comp=Z,192nm,1.3s,mb5.9
WHN LR LR
comp=Z,3µm,18.6s,MS5.1
MOY Mondy 34.18 298 *e*P **P 10 37 41.2 -1.9**
MOY pmax pmax
comp=Z,15nm,2.2s,mb4.5
QZH Quanzhou 35.13 245⇑*i*P **P 10 37 53.7 +2.1**
QZH S **S 10 43 24.4 -0.2**
QZH AMB AMB
comp=Z,340nm,1.5s,mb6.1
QZH AMB AMB
comp=Z,2µm,7.8s
QZH LR LR
comp=N,1µm,11.7s,MS5.1
QZH LR LR
comp=E,1µm,12.2s,MS5.1
QZH LR LR
comp=Z,1µm,18.8s
SLKM Skilak Lake 35.16 46 *e*P **P 10 37 50.4 -1.0**
PMR Palmer 35.65 44 *e*P **P 10 37 54.8 -0.8**
PMR LR LR
comp=Z,1µm,19.0s,MS4.6
XAN Xi'an 35.76 266 P **P 10 37 57.5 +0.6**
XAN AP pP 10 38 06.7 +7.6
XAN S **S 10 43 34.2 +0.1**
XAN SCS ScS 10 48 08.7 -7.3
XAN AMB AMB
comp=Z,46nm,1.7s,mb5.1
XAN AMB AMB
comp=Z,323nm,9.4s
XAN LR LR
comp=N,1µm,15.6s
XAN LR LR
comp=Z,2µm,16.4s,MS5.0
SML Sawmill 36.02 43 *e*P **P 10 37 57.9 -0.9**
SML Sawmill 36.02 43 *e*P **P 10 37 58.0 -0.8**
COLA College 36.23 38 *e*P **P 10 38 00.2 -0.3**
comp=Z,29nm,0.9s,mb5.2
COLA College 36.23 38⇑*e*P **P 10 37 59.0 -1.5**
EYAK Cordova Ski Ar 37.36 45 *e*P **P 10 38 09.8 -0.5**
comp=Z,141nm,1.8s,mb5.5
MENT Mentasta 38.10 41 *e*P **P 10 38 16.8 +0.3**
LZH Lanzhou 38.16 272⇑P **P 10 38 19.0 +1.7**
LZH AP pP 10 38 22.5 +2.9
LZH XP sP 10 38 23.5 +3.0
LZH PP PP 10 39 49.0 +4.6
LZH *e*S **S 10 44 10.5 -0.3**
LZH XS sS 10 44 15.5 +1.1
LZH SS SS 10 46 47.0 -11
LZH AMB AMB
comp=Z,225nm,1.5s,mb5.7
LZH AMB AMB
comp=Z,500nm,4.5s
LZH LR LR
comp=N,2µm,14.1s
LZH LR LR
comp=Z,2µm,16.2s,MS5.1
EGAK Eagle 39.09 38 *e*P **P 10 38 23.6 -1.2**
comp=Z,31nm,0.9s,mb5.0
GTA Gaotai 39.28 280 *e*P **P 10 38 27.4 +0.7**
GTA AP pP 10 38 33.3 +4.4
GTA XP sP 10 38 36.0 +6.2
GTA PP PP 10 40 03.2 +6.6
GTA PPP 10 40 27.9
GTA PCP PcP 10 40 36.5 +1.1
GTA S **S 10 44 30.1 +2.5**
GTA XS sS 10 44 39.2 +7.9
GTA SCS ScS 10 48 34.8 -1.0
GTA AMB AMB
comp=Z,39nm,1.5s,mb4.9
GTA AMB AMB
comp=Z,474nm,6.5s
GTA LR LR
comp=N,1µm,16.7s,MS5.1
GTA LR LR
comp=E,1µm,13.3s,MS5.1
GTA LR LR
comp=Z,2µm,14.8s,MS5.1
GZH Guangzhou 39.79 248 P **P 10 38 27.4 -3.6**
GZH S **S 10 44 28.4 -7.0**
GZH LR LR
comp=N,1µm,18.8s,MS4.9
GZH LR LR
comp=E,1µm,17.6s,MS4.9
GZH LR LR
comp=Z,2µm,18.2s,MS5.0
DAWY Dawson 39.92 39 *e*P **P 10 38 31.2 -0.5**
CD2 Chengdu 41.12 266 P **P 10 38 42.9 +0.9**
CD2 AP pP 10 38 47.4 +3.2
CD2 XP sP 10 38 49.9 +4.8
CD2 PP PP 10 40 21.9 +5.2
CD2 PCP PcP 10 40 43.5 +2.1
CD2 PCS PcS 10 44 33.2 +0.7
CD2 S **S 10 44 54.5 -0.7**
CD2 XS sS 10 45 01.9 +3.0
CD2 SS SS 10 47 51.9 -5.6
CD2 SCS ScS 10 48 45.1 -1.8
CD2 AMB AMB
comp=Z,80nm,1.0s,mb5.3
CD2 AMB AMB
comp=Z,850nm,7.8s
CD2 LR LR
comp=N,1µm,14.4s,MS5.1
CD2 LR LR
comp=E,1µm,15.6s,MS5.1
CD2 LR LR
comp=Z,2µm,16.8s,MS5.1
INK Inuvik 41.78 32 *e*P **P 10 38 47.1 +0.1**
INK Inuvik 41.78 32 P **P 10 38 47.0 +0.1**
comp=Z,5.6nm,0.8s,mb4.2,baz=274,slow=7.1,SNR=39
GYA Guiyang 41.91 258⇑*i*P **P 10 38 47.6 -0.9**
GYA AP pP 10 38 52.9 +2.2
GYA XP sP 10 38 54.8 +3.2
GYA PP PP 10 40 29.4 +4.1
GYA PCP PcP 10 40 46.2 +2.2
GYA SCP ScP 10 44 35.3 +0.7
GYA S **S 10 45 07.3 +0.4**
GYA SS SS 10 48 07.0 -6.2
GYA SSS 10 48 49.9
GYA SCS ScS 10 48 50.8 -1.0
GYA AMB AMB
comp=Z,40nm,0.8s,mb5.1
GYA AMB AMB
comp=Z,270nm,6.6s
GYA LR LR
comp=N,1µm,19.2s,MS5.0
GYA LR LR
comp=E,1µm,19.0s,MS5.0
GYA LR LR
comp=Z,2µm,19.4s,MS5.1
SKAG Skagway 42.70 45 *e*P **P 10 38 55.3 +0.7**
comp=Z,89nm,1.8s,mb5.2
SKAG LR LR
comp=Z,500nm,22.0s,MS4.4
ZAA0 Zalesovo Array 43.02 306 *e*P **P 10 38 55.2 -2.0**
ZALV Zalesovo Beam 43.02 306 P **P 10 38 55.2 -2.0**
ZALV LR LR 10 59 47.4
ZALV Zalesovo Beam 43.02 306 P **P 10 38 55.2 -2.0**
comp=Z,3.5nm,0.5s,mb4.4,baz=63,slow=6.2,SNR=18
ZALV LR LR 10 59 47.4
comp=Z,815nm,19.5s,MS4.6,baz=68,slow=40
ZAL Zalesovo 43.03 306 P **P 10 38 55.2 -2.1**
NVS Novosibirsk 43.60 308 *e*P **P 10 38 59.2 -2.7**
NVS *e*S **S 10 45 23.6 -7.5**
NVS *e*SS SS 10 48 57.2 +12
NVS pmax pmax
comp=N,30nm,1.8s
NVS pmax pmax
comp=E,37nm,1.8s
NVS pmax pmax
comp=Z,45nm,1.8s,mb4.9
NVS smax
comp=N,29nm,2.1s
NVS smax
comp=E,11nm,1.7s
QIZ Qiongzhong 44.97 248 P **P 10 39 12.2 -1.1**
QIZ AP pP 10 39 16.6 +1.1
QIZ PP PP 10 40 59.3 +1.1
QIZ S **S 10 45 55.3 +3.4**
QIZ XS sS 10 46 00.4 +4.8
QIZ AMB AMB
comp=Z,33nm,1.7s,mb4.9
QIZ AMB AMB
comp=Z,396nm,8.5s
QIZ LR LR
comp=E,860nm,18.2s
QIZ LR LR
comp=Z,1µm,19.1s,MS4.8
WMQ Urumqi 45.29 292 P **P 10 39 15.8 +0.2**
WMQ AP pP 10 39 21.5 +3.7
WMQ XP sP 10 39 23.0 +4.3
WMQ PCP PcP 10 40 56.0 +0.8
WMQ S **S 10 45 54.5 -1.6**
WMQ SS SS 10 49 10.0 -8.8
WMQ AMB AMB
comp=Z,15nm,1.2s,mb4.7
WMQ AMB AMB
comp=Z,313nm,3.8s
WMQ LR LR
comp=N,3µm,19.5s,MS5.4
WMQ LR LR
comp=E,2µm,14.9s,MS5.4
WMQ LR LR
comp=Z,3µm,17.8s,MS5.2
KMI Kunming 45.45 260⇑P **P 10 39 18.4 +1.4**
KMI AP pP 10 39 20.8 +1.5
KMI XP sP 10 39 22.2 +2.0
KMI PCP PcP 10 40 58.0 +1.9
KMI PP PP 10 41 05.0 +1.8
KMI PPP 10 41 46.5
KMI PCS PcS 10 44 50.7 +0.5
KMI S **S 10 45 57.8 -0.9**
KMI SS SS 10 49 12.8 -10
KMI SSS 10 50 13.7
KMI AMB AMB
comp=Z,59nm,1.0s,mb5.4
KMI AMB AMB
comp=Z,312nm,3.1s
KMI LR LR
comp=N,834nm,12.6s,MS5.0
KMI LR LR
comp=E,889nm,16.2s,MS5.0
KMI LR LR
comp=Z,1µm,15.0s,MS4.9
DLBC Dease Lake 45.63 46 *e*P **P 10 39 19.5 +1.5**
MK31 Makanchi Array 47.33 298 *i* P **P 10 39 30.2 -1.3**
MK31 pmax pmax
comp=Z,39nm,1.0s,mb5.3
MKAR Makanchi Array 47.33 298 P **P 10 39 30.6 -0.9**
MKAR pmax pmax
comp=Z,21nm,0.9s
MKAR MLR MLR
comp=Z,3µm,18.3s
MKAR Makanchi Array 47.33 298 P **P 10 39 30.6 -0.9**
comp=Z,21nm,0.9s,mb5.0,baz=67,slow=9.3,SNR=93
MKAR LR LR 11 00 23.2
comp=Z,3µm,18.3s,MS5.2,baz=65,slow=37
KURK Kurchatov 47.76 304 P **P 10 39 33.5 -1.4**
comp=Z,127nm,0.6s,mb6.1,SNR=11
KURK Kurchatov 47.76 304 *e*P **P 10 39 33.0 -1.8**
comp=Z,37nm,1.0s,mb5.4
KURK Kurchatov 47.76 304⇑*i*P **P 10 39 32.9 -2.0**
KURK pmax pmax
comp=Z,17nm,1.0s,mb5.0
KURK Kurchatov 47.76 304 P **P 10 39 33.5 -1.3**
SNR=16
KURK Kurchatov 47.76 304 P **P 10 39 33.5 -1.3**
SNR=16
ALE Alert 50.04 6 P **P 10 39 46.7 -5.2**
comp=Z,126nm,1.1s,mb5.9,SNR=12
LSA Lhasa 50.56 274 *e*P **P 10 39 58.1 +1.5**
comp=Z,61nm,1.0s,mb5.5
LSA Lhasa 50.56 274 *e*P **P 10 39 58.1 +1.6**
LSA pmax pmax
comp=Z,61nm,1.0s,mb5.5
CHRT Chiangrai 51.00 257⇑P **P 10 40 02.0 +2.0**
comp=Z,395nm,1.2s,mb6.2
YKA Yellowknife Ar 51.02 37 P **P 10 39 59.3 -0.3**
YKA LR LR 11 04 03.0
YKA Yellowknife Ar 51.02 37 *i* P **P 10 39 59.2 -0.4**
YKA pmax pmax
comp=Z,10.0nm,0.8s
YKA Yellowknife Ar 51.02 37 P **P 10 39 59.3 -0.3**
comp=Z,9.5nm,0.8s,mb4.8,baz=297,slow=7.2,SNR=129
YKA LR LR 11 04 03.0
comp=Z,463nm,21.0s,MS4.5,baz=225,slow=39
RES Resolute Bay 51.06 19 *e*P **P 10 39 59.3 -0.4**
comp=Z,843nm,1.1s,mb6.6
BRVK Borovoye 51.31 310 P **P 10 40 00.3 -1.6**
comp=Z,91nm,0.5s,mb6.0,SNR=8.7
BRVK Borovoye 51.31 310 *e*P **P 10 40 00.3 -1.6**
comp=Z,8.1nm,0.6s,mb4.8
BRVK Borovoye 51.31 310 *e*P **P 10 40 00.3 -1.6**
BRVK pmax pmax
comp=Z,8.0nm,0.6s,mb4.8
BRVK Borovoye 51.31 310 P **P 10 40 00.2 -1.6**
SNR=11
BRVK Borovoye 51.31 310 P **P 10 40 00.2 -1.6**
SNR=11
KKM Kota Kinabalu 51.48 230 *e*P **P 10 40 04.7 +1.2**
KKTK Khon Kaen 51.48 252⇑P **P 10 40 05.0 +1.4**
comp=Z,679nm,0.8s,mb6.6
ZRNK Zerenda 52.04 310 *i* P **P 10 40 05.7 -1.6**
ZRNK pmax pmax
comp=Z,26nm,1.7s,mb4.9
CHG Chiang Mai 52.30 257⇑P **P 10 40 11.4 +1.7**
comp=Z,150nm,0.9s,mb5.9
CHTO Chiang Mai 52.30 257 *e*P **P 10 40 11.3 +1.6**
comp=Z,84nm,1.0s,mb5.6
CHTO Chiang Mai 52.30 257 *e*P **P 10 40 11.4 +1.7**
CHTO pmax pmax
comp=Z,84nm,1.0s,mb5.6
CHTO Chiang Mai 52.30 257 P **P 10 40 11.6 +1.9**
SNR=43
CHTO Chiang Mai 52.30 257 P **P 10 40 11.6 +1.9**
SNR=43
SHL Shillong 52.63 269⇓*i*P **P 10 40 13.5 +1.4**
SHL *e*S **S 10 47 39.0 -0.7**
ULHL Ulahol 53.34 295 P **P 10 40 17.6 +0.5**
SNR=12
BDT Bhumibol Dam 53.37 256 P **P 10 40 20.0 +2.4**
TKM2 Tokmak 2 53.38 297 *e*P **P 10 40 17.6 +0.2**
comp=Z,23nm,1.1s,mb5.0
TKM2 Tokmak 2 53.38 297 *e*P **P 10 40 17.6 +0.2**
TKM2 pmax pmax
comp=Z,23nm,1.1s,mb5.0
TKM2 Tokmak 2 53.38 297 P **P 10 40 17.3 -0.1**
SNR=7.8
NST Nakhon Sawan 53.74 253 P **P 10 40 22.5 +2.2**
USP Ospenovka 53.87 297 P **P 10 40 20.7 -0.3**
SNR=22
KBK Karagaybulak 53.92 297 P **P 10 40 21.4 0.0**
SNR=8.2
A05A Maple Falls 54.00 54⇓P **P 10 40 21.0 -0.9**
baz=54
FRU Bishkek 54.03 297 *e*P **P 10 40 21.0 -1.2**
FRU *e* 10 40 30.0
KZA Kyzart 54.05 296 P **P 10 40 23.1 +0.8**
SNR=18
HDW Hoodsport 54.16 56 P **P 10 40 22.6 -0.5**
AAK Ala-Archa 54.22 297 P **P 10 40 22.8 -0.7**
comp=Z,98nm,0.8s,mb5.8,SNR=15
AAK Ala-Archa 54.22 297 P **P 10 40 23.4 -0.1**
SNR=18
B05A Bryant 54.38 55⇑P **P 10 40 24.1 -0.5**
baz=54
JCW Jim Creek 54.52 55 P **P 10 40 25.1 -0.5**
EKS2 Erkin-Say 54.64 297 *e*P **P 10 40 26.7 +0.1**
comp=Z,18nm,0.9s,mb5.1
EKS2 Erkin-Say 54.64 297 P **P 10 40 26.6 -0.1**
SNR=9.6
HTW Haystack Looko 54.81 55 P **P 10 40 26.4 -1.4**
A07A Ashnola River, 54.92 53 P **P 10 40 28.3 -0.3**
baz=55,SNR=9.2
AML Almayashu 54.99 297 *e*P **P 10 40 29.8 +0.6**
comp=Z,19nm,1.1s,mb5.0
AML Almayashu 54.99 297 P **P 10 40 29.7 +0.5**
SNR=11
D05A Enumclaw 55.02 56⇑P **P 10 40 29.2 -0.1**
baz=55
GUN Gumba 55.30 275 *e*P **P 10 40 32.9 +1.4**
RCM Mount Rainier- 55.36 56 P **P 10 40 32.1 +0.4**
B07A Winthrop 55.39 54 P **P 10 40 31.6 -0.3**
baz=55,SNR=6.6
ARU Arti 55.43 318 *e*P **P 10 40 30.4 -1.6**
comp=Z,10nm,0.6s,mb5.0

ARU **Arti** 55.43 318 *d iP* P 10 40 30.4 -1.7
ARU *e* 10 42 36.7
ARU *eS* S 10 48 14.5 -2.2
ARU *eSS* SS 10 52 00.7 +0.1
ARU pmax pmax
comp=Z,15nm,1.0s,mb5.0
F04A **Amboy** 55.46 57 ⇓P P 10 40 32.4 -0.1
baz=55
NLW **Nelson Butte** 55.48 54 P P 10 40 32.2 -0.3
E05A **Randle** 55.50 56 ⇑P P 10 40 32.4 -0.4
baz=55
A08A **Turner Farm, O** 55.59 53 ⇓P P 10 40 32.8 -0.6
baz=55,SNR=16
D06A **Cle Elum** 55.67 55 ⇓P P 10 40 33.7 -0.3
baz=55
TWW **Teanaway** 55.69 55 P P 10 40 34.1 0.0
KKN **Kakani** 55.78 276 *eP* P 10 40 36.4 +1.3
comp=Z,535nm,1.7s,mb6.3
KKN **Kakani** 55.78 276 *eP* P 10 40 36.4 +1.3
KKN pmax pmax
comp=Z,535nm,1.7s,mb6.3
C07A **Waterville** 55.84 55 P P 10 40 34.6 -0.6
baz=56,SNR=6.1
B08A **Colville Reser** 55.88 54 P P 10 40 35.1 -0.3
baz=56,SNR=14
A09A **Danville** 55.96 53 ⇑P P 10 40 35.6 -0.4
baz=56,SNR=15
E06A **Yakima** 55.96 56 ⇑P P 10 40 35.9 -0.1
baz=56,SNR=5.1
EBG **Ellensburg** 55.99 56 P P 10 40 36.2 -0.1
SSOR **Sweet Springs** 56.03 59 P P 10 40 36.8 +0.2
I03A **Eugene** 56.04 60 ⇓P P 10 40 37.0 +0.3
baz=56
F05A **White Salmon** 56.05 57 ⇓P P 10 40 37.0 +0.3
baz=56
GKN **Gorkha** 56.09 276 *eP* P 10 40 38.4 +1.1
comp=Z,462nm,1.3s,mb6.3
D07A **Quincy** 56.17 55 ⇑P P 10 40 37.5 0.0
baz=56
J02A **Umpqua** 56.20 61 ⇑P P 10 40 38.3 +0.5
baz=56,SNR=5.4
H04A **Detroit Lake** 56.29 59 ⇓P P 10 40 38.3 -0.2
baz=56,SNR=9.1
EPH **Ephrata** 56.29 55 P P 10 40 38.1 -0.4
EDM **Edmonton** 56.35 46 *eP* P 10 40 38.4 -0.3
VFP **Flag Point** 56.36 58 P P 10 40 38.8 -0.2
C08A **Higginbotham F** 56.36 54 ⇑P P 10 40 38.1 -0.8
baz=56
BROR **Big Rock Looko** 56.37 59 P P 10 40 39.2 +0.2
KK31 **Karatay Array** 56.39 299 *i P* P 10 40 38.1 -1.1
KK31 pmax pmax
comp=Z,14nm,0.9s,mb5.0
G05A **Wamic** 56.49 58 ⇑P P 10 40 40.0 +0.2
baz=56
F06A **Goldendale** 56.50 57 ⇑P P 10 40 40.0 0.0
baz=56
B09A **Rice** 56.50 53 P P 10 40 39.6 -0.3
baz=56,SNR=13
A10A **Northport** 56.52 52 ⇑P P 10 40 39.7 -0.3
baz=56,SNR=5.2
J03A **Ideyld Park** 56.57 60 ⇑P P 10 40 40.8 +0.4
baz=56
E07A **Sunnyside** 56.59 56 ⇑P P 10 40 40.7 +0.1
baz=56
K02A **Glendale** 56.59 61 ⇓P P 10 40 41.0 +0.4
baz=56
I04A **Tendick Farm,** 56.66 60 P P 10 40 41.6 +0.5
baz=56,SNR=5.4
OD2 **Odessa Site #2** 56.77 54 P P 10 40 41.1 -0.8
C09A **Chrisman Ranch** 56.78 54 ⇓P P 10 40 41.5 -0.4
baz=56,SNR=6.7
RSW **Rattlesnake Hi** 56.83 56 P P 10 40 42.2 -0.1
D08A **Wollman Farm,** 56.84 55 ⇑P P 10 40 41.8 -0.5
baz=57
HAWA **Hanford** 56.87 56 *eP* P 10 40 42.3 -0.3
comp=Z,49nm,1.7s,mb5.3
L02A **Cave Junction** 56.87 62 ⇑P P 10 40 42.8 +0.1
baz=57
H05A **Madras** 56.88 58 ⇑P P 10 40 42.4 -0.2
baz=57
G06A **Carlson Farm,** 56.89 57 ⇑P P 10 40 42.9 +0.2
baz=57,SNR=5.1
F07A **Phinny Hill Vi** 56.92 56 ⇑P P 10 40 42.8 -0.1
baz=57
KOLN **Koldanda** 56.95 277 *eP* P 10 40 44.8 +1.4
comp=Z,272nm,1.3s,mb6.1
VTHM **Trough** 56.96 57 P P 10 40 43.3 +0.1
DAG **Danmarks Havn** 56.98 358 ⇑ *i P* P 10 40 42.1 -0.8
DAG pmax pmax
comp=Z,31nm,1.3s,mb5.2
DAG **Danmarks Havn** 56.98 358 ⇑ *i P* P 10 40 42.1 -0.8
comp=Z,31nm,1.3s,mb5.2
HUMO **Hull Mountain** 57.01 61 ⇓P P 10 40 43.7 +0.1
baz=57
B10A **Chitwood Farm,** 57.08 53 ⇑P P 10 40 43.5 -0.6
baz=57
E08A **Dider Farm, El** 57.08 55 ⇑P P 10 40 43.8 -0.3
baz=57
KTRM **Thompson Ridge** 57.15 62 P P 10 40 45.4 +0.8
J04A **Umpqua Nationa** 57.16 60 ⇓P P 10 40 44.9 +0.3
baz=57
NEW **Newport** 57.16 53 P P 10 40 43.9 -0.7
NEW pmax pmax
comp=Z,49nm,1.6s
A11A **Hall Mountain,** 57.18 52 ⇓P P 10 40 44.7 0.0
baz=57,SNR=15
D09A **Jones Farm, Ri** 57.18 54 ⇑P P 10 40 44.1 -0.6
baz=57
C10A **Spilker Farm,** 57.31 53 ⇑P P 10 40 45.1 -0.5
baz=57
VIPM **Ingram Point** 57.31 58 P P 10 40 46.0 +0.3
H06A **Lindquist Farm** 57.35 58 P P 10 40 45.9 -0.1
baz=57,SNR=8.6
JCC **Jacoby Creek** 57.38 63 ⇑P P 10 40 45.8 -0.4
baz=57
G07A **Ruggs Ranch, H** 57.43 57 P P 10 40 46.5 0.0
baz=57,SNR=5.7
B11A **Sandpoint** 57.47 52 P P 10 40 46.9 +0.1
baz=57,SNR=8.8
A12A **Yaak River Ran** 57.58 51 ⇑P P 10 40 47.4 -0.1
baz=57
E09A **Wood Farm, Sta** 57.59 55 ⇓P P 10 40 47.1 -0.5
baz=57
F08A **Pendleton** 57.64 56 ⇓P P 10 40 48.5 +0.5
baz=57
J05A **Fort Rock** 57.65 59 ⇑P P 10 40 48.7 +0.6
baz=57,SNR=10
YBH **Yreka Blue Hor** 57.66 62 P P 10 40 49.1 +0.9
YBH pmax pmax
comp=Z,11nm,1.0s
YBH **Yreka Blue Hor** 57.66 62 P P 10 40 49.2 +1.0
baz=57,SNR=5.5
K04A **Chilquin** 57.74 60 ⇑P P 10 40 49.1 +0.4
baz=58
D10A **Wagner Farm, O** 57.77 54 P P 10 40 48.1 -0.7
baz=58,SNR=8.4
M02C **Callahan** 57.77 62 ⇓P P 10 40 49.3 +0.3
baz=58
G08A **Pilot Rock** 57.83 56 P P 10 40 49.2 -0.1
baz=58,SNR=8.5
N02C **Big Bar** 57.83 63 ⇑P P 10 40 49.2 -0.2
baz=58
I06A **Prineville** 57.88 58 ⇓P P 10 40 50.3 +0.6
baz=58,SNR=9.8
B12A **Libby** 57.88 52 ⇓P P 10 40 49.3 -0.3
baz=58
H07A **Lands Inn, Kim** 57.88 57 ⇓P P 10 40 49.6 -0.1
baz=58
O01C **Eel River Cons** 57.91 64 ⇑P P 10 40 50.6 +0.6
baz=58
BOK **Bokaro** 57.92 272 *eP* P 10 40 50.1 -0.2
BOK AMb AMB 10 41 06.7
comp=Z,75nm,2.0s,mb5.4
LHEM **Herd Peak** 58.02 62 P P 10 40 51.0 +0.3
M04C **Macdoel** 58.16 61 P P 10 40 52.4 +0.7
baz=58,SNR=5.9
K05A **Summer Lake** 58.18 60 ⇓P P 10 40 52.6 +0.7
baz=58,SNR=7.6
F09A **S2 Ranch, Elgi** 58.19 56 ⇑P P 10 40 51.8 0.0
baz=58
E10A **Myers Farm, Un** 58.19 54 P P 10 40 51.7 -0.1
baz=58,SNR=7.6
LGTI **Lohaghat** 58.19 281 *ex* P P 10 40 54.7 +2.6
I07A **Izee** 58.21 58 ⇓P P 10 40 52.3 +0.3
baz=58,SNR=7.5
ARCES **ARCESS Array B** 58.24 341 P P 10 40 51.3 -0.5
comp=Z,3.9nm,0.8s,mb4.5,baz=28,slow=7.7,SNR=10.0
ARCES LR LR 11 13 48.1
comp=Z,879nm,18.4s,MS4.9,baz=136,slow=44
A13A **Flathead Natio** 58.24 51 ⇓P P 10 40 51.8 -0.3
baz=58
M03C **McCloud** 58.29 62 ⇑P P 10 40 52.4 -0.2
baz=58
D11A **Klaveano Farm,** 58.29 53 P P 10 40 52.0 -0.6
baz=58,SNR=9.6
J06A **Christmas Vall** 58.31 59 P P 10 40 52.9 +0.2
baz=58,SNR=12
WDC **Whiskeytown Da** 58.44 63 ⇑P P 10 40 53.6 -0.1
baz=58
H08A **Prairie City** 58.44 57 P P 10 40 54.1 +0.4
baz=58,SNR=12
K06A **Valley Falls** 58.52 59 ⇑P P 10 40 54.7 +0.5
baz=58,SNR=6.7
O02C **Red Bluff** 58.53 63 ⇓P P 10 40 54.9 +0.6
baz=58,SNR=5.6
B13A **Whitefish** 58.54 51 P P 10 40 54.6 +0.3
baz=58,SNR=29
P01C **Double 8 Ranch** 58.60 64 ⇓P P 10 40 55.2 +0.3
baz=58
L05A **Lakeview** 58.61 60 P P 10 40 55.9 +1.0
baz=58,SNR=9.6
LTIM **Timbered Crate** 58.73 62 P P 10 40 56.0 +0.3
J07A **Hines** 58.74 58 P P 10 40 56.4 +0.6
baz=58,SNR=6.5
E11A **Bogner Ranch,** 58.77 54 P P 10 40 55.5 -0.4
baz=58,SNR=9.1
M05C **Lookout** 58.83 61 ⇑P P 10 40 56.3 -0.1
baz=59,SNR=5.7
D12A **Red Ives Fores** 58.84 53 ⇓P P 10 40 55.9 -0.4
baz=59
I08A **Drewsey** 58.86 58 P P 10 40 56.9 +0.4
baz=59,SNR=9.7
G10A **Bishop Farm, J** 58.88 56 P P 10 40 56.9 +0.2
baz=59,SNR=22
GASB **Alder Springs** 58.88 64 ⇑P P 10 40 57.1 +0.3
baz=59
C13A **Hot Springs** 58.89 52 P P 10 40 56.9 +0.2
baz=59,SNR=7.1
H09A **Durkee** 58.94 56 P P 10 40 57.9 +0.8
baz=59,SNR=7.5
HATC **Hat Creek Radi** 58.96 62 ⇓P P 10 40 57.9 +0.5
baz=59
MOD **Modoc** 59.02 60 ⇓P P 10 40 57.3 -0.4
baz=59
F11A **Grangeville** 59.08 55 P P 10 40 57.8 -0.2
baz=59,SNR=19
AKTK **Aktyubinsk** 59.14 312 P P 10 40 57.0 -1.4
AKTO **Aktyubinsk** 59.14 312 P P 10 40 57.0 -1.4
AKTO pmax pmax
comp=Z,2.0nm,0.5s,mb4.4
AKTO **Aktyubinsk** 59.14 312 P P 10 40 57.0 -1.4
comp=Z,2.3nm,0.5s,mb4.5,baz=64,slow=8.6,SNR=9.8
K07A **Rock Creek Ran** 59.18 59 ⇑P P 10 40 59.4 +0.6
baz=59
SMLA **Simla** 59.23 284 *eP* P 10 40 59.3 0.0
SMLA AMb AMB 10 41 00.6
comp=Z,207nm,0.9s,mb6.1
J08A **Circle Bar Ran** 59.24 58 ⇑P P 10 40 59.3 +0.1
baz=59,SNR=7.7
C14A **Swan Lake** 59.29 52 ⇑P P 10 40 59.3 -0.2
baz=59
G11A **Walters Elk Ra** 59.30 55 ⇓P P 10 40 59.2 -0.4
baz=59,SNR=15
D13A **Huson** 59.30 53 ⇑P P 10 40 59.4 -0.2
baz=59
I09A **Lost Marbles R** 59.30 57 P P 10 41 00.0 +0.4
baz=59,SNR=9.3
KAPI **Kappang** 59.32 220 P P 10 40 59.3 -0.7
comp=Z,110nm,1.6s,mb5.6,SNR=6.3
M06C **Likely Place G** 59.33 61 ⇓P P 10 40 60.0 +0.1
baz=59
THN **Thein Dam** 59.38 286 *eP* P 10 41 00.3 -0.1
O04C **Chester** 59.49 62 ⇓P P 10 41 01.3 +0.3
baz=59,SNR=6.4
H10A **Noah's Angus R** 59.51 56 ⇓P P 10 41 01.1 0.0
baz=59
MNRC **McLaughlin Nat** 59.51 64 ⇑P P 10 41 01.7 +0.5
baz=59
ELFS **Eagle Lake Fie** 59.53 62 P P 10 41 01.9 +0.7
baz=59,SNR=10
L07A **Adell** 59.53 60 P P 10 41 01.9 +0.7
baz=59,SNR=11
K08A **Mann Creek Ran** 59.61 59 P P 10 41 02.3 +0.5
baz=59,SNR=16
F12A **Elk City** 59.66 54 P P 10 41 02.3 +0.2
baz=59,SNR=21
J09A **Fry Pan Ranch,** 59.67 58 P P 10 41 02.7 +0.5
baz=59,SNR=13
ORV **Oroville** 59.69 63 ⇓P P 10 41 01.7 -0.7
baz=60
WVOR **Wild Horse Val** 59.70 59 P P 10 41 02.6 +0.2
WVOR **Wild Horse Val** 59.70 59 P P 10 41 02.7 +0.3
WVOR pmax pmax
comp=Z,24nm,1.1s,mb5.1
SUTB **Sutter Butte** 59.71 64 ⇓P P 10 41 02.0 -0.5
baz=60
I10A **Payette** 59.78 57 ⇑P P 10 41 03.2 +0.3
baz=60
O05C **Quincy** 59.80 62 ⇑P P 10 41 03.2 +0.1
baz=60
CVS **Carmenet Viney** 59.83 65 ⇓P P 10 41 03.2 -0.1
baz=60
D14A **Greenough** 59.83 52 P P 10 41 03.1 -0.1
baz=60,SNR=26
E13A **Victor** 59.84 53 ⇓P P 10 41 03.1 -0.2
baz=60,SNR=16
H11A **Donnelly** 59.86 56 P P 10 41 03.5 0.0
baz=60,SNR=22
FARB **Farallon Islan** 59.88 66 ⇓P P 10 41 02.8 -0.8
baz=60
Q03C **Winters** 59.93 64 ⇓P P 10 41 04.3 +0.2
baz=60
N06A **Buffalo Meadow** 59.99 61 P P 10 41 04.7 +0.2
baz=60,SNR=13
L08A **Fields** 60.02 59 ⇑P P 10 41 04.4 -0.2
baz=60,SNR=14
K09A **Rome** 60.08 58 ⇑P P 10 41 05.3 +0.3
baz=60,SNR=10
F13A **Darby** 60.16 54 P P 10 41 05.2 -0.3
baz=60,SNR=14
J10A **Berg Farm, Mel** 60.20 57 ⇑P P 10 41 05.8 0.0
baz=60
Q04C **Lincoln** 60.20 64 ⇓P P 10 41 05.9 0.0
baz=60
BEKR **Beckwourth** 60.20 62 P P 10 41 05.9 0.0
baz=60,SNR=9.2
E14A **Clinton** 60.24 53 ⇑P P 10 41 05.8 -0.3
baz=60,SNR=13
O06A **Flanigan** 60.35 62 ⇑P P 10 41 06.6 -0.3
baz=60
D15A **Lincoln** 60.39 52 P P 10 41 07.2 +0.1
baz=60,SNR=15
P05C **Yuba Gap, Truc** 60.39 63 ⇑P P 10 41 07.3 +0.1
baz=60
M08A **Happy Creek Ra** 60.44 60 P P 10 41 08.1 +0.6
baz=60,SNR=7.7
N07B **Gerlach** 60.49 61 ⇑P P 10 41 08.0 +0.1
baz=60
L09A **Wilkinson Ranc** 60.52 59 P P 10 41 08.6 +0.5
baz=60,SNR=7.1
K10A **MacKenzie Ranc** 60.53 58 P P 10 41 08.5 +0.4
baz=60,SNR=24
P06A **Stead Airport,** 60.60 62 ⇓P P 10 41 08.6 -0.1
baz=60
H12A **Diamond D Ranc** 60.61 55 P P 10 41 08.3 -0.4
baz=60,SNR=7.0
G13A **Cobalt** 60.63 54 P P 10 41 08.6 -0.1
baz=60,SNR=32
LAVA **Lava Cap Winer** 60.65 63 P P 10 41 08.8 -0.2
baz=60,SNR=11
F14A **Wisdom** 60.68 53 ⇓P P 10 41 08.9 -0.2
baz=60,SNR=7.1
E15A **Deer Lodge** 60.70 52 P P 10 41 09.3 +0.1
baz=60,SNR=15
WENL **Wente Brothers** 60.70 65 ⇑P P 10 41 09.0 -0.4
baz=60
NDI **New Delhi** 60.73 282 *eP* P 10 41 09.5 -0.2
NDI AMb AMB 10 41 10.6
comp=Z,83nm,2.3s,mb5.5
BNLO **Ben Lomond (Sa** 60.74 66 ⇓P P 10 41 08.9 -0.7
baz=60
MFID **Camas Ranch** 60.75 57 P P 10 41 09.7 +0.1
baz=60,SNR=9.1
FFC **Flin Flon** 60.81 40 P P 10 41 09.7 -0.1
comp=Z,154nm,1.4s,mb5.9,SNR=19
FFC **Flin Flon** 60.81 40 P P 10 41 09.8 0.0
FFC pmax pmax
comp=Z,44nm,1.2s,mb5.5
R04C **Big Horse Ranc** 60.83 64 ⇑P P 10 41 09.6 -0.6
baz=61
WCN **Washoe City** 60.92 62 P P 10 41 11.2 +0.4
baz=61,SNR=8.2
H13A **Challis** 60.95 55 ⇑P P 10 41 10.6 -0.3
baz=61,SNR=21
G14A **Jackson** 60.98 54 ⇓P P 10 41 10.4 -0.7
baz=61
N08A **GE Springer Mi** 61.00 60 ⇓P P 10 41 11.2 -0.1
baz=61,SNR=8.9
M09A **Marrel Ranch,** 61.01 59 ⇓P P 10 41 11.8 +0.4
baz=61,SNR=7.1
R05C **Kirkwood Meado** 61.09 63 P P 10 41 12.2 +0.2
baz=61,SNR=7.8
F15A **Butte** 61.14 53 ⇓P P 10 41 12.2 -0.1
baz=61,SNR=23
L10A **Juniper Basin** 61.19 58 ⇑P P 10 41 12.5 0.0
baz=61,SNR=12
EGMT **Eagleton** 61.27 49 ⇑P P 10 41 12.6 -0.4
baz=61
J12A **Stokes Ranch,** 61.27 56 P P 10 41 13.5 +0.4
baz=61,SNR=19
P07A **Fallon** 61.30 62 ⇑P P 10 41 13.6 +0.2
baz=61
CMB **Columbia Colle** 61.31 64 P P 10 41 13.8 +0.4
CMB pmax pmax
comp=Z,31nm,1.3s,mb5.3
CMB **Columbia Colle** 61.31 64 ⇑P P 10 41 13.2 -0.3
baz=61,SNR=9.8
N09A **Rock Creek Ran** 61.32 60 P P 10 41 14.0 +0.5
baz=61,SNR=6.8
PACP **Pacheco Peak** 61.38 65 ⇓P P 10 41 14.5 +0.5
baz=61
FCC **Fort Churchill** 61.39 33 P P 10 41 12.9 -0.7
FCC pmax pmax
comp=Z,35nm,1.4s,mb5.3
I13A **Wildhorse Cree** 61.42 55 P P 10 41 14.6 +0.4
baz=61,SNR=22
HLID **Hailey** 61.47 56 ⇓P P 10 41 14.9 +0.4
baz=61
M10A **I.L. Ranch, Tu** 61.49 59 ⇑P P 10 41 15.1 +0.5
baz=61,SNR=14
G15A **Dillon** 61.56 53 P P 10 41 14.9 -0.2
baz=61,SNR=16
R06C **Coleville** 61.59 63 P P 10 41 15.9 +0.6
baz=61,SNR=10
HAST **Hastings Reser** 61.59 66 ⇑P P 10 41 16.3 +0.9
baz=61
BLSP **Bilaspur** 61.62 273 *eP* P 10 41 16.0 +0.2
BLSP AMb AMB 10 41 24.5
comp=Z,37nm,1.2s,mb5.4
P08A **Dixie Valley** 61.70 61 ⇓P P 10 41 16.7 +0.7
baz=62
J13A **Cove Ranch, Pi** 61.71 56 P P 10 41 16.2 +0.1
baz=61,SNR=18
Q07A **Schurz** 61.72 62 ⇓P P 10 41 16.3 +0.1
baz=62
BOZ **Bozeman (W)** 61.74 53 P P 10 41 16.8 +0.6
BOZ pmax pmax
comp=Z,66nm,1.5s,mb5.5
BOZ **Bozeman (W)** 61.74 53 ⇓P P 10 41 16.3 +0.1
baz=61
K12A **Draper Farm, C** 61.76 57 P P 10 41 16.8 +0.3
baz=62,SNR=12
S05C **Merced** 61.77 64 P P 10 41 16.5 0.0
baz=62,SNR=8.7
KAKA **Kakadu** 61.84 203 *eP* P 10 41 16.9 -0.2
comp=Z,28nm,0.8s,mb5.5
O09A **Fish Creek Ran** 61.94 60 P P 10 41 18.4 +0.7
baz=62,SNR=9.6
M11A **Holland Ranch,** 61.99 58 ⇓P P 10 41 18.5 +0.5
baz=62,SNR=12
L12A **House Creek Ra** 62.00 57 ⇑P P 10 41 18.4 +0.3
baz=62,SNR=18
N10A **Dunphy** 62.01 59 ⇓P P 10 41 18.4 +0.2
baz=62
U04C **Hernandez Rese** 62.10 66 ⇓P P 10 41 19.1 +0.3
baz=62
R07C **Lee Vining** 62.10 63 ⇑P P 10 41 19.4 +0.6
baz=62
K13A **Stover Farm, H** 62.23 56 ⇑P P 10 41 20.1 +0.5
baz=62
O10A **Cortez Mining,** 62.28 60 ⇑P P 10 41 20.5 +0.5
baz=62
Q08A **Gabbs** 62.31 62 P P 10 41 20.4 +0.2
baz=62,SNR=19
P09A **Austin** 62.36 61 ⇑P P 10 41 20.6 +0.2
baz=62,SNR=5.9
T06C **Millerton Lake** 62.37 64 ⇓P P 10 41 20.0 -0.6
baz=62,SNR=6.4
N11A **Elko Archery C** 62.41 59 ⇓P P 10 41 21.1 +0.4
baz=62
KCC **Kaiser Creek** 62.41 64 P P 10 41 21.2 +0.3
baz=62,SNR=5.5
M12A **Wells** 62.51 58 P P 10 41 22.2 +0.7
baz=62,SNR=19
R08A **Mina** 62.52 62 ⇑P P 10 41 21.7 +0.1
baz=62
U05C **Westside ANR,** 62.53 65 ⇓P P 10 41 22.0 +0.3
baz=62
L13A **Double Diamond** 62.66 57 ⇓P P 10 41 22.6 +0.2
baz=62,SNR=11
P10A **Eureka** 62.72 60 ⇑P P 10 41 23.2 +0.3
baz=62,SNR=7.2
Q09A **Carvers** 62.78 61 ⇓P P 10 41 23.3 -0.1
baz=62
N12A **Clover Valley,** 62.80 59 P P 10 41 23.9 +0.5
baz=62,SNR=9.6
K14A **Jones Ranch, D** 62.81 56 ⇓P P 10 41 23.9 +0.4
baz=62,SNR=13
O11A **Cowboy Ranch,** 62.88 59 P P 10 41 24.5 +0.5
baz=63,SNR=7.7
M13A **Montello** 62.99 58 P P 10 41 25.2 +0.5
baz=63,SNR=14
HELL **Mitchell Peak** 63.00 64 P P 10 41 24.4 -0.5
baz=63,SNR=16
S08C **White Mtn Res** 63.01 63 P P 10 41 25.4 +0.5
baz=63,SNR=10
R09A **Tonopah** 63.22 62 P P 10 41 26.1 -0.1
baz=63,SNR=30
Q10A **Clear Creek Ra** 63.26 61 ⇑P P 10 41 26.4 -0.1
baz=63,SNR=13
N13A **Wendover, West** 63.28 58 ⇑P P 10 41 26.6 0.0
baz=63,SNR=8.6
O12A **Currie** 63.34 59 P P 10 41 27.1 +0.1
baz=63,SNR=18
M14A **Sheep Mountain** 63.37 57 P P 10 41 27.6 +0.4
baz=63,SNR=10
S09A **Goldfield** 63.45 62 P P 10 41 27.9 +0.1
baz=63,SNR=13
VES **Vestal, Richgr** 63.49 65 ⇓P P 10 41 27.5 -0.6
baz=63
PKM **Peak Mountain** 63.63 66 ⇓P P 10 41 29.4 +0.4
baz=63
R10A **Warm Springs** 63.66 61 ⇓P P 10 41 29.2 +0.1
baz=63,SNR=7.7
Q11A **Duckwater** 63.70 61 P P 10 41 29.3 -0.1
baz=63,SNR=8.6
S10A **Tonopah Range,** 63.71 62 ⇑P P 10 41 29.6 +0.1
baz=64,SNR=18
CWC **Cottonwood Cre** 63.74 64 P P 10 41 29.8 0.0
baz=64,SNR=9.9
P12A **McGill** 63.74 60 ⇓P P 10 41 29.5 -0.2
baz=64,SNR=6.1
VIS **Vishakhapatnam** 63.76 268 *eP* P 10 41 30.6 +0.5
VIS AMb AMB 10 41 35.3
comp=Z,82nm,1.9s,mb5.4
GRAC **Grapevine Rang** 63.82 63 ⇓P P 10 41 30.5 +0.3
baz=64,SNR=16
O13A **Hicks Ranch, I** 63.88 59 ⇓P P 10 41 30.5 0.0
baz=64,SNR=5.5
N14A **Grayback Hills** 63.88 58 P P 10 41 30.8 +0.2
baz=64,SNR=6.4
AJM **Ajmer** 63.89 282 *eP* P 10 41 31.6 +0.7
AJM AMb AMB 10 41 44.8
comp=Z,117nm,1.3s,mb5.8
M15A **Larsen Ranch,** 63.92 57 ⇓P P 10 41 31.0 +0.2
baz=64,SNR=7.9
ISA **Isabella** 63.99 65 ⇑P P 10 41 30.8 -0.6
baz=64
R11A **Troy Canyon, C** 64.05 61 P P 10 41 31.8 0.0
baz=64,SNR=22
Q12A **Willow Creek R** 64.07 60 ⇑P P 10 41 32.0 +0.2
baz=64
ARVC **Arvin** 64.11 66 ⇑P P 10 41 31.7 -0.4

baz=64
BHPL Bhopal 64.12 277 *i* x x 10 41 45.2
N15A Stansbury Isla 64.25 57 ⇓P **P 10 41 32.7 -0.3**
baz=64
P13A Bates Ranch, G 64.29 59 P **P 10 41 33.5 +0.2**
baz=64,SNR=12
MPMC Manual Prospec 64.35 64 P **P 10 41 33.7 0.0**
baz=64,SNR=11
NGP Nagpur 64.39 274 *e*P **P 10 41 33.1 -1.1**
NGP AMb AMB 10 41 34.2
comp=Z,53nm,1.1s,mb5.5
S11A Rachel 64.41 62 P **P 10 41 34.3 +0.2**
baz=64,SNR=13
FINES FINESS Array B 64.44 335 P **P 10 41 33.0 -1.0**
FINES LR LR 11 14 22.4
FINES FINESS Array B 64.44 335 P **P 10 41 33.0 -0.9**
FINES pmax pmax
comp=Z,7.0nm,0.6s
FINES MLR MLR
comp=Z,763nm,20.9s
FINES FINESS Array B 64.44 335 P **P 10 41 33.0 -1.0**
comp=Z,7.4nm,0.6s,mb4.9,baz=38,slow=7.9,SNR=48
FINES LR LR 11 14 22.4
comp=Z,763nm,20.9s,MS4.9,baz=22,slow=40
FURC Furnace Creek, 64.48 63 ⇑P **P 10 41 34.3 -0.2**
baz=64,SNR=16
OSI Osito Adit 64.50 66 ⇓P **P 10 41 34.7 0.0**
baz=64
DUG Dugway 64.52 58 P **P 10 41 34.9 +0.1**
DUG pmax pmax
comp=Z,33nm,1.1s,mb5.3
DUG Dugway 64.52 58 ⇑P **P 10 41 35.0 +0.2**
baz=64
TPNV Topopah Spring 64.55 63 P **P 10 41 35.0 0.0**
TPNV pmax pmax
comp=Z,48nm,1.3s,mb5.4
TPNV Topopah Spring 64.55 63 ⇓P **P 10 41 34.5 -0.5**
baz=64
LRMC Laurel Mountai 64.60 65 ⇓P **P 10 41 35.1 -0.3**
baz=64
Q13A Wheeler Ranch, 64.61 60 ⇓P **P 10 41 35.4 0.0**
baz=64
R12A Pony Springs, 64.66 60 ⇑P **P 10 41 35.4 -0.3**
baz=64,SNR=15
PDAR Pinedale Array 64.72 54 P **P 10 41 36.0 -0.1**
comp=Z,9.4nm,0.9s,mb4.8,baz=302,slow=2.8,SNR=64
PDAR LR LR 11 06 30.3
comp=Z,382nm,20.6s,MS4.6,baz=328,slow=33
EDW2 Edwards Air Fo 64.79 65 ⇓P **P 10 41 36.3 -0.3**
baz=65,SNR=7.6
U10A Ash Meadows, A 64.84 63 ⇓P **P 10 41 37.0 +0.1**
baz=65,SNR=11
MOS Moscow 64.86 326 *e*P **P 10 41 45.2 +8.5**
S12A Delamar Landin 64.97 61 P **P 10 41 38.3 +0.5**
baz=65,SNR=13
T11A Corn Creek, Al 64.99 62 P **P 10 41 38.0 +0.1**
baz=65,SNR=24
SHOC Shoshone 65.20 63 ⇓P **P 10 41 39.1 -0.2**
baz=65
GSC Goldstone 65.26 64 P **P 10 41 39.9 +0.2**
GSC Goldstone 65.26 64 ⇓P **P 10 41 39.6 -0.1**
baz=65
U11A Corn Creek 65.42 62 ⇓P **P 10 41 41.0 +0.4**
baz=65,SNR=5.9
BFSC Mount Baldy St 65.42 66 ⇑P **P 10 41 40.7 0.0**
baz=65
S13A Holt Ranch, En 65.59 61 P **P 10 41 42.1 +0.4**
baz=65,SNR=24
R14A James Farms, M 65.63 60 ⇑P **P 10 41 41.7 -0.3**
baz=65
ARUT Antelope Range 65.71 60 P **P 10 41 42.7 +0.1**
TUQ Turquoise Mtn. 65.72 64 ⇑P **P 10 41 42.3 -0.3**
baz=66,SNR=12
OBN Obninsk 65.72 326 *i* P **P 10 41 41.9 -0.5**
OBN *e* 10 42 10.1
OBN *e*S S 10 50 27.5 -0.9
OBN *e*SS SS 10 54 44.1 +2.4
OBN pmax pmax
comp=Z,18nm,1.3s,mb4.9
OBN MLR MLR
comp=Z,500nm,13.0s,MS4.9
V11A Goodsprings 65.77 63 P **P 10 41 43.0 0.0**
baz=66,SNR=8.6
BBRC Big Bear Sol-O 65.86 65 ⇑P **P 10 41 43.4 -0.2**
baz=66
HEC Hector,Ludlow 65.86 64 P **P 10 41 43.4 -0.2**
baz=66,SNR=10.0
S14A Cedar City 65.89 60 P **P 10 41 43.9 +0.1**
baz=66,SNR=5.8
U12A Valley of Fire 65.93 62 ⇑P **P 10 41 44.0 0.0**
baz=66
T13A Saint George 65.93 61 P **P 10 41 44.5 +0.5**
baz=66,SNR=13
MSU Marysvale 65.99 59 P **P 10 41 44.4 +0.1**
AKL Akola 66.10 275 *e*P **P 10 41 46.0 +0.7**
AKL AMb AMB 10 41 47.4
comp=Z,51nm,1.4s,mb5.4
MURC Murrieta 66.12 66 ⇑P **P 10 41 45.0 -0.3**
baz=66
V12A Nelson 66.20 63 ⇓P **P 10 41 45.5 -0.2**
baz=66,SNR=12
U13A Pakoon Wash 66.29 62 P **P 10 41 46.7 +0.4**
baz=66,SNR=21
GMRC Granite Mounta 66.31 64 P **P 10 41 46.4 -0.1**
baz=66,SNR=20
T14A Hurricane 66.40 61 ⇑P **P 10 41 47.1 +0.1**
baz=66
W12A Cal Nev Ari 66.46 63 ⇓P **P 10 41 46.8 -0.6**
baz=66
CTA Charters Tower 66.53 187 LR LR 11 08 19.9
comp=Z,354nm,18.5s,MS4.6,baz=160,slow=34
SRU San Rafael 66.57 57 *e*P **P 10 41 48.1 +0.1**
SRU pmax pmax
comp=Z,29nm,1.0s,mb5.3
PFO Pinyon Flat Ob 66.58 65 ⇑P **P 10 41 47.7 -0.6**
baz=66
ULM Lac du Bonnet 66.59 41 P **P 10 41 46.8 -1.3**
comp=Z,7.0nm,0.9s,mb4.7,baz=318,slow=8.1,SNR=14
ULM LR LR 11 12 41.8
comp=Z,710nm,20.4s,MS4.9,baz=264,slow=38
BELC Belle Mtn. 66.61 65 ⇓P **P 10 41 47.6 -0.8**
baz=66,SNR=6.1
U14A Mt Trumbull 66.76 61 ⇑P **P 10 41 49.3 0.0**
baz=66,SNR=19
RSSD Black Hills 66.83 50 P **P 10 41 49.0 -0.6**
RSSD pmax pmax
comp=Z,22nm,1.0s,mb5.1
T15A Red Dirt Ranch 66.85 60 P **P 10 41 50.1 +0.2**
baz=67,SNR=13
NEE2 Needles Airpor 66.97 63 ⇓P **P 10 41 50.0 -0.7**
baz=67
IRM Iron Mountain 67.04 64 ⇑P **P 10 41 50.5 -0.7**
baz=67,SNR=14
BC3 Big Chuckw Mtn 67.18 65 P **P 10 41 51.6 -0.5**
baz=67,SNR=5.5
W13A Hualapai Mount 67.20 63 ⇓P **P 10 41 51.8 -0.4**
baz=67,SNR=14
HYB Hyderabad 67.27 272 *i* P **P 10 41 54.0 +1.2**
V14A Boquillas Ranc 67.33 62 P **P 10 41 53.5 +0.5**
baz=67,SNR=30
T16A Glen Canyon Da 67.40 60 ⇓P **P 10 41 52.5 -0.8**
baz=67
DVTC Desert V Tower 67.43 66 ⇓P **P 10 41 53.4 -0.3**
baz=67
SWSC Sam W. Stewart 67.44 66 ⇓P **P 10 41 53.3 -0.4**
baz=67
X13A Yucca 67.57 63 P **P 10 41 54.3 -0.2**
baz=67,SNR=21
PDMCI Parker Dam,Lak 67.57 63 ⇓P **P 10 41 54.2 -0.4**
baz=67,SNR=9.1
W14A Seligman 67.62 62 P **P 10 41 55.0 +0.2**
baz=67,SNR=25
Y12C Blythe 67.70 64 ⇑P **P 10 41 55.0 -0.3**
baz=68,SNR=6.3
LATR Latur 67.96 274 *e*P **P 10 41 56.8 -0.3**
LATR AMb AMB 10 41 57.8
comp=Z,36nm,0.8s,mb5.5
GLA Glamis 67.97 65 P **P 10 41 56.9 -0.2**
GLA Glamis 67.97 65 P **P 10 41 57.0 0.0**
baz=68,SNR=12
Y13A Salome 68.09 64 P **P 10 41 58.1 +0.4**
baz=68,SNR=7.0
W15A Williams 68.14 62 ⇑P **P 10 41 58.4 +0.4**
baz=68
X14A Yava 68.23 63 P **P 10 41 59.0 +0.3**
baz=68,SNR=10
WRAB Tennant Creek 68.28 199 P **P 10 41 58.9 0.0**
comp=Z,284nm,0.9s,mb6.3,SNR=11
WRAB Tennant Creek 68.28 199 P **P 10 41 58.6 -0.3**
WRAB pmax pmax
comp=Z,41nm,0.9s,mb5.5
WB2 Warramunga Arr 68.29 199 *e*P **P 10 41 58.8 -0.2**
WRA Warramunga Arr 68.30 199 *i* P **P 10 41 58.7 -0.3**
WRA pmax pmax
comp=Z,31nm,0.9s
WRA Warramunga Arr 68.30 199 P **P 10 41 58.8 -0.2**
comp=Z,31nm,0.8s,mb5.4,baz=17,slow=6.8,SNR=132
WRA LR LR 11 10 15.6
comp=Z,217nm,20.5s,MS4.4,baz=35,slow=34
WUAZ Wupatki 68.45 61 ⇓P **P 10 42 00.1 +0.1**
baz=68
Y14A Wickenburg 68.52 63 P **P 10 42 00.3 -0.1**
baz=68,SNR=14
NB2 NORSAR Subarra 68.62 341 P **P 10 41 59.7 -0.9**
comp=Z,7.2nm,0.7s,mb4.7,baz=28,slow=6.5
NOA NORSAR Array B 68.62 341 P **P 10 42 00.6 0.0**
NOA pmax pmax
comp=Z,11nm,0.8s
NOA MLR MLR
comp=Z,410nm,20.9s
NOA NORSAR Array B 68.62 341 P **P 10 42 00.6 0.0**
comp=Z,11nm,0.8s,mb4.9,baz=27,slow=6.4,SNR=21
NOA LR LR 11 15 53.4
comp=Z,410nm,20.9s,MS4.6,baz=25,slow=39
X15A Humboldt 68.62 62 P **P 10 42 01.6 +0.6**
baz=68,SNR=28
HFS Hagfors 68.85 340 P **P 10 42 01.7 -0.4**
HFS pmax pmax
comp=Z,14nm,0.7s
HFS Hagfors 68.85 340 P **P 10 42 01.7 -0.4**
comp=Z,14nm,0.7s,mb5.0,baz=57,slow=5.5,SNR=52
ISCO Idaho Springs 68.91 54 P **P 10 42 03.7 +0.9**
ISCO pmax pmax
comp=Z,21nm,1.0s,mb5.0
Y15A Casa Rosa Ranc 68.92 63 P **P 10 42 03.2 +0.2**
baz=69,SNR=21
Z14A Wintersburg 68.94 64 ⇓P **P 10 42 02.9 -0.2**
baz=69
FITZ Fitzroy Crossi 68.99 208 *e*P **P 10 42 04.0 +0.7**
comp=Z,44nm,0.9s,mb5.4
MVCO Mesa Verde 69.02 58 ⇓P **P 10 42 03.7 +0.1**
baz=69
X16A Lo Mia Camp, P 69.15 62 P **P 10 42 04.9 +0.5**
baz=69,SNR=25
BHJ Bhuj 69.41 282 *e*P **P 10 42 06.2 +0.1**
BHJ AMb AMB 10 42 21.0
comp=Z,116nm,1.1s,mb5.7
Y16A Circle Bar Ran 69.49 62 P **P 10 42 07.0 +0.4**
baz=69,SNR=13
POO Poona 69.75 276 *e*P **P 10 42 08.4 +0.1**
POO AMb AMB 10 42 23.2
comp=Z,53nm,1.1s,mb5.4
115A Sonoran Desert 69.83 64 ⇓P **P 10 42 08.7 +0.1**
baz=70,SNR=9.0
Z16A Peralta Trail, 69.89 63 ⇑P **P 10 42 08.8 -0.2**
baz=70
116A Eloy 70.25 63 ⇑P **P 10 42 11.1 -0.1**
baz=70,SNR=5.1
KAD Karad 70.36 275 *e*P **P 10 42 11.7 -0.3**
KAD AMb AMB 10 42 22.0
comp=Z,62nm,1.6s,mb5.3
216A Three Points, 70.78 64 ⇓P **P 10 42 14.2 -0.3**
baz=70,SNR=7.5
Z18A Geronimo 70.91 62 ⇓P **P 10 42 15.4 +0.2**
baz=71,SNR=6.6
KIV Kislovodsk 71.21 315 *e*P **P 10 42 17.2 +0.3**
KIV pmax pmax
comp=Z,16nm,1.1s,mb4.9
KIV MLR MLR
comp=Z,750nm,18.0s,MS5.0
KIV Kislovodsk 71.21 315 P **P 10 42 17.5 +0.6**
SNR=9.9
KIV Kislovodsk 71.21 315 P **P 10 42 17.5 +0.6**
SNR=9.9
217A Green Valley 71.33 63 ⇓P **P 10 42 17.9 +0.1**
baz=71,SNR=9.1
119A Ashpeak Ranch, 71.58 62 ⇓P **P 10 42 19.3 0.0**
baz=71,SNR=7.3
218A Dragoon 71.67 63 ⇑P **P 10 42 20.3 +0.4**
baz=71,SNR=5.1
ANMO Albuquerque 71.77 58 P **P 10 42 20.7 +0.3**
ANMO pmax pmax
comp=Z,17nm,1.0s
AKASG Malin Array Be 71.96 326 P **P 10 42 20.1 -1.2**
AKASG pmax pmax
comp=Z,14nm,0.6s
AKASG MLR MLR
comp=Z,771nm,18.7s
AKASG Malin Array Be 71.96 326 P **P 10 42 20.1 -1.2**
comp=Z,14nm,0.6s,mb5.0,baz=33,slow=6.1,SNR=58
AKASG LR LR 11 16 27.0
comp=Z,771nm,18.7s,MS5.0,baz=340,slow=38
KIEV Kiev 71.97 326 P **P 10 42 20.1 -1.2**
KIEV pmax pmax
comp=Z,64nm,1.2s,mb5.4
ASAR Alice Springs 71.99 199 P **P 10 42 22.6 +1.0**
ASAR pmax pmax
comp=Z,30nm,0.8s
ASAR Alice Springs 71.99 199 P **P 10 42 22.6 +1.0**
comp=Z,30nm,0.8s,mb5.3,baz=15,slow=6.0,SNR=275
318A Bisbee 72.07 63 P **P 10 42 22.4 +0.1**
baz=72,SNR=13
Y22C IRIS PASSCAL I 72.11 59 ⇓P **P 10 42 23.2 +0.7**
baz=72
319A Douglas 72.55 63 P **P 10 42 25.4 +0.2**
baz=72,SNR=23
SOC Sochi 72.94 316 *e*P **P 10 42 26.6 -0.6**
SOC pmax pmax
comp=Z,14nm,0.8s,mb4.9
SOC MLR MLR
comp=Z,1μm,17.0s,MS5.2
KOD Kodaikanal 73.03 267 *e*P **P 10 42 28.6 +0.4**
KOD AMb AMB 10 42 32.4
comp=Z,37nm,2.1s,mb4.9
SCHQ Schefferville 73.50 23 P **P 10 42 29.4 -0.9**
comp=Z,6.2nm,1.0s,mb4.5,baz=9.8,slow=9.8,SNR=4.3
SCHQ LR LR 11 19 31.8
comp=Z,505nm,18.9s,MS4.8,baz=94,slow=40
TUTA Tutak 74.50 311 *i* P **P 10 42 38.1 +1.6**
TRD Trivandrum 74.61 266 *e*P **P 10 42 37.7 +0.3**
TRD AMb AMB 10 42 42.2
comp=Z,65nm,1.6s,mb5.3
ERZM Erzurum 74.87 312 *i* P **P 10 42 40.0 +1.4**
KIS Kishinev 75.10 324 *e*P **P 10 42 38.0 -1.8**
KIS LRM 11 23 46.0
comp=Z,500nm,16.0s
KOPT Kop Dagi 75.23 313 *i* P **P 10 42 42.0 +1.3**
KWP Kalwaria 75.23 329 *e*P **P 10 42 41.1 +0.6**
KWP Kalwaria 75.23 329 *e*P **P 10 42 41.1 +0.6**
KWP Kalwaria 75.23 329 ⇓*i*P **P 10 42 41.7 +1.2**
HAKT HAKKARI 75.39 309 *i* P **P 10 42 42.4 +0.8**
GRSN GIRESUNGRSN 75.65 315 *e*P **P 10 43 33.2 -10**
STHS Stebnicka Huta 75.93 330 *e*P **P 10 42 44.9 +0.4**
comp=Z,21nm,0.8s,mb5.1
STHS *e* 10 42 54.2
STHS Stebnicka Huta 75.93 330 *e*P **P 10 42 44.9 +0.4**
STHS *e* 10 42 54.2
STHS pmax pmax
comp=Z,21nm,0.8s,mb5.1
KOLS Kolonicke sedl 75.98 329 *e*P **P 10 42 44.2 -0.6**
KOLS *e*pP pP 10 42 53.3 +6.1
UZH Uzhgorod 76.22 329 *e*P **P 10 42 52.0 +5.8**
UZH *e* 10 43 06.8
CRVS Cervenica-Dubn 76.29 330 *e*P **P 10 42 47.1 +0.5**
CRVS *e* 10 43 00.6
KSP Ksiaz 76.31 334 *e*P **P 10 42 47.5 +0.8**
KSP Ksiaz 76.31 334 *e*P **P 10 42 47.3 +0.7**
KSP *e*pP pP 10 42 53.6 +4.6
KSP *e*PcP PcP 10 42 58.4 -0.1
WMOK Wichita Mounta 76.33 54 P **P 10 42 46.7 -0.4**
WMOK pmax pmax
comp=Z,14nm,1.0s,mb4.8
NRDL Niedersach Rie 76.58 338 *e*P **P 10 42 47.5 -0.7**
comp=Z,43nm,1.7s,mb5.1
OKC Ostrava-Krasne 76.60 332 *e*P **P 10 42 51.5 +3.2**
OKC *e*pP pP 10 42 56.3 +5.6
UPC Upice 76.69 334 *e*P **P 10 42 50.1 +1.3**
UPC *e*pP pP 10 42 56.5 +5.3
EKA Eskdalemuir Ar 76.71 347 P **P 10 42 48.4 -0.5**
EKA Eskdalemuir Ar 76.71 347 P **P 10 42 48.4 -0.4**
EKA pmax pmax
comp=Z,1.0nm,0.5s
EKA Eskdalemuir Ar 76.71 347 P **P 10 42 48.4 -0.5**
comp=Z,1.3nm,0.5s,mb4.1,baz=24,slow=4.8,SNR=9.3
DPC Dobruska-Polom 76.73 333 *e*P **P 10 42 49.0 0.0**
DPC *e*x x 10 42 56.9
DPC AMS AMS 11 23 30.0
comp=Z,1μm,21.1s,MS5.2
MORC Moravsky Berou 76.85 332 ⇑P **P 10 42 50.2 +0.5**
MORC Moravsky Berou 76.85 332 ⇑*i*P **P 10 42 50.2 +0.5**
VRI Vrincioaia 76.86 325 ⇑P **P 10 42 50.9 +1.1**
VRI Vrincioaia 76.86 325 ⇑*i*P **P 10 42 50.9 +1.0**
CLL Collm 76.87 336 *e*P **P 10 42 48.9 -0.9**
comp=Z,52nm,1.1s,mb5.4
CLL Collm 76.87 336 *i* P **P 10 42 48.9 -0.9**
comp=Z,22nm,0.9s,mb5.1
CLL *i* PcP PcP 10 43 02.1 +1.1
comp=Z,52nm,1.1s
BOYT Boyabat 76.88 317 *i* P **P 10 42 50.8 +0.8**
PLOR Plostina 76.90 325 ⇑*i*P **P 10 42 51.0 +0.9**
WBK Wadi Bani Khal 76.96 289 P **P 10 42 52.8 +2.0**
SNR=10.0
WBK Wadi Bani Khal 76.96 289 P **P 10 42 52.8 +2.0**
SNR=10.0
BRG Berggiesshubel 76.98 335 *e*P **P 10 42 50.4 -0.1**
BRG *e* 10 43 02.1
BRG pmax pmax
comp=Z,4.0nm,1.2s,mb4.2
BRG Berggiesshubel 76.98 335 *e*P **P 10 42 51.1 +0.6**
comp=Z,50nm,1.6s,mb5.2
BRG Berggiesshubel 76.98 335 *e*P **P 10 42 50.4 0.0**
comp=Z,7.3nm,1.2s,mb4.5
BRG *e* 10 43 02.1
comp=Z,41nm,1.6s
KECS Kecovo 76.98 330 *e*P **P 10 42 50.0 -0.5**
comp=Z,6.1nm,0.9s,mb4.5
KECS *e* 10 43 01.1
KECS Kecovo 76.98 330 *e*P **P 10 42 50.0 -0.5**
KECS *e* 10 43 01.1
KECS pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
PVCC Panska Ves 77.11 335 *e*P **P 10 42 52.9 +1.8**
PVCC *e*pP pP 10 42 58.0 +4.5
CLZ Clausthal 77.11 338 *e*P **P 10 42 50.9 -0.2**
CLZ pmax pmax
comp=Z,49nm,1.1s,mb5.3
CLZ Clausthal 77.11 338 *e*P **P 10 42 50.9 -0.2**
comp=Z,49nm,1.1s,mb5.3
MARD Mardin 77.12 311 *i* P **P 10 42 52.8 +1.3**
ELZG Elazig 77.14 313 *i* P **P 10 42 53.1 +1.5**
HATD Hatta, Dubai 77.23 292 P **P 10 42 53.0 +0.7**
SNR=16
HATD Hatta, Dubai 77.23 292 P **P 10 42 53.0 +0.7**
SNR=16
HOQ Hoqain 77.36 291 P **P 10 42 54.0 +1.0**
SNR=13
HOQ Hoqain 77.36 291 P **P 10 42 54.0 +1.0**
SNR=13
ASHO Ashiyiah 77.38 292 P **P 10 42 54.1 +1.0**
SNR=20
ASHO Ashiyiah 77.38 292 P **P 10 42 54.1 +1.0**
SNR=20
TXAR Lajitas Array 77.42 61 P **P 10 42 53.0 -0.3**
TXAR Lajitas Array 77.42 61 P **P 10 42 53.0 -0.3**
TXAR pmax pmax
comp=Z,13nm,0.8s
TXAR Lajitas Array 77.42 61 P **P 10 42 53.0 -0.3**
comp=Z,13nm,0.8s,mb4.9,baz=300,slow=4.3,SNR=122
MLR Muntele Rosu 77.48 325 ⇓P **P 10 42 54.2 +0.8**
MLR Muntele Rosu 77.48 325 P **P 10 42 53.6 +0.3**
comp=Z,16nm,0.6s,mb5.2,baz=184,slow=3.1,SNR=31
MLR Muntele Rosu 77.48 325 ⇓*i*P **P 10 42 54.2 +0.9**
VYHS Vyhne 77.54 331 *e*P **P 10 42 53.4 -0.2**
comp=Z,42nm,1.9s,mb5.0
VYHS *e* 10 43 00.1
VYHS Vyhne 77.54 331 *e*P **P 10 42 53.4 -0.2**
VYHS *e* 10 43 00.1
VYHS pmax pmax
comp=Z,42nm,1.9s,mb5.0
CTKT Corum 77.56 317 *i* P **P 10 42 54.7 +0.8**
MALT Malatya 77.57 313 ⇑P **P 10 42 55.3 +1.4**
MALT Malatya 77.57 313 ⇑*i*P **P 10 42 55.3 +1.3**
KOLL Kolacno 77.61 331 *e*P **P 10 42 55.5 +1.5**
DRGR 77.63 328 ⇓P **P 10 42 54.8 +0.6**
DRGR 77.63 328 ⇓*i*P **P 10 42 54.8 +0.7**
PSZ Piszkesteto 77.67 330 ⇓P **P 10 42 55.9 +1.6**
PSZ Piszkesteto 77.67 330 ⇓*i*P **P 10 42 55.9 +1.5**
PSZ Piszkesteto 77.67 330 ⇑*e*P **P 10 42 56.2 +1.8**
MOX Moxa 77.85 336 P **P 10 42 55.9 +0.6**
comp=Z,45nm,1.7s,mb5.1
MOX *e* 10 43 07.5
MOX Moxa 77.85 336 *e*(P) **P 10 42 55.9 +0.6**
MOX *e* 10 43 07.5
comp=Z,45nm,1.7s
MOX Moxa 77.85 336 P **P 10 42 55.9 +0.6**
MOX *e* 10 43 07.5
MOX pmax pmax
comp=Z,45nm,1.7s,mb5.1
MOX Moxa 77.85 336 *e*P **P 10 42 54.7 -0.6**
comp=Z,49nm,1.7s,mb5.2
CCM Cathedral Cave 77.86 47 P **P 10 42 53.9 -1.7**
CCM pmax pmax
comp=Z,35nm,1.3s,mb5.1
VOIR 77.88 326 ⇓P **P 10 42 56.0 +0.4**
VOIR 77.88 326 ⇓*i*P **P 10 42 56.0 +0.4**
WTSB Winterswijk 77.89 340 *e*P **P 10 42 55.9 +0.4**
SLM Saint Louis 77.92 46 *e*P **P 10 43 00.6 +4.7**
TREC Trest 77.92 333 *e*P **P 10 42 58.6 +2.9**
NKC Novy Kostel 77.99 336 *e*P **P 10 42 55.7 -0.4**
BSY Bisya 78.02 290 P **P 10 42 57.9 +1.2**
SNR=14
BSY Bisya 78.02 290 P **P 10 42 57.9 +1.2**
SNR=14
PSN Preselentsi 78.06 323 P **P 10 42 57.5 +0.9**
UBBA Unterbreizbach 78.13 337 *e*P **P 10 42 57.2 +0.3**
comp=Z,49nm,1.8s,mb5.1
MODS Modra-Piesok 78.16 332 *e*P **P 10 42 56.9 -0.2**
ELDT Eldivan 78.30 318 *i* P **P 10 42 58.9 +0.9**
MANZ Manzenberg 78.31 336 *e*P **P 10 42 57.3 -0.5**
comp=Z,18nm,1.3s,mb4.8
FVM French Village 78.33 46 P **P 10 42 57.5 -0.7**
FVM pmax pmax
comp=Z,18nm,1.1s,mb4.9
BUD Budapest 78.35 330 ⇓*e*P **P 10 42 59.7 +1.6**
ZST Bratislava 78.37 332 *e*P **P 10 43 00.6 +2.4**
comp=Z,11nm,0.9s,mb4.8
ZST LR LR
comp=Z,700nm,16.8s,MS5.1
ZST Bratislava 78.37 332 *e*P **P 10 43 00.6 +2.4**
ZST pmax pmax
comp=Z,11nm,0.9s,mb4.8
ZST MLR MLR
comp=Z,700nm,16.8s,MS5.1
ROTZ Rotzenmuhle 78.47 336 *e*P **P 10 42 58.5 -0.3**
comp=Z,29nm,1.3s,mb5.0
CDAG Cicekdag 78.54 316 *i* P **P 10 42 58.0 -1.3**
KHC Kasperske Hory 78.64 334 *e*P **P 10 42 59.5 -0.2**
KHC *e*pP pP 10 43 06.4 +4.3
STKA Stephens Creek 78.68 190 *e*P **P 10 43 00.4 +0.5**
comp=Z,6.8nm,1.3s,mb4.4
STKA Stephens Creek 78.68 190 P **P 10 42 59.3 -0.6**
comp=Z,1.4nm,0.4s,mb4.3,baz=344,slow=4.2,SNR=4.5
STKA LR LR 11 15 40.6
comp=Z,387nm,19.0s,MS4.8,baz=21,slow=34
GZT Gaziantep 78.74 313 *i* P **P 10 43 00.9 +0.5**
GZR Gura Zlata 78.78 327 ⇑P **P 10 43 00.5 -0.1**
GZR Gura Zlata 78.78 327 ⇑*i*P **P 10 43 00.5 -0.1**
GRA1 Grafenberg Arr 78.82 336 *e*P **P 10 43 00.6 -0.1**
comp=Z,39nm,1.0s,mb5.3
GRF Grafenberg Arr 78.82 336 *e*P **P 10 43 00.6 -0.1**
GRF pmax pmax
comp=Z,39nm,1.0s,mb5.3
GRF Grafenberg Arr 78.82 336 *e*P **P 10 43 00.6 -0.1**
GRF pmax pmax
comp=Z,39nm,1.0s,mb5.3
GRF Grafenberg Arr 78.82 336 *e*P **P 10 43 00.6 -0.1**
comp=Z,39nm,1.0s,mb5.3
WET Wettzell 78.84 335 *e*P **P 10 43 00.6 -0.2**
WET pmax pmax
comp=Z,19nm,1.2s,mb4.9
WET Wettzell 78.84 335 *e*P **P 10 43 00.6 -0.2**
comp=Z,19nm,1.2s,mb4.9
GEC2 GERESS Array S 78.86 334 *e*P **P 10 43 00.3 -0.6**
GEC2 pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
GEC2 GERESS Array S 78.86 334 *e*P **P 10 43 00.3 -0.6**
comp=Z,8.0nm,1.0s,mb4.6
GERES GERESS Array B 78.86 334 P **P 10 43 00.6 -0.3**

comp=Z,2.2nm,0.6s,mb4.3,baz=35,slow=4.9,SNR=16
GERES LR LR 11 25 00.7
comp=Z,551nm,19.3s,MS4.9,baz=181,slow=41
JCT Junction City 78.88 57 P **P 10 43 01.0 -0.4**
JCT pmax pmax
comp=Z,42nm,1.2s,mb5.2
SOP Sopron 79.00 332⇑ *e*P **P 10 43 02.2 +0.5**
CONA Conrad Observa 79.00 333⇑ *i*pP pP 10 43 02.0 -2.1
comp=Z,9.0nm,0.7s
ANTO Ankara 79.09 318 P **P 10 43 07.0 +4.6**
ANTO pmax pmax
comp=Z,9.0nm,0.7s,mb4.8
HGN Heimansgroeve 79.22 340 *e*P **P 10 43 03.2 +0.4**
comp=Z,20nm,1.2s,mb4.9
MIAR Mount Ida 79.33 51 P **P 10 43 03.2 -0.5**
MIAR pmax pmax
comp=Z,29nm,1.2s,mb5.1
MEM Membach 79.34 340 P **P 10 43 03.9 +0.4**
comp=Z,26nm,1.6s,mb4.9
PKSM Moragy 79.58 330⇓ P **P 10 43 04.8 -0.2**
PKSM Moragy 79.58 330⇓ *i*P **P 10 43 04.8 -0.1**
PVL Pavlikeni 79.61 324 P **P 10 43 02.3 -2.9**
RUP Ruppelstein 79.92 339 *e*P **P 10 43 08.3 +1.6**
COBT Iskenderun 80.05 313 *i*P **P 10 43 07.5 -0.1**
GIVF Givet 80.09 340 *e*P **P 10 43 06.6 -1.0**
WCI Wyandotte Cave 80.16 44 P **P 10 43 07.9 -0.3**
WCI pmax pmax
comp=Z,33nm,1.1s,mb5.2
STU Stuttgart 80.22 337 *e*P **P 10 43 08.8 +0.5**
FORT Forrest 80.22 202 *e*P **P 10 43 09.1 +0.8**
comp=Z,33nm,1.0s,mb5.2
ESKT Eskisehir 80.27 319 *i*P **P 10 43 08.4 -0.3**
BAIF Baives 80.28 340 *e*P **P 10 43 07.8 -0.8**
comp=Z,31nm,1.1s,mb4.8
BAIF Baives 80.28 340 *e*P **P 10 43 07.8 -0.8**
comp=Z,16nm,1.1s,mb4.8
BAIF Baives 80.28 340 *e*P **P 10 43 07.8 -0.8**
BAIF pmax pmax
comp=Z,16nm,1.1s,mb4.9
GROS Grobnik 80.41 332 *e*P **P 10 43 08.6 -0.8**
KDHN Kadinhani 80.48 317 *e*P **P 10 43 09.2 -0.7**
DIM Dimitrovgrad 80.50 323 *i*P **P 10 43 07.0 -3.0**
KBA Koelnbreinsper 80.55 334 *i*P **P 10 43 10.8 +0.7**
comp=Z,49nm,1.2s,mb5.3,SNR=21
KBA Koelnbreinsper 80.55 334 *i*pP pP 10 43 10.8 -1.7
comp=Z,49nm,1.2s,SNR=21
KBA Koelnbreinsper 80.55 334 *i*P **P 10 43 10.8 +0.7**
KBA pmax pmax
comp=Z,49nm,1.2s,mb5.3
TAOE Nuku Hiva Isla 80.58 113 *e*LR LR 11 07 52.7
comp=Z,13μm,22.4s
BFO Black Forest 80.85 337 P **P 10 43 11.7 0.0**
BFO pmax pmax
comp=Z,28nm,1.1s,mb5.1
BFO Black Forest 80.85 337 *e*P **P 10 43 11.4 -0.3**
comp=Z,32nm,1.1s,mb5.2
WTTA Wattenberg 80.89 335⇓ *i*P **P 10 43 12.7 +0.7**
comp=Z,20nm,0.7s,mb5.2
WTTA Wattenberg 80.89 335⇓ *i*pP pP 10 43 12.7 -1.7
comp=Z,20nm,0.7s
WTTA Wattenberg 80.89 335⇓ *i*P **P 10 43 12.7 +0.7**
WTTA pmax pmax
comp=Z,20nm,0.7s,mb5.2
SPAK Spaichingen-Ko 80.94 337 *e*P **P 10 43 12.0 -0.2**
MOTA Moosalm 80.98 335⇑ *i*P **P 10 43 12.6 +0.2**
comp=Z,16nm,1.0s,mb4.9,SNR=9.5
MOTA Moosalm 80.98 335⇑ *i*pP pP 10 43 12.6 -2.2
comp=Z,16nm,1.0s,SNR=9.5
MOTA Moosalm 80.98 335⇑ *i*P **P 10 43 12.6 +0.2**
MOTA pmax pmax
comp=Z,16nm,1.0s,mb4.9
VTS Vitosha 80.99 325⇓ P **P 10 43 12.9 +0.4**
VTS Vitosha 80.99 325⇓ *i*P **P 10 43 12.9 +0.3**
VTS Vitosha 80.99 325 P **P 10 43 11.8 -0.8**
CRES Cresnjev 80.99 332 *e*P **P 10 43 12.0 -0.5**
CDF Champ du Feu 81.05 338 *e*P **P 10 43 12.3 -0.5**
comp=Z,72nm,1.3s,mb5.2
CDF Champ du Feu 81.05 338 *e*P **P 10 43 12.3 -0.5**
comp=Z,36nm,1.3s,mb5.1
CDF Champ du Feu 81.05 338 *e*P **P 10 43 12.3 -0.5**
CDF pmax pmax
comp=Z,36nm,1.3s,mb5.1
WVT Waverly 81.07 46 P **P 10 43 12.6 -0.5**
WVT pmax pmax
comp=Z,12nm,1.0s,mb4.8
GDZ Gediz 81.24 319 *e*P **P 10 43 10.6 -3.3**
ECH Echery 81.27 338 *e*P **P 10 43 14.3 +0.4**
FELD Feldberg im Sc 81.36 337 *e*P **P 10 43 13.7 -0.7**
CEY Cerknica 81.40 332 *e*P **P 10 43 13.5 -1.2**
MEZF Maizieres J'vi 81.53 339 *e*P **P 10 43 14.9 -0.4**
comp=Z,138nm,1.3s,mb5.4
MEZF Maizieres J'vi 81.53 339 *e*P **P 10 43 14.9 -0.4**
comp=Z,138nm,1.3s,mb5.7
THEF They Montfort 81.56 339 *e*P **P 10 43 14.3 -1.2**
MOF Molkenrain 81.61 338 *e*P **P 10 43 15.0 -0.8**
MMB Musomiste 81.62 324 *i*P **P 10 43 16.4 +0.4**
HAU Haudompre 81.67 338 *e*P **P 10 43 15.3 -0.8**
comp=Z,86nm,1.4s,mb5.2
HAU *e*MLR MLR
comp=Z,642nm,19.5s,MS4.7
HAU Haudompre 81.67 338 *e*P **P 10 43 15.3 -0.8**
comp=Z,43nm,1.4s,mb5.2
HAU LR LR
comp=Z,640nm,19.5s,MS5.0
HAU Haudompre 81.67 338 *e*P **P 10 43 15.3 -0.8**
HAU pmax pmax
comp=Z,43nm,1.4s,mb5.2
HAU MLR MLR
comp=Z,640nm,19.5s,MS5.0
HINF Hinteralfeld 81.71 338 *e*P **P 10 43 15.4 -0.9**
comp=Z,56nm,1.4s,mb5.0
HINF Hinteralfeld 81.71 338 *e*P **P 10 43 15.4 -0.9**
comp=Z,28nm,1.4s,mb5.0
HINF Hinteralfeld 81.71 338 *e*P **P 10 43 15.4 -0.9**
HINF pmax pmax
comp=Z,28nm,1.4s,mb5.0
PPT Papeete 81.75 126 *e*LR LR 11 08 31.8
comp=Z,350nm,20.8s
PPT Papeete 81.75 126 LR LR 11 13 16.8
comp=Z,399nm,19.1s,MS4.8,baz=271,slow=31
DAVOX Davos/Dischmat 81.84 336 P **P 10 43 18.4 +1.4**
comp=Z,4.8nm,0.8s,mb4.5,baz=17,slow=9.9,SNR=3.8
DAVOX LR LR 11 25 28.4
comp=Z,383nm,19.2s,MS4.8,baz=87,slow=40
LOMF Lomont 82.15 338 *e*P **P 10 43 19.3 +0.7**
FLN La Foliniere 82.52 343 *e*P **P 10 43 19.8 -0.7**
comp=Z,60nm,1.2s,mb5.2
FLN *e*MLR MLR
comp=Z,538nm,17.2s,MS4.7
FLN La Foliniere 82.52 343 *e*P **P 10 43 19.8 -0.7**
comp=Z,30nm,1.2s,mb5.2
FLN LR LR
comp=Z,540nm,17.3s,MS5.0
FLN La Foliniere 82.52 343 *e*P **P 10 43 19.8 -0.7**
FLN pmax pmax
comp=Z,30nm,1.2s,mb5.2
FLN MLR MLR
comp=Z,540nm,17.3s,MS5.0
LDF La Druitiere 82.61 343 *e*P **P 10 43 20.2 -0.8**
comp=Z,34nm,1.1s,mb5.0
LDF La Druitiere 82.61 343 *e*P **P 10 43 20.2 -0.8**
comp=Z,17nm,1.1s,mb5.0
LDF La Druitiere 82.61 343 *e*P **P 10 43 20.2 -0.8**
LDF pmax pmax
comp=Z,17nm,1.1s,mb5.0
KRUS Krusevo 82.79 326 *e*Pn **P 10 43 21.8 -0.3**
GRR Gorron 82.95 343 *e*P **P 10 43 22.2 -0.6**
comp=Z,82nm,1.2s,mb5.3
GRR Gorron 82.95 343 *e*P **P 10 43 22.2 -0.6**
comp=Z,41nm,1.2s,mb5.3
GRR Gorron 82.95 343 *e*P **P 10 43 22.2 -0.6**
GRR pmax pmax
comp=Z,41nm,1.2s,mb5.3
LOR Lormes 82.97 340 *e*P **P 10 43 22.2 -0.7**
comp=Z,90nm,1.4s,mb5.3
LOR *e*MLR MLR
comp=Z,710nm,21.5s,MS4.7
LOR Lormes 82.97 340 *e*P **P 10 43 22.2 -0.7**
comp=Z,45nm,1.4s,mb5.3
LOR LR LR
comp=Z,710nm,21.5s,MS5.0
LOR Lormes 82.97 340 *e*P **P 10 43 22.2 -0.7**
LOR pmax pmax
comp=Z,45nm,1.4s,mb5.3
LOR MLR MLR
comp=Z,710nm,21.5s,MS5.0
CABF La Chapelle 83.03 338 *e*P **P 10 43 22.7 -0.5**
comp=Z,70nm,1.5s,mb5.2
CABF La Chapelle 83.03 338 *e*P **P 10 43 22.7 -0.5**
comp=Z,35nm,1.5s,mb5.2
CABF La Chapelle 83.03 338 *e*P **P 10 43 22.7 -0.5**
CABF pmax pmax
comp=Z,35nm,1.5s,mb5.2
ASF Jabal al Asfar 83.11 310 P **P 10 43 24.6 +0.7**
ASF pmax pmax
comp=Z,6.0nm,0.9s
ASF Jabal al Asfar 83.11 310 P **P 10 43 24.6 +0.8**
comp=Z,5.6nm,0.8s,mb4.6,baz=300,slow=0.7,SNR=8.3
MMAI Mount Meron Ar 83.23 312 P **P 10 43 23.0 -1.5**
comp=Z,8.1nm,0.6s,mb4.9,baz=14,slow=7.0,SNR=12
SSF Saint Saulge 83.25 340 *e*P **P 10 43 23.8 -0.5**
comp=Z,25nm,1.1s,mb4.9
SSF Saint Saulge 83.25 340 *e*P **P 10 43 23.8 -0.5**
comp=Z,13nm,1.1s,mb4.9
SSF Saint Saulge 83.25 340 *e*P **P 10 43 23.8 -0.5**
SSF pmax pmax
comp=Z,13nm,1.1s,mb4.9
SGMF Saint Gilles 83.41 344 *e*P **P 10 43 24.7 -0.5**
comp=Z,69nm,1.1s,mb5.3
SGMF Saint Gilles 83.41 344 *e*P **P 10 43 24.7 -0.5**
comp=Z,35nm,1.1s,mb5.3
SGMF Saint Gilles 83.41 344 *e*P **P 10 43 24.7 -0.5**
SGMF pmax pmax
comp=Z,35nm,1.1s,mb5.3
ROSF Rostrenen 83.47 345 *e*P **P 10 43 24.9 -0.5**
comp=Z,83nm,1.3s,mb5.3
ROSF Rostrenen 83.47 345 *e*P **P 10 43 24.9 -0.5**
comp=Z,42nm,1.3s,mb5.3
ROSF Rostrenen 83.47 345 *e*P **P 10 43 24.9 -0.5**
ROSF pmax pmax
comp=Z,42nm,1.3s,mb5.3
AVF Avril sur Loir 83.54 340 *e*P **P 10 43 25.4 -0.4**
comp=Z,88nm,1.2s,mb5.5
AVF Avril sur Loir 83.54 340 *e*P **P 10 43 25.4 -0.4**
comp=Z,44nm,1.2s,mb5.5
AVF Avril sur Loir 83.54 340 *e*P **P 10 43 25.4 -0.4**
AVF pmax pmax
comp=Z,44nm,1.2s,mb5.5
ELN Prospectdale 83.54 41 *e*P **P 10 43 25.1 -1.0**
SMF Signal de Mont 83.56 339 *e*P **P 10 43 25.6 -0.3**
comp=Z,171nm,1.2s,mb5.8
SMF Signal de Mont 83.56 339 *e*P **P 10 43 25.6 -0.3**
comp=Z,85nm,1.2s,mb5.8
SMF Signal de Mont 83.56 339 *e*P **P 10 43 25.6 -0.3**
SMF pmax pmax
comp=Z,85nm,1.2s,mb5.8
RSM Repubblica di 83.65 333 P **P 10 43 27.1 +0.6**
comp=Z,78nm,1.0s,mb5.8
RSM Repubblica di 83.65 333 P **P 10 43 27.1 +0.6**
RSM pmax pmax
comp=Z,78nm,1.0s,mb5.8
FSSB Fossombrone 83.76 332 P **P 10 43 27.1 +0.1**
comp=Z,49nm,1.3s,mb5.5
QUIF Quistinic 83.85 344 *e*P **P 10 43 26.7 -0.7**
SFI Santa Sofia 83.86 333 P **P 10 43 27.9 +0.4**
comp=Z,41nm,1.0s,mb5.5
SFI Santa Sofia 83.86 333 P **P 10 43 27.9 +0.4**
SFI pmax pmax
comp=Z,41nm,1.0s,mb5.5
LPL La Plagne 83.87 337 *e*P **P 10 43 27.8 +0.2**
comp=Z,36nm,1.1s,mb5.1
LPL La Plagne 83.87 337 *e*P **P 10 43 27.8 +0.2**
comp=Z,18nm,1.1s,mb5.1
LPL La Plagne 83.87 337 *e*P **P 10 43 27.8 +0.2**
LPL pmax pmax
comp=Z,18nm,1.1s,mb5.1
BGF Bois d'Agland 83.88 340 *e*P **P 10 43 27.2 -0.4**
comp=Z,57nm,1.2s,mb5.3
BGF Bois d'Agland 83.88 340 *e*P **P 10 43 27.2 -0.4**
comp=Z,29nm,1.2s,mb5.3
BGF Bois d'Agland 83.88 340 *e*P **P 10 43 27.2 -0.4**
BGF pmax pmax
comp=Z,29nm,1.2s,mb5.3
LPG La Plagne 83.88 337 *e*P **P 10 43 28.1 +0.5**
comp=Z,78nm,1.3s,mb5.4
LPG La Plagne 83.88 337 *e*P **P 10 43 28.1 +0.5**
comp=Z,39nm,1.3s,mb5.4
LPG La Plagne 83.88 337 *e*P **P 10 43 28.1 +0.5**
LPG pmax pmax
comp=Z,39nm,1.3s,mb5.4
VMG Vicchio 83.90 333 P **P 10 43 29.8 +2.0**
comp=Z,37nm,0.9s,mb5.5
SNTG Esanatoglia 84.10 332 P **P 10 43 28.3 -0.5**
comp=Z,33nm,1.0s,mb5.4
KLBR Kellerberrin 84.11 210 *e*P **P 10 43 28.9 +0.2**
MURB Monte Urbino 84.22 332 P **P 10 43 31.1 +1.7**
PLDF La Plantade 84.25 339 *e*P **P 10 43 29.7 +0.2**
TCF Toulx Ste Croi 84.28 340 *e*P **P 10 43 29.3 -0.3**
comp=Z,48nm,1.2s,mb5.2
TCF Toulx Ste Croi 84.28 340 *e*P **P 10 43 29.3 -0.3**
comp=Z,24nm,1.2s,mb5.2
TCF Toulx Ste Croi 84.28 340 *e*P **P 10 43 29.3 -0.3**
TCF pmax pmax
comp=Z,24nm,1.2s,mb5.2
AGO Saint Agoulin 84.28 340 *e*P **P 10 43 30.1 +0.4**
BNI Bardonecchia 84.31 337 *e*P **P 10 43 29.6 -0.3**
comp=Z,16nm,1.0s,mb5.1
BNI Bardonecchia 84.31 337 P **P 10 43 30.6 +0.8**
BNI pmax pmax
comp=Z,16nm,1.0s,mb5.1
NRCA Norcia 84.42 332 P **P 10 43 30.2 -0.2**
MFF Saint Martin d 84.51 342 *e*P **P 10 43 30.5 -0.3**
comp=Z,15nm,0.9s,mb4.8
MFF Saint Martin d 84.51 342 *e*P **P 10 43 30.5 -0.3**
comp=Z,7.5nm,0.9s,mb4.8
MFF Saint Martin d 84.51 342 *e*P **P 10 43 30.5 -0.3**
MFF pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
MBDF Montbardon 84.59 337 *e*P **P 10 43 31.2 0.0**
comp=Z,14nm,0.7s,mb4.9
MBDF Montbardon 84.59 337 *e*P **P 10 43 31.2 0.0**
comp=Z,7.3nm,0.7s,mb4.9
MBDF Montbardon 84.59 337 *e*P **P 10 43 31.2 0.0**
MBDF pmax pmax
comp=Z,7.0nm,0.7s,mb4.9
ORIF Oris-en-Rattie 84.65 338 *e*P **P 10 43 31.7 +0.1**
comp=Z,44nm,1.0s,mb5.2
ORIF *e*MLR MLR
comp=Z,626nm,21.2s,MS4.7
ORIF Oris-en-Rattie 84.65 338 *e*P **P 10 43 31.7 +0.1**
comp=Z,22nm,1.0s,mb5.2
ORIF Oris-en-Rattie 84.65 338 *e*P **P 10 43 31.7 +0.1**
ORIF pmax pmax
comp=Z,22nm,1.0s,mb5.2
APE Apeiranthos 84.66 321⇓ P **P 10 43 33.9 +2.2**
APE Apeiranthos 84.66 321⇓ *i*P **P 10 43 33.9 +2.2**
AQU L'Aquila 84.75 331 P **P 10 43 41.8 +10**
VIVF Saint-Julien-I 85.02 338 *e*P **P 10 43 33.5 +0.1**
comp=Z,56nm,1.2s,mb5.3
VIVF Saint-Julien-I 85.02 338 *e*P **P 10 43 33.5 +0.1**
comp=Z,28nm,1.2s,mb5.3
VIVF Saint-Julien-I 85.02 338 *e*P **P 10 43 33.5 +0.1**
VIVF pmax pmax
comp=Z,28nm,1.2s,mb5.3
SBF Sospel 85.20 336 *e*P **P 10 43 34.8 +0.4**
RJF Les Rejaudoux 85.37 341 *e*P **P 10 43 35.3 +0.2**
RJF *e*MLR MLR
comp=Z,928nm,17.8s,MS4.9
RJF Les Rejaudoux 85.37 341 *e*P **P 10 43 35.3 +0.2**
RJF MLR MLR
comp=Z,930nm,17.8s,MS5.2
CAF Calviac 85.60 340 *e*P **P 10 43 36.9 +0.6**
comp=Z,55nm,1.5s,mb5.3
CAF Calviac 85.60 340 *e*P **P 10 43 36.9 +0.6**
comp=Z,28nm,1.5s,mb5.3
CAF Calviac 85.60 340 *e*P **P 10 43 36.9 +0.6**
CAF pmax pmax
comp=Z,28nm,1.5s,mb5.3
SMRF Simiane la Rot 85.61 337 *e*P **P 10 43 36.7 +0.3**
comp=Z,65nm,1.3s,mb5.4
SMRF Simiane la Rot 85.61 337 *e*P **P 10 43 36.7 +0.3**
comp=Z,65nm,1.3s,mb5.7
FRF La Foret Royal 85.70 337 *e*P **P 10 43 36.3 -0.5**
comp=Z,67nm,1.4s,mb5.4
FRF La Foret Royal 85.70 337 *e*P **P 10 43 36.3 -0.5**
comp=Z,34nm,1.4s,mb5.4
FRF La Foret Royal 85.70 337 *e*P **P 10 43 36.3 -0.5**
FRF pmax pmax
comp=Z,34nm,1.4s,mb5.4
LFF La Frestale 85.89 341 *e*P **P 10 43 37.9 +0.1**
comp=Z,29nm,0.9s,mb5.2
LFF La Frestale 85.89 341 *e*P **P 10 43 37.9 +0.1**
LFF pmax pmax
comp=Z,14nm,0.9s,mb5.2
LMR La Mourre 85.95 337 *e*P **P 10 43 37.6 -0.5**
comp=Z,85nm,1.2s,mb5.6
LMR La Mourre 85.95 337 *e*P **P 10 43 37.6 -0.5**
comp=Z,43nm,1.2s,mb5.5
LMR La Mourre 85.95 337 *e*P **P 10 43 37.6 -0.5**
LMR pmax pmax
comp=Z,43nm,1.2s,mb5.5
LASF Ste Croix 85.96 339 *e*P **P 10 43 38.4 +0.3**
comp=Z,61nm,1.5s,mb5.3
PGF Pioggiola 85.96 335 *e*P **P 10 43 37.4 -0.7**
comp=Z,39nm,1.1s,mb5.3
PGF Pioggiola 85.96 335 *e*P **P 10 43 37.4 -0.7**
comp=Z,20nm,1.1s,mb5.2
PGF Pioggiola 85.96 335 *e*P **P 10 43 37.4 -0.7**
PGF pmax pmax
comp=Z,20nm,1.1s,mb5.3
EIL Elat 86.10 310 P **P 10 43 38.4 -0.7**
comp=Z,7.1nm,0.7s,mb5.0,baz=26,slow=7.3,SNR=6.2
TIP Timpagrande 86.39 328 *e*P **P 10 43 40.0 -0.3**
comp=Z,41nm,1.3s,mb5.5
TBI Tubuai 86.49 129 *e*LQ 11 06 55.4
comp=Z,362nm,26.5s
TBI *e*LR LR 11 10 15.5
comp=Z,270nm,22.8s
MTLF Montolieu 87.06 339 *e*P **P 10 43 43.6 +0.1**
comp=Z,45nm,1.6s,mb5.2
MTLF Montolieu 87.06 339 *e*P **P 10 43 43.6 +0.1**
comp=Z,22nm,1.6s,mb5.2
MTLF Montolieu 87.06 339 *e*P **P 10 43 43.6 +0.1**
MTLF pmax pmax
comp=Z,22nm,1.6s,mb5.1
SJPF Ste Jean 88.06 342 *e*P **P 10 43 48.3 -0.1**
ETSF Etsaut 88.12 341 *e*P **P 10 43 48.5 -0.1**
KEST Kesra 92.08 332 P **P 10 44 07.0 -0.2**
comp=Z,0.6nm,0.5s,mb4.2,baz=232,slow=10,SNR=3.7
KEST LR LR 11 32 38.4
comp=Z,150nm,18.4s,MS4.5,baz=350,slow=40
RKT Rikitea 94.60 119 *e*LR LR 11 14 08.8
comp=Z,508nm,35.5s
MDT Midelt 98.68 341 LR LR 11 38 29.9
comp=Z,180nm,18.0s,MS4.6,baz=182,slow=41
TORD Torodi Ar. Bea 115.51 329 PKP PKPdf 10 49 38.8 -1.7
comp=Z,0.8nm,1.0s,baz=352,slow=1.9,SNR=4.5
DBIC Dimbokro 123.73 334 PKP PKPdf 10 49 55.2 -1.1
DBIC Dimbokro 123.73 334 PKIKP PKPdf 10 49 55.2 -1.1
DBIC pmax pmax
comp=Z,5.0nm,1.1s
DBIC Dimbokro 123.73 334 PKP PKPdf 10 49 55.2 -1.1
comp=Z,5.3nm,1.1s,baz=45,slow=5.7,SNR=2.9
VNDA Vanda 123.78 178 PKIKP PKPdf 10 49 53.2 -1.2
VNDA pmax pmax
comp=Z,2.0nm,0.8s
VNDA Vanda 123.78 178 PKP PKPdf 10 49 53.2 -1.2
comp=Z,1.5nm,0.8s,baz=315,slow=4.4,SNR=9.2
SBA Scott Base 124.28 177 *e*PKPdf PKPdf 10 49 55.0 -0.3
LPAZ La Paz 134.25 63 PKP PKPdf 10 50 13.3 -2.8
LPAZ La Paz 134.25 63 PKIKP PKPdf 10 50 13.3 -2.8
LPAZ pmax pmax
comp=Z,1.0nm,0.9s
LPAZ La Paz 134.25 63 PKP PKPdf 10 50 13.3 -2.8
comp=Z,0.7nm,0.9s,baz=243,slow=16,SNR=2.5
BDFB Brasilia 144.44 37 PKIKP PKPdf 10 50 31.8 -2.8
BDFB pmax pmax
comp=Z,3.0nm,0.7s
BDFB Brasilia 144.44 37 PKP PKPdf 10 50 31.8 -2.8
comp=Z,2.7nm,0.7s,baz=222,slow=17,SNR=3.1
CFAA Coronel Fontan 144.79 80 PKP PKPdf 10 50 33.0 -1.8
comp=Z,0.8nm,0.7s,baz=296,slow=3.0,SNR=9.4
PLCA Paso Flores 147.91 96 PKIKP PKPdf 10 50 40.3 +0.5
PLCA pmax pmax
comp=Z,11nm,1.2s
PLCA Paso Flores 147.91 96 PKPbc PKPbc 10 50 40.2 -2.6
comp=Z,11nm,1.2s,baz=169,slow=1.4,SNR=6.3
MAIT Maitri 149.47 204 *e*PKPdf PKPdf 10 50 41.1 -0.3
SNAA Sanae 152.32 196 *e*PKPdf PKPbc 10 50 51.4 -1.1
SNAA *e* 10 50 57.9
SNAA *e* 10 51 02.9
SNAA *e* 10 51 13.6
SNAA *e* 10 51 18.7
SNAA Sanae 152.32 196 PKIKP PKPbc 10 50 51.1 -1.4
SNAA pmax pmax
comp=Z,3.0nm,0.8s
SNAA Sanae 152.32 196 PKPbc PKPbc 10 50 51.1 -1.5
comp=Z,2.6nm,0.8s,baz=156,slow=1.3,SNR=14
PMSA Palmer Station 152.57 145 *e*PKPdf PKPdf 10 50 45.8 -0.5
VNA2 Neumayer--Watz 153.76 194 *e*PKPdf PKPbc 10 50 55.3 -0.4
baz=125,slow=1.3
VNA2 *e* 10 51 01.4
VNA2 *e* 10 51 08.4
VNA2 *e* 10 51 17.1
VNA2 *e* 10 51 21.8
VNA3 Neumayer Olymp 153.84 192 *e*PKPdf PKPbc 10 50 55.2 -0.7
VNA3 *e* 10 51 01.8
VNA3 *e* 10 51 08.5
VNA3 *e* 10 51 16.8
VNA3 *e* 10 51 21.8
VNA1 Neumayer--Stat 154.14 194 *e*PKPdf PKPbc 10 50 54.6 -2.0
VNA1 *e* 10 51 01.4
VNA1 *e* 10 51 10.1
VNA1 *e* 10 51 16.1
VNA1 *e* 10 51 23.8

NEIC ***11*** *10:41:35.8±0.7,674S×15527E,h10km, Error ellipse: s-maj=18.5km s-min=15.0km az=213.0*
ISCJB ***11*** *10:41:44.5±4.7,7.1S±02×1557E±02,h116km±53km, mb3.7/6, Error ellipse: s-maj=43.3km s-min=24.0km az=41.8*
IDC ***11*** *10:41:45.5±5.2,703S×15573E,h112km±56km,mb3.6/6, mb1 3.7/7,mb1mx3.5/14,mbtmp3.6/7,MS2.9/1,Ms1 2.9/1, ms1mx2.8/22, Error ellipse: s-maj=42.7km s-min=21.4km az=130.0*
ISC 11 10:41:45.1±4.5,70S±02×1557E±02,h104km±52km,n10, σ0§35/10,mb3.7/6,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.86**	**120**	P	**Pn**	**10 42 56.1**	**+0.2**
HNR				S	**Sn**	**10 43 50.9**	**-0.2**
HNR				LR	LR	10 43 55.2	
HNR	**Honiara**	**4.86**	**120**	P	**Pn**	**10 42 56.1**	**+0.2**
7.5nm,0.3s,baz=142,slow=1.2,SNR=2.4							
HNR				S	**Sn**	**10 43 50.9**	**-0.2**
15nm,0.3s,baz=88,slow=20,SNR=6.2							
HNR				LR	LR	10 43 55.2	
comp=Z,152nm,21.9s,baz=1.2,slow=27							
WRA	**Warramunga Arr**	**24.37**	**236**	P		**10 46 53.7**	**+0.1**
1.0nm,0.4s,mb3.5,baz=61,slow=9.7,SNR=18							
ASAR	**Alice Springs**	**26.68**	**229**	P	**P**	**10 47 13.8**	**-0.6**
0.9nm,0.5s,mb3.6,baz=60,slow=9.7,SNR=10.0							
STKA	**Stephens Creek**	**28.02**	**206**	P	**P**	**10 47 26.9**	**+0.6**
1.4nm,0.3s,mb3.9,baz=20,slow=12,SNR=4.7							
PPT	**Papeete**	**54.34**	**107**	*e*LR	LR	10 50 49.8	
103nm,23.2s							
SONM	**Songino Array**	**69.72**	**327**	P	**P**	**10 52 43.9**	**+0.2**
1.1nm,0.7s,mb3.8,baz=135,slow=6.0,SNR=9.0							
MKAR	**Makanchi Array**	**83.87**	**319**	P	**P**	**10 54 03.4**	**+0.2**
0.7nm,0.6s,mb3.7,baz=100,slow=6.8,SNR=6.7							
ZALV	**Zalesovo Beam**	**84.58**	**326**	P	**P**	**10 54 06.2**	**-0.4**
0.5nm,0.4s,mb3.8,baz=119,slow=5.4,SNR=3.6							
TORD	**Torodi Ar. Bea**	**153.69**	**285**	PKPbc	PKPbc	11 01 32.2	-0.6
0.3nm,0.4s,baz=33,slow=1.9,SNR=7.2							

NEIC ***11*** *10:57:46.4±0.7,4665N×15346E,h10km, Error ellipse: s-maj=19.0km s-min=13.6km az=124.0*
ISCJB ***11*** *10:57:48.8±1.4,466N±0.1×1534E±0.1,h39km±12km, mb3.8/10, Error ellipse: s-maj=20.7km s-min=9.3km az=140.0*
MOS ***11*** *10:57:49.9±1.3,4664N×15324E,h46km,mb4.2/7, Error ellipse: s-maj=17.7km s-min=11.3km az=56.2*
IDC ***11*** *10:57:53.5±4.7,4659N×15337E,h66km±42km,mb3.6/10, mb1 3.8/12,mb1mx3.6/22,mbtmp3.6/12,ML3.8/2, Error ellipse: s-maj=25.1km s-min=18.4km az=97.0*
ISC 11 10:57:51.1±1.3,467N±01×1534E±01,h43km±11km,n30, σ1§02/32,mb3.8/10,1C,Kuril Islands

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

KUR	Kuril'sk	4.12	252	⇑iPN	Pn	10 58 50.2	-1.2
KUR				S	Sn	10 59 39.0	+0.7
KUR				pmax	pmax		
	comp=N,110nm,0.5s						
KUR				pmax	pmax		
	comp=Z,210nm,0.5s						
KUR				smax			
	comp=N,130nm,0.6s						
KUR				smax			
	comp=E,220nm,0.6s						
SKR	Severo-Kuril's	4.42	23	ePN	Pn	10 58 55.0	-0.6
SKR				pmax	pmax		
	comp=Z,40nm,0.5s						
YUK	Yuzh-Kuril'sk	5.93	247	ePN	Pn	10 59 15.5	-0.7
YUK				eS	Sn	11 00 22.9	+0.1
YUK				smax			
	comp=N,240nm,0.6s						
YUK				smax			
	comp=E,440nm,0.8s						
ASAJ	Asahikawa	8.02	256	PN	Pn	10 59 46.8	+1.8
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ	Asahikawa	8.02	256	P	Pn	10 59 46.8	+1.8
	comp=Z,1.4nm,0.3s,baz=105,slow=19,SNR=14						
ERM	Erimo	8.68	241	i PN	Pn	10 59 53.5	-0.5
MJAR	Matsushiro Arr	15.18	234	P	Pn	11 01 22.5	+0.1
	comp=Z,0.3nm,0.3s,baz=18,slow=11,SNR=4.0						
KSRS	Korea Array	20.96	253	P	P	11 02 32.0	+1.7
	comp=Z,1.6nm,0.5s,baz=60,slow=10.0,SNR=13						
BILL	Bilibino	22.45	13	eP	P	11 02 48.9	+3.0
BILL				eSS		11 07 25.6	
BILL				pmax	pmax		
	comp=Z,1.0nm,0.9s,mb3.2						
ZALV	Zalesovo Beam	42.84	306	P	P	11 05 42.9	-1.6
	comp=Z,0.5nm,0.4s,mb3.6,baz=63,slow=6.4,SNR=3.1						
ZAL	Zalesovo	42.85	306	P	P	11 05 42.9	-1.7
MK31	Makanchi Array	47.17	298	eP	P	11 06 19.0	-0.1
MKAR	Makanchi Array	47.17	298	P	P	11 06 19.2	+0.2
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
MKAR	Makanchi Array	47.17	298	P	P	11 06 19.1	+0.1
	comp=Z,0.9nm,0.6s,mb3.9,baz=68,slow=9.1,SNR=8.4						
KURK	Kurchatov	47.59	304	i P	P	11 06 21.3	-0.9
YKA	Yellowknife Ar	50.89	37	P	P	11 06 47.5	+0.3
YKA	Yellowknife Ar	50.89	37	P	P	11 06 50.2	+3.0
YKA	Yellowknife Ar	50.89	37	P	P	11 06 47.5	+0.3
	comp=Z,0.2nm,0.5s,mb3.3,baz=297,slow=7.2,SNR=4.8						
FINES	FINESS Array B	64.22	335	P	P	11 08 21.3	+0.3
FINES				pmax	pmax		
	comp=Z,2.0nm,0.4s						
FINES	FINESS Array B	64.22	335	P	P	11 08 21.3	+0.3
	comp=Z,1.7nm,0.4s,mb4.4,baz=48,slow=6.4,SNR=14						
NOA	NORSAR Array B	68.39	341	P	P	11 08 48.6	+0.9
NOA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
NOA	NORSAR Array B	68.39	341	P	P	11 08 48.6	+0.9
	comp=Z,1.2nm,0.6s,mb4.1,baz=28,slow=6.5,SNR=2.9						
WRA	Warramunga Arr	68.48	199	i P	P	11 08 48.2	-0.5
WRA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
WRA	Warramunga Arr	68.48	199	P	P	11 08 47.5	-1.2
	comp=Z,0.8nm,0.6s,mb3.9,baz=23,slow=7.2,SNR=7.5						
AKASG	Malin Array Be	71.75	326	P	P	11 09 08.7	+0.3
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.5s						
AKASG	Malin Array Be	71.75	326	P	P	11 09 08.7	+0.3
	comp=Z,1.0nm,0.5s,mb4.0,baz=32,slow=6.6,SNR=5.3						
ASAR	Alice Springs	72.17	199	P	P	11 09 11.2	0.0
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ASAR	Alice Springs	72.17	199	P	P	11 09 11.2	0.0
	comp=Z,1.3nm,0.7s,mb4.0,baz=12,slow=5.3,SNR=22						
TXAR	Lajitas Array	77.37	61	P	P	11 09 41.6	+0.2
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
TXAR	Lajitas Array	77.37	61	P	P	11 09 41.5	+0.2
	comp=Z,0.6nm,0.5s,mb3.8,baz=302,slow=4.7,SNR=20						

WEL 11 11:03:08.2±0.7,3645S×17972W,h33km,ML3.7/4, Error ellipse: s-maj=7.1km s-min=3.8km az=90.0, East of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUZ	Puketiti	2.29	224	PN	Pn	11 03 43.4	-0.2
PUZ				SN	Sn	11 04 09.4	-1.2
MWZ	Matawai	2.89	229	PN	Pn	11 03 51.4	-0.5
MWZ				SN	Sn	11 04 23.7	-1.8
URZ	Urewera	3.11	234	PN	Pn	11 03 54.4	-0.4
URZ				SN	Sn	11 04 28.3	-2.5
KNZ	Kokohu	3.29	218	PN	Pn	11 03 56.3	-1.1
KUZ	Kuaotunu	3.68	264	PN	Pn	11 04 01.9	-0.9

CASC 11 11:12:09.4±3.3,1428N×9152W,h23km±14km,MD3.8, 5C-1D,Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAT	Jato	0.12	286	⇑eP	Pb	11 12 12.6	-1.4
JAT				eS	Sb	11 12 18.7	+1.8
FUG	Fuego 3	0.67	76	⇓eP	Pb	11 12 17.1	-5.4
FUG				eS	Sb	11 12 29.0	-2.5
PCG	Pacaya	0.89	83	eP	Pb	11 12 19.9	-6.3
PCG				eS	Sb	11 12 35.0	-2.5
RTR	El Retiro	1.86	102	⇑eP	x	11 12 40.9	
RTR				eS	x	11 13 04.8	
SBLS	San Blas	1.89	103	⇑eP	x	11 12 41.0	
SBLS				eS	x	11 13 04.3	
SNJE	San Jose	1.90	102	⇑eP	x	11 12 41.4	
SNJE				eS	x	11 13 04.7	
BOQS	Boqueron	2.24	104	eP	x	11 12 45.9	
BOQS				eS	x	11 13 12.7	
LFRS	El Faro	2.47	105	eP	x	11 12 49.2	
LFRS				eS	x	11 13 17.2	
LCBS	La Ceiba	2.54	104	⇑iP	x	11 12 50.5	
LCBS				eS	x	11 13 20.6	
SNVI	San Vicente	2.68	104	eP	x	11 12 52.1	
SNVI				eS	x	11 13 23.9	

*ATH **11** 11:24:01.5,4048N×2179E,h37km,MD3.7/4*
*CSEM **11** 11:24:01.5,4048N×2179E,h37km,MD3.8/4,After ATH*
*ISCJB **11** 11:24:04.7±1.1,4031N±010×220E±02,h33km,Error ellipse: s-maj=18.9km s-min=13.9km az=166.3*

ISC 11 11:24:05.5±1.1,403N±01×220E±02,h35km,n5,σ1°04/5, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KZN	Kozani	0.20	273	ePB	Pn	11 24 08.7	-3.6
THL	Klokotos Trika	0.73	181	ePN	Pn	11 24 19.5	+0.2
PLG	Polygyros	1.09	86	ePN	Pn	11 24 24.0	-0.2
KRUS	Krusevo	1.22	331	ePn	Pn	11 24 26.6	+0.5
EVR	Evrytania	1.39	187	ePN	Pn	11 24 28.6	+0.2

*ISCJB **11** 11:26:59.6±1.0,485S±03×123.1E±08,h10km,mb3.4/3, Error ellipse: s-maj=85.8km s-min=14.7km az=25.2*
*IDC **11** 11:27:01.3±3.5,4835S×12302E,h0km,mb3.5/3, mb1 3.7/3,mb1mx3.6/12,mbtmp3.5/3,Error ellipse: s-maj=117.7km s-min=64.6km az=114.0*

ISC 11 11:27:01.8±1.0,485S±03×1231E±08,h10km, (h8km±4km;pP-P),n7,σ0°64/6,mb3.4/3,Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	21.73	47	P	P	11 31 53.0	0.0
	2.4nm,1.1s,mb3.5,baz=240,slow=8.1,SNR=3.4						
ASAR	Alice Springs	26.24	23	P	P	11 32 36.9	0.0
	0.8nm,0.8s,mb3.3,baz=194,slow=9.6,SNR=7.2						
WRA	Warramunga Arr	29.92	22	P	P	11 33 09.7	-0.1
	0.6nm,1.1s,mb3.2,baz=198,slow=10.0,SNR=2.5						
VNA2	Neumayer--Watz	55.70	198	e	P	11 36 38.5	+0.8
	baz=152,slow=5.2						
VNA2				e	pP	11 36 40.7	-0.2
VNA3	Neumayer Olymp	55.90	197	e	P	11 36 38.3	-0.7
VNA3				e	pP	11 36 40.9	-1.3
VNA1	Neumayer--Stat	56.10	198	e	P	11 36 40.4	-0.1
VNA1				e	pP	11 36 42.9	-0.8
YKA	Yellowknife Ar	145.75	44	PKPbc	PKPbc	11 46 39.7	+0.1
	0.6nm,0.7s,baz=267,slow=3.6,SNR=15						

*ISCJB **11** 11:40:47.7±0.6,3901N±003×2331E±004,h16km±8km, Error ellipse: s-maj=5.7km s-min=4.7km az=170.2*
*CSEM **11** 11:40:47.7±0.1,3904N×2329E,h20km,ML3.3,Error ellipse: s-maj=1.8km s-min=1.4km az=114.0*
*THE **11** 11:40:47.8,3905N×2328E,h6km,ML3.4*
*NEIC **11** 11:40:47.6,3899N×2325E,h26km,ML3.3(ATH),After ATH.*
*ATH **11** 11:40:47.6,3899N×2325E,h26km,MD3.3/8,ML3.3*

ISC 11 11:40:47.2±0.6,3906N±003×2329E±004,h12km±6km,n20, σ0°96/29,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKR	Lokris	0.47	209	ePB	Pg	11 40 56.3	-0.1
AOS	Alonnisos	0.47	76	ePg	Pg	11 40 56.9	+0.5
AOS				eSg	Sg	11 41 04.1	+1.3
AGG	Agios Georgios	0.75	267	ePg	Pg	11 41 01.6	0.0
AGG				eSg	Sg	11 41 12.3	+0.9
AGG	Agios Georgios	0.75	267	ePg	Pg	11 41 01.6	0.0
AGG				eSg	Sg	11 41 12.3	+0.9
PTL	Penteli	1.11	156	ePN	Pn	11 41 07.2	-1.3
THL	Klokotos Trika	1.11	297	ePN	Pn	11 41 09.1	+0.6
ATH	Athens Observa	1.14	163	ePN	Pn	11 41 08.4	-0.5
EVR	Evrytania	1.16	263	ePN	Pn	11 41 09.1	-0.2
LIT	Litokhoron	1.21	329	ePg	Pg	11 41 10.9	+0.5
LIT				eSg	Sg	11 41 27.8	+1.7
KVR	Kavouri	1.29	163	ePN	Pn	11 41 11.0	0.0
NAIG	Nisos Aigina	1.31	173	ePN	Pn	11 41 11.0	-0.3
PLG	Polygyros	1.32	5	ePg	Pg	11 41 12.3	-0.2
PLG				eSg	Sg	11 41 30.8	+1.2
PLG	Polygyros	1.32	5	ePn	Pn	11 41 12.8	+1.4
PLG				eSg	Sg	11 41 30.8	+1.2
OUR	Ouranopolis	1.38	23	ePg	Pg	11 41 12.5	-1.1
HORT	Hortiatis	1.54	355	ePg	Pg	11 41 15.3	-1.5
HORT				eSg	Sg	11 41 36.4	-0.4
THE	Thessaloniki	1.59	351	ePg	Pg	11 41 15.3	-2.4
THE				eSg	Sg	11 41 37.0	-1.3
LOS	Limnos	1.64	57	ePb	Pb	11 41 16.7	-0.6
SOH	Sokhos	1.76	2	ePb	Pb	11 41 18.5	-0.9
SOH				eSb	Sb	11 41 42.1	+0.7
CHOS	Chios island	2.27	106	ePn	Pn	11 41 25.4	+0.9
APE	Apeiranthos	2.66	138	ePn	Pn	11 41 30.5	+0.6

*ISCJB **11** 11:54:03.9±0.7,1071N±004×6244W±003,h82km±7km, Error ellipse: s-maj=7.1km s-min=5.1km az=0.3*
*FUNV **11** 11:54:05.2,1075N×6237W,h73km,MW3.1*
*TRN **11** 11:54:09.5,1096N×6215W,h35km,MD3.2*
*NEIC **11** 11:54:09.5,1096N×6215W,h35km,MD3.2(TRN),After TRN.*

ISC 11 11:54:04.9±0.7,1072N±004×6243W±003,h76km±7km,n20, σ0°94/31,1C-3D,Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIV	Guiria	0.22	108	⇑iP	Pn	11 54 16.1	-0.1
GUIV				eS	Sn	11 54 24.1	-0.5
TCE	Chacachacare	0.67	91	eP	Pn	11 54 19.4	-0.4
TCE				eS	Sn	11 54 30.9	-0.1
GUNV	Guanoco	0.74	222	⇓eP	Pn	11 54 21.8	+1.1
GUNV				eS	Sn	11 54 33.7	+1.3
CRUV	Carupano	0.79	267	⇓iP	Pn	11 54 21.3	+0.1
CRUV				eS	Sn	11 54 33.0	-0.3
ITEV	Isla Los Testi	0.94	313	⇓eP	Pn	11 54 22.6	-0.3
ITEV				eS	Sn	11 54 35.5	-0.8
TRN	Trinidad (W)	1.02	94	eP	Pn	11 54 24.1	+0.3
TRN				eS	Sn	11 54 35.2	-2.8
TPP	Pointe-a-Pierr	1.04	112	eP	Pn	11 54 26.0	+1.8
TPP				eS	Sn	11 54 40.8	+2.1
TBH	Brigand Hill	1.36	100	eP	Pn	11 54 29.4	+1.2
TBH				eS	Sn	11 54 44.8	-1.0
GRW	Mount Saint Ca	1.62	28	eP	Pn	11 54 31.1	-0.6
GRW				eS	Sn	11 54 47.1	-4.8
TPR	Prospect	1.69	74	eP	Pn	11 54 33.5	+0.9
TPR				eS	Sn	11 54 48.1	-5.5
ORIV	Oritupano	1.90	211	eS	Sn	11 54 58.7	+0.3
PCRV	Puerto La Cruz	2.23	256	eP	Pn	11 54 40.5	+0.7
IBAV	Isla La Blanqu	2.37	298	eP	Pn	11 54 41.9	+0.2
RIOV	Rio Grande	2.70	167	eS	Sn	11 55 16.7	-1.1
PRGV	PARIAGUAN	2.92	228	eS	Sn	11 55 21.7	-1.4
GURV	El Guri	3.01	192	eP	Pn	11 54 50.1	-0.1
ORCV	Isla La Orchil	3.85	287	eP	Pn	11 55 02.4	+0.7
LUEV	Luepa	4.94	169	eP	Pn	11 55 15.5	-1.1
LUEV				eS	Sn	11 56 07.3	-5.1
CAOV	Caicara del Or	5.11	229	eP	Pn	11 55 18.8	-0.1
BAUV	El Baul	5.80	253	eP	Pn	11 55 27.9	-0.5

*ISCJB **11** 12:20:15.1±0.4,3644N±002×7070E±005,h202km±5km, mb3.8/18,Error ellipse: s-maj=6.1km s-min=3.5km az=174.1*
*NEIC **11** 12:20:15.7±3.0,3642N×7068E,h196km±28km,mb4.5/2, Error ellipse: s-maj=16.7km s-min=12.2km az=199.0*
*MOS **11** 12:20:15.3±0.9,3643N×7064E,h204km,mb3.8/13,Error ellipse: s-maj=17.0km s-min=8.2km az=85.8*
*BJI **11** 12:20:16.9,3673N×7057E,h187km,mB4.8,mb4.1*
*IDC **11** 12:20:17.7±4.5,3642N×7068E,h216km±43km,mb3.5/12, mb1 3.6/14,mb1mx3.5/23,mbtmp3.5/14,Error ellipse: s-maj=17.5km s-min=14.2km az=3.0*
*NNC **11** 12:20:20.8±1.9,3688N×7060E,h205km±15km,mb3.7, mpv5.0,Error ellipse: s-maj=18.8km s-min=11.3km az=20.0*

ISC 11 12:20:16.5±0.3,3646N±002×7076E±005,h203km±5km, n97,σ0°98/121,mb3.8/18,6C-7D,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	Cherat	2.79	160	P	Pn	12 21 05.1	+1.2
CHCP	Chirah Chowk	3.47	143	P	Pn	12 21 13.5	+1.6
CHCP				S	Sn	12 21 51.0	-4.2
THW	Thamme Wali	3.74	167	P	Pn	12 21 15.9	+0.6
DRP	Derazinda	4.73	186	P	Pn	12 21 29.1	+1.5
SARP	Sargodha	4.79	160	P	Pn	12 21 28.5	+0.1
JMU	Jammu	5.06	136	eP	Pn	12 21 30.0	-1.7
KSH	Kashi	5.12	52	P	Pn	12 21 34.4	+1.9
KSH				S	Sn	12 22 28.6	-3.9
KSH				Smax			
	comp=N,3μm,1.0s						
KSH				Smax			
	comp=E,3μm,0.6s						
THN	Thein Dam	5.73	133	eP	Pn	12 21 40.8	+0.4
THN				ex	x	12 22 45.7	
DLH	Dalhousie	5.81	131	eP	Pn	12 21 40.0	-1.3
DLH				eS	Sn	12 22 45.0	-3.4
AML	Almayashu	6.10	21	P	Pn	12 21 45.5	+0.4
	SNR=482						
UCH	Uchtor	6.45	26	P	Pn	12 21 50.1	+0.6
	SNR=294						
KZA	Kyzart	6.60	30	P	Pn	12 21 51.7	+0.3
	SNR=92						
EKS2	Erkin-Say	6.62	20	P	Pn	12 21 52.0	+0.4
	SNR=44						
KK31	Karatay Array	6.64	358	⇑P	Pn	12 21 51.3	-0.7
	comp=E,28nm,0.3s,baz=198,slow=5.6,SNR=641						
KK31				⇑S	Sn	12 23 02.6	-5.1
	comp=E,57nm,0.5s,baz=187,slow=22,SNR=9.5						
AAK	Ala-Archa	6.80	24	P	Pn	12 21 54.7	+0.6
	SNR=80						
BHK	Bhakra	6.88	135	ex	x	12 22 15.8	
BHK				eS	Sn	12 23 11.2	-2.4
KBK	Karagaybulak	6.98	26	P	Pn	12 21 57.4	+1.0
	SNR=42						
FRU	Bishkek	7.03	24	ePN	Pn	12 21 57.0	0.0
FRU				i S	Sn	12 23 16.0	-0.8
FRU				pmax	pmax		
	comp=Z,60nm,1.0s						
FRU				smax			
	comp=N,440nm,1.4s						
SDNR	Sundarnagar	7.14	132	eP	Pn	12 21 58.0	-0.6
SDNR				eS	Sn	12 23 15.1	-4.6
ULHL	Ulahol	7.17	35	P	Pn	12 21 59.3	+0.5
	SNR=38						
CHMS	Chumysh	7.22	24	P	Pn	12 21 59.5	0.0
	SNR=32						
USP	Ospenovka	7.38	22	P	Pn	12 22 01.5	-0.1
	SNR=15						
TKM2	Tokmak 2	7.45	29	⇑P	Pn	12 22 03.0	+0.5
	comp=N,60nm,0.5s						
TKM2				⇓S	Sn	12 23 25.0	-1.8
	comp=N,41nm,0.6s						
TKM2	Tokmak 2	7.45	29	P	Pn	12 22 03.1	+0.6
	SNR=115						
SMLA	Simla	7.53	133	eP	Pn	12 22 03.5	-0.1
SMLA				AMb	AMB	12 22 05.1	
	comp=Z,53nm,0.3s						
SMLA				eS	Sn	12 23 22.1	-6.7
KLP	Kalpa	7.92	126	eP	Pn	12 22 09.2	+0.4
KLP				AMb	AMB	12 22 13.5	
	comp=Z,44nm,0.3s						
DDI	Dehra Dun	8.64	133	eP	Pn	12 22 19.0	+0.9
DDI				eS	Sn	12 23 50.0	-5.1
JOSI	Joshimath	9.41	126	eP	Pn	12 22 28.8	+0.7
JOSI				eS	Sn	12 24 07.7	-5.8
NDI	New Delhi	9.47	143	eP	Pn	12 22 28.2	-0.7
NDI				AMb	AMB	12 22 29.2	
	comp=Z,37nm,0.4s						
NDI				eS	Sn	12 24 07.3	-7.7
KUDL	Kundal	9.60	148	eP	Pn	12 22 29.8	-0.8
KUDL				AMb	AMB	12 22 30.5	
	comp=Z,24nm,0.7s						
KUDL				eS	Sn	12 24 10.0	-8.1
SONA	Sohna	9.77	145	eP	Pn	12 22 31.3	-1.5
SONA				eS	Sn	12 24 14.5	-7.7
AJM	Ajmer	10.48	161	ex	x	12 22 34.3	
AJM				AMb	AMB	12 22 38.9	
	comp=Z,19nm,0.3s						
AJM				eS	Sn	12 24 31.5	-7.7
LGTI	Lohaghat	10.59	129	eP	Pn	12 22 42.7	-0.7
LGTI				ex	x	12 24 35.5	
BHJ	Bhuj	13.20	184	eP	Pn	12 23 16.3	-0.1
BHJ				AMb	AMB	12 23 18.9	
	comp=Z,48nm,0.2s						
MK31	Makanchi Array	13.44	36	P	Pn	12 23 19.0	-0.1
	comp=Z,7.8nm,0.7s,baz=234,slow=9.7,SNR=60						
MKAR	Makanchi Array	13.44	36	P	Pn	12 23 19.5	+0.3
MKAR				S	S	12 25 46.7	-2.0
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MKAR	Makanchi Array	13.44	36	P	Pn	12 23 19.5	+0.3
	comp=Z,0.7nm,0.3s,baz=222,slow=16,SNR=28						
MKAR				S	S	12 25 46.7	-2.0
	baz=215,slow=14,SNR=1.9						
BHPL	Bhopal	14.38	155	eP	Pn	12 23 33.4	+2.3
BHPL				AMb	AMB	12 23 35.9	
	comp=Z,40nm,0.8s						
AB31	Akbulak array	15.03	332	⇑P	Pn	12 23 37.0	-1.8
	comp=Z,15nm,0.7s,baz=143,slow=10,SNR=138						
AB31				⇓S	S	12 26 18.8	-6.6
	comp=Z,3.7nm,0.7s,baz=156,slow=24,SNR=3.2						
KURK	Kurchatov	15.33	19	eP	Pn	12 23 41.4	-1.0
	comp=Z,9.7nm,0.8s						
KURK	Kurchatov	15.33	19	⇓eP	Pn	12 23 41.6	-0.8
VOSK	Vostochnaya	16.26	0	⇑P	P	12 23 52.8	-0.1
	comp=Z,20nm,0.9s						
ZRNK	Zerenda	16.54	356	⇓P	P	12 23 55.4	-0.5
	comp=Z,18nm,0.8s						
BVA0	Borovoye Array	16.57	359	P	P	12 23 56.7	+0.5
	comp=Z,1.0nm,0.5s,baz=168,slow=13,SNR=65						
AKL	Akola	16.62	159	eP	P	12 23 57.3	+0.1
AKL				ex	x	12 26 52.4	
AKTK	Aktyubinsk	16.72	331	P	P	12 23 58.5	+0.6
AKTK				S	S	12 26 56.1	-5.8
AKTO	Aktyubinsk	16.72	331	P	P	12 23 58.6	+0.7
AKTO				S	S	12 26 56.2	-5.8
AKTO				pmax	pmax		
	comp=Z,3.0nm,0.3s						
AKTO	Aktyubinsk	16.72	331	P	P	12 23 58.5	+0.6
	comp=Z,3.1nm,0.3s,baz=138,slow=10,SNR=81						
AKTO				S	S	12 26 56.1	-5.8
	comp=Z,0.2nm,0.3s,baz=124,slow=17,SNR=2.4						
NGP	Nagpur	16.88	152	eP	P	12 24 00.6	+0.6
NGP				ex	x	12 26 55.8	
CHKZ	Chkalovo	17.22	360	⇓P	P	12 24 03.6	+0.2
	comp=Z,14nm,0.9s						
LSA	Lhasa	18.35	106	eP	P	12 24 22.7	+6.8
	comp=Z,14nm,0.6s						
LSA	Lhasa	18.35	106	eP	P	12 24 22.7	+6.8
LSA				pmax	pmax		
	comp=Z,14nm,0.6s						
ZAL	Zalesovo	20.02	25	P	P	12 24 34.3	+0.7
ZAL				S	S	12 28 05.6	-1.5
ZAA0	Zalesovo Array	20.03	25	eP	P	12 24 34.0	+0.3
ZALV	Zalesovo Beam	20.03	25	P	P	12 24 34.3	+0.6
	comp=Z,13nm,0.5s,baz=218,slow=11,SNR=78						
ZALV				S	S	12 28 05.6	-1.8
	comp=Z,0.6nm,0.4s,baz=214,slow=17,SNR=2.3						
NVS	Novosibirsk	20.29	21	eP	P	12 24 36.7	+0.2
NVS				eS	S	12 28 10.3	-2.0
NVS				pmax	pmax		
	comp=N,24nm,1.3s						
NVS				pmax	pmax		
	comp=E,5.0nm,1.3s						
NVS				pmax	pmax		
	comp=Z,25nm,1.3s						
NVS				smax			
	comp=E,8.0nm,1.9s						
NVS				smax			
	comp=N,12nm,1.5s						
UMR	Umm Al-Rimmam	20.49	257	eP	P	12 24 38.6	-0.3
UMR				AMb	AMB	12 24 46.0	
	comp=Z,102nm,0.5s						
KBD	Kabd	20.68	256	eP	P	12 24 40.5	-0.4
KBD				AMb	AMB	12 24 43.4	
	comp=Z,218nm,0.6s						
MIB	Mutribah	20.68	258	eP	P	12 24 40.1	-0.8
MIB				AMb	AMB	12 24 43.9	
	comp=Z,73nm,0.8s						
QRN	Al-Qurain	20.70	255	eP	P	12 24 40.4	-0.7
QRN				AMb	AMB	12 24 46.2	
	comp=Z,180nm,0.9s						
RDF	Al-Radifah	20.90	256	eP	P	12 24 42.6	-0.6
RDF				AMb	AMB	12 24 49.2	
	comp=Z,82nm,0.5s						
NAY	Al-Naaiem	21.00	257	eP	P	12 24 43.3	-1.0
NAY				AMb	AMB	12 24 46.3	
	comp=Z,18nm,0.7s						
SVE	Sverdlovsk	21.48	345	eP	P	12 24 49.7	+0.6
ARU	Arti	21.61	341	c iP	P	12 24 50.9	+0.5
ARU				eS	S	12 28 35.1	-0.4
ARU				pmax	pmax		
	comp=Z,34nm,2.5s,mb4.4						
GTA	Gaotai	23.06	74	eP	P	12 25 08.3	+4.3
GTA				AMB	AMB		
	comp=Z,3.0nm,0.8s,mb3.9						
SONM	Songino Array	28.52	55	P	P	12 25 55.1	+2.2
SONM				*PP	pP	12 26 38.0	+4.0
SONM				pmax	pmax		
	comp=Z,1.0nm,0.7s						
SONM				pmax	pmax		
	comp=N,1.0nm,0.9s						
SONM	Songino Array	28.52	55	P	P	12 25 55.1	+2.2
	comp=N,0.6nm,0.7s,mb3.4,baz=263,slow=10,SNR=5.8						
SONM				pP	pP	12 26 38.0	+4.1
	comp=N,1.0nm,0.9s,baz=259,slow=10.0,SNR=2.0						
AKASG	Malin Array Be	32.82	309	P	P	12 26 29.6	-1.0
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
AKASG	Malin Array Be	32.82	309	P	P	12 26 29.6	-1.0
	comp=Z,0.7nm,0.4s,mb3.5,baz=79,slow=7.1,SNR=4.2						
BOD	Bodaibo	35.50	39	eP	P	12 26 54.5	+1.0
JOF	Joensuu	35.81	330	ep	P	12 26 55.6	-0.5
	comp=Z,

comp=Z,2.0nm,0.7s
NOA NORSAR Array B 44.30 323 P **P** **12 28 05.4 -0.4**
comp=Z,1.5nm,0.7s,mb3.4,baz=92,slow=7.8,SNR=3.6
TIXI Tiksi 45.88 22‖ *e*P **P** **12 28 19.4 +1.3**
TIXI pmax pmax
comp=Z,5.0nm,0.6s,mb4.0
KMBO Kilima Mbogo 48.66 227 P **P** **12 28 41.4 +1.1**
KMBO pmax pmax
comp=Z,2.0nm,0.6s
KMBO Kilima Mbogo 48.66 227 P **P** **12 28 41.4 +1.1**
comp=Z,2.0nm,0.6s,mb3.6,baz=43,slow=12,SNR=8.8
BILL Bilibino 58.73 26 *e*P **P** **12 29 53.8 +1.3**
BILL *e**PP pP 12 30 39.8 +1.2
BILL *e* 12 32 05.1
BILL *e*S **S** **12 37 41.8 +1.0**
BILL pmax pmax
comp=Z,3.0nm,1.1s,mb3.8
TORD Torodi Ar. Bea 65.53 269 P **P** **12 30 36.4 -2.1**
TORD Torodi Ar. Bea 65.53 269 P **P** **12 30 36.4 -2.1**
comp=Z,2.0nm,0.5s,mb4.0,baz=49,slow=5.7,SNR=33
BOSA Boshof 77.59 220 P **P** **12 31 50.3 +0.2**
BOSA pmax pmax
comp=Z,2.0nm,0.8s,mb3.8
BOSA Boshof 77.59 220 P **P** **12 31 50.3 +0.2**
comp=Z,1.9nm,0.8s,mb3.8,baz=6.3,slow=9.2,SNR=4.2
YKA Yellowknife Ar 81.30 3 P **P** **12 32 10.2 +0.6**
YKA Yellowknife Ar 81.30 3 P **P** **12 32 10.2 +0.5**
YKA pmax pmax
comp=Z,1.0nm,0.4s
YKA Yellowknife Ar 81.30 3 P **P** **12 32 10.2 +0.6**
comp=Z,0.7nm,0.4s,mb3.6,baz=350,slow=5.5,SNR=20
WRA Warramunga Arr 82.13 122 P **P** **12 32 13.9 -0.7**
WRA pmax pmax
comp=Z,1.0nm,0.6s
WRA Warramunga Arr 82.13 122 P **P** **12 32 13.9 -0.8**
comp=Z,0.8nm,0.6s,mb3.5,baz=324,slow=5.1,SNR=22
ASAR Alice Springs 84.39 125 P **P** **12 32 25.7 -0.4**
ASAR pmax pmax
comp=Z,1.0nm,0.6s
ASAR Alice Springs 84.39 125 P **P** **12 32 25.7 -0.4**
comp=Z,0.5nm,0.6s,mb3.4,baz=313,slow=5.1,SNR=12

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*ISCJB **11** 12:21:49.7±1.5,3830N±005×203E±0.1,h10km, Error ellipse: s-maj=12.9km s-min=5.4km az=159.5*
*THE **11** 12:21:50.8,3833N×2038E,h3km,ML3.3*
*NEIC **11** 12:21:50.9,3813N×2042E,h18km,MD3.5(ATH),After ATH.*
*ATH **11** 12:21:50.9,3813N×2042E,h18km,MD3.5/6*
*CSEM **11** 12:21:52.1±0.6,3833N×2050E,h2km,MD3.5,Error ellipse: s-maj=12.1km s-min=4.6km az=84.0*
ISC 11 12:21:51.9±1.1,3832N±004×2045E±009,h10km,n12,σ1§24/19,Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.18**	**143**	*e*PB	**Pg**	**12 21 55.3**	**-0.5**
VLS				*e*SB	**Sg**	**12 21 58.6**	**+0.1**
LKD	**Levkas**	**0.41**	**22**	*e*Pg	**Pg**	**12 21 59.1**	**-1.0**
LKD				*e*Sg	**Sg**	**12 22 05.5**	**-0.1**
RLS	**Riolos of Patr**	**0.84**	**108**	*e*PN	**Pg**	**12 22 06.9**	**-1.3**
IGT	**Igoumenitsa**	**1.21**	**356**	*e*Pg	**Pg**	**12 22 13.4**	**-1.8**
IGT				*e*Sg	**Sg**	**12 22 31.5**	**+0.6**
IGT	**Igoumenitsa**	**1.21**	**356**	*e*Pg	**Pg**	**12 22 13.4**	**-1.8**
IGT				*e*Sg	**Sg**	**12 22 31.5**	**+0.5**
EVR	**Evrytania**	**1.22**	**60**	*e*PN	**Pn**	**12 22 16.3**	**+1.3**
KEK	**Kerkira**	**1.48**	**340**	*e*PN	**Pn**	**12 22 21.1**	**+2.5**
MEV	**Metsovon**	**1.58**	**22**	*e*Pg	**Pn**	**12 22 19.3**	**-0.7**
MEV				*e*Sg	**Sg**	**12 22 41.8**	**-1.0**
AGG	**Agios Georgios**	**1.63**	**64**	*e*Pb	**Pb**	**12 22 20.8**	**-1.3**
AGG				*e*Sb	**Sb**	**12 22 44.2**	**+1.6**
AGG	**Agios Georgios**	**1.63**	**64**	*e*Pb	**Pb**	**12 22 20.8**	**-1.3**
AGG				*e*Sb	**Sb**	**12 22 44.2**	**+1.5**
THL	**Klokotos Trika**	**1.74**	**44**	*e*PN	**Pn**	**12 22 24.6**	**+2.4**
LKR	**Lokris**	**2.03**	**80**	*e*PB	**Pn**	**12 22 26.6**	**+0.5**

MOS 11 12:22:36.9±2.8,4447N×4171E,h28km,mb3.5/1,4C, Error ellipse: s-maj=25.9km s-min=10.5km az=121.6, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIV	**Kislovodsk**	**0.87**	**126**	⇑*i*PG	Pn	12 22 50.5	-2.7
KIV0	**Kislovodsk Arr**	**0.87**	**125**	⇑*i*PG	Pn	12 22 50.6	-2.7
BEYR	**Belyy Ugol+**	**0.92**	**119**	⇑*i*PG	Pn	12 22 52.1	-1.8
SHAR	**Shatzhatmas**	**1.00**	**136**	⇑*i*PG	Pn	12 22 52.1	-2.9
PYA	**Pyatigorsk**	**1.06**	**114**	*e*PG	Pn	12 23 00.0	+4.1
DIGR	**Digorskoe uzhe**	**2.07**	**138**	*e*PN	Pn	12 23 11.2	+1.4
ZEI	**Tsey**	**2.32**	**136**	*e*PN	Pn	12 23 15.8	+2.6
LACR	**Lac**	**2.49**	**130**	*e*PN	Pn	12 23 19.1	+3.5
LACR				*e*S	Sn	12 23 46.5	+1.5

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*ISCJB **11** 12:26:21.1±1.9,270N±007×9551E±005,h3km±12km, mb4.5/40,MS4.1/4,Error ellipse: s-maj=12.2km s-min=7.5km az=26.0*
*IDC **11** 12:26:23.0±0.8,274N×9555E,h0km,mb4.3/13, mb1 4.3/14,mb1mx4.2/22,mbtmp4.2/14,ML3.9/1,MS3.6/2, Ms1 3.6/2,ms1mx3.3/43,Error ellipse: s-maj=24.5km s-min=12.7km az=40.0*
*MOS **11** 12:26:25.6±0.9,272N×9553E,h33km,mb4.9/11,Error ellipse: s-maj=17.0km s-min=8.2km az=96.0*
*BJI **11** 12:26:25.6,271N×9565E,h35km,mb4.8,mB5.0,Ms4.5, Msz4.0*
*NEIC **11** 12:26:27.8±0.5,276N×9563E,h30km,mb4.5/9,Error ellipse: s-maj=12.8km s-min=5.5km az=223.0*
ISC 11 12:26:23.9±2.4,270N±007×9553E±005,h8km±14km,n69, σ0§85/72,mb4.5/40,MS4.1/4,8C-2D,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**3.40**	**88**	P	**Pn**	**12 27 18.6**	**+1.3**
PSI						12 27 58.1	
PSI	**Prapat**	**3.40**	**88**	Pn	**Pn**	**12 27 18.6**	**+1.3**
comp=Z,232nm,19.8s,baz=267,slow=35
SNG Songkhla 6.75 49 P **Pn** **12 28 04.0 +0.6**
160nm,0.9s
KSM Kuching 14.82 94 *e*Pn **Pn** **12 29 53.2 -0.8**
KKTK Khon Kaen 15.34 27 ⇑P **Pn** **12 30 05.6 +4.7**
432nm,0.8s
CHG Chiang Mai 16.36 12 ⇑P **Pn** **12 30 13.1 -1.0**
27nm,1.1s
CHTO Chiang Mai 16.36 12 *e*P **Pn** **12 30 13.2 -0.9**
16nm,1.1s
CHTO Chiang Mai 16.36 12 *e*P **Pn** **12 30 13.2 -0.9**
CHTO pmax pmax
comp=Z,15nm,1.1s
KKM Kota Kinabalu 20.89 80 *e*P **P** **12 31 07.6 +0.6**
QIZ Qiongzhong 21.44 40 P **P** **12 31 12.9 +0.1**
QIZ S **S** **12 35 06.3 -4.7**
QIZ AMB AMB
comp=Z,18nm,1.7s,mb4.1
QIZ LR LR
comp=N,295nm,16.9s
QIZ LR LR
comp=Z,291nm,16.5s,MS3.8
SHL Shillong 23.00 352 *e*P **P** **12 31 26.0 -3.4**
KMI Kunming 23.35 17 P **P** **12 31 34.0 +0.9**
KMI AP 12 31 40.4
KMI AMB AMB
comp=Z,21nm,0.8s,mb4.6
KMI AMB AMB
comp=Z,155nm,5.7s
KMI LR LR
comp=N,324nm,12.1s,MS4.1
KMI LR LR
comp=E,274nm,15.6s,MS4.1
KMI LR LR
comp=Z,387nm,12.1s,MS4.1
LSA Lhasa 27.17 352 P **P** **12 32 09.8 +1.8**
LSA Lhasa 27.17 352 *e*P **P** **12 32 09.5 +1.5**
comp=Z,17nm,0.6s,mb4.8
LSA Lhasa 27.17 352 *e*P **P** **12 32 09.5 +1.5**
LSA pmax pmax
comp=Z,17nm,0.6s,mb4.8
CD2 Chengdu 29.12 15 P **P** **12 32 24.5 -0.9**
CD2 AMB AMB
comp=Z,30nm,0.8s,mb5.1
XAN Xi'an 33.59 20 P **P** **12 33 03.5 -1.3**
XAN AP pP 12 33 10.5 +3.3
XAN AMB AMB
comp=Z,37nm,0.7s,mb5.4
FITZ Fitzroy Crossi 36.16 126 P **P** **12 33 26.8 -0.3**
comp=Z,3.4nm,0.8s,mb4.3,baz=285,slow=3.3,SNR=3.8
NJ2 Nanjing 36.52 34 *e*P **P** **12 33 28.8 -1.3**
NJ2 AMB AMB
comp=Z,40nm,0.7s,mb5.4
GTA Gaotai 36.75 6 *e*P **P** **12 33 31.4 -0.5**
GTA AP pP 12 33 38.7 +4.4
GTA XP sP 12 33 42.6 +7.3
GTA AMB AMB
comp=Z,8.0nm,0.9s,mb4.5
BJI Beijing 41.62 24 P **P** **12 34 13.5 +0.9**
BJI S **S** **12 40 29.2 0.0**
BJI AMB AMB
comp=Z,30nm,0.8s,mb5.0
BJI LR LR
comp=N,224nm,14.6s,MS4.3
BJI LR LR
comp=E,249nm,14.6s,MS4.3
BJI LR LR
comp=Z,133nm,33.0s
UCH Uchtor 43.62 337 *e*P **P** **12 34 30.5 +1.6**
comp=Z,6.7nm,0.8s,mb4.4
TKM2 Tokmak 2 43.81 339 *e*P **P** **12 34 31.9 +1.5**
comp=Z,2.6nm,0.7s,mb4.1
TKM2 Tokmak 2 43.81 339 *e*P **P** **12 34 31.9 +1.5**
TKM2 pmax pmax
comp=Z,3.0nm,0.7s,mb4.1
AML Almayashu 43.86 336 *e*P **P** **12 34 32.3 +1.5**
comp=Z,7.1nm,0.9s,mb4.4
WRA Warramunga Arr 44.24 122 P **P** **12 34 34.2 0.0**
comp=Z,3.3nm,0.7s,mb4.2,baz=299,slow=9.1,SNR=15
WRAB Tennant Creek 44.25 122 *e*P **P** **12 34 34.7 +0.4**
EKS2 Erkin-Say 44.28 337 *e*P **P** **12 34 35.8 +1.7**
comp=Z,3.4nm,0.6s,mb4.2
MK31 Makanchi Array 45.41 347 *i*P **P** **12 34 43.2 +0.2**
MK31 pmax pmax
comp=Z,8.0nm,0.4s,mb4.9
MKAR Makanchi Array 45.41 347 P **P** **12 34 43.5 +0.4**
MKAR Makanchi Array 45.41 347 P **P** **12 34 43.5 +0.4**
comp=Z,15nm,0.7s,mb5.0,baz=162,slow=8.2,SNR=162
KSRS Korea Array 45.61 37 P **P** **12 34 43.8 -1.1**
comp=Z,2.3nm,0.9s,mb4.1,baz=221,slow=8.6,SNR=7.1
ASAR Alice Springs 45.63 127 P **P** **12 34 45.7 +0.5**
comp=Z,1.1nm,0.6s,mb4.0,baz=300,slow=8.0,SNR=18
ASAR PcP PcP 12 36 24.0 +0.4
comp=Z,0.4nm,0.8s,baz=297,slow=4.1,SNR=2.6
SONM Songino Array 45.93 10 P **P** **12 34 47.0 -0.2**
comp=Z,7.0nm,0.8s,mb4.7,baz=190,slow=8.7,SNR=52
SONM PcP PcP 12 36 24.8 +0.7
comp=Z,2.4nm,0.6s,baz=192,slow=3.9,SNR=8.1
ULN Ulaanbaatar 46.08 11‖ *e*P **P** **12 34 48.3 -0.1**
ZAK Zakamensk 47.96 7 *e*P **P** **12 35 02.4 -0.6**
ZAK pmax pmax
comp=Z,3.0nm,1.4s,mb4.1
TLY Talaya 49.28 7 *e*P **P** **12 35 13.4 +0.2**
TLY Talaya 49.28 7‖ *e*P **P** **12 35 13.6 +0.4**
TLY pmax pmax
comp=Z,1.0nm,1.2s,mb3.7
KURK Kurchatov 49.93 346 *e*P **P** **12 35 18.7 +0.6**
comp=Z,5.2nm,0.8s,mb4.6
KURK Kurchatov 49.93 346⇑ *i*P **P** **12 35 18.6 +0.5**
KURK pmax pmax
comp=Z,4.0nm,0.9s,mb4.5
MJAR Matsushiro Arr 51.75 44 P **P** **12 35 32.2 +0.1**
MJAR PcP PcP 12 36 46.1 +0.7
MJAR Matsushiro Arr 51.75 44 P **P** **12 35 32.2 +0.1**
comp=Z,0.4nm,0.7s,mb3.5,baz=224,slow=3.4,SNR=3.6
MJAR PcP PcP 12 36 46.1 +0.7
comp=Z,1.1nm,0.8s,baz=240,slow=2.5,SNR=4.1
ZAL Zalesovo 51.83 352 P **P** **12 35 32.6 +0.2**
ZAA0 Zalesovo Array 51.84 352 *e*P **P** **12 35 32.5 +0.1**
ZALV Zalesovo Beam 51.84 352 P **P** **12 35 32.5 +0.1**
comp=Z,15nm,0.6s,mb5.1,baz=181,slow=7.3,SNR=103
NVS Novosibirsk 52.93 351⇑ *i*P **P** **12 35 39.9 -0.7**
NVS *e*S **S** **12 43 15.9 +6.0**
NVS pmax pmax
comp=N,7.0nm,0.7s
NVS pmax pmax
comp=E,3.0nm,0.7s
NVS pmax pmax
comp=Z,7.0nm,0.7s,mb4.7
NVS smax
comp=N,11nm,1.8s
NVS smax
comp=E,8.0nm,1.7s
BRVK Borovoye 54.36 342 *e*P **P** **12 35 51.1 +0.1**
comp=E,4.5nm,0.6s,mb4.6
BRVK Borovoye 54.36 342 *e*P **P** **12 35 51.2 +0.1**
BRVK pmax pmax
comp=Z,4.0nm,0.6s,mb4.5
CHKZ Chkalovo 54.79 342 *i*P **P** **12 35 54.4 +0.2**
CHKZ pmax pmax
comp=Z,10.0nm,0.6s,mb5.0
STKA Stephens Creek 55.60 132 P **P** **12 36 00.7 +0.3**
comp=Z,1.9nm,1.0s,mb4.1,baz=295,slow=17,SNR=2.6
KLR Kul'dur 55.70 28 *e*P **P** **12 35 56.3 -4.5**
BOD Bodaibo 56.87 12 *e*P **P** **12 36 08.5 -0.5**
BOD pmax pmax
comp=Z,5.0nm,0.9s,mb4.5
AKTK Aktyubinsk 57.13 332 P **P** **12 36 10.2 -0.8**
AKTO Aktyubinsk 57.13 332 P **P** **12 36 10.2 -0.8**
comp=Z,1.6nm,0.5s,mb4.3,baz=116,slow=8.2,SNR=6.2
KMBO Kilima Mbogo 58.38 267⇑ *e*P **P** **12 36 18.7 -1.8**
YSS Yuzh-Sakhalins 60.08 35‖ *e*P **P** **12 36 31.5 -0.2**
YSS pmax pmax
comp=Z,12nm,1.4s,mb4.7
SVE Sverdlovsk 60.69 339 *e*P **P** **12 36 36.0 +0.4**
SVE pmax pmax
comp=Z,9.0nm,0.7s,mb5.0
ARU Arti 61.16 338 *c i*P **P** **12 36 38.4 -0.4**
ARU *e*S **S** **12 44 59.3 +0.8**
ARU *e*SS SS 12 48 58.4 -0.1
ARU pmax pmax
comp=Z,4.0nm,0.6s,mb4.7
YAK Yakutsk 64.47 17 *e*P **P** **12 37 00.1 -0.7**
comp=Z,17nm,0.6s,mb5.3
YAK Yakutsk 64.47 17 *e*P **P** **12 36 59.8 -1.0**
YAK pmax pmax
comp=Z,26nm,1.0s,mb5.2
YAK pmax pmax
comp=N,7.0nm,1.3s
YAK pmax pmax
comp=E,5.0nm,1.0s
MA2 Magadan 70.72 26 *e*P **P** **12 37 39.6 -0.7**
MA2 *e* 12 47 22.3
MA2 pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
TIXI Tiksi 72.02 11‖ *e*P **P** **12 37 46.5 -1.5**
TIXI pmax pmax
comp=Z,10.0nm,1.5s,mb4.5
SEY Seymchan 73.06 24 *i*P **P** **12 37 53.7 -0.6**
AKASG Malin Array Be 73.06 323 P **P** **12 37 54.3 -0.3**
comp=Z,0.5nm,0.4s,mb3.8,baz=104,slow=7.9,SNR=3.3
LBTB Lobatse 73.06 243 LR LR 13 04 59.3
comp=Z,125nm,18.8s,MS4.2,baz=214,slow=32
BILL Bilibino 80.37 21 *e*P **P** **12 38 34.9 -0.6**
BILL pmax pmax
comp=Z,2.0nm,1.8s,mb3.8
ARCES ARCESS Array B 80.57 340 P **P** **12 38 37.0 +0.4**
comp=Z,2.7nm,0.8s,mb4.2,baz=90,slow=5.2,SNR=7.5
GERES GERESS Array B 82.59 319 P **P** **12 38 48.8 +1.1**
comp=Z,0.3nm,0.3s,mb3.8,baz=149,slow=13,SNR=4.0
TXAR Lajitas Array 143.22 29 PKhKP 12 45 56.4
comp=Z,0.4nm,0.7s,baz=283,slow=2.5,SNR=6.2

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*CSEM **11** 12:32:11.4±0.1,3801N×3095E,h10km,MD3.1,Error ellipse: s-maj=3.5km s-min=2.0km az=113.0*
*ISK **11** 12:32:11.4,3799N×3096E,h9km,MD3.1*
*ISCJB **11** 12:32:12.7±0.7,3801N±003×3091E±004,h13km±6km, Error ellipse: s-maj=5.9km s-min=5.0km az=3.1*
*DDA **11** 12:32:13.4,3806N×3090E,h7km±6km,Md3.1,Ml3.1*
ISC 11 12:32:12.7±0.7,3799N±003×3096E±005,h14km±6km,n18, σ0§99/26,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ISP	**Isparta**	**0.39**	**248**	*e*PG	**Pg**	**12 32 19.1**	**-1.3**
ISP				*e*SG	**Sg**	**12 32 25.3**	**-0.3**
BCK	**Bucak**	**0.60**	**209**	*e*PG	**Pg**	**12 32 23.9**	**-0.5**
SHUT	**Suhut-Afyon**	**0.65**	**330**	*e*PG	**Pg**	**12 32 24.6**	**-0.8**
SHUT				*e*SG	**Sg**	**12 32 33.9**	**-0.1**
KDHN	**Kadinhani**	**1.05**	**59**	*i*P	**Pb**	**12 32 31.3**	**-1.4**
KDHN				*i*S	**Sg**	**12 32 48.2**	**+1.4**
KONT	**Konya--Tatoy**	**1.11**	**92**	*e*PN	**Pn**	**12 32 32.8**	**-1.0**
KIZT	**Kizilcal**	**1.15**	**39**	*e*PN	**Pn**	**12 32 33.8**	**-0.5**
KHL	**Karahalli**	**1.18**	**287**	*e*PN	**Pn**	**12 32 34.3**	**-0.5**
ALT	**Altintas**	**1.26**	**328**	*e*PN	**Pn**	**12 32 34.8**	**-1.0**
GOLH	**Golhisar**	**1.34**	**237**	*i*P	**Pn**	**12 32 37.6**	**+0.6**
GOLH				*i*S	**Sb**	**12 32 58.0**	**+3.4**
ELL	**Elmali**	**1.49**	**214**	*e*PN	**Pn**	**12 32 39.4**	**+0.3**
ESKT	**Eskisehir**	**1.53**	**357**	*i*P	**Pn**	**12 32 38.9**	**-0.8**
ESKT				*i*S	**Sg**	**12 33 02.8**	**+0.7**
ESKT	**Eskisehir**	**1.53**	**357**	*e*Pn	**Pn**	**12 32 39.9**	**+0.2**
SEYT	**Eskypehyr**	**1.53**	**357**	*i*P	**Pn**	**12 32 38.9**	**-0.8**
SEYT				*i*S	**Sg**	**12 33 02.8**	**+0.7**
GDZ	**Gediz**	**1.60**	**314**	*i*P	**Pn**	**12 32 40.6**	**0.0**
GDZ				*i*S	**Sg**	**12 33 06.1**	**+1.9**
KULA	**Kula-Manisa**	**1.89**	**287**	*e*PN	**Pn**	**12 32 44.3**	**-0.2**
FETY	**Fethiye**	**2.01**	**229**	*e*PN	**Pn**	**12 32 46.9**	**+0.6**
ERMK	**Ermenek**	**2.06**	**130**	*i*P	**Pn**	**12 32 49.2**	**+2.4**
ERMK				*i*S	**Sg**	**12 33 24.9**	**+6.2**
IZI	**Iznik**	**2.62**	**334**	*e*PN	**Pn**	**12 32 54.5**	**-0.1**

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*IDC **11** 12:41:36.2±0.4,1526S×17352W,h0km,mb4.7/18, mb1 4.9/18,mb1mx4.8/21,mbtmp4.7/18,MS4.8/29, Ms1 4.7/29,ms1mx4.7/30,Error ellipse: s-maj=18.2km s-min=14.6km az=117.0*
*SZGRF **11** 12:41:39.1,1644S×17338W,h35km,Tonga Islands*
*ISCJB **11** 12:41:42.4±0.2,1507S±005×17347W±004,h51km, mb5.2/109,MS4.9/46,Error ellipse: s-maj=8.1km s-min=5.3km az=156.4*
*MOS **11** 12:41:43.6±1.2,1439S×17337W,h33km,mb5.5/35, MS5.2/6,Error ellipse: s-maj=12.4km s-min=8.1km az=66.1*
*NEIC **11** 12:41:46.0±0.2,1479S×17346W,mb5.3/74,Error ellipse: s-maj=10.2km s-min=6.4km az=161.0*
*BJI **11** 12:41:45.0,1410S×17362W,h31km,mB5.4,mb5.1,Ms5.3, Msz4.9*
*GCMT **11** 12:41:46.0±0.1,1490S×17321W,h27km,MW5.5/92, Moment Tensor Solution. s81,c134; s92,c175; Duration: 1s3 Moment tensor: Scale 1017Nm; Mrr=0.33±.03; Mθθ=0.09±.03; Mφφ0.42±.03; Mrθ=0.90±.05; Mθφ1.72±.02; Mφr0.36±.05; Best double couple: M0=2.00600×1017 NP1:φs=179.00000°,δ64.00000°, λ=-165.00000°. NP2:φs=83.00000°,δ77.00000°, λ=-27.00000°. Principal axes: T 1.9510, Plg9.0000°, Azm133.0000°; N 0.1090, Plg60.0000°, Azm239.0000°; P -2.0610, Plg28.0000°, Azm38.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 11 12:41:44.1±0.2,1511S±005×17349W±004,h52km, h53km±2.3km:pP-P,n712,σ0§68/508,mb5.2/109,MS4.9/46, 136C-119D,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.05**	**55**	*e*Pn	**Pn**	**12 42 06.3**	**-10**
AFI				*e*Sn	**Sn**	**12 42 25.4**	**-15**
FUNA	**Funafuti**	**9.69**	**312**	*e*Pn	**Pn**	**12 43 58.4**	**-2.6**
FUNA				*e*Sn	**Sn**	**12 45 35.0**	**-14**
RAR	**Rarotonga**	**14.38**	**117**	Pn	**Pn**	**12 44 56.8**	**-8.0**
12nm,0.3s,baz=266,slow=7.3,SNR=18
RAR Sn **Sn** **12 47 23.2 -20**
0.4nm,0.3s,baz=17,slow=20,SNR=2.2
RAR LR LR 12 49 09.4
comp=Z,3μm,21.4s,baz=298,slow=32
RAR T 12 59 36.1
94nm,0.3s,baz=110,slow=7.7,SNR=5.3
RAO Raoul Island 14.66 195 LR LR 12 49 34.6
comp=Z,4μm,20.3s,baz=330,slow=33
PAE Paea 23.08 100 *e*P **P** **12 46 47.6 +2.1**
157nm,1.1s,mb5.4
PAE Paea 23.08 100 *e*P **P** **12 46 47.6 +2.1**
PAE pmax pmax
comp=Z,157nm,1.1s,mb5.3
PPT Papeete 23.08 99 *e*P **P** **12 46 48.0 +2.5**
comp=Z,77nm,1.2s,mb5.0
PPT *e*LQ 12 51 09.8
comp=Z,18μm,28.8s
PPT *e*LR LR 12 51 53.5
comp=Z,3μm,37.5s
PPT Papeete 23.08 99 P **P** **12 46 43.8 -1.7**
PPT *e*P 12 46 48.0
PPT *e*LQ 12 51 09.8
PPT LR LR 12 54 40.6
PPT Papeete 23.08 99 P **P** **12 46 43.8 -1.7**
PPT *e* 12 46 48.0
PPT Papeete 23.08 99 P **P** **12 46 43.8 -1.7**
comp=Z,33nm,1.2s,mb4.6,baz=30,slow=20,SNR=2.3
PPT LR LR 12 54 40.6
comp=Z,1μm,18.8s,MS4.4,baz=272,slow=34
PPT T 13 10 33.6
comp=Z,37nm,0.3s,baz=35,slow=17,SNR=3.9
TVO Taravao 23.40 100 *e*P **P** **12 46 51.0 +2.4**
comp=Z,230nm,1.3s,mb5.4
TVO Taravao 23.40 100 *e*P **P** **12 46 51.0 +2.4**
TVO pmax pmax
comp=Z,230nm,1.3s,mb5.5
TBI Tubuai 24.10 114 *e*LQ 12 51 39.1
comp=Z,9μm,27.0s
TBI *e*LR LR 12 52 25.6
comp=Z,3μm,30.8s
URZ Urewera 24.51 198 P **P** **12 46 57.1 -1.5**
comp=Z,15nm,0.6s,mb4.7,baz=1.1,slow=8.4,SNR=9.8
URZ LR LR 12 55 15.3
comp=Z,6μm,18.7s,MS5.1,baz=14,slow=34
HNR Honiara 26.55 279 LR LR 12 56 50.7
comp=Z,817nm,18.0s,MS4.3,baz=171,slow=34
RPZ Rata Peaks 31.42 202 LR LR 12 59 25.9
comp=Z,4μm,21.3s,MS5.1,baz=19,slow=34
RKT Rikitea 37.17 108 *e*S **S** **12 54 31.4 -2.1**
comp=Z,530nm,29.2s
RKT *e*LQ 12 57 07.3
comp=Z,2μm,25.8s
RKT *e*LR LR 12 58 26.4
comp=Z,1μm,35.8s
POHA Pohakuloa 38.89 28 *e*P **P** **12 49 04.6 -0.2**
KIP Kipapa 39.35 23 *e*P **P** **12 49 08.1 -0.5**
comp=Z,119nm,0.9s,mb5.6
KIP Kipapa 39.35 23 *e*P **P** **12 49 08.1 -0.5**
KIP pmax pmax
comp=Z,119nm,0.9s,mb5.6
STKA Stephens Creek 44.10 240 P **P** **12 49 45.4 -2.1**
comp=Z,4.4nm,0.8s,mb4.2,baz=60,slow=9.3,SNR=7.4
STKA LR LR 13 07 02.4
comp=Z,1μm,19.4s,MS4.8,baz=60,slow=35
WB2 Warramunga Arr 49.81 257 *e*P **P** **12 50 31.4 -0.7**
WRAB Tennant Creek 49.81 257 *e*P **P** **12 50 31.0 -1.1**
comp=Z,83nm,1.4s,mb5.6
WRAB Tennant Creek 49.81 257 *i*P **P** **12 50 31.4 -0.8**
WRA Warramunga Arr 49.82 257 P **P** **12 50 30.3 -2.0**
comp=Z,5.1nm,0.7s,mb4.7,baz=97,slow=6.0,SNR=34
WRA LR LR 13 10 22.5
comp=Z,898nm,18.9s,MS4.8,baz=90,slow=35
ASAR Alice Springs 50.12 252 P **P** **12 50 32.6 -1.8**
comp=Z,20nm,0.7s,mb5.2,baz=85,slow=8.4,SNR=101
KAKA Kakadu 52.43 265 *e*P **P** **12 50 49.8 -2.1**
CBIJ Chichi jima 60.09 314 LR LR 13 12 44.9
comp=Z,668nm,19.2s,MS4.8,baz=113,slow=31
RPN Rapa Nui 60.48 113 LR LR 13 11 04.6
comp=Z,200nm,19.8s,MS4.3,baz=288,slow=29
MBWA Marble Bar 63.35 254 *e*P **P** **12 52 09.4 +1.0**
comp=Z,13nm,0.8s,mb5.1
SBA Scott Base 63.53 185 *e*P **P** **12 52 10.3 +1.7**
comp=Z,85nm,1.5s,mb5.6
SBA Scott Base 63.53 185 *e*P **P** **12 52 10.3 +1.7**
SBA pmax pmax
comp=Z,85nm,1.5s,mb5.5
VNDA Vanda 63.65 186 P **P** **12 52 07.7 -1.7**
comp=Z,5.4nm,1.1s,mb4.5,baz=11,slow=7.9,SNR=6.5
VNDA LR LR 13 13 02.3
comp=Z,680nm,21.3s,MS4.8,baz=26,slow=30
NWAO Narrogin (SRO) 64.68 240 *e*P **P** **12 52 20.3 +3.4**
JHJ Hachijo jima 2 65.49 318 LR LR 13 13 58.3
comp=Z,403nm,21.2s,MS4.6,baz=104,slow=30
MJAR Matsushiro Arr 68.66 320 P **P** **12 52 41.2 -0.9**

comp=Z,4.0nm,0.9s,mb4.3,baz=154,slow=5.1,SNR=4.6
MJAR LR LR 13 16 55.9
comp=Z,905nm,20.6s,MS5.0,baz=115,slow=31
MAJO Matsushiro 68.66 320 *e*P **P 12 52 42.9 +0.8**
comp=Z,23nm,1.5s,mb4.9
MAJO Matsushiro 68.66 320 *e*P **P 12 52 42.9 +0.8**
MAJO pmax pmax
comp=Z,23nm,1.5s,mb4.9
MAT Matsushiro 68.66 320 P **P 12 52 40.2 -1.9**
JOW Kunigami 70.24 306 LR LR 13 17 41.0
comp=Z,662nm,19.4s,MS4.9,baz=188,slow=31
FARB Farallon Islan 70.75 40 ⇑P **P 12 52 56.2 +1.3**
baz=71
JMP Maruseppu 70.78 328 P **P 12 52 53.8 -1.2**
HAST Hastings Reser 70.89 42 ⇑P **P 12 52 55.9 +0.1**
baz=71
JEW Eniwo 70.95 327 P **P 12 52 56.3 +0.3**
ASAJ Asahikawa 71.25 328 P **P 12 52 58.1 +0.3**
ASAJ Asahikawa 71.25 328 P **P 12 52 58.6 +0.8**
comp=Z,23nm,1.0s,mb5.0,baz=198,slow=4.0,SNR=6.2
ASAJ LR LR 13 21 22.5
comp=Z,508nm,19.2s,MS4.8,baz=145,slow=33
SMMC Simmler 71.28 44 ⇑P **P 12 52 58.7 +0.5**
baz=71
PKD Parkfield 71.29 43 ⇑P **P 12 52 59.2 +1.0**
baz=71
PTRM Twissleman Ran 71.34 44 *e*P **P 12 52 59.6 +1.1**
PTRM *e*pP pP 12 53 15.0 +1.7
U04C Hernandez Rese 71.37 43 ⇑P **P 12 52 60.0 +1.3**
baz=72
PACP Pacheco Peak 71.42 42 P **P 12 52 59.9 +0.9**
baz=72,SNR=6.2
CVS Carmenet Viney 71.48 40 ⇑P **P 12 52 58.8 -0.5**
baz=72
NSHM Saint Helena R 71.50 40 *e*P **P 12 52 59.6 +0.2**
HOPS Hopland 71.50 39 ⇑P **P 12 52 59.6 +0.2**
baz=72
JNU Nakatsue 71.53 313 P **P 12 53 00.8 +1.0**
comp=Z,4.2nm,0.8s,mb4.4,baz=90,slow=1.0,SNR=3.0
JNU LR LR 13 19 26.8
comp=Z,408nm,19.1s,MS4.7,baz=163,slow=32
JSH Shimam 71.57 326 P **P 12 53 00.4 +0.6**
P01C Double 8 Ranch 71.64 39 ⇑P **P 12 53 00.3 +0.1**
baz=72
S04C Ingram Canyon, 71.69 41 ⇓P **P 12 53 00.8 +0.2**
baz=72
MNRC McLaughlin Nat 71.82 40 ⇑P **P 12 53 01.9 +0.6**
baz=72,SNR=6.8
Q03C Winters 71.94 40 ⇓P **P 12 53 02.7 +0.7**
baz=72
PET Petropavlovsk 71.97 343 *e*P **P 12 53 01.0 -0.9**
PET *e*S S 13 02 23.0 +3.8
PET *e*PS 13 02 58.1
PET pmax pmax
comp=Z,24nm,1.2s,mb5.0
PET pmax pmax
comp=Z,300nm,13.6s
PET MLR MLR
comp=Z,600nm,18.0s,MS4.9
GASB Alder Springs 72.13 39 ⇓P **P 12 53 04.3 +1.1**
baz=72
VES Vestal, Richgr 72.20 44 ⇓P **P 12 53 03.4 -0.3**
baz=72
S05C Merced 72.24 42 ⇓P **P 12 53 03.3 -0.6**
baz=72
MURC Murrieta 72.26 47 ⇓P **P 12 53 03.8 -0.3**
baz=72
BFSC Mount Baldy St 72.28 46 ⇑P **P 12 53 04.0 -0.2**
baz=72
EDW2 Edwards Air Fo 72.41 45 ⇓P **P 12 53 04.9 -0.1**
baz=72
O02C Red Bluff 72.41 38 ⇓P **P 12 53 05.3 +0.5**
baz=72,SNR=6.2
MONP Monument Peak 72.44 48 ⇓P **P 12 53 05.4 +0.2**
baz=72
SUTB Sutter Butte 72.44 40 ⇑P **P 12 53 04.8 -0.2**
baz=73
T06C Millerton Lake 72.45 43 ⇓P **P 12 53 04.7 -0.5**
baz=73,SNR=5.9
Q04C Lincoln 72.46 40 ⇓P **P 12 53 04.9 -0.3**
baz=73
N02C Big Bar 72.50 38 ⇑P **P 12 53 05.7 +0.3**
baz=73
ISA Isabella 72.51 44 *e*P **P 12 53 05.9 +0.3**
comp=Z,57nm,1.9s,mb5.2
ISA *e*pP pP 12 53 21.3 +1.0
ISA Isabella 72.51 44 *e*P **P 12 53 05.9 +0.4**
ISA *e**PP pP 12 53 21.3 +0.9
ISA pmax pmax
comp=Z,57nm,1.9s,mb5.2
ISA Isabella 72.51 44 ⇑P **P 12 53 05.7 +0.1**
baz=73
DVTC Desert V Tower 72.55 48 ⇑P **P 12 53 06.0 +0.2**
baz=73
CMB Columbia Colle 72.61 41 *e*P **P 12 53 06.0 0.0**
comp=Z,24nm,1.0s,mb5.1
CMB *e*pP pP 12 53 21.6 +0.7
CMB Columbia Colle 72.61 41 *e*P **P 12 53 06.0 -0.1**
CMB *e**PP pP 12 53 21.6 +0.7
CMB pmax pmax
comp=Z,24nm,1.0s,mb5.1
CMB Columbia Colle 72.61 41 ⇑P **P 12 53 05.7 -0.4**
baz=73,SNR=6.9
OHCM Honcut 72.69 40 *e*P **P 12 53 06.6 +0.1**
OHCM *e*pP pP 12 53 22.1 +0.7
HELL Mitchell Peak 72.71 43 ⇓P **P 12 53 06.6 -0.2**
baz=73
O03C Acorn Hollow, 72.75 39 ⇑P **P 12 53 06.7 -0.2**
baz=73
PFO Pinyon Flat Ob 72.79 47 P **P 12 53 04.4 -2.9**
comp=Z,3.2nm,0.9s,mb4.3,baz=250,slow=10.0,SNR=4.0
PFO Pinyon Flat Ob 72.79 47 ⇑P **P 12 53 06.8 -0.4**
baz=73
WDC Whiskeytown Da 72.81 38 ⇓P **P 12 53 07.1 -0.1**
baz=73,SNR=5.7
LAVA Lava Cap Winer 72.81 41 ⇓P **P 12 53 07.0 -0.3**
baz=73
ORV Oroville 72.81 40 ⇑P **P 12 53 06.9 -0.4**
baz=73,SNR=8.3
KCC Kaiser Creek 72.88 43 ⇓P **P 12 53 07.8 +0.1**
baz=73
LRMC Laurel Mountai 72.94 45 ⇓P **P 12 53 08.1 0.0**
baz=73
M02C Callahan 73.13 37 ⇓P **P 12 53 09.9 +0.8**
baz=73
L02A Cave Junction 73.17 36 ⇓P **P 12 53 09.8 +0.5**
baz=73
YSS Yuzh-Sakhalins 73.19 330 *e*P **P 12 53 10.7 +1.4**
YSS Yuzh-Sakhalins 73.19 330 *e*P **P 12 53 09.0 -0.3**
YSS *e* 12 53 15.0
YSS pmax pmax
comp=Z,40nm,1.0s,mb5.3
YSS MLR MLR
comp=Z,300nm,17.0s,MS4.6
R05C Kirkwood Meado 73.19 41 ⇑P **P 12 53 09.6 +0.1**
baz=73,SNR=13
CWC Cottonwood Cre 73.20 44 ⇑P **P 12 53 09.3 -0.4**
baz=73
P05C Yuba Gap, Truc 73.21 40 ⇑P **P 12 53 09.4 -0.3**
baz=73,SNR=7.4
BELC Belle Mtn. 73.32 47 ⇑P **P 12 53 10.2 -0.2**
baz=73,SNR=6.5
MLAC Mammoth Lakes 73.37 43 ⇓P **P 12 53 10.5 -0.1**
baz=74
MPMC Manual Prospec 73.39 45 ⇑P **P 12 53 10.8 +0.1**
baz=74,SNR=8.6
MTUM Tungsten Hills 73.39 43 *e*P **P 12 53 11.3 +0.5**
MTUM *e*pP pP 12 53 26.8 +1.2
O05C Quincy 73.42 40 ⇑P **P 12 53 10.8 0.0**
baz=74
YBH Yreka Blue Hor 73.42 37 *e*P **P 12 53 11.0 +0.2**
comp=Z,49nm,1.0s,mb5.4
YBH *e*pP pP 12 53 27.1 +1.5
YBH Yreka Blue Hor 73.42 37 *e*P **P 12 53 11.0 +0.2**
YBH *e**PP pP 12 53 27.2 +1.5
YBH pmax pmax
comp=Z,49nm,1.0s
YBH Yreka Blue Hor 73.42 37 P **P 12 53 11.2 +0.4**
baz=74,SNR=13
GSC Goldstone 73.45 45 *e*P **P 12 53 10.9 -0.2**
comp=Z,49nm,1.4s,mb5.2
GSC *e*pP pP 12 53 26.5 +0.5
GSC Goldstone 73.45 45 *e*P **P 12 53 10.9 -0.2**
GSC *e**PP pP 12 53 26.5 +0.5
GSC pmax pmax
comp=Z,49nm,1.4s,mb5.2
GSC Goldstone 73.45 45 ⇑P **P 12 53 10.8 -0.3**
baz=74
TIN Tinemaha 73.45 43 ⇑P **P 12 53 11.0 0.0**
baz=74
M03C McCloud 73.48 38 ⇓P **P 12 53 11.4 +0.2**
baz=74
R06C Coleville 73.49 41 ⇓P **P 12 53 11.3 0.0**
baz=74,SNR=9.3
R07C Lee Vining 73.50 42 ⇑P **P 12 53 11.4 +0.1**
baz=74
HEC Hector,Ludlow 73.53 46 ⇑P **P 12 53 11.1 -0.5**
baz=74
O04C Chester 73.53 39 ⇑P **P 12 53 11.4 -0.1**
baz=74,SNR=12
BC3 Big Chuckw Mtn 73.53 48 ⇑P **P 12 53 11.5 -0.1**
baz=74,SNR=9.1
HATC Hat Creek Radi 73.60 39 ⇑P **P 12 53 11.9 +0.1**
baz=74
K02A Glendale 73.62 36 ⇓P **P 12 53 12.2 +0.2**
baz=74
LHEM Herd Peak 73.65 38 P **P 12 53 12.8 +0.7**
GLA Glamis 73.67 48 *e*P **P 12 53 12.7 +0.2**
comp=Z,33nm,1.3s,mb5.1
GLA *e*pP pP 12 53 28.4 +1.1
GLA Glamis 73.67 48 *e*P **P 12 53 12.7 +0.2**
GLA *e**PP pP 12 53 28.4 +1.1
GLA pmax pmax
comp=Z,33nm,1.3s,mb5.1
GLA Glamis 73.67 48 ⇑P **P 12 53 12.4 -0.1**
baz=74,SNR=9.8
BEKR Beckwourth 73.70 40 P **P 12 53 12.4 -0.1**
baz=74,SNR=20
S08C White Mtn Res 73.74 43 ⇑P **P 12 53 13.1 +0.4**
baz=74,SNR=8.1
WCN Washoe City 73.75 41 ⇑P **P 12 53 12.8 +0.1**
baz=74,SNR=11
LTIM Timbered Crate 73.80 38 P **P 12 53 12.9 -0.2**
HUMO Hull Mountain 73.83 36 *e*P **P 12 53 13.8 +0.7**
comp=Z,54nm,1.2s,mb5.4
HUMO *e*pP pP 12 53 29.4 +1.4
HUMO Hull Mountain 73.83 36 ⇑P **P 12 53 13.4 +0.2**
baz=74,SNR=11
P06A Stead Airport, 73.88 40 ⇓P **P 12 53 14.0 +0.5**
baz=74
ELFS Eagle Lake Fie 73.92 39 ⇓P **P 12 53 14.2 +0.4**
baz=74
J02A Umpqua 73.96 35 ⇓P **P 12 53 14.2 +0.2**
baz=74,SNR=5.6
M04C Mazdel 73.97 38 ⇑P **P 12 53 14.2 +0.2**
baz=74,SNR=11
GMRC Granite Mounta 73.97 46 ⇑P **P 12 53 14.2 0.0**
baz=74,SNR=7.6
GRAC Grapevine Rang 73.99 44 ⇓P **P 12 53 14.3 +0.1**
baz=74,SNR=6.0
IRM Iron Mountain 74.00 47 ⇑P **P 12 53 14.4 0.0**
baz=74,SNR=13
BUOR Burton Butte 74.03 37 P **P 12 53 15.0 +0.6**
FURC Furnace Creek, 74.04 44 ⇑P **P 12 53 14.3 -0.3**
baz=74
M05C Lookout 74.12 38 P **P 12 53 15.1 +0.2**
baz=74,SNR=13
TUQ Turquoise Mtn. 74.13 46 ⇓P **P 12 53 14.8 -0.3**
baz=74,SNR=6.2
SHOC Shoshone 74.13 45 ⇑P **P 12 53 14.9 -0.2**
baz=74
Q07A Schurz 74.14 41 ⇓P **P 12 53 15.5 +0.4**
baz=74
O06A Flanigan 74.21 40 ⇑P **P 12 53 15.3 -0.1**
baz=74
RNO Roman Nose 74.22 35 P **P 12 53 15.6 +0.2**
I02A Mapleton 74.23 35 ⇓P **P 12 53 15.9 +0.4**
baz=74
Y12C Blythe 74.24 48 P **P 12 53 16.1 +0.4**
baz=74,SNR=6.5
VSP Spence Mountai 74.24 37 P **P 12 53 16.0 +0.4**
R08A Mina 74.26 42 ⇑P **P 12 53 15.8 0.0**
baz=74
J03A Ideyld Park 74.31 36 ⇓P **P 12 53 16.2 +0.2**
baz=74
U10A Ash Meadows, A 74.38 45 ⇓P **P 12 53 16.2 -0.3**
baz=74
M06C Likely Place G 74.43 39 ⇑P **P 12 53 16.7 0.0**
baz=74,SNR=17
S09A Goldfield 74.48 43 P **P 12 53 17.3 +0.2**
baz=75,SNR=10.0
I03A Eugene 74.51 35 ⇑P **P 12 53 17.4 +0.3**
baz=75
N06A Buffalo Meadow 74.55 39 P **P 12 53 17.5 +0.1**
baz=75,SNR=26
KDAK Kodiak Island 74.66 11 P **P 12 53 17.4 -0.3**
comp=Z,33nm,1.0s,mb5.2,baz=220,slow=3.9,SNR=28
Q08A Gabbs 74.66 42 P **P 12 53 17.9 -0.2**
baz=75,SNR=20
V11A Goodsprings 74.68 46 ⇑P **P 12 53 18.5 +0.2**
baz=75
J04A Umpqua Nationa 74.71 36 ⇑P **P 12 53 18.7 +0.4**
baz=75,SNR=6.1
TPNV Topopah Spring 74.71 44 *e*P **P 12 53 18.8 +0.3**
comp=Z,18nm,1.0s,mb5.0
TPNV *e*pP pP 12 53 34.4 +1.1
TPNV Topopah Spring 74.71 44 *e*P **P 12 53 18.8 +0.3**
TPNV *e**PP pP 12 53 34.4 +1.0
TPNV pmax pmax
comp=Z,18nm,1.0s,mb5.0
TPNV Topopah Spring 74.71 44 ⇓P **P 12 53 18.3 -0.2**
baz=75,SNR=9.1
L05A Lakeview 74.72 38 ⇓P **P 12 53 18.8 +0.4**
baz=75,SNR=13
Y13A Salome 74.77 48 ⇑P **P 12 53 18.9 0.0**
baz=75,SNR=7.3
W12A Cal Nev Ari 74.79 46 ⇑P **P 12 53 19.0 0.0**
baz=75
PDMCI Parker Dam,Lak 74.79 48 ⇑P **P 12 53 18.6 -0.4**
baz=75,SNR=6.4
R09A Tonopah 74.87 43 ⇑P **P 12 53 19.4 0.0**
baz=75,SNR=17
I04A Tendick Farm, 74.88 36 ⇓P **P 12 53 19.1 -0.2**
baz=75,SNR=8.1
QSPA South Pole Qui 74.93 180 P **P 12 53 18.0 -1.1**
comp=Z,10nm,0.8s,mb4.8,baz=58,slow=1.9,SNR=34
MOD Modoc 74.95 38 *e*P **P 12 53 20.2 +0.5**
comp=Z,85nm,1.3s,mb5.5
MOD *e*pP pP 12 53 35.6 +1.0
MOD Modoc 74.95 38 ⇓P **P 12 53 19.8 +0.1**
baz=75,SNR=20
H03A Soap Creek Ran 74.95 35 ⇓P **P 12 53 19.5 -0.2**
baz=75
HBO Huckleberry Mo 74.97 36 P **P 12 53 19.4 -0.4**
S10A Tonopah Range, 75.01 43 P **P 12 53 20.0 -0.2**
baz=75,SNR=16
U11A Corn Creek 75.02 45 ⇓P **P 12 53 20.2 -0.1**
baz=75
V12A Nelson 75.03 46 ⇓P **P 12 53 20.3 0.0**
baz=75,SNR=6.3
P08A Dixie Valley 75.03 41 ⇓P **P 12 53 20.6 +0.3**
baz=75
K05A Summer Lake 75.10 37 ⇓P **P 12 53 21.0 +0.4**
baz=75,SNR=26
N07B Gerlach 75.10 40 P **P 12 53 20.6 0.0**
baz=75,SNR=25
Q09A Carvers 75.13 42 ⇑P **P 12 53 21.0 +0.2**
baz=75
X13A Yucca 75.16 47 ⇓P **P 12 53 21.1 0.0**
baz=75,SNR=18
Z14A Wintersburg 75.19 49 ⇓P **P 12 53 21.2 -0.1**
baz=75,SNR=5.2
J05A Fort Rock 75.24 37 P **P 12 53 21.9 +0.5**
baz=75,SNR=36
G03A Yamhill 75.37 34 ⇑P **P 12 53 22.2 +0.2**
baz=76
W13A Hualapai Mount 75.38 47 ⇓P **P 12 53 22.3 0.0**
baz=76,SNR=13
115A Sonoran Desert 75.39 50 ⇓P **P 12 53 21.9 -0.6**
baz=76
R10A Warm Springs 75.40 43 P **P 12 53 22.8 +0.4**
baz=76,SNR=31
S11A Rachel 75.42 44 ⇓P **P 12 53 22.4 -0.1**
baz=76,SNR=5.2
Y14A Wickenburg 75.43 48 ⇓P **P 12 53 22.6 0.0**
baz=76,SNR=14
K06A Valley Falls 75.52 38 P **P 12 53 23.3 +0.3**
baz=76,SNR=24
P09A Austin 75.55 42 ⇓P **P 12 53 23.6 +0.3**
baz=76
T11A Corn Creek, Al 75.56 45 P **P 12 53 23.4 +0.1**
baz=76,SNR=18
H04A Detroit Lake 75.57 35 ⇓P **P 12 53 22.5 -0.7**
baz=76,SNR=14
L07A Adell 75.60 39 P **P 12 53 24.0 +0.6**
baz=76,SNR=23
BKCOR Black Crater 75.60 36 P **P 12 53 23.4 0.0**
U12A Valley of Fire 75.61 46 ⇓P **P 12 53 23.7 0.0**
baz=76,SNR=12
N08A GE Springer Mi 75.62 40 P **P 12 53 23.6 +0.1**
baz=76,SNR=31
216A Three Points, 75.63 51 ⇓P **P 12 53 23.8 0.0**
baz=76,SNR=14
Q10A Clear Creek Ra 75.63 43 ⇓P **P 12 53 23.7 0.0**
baz=76,SNR=9.1
116A Eloy 75.71 50 ⇑P **P 12 53 24.2 -0.1**
baz=76
G04A Mulino 75.74 35 ⇑P **P 12 53 24.9 +0.8**
baz=76
I05A Bend 75.76 36 ⇓P **P 12 53 24.5 +0.2**
baz=76,SNR=10
X14A Yava 75.77 48 P **P 12 53 24.9 +0.3**
baz=76,SNR=16
J06A Christmas Vall 75.85 37 ⇑P **P 12 53 24.5 -0.3**
baz=76,SNR=24
M08A Happy Creek Ra 75.85 39 ⇓P **P 12 53 25.0 +0.1**
baz=76,SNR=22
O09A Fish Creek Ran 75.87 41 ⇑P **P 12 53 25.1 +0.1**
baz=76,SNR=14
KSRS Korea Array 75.89 316 P **P 12 53 26.1 +0.9**
comp=Z,6.6nm,1.0s,mb4.5,baz=128,slow=5.8,SNR=4.5
KSRS LR LR 13 25 13.7
comp=Z,330nm,18.9s,MS4.7,baz=122,slow=34
R11A Troy Canyon, C 75.91 43 ⇓P **P 12 53 25.2 -0.1**
baz=76,SNR=15
Y15A Casa Rosa Ranc 75.92 49 ⇑P **P 12 53 25.6 +0.1**
baz=76,SNR=34
U13A Pakoon Wash 76.00 46 P **P 12 53 26.1 +0.2**
baz=76,SNR=17
217A Green Valley 76.00 51 ⇑P **P 12 53 26.0 0.0**
baz=76,SNR=10
W14A Seligman 76.00 47 P **P 12 53 26.5 +0.6**
baz=76,SNR=22
S12A Delamar Landin 76.01 44 ⇓P **P 12 53 26.4 +0.5**
baz=76,SNR=5.1
E03A Lebam 76.01 33 ⇓P **P 12 53 26.0 +0.4**
baz=76
P10A Eureka 76.03 42 ⇑P **P 12 53 25.9 -0.1**
baz=76,SNR=9.1
N09A Rock Creek Ran 76.04 40 ⇓P **P 12 53 26.0 0.0**
baz=76
K07A Rock Creek Ran 76.05 38 ⇓P **P 12 53 26.3 +0.3**
baz=76
H05A Madras 76.08 36 ⇑P **P 12 53 25.9 -0.2**
baz=76,SNR=6.0
Q11A Duckwater 76.13 43 ⇓P **P 12 53 26.2 -0.3**
baz=76,SNR=27
V14A Boquillas Ranc 76.20 47 ⇓P **P 12 53 26.9 -0.1**
baz=76,SNR=26
F04A Amboy 76.23 34 ⇓P **P 12 53 26.6 -0.3**
baz=76
I06A Prineville 76.23 37 P **P 12 53 27.4 +0.4**
baz=76,SNR=32
X15A Humboldt 76.25 48 ⇑P **P 12 53 27.3 0.0**
baz=76,SNR=24
WVOR Wild Horse Val 76.26 39 *e*P **P 12 53 27.4 +0.2**
comp=Z,47nm,1.2s,mb5.3
WVOR Wild Horse Val 76.26 39 *e*P **P 12 53 27.4 +0.2**
WVOR pmax pmax
comp=Z,47nm,1.2s,mb5.3
D03A Wishkah Elem. 76.27 32 ⇑P **P 12 53 27.7 +0.5**
baz=76
TUC Tucson 76.28 51 *e*P **P 12 53 27.8 +0.2**
comp=Z,55nm,1.5s,mb5.3
TUC *e*pP pP 12 53 44.0 +1.6
TUC Tucson 76.28 51 *e*P **P 12 53 27.8 +0.3**
TUC *e**PP pP 12 53 44.0 +1.5
TUC pmax pmax
comp=Z,55nm,1.5s,mb5.3
Z16A Peralta Trail, 76.29 50 ⇑P **P 12 53 27.5 -0.1**
baz=76
L08A Fields 76.30 39 ⇑P **P 12 53 27.7 +0.3**
baz=76,SNR=44
VIPM Ingram Point 76.34 36 P **P 12 53 27.6 0.0**
T13A Saint George 76.34 45 ⇓P **P 12 53 28.0 +0.2**
baz=76,SNR=6.7
VFP Flag Point 76.36 35 P **P 12 53 28.1 +0.4**
O10A Cortez Mining, 76.37 41 ⇑P **P 12 53 27.7 -0.2**
baz=76,SNR=7.5
G05A Wamic 76.40 35 ⇑P **P 12 53 27.8 -0.1**
baz=76,SNR=5.1
NLWA Neilton Lookou 76.40 32 ⇑P **P 12 53 28.1 +0.2**
baz=76
M09A Marrel Ranch, 76.41 40 ⇓P **P 12 53 28.3 +0.3**
baz=76,SNR=19
J07A Hines 76.41 37 ⇑P **P 12 53 28.0 0.0**
baz=76,SNR=11
318A Bisbee 76.47 52 P **P 12 53 28.8 +0.1**
baz=76,SNR=21
E04A Onalaska 76.49 33 ⇑P **P 12 53 29.1 +0.7**
baz=77
Y16A Circle Bar Ran 76.51 49 ⇓P **P 12 53 28.6 -0.2**
baz=77,SNR=17
K08A Mann Creek Ran 76.53 38 ⇑P **P 12 53 29.0 +0.3**
baz=77,SNR=21
U14A Mt Trumbull 76.54 46 P **P 12 53 29.5 +0.6**
baz=77,SNR=32
R12A Pony Springs, 76.55 44 ⇓P **P 12 53 29.1 +0.1**
baz=77,SNR=18
W15A Williams 76.57 48 ⇓P **P 12 53 29.8 +0.7**
baz=77
N10A Dunphy 76.60 41 ⇑P **P 12 53 29.5 +0.3**
baz=77
L09A Wilkinson Ranc 76.61 39 P **P 12 53 29.2 0.0**
baz=77,SNR=19
H06A Lindquist Farm 76.64 36 P **P 12 53 29.1 -0.2**
baz=77,SNR=28
S13A Holt Ranch, En 76.67 45 ⇓P **P 12 53 29.8 +0.2**
baz=77,SNR=18
218A Dragoon 76.68 51 P **P 12 53 30.3 +0.5**
baz=77,SNR=15
OBC Olympics--Boni 76.72 32 P **P 12 53 29.4 -0.2**
F05A White Salmon 76.72 34 ⇑P **P 12 53 30.3 +0.5**
baz=77,SNR=6.9
I07A Izee 76.72 37 P **P 12 53 30.0 +0.2**
baz=77,SNR=26
OSD Olympics--Snow 76.77 32 P **P 12 53 30.2 +0.3**
D04A Dobbs Creek Ra 76.78 33 ⇓P **P 12 53 30.8 +0.9**
baz=77
G06A Carlson Farm, 76.78 35 P **P 12 53 30.2 +0.2**
baz=77,SNR=8.9
Q12A Willow Creek R 76.78 43 ⇓P **P 12 53 29.9 -0.4**
baz=77,SNR=16
VTHM Trough 76.78 35 P **P 12 53 29.5 -0.6**
X16A Lo Mia Camp, P 76.79 49 ⇓P **P 12 53 30.7 +0.3**
baz=77,SNR=34
O11A Cowboy Ranch, 76.83 42 ⇓P **P 12 53 30.4 -0.1**
baz=77,SNR=12
J08A Circle Bar Ran 76.90 38 ⇑P **P 12 53 30.8 +0.1**
baz=77,SNR=20
T14A Hurricane 76.93 46 ⇑P **P 12 53 31.4 +0.3**
baz=77,SNR=11
P12A McGill 76.96 43 P **P 12 53 31.3 +0.1**
baz=77,SNR=13
K09A Rome 76.97 39 ⇓P **P 12 53 31.2 0.0**
baz=77,SNR=55
E05A Randle 76.98 34 ⇓P **P 12 53 30.8 -0.4**
baz=77,SNR=13
319A Douglas 76.98 52 ⇓P **P 12 53 31.9 +0.3**
baz=77,SNR=15
H07A Lands Inn, Kim 76.99 36 ⇑P **P 12 53 30.9 -0.4**
baz=77
HDW Hoodsport 76.99 32 P **P 12 53 31.8 +0.6**
F06A Goldendale 77.02 35 ⇑P **P 12 53 31.7 +0.3**
baz=77
M10A LL. Ranch, Tu 77.03 40 P **P 12 53 32.1 +0.5**
baz=77,SNR=23
ARUT Antelope Range 77.06 45 *e*P **P 12 53 32.6 +0.8**
ARUT *e*pP pP 12 53 48.2 +1.4
KSM Kuching 77.07 275 *e*P **P 12 53 34.4 +1.9**
C04A Brinnon 77.08 32 ⇓P **P 12 53 31.7 0.0**
baz=77,SNR=5.4
N11A Elko Archery C 77.15 41 ⇑P **P 12 53 32.3 +0.1**
baz=77
I08A Drewsey 77.16 37 ⇓P **P 12 53 32.1 -0.1**
baz=77,SNR=15
Z18A Geronimo 77.19 50 ⇓P **P 12 53 33.1 +0.4**
baz=77
S14A Cedar City 77.23 45 ⇑P **P 12 53 33.1 +0.3**
baz=77
D05A Enumclaw 77.25 33 ⇓P **P 12 53 32.7 0.0**
baz=77,SNR=7.1
Q13A Wheeler Ranch, 77.27 44 P **P 12 53 33.0 0.0**

baz=77,SNR=20
SVW2 Sparrevohn 77.28 9 eP P 12 53 31.5 -1.0
J09A Fry Pan Ranch, 77.32 38 ⇓P P 12 53 33.2 +0.1
baz=77,SNR=23
G07A Ruggs Ranch, H 77.34 36 ⇑P P 12 53 33.0 -0.2
baz=78,SNR=16
WUAZ Wupatki 77.37 48 eP P 12 53 34.2 +0.6
comp=Z,64nm,1.5s,mb5.3
WUAZ epP pP 12 53 50.6 +2.0
WUAZ Wupatki 77.37 48 ⇑P P 12 53 33.9 +0.2
baz=78,SNR=15
L10A Juniper Basin 77.38 40 P P 12 53 33.5 0.0
baz=78,SNR=43
E06A Yakima 77.39 34 ⇑P P 12 53 33.3 -0.2
baz=78,SNR=8.2
T15A Red Dirt Ranch 77.40 46 P P 12 53 34.1 +0.3
baz=78,SNR=41
PGC Sidney 77.44 31 eP P 12 53 33.7 +0.1
comp=Z,45nm,1.0s,mb5.3
M11A Holland Ranch, 77.45 41 ⇑P P 12 53 34.0 +0.1
baz=78,SNR=26
H08A Prairie City 77.46 37 ⇑P P 12 53 33.9 -0.1
baz=78,SNR=13
O12A Currie 77.49 42 P P 12 53 34.4 +0.3
baz=78,SNR=17
K10A MacKenzie Ranc 77.53 39 P P 12 53 34.5 +0.1
baz=78,SNR=31
P13A Bates Ranch, G 77.53 43 P P 12 53 34.5 +0.1
baz=78,SNR=29
F07A Phinny Hill Vi 77.57 35 ⇑P P 12 53 34.5 0.0
baz=78
119A Ashpeak Ranch, 77.60 51 ⇓P P 12 53 35.1 +0.1
baz=78,SNR=15
R14A James Farms, M 77.60 45 ⇑P P 12 53 34.9 +0.1
baz=78
N12A Clover Valley, 77.61 41 ⇓P P 12 53 34.8 -0.1
baz=78,SNR=15
SLKM Skilak Lake 77.64 12 eP P 12 53 34.2 -0.3
MIR Mirnyy 77.65 204⇑iP P 12 53 40.0 +5.3
MIR pmax pmax
comp=Z,100nm,2.0s,mb5.4
I09A Lost Marbles R 77.69 38 ⇑P P 12 53 34.6 -0.5
baz=78
SSE Sheshan 77.71 307 P P 12 53 36.5 +0.9
SSE XP sP 12 53 52.7 -3.7
SSE S S 13 03 26.3 +2.2
SSE AMB AMB
comp=Z,42nm,0.6s,mb5.5
SSE AMB AMB
comp=Z,210nm,6.9s
SSE LR LR
comp=N,240nm,20.0s,MS4.7
SSE LR LR
comp=E,306nm,20.0s,MS4.7
SSE LR LR
comp=Z,432nm,20.0s,MS4.8
C05A Tolt Reservoir 77.73 33 ⇓P P 12 53 34.9 -0.4
baz=78
G08A Pilot Rock 77.75 36 P P 12 53 35.4 -0.1
baz=78,SNR=42
TWW Teanaway 77.82 34 P P 12 53 35.7 -0.1
D06A Cle Elum 77.87 34 ⇓P P 12 53 35.7 -0.4
baz=78,SNR=5.5
B05A Bryant 77.88 32 ⇓P P 12 53 35.9 -0.3
baz=78,SNR=9.3
O13A Hicks Ranch, I 77.91 43 ⇓P P 12 53 36.4 -0.1
baz=78
JCW Jim Creek 77.92 32 P P 12 53 36.0 -0.4
J10A Berg Farm, Mel 77.96 39 ⇑P P 12 53 36.4 -0.3
baz=78
T16A Glen Canyon Da 77.99 46 ⇑P P 12 53 37.1 0.0
baz=78,SNR=28
M12A Wells 77.99 41 P P 12 53 37.0 +0.1
baz=78,SNR=34
E07A Sunnyside 78.01 35 P P 12 53 36.9 0.0
baz=78,SNR=12
K11A Parker Ranch, 78.04 39 P P 12 53 37.2 0.0
baz=78,SNR=23
HABR Khabarovsk 78.04 328⇑iP P 12 53 37.1 0.0
HABR e 12 53 43.7
HABR e pP 12 53 48.5 -3.5
HABR e 12 56 29.9
HABR e 12 58 18.4
HABR eS S 13 03 29.9 +3.0
HABR e 13 03 41.8
HABR e 13 03 51.9
HABR e 13 08 31.5
HABR pmax pmax
comp=Z,35nm,1.1s,mb5.2
HAWA Hanford 78.09 35 eP P 12 53 37.5 +0.1
comp=Z,44nm,1.3s,mb5.2
HAWA epP pP 12 53 53.4 +1.0
H09A Durkee 78.13 37 ⇓P P 12 53 37.2 -0.4
baz=78,SNR=7.7
N13A Wendover, West 78.15 42 ⇑P P 12 53 37.6 -0.2
baz=78,SNR=8.4
F08A Pendleton 78.16 36 ⇑P P 12 53 37.4 -0.3
baz=78,SNR=9.0
MSU Marysvale 78.28 45 eP P 12 53 39.4 +0.7
I10A Payette 78.31 38 ⇓P P 12 53 38.6 -0.1
baz=78,SNR=5.4
L12A House Creek Ra 78.32 40 P P 12 53 39.0 +0.2
baz=78,SNR=26
D07A Quincy 78.33 34 P P 12 53 38.8 +0.1
baz=78,SNR=5.1
A05A Maple Falls 78.35 32 ⇓P P 12 53 38.0 -0.7
baz=78
ETW Entiat 78.39 34 P P 12 53 38.6 -0.4
E08A Dider Farm, El 78.41 35 ⇑P P 12 53 38.5 -0.6
baz=78
G09A Cove 78.42 37 ⇓P P 12 53 38.8 -0.4
baz=78
M13A Montello 78.44 41 ⇑P P 12 53 39.4 0.0
baz=78
BMO Blue Mountains 78.45 37 eP P 12 53 39.1 -0.3
comp=Z,36nm,1.2s,mb5.2
MFID Camas Ranch 78.52 39 ⇑P P 12 53 39.5 -0.3
baz=79,SNR=24
C07A Waterville 78.59 34 P P 12 53 39.5 -0.5
baz=79,SNR=8.4
F09A S2 Ranch, Elgi 78.60 36 ⇓P P 12 53 39.9 -0.3
baz=79
EYAK Cordova Ski Ar 78.62 14 eP P 12 53 39.0 -1.0
comp=Z,30nm,1.1s,mb5.1
H10A Noah's Angus R 78.62 38 ⇑P P 12 53 39.8 -0.6
baz=79
GAMB Gambell 78.65 1 eP P 12 53 40.3 +0.2
comp=Z,51nm,1.2s,mb5.3
WTV Waterville 78.65 34 P P 12 53 39.5 -0.9
K12A Draper Farm, C 78.66 40 P P 12 53 40.7 +0.1
baz=79,SNR=18
DUG Dugway 78.71 43 eP P 12 53 40.8 -0.2
comp=Z,36nm,1.1s,mb5.2
DUG Dugway 78.71 43 eP P 12 53 40.8 -0.1
DUG pmax pmax
comp=Z,36nm,1.1s,mb5.2
DUG Dugway 78.71 43 ⇓P P 12 53 40.7 -0.2
baz=79
A06A Chilliwack 78.72 32 ⇑P P 12 53 39.9 -0.9
baz=79
MDJ Mudanjiang 78.74 322 P P 12 53 43.1 +2.1
MDJ PCP PcP 12 53 51.4 +1.7
MDJ AP pP 12 53 52.6 -3.4
MDJ PP PP 12 56 41.3 +1.3
MDJ AMB AMB
comp=Z,8.0nm,1.4s,mb4.5
MDJ AMB AMB
comp=Z,262nm,6.4s
MDJ LR LR
comp=E,531nm,24.3s
MDJ LR LR
comp=Z,948nm,22.7s,MS5.1
N14A Grayback Hills 78.80 42 P P 12 53 41.3 -0.2
baz=79,SNR=18
G10A Bishop Farm, J 78.81 37 P P 12 53 41.1 -0.3
baz=79,SNR=27
D08A Wollman Farm, 78.83 35 ⇓P P 12 53 41.3 -0.1
baz=79,SNR=11
PMR Palmer 78.86 12 eP P 12 53 40.1 -1.1
comp=Z,66nm,1.4s,mb5.4
PMR Palmer 78.86 12 eP P 12 53 40.2 -1.0
PMR pmax pmax
comp=Z,66nm,1.4s,mb5.4
J12A Stokes Ranch, 78.87 39 P P 12 53 41.8 0.0
baz=79,SNR=39
E09A Wood Farm, Sta 78.93 35 ⇑P P 12 53 41.0 -1.0
baz=79,SNR=5.2

BGU Big Grassy Mou 78.94 42 eP P 12 53 42.0 -0.2
L13A Double Diamond 78.97 41 ⇓P P 12 53 42.4 +0.1
baz=79,SNR=13
TTA Tatalina 78.98 8 eP P 12 53 42.4 +0.6
comp=Z,129nm,1.4s,mb5.7
TTA Tatalina 78.98 8 eP P 12 53 42.4 +0.5
TTA pmax pmax
comp=Z,129nm,1.4s,mb5.7
B07A Winthrop 79.03 33 P P 12 53 42.0 -0.5
baz=79,SNR=14
M14A Sheep Mountain 79.04 42 P P 12 53 42.8 +0.1
baz=79,SNR=82
H11A Donnelly 79.12 38 P P 12 53 42.8 -0.3
baz=79,SNR=36
F10A Beach Ranch, E 79.14 36 ⇓P P 12 53 42.4 -0.7
baz=79
D09A Jones Farm, Ri 79.17 35 ⇑P P 12 53 42.8 -0.5
baz=79,SNR=17
K13A Stover Farm, H 79.18 40 P P 12 53 43.7 +0.3
baz=79,SNR=23
C08A Higginbotham F 79.19 34 P P 12 53 42.9 -0.5
baz=79,SNR=11
SML Sawmill 79.21 12 eP P 12 53 42.7 -0.5
A07A Ashnola River, 79.26 32 ⇑P P 12 53 43.2 -0.5
baz=79,SNR=12
G11A Walters Elk Ra 79.36 37 P P 12 53 43.9 -0.5
baz=80,SNR=38
B08A Colville Reser 79.39 33 P P 12 53 43.6 -0.8
baz=80,SNR=10
MPU Maple Canyon 79.40 44 eP P 12 53 45.4 +0.7
comp=Z,22nm,1.0s,mb5.0
HLID Hailey 79.46 39 eP P 12 53 45.1 +0.2
comp=Z,57nm,1.1s,mb5.4
HLID epP pP 12 54 01.3 +1.4
HLID Hailey 79.46 39 ⇓P P 12 53 45.2 +0.3
baz=80,SNR=90
E10A Myers Farm, Un 79.50 36 ⇑P P 12 53 43.8 -1.2
baz=80,SNR=6.6
SPUT South Promonto 79.52 42 eP P 12 53 46.1 +0.8
J13A Cove Ranch, Pi 79.52 40 P P 12 53 45.6 +0.3
baz=80,SNR=69
HVU Hansel Valley 79.55 42 eP P 12 53 45.9 +0.4
comp=Z,43nm,1.0s,mb5.3
HVU Hansel Valley 79.55 42 eP P 12 53 45.9 +0.4
HVU pmax pmax
comp=Z,43nm,1.0s,mb5.3
M15A Larsen Ranch, 79.60 42 ⇓P P 12 53 45.3 -0.5
baz=80,SNR=21
C09A Chrisman Ranch 79.62 34 ⇑P P 12 53 44.9 -0.8
baz=80,SNR=6.3
K14A Jones Ranch, D 79.69 41 ⇑P P 12 53 46.4 +0.2
baz=80,SNR=24
SRU San Rafael 79.70 45 eP P 12 53 46.8 +0.4
comp=Z,36nm,1.3s,mb5.2
SRU San Rafael 79.70 45 eP P 12 53 46.8 +0.4
SRU pmax pmax
comp=Z,36nm,1.3s,mb5.1
F11A Grangeville 79.70 37 ⇑P P 12 53 44.5 -1.7
baz=80,SNR=15
H12A Diamond D Ranc 79.73 38 ⇑P P 12 53 46.0 -0.3
baz=80,SNR=34
D10A Wagner Farm, O 79.73 35 ⇓P P 12 53 45.0 -1.4
baz=80,SNR=8.9
A08A Turner Farm, O 79.78 33 P P 12 53 46.2 -0.4
baz=80,SNR=20
JLU Jordanelle 79.81 43 eP P 12 53 47.3 +0.4
I13A Wildhorse Cree 79.83 39 P P 12 53 47.1 +0.1
baz=80,SNR=42
DAU Daniels Canyon 79.85 43 eP P 12 53 47.9 +0.7
MA2 Magadan 79.86 342 eP P 12 53 46.6 -0.2
comp=Z,78nm,1.6s,mb5.4
MA2 Magadan 79.86 342d iP P 12 53 46.1 -0.6
MA2 e 12 53 53.5
MA2 pmax pmax
comp=Z,50nm,1.3s,mb5.3
NJ2 Nanjing 79.92 307 eP P 12 53 50.2 +2.5
NJ2 AMB AMB
comp=Z,30nm,0.8s,mb5.3
E11A Bogner Ranch, 79.94 36 ⇓P P 12 53 46.0 -1.5
baz=80
LAZ Ladron 79.94 50 eP P 12 53 49.0 +1.2
LENM Lemitar 79.96 51 eP P 12 53 48.7 +0.8
B09A Rice 80.06 34 P P 12 53 47.3 -0.7
baz=80,SNR=6.5
H13A Challis 80.10 39 ⇓P P 12 53 48.2 -0.2
baz=80,SNR=38
MNTX Cornudas Mount 80.12 53 eP P 12 53 48.8 -0.1
comp=Z,40nm,1.3s,mb5.2
MNTX epP pP 12 54 05.5 +1.6
A09A Danville 80.15 33 P P 12 53 48.1 -0.4
baz=80,SNR=17
F12A Elk City 80.15 37 P P 12 53 48.2 -0.4
baz=80,SNR=82
C10A Spilker Farm, 80.16 35 ⇑P P 12 53 47.9 -0.7
baz=80
BNM Barren Site 80.21 51 eP P 12 53 50.2 +0.9
MVCO Mesa Verde 80.21 47 eP P 12 53 49.8 +0.6
comp=Z,39nm,1.4s,mb5.1
MVCO Mesa Verde 80.21 47 ⇑P P 12 53 49.7 +0.5
baz=80
HWUT Hardware Ranch 80.24 42 eP P 12 53 49.0 -0.3
comp=Z,20nm,0.9s,mb5.0
D11A Klaveano Farm, 80.26 36 ⇑P P 12 53 48.3 -0.8
baz=80
LPM Los Pinos Moun 80.28 51 eP P 12 53 50.6 +1.0
G13A Cobalt 80.39 38 P P 12 53 49.6 -0.4
baz=80,SNR=40
SKAG Skagway 80.50 19 eP P 12 53 48.8 -1.3
comp=Z,53nm,1.1s,mb5.4
NEW Newport 80.52 34 eP P 12 53 49.8 -0.7
comp=Z,7.6nm,1.0s,mb4.6
NEW Newport 80.52 34 eP P 12 53 49.8 -0.8
NEW pmax pmax
comp=Z,8.0nm,1.0s
TXAR Lajitas Array 80.53 56 P P 12 53 51.3 +0.2
comp=Z,18nm,1.1s,mb4.9,baz=234,slow=4.2,SNR=76
TXAR LR LR 13 23 28.5
comp=Z,450nm,18.2s,MS4.9,baz=350,slow=31
TNA Tin City 80.54 2 eP P 12 53 50.0 -0.3
comp=Z,74nm,1.1s,mb5.5
ANMO Albuquerque 80.68 50 eP P 12 53 52.1 +0.3
comp=Z,27nm,1.2s,mb5.0
ANMO Albuquerque 80.68 50 eP P 12 53 52.1 +0.3
ANMO pmax pmax
comp=Z,27nm,1.2s
A10A Northport 80.70 34 ⇑P P 12 53 50.9 -0.6
baz=81
F13A Darby 80.71 38 P P 12 53 51.1 -0.5
baz=81,SNR=30
CN2 Changchun 80.81 320 eP P 12 53 53.1 +0.9
CN2 AMB AMB
comp=Z,30nm,1.0s,mb5.2
CN2 AMB AMB
comp=Z,260nm,4.0s
CN2 LR LR
comp=N,380nm,16.0s,MS5.1
CN2 LR LR
comp=E,520nm,16.0s,MS5.1
CN2 LR LR
comp=Z,430nm,22.0s
D12A Red Ives Fores 80.82 36 ⇑P P 12 53 51.3 -0.9
baz=81
B11A Sandpoint 81.03 34 ⇓P P 12 53 52.3 -1.0
baz=81,SNR=7.7
MCMT McKenzie Canyo 81.08 39 P P 12 53 54.0 +0.3
E13A Victor 81.15 37 P P 12 53 53.1 -0.9
baz=81,SNR=28
F14A Wisdom 81.29 38 ⇓P P 12 53 54.4 -0.3
baz=81,SNR=9.4
A11A Hall Mountain, 81.33 34 P P 12 53 54.9 +0.1
baz=81,SNR=8.9
D13A Huson 81.35 36 P P 12 53 54.1 -0.9
baz=82,SNR=40
DLBC Dease Lake 81.46 21 eP P 12 53 55.6 +0.2
B12A Libby 81.48 35 ⇓P P 12 53 55.5 -0.2
baz=82
G15A Dillon 81.48 39 P P 12 53 55.9 +0.1
baz=82,SNR=60
DCID1 Drake Creek 81.48 41 eP P 12 53 56.6 +0.8
MSO Missoula 81.50 37 eP P 12 53 55.2 -0.6
comp=Z,34nm,1.2s,mb5.2
DLMT Dillon 81.52 39 eP P 12 53 56.0 0.0
comp=Z,51nm,1.1s,mb5.4
E14A Clinton 81.54 37 P P 12 53 55.6 -0.5
baz=82,SNR=51
REDW Red Top Meadow 81.58 41 eP P 12 53 56.1 -0.2
comp=Z,81nm,1.2s,mb5.5

TPAW Teton Pass 81.58 41 eP P 12 53 56.6 +0.3
comp=Z,76nm,1.0s,mb5.6
C13A Hot Springs 81.60 36 ⇑P P 12 53 55.6 -0.8
baz=82,SNR=23
SNOW Snow King Moun 81.69 41 eP P 12 53 57.4 +0.5
comp=Z,76nm,1.0s,mb5.6
A12A Yaak River Ran 81.70 34 ⇑P P 12 53 56.0 -0.9
baz=82
IMW Indian Meadow 81.79 40 eP P 12 53 57.8 +0.4
comp=Z,82nm,1.1s,mb5.6
F15A Butte 81.83 38 P P 12 53 57.3 -0.3
baz=82,SNR=28
MOOW Moose Ponds 81.83 41 eP P 12 53 57.5 -0.2
comp=Z,33nm,1.3s,mb5.1
LOHW Long Hollow 81.86 41 eP P 12 53 57.9 +0.1
comp=Z,53nm,1.2s,mb5.3
D14A Greenough 81.89 37 P P 12 53 56.9 -1.0
baz=82,SNR=34
CHMT Chamberlain Mo 81.95 37 eP P 12 53 57.8 -0.3
QLMT Earthquake Lak 81.95 39 eP P 12 53 59.1 +0.9
FLWY Flagg Ranch 82.03 40 eP P 12 53 59.2 +0.5
comp=Z,97nm,1.1s,mb5.6
B13A Whitefish 82.05 35 P P 12 53 58.2 -0.4
baz=82,SNR=15
E15A Deer Lodge 82.05 38 ⇓P P 12 53 58.1 -0.6
baz=82,SNR=17
COLA College 82.09 11 eP P 12 53 57.5 -1.0
comp=Z,88nm,0.9s,mb5.7
COLA College 82.09 11 eP P 12 53 57.5 -1.0
COLA pmax pmax
comp=Z,88nm,0.9s,mb5.7
PDAR Pinedale Array 82.11 42 P P 12 53 58.6 -0.5
comp=Z,20nm,1.0s,mb5.0,baz=207,slow=3.0,SNR=78
PDAR LR LR 13 26 03.1
comp=Z,748nm,18.6s,MS5.1,baz=276,slow=32
C14A Swan Lake 82.12 36 ⇓P P 12 53 58.0 -1.0
baz=82,SNR=9.7
YFT Old Faithful 82.13 40 eP P 12 54 01.0 +1.8
YMR Madison River 82.16 40 eP P 12 54 00.2 +0.9
comp=Z,105nm,1.3s,mb5.6
SMCO Snowmass 82.17 46 eP P 12 53 60.0 +0.4
comp=Z,85nm,1.4s,mb5.5
SEY Seymchan 82.22 345⇑eP P 12 53 59.2 0.0
BOZ Bozeman (W) 82.25 39 eP P 12 53 59.6 -0.1
comp=Z,46nm,1.4s,mb5.2
BOZ Bozeman (W) 82.25 39 eP P 12 53 59.6 -0.2
BOZ pmax pmax
comp=Z,46nm,1.4s,mb5.2
BOZ Bozeman (W) 82.25 39 ⇓P P 12 53 59.5 -0.3
baz=82
IMA2 Indian Mountai 82.29 8 eP P 12 53 59.0 -0.5
YNR Norris Junctio 82.36 40 eP P 12 54 02.2 +1.8
A13A Flathead Natio 82.38 35 ⇑P P 12 53 59.8 -0.6
baz=82
D15A Lincoln 82.44 37 P P 12 54 00.5 -0.3
baz=82,SNR=60
SDCO Great Sand Dun 82.59 48 eP P 12 54 02.3 +0.5
comp=Z,35nm,1.3s,mb5.2
QIZ Qiongzhong 82.71 292 P P 12 54 04.7 +1.9
QIZ XP sP 12 54 18.6 -5.1
QIZ S S 13 04 21.1 +4.1
QIZ XS sS 13 04 34.9 -7.5
QIZ PS 13 05 17.4
QIZ AMB AMB
comp=Z,224nm,4.2s
QIZ LR LR
comp=E,294nm,21.1s
QIZ LR LR
comp=Z,378nm,27.3s
WALA Waterton Lakes 82.73 35 eP P 12 54 01.7 -0.5
comp=Z,29nm,1.3s,mb5.1
RWWY Rawlins 83.14 44 eP P 12 54 04.7 +0.1
comp=Z,130nm,1.2s,mb5.8
DAWY Dawson 83.16 14 eP P 12 54 04.0 -0.1
EGAK Eagle 83.36 13 eP P 12 54 05.0 -0.1
comp=Z,40nm,1.1s,mb5.4
ISCO Idaho Springs 83.39 46 eP P 12 54 06.6 +0.8
comp=Z,28nm,1.1s,mb5.2
ISCO Idaho Springs 83.39 46 eP P 12 54 06.6 +0.7
ISCO pmax pmax
comp=Z,28nm,1.1s,mb5.2
RLMT Red Lodge 83.43 40 eP P 12 54 06.8 +0.9
JCT Junction City 84.06 56 eP P 12 54 09.6 +0.1
comp=Z,16nm,0.9s,mb5.1
JCT Junction City 84.06 56 eP P 12 54 09.6 +0.1
JCT pmax pmax
comp=Z,16nm,0.9s,mb5.2
PHWY Pilot Hill 84.15 45 eP P 12 54 09.9 +0.2
BILL Bilibino 84.21 352 eP P 12 54 09.2 -0.2
comp=Z,32nm,1.0s,mb5.4
BILL Bilibino 84.21 352d iP P 12 54 08.9 -0.5
BILL pmax pmax
comp=Z,52nm,1.5s,mb5.4
AMTX Amarillo 84.24 52 eP P 12 54 09.9 -0.4
comp=Z,72nm,1.0s,mb5.8
PMSA Palmer Station 84.48 156 LR LR 13 22 30.9
comp=Z,459nm,21.1s,MS4.8,baz=281,slow=29
EGMT Eagleton 84.55 37 eP P 12 54 11.4 -0.2
comp=Z,49nm,1.2s,mb5.5
EGMT Eagleton 84.55 37 ⇑P P 12 54 11.2 -0.4
baz=85
BJI Beijing 85.20 313 P P 12 54 17.1 +2.0
BJI XP sP 12 54 29.7 -6.3
BJI PP PP 12 57 33.7 +0.3
BJI S S 13 04 39.1 -2.1
BJI XS sS 13 05 00.9 -5.8
BJI SS SS 13 10 12.0 -4.7
BJI AMB AMB
comp=Z,341nm,4.6s
BJI LR LR
comp=N,336nm,15.2s,MS5.0
BJI LR LR
comp=E,367nm,16.0s,MS5.0
BJI LR LR
comp=Z,419nm,25.0s
EDM Edmonton 85.29 32 eP P 12 54 14.2 -0.9
LAO LASA Array 86.04 40 eP P 12 54 19.7 +0.7
comp=Z,91nm,1.4s,mb5.8
RSSD Black Hills 86.31 43 eP P 12 54 19.7 -0.7
comp=Z,30nm,1.1s,mb5.4
RSSD Black Hills 86.31 43 eP P 12 54 19.7 -0.7
RSSD pmax pmax
comp=Z,30nm,1.1s,mb5.4
WMOK Wichita Mounta 86.40 53 eP P 12 54 20.1 -1.0
comp=Z,18nm,1.3s,mb5.1
WMOK Wichita Mounta 86.40 53 eP P 12 54 20.1 -1.0
WMOK pmax pmax
comp=Z,18nm,1.3s,mb5.1
GYA Guiyang 87.83 298⇑iP P 12 54 29.4 +1.2
GYA AP pP 12 54 41.3 -2.1
GYA XP sP 12 54 45.8 -3.4
GYA PP PP 12 57 58.6 +3.7
GYA PPP 12 59 56.7
GYA SKS 13 04 53.2
GYA S S 13 05 08.7 +1.4
GYA XS sS 13 05 26.8 -6.1
GYA PS 13 06 16.7
GYA AMB AMB
comp=Z,20nm,1.0s,mb5.3
GYA AMB AMB
comp=Z,350nm,8.4s
GYA LR LR
comp=N,2μm,20.2s,MS5.6
GYA LR LR
comp=E,2μm,21.0s,MS5.6
GYA LR LR
comp=Z,3μm,20.4s,MS5.6
CLNS Chul'man 87.94 331 eP P 12 54 23.1 -4.9
CLNS e*PP pP 12 54 32.3 -11
CLNS eS S 13 04 56.6 -10
CLNS pmax pmax
comp=Z,16nm,0.9s,mb5.2
CLNS pmax pmax
comp=N,11nm,1.0s
CLNS pmax pmax
comp=E,9.0nm,0.9s
CLNS pmax pmax
comp=N,5.0nm,0.9s
CLNS pmax pmax
comp=E,9.0nm,0.9s
CLNS pmax pmax
comp=Z,6.0nm,0.9s,mb4.8
CLNS smax
comp=N,106nm,12.6s
CLNS smax
comp=Z,56nm,10.6s

CLNS smax
comp=E,52nm,11.7s
CLNS MLR MLR
comp=Z,600nm,17.0s,MS5.1
CLNS MLR MLR
comp=N,400nm,16.0s,MS5.0
CLNS MLR MLR
comp=E,300nm,16.0s,MS5.0
MAW Mawson 88.04 199 P **P 12 54 26.9 -1.5**
comp=E,2.2nm,0.7s,mb4.5,baz=39,slow=22,SNR=6.1
MAW LR LR 13 31 06.5
comp=E,1µm,20.1s,MS5.4,baz=114,slow=34
DGMT Dagmar 88.06 39 *e*P **P 12 54 28.9 +0.1**
comp=E,70nm,1.0s,mb5.8
HHC Hu-ho-hao-te 88.76 313 *e*P **P 12 54 34.1 +1.8**
HHC AP pP 12 54 44.5 -3.0
HHC XP sP 12 54 48.6 -4.7
HHC PP PP 12 58 04.4 +2.3
HHC SKS 13 04 58.3
HHC S S 13 05 19.9 +4.4
HHC XS sS 13 05 36.7 -4.5
HHC PS 13 06 29.3
HHC AMB AMB
comp=Z,22nm,0.4s,mb5.8
HHC AMB AMB
comp=Z,323nm,5.8s
HHC LR LR
comp=N,220nm,8.4s
HHC LR LR
comp=E,258nm,8.6s
HHC LR LR
comp=Z,355nm,15.7s,MS4.9
PLCA Paso Flores 89.77 132 LR LR 13 25 56.9
comp=Z,422nm,20.6s,MS4.8,baz=195,slow=30
YKA Yellowknife Ar 89.87 23 P **P 12 54 36.4 -0.5**
comp=Z,11nm,0.9s,mb5.2,baz=240,slow=4.0,SNR=4.7
YKA LR LR 13 29 44.8
comp=Z,527nm,19.3s,MS5.0,baz=215,slow=32
MIAR Mount Ida 90.38 54 *e*P **P 12 54 40.0 -0.1**
TEIG Tepich 90.77 69 LR LR 13 31 19.3
comp=Z,210nm,19.1s,MS4.6,baz=254,slow=33
KMI Kunming 90.82 296 P **P 12 54 45.5 +3.2**
KMI AP pP 12 54 55.4 -2.1
KMI XP sP 12 54 59.4 -3.9
KMI PP PP 12 58 21.3 +2.5
KMI PPP 13 00 23.3
KMI SKS 13 05 11.3
KMI S S 13 05 35.9 +0.6
KMI XS sS 13 05 54.0 -7.0
KMI PS PS 13 06 51.5 +1.9
KMI SS SS 13 11 42.6 +3.4
KMI SSS 13 15 16.1
KMI AMB AMB
comp=Z,7.0nm,1.2s,mb4.9
KMI AMB AMB
comp=Z,68nm,4.4s
KMI LR LR
comp=N,197nm,16.2s,MS4.8
KMI LR LR
comp=E,220nm,15.1s,MS4.8
KMI LR LR
comp=Z,286nm,18.3s,MS4.7
ECSD EROS,Sioux Fal 91.12 45 *e*P **P 12 54 42.0 -1.2**
comp=Z,15nm,1.3s,mb5.2
CD2 Chengdu 91.58 301 *e*P **P 12 54 46.4 +0.7**
CD2 AP pP 12 54 57.2 -3.8
CD2 XP sP 12 55 01.1 -5.6
CD2 PP PP 12 58 27.5 +2.8
CD2 SKS 13 05 14.8
CD2 S S 13 05 41.6 -0.4
CD2 XS sS 13 05 59.3 -8.5
CD2 PS PS 13 06 59.9 +2.0
CD2 SS SS 13 11 52.1 +2.2
CD2 AMB AMB
comp=Z,30nm,0.8s,mb5.7
CD2 AMB AMB
comp=Z,60nm,9.5s
CD2 LR LR
comp=N,350nm,15.6s,MS5.1
CD2 LR LR
comp=E,590nm,20.4s,MS5.1
CD2 LR LR
comp=Z,350nm,14.4s
CIT Chita 91.64 324 *e*P **P 12 54 45.8 +0.4**
CIT *e* 12 58 20.8
FFC Flin Flon 91.91 33 *e*P **P 12 54 45.7 -0.9**
comp=Z,4.2nm,0.8s,mb4.8
FFC Flin Flon 91.91 33 *e*P **P 12 54 45.7 -0.9**
FFC pmax pmax
comp=Z,4.0nm,0.8s,mb4.8
HBAR Harrisburg 92.97 54 *e*P **P 12 54 52.6 +0.7**
LZH Lanzhou 92.98 306 *e*P **P 12 54 54.1 +2.1**
LZH AP pP 12 55 03.9 -3.4
LZH XP sP 12 55 07.6 -5.5
LZH PP PP 12 58 39.5 +3.9
LZH *e*SKS 13 05 21.1
LZH *e*S S 13 05 53.2 -1.0
LZH XS sS 13 06 07.0 -13
LZH AMB AMB
comp=Z,23nm,1.2s,mb5.5
LZH AMB AMB
comp=Z,115nm,5.0s
LZH LR LR
comp=N,693nm,15.5s
LZH LR LR
comp=Z,1µm,16.4s,MS5.4
ATAH Atahualpa 93.09 98 LR LR 13 29 28.1
comp=Z,623nm,18.1s,MS5.1,baz=242,slow=31
AGMN Agassiz Refuge 93.13 41 *e*P **P 12 54 50.0 -2.4**
comp=Z,23nm,1.4s,mb5.4
VNA3 Neumayer Olymp 93.15 175 *e*P **P 12 54 53.2 +1.0**
VNA3 *e* 12 54 54.1
VNA3 *e* 12 55 00.4
VNA3 *e* pP 12 55 04.4 -3.1
VNA3 *e* pP 12 55 08.9 +1.4
VNA3 *e* 12 55 13.8
VNA3 *e* 12 55 29.3
SNAA Sanae 93.20 177 *e*P **P 12 54 53.1 +0.7**
SNAA *e* 12 54 54.2
SNAA *e* 12 55 00.4
SNAA *e* pP 12 55 04.0 -3.7
SNAA *e* pP 12 55 08.7 +1.0
SNAA *e* 12 55 15.2
SNAA Sanae 93.20 177 P **P 12 54 51.1 -1.3**
comp=Z,0.8nm,0.9s,mb4.2,baz=243,slow=4.5,SNR=3.3
NNA Nana 93.21 103 LR LR 13 27 29.7
comp=Z,165nm,21.9s,MS4.5,baz=310,slow=30
CCM Cathedral Cave 93.22 52 *e*P **P 12 54 51.6 -1.5**
comp=Z,11nm,1.1s,mb5.2
CCM Cathedral Cave 93.22 52 *e*P **P 12 54 51.6 -1.5**
CCM pmax pmax
comp=Z,11nm,1.1s,mb5.2
VNA2 Neumayer--Watz 93.65 175 *e*P **P 12 54 55.9 +1.4**
VNA2 *e* 12 54 56.7
VNA2 *e* 12 55 02.7
VNA2 *e* pP 12 55 06.9 -2.9
VNA2 *e* pP 12 55 11.7 +1.9
VNA2 *e* 12 55 16.4
VNA2 *e* 12 55 32.2
ULM Lac du Bonnet 93.76 39 P **P 12 54 52.7 -2.6**
comp=Z,6.5nm,0.8s,mb5.1,baz=246,slow=5.8,SNR=10
ULM LR LR 13 32 43.5
comp=Z,971nm,18.4s,MS5.3,baz=54,slow=33
FVM French Village 93.82 52 *e*P **P 12 54 55.0 -0.8**
comp=Z,27nm,1.3s,mb5.5
FVM French Village 93.82 52 *e*P **P 12 54 55.0 -0.9**
FVM pmax pmax
comp=Z,27nm,1.3s,mb5.5
VNA1 Neumayer--Stat 93.85 175 *e*P **P 12 54 55.8 +0.4**
VNA1 *e* 12 54 56.8
VNA1 *e* 12 55 03.1
VNA1 *e* pP 12 55 07.3 -3.4
VNA1 *e* pP 12 55 12.2 +1.5
VNA1 *e* 12 55 17.0
VNA1 *e* 12 55 33.2
ULN Ulaanbaatar 94.16 318 *i* P **P 12 54 59.5 +2.4**
SONM Songino Array 94.57 318 LR LR 13 39 35.3
comp=Z,403nm,18.5s,MS4.9,baz=143,slow=37
CFAA Coronel Fontan 94.69 124 P **P 12 55 00.2 +0.1**
comp=Z,0.7nm,0.8s,mb4.1,baz=225,slow=4.1,SNR=5.8
TIXI Tiksi 94.70 344 *e*P **P 12 54 58.6 -0.5**
comp=Z,7.1nm,1.1s,mb5.0
TIXI Tiksi 94.70 344⇑ *e*P **P 12 54 58.5 -0.6**
TIXI pmax pmax
comp=Z,7.0nm,1.3s,mb4.9
PLAL Pickwick Lake 94.84 55 *e*P **P 12 55 00.3 -0.3**
comp=Z,37nm,1.4s,mb5.6
COWI Conover 96.89 44 *e*P **P 12 55 09.4 -0.2**
comp=Z,14nm,0.8s,mb5.4
GTA Gaotai 96.93 309 *e*P **P 12 55 15.6 +5.6**
GTA AP pP 12 55 27.1 +1.8
GTA SKS 13 05 48.0
GTA AMB AMB
comp=Z,8.0nm,1.1s,mb5.1
GTA AMB AMB
comp=Z,245nm,8.4s
GTA LR LR
comp=N,232nm,20.1s,MS4.9
GTA LR LR
comp=E,350nm,22.4s,MS4.9
GTA LR LR
comp=Z,498nm,21.7s,MS5.0
TLY Talaya 97.35 321 *i* P **P 12 55 14.3 +2.7**
TLY pmax pmax
comp=Z,1.0nm,1.0s,mb4.2
FCC Fort Churchill 97.38 31 *e*P **P 12 55 11.1 -0.5**
comp=Z,6.2nm,1.1s,mb5.0
FCC Fort Churchill 97.38 31 *e*P **P 12 55 11.1 -0.5**
FCC pmax pmax
comp=Z,6.0nm,1.1s,mb4.9
LPAZ La Paz 99.99 110 LR LR 13 31 07.0
comp=Z,107nm,19.8s,MS4.3,baz=122,slow=30
RES Resolute Bay 101.47 15 *e*Pdif Pdif 12 55 29.3 -0.8
comp=Z,66nm,0.9s
RES Resolute Bay 101.47 15 *e*P Pdif 12 55 29.3 -0.8
RES pmax pmax
comp=Z,66nm,0.9s
ZALV Zalesovo Beam 108.94 322 PKiKP PKiKP 13 00 07.7 +0.1
comp=Z,0.5nm,0.5s,baz=96,slow=1.6,SNR=3.9
MKAR Makanchi Array 110.56 315 PKiKP PKiKP 13 00 10.2 -0.6
comp=Z,0.7nm,0.7s,baz=270,slow=0.2,SNR=4.0
ARU Arti 123.05 328 *i* PKIKP PKPdf 13 00 35.6 +1.1
ARU 13 02 19.5
ARU 13 07 35.3
ARU SS SS 13 19 08.2 +14
ARCES ARCESS Array B 124.31 352 PKP PKPdf 13 00 36.0 -0.5
comp=Z,5.6nm,0.7s,baz=18,slow=1.4,SNR=12
AKTK Aktyubinsk 125.70 322 PKP PKPdf 13 00 39.6 -0.2
AKTO Aktyubinsk 125.70 322 PKP PKPdf 13 00 39.6 -0.2
comp=Z,1.4nm,0.6s,baz=45,slow=5.7,SNR=4.1
FINES FINESS Array B 131.64 348 PKP PKPdf 13 00 50.2 -0.5
comp=Z,2.3nm,0.8s,baz=20,slow=4.0,SNR=3.1
AKASG Malin Array Be 140.04 338 PKP PKPdf 13 01 06.9 +0.2
comp=Z,2.1nm,0.7s,baz=33,slow=2.1,SNR=7.3
KWP Kalwaria 143.12 342 ⇑P PKPdf 13 01 10.0 -2.2
KWP Kalwaria 143.12 342 ⇑*i*P PKPdf 13 01 10.0 -2.2
OJC Ojcow 143.36 346 *e*PKP PKPdf 13 01 15.8 +3.2
KSP Ksiaz 143.49 350 *e*PKP PKPdf 13 01 16.5 +3.7
CLL Collm 143.52 353 P PKPdf 13 01 21.0 +8.1
CLL Collm 143.52 353 *e*PKPdf PKPdf 13 01 14.0 +1.1
CLL *ex* x 13 01 22.0
MALT Malatya 143.59 316 *e*PKPdf PKPdf 13 01 13.2 -0.2
MALT P 13 01 19.9
MALT Malatya 143.59 316 ⇓*i*P PKPdf 13 01 14.4 +1.0
STHS Stebnicka Huta 143.73 344 *e*PKP PKPdf 13 01 12.5 -0.8
BRG Berggiesshubel 143.83 352 *e*PKP PKPdf 13 01 12.3 -1.1
comp=Z,5.3nm,1.1s
BRG *i* 13 01 25.0
comp=Z,18nm,1.3s
UPC Upice 143.86 350 *e*PKP PKPdf 13 01 20.0 +6.5
KOLS Kolonicke sedl 143.87 342 *e*PKP PKPdf 13 01 14.8 +1.2
DPC Dobruska-Polom 143.96 349 *e*PKP PKPdf 13 01 12.6 -1.1
DPC *e* 13 01 19.4
DPC Dobruska-Polom 143.96 349 *e*PKP PKPdf 13 01 12.6 -1.1
DPC *ex* x 13 01 19.4
OKC Ostrava-Krasne 144.09 347 *e*PKP PKPdf 13 01 19.0 +5.1
OKC *ex* x 13 01 27.2
CRVS Cervenica-Dubn 144.13 343 *e*PKP PKPdf 13 01 13.1 -0.9
UZH Uzhgorod 144.14 342 *e*PKIKP PKPdf 13 01 13.6 -0.4
UZH *e* 13 01 28.0
MORC Moravsky Berou 144.27 348 *e*PKPdf PKPdf 13 01 13.5 -0.7
MORC P 13 01 21.2
MOX Moxa 144.32 354 *e*(P) PKPdf 13 01 13.7 -0.6
MOX *e* 13 01 22.0
comp=Z,38nm,1.6s
MOX Moxa 144.32 354 *e*PKPbc PKPdf 13 01 13.4 -0.9
HGN Heimansgroeve 144.44 1 *e*P PKPdf 13 01 13.2 -1.3
comp=Z,15nm,2.2s
TANN Tannenbergstha 144.46 353 *e*PKPbc PKPdf 13 01 13.9 -0.6
PRU Pruhonice 144.60 351 *e*PKP PKPdf 13 01 14.7 -0.1
NKC Novy Kostel 144.64 353 *e*PKP PKPdf 13 01 14.7 -0.1
KECS Kecovo 144.78 344 *i* PKP PKPdf 13 01 14.6 -0.6
VRAC Vranov 144.91 348 P PKPdf 13 01 15.6 +0.3
VRAC Vranov 144.91 348 PKPbc PKPdf 13 01 15.3 0.0
comp=Z,6.0nm,0.8s,baz=35,slow=4.1,SNR=8.4
VRAC Vranov 144.91 348 ⇑*i*P PKPdf 13 01 16.3 +1.0
MANZ Manzenberg 144.92 354 *e*PKPbc PKPdf 13 01 15.2 -0.1
VRI Vrincioaia 144.94 335 ⇓P PKPdf 13 01 15.3 -0.2
VRI Vrincioaia 144.94 335 ⇓*i*P PKPdf 13 01 15.3 -0.2
DOU Dourbes 145.07 2 PKP PKPdf 13 01 14.8 -0.8
GIVF Givet 145.07 2 *e*PKP1 PKPbc 13 01 15.0 -0.1
BAIF Baives 145.09 3 *e*PKP1 PKPbc 13 01 15.1 -0.1
comp=Z,31nm,0.8s
ROTZ Rotzenmuhle 145.12 354 *e*PKPbc PKPbc 13 01 15.7 +0.4
TREC Trest 145.12 350 *e*PKP PKPdf 13 01 15.6 -0.1
VYHS Vyhne 145.19 346 *i* PKP PKPdf 13 01 15.8 -0.1
VYHS *e* 13 01 23.6
KOLL Kolacno 145.22 346 *i* PKP PKPdf 13 01 16.2 +0.3
KOLL *e* 13 01 25.0
KOLL Kolacno 145.22 346 *i* PKP PKPdf 13 01 16.2 +0.3
KOLL *e* 13 01 24.9
GRA1 Grafenberg Arr 145.30 355 *e*PKPbc PKPbc 13 01 16.8 +1.0
GRF Grafenberg Arr 145.30 355 *e*PKPbc PKPbc 13 01 16.8 +1.0
GRFO Grafenberg 145.30 355 *e*PKPbc PKPbc 13 01 15.9 0.0
TIRR Tirgusor 145.34 332 ⇑P PKPbc 13 01 16.6 +0.4
TIRR Tirgusor 145.34 332 ⇑*i*P PKPbc 13 01 16.5 +0.4
PSZ Piszkesteto 145.46 344 *e*PKPbc PKPbc 13 01 17.6 +1.2
PSZ Piszkesteto 145.46 344 ⇑*i*P PKPdf 13 01 18.0 +1.7
PSZ Piszkesteto 145.46 344 ⇑*e*PKP PKPdf 13 01 17.4 +1.1
RUP Ruppelstein 145.50 359 PKP PKPdf 13 01 17.3 +1.0
WLF Walferdange 145.54 0 *e*PKPdf PKPdf 13 01 16.6 +0.2
WLF Walferdange 145.54 0 PKP PKPdf 13 01 18.0 +1.6
WLF Walferdange 145.54 0 *e*PKPbc PKPbc 13 01 17.3 +0.7
MLR Muntele Rosu 145.57 336 P PKPdf 13 01 17.9 +1.3
MLR Muntele Rosu 145.57 336 PKPbc PKPbc 13 01 17.2 +0.4
comp=Z,26nm,1.0s,baz=106,slow=2.4,SNR=20
MLR Muntele Rosu 145.57 336 ⇑*i*P PKPdf 13 01 17.6 +1.0
KMBO Kilima Mbogo 145.58 245 *e*PKPdf PKPdf 13 01 18.5 +0.9
KMBO Kilima Mbogo 145.58 245 PKPbc PKPbc 13 01 17.0 -0.9
comp=Z,2.7nm,0.9s,baz=160,slow=9.0,SNR=4.4
KHC Kasperske Hory 145.58 352 *e*PKP PKPdf 13 01 17.2 +0.7
KHC *e* 13 01 24.6
KHC *e* 13 01 30.5
KHC Kasperske Hory 145.58 352 *e*PKP PKPdf 13 01 17.2 +0.7
KHC *ex* x 13 01 24.6
KHC pPKP pPKPdf 13 01 30.5 -1.8
DRGR 145.64 340 P PKPdf 13 01 18.1 +1.4
DRGR 145.64 340 ⇑PKIKP PKPdf 13 01 18.4 +1.7
DRGR 145.64 340 ⇑*i*P PKPdf 13 01 18.4 +1.7
WET Wettzell 145.66 353 *e*PKPbc PKPbc 13 01 18.0 +1.0
MODS Modra-Piesok 145.66 347 *i* PKP PKPdf 13 01 17.9 +1.2
MODS *e* 13 01 26.7
GEC2 GERESS Array S 145.84 352 *e*PKPbc PKPbc 13 01 17.9 +0.3
GERES GERESS Array B 145.84 352 PKPbc PKPbc 13 01 17.5 0.0
comp=Z,9.9nm,0.9s,baz=38,slow=2.4,SNR=42
ZST Bratislava 145.87 347 *e*PKP PKPdf 13 01 19.4 +2.4
ZST *e* 13 01 26.8
ZST Bratislava 145.87 347 *e*PKP PKPbc 13 01 19.4 +1.7
ZST *e* 13 01 26.8
ROSF Rostrenen 145.90 12 *e*PKP1 PKPbc 13 01 17.4 -0.3
FLN La Foliniere 145.95 8 *e*PKP1 PKPbc 13 01 17.3 -0.6
comp=Z,144nm,1.4s
FLN *e*MLR MLR
comp=Z,807nm,21.0s,MS5.2
FLN La Foliniere 145.95 8 *e*PKP2 PKPab 13 01 17.3 -1.1
FLN MLR MLR
comp=Z,810nm,21.0s,MS5.5
VOIR 145.97 336 P PKPdf 13 01 19.4 +2.1
VOIR 145.97 336 ⇑*i*P PKPbc 13 01 20.0 +1.9
BUD Budapest 146.09 345 ⇑*e*PKP PKPdf 13 01 25.1 +7.7
SGMF Saint Gilles 146.11 11 *e*PKP1 PKPbc 13 01 17.7 -0.7
comp=Z,48nm,1.0s
LDF La Druitiere 146.17 8 *e*PKP1 PKPbc 13 01 17.9 -0.6
comp=Z,110nm,1.5s
LANF Langenberg 146.21 358 PKP PKPdf 13 01 19.3 +1.7
GRR Gorron 146.26 9 *e*PKP1 PKPbc 13 01 18.3 -0.5
comp=Z,41nm,1.0s
ANTO Ankara 146.29 322 *e*PKPdf PKPdf 13 01 18.4 +0.4
ANTO *e*PKPab PKPab 13 01 21.2 +1.1
ANTO Ankara 146.29 322 ⇓*i*P PKPbc 13 01 22.0 +2.8
QUIF Quistinic 146.32 12 *e*PKP1 PKPbc 13 01 18.3 -0.7
comp=Z,57nm,1.2s
STU Stuttgart 146.36 357 *e*PKPbc PKPbc 13 01 19.7 +0.6
CONA Conrad Observa 146.37 349 *i* PKPab PKPab 13 01 20.2 +0.2
comp=Z,104nm,2.0s,SNR=19
SOP Sopron 146.47 348 ⇑*e*PKP PKPdf 13 01 21.8 +3.7
MEZF Maizieres J'vi 146.68 2 *e*PKP1 PKPbc 13 01 20.3 +0.2
MOA Molln 146.73 350 ⇑*i*P PKPbc 13 01 20.8 +0.6
comp=Z,22nm,1.0s,SNR=6.1
CDF Champ du Feu 146.79 359 *e*PKP1 PKPbc 13 01 20.5 +0.1
comp=Z,108nm,1.2s
GZR Gura Zlata 146.84 339 P PKPbc 13 01 21.7 +1.1
GZR Gura Zlata 146.84 339 ⇑*i*P PKPbc 13 01 21.8 +1.2
BFO Black Forest 146.84 358 *e*PKPbc PKPbc 13 01 20.7 +0.2
THEF They Montfort 146.97 1 PKP PKPdf 13 01 20.4 +1.5
ECH Echery 146.98 359 PKP PKPbc 13 01 21.3 +0.4
BZS Buzias 147.03 340 P PKPbc 13 01 21.4 +0.3
BZS Buzias 147.03 340 ⇓*i*P PKPdf 13 01 21.2 +2.1
SPAK Spaichingen-Ko 147.05 357 PKP PKPbc 13 01 21.9 +0.8
ARSA Arzberg 147.09 349 ⇑*i*P PKPbc 13 01 21.9 +0.6
comp=Z,32nm,1.4s
HAU Haudompre 147.20 0 *e*PKP1 PKPbc 13 01 21.8 +0.3
HAU *e*MLR MLR
comp=Z,401nm,18.8s,MS4.9
HAU Haudompre 147.20 0 *e*PKP2 PKPab 13 01 21.8 -1.5
HAU MLR MLR
comp=Z,400nm,18.8s,MS5.2
FELD Feldberg im Sc 147.31 358 PKP PKPbc 13 01 22.6 +0.8
MOF Molkenrain 147.35 359 PKP PKPbc 13 01 22.6 +0.6
PKSM Moragy 147.37 344 P PKPbc 13 01 22.6 +0.5
PKSM Moragy 147.37 344 ⇓*i*P PKPbc 13 01 23.2 +1.1
HINF Hinteralfeld 147.38 360 *e*PKP1 PKPbc 13 01 22.4 +0.3
RETA Reutte 147.52 355 ⇑*i*PKPab PKPab 13 01 22.9 -1.7
comp=Z,70nm,1.5s
ASF Jabal al Asfar 147.55 307 PKPbc PKPbc 13 01 21.7 -1.4
comp=Z,1.9nm,0.4s,baz=229,slow=6.6,SNR=4.8
KBA Koelnbreinsper 147.62 351 ⇓*i*P PKPdf 13 01 20.7 +0.7
comp=Z,22nm,1.3s,SNR=9.4
MOTA Moosalm 147.63 354 ⇓*i*P PKPbc 13 01 23.1 +0.3
comp=Z,107nm,1.8s
WTTA Wattenberg 147.66 353 ⇑*i*P PKPdf 13 01 22.4 +2.4
comp=Z,35nm,1.1s
PVL Pavlikeni 147.68 334 P PKPdf 13 01 23.8 +3.6
PERS Pernice 147.75 349 *e*PKPbc PKPbc 13 01 23.2 +0.1
DAVA Damuels 147.80 356 *i* P PKPbc 13 01 23.8 +0.6
comp=Z,46nm,1.2s,SNR=6.8
LOMF Lomont 147.85 360 PKP PKPbc 13 01 23.9 +0.5
LOR Lormes 147.86 3 *e*PKP1 PKPbc 13 01 23.5 +0.1
comp=Z,87nm,1.2s
LOR *e*MLR MLR
comp=Z,734nm,21.0s,MS5.1
LOR Lormes 147.86 3 *e*PKP2 PKPbc 13 01 23.5 +0.1
LOR MLR MLR
comp=Z,730nm,21.0s,MS5.4
FETA Feichten 147.99 355 ⇓*i*PKPbc PKPbc 13 01 22.8 -0.9
comp=Z,25nm,1.1s,SNR=9.9
MYKA Terra Mystica 148.01 351 ⇑*i*PKPbc PKPbc 13 01 23.4 -0.4
comp=Z,123nm,1.6s
SSF Saint Saulge 148.04 4 *e*PKP1 PKPbc 13 01 24.1 +0.2
comp=Z,86nm,1.1s
ABTA Abfaltersbach 148.06 352 *i* PKPbc PKPbc 13 01 23.9 -0.1
comp=Z,21nm,0.9s,SNR=11
MFF Saint Martin d 148.11 9 *e*PKP1 PKPbc 13 01 23.8 -0.3
comp=Z,77nm,1.3s
FVI Forni Avoltri 148.17 352 P PKPbc 13 01 23.5 -0.7
PTCC Patocco-Chiusa 148.28 351 P PKPbc 13 01 23.9 -0.6
DAVOX Davos/Dischmat 148.30 356 PKPbc PKPbc 13 01 23.4 -1.1
comp=Z,9.7nm,0.7s,baz=250,slow=2.0,SNR=8.6
AVF Avril sur Loir 148.31 4 *e*PKP1 PKPbc 13 01 24.4 -0.2
comp=Z,66nm,1.2s
GMNA Gemona 148.42 351 P PKPbc 13 01 25.7 +0.8
LJU Ljubljana 148.43 349 *e*PKPbc PKPbc 13 01 25.3 +0.3
SMF Signal de Mont 148.48 4 *e*PKP1 PKPbc 13 01 25.0 0.0
comp=Z,92nm,1.2s
VOY Vojsko 148.56 350 *e*PKPbc PKPbc 13 01 25.5 +0.3
VOY *e* 13 01 32.7
VOY Vojsko 148.56 350 *e*PKPbc PKPbc 13 01 25.5 +0.3
VOY *e* 13 01 32.7
VOY *e* 13 01 37.0
BRMO Bormio 148.56 355 P PKPbc 13 01 26.5 +1.3
CABF La Chapelle 148.59 1 *e*PKP1 PKPbc 13 01 26.1 +0.8
comp=Z,87nm,0.9s
TCF Toulx Ste Croi 148.71 6 *e*PKP1 PKPbc 13 01 25.4 -0.2
CEY Cerknica 148.75 349 *e*PKPbc PKPbc 13 01 26.3 +0.6
BOJS Bojanci 148.82 348 *e*PKPbc PKPbc 13 01 25.6 -0.4
KDZ Kurdzhali 148.90 332 P PKPdf 13 01 22.9 +0.6
VTS Vitosha 149.07 336 P PKPbc 13 01 28.0 +1.3
VTS Vitosha 149.07 336 ⇓*i*P PKPbc 13 01 26.2 -0.5
VTS Vitosha 149.07 336 *i* P PKPbc 13 01 29.5 +2.8
PLDF La Plantade 149.14 4 PKP PKPbc 13 01 27.6 +0.9
RZN Rozhen 149.19 333 P PKPdf 13 01 23.6 +0.9
VAI Varese 149.28 357 P PKPbc 13 01 26.9 -0.2
PYM Petit Puy Mans 149.31 5 PKP PKPbc 13 01 27.3 +0.1
RJF Les Rejaudoux 149.61 7 *e*PKP1 PKPbc 13 01 27.9 0.0
comp=Z,73nm,1.3s
RJF *e*MLR MLR
comp=Z,908nm,20.5s,MS5.3
RJF Les Rejaudoux 149.61 7 *e*PKP2 PKPbc 13 01 27.9 0.0
RJF MLR MLR
comp=Z,910nm,20.5s,MS5.6
LPL La Plagne 149.69 360 *e*PKP1 PKPbc 13 01 29.3 +1.2
comp=Z,85nm,1.1s
LPG La Plagne 149.71 360 *e*PKP1 PKPbc 13 01 29.5 +1.3
comp=Z,123nm,1.2s
KKB Krupnik 149.73 335 P PKPdf 13 01 28.8 +5.2
LBL Lubilhac 149.85 5 PKP PKPbc 13 01 28.5 0.0
LFF La Frestale 149.87 8 *e*PKP1 PKPbc 13 01 28.5 -0.1
GRN Grenoble 149.96 1 PKP PKPbc 13 01 30.2 +1.4
CAF Calviac 150.04 6 *e*PKP1 PKPbc 13 01 29.3 +0.3
EIL Elat 150.08 304 PKPbc PKPbc 13 01 30.8 +1.2
EIL Elat 150.08 304 PKPbc PKPbc 13 01 30.8 +1.2
comp=Z,5.5nm,0.6s,baz=96,slow=9.2,SNR=2.2
BNI Bardonecchia 150.15 360 *e*PKPbc PKPbc 13 01 31.4 +2.1
ORIF Oris-en-Rattie 150.28 1 *e*PKP1 PKPbc 13 01 30.3 +0.7
comp=Z,93nm,1.3s
ORIF *e*MLR MLR
comp=Z,496nm,20.8s,MS5.0
VIVF Saint-Julien-l 150.31 3 *e*PKP1 PKPbc 13 01 30.2 +0.6
comp=Z,78nm,1.2s
MBDF Montbardon 150.48 360 *e*PKP1 PKPbc 13 01 30.8 +0.8
comp=Z,50nm,1.2s
PCAB Cabril 150.66 23 *e*PKPbc PKPbc 13 01 36.4 +5.8
SURF Saint Ours 150.72 360 PKP PKPbc 13 01 29.7 -0.9
KRUS Krusevo 150.88 337 *i* PKP PKPdf 13 01 31.8 +6.3
PBRG Braganca 151.04 21 *e*PKPbc PKPbc 13 01 32.1 +0.6
LASF Ste Croix 151.04 4 *e*PKP1 PKPbc 13 01 32.0 +0.6
comp=Z,68nm,1.3s
SMRF Simiane la Rot 151.22 1 *e*PKP1 PKPbc 13 01 32.8 +1.0
OHR Ohrid 151.27 337 *e*PKP PKPdf 13 01 27.4 +1.3
SBF Sospel 151.33 359 *e*PKP1 PKPbc 13 01 33.3 +1.2
comp=Z,266nm,1.5s
MVO Moncorvo 151.50 22 *e*PKPbc PKPbc 13 01 33.5 +0.9
MVO Moncorvo 151.50 22 A 14 01 29.7
comp=Z,362nm,22.0s
PVIS Viseu 151.57 23 *e*PKPbc PKPbc 13 01 36.7 +4.0
MTLF Montolieu 151.62 7 *e*PKP1 PKPbc 13 01 33.0 +0.2
FRF La Foret Royal 151.64 360 *e*PKP1 PKPbc 13 01 32.7 -0.1
ETSF Etsaut 151.65 11 *e*PKP1 PKPbc 13 01 33.3 +0.5
comp=Z,59nm,1.1s
LMR La Mourre 151.87 360 *e*PKP1 PKPbc 13 01 33.3 0.0
comp=Z,31nm,1.0s
MTE Manteigas 151.98 23 *e*PKPbc PKPbc 13 01 38.7 +5.0
MTE Manteigas 151.98 23 A 14 04 16.6
comp=Z,470nm,18.2s
APE Apeiranthos 152.35 326 ⇓P PKPdf 13 01 31.5 +3.7
APE Apeiranthos 152.35 326 ⇓*i*P PKPdf 13 01 31.5 +3.7
PGF Pioggiola 152.57 356 *e*PKP1 PKPbc 13 01 34.9 0.0
comp=Z,84nm,1.4s
EVO Evora 153.38 26 *e*PKP2 PKPab 13 01 48.6 -0.4
comp=Z,30nm,1.0s
EVO *e*MLR MLR
comp=Z,806nm,20.2s,MS5.2
ESDC Sonseca Array 153.86 19 PKPbc PKPbc 13 01 39.7 +1.8
comp=Z,0.3nm,0.3s,baz=281,slow=2.0,SNR=5.3
ESDC PKPab PKPab 13 01 51.6 +0.7
comp=Z,5.5nm,0.8s,baz=330,slow=4.1,SNR=9.0
PBAR Barrancos 154.09 25 *e*PKPbc PKPbc 13 01 33.7 -4.7
PBAR Barrancos 154.09 25 A 14 04 37.1
comp=Z,236nm,22.0s
TIP Timpagrande 154.38 341 *e*PKPdf PKPdf 13 01 31.2 +0.5
TIP *e*PKPbc PKPbc 13 01 37.9 -1.1

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
MDT	**Midelt**	**159.68**	**28**	PKPab	PKPab	13 02 17.4	+1.2
	comp=Z,6.0nm,1.0s,baz=347,slow=6.6,SNR=6.3						
TORD	**Torodi Ar. Bea**	**174.94**	**112**	PKP	PKPdf	13 01 47.3	-1.8
	comp=Z,2.1nm,1.0s,baz=329,slow=0.9,SNR=7.2						
TORD				PKPab	PKPab	13 03 24.4	+0.2
	comp=Z,1.3nm,0.8s,baz=242,slow=4.0,SNR=3.3						

IDC ***11*** *12:45:48.7±0.4, 1299N×12594E, h0km, mb4.7/22, mb1 4.7/23, mb1mx4.7/27, mbtmp4.7/23, ML4.5/1, MS4.1/8, Ms1 4.1/8, ms1mx3.9/28, Error ellipse: s-maj=19.7km s-min=8.9km az=86.0*

MAN ***11*** *12:45:50, 1308N×12606E, h42km, mb5.1, ML4.0, MS4.2*

MOS ***11*** *12:45:51.8±1.0, 1301N×12601E, h33km, mb5.3/26, Error ellipse: s-maj=12.5km s-min=6.0km az=102.1*

BJI ***11*** *12:45:52.4, 1299N×126.16E, h44km, mB4.9, mb4.8, Ms4.5, Msz4.2*

ISCJB ***11*** *12:45:52.2±0.2, 1297N±002×12598E±003, h37km, mb4.9/77, MS4.2/19, Error ellipse: s-maj=4.5km s-min=2.8km az=9.7*

NEIC ***11*** *12:45:54.1±0.2, 1300N×12602E, mb5.1/19, Error ellipse: s-maj=6.9km s-min=4.4km az=94.0*

ISC 11 12:45:54.3±0.2, 1296N±002×12597E±003, h39km, h39km±1.4km:pP-P, n190, σ1⇧07/192, mb4.9/77, MS4.2/19, 16C-11D, Samar

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
PVCP	**Virac**	**1.88**	**290**	⇓*i*P	**Pn**	**12 46 21.2**	**-2.7**
PVCP				*i* S	**Sn**	**12 46 41.3**	**-5.0**
PLP	**Palo**	**2.03**	**209**	*e*P	**Pn**	**12 46 24.7**	**-1.4**
PLP				*e*S	**Sn**	**12 46 46.8**	**-3.4**
SCPH	**Surigao**	**3.20**	**189**	⇧*e*P	**Pn**	**12 46 40.7**	**-1.3**
SCPH				*e*S	**Sn**	**12 47 17.4**	**-1.5**
LLP	**Lapu-Lapu**	**3.28**	**217**	⇧*e*P	**Pn**	**12 46 42.7**	**-0.5**
LLP				*e*S	**Sn**	**12 47 19.8**	**-1.3**
RCP	**Roxas**	**3.45**	**246**	⇧*e*P	**Pn**	**12 46 45.4**	**-0.1**
GQP	**Guinayangan**	**3.55**	**286**	⇓*e*P	**Pn**	**12 46 45.3**	**-1.6**
GQP				*e*S	**Sn**	**12 47 25.2**	**-2.5**
KALP	**Kalibo**	**3.77**	**251**	⇧*e*P	**Pn**	**12 46 48.6**	**-1.3**
TBP	**Tagbilaran**	**3.85**	**213**	*e*P	**Pn**	**12 46 51.3**	**+0.2**
CGP	**Cagayan de Oro**	**4.65**	**196**	⇓*i*P	**Pn**	**12 47 02.0**	**0.0**
CGP				*i* S	**Sn**	**12 47 55.0**	**+0.2**
PALP	**Palanan**	**5.32**	**320**	⇓*i*P	**Pn**	**12 47 09.4**	**-1.9**
PALP				*i* S	**Sn**	**12 48 03.1**	**-8.3**
PCPH	**Palayan**	**5.38**	**299**	⇧*e*P	**Pn**	**12 47 08.1**	**-4.0**
PCPH				*e*S	**Sn**	**12 48 01.6**	**-11**
CVP	**Callao Caves**	**6.18**	**320**	⇧*e*P	**Pn**	**12 47 21.6**	**-1.4**
BCPH	**Baguio City Da**	**6.22**	**304**	⇓*e*P	**Pn**	**12 47 21.1**	**-2.6**
KKM	**Kota Kinabalu**	**11.82**	**235**	*e*Pn	**Pn**	**12 48 43.4**	**+3.0**
QZH	**Quanzhou**	**13.80**	**331**	⇑*i*P	**Pn**	**12 49 06.9**	**-0.5**
QZH				S	**Sn**	**12 51 40.0**	**+0.5**
QZH				LR	LR		
	comp=N,850nm,10.4s						
QZH				LR	LR		
	comp=E,610nm,9.3s						
QZH				LR	LR		
	comp=Z,840nm,10.3s						
JOW	**Kunigami**	**13.97**	**9**	Pn	**Pn**	**12 49 07.8**	**-1.9**
	comp=Z,4.2nm,0.3s,baz=158,slow=14,SNR=12						
JOW				LR	LR	12 53 09.0	
	comp=Z,1μm,21.1s,baz=168,slow=32						
QIZ	**Qiongzhong**	**16.63**	**293**	P	**Pn**	**12 49 45.2**	**+0.6**
QIZ				XP	sP	12 50 00.6	-0.7
QIZ				S	**S**	**12 52 48.5**	**-10**
QIZ				XS	sS	12 53 00.4	-13
QIZ				AMB	AMB		
	comp=Z,11nm,1.4s						
QIZ				AMB	AMB		
	comp=Z,213nm,3.3s						
QIZ				LR	LR		
	comp=E,311nm,20.1s						
QIZ				LR	LR		
	comp=Z,508nm,17.3s						
GUMO	**Guam**	**18.41**	**86**	LR	LR	12 55 16.1	
	comp=Z,508nm,21.1s,baz=264,slow=31						
SSE	**Sheshan**	**18.58**	**347**	P	**Pn**	**12 50 07.9**	**-0.6**
SSE				S	**S**	**12 53 34.1**	**-3.8**
SSE				AMB	AMB		
	comp=Z,48nm,1.0s						
SSE				AMB	AMB		
	comp=Z,366nm,7.2s						
SSE				LR	LR		
	comp=N,243nm,14.5s						
SSE				LR	LR		
	comp=E,602nm,14.5s						
SSE				LR	LR		
	comp=Z,393nm,17.6s						
KAPI	**Kappang**	**18.90**	**199**	P	**Pn**	**12 50 13.6**	**+1.1**
	comp=Z,1μm,0.9s,SNR=36						
KSM	**Kuching**	**19.26**	**235**	*e*P	**Pn**	**12 50 15.8**	**-1.1**
JFU	**Fukue jima 2**	**19.77**	**7**	P	**Pn**	**12 50 22.2**	**-0.6**
NJ2	**Nanjing**	**20.09**	**342**	*e*P	**P**	**12 50 26.6**	**+2.0**
NJ2				AP		12 50 37.3	
NJ2				XP	sP	12 50 42.2	+2.8
NJ2				PP		12 50 46.5	
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.6s						
NJ2				AMB	AMB		
	comp=Z,330nm,7.7s						
NJ2				LR	LR		
	comp=N,480nm,10.0s,MS4.4						
NJ2				LR	LR		
	comp=E,780nm,12.2s,MS4.4						
WHN	**Wuhan**	**20.53**	**330**	P	**P**	**12 50 32.4**	**+3.1**
JNU	**Nakatsue**	**20.56**	**12**	P	**P**	**12 50 29.8**	**+0.1**
JNU				LR	LR	12 57 49.5	
JNU	**Nakatsue**	**20.56**	**12**	P	**P**	**12 50 29.6**	**-0.1**
JNU	**Nakatsue**	**20.56**	**12**	P	**P**	**12 50 29.8**	**+0.1**
	comp=E,43nm,0.9s,baz=155,slow=9.0,SNR=23						
JNU				LR	LR	12 57 49.5	
	comp=E,332nm,18.7s,MS3.7,baz=180,slow=35						
CBIJ	**Chichi jima**	**20.70**	**45**	LR	LR	12 57 00.0	
	comp=E,540nm,19.1s,MS3.9,baz=20,slow=32						
JMN	**Monobe**	**21.89**	**18**	P	**P**	**12 50 44.0**	**0.0**
GYA	**Guiyang**	**22.55**	**309**	⇑*i*P	**P**	**12 50 51.8**	**+0.7**
GYA				AP		12 51 02.4	
GYA				XP	sP	12 51 06.8	+0.8
GYA				PP		12 51 21.5	
GYA				PPP		12 51 31.4	
GYA				AMB	AMB		
	comp=Z,40nm,0.8s,mb4.9						
GYA				AMB	AMB		
	comp=Z,440nm,4.6s						
GYA				LR	LR		
	comp=N,5μm,15.6s,MS5.2						
GYA				LR	LR		
	comp=E,6μm,15.9s,MS5.2						
GYA				LR	LR		
	comp=Z,4μm,14.4s,MS5.0						
KKTK	**Khon Kaen**	**22.64**	**281**	P	**P**	**12 50 53.0**	**+0.9**
	comp=Z,309nm,0.6s,mb5.9						
JHS	**Saijyo**	**22.87**	**15**	P	**P**	**12 50 54.7**	**+0.3**
JAD	**Aida**	**23.11**	**17**	P	**P**	**12 50 55.6**	**-1.2**
BATI	**Kupang**	**23.13**	**186**	P	**P**	**12 50 57.2**	**-0.1**
	comp=Z,327nm,0.9s,mb5.8,baz=9.9,slow=2.3,SNR=19						
BATI				S	**S**	**12 55 10.9**	**+5.0**
	comp=Z,45nm,1.1s,baz=288,slow=19,SNR=2.8						
JIE	**Ise**	**23.46**	**23**	P	**P**	**12 50 59.3**	**-1.1**
JHJ	**Hachijo jima 2**	**23.70**	**30**	LR	LR	13 00 02.0	
	comp=Z,485nm,18.2s,MS4.0,baz=282,slow=36						
JWT	**Wachi**	**23.80**	**19**	P	**P**	**12 51 03.2**	**-0.3**
INCN	**Inchon**	**24.43**	**1**	*e*P	**P**	**12 51 08.8**	**-0.4**
INCN				*e*P		12 51 09.8	
KSRS	**Korea Array**	**24.45**	**4**	P	**P**	**12 51 09.1**	**-0.3**
	comp=Z,25nm,1.0s,mb4.6,baz=179,slow=10,SNR=66						
KSRS				LR	LR	12 59 40.6	
	comp=Z,455nm,19.8s,MS4.0,baz=10,slow=34						
TIA	**Tai'an**	**24.48**	**343**	P	**P**	**12 51 09.3**	**-0.4**
TIA				AMB	AMB		
	comp=Z,33nm,0.9s,mb4.8						
KMI	**Kunming**	**25.02**	**302**	P	**P**	**12 51 15.8**	**+1.0**
KMI				AP	pP	12 51 26.4	+0.9
KMI				XP	sP	12 51 30.5	+0.3
KMI				PP		12 51 55.1	
KMI				PPP		12 52 05.9	
KMI				AMB	AMB		
	comp=Z,22nm,1.2s,mb4.6						
KMI				AMB	AMB		
	comp=Z,182nm,3.8s						
KMI				LR	LR		
	comp=N,260nm,19.6s						
KMI				LR	LR		
	comp=E,378nm,12.8s						
KMI				LR	LR		
	comp=Z,308nm,11.0s						
NST	**Nakhon Sawan**	**25.17**	**279**	P	**P**	**12 51 17.8**	**+1.6**
JRY	**Ryogami san**	**25.74**	**25**	P	**P**	**12 51 19.1**	**-2.1**
MAJO	**Matsushiro**	**25.93**	**23**	*e*P	**P**	**12 51 20.8**	**-2.0**
MAT	**Matsushiro**	**25.93**	**23**	P	**P**	**12 51 20.4**	**-2.4**
MAT				S	**S**	**12 55 44.6**	**-5.9**
MAT	**Matsushiro**	**25.93**	**23**	P	**P**	**12 51 20.2**	**-2.6**
MJAR	**Matsushiro Arr**	**25.93**	**23**	P	**P**	**12 51 20.9**	**-1.9**
MJAR						12 54 52.1	
MJAR	**Matsushiro Arr**	**25.93**	**23**	P	**P**	**12 51 20.9**	**-2.0**
	comp=Z,8.7nm,1.0s,mb4.2,baz=196,slow=8.9,SNR=16						
MJAR				PcP	PcP	12 54 52.1	+1.1
	comp=Z,2.1nm,1.0s,baz=178,slow=3.3,SNR=4.6						
MJAR				LR	LR	13 01 18.0	
	comp=Z,584nm,18.1s,MS4.2,baz=205,slow=36						
XAN	**Xi'an**	**26.09**	**326**	P	**P**	**12 51 23.8**	**-0.5**
XAN				AMB	AMB		
	comp=Z,47nm,1.1s,mb4.9						
XAN				AMB	AMB		
	comp=Z,122nm,10.4s						
DL2	**Dalian**	**26.12**	**352**	P	**P**	**12 51 25.8**	**+1.2**
DL2				*e*S	**S**	**12 55 56.5**	**+3.0**
DL2				AMB	AMB		
	comp=Z,30nm,1.2s,mb4.7						
DL2				AMB	AMB		
	comp=Z,100nm,5.7s						
DL2				LR	LR		
	comp=N,300nm,16.6s,MS4.0						
DL2				LR	LR		
	comp=E,190nm,15.0s,MS4.0						
DL2				LR	LR		
	comp=Z,170nm,19.5s,MS3.6						
KAKA	**Kakadu**	**26.30**	**166**	*e*P	**P**	**12 51 30.8**	**+4.4**
	comp=Z,55nm,0.6s,mb5.3						
CHG	**Chiang Mai**	**26.62**	**286**	⇓P	**P**	**12 51 29.4**	**+0.1**
	comp=Z,40nm,0.9s,mb5.0						
CHTO	**Chiang Mai**	**26.62**	**286**	*e*P	**P**	**12 51 29.2**	**-0.1**
CD2	**Chengdu**	**27.17**	**315**	P	**P**	**12 51 34.8**	**+0.6**
CD2				AP	pP	12 51 45.3	+0.3
CD2				XP	sP	12 51 50.2	+0.5
CD2				PP		12 52 21.0	
CD2				AMB	AMB		
	comp=Z,40nm,1.2s,mb4.8						
CD2				AMB	AMB		
	comp=Z,120nm,5.8s						
CD2				LR	LR		
	comp=N,460nm,13.2s,MS4.5						
CD2				LR	LR		
	comp=E,750nm,15.6s,MS4.5						
CD2				LR	LR		
	comp=Z,590nm,10.8s,MS4.4						
JMM	**Marumori**	**28.10**	**25**	P	**P**	**12 51 40.2**	**-2.2**
BJT	**Baijiatuau**	**28.30**	**344**	*e*P	**P**	**12 51 44.0**	**-0.1**
BJI	**Beijing**	**28.32**	**344**	P	**P**	**12 51 43.5**	**-0.8**
BJI				AMB	AMB		
	comp=Z,17nm,1.0s,mb4.6						
PSI	**Prapat**	**28.59**	**252**	P	**P**	**12 51 46.5**	**-0.5**
	comp=Z,11nm,0.8s,mb4.6,baz=47,slow=3.5,SNR=10						
PSI				LR	LR	13 03 35.8	
	comp=Z,423nm,19.1s,MS4.1,baz=233,slow=37						
SNY	**Shenyang**	**28.83**	**356**	⇑P	**P**	**12 51 49.5**	**+0.7**
SNY				AMB	AMB		
	comp=Z,34nm,1.1s,mb5.0						
SNY				AMB	AMB		
	comp=Z,90nm,5.1s						
SNY				LR	LR		
	comp=E,471nm,13.7s						
SNY				LR	LR		
	comp=Z,315nm,14.7s,MS4.0						
LZH	**Lanzhou**	**30.44**	**323**	*e*P	**P**	**12 52 04.3**	**+1.2**
LZH				AP	pP	12 52 15.2	+1.2
LZH				XP	sP	12 52 19.7	+1.0
LZH				AMB	AMB		
	comp=Z,30nm,1.3s,mb4.9						
LZH				AMB	AMB		
	comp=Z,120nm,4.6s						
HHC	**Hu-ho-hao-te**	**30.52**	**338**	*e*P	**P**	**12 52 04.6**	**+0.8**
HHC				AP	pP	12 52 13.9	-0.7
HHC				XP	sP	12 52 18.8	-0.5
HHC				PP	PP	12 53 03.9	-9.2
HHC				AMB	AMB		
	comp=Z,20nm,0.5s,mb5.2						
HHC				AMB	AMB		
	comp=Z,121nm,4.7s						
HHC				LR	LR		
	comp=N,458nm,17.7s,MS4.4						
HHC				LR	LR		
	comp=E,481nm,13.9s,MS4.4						
HHC				LR	LR		
	comp=Z,265nm,9.8s						
CN2	**Changchun**	**30.73**	**359**	*e*P	**P**	**12 52 05.0**	**-0.6**
CN2				AMB	AMB		
	comp=Z,10.0nm,1.3s,mb4.5						
CN2				AMB	AMB		
	comp=Z,120nm,6.0s						
CN2				LR	LR		
	comp=N,290nm,15.0s,MS4.3						
CN2				LR	LR		
	comp=E,410nm,15.0s,MS4.3						
CN2				LR	LR		
	comp=Z,300nm,16.0s,MS4.0						
FITZ	**Fitzroy Crossi**	**30.87**	**181**	*e*P	**P**	**12 52 08.5**	**+1.4**
	comp=Z,85nm,0.7s,mb5.7						
FITZ	**Fitzroy Crossi**	**30.87**	**181**	P	**P**	**12 52 06.8**	**-0.2**
	comp=Z,51nm,0.7s,mb5.5,baz=16,slow=12,SNR=39						
BTO	**Baotou**	**30.89**	**336**	*e*P	**P**	**12 52 05.9**	**-1.2**
MDJ	**Mudanjiang**	**31.70**	**5**	P	**P**	**12 52 14.6**	**+0.5**
MDJ				AP	pP	12 52 26.2	+1.2
MDJ				XP	sP	12 52 31.3	+1.6
MDJ				AMB	AMB		
	comp=Z,25nm,1.5s,mb4.8						
MDJ				AMB	AMB		
	comp=Z,132nm,8.1s						
MDJ				LR	LR		
	comp=N,161nm,35.0s,MS3.7						
MDJ				LR	LR		
	comp=E,204nm,35.0s,MS3.7						
MDJ				LR	LR		
	comp=Z,122nm,35.0s,MS3.3						
MDJ	**Mudanjiang**	**31.70**	**5**	*e*P	**P**	**12 52 14.2**	**+0.1**
	comp=Z,13nm,1.0s,mb4.7						
WRAB	**Tennant Creek**	**33.71**	**166**	*e*P	**P**	**12 52 30.9**	**-1.1**
WRA	**Warramunga Arr**	**33.72**	**166**	P	**P**	**12 52 31.3**	**-0.8**
	comp=Z,9.5nm,1.1s,mb4.6,baz=344,slow=9.9,SNR=6.3						
ASAJ	**Asahikawa**	**34.17**	**22**	P	**P**	**12 52 35.2**	**-0.5**
	comp=Z,4.3nm,0.8s,mb4.4,baz=175,slow=14,SNR=2.6						
SHL	**Shillong**	**34.42**	**296**	*e*P	**P**	**12 52 40.0**	**+1.8**
MBWA	**Marble Bar**	**34.46**	**190**	*e*P	**P**	**12 52 39.2**	**+0.8**
GTA	**Gaotai**	**35.03**	**323**	*e*P	**P**	**12 52 43.0**	**-0.3**
GTA				AP	pP	12 52 55.0	+0.8
GTA				XP	sP	12 52 59.8	+0.9
GTA				PP	PP	12 54 01.6	-1.6
GTA				PPP		12 54 19.5	
GTA				AMB	AMB		
	comp=Z,8.0nm,1.3s,mb4.5						
GTA				AMB	AMB		
	comp=Z,183nm,6.1s						
GTA				LR	LR		
	comp=N,186nm,17.5s,MS4.1						
GTA				LR	LR		
	comp=E,238nm,19.8s,MS4.1						
GTA				LR	LR		
	comp=Z,318nm,15.2s,MS4.2						
HABR	**Khabarovsk**	**36.20**	**10**	⇓*e*P	**P**	**12 52 52.7**	**-0.4**
HABR				*e*	pP	12 53 05.2	+1.1
HABR				*e*		12 55 16.4	
HABR				*e*S	**S**	**12 58 32.2**	**+1.7**
HABR				*e*		12 58 44.8	
HABR				*e*		13 00 56.7	
HABR				*e*		13 03 06.7	
HABR				pmax	pmax		
	comp=Z,45nm,2.4s,mb5.0						
LSA	**Lhasa**	**36.27**	**303**	P	**P**	**12 52 55.4**	**+1.3**
LSA	**Lhasa**	**36.27**	**303**	*e*P	**P**	**12 52 56.1**	**+2.0**
	comp=Z,31nm,1.0s,mb5.2						
LSA	**Lhasa**	**36.27**	**303**	*e*P	**P**	**12 52 56.1**	**+2.0**
LSA				pmax	pmax		
	comp=Z,31nm,1.0s,mb5.2						
KLR	**Kul'dur**	**36.48**	**6**	*e*P	**P**	**12 52 49.6**	**-5.9**
KLR				pmax	pmax		
	comp=Z,50nm,1.6s,mb5.2						
HIA	**Hailar**	**36.56**	**353**	*e*P	**P**	**12 52 55.9**	**-0.3**
	comp=Z,18nm,1.1s,mb4.8						
HIA	**Hailar**	**36.56**	**353**	*e*P	**P**	**12 52 55.9**	**-0.3**
HIA				pmax	pmax		
	comp=Z,18nm,1.1s						
YSS	**Yuzh-Sakhalins**	**36.70**	**19**	*e*P	**P**	**12 52 57.4**	**-0.1**
YSS	**Yuzh-Sakhalins**	**36.70**	**19**	⇧*e*P	**P**	**12 52 57.3**	**-0.2**
YSS				pmax	pmax		
	comp=Z,33nm,1.5s,mb4.9						
ASAR	**Alice Springs**	**37.22**	**168**	P	**P**	**12 53 02.2**	**+0.2**
	comp=Z,1.7nm,0.6s,mb4.0,baz=353,slow=8.7,SNR=6.3						
SONM	**Songino Array**	**38.41**	**339**	P	**P**	**12 53 12.2**	**+0.3**
	comp=Z,8.9nm,0.9s,mb4.5,baz=154,slow=9.0,SNR=54						
SONM				PcP	PcP	12 55 25.0	+0.3
	comp=Z,4.8nm,1.0s,baz=169,slow=5.0,SNR=6.8						
CTA	**Charters Tower**	**38.43**	**148**	P	**P**	**12 53 12.5**	**+0.1**
CTA	**Charters Tower**	**38.43**	**148**	P	**P**	**12 53 12.5**	**+0.1**
	comp=Z,4.9nm,0.7s,mb4.3,baz=320,slow=9.5,SNR=4.6						
ZAK	**Zakamensk**	**41.67**	**338**	*e*P	**P**	**12 53 38.4**	**-0.5**
ZAK				*e*		12 55 20.2	
ZAK				*e*		12 55 31.3	
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.5s						
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.4s						
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.1						
ZAK				pmax	pmax		
	comp=Z,2.0nm,2.0s						
TLY	**Talaya**	**42.62**	**340**	*e*P	**P**	**12 53 47.1**	**+0.5**
TLY				pmax	pmax		
	comp=Z,22nm,1.3s,mb4.7						
IRK	**Irkutsk**	**42.88**	**340**	*e*P	**P**	**12 53 48.2**	**-0.6**
IRK				pmax	pmax		
	comp=Z,22nm,0.7s,mb5.0						
FORT	**Forrest**	**43.53**	**177**	*e*P	**P**	**12 53 54.9**	**+0.7**
	comp=Z,188nm,0.8s,mb5.9						
MOY	**Mondy**	**43.55**	**338**	*e*P	**P**	**12 53 53.9**	**-0.3**
MOY				pmax	pmax		
	comp=Z,26nm,1.9s,mb4.6						
NRGR	**Nerungri**	**43.61**	**359**	*e*P	**P**	**12 53 54.1**	**-0.5**
CLNS	**Chul'man**	**43.79**	**359**	*e*P	**P**	**12 53 54.5**	**-1.5**
CLNS				*e*PP	pP	12 54 01.9	-5.2
CLNS				*e*		12 55 41.8	
CLNS				*e*S	**S**	**13 00 21.4**	**-2.4**
CLNS				*e*SS	SS	13 03 24.9	-16
CLNS				pmax	pmax		
	comp=Z,41nm,0.9s,mb5.2						
CLNS				pmax	pmax		
	comp=N,21nm,0.8s						
CLNS				pmax	pmax		
	comp=E,19nm,0.9s						
CLNS				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.4						
CLNS				pmax	pmax		
	comp=N,5.0nm,0.9s						
CLNS				pmax	pmax		
	comp=E,5.0nm,0.9s						
CLNS				smax			
	comp=E,56nm,13.4s						
CLNS				smax			
	comp=Z,21nm,10.0s						
CLNS				smax			
	comp=N,146nm,13.7s						
CLNS				MLR	MLR		
	comp=Z,200nm,12.0s,MS4.2						
CLNS				MLR	MLR		
	comp=N,100nm,10.0s,MS4.3						
CLNS				MLR	MLR		
	comp=E,200nm,13.0s,MS4.3						
PALK	**Pallekele**	**44.87**	**267**	*e*P	**P**	**12 54 05.8**	**+0.5**
WMQ	**Urumqi**	**44.95**	**321**	⇑*i*P	**P**	**12 54 06.8**	**+1.3**
WMQ				AP	pP	12 54 19.0	+2.3
WMQ				XP	sP	12 54 24.5	+3.2
WMQ				PCP	PcP	12 55 48.0	+1.7
WMQ				S	**S**	**13 00 41.0**	**-0.1**
WMQ				XS	sS	13 01 01.0	+1.4
WMQ				AMB	AMB		
	comp=Z,14nm,0.9s,mb4.8						
WMQ				AMB	AMB		
	comp=Z,445nm,6.5s						
WMQ				LR	LR		
	comp=N,314nm,16.0s,MS4.5						
WMQ				LR	LR		
	comp=E,305nm,17.8s,MS4.5						
WMQ				LR	LR		
	comp=Z,286nm,18.5s,MS4.2						
KLBR	**Kellerberrin**	**44.99**	**190**	*e*P	**P**	**12 54 05.3**	**-0.6**
	comp=Z,128nm,1.4s,mb5.6						
MUN	**Mundaring**	**45.65**	**192**	*e*P	**P**	**12 54 10.5**	**-0.6**
BOD	**Bodaibo**	**45.68**	**351**	*e*P	**P**	**12 54 10.7**	**-0.3**
BOD				pmax	pmax		
	comp=Z,8.0nm,1.2s,mb4.5						
HYB	**Hyderabad**	**45.89**	**282**	*i* P	**P**	**12 54 15.0**	**+1.7**
HYB				*e*pP	pP	12 54 25.0	+0.5
NWAO	**Narrogin (SRO)**	**46.39**	**190**	P	**P**	**12 54 16.7**	**-0.2**
NWAO				*e*P		12 54 19.7	
NWAO	**Narrogin (SRO)**	**46.39**	**190**	P	**P**	**12 54 16.7**	**-0.2**
	comp=Z,24nm,0.8s,mb5.2,baz=10,slow=6.4,SNR=12						
STKA	**Stephens Creek**	**47.03**	**162**	*e*P	**P**	**12 54 21.9**	**-0.1**
	comp=Z,10nm,0.7s,mb4.9						
STKA	**Stephens Creek**	**47.03**	**162**	P	**P**	**12 54 22.4**	**+0.5**
	comp=Z,12nm,0.7s,mb4.9,baz=334,slow=7.4,SNR=19						
STKA				PP	PP	12 56 16.1	+3.0
	comp=Z,7.2nm,0.8s,baz=333,slow=9.0,SNR=3.4						
PET	**Petropavlovsk**	**47.68**	**26**	*e*P	**P**	**12 54 27.6**	**+0.8**
	comp=Z,105nm,1.4s,mb5.7						
PET	**Petropavlovsk**	**47.68**	**26**	*e*P	**P**	**12 54 27.1**	**+0.3**
PET				*e*S	**S**	**13 01 27.6**	**+7.7**
PET				pmax	pmax		
	comp=Z,58nm,1.4s,mb5.4						
YAK	**Yakutsk**	**49.07**	**2**	*e*P	**P**	**12 54 37.3**	**0.0**
YAK	**Yakutsk**	**49.07**	**2**	*d i*P	**P**	**12 54 36.8**	**-0.5**
YAK				pmax	pmax		
	comp=Z,125nm,1.1s,mb5.9						
MK31	**Makanchi Array**	**49.73**	**322**	*i* P	**P**	**12 54 43.2**	**+0.5**
MK31				pmax	pmax		
	comp=Z,5.0nm,0.4s,mb4.9						
MKAR	**Makanchi Array**	**49.73**	**322**	P	**P**	**12 54 43.4**	**+0.7**
	comp=Z,17nm,0.9s,mb5.1,baz=115,slow=8.7,SNR=87						
MA2	**Magadan**	**50.04**	**16**	*e*P	**P**	**12 54 45.2**	**+0.5**
	comp=Z,22nm,0.9s,mb5.2						
MA2	**Magadan**	**50.04**	**16**	*e*P	**P**	**12 54 45.2**	**+0.4**
MA2				pmax	pmax		
	comp=Z,22nm,0.9s,mb5.2						
POO	**Poona**	**50.33**	**283**	*e*P	**P**	**12 54 47.5**	**-0.2**
ULHL	**Ulahol**	**51.89**	**314**	P	**P**	**12 55 00.3**	**+1.3**
	SNR=5.5						
ZAA0	**Zalesovo Array**	**52.14**	**330**	*e*P	**P**	**12 55 00.6**	**-0.1**
ZALV	**Zalesovo Beam**	**52.14**	**330**	P	**P**	**12 55 00.7**	**0.0**
	comp=Z,9.9nm,1.0s,mb4.7,baz=112,slow=6.6,SNR=29						
ZAL	**Zalesovo**	**52.15**	**330**	P	**P**	**12 55 00.7**	**0.0**
KZA	**Kyzart**	**52.53**	**313**	P	**P**	**12 55 05.6**	**+1.9**
	SNR=14						
TKM2	**Tokmak 2**	**52.56**	**315**	*e*P	**P**	**12 55 05.3**	**+1.4**
	comp=Z,14nm,1.3s,mb4.7						
TKM2	**Tokmak 2**	**52.56**	**315**	*e*P	**P**	**12 55 05.3**	**+1.4**
TKM2				pmax	pmax		
	comp=Z,14nm,1.3s,mb4.7						
CNB	**Canberra Magne**	**52.88**	**156**

KBL Kabul 55.60 303 *eP* **P 12 55 26.8 +0.5**
comp=Z,15nm,0.9s,mb5.0
TIXI Tiksi 58.68 1⇑ *eP* **P 12 55 47.1 -0.3**
TIXI pmax pmax
comp=Z,44nm,1.3s,mb5.3
BRVK Borovoye 59.38 325 P **P 12 55 53.6 +1.1**
comp=Z,136nm,0.9s,mb6.0,SNR=12
BRVK Borovoye 59.38 325 *eP* **P 12 55 52.8 +0.3**
BILL Bilibino 60.91 16 *eP* **P 12 56 03.1 +0.3**
BILL *epP* pP 12 56 13.9 -0.5
BILL Bilibino 60.91 16⇑ *eP* **P 12 56 03.2 +0.4**
BILL *e* pP 12 56 14.1 -0.2
BILL pmax pmax
comp=Z,61nm,1.7s,mb5.5
BILL MLR MLR
comp=Z,900nm,19.0s,MS4.9
SVE Sverdlovsk 65.81 327 *eP* **P 12 56 35.4 +0.1**
SVE pmax pmax
comp=Z,27nm,1.1s,mb5.2
AKTK Aktyubinsk 66.09 320 P **P 12 56 37.4 +0.1**
AKTO Aktyubinsk 66.09 320 P **P 12 56 37.3 +0.1**
comp=Z,3.3nm,0.7s,mb4.5,baz=84,slow=6.1,SNR=11
GAMB Gambell 66.37 25 *eP* **P 12 56 40.1 +1.2**
ARU Arti 66.83 326 *eP* **P 12 56 41.4 -0.6**
comp=Z,12nm,0.7s,mb5.0
ARU *epP* pP 12 56 52.7 -0.9
ARU Arti 66.83 326 *d iP* **P 12 56 41.4 -0.6**
ARU *e* 12 59 11.6
ARU *eS* S 13 05 31.8 +0.2
ARU pmax pmax
comp=Z,21nm,1.2s,mb5.0
CHGN Chignik 71.34 35 *eP* **P 12 57 08.2 -1.7**
SVW2 Sparrevohn 73.16 30 *eP* **P 12 57 21.7 +1.0**
SVW2 *epP* pP 12 57 32.8 +0.3
IMA2 Indian Mountai 74.32 25 *eP* **P 12 57 28.3 +0.9**
IMA2 *epP* pP 12 57 39.2 0.0
KDAK Kodiak Island 74.58 33 *eP* **P 12 57 29.4 +0.3**
KDAK Kodiak Island 74.58 33 P **P 12 57 29.1 0.0**
comp=Z,3.6nm,0.4s,mb4.6,baz=272,slow=4.8,SNR=10
PMR Palmer 76.28 29 *eP* **P 12 57 38.2 -0.5**
PMR *epP* pP 12 57 49.0 -1.6
KIV Kislovodsk 76.32 312 *eP* **P 12 57 39.9 +0.6**
KIV Kislovodsk 76.32 312 *i P* **P 12 57 40.6 +1.3**
KIV pmax pmax
comp=Z,19nm,1.3s,mb4.9
SML Sawmill 76.65 29 *eP* **P 12 57 39.9 -1.0**
COLA College 76.75 26 *i P* **P 12 57 41.5 +0.2**
MOS Moscow 78.48 325 *eP* **P 12 57 50.8 -0.4**
MOS pmax pmax
comp=Z,53nm,0.9s,mb5.5
APA Apatity 79.10 337⇑ *iP* **P 12 57 55.0 +0.6**
APA pmax pmax
comp=Z,65nm,1.4s,mb5.4
OBN Obninsk 79.15 324⇑ *eP* **P 12 57 54.5 -0.3**
OBN *e*PP* pP 12 58 05.3 -1.5
OBN pmax pmax
comp=Z,31nm,1.0s,mb5.2
OBN MLR MLR
comp=Z,400nm,21.0s,MS4.7
ANN Anapa 79.97 314 *eP* **P 12 57 59.4 -0.1**
ANN *e*PP* pP 12 58 10.1 -1.3
ANN *e* 13 01 01.7
ANN *eS* S 13 08 02.7 +2.0
ANN pmax pmax
comp=Z,40nm,1.1s,mb5.3
MALT Malatya 80.18 307 *eP* **P 12 58 02.6 +1.7**
DAWY Dawson 80.47 26 *eP* **P 12 58 02.1 +0.2**
JOF Joensuu 80.68 332 *ep* **P 12 58 01.0 -2.0**
comp=Z,3.9nm,0.4s,mb4.7
KEV Kevo 81.02 340 *ep* **P 12 58 04.1 -0.6**
ARCES ARCESS Array B 81.58 340 P **P 12 58 07.8 +0.1**
comp=Z,4.9nm,0.8s,mb4.5,baz=79,slow=6.4,SNR=16
INK Inuvik 81.91 22 *eP* **P 12 58 09.4 0.0**
MIR Mirnyy 82.93 193⇑ *iP* **P 12 58 16.0 +1.4**
MIR pmax pmax
comp=Z,100nm,1.5s,mb5.6
KAF Kangasniemi 83.12 332 *ep* **P 12 58 14.7 -1.1**
comp=Z,5.1nm,0.6s,mb4.7,baz=72,slow=4.8
KAF Kangasniemi 83.12 332 *eP* **P 12 58 14.7 -1.1**
KAF pmax pmax
comp=Z,5.0nm,0.6s,mb4.7
SKAG Skagway 83.32 31 *eP* **P 12 58 17.7 +0.8**
FINES FINESS Array B 83.40 332 *i P* **P 12 58 17.2 -0.1**
FINES pmax pmax
comp=Z,3.0nm,0.7s
FINES FINESS Array B 83.40 332 P **P 12 58 17.0 -0.2**
comp=Z,3.1nm,0.7s,mb4.4,baz=57,slow=7.3,SNR=6.3
AKASG Malin Array Be 84.31 321 *i P* **P 12 58 21.7 -0.4**
AKASG pmax pmax
comp=Z,6.0nm,0.9s
AKASG Malin Array Be 84.31 321 P **P 12 58 21.6 -0.5**
comp=Z,6.0nm,0.9s,mb4.7,baz=63,slow=4.6,SNR=20
DLBC Dease Lake 86.25 31 *eP* **P 12 58 33.1 +1.4**
DLBC *eP* 12 58 33.3
KMBO Kilima Mbogo 89.00 269 P **P 12 58 47.5 +1.7**
comp=Z,0.6nm,0.2s,mb4.5,baz=54,slow=13,SNR=3.4
YKA Yellowknife Ar 91.43 24 P **P 12 58 56.3 +0.2**
YKA Yellowknife Ar 91.43 24 P **P 12 58 56.3 +0.2**
comp=Z,1.6nm,1.0s,mb4.3,baz=298,slow=4.8,SNR=9.8
VNDA Vanda 92.62 173 P **P 12 59 01.6 +0.4**
comp=Z,4.5nm,1.1s,mb4.8,baz=313,slow=5.7,SNR=9.1
VNDA PP PP 13 02 43.8 +0.5
comp=Z,2.6nm,1.0s,baz=327,slow=8.8,SNR=5.6
SBA Scott Base 93.52 172 *eP* **P 12 59 07.3 +2.0**
HLID Hailey 101.37 40 *ePdif* Pdif 12 59 43.2 +1.9
PDAR Pinedale Array 104.81 39 PP PP 13 04 11.8 -4.7
comp=Z,0.1nm,0.4s,baz=303,slow=8.1,SNR=4.1
TXAR Lajitas Array 116.27 48 PKP PKPdf 13 04 34.8 +0.6
comp=Z,0.8nm,0.7s,baz=338,slow=1.0,SNR=10
JCT Junction City 118.33 45 *ePKPdf* PKPdf 13 04 38.7 +0.5
TORD Torodi Ar. Bea 118.97 293 PP PP 13 05 51.4 -7.7
comp=Z,1.8nm,1.1s,baz=78,slow=6.8,SNR=3.5
TORD PKKPbc PKKPbc 13 14 55.6 +1.7
comp=Z,1.3nm,0.9s,baz=252,slow=3.0,SNR=4.5
MIAR Mount Ida 119.65 37 *ePKPdf* PKPdf 13 04 41.6 +1.0
BCIP Isla Barro Col 146.23 51 *ePKPdf* PKPdf 13 05 30.9 +0.4
MTP Monte Pirata 147.11 20 *ePKPdf* PKPdf 13 05 31.4 -0.5
MTP *ePKPbc* PKPbc 13 05 33.2 -0.8
PLCA Paso Flores 148.77 155 PKPbc PKPbc 13 05 38.1 +0.3
comp=Z,8.1nm,1.0s,baz=195,slow=3.3,SNR=7.6
SDV Santo Domingo 152.74 38 *ePKPdf* PKPdf 13 05 41.7 +0.8
SDV *ePKPbc* PKPbc 13 05 48.7 +0.7
SDV *ePKPab* PKPab 13 05 58.9 +0.2
LPAZ La Paz 165.96 105 PKP PKPdf 13 05 57.7 +1.7
comp=Z,1.1nm,0.8s,baz=69,slow=6.8,SNR=4.7
LPAZ PKPab PKPab 13 06 58.6 +2.5
comp=Z,1.2nm,0.9s,baz=207,slow=1.6,SNR=4.7
SIV San Ignacio 172.55 115 PKP PKPdf 13 06 00.9 +0.9
SIV PKPab PKPab 13 07 26.8 +1.5
SIV San Ignacio 172.55 115 PKP PKPdf 13 06 00.9 +0.9
comp=Z,1.4nm,0.8s,baz=260,slow=3.5,SNR=6.6
SIV PKPab PKPab 13 07 26.8 +1.5
comp=Z,1.5nm,0.9s,baz=255,slow=7.5,SNR=3.5

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*NEIC **11** 12:53:57.4, 3851N×2053E, h25km, MD3.6(ATH), After ATH.*
*ATH **11** 12:53:57.4, 3851N×2053E, h25km±6km, MD3.6/5*
*ISCJB **11** 12:53:58.7±1.0, 3838N±004×2055E±008, h10km, Error ellipse: s-maj=9.2km s-min=5.5km az=172.9*
*CSEM **11** 12:53:58.4±0.8, 3827N×2032E, h30km, ML3.1, Error ellipse: s-maj=19.1km s-min=10.3km az=59.0*
*THE **11** 12:54:01.7, 3844N×2050E, h2km, ML3.1*
ISC 11 12:53:59.4±1.2, 3836N±005×2049E±009, h10km, n9, σ1°27/14, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.20**	**158**	*eP*BB	**Pg**	**12 54 05.4**	**+1.8**
VLS				*e*SB	**Sg**	**12 54 11.1**	**+4.7**
LKD	**Levkas**	**0.37**	**20**	*e*Pg	**Pg**	**12 54 06.8**	**+0.2**
LKD				*e*Sg	**Sg**	**12 54 11.6**	**+0.1**
RLS	**Riolos of Patr**	**0.82**	**111**	*e*PN	**Pn**	**12 54 14.6**	**-2.4**
EVR	**Evrytania**	**1.17**	**61**	*e*PN	**Pn**	**12 54 18.0**	**-3.8**
IGT	**Igoumenitsa**	**1.18**	**354**	*e*Pg	**Pg**	**12 54 21.9**	**-0.1**
IGT				*e*Sg	**Sg**	**12 54 39.0**	**+1.7**
KEK	**Kerkira**	**1.45**	**338**	*e*PN	**Pn**	**12 54 22.3**	**-3.4**
MEV	**Metsovon**	**1.53**	**22**	*e*Pg	**Pg**	**12 54 28.6**	**-0.1**
MEV				*e*Sg	**Sg**	**12 54 47.9**	**-0.7**
AGG	**Agios Georgios**	**1.58**	**65**	*e*Pg	**Pg**	**12 54 29.2**	**-0.5**
AGG				*e*Sg	**Sg**	**12 54 51.1**	**+0.9**
THL	**Klokotos Trika**	**1.69**	**44**	*e*PB	**Pn**	**12 54 24.8**	**-4.1**

IDC 11 13:07:47.9±3.4, 1115N×9253E, h0km, mb3.4/4, mb1 3.6/4, mb1mx3.5/20, mbtmp3.4/4, Error ellipse: s-maj=132.0km s-min=24.1km az=67.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**0.54**	**23**	*eP*	x	13 08 25.1	
PBA				*eS*	x	13 08 45.2	
PBA				*ex*	x	13 09 11.6	
	comp=N,2μm,0.8s						
PBA				*ex*	x	13 09 12.5	
	comp=E,2μm,1.0s						
MKAR	**Makanchi Array**	**36.57**	**348**	P	P	13 14 56.2	+0.7
	comp=E,0.4nm,0.6s,baz=160,slow=7.4,SNR=4.5						
SONM	**Songino Array**	**38.38**	**15**	P	P	13 15 09.9	-0.8
	comp=E,0.1nm,0.4s,baz=202,slow=7.4,SNR=2.7						
WRA	**Warramunga Arr**	**51.46**	**127**	P	P	13 16 56.0	+0.5
	comp=E,0.3nm,0.4s,baz=300,slow=10.0,SNR=11						
ASAR	**Alice Springs**	**53.24**	**131**	P	P	13 17 08.3	-0.3
	comp=E,0.8nm,0.8s,baz=305,slow=7.8,SNR=10						

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*ISCJB **11** 13:11:56.3±1.1, 3709N±004×13637E±004, h10km±7km, mb3.6/9, MS4.5/2, Error ellipse: s-maj=6.3km s-min=5.7km az=9.6*
*IDC **11** 13:11:56.2±0.7, 3705N×13643E, h0km, mb3.6/8, mb1 3.8/11, mb1mx3.8/23, mbtmp3.6/11, ML3.0/3, MS4.4/2, Ms1 4.4/2, ms1mx3.5/29, Error ellipse: s-maj=19.0km s-min=11.9km az=21.0*
*NEIC **11** 13:11:57.5, 3707N×13643E, h8km, mb4.1/1, After JMA.*
NEIC Recorded [2 JMA] in Ishikawa and [1 JMA] in Gifu, Nagano and Toyama Prefectures.
*JMA **11** 13:11:57.5±0.1, 3707N×13643E, h8km±2km, M4.3 Broadband fault plane solution: P waves. NP1: φ±23.00000°, δ31.00000°, λ90.00000°. NP2:φ±203.00000°, δ59.00000°, λ90.00000°. Principal axes: T Plg76.0000°, Azm112.0000°; N Plg0.0000°, Azm23.0000°; P Plg14.0000°, Azm293.0000°;*
JMA Felt II J1.
ISC 11 13:11:57.6±0.8, 3707N±004×13644E±005, h9km±5km, n27, σ0°78/31, mb3.6/9, MS4.5/2, 1C-4D, Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JJH	**Hakui**	**0.31**	**118**	⇓P	**Pg**	**13 12 04.0**	**+0.2**
JJH				S	**Sg**	**13 12 08.7**	**+0.7**
JKG	**Kaga**	**0.80**	**186**	⇑P	**Pg**	**13 12 12.8**	**-0.2**
JKG				S	**Sg**	**13 12 23.9**	**+0.4**
JSZ	**Suzu**	**0.83**	**63**	⇓P	**Pg**	**13 12 13.1**	**-0.5**
JSZ				S	**Sg**	**13 12 24.9**	**+0.5**
JTT	**Ttatey**	**0.86**	**123**	⇓P	**Pg**	**13 12 14.0**	**-0.1**
JTT				S	**Sg**	**13 12 25.9**	**+0.6**
JHG	**Hegura jima**	**0.86**	**26**	P	**Pg**	**13 12 13.8**	**-0.5**
JGN	**Niukaw**	**1.10**	**140**	⇓P	**Pg**	**13 12 17.8**	**-1.0**
MAJO	**Matsushiro**	**1.52**	**110**	*e*Pn	**Pn**	**13 12 24.6**	**-0.3**
MAT	**Matsushiro**	**1.52**	**110**	P	**Pn**	**13 12 24.2**	**-0.7**
MAT				S	**Sn**	**13 12 45.1**	**+0.3**
MJAR	**Matsushiro Arr**	**1.52**	**110**	Pg	**Pg**	**13 12 25.4**	**-1.4**
MJAR				Lg		13 12 45.4	
MJAR	**Matsushiro Arr**	**1.52**	**110**	Pg	**Pg**	**13 12 25.4**	**-1.4**
	74nm,0.3s,baz=289,slow=17,SNR=354						
MJAR				Lg		13 12 45.4	
	225nm,0.3s,baz=286,slow=25,SNR=27						
JNU	**Nakatsue**	**6.03**	**231**	Pn	**Pn**	**13 13 27.9**	**+1.0**
	0.9nm,0.3s,baz=78,slow=16,SNR=12						
JNU				Lg		13 15 02.5	
	baz=36,slow=19,SNR=2.1						
KSRS	**Korea Array**	**6.80**	**276**	Pn	**Pn**	**13 13 39.6**	**+2.0**
	0.6nm,0.3s,baz=92,slow=14,SNR=7.9						
KSRS				Sn	**Sn**	**13 14 53.9**	**-1.2**
	0.5nm,0.3s,baz=88,slow=24,SNR=4.1						
ASAJ	**Asahikawa**	**8.45**	**32**	Pn	**Pn**	**13 14 01.1**	**+0.9**
	0.1nm,0.3s,baz=286,slow=15,SNR=1.8						
YSS	**Yuzh-Sakhalins**	**10.93**	**23**	*e*Pn	**Pn**	**13 14 38.3**	**+4.2**
SONM	**Songino Array**	**24.49**	**306**	P	**P**	**13 17 17.8**	**+0.8**
	0.8nm,0.7s,mb3.3,baz=111,slow=8.5,SNR=6.8						
TIXI	**Tiksi**	**34.87**	**356**	*eP*	**P**	**13 18 48.2**	**-0.6**
	2.4nm,0.8s,mb4.2						
MKAR	**Makanchi Array**	**40.71**	**301**	P	**P**	**13 19 38.4**	**0.0**
	0.4nm,0.7s,mb3.2,baz=87,slow=7.9,SNR=3.5						
PSI	**Prapat**	**48.49**	**234**	LR	LR	13 41 37.6	
	comp=Z,279nm,18.7s,MS4.3,baz=303,slow=37						
WRA	**Warramunga Arr**	**56.74**	**182**	P	**P**	**13 21 40.9**	**-0.9**
	0.4nm,0.4s,mb3.8,baz=357,slow=7.8,SNR=14						
ASAR	**Alice Springs**	**60.46**	**183**	P	**P**	**13 22 07.3**	**-0.3**
	0.3nm,0.6s,mb3.5,baz=12,slow=13,SNR=8.0						
YKA	**Yellowknife Ar**	**65.73**	**29**	P	**P**	**13 22 42.2**	**0.0**
YKA	**Yellowknife Ar**	**65.73**	**29**	P	**P**	**13 22 42.2**	**0.0**
	0.4nm,0.6s,mb3.6,baz=305,slow=7.1,SNR=12						
AKASG	**Malin Array Be**	**71.78**	**320**	P	**P**	**13 23 19.5**	**-0.6**
AKASG	**Malin Array Be**	**71.78**	**320**	P	**P**	**13 23 19.5**	**-0.6**
	0.3nm,0.4s,mb3.5,baz=46,slow=5.8,SNR=4.1						
PDAR	**Pinedale Array**	**80.42**	**43**	P	**P**	**13 24 09.3**	**-0.2**
	0.7nm,0.7s,mb3.7,baz=288,slow=0.9,SNR=5.9						
KEST	**Kesra**	**92.49**	**319**	LR	LR	14 10 22.6	
	comp=Z,252nm,21.8s,MS4.6,baz=318,slow=38						
TXAR	**Lajitas Array**	**93.18**	**49**	P	**P**	**13 25 13.6**	**+1.1**
	0.5nm,0.7s,mb4.0,baz=307,slow=4.4,SNR=4.8						

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*CSEM **11** 13:12:37.5±0.7, 3729N×2476W, h0km, ML3.6, Error ellipse: s-maj=4.6km s-min=1.8km az=84.0, After PDA*
*PDA **11** 13:12:37.5±0.7, 3729N×2476W, h0km, MD4.0, ML3.6, Error ellipse: s-maj=4.6km s-min=1.8km az=84.0*
SVSA 11 13:12:37.5±0.7, 3729N×2476W, h0km, MD4.0, ML3.6, Error ellipse: s-maj=4.6km s-min=1.8km az=84.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSMN	**Pico do Norte,**	**0.38**	**220**	*i P*	Pg	13 12 44.5	-0.2
PSMN				*eS*	Sg	13 12 49.7	+0.2
PSMN	**Pico do Norte,**	**0.38**	**220**	*eS*	Sg	13 12 49.7	+0.2
PDA	**Ponta Delgada**	**0.85**	**303**	*eP*	Pg	13 12 51.8	-1.9
PDA				*eS*	Sg	13 13 02.3	-2.4
PSCM	**Serra do Cume**	**2.33**	**308**	*eP*	Pn	13 13 11.9	-5.2
PSCM				*eS*	Sn	13 13 38.2	-8.2
PSCM				A		13 13 42.3	
	240nm,0.4s						
PSCM	**Serra do Cume**	**2.33**	**308**	*eP*	Pn	13 13 11.9	-5.2
PSCM				*eS*	Sn	13 13 38.2	-8.2
ADH	**Angra Heroismo**	**2.38**	**306**	*eP*	Pn	13 13 12.9	-4.8
ADH				*eS*	Sn	13 13 39.3	-8.3
PID	**Ribeirinha**	**2.89**	**294**	*eP*	Pn	13 13 20.4	-4.4
PID				*eS*	Sn	13 13 52.4	-7.9
PMAN	**Manadas**	**2.95**	**298**	*eP*	Pn	13 13 21.1	-4.5
PMAN				*eS*	Sn	13 13 53.6	-8.1
PMAN				A		13 13 57.1	
	48nm,0.2s						
PMAN	**Manadas**	**2.95**	**298**	*eP*	Pn	13 13 21.1	-4.5
PMAN				*eS*	Sn	13 13 53.6	-8.1
PGRA	**Graciosa**	**3.07**	**305**	*eP*	Pn	13 13 22.4	-4.9
ROSA	**Rosais**	**3.09**	**298**	*eP*	Pn	13 13 23.3	-4.3
ROSA				*eS*	Sn	13 13 57.1	-8.2
PICO	**Pico**	**3.14**	**294**	*eP*	Pn	13 13 24.1	-4.1
PICO				*eS*	Sn	13 13 58.4	-7.9
CALA	**Caldeira**	**3.37**	**294**	*eP*	Pn	13 13 27.1	-4.2
CALA				*eS*	Sn	13 14 04.0	-8.0

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*ISCJB **11** 13:24:21.2±1.0, 690N±007×7305W±009, h168km±11km, Error ellipse: s-maj=16.7km s-min=7.3km az=35.5*
*FUNV **11** 13:24:21.5, 675N×7317W, h162km, MW3.2*
*IDC **11** 13:24:21.8±4.3, 683N×7301W, h160km±56km, mb1 3.1/2, mb1mx2.8/19, mbtmp3.3/2, Error ellipse: s-maj=463.0km s-min=7.7km az=132.0*
ISC 11 13:24:22.0±1.0, 690N±007×7306W±009, h166km±11km, n15, σ0°66/19, 3D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**1.21**	**38**	⇓*iP*	**Pn**	**13 24 50.7**	**+0.7**
CAPV				*eS*	**Sn**	**13 25 11.9**	**+0.2**
ROSC	**El Rosal**	**2.39**	**212**	P	**Pn**	**13 25 02.5**	**-0.1**
	6.2nm,0.3s,baz=267,slow=11,SNR=12						
ROSC				S	**Sn**	**13 25 33.7**	**-0.3**
	17nm,0.3s,baz=96,slow=22,SNR=10						
VIGV	**El Vigia**	**2.56**	**41**	⇓*iP*	**Pn**	**13 25 05.3**	**+0.7**
VIGV				*eS*	**Sn**	**13 25 37.5**	**-0.1**
SOCV	**Socops**	**2.58**	**58**	⇓*iP*	**Pn**	**13 25 05.4**	**+0.5**
SOCV				*eS*	**Sn**	**13 25 37.7**	**-0.4**
SDV	**Santo Domingo**	**3.11**	**50**	P	**Pn**	**13 25 12.4**	**+1.0**
	7.1nm,0.3s,baz=240,slow=4.1,SNR=56						
SDV				S	**Sn**	**13 25 49.7**	**-0.1**
	9.3nm,0.3s,baz=75,slow=23,SNR=20						
ELOV	**Elorza**	**3.55**	**88**	*eP*	**Pn**	**13 25 15.7**	**-1.2**
VIRV	**Villa del Rosa**	**3.64**	**10**	*eP*	**Pn**	**13 25 18.0**	**-0.1**
VIRV				*eS*	**Sn**	**13 26 00.1**	**-1.6**
QARV	**Quebrada Arrib**	**4.13**	**37**	*eP*	**Pn**	**13 25 25.3**	**+0.9**
SANV	**Sanarito**	**4.34**	**53**	*eP*	**Pn**	**13 25 27.1**	**0.0**
CURV	**Curarigua**	**4.36**	**45**	*eP*	**Pn**	**13 25 27.6**	**+0.3**
TEPV	**Terepaima**	**4.89**	**51**	*eP*	**Pn**	**13 25 34.6**	**+0.3**
BAUV	**El Baul**	**5.37**	**67**	*eP*	**Pn**	**13 25 39.6**	**-0.9**
CAOV	**Caicara del Or**	**6.70**	**86**	*eP*	**Pn**	**13 25 58.0**	**-0.2**
ASAR	**Alice Springs**	**149.20**	**234**	PKPbc	PKPbc	13 43 51.9	+0.2
	0.4nm,1.0s,baz=117,slow=3.3,SNR=6.3						
WRA	**Warramunga Arr**	**150.43**	**241**	PKPbc	PKPbc	13 43 55.1	+0.3
	0.2nm,0.4s,baz=107,slow=2.7,SNR=11						

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*CSEM **11** 13:32:23.8, 1247N×4584E, h10km, ML3.9, After DHMR*
DHMR 11 13:32:23.8±1.8, 1247N×4584E, h10km, ML3.9, 3C-4D, Western Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ADEN	**Aden**	**0.89**	**290**	⇓*iP*	Pg	13 32 41.4	+0.5
ADEN				*i S*	Sg	13 32 54.1	+1.6
ADEN				AML	AML	13 32 56.5	
	comp=E,3μm,0.2s						
ADEN	**Aden**	**0.89**	**290**	⇓*iP*	Pg	13 32 41.4	+0.5
ADEN				*i S*	Sg	13 32 54.1	+1.6
	comp=E,1μm,0.2s						
LBOS		**1.50**	**338**	⇑*iP*	Pn	13 32 51.5	+0.7
LBOS				*i S*	Sn	13 33 13.2	+2.7
BDHA	**Al Bayda'**	**1.52**	**350**	⇑*iP*	Pn	13 32 51.3	+0.3
BDHA				AML	AML	13 33 05.7	
	comp=N,3μm,0.4s						
BDHA				*i S*	Sn	13 33 13.1	+2.2
BDHA	**Al Bayda'**	**1.52**	**350**	⇑*iP*	Pn	13 32 51.3	+0.3
	comp=N,2μm,0.4s						
BDHA				*i S*	Sn	13 33 13.1	+2.2
TRBA	**At Turbah**	**1.84**	**294**	⇓*iP*	Pn	13 32 56.2	+0.7
TRBA				*i S*	Sn	13 33 20.7	+1.8
TRBA				AML	AML	13 33 21.5	
	comp=N,1μm,0.5s						
UDYN	**Al 'Udayn**	**2.35**	**309**	⇓*iP*	Pn	13 33 03.7	+1.2
UDYN				*i S*	Sn	13 33 35.3	+3.9
DHBB	**Dhamar BB**	**2.52**	**326**	*i P*	Pn	13 33 07.5	+2.7
DHBB				*i S*	Sn	13 33 41.7	+6.1

IDC 11 13:35:23.1±2.5, 1263S×6649E, h0km, mb3.4/5, mb1 3.6/5, mb1mx3.4/19, mbtmp3.4/5, Error ellipse: s-maj=88.6km s-min=29.0km az=57.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**60.82**	**12**	P	P	13 45 36.8	-0.2
	0.2nm,0.8s,baz=209,slow=6.7,SNR=2.8						
ASAR	**Alice Springs**	**64.51**	**110**	P	P	13 46 02.0	-0.2
	0.2nm,0.5s,baz=268,slow=5.7,SNR=7.3						
WRA	**Warramunga Arr**	**65.18**	**106**	P	P	13 46 06.9	+0.2
	0.4nm,0.8s,baz=276,slow=6.1,SNR=5.1						
ZALV	**Zalesovo Beam**	**68.13**	**12**	P	P	13 46 24.0	-0.7
	0.3nm,0.2s,baz=190,slow=7.3,SNR=2.8						
SONM	**Songino Array**	**69.88**	**27**	P	P	13 46 36.7	+1.0
	0.4nm,0.7s,baz=186,slow=4.3,SNR=3.3						
PDAR	**Pinedale Array**	**149.77**	**354**	PKPbc	PKPbc	13 55 14.8	-0.5
	0.5nm,0.7s,baz=66,slow=3.7,SNR=4.8						
PDAR				PKPab	PKPab	13 55 21.3	+0.9
	0.4nm,0.7s,baz=74,slow=4.0,SNR=3.2						

IDC 11 13:42:58.3±8.1, 1696S×17876E, h0km, mb3.3/2, mb1 3.6/2, mb1mx3.4/14, mbtmp3.3/2, MS3.5/4, Ms1 3.5/4, ms1mx3.4/14, Error ellipse: s-maj=373.3km s-min=54.9km az=144.0, Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**19.78**	**290**	LR	LR	13 53 13.2	
	comp=Z,150nm,18.7s,baz=358,slow=31						
WRA	**Warramunga Arr**	**42.16**	**259**	P	P	13 50 51.5	-1.4
	0.4nm,0.8s,baz=96,slow=7.7,SNR=3.0						
ASAR	**Alice Springs**	**42.46**	**253**	P	P	13 50 56.8	+1.4
	0.3nm,0.6s,baz=87,slow=9.1,SNR=6.9						
GUMO	**Guam**	**45.19**	**310**	LR	LR	14 08 07.7	
	comp=Z,40nm,18.6s,baz=40,slow=33						
MJAR	**Matsushiro Arr**	**65.56**	**325**	LR	LR	14 15 28.1	
	comp=Z,64nm,20.6s,baz=335,slow=30						
KSRS	**Korea Array**	**72.22**	**320**	LR	LR	14 19 19.6	
	comp=Z,31nm,20.2s,baz=295,slow=30						
VNA3	**Neumayer Olymp**	**91.83**	**177**	*eP*	P	13 56 09.9	+2.0
VNA3				*e*		13 56 12.7	
VNA3				*e*		13 56 16.4	
VNA2	**Neumayer--Watz**	**92.24**	**178**	*eP*	P	13 56 12.4	+2.6
	baz=315,slow=15						
VNA2				*e*		13 56 14.9	
VNA2				*e*		13 56 18.5	
GERES	**GERESS Array B**	**145.95**	**342**	PKPbc	PKPbc	14 02 39.1	-0.7
	0.4nm,0.2s,baz=7.1,slow=3.2,SNR=3.6						

IDC 11 13:49:16.6±2.1, 152N×9707E, h0km, mb3.5/4, mb1 3.5/5, mb1mx3.3/20, mbtmp3.4/5, ML2.5/1, Error ellipse: s-maj=53.7km s-min=27.2km az=51.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.25**	**55**	Pn	Pn	13 49 55.0	-0.1
	1.3nm,0.3s,baz=243,slow=4.9,SNR=5.3						
PSI				Sn	Sn	13 50 28.2	+4.6
	1.4nm,0.3s,baz=141,slow=5.8,SNR=4.6						
WRA	**Warramunga Arr**	**42.31**	**122**	P	P	13 57 12.2	-0.2
	0.2nm,0.7s,baz=304,slow=9.1,SNR=2.8						
SONM	**Songino Array**	**46.84**	**9**	P	P	13 57 48.3	0.0
	0.6nm,0.7s,baz=188,slow=8.2,SNR=4.8						
MKAR	**Makanchi Array**	**46.91**	**346**	P	P	13 57 48.8	0.0
	0.4nm,0.5s,baz=159,slow=8.3,SNR=6.5						
ZALV	**Zalesovo Beam**	**53.23**	**351**	P	P	13 58 36.6	-0.1
	0.4nm,0.4s,baz=159,slow=8.3,SNR=2.8						

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*ISCJB **11** 13:52:25.7±5.7, 15N±01×969E±01, h15km±37km, mb3.7/6, Error ellipse: s-maj=22.1km s-min=16.1km az=159.0*
*IDC **11** 13:52:25.2±1.4, 149N×9696E, h0km, mb3.7/6, mb1 3.8/7, mb1mx3.6/20, mbtmp3.7/7, ML2.8/1, Error ellipse: s-maj=35.0km s-min=21.0km az=53.0*
*NEIC **11** 13:52:29.9±0.9, 151N×9702E, h30km, Error ellipse: s-maj=21.4km s-

s-min=24.8km az=64.0,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**28.58**	**161**	P	P	14 03 42.4	0.0
	0.1nm,0.3s,baz=341,slow=9.2,SNR=10						
JHJ	**Hachijo jima 2**	**29.23**	**26**	LR	LR	14 15 14.8	
	comp=Z,38nm,19.8s,baz=132,slow=36						
ASAR	**Alice Springs**	**31.96**	**164**	P	P	14 04 12.4	+0.1
	0.2nm,0.4s,baz=336,slow=8.3,SNR=9.1						
MKAR	**Makanchi Array**	**53.63**	**325**	P	P	14 07 07.7	0.0
	0.4nm,0.4s,baz=118,slow=7.5,SNR=11						

*CSEM **11** 14:02:49.8±0.7, 37.12N×2464W, h10km, ML3.9, Error ellipse: s-maj=4.7km s-min=3.1km az=86.0, After PDA*
*PDA **11** 14:02:49.8±0.7, 37.12N×2464W, h10km, MD3.9, ML3.9, Error ellipse: s-maj=4.7km s-min=3.1km az=86.0*
SVSA 11 14:02:49.8±0.7, 3712N×2464W, h10km, MD3.9, ML3.9, Error ellipse: s-maj=4.7km s-min=3.1km az=86.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSMN	**Pico do Norte,**	**0.36**	**252**	*e*P	Pg	14 02 55.7	-1.2
PSMN				*e*S	Sg	14 03 01.1	-0.6
PDA	**Ponta Delgada**	**1.03**	**308**	*e*P	Pg	14 03 05.6	-4.0
PDA				*i* S	Sg	14 03 17.5	-5.6
PSCM	**Serra do Cume**	**2.52**	**310**	*e*P	Pn	14 03 26.4	-4.4
PSCM				*e*S	Sn	14 03 53.5	-8.0
PSCM				A		14 03 58.8	
	254nm,0.2s						
PSCM	**Serra do Cume**	**2.52**	**310**	*e*P	Pn	14 03 26.4	-4.4
PSCM				*e*S	Sn	14 03 53.5	-8.0
ADH	**Angra Heroismo**	**2.57**	**308**	*e*S	Sn	14 03 56.8	-5.9
PID	**Ribeirinha**	**3.06**	**297**	*e*P	Pn	14 03 34.0	-4.2
PID				*e*S	Sn	14 04 07.0	-7.9
PMAN	**Manadas**	**3.12**	**300**	*e*P	Pn	14 03 34.5	-4.6
PMAN				*e*S	Sn	14 04 08.1	-8.3
PMAN				A		14 04 13.2	
	84nm,0.3s						
PMAN	**Manadas**	**3.12**	**300**	*e*P	Pn	14 03 34.5	-4.6
PMAN				*e*S	Sn	14 04 08.1	-8.3
PGRA	**Graciosa**	**3.26**	**307**	*e*P	Pn	14 03 36.6	-4.3
ROSA	**Rosais**	**3.27**	**300**	*e*P	Pn	14 03 37.1	-4.0
ROSA				*e*S	Sn	14 04 11.7	-8.3
SRBC	**Serra Branca**	**3.30**	**307**	*e*P	Pn	14 03 37.4	-4.1
SRBC				*e*S	Sn	14 04 13.0	-7.8
PICO	**Pico**	**3.30**	**296**	*e*P	Pn	14 03 37.2	-4.3
PICO				*e*S	Sn	14 04 13.0	-7.9
CALA	**Caldeira**	**3.53**	**296**	*e*P	Pn	14 03 40.1	-4.6
CALA				*e*S	Sn	14 04 18.3	-8.3

*PDA **11** 14:16:56.5±0.9, 37.16N×2456W, h0km, MD4.0, ML3.3, Error ellipse: s-maj=6.3km s-min=3.9km az=96.0*
*CSEM **11** 14:16:56.5±0.9, 37.16N×2456W, h0km, ML3.3, Error ellipse: s-maj=6.3km s-min=3.9km az=96.0, After PDA*
SVSA 11 14:16:56.5±0.9, 3716N×2456W, h0km, MD4.0, ML3.3, Error ellipse: s-maj=6.3km s-min=3.9km az=96.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSMN	**Pico do Norte,**	**0.43**	**249**	*e*P	Pg	14 17 04.3	-0.5
PSMN				*e*S	Sg	14 17 10.7	+0.3
PDA	**Ponta Delgada**	**1.05**	**304**	*e*P	Pg	14 17 13.7	-3.0
PDA				*e*S	Sg	14 17 26.4	-4.0
PSCM	**Serra do Cume**	**2.54**	**308**	*e*P	Pn	14 17 34.2	-4.7
PSCM				*e*S	Sn	14 18 02.6	-8.0
PSCM				A		14 18 07.2	
	76nm,0.3s						
PSCM	**Serra do Cume**	**2.54**	**308**	*e*P	Pn	14 17 34.2	-4.7
PSCM				*e*S	Sn	14 18 02.6	-8.0
ADH	**Angra Heroismo**	**2.59**	**306**	*e*P	Pn	14 17 35.0	-4.6
ADH				*e*S	Sn	14 18 04.1	-7.7
PID	**Ribeirinha**	**3.10**	**296**	*e*P	Pn	14 17 41.8	-4.8
PMAN	**Manadas**	**3.15**	**299**	*e*P	Pn	14 17 43.0	-4.4
PMAN				*e*S	Sn	14 18 17.2	-8.5
PMAN				A		14 18 20.1	
	32nm,0.3s						
PMAN	**Manadas**	**3.15**	**299**	*e*P	Pn	14 17 43.0	-4.4
PMAN				*e*S	Sn	14 18 17.2	-8.5
ROSA	**Rosais**	**3.30**	**299**	*e*P	Pn	14 17 45.5	-3.9
ROSA				*e*S	Sn	14 18 20.9	-8.4
PICO	**Pico**	**3.34**	**295**	*e*P	Pn	14 17 45.1	-4.8
PICO				*e*S	Sn	14 18 22.3	-8.0
CALA	**Caldeira**	**3.57**	**295**	*e*P	Pn	14 17 48.4	-4.7
CALA				*e*S	Sn	14 18 27.6	-8.4

*IDC **11** 14:37:32.9±1.1, 692S×1294E, h0km, mb3.9/4, mb1 4.1/8, mb1mx3.9/15, mbtmp4.0/8, ML3.9/4, Error ellipse: s-maj=45.4km s-min=19.3km az=76.0*
*NEIC **11** 14:37:48.1±1.9, 740S×1289E, h134km±20km, Error ellipse: s-maj=20.7km s-min=12.8km az=54.0*
*ISCJB **11** 14:37:50.4±1.4, 791S±009×1288E±007, h196km±16km, mb3.6/4, Error ellipse: s-maj=16.4km s-min=9.0km az=32.5*
ISC 11 14:37:50.5±1.4, 786S±009×1288E±008, h175km±15km, n14, σ1§00/19, mb3.7/4, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Kupang**	**5.60**	**245**	Pn	**Pn**	**14 39 13.1**	**+0.9**
	5.9nm,0.3s,baz=190,slow=3.1,SNR=8.5						
BATI				Sn	**Sn**	**14 40 16.1**	**-0.3**
	19nm,0.3s,baz=27,slow=13,SNR=16						
KAKA	**Kakadu**	**5.99**	**144**	*e*Pn	**Pn**	**14 39 18.6**	**+1.3**
KAKA				*e*Sn	**Sn**	**14 40 23.9**	**-1.8**
FITZ	**Fitzroy Crossi**	**10.64**	**197**	Pn	**Pn**	**14 40 19.4**	**+1.0**
	0.2nm,0.3s,baz=308,slow=23,SNR=8.5						
FITZ				Sn	**Sn**	**14 42 13.9**	**-2.7**
	1.0nm,0.3s,baz=94,slow=21,SNR=10.0						
WRAB	**Tennant Creek**	**13.14**	**156**	*e*Pn	**Pn**	**14 40 50.6**	**-0.1**
WRA	**Warramunga Arr**	**13.15**	**157**	Pn	**Pn**	**14 40 51.5**	**+0.7**
	0.5nm,0.3s,baz=332,slow=12,SNR=28						
WRA				Sn	**Sn**	**14 43 11.5**	**-5.3**
	1.4nm,0.3s,baz=333,slow=22,SNR=13						
MBWA	**Marble Bar**	**15.87**	**213**	*e*P	**Pn**	**14 41 29.3**	**+4.9**
ASAR	**Alice Springs**	**16.45**	**163**	P	**Pn**	**14 41 35.5**	**+4.0**
	0.5nm,0.3s,baz=341,slow=9.5,SNR=76						
ASAR				S	**S**	**14 44 34.7**	**+0.5**
	0.3nm,0.3s,baz=347,slow=26,SNR=6.5						
KSM	**Kuching**	**20.66**	**296**	*e*P	**P**	**14 42 16.4**	**-0.4**
STKA	**Stephens Creek**	**26.69**	**155**	P	**P**	**14 43 18.8**	**+5.4**
	1.3nm,0.4s,mb3.9,baz=338,slow=11,SNR=5.3						
SONM	**Songino Array**	**58.90**	**343**	P	**P**	**14 47 30.2**	**-0.7**
	0.2nm,0.5s,mb3.2,baz=159,slow=6.9,SNR=2.6						
MKAR	**Makanchi Array**	**68.31**	**328**	P	**P**	**14 48 32.7**	**+0.1**
MKAR	**Makanchi Array**	**68.31**	**328**	P	**P**	**14 48 32.7**	**+0.1**
	1.0nm,0.4s,mb3.9,baz=118,slow=8.2,SNR=11						
ZALV	**Zalesovo Beam**	**71.84**	**334**	P	**P**	**14 48 53.1**	**-0.9**
	1.0nm,0.6s,mb3.8,baz=117,slow=5.3,SNR=5.2						
KURK	**Kurchatov**	**72.65**	**329**	*e*P	**P**	**14 48 59.1**	**+0.4**

*IDC **11** 15:12:52.0±1.2, 700S×15475E, h0km, mb3.9/8, mb1 4.1/8, mb1mx3.9/15, mbtmp3.9/8, MS3.5/4, Ms1 3.5/4, ms1mx3.2/27, Error ellipse: s-maj=45.4km s-min=21.1km az=123.0*
*NEIC **11** 15:12:53.4±0.9, 700S×15478E, h10km, Error ellipse: s-maj=36.3km s-min=15.4km az=126.0*
*ISCJB **11** 15:12:55.5±1.0, 70S±02×1548E±02, h33km, mb3.7/8, MS3.6/3, Error ellipse: s-maj=37.6km s-min=15.9km az=36.5*
ISC 11 15:12:57.3±1.0, 70S±02×1548E±02, h35km, n15, σ1§00/10, mb3.7/8, MS3.6/3, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**15.38**	**212**	LR	LR	15 21 44.6	
	comp=Z,101nm,19.6s,baz=48,slow=35						
WB2	**Warramunga Arr**	**23.59**	**235**	*e*P	**P**	**15 18 06.3**	**+1.1**
WRA	**Warramunga Arr**	**23.60**	**235**	P	**P**	**15 18 04.5**	**-0.8**
	2.5nm,0.9s,mb3.7,baz=57,slow=8.7,SNR=12						
ASAR	**Alice Springs**	**25.97**	**228**	P	**P**	**15 18 25.3**	**-1.5**
	1.1nm,0.8s,mb3.4,baz=60,slow=8.8,SNR=11						
STKA	**Stephens Creek**	**27.61**	**205**	P	**P**	**15 18 41.6**	**+0.1**
	3.2nm,1.0s,mb3.9,baz=99,slow=8.3,SNR=4.0						
STKA				LR	LR	15 29 29.1	
	comp=Z,107nm,19.2s,MS3.4,baz=22,slow=36						
FITZ	**Fitzroy Crossi**	**30.42**	**246**	P	**P**	**15 19 07.9**	**+1.2**
	0.9nm,0.6s,mb3.7,baz=94,slow=14,SNR=2.9						
NWAO	**Narrogin (SRO)**	**43.29**	**228**	LR	LR	15 39 34.1	
	comp=Z,152nm,18.1s,MS3.9,baz=67,slow=37						
KSRS	**Korea Array**	**50.85**	**332**	LR	LR	15 41 33.8	
	comp=Z,30nm,18.0s,MS3.4,baz=330,slow=34						
SONM	**Songino Array**	**69.23**	**327**	P	**P**	**15 24 00.8**	**+0.2**
	0.2nm,0.4s,mb3.4,baz=126,slow=7.3,SNR=3.2						
MKAR	**Makanchi Array**	**83.27**	**319**	P	**P**	**15 25 19.9**	**-0.4**
	1.2nm,0.8s,mb4.0,baz=99,slow=5.0,SNR=12						
NVAR	**Mina Array Bea**	**91.93**	**52**	P	**P**	**15 26 03.7**	**+1.3**
	0.7nm,0.7s,mb4.1,baz=244,slow=4.5,SNR=6.5						
YKA	**Yellowknife Ar**	**96.47**	**28**	P	**P**	**15 26 21.4**	**-1.3**
YKA	**Yellowknife Ar**	**96.47**	**28**	P	**P**	**15 26 21.4**	**-1.3**
	0.1nm,0.3s,mb3.7,baz=272,slow=4.4,SNR=4.2						
TORD	**Torodi Ar. Bea**	**152.80**	**285**	PKPbc	PKPbc	15 32 52.5	+0.8
TORD				PKPab	PKPab	15 33 03.2	+0.6
TORD	**Torodi Ar. Bea**	**152.80**	**285**	PKPbc	PKPbc	15 32 52.5	+0.8
	0.5nm,0.8s,baz=69,slow=2.0,SNR=2.9						
TORD				PKPab	PKPab	15 33 03.2	+0.6
	0.7nm,0.7s,baz=52,slow=2.1,SNR=4.8						

*IDC **11** 15:29:51.5±3.2, 341.0S×17841W, h0km, mb4.2/2, mb1 4.4/3, mb1mx3.9/13, mbtmp4.2/3, ML4.1/1, MS3.4/1, Ms1 3.4/1, ms1mx2.9/25, Error ellipse: s-maj=75.0km s-min=36.4km az=123.0*
*NEIC **11** 15:29:52.7±1.8, 3404S×17837W, h10km, mb4.2/1, Error ellipse: s-maj=38.7km s-min=13.8km az=102.0*
ISC 11 15:29:57.2±2.4, 343S±05×1782W±07, h53km±57km, n16, σ0§77/18, mb4.1/3, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**4.32**	**220**	PN	**Pn**	**15 31 01.0**	**+0.7**
PUZ	**Puketiti**	**4.74**	**216**	*e*P	**Pn**	**15 31 06.6**	**+0.6**
PUZ	**Puketiti**	**4.74**	**216**	PN	**Pn**	**15 31 05.6**	**-0.4**
PUZ				SN	**Sn**	**15 31 58.5**	**-1.1**
RAO	**Raoul Island**	**5.01**	**3**	LR	LR	15 32 45.3	
	comp=Z,416nm,19.9s,baz=250,slow=36						
MWZ	**Matawai**	**5.31**	**219**	*e*P	**Pn**	**15 31 13.4**	**-0.4**
MWZ				S	**Sn**	**15 32 15.1**	**+1.5**
MWZ	**Matawai**	**5.31**	**219**	PN	**Pn**	**15 31 13.4**	**-0.4**
MWZ				SN	**Sn**	**15 32 15.1**	**+1.5**
URZ	**Urewera**	**5.48**	**222**	P	**Pn**	**15 31 15.3**	**-0.8**
URZ	**Urewera**	**5.48**	**222**	Pn	**Pn**	**15 31 15.6**	**-0.5**
	6.1nm,0.3s,baz=264,slow=0.5,SNR=51						
URZ				Sn	**Sn**	**15 32 17.4**	**-0.4**
	8.3nm,0.3s,baz=135,slow=21,SNR=8.5						
URZ	**Urewera**	**5.48**	**222**	PN	**Pn**	**15 31 15.3**	**-0.8**
URZ				SN	**Sn**	**15 32 17.4**	**-0.4**
KNZ	**Kokohu**	**5.77**	**214**	*e*PN	**Pn**	**15 31 21.4**	**+1.3**
PXZ	**Pawanui**	**6.96**	**213**	*e*PN	**Pn**	**15 31 35.6**	**-0.8**
PXZ				SN	Sx	15 32 52.3	
RPZ	**Rata Peaks**	**12.57**	**218**	Sn	Sx	15 34 59.4	
	0.4nm,0.3s,baz=3.2,slow=17,SNR=3.0						
ASAR	**Alice Springs**	**42.85**	**271**	P	**P**	**15 37 50.5**	**+0.3**
	2.2nm,0.7s,mb4.0,baz=112,slow=7.4,SNR=42						
WRAB	**Tennant Creek**	**44.18**	**276**	*e*P	**P**	**15 38 00.8**	**-0.1**
	2.2nm,0.5s,mb4.1						
WRA	**Warramunga Arr**	**44.18**	**276**	P	**P**	**15 38 00.8**	**-0.2**
	2.1nm,0.5s,mb4.1,baz=118,slow=7.5,SNR=49						
FINES	**FINESS Array B**	**148.67**	**338**	PKPbc	PKPbc	15 49 38.5	+1.0
	4.1nm,1.0s,baz=29,slow=4.4,SNR=5.2						

*IDC **11** 15:44:52.8±1.1, 3390S×17868W, h0km, mb4.4/6, mb1 4.5/7, mb1mx4.2/16, mbtmp4.4/7, ML4.7/1, Error ellipse: s-maj=31.5km s-min=26.8km az=25.0*
*NEIC **11** 15:44:54.5±0.8, 3397S×17863W, h10km, mb4.4/4, Error ellipse: s-maj=18.5km s-min=14.2km az=118.0*
ISC 11 15:44:58.4±0.9, 3413S±006×1787W±01, h35km, n48, σ1§32/47, mb4.4/8, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**4.18**	**214**	*e*P	**Pn**	**15 46 00.0**	**+0.3**
MXZ				S	**Sn**	**15 46 49.1**	**+1.8**
MXZ	**Matakaoa Point**	**4.18**	**214**	PN	**Pn**	**15 46 00.0**	**+0.3**
MXZ				SN	**Sn**	**15 46 49.1**	**+1.8**
PUZ	**Puketiti**	**4.62**	**211**	*e*P	**Pn**	**15 46 04.8**	**-1.0**
PUZ	**Puketiti**	**4.62**	**211**	PN	**Pn**	**15 46 04.8**	**-1.0**
MWZ	**Matawai**	**5.17**	**215**	*e*P	**Pn**	**15 46 12.8**	**-0.5**
MWZ				S	**Sn**	**15 47 14.2**	**+2.6**
MWZ	**Matawai**	**5.17**	**215**	PN	**Pn**	**15 46 12.1**	**-1.2**
MWZ				SN	**Sn**	**15 47 14.2**	**+2.5**
URZ	**Urewera**	**5.32**	**218**	*e*P	**Pn**	**15 46 16.1**	**+0.8**
URZ	**Urewera**	**5.32**	**218**	Pn	**Pn**	**15 46 15.2**	**-0.1**
	22nm,0.3s,baz=304,slow=1.6,SNR=125						
URZ				Sn	**Sn**	**15 47 16.9**	**+1.7**
	20nm,0.3s,baz=159,slow=22,SNR=13						
URZ	**Urewera**	**5.32**	**218**	PN	**Pn**	**15 46 15.1**	**-0.2**
URZ				SN	**Sn**	**15 47 16.7**	**+1.4**
KARZ	**Kaharoa**	**5.62**	**225**	P	**Pn**	**15 46 20.6**	**+1.1**
KARZ	**Kaharoa**	**5.62**	**225**	PN	**Pn**	**15 46 20.6**	**+1.1**
KARZ				SN	**Sn**	**15 47 26.9**	**+4.1**
KNZ	**Kokohu**	**5.67**	**210**	*e*P	**Pn**	**15 46 18.4**	**-1.7**
KNZ	**Kokohu**	**5.67**	**210**	PN	**Pn**	**15 46 19.1**	**-1.1**
BKZ	**Black Stump Fm**	**6.32**	**216**	SN	**Sn**	**15 47 40.3**	**+0.3**
PXZ	**Pawanui**	**6.86**	**210**	PN	**Pn**	**15 46 34.1**	**-2.3**
PXZ				SN	**Sn**	**15 47 51.3**	**-1.9**
WAZ	**Wanganui**	**7.53**	**220**	PN	**Pn**	**15 46 45.9**	**+0.2**
MRZ	**Mangatainoka R**	**7.93**	**213**	SN	**Sn**	**15 48 15.5**	**-4.1**
THZ	**Tophouse**	**10.08**	**218**	*e*P	**Pn**	**15 47 20.5**	**-0.1**
THZ	**Tophouse**	**10.08**	**218**	PN	**Pn**	**15 47 20.5**	**0.0**
KHZ	**Kahutara**	**10.26**	**214**	PN	**Pn**	**15 47 20.4**	**-2.6**
LTZ	**Lake Taylor**	**11.14**	**217**	SN	**Sn**	**15 49 29.2**	**-9.2**
RPZ	**Rata Peaks**	**12.43**	**217**	Pn	**Pn**	**15 47 50.4**	**-2.4**
	1.1nm,0.3s,baz=45,slow=20,SNR=4.6						
RPZ				Sn	**Sn**	**15 49 58.2**	**-12**
	2.0nm,0.3s,baz=210,slow=23,SNR=10						
STKA	**Stephens Creek**	**33.20**	**263**	*e*P	**P**	**15 51 33.5**	**+1.6**
	2.0nm,1.1s,mb4.0						
STKA	**Stephens Creek**	**33.20**	**263**	P	**P**	**15 51 32.8**	**+0.8**
	1.4nm,0.6s,mb4.1,baz=194,slow=7.0,SNR=3.0						
CTA	**Charters Tower**	**33.98**	**285**	*e*P	**P**	**15 51 40.3**	**+1.5**
	2.9nm,0.7s,mb4.3						
CTA	**Charters Tower**	**33.98**	**285**	P	**P**	**15 51 39.5**	**+0.8**
	3.1nm,0.5s,mb4.5,baz=132,slow=4.1,SNR=7.0						
CTAO	**Charters Tower**	**33.98**	**285**	P	**P**	**15 51 40.7**	**+1.9**
ASAR	**Alice Springs**	**42.43**	**271**	P	**P**	**15 52 49.8**	**-0.1**
	6.1nm,0.7s,mb4.3,baz=113,slow=7.3,SNR=108						
ASAR				PcP	PcP	15 54 41.9	-0.7
	0.5nm,0.5s,baz=124,slow=3.6,SNR=3.8						
WB2	**Warramunga Arr**	**43.74**	**276**	*e*P	**P**	**15 53 00.1**	**-0.5**
WRAB	**Tennant Creek**	**43.75**	**276**	*e*P	**P**	**15 52 59.9**	**-0.7**
	5.2nm,0.7s,mb4.4						
WRA	**Warramunga Arr**	**43.76**	**276**	P	**P**	**15 53 00.2**	**-0.5**
	6.4nm,0.5s,mb4.6,baz=118,slow=7.5,SNR=107						
KAKA	**Kakadu**	**49.08**	**284**	*e*P	**P**	**15 53 42.5**	**0.0**
	6.1nm,0.6s,mb4.8						
FITZ	**Fitzroy Crossi**	**51.84**	**273**	*e*P	**P**	**15 54 03.3**	**0.0**
	4.2nm,0.6s,mb4.5						
FITZ	**Fitzroy Crossi**	**51.84**	**273**	P	**P**	**15 54 01.8**	**-1.5**
	2.3nm,0.7s,mb4.2,baz=119,slow=12,SNR=7.2						
QSPA	**South Pole Qui**	**55.99**	**180**	*e*P	**P**	**15 54 35.6**	**+2.8**
QSPA	**South Pole Qui**	**55.99**	**180**	P	**P**	**15 54 34.9**	**+2.1**
	3.7nm,1.0s,mb4.4,baz=23,slow=0.4,SNR=5.1						
VNA3	**Neumayer Olymp**	**74.63**	**176**	*e*	**P**	**15 56 34.4**	**+0.8**
VNA3				*e*		15 56 37.4	
VNA3				*e*	pP	15 56 46.1	+1.6
VNA3				*e*		15 56 49.8	
VNA3				*e*		15 56 56.3	
VNA2	**Neumayer--Watz**	**75.06**	**177**	*e*	**P**	**15 56 37.3**	**+1.3**
VNA2				*e*		15 56 40.1	
VNA2				*e*	pP	15 56 48.8	+1.9
VNA2				*e*		15 56 52.3	
VNA2				*e*		15 56 59.6	
MKAR	**Makanchi Array**	**119.65**	**309**	PKP	PKPdf	16 03 43.5	-0.7
MKAR	**Makanchi Array**	**119.65**	**309**	PKP	PKPdf	16 03 43.5	-0.7
	0.3nm,0.5s,baz=186,slow=1.1,SNR=6.8						
ARCES	**ARCESS Array B**	**142.08**	**346**	PKP	PKPdf	16 04 23.2	-2.5
	3.5nm,0.9s,baz=54,slow=4.7,SNR=4.1						
JOF	**Joensuu**	**145.61**	**336**	*e*pkp	PKPdf	16 04 31.6	-0.5
KAF	**Kangasniemi**	**147.81**	**338**	*e*pkp	PKPdf	16 04 37.1	+1.3
FINES	**FINESS Array B**	**148.39**	**337**	PKPbc	PKPbc	16 04 39.8	-0.5
	7.6nm,0.9s,baz=56,slow=5.1,SNR=15						
NB2	**NORSAR Subarra**	**152.32**	**350**	PKP	PKPbc	16 04 50.0	+0.3
	comp=Z,3.1nm,0.9s,baz=16,slow=4.1						
NOA	**NORSAR Array B**	**152.32**	**350**	PKPbc	PKPbc	16 04 49.2	-0.5
	comp=Z,1.5nm,0.6s,baz=14,slow=4.1,SNR=5.0						
AKASG	**Malin Array Be**	**153.76**	**318**	PKPbc	PKPbc	16 04 52.4	-0.8
	comp=Z,0.4nm,0.4s,baz=56,slow=2.2,SNR=5.4						
TORD	**Torodi Ar. Bea**	**159.10**	**181**	PKPab	PKPab	16 05 31.0	+1.1
	comp=Z,0.7nm,0.9s,baz=142,slow=3.1,SNR=2.6						

IDC 11 15:47:41.5±1.1, 840S×15721E, h0km, mb4.0/5, mb1 4.1/6, mb1mx3.9/13, mbtmp4.0/6, ML4.2/1, MS3.7/2, Ms1 3.7/2, ms1mx2.9/23, Error ellipse: s-maj=35.3km s-min=27.1km az=64.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.89**	**111**	Pn	Pn	15 48 30.2	+1.3
	34nm,0.3s,baz=275,slow=5.4,SNR=20						
HNR				Sn	Sn	15 49 11.9	+7.6
	45nm,0.3s,baz=90,slow=18,SNR=12						
CTA	**Charters Tower**	**15.73**	**221**	LR	LR	15 56 31.9	
	comp=Z,84nm,21.9s,baz=242,slow=34						
WRA	**Warramunga Arr**	**24.93**	**240**	PcP	PcP	15 56 42.4	-0.1
	1.3nm,0.7s,baz=66,slow=2.6,SNR=9.9						
STKA	**Stephens Creek**	**27.51**	**210**	P	P	15 53 29.9	+0.1
	2.7nm,0.7s,baz=60,slow=12,SNR=8.3						
KSRS	**Korea Array**	**53.21**	**331**	P	P	15 57 03.3	+1.6
	0.7nm,0.6s,baz=151,slow=7.2,SNR=4.6						
SONM	**Songino Array**	**71.70**	**327**	P	P	15 59 06.0	+0.7
	0.9nm,0.8s,baz=131,slow=6.8,SNR=9.1						
MKAR	**Makanchi Array**	**85.91**	**318**	P	P	16 00 22.2	-1.2
	1.9nm,0.8s,baz=101,slow=6.3,SNR=16						
NEW	**Newport**	**93.33**	**42**	LR	LR	16 42 39.3	
	comp=Z,95nm,18.8s,baz=272,slow=35						
YKA	**Yellowknife Ar**	**96.54**	**28**	P	P	16 01 10.9	-1.9
	0.3nm,0.7s,baz=264,slow=3.8,SNR=4.4						

*PRU **11** 16:18:00.8, 5036N×1877E, h0km*
WAR 11 16:18:00.5, 5025N×1888E, ML2.5, Mining Induced, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OJC	**Ojcow**	**0.59**	**92**	*e*Pg	Pg	16 18 12.4	+0.6
OJC				*e*Sg	Sg	16 18 20.7	+1.2
OKC	**Ostrava-Krasne**	**0.62**	**229**	*e*PG	Pg	16 18 13.1	+0.7
OKC				*e*SG	Sg	16 18 20.9	+0.4
	41nm,1.1s						
KOLL	**Kolacno**	**1.70**	**191**	*e*SN	Sn	16 18 54.9	+1.2
STHS	**Stebnicka Huta**	**1.74**	**118**	*e*PN	Pn	16 18 33.7	+1.8
STHS				*e*SN	Sn	16 18 56.7	+1.9
VYHS	**Vyhne**	**1.75**	**181**	*e*PN	Pn	16 18 31.1	-1.0
VYHS				*e*SN	Sn	16 18 56.2	+1.1
KSP	**Ksiaz**	**1.75**	**291**	*e*Pn	Pn	16 18 34.1	+2.0
KSP				*e*Sn	Sn	16 18 57.5	+2.3
UPC	**Upice**	**1.85**	**279**	*e*PG	Pg	16 18 32.8	-3.2
UPC				*e*SG	Sg	16 18 58.7	-1.3
KECS	**Kecovo**	**2.05**	**149**	*e*SN	Sn	16 19 03.9	+1.4
CRVS	**Cervenica-Dubn**	**2.15**	**128**	*e*SN	Sn	16 19 10.1	+5.1
PRU	**Pruhonice**	**2.80**	**266**	*e*SG	Sg	16 19 27.2	-3.3
KHC	**Kasperske Hory**	**3.62**	**254**	*e*PN	Pn	16 18 58.4	+0.7
KHC				*e*PG	Pg	16 19 05.7	-4.1
KHC				*e*SG	Sg	16 19 54.1	-2.5
	5.3nm,0.7s						

*IDC **11** 16:26:31.0±0.9, 2147S×16925E, h0km, mb4.2/11, mb1 4.4/11, mb1mx4.4/15, mbtmp4.2/11, MS4.1/9, Ms1 4.1/9, ms1mx4.0/14, Error ellipse: s-maj=23.2km s-min=22.1km az=106.0*
*ISCJB **11** 16:26:35.1±0.3, 2145S±007×169.17E±006, h34km, mb4.8/35, MS4.4/13, Error ellipse: s-maj=10.9km s-min=8.2km az=160.9*
*MOS **11** 16:26:35.8±1.5, 2133S×169.11E, h33km, mb5.3/9, Error ellipse: s-maj=14.1km s-min=13.4km az=15.6*
*BJI **11** 16:26:35.6, 2121S×16922E, h32km, mB5.1, mb4.8, Ms5.1, Msz4.7*
*NEIC **11** 16:26:36.7±0.3, 2131S×169.16E, h35km, mb5.2/14, Error ellipse: s-maj=14.9km s-min=9.8km az=154.0*
*GCMT **11** 16:26:36.7±0.4, 2140S×16889E, h27km±1km, MW5.1/56, Moment Tensor Solution. s27,c29; s56,c72; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}=4.23±.26; $M_{\theta\theta}$-1.05±.16; $M_{\phi\phi}$-3.18±.18; $M_{r\theta}$-0.05±.29; $M_{\phi\theta}$1.23±.09; $M_{\theta r}$-2.66±.27; Best double couple: M_0=4.77400×10^{16} NP1:ϕ_s326.00000°, δ30.00000°, λ71.00000°. NP2: ϕ_s168.00000°, δ62.00000°, λ101.00000°. Principal axes: T 5.1160, Plg71.0000°, Azm103.0000°; N -0.6840, Plg10.0000

comp=Z,3.4nm,1.0s,mb4.3,baz=167,slow=6.6,SNR=5.4
MJAR LR LR 17 04 11.6
comp=Z,125nm,18.6s,MS4.1,baz=105,slow=35
QSPA South Pole Qui 68.61 180 P **P** **16 37 35.7 0.0**
comp=Z,3.6nm,1.0s,mb4.3,baz=38,slow=2.1,SNR=4.5
KSRS Korea Array 70.31 326 P **P** **16 37 46.9 +0.1**
comp=Z,0.3nm,0.5s,baz=159,slow=36,SNR=4.3
KSRS LR LR 17 05 29.9
comp=Z,106nm,18.4s,MS4.1,baz=347,slow=33
NJ2 Nanjing 71.78 316 *e*P **P** **16 37 56.4 +0.7**
NJ2 AMB AMB
comp=Z,60nm,1.2s,mb5.4
YSS Yuzh-Sakhalins 72.16 341 *e*P **P** **16 37 59.0 +1.4**
MDJ Mudanjiang 75.05 332 P **P** **16 38 17.0 +2.3**
MDJ AP pP 16 38 25.3 -0.5
MDJ XP sP 16 38 29.0 -1.0
MDJ S S 16 47 55.5 +5.4
MDJ AMB AMB
comp=Z,10.0nm,1.4s,mb4.5
MDJ AMB AMB
comp=Z,38nm,3.4s
MDJ LR LR
comp=Z,87nm,20.9s,MS4.0
HABR Khabarovsk 76.02 337 *e*P **P** **16 38 18.4 -1.8**
HABR *e* pP 16 38 30.0 -1.3
HABR *e* 16 38 32.9
HABR *e* 16 41 09.9
HABR *e*S S 16 47 55.4 -5.3
HABR *e* 16 48 28.2
HABR *e* 16 52 53.0
HABR *e* 16 56 11.6
HABR pmax pmax
comp=Z,38nm,2.7s,mb4.8
CN2 Changchun 76.33 329 *e*P **P** **16 38 19.1 -2.9**
CN2 *e*XP sP 16 38 33.6 -3.7
CN2 AMB AMB
comp=Z,10.0nm,1.3s,mb4.6
CN2 AMB AMB
comp=Z,110nm,5.0s
MAW Mawson 76.39 202 LR LR 17 07 25.1
comp=Z,250nm,19.5s,MS4.5,baz=74,slow=32
GYA Guiyang 77.07 305⇑ *i*P **P** **16 38 25.9 -0.7**
GYA AP pP 16 38 38.8 +1.0
GYA XP sP 16 38 42.6 +0.7
GYA PP PP 16 41 22.8 +2.1
GYA PPP 16 43 10.7
GYA S S 16 48 11.9 -1.2
GYA XS sS 16 48 29.7 -1.9
GYA SKS 16 48 31.9
GYA PS 16 48 55.7
GYA SS SS 16 53 11.4 +0.1
GYA AMB AMB
comp=Z,20nm,1.0s,mb5.0
GYA AMB AMB
comp=Z,250nm,8.4s
GYA LR LR
comp=N,870nm,20.8s,MS5.2
GYA LR LR
comp=E,660nm,21.2s,MS5.2
GYA LR LR
comp=Z,890nm,20.6s,MS5.1
BJI Beijing 78.64 321 P **P** **16 38 35.9 +0.9**
BJI S S 16 48 29.4 -0.1
BJI AMB AMB
comp=Z,8.0nm,1.3s,mb4.5
KMI Kunming 79.42 302 P **P** **16 38 41.3 +1.6**
KMI AP pP 16 38 52.7 +1.8
KMI S S 16 48 39.9 +1.4
KMI AMB AMB
comp=Z,6.0nm,1.1s,mb4.4
KMI LR LR
comp=N,127nm,12.4s,MS4.6
KMI LR LR
comp=E,119nm,14.0s,MS4.6
KMI LR LR
comp=Z,127nm,13.9s,MS4.4
XAN Xi'an 79.59 313 P **P** **16 38 41.3 +0.9**
XAN AP pP 16 38 49.9 -1.7
CD2 Chengdu 81.56 308 *e*P **P** **16 38 51.6 +0.6**
CD2 AP pP 16 39 02.1 -0.2
CD2 XP sP 16 39 06.2 -0.2
CD2 PP PP 16 42 00.6 +2.5
CD2 S S 16 49 00.1 -0.6
CD2 XS sS 16 49 17.5 -1.8
CD2 PS 16 49 51.5
CD2 SS SS 16 54 20.7 +2.0
CD2 AMB AMB
comp=Z,20nm,0.8s,mb5.1
CD2 AMB AMB
comp=Z,60nm,8.4s
CD2 LR LR
comp=N,160nm,19.2s,MS4.7
CD2 LR LR
comp=E,300nm,17.8s,MS4.7
CD2 LR LR
comp=Z,150nm,15.6s,MS4.5
HHC Hu-ho-hao-te 81.88 320 *e*P **P** **16 38 54.4 +1.9**
HHC AP pP 16 39 06.4 +2.7
HHC XP sP 16 39 10.1 +2.2
HHC PP PP 16 42 03.7 +3.2
HHC S S 16 49 06.6 +3.1
HHC SKS 16 49 08.7
HHC XS sS 16 49 21.3 -0.8
HHC PS 16 49 56.6
HHC SS SS 16 54 26.1 +3.1
HHC AMB AMB
comp=Z,13nm,0.3s,mb5.3
HHC AMB AMB
comp=Z,84nm,5.1s
HHC LR LR
comp=N,170nm,6.3s
HHC LR LR
comp=E,144nm,13.1s
HHC LR LR
comp=Z,127nm,8.4s
LZH Lanzhou 84.19 312 *e*P **P** **16 39 06.0 +1.5**
LZH AP pP 16 39 14.6 -1.2
LZH XP sP 16 39 19.9 0.0
LZH PP PP 16 42 19.0 -0.6
LZH SKS 16 49 20.0
LZH *e*S S 16 49 26.0 -1.2
LZH XS sS 16 49 44.0 -1.9
LZH SS SS 16 54 56.0 -1.5
LZH AMB AMB
comp=Z,31nm,1.5s,mb5.2
LZH AMB AMB
comp=Z,120nm,5.0s
LZH LR LR
comp=E,416nm,16.4s
LZH LR LR
comp=Z,667nm,17.9s,MS5.1
PMSA Palmer Station 84.85 160 *e*P **P** **16 39 09.9 +2.4**
comp=Z,95nm,0.7s
SEY Seymchan 85.15 352⇓ *e*P **P** **16 39 08.8 +0.1**
GAMB Gambell 86.25 8 *e*P **P** **16 39 14.0 -0.2**
comp=Z,24nm,1.1s,mb5.3
SNAA Sanae 86.96 183 *e*P **P** **16 39 19.5 +1.7**
SNAA *e* 16 39 21.9
SNAA *e* pP 16 39 30.3 +1.2
SNAA *e* 16 39 36.0
SNAA *e* 16 39 46.3
VNA3 Neumayer Olymp 87.55 180 *e*P **P** **16 39 21.7 +1.0**
VNA3 *e* 16 39 24.0
VNA3 *e* pP 16 39 33.1 +1.1
VNA3 *e* 16 39 39.3
VNA3 *e* 16 39 49.2
VNA3 *e* 17 00 35.0
VNA2 Neumayer--Watz 87.84 181 *e*P **P** **16 39 23.7 +1.6**
baz=186,slow=2.8
VNA2 *e* 16 39 25.8
VNA2 *e* pP 16 39 34.6 +1.2
VNA2 *e* 16 39 41.0
VNA2 *e* 16 39 50.8
VNA2 *e* 17 00 37.2
ULN Ulaanbaatar 88.62 323 *e*P **P** **16 39 25.2 -0.7**
comp=Z,8.0nm,1.1s,mb5.0
ULN Ulaanbaatar 88.62 323 *e*P **P** **16 39 25.2 -0.8**
ULN pmax pmax
comp=Z,8.0nm,1.1s,mb5.0
GTA Gaotai 88.62 313 *e*P **P** **16 39 27.1 +0.9**
GTA AP pP 16 39 36.7 -0.9
GTA XP sP 16 39 40.7 -1.0
GTA PP PP 16 42 57.4 +2.0
GTA PPP 16 44 57.2
GTA SKS 16 49 50.3
GTA S S 16 50 10.1 -0.1
GTA SS SS 16 56 02.6 +0.2
GTA AMB AMB
comp=Z,120nm,7.2s
GTA LR LR
comp=N,132nm,12.9s,MS4.7
GTA LR LR
comp=E,159nm,15.2s,MS4.7
GTA LR LR
comp=Z,117nm,14.5s,MS4.4
CMB Columbia Colle 88.64 48 *e*P **P** **16 39 26.4 0.0**
comp=Z,7.4nm,0.9s,mb5.0
CMB Columbia Colle 88.64 48 *e*P **P** **16 39 26.4 +0.1**
CMB pmax pmax
comp=Z,7.0nm,0.9s,mb5.0
ISA Isabella 88.89 51 *e*P **P** **16 39 28.1 +0.5**
comp=Z,53nm,1.7s,mb5.6
ISA Isabella 88.89 51 *e*P **P** **16 39 28.1 +0.6**
ISA pmax pmax
comp=Z,53nm,1.7s,mb5.6
YAK Yakutsk 88.97 343 *i*P **P** **16 39 28.0 +0.8**
YAK pmax pmax
comp=Z,5.0nm,0.9s,mb4.8
SONM Songino Array 88.97 323 P **P** **16 39 27.5 -0.1**
comp=Z,1.5nm,0.9s,mb4.3,baz=145,slow=3.6,SNR=12
SONM LR LR 17 20 58.3
comp=Z,91nm,18.2s,MS4.2,baz=273,slow=37
BILL Bilibino 89.25 359 *e*P **P** **16 39 27.4 -1.1**
comp=Z,24nm,1.2s,mb5.4
BILL Bilibino 89.25 359 *c i*P **P** **16 39 28.0 -0.5**
BILL pmax pmax
comp=Z,15nm,1.3s,mb5.2
SML Sawmill 89.63 19 P **P** **16 39 28.9 -1.4**
GLA Glamis 90.43 55 *e*P **P** **16 39 33.4 -1.4**
comp=Z,34nm,1.2s,mb5.6
GLA Glamis 90.43 55 *e*P **P** **16 39 33.4 -1.4**
GLA pmax pmax
comp=Z,34nm,1.2s,mb5.5
TPNV Topopah Spring 91.07 51 *e*P **P** **16 39 38.0 +0.3**
comp=Z,16nm,1.2s,mb5.2
TPNV Topopah Spring 91.07 51 *e*P **P** **16 39 38.0 +0.3**
TPNV pmax pmax
comp=Z,16nm,1.2s,mb5.2
BOD Bodaibo 91.30 334 *e*P **P** **16 39 37.3 -0.9**
WVOR Wild Horse Val 91.89 45 *e*P **P** **16 39 41.2 -0.2**
comp=Z,25nm,1.4s,mb5.3
WVOR Wild Horse Val 91.89 45 *e*P **P** **16 39 41.2 -0.2**
WVOR pmax pmax
comp=Z,25nm,1.4s,mb5.3
ZAK Zakamensk 92.07 324 *e*P **P** **16 39 41.7 -0.3**
ZAK pmax pmax
comp=Z,4.0nm,1.6s,mb4.5
ZAK pmax pmax
comp=Z,2.0nm,1.2s,mb4.3
EGAK Eagle 94.01 19 *e*P **P** **16 39 49.6 -1.0**
comp=Z,22nm,1.5s,mb5.4
TXAR Lajitas Array 97.84 62 P **P** **16 40 07.5 -1.4**
comp=Z,0.1nm,0.2s,mb3.9,baz=228,slow=54,SNR=3.1
WMQ Urumqi 98.71 314 *e*P **P** **16 40 13.0 +0.5**
WMQ AMB AMB
comp=Z,7.0nm,1.4s,mb5.0
WMQ AMB AMB
comp=Z,149nm,5.4s
YKA Yellowknife Ar 102.63 28 P Pdif 16 40 30.0 +0.1
comp=Z,0.3nm,0.7s,baz=259,slow=5.0,SNR=4.9
MKAR Makanchi Array 103.29 315 Pdiff Pdif 16 40 33.0 +0.2
comp=Z,0.5nm,0.7s,baz=104,slow=5.1,SNR=7.1
APA Apatity 126.31 341⇑ *i*PKiKP PKPdf 16 45 29.4 -5.6
APA pmax pmax
comp=Z,65nm,1.7s
VYHS Vyhne 144.11 326 *e*PKP PKPdf 16 46 07.8 -0.8
UPC Upice 144.17 331 *e*PKP PKPdf 16 46 06.9 -1.7
PVCC Panska Ves 144.81 332 *e*PKP PKPdf 16 46 09.3 -0.4
BRG Berggiesshubel 144.83 333 *e*PKPbc PKPdf 16 46 07.7 -2.1
BRG Berggiesshubel 144.83 333 *e*PKP PKPdf 16 46 08.8 -1.0
comp=Z,12nm,1.2s
CLL Collm 144.90 334 *e*PKP PKPdf 16 46 12.0 +2.1
CLL Collm 144.90 334 *e*PKPdf PKPdf 16 46 09.0 -0.9
comp=Z,7.0nm,0.9s
CLL *e*PKiKP PKiKP 16 46 14.0 +0.3
CLL *ep*PKPdf pPKPdf 16 46 21.0 -0.6
CLL *ex* x 16 46 32.0
MODS Modra-Piesok 144.99 327 *e*PKP PKPdf 16 46 10.2 +0.1
ZST Bratislava 145.20 327 *e*PKP PKPdf 16 46 11.3 +0.8
PRU Pruhonice 145.21 331 *e*PKP PKPdf 16 46 10.4 -0.1
TREC Trest 145.26 329 *e*PKP PKPdf 16 46 10.8 +0.2
CLZ Clausthal 145.50 337 *e*PKPbc PKPbc 16 46 09.7 -1.3
TANN Tannenbergstha 145.80 333 *e*PKPbc PKPbc 16 46 12.7 +0.7
NKC Novy Kostel 145.94 333 *e*PKP PKPdf 16 46 12.6 +0.9
MOX Moxa 145.97 334 *e*PKPbc PKPbc 16 46 12.3 -0.2
SKO Skopje 146.09 315 *e*PKP PKPdf 16 46 13.7 +1.4
KHC Kasperske Hory 146.26 331 *e*PKP PKPdf 16 46 13.8 +1.5
KHC *e* 16 46 20.5
KHC Kasperske Hory 146.26 331 *e*PKP PKPdf 16 46 13.8 +1.5
KHC *p*PKP pPKPdf 16 46 20.5 -3.5
MANZ Manzenberg 146.27 333 *e*PKPbc PKPbc 16 46 13.9 +0.5
GEC2 GERESS Array S 146.41 330 *e*PKPbc PKPbc 16 46 13.9 0.0
GERES GERESS Array B 146.41 330 PKPbc PKPbc 16 46 13.0 -0.9
comp=Z,2.0nm,0.8s,baz=34,slow=0.4,SNR=8.5
KRUS Krusevo 146.49 314 *e*PKP PKPdf 16 46 15.2 +2.3
GRA1 Grafenberg Arr 146.87 334 *e*PKP PKPdf 16 46 15.3 +2.0
GRF Grafenberg Arr 146.87 334 *e*PKP PKPdf 16 46 15.3 +2.0
OHR Ohrid 146.91 314 *e*PKP PKPdf 16 46 05.7 -7.9
CDF Champ du Feu 149.45 336 *e*PKP2 PKPbc 16 46 21.8 -0.2
comp=Z,18nm,1.1s
LDF La Druitiere 151.60 345 *e*PKP2 PKPbc 16 46 29.7 +2.5
comp=Z,14nm,1.0s
LOR Lormes 151.65 339 *e*PKP2 PKPbc 16 46 30.1 +2.8
comp=Z,9.2nm,0.8s
SSF Saint Saulge 151.95 339 *e*PKP2 PKPbc 16 46 30.8 +2.8
GRR Gorron 151.97 346 *e*PKP2 PKPbc 16 46 30.6 +2.6
comp=Z,26nm,1.0s
LPG La Plagne 152.03 333 *e*PKP2 PKPbc 16 46 32.6 +4.4
comp=Z,16nm,1.1s
TORD Torodi Ar. Bea 165.51 237 PKP PKPdf 16 46 38.5 0.0
comp=Z,1.1nm,0.8s,baz=135,slow=1.0,SNR=5.0

*IDC **11** 16:28:06.2±1.3, 1408S×16780E, h0km, mb4.5/8, mb1 4.5/8, mb1mx4.2/17, mbtmp4.4/8, MS4.0/2, Ms1 4.0/2, ms1mx3.6/16, Error ellipse: s-maj=31.8km s-min=28.5km az=160.0*
*NEIC **11** 16:28:07.5±1.0, 1403S×16776E, h10km, mb4.5/1, Error ellipse: s-maj=24.7km s-min=22.2km az=154.0*
*ISCJB **11** 16:28:09.7±1.1, 142S±02×1677E±02, h33km, mb4.3/8, MS4.0/2, Error ellipse: s-maj=25.2km s-min=23.2km az=179.6*
ISC 11 16:28:11.4±1.1, 141S±02×1678E±02, h35km, n11, σ0°98/9, mb4.3/8, MS4.0/2, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**25.45**	**163**	P	**P**	**16 33 36.6**	**+0.6**
	6.0nm,0.6s,mb4.3,baz=30,slow=8.1,SNR=6.4						
STKA	**Stephens Creek**	**29.78**	**229**	*e*P	**P**	**16 34 14.9**	**-0.1**
	4.7nm,0.6s,mb4.4						
STKA	**Stephens Creek**	**29.78**	**229**	P	**P**	**16 34 14.6**	**-0.4**
	6.3nm,0.7s,mb4.5,baz=31,slow=6.4,SNR=10.0						
WRA	**Warramunga Arr**	**32.47**	**255**	P	**P**	**16 34 37.6**	**-1.2**
	0.6nm,0.5s,mb3.7,baz=83,slow=7.4,SNR=8.5						
WRA				LR	LR	16 45 26.2	
	comp=Z,600nm,20.8s,MS4.3,baz=85,slow=32						
ASAR	**Alice Springs**	**33.37**	**248**	P	**P**	**16 34 46.0**	**-0.6**
	3.5nm,0.8s,mb4.3,baz=77,slow=9.8,SNR=11						
FITZ	**Fitzroy Crossi**	**40.63**	**259**	P	**P**	**16 35 48.3**	**0.0**
	2.4nm,0.7s,mb4.0,baz=82,slow=14,SNR=4.0						
BATI	**Kupang**	**43.26**	**270**	P	**P**	**16 36 11.4**	**+1.5**
	27nm,0.8s,mb5.0,baz=90,slow=5.1,SNR=4.3						
SONM	**Songino Array**	**82.29**	**323**	LR	LR	17 11 07.5	
	comp=Z,47nm,21.7s,MS3.8,baz=274,slow=31						
YKA	**Yellowknife Ar**	**96.76**	**27**	P	**P**	**16 41 36.8**	**-1.3**
	0.3nm,0.8s,mb3.8,baz=251,slow=4.7,SNR=2.8						
MKAR	**Makanchi Array**	**97.10**	**316**	P	**P**	**16 41 41.3**	**+1.3**
	2.0nm,0.8s,mb4.6,baz=101,slow=6.4,SNR=17						
TORD	**Torodi Ar. Bea**	**166.45**	**268**	PKPab	PKPab	16 49 16.1	+0.1
	1.0nm,0.9s,baz=121,slow=4.4,SNR=4.0						

IGQ 11 16:31:34.7, 072S×8146W, h10km±17km, Mb4.4, Ms4.2, 11C-8D, Error ellipse: s-maj=17.9km s-min=8.1km az=24.1, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAG1	**Magdalena**	**1.80**	**69**	⇑P	Pn	16 32 08.4	+2.6
MAG1	**Magdalena**	**1.80**	**69**	⇑S	Sn	16 32 30.8	+2.0
PINO	**Pino**	**2.91**	**79**	⇑P	Pn	16 32 21.4	+0.3
PINO	**Pino**	**2.91**	**79**	⇑S	Sn	16 32 57.1	+1.0
TERV	**Terraza Guagua**	**2.91**	**79**	⇓P	Pn	16 32 22.7	+1.7
IGUA	**Igualata**	**2.92**	**105**	⇓P	Pn	16 32 23.6	+2.4
VC1	**Cotopaxi 1**	**3.06**	**89**	⇓P	Pn	16 32 26.0	+2.9
TAMB	**Tambo**	**3.09**	**90**	⇑P	Pn	16 32 27.2	+3.6
TAMB	**Tambo**	**3.09**	**90**	⇑S	Sn	16 33 06.5	+5.8
RETU	**Refugio**	**3.10**	**104**	⇓P	Pn	16 32 27.7	+3.9
ARRY	**Arrayan**	**3.10**	**105**	⇑P	Pn	16 32 25.8	+2.0
ARRY	**Arrayan**	**3.10**	**105**	⇑S	Sn	16 32 59.4	-1.6
PATA	**Patacocha**	**3.12**	**104**	⇓P	Pn	16 32 26.9	+2.8
PATA	**Patacocha**	**3.12**	**104**	⇓S	Sn	16 33 01.4	0.0
COTA	**Cotacachi**	**3.29**	**72**	P	Pn	16 32 28.6	+2.2
COTA	**Cotacachi**	**3.29**	**72**	S	Sn	16 33 07.3	+1.7
ANTI	**Antisana**	**3.31**	**85**	⇑P	Pn	16 32 29.4	+2.8
CAYR	**Refugio Cayamb**	**3.53**	**78**	⇑P	Pn	16 32 34.0	+4.4
CAYR	**Refugio Cayamb**	**3.53**	**78**	⇑S	Sn	16 33 14.4	+2.9
CAYA	**Cayambe**	**3.56**	**77**	⇓P	Pn	16 32 33.7	+3.7
CAYA	**Cayambe**	**3.56**	**77**	⇓S	Sn	16 33 14.7	+2.5

*NNC **11** 16:40:30.8±1.1, 4065N×7157E, h0km, mb3.7, mpv3.6, Error ellipse: s-maj=9.7km s-min=5.3km az=21.0*
ISC 11 16:40:31.1±4.7, 403N±04×715E±02, h35km, n11, σ0°63/12, 3C-1D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**2.52**	**41**	P	**Pn**	**16 41 08.7**	**-0.7**
	SNR=93						
KK31	**Karatay Array**	**2.94**	**346**	Pn	**Pn**	**16 41 16.6**	**+1.3**
	18nm,0.5s,baz=150,slow=12,SNR=278						
KK31				⇓Lg		16 41 52.0	
	70nm,0.3s,baz=159,slow=30,SNR=13						
EKS2	**Erkin-Say**	**2.97**	**35**	P	**Pn**	**16 41 15.5**	**-0.1**
	SNR=10						
UCH	**Uchtor**	**3.03**	**48**	P	**Pn**	**16 41 16.4**	**-0.1**
	SNR=16						
AAK	**Ala-Archa**	**3.29**	**43**	P	**Pn**	**16 41 19.8**	**-0.2**
	SNR=9.7						
KZA	**Kyzart**	**3.39**	**56**	P	**Pn**	**16 41 22.2**	**+0.8**
	SNR=9.3						
KBK	**Karagaybulak**	**3.55**	**46**	P	**Pn**	**16 41 24.3**	**+0.7**
	SNR=7.8						
USP	**Ospenovka**	**3.77**	**36**	P	**Pn**	**16 41 25.9**	**-0.8**
	SNR=6.2						
TKM2	**Tokmak 2**	**4.08**	**48**	⇑Pn	**Pn**	**16 41 30.6**	**-0.3**
	8.8nm,0.5s						
TKM2				⇑Lg		16 42 30.0	
TKM2	**Tokmak 2**	**4.08**	**48**	P	**Pn**	**16 41 31.1**	**+0.1**
	SNR=15						
AB31	**Akbulak array**	**12.16**	**322**	Pn	**Pn**	**16 43 21.0**	**-0.7**
	0.1nm,0.3s,baz=0.0,slow=0.1,SNR=10						
AB31				⇑Sn	**Sn**	**16 45 35.9**	**0.0**
	1.2nm,0.6s						

*NEIC **11** 16:47:02.1, 1934N×6779W, h20km, MD3.2(RSPR), After RSPR.*
RSPR 11 16:47:02.1, 1934N×6779W, h20km±39km, MD3.1/14, MD3.1/14, 11C-3D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGPR	**Aguadilla, PR**	**1.08**	**144**⇓	*e*P	Pn	16 47 18.6	-3.5
AGPR				*e*S	Sb	16 47 32.3	-3.5
LSP	**Las Mesas**	**1.34**	**150**⇑	*e*P	Pn	16 47 22.4	-3.2
LRS	**Lares**	**1.38**	**139**⇑	*e*P	Pn	16 47 22.9	-3.2
LRS				*e*S	Sn	16 47 40.2	-3.6
AOPR	**Arecibo Observ**	**1.39**	**135**⇑	*e*P	Pn	16 47 23.6	-2.8
AOPR				*e*S	Sn	16 47 41.2	-3.0
CRPR	**Cabo Rojo, PR**	**1.48**	**154**⇑	*e*P	Pn	16 47 25.4	-2.1
CRPR				*e*S	Sn	16 47 42.5	-3.8
GBPR	**Guanica, Bosqu**	**1.61**	**148**⇑	*e*P	Pn	16 47 27.3	-2.1
GBPR	**Guanica, Bosqu**	**1.61**	**148**	*e*S	Sn	16 47 46.5	-3.1
CELP	**Cerrillos**	**1.70**	**138**⇑	*e*P	Pn	16 47 28.1	-2.6
CELP				*e*S	Sn	16 47 49.0	-2.9
OBIP	**Obispado Ponce**	**1.71**	**139**⇓	*e*P	Pn	16 47 28.3	-2.5
OBIP				*e*S	Sn	16 47 48.4	-3.7
ICM	**Isla Caja Muer**	**1.88**	**140**⇑	*e*P	Pn	16 47 31.1	-2.0
ICM				*e*S	Sn	16 47 52.9	-3.3
SJG	**San Juan**	**1.98**	**128**⇑	*e*P	Pn	16 47 32.4	-2.0
SJG				*e*S	Sn	16 47 55.2	-3.4
SJG	**San Juan**	**1.98**	**128**⇑	*e*P	Pn	16 47 32.8	-1.6
SJG				*e*S	Sn	16 47 55.3	-3.3
CBYP	**Canovanas**	**2.12**	**120**⇓	*e*P	Pn	16 47 33.2	-3.1
CBYP				*e*S	Sn	16 47 59.0	-3.0
HUMP	**Col San Antoni**	**2.19**	**123**⇑	*e*P	Pn	16 47 35.8	-1.6
HUMP				*e*S	Sn	16 48 00.8	-3.1
MTP	**Monte Pirata**	**2.46**	**120**⇑	*e*P	Pn	16 47 38.2	-2.7
MTP				*e*S	Sn	16 48 06.8	-3.6
SDDR	**Presa de Saban**	**3.33**	**264**	*e*P	Pn	16 47 57.3	+4.3
SDDR				S	Sn	16 48 38.8	+6.8

*ISCJB **11** 17:02:25.7±0.3, 4832N±002×660E±002, h11km±4km, Error ellipse: s-maj=3.1km s-min=2.6km az=163.0*
*LDG **11** 17:02:27.7±0.1, 4833N×664E, h8km, Md2.6/4, Ml2.8/14, Error ellipse: s-maj=1.5km s-min=1.3km az=142.0*
*CSEM **11** 17:02:27.5±0.1, 4834N×665E, h12km, ML2.7/14, Error ellipse: s-maj=1.3km s-min=1.0km az=162.0*
*STR **11** 17:02:27.3±0.2, 4836N×667E, h10km, Ml2.4, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
*NEIC **11** 17:02:27.7, 4833N×664E, h8km, ML2.8(LDG), ML2.4(STR), After LDG.*
ISC 11 17:02:26.8±0.3, 4832N±002×662E±002, h16km±4km, n51, σ0°99/104, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HAU	**Haudompre**	**0.36**	**210**	*e*Pg	**Pg**	**17 02 35.5**	**+1.3**
HAU				*e*Sg	**Sg**	**17 02 40.0**	**+0.8**
	56nm,0.2s						
HAU	**Haudompre**	**0.36**	**210**	*e*Pg	**Pg**	**17 02 35.5**	**+1.3**
HAU				*e*Sg	**Sg**	**17 02 40.0**	**+0.8**
	28nm,0.2s						
ECH	**Echery**	**0.38**	**106**	Pg	**Pg**	**17 02 34.8**	**+0.4**
ECH				Sg	**Sg**	**17 02 39.3**	**-0.3**
THEF	**They Montfort**	**0.43**	**258**	Pg	**Pg**	**17 02 36.5**	**+1.0**
THEF				Sg	**Sg**	**17 02 42.8**	**+1.5**
CDF	**Champ du Feu**	**0.45**	**78**	*e*Pg	**Pg**	**17 02 35.9**	**+0.1**
CDF				*e*Sg	**Sg**	**17 02 41.4**	**-0.4**
	33nm,0.2s						
CDF				*e*Sn	**Sg**	**17 02 44.6**	**+2.8**
CDF	**Champ du Feu**	**0.45**	**78**	*e*Pg	**Pg**	**17 02 35.9**	**+0.1**
CDF				*e*Sg	**Sg**	**17 02 41.4**	**-0.4**
	16nm,0.2s						
CDF				*e*Sn	**Sg**	**17 02 44.6**	**+2.8**
HINF	**Hinteralfeld**	**0.53**	**163**	*e*Pg	**Pg**	**17 02 38.0**	**+0.8**
HINF				*e*Sg	**Sg**	**17 02 44.8**	**+0.5**
	57nm,0.2s						
HINF				*e*Sn	**Sg**	**17 02 48.0**	**+3.7**
HINF	**Hinteralfeld**	**0.53**	**163**	*e*Pg	**Pg**	**17 02 38.0**	**+0.8**
HINF				*e*Sg	**Sg**	**17 02 44.8**	**+0.5**
	28nm,0.2s						
HINF				*e*Sn	**Sg**	**17 02 48.0**	**+3.7**
MOF	**Molkenrain**	**0.58**	**143**	Pg	**Pg**	**17 02 39.0**	**+0.8**
RFYF	**Reffroy**	**0.82**	**293**	*e*Pg	**Pg**	**17 02 44.0**	**+1.2**
	baz=112						
RFYF				*e*Sn	**Sn**	**17 02 55.7**	**+0.2**
	68nm,0.2s,baz=104						
RFYF	**Reffroy**	**0.82**	**293**	*e*Pg	**Pg**	**17 02 44.0**	**+1.2**
RFYF				*e*Sn	**Sn**	**17 02 55.7**	**+0.2**
	34nm,0.2s						
LOMF	**Lomont**	**0.98**	**172**	Pg	**Pg**	**17 02 46.6**	**+0.9**
LANF	**Langenberg**	**1.03**	**49**	Pg	**Pg**	**17 02 46.4**	**-0.3**
LANF				Sg	**Sg**	**17 02 59.2**	**-0.9**
FELD	**Feldberg im Sc**	**1.03**	**115**	Pg	**Pg**	**17 02 47.4**	**+0.7**
FELD				Sg	**Sg**	**17 03 00.4**	**+0.3**
MEZF	**Maizieres J'vi**	**1.06**	**280**	*e*Pg	**Pg**	**17 02 47.9**	**+0.6**
	baz=101						
MEZF				*e*Sg	**Sg**	**17 03 02.0**	**+0.9**
	32nm,0.3s,baz=110						
MEZF	**Maizieres J'vi**	**1.06**	**280**	*e*Pg	**Pg**	**17 02 47.9**	**+0.6**
MEZF				*e*Sg	**Sg**	**17 03 02.0**	**+0.9**
	16nm,0.3s						
SFTF	**Sexfontaines**	**1.06**	**264**	*e*Pg	**Pg**	**17 02 48.6**	**+1.3**
SFTF				*e*Sg	**Sg**	**17 03 02.7**	**+1.5**
	26nm,0.2s						
SFTF	**Sexfontaines**	**1.06**	**264**	*e*Pn	**Pn**	**17 02 48.0**	**+1.0**

SFTF				*e*Pg	**Pg**	**17 02 48.6**	**+1.3**
SFTF				*e*Sg	**Sg**	**17 03 02.7**	**+1.5**
SFTF	**Sexfontaines**	**1.06**	**264**	*e*Pg	**Pg**	**17 02 48.6**	**+1.3**
SFTF				*e*Sg	**Sg**	**17 03 02.7**	**+1.5**
	13nm,0.2s						
BFO	**Black Forest**	**1.14**	**89**	*e*Pg	**Pg**	**17 02 49.2**	**+0.4**
	SNR=1.4						
BFO				*e*Sg	**Sg**	**17 03 01.7**	**-2.0**
WLF	**Walferdange**	**1.38**	**347**	*e*Pg	**Pg**	**17 02 53.9**	**+0.6**
	SNR=2.3						
WLF				*e*Sg	**Sg**	**17 03 11.6**	**+0.3**
RUP	**Ruppelstein**	**1.41**	**12**	Pg	**Pg**	**17 02 54.0**	**0.0**
RUP				Sg	**Sg**	**17 03 11.8**	**-0.6**
CABF	**La Chapelle**	**1.75**	**192**	*e*Pg	**Pg**	**17 03 01.0**	**+0.7**
CABF				*e*Sg	**Sg**	**17 03 23.0**	**0.0**
	6.4nm,0.2s						
CABF	**La Chapelle**	**1.75**	**192**	*e*Pn	**Pn**	**17 02 57.4**	**+1.0**
CABF				*e*Pg	**Pg**	**17 03 01.0**	**+0.7**
CABF				*e*Sg	**Sg**	**17 03 23.0**	**0.0**
CABF	**La Chapelle**	**1.75**	**192**	*e*Pg	**Pg**	**17 03 01.0**	**+0.7**
CABF				*e*Sg	**Sg**	**17 03 23.0**	**0.0**
	3.2nm,0.2s						
GIVF	**Givet**	**2.14**	**327**	*e*Pg	**Pg**	**17 03 07.3**	**-0.5**
GIVF				*e*Sg	**Sg**	**17 03 32.8**	**-2.7**
	11nm,0.2s						
GIVF	**Givet**	**2.14**	**327**	*e*Pn	**Pn**	**17 03 02.3**	**+0.5**
GIVF				*e*Pg	**Pg**	**17 03 07.3**	**-0.5**
GIVF				*e*Sg	**Sg**	**17 03 32.8**	**-2.7**
GIVF	**Givet**	**2.14**	**327**	*e*Pn	**Pn**	**17 03 02.3**	**+0.5**
GIVF				*e*Sg	**Sg**	**17 03 32.8**	**-2.7**
	5.3nm,0.2s						
LOR	**Lormes**	**2.14**	**242**	*e*Pg	**Pg**	**17 03 07.8**	**0.0**
	baz=66						
LOR				*e*Sg	**Sg**	**17 03 35.1**	**-0.4**
	14nm,0.3s,baz=62						
LOR	**Lormes**	**2.14**	**242**	*e*Pn	**Pn**	**17 03 02.1**	**+0.3**
LOR				*e*Pg	**Pg**	**17 03 07.8**	**0.0**
LOR				*e*Sg	**Sg**	**17 03 35.1**	**-0.4**
LOR	**Lormes**	**2.14**	**242**	*e*Pg	**Pg**	**17 03 07.8**	**0.0**
LOR				*e*Sg	**Sg**	**17 03 35.1**	**-0.4**
	7.1nm,0.3s						
BAIF	**Baives**	**2.35**	**319**	*e*Pg	**Pg**	**17 03 11.1**	**-0.8**
BAIF				*e*Sg	**Sg**	**17 03 40.5**	**-1.9**
	4.8nm,0.3s						
BAIF	**Baives**	**2.35**	**319**	*e*Pg	**Pg**	**17 03 11.1**	**-0.8**
BAIF				*e*Sg	**Sg**	**17 03 40.5**	**-1.9**
	2.4nm,0.3s						
SSF	**Saint Saulge**	**2.45**	**240**	*e*Pg	**Pg**	**17 03 13.1**	**-0.6**
SSF				*e*Sg	**Sg**	**17 03 44.3**	**-1.2**
	6.0nm,0.3s						
SSF	**Saint Saulge**	**2.45**	**240**	*e*Pn	**Pn**	**17 03 06.5**	**+0.4**
SSF				*e*Pg	**Pg**	**17 03 13.1**	**-0.6**
SSF				*e*Sg	**Sg**	**17 03 44.3**	**-1.2**
SSF	**Saint Saulge**	**2.45**	**240**	*e*Pg	**Pg**	**17 03 13.1**	**-0.6**
SSF				*e*Sg	**Sg**	**17 03 44.3**	**-1.2**
	3.0nm,0.3s						
SMF	**Signal de Mont**	**2.52**	**229**	*e*Pg	**Pg**	**17 03 14.0**	**-1.1**
SMF				*e*Sg	**Sg**	**17 03 46.7**	**-1.1**
	18nm,0.3s						
SMF	**Signal de Mont**	**2.52**	**229**	*e*Pg	**Pg**	**17 03 14.0**	**-1.1**
SMF				*e*Sg	**Sg**	**17 03 46.7**	**-1.1**
	9.2nm,0.3s						
AVF	**Avril sur Loir**	**2.69**	**237**	*e*Pg	**Pg**	**17 03 18.0**	**-0.3**
AVF				*e*Sg	**Sg**	**17 03 52.1**	**-1.1**
	4.0nm,0.2s						
AVF	**Avril sur Loir**	**2.69**	**237**	*e*Pn	**Pn**	**17 03 09.7**	**+0.3**
AVF				*e*Pg	**Pg**	**17 03 18.0**	**-0.3**
AVF				*e*Sg	**Sg**	**17 03 52.1**	**-1.1**
AVF	**Avril sur Loir**	**2.69**	**237**	*e*Pg	**Pg**	**17 03 18.0**	**-0.3**
AVF				*e*Sg	**Sg**	**17 03 52.1**	**-1.1**
	2.0nm,0.2s						
LPL	**La Plagne**	**2.81**	**178**	*e*Pg	**Pg**	**17 03 20.3**	**-0.2**
LPG	**La Plagne**	**2.83**	**178**	*e*Pg	**Pg**	**17 03 20.1**	**-0.8**
LPG				*e*Sg	**Sg**	**17 03 56.7**	**-0.8**
	1.9nm,0.3s						
LPG	**La Plagne**	**2.83**	**178**	*e*Pg	**Pg**	**17 03 20.1**	**-0.8**
LPG				*e*Sg	**Sg**	**17 03 56.7**	**-0.8**
	0.9nm,0.3s						
HYF	**Humbligny**	**2.88**	**250**	*e*Pg	**Pg**	**17 03 22.7**	**+0.7**
BGF	**Bois d'Agland**	**3.11**	**237**	*e*Pg	**Pg**	**17 03 25.2**	**-1.1**
BGF				*e*Sg	**Sg**	**17 04 03.8**	**-2.8**
	12nm,0.3s						
BGF	**Bois d'Agland**	**3.11**	**237**	*e*Pg	**Pg**	**17 03 25.2**	**-1.1**
BGF				*e*Sg	**Sg**	**17 04 03.8**	**-2.8**
	5.8nm,0.3s						
ORIF	**Oris-en-Rattie**	**3.44**	**189**	*e*Sg	**Sg**	**17 04 16.0**	**-1.2**
	3.4nm,0.3s						
ORIF	**Oris-en-Rattie**	**3.44**	**189**	*e*Sg	**Sg**	**17 04 16.0**	**-1.2**
	1.7nm,0.3s						
VIVF	**Saint-Julien-l**	**3.71**	**202**	*e*Sg	**Sg**	**17 04 23.6**	**-2.4**
	1.8nm,0.2s						
VIVF	**Saint-Julien-l**	**3.71**	**202**	*e*Sg	**Sg**	**17 04 23.6**	**-2.4**
	0.9nm,0.2s						

*ISCJB **11** 17:13:03.2±1.9, 859S±007×15756E±006, h2km±11km, mb4.4/24, MS3.9/9, Error ellipse: s-maj=12.3km s-min=10.3km az=1.6*
*BJI **11** 17:13:04.4, 8.13S×15795E, h6km, mB5.0, mb4.6, Ms4.9, Msz4.6*
*IDC **11** 17:13:04.8±1.0, 860S×15743E, h0km, mb4.2/9, mb1 4.4/10, mb1mx4.2/14, mbtmp4.2/10, ML3.8/1, MS3.3/4, Ms1 3.3/4, ms1mx3.1/20, Error ellipse: s-maj=31.3km s-min=20.0km az=97.0*
*NEIC **11** 17:13:05.7±0.5, 865S×15765E, h10km, mb4.6/7, Error ellipse: s-maj=15.5km s-min=10.5km az=137.0*
*MOS **11** 17:13:07.1±1.0, 880S×15769E, h33km, mb4.4/5, Error ellipse: s-maj=20.3km s-min=14.1km az=147.2*

ISC 11 17:13:08.0±2.2, 863S±008×15755E±007, h21km±15km, h13km±1.0km: pP-P, n44, σ0§89/49, mb4.3/24, MS3.9/9, 1C-1D, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.50**	**109**	*e*Pn	**Pn**	**17 13 42.9**	**-4.7**
HNR				*e*Sn	**Sn**	**17 14 22.9**	**+5.5**
HNR	**Honiara**	**2.50**	**109**	Pn	**Pn**	**17 13 43.1**	**-4.4**
	56nm,0.3s,baz=255,slow=4.7,SNR=17						
HNR				Sn	**Sn**	**17 14 17.8**	**+0.4**
	192nm,0.3s,baz=275,slow=19,SNR=4.0						
HNR				LR	LR	17 14 40.0	
	comp=Z,278nm,20.6s,baz=359,slow=36						
CTA	**Charters Tower**	**15.78**	**223**	Pn	**Pn**	**17 16 47.0**	**-2.1**
	0.2nm,0.3s,baz=63,slow=9.0,SNR=2.1						
CTAO	**Charters Tower**	**15.78**	**223**	*e*Pn	**Pn**	**17 16 53.7**	**+4.5**
KAKA	**Kakadu**	**25.00**	**258**	*e*P	**P**	**17 18 30.9**	**+0.2**
	11nm,0.8s,mb4.5						
WRAB	**Tennant Creek**	**25.09**	**241**	*e*P	**P**	**17 18 32.4**	**+0.9**
	12nm,0.8s,mb4.5						
WRAB	**Tennant Creek**	**25.09**	**241**	*c i*P	**P**	**17 18 31.3**	**-0.2**
WB2	**Warramunga Arr**	**25.10**	**241**	*e*P	**P**	**17 18 31.3**	**-0.2**
WRA	**Warramunga Arr**	**25.11**	**241**	*i*P	**P**	**17 18 31.6**	**0.0**
WRA				pmax	pmax		
	comp=Z,12nm,0.8s						
WRA	**Warramunga Arr**	**25.11**	**241**	P	**P**	**17 18 31.2**	**-0.4**
	comp=Z,12nm,0.8s,mb4.5,baz=67,slow=9.3,SNR=77						
GUMO	**Guam**	**25.41**	**330**	LR	LR	17 25 39.2	
	comp=Z,46nm,20.6s,MS3.0,baz=96,slow=30						
ASAR	**Alice Springs**	**27.12**	**234**	P	**P**	**17 18 48.4**	**-1.5**
	comp=Z,2.7nm,1.0s,mb3.8,baz=68,slow=9.1,SNR=19						
STKA	**Stephens Creek**	**27.48**	**210**	*e*P	**P**	**17 18 54.9**	**+2.0**
	comp=Z,5.9nm,0.7s,mb4.2						
STKA	**Stephens Creek**	**27.48**	**210**	P	**P**	**17 18 52.6**	**-0.3**
	comp=Z,6.6nm,0.7s,mb4.3,baz=33,slow=12,SNR=19						
STKA				LR	LR	17 28 51.8	
	comp=Z,113nm,18.2s,MS3.5,baz=23,slow=34						
URZ	**Urewera**	**34.37**	**152**	P	**P**	**17 19 54.9**	**+1.2**
	comp=Z,3.6nm,0.7s,mb4.4,baz=291,slow=8.6,SNR=2.8						
URZ				LR	LR	17 30 43.3	
	comp=Z,114nm,19.0s,MS3.6,baz=238,slow=31						
KSRS	**Korea Array**	**53.57**	**331**	P	**P**	**17 22 27.6**	**0.0**
	comp=Z,0.9nm,0.7s,mb3.8,baz=144,slow=7.1,SNR=4.3						
NJ2	**Nanjing**	**54.78**	**319**	*e*P	**P**	**17 22 36.5**	**0.0**
MDJ	**Mudanjiang**	**58.70**	**337**	P	**P**	**17 23 04.1**	**0.0**
MDJ				AMB	AMB		
	comp=Z,6.0nm,1.1s,mb4.5						
MDJ				AMB	AMB		
	comp=Z,61nm,5.2s						
CN2	**Changchun**	**59.75**	**334**	*e*P	**P**	**17 23 12.7**	**+1.3**
HABR	**Khabarovsk**	**60.22**	**343**	*e*P	**P**	**17 23 07.1**	**-7.4**
HABR				*e*		17 23 58.9	
HABR				*e*		17 25 23.7	
HABR				*e*		17 35 18.8	
GYA	**Guiyang**	**60.45**	**307**	P	**P**	**17 23 17.0**	**+0.5**
GYA				AP	pP	17 23 21.8	-1.4
GYA				XP	sP	17 23 24.6	-1.1
GYA				PCP	PcP	17 24 03.4	+2.1
GYA				PP	PP	17 25 33.2	+3.1
GYA				SCP	ScP	17 28 02.8	+1.2
GYA				S	**S**	**17 31 30.9**	**-0.1**
GYA				PS		17 31 46.6	
GYA				SCS	ScS	17 33 05.2	-1.4
GYA				SS	SS	17 35 29.6	+0.3
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.9						
GYA				AMB	AMB		
	comp=Z,80nm,4.7s						
GYA				LR	LR		
	comp=N,470nm,19.9s,MS4.8						
GYA				LR	LR		
	comp=E,460nm,19.4s,MS4.8						
GYA				LR	LR		
	comp=Z,390nm,19.0s,MS4.6						
BJI	**Beijing**	**61.69**	**325**	P	**P**	**17 23 23.4**	**-1.3**
BJI				S	**S**	**17 31 45.4**	**-0.9**
BJI				AMB	AMB		
	comp=Z,3.0nm,0.8s,mb4.5						
BJI				LR	LR		
	comp=Z,199nm,36.2s,MS4.0						
KMI	**Kunming**	**63.02**	**304**	P	**P**	**17 23 34.9**	**+1.0**
KMI				AP	pP	17 23 38.0	-2.6
KMI				XP	sP	17 23 39.3	-3.8
KMI				S	**S**	**17 32 04.3**	**+0.7**
KMI				AMB	AMB		
	comp=Z,6.0nm,1.8s,mb4.4						
KMI				LR	LR		
	comp=Z,28nm,14.4s,MS3.6						
CD2	**Chengdu**	**64.79**	**310**	*e*P	**P**	**17 23 46.5**	**+1.0**
CD2				XP	sP	17 23 53.5	-1.2
CD2				PP	PP	17 26 10.5	+2.2
CD2				S	**S**	**17 32 24.1**	**-1.3**
CD2				SS	SS	17 36 36.4	-0.8
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.9						
CD2				AMB	AMB		
	comp=Z,20nm,6.8s						
CD2				LR	LR		
	comp=N,120nm,16.5s						
CD2				LR	LR		
	comp=Z,150nm,18.4s,MS4.2						
HHC	**Hu-ho-hao-te**	**64.90**	**323**	*e*P	**P**	**17 23 46.8**	**+0.8**
HHC				AP	pP	17 23 50.9	-1.8
HHC				XP	sP	17 23 54.2	-1.0
HHC				PP	PP	17 26 08.6	-0.4
HHC				PCS		17 28 23.8	
HHC				S	**S**	**17 32 27.8**	**+1.4**
HHC				XS	sS	17 32 33.8	-3.6
HHC				PS		17 32 44.4	
HHC				SCS	ScS	17 33 38.0	-1.8
HHC				SS	SS	17 36 34.9	-3.6
HHC				AMB	AMB		
	comp=Z,14nm,0.4s,mb5.3						
HHC				AMB	AMB		
	comp=Z,108nm,4.9s						
HHC				LR	LR		
	comp=N,129nm,6.1s						
HHC				LR	LR		
	comp=E,134nm,4.7s						
HHC				LR	LR		
	comp=Z,98nm,15.9s,MS4.1						
LZH	**Lanzhou**	**67.25**	**315**	*e*P	**P**	**17 24 06.1**	**+4.9**
LZH				AP	pP	17 24 09.5	+1.6
LZH				XP	sP	17 24 11.0	+0.6
LZH				AMB	AMB		
	comp=Z,17nm,1.5s,mb4.8						
LZH				AMB	AMB		
	comp=Z,68nm,4.1s						
GTA	**Gaotai**	**71.65**	**316**	P	**P**	**17 24 30.0**	**+1.6**
GTA				AP	pP	17 24 33.6	-1.5
GTA				XP	sP	17 24 35.9	-1.7
GTA				PP	PP	17 27 10.8	+3.1
GTA				PPP		17 28 52.3	
GTA				S	S	17 33 47.7	+0.7
GTA				XS	sS	17 33 55.7	-2.4
GTA				PS		17 34 19.3	
GTA				SKS		17 34 28.1	
GTA				SS	SS	17 38 25.3	+2.3
GTA				AMB	AMB		
	comp=Z,1.0nm,0.8s,mb3.8						
GTA				AMB	AMB		
	comp=Z,98nm,6.8s						
GTA				LR	LR		
	comp=N,118nm,16.4s,MS4.5						
GTA				LR	LR		
	comp=E,165nm,16.7s,MS4.5						
GTA				LR	LR		
	comp=Z,124nm,16.0s,MS4.3						
SONM	**Songino Array**	**72.07**	**327**	P	**P**	**17 24 31.5**	**+0.8**
	comp=Z,0.8nm,0.8s,mb3.7,baz=136,slow=4.4,SNR=7.4						
ZAK	**Zakamensk**	**75.21**	**327**	*e*P	**P**	**17 24 47.9**	**-1.2**
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.5s,mb3.8						
TNA	**Tin City**	**78.26**	**14**	*e*P	**P**	**17 25 05.7**	**-0.3**
	comp=Z,1.9nm,0.9s,mb4.0						
SVW2	**Sparrevohn**	**78.57**	**21**	*e*P	**P**	**17 25 08.0**	**+0.3**
TTA	**Tatalina**	**79.67**	**20**	*e*P	**P**	**17 25 13.8**	**+0.1**
	comp=Z,6.0nm,0.9s,mb4.5						
TTA	**Tatalina**	**79.67**	**20**	*e*P	**P**	**17 25 13.8**	**0.0**
TTA				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.5						
SML	**Sawmill**	**81.72**	**23**	*e*P	**P**	**17 25 24.5**	**-0.2**
TIXI	**Tiksi**	**82.33**	**351**	*e*P	**P**	**17 25 26.5**	**-1.2**
	comp=Z,11nm,1.7s,mb4.5						
TIXI	**Tiksi**	**82.33**	**351**	*i*P	**P**	**17 25 27.3**	**-0.5**
TIXI				pmax	pmax		
	comp=Z,3.0nm,1.5s,mb4.0						
IMA2	**Indian Mountai**	**82.54**	**18**	*e*P	**P**	**17 25 28.6**	**-0.4**
COLA	**College**	**83.70**	**20**	*e*P	**P**	**17 25 33.8**	**-1.2**
	comp=Z,9.5nm,1.0s,mb4.9						
COLA	**College**	**83.70**	**20**	*d i*P	**P**	**17 25 34.0**	**-0.9**
MAW	**Mawson**	**83.87**	**203**	P	**P**	**17 25 35.9**	**0.0**
	comp=Z,8.4nm,1.2s,mb4.8,baz=140,slow=7.9,SNR=4.9						
MKAR	**Makanchi Array**	**86.29**	**318**	*i*P	**P**	**17 25 48.2**	**-0.2**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
MKAR	**Makanchi Array**	**86.29**	**318**	P	**P**	**17 25 47.5**	**-0.9**
	comp=Z,0.6nm,0.7s,mb4.0,baz=109,slow=5.5,SNR=9.2						
YKA	**Yellowknife Ar**	**96.59**	**28**	P	**P**	**17 26 34.8**	**-1.2**
	comp=Z,0.2nm,0.6s,mb3.8,baz=261,slow=4.7,SNR=5.9						
OBN	**Obninsk**	**114.48**	**327**	*e*PKIKP	PKiKP	17 31 45.7	-0.7
OBN				pmax	pmax		
	comp=Z,3.0nm,1.0s						

*CSEM **11** 17:19:14.8±0.2, 4378N×4605E, h30km, mb4.4, Error ellipse: s-maj=5.3km s-min=2.2km az=36.0*
*MOS **11** 17:19:14.5±0.8, 4356N×4561E, h146km, mb4.4/1, Error ellipse: s-maj=12.8km s-min=10.7km az=10.8*
*ISCJB **11** 17:19:16.0±0.7, 4372N±004×4597E±004, h33km, Error ellipse: s-maj=6.6km s-min=3.4km az=30.0*

ISC 11 17:19:17.6±0.6, 4372N±004×4590E±004, h35km, n40, σ1§43/73, 5C-2D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRKR	**Terskaya**	**0.84**	**271**	*i*P	**Pn**	**17 19 37.4**	**+4.4**
TRKR				*i*S	**Sn**	**17 19 55.1**	**+11**
SNJR	**Sundja**	**1.02**	**231**	*i*P	**Pn**	**17 19 37.8**	**+2.4**
SNJR				*i*S	**Sn**	**17 19 56.3**	**+7.8**
BTKR	**Batakoyurt**	**1.04**	**251**	*i*P	**Pn**	**17 19 38.7**	**+3.0**
BTKR				*i*S	**Sn**	**17 19 57.3**	**+8.3**
BTLR	**Botlikh**	**1.08**	**167**	*e*P	**Pn**	**17 19 36.2**	**0.0**
BTLR				*i*S	**Sn**	**17 19 54.0**	**+4.2**
BTLR				pmax	pmax		
	comp=Z,79nm,0.2s						
BTLR	**Botlikh**	**1.08**	**167**	*e*P	**Pn**	**17 19 36.2**	**0.0**
	comp=Z,79nm,0.2s						
BTLR				*i*S	**Sn**	**17 19 54.0**	**+4.2**
VLKR	**Vladikavkaz**	**1.11**	**233**	*i*P	**Pn**	**17 19 38.8**	**+2.2**
VLKR				*i*S	**Sn**	**17 19 57.7**	**+7.0**
PRTR	**Priterechnaya**	**1.17**	**272**	*i*P	**Pn**	**17 19 39.8**	**+2.4**
PRTR				*i*S	**Sn**	**17 19 59.3**	**+7.1**
KMSR	**Komsomolskaya**	**1.22**	**254**	*i*P	**Pn**	**17 19 40.3**	**+2.2**
KMSR				*i*S	**Sn**	**17 20 00.4**	**+7.1**
ARNR	**Ardon**	**1.29**	**247**	*i*P	**Pn**	**17 19 40.4**	**+1.3**
ARNR				*i*S	**Sn**	**17 19 59.6**	**+4.5**
XNZR	**Khunzakh**	**1.31**	**153**	*i*P	**Pn**	**17 19 42.5**	**+3.1**
XNZR				*i*S	**Sn**	**17 20 03.0**	**+7.3**
XNZR				pmax	pmax		
	comp=Z,220nm,0.2s						
XNZR	**Khunzakh**	**1.31**	**153**	*i*P	**Pn**	**17 19 42.5**	**+3.1**
	comp=Z,220nm,0.2s						
XNZR				*i*S	**Sn**	**17 20 03.0**	**+7.3**
MAK	**Makhachkala**	**1.40**	**122**	⇓*i*P	**Pn**	**17 19 45.0**	**+4.5**
MAK				*i*		17 20 10.0	
MAK				pmax	pmax		
	comp=Z,161nm,0.2s						
MAK				smax			
	comp=E,1.0nm,0.4s						
MAK	**Makhachkala**	**1.40**	**122**	*i*P	**Pn**	**17 19 45.0**	**+4.5**
MAK				*i*S	**Sn**	**17 20 10.0**	**+12**
LACR	**Lac**	**1.47**	**233**	*i*P	**Pn**	**17 19 41.0**	**-0.5**
LACR				*i*S	**Sn**	**17 20 01.3**	**+1.8**
KORR	**Kora**	**1.47**	**245**	*i*P	**Pn**	**17 19 41.8**	**+0.2**
KORR				*i*S	**Sn**	**17 20 02.2**	**+2.6**
LSNR	**Lesken**	**1.58**	**254**	*i*P	**Pn**	**17 19 42.9**	**-0.1**
LSNR				*i*S	**Sn**	**17 20 04.2**	**+2.0**
MNSR	**Manas**	**1.67**	**127**	⇑*i*P	**Pn**	**17 19 47.0**	**+2.6**
MNSR				*i*S	**Sn**	**17 20 12.4**	**+7.8**
MNSR				pmax	pmax		
	comp=Z,135nm,0.2s						
MNSR	**Manas**	**1.67**	**127**	*i*P	**Pn**	**17 19 47.0**	**+2.6**
	comp=Z,135nm,0.2s						
MNSR				*i*S	**Sn**	**17 20 12.4**	**+7.8**
ZEI	**Tsey**	**1.74**	**238**	*i*P	**Pn**	**17 19 43.7**	**-1.6**
ZEI				*i*S	**Sn**	**17 20 05.5**	**-0.7**
KUBR	**Kubataba**	**1.80**	**274**	*c i*P	**Pn**	**17 19 45.5**	**-0.7**
KUBR	**Kubataba**	**1.80**	**274**	*i*P	**Pn**	**17 19 45.5**	**-0.7**
DIGR	**Digorskoe uzhe**	**1.88**	**245**	*i*P	**Pn**	**17 19 45.3**	**-1.9**
DIGR				*i*S	**Sn**	**17 20 08.4**	**-1.2**
PYA	**Pyatigorsk**	**2.08**	**280**	*i*P	**Pn**	**17 19 48.0**	**-1.9**
ONI	**Oni**	**2.12**	**238**	P	**Pn**	**17 19 49.0**	**-1.5**
ONI				S	**Sn**	**17 20 14.7**	**-0.9**
TBLG	**Delisi**	**2.16**	**204**	*e*P	**Pn**	**17 19 49.9**	**-1.1**
TBLG				*e*S	**Sn**	**17 20 16.3**	**-0.2**
TBLG	**Delisi**	**2.16**	**204**	P	**Pn**	**17 19 49.9**	**-1.1**
TBLG				S	**Sn**	**17 20 16.3**	**-0.2**
GOR	**Gori**	**2.17**	**218**	P	**Pn**	**17 19 50.0**	**-1.2**
GOR				S	**Sn**	**17 20 17.5**	**+0.6**
MTA	**Mtatsminda**	**2.18**	**202**	P	**Pn**	**17 19 50.0**	**-1.3**
MTA				S	**Sn**	**17 20 16.5**	**-0.5**
KIV	**Kislovodsk**	**2.34**	**277**	*c i*P	**Pn**	**17 19 51.1**	**-2.4**
SHAR	**Shatzhatmas**	**2.34**	**272**	*c i*P	**Pn**	**17 19 51.2**	**-2.3**
GOF	**Gofitskoye**	**2.45**	**304**	⇑*i*P	**Pn**	**17 19 54.5**	**-0.6**
GOF				*i*S	**Sn**	**17 20 24.5**	**+0.7**
GOF				pmax	pmax		
	comp=Z,60nm,0.5s						
GOF				smax			
	comp=N,520nm,0.8s						
GOF				smax			
	comp=E,240nm,0.8s						
GOF	**Gofitskoye**	**2.45**	**304**	*i*P	**Pn**	**17 19 54.5**	**-0.6**
	comp=E,60nm,0.5s						
GOF				*i*S	**Sn**	**17 20 24.5**	**+0.7**
SEKA	**Sheki**	**2.68**	**159**	P	**Pn**	**17 19 57.4**	**-0.8**
	SNR=64						
SEKA				S	**Sn**	**17 20 29.3**	**-0.2**
GANJ	**Ganja**	**3.08**	**174**	P	**Pn**	**17 20 01.5**	**-2.2**
	SNR=21						
GANJ				S	**Sn**	**17 20 35.9**	**-3.5**
SIZA	**Siyzn**	**3.45**	**139**	P	**Pn**	**17 20 08.3**	**-0.5**
	SNR=27						
SIZA				S	**Sn**	**17 20 50.3**	**+1.9**
PQL	**Pirkuli**	**3.54**	**145**	P	**Pn**	**17 20 09.4**	**-0.7**
	SNR=5.8						
PQL				S	**Sn**	**17 20 50.2**	**-0.5**
BRDA	**Brd**	**3.58**	**164**	P	**Pn**	**17 20 09.9**	**-0.7**
	SNR=6.1						
BRDA				S	**Sn**	**17 20 51.6**	**0.0**
ALIB	**Ii-Bayraml**	**4.41**	**147**	P	**Pn**	**17 20 22.2**	**+0.2**
	SNR=3.0						
ALIB				S	**Sn**	**17 21 13.3**	**+1.1**
NAX	**Nakhchivan**	**4.55**	**184**	P	**Pn**	**17 20 22.5**	**-1.4**
	SNR=13						
AB31	**Akbulak array**	**11.15**	**55**	Pn	**Pn**	**17 21 49.3**	**-5.1**
	comp=E,0.2nm,0.2s,baz=246,slow=13,SNR=22						
AB31				⇓Sn	**Sn**	**17 23 49.1**	**-8.6**
	comp=E,1.4nm,0.3s,baz=245,slow=21,SNR=12						

*CSEM **11** 17:19:25.7, 2426N×3671E, h0km, ML3.8, After SNSN*

SGS 11 17:19:25.7, 2426N×3671E, h4km, Red Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOBS		**1.85**	**87**	P	Pn	17 19 57.0	-1.3
YOBS				S	Sn	17 20 20.5	-1.7
WJHS		**2.48**	**353**	P	Pn	17 20 05.6	-1.2
SHMS		**3.92**	**135**	P	Pn	17 20 24.7	-2.0
FDAS		**4.14**	**125**	P	Pn	17 20 28.9	-0.9
FRAS	**Faraa**	**4.75**	**131**	P	Pn	17 20 36.9	-1.2

*MOS **11** 17:44:26.8±1.1, 7876N×12575E, h10km, mb4.2/6, Error ellipse: s-maj=61.0km s-min=14.5km az=90.1*
*IDC **11** 17:44:27.0±0.8, 7886N×12569E, h0km, mb3.7/9, mb1 3.9/9, mb1mx3.7/23, mbtmp3.7/9, MS3.5/3, Ms1 3.5/3, ms1mx2.9/28, Error ellipse: s-maj=29.7km s-min=15.2km az=148.0*
*ISCJB **11** 17:44:27.1±0.4, 7880N±008×1257E±03, h10km, mb3.8/14, MS3.4/3, Error ellipse: s-maj=11.1km s-min=8.1km az=169.7*
*NEIC **11** 17:44:28.7±0.4, 7882N×12566E, h10km, mb4.3/3, Error ellipse: s-maj=10.7km s-min=8.8km az=168.0*

ISC 11 17:44:28.9±0.4, 7881N±007×1257E±03, h10km, n33, σ0§87/34, mb3.8/14, MS3.4/3, East of Severnaya Zemlya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIXI	**Tiksi**	**7.24**	**172**	*e*Pn	**Pn**	**17 46 11.9**	**-2.7**
	4.6nm,0.6s						
TIXI				*e*Sn	**Sn**	**17 47 25.5**	**-11**
TIXI	**Tiksi**	**7.24

YKA	**Yellowknife Ar**	**34.54**	**45**	P	**P**	**17 51 15.8**	**-1.0**
	comp=Z,0.1nm,0.3s,mb3.2,baz=353,slow=4.7,SNR=3.5						
NOA	**NORSAR Array B**	**35.18**	**310**	P	**P**	**17 51 21.7**	**-0.6**
	comp=Z,1.2nm,0.8s,mb3.9,baz=97,slow=18,SNR=2.9						
MKAR	**Makanchi Array**	**35.90**	**234**	P	**P**	**17 51 28.6**	**0.0**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
MKAR	**Makanchi Array**	**35.90**	**234**	P	**P**	**17 51 28.0**	**-0.6**
	comp=Z,1.0nm,0.7s,mb3.8,baz=6.6,slow=7.8,SNR=15						
MKAR				LR	LR	18 07 20.6	
	comp=Z,67nm,18.6s,MS3.4,baz=342,slow=38						
DLBC	**Dease Lake**	**36.02**	**60**	P	**P**	**17 51 30.0**	**+0.5**
DLBC	**Dease Lake**	**36.02**	**60**	P	**P**	**17 51 30.0**	**+0.5**
	baz=345,slow=19						
OBN	**Obninsk**	**36.45**	**285**	*e*P	**P**	**17 51 33.8**	**+0.6**
OBN				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.4						
AKASG	**Malin Array Be**	**42.02**	**289**	*i* P	**P**	**17 52 20.6**	**+0.8**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.5s						
KIV	**Kislovodsk**	**45.94**	**274**	*e*P	**P**	**17 52 52.4**	**+1.1**
KIV	**Kislovodsk**	**45.94**	**274**	*e*P	**P**	**17 52 52.4**	**+1.1**
NVAR	**Mina Array Bea**	**57.33**	**57**	P	**P**	**17 54 15.8**	**-0.7**
	comp=Z,0.3nm,0.6s,mb3.5,baz=353,slow=4.6,SNR=3.8						
TXAR	**Lajitas Array**	**68.47**	**45**	P	**P**	**17 55 29.9**	**-0.8**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
TXAR	**Lajitas Array**	**68.47**	**45**	P	**P**	**17 55 29.4**	**-1.3**
	comp=Z,1.0nm,0.8s,mb3.9,baz=4.8,slow=3.0,SNR=7.3						
TORD	**Torodi Ar. Bea**	**83.39**	**306**	P	**P**	**17 56 54.4**	**-1.6**
	comp=Z,0.7nm,0.9s,mb3.7,baz=358,slow=4.5,SNR=3.7						

CASC 11 17:46:44.7±1.2, 896N×8297W, h6km±6km, MD3.9, 2C-2D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BAR1		**0.44**	**310**	⇑*e*P	Pg	17 46 53.0	-0.1
BAR1				*e*S	Sg	17 47 00.1	+1.2
CNI	**Changuinola**	**0.64**	**45**	⇓*i*P	Pg	17 46 56.6	-0.4
URSC	**Urasca**	**1.18**	**318**	*e*P	Pg	17 47 06.7	-0.7
URSC				*e*S	Sg	17 47 23.9	+1.2
LCR2	**La Lucha 2**	**1.28**	**308**	*e*P	Pn	17 47 07.9	-1.3
LCR2				*e*S	Sg	17 47 26.0	+0.1
LAJ	**Bijagual**	**1.45**	**309**	⇓*e*P	Pn	17 47 15.7	+4.3
LAJ				*e*S	Sn	17 47 38.7	+8.0
PRS1	**Puriscal**	**1.67**	**308**	⇑*e*P	Pn	17 47 13.8	-0.7
PRS1				*e*S	Sn	17 47 36.1	-0.1
CGA2	**Cerro Gallo 2**	**1.81**	**306**	*e*P	Pn	17 47 16.0	-0.5
CGA2				*e*S	Sn	17 47 40.4	+0.7

IDC 11 17:56:00.6±13.0, 528N×12329E, h449km±167km, mb2.8/3, mb1 3.1/4, mb1mx2.7/19, mbtmp3.0/4, Error ellipse: s-maj=204.4km s-min=23.4km az=58.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Kupang**	**15.39**	**179**	P	P	17 59 16.4	+0.4
	0.7nm,0.3s,baz=288,slow=16,SNR=2.6						
WRA	**Warramunga Arr**	**27.32**	**157**	P	P	18 01 06.6	-1.2
	0.6nm,0.7s,baz=332,slow=10,SNR=6.1						
ASAR	**Alice Springs**	**30.58**	**161**	P	P	18 01 36.9	+0.7
	0.8nm,0.5s,baz=340,slow=7.2,SNR=33						
MKAR	**Makanchi Array**	**54.35**	**326**	P	P	18 04 43.6	0.0
	0.6nm,0.5s,baz=119,slow=7.4,SNR=19						

IDC 11 17:56:22.7±3.7, 693S×15548E, h0km, mb3.8/6, mb1 3.9/6, mb1mx3.8/14, mbtmp3.8/6, Error ellipse: s-maj=108.9km s-min=26.1km az=115.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.25**	**236**	P	P	18 01 41.7	+0.1
	0.8nm,0.4s,baz=60,slow=9.3,SNR=28						
ASAR	**Alice Springs**	**26.58**	**229**	P	P	18 02 01.6	-1.2
	0.5nm,1.0s,baz=56,slow=9.9,SNR=4.5						
FITZ	**Fitzroy Crossi**	**31.12**	**246**	P	P	18 02 44.4	+1.2
	1.1nm,0.7s,baz=72,slow=9.6,SNR=3.2						
SONM	**Songino Array**	**69.54**	**327**	P	P	18 07 35.0	+1.7
	0.5nm,0.5s,baz=144,slow=6.8,SNR=6.7						
MKAR	**Makanchi Array**	**83.67**	**319**	P	P	18 08 53.5	+0.2
	0.9nm,0.6s,baz=96,slow=6.3,SNR=15						
ZALV	**Zalesovo Beam**	**84.39**	**326**	P	P	18 08 55.1	-1.7
	1.1nm,0.5s,baz=111,slow=3.1,SNR=4.1						

IDC 11 18:10:06.4±8.7, 700S×12960E, h147km±90km, mb3.0/1, mb1 3.3/5, mb1mx3.1/15, mbtmp3.2/5, Error ellipse: s-maj=78.4km s-min=26.2km az=39.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Kupang**	**6.68**	**241**	P	Pn	18 11 43.5	+1.3
	3.9nm,0.3s,baz=108,slow=6.4,SNR=9.8						
BATI				S	Sn	18 12 57.0	-0.2
	3.7nm,0.3s,baz=298,slow=20,SNR=10						
FITZ	**Fitzroy Crossi**	**11.69**	**199**	P	Pn	18 12 49.0	+0.2
	0.2nm,0.3s,baz=30,slow=12,SNR=9.1						
FITZ				S	Sn	18 14 48.5	-9.5
	0.8nm,0.3s,baz=132,slow=23,SNR=9.5						
WRA	**Warramunga Arr**	**13.66**	**161**	P	Pn	18 13 12.3	-1.9
	0.8nm,0.3s,baz=333,slow=14,SNR=31						
WRA				S	Sn	18 15 36.2	-9.3
	0.7nm,0.3s,baz=334,slow=22,SNR=9.3						
ASAR	**Alice Springs**	**17.08**	**166**	P	Pn	18 13 57.1	+0.8
	0.3nm,0.3s,baz=341,slow=9.1,SNR=20						
ASAR				S	S	18 17 01.7	-4.5
	0.2nm,0.3s,baz=310,slow=16,SNR=6.7						
MKAR	**Makanchi Array**	**68.01**	**327**	P	P	18 20 49.7	0.0
	0.2nm,0.4s,baz=112,slow=6.9,SNR=8.3						

*ISCJB **11** 18:37:05.7±1.0, 3724N±004×13666E±007, h8km±8km, Error ellipse: s-maj=10.2km s-min=6.0km az=16.3*
*JMA **11** 18:37:05.8, 3723N×13666E, h5km±1km, M3.5*
JMA Felt II J1.
ISC 11 18:37:06.0±1.0, 3723N±003×13665E±008, h11km±8km, n6, σ0§33/12, Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JJH	**Hakui**	**0.32**	**161**	P	**Pg**	**18 37 12.3**	**-0.2**
JJH				S	**Sg**	**18 37 17.1**	**+0.3**
JSZ	**Suzu**	**0.61**	**69**	P	**Pg**	**18 37 17.1**	**-0.6**
JSZ				S	**Sg**	**18 37 25.7**	**0.0**
JHG	**Hegura jima**	**0.65**	**19**	P	**Pg**	**18 37 19.0**	**+0.4**
JHG				S	**Sg**	**18 37 27.4**	**+0.3**
JTT	**Ttatey**	**0.83**	**139**	P	**Pg**	**18 37 21.7**	**-0.3**
JTT				*e*S	**Sg**	**18 37 33.1**	**+0.3**
JKG	**Kaga**	**0.99**	**195**	P	**Pg**	**18 37 24.6**	**-0.4**
JKG				S	**Sg**	**18 37 38.1**	**+0.3**
MAT	**Matsushiro**	**1.42**	**118**	P	**Pn**	**18 37 31.4**	**-0.3**
MAT				S	**Sn**	**18 37 50.7**	**+0.3**

*ISCJB **11** 18:52:10.7±1.3, 3946N±007×3928E±008, h6km±13km, Error ellipse: s-maj=14.2km s-min=6.6km az=138.7*
*CSEM **11** 18:52:10.0±0.1, 3945N×3916E, h8km, MD3.0, Error ellipse: s-maj=3.0km s-min=1.7km az=115.0*
*ISK **11** 18:52:10.2, 3946N×3915E, h8km, MD3.0*
*DDA **11** 18:52:11.7, 3946N×3930E, h7km±4km, Md3.0*
ISC 11 18:52:12.1±1.3, 3944N±007×3923E±009, h15km±12km, n8, σ1§12/13, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EZC	**Erzincan**	**0.55**	**56**	PG	**Pg**	**18 52 17.2**	**-5.7**
EZC				*e*SG	**Sg**	**18 52 22.4**	**-7.9**
KEMA	**Kemaliye**	**0.60**	**253**	*i* P	**Pg**	**18 52 22.9**	**-0.9**
KEMA				*i* S	**Sg**	**18 52 33.6**	**+1.8**
ELZG	**Elazig**	**0.96**	**191**	*i* P	**Pb**	**18 52 29.0**	**-1.4**
ELZG				*i* S	**Sb**	**18 52 43.8**	**+0.8**
BINT	**Bingol**	**1.13**	**120**	*e*PN	**Pn**	**18 52 33.6**	**+0.2**
KOPT	**Kop Dagi**	**1.14**	**59**	*i* P	**Pb**	**18 52 31.6**	**-1.8**
KOPT				*i* S	**Sb**	**18 52 49.7**	**+1.8**
MALT	**Malatya**	**1.29**	**209**	*e*PN	**Pn**	**18 52 34.9**	**-0.7**
MALT				*e*SN	**Sn**	**18 52 52.5**	**+0.1**
ESPY	**Espiye-Giresun**	**1.52**	**346**	*e*PN	**Pn**	**18 52 38.2**	**-0.5**
EZM	**Erzurum**	**1.71**	**74**	*e*PN	**Pn**	**18 52 42.0**	**+0.7**

IDC 11 18:58:01.1±9.8, 819S×15785E, h0km, mb3.8/5, mb1 3.9/5, mb1mx3.7/14, mbtmp3.8/5, Error ellipse: s-maj=299.4km s-min=30.1km az=115.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**25.58**	**240**	P	P	19 03 32.4	+0.3
	0.8nm,0.6s,baz=64,slow=10,SNR=11						
ASAR	**Alice Springs**	**27.62**	**233**	P	P	19 03 50.2	-0.2
	0.3nm,0.9s,baz=62,slow=9.4,SNR=3.0						
SONM	**Songino Array**	**71.88**	**326**	P	P	19 09 26.2	+0.3
	0.5nm,1.1s,baz=133,slow=8.1,SNR=3.8						
MKAR	**Makanchi Array**	**86.17**	**318**	P	P	19 10 44.7	+0.4
	2.2nm,0.6s,baz=100,slow=6.4,SNR=38						
ZALV	**Zalesovo Beam**	**86.75**	**326**	P	P	19 10 46.5	-0.5
	0.7nm,0.5s,baz=123,slow=5.3,SNR=4.4						

IDC 11 19:04:28.8±1.2, 840S×15696E, h0km, mb3.8/4, mb1 4.0/5, mb1mx3.7/15, mbtmp3.9/5, ML4.1/1, Error ellipse: s-maj=30.0km s-min=25.5km az=24.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**3.13**	**109**	Pn	Pn	19 05 18.8	-0.6
	25nm,0.3s,baz=261,slow=2.9,SNR=13						
HNR				Sn	Sn	19 05 58.3	+0.8
	18nm,0.3s,baz=265,slow=19,SNR=4.6						
WB2	**Warramunga Arr**	**24.70**	**240**	*e*P	P	19 09 51.3	-0.6
WRA	**Warramunga Arr**	**24.71**	**240**	P	P	19 09 51.3	-0.7
	1.9nm,0.8s,baz=66,slow=9.6,SNR=10						
STKA	**Stephens Creek**	**27.38**	**209**	P	P	19 10 16.9	+0.9
	2.5nm,0.8s,baz=30,slow=15,SNR=7.3						
SONM	**Songino Array**	**71.56**	**327**	P	P	19 15 52.9	+1.1
	0.4nm,0.7s,baz=134,slow=7.1,SNR=4.9						
MKAR	**Makanchi Array**	**85.74**	**318**	P	P	19 17 09.0	-0.9
	0.5nm,0.8s,baz=101,slow=6.3,SNR=6.6						

*CSEM **11** 19:17:46.0±0.0, 3797N×3093E, h10km, ML3.7, Error ellipse: s-maj=1.0km s-min=0.8km az=163.0*
*ISK **11** 19:17:46.2, 3797N×3093E, h10km, ML3.6*
*ISCJB **11** 19:17:47.1±0.6, 3797N±002×3091E±003, h13km±5km, Error ellipse: s-maj=4.2km s-min=3.3km az=32.5*
*NEIC **11** 19:17:47.8±0.9, 3786N×3088E, h10km, ML3.7(ISK), Error ellipse: s-maj=13.6km s-min=10.6km az=207.0*
*DDA **11** 19:17:48.2, 3796N×3091E, h6km±6km, Md3.7, Ml3.9*
ISC 11 19:17:47.5±0.7, 3796N±002×3091E±003, h9km±6km, n82, σ0§84/92, 6C-6D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ISP	**Isparta**	**0.33**	**251**	PG	**Pg**	**19 17 53.6**	**-0.4**
ISP				*e*SG	**Sg**	**19 17 59.7**	**+1.2**
ISP	**Isparta**	**0.33**	**251**	*e*P	**Pg**	**19 17 54.0**	**-0.1**
ISP	**Isparta**	**0.33**	**251**	*e*P	**Pg**	**19 17 54.0**	**-0.1**
ISP				*e*Sg	**Sg**	**19 17 59.7**	**+1.2**
BCK	**Bucak**	**0.55**	**207**	*e*PG	**Pg**	**19 17 57.5**	**-0.7**
SHUT	**Suhut-Afyon**	**0.66**	**335**	*e*PG	**Pg**	**19 18 00.2**	**0.0**
ANTB	**Antalya**	**1.07**	**191**	*e*PN	**Pn**	**19 18 07.3**	**-1.4**
KDHN	**Kadinhani**	**1.11**	**59**	*i* P	**Pb**	**19 18 06.8**	**-2.0**
KDHN				*i* S	**Sb**	**19 18 24.4**	**+1.0**
KHL	**Karahalli**	**1.15**	**289**	*e*PN	**Pn**	**19 18 08.8**	**-1.0**
KONT	**Konya--Tatoy**	**1.15**	**90**	*e*PN	**Pn**	**19 18 08.1**	**-1.7**
KIZT	**Kizilcal**	**1.20**	**39**	*e*PN	**Pn**	**19 18 09.3**	**-1.2**
ALT	**Altintas**	**1.26**	**331**	*e*PN	**Pn**	**19 18 10.5**	**-0.8**
GOLH	**Golhisar**	**1.29**	**237**	*i* P	**Pn**	**19 18 11.7**	**0.0**
GOLH				*i* S	**Sb**	**19 18 33.1**	**+4.6**
GOLH	**Golhisar**	**1.29**	**237**	*i* P	**Pn**	**19 18 11.6**	**0.0**
GOLH				*i* S	**Sb**	**19 18 33.1**	**+4.6**
ELL	**Elmali**	**1.44**	**214**	*e*PN	**Pn**	**19 18 13.7**	**-0.1**
DENT	**Denizli**	**1.50**	**263**	*e*PN	**Pn**	**19 18 13.6**	**-0.9**
ESKT	**Eskisehir**	**1.56**	**358**	*i* P	**Pn**	**19 18 15.2**	**-0.3**
ESKT				*i* S	**Sn**	**19 18 36.2**	**+0.3**
ESKT	**Eskisehir**	**1.56**	**358**	*e*Pn	**Pn**	**19 18 14.9**	**-0.6**
SEYT	**Eskypehyr**	**1.56**	**358**	*i* P	**Pn**	**19 18 15.2**	**-0.3**
SEYT				*i* S	**Sn**	**19 18 36.2**	**+0.3**
GDZ	**Gediz**	**1.59**	**316**	*i* P	**Pn**	**19 18 15.8**	**0.0**
GDZ				*i* S	**Sn**	**19 18 39.0**	**+2.5**
KULA	**Kula-Manisa**	**1.85**	**288**	*e*PN	**Pn**	**19 18 18.8**	**-0.7**
FETY	**Fethiye**	**1.96**	**228**	*e*PN	**Pn**	**19 18 20.7**	**-0.2**
AKAS	**Kas**	**2.01**	**212**	*i* P	**Pn**	**19 18 25.4**	**+3.8**
AKAS				*i* S	**Sg**	**19 18 58.6**	**+6.5**
ERMK	**Ermenek**	**2.07**	**129**	*i* P	**Pn**	**19 18 23.6**	**+1.1**
ERMK				*i* S	**Sg**	**19 18 57.5**	**+3.5**
GEDT	**Gedikpinar**	**2.22**	**336**	*e*PN	**Pn**	**19 18 24.0**	**-0.4**
YER	**Yerkesik**	**2.24**	**249**	*e*PN	**Pn**	**19 18 24.2**	**-0.5**
GPA	**Golpazari**	**2.38**	**349**	*e*PN	**Pn**	**19 18 26.6**	**-0.1**
ANTO	**Ankara**	**2.41**	**37**	*e*PN	**Pn**	**19 18 26.7**	**-0.5**
ANTO	**Ankara**	**2.41**	**37**	⇑*i*P	**Pn**	**19 18 27.6**	**+0.5**
ANTO	**Ankara**	**2.41**	**37**	⇑*i*P	**Pn**	**19 18 27.6**	**+0.4**
ANTO	**Ankara**	**2.41**	**37**	⇑*i*P	**Pn**	**19 18 27.6**	**+0.4**
LOD	**Lodumlu**	**2.42**	**36**	*e*PN	**Pn**	**19 18 26.6**	**-0.6**
DST	**Dursunbey**	**2.42**	**314**	*e*PN	**Pn**	**19 18 27.0**	**-0.3**
GULT	**Gulveren**	**2.49**	**353**	*e*PN	**Pn**	**19 18 27.7**	**-0.5**
MLSB	**Milas**	**2.57**	**256**	*e*PN	**Pn**	**19 18 29.4**	**+0.1**
DERT	**Derbent**	**2.58**	**339**	*e*PN	**Pn**	**19 18 28.7**	**-0.8**
AKS	**Akhisar**	**2.60**	**292**	*e*PN	**Pn**	**19 18 29.8**	**+0.1**
KAMT	**Kaman**	**2.61**	**56**	*e*PN	**Pn**	**19 18 29.1**	**-0.8**
IZI	**Iznik**	**2.63**	**335**	*e*PN	**Pn**	**19 18 29.6**	**-0.5**
ADVT	**Abdulvahap**	**2.64**	**340**	*e*PN	**Pn**	**19 18 29.7**	**-0.6**
IKL	**Isikli**	**2.81**	**127**	*e*PN	**Pn**	**19 18 32.5**	**-0.1**
GEMT	**Gemlik**	**2.81**	**332**	*e*PN	**Pn**	**19 18 32.4**	**-0.3**
YLV	**Yalova**	**2.87**	**336**	*e*PN	**Pn**	**19 18 33.5**	**+0.1**
DAT	**Datca**	**2.92**	**246**	*e*PN	**Pn**	**19 18 34.2**	**0.0**
NIG	**Nigde**	**2.93**	**86**	*e*PN	**Pn**	**19 18 34.1**	**-0.1**
BODT	**Bodrum**	**2.99**	**254**	*e*PN	**Pn**	**19 18 35.5**	**+0.3**
HRT	**Hereke**	**3.02**	**342**	*e*PN	**Pn**	**19 18 35.5**	**0.0**
KCT	**Karacabey**	**3.04**	**320**	*e*PN	**Pn**	**19 18 35.9**	**+0.1**
BLCB	**Balcova**	**3.08**	**279**	*e*PN	**Pn**	**19 18 36.1**	**-0.1**
MERS	**Mersin**	**3.08**	**110**	*e*PN	**Pn**	**19 18 36.1**	**-0.2**
ALFC	**Alevga**	**3.11**	**153**	P	**Pn**	**19 18 35.6**	**-1.1**
	6.1nm,0.6s						
LEF	**Lefka**	**3.25**	**150**	*e*PN	**Pn**	**19 18 38.4**	**-0.3**
PPCY	**Paphos**	**3.28**	**159**	P	**Pn**	**19 18 42.2**	**+3.2**
BNT	**Bandirma**	**3.34**	**317**	*e*PN	**Pn**	**19 18 40.1**	**+0.2**
MAMC	**Mammari**	**3.34**	**145**	P	**Pn**	**19 18 41.3**	**+1.3**
EDC	**Edincik**	**3.36**	**316**	*e*PN	**Pn**	**19 18 40.1**	**-0.1**
KARA	**Karaisali**	**3.37**	**101**	*e*PN	**Pn**	**19 18 40.4**	**+0.1**
CANT	**Cankiri**	**3.38**	**38**	*e*PN	**Pn**	**19 18 40.1**	**-0.4**
LFK	**Lefkose**	**3.41**	**141**	*e*PN	**Pn**	**19 18 41.1**	**+0.3**
ISK	**Istanbul-Kandi**	**3.42**	**336**	*e*PN	**Pn**	**19 18 40.9**	**-0.1**
SAFT	**Safranbolu**	**3.56**	**22**	*e*PN	**Pn**	**19 18 42.7**	**-0.2**
EREN	**Erenkoy**	**3.57**	**132**	*e*PN	**Pn**	**19 18 43.6**	**+0.6**
CSS	**Prodhromos**	**3.57**	**146**	P	**Pn**	**19 18 43.4**	**+0.3**
	2.4nm,0.5s						
CSS	**Prodhromos**	**3.57**	**146**	*e*P	**Pn**	**19 18 41.4**	**-1.6**
CSS	**Prodhromos**	**3.57**	**146**	*e*P	**Pn**	**19 18 41.4**	**-1.7**
CORM	**Corum**	**3.65**	**51**	*e*PN	**Pn**	**19 18 44.0**	**-0.2**
CTT	**Catalca**	**3.72**	**330**	*e*PN	**Pn**	**19 18 45.4**	**+0.3**
YOZ	**Yozgat**	**3.84**	**63**	*e*PN	**Pn**	**19 18 46.9**	**+0.1**
TOS	**Tosya**	**3.91**	**37**	*e*PN	**Pn**	**19 18 48.5**	**+0.8**
KOZT	**Kozan**	**3.93**	**95**	*e*PN	**Pn**	**19 18 48.2**	**+0.1**
CEYT	**Ceyhan**	**3.97**	**102**	*e*PN	**Pn**	**19 18 48.8**	**+0.3**
BNN	**Bunyan**	**3.98**	**75**	*e*PN	**Pn**	**19 18 48.8**	**+0.1**
EZN	**Ezine**	**4.03**	**299**	*e*PN	**Pn**	**19 18 50.0**	**+0.6**
ENEZ	**Enez**	**4.61**	**308**	*e*PN	**Pn**	**19 18 57.9**	**+0.5**
MALT	**Malatya**	**5.94**	**84**	⇓P	**Pn**	**19 19 18.1**	**+2.4**
MALT	**Malatya**	**5.94**	**84**	⇓*i*P	**Pn**	**19 19 18.0**	**+2.4**
TIRR	**Tirgusor**	**6.76**	**345**	⇓P	**Pn**	**19 19 27.3**	**+0.4**
TIRR	**Tirgusor**	**6.76**	**345**	⇓*i*P	**Pn**	**19 19 27.3**	**+0.4**
MLR	**Muntele Rosu**	**8.39**	**335**	⇓P	**Pn**	**19 19 51.8**	**+2.5**
MLR	**Muntele Rosu**	**8.39**	**335**	⇓*i*P	**Pn**	**19 19 51.8**	**+2.6**
VRI	**Vrincioaia**	**8.49**	**340**	⇑P	**Pn**	**19 19 51.7**	**+1.0**
VRI	**Vrincioaia**	**8.49**	**340**	⇑*i*P	**Pn**	**19 19 51.7**	**+1.0**
PLOR	**Plostina**	**8.50**	**339**	⇑*i*P	**Pn**	**19 19 52.0**	**+1.2**

*NSSP **11** 19:43:16.3, 4022N×4437E, h5km, ML3.0*
*TIF **11** 19:43:16.4, 4022N×4437E, h10km*
*CSEM **11** 19:43:16.5±0.1, 4024N×4433E, h5km, ML3.0, Error ellipse: s-maj=1.8km s-min=1.6km az=61.0*
*NEIC **11** 19:43:17.0, 4020N×4440E, h5km, MD3.5(ISK), ML3.0(CSEM), After NSSP.*
*ISCJB **11** 19:43:18.1±0.3, 4022N±001×4433E±003, h10km, Error ellipse: s-maj=2.9km s-min=2.1km az=0.8*
*ISK **11** 19:43:18.0, 4016N×4417E, h5km, MD3.6*
*DDA **11** 19:43:18.7, 4028N×4431E, h5km±10km, Md3.3, Ml3.5*
*MOS **11** 19:43:19.1±2.3, 4014N×4421E, h10km, mb4.3/1, Error ellipse: s-maj=17.2km s-min=5.6km az=91.7*
ISC 11 19:43:18.4±0.3, 4022N±001×4435E±003, h10km, n67, σ1§21/106, 8C-8D, Turkey-Georgia-Armenia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAAR	**P'arak'ar**	**0.08**	**163**	⇑*i*P	**Pg**	**19 43 19.2**	**-1.4**
PAAR	**P'arak'ar**	**0.08**	**163**	*i* Pg	**Pg**	**19 43 19.2**	**-1.5**
AMBZ	**Amberd**	**0.18**	**337**	⇓*i*P	**Pg**	**19 43 22.4**	**+0.2**
AMBZ				*i* S	**Sg**	**19 43 26.1**	**+1.3**
AMBZ	**Amberd**	**0.18**	**337**	⇓P	**Pg**	**19 43 22.4**	**+0.2**
ARUZ	**Aruch**	**0.21**	**287**	⇓P	**Pg**	**19 43 22.4**	**-0.3**
VRNZ	**Vardanashen**	**0.21**	**215**	⇑*i*P	**Pg**	**19 43 21.8**	**-1.0**
VRNZ				*i* S	**Sg**	**19 43 25.1**	**-0.6**
VRNZ	**Vardanashen**	**0.21**	**215**	*i* Pg	**Pg**	**19 43 21.8**	**-1.0**
AKSZ	**Araks**	**0.36**	**265**	⇑*i*P	**Pg**	**19 43 24.7**	**-0.7**
AKSZ				*i* S	**Sg**	**19 43 30.8**	**+0.5**
AKSZ	**Araks**	**0.36**	**265**	P	**Pg**	**19 43 24.7**	**-0.8**
VNNZ	**Vanand**	**0.42**	**254**	⇑*i*P	**Pg**	**19 43 25.9**	**-0.7**
VNNZ				*i* S	**Sg**	**19 43 32.7**	**+0.4**
VNNZ	**Vanand**	**0.42**	**254**	*i* Pg	**Pg**	**19 43 25.9**	**-0.8**
VNNZ				*i* Sg	**Sg**	**19 43 32.7**	**+0.5**
HNAZ	**Hnaberd**	**0.44**	**339**	⇑*i*P	**Pg**	**19 43 26.0**	**-1.0**
HNAZ				*i* S	**Sg**	**19 43 32.0**	**-0.8**
HNAZ	**Hnaberd**	**0.44**	**339**	P	**Pg**	**19 43 26.0**	**-1.0**
LERZ	**Lernakert**	**0.46**	**318**	⇓*i*P	**Pg**	**19 43 26.0**	**-1.4**
LERZ				*i* S	**Sg**	**19 43 33.1**	**-0.3**
LERZ	**Lernakert**	**0.46**	**318**	⇓*i*P	**Pg**	**19 43 26.0**	**-1.4**
LERZ				*i* S	**Sg**	**19 43 33.2**	**-0.3**
KAMZ	**Kamo**	**0.67**	**333**	⇓*i*P	**Pg**	**19 43 30.0**	**-1.4**
KAMZ				*i* S	**Sg**	**19 43 40.0**	**-0.2**
KAMZ	**Kamo**	**0.67**	**333**	*i* Pg	**Pg**	**19 43 30.0**	**-1.4**
KAMZ				*i* Sg	**Sg**	**19 43 40.1**	**-0.1**
GYMZ	**Gyumri**	**0.71**	**326**	P	**Pg**	**19 43 30.8**	**-1.3**
DIGO	**Kars**	**0.77**	**285**	*i* P	**Pg**	**19 43 31.3**	**-1.9**
DIGO				*i* S	**Sg**	**19 43 43.5**	**+0.2**
STE	**Stepanavan**	**0.78**	**1**	⇓P	**Pg**	**19 43 33.0**	**-0.4**
STE				S	**Sg**	**19 43 44.4**	**+0.9**
KARS	**Kars**	**1.04**	**292**	*e*PG	**Pg**	**19 43 36.5**	**-1.8**
KARS				*e*SG	**Sg**	**19 43 51.3**	**-0.5**
KARS	**Kars**	**1.04**	**292**	Pg	**Pg**	**19 43 36.6**	**-1.7**
KARS				Sg	**Sg**	**19 43 51.6**	**-0.2**
CLDR	**Caldiran**	**1.13**	**197**	*e*PG	**Pg**	**19 43 38.0**	**-2.1**
CLDR				*e*SG	**Sg**	**19 43 54.2**	**-0.6**
CLDR	**Caldiran**	**1.13**	**197**	Pg	**Pg**	**19 43 38.2**	**-1.9**
CLDR	**Caldiran**	**1.13**	**197**	Pg	**Pg**	**19 43 38.2**	**-1.9**
CLDR				*e*Sg	**Sg**	**19 43 54.2**	**-0.6**
AGRB	**Hanur-Agry**	**1.23**	**239**	*e*PG	**Pg**	**19 43 39.9**	**-2.1**
NAX	**Nakhchivan**	**1.37**	**140**	P	**Pn**	**19 43 42.0**	**-1.6**
	SNR=73						
NAX				S	**Sb**	**19 44 01.4**	**-0.3**
TUTA	**Tutak**	**1.44**	**236**	*i* P	**Pn**	**19 43 44.6**	**+0.1**
TUTA				*i* S	**Sn**	**19 44 05.6**	**+2.1**
MTA	**Mtatsminda**	**1.51**	**13**	P	**Pn**	**19 43 45.4**	**0.0**
MTA				S	**Sn**	**19 44 06.1**	**+1.0**
MTA	**Mtatsminda**	**1.51**	**13**	Pg	**Pg**	**19 43 45.4**	**-1.9**
MTA				S	**Sn**	**19 44 06.1**	**+1.0**
TBLG	**Delisi**	**1.53**	**11**	Pn	**Pn**	**19 43 45.9**	**+0.1**
TBLG				S	**Sn**	**19 44 06.9**	**+1.1**
GANJ	**Ganja**	**1.56**	**74**	P	**Pn**	**19 43 45.7**	**-0.5**
	SNR=14						
GANJ				S	**Sn**	**19 44 06.4**	**-0.1**
GOR	**Gori**	**1.77**	**354**

IDC 11 20:09:55.5±3.5, 1847S×7301W, h0km, mb3.6/1, mb1 3.8/3, mb1mx3.6/18, mbtmp3.6/3, ML3.6/2, MS2.7/1, Ms1 2.8/1, ms1mx2.3/27, Error ellipse: s-maj=129.9km s-min=40.4km az=4.0, Off coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**5.13**	**66**	Pn	Pn	20 11 15.0	+1.3
	0.5nm,0.3s,baz=263,slow=7.9,SNR=17						
LPAZ				LR	LR	20 13 14.2	
	comp=Z,74nm,19.2s,baz=98,slow=39						
SIV	**San Ignacio**	**11.66**	**80**	Pn	Pn	20 12 41.9	-1.4
	0.8nm,0.3s,baz=272,slow=11,SNR=11						
TORD	**Torodi Ar. Bea**	**80.05**	**73**	P	P	20 22 07.9	+0.3
	0.5nm,0.5s,baz=256,slow=6.2,SNR=12						
YKA	**Yellowknife Ar**	**87.10**	**342**	P	P	20 22 42.5	-0.2
	0.1nm,0.4s,baz=134,slow=4.4,SNR=4.4						

*ISCJB **11** 20:13:13.9±0.7, 3852N±004×2160E±006, h22km±13km, Error ellipse: s-maj=7.7km s-min=6.7km az=20.0*
*CSEM **11** 20:13:13.9±0.2, 3855N×2161E, h5km, ML3.1, Error ellipse: s-maj=3.9km s-min=3.0km az=104.0*
*ATH **11** 20:13:13.0, 3857N×2153E, h19km±2km, MD3.4/5*
*THE **11** 20:13:14.5, 3854N×2163E, h2km, ML3.1*
*NEIC **11** 20:13:14.5, 3854N×2163E, h2km, MD3.4(ATH), ML3.1(THE), After THE.*

ISC 11 20:13:13.8±0.6, 3852N±003×2160E±005, h15km±7km, n11, σ0°90/15, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SELA	**Sela**	**0.34**	**137**	*e*Pg	**Pg**	**20 13 20.3**	**-0.5**
SELA				*e*Sg	**Sg**	**20 13 26.0**	**+0.6**
EVR	**Evrytania**	**0.42**	**22**	*e*PB	**Pg**	**20 13 21.5**	**-0.9**
EVR				*e*SB	**Sg**	**20 13 27.2**	**-0.9**
RLS	**Riolos of Patr**	**0.48**	**193**	*e*PN	**Pg**	**20 13 23.2**	**-0.1**
AGG	**Agios Georgios**	**0.76**	**49**	*e*Pg	**Pg**	**20 13 27.6**	**-0.9**
AGG				*e*Sg	**Sg**	**20 13 38.6**	**+0.1**
KFL	**Anninata**	**0.76**	**237**	*e*Pg	**Pg**	**20 13 29.7**	**+1.0**
LKD	**Levkas**	**0.77**	**284**	*e*Pg	**Pg**	**20 13 28.5**	**-0.3**
VLS	**Valsamata**	**0.87**	**247**	*e*PN	**Pn**	**20 13 29.5**	**-2.0**
LKR	**Lokris**	**1.10**	**83**	*e*PN	**Pn**	**20 13 35.1**	**+0.4**
LTK	**Loutraki**	**1.18**	**115**	*e*Pg	**Pg**	**20 13 36.9**	**+0.2**
MEV	**Metsovon**	**1.29**	**347**	*e*Pg	**Pg**	**20 13 38.8**	**+0.1**
MEV				*e*Sg	**Sg**	**20 13 57.4**	**+1.8**
NEO	**Neokhori**	**1.49**	**58**	*e*PN	**Pn**	**20 13 41.0**	**+1.0**

*ISCJB **11** 20:16:47.6±0.6, 4390N±006×10506W±008, h0km, mb4.4/1, Error ellipse: s-maj=9.4km s-min=7.2km az=140.5*
*IDC **11** 20:16:49.1±1.9, 4372N×10547W, h0km, mb4.3/1, mb1 3.9/4, mb1mx3.5/22, mbtmp3.7/4, ML3.5/3, Error ellipse: s-maj=46.8km s-min=8.6km az=150.0*
*NEIC **11** 20:16:50.1±0.5, 4380N×105.19W, h0km, ML3.3, Error ellipse: s-maj=9.1km s-min=6.0km az=150.0, Suspected Mining explosion.*
NEIC 60 km [40 miles] SSE of Gillette.

ISC 11 20:16:50.0±0.5, 4384N±006×10518W±007, h0km, n23, σ1°09/23, mb4.4/1, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**0.87**	**71**	*e*P	**Pg**	**20 17 08.7**	**+1.9**
PHWY	**Pilot Hill**	**2.54**	**185**	*e*Pn	**Pn**	**20 17 32.6**	**+0.1**
RWWY	**Rawlins**	**2.62**	**216**	*e*Pn	**Pn**	**20 17 33.5**	**0.0**
RLMT	**Red Lodge**	**3.19**	**295**	*e*Pn	**Pn**	**20 17 41.5**	**0.0**
BW06	**Boulder Array**	**3.37**	**253**	*e*Pn	**Pn**	**20 17 43.1**	**-0.8**
PDAR	**Pinedale Array**	**3.37**	**253**	Pn	**Pn**	**20 17 43.4**	**-0.5**
	6.7nm,0.3s,baz=71,slow=16,SNR=77						
PDAR				Lg		20 18 26.7	
	16nm,0.3s,baz=73,slow=33,SNR=9.1						
LOHW	**Long Hollow**	**3.94**	**269**	*e*Pn	**Pn**	**20 17 52.3**	**+0.6**
FLWY	**Flagg Ranch**	**3.99**	**275**	*e*Pn	**Pn**	**20 17 52.1**	**-0.3**
MOOW	**Moose Ponds**	**4.03**	**271**	*e*Pn	**Pn**	**20 17 53.7**	**+0.8**
ISCO	**Idaho Springs**	**4.05**	**185**	*e*Pn	**Pn**	**20 17 52.8**	**-0.4**
SNOW	**Snow King Moun**	**4.06**	**267**	*e*Pn	**Pn**	**20 17 55.3**	**+1.9**
REDW	**Red Top Meadow**	**4.15**	**265**	*e*Pn	**Pn**	**20 17 56.2**	**+1.7**
IMW	**Indian Meadow**	**4.16**	**273**	*e*Pn	**Pn**	**20 17 55.1**	**+0.3**
TPAW	**Teton Pass**	**4.20**	**267**	*e*Pn	**Pn**	**20 17 55.6**	**+0.3**
DGMT	**Dagmar**	**4.69**	**8**	*e*Pn	**Pn**	**20 18 04.8**	**+2.8**
BOZ	**Bozeman (W)**	**4.94**	**294**	*e*Pn	**Pn**	**20 18 04.2**	**-1.2**
HWUT	**Hardware Ranch**	**5.20**	**247**	*e*Pn	**Pn**	**20 18 07.5**	**-1.5**
	7.4nm,0.4s						
EGMT	**Eagleton**	**5.26**	**324**	*e*Pn	**Pn**	**20 18 09.7**	**-0.2**
	17nm,0.3s						
AGMN	**Agassiz Refuge**	**7.87**	**52**	Pn	**Pn**	**20 18 43.5**	**-2.1**
	10nm,0.4s						
ULM	**Lac du Bonnet**	**9.03**	**41**	Pn	**Pn**	**20 19 01.5**	**0.0**
	1.1nm,0.3s,baz=224,slow=12,SNR=13						
ULM				Lg		20 21 36.0	
	0.5nm,0.3s,baz=140,slow=15,SNR=3.1						
YKA	**Yellowknife Ar**	**19.49**	**347**	P	**Pn**	**20 21 17.9**	**-1.5**
YKA	**Yellowknife Ar**	**19.49**	**347**	P	**Pn**	**20 21 17.9**	**-1.5**
	0.2nm,0.3s,baz=149,slow=13,SNR=7.5						
ARCES	**ARCESS Array B**	**61.31**	**18**	P	**P**	**20 27 06.0**	**-0.6**
	2.7nm,0.8s,mb4.4,baz=334,slow=8.0,SNR=3.6						

IDC 11 20:17:46.6±1.2, 4588N×15417E, h0km, mb3.7/4, mb1 4.0/4, mb1mx3.5/21, mbtmp3.7/4, Error ellipse: s-maj=41.1km s-min=34.5km az=115.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**48.00**	**299**	P	P	20 26 26.9	-0.1
	0.4nm,0.7s,baz=69,slow=6.9,SNR=6.1						
WRA	**Warramunga Arr**	**67.94**	**200**	P	P	20 28 46.7	-0.4
	0.9nm,0.9s,baz=21,slow=7.0,SNR=4.0						
ASAR	**Alice Springs**	**71.62**	**200**	P	P	20 29 10.4	+0.7
	0.7nm,0.8s,baz=4.1,slow=6.1,SNR=5.9						
TXAR	**Lajitas Array**	**77.28**	**61**	P	P	20 29 43.0	+0.2
	0.4nm,0.6s,baz=300,slow=3.6,SNR=5.2						

*NIED **11** 20:21:00, 4620N×15330E, h35km, Mw4.4 Best double couple: M0:4.65000×10^15 NP1:φs249.00000°, δ81.00000°, λ-79.00000°. NP2:φs18.00000°, δ14.00000°, λ-140.00000°.*
*SKHL **11** 20:21:22.5±2.5, 4600N×15340E, h43km±9km, mb4.7/2*
*NEIC **11** 20:21:22.9±1.0, 4587N×15344E, h10km, mb4.2/6, Error ellipse: s-maj=23.2km s-min=8.4km az=150.0*
*BJI **11** 20:21:23.7, 4635N×15327E, h13km, mB4.4, mb4.3*
*JMA **11** 20:21:24.6±0.8, 4623N×15333E, h30km, M4.5*
*ISCJB **11** 20:21:25.5±0.4, 4572N±006×15325E±006, h44km, mb4.1/32, MS3.3/3, Error ellipse: s-maj=10.6km s-min=3.5km az=147.9*
*MOS **11** 20:21:26.2±1.3, 4599N×153.16E, h40km, mb4.3/15, Error ellipse: s-maj=11.1km s-min=8.6km az=91.3*
*IDC **11** 20:21:29.0±0.7, 4598N×15331E, h44km±4km, mb3.7/19, mb1 3.9/20, mb1mx3.8/26, mbtmp3.7/20, ML4.1/1, MS3.0/3, Ms1 3.0/3, ms1mx2.7/41, Error ellipse: s-maj=17.0km s-min=13.2km az=153.0*

ISC 11 20:21:28.0±0.4, 4577N±006×15325E±006, h46km, h46km±2.2km: pP-P, n105, σ1°38/122, mb4.1/32, MS3.3/3, 3D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.82**	**264**	‖ *i*PN	**Pn**	**20 22 23.0**	**-1.2**
KUR				*i* S	**Sn**	**20 23 09.0**	**+1.1**
KUR				pmax	pmax		
	comp=N,540nm,0.9s						
KUR				pmax	pmax		
	comp=Z,870nm,0.9s						
KUR				pmax	pmax		
	comp=E,330nm,0.5s						
KUR				smax			
	comp=N,420nm,0.6s						
KUR				smax			
	comp=E,370nm,0.6s						
KUR	**Kuril'sk**	**3.82**	**264**	‖ *i*P	**Pn**	**20 22 23.0**	**-1.2**
KUR				AMB	AMB	20 22 23.9	
	comp=E,540nm,0.9s						
KUR				AMB	AMB	20 22 23.9	
	comp=E,327nm,0.9s						
KUR				AMB	AMB	20 22 23.9	
	comp=E,866nm,0.9s						
KUR				*i* S	**Sn**	**20 23 09.0**	**+1.1**
KUR				A		20 23 10.0	
	comp=E,418nm,0.6s						
KUR				A		20 23 10.0	
	comp=E,372nm,0.6s						
SKR	**Severo-Kuril's**	**5.27**	**20**	*e*P	**Pn**	**20 22 38.0**	**-6.1**
SKR				AMB	AMB	20 22 38.5	
	comp=E,20nm,0.5s						
SKR				*e*S	**Sn**	**20 23 32.5**	**-11**
SKR				A		20 23 46.5	
	comp=E,80nm,0.5s						
SKR				A		20 23 46.5	
	comp=E,40nm,0.5s						
SKR				AMS	AMS	20 24 36.0	
	comp=E,800nm,10.0s						
YUK	**Yuzh-Kuril'sk**	**5.53**	**254**	*e*P	**Pn**	**20 22 48.4**	**+0.8**
YUK				*e*S	**Sn**	**20 23 54.3**	**+4.5**
YUK				A		20 23 55.0	
	comp=E,200nm,0.5s						
NEM2	**Nemuro 2**	**5.88**	**248**	P	**Pn**	**20 22 51.9**	**-0.5**
NEM2				*e*S	**Sn**	**20 23 56.3**	**-2.1**
JRA	**Rausu**	**6.06**	**255**	P	**Pn**	**20 22 56.5**	**+1.6**
JNK	**Nakash**	**6.46**	**253**	P	**Pn**	**20 23 01.5**	**+1.1**
JAK	**Akkeshi**	**6.73**	**249**	P	**Pn**	**20 23 03.6**	**-0.5**
JAK				*e*S	**Sn**	**20 24 17.4**	**-1.9**
JTKR	**Abashiri--Toko**	**6.88**	**258**	P	**Pn**	**20 23 07.6**	**+1.5**
JAR	**Ashorobuto**	**7.21**	**253**	P	**Pn**	**20 23 11.7**	**+1.0**
JAR				*e*S	**Sn**	**20 24 32.5**	**+1.3**
JMP	**Maruseppu**	**7.24**	**259**	P	**Pn**	**20 23 12.8**	**+1.7**
JOB	**Onbets**	**7.33**	**250**	P	**Pn**	**20 23 12.7**	**+0.3**
JOB				*e*S	**Sn**	**20 24 33.5**	**-0.7**
YSS	**Yuzh-Sakhalins**	**7.36**	**283**	*e*P	**Pn**	**20 23 14.3**	**+1.7**
	comp=E,46nm,0.6s						
YSS	**Yuzh-Sakhalins**	**7.36**	**283**	*e*P	**Pn**	**20 23 11.8**	**-0.9**
JSE	**Soyaes**	**7.56**	**269**	P	**Pn**	**20 23 17.5**	**+2.1**
JKK2	**Kamakawa 2**	**7.70**	**259**	P	**Pn**	**20 23 19.1**	**+1.6**
ASAJ	**Asahikawa**	**7.74**	**261**	P	**Pn**	**20 23 20.1**	**+2.2**
ASAJ	**Asahikawa**	**7.74**	**261**	PN	**Pn**	**20 23 20.2**	**+2.3**
ASAJ				pmax	pmax		
	comp=Z,3.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,42nm,18.5s						
ASAJ	**Asahikawa**	**7.74**	**261**	P	**Pn**	**20 23 20.2**	**+2.3**
	comp=Z,2.7nm,0.3s,baz=78,slow=19,SNR=31						
ASAJ				LR	LR	20 26 01.8	
	comp=Z,42nm,18.5s,baz=180,slow=35						
JCH	**Churui**	**7.77**	**250**	P	**Pn**	**20 23 18.0**	**-0.4**
JCH				*e*S	**Sn**	**20 24 42.1**	**-2.9**
JWK2	**Keihoku**	**7.98**	**271**	P	**Pn**	**20 23 26.4**	**+5.1**
JFR	**Furan**	**8.05**	**255**	P	**Pn**	**20 23 24.9**	**+2.6**
JAB	**Ashibetsu**	**8.18**	**258**	P	**Pn**	**20 23 26.6**	**+2.6**
ERM	**Erimo**	**8.20**	**246**	*e*P	**Pn**	**20 23 25.0**	**+0.8**
	comp=Z,23nm,0.6s						
ERM				*e*S	**Sn**	**20 24 46.0**	**-9.5**
ERM	**Erimo**	**8.20**	**246**	*e*PN	**Pn**	**20 23 25.0**	**+0.8**
ERM				pmax	pmax		
	comp=Z,23nm,0.6s						
JEM	**Erimo**	**8.20**	**246**	P	**Pn**	**20 23 25.4**	**+1.2**
JNBK	**Urakawa-nobuka**	**8.33**	**249**	P	**Pn**	**20 23 25.1**	**-0.9**
JBT2	**Biratori 2**	**8.36**	**253**	P	**Pn**	**20 23 25.8**	**-0.7**
JBT2				*e*S	**Sn**	**20 24 58.3**	**-1.2**
JEW	**Eniwo**	**8.95**	**255**	P	**Pn**	**20 23 36.6**	**+2.0**
JNB	**Noboribetsu**	**9.38**	**254**	P	**Pn**	**20 23 40.6**	**+0.2**
JNB				*e*S	**Sn**	**20 25 22.9**	**-1.6**
JKB	**Kayabe**	**9.64**	**251**	P	**Pn**	**20 23 43.6**	**-0.4**
JKB				*e*S	**Sn**	**20 25 25.8**	**-5.1**
JYM2	**Yakumo 2**	**9.98**	**253**	*e*S	**Pn**	**20 23 48.8**	**+0.2**
JANG	**Nango**	**10.13**	**242**	P	**Pn**	**20 23 48.3**	**-2.5**
JANG				*e*S	**Sn**	**20 25 34.5**	**-8.5**
JTM	**Tenmabayashi**	**10.18**	**245**	P	**Pn**	**20 23 49.5**	**-1.9**
JTM				*e*S	**Sn**	**20 25 37.7**	**-6.4**
JOSM	**Okushiri--Mats**	**10.60**	**255**	P	**Pn**	**20 23 56.9**	**-0.2**
OFUJ	**Ofunato**	**10.86**	**236**	P	**Pn**	**20 23 59.0**	**-1.6**
OFUJ				*e*S	**Sn**	**20 25 54.1**	**-6.5**
JRG	**Rokugo**	**11.27**	**240**	P	**Pn**	**20 24 04.9**	**-1.3**
JIO	**Ouri**	**11.46**	**235**	P	**Pn**	**20 24 06.8**	**-2.1**
MAT	**Matsushiro**	**14.59**	**236**	P	**Pn**	**20 24 50.2**	**-1.2**
MJAR	**Matsushiro Arr**	**14.59**	**236**	P	**Pn**	**20 24 49.9**	**-1.5**
	comp=Z,0.2nm,0.3s,baz=33,slow=12,SNR=8.0						
MJAR				LR	LR	20 30 52.2	
	comp=Z,46nm,20.4s,baz=15,slow=38						
KLR	**Kul'dur**	**14.93**	**291**	*e*P	**Pn**	**20 24 54.5**	**-1.3**
MDJ	**Mudanjiang**	**16.71**	**275**	P	**Pn**	**20 25 18.5**	**-0.1**
MDJ				AMB	AMB		
	comp=Z,6.0nm,1.0s						
MDJ				AMB	AMB		
	comp=Z,50nm,5.4s						
MDJ	**Mudanjiang**	**16.71**	**275**	*e*P	**Pn**	**20 25 19.0**	**+0.5**
	comp=Z,2.9nm,0.6s						
CN2	**Changchun**	**19.79**	**274**	*e*P	**Pn**	**20 25 54.7**	**-1.4**
KSRS	**Korea Array**	**20.61**	**255**	P	**P**	**20 26 06.1**	**+2.9**
	comp=Z,2.3nm,0.7s,baz=55,slow=11,SNR=7.2						
YAK	**Yakutsk**	**21.20**	**329**	*i* P	**P**	**20 26 09.6**	**+0.3**
YAK				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.1						
YAK				MLR	MLR		
	comp=Z,100nm,23.0s,MS3.1						
BILL	**Bilibino**	**23.33**	**12**	*e*P	**P**	**20 26 28.9**	**-2.9**
	comp=Z,3.1nm,0.6s,mb3.9						
BILL	**Bilibino**	**23.33**	**12**	*i* P	**P**	**20 26 30.2**	**-1.6**
BILL				*e*		20 30 16.7	
BILL				pmax	pmax		
	comp=Z,4.0nm,1.1s,mb3.8						
BILL				MLR	MLR		
	comp=Z,100nm,18.0s,MS3.3						
BOD	**Bodaibo**	**26.69**	**311**	*e*P	**P**	**20 27 00.3**	**-2.1**
TIXI	**Tiksi**	**28.43**	**344**	*e*P	**P**	**20 27 15.6**	**-2.2**
SONM	**Songino Array**	**31.76**	**291**	P	**P**	**20 27 47.4**	**-0.1**
	comp=Z,0.4nm,0.5s,mb3.5,baz=73,slow=7.2,SNR=6.1						
ZAK	**Zakamensk**	**33.19**	**296**	*e*P	**P**	**20 27 55.1**	**-4.9**
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.7s,mb3.5						
IMA2	**Indian Mountai**	**34.55**	**35**	*e*P	**P**	**20 28 10.7**	**-0.9**
SML	**Sawmill**	**36.62**	**43**	*e*P	**P**	**20 28 28.4**	**-0.9**
COLA	**College**	**36.85**	**38**	*i* P	**P**	**20 28 31.3**	**0.0**
GTA	**Gaotai**	**39.23**	**280**	*e*P	**P**	**20 28 53.1**	**+1.5**
GTA				AP	pP	20 29 01.1	-2.8
GTA				XP	sP	20 29 05.1	-4.2
GTA				AMB	AMB		
	comp=Z,3.0nm,0.9s,mb4.0						
EGAK	**Eagle**	**39.71**	**38**	*e*P	**P**	**20 28 53.7**	**-1.7**
	comp=Z,3.7nm,1.0s,mb4.1						
INK	**Inuvik**	**42.43**	**32**	P	**P**	**20 29 17.2**	**-0.5**
INK				*PP	pP	20 29 30.1	0.0
INK				pmax	pmax		
	comp=Z,2.0nm,0.9s						
INK				pmax	pmax		
	comp=N,1.0nm,0.3s						
INK	**Inuvik**	**42.43**	**32**	P	**P**	**20 29 17.1**	**-0.5**
	comp=N,2.1nm,0.9s,mb3.8,baz=263,slow=10,SNR=3.2						
INK				pP	pP	20 29 30.1	0.0
	comp=N,0.8nm,0.3s,baz=284,slow=8.8,SNR=2.9						
ZALV	**Zalesovo Beam**	**43.27**	**307**	P	**P**	**20 29 24.0**	**-0.6**
	comp=N,0.9nm,0.4s,mb3.9,baz=63,slow=6.6,SNR=5.0						
ZALV				LR	LR	20 47 50.6	
	comp=N,42nm,18.1s,MS3.4,baz=72,slow=37						
ZAL	**Zalesovo**	**43.28**	**307**	P	**P**	**20 29 24.0**	**-0.7**
MKAR	**Makanchi Array**	**47.48**	**298**	P	**P**	**20 29 58.1**	**0.0**
MKAR						20 31 29.6	
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
MKAR	**Makanchi Array**	**47.48**	**298**	P	**P**	**20 29 58.1**	**0.0**
	comp=Z,1.7nm,0.8s,mb4.0,baz=65,slow=7.6,SNR=16						
MKAR				PcP	PcP	20 31 29.6	+2.0
	comp=Z,0.3nm,0.6s,baz=76,slow=3.6,SNR=2.7						
KURK	**Kurchatov**	**47.99**	**304**	‖ *e*P	**P**	**20 30 00.5**	**-1.4**
YKA	**Yellowknife Ar**	**51.66**	**36**	P	**P**	**20 30 28.5**	**-1.1**
YKA				*PP	pP	20 30 41.9	-0.4
YKA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
YKA				pmax	pmax		
	comp=N,1.0nm,0.7s						
YKA	**Yellowknife Ar**	**51.66**	**36**	P	**P**	**20 30 28.5**	**-1.1**
	comp=N,0.7nm,0.7s,mb3.7,baz=298,slow=7.2,SNR=11						
YKA				pP	pP	20 30 41.9	-0.3
	comp=N,0.9nm,0.7s,baz=297,slow=7.1,SNR=5.9						
JIRN	**Jiri**	**55.12**	**275**	*e*P	**P**	**20 30 59.2**	**+3.7**
	comp=N,3.4nm,0.2s,mb5.0						
KKN	**Kakani**	**55.68**	**276**	*e*P	**P**	**20 31 02.3**	**+2.8**
ARU	**Arti**	**55.80**	**318**	*e*P	**P**	**20 30 59.1**	**-0.9**
	comp=N,2.7nm,0.6s,mb4.5						
ARU	**Arti**	**55.80**	**318**	*e*P	**P**	**20 30 59.6**	**-0.4**
ARU				*e*		20 33 01.8	
ARU				*e*S	**S**	**20 38 44.3**	**+1.0**
GKN	**Gorkha**	**55.99**	**277**	*e*P	**P**	**20 31 04.1**	**+2.3**
	comp=N,9.4nm,0.6s,mb5.0						
KOLN	**Koldanda**	**56.86**	**277**	*e*P	**P**	**20 31 09.6**	**+1.7**
	comp=N,12nm,0.8s,mb5.0						
KEV	**Kevo**	**58.30**	**341**	*e*p	**P**	**20 31 17.1**	**-0.3**
	comp=N,3.0nm,0.6s,mb4.5						
KEV	**Kevo**	**58.30**	**341**	*e*P	**P**	**20 31 17.1**	**-0.3**
KEV				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.5						
ARCES	**ARCESS Array B**	**58.81**	**341**	P	**P**	**20 31 21.0**	**0.0**
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.7s						
ARCES	**ARCESS Array B**	**58.81**	**341**	P	**P**	**20 31 21.0**	**0.0**
	comp=Z,1.8nm,0.7s,mb4.2,baz=27,slow=8.1,SNR=8.6						
JOF	**Joensuu**	**62.25**	**334**	*e*p	**P**	**20 31 44.2**	**-0.4**
	comp=Z,0.7nm,0.4s,mb4.1						
NVAR	**Mina Array Bea**	**62.81**	**62**	P	**P**	**20 31 48.5**	**-0.2**
	comp=Z,0.6nm,0.6s,mb3.9,baz=291,slow=7.6,SNR=4.2						
KAF	**Kangasniemi**	**64.37**	**335**	*e*p	**P**	**20 31 57.2**	**-1.4**
	comp=Z,1.0nm,0.4s,mb4.2						
KAF	**Kangasniemi**	**64.37**	**335**	*e*P	**P**	**20 31 57.2**	**-1.4**
KAF				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.2						
FINES	**FINESS Array B**	**64.97**	**335**	P	**P**	**20 32 01.6**	**-0.8**
FINES				*PP	pP	20 32 14.7	-0.8
FINES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
FINES				pmax	pmax		
	comp=N,3.0nm,0.6s						
FINES	**FINESS Array B**	**64.97**	**335**	P	**P**	**20 32 01.6**	**-0.9**
	comp=N,1.4nm,0.5s,mb4.3,baz=39,slow=6.8,SNR=20						
FINES				pP	pP	20 32 14.7	-0.8
	comp=N,3.0nm,0.6s,baz=40,slow=7.5,SNR=4.1						
PDAR	**Pinedale Array**	**65.25**	**54**	P	**P**	**20 32 04.7**	**+0.1**
	comp=N,0.5nm,0.8s,mb3.6,baz=104,slow=0.6,SNR=4.7						
PDAR				pP	pP	20 32 17.7	0.0
	comp=N,1.0nm,0.7s,baz=294,slow=1.6,SNR=7.7						
WRA	**Warramunga Arr**	**67.62**	**199**	P	**P**	**20 32 21.5**	**+1.7**
	comp=N,0.4nm,0.7s,mb3.6,baz=17,slow=6.4,SNR=3.2						
NB2	**NORSAR Subarra**	**69.19**	**341**	P	**P**	**20 32 29.7**	**+0.5**
	comp=Z,3.1nm,0.8s,mb4.3,baz=31,slow=6.5						
NOA	**NORSAR Array B**	**69.19**	**341**	P	**P**	**20 32 29.2**	**0.0**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.9s						
NOA	**NORSAR Array B**	**69.19**	**341**	P	**P**	**20 32 29.2**	**0.0**
	comp=Z,1.4nm,0.9s,mb3.9,baz=268,slow=2.8,SNR=3.4						
HFS	**Hagfors**	**69.41**	**340**	P	**P**	**20 32 30.9**	**+0.3**
HFS				pmax	pmax		
	comp=Z,2.0nm,0.4s						
HFS	**Hagfors**	**69.41**	**340**	P	**P**	**20 32 30.9**	**+0.3**
	comp=Z,1.7nm,0.4s,mb4.3,baz=57,slow=5.5,SNR=11						
ASAR	**Alice Springs**	**71.31**	**199**	P	**P**	**20 32 45.5**	**+2.9**
ASAR				*PP	pP	20 32 58.8	+3.0
ASAR				pmax	pmax		
	comp=N,1.0nm,0.7s						
ASAR	**Alice Springs**	**71.31**	**199**	P	**P**	**20 32 45.5**	**+2.9**
	comp=N,0.2nm,0.5s,mb3.3,baz=8.6,slow=6.1,SNR=4.4						
ASAR				pP	pP	20 32 58.8	+3.0
	comp=N,0.6nm,0.7s,baz=16,slow=6.1,SNR=4.7						
AKASG	**Malin Array Be**	**72.41**	**326**	P	**P**	**20 32 48.5**	**-0.5**
AKASG				*PP	pP	20 33 01.4	-0.8
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
AKASG				pmax	pmax		
	comp=N,1.0nm,0.4s						
AKASG	**Malin Array Be**	**72.41**	**326**	P	**P**	**20 32 48.5**	**-0.5**
	comp=N,1.2nm,0.4s,mb4.2,baz=35,slow=6.2,SNR=12						
AKASG				pP	pP	20 33 01.4	-0.9
	comp=N,1.3nm,0.4s,baz=34,slow=6.1,SNR=6.2						
EKA	**Eskdalemuir Ar**	**77.31**	**346**	P	**P**	**20 33 18.8**	**+1.6**
EKA				*PP	pP	20 33 31.2	+0.7
EKA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
EKA	**Eskdalemuir Ar**	**77.31**	**346**	P	**P**	**20 33 18.8**	**+1.6**
	comp=Z,0.8nm,0.5s,mb3.9,baz=23,slow=5.0,SNR=11						
EKA				pP	pP	20 33 31.2	+0.7
	comp=Z,0.4nm,0.4s,baz=21,slow=4.6,SNR=2.1						
TXAR	**Lajitas Array**	**77.89**	**60**	P	**P**	**20 33 20.5**	**-0.4**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
TXAR	**Lajitas Array**	**77.89**	**60**	P	**P**	**20 33 20.5**	**-0.4**
	comp=Z,0.6nm,0.6s,mb3.7,baz=305,slow=3.8,SNR=9.2						
MLR	**Muntele Rosu**	**77.92**	**325**	P	**P**	**20 33 23.1**	**+2.3**
MLR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
MLR	**Muntele Rosu**	**77.92**	**325**	P	**P**	**20 33 23.1**	**+2.3**
	comp=Z,1.2nm,0.5s,mb4.1,baz=342,slow=9.6,SNR=4.6						
KHC	**Kasperske Hory**	**79.16**	**334**	*e*P	**P**	**20 33 29.0**	**+1.5**
KHC				*e*	pP	20 33 41.5	+0.6
KHC	**Kasperske Hory**	**79.16**	**334**	*e*P	**P**	**20 33 29.0**	**+1.5**
KHC				x	x	20 33 41.5	
GERES	**GERESS Array B**	**79.38**	**334**	P	**P**	**20 33 32.3**	**+3.6**
	comp=Z,0.4nm,0.5s,mb3.6,baz=38,slow=5.6,SNR=6.7						
MMAI	**Mount Me

WB2 Warramunga Arr 24.04 163 *eP* **P 20 48 30.7 -0.2**
MBWA Marble Bar 25.11 196 *eP* **P 20 48 40.1 -0.6**
6.5nm,0.9s,mb4.2
ASAR Alice Springs 27.46 166 P **P 20 49 01.4 -0.6**
0.9nm,0.5s,mb3.6,baz=348,slow=7.2,SNR=18
KSRS Korea Array 34.20 1 P **P 20 50 00.8 -0.3**
1.4nm,0.7s,mb4.0,baz=178,slow=8.6,SNR=5.6
NWAO Narrogin (SRO) 36.98 194 P **P 20 50 24.9 -0.1**
9.1nm,1.0s,mb4.5,baz=35,slow=11,SNR=4.0
STKA Stephens Creek 37.48 159 *eP* **P 20 50 29.3 0.0**
4.1nm,0.8s,mb4.3
STKA Stephens Creek 37.48 159 P **P 20 50 28.9 -0.3**
4.4nm,0.6s,mb4.4,baz=330,slow=7.9,SNR=13
BJT Baijiatuau 38.02 347 *eP* **P 20 50 32.1 -1.6**
LSA Lhasa 42.98 312 P **P 20 51 10.1 -4.8**
ASAJ Asahikawa 43.14 17 P **P 20 51 15.7 -0.2**
5.2nm,0.7s,mb4.4,baz=185,slow=13,SNR=4.6
KLR Kul'dur 46.15 4 *eP* **P 20 51 36.2 -3.5**
KLR *e* 20 53 20.8
HIA Hailar 46.40 354 *i P* **P 20 51 42.0 +0.3**
ULN Ulaanbaatar 47.77 342 *i P* **P 20 51 53.5 +1.1**
SONM Songino Array 47.95 341 P **P 20 51 53.8 0.0**
0.7nm,0.8s,mb3.8,baz=157,slow=8.3,SNR=8.9
BOD Bodaibo 55.51 352 *eP* **P 20 52 50.3 +0.4**
MKAR Makanchi Array 58.17 325 P **P 20 53 08.6 -0.4**
0.4nm,0.4s,mb3.9,baz=118,slow=8.3,SNR=13
YAK Yakutsk 58.83 2 *i P* **P 20 53 14.4 +1.1**
ZALV Zalesovo Beam 61.22 333 P **P 20 53 28.4 -1.5**
0.9nm,0.6s,mb4.1,baz=123,slow=5.5,SNR=5.8
ZAL Zalesovo 61.23 333 P **P 20 53 28.4 -1.5**
KURK Kurchatov 62.36 328 *eP* **P 20 53 37.2 -0.3**
4.0nm,0.8s,mb4.6
KURK Kurchatov 62.36 328⇑ *eP* **P 20 53 38.2 +0.6**
NVS Novosibirsk 62.51 333 *eP* **P 20 53 38.7 +0.3**
SEY Seymchan 62.60 13 *i P* **P 20 53 40.9 +2.0**
TIXI Tiksi 68.47 1 *eP* **P 20 54 15.7 -0.9**
2.6nm,0.3s,mb4.7
TIXI Tiksi 68.47 1 *i P* **P 20 54 16.8 +0.2**
TIXI pmax pmax
comp=Z,2.0nm,1.1s,mb4.1
BILL Bilibino 70.11 15⇑ *eP* **P 20 54 26.1 -0.8**
BILL pmax pmax
comp=Z,2.0nm,0.6s,mb4.2
SVE Sverdlovsk 74.58 329 *eP* **P 20 54 54.3 +0.6**
SVE pmax pmax
comp=Z,7.0nm,0.7s,mb4.7
ARU Arti 75.56 328 *eP* **P 20 54 58.7 -0.6**
comp=Z,3.7nm,0.6s,mb4.5
ARU Arti 75.56 328 *c i P* **P 20 54 59.6 +0.3**
ARU *e* 20 57 46.5
ARU *e*PPP 20 59 33.4
ARU *e*S S 21 04 38.4 +3.4
ARU pmax pmax
comp=Z,11nm,2.5s,mb4.3
VNDA Vanda 82.78 173 P **P 20 55 39.0 +0.6**
comp=Z,0.8nm,0.7s,mb3.9,baz=332,slow=5.5,SNR=5.4
OBN Obninsk 87.67 325 *eP* **P 20 56 04.0 +0.8**
OBN pmax pmax
comp=Z,3.0nm,0.6s,mb4.7
KMBO Kilima Mbogo 89.71 269 P **P 20 56 15.5 +1.8**
KMBO Kilima Mbogo 89.71 269 P **P 20 56 15.5 +1.8**
comp=Z,0.4nm,0.3s,mb4.2,baz=38,slow=13,SNR=4.1
TORD Torodi Ar. Bea 123.28 288 PKP PKPdf 21 02 13.2 +0.8
comp=Z,1.1nm,0.8s,baz=64,slow=1.9,SNR=6.4

*BJI **11** 20:44:58.7, 269N×12684E, h28km, mB4.9, mb4.6, Ms3.7, Msz3.7*
*IDC **11** 20:44:59.6±0.6, 3.14N×12698E, h0km, mb4.4/17, mb1 4.5/17, mb1mx4.5/21, mbtmp4.4/17, MS4.0/3, Ms1 4.0/3, ms1mx3.4/30, Error ellipse: s-maj=32.9km s-min=12.1km az=81.0*
*ISCJB **11** 20:45:00.8±2.2, 3.13N±004×12684E±008, h16km±15km, mb4.6/50, MS3.9/13, Error ellipse: s-maj=13.6km s-min=6.6km az=167.9*
*NEIC **11** 20:45:01.4±0.3, 3.13N×12692E, h10km, mb4.8/15, Error ellipse: s-maj=15.0km s-min=5.7km az=79.0*
*MOS **11** 20:45:03.3±1.2, 3.12N×12684E, h33km, mb5.0/17, Error ellipse: s-maj=20.1km s-min=7.3km az=102.2*
ISC 11 20:45:06.0±1.7, 309N±004×12692E±008, h42km±16km, h29km±4.7km: pP-P, n96, σ0=99/92, mb4.6/49, MS3.9/13, 4C-4D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMMI	**Kalianget**	**16.39**	**232**	P	**Pn**	**20 48 57.8**	**+4.7**
	57nm,0.9s						
KAKA	**Kakadu**	**16.63**	**161**	*eP*	**Pn**	**20 48 57.3**	**+1.1**
	55nm,0.7s						
BJII	**Banjamegara**	**20.05**	**239**	P	**P**	**20 49 42.6**	**+6.8**
	51nm,2.2s						
TPI	**Tanjungpandan**	**20.11**	**253**	P	**P**	**20 49 37.3**	**+0.9**
	39nm,1.1s						
GUMO	**Guam**	**20.58**	**59**	LR	LR	20 57 10.0	
	comp=Z,186nm,20.2s,MS3.4,baz=232,slow=36						
FITZ	**Fitzroy Crossi**	**21.09**	**183**	*eP*	**P**	**20 49 47.1**	**+0.1**
	20nm,0.9s,mb4.5						
FITZ	**Fitzroy Crossi**	**21.09**	**183**	P	**P**	**20 49 47.2**	**+0.2**
	14nm,0.9s,mb4.3,baz=4.7,slow=9.0,SNR=7.8						
LEM	**Lembang**	**21.64**	**243**	P	**P**	**20 49 57.5**	**+4.6**
	114nm,0.9s,mb5.3						
CBJI	**Citeko**	**22.15**	**245**	P	**P**	**20 50 02.1**	**+3.7**
	124nm,1.0s,mb5.3						
QIZ	**Qiongzhong**	**23.02**	**315**	P	**P**	**20 50 04.0**	**-3.5**
QIZ				S	**S**	**20 54 09.6**	**-5.7**
QIZ				XS	sS	20 54 28.2	-5.8
QIZ				AMB	AMB		
	comp=Z,18nm,2.1s,mb4.1						
QIZ				LR	LR		
	comp=N,227nm,24.0s						
QIZ				LR	LR		
	comp=Z,274nm,20.3s,MS3.7						
WRAB	**Tennant Creek**	**24.02**	**163**	*eP*	**P**	**20 50 15.7**	**-1.3**
WRAB	**Tennant Creek**	**24.02**	**163**	*i P*	**P**	**20 50 16.4**	**-0.6**
WRA	**Warramunga Arr**	**24.02**	**163**	P	**P**	**20 50 16.0**	**-1.0**
	comp=Z,8.6nm,0.6s,mb4.3,baz=343,slow=9.4,SNR=16						
WB2	**Warramunga Arr**	**24.02**	**163**	*eP*	**P**	**20 50 16.4**	**-0.7**
WB2				*e*S	**S**	**20 54 30.4**	**-1.2**
MBWA	**Marble Bar**	**25.11**	**196**	*eP*	**P**	**20 50 26.9**	**0.0**
	comp=Z,41nm,1.2s,mb4.8						
ASAR	**Alice Springs**	**27.45**	**166**	P	**P**	**20 50 47.4**	**-0.8**
	comp=Z,2.0nm,0.5s,mb3.9,baz=348,slow=7.0,SNR=12						
ASAR				PcP	PcP	20 54 05.5	-0.6
	comp=Z,0.6nm,0.6s,baz=358,slow=2.8,SNR=4.0						
SSE	**Sheshan**	**28.38**	**350**	P	**P**	**20 50 56.0**	**-0.3**
SSE				AP	pP	20 51 04.7	-3.0
SSE				XP	sP	20 51 08.2	-4.5
SSE				S	**S**	**20 55 41.0**	**+0.6**
SSE				XS	sS	20 55 52.8	-6.6
SSE				AMB	AMB		
	comp=Z,25nm,0.7s,mb5.0						
SSE				AMB	AMB		
	comp=Z,83nm,7.4s						
SSE				LR	LR		
	comp=N,74nm,23.7s,MS3.4						
SSE				LR	LR		
	comp=E,96nm,23.7s,MS3.4						
SSE				LR	LR		
	comp=Z,149nm,17.7s						
NJ2	**Nanjing**	**29.79**	**346**	*eP*	**P**	**20 51 09.3**	**+0.4**
NJ2				AMB	AMB		
	comp=Z,60nm,0.7s,mb5.4						
KSRS	**Korea Array**	**34.21**	**1**	P	**P**	**20 51 47.0**	**-0.5**
	comp=Z,4.0nm,0.8s,mb4.4,baz=179,slow=10,SNR=12						
MJAR	**Matsushiro Arr**	**34.88**	**16**	P	**P**	**20 51 51.5**	**-1.9**
	comp=Z,1.0nm,0.6s,mb3.9,baz=185,slow=8.9,SNR=4.7						
MJAR				PcP	PcP	20 54 26.6	+1.0
	comp=Z,0.6nm,0.4s,baz=205,slow=2.1,SNR=4.6						
XAN	**Xi'an**	**35.07**	**333**	P	**P**	**20 51 53.5**	**-1.5**
XAN				AMB	AMB		
	comp=Z,6.0nm,1.1s,mb4.4						
XAN				AMB	AMB		
	comp=Z,68nm,5.6s						
XAN				LR	LR		
	comp=N,61nm,27.4s,MS3.6						
XAN				LR	LR		
	comp=E,144nm,28.5s,MS3.6						
XAN				LR	LR		
	comp=Z,244nm,24.3s,MS3.9						
HNR	**Honiara**	**35.19**	**111**	LR	LR	21 07 17.9	
	comp=Z,227nm,18.1s,MS4.0,baz=210,slow=38						
NWAO	**Narrogin (SRO)**	**36.97**	**194**	P	**P**	**20 52 12.1**	**+0.7**
NWAO	**Narrogin (SRO)**	**36.97**	**194**	P	**P**	**20 52 12.1**	**+0.7**
	comp=Z,2.8nm,0.5s,mb4.3,baz=37,slow=6.0,SNR=5.4						
STKA	**Stephens Creek**	**37.47**	**159**	*eP*	**P**	**20 52 14.9**	**-0.6**
	comp=Z,7.4nm,0.6s,mb4.7						
STKA	**Stephens Creek**	**37.47**	**159**	P	**P**	**20 52 14.7**	**-0.8**
	comp=Z,8.0nm,0.7s,mb4.7,baz=341,slow=8.0,SNR=7.7						
BJT	**Baijiatuau**	**38.03**	**347**	*eP*	**P**	**20 52 20.0**	**-0.2**
	comp=Z,29nm,1.2s,mb4.9						
BJT	**Baijiatuau**	**38.03**	**347**	*eP*	**P**	**20 52 20.0**	**-0.2**
BJT				pmax	pmax		
	comp=Z,29nm,1.2s						
BJI	**Beijing**	**38.05**	**347**	P	**P**	**20 52 20.1**	**-0.3**
BJI				LR	LR		
	comp=N,76nm,24.3s,MS3.8						
BJI				LR	LR		
	comp=E,153nm,22.6s,MS3.8						
BJI				LR	LR		
	comp=Z,147nm,28.6s						
LZH	**Lanzhou**	**39.15**	**330**	*eP*	**P**	**20 52 30.7**	**+1.1**
LZH				AP	pP	20 52 38.5	-2.7
LZH				XP	sP	20 52 42.2	-4.0
LZH				AMB	AMB		
	comp=Z,29nm,1.2s,mb4.9						
LZH				AMB	AMB		
	comp=Z,120nm,4.8s						
SHL	**Shillong**	**40.41**	**307**	*ex*	x	20 52 41.5	
MDJ	**Mudanjiang**	**41.42**	**3**	P	**P**	**20 52 48.6**	**+0.3**
MDJ				AP	pP	20 52 53.9	-6.1
MDJ				PP	PP	20 54 23.6	-1.0
MDJ				S	**S**	**20 59 06.8**	**+6.3**
MDJ				SS	SS	21 02 06.3	+0.4
MDJ				AMB	AMB		
	comp=Z,13nm,0.9s,mb4.6						
MDJ				AMB	AMB		
	comp=Z,77nm,5.7s						
MDJ				LR	LR		
	comp=E,79nm,30.1s						
MDJ				LR	LR		
	comp=Z,87nm,28.8s,MS3.5						
MDJ	**Mudanjiang**	**41.42**	**3**	*eP*	**P**	**20 52 47.4**	**-0.9**
	comp=Z,11nm,0.9s,mb4.5						
LSA	**Lhasa**	**43.00**	**312**	P	**P**	**20 53 02.0**	**+0.5**
LSA	**Lhasa**	**43.00**	**312**	*eP*	**P**	**20 53 02.0**	**+0.6**
	comp=Z,8.5nm,0.9s,mb4.5						
LSA	**Lhasa**	**43.00**	**312**	*eP*	**P**	**20 53 02.0**	**+0.5**
LSA				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.5						
ASAJ	**Asahikawa**	**43.15**	**17**	P	**P**	**20 53 02.6**	**+0.3**
	comp=Z,8.6nm,0.9s,mb4.5,baz=260,slow=15,SNR=4.4						
GTA	**Gaotai**	**43.74**	**329**	*eP*	**P**	**20 53 07.6**	**+0.4**
GTA				AP	pP	20 53 14.3	-4.7
GTA				XP	sP	20 53 18.0	-5.9
GTA				AMB	AMB		
	comp=Z,3.0nm,1.4s,mb3.8						
HABR	**Khabarovsk**	**45.75**	**8**	*eP*	**P**	**20 53 22.9**	**-0.2**
HABR				*e*		20 53 30.7	
HABR				*e*	pP	20 53 35.6	+0.7
HABR				*e*S	**S**	**21 00 03.8**	**+0.2**
HABR				*e*		21 00 23.3	
YSS	**Yuzh-Sakhalins**	**45.81**	**15⇓**	*eP*	**P**	**20 53 25.3**	**+1.7**
YSS				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.7						
YSS				MLR	MLR		
	comp=Z,100nm,22.0s,MS3.7						
HIA	**Hailar**	**46.41**	**354**	*eP*	**P**	**20 53 28.8**	**+0.5**
	comp=Z,15nm,1.2s,mb4.8						
HIA	**Hailar**	**46.41**	**354**	*eP*	**P**	**20 53 28.8**	**+0.5**
HIA				pmax	pmax		
	comp=Z,15nm,1.2s						
ULN	**Ulaanbaatar**	**47.78**	**342⇓**	*eP*	**P**	**20 53 39.3**	**+0.3**
SONM	**Songino Array**	**47.96**	**341**	P	**P**	**20 53 39.8**	**-0.6**
SONM				PcP	PcP	20 55 07.6	-0.6
SONM	**Songino Array**	**47.96**	**341**	P	**P**	**20 53 39.8**	**-0.6**
	comp=Z,2.5nm,0.8s,mb4.3,baz=151,slow=8.2,SNR=13						
SONM				PcP	PcP	20 55 07.6	-0.6
	comp=Z,1.3nm,0.9s,baz=142,slow=5.4,SNR=4.9						
HYB	**Hyderabad**	**49.51**	**290**	*i P*	**P**	**20 53 53.0**	**+0.2**
CIT	**Chita**	**50.03**	**349**	*eP*	**P**	**20 53 56.1**	**0.0**
CIT				*e*		21 01 18.9	
ZAK	**Zakamensk**	**51.19**	**341**	*eP*	**P**	**20 54 01.6**	**-3.3**
ZAK				*e*		20 55 18.4	
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.6s,mb3.8						
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.0s,mb4.0						
TLY	**Talaya**	**52.19**	**342**	*eP*	**P**	**20 54 13.0**	**+0.6**
	comp=Z,5.8nm,1.0s,mb4.5						
TLY	**Talaya**	**52.19**	**342**	*eP*	**P**	**20 54 13.1**	**+0.7**
TLY				*e*		20 54 30.5	
TLY				pmax	pmax		
	comp=Z,8.0nm,1.8s,mb4.3						
TLY				MLR	MLR		
	comp=Z,153nm,23.0s,MS4.0						
IRK	**Irkutsk**	**52.49**	**343**	*eP*	**P**	**20 54 12.7**	**-1.9**
IRK				pmax	pmax		
	comp=Z,13nm,1.0s,mb4.8						
MOY	**Mondy**	**53.04**	**340**	*eP*	**P**	**20 54 20.7**	**+2.0**
WMQ	**Urumqi**	**53.35**	**325⇑**	*iP*	**P**	**20 54 20.5**	**-0.6**
WMQ				AP	pP	20 54 30.5	-2.6
WMQ				XP	sP	20 54 35.0	-3.0
WMQ				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.7						
WMQ				AMB	AMB		
	comp=Z,204nm,4.8s						
WMQ				LR	LR		
	comp=N,431nm,29.8s,MS4.4						
WMQ				LR	LR		
	comp=E,246nm,25.4s,MS4.4						
WMQ				LR	LR		
	comp=Z,312nm,23.0s,MS4.3						
BOD	**Bodaibo**	**55.52**	**352**	*eP*	**P**	**20 54 36.4**	**-0.2**
BOD				pmax	pmax		
	comp=Z,11nm,1.1s,mb4.8						
MKAR	**Makanchi Array**	**58.19**	**325**	P	**P**	**20 54 54.8**	**-0.9**
	comp=Z,3.3nm,0.7s,mb4.5,baz=120,slow=8.6,SNR=13						
YAK	**Yakutsk**	**58.84**	**2**	*eP*	**P**	**20 54 59.6**	**-0.4**
YAK				pmax	pmax		
	comp=Z,24nm,1.0s,mb5.2						
YAK				pmax	pmax		
	comp=N,7.0nm,1.2s						
YAK				pmax	pmax		
	comp=E,4.0nm,1.5s						
MA2	**Magadan**	**59.28**	**14**	*eP*	**P**	**20 55 05.7**	**+2.6**
MA2				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.9						
MA2				pmax	pmax		
	comp=N,10.0nm,0.9s						
ZAA0	**Zalesovo Array**	**61.24**	**333**	*eP*	**P**	**20 55 16.6**	**0.0**
ZALV	**Zalesovo Beam**	**61.24**	**333**	P	**P**	**20 55 15.4**	**-1.2**
	comp=N,4.7nm,0.8s,mb4.7,baz=122,slow=5.6,SNR=17						
ZAL	**Zalesovo**	**61.24**	**333**	P	**P**	**20 55 15.4**	**-1.2**
KURK	**Kurchatov**	**62.38**	**328**	*eP*	**P**	**20 55 23.2**	**-1.1**
	comp=N,13nm,0.8s,mb5.1						
KURK	**Kurchatov**	**62.38**	**328**	*d iP*	**P**	**20 55 23.6**	**-0.7**
NVS	**Novosibirsk**	**62.52**	**333**	*eP*	**P**	**20 55 23.5**	**-1.7**
NVS				pmax	pmax		
	comp=Z,12nm,1.0s,mb5.0						
NVS				pmax	pmax		
	comp=N,6.0nm,1.2s						
NVS				pmax	pmax		
	comp=E,9.0nm,1.9s						
SEY	**Seymchan**	**62.61**	**13⇑**	*eP*	**P**	**20 55 27.2**	**+1.6**
BRVK	**Borovoye**	**68.03**	**327**	*eP*	**P**	**20 56 00.1**	**-0.8**
	comp=E,8.2nm,0.9s,mb4.8						
BRVK	**Borovoye**	**68.03**	**327**	*eP*	**P**	**20 56 00.1**	**-0.8**
BRVK				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.8						
TIXI	**Tiksi**	**68.48**	**1**	*eP*	**P**	**20 56 02.5**	**-0.9**
	comp=Z,13nm,1.2s,mb4.8						
TIXI	**Tiksi**	**68.48**	**1⇓**	*eP*	**P**	**20 56 03.1**	**-0.3**
TIXI				pmax	pmax		
	comp=Z,12nm,1.7s,mb4.7						
TIXI				MLR	MLR		
	comp=Z,100nm,17.0s,MS4.1						
BILL	**Bilibino**	**70.12**	**15**	*i P*	**P**	**20 56 13.9**	**+0.3**
BILL				*e*SS	SS	21 09 53.6	+1.9
BILL				pmax	pmax		
	comp=Z,2.0nm,1.2s,mb3.9						
BILL				MLR	MLR		
	comp=Z,100nm,24.0s,MS4.0						
SVE	**Sverdlovsk**	**74.60**	**329**	*eP*	**P**	**20 56 40.4**	**-0.1**
SVE				pmax	pmax		
	comp=Z,16nm,0.9s,mb5.0						
ARU	**Arti**	**75.57**	**328**	*eP*	**P**	**20 56 45.0**	**-1.2**
	comp=Z,13nm,0.9s,mb4.8						
ARU	**Arti**	**75.57**	**328**	*c i P*	**P**	**20 56 45.2**	**-1.0**
ARU				*e*	pP	20 56 58.9	+0.2
ARU				*e*		20 59 32.1	
ARU				*e*S	S	21 06 23.5	-0.4
ARU				pmax	pmax		
	comp=Z,13nm,0.8s,mb4.9						
SVW2	**Sparrevohn**	**81.27**	**29**	*eP*	**P**	**20 57 18.5**	**+1.0**
TTA	**Tatalina**	**81.38**	**27**	*eP*	**P**	**20 57 19.0**	**+0.9**
	comp=Z,16nm,1.3s,mb4.8						
TTA	**Tatalina**	**81.38**	**27**	*eP*	**P**	**20 57 19.0**	**+0.9**
TTA				pmax	pmax		
	comp=Z,16nm,1.3s,mb4.8						
VNDA	**Vanda**	**82.77**	**173**	P	**P**	**20 57 25.8**	**+0.8**
	comp=Z,1.0nm,0.6s,mb4.0,baz=332,slow=5.2,SNR=8.2						
IMA2	**Indian Mountai**	**82.89**	**24**	*eP*	**P**	**20 57 26.8**	**+0.9**
KIV	**Kislovodsk**	**83.71**	**314**	*eP*	**P**	**20 57 32.1**	**+1.5**
KIV				pmax	pmax		
	comp=Z,4.0nm,1.2s,mb4.4						
SLKM	**Skilak Lake**	**83.81**	**30**	*eP*	**P**	**20 57 31.0**	**+0.3**
SML	**Sawmill**	**84.81**	**28**	*eP*	**P**	**20 57 36.3**	**+0.5**
SOC	**Sochi**	**85.86**	**313**	*i P*	**P**	**20 57 41.5**	**+0.1**
MALT	**Malatya**	**86.92**	**308**	*eP*	**P**	**20 57 47.5**	**+0.7**
	comp=Z,5.6nm,0.8s,mb4.8						
MALT	**Malatya**	**86.92**	**308**	*eP*	**P**	**20 57 47.5**	**+0.7**
MALT				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.9						
ANN	**Anapa**	**87.48**	**315**	*eP*	**P**	**20 57 44.2**	**-5.1**
ANN				*e*S	S	21 08 07.5	-20
ANN				pmax	pmax		
	comp=Z,19nm,1.2s,mb5.2						
OBN	**Obninsk**	**87.69**	**325⇑**	*eP*	**P**	**20 57 49.9**	**-0.2**
OBN				*e**PP	pP	20 57 56.8	-6.0
OBN				*e*		21 01 16.8	
OBN				*e*		21 08 17.2	
OBN				pmax	pmax		
	comp=Z,26nm,1.1s,mb5.4						
ASF	**Jabal al Asfar**	**88.39**	**302**	P	**P**	**20 57 54.8**	**+0.9**
	comp=Z,6.7nm,0.9s,mb4.9,baz=322,slow=3.7,SNR=10						
KMBO	**Kilima Mbogo**	**89.72**	**269**	*i P*	**P**	**20 57 55.5**	**-5.1**
KMBO	**Kilima Mbogo**	**89.72**	**269**	P	**P**	**20 58 01.8**	**+1.2**
	comp=Z,3.4nm,0.9s,mb4.7,baz=45,slow=7.2,SNR=9.7						
ARCES	**ARCESS Array B**	**91.11**	**340**	P	**P**	**20 58 07.4**	**+1.5**
	comp=Z,6.0nm,1.1s,mb4.8,baz=81,slow=6.5,SNR=4.2						
AKASG	**Malin Array Be**	**92.50**	**321**	P	**P**	**20 58 11.1**	**-1.6**
	comp=Z,0.3nm,0.3s,mb4.2,baz=74,slow=4.4,SNR=9.8						
NOA	**NORSAR Array B**	**99.44**	**334**	LR	LR	21 45 12.4	
	comp=Z,106nm,19.0s,MS4.4,baz=280,slow=36						
YKA	**Yellowknife Ar**	**100.00**	**24**	P	Pdif	20 58 45.5	-1.1
YKA	**Yellowknife Ar**	**100.00**	**24**	*i P*	Pdif	20 58 46.2	-0.4
YKA	**Yellowknife Ar**	**100.00**	**24**	P	Pdif	20 58 45.5	-1.1
	comp=Z,0.4nm,1.0s,baz=300,slow=4.6,SNR=3.6						
YMR	**Madison River**	**109.96**	**40**	*eP*	PKiKP	21 03 33.5	+0.5
TORD	**Torodi Ar. Bea**	**123.29**	**288**	PKP	PKPdf	21 03 59.7	+0.3
	comp=Z,3.1nm,0.9s,baz=46,slow=2.0,SNR=16						

*IDC **11** 21:04:07.8±3.5, 734S×15575E, h0km, mb3.8/6, mb1 4.0/6, mb1mx3.8/14, mbtmp3.8/6, Error ellipse: s-maj=111.6km s-min=25.5km az=105.0*
*NEIC **11** 21:04:09.8±1.4, 734S×15566E, h10km, mb4.3/1, Error ellipse: s-maj=38.3km s-min=14.5km az=110.0*
*ISCJB **11** 21:04:10.7±2.1, 74S±02×1559E±04, h33km, mb3.8/7, Error ellipse: s-maj=57.2km s-min=20.2km az=20.4*
ISC 11 21:04:13.5±2.2, 74S±02×1557E±04, h35km, n8, σ0=26/8, mb3.8/7, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**23.47**	**255**	*eP*	**P**	**21 09 20.2**	**-0.2**
	11nm,1.2s,mb4.2						
WB2	**Warramunga Arr**	**24.15**	**237**	*eP*	**P**	**21 09 26.5**	**0.0**
WRA	**Warramunga Arr**	**24.16**	**237**	P	**P**	**21 09 26.6**	**0.0**
	3.5nm,0.9s,mb3.8,baz=58,slow=9.3,SNR=18						
ASAR	**Alice Springs**	**26.43**	**230**	P	**P**	**21 09 47.4**	**+0.2**
	0.8nm,0.9s,mb3.2,baz=60,slow=9.8,SNR=5.4						
STKA	**Stephens Creek**	**27.68**	**206**	P	**P**	**21 09 58.3**	**0.0**
	1.7nm,0.5s,mb3.9,baz=35,slow=12,SNR=6.1						
SONM	**Songino Array**	**70.02**	**327**	P	**P**	**21 15 22.0**	**+0.3**
	0.2nm,0.4s,mb3.4,baz=142,slow=6.9,SNR=4.5						
MKAR	**Makanchi Array**	**84.13**	**319**	P	**P**	**21 16 41.3**	**+0.3**
	0.5nm,0.7s,mb3.8,baz=104,slow=6.3,SNR=7.6						
ZALV	**Zalesovo Beam**	**84.87**	**326**	P	**P**	**21 16 44.0**	**-0.6**
	0.9nm,0.6s,mb4.0,baz=110,slow=6.0,SNR=3.1						

IDC 11 21:17:53.5±1.7, 064N×12553E, h0km, mb3.9/4, mb1 4.0/4, mb1mx3.7/16, mbtmp3.9/4, Error ellipse: s-maj=179.2km s-min=22.0km az=64.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.20**	**158**	P	P	21 22 50.8	-0.8
	3.1nm,0.5s,baz=335,slow=12,SNR=19						
ASAR	**Alice Springs**	**25.49**	**162**	P	P	21 23 24.9	+1.2
	1.1nm,0.5s,baz=347,slow=12,SNR=18						
STKA	**Stephens Creek**	**35.74**	**156**	P	P	21 24 53.4	-0.7
	1.4nm,0.7s,baz=305,slow=8.1,SNR=3.4						
MKAR	**Makanchi Array**	**59.44**	**327**	P	P	21 27 58.1	0.0
	0.5nm,0.4s,baz=122,slow=7.7,SNR=15						

*NEIC **11** 21:35:35.7, 1700N×99.15W, h43km, MD3.9(MEX), After MEX.*
MEX 11 21:35:35.2±0.7, 1698N×9913W, h31km±27km, MD3.9, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MEIG	**Mezcala**	**1.05**	**333**	*i P*	Pn	21 35 51.6	-2.3
MEIG				*i* S	Sn	21 36 04.7	-2.8
CAIG	**El Cayaco**	**1.09**	**274**	*i P*	Pn	21 35 51.9	-2.6
CAIG				*i* S	Sn	21 36 06.5	-2.0
PNIG	**Pinotepa**	**1.12**	**121**	*i P*	Pn	21 35 52.4	-2.3
PNIG				*i* S	Sn	21 36 08.1	-1.0
PNIG	**Pinotepa**	**1.12**	**121**	*i P*	Pn	21 35 52.4	-2.3
PNIG				*i* S	Sn	21 36 06.8	-2.3
PLIG	**Platanillo**	**1.45**	**346**	*eP*	Pn	21 35 57.9	-1.5
PLIG				*i* S	Sn	21 36 15.2	-2.2
UTMO	**Huajuapan**	**1.52**	**56**	*eP*	Pn	21 35 58.1	-2.1
UTMO				*i* S	Sn	21 36 17.4	-1.6
YAIG	**Yautepec**	**1.88**	**2**	*i P*	Pn	21 36 04.7	-0.5
YAIG				*i* S	Sn	21 36 27.1	-0.7
YAIG	**Yautepec**	**1.88**	**2**	*i P*	Pn	21 36 03.7	-1.5
YAIG				*i* S	Sn	21 36 26.0	-1.8
PPM	**Popocatepetl**	**2.13**	**13**	*i P*	Pn	21 36 08.1	-0.6
PPM				*i* S

PRS1	**Puriscal**	**1.68**	**308**	*e*P	Pn	21 47 25.0	-1.1
PRS1	**Puriscal**	**1.68**	**308**⇓	*e*P	Pn	21 47 25.1	-1.0
CGA2	**Cerro Gallo 2**	**1.82**	**306**	*e*P	Pn	21 47 27.7	-0.4
CGA2				*e*S	Sn	21 47 51.9	+0.4
CGA2	**Cerro Gallo 2**	**1.82**	**306**⇑	*e*P	Pn	21 47 27.6	-0.4
CGA2				*e*S	Sn	21 47 52.0	+0.4
JCR	**Jicaral**	**2.30**	**293**	*e*P	Pn	21 47 35.9	+1.3
JCR				*e*S	Sn	21 48 04.7	+1.3
JCR	**Jicaral**	**2.30**	**293**⇑	*e*P	Pn	21 47 35.7	+1.1
JCR				*e*S	Sn	21 48 04.1	+0.8
VCR	**Vista de Mar**	**2.88**	**294**	*e*P	Pn	21 47 42.3	-0.3
VCR	**Vista de Mar**	**2.88**	**294**	*e*P	Pn	21 47 42.6	0.0
AZU	**Azuero**	**2.90**	**113**	*e*P	Pn	21 47 44.9	+1.9
AZU	**Azuero**	**2.90**	**113**	*e*P	Pn	21 47 43.3	+0.3
BCIP	**Isla Barro Col**	**3.10**	**86**	*e*P	Pn	21 47 44.6	-1.1
LAPE	**La Pedrera**	**11.36**	**96**	*i* P		21 47 45.2	
PTP	**Ponta Puerca**	**19.22**	**59**	*i* P		21 47 09.9	

IDC 11 21:52:36.2±7.2, 762S×12854E, h131km±76km, mb3.4/1, mb1 3.7/5, mb1mx3.4/15, mbtmp3.6/5, Error ellipse: s-maj=67.5km s-min=24.3km az=34.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Kupang**	**5.46**	**242**	P	Pn	21 53 57.6	+1.9
	33nm,0.3s,baz=109,slow=3.0,SNR=57						
BATI				S	Sn	21 54 56.5	-1.0
	11nm,0.3s,baz=82,slow=4.4,SNR=9.6						
FITZ	**Fitzroy Crossi**	**10.79**	**195**	P	Pn	21 55 06.1	-1.1
	1.9nm,0.3s,baz=29,slow=13,SNR=60						
FITZ				S	Sn	21 57 00.6	-5.7
	1.3nm,0.3s,baz=95,slow=21,SNR=6.1						
WRA	**Warramunga Arr**	**13.47**	**156**	P	Pn	21 55 41.5	-0.7
	0.5nm,0.3s,baz=340,slow=12,SNR=32						
WRA				S	Sn	21 58 04.7	-6.4
	1.9nm,0.3s,baz=332,slow=22,SNR=14						
ASAR	**Alice Springs**	**16.76**	**163**	P	Pn	21 56 25.2	+1.9
	0.2nm,0.3s,baz=344,slow=11,SNR=17						
ASAR				S	S	21 59 24.3	-5.9
	0.3nm,0.3s,baz=350,slow=25,SNR=6.3						
MKAR	**Makanchi Array**	**67.96**	**328**	P	P	22 03 21.1	+0.1
	0.4nm,0.4s,baz=125,slow=7.7,SNR=16						

*ISCJB **11** 21:56:33.5±1.7, 3829N±005×203E±0.1, h1km±9km, Error ellipse: s-maj=14.8km s-min=7.8km az=160.4*
*NEIC **11** 21:56:35.0, 3832N×2041E, h27km, MD3.4(ATH), After ATH.*
*ATH **11** 21:56:35.0, 3832N×2041E, h27km±4km, MD3.4/5*
*CSEM **11** 21:56:37.1±0.3, 3836N×2051E, h15km, MD3.4, Error ellipse: s-maj=7.1km s-min=2.9km az=78.0*
*THE **11** 21:56:38.2, 3841N×2038E, h4km, ML3.0*
ISC 11 21:56:35.9±1.4, 3833N±004×204E±01, h14km±5km, n11, σ1§15/17, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.24**	**129**	*e*PB	**Pg**	**21 56 41.6**	**+0.5**
VLS				*e*SB	**Sg**	**21 56 45.8**	**+1.1**
LKD	**Levkas**	**0.45**	**32**	*e*Pg	**Pg**	**21 56 44.6**	**-0.2**
LKD				*e*Sg	**Sg**	**21 56 50.7**	**-0.1**
RLS	**Riolos of Patr**	**0.92**	**107**	*e*PN	**Pn**	**21 56 52.5**	**-1.9**
IGT	**Igoumenitsa**	**1.20**	**359**	*e*Pg	**Pg**	**21 56 59.1**	**+0.1**
IGT				*e*Sg	**Sg**	**21 57 15.4**	**+0.7**
EVR	**Evrytania**	**1.29**	**62**	*e*PN	**Pn**	**21 56 58.5**	**-0.9**
MEV	**Metsovon**	**1.61**	**25**	*e*Pg	**Pg**	**21 57 05.6**	**-1.2**
MEV				*e*Sg	**Sg**	**21 57 26.0**	**-1.6**
AGG	**Agios Georgios**	**1.70**	**65**	*e*Pb	**Pb**	**21 57 07.0**	**+0.1**
AGG				*e*Sb	**Sb**	**21 57 29.5**	**+1.4**
THL	**Klokotos Trika**	**1.79**	**46**	*e*PN	**Pn**	**21 57 05.7**	**-0.6**
LKR	**Lokris**	**2.11**	**80**	*e*PN	**Pn**	**21 57 09.8**	**-0.9**
FNA	**Florina**	**2.58**	**18**	*e*Pn	**Pn**	**21 57 19.1**	**+1.9**
FNA				*e*Sn	**Sn**	**21 57 50.8**	**+2.6**
FNA	**Florina**	**2.58**	**18**	*e*Pn	**Pn**	**21 57 19.0**	**+1.9**

*NEIC **11** 22:06:50.8±2.2, 3569N×6946E, h83km±17km, mb3.7/1, Error ellipse: s-maj=21.9km s-min=12.2km az=189.0*
*IDC **11** 22:06:50.5±7.6, 3570N×6950E, h80km±67km, mb3.3/7, mb1 3.5/9, mb1mx3.3/22, mbtmp3.4/9, Error ellipse: s-maj=39.3km s-min=21.5km az=8.0*
*ISCJB **11** 22:06:55.0±0.8, 3620N±004×6944E±009, h115km±12km, mb3.3/7, Error ellipse: s-maj=11.8km s-min=6.6km az=3.9*
*NNC **11** 22:07:03.7±7.4, 3676N×6888E, h118km±105km, mb3.6, mpv4.3, Error ellipse: s-maj=60.5km s-min=45.1km az=36.0*
ISC 11 22:06:58.0±1.0, 3631N±006×694E±01, h116km±11km, n33, σ1§08/42, mb3.3/7, 2C-1D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**3.22**	**140**	P	**Pn**	**22 07 47.6**	**+0.6**
THW	**Thamme Wali**	**4.00**	**150**	P	**Pn**	**22 07 52.4**	**-5.1**
CHCP	**Chirah Chowk**	**4.13**	**129**	P	**Pn**	**22 07 55.6**	**-3.5**
DRP	**Derazinda**	**4.60**	**171**	P	**Pn**	**22 08 01.8**	**-3.7**
THN	**Thein Dam**	**6.50**	**125**	*e*P	**Pn**	**22 08 26.9**	**-4.2**
THN				*e*S	**Sn**	**22 09 35.7**	**-8.0**
AML	**Almayashu**	**6.70**	**28**	*e*Pn	**Pn**	**22 08 34.0**	**+0.2**
	13nm,0.3s						
AML				*e*Sn	**Sn**	**22 09 46.8**	**-1.8**
AML	**Almayashu**	**6.70**	**28**	P	**Pn**	**22 08 34.1**	**+0.3**
	SNR=34						
KK31	**Karatay Array**	**6.84**	**7**	P	**Pn**	**22 08 36.2**	**+0.5**
	20nm,0.8s,baz=194,slow=14,SNR=152						
KK31				⇑S	**Sn**	**22 09 49.4**	**-2.6**
	1.0nm,0.2s,baz=194,slow=27,SNR=7.2						
UCH	**Uchtor**	**7.12**	**32**	*e*Pn	**Pn**	**22 08 39.8**	**+0.3**
	7.8nm,0.5s						
UCH				*e*Sn	**Sn**	**22 09 59.9**	**+1.2**
UCH	**Uchtor**	**7.12**	**32**	P	**Pn**	**22 08 39.9**	**+0.4**
	SNR=22						
EKS2	**Erkin-Say**	**7.19**	**27**	*e*Pn	**Pn**	**22 08 40.5**	**+0.1**
	4.8nm,0.6s						
EKS2				*e*Sn	**Sn**	**22 09 59.8**	**-0.7**
EKS2	**Erkin-Say**	**7.19**	**27**	P	**Pn**	**22 08 40.8**	**+0.4**
	SNR=15						
KZA	**Kyzart**	**7.34**	**36**	P	**Pn**	**22 08 43.8**	**+1.4**
	SNR=9.9						
AAK	**Ala-Archa**	**7.45**	**30**	P	**Pn**	**22 08 44.3**	**+0.4**
	SNR=5.2						
CHMS	**Chumysh**	**7.85**	**30**	P	**Pn**	**22 08 49.6**	**+0.2**
	SNR=8.0						
USP	**Ospenovka**	**7.98**	**28**	P	**Pn**	**22 08 50.7**	**-0.4**
	SNR=21						
TKM2	**Tokmak 2**	**8.15**	**34**	*e*Pn	**Pn**	**22 08 53.1**	**-0.4**
	5.6nm,0.7s						
TKM2				*e*Sn	**Sn**	**22 10 23.6**	**-0.2**
MK31	**Makanchi Array**	**14.22**	**39**	⇑P	**Pn**	**22 10 17.9**	**+3.9**
	3.5nm,0.8s,baz=212,slow=10,SNR=22						
MKAR	**Makanchi Array**	**14.22**	**39**	P	**Pn**	**22 10 13.1**	**-0.9**
	0.1nm,0.3s,baz=222,slow=15,SNR=9.9						
AB31	**Akbulak array**	**14.67**	**335**	P	**Pn**	**22 10 19.1**	**-0.5**
	1.3nm,0.5s,baz=156,slow=12,SNR=49						
AB31				⇓S	**Sn**	**22 12 52.2**	**-9.2**
	1.6nm,0.5s,baz=166,slow=22,SNR=7.8						
KURK	**Kurchatov**	**15.86**	**22**	*e*Pn	**Pn**	**22 10 37.1**	**+2.6**
	5.7nm,1.1s						
AKTK	**Aktyubinsk**	**16.34**	**333**	P	**Pn**	**22 10 41.2**	**+0.9**
AKTK				S	**S**	**22 13 35.8**	**-10**
AKTO	**Aktyubinsk**	**16.34**	**333**	P	**Pn**	**22 10 41.2**	**+0.9**
	0.4nm,0.3s,baz=138,slow=13,SNR=12						
AKTO				S	**S**	**22 13 35.8**	**-10**
	0.1nm,0.3s,baz=336,slow=23,SNR=4.7						
ZALV	**Zalesovo Beam**	**20.64**	**26**	P	**P**	**22 11 29.0**	**+1.0**
ZALV	**Zalesovo Beam**	**20.64**	**26**	P	**P**	**22 11 29.0**	**+1.0**
	6.4nm,0.6s,baz=222,slow=10,SNR=40						
SONM	**Songino Array**	**29.51**	**55**	P	**P**	**22 12 50.4**	**-0.6**
	0.3nm,0.8s,mb3.0,baz=266,slow=7.1,SNR=2.5						
AKASG	**Malin Array Be**	**32.07**	**309**	P	**P**	**22 13 14.1**	**+0.6**
AKASG	**Malin Array Be**	**32.07**	**309**	P	**P**	**22 13 14.1**	**+0.6**
	0.1nm,0.3s,mb3.0,baz=80,slow=6.6,SNR=4.1						
ARCES	**ARCESS Array B**	**40.84**	**338**	P	**P**	**22 14 28.2**	**+0.5**
	1.7nm,0.7s,mb4.0,baz=115,slow=8.1,SNR=3.8						
NOA	**NORSAR Array B**	**43.76**	**323**	P	**P**	**22 14 51.5**	**0.0**
	1.2nm,0.3s,mb3.6,baz=100,slow=7.9,SNR=3.3						
TORD	**Torodi Ar. Bea**	**64.42**	**268**	P	**P**	**22 17 19.4**	**-2.7**
	0.3nm,0.6s,mb3.3,baz=48,slow=5.8,SNR=5.6						
TORD				pP	pP	22 17 48.6	-1.9
	0.6nm,0.6s,baz=44,slow=5.5,SNR=5.0						
YKA	**Yellowknife Ar**	**81.49**	**2**	P	**P**	**22 19 01.7**	**-0.2**
	0.2nm,0.5s,mb3.2,baz=347,slow=5.5,SNR=3.0						
WRA	**Warramunga Arr**	**82.99**	**121**	P	**P**	**22 19 04.7**	**-5.6**
	0.4nm,0.9s,mb3.2,baz=322,slow=5.3,SNR=2.9						

*NEIC **11** 22:09:49.9, 3819N×2048E, h26km, MD3.5(ATH), After ATH.*
*ATH **11** 22:09:49.9, 3819N×2048E, h26km±1km, MD3.5/5*
*ISCJB **11** 22:09:50.7±1.2, 3828N±006×205E±0.1, h19km±8km, Error ellipse: s-maj=14.3km s-min=8.6km az=159.7*
*CSEM **11** 22:09:51.6±0.2, 3835N×2055E, h10km, MD3.5, Error ellipse: s-maj=4.7km s-min=2.9km az=88.0*
*THE **11** 22:09:51.2, 3836N×2038E, h9km, ML3.0*
ISC 11 22:09:51.0±1.2, 3833N±005×2045E±010, h12km±6km, n8, σ0§85/12, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.19**	**143**	*e*PB	**Pg**	**22 09 55.1**	**0.0**
VLS				*e*SB	**Sg**	**22 09 58.5**	**+0.6**
LKD	**Levkas**	**0.41**	**23**	*e*Pg	**Pg**	**22 09 58.7**	**-0.5**
LKD				*e*Sg	**Sg**	**22 10 05.4**	**+0.8**
RLS	**Riolos of Patr**	**0.85**	**108**	*e*PN	**Pn**	**22 10 05.3**	**-3.5**
IGT	**Igoumenitsa**	**1.21**	**356**	*e*Pg	**Pg**	**22 10 13.0**	**-1.2**
IGT				*e*Sg	**Sg**	**22 10 29.7**	**-0.2**
EVR	**Evrytania**	**1.22**	**61**	*e*PN	**Pn**	**22 10 13.8**	**-0.1**
KEK	**Kerkira**	**1.47**	**340**	*e*PN	**Pn**	**22 10 18.7**	**+1.3**
AGG	**Agios Georgios**	**1.63**	**64**	*e*Pb	**Pb**	**22 10 20.1**	**-0.9**
AGG				*e*Sb	**Sb**	**22 10 41.8**	**+0.3**
THL	**Klokotos Trika**	**1.74**	**44**	*e*PN	**Pn**	**22 10 21.8**	**+0.8**

*TEH **11** 22:13:31.7, 3185N×5972E, h2km, ML4.1*
*IDC **11** 22:15:11.3±1.0, 3167N×5970E, h0km, mb3.8/10, mb1 4.0/11, mb1mx3.9/24, mbtmp3.7/11, ML3.1/1, MS3.3/12, Ms1 3.3/12, ms1mx3.2/34, Error ellipse: s-maj=26.8km s-min=19.0km az=3.0*
*ISCJB **11** 22:15:12.3±0.8, 3183N±003×5975E±003, h11km±4km, mb3.7/12, MS3.2/11, Error ellipse: s-maj=5.9km s-min=3.8km az=147.3*
*NEIC **11** 22:15:13.2, 3179N×5982E, h14km, mb3.7/6, ML4.1(THR), MN4.1(TEH), After THR.*
*CSEM **11** 22:15:13.5±0.1, 3177N×5973E, h16km, ML4.1, Error ellipse: s-maj=2.4km s-min=2.1km az=173.0*
*THR **11** 22:15:13.0±0.5, 3180N×5983E, h15km, ML4.1*
ISC 11 22:15:12.7±0.7, 3180N±003×5980E±003, h4km±4km, n108, σ1§20/131, mb3.7/12, MS3.2/11, 2D, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKOO	**Kooshah**	**0.92**	**313**	*e*Pg	**Pg**	**22 15 28.9**	**-1.4**
IKOO				*e*Sg	**Sg**	**22 15 41.6**	**-0.6**
IDAH	**Dahanechah**	**0.94**	**4**⇓	*e*Pg	**Pg**	**22 15 30.1**	**-0.6**
IDAH				*e*Sg	**Sg**	**22 15 43.1**	**+0.1**
IMON	**Monand**	**1.40**	**356**	*e*Pg	**Pg**	**22 15 39.1**	**-0.3**
IMON				*e*Sg	**Sg**	**22 15 56.5**	**-1.0**
ITEG	**Tejag**	**1.41**	**321**⇓	*e*Pg	**Pg**	**22 15 38.1**	**-1.6**
ITEG				*e*Sg	**Sg**	**22 15 56.7**	**-1.3**
ZHSF	**Zahedan**	**2.34**	**159**	*e*Pn	**Pn**	**22 15 53.0**	**+1.1**
ZHSF				*e*Sg	**Sg**	**22 16 26.0**	**-1.7**
ZHSF	**Zahedan**	**2.34**	**159**	*e*Pn	**Pn**	**22 15 53.1**	**+1.2**
ZHSF				*e*Sg	**Sg**	**22 16 26.1**	**-1.6**
ZHSF				AML	AML	22 16 37.5	
	comp=N,237nm,0.6s						
ZHSF				AML	AML	22 16 37.6	
	comp=E,365nm,0.6s						
ZHSF	**Zahedan**	**2.34**	**159**	*e*Pn	**Pn**	**22 15 53.1**	**+1.2**
	SNR=52						
ZHSF				*e*Sg	**Sg**	**22 16 26.1**	**-1.6**
	SNR=90						
IBAF	**Bafgh**	**3.61**	**268**	Pn	**Pn**	**22 16 10.3**	**+0.9**
IBAF				Sn	**Sn**	**22 16 51.7**	**-0.8**
IBAF	**Bafgh**	**3.61**	**268**	*e*Pn	**Pn**	**22 16 10.4**	**+1.0**
IBAF				*e*Sn	**Sn**	**22 16 51.8**	**-0.7**
IBAF				*e*		22 17 12.7	
	comp=Z,9μm,0.3s						
IBAF	**Bafgh**	**3.61**	**268**	*e*Pn	**Pn**	**22 16 10.4**	**+1.0**
IBAF				*e*Sn	**Sn**	**22 16 51.8**	**-0.7**
IMOG	**Moghan**	**4.32**	**355**	Pn	**Pn**	**22 16 20.2**	**+1.1**
IMOG				Sn	**Sn**	**22 17 10.2**	**+0.3**
IMOG	**Moghan**	**4.32**	**355**	*e*Pn	**Pn**	**22 16 20.3**	**+1.2**
IMOG				*e*Sn	**Sn**	**22 17 10.2**	**+0.3**
IMOG				*e*		22 17 45.9	
	comp=Z,1μm,0.5s						
IMOG	**Moghan**	**4.32**	**355**	*e*Pn	**Pn**	**22 16 20.3**	**+1.2**
IMOG				*e*Sn	**Sn**	**22 17 10.2**	**+0.3**
IMEH	**Mehriz**	**4.44**	**266**	Pn	**Pn**	**22 16 22.6**	**+1.8**
IMEH	**Mehriz**	**4.44**	**266**	*e*Pn	**Pn**	**22 16 22.7**	**+1.9**
IMEH				*e*		22 17 43.3	
	comp=Z,6μm,0.4s						
IMYA	**Miami**	**4.54**	**3**	Pn	**Pn**	**22 16 23.3**	**+1.1**
IMYA				Sn	**Sn**	**22 17 15.2**	**-0.2**
IMYA	**Miami**	**4.54**	**3**	*e*Pn	**Pn**	**22 16 23.4**	**+1.2**
IMYA				*e*Sn	**Sn**	**22 17 15.2**	**-0.2**
IMYA				*e*		22 17 48.5	
	comp=Z,2μm,0.5s						
IMYA	**Miami**	**4.54**	**3**	*e*Pn	**Pn**	**22 16 23.4**	**+1.2**
IMYA				*e*Sn	**Sn**	**22 17 15.2**	**-0.2**
ICHK	**Chekchek**	**4.60**	**277**	Pn	**Pn**	**22 16 23.6**	**+0.6**
ICHK				Sn	**Sn**	**22 17 15.7**	**-1.2**
ICHK	**Chekchek**	**4.60**	**277**	*e*Pn	**Pn**	**22 16 23.6**	**+0.6**
ICHK				*e*Sn	**Sn**	**22 17 15.8**	**-1.1**
ICHK				*e*		22 17 45.6	
	comp=Z,8μm,0.4s						
ICHK	**Chekchek**	**4.60**	**277**	*e*Pn	**Pn**	**22 16 23.6**	**+0.6**
ICHK				*e*Sn	**Sn**	**22 17 15.8**	**-1.1**
IPAY	**Payeh**	**4.69**	**352**	*e*Pn	**Pn**	**22 16 26.0**	**+1.8**
IPAY				*e*		22 17 58.5	
	comp=Z,744nm,0.5s						
IAKL	**Akhelmad**	**4.87**	**350**	*e*Pn	**Pn**	**22 16 28.2**	**+1.5**
IAKL				*e*		22 17 04.4	
	comp=Z,526nm,0.4s						
IAKL				*e*Lg		22 17 44.1	
IKRD	**Kardeh**	**5.08**	**348**	*e*Pn	**Pn**	**22 16 29.9**	**+0.3**
IKRD				*e*		22 18 29.6	
	comp=Z,571nm,0.5s						
IBND	**Bandar-abas**	**5.18**	**214**	*e*Pn	**Pn**	**22 16 33.1**	**+2.2**
ISAD	**Sadrabad**	**5.20**	**273**	*e*Sn	**Sn**	**22 17 28.8**	**-2.9**
ISFR	**Sfrayin**	**5.45**	**345**	Pn	**Pn**	**22 16 35.4**	**+0.7**
ISFR	**Sfrayin**	**5.45**	**345**	*e*Pn	**Pn**	**22 16 35.5**	**+0.8**
IEMG	**Emamgholi**	**5.68**	**351**	Pn	**Pn**	**22 16 39.7**	**+1.8**
IEMG	**Emamgholi**	**5.68**	**351**	*e*Pn	**Pn**	**22 16 39.8**	**+1.9**
IEMG				*e*		22 18 10.1	
	comp=Z,297nm,0.3s						
NASN	**Na'in**	**6.00**	**281**	*e*Pn	**Pn**	**22 16 44.0**	**+1.8**
NASN				*e*Sg	**Sg**	**22 18 19.0**	**-6.4**
NASN	**Na'in**	**6.00**	**281**	*e*Pn	**Pn**	**22 16 44.4**	**+2.1**
NASN				*e*Sg	**Sg**	**22 18 19.4**	**-6.0**
NASN				AML	AML	22 18 30.8	
	comp=E,63nm,0.6s						
NASN				AML	AML	22 18 36.4	
	comp=N,68nm,0.6s						
NASN	**Na'in**	**6.00**	**281**	*e*Pn	**Pn**	**22 16 44.3**	**+2.1**
	SNR=52						
NASN				*e*Sg	**Sg**	**22 18 19.0**	**-6.4**
IANJ	**Anjilo**	**6.12**	**308**	*e*	**Pg**	**22 17 11.6**	**+1.7**
	comp=Z,526nm,0.2s						
IANJ	**Anjilo**	**6.12**	**308**	Pn	**Pn**	**22 16 43.7**	**-0.2**
IPAR	**Pars**	**6.12**	**253**	*e*Pn	**Pn**	**22 16 47.2**	**+3.3**
IPAR	**Pars**	**6.12**	**253**	Pn	**Pn**	**22 16 47.1**	**+3.2**
ISRV	**Sarvestan**	**6.24**	**249**	Pn	**Pb**	**22 16 56.5**	**-5.5**
ISRV	**Sarvestan**	**6.24**	**249**	*e*Pn	**Pb**	**22 16 56.6**	**-5.4**
IZEF	**Zefreh**	**6.41**	**282**	*e*Sn	**Sn**	**22 17 57.1**	**-4.5**
IGAR	**Gharneh**	**6.61**	**277**	*e*Sn	**Sn**	**22 18 03.9**	**-2.5**
IMOK	**Mouk**	**6.70**	**248**	Pn	**Pb**	**22 17 05.7**	**-4.0**
IMOK				Sn	**Sn**	**22 18 06.5**	**-2.2**
IMOK	**Mouk**	**6.70**	**248**	*e*Pn	**Pb**	**22 17 05.7**	**-4.0**
IMOK				*e*Sn	**Sn**	**22 18 06.5**	**-2.2**
IMOK				*e*		22 19 18.2	
	comp=Z,1μm,0.5s						
IMOK	**Mouk**	**6.70**	**248**	*e*Sn	**Sn**	**22 18 06.5**	**-2.2**
ILAS	**Lasjerd**	**6.73**	**304**	Pn	**Pn**	**22 16 53.5**	**+1.2**
ILAS	**Lasjerd**	**6.73**	**304**	*e*Pn	**Pn**	**22 16 53.6**	**+1.3**
ILAS				*e*		22 19 20.8	
	comp=Z,1μm,0.4s						
ISFB	**Sefidab**	**6.83**	**294**	Pn	**Pn**	**22 16 54.4**	**+0.7**
ISFB				Sn	**Sn**	**22 18 07.7**	**-4.2**
ISFB	**Sefidab**	**6.83**	**294**	*e*Pn	**Pn**	**22 16 54.4**	**+0.7**
ISFB				*e*Sn	**Sn**	**22 18 07.8**	**-4.1**
ISFB				*e*		22 19 08.9	
	comp=Z,2μm,0.5s						
ISFB	**Sefidab**	**6.83**	**294**	*e*Pn	**Pn**	**22 16 54.4**	**+0.7**
ISFB				*e*Sn	**Sn**	**22 18 07.8**	**-4.1**
IFIR	**Firoozkooh**	**7.01**	**305**	*e*Pn	**Pn**	**22 16 57.3**	**+1.2**
IFIR				*e*		22 16 58.4	
	comp=Z,321nm,0.2s						
DAMV	**Damavand**	**7.56**	**302**	*e*Pn	**Pn**	**22 17 05.0**	**+1.4**
DAMV	**Damavand**	**7.56**	**302**	*e*Pn	**Pn**	**22 17 04.9**	**+1.3**
DAMV				AML	AML	22 19 32.4	
	comp=E,19nm,0.7s						
DAMV				AML	AML	22 19 38.8	
	comp=N,17nm,0.8s						
GHVR	**GHOM**	**7.62**	**293**	*e*Pn	**Pn**	**22 17 06.7**	**+2.3**
GHVR				AML	AML	22 19 34.8	
	comp=N,280nm,0.6s						
THKV	**Tehran--Karaj**	**8.48**	**301**	*e*Pn	**Pn**	**22 17 18.0**	**+1.8**
THKV	**Tehran--Karaj**	**8.48**	**301**	*e*Pn	**Pn**	**22 17 18.1**	**+1.9**
ASAO	**Ashtian**	**8.64**	**291**	*e*Pn	**Pn**	**22 17 20.0**	**+1.6**
ASAO	**Ashtian**	**8.64**	**291**	*e*Pn	**Pn**	**22 17 20.8**	**+2.4**
IRAZ	**Razeghan**	**8.98**	**296**	*e*Pn	**Pn**	**22 17 26.4**	**+3.3**
AML	**Almayashu**	**15.14**	**43**	*e*Pn	**Pn**	**22 18 45.5**	**-1.8**
	comp=N,2.1nm,0.7s						
AML				*e*		22 18 55.0	
AML				Sn	**Sn**	**22 21 35.3**	**0.0**
AML	**Almayashu**	**15.14**	**43**	*e*Pn	**Pn**	**22 18 45.5**	**-1.8**
EKS2	**Erkin-Say**	**15.52**	**42**	*e*Pn	**Pn**	**22 18 51.7**	**-0.6**
	comp=N,16nm,1.3s						
EKS2				*e*		22 18 59.1	
EKS2				Sn	**Sn**	**22 21 43.5**	**-1.2**
EKS2	**Erkin-Say**	**15.52**	**42**	*e*Pn	**Pn**	**22 18 51.7**	**-0.6**
UCH	**Uchtor**	**15.68**	**44**	*e*Pn	**Pn**	**22 18 53.4**	**-1.0**
	comp=N,6.2nm,1.3s						
UCH	**Uchtor**	**15.68**	**44**	*e*Pn	**Pn**	**22 18 53.4**	**-1.0**
	comp=N,6.2nm,1.3s						
TKM2	**Tokmak 2**	**16.73**	**44**	*e*Pn	**Pn**	**22 19 07.1**	**-0.8**
	comp=N,4.0nm,0.9s						
TKM2				*e*Sn	**Sn**	**22 22 14.3**	**+0.2**
TKM2	**Tokmak 2**	**16.73**	**44**	*e*Pn	**Pn**	**22 19 07.1**	**-0.8**
	comp=N,4.0nm,0.9s						
KIV	**Kislovodsk**	**18.12**	**317**	*e*Pn	**Pn**	**22 19 25.0**	**-0.2**
	comp=N,8.8nm,1.2s						
KIV				*e*		22 19 29.7	
KIV	**Kislovodsk**	**18.12**	**317**	*e*Pn	**Pn**	**22 19 25.0**	**-0.1**
MALT	**Malatya**	**18.64**	**296**	P	**Pn**	**22 19 31.6**	**0.0**
MALT	**Malatya**	**18.64**	**296**	P	**Pn**	**22 19 31.6**	**0.0**
AKTK	**Aktyubinsk**	**18.67**	**356**	P	**Pn**	**22 19 30.9**	**-1.0**
AKTK				LR	LR	22 26 47.5	
AKTK	**Aktyubinsk**	**18.67**	**356**	P	**Pn**	**22 19 30.9**	**-0.9**
AKTO	**Aktyubinsk**	**18.67**	**356**	P	**Pn**	**22 19 30.9**	**-1.0**
	comp=N,0.1nm,0.3s,baz=168,slow=7.2,SNR=3.2						
AKTO				LR	LR	22 26 47.5	
	comp=N,48nm,18.4s,baz=345,slow=37						
MMAI	**Mount Meron Ar**	**20.62**	**280**	LR	LR	22 29 25.3	
	comp=N,92nm,19.1s,MS3.2,baz=355,slow=42						
EIL	**Elat**	**21.45**	**271**	LR	LR	22 29 34.1	
	comp=N,33nm,20.0s,MS2.7,baz=62,slow=40						
BRVK	**Borovoye**	**22.57**	**17**	*e*P	**P**	**22 20 13.6**	**-0.1**
BRVK				*e*		22 20 19.1	
BRVK	**Borovoye**	**22.57**	**17**	*e*P	**P**	**22 20 13.6**	**-0.1**
MKAR	**Makanchi Array**	**22.85**	**43**	P	**P**	**22 20 18.0**	**+1.2**
	comp=N,0.5nm,0.6s,mb3.1,baz=230,slow=11,SNR=9.0						
MKAR				LR	LR	22 29 41.5	
	comp=N,75nm,20.1s,MS3.1,baz=80,slow=38						
KURK	**Kurchatov**	**23.49**	**31**	*e*P	**P**	**22 20 23.7**	**+0.2**
	comp=N,2.8nm,1.0s,mb3.6						
KURK				*e*		22 20 26.4	
KURK	**Kurchatov**	**23.49**	**31**	*e*P	**P**	**22 20 23.7**	**+0.2**
ATD	**Arta Tunnel**	**25.52**	**222**	LR	LR	22 32 33.9	
	comp=N,43nm,19.7s,MS3.0,baz=236,slow=41						
ZALV	**Zalesovo Beam**	**28.48**	**32**	P	**P**	**22 21 09.2**	**+0.5**
ZALV				LR	LR	22 33 10.2	
ZALV	**Zalesovo Beam**	**28.48**	**32**	P	**P**	**22 21 09.2**	**+0.5**
	comp=N,1.1nm,0.7s,mb3.6,baz=251,slow=7.7,SNR=4.9						
ZALV				LR	LR	22 33 10.2	
	comp=N,22nm,19.4s,MS2.8,baz=346,slow=38						
AKASG	**Malin Array Be**	**29.44**	**319**	P	**P**	**22 21 17.1**	**-0.2**
	comp=N,0.1nm,0.2s,mb3.1,baz=122,slow=8.6,SNR=5.0						
**ML

Error ellipse: s-maj=1.3km s-min=1.2km az=90.0, 4., South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QRZ	**Quartz Range**	**0.39**	**356**	⇑PG	Pg	22 37 07.4	+0.2
QRZ				SG	Sg	22 37 12.9	+0.7
THZ	**Tophouse**	**0.60**	**155**	⇓P*	Pg	22 37 10.6	-0.6
THZ				SG	Sg	22 37 18.9	-0.1
NNZ	**Nelson**	**0.61**	**90**	⇓P*	Pg	22 37 11.2	-0.2
NNZ				SG	Sg	22 37 20.0	+0.7
DSZ	**Denniston Nort**	**0.78**	**227**	P*	Pb	22 37 13.8	-1.8
DSZ				S*	Sb	22 37 24.3	-2.3
TUWZ	**Tuamarina**	**1.06**	**102**	P*	Pb	22 37 18.9	-1.5
TUWZ				S*	Sb	22 37 33.1	-1.4
BSWZ	**Blackbirch Sta**	**1.10**	**117**	⇓P*	Pb	22 37 20.5	-0.6
BSWZ				S*	Sb	22 37 36.1	+0.3
DUWZ	**D'Urville Isla**	**1.10**	**68**	P*	Pb	22 37 19.8	-1.3
DUWZ				S*	Sb	22 37 35.4	-0.4
TCW	**Tory Channel**	**1.29**	**90**	P*	Pb	22 37 22.9	-1.4
KHZ	**Kahutara**	**1.40**	**149**	PN	Pn	22 37 26.2	+0.4
LTZ	**Lake Taylor**	**1.58**	**188**	PN	Pn	22 37 27.4	-0.8
MRW	**Makara Radio**	**1.61**	**91**	PN	Pn	22 37 29.0	+0.4
SNZO	**South Karori**	**1.61**	**94**	PN	Pn	22 37 29.0	+0.3
WEL	**Wellington**	**1.66**	**93**	PN	Pn	22 37 30.7	+1.3
KIW	**Kapiti Island**	**1.81**	**79**	PN	Pn	22 37 32.1	+0.7
CAW	**Cannon Point**	**1.89**	**88**	PN	Pn	22 37 33.4	+0.9
MSWZ	**Moikau Station**	**2.03**	**96**	PN	Pn	22 37 34.5	+0.1
PAWZ	**Paruwai Farm**	**2.16**	**95**	PN	Pn	22 37 36.0	-0.2
MTW	**Mount Morrison**	**2.21**	**89**	PN	Pn	22 37 36.8	-0.2
PKE	**Pukeiti**	**2.29**	**29**	PN	Pn	22 37 38.0	-0.1
WVZ	**Waitaha Valley**	**2.30**	**216**	PN	Pn	22 37 36.5	-1.7
MRZ	**Mangatainoka R**	**2.35**	**77**	PN	Pn	22 37 40.7	+1.9
WAZ	**Wanganui**	**2.35**	**52**	PN	Pn	22 37 39.8	+1.0
RAEZ	**Rainy Point**	**2.38**	**37**	PN	Pn	22 37 39.8	+0.5
MQZ	**McQueen's Vall**	**2.49**	**179**	PN	Pn	22 37 39.2	-1.5
TIWZ	**Tintock**	**2.55**	**81**	PN	Pn	22 37 41.3	-0.3
VRZ	**Vera Road**	**2.68**	**40**	PN	Pn	22 37 43.5	+0.2
RPZ	**Rata Peaks**	**2.74**	**204**	PN	Pn	22 37 42.8	-1.3
TRVZ	**Turoa**	**2.98**	**51**	PN	Pn	22 37 48.2	+0.8
WNVZ	**Wahianoa**	**2.99**	**52**	PN	Pn	22 37 48.2	+0.6
FWVZ	**Far West T-bar**	**3.01**	**50**	PN	Pn	22 37 48.1	+0.2
MOVZ	**Moawhango**	**3.03**	**54**	PN	Pn	22 37 49.3	+1.0
WPVZ	**Whakapapa**	**3.04**	**50**	PN	Pn	22 37 49.4	+1.1
TUVZ	**Tukino**	**3.06**	**52**	PN	Pn	22 37 50.2	+1.6
TWVZ	**Taurewa**	**3.07**	**47**	PN	Pn	22 37 49.1	+0.4
WTVZ	**West Tongariro**	**3.12**	**49**	PN	Pn	22 37 50.2	+0.8
OTVZ	**Oturere**	**3.13**	**50**	PN	Pn	22 37 50.9	+1.3
FOZ	**Fox Glacier**	**3.17**	**221**	PN	Pn	22 37 48.0	-2.1
HIZ	**Hauiti**	**3.22**	**34**	PN	Pn	22 37 50.1	-0.7
JCZ	**Jackson Bay**	**4.01**	**223**	PN	Pn	22 37 59.9	-1.7
ODZ	**Otahua Downs**	**4.08**	**200**	PN	Pn	22 38 00.4	-2.2

*ATH **11** 22:47:29.8, 3791N×2620E, h10km, MD3.3/3*
*CSEM **11** 22:47:29.4±0.1, 3812N×2728E, h2km, MD2.8, Error ellipse: s-maj=3.4km s-min=1.9km az=82.0*

DDA 11 22:47:31.1, 3812N×2723E, h5km±2km, Md2.8, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAG	**Bornova**	**0.28**	**5**	*i* P	Pg	22 47 36.0	-0.6
KDAG				*i* S	Sg	22 47 40.4	+0.1
KDAG	**Bornova**	**0.28**	**5**	*i* P	Pg	22 47 36.0	-0.6
KDAG				*i* S	Sg	22 47 40.3	0.0
SMG	**Samos**	**0.52**	**217**	*e*PB	Pg	22 47 40.2	-0.9
URLA	**Izmir**	**0.56**	**295**	*i* P	Pg	22 47 40.9	-0.9
URLA				*i* S	Sg	22 47 49.3	+0.3
AYDN	**Tasoluk**	**0.69**	**132**	*i* P	Pg	22 47 43.6	-0.7
AYDN				*i* S	Sg	22 47 56.4	+3.1
AKHS	**Akhisar**	**0.88**	**31**	*i* P	Pg	22 47 47.5	-0.5
AKHS				*i* S	Sg	22 48 00.6	+1.2
BDRM	**Kayabasi**	**1.07**	**171**	*i* P	Pg	22 47 51.2	-0.4
BDRM				*i* S	Sg	22 48 08.2	+2.8
AYVA	**Ayvalik**	**1.26**	**340**	*i* P	Pg	22 47 54.4	-0.8
AYVA				*i* S	Sg	22 48 11.9	+0.3
PRK	**Paraskevi**	**1.35**	**326**	*e*PB	Pb	22 47 55.0	-1.9
GDZ	**Gediz**	**2.01**	**61**	*i* P	Pn	22 48 08.0	+2.4
GDZ				*i* S	Sb	22 48 35.9	+2.6

*ISK **11** 22:52:50.8, 3874N×4474E, h5km, MD3.3*
*ISCJB **11** 22:52:52.8±0.7, 3874N±004×4474E±005, h10km, Error ellipse: s-maj=6.3km s-min=5.3km az=135.9*
*CSEM **11** 22:52:52.4±0.3, 3873N×4465E, h8km, MD3.3, Error ellipse: s-maj=7.8km s-min=5.6km az=153.0*
*DDA **11** 22:52:55.6, 3874N×4461E, h11km, Md3.3*

ISC 11 22:52:52.9±0.7, 3879N±003×4476E±006, h10km, n15, σ1§11/22, Turkey-Iran border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NAX	**Nakhchivan**	**0.69**	**56**	P	**Pg**	**22 53 04.0**	**-2.1**
CLDR	**Caldiran**	**0.75**	**298**	*e*PG	**Pg**	**22 53 06.1**	**-1.3**
CLDR				*e*SG	**Sg**	**22 53 18.1**	**+1.0**
VANB	**Van**	**1.09**	**260**	*e*PG	**Pg**	**22 53 11.7**	**-2.3**
VANB				*e*SG	**Sg**	**22 53 28.1**	**0.0**
DYDN	**Diyadin**	**1.12**	**312**	*i* P	**Pb**	**22 53 14.6**	**+0.2**
DYDN				*i* S	**Sb**	**22 53 34.4**	**+5.4**
VANT	**Van**	**1.13**	**253**	*e*PN	**Pn**	**22 53 14.2**	**-0.5**
HKR	**Hakkari**	**1.46**	**214**	*e*PN	**Pn**	**22 53 18.1**	**-1.1**
HAKT	**HAKKARI**	**1.49**	**214**	*i* P	**Pn**	**22 53 19.8**	**+0.1**
HAKT				*i* S	**Sg**	**22 53 41.3**	**+0.6**
AGRB	**Hanur-Agry**	**1.58**	**300**	*e*PN	**Pn**	**22 53 21.4**	**+0.4**
TUTA	**Tutak**	**1.64**	**292**	*i* P	**Pn**	**22 53 22.7**	**+1.0**
TUTA				*i* S	**Sg**	**22 53 49.6**	**+4.2**
GANJ	**Ganja**	**2.21**	**32**	P	**Pn**	**22 53 31.1**	**+1.5**
	SNR=3.3						
SIRT	**Sirnak**	**2.24**	**236**	*e*PN	**Pn**	**22 53 30.0**	**0.0**
BRDA	**Brd**	**2.38**	**51**	P	**Pn**	**22 53 34.6**	**+2.7**
EZM	**Erzurum**	**2.86**	**294**	*e*PN	**Pn**	**22 53 39.0**	**+0.5**
MTA	**Mtatsminda**	**2.90**	**0**	P	**Pb**	**22 53 45.5**	**+0.9**
MTA				S	**Sg**	**22 54 25.1**	**-0.9**
TBLG	**Delisi**	**2.94**	**360**	P	**Pn**	**22 53 45.0**	**+5.5**
TBLG				S	**Sg**	**22 54 26.5**	**-0.7**

*ISCJB **11** 22:57:13.9±1.5, 2161S±009×682W±02, h125km±16km, mb3.7/4, Error ellipse: s-maj=25.1km s-min=15.5km az=6.8*
*NEIC **11** 22:57:14.6±1.3, 2160S×6822W, h115km±13km, Error ellipse: s-maj=20.5km s-min=12.9km az=95.0*
*IDC **11** 22:57:16.7±3.6, 2138S×6814W, h128km±29km, mb3.2/3, mb1 3.5/6, mb1mx3.3/18, mbtmp3.3/6, Error ellipse: s-maj=31.6km s-min=21.5km az=32.0*

ISC 11 22:57:14.9±1.4, 2160S±009×682W±02, h118km±14km, n11, σ0§98/11, mb3.7/4, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**5.29**	**1**	P	**Pn**	**22 58 33.1**	**+1.4**
	2.1nm,0.3s,baz=190,slow=6.3,SNR=52						
SIV	**San Ignacio**	**8.77**	**52**	P	**Pn**	**22 59 17.7**	**-1.1**
	2.1nm,0.3s,baz=245,slow=13,SNR=33						
SIV				S	**Sn**	**23 00 50.8**	**-5.0**
	0.2nm,0.3s,baz=134,slow=23,SNR=5.1						
CFAA	**Coronel Fontan**	**9.96**	**180**	P	**Pn**	**22 59 34.3**	**-0.6**
	0.0nm,0.3s,baz=338,slow=14,SNR=3.3						
CFAA				S	**Sn**	**23 01 17.4**	**-7.3**
	0.1nm,0.3s,baz=78,slow=7.9,SNR=2.5						
BDFB	**Brasilia**	**20.03**	**76**	P	**P**	**23 01 38.9**	**+0.2**
	0.2nm,0.3s,baz=28,slow=24,SNR=3.3						
TXAR	**Lajitas Array**	**61.09**	**325**	P	**P**	**23 07 15.3**	**-1.3**
	0.2nm,0.6s,mb3.3,baz=155,slow=4.5,SNR=3.7						
SNAA	**Sanae**	**61.97**	**161**	P	**P**	**23 07 23.5**	**+1.6**
	0.4nm,0.7s,mb3.6,baz=277,slow=8.6,SNR=5.4						
TORD	**Torodi Ar. Bea**	**76.78**	**70**	P	**P**	**23 08 54.0**	**+0.1**
	1.5nm,0.5s,mb4.0,baz=254,slow=5.4,SNR=45						
YKA	**Yellowknife Ar**	**91.50**	**340**	P	**P**	**23 10 07.2**	**-0.3**
YKA				pP	pP	23 10 41.0	+3.0
YKA	**Yellowknife Ar**	**91.50**	**340**	P	**P**	**23 10 07.2**	**-0.3**
	0.7nm,0.6s,mb4.1,baz=134,slow=4.4,SNR=18						
YKA				pP	pP	23 10 41.0	+3.0
	0.3nm,0.8s,baz=134,slow=4.9,SNR=2.4						
MKAR	**Makanchi Array**	**145.33**	**36**	PKPbc	PKPbc	23 16 39.7	+0.9
MKAR				pPKPbc	pPKPbc	23 17 15.5	+5.4
MKAR	**Makanchi Array**	**145.33**	**36**	PKPbc	PKPbc	23 16 39.7	+0.9
	0.2nm,0.4s,baz=317,slow=2.8,SNR=5.0						
MKAR				pPKPbc	pPKPbc	23 17 15.5	+5.4
	0.4nm,0.7s,baz=315,slow=4.4,SNR=4.1						

IDC 11 22:58:55.7±3.3, 974S×11493E, h0km, mb3.1/4, mb1 3.4/5, mb1mx3.4/17, mbtmp3.3/5, ML3.5/1, Error ellipse: s-maj=162.1km s-min=21.3km az=50.0, South of Bali

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**13.31**	**130**	Pn	Pn	23 02 04.8	-1.2
	0.2nm,0.3s,baz=333,slow=11,SNR=4.5						
WRA	**Warramunga Arr**	**21.31**	**121**	P	P	23 03 43.5	-0.7
	0.4nm,0.5s,baz=296,slow=12,SNR=8.4						
ASAR	**Alice Springs**	**22.81**	**130**	P	P	23 04 01.4	+1.1
	0.2nm,0.4s,baz=304,slow=9.3,SNR=5.7						
SONM	**Songino Array**	**57.82**	**353**	P	P	23 08 49.0	+0.2
	0.2nm,0.3s,baz=162,slow=6.1,SNR=4.0						
MKAR	**Makanchi Array**	**63.37**	**336**	P	P	23 09 26.9	+0.1
	0.1nm,0.4s,baz=152,slow=8.1,SNR=2.7						

*ISCJB **11** 23:14:11.8±4.9, 970S±007×1548E±02, h9km±30km, mb4.3/14, MS3.8/5, Error ellipse: s-maj=25.3km s-min=11.7km az=9.9*
*IDC **11** 23:14:12.2±1.4, 981S×1548E2, h0km, mb4.1/9, mb1 4.3/9, mb1mx4.2/14, mbtmp4.1/9, MS3.8/6, Ms1 3.8/6, ms1mx3.5/18, Error ellipse: s-maj=41.4km s-min=20.2km az=99.0*
*NEIC **11** 23:14:13.7±0.7, 973S×1547E, h10km, mb4.2/3, Error ellipse: s-maj=17.7km s-min=11.2km az=106.0*

ISC 11 23:14:13.8±6.6, 972S±007×1547E±02, h7km±40km, n22, σ0§88/18, mb4.2/13, MS3.8/5, D'Entrecasteaux Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**13.14**	**217**	LR	LR	23 21 49.7	
	comp=Z,394nm,19.5s,baz=48,slow=35						
EIDS	**Eidsvold**	**15.94**	**192**	Pn	**Pn**	**23 17 59.8**	**+1.1**
	9.9nm,0.8s						
EIDS				*e*Sn	**Sn**	**23 20 56.1**	**+0.4**
KAKA	**Kakadu**	**22.03**	**260**	*e*P	**P**	**23 19 08.7**	**-0.5**
	10nm,0.8s,mb4.3						
WRAB	**Tennant Creek**	**22.11**	**240**	*e*P	**P**	**23 19 10.4**	**+0.4**
	5.6nm,0.6s,mb4.2						
WB2	**Warramunga Arr**	**22.11**	**240**	*e*P	**P**	**23 19 09.7**	**-0.3**
WRA	**Warramunga Arr**	**22.12**	**240**	P	**P**	**23 19 10.6**	**+0.4**
	5.6nm,0.6s,mb4.2,baz=66,slow=9.9,SNR=25						
WRA				LR	LR	23 27 04.5	
	comp=Z,153nm,19.4s,MS3.4,baz=90,slow=35						
ASAR	**Alice Springs**	**24.22**	**232**	P	**P**	**23 19 31.2**	**-0.2**
	8.6nm,0.8s,mb4.3,baz=63,slow=9.1,SNR=50						
STKA	**Stephens Creek**	**25.17**	**207**	*e*P	**P**	**23 19 39.5**	**-0.5**
	14nm,0.8s,mb4.5						
STKA	**Stephens Creek**	**25.17**	**207**	P	**P**	**23 19 39.2**	**-0.7**
	19nm,0.8s,mb4.7,baz=24,slow=11,SNR=24						
STKA				LR	LR	23 29 39.1	
	comp=Z,358nm,18.1s,MS3.9,baz=25,slow=37						
CNB	**Canberra Magne**	**25.94**	**190**	*e*P	**P**	**23 19 46.2**	**-0.7**
	38nm,1.3s,mb4.8						
FITZ	**Fitzroy Crossi**	**29.37**	**250**	*e*P	**P**	**23 20 15.9**	**-2.0**
	5.7nm,0.9s,mb4.3						
FITZ	**Fitzroy Crossi**	**29.37**	**250**	P	**P**	**23 20 17.7**	**-0.2**
	1.6nm,0.7s,mb3.9,baz=169,slow=1.4,SNR=5.2						
FORT	**Forrest**	**32.45**	**226**	*e*P	**P**	**23 20 48.5**	**+3.6**
	12nm,0.7s,mb4.8						
MJAR	**Matsushiro Arr**	**48.56**	**342**	P	**P**	**23 22 57.4**	**-0.5**
	1.4nm,0.8s,mb4.0,baz=173,slow=9.5,SNR=4.4						
PPT	**Papeete**	**54.56**	**105**	LR	LR	23 44 26.3	
	comp=Z,68nm,19.0s,MS3.7,baz=17,slow=33						
VNDA	**Vanda**	**67.89**	**178**	P	**P**	**23 25 11.4**	**-1.2**
	0.8nm,1.0s,mb3.7,baz=299,slow=8.1,SNR=3.2						
SONM	**Songino Array**	**71.46**	**328**	P	**P**	**23 25 35.6**	**+0.6**
	0.8nm,0.8s,mb3.7,baz=145,slow=3.6,SNR=6.8						
MAW	**Mawson**	**81.78**	**203**	LR	LR	23 56 57.2	
	comp=Z,104nm,19.6s,MS4.2,baz=240,slow=31						
MKAR	**Makanchi Array**	**85.24**	**319**	P	**P**	**23 26 51.1**	**-0.2**
	0.8nm,0.8s,mb3.9,baz=102,slow=5.6,SNR=8.6						
ZALV	**Zalesovo Beam**	**86.26**	**326**	P	**P**	**23 26 58.1**	**+1.9**
	1.0nm,0.7s,mb4.2,baz=115,slow=6.7,SNR=4.6						
YKA	**Yellowknife Ar**	**98.87**	**28**	LR	LR	00 08 49.2	
	comp=Z,40nm,19.9s,MS3.9,baz=210,slow=33						
YMR	**Madison River**	**99.83**	**46**	Pdif	Pdif	23 27 57.0	-2.0
	6.6nm,0.3s						

*IDC **11** 23:23:49.3±0.9, 3579N×7043E, h0km, mb4.1/13, mb1 4.2/15, mb1mx4.1/23, mbtmp4.1/15, ML4.0/2, MS3.1/2, Ms1 3.2/2, ms1mx2.7/32, Error ellipse: s-maj=21.5km s-min=17.2km az=148.0*
*NEIC **11** 23:23:50.1±3.7, 3570N×7048E, h6km±24km, mb4.4/27, Error ellipse: s-maj=8.7km s-min=6.9km az=211.0*
*BJI **11** 23:23:51.8, 3569N×7026E, h24km, mb3.9, ML4.0*
*MOS **11** 23:23:53.8±0.9, 3596N×7042E, h35km, mb4.4/35, Error ellipse: s-maj=9.2km s-min=5.8km az=118.4*
*ISCJB **11** 23:23:54.6±0.6, 3601N±002×7046E±004, h42km±7km, mb4.2/42, MS3.0/3, Error ellipse: s-maj=6.1km s-min=3.6km az=164.9*
*NNC **11** 23:23:56.8±2.7, 3620N×6994E, h34km±30km, mb4.3, mpv4.5, Error ellipse: s-maj=35.5km s-min=28.1km az=112.0*

ISC 11 23:23:56.5±0.5, 3600N±002×7041E±005, h41km±6km, n184, σ1§25/209, mb4.2/42, MS3.0/3, 29C-4D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**2.49**	**150**	⇑P	**Pn**	**23 24 34.2**	**-0.4**
CHCP	**Chirah Chowk**	**3.31**	**134**	⇑P	**Pn**	**23 24 46.2**	**+0.4**
CHCP				S	**Sn**	**23 25 32.0**	**+8.2**
THW	**Thamme Wali**	**3.38**	**161**	⇑P	**Pn**	**23 24 46.0**	**-0.7**
DRP	**Derazinda**	**4.24**	**182**	P	**Pn**	**23 24 59.6**	**+1.0**
SARP	**Sargodha**	**4.48**	**155**	P	**Pn**	**23 25 00.2**	**-1.6**
KSH	**Kashi**	**5.64**	**50**	P	**Pn**	**23 25 22.6**	**+4.9**
KSH				S	**Sn**	**23 26 20.1**	**-1.1**
KSH				Smax			
	comp=N,284nm,0.8s						
KSH				Smax			
	comp=E,352nm,0.8s						
THN	**Thein Dam**	**5.65**	**127**	*e*P	**Pn**	**23 25 17.3**	**-0.7**
THN				*e*S	Sn	23 26 47.3	+26
DLH	**Dalhousie**	**5.75**	**125**	*e*P	**Pn**	**23 25 18.0**	**-1.3**
DLH				*e*S	**Sn**	**23 26 26.0**	**+2.1**
AML	**Almayashu**	**6.64**	**22**	⇑*e*Pn	**Pn**	**23 25 33.3**	**+1.8**
	comp=E,86nm,0.6s						
AML				*e*Sn	**Sn**	**23 26 44.6**	**-1.2**
AML	**Almayashu**	**6.64**	**22**	P	**Pn**	**23 25 33.4**	**+1.9**
	SNR=97						
BHK	**Bhakra**	**6.77**	**131**	*e*P	**Pn**	**23 25 45.0**	**+12**
BHK				*e*S	**Sn**	**23 26 53.4**	**+4.2**
UCH	**Uchtor**	**6.99**	**26**	⇑*e*Pn	**Pn**	**23 25 38.1**	**+1.8**
	comp=E,33nm,0.5s						
UCH				Sn	**Sn**	**23 26 51.6**	**-2.9**
UCH	**Uchtor**	**6.99**	**26**	P	**Pn**	**23 25 38.3**	**+2.0**
	SNR=79						
SDNR	**Sundarnagar**	**7.07**	**128**	*e*P	**Pn**	**23 25 37.0**	**-0.4**
SDNR				*e*S	**Sn**	**23 26 57.5**	**+1.1**
KK31	**Karatay Array**	**7.10**	**1**	Pn	**Pn**	**23 25 38.5**	**+0.7**
	comp=E,14nm,0.5s,baz=197,slow=14,SNR=202						
KK31				⇑Sn	**Sn**	**23 26 58.6**	**+1.4**
	comp=E,16nm,0.5s,baz=192,slow=22,SNR=4.6						
KK31				⇓Lg		23 27 38.3	
	comp=E,40nm,0.5s						
KZA	**Kyzart**	**7.14**	**30**	P	**Pn**	**23 25 40.2**	**+1.8**
	SNR=71						
EKS2	**Erkin-Say**	**7.15**	**20**	*e*Pn	**Pn**	**23 25 40.2**	**+1.7**
	comp=E,36nm,0.6s						
EKS2				*e*Sn	**Sn**	**23 26 58.2**	**-0.1**
EKS2	**Erkin-Say**	**7.15**	**20**	P	**Pn**	**23 25 40.4**	**+1.9**
	SNR=85						
AAK	**Ala-Archa**	**7.34**	**24**	P	**Pn**	**23 25 43.2**	**+2.1**
	SNR=127						
KBK	**Karagaybulak**	**7.52**	**26**	P	**Pn**	**23 25 45.8**	**+2.2**
	SNR=57						
FRU	**Bishkek**	**7.56**	**24**	*e*P	**Pn**	**23 25 46.0**	**+1.8**
FRU				pmax	pmax		
	comp=Z,50nm,1.4s						
ULHL	**Ulahol**	**7.71**	**34**	P	**Pn**	**23 25 47.7**	**+1.5**
	SNR=20						
CHMS	**Chumysh**	**7.76**	**24**	P	**Pn**	**23 25 48.4**	**+1.6**
	SNR=46						
KLP	**Kalpa**	**7.90**	**122**	*e*P	**Pn**	**23 25 47.5**	**-1.3**
KLP				*e*S	**Sn**	**23 27 17.2**	**+0.3**
KLP				AML	AML	23 27 23.0	
	comp=E,163nm,0.3s						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
USP	**Ospenovka**	**7.92**	**22**	P	**Pn**	**23 25 51.1**	**+2.1**
	SNR=27						
TKM2	**Tokmak 2**	**7.99**	**29**	⇓Pn	**Pn**	**23 25 50.8**	**+0.7**
	comp=E,28nm,0.7s						
TKM2				⇑Lg		23 28 10.0	
	comp=E,32nm,1.1s						
TKM2	**Tokmak 2**	**7.99**	**29**	⇑*e*Pn	**Pn**	**23 25 51.6**	**+1.5**
	comp=E,35nm,0.7s						
TKM2				*e*Sn	**Sn**	**23 27 15.7**	**-3.4**
TKM2	**Tokmak 2**	**7.99**	**29**	⇑*e*P	**Pn**	**23 25 51.6**	**+1.5**
TKM2				*e*		23 27 15.7	
TKM2				pmax	pmax		
	comp=Z,35nm,0.7s						
TKM2	**Tokmak 2**	**7.99**	**29**	P	**Pn**	**23 25 51.4**	**+1.4**
	SNR=42						
DDI	**Dehra Dun**	**8.54**	**129**	*e*P	**Pn**	**23 26 02.3**	**+4.6**
DDI				*e*S	**Sn**	**23 27 36.0**	**+3.2**
NDI	**New Delhi**	**9.29**	**140**	*e*P	**Pn**	**23 26 05.0**	**-2.8**
NDI				*e*S	**Sn**	**23 27 45.0**	**-6.0**
JOSI	**Joshimath**	**9.38**	**123**	*e*P	**Pn**	**23 26 06.5**	**-2.6**
JOSI				*e*S	**Sn**	**23 27 56.5**	**+3.2**
JOSI				AML	AML	23 28 01.6	
	comp=N,156nm,1.1s						
SONA	**Sohna**	**9.57**	**142**	*e*P	**Pn**	**23 26 10.0**	**-1.7**
SONA				*e*S	**Sn**	**23 27 50.0**	**-8.0**
SONA				*e*S	**Sn**	**23 27 52.1**	**-5.9**
SONA				AML	AML	23 27 55.5	
	comp=E,54nm,0.3s						
AJM	**Ajmer**	**10.15**	**158**	*e*P	**Pn**	**23 26 18.0**	**-1.7**
LGTI	**Lohaghat**	**10.54**	**125**	*e*S	**Sn**	**23 28 16.3**	**-5.4**
KOLN	**Koldanda**	**13.88**	**123**	*e*P	**Pn**	**23 27 02.8**	**-7.8**
	comp=E,24nm,0.4s						
MK31	**Makanchi Array**	**13.98**	**36**	⇑P	**Pn**	**23 27 10.6**	**-1.2**
	comp=E,1.5nm,0.5s,baz=216,slow=13,SNR=21						
MKAR	**Makanchi Array**	**13.98**	**36**	P	**Pn**	**23 27 09.7**	**-2.2**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MKAR	**Makanchi Array**	**13.98**	**36**	Pn	**Pn**	**23 27 09.7**	**-2.2**
	comp=Z,0.5nm,0.3s,baz=218,slow=14,SNR=23						
GKN	**Gorkha**	**14.45**	**119**	*e*P	**Pn**	**23 27 12.1**	**-6.3**
	comp=Z,39nm,0.5s						
GKN				*e*S	**Sn**	**23 29 41.9**	**-15**
KKN	**Kakani**	**15.04**	**119**	*e*P	**Pn**	**23 27 19.8**	**-6.3**
AB31	**Akbulak array**	**15.31**	**333**	⇑Pn	**Pn**	**23 27 26.0**	**-3.5**
	comp=Z,2.0nm,0.3s,baz=160,slow=13,SNR=130						
AB31				⇑Sn	**Sn**	**23 30 08.4**	**-9.4**
	comp=Z,8.3nm,0.8s,baz=150,slow=24,SNR=6.8						
JIRN	**Jiri**	**15.76**	**117**	*e*P	**Pn**	**23 27 31.3**	**-4.3**
	comp=Z,14nm,0.3s						
KURK	**Kurchatov**	**15.86**	**19**	Pn	**Pn**	**23 27 32.7**	**-4.0**
	comp=Z,5.8nm,0.9s						
KURK				*e*Sn	**Sn**	**23 30 25.4**	**-5.9**
KURK	**Kurchatov**	**15.86**	**19**	P	**Pn**	**23 27 32.7**	**-4.0**
KURK				*e*		23 30 25.4	
KURK				pmax	pmax		
	comp=Z,6.0nm,0.9s						
AKTK	**Aktyubinsk**	**16.99**	**332**	P	**Pn**	**23 27 48.7**	**-2.3**
AKTK				S	**S**	**23 30 49.4**	**-18**
AKTO	**Aktyubinsk**	**16.99**	**332**	P	**Pn**	**23 27 48.7**	**-2.3**
AKTO				S	**S**	**23 30 49.4**	**-18**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.3s						
AKTO	**Aktyubinsk**	**16.99**	**332**	P	**Pn**	**23 27 48.7**	**-2.2**
	comp=Z,0.7nm,0.3s,baz=139,slow=14,SNR=11						
AKTO				S	**S**	**23 30 49.4**	**-18**
	comp=Z,0.2nm,0.3s,baz=184,slow=18,SNR=3.9						
BVA0	**Borovoye Array**	**17.03**	**360**	P	**Pn**	**23 27 49.2**	**-2.2**
	comp=Z,2.3nm,0.9s,baz=172,slow=13,SNR=55						
BRVK	**Borovoye**	**17.06**	**360**	*e*Pn	**Pn**	**23 27 49.7**	**-2.1**
	comp=Z,10.0nm,0.6s						
BRVK				*e*Sn	**Sn**	**23 30 57.2**	**-3.1**
BRVK	**Borovoye**	**17.06**	**360**	*e*P	**Pn**	**23 27 49.7**	**-2.1**
BRVK				*e*		23 30 57.3	
BRVK				pmax	pmax		
	comp=Z,10.0nm,0.6s						
CHKZ	**Chkalovo**	**17.68**	**0**	⇓P	**Pn**	**23 27 57.4**	**-2.0**
	comp=Z,6.4nm,0.9s						
LSA	**Lhasa**	**18.51**	**104**	*e*Pn	**Pn**	**23 28 12.7**	**+2.9**
	comp=Z,4.8nm,0.7s						
LSA	**Lhasa**	**18.51**	**104**	*e*P	**Pn**	**23 28 12.7**	**+2.9**
LSA				pmax	pmax		
	comp=Z,5.0nm,0.7s						
DGRG	**David-gareji**	**20.25**	**293**	P	Px	23 28 50.4	
ZAL	**Zalesovo**	**20.55**	**25**	P	**P**	**23 28 30.4**	**-1.0**
ZALV	**Zalesovo Beam**	**20.57**	**25**	P

MORC Moravsky Berou 40.28 307 *eP* **P 23 31 30.1 +0.6**
MORC pmax pmax
comp=Z,1.0nm,0.5s,mb3.8
KEV Kevo 41.10 339 *ep* **P 23 31 35.7 -0.2**
comp=Z,2.4nm,0.4s,mb4.2
KEV Kevo 41.10 339 *eP* **P 23 31 35.7 -0.2**
KEV pmax pmax
comp=Z,2.0nm,0.4s,mb4.1
ARCES ARCESS Array B 41.43 338 P **P 23 31 39.3 +0.6**
ARCES pmax pmax
comp=Z,3.0nm,0.5s
ARCES ARCESS Array B 41.43 338 P **P 23 31 39.3 +0.7**
comp=Z,2.6nm,0.5s,mb4.1,baz=115,slow=7.5,SNR=33
TIP Timpagrande 42.12 291 P **P 23 31 45.3 +0.5**
BRG Berggiesshubel 42.56 309 *i* P **P 23 31 49.1 +0.9**
BRG pmax pmax
comp=Z,2.0nm,0.7s,mb4.0
BRG Berggiesshubel 42.56 309 *i* P **P 23 31 49.1 +0.9**
comp=Z,3.3nm,0.7s,mb4.2
RUE Ruedersdorf 42.63 311 P **P 23 31 49.2 +0.5**
GERES GERESS Array B 42.84 306 P **P 23 31 51.1 +0.7**
GERES pmax pmax
comp=Z,1.0nm,0.7s
GERES GERESS Array B 42.84 306 P **P 23 31 51.1 +0.7**
comp=Z,0.6nm,0.7s,mb3.4,baz=93,slow=8.4,SNR=6.0
CLL Collm 43.14 309 *eP* **P 23 31 54.0 +1.2**
NB2 NORSAR Subarra 44.50 323 P **P 23 32 03.6 0.0**
comp=Z,1.5nm,0.6s,mb3.9,baz=97,slow=7.9
NOA NORSAR Array B 44.50 323 P **P 23 32 03.1 -0.5**
NOA pmax pmax
comp=Z,2.0nm,0.7s
NOA MLR MLR
comp=Z,46nm,18.9s
NOA NORSAR Array B 44.50 323 P **P 23 32 03.1 -0.5**
comp=Z,2.0nm,0.7s,mb4.0,baz=98,slow=7.8,SNR=9.1
NOA LR LR 23 52 40.9
comp=Z,46nm,18.9s,MS3.4,baz=190,slow=39
NAO01 NORSAR Array S 44.64 323 P **P 23 32 03.3 -1.4**
TIXI Tiksi 46.42 22 *eP* **P 23 32 18.8 +0.1**
comp=Z,3.8nm,0.5s,mb4.6
TIXI Tiksi 46.42 22‖ *eP* **P 23 32 19.0 +0.4**
TIXI pmax pmax
comp=Z,4.0nm,0.6s,mb4.5
PGF Pioggiola 47.08 298 *eP* **P 23 32 23.9 -0.3**
HINF Hinteralfeld 47.50 305⇑ *iP* **P 23 32 27.3 -0.1**
comp=Z,3.2nm,0.5s,mb4.2
HINF Hinteralfeld 47.50 305⇑ *iP* **P 23 32 27.3 -0.1**
comp=Z,1.6nm,0.5s,mb4.2
HINF Hinteralfeld 47.50 305⇑ *iP* **P 23 32 27.3 -0.1**
HINF pmax pmax
comp=Z,2.0nm,0.5s,mb4.3
HAU Haudompre 47.80 305 *eP* **P 23 32 29.7 0.0**
comp=Z,2.9nm,0.4s,mb4.4
HAU Haudompre 47.80 305 *eP* **P 23 32 29.7 0.0**
comp=Z,1.5nm,0.4s,mb4.4
HAU Haudompre 47.80 305 *eP* **P 23 32 29.7 0.0**
HAU pmax pmax
comp=Z,1.0nm,0.4s,mb4.2
SBF Sospel 47.89 300 *eP* **P 23 32 30.6 +0.1**
comp=Z,22nm,0.9s,mb4.9
SBF Sospel 47.89 300 *eP* **P 23 32 30.6 +0.1**
comp=Z,11nm,0.9s,mb4.9
SBF Sospel 47.89 300 *eP* **P 23 32 30.6 +0.1**
SBF pmax pmax
comp=Z,11nm,0.9s,mb4.9
LPG La Plagne 48.01 302 *eP* **P 23 32 32.1 +0.7**
comp=Z,5.3nm,0.7s,mb4.4
LPG La Plagne 48.01 302 *eP* **P 23 32 32.1 +0.7**
comp=Z,2.7nm,0.7s,mb4.4
LPG La Plagne 48.01 302 *eP* **P 23 32 32.1 +0.7**
LPG pmax pmax
comp=Z,3.0nm,0.7s,mb4.4
LPL La Plagne 48.02 302 *eP* **P 23 32 32.1 +0.6**
comp=Z,3.3nm,0.5s,mb4.3
LPL La Plagne 48.02 302 *eP* **P 23 32 32.1 +0.6**
comp=Z,1.6nm,0.5s,mb4.3
LPL La Plagne 48.02 302 *eP* **P 23 32 32.1 +0.6**
LPL pmax pmax
comp=Z,2.0nm,0.5s,mb4.4
MBDF Montbardon 48.16 301 *eP* **P 23 32 32.4 -0.2**
comp=Z,6.2nm,0.6s,mb4.5
MBDF Montbardon 48.16 301 *eP* **P 23 32 32.4 -0.2**
comp=Z,3.1nm,0.6s,mb4.5
MBDF Montbardon 48.16 301 *eP* **P 23 32 32.4 -0.2**
MBDF pmax pmax
comp=Z,3.0nm,0.6s,mb4.5
CABF La Chapelle 48.23 304 *eP* **P 23 32 33.4 +0.3**
comp=Z,5.6nm,0.5s,mb4.5
CABF La Chapelle 48.23 304 *eP* **P 23 32 33.4 +0.3**
comp=Z,2.8nm,0.5s,mb4.5
CABF La Chapelle 48.23 304 *eP* **P 23 32 33.4 +0.3**
CABF pmax pmax
comp=Z,3.0nm,0.5s,mb4.6
FRF La Foret Royal 48.52 299 *eP* **P 23 32 35.0 -0.3**
ORIF Oris-en-Rattie 48.74 301 *eP* **P 23 32 37.7 +0.7**
comp=Z,4.3nm,0.8s,mb4.2
ORIF Oris-en-Rattie 48.74 301 *eP* **P 23 32 37.7 +0.7**
comp=Z,2.2nm,0.8s,mb4.2
ORIF Oris-en-Rattie 48.74 301 *eP* **P 23 32 37.7 +0.7**
ORIF pmax pmax
comp=Z,2.0nm,0.8s,mb4.2
BAIF Baives 48.83 308⇑ *iP* **P 23 32 38.5 +0.9**
comp=Z,7.3nm,0.9s,mb4.4
BAIF Baives 48.83 308⇑ *iP* **P 23 32 38.5 +0.9**
comp=Z,3.7nm,0.9s,mb4.4
BAIF Baives 48.83 308⇑ *iP* **P 23 32 38.5 +0.9**
BAIF pmax pmax
comp=Z,4.0nm,0.9s,mb4.5
SMRF Simiane la Rot 49.17 300 *eP* **P 23 32 40.7 +0.4**
LOR Lormes 49.59 305 *eP* **P 23 32 43.0 -0.5**
SMF Signal de Mont 49.74 304⇑ *iP* **P 23 32 44.6 0.0**
comp=Z,10nm,0.7s,mb4.7
SMF Signal de Mont 49.74 304⇑ *iP* **P 23 32 44.6 0.0**
comp=Z,5.2nm,0.7s,mb4.7
SMF Signal de Mont 49.74 304⇑ *iP* **P 23 32 44.6 0.0**
SMF pmax pmax
comp=Z,5.0nm,0.7s,mb4.7
AVF Avril sur Loir 50.04 304⇑ *iP* **P 23 32 46.8 -0.1**
comp=Z,7.8nm,0.7s,mb4.5
AVF Avril sur Loir 50.04 304⇑ *iP* **P 23 32 46.8 -0.1**
comp=Z,3.9nm,0.7s,mb4.5
AVF Avril sur Loir 50.04 304⇑ *iP* **P 23 32 46.8 -0.1**
AVF pmax pmax
comp=Z,4.0nm,0.7s,mb4.6
LASF Ste Croix 50.35 301 *eP* **P 23 32 49.8 +0.5**
TCF Toulx Ste Croi 50.92 304 *eP* **P 23 32 53.8 +0.2**
CAF Calviac 51.36 302 *eP* **P 23 32 57.3 +0.4**
comp=Z,5.4nm,0.6s,mb4.3
CAF Calviac 51.36 302 *eP* **P 23 32 57.3 +0.4**
comp=Z,2.7nm,0.6s,mb4.3
CAF Calviac 51.36 302 *eP* **P 23 32 57.3 +0.4**
CAF pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
MTLF Montolieu 51.69 300 *eP* **P 23 32 59.4 0.0**
LDF La Druitiere 51.90 307 *eP* **P 23 33 00.5 -0.4**
comp=Z,4.8nm,0.6s,mb4.3
LDF La Druitiere 51.90 307 *eP* **P 23 33 00.5 -0.4**
comp=Z,2.4nm,0.6s,mb4.3
LDF La Druitiere 51.90 307 *eP* **P 23 33 00.5 -0.4**
LDF pmax pmax
comp=Z,2.0nm,0.6s,mb4.2
FLN La Foliniere 52.10 308 *eP* **P 23 33 02.3 0.0**
LFF La Frestale 52.27 303⇑ *iP* **P 23 33 03.9 +0.3**
comp=Z,8.7nm,0.5s,mb4.6
LFF La Frestale 52.27 303⇑ *iP* **P 23 33 03.9 +0.3**
comp=Z,4.3nm,0.5s,mb4.6
LFF La Frestale 52.27 303⇑ *iP* **P 23 33 03.9 +0.3**
LFF pmax pmax
comp=Z,4.0nm,0.5s,mb4.6
MFF Saint Martin d 52.42 305 *eP* **P 23 33 04.2 -0.5**
GRR Gorron 52.43 307 *eP* **P 23 33 04.8 0.0**
comp=Z,5.7nm,0.4s,mb4.5
GRR Gorron 52.43 307 *eP* **P 23 33 04.8 0.0**
comp=Z,2.8nm,0.4s,mb4.5
GRR Gorron 52.43 307 *eP* **P 23 33 04.8 0.0**
GRR pmax pmax
comp=Z,3.0nm,0.4s,mb4.6
EPF Esparros 53.09 300 *eP* **P 23 33 09.8 0.0**
SGMF Saint Gilles 53.56 307 *eP* **P 23 33 12.8 -0.3**
ETSF Etsaut 53.76 301 *eP* **P 23 33 15.0 +0.3**
comp=Z,5.9nm,0.6s,mb4.4
ETSF Etsaut 53.76 301 *eP* **P 23 33 15.0 +0.3**
comp=Z,3.0nm,0.6s,mb4.4
ETSF Etsaut 53.76 301 *eP* **P 23 33 15.0 +0.3**
ETSF pmax pmax
comp=Z,3.0nm,0.6s,mb4.4

ROSF Rostrenen 54.00 308 *eP* **P 23 33 15.9 -0.4**
comp=Z,14nm,0.8s,mb4.6
ROSF Rostrenen 54.00 308 *eP* **P 23 33 15.9 -0.4**
comp=Z,6.9nm,0.8s,mb4.6
ROSF Rostrenen 54.00 308 *eP* **P 23 33 15.9 -0.4**
ROSF pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
QUIF Quistinic 54.04 307 *eP* **P 23 33 17.5 +0.8**
ESDC Sonseca Array 57.27 298 P **P 23 33 39.9 0.0**
comp=Z,2.1nm,0.6s,mb4.3,baz=57,slow=7.6,SNR=9.8
BILL Bilibino 59.27 26 *eP* **P 23 33 54.0 +0.6**
BILL pmax pmax
comp=Z,1.0nm,0.7s,mb4.0
MTE Manteigas 59.54 300 P **P 23 33 56.4 +0.6**
SFS San Fernando 60.16 295 *eP* **P 23 34 01.5 +1.4**
comp=Z,122nm,0.8s
SFS San Fernando 60.16 295 *eP* **P 23 34 01.5 +1.4**
SFS pmax pmax
comp=Z,123nm,0.8s
TORD Torodi Ar. Bea 65.23 269 P **P 23 34 32.1 -2.1**
comp=Z,1.5nm,0.5s,mb4.3,baz=45,slow=5.8,SNR=30
DBIC Dimbokro 74.19 267 P **P 23 35 27.4 -2.0**
DBIC Dimbokro 74.19 267 P **P 23 35 27.4 -2.0**
DBIC pmax pmax
comp=Z,4.0nm,1.0s
DBIC Dimbokro 74.19 267 P **P 23 35 27.4 -2.0**
comp=Z,3.5nm,1.0s,mb4.3,baz=14,slow=4.2,SNR=2.7
BOSA Boshof 77.05 220 P **P 23 35 44.4 -0.9**
BOSA pmax pmax
comp=Z,2.0nm,0.7s,mb4.2
BOSA Boshof 77.05 220 P **P 23 35 44.4 -0.9**
comp=Z,2.4nm,0.7s,mb4.2,baz=172,slow=17,SNR=3.6
YKA Yellowknife Ar 81.77 2 P **P 23 36 10.2 -0.4**
YKA Yellowknife Ar 81.77 2 *i* P **P 23 36 10.1 -0.5**
YKA Yellowknife Ar 81.77 2 P **P 23 36 10.2 -0.4**
comp=Z,0.3nm,0.4s,mb3.6,baz=349,slow=5.3,SNR=11
ASAR Alice Springs 84.36 124 P **P 23 36 23.0 -1.5**
ASAR pmax pmax
comp=Z,1.0nm,0.7s
ASAR Alice Springs 84.36 124 P **P 23 36 22.9 -1.6**
comp=Z,0.9nm,0.7s,mb4.0,baz=320,slow=5.3,SNR=4.3

IDC 11 23:29:20.1±1.4,279N×12894E,h0km,mb3.5/4,mb1 3.7/4, mb1mx3.5/16,mbtmp3.5/4,Error ellipse: s-maj=71.0km s-min=25.5km az=78.0,Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.20**	**167**	P	P	23 34 28.6	-0.2
	0.6nm,0.5s,baz=346,slow=10,SNR=3.0						
MJAR	**Matsushiro Arr**	**34.66**	**13**	P	P	23 36 11.2	-0.2
	0.9nm,0.5s,baz=180,slow=7.9,SNR=3.3						
SONM	**Songino Array**	**48.91**	**340**	P	P	23 38 08.7	+0.8
	0.2nm,0.5s,baz=152,slow=9.4,SNR=2.0						
MKAR	**Makanchi Array**	**59.59**	**325**	P	P	23 39 25.4	-0.3
	0.2nm,0.4s,baz=115,slow=8.1,SNR=5.2						

IDC 11 23:34:53.3±0.9,1787S×17286W,h0km,mb3.8/7, mb1 4.0/7,mb1mx3.9/17,mbtmp3.8/7,Error ellipse: s-maj=40.6km s-min=21.6km az=135.0,Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**22.13**	**201**	P	P	23 39 51.0	+0.6
	8.0nm,0.4s,baz=336,slow=1.8,SNR=13						
WRA	**Warramunga Arr**	**49.83**	**259**	P	P	23 43 48.1	-0.4
	0.5nm,0.4s,baz=97,slow=6.4,SNR=9.7						
ASAR	**Alice Springs**	**49.88**	**254**	P	P	23 43 48.4	-0.5
	1.5nm,0.5s,baz=89,slow=7.9,SNR=18						
VNDA	**Vanda**	**60.98**	**186**	P	P	23 45 07.9	-0.1
	0.6nm,0.9s,baz=6.9,slow=6.4,SNR=3.9						
TXAR	**Lajitas Array**	**81.56**	**56**	P	P	23 47 12.7	-0.5
	0.2nm,0.7s,baz=258,slow=4.5,SNR=3.1						
PDAR	**Pinedale Array**	**83.76**	**41**	P	P	23 47 23.9	-0.4
	0.3nm,0.8s,baz=219,slow=3.8,SNR=3.7						
YKA	**Yellowknife Ar**	**92.15**	**23**	P	P	23 48 04.8	+0.6
	0.1nm,0.4s,baz=230,slow=4.8,SNR=4.5						
GERES	**GERESS Array B**	**148.65**	**352**	PKPbc	PKPbc	23 54 43.8	+1.5
	0.3nm,0.5s,baz=45,slow=2.5,SNR=4.2						

*PDA **11** 23:40:44.0±0.4,3731N×2465W,h0km,MD4.0,ML3.5, Error ellipse: s-maj=2.7km s-min=1.3km az=84.0*
*CSEM **11** 23:40:44.0±0.4,3731N×2465W,h0km,ML3.5,Error ellipse: s-maj=2.7km s-min=1.3km az=84.0,After PDA*
SVSA 11 23:40:44.0±0.4,3731N×2465W,h0km,MD4.0,ML3.5, Error ellipse: s-maj=2.7km s-min=1.3km az=84.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSMN	**Pico do Norte,**	**0.45**	**228**	*eP*	Pg	23 40 52.3	-0.3
PSMN				*eS*	Sg	23 40 58.5	+0.1
PDA	**Ponta Delgada**	**0.92**	**299**	*eS*	Sg	23 41 10.6	-2.8
PSET	**Sete Cidades**	**0.99**	**302**	*eP*	Pg	23 41 00.1	-2.9
PSET				*eS*	Sg	23 41 12.7	-3.2
PSET				A		23 41 15.1	
	632nm,0.3s						
PSET	**Sete Cidades**	**0.99**	**302**	*eP*	Pg	23 41 00.1	-2.9
PSET				*eS*	Sg	23 41 12.7	-3.2
PSCM	**Serra do Cume**	**2.39**	**306**	*eP*	Pn	23 41 19.7	-4.7
PSCM				*eS*	Sn	23 41 46.5	-8.0
PSCM				A		23 41 49.9	
	236nm,0.3s						
PSCM	**Serra do Cume**	**2.39**	**306**	*eP*	Pn	23 41 19.7	-4.7
PSCM				*eS*	Sn	23 41 46.5	-8.0
ADH	**Angra Heroismo**	**2.44**	**304**	*eP*	Pn	23 41 20.3	-4.8
ADH				*eS*	Sn	23 41 47.7	-8.0
PID	**Ribeirinha**	**2.97**	**293**	*eP*	Pn	23 41 28.4	-3.9
PID				*eS*	Sn	23 42 00.9	-7.7
PMAN	**Manadas**	**3.02**	**297**	*eP*	Pn	23 41 28.5	-4.6
PMAN				*eS*	Sn	23 42 01.8	-8.1
PMAN				A		23 42 02.4	
	41nm,0.3s						
PMAN	**Manadas**	**3.02**	**297**	*eP*	Pn	23 41 28.5	-4.6
PMAN				*eS*	Sn	23 42 01.8	-8.1
ROSA	**Rosais**	**3.17**	**298**	*eP*	Pn	23 41 31.2	-3.9
ROSA				*eS*	Sn	23 42 06.2	-7.3
PICO	**Pico**	**3.21**	**293**	*eS*	Sn	23 42 05.7	-9.0
CALA	**Caldeira**	**3.44**	**293**	*eP*	Pn	23 41 34.9	-4.0
CALA				*eS*	Sn	23 42 12.6	-7.8
PMAR	**Madeira**	**7.82**	**123**	*e*Pn	Pn	23 42 36.2	-2.8

IDC 12 00:14:05.5±6.4,931S×15638E,h0km,mb3.8/3,mb1 4.0/3, mb1mx3.6/13,mbtmp3.8/3,Error ellipse: s-maj=108.4km s-min=81.9km az=11.0,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.77**	**241**	P	P	00 19 19.4	-0.5
	1.2nm,0.8s,baz=66,slow=9.9,SNR=5.2						
ASAR	**Alice Springs**	**25.79**	**234**	P	P	00 19 39.7	+1.3
	1.6nm,0.7s,baz=64,slow=9.2,SNR=15						
STKA	**Stephens Creek**	**26.31**	**209**	P	P	00 19 41.7	-1.3
	0.9nm,0.5s,baz=37,slow=10,SNR=3.5						

*ISCJB **12** 00:23:13.2±1.7,3542N±005×2220E±007,h11km±12km, mb3.8/9,Error ellipse: s-maj=10.5km s-min=6.6km az=145.6*
*IDC **12** 00:23:13.2±1.0,3550N×2213E,h0km,mb3.7/7, mb1 3.7/11,mb1mx3.6/27,mbtmp3.7/11,ML3.5/4,Error ellipse: s-maj=22.8km s-min=18.0km az=141.0*
*CSEM **12** 00:23:13.6±0.1,3545N×2213E,h15km,ML3.8,Error ellipse: s-maj=3.2km s-min=2.8km az=62.0*
*NEIC **12** 00:23:19.0,3586N×2252E,h10km,ML3.8(ATH),After ATH.*
*ATH **12** 00:23:19.0,3586N×2252E,h10km±2km,MD3.8/10,ML3.8*
*HLW **12** 00:23:22.0,3535N×2236E,h26km,Mb3.3*
ISC 12 00:23:14.7±1.7,3550N±005×2220E±007,h6km±12km,n34, σ1§11/36,mb3.8/9,4D,Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLI	**Veliai**	**1.35**	**26**	*e*PN	**Pn**	**00 23 37.5**	**-2.6**
VAM	**Vamos**	**1.64**	**93**	*e*PB	**Pb**	**00 23 46.6**	**+1.3**
ITM	**Ithomi**	**1.69**	**353**	*e*PG	**Pn**	**00 23 44.8**	**+0.1**
IDI	**Anoyia**	**2.21**	**95**	P	**Pg**	**00 23 56.5**	**-0.6**
NAIG	**Nisos Aigina**	**2.48**	**24**	*e*PN	**Pn**	**00 23 55.7**	**+0.1**
RLS	**Riolos of Patr**	**2.62**	**347**	P	**Pb**	**00 24 02.0**	**0.0**
ATH	**Athens Observa**	**2.75**	**26**	*e*PB	**Pn**	**00 23 58.5**	**-0.8**
NPS	**Neapolis**	**2.80**	**94**	*e*PB	**Pb**	**00 24 02.5**	**-2.6**
VLS	**Valsamata**	**2.96**	**335**	P	**Pn**	**00 24 03.9**	**+1.7**
LKR	**Lokris**	**3.21**	**11**	*e*PN	**Pn**	**00 24 06.8**	**+1.2**
EVR	**Evrytania**	**3.42**	**355**	*e*PB	**Pb**	**00 24 10.9**	**-4.8**
NEO	**Neokhori**	**3.88**	**12**	*e*PN	**Pn**	**00 24 15.8**	**+0.9**
THL	**Klokotos Trika**	**4.06**	**358**	*e*PN	**Pn**	**00 24 19.4**	**+2.2**
TIP	**Timpagrande**	**5.68**	**312**	P	**Pn**	**00 24 39.5**	**0.0**
HMAT	**Matruh**	**6.01**	**136**‖	*e*P	**Pn**	**00 24 46.3**	**+2.1**
VAE	**Valguarnera**	**6.57**	**290**	Pn	**Pn**	**00 24 51.9**	**0.0**
	0.8nm,0.3s,baz=96,slow=12,SNR=5.9						
VAE				Sn	**Sn**	**00 26 01.4**	**-5.7**
	2.6nm,0.3s,baz=91,slow=5.2,SNR=6.5						
HFRF	**Wahat Farafira**	**9.83**	**146**‖	*e*P	**Pn**	**00 25 36.9**	**+0.3**
AMAG	**Maghara**	**10.43**	**115**‖	*e*P	**Pn**	**00 25 45.6**	**+0.9**
AMAG				S	**Sn**	**00 27 32.9**	**-9.1**
MMAI	**Mount Meron Ar**	**11.21**	**99**	Pn	**Pn**	**00 25 54.2**	**-1.2**
	0.3nm,0.3s,baz=295,slow=11,SNR=3.6						
HDK1	**Dakhla**	**11.71**	**146**‖	*e*P	**Pn**	**00 26 03.0**	**+0.7**
EIL	**Elat**	**12.22**	**115**	Pn	**Pn**	**00 26 08.3**	**-1.0**
	0.2nm,0.3s,baz=287,slow=11,SNR=7.8						
AKASG	**Malin Array Be**	**16.02**	**16**	Pn	**Pn**	**00 26 59.1**	**-1.4**
	0.5nm,0.3s,baz=202,slow=11,SNR=3.2						
HFS	**Hagfors**	**25.25**	**350**	P	**P**	**00 28 40.0**	**-1.2**
	0.8nm,0.5s,mb3.5,baz=160,slow=9.2,SNR=4.3						
EKA	**Eskdalemuir Ar**	**26.39**	**327**	P	**P**	**00 28 50.9**	**-0.7**
	0.2nm,0.3s,mb3.2,baz=123,slow=8.9,SNR=4.5						
TORD	**Torodi Ar. Bea**	**28.94**	**225**	P	**P**	**00 29 14.0**	**-0.8**
	0.6nm,0.6s,mb3.5,baz=35,slow=10.0,SNR=13						
ARCES	**ARCESS Array B**	**34.14**	**2**	P	**P**	**00 29 58.5**	**-1.4**
	1.8nm,0.7s,mb4.1,baz=187,slow=8.6,SNR=11						
DBIC	**Dimbokro**	**37.95**	**227**	P	**P**	**00 30 32.0**	**-1.2**
	3.2nm,1.0s,mb4.0,baz=22,slow=5.4,SNR=2.8						
MK31	**Makanchi Array**	**45.61**	**56**	*e*P	**P**	**00 31 36.1**	**+0.6**
MK31	**Makanchi Array**	**45.61**	**56**	*e*P	**P**	**00 31 36.1**	**+0.6**
MKAR	**Makanchi Array**	**45.61**	**56**	P	**P**	**00 31 35.8**	**+0.3**
	0.8nm,0.6s,mb3.8,baz=285,slow=6.8,SNR=10						
ZALV	**Zalesovo Beam**	**46.52**	**46**	P	**P**	**00 31 43.2**	**+0.6**
	0.4nm,0.5s,mb3.6,baz=292,slow=7.6,SNR=2.7						
SONM	**Songino Array**	**61.13**	**50**	P	**P**	**00 33 30.2**	**+0.6**
	0.2nm,0.5s,mb3.5,baz=275,slow=4.6,SNR=2.8						
ULN	**Ulaanbaatar**	**61.53**	**50**	P	**P**	**00 33 32.9**	**+0.6**
	3.1nm,0.8s,mb4.5						
ULN	**Ulaanbaatar**	**61.53**	**50**	P	**P**	**00 33 32.9**	**+0.6**

*ISCJB **12** 00:31:27.6±0.5,6052N±004×15290W±007,h153km±4km, mb3.7/4,Error ellipse: s-maj=7.0km s-min=5.7km az=6.5*
*NEIC **12** 00:31:29.6,6050N×15286W,h149km,MG3.5(AEIC), After AEIC.*
*IDC **12** 00:31:31.0±5.8,6049N×15270W,h171km±59km,mb3.3/4, mb1 3.5/6,mb1mx3.2/23,mbtmp3.4/6,Error ellipse: s-maj=54.1km s-min=36.3km az=4.0*
ISC 12 00:31:28.9±0.5,6053N±004×15288W±007,h146km±4km, n36,σ0§84/46,mb3.7/4,Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AUL	**Augustine Lava**	**1.19**	**194**	P	**Pn**	**00 31 55.2**	**+0.3**
AUL				S	**Sn**	**00 32 15.2**	**+0.4**
SLKM	**Skilak Lake**	**1.32**	**90**	P	**Pn**	**00 31 56.2**	**0.0**
SLKM				*e*Sn	**Sn**	**00 32 16.8**	**-0.2**
SVW2	**Sparrevohn**	**1.44**	**294**	P	**Pn**	**00 31 56.8**	**-0.6**
SVW2				*e*Sn	**Sn**	**00 32 19.6**	**+0.3**
FIB	**Fire Island**	**1.47**	**63**	P	**Pn**	**00 31 59.0**	**+1.2**
FIB				S	**Sn**	**00 32 22.7**	**+2.8**
RC01	**Rabbit Creek A**	**1.64**	**69**	P	**Pn**	**00 31 59.4**	**-0.1**
RC01				S	**Sn**	**00 32 24.1**	**+1.0**
SEW	**Seward**	**1.76**	**103**	P	**Pn**	**00 32 00.8**	**-0.1**
SEW				S	**Sn**	**00 32 24.8**	**-0.7**
PMR	**Palmer**	**2.11**	**58**	P	**Pn**	**00 32 04.2**	**-0.7**
GHO	**Glory Hole Cre**	**2.29**	**55**	P	**Pn**	**00 32 06.8**	**-0.3**
SML	**Sawmill**	**2.55**	**58**	P	**Pn**	**00 32 09.8**	**-0.5**
SML				*e*Sn	**Sn**	**00 32 40.6**	**-1.6**
KDAK	**Kodiak Island**	**2.76**	**177**	P	**Pn**	**00 32 11.6**	**-1.4**
TT01	**Tatalina**	**2.81**	**329**	P	**Pn**	**00 32 13.3**	**-0.2**
TTA	**Tatalina**	**2.83**	**330**	*e*P	**Pn**	**00 32 15.1**	**+1.3**
TTA				*e*Sn	**Sn**	**00 32 47.0**	**-1.6**
KTH	**Kantishna Hill**	**3.17**	**16**	P	**Pn**	**00 32 18.4**	**+0.3**
TRF	**Thorofare Moun**	**3.17**	**22**	P	**Pn**	**00 32 17.9**	**-0.3**
MID	**Middleton Isla**	**3.47**	**106**	P	**Pn**	**00 32 21.8**	**-0.3**
EYAK	**Cordova Ski Ar**	**3.52**	**87**	P	**Pn**	**00 32 22.6**	**-0.1**
MCK	**McKinley**	**3.71**	**28**	P	**Pn**	**00 32 25.7**	**+0.7**
RAGM	**Ragged Mountai**	**4.07**	**88**	P	**Pn**	**00 32 29.0**	**-0.8**
PAX	**Paxson**	**4.29**	**52**	P	**Pn**	**00 32 33.4**	**+0.7**
COLA	**College**	**4.93**	**26**	P	**Pn**	**00 32 41.1**	**0.0**
IL1	**Eielson Array**	**5.07**	**30**	P	**Pn**	**00 32 42.9**	**-0.1**
DOT	**Dot Lake**	**5.19**	**49**	P	**Pn**	**00 32 45.0**	**+0.4**
IM3	**Indian Mountai**	**5.49**	**356**	P	**Pn**	**00 32 48.5**	**+0.1**
IMA2	**Indian Mountai**	**5.57**	**357**	P	**Pn**	**00 32 50.3**	**+0.7**
BCA3	**Beaver Creek A**	**5.84**	**59**	P	**Pn**	**00 32 53.1**	**-0.1**
PNL	**Peninsula**	**6.80**	**91**	P	**Pn**	**00 33 05.5**	**-0.5**
EGAK	**Eagle**	**6.87**	**47**	P	**Pn**	**00 33 06.2**	**-0.8**
DAWY	**Dawson**	**7.21**	**55**	*e*Pn	**Pn**	**00 33 12.8**	**+1.3**
DAWY				*e*Sn	**Sn**	**00 34 27.3**	**-4.7**
INK	**Inuvik**	**11.38**	**39**	P	**Pn**	**00 34 06.7**	**-0.1**
INK				*e*Sn	**Sn**	**00 36 11.2**	**-1.1**
INK	**Inuvik**	**11.38**	**39**	P	**Pn**	**00 34 06.7**	**-0.1**
	0.6nm,0.3s,baz=240,slow=15,SNR=18						
DLBC	**Dease Lake**	**11.79**	**90**	P	**Pn**	**00 34 13.0**	**+0.8**
	baz=282,slow=14						
YKA	**Yellowknife Ar**	**18.18**	**67**	P	**P**	**00 35 31.5**	**+1.5**
	0.6nm,0.3s,baz=279,slow=9.9,SNR=67						
SONM	**Songino Array**	**54.53**	**306**	P	**P**	**00 40 42.4**	**+1.3**
	1.3nm,0.6s,mb3.8,baz=52,slow=6.2,SNR=12						
ZALV	**Zalesovo Beam**	**56.98**	**323**	P	**P**	**00 40 58.8**	**+0.3**
	0.7nm,0.5s,mb3.8,baz=28,slow=6.7,SNR=4.1						
HFS	**Hagfors**	**59.22**	**8**	P	**P**	**00 41 13.0**	**-0.9**
	2.2nm,0.9s,mb4.0,baz=45,slow=4.3,SNR=4.8						
MKAR	**Makanchi Array**	**64.05**	**321**	P	**P**	**00 41 45.3**	**-1.2**
	0.2nm,0.6s,mb3.2,baz=42,slow=6.7,SNR=3.8						

IDC 12 00:37:52.3±3.7,1998S×17800W,h638km±47km,mb2.9/2, mb1 3.3/3,mb1mx2.8/14,mbtmp3.1/3,Error ellipse: s-maj=50.6km s-min=23.9km az=164.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**18.70**	**192**	P	P	00 41 32.7	+0.2
	0.5nm,0.3s,baz=11,slow=3.7,SNR=4.4						
ASAR	**Alice Springs**	**44.64**	**256**	P	P	00 45 11.3	+0.6
	1.3nm,0.5s,baz=88,slow=8.3,SNR=24						
ASAR				S	S	00 51 03.4	+0.9
	0.6nm,0.7s,baz=90,slow=15,SNR=5.2						
WRA	**Warramunga Arr**	**44.67**	**262**	P	P	00 45 10.5	-0.5
	1.0nm,0.5s,baz=97,slow=8.1,SNR=22						
AKASG	**Malin Array Be**	**142.56**	**331**	PKP	PKPdf	00 56 11.3	-2.7
	0.4nm,0.4s,baz=47,slow=4.6,SNR=7.4						
**G

TDD	**Tadjoura Ara**	**1.72**	**7**			**Pn**	**01 17 14.6**	**-0.1**
DESE	**Dese**	**3.19**	**289**	*e*P		**Pg**	**01 17 43.2**	**-2.6**
DESE				S		**Sg**	**01 18 27.6**	**+0.4**
KMBO	**Kilima Mbogo**	**12.39**	**206**	Pn		**Pn**	**01 19 41.2**	**-0.1**
	0.1nm,0.3s,baz=42,slow=16,SNR=7.1							
KMBO				LR		LR	01 24 11.9	
	comp=Z,82nm,18.1s,baz=174,slow=36							
EIL	**Elat**	**20.79**	**341**	LR		LR	01 28 15.5	
	comp=Z,40nm,18.9s,MS2.8,baz=273,slow=33							
LSZ	**Lusaka**	**29.02**	**210**	LR		LR	01 33 33.8	
	comp=Z,45nm,19.0s,MS3.1,baz=3.0,slow=35							
LBTB	**Lobatse**	**38.67**	**205**	LR		LR	01 41 21.1	
	comp=Z,65nm,18.5s,MS3.5,baz=110,slow=38							
KEST	**Kesra**	**39.61**	**315**	LR		LR	01 43 48.8	
	comp=Z,37nm,19.9s,MS3.2,baz=200,slow=41							
AKASG	**Malin Array Be**	**41.99**	**347**	P		**P**	**01 24 37.5**	**+1.6**
	0.1nm,0.2s,mb3.0,baz=160,slow=6.4,SNR=4.1							
MK31	**Makanchi Array**	**49.62**	**35**	*e*P		**P**	**01 25 36.1**	**-0.1**
MKAR	**Makanchi Array**	**49.62**	**35**	P		**P**	**01 25 36.8**	**+0.5**
	0.8nm,0.7s,mb3.9,baz=224,slow=7.8,SNR=5.9							
ZALV	**Zalesovo Beam**	**55.10**	**29**	P		**P**	**01 26 15.9**	**-0.9**
	1.5nm,0.8s,mb4.1,baz=248,slow=7.8,SNR=6.1							
NOA	**NORSAR Array B**	**55.89**	**342**	LR		LR	01 54 56.4	
	comp=Z,29nm,18.2s,MS3.4,baz=210,slow=41							
SONM	**Songino Array**	**65.00**	**42**	P		**P**	**01 27 25.6**	**+0.7**
	1.0nm,0.8s,mb3.9,baz=241,slow=5.9,SNR=7.7							

*CSEM **12** 01:18:34.1,3182N×5983E,h4km,ML3.8,After TEH*

TEH 12 01:18:34.1,3182N×5983E,h4km,ML3.8,1C-3D, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDAH	**Dahanechah**	**0.91**	**2⇑**	*e*Pg	Pg	01 19 11.4	+20
IDAH				*e*Sg	Sg	01 19 23.3	+20
IKOO	**Kooshah**	**0.92**	**311⇓**	*e*Pg	Pg	01 19 10.3	+18
IKOO				*e*Sg	Sg	01 19 23.7	+20
IMON	**Monand**	**1.37**	**354⇓**	*e*Pn	Pn	01 19 20.3	+20
IMON				*e*Sn	Sn	01 19 39.5	+21
ITEG	**Tejag**	**1.41**	**320⇓**	*e*Pg	Pg	01 19 19.4	+18
ITEG				*e*Sg	Sg	01 19 38.9	+19
IBAF	**Bafgh**	**3.64**	**267**	*e*Pn	Pn	01 19 51.9	+21
IBAF				*e*Sn	Sn	01 20 32.9	+18
IBAF				*e*		01 20 54.1	
	comp=Z,3μm,0.3s						
IBAF	**Bafgh**	**3.64**	**267**	*e*Pn	Pn	01 19 51.9	+21
IBAF				*e*Sn	Sn	01 20 32.9	+18
IMOG	**Moghan**	**4.29**	**355**	*e*Pn	Pn	01 20 00.6	+20
IMOG				*e*		01 20 23.2	
	comp=Z,232nm,0.2s						
IMEH	**Mehriz**	**4.47**	**266**	*e*Pn	Pn	01 20 02.9	+20
IMEH				*e*		01 21 20.9	
	comp=Z,2μm,0.4s						
IMYA	**Miami**	**4.51**	**3**	*e*Pn	Pn	01 20 04.5	+21
IMYA				*e*		01 21 31.2	
	comp=Z,620nm,0.6s						
ICHK	**Chekchek**	**4.63**	**277**	*e*Pn	Pn	01 20 05.0	+20
ICHK				*e*Sn	Sn	01 20 57.3	+18
ICHK				*e*		01 21 30.4	
	comp=Z,2μm,0.5s						
ICHK	**Chekchek**	**4.63**	**277**	*e*Pn	Pn	01 20 05.0	+20
ICHK				*e*Sn	Sn	01 20 57.3	+18
IPAY	**Payeh**	**4.67**	**352**	*e*Pn	Pn	01 20 04.7	+19
IPAY				*e*		01 20 27.8	
	comp=Z,198nm,0.3s						
IKRD	**Kardeh**	**5.05**	**348**	*e*Pn	Pn	01 20 11.7	+21
IKRD				*e*		01 21 38.1	
	comp=Z,333nm,0.5s						
IANJ	**Anjilo**	**6.13**	**308**	*e*Pn	Pn	01 20 25.4	+20
IANJ				*e*		01 20 55.6	
	comp=Z,205nm,0.3s						
IZEF	**Zefreh**	**6.44**	**282**	*e*Pn	Pn	01 20 31.2	+21
IZEF				*e*		01 22 34.2	
	comp=Z,280nm,0.4s						
ISFB	**Sefidab**	**6.86**	**294**	*e*Pn	Pn	01 20 39.9	+24
ISFB				*e*		01 22 46.6	
	comp=Z,409nm,0.5s						
IFIR	**Firoozkooh**	**7.02**	**305**	*e*Pn	Pn	01 20 38.6	+21
IFIR				*e*		01 20 40.7	
	comp=Z,270nm,0.2s						

*IDC **12** 01:35:21.5±0.9,326S×12843E,h0km,mb3.8/5,mb1 3.8/5, mb1mx3.8/13,mbtmp3.8/5,MS3.4/1,Ms1 3.4/1, ms1mx2.4/25,Error ellipse: s-maj=101.1km s-min=19.7km az=71.0*

*ISCJB **12** 01:35:23.5±0.7,33S±02×1286E±06,h33km,mb3.9/6, Error ellipse: s-maj=86.4km s-min=10.4km az=162.1*

*NEIC **12** 01:35:27.2±0.7,4.19S×12685E,h35km,mb4.1/1,Error ellipse: s-maj=67.6km s-min=11.6km az=62.0*

ISC 12 01:35:25.8±0.7,33S±02×1288E±06,h35km,n13,σ1⇑17/11, mb3.9/6,Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Kupang**	**8.54**	**216**	LR	LR	01 39 58.4	
	comp=Z,286nm,20.4s,baz=97,slow=33						
KAKA	**Kakadu**	**10.06**	**159**	*e*P		**Pn**	**01 37 53.7**	**+5.8**
	18nm,0.6s						
WRAB	**Tennant Creek**	**17.43**	**162**	*e*Pn		**Pn**	**01 39 25.4**	**-1.0**
	21nm,1.3s						
WRA	**Warramunga Arr**	**17.44**	**162**	P		**Pn**	**01 39 25.0**	**-1.5**
	0.5nm,0.3s,baz=336,slow=13,SNR=12						
WB2	**Warramunga Arr**	**17.45**	**162**	*e*P		**Pn**	**01 39 26.0**	**-0.5**
ASAR	**Alice Springs**	**20.88**	**167**	P		**P**	**01 40 06.7**	**+1.7**
	55nm,0.9s,baz=344,slow=11,SNR=283							
ASAR				PcP		PcP	01 44 13.5	+0.9
	0.7nm,0.6s,baz=345,slow=1.5,SNR=6.1							
CTA	**Charters Tower**	**23.89**	**136**	P		**P**	**01 40 45.0**	**+8.5**
	8.6nm,0.7s,mb4.3,baz=307,slow=14,SNR=3.3							
STKA	**Stephens Creek**	**30.91**	**158**	P		**P**	**01 41 41.3**	**+2.0**
	2.1nm,0.6s,mb4.1,baz=320,slow=7.6,SNR=6.1							
KSRS	**Korea Array**	**40.53**	**359**	P		**P**	**01 43 02.0**	**+0.4**
	0.3nm,0.3s,mb3.4,baz=185,slow=12,SNR=3.3							
SONM	**Songino Array**	**54.54**	**342**	P		**P**	**01 44 48.7**	**-1.5**
	0.2nm,0.4s,mb3.5,baz=170,slow=8.8,SNR=2.2							
SONM				PcP		PcP	01 45 56.4	+3.2
	0.5nm,0.6s,baz=158,slow=2.8,SNR=3.7							
MKAR	**Makanchi Array**	**64.45**	**326**	P		**P**	**01 45 59.0**	**+0.3**
	1.1nm,0.6s,mb4.0,baz=129,slow=7.8,SNR=7.2							
MKAR				PcP		PcP	01 46 34.1	+1.3
	1.4nm,0.5s,baz=138,slow=4.4,SNR=6.9							
ZALV	**Zalesovo Beam**	**67.71**	**334**	P		**P**	**01 46 19.8**	**+0.3**
	0.6nm,0.6s,mb3.8,baz=111,slow=6.5,SNR=3.1							
TORD	**Torodi Ar. Bea**	**126.79**	**284**	PKP		PKPdf	01 54 25.8	-1.0
	0.3nm,0.6s,baz=72,slow=2.5,SNR=3.2							

*IDC **12** 01:54:49.0±1.2,2098N×14594E,h0km,mb3.7/8, mb1 3.9/9,mb1mx3.8/20,mbtmp3.7/9,ML3.7/1,MS3.0/2, Ms1 3.0/2,ms1mx2.5/25,Error ellipse: s-maj=47.2km s-min=19.5km az=82.0*

*ISCJB **12** 01:54:52.4±1.0,2095N±009×1459E±03,h33km,mb3.8/9, Error ellipse: s-maj=38.7km s-min=12.2km az=173.9*

ISC 12 01:54:54.4±1.0,2097N±009×1459E±03,h35km,n12, σ0⇑46/11,mb3.8/9,Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**16.89**	**338**	Pn		**Pn**	**01 58 48.2**	**+0.1**
	0.3nm,0.3s,baz=154,slow=12,SNR=2.8							
JNU	**Nakatsue**	**18.00**	**315**	LR		LR	02 04 21.6	
	comp=Z,40nm,18.4s,baz=231,slow=32							
KSRS	**Korea Array**	**22.64**	**320**	P		**P**	**01 59 51.7**	**-0.6**
	1.4nm,0.4s,mb3.7,baz=142,slow=7.3,SNR=5.9							
KSRS				LR		LR	02 08 51.8	
	comp=Z,42nm,19.0s,baz=135,slow=37							
SONM	**Songino Array**	**41.50**	**320**	P		**P**	**02 02 39.0**	**+0.8**
	0.7nm,0.5s,mb3.5,baz=134,slow=7.6,SNR=7.2							
WB2	**Warramunga Arr**	**42.20**	**196**	*e*P		**P**	**02 02 44.0**	**0.0**
WRA	**Warramunga Arr**	**42.20**	**196**	P		**P**	**02 02 44.0**	**-0.1**
	1.1nm,0.5s,mb3.7,baz=18,slow=8.6,SNR=11							
FITZ	**Fitzroy Crossi**	**43.61**	**208**	*e*P		**P**	**02 02 55.7**	**+0.2**
	8.5nm,1.3s,mb4.3							
ASAR	**Alice Springs**	**45.88**	**195**	P		**P**	**02 03 13.3**	**-0.1**
	0.5nm,0.4s,mb3.8,baz=21,slow=7.0,SNR=7.5							
ZALV	**Zalesovo Beam**	**56.34**	**322**	P		**P**	**02 04 30.9**	**-0.8**
	0.5nm,0.4s,mb3.9,baz=139,slow=9.5,SNR=2.8							
MKAR	**Makanchi Array**	**57.03**	**313**	P		**P**	**02 04 37.5**	**+0.7**
	0.3nm,0.4s,mb3.7,baz=104,slow=9.1,SNR=4.6							
YKA	**Yellowknife Ar**	**75.91**	**28**	P		**P**	**02 06 37.3**	**+0.2**
	0.2nm,0.5s,mb3.3,baz=287,slow=5.8,SNR=4.1							
FINES	**FINESS Array B**	**84.90**	**335**	P		**P**	**02 07 25.2**	**-0.3**
	2.6nm,0.9s,mb4.4,baz=82,slow=5.0,SNR=14							

*NEIC **12** 02:08:16.5,1841N×6957W,h96km,MD3.8(RSPR),After RSPR.*

RSPR 12 02:08:16.5,1841N×6957W,h96km,MD3.8/7,MD3.8/7, 3C-3D,Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STDO	**Santo Domingo**	**0.34**	**277**	*e*S	Sn	02 08 41.4	-0.3
SMN1	**Samana, DR**	**0.82**	**20⇓**	*e*P	Pn	02 08 34.8	0.0
SMN1	**Samana, DR**	**0.82**	**20**	*e*S	Sn	02 08 48.2	-0.3
AGPR	**Aguadilla, PR**	**2.33**	**88⇑**	*e*P	Pn	02 08 52.3	-1.0
AGPR				*e*S	Sn	02 09 21.5	0.0
CRPR	**Cabo Rojo, PR**	**2.37**	**99⇑**	*e*P	Pn	02 08 53.6	-0.2
CRPR				*e*S	Sn	02 09 22.2	-0.1
AOPR	**Arecibo Observ**	**2.67**	**91⇑**	*e*P	Pn	02 08 58.9	+1.1
AOPR				*e*S	Sn	02 09 30.2	+0.7
CPD	**Cerro la Pandu**	**3.49**	**95**	*e*S	Sn	02 09 49.5	+0.3
CBYP	**Canovanas**	**3.53**	**92⇓**	*e*P	Pn	02 09 08.5	-0.8
CBYP				*e*S	Sn	02 09 51.1	+1.0
MTP	**Monte Pirata**	**3.83**	**94⇓**	*e*P	Pn	02 09 13.6	+0.3
MTP				*e*S	Sn	02 09 58.6	+1.3

*CSEM **12** 02:19:52.3±0.9,2790N×1545W,h55km±5km,mb3.3/6, Error ellipse: s-maj=18.9km s-min=5.0km az=177.0,After MDD*

*NEIC **12** 02:19:52.3,2790N×1545W,h55km,MG3.3(MDD),After MDD.*

MDD 12 02:19:52.5±0.2,2783N×1543W,h51km±1km,mb3.6/5, 1C-1D,Error ellipse: s-maj=3.4km s-min=1.2km az=2.0, PRXIMO TT Model: CANARY,Canary Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOSO	**Osorio**	**0.27**	**335**	⇓P	Pn	02 20 00.9	-0.5
	SNR=18						
EOSO				S	Sn	02 20 07.0	-0.7
	46nm,0.1s,SNR=40						
EOSO	**Osorio**	**0.27**	**335**	P	Pn	02 20 00.9	-0.5
	43nm,0.1s,SNR=18						
EOSO				S	Sn	02 20 07.0	-0.8
	46nm,0.1s,SNR=40						
EBAJ	**Bajamar**	**1.07**	**311**	P	Pn	02 20 10.6	-0.6
	1.7nm,0.1s,SNR=12						
EBAJ				S	Sn	02 20 23.0	-2.1
	5.8nm,0.1s,SNR=26						
EBAJ	**Bajamar**	**1.07**	**311**	P	Pn	02 20 10.6	-0.6
	1.7nm,0.1s,SNR=12						
EBAJ				S	Sn	02 20 23.0	-2.1
	5.8nm,0.1s,SNR=26						
CCAN	**Las Canadas**	**1.11**	**291**	⇑P	Pn	02 20 10.8	-0.9
	3.0nm,0.2s,SNR=18						
CCAN				S	Sn	02 20 21.5	-4.5
	2.4nm,0.1s,SNR=5.0						
CRAJ	**Montana Rajada**	**1.12**	**293**	S	Sn	02 20 24.4	-1.8
	30nm,0.1s,SNR=7.9						
CRAJ	**Montana Rajada**	**1.12**	**293**	S	Sn	02 20 24.4	-1.8
	30nm,0.1s,SNR=7.9						
CICO	**Icod de los Vi**	**1.26**	**295**	P	Pn	02 20 13.0	-0.7
	0.3nm,0.1s,SNR=7.9						
CICO				S	Sn	02 20 26.0	-3.5
	0.8nm,0.1s,SNR=5.9						
CHIO	**Chio**	**1.29**	**289**	P	Pn	02 20 12.9	-1.3
	2.0nm,0.1s,SNR=6.0						
CHIO				S	Sn	02 20 27.6	-2.8
	11nm,0.2s,SNR=8.3						
CFTV	**Fuerteventura**	**1.32**	**64**	P	Pn	02 20 13.1	-1.4
	2.5nm,0.1s,SNR=7.9						
CFTV				S	Sn	02 20 28.2	-2.9
	10nm,0.1s,SNR=15						
CFUE	**Fuerteventura**	**1.55**	**58**	P	Pn	02 20 16.3	-1.3
	1.1nm,0.0s,SNR=7.9						
CFUE				S	Sn	02 20 34.3	-2.2
	14nm,0.1s,SNR=7.9						
EGOM	**La Gomera**	**1.61**	**282**	P	Pn	02 20 16.9	-1.6
	2.0nm,0.1s,SNR=8.4						
EGOM				S	Sn	02 20 34.1	-4.0
	7.6nm,0.1s,SNR=11						
EGOM	**La Gomera**	**1.61**	**282**	P	Pn	02 20 16.9	-1.6
	2.0nm,0.1s,SNR=8.4						
EGOM				S	Sn	02 20 34.1	-4.0
	7.6nm,0.1s,SNR=11						
EFAM	**Famara**	**2.11**	**52**	P	Pn	02 20 24.6	-0.7
	2.1nm,0.2s,SNR=7.9						
EFAM				S	Sn	02 20 48.4	-1.9
	0.2nm,0.2s,SNR=7.9						
EFAM	**Famara**	**2.11**	**52**	P	Pn	02 20 24.6	-0.7
	2.1nm,0.2s,SNR=7.9						

IDC 12 02:31:46.9±3.5,5029S×12352E,h0km,mb3.6/2, mb1 3.7/2,mb1mx3.6/11,mbtmp3.6/2,Error ellipse: s-maj=136.7km s-min=65.9km az=120.0,Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**22.79**	**43**	P	P	02 36 51.1	+0.3
	2.1nm,1.0s,baz=191,slow=10,SNR=2.6						
ASAR	**Alice Springs**	**27.79**	**21**	P	P	02 37 37.4	-0.1
	0.3nm,0.4s,baz=190,slow=9.1,SNR=6.1						
YKA	**Yellowknife Ar**	**146.80**	**46**	PKPbc	PKPbc	02 51 28.8	-0.7
	0.2nm,0.8s,baz=263,slow=5.4,SNR=2.3						

*NEIC **12** 02:35:18.8,3603S×17847E,h97km,ML3.8(WEL),After WEL.*

WEL 12 02:35:18.2±0.1,3603S×17847E,h97km,ML3.8/5,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUZ	**Puketiti**	**2.05**	**185**	*e*P	Pn	02 35 51.4	+0.2
PUZ				S	Sn	02 36 16.0	-0.4
PUZ	**Puketiti**	**2.05**	**185**	PN	Pn	02 35 51.4	+0.1
PUZ				SN	Sn	02 36 16.0	-0.4
MWZ	**Matawai**	**2.42**	**198**	*e*P	Pn	02 35 57.0	+0.9
MWZ				S	Sn	02 36 26.0	+0.8
MWZ	**Matawai**	**2.42**	**198**	PN	Pn	02 35 57.0	+0.9
MWZ				SN	Sn	02 36 26.0	+0.8
URZ	**Urewera**	**2.48**	**206**	*e*P	Pn	02 35 57.3	+0.4
URZ	**Urewera**	**2.48**	**206**	PN	Pn	02 35 57.3	+0.4
URZ				SN	Sn	02 36 26.8	+0.2
BKZ	**Black Stump Fm**	**3.50**	**206**	*e*P	Pn	02 36 10.0	-0.6
BKZ	**Black Stump Fm**	**3.50**	**206**	PN	Pn	02 36 10.0	-0.6
FWVZ	**Far West T-bar**	**3.97**	**215**	*e*P	Pn	02 36 19.7	+2.9
FWVZ	**Far West T-bar**	**3.97**	**215**	PN	Pn	02 36 19.4	+2.6
WNVZ	**Wahianoa**	**4.00**	**214**	P	Pn	02 36 19.6	+2.3
WNVZ	**Wahianoa**	**4.00**	**214**	PN	Pn	02 36 21.5	+4.2
MRZ	**Mangatainoka R**	**5.15**	**205**	PN	Pn	02 36 31.4	-1.5
KIW	**Kapiti Island**	**5.58**	**209**	PN	Pn	02 36 37.5	-1.1

IDC 12 02:38:05.0±3.0,961S×15710E,h0km,mb4.1/4,mb1 4.2/4, mb1mx3.9/13,mbtmp4.1/4,Error ellipse: s-maj=80.9km s-min=37.4km az=109.0,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.26**	**242**	P	P	02 43 24.0	+0.1
	2.2nm,0.6s,baz=71,slow=9.6,SNR=7.7						
ASAR	**Alice Springs**	**26.20**	**235**	P	P	02 43 41.0	-0.5
	2.4nm,0.6s,baz=63,slow=10,SNR=30						
STKA	**Stephens Creek**	**26.41**	**211**	P	P	02 43 44.1	+0.7
	2.2nm,0.4s,baz=31,slow=12,SNR=11						
MKAR	**Makanchi Array**	**86.73**	**318**	P	P	02 50 51.0	+0.1
	0.5nm,0.6s,baz=106,slow=5.4,SNR=5.5						

*IDC **12** 02:42:34.5±0.6,944S×10826E,h0km,mb4.4/12, mb1 4.4/13,mb1mx4.3/19,mbtmp4.4/13,ML3.6/1,MS3.5/2, Ms1 3.5/2,ms1mx3.1/26,Error ellipse: s-maj=22.6km s-min=14.2km az=69.0*

*ISCJB **12** 02:42:37.4±0.4,959S±005×10812E±005,h33km, mb4.6/36,MS3.7/5,Error ellipse: s-maj=7.6km s-min=6.6km az=141.0*

*BJI **12** 02:42:39.6,950S×10830E,h33km,mB5.0,mb4.7,Ms4.1, Msz4.0*

*NEIC **12** 02:42:39.6±0.2,950S×10826E,mb4.6/17,Error ellipse: s-maj=9.7km s-min=5.6km az=57.0*

ISC 12 02:42:39.7±0.4,961S±005×10814E±005,h35km, h35km±9km:pP-P,n63,σ1⇑16/58,mb4.6/36,MS3.7/5,2C, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BJII	**Banjamegara**	**2.75**	**35**	P	Pn	**02 43 19.6**	**-1.8**
	347nm,0.9s						
BJII	**Banjamegara**	**2.75**	**35⇑**	*e*P	Pn	**02 43 19.7**	**-1.7**
BJII				*e*S	Sn	**02 43 55.5**	**+2.1**
YOGI	**Yogyakarta**	**2.78**	**50⇑**	*e*P	Pn	**02 43 23.1**	**+1.3**
YOGI				*e*S	Sn	**02 43 57.6**	**+3.4**
LEM	**Lembang**	**2.82**	**349**	P	Pn	**02 43 21.9**	**-0.4**
	803nm,0.9s						
CBJI	**Citeko**	**3.42**	**338**	P	Pn	**02 43 26.8**	**-3.8**
	2μm,0.9s						
SBJI	**Serang**	**4.00**	**330**	P	Pn	**02 43 44.2**	**+5.6**
	218nm,1.1s						
KRKI	**Karangkates**	**4.50**	**72**	P	Pn	**02 43 44.3**	**-1.2**
	1μm,1.0s						
NBBI	**Negara**	**6.52**	**80**	P	Pn	**02 44 13.0**	**-0.2**
	364nm,0.7s						
DNP	**Denpasar**	**7.04**	**83**	P	Pn	**02 44 23.3**	**+2.9**
	514nm,0.6s						
FITZ	**Fitzroy Crossi**	**18.95**	**118**	*e*P	Pn	**02 46 58.5**	**-0.5**
	9.4nm,0.9s						
FITZ	**Fitzroy Crossi**	**18.95**	**118**	*e*P	Pn	**02 46 58.5**	**-0.5**
	9.4nm,0.9s						
FITZ	**Fitzroy Crossi**	**18.95**	**118**	P	Pn	**02 46 58.2**	**-0.7**
	0.1nm,0.3s,baz=256,slow=2.2,SNR=6.3						
NWAO	**Narrogin (SRO)**	**24.67**	**161**	P	P	**02 47 57.4**	**0.0**
	14nm,0.7s,mb4.6,baz=344,slow=11,SNR=7.8						
WRA	**Warramunga Arr**	**27.29**	**115**	P	P	**02 48 20.8**	**-0.5**
	4.0nm,0.7s,mb4.0,baz=287,slow=11,SNR=15						
WRA				PcP	PcP	02 51 40.9	+0.4
	0.5nm,0.7s,baz=298,slow=2.1,SNR=4.7						
WB2	**Warramunga Arr**	**27.30**	**115**	*e*P	P	**02 48 21.3**	**-0.1**
WB2				*e*	pP	02 48 31.7	+0.4
ASAR	**Alice Springs**	**28.29**	**123**	P	P	**02 48 29.9**	**-0.2**
	2.7nm,0.8s,mb4.0,baz=301,slow=9.0,SNR=24						
ASAR				PcP	PcP	02 51 44.0	+1.1
	1.2nm,0.6s,baz=301,slow=2.0,SNR=12						
QIZ	**Qiongzhong**	**28.51**	**3**	P	P	**02 48 33.0**	**+0.9**
QIZ				S	S	**02 53 20.9**	**+3.2**
QIZ				AMB	AMB		
	comp=Z,15nm,2.2s,mb4.3						
QIZ				AMB	AMB		
	comp=Z,161nm,3.0s						
QIZ				LR	LR		
	comp=E,172nm,16.2s						
QIZ				LR	LR		
	comp=Z,167nm,14.4s,MS3.8						
CHTO	**Chiang Mai**	**29.67**	**342**	*e*P	P	**02 48 42.0**	**-0.4**
	comp=Z,7.0nm,0.9s,mb4.4						
KMI	**Kunming**	**34.92**	**351**	P	P	**02 49 31.5**	**+3.1**
KMI				AP	pP	02 49 41.8	+3.4
KMI				XP	sP	02 49 45.4	+2.8
KMI				S	S	**02 55 01.5**	**+3.8**
KMI				SS	SS	02 57 17.7	-13
KMI				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.9						
KMI				AMB	AMB		
	comp=Z,50nm,7.1s						
KMI				LR	LR		
	comp=N,146nm,13.5s,MS4.0						
KMI				LR	LR		
	comp=E,151nm,15.7s,MS4.0						
KMI				LR	LR		
	comp=Z,171nm,13.8s,MS4.0						
STKA	**Stephens Creek**	**38.08**	**130**	*e*P	P	**02 49 55.4**	**+0.1**
	comp=Z,8.4nm,0.7s,mb4.6						
STKA	**Stephens Creek**	**38.08**	**130**	P	P	**02 49 55.5**	**+0.3**
	comp=Z,10nm,0.7s,mb4.7,baz=307,slow=9.0,SNR=23						
CTA	**Charters Tower**	**38.20**	**110**	LR	LR	03 03 19.5	
	comp=Z,96nm,21.8s,MS3.6,baz=210,slow=33						
CD2	**Chengdu**	**40.51**	**354**	*e*P	P	**02 50 18.1**	**+2.6**
CD2				XP	sP	02 50 31.8	+2.0
CD2				PP	PP	02 51 56.8	+7.5
CD2				S	S	**02 56 26.6**	**+4.4**
CD2				XS	sS	02 56 42.8	+3.8
CD2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.6						
CD2				AMB	AMB		
	comp=Z,20nm,4.8s						
CD2				LR	LR		
	comp=N,100nm,14.6s						
CD2				LR	LR		
	comp=Z,120nm,13.5s,MS3.9						
JOW	**Kunigami**	**41.16**	**28**	P	P	**02 50 19.2**	**-1.8**
	comp=Z,12nm,0.7s,mb4.6,baz=247,slow=18,SNR=3.1						
LSA	**Lhasa**	**42.37**	**338**	*e*P	P	**02 50 32.2**	**+1.4**
	comp=Z,10nm,0.6s,mb4.6						
NJ2	**Nanjing**	**42.68**	**13**	*e*P	P	**02 50 33.0**	**-0.2**
NJ2				AMB	AMB		
	comp=Z,20nm,0.5s,mb5.1						
JIRN	**Jiri**	**42.72**	**331**	*e*P	P	**02 50 33.2**	**-0.5**
	comp=Z,1.9nm,0.2s,mb4.4						
KKN	**Kakani**	**43.27**	**330**	*e*P	P	**02 50 37.1**	**-1.0**
	comp=Z,27nm,0.9s,mb5.0						
XAN	**Xi'an**	**43.42**	**1**	P	P	**02 50 38.6**	**-0.6**
XAN				AP	pP	02 50 46.0	-3.4
XAN				AMB	AMB		
	comp=Z,14nm,0.9s,mb4.7						
GKN	**Gorkha**	**43.77**	**329**	*e*P	P	**02 50 42.5**	**+0.4**
	comp=Z,27nm,0.8s,mb5.0						
KOLN	**Koldanda**	**44.11**	**328**	*e*P	P	**02 50 45.3**	**+0.4**
	comp=Z,37nm,0.8s,mb5.1						
BJT	**Baijiatuau**	**49.94**	**8**	*e*P	P	**02 51 29.9**	**-0.3**
	comp=Z,5.8nm,0.6s,mb4.8						
BJI	**Beijing**	**49.96**	**8**	P	P	**02 51 30.0**	**-0.3**
BJI				AMB	AMB		
	comp=Z,9.0nm,1.1s,mb4.7						
HHC	**Hu-ho-hao-te**	**50.31**	**3**	*e*P	P	**02 51 35.7**	**+2.8**
HHC				AP	pP	02 51 45.0	+1.7
HHC				XP	sP	02 51 50.6	+3.2
HHC				PP	PP	02 53 30.5	+1.7
HHC				S	S	**02 58 47.7**	**+4.4**
HHC				PS	

BRVK epP pP 02 53 58.3 -1.7
LSZ Lusaka 77.91 256 eP **P 02 54 36.1 +1.3**
comp=Z,4.3nm,0.8s,mb4.4
BOSA Boshof 79.25 243 eP **P 02 54 42.2 +0.2**
comp=Z,30nm,1.5s,mb5.0
QSPA South Pole Qui 80.39 180 eP **P 02 54 48.1 +1.0**
comp=Z,54nm,1.9s,mb5.2
QSPA epP pP 02 54 59.2 +1.2
TIXI Tiksi 82.25 6 eP **P 02 54 55.9 -1.1**
comp=Z,3.5nm,0.8s,mb4.3
TIXI epP pP 02 55 06.7 -1.3
YKA Yellowknife Ar 118.89 21 PKP PKPdf 03 01 24.3 +0.1
comp=Z,0.4nm,0.7s,baz=329,slow=1.8,SNR=10
AMTX Amarillo 142.92 43 ePKPdf PKPdf 03 02 10.1 -0.2
TXAR Lajitas Array 144.35 52 PKP PKPdf 03 02 12.4 -0.5
comp=Z,0.5nm,0.8s,baz=222,slow=1.7,SNR=7.0
WMOK Wichita Mounta 144.91 40 ePKPdf PKPdf 03 02 13.5 -0.2
WMOK e 03 02 23.8
LONY Lake Ozonia 145.04 3 ePKPdf PKPdf 03 02 13.4 -0.2
LONY e 03 02 23.9
JCT Junction City 146.70 47 ePKPbc PKPbc 03 02 19.7 +1.1
CCM Cathedral Cave 146.74 29 ePKPbc PKPbc 03 02 18.3 -0.1
MIAR Mount Ida 148.20 35 ePKPbc PKPbc 03 02 21.2 -1.4
WVT Waverly 149.88 26 ePKPbc PKPbc 03 02 27.2 +0.4
WVT epPKPdf pPKPdf 03 02 37.6 +4.3
PLAL Pickwick Lake 150.72 28 ePKPbc PKPbc 03 02 27.8 -1.0
PLAL epPKPdf pPKPdf 03 02 38.8 +4.2

IDC ***12*** *02:42:41.4±2.0,47.25N×153.03E,h0km,mb3.7/5, mb1 4.0/6,mb1mx3.6/22,mbtmp3.8/6,ML3.5/1,Error ellipse: s-maj=58.9km s-min=29.0km az=172.0*
ISCJB ***12*** *02:42:44.6±1.9,47.1N±02.0×152.7E±0.3,h44km±16km, mb3.8/5,Error ellipse: s-maj=42.7km s-min=8.4km az=138.0*
MOS ***12*** *02:42:45.8±1.4,46.96N×152.71E,h62km,mb4.0/4,Error ellipse: s-maj=45.4km s-min=21.2km az=54.9*

ISC 12 02:42:46.3±1.8,470N±02×152.8E±0.3,h43km±15km,n14,σ1.9 11/16,mb3.8/5,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.83**	**244**	PN	**Pn**		**02 43 41.5**	**-1.2**
KUR				*e*S	**Sn**		**02 44 26.0**	**-0.4**
KUR	comp=Z,80nm,0.6s			pmax	pmax			
KUR	comp=N,300nm,0.5s			smax				
KUR	comp=E,150nm,0.5s			smax				
SKR	**Severo-Kuril's**	**4.29**	**30**	*e*PN	**Pn**		**02 43 51.0**	**+2.0**
SKR				*e*S	**Sn**		**02 44 36.5**	**-1.3**
SKR	comp=Z,40nm,0.5s			pmax	pmax			
SKR	comp=N,120nm,0.5s			smax				
SKR	comp=E,100nm,0.5s			smax				
ASAJ	**Asahikawa**	**7.69**	**252**	PN	**Pn**		**02 44 38.7**	**+3.1**
ASAJ	comp=Z,1.0nm,0.3s			pmax	pmax			
ASAJ	**Asahikawa**	**7.69**	**252**	Pn	**Pn**		**02 44 38.6**	**+3.1**
	comp=Z,0.6nm,0.3s,baz=81,slow=15,SNR=7.2							
YKA	**Yellowknife Ar**	**50.86**	**37**	P	**P**		**02 51 41.4**	**-0.9**
YKA	comp=Z,1.0nm,0.6s			pmax	pmax			
YKA	**Yellowknife Ar**	**50.86**	**37**	P	**P**		**02 51 41.4**	**-0.8**
	comp=Z,0.5nm,0.6s,mb3.6,baz=294,slow=6.9,SNR=8.8							
FINES	**FINESS Array B**	**63.70**	**335**	P	**P**		**02 53 12.8**	**0.0**
FINES	comp=Z,1.0nm,0.4s			pmax	pmax			
FINES	**FINESS Array B**	**63.70**	**335**	P	**P**		**02 53 12.8**	**+0.1**
	comp=Z,0.6nm,0.4s,mb4.0,baz=38,slow=9.3,SNR=6.2							
PDAR	**Pinedale Array**	**64.80**	**54**	P	**P**		**02 53 20.3**	**0.0**
	comp=Z,0.7nm,1.0s,mb3.6,baz=323,slow=2.2,SNR=3.9							
NB2	**NORSAR Subarra**	**67.90**	**341**	P	**P**		**02 53 40.9**	**+1.1**
	comp=Z,0.6nm,0.6s,mb3.8,baz=27,slow=6.5							
NOA	**NORSAR Array B**	**67.90**	**341**	P	**P**		**02 53 40.3**	**+0.5**
NOA	comp=Z,1.0nm,0.7s			pmax	pmax			
NOA	**NORSAR Array B**	**67.90**	**341**	P	**P**		**02 53 40.2**	**+0.4**
	comp=Z,0.7nm,0.7s,mb3.8,baz=27,slow=4.0,SNR=3.8							
TXAR	**Lajitas Array**	**77.58**	**60**	P	**P**		**02 54 37.8**	**0.0**
TXAR	comp=Z,1.0nm,0.5s			pmax	pmax			
TXAR	**Lajitas Array**	**77.58**	**60**	P	**P**		**02 54 37.8**	**0.0**
	comp=Z,0.5nm,0.5s,mb3.7,baz=300,slow=4.4,SNR=16							

ISCJB ***12*** *02:59:05.5±0.1,186.7S±0.03×69.34W±0.03,h107km, mb5.1/196,Error ellipse: s-maj=5.0km s-min=3.3km az=35.2*
IDC ***12*** *02:59:06.8±0.4,186.0S×69.37W,h109km±2km,mb4.9/21, mb1 5.0/22,mb1mx5.0/23,mbtmp4.9/22,MS3.9/10, Ms1 3.9/10,ms1mx3.6/32,Error ellipse: s-maj=11.3km s-min=8.6km az=63.0*
LDG ***12*** *02:59:06.7±0.3,182.9S×69.35W,h107km,Mb5.0/28, Ms3.8/8,Error ellipse: s-maj=20.6km s-min=11.4km az=42.0*
NEIC ***12*** *02:59:06.6±0.2,186.6S×69.37W,mb5.2/171,Error ellipse: s-maj=5.5km s-min=3.6km az=38.0*
NEIC Felt [II] at Arica, Camarones and Putre. Felt [III] at Locumba and Tacna, Peru.
GCMT ***12*** *02:59:06.6±0.3,188.8S×69.67W,h128km±2km,MW5.2/66, Moment Tensor Solution. s43,c49; s66,c97; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-5.26±.17; Mθθ-1.96±.20; Mφφ7.23±.22; Mτθ1.89±.13; Mτφ-1.09±.24; Mθφ-1.06±.21; Best double couple: M=6.81400×10^16 NP1:φs196.00000°,δ44.00000°,λ-56.00000°. NP2: φs332.00000°,δ55.00000°,λ-119.00000°. Principal axes: T 7.4880, Plg6.0000°, Azm82.0000°; N -1.3390, Plg23.0000°, Azm350.0000°; P -6.1390, Plg66.0000°, Azm186.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
BJI ***12*** *02:59:07.2,180.4S×69.41W,h107km,mB5.1*
MOS ***12*** *02:59:08.5±1.0,180.4S×69.27W,h113km,mb5.3/67, MS4.2/5,Error ellipse: s-maj=8.8km s-min=6.3km az=86.9*
SZGRF ***12*** *02:59:27.1,190.3S×68.42W,h33km,mb5.6,Chile-Bolivia border region*

ISC 12 02:59:07.3±0.1,187.0S±0.03×69.28W±0.03,h109km, h109km±.6km:pP-P,n819,σ0.9 77/685,mb5.1/194,97C-199D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**2.63**	**25**	⇑*i*Pn	**Pn**		**02 59 52.5**	**+4.0**
LPAZ	**La Paz**	**2.63**	**25**	P	**Pn**		**02 59 52.5**	**+4.1**
	59nm,0.3s,baz=197,slow=6.4,SNR=1992							
LPAZ				S	**Sn**		**03 00 27.3**	**+7.2**
	35nm,0.3s,baz=210,slow=24,SNR=6.2							
LPAZ				LR	LR		03 00 53.5	
	comp=Z,2μm,20.9s,baz=90,slow=41							
ARE	**Arequipa**	**3.06**	**316**	⇑*i*P	**Pn**		**02 59 51.0**	**-3.1**
ARE				*i* S	**Sn**		**03 00 25.0**	**-5.2**
CEN1	**Los Morros**	**4.75**	**190**	⇑*i*P	**Pn**		**03 00 14.7**	**-2.0**
CEN1				*i* S	**Sn**		**03 01 08.1**	**-2.6**
ANCH	**Antofagasta**	**5.07**	**192**	*e*P	**Pn**		**03 00 16.4**	**-4.7**
ANCH				*i* S	**Sn**		**03 01 10.1**	**-8.4**
CPN1	**Cerro Paranal**	**5.99**	**190**	⇑*i*P	**Pn**		**03 00 28.6**	**-4.9**
CPN1				*i* S	**Sn**		**03 01 31.5**	**-9.3**
SIV	**San Ignacio**	**8.29**	**72**	P	**Pn**		**03 01 05.1**	**+0.4**
	84nm,0.3s,baz=264,slow=10,SNR=547							
CDCH	**Caldera**	**8.46**	**189**	*e*P	**Pn**		**03 00 59.5**	**-7.5**
CDCH				*i* S	**Sn**		**03 02 22.9**	**-18**
NNA	**Nana**	**9.88**	**311**	*e*Pn	**Pn**		**03 01 20.6**	**-5.8**
	102nm,0.8s							
NNA				*e*Sn	**Sn**		**03 03 12.8**	**-2.6**
NNA	**Nana**	**9.88**	**311**	P	**Pn**		**03 01 21.0**	**-5.4**
	8.2nm,0.3s,baz=141,slow=12,SNR=16							
NNA				S	**Sn**		**03 03 13.3**	**-2.1**
	25nm,0.3s,baz=259,slow=18,SNR=10.0							
LCO	**Las Campanas**	**10.35**	**187**	*e*Pn	**Pn**		**03 01 25.0**	**-7.7**
	106nm,0.6s							
LCO				*e*Sn	**Sn**		**03 03 13.8**	**-13**
TLL	**Tololo Astrono**	**11.50**	**187**	*e*P	**Pn**		**03 01 41.4**	**-6.7**
CMCH	**Combarbala**	**12.52**	**187**	*e*P	**Pn**		**03 01 53.2**	**-8.4**
CFAA	**Coronel Fontan**	**12.89**	**176**	P	**Pn**		**03 02 00.8**	**-5.6**
	0.6nm,0.3s,baz=357,slow=14,SNR=10.0							
CFAA				LR	LR		03 07 57.4	
	comp=Z,33nm,18.7s,baz=338,slow=41							
FCH	**Farellones**	**14.60**	**183**	*e*P	**Pn**		**03 02 26.3**	**-2.2**
ATAH	**Atahualpa**	**14.62**	**321**	P	**Pn**		**03 02 22.9**	**-6.0**
	0.5nm,0.3s,baz=90,slow=7.1,SNR=3.0							
CLCH	**Cerro Calan**	**14.68**	**184**	*e*P	**Pn**		**03 02 27.2**	**-2.3**
TRQA	**Tornquist**	**20.32**	**163**	⇓*i*P	**P**		**03 03 34.2**	**-0.4**
	158nm,0.7s							
BDFB	**Brasilia**	**20.55**	**85**	P	**P**		**03 03 38.1**	**+0.8**
	44nm,0.6s,baz=253,slow=17,SNR=40							
PLCA	**Paso Flores**	**21.99**	**183**	*e*P	**P**		**03 03 51.5**	**-0.9**
	189nm,1.0s,mb5.4							
PLCA	**Paso Flores**	**21.99**	**183**	*e*P	**P**		**03 03 51.5**	**-0.9**
PLCA				pmax	pmax			
	comp=Z,189nm,1.0s							
PLCA	**Paso Flores**	**21.99**	**183**	P	**P**		**03 03 51.4**	**-1.0**
	comp=Z,147nm,0.8s,mb5.3,baz=357,slow=11,SNR=140							
PLCA				PcP	PcP		03 07 46.4	-0.4
	comp=Z,7.6nm,0.8s,baz=348,slow=1.9,SNR=4.2							
ROSC	**El Rosal**	**23.93**	**348**	*e*P	**P**		**03 04 11.1**	**-0.2**
ROSC				*e*PcP	PcP		03 07 51.6	+0.3
ROSC	**El Rosal**	**23.93**	**348**	P	**P**		**03 04 11.5**	**+0.1**
	comp=Z,6.2nm,0.4s,mb4.3,baz=116,slow=10,SNR=10							
ROSC				PcP	PcP		03 07 50.5	-0.8
	comp=Z,10nm,0.8s,baz=242,slow=5.0,SNR=3.8							
ROSC				LR	LR		03 14 22.3	
	comp=Z,255nm,18.2s,baz=190,slow=38							
CAM4	**Nova Friburgo**	**25.27**	**103**	⇓*i*P	**P**		**03 04 25.0**	**+1.4**
CAM4				*i*			03 04 26.4	
CAM4				*i*			03 04 28.3	
CAM4				*i*			03 04 32.7	
CAM3	**Guarapari**	**27.14**	**99**	⇓*i*P	**P**		**03 04 39.4**	**-1.0**
CAM3				*i*			03 04 45.2	
CAM3				*i*			03 04 55.8	
CAM3				*i*	pP		03 05 07.1	+2.9
SDV	**Santo Domingo**	**27.44**	**357**	⇓*i*P	**P**		**03 04 40.9**	**-2.1**
	comp=Z,25nm,0.9s,mb4.8							
SDV	**Santo Domingo**	**27.44**	**357**	P	**P**		**03 04 41.0**	**-2.0**
	comp=Z,23nm,0.8s,mb4.7,baz=211,slow=6.8,SNR=26							
SDV				LR	LR		03 16 44.6	
	comp=Z,84nm,19.6s,baz=352,slow=39							
PCRV	**Puerto La Cruz**	**29.05**	**9**	LR	LR		03 17 59.1	
	comp=Z,377nm,18.4s,baz=10,slow=39							
BCIP	**Isla Barro Col**	**29.58**	**339**	*e*P	**P**		**03 05 01.9**	**-0.1**
	comp=Z,24nm,1.1s,mb4.7							
BCIP				*e*PcP	PcP		03 08 04.7	+0.1
GRGR	**Grenville**	**31.54**	**14**	*e*P	**P**		**03 05 15.2**	**-4.1**
RCBR	**Riachuelo**	**34.95**	**73**	*e*P	**P**		**03 05 50.9**	**+1.7**
	comp=Z,68nm,0.6s,mb5.7							
USHA	**Ushuaia**	**36.08**	**179**	P	**P**		**03 05 57.5**	**-0.7**
	comp=Z,26nm,0.7s,mb5.3,baz=356,slow=5.5,SNR=14							
CPD	**Cerro la Pandu**	**36.65**	**5**	*e*P	**P**		**03 05 59.7**	**-3.7**
	comp=Z,50nm,1.0s,mb5.4							
CPD	**Cerro la Pandu**	**36.65**	**5**	*e*P	**P**		**03 05 59.7**	**-3.8**
CPD				pmax	pmax			
	comp=Z,50nm,1.0s,mb5.4							
SJG	**San Juan**	**36.71**	**5**	*e*P	**P**		**03 06 01.2**	**-2.7**
	comp=Z,62nm,0.9s,mb5.5							
SJG	**San Juan**	**36.71**	**5**	*e*P	**P**		**03 06 01.2**	**-2.7**
SJG				pmax	pmax			
	comp=Z,62nm,0.9s							
SJG	**San Juan**	**36.71**	**5**	P	**P**		**03 06 01.4**	**-2.6**
	comp=Z,51nm,0.8s,mb5.5,baz=208,slow=2.2,SNR=19							
SJG				S	**S**		**03 11 33.7**	**-5.9**
	comp=Z,4.4nm,0.4s,baz=91,slow=22,SNR=7.6							
TGUH	**Tegucigalpa,Un**	**37.06**	**330**	⇓*i*P	**P**		**03 06 06.5**	**-0.5**
	comp=Z,66nm,1.0s,mb5.5							
SDDR	**Presa de Saban**	**37.49**	**357**	*e*P	**P**		**03 06 08.1**	**-2.4**
	comp=Z,19nm,1.0s,mb5.0							
TEIG	**Tepich**	**42.93**	**333**	P	**P**		**03 06 54.7**	**-0.8**
	comp=Z,55nm,0.8s,mb5.3,baz=159,slow=5.5,SNR=25							
CMIG	**Matias Romero**	**43.57**	**323**	P	**P**		**03 07 00.1**	**-0.6**
	comp=Z,22nm,0.8s,mb5.0,baz=110,slow=4.9,SNR=25							
BRAL	**Brewton**	**52.29**	**341**	*e*P	**P**		**03 08 07.8**	**+0.1**
	comp=Z,190nm,0.9s,mb6.1							
BRAL				*e*pP	pP		03 08 32.4	-1.2
NHSC	**New Hope**	**52.55**	**348**	*e*P	**P**		**03 08 09.1**	**-0.5**
	comp=Z,88nm,1.1s,mb5.7							
COW	**Cow Castle Cre**	**52.92**	**348**	*e*P	**P**		**03 08 11.6**	**-0.6**
KVTX	**Kingsville**	**53.68**	**328**	*e*P	**P**		**03 08 18.0**	**+0.1**
	comp=Z,108nm,1.0s,mb5.8							
JSC	**Jenkinsville**	**53.90**	**348**	*e*P	**P**		**03 08 18.8**	**-0.6**
LRAL	**Lakeview Retre**	**54.15**	**342**	⇓*i*P	**P**		**03 08 19.5**	**-1.8**
	comp=Z,27nm,0.9s,mb5.3							
LRAL				*e*pP	pP		03 08 44.5	-2.8
HKT	**Hockley**	**54.71**	**332**	⇓*i*P	**P**		**03 08 24.7**	**-0.7**
	comp=Z,32nm,1.1s,mb5.3							
HKT	**Hockley**	**54.71**	**332**	⇓*i*P	**P**		**03 08 24.7**	**-0.7**
HKT				pmax	pmax			
	comp=Z,32nm,1.1s,mb5.3							
CPCT	**Cooper Cave**	**55.75**	**345**	⇓*i*P	**P**		**03 08 31.3**	**-1.4**
CPCT				*e*PcP	PcP		03 09 30.2	-0.5
NATX	**Nacogdoches**	**55.76**	**334**	⇓*i*P	**P**		**03 08 32.8**	**-0.1**
	comp=Z,72nm,0.9s,mb5.7							
SWET	**Sewanee**	**55.90**	**344**	⇓*i*P	**P**		**03 08 32.1**	**-1.6**
PLAL	**Pickwick Lake**	**56.29**	**341**	⇓*e*P	**P**		**03 08 34.3**	**-2.2**
	comp=Z,49nm,0.9s,mb5.5							
PLAL				*e*pP	pP		03 09 00.1	-2.8
TZTN	**Tazewell**	**56.57**	**346**	⇓*e*P	**P**		**03 08 37.0**	**-1.5**
	comp=Z,51nm,1.2s,mb5.4							
BLA	**Blacksburg**	**56.59**	**349**	*e*P	**P**		**03 08 38.1**	**-0.5**
	comp=Z,82nm,1.3s,mb5.6							
BLA	**Blacksburg**	**56.59**	**349**	*e*P	**P**		**03 08 38.1**	**-0.5**
BLA				pmax	pmax			
	comp=Z,82nm,1.3s,mb5.6							
ELN	**Prospectdale**	**56.66**	**349**	*e*P	**P**		**03 08 38.7**	**-0.5**
JCT	**Junction City**	**57.03**	**328**	⇓*i*P	**P**		**03 08 40.5**	**-1.4**
	comp=Z,50nm,0.9s,mb5.5							
JCT	**Junction City**	**57.03**	**328**	⇓*i*P	**P**		**03 08 40.5**	**-1.4**
JCT				pmax	pmax			
	comp=Z,50nm,0.9s,mb5.5							
WVT	**Waverly**	**57.28**	**342**	⇓*i*P	**P**		**03 08 41.3**	**-2.3**
	comp=Z,73nm,0.8s,mb5.8							
WVT				*e*pP	pP		03 09 06.9	-3.0
WVT	**Waverly**	**57.28**	**342**	⇓*i*P	**P**		**03 08 41.3**	**-2.3**
WVT				*e**PP	pP		03 09 06.9	-3.0
WVT				pmax	pmax			
	comp=Z,73nm,0.8s,mb5.8							
UALR	**University of**	**57.52**	**338**	*e*P	**P**		**03 08 43.2**	**-2.0**
	comp=Z,50nm,1.2s,mb5.4							
UALR				*e*pP	pP		03 09 09.2	-2.4
MIAR	**Mount Ida**	**57.77**	**336**	⇓*i*P	**P**		**03 08 45.6**	**-1.5**
	comp=Z,54nm,1.1s,mb5.5							
MIAR	**Mount Ida**	**57.77**	**336**	⇓*i*P	**P**		**03 08 45.6**	**-1.4**
MIAR				pmax	pmax			
	comp=Z,54nm,1.1s,mb5.5							
UTMT	**University of**	**57.79**	**341**	*e*P	**P**		**03 08 44.7**	**-2.4**
	comp=Z,186nm,1.1s,mb6.0							
TXAR	**Lajitas Array**	**58.15**	**325**	P	**P**		**03 08 48.6**	**-1.2**
TXAR				*PP	pP		03 09 13.4	-2.8
TXAR	**Lajitas Array**	**58.15**	**325**	P	**P**		**03 08 48.6**	**-1.2**
	comp=Z,10nm,0.8s,mb4.9,baz=147,slow=8.1,SNR=124							
TXAR				pP	pP		03 09 13.3	-2.8
	comp=Z,5.1nm,1.0s,baz=139,slow=12,SNR=3.5							
TXAR				PKPPKP			03 38 34.0	
	comp=Z,0.4nm,0.8s,baz=222,slow=1.7,SNR=4.2							
PARMO	**Parma**	**58.36**	**341**	*e*P	**P**		**03 08 50.0**	**-1.1**
PARMO				*e*pP	pP		03 09 16.2	-1.3
MVL	**Millersville**	**58.76**	**354**	⇓*i*P	**P**		**03 08 52.7**	**-1.1**
	comp=Z,38nm,1.2s,mb5.3							
WCI	**Wyandotte Cave**	**58.83**	**344**	⇓*i*P	**P**		**03 08 52.3**	**-2.0**
	comp=Z,68nm,1.1s,mb5.6							
WCI	**Wyandotte Cave**	**58.83**	**344**	⇓*i*P	**P**		**03 08 52.3**	**-2.0**
WCI				pmax	pmax			
	comp=Z,68nm,1.1s,mb5.6							
MCWV	**Mont Chateau**	**58.88**	**350**	⇓*i*P	**P**		**03 08 54.2**	**-0.5**
	comp=Z,96nm,1.0s,mb5.8							
MCWV				*e*pP	pP		03 09 21.3	+0.1
SIUC	**Southern Illin**	**59.16**	**342**	*e*P	**P**		**03 08 55.3**	**-1.3**
	comp=Z,193nm,0.9s,mb6.1							
SIUC				*e*pP	pP		03 09 20.9	-2.2
SSPA	**Standing Stone**	**59.56**	**352**	*e*P	**P**		**03 08 58.4**	**-0.9**
	comp=Z,15nm,1.0s,mb5.0							
FVM	**French Village**	**59.78**	**341**	⇓*i*P	**P**		**03 08 59.2**	**-1.6**
	comp=Z,109nm,0.8s,mb5.9							
FVM				*e*pP	pP		03 09 27.1	-0.4
FVM	**French Village**	**59.78**	**341**	⇓*i*P	**P**		**03 08 59.3**	**-1.6**
FVM				*e**PP	pP		03 09 27.1	-0.3
FVM				pmax	pmax			
	comp=Z,109nm,0.8s,mb5.9							
BLO	**Bloomington**	**59.78**	**345**	⇓*i*P	**P**		**03 08 58.6**	**-2.3**
	comp=Z,95nm,1.3s,mb5.7							
BLO				*e*pP	pP		03 09 24.9	-2.5
BLO	**Bloomington**	**59.78**	**345**	⇓*i*P	**P**		**03 08 58.6**	**-2.3**
BLO				*e**PP	pP		03 09 24.9	-2.5
BLO				pmax	pmax			
	comp=Z,95nm,1.3s,mb5.7							
ACSO	**Alum Creek Sta**	**60.00**	**348**	*e*P	**P**		**03 09 00.8**	**-1.4**
	comp=Z,96nm,1.0s,mb5.8							
WMOK	**Wichita Mounta**	**60.08**	**332**	⇓*i*P	**P**		**03 09 01.1**	**-2.0**
	comp=Z,17nm,0.8s,mb5.1							
WMOK				*e*PcP	PcP		03 09 47.4	-0.4
WMOK	**Wichita Mounta**	**60.08**	**332**	⇓*i*P	**P**		**03 09 01.1**	**-1.9**
WMOK				*e*			03 09 47.4	
WMOK				pmax	pmax			
	comp=Z,17nm,0.8s,mb5.1							
CCM	**Cathedral Cave**	**60.10**	**340**	*e*P	**P**		**03 09 01.2**	**-1.9**
	comp=Z,32nm,0.8s,mb5.4							
CCM				*e*pP	pP		03 09 27.2	-2.5
CCM				*e*PcP	PcP		03 09 46.9	-0.9
CCM	**Cathedral Cave**	**60.10**	**340**	*e*P	**P**		**03 09 01.2**	**-1.9**
CCM				*e**PP	pP		03 09 27.2	-2.5
CCM				*e*			03 09 46.9	
CCM				pmax	pmax			
	comp=Z,32nm,0.8s,mb5.4							
BRYW	**Bryant College**	**60.34**	**358**	*e*P	**P**		**03 09 04.0**	**-0.6**
	comp=Z,2μm,1.2s							
QUA2	**Belchertown**	**60.73**	**357**	*e*P	**P**		**03 09 06.0**	**-1.3**
	comp=Z,24nm,1.0s,mb5.2							
BINY	**Binghamton**	**60.90**	**354**	⇓*i*P	**P**		**03 09 07.7**	**-0.7**
	comp=Z,72nm,1.1s,mb5.6							
MNTX	**Cornudas Mount**	**60.91**	**325**	*e*P	**P**		**03 09 06.8**	**-1.8**
	comp=Z,39nm,1.0s,mb5.4							
HRV	**Adam Dziewonsk**	**60.93**	**358**	*e*P	**P**		**03 09 08.0**	**-0.6**
	comp=Z,50nm,0.9s,mb5.5							
HRV	**Adam Dziewonsk**	**60.93**	**358**	*e*P	**P**		**03 09 08.0**	**-0.6**
HRV				pmax	pmax			
	comp=Z,50nm,0.9s,mb5.5							
ERPA	**Erie**	**61.31**	**351**	⇑*i*P	**P**		**03 09 10.6**	**-0.6**
	comp=Z,180nm,1.0s,mb6.1							
AMTX	**Amarillo**	**61.54**	**330**	*e*P	**P**		**03 09 11.3**	**-1.6**
	comp=Z,34nm,1.1s,mb5.3							
AMTX				*e*PcP	PcP		03 09 53.0	-0.6
BBTS	**Babate**	**61.63**	**61**	P	**P**		**03 09 15.3**	**+1.4**
	comp=Z,38nm,0.7s,mb5.5,baz=268,slow=0.6,SNR=12							
HDIL	**Hopedale**	**61.82**	**343**	⇓*i*P	**P**		**03 09 12.3**	**-2.3**
	comp=Z,76nm,0.7s,mb5.8							
FFD	**Franklin Falls**	**61.89**	**358**	*e*P	**P**		**03 09 14.8**	**-0.3**
	comp=Z,23nm,0.9s,mb5.2							
ACCN	**Adirondack Com**	**61.90**	**356**	*e*P	**P**		**03 09 14.1**	**-1.0**
	comp=Z,18nm,1.3s,mb4.9							
HNH	**Hanover**	**62.15**	**358**	*e*P	**P**		**03 09 16.7**	**-0.1**
	comp=Z,48nm,1.2s,mb5.4							
NCB	**Newcomb**	**62.52**	**356**	*e*P	**P**		**03 09 18.5**	**-0.8**
	comp=Z,27nm,1.3s,mb5.0							
LBNH	**Lisbon**	**62.67**	**358**	⇓*i*P	**P**		**03 09 20.0**	**-0.2**
	comp=Z,31nm,1.0s,mb5.2							
LBNH				*e*pP	pP		03 09 58.8	+12
LBNH	**Lisbon**	**62.67**	**358**	⇓*i*P	**P**		**03 09 20.0**	**-0.2**
LBNH				*e**PP	pP		03 09 58.8	+12
LBNH				pmax	pmax			
	comp=Z,31nm,1.0s,mb5.2							
VNA3	**Neumayer Olymp**	**62.83**	**162**	*e*P	**P**		**03 09 21.7**	**+0.7**
VNA3				*e*			03 09 27.3	
VNA3				*e*	pP		03 09 47.3	-0.5
VNA3				*e*			03 09 58.1	
319A	**Douglas**	**62.87**	**322**	⇑P	**P**		**03 09 21.7**	**-0.1**
	baz=63							
KSU1	**Kansas State U**	**62.93**	**336**	⇓*i*P	**P**		**03 09 20.2**	**-1.8**
	comp=Z,76nm,0.9s,mb5.6							
VNA1	**Neumayer--Stat**	**63.03**	**161**	*e*P	**P**		**03 09 23.5**	**+1.1**
VNA1				*e*			03 09 29.3	
VNA1				*e*	pP		03 09 49.0	-0.2
VNA1				*e*			03 09 58.7	
LONY	**Lake Ozonia**	**63.19**	**356**	⇓*i*P	**P**		**03 09 23.0**	**-0.6**
	comp=Z,25nm,1.1s,mb5.0							
318A	**Bisbee**	**63.33**	**321**	P	**P**		**03 09 24.8**	**-0.1**
	baz=64,SNR=47							
FRNY	**Flat Rock**	**63.34**	**357**	⇓*i*P	**P**		**03 09 24.1**	**-0.6**
	comp=Z,35nm,1.2s,mb5.2							
VNA2	**Neumayer--Watz**	**63.40**	**161**	*e*P	**P**		**03 09 25.5**	**+0.7**
VNA2				*e*			03 09 31.0	
VNA2				*e*	pP		03 09 52.0	+0.4
VNA2				*e*			03 10 01.6	
Y22C	**IRIS PASSCAL I**	**63.55**	**326**	⇓P	**P**		**03 09 26.3**	**0.0**
	baz=64							
MSNY	**Massena**	**63.59**	**356**	*e*P	**P**		**03 09 25.6**	**-0.6**
MSNY				*e*pP	pP		03 09 52.4	-0.7
218A	**Dragoon**	**63.75**	**322**	⇓P	**P**		**03 09 27.5**	**-0.1**
	baz=64							
119A	**Ashpeak Ranch,**	**63.90**	**323**	⇑P	**P**		**03 09 28.5**	**-0.1**
	baz=64,SNR=8.1							
CBKS	**Cedar Bluff**	**63.93**	**334**	⇓*i*P	**P**		**03 09

baz=68
SMCO Snowmass 67.51 329⇓*iP* P 03 09 52.0 +0.3
comp=Z,34nm,0.8s,mb5.2
PDMCI Parker Dam,Lak 67.82 321 ⇓P P 03 09 53.9 +0.2
baz=68
W14A Seligman 67.83 322 P P 03 09 54.4 +0.6
baz=68,SNR=24
X13A Yucca 67.84 321 P P 03 09 54.1 +0.3
baz=68,SNR=12
SWSC Sam W. Stewart 67.91 319 ⇑P P 03 09 54.5 +0.2
baz=68
DVTC Desert V Tower 67.91 318 ⇑P P 03 09 54.8 +0.5
baz=68
LIC Lamto 67.97 75 *eP* P 03 09 54.7 -0.5
comp=Z,42nm,0.9s,mb5.0
LIC *ep*P pP 03 10 22.5 +0.2
LIC *e*MLR MLR
comp=Z,108nm,22.8s
LIC Lamto 67.97 75 *eP* P 03 09 54.7 -0.5
comp=Z,21nm,0.9s,mb5.0
LIC *ep*P pP 03 10 22.5 +0.2
LIC LR LR
comp=Z,50nm,22.8s
V14A Boquillas Ranc 68.14 323 P P 03 09 56.5 +0.8
baz=68,SNR=35
BC3 Big Chuckw Mtn 68.17 320 ⇑P P 03 09 56.2 +0.2
baz=68,SNR=12
T16A Glen Canyon Da 68.21 325 ⇑P P 03 09 56.5 +0.4
baz=68,SNR=12
W13A Hualapai Mount 68.22 322 P P 03 09 56.8 +0.6
baz=68,SNR=16
DBIC Dimbokro 68.30 75 *eP* P 03 09 56.9 -0.3
comp=Z,86nm,0.8s,mb5.6
DBIC *ep*P pP 03 10 25.2 +0.8
DBIC Dimbokro 68.30 75 *eP* P 03 09 56.9 -0.3
DBIC *e**PP pP 03 10 25.2 +0.8
DBIC pmax pmax
comp=Z,86nm,0.8s
DBIC Dimbokro 68.30 75 P P 03 09 57.1 -0.1
comp=Z,29nm,0.7s,mb5.2,baz=218,slow=5.7,SNR=36
DBIC pP pP 03 10 24.6 +0.3
comp=Z,70nm,0.8s,baz=216,slow=6.1,SNR=14
DBIC S S 03 18 50.4 +0.4
comp=Z,12nm,1.0s,baz=5.2,slow=20,SNR=16
DBIC LR LR 03 39 45.7
comp=Z,68nm,21.9s,baz=200,slow=36
IRM Iron Mountain 68.33 320 ⇑P P 03 09 57.2 +0.3
baz=68
PHWY Pilot Hill 68.47 331⇓*iP* P 03 09 57.4 -0.3
109C Camp Elliot, M 68.70 318 ⇓P P 03 09 59.3 +0.1
baz=69
T15A Red Dirt Ranch 68.72 324 P P 03 10 00.0 +0.8
baz=69,SNR=34
U14A Mt Trumbull 68.74 323 ⇓P P 03 10 00.3 +0.9
baz=69,SNR=17
BELC Belle Mtn. 68.74 320 P P 03 09 60.0 +0.5
baz=69,SNR=6.9
PFO Pinyon Flat Ob 68.76 319⇓*iP* P 03 09 59.9 +0.3
comp=Z,24nm,0.9s,mb5.0
PFO Pinyon Flat Ob 68.76 319⇓*iP* P 03 09 59.9 +0.3
PFO pmax pmax
comp=Z,24nm,0.9s,mb5.0
PFO Pinyon Flat Ob 68.76 319 ⇑P P 03 10 00.1 +0.5
baz=69
W12A Cal Nev Ari 68.94 321 ⇓P P 03 10 00.9 +0.2
baz=69,SNR=6.3
GMRC Granite Mounta 69.06 320 P P 03 10 02.0 +0.6
baz=69,SNR=18
T14A Hurricane 69.14 324 P P 03 10 02.7 +0.8
baz=69,SNR=28
U13A Pakoon Wash 69.19 323 P P 03 10 02.8 +0.6
baz=69,SNR=13
V12A Nelson 69.22 322 P P 03 10 02.8 +0.3
baz=69,SNR=14
SRU San Rafael 69.25 327⇓*eP* P 03 10 02.3 -0.2
comp=Z,21nm,0.9s,mb5.0
SRU San Rafael 69.25 327⇓*eP* P 03 10 02.3 -0.2
SRU pmax pmax
comp=Z,21nm,0.9s,mb5.0
EYMN Ely 69.26 344 *eP* P 03 10 00.6 -1.8
comp=Z,41nm,1.1s,mb5.2
EYMN *e*PcP PcP 03 10 24.6 -0.7
BBRC Big Bear Sol-O 69.49 319 ⇑P P 03 10 04.8 +0.7
baz=70
HEC Hector,Ludlow 69.50 320 ⇓P P 03 10 04.9 +0.7
baz=70
U12A Valley of Fire 69.53 322 P P 03 10 04.9 +0.6
baz=70,SNR=24
T13A Saint George 69.58 323 ⇑P P 03 10 05.2 +0.6
baz=70,SNR=10
RWWY Rawlins 69.58 331⇓*iP* P 03 10 04.2 -0.3
comp=Z,72nm,1.5s,mb5.3
V11A Goodsprings 69.64 321 P P 03 10 05.5 +0.5
baz=70,SNR=14
CCUT Cedar City 69.64 324⇓*iP* P 03 10 06.1 +1.1
TUQ Turquoise Mtn. 69.66 321 ⇑P P 03 10 05.6 +0.4
baz=70
MSU Marysvale 69.68 325 *eP* P 03 10 05.7 +0.5
S14A Cedar City 69.69 324 P P 03 10 06.1 +0.9
baz=70,SNR=9.5
TMUT Trail Mountain 69.74 326 *eP* P 03 10 05.6 +0.1
T12A Moapa 69.83 322 ⇑P P 03 10 06.6 +0.4
baz=70
ARUT Antelope Range 69.86 324 *eP* P 03 10 06.8 +0.5
ARUT *ep*P pP 03 10 33.6 0.0
BFSC Mount Baldy St 69.93 319 ⇓P P 03 10 07.0 +0.2
baz=70,SNR=5.5
S13A Holt Ranch, En 69.94 324 P P 03 10 07.9 +1.1
baz=70,SNR=52
R14A James Farms, M 69.99 325 ⇑P P 03 10 07.7 +0.7
baz=70,SNR=9.1
U11A Corn Creek 70.02 322 ⇑P P 03 10 08.1 +0.8
baz=70
GSC Goldstone 70.11 320 *eP* P 03 10 08.2 +0.3
comp=Z,26nm,1.2s,mb4.9
GSC *ep*P pP 03 10 34.8 -0.3
GSC Goldstone 70.11 320 *eP* P 03 10 08.2 +0.3
GSC *e**PP pP 03 10 34.8 -0.3
GSC pmax pmax
comp=Z,26nm,1.2s,mb4.9
GSC Goldstone 70.11 320 P P 03 10 08.4 +0.6
baz=70,SNR=6.4
RSSD Black Hills 70.13 334⇓*iP* P 03 10 07.5 -0.3
comp=Z,22nm,0.8s,mb5.0
RSSD Black Hills 70.13 334⇓*iP* P 03 10 07.5 -0.3
RSSD pmax pmax
comp=Z,22nm,0.8s,mb5.0
T11A Corn Creek, Al 70.48 323 P P 03 10 10.9 +0.8
baz=71,SNR=37
MPU Maple Canyon 70.49 327⇓*iP* P 03 10 10.2 +0.1
comp=Z,40nm,1.1s,mb5.2
S12A Delamar Landin 70.52 323 ⇑P P 03 10 11.2 +0.8
baz=71,SNR=5.4
EDW2 Edwards Air Fo 70.56 319 ⇓P P 03 10 10.5 -0.1
baz=71,SNR=5.2
U10A Ash Meadows, A 70.57 321 ⇑P P 03 10 11.3 +0.6
baz=71,SNR=6.3
DAU Daniels Canyon 70.59 327 *eP* P 03 10 11.0 +0.3
NLU North Lily Min 70.68 326⇓*iP* P 03 10 11.4 +0.1
LRMC Laurel Mountai 70.76 320 ⇑P P 03 10 11.9 +0.1
baz=71
AGMN Agassiz Refuge 70.80 342⇓*iP* P 03 10 10.4 -1.4
comp=Z,31nm,0.8s,mb5.2
JLU Jordanelle 70.83 327⇓*iP* P 03 10 12.1 -0.1
JLU *ep*P pP 03 10 38.7 -0.8
TPNV Topopah Spring 70.88 322⇓*iP* P 03 10 13.2 +0.6
comp=Z,32nm,1.0s,mb5.1
TPNV *ep*P pP 03 10 39.1 -0.8
TPNV Topopah Spring 70.88 322⇓*iP* P 03 10 13.2 +0.7
TPNV *e**PP pP 03 10 39.1 -0.8
TPNV pmax pmax
comp=Z,32nm,1.0s,mb5.1
TPNV Topopah Spring 70.88 322 P P 03 10 13.5 +1.0
baz=71,SNR=22
R12A Pony Springs, 70.89 324 P P 03 10 13.4 +0.9
baz=71,SNR=56
FURC Furnace Creek, 70.92 321 ⇓P P 03 10 13.4 +0.6
baz=71,SNR=11
Q13A Wheeler Ranch, 71.00 325 ⇓P P 03 10 13.8 +0.5
baz=71
MPMC Manual Prospec 71.03 320 P P 03 10 13.7 +0.3
baz=71,SNR=10.0
S11A Rachel 71.06 323 ⇓P P 03 10 14.7 +1.0
baz=71,SNR=7.3
DUG Dugway 71.24 326⇓*iP* P 03 10 14.8 +0.1
comp=Z,43nm,1.1s,mb5.2
DUG Dugway 71.24 326⇓*iP* P 03 10 14.8 +0.2
DUG pmax pmax
comp=Z,43nm,1.1s,mb5.2
DUG Dugway 71.24 326 ⇑P P 03 10 15.1 +0.4
baz=71,SNR=36
P13A Bates Ranch, G 71.36 325 P P 03 10 16.1 +0.8
baz=72,SNR=32
ISA Isabella 71.37 319⇓*iP* P 03 10 15.8 +0.3
comp=Z,16nm,0.8s,mb4.9
ISA *ep*P pP 03 10 41.6 -1.2
ISA *es*P sP 03 10 53.4 -1.2
ISA Isabella 71.37 319⇓*iP* P 03 10 15.8 +0.3
ISA *e**PP pP 03 10 41.6 -1.3
ISA *e**SP sP 03 10 53.4 -1.2
ISA pmax pmax
comp=Z,16nm,0.8s,mb4.9
ISA Isabella 71.37 319 P P 03 10 16.2 +0.7
baz=72,SNR=12
R11A Troy Canyon, C 71.46 323 P P 03 10 16.8 +0.8
baz=72,SNR=31
Q12A Willow Creek R 71.51 324 ⇑P P 03 10 16.8 +0.5
baz=72,SNR=10
BW06 Boulder Array 71.52 330 *eP* P 03 10 15.4 -0.9
comp=Z,25nm,1.3s,mb4.9
PDAR Pinedale Array 71.52 330 P P 03 10 15.6 -0.7
comp=Z,7.1nm,0.8s,mb4.5,baz=143,slow=6.1,SNR=32
GRAC Grapevine Rang 71.58 321 ⇑P P 03 10 17.3 +0.6
baz=72
N15A Stansbury Isla 71.59 327 ⇓P P 03 10 16.6 -0.1
baz=72,SNR=11
HWUT Hardware Ranch 71.63 328⇓*iP* P 03 10 16.3 -0.6
comp=Z,16nm,0.8s,mb4.9
CWC Cottonwood Cre 71.63 320 P P 03 10 17.7 +0.6
baz=72,SNR=7.3
PKM Peak Mountain 71.71 318 ⇓P P 03 10 18.1 +0.5
baz=72,SNR=6.2
S10A Tonopah Range, 71.74 322 P P 03 10 18.2 +0.5
baz=72,SNR=24
O13A Hicks Ranch, I 71.82 325 ⇑P P 03 10 18.4 +0.3
baz=72,SNR=9.1
R10A Warm Springs 71.82 323 ⇑P P 03 10 19.3 +1.1
baz=72,SNR=34
Q11A Duckwater 71.84 323 P P 03 10 18.9 +0.7
baz=72,SNR=35
VES Vestal, Richgr 71.86 319 ⇓P P 03 10 18.7 +0.3
baz=72,SNR=8.5
P12A McGill 71.86 324 ⇓P P 03 10 18.9 +0.6
baz=72,SNR=6.7
SPUT South Promonto 71.86 327⇓*iP* P 03 10 18.0 -0.3
SPUT *e*PcP PcP 03 10 35.7 -0.8
SPUT *ep*P pP 03 10 45.0 -0.7
BGU Big Grassy Mou 71.88 327 *eP* P 03 10 18.2 -0.2
N14A Grayback Hills 71.91 326 ⇑P P 03 10 18.7 +0.1
baz=72,SNR=29
M15A Larsen Ranch, 71.97 327 P P 03 10 18.7 -0.3
baz=72,SNR=38
S09A Goldfield 71.98 322 P P 03 10 19.4 +0.3
baz=72,SNR=13
SMMC Simmler 72.09 318 ⇓P P 03 10 20.3 +0.5
baz=72
TIN Tinemaha 72.13 321 ⇓P P 03 10 20.8 +0.7
baz=72
R09A Tonopah 72.23 322 P P 03 10 21.1 +0.5
baz=72,SNR=9.8
Q10A Clear Creek Ra 72.25 323 ⇑P P 03 10 21.4 +0.7
baz=72,SNR=16
AHID Auburn Hatcher 72.26 329 *eP* P 03 10 20.2 -0.5
comp=Z,20nm,0.9s,mb4.9
O12A Currie 72.33 325 ⇑P P 03 10 21.4 +0.3
baz=72,SNR=40
HELL Mitchell Peak 72.36 320 P P 03 10 21.6 +0.1
baz=72,SNR=18
HVU Hansel Valley 72.37 327⇓*eP* P 03 10 21.0 -0.4
comp=Z,25nm,1.1s,mb5.0
HVU Hansel Valley 72.37 327⇓*eP* P 03 10 21.0 -0.4
HVU pmax pmax
comp=Z,25nm,1.1s,mb5.0
S08C White Mtn Res 72.39 321 ⇑P P 03 10 22.1 +0.5
baz=72,SNR=12
N13A Wendover, West 72.45 326 ⇓P P 03 10 21.9 +0.1
baz=73
M14A Sheep Mountain 72.47 327 P P 03 10 21.9 0.0
baz=73,SNR=42
MTUM Tungsten Hills 72.53 321 *eP* P 03 10 22.8 +0.4
MTUM *ep*P pP 03 10 49.2 -0.7
MTUM *es*P sP 03 11 00.1 -1.5
ULM Lac du Bonnet 72.55 342⇓*iP* P 03 10 20.3 -1.9
comp=Z,30nm,0.7s,mb5.2
ULM *ep*P pP 03 10 47.6 -2.0
ULM Lac du Bonnet 72.55 342 P P 03 10 20.8 -1.4
comp=Z,30nm,0.6s,mb5.3,baz=153,slow=6.2,SNR=86
ULM pP pP 03 10 47.8 -1.9
comp=Z,20nm,0.7s,baz=153,slow=6.2,SNR=7.2
ULM LR LR 03 44 43.8
comp=Z,69nm,19.1s,baz=116,slow=38
REDW Red Top Meadow 72.59 330⇓*iP* P 03 10 22.4 -0.3
comp=Z,36nm,1.2s,mb5.1
SNOW Snow King Moun 72.62 330⇓*iP* P 03 10 22.6 -0.2
comp=Z,17nm,0.9s,mb4.9
LOHW Long Hollow 72.66 330⇓*iP* P 03 10 22.7 -0.3
comp=Z,21nm,1.0s,mb4.9
O11A Cowboy Ranch, 72.73 324 P P 03 10 24.1 +0.6
baz=73,SNR=11
TPAW Teton Pass 72.73 330⇓*iP* P 03 10 23.3 -0.1
comp=Z,53nm,1.3s,mb5.2
M13A Montello 72.79 326 P P 03 10 23.7 -0.1
baz=73,SNR=12
P10A Eureka 72.83 324 P P 03 10 25.1 +1.0
baz=73,SNR=8.8
MOOW Moose Ponds 72.83 330⇓*iP* P 03 10 23.6 -0.5
comp=Z,15nm,1.0s,mb4.8
PKD Parkfield 72.83 319 ⇑P P 03 10 24.2 0.0
baz=73
MLAC Mammoth Lakes 72.87 321 ⇑P P 03 10 25.1 +0.7
baz=73
N12A Clover Valley, 72.90 325 ⇓P P 03 10 24.4 -0.1
baz=73
R08A Mina 72.91 322 ⇓P P 03 10 25.0 +0.3
baz=73
DCID1 Drake Creek 72.92 329⇓*iP* P 03 10 24.7 +0.1
KCC Kaiser Creek 72.96 320 ⇑P P 03 10 24.6 -0.4
baz=73,SNR=5.5
T06C Millerton Lake 73.00 320 ⇓P P 03 10 24.2 -0.9
baz=73
IMW Indian Meadow 73.03 330 *eP* P 03 10 25.3 0.0
comp=Z,51nm,1.2s,mb5.2
FLWY Flagg Ranch 73.06 330⇓*iP* P 03 10 25.8 +0.4
comp=Z,68nm,0.9s,mb5.5
NVAR Mina Array Bea 73.08 322 P P 03 10 26.1 +0.5
comp=Z,10nm,0.9s,mb4.7,baz=137,slow=7.5,SNR=40
NVAR pP pP 03 10 52.0 -1.2
comp=Z,10nm,1.0s,baz=132,slow=7.4,SNR=6.4
LAO LASA Array 73.11 334⇓*iP* P 03 10 25.0 -0.6
comp=Z,57nm,1.0s,mb5.3
K14A Jones Ranch, D 73.13 328 P P 03 10 25.5 -0.3
baz=73,SNR=13
Q08A Gabbs 73.15 322 P P 03 10 26.2 +0.2
baz=73,SNR=9.1
P09A Austin 73.16 323 ⇓P P 03 10 26.5 +0.4
baz=73
RLMT Red Lodge 73.19 332⇓*iP* P 03 10 25.9 -0.3
comp=Z,37nm,0.7s,mb5.3
L13A Double Diamond 73.20 327 P P 03 10 26.6 +0.4
baz=73,SNR=27
M12A Wells 73.23 326 P P 03 10 26.4 -0.1
baz=73,SNR=12
U04C Hernandez Rese 73.25 319 P P 03 10 27.3 +0.6
baz=73,SNR=11
N11A Elko Archery C 73.25 325 ⇑P P 03 10 26.7 +0.1
baz=73
SCHQ Schefferville 73.26 1⇓*iP* P 03 10 25.4 -0.9
comp=Z,33nm,0.9s,mb5.2
SCHQ Schefferville 73.26 1 P P 03 10 25.7 -0.6
comp=Z,31nm,0.8s,mb5.2,baz=179,slow=4.3,SNR=42
R07C Lee Vining 73.30 321 ⇓P P 03 10 27.8 +0.9
baz=73
O10A Cortez Mining, 73.31 324 ⇓P P 03 10 27.4 +0.5
baz=74,SNR=11
V03C Hunter Liggett 73.32 318 ⇑P P 03 10 27.8 +0.7
baz=73
YFT Old Faithful 73.40 330⇓*iP* P 03 10 28.7 +1.3
T05C Eagle Field, D 73.52 319 ⇑P P 03 10 28.8 +0.6
baz=74
YNR Norris Junctio 73.53 331 *eP* P 03 10 28.8 +0.7
S05C Merced 73.59 320 ⇑P P 03 10 29.1 +0.4
baz=74
N10A Dunphy 73.61 324 ⇓P P 03 10 28.8 +0.1
baz=74
O09A Fish Creek Ran 73.61 324 ⇓P P 03 10 29.1 +0.4
baz=74
YMR Madison River 73.62 330 *eP* P 03 10 29.2 +0.5
comp=Z,69nm,1.2s,mb5.3
YMR *ep*P pP 03 10 56.3 +0.1
K13A Stover Farm, H 73.67 327 ⇑P P 03 10 29.2 +0.2
baz=74,SNR=11
M11A Holland Ranch, 73.71 325 P P 03 10 29.8 +0.5
baz=74,SNR=25
HAST Hastings Reser 73.75 318 ⇓P P 03 10 29.9 +0.3
baz=74
DGMT Dagmar 73.77 337⇓*iP* P 03 10 29.2 -0.2
comp=Z,62nm,1.1s,mb5.2
DGMT *ep*P pP 03 10 53.5 -3.5
P08A Dixie Valley 73.79 323 ⇓P P 03 10 30.4 +0.7
baz=74
L12A House Creek Ra 73.80 326 P P 03 10 30.4 +0.6
baz=74,SNR=36
R06C Coleville 73.82 321 P P 03 10 31.1 +1.1
baz=74,SNR=6.8
GCMT Greycliff 73.89 332 *eP* P 03 10 30.2 0.0
QLMT Earthquake Lak 73.97 330 *eP* P 03 10 31.5 +0.8
PACP Pacheco Peak 73.97 319 ⇓P P 03 10 31.2 +0.4
baz=74
CMB Columbia Colle 74.07 320 *eP* P 03 10 31.1 -0.3
comp=Z,7.9nm,0.9s,mb4.4
CMB Columbia Colle 74.07 320 *eP* P 03 10 31.1 -0.3
CMB pmax pmax
comp=Z,8.0nm,0.9s,mb4.5
CMB Columbia Colle 74.07 320 ⇑P P 03 10 31.1 -0.3
baz=74
K12A Draper Farm, C 74.08 327 P P 03 10 32.2 +0.8
baz=74,SNR=41
M10A I.L. Ranch, Tu 74.18 325 ⇑P P 03 10 32.2 +0.2
baz=74,SNR=9.2
J13A Cove Ranch, Pi 74.25 328 P P 03 10 32.9 +0.5
baz=74,SNR=25
N09A Rock Creek Ran 74.26 324 ⇓P P 03 10 31.9 -0.6
baz=74,SNR=5.7
S04C Ingram Canyon, 74.31 319 ⇓P P 03 10 32.9 0.0
baz=74
R05C Kirkwood Meado 74.31 321 ⇓P P 03 10 33.5 +0.7
baz=74,SNR=7.4
HLID Hailey 74.49 328⇓*eP* P 03 10 34.2 +0.4
comp=Z,39nm,1.0s,mb5.1
HLID Hailey 74.49 328 P P 03 10 34.5 +0.7
baz=75,SNR=65
WCN Washoe City 74.51 322 ⇓P P 03 10 34.1 +0.1
baz=75
L10A Juniper Basin 74.52 325 P P 03 10 34.5 +0.6
baz=75,SNR=33
R04C Big Horse Ranc 74.54 320 ⇓P P 03 10 34.8 +0.7
baz=75
N08A GE Springer Mi 74.55 324 ⇑P P 03 10 33.7 -0.5
baz=75
I13A Wildhorse Cree 74.60 328 P P 03 10 35.2 +0.8
baz=75,SNR=40
M09A Marrel Ranch, 74.61 324 ⇑P P 03 10 34.7 +0.3
baz=75,SNR=5.9
J12A Stokes Ranch, 74.62 327 P P 03 10 35.0 +0.4
baz=75,SNR=31
MCMT McKenzie Canyo 74.64 329 *eP* P 03 10 35.1 +0.5
BOZ Bozeman (W) 74.67 331⇓*iP* P 03 10 34.2 -0.5
comp=Z,17nm,1.0s,mb4.7
BOZ Bozeman (W) 74.67 331⇓*iP* P 03 10 34.2 -0.5
BOZ pmax pmax
comp=Z,17nm,1.0s,mb4.7
BOZ Bozeman (W) 74.67 331 P P 03 10 34.5 -0.3
baz=75,SNR=32
G15A Dillon 74.72 330 P P 03 10 35.4 +0.3
baz=75,SNR=26
LAVA Lava Cap Winer 74.74 321 ⇓P P 03 10 35.2 -0.2
baz=75
K11A Parker Ranch, 74.77 326 P P 03 10 35.9 +0.5
baz=75,SNR=17
P06A Stead Airport, 74.84 322 ⇓P P 03 10 36.5 +0.6
baz=75
DLMT Dillon 74.91 330 *eP* P 03 10 35.6 -0.6
comp=Z,43nm,1.3s,mb5.0
BDM Black Diamond 74.92 319 ⇓P P 03 10 37.3 +0.9
baz=75
P05C Yuba Gap, Truc 75.01 321 ⇑P P 03 10 37.4 +0.6
baz=75,SNR=6.2
N07B Gerlach 75.03 323 ⇓P P 03 10 37.0 +0.1
baz=75
MFID Camas Ranch 75.11 327 P P 03 10 38.0 +0.6
baz=75,SNR=33
L09A Wilkinson Ranc 75.13 325 ⇓P P 03 10 37.7 +0.2
baz=75,SNR=13
H13A Challis 75.13 328 P P 03 10 38.1 +0.7
baz=75,SNR=42
M08A Happy Creek Ra 75.14 324 ⇑P P 03 10 37.7 +0.2
baz=75,SNR=8.1
Q04C Lincoln 75.18 320 ⇓P P 03 10 38.4 +0.6
baz=75,SNR=8.6
F15A Butte 75.22 330 P P 03 10 38.2 +0.3
baz=75,SNR=18
K10A MacKenzie Ranc 75.22 326 P P 03 10 38.2 +0.3
baz=75,SNR=30
BEKR Beckwourth 75.23 322 ⇑P P 03 10 38.5 +0.4
baz=75,SNR=9.2
G14A Jackson 75.24 329 ⇑P P 03 10 38.4 +0.4
baz=75,SNR=5.4
H12A Diamond D Ranc 75.42 328 P P 03 10 39.6 +0.6
baz=76,SNR=24
Q03C Winters 75.44 320 ⇓P P 03 10 40.3 +1.0
baz=76
N06A Buffalo Meadow 75.50 323 P P 03 10 39.8 +0.2
baz=76,SNR=17
G13A Cobalt 75.50 329 P P 03 10 40.3 +0.7
baz=76,SNR=80
CVS Carmenet Viney 75.53 319 ⇑P P 03 10 39.5 -0.3
baz=76
M07A Soldier Meadow 75.54 324 ⇑P P 03 10 40.0 +0.1
baz=76
HRY Holter Researc 75.56 331 *eP* P 03 10 40.1 +0.3
HRY *ep*P pP 03 11 06.4 -1.1
F14A Wisdom 75.61 330 ⇑P P 03 10 40.8 +0.7
baz=76,SNR=6.5
J10A Berg Farm, Mel 75.61 326 ⇓P P 03 10 40.1 -0.1
baz=76
L08A Fields 75.62 325 P P 03 10 40.4 +0.1
baz=76,SNR=11
O05C Quincy 75.62 322 ⇓P P 03 10 40.7 +0.3
baz=76,SNR=6.7
K09A Rome 75.62 325 P P 03 10 40.5 +0.2
baz=76,SNR=23
EGMT Eagleton 75.64 333⇓*iP* P 03 10 39.5 -0.7
comp=Z,60nm,1.1s,mb5.2
EGMT Eagleton 75.64 333 ⇓P P 03 10 39.8 -0.4
baz=76,SNR=24
ORV Oroville 75.71 321 P P 03 10 41.3 +0.4
baz=76,SNR=32
E15A Deer Lodge 75.72 331 P P 03 10 41.0 +0.2
baz=76,SNR=29
NSHM Saint Helena R 75.73 320 *eP* P 03 10 40.9 0.0
NSHM *ep*P pP 03 11 08.0 -0.6
WVOR Wild Horse Val 75.94 325 *eP* P 03 10 41.8 -0.3
comp=Z,6.4nm,1.0s,mb4.3
WVOR Wild Horse Val 75.94 325 *eP* P 03 10 41.8 -0.3
WVOR pmax pmax
comp=Z,6.0nm,1.0s,mb4.3
O04C Chester 75.95 322 ⇑P P 03 10 42.5 +0.3
baz=76,SNR=5.6
L07A Adell 76.05 324 ⇓P P 03 10 43.2 +0.5
baz=76,SNR=5.8
F13A Darby 76.06 329 P P 03 10 43.1 +0.5
baz=76,SNR=72
K08A Mann Creek Ran 76.06 325 ⇓P P 03 10 42.8 +0.1
baz=76
J09A Fry Pan Ranch, 76.08 326 ⇓P P 03 10 43.1 +0.3
baz=76,SNR=7.3
I10A Payette 76.09 327 ⇑P P 03 10 43.0 +0.1
baz=76
E14A Clinton 76.11 330 P P 03 10 43.5 +0.5
baz=76,SNR=37
H11A Donnelly 76.11 328 P P 03 10 43.0 0.0
baz=76,SNR=12
D15A Lincoln 76.12 331 ⇓P P 03 10 43.5 +0.5
baz=76,SNR=35
M06C Likely Place G 76.16 323 ⇑P P 03 10 43.8 +0.4
baz=76,SNR=8.2
CHMT Chamberlain Mo 76.37 331 *eP* P 03 10 44.5 +0.1
H10A Noah's Angus R 76.41 327 P P 03 10 44.5 -0.2
baz=77,SNR=13
K07A Rock Creek Ran 76.45 325 ⇓P P 03 10 45.1 +0.1
baz=77
E13A Victor 76.46 330 P P 03 10 45.5 +0.6

baz=77,SNR=45
J08A Circle Bar Ran 76.47 325 ⇑P P 03 10 45.2 +0.1
baz=77,SNR=5.5
F12A Elk City 76.48 329 P P 03 10 45.2 +0.2
baz=77,SNR=27
HATC Hat Creek Radi 76.48 322 ⇓P P 03 10 45.1 -0.1
baz=77
I09A Lost Marbles R 76.50 326 P P 03 10 45.4 +0.2
baz=77,SNR=10
MOD Modoc 76.52 323 eP P 03 10 45.6 +0.2
comp=Z,36nm,1.2s,mb5.0
MOD epP pP 03 11 12.9 -0.1
MOD Modoc 76.52 323 ⇓P P 03 10 45.4 0.0
baz=77,SNR=7.4
D14A Greenough 76.61 331 P P 03 10 46.0 +0.3
baz=77,SNR=15
MSO Missoula 76.62 330⇓iP P 03 10 46.0 +0.1
comp=Z,23nm,1.3s,mb4.8
M05C Lookout 76.65 323 ⇓P P 03 10 46.2 +0.1
baz=77,SNR=9.8
G11A Walters Elk Ra 76.73 328 P P 03 10 46.7 +0.2
baz=77,SNR=52
P01C Double 8 Ranch 76.76 320 ⇑P P 03 10 47.1 +0.3
baz=77
TOA0 Torodi Ar. Sit 76.76 71⇓iP P 03 10 46.4 -1.0
TOA0 epP pP 03 11 15.6 +0.5
TORD Torodi Ar. Bea 76.76 71 P P 03 10 46.6 -0.7
comp=Z,28nm,0.8s,mb5.0,baz=255,slow=5.1,SNR=228
TORD pP pP 03 11 15.4 +0.4
comp=Z,45nm,0.9s,baz=252,slow=5.4,SNR=9.1
TORD S S 03 20 25.8 -0.4
comp=Z,12nm,1.1s,baz=255,slow=13,SNR=4.5
TORD LR LR 03 44 48.6
comp=Z,94nm,18.2s,baz=225,slow=36
O02C Red Bluff 76.87 321 ⇑P P 03 10 46.8 -0.6
baz=77
BMO Blue Mountains 76.88 327⇓iP P 03 10 47.0 -0.4
comp=Z,50nm,1.2s,mb5.1
BMO epP pP 03 11 13.3 -1.8
BMO Blue Mountains 76.88 327⇓iP P 03 10 47.0 -0.3
BMO e*PP pP 03 11 13.3 -1.7
BMO pmax pmax
comp=Z,50nm,1.2s,mb5.1
I08A Drewsey 76.90 326 P P 03 10 48.1 +0.6
baz=77,SNR=16
L05A Lakeview 76.91 323 ⇓P P 03 10 48.3 +0.7
baz=77,SNR=6.8
H09A Durkee 76.94 327 ⇓P P 03 10 47.9 +0.2
baz=77,SNR=7.2
J07A Hines 76.94 325 ⇑P P 03 10 48.2 +0.5
baz=77,SNR=6.8
WDC Whiskeytown Da 76.97 321 eP P 03 10 46.2 -1.7
comp=Z,8.2nm,0.8s,mb4.5
WDC Whiskeytown Da 76.97 321 eP P 03 10 46.2 -1.7
WDC pmax pmax
comp=Z,8.0nm,0.8s,mb4.5
WDC Whiskeytown Da 76.97 321 ⇓P P 03 10 46.4 -1.6
baz=77
F11A Grangeville 77.02 328 P P 03 10 48.0 -0.1
baz=77,SNR=41
D13A Huson 77.06 330 P P 03 10 48.7 +0.4
baz=77,SNR=26
K06A Valley Falls 77.08 324 ⇑P P 03 10 48.9 +0.4
baz=77,SNR=5.9
G10A Bishop Farm, J 77.09 328 P P 03 10 49.2 +0.8
baz=77,SNR=102
M03C McCloud 77.16 322 P P 03 10 48.6 -0.4
baz=77,SNR=6.0
C14A Swan Lake 77.22 331 ⇓P P 03 10 49.5 +0.3
baz=77
J06A Christmas Vall 77.32 324 P P 03 10 50.2 +0.4
baz=78,SNR=11
M04C Macdoel 77.32 323 P P 03 10 50.1 +0.2
baz=78,SNR=7.7
H08A Prairie City 77.36 326 ⇓P P 03 10 50.7 +0.6
baz=78,SNR=17
E11A Bogner Ranch, 77.38 329 ⇓P P 03 10 49.6 -0.5
baz=78,SNR=6.0
K05A Summer Lake 77.39 324 ⇑P P 03 10 51.1 +0.9
baz=78,SNR=6.2
G09A Cove 77.42 327 ⇓P P 03 10 50.7 +0.3
baz=78
D12A Red Ives Fores 77.46 330 ⇓P P 03 10 50.5 0.0
baz=78
I07A Izee 77.51 325 ⇓P P 03 10 51.4 +0.5
baz=78
C13A Hot Springs 77.54 331 P P 03 10 51.4 +0.5
baz=78,SNR=34
N02C Big Bar 77.58 321 ⇓P P 03 10 51.6 +0.2
baz=78,SNR=6.5
F10A Beach Ranch, E 77.61 328 P P 03 10 51.8 +0.4
baz=78,SNR=8.0
M02C Callahan 77.66 322 ⇓P P 03 10 51.5 -0.2
baz=78
F09A S2 Ranch, Elgi 77.78 327 ⇓P P 03 10 52.5 +0.2
baz=78,SNR=12
YBH Yreka Blue Hor 77.79 322 ⇑P P 03 10 52.1 -0.4
baz=78
I06A Prineville 77.81 325 ⇑P P 03 10 53.3 +0.8
baz=78,SNR=8.3
H07A Lands Inn, Kim 77.89 326 ⇑P P 03 10 53.2 +0.2
baz=78
E10A Myers Farm, Un 77.91 328 P P 03 10 53.2 +0.2
baz=78,SNR=11
D11A Klaveano Farm, 77.93 329 P P 03 10 52.9 -0.2
baz=78,SNR=12
J05A Fort Rock 77.94 324 P P 03 10 53.8 +0.5
baz=78,SNR=6.8
B13A Whitefish 77.99 331 ⇑P P 03 10 53.5 0.0
baz=78,SNR=21
G08A Pilot Rock 78.03 327 P P 03 10 54.2 +0.4
baz=78,SNR=8.7
WALA Waterton Lakes 78.24 332⇓iP P 03 10 54.4 -0.4
comp=Z,33nm,1.0s,mb5.0
FFC Flin Flon 78.27 341 P P 03 10 54.7 -0.1
comp=Z,70nm,1.1s,mb5.3,SNR=8.6
FFC Flin Flon 78.27 341 eP P 03 10 53.8 -1.0
comp=Z,23nm,1.3s,mb4.7
FFC Flin Flon 78.27 341 eP P 03 10 53.8 -1.0
FFC pmax pmax
comp=Z,23nm,1.3s,mb4.8
A13A Flathead Natio 78.38 332 ⇑P P 03 10 56.1 +0.5
baz=78
D10A Wagner Farm, O 78.39 329 P P 03 10 55.4 -0.2
baz=78,SNR=15
G07A Ruggs Ranch, H 78.39 326 ⇓P P 03 10 56.6 +0.9
baz=78,SNR=14
H06A Lindquist Farm 78.39 326 ⇓P P 03 10 56.6 +0.8
baz=78,SNR=13
J04A Umpqua Nationa 78.40 324 ⇑P P 03 10 55.9 +0.1
baz=78
E09A Wood Farm, Sta 78.45 328 P P 03 10 55.9 -0.2
baz=79,SNR=8.7
SBA Scott Base 78.51 190 eP P 03 10 56.9 +0.9
comp=Z,40nm,1.2s,mb5.1
SBA Scott Base 78.51 190 eP P 03 10 56.9 +0.9
SBA pmax pmax
comp=Z,40nm,1.2s,mb5.1
I05A Bend 78.53 325 ⇑P P 03 10 57.1 +0.7
baz=79,SNR=5.7
L02A Cave Junction 78.58 322 ⇓P P 03 10 56.8 0.0
baz=79
B12A Libby 78.58 331 ⇑P P 03 10 57.0 +0.4
baz=79,SNR=10.0
G06A Carlson Farm, 78.88 326 ⇑P P 03 10 59.0 +0.6
baz=79
K02A Glendale 78.89 323 ⇑P P 03 10 58.7 +0.2
baz=79
E08A Dider Farm, El 78.90 327 ⇑P P 03 10 58.2 -0.3
baz=79
D09A Jones Farm, Ri 78.91 328 P P 03 10 58.5 0.0
baz=79,SNR=11
B11A Sandpoint 78.92 330 P P 03 10 58.4 -0.1
baz=79,SNR=15
C10A Spilker Farm, 78.94 329 ⇓P P 03 10 58.7 0.0
baz=79
A12A Yaak River Ran 78.94 331 ⇓P P 03 10 59.0 +0.3
baz=79,SNR=8.3
F07A Phinny Hill Vi 78.94 327 P P 03 10 59.7 +0.9
baz=79,SNR=5.5
HAWA Hanford 79.07 327 eP P 03 10 59.4 0.0
comp=Z,56nm,1.3s,mb5.2
HAWA epP pP 03 11 26.5 -0.8
HAWA esP sP 03 11 38.9 0.0
NEW Newport 79.16 330 eP P 03 10 58.5 -1.3
comp=Z,12nm,1.1s,mb4.6
NEW Newport 79.16 330 eP P 03 10 58.5 -1.3
NEW pmax pmax
comp=Z,12nm,1.1s
D08A Wollman Farm, 79.21 328 ⇑P P 03 11 00.4 +0.2
baz=79,SNR=6.8
SYO Syowa Base 79.24 160⇑iP P 03 10 59.0 -1.1
SYO Syowa Base 79.24 160⇓eP P 03 11 04.0 +3.9
SYO Syowa Base 79.24 160⇑eP P 03 11 09.5 +9.4
G05A Wamic 79.25 325 ⇓P P 03 11 01.1 +0.7
baz=79
A11A Hall Mountain, 79.29 331 P P 03 11 00.6 +0.1
baz=80,SNR=31
J02A Umpqua 79.31 323 ⇑P P 03 11 00.8 0.0
baz=79
E07A Sunnyside 79.35 327 ⇓P P 03 11 01.4 +0.5
baz=80,SNR=9.2
H04A Detroit Lake 79.36 325 ⇓P P 03 11 00.6 -0.4
baz=80
C09A Chrisman Ranch 79.40 329 ⇓P P 03 11 01.3 +0.1
baz=80,SNR=12
I03A Eugene 79.52 324 ⇑P P 03 11 02.1 +0.2
baz=80
MORF Marmelete 79.72 45 eP P 03 11 04.6 +1.4
comp=Z,58nm,0.9s,mb5.4
MORF epP pP 03 11 33.2 +2.1
F05A White Salmon 79.74 326 ⇑P P 03 11 03.5 +0.4
baz=80
B09A Rice 79.76 329 ⇑P P 03 11 03.0 -0.2
baz=80,SNR=23
C08A Higginbotham F 79.77 328 ⇓P P 03 11 03.0 -0.2
baz=80,SNR=6.4
PTEO Sao Teotonio 79.81 45 eP P 03 11 05.3 +1.7
comp=Z,81nm,1.2s,mb5.4
PTEO epP pP 03 11 33.7 +2.2
D07A Quincy 79.83 328 ⇑P P 03 11 04.0 +0.5
baz=80,SNR=6.7
FCC Fort Churchill 79.83 347⇓iP P 03 11 02.5 -0.8
comp=Z,22nm,0.9s,mb5.0
FCC epP pP 03 11 32.6 +1.4
FCC esP sP 03 11 45.2 +2.4
FCC Fort Churchill 79.83 347⇓iP P 03 11 02.5 -0.8
FCC e*PP pP 03 11 32.6 +1.5
FCC e*SP sP 03 11 45.2 +2.4
FCC pmax pmax
comp=Z,22nm,0.9s,mb5.0
G04A Mulino 79.86 325 ⇑P P 03 11 03.4 -0.3
baz=80
A10A Northport 79.87 330 ⇓P P 03 11 03.6 0.0
baz=80
E06A Yakima 79.92 327 ⇓P P 03 11 04.4 +0.4
baz=80,SNR=5.3
H03A Soap Creek Ran 79.97 324 ⇓P P 03 11 04.6 +0.3
baz=80
PBDV Barranco-do-Ve 80.17 45 eP P 03 11 07.1 +1.5
comp=Z,67nm,1.6s,mb5.2
PBDV epP pP 03 11 35.4 +1.9
C07A Waterville 80.21 328 P P 03 11 05.7 +0.2
baz=80,SNR=28
MDT Midelt 80.23 51 LR LR 03 43 22.8
comp=Z,62nm,18.4s,baz=165,slow=33
D06A Cle Elum 80.28 327 ⇓P P 03 11 06.1 +0.2
baz=80,SNR=10
F04A Amboy 80.29 325 ⇑P P 03 11 05.9 -0.1
baz=80,SNR=6.3
B08A Colville Reser 80.30 329 P P 03 11 05.7 -0.3
baz=80,SNR=20
SUR Sutherland 80.30 121 eP P 03 11 08.1 +1.5
comp=Z,28nm,1.0s,mb5.0
E05A Randle 80.34 326 ⇑P P 03 11 06.2 -0.1
baz=80
A09A Danville 80.35 330 ⇓P P 03 11 05.9 -0.4
baz=80,SNR=19
EGRO El Granado 80.63 45 P P 03 11 08.7 +0.6
comp=Z,50nm,0.9s,mb5.3
PBEJ Beja 80.64 45 eP P 03 11 09.4 +1.3
comp=Z,23nm,1.1s,mb4.9
PBEJ epP pP 03 11 37.9 +1.9
A08A Turner Farm, O 80.67 329 ⇓P P 03 11 08.0 0.0
baz=81,SNR=42
B07A Winthrop 80.75 328 ⇑P P 03 11 08.2 -0.2
baz=81,SNR=20
EVO Evora 80.81 44 eP P 03 11 08.1 -0.9
comp=Z,48nm,1.0s,mb5.0
EVO epP pP 03 11 37.5 +0.6
EVO eMLR MLR
comp=Z,78nm,18.8s
EVO Evora 80.81 44 eP P 03 11 09.9 +0.9
EVO epP pP 03 11 38.4 +1.5
D05A Enumclaw 80.87 327 ⇓P P 03 11 08.9 -0.2
baz=81,SNR=10
C05A Tolt Reservoir 81.04 327 ⇓P P 03 11 09.1 -0.9
baz=81,SNR=6.6
EDM Edmonton 81.08 335⇓iP P 03 11 08.7 -1.4
EDM epP pP 03 11 36.0 -2.0
EDM esP sP 03 11 49.3 -0.4
TSUM Tsumeb 81.19 107 eP P 03 11 12.2 +0.7
comp=Z,22nm,1.1s,mb4.9
TSUM epP pP 03 11 40.9 +1.4
PBAR Barrancos 81.27 45 eP P 03 11 12.4 +1.0
comp=Z,21nm,1.2s,mb4.8
PBAR epP pP 03 11 40.3 +0.9
PESTR Estremoz 81.27 44 eP P 03 11 12.4 +1.0
comp=Z,29nm,1.2s,mb5.0
PESTR epP pP 03 11 40.8 +1.4
A07A Ashnola River, 81.28 329 P P 03 11 11.6 +0.4
baz=81,SNR=35
E03A Lebam 81.29 325 ⇓P P 03 11 11.7 +0.3
baz=81
EMIN Mina Concepcio 81.30 45 P P 03 11 12.4 +0.8
comp=Z,58nm,0.9s,mb5.4
ESPR Espera 81.39 47 P P 03 11 12.8 +0.7
comp=Z,67nm,1.3s,mb5.3
B06A Marblemount 81.47 328 ⇑P P 03 11 11.6 -0.6
baz=82,SNR=8.4
EBAD Badajoz 81.59 44 P P 03 11 14.0 +0.9
comp=Z,22nm,0.7s,mb5.1
B05A Bryant 81.62 327 ⇓P P 03 11 12.3 -0.7
baz=82,SNR=16
C04A Brinnon 81.72 327 ⇑P P 03 11 13.6 +0.1
baz=82,SNR=5.7
D03A Wishkah Elem. 81.76 326 ⇓P P 03 11 14.1 +0.3
baz=82
A06A Chilliwack 81.85 328 ⇑P P 03 11 13.7 -0.5
baz=82
PCBR Castelo Branco 81.86 43 eP P 03 11 15.2 +0.7
comp=Z,21nm,1.7s,mb4.7
PCBR epP pP 03 11 44.1 +1.6
EMIJ Mijas 81.98 47 P P 03 11 15.4 +0.2
comp=Z,25nm,0.8s,mb5.1
NLWA Neilton Lookou 81.98 326 ⇑P P 03 11 15.2 +0.3
baz=82
PVIS Viseu 82.07 42 eP P 03 11 16.8 +1.2
comp=Z,28nm,1.8s,mb4.8
PVIS epP pP 03 11 44.5 +0.9
A05A Maple Falls 82.09 328 ⇑P P 03 11 15.0 -0.4
baz=82,SNR=11
MTE Manteigas 82.12 43 eP P 03 11 16.4 +0.5
comp=Z,33nm,1.4s,mb5.0
MTE epP pP 03 11 44.6 +0.7
MTE Manteigas 82.12 43 eP P 03 11 15.6 -0.2
comp=Z,18nm,1.0s,mb4.9
MTE epP pP 03 11 44.9 +1.0
B04A Port Angeles 82.21 327 ⇑P P 03 11 16.3 +0.2
baz=82
A04A Legoe Bay, Lum 82.22 328 ⇓P P 03 11 16.3 +0.1
baz=82
PCAB Cabril 82.52 41 eP P 03 11 18.4 +0.5
comp=Z,39nm,1.1s,mb5.2
PCAB epP pP 03 11 46.9 +0.9
PGC Sidney 82.56 327⇓iP P 03 11 17.7 -0.2
comp=Z,152nm,1.4s,mb5.6
PGC epP pP 03 11 45.2 -0.7
ELOB Lobios 82.59 41 P P 03 11 18.9 +0.6
comp=Z,16nm,0.8s,mb4.9
EMAZ Mazaricos 82.62 40 P P 03 11 20.0 +1.7
comp=Z,37nm,1.1s,mb5.1
ELOJ Sierra Loja 82.71 47 P P 03 11 20.6 +1.6
comp=Z,25nm,0.9s,mb5.0
ELOJ Sierra Loja 82.71 47 P P 03 11 20.6 +1.6
ELOJ pmax pmax
comp=Z,25nm,0.9s,mb5.0
ELUQ Luque 82.83 47 P P 03 11 21.3 +1.7
comp=Z,32nm,1.0s,mb5.1
ELUQ Luque 82.83 47 P P 03 11 21.3 +1.7
ELUQ pmax pmax
comp=Z,32nm,1.0s,mb5.1
STS Santiago 82.84 40 P P 03 11 20.2 +0.6
comp=Z,9.6nm,0.6s,mb4.8
STS Santiago 82.84 40 P P 03 11 20.2 +0.7
STS pmax pmax
comp=Z,10.0nm,0.6s,mb4.8
MVO Moncorvo 82.86 42 eP P 03 11 20.3 +0.6
comp=Z,44nm,1.1s,mb5.2
MVO epP pP 03 11 48.8 +1.1
EADA Adamuz 82.92 46 P P 03 11 20.3 +0.3
comp=Z,14nm,0.7s,mb4.9
ECOG Cogollos-Vega 83.18 47 P P 03 11 22.1 +0.7
comp=Z,5.7nm,0.5s,mb4.7
ECOG Cogollos-Vega 83.18 47 P P 03 11 22.1 +0.7
ECOG pmax pmax
comp=Z,6.0nm,0.5s,mb4.7
PBRG Braganca 83.39 42 eP P 03 11 23.0 +0.6
comp=Z,55nm,1.4s,mb5.2
PBRG epP pP 03 11 51.7 +1.2
ECAL Calabor 83.46 42 P P 03 11 23.3 +0.6
comp=Z,86nm,1.1s,mb5.5
EBAN Banos Encina 83.46 46 P P 03 11 24.1 +1.3
comp=Z,51nm,1.0s,mb5.3
EBAN Banos Encina 83.46 46 P P 03 11 24.1 +1.2
EBAN pmax pmax
comp=Z,51nm,1.0s,mb5.3
EBER Berja 83.46 48 P P 03 11 23.4 +0.5
comp=Z,85nm,2.2s,mb5.2
PAB San Pablo 83.77 45⇓iP P 03 11 25.2 +0.8
comp=Z,48nm,1.0s,mb5.3
PAB epP pP 03 11 54.0 +1.5
PAB San Pablo 83.77 45⇓iP P 03 11 25.2 +0.8
PAB e*PP pP 03 11 54.0 +1.5
PAB pmax pmax
comp=Z,48nm,1.0s,mb5.3
EQES Quesada 83.78 47 P P 03 11 24.1 -0.3
comp=Z,36nm,1.3s,mb5.0
EPON Pontenova 83.94 40 P P 03 11 25.2 0.0
comp=Z,82nm,1.3s,mb5.4
ESDC Sonseca Array 84.09 45 P P 03 11 26.9 +0.9
comp=Z,15nm,0.7s,mb4.9
ESDC Sonseca Array 84.09 45 P P 03 11 26.7 +0.7
comp=Z,22nm,0.9s,mb5.0,baz=248,slow=5.5,SNR=62
ESDC pP pP 03 11 54.9 +0.8
comp=Z,53nm,0.9s,baz=252,slow=5.1,SNR=25
GUD Guadarrama 84.45 44 P P 03 11 28.6 +0.8
comp=Z,7.3nm,0.7s,mb4.6
GUD Guadarrama 84.45 44 P P 03 11 28.6 +0.8
GUD pmax pmax
comp=Z,7.0nm,0.7s,mb4.6
EVIA Vianos 84.57 46 P P 03 11 29.7 +1.2
comp=Z,4.3nm,0.6s,mb4.6
EVIA Vianos 84.57 46 P P 03 11 29.7 +1.2
EVIA pmax pmax
comp=Z,4.0nm,0.6s,mb4.5
BOSA Boshof 85.08 118 eP P 03 11 31.5 +0.1
comp=Z,13nm,1.0s,mb4.8
BOSA Boshof 85.08 118 eP P 03 11 31.5 +0.1
BOSA pmax pmax
comp=Z,13nm,1.0s,mb4.8
BOSA Boshof 85.08 118 P P 03 11 31.1 -0.3
comp=Z,22nm,1.0s,mb5.0,baz=243,slow=3.4,SNR=12
BOSA LR LR 03 43 42.4
comp=Z,139nm,20.3s,baz=60,slow=31
CART Cartagena 85.12 48 eP P 03 11 30.2 -1.0
comp=Z,27nm,0.9s,mb5.2
EARI Arriondas 85.13 41 P P 03 11 32.0 +0.8
comp=Z,26nm,1.3s,mb5.0
ETOR Torete 85.93 45 P P 03 11 36.1 +0.9
comp=Z,8.9nm,0.4s,mb5.0
ETOR Torete 85.93 45 P P 03 11 36.1 +0.9
ETOR pmax pmax
comp=Z,9.0nm,0.4s,mb5.0
ELAN Lanestosa 86.22 42 P P 03 11 35.7 -0.8
comp=Z,28nm,1.2s,mb5.1
ECRI Cripan 86.50 43 P P 03 11 39.0 +1.1
comp=Z,13nm,0.6s,mb5.0
ECRI Cripan 86.50 43 P P 03 11 39.0 +1.1
ECRI pmax pmax
comp=Z,13nm,0.6s,mb5.0
LBTB Lobatse 86.51 115 eP P 03 11 38.8 +0.3
comp=Z,26nm,1.1s,mb5.1
LBTB Lobatse 86.51 115 eP P 03 11 38.8 +0.3
LBTB pmax pmax
comp=Z,26nm,1.1s,mb5.1
EMOS Mosqueruela 86.78 46 P P 03 11 39.5 +0.2
comp=Z,14nm,0.8s,mb5.0
MAW Mawson 87.11 163⇓eP P 03 11 40.5 0.0
comp=Z,54nm,0.9s,mb5.5
MAW epP pP 03 12 11.2 +2.4
MAW Mawson 87.11 163⇓eP P 03 11 40.5 0.0
MAW e*PP pP 03 12 11.2 +2.4
MAW pmax pmax
comp=Z,53nm,0.9s
MAW Mawson 87.11 163 P P 03 11 40.9 +0.4
comp=Z,48nm,1.0s,mb5.4,baz=230,slow=6.4,SNR=41
MAW pP pP 03 12 09.0 +0.2
comp=Z,15nm,0.9s,baz=234,slow=1.9,SNR=3.8
MAW LR LR 03 50 35.2
comp=Z,95nm,18.9s,baz=72,slow=35
ELIZ Elizondo 87.40 43 P P 03 11 42.3 +0.1
comp=Z,5.2nm,0.8s,mb4.5
ELIZ Elizondo 87.40 43 P P 03 11 42.3 0.0
ELIZ pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
SJPF Ste Jean 87.57 43 eP P 03 11 43.1 0.0
comp=Z,38nm,1.0s,mb5.1
SJPF epP pP 03 12 11.9 +0.5
SJPF Ste Jean 87.57 43 eP P 03 11 43.1 0.0
comp=Z,19nm,1.0s,mb5.1
SJPF epP pP 03 12 11.9 +0.5
SJPF Ste Jean 87.57 43 eP P 03 11 43.1 0.0
SJPF e*PP pP 03 12 11.9 +0.5
SJPF pmax pmax
comp=Z,19nm,1.0s,mb5.1
ETSF Etsaut 87.90 43 eP P 03 11 44.9 +0.2
comp=Z,7.8nm,0.6s,mb4.6
ETSF Etsaut 87.90 43 eP P 03 11 44.9 +0.2
comp=Z,3.9nm,0.6s,mb4.6
ETSF Etsaut 87.90 43 eP P 03 11 44.9 +0.2
ETSF pmax pmax
comp=Z,4.0nm,0.6s,mb4.6
EBIE Bielsa 88.26 44 P P 03 11 46.9 +0.5
comp=Z,3.2nm,0.5s,mb4.6
YKA Yellowknife Ar 88.44 341 P P 03 11 46.1 -0.6
YKA pP pP 03 12 13.4 -1.7
YKA Yellowknife Ar 88.44 341 P P 03 11 46.1 -0.6
comp=Z,60nm,0.8s,mb5.7,baz=134,slow=4.7,SNR=823
YKA pP pP 03 12 13.4 -1.7
comp=Z,16nm,0.6s,baz=134,slow=4.7,SNR=5.5
YKA PKiKP PKiKP 03 16 46.3 -0.7
comp=Z,0.4nm,0.6s,baz=142,slow=1.7,SNR=5.7
YKA PKKPbc PKKPbc 03 29 28.4 -3.4
comp=Z,0.4nm,0.6s,baz=323,slow=3.8,SNR=15
EPF Esparros 88.55 43 eP P 03 11 48.0 +0.3
QUIF Quistinic 88.72 38 eP P 03 11 47.2 -1.2
comp=Z,24nm,0.9s,mb4.9
QUIF epP pP 03 12 15.6 -1.2
QUIF Quistinic 88.72 38 eP P 03 11 47.2 -1.2
comp=Z,12nm,0.9s,mb4.9
QUIF epP pP 03 12 15.6 -1.2
QUIF Quistinic 88.72 38 eP P 03 11 47.2 -1.2
QUIF e*PP pP 03 12 15.6 -1.2
QUIF pmax pmax
comp=Z,12nm,0.9s,mb4.9
ROSF Rostrenen 88.86 38 eP P 03 11 47.8 -1.3
comp=Z,24nm,0.8s,mb5.0
ROSF Rostrenen 88.86 38 eP P 03 11 47.8 -1.3
comp=Z,12nm,0.8s,mb5.0
ROSF Rostrenen 88.86 38 eP P 03 11 47.8 -1.3
ROSF pmax pmax
comp=Z,12nm,0.8s,mb5.0
SGMF Saint Gilles 89.24 38 eP P 03 11 49.9 -0.9
comp=Z,14nm,0.8s,mb4.7
SGMF Saint Gilles 89.24 38 eP P 03 11 49.9 -0.9
comp=Z,7.3nm,0.8s,mb4.8
SGMF Saint Gilles 89.24 38 eP P 03 11 49.9 -0.9
SGMF pmax pmax
comp=Z,7.0nm,0.8s,mb4.7
DCN Croghan 89.32 32 eP pP 03 12 18.9 -0.6
LFF La Frestale 89.67 42 eP P 03 11 52.7 -0.2
comp=Z,75nm,0.9s,mb5.5
LFF epP pP 03 12 20.5 -0.9
LFF La Frestale 89.67 42 eP P 03 11 52.7 -0.2
comp=Z,37nm,0.9s,mb5.5
LFF epP pP 03 12 20.5 -0.9
LFF La Frestale 89.67 42 eP P 03 11 52.7 -0.2
LFF e*PP pP 03 12 20.5 -0.9
LFF pmax pmax
comp=Z,37nm,0.9s,mb5.5

DSB	**Dublin**	**89.72**	**32**	*e*P	**P**	**03 11 52.1**	**-0.9**
	comp=Z,24nm,1.1s,mb5.2						
DSB				*e*pP	pP	03 12 21.0	-0.4
DMUB	**Kingscourt**	**89.81**	**32**	*e*P	pP	03 12 21.1	-0.7
MFF	**Saint Martin d**	**89.89**	**40**	*e*P	**P**	**03 11 53.2**	**-0.7**
	comp=Z,33nm,1.2s,mb5.0						
MFF	**Saint Martin d**	**89.89**	**40**	*e*P	**P**	**03 11 53.2**	**-0.7**
	comp=Z,16nm,1.2s,mb5.0						
MFF	**Saint Martin d**	**89.89**	**40**	*e*P	**P**	**03 11 53.2**	**-0.7**
MFF				pmax	pmax		
	comp=Z,16nm,1.2s,mb5.0						
MTLF	**Montolieu**	**89.91**	**44**	*e*P	**P**	**03 11 53.6**	**-0.5**
	comp=Z,20nm,1.0s,mb4.9						
MTLF				*e*pP	pP	03 12 21.5	-1.0
MTLF	**Montolieu**	**89.91**	**44**	*e*P	**P**	**03 11 53.6**	**-0.5**
	comp=Z,9.9nm,1.0s,mb4.9						
MTLF				*e*pP	pP	03 12 21.5	-1.0
MTLF	**Montolieu**	**89.91**	**44**	*e*P	**P**	**03 11 53.6**	**-0.5**
MTLF				*e**PP	pP	03 12 21.5	-1.0
MTLF				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.9						
GRR	**Gorron**	**90.30**	**38**	*e*P	**P**	**03 11 54.9**	**-0.9**
	comp=Z,29nm,0.8s,mb5.2						
GRR	**Gorron**	**90.30**	**38**	*e*P	**P**	**03 11 54.9**	**-0.9**
	comp=Z,15nm,0.8s,mb5.2						
GRR	**Gorron**	**90.30**	**38**	*e*P	**P**	**03 11 54.9**	**-0.9**
GRR				pmax	pmax		
	comp=Z,15nm,0.8s,mb5.2						
RJF	**Les Rejaudoux**	**90.33**	**42**	*e*P	**P**	**03 11 55.3**	**-0.7**
	comp=Z,24nm,1.0s,mb5.0						
RJF				*e*MLR	MLR		
	comp=Z,87nm,18.5s						
RJF	**Les Rejaudoux**	**90.33**	**42**	*e*P	**P**	**03 11 55.3**	**-0.7**
	comp=Z,12nm,1.0s,mb5.0						
RJF				LR	LR		
	comp=Z,90nm,18.5s						
RJF	**Les Rejaudoux**	**90.33**	**42**	*e*P	**P**	**03 11 55.3**	**-0.7**
RJF				pmax	pmax		
	comp=Z,12nm,1.0s,mb5.0						
RJF				MLR	MLR		
	comp=Z,90nm,18.5s						
CAF	**Calviac**	**90.51**	**42**	*e*P	**P**	**03 11 56.5**	**-0.3**
	comp=Z,21nm,1.0s,mb4.9						
CAF				*e*pP	pP	03 12 24.4	-0.9
CAF	**Calviac**	**90.51**	**42**	*e*P	**P**	**03 11 56.5**	**-0.3**
	comp=Z,10nm,1.0s,mb4.9						
CAF				*e*pP	pP	03 12 24.4	-0.9
CAF	**Calviac**	**90.51**	**42**	*e*P	**P**	**03 11 56.5**	**-0.3**
CAF				*e**PP	pP	03 12 24.4	-0.9
CAF				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.9						
FLN	**La Foliniere**	**90.69**	**38**	*e*P	**P**	**03 11 56.5**	**-1.1**
	comp=Z,31nm,0.9s,mb5.1						
FLN				*e*MLR	MLR		
	comp=Z,111nm,21.2s						
FLN	**La Foliniere**	**90.69**	**38**	*e*P	**P**	**03 11 56.5**	**-1.1**
	comp=Z,16nm,0.9s,mb5.1						
FLN				LR	LR		
	comp=Z,110nm,21.3s						
FLN	**La Foliniere**	**90.69**	**38**	*e*P	**P**	**03 11 56.5**	**-1.1**
FLN				pmax	pmax		
	comp=Z,16nm,0.9s,mb5.2						
FLN				MLR	MLR		
	comp=Z,110nm,21.3s						
LDF	**La Druitiere**	**90.82**	**38**	*e*P	**P**	**03 11 56.9**	**-1.3**
	comp=Z,32nm,1.0s,mb5.1						
LDF				*e*pP	pP	03 12 25.2	-1.5
LDF	**La Druitiere**	**90.82**	**38**	*e*P	**P**	**03 11 56.9**	**-1.3**
	comp=Z,16nm,1.0s,mb5.1						
LDF				*e*pP	pP	03 12 25.2	-1.5
LDF	**La Druitiere**	**90.82**	**38**	*e*P	**P**	**03 11 56.9**	**-1.3**
LDF				*e**PP	pP	03 12 25.2	-1.5
LDF				pmax	pmax		
	comp=Z,16nm,1.0s,mb5.1						
TCF	**Toulx Ste Croi**	**91.20**	**41**	*e*P	**P**	**03 11 59.0**	**-1.0**
	comp=Z,10nm,1.0s,mb4.6						
TCF				*e*pP	pP	03 12 27.4	-1.1
TCF	**Toulx Ste Croi**	**91.20**	**41**	*e*P	**P**	**03 11 59.0**	**-1.0**
	comp=Z,5.2nm,1.0s,mb4.6						
TCF				*e*pP	pP	03 12 27.4	-1.1
TCF	**Toulx Ste Croi**	**91.20**	**41**	*e*P	**P**	**03 11 59.0**	**-1.0**
TCF				*e**PP	pP	03 12 27.4	-1.1
TCF				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.6						
LASF	**Ste Croix**	**91.30**	**44**	*e*P	**P**	**03 12 00.6**	**+0.1**
	comp=Z,29nm,1.3s,mb5.0						
LBL	**Lubilhac**	**91.40**	**42**	*e*P	**P**	**03 12 01.4**	**+0.4**
PYM	**Petit Puy Mans**	**91.47**	**42**	*e*P	**P**	**03 11 59.5**	**-1.8**
WRAK	**Wrangell Islan**	**91.50**	**330**	*e*P	**P**	**03 12 00.7**	**-0.5**
	comp=Z,12nm,0.9s,mb5.1						
DLBC	**Dease Lake**	**91.56**	**333**⇓	*i* P	**P**	**03 12 01.2**	**-0.2**
DLBC				*e*pP	pP	03 12 29.4	-0.5
AGO	**Saint Agoulin**	**91.67**	**42**	*e*P	**P**	**03 12 02.7**	**+0.5**
BGF	**Bois d'Agland**	**91.71**	**41**	*e*P	**P**	**03 12 01.7**	**-0.7**
	comp=Z,12nm,0.8s,mb4.9						
BGF				*e*pP	pP	03 12 29.6	-1.2
BGF	**Bois d'Agland**	**91.71**	**41**	*e*P	**P**	**03 12 01.7**	**-0.7**
	comp=Z,6.3nm,0.8s,mb4.9						
BGF				*e*pP	pP	03 12 29.6	-1.2
BGF	**Bois d'Agland**	**91.71**	**41**	*e*P	**P**	**03 12 01.7**	**-0.7**
BGF				*e**PP	pP	03 12 29.6	-1.2
BGF				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.9						
KEST	**Kesra**	**91.90**	**53**	P	**P**	**03 12 03.3**	**-0.3**
	comp=Z,2.2nm,1.1s,mb4.3,baz=207,slow=11,SNR=2.8						
KEST				pP	pP	03 12 33.0	+1.0
	comp=Z,3.2nm,0.9s,baz=247,slow=8.3,SNR=4.3						
PLDF	**La Plantade**	**91.95**	**42**	*e*P	**P**	**03 12 03.7**	**+0.2**
AVF	**Avril sur Loir**	**92.13**	**41**	*e*P	**P**	**03 12 03.0**	**-1.3**
	comp=Z,3.8nm,0.7s,mb4.4						
AVF	**Avril sur Loir**	**92.13**	**41**	*e*P	**P**	**03 12 03.0**	**-1.3**
	comp=Z,1.9nm,0.7s,mb4.4						
AVF	**Avril sur Loir**	**92.13**	**41**	*e*P	**P**	**03 12 03.0**	**-1.3**
AVF				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.5						
VIVF	**Saint-Julien-l**	**92.16**	**43**	*e*P	**P**	**03 12 04.2**	**-0.3**
	comp=Z,18nm,1.1s,mb4.9						
VIVF	**Saint-Julien-l**	**92.16**	**43**	*e*P	**P**	**03 12 04.2**	**-0.3**
	comp=Z,8.8nm,1.1s,mb4.9						
VIVF	**Saint-Julien-l**	**92.16**	**43**	*e*P	**P**	**03 12 04.2**	**-0.3**
VIVF				pmax	pmax		
	comp=Z,9.0nm,1.1s,mb4.9						
SSF	**Saint Saulge**	**92.34**	**41**	*e*P	**P**	**03 12 04.1**	**-1.2**
SMF	**Signal de Mont**	**92.37**	**41**	*e*P	**P**	**03 12 04.5**	**-0.9**
	comp=Z,21nm,1.0s,mb5.0						
SMF				*e*pP	pP	03 12 32.7	-1.2
SMF	**Signal de Mont**	**92.37**	**41**	*e*P	**P**	**03 12 04.5**	**-0.9**
	comp=Z,11nm,1.0s,mb5.0						
SMF				*e*pP	pP	03 12 32.7	-1.2
SMF	**Signal de Mont**	**92.37**	**41**	*e*P	**P**	**03 12 04.5**	**-0.9**
SMF				*e**PP	pP	03 12 32.7	-1.2
SMF				pmax	pmax		
	comp=Z,11nm,1.0s,mb5.0						
SMRF	**Simiane la Rot**	**92.39**	**44**	*e*P	**P**	**03 12 05.6**	**0.0**
SMRF				*e*pP	pP	03 12 33.8	-0.2
LOR	**Lormes**	**92.64**	**41**	*e*P	**P**	**03 12 05.3**	**-1.4**
	comp=Z,5.7nm,0.7s,mb4.7						
LOR				*e*MLR	MLR		
	comp=Z,74nm,17.5s						
LOR	**Lormes**	**92.64**	**41**	*e*P	**P**	**03 12 05.3**	**-1.4**
	comp=Z,2.8nm,0.7s,mb4.7						
LOR				LR	LR		
	comp=Z,70nm,17.5s						
LOR	**Lormes**	**92.64**	**41**	*e*P	**P**	**03 12 05.3**	**-1.4**
LOR				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.7						
LOR				MLR	MLR		
	comp=Z,70nm,17.5s						
LMR	**La Mourre**	**92.76**	**45**	*e*P	**P**	**03 12 06.7**	**-0.6**
LMR				*e*pP	pP	03 12 35.9	+0.1
FRF	**La Foret Royal**	**92.94**	**45**	*e*P	**P**	**03 12 09.3**	**+1.2**
ORIF	**Oris-en-Rattie**	**92.97**	**43**	*e*P	**P**	**03 12 08.3**	**+0.1**
	comp=Z,16nm,0.9s,mb5.0						
ORIF				*e*MLR	MLR		
	comp=Z,131nm,19.0s						
ORIF	**Oris-en-Rattie**	**92.97**	**43**	*e*P	**P**	**03 12 08.3**	**+0.1**
	comp=Z,8.2nm,0.9s,mb5.1						
ORIF	**Oris-en-Rattie**	**92.97**	**43**	*e*P	**P**	**03 12 08.3**	**+0.1**
ORIF				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb5.0						
MBDF	**Montbardon**	**93.47**	**44**	*e*P	**P**	**03 12 09.9**	**-0.7**
BNI	**Bardonecchia**	**93.54**	**44**	*e*P	**P**	**03 12 11.3**	**+0.5**
	comp=Z,14nm,1.3s,mb5.1						
BNI				*e*pP	pP	03 12 38.8	-0.6
BNI	**Bardonecchia**	**93.54**	**44**	*e*P	**P**	**03 12 11.3**	**+0.4**
BNI				*e**PP	pP	03 12 38.8	-0.5
BNI				pmax	pmax		
	comp=Z,14nm,1.3s,mb5.1						
SBF	**Sospel**	**93.58**	**45**	*e*P	**P**	**03 12 10.6**	**-0.5**
LPL	**La Plagne**	**93.75**	**43**	*e*P	**P**	**03 12 12.0**	**+0.2**
	comp=Z,18nm,1.1s,mb5.0						
LPL				*e*pP	pP	03 12 40.5	+0.2
LPL	**La Plagne**	**93.75**	**43**	*e*P	**P**	**03 12 12.0**	**+0.2**
	comp=Z,8.9nm,1.1s,mb5.0						
LPL				*e*pP	pP	03 12 40.5	+0.2
LPL	**La Plagne**	**93.75**	**43**	*e*P	**P**	**03 12 12.0**	**+0.2**
LPL				*e**PP	pP	03 12 40.5	+0.2
LPL				pmax	pmax		
	comp=Z,9.0nm,1.1s,mb5.0						
LPG	**La Plagne**	**93.76**	**43**	*e*P	**P**	**03 12 12.2**	**+0.3**
	comp=Z,19nm,1.1s,mb5.0						
LPG	**La Plagne**	**93.76**	**43**	*e*P	**P**	**03 12 12.2**	**+0.3**
	comp=Z,9.4nm,1.1s,mb5.0						
LPG	**La Plagne**	**93.76**	**43**	*e*P	**P**	**03 12 12.2**	**+0.3**
LPG				pmax	pmax		
	comp=Z,9.0nm,1.1s,mb5.0						
CABF	**La Chapelle**	**93.77**	**42**	*e*P	**P**	**03 12 12.6**	**+0.7**
BAIF	**Baives**	**94.01**	**38**	*e*P	**P**	**03 12 11.7**	**-1.2**
PGF	**Pioggiola**	**94.15**	**47**	*e*P	**P**	**03 12 13.1**	**-0.6**
DOU	**Dourbes**	**94.25**	**38**	P	**P**	**03 12 14.1**	**+0.1**
	comp=Z,7.6nm,1.6s,mb4.8						
GIVF	**Givet**	**94.39**	**38**	*e*P	**P**	**03 12 13.6**	**-1.0**
GIVF				*e*pP	pP	03 12 41.8	-1.3
SKAG	**Skagway**	**94.44**	**332**	*e*P	**P**	**03 12 13.7**	**-0.9**
	comp=Z,8.0nm,0.6s,mb5.2						
HAU	**Haudompre**	**94.48**	**41**	*e*P	**P**	**03 12 13.8**	**-1.3**
HAU				*e*MLR	MLR		
	comp=Z,79nm,19.5s						
HAU	**Haudompre**	**94.48**	**41**	*e*P	**P**	**03 12 13.8**	**-1.3**
HAU				MLR	MLR		
	comp=Z,80nm,19.5s						
RES	**Resolute Bay**	**94.59**	**353**	*e*P	**P**	**03 12 14.4**	**-0.6**
HINF	**Hinteralfeld**	**94.72**	**41**	*e*P	**P**	**03 12 14.5**	**-1.7**
MOF	**Molkenrain**	**94.91**	**41**	*e*P	**P**	**03 12 14.4**	**-2.7**
WLF	**Walferdange**	**95.01**	**39**	*e*P	**P**	**03 12 16.1**	**-1.4**
	comp=Z,15nm,1.0s,mb5.4						
WLF				*e*pP	pP	03 12 45.7	-0.3
WLF	**Walferdange**	**95.01**	**39**	*e*P	**P**	**03 12 16.1**	**-1.4**
WLF				*e**PP	pP	03 12 45.7	-0.3
WLF				pmax	pmax		
	comp=Z,15nm,1.0s,mb5.4						
WLF	**Walferdange**	**95.01**	**39**	P	**P**	**03 12 17.1**	**-0.4**
	comp=Z,15nm,1.3s,mb5.3						
WLF	**Walferdange**	**95.01**	**39**	*e*P	pP	03 12 45.7	-0.3
ECH	**Echery**	**95.06**	**41**	*e*P	**P**	**03 12 17.5**	**-0.3**
CDF	**Champ du Feu**	**95.21**	**41**	*e*P	**P**	**03 12 17.6**	**-0.8**
	comp=Z,9.8nm,0.8s,mb5.0						
CDF				*e*pP	pP	03 12 45.5	-1.4
CDF	**Champ du Feu**	**95.21**	**41**	*e*P	**P**	**03 12 17.6**	**-0.8**
	comp=Z,4.9nm,0.8s,mb5.0						
CDF				*e*pP	pP	03 12 45.5	-1.4
CDF	**Champ du Feu**	**95.21**	**41**	*e*P	**P**	**03 12 17.6**	**-0.8**
CDF				*e**PP	pP	03 12 45.5	-1.4
CDF				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb5.0						
MEM	**Membach**	**95.29**	**38**	P	**P**	**03 12 18.5**	**-0.3**
HGN	**Heimansgroeve**	**95.31**	**38**	*e*P	pP	03 12 47.0	-0.3
	comp=Z,8.5nm,1.1s						
FELD	**Feldberg im Sc**	**95.46**	**41**	*e*P	**P**	**03 12 19.4**	**-0.2**
RUP	**Ruppelstein**	**95.56**	**39**	*e*P	**P**	**03 12 20.1**	**+0.1**
BFO	**Black Forest**	**95.83**	**41**	*e*P	pP	03 12 48.4	-1.4
WTSB	**Winterswijk**	**96.27**	**37**	*e*P	pP	03 12 51.2	-0.5
	comp=Z,25nm,1.3s						
STU	**Stuttgart**	**96.53**	**41**	*e*P	pP	03 12 52.3	-0.6
IBBN	**Ibbenburen**	**96.95**	**37**	*e*P	pP	03 12 54.2	-0.5
FUR	**Furstenfeldbru**	**97.62**	**42**	*e*P	pP	03 12 57.5	-0.4
GRA1	**Grafenberg Arr**	**98.09**	**40**	*e*P	pP	03 13 00.0	0.0
GRF	**Grafenberg Arr**	**98.09**	**40**	*e*P	pP	03 13 00.0	0.0
	comp=Z,13nm,0.9s						
INK	**Inuvik**	**98.20**	**340**	*e*P	**P**	**03 12 29.9**	**-1.6**
	comp=Z,302nm,1.2s						
MOX	**Moxa**	**98.64**	**39**	*e*P	pP	03 13 02.3	-0.1
MOX	**Moxa**	**98.64**	**39**	*e*P	pP	03 13 02.1	-0.3
WET	**Wettzell**	**98.94**	**41**	*e*P	pP	03 13 03.6	-0.2
NKC	**Novy Kostel**	**99.01**	**40**	*e*P	pP	03 13 04.3	+0.2
NKC	**Novy Kostel**	**99.01**	**40**	*e*pP	pP	03 13 04.3	+0.2
TANN	**Tannenbergstha**	**99.08**	**40**	*e*P	pP	03 13 04.3	-0.1
EGAK	**Eagle**	**99.30**	**336**	*e*Pdif	**P**	**03 12 34.9**	**-1.6**
GEC2	**GERESS Array S**	**99.36**	**42**	*e*Pdif	Pdif	03 12 36.8	-0.4
GEC2				*e*pP	pP	03 13 05.5	-0.3
GEC2	**GERESS Array S**	**99.36**	**42**	*e*P	Pdif	03 12 36.8	-0.4
GEC2				*e**PP	pP	03 13 05.5	-0.2
GERES	**GERESS Array B**	**99.36**	**42**	P	Pdif	03 12 36.6	-0.6
GERES				pP	pP	03 13 05.9	+0.2
GERES	**GERESS Array B**	**99.36**	**42**	P	Pdif	03 12 36.6	-0.6
	comp=Z,1.2nm,0.9s,baz=204,slow=2.9,SNR=5.8						
GERES				pP	pP	03 13 05.9	+0.2
	comp=Z,3.5nm,0.9s,baz=242,slow=2.9,SNR=9.1						
GERES				PKiKP	PKiKP	03 17 06.1	-0.2
	comp=Z,0.5nm,0.6s,baz=182,slow=2.7,SNR=3.6						
KHC	**Kasperske Hory**	**99.37**	**41**	*e*P	pP	03 13 05.5	-0.2
KHC	**Kasperske Hory**	**99.37**	**41**	*e*pP	pP	03 13 05.5	-0.2
CLL	**Collm**	**99.68**	**39**	*e*P	pP	03 13 06.9	-0.2
CLL	**Collm**	**99.68**	**39**	*e*Pdif	Pdif	03 12 39.0	+0.4
	comp=Z,11nm,1.5s						
CLL				*e*pPdif		03 13 07.0	
	comp=Z,9.0nm,1.0s						
BRG	**Berggiesshubel**	**100.12**	**40**	*e*P		03 13 08.6	
BRG	**Berggiesshubel**	**100.12**	**40**	*e*P	Pdif	03 12 41.1	+0.5
	comp=Z,4.0nm,1.1s						
BRG				*i*		03 12 46.8	
	comp=Z,3.5nm,1.1s						
BRG				*i* pP		03 13 09.1	
	comp=Z,6.7nm,1.1s						
PRU	**Pruhonice**	**100.22**	**41**	*e*P		03 13 09.4	
PRU	**Pruhonice**	**100.22**	**41**	*e*pP		03 13 09.4	
TREC	**Trest**	**100.62**	**42**	*e*pP		03 13 11.5	
UPC	**Upice**	**101.28**	**40**	*e*P		03 13 14.9	
UPC	**Upice**	**101.28**	**40**	*e*pP		03 13 14.9	
DPC	**Dobruska-Polom**	**101.43**	**41**	*e*P		03 13 15.1	
DPC	**Dobruska-Polom**	**101.43**	**41**	*e*pP		03 13 15.1	
NOA	**NORSAR Array B**	**101.66**	**29**	P	Pdif	03 12 47.9	+0.5
NOA				pP		03 13 15.8	
NOA	**NORSAR Array B**	**101.66**	**29**	P	Pdif	03 12 47.9	+0.5
	comp=Z,1.1nm,0.9s,baz=168,slow=12,SNR=2.8						
NOA				pP		03 13 15.8	
	comp=Z,0.8nm,0.7s,baz=204,slow=4.4,SNR=2.4						
COLA	**College**	**102.00**	**335**	*i* P	Pdif	03 12 47.5	-1.4
ARCES	**ARCESS Array B**	**109.03**	**22**	PKKPbc	PKKPbc	03 28 30.6	-3.1
	comp=Z,3.0nm,0.8s,baz=92,slow=3.6,SNR=10						
AKASG	**Malin Array Be**	**109.58**	**42**	PKiKP	PKiKP	03 17 24.0	-0.9
	comp=Z,0.8nm,0.5s,baz=262,slow=2.6,SNR=5.7						
AKASG				PP	PP	03 17 53.6	-4.0
	comp=Z,0.1nm,0.3s,baz=264,slow=5.5,SNR=5.9						
OBN	**Obninsk**	**114.17**	**37**⇑	*i* PKiKP	PKiKP	03 17 32.9	-0.6
OBN				*e*		03 24 12.7	
OBN				pmax	pmax		
	comp=Z,9.0nm,1.0s						
OBN				MLR	MLR		
	comp=Z,100nm,19.0s						
MALT	**Malatya**	**115.06**	**56**	*e*PKP	PKiKP	03 17 36.5	+0.7
KIV	**Kislovodsk**	**118.45**	**50**	*e*PKPdf	PKPdf	03 17 42.2	+0.1
KIV	**Kislovodsk**	**118.45**	**50**	*e*PKIKP	PKPdf	03 17 42.9	+0.8
KIV				pmax	pmax		
	comp=Z,5.0nm,0.9s						
BILL	**Bilibino**	**119.79**	**339**	*e*PKPdf	PKPdf	03 17 43.7	-0.3
BILL				*e*PP	PP	03 19 06.2	-2.7
BILL	**Bilibino**	**119.79**	**339**⇑	*i* PKIKP	PKPdf	03 17 43.5	-0.5
BILL				*i*		03 19 06.1	
BILL				*e*		03 21 38.4	
BILL				pmax	pmax		
	comp=Z,7.0nm,0.9s						
STKA	**Stephens Creek**	**121.65**	**211**	*e*PKP	PKPdf	03 17 48.1	-0.7
	comp=Z,5.9nm,0.6s						
STKA				*e*pPKP	pPKPdf	03 18 19.3	+0.8
STKA	**Stephens Creek**	**121.65**	**211**	PKP	PKPdf	03 17 48.2	-0.6
	comp=Z,7.9nm,0.6s,baz=113,slow=1.4,SNR=18						
TIXI	**Tiksi**	**125.98**	**353**⇓	*i* PKIKP	PKPdf	03 17 54.7	-1.1
ARU	**Arti**	**126.02**	**33**	*e*PKPdf	PKPdf	03 17 56.8	+0.6
ARU				*e*		03 18 26.5	
ARU	**Arti**	**126.02**	**33**	*i* PKIKP	PKPdf	03 17 57.0	+0.7
ARU						03 19 52.5	
ARU				PPP		03 22 31.8	
ARU						03 24 49.9	
ARU				SS	SS	03 36 45.2	+1.0
SEY	**Seymchan**	**127.39**	**337**⇑	*i* PKIKP	PKPdf	03 17 59.7	+1.0
CTA	**Charters Tower**	**128.04**	**224**	*e*PKP	PKPdf	03 18 01.2	-0.1
	comp=Z,8.6nm,0.8s						
CTA				*e*pPKP	pPKPdf	03 18 31.8	+0.8
CTAO	**Charters Tower**	**128.04**	**224**	*e*PKPdf	PKPdf	03 18 00.9	-0.4
FORT	**Forrest**	**128.06**	**199**	*e*PKP	PKPdf	03 17 59.8	-1.3
	comp=Z,32nm,0.6s						
KLBR	**Kellerberrin**	**129.55**	**188**	*e*PKP	PKPdf	03 18 03.1	-0.8
	comp=Z,33nm,0.8s						
PET	**Petropavlovsk**	**129.61**	**324**	*e*PKPdf	PKPdf	03 18 02.8	-0.4
PET	**Petropavlovsk**	**129.61**	**324**	*c i* PKIKP	PKPdf	03 18 03.1	-0.1
MA2	**Magadan**	**130.06**	**335**	*i* PKIKP	PKPdf	03 18 03.6	-0.3
MA2				pmax	pmax		
	comp=Z,20nm,0.9s						
ASAR	**Alice Springs**	**132.20**	**209**	PKhKP		03 17 49.0	
	comp=Z,1.0nm,0.7s,baz=116,slow=2.6,SNR=7.0						
ASAR				PKP	PKPdf	03 18 06.5	-2.6
	comp=Z,16nm,0.9s,baz=147,slow=2.4,SNR=43						
ASAR				pPKP	pPKPdf	03 18 37.6	-1.2
	comp=Z,1.9nm,0.8s,baz=143,slow=1.9,SNR=2.7						
ASAR				PP	PP	03 20 27.9	-3.2
	comp=Z,2.8nm,1.0s,baz=145,slow=5.8,SNR=7.1						
BRVK	**Borovoye**	**133.59**	**33**	*e*PKPdf	PKPdf	03 18 11.4	+0.6
YAK	**Yakutsk**	**134.72**	**348**	*i* PKIKP	PKPdf	03 18 13.9	+1.3
WB2	**Warramunga Arr**	**135.15**	**212**	*e*PKP	PKPdf	03 18 14.1	-0.7
WRA	**Warramunga Arr**	**135.15**	**212**	PKhKP		03 18 03.1	
	comp=Z,1.6nm,0.7s,baz=145,slow=2.0,SNR=6.9						
WRA				PKP	PKPdf	03 18 14.2	-0.6
	comp=Z,21nm,0.8s,baz=154,slow=1.7,SNR=47						
WRA				pPKP	pPKPdf	03 18 43.7	-0.8
	comp=Z,4.6nm,0.7s,baz=165,slow=1.8,SNR=3.4						
WRAB	**Tennant Creek**	**135.16**	**212**⇑	*i* PKIKP	PKPdf	03 18 14.6	-0.2
NVS	**Novosibirsk**	**138.27**	**24**	*e*PKIKP	PKPdf	03 18 19.6	+0.2
NVS				*e*		03 18 48.3	
NVS				*e*		03 21 18.7	
NVS				pmax	pmax		
	comp=Z,33nm,1.1s						
NVS				pmax	pmax		
	comp=N,8.0nm,1.2s						
NVS				pmax	pmax		
	comp=E,14nm,1.1s						
KURK	**Kurchatov**	**139.15**	**31**	*e*PKPdf	PKPdf	03 18 21.6	+0.4
MBWA	**Marble Bar**	**139.42**	**193**	*e*PKPpre		03 18 13.7	
MBWA				*e*PKPdf	PKPdf	03 18 21.9	-0.7
ZAA0	**Zalesovo Array**	**139.55**	**23**	*e*PKPpre		03 18 16.8	
ZAA0				*e*PKPdf	PKPdf	03 18 22.2	+0.4
ZAA0				*ep*PKPdf	pPKPdf	03 18 50.9	-0.6
ZALV	**Zalesovo Beam**	**139.55**	**23**	PKP		03 18 11.9	
ZALV				PKP	PKPdf	03 18 21.2	-0.6
ZALV				pPKP	pPKPdf	03 18 51.4	-0.1
ZALV	**Zalesovo Beam**	**139.55**	**23**	PKhKP		03 18 11.9	
	comp=E,1.0nm,0.5s,baz=288,slow=5.9,SNR=4.1						
ZALV				PKP	PKPdf	03 18 21.2	-0.6
	comp=E,19nm,0.6s,baz=311,slow=1.8,SNR=64						
ZALV				pPKP	pPKPdf	03 18 51.4	-0.1
	comp=E,11nm,0.7s,baz=300,slow=2.9,SNR=4.7						
ZAL	**Zalesovo**	**139.56**	**23**	PKHKP		03 18 11.9	
ZAL						03 18 21.2	
ZAL						03 18 51.4	
KBL	**Kabul**	**139.84**	**58**	*e*PKPdf	PKPdf	03 18 23.3	+0.3
FITZ	**Fitzroy Crossi**	**140.60**	**203**	*e*PKPpre		03 18 16.4	
FITZ				*e*PKPdf	PKPdf	03 18 24.7	-0.1
FITZ	**Fitzroy Crossi**	**140.60**	**203**	*e*PKIKP	PKPdf	03 18 24.7	-0.1
EKS2	**Erkin-Say**	**140.71**	**44**	*e*PKPdf	PKPdf	03 18 25.5	+1.3
EKS2	**Erkin-Say**	**140.71**	**44**	P	PKPdf	03 18 25.8	+1.6
	SNR=12						
BOD	**Bodaibo**	**140.86**	**357**	*e*PKHKP		03 18 15.5	
BOD				pmax	pmax		
	comp=Z,9.0nm,1.4s						
AML	**Almayashu**	**140.88**	**45**	P	PKPdf	03 18 26.7	+2.2
	SNR=7.4						
USP	**Ospenovka**	**140.91**	**43**	P	PKPdf	03 18 25.7	+1.1
	SNR=10						
AAK	**Ala-Archa**	**141.20**	**44**	P	PKPdf	03 18 27.1	+2.0
	SNR=5.9						
UCH	**Uchtor**	**141.39**	**45**

LGTI	Lohaghat	150.27	63	*ex*	x	03 18 47.3		
SONM	Songino Array	150.72	6	PKP	PKPdf	03 18 42.1	+1.1	
	comp=Z,7.5nm,0.8s,baz=300,slow=1.3,SNR=47							
SONM				PKPbc	PKPbc	03 18 46.5	-0.2	
	comp=Z,56nm,0.7s,baz=319,slow=1.4,SNR=135							
SONM				pPKPbc	pPKPbc	03 19 14.1	-2.1	
	comp=Z,58nm,1.2s,baz=348,slow=2.5,SNR=5.4							
ULN	Ulaanbaatar	150.75	5	*e*PKPdf	PKPdf	03 18 41.1	0.0	
ULN				*e*PKPbc	PKPbc	03 18 47.0	+0.2	
JBP	Jabalpur	150.98	76	⇓*i x*	PKPbc	03 18 48.2	+0.1	
JBP				*i x*	x	03 19 17.6		
CN2	Changchun	152.07	337	*e*PKP	PKPdf	03 18 38.1	-5.1	
CN2				PKP2	PKPab	03 18 57.1	-2.6	
CN2				PP	PP	03 22 30.0	-1.3	
BLSP	Bilaspur	153.01	78	*e*P	PKPdf	03 18 45.7	+0.4	
BLSP				*i x*	x	03 19 09.2		
KOLN	Koldanda	153.54	65	*e*P	PKPdf	03 18 40.4	-5.5	
	comp=Z,16nm,1.0s							
GKN	Gorkha	154.37	64	*e*P	PKPdf	03 18 38.1	-9.0	
	comp=Z,36nm,1.1s							
KKN	Kakani	154.98	64	*e*P		03 18 32.3		
	comp=Z,14nm,0.8s							
PKI	Pulchoki	155.15	65	*e*P		03 18 29.4		
	comp=Z,660nm,0.5s							
KSRS	Korea Array	156.00	325	PKP	PKPdf	03 18 48.4	-0.6	
	comp=Z,3.7nm,0.8s,baz=86,slow=1.3,SNR=14							
KSRS				PKPbc	PKPdf	03 18 57.6	+8.7	
	comp=Z,7.4nm,0.8s,baz=91,slow=1.4,SNR=4.3							
KSRS				PKPab	PKPab	03 19 14.3	-2.3	
	comp=Z,6.1nm,0.9s,baz=51,slow=4.4,SNR=7.9							
BOK	Bokaro	156.32	73	*e*P	PKPdf	03 18 49.8	0.0	
GTA	Gaotai	157.30	22	PKP	PKPdf	03 18 50.9	+0.3	
GTA				APKP		03 19 20.1		
GTA				XPKP		03 19 30.8		
GTA				PP	PP	03 23 01.0	+0.5	
GTA				PPP		03 26 39.3		
GTA				SKKS	SKKSac	03 29 38.4	-1.9	
GTA				PP	PP			
	comp=Z,103nm,9.1s							
GTA				LR	LR			
	comp=N,141nm,15.2s							
GTA				LR	LR			
	comp=E,164nm,17.9s							
GTA				LR	LR			
	comp=Z,78nm,16.0s							
HHC	Hu-ho-hao-te	157.91	358	*e*PKP	PKPdf	03 18 51.0	-0.3	
HHC				APKP		03 19 17.4		
HHC				XPKP		03 19 27.4		
HHC				PKS		03 22 24.4		
HHC				PP	PP	03 23 08.3	+4.8	
HHC				SKS	SKSdf	03 25 46.3	-0.9	
HHC				PP	PP			
	comp=Z,122nm,5.3s							
HHC				LR	LR			
	comp=N,161nm,15.2s							
HHC				LR	LR			
	comp=E,144nm,16.7s							
HHC				LR	LR			
	comp=Z,62nm,6.9s							
BJI	Beijing	158.21	349	PKP	PKPdf	03 18 52.3	+0.6	
BJT	Baijiatuau	158.24	349	*e*PKPdf	PKPdf	03 18 52.2	+0.5	
LSA	Lhasa	159.09	55	PKP	PKPdf	03 18 54.0	+0.9	
SHL	Shillong	161.27	65	*e*P	PKPdf	03 18 55.0	-0.6	
LZH	Lanzhou	161.64	18	*e*PKP	PKPdf	03 18 57.5	+1.8	
LZH				APKP		03 19 26.0		
LZH				XPKP		03 19 37.4		
LZH				PKP2	PKPab	03 19 44.5	+3.4	
LZH				PP	PP	03 23 29.4	+5.5	
LZH				SS	SS	03 43 32.0	+0.1	
LZH				PP	PP			
	comp=Z,100nm,5.7s							
LZH				LR	LR			
	comp=E,236nm,19.4s							
LZH				LR	LR			
	comp=Z,385nm,20.5s							
KSM	Kuching	162.88	179	*e*PKPdf	PKPdf	03 18 57.5	-0.2	
KSM				*e*PKPab	PKPab	03 19 47.0	0.0	
KULM	Kulim	163.44	142	*e*PKPdf	PKPdf	03 18 57.7	-0.4	
KULM				*e*PKPab	PKPab	03 19 49.7	+0.1	
XAN	Xi'an	164.63	6	PKP	PKPdf	03 18 59.0	+0.4	
NJ2	Nanjing	164.81	333	*e*PKP	PKPdf	03 18 59.2	+0.4	
CD2	Chengdu	166.30	26	*e*PKP	PKPdf	03 18 59.8	-0.3	
CD2				APKP		03 19 25.9		
CD2				XPKP		03 19 36.8		
CD2				PKP2	PKPab	03 20 02.4	+0.7	
CD2				PP	PP	03 23 50.7	+2.2	
CD2				SKS	SKSdf	03 25 51.4	-3.0	
CD2				SKKS	SKKSac	03 30 26.6	-0.2	
CD2				PP	PP			
	comp=Z,120nm,10.8s							
CD2				LR	LR			
	comp=N,210nm,26.4s							
CD2				LR	LR			
	comp=Z,180nm,24.4s							
KKM	Kota Kinabalu	166.33	204	*e*PKPdf	PKPdf	03 18 58.9	-1.7	
WHN	Wuhan	167.75	345	PKP	PKPdf	03 19 01.1	-0.1	
CHTO	Chiang Mai	168.84	88	*e*PKPdf	PKPdf	03 19 01.9	-0.3	
CHTO				*e*PKPab	PKPab	03 20 13.1	-0.5	
KMI	Kunming	170.22	48	PKP	PKPdf	03 19 02.2	-0.7	
KMI				PP	PP	03 24 11.1	+1.8	
KMI				PP	PP			
	comp=Z,87nm,3.7s							
KMI				LR	LR			
	comp=Z,59nm,34.0s							
GYA	Guiyang	171.41	25	PKP	PKPdf	03 19 01.4	-2.1	
GYA				APKP		03 19 31.8		
GYA				XPKP		03 19 43.0		
GYA				PKP2	PKPab	03 20 25.2	+0.8	
GYA				PKS		03 22 33.8		
GYA				PP	PP	03 24 16.6	+2.3	
GYA				SKS	SKSdf	03 25 53.0	-4.2	
GYA				PP	PP			
	comp=Z,120nm,7.9s							

BJI ***12*** *03:26:47.4,2059S×17875W,h450km,mB4.5,mb4.6*
ISCJB ***12*** *03:26:51.3±1.1,206S±02×1783W±02,h500km,mb4.3/16, Error ellipse: s-maj=35.8km s-min=14.3km az=139.6*
NEIC ***12*** *03:26:55.8±3.7,2049S×17838W,h544km±37km,mb4.5/10, Error ellipse: s-maj=32.7km s-min=20.9km az=143.0*
IDC ***12*** *03:26:55.4±6.0,2057S×17832W,h536km±58km,mb3.6/8, mb1 3.8/8,mb1mx3.5/16,mbtmp3.6/8,Error ellipse: s-maj=43.5km s-min=28.1km az=127.0*

ISC 12 03:26:52.3±1.1,206S±02×1783W±02,h500km,n52, σ0°80/26,mb4.3/16,1C-3D,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARMA	Armidale	28.80	244	*e*P	P	03 32 10.3	+1.1
CTA	Charters Tower	33.21	264	*e*P	P	03 32 48.2	+0.9
	12nm,0.4s,mb4.7						
CTA	Charters Tower	33.21	264	P	P	03 32 48.3	+1.0
	16nm,0.5s,mb4.7,baz=91,slow=12,SNR=15						
CTAO	Charters Tower	33.21	264	*e*P	P	03 32 48.0	+0.7
	15nm,0.5s,mb4.7						
STKA	Stephens Creek	37.52	244	⇓*i*P	P	03 33 23.6	+0.5
	3.3nm,0.6s,mb3.9						
STKA	Stephens Creek	37.52	244	P	P	03 33 23.6	+0.6
	4.8nm,0.6s,mb4.1,baz=93,slow=10.0,SNR=13						
STKA				PcP	PcP	03 35 27.6	-0.8
	2.0nm,0.9s,baz=97,slow=6.3,SNR=3.2						
ASAR	Alice Springs	44.24	257	P	P	03 34 17.0	+0.2
	13nm,0.5s,mb4.6,baz=94,slow=7.8,SNR=169						
ASAR				PcP	PcP	03 35 49.9	-0.9
	2.1nm,0.7s,baz=105,slow=3.8,SNR=9.0						
WB2	Warramunga Arr	44.31	262	⇓*i*P	P	03 34 17.0	-0.4
WRAB	Tennant Creek	44.31	262	*e*P	P	03 34 16.7	-0.7
	4.9nm,0.4s,mb4.3						
WRA	Warramunga Arr	44.32	262	P	P	03 34 17.1	-0.4
	7.0nm,0.3s,mb4.6,baz=97,slow=7.2,SNR=413						
WRA				PcP	PcP	03 35 50.1	-1.0
	1.4nm,0.7s,baz=100,slow=3.4,SNR=4.7						
KAKA	Kakadu	47.70	271	*e*P	P	03 34 43.1	-0.2
	12nm,0.3s,mb4.7						
FITZ	Fitzroy Crossi	52.75	262	⇓*i*P	P	03 35 20.4	0.0
	3.7nm,0.4s,mb4.1						
FITZ	Fitzroy Crossi	52.75	262	P	P	03 35 20.3	0.0
	1.6nm,0.4s,mb3.7,baz=93,slow=7.7,SNR=7.2						
MBWA	Marble Bar	57.57	257	*e*P	P	03 35 53.1	-1.0
	6.8nm,0.8s,mb4.0						
KLBR	Kellerberrin	57.79	245	*e*P	P	03 35 54.7	-0.7
	38nm,0.8s,mb4.8						
MUN	Mundaring	59.06	244	*e*P	P	03 36 03.9	-0.1
MJAR	Matsushiro Arr	70.08	324	P	P	03 37 13.1	-0.6
	1.1nm,0.5s,mb3.6,baz=151,slow=5.4,SNR=5.7						
KSM	Kuching	73.15	278	*e*P	P	03 37 31.7	-0.4
KSRS	Korea Array	76.74	319	P	P	03 37 52.4	+0.7
	0.9nm,0.5s,mb3.5,baz=110,slow=4.2,SNR=3.3						
MDJ	Mudanjiang	80.40	325	P	P	03 38 11.9	+0.8
MDJ				AMB	AMB		
	comp=Z,5.0nm,1.6s,mb3.8						
MDJ				AMB	AMB		
	comp=Z,18nm,3.0s						
TXAR	Lajitas Array	87.31	57	P	P	03 38 46.4	+0.6
	comp=Z,0.5nm,0.8s,baz=224,slow=5.0,SNR=5.2						
COLA	College	88.31	12	*e*P	P	03 38 48.0	-1.6
	comp=Z,3.6nm,0.7s,mb4.2						
KMI	Kunming	89.13	297	P	P	03 38 52.8	-1.5
KMI				AMB	AMB		
	comp=Z,11nm,0.9s,mb4.7						
HHC	Hu-ho-hao-te	89.19	314	*e*P	P	03 38 55.5	+1.3
HHC				AP	pP	03 40 39.0	-6.6
HHC				XP	sP	03 41 19.2	-17
HHC				SKS		03 48 40.8	
HHC				S	S	03 48 56.1	-4.7
HHC				XS	sS	03 52 00.5	-19
HHC				SS	SS	03 55 14.8	+4.6
HHC				AMB	AMB		
	comp=Z,23nm,0.3s						
CHTO	Chiang Mai	90.00	290	*e*P	P	03 38 59.1	+0.6
	comp=Z,3.3nm,0.6s,mb4.3						
CD2	Chengdu	90.58	303	*e*P	P	03 39 01.9	+1.0
CD2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.8						
ZALV	Zalesovo Beam	110.36	321	PKiKP	PKiKP	03 44 24.4	-2.4
	comp=Z,0.6nm,0.5s,baz=70,slow=2.2,SNR=3.6						
MKAR	Makanchi Array	111.03	313	PKiKP	PKiKP	03 44 26.0	-2.4
	comp=Z,0.4nm,0.6s,baz=63,slow=1.7,SNR=3.3						
TKM2	Tokmak 2	115.33	309	*e*PKPdf	PKPdf	03 44 38.2	+1.5
ARCES	ARCESS Array B	128.92	349	PKP	PKPdf	03 45 00.6	-1.4
	comp=Z,0.8nm,0.6s,baz=96,slow=1.0,SNR=9.5						
FINES	FINESS Array B	135.74	343	PKP	PKPdf	03 45 14.4	-0.7
	comp=Z,1.6nm,0.8s,baz=132,slow=5.8,SNR=3.7						
HFS	Hagfors	139.54	351	PKhKP		03 45 12.7	
	comp=Z,1.5nm,0.4s,baz=60,slow=4.1,SNR=9.6						
AKASG	Malin Array Be	142.92	331	PKhKP		03 45 24.2	
	comp=Z,9.3nm,0.5s,baz=42,slow=4.2,SNR=60						
EKA	Eskdalemuir Ar	145.08	5	PKPbc	PKPbc	03 45 31.6	-1.1
	comp=Z,0.8nm,0.7s,baz=311,slow=3.6,SNR=4.8						
KWP	Kalwaria	146.51	335	*e*PKP	PKPdf	03 45 34.2	-0.4
KWP				*e*		03 45 40.1	
KWP	Kalwaria	146.51	335	*e*PKP	PKPdf	03 45 34.2	-0.4
KWP				*e*		03 45 40.1	
ASF	Jabal al Asfar	146.55	298	PKPbc	PKPbc	03 45 37.3	-0.4
	comp=Z,3.8nm,0.8s,baz=33,slow=8.8,SNR=6.1						
KOLS	Kolonicke sedl	147.24	335	*e*PKP	PKPbc	03 45 41.6	+2.7
STHS	Stebnicka Huta	147.25	336	*e*PKP	PKPbc	03 45 38.7	-0.3
STHS				*e*		03 45 43.6	
CRVS	Cervenica-Dubn	147.58	335	*e*PKP	PKPdf	03 45 39.1	+2.7
CRVS				*e*		03 45 43.6	
MMAI	Mount Meron Ar	147.60	300	PKPbc	PKPbc	03 45 40.3	-0.1
	comp=Z,4.4nm,0.5s,baz=37,slow=9.8,SNR=8.6						
MMAI				PKPab	PKPab	03 45 45.0	+0.6
	comp=Z,1.0nm,0.5s,baz=63,slow=7.6,SNR=6.6						
KSP	Ksiaz	147.66	343	*e*PKP	PKPdf	03 45 39.0	+2.5
KSP				*e*		03 45 40.0	
CLL	Collm	148.05	347	*i* PKPbc	PKPbc	03 45 40.1	-0.8
	comp=Z,9.0nm,0.7s						
CLL				*i* PKPab	PKPab	03 45 44.5	-1.0
	comp=Z,8.0nm,0.8s						
MLR	Muntele Rosu	148.12	327	PKPbc	PKPbc	03 45 40.6	-0.8
	comp=Z,1.5nm,0.4s,baz=118,slow=2.9,SNR=4.1						
BRG	Berggiesshubel	148.24	345	*e*P	PKPdf	03 45 35.8	-1.6
BRG				*i*		03 45 40.9	
BRG				*e*		03 45 45.5	
BRG				LR	LR		
	comp=Z,170nm,14.3s						
BRG	Berggiesshubel	148.24	345	*e*P	PKPdf	03 45 35.8	-1.6
	comp=Z,4.2nm,1.2s						
BRG				*i*		03 45 40.9	
	comp=Z,3.5nm,0.6s						
BRG				*e*		03 45 45.5	
BRG							
	comp=N,287nm,10.3s						
BRG							
	comp=E,443nm,14.7s						
BRG							
	comp=Z,286nm,14.2s						
KECS	Kecovo	148.30	336	*e*PKP	PKPab	03 45 46.2	-0.4
VYHS	Vyhne	148.90	338	*e*PKP	PKPbc	03 45 42.7	-0.5
VYHS				*e*	PKPab	03 45 49.3	+0.2
KHC	Kasperske Hory	149.94	344	*e*P	PKPbc	03 45 44.5	-1.1
KHC				*e*		03 45 53.0	
KHC	Kasperske Hory	149.94	344	⇑*e*PKP	PKPbc	03 45 44.5	-1.1
KHC				*e*PKPAB	PKPab	03 45 53.0	-0.4
GERES	GERESS Array B	150.17	344	PKPbc	PKPbc	03 45 45.4	-0.8
	comp=Z,1.2nm,0.5s,baz=30,slow=2.7,SNR=12						
GERES				PKPab	PKPab	03 45 53.3	-1.1
	comp=Z,0.8nm,0.6s,baz=347,slow=4.1,SNR=4.7						
DAVOX	Davos/Dischmat	153.00	348	PKPbc	PKPbc	03 45 51.6	-1.0
	comp=Z,2.1nm,0.6s,baz=333,slow=9.3,SNR=5.5						

LDG ***12*** *03:32:54.3±0.1,2043S×16851E,h10km,Error ellipse: s-maj=15.4km s-min=8.5km az=43.0*
ISCJB ***12*** *03:32:55.4±1.7,209S±03×1686E±03,h35km,mb4.0/6, MS3.3/4,Error ellipse: s-maj=53.2km s-min=10.7km az=140.9*
NEIC ***12*** *03:32:56.7±0.7,2033S×16981E,h35km,mb4.0/1,Error ellipse: s-maj=35.1km s-min=18.0km az=145.0*
IDC ***12*** *03:32:57.1±1.0,2109S×16857E,h35km±4km,mb3.8/6, mb1 4.1/6,mb1mx3.9/13,mbtmp3.8/6,MS3.5/4,Ms1 3.5/4, ms1mx3.1/22,Error ellipse: s-maj=41.6km s-min=18.5km az=153.0*

ISC 12 03:32:56.7±1.7,211S±03×1687E±03,h37km, h37km±2.1km:pP-P,n56,σ0°88/9,mb4.0/6,MS3.3/4,2C, Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	2.31	245	*e*P	Pn	03 33 30.4	-1.9
DZM				*e*S	Sn	03 34 00.5	+1.1
CTA	Charters Tower	21.03	269	pP	pP	03 37 47.8	+0.8
	11nm,0.9s,baz=79,slow=15,SNR=3.5						
CTA				LR	LR	03 44 50.0	
	comp=Z,123nm,20.2s,MS3.3,baz=48,slow=34						
RPZ	Rata Peaks	22.64	176	LR	LR	03 43 52.7	
	comp=Z,108nm,21.2s,MS3.3,baz=208,slow=29						
STKA	Stephens Creek	26.46	240	*e*P	pP	03 38 43.6	+2.9
	3.4nm,0.9s						
STKA	Stephens Creek	26.46	240	pP	pP	03 38 40.5	-0.2
	4.3nm,1.0s,baz=102,slow=5.0,SNR=3.9						
STKA				LR	LR	03 47 53.0	
	comp=Z,104nm,20.5s,MS3.4,baz=27,slow=34						
WB2	Warramunga Arr	32.15	266	*e*P	pP	03 39 30.0	-1.5
WRA	Warramunga Arr	32.16	266	P	P	03 39 20.4	-0.7
	0.7nm,0.7s,mb3.6,baz=105,slow=7.4,SNR=4.2						
WRA				pP	pP	03 39 29.7	-1.9
	1.5nm,0.6s,baz=97,slow=8.2,SNR=8.0						
WRA				LR	LR	03 50 56.9	
	comp=Z,84nm,19.8s,MS3.4,baz=210,slow=34						
ASAR	Alice Springs	32.23	259	P	P	03 39 21.5	-0.1
	2.5nm,0.6s,mb4.2,baz=84,slow=9.1,SNR=22						
ASAR				pP	pP	03 39 31.6	-0.5
	12nm,0.7s,baz=84,slow=9.1,SNR=35						
FORT	Forrest	37.62	247	*e*P	pP	03 40 18.2	-0.5
	14nm,0.7s						
FITZ	Fitzroy Crossi	40.58	266	*e*P	pP	03 40 43.2	-0.5
	20nm,0.6s						
FITZ	Fitzroy Crossi	40.58	266	P	P	03 40 33.7	+0.7
FITZ				pP	pP	03 40 43.0	-0.7
FITZ				*e*P	pP	03 40 43.2	-0.5
FITZ	Fitzroy Crossi	40.58	266	P	P	03 40 33.7	+0.7
	2.9nm,0.8s,mb3.9,baz=107,slow=10,SNR=3.5						
FITZ				pP	pP	03 40 43.0	-0.7
	12nm,0.7s,baz=112,slow=8.7,SNR=15						
MBWA	Marble Bar	45.52	261	*e*P	pP	03 41 22.8	-1.0
	28nm,1.3s						
NWAO	Narrogin (SRO)	46.93	244	pP	pP	03 41 34.4	-0.3
	11nm,0.9s,baz=125,slow=6.9,SNR=3.9						
MJAR	Matsushiro Arr	64.15	333	P	P	03 43 26.9	-0.5
	0.7nm,0.5s,mb4.0,baz=160,slow=5.4,SNR=4.2						
MJAR				pP	pP	03 43 38.9	+0.3
	0.8nm,0.3s,baz=179,slow=4.5,SNR=3.8						
SONM	Songino Array	88.39	323	P	P	03 45 45.2	+0.6
	1.2nm,0.8s,mb4.2,baz=148,slow=5.7,SNR=7.8						
SONM				pP	pP	03 45 56.5	+0.3
	1.4nm,0.8s,baz=136,slow=5.4,SNR=6.7						
NVAR	Mina Array Bea	90.41	49	P	P	03 45 54.9	+0.6
	0.5nm,0.7s,mb4.0,baz=216,slow=8.7,SNR=3.8						
YKA	Yellowknife Ar	102.54	28	P	Pdif	03 46 49.6	+0.4
	0.2nm,0.8s,baz=277,slow=5.3,SNR=3.7						
YKA				pP		03 47 00.8	
	0.2nm,0.6s,baz=247,slow=4.8,SNR=4.1						
ARCES	ARCESS Array B	126.72	345	PKP	PKPdf	03 51 56.3	+0.9
ARCES				pPKP	pPKPdf	03 52 06.6	-0.8
ARCES	ARCESS Array B	126.72	345	PKP	PKPdf	03 51 56.3	+0.9
	3.5nm,1.0s,baz=36,slow=19,SNR=3.2						
ARCES				pPKP	pPKPdf	03 52 06.6	-0.8
	2.3nm,0.9s,baz=66,slow=2.9,SNR=1.6						
BDFB	Brasilia	128.71	132	PKP	PKPdf	03 52 02.6	+1.7
	2.3nm,0.6s,baz=177,slow=2.2,SNR=3.6						
DPC	Dobruska-Polom	143.59	330	*e*PKP	PKPdf	03 52 26.0	-1.3
DPC				*ep*PKP	pPKPdf	03 52 37.3	-2.0
PVCC	Panska Ves	144.26	332	*e*PKP	PKPdf	03 52 27.8	-0.7
PVCC				*ep*PKP	pPKPdf	03 52 38.9	-1.6
BRG	Berggiesshubel	144.28	332	*e*P	PKPdf	03 52 28.0	-0.6
	5.7nm,0.9s						
BRG				*i*		03 52 38.7	
	8.2nm,1.0s						
CLL	Collm	144.36	334	*i* P	PKPdf	03 52 27.5	-1.1
CLL				*e*		03 52 39.0	
CLL	Collm	144.36	334	*i* PKPdf	PKPdf	03 52 27.5	-1.1
	comp=Z,6.0nm,0.6s						
CLL				*ep*PKPdf	pPKPdf	03 52 39.0	-1.6
	comp=Z,9.0nm,1.1s						
MODS	Modra-Piesok	144.43	327	*e*PKP	PKPdf	03 52 35.1	+6.2
PRU	Pruhonice	144.66	331	*e*PKP	PKPdf	03 52 28.9	-0.3
PRU				*ep*PKP	pPKPdf	03 52 39.0	-2.2
CLZ	Clausthal	144.98	336	*e*PKPbc	PKPdf	03 52 30.2	+0.5
EKA	Eskdalemuir Ar	145.27	352	PKPbc	PKPbc	03 52 28.9	-1.0
	comp=Z,0.8nm,0.6s,baz=7.6,slow=1.6,SNR=7.1						
EKA				pPKPbc	pPKPbc	03 52 39.9	-1.8
	comp=Z,1.9nm,0.8s,baz=15,slow=3.5,SNR=5.5						
NKC	Novy Kostel	145.40	333	*e*P	PKPbc	03 52 31.1	+0.6
NKC				*e*		03 52 42.3	
NKC	Novy Kostel	145.40	333	*e*PKP	PKPdf	03 52 31.1	+0.6
NKC				*ep*PKP	pPKPdf	03 52 42.3	-0.2
MOX	Moxa	145.44	334	*e*PKP	PKPdf	03 52 31.2	+0.7
	comp=Z,15nm,1.6s						
CONA	Conrad Observa	145.44	327	⇑*i*PKPdf	PKPdf	03 52 32.3	+1.7
	comp=Z,7.8nm,0.8s						
KHC	Kasperske Hory	145.71	331	*e*PKP	PKPdf	03 52 32.6	+1.6
KHC				*ep*PKP	pPKPdf	03 52 43.6	+0.6
GEC2	GERESS Array S	145.86	330	*e*PKPbc	PKPbc	03 52 33.2	+1.3
GEC2				*ep*PKPbc	pPKPbc	03 52 43.9	+0.1
GERES	GERESS Array B	145.86	330	PKPbc	PKPbc	03 52 32.8	+0.9
	comp=Z,4.6nm,0.7s,baz=36,slow=2.6,SNR=37						
GERES				pPKPbc	pPKPbc	03 52 44.0	+0.2
	comp=Z,6.5nm,0.8s,baz=35,slow=3.3,SNR=18						
GRF	Grafenberg Arr	146.33	333	*e*PKP	PKPdf	03 52 35.2	+3.1
FETA	Feichten	148.56	331	⇑*i*PKPbc	PKPbc	03 52 37.5	-2.0
	comp=Z,7.7nm,1.3s						
DAVOX	Davos/Dischmat	149.12	331	PKPbc	PKPbc	03 52 40.8	-0.2
	comp=Z,4.7nm,0.7s,baz=3.8,slow=0.5,SNR=6.0						
DAVOX				pPKPbc	pPKPbc	03 52 53.2	+0.3
	comp=Z,4.5nm,0.6s,baz=1.9,slow=1.6,SNR=5.4						
HAU	Haudompre	149.62	336	*e*PKP1	PKPbc	03 52 42.1	-0.1
LOR	Lormes	151.14	338	*e*PKP1	PKPbc	03 52 45.9	+0.1
	comp=Z,2.9nm,0.6s						
SSF	Saint Saulge	151.44	339	*e*PKP1	PKPbc	03 52 46.5	0.0
LPL	La Plagne	151.49	333	*e*PKP1	PKPbc	03 52 46.8	+0.1
	comp=Z,3.2nm,0.7s						
LPG	La Plagne	151.49	333	*e*PKP1	PKPbc	03 52 47.2	+0.5
GRR	Gorron	151.50	345	*e*PKP1	PKPbc	03 52 46.7	+0.1
	comp=Z,14nm,1.0s						
SMF	Signal de Mont	151.68	338	*e*PKP1	PKPbc	03 52 47.3	+0.2
	comp=Z,3.6nm,0.5s						
SGMF	Saint Gilles	152.00	347	*e*PKP1	PKPbc	03 52 47.6	-0.2
MBDF	Montbardon	152.09	332	*e*PKP1	PKPbc	03 52 48.4	+0.3
	comp=Z,1.3nm,0.4s						
ORIF	Oris-en-Rattie	152.33	333	*e*PKP1	PKPbc	03 52 48.7	+0.1
	comp=Z,3.3nm,0.5s						
PGF	Pioggiola	152.65	326	*e*PKP1	PKPbc	03 52 49.8	+0.4
	comp=Z,14nm,0.9s						
VIVF	Saint-Julien-l	152.87	335	*e*PKP1	PKPbc	03 52 50.2	+0.4
FRF	La Foret Royal	153.06	330	*e*PKP1	PKPbc	03 52 50.5	+0.2
LMR	La Mourre	153.30	330	*e*PKP1	PKPbc	03 52 51.2	+0.4
LASF	Ste Croix	153.85	335	*e*PKP1	PKPbc	03 52 52.4	+0.4
	comp=Z,9.6nm,1.0s						
TORD	Torodi Ar. Bea	165.28	240	PKP	PKPdf	03 52 57.7	-0.3
	comp=Z,0.5nm,0.8s,baz=90,slow=0.8,SNR=3.5						
TORD				PKPab	PKPab	03 53 54.5	-1.1
	comp=Z,0.3nm,0.8s,baz=81,slow=5.6,SNR=3.9						

ROM ***12*** *03:38:03.7±0.6,3874N×2085E,h10km,Ml4.0/36,Error ellipse: s-maj=10.2km s-min=3.4km az=83.0*
LDG ***12*** *03:38:03.1±2.0,3894N×2062E,h10km,Mb4.4/14,Error ellipse: s-maj=43.3km s-min=10.0km az=125.0*
ATH ***12*** *03:38:05.8,3882N×2059E,h21km,MD4.2/14,ML4.3*
ISCJB ***12*** *03:38:06.8±0.

DID	Didima	2.47	122	*e*Pn		Pn	03 38 48.7 +1.5
DID				*e*Sn		Sn	03 39 22.2 +4.9
GRG	Griva	2.51	33	*e*Pn		Pn	03 38 48.2 +0.5
NAIG	Nisos Aigina	2.51	115	*e*PB		Pb	03 38 48.5 -3.7
TIR	Tirane	2.55	347	*e*Pn		Pn	03 38 49.0 +0.6
TIR	Tirane 980nm,0.9s	2.55	347	Pn		Pn	03 38 49.3 +0.9
TIR	Tirane	2.55	347	*e*PN		Pn	03 38 49.4 +1.0
TIR				*i* SN		Sg	03 39 29.1 0.0
KRUS	Krusevo	2.56	11	*i* Pn		Pn	03 38 49.8 +1.4
KRUS				*e*Sn		Sn	03 39 25.2 +5.7
AOS	Alonnisos	2.56	82	*e*Pn		Pn	03 38 49.2 +0.7
HORT	Hortiatis	2.59	47	*e*Pn		Pn	03 38 49.2 +0.3
ATH	Athens Observa	2.59	109	*e*PN		Pn	03 38 49.0 +0.1
PAIG	Paliouri	2.60	65	*e*Pn		Pn	03 38 49.6 +0.5
PLG	Polygyros	2.66	54	*e*Pn		Pn	03 38 50.3 +0.5
PTL	Penteli	2.68	107	*e*PB		Pb	03 38 51.2 -3.8
KVR	Kavouri	2.69	112	*e*PB		Pb	03 38 51.5 -3.6
QSH	Qafa e Shtames	2.72	349	*e*PN		Pn	03 38 50.0 -0.6
QSH				*i* SN		Sg	03 39 38.0 +3.6
VLI	Veliai	2.82	139	P		Pn	03 38 58.4 +6.4
SOH	Sokhos	2.88	46	*e*Pn		Pn	03 38 54.3 +1.4
VAY	Valandovo	2.88	31	*i* Pn		Pn	03 38 53.0 +0.1
KNT	Kendrikon	2.89	37	*e*Pn		Pn	03 38 53.5 +0.5
OUR	Ouranopolis	2.99	59	*e*Pn		Pn	03 38 55.9 +1.5
TA1	Taranto	3.00	302	*e*Pn		Pn	03 38 55.2 +0.6
TIP	Timpagrande	3.02	277	P		Pn	03 38 54.6 -0.2
TIP	Timpagrande 216nm,0.8s	3.02	277	Pn		Pn	03 38 54.7 -0.1
SERS	Sersale 282nm,1.0s	3.07	275	Pn		Pn	03 38 55.4 0.0
PE1	Pezze di Greco	3.13	309	*e*Pn		Pn	03 38 56.5 +0.1
SKO	Skopje	3.17	11	*i* Pn		Pn	03 38 59.0 +2.0
SKO	Skopje	3.17	11	*i* Pn		Pn	03 38 58.9 +2.0
SRS	Serrai	3.21	44	*e*Pn		Pn	03 38 57.9 +0.4
PUK	Puka	3.23	350	*e*PN		Pn	03 38 58.4 +0.7
PUK				*i* SN		Sg	03 39 46.3 -4.5
ULC	Ulcinj	3.27	342	⇑*i*Pn		Pn	03 38 58.1 -0.2
ULC				*e*Sn		Sn	03 39 37.1 0.0
GRI	Girifalco	3.27	271	Pn		Pn	03 38 58.9 +0.6
PLAC	Placanica 59nm,0.7s	3.29	264	Pn		Pn	03 38 58.2 -0.4
NOCI	Noci 487nm,0.7s	3.34	306	Pn		Pn	03 38 59.2 -0.1
ORI	Oriolo Calabro 439nm,0.5s	3.44	292	Pn		Pn	03 39 01.2 +0.6
CARO	Carolei 593nm,1.0s	3.44	278	Pn		Pn	03 39 02.1 +1.5
CRAC	Craco 949nm,0.9s	3.56	296	Pn		Pn	03 39 03.5 +1.3
SG1	Sgolgore (BA)	3.62	304	*e*Pn		Pn	03 39 02.6 -0.4
BAI	Bari	3.64	309	*e*Pn		Pn	03 39 03.4 0.0
MIGL	Miglionico	3.66	300	Pn		Pn	03 39 03.9 +0.3
SOI	Samo 129nm,0.9s	3.66	259	Pn		Pn	03 39 02.9 -0.7
BUM	Brajici-Budva	3.68	340	⇑*i*Pn		Pn	03 39 04.0 +0.1
BUM				*e*Sn		Sn	03 39 46.8 -0.4
AMUR	Altamura 449nm,1.2s	3.70	305	Pn		Pn	03 39 03.8 -0.4
JOPP	Joppolo 314nm,0.9s	3.71	268	Pn		Pn	03 39 04.1 -0.1
PDG	Podgorica	3.71	344	⇑*i*Pn		Pn	03 39 04.9 +0.6
PDG				*e*Sn		Sn	03 39 47.7 -0.3
TTG	Podgorica	3.71	344	⇑*i*Pn		Pn	03 39 04.9 +0.6
TTG				*e*Sn		Sn	03 39 47.7 -0.3
MPAZ	Palizzi 119nm,0.7s	3.73	257	Pn		Pn	03 39 03.4 -1.2
SCHR	S. Chirico Rap 790nm,2.2s	3.76	292	Pn		Pn	03 39 04.5 -0.4
PVY	Plav	3.77	353	⇑*i*Pn		Pn	03 39 06.1 +1.1
PVY				*e*Sn		Sn	03 39 49.6 +0.3
SIRI	Monte Sirino - 263nm,1.0s	3.90	291	Pn		Pn	03 39 07.4 +0.5
HCY	Herceg Novi	3.93	337	⇑*i*Pn		Pn	03 39 08.0 +0.7
HCY				*e*Sn		Sn	03 39 53.2 -0.2
MTTG	Motta San Giov 310nm,0.8s	3.96	259	Pn		Pn	03 39 06.7 -1.0
MCEL	Monticello 278nm,1.0s	4.00	293	Pn		Pn	03 39 08.9 +0.7
CDT	Castel del Mon	4.01	305	*e*Pn		Pn	03 39 08.4 0.0
MTSN	Montesano sull 283nm,0.9s	4.01	292	Pn		Pn	03 39 09.3 +0.9
MSRU	Castanea 225nm,0.8s	4.05	263	Pn		Pn	03 39 08.8 -0.1
BEY	Berane	4.05	353	⇓*i*Pn		Pn	03 39 09.6 +0.7
BEY				*e*Sn		Sn	03 39 56.2 0.0
IVA	Berane	4.05	353	⇓*i*Pn		Pn	03 39 09.6 +0.7
IVA				*e*Sn		Sn	03 39 56.2 0.0
BARS	Barje	4.06	13	*e*Pn		Pn	03 39 09.4 +0.3
MGR	Morigerati 379nm,0.9s	4.12	290	Pn		Pn	03 39 10.4 +0.5
NKY	Niksic	4.14	343	⇓*i*Pn		Pn	03 39 11.2 +1.1
NKY				*e*Sn		Sn	03 39 57.9 -0.6
PALZ	Palazzo San Ge 1μm,1.3s	4.14	302	Pn		Pn	03 39 10.2 0.0
VTS	Vitosha	4.22	27	⇑*i*P		Pn	03 39 12.7 +1.4
VTS	Vitosha	4.22	27	P		Pn	03 39 15.0 +3.7
BULG	Bulgheria - Ca	4.23	288	Pn		Pn	03 39 12.1 +0.6
MILZ	Milazzo 54nm,0.7s	4.26	264	Pn		Pn	03 39 11.2 -0.6
MMME	Mongiuffi-Meli 200nm,0.8s	4.31	259	Pn		Pn	03 39 12.0 -0.5
BRY	Bratogost	4.33	339	⇓*i*Pn		Pn	03 39 13.3 +0.5
BRY				*e*Sn		Sn	03 40 01.8 -1.5
CMPR	Campora 87nm,0.7s	4.36	291	Pn		Pn	03 39 13.5 +0.4
VULT	Monte Vulture 655nm,1.7s	4.38	300	Pn		Pn	03 39 14.4 +1.0
CDRU	Civita di Ruta 87nm,1.0s	4.41	293	Pn		Pn	03 39 14.7 +0.8
SGO	Sicignano 39nm,0.3s	4.43	294	Pn		Pn	03 39 15.3 +1.1
VPL	Vulcano Piano 223nm,0.6s	4.44	266	Pn		Pn	03 39 14.6 +0.3
LLI	Lipari 707nm,0.6s	4.46	266	Pn		Pn	03 39 14.5 0.0
UPM	Unac-Piva	4.53	344	⇑*i*Pn		Pn	03 39 16.4 +0.9
UPM				*e*Sn		Sn	03 40 07.5 -0.6
SLNA	Salina 101nm,0.4s	4.53	268	Pn		Pn	03 39 16.6 +1.0
FGMS	Monte Sant'Ang 59nm,0.3s	4.56	310	Pn		Pn	03 39 15.5 -0.5
PLE	Pljevlja	4.56	349	⇑*i*Pn		Pn	03 39 17.1 +1.1
PLE				*e*Sn		Sn	03 40 07.9 -1.0
MS1	Monte Sant'Ang	4.57	310	*e*Pn		Pn	03 39 16.3 +0.3
STON	Ston	4.58	332	*e*Pn		Pn	03 39 14.5 -1.7
STON				Sn		Sn	03 40 03.0 -6.3
HAGA	Augusta	4.58	252	Pn		Pn	03 39 12.9 -3.4
MSAG	Monte S. Angel 330nm,1.0s	4.59	310	Pn		Pn	03 39 15.9 -0.5
MCRV	Calabrutti - M	4.61	296	Pn		Pn	03 39 17.5 +0.8
SGTA	Sant Agata di 123nm,0.8s	4.63	301	Pn		Pn	03 39 17.5 +0.6
SNAL	S. Angelo Dei 294nm,1.2s	4.64	298	Pn		Pn	03 39 18.2 +1.1
CAFE	Carife 159nm,0.9s	4.67	299	Pn		Pn	03 39 18.2 +0.8
SGRT	San Giovanni R 175nm,0.9s	4.71	309	Pn		Pn	03 39 17.6 -0.5
HAVL	Avola	4.74	248	Pn		Pn	03 39 15.2 -3.2
IFIL	Filicudi I Eol	4.74	268	Pn		Pn	03 39 16.9 -1.5
FG5	Orsara di Pugl 39nm,0.3s	4.76	302	Pn		Pn	03 39 19.8 +1.1
RGNG	Rignano Grg	4.76	308	Pn		Pn	03 39 18.3 -0.5
MRB1	Monte Rocchett 136nm,0.6s	4.89	299	Pn		Pn	03 39 21.9 +1.4
GRUS	Gruza	5.03	1	*e*Pn		Pn	03 39 22.5 +0.1
VAE	Valguarnera 0.6nm,0.3s,baz=27,slow=4.5,SNR=3.2	5.08	256	Pn		Pn	03 39 24.7 +1.6
VAE				Sn		Sn	03 40 24.4 +2.7
VAE	2.2nm,0.3s,baz=177,slow=19,SNR=2.6			LR		LR	03 41 06.6
	comp=Z,153nm,19.8s,baz=298,slow=35						
VAE	Valguarnera	5.08	256	Pn		Pn	03 39 24.7 +1.6
VAE				Sn		Sn	03 40 24.4 +2.7
SACR	S. Croce Del S 40nm,0.5s	5.19	301	Pn		Pn	03 39 25.8 +1.2
DIVS	Divibare	5.26	355	*e*Pn		Pn	03 39 25.1 -0.4
PTRJ	Pietraroja 42nm,0.4s	5.29	300	Pn		Pn	03 39 27.3 +1.3
BSSO	Busso 211nm,1.6s	5.33	302	Pn		Pn	03 39 27.7 +1.1
NPS	Neapolis	5.37	130	P		Pn	03 39 28.0 +0.9
SGG	Gregorio Mates	5.41	300	Pn		Pn	03 39 29.6 +2.0
	52nm,0.6s						
TRIV	Trivento	5.47	304	Pn		Pn	03 39 29.2 +0.7
FRES	Fresagrandinar 122nm,0.6s	5.50	306	Pn		Pn	03 39 29.8 +0.9
VAGA	Valle Agricola 47nm,0.5s	5.52	300	Pn		Pn	03 39 31.9 +2.8
MOCO	Biccari - m.te 100nm,0.9s	5.55	299	Pn		Pn	03 39 21.5 -8.0
MIDA	Miranda 85nm,1.0s	5.60	302	Pn		Pn	03 39 31.6 +1.3
WDD	Wield Dalam 164nm,1.3s	5.70	240	Pn		Pn	03 39 30.7 -0.9
WDD	Wield Dalam	5.70	240	P		Pn	03 39 31.2 -0.4
RNI2	Rionero Sannit 64nm,0.8s	5.70	302	Pn		Pn	03 39 33.5 +1.9
CERA	Filignano 61nm,0.7s	5.74	301	Pn		Pn	03 39 34.6 +2.4
CAFR	Castel Frentan 178nm,0.7s	5.84	307	Pn		Pn	03 39 33.9 +0.4
POFI	Posta Fibreno 30nm,0.7s	6.00	301	Pn		Pn	03 39 37.3 +1.6
INTR	Introdacqua 90nm,0.8s	6.01	304	Pn		Pn	03 39 35.8 -0.1
VVLD	Villa Vallelon 57nm,0.6s	6.13	302	Pn		Pn	03 39 39.3 +1.8
VCEL	Villa Celiera 63nm,0.5s	6.25	307	Pn		Pn	03 39 39.8 +0.7
FAGN	Fagnano 69nm,0.5s	6.34	305	Pn		Pn	03 39 41.8 +1.4
AQU	L'Aquila 35nm,0.8s	6.50	305	*e*Pn		Pn	03 39 42.1 -0.5
AQU	L'Aquila	6.50	305	*e*P		Pn	03 39 42.1 -0.6
AQU				pmax	pmax		
	comp=Z,35nm,0.8s						
AQU	L'Aquila comp=Z,35nm,0.8s	6.50	305	*e*Pn		Pn	03 39 42.1 -0.6
AQU	L'Aquila	6.50	305	⇑*i*P		Pn	03 39 47.5 +4.8
TERO	Teramo comp=Z,38nm,0.8s	6.52	307	Pn		Pn	03 39 43.2 +0.4
CERT	Cerreto	6.59	300	Pn		Pn	03 39 46.2 +2.3
CAMP	Campotosto comp=Z,9.0nm,0.8s	6.59	306	Pn		Pn	03 39 44.5 +0.6
OFFI	Offida comp=Z,113nm,0.6s	6.64	310	Pn		Pn	03 39 45.6 +1.0
GZR	Gura Zlata	6.73	13	⇓P		Pn	03 39 47.9 +2.2
GZR	Gura Zlata	6.73	13	⇓*i*P		Pn	03 39 47.9 +2.2
BZS	Buzias	6.79	6	⇑*i*P		Pn	03 39 49.3 +2.7
NRCA	Norcia comp=Z,22nm,0.5s	6.94	307	Pn		Pn	03 39 49.1 +0.5
NVLJ	Novalja	7.14	325	*e*Pn		Pn	03 39 48.9 -2.4
NVLJ				Sn		Sn	03 41 05.3 -7.0
CESI	CESI - Serrava comp=Z,19nm,0.9s	7.16	308	Pn		Pn	03 39 52.4 +0.8
CING	Cingoli comp=Z,21nm,0.6s	7.19	311	Pn		Pn	03 39 51.7 -0.4
SNTG	Esanatoglia comp=Z,14nm,0.5s	7.27	310	Pn		Pn	03 39 53.1 -0.1
VOIR		7.35	25	⇑P		Pn	03 39 58.9 +4.6
VOIR		7.35	25	⇑*i*P		Pn	03 39 58.9 +4.6
ARVD	Arcevia	7.41	311	Pn		Pn	03 39 54.7 -0.4
PKSM	Moragy	7.49	349	⇑P		Pn	03 39 58.4 +2.2
PKSM	Moragy	7.49	349	⇑*i*P		Pn	03 39 58.4 +2.2
MURB	Monte Urbino comp=Z,77nm,0.3s	7.53	308	Pn		Pn	03 39 57.8 +1.1
FSSB	Fossombrone	7.62	312	Pn		Pn	03 39 57.4 -0.6
MLR	Muntele Rosu comp=Z,1.0nm,0.3s,baz=279,slow=9.4,SNR=8.2	7.72	29	Pn		Pn	03 40 00.5 +1.2
MLR	Muntele Rosu	7.72	29	⇓*i*P		Pn	03 40 03.8 +4.5
MLR	Muntele Rosu	7.72	29	P		Pn	03 40 03.8 +4.5
BOJS	Bojanci	7.74	331	*i* Pn		Pn	03 39 58.3 -1.3
BADI	Badiali	7.84	309	Pn		Pn	03 40 02.8 +1.9
CRES	Cresnjev	7.94	333	*i* Pn		Pn	03 40 00.8 -1.5
LEGS	Legarje	8.10	333	*i* Pn		Pn	03 40 03.7 -0.7
SKDS	Skadanscina	8.28	326	*i* Pn		Pn	03 40 05.2 -1.9
PLOR	Plostina	8.29	31	⇑*i*P		Pn	03 40 11.7 +4.5
PDKS	Podkum	8.31	332	*i* Pn		Pn	03 40 06.0 -1.4
VRI	Vrincioaia	8.34	31	⇑P		Pn	03 40 12.3 +4.6
VRI	Vrincioaia	8.34	31	⇑*i*P		Pn	03 40 12.3 +4.5
VOY	Vojsko	8.72	327	*e*Pn		Pn	03 40 12.2 -0.8
VOY				*e*Sn		Sn	03 41 45.8 -5.4
OBKA	Obir	8.85	332	⇓*i*Pn		Pn	03 40 13.8 -1.0
OBKA				⇑*i*Sn		Sn	03 41 49.4 -5.1
PSZ	Piszkesteto comp=Z,5.0nm,0.8s	9.07	357	*e*Pn		Pn	03 40 19.3 +1.5
PSZ	Piszkesteto comp=Z,5.0nm,0.8s	9.07	357	*e*P		Pn	03 40 19.3 +1.4
PSZ				pmax	pmax		
PSZ	Piszkesteto	9.07	357	⇑*i*P		Pn	03 40 22.6 +4.7
PSZ	Piszkesteto	9.07	357	*e*P		Pn	03 40 22.8 +4.9
PSZ	Piszkesteto comp=Z,5.0nm,0.8s	9.07	357	*e*Pn		Pn	03 40 19.3 +1.4
PGF	Pioggiola comp=Z,57nm,1.3s	9.56	296	*e*P		Pn	03 40 23.7 -0.9
KECS	Kecovo	9.62	359	*e*Pn		Pn	03 40 26.4 +1.0
VYHS	Vyhne	9.72	353	*e*Pn		Pn	03 40 30.3 +3.6
VYHS				*e*Sn		Sn	03 42 10.3 -5.5
VYHS	Vyhne	9.72	353	*e*PN		Pn	03 40 30.3 +3.6
VYHS				*e*SN		Sn	03 42 10.3 -5.5
KBA	Koelnbreinsper	9.79	329	⇑*i*Pn		Pn	03 40 26.7 -1.0
KBA				⇑*i*Sn		Sn	03 42 13.3 -4.2
MOA	Molln	10.10	335	⇓*i*Pn		Pn	03 40 30.3 -1.7
MOA				⇓*i*Sn		Sn	03 42 19.5 -5.7
MOTA	Moosalm	10.96	324	⇓*i*Pn		Pn	03 40 43.4 -0.3
MOTA				⇓*i*Sn		Sn	03 42 42.5 -3.7
TREC	Trest comp=Z,300nm,10.7s	11.06	342	AMS		AMS	03 46 10.0
SBF	Sospel	11.09	301	*e*P		Pn	03 40 44.4 -1.1
MORC	Moravsky Berou	11.13	350	*e*Pn		Pn	03 40 48.0 +1.9
MORC	Moravsky Berou	11.13	350	*e*Pn		Pn	03 40 48.0 +1.9
GERES	GERESS Array B	11.16	336	P		Pn	03 40 44.5 -1.9
GERES							03 42 42.9
GERES				smax			
	comp=N,1.0nm,0.3s						
GERES	GERESS Array B comp=N,0.1nm,0.3s,baz=149,slow=16,SNR=4.7	11.16	336	Pn		Pn	03 40 44.5 -1.9
GERES				Sn		Sn	03 42 42.9 -8.1
	comp=N,0.6nm,0.3s,baz=152,slow=24,SNR=8.1						
KHC	Kasperske Hory	11.45	336	*e*P		Pn	03 40 52.1 +1.8
KHC				*e*			03 41 05.5
KHC	Kasperske Hory	11.45	336	*e*P		Pn	03 40 48.5 -1.8
KHC				*ex*		x	03 40 52.1
KHC				x		x	03 41 05.5
KHC				AMS		AMS	03 45 40.0
	comp=Z,300nm,10.2s						
FRF	La Foret Royal	11.52	299	*e*P		Pn	03 40 50.4 -1.0
LMR	La Mourre	11.54	297	*e*P		Pn	03 40 50.7 -1.0
WET	Wettzell	11.69	334	*e*P		Pn	03 40 53.4 -0.2
MBDF	Montbardon comp=Z,3.3nm,0.6s	11.87	304	*e*P		Pn	03 40 55.2 -1.0
MBDF	Montbardon comp=Z,1.6nm,0.6s	11.87	304	*e*P		Pn	03 40 55.2 -1.0
MBDF	Montbardon comp=Z,2.0nm,0.6s	11.87	304	*e*P		Pn	03 40 55.2 -1.0
MBDF				pmax	pmax		
DPC	Dobruska-Polom comp=Z,400nm,9.0s	11.89	347	AMS		AMS	03 46 10.0
PRU	Pruhonice	11.94	341	*e*P		Pn	03 40 59.2 +2.1
LPG	La Plagne	12.23	307	*e*P		Pn	03 41 00.0 -1.1
LPL	La Plagne comp=Z,2.6nm,0.5s	12.25	307	*e*P		Pn	03 41 00.5 -0.9
LPL	La Plagne comp=Z,1.3nm,0.5s	12.25	307	*e*P		Pn	03 41 00.5 -0.9
LPL	La Plagne comp=Z,1.0nm,0.5s	12.25	307	*e*P		Pn	03 41 00.5 -0.9
LPL				pmax	pmax		
SMRF	Simiane la Rot comp=Z,20nm,1.2s	12.39	299	*e*P		Pn	03 41 02.2 -1.1
SMRF	Simiane la Rot comp=Z,20nm,1.2s	12.39	299	*e*P		Pn	03 41 02.2 -1.1
ORIF	Oris-en-Rattie comp=Z,2.8nm,0.6s	12.53	304	*e*P		Pn	03 41 04.1 -1.1
ORIF	Oris-en-Rattie comp=Z,1.4nm,0.6s	12.53	304	*e*P		Pn	03 41 04.1 -1.1
ORIF	Oris-en-Rattie comp=Z,1.0nm,0.6s	12.53	304	*e*P		Pn	03 41 04.1 -1.1
ORIF				pmax	pmax		
CABF	La Chapelle comp=Z,2.9nm,0.6s	13.18	311	*e*P		Pn	03 41 12.6 -1.5
CABF	La Chapelle comp=Z,1.5nm,0.6s	13.18	311	*e*P		Pn	03 41 12.6 -1.5
CABF	La Chapelle comp=Z,1.0nm,0.6s	13.18	311	*e*P		Pn	03 41 12.6 -1.5
CABF				pmax	pmax		
VIVF	Saint-Julien-l comp=Z,1.0nm,0.4s	13.30	302	*e*P		Pn	03 41 14.2 -1.5
VIVF	Saint-Julien-l comp=Z,1.0nm,0.4s	13.30	302	*e*P		Pn	03 41 14.2 -1.5
VIVF				pmax	pmax		
	comp=Z,1.0nm,0.4s						
MOX	Moxa comp=Z,6.0nm,1.1s	13.39	335	*e*P		Pn	03 41 16.2 -0.8
MOX	Moxa comp=Z,6.0nm,1.1s	13.39	335	*e*P		Pn	03 41 16.2 -0.8
MOX				pmax	pmax		
HINF	Hinteralfeld comp=Z,4.6nm,0.6s	13.42	316	*e*P		Pn	03 41 15.5 -1.8
HINF	Hinteralfeld comp=Z,2.3nm,0.6s	13.42	316	*e*P		Pn	03 41 15.5 -1.8
HINF	Hinteralfeld comp=Z,2.0nm,0.6s	13.42	316	*e*P		Pn	03 41 15.5 -1.8
HINF				pmax	pmax		
CDF	Champ du Feu comp=Z,2.4nm,0.5s	13.56	319	*e*P		Pn	03 41 17.3 -2.0
CDF	Champ du Feu comp=Z,1.2nm,0.5s	13.56	319	*e*P		Pn	03 41 17.3 -2.0
CDF	Champ du Feu comp=Z,1.0nm,0.5s	13.56	319	*e*P		Pn	03 41 17.3 -2.0
CDF				pmax	pmax		
HAU	Haudompre comp=Z,3.5nm,0.4s	13.80	316	*e*P		Pn	03 41 20.7 -1.9
HAU	Haudompre comp=Z,1.8nm,0.4s	13.80	316	*e*P		Pn	03 41 20.7 -1.9
HAU	Haudompre comp=Z,2.0nm,0.4s	13.80	316	*e*P		Pn	03 41 20.7 -1.9
HAU				pmax	pmax		
MALT	Malatya comp=Z,6.4nm,1.1s	13.95	87	*e*Pn		Pn	03 41 33.2 +8.6
MALT	Malatya	13.95	87	⇓*i*P		Pn	03 41 34.4 +10
MALT	Malatya comp=Z,6.4nm,1.1s	13.95	87	*e*Pn		Pn	03 41 33.2 +8.6
SMF	Signal de Mont	14.56	308	*e*P		Pn	03 41 30.6 -2.2
LOR	Lormes comp=Z,2.0nm,0.4s	14.83	310	*e*P		Pn	03 41 34.4 -2.2
LOR	Lormes comp=Z,1.0nm,0.4s	14.83	310	*e*P		Pn	03 41 34.4 -2.2
LOR	Lormes comp=Z,1.0nm,0.4s	14.83	310	*e*P		Pn	03 41 34.4 -2.2
LOR				pmax	pmax		
SSF	Saint Saulge comp=Z,3.6nm,0.6s	14.95	309	*e*P		Pn	03 41 35.7 -2.5
SSF	Saint Saulge comp=Z,1.8nm,0.6s	14.95	309	*e*P		Pn	03 41 35.7 -2.5
SSF	Saint Saulge comp=Z,2.0nm,0.6s	14.95	309	*e*P		Pn	03 41 35.7 -2.5
SSF				pmax	pmax		
BGF	Bois d'Agland comp=Z,2.7nm,0.5s	15.14	306	*e*P		Pn	03 41 38.1 -2.6
BGF	Bois d'Agland comp=Z,1.4nm,0.5s	15.14	306	*e*P		Pn	03 41 38.1 -2.6
BGF	Bois d'Agland comp=Z,1.0nm,0.5s	15.14	306	*e*P		Pn	03 41 38.1 -2.6
BGF				pmax	pmax		
TCF	Toulx Ste Croi	15.44	305	*e*P		Pn	03 41 42.4 -2.2
RJF	Les Rejaudoux	15.56	301	*e*P		Pn	03 41 43.0 -3.2
SJPF	Ste Jean	17.02	291	*e*P		Pn	03 42 02.8 -2.1
ESDC	Sonseca Array comp=Z,0.2nm,0.3s,baz=70,slow=11,SNR=6.0	19.04	280	P		Pn	03 42 31.8 +2.0
HFS	Hagfors	21.74	351	P		P	03 42 57.2 -1.0
HFS				pmax	pmax		
	comp=Z,2.0nm,0.6s						
HFS				MLR	MLR		
	comp=Z,61nm,19.5s						
HFS	Hagfors comp=Z,1.9nm,0.6s,mb3.7,baz=146,slow=12,SNR=8.3	21.74	351	P		P	03 42 57.2 -1.0
HFS				LR	LR		03 52 48.2
	comp=Z,61nm,19.4s,MS3.0,baz=69,slow=41						
FINES	FINESS Array B	22.86	7	P		P	03 43 08.3 -1.8
FINES				pmax	pmax		
	comp=Z,3.0nm,0.8s						
FINES	FINESS Array B comp=Z,2.6nm,0.8s,mb3.7,baz=156,slow=9.8,SNR=6.7	22.86	7	P		P	03 43 08.3 -1.8
EKA	Eskdalemuir Ar	22.92	324	P		P	03 43 09.5 -1.3
EKA				pmax	pmax		
	comp=Z,6.0nm,0.8s						
EKA	Eskdalemuir Ar comp=Z,6.1nm,0.8s,mb4.1,baz=123,slow=10,SNR=18	22.92	324	P		P	03 43 09.5 -1.3
ESK	Eskdalemuir comp=Z,10nm,1.0s,mb4.2	22.93	324	*e*P		P	03 43 12.9 +2.0
ESK	Eskdalemuir	22.93	324	*e*P		P	03 43 12.9 +2.0
ESK				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.2						
NB2	NORSAR Subarra comp=Z,7.5nm,1.2s,mb4.0,baz=159,slow=9.3	22.97	348	P		P	03 43 09.5 -1.7
NOA	NORSAR Array B comp=Z,0.4nm,0.4s,mb3.2,baz=160,slow=8.6,SNR=3.3	22.97	348	P		P	03 43 09.8 -1.4
NOA				LR	LR		03 52 02.1
	comp=Z,72nm,18.0s,MS3.2,baz=45,slow=36						
KAF	Kangasniemi	23.55	7	*e*p		P	03 43 15.0 -2.3
JOF	Joensuu comp=Z,1.4nm,0.5s,mb3.8	24.95	12	*e*p		P	03 43 27.8 -2.3
TOA0	Torodi Ar. Sit	30.61	218	*e*P		P	03 44 23.4 +2.3
TORD	Torodi Ar. Bea comp=Z,0.9nm,0.7s,mb3.7,baz=33,slow=9.1,SNR=8.8	30.61	218	P		P	03 44 20.1 -1.1
ARCES	ARCESS Array B	30.85	3	P		P	03 44 20.0 -2.8
ARCES				pmax	pmax		
	comp=Z,3.0nm,1.0s						
ARCES	ARCESS Array B comp=Z,3.0nm,1.0s,mb4.1,baz=192,slow=9.7,SNR=5.8	30.85	3	P		P	03 44 20.0 -2.7
DBIC	Dimbokro comp=Z,44nm,21.4s,MS3.3,baz=203,slow=38	39.44	222	LR	LR		04 02 51.3
EKS2	Erkin-Say comp=Z,2.0nm,0.8s,mb3.9	39.90	67	*e*P		P	03 45 44.0 +3.1
UC

CPD	**Cerro la Pandu**	**3.64 107⇑**	*e*P	Pn	03 46 20.5	0.0
HUMP	**Col San Antoni**	**3.67 105⇑**	*e*P	Pn	03 46 20.3	-0.5
MTP	**Monte Pirata**	**3.96 104⇑**	*e*P	Pn	03 46 24.6	-0.1

IDC 12 03:49:10.1±6.6,2040S×16814E,h0km,mb3.6/3, mb1 3.7/3,mb1mx3.6/13,mbtmp3.6/3,MS4.5/1,Ms1 4.5/1, ms1mx3.2/16,Error ellipse: s-maj=227.9km s-min=48.4km az=143.0,Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAR	**Rarotonga**	**29.98**	**97**	LR	LR	04 03 18.2	
	comp=Z,927nm,21.7s,baz=240,slow=28						
WRA	**Warramunga Arr**	**31.70**	**265**	P	P	03 55 36.2	+0.5
	0.3nm,0.8s,baz=91,slow=8.9,SNR=3.4						
ASAR	**Alice Springs**	**31.86**	**258**	P	P	03 55 36.7	-0.3
	0.8nm,0.7s,baz=87,slow=9.1,SNR=6.3						
SONM	**Songino Array**	**87.53**	**324**	P	P	04 02 00.7	+1.0
	0.1nm,0.5s,baz=130,slow=5.8,SNR=3.6						
MKAR	**Makanchi Array**	**101.83**	**316**	P	Pdif	04 03 08.5	+3.2
	0.4nm,0.7s,baz=100,slow=5.3,SNR=3.9						
GERES	**GERESS Array B**	**145.00**	**330**	PKPbc	PKPbc	04 08 47.1	-1.4
	0.5nm,0.6s,baz=29,slow=3.0,SNR=4.7						

*BJI **12** 04:02:02.7,4722N×15265E,h7km,mB4.8,mb4.7,Ms4.2, Msz3.9*
*NEIC **12** 04:02:05.5±0.4,4775N×15271E,h10km,mb4.7/42,Error ellipse: s-maj=10.1km s-min=5.3km az=168.0*
*SZGRF **12** 04:02:07.6,4899N×15932E,h33km,mb5.3,East of Kuril Islands, Russia*
*ISCJB **12** 04:02:18.3±0.5,4778N±006×15279E±007,h129km±5km, mb4.3/77,Error ellipse: s-maj=11.6km s-min=4.7km az=143.8*
*MOS **12** 04:02:19.2±0.8,4784N×15277E,h134km,mb4.4/42,Error ellipse: s-maj=9.9km s-min=5.2km az=98.1*
*IDC **12** 04:02:19.7±0.6,4776N×15276E,h132km±5km,mb3.9/18, mb1 4.1/18,mb1mx4.0/22,mbtmp3.9/18,Error ellipse: s-maj=14.2km s-min=11.2km az=150.0*
ISC 12 04:02:19.7±0.5,4779N±006×15275E±007,h128km±5km, h143km±5.2km:pP-P,n255,σ0s89/265,mb4.5/77,38C-20D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.64**	**36**	*e*PN	**Pn**	**04 03 14.0**	**-0.5**
SKR				*e*S	**Sn**	**04 03 56.5**	**-0.5**
SKR				pmax	pmax		
	comp=Z,40nm,0.4s						
SKR				smax			
	comp=N,140nm,0.3s						
SKR				smax			
	comp=E,230nm,0.3s						
KUR	**Kuril'sk**	**4.23**	**235**	PN	**Pn**	**04 03 22.8**	**+0.4**
KUR				*e*S	**Sn**	**04 04 13.6**	**+2.5**
KUR				pmax	pmax		
	comp=N,80nm,0.6s						
KUR				pmax	pmax		
	comp=Z,80nm,0.6s						
KUR				smax			
	comp=E,220nm,0.8s						
NEM2	**Nemuro 2**	**6.61**	**231**	P	**Pn**	**04 03 52.4**	**-2.0**
NEM2				*e*S	**Sn**	**04 05 01.4**	**-6.9**
YSS	**Yuzh-Sakhalins**	**6.84**	**267**	*e*Pn	**Pn**	**04 04 02.6**	**+5.2**
YSS	**Yuzh-Sakhalins**	**6.84**	**267⇑**	*i*PN	**Pn**	**04 04 02.9**	**+5.5**
YSS				*e*		04 05 16.8	
YSS				pmax	pmax		
	comp=Z,50nm,0.9s						
JNK	**Nakash**	**7.02**	**236**	P	**Pn**	**04 04 00.4**	**+0.5**
JTKR	**Abashiri--Toko**	**7.26**	**242**	P	**Pn**	**04 04 04.4**	**+1.3**
JAK	**Akkeshi**	**7.42**	**233**	P	**Pn**	**04 04 03.3**	**-2.0**
JAK				*e*S	**Sn**	**04 05 21.2**	**-6.7**
JMP	**Maruseppu**	**7.56**	**243**	P	**Pn**	**04 04 09.1**	**+1.9**
JAR	**Ashorobuto**	**7.74**	**238**	P	**Pn**	**04 04 10.7**	**+1.1**
JOB	**Onbets**	**7.95**	**235**	P	**Pn**	**04 04 11.9**	**-0.6**
JOB				*e*S	**Sn**	**04 05 36.0**	**-4.8**
ASAJ	**Asahikawa**	**7.97**	**246**	PN	**Pn**	**04 04 15.8**	**+3.1**
ASAJ				pmax	pmax		
	comp=Z,4.0nm,0.3s						
ASAJ	**Asahikawa**	**7.97**	**246**	P	**Pn**	**04 04 15.8**	**+3.0**
	comp=Z,4.0nm,0.3s,baz=81,slow=12,SNR=24						
JKK2	**Kamakawa 2**	**8.01**	**244**	P	**Pn**	**04 04 15.4**	**+2.2**
JCH	**Churui**	**8.41**	**235**	P	**Pn**	**04 04 17.1**	**-1.5**
JCH				*e*S	**Sn**	**04 05 45.2**	**-6.5**
JBT2	**Biratori 2**	**8.87**	**239**	P	**Pn**	**04 04 25.6**	**+0.8**
ERM	**Erimo**	**8.92**	**233**	*e*Pn	**Pn**	**04 04 26.6**	**+1.0**
ERM	**Erimo**	**8.92**	**233**	*d*iPN	**Pn**	**04 04 26.8**	**+1.3**
JNBK	**Urakawa-nobuka**	**8.97**	**236**	P	**Pn**	**04 04 24.0**	**-2.1**
JNBK				*e*S	**Sn**	**04 05 55.7**	**-10**
JNB	**Noboribetsu**	**9.84**	**242**	P	**Pn**	**04 04 37.0**	**-0.8**
JNB				*e*S	**Sn**	**04 06 21.9**	**-4.4**
JKB	**Kayabe**	**10.20**	**239**	P	**Pn**	**04 04 40.5**	**-2.1**
JKB				*e*S	**Sn**	**04 06 25.8**	**-9.2**
MA2	**Magadan**	**11.87**	**355**	*e*PN	**Pn**	**04 05 10.9**	**+6.3**
MA2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
KLR	**Kul'dur**	**14.00**	**284**	*e*P	**Pn**	**04 05 35.6**	**+3.4**
SEY	**Seymchan**	**15.18**	**359⇑**	*e*P	**Pn**	**04 05 50.2**	**+3.2**
MJAR	**Matsushiro Arr**	**15.54**	**229**	P	**Pn**	**04 05 54.0**	**+2.2**
	comp=Z,0.3nm,0.3s,baz=48,slow=9.2,SNR=4.3						
MDJ	**Mudanjiang**	**16.33**	**267**	P	**Pn**	**04 05 52.7**	**-8.7**
MDJ				AP	pP	04 05 58.7	-26
MDJ				XP	sP	04 06 00.1	-41
MDJ				S	**S**	**04 08 53.4**	**-10**
MDJ				PCS	PcS	04 14 22.8	+0.8
MDJ				AMB	AMB		
	comp=Z,4.0nm,0.9s						
MDJ				LR	LR		
	comp=N,28nm,6.6s						
MDJ				LR	LR		
	comp=E,48nm,6.1s						
MDJ				LR	LR		
	comp=Z,81nm,6.1s						
CN2	**Changchun**	**19.41**	**268**	*e*P	**P**	**04 06 30.9**	**-4.8**
KSRS	**Korea Array**	**20.90**	**250**	P	**P**	**04 06 52.9**	**+1.1**
	comp=Z,5.2nm,1.0s,baz=51,slow=9.9,SNR=11						
BILL	**Bilibino**	**21.44**	**14**	*e*P	**P**	**04 06 57.1**	**-0.1**
	comp=Z,4.5nm,0.6s,mb4.0						
BILL	**Bilibino**	**21.44**	**14⇑**	*e*P	**P**	**04 06 57.5**	**+0.3**
BILL				*e**PP		04 07 28.6	
BILL				*e*S	**S**	**04 10 33.5**	**-14**
BILL				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb3.6						
BOD	**Bodaibo**	**25.15**	**308**	*e*P	**P**	**04 07 31.5**	**-1.1**
BOD				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb3.7						
TIXI	**Tiksi**	**26.41**	**343**	*e*P	**P**	**04 07 42.5**	**-1.2**
	comp=Z,3.7nm,0.5s,mb4.1						
TIXI	**Tiksi**	**26.41**	**343**	*e*P	**P**	**04 07 42.5**	**-1.2**
TIXI				pmax	pmax		
	comp=Z,4.0nm,0.5s,mb4.1						
BJI	**Beijing**	**27.26**	**267**	P	**P**	**04 07 46.4**	**-5.4**
BJI				AMB	AMB		
	comp=Z,6.0nm,1.0s,mb4.1						
HHC	**Hu-ho-hao-te**	**29.99**	**272**	*e*P	**P**	**04 08 14.0**	**-2.0**
HHC				XP	sP	04 08 21.1	-37
HHC				PP	PP	04 09 11.2	-15
HHC				S	**S**	**04 13 13.1**	**+8.8**
HHC				XS	sS	04 13 16.1	-36
HHC				SS	SS	04 14 41.3	-36
HHC				AMB	AMB		
	comp=Z,13nm,0.4s,mb4.9						
HHC				AMB	AMB		
	comp=Z,96nm,4.6s						
HHC				LR	LR		
	comp=N,87nm,6.7s						
HHC				LR	LR		
	comp=E,86nm,3.7s						
HHC				LR	LR		
	comp=Z,59nm,5.1s						
NJ2	**Nanjing**	**30.09**	**251**	*e*P	**P**	**04 08 14.4**	**-2.5**
ULN	**Ulaanbaatar**	**30.34**	**287**	*d*iP	**P**	**04 08 19.3**	**+0.4**
SONM	**Songino Array**	**30.77**	**288**	P	**P**	**04 08 23.3**	**+0.6**
SONM				pmax	pmax		
	comp=Z,2.0nm,0.6s						
SONM	**Songino Array**	**30.77**	**288**	P	**P**	**04 08 23.3**	**+0.6**
	comp=Z,1.6nm,0.6s,mb3.9,baz=57,slow=9.6,SNR=12						
TTA	**Tatalina**	**31.82**	**43**	*e*P	**P**	**04 08 32.1**	**+0.4**
ZAK	**Zakamensk**	**32.03**	**293**	*e*P	**P**	**04 08 33.6**	**-0.1**
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.5s,mb3.6						

IMA2	**Indian Mountai**	**33.12**	**37**	*e*P	**P**	**04 08 42.7**	**-0.3**
MCK	**McKinley**	**35.03**	**41**	*e*P	**P**	**04 08 59.6**	**+0.1**
SML	**Sawmill**	**35.40**	**45**	*e*P	**P**	**04 09 02.2**	**-0.5**
COLA	**College**	**35.48**	**39**	*e*P	**P**	**04 09 03.4**	**0.0**
	comp=Z,13nm,0.9s,mb4.8						
COLA	**College**	**35.48**	**39**	*c*iP	**P**	**04 09 03.8**	**+0.4**
LZH	**Lanzhou**	**37.62**	**270**	*e*P	**P**	**04 09 22.5**	**+0.6**
LZH				AP	pP	04 09 25.5	-25
LZH				XP	sP	04 09 26.8	-38
LZH				AMB	AMB		
	comp=Z,15nm,1.0s,mb4.8						
LZH				AMB	AMB		
	comp=Z,70nm,4.5s						
EGAK	**Eagle**	**38.34**	**39**	*e*P	**P**	**04 09 27.1**	**-0.5**
DAWY	**Dawson**	**39.20**	**40**	*e*P	**P**	**04 09 34.6**	**-0.1**
CD2	**Chengdu**	**40.74**	**264**	*e*P	**P**	**04 09 45.1**	**-2.7**
CD2				XP	sP	04 09 52.3	-39
CD2				PP	PP	04 11 22.4	-1.7
CD2				S	**S**	**04 15 54.0**	**+5.3**
CD2				XS	sS	04 16 01.4	-37
CD2				SS	SS	04 18 48.6	-5.7
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.7						
CD2				AMB	AMB		
	comp=Z,20nm,5.2s						
CD2				LR	LR		
	comp=N,120nm,12.4s						
CD2				LR	LR		
	comp=Z,130nm,14.4s						
INK	**Inuvik**	**40.91**	**33**	*e*P	**P**	**04 09 49.4**	**+0.6**
INK	**Inuvik**	**40.91**	**33**	P	**P**	**04 09 49.5**	**+0.6**
	comp=Z,5.5nm,0.6s,mb4.6,baz=298,slow=6.7,SNR=76						
GYA	**Guiyang**	**41.71**	**256**	P	**P**	**04 09 52.8**	**-3.1**
GYA				AP	pP	04 09 57.0	-28
GYA				XP	sP	04 09 59.8	-39
GYA				PP	PP	04 11 33.6	-1.1
GYA				PCP	PcP	04 11 52.2	+2.2
GYA				SCP	ScP	04 15 41.6	+13
GYA				S	**S**	**04 16 10.0**	**+6.8**
GYA				SS	SS	04 19 08.4	-5.2
GYA				SCS	ScS	04 19 56.1	+11
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.6						
GYA				AMB	AMB		
	comp=Z,70nm,6.9s						
GYA				LR	LR		
	comp=N,470nm,19.6s						
GYA				LR	LR		
	comp=E,460nm,19.8s						
GYA				LR	LR		
	comp=Z,390nm,19.3s						
ZAA0	**Zalesovo Array**	**41.81**	**305**	*e*P	**P**	**04 09 55.6**	**-0.8**
ZALV	**Zalesovo Beam**	**41.81**	**305**	P	**P**	**04 09 55.9**	**-0.4**
	comp=Z,5.1nm,0.6s,mb4.4,baz=61,slow=7.3,SNR=16						
ZALV				PcP	PcP	04 11 48.6	-1.2
	comp=Z,0.9nm,0.4s,baz=93,slow=3.0,SNR=6.2						
ZAL	**Zalesovo**	**41.83**	**305**	P	**P**	**04 09 55.9**	**-0.6**
ZAL						04 11 48.6	
NVS	**Novosibirsk**	**42.37**	**306**	*e*P	**P**	**04 10 00.3**	**-0.5**
NVS				pmax	pmax		
	comp=N,2.0nm,0.9s						
NVS				pmax	pmax		
	comp=E,9.0nm,0.9s						
NVS				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.5						
WMQ	**Urumqi**	**44.33**	**290**	*e*P	**P**	**04 10 16.3**	**-0.4**
WMQ				AMB	AMB		
	comp=Z,9.0nm,0.5s,mb4.8						
WMQ				AMB	AMB		
	comp=Z,127nm,4.5s						
DLBC	**Dease Lake**	**45.05**	**46**	*e*P	**P**	**04 10 24.1**	**+1.9**
KMI	**Kunming**	**45.20**	**258**	P	**P**	**04 10 21.9**	**-1.9**
KMI				AMB	AMB		
	comp=Z,8.0nm,0.9s,mb4.5						
MK31	**Makanchi Array**	**46.26**	**296**	*e*P	**P**	**04 10 31.8**	**-0.1**
MKAR	**Makanchi Array**	**46.26**	**296**	P	**P**	**04 10 31.7**	**-0.1**
MKAR						04 12 04.7	
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.7s						
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
MKAR	**Makanchi Array**	**46.26**	**296**	P	**P**	**04 10 31.7**	**-0.1**
	comp=Z,3.3nm,0.7s,mb4.2,baz=68,slow=7.9,SNR=37						
MKAR				PcP	PcP	04 12 04.7	-0.5
	comp=Z,0.6nm,0.7s,baz=72,slow=6.2,SNR=3.5						
KURK	**Kurchatov**	**46.59**	**303**	*e*P	**P**	**04 10 34.0**	**-0.4**
	comp=Z,15nm,0.9s,mb4.7						
KURK	**Kurchatov**	**46.59**	**303**	*e*P	**P**	**04 10 34.0**	**-0.4**
KURK				pmax	pmax		
	comp=Z,15nm,0.9s,mb4.7						
RES	**Resolute Bay**	**49.93**	**19**	*e*P	**P**	**04 11 00.0**	**+0.3**
	comp=Z,93nm,0.7s						
RES	**Resolute Bay**	**49.93**	**19**	*e*P	**P**	**04 11 00.0**	**+0.3**
RES				pmax	pmax		
	comp=Z,93nm,0.7s						
BRVK	**Borovoye**	**50.06**	**309**	*e*P	**P**	**04 11 00.9**	**0.0**
YKW3	**Yellowknife Ar**	**50.21**	**37**	*e*P	**P**	**04 11 02.0**	**+0.1**
YKA	**Yellowknife Ar**	**50.24**	**37**	P	**P**	**04 11 02.3**	**+0.1**
YKA						04 12 18.5	
YKA				pmax	pmax		
	comp=Z,4.0nm,0.6s						
YKA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
YKA	**Yellowknife Ar**	**50.24**	**37**	P	**P**	**04 11 02.3**	**+0.1**
	comp=Z,4.0nm,0.6s,mb4.5,baz=299,slow=7.1,SNR=64						
YKA				PcP	PcP	04 12 18.5	-0.7
	comp=Z,0.5nm,0.5s,baz=304,slow=3.7,SNR=7.6						
KBS	**Kingsbay**	**51.44**	**351**	*e*P	**P**	**04 11 11.3**	**+0.3**
	comp=Z,21nm,0.7s,mb5.3						
KBS	**Kingsbay**	**51.44**	**351**	*e*P	**P**	**04 11 11.3**	**+0.4**
KBS				pmax	pmax		
	comp=Z,21nm,0.7s,mb5.3						
SHL	**Shillong**	**52.16**	**267**	*e*P	**P**	**04 11 18.0**	**+1.0**
TKM2	**Tokmak 2**	**52.33**	**295**	*e*P	**P**	**04 11 17.9**	**-0.1**
	comp=Z,2.1nm,0.6s,mb4.3						
TKM2	**Tokmak 2**	**52.33**	**295**	*e*P	**P**	**04 11 17.9**	**-0.1**
TKM2				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.3						
EKS2	**Erkin-Say**	**53.58**	**296**	*e*P	**P**	**04 11 27.0**	**-0.2**
	comp=Z,1.6nm,0.6s,mb4.2						
ARU	**Arti**	**54.09**	**317**	*e*P	**P**	**04 11 30.1**	**-0.6**
	comp=Z,11nm,0.6s,mb5.1						
ARU	**Arti**	**54.09**	**317**	*d*iP	**P**	**04 11 30.0**	**-0.7**
ARU				*e**PP	pP	04 12 06.0	+5.4
ARU				*e*		04 13 32.2	
ARU				*e*S	**S**	**04 18 55.7**	**-1.1**
ARU				*e*SS	SS	04 22 35.6	-3.8
ARU				pmax	pmax		
	comp=Z,9.0nm,0.6s,mb5.0						
KKN	**Kakani**	**55.16**	**274**	*e*P	**P**	**04 11 39.6**	**+0.8**
	comp=Z,13nm,0.6s,mb5.1						
KKN	**Kakani**	**55.16**	**274**	*e*P	**P**	**04 11 39.6**	**+0.8**
KKN				pmax	pmax		
	comp=Z,13nm,0.6s,mb5.1						
GKN	**Gorkha**	**55.45**	**275**	*e*P	**P**	**04 11 41.2**	**+0.3**
	comp=Z,16nm,0.5s,mb5.3						
EDM	**Edmonton**	**55.78**	**47**	*e*P	**P**	**04 11 42.3**	**-0.6**
DANN	**Dangsing**	**55.81**	**276**	*e*P	**P**	**04 11 43.9**	**+0.4**
KOLN	**Koldanda**	**56.30**	**276**	*e*P	**P**	**04 11 47.4**	**+0.4**
	comp=Z,18nm,0.9s,mb5.1						
ARCES	**ARCESS Array B**	**56.80**	**340**	P	**P**	**04 11 49.0**	**-0.9**
ARCES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ARCES	**ARCESS Array B**	**56.80**	**340**	P	**P**	**04 11 49.0**	**-0.9**
	comp=Z,1.4nm,0.5s,mb4.3,baz=28,slow=6.7,SNR=15						
JOF	**Joensuu**	**60.30**	**333**	*e*p	**P**	**04 12 13.0**	**-1.2**
	comp=Z,4.9nm,0.5s,mb4.8						
FCC	**Fort Churchill**	**60.53**	**33**	*e*P	**P**	**04 12 15.1**	**-0.7**
	comp=Z,5.5nm,1.0s,mb4.5						
FCC	**Fort Churchill**	**60.53**	**33**	*e*P	**P**	**04 12 15.1**	**-0.7**
FCC				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.5						
BOZ	**Bozeman (W)**	**61.32**	**53**	*e*P	**P**	**04 12 21.4**	**0.0**
	comp=Z,0.7nm,0.6s,mb3.9						
BOZ	**Bozeman (W)**	**61.32**	**53**	*e*P	**P**	**04 12 21.4**	**0.0**
BOZ				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb4.0						
NVAR	**Mina Array Bea**	**62.17**	**63**	P	**P**	**04 12 27.8**	**+0.6**
NVAR	**Mina Array Bea**	**62.17**	**63**	P	**P**	**04 12 27.8**	**+0.6**
	comp=Z,0.5nm,0.4s,mb3.9,baz=288,slow=8.8,SNR=4.7						
KAF	**Kangasniemi**	**62.40**	**335**	*e*p	**P**	**04 12 25.8**	**-2.5**
	comp=Z,3.8nm,0.5s,mb4.7						
KAF	**Kangasniemi**	**62.40**	**335**	*e*P	**P**	**04 12 25.8**	**-2.5**
KAF				pmax	pmax		
	comp=Z,4.0nm,0.5s,mb4.7						

FIA1	**FINESS Array S**	**63.00**	**334**	*e*P	**P**	**04 12 31.6**	**-0.7**
FINES	**FINESS Array B**	**63.00**	**334**	P	**P**	**04 12 31.7**	**-0.7**
FINES	**FINESS Array B**	**63.00**	**334**	P	**P**	**04 12 31.7**	**-0.6**
FINES				pmax	pmax		
	comp=Z,6.0nm,0.4s						
FINES	**FINESS Array B**	**63.00**	**334**	P	**P**	**04 12 31.7**	**-0.7**
	comp=Z,6.2nm,0.4s,mb4.9,baz=40,slow=7.7,SNR=73						
DUG	**Dugway**	**64.23**	**58**	*e*P	**P**	**04 12 40.7**	**0.0**
	comp=Z,1.6nm,0.9s,mb3.9						
DUG	**Dugway**	**64.23**	**58**	*e*P	**P**	**04 12 40.7**	**-0.1**
DUG				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.0						
PDAR	**Pinedale Array**	**64.33**	**54**	P	**P**	**04 12 41.1**	**-0.2**
	comp=Z,0.4nm,0.6s,mb3.5,baz=270,slow=1.2,SNR=5.2						
PDAR				pP	pP	04 13 13.7	+1.4
	comp=Z,0.6nm,0.6s,baz=325,slow=2.3,SNR=5.0						
ULM	**Lac du Bonnet**	**65.90**	**41**	P	**P**	**04 12 50.0**	**-1.4**
ULM	**Lac du Bonnet**	**65.90**	**41**	P	**P**	**04 12 50.0**	**-1.4**
	comp=Z,2.6nm,0.8s,mb4.1,baz=279,slow=3.6,SNR=5.4						
NB2	**NORSAR Subarra**	**67.17**	**341**	P	**P**	**04 12 59.0**	**-0.2**
	comp=Z,9.1nm,0.7s,mb4.7,baz=26,slow=6.5						
NOA	**NORSAR Array B**	**67.17**	**341**	P	**P**	**04 12 59.3**	**+0.1**
NOA				pmax	pmax		
	comp=Z,8.0nm,0.7s						
NOA	**NORSAR Array B**	**67.17**	**341**	P	**P**	**04 12 59.3**	**+0.1**
	comp=Z,7.5nm,0.7s,mb4.7,baz=27,slow=6.3,SNR=28						
WRA	**Warramunga Arr**	**69.41**	**199**	P	**P**	**04 13 12.9**	**-0.7**
WRA						04 13 35.3	
WRA				*SP	sP	04 13 58.0	-0.7
WRA				pmax	pmax		
	comp=Z,1.0nm,1.1s						
WRA				pmax	pmax		
	comp=N,1.0nm,1.0s						
WRA	**Warramunga Arr**	**69.41**	**199**	P	**P**	**04 13 12.9**	**-0.7**
	comp=N,1.2nm,1.1s,mb3.6,baz=16,slow=6.5,SNR=4.3						
WRA				PcP	PcP	04 13 35.3	-0.8
	comp=N,0.3nm,0.6s,baz=12,slow=4.9,SNR=5.4						
WRA				sP	sP	04 13 58.0	-0.7
	comp=N,1.4nm,1.0s,baz=15,slow=5.9,SNR=5.6						
KIV	**Kislovodsk**	**69.91**	**314⇑**	*e*P	**P**	**04 13 16.7**	**+0.2**
KIV				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.5						
AKASG	**Malin Array Be**	**70.55**	**326**	P	**P**	**04 13 19.5**	**-0.8**
AKASG				pmax	pmax		
	comp=Z,5.0nm,0.4s						
AKASG	**Malin Array Be**	**70.55**	**326**	P	**P**	**04 13 19.4**	**-0.9**
	comp=Z,4.5nm,0.4s,mb4.7,baz=34,slow=6.1,SNR=16						
AKBB	**Malin Array Si**	**70.55**	**326**	*e*P	**P**	**04 13 19.7**	**-0.6**
SOC	**Sochi**	**71.61**	**315**	*e*P	**P**	**04 13 21.5**	**-5.4**
SOC				*e**PP	pP	04 14 08.1	+10
SOC				*e*		04 16 03.4	
SOC				*e*S	S	04 22 24.7	-11
SOC				*e*SS	SS	04 27 10.7	-1.8
ANN	**Anapa**	**71.75**	**317**	*e*P	**P**	**04 13 26.2**	**-1.5**
ANN				pmax	pmax		
	comp=Z,145nm,6.0s						
SCHQ	**Schefferville**	**72.45**	**23**	P	**P**	**04 13 31.5**	**-0.2**
	comp=Z,2.1nm,0.6s,mb4.2,baz=340,slow=15,SNR=11						
ASAR	**Alice Springs**	**73.11**	**198**	P	**P**	**04 13 36.2**	**+0.4**
ASAR				*SP	sP	04 14 21.6	+0.5
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ASAR				pmax	pmax		
	comp=N,1.0nm,0.8s						
ASAR	**Alice Springs**	**73.11**	**198**	P	**P**	**04 13 36.2**	**+0.4**
	comp=N,1.2nm,0.7s,mb3.8,baz=12,slow=6.2,SNR=12						
ASAR				sP	sP	04 14 21.6	+0.4
	comp=N,1.0nm,0.8s,baz=15,slow=5.5,SNR=4.7						
KWP	**Kalwaria**	**73.81**	**329**	*e*P	**P**	**04 13 40.4**	**+0.7**
KWP	**Kalwaria**	**73.81**	**329**	⇓P	**P**	**04 13 40.6**	**+0.9**
KWP	**Kalwaria**	**73.81**	**329**	⇓*i*P	**P**	**04 13 40.5**	**+0.8**
OJC	**Ojcow**	**74.30**	**331**	*e*P	**P**	**04 13 42.7**	**+0.1**
STHS	**Stebnicka Huta**	**74.50**	**330**	*e*P	**P**	**04 13 44.6**	**+0.9**
	comp=N,6.8nm,0.9s,mb4.4						
STHS	**Stebnicka Huta**	**74.50**	**330**	*e*P	**P**	**04 13 44.6**	**+0.9**
STHS				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.4						
KOLS	**Kolonicke sedl**	**74.55**	**329**	*e*P	**P**	**04 13 43.8**	**-0.3**
NIE	**Niedzica**	**74.81**	**330**	*e*P	**P**	**04 13 46.3**	**+0.7**
CRVS	**Cervenica-Dubn**	**74.86**	**329**	*e*P	**P**	**04 13 46.1**	**+0.3**
KSP	**Ksiaz**	**74.87**	**333**	*e*P	**P**	**04 13 45.9**	**+0.1**
KSP	**Ksiaz**	**74.87**	**333⇑**	*e*P	**P**	**04 13 45.8**	**0.0**
OKC	**Ostrava-Krasne**	**75.16**	**332⇑**	*e*P	**P**	**04 13 48.1**	**+0.5**
UPC	**Upice**	**75.25**	**333⇑**	*e*P	**P**	**04 13 48.5**	**+0.5**
DPC	**Dobruska-Polom**	**75.29**	**333**	*e*P	**P**	**04 13 48.3**	**0.0**
MORC	**Moravsky Berou**	**75.41**	**332**	*e*P	**P**	**04 13 49.0**	**0.0**
	comp=Z,11nm,0.9s,mb4.6						
MORC	**Moravsky Berou**	**75.41**	**332**	⇓*i*P	**P**	**04 13 49.6**	**+0.6**
CLL	**Collm**	**75.42**	**335**	⇑*i*P	**P**	**04 13 48.6**	**-0.4**
	comp=Z,22nm,1.0s,mb4.8						
CLL	**Collm**	**75.42**	**335⇑**	*i*P	**P**	**04 13 48.6**	**-0.4**
CLL				pmax	pmax		
	comp=Z,22nm,1.0s,mb4.8						
CLL	**Collm**	**75.42**	**335⇑**	*i*P	**P**	**04 13 48.6**	**-0.4**
	comp=Z,22nm,1.0s,mb4.8						
VRI	**Vrincioaia**	**75.46**	**324**	⇓P	**P**	**04 13 49.8**	**+0.5**
VRI	**Vrincioaia**	**75.46**	**324**	⇓*i*P	**P**	**04 13 49.8**	**+0.5**
PLOR	**Plostina**	**75.50**	**324**	⇓*i*P	**P**	**04 13 50.2**	**+0.6**
BRG	**Berggiesshubel**	**75.54**	**334**	*i*P	**P**	**04 13 49.4**

BZS Buzias 77.61 327 ⇓P **P 04 14 01.6 +0.2**
BZS Buzias 77.61 327 ⇓*i*P **P 04 14 01.6 +0.2**
UMR Umm Al-Rimmam 77.89 301 *e*P **P 04 14 03.6 +0.3**
UMR AMb AMB 04 14 04.8
comp=Z,46nm,0.7s,mb5.3
MIB Mutribah 77.92 301 *e*P **P 04 14 03.4 -0.1**
MIB AMb AMB 04 14 05.0
comp=Z,50nm,0.8s,mb5.3
PKSM Moragy 78.15 329 ⇓P **P 04 14 03.9 -0.5**
PKSM Moragy 78.15 329 ⇓*i*P **P 04 14 03.9 -0.5**
QRN Al-Qurain 78.37 300 *e*P **P 04 14 06.1 +0.2**
QRN AMb AMB 04 14 07.2
comp=Z,81nm,0.8s,mb5.5
NAY Al-Naaiem 78.39 301 *e*P **P 04 14 05.5 -0.5**
NAY AMb AMB 04 14 07.8
comp=Z,30nm,1.2s,mb4.9
RDF Al-Radifah 78.45 300 *e*P **P 04 14 06.2 -0.2**
RDF AMb AMB 04 14 07.8
comp=Z,60nm,0.7s,mb5.4
KBA Koelnbreinsper 79.11 333 ⇑*i*P **P 04 14 10.6 +1.0**
comp=Z,11nm,1.0s,mb4.7
KBA Koelnbreinsper 79.11 333 ⇑*i*pP **P 04 14 10.6 +1.0**
comp=Z,11nm,1.0s,mb4.7
KBA Koelnbreinsper 79.11 333 ⇑*i*P **P 04 14 10.7 +1.1**
KBA pmax pmax
comp=Z,11nm,1.0s,mb4.6
WTTA Wattenberg 79.45 334 ⇑*i*P **P 04 14 12.2 +0.7**
comp=Z,6.9nm,0.7s,mb4.6
WTTA Wattenberg 79.45 334 ⇑*i*pP **P 04 14 12.2 +0.7**
comp=Z,6.9nm,0.7s,mb4.6
WTTA Wattenberg 79.45 334 ⇑*i*P **P 04 14 12.2 +0.7**
WTTA pmax pmax
comp=Z,7.0nm,0.7s,mb4.6
VTS Vitosha 79.58 325 ⇑P **P 04 14 13.1 +0.8**
VTS Vitosha 79.58 325 ⇑*i*P **P 04 14 13.1 +0.8**
CDF Champ du Feu 79.61 337 *e*P **P 04 14 11.9 -0.4**
HAU Haudompre 80.22 338 *e*P **P 04 14 14.8 -0.8**
HINF Hinteralfeld 80.27 337 *e*P **P 04 14 14.7 -1.2**
FLN La Foliniere 81.07 342 *e*P **P 04 14 19.9 -0.3**
LDF La Druitiere 81.16 342 *e*P **P 04 14 21.1 +0.5**
comp=Z,11nm,1.0s,mb4.3
LDF La Druitiere 81.16 342 *e*P **P 04 14 21.1 +0.5**
comp=Z,5.5nm,1.0s,mb4.3
LDF La Druitiere 81.16 342 *e*P **P 04 14 21.1 +0.5**
LDF pmax pmax
comp=Z,6.0nm,1.0s,mb4.4
GRR Gorron 81.51 343 *e*P **P 04 14 22.5 +0.1**
comp=Z,7.2nm,0.7s,mb4.3
GRR Gorron 81.51 343 *e*P **P 04 14 22.5 +0.1**
comp=Z,3.6nm,0.7s,mb4.3
GRR Gorron 81.51 343 *e*P **P 04 14 22.5 +0.1**
GRR pmax pmax
comp=Z,4.0nm,0.7s,mb4.4
LOR Lormes 81.52 339 ⇑*i*P **P 04 14 22.3 -0.3**
comp=Z,11nm,0.7s,mb4.5
LOR Lormes 81.52 339 ⇑*i*P **P 04 14 22.3 -0.3**
comp=Z,5.6nm,0.7s,mb4.5
LOR Lormes 81.52 339 ⇑*i*P **P 04 14 22.3 -0.3**
LOR pmax pmax
comp=Z,6.0nm,0.7s,mb4.5
CABF La Chapelle 81.58 337 *e*P **P 04 14 23.0 +0.1**
comp=Z,5.9nm,0.8s,mb4.2
CABF La Chapelle 81.58 337 *e*P **P 04 14 23.0 +0.1**
comp=Z,3.0nm,0.8s,mb4.2
CABF La Chapelle 81.58 337 *e*P **P 04 14 23.0 +0.1**
CABF pmax pmax
comp=Z,3.0nm,0.8s,mb4.2
SSF Saint Saulge 81.80 339 ⇑*i*P **P 04 14 23.9 -0.1**
comp=Z,14nm,0.8s,mb4.5
SSF Saint Saulge 81.80 339 ⇑*i*P **P 04 14 23.9 -0.1**
comp=Z,7.2nm,0.8s,mb4.5
SSF Saint Saulge 81.80 339 ⇑*i*P **P 04 14 23.9 -0.1**
SSF pmax pmax
comp=Z,7.0nm,0.8s,mb4.5
SGMF Saint Gilles 81.97 344 *e*P **P 04 14 25.2 +0.3**
comp=Z,6.6nm,0.6s,mb4.3
SGMF Saint Gilles 81.97 344 *e*P **P 04 14 25.2 +0.3**
comp=Z,3.3nm,0.6s,mb4.3
SGMF Saint Gilles 81.97 344 *e*P **P 04 14 25.2 +0.3**
SGMF pmax pmax
comp=Z,3.0nm,0.6s,mb4.3
ROSF Rostrenen 82.02 344 *e*P **P 04 14 25.5 +0.3**
comp=Z,14nm,0.9s,mb4.5
ROSF Rostrenen 82.02 344 *e*P **P 04 14 25.5 +0.3**
comp=Z,6.8nm,0.9s,mb4.5
ROSF Rostrenen 82.02 344 *e*P **P 04 14 25.5 +0.3**
ROSF pmax pmax
comp=Z,7.0nm,0.9s,mb4.5
AVF Avril sur Loir 82.09 339 ⇑*i*P **P 04 14 25.6 +0.1**
comp=Z,13nm,0.8s,mb4.5
AVF Avril sur Loir 82.09 339 ⇑*i*P **P 04 14 25.6 +0.1**
comp=Z,6.6nm,0.8s,mb4.5
AVF Avril sur Loir 82.09 339 ⇑*i*P **P 04 14 25.6 +0.1**
AVF pmax pmax
comp=Z,7.0nm,0.8s,mb4.5
SMF Signal de Mont 82.11 339 *e*P **P 04 14 25.8 +0.2**
comp=Z,21nm,1.1s,mb4.6
SMF Signal de Mont 82.11 339 *e*P **P 04 14 25.8 +0.2**
comp=Z,10nm,1.1s,mb4.6
SMF Signal de Mont 82.11 339 *e*P **P 04 14 25.8 +0.2**
SMF pmax pmax
comp=Z,10.0nm,1.1s,mb4.6
LPL La Plagne 82.42 337 ⇑*i*P **P 04 14 28.2 +0.9**
comp=Z,7.5nm,0.9s,mb4.2
LPL La Plagne 82.42 337 ⇑*i*P **P 04 14 28.2 +0.9**
comp=Z,3.8nm,0.9s,mb4.2
LPL La Plagne 82.42 337 ⇑*i*P **P 04 14 28.2 +0.9**
LPL pmax pmax
comp=Z,4.0nm,0.9s,mb4.2
LPG La Plagne 82.44 337 *e*P **P 04 14 28.2 +0.8**
comp=Z,7.5nm,0.8s,mb4.3
LPG La Plagne 82.44 337 *e*P **P 04 14 28.2 +0.8**
comp=Z,3.8nm,0.8s,mb4.3
LPG La Plagne 82.44 337 *e*P **P 04 14 28.2 +0.8**
LPG pmax pmax
comp=Z,4.0nm,0.8s,mb4.3
TCF Toulx Ste Croi 82.83 340 *e*P **P 04 14 29.7 +0.3**
comp=Z,13nm,0.8s,mb4.5
TCF Toulx Ste Croi 82.83 340 *e*P **P 04 14 29.7 +0.3**
comp=Z,6.6nm,0.8s,mb4.5
TCF Toulx Ste Croi 82.83 340 *e*P **P 04 14 29.7 +0.3**
TCF pmax pmax
comp=Z,7.0nm,0.8s,mb4.5
MFF Saint Martin d 83.06 342 *e*P **P 04 14 31.0 +0.4**
comp=Z,6.5nm,0.7s,mb4.3
MFF Saint Martin d 83.06 342 *e*P **P 04 14 31.0 +0.4**
comp=Z,3.3nm,0.7s,mb4.3
MFF Saint Martin d 83.06 342 *e*P **P 04 14 31.0 +0.4**
MFF pmax pmax
comp=Z,3.0nm,0.7s,mb4.2
MBDF Montbardon 83.14 336 *e*P **P 04 14 31.5 +0.5**
comp=Z,13nm,1.1s,mb4.4
MBDF Montbardon 83.14 336 *e*P **P 04 14 31.5 +0.5**
comp=Z,6.4nm,1.1s,mb4.4
MBDF Montbardon 83.14 336 *e*P **P 04 14 31.5 +0.5**
MBDF pmax pmax
comp=Z,6.0nm,1.1s,mb4.3
ORIF Oris-en-Rattie 83.20 337 *e*P **P 04 14 31.0 -0.3**
VIVF Saint-Julien-l 83.58 338 *e*P **P 04 14 32.9 -0.3**
comp=Z,13nm,1.0s,mb4.4
VIVF Saint-Julien-l 83.58 338 *e*P **P 04 14 32.9 -0.3**
comp=Z,6.7nm,1.0s,mb4.4
VIVF Saint-Julien-l 83.58 338 *e*P **P 04 14 32.9 -0.3**
VIVF pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
SBF Sospel 83.76 336 *e*P **P 04 14 33.7 -0.5**
RJF Les Rejaudoux 83.92 340 *e*P **P 04 14 35.4 +0.4**
CAF Calviac 84.15 340 *e*P **P 04 14 37.1 +0.9**
comp=Z,11nm,0.9s,mb4.4
CAF Calviac 84.15 340 *e*P **P 04 14 37.1 +0.9**
comp=Z,5.6nm,0.9s,mb4.4
CAF Calviac 84.15 340 *e*P **P 04 14 37.1 +0.9**
CAF pmax pmax
comp=Z,6.0nm,0.9s,mb4.4
FRF La Foret Royal 84.26 336 *e*P **P 04 14 37.5 +0.8**
MTLF Montolieu 85.61 339 *e*P **P 04 14 44.4 +0.9**
TORD Torodi Ar. Bea 114.08 329 PKP PKiKP 04 20 42.2 -1.7
comp=Z,0.2nm,0.3s,baz=19,slow=2.0,SNR=12
QSPA South Pole Qui 137.52 180 PKP PKPdf 04 21 26.6 +0.1
comp=Z,1.7nm,0.9s,baz=225,slow=4.8,SNR=5.0
CFAA Coronel Fontan 145.02 78 PKPbc PKPbc 04 21 39.1 -2.1
comp=Z,0.5nm,0.7s,baz=261,slow=3.2,SNR=7.3
PLCA Paso Flores 148.53 93 PKIKP PKPdf 04 21 49.2 +2.2
PLCA pmax pmax
comp=Z,2.0nm,0.8s
PLCA Paso Flores 148.53 93 PKPbc PKPbc 04 21 49.1 -1.7
comp=Z,1.5nm,0.8s,baz=13,slow=23,SNR=2.9

IDC 12 04:12:11.8±2.2, 2094S×16870E, h0km, mb4.0/5, mb1 4.1/5, mb1mx3.9/13, mbtmp4.0/5, MS3.1/2, Ms1 3.1/2, ms1mx2.6/23, Error ellipse: s-maj=93.4km s-min=27.9km az=151.0, Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**21.04**	**268**	LR	LR	04 24 21.4	
	comp=Z,55nm,18.7s,baz=229,slow=35						
STKA	**Stephens Creek**	**26.54**	**240**	P	P	04 17 52.5	+1.1
	1.3nm,0.7s,baz=75,slow=12,SNR=3.5						
WRA	**Warramunga Arr**	**32.18**	**266**	P	P	04 18 41.8	+0.1
	0.2nm,0.4s,baz=91,slow=8.4,SNR=4.1						
WRA				LR	LR	04 31 28.8	
	comp=Z,29nm,21.4s,baz=175,slow=36						
ASAR	**Alice Springs**	**32.27**	**259**	P	P	04 18 42.4	0.0
	1.3nm,0.7s,baz=85,slow=9.3,SNR=14						
FITZ	**Fitzroy Crossi**	**40.60**	**266**	P	P	04 19 52.1	-1.5
	1.6nm,0.7s,baz=135,slow=5.7,SNR=5.0						
SONM	**Songino Array**	**88.27**	**323**	P	P	04 25 06.1	+1.1
	0.4nm,0.4s,baz=144,slow=4.5,SNR=5.3						
NVAR	**Mina Array Bea**	**90.30**	**49**	P	P	04 25 14.1	-0.6
	0.9nm,0.7s,baz=211,slow=6.7,SNR=4.3						
GERES	**GERESS Array B**	**145.73**	**330**	PKPbc	PKPbc	04 31 52.6	0.0
	1.0nm,0.6s,baz=49,slow=4.1,SNR=8.1						

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*NEIC **12** 04:25:19.7, 3447S×7209W, h32km, ML3.2(GUC), After GUC.*

GUC 12 04:25:19.7±0.7, 3447S×7209W, h32km±2km, MD3.8, ML3.2, 11C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**0.76**	**48**	⇓*i*P	Pn	04 25 33.8	-0.4
LNV				*i*S	Sn	04 25 43.8	-0.6
NICH	**Los Niches**	**0.89**	**127**	⇓*i*P	Pn	04 25 35.8	-0.2
NICH				*i*S	Sn	04 25 47.9	+0.2
SFDO	**San Fernando**	**0.90**	**100**	⇑*i*P	Pn	04 25 36.3	+0.2
SFDO				*i*S	Sn	04 25 48.3	+0.3
TACH	**Talagante**	**1.25**	**50**	⇑*i*P	Pn	04 25 41.3	+0.4
TACH				*i*S	Sn	04 25 57.8	+1.1
CACH	**El Canelo**	**1.28**	**75**	⇓*i*P	Pn	04 25 42.5	+1.2
CACH				*i*S	Sn	04 26 00.4	+3.0
CHCH	**Chadas Angostu**	**1.30**	**66**	⇑*i*P	Pn	04 25 42.6	+1.0
CHCH				*i*S	Sn	04 25 59.8	+1.8
CICH	**Cipreses**	**1.39**	**84**	⇑*i*P	Pn	04 25 44.0	+1.2
CICH				*i*S	Sn	04 26 02.3	+2.3
RCDM	**Rinconada Maip**	**1.44**	**48**	*e*P	Pn	04 25 44.1	+0.6
RCDM				*i*S	Sn	04 26 03.1	+1.7
RCDM	**Rinconada Maip**	**1.44**	**48**	*e*P	Pn	04 25 44.1	+0.6
RCDM				*i*S	Sn	04 26 03.1	+1.7
RCDM				AML	AML	04 26 07.0	
	comp=E,563nm,0.1s						
ANTU	**Antumapu**	**1.50**	**54**	⇑*i*P	Pn	04 25 45.7	+1.3
ANTU				*i*S	Sn	04 26 05.3	+2.4
ANTU	**Antumapu**	**1.50**	**54**	⇑*i*P	Pn	04 25 45.7	+1.3
ANTU				*i*S	Sn	04 26 05.3	+2.4
ANTU				AML	AML	04 26 10.3	
	comp=E,742nm,0.4s						
PCH	**Pirque**	**1.56**	**58**	⇑*i*P	Pn	04 25 46.5	+1.4
PCH				*i*S	Sn	04 26 07.3	+3.1
STL	**Santa Lucia**	**1.58**	**50**	*i*P	Pn	04 25 46.8	+1.3
STL				*i*S	Sn	04 26 07.3	+2.5
STL				AML	AML	04 26 12.0	
	comp=E,91nm,0.2s						
FSR	**Penalolen**	**1.63**	**53**	*i*S	Sn	04 26 09.3	+3.3
FSR				AML	AML	04 26 12.4	
	comp=E,426nm,0.4s						
DSCH	**Colegio Aleman**	**1.65**	**50**	*i*S	Sn	04 26 09.2	+2.7
SJCH	**San Jose de Ma**	**1.66**	**61**	*e*P	Pn	04 25 48.1	+1.6
SJCH				*i*S	Sn	04 26 09.9	+3.2
SJCH	**San Jose de Ma**	**1.66**	**61**	*e*P	Pn	04 25 48.1	+1.6
SJCH				*i*S	Sn	04 26 09.9	+3.2
SJCH				AML	AML	04 26 12.4	
	comp=E,606nm,0.6s						
CLCH	**Cerro Calan**	**1.68**	**51**	⇑*i*P	Pn	04 25 48.4	+1.7
CLCH				*i*S	Sn	04 26 09.9	+2.8
CLCH				AML	AML	04 26 18.7	
	comp=E,732nm,0.4s						
LMEL	**Las Melosas**	**1.68**	**69**	⇑*i*P	Pn	04 25 48.7	+1.8
LMEL				*i*S	Sn	04 26 10.6	+3.3
LMEL	**Las Melosas**	**1.68**	**69**	⇑*i*P	Pn	04 25 48.7	+1.8
LMEL				*i*S	Sn	04 26 10.6	+3.3
LMEL				AML	AML	04 26 14.9	
	comp=N,681nm,0.5s						
PEL	**Peldehue**	**1.76**	**42**	⇓*i*P	Pn	04 25 49.9	+2.0
PEL				*i*S	Sn	04 26 12.1	+2.8
PEL				AML	AML	04 26 20.8	
	comp=N,688nm,0.4s						
FCH	**Farellones**	**1.88**	**53**	⇑*i*P	Pn	04 25 51.2	+1.6
FCH				*i*S	Sn	04 26 15.8	+3.7
FCH				AML	AML	04 26 21.9	
	comp=N,441nm,0.2s						

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*IDC **12** 04:37:27.5±1.8, 777S×15576E, h0km, mb4.1/9, mb1 4.2/9, mb1mx4.1/15, mbtmp4.0/9, MS3.5/1, Ms1 3.4/1, ms1mx2.5/20, Error ellipse: s-maj=57.4km s-min=25.2km az=121.0*

*NEIC **12** 04:37:28.9±1.0, 776S×15578E, h10km, mb4.6/2, Error ellipse: s-maj=35.8km s-min=14.0km az=126.0*

*ISCJB **12** 04:37:31.2±1.2, 77S±02×1557E±02, h33km, mb4.0/11, Error ellipse: s-maj=40.8km s-min=17.2km az=35.3*

ISC 12 04:37:32.7±1.2, 78S±02×1558E±02, h35km, n16, σ0s62/15, mb4.0/11, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.03**	**238**	P	P	04 42 44.9	+0.3
	1.1nm,0.6s,mb3.4,baz=65,slow=9.2,SNR=3.4						
ASAR	**Alice Springs**	**26.25**	**231**	P	P	04 43 04.3	-0.5
	1.3nm,0.9s,mb3.4,baz=62,slow=9.7,SNR=7.1						
STKA	**Stephens Creek**	**27.36**	**207**	LR	LR	04 53 47.8	
	comp=Z,95nm,18.9s,baz=26,slow=36						
MJAR	**Matsushiro Arr**	**47.09**	**341**	P	P	04 46 00.2	-1.0
	1.4nm,0.8s,mb3.9,baz=164,slow=6.3,SNR=4.8						
KSRS	**Korea Array**	**52.01**	**332**	P	P	04 46 39.0	+0.2
	0.9nm,0.5s,mb3.9,baz=152,slow=8.2,SNR=4.6						
SONM	**Songino Array**	**70.43**	**327**	P	P	04 48 44.0	+0.6
	0.5nm,0.6s,mb3.6,baz=120,slow=5.5,SNR=3.3						
BILL	**Bilibino**	**76.02**	**4**	*e*P	P	04 49 16.8	+0.9
	5.8nm,0.9s,mb4.5						
MCK	**McKinley**	**82.51**	**22**	*e*P	P	04 49 50.4	-1.0
	3.1nm,0.8s,mb4.4						
MK31	**Makanchi Array**	**84.52**	**319**	*e*P	P	04 50 02.2	0.0
MKAR	**Makanchi Array**	**84.52**	**319**	P	P	04 50 02.7	+0.6
MKAR	**Makanchi Array**	**84.52**	**319**	P	P	04 50 02.7	+0.6
	3.1nm,0.7s,mb4.6,baz=105,slow=5.8,SNR=19						
ZALV	**Zalesovo Beam**	**85.28**	**326**	P	P	04 50 05.1	-0.7
ZALV	**Zalesovo Beam**	**85.28**	**326**	P	P	04 50 05.1	-0.7
	2.0nm,0.6s,mb4.4,baz=108,slow=5.4,SNR=9.5						
INK	**Inuvik**	**90.19**	**21**	P	P	04 50 29.1	0.0
	0.4nm,0.5s,mb4.0,baz=250,slow=3.4,SNR=4.4						
YKA	**Yellowknife Ar**	**96.67**	**28**	P	P	04 50 59.5	+0.5
YKA	**Yellowknife Ar**	**96.67**	**28**	P	P	04 50 59.5	+0.5
	0.5nm,0.6s,mb4.1,baz=266,slow=4.5,SNR=13						

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*NIED **12** 04:40:00, 4250N×143.90E, h83km, Mw3.7 Best double couple: M0:4.45000×10^14 NP1:φs=254.00000°, δ80.00000°, λ-98.00000°. NP2:φs=112.00000°, δ13.00000°, λ-53.00000°.*

*MOS **12** 04:40:37.5±1.2, 4246N×144.10E, h95km, mb4.0/12, Error ellipse: s-maj=16.4km s-min=10.1km az=98.9*

*ISCJB **12** 04:40:38.0±0.4, 4249N±004×14405E±005, h95km±2km, mb3.9/20, Error ellipse: s-maj=7.6km s-min=4.8km az=140.6*

*IDC **12** 04:40:38.9±2.2, 4249N×144.03E, h89km±16km, mb3.7/10, mb1 3.8/11, mb1mx3.6/22, mbtmp3.6/11, MS3.0/1, Ms1 3.0/1, ms1mx2.4/28, Error ellipse: s-maj=23.2km s-min=16.0km az=93.0*

*NEIC **12** 04:40:39.8±0.9, 4238N×144.06E, h101km±10km, mb3.9/9, Error ellipse: s-maj=15.5km s-min=10.5km az=166.0*

*JMA **12** 04:40:39.2±0.1, 4252N×14394E, h90km±2km, M3.8 Broadband fault plane solution: P waves. NP1: φs=30.00000°, δ14.00000°, λ-129.00000°. NP2: φs=249.00000°, δ79.00000°, λ-81.00000°. Principal axes: T Plg34.0000°, Azm332.0000°; N Plg8.0000°, Azm68.0000°; P Plg55.0000°, Azm170.0000°;*

JMA Felt I J1.

ISC 12 04:40:39.1±0.4, 4250N±004×14404E±005, h88km±2km, n64, σ0s80/79, mb3.9/20, 1C-11D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOB	**Onbets**	**0.43**	**340**	⇓P	Pn	04 40 53.7	+0.6
JOB				*e*S	Sn	04 41 04.2	+0.7
JCH	**Churui**	**0.51**	**283**	⇓P	Pn	04 40 53.7	0.0
JCH				S	Sn	04 41 03.8	-0.8
JAK	**Akkeshi**	**0.69**	**44**	⇓P	Pn	04 40 55.9	+0.5
JAK				*e*S	Sn	04 41 08.3	+0.8
JEM	**Erimo**	**0.81**	**234**	⇑P	Pn	04 40 57.5	+0.9
ERM	**Erimo**	**0.81**	**234**	*e*Pn	Pn	04 40 57.5	+0.9
ERM				*e*Sn	Sn	04 41 08.8	-0.8
JAR	**Ashorobuto**	**0.82**	**346**	⇓P	Pn	04 40 56.8	+0.1
JAR				*e*S	Sn	04 41 09.7	0.0
JNBK	**Urakawa-nobuka**	**0.98**	**257**	⇓P	Pn	04 40 58.2	-0.2
JNBK				*e*S	Sn	04 41 11.9	-0.9
JNK	**Nakash**	**1.19**	**25**	⇓P	Pn	04 41 01.0	+0.1
JNK				*e*S	Sn	04 41 16.8	-0.6
JFR	**Furan**	**1.25**	**302**	⇓P	Pn	04 41 00.9	-0.7
JBT2	**Biratori 2**	**1.27**	**283**	⇓P	Pn	04 41 01.2	-0.6
JTKR	**Abashiri--Toko**	**1.47**	**356**	⇓P	Pn	04 41 04.7	+0.3
JTKR				*e*S	Sn	04 41 23.6	+0.1
NEM2	**Nemuro 2**	**1.52**	**55**	P	Pn	04 41 04.7	-0.3
NEM2				*e*S	Sn	04 41 22.9	-1.7
JMP	**Maruseppu**	**1.58**	**342**	⇓P	Pn	04 41 05.8	0.0
JMP				*e*S	Sn	04 41 25.4	-0.7
JRA	**Rausu**	**1.64**	**29**	P	Pn	04 41 07.3	+0.8
JRA				*e*S	Sn	04 41 28.1	+0.8
JKK2	**Kamakawa 2**	**1.67**	**326**	⇓P	Pn	04 41 06.9	+0.1
JAB	**Ashibetsu**	**1.67**	**308**	P	Pn	04 41 07.2	+0.3
ASAJ	**Asahikawa**	**1.93**	**327**	PN	Pn	04 41 10.8	+0.5
ASAJ				S	Sn	04 41 34.2	+0.2
ASAJ				pmax	pmax		
	comp=Z,22nm,0.3s						
ASAJ				smax			
	comp=N,29nm,0.3s						
ASAJ	**Asahikawa**	**1.93**	**327**	P	Pn	04 41 10.8	+0.5
	comp=N,22nm,0.3s,baz=174,slow=9.2,SNR=38						
ASAJ				S	Sn	04 41 34.2	+0.2
	comp=N,29nm,0.3s,baz=5.8,slow=30,SNR=16						
JEW	**Eniwo**	**1.94**	**281**	P	Pn	04 41 11.0	+0.6
JEW				*e*S	Sn	04 41 34.8	+0.6
YSS	**Yuzh-Sakhalins**	**4.55**	**349**	*e*PN	Pn	04 41 44.0	-1.5
YSS				*e*S	Sn	04 42 36.0	-1.0
YSS				pmax	pmax		
	comp=Z,20nm,0.7s						
YSS				smax			
	comp=N,50nm,0.8s						
MJAR	**Matsushiro Arr**	**7.46**	**219**	PN	Pn	04 42 24.7	-0.5
MJAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MJAR	**Matsushiro Arr**	**7.46**	**219**	P	Pn	04 42 24.7	-0.5
	comp=Z,1.1nm,0.3s,baz=30,slow=14,SNR=10						
ULN	**Ulaanbaatar**	**26.44**	**295**	*e*P	P	04 46 08.9	+1.4
	comp=Z,2.0nm,0.7s,mb3.7						
ULN	**Ulaanbaatar**	**26.44**	**295**	*e*P	P	04 46 08.9	+1.4
ULN				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb3.7						
SONM	**Songino Array**	**26.88**	**294**	P	P	04 46 13.1	+1.6
SONM				pmax	pmax		
	comp=Z,4.0nm,0.7s						
SONM	**Songino Array**	**26.88**	**294**	P	P	04 46 13.1	+1.6
	comp=Z,3.6nm,0.7s,mb4.0,baz=84,slow=8.8,SNR=23						
BILL	**Bilibino**	**28.22**	**18**	*e*P	P	04 46 25.4	+2.3
	comp=Z,1.5nm,0.5s,mb3.8						
BILL	**Bilibino**	**28.22**	**18**	*e*P	P	04 46 25.4	+2.2
BILL				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb3.6						
ZAK	**Zakamensk**	**28.87**	**300**	*e*P	P	04 46 30.0	+0.9
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.0s,mb3.4						
ZAA0	**Zalesovo Array**	**39.95**	**308**	*e*P	P	04 48 04.0	-0.5
ZALV	**Zalesovo Beam**	**39.95**	**308**	P	P	04 48 04.4	-0.1
	comp=Z,0.9nm,0.3s,mb4.1,baz=89,slow=6.7,SNR=5.8						
ZAL	**Zalesovo**	**39.96**	**308**	P	P	04 48 04.4	-0.2
IMA2	**Indian Mountai**	**40.98**	**33**	*e*P	P	04 48 14.2	+1.3
MK31	**Makanchi Array**	**43.15**	**298**	*e*P	P	04 48 30.4	-0.4
MKAR	**Makanchi Array**	**43.15**	**298**	P	P	04 48 30.2	-0.5
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
MKAR				MLR	MLR		
	comp=Z,17nm,18.0s						
MKAR	**Makanchi Array**	**43.15**	**298**	P	P	04 48 30.2	-0.5
	comp=Z,1.5nm,0.6s,mb3.9,baz=82,slow=10,SNR=10						
MKAR				LR	LR	05 09 54.9	
	comp=Z,17nm,18.0s,baz=176,slow=41						
KURK	**Kurchatov**	**44.34**	**304**	*e*P	P	04 48 40.8	+0.6
	comp=Z,4.5nm,0.4s,mb4.5						
KURK	**Kurchatov**	**44.34**	**304**	*e*P	P	04 48 40.8	+0.6
KURK				pmax	pmax		
	comp=Z,4.0nm,0.4s,mb4.5						
BRVK	**Borovoye**	**48.58**	**309**	*e*P	P	04 49 14.2	+0.9
	comp=Z,2.5nm,0.5s,mb4.4						
BRVK	**Borovoye**	**48.58**	**309**	*e*P	P	04 49 14.2	+0.9
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.5						
INK	**Inuvik**	**48.62**	**29**	*e*P	P	04 49 13.6	+0.1
INK	**Inuvik**	**48.62**	**29**	P	P	04 49 13.7	+0.2
	comp=Z,0.8nm,0.4s,mb4.0,baz=295,slow=5.2,SNR=14						
RES	**Resolute Bay**	**56.80**	**16**	*e*P	P	04 50 12.9	-0.7
	comp=Z,65nm,0.6s						
YKA	**Yellowknife Ar**	**58.09**	**32**	P	P	04 50 22.7	-0.1
YKA	**Yellowknife Ar**	**58.09**	**32**	P	P	04 50 22.7	-0.1
	comp=Z,0.2nm,0.5s,mb3.4,baz=303,slow=7.0,SNR=7.1						
ARCES	**ARCESS Array B**	**59.61**	**339**	P	P	04 50 32.9	-0.3
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.8s						
ARCES	**ARCESS Array B**	**59.61**	**339**	P	P	04 50 32.9	-0.3
	comp=Z,1.9nm,0.8s,mb4.2,baz=57,slow=7.4,SNR=3.5						
WRA	**Warramunga Arr**	**62.77**	**190**	P	P	04 50 54.4	-0.7
	comp=Z,0.4nm,0.7s,mb3.5,baz=9.8,slow=7.0,SNR=2.7						
FINES	**FINESS Array B**	**64.93**	**332**	P	P	04 51 08.0	-0.8
FINES	**FINESS Array B**	**64.93**	**332**	P	P	04 51 08.0	-0.8
FINES				pmax	pmax		
	comp=Z,2.0nm,0.5s						
FINES	**FINESS Array B**	**64.93**	**332**	P	P	04 51 08.0	-0.8
	comp=Z,1.9nm,0.5s,mb4.2,baz=48,slow=7.5,SNR=14						
FFC	**Flin Flon**	**68.04**	**35**	*e*P	P	04 51 28.7	0.0
	comp=Z,1.4nm,0.7s,mb3.9						
FFC	**Flin Flon**	**68.04**	**35**	*e*P	P	04 51 28.7	-0.1
FFC				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb3.8						
FCC	**Fort Churchill**	**68.23**	**28**	*e*P	P	04 51 29.4	-0.4
	comp=Z,0.7nm,0.5s,mb3.8						
FCC	**Fort Churchill**	**68.23**	**28**	*e*P	P	04 51 29.4	-0.4
FCC				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb3.9						
BOZ	**Bozeman (W)**	**69.43**	**47**	*e*P	P	04 51 38.7	+1.1

ASAR	**Alice Springs**	**30.23**	**162**	P	P	04 47 17.8	+0.4
	1.1nm,0.3s,baz=340,slow=7.1,SNR=23						
STKA	**Stephens Creek**	**40.44**	**157**	P	P	04 48 42.4	+0.1
	1.3nm,0.7s,baz=333,slow=11,SNR=3.9						
MKAR	**Makanchi Array**	**54.90**	**326**	P	P	04 50 30.4	+0.1
	0.8nm,0.4s,baz=122,slow=7.9,SNR=4.3						
TORD	**Torodi Ar. Bea**	**120.02**	**288**	PKP	PKPdf	04 59 40.7	-0.4
	0.2nm,0.6s,baz=47,slow=1.1,SNR=1.0						

RSPR 12 04:43:37.9, 1949N×7203W, h53km±13km, MD4.4/6, MD4.4/6, 4C-1D, Haiti region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDDR	**Presa de Saban**	**0.86**	**126⇑**	*e*P	Pn	04 43 53.4	-0.5
SDDR	**Presa de Saban**	**0.86**	**126**	*e*S	Sn	04 44 04.3	-1.3
MASC	**Masc**	**2.18**	**288**	*e*P	Pn	04 44 17.3	+5.5
	baz=90						
MASC				*e*			
	comp=E,0.5nm,0.1s						
SMN1	**Samana, DR**	**2.62**	**96⇑**	*e*P	Pn	04 44 16.6	-1.1
SMN1	**Samana, DR**	**2.62**	**96**	*e*S	Sn	04 44 47.4	-0.9
RCC	**Rio Carpintero**	**3.49**	**279**	*e*P	Pn	04 44 34.6	+4.9
	baz=113						
RCC				*e*S	Sn	04 45 20.0	+10
	comp=N,51nm,0.4s						
RCC				*e*			
	comp=E,74nm,0.7s						
LMGC	**Las Mercedes**	**4.72**	**278**	*e*P	Pn	04 44 57.0	+10
	baz=118						
LMGC				*e*S	Sn	04 45 53.4	+13
	comp=N,24nm,0.4s						
LMGC				*e*			
	comp=E,40nm,0.6s						
CRPR	**Cabo Rojo, PR**	**4.89**	**107⇑**	*e*P	Pn	04 44 48.6	-0.2
CPD	**Cerro la Pandu**	**5.97**	**103⇑**	*e*P	Pn	04 45 00.4	-3.3
MTP	**Monte Pirata**	**6.29**	**102⇑**	*e*P	Pn	04 45 03.2	-4.9

IDC 12 04:58:12.7±2.5, 2037S×16847E, h34km±7km, mb3.6/3, mb1 4.0/3, mb1mx3.7/13, mbtmp3.6/3, MS3.3/2, Ms1 3.2/2, ms1mx2.9/21, Error ellipse: s-maj=146.4km s-min=23.8km az=156.0, Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**2.54**	**228**	*e*P	Pn	04 58 45.8	-5.8
DZM				*e*S	Sn	04 59 15.8	-5.5
CTA	**Charters Tower**	**20.85**	**267**	LR	LR	05 08 36.9	
	comp=Z,61nm,19.0s,baz=229,slow=30						
STKA	**Stephens Creek**	**26.64**	**239**	LR	LR	05 12 35.2	
	comp=Z,68nm,19.8s,baz=206,slow=32						
WRA	**Warramunga Arr**	**32.01**	**265**	P	P	05 04 37.3	+1.1
	0.5nm,0.8s,baz=90,slow=8.2,SNR=4.0						
ASAR	**Alice Springs**	**32.17**	**258**	P	P	05 04 36.7	-0.8
	1.3nm,0.8s,baz=85,slow=8.8,SNR=9.2						
ASAR				pP	pP	05 04 46.5	-0.8
	1.8nm,0.7s,baz=84,slow=8.6,SNR=7.2						
NVAR	**Mina Array Bea**	**90.08**	**49**	P	P	05 11 08.4	-0.8
	0.8nm,0.7s,baz=220,slow=9.1,SNR=4.1						
NVAR				pP	pP	05 11 19.6	-0.4
	0.4nm,0.4s,baz=238,slow=8.2,SNR=2.8						
YKA	**Yellowknife Ar**	**102.00**	**28**	P	Pdif	05 12 02.7	-0.5
	0.1nm,0.5s,baz=263,slow=4.9,SNR=4.6						
YKA				pP		05 12 14.2	
	0.2nm,0.7s,baz=261,slow=5.2,SNR=3.0						
GERES	**GERESS Array B**	**145.13**	**330**	PKPbc	PKPbc	05 17 46.3	+0.2
	0.7nm,0.2s,baz=36,slow=2.5,SNR=6.1						
GERES				pPKPbc	pPKPbc	05 17 57.4	+0.3
	0.8nm,0.6s,baz=46,slow=3.9,SNR=2.9						

*NEIC **12** 04:59:37.4, 6981N×14464W, h10km, ML3.3(AEIC), After AEIC.*
*PGC **12** 04:59:43.6±1.0, 6963N×14428W, h10km, ML3.1/1, 169km east of Prudhoe Bay, Ak Alaska*

ISC 12 04:59:35.8±1.5, 700N±01×1446W±02, h10km, n17, σ0§84/26, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BM3	**Burnt Mountain**	**2.57**	**180**	P	**Pn**	**05 00 16.7**	**-0.8**
BM3				S	**Sn**	**05 00 48.3**	**-0.4**
COLD	**Coldfoot**	**3.44**	**219**	P	**Pn**	**05 00 29.4**	**0.0**
COLD				S	**Sn**	**05 01 11.6**	**+1.5**
INK	**Inuvik**	**4.31**	**108**	Pn	**Pn**	**05 00 45.3**	**+4.0**
INK				Sn	**Sn**	**05 01 31.6**	**+0.1**
INK				Sg	**Sg**	**05 01 50.4**	**-3.5**
IMA2	**Indian Mountai**	**5.20**	**225**	*e*Pn	**Pn**	**05 00 52.9**	**-0.6**
IMA2				*e*Pg	**Pg**	**05 01 06.6**	**-8.6**
IMA2				*e*Sg	**Sg**	**05 02 13.7**	**-8.7**
COLA	**College**	**5.28**	**195**	P	**Pn**	**05 00 54.6**	**0.0**
COLA				S	**Sn**	**05 01 55.4**	**0.0**
IM3	**Indian Mountai**	**5.28**	**225**	P	**Pn**	**05 00 55.6**	**+1.0**
IL1	**Eielson Array**	**5.31**	**191**	P	**Pn**	**05 00 53.7**	**-1.3**
EGAK	**Eagle**	**5.39**	**164**	P	**Pn**	**05 00 56.8**	**+0.6**
DAWY	**Dawson**	**6.28**	**159**	P	**Pn**	**05 01 08.4**	**+0.1**
DAWY				S	**Sn**	**05 02 20.8**	**+0.7**
DAWY	**Dawson**	**6.28**	**159**	Pn	**Pn**	**05 01 08.6**	**+0.2**
DAWY				Sn	**Sn**	**05 02 13.4**	**-6.7**
DOT	**Dot Lake**	**6.37**	**178**	P	**Pn**	**05 01 08.7**	**-0.9**
MCK	**McKinley**	**6.50**	**197**	P	**Pn**	**05 01 10.7**	**-0.6**
KTH	**Kantishna Hill**	**6.92**	**204**	P	**Pn**	**05 01 16.4**	**-0.7**
BCA3	**Beaver Creek A**	**7.04**	**169**	P	**Pn**	**05 01 18.6**	**-0.1**
MENT	**Mentasta**	**7.08**	**177**	P	**Pn**	**05 01 19.1**	**-0.3**
HYT	**Haines Junctio**	**9.65**	**159**	Pn	**Pn**	**05 01 56.2**	**+1.7**
WHY	**Whitehorse**	**10.19**	**152**	Pn	**Pn**	**05 02 02.2**	**+0.3**

*NEIC **12** 05:06:59.5, 3832N×2205E, h25km, MD3.5(ATH), After ATH.*
*ATH **12** 05:06:59.5, 3832N×2205E, h25km±1km, MD3.5/5*
*ISCJB **12** 05:07:00.1±0.5, 3833N±003×2194E±004, h20km±5km, Error ellipse: s-maj=5.6km s-min=5.5km az=10.6*
*CSEM **12** 05:07:00.6±0.2, 3836N×2200E, h15km, ML3.1, Error ellipse: s-maj=4.5km s-min=4.2km az=158.0*
*THE **12** 05:07:00.8, 3835N×2204E, h7km, ML3.1*

ISC 12 05:07:00.1±0.5, 3835N±003×2201E±004, h18km±5km, n13, σ0§86/20, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SELA	**Sela**	**0.12**	**233**	*e*Pg	**Pg**	**05 07 03.6**	**-0.3**
SELA				*e*Sg	**Sg**	**05 07 06.2**	**-0.3**
RLS	**Riolos of Patr**	**0.52**	**236**	*e*PN	**Pg**	**05 07 10.8**	**+0.3**
RLS				*e*SN	**Sg**	**05 07 18.7**	**+1.2**
EVR	**Evrytania**	**0.59**	**344**	*e*PN	**Pn**	**05 07 12.0**	**-1.6**
EVR				*e*SB	**Sb**	**05 07 21.0**	**+1.1**
AGG	**Agios Georgios**	**0.72**	**20**	*e*Pg	**Pg**	**05 07 13.5**	**-0.7**
AGG				*e*Sg	**Sg**	**05 07 24.9**	**+1.1**
LTK	**Loutraki**	**0.82**	**113**	*e*Pg	**Pg**	**05 07 15.6**	**-0.4**
LTK				*e*Sg	**Sg**	**05 07 27.6**	**+0.7**
LKR	**Lokris**	**0.83**	**68**	*e*PN	**Pg**	**05 07 15.6**	**-0.7**
LKR				*e*SN	**Sg**	**05 07 27.0**	**-0.3**
VLS	**Valsamata**	**1.13**	**262**	*e*PN	**Pn**	**05 07 21.4**	**+0.4**
ITM	**Ithomi**	**1.17**	**183**	*e*PN	**Pn**	**05 07 21.2**	**-0.3**
THL	**Klokotos Trika**	**1.22**	**0**	*e*PN	**Pn**	**05 07 23.7**	**+1.5**
DID	**Didima**	**1.28**	**131**	*e*Pg	**Pg**	**05 07 24.0**	**-0.9**
DID				*e*Sg	**Sg**	**05 07 42.3**	**+0.7**
NEO	**Neokhori**	**1.34**	**44**	*e*PN	**Pn**	**05 07 24.5**	**+0.5**
IGT	**Igoumenitsa**	**1.77**	**313**	*e*Pb	**Pb**	**05 07 31.1**	**-0.8**
KEK	**Kerkira**	**2.20**	**309**	*e*PB	**Pb**	**05 07 37.9**	**-1.4**

*ATH **12** 05:16:45.1, 3991N×2387E, h32km±2km, MD3.0/3*
*ISCJB **12** 05:16:47.4±0.7, 3992N±003×2371E±0.10, h17km±6km, Error ellipse: s-maj=12.7km s-min=5.6km az=7.5*
*CSEM **12** 05:16:47.6±0.2, 3991N×2369E, h12km, ML2.6, Error ellipse: s-maj=5.4km s-min=2.9km az=100.0*
*THE **12** 05:16:48.4, 3994N×2373E, h5km, ML2.6*

ISC 12 05:16:47.3±0.8, 3991N±003×2371E±009, h16km±6km, n12, σ0§78/17, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAIG	**Paliouri**	**0.03**	**298**	*e*Pg	**Pg**	**05 16 49.7**	**-0.3**
PAIG				*e*Sg	**Sg**	**05 16 51.0**	**-0.9**
OUR	**Ouranopolis**	**0.47**	**26**	*e*Pg	**Pg**	**05 16 56.7**	**0.0**
OUR				*e*Sg	**Sg**	**05 17 03.6**	**+0.7**
PLG	**Polygyros**	**0.50**	**336**	*e*Pg	**Pg**	**05 16 56.7**	**-0.5**
PLG				*e*Sg	**Sg**	**05 17 05.0**	**+0.9**
PLG	**Polygyros**	**0.50**	**336**	*e*PN	**Pg**	**05 16 56.7**	**-0.6**
PLG				*e*SN	**Sg**	**05 17 04.8**	**+0.7**
NEO	**Neokhori**	**0.71**	**212**	*e*PN	**Pg**	**05 17 00.9**	**-0.3**
NEO				*e*SN	**Sg**	**05 17 12.0**	**+1.3**
AOS	**Alonnisos**	**0.75**	**170**	*e*Pg	**Pg**	**05 17 02.8**	**+0.9**
HORT	**Hortiatis**	**0.83**	**326**	*e*Pg	**Pg**	**05 17 02.9**	**-0.5**
THE	**Thessaloniki**	**0.92**	**322**	*e*Pg	**Pg**	**05 17 06.0**	**+0.9**
SOH	**Sokhos**	**0.95**	**343**	*e*Pg	**Pg**	**05 17 05.3**	**-0.3**
LKR	**Lokris**	**1.38**	**204**	*e*PB	**Pn**	**05 17 10.3**	**-1.6**
KNT	**Kendrikon**	**1.39**	**334**	*e*Pg	**Pg**	**05 17 13.9**	**-0.1**
KNT	**Kendrikon**	**1.39**	**334**	*e*Pg	**Pg**	**05 17 13.9**	**-0.2**

IDC 12 05:26:39.4±2.2, 051S×12789E, h0km, mb3.4/3, mb1 3.7/3, mb1mx3.5/15, mbtmp3.5/3, Error ellipse: s-maj=157.0km s-min=27.6km az=67.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**20.32**	**162**	P	P	05 31 17.2	0.0
	0.4nm,0.3s,baz=341,slow=11,SNR=21						
ASAR	**Alice Springs**	**23.74**	**166**	P	P	05 31 53.6	0.0
	0.7nm,0.7s,baz=342,slow=8.9,SNR=8.6						
MKAR	**Makanchi Array**	**61.69**	**326**	P	P	05 36 59.5	+0.1
	0.3nm,0.4s,baz=125,slow=10,SNR=3.7						

*IDC **12** 05:39:49.8±1.2, 7.16S×15569E, h0km, mb4.1/7, mb1 4.2/8, mb1mx4.0/15, mbtmp4.2/8, ML4.4/1, MS3.4/2, Ms1 3.4/2, ms1mx2.8/21, Error ellipse: s-maj=27.8km s-min=23.7km az=98.0*
*NEIC **12** 05:39:51.2±0.6, 7.16S×15570E, h10km, Error ellipse: s-maj=15.4km s-min=13.1km az=205.0*
*ISCJB **12** 05:39:53.2±0.7, 72S±01×15567E±008, h33km, mb4.0/7, Error ellipse: s-maj=19.1km s-min=9.2km az=22.0*

ISC 12 05:39:55.2±0.7, 72S±01×15565E±008, h35km, n11, σ0§85/10, mb4.0/7, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.81**	**118**	Pn	**Pn**	**05 41 03.3**	**-1.9**
	17nm,0.3s,baz=249,slow=5.9,SNR=2.9						
HNR				Sn	**Sn**	**05 42 00.7**	**+1.1**
	25nm,0.3s,baz=100,slow=13,SNR=4.1						
CTA	**Charters Tower**	**15.74**	**214**	LR	LR	05 48 19.2	
	comp=Z,64nm,22.0s,baz=48,slow=32						
WRA	**Warramunga Arr**	**24.25**	**236**	P	**P**	**05 45 09.5**	**+0.4**
	3.4nm,0.5s,mb4.0,baz=61,slow=9.7,SNR=71						
ASAR	**Alice Springs**	**26.54**	**229**	P	**P**	**05 45 29.2**	**-0.6**
	0.6nm,0.6s,mb3.3,baz=60,slow=9.6,SNR=8.7						
STKA	**Stephens Creek**	**27.85**	**206**	P	**P**	**05 45 41.8**	**+0.3**
	2.2nm,0.8s,mb3.9,baz=45,slow=13,SNR=6.0						
FITZ	**Fitzroy Crossi**	**31.18**	**247**	P	**P**	**05 46 11.4**	**+0.2**
	1.6nm,0.7s,mb4.0,baz=88,slow=11,SNR=9.5						
BATI	**Kupang**	**31.75**	**262**	LR	LR	06 00 00.7	
	comp=Z,134nm,18.1s,baz=107,slow=38						
SONM	**Songino Array**	**69.84**	**327**	P	**P**	**05 51 03.4**	**+1.2**
	1.1nm,0.6s,mb4.0,baz=144,slow=6.7,SNR=7.7						
MK31	**Makanchi Array**	**83.97**	**319**	*e*P	**P**	**05 52 21.8**	**0.0**
MKAR	**Makanchi Array**	**83.97**	**319**	P	**P**	**05 52 22.1**	**+0.2**
	1.8nm,0.7s,mb4.3,baz=109,slow=5.9,SNR=12						
ZALV	**Zalesovo Beam**	**84.69**	**326**	P	**P**	**05 52 24.4**	**-1.0**
	0.8nm,0.4s,mb4.2,baz=96,slow=5.4,SNR=4.8						

MAN 12 05:40:48, 960N×12243E, h20km, mb4.1, ML2.9, MS2.6, Negros

IDC 12 05:55:23.2±4.0, 688S×15520E, h0km, mb4.0/4, mb1 4.2/4, mb1mx3.8/14, mbtmp4.0/4, Error ellipse: s-maj=112.6km s-min=31.2km az=119.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.05**	**235**	P	P	06 00 39.8	-0.6
	1.0nm,0.4s,baz=60,slow=9.4,SNR=29						
FITZ	**Fitzroy Crossi**	**30.89**	**246**	P	P	06 01 42.4	+0.6
	2.4nm,1.0s,baz=75,slow=14,SNR=3.7						
SONM	**Songino Array**	**69.35**	**327**	P	P	06 06 33.6	+0.9
	0.8nm,0.6s,baz=139,slow=7.8,SNR=4.4						
MKAR	**Makanchi Array**	**83.45**	**319**	P	P	06 07 52.4	-0.4
	2.2nm,0.7s,baz=101,slow=6.0,SNR=15						

*TEH **12** 05:58:13.3, 2757N×5319E, h14km, ML4.0*
*IDC **12** 05:59:14.1±1.4, 2765N×5316E, h0km, mb4.2/11, mb1 4.2/11, mb1mx4.0/23, mbtmp4.2/11, MS2.9/3, Ms1 2.9/3, ms1mx2.5/34, Error ellipse: s-maj=36.1km s-min=18.9km az=149.0*
*CSEM **12** 05:59:15.6±0.1, 2766N×5318E, h20km, mb4.2/18, Error ellipse: s-maj=3.0km s-min=2.0km az=173.0*
*MOS **12** 05:59:16.6±1.1, 2757N×5317E, h30km, mb4.4/17, Error ellipse: s-maj=14.6km s-min=7.6km az=96.2*
*NEIC **12** 05:59:16.6, 2757N×5319E, h14km, mb4.3/4, MN4.0(TEH), After TEH.*
*ISCJB **12** 05:59:18.6±0.7, 2773N±004×5319E±004, h41km±6km, mb4.2/24, MS3.3/4, Error ellipse: s-maj=6.6km s-min=4.9km az=143.9*

ISC 12 05:59:20.3±0.6, 2770N±004×5323E±004, h39km±5km, n113, σ0§10/131, mb4.2/24, MS3.3/4, 2C, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IMOK	**Mouk**	**1.42**	**341**	Pg	**Pn**	**05 59 44.0**	**+0.4**
IMOK				Sg	**Sn**	**06 00 04.6**	**+3.5**
IMOK	**Mouk**	**1.42**	**341**	*e*Pg	**Pn**	**05 59 44.0**	**+0.4**
IMOK				*e*Sg	**Sn**	**06 00 04.7**	**+3.6**
IMOK				*e*		06 00 10.2	
	comp=Z,43μm,0.3s						
IMOK	**Mouk**	**1.42**	**341**	*e*Pg	**Pn**	**05 59 44.0**	**+0.4**
IMOK				*e*Sg	**Sn**	**06 00 04.7**	**+3.6**
ISRV	**Sarvestan**	**1.68**	**356**	Pn	**Pn**	**05 59 47.5**	**+0.3**
ISRV				Sn	**Sn**	**06 00 10.5**	**+3.0**
ISRV	**Sarvestan**	**1.68**	**356**	*e*Pn	**Pn**	**05 59 47.6**	**+0.4**
ISRV				*e*Sn	**Sn**	**06 00 10.5**	**+3.0**
ISRV				*e*		06 00 21.6	
	comp=Z,36μm,0.4s						
SHI	**Shiraz**	**2.04**	**342**	*e*Pn	**Pn**	**05 59 52.0**	**-0.1**
SHI				*e*		06 00 38.0	
	comp=Z,9μm,0.3s						
IPAR	**Pars**	**2.15**	**356**	Pn	**Pn**	**05 59 54.0**	**+0.5**
IPAR	**Pars**	**2.15**	**356**	*e*Pn	**Pn**	**05 59 54.1**	**+0.6**
IMEH	**Mehriz**	**3.87**	**18**	*e*Pn	**Pn**	**06 00 18.1**	**+0.8**
IMEH				*e*		06 01 31.2	
	comp=Z,1μm,0.5s						
BOQSS		**3.90**	**243**	P	**Pn**	**06 00 12.9**	**-4.7**
BOQSS		**3.90**	**243**	P	**Pn**	**06 00 12.9**	**-4.7**
BTHS		**4.22**	**211**	P	**Pn**	**06 00 21.8**	**-0.3**
BTHS		**4.22**	**211**	P	**Pn**	**06 00 21.8**	**-0.3**
BTHS				S	**Sn**	**06 01 09.3**	**-0.9**
IBAF	**Bafgh**	**4.38**	**27**	Pn	**Pn**	**06 00 23.6**	**-0.7**
IBAF	**Bafgh**	**4.38**	**27**	*e*Pn	**Pn**	**06 00 23.7**	**-0.6**
IBAF				*e*		06 00 30.0	
	comp=Z,1μm,0.2s						
IGAR	**Garneh**	**4.62**	**349**	*e*Pn	**Pn**	**06 00 29.9**	**+2.3**
IGAR				*e*		06 01 30.5	
	comp=Z,2μm,0.2s						
ICHK	**Chekchek**	**4.65**	**12**	*e*Pn	**Pn**	**06 00 27.8**	**-0.1**
ICHK				*e*		06 00 44.9	
	comp=Z,3μm,0.5s						
KBD	**Kabd**	**5.09**	**288**	*e*P	**Pn**	**06 00 35.3**	**+1.2**
KBD				*e*S	**Sn**	**06 01 31.9**	**+0.3**
KBD				AML	AML	06 01 33.5	
	comp=Z,186nm,0.3s						
KBD	**Kabd**	**5.09**	**288**	*e*P	**Pn**	**06 00 35.3**	**+1.2**
KBD				*e*S	**Sn**	**06 01 32.0**	**+0.3**
	comp=Z,186nm,0.3s						
RDF	**Al-Radifah**	**5.16**	**285**	*e*P	**Pn**	**06 00 35.9**	**+1.0**
RDF				*e*S	**Sn**	**06 01 33.0**	**-0.2**
RDF				AML	AML	06 01 35.5	
	comp=Z,27nm,0.4s						
RDF	**Al-Radifah**	**5.16**	**285**	*e*P	**Pn**	**06 00 35.9**	**+1.0**
RDF				*e*S	**Sn**	**06 01 33.0**	**-0.2**
UMR	**Umm Al-Rimmam**	**5.19**	**292**	*e*P	**Pn**	**06 00 36.8**	**+1.4**
UMR				*e*S	**Sn**	**06 01 34.4**	**+0.4**
UMR				AML	AML	06 01 34.8	
	comp=Z,31nm,0.3s						
UMR	**Umm Al-Rimmam**	**5.19**	**292**	*e*P	**Pn**	**06 00 36.8**	**+1.4**
UMR				*e*S	**Sn**	**06 01 34.4**	**+0.4**
IZEF	**Zefreh**	**5.24**	**352**	*e*Pn	**Pn**	**06 00 35.3**	**-0.8**
IZEF				*e*		06 00 58.4	
	comp=Z,587nm,0.4s						
IZEF				*e*Sn	**Sn**	**06 01 34.4**	**-0.8**
IPIR	**Pirpir**	**5.37**	**338**	*e*Pn	**Pn**	**06 00 36.4**	**-1.4**
NAY	**Al-Naaiem**	**5.50**	**288**	*e*P	**Pn**	**06 00 40.5**	**+1.0**
NAY				*e*S	**Sn**	**06 01 41.6**	**+0.1**
NAY				AML	AML	06 01 46.7	
	comp=Z,15nm,0.4s						
NAY	**Al-Naaiem**	**5.50**	**288**	*e*P	**Pn**	**06 00 40.5**	**+0.9**
NAY				*e*S	**Sn**	**06 01 41.6**	**+0.1**
MIB	**Mutribah**	**5.58**	**293**	*e*P	**Pn**	**06 00 42.6**	**+1.8**
MIB				*e*S	**Sn**	**06 01 44.0**	**+0.3**
MIB				AML	AML	06 01 46.3	
	comp=Z,33nm,0.4s						
MIB	**Mutribah**	**5.58**	**293**	*e*P	**Pn**	**06 00 42.6**	**+1.8**
MIB				*e*S	**Sn**	**06 01 44.0**	**+0.3**
IKLH	**Kolahrood**	**5.78**	**346**	Pn	**Pn**	**06 00 41.6**	**-1.9**
IKLH				Sn	**Sn**	**06 01 47.1**	**-1.5**
IKLH	**Kolahrood**	**5.78**	**346**	*e*Pn	**Pn**	**06 00 41.7**	**-1.8**
IKLH				*e*Sn	**Sn**	**06 01 47.1**	**-1.5**
IKLH				*e*		06 01 51.1	
	comp=Z,515nm,0.3s						
HRDDS		**5.85**	**217**	P	**Pn**	**06 00 43.7**	**-0.7**
ISFB	**Sefidab**	**6.69**	**353**	Pn	**Pn**	**06 00 54.6**	**-1.4**
ISFB	**Sefidab**	**6.69**	**353**	*e*Pn	**Pn**	**06 00 54.7**	**-1.3**
ISFB				*e*		06 00 57.8	
	comp=Z,313nm,0.2s						
ILAS	**Lasjerd**	**7.67**	**358**	*e*Pn	**Pn**	**06 01 08.0**	**-1.4**
ILAS				*e*		06 01 50.5	
	comp=Z,144nm,0.2s						
IANJ	**Anjilo**	**7.77**	**4**	*e*Pn	**Pn**	**06 01 10.3**	**-0.5**
IANJ				*e*		06 01 13.7	
	comp=Z,618nm,0.2s						
IFIR	**Firoozkooh**	**7.93**	**357**	Pn	**Pn**	**06 01 14.2**	**+1.2**
IFIR	**Firoozkooh**	**7.93**	**357**	*e*Pn	**Pn**	**06 01 14.3**	**+1.3**
IFIR				*e*		06 02 29.3	
	comp=Z,443nm,0.0s						
ISHM	**Shahmirzad**	**8.09**	**0**	*e*Pn	**Pn**	**06 01 14.7**	**-0.4**
ISHM				*e*		06 01 18.2	
	comp=Z,304nm,0.2s						
IAFJ	**Afjeh**	**8.24**	**351**	Pn	**Pn**	**06 01 16.4**	**-0.8**
IAFJ	**Afjeh**	**8.24**	**351**	*e*Pn	**Pn**	**06 01 16.5**	**-0.7**
IAFJ				*e*		06 01 23.3	
	comp=Z,495nm,0.3s						
IGHG	**Ghaleghazi**	**8.74**	**321**	Pn	**Pn**	**06 01 23.0**	**-1.1**
IGHG	**Ghaleghazi**	**8.74**	**321**	*e*Pn	**Pn**	**06 01 23.1**	**-1.0**
IGHG				*e*		06 03 19.2	
	comp=Z,668nm,0.1s						
IDHR	**Dehrash**	**9.11**	**322**	Pn	**Pn**	**06 01 27.8**	**-1.4**
IDHR	**Dehrash**	**9.11**	**322**	*e*Pn	**Pn**	**06 01 27.9**	**-1.3**
IDHR				*e*		06 03 18.3	
	comp=Z,1μm,0.2s						
KIV	**Kislovodsk**	**18.31**	**335**	*e*P	**Pn**	**06 03 32.1**	**+1.0**
KIV				pmax	pmax		
	comp=Z,16nm,1.1s						
KIV				MLR	MLR		
	comp=Z,31nm,11.0s						
KIV	**Kislovodsk**	**18.31**	**335**	*e*P	**Pn**	**06 03 32.1**	**+1.0**
	comp=Z,31nm,11.0s						
ATD	**Arta Tunnel**	**18.80**	**213**	LR	LR	06 11 58.1	
	comp=Z,53nm,18.1s,baz=342,slow=41						
POO	**Poona**	**21.02**	**111**	*e*P	**P**	**06 04 03.5**	**+2.9**
ANN	**Anapa**	**21.24**	**328**	*e*P	**P**	**06 04 05.0**	**+2.3**
ANN				pmax	pmax		
	comp=Z,30nm,1.0s,mb4.6						
ANN	**Anapa**	**21.24**	**328**	*e*P	**P**	**06 04 05.0**	**+2.3**
	comp=Z,30nm,1.0s,mb4.6						
AML	**Almayashu**	**22.04**	**44**	*e*P	**P**	**06 04 10.3**	**-1.1**
	comp=Z,10nm,0.8s,mb4.3						
AML	**Almayashu**	**22.04**	**44**	*e*P	**P**	**06 04 10.3**	**-1.0**
	comp=Z,10nm,0.8s,mb4.3						
UCH	**Uchtor**	**22.59**	**45**	*e*P	**P**	**06 04 17.8**	**+0.5**
	comp=Z,7.7nm,1.2s,mb4.0						
UCH	**Uchtor**	**22.59**	**45**	*e*P	**P**	**06 04 17.8**	**+0.5**
	comp=Z,7.7nm,1.2s,mb4.0						
AKTK	**Aktyubinsk**	**23.00**	**8**	P	**P**	**06 04 21.1**	**-0.4**
AKTK	**Aktyubinsk**	**23.00**	**8**	P	**P**	**06 04 21.1**	**-0.4**
	comp=Z,4.0nm,0.6s,mb4.0						
AKTO	**Aktyubinsk**	**23.00**	**8**	P	**P**	**06 04 21.1**	**-0.4**
AKTO				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.0						
AKTO	**Aktyubinsk**	**23.00**	**8**	P	**P**	**06 04 21.1**	**-0.4**
	comp=Z,4.1nm,0.6s,mb4.0,baz=178,slow=12,SNR=21						
VRSR	**Storozhevoye**	**25.78**	**339**	*e*P	**P**	**06 04 48.1**	**+0.8**
VRSR				pmax	pmax		
	comp=Z,4.0nm,1.2s,mb3.8						
VRSR				pmax	pmax		
	comp=N,7.0nm,1.0s						
VRSR				pmax	pmax		
	comp=E,3.0nm,1.0s						
VRSR	**Storozhevoye**	**25.78**	**339**	*e*P	**P**	**06 04 48.1**	**+0.8**
	comp=E,4.0nm,1.2s,mb3.8						
BVAR	**Borovoye Array**	**28.33**	**22**	P	**P**	**06 05 10.1**	**0.0**
BVAR						06 08 21.9	
BVAR				pmax	pmax		
	comp=Z,2.0nm,0.5s						
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
BVAR	**Borovoye Array**	**28.33**	**22**	P	**P**	**06 05 10.1**	**0.0**
	comp=Z,2.1nm,0.5s,mb4.0,baz=220,slow=7.8,SNR=13						
BVAR				PcP	PcP	06 08 21.9	-0.3
	comp=Z,0.9nm,0.6s,baz=231,slow=6.9,SNR=4.3						
BVAR	**Borovoye Array**	**28.33**	**22**	PcP	PcP	06 08 21.9	-0.3
	comp=Z,1.0nm,0.6s						

comp=Z,1.1nm,0.6s,mb3.8,baz=120,slow=7.9,SNR=5.7
NOA LR LR 06 26 38.4
comp=Z,7.8nm,21.5s,MS2.6,baz=285,slow=38
ARCES ARCESS Array B 44.86 347 P **P** **06 07 29.6 -0.7**
ARCES pmax pmax
comp=Z,2.0nm,0.6s
ARCES ARCESS Array B 44.86 347 P **P** **06 07 29.6 -0.6**
comp=Z,1.9nm,0.6s,mb4.1,baz=151,slow=7.7,SNR=13
SONM Songino Array 45.59 49 P **P** **06 07 36.5 +0.1**
SONM pmax pmax
comp=Z,2.0nm,0.7s
SONM Songino Array 45.59 49 P **P** **06 07 36.5 +0.2**
comp=Z,1.5nm,0.7s,mb4.0,baz=262,slow=9.0,SNR=5.7
ULN Ulaanbaatar 46.03 49 *e*P **P** **06 07 41.6 +1.7**
TOA0 Torodi Ar. Sit 50.08 264 *e*P **P** **06 08 10.2 -1.4**
TOA0 Torodi Ar. Sit 50.08 264 *e*P **P** **06 08 10.1 -1.4**
TORD Torodi Ar. Bea 50.08 264 P **P** **06 08 10.4 -1.1**
comp=Z,2.3nm,0.5s,mb4.5,baz=62,slow=8.7,SNR=32
BOD Bodaibo 51.52 37 *e*P **P** **06 08 20.1 -1.7**
BOD pmax pmax
comp=Z,5.0nm,1.3s,mb4.3
BOD Bodaibo 51.52 37 *e*P **P** **06 08 20.1 -1.7**
comp=Z,5.0nm,1.3s,mb4.3
HIA Hailar 54.49 48 *e*P **P** **06 08 44.8 +1.0**
DBIC Dimbokro 58.74 261 P **P** **06 09 13.9 -0.7**
DBIC pmax pmax
comp=Z,4.0nm,0.7s
DBIC Dimbokro 58.74 261 P **P** **06 09 13.8 -0.7**
comp=Z,4.4nm,0.7s,mb4.6,baz=29,slow=9.8,SNR=6.5
TIXI Tiksi 59.46 21⇑ *e*P **P** **06 09 18.8 +0.2**
TIXI pmax pmax
comp=Z,3.0nm,1.2s,mb4.2
TIXI Tiksi 59.46 21 *e*P **P** **06 09 18.8 +0.2**
comp=Z,3.0nm,1.2s,mb4.2
SEY Seymchan 69.72 29⇑ *e*P **P** **06 10 27.8 +2.1**
BILL Bilibino 72.67 21 *e*P **P** **06 10 45.4 +1.9**
BILL *e*S S 06 20 08.6 +3.1
BILL *e*SS SS 06 24 47.0 +2.5
BILL pmax pmax
comp=Z,3.0nm,1.2s,mb4.1
BILL MLR MLR
comp=Z,100nm,17.0s,MS4.2
BILL Bilibino 72.67 21 *e*P **P** **06 10 45.4 +1.9**
comp=Z,3.0nm,1.2s,mb4.1
YKA Yellowknife Ar 89.60 354 P **P** **06 12 13.1 -0.3**
YKA pmax pmax
comp=Z,1.0nm,0.8s
YKA Yellowknife Ar 89.60 354 P **P** **06 12 13.1 -0.3**
comp=Z,1.0nm,0.8s,mb4.2,baz=6.8,slow=5.0,SNR=19
YKA Yellowknife Ar 89.60 354 P **P** **06 12 13.1 -0.3**
comp=Z,1.0nm,0.8s,mb4.2

*ISCJB **12** 06:07:50.6±1.2, 4130N±006×2242E±005, h13km±12km, Error ellipse: s-maj=10.7km s-min=5.5km az=15.3*
*CSEM **12** 06:07:51.3±0.1, 4132N×2242E, h5km, ML2.6, Error ellipse: s-maj=2.6km s-min=1.1km az=176.0*
*THE **12** 06:07:51.9, 4127N×2244E, h1km, ML2.6*
*SKO **12** 06:07:51.5, 4127N×2241E, h0km, M1.1, ML1.5*
ISC 12 06:07:51.4±1.2, 4130N±006×2242E±005, h9km±15km, n10, σ0°21/18, 1D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
VAY	**Valandovo**	**0.11**	**79**	*e*Pg		**Pg**	**06 07 53.9**	**-0.2**
VAY				*e*Sg		**Sg**	**06 07 55.8**	**-0.1**
VAY	**Valandovo**	**0.11**	**79**	⇓*i*Pg		**Pg**	**06 07 53.9**	**-0.2**
VAY				*i* Sg		**Sg**	**06 07 56.0**	**+0.1**
VAY				*e*Lg			06 07 56.1	
	comp=E,184nm,0.4s							
VAY				*e*Lg			06 07 56.2	
	comp=N,380nm,0.4s							
VAY	**Valandovo**	**0.11**	**79**	*e*Pg		**Pg**	**06 07 53.9**	**-0.2**
VAY				*i* Sg		**Sg**	**06 07 55.9**	**0.0**
VAY				*e*Lg			06 07 56.0	
	comp=N,184nm,0.4s							
GRG	**Griva**	**0.34**	**183**	*e*Pg		**Pg**	**06 07 58.1**	**-0.1**
GRG				*e*Sg		**Sg**	**06 08 02.7**	**0.0**
KNT	**Kendrikon**	**0.38**	**111**	*e*Pg		**Pg**	**06 07 59.0**	**0.0**
KNT				*e*Sg		**Sg**	**06 08 04.4**	**+0.4**
SOH	**Sokhos**	**0.85**	**124**	*e*Pg		**Pg**	**06 08 07.3**	**-0.5**
SOH				*e*Sg		**Sg**	**06 08 19.0**	**+0.2**
BIA	**Bitola**	**0.88**	**252**	*e*Pg		**Pg**	**06 08 08.3**	**+0.1**
KRUS	**Krusevo**	**0.89**	**275**	*i* Pg		**Pg**	**06 08 08.7**	**+0.2**
KRUS				*i* Sg		**Sg**	**06 08 20.1**	**0.0**
KRUS	**Krusevo**	**0.89**	**275**	*i* Pg		**Pg**	**06 08 08.7**	**+0.2**
KRUS				*i* Sg		**Sg**	**06 08 20.0**	**0.0**
FNA	**Florina**	**0.94**	**237**	*e*Pg		**Pg**	**06 08 09.5**	**-0.1**

*IDC **12** 06:17:47.3±5.5, 796S×13087E, h75km±58km, mb3.7/1, mb1 3.9/5, mb1mx3.6/15, mbtmp3.8/5, ML3.9/4, Error ellipse: s-maj=45.6km s-min=22.5km az=34.0*
*ISCJB **12** 06:17:49.7±2.0, 8065S±009×13069E±008, h114km±22km, Error ellipse: s-maj=17.4km s-min=10.9km az=38.3*
*NEIC **12** 06:17:52.9±3.7, 8255S×13060E, h128km±43km, Error ellipse: s-maj=37.7km s-min=34.0km az=49.0*
ISC 12 06:17:53.2±1.7, 8225S±009×13068E±009, h139km±17km, n7, σ1°29/12, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**4.78**	**159**	*e*Pn		**Pn**	**06 19 03.6**	**0.0**
KAKA				*e*Sn		**Sn**	**06 20 03.1**	**+4.7**
BATI	**Kupang**	**7.20**	**254**	P		**Pn**	**06 19 33.9**	**-2.2**
	3.9nm,0.3s,baz=63,slow=4.5,SNR=4.5							
BATI				S		**Sn**	**06 20 57.1**	**+0.6**
	1.2nm,0.3s,baz=105,slow=22,SNR=3.0							
FITZ	**Fitzroy Crossi**	**10.98**	**206**	P		**Pn**	**06 20 25.4**	**-1.0**
	0.6nm,0.3s,baz=21,slow=9.9,SNR=15							
FITZ				S		**Sn**	**06 22 28.8**	**+1.2**
	0.7nm,0.3s,baz=111,slow=21,SNR=4.6							
WRA	**Warramunga Arr**	**12.18**	**163**	P		**Pn**	**06 20 40.6**	**-1.6**
	0.7nm,0.3s,baz=348,slow=13,SNR=25							
WRA				S		**Sn**	**06 22 58.0**	**+1.4**
	1.4nm,0.3s,baz=348,slow=24,SNR=7.3							
ASAR	**Alice Springs**	**15.66**	**169**	P		**Pn**	**06 21 27.7**	**+1.3**
	0.3nm,0.3s,baz=342,slow=9.2,SNR=15							
ASAR				S		**S**	**06 24 23.2**	**-2.2**
	0.2nm,0.3s,baz=355,slow=27,SNR=6.8							
MK31	**Makanchi Array**	**69.61**	**327**	*e*P		**P**	**06 28 48.4**	**+1.0**
MKAR	**Makanchi Array**	**69.61**	**327**	P		**P**	**06 28 47.9**	**+0.5**
	0.9nm,0.5s,baz=116,slow=8.8,SNR=13							

KRSC 12 06:20:12.6±1.1, 5296N×15490E, h555km±45km, ML3.8, Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MIPR	**Malaya Ipel'ka**	**1.32**	**120**	*e*P		P	06 21 21.4	+1.2
GNL	**Ganaly**	**1.97**	**67**	*e*P		P	06 21 23.3	+0.9
RUS	**Russkaya**	**2.26**	**102**	*e*P		P	06 21 25.8	+2.0
RUS				*i* S		S	06 22 18.1	-3.9
PET	**Petropavlovsk**	**2.27**	**87**	*e*P		P	06 21 26.2	+2.4
AVH	**Avacha**	**2.33**	**81**	*e*P		P	06 21 26.7	+2.6
NLC	**Nalytchevo**	**2.69**	**84**	*e*P		P	06 21 28.8	+2.8
NLC				*i* S		S	06 22 23.1	-3.0
SPN	**Mys Shipunski**	**3.10**	**85**	*e*P		P	06 21 30.4	+2.0
SPN				*i* S		S	06 22 25.6	-4.9
TUMR	**Tumrok**	**3.87**	**51**	*e*P		P	06 21 36.1	+2.5
TUMR				*i* S		S	06 22 38.3	-1.6
KBTR	**Krutoberegovo**	**5.64**	**52**	*e*P		P	06 21 49.2	+1.3
KBTR				*i* S		S	06 23 01.8	-4.3

*NEIC **12** 06:23:46.6, 3836S×176.11E, h158km, MG3.9(WEL), After WEL.*
WEL 12 06:23:47.1±0.4, 3837S×17610E, h155km±3km, ML3.7/14, 3C, Error ellipse: s-maj=2.4km s-min=2.0km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KATZ	**Kakaramea**	**0.68**	**208**	P		Pn	06 24 10.3	+0.4
KATZ	**Kakaramea**	**0.68**	**208**	PN		Pn	06 24 10.3	+0.4
URZ	**Urewera**	**0.80**	**82**	P		Pn	06 24 10.5	-0.2
URZ	**Urewera**	**0.80**	**82**	PN		Pn	06 24 10.5	-0.3
URZ				SN		Sn	06 24 28.2	-0.5
KRVZ	**Karewarewa**	**0.81**	**206**	PN		Pn	06 24 11.0	+0.3
WTVZ	**West Tongariro**	**0.84**	**208**	P		Pn	06 24 11.3	+0.3
WTVZ	**West Tongariro**	**0.84**	**208**	PN		Pn	06 24 11.3	+0.3
BKZ	**Black Stump Fm**	**0.85**	**159**	P		Pn	06 24 11.4	+0.3
BKZ				S		Sn	06 24 29.6	+0.1
BKZ	**Black Stump Fm**	**0.85**	**159**	PN		Pn	06 24 11.4	+0.4
BKZ				SN		Sn	06 24 29.6	+0.2
OTVZ	**Oturere**	**0.86**	**203**	PN		Pn	06 24 11.7	+0.6
NGZ	**Ngauruhoe**	**0.89**	**206**	P		Pn	06 24 11.8	+0.4
NGZ	**Ngauruhoe**	**0.89**	**206**	PN		Pn	06 24 11.8	+0.4
WPVZ	**Whakapapa**	**0.94**	**207**	P		Pn	06 24 11.9	+0.2
WPVZ	**Whakapapa**	**0.94**	**207**	PN		Pn	06 24 11.9	+0.2
TUVZ	**Tukino**	**0.96**	**201**	P		Pn	06 24 12.3	+0.4
TUVZ	**Tukino**	**0.96**	**201**	PN		Pn	06 24 12.3	+0.4
FWVZ	**Far West T-bar**	**0.98**	**206**	P		Pn	06 24 12.4	+0.3
FWVZ	**Far West T-bar**	**0.98**	**206**	PN		Pn	06 24 12.4	+0.3
WNVZ	**Wahianoa**	**1.03**	**202**	P		Pn	06 24 12.8	+0.3
WNVZ	**Wahianoa**	**1.03**	**202**	PN		Pn	06 24 12.8	+0.3
MOVZ	**Moawhango**	**1.07**	**195**	P		Pn	06 24 12.6	-0.2
MOVZ	**Moawhango**	**1.07**	**195**	PN		Pn	06 24 12.6	-0.2
PKVZ	**Pokaka**	**1.09**	**212**	PN		Pn	06 24 13.0	0.0
MTVZ	**Mangateitei**	**1.12**	**206**	PN		Pn	06 24 13.4	+0.1
MWZ	**Matawai**	**1.12**	**88**	*e*P		Pn	06 24 13.5	+0.2
MWZ	**Matawai**	**1.12**	**88**	PN		Pn	06 24 13.5	+0.2
MWZ				SN		Sn	06 24 33.1	-0.2
VRZ	**Vera Road**	**1.29**	**234**	P		Pn	06 24 14.8	0.0
VRZ	**Vera Road**	**1.29**	**234**	⇑PN		Pn	06 24 14.8	0.0
KNZ	**Kokohu**	**1.39**	**118**	PN		Pn	06 24 16.2	+0.4
WAZ	**Wanganui**	**1.63**	**212**	*e*P		Pn	06 24 17.9	-0.4
WAZ	**Wanganui**	**1.63**	**212**	PN		Pn	06 24 17.9	-0.4
TSZ	**Takapari Road**	**1.69**	**184**	P		Pn	06 24 18.5	-0.4
TSZ	**Takapari Road**	**1.69**	**184**	PN		Pn	06 24 18.5	-0.4
TSZ				SN		Sn	06 24 42.0	-1.4
WPHZ	**Waipukurau**	**1.71**	**171**	PN		Pn	06 24 19.0	-0.2
PUZ	**Puketiti**	**1.73**	**81**	*e*P		Pn	06 24 18.6	-0.8
PUZ	**Puketiti**	**1.73**	**81**	PN		Pn	06 24 20.2	+0.9
PUZ				SN		Sn	06 24 43.0	-1.1
PXZ	**Pawanui**	**1.76**	**161**	PN		Pn	06 24 19.7	0.0
BFZ	**Birch Farm**	**2.31**	**177**	P		Pn	06 24 24.8	-1.2
BFZ	**Birch Farm**	**2.31**	**177**	PN		Pn	06 24 24.8	-1.2
MRZ	**Mangatainoka R**	**2.32**	**190**	P		Pn	06 24 24.7	-1.5
MRZ	**Mangatainoka R**	**2.32**	**190**	⇑PN		Pn	06 24 24.7	-1.5
TIWZ	**Tintock**	**2.41**	**184**	⇑PN		Pn	06 24 25.8	-1.4
KIW	**Kapiti Island**	**2.65**	**200**	P		Pn	06 24 27.9	-2.3
KIW	**Kapiti Island**	**2.65**	**200**	PN		Pn	06 24 27.9	-2.2
MTW	**Mount Morrison**	**2.82**	**189**	P		Pn	06 24 29.9	-2.4
MTW	**Mount Morrison**	**2.82**	**189**	PN		Pn	06 24 29.9	-2.4
CAW	**Cannon Point**	**2.84**	**196**	P		Pn	06 24 30.4	-2.2
CAW	**Cannon Point**	**2.84**	**196**	PN		Pn	06 24 30.4	-2.2
DUWZ	**D'Urville Isla**	**2.95**	**214**	PN		Pn	06 24 31.2	-2.7
TRWZ	**Traveller**	**3.04**	**186**	PN		Pn	06 24 32.8	-2.2
MRW	**Makara Radio**	**3.05**	**200**	P		Pn	06 24 32.4	-2.8
MRW	**Makara Radio**	**3.05**	**200**	PN		Pn	06 24 32.4	-2.7
PAWZ	**Paruwai Farm**	**3.05**	**190**	P		Pn	06 24 32.5	-2.7
PAWZ	**Paruwai Farm**	**3.05**	**190**	PN		Pn	06 24 32.5	-2.6
MSWZ	**Moikau Station**	**3.11**	**192**	P		Pn	06 24 33.2	-2.7
MSWZ	**Moikau Station**	**3.11**	**192**	PN		Pn	06 24 33.2	-2.7
SNZO	**South Karori**	**3.12**	**200**	P		Pn	06 24 33.2	-2.9
SNZO	**South Karori**	**3.12**	**200**	PN		Pn	06 24 33.2	-2.9
TCW	**Tory Channel**	**3.16**	**206**	P		Pn	06 24 33.8	-2.8
TCW	**Tory Channel**	**3.16**	**206**	PN		Pn	06 24 33.8	-2.8
TUWZ	**Tuamarina**	**3.47**	**208**	PN		Pn	06 24 37.4	-3.1
NNZ	**Nelson**	**3.53**	**216**	*e*P		Pn	06 24 37.9	-3.4
NNZ	**Nelson**	**3.53**	**216**	PN		Pn	06 24 37.9	-3.4
QRZ	**Quartz Range**	**3.69**	**227**	*e*P		Pn	06 24 39.3	-4.0
QRZ	**Quartz Range**	**3.69**	**227**	PN		Pn	06 24 39.3	-4.0
BSWZ	**Blackbirch Sta**	**3.75**	**206**	P		Pn	06 24 40.9	-3.2
BSWZ	**Blackbirch Sta**	**3.75**	**206**	PN		Pn	06 24 40.9	-3.2
THZ	**Tophouse**	**4.18**	**215**	*e*P		Pn	06 24 44.9	-4.8
THZ	**Tophouse**	**4.18**	**215**	PN		Pn	06 24 45.8	-3.9
KHZ	**Kahutara**	**4.49**	**205**	*e*P		Pn	06 24 50.1	-3.6
KHZ	**Kahutara**	**4.49**	**205**	PN		Pn	06 24 50.1	-3.6
DSZ	**Denniston Nort**	**4.71**	**223**	*e*P		Pn	06 24 51.9	-4.8
DSZ	**Denniston Nort**	**4.71**	**223**	PN		Pn	06 24 51.9	-4.8
MQZ	**McQueen's Vall**	**5.93**	**205**	*e*P		Pn	06 25 07.2	-5.6
MQZ	**McQueen's Vall**	**5.93**	**205**	PN		Pn	06 25 07.2	-5.6

IDC 12 06:35:48.9±21.0, 2156S×17966E, h0km, mb3.9/3, mb1 4.2/4, mb1mx3.8/15, mbtmp4.1/4, ML4.4/1, Error ellipse: s-maj=388.0km s-min=58.5km az=62.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**16.79**	**187**	P		Pn	06 39 45.8	+0.3
	1.3nm,0.3s,baz=298,slow=1.6,SNR=5.4							
STKA	**Stephens Creek**	**35.36**	**245**	P		P	06 42 45.4	-0.9
	3.2nm,1.0s,baz=76,slow=8.3,SNR=3.3							
ASAR	**Alice Springs**	**42.16**	**258**	P		P	06 43 43.0	-0.5
	0.7nm,0.6s,baz=100,slow=7.1,SNR=9.8							
WRA	**Warramunga Arr**	**42.30**	**264**	P		P	06 43 45.5	+0.8
	0.4nm,0.3s,baz=95,slow=8.3,SNR=26							

*CSEM **12** 06:53:23.7±0.2, 3757N×3629E, h8km, MD3.1, Error ellipse: s-maj=7.2km s-min=4.2km az=173.0*
*ISK **12** 06:53:23.8, 3759N×3628E, h8km, MD3.1*
*DDA **12** 06:53:24.0, 3755N×3621E, h3km±1km, Md3.1*
*ISCJB **12** 06:53:24.2±0.6, 3756N±005×3625E±004, h6km±5km, Error ellipse: s-maj=7.7km s-min=5.1km az=171.6*
ISC 12 06:53:24.5±0.6, 3757N±005×3625E±004, h5km±5km, n15, σ0°96/20, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ANDN	**Andirin**	**0.08**	**79**	*i* P		**Pg**	**06 53 26.0**	**-0.2**
ANDN				*i* S		**Sg**	**06 53 27.8**	**+0.5**
KOZT	**Kozan**	**0.35**	**256**	*e*PG		**Pg**	**06 53 32.7**	**+1.5**
KMRS	**Kahramanmaras**	**0.52**	**96**	*e*PG		**Pg**	**06 53 33.2**	**-1.3**
CEYT	**Ceyhan**	**0.68**	**216**	*e*PG		**Pg**	**06 53 38.1**	**+0.5**
GAZ	**Gaziantep**	**0.86**	**117**	*e*PG		**Pg**	**06 53 40.4**	**-0.6**
GAZ				*e*SG		**Sg**	**06 53 53.9**	**+1.8**
KARA	**Karaisali**	**1.00**	**253**	*e*PG		**Pg**	**06 53 43.1**	**-0.5**
COBT	**Iskenderun**	**1.04**	**180**	*i* P		**Pg**	**06 53 43.3**	**-1.2**
COBT				*i* S		**Sg**	**06 53 58.0**	**0.0**
GZT	**Gaziantep**	**1.07**	**101**	*i* P		**Pg**	**06 53 43.7**	**-1.2**
GZT				*i* S		**Sg**	**06 53 59.2**	**+0.5**
BNN	**Bunyan**	**1.32**	**346**	*e*PN		**Pn**	**06 53 49.0**	**-0.6**
NIG	**Nigde**	**1.41**	**293**	*e*PN		**Pn**	**06 53 51.2**	**+0.5**
ATAB	**Bozova**	**1.63**	**93**	*i* P		**Pn**	**06 53 54.2**	**+0.4**
ATAB				*i* S		**Sn**	**06 54 15.5**	**+0.4**
MALT	**Malatya**	**1.88**	**66**	*e*PN		**Pn**	**06 53 57.3**	**+0.1**
MYA	**Malataya**	**1.88**	**66**	*e*PN		**Pn**	**06 53 56.4**	**-0.8**
URFA	**Urfa**	**2.05**	**93**	*e*PN		**Pn**	**06 53 58.3**	**-1.2**
ELZG	**Elazig**	**2.35**	**66**	*i* P		**Pn**	**06 54 06.2**	**+2.4**

IDC 12 06:56:31.1±3.1, 848S×15555E, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.6/14, mbtmp3.7/4, MS3.2/3, Ms1 3.2/3, ms1mx2.8/23, Error ellipse: s-maj=79.2km s-min=38.7km az=108.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**14.63**	**217**	LR		LR	07 03 59.1	
	comp=Z,93nm,18.5s,baz=49,slow=31							
WRA	**Warramunga Arr**	**23.47**	**239**	P		P	07 01 41.7	-1.0
	1.1nm,0.7s,baz=64,slow=9.8,SNR=6.7							
ASAR	**Alice Springs**	**25.64**	**231**	P		P	07 02 02.7	+0.1
	1.8nm,0.8s,baz=65,slow=9.2,SNR=17							
STKA	**Stephens Creek**	**26.65**	**207**	P		P	07 02 12.0	+0.3
	1.6nm,0.6s,baz=18,slow=13,SNR=4.8							
STKA				LR		LR	07 12 52.3	
	comp=Z,81nm,18.1s,baz=25,slow=37							
ASAJ	**Asahikawa**	**53.65**	**348**	LR		LR	07 28 53.7	
	comp=Z,15nm,19.4s,baz=178,slow=36							
MKAR	**Makanchi Array**	**84.87**	**319**	P		P	07 09 08.4	+0.6
	0.1nm,0.6s,baz=98,slow=3.1,SNR=3.2							

NEIC 12 06:57:37.9, 5211N×17717E, h4km, ML3.9(AEIC), After AEIC., Rat Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
AMKA	**Amchitka**	**1.51**	**118**	P		Pn	06 58 03.9	-1.8
AMKA				S		Sn	06 58 23.4	-2.3
SMY	**Shemya**	**1.98**	**289**	P		Pn	06 58 10.2	-1.9
SMY				*e*Sn		Sn	06 58 34.6	-2.7
SMY				S		Sn	06 58 37.1	-0.2
IL1	**Eielson Array**	**22.30**	**42**	P		P	07 02 38.4	+2.6
BCA3	**Beaver Creek A**	**24.13**	**47**	P		P	07 02 59.8	+5.5

KRSC 12 07:01:57.7±0.4, 5059N×15770E, h34km±34km, ML3.6, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ALID	**Alaid**	**1.40**	**282**	*e*P		Pn	07 02 20.5	-0.2
ALID				*i* S		Sn	07 02 36.8	-1.1
MIPR	**Malaya Ipel'ka**	**1.79**	**341**	*e*P		Pn	07 02 27.6	+1.5
MIPR				*i* S		Sn	07 02 49.1	+1.5
RUS	**Russkaya**	**1.91**	**15**	*e*P		Pn	07 02 29.0	+1.2
RUS				*i* S		Sn	07 02 52.1	+1.4
GRL	**Gorelyy**	**1.98**	**7**	*e*P		Pn	07 02 30.9	+2.2
GRL				*i* S		Sn	07 02 55.2	+2.9
PET	**Petropavlovsk**	**2.51**	**13**	*e*P		Pn	07 02 38.3	+2.3
PET				*i* S		Sn	07 03 07.7	+2.3
AVH	**Avacha**	**2.75**	**13**	*e*P		Pn	07 02 42.8	+3.4
AVH				*i* S		Sn	07 03 16.8	+5.4
NLC	**Nalytchevo**	**2.78**	**21**	*e*P		Pn	07 02 41.5	+1.8
NLC				*i* S		Sn	07 03 12.5	+0.5
SPN	**Mys Shipunski**	**2.90**	**29**	*e*P		Pn	07 02 43.8	+2.5
SPN				*i* S		Sn	07 03 17.3	+2.4
GNL	**Ganaly**	**3.11**	**3**	*e*P		Pn	07 02 47.5	+3.2
KII	**Karymskiy**	**3.62**	**17**	*e*P		Pn	07 02 56.3	+5.1
KII				*i* S		Sn	07 03 39.6	+7.0
MKZ	**Mys Kozlova**	**4.67**	**30**	*e*P		Pn	07 03 07.8	+2.1
MKZ				*i* S		Sn	07 04 00.1	+1.5
KBTR	**Krutoberegovo**	**6.41**	**27**	*e*P		Pn	07 03 32.3	+2.8

NNC 12 07:40:21.7±3.2, 5338N×8727E, h0km, mb3.6, mpv3.1, 4C-4D, Error ellipse: s-maj=28.6km s-min=20.0km az=28.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KURK	**Kurchatov**	**5.96**	**247**	⇑Pn		Pn	07 41 52.0	+0.8
	1.1nm,0.6s							
KURK				⇓Sn		Sn	07 43 02.3	+2.2
	0.9nm,0.5s							
KURK				⇑Lg			07 43 32.4	
	6.0nm,0.8s							
MK31	**Makanchi Array**	**7.32**	**208**	⇓Pn		Pn	07 42 12.5	+2.7
	0.5nm,0.4s,baz=28,slow=12,SNR=26							
MK31				⇑Sn		Sn	07 43 38.2	+4.7
	1.0nm,0.6s,baz=31,slow=24,SNR=6.8							
MK31				⇓Lg			07 44 10.9	
	3.2nm,0.6s,baz=37,slow=29,SNR=7.3							
VOSK	**Vostochnaya**	**9.84**	**273**	⇑Pn		Pn	07 42 43.0	-1.2
	6.8nm,2.2s							
VOSK				⇓Sn		Sn	07 44 32.9	-2.3
	1.4nm,0.5s							

*IDC **12** 08:06:07.3±0.5, 1540S×17340W, h0km, mb4.8/13, mb1 5.0/14, mb1mx4.8/19, mbtmp4.8/14, ML3.7/1, MS4.0/16, Ms1 3.9/16, ms1mx3.8/22, Error ellipse: s-maj=21.0km s-min=14.6km az=128.0*
*ISCJB **12** 08:06:08.1±3.3, 1537S±006×17357W±005, h15km±22km, mb4.9/52, MS4.1/25, Error ellipse: s-maj=11.6km s-min=5.3km az=139.9*
*BJI **12** 08:06:10.1, 1619S×173.11W, h60km, mB5.1, mb5.0, Ms5.0, Msz4.6*
*MOS **12** 08:06:12.1±1.1, 1524S×17366W, h33km, mb5.1/14, Error ellipse: s-maj=14.0km s-min=9.6km az=53.3*
*SZGRF **12** 08:06:12.1, 1580S×17209W, h33km, Samoa Islands region*
*ORF **12** 08:06:13.2, 1577S×17271W, h30km, mb5.8*
*NEIC **12** 08:06:16.1±0.4, 1530S×17302W, h71km±3km, MW5.0/61, Moment Tensor Solution. s20,c22; s61,c83; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.16±.20; $M_{\theta\theta}$-0.53±.20; $M_{\phi\phi}$-1.64±.18; $M_{r\theta}$-1.09±.11; $M_{\theta\phi}$-2.35±.15; $M_{\phi r}$2.06±.10; Best double couple: $M_0$3.83300×10^{16} NP1:ϕ_s250.00000°, δ47.00000°, λ145.00000°. NP2: ϕ_s5.00000°, δ65.00000°, λ49.00000°. Principal axes: T 3.9900, Plg51.0000°, Azm227.0000°; N -0.3180, Plg37.0000°, Azm25.0000°; P -3.6770, Plg11.0000°, Azm124.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 12 08:06:08.0±5.4, 1535S±006×17357W±005, h1km±32km, n391, σ0°62/267, mb5.0/52, MS4.1/25, 69C-72D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.25**	**51**	⇑*i*Pn		**Pn**	**08 06 46.3**	**-0.1**
AFI				*e*Sn		**Sn**	**08 07 11.4**	**-3.6**
FUNA	**Funafuti**	**9.80**	**313**	*e*Pn		**Pn**	**08 08 35.5**	**+5.3**
	48nm,0.6s							
RAR	**Rarotonga**	**14.34**	**116**	Pn		**Pn**	**08 09 29.0**	**-3.3**
RAR				LR		LR	08 12 47.9	
RAR	**Rarotonga**	**14.34**	**116**	Pn		**Pn**	**08 09 29.0**	**-3.3**
	0.3nm,0.3s,baz=141,slow=5.2,SNR=3.2							
RAR				LR		LR	08 12 47.8	
	comp=Z,308nm,19.6s,baz=95,slow=28							
RAR				T			08 23 47.1	
	6.1nm,0.3s,baz=136,slow=4.8,SNR=3.7							
PPT	**Papeete**	**23.12**	**99**	*e*LQ			08 15 45.1	
	1μm,26.8s							
PPT				*e*LR		LR	08 16 36.2	
	1μm,29.2s							
TBI	**Tubuai**	**24.07**	**113**	*e*LQ	

comp=Z,36nm,0.5s,mb5.7
FORT *e*PCP PcP 08 16 44.0 -0.2
FITZ Fitzroy Crossi 58.06 258 *e*P **P 08 16 03.2 0.0**
comp=Z,3.2nm,0.4s,mb4.7
BATI Kupang 61.25 267 LR LR 08 39 11.6
comp=Z,173nm,18.2s,MS4.2,baz=293,slow=32
MBWA Marble Bar 63.21 254 *e*P **P 08 16 38.4 0.0**
comp=Z,10nm,1.0s,mb4.9
MBWA *e* 08 16 60.0
SBA Scott Base 63.28 185 *e*P **P 08 16 40.0 +2.0**
comp=Z,14nm,1.0s,mb5.0
SBA *e*PcP PcP 08 17 15.7 +0.6
SBA Scott Base 63.28 185 *e*P **P 08 16 40.0 +2.1**
SBA *e* 08 17 15.7
SBA pmax pmax
comp=Z,14nm,1.0s,mb5.0
VNDA Vanda 63.41 186 *e*P **P 08 16 40.0 +1.2**
comp=Z,31nm,1.4s,mb5.2
VNDA Vanda 63.41 186 *e*P **P 08 16 40.0 +1.2**
VNDA pmax pmax
comp=Z,31nm,1.4s
VNDA Vanda 63.41 186 P **P 08 16 39.8 +1.1**
comp=Z,10.0nm,1.1s,mb4.9,baz=11,slow=6.9,SNR=17
VNDA LR LR 08 42 15.0
comp=Z,94nm,18.0s,MS4.0,baz=111,slow=34
KLBR Kellerberrin 64.11 242 *e*P **P 08 16 43.6 -0.6**
comp=Z,44nm,0.7s,mb5.8
NWAO Narrogin (SRO) 64.50 241 *e*P **P 08 16 46.8 +0.1**
comp=Z,13nm,0.9s,mb5.2
NWAO Narrogin (SRO) 64.50 241 *e*P **P 08 16 46.8 +0.1**
NWAO pmax pmax
comp=Z,13nm,0.9s
NWAO Narrogin (SRO) 64.50 241 LR LR 08 42 29.4
comp=Z,133nm,19.7s,MS4.1,baz=190,slow=34
MUN Mundaring 65.41 242 *e*P **P 08 16 52.8 +0.1**
MJAR Matsushiro Arr 68.80 320 P **P 08 17 14.4 +0.4**
comp=Z,2.1nm,0.8s,mb4.4,baz=153,slow=4.9,SNR=7.2
MJAR LR LR 08 40 29.5
comp=Z,64nm,20.4s,MS3.8,baz=105,slow=30
CASY Casey 70.38 205 *e*P **P 08 17 23.5 +0.1**
comp=Z,12nm,0.7s,mb5.1
PFO Pinyon Flat Ob 73.01 47 LR LR 08 44 56.2
comp=Z,107nm,18.3s,MS4.2,baz=287,slow=32
ORV Oroville 73.05 40 ⇑P **P 08 17 40.2 +0.5**
baz=73
KCC Kaiser Creek 73.12 43 ⇓P **P 08 17 41.5 +1.2**
baz=73
YSS Yuzh-Sakhalins 73.36 330 *e*P **P 08 17 42.6 +1.2**
YSS Yuzh-Sakhalins 73.36 330 ⇑*e*P **P 08 17 39.5 -1.9**
YSS pmax pmax
comp=Z,26nm,1.2s,mb5.2
YBH Yreka Blue Hor 73.66 37 ⇓P **P 08 17 44.4 +1.0**
baz=74
R06C Coleville 73.72 41 ⇓P **P 08 17 44.9 +1.1**
baz=74
M04C Macdoel 74.20 38 ⇑P **P 08 17 47.3 +0.8**
baz=74
M05C Lookout 74.36 38 ⇑P **P 08 17 48.2 +0.7**
baz=74
NVAR Mina Array Bea 74.41 42 P **P 08 17 47.7 -0.1**
NVAR Mina Array Bea 74.41 42 P **P 08 17 47.7 -0.1**
comp=Z,1.3nm,0.7s,mb4.1,baz=218,slow=6.6,SNR=9.0
O06A Flanigan 74.44 40 ⇓P **P 08 17 48.6 +0.7**
baz=75
M06C Likely Place G 74.67 39 ⇑P **P 08 17 49.9 +0.7**
baz=75
QSPA South Pole Qui 74.69 180 *e*P **P 08 17 49.8 +1.0**
comp=Z,31nm,0.7s,mb5.5
LDFC Landfair 74.73 46 *e*P **P 08 17 55.4 +5.6**
N06A Buffalo Meadow 74.78 39 ⇑P **P 08 17 50.5 +0.6**
baz=75
Q08A Gabbs 74.89 42 ⇓P **P 08 17 50.8 +0.2**
baz=75
J04A Umpqua Nationa 74.95 36 ⇑P **P 08 17 51.4 +0.6**
baz=75
L05A Lakeview 74.96 38 ⇑P **P 08 17 51.5 +0.6**
baz=75
R09A Tonopah 75.10 43 ⇑P **P 08 17 52.4 +0.6**
baz=75
S10A Tonopah Range, 75.24 43 ⇑P **P 08 17 53.3 +0.7**
baz=75
N07B Gerlach 75.33 40 ⇑P **P 08 17 53.6 +0.5**
baz=76
K05A Summer Lake 75.34 37 ⇓P **P 08 17 53.6 +0.5**
baz=76
X13A Yucca 75.38 47 ⇑P **P 08 17 53.5 0.0**
baz=76
J05A Fort Rock 75.48 37 ⇓P **P 08 17 54.5 +0.7**
baz=76
M07A Soldier Meadow 75.57 39 P **P 08 17 55.2 +0.8**
baz=76,SNR=6.4
R10A Warm Springs 75.63 43 ⇑P **P 08 17 54.8 -0.1**
baz=76
Y14A Wickenburg 75.65 48 ⇑P **P 08 17 54.9 -0.2**
baz=76
K06A Valley Falls 75.76 38 ⇓P **P 08 17 55.8 +0.4**
baz=76
T11A Corn Creek, Al 75.79 44 ⇓P **P 08 17 55.9 +0.1**
baz=76
U12A Valley of Fire 75.83 45 ⇓P **P 08 17 56.5 +0.4**
baz=76
L07A Adell 75.83 39 ⇓P **P 08 17 56.1 +0.2**
baz=76
X14A Yava 75.99 48 ⇑P **P 08 17 57.2 +0.2**
baz=76
I05A Bend 76.00 36 ⇓P **P 08 17 57.3 +0.4**
baz=76
KSRS Korea Array 76.01 316 P **P 08 17 58.5 +1.5**
comp=Z,0.5nm,0.3s,mb4.1,baz=120,slow=7.4,SNR=5.3
KSRS LR LR 08 44 40.6
comp=Z,25nm,21.4s,MS3.5,baz=108,slow=30
M08A Happy Creek Ra 76.08 39 ⇓P **P 08 17 57.9 +0.5**
baz=76
J06A Christmas Vall 76.09 37 P **P 08 17 57.4 +0.1**
baz=76,SNR=5.2
O09A Fish Creek Ran 76.10 41 ⇑P **P 08 17 57.2 -0.3**
baz=76
Y15A Casa Rosa Ranc 76.14 49 ⇑P **P 08 17 57.8 -0.1**
baz=76,SNR=5.0
R11A Troy Canyon, C 76.14 43 ⇓P **P 08 17 57.8 0.0**
baz=76
U13A Pakoon Wash 76.22 46 P **P 08 17 58.6 +0.3**
baz=76,SNR=6.9
W14A Seligman 76.23 47 ⇓P **P 08 17 58.6 +0.2**
baz=76
S12A Delamar Landin 76.24 44 ⇑P **P 08 17 58.7 +0.3**
baz=76
K07A Rock Creek Ran 76.29 38 ⇑P **P 08 17 59.1 +0.6**
baz=76
Q11A Duckwater 76.36 43 P **P 08 17 59.5 +0.5**
baz=76,SNR=6.0
V14A Boquillas Ranc 76.42 47 ⇑P **P 08 17 59.7 +0.3**
baz=76
X15A Humboldt 76.47 48 ⇓P **P 08 17 59.7 -0.1**
baz=77
I06A Prineville 76.47 37 ⇓P **P 08 17 59.9 +0.4**
baz=77
TUC Tucson 76.49 51 *e*P **P 08 18 04.6 +4.7**
L08A Fields 76.54 39 P **P 08 18 00.3 +0.4**
baz=77,SNR=7.6
T13A Saint George 76.57 45 ⇓P **P 08 18 00.3 +0.1**
baz=77
M09A Marrel Ranch, 76.64 40 ⇓P **P 08 18 01.1 +0.5**
baz=77
K08A Mann Creek Ran 76.76 38 ⇑P **P 08 18 01.5 +0.3**
baz=77
U14A Mt Trumbull 76.77 46 P **P 08 18 01.9 +0.6**
baz=77,SNR=8.4
R12A Pony Springs, 76.78 44 ⇑P **P 08 18 01.8 +0.4**
baz=77
W15A Williams 76.79 48 ⇑P **P 08 18 02.4 +0.8**
baz=77
L09A Wilkinson Ranc 76.85 39 ⇓P **P 08 18 01.8 +0.1**
baz=77
H06A Lindquist Farm 76.88 36 ⇓P **P 08 18 01.8 0.0**
baz=77
218A Dragoon 76.89 51 ⇓P **P 08 18 02.3 +0.2**
baz=77
S13A Holt Ranch, En 76.89 45 ⇑P **P 08 18 02.4 +0.3**
baz=77
I07A Izee 76.96 37 ⇑P **P 08 18 02.4 +0.1**
baz=77
X16A Lo Mia Camp, P 77.01 49 ⇓P **P 08 18 03.3 +0.5**
baz=77
O11A Cowboy Ranch, 77.06 42 P **P 08 18 03.5 +0.6**
baz=77,SNR=5.2
J08A Circle Bar Ran 77.14 38 ⇓P **P 08 18 03.5 +0.2**
baz=77
T14A Hurricane 77.16 46 ⇑P **P 08 18 03.8 +0.3**
baz=77
P12A McGill 77.19 43 ⇓P **P 08 18 04.4 +0.8**
baz=77
K09A Rome 77.20 39 P **P 08 18 03.8 +0.1**
baz=77,SNR=12
H07A Lands Inn, Kim 77.23 36 ⇑P **P 08 18 03.8 0.0**
baz=77
M10A I.L. Ranch, Tu 77.27 40 P **P 08 18 04.6 +0.6**
baz=77,SNR=7.3
ARUT Antelope Range 77.28 45 *e*P **P 08 18 04.4 +0.2**
I08A Drewsey 77.41 37 ⇓P **P 08 18 05.1 +0.3**
baz=78
S14A Cedar City 77.46 45 ⇑P **P 08 18 05.6 +0.4**
baz=78
Q13A Wheeler Ranch, 77.50 44 ⇓P **P 08 18 05.5 +0.1**
baz=78
SVW2 Sparrevohn 77.54 9 *e*P **P 08 18 04.3 -0.8**
J09A Fry Pan Ranch, 77.56 38 P **P 08 18 05.8 +0.2**
baz=78,SNR=6.9
G07A Ruggs Ranch, H 77.58 36 ⇓P **P 08 18 06.2 +0.5**
baz=78
L10A Juniper Basin 77.62 40 P **P 08 18 06.2 +0.2**
baz=78,SNR=11
T15A Red Dirt Ranch 77.62 46 P **P 08 18 06.9 +0.7**
baz=78,SNR=6.6
M11A Holland Ranch, 77.68 41 ⇑P **P 08 18 06.6 +0.2**
baz=78
H08A Prairie City 77.70 37 ⇑P **P 08 18 06.8 +0.3**
baz=78
O12A Currie 77.72 42 P **P 08 18 07.0 +0.4**
baz=78,SNR=6.2
P13A Bates Ranch, G 77.77 43 P **P 08 18 07.3 +0.4**
baz=78,SNR=5.8
K10A MacKenzie Ranc 77.77 39 P **P 08 18 07.0 +0.2**
baz=78,SNR=9.4
119A Ashpeak Ranch, 77.81 51 ⇓P **P 08 18 07.6 +0.3**
baz=78
N12A Clover Valley, 77.84 41 P **P 08 18 07.7 +0.4**
baz=78,SNR=6.7
SLKM Skilak Lake 77.90 12 *e*P **P 08 18 07.2 +0.1**
I09A Lost Marbles R 77.93 38 ⇓P **P 08 18 07.6 -0.1**
baz=78
C05A Tolt Reservoir 77.98 33 ⇑P **P 08 18 08.0 +0.1**
baz=78
G08A Pilot Rock 77.99 36 ⇑P **P 08 18 08.1 +0.1**
baz=78
D06A Cle Elum 78.11 34 ⇑P **P 08 18 08.6 -0.1**
baz=78
O13A Hicks Ranch, I 78.14 43 ⇓P **P 08 18 09.5 +0.5**
baz=78
J10A Berg Farm, Mel 78.19 39 ⇓P **P 08 18 09.6 +0.4**
baz=78
HABR Khabarovsk 78.21 328 *e*P **P 08 18 10.3 +1.2**
HABR *e* 08 18 16.2
HABR *e* 08 28 21.2
HABR *e* 08 33 01.4
HABR *e* 08 36 26.2
T16A Glen Canyon Da 78.21 46 ⇑P **P 08 18 09.9 +0.5**
baz=78
M12A Wells 78.23 41 P **P 08 18 09.6 +0.1**
baz=78,SNR=8.5
E07A Sunnyside 78.26 35 ⇓P **P 08 18 09.4 -0.1**
baz=78
K11A Parker Ranch, 78.27 39 P **P 08 18 09.8 +0.2**
baz=78,SNR=6.2
H09A Durkee 78.37 37 ⇓P **P 08 18 10.2 +0.1**
baz=78
N13A Wendover, West 78.38 42 ⇓P **P 08 18 10.2 -0.1**
baz=78
MSU Marysvale 78.51 45 *e*P **P 08 18 11.8 +0.7**
MSU *e*pP 08 18 30.1
I10A Payette 78.55 38 ⇑P **P 08 18 11.6 +0.5**
baz=79
L12A House Creek Ra 78.56 40 ⇓P **P 08 18 11.7 +0.4**
baz=79
D07A Quincy 78.58 34 ⇓P **P 08 18 11.0 -0.2**
baz=79
BMO Blue Mountains 78.69 37 *e*P **P 08 18 11.7 -0.2**
MFID Camas Ranch 78.75 39 P **P 08 18 12.1 -0.2**
baz=79,SNR=9.1
C07A Waterville 78.84 34 ⇓P **P 08 18 12.5 -0.1**
baz=79
H10A Noah's Angus R 78.86 38 P **P 08 18 12.4 -0.5**
baz=79,SNR=18
MDJ Mudanjiang 78.89 322 P **P 08 18 13.7 +0.7**
MDJ AP 08 18 30.3
MDJ XP sP 08 18 36.5 +23
MDJ PP PP 08 21 13.0 +1.2
MDJ S S 08 28 08.5 -3.8
MDJ SCS ScS 08 28 30.5 -5.4
MDJ XS sS 08 28 37.4 +25
MDJ AMB AMB
comp=Z,7.0nm,1.8s,mb4.4
MDJ AMB AMB
comp=Z,46nm,4.0s
MDJ LR LR
comp=Z,64nm,34.6s,MS3.7
K12A Draper Farm, C 78.89 40 ⇓P **P 08 18 12.9 -0.2**
baz=79
DUG Dugway 78.94 43 *e*P **P 08 18 13.1 -0.3**
DUG Dugway 78.94 43 ⇑P **P 08 18 13.2 -0.2**
baz=79
N14A Grayback Hills 79.03 42 ⇑P **P 08 18 13.9 0.0**
baz=79
G10A Bishop Farm, J 79.05 37 P **P 08 18 13.8 0.0**
baz=79,SNR=5.6
D08A Wollman Farm, 79.07 35 ⇑P **P 08 18 14.0 +0.1**
baz=79
J12A Stokes Ranch, 79.11 39 P **P 08 18 14.7 +0.4**
baz=79,SNR=6.7
PMR Palmer 79.11 12 *e*P **P 08 18 13.1 -0.7**
comp=Z,6.4nm,0.5s,mb4.9
PMR LR LR
comp=Z,100nm,20.0s,MS4.2
PMR Palmer 79.11 12 *e*P **P 08 18 13.1 -0.7**
PMR pmax pmax
comp=Z,6.0nm,0.5s,mb4.9
PMR MLR MLR
comp=Z,100nm,20.0s,MS4.2
E09A Wood Farm, Sta 79.18 35 ⇑P **P 08 18 15.0 +0.5**
baz=79
L13A Double Diamond 79.20 41 ⇑P **P 08 18 15.0 +0.3**
baz=79,SNR=5.1
TTA Tatalina 79.23 8 *e*P **P 08 18 14.4 0.0**
M14A Sheep Mountain 79.27 42 P **P 08 18 15.2 0.0**
baz=79,SNR=12
B07A Winthrop 79.28 33 ⇓P **P 08 18 14.6 -0.5**
baz=79
H11A Donnelly 79.36 38 P **P 08 18 15.2 -0.3**
baz=80,SNR=7.8
F10A Beach Ranch, E 79.38 36 P **P 08 18 15.0 -0.6**
baz=80,SNR=6.0
D09A Jones Farm, Ri 79.41 35 ⇑P **P 08 18 15.6 -0.1**
baz=80
K13A Stover Farm, H 79.41 40 P **P 08 18 16.1 +0.2**
baz=80,SNR=8.9
C08A Higginbotham F 79.44 34 ⇓P **P 08 18 15.4 -0.5**
baz=80
N15A Stansbury Isla 79.49 42 ⇑P **P 08 18 16.3 0.0**
baz=80
A07A Ashnola River, 79.50 32 ⇑P **P 08 18 15.3 -0.9**
baz=80
G11A Walters Elk Ra 79.61 37 ⇑P **P 08 18 16.2 -0.7**
baz=80
B08A Colville Reser 79.63 33 ⇓P **P 08 18 16.0 -1.0**
baz=80
HLID Hailey 79.70 39 *e*P **P 08 18 17.7 +0.3**
comp=Z,9.9nm,0.9s,mb4.7
HLID *e*pP 08 18 35.6
HLID Hailey 79.70 39 P **P 08 18 17.8 +0.3**
baz=80,SNR=16
E10A Myers Farm, Un 79.74 36 ⇑P **P 08 18 17.7 +0.1**
baz=80
J13A Cove Ranch, Pi 79.76 40 P **P 08 18 18.1 +0.3**
baz=80,SNR=15
M15A Larsen Ranch, 79.83 42 P **P 08 18 18.2 0.0**
baz=80,SNR=5.2
C09A Chrisman Ranch 79.86 34 ⇑P **P 08 18 17.7 -0.5**
baz=80
K14A Jones Ranch, D 79.92 41 P **P 08 18 18.7 0.0**
baz=80,SNR=10
SRU San Rafael 79.93 45 *e*P **P 08 18 18.6 -0.2**
F11A Grangeville 79.95 37 ⇑P **P 08 18 17.1 -1.6**
baz=80
H12A Diamond D Ranc 79.97 38 P **P 08 18 18.6 -0.2**
baz=80,SNR=6.4
D10A Wagner Farm, O 79.98 35 ⇓P **P 08 18 17.9 -0.9**
baz=80
A08A Turner Farm, O 80.02 33 ⇑P **P 08 18 18.7 -0.4**
baz=80,SNR=5.4
JLU Jordanelle 80.04 43 *e*P **P 08 18 19.5 +0.1**
I13A Wildhorse Cree 80.07 39 P **P 08 18 19.9 +0.5**
baz=80,SNR=6.1
E11A Bogner Ranch, 80.18 36 ⇓P **P 08 18 18.9 -1.1**
baz=80
B09A Rice 80.30 34 ⇓P **P 08 18 19.9 -0.6**
baz=80
MNTX Cornudas Mount 80.33 53 *e*P **P 08 18 20.7 -0.5**
H13A Challis 80.33 39 P **P 08 18 20.9 0.0**
baz=80,SNR=7.1
F12A Elk City 80.39 37 P **P 08 18 20.8 -0.4**
baz=80,SNR=16
A09A Danville 80.40 33 ⇓P **P 08 18 20.3 -0.8**
baz=81
D11A Klaveano Farm, 80.50 36 ⇓P **P 08 18 20.6 -1.1**
baz=81
G13A Cobalt 80.63 38 P **P 08 18 22.1 -0.3**
baz=81,SNR=6.2
TXAR Lajitas Array 80.72 56 P **P 08 18 23.0 -0.3**
TXAR LR LR 08 45 25.7
TXAR Lajitas Array 80.72 56 P **P 08 18 23.0 -0.3**
comp=Z,1.0nm,0.8s,mb3.9,baz=221,slow=7.6,SNR=14
TXAR LR LR 08 45 25.7
comp=Z,89nm,20.5s,MS4.1,baz=25,slow=29
TNA Tin City 80.78 2 *e*P **P 08 18 20.5 -2.3**
ANMO Albuquerque 80.90 50 *e*P **P 08 18 24.1 -0.1**
comp=Z,52nm,2.7s,mb5.1
ANMO Albuquerque 80.90 50 ⇑*e*P **P 08 18 24.4 +0.3**
CN2 Changchun 80.94 320 *e*P **P 08 18 26.8 +2.7**
A10A Northport 80.95 34 ⇓P **P 08 18 23.4 -0.7**
baz=81
F13A Darby 80.95 38 P **P 08 18 23.4 -0.7**
baz=81,SNR=5.5
D12A Red Ives Fores 81.06 36 ⇓P **P 08 18 23.9 -0.7**
baz=81
MCK McKinley 81.11 11 *e*P **P 08 18 24.2 -0.4**
comp=Z,16nm,0.8s,mb5.1
MCK *e*pP 08 18 41.8
MCK McKinley 81.11 11 *e*P **P 08 18 24.2 -0.4**
MCK *e**PP 08 18 41.8
MCK pmax pmax
comp=Z,16nm,0.8s,mb5.1
B11A Sandpoint 81.28 34 P **P 08 18 25.6 -0.2**
baz=81,SNR=5.0
MCMT McKenzie Canyo 81.32 39 *e*P **P 08 18 26.3 +0.1**
E13A Victor 81.39 37 P **P 08 18 25.6 -0.9**
baz=82,SNR=8.8
A11A Hall Mountain, 81.58 34 ⇑P **P 08 18 26.8 -0.6**
baz=82
D13A Huson 81.59 36 P **P 08 18 26.8 -0.8**
baz=82,SNR=6.5
DCID1 Drake Creek 81.72 41 *e*P **P 08 18 28.4 +0.1**
G15A Dillon 81.72 39 P **P 08 18 28.2 0.0**
baz=82,SNR=11
MSO Missoula 81.74 37 *e*P **P 08 18 27.4 -1.0**
MSO *e*pP 08 18 45.5
DLMT Dillon 81.76 39 *e*P **P 08 18 28.7 +0.3**
comp=Z,12nm,1.3s,mb4.8
E14A Clinton 81.78 37 P **P 08 18 28.1 -0.4**
baz=82,SNR=11
REDW Red Top Meadow 81.81 41 *e*P **P 08 18 28.9 +0.1**
comp=Z,11nm,1.2s,mb4.9
TPAW Teton Pass 81.81 41 *e*P **P 08 18 28.8 0.0**
comp=Z,10.0nm,1.1s,mb4.9
TPAW *e*pP 08 18 46.5
BSMT Bassoo Peak 81.82 36 *e*P **P 08 18 28.0 -0.7**
BSMT *e*pP 08 18 46.0
C13A Hot Springs 81.85 36 ⇓P **P 08 18 28.6 -0.3**
baz=82
SNOW Snow King Moun 81.92 41 *e*P **P 08 18 29.4 0.0**
comp=Z,12nm,1.1s,mb4.9
SNOW *e*pP 08 18 47.2
IMW Indian Meadow 82.02 40 *e*P **P 08 18 30.1 +0.2**
comp=Z,22nm,1.5s,mb5.1
F15A Butte 82.07 38 ⇓P **P 08 18 29.6 -0.5**
baz=82
LOHW Long Hollow 82.09 41 *e*P **P 08 18 29.9 -0.3**
comp=Z,3.6nm,0.8s,mb4.5
D14A Greenough 82.13 37 ⇑P **P 08 18 29.2 -1.2**
baz=82
CHMT Chamberlain Mo 82.19 37 *e*P **P 08 18 29.8 -0.9**
CHMT *e*pP 08 18 47.2
QLMT Earthquake Lak 82.19 39 *e*P **P 08 18 31.2 +0.5**
QLMT *e*pP 08 18 49.3
FLWY Flagg Ranch 82.27 40 *e*P **P 08 18 31.3 +0.1**
comp=Z,16nm,1.2s,mb5.0
E15A Deer Lodge 82.29 38 ⇑P **P 08 18 30.6 -0.6**
baz=82
B13A Whitefish 82.29 35 ⇓P **P 08 18 30.3 -0.9**
baz=82
BW06 Boulder Array 82.34 42 *e*P **P 08 18 30.9 -0.7**
comp=Z,40nm,2.3s,mb5.1
PDAR Pinedale Array 82.34 42 P **P 08 18 30.8 -0.8**
comp=Z,2.4nm,0.9s,mb4.3,baz=213,slow=2.5,SNR=19
PDAR LR LR 08 48 50.4
comp=Z,89nm,19.9s,MS4.1,baz=287,slow=31
COLA College 82.35 11 *e*P **P 08 18 30.5 -0.6**
comp=Z,14nm,0.8s,mb5.1
COLA *e*pP 08 18 48.1
COLA College 82.35 11 *e*P **P 08 18 30.5 -0.6**
COLA *e**PP 08 18 48.1
COLA pmax pmax
comp=Z,14nm,0.8s,mb5.1
C14A Swan Lake 82.36 36 ⇓P **P 08 18 30.8 -0.8**
baz=82
SMCO Snowmass 82.40 46 *e*P **P 08 18 32.1 +0.1**
comp=Z,11nm,1.2s,mb4.9
SEY Seymchan 82.43 345 ⇑*e*P **P 08 18 32.1 +0.6**
BOZ Bozeman (W) 82.48 39 *e*P **P 08 18 31.9 -0.3**
BOZ Bozeman (W) 82.48 39 P **P 08 18 32.3 +0.1**
baz=83,SNR=7.8
IMA2 Indian Mountai 82.54 8 *e*P **P 08 18 31.3 -0.8**
IMA2 *e*pP 08 18 49.2
A13A Flathead Natio 82.62 35 ⇑P **P 08 18 32.1 -0.8**
baz=83
D15A Lincoln 82.68 37 P **P 08 18 32.8 -0.4**
baz=83,SNR=12
QIZ Qiongzhong 82.73 292 P **P 08 18 32.5 -1.6**
QIZ S S 08 28 47.5 -6.0
QIZ LR LR
comp=Z,102nm,32.4s,MS4.0
SDCO Great Sand Dun 82.81 48 *e*P **P 08 18 34.1 0.0**
comp=Z,21nm,2.1s,mb5.0
HRY Holter Researc 82.91 38 *e*P **P 08 18 34.1 -0.3**
HRY *e*pP 08 18 51.8
WALA Waterton Lakes 82.97 35 *e*P **P 08 18 33.9 -0.8**
comp=Z,16nm,1.5s,mb5.0
RWWY Rawlins 83.38 44 *e*P **P 08 18 36.6 -0.3**
RWWY *e*pP 08 18 54.8
DAWY Dawson 83.42 14 *e*P **P 08 18 36.9 +0.2**
DAWY *e*pP 08 18 54.2
DAWY *e*sP sP 08 19 02.9 +26
EGAK Eagle 83.61 13 *e*P **P 08 18 37.8 +0.2**
RLMT Red Lodge 83.67 40 *e*P **P 08 18 38.7 +0.4**
GCMT Greycliff 83.75 39 *e*P **P 08 18 38.7 -0.1**
GCMT *e*pP 08 18 56.8
BILL Bilibino 84.44 353 *e*P **P 08 18 41.9 +0.1**
comp=Z,3.3nm,0.7s,mb4.7
BILL Bilibino 84.44 353 ⇑*e*P **P 08 18 41.7 -0.1**
BILL *e*S S 08 28 57.0 -12
BILL pmax pmax
comp=Z,11nm,1.3s,mb4.9
EGMT Eagleton 84.79 37 *e*P **P 08 18 40.9 -3.2**
comp=Z,5.2nm,1.0s,mb4.7
EGMT *e*pP 08 19 01.5
EGMT Eagleton 84.79 37 ⇑P **P 08 18 43.5 -0.6**
baz=85
EDM Edmonton 85.53 32 *e*P **P 08 18 46.8 -0.8**
EDM *e*pP 08 19 04.2
LAO LASA Array 86.28 40 *e*pP pP 08 19 09.4 +18
HIA Hailar 87.06 323 *e*P **P 08 18 54.2 -1.0**
MAW Mawson 87.78 199 P **P 08 18 58.8 +0.2**
comp=Z,12nm,0.6s,mb5.4,baz=126,slow=7.3,SNR=59
MAW LR LR 08 55 56.1
comp=Z,112nm,19.5s,MS4.3,baz=245,slow=34
GYA Guiyang 87.87 298 P **P 08 18 58.9 -0.8**
GYA AP 08 19 18.4
GYA XP sP 08 19 25.8 +26
GYA PP PP 08 22 29.6 +3.7
GYA SKS 08 29 20.3
GYA S S 08 29 36.4 -7.7

GYA				XS	sS	08 30 07.6	+23	
GYA				PS		08 30 48.8		
GYA				SS	SS	08 35 28.7	-2.9	
GYA				AMB	AMB			
	comp=Z,10.0nm,1.0s,mb5.1							
GYA				AMB	AMB			
	comp=Z,90nm,8.6s							
GYA				LR	LR			
	comp=N,470nm,20.4s,MS5.0							
GYA				LR	LR			
	comp=E,460nm,21.6s,MS5.0							
GYA				LR	LR			
	comp=Z,490nm,20.8s,MS4.9							
DGMT	**Dagmar**	**88.30**	**39**	*e*P	**P**	**08 19 00.4**	**-0.8**	
	comp=Z,24nm,1.4s,mb5.3							
DGMT				*e*pP		08 19 18.1		
HHC	**Hu-ho-hao-te**	**88.87**	**313**	*e*P	**P**	**08 19 05.5**	**+1.4**	
HHC				AP		08 19 21.5		
HHC				XP	sP	08 19 29.4	+25	
HHC				PP	PP	08 22 37.8	+4.2	
HHC				SKS		08 29 27.8		
HHC				S	S	08 29 49.8	-3.2	
HHC				XS	sS	08 30 16.5	+23	
HHC				PS		08 31 04.9		
HHC				SS	SS	08 35 45.5	-0.1	
HHC				AMB	AMB			
	comp=Z,17nm,0.4s,mb5.6							
HHC				AMB	AMB			
	comp=Z,112nm,4.7s							
HHC				LR	LR			
	comp=N,168nm,13.2s							
HHC				LR	LR			
	comp=E,208nm,22.1s							
HHC				LR	LR			
	comp=Z,76nm,5.5s							
PLCA	**Paso Flores**	**89.67**	**132**	LR	LR	08 48 39.2		
	comp=Z,113nm,19.1s,MS4.3,baz=186,slow=28							
YKA	**Yellowknife Ar**	**90.12**	**23**	P	**P**	**08 19 08.7**	**-0.7**	
YKA				PKKPbc	PKKPbc	08 36 37.8	-4.8	
YKA				LR	LR	08 51 02.0		
YKA	**Yellowknife Ar**	**90.12**	**23**	P	**P**	**08 19 08.7**	**-0.7**	
	comp=Z,2.0nm,0.9s,mb4.3,baz=237,slow=4.6,SNR=36							
YKA				PKKPbc	PKKPbc	08 36 37.8	-4.8	
	comp=Z,0.1nm,0.5s,baz=37,slow=2.2,SNR=7.5							
YKA				LR	LR	08 51 02.0		
	comp=Z,59nm,19.5s,MS4.0,baz=225,slow=30							
KMI	**Kunming**	**90.86**	**296**	P	**P**	**08 19 13.6**	**-0.2**	
KMI				AP		08 19 31.3		
KMI				XP	sP	08 19 38.3	+24	
KMI				PP	PP	08 22 53.2	+3.4	
KMI				PPP		08 24 54.2		
KMI				S	S	08 30 03.4	-8.7	
KMI				AMB	AMB			
	comp=Z,9.0nm,0.8s,mb5.2							
KMI				LR	LR			
	comp=Z,89nm,32.0s,MS4.0							
CD2	**Chengdu**	**91.64**	**301**	*e*P	**P**	**08 19 17.2**	**-0.1**	
CD2				AP		08 19 33.8		
CD2				XP	sP	08 19 41.0	+23	
CD2				PP	PP	08 23 00.2	+4.3	
CD2				SKS		08 29 43.8		
CD2				S	S	08 30 11.2	-7.8	
CD2				XS	sS	08 30 40.5	+21	
CD2				SS	SS	08 36 22.7	-3.5	
CD2				AMB	AMB			
	comp=Z,10.0nm,0.8s,mb5.2							
CD2				AMB	AMB			
	comp=Z,30nm,9.4s							
CD2				LR	LR			
	comp=N,120nm,16.4s,MS4.6							
CD2				LR	LR			
	comp=E,110nm,12.5s,MS4.6							
CD2				LR	LR			
	comp=Z,130nm,16.4s,MS4.5							
SYO	**Syowa Base**	**92.61**	**191⇑**	*e*P	**P**	**08 19 19.0**	**-2.1**	
SYO	**Syowa Base**	**92.61**	**191⇓**	*e*P	**P**	**08 19 25.8**	**+4.7**	
VNA3	**Neumayer Olymp**	**92.92**	**175**	*e*P	**P**	**08 19 22.1**	**-0.4**	
SNAA	**Sanae**	**92.96**	**177**	*e*P	**P**	**08 19 22.5**	**-0.1**	
SNAA	**Sanae**	**92.96**	**177⇑**	*e*P	**P**	**08 19 22.6**	**0.0**	
LZH	**Lanzhou**	**93.06**	**306**	*e*P	**P**	**08 19 25.2**	**+1.5**	
LZH				AP		08 19 43.0		
LZH				XP	sP	08 19 49.5	+25	
LZH				PP	PP	08 23 11.6	+4.7	
LZH				SKS		08 29 51.0		
LZH				*e*S	S	08 30 24.0	-7.5	
LZH				XS	sS	08 30 54.0	+22	
LZH				SS	SS	08 36 43.0	-3.3	
LZH				AMB	AMB			
	comp=Z,23nm,1.0s,mb5.6							
LZH				AMB	AMB			
	comp=Z,120nm,5.2s							
LZH				LR	LR			
	comp=E,620nm,19.0s							
LZH				LR	LR			
	comp=Z,830nm,20.0s,MS5.2							
VNA2	**Neumayer--Watz**	**93.41**	**175**	*e*P	**P**	**08 19 24.4**	**-0.3**	
VNA1	**Neumayer--Stat**	**93.61**	**175**	*e*P	**P**	**08 19 25.8**	**+0.1**	
ULM	**Lac du Bonnet**	**94.00**	**39**	LR	LR	09 00 53.5		
	comp=Z,67nm,18.6s,MS4.1,baz=260,slow=35							
TIXI	**Tiksi**	**94.91**	**344⇑**	*e*P	**P**	**08 19 31.0**	**-0.4**	
TIXI				pmax	pmax			
	comp=Z,4.0nm,1.6s,mb4.6							
ZALV	**Zalesovo Beam**	**109.08**	**322**	PKPdf	PKiKP	08 24 37.5	-1.9	
ZALV	**Zalesovo Beam**	**109.08**	**322**	PKiKP	PKiKP	08 24 37.5	-1.9	
	comp=Z,0.6nm,0.4s,baz=16,slow=1.0,SNR=3.8							
MK31	**Makanchi Array**	**110.67**	**315**	*e*PKPdf	PKiKP	08 24 41.4	-1.3	
MKAR	**Makanchi Array**	**110.67**	**315**	Pdiff	Pdif	08 20 38.7	-3.6	
	comp=Z,0.2nm,0.5s,baz=88,slow=3.6,SNR=3.6							
MKAR				PKiKP	PKiKP	08 24 41.3	-1.3	
	comp=Z,0.7nm,0.5s,baz=80,slow=0.6,SNR=13							
KURK	**Kurchatov**	**113.00**	**319⇑**	*i*PKIKP	PKiKP	08 24 44.9	-2.0	
ARU	**Arti**	**123.21**	**328**	*i*PKIKP	PKPdf	08 25 05.3	-1.0	
ARU						08 32 00.4		
ARCES	**ARCESS Array B**	**124.54**	**352**	PKP	PKPdf	08 25 07.1	-1.4	
	comp=Z,5.3nm,0.8s,baz=9.9,slow=1.1,SNR=25							
AKTK	**Aktyubinsk**	**125.84**	**322**	PKP	PKPdf	08 25 10.4	-1.2	
AKTO	**Aktyubinsk**	**125.84**	**322**	PKP	PKPdf	08 25 10.4	-1.2	
	comp=Z,2.0nm,0.8s,baz=50,slow=3.2,SNR=7.6							
FINES	**FINESS Array B**	**131.86**	**347**	PKP	PKPdf	08 25 21.1	-1.7	
	comp=Z,2.1nm,0.8s,baz=108,slow=4.2,SNR=3.8							
MOS	**Moscow**	**133.13**	**336**	*e*PKHKP		08 25 08.9		
OBN	**Obninsk**	**134.00**	**336⇓**	*i*PKIKP	PKPdf	08 25 24.7	-2.2	
OBN				*e*		08 28 00.6		
OBN				*e*		08 32 24.8		
OBN				*e*PS	PS	08 38 13.1	-3.7	
OBN				pmax	pmax			
	comp=Z,13nm,0.9s							
AKASG	**Malin Array Be**	**140.23**	**337**	PKP	PKPdf	08 25 37.3	-1.3	
AKASG	**Malin Array Be**	**140.23**	**337**	PKIKP	PKPdf	08 25 37.3	-1.3	
AKASG	**Malin Array Be**	**140.23**	**337**	PKhKP		08 25 30.5		
	comp=Z,1.0nm,0.6s,baz=38,slow=4.0,SNR=6.0							
AKASG				PKP	PKPdf	08 25 37.3	-1.3	
	comp=Z,2.5nm,0.8s,baz=32,slow=1.9,SNR=12							
LVV	**L'vov**	**142.76**	**341**	*e*PKIKP	PKPdf	08 25 43.5	+0.4	
KWP	**Kalwaria**	**143.33**	**342**	*e*PKP	PKPdf	08 25 41.0	-3.1	
OJC	**Ojcow**	**143.57**	**346**	*e*PKP	PKPdf	08 25 41.7	-2.9	
MALT	**Malatya**	**143.71**	**315**	*e*PKPdf	PKPdf	08 25 44.4	-0.8	
MALT	**Malatya**	**143.71**	**315⇑**	*i*P	PKPdf	08 25 44.4	-0.8	
KSP	**Ksiaz**	**143.72**	**349**	*e*PKP	PKPdf	08 25 42.4	-2.4	
KSP	**Ksiaz**	**143.72**	**349**	*e*PKIKP	PKPdf	08 25 42.1	-2.7	
CLL	**Collm**	**143.75**	**353**	*e*PKIKP	PKPdf	08 25 43.0	-1.8	
CLL				pmax	pmax			
	comp=Z,7.0nm,1.0s							
CLL	**Collm**	**143.75**	**353**	*e*PKPdf	PKPdf	08 25 43.0	-1.8	
	comp=Z,7.0nm,1.0s							
CLL				*e*PKiKP	PKiKP	08 25 47.0	-1.3	
STHS	**Stebnicka Huta**	**143.94**	**344**	*i*PKP	PKPdf	08 25 43.3	-1.9	
KOLS	**Kolonicke sedl**	**144.08**	**342**	*e*PKP	PKPdf	08 25 43.4	-2.1	
UPC	**Upice**	**144.09**	**350**	*e*PKP	PKPdf	08 25 42.9	-2.6	
NIE	**Niedzica**	**144.18**	**344**	*e*PKP	PKPdf	08 25 44.4	-1.3	
DPC	**Dobruska-Polom**	**144.19**	**349**	*e*PKP	PKPdf	08 25 44.2	-1.4	
BOYT	**Boyabat**	**144.21**	**322**	*i*P	PKPdf	08 25 45.3	-0.6	
OKC	**Ostrava-Krasne**	**144.31**	**347**	*e*PKP	PKPdf	08 25 44.2	-1.7	
CRVS	**Cervenica-Dubn**	**144.34**	**343**	*e*PKP	PKPdf	08 25 44.2	-1.8	
UZH	**Uzhgorod**	**144.34**	**342**	*d*PKIKP	PKPdf	08 25 44.0	-2.0	
UZH				*e*		08 25 50.4		
MORC	**Moravsky Berou**	**144.49**	**348**	*e*PKPdf	PKPdf	08 25 45.0	-1.1	
MORC	**Moravsky Berou**	**144.49**	**348⇓**	*i*P	PKPdf	08 25 45.3	-0.9	
MOX	**Moxa**	**144.55**	**354**	*e*PKP	PKPdf	08 25 44.7	-1.6	
MOX	**Moxa**	**144.55**	**354**	*e*PKPbc	PKPdf	08 25 44.1	-2.2	
TANN	**Tannenbergstha**	**144.69**	**353**	*e*PKPbc	PKPdf	08 25 45.0	-1.5	
GZT	**Gaziantep**	**144.78**	**314**	*i*P	PKPdf	08 25 47.3	+0.2	
PRU	**Pruhonice**	**144.83**	**351**	*e*PKP	PKPdf	08 25 45.8	-1.0	
MEM	**Membach**	**144.83**	**0**	PKPdf	PKPdf	08 25 45.5	-1.3	
NKC	**Novy Kostel**	**144.87**	**353**	*e*PKP	PKPdf	08 25 45.5	-1.3	
SNF	**Seneffe**	**144.89**	**2**	PKPdf	PKPdf	08 25 46.0	-0.9	
KECS	**Kecovo**	**145.00**	**344**	*i*PKP	PKPdf	08 25 46.4	-0.7	
BALT	**Daday**	**145.03**	**324**	*i*P	PKPbc	08 25 46.3	-0.4	
CFR	**Carcaliu**	**145.08**	**333**	PKIKP	PKPdf	08 25 49.0	+1.6	
VRAC	**Vranov**	**145.13**	**348⇓**	*i*P	PKPbc	08 25 47.3	+0.5	
VRI	**Vrincioaia**	**145.13**	**335⇓**	*i*P	PKPbc	08 25 47.2	+0.3	
PLOR	**Plostina**	**145.18**	**335⇓**	*i*P	PKPbc	08 25 47.3	+0.3	
GIVF	**Givet**	**145.32**	**2**	*e*PKP1	PKPbc	08 25 46.9	-0.5	
BAIF	**Baives**	**145.34**	**3**	*e*PKP1	PKPbc	08 25 47.0	-0.4	
KMBO	**Kilima Mbogo**	**145.40**	**244**	*e*PKPdf	PKPdf	08 25 49.2	+0.3	
KMBO	**Kilima Mbogo**	**145.40**	**244**	PKPbc	PKPbc	08 25 49.2	+0.4	
	comp=Z,7.9nm,0.5s,baz=104,slow=2.4,SNR=23							
VYHS	**Vyhne**	**145.41**	**345**	*i*PKP	PKPdf	08 25 48.0	+0.2	
KOLL	**Kolacno**	**145.43**	**346**	*e*PKP	PKPdf	08 25 48.3	+0.4	
TIRR	**Tirgusor**	**145.52**	**332⇓**	*i*P	PKPdf	08 25 48.2	+0.1	
GRF	**Grafenberg Arr**	**145.53**	**354**	*e*PKPbc	PKPbc	08 25 48.0	0.0	
GRFO	**Grafenberg**	**145.53**	**354**	*e*PKPdf	PKPdf	08 25 48.1	+0.1	
HARR	**Harsova**	**145.55**	**332⇑**	*i*P	PKPdf	08 25 49.0	+0.8	
ELDT	**Eldivan**	**145.67**	**322**	*i*P	PKPdf	08 25 49.8	+1.3	
PSZ	**Piszkesteto**	**145.67**	**344**	*e*PKPdf	PKPdf	08 25 47.8	-0.4	
PSZ	**Piszkesteto**	**145.67**	**344⇑**	*e*PKP	PKPdf	08 25 48.6	+0.3	
MLR	**Muntele Rosu**	**145.76**	**335⇓**	*i*P	PKPdf	08 25 49.5	+1.0	
WLF	**Walferdange**	**145.78**	**0**	*e*PKPab	PKPab	08 25 49.3	+0.1	
WLF	**Walferdange**	**145.78**	**0**	PKP	PKPdf	08 25 47.1	-1.3	
WLF				PKPdf	PKPdf	08 25 49.7	+1.3	
WLF	**Walferdange**	**145.78**	**0**	*e*PKPbc	PKPbc	08 25 48.7	-0.1	
KHC	**Kasperske Hory**	**145.81**	**352**	*e*PKP	PKPdf	08 25 48.3	-0.2	
KHC				epPKP	pPKPdf	08 26 07.9	+19	
AVNT	**Avonos**	**145.82**	**319**	*i*P	PKPdf	08 25 48.8	-0.1	
DRGR		**145.84**	**340⇓**	*i*P	PKPdf	08 25 49.3	+0.7	
MODS	**Modra-Piesok**	**145.88**	**347**	*i*PKP	PKPdf	08 25 50.0	+1.4	
WET	**Wettzell**	**145.89**	**352**	*e*PKP2	PKPab	08 25 49.1	-0.5	
WET	**Wettzell**	**145.89**	**352**	*e*PKPdf	PKPdf	08 25 43.0	-5.6	
WET				*e*PKPbc	PKPbc	08 25 49.1	-0.1	
GEC2	**GERESS Array S**	**146.07**	**351**	*e*PKPdf	PKPdf	08 25 49.2	+0.3	
GERES	**GERESS Array B**	**146.07**	**351**	PKPbc	PKPbc	08 25 49.1	-0.6	
	comp=Z,14nm,1.1s,baz=38,slow=2.4,SNR=24							
ZST	**Bratislava**	**146.09**	**347**	*e*PKP	PKPdf	08 25 50.8	+1.8	
VOIR		**146.16**	**336**	⇓PKP2	PKPab	08 25 51.1	+0.4	
VOIR		**146.16**	**336⇓**	*i*P	PKPdf	08 25 51.0	+1.8	
SGMF	**Saint Gilles**	**146.37**	**11**	*e*PKP1	PKPbc	08 25 49.3	-1.3	
LDF	**La Druitiere**	**146.42**	**8**	*e*PKP1	PKPbc	08 25 50.1	-0.7	
GRR	**Gorron**	**146.52**	**9**	*e*PKP1	PKPbc	08 25 50.1	-1.0	
	comp=Z,9.7nm,0.7s							
CONA	**Conrad Observa**	**146.59**	**348⇓**	*i*PKPbc	PKPbc	08 25 49.9	-1.4	
	comp=Z,28nm,1.1s,SNR=14							
SOP	**Sopron**	**146.69**	**348⇓**	*e*PKP	PKPbc	08 25 52.3	+0.7	
MOA	**Molln**	**146.95**	**350⇑**	*i*P	PKPdf	08 25 50.3	-0.1	
	comp=Z,25nm,1.4s,SNR=8.7							
CDF	**Champ du Feu**	**147.03**	**359**	*e*PKP1	PKPbc	08 25 52.4	-0.2	
	comp=Z,49nm,1.2s							
GZR	**Gura Zlata**	**147.04**	**339**	PKIKP	PKPbc	08 25 52.5	-0.2	
GZR	**Gura Zlata**	**147.04**	**339⇑**	*i*P	PKPbc	08 25 52.6	-0.1	
FUR	**Furstenfeldbru**	**147.04**	**354**	*e*PKPbc	PKPbc	08 25 53.0	+0.4	
BFO	**Black Forest**	**147.08**	**358**	*e*PKPbc	PKPbc	08 25 52.3	-0.4	
BZS	**Buzias**	**147.24**	**340⇓**	*i*P	PKPbc	08 25 53.3	+0.1	
HAU	**Haudompre**	**147.44**	**0**	*e*PKP1	PKPbc	08 25 53.6	-0.1	
HAU				*e*MLR	MLR			
	comp=Z,61nm,22.0s,MS4.0							
PKSM	**Moragy**	**147.58**	**344⇓**	*i*P	PKPdf	08 25 53.4	+1.8	
HINF	**Hinteralfeld**	**147.63**	**359**	*e*PKP1	PKPbc	08 25 53.7	-0.6	
ASF	**Jabal al Asfar**	**147.63**	**307**	PKPbc	PKPbc	08 25 54.6	-0.2	
	comp=Z,3.9nm,0.7s,baz=210,slow=4.0,SNR=5.9							
WTTA	**Wattenberg**	**147.89**	**353⇓**	*i*P	PKPbc	08 25 54.7	-0.3	
	comp=Z,16nm,0.6s							
LOR	**Lormes**	**148.11**	**3**	*e*PKP1	PKPbc	08 25 55.2	-0.4	
	comp=Z,25nm,1.0s							
LOR				*e*MLR	MLR			
	comp=Z,76nm,19.8s,MS4.2							
FETA	**Feichten**	**148.22**	**354⇓**	*i*PKPbc	PKPbc	08 25 52.7	-3.2	
	comp=Z,13nm,1.2s							
SSF	**Saint Saulge**	**148.29**	**4**	*e*PKP1	PKPbc	08 25 55.8	-0.3	
	comp=Z,30nm,1.1s							
AVF	**Avril sur Loir**	**148.55**	**4**	*e*PKP1	PKPbc	08 25 55.8	-0.9	
	comp=Z,21nm,1.2s							
CABF	**La Chapelle**	**148.84**	**0**	*e*PKP1	PKPbc	08 25 57.7	+0.2	
	comp=Z,72nm,1.2s							
TCF	**Toulx Ste Croi**	**148.96**	**6**	*e*PKP1	PKPbc	08 25 57.4	-0.4	
VTS	**Vitosha**	**149.26**	**335⇓**	*i*P	PKPbc	08 25 59.1	+0.4	
LPL	**La Plagne**	**149.93**	**360**	*e*PKP1	PKPbc	08 26 00.9	+0.7	
	comp=Z,26nm,1.0s							
LPG	**La Plagne**	**149.95**	**360**	*e*PKP1	PKPbc	08 26 00.7	+0.4	
	comp=Z,35nm,1.0s							
BNI	**Bardonecchia**	**150.40**	**360**	*e*PKPbc	PKPbc	08 26 02.4	+1.0	
ORIF	**Oris-en-Rattie**	**150.53**	**1**	*e*PKP1	PKPbc	08 26 01.9	+0.2	
ORIF				*e*MLR	MLR			
	comp=Z,66nm,21.2s,MS4.1							
VIVF	**Saint-Julien-l**	**150.56**	**3**	*e*PKP1	PKPbc	08 26 01.8	0.0	
	comp=Z,26nm,1.1s							
MBDF	**Montbardon**	**150.72**	**359**	*e*PKP1	PKPbc	08 26 02.5	+0.3	
	comp=Z,14nm,0.8s							
KRUS	**Krusevo**	**151.07**	**337**	*i*	PKPbc	08 26 02.8	-0.3	
LASF	**Ste Croix**	**151.29**	**4**	*e*PKP1	PKPbc	08 26 03.3	-0.2	
	comp=Z,28nm,1.1s							
SMRF	**Simiane la Rot**	**151.46**	**1**	*e*PKP1	PKPbc	08 26 04.2	+0.3	
	comp=Z,28nm,1.0s							
OHR	**Ohrid**	**151.47**	**337**	*i*	PKPbc	08 26 03.4	-0.6	
ETSF	**Etsaut**	**151.90**	**11**	*e*PKP1	PKPbc	08 26 04.8	-0.2	
	comp=Z,6.8nm,0.7s							
PGF	**Pioggiola**	**152.81**	**356**	*e*PKP1	PKPbc	08 26 06.6	-0.4	
	comp=Z,21nm,0.9s							
DBIC	**Dimbokro**	**165.97**	**127**	PKP	PKPdf	08 26 13.4	-2.5	
	comp=Z,4.8nm,1.0s,baz=89,slow=2.7,SNR=3.1							
DBIC				PKPab	PKPab	08 27 13.9	-1.8	
	comp=Z,5.5nm,1.1s,baz=166,slow=5.4,SNR=3.1							
TORD	**Torodi Ar. Bea**	**174.91**	**115**	PKP	PKPdf	08 26 18.1	-2.6	
	comp=Z,2.2nm,1.0s,baz=14,slow=1.9,SNR=8.4							
TORD				PKPab	PKPab	08 27 51.6	-3.8	
	comp=Z,0.4nm,0.6s,baz=230,slow=2.0,SNR=4.4							

ISCJB ***12*** *08:19:37.6±0.6,3848N±002×2675E±004,h10km±4km,*
Error ellipse: s-maj=4.9km s-min=4.2km az=174.2
CSEM ***12*** *08:19:37.4±0.1,3852N×2675E,h8km,MD3.2,Error*
ellipse: s-maj=2.3km s-min=1.4km az=87.0
ISK ***12*** *08:19:37.1,3849N×2677E,h5km,MD3.3*
NEIC ***12*** *08:19:37.8,3840N×2648E,h30km,MD3.3(ATH),*
MD3.1(ISK),After ATH.
DDA ***12*** *08:19:37.1,3856N×2675E,h4km±6km,Md3.2*
ATH ***12*** *08:19:37.8,3840N×2648E,h30km±18km,MD3.3/3*
ISC 12 08:19:38.0±0.5,3849N±002×2674E±004,h10km±4km,n29,
σ1§04/40,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URLA	**Izmir**	**0.17**	**222**	*i*P	**Pg**	**08 19 42.7**	**+1.0**
URLA				*i*S	**Sg**	**08 19 46.3**	**+2.0**
BLCB	**Balcova**	**0.26**	**113**	PG	**Pg**	**08 19 42.5**	**-0.8**
BLCB				*e*SG	**Sg**	**08 19 45.6**	**-1.2**
KDAG	**Bornova**	**0.42**	**101**	*i*P	**Pg**	**08 19 45.5**	**-0.8**
SMG	**Samos**	**0.78**	**174**	*e*PN	**Pn**	**08 19 52.4**	**-2.6**
SMG				*e*SN	**Sg**	**08 20 03.6**	**+0.3**
AYVA	**Ayvalik**	**0.82**	**357**	*i*P	**Pg**	**08 19 53.8**	**-0.1**
AYVA				*i*S	**Sg**	**08 20 06.5**	**+1.9**
PRK	**Paraskevi**	**0.84**	**334**	*e*PN	**Pn**	**08 19 55.2**	**-0.7**
PRK				*e*SN	**Sn**	**08 20 07.7**	**-0.6**
AKHS	**Akhisar**	**0.93**	**65**	*i*P	**Pg**	**08 19 54.9**	**-1.0**
AKHS				*i*S	**Sg**	**08 20 07.3**	**-0.6**
AKS	**Akhisar**	**0.93**	**65**	*e*PG	**Pg**	**08 19 54.9**	**-1.0**
AKS				*e*SG	**Sg**	**08 20 07.7**	**-0.3**
EZN	**Ezine**	**1.38**	**347**	*e*PN	**Pn**	**08 20 02.7**	**-0.5**
MLSB	**Milas**	**1.45**	**145**	*e*PN	**Pn**	**08 20 04.7**	**+0.5**
BOZC	**Bozcaada**	**1.46**	**339**	*i*P	**Pn**	**08 20 03.0**	**-1.3**
BOZC				*i*S	**Sn**	**08 20 22.3**	**-1.2**
BODT	**Bodrum**	**1.49**	**162**	*e*PN	**Pn**	**08 20 04.5**	**-0.3**
KULA	**Kula-Manisa**	**1.51**	**88**	*e*PN	**Pn**	**08 20 05.5**	**+0.5**
BDRM	**Kayabasi**	**1.52**	**158**	*i*P	**Pn**	**08 20 05.6**	**+0.3**
BDRM				*i*S	**Sn**	**08 20 25.4**	**+0.2**
BTOK	**Tokmak**	**1.62**	**38**	*e*P	**Pn**	**08 20 07.3**	**+0.7**
BTOK				*i*S	**Sn**	**08 20 28.5**	**+1.0**
APE	**Apeiranthos**	**1.71**	**214**	*e*PN	**Pn**	**08 20 05.8**	**-2.0**
YER	**Yerkesik**	**1.82**	**137**	*e*PN	**Pn**	**08 20 10.2**	**+0.9**
GADA	**Gvkgeada**	**1.82**	**339**	*e*PN	**Pn**	**08 20 09.5**	**+0.1**
DST	**Dursunbey**	**1.85**	**52**	*e*PN	**Pn**	**08 20 10.1**	**+0.4**
LIA	**Limnos Island**	**1.86**	**320**	*e*PN	**Pn**	**08 20 07.5**	**-2.4**
EDC	**Edincik**	**2.05**	**25**	*e*PN	**Pn**	**08 20 12.8**	**+0.3**
BNT	**Bandirma**	**2.08**	**26**	*e*PN	**Pn**	**08 20 14.0**	**+1.1**
KCT	**Karacabey**	**2.17**	**35**	*e*PN	**Pn**	**08 20 14.5**	**+0.3**
KHL	**Karahalli**	**2.19**	**93**	*e*PN	**Pn**	**08 20 15.6**	**+1.2**
RKY	**Sarkoy-Tekirda**	**2.22**	**9**	*e*PN	**Pn**	**08 20 15.6**	**+0.7**
GDZ	**Gediz**	**2.23**	**73**	*i*P	**Pn**	**08 20 18.1**	**+3.1**
GDZ				*i*S	**Sn**	**08 20 47.7**	**+5.3**
ENEZ	**Enez**	**2.29**	**349**	*e*PN	**Pn**	**08 20 15.9**	**+0.1**
IZI	**Iznik**	**2.81**	**48**	*e*PN	**Pn**	**08 20 23.7**	**+0.7**
YLV	**Yalova**	**2.91**	**44**	*e*PN	**Pn**	**08 20 25.4**	**+1.1**

NNC 12 08:45:15.7±3.6,5411N×8606E,h0km,mb3.7,mpv3.4,
9C-5D,Error ellipse: s-maj=34.4km s-min=24.3km
az=84.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURK	**Kurchatov**	**5.68**	**236**	⇑Pn	Pn	08 46 41.6	+0.4
	5.0nm,0.8s						
KURK				⇓Sn	Sn	08 47 50.4	+3.3
	1.8nm,0.6s						
KURK				⇑Lg		08 48 14.4	
	9.8nm,0.9s						
MK31	**Makanchi Array**	**7.70**	**200**	⇑Pn	Pn	08 47 08.3	-0.8
	1.1nm,0.7s,baz=28,slow=13,SNR=18						
MK31				⇓Sn	Sn	08 48 36.7	-0.2
	1.1nm,0.6s,baz=23,slow=25,SNR=4.4						
MK31				⇓Lg		08 49 14.6	
	12nm,0.9s,baz=27,slow=30,SNR=5.8						
VOSK	**Vostochnaya**	**9.11**	**267**	⇓Pn	Pn	08 47 27.4	-0.9
	2.7nm,0.6s						
VOSK				⇑Sn	Sn	08 49 08.4	-3.1
	9.8nm,1.2s						
CHKZ	**Chkalovo**	**9.13**	**274**	⇑Pn	Pn	08 47 27.9	-0.6
	2.7nm,1.1s						
CHKZ				⇑Sn	Sn	08 49 08.0	-4.0
	5.5nm,1.1s						
BVA0	**Borovoye Array**	**9.39**	**270**	⇑Pn	Pn	08 47 32.7	+0.6
	0.5nm,1.4s,baz=71,slow=17,SNR=9.0						
BVA0				⇑Sn	Sn	08 49 13.8	-4.4
	0.8nm,0.9s,baz=80,slow=19,SNR=12						
ZRNK	**Zerenda**	**10.22**	**270**	⇑Pn	Pn	08 47 43.0	-0.5
	1.8nm,0.8s						
ZRNK				⇓Sn	Sn	08 49 34.4	-4.3
	3.4nm,0.9s						

BJI ***12*** *09:13:49.6,5985N×15429W,h193km,mB4.7,mb4.5*
ISCJB ***12*** *09:13:51.5±0.4,6036N±004×15382W±007,h195km±3km,*
mb3.8/17,Error ellipse: s-maj=7.4km s-min=5.8km
az=18.9
NEIC ***12*** *09:13:52.5,6027N×15369W,h203km,mb4.1/3,After*
AEIC.
NEIC Felt at Homer.
IDC ***12*** *09:13:55.5±2.1,6055N×15376W,h214km±18km,mb3.3/11,*
mb1 3.6/14,mb1mx3.5/23,mbtmp3.5/14,Error ellipse:
s-maj=22.3km s-min=10.4km az=23.0
ISC 12 09:13:52.6±0.4,6037N±005×15382W±007,h189km±3km,
n66,σ1§02/70,mb4.0/17,Southern Alaska

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

HHC			SCS	ScS	09 32 52.0	-0.8
HHC			SS	SS	09 35 00.5	+2.1
HHC			AMB	AMB		
	comp=Z,14nm,0.4s,mb5.1					
HHC			AMB	AMB		
	comp=Z,68nm,4.8s					
HHC			LR	LR		
	comp=N,97nm,4.5s					
HHC			LR	LR		
	comp=E,218nm,7.6s					
HHC			LR	LR		
	comp=Z,56nm,5.3s					
FINES	**FINES Array B**	**58.52 0**	P	**P**	**09 23 28.1**	**-0.3**
	comp=Z,0.8nm,0.7s,mb3.6,baz=5.2,slow=6.3,SNR=4.0					
MKAR	**Makanchi Array**	**63.89 321**	P	**P**	**09 24 03.1**	**-1.6**
	comp=Z,0.5nm,0.4s,mb3.7,baz=40,slow=7.0,SNR=10					
WMQ	**Urumqi**	**64.71 315**	*e*P	**P**	**09 24 11.7**	**+1.6**
WMQ			AMB	AMB		
	comp=Z,6.0nm,0.8s,mb4.5					
WMQ			AMB	AMB		
	comp=Z,133nm,4.7s					
LZH	**Lanzhou**	**64.99 299**	*e*P	**P**	**09 24 12.5**	**+0.5**
LZH			AP	pP	09 24 55.6	-0.2
LZH			XP	sP	09 25 17.1	+0.9
LZH			AMB	AMB		
	comp=Z,15nm,1.0s,mb4.8					
LZH			AMB	AMB		
	comp=Z,69nm,4.2s					
CD2	**Chengdu**	**69.41 296**	*e*P	**P**	**09 24 38.6**	**-1.2**
CD2			XP	sP	09 25 50.2	+5.7
CD2			PP	PP	09 27 16.8	+1.5
CD2			S	S	09 33 26.5	-4.8
CD2			XS	sS	09 34 49.7	+1.1
CD2			SS	SS	09 37 59.3	-2.2
CD2			AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.6					
CD2			AMB	AMB		
	comp=Z,20nm,5.8s					
GYA	**Guiyang**	**71.89 292**	P	**P**	**09 24 53.2**	**-1.7**
GYA			AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.6					

IDC 12 09:20:00.4±13.0, 5913S×2683W, h170km±115km, mb3.7/3, mb1 3.9/3, mb1mx3.4/14, mbtmp3.7/3, Error ellipse: s-maj=81.3km s-min=24.9km az=101.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**13.90**	**154**	*e*P	Pn	09 23 07.0	-2.8
VNA3	**Neumayer Olymp**	**14.04**	**157**	*e*P	Pn	09 23 08.4	-3.2
VNA3				*e*		09 25 29.4	
VNA2	**Neumayer--Watz**	**14.29**	**154**	*e*P	Pn	09 23 11.7	-3.1
	baz=309,slow=16						
VNA2				*e*		09 25 33.5	
SNAA	**Sanae**	**15.88**	**152**	*e*P	Pn	09 23 33.5	-0.8
VNDA	**Vanda**	**43.50**	**183**	P	P	09 27 46.1	-0.1
	1.1nm,0.7s,baz=179,slow=7.3,SNR=8.3						
TORD	**Torodi Ar. Bea**	**75.66**	**29**	P	P	09 31 26.6	+0.1
	1.0nm,0.4s,baz=198,slow=6.3,SNR=18						
TORD				pP	pP	09 31 57.4	-10
	0.6nm,0.5s,baz=197,slow=6.5,SNR=4.5						
STKA	**Stephens Creek**	**88.83**	**170**	P	P	09 32 35.4	+0.5
	0.8nm,0.9s,baz=166,slow=8.3,SNR=3.4						
ASAR	**Alice Springs**	**95.99**	**162**	P	P	09 33 07.2	-0.7
	0.6nm,0.6s,baz=182,slow=4.3,SNR=14						
YKA	**Yellowknife Ar**	**138.55**	**316**	PKP	PKPdf	09 39 03.8	-0.3
	0.1nm,0.5s,baz=134,slow=2.1,SNR=8.5						
INK	**Inuvik**	**148.26**	**317**	PKPbc	PKPbc	09 39 23.9	-0.7
	0.5nm,0.7s,baz=56,slow=3.6,SNR=3.5						
SONM	**Songino Array**	**150.58**	**92**	PKPbc	PKPbc	09 39 31.1	+0.2
	0.7nm,0.5s,baz=239,slow=3.9,SNR=5.1						

*CSEM **12** 09:20:26.9±0.6, 3731N×2462W, h0km, ML3.5, Error ellipse: s-maj=6.8km s-min=2.7km az=90.0, After PDA*
*PDA **12** 09:20:26.9±0.6, 3731N×2462W, h0km, ML3.5, Error ellipse: s-maj=6.8km s-min=2.7km az=90.0*
SVSA 12 09:20:26.9±0.6, 3731N×2462W, h0km, ML3.5, Error ellipse: s-maj=6.8km s-min=2.7km az=90.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSMN	**Pico do Norte,**	**0.47**	**230**	*e*P	Pg	09 20 35.4	-0.4
PSMN				*e*S	Sg	09 20 41.9	+0.1
PSMN				*e*T		09 20 52.3	
PSMN	**Pico do Norte,**	**0.47**	**230**	*e*P	Pg	09 20 35.4	-0.4
PSMN				*e*S	Sg	09 20 41.9	+0.1
PDA	**Ponta Delgada**	**0.94**	**298**	*e*P	Pg	09 20 42.6	-2.2
PDA				*e*S	Sg	09 20 53.7	-3.3

*BJI **12** 09:26:38.2, 2669S×177.19W, h30km, mB5.2, mb5.1, Ms5.0, Msz4.7*
*ISCJB **12** 09:26:53.4±0.3, 2676S±006×17786W±008, h146km, mb4.4/24, Error ellipse: s-maj=10.0km s-min=7.8km az=168.1*
*GCMT **12** 09:26:54.5±0.6, 2665S×17751W, h158km±5km, MW5.0/66, Moment Tensor Solution. s13,c14; s66,c84; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.12±.18; $M_{\theta\theta}$-1.46±.23; $M_{\phi\phi}$1.34±.24; $M_{r\theta}$-1.37±.13; $M_{\theta\phi}$0.29±.21; $M_{\phi r}$-2.89±.14; Best double couple: $M_0$3.38500×10^{16} NP1:ϕ_s129.00000°, δ20.00000°, λ-174.00000°. NP2: ϕ_s34.00000°, δ88.00000°, λ-70.00000°. Principal axes: T 3.9120, Plg40.0000°, Azm105.0000°; N -1.0500, Plg20.0000°, Azm213.0000°; P -2.8570, Plg43.0000°, Azm323.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **12** 09:26:54.5±0.4, 2674S×17783W, mb4.6/11 Error ellipse: s-maj=11.4km s-min=10.9km az=154.0*
*IDC **12** 09:26:54.3±0.6, 2670S×17765W, h148km±5km, mb4.1/14, mb1 4.3/16, mb1mx4.3/18, mbtmp4.1/16, MS3.6/7, Ms1 3.7/7, ms1mx3.4/17, Error ellipse: s-maj=13.4km s-min=10.5km az=90.0*
ISC 12 09:26:55.0±0.3, 2676S±005×17782W±008, h148km, h148km±2.3km: pP-P, n87, σ1§11/53, mb4.4/24, 2C-1D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.49**	**182**	P	**Pn**	**09 27 34.9**	**-0.9**
	116nm,0.3s,baz=240,slow=20,SNR=2.8						
RAO				S	**Sn**	**09 28 08.9**	**+1.6**
	473nm,0.3s,baz=54,slow=23,SNR=6.4						
URZ	**Urewera**	**12.24**	**199**	P	**Pn**	**09 29 36.6**	**-7.7**
	0.2nm,0.3s,baz=0.0,slow=20,SNR=2.3						
URZ				S	**Sn**	**09 31 41.1**	**-18**
	0.4nm,0.3s,baz=34,slow=22,SNR=2.3						
AFI	**Afiamalu**	**13.98**	**25**	*e*Pn	**Pn**	**09 29 55.6**	**-11**
AFI				*e*Sn	Sn	09 32 09.7	-32
RAR	**Rarotonga**	**17.38**	**75**	P	**Pn**	**09 30 49.8**	**+1.3**
	1.0nm,0.3s,baz=247,slow=15,SNR=2.6						
RAR				S	**S**	**09 33 39.7**	**-21**
	1.0nm,0.3s,baz=90,slow=12,SNR=2.5						
RPZ	**Rata Peaks**	**19.18**	**205**	P	**P**	**09 31 06.5**	**-0.5**
	0.3nm,0.3s,baz=36,slow=18,SNR=2.7						
HNR	**Honiara**	**27.19**	**305**	*e*P	**P**	**09 32 23.9**	**-1.0**
	80nm,0.8s,mb5.4						
HNR	**Honiara**	**27.19**	**305**	P	**P**	**09 32 21.9**	**-3.0**
	102nm,0.8s,mb5.5,baz=126,slow=1.0,SNR=4.8						
HNR				LR	LR	09 42 03.3	
	comp=Z,68nm,18.6s,baz=179,slow=33						
PPT	**Papeete**	**27.66**	**77**	LR	LR	09 42 21.7	
	comp=Z,143nm,19.0s,baz=257,slow=34						
CTA	**Charters Tower**	**33.55**	**274**	*e*P	**P**	**09 33 22.8**	**+1.9**
	10nm,1.5s,mb4.3						
CTA	**Charters Tower**	**33.55**	**274**	*e*P	pP	09 33 55.9	+3.4
	18nm,1.2s						
CTA	**Charters Tower**	**33.55**	**274**	P	**P**	**09 33 22.2**	**+1.3**
	4.7nm,0.8s,mb4.3,baz=72,slow=16,SNR=4.7						
CTA				pP	pP	09 33 55.0	+2.5
	21nm,1.0s,baz=95,slow=7.8,SNR=6.2						
CTA				LR	LR	09 44 28.9	
	comp=Z,207nm,19.5s,baz=314,slow=31						
STKA	**Stephens Creek**	**35.61**	**252**	P	**P**	**09 33 38.7**	**+0.2**
STKA				pP	pP	09 34 11.8	+1.5
STKA				PcP	PcP	09 36 04.1	+0.1
STKA				LR	LR	09 46 02.6	
STKA	**Stephens Creek**	**35.61**	**252**	P	**P**	**09 33 38.7**	**+0.2**
	2.6nm,1.0s,mb3.8,baz=122,slow=6.7,SNR=3.3						
STKA				pP	pP	09 34 11.8	+1.5
	4.1nm,1.1s,baz=105,slow=11,SNR=4.1						
STKA				PcP	PcP	09 36 04.1	+0.1
	5.6nm,0.9s,baz=62,slow=4.1,SNR=7.6						
STKA				LR	LR	09 46 02.6	
	comp=Z,82nm,18.8s,baz=206,slow=32						
ASAR	**Alice Springs**	**43.59**	**263**	P	**P**	**09 34 43.9**	**-0.7**
	9.0nm,1.1s,mb4.3,baz=95,slow=7.0,SNR=42						
ASAR				pP	pP	09 35 17.2	-0.2
	7.5nm,1.0s,baz=108,slow=8.5,SNR=5.0						
ASAR				PcP	PcP	09 36 29.6	+0.1
	1.7nm,0.9s,baz=108,slow=4.8,SNR=4.1						
WB2	**Warramunga Arr**	**44.23**	**268**	*e*P	**P**	**09 34 49.1**	**-0.7**
WB2	**Warramunga Arr**	**44.23**	**268**	*e*P	pP	09 35 23.4	+0.7
WRAB	**Tennant Creek**	**44.24**	**268**	*e*P	**P**	**09 34 48.5**	**-1.3**
	9.9nm,1.0s,mb4.4						
WRA	**Warramunga Arr**	**44.24**	**268**	P	**P**	**09 34 49.1**	**-0.8**
	5.0nm,1.0s,mb4.1,baz=102,slow=6.0,SNR=24						
WRA				pP	pP	09 35 22.8	0.0
	16nm,1.0s,baz=104,slow=8.4,SNR=15						
WRA				PcP	PcP	09 36 31.5	-0.3
	6.2nm,1.0s,baz=106,slow=3.5,SNR=7.4						
KAKA	**Kakadu**	**48.57**	**277**	*e*P	**P**	**09 35 23.0**	**-0.7**
	6.4nm,0.9s,mb4.2						
KAKA	**Kakadu**	**48.57**	**277**	*e*P	pP	09 35 57.9	+0.8
	14nm,0.9s						
SBA	**Scott Base**	**51.67**	**184**	*e*P	**P**	**09 35 45.2**	**-0.9**
	1.6nm,0.7s,mb3.8						
VNDA	**Vanda**	**51.72**	**186**	P	**P**	**09 35 47.0**	**+0.5**
	0.8nm,0.8s,mb3.4,baz=6.0,slow=2.1,SNR=5.0						
FITZ	**Fitzroy Crossi**	**52.62**	**267**	*e*P	**P**	**09 35 54.2**	**+0.2**
	11nm,1.1s,mb4.5						
FITZ	**Fitzroy Crossi**	**52.62**	**267**	*e*P	pP	09 36 30.5	+2.5
	30nm,0.9s						
FITZ	**Fitzroy Crossi**	**52.62**	**267**	P	**P**	**09 35 53.4**	**-0.6**
	6.9nm,1.0s,mb4.3,baz=113,slow=11,SNR=4.2						
FITZ				pP	pP	09 36 30.1	+2.1
	17nm,0.9s,baz=126,slow=7.8,SNR=11						
QSPA	**South Pole Qui**	**63.34**	**180**	*e*P	**P**	**09 37 08.6**	**+0.9**
	7.3nm,1.0s,mb4.5						
KSM	**Kuching**	**74.54**	**280**	*e*P	**P**	**09 38 17.9**	**0.0**
MJAR	**Matsushiro Arr**	**75.36**	**325**	P	**P**	**09 38 19.9**	**-2.1**
	11nm,0.9s,mb4.5,baz=160,slow=5.6,SNR=27						
MAJO	**Matsushiro**	**75.36**	**325**	*e*P	**P**	**09 38 20.9**	**-1.2**
	12nm,0.8s,mb4.6						
MAW	**Mawson**	**75.77**	**200**	P	**P**	**09 38 24.4**	**+0.4**
	1.4nm,0.5s,mb3.9,baz=139,slow=8.1,SNR=6.6						
YSS	**Yuzh-Sakhalins**	**81.55**	**334**	P	**P**	**09 38 56.5**	**+0.7**
	41nm,0.9s,mb5.1						
KSRS	**Korea Array**	**81.69**	**319**	P	**P**	**09 38 57.5**	**+0.7**
	9.8nm,0.8s,mb4.5,baz=135,slow=5.7,SNR=35						
KSRS				LR	LR	10 12 12.1	
	comp=Z,20nm,20.7s,baz=160,slow=33						
SNAA	**Sanae**	**81.78**	**178**	*e*	**P**	**09 38 55.8**	**-1.0**
SNAA				*e*		09 39 04.7	
VNA3	**Neumayer Olymp**	**81.92**	**176**	*e*	**P**	**09 38 56.6**	**-0.9**
VNA3				*e*		09 39 06.1	
VNA3				*e*	pP	09 39 32.2	-2.1
VNA2	**Neumayer--Watz**	**82.36**	**177**	*e*	**P**	**09 38 59.4**	**-0.4**
VNA2				*e*		09 39 08.0	
VNA2				*e*	pP	09 39 34.6	-2.0
VNA1	**Neumayer--Stat**	**82.58**	**177**	*e*	**P**	**09 39 01.3**	**+0.3**
VNA1				*e*		09 39 09.7	
VNA1				*e*	pP	09 39 36.3	-1.5
NJ2	**Nanjing**	**84.01**	**310**	*e*P	**P**	**09 39 10.6**	**+1.7**
PLCA	**Paso Flores**	**84.87**	**133**	P	**P**	**09 39 12.3**	**-0.9**
	9.2nm,1.2s,mb4.4,baz=231,slow=7.4,SNR=4.0						
PLCA				LR	LR	10 06 57.8	
	comp=Z,61nm,21.1s,baz=193,slow=28						
PSI	**Prapat**	**85.23**	**276**	P	**P**	**09 39 14.0**	**-1.5**
PSI	**Prapat**	**85.23**	**276**	P	**P**	**09 39 14.0**	**-1.5**
	12nm,0.9s,mb4.6,baz=159,slow=7.4,SNR=10						
NVAR	**Mina Array Bea**	**85.46**	**43**	P	**P**	**09 39 15.0**	**-1.0**
	4.8nm,1.1s,mb4.2,baz=211,slow=6.0,SNR=15						
NVAR				pP	pP	09 39 50.8	-2.3
	1.2nm,0.8s,baz=207,slow=6.1,SNR=3.3						
MDJ	**Mudanjiang**	**85.73**	**325**	*e*P	**P**	**09 39 17.8**	**+0.6**
	22nm,0.9s,mb4.9						
WHN	**Wuhan**	**86.30**	**307**	⇑P	**P**	**09 39 21.1**	**+0.8**
CN2	**Changchun**	**87.35**	**323**	*e*P	**P**	**09 39 25.5**	**+0.5**
TXAR	**Lajitas Array**	**90.29**	**57**	P	**P**	**09 39 38.2**	**-1.0**
TXAR				pP	pP	09 40 14.7	-1.9
TXAR	**Lajitas Array**	**90.29**	**57**	P	**P**	**09 39 38.2**	**-1.0**
	3.4nm,1.1s,mb4.2,baz=213,slow=4.3,SNR=19						
TXAR				pP	pP	09 40 14.7	-1.9
	0.8nm,0.9s,baz=224,slow=8.8,SNR=2.6						
BJI	**Beijing**	**90.45**	**315**	P	**P**	**09 39 40.2**	**+0.5**
BJI				AMB	AMB		
	comp=Z,17nm,1.0s,mb4.9						
CHRT	**Chiangrai**	**92.29**	**291**	⇓P	**P**	**09 39 50.5**	**+1.8**
KMI	**Kunming**	**92.33**	**297**	P	**P**	**09 39 50.4**	**+1.6**
CHG	**Chiang Mai**	**92.51**	**290**	⇑P	**P**	**09 39 51.3**	**+1.5**
	comp=Z,26nm,0.7s,mb5.5						
CHTO	**Chiang Mai**	**92.51**	**290**	*e*P	**P**	**09 39 48.7**	**-1.0**
	comp=Z,13nm,1.0s,mb5.0						
PDAR	**Pinedale Array**	**93.39**	**43**	P	**P**	**09 39 51.5**	**-1.7**
	comp=Z,1.5nm,0.9s,mb4.1,baz=204,slow=3.3,SNR=11						
QLMT	**Earthquake Lak**	**93.43**	**41**	*e*P	**P**	**09 39 53.7**	**+0.4**
HHC	**Hu-ho-hao-te**	**93.82**	**314**	*e*P	**P**	**09 39 57.7**	**+2.4**
HHC				AP	pP	09 40 11.7	-21
HHC				PP	PP	09 43 47.7	+4.5
HHC				SKS		09 50 26.2	
HHC				S	S	09 51 03.7	+12
HHC				XS	sS	09 51 22.8	-35
HHC				PS	PS	09 52 26.8	+0.9
HHC				SS	SS	09 57 27.3	+12
HHC				AMB	AMB		
	comp=Z,100nm,4.8s						
HHC				LR	LR		
	comp=N,180nm,16.7s						
HHC				LR	LR		
	comp=E,337nm,12.4s						
HHC				LR	LR		
	comp=Z,74nm,4.7s						
CD2	**Chengdu**	**94.28**	**302**	*e*P	**P**	**09 39 59.4**	**+1.8**
CD2				AP	pP	09 40 07.2	-28
CD2				XP	sP	09 40 11.0	-40
CD2				SKS		09 50 33.2	
CD2				S	S	09 51 14.8	+18
CD2				XS	sS	09 51 28.1	-34
CD2				PS	PS	09 52 31.4	0.0
CD2				AMB	AMB		
	comp=Z,50nm,9.6s						
CD2				LR	LR		
	comp=N,120nm,16.8s						
CD2				LR	LR		
	comp=Z,110nm,18.4s						
LPAZ	**La Paz**	**99.47**	**114**	LR	LR	10 16 59.1	
	comp=Z,34nm,18.2s,baz=5.2,slow=30						
SONM	**Songino Array**	**100.55**	**318**	P	Pdif	09 40 23.7	-1.9
	comp=Z,0.7nm,0.9s,baz=72,slow=4.7,SNR=3.1						
AML	**Almayashu**	**120.68**	**305**	*e*PKPdf	PKPdf	09 45 30.0	+0.8
BVAR	**Borovoye Array**	**123.88**	**318**	PKP	PKPdf	09 45 34.4	-0.6
	comp=Z,0.6nm,0.6s,baz=129,slow=2.1,SNR=5.3						
AKTO	**Aktyubinsk**	**131.71**	**315**	SKPbc	SKPbc	09 49 02.0	-0.1
	comp=Z,2.2nm,1.0s,baz=95,slow=6.0,SNR=4.7						
ARCES	**ARCESS Array B**	**135.07**	**349**	PKP	PKPdf	09 45 53.9	-1.9
ARCES	**ARCESS Array B**	**135.07**	**349**	PKP	PKPdf	09 45 53.9	-1.9
	comp=Z,2.7nm,0.8s,baz=353,slow=4.9,SNR=9.0						
FINES	**FINESS Array B**	**141.77**	**342**	PKhKP		09 46 00.8	
	comp=Z,0.8nm,0.7s,baz=60,slow=5.0,SNR=5.5						
HAKT	**HAKKARI**	**143.50**	**298**	*i* P	PKPdf	09 46 10.0	-2.1
ERZM	**Erzurum**	**145.01**	**302**	*i* P	PKPbc	09 46 15.8	+1.4
NB2	**NORSAR Subarra**	**145.18**	**352**	PKP	PKPdf	09 46 12.6	-1.7
	comp=Z,2.0nm,0.7s,baz=14,slow=3.3						
NOA	**NORSAR Array B**	**145.18**	**352**	PKPbc	PKPbc	09 46 11.9	-2.3
	comp=Z,4.2nm,0.8s,baz=15,slow=2.6,SNR=9.9						
KOPT	**Kop Dagi**	**145.65**	**302**	*i* P	PKPbc	09 46 18.5	+2.2
ELZG	**Elazig**	**147.07**	**300**	*i* P	PKPbc	09 46 22.3	+1.8
KEMA	**Kemaliye**	**147.31**	**302**	*i* P	PKPbc	09 46 23.0	+1.9
MALT	**Malatya**	**147.54**	**300**	*e*PKPbc	PKPbc	09 46 23.3	+1.5
AKASG	**Malin Array Be**	**148.43**	**326**	PKPbc	PKPbc	09 46 23.7	-0.1
	comp=Z,7.9nm,0.8s,baz=48,slow=3.6,SNR=13						
KIEV	**Kiev**	**148.45**	**326**	*e*PKPbc	PKPbc	09 46 23.8	0.0
KIEV				*e*PKPab	PKPab	09 46 27.1	-0.4
ASF	**Jabal al Asfar**	**149.38**	**289**	PKPbc	PKPbc	09 46 27.4	+0.7
	comp=Z,6.3nm,0.9s,baz=329,slow=2.9,SNR=6.2						
ASF				PKPab	PKPab	09 46 33.4	+1.4
	comp=Z,12nm,0.8s,baz=303,slow=2.4,SNR=14						
BOYT	**Boyabat**	**149.42**	**307**	*i* P	PKPbc	09 46 25.2	-1.3
AVNT	**Avonos**	**150.18**	**302**	*i* P	PKPbc	09 46 28.7	+0.2
MMAI	**Mount Meron Ar**	**150.61**	**290**	PKPbc	PKPbc	09 46 30.6	+1.0
	comp=Z,3.3nm,0.4s,baz=70,slow=7.3,SNR=8.7						
MMAI				PKPab	PKPab	09 46 38.3	+1.2
	comp=Z,11nm,0.9s,baz=91,slow=7.5,SNR=6.9						
CSS	**Prodhromos**	**152.12**	**295**	*e*PKPbc	PKPbc	09 46 34.7	+1.6
CSS				*e*PKPab	PKPab	09 46 44.0	+0.7
PRD	**Provadia**	**153.76**	**315**	*i* P	PKPab	09 46 50.2	+0.3
KDZ	**Kurdzhali**	**155.82**	**314**	*i* P	PKPab	09 47 05.7	+7.0
PGB	**Panagyurishte**	**156.12**	**317**	*i* P	PKPab	09 46 58.2	-1.8
GERES	**GERESS Array B**	**156.20**	**341**	PKPab	PKPab	09 47 03.1	+3.1
	comp=Z,0.5nm,0.4s,baz=17,slow=5.6,SNR=5.6						
RZN	**Rozhen**	**156.25**	**315**	*i* P	PKPab	09 46 53.5	-7.1
VTS	**Vitosha**	**156.68**	**318**	*i* P	PKPab	09 47 02.4	0.0
MMB	**Musomiste**	**156.92**	**315**	*i* P	PKPab	09 47 01.5	-2.0
KKB	**Krupnik**	**157.17**	**317**	*i* P	PKPab	09 47 03.6	-0.9
TORD	**Torodi Ar. Bea**	**166.45**	**178**	PKP	PKPdf	09 46 40.9	-2.5
	comp=Z,0.6nm,0.7s,baz=2.3,slow=2.1,SNR=4.5						
TORD				PKPab	PKPab	09 47 42.8	-2.8
	comp=Z,0.9nm,0.9s,baz=180,slow=4.4,SNR=4.2						

*NIED **12** 10:13:00, 4680N×153.40E, h50km, Mw3.7 Best double couple: $M_0$4.37000×10^{14} NP1:ϕ_s164.00000°, δ72.00000°, λ-39.00000°. NP2:ϕ_s269.00000°, δ53.00000°, λ-157.00000°.*
*IDC **12** 10:13:12.1±0.7, 4717N×15287E, h0km, mb3.7/11, mb1 3.9/11, mb1mx3.8/20, mbtmp3.7/11, MS2.7/3, Ms1 2.7/3, ms1mx2.5/38, Error ellipse: s-maj=24.3km s-min=19.6km az=131.0*
*JMA **12** 10:13:16.9±0.9, 4681N×15345E, h30km, M4.2*
*ISCJB **12** 10:13:20.3±1.1, 470N±0.1×1527E±02, h81km±10km, mb3.5/10, Error ellipse: s-maj=24.5km s-min=7.9km az=139.3*
*MOS **12** 10:13:21.2±1.0, 4713N×15271E, h84km, mb3.9/3, Error ellipse: s-maj=26.7km s-min=14.2km az=59.1*
ISC 12 10:13:22.0±0.9, 470N±01×1527E±02, h78km±9km, n49, σ1§38/55, mb3.5/10, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.81**	**244**	PN	**Pn**	**10 14 19.0**	**+0.8**
KUR				pmax	pmax		
	comp=Z,110nm,0.8s						
SKR	**Severo-Kuril's**	**4.32**	**30**	*e*PN	**Pn**	**10 14 24.0**	**-1.1**
SKR				*e*S	**Sn**	**10 15 07.0**	**-7.1**
SKR				pmax	pmax		
	comp=Z,30nm,0.5s						
SKR				smax			
	comp=N,80nm,0.4s						
SKR				smax			
	comp=E,100nm,0.4s						
NEM2	**Nemuro 2**	**6.12**	**236**	P	**Pn**	**10 14 49.1**	**-0.7**
NEM2				*e*S	**Sn**	**10 15 56.8**	**-1.6**
JRA	**Rausu**	**6.15**	**243**	P	**Pn**	**10 14 53.0**	**+2.8**
JNK	**Nakash**	**6.59**	**242**	P	**Pn**	**10 14 57.9**	**+1.7**
JTKR	**Abashiri--Toko**	**6.89**	**247**	P	**Pn**	**10 15 03.1**	**+2.8**
JAK	**Akkeshi**	**6.95**	**238**	P	**Pn**	**10 15 00.4**	**-0.7**
JAK				*e*S	**Sn**	**10 16 17.3**	**-1.3**
JMP	**Maruseppu**	**7.22**	**249**	P	**Pn**	**10 15 08.6**	**+3.8**
JAR	**Ashorobuto**	**7.33**	**243**	P	**Pn**	**10 15 07.7**	**+1.5**
JAR				*e*S	**Sn**	**10 16 31.3**	**+3.5**
JOB	**Onbets**	**7.51**	**240**	P	**Pn**	**10 15 09.1**	**+0.3**
JOB				*e*S	**Sn**	**10 16 32.0**	**-0.3**
ASAJ	**Asahikawa**	**7.66**	**252**	P	**Pn**	**10 15 15.4**	**+4.6**
ASAJ	**Asahikawa**	**7.66**	**252**	PN	**Pn**	**10 15 14.7**	**+3.9**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ	**Asahikawa**	**7.66**	**252**	Pn	**Pn**	**10 15 14.7**	**+3.8**
	comp=Z,0.9nm,0.3s,baz=58,slow=14,SNR=16						
JKK2	**Kamakawa 2**	**7.67**	**250**	P	**Pn**	**10 15 14.1**	**+3.1**
JWK2	**Keihoku**	**7.70**	**261**	P	**Pn**	**10 15 17.9**	**+6.6**
JCH	**Churui**	**7.96**	**240**	P	**Pn**	**10 15 15.0**	**+0.1**
JCH				*e*S	**Sn**	**10 16 42.0**	**-1.4**
JFR	**Furan**	**8.12**	**245**	P	**Pn**	**10 15 19.9**	**+2.8**
ERM	**Erimo**	**8.45**	**237**	*e*PN	**Pn**	**10 15 22.5**	**+0.9**
JEM	**Erimo**	**8.45**	**237**	P	**Pn**	**10 15 22.3**	**+0.7**
JBT2	**Biratori 2**	**8.47**	**244**	P	**Pn**	**10 15 22.7**	**+0.8**
JNBK	**Urakawa-nobuka**	**8.52**	**240**	P	**Pn**	**10 15 21.8**	**-0.8**
JNBK				*e*S	**Sn**	**10 16 54.4**	**-2.7**
JNB	**Noboribetsu**	**9.46**	**246**	P	**Pn**	**10 15 36.3**	**+0.9**
JKB	**Kayabe**	**9.79**	**243**	P	**Pn**	**10 15 38.5**	**-1.3**
JKB				*e*S	**Sn**	**10 17 23.5**	**-4.5**
JYM2	**Yakumo 2**	**10.07**	**245**	P	**Pn**	**10 15 43.6**	**0.0**
JTM	**Tenmabayashi**	**10.44**	**238**	P	**Pn**	**10 15 46.7**	**-2.1**
JANG	**Nango**	**10.46**	**235**	P	**Pn**	**10 15 45.7**	**-3.4**
JANG				*e*S	**Sn**	**10 17 36.3**	**-8.2**
JTH	**Tanohata**	**10.58**	**232**	*e*S	**Sn**	**10 17 38.9**	**-8.3**
JOSM	**Okushiri--Mats**	**10.65**	**247**	P	**Pn**	**10 15 51.2**	**-0.3**
JRG	**Rokugo**	**11.63**	**234**	P	**Pn**	**10 16 02.5**	**-2.4**
MJAR	**Matsushiro Arr**	**15.02**	**231**	Pn	**Pn**	**10 16 56.0**	**+6.1**
	comp=Z,0.4nm,0.3s,baz=38,slow=8.0,SNR=9.6						
KSRS	**Korea Array**	**20.61**	**251**	P	**P**	**10 17 56.6**	**+1.8**
	comp=Z,1.2nm,0.7s,baz=64,slow=11,SNR=

IGQ 12 10:38:06.5, 071S×8156W, h10km±21km, Mb4.1, Ms3.9, 4C-6D, Error ellipse: s-maj=22.4km s-min=6.8km az=1.9, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAG1	Magdalena	1.89	70	⇑P	Pn	10 38 41.5	+2.7
MAG1	Magdalena	1.89	70	⇑S	Sn	10 39 04.9	+2.1
PINO	Pino	3.00	80	⇓P	Pn	10 38 56.1	+2.1
TERV	Terraza Guagua	3.00	80	P	Pn	10 38 55.9	+1.9
GGP	Refugio Guagua	3.01	80	⇓P	Pn	10 38 56.3	+2.1
IGUA	Igualata	3.02	105	P	Pn	10 38 57.0	+2.7
VC1	Cotopaxi 1	3.15	89	P	Pn	10 38 59.3	+3.1
TAMB	Tambo	3.19	90	P	Pn	10 39 00.5	+3.8
ARRY	Arrayan	3.20	104	⇓P	Pn	10 38 59.1	+2.3
ARRY	Arrayan	3.20	104	⇓S	Sn	10 39 31.4	-3.7
PATA	Patacocha	3.22	104	P	Pn	10 38 59.8	+2.7
COTA	Cotacachi	3.38	72	P	Pn	10 39 05.2	+5.8
ANTI	Antisana	3.40	86	⇑P	Pn	10 39 02.9	+3.3
CAYR	Refugio Cayamb	3.62	79	⇑P	Pn	10 39 07.0	+4.3
CAYA	Cayambe	3.65	78	⇓P	Pn	10 39 07.5	+4.4
CAYA	Cayambe	3.65	78	⇓S	Sn	10 39 48.5	+2.4

IDC 12 10:41:50.4±9.4, 3640N×7057E, h200km±78km, mb2.9/3, mb1 3.0/6, mb1mx2.9/23, mbtmp2.8/6, Error ellipse: s-maj=66.9km s-min=36.8km az=44.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	Makanchi Array	13.58	36	P	Pn	10 44 53.4	-1.5
	0.1nm,0.3s,baz=220,slow=12,SNR=2.8						
BVAR	Borovoye Array	16.62	360	P	P	10 45 32.4	+1.5
	0.2nm,0.3s,baz=186,slow=12,SNR=4.7						
AKTO	Aktyubinsk	16.70	331	P	P	10 45 31.5	-0.2
	0.2nm,0.3s,baz=152,slow=13,SNR=11						
ZALV	Zalesovo Beam	20.15	25	P	P	10 46 09.3	+0.2
	1.2nm,0.5s,baz=224,slow=11,SNR=5.3						
YKA	Yellowknife Ar	81.36	2	P	P	10 53 43.8	-0.3
	0.1nm,0.4s,baz=348,slow=5.1,SNR=5.1						
WRA	Warramunga Arr	82.23	122	P	P	10 53 49.6	+0.3
	0.2nm,0.6s,baz=331,slow=4.4,SNR=4.6						

*NEIC **12** 10:47:49.4, 3736S×17649E, h250km, MG3.7(WEL), After WEL.*

WEL 12 10:47:49.8±0.3, 3738S×17659E, h250km±3km, ML3.7/10, 1C, Error ellipse: s-maj=5.3km s-min=3.9km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	0.97	155	P	Pn	10 48 24.5	-0.2
URZ	Urewera	0.97	155	PN	Pn	10 48 24.5	-0.2
URZ				SN	S	10 48 51.8	-0.4
MWZ	Matawai	1.21	143	P	Pn	10 48 26.4	+0.3
MWZ				S	S	10 48 54.6	0.0
MWZ	Matawai	1.21	143	PN	Pn	10 48 26.4	+0.3
MWZ				SN	S	10 48 54.6	0.0
PUZ	Puketiti	1.49	118	eP	Pn	10 48 28.0	0.0
PUZ	Puketiti	1.49	118	PN	Pn	10 48 28.0	0.0
PUZ				SN	S	10 48 57.1	-1.1
BKZ	Black Stump Fm	1.79	183	P	Pn	10 48 30.7	+0.3
BKZ	Black Stump Fm	1.79	183	⇑PN	Pn	10 48 30.7	+0.3
PXZ	Pawanui	2.66	176	PN	Pn	10 48 38.7	0.0
WPHZ	Waipukurau	2.69	183	PN	Pn	10 48 39.1	+0.2
MRZ	Mangatainoka R	3.38	193	eP	Pn	10 48 45.5	-0.9
MRZ	Mangatainoka R	3.38	193	PN	Pn	10 48 45.5	-0.9
CAW	Cannon Point	3.91	197	P	Pn	10 48 51.3	-1.2
CAW	Cannon Point	3.91	197	PN	Pn	10 48 51.3	-1.2
TCW	Tory Channel	4.23	204	P	Pn	10 48 54.5	-1.8
TCW	Tory Channel	4.23	204	PN	Pn	10 48 54.5	-1.8
TUWZ	Tuamarina	4.54	206	PN	Pn	10 48 58.3	-1.6
THZ	Tophouse	5.23	212	eP	Pn	10 49 06.3	-2.0
THZ	Tophouse	5.23	212	PN	Pn	10 49 06.3	-2.0
KHZ	Kahutara	5.56	204	eP	Pn	10 49 10.7	-1.6
KHZ	Kahutara	5.56	204	PN	Pn	10 49 10.7	-1.7

*IDC **12** 10:51:57.7±4.0, 2114N×1450E, h60km±36km, mb3.7/10, mb1 3.8/13, mb1mx3.7/26, mbtmp3.8/13, ML3.5/3, MS3.4/7, Ms1 3.4/7, ms1mx3.2/31, Error ellipse: s-maj=34.7km s-min=14.6km az=94.0*

*ISCJB **12** 10:51:59.9±3.1, 2110N±008×1449E±02, h96km±27km, mb3.9/13, Error ellipse: s-maj=33.7km s-min=13.8km az=0.9*

*NEIC **12** 10:52:01.2±2.8, 2108N×14472E, h86km±25km, mb4.3/5, Error ellipse: s-maj=33.8km s-min=11.2km az=83.0*

ISC 12 10:51:58.3±2.4, 2111N±008×1450E±02, h64km±20km, n25, σ1§10/21, mb4.0/13, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	Chichi jima	6.47	337	P	Pn	10 53 29.8	-1.2
	4.5nm,0.3s,baz=286,slow=20,SNR=4.0						
CBIJ				S	Sn	10 54 41.5	-1.9
	19nm,0.3s,baz=291,slow=23,SNR=10						
GUMO	Guam	7.48	181	LR	LR	10 56 17.3	
	comp=Z,423nm,20.3s,baz=85,slow=35						
JOW	Kunigami	16.28	294	LR	LR	11 01 15.7	
	comp=Z,140nm,19.1s,baz=86,slow=34						
MJAR	Matsushiro Arr	16.46	340	P	Pn	10 55 45.8	+0.7
	0.4nm,0.3s,baz=156,slow=11,SNR=7.5						
MAJO	Matsushiro	16.47	340	eP	Pn	10 55 47.9	+2.8
	11nm,1.0s						
MAT	Matsushiro	16.47	340	P	Pn	10 55 48.0	+2.9
MAT				S	S	10 59 15.0	+19
JNU	Nakatsue	17.31	317	P	Pn	10 55 54.9	-0.7
	0.1nm,0.3s,baz=153,slow=5.5,SNR=3.2						
KSRS	Korea Array	21.99	321	P	P	10 56 48.5	+1.6
	11nm,0.6s,mb4.4,baz=148,slow=8.6,SNR=44						
KSRS				LR	LR	11 04 56.5	
	comp=Z,52nm,19.5s,baz=336,slow=35						
ASAJ	Asahikawa	23.02	356	P	P	10 56 59.1	+1.3
	4.9nm,1.0s,mb3.9,baz=286,slow=19,SNR=5.0						
ASAJ				LR	LR	11 04 50.4	
	comp=Z,80nm,21.9s,baz=192,slow=34						
WRAB	Tennant Creek	42.10	195	eP	P	10 59 44.4	+0.3
	3.2nm,0.8s,mb4.0						
WRA	Warramunga Arr	42.11	195	P	P	10 59 44.0	-0.2
	2.1nm,0.8s,mb3.9,baz=16,slow=8.9,SNR=12						
FITZ	Fitzroy Crossi	43.33	207	eP	P	10 59 54.5	+0.4
	11nm,0.9s,mb4.6						
FITZ	Fitzroy Crossi	43.33	207	P	P	10 59 54.3	+0.1
	6.2nm,0.9s,mb4.3,baz=43,slow=6.0,SNR=7.8						
ASAR	Alice Springs	45.80	194	P	P	11 00 13.3	-0.4
	0.9nm,0.7s,mb3.8,baz=9.6,slow=5.8,SNR=11						
ZALV	Zalesovo Beam	55.70	322	P	P	11 01 27.4	-0.5
	0.9nm,0.5s,mb4.1,baz=98,slow=9.1,SNR=5.4						
ZALV				LR	LR	11 27 05.2	
	comp=Z,29nm,18.8s,baz=48,slow=38						
MKAR	Makanchi Array	56.31	313	P	P	11 01 32.6	+0.1
	0.7nm,0.6s,mb3.9,baz=96,slow=10,SNR=4.0						
KURK	Kurchatov	59.03	317	eP	P	11 01 51.1	-0.4
	4.9nm,1.1s,mb4.5						
BVAR	Borovoye Array	64.19	320	LR	LR	11 30 59.3	
	comp=Z,31nm,19.1s,baz=181,slow=36						
BRVK	Borovoye	64.25	320	eP	P	11 02 26.9	+0.3
	1.3nm,0.5s,mb4.2						
INK	Inuvik	67.44	23	P	P	11 02 45.7	-1.0
	0.5nm,0.8s,mb3.6,baz=236,slow=7.6,SNR=3.8						
AKTO	Aktyubinsk	72.12	318	LR	LR	11 37 41.6	
	comp=Z,62nm,18.4s,baz=341,slow=38						
YKA	Yellowknife Ar	76.19	28	P	P	11 03 38.8	-0.5
	0.3nm,0.6s,mb3.4,baz=292,slow=5.6,SNR=7.0						
FINES	FINESS Array B	84.42	335	P	P	11 04 22.1	-1.4
	1.0nm,0.5s,mb4.2,baz=95,slow=4.2,SNR=5.2						
LPAZ	La Paz	148.32	87	ePKPbc	PKPbc	11 11 39.3	+1.2
LPAZ	La Paz	148.32	87	PKPbc	PKPbc	11 11 38.7	+0.6
	1.1nm,0.6s,baz=19,slow=1.8,SNR=6.4						

*NEIC **12** 10:52:46.6, 3021S×7152W, h30km, ML2.8(GUC), After GUC.*

GUC 12 10:52:46.6±0.8, 3021S×7152W, h30km±18km, MD3.5, ML2.8, 6C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSCH	La Serena	0.38	38	⇑iP	Pb	10 53 12.6	+17
LSCH				i S	Sb	10 53 18.4	+17
OVCH	Ovalle	0.48	146	⇑iP	Pb	10 52 56.5	-0.3
OVCH				i S	Sb	10 53 03.9	+0.1
TLL	Tololo Astrono	0.62	87	⇑iP	Pb	10 52 59.3	+0.3
TLL				i S	Sb	10 53 08.5	+1.2
TLL	Tololo Astrono	0.62	87	⇑iP	Pb	10 52 59.3	+0.3
TLL				i S	Sb	10 53 08.5	+1.2
TLL				AML	AML	10 53 11.5	
	comp=N,296nm,0.4s						
CMCH	Combarbala	1.06	155	⇑iP	Pn	10 53 05.4	0.0
CMCH				i S	Sn	10 53 19.9	+0.8
CMCH	Combarbala	1.06	155	⇑iP	Pn	10 53 05.4	0.0
CMCH				i S	Sn	10 53 19.9	+0.8
CMCH				AML	AML	10 53 22.4	
	comp=E,1μm,0.6s						
LCO	Las Campanas	1.39	31	ePn	Pn	10 53 09.6	-0.2
LCO				eSn	Sn	10 53 29.5	+2.4

*IDC **12** 10:58:56.9±0.6, 2159S×169.13E, h0km, mb4.5/17, mb1 4.6/19, mb1mx4.6/21, mbtmp4.5/19, ML4.1/2, MS4.5/19, Ms1 4.5/19, ms1mx4.4/27, Error ellipse: s-maj=18.8km s-min=16.3km az=108.0*

*LDG **12** 10:58:58.1±0.2, 2110S×16884E, h10km, Mb5.3/2, Ms4.5/9, Error ellipse: s-maj=20.7km s-min=3.2km az=144.0*

*NEIC **12** 10:58:59.2±0.3, 2151S×169.15E, h10km, mb5.0/31, Error ellipse: s-maj=11.7km s-min=8.5km az=151.0*

*GCMT **12** 10:58:59.2±0.2, 2158S×16896E, h18km, MW5.3/88, Moment Tensor Solution. s47,c60; s88,c141; Duration: 1§0 Moment tensor: Scale 10^{17}Nm; M_{rr}0.67±.03; $M_{\theta\theta}$-0.30±.02; $M_{\phi\phi}$-0.36±.02; $M_{r\theta}$0.55±.04; $M_{\theta\phi}$0.31±.01; $M_{\phi r}$-0.44±.04; Best double couple: $M_0$0.96100×10^{17} NP1:ϕ_s324.00000°, δ22.00000°, λ102.00000°. NP2: ϕ_s131.00000°, δ68.00000°, λ85.00000°. Principal axes: T 0.9780, Plg66.0000°, Azm33.0000°; N -0.0310, Plg4.0000°, Azm133.0000°; P -0.9450, Plg23.0000°, Azm225.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*ISCJB **12** 10:59:00.5±0.2, 2161S±005×16895E±004, h28km, mb4.8/61, MS4.6/35 Error ellipse: s-maj=7.9km s-min=4.8km az=165.4*

*BJI **12** 10:59:02.9, 2134S×16859E, h26km, mB5.3, mb4.9, Ms5.0, Msz4.6*

*MOS **12** 10:59:03.4±3.0, 2143S×16892E, h33km, mb5.2/20, MS4.5/6, Error ellipse: s-maj=10.8km s-min=10.3km az=120.7*

ISC 12 10:59:02.4±0.2, 2160S±005×16900E±004, h30km, h30km±1.0km: pP-P, n297, σ1§04/243, mb4.8/61, MS4.6/35, 61C-55D, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	2.42	258	eP	Pn	10 59 38.9	-1.1
RAO	Raoul Island	14.06	125	LR	LR	11 05 56.6	
	comp=Z,1μm,21.4s,baz=200,slow=30						
HNR	Honiara	14.90	323	ePn	Pn	11 02 31.6	+0.5
HNR	Honiara	14.90	323	Pn	Pn	11 02 31.4	+0.2
	4.3nm,0.3s,baz=258,slow=4.6,SNR=2.4						
HNR				LR	LR	11 07 43.0	
	comp=Z,2μm,18.7s,baz=174,slow=35						
EIDS	Eidsvold	16.86	254	eP	Pn	11 02 59.5	+3.2
	26nm,1.4s						
ARMA	Armidale	17.90	237	eP	Pn	11 03 14.5	+5.4
URZ	Urewera	18.02	159	P	Pn	11 03 08.9	-1.6
	0.1nm,0.3s,baz=5.7,slow=19,SNR=2.2						
URZ				LR	LR	11 09 07.2	
	comp=Z,1μm,18.2s,baz=42,slow=34						
AFI	Afiamalu	19.83	70	eP	Pn	11 03 30.3	-2.2
	74nm,1.1s						
AFI	Afiamalu	19.83	70	eP	Pn	11 03 30.3	-2.2
AFI				pmax	pmax		
	comp=Z,75nm,1.1s						
CTA	Charters Tower	21.31	270	eP	P	11 03 49.8	+2.9
	comp=Z,7.6nm,0.4s,mb4.4						
CTA				eS	S	11 07 51.0	+8.9
CTA	Charters Tower	21.31	270	eP	P	11 03 49.8	+2.9
CTA				eS	S	11 07 51.0	+8.9
CTA				pmax	pmax		
	comp=Z,8.0nm,0.4s						
CTA	Charters Tower	21.31	270	P	P	11 03 48.2	+1.3
	comp=Z,16nm,0.9s,mb4.3,baz=90,slow=11,SNR=5.6						
CTA				LR	LR	11 11 26.1	
	comp=Z,2μm,18.9s,MS4.5,baz=93,slow=35						
CTAO	Charters Tower	21.31	270	eP	P	11 03 48.5	+1.7
	comp=Z,107nm,1.8s,mb4.9						
CTAO	Charters Tower	21.31	270	eP	P	11 03 48.5	+1.6
CTAO				pmax	pmax		
	comp=Z,107nm,1.8s,mb4.9						
CNB	Canberra Magne	21.96	227	eP	P	11 03 57.0	+3.2
	comp=Z,55nm,1.5s,mb4.8						
RPZ	Rata Peaks	22.12	176	LR	LR	11 10 57.8	
	comp=Z,1μm,19.9s,MS4.3,baz=165,slow=33						
STKA	Stephens Creek	26.46	241	eP	P	11 04 40.2	+3.3
	comp=Z,8.6nm,1.3s,mb4.1						
STKA				eS	S	11 09 11.0	+2.0
STKA	Stephens Creek	26.46	241	P	P	11 04 36.9	0.0
	comp=Z,6.4nm,0.8s,mb4.2,baz=47,slow=6.1,SNR=10						
STKA				LR	LR	11 15 22.2	
	comp=Z,2μm,18.3s,MS4.8,baz=112,slow=37						
RAR	Rarotonga	29.05	95	LR	LR	11 13 45.0	
	comp=Z,647nm,19.9s,MS4.2,baz=83,slow=31						
WB2	Warramunga Arr	32.40	267	eP	P	11 05 28.4	-1.4
WB2				eS	S	11 10 43.8	+1.4
WRAB	Tennant Creek	32.40	267	eP	P	11 05 28.1	-1.7
	comp=Z,11nm,0.9s,mb4.7						
WRAB				e		11 05 38.9	
WRAB	Tennant Creek	32.40	267	eP	P	11 05 28.1	-1.7
WRAB				e		11 05 38.9	
WRAB				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.7						
ASAR	Alice Springs	32.41	260	P	P	11 05 28.9	-0.9
	comp=Z,11nm,0.9s,mb4.7,baz=85,slow=8.5,SNR=34						
WRA	Warramunga Arr	32.41	267	P	P	11 05 28.2	-1.7
	comp=Z,2.4nm,0.5s,mb4.3,baz=100,slow=8.2,SNR=36						
WRA				LR	LR	11 17 60.0	
	comp=Z,1μm,20.3s,MS4.6,baz=85,slow=35						
KAKA	Kakadu	35.96	278	eP	P	11 05 58.3	-2.4
FORT	Forrest	37.69	247	eP	P	11 06 12.5	-2.7
	comp=Z,30nm,0.7s,mb5.1						
TBI	Tubuai	38.33	101	eS	S	11 12 16.5	+3.0
	comp=Z,187nm,24.6s						
TBI				eLQ		11 15 04.9	
	comp=Z,1μm,27.2s						
TBI				eLR	LR	11 16 55.8	
	comp=Z,328nm,27.8s						
PPT	Papeete	39.15	92	eS	S	11 12 29.8	+3.8
	comp=Z,223nm,23.2s						
PPT				eLQ		11 15 25.9	
	comp=Z,1μm,25.5s						
PPT				eLR	LR	11 17 04.4	
	comp=Z,524nm,27.8s						
FITZ	Fitzroy Crossi	40.84	267	eP	P	11 06 40.4	-1.3
	comp=Z,28nm,1.4s,mb4.7						
FITZ				eS	S	11 12 55.8	+4.6
FITZ	Fitzroy Crossi	40.84	267	P	P	11 06 41.1	-0.6
	comp=Z,7.8nm,0.7s,mb4.4,baz=91,slow=9.1,SNR=11						
GUMO	Guam	42.23	324	LR	LR	11 23 48.5	
	comp=Z,620nm,18.1s,MS4.5,baz=132,slow=35						
BATI	Kupang	44.90	277	LR	LR	11 26 09.6	
	comp=Z,1μm,18.4s,MS4.9,baz=131,slow=36						
MBWA	Marble Bar	45.72	261	eP	P	11 07 20.9	-0.2
	comp=Z,30nm,0.9s,mb5.2						
MBWA				e	pP	11 07 30.4	+0.2
KLBR	Kellerberrin	46.54	246	eP	P	11 07 26.6	-0.8
	comp=Z,49nm,0.8s,mb5.5						
NWAO	Narrogin (SRO)	46.97	245	eP	P	11 07 30.2	-0.6
NWAO				e	pP	11 07 39.4	-0.4
NWAO	Narrogin (SRO)	46.97	245	P	P	11 07 30.2	-0.6
	comp=Z,15nm,0.8s,mb5.0,baz=106,slow=7.7,SNR=12						
NWAO				LR	LR	11 28 09.9	
	comp=Z,2μm,18.2s,MS5.0,baz=85,slow=37						
MUN	Mundaring	47.85	246	eP	P	11 07 37.9	+0.3
TAOE	Nuku Hiva Isla	50.46	84	eS	S	11 15 12.4	+2.4
	comp=Z,8μm,24.6s						
TAOE				eLR	LR	11 22 22.6	
	comp=Z,14μm,25.6s						
RKT	Rikitea	51.56	103	eS	S	11 15 27.9	+2.9
	comp=Z,348nm,26.5s						
CBIJ	Chichi jima	54.92	331	LR	LR	11 29 18.9	
	comp=Z,278nm,19.0s,MS4.3,baz=118,slow=33						
VNDA	Vanda	56.08	182	eP	P	11 08 40.4	+2.2
	comp=Z,12nm,1.4s,mb4.7						
VNDA	Vanda	56.08	182	eP	P	11 08 40.4	+2.2
VNDA				pmax	pmax		
	comp=Z,12nm,1.4s						
VNDA	Vanda	56.08	182	P	P	11 08 38.1	-0.1
	comp=Z,1.8nm,0.9s,mb4.1,baz=30,slow=5.2,SNR=12						
VNDA				LR	LR	11 28 00.6	
	comp=Z,259nm,18.8s,MS4.3,baz=10,slow=31						
SBA	Scott Base	56.32	181	eP	P	11 08 41.3	+1.4
	comp=Z,47nm,1.4s,mb5.3						
SBA	Scott Base	56.32	181	eP	P	11 08 41.3	+1.4
SBA				pmax	pmax		
	comp=Z,47nm,1.4s,mb5.3						
JHJ	Hachijo jima 2	61.14	332	LR	LR	11 34 30.1	
	comp=Z,215nm,19.2s,MS4.3,baz=98,slow=35						
MJAR	Matsushiro Arr	64.73	333	P	P	11 09 37.2	-0.6
	comp=Z,2.9nm,0.6s,mb4.5,baz=192,slow=6.0,SNR=7.6						
MAT	Matsushiro	64.73	333	P	P	11 09 37.4	-0.4
MAT				S	S	11 18 22.0	+5.7
JNU	Nakatsue	65.46	325	P	P	11 09 43.5	+1.0
	comp=Z,4.8nm,0.7s,mb4.6,baz=146,slow=7.3,SNR=3.0						
QSPA	South Pole Qui	68.47	180	eP	P	11 10 02.3	+1.2
	comp=Z,21nm,1.1s,mb5.1						
QSPA				e		11 10 15.4	
SSE	Sheshan	69.63	317	P	P	11 10 08.6	-0.4
SSE				S	S	11 19 14.4	-1.2
SSE				XS	sS	11 19 25.2	-5.9
SSE				AMB	AMB		
	comp=Z,36nm,0.7s,mb5.4						
SSE				AMB	AMB		
	comp=Z,147nm,10.2s						
SSE				LR	LR		
	comp=N,138nm,14.2s,MS4.5						
SSE				LR	LR		
	comp=E,106nm,14.2s,MS4.5						
SSE				LR	LR		
	comp=Z,193nm,16.0s,MS4.4						
ASAJ	Asahikawa	69.72	340	P	P	11 10 10.2	+0.9
	comp=Z,8.7nm,0.8s,mb4.7,baz=221,slow=5.0,SNR=11						
ASAJ				LR	LR	11 39 57.6	
	comp=Z,330nm,19.2s,MS4.6,baz=349,slow=35						
KSRS	Korea Array	70.32	326	P	P	11 10 12.5	-0.6
	comp=Z,5.3nm,1.1s,mb4.4,baz=138,slow=6.2,SNR=5.2						
KSRS				LR	LR	11 38 04.6	
	comp=Z,177nm,18.8s,MS4.3,baz=45,slow=33						
QIZ	Qiongzhong	70.56	301	P	P	11 10 14.9	-0.1
QIZ				AP	pP	11 10 25.0	+0.6
QIZ				PCP	PcP	11 10 35.4	-0.7
QIZ				S	S	11 19 29.6	+2.7
QIZ				AMB	AMB		
	comp=Z,11nm,1.9s,mb4.5						
NJ2	Nanjing	71.75	317	eP	P	11 10 23.2	+1.3
NJ2				AP	pP	11 10 31.9	+0.6
NJ2				XP	sP	11 10 35.9	+1.1
NJ2				S	S	11 19 41.0	+0.8
NJ2				XS	sS	11 19 54.0	-1.8
NJ2				AMB	AMB		
	comp=Z,30nm,0.8s,mb5.3						
NJ2				AMB	AMB		
	comp=Z,290nm,7.4s						
NJ2				LR	LR		
	comp=N,370nm,18.8s,MS4.8						
NJ2				LR	LR		
	comp=E,300nm,14.4s,MS4.8						
YSS	Yuzh-Sakhalins	72.23	341	eP	P	11 10 25.4	+1.0
	comp=E,33nm,1.3s,mb5.1						
YSS	Yuzh-Sakhalins	72.23	341	eP	P	11 10 26.0	+1.6
YSS				e		11 10 43.0	
YSS				eS	S	11 19 46.0	+0.9
YSS				ePPS		11 20 30.0	
YSS				eSS	SS	11 24 28.0	+4.2
YSS				pmax	pmax		
	comp=Z,20nm,1.0s,mb5.0						
YSS				smax			
	comp=E,900nm,9.0s						
SKR	Severo-Kuril's	72.85	351	eP	P	11 10 38.0	+10
SKR				eS	S	11 19 54.0	+2.0
SKR				pmax	pmax		
	comp=Z,1μm,6.0s						
SKR				smax			
	comp=N,1μm,12.0s						
SKR				smax			
	comp=E,1μm,12.0s						
WHN	Wuhan	73.77	313	⇑P	P	11 10 32.3	-1.6
WHN				S	S	11 20 07.8	+4.5
WHN				LR	LR		
	comp=Z,512nm,21.1s,MS4.8						
PET	Petropavlovsk	74.85	354	eP	P	11 10 41.9	+2.2
PET				eS	S	11 20 16.9	+2.5
PET				pmax	pmax		
	comp=Z,200nm,16.9s						
PET				pmax	pmax		
	comp=Z,13nm,1.3s,mb4.7						
PET				MLR	MLR		
	comp=Z,200nm,11.0s,MS4.7						
MDJ	Mudanjiang	75.08	332	P	P	11 10 43.2	+2.0
MDJ				AP	pP	11 10 49.7	-1.0
MDJ				XP	sP	11 10 52.3	-1.9
MDJ				PP	PP	11 13 31.3	+1.4
MDJ				S	S	11 20 21.6	+4.2
MDJ				XS	sS	11 20 32.3	-0.8
MDJ				AMB	AMB		
	comp=Z,5.0nm,1.9s,mb4.1						
MDJ				AMB	AMB		
	comp=Z,124nm,4.0s						
MDJ				LR	LR		
	comp=N,126nm,19.1s,MS4.2						
MDJ				LR	LR		
	comp=E,53nm,20.5s,MS4.2						
MDJ				LR	LR		
	comp=Z,154nm,21.3s,MS4.3						
HABR	Khabarovsk	76.08	337	eP	P	11 10 47.1	+0.3
HABR				e	pP	11 10 56.9	+0.6
HABR				e		11 10 58.9	
HABR				e		11 13 34.7	
HABR				eS	S	11 20 28.6	+0.4
HABR				e		11 20 44.0	
HABR				e		11 20 54.4	
HABR				e		11 25 19.7	
MAW	Mawson	76.18	202	eP	P	11 10 49.3	+2.0
	comp=Z,6.3nm,0.8s,mb4.6						
MAW	Mawson	76.18	202	eP	P	11 10 49.3	+2.0
MAW				pmax	pmax		
	comp=Z,6.0nm,0.8s						
MAW	Mawson	76.18	202	P	P	11 10 47.8	+0.5
	comp=Z,4.4nm,0.8s,mb4.5,baz=116,slow=11,SNR=7.2						
MAW				LR	LR	11 41 06.8	
	comp=Z,494nm,18.9s,MS4.8,baz=311,slow=33						
CN2	Changchun	76.35	329	eP	P	11 10 51.0	+2.5
CN2				eAP	pP	11 10 57.8	-0.2
CN2				eXP	sP	11 11 02.1	+0.6
CN2				eS	S	11 20 33.4	+2.0
CN2				AMB	AMB		
	comp=Z,10.0nm,1.1s,mb4.7						
CN2				AMB	AMB		
	comp=Z,200nm,5.0s						
CN2				LR	LR		
	comp=N,280nm,14.0s,MS4.8						
CN2				LR	LR		
	comp=E,250nm,14.0s,MS4.8						
CN2				LR	LR		
	comp=Z,260nm,15.0s,MS4.7						
GYA	Guiyang	76.99	305	⇑iP	P	11 10 52

comp=Z,262nm,3.4s
BJI LR LR
comp=N,265nm,14.9s,MS4.7
BJI LR LR
comp=E,145nm,16.2s,MS4.7
BJI LR LR
comp=Z,128nm,21.4s
KMI Kunming 79.33 302 P P 11 11 08.3 +2.7
KMI PCP PcP 11 11 15.3 +1.6
KMI AP pP 11 11 17.1 +2.0
KMI XP sP 11 11 20.6 +2.0
KMI PP PP 11 14 09.0 +3.0
KMI PPP 11 15 59.6
KMI S S 11 21 06.3 +1.9
KMI SKS 11 21 16.7
KMI XS sS 11 21 21.2 +1.0
KMI PS 11 21 52.4
KMI AMB AMB
comp=Z,6.0nm,0.7s,mb4.6
KMI AMB AMB
comp=Z,147nm,4.4s
KMI LR LR
comp=N,180nm,16.7s,MS4.7
KMI LR LR
comp=E,193nm,13.7s,MS4.7
KMI LR LR
comp=Z,186nm,16.2s,MS4.5
CHTO Chiang Mai 79.43 295 eP P 11 11 05.9 -0.3
comp=Z,8.3nm,0.9s,mb4.7
CHTO Chiang Mai 79.43 295 eP P 11 11 05.9 -0.3
CHTO pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
CD2 Chengdu 81.49 308 eP P 11 11 18.3 +1.2
CD2 AP pP 11 11 27.2 +0.6
CD2 XP sP 11 11 30.8 +0.7
CD2 PP PP 11 14 27.1 +3.3
CD2 S S 11 21 27.5 +0.6
CD2 XS sS 11 21 40.7 -2.0
CD2 AMB AMB
comp=Z,20nm,0.8s,mb5.1
CD2 AMB AMB
comp=Z,170nm,6.0s
CD2 LR LR
comp=N,270nm,16.8s,MS4.8
CD2 LR LR
comp=E,230nm,15.6s,MS4.8
CD2 LR LR
comp=Z,230nm,14.4s,MS4.7
HHC Hu-ho-hao-te 81.86 320 eP P 11 11 20.4 +1.6
HHC AP pP 11 11 30.9 +2.6
HHC XP sP 11 11 34.5 +2.7
HHC PP PP 11 14 28.7 +2.0
HHC S S 11 21 31.1 +0.9
HHC SKS 11 21 33.3
HHC XS sS 11 21 44.8 -1.2
HHC PS 11 22 22.5
HHC SS SS 11 26 52.0 +2.4
HHC AMB AMB
comp=Z,19nm,0.3s,mb5.5
HHC AMB AMB
comp=Z,151nm,4.3s
HHC LR LR
comp=N,191nm,15.2s,MS4.9
HHC LR LR
comp=E,357nm,15.2s,MS4.9
HHC LR LR
comp=Z,147nm,22.5s
MA2 Magadan 82.25 351 eP P 11 11 25.7 +5.4
MA2 eS S 11 21 42.7 +9.3
MA2 eSS SS 11 26 54.0 -0.5
MA2 pmax pmax
comp=Z,10.0nm,1.3s,mb4.6
MA2 MLR MLR
comp=Z,200nm,17.8s,MS4.5
HIA Hailar 83.03 330 eP P 11 11 25.1 +0.5
LZH Lanzhou 84.14 312 eP P 11 11 31.9 +1.2
LZH AP pP 11 11 39.5 -0.8
LZH XP sP 11 11 43.0 -0.7
LZH PP PP 11 14 48.2 +2.8
LZH eS S 11 21 53.2 -0.4
LZH XS sS 11 22 06.0 -3.5
LZH SS SS 11 27 23.0 -0.5
LZH AMB AMB
comp=Z,35nm,1.4s,mb5.3
LZH AMB AMB
comp=Z,250nm,5.7s
LZH LR LR
comp=E,475nm,16.4s
LZH LR LR
comp=Z,867nm,17.9s,MS5.2
SEY Seymchan 85.26 352 eP P 11 11 34.2 -1.5
GAMB Gambell 86.42 8 eP P 11 11 39.3 -2.1
comp=Z,12nm,0.8s,mb5.2
GAMB e pP 11 11 49.4 -1.7
SNAA Sanae 86.81 183 eP P 11 11 44.4 +0.9
SNAA e pP 11 11 53.4 +0.3
SNAA e 11 11 56.5
SNAA e 11 12 01.1
SNAA e 11 12 07.3
SNAA e 11 12 14.6
SNAA Sanae 86.81 183 eP P 11 11 43.5 0.0
SNAA Sanae 86.81 183 P P 11 11 42.3 -1.1
comp=Z,2.3nm,0.8s,mb4.5,baz=158,slow=3.3,SNR=13
VNA3 Neumayer Olymp 87.41 180 eP P 11 11 45.7 -0.7
VNA3 e pP 11 11 55.8 -0.2
VNA3 e 11 11 59.1
VNA3 e 11 12 03.0
VNA3 e 11 12 08.7
VNA3 e 11 12 14.9
VNA2 Neumayer--Watz 87.69 181 eP P 11 11 46.7 -1.1
baz=178,slow=3.6
VNA2 e pP 11 11 55.5 -1.9
VNA2 e 11 11 58.8
VNA2 e 11 12 04.1
VNA2 e 11 12 09.2
VNA2 e 11 12 16.5
PACP Pacheco Peak 87.77 49 ⇑P P 11 11 48.7 +0.1
baz=88
PKD Parkfield 87.78 50 ⇓P P 11 11 50.3 +1.6
baz=88
PKM Peak Mountain 87.80 51 ⇑P P 11 11 49.4 +0.6
baz=88
U04C Hernandez Rese 87.81 49 ⇓P P 11 11 51.4 +2.6
baz=88
VNA1 Neumayer--Stat 87.99 181 eP P 11 11 46.1 -3.0
VNA1 e pP 11 11 55.9 -2.9
VNA1 e 11 11 58.9
VNA1 e 11 12 04.0
VNA1 e 11 12 09.5
VNA1 e 11 12 16.4
GTA Gaotai 88.58 314 eP P 11 11 52.1 -0.3
GTA AP pP 11 11 58.6 -3.4
GTA XP sP 11 12 02.1 -3.4
GTA PP PP 11 15 23.9 +2.6
GTA PPP 11 17 22.2
GTA SKS 11 22 17.4
GTA S S 11 22 36.4 -0.3
GTA XS sS 11 22 49.6 -3.1
GTA PS 11 23 46.6
GTA SS SS 11 28 30.6 +2.0
GTA AMB AMB
comp=Z,2.0nm,0.8s,mb4.5
GTA AMB AMB
comp=Z,78nm,6.1s
GTA LR LR
comp=N,246nm,17.9s,MS4.8
GTA LR LR
comp=E,157nm,16.3s,MS4.8
GTA LR LR
comp=Z,160nm,15.2s,MS4.5
S05C Merced 88.60 49 ⇓P P 11 11 51.1 -1.4
baz=89
WDC Whiskeytown Da 88.67 45 ⇓P P 11 11 51.9 -0.9
baz=89
ORV Oroville 88.86 46 P P 11 11 53.3 -0.4
baz=89,SNR=7.0
T06C Millerton Lake 88.87 49 ⇓P P 11 11 53.9 +0.1
baz=89
M02C Callahan 88.88 44 ⇓P P 11 11 52.8 -0.9
baz=89
CMB Columbia Colle 88.89 48 eP P 11 11 52.2 -1.6
comp=Z,14nm,1.2s,mb5.2
CMB Columbia Colle 88.89 48 eP P 11 11 52.2 -1.7
CMB pmax pmax
comp=Z,15nm,1.2s,mb5.2
CMB Columbia Colle 88.89 48 ⇓P P 11 11 52.4 -1.4
baz=89
SONM Songino Array 88.96 323 P P 11 11 54.0 +0.1
comp=Z,2.0nm,0.8s,mb4.5,baz=142,slow=4.8,SNR=14
LAVA Lava Cap Winer 88.99 47 ⇓P P 11 11 53.4 -0.9
baz=89
YAK Yakutsk 89.04 343 eP P 11 11 55.2 +1.2
YAK pmax pmax
comp=Z,8.0nm,0.8s,mb5.1
ISA Isabella 89.13 51 eP P 11 11 55.0 -0.1
comp=Z,11nm,1.0s,mb5.2
ISA Isabella 89.13 51 eP P 11 11 55.0 -0.1
ISA pmax pmax
comp=Z,11nm,1.0s,mb5.1
ISA Isabella 89.13 51 ⇑P P 11 11 54.1 -1.0
baz=89
HELL Mitchell Peak 89.21 50 ⇓P P 11 11 57.5 +2.1
baz=89
M03C McCloud 89.29 45 ⇑P P 11 11 54.8 -0.9
baz=89
KCC Kaiser Creek 89.30 49 ⇑P P 11 11 54.9 -1.0
baz=89
P05C Yuba Gap, Truc 89.34 47 ⇑P P 11 11 56.6 +0.6
baz=89
BILL Bilibino 89.39 359 eP P 11 11 54.7 -0.8
comp=Z,36nm,1.4s,mb5.5
BILL Bilibino 89.39 359⇓eP P 11 11 55.3 -0.2
BILL eS S 11 22 17.4 -26
BILL pmax pmax
comp=Z,9.0nm,1.0s,mb5.0
BILL MLR MLR
comp=Z,100nm,19.0s,MS4.3
R05C Kirkwood Meado 89.42 48 ⇑P P 11 11 55.9 -0.4
baz=90
O04C Chester 89.51 46 ⇑P P 11 11 56.8 +0.1
baz=90
LRMC Laurel Mountai 89.61 51 ⇑P P 11 11 58.9 +1.6
baz=90
R06C Coleville 89.77 48 ⇓P P 11 11 58.0 +0.1
baz=90
BEKR Beckwourth 89.78 47 ⇑P P 11 11 59.1 +1.1
baz=90
MTUM Tungsten Hills 89.84 49 eP P 11 11 58.0 -0.4
MTUM e pP 11 12 06.2 -1.8
M05C Lookout 89.98 45 ⇓P P 11 11 58.0 -0.9
baz=90
MPMC Manual Prospec 90.02 51 ⇑P P 11 11 58.8 -0.5
baz=90
S08C White Mtn Res 90.19 49 P P 11 12 00.3 +0.3
baz=90,SNR=9.9
BELC Belle Mtn. 90.21 53 ⇓P P 11 12 00.1 0.0
baz=90
O06A Flanigan 90.28 46 ⇑P P 11 12 00.9 +0.6
baz=90
BC3 Big Chuckw Mtn 90.46 54 ⇑P P 11 12 01.3 0.0
baz=90
L05A Lakeview 90.51 44 ⇑P P 11 12 00.5 -0.9
baz=90
NVAR Mina Array Bea 90.52 49 P P 11 11 58.9 -2.6
comp=Z,4.6nm,0.8s,mb4.8,baz=216,slow=6.0,SNR=15
N06A Buffalo Meadow 90.55 46 ⇑P P 11 12 01.7 +0.1
baz=91
FURC Furnace Creek, 90.66 51 ⇑P P 11 12 02.2 0.0
baz=91
GLA Glamis 90.68 55 eP P 11 12 02.2 -0.1
comp=Z,17nm,0.9s,mb5.4
GLA e pP 11 12 10.3 -1.8
GLA Glamis 90.68 55 eP P 11 12 02.2 -0.2
GLA e pP 11 12 10.3 -1.7
GLA pmax pmax
comp=Z,17nm,0.9s,mb5.4
GLA Glamis 90.68 55 ⇑P P 11 12 01.8 -0.5
baz=91
GMRC Granite Mounta 90.80 53 ⇑P P 11 12 02.4 -0.5
baz=91
J05A Fort Rock 90.86 43 ⇓P P 11 12 03.5 +0.6
baz=91
S09A Goldfield 90.96 50 P P 11 12 01.6 -1.9
baz=91,SNR=6.2
Q08A Gabbs 90.98 48 P P 11 12 03.4 -0.2
baz=91,SNR=5.5
U10A Ash Meadows, A 91.02 51 ⇓P P 11 12 04.4 +0.5
baz=91
N07B Gerlach 91.15 46 ⇑P P 11 12 05.9 +1.6
baz=91
K06A Valley Falls 91.25 44 ⇑P P 11 12 05.4 +0.6
baz=91
I05A Bend 91.26 42 ⇓P P 11 12 05.4 +0.6
baz=91
M07A Soldier Meadow 91.30 46 ⇓P P 11 12 05.1 +0.1
baz=91
R09A Tonopah 91.30 49 ⇑P P 11 12 05.7 +0.5
baz=91
TPNV Topopah Spring 91.31 51 eP P 11 12 04.9 -0.3
comp=Z,15nm,0.9s,mb5.3
TPNV e 11 12 11.9
TPNV Topopah Spring 91.31 51 eP P 11 12 04.9 -0.3
TPNV e 11 12 11.9
TPNV pmax pmax
comp=Z,15nm,0.9s,mb5.3
TPNV Topopah Spring 91.31 51 ⇓P P 11 12 05.2 0.0
baz=91
BOD Bodaibo 91.34 334 eP P 11 12 04.6 -0.2
BOD e 11 12 20.9
BOD pmax pmax
comp=Z,6.0nm,1.7s,mb4.7
L07A Adell 91.48 45 ⇑P P 11 12 05.9 +0.1
baz=92
S10A Tonopah Range, 91.50 50 P P 11 12 05.7 -0.4
baz=92,SNR=12
PDMCI Parker Dam,Lak 91.73 54 ⇑P P 11 12 07.2 0.0
baz=92
Y13A Salome 91.76 54 ⇑P P 11 12 08.3 +1.0
baz=92
V12A Nelson 91.80 52 ⇓P P 11 12 08.5 +1.0
baz=92
I06A Prineville 91.83 43 ⇓P P 11 12 07.5 +0.1
baz=92
M08A Happy Creek Ra 91.85 46 ⇓P P 11 12 07.7 +0.1
baz=92
K07A Rock Creek Ran 91.86 44 ⇓P P 11 12 07.7 +0.1
baz=92
R10A Warm Springs 91.86 49 ⇑P P 11 12 08.3 +0.5
baz=92
S11A Rachel 91.98 50 ⇑P P 11 12 09.3 +1.0
baz=92
WRAK Wrangell Islan 92.02 28 eP P 11 12 07.8 -0.2
comp=Z,11nm,0.9s,mb5.2
Q10A Clear Creek Ra 92.03 49 ⇓P P 11 12 09.0 +0.5
baz=92
ZAK Zakamensk 92.07 324 eP P 11 12 08.0 -0.4
ZAK pmax pmax
comp=Z,5.0nm,1.5s,mb4.6
X13A Yucca 92.08 54 ⇑P P 11 12 09.3 +0.5
baz=92
H06A Lindquist Farm 92.12 42 ⇑P P 11 12 08.9 +0.1
baz=92
J07A Hines 92.13 44 ⇓P P 11 12 08.9 +0.1
baz=92
E05A Randle 92.13 40 ⇑P P 11 12 07.9 -0.9
baz=92
N09A Rock Creek Ran 92.16 47 ⇓P P 11 12 09.1 +0.1
baz=92
T11A Corn Creek, Al 92.18 51 P P 11 12 09.4 +0.1
baz=92,SNR=10
L08A Fields 92.22 45 ⇓P P 11 12 09.3 +0.1
baz=92
Z14A Wintersburg 92.24 55 ⇓P P 11 12 09.5 -0.1
baz=92
W13A Hualapai Mount 92.25 53 ⇑P P 11 12 10.6 +1.0
baz=92
U12A Valley of Fire 92.33 52 ⇓P P 11 12 09.9 0.0
baz=92
COLA College 92.35 17 eP P 11 12 06.3 -3.0
comp=Z,3.2nm,0.9s,mb4.7
COLA e pP 11 12 14.4 -4.6
COLA College 92.35 17 eP P 11 12 06.4 -2.9
COLA e pP 11 12 14.4 -4.6
COLA pmax pmax
comp=Z,3.0nm,0.9s,mb4.6
R11A Troy Canyon, C 92.40 50 ⇓P P 11 12 10.2 0.0
baz=92
Y14A Wickenburg 92.43 54 ⇑P P 11 12 10.9 +0.4
baz=92
M09A Marrel Ranch, 92.46 46 ⇑P P 11 12 11.5 +1.1
baz=92
Q11A Duckwater 92.56 49 ⇑P P 11 12 10.5 -0.5
baz=93
TLY Talaya 92.56 325 eP P 11 12 11.0 +0.4
TLY eS S 11 23 01.9 -11
TLY ePS PS 11 24 52.9 +25
TLY eSS SS 11 29 35.4 +10
TLY pmax pmax
comp=Z,9.0nm,1.5s,mb5.0
TLY MLR MLR
comp=Z,204nm,19.0s,MS4.6
L09A Wilkinson Ranc 92.59 46 ⇓P P 11 12 10.5 -0.4
baz=93
S12A Delamar Landin 92.61 51 P P 11 12 11.8 +0.6
baz=93,SNR=11
J08A Circle Bar Ran 92.67 44 ⇓P P 11 12 10.4 -0.9
baz=93
SKAG Skagway 92.67 25 eP P 11 12 10.8 -0.1
comp=Z,6.5nm,0.9s,mb5.1
X14A Yava 92.73 54 ⇓P P 11 12 12.3 +0.4
baz=93
U13A Pakoon Wash 92.74 52 ⇑P P 11 12 11.8 0.0
baz=93
K09A Rome 92.86 45 ⇓P P 11 12 11.3 -1.0
baz=93
I08A Drewsey 92.86 44 ⇑P P 11 12 12.3 +0.1
baz=93
116A Eloy 92.87 56 ⇑P P 11 12 11.9 -0.6
baz=93
W14A Seligman 92.90 53 ⇓P P 11 12 13.0 +0.5
baz=93
Y15A Casa Rosa Ranc 92.95 55 ⇑P P 11 12 12.8 -0.1
baz=93
V14A Boquillas Ranc 93.05 53 P P 11 12 13.7 +0.4
baz=93,SNR=7.1
R12A Pony Springs, 93.08 50 P P 11 12 13.6 +0.2
baz=93,SNR=5.6
O11A Cowboy Ranch, 93.12 48 ⇑P P 11 12 13.5 0.0
baz=93
M10A I.L. Ranch, Tu 93.12 46 ⇑P P 11 12 12.5 -1.0
baz=93
J09A Fry Pan Ranch, 93.13 44 ⇓P P 11 12 12.0 -1.5
baz=93
Q12A Willow Creek R 93.23 49 ⇓P P 11 12 15.5 +1.5
baz=93
X15A Humboldt 93.24 54 ⇓P P 11 12 13.1 -1.1
baz=93
G08A Pilot Rock 93.25 42 ⇑P P 11 12 13.5 -0.4
baz=93
S13A Holt Ranch, En 93.31 51 ⇓P P 11 12 12.9 -1.5
baz=93
U14A Mt Trumbull 93.32 52 P P 11 12 14.9 +0.4
baz=93,SNR=6.8
Z16A Peralta Trail, 93.39 56 ⇓P P 11 12 15.3 +0.4
baz=93
L10A Juniper Basin 93.41 46 ⇓P P 11 12 14.3 -0.5
baz=93
K10A MacKenzie Ranc 93.45 45 ⇑P P 11 12 13.0 -2.0
baz=94
TUC Tucson 93.48 57 eP P 11 12 14.3 -1.0
comp=Z,3.5nm,0.9s,mb4.8
TUC e pP 11 12 23.2 -1.8
TUC Tucson 93.48 57 eP P 11 12 14.3 -1.1
TUC e pP 11 12 23.2 -1.8
TUC pmax pmax
comp=Z,3.0nm,0.9s,mb4.7
W15A Williams 93.49 54 ⇑P P 11 12 14.8 -0.6
baz=94
Y16A Circle Bar Ran 93.57 55 ⇓P P 11 12 15.6 -0.1
baz=94
M11A Holland Ranch, 93.59 47 ⇓P P 11 12 15.6 0.0
baz=94
T14A Hurricane 93.65 52 ⇑P P 11 12 17.0 +1.0
baz=94
318A Bisbee 93.76 58 ⇑P P 11 12 17.6 +0.9
baz=94
X16A Lo Mia Camp, P 93.81 55 P P 11 12 17.3 +0.5
baz=94,SNR=5.7
N12A Clover Valley, 93.85 48 ⇓P P 11 12 16.9 0.0
baz=94
218A Dragoon 93.93 57 ⇓P P 11 12 17.3 -0.1
baz=94
P13A Bates Ranch, G 93.97 49 ⇑P P 11 12 17.4 0.0
baz=94
A07A Ashnola River, 94.15 38 ⇑P P 11 12 19.6 +1.6
baz=94
T15A Red Dirt Ranch 94.15 52 ⇑P P 11 12 19.8 +1.5
baz=94
EGAK Eagle 94.21 19 eP P 11 12 15.7 -2.2
comp=Z,5.9nm,0.8s,mb5.1
DLBC Dease Lake 94.23 27 eP P 11 12 17.2 -0.9
DAWY Dawson 94.27 20 eP P 11 12 15.9 -2.3
O13A Hicks Ranch, I 94.28 49 ⇓P P 11 12 19.8 +1.0
baz=94
WUAZ Wupatki 94.30 54 eP P 11 12 18.9 -0.1
comp=Z,10.0nm,0.9s,mb5.2
WUAZ Wupatki 94.30 54 ⇑P P 11 12 19.5 +0.4
baz=94
H10A Noah's Angus R 94.33 44 ⇓P P 11 12 18.5 -0.5
baz=94
G10A Bishop Farm, J 94.41 43 ⇑P P 11 12 19.3 0.0
baz=94
MFID Camas Ranch 94.42 45 ⇓P P 11 12 18.9 -0.5
baz=94
K12A Draper Farm, C 94.70 46 ⇓P P 11 12 20.7 0.0
baz=95
J12A Stokes Ranch, 94.83 45 ⇑P P 11 12 21.8 +0.5
baz=95
H11A Donnelly 94.85 44 ⇓P P 11 12 20.9 -0.5
baz=95
G11A Walters Elk Ra 94.99 43 ⇓P P 11 12 21.5 -0.5
baz=95
M14A Sheep Mountain 95.28 47 ⇓P P 11 12 23.5 +0.1
baz=95
HLID Hailey 95.41 45 ⇑P P 11 12 23.9 0.0
baz=95
J13A Cove Ranch, Pi 95.50 45 ⇓P P 11 12 24.3 0.0
baz=96
H12A Diamond D Ranc 95.54 44 ⇓P P 11 12 24.3 -0.2
baz=96
I13A Wildhorse Cree 95.75 45 ⇓P P 11 12 25.5 0.0
baz=96
F12A Elk City 95.79 43 ⇑P P 11 12 25.6 0.0
baz=96
M15A Larsen Ranch, 95.89 48 ⇑P P 11 12 26.3 +0.2
baz=96
F13A Darby 96.39 43 ⇑P P 11 12 28.3 -0.1
baz=96
TIXI Tiksi 96.99 348 eP P 11 12 28.5 -2.0
TIXI pmax pmax
comp=Z,1.0nm,1.0s,mb4.2
G15A Dillon 97.33 44 ⇑P P 11 12 33.6 +1.0
baz=97
B13A Whitefish 97.36 41 ⇓P P 11 12 33.9 +1.2
baz=97
MNTX Cornudas Mount 97.51 59 eP P 11 12 34.2 +0.5
comp=Z,2.6nm,1.0s,mb4.7
MNTX e 11 12 41.3
ANMO Albuquerque 97.81 56 eP P 11 12 36.2 +1.1
comp=Z,2.7nm,1.1s,mb4.7
ANMO Albuquerque 97.81 56 eP P 11 12 36.2 +1.1
ANMO pmax pmax
comp=Z,3.0nm,1.1s
D15A Lincoln 98.04 43 ⇑P P 11 12 36.6 +0.9
baz=98
TXAR Lajitas Array 98.08 62 P P 11 12 35.0 -1.4
TXAR LR LR 11 51 12.9
TXAR Lajitas Array 98.08 62 P P 11 12 35.0 -1.4
comp=Z,0.5nm,0.9s,mb4.1,baz=217,slow=4.9,SNR=5.6
TXAR LR LR 11 51 12.9
comp=Z,245nm,18.3s,MS4.7,baz=170,slow=32
PDAR Pinedale Array 98.37 47 P P 11 12 36.0 -1.3
comp=Z,0.9nm,1.1s,mb4.2,baz=204,slow=2.0,SNR=3.1
PDAR LR LR 11 52 20.4
comp=Z,93nm,20.2s,MS4.3,baz=116,slow=33
WMQ Urumqi 98.67 314 eP P 11 12 40.0 +1.4
WMQ AP pP 11 12 52.0 +3.7
WMQ SKS 11 23 15.0
WMQ eS S 11 24 04.0 -2.0
WMQ AMB AMB
comp=Z,11nm,0.6s,mb5.6
WMQ AMB AMB
comp=Z,147nm,4.8s
WMQ LR LR
comp=N,374nm,20.3s,MS5.0
WMQ LR LR
comp=E,213nm,19.1s,MS5.0
WMQ LR LR

comp=Z,204nm,20.5s,MS4.6
INK Inuvik 98.84 18 *e*P **P 11 12 37.0 -1.9**
comp=Z,466nm,1.4s
INK Inuvik 98.84 18 P **P 11 12 35.0 -3.9**
comp=Z,2.7nm,1.1s,mb4.7,baz=220,slow=7.5,SNR=6.3
YKA Yellowknife Ar 102.85 28 P Pdif 11 12 54.4 -2.9
comp=Z,0.2nm,0.7s,baz=258,slow=4.5,SNR=4.9
MKAR Makanchi Array 103.25 315 Pdif Pdif 11 12 54.9 -4.1
MKAR Makanchi Array 103.25 315 Pdiff Pdif 11 12 54.9 -4.1
comp=Z,0.2nm,0.4s,baz=144,slow=5.4,SNR=3.3
ARCES ARCESS Array B 127.28 345 PKP PKPdf 11 18 02.7 -0.5
ARCES ARCESS Array B 127.28 345 PKP PKPdf 11 18 02.7 -0.5
comp=Z,2.4nm,0.7s,baz=48,slow=1.8,SNR=7.2
OBN Obninsk 131.32 326⇑*i*PKIKP PKPdf 11 18 08.9 -2.4
OBN *e* 11 25 15.3
OBN *e*SS SS 11 38 07.4 +7.1
OBN pmax pmax
comp=Z,5.0nm,0.6s
NOA NORSAR Array B 137.65 344 PKP PKPdf 11 18 22.9 -0.1
comp=Z,0.7nm,0.8s,baz=34,slow=1.9,SNR=2.6
FOO Floro 138.51 348 *i*P PKPdf 11 18 29.0 +4.5
VYHS Vyhne 144.12 326 *e*PKP PKPdf 11 18 32.9 -2.1
KOLL Kolacno 144.29 326 *e*PKP PKPdf 11 18 35.1 -0.2
BRG Berggiesshubel 144.86 332 *e*PKPab PKPdf 11 18 34.7 -1.5
BRG Berggiesshubel 144.86 332 *e*PKP PKPdf 11 18 35.7 -0.5
comp=Z,8.5nm,0.7s
CLL Collm 144.94 334 *e*PKPab PKPdf 11 18 34.9 -1.5
CLL Collm 144.94 334 *e*PKPdf PKPdf 11 18 36.0 -0.4
comp=Z,5.0nm,1.0s
CLL *e*PKiKP PKiKP 11 18 38.0 -2.2
comp=Z,8.0nm,0.9s
MODS Modra-Piesok 145.00 327 *e*PKP PKPbc 11 18 40.0 +4.1
ZST Bratislava 145.21 326 *e*PKP PKPbc 11 18 39.9 +3.3
TANN Tannenbergstha 145.84 333 *e*PKPab PKPab 11 18 38.4 -0.5
MOX Moxa 146.01 334 *e*PKP PKPbc 11 18 42.4 +3.4
MOX Moxa 146.01 334 *e*PKPab PKPab 11 18 42.1 +2.5
CONA Conrad Observa 146.01 327⇑*i*pPKPdf PKPab 11 18 40.1 +0.4
comp=Z,12nm,1.1s
GEC2 GERESS Array S 146.44 330 *e*PKPab PKPab 11 18 40.5 -0.8
GERES GERESS Array B 146.44 330 PKPbc PKPbc 11 18 39.6 -0.7
comp=Z,3.4nm,0.8s,baz=345,slow=3.2,SNR=14
WET Wettzell 146.60 331 *e*PKPab PKPab 11 18 44.3 +2.4
GRF Grafenberg Arr 146.91 333 *e*PKPab PKPab 11 18 48.2 +5.1
VNDS Vrh nad Dolski 147.81 325 *i*PKPdf PKPbc 11 18 47.4 +3.1
KBA Koelnbreinsper 147.85 328⇑*i*P PKPbc 11 18 45.4 +1.1
comp=Z,6.7nm,1.1s
BOJS Bojanci 147.90 324 *e*PKPbc PKPab 11 18 53.7 +6.5
VOY Vojsko 148.28 326 *e*PKPdf PKPbc 11 18 46.3 +0.7
VOY *e*PKPbc PKPab 11 18 54.8 +6.2
JAVS Javornik 148.28 326 *e*PKPdf PKPbc 11 18 45.7 +0.1
WLF Walferdange 148.87 338 *e*PKPab PKPab 11 18 50.4 -0.5
BFO Black Forest 149.16 334 *e*PKPab PKPab 11 18 52.0 -0.1
BAIF Baives 149.16 341 *e*PKP1 PKPbc 11 18 44.9 -2.8
CDF Champ du Feu 149.50 336 *e*PKP1 PKPbc 11 18 46.3 -2.3
comp=Z,33nm,1.1s
HINF Hinteralfeld 150.15 335 *e*PKP1 PKPbc 11 18 47.6 -2.6
TIP Timpagrande 150.50 313 *e*PKPbc PKPbc 11 18 52.0 +0.7
CABF La Chapelle 151.44 335 *e*PKP1 PKPbc 11 18 50.9 -2.4
comp=Z,7.8nm,0.7s
FLN La Foliniere 151.62 345 *e*PKP1 PKPbc 11 18 51.6 -2.0
FLN *e*MLR MLR
comp=Z,160nm,17.5s,MS4.6
FLN La Foliniere 151.62 345 *e*PKIKP PKPbc 11 18 51.6 -2.0
FLN MLR MLR
comp=Z,160nm,17.5s,MS4.9
LDF La Druitiere 151.69 345 *e*PKP1 PKPbc 11 18 51.5 -2.3
LOR Lormes 151.71 338 *e*PKP1 PKPbc 11 18 51.4 -2.5
comp=Z,34nm,1.2s
LOR *e*MLR MLR
comp=Z,133nm,18.0s,MS4.5
LOR Lormes 151.71 338 *e*PKIKP PKPbc 11 18 51.4 -2.5
LOR MLR MLR
comp=Z,130nm,18.0s,MS4.8
SSF Saint Saulge 152.01 339 *e*PKP1 PKPbc 11 18 52.1 -2.4
comp=Z,16nm,1.0s
GRR Gorron 152.06 345 *e*PKP1 PKPbc 11 18 52.6 -2.0
LPL La Plagne 152.06 333 *e*PKP1 PKPbc 11 18 53.0 -1.7
LPG La Plagne 152.07 333 *e*PKP1 PKPbc 11 18 52.9 -1.8
SMF Signal de Mont 152.25 338 *e*PKP1 PKPbc 11 18 53.5 -1.6
SBF Sospel 153.04 330 *e*PKP1 PKPbc 11 18 54.7 -2.2
TCF Toulx Ste Croi 153.12 339 *e*PKP1 PKPbc 11 18 54.4 -2.6
comp=Z,19nm,1.1s
PGF Pioggiola 153.23 326 *e*PKP1 PKPbc 11 18 55.2 -2.2
comp=Z,28nm,1.1s
MFF Saint Martin d 153.54 343 *e*PKP1 PKPbc 11 18 55.5 -2.4
EVO Evora 162.93 352 *e*PKP2 PKPab 11 19 47.5 -3.6
comp=Z,8.6nm,0.5s
EVO *e*MLR MLR
comp=Z,248nm,18.8s
DBIC Dimbokro 164.02 203 PKPab PKPab 11 19 57.5 +1.0
comp=Z,4.8nm,1.1s,baz=137,slow=7.6,SNR=3.3
TORD Torodi Ar. Bea 165.26 237 PKP PKPdf 11 19 03.3 -1.4
comp=Z,1.3nm,0.8s,baz=41,slow=0.6,SNR=6.7

IDC 12 11:15:28.7±1.4, 191N×9648E, h0km, mb4.0/8, mb1 4.0/9, mb1mx3.8/21, mbtmp3.9/9, ML2.7/1, Error ellipse: s-maj=44.6km s-min=19.2km az=51.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.60**	**70**	Pn	Pn	11 16 11.7	-0.3
	1.6nm,0.3s,baz=277,slow=7.7,SNR=4.2						
PBA	**Port Blair**	**10.37**	**339**	*e*P	x	11 18 22.4	
PBA				*e*S	x	11 18 28.1	
PBA				*e*x	x	11 18 31.6	
	comp=N,282nm,0.5s						
PBA				*e*x	x	11 18 32.5	
	comp=E,221nm,0.4s						
WRA	**Warramunga Arr**	**43.02**	**122**	P	P	11 23 30.2	-0.1
	comp=E,1.8nm,0.6s,baz=302,slow=9.0,SNR=22						
ASAR	**Alice Springs**	**44.39**	**127**	P	P	11 23 41.3	0.0
	comp=E,0.3nm,0.6s,baz=299,slow=8.7,SNR=5.9						
KSRS	**Korea Array**	**45.69**	**35**	P	P	11 23 51.1	-0.4
	comp=E,0.9nm,0.7s,baz=222,slow=9.8,SNR=4.9						
MKAR	**Makanchi Array**	**46.39**	**347**	P	P	11 23 56.8	0.0
	comp=E,1.5nm,0.5s,baz=161,slow=7.0,SNR=13						
SONM	**Songino Array**	**46.55**	**9**	P	P	11 23 58.1	+0.1
	comp=E,0.9nm,0.5s,baz=190,slow=9.4,SNR=9.8						
SONM				PcP	PcP	11 25 32.2	-0.1
	comp=E,0.1nm,0.5s,baz=156,slow=4.3,SNR=2.7						
ZALV	**Zalesovo Beam**	**52.75**	**351**	P	P	11 24 45.4	+0.2
	comp=E,2.3nm,0.6s,baz=179,slow=6.0,SNR=12						
BVAR	**Borovoye Array**	**55.35**	**341**	P	P	11 25 03.6	-0.7
	comp=E,0.9nm,0.7s,baz=133,slow=8.7,SNR=5.4						
ARCES	**ARCESS Array B**	**81.63**	**340**	P	P	11 27 48.8	+0.5
	comp=E,2.2nm,0.9s,baz=92,slow=6.1,SNR=8.6						

IDC 12 11:18:20.0±1.7, 1303N×12524E, h0km, mb3.6/5, mb1 3.8/5, mb1mx3.6/19, mbtmp3.6/5, Error ellipse: s-maj=142.4km s-min=19.8km az=72.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**30.93**	**179**	P	P	11 24 38.1	-0.7
	1.5nm,0.5s,baz=23,slow=13,SNR=3.6						
WRA	**Warramunga Arr**	**33.96**	**165**	P	P	11 25 05.5	+0.1
	0.4nm,0.9s,baz=345,slow=9.1,SNR=3.6						
ASAR	**Alice Springs**	**37.44**	**167**	P	P	11 25 35.6	+0.4
	0.4nm,0.5s,baz=340,slow=7.2,SNR=12						
SONM	**Songino Array**	**38.10**	**339**	P	P	11 25 40.0	-0.6
	0.4nm,0.7s,baz=157,slow=7.7,SNR=3.6						
MKAR	**Makanchi Array**	**49.24**	**322**	P	P	11 27 11.3	+0.9
	0.5nm,0.5s,baz=116,slow=8.5,SNR=4.1						

*SGS **12** 11:19:20.2, 3004N×3634E, h7km*
*GII **12** 11:19:20.7±0.0, 2990N×3632E, h0km, ML1.7/3*
*CSEM **12** 11:19:21.2±0.5, 2981N×3622E, h1km, ML3.9, Error ellipse: s-maj=9.2km s-min=6.4km az=89.0, Mining explosion.*
*HLW **12** 11:19:29.5, 2957N×3588E, h12km, Mb3.9*
ISC 12 11:19:20.0±1.0, 2987N±004×3637E±006, h0km, n21, σ1§02/30, 5D, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HRFI	**Mount Harif**	**1.17**	**279**	Pg	**Pg**	**11 19 41.5**	**-1.0**
HRFI				Sg	**Sg**	**11 19 59.1**	**+1.4**
ZFRI	**Zfri**	**1.24**	**304**	Pg	**Pg**	**11 19 42.1**	**-1.7**
ZFRI				Sg	**Sg**	**11 19 59.6**	**-0.3**
EIL	**Elat**	**1.25**	**261**	Pg	**Pg**	**11 19 43.5**	**-0.5**
EIL				Sg	**Sg**	**11 20 01.4**	**+1.2**
HQLS		**1.27**	**244**	P	**Pg**	**11 19 43.3**	**-1.1**
HQLS		**1.27**	**244**	P	**Pg**	**11 19 43.3**	**-1.1**
HQLS				S	**Sg**	**11 20 00.6**	**-0.3**
PRNI	**Paran**	**1.28**	**293**	Pg	**Pg**	**11 19 43.0**	**-1.5**
JLOS		**1.36**	**215**	P	**Pg**	**11 19 45.4**	**-0.7**
JLOS		**1.36**	**215**	P	**Pg**	**11 19 45.4**	**-0.7**
JLOS				S	**Sg**	**11 20 04.5**	**+0.7**
KRMI	**Paran Flat**	**1.45**	**280**	Pn	**Pn**	**11 19 46.6**	**-0.9**
KRMI				Sn	**Sn**	**11 20 06.3**	**-0.9**
KRMI	**Paran Flat**	**1.45**	**280**	Pn	**Pn**	**11 19 46.6**	**-0.9**
KRMI				Sn	**Sn**	**11 20 06.3**	**-0.9**
HBST	**Basata**	**1.57**	**246**	⇓P	**Pn**	**11 19 49.3**	**+0.2**
MZDA	**Masada**	**1.68**	**329**	Pn	**Pn**	**11 19 51.0**	**+0.4**
YTIR	**Yattir**	**1.84**	**324**	Pn	**Pn**	**11 19 53.0**	**+0.1**
YTIR	**Yattir**	**1.84**	**324**	Pn	**Pn**	**11 19 52.9**	**0.0**
DSI	**Dead Sea**	**1.90**	**334**	Pn	**Pn**	**11 19 54.6**	**+0.9**
HDHB	**Dhahab**	**1.91**	**234**	⇓P	**Pn**	**11 19 54.3**	**+0.5**
KZIT	**Kziot**	**2.00**	**302**	Pn	**Pn**	**11 19 56.0**	**+1.1**
KZIT				Sn	**Sn**	**11 20 21.1**	**+0.4**
HNKL	**Nakhl**	**2.08**	**272**	⇓P	**Pn**	**11 19 58.0**	**+1.9**
HNKL				S	**Sn**	**11 20 19.0**	**-3.7**
RSHS		**2.08**	**222**	P	**Pn**	**11 19 55.3**	**-0.8**
HKAT	**Jabal Katrina**	**2.47**	**238**	⇓P	**Pn**	**11 20 01.5**	**-0.1**
SUZ		**3.08**	**270**	⇓P	**Pn**	**11 20 11.8**	**+1.9**

IDC 12 11:24:41.2±4.1, 750S×15543E, h0km, mb3.7/3, mb1 3.8/3, mb1mx3.5/14, mbtmp3.7/3, Error ellipse: s-maj=113.0km s-min=36.3km az=119.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.89**	**237**	P	P	11 29 56.8	-0.1
	1.0nm,0.7s,baz=62,slow=9.7,SNR=9.3						
SONM	**Songino Array**	**69.99**	**327**	P	P	11 35 54.8	+0.2
	1.6nm,0.8s,baz=135,slow=5.2,SNR=11						
MKAR	**Makanchi Array**	**84.07**	**319**	P	P	11 37 14.2	+0.3
	0.2nm,0.5s,baz=114,slow=5.4,SNR=3.0						

*NNC **12** 11:33:30.5±8.1, 3760N×7146E, h221km±105km, mb2.7, mpv4.0, Error ellipse: s-maj=82.0km s-min=43.4km az=13.0*
ISC 12 11:33:26.3±2.6, 372N±02×715E±02, h133km±54km, n13, σ0§50/16, 1C-3D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**5.19**	**18**	P	**Pn**	**11 34 42.3**	**+0.3**
	SNR=216						
UCH	**Uchtor**	**5.52**	**24**	P	**Pn**	**11 34 46.5**	**+0.3**
	SNR=44						
KZA	**Kyzart**	**5.65**	**30**	P	**Pn**	**11 34 47.5**	**-0.6**
	SNR=29						
EKS2	**Erkin-Say**	**5.71**	**17**	P	**Pn**	**11 34 49.4**	**+0.5**
	SNR=13						
AAK	**Ala-Archa**	**5.88**	**22**	P	**Pn**	**11 34 51.5**	**+0.4**
	SNR=34						
KK31	**Karatay Array**	**5.93**	**353**	P	**Pn**	**11 34 52.4**	**+0.6**
	4.1nm,0.3s,baz=175,slow=13,SNR=113						
KK31				S	**Sn**	**11 35 57.9**	**-0.6**
	15nm,0.6s,baz=172,slow=22,SNR=17						
KBK	**Karagaybulak**	**6.04**	**25**	P	**Pn**	**11 34 53.7**	**+0.4**
	SNR=8.4						
ULHL	**Ulahol**	**6.21**	**35**	P	**Pn**	**11 34 54.7**	**-0.9**
	SNR=6.4						
CHMS	**Chumysh**	**6.29**	**22**	P	**Pn**	**11 34 56.5**	**-0.1**
	SNR=6.6						
USP	**Ospenovka**	**6.46**	**20**	P	**Pn**	**11 34 58.4**	**-0.6**
	SNR=15						
TKM2	**Tokmak 2**	**6.51**	**28**	⇓P	**Pn**	**11 34 59.1**	**-0.4**
	8.6nm,0.6s						
TKM2				⇓S	**Sn**	**11 36 13.0**	**+0.6**
	3.3nm,1.1s						
TKM2	**Tokmak 2**	**6.51**	**28**	P	**Pn**	**11 34 59.5**	**-0.1**
	SNR=14						
AB31	**Akbulak array**	**14.66**	**329**	⇑P	**Pn**	**11 36 47.1**	**+0.1**
	0.3nm,0.3s						
AB31				⇓S	**Sn**	**11 39 19.2**	**-10**
	0.3nm,0.3s,baz=152,slow=23,SNR=4.2						

*NEIC **12** 11:48:47.4, 1254N×6038W, h4km, MD3.7(TRN), After TRN.*
TRN 12 11:48:47.4, 1254N×6038W, h4km, MD3.7, Windward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FCV	**Fort Charlotte**	**1.05**	**306**	*e*P	Pg	11 49 11.0	+3.4
FCV				*e*S	Sg	11 49 27.0	+5.9
BHS	**Barnard House**	**1.05**	**316**	*e*P	Pg	11 49 10.5	+2.9
BHS				*e*S	Sg	11 49 27.8	+6.6
SSV	**Crater Summit**	**1.12**	**314**	*e*P	Pg	11 49 11.7	+2.8
SSV				*e*S	Sg	11 49 27.5	+4.1
SSV	**Crater Summit**	**1.12**	**314**	*e*P	Pg	11 49 13.9	+5.0
SSV				*e*S	Sg	11 49 27.5	+4.1
SVB	**Belmont**	**1.12**	**310**	*e*P	Pg	11 49 10.9	+2.0
SVB				*e*S	Sg	11 49 29.9	+6.4
SVB	**Belmont**	**1.12**	**310**	*e*P	Pg	11 49 14.1	+5.2
SVB				*e*S	Sg	11 49 29.9	+6.4
SVV	**Soufriere Volc**	**1.13**	**313**	*e*P	Pg	11 49 11.3	+2.2
SVV				*e*S	Sg	11 49 28.7	+5.0
GRW	**Mount Saint Ca**	**1.31**	**253**	*e*P	Pn	11 49 13.7	+1.2
GRW				*e*S	Sg	11 49 33.9	+4.2
SLB	**Belfond**	**1.43**	**333**	*e*P	Pn	11 49 16.4	+2.2
SLB				*e*S	Sb	11 49 36.2	+2.9
SLB	**Belfond**	**1.43**	**333**	*e*P	Pn	11 49 16.4	+2.2
SLB				*e*S	Sb	11 49 36.2	+2.9
SLB				*e*S	Sb	11 49 38.0	+4.7

*IDC **12** 12:01:40.6±0.6, 3017S×17764W, h0km, mb4.6/11, mb1 4.7/11, mb1mx4.6/16, mbtmp4.6/11, MS3.8/8, Ms1 3.8/8, ms1mx3.6/19, Error ellipse: s-maj=20.2km s-min=14.5km az=87.0*
*BJI **12** 12:01:41.3, 3040S×17760W, h10km, mB5.7, mb5.2, Ms4.9, Msz4.5*
*NEIC **12** 12:01:41.4±0.6, 3042S×17762W, h10km, mb5.0/14, Error ellipse: s-maj=16.9km s-min=10.6km az=109.0*
*ISCJB **12** 12:01:44.8±0.5, 3051S±004×1780W±01, h33km, mb4.9/27, MS3.8/8, Error ellipse: s-maj=13.4km s-min=4.9km az=15.0*
*MOS **12** 12:01:44.1±1.5, 3012S×17778W, h33km, mb4.8/4, Error ellipse: s-maj=18.3km s-min=16.4km az=103.5*
ISC 12 12:01:46.5±0.5, 3043S±004×1779W±01, h35km, (h28km±4.0km: pP-P), n107, σ1§40/75, mb4.9/27, MS3.8/8, 6C-2D, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.18**	**360**	Pn	**Pn**	**12 02 02.8**	**-3.6**
	1μm,0.3s,baz=96,slow=4.3,SNR=29						
RAO				Sn	**Sn**	**12 02 15.2**	**-6.0**
	8μm,0.3s,baz=60,slow=20,SNR=31						
PUZ	**Puketiti**	**8.25**	**202**	SN	**Sn**	**12 05 15.4**	**-0.2**
OUZ	**Omahuta**	**8.59**	**234**	*e*P	**Pn**	**12 03 57.6**	**+9.3**
OUZ	**Omahuta**	**8.59**	**234**	PN	**Pn**	**12 03 57.6**	**+9.3**
MWZ	**Matawai**	**8.74**	**204**	*e*P	**Pn**	**12 03 48.3**	**-2.0**
MWZ				S	**Sn**	**12 05 29.0**	**+1.5**
MWZ	**Matawai**	**8.74**	**204**	PN	**Pn**	**12 03 48.3**	**-2.0**
MWZ				SN	**Sn**	**12 05 29.0**	**+1.5**
URZ	**Urewera**	**8.82**	**206**	*e*P	**Pn**	**12 03 49.9**	**-1.6**
URZ	**Urewera**	**8.82**	**206**	Pn	**Pn**	**12 03 48.0**	**-3.4**
	0.5nm,0.3s,baz=0.0,slow=17,SNR=6.3						
URZ				Sn	**Sn**	**12 05 31.0**	**+1.3**
	12nm,0.3s,baz=15,slow=23,SNR=14						
URZ	**Urewera**	**8.82**	**206**	PN	**Pn**	**12 03 49.9**	**-1.6**
URZ				SN	**Sn**	**12 05 30.7**	**+1.1**
BKZ	**Black Stump Fm**	**9.85**	**206**	PN	**Pn**	**12 04 03.4**	**-2.1**
BKZ				SN	**Sn**	**12 05 54.4**	**-0.5**
PXZ	**Pawanui**	**10.48**	**203**	SN	**Sn**	**12 06 06.4**	**-4.0**
WPHZ	**Waipukurau**	**10.66**	**204**	SN	**Sn**	**12 06 12.5**	**-2.2**
NNZ	**Nelson**	**12.87**	**211**	PN	**Pn**	**12 04 51.0**	**+4.2**
THZ	**Tophouse**	**13.52**	**211**	*e*P	**Pn**	**12 04 55.0**	**-0.6**
RPZ	**Rata Peaks**	**15.89**	**210**	Pn	**Pn**	**12 05 23.8**	**-3.6**
	0.3nm,0.3s,baz=8.8,slow=18,SNR=2.3						
RPZ				Sn	**Sn**	**12 08 11.2**	**-11**
	0.7nm,0.3s,baz=37,slow=10,SNR=4.9						
RAR	**Rarotonga**	**18.71**	**65**	LR	LR	12 10 50.0	
	comp=Z,320nm,18.4s,baz=280,slow=30						
ARMA	**Armidale**	**26.23**	**262**	*e*P	**P**	**12 07 22.7**	**+4.5**
TBI	**Tubuai**	**26.29**	**81**	*e*LR	LR	12 13 50.5	
	255nm,27.8s						
TBI	**Tubuai**	**26.29**	**81**	*e*T		12 34 39.3	
	26nm,0.3s						
CNB	**Canberra Magne**	**27.84**	**251**	*e*P	**P**	**12 07 37.2**	**+4.6**
	15nm,1.0s,mb4.6						
PAE	**Paea**	**28.74**	**70**	*e*T		12 37 28.4	
	48nm,0.2s						
PPT	**Papeete**	**28.79**	**70**	*e*LR	LR	12 14 54.4	
	194nm,26.8s						
PPT	**Papeete**	**28.79**	**70**	*e*T		12 37 32.6	
	13nm,0.3s						
PPT	**Papeete**	**28.79**	**70**	LR	LR	12 15 21.8	
	comp=Z,299nm,19.6s,MS3.9,baz=248,slow=29						
TVO	**Taravao**	**28.94**	**71**	*e*T		12 37 45.6	
	11nm,0.3s						
HNR	**Honiara**	**29.38**	**311**	LR	LR	12 16 13.1	
	comp=Z,62nm,21.5s,MS3.2,baz=3.3,slow=30						
PMOR	**Pomariorio Ree**	**31.54**	**68**	*e*T		12 40 53.6	
	3.2nm,0.4s						
VAH	**Vaihoa**	**31.62**	**68**	*e*T		12 41 00.7	
	70nm,0.2s						
CTA	**Charters Tower**	**33.88**	**279**	*e*P	**P**	**12 08 28.4**	**+2.4**
	24nm,0.4s,mb5.5						
CTA	**Charters Tower**	**33.88**	**279**	*e*P	**P**	**12 08 28.4**	**+2.4**
CTA				pmax	pmax		
	comp=Z,24nm,0.4s						
CTA	**Charters Tower**	**33.88**	**279**	P	**P**	**12 08 28.6**	**+2.7**
	comp=Z,42nm,0.6s,mb5.5,baz=104,slow=11,SNR=40						
CTA				LR	LR	12 20 11.0	
	comp=Z,163nm,19.4s,MS3.8,baz=61,slow=33						
CTAO	**Charters Tower**	**33.88**	**279**	*e*P	**P**	**12 08 28.8**	**+2.8**
	comp=Z,41nm,0.8s,mb5.4						
CTAO	**Charters Tower**	**33.88**	**279**	*e*P	**P**	**12 08 28.8**	**+2.8**
CTAO				pmax	pmax		
	comp=Z,41nm,0.8s,mb5.4						
STKA	**Stephens Creek**	**34.54**	**257**⇓	*i*P	**P**	**12 08 35.0**	**+3.4**
	comp=Z,11nm,0.7s,mb4.9						
STKA	**Stephens Creek**	**34.54**	**257**	P	**P**	**12 08 35.0**	**+3.4**
	comp=Z,16nm,0.8s,mb5.0,baz=90,slow=9.0,SNR=38						
STKA				LR	LR	12 20 33.0	
	comp=Z,153nm,18.4s,MS3.8,baz=23,slow=32						
RKT	**Rikitea**	**38.84**	**90**	*e*T		12 50 37.2	
	comp=Z,1.6nm,0.3s						
ASAR	**Alice Springs**	**43.18**	**267**	P	**P**	**12 09 44.5**	**+0.5**
	comp=Z,5.8nm,0.5s,mb4.6,baz=103,slow=7.5,SNR=84						
WB2	**Warramunga Arr**	**44.16**	**272**⇓	*i*P	**P**	**12 09 52.3**	**+0.3**
WRAB	**Tennant Creek**	**44.17**	**272**	*e*P	**P**	**12 09 52.3**	**+0.3**
	comp=Z,19nm,0.6s,mb5.0						
WRAB	**Tennant Creek**	**44.17**	**272**	*e*P	**P**	**12 09 50.4**	**-1.6**
WRA	**Warramunga Arr**	**44.17**	**272**	P	**P**	**12 09 52.4**	**+0.3**
	comp=Z,13nm,0.3s,mb5.2,baz=110,slow=8.1,SNR=413						
FORT	**Forrest**	**46.11**	**255**	*e*P	**P**	**12 10 07.5**	**+0.1**
	comp=Z,10nm,0.5s,mb5.0						
SBA	**Scott Base**	**48.01**	**184**	*e*P	**P**	**12 10 25.9**	**+4.4**
	comp=Z,5.5nm,0.7s,mb4.7						
SBA	**Scott Base**	**48.01**	**184**	*e*P	**P**	**12 10 25.9**	**+4.4**
SBA				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.7						
VNDA	**Vanda**	**48.07**	**186**	*e*P	**P**	**12 10 25.3**	**+3.3**
	comp=Z,1.1nm,0.6s,mb4.1						
VNDA	**Vanda**	**48.07**	**186**	*e*P	**P**	**12 10 25.3**	**+3.3**
VNDA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
VNDA	**Vanda**	**48.07**	**186**	P	**P**	**12 10 24.9**	**+2.9**
	comp=Z,1.0nm,0.6s,mb4.0,baz=0.9,slow=8.2,SNR=3.8						
KAKA	**Kakadu**	**49.01**	**280**	*e*P	**P**	**12 10 30.6**	**+0.5**
	comp=Z,22nm,1.5s,mb5.0						
FITZ	**Fitzroy Crossi**	**52.43**	**270**	*e*P	**P**	**12 10 56.1**	**+0.3**
	comp=Z,13nm,0.6s,mb5.0						
FITZ	**Fitzroy Crossi**	**52.43**	**270**	P	**P**	**12 10 56.3**	**+0.5**
	comp=Z,6.8nm,0.7s,mb4.7,baz=148,slow=6.9,SNR=15						
KLBR	**Kellerberrin**	**54.41**	**251**	*e*P	**P**	**12 11 09.5**	**-0.7**
NWAO	**Narrogin (SRO)**	**54.45**	**249**	LR	LR	12 31 37.9	
	comp=Z,28nm,18.1s,MS3.4,baz=24,slow=33						
CASY	**Casey**	**55.15**	**208**	*e*P	**P**	**12 11 15.3**	**+0.4**
	comp=Z,19nm,0.6s,mb5.3						
MUN	**Mundaring**	**55.56**	**250**	*e*P	**P**	**12 11 18.9**	**+0.4**
MBWA	**Marble Bar**	**56.30**	**264**	*e*P	**P**	**12 11 22.7**	**-1.2**
	comp=Z,4.3nm,0.5s,mb4.7						
QSPA	**South Pole Qui**	**59.68**	**180**	*e*P	**P**	**12 11 49.5**	**+2.7**
	comp=Z,24nm,0.8s,mb5.3						
QSPA	**South Pole Qui**	**59.68**	**180**	P	**P**	**12 11 49.3**	**+2.6**
	comp=Z,4.7nm,0.9s,mb4.5,baz=68,slow=3.5,SNR=12						
MAW	**Mawson**	**72.31**	**201**	*e*P	**P**	**12 13 09.5**	**+1.5**
	comp=Z,3.1nm,0.7s,mb4.3						
MAW	**Mawson**	**72.31**	**201**	*e*P	**P**	**12 13 09.5**	**+1.5**
MAW				pmax	pmax		
	comp=Z,3.0nm,0.7s						
MAW	**Mawson**	**72.31**	**201**	P	**P**	**12 13 08.7**	**+0.7**
	comp=Z,3.0nm,0.7s,mb4.3,baz=147,slow=9.8,SNR=6.9						
MAW				LR	LR	12 43 21.4	
	comp=Z,120nm,18.7s,MS4.2,baz=67,slow=34						
SYO	**Syowa Base**	**77.10**	**193**⇑	*e*P	**P**	**12 13 34.6**	**-1.2**
SNAA	**Sanae**	**78.12**	**178**	*e*P	**P**	**12 13 42.2**	**+0.8**
SNAA				*e*	pP	12 13 50.3	-2.1
SNAA				*e*	pP	12 13 55.0	+2.6
SNAA				*e*		12 14 14.0	
SNAA	**Sanae**	**78.12**	**178**⇑	*e*P	**P**	**12 13 50.0**	**+8.6**
VNA3	**Neumayer Olymp**	**78.27**	**176**	*e*P	**P**	**12 13 43.1**	**+0.9**
VNA3				*e*	pP	12 13 51.2	-2.0
VNA3				*e*		12 13 56.9	
VNA3				*e*		12 14 17.5	
VNA2	**Neumayer--Watz**	**78.70**	**177**	*e*P	**P**	**12 13 45.5**	**+0.9**
VNA2				*e*	pP	12 13 53.8	-1.8
VNA2				*e*		12 14 00.0	
VNA2				*e*		12 14 19.4	
VNA1	**Neumayer--Stat**	**78.93**	**177**	*

BILL				*e*		12 19 21.7	
BILL				pmax	pmax		
	comp=Z,2.0nm,1.2s,mb4.5						
YKA	**Yellowknife Ar**	**105.44**	**25**	PKKPab	PKKPab	12 31 46.8	+2.0
	comp=Z,0.1nm,0.3s,baz=48,slow=4.8,SNR=4.8						
MKAR	**Makanchi Array**	**117.85**	**310**	PKP	PKPdf	12 20 26.4	-2.4
	comp=Z,1.1nm,0.7s,baz=44,slow=4.4,SNR=6.1						
KURK	**Kurchatov**	**121.12**	**314**	*e*PKPdf	PKPdf	12 20 33.2	-1.8
UCH	**Uchtor**	**122.08**	**303**	*e*PKPdf	PKPdf	12 20 36.9	-0.3
AML	**Almayashu**	**122.65**	**303**	*e*PKPdf	PKPdf	12 20 37.9	-0.4
BVAR	**Borovoye Array**	**126.48**	**316**	PKP	PKPdf	12 20 44.0	-1.3
	comp=Z,3.2nm,0.7s,baz=105,slow=2.3,SNR=20						
BRVK	**Borovoye**	**126.54**	**316**	*e*PKPdf	PKPdf	12 20 43.6	-1.7
ARU	**Arti**	**133.16**	**321**	*e*PKPdf	PKPdf	12 20 56.6	-1.2
ARU	**Arti**	**133.16**	**321**	*i* PKIKP	PKPdf	12 20 56.2	-1.6
ARU						12 23 21.4	
AKTO	**Aktyubinsk**	**134.18**	**312**	PKP	PKPdf	12 20 58.7	-1.2
	comp=Z,3.2nm,0.8s,baz=100,slow=1.0,SNR=12						
ARCES	**ARCESS Array B**	**138.64**	**348**	PKhKP		12 20 58.1	
	comp=Z,0.7nm,0.5s,baz=43,slow=2.3,SNR=6.6						
ARCES				PKP	PKPdf	12 21 08.3	+0.7
	comp=Z,0.9nm,0.4s,baz=59,slow=1.8,SNR=9.8						
JOF	**Joensuu**	**142.47**	**338**	*e*pkp	PKPdf	12 21 05.7	-9.0
KAF	**Kangasniemi**	**144.60**	**341**	*e*pkp	PKPdf	12 21 14.4	-4.1
FIA1	**FINESS Array S**	**145.20**	**340**	*e*PKPdf	PKPdf	12 21 17.2	-2.3
FINES	**FINESS Array B**	**145.20**	**340**	PKPbc	PKPbc	12 21 17.4	-1.8
	comp=Z,2.1nm,0.7s,baz=60,slow=3.9,SNR=78						
OBN	**Obninsk**	**145.24**	**325**	⇑*i* PKP2	PKPdf	12 21 16.4	-3.4
OBN				*e*		12 24 38.5	
OBN				pmax	pmax		
	comp=Z,23nm,0.8s						
OBN				MLR	MLR		
	comp=Z,100nm,17.0s,MS4.7						
KIV	**Kislovodsk**	**145.31**	**304**	*e*PKP2	PKPdf	12 21 16.1	-4.2
KIV				pmax	pmax		
	comp=Z,7.0nm,1.1s						
NOA	**NORSAR Array B**	**148.79**	**351**	PKPbc	PKPbc	12 21 27.8	-1.7
	comp=Z,4.2nm,0.7s,baz=15,slow=4.3,SNR=16						
NAO01	**NORSAR Array S**	**149.03**	**352**	*e*PKPdf	PKPdf	12 21 28.1	+2.2
AKASG	**Malin Array Be**	**151.37**	**323**	PKPbc	PKPbc	12 21 34.3	-1.7
	comp=Z,3.2nm,0.4s,baz=49,slow=2.7,SNR=29						
CLL	**Collm**	**157.62**	**342**	*e*PKPab	PKPab	12 22 09.0	-1.8
BRG	**Berggiesshubel**	**157.74**	**340**	*e*(P)	PKPab	12 22 08.8	-2.5
	comp=Z,5.5nm,1.0s						
GERES	**GERESS Array B**	**159.59**	**338**	PKPab	PKPab	12 22 18.3	-1.1
	comp=Z,0.3nm,0.3s,baz=341,slow=6.1,SNR=5.7						
TORD	**Torodi Ar. Bea**	**162.79**	**179**	PKPab	PKPab	12 22 34.4	+0.2
	comp=Z,0.7nm,0.5s,baz=166,slow=5.0,SNR=6.8						

IDC 12 12:05:30.3±4.3, 1602S×17397W, h0km, mb4.2/4, mb1 4.3/4, mb1mx3.9/16, mbtmp4.2/4, MS4.5/1, Ms1 4.5/1, ms1mx3.2/22, Error ellipse: s-maj=118.2km s-min=46.2km az=25.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPZ	**Rata Peaks**	**30.40**	**202**	LR	LR	12 22 05.9	
	comp=Z,794nm,18.7s,baz=135,slow=33						
STKA	**Stephens Creek**	**43.25**	**240**	P	P	12 13 33.7	+0.1
	3.9nm,0.9s,baz=70,slow=7.7,SNR=5.6						
WRA	**Warramunga Arr**	**49.17**	**257**	P	P	12 14 20.4	0.0
	0.5nm,0.4s,baz=97,slow=7.1,SNR=6.8						
WRA				PcP	PcP	12 15 43.2	-0.7
	0.7nm,0.9s,baz=93,slow=3.4,SNR=3.0						
ASAR	**Alice Springs**	**49.40**	**252**	P	P	12 14 22.0	-0.1
	3.2nm,0.6s,baz=88,slow=8.2,SNR=40						
QSPA	**South Pole Qui**	**74.02**	**180**	P	P	12 17 08.1	+0.7
	1.6nm,0.7s,baz=55,slow=2.2,SNR=5.3						

NIED ***12*** *12:15:00, 44.30N×149.30E, h17km, Mw3.7 Best double couple: M₀3.80000×10¹⁴ NP1:φs43.00000°, δ63.00000°, λ111.00000°. NP2:φs182.00000°, δ34.00000°, λ54.00000°.*
IDC ***12*** *12:15:42.0±3.0, 44.42N×149.20E, h0km, mb3.7/5, mb1 3.8/6, mb1mx3.6/21, mbtmp3.7/6, ML2.9/1, MS3.3/2, Ms1 3.3/2, ms1mx2.8/41, Error ellipse: s-maj=88.4km s-min=28.2km az=174.0*
JMA ***12*** *12:15:43.1±0.6, 44.28N×149.26E, h30km, M3.6*
ISCJB ***12*** *12:15:45.4±1.3, 437N±0.1×149.1E±0.1, h64km±14km, mb3.7/5, Error ellipse: s-maj=24.9km s-min=11.7km az=161.1*
MOS ***12*** *12:15:46.7±1.0, 44.36N×148.90E, h52km, mb4.1/4, Error ellipse: s-maj=25.7km s-min=23.8km az=131.0*

ISC 12 12:15:46.9±1.3, 438N±02×1491E±01, h56km±15km, n35, σ0:91/39, mb3.7/5, MS3.7/1, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.67**	**328**	*i* PN	**Pn**	**12 16 07.0**	**-6.8**
KUR				pmax	pmax		
	comp=N,170nm,0.5s						
KUR				pmax	pmax		
	comp=E,110nm,0.5s						
KUR				pmax	pmax		
	comp=Z,340nm,0.5s						
KUR				pmax	pmax		
	comp=Z,2μm,2.0s						
NEM2	**Nemuro 2**	**2.49**	**261**	P	**Pn**	**12 16 23.5**	**-1.4**
NEM2				*e*S	**Sn**	**12 16 53.2**	**-0.9**
JRA	**Rausu**	**2.89**	**274**	P	**Pn**	**12 16 29.3**	**-1.1**
JNK	**Nakash**	**3.19**	**267**	P	**Pn**	**12 16 33.7**	**-0.9**
JAK	**Akkeshi**	**3.32**	**257**	P	**Pn**	**12 16 35.1**	**-1.2**
JAK				*e*S	**Sn**	**12 17 14.3**	**-0.2**
JTKR	**Abashiri--Toko**	**3.76**	**274**	P	**Pn**	**12 16 42.2**	**-0.2**
JAR	**Ashorobuto**	**3.92**	**264**	P	**Pn**	**12 16 44.4**	**-0.1**
JOB	**Onbets**	**3.95**	**258**	P	**Pn**	**12 16 44.6**	**-0.4**
JOB				*e*S	**Sn**	**12 17 30.3**	**+0.2**
JMP	**Maruseppu**	**4.16**	**275**	P	**Pn**	**12 16 47.9**	**+0.1**
JCH	**Churui**	**4.37**	**256**	P	**Pn**	**12 16 50.0**	**-0.7**
JCH				*e*S	**Sn**	**12 17 40.7**	**+0.4**
JKK2	**Kamakawa 2**	**4.60**	**273**	P	**Pn**	**12 16 55.5**	**+1.6**
ASAJ	**Asahikawa**	**4.71**	**276**	Pn	**Pn**	**12 16 56.0**	**+0.6**
	comp=Z,0.4nm,0.3s,baz=69,slow=32,SNR=6.3						
ASAJ				LR	LR	12 18 48.7	
	comp=Z,120nm,18.5s,baz=165,slow=39						
JEM	**Erimo**	**4.73**	**250**	P	**Pn**	**12 16 57.2**	**+1.6**
ERM	**Erimo**	**4.73**	**250**	*e*PN	**Pn**	**12 16 57.5**	**+1.9**
JFR	**Furan**	**4.79**	**264**	P	**Pn**	**12 16 58.3**	**+1.9**
JNBK	**Urakawa-nobuka**	**4.90**	**254**	P	**Pn**	**12 16 57.6**	**-0.4**
JNBK				*e*S	**Sn**	**12 17 53.0**	**-0.4**
JBT2	**Biratori 2**	**5.03**	**260**	P	**Pn**	**12 16 59.7**	**-0.1**
JEW	**Eniwo**	**5.67**	**263**	P	**Pn**	**12 17 10.1**	**+1.6**
JNB	**Noboribetsu**	**6.06**	**260**	P	**Pn**	**12 17 13.9**	**+0.1**
JNB				*e*S	**Sn**	**12 18 22.2**	**+0.5**
JKB	**Kayabe**	**6.24**	**255**	P	**Pn**	**12 17 16.0**	**-0.4**
JANG	**Nango**	**6.61**	**241**	P	**Pn**	**12 17 20.3**	**-1.1**
JYM2	**Yakumo 2**	**6.63**	**258**	P	**Pn**	**12 17 22.1**	**+0.4**
JTH	**Tanohata**	**6.65**	**237**	P	**Pn**	**12 17 21.2**	**-0.8**
JTH				*e*S	Sx	12 18 31.2	
JOSM	**Okushiri--Mats**	**7.28**	**260**	P	**Pn**	**12 17 30.9**	**+0.4**
OFUJ	**Ofunato**	**7.32**	**232**	*e*S	Sx	12 18 49.0	
JIO	**Ouri**	**7.93**	**230**	*e*S	Sx	12 19 02.8	
MKAR	**Makanchi Array**	**45.81**	**298**	P	**P**	**12 24 03.4**	**+0.4**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
MKAR	**Makanchi Array**	**45.81**	**298**	P	**P**	**12 24 03.4**	**+0.5**
	comp=Z,1.0nm,0.6s,mb3.9,baz=76,slow=8.5,SNR=6.4						
YKA	**Yellowknife Ar**	**54.95**	**34**	P	**P**	**12 25 11.2**	**-0.5**
	comp=Z,0.2nm,0.7s,mb3.3,baz=298,slow=6.9,SNR=5.3						
FINES	**FINESS Array B**	**65.45**	**334**	P	**P**	**12 26 22.3**	**-1.2**
FINES				pmax	pmax		
	comp=Z,2.0nm,1.0s						
FINES				MLR	MLR		
	comp=Z,53nm,19.9s						
FINES	**FINESS Array B**	**65.45**	**334**	P	**P**	**12 26 22.3**	**-1.2**
	comp=Z,2.0nm,1.0s,mb4.1,baz=44,slow=8.3,SNR=4.7						
FINES				LR	LR	12 57 59.5	
	comp=Z,52nm,19.9s,MS3.7,baz=159,slow=39						
NOA	**NORSAR Array B**	**70.05**	**340**	P	**P**	**12 26 52.0**	**-0.4**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
NOA	**NORSAR Array B**	**70.05**	**340**	P	**P**	**12 26 52.0**	**-0.4**
	comp=Z,1.4nm,0.8s,mb3.9,baz=34,slow=6.1,SNR=3.5						
TXAR	**Lajitas Array**	**81.43**	**58**	P	**P**	**12 28 00.0**	**+2.0**
TXAR	**Lajitas Array**	**81.43**	**58**	P	**P**	**12 27 58.7**	**+0.7**
	comp=Z,0.2nm,0.7s,mb3.1,baz=311,slow=2.7,SNR=5.8						

IDC 12 12:56:49.6±3.1, 972S×15485E, h0km, mb4.0/4, mb1 4.2/4, mb1mx3.9/13, mbtmp4.0/4, MS3.3/5, Ms1 3.3/5, ms1mx3.1/25, Error ellipse: s-maj=76.6km

s-min=33.5km az=103.0, D'Entrecasteaux Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.04**	**87**	LR	LR	12 59 50.3	
	comp=Z,137nm,20.8s,baz=182,slow=36						
CTA	**Charters Tower**	**13.23**	**218**	LR	LR	13 04 15.6	
	comp=Z,153nm,19.4s,baz=46,slow=34						
WB2	**Warramunga Arr**	**22.24**	**240**	*e*P	P	13 01 50.4	+2.2
WRA	**Warramunga Arr**	**22.25**	**241**	P	P	13 01 48.4	+0.1
	3.1nm,0.8s,baz=66,slow=9.7,SNR=14						
ASAR	**Alice Springs**	**24.34**	**233**	P	P	13 02 09.0	-0.3
	5.2nm,0.8s,baz=62,slow=9.1,SNR=39						
GUMO	**Guam**	**25.19**	**337**	LR	LR	13 11 18.0	
	comp=Z,31nm,18.1s,baz=106,slow=34						
STKA	**Stephens Creek**	**25.24**	**207**	*e*P	P	13 02 18.3	+0.9
	4.9nm,0.6s						
STKA	**Stephens Creek**	**25.24**	**207**	P	P	13 02 17.4	0.0
	8.0nm,0.9s,baz=22,slow=12,SNR=13						
STKA				LR	LR	13 12 14.8	
	comp=Z,114nm,19.0s,baz=27,slow=37						
RAO	**Raoul Island**	**32.06**	**131**	LR	LR	13 13 07.4	
	comp=Z,189nm,22.0s,baz=26,slow=30						
SONM	**Songino Array**	**71.54**	**328**	P	P	13 08 13.2	+0.7
	0.5nm,0.8s,baz=145,slow=5.3,SNR=3.1						

TEH ***12*** *12:58:49.5, 32.10N×56.02E, h5km, ML3.9*
ISCJB ***12*** *12:59:39.3±1.0, 32.19N±004×55.98E±003, h2km±8km, Error ellipse: s-maj=6.6km s-min=4.3km az=9.5*
CSEM ***12*** *12:59:40.0±0.1, 32.11N×56.01E, h16km, ML3.9, Error ellipse: s-maj=1.4km s-min=1.0km az=161.0*
THR ***12*** *12:59:41.7±0.6, 32.22N×55.89E, h15km, ML3.5*

ISC 12 12:59:40.7±1.0, 3214N±005×5599E±003, h6km±9km, n35, σ0:96/50, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBAF	**Bafgh**	**0.65**	**213**	*e*Pg	**Pg**	**12 59 52.4**	**-0.9**
IBAF				*e*Sg	**Sg**	**13 00 01.6**	**-0.1**
IBAF				*e*		13 00 03.6	
	comp=Z,21μm,0.0s						
IBAF	**Bafgh**	**0.65**	**213**	*e*Pg	**Pg**	**12 59 52.4**	**-0.9**
IBAF				*e*Sg	**Sg**	**13 00 01.6**	**-0.1**
ICHK	**Chekchek**	**1.34**	**275**	*e*Pg	**Pg**	**13 00 05.3**	**-1.1**
ICHK				*e*		13 00 07.3	
	comp=Z,31μm,0.1s						
ICHK				*e*Sg	**Sg**	**13 00 23.4**	**-0.5**
IMEH	**Mehriz**	**1.39**	**238**	*e*Pg	**Pn**	**13 00 06.2**	**-0.4**
IMEH				*e*Sg	**Sg**	**13 00 24.3**	**-1.0**
IMEH				*e*		13 00 25.8	
	comp=Z,30μm,0.1s						
IMEH	**Mehriz**	**1.39**	**238**	*e*Pg	**Pn**	**13 00 06.2**	**-0.4**
IMEH				*e*Sg	**Sg**	**13 00 24.3**	**-1.0**
ISAD	**Sadrabad**	**1.97**	**264**	*e*Sn	**Sb**	**13 00 40.7**	**-1.0**
ITEG	**Tejag**	**2.45**	**71**	*e*Pn	**Pn**	**13 00 20.4**	**-0.9**
ITEG				*e*Sn	**Sn**	**13 00 51.1**	**-0.5**
IKOO	**Kooshah**	**2.57**	**83**	*e*Pn	**Pn**	**13 00 22.2**	**-0.7**
IKOO				*e*Sn	**Sn**	**13 00 53.7**	**-0.9**
NASN	**Na'in**	**2.77**	**285**	*e*Pn	**Pn**	**13 00 26.2**	**+0.7**
NASN				AML	AML	13 01 14.4	
	comp=E,179nm,0.4s						
IZEF	**Zefreh**	**3.18**	**285**	*e*Pn	**Pn**	**13 00 30.8**	**-0.5**
IZEF				*e*		13 01 22.7	
	comp=Z,2μm,0.1s						
IGAR	**Gharneh**	**3.21**	**273**	*e*Pn	**Pn**	**13 00 33.5**	**+1.8**
IGAR				*e*		13 01 12.8	
	comp=Z,1μm,0.2s						
IMON	**Monand**	**3.28**	**70**	*e*Pn	**Pn**	**13 00 32.5**	**-0.1**
IDAH	**Dahanechah**	**3.34**	**79**	*e*Pn	**Pn**	**13 00 33.5**	**+0.1**
ISRV	**Sarvestan**	**3.70**	**223**	*e*Pn	**Pn**	**13 00 41.3**	**+2.9**
ISRV				*e*		13 01 52.7	
	comp=Z,683nm,0.3s						
IANJ	**Anjilo**	**3.74**	**333**	*e*Pn	**Pn**	**13 00 38.6**	**-0.4**
IANJ				*e*		13 00 39.9	
	comp=Z,1μm,0.1s						
ISFB	**Sefidab**	**3.84**	**306**	*e*Pn	**Pn**	**13 00 40.7**	**+0.4**
ISFB				*e*		13 01 50.4	
	comp=Z,953nm,0.2s						
ILAS	**Lasjerd**	**4.10**	**323**	*e*Pn	**Pn**	**13 00 44.0**	**+0.1**
ILAS				*e*Sn	**Sn**	**13 01 31.8**	**-0.4**
ILAS				*e*		13 02 06.4	
	comp=Z,935nm,0.3s						
ILAS	**Lasjerd**	**4.10**	**323**	*e*Pn	**Pn**	**13 00 44.0**	**+0.1**
ILAS				*e*Sn	**Sn**	**13 01 31.8**	**-0.4**
ISHM	**Shahmirzad**	**4.29**	**329**	*e*Pn	**Pn**	**13 00 46.7**	**+0.2**
ISHM				*e*Sn	**Sn**	**13 01 35.7**	**-1.1**
ISHM				*e*		13 01 45.4	
	comp=Z,1μm,0.2s						
ISHM	**Shahmirzad**	**4.29**	**329**	*e*Pn	**Pn**	**13 00 46.7**	**+0.2**
ISHM				*e*Sn	**Sn**	**13 01 35.7**	**-1.1**
IFIR	**Firoozkooh**	**4.41**	**323**	*e*Pn	**Pn**	**13 00 48.6**	**+0.5**
IFIR				*e*		13 01 05.2	
	comp=Z,803nm,0.1s						
IFIR				*e*Sn	**Sn**	**13 01 39.2**	**-0.6**
IGLO	**Ghaloghah**	**4.64**	**334**	*e*Pn	**Pn**	**13 00 52.9**	**+1.5**
IGLO				*e*		13 02 37.8	
	comp=Z,1μm,0.3s						
BNDS	**Bandar-Abbas**	**4.73**	**178**	*e*Pn	**Pn**	**13 00 55.9**	**+3.4**
IDMV	**Damavand**	**4.75**	**317**	*e*Pn	**Pn**	**13 00 53.2**	**+0.3**
IDMV				*e*		13 01 16.0	
	comp=Z,729nm,0.2s						
DAMV	**Damavand**	**4.82**	**317**	*e*Pn	**Pn**	**13 00 54.5**	**+0.6**
DAMV				AML	AML	13 02 20.4	
	comp=E,37nm,0.6s						
IMOG	**Moghan**	**4.84**	**34**	*e*Pn	**Pn**	**13 00 54.7**	**+0.6**
IPAY	**Payeh**	**4.97**	**29**	*e*Pn	**Pn**	**13 00 57.0**	**+1.1**
IPAY				*e*		13 01 17.6	
	comp=Z,459nm,0.2s						
IPAY				*e*Sn	**Sn**	**13 01 51.5**	**-2.2**
IKRD	**Kardeh**	**5.07**	**24**	*e*Pn	**Pn**	**13 01 03.0**	**+5.7**
IKRD				*e*		13 01 26.3	
	comp=Z,291nm,0.2s						
IKRD				*e*Sn	**Sn**	**13 02 03.1**	**+6.9**
IAFJ	**Afjeh**	**5.13**	**317**	*e*Pn	**Pn**	**13 00 58.9**	**+0.8**
IAFJ				*e*		13 01 00.9	
	comp=Z,2μm,0.1s						
IPRN	**Peran**	**5.13**	**324**	*e*Pn	**Pn**	**13 00 58.7**	**+0.6**
IPRN				*e*		13 01 03.1	
	comp=Z,704nm,0.1s						
CHTH	**Charan**	**5.51**	**314**	*e*Pn	**Pn**	**13 01 04.0**	**+0.6**
ASAO	**Ashtian**	**5.54**	**297**	*e*Pn	**Pn**	**13 01 05.1**	**+1.5**
ISHV	**Shirvan**	**5.56**	**14**	*e*Pn	**Pn**	**13 01 04.7**	**+0.7**
ISHV				*e*		13 01 05.3	
	comp=Z,676nm,0.0s						
IMHD	**Mahdasht**	**5.66**	**310**	*e*Pn	**Pn**	**13 01 05.9**	**+0.5**
IMHD				*e*		13 01 09.6	
	comp=Z,430nm,0.1s						
IMHD				*e*Sn	**Sn**	**13 02 08.6**	**-2.1**
IRAZ	**Razeghan**	**6.00**	**304**	*e*Pn	**Pn**	**13 01 10.7**	**+0.6**
IRAZ				*e*		13 01 12.1	
	comp=Z,366nm,0.2s						

NIED ***12*** *12:59:00, 41.30N×142.70E, h44km, Mw4.1 Best double couple: M₀1.70000×10¹⁵ NP1:φs69.00000°, δ79.00000°, λ-162.00000°. NP2:φs336.00000°, δ72.00000°, λ-12.00000°.*
BJI ***12*** *12:59:57.9, 41.38N×142.76E, h59km, mB4.8, mb4.7, Ms4.3, Msz3.9*
JMA ***12*** *12:59:58.8±0.1, 41.26N×142.66E, h37km, M4.6*
JMA Felt II J1.
MOS ***12*** *12:59:58.1±1.2, 41.38N×142.62E, h57km, mb4.3/12, Error ellipse: s-maj=13.0km s-min=7.2km az=94.5*
ISCJB ***12*** *12:59:58.8±0.4, 41.32N±003×142.64E±004, h58km±3km, mb4.3/32, MS4.0/3, Error ellipse: s-maj=6.4km s-min=3.3km az=33.8*
IDC ***12*** *13:00:01.0±0.7, 41.35N×142.51E, h61km±6km, mb3.7/15, mb1 3.9/18, mb1mx3.8/27, mbtmp3.8/18, MS2.8/1, Ms1 2.8/1, ms1mx2.3/37, Error ellipse: s-maj=15.6km s-min=9.5km az=97.0*
NEIC ***12*** *13:00:01.0±0.5, 41.36N×142.58E, mb4.6/7, MW4.1(NIED), Error ellipse: s-maj=11.2km s-min=7.7km az=134.0*
NEIC Recorded [2 JMA] in Aomori and [1 JMA] in Iwate Prefectures, Honshu. Also recorded [1 JMA] in south-central and southwestern Hokkaido.

ISC 12 12:59:59.7±0.4, 4132N±003×14268E±004, h51km±3km, h63km±3.1km: pP-P, n87, σ1:20/113, mb4.3/32, MS4.0/3, 8C-4D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERM	**Erimo**	**0.78**	**27**	*e*Pn	**Pn**	**13 00 14.4**	**-0.1**
ERM				*e*Sn	**Sn**	**13 00 24.9**	**-0.4**
JEM	**Erimo**	**0.79**	**27**	⇑P	**Pn**	**13 00 14.2**	**-0.4**
JEM				S	**Sn**	**13 00 25.7**	**+0.3**
JNBK	**Urakawa-nobuka**	**0.96**	**3**	⇑P	**Pn**	**13 00 17.0**	**0.0**
JNBK				*e*S	**Sn**	**13 00 31.5**	**+1.9**
JOT	**Ohata**	**1.23**	**274**	⇓P	**Pn**	**13 00 19.6**	**-0.9**
JOT				*e*S	**Sn**	**13 00 35.1**	**-1.0**
JANG	**Nango**	**1.29**	**224**	⇑P	**Pn**	**13 00 20.2**	**-1.2**
JANG				S	**Sn**	**13 00 36.5**	**-1.0**
JTM	**Tenmabayashi**	**1.33**	**247**	⇑P	**Pn**	**13 00 21.5**	**-0.4**
JTM				S	**Sn**	**13 00 37.8**	**-0.7**
JKB	**Kayabe**	**1.36**	**295**	⇓P	**Pn**	**13 00 21.2**	**-1.1**
JKB				S	**Sn**	**13 00 38.4**	**-0.9**
JCH	**Churui**	**1.39**	**21**	⇑P	**Pn**	**13 00 22.5**	**-0.2**
JCH				*e*S	**Sn**	**13 00 41.0**	**+1.0**
JBT2	**Biratori 2**	**1.48**	**351**	⇑P	**Pn**	**13 00 23.9**	**0.0**
JBT2				*e*S	**Sn**	**13 00 43.8**	**+1.7**
JEW	**Eniwo**	**1.78**	**329**	⇓P	**Pn**	**13 00 28.1**	**+0.1**
JEW				*e*S	**Sn**	**13 00 50.4**	**+1.0**
JFR	**Furan**	**1.85**	**358**	P	**Pn**	**13 00 29.1**	**+0.2**
JFR				*e*S	**Sn**	**13 00 54.4**	**+3.3**
JOM	**Ohasama**	**2.12**	**210**	⇑P	**Pn**	**13 00 32.5**	**-0.2**
JOM				S	**Sn**	**13 00 58.6**	**+0.7**
JAR	**Ashorobuto**	**2.14**	**22**	P	**Pn**	**13 00 32.0**	**-0.9**
JAR				*e*S	**Sn**	**13 00 56.2**	**-2.0**
ASAJ	**Asahikawa**	**2.80**	**359**	P	**Pn**	**13 00 41.7**	**-0.3**
ASAJ				S	**Sn**	**13 01 15.6**	**+1.1**
ASAJ				pmax	pmax		
	comp=Z,38nm,0.3s						
ASAJ				smax			
	comp=N,27nm,0.3s						
ASAJ	**Asahikawa**	**2.80**	**359**	P	**Pn**	**13 00 41.6**	**-0.3**
	comp=N,38nm,0.3s,baz=215,slow=10,SNR=99						
ASAJ				S	**Sn**	**13 01 15.6**	**+1.1**
	comp=N,26nm,0.3s,baz=141,slow=32,SNR=5.9						
KUR	**Kuril'sk**	**5.45**	**42**	*e*P	**Pn**	**13 01 16.1**	**-2.1**
KUR				*e*S	**Sn**	**13 02 16.5**	**-3.0**
KUR				pmax	pmax		
	comp=Z,90nm,0.7s						
KUR				smax			
	comp=E,170nm,0.7s						
YSS	**Yuzh-Sakhalins**	**5.64**	**1**	*e*Pn	**Pn**	**13 01 21.8**	**+0.9**
	comp=E,22nm,0.8s						
YSS	**Yuzh-Sakhalins**	**5.64**	**1**	⇓*e*P	**Pn**	**13 01 21.5**	**+0.7**
YSS				*e*S	**Sn**	**13 02 28.0**	**+3.8**
YSS				pmax	pmax		
	comp=Z,30nm,1.0s						
YSS				smax			
	comp=N,50nm,1.2s						
YSS				smax			
	comp=E,50nm,1.2s						
MAJO	**Matsushiro**	**5.91**	**218**	*e*Pn	**Pn**	**13 01 25.3**	**+0.7**
	comp=E,32nm,0.5s						
MAJO	**Matsushiro**	**5.91**	**218**	*e*P	**Pn**	**13 01 25.3**	**+0.7**
MAJO				pmax	pmax		
	comp=Z,32nm,0.5s						
MAT	**Matsushiro**	**5.91**	**218**	P	**Pn**	**13 01 25.4**	**+0.8**
MAT				S	**Sn**	**13 02 32.4**	**+1.5**
MJAR	**Matsushiro Arr**	**5.91**	**218**	P	**Pn**	**13 01 25.9**	**+1.3**
MJAR				pmax	pmax		
	comp=Z,5.0nm,0.3s						
MJAR				MLR	MLR		
	comp=Z,90nm,20.7s						
MJAR	**Matsushiro Arr**	**5.91**	**218**	P	**Pn**	**13 01 25.9**	**+1.3**
	comp=Z,5.4nm,0.3s,baz=36,slow=12,SNR=72						
MJAR				LR	LR	13 04 04.1	
	comp=Z,90nm,20.7s,baz=80,slow=42						
JHJ	**Hachijo jima 2**	**8.50**	**197**	P	**Pn**	**13 01 57.6**	**-2.5**
	comp=Z,14nm,0.3s,baz=257,slow=23,SNR=9.3						
JHJ				S	**Sn**	**13 03 28.8**	**-5.9**
	comp=Z,16nm,0.3s,baz=253,slow=19,SNR=3.7						
HABR	**Khabarovsk**	**8.97**	**325**	P	**Pn**	**13 02 07.6**	**+1.1**
HABR						13 03 55.9	
MDJ	**Mudanjiang**	**10.15**	**293**	P	**Pn**	**13 02 22.2**	**-0.4**
MDJ				S	**Sn**	**13 04 14.9**	**+0.1**
MDJ				SCP	ScP	13 11 56.4	+0.1
MDJ				PCS	PcS	13 12 01.9	+0.2
MDJ				SCS	ScS	13 15 31.3	+0.4
MDJ				AMB	AMB		
	comp=Z,12nm,1.4s						
MDJ				AMB	AMB		
	comp=Z,17nm,3.8s						
MDJ	**Mudanjiang**	**10.15**	**293**	*e*Pn	**Pn**	**13 02 23.9**	**+1.3**
	comp=Z,4.2nm,0.5s						
KLR	**Kul'dur**	**11.04**	**319**	*e*P	**Pn**	**13 02 34.0**	**-0.7**
KSRS	**Korea Array**	**12.05**	**256**	P	**Pn**	**13 02 50.5**	**+1.9**
	comp=Z,0.3nm,0.3s,baz=63,slow=14,SNR=5.4						
KSRS				S	**Sn**	**13 05 08.9**	**+7.4**
	comp=Z,0.8nm,0.3s,baz=68,slow=24,SNR=8.9						
CN2	**Changchun**	**12.95**	**287**	*e*P	**Pn**	**13 03 01.1**	**+0.2**
CN2				AMB	AMB		

GYA			XS	sS	13 12 10.6	+2.1
GYA			SCP	ScP	13 12 54.4	+1.4
GYA			SCS	ScS	13 16 53.2	-0.4
GYA			AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.8					
GYA			AMB	AMB		
	comp=Z,70nm,4.6s					
GYA			LR	LR		
	comp=N,470nm,17.8s,MS4.3					
GYA			LR	LR		
	comp=E,360nm,18.6s,MS4.3					
GYA			LR	LR		
	comp=Z,490nm,18.9s,MS4.2					
KMI	**Kunming**	**36.75 257**	P	**P**	**13 07 05.1**	**+2.8**
KMI			AMB	AMB		
	comp=Z,6.0nm,0.5s,mb4.7					
ZAA0	**Zalesovo Array**	**39.88 309**	*e*P	**P**	**13 07 27.3**	**-0.9**
ZAA0			*e*	pP	13 07 44.6	+3.0
ZALV	**Zalesovo Beam**	**39.88 309**	P	**P**	**13 07 27.4**	**-0.8**
	comp=Z,3.9nm,0.7s,mb4.2,baz=88,slow=7.4,SNR=14					
ZALV			pP	pP	13 07 43.8	+2.2
	comp=Z,4.6nm,0.6s,baz=91,slow=7.6,SNR=7.5					
ZAL	**Zalesovo**	**39.90 309**	P	**P**	**13 07 27.4**	**-0.9**
ZAL			*PP	pP	13 07 43.8	+2.1
WMQ	**Urumqi**	**39.95 293**	*e*P	**P**	**13 07 29.2**	**+0.3**
WMQ			AMB	AMB		
	comp=Z,9.0nm,0.7s,mb4.6					
WMQ			AMB	AMB		
	comp=Z,86nm,5.0s					
WMQ			LR	LR		
	comp=Z,108nm,17.7s,MS3.7					
NVS	**Novosibirsk**	**40.71 310**	*e*P	**P**	**13 07 34.5**	**-0.6**
IMA2	**Indian Mountai**	**42.53 33**	*e*P	**P**	**13 07 50.6**	**+0.9**
MKAR	**Makanchi Array**	**42.81 298**	P	**P**	**13 07 51.7**	**-0.7**
MKAR	**Makanchi Array**	**42.81 298**	P	**P**	**13 07 51.7**	**-0.6**
MKAR			pmax	pmax		
	comp=Z,3.0nm,0.7s					
MKAR	**Makanchi Array**	**42.81 298**	P	**P**	**13 07 51.7**	**-0.7**
	comp=Z,3.1nm,0.7s,mb4.1,baz=85,slow=9.2,SNR=25					
KDAK	**Kodiak Island**	**43.31 45**	P	**P**	**13 07 55.6**	**-0.6**
	comp=Z,8.5nm,0.9s,mb4.5,baz=284,slow=8.3,SNR=4.0					
KURK	**Kurchatov**	**44.18 305**	*e*P	**P**	**13 08 02.1**	**-1.2**
	comp=Z,8.1nm,0.9s,mb4.5					
KURK			*e*	pP	13 08 17.6	+0.8
KURK	**Kurchatov**	**44.18 305**	*e*P	**P**	**13 08 02.1**	**-1.2**
KURK			*e*	pP	13 08 17.6	+0.8
KURK			pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.5					
COLA	**College**	**44.97 34**	*e*P	**P**	**13 08 11.2**	**+1.9**
	comp=Z,11nm,1.1s,mb4.6					
COLA	**College**	**44.97 34**	*e*P	**P**	**13 08 11.2**	**+1.9**
COLA			pmax	pmax		
	comp=Z,11nm,1.1s,mb4.6					
EGAK	**Eagle**	**47.82 34**	*e*P	**P**	**13 08 32.1**	**+0.4**
	comp=Z,7.9nm,1.2s,mb4.6					
BVAR	**Borovoye Array**	**48.51 310**	P	**P**	**13 08 36.9**	**-0.3**
BVAR			pmax	pmax		
	comp=Z,2.0nm,0.5s					
BVAR	**Borovoye Array**	**48.51 310**	P	**P**	**13 08 36.9**	**-0.3**
	comp=Z,2.2nm,0.5s,mb4.5,baz=73,slow=7.9,SNR=9.0					
TKM2	**Tokmak 2**	**48.57 296**	*e*P	**P**	**13 08 37.8**	**-0.1**
	comp=Z,9.1nm,0.4s,mb5.2					
TKM2	**Tokmak 2**	**48.57 296**	*e*P	**P**	**13 08 37.8**	**0.0**
TKM2			pmax	pmax		
	comp=Z,9.0nm,0.4s,mb5.2					
EKS2	**Erkin-Say**	**49.91 296**	*e*P	**P**	**13 08 50.7**	**+2.7**
	comp=Z,3.2nm,0.6s,mb4.5					
INK	**Inuvik**	**50.15 29**	*e*P	**P**	**13 08 50.5**	**+1.0**
	comp=Z,223nm,0.8s					
INK	**Inuvik**	**50.15 29**	P	**P**	**13 08 50.8**	**+1.3**
	comp=Z,7.5nm,0.6s,mb4.9,baz=301,slow=6.5,SNR=95					
AML	**Almayashu**	**50.17 295**	*e*P	**P**	**13 08 53.5**	**+3.5**
	comp=Z,3.8nm,0.4s,mb4.8					
ARU	**Arti**	**53.86 317**	*c i*P	**P**	**13 09 15.7**	**-1.5**
ARU			*e*		13 10 16.4	
ARU			*e*		13 11 16.9	
ARU			*e*S	**S**	**13 16 54.2**	**+5.9**
ARU			pmax	pmax		
	comp=Z,6.0nm,1.5s,mb4.3					
RES	**Resolute Bay**	**58.22 15**	*e*P	**P**	**13 09 48.2**	**+0.2**
	comp=Z,95nm,0.6s					
YKA	**Yellowknife Ar**	**59.63 32**	P	**P**	**13 09 59.5**	**+1.4**
YKA	**Yellowknife Ar**	**59.63 32**	*i* P	**P**	**13 10 02.2**	**+4.2**
YKA			pmax	pmax		
	comp=Z,1.0nm,0.5s					
YKA	**Yellowknife Ar**	**59.63 32**	P	**P**	**13 09 59.5**	**+1.4**
	comp=Z,0.7nm,0.5s,mb3.9,baz=305,slow=7.2,SNR=15					
WRA	**Warramunga Arr**	**61.43 189**	P	**P**	**13 10 09.7**	**-1.0**
WRA			*PP	pP	13 10 26.2	+1.4
WRA			pmax	pmax		
	comp=Z,1.0nm,0.8s					
WRA			pmax	pmax		
	comp=N,2.0nm,0.8s					
WRA	**Warramunga Arr**	**61.43 189**	P	**P**	**13 10 09.7**	**-1.1**
	comp=N,0.6nm,0.8s,mb3.8,baz=7.2,slow=6.9,SNR=5.5					
WRA			pP	pP	13 10 26.2	+1.4
	comp=N,1.6nm,0.8s,baz=7.1,slow=6.9,SNR=7.0					
ASAR	**Alice Springs**	**65.16 189**	P	**P**	**13 10 37.0**	**+1.7**
ASAR			*PP	pP	13 10 52.4	+2.9
ASAR			pmax	pmax		
	comp=N,2.0nm,0.8s					
ASAR	**Alice Springs**	**65.16 189**	P	**P**	**13 10 37.0**	**+1.6**
	comp=N,0.2nm,0.3s,mb3.6,baz=22,slow=7.1,SNR=4.3					
ASAR			pP	pP	13 10 52.4	+2.9
	comp=N,1.6nm,0.8s,baz=15,slow=7.1,SNR=8.4					
FINES	**FINESS Array B**	**65.50 332**	P	**P**	**13 10 36.5**	**-0.7**
FINES			pmax	pmax		
	comp=Z,1.0nm,0.5s					
FINES	**FINESS Array B**	**65.50 332**	P	**P**	**13 10 36.5**	**-0.7**
	comp=Z,0.9nm,0.5s,mb4.1,baz=61,slow=9.0,SNR=7.4					
HFS	**Hagfors**	**70.60 336**	P	**P**	**13 11 08.7**	**-0.5**
HFS			pmax	pmax		
	comp=Z,1.0nm,0.5s					
HFS	**Hagfors**	**70.60 336**	P	**P**	**13 11 08.7**	**-0.4**
	comp=Z,0.9nm,0.5s,mb4.0,baz=38,slow=7.5,SNR=6.1					
NOA	**NORSAR Array B**	**70.62 337**	P	**P**	**13 11 08.4**	**-0.9**
NOA			pmax	pmax		
	comp=Z,1.0nm,0.6s					
NOA	**NORSAR Array B**	**70.62 337**	P	**P**	**13 11 08.4**	**-0.9**
	comp=Z,0.5nm,0.6s,mb3.6,baz=37,slow=6.0,SNR=2.8					
AKASG	**Malin Array Be**	**71.53 322**	P	**P**	**13 11 13.0**	**-1.9**
AKASG			pmax	pmax		
	comp=Z,1.0nm,0.5s					
AKASG	**Malin Array Be**	**71.53 322**	P	**P**	**13 11 13.0**	**-1.9**
	comp=Z,0.9nm,0.5s,mb4.0,baz=43,slow=7.2,SNR=4.6					
PDAR	**Pinedale Array**	**73.99 47**	P	**P**	**13 11 31.0**	**+1.2**
	comp=Z,0.3nm,0.7s,mb3.4,baz=247,slow=3.4,SNR=3.3					
TXAR	**Lajitas Array**	**86.75 53**	P	**P**	**13 12 39.6**	**+1.2**
	comp=Z,0.3nm,0.5s,mb3.8,baz=298,slow=3.5,SNR=5.0					

*IDC **12** 13:01:13.5±1.2,322N×12803E,h0km,mb3.8/7,mb1 4.0/7, mb1mx3.8/19,mbtmp3.8/7,Error ellipse: s-maj=90.7km s-min=15.9km az=71.0*

*ISCJB **12** 13:01:21.0±5.4,33N±02×1282E±06,h79km±45km, mb3.7/7,Error ellipse: s-maj=101.2km s-min=17.0km az=158.4*

ISC 12 13:01:20.8±6.2,33N±03×1284E±06,h61km±54km,n13, σ0.67/10,mb3.7/7,1D,North of Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNE	**Ternate**		**2.70 202**	‖*e*P	**Pn**	**13 02 02.0**	**+0.1**
FITZ	**Fitzroy Crossi**		**21.44 187**	P	**P**	**13 06 03.7**	**-0.4**
	0.8nm,0.5s,mb3.3,baz=10,slow=6.6,SNR=2.5						
WRA	**Warramunga Arr**		**23.82 166**	P	**P**	**13 06 28.8**	**+0.4**
	2.7nm,0.4s,mb4.0,baz=341,slow=10,SNR=62						
WB2	**Warramunga Arr**		**23.83 166**	*e*P	**P**	**13 06 28.4**	**0.0**
ASAR	**Alice Springs**		**27.34 169**	P	**P**	**13 07 00.1**	**-0.1**
	0.5nm,0.4s,mb3.4,baz=351,slow=8.6,SNR=12						
STKA	**Stephens Creek**		**37.17 161**	*e*P	**P**	**13 08 26.0**	**0.0**
	2.0nm,0.3s,mb4.4						
STKA	**Stephens Creek**		**37.17 161**	P	**P**	**13 08 25.8**	**-0.2**
	2.9nm,0.4s,mb4.5,baz=346,slow=7.6,SNR=25						
SONM	**Songino Array**		**48.24 340**	P	**P**	**13 09 55.0**	**-0.5**
	0.4nm,0.7s,mb3.6,baz=166,slow=7.4,SNR=3.2						
MKAR	**Makanchi Array**		**58.86 325**	P	**P**	**13 11 12.3**	**-1.0**
	0.4nm,0.4s,mb3.8,baz=124,slow=7.8,SNR=3.1						
BVAR	**Borovoye Array**		**68.58 327**	P	**P**	**13 12 18.8**	**+1.6**
	0.5nm,0.6s,mb3.6,baz=136,slow=9.1,SNR=4.2						
VNA2	**Neumayer--Watz**		**106.81 194**	*e*PKPdf	PKiKP	13 19 39.8	+0.9
VNA2				*e*		13 19 44.5	
VNA2				*e*		13 19 55.9	
VNA3	**Neumayer Olymp**		**107.12 193**	*e*PKPdf	PKiKP	13 19 40.7	+1.2
VNA3				*e*		13 19 45.1	
VNA3				*e*		13 19 56.1	
VNA1	**Neumayer--Stat**		**107.21 194**	*e*PKPdf		13 19 55.6	

*PGC **12** 13:17:04.0±0.3,63.15N×144.45W,h1km,ML3.3/3,245km Ese of Fairbanks, Ak Central Alaska*

NEIC 12 13:17:03.4,6314N×14431W,h1km,ML3.5(PMR), ML2.9(AEIC),After AEIC.,Central Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MENT	**Mentasta**		**0.34 127**	P	Pg	13 17 09.8	0.0
DOT	**Dot Lake**		**0.52 12**	P	Pg	13 17 13.9	+0.6
DOT				S	Sg	13 17 20.3	+0.2
PAX	**Paxson**		**0.56 253**	P	Pg	13 17 13.8	-0.3
PAX				S	Sg	13 17 20.9	-0.3
BCA3	**Beaver Creek A**		**1.15 93**	P	Pg	13 17 24.6	-0.8
BCA3				S	Sg	13 17 41.9	+1.7
IL1	**Eielson Array**		**1.99 326**	P	Pn	13 17 36.8	-1.4
EGAK	**Eagle**		**2.15 39**	P	Pn	13 17 40.0	-0.3
MCK	**McKinley**		**2.16 288**	P	Pn	13 17 41.7	+1.2
SML	**Sawmill**		**2.30 236**	P	Pn	13 17 42.6	+0.3
COLA	**College**		**2.34 320**	P	Pn	13 17 41.4	-1.5
DAWY	**Dawson**		**2.38 65**	P	Pn	13 17 43.2	-0.3
DAWY	**Dawson**		**2.38 65**	Pn	Pn	13 17 43.2	-0.3
DAWY				Pg	Pg	13 17 47.6	-1.4
DAWY				Sg	Sg	13 18 19.1	-0.8
GHO	**Glory Hole Cre**		**2.55 239**	P	Pn	13 17 47.1	+1.3
EYAK	**Cordova Ski Ar**		**2.69 195**	P	Pn	13 17 48.1	+0.4
TRF	**Thorofare Moun**		**2.72 279**	P	Pn	13 17 49.2	+1.1
PMR	**Palmer**		**2.73 238**	P	Pn	13 17 49.0	+0.6
RAGM	**Ragged Mountai**		**2.77 184**	P	Pn	13 17 50.0	+1.2
KTH	**Kantishna Hill**		**3.01 281**	P	Pn	13 17 52.7	+0.6
SLKM	**Skilak Lake**		**3.85 229**	*e*Pn	Pn	13 18 07.0	+3.3
SLKM				*e*Sg	Sg	13 19 01.3	-5.8
HYT	**Haines Junctio**		**3.96 123**	Pn	Pn	13 18 05.8	+0.7
HYT				Pg	Pg	13 18 16.3	-2.9
HYT				Sg	Sg	13 19 09.3	-1.2
IM3	**Indian Mountai**		**4.97 309**	P	Pn	13 18 18.7	-0.3
IMA2	**Indian Mountai**		**4.99 310**	P	Pn	13 18 19.2	-0.1
WHY	**Whitehorse**		**5.10 115**	Pn	Pn	13 18 21.0	+0.1
WHY				Sg	Sg	13 19 43.7	-3.5
TTA	**Tatalina**		**5.33 273**	*e*Pn	Pn	13 18 25.1	+1.1
	5.2nm,0.4s						
TTA				*e*Sg	Sg	13 19 47.9	-6.6
TT01	**Tatalina**		**5.34 273**	P	Pn	13 18 25.6	+1.5
SVW2	**Sparrevohn**		**5.67 254**	*e*Pn	Pn	13 18 30.0	+1.3
INK	**Inuvik**		**6.82 36**	*e*Pn	Pn	13 18 43.5	-0.9
	71nm,0.4s						
INK				*e*Sg	Sg	13 20 41.5	-0.7
INK	**Inuvik**		**6.82 36**	Pn	Pn	13 18 43.8	-0.6
INK				Sn	Sn	13 19 59.1	-3.5

*ISCJB **12** 13:23:01.2±1.1,21.1S±02×168.7E±0.1,h33km,mb3.7/3, Error ellipse: s-maj=34.0km s-min=13.4km az=158.3*

*IDC **12** 13:23:06.4±4.2,20.76S×168.17E,h34km±7km,mb3.6/3, mb1 3.7/3,mb1mx3.5/13,mbtmp3.6/3,MS3.3/1,Ms1 3.3/1, ms1mx2.5/23,Error ellipse: s-maj=155.7km s-min=31.9km az=146.0*

ISC 12 13:23:03.0±1.1,212S±02×1687E±01,h35km,n9,σ0.75/7, mb3.8/3,Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**		**2.28 248**	*e*P	**Pn**	**13 23 36.9**	**-1.3**
DZM				*e*S	**Sn**	**13 24 06.0**	**+1.0**
CTA	**Charters Tower**		**21.06 269**	LR	LR	13 34 42.7	
	comp=Z,80nm,20.4s,baz=53,slow=34						
WRA	**Warramunga Arr**		**32.18 266**	P	**P**	**13 29 27.1**	**-0.7**
	0.4nm,0.8s,mb3.3,baz=101,slow=7.8,SNR=3.3						
WRA				pP	pP	13 29 36.7	-1.2
	0.9nm,0.7s,baz=95,slow=8.9,SNR=5.9						
ASAR	**Alice Springs**		**32.23 259**	P	**P**	**13 29 27.9**	**-0.2**
	0.9nm,0.7s,mb3.7,baz=81,slow=9.0,SNR=19						
ASAR				pP	pP	13 29 38.4	+0.1
	4.3nm,0.7s,baz=84,slow=9.1,SNR=27						
FITZ	**Fitzroy Crossi**		**40.60 267**	pP	pP	13 30 50.1	+0.1
	4.8nm,0.7s,baz=134,slow=11,SNR=5.8						
VNA3	**Neumayer Olymp**		**87.77 181**	*e*	**P**	**13 35 48.2**	**+0.2**
VNA3				*e*		13 35 53.0	
VNA2	**Neumayer--Watz**		**88.06 181**	*e*	**P**	**13 35 49.5**	**+0.2**
	baz=159,slow=1.0						
VNA2				*e*		13 35 54.6	
SONM	**Songino Array**		**88.52 323**	P	**P**	**13 35 52.6**	**+0.9**
	1.0nm,0.8s,mb4.2,baz=144,slow=5.8,SNR=5.7						
GERES	**GERESS Array B**		**145.99 330**	PKPbc	PKPbc	13 42 39.7	+0.9
	0.7nm,0.3s,baz=40,slow=2.3,SNR=10.0						
GERES				pPKPbc	pPKPbc	13 42 50.5	+0.3
	2.3nm,0.7s,baz=29,slow=3.0,SNR=4.4						

*NIED **12** 13:50:00,3820N×141.20E,h8km,Mw4.2 Best double couple: M0 1.99000×10^15 NP1:φ=17.00000°,δ52.00000°, λ101.00000°. NP2:φ=180.00000°,δ39.00000°,λ77.00000°.*

*ISCJB **12** 13:50:25.7±0.5,38.18N±003×141.18E±005,h22km±3km, mb4.1/21,Error ellipse: s-maj=6.7km s-min=4.2km az=34.1*

*JMA **12** 13:50:26.1,3820N×141.15E,h12km±1km,M4.5 Broadband fault plane solution: P waves. NP1: φ=228.00000°,δ29.00000°,λ134.00000°. NP2:φ=0.00000°, δ70.00000°,λ69.00000°. Principal axes: T Plg60.0000°, Azm240.0000°; N Plg19.0000°, Azm8.0000°; P Plg22.0000°, Azm106.0000°;*

JMA Felt III J1.

*IDC **12** 13:50:29.7±3.0,38.17N×141.09E,h37km±25km,mb3.8/14, mb1 4.0/18,mb1mx3.9/26,mbtmp3.9/18,ML3.9/4,MS2.9/1, Ms1 2.9/1,ms1mx2.5/30 Error ellipse: s-maj=20.7km s-min=14.2km az=91.0*

*MOS **12** 13:50:29.1±1.3,38.27N×141.02E,h44km,mb4.3/15,Error ellipse: s-maj=14.0km s-min=7.4km az=87.7*

*NEIC **12** 13:50:30.8±1.4,38.20N×141.10E,h49km±13km,mb4.5/5, MW4.1(NIED),Error ellipse: s-maj=13.2km s-min=10.4km az=81.0*

NEIC Recorded [3 JMA] in Miyagi, [2 JMA] in Fukushima and [1 JMA] in Ibaraki, Iwate, Tochigi and Yamagata Prefectures.

ISC 12 13:50:26.0±0.6,3818N±003×14115E±004,h10km±3km, n70,σ1.04/79,mb4.1/21,8C-4D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	**Ouri**		**0.32 29**	⇑P	**Pg**	**13 50 32.2**	**-0.1**
JIO				S	**Sg**	**13 50 36.7**	**+0.1**
JMM	**Marumori**		**0.42 223**	⇑P	**Pg**	**13 50 34.5**	**+0.3**
JMM				S	**Sg**	**13 50 40.5**	**+0.7**
JOU	**Okura**		**0.43 296**	⇓P	**Pg**	**13 50 34.6**	**+0.2**
JOU				S	**Sg**	**13 50 40.3**	**+0.2**
JMK	**Ichinoseki**		**0.78 4**	⇑P	**Pg**	**13 50 40.0**	**-1.0**
JFK	**Kawauchi**		**0.84 195**	⇑P	**Pg**	**13 50 41.8**	**-0.3**
JYS	**Shirataka**		**0.86 273**	⇓P	**Pg**	**13 50 42.1**	**-0.4**
JYS				S	**Sg**	**13 50 53.4**	**-0.3**
MAJO	**Matsushiro**		**2.86 236**	*e*Pn	**Pn**	**13 51 13.6**	**+1.9**
MAT	**Matsushiro**		**2.86 236**	P	**Pn**	**13 51 13.5**	**+1.8**
MAT				S	**Sn**	**13 51 45.1**	**-1.0**
MJAR	**Matsushiro Arr**		**2.86 236**	P	**Pn**	**13 51 13.5**	**+1.8**
MJAR						13 51 55.9	
MJAR				pmax	pmax		
	comp=Z,3.0nm,0.3s						
MJAR				smax			
	comp=N,15nm,0.3s						
MJAR	**Matsushiro Arr**		**2.86 236**	Pn	**Pn**	**13 51 13.5**	**+1.9**
	comp=N,3.0nm,0.3s,baz=38,slow=13,SNR=57						
MJAR				Sn	**Sg**	**13 51 55.9**	**-1.9**
	comp=N,15nm,0.3s,baz=354,slow=2.5,SNR=7.1						
ERM	**Erimo**		**4.13 21**	*e*P	**Pn**	**13 51 29.7**	**+0.5**
JHJ	**Hachijo jima 2**		**5.17 193**	Pn	**Pn**	**13 51 43.4**	**0.0**
	comp=N,39nm,0.3s,baz=82,slow=19,SNR=14						
JHJ				Sn	**Sn**	**13 52 43.2**	**+0.1**
	comp=N,43nm,0.3s,baz=70,slow=23,SNR=5.7						
ASAJ	**Asahikawa**		**6.03 10**	P	**Pn**	**13 51 55.8**	**+0.5**
ASAJ						13 53 14.9	
ASAJ				pmax	pmax		
	comp=Z,3.0nm,0.3s						
ASAJ				smax			
	comp=N,1.0nm,0.3s						
ASAJ	**Asahikawa**		**6.03 10**	Pn	**Pn**	**13 51 55.8**	**+0.4**
	comp=N,3.1nm,0.3s,baz=225,slow=9.8,SNR=33						
ASAJ				Sn	**Sn**	**13 53 14.8**	**+10**
	comp=N,0.9nm,0.3s,baz=164,slow=32,SNR=7.1						
YSS	**Yuzh-Sakhalins**		**8.85 7**	⇑*e*P	**Pn**	**13 52 35.9**	**+2.0**
YSS				pmax	pmax		
	comp=Z,10.0nm,1.5s						
KSRS	**Korea Array**		**10.49 270**	Pn	**Pn**	**13 53 00.5**	**+4.0**
	comp=Z,1.1nm,0.3s,baz=78,slow=14,SNR=15						
KSRS				Sn	**Sn**	**13 54 55.9**	**+1.8**
	comp=Z,0.2nm,0.3s,baz=74,slow=23,SNR=3.7						
KSRS				LR	LR	13 56 24.8	
	comp=Z,75nm,21.3s,baz=100,slow=34						
CBIJ	**Chichi jima**		**11.08 175**	Pn	**Pn**	**13 53 04.5**	**-0.2**
	comp=Z,3.8nm,0.3s,baz=267,slow=19,SNR=5.5						
CBIJ				Sn	**Sn**	**13 55 01.8**	**-6.8**
	comp=Z,5.0nm,0.3s,baz=278,slow=19,SNR=4.5						
HABR	**Khabarovsk**		**11.21 339**	*e*P	**Pn**	**13 53 00.9**	**-5.3**
HABR				*e*		13 55 03.7	
KLR	**Kul'dur**		**12.96 331**	*e*P	**Pn**	**13 53 32.4**	**+2.2**
KLR				MLR	MLR		
	comp=Z,2μm,13.0s						
MA2	**Magadan**		**22.29 13**	*e*P	**P**	**13 55 23.0**	**-0.1**
MA2				pmax	pmax		
	comp=Z,10.0nm,1.3s,mb4.1						
YAK	**Yakutsk**		**24.91 347**	*e*P	**P**	**13 55 48.0**	**-0.9**
	comp=Z,12nm,1.0s,mb4.4						
YAK	**Yakutsk**		**24.91 347**	*e*P	**P**	**13 55 48.0**	**-0.9**
YAK				pmax	pmax		
	comp=Z,12nm,1.0s,mb4.4						
SEY	**Seymchan**		**25.71 12**	⇑*e*P	**P**	**13 55 55.9**	**-0.3**
BOD	**Bodaibo**		**26.46 327**	*e*P	**P**	**13 55 57.8**	**-5.2**
BOD				pmax	pmax		
	comp=Z,2.0nm,1.2s,mb3.5						
ULN	**Ulaanbaatar**		**26.55 302**	*e*P	**P**	**13 56 02.3**	**-1.6**
SONM	**Songino Array**		**26.99 302**	P	**P**	**13 56 08.2**	**+0.3**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.5s						
SONM	**Songino Array**		**26.99 302**	P	**P**	**13 56 08.2**	**+0.3**
	comp=Z,0.8nm,0.5s,mb3.5,baz=94,slow=9.3,SNR=6.2						
BILL	**Bilibino**		**32.99 17**	‖*e*P	**P**	**13 57 02.7**	**+1.9**
BILL				*e*S	**S**	**14 02 12.4**	**-6.4**
BILL				pmax	pmax		
	comp=Z,2.0nm,1.2s,mb3.9						
BILL				MLR	MLR		
	comp=Z,100nm,15.0s						
ZALV	**Zalesovo Beam**		**41.00 311**	P	**P**	**13 58 09.4**	**+0.5**
	comp=Z,1.0nm,0.5s,mb3.7,baz=90,slow=7.7,SNR=5.5						
ZALV				PcP	PcP	14 00 08.0	-0.9
	comp=Z,0.6nm,0.5s,baz=97,slow=3.2,SNR=3.6						
ZAL	**Zalesovo**		**41.01 311**	P	**P**	**13 58 09.5**	**+0.4**
ZAL						14 00 08.0	
KURK	**Kurchatov**		**45.07 307**	*e*P	**P**	**13 58 40.6**	**-1.4**
	comp=Z,3.8nm,0.6s,mb4.4						
KURK	**Kurchatov**		**45.07 307**	⇑*e*P	**P**	**13 58 39.5**	**-2.5**
KURK	**Kurchatov**		**45.07 307**	*e*P	**P**	**13 58 40.6**	**-1.4**
KURK				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.4						
TKM2	**Tokmak 2**		**48.91 297**	*e*P	**P**	**13 59 11.6**	**-0.5**
	comp=Z,3.0nm,0.6s,mb4.5						
TKM2	**Tokmak 2**		**48.91 297**	*e*P	**P**	**13 59 11.6**	**-0.5**
TKM2				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.5						
INK	**Inuvik**		**53.47 27**	*e*P	**P**	**13 59 45.8**	**-0.1**
	comp=Z,36nm,0.5s						
INK	**Inuvik**		**53.47 27**	P	**P**	**13 59 46.2**	**+0.3**
INK				pmax	pmax		
	comp=Z,1.0nm,0.4s						
INK	**Inuvik**		**53.47 27**	P	**P**	**13 59 46.2**	**+0.2**
	comp=Z,0.8nm,0.4s,mb4.0,baz=288,slow=8.0,SNR=15						
ARU	**Arti**		**55.37 318**	*e*P	**P**	**13 59 58.6**	**-1.3**
	comp=Z,3.7nm,0.6s,mb4.6						
ARU	**Arti**		**55.37 318**	*d i*P	**P**	**13 59 58.5**	**-1.4**
ARU				*e*		14 02 01.4	
ARU				*e*S	**S**	**14 07 39.7**	**-4.4**
ARU				*e*SS	SS	14 11 22.5	-5.5
ARU				pmax	pmax		
	comp=Z,12nm,1.7s,mb4.7						
AKTK	**Aktyubinsk**		**57.76 311**	P	**P**	**14 00 16.6**	**-0.4**
AKTO	**Aktyubinsk**		**57.76 311**	P	**P**	**14 00 16.6**	**-0.4**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.3s,mb4.3						
AKTO	**Aktyubinsk**		**57.76 311**	P	**P**	**14 00 16.6**	**-0.4**
	comp=Z,0.5nm,0.3s,mb4.0,baz=63,slow=8.3,SNR=5.1						
WRA	**Warramunga Arr**		**58.16 188**	*i* P	**P**	**14 00 19.3**	**-0.8**
WRA				pmax	pmax		
	comp=Z,4.0nm,0.8s						
WRA	**Warramunga Arr**		**58.16 188**	P	**P**	**14 00 19.4**	**-0.6**
	comp=Z,3.5nm,0.8s,mb4.4,baz=5.6,slow=7.2,SNR=35						
RES	**Resolute Bay**		**61.55 15**	*e*P	**P**	**14 00 41.7**	**-1.1**
	comp=Z,85nm,0.9s						
ASAR	**Alice Springs**		**61.89 188**	P	**P**	**14 00 45.4**	**-0.2**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ASAR	**Alice Springs**		**61.89 188**	P	**P**	**14 00 45.4**	**-0.2**
	comp=Z,1.1nm,0.8s,mb4.0,baz=352,slow=3.8,SNR=11						
ARCES	**ARCESS Array B**		**62.86 339**	P	**P**	**14 00 51.2**	**-0.4**
ARCES	**ARCESS Array B**		**62.86 339**	P	**P**	**14 00 51.2**	**-0.4**
ARCES				pmax	pmax		
	comp=Z,3.0nm,1.0s						
ARCES	**ARCESS Array B**		**62.86 339**	P	**P**	**14 00 51.2**	**-0.4**
	comp=Z,3.4nm,1.0s,mb4.4,baz=63,slow=8.5,SNR=6.8						
YKA	**Yellowknife Ar**		**62.93 30**	P	**P**	**14 00 51.3**	**-0.9**
YKA	**Yellowknife Ar**		**62.93 30**	*i* P	**P**	**14 00 51.2**	**

*ISCJB **12** 14:32:48.7±0.5,3854N±003×2158E±004,h14km±5km, Error ellipse: s-maj=5.7km s-min=4.7km az=140.3*
*NEIC **12** 14:32:48.8,3862N×2148E,h24km,MD3.4(ATH),After ATH.*
*ATH **12** 14:32:48.8,3862N×2148E,h24km±3km,MD3.4/3*
*CSEM **12** 14:32:49.7±0.1,3854N×2158E,h8km,ML3.2,Error ellipse: s-maj=2.6km s-min=2.3km az=110.0*
*THE **12** 14:32:49.6,3854N×2160E,h3km,ML3.2*
ISC 12 14:32:49.6±0.5,3856N±003×2159E±004,h13km±7km,n12,σ0§98/18,Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SELA	**Sela**	**0.37**	**140**	*e*Pg	**Pg**	**14 32 56.0**	**-1.1**
SELA				*e*Sg	**Sg**	**14 33 02.0**	**-0.1**
EVR	**Evrytania**	**0.39**	**26**	*e*PB	**Pg**	**14 32 56.8**	**-0.7**
EVR				*e*SB	**Sg**	**14 33 03.5**	**+0.8**
RLS	**Riolos of Patr**	**0.51**	**191**	*e*PN	**Pg**	**14 32 59.3**	**-0.4**
RLS				*e*SN	**Sg**	**14 33 08.7**	**+2.2**
AGG	**Agios Georgios**	**0.74**	**51**	*e*Pg	**Pg**	**14 33 03.5**	**-0.4**
AGG				*e*Sg	**Sg**	**14 33 14.7**	**+1.1**
LKD	**Levkas**	**0.75**	**281**	*e*Pg	**Pg**	**14 33 03.7**	**-0.4**
LKD				*e*Sg	**Sg**	**14 33 15.6**	**+1.6**
VLS	**Valsamata**	**0.88**	**244**	*e*PN	**Pg**	**14 33 04.9**	**-1.6**
VLS				*e*SN	**Sg**	**14 33 17.7**	**-0.3**
THL	**Klokotos Trika**	**1.05**	**18**	*e*PN	**Pn**	**14 33 08.8**	**-1.2**
LKR	**Lokris**	**1.11**	**85**	*e*PN	**Pn**	**14 33 12.2**	**+1.5**
LTK	**Loutraki**	**1.21**	**116**	*e*Pg	**Pg**	**14 33 12.2**	**-0.6**
MEV	**Metsovon**	**1.25**	**347**	*e*Pg	**Pg**	**14 33 13.8**	**+0.1**
ITM	**Ithomi**	**1.41**	**169**	*e*PN	**Pn**	**14 33 15.5**	**+0.6**
LIT	**Litokhoron**	**1.69**	**24**	*e*Pb	**Pb**	**14 33 20.0**	**-0.4**

*ISCJB **12** 14:49:21.9±0.4, 137S±006×1288E±01,h10km,mb4.2/15, MS3.2/2,Error ellipse: s-maj=16.1km s-min=5.7km az=155.0*
*NEIC **12** 14:49:24.4±7.8, 137S×12883E,h13km±49km,mb4.4/11, Error ellipse: s-maj=19.3km s-min=10.5km az=60.0*
*IDC **12** 14:49:28.1±4.2,143S×12863E,h34km±32km,mb3.7/5, mb1 3.9/7,mb1mx3.7/16,mbtmp3.7/7,ML3.9/2,MS3.0/3, Ms1 3.0/3,ms1mx2.7/26,Error ellipse: s-maj=115.0km s-min=15.3km az=72.0*
ISC 12 14:49:23.7±3.1,137S±006×1288E±01,h10km±19km,n31, σ1§16/35,mb4.2/15,MS3.2/2,1C-1D,Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNE	**Ternate**	**2.58**	**326**	⇓*e*P	**Pn**	**14 50 03.5**	**-2.0**
TNE	**Ternate**	**2.58**	**326**	⇑*e*P	**Pn**	**14 50 05.0**	**-0.5**
TNE				*e*S	**Sn**	**14 50 36.2**	**-0.8**
BATI	**Kupang**	**10.16**	**210**	LR	LR	14 55 19.2	
	comp=Z,23nm,18.6s,baz=150,slow=35						
KAKA	**Kakadu**	**11.83**	**162**	*e*P	**Pn**	**14 52 12.6**	**-0.1**
	11nm,0.6s						
KAKA	**Kakadu**	**11.83**	**162**	*e*Pn	**Pn**	**14 52 11.4**	**-1.3**
	20nm,0.6s						
KAKA				*e*Sn	**Sn**	**14 54 12.4**	**-13**
FITZ	**Fitzroy Crossi**	**16.92**	**190**	*e*P	**Pn**	**14 53 22.2**	**+1.4**
	3.2nm,0.4s						
FITZ	**Fitzroy Crossi**	**16.92**	**190**	Pn	**Pn**	**14 53 22.3**	**+1.5**
	0.2nm,0.3s,baz=24,slow=14,SNR=4.3						
KSM	**Kuching**	**18.71**	**279**	*e*P	**Pn**	**14 53 43.8**	**+0.8**
WRAB	**Tennant Creek**	**19.23**	**164**	*e*P	**Pn**	**14 53 48.2**	**-1.1**
	5.5nm,0.6s						
WRAB				*e*S	**Sn**	**14 57 08.8**	**-16**
WRA	**Warramunga Arr**	**19.24**	**164**	P	**Pn**	**14 53 48.4**	**-0.9**
	0.6nm,0.3s,baz=349,slow=12,SNR=43						
WRA				S	**Sn**	**14 57 13.5**	**-12**
	0.3nm,0.3s,baz=348,slow=20,SNR=6.6						
WB2	**Warramunga Arr**	**19.24**	**164**	*e*P	**Pn**	**14 53 48.5**	**-0.9**
WB2				*e*S	**Sn**	**14 57 14.2**	**-11**
MBWA	**Marble Bar**	**21.57**	**204**	*e*P	**P**	**14 54 13.6**	**-0.1**
	16nm,1.2s,mb4.3						
ASAR	**Alice Springs**	**22.71**	**168**	P	**P**	**14 54 26.6**	**+0.8**
	3.9nm,0.8s,mb3.9,baz=348,slow=11,SNR=33						
ASAR				PcP	PcP	14 58 19.2	+1.0
	0.8nm,0.8s,baz=336,slow=2.0,SNR=4.8						
ASAR				S	**S**	**14 58 33.5**	**-1.3**
	2.9nm,1.0s,baz=349,slow=23,SNR=9.2						
CTAO	**Charters Tower**	**25.25**	**139**	P	**P**	**14 54 49.1**	**-1.1**
HNR	**Honiara**	**32.00**	**106**	P	**P**	**14 55 51.7**	**+1.1**
STKA	**Stephens Creek**	**32.66**	**160**	P	**P**	**14 55 56.9**	**+0.7**
	1.7nm,0.8s,mb4.1,baz=321,slow=11,SNR=4.1						
STKA				LR	LR	15 10 12.3	
	comp=Z,55nm,19.6s,MS3.3,baz=27,slow=38						
KSRS	**Korea Array**	**38.63**	**359**	LR	LR	15 12 58.5	
	comp=Z,24nm,18.5s,MS3.0,baz=164,slow=36						
MAJO	**Matsushiro**	**38.72**	**12**	P	**P**	**14 56 47.7**	**-0.3**
	14nm,1.7s,mb4.4						
ULN	**Ulaanbaatar**	**52.57**	**342**	P	**P**	**14 58 39.8**	**+2.3**
	2.2nm,1.0s,mb4.0						
ULN				*e*		14 58 47.0	
TLY	**Talaya**	**56.98**	**342**	P	**P**	**14 59 12.4**	**+2.9**
	2.8nm,0.6s,mb4.5						
MK31	**Makanchi Array**	**62.90**	**326**	*e*P	**P**	**14 59 48.9**	**-1.3**
MKAR	**Makanchi Array**	**62.90**	**326**	P	**P**	**14 59 49.7**	**-0.5**
MKAR	**Makanchi Array**	**62.90**	**326**	P	**P**	**14 59 49.7**	**-0.5**
	1.2nm,0.7s,mb4.1,baz=122,slow=8.1,SNR=6.4						
TKM2	**Tokmak 2**	**64.93**	**319**	P	**P**	**15 00 05.1**	**+1.5**
	1.5nm,0.6s,mb4.2						
UCH	**Uchtor**	**65.32**	**318**	*e*P	**P**	**15 00 05.8**	**-0.4**
	1.6nm,0.6s,mb4.2						
ZALV	**Zalesovo Beam**	**66.04**	**333**	P	**P**	**15 00 11.6**	**+1.0**
	0.3nm,0.4s,mb3.7,baz=129,slow=4.7,SNR=3.8						
CASY	**Casey**	**66.06**	**188**	P	**P**	**15 00 09.6**	**-0.9**
	15nm,1.0s,mb5.0						
KURK	**Kurchatov**	**67.13**	**328**	*e*P	**P**	**15 00 15.6**	**-2.0**
	3.0nm,0.7s,mb4.4						
BRVK	**Borovoye**	**72.77**	**327**	*e*P	**P**	**15 00 51.7**	**-0.5**
	2.3nm,0.8s,mb4.2						
VNDA	**Vanda**	**78.15**	**173**	P	**P**	**15 01 24.1**	**+1.3**
	0.8nm,0.6s,mb3.8,baz=309,slow=5.6,SNR=7.9						
QSPA	**South Pole Qui**	**88.57**	**180**	*e*P	**P**	**15 02 17.7**	**+1.3**
	3.9nm,0.6s,mb4.9						

*ISCJB **12** 14:58:10.6±0.6, 1080N±004×62.15W±003,h103km±5km, Error ellipse: s-maj=6.3km s-min=4.7km az=0.3*
*FUNV **12** 14:58:12.7, 1085N×62.10W,h93km,MW3.5*
*TRN **12** 14:58:13.6, 1087N×6193W,h96km,MD3.0*
*NEIC **12** 14:58:13.6, 1087N×6193W,h96km,MD3.0(TRN),After TRN.*
ISC 12 14:58:11.6±0.6,1081N±004×6214W±003,h97km±6km,n29, σ1§08/49,2C-5D,Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIV	**Guiria**	**0.18**	**206**	⇑*i*P	**Pn**	**14 58 26.0**	**+0.5**
GUIV				*e*S	**Sn**	**14 58 35.4**	**-0.3**
TCE	**Chacachacare**	**0.40**	**106**	*e*P	**Pn**	**14 58 27.2**	**+0.8**
TCE				*e*S	**Sn**	**14 58 37.6**	**+0.1**
TCE	**Chacachacare**	**0.40**	**106**	*e*S	**Sn**	**14 58 37.6**	**+0.1**
TRN	**Trinidad (W)**	**0.74**	**102**	*e*P	**Pn**	**14 58 29.6**	**+0.4**
TRN				*e*S	**Sn**	**14 58 40.2**	**-2.2**
TRN	**Trinidad (W)**	**0.74**	**102**	*e*S	**Sn**	**14 58 40.2**	**-2.2**
TPP	**Pointe-a-Pierr**	**0.84**	**126**	*e*P	**Pn**	**14 58 31.8**	**+1.7**
TPP				*e*S	**Sn**	**14 58 44.4**	**+0.4**
GUNV	**Guanoco**	**1.01**	**231**	*e*P	**Pn**	**14 58 33.7**	**+1.7**
GUNV				*e*S	**Sn**	**14 58 48.4**	**+1.0**
CRUV	**Carupano**	**1.08**	**263**	⇓*i*P	**Pn**	**14 58 33.5**	**+0.8**
CRUV				*e*S	**Sn**	**14 58 49.4**	**+0.7**
TBH	**Brigand Hill**	**1.11**	**107**	*e*P	**Pn**	**14 58 33.1**	**+0.1**
TBH				*e*S	**Sn**	**14 58 47.7**	**-1.4**
TBH	**Brigand Hill**	**1.11**	**107**	*e*S	**Sn**	**14 58 47.7**	**-1.4**
ITEV	**Isla Los Testi**	**1.11**	**299**	⇓*i*P	**Pn**	**14 58 33.4**	**+0.3**
ITEV				*e*S	**Sn**	**14 58 48.9**	**-0.3**
TPR	**Prospect**	**1.39**	**74**	*e*P	**Pn**	**14 58 35.1**	**-1.3**
TPR				*e*S	**Sn**	**14 58 52.3**	**-2.9**
TPR	**Prospect**	**1.39**	**74**	*e*S	**Sn**	**14 58 52.3**	**-2.9**
GRW	**Mount Saint Ca**	**1.42**	**19**	*e*P	**Pn**	**14 58 36.8**	**0.0**
GRW				*e*S	**Sn**	**14 58 56.1**	**+0.3**
GRW	**Mount Saint Ca**	**1.42**	**19**	*e*S	**Sn**	**14 58 56.1**	**+0.3**
ORIV	**Oritupano**	**2.13**	**216**	*e*P	**Pn**	**14 58 47.4**	**+1.6**
ORIV				*e*S	**Sn**	**14 59 12.6**	**+0.6**
PCRV	**Puerto La Cruz**	**2.53**	**256**	⇓*e*P	**Pn**	**14 58 51.8**	**+0.7**
PCRV				*e*S	**Sn**	**14 59 19.9**	**-1.4**
IBAV	**Isla La Blanqu**	**2.59**	**293**	⇓*i*P	**Pn**	**14 58 52.2**	**+0.3**
IBAV				*e*S	**Sn**	**14 59 21.9**	**-0.9**
RIOV	**Rio Grande**	**2.74**	**173**	*e*P	**Pn**	**14 58 55.3**	**+1.4**
GURV	**El Guri**	**3.17**	**197**	⇑*e*P	**Pn**	**14 59 00.2**	**+0.6**
GURV				*e*S	**Sn**	**14 59 34.6**	**-1.9**
PRGV	**PARIAGUAN**	**3.20**	**231**	*e*P	**Pn**	**14 59 01.3**	**+1.3**
PRGV				*e*S	**Sn**	**14 59 36.0**	**-1.3**
CUPV	**Cępira**	**3.66**	**259**	⇓*i*P	**Pn**	**14 59 06.9**	**+0.7**
CUPV				*e*S	**Sn**	**14 59 47.1**	**-1.4**
BIRV	**Birongo**	**4.07**	**266**	*e*P	**Pn**	**14 59 12.8**	**+1.1**
MERV	**Las Mercedes**	**4.37**	**250**	*e*P	**Pn**	**14 59 15.7**	**-0.1**
MERV				*e*S	**Sn**	**15 00 03.5**	**-2.2**
LUEV	**Luepa**	**4.98**	**172**	*e*P	**Pn**	**14 59 23.8**	**-0.3**
CAOV	**Caicara del Or**	**5.38**	**230**	*e*P	**Pn**	**14 59 29.3**	**-0.3**
CAOV				*e*S	**Sn**	**15 00 26.7**	**-3.6**
TURV	**Turiamo**	**5.61**	**267**	*e*P	**Pn**	**14 59 33.2**	**+0.5**
BAUV	**El Baul**	**6.10**	**253**	*e*P	**Pn**	**14 59 38.3**	**-1.0**
BAUV				*e*S	**Sn**	**15 00 43.0**	**-4.7**
PAYV	**Puerto Ayacuch**	**7.64**	**226**	*e*P	**Pn**	**15 00 00.0**	**-0.3**
PAYV				*e*S	**Sn**	**15 01 18.7**	**-6.7**

*MOS **12** 15:13:03.9±1.2,1453S×16727E,h119km,mb5.3/27,Error ellipse: s-maj=9.1km s-min=8.0km az=104.5*
*CRAAG **12** 15:13:07.8,1462S×16742E,Mb5.2*
*LDG **12** 15:13:07.8±0.3,1454S×16765E,h150km,Mb5.2/2,Error ellipse: s-maj=61.3km s-min=14.2km az=94.0*
*ISCJB **12** 15:13:08.4±0.1,1465S±003×16725E±003,h165km, mb5.0/80,Error ellipse: s-maj=4.8km s-min=3.5km az=158.2*
*GCMT **12** 15:13:09.7±0.2,1466S×16719E,h168km±1km,MW5.2/82, Moment Tensor Solution. s61,c95; s82,c140; Duration: 1s0 Moment tensor: Scale 10^{17}Nm; M_{rr}0.76±.01; $M_{\theta\theta}$-0.13±.02; $M_{\phi\phi}$-0.62±.02; $M_{r\theta}$-0.19±.01; $M_{\phi\phi}$0.42±.02; $M_{\phi r}$-0.23±.02; Best double couple: $M_0$0.87100×10^{17} NP1:ϕ_s169.00000°,δ52.00000°,λ116.00000°. Principal axes: T 0.8650, Plg69.0000°, Azm141.0000°; N 0.0110, Plg20.0000°, Azm333.0000°; P -0.8760, Plg4.0000°, Azm241.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*IDC **12** 15:13:09.4±0.6,1466S×16730E,h161km±4km,mb4.6/20, mb1 4.7/21,mb1mx4.7/22,mbtmp4.7/21,MS4.0/4, Ms1 4.0/4,ms1mx3.5/22 Error ellipse: s-maj=11.4km s-min=10.3km az=129.0*
*NEIC **12** 15:13:09.7±0.1,1458S×16730E,mb5.1/41,Error ellipse: s-maj=6.6km s-min=5.1km az=148.0*
*BJI **12** 15:13:10.0,1405S×16725E,h160km,mB5.0,mb5.1*
ISC 12 15:13:10.1±0.1,1463S±003×16732E±003,h167km, h167km±1.3km:pP-P,n563,σ0§74/347,mb5.0/80,139C-85D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**7.44**	**186**	*e*P	**Pn**	**15 14 55.9**	**-0.2**
DZM				*e*S	**Sn**	**15 16 18.3**	**-1.3**
HNR	**Honiara**	**8.87**	**305**	⇓*i*Pn	**Pn**	**15 15 15.5**	**+0.5**
	575nm,0.8s						
HNR				*e*Sn	**Sn**	**15 16 52.9**	**-1.0**
HNR	**Honiara**	**8.87**	**305**	⇓*i*P	**Pn**	**15 15 15.5**	**+0.5**
HNR				*e*		15 16 52.9	
HNR				pmax	pmax		
	comp=Z,575nm,0.8s						
HNR	**Honiara**	**8.87**	**305**	P	**Pn**	**15 15 15.7**	**+0.7**
	comp=Z,58nm,0.3s,baz=70,slow=0.8,SNR=35						
HNR				S	**Sn**	**15 16 58.4**	**+4.5**
	comp=Z,68nm,0.3s,baz=94,slow=19,SNR=4.0						
EIDS	**Eidsvold**	**18.60**	**232**	*e*P	**P**	**15 17 16.3**	**+1.5**
	comp=Z,36nm,0.8s						
EIDS				*e*		15 17 28.9	
EIDS				*e*S	**S**	**15 20 40.4**	**+2.3**
AFI	**Afiamalu**	**20.28**	**91**	⇓*e*P	**P**	**15 17 35.8**	**+2.8**
	comp=Z,148nm,1.0s						
AFI				*e*		15 18 26.5	
AFI	**Afiamalu**	**20.28**	**91**	⇓*e*P	**P**	**15 17 35.8**	**+2.8**
AFI				pmax	pmax		
	comp=Z,148nm,1.0s						
CTA	**Charters Tower**	**20.81**	**252**	*e*P	**P**	**15 17 39.5**	**+0.8**
	comp=Z,39nm,0.8s						
CTA	**Charters Tower**	**20.81**	**252**	*e*P	**P**	**15 17 39.5**	**+0.8**
CTA				pmax	pmax		
	comp=Z,39nm,0.8s						
CTA	**Charters Tower**	**20.81**	**252**	P	**P**	**15 17 39.5**	**+0.8**
	comp=Z,56nm,0.9s,baz=80,slow=12,SNR=23						
CTAO	**Charters Tower**	**20.81**	**252**	*e*P	**P**	**15 17 39.3**	**+0.6**
	comp=Z,66nm,0.9s						
CTAO	**Charters Tower**	**20.81**	**252**	*e*P	**P**	**15 17 39.3**	**+0.6**
CTAO				pmax	pmax		
	comp=Z,67nm,0.9s						
ARMA	**Armidale**	**21.33**	**220**	*e*P	**P**	**15 17 46.2**	**+2.2**
RIV	**Riverview**	**24.07**	**215**	*e*P	**P**	**15 18 10.8**	**+0.7**
URZ	**Urewera**	**25.08**	**162**	P	**P**	**15 18 18.4**	**-0.8**
	comp=Z,8.6nm,1.0s,mb4.2,baz=4.8,slow=12,SNR=3.9						
CNB	**Canberra Magne**	**26.16**	**215**	*e*P	**P**	**15 18 29.7**	**+0.7**
	comp=Z,20nm,0.8s,mb4.8						
STKA	**Stephens Creek**	**29.09**	**229**	*e*P	**P**	**15 18 56.0**	**+0.9**
	comp=Z,42nm,0.6s,mb5.3						
STKA				*e*PCP	PcP	15 21 59.0	0.0
STKA				*e*SCS	ScS	15 29 18.5	-0.8
STKA	**Stephens Creek**	**29.09**	**229**	P	**P**	**15 18 56.2**	**+1.1**
	comp=Z,57nm,0.7s,mb5.4,baz=44,slow=7.5,SNR=162						
STKA				PcP	PcP	15 21 59.2	+0.2
	comp=Z,32nm,0.8s,baz=63,slow=2.3,SNR=11						
RPZ	**Rata Peaks**	**29.16**	**174**	P	**P**	**15 18 54.7**	**-0.8**
	comp=Z,20nm,0.8s,mb4.9,baz=127,slow=12,SNR=3.6						
WB2	**Warramunga Arr**	**31.88**	**256**	*e*P	**P**	**15 19 18.7**	**-1.1**
WB2				*e*S	**S**	**15 24 13.1**	**-5.3**
WB2				*e*		15 25 49.6	
WRAB	**Tennant Creek**	**31.88**	**256**	P	**P**	**15 19 19.0**	**-0.8**
	comp=Z,89nm,0.9s,mb5.5,SNR=5.0						
WRAB	**Tennant Creek**	**31.88**	**256**	⇑*e*P	**P**	**15 19 18.3**	**-1.5**
	comp=Z,12nm,0.8s,mb4.7						
WRAB				*e*pP	pP	15 19 53.4	-1.4
WRAB	**Tennant Creek**	**31.88**	**256**	*e*P	**P**	**15 19 17.7**	**-2.1**
WRAB				*e**PP	pP	15 19 55.4	+0.6
WRA	**Warramunga Arr**	**31.89**	**256**	P	**P**	**15 19 18.8**	**-1.1**
	comp=Z,13nm,0.8s,mb4.7,baz=86,slow=9.2,SNR=90						
WRA				pP	pP	15 19 54.0	-1.0
	comp=Z,5.4nm,0.9s,baz=85,slow=9.1,SNR=2.8						
WRA				PP	PP	15 20 34.8	-0.6
	comp=Z,14nm,1.1s,baz=81,slow=11,SNR=8.0						
WRA				PcP	PcP	15 22 06.0	-0.6
	comp=Z,7.8nm,1.0s,baz=81,slow=2.6,SNR=5.7						
WRA				S	**S**	**15 24 13.5**	**-5.1**
	comp=Z,19nm,1.3s,baz=82,slow=15,SNR=14						
RAR	**Rarotonga**	**31.95**	**107**	P	**P**	**15 19 19.6**	**-0.8**
	comp=Z,29nm,1.0s,mb5.0,baz=277,slow=11,SNR=3.4						
ASAR	**Alice Springs**	**32.75**	**249**	P	**P**	**15 19 26.4**	**-0.9**
ASAR				*PP	pP	15 20 02.2	-0.3
ASAR						15 22 08.0	
ASAR				S	**S**	**15 24 28.0**	**-3.8**
ASAR	**Alice Springs**	**32.75**	**249**	P	**P**	**15 19 26.4**	**-0.9**
	comp=Z,24nm,0.7s,mb5.0,baz=80,slow=9.1,SNR=434						
ASAR				pP	pP	15 20 02.2	-0.3
	comp=Z,8.1nm,0.9s,baz=75,slow=9.3,SNR=2.7						
ASAR				PcP	PcP	15 22 08.0	-0.9
	comp=Z,7.4nm,0.8s,baz=90,slow=2.8,SNR=9.2						
ASAR				S	**S**	**15 24 27.9**	**-3.9**
	comp=Z,6.3nm,1.1s,baz=81,slow=17,SNR=7.5						
ASAR				ScP	ScP	15 25 37.4	0.0
	comp=Z,3.4nm,1.0s,baz=90,slow=3.3,SNR=6.7						
KAKA	**Kakadu**	**33.92**	**269**	*e*P	**P**	**15 19 37.2**	**-0.4**
	comp=Z,6.6nm,0.5s,mb4.6						
KAKA				*e*		15 19 47.0	
FORT	**Forrest**	**39.38**	**239**	*e*P	**P**	**15 20 23.8**	**+0.2**
	comp=Z,100nm,0.7s,mb5.5						
FORT				*e*PCP	PcP	15 22 28.0	-0.6
FITZ	**Fitzroy Crossi**	**40.08**	**259**	*e*P	**P**	**15 20 29.5**	**0.0**
	comp=Z,47nm,0.7s,mb5.2						
FITZ				*e*pP	pP	15 21 06.0	+0.3
FITZ				*e*		15 24 58.1	
FITZ				*e*S	**S**	**15 26 19.5**	**-3.8**
FITZ	**Fitzroy Crossi**	**40.08**	**259**	P	**P**	**15 20 29.2**	**-0.3**
	comp=Z,28nm,0.8s,mb5.0,baz=114,slow=9.6						
FITZ				S	**S**	**15 26 20.2**	**-3.1**
	comp=Z,5.0nm,1.1s,baz=211,slow=23,SNR=7.8						
PAE	**Paea**	**41.45**	**100**	*e*P	**P**	**15 20 41.6**	**+0.8**
	comp=Z,54nm,0.8s,mb5.2						
PAE	**Paea**	**41.45**	**100**	*e*P	**P**	**15 20 41.6**	**+0.8**
PAE				pmax	pmax		
	comp=Z,54nm,0.8s,mb5.2						
TVO	**Taravao**	**41.76**	**100**	*e*P	**P**	**15 20 44.4**	**+1.1**
	comp=Z,82nm,0.7s,mb5.4						
TVO	**Taravao**	**41.76**	**100**	*e*P	**P**	**15 20 44.4**	**+1.1**
TVO				pmax	pmax		
	comp=Z,82nm,0.7s,mb5.5						
BATI	**Kupang**	**42.81**	**271**	LR	LR	15 37 45.4	
	comp=Z,318nm,20.3s,baz=298,slow=34						
PMOR	**Pomariorio Ree**	**43.25**	**96**	*e*P	**P**	**15 20 56.8**	**+1.5**
	comp=Z,81nm,0.9s,mb5.3						
VAH	**Vaihoa**	**43.48**	**97**	*e*P	**P**	**15 20 58.4**	**+1.2**
	comp=Z,78nm,0.9s,mb5.3						
MBWA	**Marble Bar**	**45.61**	**255**	⇑*i*P	**P**	**15 21 13.7**	**-0.3**
	comp=Z,50nm,0.8s,mb5.2						
MBWA				*e*pP	pP	15 21 50.9	-0.1
MBWA				*e*PcP	PcP	15 22 48.0	-1.6
KAPI	**Kappang**	**47.74**	**277**	P	**P**	**15 21 30.5**	**-0.2**
	comp=Z,404nm,1.0s,mb6.0,SNR=25						
KLBR	**Kellerberrin**	**48.19**	**241**	*e*P	**P**	**15 21 32.5**	**-1.4**
NWAO	**Narrogin (SRO)**	**48.84**	**239**	⇑*i*P	**P**	**15 21 37.2**	**-1.6**
	comp=Z,100nm,1.0s,mb5.4						
NWAO				*e*pP	pP	15 22 14.1	-2.1
NWAO	**Narrogin (SRO)**	**48.84**	**239**	⇑*i*P	**P**	**15 21 37.2**	**-1.6**
NWAO				*e**PP	pP	15 22 14.1	-2.1
NWAO				pmax	pmax		
	comp=Z,100nm,1.0s						
MUN	**Mundaring**	**49.55**	**240**	*e*P	**P**	**15 21 43.3**	**-0.9**
SDKM	**Sandakan**	**53.62**	**288**	⇑P	**P**	**15 22 14.5**	**-0.2**
KDM	**Kudat**	**54.44**	**290**	⇑P	**P**	**15 22 21.9**	**+1.3**
KKM	**Kota Kinabalu**	**54.67**	**288**	*e*P	**P**	**15 22 22.4**	**+0.1**
KKM				*e*pP	pP	15 22 57.8	-2.8
KKM	**Kota Kinabalu**	**54.67**	**288**	⇑P	**P**	**15 22 23.5**	**+1.2**
JOW	**Kunigami**	**56.01**	**317**	P	**P**	**15 22 31.8**	**+0.2**
	comp=Z,52nm,0.8s,mb5.4,baz=179,slow=5.2,SNR=8.9						
JOW				pP	pP	15 23 10.4	+0.4
	comp=Z,35nm,0.7s,baz=190,slow=2.8,SNR=4.7						
BTM	**Bintulu**	**56.56**	**284**	⇓P	**P**	**15 22 37.1**	**+1.3**
SBUM	**Sibu**	**57.13**	**283**	⇑P	**P**	**15 22 41.2**	**+1.4**
MJAR	**Matsushiro Arr**	**57.84**	**332**	P	**P**	**15 22 43.4**	**-0.9**
MJAR				pP	pP	15 23 21.3	-1.7
MJAR	**Matsushiro Arr**	**57.84**	**332**	P	**P**	**15 22 43.4**	**-0.9**
	comp=Z,7.4nm,0.7s,mb4.6,baz=164,slow=7.2,SNR=23						
MJAR				pP	pP	15 23 21.3	-1.7
	comp=Z,8.0nm,1.0s,baz=160,slow=6.7,SNR=2.9						
MAJO	**Matsushiro**	**57.84**	**332**	*e*P	**P**	**15 22 43.3**	**-1.0**
	comp=Z,32nm,1.1s,mb5.1						
MAJO				*e*pP	pP	15 23 21.6	-1.4
MAJO	**Matsushiro**	**57.84**	**332**	*e*P	**P**	**15 22 43.3**	**-1.0**
MAJO				*e**PP	pP	15 23 21.6	-1.3
MAJO				pmax	pmax		
	comp=Z,32nm,1.1s,mb5.1						
MAT	**Matsushiro**	**57.84**	**332**	P	**P**	**15 22 43.3**	**-1.0**
MAT				S	**S**	**15 30 28.0**	**-2.7**
KSM	**Kuching**	**58.63**	**281**	*e*P	**P**	**15 22 50.0**	**-0.3**
KSM	**Kuching**	**58.63**	**281**	⇓P	**P**	**15 22 51.1**	**+0.8**
YHNB	**Yeheng**	**59.45**	**311**	*e*P	**P**	**15 22 55.0**	**-0.7**
YHNB				*e*pP	pP	15 23 33.7	-0.9
ERM	**Erimo**	**60.61**	**340**	*i*P	**P**	**15 23 03.8**	**+0.6**
QZH	**Quanzhou**	**61.68**	**309**	P	**P**	**15 23 12.4**	**+1.7**
QZH				S	**S**	**15 31 21.0**	**+0.8**
QZH				AMB	AMB		
	comp=Z,230nm,8.2s						
VNDA	**Vanda**	**62.96**	**181**	P	**P**	**15 23 18.1**	**-0.3**
	baz=3.6,slow=18						
SBA	**Scott Base**	**63.23**	**180**	*e*P	**P**	**15 23 20.7**	**+0.5**
	comp=Z,83nm,1.0s,mb5.5						
SBA	**Scott Base**	**63.23**	**180**	*e*P	**P**	**15 23 20.7**	**+0.5**
SBA				pmax	pmax		
	comp=Z,83nm,1.0s,mb5.5						
CASY	**Casey**	**63.63**	**202**	*e*P	**P**	**15 23 23.1**	**+0.1**
KSRS	**Korea Array**	**63.68**	**326**	P	**P**	**15 23 23.5**	**-0.2**
	comp=Z,5.9nm,0.8s,mb4.5,baz=143,slow=7.4,SNR=19						
KSRS				pP	pP	15 23 59.9	-3.2
	comp=Z,5.6nm,1.0s,baz=129,slow=5.3,SNR=4.4						
MYKOM	**Kota Tinggi**	**64.88**	**279**	⇑P	**P**	**15 23 33.2**	**+1.1**
YSS	**Yuzh-Sakhalins**	**65.15**	**342**	⇑*i*P	**P**	**15 23 33.8**	**+0.7**
	comp=Z,73nm,1.0s,mb5.5						
YSS	**Yuzh-Sakhalins**	**65.15**	**342**	⇑*i*P	**P**	**15 23 34.0**	**+1.0**
YSS				*e*	pP	15 24 18.0	+5.4
YSS				pmax	pmax		
	comp=Z,90nm,1.0s,mb5.5						
KGM	**Klu

BJI Beijing 72.22 321 P **P** 15 24 17.2 +0.2
BJI PCP PcP 15 24 29.7 -4.5
BJI AP pP 15 24 56.4 -0.9
BJI XP sP 15 25 13.4 -1.7
BJI PP PP 15 27 03.1 +3.1
BJI S S 15 33 25.2 -0.8
BJI AMB AMB
comp=Z,24nm,1.0s,mb4.9
NST Nakhon Sawan 72.89 292 P **P** 15 24 22.0 +0.6
comp=Z,40nm,0.8s,mb5.2
XAN Xi'an 73.66 313 P **P** 15 24 25.9 +0.3
XAN AMB AMB
comp=Z,25nm,1.0s,mb4.9
KMI Kunming 74.29 302 ⇑P **P** 15 24 31.0 +1.5
KMI PCP PcP 15 24 45.9 +2.4
KMI AP pP 15 25 10.9 +0.9
KMI XP sP 15 25 29.2 +1.4
KMI PP PP 15 27 20.9 +3.0
KMI PPP 15 29 05.4
KMI S S 15 33 50.3 +0.3
KMI SKS 15 34 18.6
KMI SCS ScS 15 34 23.2 -1.8
KMI PS 15 34 49.5
KMI AMB AMB
comp=Z,46nm,0.8s,mb5.3
KMI AMB AMB
comp=Z,156nm,3.1s
KMI LR LR
comp=N,123nm,19.4s
KMI LR LR
comp=E,90nm,15.6s
KMI LR LR
comp=Z,94nm,22.6s
CHRT Chiangrai 74.73 296 ⇑P **P** 15 24 27.5 -4.6
comp=Z,355nm,1.1s,mb5.9
CHG Chiang Mai 75.08 294 ⇑P **P** 15 24 34.9 +0.8
comp=Z,59nm,1.1s,mb5.1
CHTO Chiang Mai 75.08 294 ⇑*i*P **P** 15 24 34.8 +0.7
comp=Z,41nm,1.1s,mb5.0
CHTO *e*pP pP 15 25 14.4 -0.3
CHTO *es*P sP 15 25 31.2 -1.3
CHTO Chiang Mai 75.08 294 ⇑*i*P **P** 15 24 34.8 +0.7
CHTO *e**PP pP 15 25 14.4 -0.3
CHTO pmax pmax
comp=Z,41nm,1.1s,mb5.0
MA2 Magadan 75.16 351 ⇑*i*P **P** 15 24 33.0 -0.7
comp=Z,16nm,0.8s,mb4.7
MA2 Magadan 75.16 351 ⇑*e*P **P** 15 24 33.3 -0.3
MA2 pmax pmax
comp=Z,26nm,0.9s,mb4.9
QSPA South Pole Qui 75.39 180 ⇑*i*P **P** 15 24 34.4 -0.5
comp=Z,77nm,1.1s,mb5.2
HHC Hu-ho-hao-te 75.54 320 *e*P **P** 15 24 37.6 +1.3
HHC AP pP 15 25 16.9 0.0
HHC XP sP 15 25 34.3 -0.4
HHC PP PP 15 27 29.5 +1.3
HHC S S 15 34 04.0 +0.8
HHC SKS 15 34 26.3
HHC SCS ScS 15 34 33.3 -1.0
HHC PS 15 35 04.6
HHC AMB AMB
comp=Z,35nm,0.3s,mb5.5
HHC AMB AMB
comp=Z,111nm,4.3s
HHC LR LR
comp=N,120nm,12.5s
HHC LR LR
comp=E,161nm,16.9s
HHC LR LR
comp=Z,83nm,13.3s
CD2 Chengdu 75.98 308 P **P** 15 24 39.8 +0.8
CD2 AP pP 15 25 20.1 +0.4
CD2 XP sP 15 25 37.5 0.0
CD2 PP PP 15 27 35.7 +3.6
CD2 S S 15 34 10.1 +1.6
CD2 SKS 15 34 30.4
CD2 AMB AMB
comp=Z,20nm,0.9s,mb4.8
CD2 AMB AMB
comp=Z,90nm,3.9s
CD2 LR LR
comp=N,400nm,16.8s
CD2 LR LR
comp=E,350nm,14.4s
CD2 LR LR
comp=Z,130nm,18.0s
HIA Hailar 76.22 330 *e*P **P** 15 24 40.2 +0.2
comp=Z,45nm,1.4s,mb4.9
HIA *e*pP pP 15 25 19.6 -1.0
HIA Hailar 76.22 330 *e*P **P** 15 24 40.2 +0.3
HIA *e**PP pP 15 25 19.6 -1.1
HIA pmax pmax
comp=Z,45nm,1.4s
BTO Baotou 76.38 319 *e*P **P** 15 24 40.8 -0.2
SEY Seymchan 78.19 353 ⇑*e*P **P** 15 24 50.6 0.0
LZH Lanzhou 78.29 312 ⇑P **P** 15 24 53.1 +1.3
LZH AP pP 15 25 33.1 +0.4
LZH XP sP 15 25 51.4 +1.0
LZH PP PP 15 27 54.5 +3.2
LZH AMB AMB
comp=Z,89nm,1.5s,mb5.2
LZH AMB AMB
comp=Z,210nm,4.0s
NRGR Nerungri 79.38 338 *e*P **P** 15 24 58.7 +1.5
NRGR S S 15 34 47.0 +3.1
NRGR smax
comp=E,37nm,0.5s
CLNS Chul'man 79.45 338 *e*P **P** 15 24 57.4 -0.2
CLNS pmax pmax
comp=Z,23nm,0.9s,mb4.8
CLNS pmax pmax
comp=N,12nm,1.0s
CLNS pmax pmax
comp=E,10.0nm,0.9s
CIT Chita 81.01 330 *e*P **P** 15 25 06.6 +0.5
CIT *e* pP 15 25 47.4 +0.2
CIT pmax pmax
comp=Z,108nm,1.3s,mb5.3
SVW2 Sparrevohn 81.05 17 *e*P **P** 15 25 07.3 +1.3
YAK Yakutsk 81.95 343 ⇑*i*P **P** 15 25 10.3 -0.4
comp=Z,142nm,0.8s,mb5.7
YAK Yakutsk 81.95 343*c* *i*P **P** 15 25 10.5 -0.3
YAK *e**PP pP 15 25 57.8 +5.8
YAK *e*S S 15 35 07.2 -3.1
YAK *e* 15 35 21.1
YAK *e**SS sS 15 36 21.7 -0.2
YAK *e*SSS 15 43 55.5
YAK pmax pmax
comp=Z,155nm,1.0s,mb5.6
YAK pmax pmax
comp=N,44nm,1.1s
YAK pmax pmax
comp=E,24nm,1.1s
YAK smax
comp=N,47nm,1.9s
YAK smax
comp=E,46nm,3.1s
MAW Mawson 81.99 202 *e*P **P** 15 25 10.9 -0.1
comp=E,29nm,0.9s,mb4.9
MAW Mawson 81.99 202 *e*P **P** 15 25 10.9 -0.1
MAW pmax pmax
comp=Z,29nm,0.9s
MAW Mawson 81.99 202 P **P** 15 25 11.1 +0.1
comp=Z,41nm,0.9s,mb5.0,baz=109,slow=6.3,SNR=32
MAW LR LR 15 55 24.1
comp=Z,114nm,19.9s,baz=246,slow=31
ULN Ulaanbaatar 82.08 324 ⇑*i*P **P** 15 25 12.2 +0.4
comp=Z,57nm,0.7s,mb5.3
ULN *e*pP pP 15 25 52.6 -0.4
ULN Ulaanbaatar 82.08 324 ⇑*i*P **P** 15 25 12.2 +0.4
ULN *e**PP pP 15 25 52.6 -0.4
ULN pmax pmax
comp=Z,57nm,0.7s,mb5.3
TNA Tin City 82.10 10 *e*P **P** 15 25 10.4 -1.0
comp=Z,38nm,2.0s,mb4.7
SLKM Skilak Lake 82.23 20 *e*P **P** 15 25 10.8 -1.4
TTA Tatalina 82.42 16 *e*P **P** 15 25 13.6 +0.4
SONM Songino Array 82.44 324 P **P** 15 25 14.1 +0.4
comp=Z,12nm,0.9s,mb4.5,baz=140,slow=5.7,SNR=41
SONM pP pP 15 25 54.1 -0.8
comp=Z,2.9nm,0.8s,baz=144,slow=5.2,SNR=2.3
BILL Bilibino 82.45 360 ⇑*i*P **P** 15 25 12.5 -0.7
comp=Z,67nm,1.4s,mb5.1
BILL *e*pP pP 15 25 54.5 0.0
BILL Bilibino 82.45 360*c* *i*P **P** 15 25 12.4 -0.8
BILL *e**PP pP 15 25 54.7 +0.2
BILL *e*S S 15 35 14.1 -1.1
BILL pmax pmax
comp=Z,70nm,1.7s,mb5.0
GTA Gaotai 82.63 314 *i*P **P** 15 25 15.7 +0.9
GTA AP pP 15 25 56.2 +0.1
GTA XP sP 15 26 15.7 +1.9
GTA PP PP 15 28 28.7 +1.6
GTA PPP 15 30 20.9
GTA S S 15 35 16.0 -2.3
GTA SKS 15 35 17.1
GTA XS sS 15 36 25.2 -4.7
GTA PS 15 36 27.4
GTA SS SS 15 40 40.3 -4.2
GTA AMB AMB
comp=Z,36nm,1.1s,mb5.0
GTA AMB AMB
comp=Z,199nm,7.6s
GTA LR LR
comp=N,75nm,17.5s
GTA LR LR
comp=E,41nm,16.3s
GTA LR LR
comp=Z,68nm,17.1s
PMR Palmer 83.39 19 *e*P **P** 15 25 17.6 -0.6
comp=Z,56nm,1.6s,mb5.0
PMR LR LR
comp=Z,100nm,17.0s
PMR Palmer 83.39 19 *e*P **P** 15 25 17.6 -0.6
PMR pmax pmax
comp=Z,57nm,1.6s,mb5.0
PMR MLR MLR
comp=Z,100nm,17.0s
SML Sawmill 83.81 20 ⇑*e*P **P** 15 25 18.9 -1.4
BOD Bodaibo 84.41 334 *e*P **P** 15 25 21.8 -1.6
BOD pmax pmax
comp=Z,24nm,1.4s,mb4.7
PACP Pacheco Peak 84.45 50 ⇑P **P** 15 25 24.6 +0.4
baz=84
GASB Alder Springs 84.47 47 ⇑P **P** 15 25 24.6 +0.4
baz=84
O02C Red Bluff 84.63 46 ⇓P **P** 15 25 25.0 0.0
baz=85
WDC Whiskeytown Da 84.97 46 ⇓P **P** 15 25 26.5 -0.2
baz=85
MCK McKinley 85.05 18 ⇓*i*P **P** 15 25 25.6 -0.9
comp=Z,21nm,1.0s,mb4.8
MCK *e*pP pP 15 26 10.9 +2.9
MCK *es*P sP 15 26 29.1 +3.5
MCK McKinley 85.05 18 ⇓*i*P **P** 15 25 25.6 -0.9
MCK *e**PP pP 15 26 10.9 +2.9
MCK pmax pmax
comp=Z,21nm,1.0s,mb4.8
M02C Callahan 85.08 45 ⇓P **P** 15 25 27.4 +0.2
baz=85
ORV Oroville 85.29 47 ⇑P **P** 15 25 27.4 -0.9
baz=85
YBH Yreka Blue Hor 85.32 45 ⇓P **P** 15 25 28.0 -0.4
baz=85
ZAK Zakamensk 85.50 325 ⇓*i*P **P** 15 25 27.9 -1.2
ZAK pmax pmax
comp=Z,26nm,1.3s,mb4.8
CMB Columbia Colle 85.50 49 *e*P **P** 15 25 28.4 -1.0
comp=Z,6.1nm,0.9s,mb4.3
CMB Columbia Colle 85.50 49 *e*P **P** 15 25 28.4 -1.0
CMB pmax pmax
comp=Z,6.0nm,0.9s,mb4.3
CMB Columbia Colle 85.50 49 ⇑P **P** 15 25 29.1 -0.3
baz=86
HUMO Hull Mountain 85.51 44 ⇓P **P** 15 25 29.4 +0.1
baz=86
LAVA Lava Cap Winer 85.52 48 ⇑P **P** 15 25 29.0 -0.4
baz=86
M03C McCloud 85.54 45 ⇓P **P** 15 25 29.1 -0.4
baz=86
IMA2 Indian Mountai 85.55 15 *e*P **P** 15 25 28.7 -0.2
LSA Lhasa 85.55 302 P **P** 15 25 31.2 +1.4
LSA Lhasa 85.55 302 *e*P **P** 15 25 30.9 +1.1
comp=Z,30nm,1.1s,mb4.9
LSA Lhasa 85.55 302 *e*P **P** 15 25 30.9 +1.1
LSA pmax pmax
comp=Z,30nm,1.1s,mb4.9
T06C Millerton Lake 85.62 50 ⇑P **P** 15 25 30.0 0.0
baz=86
HATC Hat Creek Radi 85.81 46 ⇓P **P** 15 25 30.7 -0.1
baz=86
P05C Yuba Gap, Truc 85.83 48 ⇓P **P** 15 25 30.5 -0.4
baz=86
IRK Irkutsk 85.88 327 ⇑*i*P **P** 15 25 29.5 -1.4
IRK *e* pP 15 26 10.1 -2.4
IRK pmax pmax
comp=Z,43nm,1.9s,mb4.8
O04C Chester 85.88 47 ⇑P **P** 15 25 30.9 -0.3
baz=86
M04C Macdoel 85.94 45 ⇓P **P** 15 25 31.1 -0.3
baz=86
TLY Talaya 85.94 326 P **P** 15 25 31.7 +0.5
comp=Z,160nm,0.8s,mb5.8,SNR=8.1
TLY Talaya 85.94 326 ⇑*i*P **P** 15 25 29.8 -1.3
comp=Z,79nm,1.5s,mb5.2
TLY *e*pP pP 15 26 10.6 -2.2
TLY Talaya 85.94 326 ⇑*i*P **P** 15 25 29.8 -1.4
TLY *e**PP pP 15 26 10.6 -2.2
TLY pmax pmax
comp=Z,79nm,1.5s,mb5.2
HELL Mitchell Peak 86.01 51 ⇓P **P** 15 25 31.6 -0.3
baz=86
KCC Kaiser Creek 86.03 50 ⇑P **P** 15 25 31.7 -0.3
baz=86
ISA Isabella 86.06 52 ⇑P **P** 15 25 32.3 +0.1
baz=86
MENT Mentasta 86.13 20 *e*P **P** 15 25 31.1 -0.8
EDW2 Edwards Air Fo 86.15 53 ⇑P **P** 15 25 32.7 +0.1
baz=86
COLA College 86.21 18 ⇑*e*P **P** 15 25 29.7 -2.6
comp=Z,10nm,0.8s,mb4.6
COLA College 86.21 18 ⇑*e*P **P** 15 25 29.7 -2.5
COLA pmax pmax
comp=Z,10.0nm,0.8s,mb4.6
R06C Coleville 86.37 49 ⇑P **P** 15 25 33.6 0.0
baz=86
MTUM Tungsten Hills 86.60 50 *e*P **P** 15 25 34.5 -0.3
O06A Flanigan 86.71 47 ⇓P **P** 15 25 35.3 0.0
baz=87
H04A Detroit Lake 86.87 42 ⇑P **P** 15 25 35.5 -0.5
baz=87
N06A Buffalo Meadow 86.93 47 ⇓P **P** 15 25 36.2 -0.1
baz=87
J05A Fort Rock 86.94 44 ⇑P **P** 15 25 36.5 +0.2
baz=87
S08C White Mtn Res 86.94 50 ⇓P **P** 15 25 36.5 0.0
baz=87
MPMC Manual Prospec 86.94 52 ⇓P **P** 15 25 36.7 +0.2
baz=87
K05A Summer Lake 86.95 45 ⇓P **P** 15 25 35.9 -0.4
baz=87
MOD Modoc 87.04 45 ⇑P **P** 15 25 36.4 -0.4
baz=87
NVAR Mina Array Bea 87.17 49 P **P** 15 25 36.5 -1.0
comp=Z,4.1nm,0.9s,mb4.3,baz=220,slow=5.9,SNR=8.8
F04A Amboy 87.23 41 ⇑P **P** 15 25 37.4 -0.3
baz=87
MOY Mondy 87.38 325 *e*P **P** 15 25 38.6 +0.4
MOY pmax pmax
comp=Z,27nm,2.9s,mb4.6
BELC Belle Mtn. 87.39 54 ⇑P **P** 15 25 38.9 +0.2
baz=87
K06A Valley Falls 87.42 45 ⇓P **P** 15 25 38.4 -0.2
baz=88
N07B Gerlach 87.55 47 ⇑P **P** 15 25 39.1 -0.1
baz=88
FURC Furnace Creek, 87.56 51 ⇓P **P** 15 25 39.7 +0.3
baz=88
C04A Brinnon 87.62 39 ⇑P **P** 15 25 39.3 -0.1
baz=88
M07A Soldier Meadow 87.63 46 ⇑P **P** 15 25 39.4 -0.3
baz=88
G05A Wamic 87.66 42 ⇑P **P** 15 25 39.3 -0.4
baz=88
BC3 Big Chuckw Mtn 87.71 55 ⇑P **P** 15 25 40.8 +0.6
baz=88
S09A Goldfield 87.72 50 ⇓P **P** 15 25 40.2 0.0
baz=88
L07A Adell 87.75 46 ⇑P **P** 15 25 39.8 -0.4
baz=88
F05A White Salmon 87.82 41 ⇓P **P** 15 25 39.3 -1.1
baz=88
I06A Prineville 87.88 44 ⇓P **P** 15 25 40.5 -0.2
baz=88
E05A Randle 87.90 41 ⇑P **P** 15 25 40.3 -0.5
baz=88
GMRC Granite Mounta 87.92 53 ⇓P **P** 15 25 41.2 +0.1
baz=88
TUQ Turquoise Mtn. 87.93 53 ⇑P **P** 15 25 41.8 +0.6
baz=88
U10A Ash Meadows, A 87.95 52 ⇓P **P** 15 25 42.0 +0.8
baz=88
GLA Glamis 88.01 55 ⇑P **P** 15 25 42.0 +0.3
baz=88
D05A Enumclaw 88.01 40 ⇓P **P** 15 25 41.8 +0.6
baz=88
K07A Rock Creek Ran 88.06 45 ⇑P **P** 15 25 41.7 +0.1
baz=88
N08A GE Springer Mi 88.14 47 ⇑P **P** 15 25 42.0 -0.1
baz=88
TPNV Topopah Spring 88.19 51 ⇑P **P** 15 25 42.2 -0.2
baz=88
S10A Tonopah Range, 88.26 50 P **P** 15 25 43.1 +0.5
baz=88,SNR=7.5
B05A Bryant 88.39 39 ⇑P **P** 15 25 43.0 0.0
baz=88
E06A Yakima 88.39 41 ⇑P **P** 15 25 42.7 -0.3
baz=88
C05A Tolt Reservoir 88.40 40 ⇓P **P** 15 25 43.0 -0.1
baz=88
I07A Izee 88.41 44 ⇓P **P** 15 25 43.3 +0.1
baz=88
V11A Goodsprings 88.44 52 ⇓P **P** 15 25 43.8 +0.2
baz=88
H07A Lands Inn, Kim 88.56 43 P **P** 15 25 44.1 +0.2
baz=89,SNR=5.1
R10A Warm Springs 88.60 50 ⇓P **P** 15 25 44.9 +0.6
baz=89
Q10A Clear Creek Ra 88.71 49 ⇑P **P** 15 25 44.6 -0.2
baz=89
D06A Cle Elum 88.73 40 ⇑P **P** 15 25 44.5 -0.2
baz=89
G07A Ruggs Ranch, H 88.74 42 ⇓P **P** 15 25 44.3 -0.5
baz=89
J08A Circle Bar Ran 88.83 45 P **P** 15 25 45.6 +0.4
baz=89,SNR=6.3
V12A Nelson 88.85 53 ⇓P **P** 15 25 45.6 +0.1
baz=89
PDMCI Parker Dam,Lak 88.95 54 ⇓P **P** 15 25 46.8 +0.8
baz=89
I08A Drewsey 88.97 44 ⇓P **P** 15 25 46.0 +0.1
baz=89
Y13A Salome 89.04 55 ⇓P **P** 15 25 47.0 +0.5
baz=89
T11A Corn Creek, Al 89.06 51 P **P** 15 25 47.1 +0.6
baz=89,SNR=8.1
E07A Sunnyside 89.11 41 ⇓P **P** 15 25 46.5 0.0
baz=89
H08A Prairie City 89.12 43 ⇓P **P** 15 25 46.4 -0.1
baz=89
O10A Cortez Mining, 89.14 48 ⇓P **P** 15 25 47.0 +0.2
baz=89
R11A Troy Canyon, C 89.15 50 P **P** 15 25 47.1 +0.2
baz=89,SNR=6.7
G08A Pilot Rock 89.22 43 P **P** 15 25 47.3 +0.3
baz=89,SNR=12
HAWA Hanford 89.26 41 *e*P **P** 15 25 46.4 -0.7
comp=Z,48nm,1.9s,mb5.1
Q11A Duckwater 89.27 50 P **P** 15 25 48.0 +0.6
baz=89,SNR=10
T12A Moapa 89.28 52 ⇑P **P** 15 25 47.7 +0.2
baz=89
D07A Quincy 89.28 41 ⇑P **P** 15 25 47.1 -0.2
baz=89
X13A Yucca 89.28 54 ⇑P **P** 15 25 47.5 -0.1
baz=89
U12A Valley of Fire 89.32 52 ⇓P **P** 15 25 48.3 +0.7
baz=89
J09A Fry Pan Ranch, 89.32 45 P **P** 15 25 48.0 +0.4
baz=89,SNR=12
W13A Hualapai Mount 89.40 54 P **P** 15 25 48.2 +0.1
baz=89,SNR=6.1
C07A Waterville 89.41 40 ⇓P **P** 15 25 47.2 -0.7
baz=90
S12A Delamar Landin 89.46 51 P **P** 15 25 49.3 +1.0
baz=90,SNR=7.4
F08A Pendleton 89.52 42 ⇑P **P** 15 25 48.5 +0.1
baz=90
M10A I.L. Ranch, Tu 89.53 47 ⇓P **P** 15 25 49.1 +0.5
baz=90,SNR=5.7
I09A Lost Marbles R 89.55 44 ⇓P **P** 15 25 48.4 -0.2
baz=90
E08A Dider Farm, El 89.60 42 ⇓P **P** 15 25 48.5 -0.2
baz=90
Z14A Wintersburg 89.61 55 ⇓P **P** 15 25 49.9 +0.8
baz=90
B07A Winthrop 89.67 39 P **P** 15 25 49.2 +0.2
baz=90,SNR=5.8
O11A Cowboy Ranch, 89.69 48 P **P** 15 25 50.0 +0.7
baz=90,SNR=14
K10A MacKenzie Ranc 89.73 46 P **P** 15 25 49.4 0.0
baz=90,SNR=8.6
Y14A Wickenburg 89.73 55 ⇑P **P** 15 25 49.6 -0.1
baz=90
A07A Ashnola River, 89.74 39 P **P** 15 25 49.6 +0.3
baz=90,SNR=6.1
U13A Pakoon Wash 89.75 52 P **P** 15 25 50.5 +0.8
baz=90,SNR=5.8
L10A Juniper Basin 89.76 46 P **P** 15 25 49.6 0.0
baz=90,SNR=8.5
H09A Durkee 89.85 44 P **P** 15 25 50.1 +0.2
baz=90,SNR=7.0
TIXI Tiksi 89.88 349 *e*P **P** 15 25 48.2 -1.4
comp=Z,26nm,1.1s,mb5.1
TIXI *e*pP pP 15 26 30.9 -0.5
TIXI Tiksi 89.88 349 *e*P **P** 15 25 48.2 -1.3
TIXI *e**PP pP 15 26 30.9 -0.5
TIXI pmax pmax
comp=Z,26nm,1.1s,mb5.1
D08A Wollman Farm, 89.89 41 ⇑P **P** 15 25 50.0 -0.1
baz=90
Q12A Willow Creek R 89.94 50 P **P** 15 25 51.2 +0.7
baz=90,SNR=9.1
T13A Saint George 89.98 52 P **P** 15 25 51.3 +0.5
baz=90,SNR=5.0
X14A Yava 89.98 54 P **P** 15 25 51.4 +0.5
baz=90,SNR=8.1
G09A Cove 89.99 43 ⇑P **P** 15 25 50.4 -0.2
baz=90
P12A McGill 90.02 49 P **P** 15 25 51.6 +0.7
baz=90,SNR=6.9
M11A Holland Ranch, 90.03 47 ⇓P **P** 15 25 51.2 +0.4
baz=90,SNR=9.3
W14A Seligman 90.06 54 ⇓P **P** 15 25 51.4 +0.2
baz=90
B08A Colville Reser 90.12 40 ⇑P **P** 15 25 50.8 -0.3
baz=90
BMO Blue Mountains 90.15 43 *e*P **P** 15 25 50.4 -1.0
comp=Z,16nm,1.4s,mb4.7
BMO Blue Mountains 90.15 43 *e*P **P** 15 25 50.4 -1.0
BMO pmax pmax
comp=Z,16nm,1.4s,mb4.8
V14A Boquillas Ranc 90.17 53 P **P** 15 25 52.5 +0.8
baz=90,SNR=5.8
S13A Holt Ranch, En 90.19 51 P **P** 15 25 52.6 +0.8
baz=90,SNR=7.0
I10A Payette 90.22 44 ⇓P **P** 15 25 51.6 -0.1
baz=90
Y15A Casa Rosa Ranc 90.27 55 P **P** 15 25 52.6 +0.4
baz=90,SNR=7.1
D09A Jones Farm, Ri 90.28 41 ⇓P **P** 15 25 52.0 0.0
baz=90
K11A Parker Ranch, 90.30 46 ⇑P **P** 15 25 52.2 0.0
baz=90
U14A Mt Trumbull 90.35 52 P **P** 15 25 53.4 +0.9
baz=90,SNR=12
N12A Clover Valley, 90.37 48 ⇓P **P** 15 25 52.4 -0.1
baz=90,SNR=9.2
A08A Turner Farm, O 90.38 39 P **P** 15 25 52.5 +0.2
baz=90,SNR=6.5
O12A Currie 90.39 48 P **P** 15 25 53.2 +0.6
baz=90,SNR=11
216A Three Points, 90.40 57 ⇓P **P** 15 25 53.4 +0.6
baz=90
G10A Bishop Farm, J 90.43 43 ⇓P **P** 15 25 52.6 0.0
baz=90
H10A Noah's Angus R 90.43 44 P **P** 15 25 52.0 -0.6
baz=90,SNR=14
X15A Humboldt 90.50 55 ⇓P **P** 15 25 53.8 +0.6
baz=90

Q13A Wheeler Ranch, 90.51 50 ⇑P P 15 25 53.2 0.0
baz=90
F10A Beach Ranch, E 90.60 42 P P 15 25 53.3 -0.1
baz=91,SNR=6.3
T14A Hurricane 90.62 52 ⇑P P 15 25 53.9 +0.2
baz=91
M12A Wells 90.64 47 P P 15 25 54.3 +0.6
baz=91,SNR=8.2
MFID Camas Ranch 90.66 45 P P 15 25 54.0 +0.2
baz=91,SNR=5.4
P13A Bates Ranch, G 90.67 49 P P 15 25 54.6 +0.7
baz=91,SNR=15
W15A Williams 90.69 54 ⇓P P 15 25 54.8 +0.7
baz=91
A09A Danville 90.81 39 ⇓P P 15 25 54.0 -0.3
baz=91
L12A House Creek Ra 90.81 47 P P 15 25 54.7 +0.2
baz=91,SNR=7.5
217A Green Valley 90.86 57 ⇓P P 15 25 55.7 +0.7
baz=91
B09A Rice 90.88 40 ⇓P P 15 25 54.0 -0.7
baz=91
O13A Hicks Ranch, I 90.91 49 ⇑P P 15 25 55.3 +0.3
baz=91
Y16A Circle Bar Ran 90.93 55 P P 15 25 56.1 +0.9
baz=91,SNR=6.2
D10A Wagner Farm, O 90.94 41 ⇑P P 15 25 54.4 -0.6
baz=91
H11A Donnelly 90.97 44 ⇓P P 15 25 54.9 -0.3
baz=91
N13A Wendover, West 90.97 48 P P 15 25 55.8 +0.5
baz=91,SNR=5.2
G11A Walters Elk Ra 91.03 43 ⇑P P 15 25 55.2 -0.2
baz=91
K12A Draper Farm, C 91.05 46 ⇓P P 15 25 55.6 0.0
baz=91
J12A Stokes Ranch, 91.11 46 P P 15 25 56.5 +0.6
baz=91,SNR=11
X16A Lo Mia Camp, P 91.11 55 ⇑P P 15 25 56.9 +0.8
baz=91
T15A Red Dirt Ranch 91.15 52 ⇑P P 15 25 56.4 +0.2
baz=91
M13A Montello 91.16 48 P P 15 25 56.6 +0.5
baz=91,SNR=8.2
F11A Grangeville 91.27 43 ⇓P P 15 25 55.6 -1.0
baz=91
E11A Bogner Ranch, 91.39 42 ⇑P P 15 25 55.5 -1.6
baz=91
318A Bisbee 91.44 58 ⇓P P 15 25 57.9 +0.2
baz=92
A10A Northport 91.44 40 ⇓P P 15 25 56.9 -0.4
baz=92
218A Dragoon 91.54 57 ⇓P P 15 25 58.1 0.0
baz=92
D11A Klaveano Farm, 91.54 42 P P 15 25 57.4 -0.4
baz=92,SNR=5.0
L13A Double Diamond 91.55 47 ⇓P P 15 25 58.3 +0.4
baz=92
K13A Stover Farm, H 91.62 46 ⇑P P 15 25 58.4 +0.2
baz=92
HLID Hailey 91.68 45 ⇑P P 15 25 57.7 -0.8
baz=92
H12A Diamond D Ranc 91.70 44 ⇑P P 15 25 58.3 -0.2
baz=92
MSU Marysvale 91.74 51 eP P 15 25 59.2 +0.3
M14A Sheep Mountain 91.79 48 ⇑P P 15 25 59.0 -0.1
baz=92
J13A Cove Ranch, Pi 91.80 46 ⇑P P 15 25 58.8 -0.2
baz=92
F12A Elk City 91.82 43 P P 15 25 58.7 -0.4
baz=92,SNR=11
B11A Sandpoint 91.99 40 ⇑P P 15 25 59.7 -0.1
baz=92
I13A Wildhorse Cree 92.00 45 ⇓P P 15 26 00.0 +0.1
baz=92
319A Douglas 92.00 58 ⇓P P 15 26 00.5 +0.2
baz=92
H13A Challis 92.11 44 ⇑P P 15 26 00.4 -0.1
baz=92
A11A Hall Mountain, 92.17 40 P P 15 26 01.4 +0.7
baz=92,SNR=7.3
D12A Red Ives Fores 92.18 42 ⇑P P 15 25 59.9 -0.8
baz=92
G13A Cobalt 92.29 44 ⇓P P 15 26 00.8 -0.5
baz=92
119A Ashpeak Ranch, 92.36 57 ⇑P P 15 26 01.7 -0.2
baz=92
F13A Darby 92.44 43 P P 15 26 01.6 -0.4
baz=92,SNR=6.1
WMQ Urumqi 92.69 315⇑iP P 15 26 03.4 +0.2
WMQ AP pP 15 26 44.0 -1.1
WMQ XP sP 15 27 00.0 -2.6
WMQ AMB AMB
comp=Z,18nm,1.2s,mb5.1
WMQ AMB AMB
comp=Z,132nm,5.0s
HWUT Hardware Ranch 93.10 48 eP P 15 26 04.2 -0.9
comp=Z,2.5nm,0.7s,mb4.5
E14A Clinton 93.19 43 ⇑P P 15 26 05.2 -0.2
baz=93
SNAA Sanae 93.65 183⇑eP P 15 26 05.8 -1.3
VNA3 Neumayer Olymp 94.31 181 eP P 15 26 08.5 -1.7
VNA3 e 15 26 09.9
VNA3 e 15 26 12.4
VNA3 e pP 15 26 54.6 +2.4
VNA2 Neumayer--Watz 94.58 182 eP P 15 26 10.1 -1.3
baz=190,slow=4.3
VNA2 e 15 26 11.4
VNA2 e 15 26 14.8
VNA2 e pP 15 26 55.3 +1.9
PDAR Pinedale Array 94.85 47 P P 15 26 14.1 +1.0
comp=Z,0.6nm,0.8s,mb3.9,baz=222,slow=4.0,SNR=4.7
PDAR PKKP PKKPbc 15 43 08.5 -1.8
comp=Z,1.5nm,0.8s,baz=91,slow=5.2,SNR=12
PDAR LR LR 16 00 20.9
comp=Z,62nm,20.9s,baz=109,slow=30
VNA1 Neumayer--Stat 94.88 181 eP P 15 26 11.8 -1.0
VNA1 e 15 26 13.4
VNA1 e 15 26 16.6
VNA1 e pP 15 26 58.3 +3.5
ANMO Albuquerque 95.21 55 eP P 15 26 13.9 -1.1
TXAR Lajitas Array 96.19 61 P P 15 26 19.3 -0.2
comp=Z,0.9nm,0.7s,mb4.2,baz=222,slow=3.4,SNR=7.7
TXAR PKKP PKKPbc 15 43 05.7 -0.4
comp=Z,1.0nm,0.8s,baz=76,slow=3.3,SNR=8.5
MK31 Makanchi Array 97.16 316 Pn P 15 26 23.4 -0.1
comp=Z,14nm,0.8s,mb5.4,baz=100,slow=5.2,SNR=179
MK31 ⇓Lg pP 15 27 04.2 -1.4
comp=Z,14nm,1.5s,baz=98,slow=5.8,SNR=4.4
MK31 Makanchi Array 97.16 316 eP P 15 26 23.3 -0.2
MK31 e*PP pP 15 27 04.4 -1.2
MKAR Makanchi Array 97.16 316 P P 15 26 23.9 +0.4
comp=Z,14nm,0.7s,mb5.4,baz=91,slow=5.8,SNR=185
MKAR PKiKP PKiKP 15 30 57.6 -0.6
comp=Z,1.0nm,1.0s,baz=97,slow=6.0,SNR=4.6
MKAR PKKPbc PKKPbc 15 43 01.9 -2.3
comp=Z,0.4nm,0.9s,baz=270,slow=2.9,SNR=3.2
ZAA0 Zalesovo Array 97.34 324 eP P 15 26 22.9 -1.3
ZAA0 epP pP 15 27 03.1 -3.1
ZALV Zalesovo Beam 97.34 324 P P 15 26 23.4 -0.8
ZALV pP pP 15 27 03.7 -2.5
ZALV LR LR 16 08 41.2
ZALV Zalesovo Beam 97.34 324 P P 15 26 23.4 -0.8
comp=Z,12nm,0.7s,mb5.3,baz=113,slow=4.6,SNR=63
ZALV pP pP 15 27 03.7 -2.5
comp=Z,4.1nm,0.9s,baz=116,slow=5.1,SNR=2.4
ZALV LR LR 16 08 41.2
comp=Z,34nm,20.8s,baz=71,slow=34
ZAL Zalesovo 97.35 324 P P 15 26 23.4 -0.8
ZAL *PP pP 15 27 03.7 -2.5
YKA Yellowknife Ar 97.44 27 P P 15 26 22.8 -1.5
YKA pP pP 15 27 05.0 -1.5
YKA Yellowknife Ar 97.44 27 P P 15 26 22.8 -1.5
comp=Z,1.9nm,0.8s,mb4.5,baz=256,slow=4.6,SNR=34
YKA pP pP 15 27 04.9 -1.5
comp=Z,0.8nm,0.7s,baz=258,slow=4.5,SNR=1.7
YKA PKiKP PKiKP 15 30 57.5 -0.7
comp=Z,0.2nm,0.6s,baz=250,slow=0.9,SNR=4.2
YKA PKKP PKKPbc 15 43 00.6 -3.4
comp=Z,0.5nm,0.7s,baz=70,slow=2.5,SNR=8.7
NVS Novosibirsk 98.45 324 iP P 15 26 27.3 -1.8
NVS pmax pmax
comp=Z,24nm,1.9s,mb5.3
NVS pmax pmax
comp=N,3.0nm,1.2s
NVS pmax pmax
comp=E,9.0nm,1.4s

RSSD Black Hills 99.08 47 eP P 15 26 32.4 +0.3
comp=E,13nm,0.6s,mb5.5
RSSD Black Hills 99.08 47 eP P 15 26 32.4 +0.3
RSSD pmax pmax
comp=Z,13nm,0.6s,mb5.5
ARU Arti 112.43 325 i PKiKP PKiKP 15 31 24.5 -1.5
ARU 15 32 11.5
AKTK Aktyubinsk 113.43 319 PKPdf PKiKP 15 31 27.5 -0.6
AKTO Aktyubinsk 113.43 319 PKiKP PKiKP 15 31 27.5 -0.6
comp=Z,2.7nm,0.5s,baz=71,slow=5.3,SNR=8.2
LPAZ La Paz 117.21 117 PKP PKPdf 15 31 36.6 +0.2
comp=Z,1.9nm,1.1s,baz=270,slow=5.1,SNR=3.4
LPAZ PKKPbc PKKPbc 15 42 00.1 -0.6
comp=Z,0.9nm,0.7s,baz=7.5,slow=4.0,SNR=3.8
ARCES ARCESS Array B 120.17 345 PKP PKPdf 15 31 39.8 -0.7
comp=Z,18nm,0.8s,baz=48,slow=2.0,SNR=52
ARCES PKKPab PKKPab 15 41 45.7 -4.2
comp=Z,3.5nm,1.1s,baz=20,slow=3.9,SNR=4.0
JOF Joensuu 122.81 338 epkp PKPdf 15 31 44.0 -1.8
BOSA Boshof 123.48 220 PKP PKPdf 15 31 48.3 +0.1
comp=Z,10.0nm,0.8s,baz=212,slow=0.7,SNR=10
OBN Obninsk 124.64 328⇓iPKIKP PKPdf 15 31 49.1 -0.4
OBN e 15 32 33.0
OBN ePS PS 15 43 23.0 -17
OBN pmax pmax
comp=Z,33nm,1.1s
KIV Kislovodsk 124.81 314 i PKIKP PKPdf 15 31 49.3 -0.9
KAF Kangasniemi 125.12 339 epkp PKPdf 15 31 48.2 -2.0
FINES FINESS Array B 125.65 338 PKP PKPdf 15 31 50.8 -0.5
comp=Z,14nm,0.9s,baz=93,slow=3.8,SNR=26
KMBO Kilima Mbogo 128.17 257 PKP PKPdf 15 31 58.2 +0.6
KMBO Kilima Mbogo 128.17 257 PKP PKPdf 15 31 58.2 +0.6
comp=Z,2.4nm,0.7s,baz=229,slow=22,SNR=7.2
MALT Malatya 129.27 308 ⇑P PKPdf 15 32 00.2 +1.3
MALT Malatya 129.27 308⇑iP PKPdf 15 32 00.2 +1.3
NB2 NORSAR Subarra130.54 345 PKPdf PKPdf 15 32 00.7 +0.1
comp=Z,7.0nm,0.9s,baz=31,slow=1.9
NB2 NORSAR Subarra130.54 345 PKPdf PKPdf 15 32 00.7 +0.1
baz=31,slow=1.9
NOA NORSAR Array B130.54 345 PKP PKPdf 15 32 00.8 +0.2
NOA SKPbc SKPbc 15 35 09.3 +0.6
NOA NORSAR Array B130.54 345 PKP PKPdf 15 32 00.8 +0.2
comp=Z,7.2nm,0.8s,baz=35,slow=2.0,SNR=21
NOA SKPbc SKPbc 15 35 09.3 +0.6
comp=Z,7.9nm,0.8s,baz=31,slow=3.0,SNR=23
HFS Hagfors 130.64 343 PKP PKPdf 15 32 00.9 0.0
HFS SKPbc SKPbc 15 35 10.7 +1.6
HFS Hagfors 130.64 343 PKP PKPdf 15 32 00.9 0.0
comp=Z,6.9nm,0.8s,baz=45,slow=2.3,SNR=11
HFS SKPbc SKPbc 15 35 10.7 +1.6
comp=Z,4.5nm,0.8s,baz=63,slow=0.7,SNR=6.8
AKASG Malin Array Be 130.68 326 PKP PKPdf 15 32 00.6 -0.6
comp=Z,2.4nm,0.6s,baz=55,slow=1.7,SNR=22
AKASG SKPbc SKPbc 15 35 10.2 +0.6
comp=Z,4.0nm,0.8s,baz=44,slow=4.1,SNR=14
VRI Vrincioaia 134.60 321 ⇑P PKPdf 15 32 08.9 +0.2
VRI Vrincioaia 134.60 321⇑iP PKPdf 15 32 08.9 +0.2
MLR Muntele Rosu 135.26 321 ⇑P PKPdf 15 32 10.1 +0.1
MLR Muntele Rosu 135.26 321 PKP PKPdf 15 32 09.3 -0.7
comp=Z,4.8nm,0.8s,baz=49,slow=6.8,SNR=5.0
MLR Muntele Rosu 135.26 321⇑iP PKPdf 15 32 10.1 +0.1
KOLS Kolonicke sedl 135.39 327 ePKP PKPdf 15 32 10.6 +0.5
STHS Stebnicka Huta 135.61 329 ePKP PKPdf 15 32 09.0 -1.5
CRVS Cervenica-Dubn 135.83 328 ePKP PKPdf 15 32 10.6 -0.3
OKC Ostrava-Krasne 136.84 331 ePKPdf PKPdf 15 32 14.9 +2.1
KSP Ksiaz 136.97 333 ePKP PKPdf 15 32 12.0 -1.0
MORC Moravsky Berou 137.17 331 ePKPdf PKPdf 15 32 13.1 -0.3
MORC Moravsky Berou 137.17 331⇓iP PKPdf 15 32 14.3 +0.9
PSZ Piszkesteto 137.26 328 ePKPdf PKPdf 15 32 12.5 -1.1
PSZ Piszkesteto 137.26 328⇓iP PKPdf 15 32 13.3 -0.3
PSZ Piszkesteto 137.26 328⇓ePKP PKPdf 15 32 13.8 +0.2
DPC Dobruska-Polom 137.31 333 ePKPdf PKPdf 15 32 14.1 +0.5
UPC Upice 137.34 333 ePKPdf PKPdf 15 32 11.4 -2.3
VYHS Vyhne 137.42 329 ePKP PKPdf 15 32 13.3 -0.6
BZS Buzias 137.74 324 ⇓P PKPdf 15 32 14.6 +0.1
BZS Buzias 137.74 324⇓iP PKPdf 15 32 14.6 +0.1
BRG Berggiesshubel 137.94 335 ePKHKP 15 32 07.3
BRG i 15 32 15.1
BRG e 15 32 58.1
BRG Berggiesshubel 137.94 335 ePKP PKPdf 15 32 07.3 -7.4
comp=Z,3.2nm,1.0s
BRG i 15 32 15.1
comp=Z,26nm,1.4s
BRG epPKP pPKPdf 15 32 58.0 -0.6
comp=Z,12nm,1.6s
BRG e 15 35 18.7
comp=Z,2.0nm,0.3s
PVCC Panska Ves 137.94 334 ePKPdf PKPdf 15 32 15.0 +0.2
CLL Collm 137.99 336 i PKP PKPdf 15 32 14.4 -0.4
CLL epPKP pPKPdf 15 33 00.0 +1.2
CLL Collm 137.99 336 ePKPpre 15 32 06.0
CLL i PKPdf PKPdf 15 32 14.4 -0.4
comp=Z,15nm,1.1s
CLL epPKPdf pPKPdf 15 32 59.0 +0.2
MODS Modra-Piesok 138.27 330 ePKP PKPdf 15 32 15.9 +0.5
PRU Pruhonice 138.36 334 ePKPdf PKPdf 15 32 15.7 +0.1
VTS Vitosha 138.45 319 ⇑P PKPdf 15 32 16.6 +0.7
VTS Vitosha 138.45 319⇑iP PKPdf 15 32 16.6 +0.6
TREC Trest 138.45 332 ePKPdf PKPdf 15 32 16.2 +0.5
ZST Bratislava 138.47 330 ePKP PKPdf 15 32 16.3 +0.5
CLZ Clausthal 138.54 338 ePKPdf PKPdf 15 32 16.0 +0.2
EKA Eskdalemuir Ar 138.72 352 PKhKP 15 32 05.5
comp=Z,1.3nm,0.8s,baz=19,slow=3.5,SNR=3.8
EKA PKP PKPdf 15 32 14.8 -1.3
comp=Z,4.0nm,0.9s,baz=14,slow=4.3,SNR=4.0
PKSM Moragy 139.01 327 ⇑P PKPdf 15 32 16.3 -0.5
PKSM Moragy 139.01 327⇑iP PKPdf 15 32 16.3 -0.6
NKC Novy Kostel 139.04 335 ePKPdf PKPdf 15 32 19.4 +2.6
MOX Moxa 139.05 336 ePKP PKPdf 15 32 16.4 -0.4
SOP Sopron 139.09 330⇓ePKP PKPdf 15 32 17.3 +0.3
KHC Kasperske Hory 139.42 333 ePKP PKPdf 15 32 17.1 -0.4
KHC e 15 33 01.6
KHC Kasperske Hory 139.42 333 ePKPpre 15 32 11.0
KHC ePKPdf PKPdf 15 32 17.1 -0.4
KHC epPKP pPKPdf 15 33 01.6 +0.1
GEC2 GERESS Array S 139.58 333 ePKPpre 15 32 11.8
GEC2 ePKPdf PKPdf 15 32 16.9 -0.9
GEC2 ePKPdf PKPdf 15 32 17.1 -0.7
GEC2 epPKPdf pPKPdf 15 32 59.8 -2.0
GERES GERESS Array B 139.58 333 PKhKP 15 32 12.4
comp=Z,2.9nm,0.8s,baz=343,slow=2.8,SNR=5.9
GERES PKP PKPdf 15 32 17.9 +0.1
comp=Z,4.8nm,0.8s,baz=90,slow=1.3,SNR=15
WET Wettzell 139.71 334 ePKPdf PKPdf 15 32 17.4 -0.6
GRA1 Grafenberg Arr 139.96 336 ePKPdf PKPdf 15 32 18.4 -0.1
GRF Grafenberg Arr 139.96 336 ePKP PKPdf 15 32 18.4 -0.1
PERS Pernice 140.53 330 i PKPdf PKPdf 15 32 15.5 -4.1
MEM Membach 141.05 341 PKPdf PKPdf 15 32 14.7 -5.7
BOJS Bojanci 141.25 328 i PKPdf PKPdf 15 32 16.1 -4.8
BOJS i PKPbc PKPdf 15 32 24.0 +3.1
BCLA Clavier 141.44 342 PKPdf PKPdf 15 32 15.8 -5.3
CEY Cerknica 141.50 329 i PKPdf PKPdf 15 32 16.5 -4.9
CEY ePKPbc PKPdf 15 32 24.2 +2.8
VOY Vojsko 141.55 330 ePKPdf PKPdf 15 32 15.7 -5.8
VOY ePKPbc PKPdf 15 32 24.0 +2.5
JAVS Javornik 141.57 330 ePKPdf PKPdf 15 32 16.3 -5.2
WTTA Wattenberg 141.68 333⇑iPKPdf PKPdf 15 32 16.6 -5.0
comp=Z,22nm,1.2s,SNR=6.2
WLF Walferdange 141.82 340 ePKPpre 15 32 17.1
WLF Walferdange 141.82 340 PKPdf PKPdf 15 32 17.9 -3.9
MOTA Moosalm 141.85 334 i P PKPdf 15 32 17.9 -4.1
comp=Z,34nm,1.3s,SNR=7.1
GIVF Givet 141.86 342 ePKP1 PKPdf 15 32 18.0 -3.9
SQTA Sankt Quirin 141.90 333⇑iP PKPdf 15 32 17.9 -4.2
comp=Z,23nm,1.2s
DOU Dourbes 141.94 342 PKPdf PKPdf 15 32 17.8 -4.3
BAIF Baives 142.08 342 ePKP1 PKPdf 15 32 17.7 -4.6
BFO Black Forest 142.18 337 ePKPdf PKPdf 15 32 18.0 -4.5
FETA Feichten 142.26 334⇑iPKPdf PKPdf 15 32 19.1 -3.7
comp=Z,37nm,1.0s,SNR=16
DAVA Damuels 142.41 335 i P PKPdf 15 32 19.7 -3.3
comp=Z,27nm,1.2s,SNR=9.8
CDF Champ du Feu 142.50 338 ePKP1 PKPdf 15 32 18.8 -4.3
comp=Z,28nm,0.8s
FELD Feldberg im Sc 142.68 337 PKP PKPdf 15 32 19.1 -4.3
DAVOX Davos/Dischmat 142.81 334 PKP PKPdf 15 32 21.4 -2.3
comp=Z,12nm,0.4s,baz=80,slow=5.2,SNR=26
BRMO Bormio 142.84 333 P PKPdf 15 32 21.4 -2.4
THEF They Montfort 143.12 339 PKP PKPdf 15 32 20.2 -4.0
HINF Hinterlaifeld 143.16 338 ePKP1 PKPdf 15 32 20.6 -3.7
HAU Haudompre 143.18 339 ePKP1 PKPdf 15 32 21.0 -3.3
comp=Z,75nm,0.9s
MEZF Maizieres J'vi 143.19 340 ePKP1 PKPdf 15 32 21.4 -2.9

TUE Stuetta 143.28 334 P PKPdf 15 32 22.9 -1.6
LOMF Lomont 143.56 338 PKP PKPdf 15 32 24.1 -0.9
CING Cingoli 143.79 327 P PKPdf 15 32 24.2 -1.3
VAI Varese 144.01 334 P PKPdf 15 32 24.5 -1.3
ORI Oriolo Calabro 144.08 320 P PKPdf 15 32 25.2 -0.9
MURB Monte Urbino 144.21 328 P PKPdf 15 32 25.4 -0.9
FNVD Fontana Vidola 144.25 330 P PKPdf 15 32 26.1 -0.2
AQU L'Aquila 144.38 326 ePKPdf PKPdf 15 32 25.3 -1.3
AQU L'Aquila 144.38 326⇓iP PKPdf 15 32 25.6 -1.0
MIDA Miranda 144.39 324 P PKPdf 15 32 25.5 -1.1
TIP Timpagrande 144.40 319 ePKPdf PKPdf 15 32 25.9 -0.9
CSSN Cassano Irpino 144.45 323 P PKPdf 15 32 25.3 -1.5
CABF La Chapelle 144.46 338 ePKP1 PKPdf 15 32 26.3 -0.3
comp=Z,465nm,1.3s
FLN La Foiniiere 144.51 346 ePKP1 PKPdf 15 32 25.3 -1.3
comp=Z,152nm,0.8s
BOB Bobbio (Coli) 144.58 332 P PKPdf 15 32 26.4 -0.5
MGR Morigerati 144.58 321 P PKPdf 15 32 25.1 -1.9
LDF La Druitiere 144.59 346 ePKP1 PKPdf 15 32 25.5 -1.2
comp=Z,126nm,0.8s
VLC Villacollemand 144.61 331 P PKPdf 15 32 25.7 -1.2
LOR Lormes 144.66 340⇑iPKP1 PKPdf 15 32 26.4 -0.5
comp=Z,292nm,1.1s
CSNT Castellina Chi 144.69 329 P PKPdf 15 32 25.5 -1.6
RFI Roccamonfina 144.76 324 P PKPdf 15 32 26.4 -0.9
CERT Cerreto 144.89 326 P PKPdf 15 32 26.8 -0.7
GRR Gorron 144.95 346 ePKP1 PKPdf 15 32 27.1 -0.3
comp=Z,385nm,0.8s
SSF Saint Saulge 144.96 341⇑iPKP1 PKPdf 15 32 27.6 +0.2
comp=Z,588nm,0.9s
HYF Humbligny 145.04 342 ePKP1 PKPbc 15 32 28.0 +0.7
LPL La Plagne 145.12 336⇑iPKP1 PKPbc 15 32 28.6 +1.0
comp=Z,369nm,1.1s
LPG La Plagne 145.13 336⇑iPKP1 PKPbc 15 32 28.7 +1.0
comp=Z,440nm,1.0s
SMF Signal de Mont 145.22 340⇑iPKP1 PKPbc 15 32 28.2 +0.3
comp=Z,619nm,1.2s
AVF Avril sur Loir 145.25 341⇑iPKP1 PKPbc 15 32 28.1 +0.1
comp=Z,323nm,1.1s
TOLF Tolfa 145.33 327 P PKPdf 15 32 28.5 +0.3
QLNO Quiliano 145.41 333 P PKPdf 15 32 28.2 -0.1
SGMF Saint Gilles 145.44 348⇑iPKP1 PKPbc 15 32 28.6 +0.1
comp=Z,610nm,1.1s
SOI Samo 145.49 318 P PKPdf 15 32 29.2 +0.6
ROSF Rostrenen 145.50 349⇑iPKP1 PKPbc 15 32 28.7 0.0
comp=Z,432nm,1.1s
MAON Monte Argentar 145.53 328 P PKPdf 15 32 29.0 +0.4
BNI Bardonecchia 145.53 335 ePKPdf PKPdf 15 32 29.1 +0.6
BGF Bois d'Agland 145.62 341⇑iPKP1 PKPbc 15 32 29.4 +0.3
comp=Z,184nm,0.8s
GDM Grand'Maison 145.62 336 PKP PKPdf 15 32 29.9 +1.3
GDM Grand'Maison 145.62 336 PKP PKPdf 15 32 30.0 +1.4
DOI San Damiano 145.74 334 P PKPdf 15 32 28.1 -0.8
MBDF Montbardon 145.76 335⇑iPKP1 PKPbc 15 32 29.9 +0.3
comp=Z,280nm,1.1s
PLDF La Plantade 145.88 340 PKP PKPbc 15 32 31.0 +1.1
QUIF Quistinic 145.89 349⇑iPKP1 PKPbc 15 32 29.7 -0.2
comp=Z,126nm,1.1s
SURF Saint Ours 145.94 335 PKP PKPbc 15 32 31.0 +0.8
SURF Saint Ours 145.94 335 PKP PKPdf 15 32 30.7 +1.5
SURF PKP PKPbc 15 32 31.0 +0.8
ORIF Oris-en-Rattie 145.96 336⇑iPKP1 PKPbc 15 32 30.8 +0.6
comp=Z,285nm,0.8s
AGO Saint Agoulin 145.97 340 PKP PKPdf 15 32 30.8 +1.6
SAOF Saorge 146.03 333 PKP PKPdf 15 32 30.5 +1.1
TCF Toulx Ste Croi 146.06 341⇑iPKP1 PKPbc 15 32 30.8 +0.3
comp=Z,268nm,1.1s
AUTN L'Aution 146.08 334 PKP PKPbc 15 32 31.5 +0.9
TOUF Mont Tournerai 146.14 334 PKP PKPdf 15 32 30.8 +1.2
SBF Sospel 146.18 333 ePKP1 PKPbc 15 32 30.9 0.0
comp=Z,351nm,0.8s
LUCF Luceram 146.19 334 PKP PKPdf 15 32 30.6 +1.0
COLF Collangettes 146.25 339 PKP PKPbc 15 32 31.8 +0.7
MVIF Mont Vial 146.27 334 PKP PKPdf 15 32 31.0 +1.2
PYM Petit Puy Mans 146.28 340 PKP PKPbc 15 32 31.9 +0.8
MFF Saint Martin d 146.44 344⇑iPKP1 PKPbc 15 32 31.8 +0.2
comp=Z,372nm,0.9s
VERF Verneugheol 146.45 341 PKP PKPbc 15 32 32.0 +0.4
OCF Saint Nazaire 146.47 336 PKP PKPbc 15 32 32.6 +0.9
OG26 St.-Nazaire-De 146.47 336 PKP PKPbc 15 32 32.6 +0.9
VIVF Saint-Julien-l 146.47 337⇑iPKP1 PKPbc 15 32 32.2 +0.5
comp=Z,253nm,1.2s
PGF Pioggiola 146.49 330 ePKP1 PKPbc 15 32 32.0 +0.1
comp=Z,596nm,1.2s
CALN Calern 146.50 334 PKP PKPdf 15 32 31.6 +1.4
CORF Corte 146.61 330 PKP PKPbc 15 32 32.3 +0.1
LBL Lubilhac 146.65 339 PKP PKPbc 15 32 33.4 +1.2
STOF St-Etienne Org 146.71 335 PKP PKPdf 15 32 31.7 +1.2
FRNF Fournols 146.75 340 PKP PKPbc 15 32 33.6 +1.1
FRF La Foret Royal 146.76 334⇑iPKP1 PKPbc 15 32 32.6 0.0
comp=Z,392nm,1.1s
SMRF Simiane la Rot 146.86 336⇑iPKP1 PKPbc 15 32 33.5 +0.6
comp=Z,304nm,1.1s
HVZN Vizzini 146.87 318 P PKPbc 15 32 33.5 +0.4
VAE Valguarnera 146.89 318 PKPbc PKPbc 15 32 32.6 -0.6
comp=Z,8.0nm,0.4s,baz=76,slow=4.2,SNR=4.2
VILF Villemus 146.91 335 PKP PKPbc 15 32 33.6 +0.6
TAVF Tavernes 146.96 335 PKP PKPbc 15 32 33.4 +0.2
LMR La Mourre 147.00 334⇑iPKP1 PKPbc 15 32 33.3 0.0
comp=Z,366nm,1.1s
RJF Les Rejaudoux 147.15 341⇑iPKP1 PKPbc 15 32 34.0 +0.4
comp=Z,432nm,1.3s
PRAF Pradon 147.17 336 PKP PKPbc 15 32 34.5 +0.8
MATF Mathat 147.19 344 PKP PKPbc 15 32 35.0 +1.3
TREF Trevaresse 147.23 335 PKP PKPbc 15 32 33.4 -0.5
CAF Calviac 147.32 340⇑iPKP1 PKPbc 15 32 34.7 +0.6
comp=Z,197nm,1.1s
BERF Bertagne 147.36 335 PKP PKPbc 15 32 34.9 +0.6
GELF Grande-Etoile 147.41 335 PKP PKPdf 15 32 30.7 -1.0
LASF Ste Croix 147.44 338⇑iPKP1 PKPbc 15 32 35.0 +0.6
comp=Z,288nm,1.1s
LFF La Frestale 147.72 342⇑iPKP1 PKPbc 15 32 35.6 +0.4
comp=Z,300nm,0.9s
VSL Villasalto 148.56 326 ePKPbc PKPbc 15 32 37.4 -0.2
MTLF Montolieu 148.67 339⇑iPKP1 PKPbc 15 32 38.1 +0.4
comp=Z,268nm,1.0s
LRDF Laroque-de-Fa 148.90 338 PKP PKPbc 15 32 38.8 +0.5
FILF Fillols 149.22 338 PKP PKPbc 15 32 39.3 +0.2
CARF Carcanieres 149.25 338 PKP PKPbc 15 32 39.2 0.0
MLS Moulis 149.39 340 PKP PKPbc 15 32 39.3 -0.2
SALF Salau 149.53 340 PKP PKPbc 15 32 39.9 0.0
VALF Valcebollere 149.56 338 PKP PKPbc 15 32 40.9 +1.0
EPF Esparros 149.57 341⇑iPKP1 PKPbc 15 32 40.2 +0.3
comp=Z,118nm,1.0s
LABF Labassere 149.63 341 PKP PKPbc 15 32 40.4 +0.3
REYF Montagne du Re 149.76 342 PKP PKPbc 15 32 40.9 +0.5
VIEF Viey 149.80 341 PKP PKPbc 15 32 41.7 +1.2
OSSF Osses 149.84 343 PKP PKPbc 15 32 40.0 -0.6
SJPF Ste Jean 149.96 343⇑iPKP1 PKPbc 15 32 41.3 +0.4
comp=Z,162nm,1.1s
ETSF Etsaut 149.96 342⇑iPKP1 PKPbc 15 32 41.7 +0.8
comp=Z,172nm,1.0s
KEST Kesra 151.16 321 PKPbc PKPbc 15 32 44.6 +0.6
comp=Z,16nm,0.8s,baz=228,slow=0.4,SNR=35
CMAH Djebel Manchou 151.69 324 P PKPbc 15 32 45.0 -0.2
CKFL Kef-Lekhel 152.24 325 P PKPbc 15 32 46.0 -0.4
PBRG Braganca 152.44 350 ePKPbc PKPbc 15 32 46.3 -0.4
PBRG Braganca 152.44 350 ePKPab PKPab 15 32 57.8 +0.4
CASM Ain Smara 152.47 325 P PKPbc 15 32 47.0 +0.1
DFRA Djebel Bou Aff 152.60 326 P PKPbc 15 32 48.0 +0.8
CTEI Djebel Teioual 152.66 325 P PKPbc 15 32 47.5 +0.2
PCAB Cabril 152.72 352 ePKPbc PKPbc 15 32 47.2 -0.1
MVO Moncorvo 153.11 351 ePKPbc PKPbc 15 32 48.2 0.0
MVO Moncorvo 153.11 351 ePKPab PKPab 15 33 00.8 +0.6
SET Setif 153.11 326 P PKPdf 15 32 45.0 +4.2
CKHR Kef el Ahmar 153.19 326 P PKPbc 15 32 49.0 +0.5
CMER Merouana 153.26 325 P PKPbc 15 32 49.5 +0.8
PVIS Viseu 153.68 352 ePKPab PKPab 15 33 03.4 +0.8
ESDC Sonseca Array 153.91 345 PKP PKPdf 15 32 41.4 -0.5
comp=Z,0.3nm,0.3s,baz=343,slow=4.0,SNR=5.4
ESDC PKPbc PKPbc 15 32 50.4 +0.5
comp=Z,0.8nm,0.3s,baz=18,slow=2.0,SNR=16
ESDC PKPab PKPab 15 33 04.7 +1.0
comp=Z,7.1nm,0.8s,baz=20,slow=3.9,SNR=12
ESLA Sonseca Array 153.91 345 ePKPdf PKPdf 15 32 40.9 -0.9
ESLA ePKPbc PKPbc 15 32 49.9 -0.1
ESLA ePKPab PKPab 15 33 03.9 +0.2
MTE Manteigas 153.94 351 ePKPbc PKPbc 15 32 50.1 +0.1
MTE Manteigas 153.94 351 ePKPab PKPab 15 33 04.7 +0.9
MTE Manteigas 153.94 351 ePKPdf PKPdf 15 32 41.8 -0.1
MTE ePKPbc PKPbc 15 32 49.7 -0.3
MTE ePKPab PKPab 15 33 03.9 +0.1
PDA Ponta Delgada 154.26 24 eS 15 34 04.6

PCBR	**Castelo Branco**	**154.48**	**351**	*e*PKPbc	PKPbc	15 32 51.1	0.0
PCBR	**Castelo Branco**	**154.48**	**351**	*e*PKPab	PKPab	15 33 06.3	+0.2
PESTR	**Estremoz**	**155.44**	**350**	*e*PKPab	PKPab	15 33 10.8	+0.6
EVO	**Evora**	**155.84**	**351**	*e*PKIKP	PKPdf	15 32 44.2	-0.3
PBAR	**Barrancos**	**156.02**	**349**	*e*PKPab	PKPab	15 33 13.2	+0.5
PBEJ	**Beja**	**156.31**	**350**	*e*PKPab	PKPab	15 33 14.8	+0.8
PVAQ	**Vaqueiros**	**156.90**	**350**	*e*PKPab	PKPab	15 33 17.3	+0.8
PTEO	**Sao Teotonio**	**156.91**	**352**	*e*PKPab	PKPab	15 33 17.9	+1.4
PBDV	**Barranco-do-Ve**	**157.09**	**350**	*e*PKPab	PKPab	15 33 18.4	+1.1
MORF	**Marmelete**	**157.13**	**352**	*e*PKPab	PKPab	15 33 18.6	+1.1
PFVI	**Vila Bisbo**	**157.33**	**352**	*e*PKPab	PKPab	15 33 19.1	+0.7
MDT	**Midelt**	**160.46**	**339**	PKP	PKPdf	15 32 47.8	-2.6
	comp=Z,4.4nm,1.1s,baz=0.0,slow=3.0,SNR=4.2						
MDT				PKPab	PKPab	15 33 31.6	-0.5
	comp=Z,5.9nm,0.9s,baz=121,slow=2.9,SNR=8.2						
TORD	**Torodi Ar. Bea**	**165.96**	**266**	PKP	PKPdf	15 32 54.7	-1.3
	comp=Z,2.6nm,0.9s,baz=59,slow=0.8,SNR=13						
TORD				PKPab	PKPab	15 33 57.0	0.0
	comp=Z,22nm,0.9s,baz=99,slow=3.7,SNR=50						
LIC	**Lamto**	**168.75**	**223**	*e*PKIKP	PKPdf	15 32 57.0	-1.1
	comp=Z,55nm,1.3s						
DBIC	**Dimbokro**	**168.97**	**225**	PKP	PKPdf	15 32 57.3	-1.0
	comp=Z,12nm,1.0s,baz=157,slow=1.9,SNR=8.1						
DBIC				PKPab	PKPab	15 34 08.7	-1.5
	comp=Z,2.8nm,0.8s,baz=143,slow=10,SNR=2.3						

IDC ***12*** *15:35:09.4±1.5,3289S×7237W,h0km,mb3.9/2,mb1 3.7/6, mb1mx3.6/17,mbtmp3.6/6,ML3.6/4,Error ellipse: s-maj=45.9km s-min=21.6km az=108.0*
ISCJB ***12*** *15:35:13.5±0.8,3299S±005×7201W±006,h31km±5km, mb4.3/4,Error ellipse: s-maj=9.0km s-min=6.8km az=146.1*
GUC ***12*** *15:35:15.0±0.7,3301S×7189W,h28km±4km,MD4.3, ML4.1*
NEIC ***12*** *15:35:15.0,3301S×7189W,h28km,ML4.1(GUC),After GUC.*
NEIC Felt [III] at Papudo, Valparaiso and Vina del Mar; [II] at La Ligua and San Felipe.

ISC 12 15:35:14.6±0.8,3299S±004×7193W±006,h27km±4km,n36, σ0*89/45,mb4.3/4,10C-6D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**0.24**	**99**	⇓*iP*	**Pb**	**15 35 21.1**	**0.0**
IHA				*i* S	**Sb**	**15 35 25.2**	**-0.2**
LCCH	**Las Cruces**	**0.57**	**148**	⇑*iP*	**Pb**	**15 35 25.4**	**-0.7**
PACH	**Papudo**	**0.61**	**43**	⇓*iP*	**Pb**	**15 35 27.1**	**+0.3**
ROCH	**El Roble**	**0.77**	**89**	⇑*iP*	**Pb**	**15 35 28.9**	**-0.6**
PEL	**Peldehue**	**1.05**	**99**	⇑*eP*	**Pn**	**15 35 33.4**	**-0.3**
PEL				*i* S	**Sn**	**15 35 47.0**	**-0.5**
PEL				AML	AML	15 35 52.0	
	comp=N,11μm,0.2s						
LNV	**Longovilo**	**1.06**	**156**	⇑*iP*	**Pn**	**15 35 32.9**	**-0.8**
TACH	**Talagante**	**1.06**	**129**	⇑*iP*	**Pn**	**15 35 33.2**	**-0.6**
RCDM	**Rinconada Maip**	**1.06**	**118**	⇓*iP*	**Pn**	**15 35 32.8**	**-1.0**
RCDM				*i* S	**Sn**	**15 35 47.1**	**-0.6**
SAN	**Santiago**	**1.16**	**114**	*e*P	**Pn**	**15 35 34.8**	**-0.3**
SAN				*i* S	**Sn**	**15 35 49.9**	**-0.2**
CHNG	**Los Chungos**	**1.16**	**18**	⇑*iP*	**Pn**	**15 35 17.3**	**-18**
CHNG				*i* S	**Sn**	**15 35 32.3**	**-18**
JACH	**Jahuel**	**1.17**	**75**	⇑*iP*	**Pn**	**15 35 34.9**	**-0.2**
ANTU	**Antumapu**	**1.23**	**118**	*e*P	**Pn**	**15 35 36.0**	**-0.1**
ANTU				*i* S	**Sn**	**15 35 51.7**	**-0.1**
ANTU	**Antumapu**	**1.23**	**118**	*e*P	**Pn**	**15 35 36.0**	**-0.1**
ANTU				*i* S	**Sn**	**15 35 51.7**	**-0.1**
ANTU				AML	AML	15 35 56.7	
	comp=E,6μm,0.5s						
CLCH	**Cerro Calan**	**1.24**	**110**	⇓*iP*	**Pn**	**15 35 36.4**	**+0.2**
CLCH				*i* S	**Sn**	**15 35 51.8**	**-0.2**
CLCH				AML	AML	15 35 54.5	
	comp=N,7μm,0.5s						
PCH	**Pirque**	**1.34**	**118**	⇑*iP*	**Pn**	**15 35 37.8**	**+0.2**
FCH	**Farellones**	**1.42**	**104**	⇓*iP*	**Pn**	**15 35 39.1**	**+0.5**
FCH				*i* S	**Sn**	**15 35 57.5**	**+1.1**
CHCH	**Chadas Angostu**	**1.42**	**132**	*e*P	**Pn**	**15 35 38.1**	**-0.6**
CACH	**El Canelo**	**1.58**	**136**	⇑*iP*	**Pn**	**15 35 42.0**	**+1.1**
YECH	**El Yeso**	**1.69**	**114**	⇑*eP*	**Pn**	**15 35 43.6**	**+1.3**
SFDO	**San Fernando**	**1.79**	**155**	*e*P	**Pn**	**15 35 44.1**	**+0.3**
CICH	**Cipreses**	**1.83**	**137**	⇓*iP*	**Pn**	**15 35 45.1**	**+0.8**
TLL	**Tololo Astrono**	**2.97**	**19**	*e*P	**Pn**	**15 36 01.7**	**+1.6**
TLL				AML	AML	15 36 53.5	
	comp=N,838nm,0.5s						
CFAA	**Coronel Fontan**	**3.42**	**67**	Pn	**Pn**	**15 36 08.9**	**+2.8**
	comp=N,1.3nm,0.3s,baz=231,slow=13,SNR=51						
CFAA				Sn	**Sn**	**15 36 55.4**	**+10**
	comp=N,5.9nm,0.3s,baz=92,slow=7.0,SNR=6.9						
LCO	**Las Campanas**	**4.10**	**15**	*e*Pn	**Pn**	**15 36 16.1**	**+0.5**
PLCA	**Paso Flores**	**7.81**	**172**	Pn	**Pn**	**15 37 07.2**	**+0.8**
PLCA	**Paso Flores**	**7.81**	**172**	Pn	**Pn**	**15 37 07.2**	**+0.8**
	comp=N,0.5nm,0.3s,baz=322,slow=8.5,SNR=5.2						
TRQA	**Tornquist**	**9.55**	**125**	*e*Pn	**Pn**	**15 37 31.5**	**+1.1**
LPAZ	**La Paz**	**16.98**	**13**	Pn	**Pn**	**15 39 08.5**	**-1.8**
LPAZ				Pn	**Pn**	**15 39 09.9**	**-0.5**
LPAZ	**La Paz**	**16.98**	**13**	Pn	**Pn**	**15 39 08.5**	**-1.8**
	comp=N,0.1nm,0.3s,baz=209,slow=10,SNR=1.8						
SIV	**San Ignacio**	**19.57**	**33**	P	**P**	**15 39 39.5**	**-2.5**
	comp=N,0.1nm,0.3s,baz=233,slow=15,SNR=5.6						
SNAA	**Sanae**	**52.49**	**158**	P	**P**	**15 44 25.3**	**+0.6**
	comp=N,0.6nm,1.0s,mb3.5,baz=271,slow=10,SNR=4.7						
MAW	**Mawson**	**74.12**	**164**	P	**P**	**15 46 47.9**	**-0.1**
	comp=N,2.0nm,0.6s,mb4.2,baz=247,slow=7.7,SNR=4.9						
SUR	**Sutherland**	**75.24**	**119**	*e*P	**P**	**15 46 53.0**	**-2.1**
	comp=N,51nm,1.3s,mb5.3						
TORD	**Torodi Ar. Bea**	**83.78**	**70**	P	**P**	**15 47 41.8**	**0.0**
	comp=N,1.6nm,0.8s,mb4.2,baz=262,slow=3.7,SNR=8.4						
ZALV	**Zalesovo Beam**	**153.32**	**31**	PKPbc	PKPbc	15 55 10.5	+0.9
	comp=N,0.3nm,0.3s,baz=328,slow=4.8,SNR=4.0						
MKAR	**Makanchi Array**	**156.02**	**47**	PKPab	PKPab	15 55 33.8	+0.3
	comp=N,0.2nm,0.6s,baz=327,slow=2.4,SNR=3.7						

CSEM ***12*** *16:03:08.9±1.1,3720N×2469W,h5km,ML3.6,Error ellipse: s-maj=9.1km s-min=7.0km az=45.0,After PDA*
PDA ***12*** *16:03:08.9±1.1,3720N×2469W,h5km,MD4.1,ML3.6, Error ellipse: s-maj=9.1km s-min=7.0km az=45.0*

SVSA 12 16:03:08.9±1.1,3720N×2469W,h5km,MD4.1,ML3.6, Error ellipse: s-maj=9.1km s-min=7.0km az=45.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSET	**Sete Cidades**	**1.03**	**308**	*e*P	Pg	16 03 24.5	-4.1
PSET				*e*S	Sg	16 03 37.4	-4.6
PSET				A		16 03 41.3	
	694nm,0.4s						
PSET	**Sete Cidades**	**1.03**	**308**	*e*P	Pg	16 03 24.5	-4.1
PSET				*e*S	Sg	16 03 37.4	-4.6
PSCM	**Serra do Cume**	**2.43**	**309**	*e*P	Pn	16 03 44.9	-4.4
PSCM				*e*S	Sn	16 04 11.6	-7.8
PSCM				A		16 04 14.8	
	139nm,0.2s						
PSCM	**Serra do Cume**	**2.43**	**309**	*e*P	Pn	16 03 44.9	-4.4
PSCM				*e*S	Sn	16 04 11.6	-7.8
ADH	**Angra Heroismo**	**2.48**	**307**	*e*S	Sn	16 04 12.8	-7.8
ROSA	**Rosais**	**3.19**	**300**	*e*P	Pn	16 03 54.9	-4.8
ROSA				*e*S	Sn	16 04 29.6	-8.5
PICO	**Pico**	**3.23**	**295**	*e*P	Pn	16 03 56.1	-4.1
PICO				*e*S	Sn	16 04 30.6	-8.4
HOR	**Horta**	**3.39**	**294**	*e*P	Pn	16 03 58.1	-4.3
CALA	**Caldeira**	**3.46**	**295**	*e*P	Pn	16 03 58.6	-4.8
CALA				*e*S	Sn	16 04 36.6	-8.1

ISCJB ***12*** *16:17:02.9±0.3,3674N±002×12138W±003,h19km±3km, Error ellipse: s-maj=4.3km s-min=2.9km az=155.5*
NEIC ***12*** *16:17:02.0,3675N×12134W,h8km,ML3.1(NCEDC), After NCEDC.*

ISC 12 16:17:02.9±0.3,3673N±002×12139W±003,h16km±2km, n34,σ0*89/56,12C-21D,Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAO	**San Andreas Ge**	**0.06**	**303**	*e*Pg	**Pg**	**16 17 05.0**	**-0.9**
SAO				*e*Sg	**Sg**	**16 17 07.1**	**-0.8**
PACP	**Pacheco Peak**	**0.28**	**17**	⇓P	**Pg**	**16 17 08.7**	**-0.3**
	baz=0.3,SNR=1000						
PACP				⇓S	**Sg**	**16 17 13.0**	**-0.2**
	baz=0.3						
HAST	**Hastings Reser**	**0.37**	**201**	⇓P	**Pg**	**16 17 10.5**	**+0.1**
	baz=0.4,SNR=1000						
HAST				⇓S	**Sg**	**16 17 16.2**	**+0.7**
	baz=0.4						
T05C	**Eagle Field, D**	**0.60**	**74**	⇓P	**Pg**	**16 17 15.0**	**+0.4**
	baz=0.6,SNR=39						
U04C	**Hernandez Rese**	**0.61**	**127**	⇑P	**Pg**	**16 17 14.4**	**-0.5**
	baz=0.6,SNR=211						
U04C				⇓S	**Sg**	**16 17 24.0**	**+0.9**
	baz=0.6						
V03C	**Hunter Liggett**	**0.72**	**170**	P	**Pg**	**16 17 16.7**	**-0.3**
	baz=0.7,SNR=702						
V03C				⇓S	**Sg**	**16 17 26.8**	**+0.2**
	baz=0.7						
BNLO	**Ben Lomond (Sa**	**0.74**	**302**	P	**Pg**	**16 17 16.9**	**-0.5**
	baz=0.8,SNR=108						
BNLO				⇑S	**Sg**	**16 17 27.4**	**+0.2**
	baz=0.8						
S04C	**Ingram Canyon,**	**0.77**	**4**	P	**Pb**	**16 17 18.0**	**+0.1**
	baz=0.8,SNR=380						
S04C				⇓S	**Sg**	**16 17 29.3**	**+1.2**
	baz=0.8						
WENL	**Wente Brothers**	**0.93**	**342**	⇓P	**Pb**	**16 17 21.2**	**+0.5**
	baz=0.9						
JRSC	**Jasper Ridge**	**0.95**	**315**	⇑P	**Pb**	**16 17 20.6**	**-0.4**
	baz=1.0,SNR=46						
JRSC				⇓S	**Sb**	**16 17 33.6**	**+0.3**
	baz=1.0						
PKD	**Parkfield**	**1.04**	**139**	⇓P	**Pb**	**16 17 21.9**	**-0.6**
	baz=1.0,SNR=308						
PKD				⇑S	**Sb**	**16 17 36.1**	**+0.2**
	baz=1.0						
S05C	**Merced**	**1.04**	**54**	⇓P	**Pb**	**16 17 21.4**	**-1.2**
	baz=1.0,SNR=44						
S05C				⇑S	**Sb**	**16 17 35.2**	**-0.8**
	baz=1.0						
V04C	**Ramage Ranch,**	**1.17**	**159**	P	**Pn**	**16 17 24.2**	**-0.4**
	baz=1.2,SNR=60						
V04C				⇑S	**Sb**	**16 17 40.1**	**+0.4**
	baz=1.2						
T06C	**Millerton Lake**	**1.38**	**78**	P	**Pn**	**16 17 26.2**	**-1.1**
	baz=1.3,SNR=69						
T06C				⇑S	**Sn**	**16 17 43.9**	**-1.3**
	baz=1.3						
PTRM	**Twissleman Ran**	**1.44**	**138**	*e*Pn	**Pn**	**16 17 27.8**	**-0.5**
PTRM				*e*Sn	**Sn**	**16 17 47.5**	**+0.7**
CMB	**Columbia Colle**	**1.52**	**31**	*e*Pg	**Pg**	**16 17 28.5**	**-3.7**
CMB				*e*Sn	**Sn**	**16 17 46.7**	**-2.2**
CMB	**Columbia Colle**	**1.52**	**31**	⇓P	**Pn**	**16 17 28.7**	**-0.7**
	baz=1.5,SNR=77						
CMB				⇓S	**Sn**	**16 17 47.9**	**-1.0**
	baz=1.5						
R04C	**Big Horse Ranc**	**1.56**	**13**	⇓P	**Pn**	**16 17 29.1**	**-0.8**
	baz=1.5,SNR=7.3						
R04C				⇑S	**Sn**	**16 17 49.9**	**0.0**
	baz=1.5						
KCC	**Kaiser Creek**	**1.76**	**70**	⇓P	**Pn**	**16 17 32.2**	**-0.4**
	baz=1.7,SNR=93						
KCC				⇓S	**Sn**	**16 17 54.1**	**-0.6**
	baz=1.7						
SMMC	**Simmler**	**1.81**	**141**	P	**Pn**	**16 17 33.1**	**-0.3**
	baz=1.8,SNR=15						
CVS	**Carmenet Viney**	**1.82**	**332**	⇑P	**Pn**	**16 17 32.8**	**-0.7**
	baz=1.8						
MCCM	**Marconi Confer**	**1.84**	**320**	⇑S	**Sn**	**16 17 57.3**	**+0.6**
	baz=1.9						
NSHM	**Saint Helena R**	**2.03**	**332**	*e*Pn	**Pn**	**16 17 37.9**	**+1.5**
VES	**Vestal, Richgr**	**2.07**	**115**	⇑P	**Pn**	**16 17 36.1**	**-0.8**
	baz=2.0,SNR=8.2						
Q04C	**Lincoln**	**2.10**	**0**	⇓S	**Sn**	**16 18 02.9**	**-0.3**
	baz=2.1						
R05C	**Kirkwood Meado**	**2.22**	**28**	⇓S	**Sn**	**16 18 06.6**	**+0.4**
	baz=2.2						
MLAC	**Mammoth Lakes**	**2.23**	**66**	⇑Sb	**Sb**	**16 18 11.8**	**+1.8**
	baz=2.2						
PKM	**Peak Mountain**	**2.23**	**145**	⇓P	**Pn**	**16 17 39.0**	**-0.2**
	baz=2.2,SNR=12						
MTUM	**Tungsten Hills**	**2.34**	**74**	*e*Pn	**Pn**	**16 17 42.0**	**+1.3**
MTUM				*e*Sn	**Sn**	**16 18 09.9**	**+0.8**
ISA	**Isabella**	**2.59**	**114**	*e*Pn	**Pn**	**16 17 44.4**	**+0.3**
ISA				*e*Sn	**Sn**	**16 18 13.0**	**-2.2**
ISA	**Isabella**	**2.59**	**114**	⇓P	**Pn**	**16 17 44.5**	**+0.4**
	baz=2.6,SNR=58						
OHCM	**Honcut**	**2.60**	**358**	*e*Pn	**Pn**	**16 17 46.0**	**+1.8**
OHCM				*e*Pg	**Pg**	**16 17 52.9**	**+0.2**
GSC	**Goldstone**	**3.98**	**110**	*e*Pn	**Pn**	**16 18 03.1**	**-0.1**
TPNV	**Topopah Spring**	**4.13**	**85**	*e*Pn	**Pn**	**16 18 06.0**	**+0.8**
TPNV				*e*Pg	**Pg**	**16 18 24.2**	**+2.3**
TPNV				*e*Sn	**Sn**	**16 18 55.0**	**+1.8**

IDC 12 16:28:00.8±2.7,1053S×11328E,h0km,mb3.4/4, mb1 3.5/4,mb1mx3.4/15,mbtmp3.4/4,Error ellipse: s-maj=143.0km s-min=22.2km az=46.0,South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.34**	**117**	P	P	16 33 00.7	+0.2
	0.4nm,0.7s,baz=292,slow=11,SNR=6.9						
ASAR	**Alice Springs**	**23.60**	**126**	P	P	16 33 13.2	-0.5
	0.5nm,0.6s,baz=301,slow=9.3,SNR=18						
MKAR	**Makanchi Array**	**63.43**	**337**	P	P	16 38 32.8	+0.6
	0.3nm,0.4s,baz=164,slow=7.0,SNR=6.6						
ZALV	**Zalesovo Beam**	**68.62**	**342**	P	P	16 39 05.1	-0.4
	0.6nm,0.4s,baz=169,slow=5.5,SNR=4.7						

IDC ***12*** *16:32:35.0±3.8,1195N×8657W,h0km,mb3.9/5,mb1 4.1/5, mb1mx3.8/18,mbtmp3.9/5,MS3.0/2,Ms1 3.0/2, ms1mx2.5/30,Error ellipse: s-maj=74.1km s-min=58.3km az=6.0*
ISCJB ***12*** *16:32:43.2±0.6,1185N±005×8686W±007,h79km±6km, mb3.9/7,Error ellipse: s-maj=13.7km s-min=5.1km az=149.4*
NEIC ***12*** *16:32:44.6±2.9,1203N×8665W,h70km±18km,mb4.1/2, Error ellipse: s-maj=36.2km s-min=26.3km az=93.0*
CASC ***12*** *16:32:45.7±3.1,1179N×8679W,h55km±20km,MD4.1, ML4.0,mb4.1(NEIC)*

ISC 12 16:32:43.8±0.6,1183N±005×8690W±007,h70km±7km,n52, σ0*80/54,mb3.9/7,7C-12D,Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COPN	**Copaltepe**	**0.46**	**41**	⇑*iP*	**Pn**	**16 32 55.9**	**-0.3**
CSAN		**0.58**	**53**	⇑*iP*	**Pn**	**16 32 57.2**	**-0.2**
CSAN				*e*S	**Sn**	**16 33 08.3**	**+0.9**
CRUN	**El Crucero**	**0.60**	**76**	*e*P	**Pn**	**16 32 57.6**	**0.0**
CRUN				*e*S	**Sn**	**16 33 16.3**	**+8.4**
MIRN	**Miramar**	**0.63**	**17**	*e*P	**Pn**	**16 32 57.9**	**-0.1**
XAVN	**Gruta Xavier**	**0.64**	**61**	⇓*iP*	**Pn**	**16 32 58.2**	**+0.2**
XAVN				*e*S	**Sn**	**16 33 08.5**	**-0.1**
APYN	**Apoyeque**	**0.67**	**53**	⇑*iP*	**Pn**	**16 32 58.6**	**+0.2**
APYN				*e*S	**Sn**	**16 33 09.7**	**+0.7**
MOMJ	**Momotombo**	**0.67**	**31**	⇓*iP*	**Pn**	**16 32 58.4**	**0.0**
MOMJ				*e*S	**Sn**	**16 33 08.6**	**-0.5**
TICN	**Ticuantepe**	**0.68**	**73**	*e*P	**Pn**	**16 32 58.7**	**+0.2**
TICN				*e*S	**Sn**	**16 33 15.4**	**+6.1**
TISN	**Laguna Tiscapa**	**0.69**	**63**	⇑*iP*	**Pn**	**16 32 58.8**	**+0.2**
TISN				*e*S	**Sn**	**16 33 09.6**	**+0.2**
MGAN	**Managua**	**0.71**	**64**	⇓*iP*	**Pn**	**16 32 59.1**	**+0.3**
MGAN				*e*S	**Sn**	**16 33 09.8**	**-0.1**
MGAN				*i*		16 33 11.2	
	comp=N,17μm,0.5s						
TEL3	**Telica 3**	**0.74**	**4**	⇓*iP*	**Pn**	**16 32 59.1**	**0.0**
MASN	**Masaya**	**0.74**	**78**	*e*P	**Pn**	**16 32 58.3**	**-0.9**
MASN				*e*S	**Sn**	**16 33 08.9**	**-1.7**
MASN				*i*		16 33 18.3	
	comp=E,6μm,0.7s						
TELN	**Telica**	**0.77**	**5**	⇓*iP*	**Pn**	**16 32 59.5**	**-0.1**
APON	**Apoyo**	**0.82**	**84**	⇓*iP*	**Pn**	**16 33 00.1**	**+0.1**
HUEN		**0.87**	**55**	⇓*iP*	**Pn**	**16 33 01.1**	**+0.5**
HUEN				*e*S	**Sn**	**16 33 14.0**	**+0.8**
SSNN	**San Juan del S**	**1.16**	**118**	⇓*eP*	**Pn**	**16 33 04.0**	**-0.3**
SSNN				*e*S	**Sn**	**16 33 19.6**	**0.0**
CONN	**Concepcion**	**1.27**	**102**	⇓*eP*	**Pn**	**16 33 06.0**	**+0.2**
CONN				*e*S	**Sn**	**16 33 22.6**	**+0.3**
BOAB	**BOACO BROADBAN**	**1.35**	**63**	⇓*iP*	**Pn**	**16 33 06.3**	**-0.5**
BOAB				*e*S	**Sn**	**16 33 24.4**	**+0.3**
MADN	**Villa Maderas**	**1.40**	**107**	*e*P	**Pn**	**16 33 07.6**	**+0.1**
MADN				*e*S	**Sn**	**16 33 24.1**	**-1.1**
CNCH	**Conchagua**	**1.70**	**328**	⇓*eP*	x	16 33 16.1	
LIM1	**Limonal**	**1.97**	**125**	*e*P	**Pn**	**16 33 14.1**	**-0.9**
LIM1				*e*S	**Sn**	**16 33 38.1**	**-0.6**
CUI		**2.05**	**124**	⇑*eP*	**Pn**	**16 33 15.8**	**-0.3**
BLLM	**Bellamira**	**2.07**	**321**	⇑*eP*	x	16 33 21.4	
BLLM				*e*S	x	16 33 47.5	
VSM	**San Miguel**	**2.08**	**320**	*e*P	x	16 33 21.3	
VCR	**Vista de Mar**	**2.10**	**144**	*e*P	**Pn**	**16 33 15.8**	**-1.1**
TGUH	**Tegucigalpa,Un**	**2.24**	**351**	*e*Pn	**Pn**	**16 33 17.6**	**-1.1**
JCR	**Jicaral**	**2.64**	**138**	*e*P	**Pn**	**16 33 23.9**	**-0.2**
LCBS	**La Ceiba**	**2.72**	**312**	⇑*eP*	x	16 33 30.0	
LCBS				*e*S	x	16 34 01.4	
LFRS	**El Faro**	**2.76**	**310**	*e*P	x	16 33 30.5	
LBRS	**Las Brisas**	**2.82**	**312**	*e*P	x	16 33 28.7	
CGA2	**Cerro Gallo 2**	**2.99**	**127**	*e*P	**Pn**	**16 33 31.9**	**+2.9**
PRS1	**Puriscal**	**3.13**	**126**	*e*P	**Pn**	**16 33 31.9**	**+1.1**
SNJE	**San Jose**	**3.33**	**308**	*e*P	x	16 33 39.0	
LAJ	**Bijagual**	**3.36**	**125**	*e*P	**Pn**	**16 33 32.1**	**-1.8**
LCR2	**La Lucha 2**	**3.52**	**126**	*e*P	**Pn**	**16 33 37.1**	**+1.0**
RBDL	**Robledal**	**3.54**	**310**	*e*P	x	16 33 42.1	
URSC	**Urasca**	**3.65**	**123**	*e*P	**Pn**	**16 33 39.5**	**+1.6**
BAR1		**4.37**	**126**	*e*P	**Pn**	**16 33 49.5**	**+1.9**
CHI2		**14.84**	**118**	⇓*eP*	Px	16 32 59.5	
SDV	**Santo Domingo**	**16.26**	**99**	LR	LR	16 43 22.3	
	comp=E,54nm,18.7s,baz=231,slow=41						
SJG	**San Juan**	**20.98**	**70**	LR	LR	16 44 42.9	
	comp=E,33nm,18.1s,baz=218,slow=35						
TXAR	**Lajitas Array**	**23.39**	**321**	P	**P**	**16 37 47.1**	**+0.6**
	comp=E,2.5nm,0.7s,mb3.6,baz=142,slow=9.4,SNR=25						
MIAR	**Mount Ida**	**23.41**	**346**	*e*P	**P**	**16 37 47.1**	**+0.5**
	comp=E,13nm,1.4s,mb4.1						
WMOK	**Wichita Mounta**	**25.23**	**337**	*e*P	**P**	**16 38 03.8**	**+0.6**
	comp=E,5.1nm,1.0s,mb3.9						
PDAR	**Pinedale Array**	**36.57**	**332**	P	**P**	**16 39 43.8**	**+0.9**
	comp=E,0.8nm,0.5s,mb3.9,baz=129,slow=9.6,SNR=8.0						
ULM	**Lac du Bonnet**	**39.01**	**351**	P	**P**	**16 40 02.0**	**-1.4**
	comp=E,1.6nm,0.5s,mb4.2,baz=162,slow=5.8,SNR=4.6						
SCHQ	**Schefferville**	**45.71**	**16**	P	**P**	**16 40 56.7**	**-1.0**
SCHQ	**Schefferville**	**45.71**	**16**	P	**P**	**16 40 56.7**	**-1.0**
	comp=E,2.3nm,1.0s,mb3.9,baz=198,slow=13,SNR=3.8						
YKA	**Yellowknife Ar**	**54.35**	**345**	P	**P**	**16 42 02.4**	**-0.5**
YKA	**Yellowknife Ar**	**54.35**	**345**	P	**P**	**16 42 02.4**	**-0.5**
	comp=E,0.6nm,0.8s,mb3.7,baz=135,slow=8.2,SNR=12						
ASAR	**Alice Springs**	**139.54**	**247**	PKP	PKPdf	16 52 05.7	+1.6
	comp=E,0.2nm,0.8s,baz=111,slow=3.9,SNR=3.2						
WRA	**Warramunga Arr**	**139.62**	**253**	PKP	PKPdf	16 52 05.7	+1.4
	comp=E,0.3nm,0.6s,baz=94,slow=2.2,SNR=9.2						

WEL 12 16:34:06.9±0.2,4028S×17655E,h21km±2km,ML3.5/38, 3C-2D,Error ellipse: s-maj=2.7km s-min=1.6km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WPHZ	**Waipukurau**	**0.23**	**339**	⇓*P**	Pb	16 34 12.2	-0.4
WPHZ				*S*	Sb	16 34 16.5	+0.1
PXZ	**Pawanui**	**0.35**	**45**	⇑*P**	Pb	16 34 14.6	+0.2
PXZ				*eS**	Sb	16 34 20.9	+1.4
BFZ	**Birch Farm**	**0.46**	**210**	*P**	Pb	16 34 17.0	+0.7
TSZ	**Takapari Road**	**0.50**	**296**	⇓*P**	Pb	16 34 16.7	-0.3
TSZ				*S**	Sb	16 34 24.2	+0.4
TIWZ	**Tintock**	**0.71**	**225**	*P**	Pb	16 34 21.0	+0.4
MRZ	**Mangatainoka R**	**0.83**	**242**	⇑*P**	Pb	16 34 22.5	-0.1
MRZ				*S**	Sb	16 34 35.2	+1.8
MOVZ	**Moawhango**	**1.06**	**325**	PN	Pn	16 34 26.6	+0.1
BKZ	**Black Stump Fm**	**1.11**	**358**	⇑PN	Pn	16 34 26.7	-0.5
MTW	**Mount Morrison**	**1.18**	**222**	*P**	Pb	16 34 26.6	-2.1
WNVZ	**Wahianoa**	**1.20**	**322**	PN	Pn	16 34 29.1	+0.8
TUVZ	**Tukino**	**1.22**	**325**	PN	Pn	16 34 29.5	+0.8
TRVZ	**Turoa**	**1.24**	**322**	PN	Pn	16 34 29.8	+0.8
FWVZ	**Far West T-bar**	**1.28**	**323**	PN	Pn	16 34 30.2	+0.7
TRWZ	**Traveller**	**1.29**	**210**	*P**	Pb	16 34 28.3	-2.2
WAZ	**Wanganui**	**1.31**	**293**	PN	Pn	16 34 30.9	+1.1
NGZ	**Ngauruhoe**	**1.32**	**326**	PN	Pn	16 34 30.8	+0.7
**W

0.7nm,0.8s,mb4.2,baz=262,slow=4.4,SNR=12
CLL Collm 127.02 332 *e*PKPdf PKPdf 17 15 07.0 +2.5

NEIC 12 17:09:18.8,6313N×15272W,h10km,ML3.7(PMR),
ML3.5(AEIC),**After AEIC.,Central Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTH	**Kantishna Hill**	**0.92**	**62**	P	Pg	17 09 35.6	-0.7
TRF	**Thorofare Moun**	**1.15**	**73**	P	Pb	17 09 39.2	-1.4
TTA	**Tatalina**	**1.51**	**264**	P	Pn	17 09 45.8	0.0
TT01	**Tatalina**	**1.52**	**263**	P	Pn	17 09 45.9	-0.1
MCK	**McKinley**	**1.81**	**69**	P	Pn	17 09 50.4	+0.6
MCK				S	Sn	17 10 14.7	+2.0
GHO	**Glory Hole Cre**	**2.23**	**126**	P	Pn	17 09 57.5	+1.7
PMR	**Palmer**	**2.28**	**131**	P	Pn	17 09 57.4	+1.1
FIB	**Fire Island**	**2.31**	**148**	P	Pn	17 09 57.5	+0.8
SML	**Sawmill**	**2.43**	**121**	P	Pn	17 09 59.3	+0.8
SVW2	**Sparrevohn**	**2.44**	**215**	P	Pn	17 09 58.3	-0.3
RC01	**Rabbit Creek A**	**2.48**	**144**	P	Pn	17 09 59.9	+0.7
COLA	**College**	**2.77**	**49**	P	Pn	17 10 04.8	+1.7
SLKM	**Skilak Lake**	**2.89**	**155**	*e*Pn	Pn	17 10 06.0	+1.2
IM3	**Indian Mountai**	**2.90**	**352**	P	Pn	17 10 05.0	+0.2
IMA2	**Indian Mountai**	**2.98**	**352**	P	Pn	17 10 06.1	+0.2
IL1	**Eielson Array**	**3.06**	**55**	P	Pn	17 10 06.9	-0.1
SEW	**Seward**	**3.42**	**151**	P	Pn	17 10 14.1	+2.1
MENT	**Mentasta**	**4.11**	**89**	P	Pn	17 10 22.9	+1.5
EYAK	**Cordova Ski Ar**	**4.20**	**125**	*e*Pn	Pn	17 10 25.9	+3.2
COLD	**Coldfoot**	**4.25**	**13**	P	Pn	17 10 23.8	+0.5
BCA3	**Beaver Creek A**	**4.97**	**86**	P	Pn	17 10 35.3	+2.0
EGAK	**Eagle**	**5.36**	**67**	*e*Pn	Pn	17 10 37.8	-0.8
	41nm,0.8s						
BM3	**Burnt Mountain**	**5.49**	**35**	P	Pn	17 10 39.1	-1.3
DAWY	**Dawson**	**6.02**	**75**	*e*Pn	Pn	17 10 46.8	-1.0
TNA	**Tin City**	**7.03**	**297**	P	Pn	17 11 03.0	+1.4
AMKA	**Amchitka**	**18.98**	**245**	*e*Pn	Pn	17 13 37.8	-2.9

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*SZGRF **12** 17:15:42.0,1598S×17423W,h33km, Tonga Islands*
*IDC **12** 17:15:52.1±8.5,1678S×17454W,h144km±76km,mb3.9/9,*
mb1 4.2/9,mb1mx4.1/15,mbtmp3.9/9,Error ellipse:
s-maj=32.8km s-min=21.2km az=151.0
*ISCJB **12** 17:15:53.6±1.6,169S±0.1×1746W±0.1,h169km±15km,*
mb4.3/25,Error ellipse: s-maj=27.4km s-min=11.6km
az=138.5
*NEIC **12** 17:15:54.4±1.1,1687S×17460W,h166km±10km,mb4.4/12,*
Error ellipse: s-maj=19.9km s-min=7.5km az=140.0
*BJI **12** 17:15:59.2,16.13S×17537W,h166km,mB5.0,mb4.7*
ISC 12 17:15:54.4±1.5,169S±01×1745W±01,h165km±14km,n93,
σ1°03/34,mb4.3/25,7C-3D,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**4.01**	**42**	*e*Pn	**Pn**	**17 16 55.3**	**+0.1**
AFI				*e*Sn	**Sn**	**17 17 37.0**	**-5.6**
URZ	**Urewera**	**22.48**	**197**	P	**P**	**17 20 41.0**	**+1.1**
	6.8nm,0.4s,mb4.4,baz=355,slow=4.8,SNR=12						
STKA	**Stephens Creek**	**42.34**	**241**	*e*P	**P**	**17 23 33.0**	**+0.7**
	6.0nm,0.9s,mb4.2						
STKA	**Stephens Creek**	**42.34**	**241**	*e*P	**P**	**17 23 32.4**	**+0.1**
	8.3nm,0.9s,mb4.4						
STKA	**Stephens Creek**	**42.34**	**241**	P	**P**	**17 23 33.0**	**+0.7**
	6.5nm,0.8s,mb4.3,baz=89,slow=9.8,SNR=16						
WB2	**Warramunga Arr**	**48.45**	**258**	*e*P	**P**	**17 24 19.6**	**-0.9**
WRAB	**Tennant Creek**	**48.45**	**258**	*e*P	**P**	**17 24 20.3**	**-0.2**
	15nm,1.3s,mb4.5						
WRA	**Warramunga Arr**	**48.46**	**258**	P	**P**	**17 24 19.6**	**-1.0**
	0.6nm,0.3s,mb3.7,baz=95,slow=5.9,SNR=35						
WRA				PcP	PcP	17 25 44.1	-0.1
	1.4nm,0.9s,baz=87,slow=3.7,SNR=4.9						
ASAR	**Alice Springs**	**48.62**	**253**	P	**P**	**17 24 21.2**	**-0.5**
	12nm,0.8s,mb4.6,baz=89,slow=8.2,SNR=196						
ASAR				PcP	PcP	17 25 45.3	+0.5
	1.5nm,0.7s,baz=96,slow=3.1,SNR=6.1						
KAKA	**Kakadu**	**51.33**	**267**	*e*P	**P**	**17 24 41.5**	**-0.7**
	4.9nm,0.6s,mb4.3						
FORT	**Forrest**	**53.77**	**244**	*e*P	**P**	**17 25 00.7**	**+0.7**
	6.1nm,0.7s,mb4.4						
MBWA	**Marble Bar**	**61.91**	**255**	*e*P	**P**	**17 25 56.2**	**-0.7**
	5.6nm,1.0s,mb4.3						
NWAO	**Narrogin (SRO)**	**62.93**	**241**	P	**P**	**17 26 00.9**	**-2.6**
	5.7nm,1.0s,mb4.4						
MJAR	**Matsushiro Arr**	**69.43**	**321**	P	**P**	**17 26 43.6**	**-1.1**
	3.4nm,0.9s,mb4.1,baz=160,slow=7.3,SNR=5.8						
YSS	**Yuzh-Sakhalins**	**74.29**	**331**	*e*P	**P**	**17 27 14.1**	**+0.7**
	5.4nm,0.8s,mb4.3						
CMB	**Columbia Colle**	**74.62**	**42**	P	**P**	**17 27 15.8**	**+0.2**
	4.4nm,0.9s,mb4.1						
NVAR	**Mina Array Bea**	**76.19**	**42**	P	**P**	**17 27 24.1**	**-0.3**
	2.2nm,0.7s,mb3.9,baz=216,slow=7.6,SNR=5.9						
KSM	**Kuching**	**76.26**	**276**	*e*P	**P**	**17 27 26.2**	**+0.7**
KSRS	**Korea Array**	**76.51**	**316**	P	**P**	**17 27 26.9**	**+0.6**
	1.8nm,0.9s,mb3.7,baz=132,slow=6.9,SNR=4.5						
MDJ	**Mudanjiang**	**79.59**	**323**	P	**P**	**17 27 43.3**	**+0.2**
MDJ				AMB	AMB		
	comp=Z,8.0nm,2.1s,mb4.0						
MDJ				AMB	AMB		
	comp=Z,41nm,4.1s						
CN2	**Changchun**	**81.58**	**321**	*e*P	**P**	**17 27 56.3**	**+2.6**
ANMO	**Albuquerque**	**82.61**	**50**	P	**P**	**17 27 59.9**	**+0.6**
	comp=Z,2.1nm,0.8s,mb3.9						
MCK	**McKinley**	**82.83**	**11**	*e*P	**P**	**17 27 58.7**	**-1.0**
	comp=Z,6.3nm,0.7s,mb4.5						
COLA	**College**	**84.07**	**11**	*e*P	**P**	**17 28 04.1**	**-1.9**
	comp=Z,6.1nm,0.7s,mb4.4						
PDAR	**Pinedale Array**	**84.12**	**42**	P	**P**	**17 28 06.7**	**-0.2**
	comp=Z,2.1nm,0.6s,mb4.0,baz=210,slow=2.8,SNR=19						
BILL	**Billbino**	**85.89**	**353**	*e*P	**P**	**17 28 14.3**	**-0.7**
	comp=Z,4.2nm,0.8s,mb4.2						
HHC	**Hu-ho-hao-te**	**89.28**	**313**	*e*P	**P**	**17 28 33.9**	**+2.0**
HHC				AP	pP	17 29 15.4	+2.2
HHC				XP	sP	17 29 30.3	-0.2
HHC				SKS		17 38 47.9	
HHC				S	S	17 39 09.2	+1.7
HHC				AMB	AMB		
	comp=Z,83nm,4.6s						
HHC				LR	LR		
	comp=N,131nm,6.1s						
HHC				LR	LR		
	comp=E,76nm,8.2s						
HHC				LR	LR		
	comp=Z,55nm,5.9s						
INK	**Inuvik**	**90.01**	**14**	*e*P	**P**	**17 28 35.1**	**+0.5**
	comp=Z,56nm,0.9s,mb5.5						
KMI	**Kunming**	**90.72**	**296**	P	**P**	**17 28 40.4**	**+1.4**
KMI				AMB	AMB		
	comp=Z,5.0nm,1.0s,mb4.5						
CD2	**Chengdu**	**91.69**	**302**	*e*P	**P**	**17 28 43.1**	**-0.2**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.8						
YKA	**Yellowknife Ar**	**91.93**	**24**	P	**P**	**17 28 42.4**	**-1.2**
YKA	**Yellowknife Ar**	**91.93**	**24**	P	**P**	**17 28 42.4**	**-1.2**
	comp=Z,0.3nm,0.5s,mb3.6,baz=245,slow=4.1,SNR=6.3						
LZH	**Lanzhou**	**93.27**	**307**	*e*P	**P**	**17 28 51.9**	**+1.4**
LZH				AP	pP	17 29 34.5	+2.6
LZH				XP	sP	17 29 51.0	+1.9
LZH				AMB	AMB		
	comp=Z,15nm,1.0s,mb5.1						
LZH				AMB	AMB		
	comp=Z,65nm,4.0s						
MKAR	**Makanchi Array**	**111.13**	**314**	PKiKP	PKiKP	17 34 07.2	-1.1
	comp=Z,0.5nm,0.6s,baz=89,slow=1.0,SNR=4.7						
MKAR				PP	PP	17 34 54.1	+4.0
	comp=Z,0.2nm,0.4s,baz=74,slow=10,SNR=3.6						
ARCES	**ARCESS Array B**	**125.97**	**351**	PKP	PKPdf	17 34 35.3	-0.8
	comp=Z,2.0nm,0.7s,baz=13,slow=1.4,SNR=15						
FINES	**FINESS Array B**	**133.19**	**347**	PKP	PKPdf	17 34 49.6	-0.5
	comp=Z,1.9nm,1.0s,baz=64,slow=4.4,SNR=6.3						
AKASG	**Malin Array Be**	**141.32**	**336**	PKhKP		17 34 57.8	
	comp=Z,0.2nm,0.3s,baz=42,slow=4.6,SNR=6.1						
KMBO	**Kilima Mbogo**	**143.89**	**243**	PKP	PKPdf	17 35 09.8	-1.3
KMBO	**Kilima Mbogo**	**143.89**	**243**	PKP	PKPdf	17 35 09.8	-1.3
	comp=Z,2.5nm,0.7s,baz=58,slow=6.7,SNR=8.1						
NRDL	**Niedersach Rie**	**144.34**	**355**	*e*PKPbc	PKPdf	17 35 08.9	-1.8
KWP	**Kalwaria**	**144.53**	**341**	*e*PKPdf	PKPdf	17 35 09.4	-1.7
CLZ	**Clausthal**	**144.96**	**355**	*e*PKPbc	PKPdf	17 35 11.3	-0.5
KSP	**Ksiaz**	**145.08**	**348**	*e*P	PKPbc	17 35 11.8	0.0
STHS	**Stebnicka Huta**	**145.17**	**342**	*e*PKP	PKPdf	17 35 12.4	+0.2
STHS	**Stebnicka Huta**	**145.17**	**342**	*e*PKP	PKPdf	17 35 12.3	+0.1
CLL	**Collm**	**145.19**	**352**	*e*PKPbc	PKPbc	17 35 11.7	-0.4
CLL	**Collm**	**145.19**	**352**	⇓*i*PKPbc	PKPbc	17 35 11.3	-0.8
	comp=Z,7.0nm,0.7s						
KOLS	**Kolonicke sedl**	**145.28**	**340**	*e*PKP	PKPdf	17 35 12.3	-0.1
BRG	**Berggiesshubel**	**145.47**	**351**	*e*PKPbc	PKPbc	17 35 12.8	-0.2
BRG	**Berggiesshubel**	**145.47**	**351**	*i* PKP	PKPdf	17 35 12.4	-0.2
	comp=Z,11nm,1.4s						
DPC	**Dobruska-Polom**	**145.54**	**348**	*e*PKP	PKPdf	17 35 13.5	+0.7
CRVS	**Cervenica-Dubn**	**145.56**	**341**	*e*PKP	PKPdf	17 35 13.4	+0.5
CRVS	**Cervenica-Dubn**	**145.56**	**341**	*e*PKP	PKPdf	17 35 13.3	+0.4
OKC	**Ostrava-Krasne**	**145.62**	**345**	*e*PKP	PKPdf	17 35 12.9	-0.1
PVCC	**Panska Ves**	**145.70**	**350**	*e*PKP	PKPdf	17 35 13.8	+0.7
MOX	**Moxa**	**146.02**	**353**	*e*PKP	PKPdf	17 35 14.5	+0.9
	comp=Z,9.0nm,1.2s						
TANN	**Tannenbergstha**	**146.14**	**352**	*e*PKPbc	PKPbc	17 35 15.1	+0.1
PRU	**Pruhonice**	**146.23**	**349**	*e*PKP	PKPdf	17 35 15.1	+1.1
KECS	**Kecovo**	**146.23**	**342**	*e*PKP	PKPdf	17 35 15.1	+1.1
VYHS	**Vyhne**	**146.69**	**344**	*i* PKP	PKPbc	17 35 17.0	+0.3
ROTZ	**Rotzenmuhle**	**146.80**	**352**	*e*PKPbc	PKPbc	17 35 17.2	+0.2
GIVF	**Givet**	**146.91**	**1**	*e*PKP1	PKPbc	17 35 16.0	-1.3
BAIF	**Baives**	**146.95**	**2**	*e*PKP1	PKPbc	17 35 16.9	-0.5
	comp=Z,6.6nm,0.7s						
GRA1	**Grafenberg Arr**	**147.00**	**353**	*e*PKPbc	PKPbc	17 35 17.8	+0.3
GRF	**Grafenberg Arr**	**147.00**	**353**	*e*PKPbc	PKPbc	17 35 17.8	+0.3
MODS	**Modra-Piesok**	**147.19**	**345**	*e*PKP	PKPbc	17 35 18.9	+0.8
KHC	**Kasperske Hory**	**147.22**	**350**	*e*PKP	PKPbc	17 35 18.0	-0.2
WLF	**Walferdange**	**147.35**	**359**	*e*PKPbc	PKPbc	17 35 19.1	+0.6
GEC2	**GERESS Array S**	**147.48**	**350**	*e*PKPbc	PKPbc	17 35 18.9	0.0
GERES	**GERESS Array B**	**147.48**	**350**	PKPbc	PKPbc	17 35 18.7	-0.1
	comp=Z,1.5nm,0.6s,baz=20,slow=3.1,SNR=10						
FLN	**La Foliniere**	**147.89**	**7**	*e*PKP1	PKPbc	17 35 19.0	-1.0
	comp=Z,20nm,0.8s						
CONA	**Conrad Observa**	**147.94**	**347**	⇓*i*PKiKP	PKiKP	17 35 20.5	-1.4
	comp=Z,5.9nm,0.6s						
LDF	**La Druitiere**	**148.10**	**7**	*e*PKP1	PKPbc	17 35 19.6	-0.9
	comp=Z,7.3nm,0.7s						
GRR	**Gorron**	**148.21**	**8**	*e*PKP1	PKPbc	17 35 20.1	-0.7
	comp=Z,10nm,0.6s						
MOA	**Molln**	**148.34**	**349**	⇑*i*P	PKPbc	17 35 21.0	-0.2
	comp=Z,4.7nm,1.0s						
FUR	**Furstenfeldbru**	**148.50**	**353**	*e*PKPbc	PKPbc	17 35 22.7	+1.1
CDF	**Champ du Feu**	**148.58**	**358**	*e*PKP1	PKPbc	17 35 21.3	-0.5
BFO	**Black Forest**	**148.61**	**356**	*e*PKPbc	PKPbc	17 35 22.1	+0.2
HAU	**Haudompre**	**149.01**	**359**	*e*PKP1	PKPbc	17 35 22.4	-0.5
HINF	**Hinteralfeld**	**149.19**	**358**	*e*PKP1	PKPbc	17 35 23.1	-0.2
WTTA	**Wattenberg**	**149.33**	**352**	⇓*i*P	PKPbc	17 35 23.7	0.0
	comp=Z,7.3nm,0.5s						
FETA	**Feichten**	**149.69**	**353**	⇑*i*PKiKP	PKiKP	17 35 24.6	-0.9
	comp=Z,6.5nm,0.9s						
ABTA	**Abfaltersbach**	**149.71**	**350**	⇑*i*PKPbc	PKPbc	17 35 23.9	-0.7
	comp=Z,6.7nm,0.6s						
LOR	**Lormes**	**149.73**	**2**	*e*PKP1	PKPbc	17 35 24.3	-0.4
	comp=Z,8.3nm,0.6s						
SSF	**Saint Saulge**	**149.92**	**3**	⇑*i*PKP1	PKPbc	17 35 24.8	-0.3
	comp=Z,7.6nm,0.7s						
AVF	**Avril sur Loir**	**150.18**	**3**	*e*PKP1	PKPbc	17 35 25.0	-0.8
BGF	**Bois d'Agland**	**150.38**	**4**	*e*PKP1	PKPbc	17 35 25.8	-0.5
	comp=Z,10nm,0.6s						
CABF	**La Chapelle**	**150.41**	**359**	*e*PKP1	PKPbc	17 35 26.6	+0.3
	comp=Z,34nm,1.0s						
LPL	**La Plagne**	**151.49**	**358**	*e*PKP1	PKPbc	17 35 30.0	+1.1
	comp=Z,9.1nm,0.8s						
LPG	**La Plagne**	**151.51**	**358**	⇑*i*PKP1	PKPbc	17 35 30.2	+1.3
	comp=Z,5.3nm,0.7s						
ORIF	**Oris-en-Rattie**	**152.10**	**359**	*e*PKP1	PKPbc	17 35 30.0	-0.3
	comp=Z,14nm,1.0s						
VIVF	**Saint-Julien-l**	**152.16**	**1**	⇑*i*PKP1	PKPbc	17 35 30.9	+0.5
	comp=Z,15nm,1.1s						
MBDF	**Montbardon**	**152.28**	**358**	⇑*i*PKP1	PKPbc	17 35 31.2	+0.5
	comp=Z,5.1nm,0.6s						

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*ISCJB **12** 17:17:43.6±1.8,130N±02×1452E±03,h126km±7km,*
mb3.9/8,Error ellipse: s-maj=52.4km s-min=26.8km
az=0.1
*IDC **12** 17:17:43.9±1.7,1307N×14531E,h114km±6km,mb3.6/8,*
mb1 3.7/8,mb1mx3.5/20,mbtmp3.6/8,Error ellipse:
s-maj=43.0km s-min=25.4km az=87.0
ISC 12 17:17:44.0±2.0,130N±02×1454E±03,h118km±9km,n9,
σ0°95/10,mb3.9/8,Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**0.73**	**321**	P	**Pn**	**17 18 04.0**	**+0.7**
	94nm,0.3s,baz=124,slow=4.2,SNR=270						
GUMO				S	**Sn**	**17 18 17.7**	**-0.4**
	287nm,0.3s,baz=1.5,slow=23,SNR=44						
JNU	**Nakatsue**	**23.98**	**329**	P	**P**	**17 22 46.1**	**-1.4**
	2.8nm,0.6s,mb3.8,baz=57,slow=31,SNR=5.0						
KSRS	**Korea Array**	**28.88**	**330**	P	**P**	**17 23 30.4**	**-1.2**
	2.5nm,0.5s,mb4.1,baz=145,slow=9.4,SNR=14						
FITZ	**Fitzroy Crossi**	**36.53**	**213**	P	**P**	**17 24 37.8**	**-0.5**
	0.8nm,0.4s,mb4.0,baz=102,slow=2.3,SNR=3.6						
SONM	**Songino Array**	**47.46**	**325**	P	**P**	**17 26 08.7**	**+1.9**
	0.5nm,0.5s,mb3.5,baz=138,slow=7.0,SNR=3.4						
MKAR	**Makanchi Array**	**62.22**	**316**	P	**P**	**17 27 54.3**	**+1.2**
	0.2nm,0.3s,mb3.6,baz=90,slow=8.0,SNR=5.1						
ZALV	**Zalesovo Beam**	**62.35**	**324**	P	**P**	**17 27 53.9**	**0.0**
	0.6nm,0.5s,mb3.9,baz=98,slow=9.1,SNR=3.5						
YKA	**Yellowknife Ar**	**83.15**	**27**	P	**P**	**17 29 56.3**	**-0.2**
	0.5nm,0.4s,mb3.7,baz=285,slow=5.0,SNR=6.8						
YKA				pP	pP	17 30 20.7	-6.0
	0.5nm,0.6s,baz=288,slow=5.4,SNR=5.6						
ARCES	**ARCESS Array B**	**87.77**	**342**	P	**P**	**17 30 19.4**	**+0.1**
	2.7nm,1.0s,mb4.2,baz=78,slow=7.6,SNR=5.3						

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*ISCJB **12** 17:23:45.0±0.6,3614N±003×14030E±005,h103km±5km,*
mb3.4/2,Error ellipse: s-maj=6.8km s-min=4.8km az=3.1
*JMA **12** 17:23:46.2±0.1,3615N×14025E,h95km±1km,M2.8*
*IDC **12** 17:23:46.4±4.5,3605N×14025E,h104km±31km,mb3.3/2,*
mb1 3.2/3,mb1mx3.0/21,mbtmp3.4/3,Error ellipse:
s-maj=63.4km s-min=8.8km az=61.0
ISC 12 17:23:46.0±0.6,3614N±003×14030E±005,h98km±5km,
n19,σ0°52/35,mb3.4/2,Near east coast of eastern
Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYT	**Yasato**	**0.12**	**315**	P	**Pn**	**17 23 59.7**	**+0.1**
JYT				S	**Sn**	**17 24 09.6**	**-0.2**
JAG	**Ashikaga**	**0.74**	**293**	P	**Pn**	**17 24 03.4**	**-0.1**
JAG				*e*S	**Sn**	**17 24 15.9**	**-0.7**
JKT	**Katashina**	**1.05**	**307**	P	**Pn**	**17 24 06.8**	**+0.1**
JKT				S	**Sn**	**17 24 22.6**	**+0.2**
JRY	**Ryogami san**	**1.14**	**264**	P	**Pn**	**17 24 07.9**	**+0.2**
JRY				*e*S	**Sn**	**17 24 24.5**	**+0.3**
JFK	**Kawauchi**	**1.31**	**21**	P	**Pn**	**17 24 09.6**	**-0.1**
JFK				*e*S	**Sn**	**17 24 27.0**	**-0.6**
JOD2	**Odawara 2**	**1.32**	**229**	P	**Pn**	**17 24 09.6**	**-0.3**
JOD2				*e*S	**Sn**	**17 24 26.8**	**-1.1**
BSO3	**Boso 3**	**1.35**	**173**	P	**Pn**	**17 24 10.1**	**-0.1**
BSO3				*e*S	**Sn**	**17 24 29.7**	**+1.1**
JFY	**Yanaizu**	**1.35**	**339**	P	**Pn**	**17 24 10.4**	**+0.2**
JFY				*e*S	**Sn**	**17 24 28.9**	**+0.3**
JFT	**Otama**	**1.37**	**1**	P	**Pn**	**17 24 10.8**	**+0.3**
JFT				*e*S	**Sn**	**17 24 29.7**	**+0.6**
JYN	**Shimob**	**1.56**	**246**	P	**Pn**	**17 24 13.1**	**+0.2**
JYN				*e*S	**Sn**	**17 24 33.5**	**+0.2**
BSO1	**Boso 1**	**1.59**	**159**	P	**Pn**	**17 24 12.6**	**-0.6**
BSO1				*e*S	**Sn**	**17 24 35.0**	**+1.2**
MJAR	**Matsushiro Arr**	**1.73**	**284**	P	**Pn**	**17 24 15.1**	**+0.1**
	5.6nm,0.3s,baz=99,slow=11,SNR=71						
MJAR				S	**Sn**	**17 24 37.3**	**+0.2**
	4.2nm,0.3s,baz=219,slow=31,SNR=12						
MAT	**Matsushiro**	**1.74**	**284**	P	**Pn**	**17 24 15.5**	**+0.5**
MAT				S	**Sn**	**17 24 37.3**	**+0.2**
MAT	**Matsushiro**	**1.74**	**284**	P	**Pn**	**17 24 15.5**	**+0.5**
MAT				*e*S	**Sn**	**17 24 37.2**	**+0.1**
JMM	**Marumori**	**1.77**	**13**	P	**Pn**	**17 24 15.3**	**-0.1**
JMM				*e*S	**Sn**	**17 24 37.1**	**-0.7**
JHJ	**Hachijo jima 2**	**3.05**	**188**	P	**Pn**	**17 24 32.1**	**-0.1**
	8.5nm,0.3s,baz=231,slow=14,SNR=7.3						
JHJ				S	**Sn**	**17 25 06.7**	**-1.3**
	30nm,0.3s,baz=253,slow=23,SNR=10						
CBIJ	**Chichi jima**	**9.16**	**169**	S	**Sn**	**17 27 23.4**	**-13**
	2.8nm,0.3s,baz=85,slow=24,SNR=2.4						
SONM	**Songino Array**	**27.56**	**306**	P	**P**	**17 29 23.4**	**-0.1**
	0.7nm,0.5s,mb3.4,baz=96,slow=11,SNR=4.3						
MKAR	**Makanchi Array**	**43.84**	**303**	P	**P**	**17 31 42.2**	**0.0**
	0.5nm,0.6s,mb3.4,baz=89,slow=9.5,SNR=4.5						

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*BJI **12** 17:39:52.0,1398S×3462E,h18km,mB5.0,mb4.7,Ms5.1,*
Msz4.7
*ISCJB **12** 17:39:53.2±0.2,1376S±004×3482E±004,h10km,*
mb4.7/73,MS3.7/11,Error ellipse: s-maj=6.4km
s-min=5.1km az=29.0
*NEIC **12** 17:39:55.2±2.5,1382S×3490E,h14km±15km,mb4.8/53,*
Error ellipse: s-maj=6.2km s-min=5.6km az=69.0
NEIC Felt at Lilongwe and Mangochi.
*IDC **12** 17:39:58.1±0.5,1381S×3493E,h35km±3km,mb4.3/13,*
mb1 4.4/16,mb1mx4.3/22,mbtmp4.3/17,ML4.8/3,MS3.9/11,
Ms1 3.9/11,ms1mx3.6/31,Error ellipse: s-maj=15.8km
s-min=11.6km az=113.0
ISC 12 17:39:55.1±2.5,1378S±004×3487E±005,h10km±15km,
h35km±,9km:pP-P,n159,σ0°89/165,mb4.7/73,MS3.7/11,
6C-3D,Malawi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSZ	**Lusaka**	**6.64**	**256**	*e*Pn	**Pn**	**17 41 33.4**	**+0.7**
	5.8nm,0.4s						
LSZ				*e*Sn	**Sn**	**17 42 46.9**	**-1.6**
LSZ	**Lusaka**	**6.64**	**256**	Pn	**Pn**	**17 41 33.5**	**+0.7**
	45nm,0.3s,baz=76,slow=12,SNR=743						
LSZ				Sn	**Sn**	**17 42 45.1**	**-3.4**
	32nm,0.3s,baz=167,slow=10,SNR=14						
LSZ				Lg		17 43 14.9	
	33nm,0.3s,baz=102,slow=19,SNR=3.1						
LSZ				LR	LR	17 44 22.2	
	comp=Z,2μm,20.6s,baz=89,slow=40						
MATP	**Matopo**	**8.98**	**222**	Pn	**Pn**	**17 42 05.0**	**0.0**
MATP				Sn	**Sn**	**17 43 37.2**	**-9.0**
MATP				Lg		17 44 35.0	
MATP				LR	LR	17 45 48.1	
MATP	**Matopo**	**8.98**	**222**	Pn	**Pn**	**17 42 05.0**	**0.0**
	6.8nm,0.3s,baz=38,slow=15,SNR=89						
MATP				Sn	**Sn**	**17 43 37.2**	**-9.0**
	13nm,0.3s,baz=85,slow=6.9,SNR=10						
MATP				Lg		17 44 35.0	
	26nm,0.3s,baz=318,slow=22,SNR=14						
MATP				LR	LR	17 45 48.1	
	comp=Z,728nm,18.7s,baz=32,slow=39						
OPO	**Ambohidratompo**	**12.75**	**114**	Pn	**Pn**	**17 42 58.0**	**+1.4**
	1.1nm,0.3s,baz=282,slow=12,SNR=11						
OPO				Sn	Sn	17 44 53.4	-25
	3.3nm,0.3s,baz=298,slow=16,SNR=2.4						
KMBO	**Kilima Mbogo**	**12.79**	**11**	*e*Pn	**Pn**	**17 42 55.8**	**-1.3**
	5.7nm,0.4s						
KMBO				*e*Sn	**Sn**	**17 45 08.5**	**-11**
KMBO	**Kilima Mbogo**	**12.79**	**11**	Pn	**Pn**	**17 42 55.7**	**-1.5**
	1.1nm,0.3s,baz=190,slow=15,SNR=21						
KMBO				Sn	**Sn**	**17 45 08.8**	**-11**
	2.6nm,0.3s,baz=28,slow=9.3,SNR=5.5						
KMBO				Lg		17 46 31.1	
	2.9nm,0.3s,baz=87,slow=23,SNR=5.3						
KMBO				LR	LR	17 47 45.1	
	comp=Z,317nm,18.3s,baz=95,slow=36						
ERPM	**east rand prop**	**13.87**	**206**	*e*S	**Sn**	**17 45 37.3**	**-8.6**
ERPM				AML	AML	17 47 14.3	
	comp=Z,67nm,0.7s						
KSR	**Koster**	**14.15**	**211**	*e*P	**Pn**	**17 43 17.1**	**+1.5**
KSR				AML	AML	17 43 47.9	
	comp=Z,28nm,0.4s						
KSR				*e*S	**Sn**	**17 45 43.1**	**-10**
LBTB	**Lobatse**	**14.18**	**217**	*e*P	**Pn**	**17 43 14.7**	**-1.4**
LBTB				*e*S	**Sn**	**17 45 44.3**	**-9.3**
LBTB				AML	AML	17 47 38.2	
	comp=Z,126nm,0.6s						
LBTB	**Lobatse**	**14.18**	**217**	*e*Pn	**Pn**	**17 43 14.2**	**-1.9**
	comp=Z,22nm,0.6s						
LBTB				*e*		17 43 23.6	
LBTB				*e*Sn	**Sn**	**17 45 42.

VNA2			e			17 50 58.6
VNA1	**Neumayer--Stat**	**62.64**	**195**	e	**P**	**17 50 21.7 +2.3**
VNA1				e		17 50 32.8
VNA1				e		17 50 40.0
VNA1				e		17 50 59.9
OBKA	**Obir**	**62.74**	**344**	⇑iP	**P**	**17 50 20.9 +0.7**
	comp=Z,6.0nm,0.7s,mb4.8					
KECS	**Kecovo**	**63.29**	**349**	eP	**P**	**17 50 24.4 +0.5**
	comp=Z,2.9nm,1.5s,mb4.2					
VNA3	**Neumayer Olymp**	**63.38**	**195**	e	**P**	**17 50 25.4 +1.1**
VNA3				e		17 50 36.3
VNA3				e		17 50 42.0
VNA3				e		17 50 55.3
SMRF	**Simiane la Rot**	**63.39**	**337**	eP	**P**	**17 50 25.0 +0.4**
CRVS	**Cervenica-Dubn**	**63.53**	**350**	eP	**P**	**17 50 25.4 0.0**
CRVS				ePP	PP	17 52 45.7 +0.3
MBDF	**Montbardon**	**63.58**	**338**	eP	**P**	**17 50 27.0 +1.1**
	comp=Z,15nm,0.7s,mb4.8					
MBDF	**Montbardon**	**63.58**	**338**	eP	**P**	**17 50 27.0 +1.1**
	comp=Z,7.6nm,0.7s,mb4.8					
VYHS	**Vyhne**	**63.62**	**348**	eP	**P**	**17 50 26.2 +0.2**
	comp=Z,4.5nm,1.5s,mb4.3					
ZST	**Bratislava**	**63.70**	**347**	eP	**P**	**17 50 26.2 -0.4**
	comp=Z,3.6nm,0.7s,mb4.5					
MOA	**Molln**	**64.05**	**345**	⇓iP	**P**	**17 50 29.1 +0.2**
	comp=Z,11nm,1.6s,mb4.6					
STHS	**Stebnicka Huta**	**64.06**	**350**	eP	**P**	**17 50 29.5 +0.5**
	comp=Z,2.9nm,0.7s,mb4.4					
ORIF	**Oris-en-Rattie**	**64.07**	**337**	eP	**P**	**17 50 30.0 +0.9**
	comp=Z,7.2nm,0.8s,mb4.5					
ORIF				eMLR	MLR	
	comp=Z,55nm,20.8s,MS3.4					
ORIF	**Oris-en-Rattie**	**64.07**	**337**	eP	**P**	**17 50 30.0 +0.9**
	comp=Z,3.6nm,0.8s,mb4.5					
LASF	**Ste Croix**	**64.15**	**336**	eP	**P**	**17 50 30.3 +0.7**
	comp=Z,46nm,1.3s,mb5.0					
MTLF	**Montolieu**	**64.22**	**334**	eP	**P**	**17 50 30.5 +0.4**
LPG	**La Plagne**	**64.25**	**338**	eP	**P**	**17 50 30.5 +0.2**
	comp=Z,9.6nm,0.8s,mb4.6					
LPG	**La Plagne**	**64.25**	**338**	eP	**P**	**17 50 30.5 +0.2**
	comp=Z,4.8nm,0.8s,mb4.6					
LPL	**La Plagne**	**64.28**	**338**	eP	**P**	**17 50 30.6 +0.2**
	comp=Z,20nm,0.9s,mb4.9					
LPL	**La Plagne**	**64.28**	**338**	eP	**P**	**17 50 30.6 +0.2**
	comp=Z,10nm,0.9s,mb4.8					
FETA	**Feichten**	**64.28**	**342**	⇑iP	**P**	**17 50 31.2 +0.8**
	comp=Z,8.3nm,0.9s,mb4.8					
ESDC	**Sonseca Array**	**64.31**	**328**	P	**P**	**17 50 31.9 +1.1**
	comp=Z,7.3nm,0.7s,mb4.8,baz=137,slow=5.9,SNR=29					
ESDC				pP	pP	17 50 41.8 +7.7
	comp=Z,3.2nm,0.6s,baz=141,slow=6.1,SNR=6.5					
ESLA	**Sonseca Array**	**64.31**	**328**	eP	**P**	**17 50 31.3 +0.6**
	comp=Z,0.8nm,0.6s,mb3.9					
ESLA				e		17 50 42.2
ESLA				e		17 50 47.4
SQTA	**Sankt Quirin**	**64.32**	**342**	⇑iP	**P**	**17 50 31.0 +0.3**
	comp=Z,4.4nm,0.7s,mb4.6					
AKASG	**Malin Array Be**	**64.40**	**356**	P	**P**	**17 50 30.1 -1.0**
	comp=Z,2.9nm,0.6s,mb4.5,baz=175,slow=6.0,SNR=16					
AKASG				pP	pP	17 50 40.9 +6.4
	comp=Z,1.1nm,0.5s,baz=175,slow=6.0,SNR=5.7					
AKBB	**Malin Array Si**	**64.40**	**356**	eP	**P**	**17 50 30.1 -1.0**
AKBB				e		17 50 40.4
VIVF	**Saint-Julien-l**	**64.48**	**337**	eP	**P**	**17 50 32.8 +1.0**
	comp=Z,11nm,0.7s,mb4.7					
VIVF	**Saint-Julien-l**	**64.48**	**337**	eP	**P**	**17 50 32.8 +1.0**
	comp=Z,5.4nm,0.7s,mb4.7					
DAVA	**Damuels**	**64.78**	**341**	⇑iP	**P**	**17 50 33.9 +0.2**
	comp=Z,8.6nm,0.8s,mb4.8					
EPF	**Esparros**	**64.79**	**333**	eP	**P**	**17 50 34.7 +0.8**
	comp=Z,38nm,1.2s,mb5.0					
EPF	**Esparros**	**64.79**	**333**	eP	**P**	**17 50 34.7 +0.8**
	comp=Z,19nm,1.2s,mb5.0					
ETSF	**Etsaut**	**65.09**	**332**	eP	**P**	**17 50 36.8 +1.0**
	comp=Z,12nm,0.7s,mb4.7					
ETSF	**Etsaut**	**65.09**	**332**	eP	**P**	**17 50 36.8 +1.0**
	comp=Z,5.8nm,0.7s,mb4.7					
GEC2	**GERESS Array S**	**65.11**	**345**	eP	**P**	**17 50 35.2 -0.6**
GERES	**GERESS Array B**	**65.11**	**345**	P	**P**	**17 50 36.1 +0.3**
	comp=Z,3.4nm,0.7s,mb4.5,baz=145,slow=4.9,SNR=22					
GERES				pP	pP	17 50 46.6 +7.4
	comp=Z,1.7nm,0.8s,baz=148,slow=6.3,SNR=5.1					
KHC	**Kasperske Hory**	**65.41**	**345**	eP	**P**	**17 50 37.2 -0.6**
KHC				ex	x	17 50 48.4
CABF	**La Chapelle**	**65.45**	**339**	eP	**P**	**17 50 38.6 +0.5**
	comp=Z,13nm,0.7s,mb4.8					
CABF	**La Chapelle**	**65.45**	**339**	eP	**P**	**17 50 38.6 +0.5**
	comp=Z,6.3nm,0.7s,mb4.8					
SJPF	**Ste Jean**	**65.56**	**332**	eP	**P**	**17 50 39.8 +0.9**
	comp=Z,13nm,0.7s,mb4.8					
SJPF	**Ste Jean**	**65.56**	**332**	eP	**P**	**17 50 39.8 +0.9**
	comp=Z,6.3nm,0.7s,mb4.8					
CAF	**Calviac**	**65.57**	**335**	eP	**P**	**17 50 39.7 +0.8**
	comp=Z,13nm,0.8s,mb4.8					
CAF	**Calviac**	**65.57**	**335**	eP	**P**	**17 50 39.7 +0.8**
	comp=Z,6.7nm,0.8s,mb4.7					
DPC	**Dobruska-Polom**	**65.90**	**347**	eP	**P**	**17 50 40.5 -0.4**
PRU	**Pruhonice**	**65.97**	**346**	eP	**P**	**17 50 31.8 -10**
RJF	**Les Rejaudoux**	**66.11**	**335**	eP	**P**	**17 50 43.0 +0.6**
	comp=Z,9.7nm,0.6s,mb4.7					
RJF				eMLR	MLR	
	comp=Z,121nm,19.8s,MS3.8					
RJF	**Les Rejaudoux**	**66.11**	**335**	eP	**P**	**17 50 43.0 +0.6**
	comp=Z,4.8nm,0.6s,mb4.7					
RJF				LR	LR	
	comp=Z,120nm,19.8s,MS4.1					
AML	**Almayashu**	**66.12**	**31**	eP	**P**	**17 50 42.5 0.0**
	comp=Z,3.8nm,0.7s,mb4.5					
AML				e		17 50 53.0
AML				e		17 51 00.9
LFF	**La Frestale**	**66.14**	**334**	eP	**P**	**17 50 43.3 +0.7**
	comp=Z,33nm,0.8s,mb5.1					
LFF	**La Frestale**	**66.14**	**334**	eP	**P**	**17 50 43.3 +0.7**
	comp=Z,16nm,0.8s,mb5.1					
HINF	**Hinteralfeld**	**66.22**	**340**	eP	**P**	**17 50 43.0 0.0**
SMF	**Signal de Mont**	**66.30**	**337**	eP	**P**	**17 50 43.7 +0.2**
	comp=Z,22nm,0.9s,mb4.9					
SMF	**Signal de Mont**	**66.30**	**337**	eP	**P**	**17 50 43.7 +0.2**
	comp=Z,11nm,0.9s,mb4.9					
EKS2	**Erkin-Say**	**66.56**	**30**	eP	**P**	**17 50 44.0 -1.3**
	comp=Z,3.9nm,0.9s,mb4.4					
EKS2				e		17 50 54.0
EKS2				e		17 51 00.1
HAU	**Haudompre**	**66.56**	**340**	eP	**P**	**17 50 45.3 +0.1**
	comp=Z,11nm,0.7s,mb4.7					
HAU				eMLR	MLR	
	comp=Z,52nm,19.5s,MS3.5					
HAU	**Haudompre**	**66.56**	**340**	eP	**P**	**17 50 45.3 +0.1**
	comp=Z,5.4nm,0.7s,mb4.7					
HAU				LR	LR	
	comp=Z,50nm,19.5s,MS3.7					
UCH	**Uchtor**	**66.60**	**31**	eP	**P**	**17 50 45.3 -0.3**
	comp=Z,2.8nm,0.8s,mb4.3					
UCH				e		17 50 56.1
UCH				e		17 51 03.2
CDF	**Champ du Feu**	**66.60**	**340**	eP	**P**	**17 50 45.3 -0.1**
	comp=Z,5.6nm,0.6s,mb4.5					
CDF	**Champ du Feu**	**66.60**	**340**	eP	**P**	**17 50 45.3 -0.1**
	comp=Z,2.8nm,0.6s,mb4.5					
AVF	**Avril sur Loir**	**66.60**	**337**	eP	**P**	**17 50 45.8 +0.3**
	comp=Z,6.1nm,0.6s,mb4.5					
AVF				epP	pP	17 50 56.3 +7.4
AVF	**Avril sur Loir**	**66.60**	**337**	eP	**P**	**17 50 45.8 +0.3**
	comp=Z,3.0nm,0.6s,mb4.5					
AVF				epP	pP	17 50 56.3 +7.4
BGF	**Bois d'Agland**	**66.60**	**337**	eP	**P**	**17 50 46.0 +0.5**
	comp=Z,7.6nm,0.7s,mb4.5					
BGF	**Bois d'Agland**	**66.60**	**337**	eP	**P**	**17 50 46.0 +0.5**
	comp=Z,3.8nm,0.7s,mb4.5					
TCF	**Toulx Ste Croi**	**66.63**	**336**	eP	**P**	**17 50 46.7 +1.0**
	comp=Z,39nm,1.1s,mb5.1					
TCF				epP	pP	17 50 57.2 +8.2
TCF	**Toulx Ste Croi**	**66.63**	**336**	eP	**P**	**17 50 46.7 +1.0**
	comp=Z,19nm,1.1s,mb5.0					
TCF				epP	pP	17 50 57.2 +8.2
SSF	**Saint Saulge**	**66.77**	**337**	eP	**P**	**17 50 46.5 -0.1**
LOR	**Lormes**	**66.81**	**338**	eP	**P**	**17 50 46.9 +0.1**
	comp=Z,14nm,0.8s,mb4.7					
LOR				eMLR	MLR	
	comp=Z,61nm,19.0s,MS3.5					
LOR	**Lormes**	**66.81**	**338**	eP	**P**	**17 50 46.9 +0.1**
	comp=Z,6.8nm,0.8s,mb4.7					
LOR				LR	LR	
	comp=Z,60nm,19.0s,MS3.8					
TKM2	**Tokmak 2**	**67.65**	**31**	eP	**P**	**17 50 52.0 -0.2**
	comp=Z,10nm,0.6s,mb5.0					
TKM2				e		17 51 02.4
TKM2				e		17 51 10.2
MFF	**Saint Martin d**	**67.84**	**335**	eP	**P**	**17 50 53.7 +0.3**
	comp=Z,9.4nm,0.8s,mb4.6					
MFF	**Saint Martin d**	**67.84**	**335**	eP	**P**	**17 50 53.7 +0.3**
	comp=Z,4.7nm,0.8s,mb4.6					
BAIF	**Baives**	**69.04**	**339**	eP	**P**	**17 51 00.9 +0.1**
	comp=Z,4.8nm,0.7s,mb4.2					
BAIF	**Baives**	**69.04**	**339**	eP	**P**	**17 51 00.9 +0.1**
	comp=Z,2.4nm,0.7s,mb4.2					
LSA	**Lhasa**	**69.35**	**51**	P	**P**	**17 51 01.0 -2.2**
	comp=Z,4.1nm,0.6s,mb4.5					
LSA				e		17 51 13.6
LDF	**La Druitiere**	**69.43**	**336**	eP	**P**	**17 51 04.1 +0.9**
FLN	**La Foliniere**	**69.70**	**336**	eP	**P**	**17 51 05.6 +0.7**
FLN				epP	pP	17 51 16.2 +7.9
FLN				eMLR	MLR	
	comp=Z,69nm,22.5s,MS3.5					
FLN	**La Foliniere**	**69.70**	**336**	eP	**P**	**17 51 05.6 +0.7**
FLN				epP	pP	17 51 16.2 +7.9
FLN				LR	LR	
	comp=Z,70nm,22.5s,MS3.9					
RCBR	**Riachuelo**	**69.99**	**269**	P	**P**	**17 51 03.2 -4.3**
RCBR				e		17 51 18.6
QUIF	**Quistinic**	**70.15**	**334**	eP	**P**	**17 51 07.9 +0.2**
ROSF	**Rostrenen**	**70.52**	**334**	eP	**P**	**17 51 09.5 -0.4**
	comp=Z,8.3nm,0.7s,mb4.5					
ROSF	**Rostrenen**	**70.52**	**334**	eP	**P**	**17 51 09.5 -0.4**
	comp=Z,4.2nm,0.7s,mb4.5					
CASY	**Casey**	**71.71**	**156**	P	**P**	**17 51 17.9 +0.9**
	comp=Z,18nm,1.1s,mb4.9					
ARU	**Arti**	**72.70**	**14**	eP	**P**	**17 51 22.4 -0.4**
	comp=Z,24nm,0.8s,mb5.2					
ARU				e		17 51 32.9
MK31	**Makanchi Array**	**73.76**	**32**	eP	**P**	**17 51 28.6 -0.8**
MK31				e		17 51 39.1
MKAR	**Makanchi Array**	**73.76**	**32**	P	**P**	**17 51 28.6 -0.8**
	comp=Z,2.8nm,0.7s,mb4.3,baz=218,slow=5.5,SNR=36					
MKAR				pP	pP	17 51 39.1 +6.4
	comp=Z,5.5nm,0.7s,baz=218,slow=7.0,SNR=30					
KURK	**Kurchatov**	**74.72**	**27**	eP	**P**	**17 51 34.6 -0.4**
	comp=Z,5.6nm,0.3s,mb5.0					
KURK				e		17 51 44.8
WMQ	**Urumqi**	**74.83**	**37**	eP	**P**	**17 51 37.8 +2.1**
WMQ				XP	sP	17 51 52.0 +12
WMQ				AMB	AMB	
	comp=Z,9.0nm,0.8s,mb4.8					
WMQ				AMB	AMB	
	comp=Z,114nm,4.0s					
FIA1	**FINESS Array S**	**75.30**	**356**	eP	**P**	**17 51 37.6 -0.4**
FIA1				e		17 51 48.1
FINES	**FINESS Array B**	**75.30**	**356**	P	**P**	**17 51 37.2 -0.8**
FINES				pP	pP	17 51 47.7 +6.3
FINES	**FINESS Array B**	**75.30**	**356**	P	**P**	**17 51 37.2 -0.8**
	comp=Z,2.4nm,0.6s,mb4.3,baz=136,slow=6.2,SNR=9.8					
FINES				pP	pP	17 51 47.7 +6.3
	comp=Z,3.3nm,0.5s,baz=153,slow=5.5,SNR=6.1					
KAF	**Kangasniemi**	**75.95**	**356**	ep	**P**	**17 51 40.4 -1.3**
	comp=Z,11nm,0.6s,mb5.0,baz=170,slow=5.6					
NWAO	**Narrogin (SRO)**	**76.31**	**121**	P	**P**	**17 51 45.3 +0.8**
	comp=Z,9.3nm,1.0s,mb4.7					
NWAO				e		17 51 57.6
JOF	**Joensuu**	**76.50**	**358**	ep	**P**	**17 51 42.6 -2.3**
	comp=Z,7.4nm,0.8s,mb4.7					
KMI	**Kunming**	**76.59**	**60**	P	**P**	**17 51 46.4 +0.2**
KMI				AP	pP	17 51 52.1 +2.5
KMI				XP	sP	17 51 56.1 +5.2
KMI				S	S	18 01 34.0 +1.1
KMI				SS	SS	18 06 28.8 +0.3
KMI				AMB	AMB	
	comp=Z,5.0nm,0.5s,mb4.7					
NB2	**NORSAR Subarra**	**76.92**	**348**	P	**P**	**17 51 46.9 -0.3**
	comp=Z,5.4nm,0.9s,mb4.5,baz=158,slow=5.3					
NOA	**NORSAR Array B**	**76.92**	**348**	P	**P**	**17 51 46.9 -0.4**
	comp=Z,2.0nm,1.0s,mb4.0,baz=147,slow=5.8,SNR=7.9					
NOA				pP	pP	17 51 58.0 +7.3
	comp=Z,1.9nm,0.8s,baz=154,slow=5.2,SNR=7.7					
CD2	**Chengdu**	**79.64**	**55**	eP	**P**	**17 52 02.1 -0.9**
CD2				AMB	AMB	
	comp=Z,10.0nm,1.2s,mb4.6					
CD2				AMB	AMB	
	comp=Z,30nm,6.8s					
ZAA0	**Zalesovo Array**	**79.71**	**27**	eP	**P**	**17 52 01.6 -1.3**
ZAA0				e		17 52 12.2
ZALV	**Zalesovo Beam**	**79.71**	**27**	P	**P**	**17 52 01.2 -1.6**
	comp=Z,1.4nm,0.7s,mb4.0,baz=251,slow=4.5,SNR=7.2					
ZALV				pP	pP	17 52 12.2 +5.9
	comp=Z,2.0nm,0.5s,baz=214,slow=4.1,SNR=9.0					
MBWA	**Marble Bar**	**80.43**	**109**	eP	**P**	**17 52 06.8 -0.8**
	comp=Z,5.2nm,0.9s,mb4.5					
MBWA				e		17 52 17.5
QIZ	**Qiongzhong**	**80.70**	**68**	P	**P**	**17 52 09.4 +0.4**
QIZ				PP	PP	17 55 12.4 -0.7
QIZ				S	S	18 02 14.1 -3.0
QIZ				SS	SS	18 07 34.6 +4.1
QIZ				AMB	AMB	
	comp=Z,8.0nm,1.7s,mb4.4					
LZH	**Lanzhou**	**81.75**	**50**	eP	**P**	**17 52 13.0 -1.2**
LZH				AP	pP	17 52 16.5 -1.1
LZH				AMB	AMB	
	comp=Z,14nm,1.0s,mb4.8					
LZH				AMB	AMB	
	comp=Z,60nm,4.9s					
ARCES	**ARCESS Array B**	**83.36**	**357**	P	**P**	**17 52 21.2 -0.7**
ARCES				pP	pP	17 52 32.2 +6.9
ARCES	**ARCESS Array B**	**83.36**	**357**	P	**P**	**17 52 21.2 -0.7**
	comp=Z,4.2nm,0.8s,mb4.5,baz=165,slow=5.0,SNR=9.5					
ARCES				pP	pP	17 52 32.2 +6.9
	comp=Z,5.0nm,0.7s,baz=166,slow=5.1,SNR=6.1					
FITZ	**Fitzroy Crossi**	**86.52**	**108**	eP	**P**	**17 52 39.4 +0.5**
	comp=Z,10nm,0.7s,mb5.2					
TRQA	**Tornquist**	**86.92**	**232**	eP	**P**	**17 52 40.6 +0.1**
	comp=Z,4.5nm,0.9s,mb4.7					
SONM	**Songino Array**	**88.14**	**40**	P	**P**	**17 52 46.5 +0.4**
	comp=Z,0.6nm,0.5s,mb4.1,baz=225,slow=5.9,SNR=2.9					
SONM				pP	pP	17 52 57.2 +7.7
	comp=Z,3.4nm,0.9s,baz=235,slow=5.2,SNR=7.2					
ULN	**Ulaanbaatar**	**88.56**	**40**	eP	**P**	**17 52 47.1 -0.9**
	comp=Z,1.8nm,0.8s,mb4.5					
ULN				e		17 52 58.8
HHC	**Hu-ho-hao-te**	**89.12**	**48**	eP	**P**	**17 52 51.7 +0.9**
HHC				PP	PP	17 56 25.7 +4.5
HHC				SKS		18 03 21.1
HHC				S	S	18 03 41.2 +1.4
HHC				AMB	AMB	
	comp=Z,13nm,0.3s,mb5.7					
HHC				AMB	AMB	
	comp=Z,107nm,4.7s					
HHC				LR	LR	
	comp=N,67nm,9.4s					
HHC				LR	LR	
	comp=E,83nm,4.1s					
HHC				LR	LR	
	comp=Z,83nm,6.3s					
NJ2	**Nanjing**	**92.21**	**58**	eP	**P**	**17 53 03.6 -1.9**
PLCA	**Paso Flores**	**92.44**	**227**	P	**P**	**17 53 07.0 +0.6**
	comp=Z,7.0nm,1.3s,mb4.8					
ASAR	**Alice Springs**	**92.60**	**115**	P	**P**	**17 53 06.8 -0.7**
	comp=Z,1.0nm,0.7s,mb4.4,baz=260,slow=4.6,SNR=31					
ASAR				pP	pP	17 53 17.4 +6.5
	comp=Z,1.4nm,0.6s,baz=261,slow=4.7,SNR=10					
WRA	**Warramunga Arr**	**94.02**	**112**	P	**P**	**17 53 12.9 -1.2**
	comp=Z,2.2nm,0.8s,mb4.7,baz=253,slow=2.8,SNR=17					
WRA				pP	pP	17 53 24.0 +6.4
	comp=Z,2.0nm,0.7s,baz=255,slow=2.9,SNR=12					
WB2	**Warramunga Arr**	**94.03**	**112**	eP	**P**	**17 53 13.7 -0.5**
WRAB	**Tennant Creek**	**94.03**	**112**	P	**P**	**17 53 13.9 -0.3**
	comp=Z,5.2nm,0.9s,mb5.0					
WRAB				e		17 53 24.8
CN2	**Changchun**	**99.81**	**47**	eP	Pdif	17 53 40.5 +0.9
MDJ	**Mudanjiang**	**102.87**	**47**	P	Pdif	17 53 50.9 -2.3
RES	**Resolute Bay**	**113.17**	**347**	ePKPdf	PKiKP	17 58 30.9 -1.3
FCC	**Fort Churchill**	**121.36**	**332**	ePKPdf	PKPdf	17 58 46.7 -1.5
FCC				e		17 58 57.5
INK	**Inuvik**	**125.00**	**355**	ePKPdf	PKPdf	17 58 53.8 -1.2
INK				e		17 59 01.9
YKA	**Yellowknife Ar**	**126.75**	**343**	PKP	PKPdf	17 58 56.4 -2.1
	comp=Z,0.7nm,0.6s,baz=33,slow=2.2,SNR=10					
YKA				pPKP	pPKPdf	17 59 07.9 +5.9
	comp=Z,0.5nm,0.6s,baz=34,slow=2.0,SNR=5.9					
PDAR	**Pinedale Array**	**137.91**	**320**	PKP	PKPdf	17 59 18.6 -1.6
	comp=Z,0.6nm,0.8s,baz=73,slow=2.5,SNR=4.7					
MOD	**Modoc**	**144.66**	**327**	ePKPdf	PKPdf	17 59 31.5 -0.8
TPNV	**Topopah Spring**	**145.41**	**317**	ePKPdf	PKPdf	17 59 33.9 +0.1
NVAR	**Mina Array Bea**	**145.84**	**321**	PKPbc	PKPbc	17 59 35.3 +0.3
	comp=Z,4.2nm,0.6s,baz=59,slow=5.2,SNR=16					
NVAR				pPKPbc	pPKPbc	17 59 46.9 +8.4
	comp=Z,3.3nm,0.6s,baz=62,slow=5.3,SNR=7.5					

NEIC ***12*** *17:53:06.9, 3722N×2039E, h19km, MD3.7(ATH), After ATH.*
ATH ***12*** *17:53:06.9, 3722N×2039E, h19km±2km, MD3.7/7*
CSEM ***12*** *17:53:07.9±0.5, 3725N×2044E, h5km, MD3.7, Error ellipse: s-maj=11.5km s-min=3.9km az=52.0*
THE ***12*** *17:53:08.8, 3709N×2034E, h15km, ML3.4*
ISC 12 17:53:07.7±1.6, 3722N±009×204E±01, h9km±10km, n18, σ0°90/23, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.97**	**9**	ePN	**Pn**	**17 53 25.7**	**-1.7**
VLS				eSN	**Sn**	**17 53 38.9**	**-2.3**
PYL	**PYLOS**	**1.12**	**106**	ePg	**Pg**	**17 53 28.9**	**-0.4**
PYL				eSg	**Sg**	**17 53 44.2**	**+0.4**
RLS	**Riolos of Patr**	**1.19**	**45**	ePN	**Pn**	**17 53 30.2**	**-0.2**
RLS				eSN	**Sn**	**17 53 46.5**	**-0.2**
ITM	**Ithomi**	**1.22**	**92**	ePN	**Pn**	**17 53 30.6**	**-0.3**
ITM				eSN	**Sn**	**17 53 46.8**	**-0.7**
LKD	**Levkas**	**1.50**	**8**	ePb	**Pb**	**17 53 34.9**	**-0.7**
SELA	**Sela**	**1.58**	**48**	ePb	**Pb**	**17 53 37.1**	**0.0**
VLX	**Vlachokerasia**	**1.59**	**84**	ePb	**Pb**	**17 53 36.1**	**-1.1**
EVR	**Evrytania**	**2.03**	**33**	ePN	**Pn**	**17 53 42.8**	**+0.9**
EVR				eSN	**Sn**	**17 54 09.1**	**+1.8**
VLI	**Veliai**	**2.10**	**103**	ePN	**Pn**	**17 53 43.7**	**+0.8**
DID	**Didima**	**2.28**	**82**	ePn	**Pn**	**17 53 45.0**	**-0.5**
AGG	**Agios Georgios**	**2.36**	**40**	ePn	**Pn**	**17 53 47.5**	**+1.0**
LKR	**Lokris**	**2.50**	**54**	ePN	**Pn**	**17 53 49.0**	**+0.5**
KEK	**Kerkira**	**2.53**	**350**	ePN	**Pn**	**17 53 49.1**	**+0.2**
MEV	**Metsovon**	**2.64**	**14**	ePn	**Pn**	**17 53 52.0**	**+1.6**
THL	**Klokotos Trika**	**2.66**	**28**	ePN	**Pn**	**17 53 51.5**	**+0.8**
NEO	**Neokhori**	**3.05**	**46**	ePN	**Pn**	**17 53 55.6**	**-0.4**
LIT	**Litokhoron**	**3.31**	**29**	ePn	**Pn**	**17 53 59.7**	**+0.1**
PLG	**Polygyros**	**3.95**	**36**	ePN	**Pn**	**17 54 08.1**	**-0.2**

IDC 12 18:00:15.3±2.3, 2430N×14149E, h144km±24km, mb3.0/3, mb1 3.2/4, mb1mx3.0/19, mbtmp3.1/4, Error ellipse: s-maj=43.8km s-min=23.2km az=88.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**2.85**	**12**	P	Pn	18 01 01.8	+1.3
	11nm,0.3s,baz=35,slow=15,SNR=39						
CBIJ				S	Sn	18 01 35.7	+0.2
	12nm,0.3s,baz=300,slow=23,SNR=14						
WRA	**Warramunga Arr**	**44.52**	**190**	P	P	18 08 12.3	-0.3
	0.3nm,0.6s,baz=6.6,slow=8.6,SNR=7.7						
MKAR	**Makanchi Array**	**51.81**	**311**	P	P	18 09 08.3	0.0
	0.4nm,0.4s,baz=85,slow=9.3,SNR=18						
YKA	**Yellowknife Ar**	**74.89**	**28**	P	P	18 11 40.1	+0.2
	0.1nm,0.4s,baz=293,slow=6.0,SNR=3.6						

IDC 12 18:04:42.2±1.0, 5499S×12937W, h0km, mb4.1/5, mb1 4.3/5, mb1mx4.1/15, mbtmp4.1/5, MS3.8/2, Ms1 3.8/2, ms1mx3.3/26, Error ellipse: s-maj=44.6km s-min=27.4km az=166.0, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RKT	**Rikitea**	**32.10**	**350**	eLR	LR	18 19 25.5	
	192nm,28.2s						
RKT	**Rikitea**	**32.10**	**350**	eT		18 44 48.6	
	6.7nm,0.2s						
USHA	**Ushuaia**	**34.05**	**115**	LR	LR	18 21 31.2	
	comp=Z,171nm,19.9s,baz=217,slow=30						
TBI	**Tubuai**	**34.96**	**327**	eLR	LR	18 20 48.9	
	158nm,29.0s						
TBI	**Tubuai**	**34.96**	**327**	eT		18 48 22.2	
	23nm,0.3s						
QSPA	**South Pole Qui**	**35.19**	**180**	P	P	18 11 38.0	+0.7
	4.5nm,1.1s,baz=49,slow=5.3,SNR=5.0						
PPT	**Papeete**	**40.44**	**329**	eLR	LR	18 23 33.9	
	217nm,26.5s						
PLCA	**Paso Flores**	**40.72**	**95**	LR	LR	18 24 59.9	
	comp=Z,133nm,19.4s,baz=188,slow=30						
VAH	**Vaihoa**	**42.12**	**333**	eT		18 57 18.5	
	35nm,0.3s						
VNA3	**Neumayer Olymp**	**47.09**	**157**	e	P	18 13 18.0	+2.9
VNA3				e		18 13 20.5	
VNA3				e		18 13 24.8	
VNA3				e		18 13 31.6	
VNA2	**Neumayer--Watz**	**47.82**	**158**	e	P	18 13 20.9	+0.1
	baz=224,slow=8.1						
VNA2				e		18 13 23.9	
VNA2				e		18 13 28.0	
VNA2				e		18 13 35.1	
LPAZ	**La Paz**	**60.39**	**76**	P	P	18 14 53.5	+0.4
	3.3nm,0.8s,baz=232,slow=5.4,SNR=10.0						
ASAR	**Alice Springs**	**74.68**	**251**	P	P	18 16 22.9	-0.5
	0.9nm,0.9s,baz=131

Ms1 5.7/18, ms1mx5.6/24, Error ellipse: s-maj=26.3km s-min=14.2km az=75.0

BJI ***12*** *18:24:48.0, 61.80S×161.00E, h10km, mB5.8, mb5.3, Ms5.8, Msz5.6*

NEIC ***12*** *18:24:49.0±0.3, 61.83S×166.96E, h10km, mb5.3/18, MS5.8/84, MW6.0, Error ellipse: s-maj=14.2km s-min=8.9km az=73.0, Moment Tensor Solution. s8 Moment tensor: Scale 10^18Nm; Mrr 0.02; Mθθ 1.30; Mφφ -1.32; Mrθ 0.18; Mθφ -0.04; Mφr -0.27; Best double couple: M0 1.30000×10^18 NP1:φs 46.00000°, δ 77.00000°, λ -178.00000°. NP2:φs 316.00000°, δ 88.00000°, λ -13.00000°. Principal axes: T 1.3300, Plg8.0000°, Azm2.0000°; N 0.0400, Plg76.0000°, Azm127.0000°; P -1.3700, Plg11.0000°, Azm270.0000°;*

GCMT ***12*** *18:24:49.0±0.1, 61.72S×161.20E, h12km, MW6.0/110, Moment Tensor Solution. s110, c216; s101, c331; Duration: 2s4 Moment tensor: Scale 10^18Nm; Mrr 0.01±.01; Mθθ 1.17±.01; Mφφ -1.18±.01; Mrθ -0.15±.02; Mθφ -0.20±.01; Mφr 0.14±.02; Best double couple: M0 1.20900×10^18 NP1:φs 230.00000°, δ 81.00000°, λ 179.00000°. NP2:φs 320.00000°, δ 89.00000°, λ 9.00000°. Principal axes: T 1.2080, Plg8.0000°, Azm185.0000°; N -0.0010, Plg80.0000°, Azm327.0000°; P -1.2100, Plg6.0000°, Azm94.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

MOS ***12*** *18:24:52.4±1.9, 61.18S×160.38E, h10km, mb5.7/12, MS5.8/27 Error ellipse: s-maj=37.9km s-min=13.2km az=102.1*

CRAAG ***12*** *18:25:00.0, 61.04S×159.54E, Mw6.0*

ISC 12 18:24:48.8±0.3, 6178S±005×1611E±02, h10km, n313, σ1§24/72, mb5.2/17, MS5.8/120, 19C-3D, Balleny Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
DRV	**Dumont d'Urvil**	**10.37**	**233**	P		**Pn**	**18 27 26.0**	**+8.6**
DRV				S		**Sn**	**18 29 22.0**	**+8.5**
DRV				R			02 17 00.0	
VNDA	**Vanda**	**15.82**	**179**	LR		LR	18 33 42.4	
comp=Z,75μm,18.0s,baz=286,slow=34								
SBA	**Scott Base**	**16.25**	**176**	*e*P		**Pn**	**18 28 35.0**	**-1.7**
401nm,1.4s								
SBA	**Scott Base**	**16.25**	**176**	*e*P		**Pn**	**18 28 35.0**	**-1.7**
SBA				pmax		pmax		
comp=Z,401nm,1.4s								
RPZ	**Rata Peaks**	**19.03**	**23**	P		**Pn**	**18 29 09.9**	**-1.5**
comp=Z,0.3nm,0.3s,baz=151,slow=22,SNR=2.3								
RPZ				LR		LR	18 35 43.0	
comp=Z,46μm,18.5s,baz=182,slow=35								
TAU	**Tasmania Unive**	**20.61**	**330**	*e*P		**P**	**18 29 28.4**	**+0.6**
comp=Z,142nm,1.6s								
TAU	**Tasmania Unive**	**20.61**	**330**	*e*P		**P**	**18 29 28.4**	**+0.6**
TAU				pmax		pmax		
comp=Z,142nm,1.6s								
CASY	**Casey**	**22.07**	**236**	*e*P		**P**	**18 29 41.8**	**-1.5**
comp=Z,110nm,1.3s,mb5.1								
CASY				LR		LR		
comp=Z,26μm,20.0s,MS5.6								
URZ	**Urewera**	**25.55**	**30**	P		**P**	**18 30 15.6**	**-1.9**
comp=Z,7.0nm,1.0s,baz=0.0,slow=18,SNR=1.8								
URZ				LR		LR	18 39 30.1	
comp=Z,42μm,18.4s,MS6.0,baz=81,slow=35								
CNB	**Canberra Magne**	**27.51**	**339**	*e*P		**P**	**18 30 37.5**	**+2.3**
comp=Z,49nm,1.4s,mb4.9								
QSPA	**South Pole Qui**	**28.31**	**180**	*e*P		**P**	**18 30 42.1**	**+0.2**
QSPA	**South Pole Qui**	**28.31**	**180**	P		**P**	**18 30 42.6**	**+0.7**
comp=Z,9.4nm,0.9s,baz=10,slow=5.8,SNR=16								
QSPA				LR		LR	18 40 34.6	
comp=Z,35μm,21.9s,MS5.9,baz=29,slow=33								
MIR	**Mirnyy**	**28.68**	**231**	*e*P		**P**	**18 30 50.0**	**+4.7**
MIR				*e*			18 31 44.0	
MIR				*i* S		**S**	**18 35 38.0**	**+4.3**
MIR				pmax		pmax		
comp=Z,200nm,2.0s,mb5.5								
MIR				MLR		MLR		
comp=Z,29μm,13.0s,MS6.1								
STKA	**Stephens Creek**	**32.48**	**328**	*e*P		**P**	**18 31 20.9**	**+1.7**
comp=Z,28nm,1.7s,mb4.8								
STKA	**Stephens Creek**	**32.48**	**328**	P		**P**	**18 31 19.8**	**+0.6**
comp=Z,11nm,1.2s,mb4.6,baz=152,slow=11,SNR=11								
STKA				LR		LR	18 42 30.9	
comp=Z,23μm,18.5s,MS5.9,baz=263,slow=33								
EIDS	**Eidsvold**	**37.03**	**345**	*e*P		**P**	**18 31 58.7**	**+0.2**
comp=Z,121nm,1.8s,mb5.4								
FORT	**Forrest**	**37.73**	**310**	*e*P		**P**	**18 32 04.8**	**+0.4**
comp=Z,19nm,1.0s,mb4.8								
MAW	**Mawson**	**38.13**	**218**	P		**P**	**18 32 08.9**	**+1.5**
comp=Z,256nm,2.1s,mb5.6								
MAW	**Mawson**	**38.13**	**218**	P		**P**	**18 32 08.9**	**+1.5**
MAW				pmax		pmax		
comp=Z,256nm,2.1s								
MAW	**Mawson**	**38.13**	**218**	P		**P**	**18 32 09.4**	**+2.0**
comp=Z,4.6nm,0.9s,baz=135,slow=16,SNR=3.5								
MAW				LR		LR	18 48 10.7	
comp=Z,29μm,18.2s,MS6.1,baz=124,slow=37								
NWAO	**Narrogin (SRO)**	**40.16**	**295**	PFAKE			18 32 40.0	+15
NWAO				LR		LR		
comp=Z,19μm,22.0s,MS5.9								
KLBR	**Kellerberrin**	**41.09**	**297**	*e*P		**P**	**18 32 39.0**	**+6.6**
MUN	**Mundaring**	**41.42**	**295**	*e*P		**P**	**18 32 37.2**	**+2.1**
ASAR	**Alice Springs**	**42.37**	**322**	P		**P**	**18 32 41.5**	**-1.5**
comp=Z,23nm,1.1s,mb4.7,baz=162,slow=8.3,SNR=78								
ASAR				PcP		PcP	18 34 37.6	+1.5
comp=Z,1.6nm,0.8s,baz=150,slow=3.3,SNR=4.3								
CTA	**Charters Tower**	**42.92**	**339**	*e*P		**P**	**18 32 49.5**	**+2.0**
comp=Z,46nm,1.4s,mb5.0								
CTA	**Charters Tower**	**42.92**	**339**	*e*P		**P**	**18 32 49.5**	**+2.0**
CTA				pmax		pmax		
comp=Z,46nm,1.4s								
CTA	**Charters Tower**	**42.92**	**339**	P		**P**	**18 32 47.7**	**+0.2**
comp=Z,26nm,1.2s,mb4.8,baz=158,slow=9.1,SNR=6.0								
CTA				LR		LR	18 48 08.1	
comp=Z,13μm,18.8s,MS5.9,baz=167,slow=33								
CTAO	**Charters Tower**	**42.92**	**339**	*e*P		**P**	**18 32 47.4**	**-0.1**
comp=Z,440nm,1.9s,mb5.9								
CTAO				LR		LR		
comp=Z,13μm,19.0s,MS5.8								
CTAO	**Charters Tower**	**42.92**	**339**	*e*P		**P**	**18 32 47.4**	**-0.1**
CTAO				pmax		pmax		
comp=Z,440nm,1.9s,mb5.9								
CTAO				MLR		MLR		
comp=Z,13μm,19.0s,MS5.8								
WB2	**Warramunga Arr**	**45.76**	**324**	*e*P		**P**	**18 33 09.5**	**-0.7**
WRA	**Warramunga Arr**	**45.77**	**324**	P		**P**	**18 33 08.9**	**-1.3**
WRA							18 34 45.2	
WRA	**Warramunga Arr**	**45.77**	**324**	P		**P**	**18 33 08.9**	**-1.3**
comp=Z,7.0nm,1.1s,baz=158,slow=5.6,SNR=15								
WRA				PcP		PcP	18 34 45.2	-2.6
comp=Z,3.3nm,1.1s,baz=173,slow=2.9,SNR=4.1								
WRA				LR		LR	18 52 05.7	
comp=Z,3μm,19.9s,MS5.2,baz=115,slow=36								
WRAB	**Tennant Creek**	**45.77**	**324**	P		**P**	**18 33 09.1**	**-1.2**
comp=Z,193nm,2.0s,mb5.7,SNR=5.4								
WRAB	**Tennant Creek**	**45.77**	**324**	*e*P		**P**	**18 33 09.2**	**-1.1**
comp=Z,253nm,2.0s,mb5.8								
WRAB	**Tennant Creek**	**45.77**	**324**	*e*P		**P**	**18 33 09.2**	**-1.1**
WRAB				pmax		pmax		
comp=Z,253nm,2.0s,mb5.8								
MAIT	**Maitri**	**46.00**	**194**	*e*P		**P**	**18 33 11.1**	**-0.4**
SNAA	**Sanae**	**46.36**	**187**	LR		LR	18 52 19.6	
comp=Z,8μm,20.1s,MS5.7,baz=184,slow=36								
VNA3	**Neumayer Olymp**	**47.10**	**184**	*e*P		**P**	**18 33 19.9**	**-0.2**
VNA3				*e*			18 33 27.5	
VNA3				*e*			18 33 30.8	
VNA3				*e*			18 33 35.8	
VNA3				*e*			18 33 43.1	
VNA3				*e*			18 35 13.1	
VNA3				*e*			18 35 22.5	
VNA3				*e*			18 40 19.7	
VNA2	**Neumayer--Watz**	**47.33**	**185**	*e*P		**P**	**18 33 22.1**	**+0.2**
baz=160,slow=6.9								
VNA2				*e*			18 33 29.7	
VNA2				*e*			18 33 32.8	
VNA2				*e*			18 33 37.8	
VNA2				*e*			18 33 46.6	
VNA2				*e*			18 35 16.2	
VNA2				*e*			18 35 25.3	
VNA2				*e*			18 40 22.6	
VNA1	**Neumayer--Stat**	**47.64**	**185**	*e*P		**P**	**18 33 25.4**	**+1.1**
VNA1				*e*			18 33 33.5	
VNA1				*e*			18 33 36.8	
VNA1				*e*			18 33 42.0	
VNA1				*e*			18 33 48.0	
VNA1				*e*			18 40 33.8	
RAR	**Rarotonga**	**48.66**	**52**	LR		LR	18 48 42.2	
comp=Z,4μm,19.4s,MS5.4,baz=200,slow=30								
PMSA	**Palmer Station**	**49.36**	**156**	PFAKE			18 33 50.0	+12
PMSA				LR		LR		
comp=Z,5μm,19.0s,MS5.5								
MBWA	**Marble Bar**	**49.56**	**306**	*e*P		**P**	**18 33 38.2**	**-1.4**
comp=Z,92nm,1.8s,mb5.5								
MBWA				LR		LR		
comp=Z,6μm,22.0s,MS5.5								
FITZ	**Fitzroy Crossi**	**50.21**	**314**	*e*P		**P**	**18 33 44.7**	**+0.1**
comp=Z,37nm,1.4s,mb5.2								
TBI	**Tubuai**	**50.89**	**64**	*e*S		**S**	**18 41 07.6**	**+1.6**
comp=Z,2μm,27.8s								
TBI				*e*LQ			18 45 34.7	
comp=Z,20μm,27.8s								
TBI				*e*LR		LR	18 47 59.7	
comp=Z,7μm,31.8s,baz=210								
HNR	**Honiara**	**52.26**	**359**	*e*P		**P**	**18 34 01.9**	**+1.9**
comp=Z,153nm,1.3s,mb5.8								
HNR				LR		LR		
comp=Z,17μm,20.0s,MS6.1								
HNR	**Honiara**	**52.26**	**359**	*e*P		**P**	**18 34 01.9**	**+1.9**
HNR				pmax		pmax		
comp=Z,153nm,1.3s,mb5.8								
HNR				MLR		MLR		
comp=Z,17μm,20.0s,MS6.1								
HNR	**Honiara**	**52.26**	**359**	P		**P**	**18 34 00.3**	**+0.3**
comp=Z,7.5nm,0.3s,mb5.1,baz=266,slow=4.8,SNR=2.8								
KAKA	**Kakadu**	**53.18**	**324**	*e*P		**P**	**18 34 13.1**	**+6.3**
comp=Z,19nm,0.9s,mb5.0								
KAKA	**Kakadu**	**53.18**	**324**	*e*P		**P**	**18 34 06.2**	**-0.6**
comp=Z,53nm,1.0s,mb5.4								
FUNA	**Funafuti**	**54.80**	**22**	PFAKE			18 34 30.0	+11
FUNA				LR		LR		
comp=Z,10μm,22.0s,MS5.8								
PPT	**Papeete**	**55.98**	**61**	*e*S		**S**	**18 42 16.1**	**+1.0**
comp=Z,7μm,25.8s								
PPT				*e*LR		LR	18 50 33.0	
comp=Z,5μm,28.8s,baz=193								
PPT	**Papeete**	**55.98**	**61**	LR		LR	18 55 20.8	
comp=Z,3μm,19.1s,MS5.5,baz=212,slow=33								
RKT	**Rikitea**	**57.60**	**78**	*e*S		**S**	**18 42 38.9**	**+2.4**
comp=Z,7μm,28.2s								
RKT				*e*LQ			18 48 52.9	
comp=Z,7μm,26.8s								
RKT				*e*LR		LR	18 51 12.8	
comp=Z,18μm,29.5s,baz=207								
PTCN	**Pitcairn Islan**	**58.23**	**84**	PFAKE			18 35 00.0	+17
PTCN				LR		LR		
comp=Z,8μm,20.0s,MS5.8								
TLE	**Tual**	**59.86**	**327⇑**	*e*P		**P**	**18 34 43.0**	**-11**
EFI	**East Falkland**	**62.68**	**154**	PFAKE			18 35 30.0	+17
EFI				LR		LR		
comp=Z,4μm,19.0s,MS5.6								
TNE	**Ternate**	**67.46**	**323⇑**	*e*P		**P**	**18 35 32.5**	**-12**
TAOE	**Nuku Hiva Isla**	**67.78**	**66**	*e*S		S	18 44 44.1	-0.3
comp=Z,25μm,26.9s								
TAOE				*e*LQ			18 52 41.6	
comp=Z,279μm,34.7s								
TAOE				*e*LR		LR	18 56 04.8	
comp=Z,108μm,27.2s,baz=209								
PLCA	**Paso Flores**	**69.65**	**141**	P		**P**	**18 35 58.3**	**+0.4**
PLCA				LR		LR		
comp=Z,4μm,19.0s,MS5.7								
PLCA	**Paso Flores**	**69.65**	**141**	P		**P**	**18 35 58.3**	**+0.4**
comp=Z,2.1nm,0.7s,baz=206,slow=1.9,SNR=4.0								
KSM	**Kuching**	**73.86**	**306**	*e*P		**P**	**18 36 23.2**	**-0.4**
GUMO	**Guam**	**76.21**	**344**	PFAKE			18 36 50.0	+13
GUMO				LR		LR		
comp=Z,2μm,19.0s,MS5.5								
GUMO	**Guam**	**76.21**	**344**	LR		LR	19 06 00.3	
comp=Z,1μm,19.7s,MS5.3,baz=333,slow=32								
LPA	**La Plata**	**78.59**	**148**	*c*e*P		**P**	**18 36 50.0**	**-0.3**
LPA								
comp=Z,3μm,18.0s								
CFAA	**Coronel Fontan**	**78.78**	**139**	P		**P**	**18 36 49.7**	**-1.7**
CFAA	**Coronel Fontan**	**78.78**	**139**	P		**P**	**18 36 49.7**	**-1.7**
comp=Z,0.7nm,0.9s,baz=217,slow=6.9,SNR=6.8								
LCO	**Las Campanas**	**80.39**	**136**	PFAKE			18 37 10.0	+10
LCO				LR		LR		
comp=Z,3μm,19.0s,MS5.6								
KULM	**Kulim**	**81.21**	**299**	*e*P		**P**	**18 37 04.0**	**-0.6**
BOSA	**Boshof**	**83.15**	**218**	*e*P		**P**	**18 37 14.9**	**+0.2**
comp=Z,55nm,1.4s,mb5.4								
BOSA				LR		LR		
comp=Z,7μm,19.0s,MS6.1								
BOSA	**Boshof**	**83.15**	**218**	*e*P		**P**	**18 37 14.9**	**+0.2**
BOSA				pmax		pmax		
comp=Z,55nm,1.4s,mb5.4								
BOSA				MLR		MLR		
comp=Z,7μm,19.0s,MS6.1								
BOSA	**Boshof**	**83.15**	**218**	P		**P**	**18 37 15.6**	**+0.9**
comp=Z,5.6nm,0.7s,mb4.7,baz=181,slow=10.0,SNR=9.8								
BOSA				LR		LR	19 14 16.2	
comp=Z,6μm,20.1s,MS6.0,baz=161,slow=36								
QIZ	**Qiongzhong**	**90.21**	**312**	P		**P**	**18 37 50.9**	**+1.8**
QIZ				S		S	18 48 46.8	+4.1
QIZ				SS		SS	18 54 47.0	+4.5
QIZ				AMB		AMB		
comp=Z,298nm,8.7s								
QIZ				LR		LR		
comp=E,2μm,25.4s								
QIZ				LR		LR		
comp=Z,2μm,20.4s,MS5.6								
MIDW	**Midway**	**91.35**	**19**	PFAKE			18 38 10.0	+16
MIDW				LR		LR		
comp=Z,3μm,21.0s,MS5.8								
PALK	**Pallekele**	**91.83**	**282**	PFAKE			18 38 10.0	+13
PALK				LR		LR		
comp=Z,3μm,19.0s,MS5.7								
QZH	**Quanzhou**	**92.92**	**322**	*i* P		**P**	**18 38 05.9**	**+4.4**
QZH				S		S	18 49 10.7	+3.8
QZH				SS		SS	18 55 27.2	+5.7
QZH				LR		LR		
comp=N,2μm,20.4s,MS5.7								
QZH				LR		LR		
comp=E,2μm,18.4s,MS5.7								
QZH				LR		LR		
comp=Z,2μm,18.8s,MS5.6								
LPAZ	**La Paz**	**93.03**	**133**	*e*P		**P**	**18 38 02.6**	**+0.1**
comp=Z,4.1nm,0.9s,mb4.9								
LPAZ	**La Paz**	**93.03**	**133**	*e*P		**P**	**18 38 02.6**	**+0.2**
LPAZ				pmax		pmax		
comp=Z,4.0nm,0.9s								
LPAZ	**La Paz**	**93.03**	**133**	P		**P**	**18 38 02.4**	**-0.1**
comp=Z,2.6nm,0.8s,mb4.7,baz=172,slow=6.6,SNR=6.9								
LPAZ				LR		LR	19 10 21.1	
comp=Z,3μm,21.8s,MS5.7,baz=191,slow=29								
NNA	**Nana**	**93.75**	**124**	PFAKE			18 38 20.0	+14
NNA				LR		LR		
comp=Z,5μm,20.0s,MS6.0								
NNA	**Nana**	**93.75**	**124**	LR		LR	19 11 00.7	
comp=Z,5μm,19.2s,MS6.0,baz=203,slow=30								
CHTO	**Chiang Mai**	**94.11**	**303**	*e*P		**P**	**18 38 07.5**	**+0.4**
comp=Z,16nm,1.1s,mb5.4								
CHTO				LR		LR		
comp=Z,3μm,21.0s,MS5.7								
CHTO	**Chiang Mai**	**94.11**	**303**	*e*P		**P**	**18 38 07.5**	**+0.3**
CHTO				pmax		pmax		
comp=Z,16nm,1.1s,mb5.4								
CHTO				MLR		MLR		
comp=Z,3μm,21.0s,MS5.7								
LSZ	**Lusaka**	**94.70**	**225**	PFAKE			18 38 20.0	+10
LSZ				LR		LR		
comp=Z,6μm,19.0s,MS6.1								
SIV	**San Ignacio**	**95.62**	**140**	P		**P**	**18 38 15.5**	**+1.1**
comp=Z,1.4nm,0.9s,baz=199,slow=8.9,SNR=4.7								
ATAH	**Atahualpa**	**97.64**	**120**	LR		LR	19 12 36.4	
comp=Z,5μm,20.6s,MS6.0,baz=207,slow=29								
SSE	**Sheshan**	**98.01**	**326**	P		**P**	**18 38 27.1**	**+2.5**
SSE				S		S	18 49 46.4	-4.5
SSE				AMB		AMB		
comp=Z,96nm,6.3s								
SSE				LR		LR		
comp=N,397nm,20.0s,MS5.5								
SSE				LR		LR		
comp=E,2μm,20.0s,MS5.5								
SSE				LR		LR		
comp=Z,1μm,22.6s,MS5.4								
WHN	**Wuhan**	**99.43**	**320**	⇓P		**P**	**18 38 29.2**	**-1.8**
WHN				AP		pP	18 38 39.0	+4.7
WHN				S		S	18 50 06.0	+3.1
WHN				SS		SS	18 56 54.7	+1.0
WHN				LR		LR		
comp=Z,2μm,20.6s,MS5.6								
BDFB	**Brasilia**	**99.46**	**152**	LR		LR	19 23 44.9	
comp=Z,1μm,18.4s,MS5.5,baz=16,slow=36								
NJ2	**Nanjing**	**99.55**	**325**	*e*P		**P**	**18 38 29.9**	**-1.6**
NJ2				PP		PP	18 42 34.0	-1.7
NJ2				S		S	18 49 58.0	-5.8
NJ2				AMB		AMB		
comp=Z,70nm,8.8s								
NJ2				LR		LR		
comp=N,2μm,15.4s,MS5.8								
NJ2				LR		LR		
comp=E,1μm,14.5s,MS5.8								
NJ2				LR		LR		
comp=Z,9μm,16.5s,MS6.3								
MJAR	**Matsushiro Arr**	**99.72**	**341**	LR		LR	19 20 55.1	
comp=Z,979nm,21.4s,MS5.3,baz=145,slow=34								
MAJO	**Matsushiro**	**99.73**	**341**	PFAKE			18 38 40.0	+7.0
MAJO				LR		LR		
comp=Z,2μm,22.0s,MS5.5								
MAT	**Matsushiro**	**99.73**	**341**	P		Pdif	18 38 30.0	-3.0
MAT				S		SKSac	18 49 02.0	-8.1
HYB	**Hyderabad**	**101.70**	**285**	*i* PKP		Pdif	18 38 51.0	+9.2
HYB				*e*PP		PP	18 42 52.0	-0.1
HYB				*e*SKS			18 49 24.0	
INCN	**Inchon**	**102.79**	**333**	PFAKE			18 39 00.0	+13
INCN				LR		LR		
comp=Z,2μm,20.0s,MS5.5								
KMBO	**Kilima Mbogo**	**104.33**	**239**	PFAKE			18 39 00.0	+6.6
KMBO				LR		LR		
comp=Z,1μm,21.0s,MS5.4								
ERM	**Erimo**	**104.46**	**346**	PFAKE			18 39 00.0	+6.0
ERM				LR		LR		
comp=Z,4μm,22.0s,MS5.9								
BJI	**Beijing**	**107.78**	**325**	PDIF		Pdif	18 39 08.8	0.0
BJI				S		Sdif	18 51 12.5	-1.3
BJI				LR		LR		
comp=N,1μm,21.7s,MS5.6								
BJI				LR		LR		
comp=E,951nm,22.8s,MS5.6								
BJI				LR		LR		
comp=Z,2μm,25.0s,MS5.6								
MDJ	**Mudanjiang**	**109.05**	**337**	PDIF		Pdif	18 39 09.3	-5.1
MDJ				PP		PP	18 43 46.8	+0.5
MDJ				PP		PP		
comp=Z,310nm,11.1s								
MDJ				LR		LR		
comp=N,477nm,27.2s								
MDJ				LR		LR		
comp=E,1μm,44.3s								
MDJ				LR		LR		
comp=Z,2μm,40.9s								
CN2	**Changchun**	**109.10**	**333**	PDIF		Pdif	18 39 12.7	-1.9
CN2				PP		PP	18 43 49.8	+3.1
CN2				SS		SS	18 59 05.6	-0.5
CN2				LR		LR		
comp=N,1μm,20.0s,MS5.5								
CN2				LR		LR		
comp=E,810nm,20.0s,MS5.5								
CN2				LR		LR		
comp=Z,2μm,23.0s,MS5.5								
HHC	**Hu-ho-hao-te**	**109.83**	**322**	*e*PKP		PKiKP	18 43 20.0	+0.9
HHC				PKS			18 46 55.8	
HHC				SKS		SKSdf	18 50 26.6	-3.9
HHC				PP		PP		
comp=Z,388nm,8.0s								
HHC				LR		LR		
comp=N,1μm,19.0s,MS5.6								
HHC				LR		LR		
comp=E,678nm,17.2s,MS5.6								
HHC				LR		LR		
comp=Z,1μm,18.1s,MS5.5								
ASCN	**Ascension**	**110.41**	**185**	PFAKE			18 43 30.0	+8.9
ASCN				LR		LR		
comp=Z,3μm,19.0s,MS5.9								
BCIP	**Isla Barro Col**	**111.55**	**112**	PFAKE			18 43 40.0	+17
BCIP				LR		LR		
comp=Z,2μm,20.0s,MS5.8								
HABR	**Khabarovsk**	**111.87**	**342**	*e*P		Pdif	18 39 29.2	+2.2
HABR				*e*			18 43 25.9	
HABR				*e*			18 43 26.5	
HABR				*e*			18 44 06.9	
HABR				*e*			18 46 27.1	
HABR				*e*			18 59 37.5	
HABR				MLR		MLR		
comp=Z,2μm,20.3s,MS5.6								
MSKU	**Masuku**	**112.05**	**215**	PFAKE			18 43 40.0	+16
MSKU				LR		LR		
comp=Z,8.0nm,21.0s								
GTA	**Gaotai**	**112.30**	**313**	PKP		PKiKP	18 43 20.3	-3.5
GTA				XPKP			18 43 24.3	
GTA				PP		PP		
comp=Z,212nm,5.7s								
GTA				LR		LR		
comp=N,917nm,20.1s,MS5.5								
GTA				LR		LR		
comp=E,963nm,19.0s,MS5.5								
GTA				LR		LR		
comp=Z,1μm,18.3s,MS5.5								
PET	**Petropavlovsk**	**114.47**	**358**	PFAKE			18 43 40.0	+13
PET				LR		LR		
comp=Z,3μm,20.0s,MS5.9								
PFO	**Pinyon Flat Ob**	**115.63**	**67**	PFAKE			18 43 40.0	+10
PFO				LR		LR		
comp=Z,2μm,19.0s,MS5.8								
MCCM	**Marconi Confer**	**116.78**	**59**	PFAKE			18 43 40.0	+7.6
MCCM				LR		LR		
comp=Z,3μm,19.0s,MS6.0								
HOPS	**Hopland**	**117.43**	**58**	PFAKE			18 43 50.0	+16
HOPS				LR		LR		
comp=Z,3μm,19.0s,MS6.0								
CMB	**Columbia Colle**	**117.72**	**61**	PFAKE			18 43 50.0	+16
CMB				LR		LR		
comp=Z,2μm,19.0s,MS5.8								
MNTX	**Cornudas Mount**	**119.01**	**77**	PFAKE			18 43 50.0	+13
MNTX				LR		LR		
comp=Z,6μm,20.0s,MS6.2								
KVTX	**Kingsville**	**119.03**	**85**	PFAKE			18 43 50.0	+13
KVTX				LR		LR		
comp=Z,6μm,19.0s,MS6.3								
HUMO	**Hull Mountain**	**120.55**	**56**	PFAKE			18 43 50.0	+10
HUMO				LR		LR		
comp=Z,2μm,21.0s,MS5.7								
WMQ	**Urumqi**	**120.58**	**306**	PKP		PKPdf	18 43 40.5	+1.0
WMQ				PP		PP	18 45 11.0	+3.3
WMQ				PKS			18 47 16.0	
WMQ				PPP			18 47 45.0	
WMQ				SKS		SKSdf	18 50 51.0	0.0
WMQ				SKKS		SKKSac	18 52 06.0	-0.2
WMQ				SS		SS	19 01 36.0	-1.2
WMQ				PP		PP		
comp=Z,240nm,7.1s								
WMQ

COR	**Corvallis**	**122.08**	**55**	PFAKE		18 43 50.0	+7.6
COR				LR	LR		
comp=Z,3μm,19.0s,MS5.9							
MVCO	**Mesa Verde**	**122.17**	**71**	PFAKE		18 44 00.0	+17
MVCO				LR	LR		
comp=Z,3μm,19.0s,MS5.9							
MPU	**Maple Canyon**	**123.10**	**66**	PFAKE		18 44 00.0	+15
MPU				LR	LR		
comp=Z,3μm,19.0s,MS6.0							
AMTX	**Amarillo**	**123.37**	**78**	PFAKE		18 44 00.0	+15
AMTX				LR	LR		
comp=Z,5μm,20.0s,MS6.1							
BBGH	**Gun Hill**	**123.37**	**131**	PFAKE		18 44 00.0	+14
BBGH				LR	LR		
comp=Z,2μm,19.0s,MS5.9							
DBIC	**Dimbokro**	**124.02**	**197**	PFAKE		18 44 00.0	+13
DBIC				LR	LR		
comp=Z,6μm,20.0s,MS6.3							
NATX	**Nacogdoches**	**124.09**	**86**	PFAKE		18 44 00.0	+13
NATX				LR	LR		
comp=Z,2μm,20.0s,MS5.8							
NLWA	**Neilton Lookou**	**124.20**	**53**	PFAKE		18 44 00.0	+14
NLWA				LR	LR		
comp=Z,2μm,20.0s,MS5.8							
KDAK	**Kodiak Island**	**124.55**	**28**	PFAKE		18 44 00.0	+13
KDAK				LR	LR		
comp=Z,642nm,22.0s,MS5.2							
SEY	**Seymchan**	**124.57**	**355**⇑	*e*PKIKP	PKPdf	18 43 51.8	+5.2
UCH	**Uchtor**	**124.62**	**296**	*e*PKPdf	PKPdf	18 43 49.0	+1.7
BMO	**Blue Mountains**	**124.68**	**59**	PFAKE		18 44 00.0	+13
BMO				LR	LR		
comp=Z,2μm,19.0s,MS5.9							
TKM2	**Tokmak 2**	**124.72**	**297**	*e*PKPdf	PKPdf	18 43 47.9	+0.4
BOD	**Bodaibo**	**124.75**	**332**	*e*PKIKP	PKPdf	18 43 47.2	+0.1
BOD				pmax	pmax		
comp=Z,4.0nm,1.6s							
AML	**Almayashu**	**124.89**	**295**	*e*PKPdf	PKPdf	18 43 46.9	-1.0
FRU	**Bishkek**	**125.07**	**296**	*e*PKIKP	PKPdf	18 43 51.0	+2.8
FRU				*e*		18 45 36.0	
MK31	**Makanchi Array**	**125.16**	**304**	*e*PKPdf	PKPdf	18 43 48.6	+0.4
MKAR	**Makanchi Array**	**125.16**	**304**	PKP	PKPdf	18 43 48.0	-0.2
comp=Z,0.7nm,0.9s,baz=210,slow=1.9,SNR=7.1							
MKAR				PP	PP	18 45 37.7	-0.9
comp=Z,0.7nm,1.0s,baz=163,slow=5.6,SNR=2.4							
EKS2	**Erkin-Say**	**125.28**	**295**	*e*PKPdf	PKPdf	18 43 49.5	+0.8
YAK	**Yakutsk**	**125.78**	**342**	*e*PKIKP	PKPdf	18 43 54.1	+5.2
YAK				pmax	pmax		
comp=Z,14nm,1.4s							
YAK				pmax	pmax		
comp=E,2.0nm,1.1s							
REDW	**Red Top Meadow**	**126.17**	**65**	*e*PKPdf	PKPdf	18 43 52.6	+2.4
TPAW	**Teton Pass**	**126.23**	**64**	*e*PKPdf	PKPdf	18 43 52.5	+2.1
BW06	**Boulder Array**	**126.24**	**66**	PFAKE		18 44 00.0	+10
BW06				LR	LR		
comp=Z,2μm,20.0s,MS5.8							
IMW	**Indian Meadow**	**126.56**	**64**	*e*PKPdf	PKPdf	18 43 52.5	+1.5
FLWY	**Flagg Ranch**	**126.81**	**64**	*e*PKPdf	PKPdf	18 43 54.2	+2.7
DLMT	**Dillon**	**127.04**	**62**	*e*PKPdf	PKPdf	18 43 52.5	+0.7
YMR	**Madison River**	**127.17**	**63**	*e*PKPdf	PKPdf	18 43 52.9	+0.8
DWPF	**Disney**	**127.31**	**100**	PFAKE		18 44 00.0	+7.0
DWPF				LR	LR		
comp=Z,2μm,20.0s,MS5.8							
CBKS	**Cedar Bluff**	**127.47**	**76**	PFAKE		18 44 10.0	+17
CBKS				LR	LR		
comp=Z,5μm,19.0s,MS6.2							
CHMT	**Chamberlain Mo**	**128.01**	**60**	*e*PKPdf	PKPdf	18 43 57.0	+3.4
PMR	**Palmer**	**128.75**	**28**	PFAKE		18 44 10.0	+15
PMR				LR	LR		
comp=Z,2μm,20.0s,MS5.8							
LRAL	**Lakeview Retre**	**128.78**	**91**	PFAKE		18 44 10.0	+14
LRAL				LR	LR		
comp=Z,2μm,20.0s,MS5.8							
TNA	**Tin City**	**129.09**	**16**	*e*PKPdf	PKPdf	18 43 54.6	-0.5
KSU1	**Kansas State U**	**129.15**	**79**	PFAKE		18 44 10.0	+14
KSU1				LR	LR		
comp=Z,7μm,20.0s,MS6.3							
TOA0	**Torodi Ar. Sit**	**129.22**	**206**	*e*PKPdf	PKPdf	18 43 56.3	-0.7
TORD	**Torodi Ar. Bea**	**129.22**	**206**	PKP	PKPdf	18 43 54.9	-2.1
comp=Z,3.0nm,0.9s,baz=184,slow=1.0,SNR=13							
BILL	**Bilibino**	**129.58**	**3**	PFAKE		18 44 10.0	+14
BILL				LR	LR		
comp=Z,2μm,22.0s,MS5.8							
KURK	**Kurchatov**	**129.76**	**305**	*e*PKPdf	PKPdf	18 43 58.0	+1.2
KURK				LR	LR		
comp=Z,1μm,19.0s,MS5.7							
ZAL	**Zalesovo**	**130.01**	**311**	PKIKP	PKPdf	18 43 57.9	+0.7
ZAL						18 46 10.8	
ZALV	**Zalesovo Beam**	**130.02**	**311**	PKP	PKPdf	18 43 57.9	+0.7
comp=Z,0.2nm,0.3s,baz=27,slow=3.6,SNR=3.3							
ZALV				PP	PP	18 46 10.8	+0.2
comp=Z,0.3nm,0.3s,baz=148,slow=6.6,SNR=2.5							
MCK	**McKinley**	**130.68**	**27**	*e*PKPdf	PKPdf	18 43 59.6	+1.4
GOGA	**Godfrey**	**130.76**	**94**	PFAKE		18 44 10.0	+11
GOGA				LR	LR		
comp=Z,1μm,19.0s,MS5.7							
LAO	**LASA Array**	**130.80**	**65**	PFAKE		18 44 10.0	+11
LAO				LR	LR		
comp=Z,2μm,19.0s,MS5.8							
CCM	**Cathedral Cave**	**130.84**	**84**	PFAKE		18 44 10.0	+11
CCM				LR	LR		
comp=Z,2μm,21.0s,MS5.8							
IMA2	**Indian Mountai**	**131.81**	**23**	*e*PKPdf	PKPdf	18 44 00.4	+0.2
COLA	**College**	**131.91**	**27**	PFAKE		18 44 10.0	+10
COLA				LR	LR		
comp=Z,2μm,22.0s,MS5.8							
NHSC	**New Hope**	**132.07**	**97**	PFAKE		18 44 10.0	+8.1
NHSC				LR	LR		
comp=Z,1μm,21.0s,MS5.6							
ECSD	**EROS,Sioux Fal**	**132.80**	**75**	PFAKE		18 44 10.0	+7.1
ECSD				LR	LR		
comp=Z,3μm,19.0s,MS6.0							
DAWY	**Dawson**	**133.17**	**31**	*e*PKPdf	PKPdf	18 44 05.5	+2.6
HDIL	**Hopedale**	**133.74**	**83**	PFAKE		18 44 20.0	+15
HDIL				LR	LR		
comp=Z,2μm,19.0s,MS5.9							
BRVK	**Borovoye**	**134.87**	**302**	PKPdf	PKPdf	18 44 07.0	+0.6
BRVK				LR	LR		
comp=Z,2μm,20.0s,MS5.7							
CNNC	**Cliffs of the**	**134.90**	**98**	PFAKE		18 44 20.0	+13
CNNC				LR	LR		
comp=Z,2μm,21.0s,MS5.7							
TIXI	**Tiksi**	**135.00**	**346**	*e*PKPdf	PKPdf	18 44 05.2	-0.9
BLA	**Blacksburg**	**135.30**	**94**	PFAKE		18 44 20.0	+12
BLA				LR	LR		
comp=Z,1μm,22.0s,MS5.6							
MCWV	**Mont Chateau**	**137.52**	**92**	PFAKE		18 44 20.0	+8.2
MCWV				LR	LR		
comp=Z,2μm,20.0s,MS5.8							
CBN	**Corbin**	**137.54**	**96**	PFAKE		18 44 20.0	+8.1
CBN				LR	LR		
comp=Z,2μm,21.0s,MS5.7							
INK	**Inuvik**	**138.00**	**30**	*e*PKPdf	PKPdf	18 44 12.0	+0.2
BBSR	**BB Station**	**138.53**	**114**	PFAKE		18 44 30.0	+16
BBSR				LR	LR		
comp=Z,2μm,21.0s,MS5.7							
FFC	**Flin Flon**	**138.58**	**61**	PFAKE		18 44 30.0	+17
FFC				LR	LR		
comp=Z,2μm,20.0s,MS5.9							
YKA	**Yellowknife Ar**	**139.23**	**45**	PKhKP		18 44 03.2	
comp=Z,0.6nm,0.8s,baz=226,slow=3.2,SNR=7.8							
ERPA	**Erie**	**139.36**	**90**	PFAKE		18 44 30.0	+15
ERPA				LR	LR		
comp=Z,2μm,19.0s,MS5.9							
KIV	**Kislovodsk**	**140.52**	**272**⇑	*e*PKP	PKPdf	18 44 19.4	+2.2
KIV				LR	LR		
comp=Z,1μm,22.0s,MS5.7							
KIV	**Kislovodsk**	**140.52**	**272**	*i* PKIKP	PKPdf	18 44 19.5	+2.3
KIV				*e*		18 51 24.9	
KIV				pmax	pmax		
comp=Z,8.0nm,1.1s							
BINY	**Binghamton**	**141.33**	**93**	PFAKE		18 44 30.0	+11
BINY				LR	LR		
comp=Z,2μm,19.0s,MS5.8							
SOC	**Sochi**	**141.65**	**269**	*i* PKIKP	PKPdf	18 44 23.5	+4.3
SOC				*e*SS	SS	19 05 52.9	-2.0
SOC				pmax	pmax		
comp=Z,42nm,0.9s							
ANTO	**Ankara**	**142.04**	**259**	PFAKE		18 44 30.0	+10
ANTO				LR	LR		
comp=Z,1μm,21.0s,MS5.7							
ARU	**Arti**	**142.08**	**298**	*e*PKPdf	PKPdf	18 44 20.5	+1.0
ARU				LR	LR		
comp=Z,2μm,22.0s,MS5.7							
ARU	**Arti**	**142.08**	**298**	*i* PKIKP	PKPdf	18 44 20.2	+0.7
BLCB	**Balcova**	**143.49**	**252**	*e*P	PKPdf	18 44 27.6	+4.9
NCB	**Newcomb**	**143.51**	**93**	PFAKE		18 44 30.0	+7.5
NCB				LR	LR		
comp=Z,2μm,20.0s,MS5.8							
ANN	**Anapa**	**143.65**	**269**	*i* PKIKP	PKPdf	18 44 26.9	+4.2
ANN				*e*		18 47 37.2	
ANN				*e*		18 51 32.3	
ANN				pmax	pmax		
comp=Z,177nm,1.6s							
ANN				MLR	MLR		
comp=Z,661nm,17.0s,MS5.5							
HRV	**Adam Dziewonsk**	**143.66**	**97**	PFAKE		18 44 30.0	+7.2
HRV				LR	LR		
comp=Z,2μm,20.0s,MS5.8							
FCC	**Fort Churchill**	**144.51**	**60**	*e*PKPpre		18 44 19.6	
SOKR	**Solikamsk**	**144.79**	**301**	*c i*PKIKP	PKPdf	18 44 27.1	+2.9
SOKR				*e*		19 07 05.3	
SOKR				pmax	pmax		
comp=Z,100nm,1.4s							
LBNH	**Lisbon**	**144.80**	**95**	PFAKE		18 44 40.0	+15
LBNH				LR	LR		
comp=Z,2μm,19.0s,MS5.8							
SIM	**Simferopol'**	**145.34**	**266**	*e*P	PKPbc	18 44 28.5	+3.0
SIM	**Simferopol'**	**145.34**	**266**	*d i*PKP2	PKPab	18 44 28.0	+2.3
SIM				*e*SS	SS	19 07 13.0	+36
SIM				pmax	pmax		
comp=Z,120nm,8.3s							
SIM				MLR	MLR		
comp=Z,1μm,17.8s,MS5.8							
ALN	**Alexandroupoli**	**145.98**	**253**	*e*P	PKPbc	18 44 29.1	+1.5
PKME	**Peaks-Kenny Pk**	**146.82**	**96**	PKPdf	PKPdf	18 44 28.1	0.0
KDZ	**Kurdzhali**	**146.86**	**253**	*i* P	PKPbc	18 44 32.6	+2.4
LIT	**Litokhoron**	**146.93**	**248**	*e*P	PKPbc	18 44 31.9	+1.5
JMB	**Yambol**	**146.97**	**255**	*e*P	PKPbc	18 44 32.3	+1.8
JMB	**Yambol**	**146.97**	**255**	*i* P	PKPbc	18 44 32.9	+2.4
VORD	**Divnogorie**	**147.14**	**278**	*i* PKP2	PKPab	18 44 32.9	+0.5
VORD				pmax	pmax		
comp=Z,40nm,1.2s							
VORD				pmax	pmax		
comp=N,10.0nm,0.6s							
VORD				pmax	pmax		
comp=E,10.0nm,0.9s							
PRD	**Provadia**	**147.16**	**257**	*i* P	PKPbc	18 44 33.6	+2.6
PSN	**Preselentsi**	**147.17**	**259**	*i* P	PKPbc	18 44 33.3	+2.3
RZN	**Rozhen**	**147.21**	**253**	*i* P	PKPbc	18 44 33.3	+2.1
VRSR	**Storozhevoye**	**147.35**	**278**	*i* PKIKP	PKPbc	18 44 32.5	+1.2
VRSR				pmax	pmax		
comp=Z,8.0nm,1.2s							
VRSR				pmax	pmax		
comp=N,2.0nm,1.1s							
VRSR				pmax	pmax		
comp=E,3.0nm,1.0s							
VRSR				MLR	MLR		
comp=Z,180nm,19.0s,MS4.9							
PLD	**Plovdiv**	**147.55**	**253**	*e*P	PKPbc	18 44 33.4	+1.2
MMB	**Musomiste**	**147.58**	**251**	*i* P	PKPdf	18 44 31.5	+2.0
TIRR	**Tirgusor**	**147.66**	**260**	P	PKPbc	18 44 32.5	+0.1
TIRR	**Tirgusor**	**147.66**	**260**	PKIKP	PKPbc	18 44 32.5	+0.1
TIRR	**Tirgusor**	**147.66**	**260**	⇓*i*P	PKPdf	18 44 31.9	+2.3
VAY	**Valandovo**	**147.88**	**250**	*e*P	PKPdf	18 44 31.2	+1.2
VAY	**Valandovo**	**147.88**	**250**	*i* PKP	PKPdf	18 44 35.8	+5.7
VAY	**Valandovo**	**147.88**	**250**	*i* PKP	PKPdf	18 44 35.7	+5.6
SZH	**Strazhica**	**147.90**	**256**	*i* P	PKPdf	18 44 32.7	+2.7
FNA	**Florina**	**147.98**	**248**	*e*P	PKPdf	18 44 28.3	-2.0
HARR	**Harsova**	**148.06**	**260**	P	PKPbc	18 44 34.0	+0.5
KKB	**Krupnik**	**148.09**	**251**	*i* P	PKPbc	18 44 34.1	+0.5
PVL	**Pavlikeni**	**148.13**	**255**	*i* P	PKPbc	18 44 34.2	+0.5
PGB	**Panagyurishte**	**148.14**	**253**	*i* P	PKPbc	18 44 35.8	+2.1
KEST	**Kesra**	**148.45**	**227**	PKPbc	PKPbc	18 44 34.2	-0.5
comp=Z,2.7nm,1.0s,baz=33,slow=3.3,SNR=4.0							
ZIMR		**148.46**	**256**	PKP2	PKPab	18 44 37.2	-0.7
OHR	**Ohrid**	**148.50**	**247**	*e*P	PKPdf	18 44 33.9	+2.8
OHR	**Ohrid**	**148.50**	**247**	*i* PKP	PKPbc	18 44 37.4	+2.7
KRUS	**Krusevo**	**148.51**	**248**	*i* PKP	PKPdf	18 44 35.0	+3.9
KRUS	**Krusevo**	**148.51**	**248**	*i* PKP	PKPdf	18 44 34.9	+3.8
VTS	**Vitosha**	**148.61**	**252**	*e*P	PKPdf	18 44 33.6	+2.4
VTS	**Vitosha**	**148.61**	**252**	PKIKP	PKPbc	18 44 34.3	-0.6
VTS	**Vitosha**	**148.61**	**252**	⇑*i*P	PKPdf	18 44 33.5	+2.3
VTS	**Vitosha**	**148.61**	**252**	*i* P	PKPbc	18 44 35.9	+1.0
SKO	**Skopje**	**148.91**	**249**	*i* PKP	PKPdf	18 44 38.0	+6.3
SKO	**Skopje**	**148.91**	**249**	*i* PKP	PKPdf	18 44 37.9	+6.2
TIR	**Tirane**	**149.10**	**247**	*e*P	PKPdf	18 44 40.6	+8.5
KIS	**Kishinev**	**149.35**	**263**	*i* PKIKP	PKPbc	18 44 37.0	+0.4
KIS				*e*		18 48 20.0	
KIS	**Kishinev**	**149.35**	**263**	*e*PKIKP	PKPbc	18 44 37.0	+0.4
KIS				*e*SKP		18 47 32.0	
KIS	**Kishinev**	**149.35**	**263**	*e*PP	PP	18 48 20.0	+10
VRI	**Vrincioaia**	**149.50**	**260**	P	PKPbc	18 44 37.0	-0.1
VRI	**Vrincioaia**	**149.50**	**260**	⇑*i*P	PKPbc	18 44 37.8	+0.8
PLOR	**Plostina**	**149.53**	**260**	PKIKP	PKPbc	18 44 36.9	-0.2
MLR	**Muntele Rosu**	**149.59**	**258**	P	PKPbc	18 44 37.3	0.0
MLR	**Muntele Rosu**	**149.59**	**258**	⇑*i*P	PKPbc	18 44 37.2	-0.1
MDT	**Midelt**	**149.59**	**204**	PKPbc	PKPbc	18 44 36.1	-1.6
comp=Z,2.8nm,0.9s,baz=172,slow=5.7,SNR=3.5							
CMAH	**Djebel Manchou**	**149.92**	**225**	P	PKPab	18 44 45.0	+1.0
SET	**Setif**	**150.20**	**222**	P	PKPab	18 44 47.0	+1.8
DFRA	**Djebel Bou Aff**	**150.36**	**223**	P	PKPab	18 44 49.0	+3.1
MOS	**Moscow**	**150.91**	**284**	*e*PKIKP	PKPbc	18 44 41.1	+1.0
MOS				pmax	pmax		
comp=Z,114nm,1.4s							
MOS				pmax	pmax		
comp=Z,200nm,1.9s							
GZR	**Gura Zlata**	**150.98**	**255**	PKIKP	PKPbc	18 44 41.3	+0.7
GZR	**Gura Zlata**	**150.98**	**255**	⇑PKIKP	PKPab	18 44 48.2	0.0
GZR	**Gura Zlata**	**150.98**	**255**	⇑*i*P	PKPab	18 44 48.2	0.0
OBN	**Obninsk**	**151.03**	**282**	*e*PKPbc	PKPbc	18 44 39.4	-1.0
OBN				LR	LR		
comp=Z,2μm,21.0s,MS5.8							
OBN	**Obninsk**	**151.03**	**282**	⇑*i*PKIKP	PKPbc	18 44 40.0	-0.4
OBN				*e*SSS		19 08 21.1	
OBN				pmax	pmax		
comp=Z,111nm,1.2s							
DIVS	**Divibare**	**151.24**	**250**	*e*P	PKPbc	18 44 41.4	+0.1
RES	**Resolute Bay**	**151.49**	**33**	*e*PKPdf	PKPdf	18 44 36.6	+1.8
BZS	**Buzias**	**151.68**	**254**	⇑*i*P	PKPbc	18 44 42.0	-0.2
AKASG	**Malin Array Be**	**151.73**	**269**	PKP	PKPdf	18 44 34.3	-1.5
AKASG				PKPbc	PKPbc	18 44 40.7	-1.5
AKASG				PP	PP	18 48 23.7	+0.4
AKASG	**Malin Array Be**	**151.73**	**269**	PKP	PKPdf	18 44 34.3	-1.5
comp=Z,0.1nm,0.3s,baz=115,slow=1.4,SNR=3.8							
AKASG				PKPbc	PKPbc	18 44 40.7	-1.4
comp=Z,3.4nm,0.8s,baz=93,slow=2.0,SNR=15							
AKASG				PP	PP	18 48 23.7	+0.4
comp=Z,1.2nm,0.9s,baz=134,slow=4.6,SNR=5.8							
AKBB	**Malin Array Si**	**151.73**	**269**	*e*PKPbc	PKPbc	18 44 41.0	-1.1
KIEV	**Kiev**	**151.74**	**269**	*e*PKPbc	PKPbc	18 44 40.6	-1.6
KIEV				LR	LR		
comp=Z,2μm,20.0s,MS5.9							
DRGR		**152.06**	**257**	P	PKPdf	18 44 39.4	+3.0
DRGR		**152.06**	**257**	⇑*i*P	PKPbc	18 44 42.3	-0.7
AQU	**L'Aquila**	**152.67**	**240**	*e*PKPbc	PKPbc	18 44 42.6	-2.0
PKSM	**Moragy**	**153.48**	**251**	⇑*i*P	PKPbc	18 44 45.5	-0.7
UZH	**Uzhgorod**	**153.59**	**259**	*e*PKIKP	pPKPbc	18 44 52.0	+2.2
UZH				*e*SS	SS	19 08 10.0	+0.7
LVV	**L'vov**	**153.60**	**263**	*i* PKIKP	pPKPbc	18 44 52.1	+2.3
LVV				MLR	MLR		
comp=Z,1μm,20.0s,MS5.7							
LVV				MLR	MLR		
comp=N,900nm,19.0s,MS5.7							
LVV				MLR	MLR		
comp=E,600nm,18.0s,MS5.7							
KOLS	**Kolonicke sedl**	**153.81**	**260**	*e*PKP	PKPdf	18 44 42.2	+3.3
KOLS				*e*		18 44 53.3	
KWP	**Kalwaria**	**154.09**	**261**	*e*PKPdf	PKPdf	18 44 41.4	+2.1
KWP	**Kalwaria**	**154.09**	**261**	⇑*i*P	PKPdf	18 44 42.3	+3.0
CRVS	**Cervenica-Dubn**	**154.17**	**259**	*e*PKP	PKPbc	18 44 44.5	-3.1
KECS	**Kecovo**	**154.32**	**257**	*e*PKP	PKPdf	18 44 43.4	+3.7
SCHQ	**Schefferville**	**154.41**	**84**	PKP	PKPdf	18 44 40.0	+0.4
baz=315,slow=1.4,SNR=2.1							
STHS	**Stebnicka Huta**	**154.63**	**259**	*e*PKP	PKPbc	18 44 47.9	-0.7
TMCR	**Tamitsa**	**154.75**	**301**	*e*PKP2	PKPab	18 45 06.5	+2.9
VYHS	**Vyhne**	**155.09**	**255**	*e*PKP	PKPdf	18 44 42.3	+1.6
PDA	**Ponta Delgada**	**155.57**	**167**	*e*LR	LR	19 37 42.0	
MODS	**Modra-Piesok**	**155.71**	**253**	*e*PKP	PKPdf	18 44 44.9	+3.3
PAB	**San Pablo**	**156.01**	**209**	PFAKE		18 44 50.0	+7.7
PAB				LR	LR		
comp=Z,4μm,19.0s,MS6.2							
CONA	**Conrad Observa**	**156.03**	**251**	⇑*i*pPKPdf	pPKPdf	18 44 49.6	+4.2
comp=Z,6.1nm,1.6s							
CONA				⇑*i*PKPab	PKPab	18 45 11.4	+1.9
comp=Z,15nm,1.8s							
ESDC	**Sonseca Array**	**156.05**	**209**	PKP	PKPdf	18 44 42.8	+0.5
comp=Z,0.3nm,0.5s,baz=182,slow=8.7,SNR=2.7							
OKC	**Ostrava-Krasne**	**156.36**	**257**	AMS	AMS	20 11 00.0	
comp=Z,2μm,17.9s,MS5.9							
TREC	**Trest**	**157.20**	**253**	AMS	AMS	20 06 40.0	
comp=Z,3μm,22.0s,MS6.0							
DPC	**Dobruska-Polom**	**157.56**	**256**	*e*PKPDF	PKPdf	18 44 47.3	+3.4
DPC				*e*PKPAB	PKPab	18 45 20.9	+4.9
DPC				AMS	AMS	20 06 50.0	
comp=Z,3μm,21.8s,MS6.1							
GERES	**GERESS Array B**	**157.67**	**250**	PKP	PKPdf	18 44 43.0	-1.1
comp=Z,0.1nm,0.3s,baz=311,slow=11,SNR=2.2							
UPC	**Upice**	**157.82**	**255**	*e*PKPDF	PKPdf	18 44 45.3	+1.1
UPC				*e*PKPAB	PKPab	18 45 22.2	+5.1
KSP	**Ksiaz**	**157.92**	**256**	*e*PKP2	PKPab	18 45 23.0	+5.4
KSP				*e*		18 48 58.0	
KSP				MLR	MLR		
comp=Z,4μm,23.8s,MS6.1							
KHC	**Kasperske Hory**	**157.94**	**250**	*e*PKPDF		18 44 53.9	
KHC				*e*pPKP	pPKPab	18 45 24.5	+3.5
KHC				*e*SS	SS	19 08 43.8	-12
KHC				AMS	AMS	20 10 30.0	
comp=Z,3μm,19.9s,MS6.1							
PRU	**Pruhonice**	**158.12**	**253**	*e*PKPAB	PKPab	18 45 22.3	+3.8
PRU				*e*SS	SS	19 08 55.8	-2.4
PRU				AMS	AMS	20 15 20.0	
comp=Z,2μm,18.1s,MS6.1							
PVCC	**Panska Ves**	**158.49**	**254**	*e*PKPAB	PKPab	18 45 25.0	+4.9
PVCC				AMS	AMS	20 08 50.0	
comp=Z,2μm,20.0s,MS5.9							
BRG	**Berggiesshubel**	**159.02**	**254**	PKP	PKPdf	18 44 47.0	+1.4
BRG				*i*		18 45 25.7	
BRG				*e*		18 48 55.0	
BRG				*e*		18 49 31.5	
BRG				LR	LR		
comp=Z,2μm,20.8s,MS6.0							
BRG	**Berggiesshubel**	**159.02**	**254**	PKIKP	PKPdf	18 44 47.0	+1.4
BRG				*i*		18 45 25.7	
BRG				MLR	MLR		
comp=Z,2μm,20.8s,MS6.0							
BRG	**Berggiesshubel**	**159.02**	**254**	PKP	PKPdf	18 44 47.0	+1.4
BRG				*i*		18 45 25.7	
comp=Z,27nm,1.9s							
BRG							
comp=N,1μm,16.4s							
BRG							
comp=E,1μm,18.0s							
BRG							
comp=Z,4μm,20.8s							
NKC	**Novy Kostel**	**159.24**	**251**	*e*PKPAB	PKPab	18 45 28.4	+5.1
NKC				AMS	AMS	20 01 50.0	
comp=Z,3μm,21.1s,MS6.2							
GRFO	**Grafenberg**	**159.39**	**248**	PFAKE		18 45 00.0	+14
GRFO				LR	LR		
comp=Z,2μm,19.0s,MS6.0							
BFO	**Black Forest**	**159.60**	**241**	PFAKE		18 45 00.0	+14
BFO				LR	LR		
comp=Z,2μm,21.0s,MS6.0							
CLL	**Collm**	**159.75**	**253**	*e*PKPdf	PKPdf	18 44 50.5	+4.0
CLL				*e*PKPab	PKPab	18 45 29.3	+3.8
comp=Z,54nm,2.2s							
CLL				*e*PP	PP	18 49 08.7	+0.9
CLL				*e*(PPP)		18 52 45.6	
CLL				*e*PPS		19 02 34.7	
CLL				*e*SS	SS	19 09 19.4	+4.0
CLL				*e*SSS		19 15 37.0	
CLL				*e*LR	LR	19 42 28.8	
CLL	**Collm**	**159.75**	**253**	*e*PKPab	PKPab	18 45 25.0	-0.5
comp=Z,54nm,2.2s							
CLL				*e*PP	PP	18 49 13.0	+5.2
CLL				*e*PPP		18 52 48.0	
CLL				*e*SKKSac	SKKSac	18 56 00.0	+4.6
CLL				*e*SKSP		18 59 28.0	
CLL				*e*PPS		19 02 32.0	
CLL				*e*x	x	19 03 30.0	
CLL				*e*x	x	19 04 36.0	
CLL				*e*SS	SS	19 09 12.0	-3.4
CLL				*e*PSS		19 10 12.0	
CLL				*e*PSPS		19 10 52.0	
CLL				*e*SSS		19 15 36.0	
CLL				*e*SSSrev		19 24 30.0	
CLL				LmH		20 00 00.0	
comp=N,1μm,21.6s							
CLL				LmH		20 00 00.0	
comp=E,2μm,21.7s							
CLL				LmV		20 06 00.0	
comp=Z,3μm,21.5s							
MOX	**Moxa**	**159.91**	**250**	*e*P	PKPab	18 45 32.4	+6.2
comp=Z,17nm,1.6s		

WRAB			*e*		18 42 54.5	
WB2	**Warramunga Arr**	**24.13 240**	*e*P	**P**	**18 42 48.4**	**+0.7**
WRA	**Warramunga Arr**	**24.14 240**	P	**P**	**18 42 47.3**	**-0.5**
4.6nm,0.7s,mb4.0,baz=66,slow=9.6,SNR=28						
ASAR	**Alice Springs**	**26.21 233**	P	**P**	**18 43 06.0**	**-0.6**
0.7nm,1.0s,mb3.1,baz=58,slow=6.7,SNR=4.3						
STKA	**Stephens Creek**	**26.82 209**	*e*P	**P**	**18 43 12.5**	**+0.5**
STKA			P		18 43 12.6	
STKA	**Stephens Creek**	**26.82 209**	P	**P**	**18 43 12.6**	**+0.6**
3.0nm,0.9s,mb3.8,baz=17,slow=11,SNR=5.0						
MKAR	**Makanchi Array**	**85.76 318**	P	**P**	**18 50 10.8**	**+0.1**
MKAR	**Makanchi Array**	**85.76 318**	P	**P**	**18 50 10.8**	**+0.1**
0.3nm,0.7s,mb3.6,baz=99,slow=6.9,SNR=3.3						

NEIC ***12*** *18:41:39.0±0.6, 691S×155.75E, h10km, mb4.9/7, Error ellipse: s-maj=15.3km s-min=13.5km az=106.0*
ISCJB ***12*** *18:41:45.6±2.8, 7.1S±0.1×1559E±0.1, h79km±30km, mb4.5/16, Error ellipse: s-maj=21.9km s-min=13.5km az=138.9*
IDC ***12*** *18:41:47.9±3.1, 7.11S×155.87E, h87km±31km, mb4.1/8, mb1 4.1/9, mb1mx4.0/15, mbtmp4.1/9, Error ellipse: s-maj=23.7km s-min=18.7km az=89.0*
ISC 12 18:41:47.6±2.5, 71S±01×1559E±01, h83km±28km, n27, σ0:84/26, mb4.5/16, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.67**	**120**	*e*P			**Pn**	**18 42 53.8**	**-1.9**
HNR	**Honiara**	**4.67**	**120**	P			**Pn**	**18 42 55.1**	**-0.6**
8.2nm,0.3s,baz=271,slow=8.8,SNR=4.0									
HNR				S			**Sn**	**18 43 49.3**	**+0.6**
11nm,0.3s,baz=88,slow=21,SNR=3.8									
CTA	**Charters Tower**	**15.94**	**215**	P			**Pn**	**18 45 30.0**	**+3.0**
0.3nm,0.3s,baz=29,slow=10,SNR=3.3									
KAKA	**Kakadu**	**23.73**	**255**	*e*P			**P**	**18 46 52.9**	**+0.5**
9.9nm,0.6s,mb4.3									
WRAB	**Tennant Creek**	**24.47**	**236**	*e*P			**P**	**18 46 59.1**	**0.0**
WB2	**Warramunga Arr**	**24.47**	**236**	*e*P			**P**	**18 46 59.4**	**+0.3**
WRA	**Warramunga Arr**	**24.48**	**236**	P			**P**	**18 46 59.3**	**+0.2**
5.6nm,0.6s,mb4.1,baz=60,slow=9.2,SNR=103									
WRA				PcP			PcP	18 50 36.2	+0.2
0.4nm,0.6s,baz=59,slow=2.3,SNR=5.3									
ASAR	**Alice Springs**	**26.77**	**230**	P			**P**	**18 47 19.3**	**-0.5**
1.1nm,0.5s,mb3.6,baz=58,slow=9.9,SNR=57									
ASAR				PcP			PcP	18 50 41.2	+0.1
0.4nm,0.6s,baz=65,slow=2.8,SNR=7.2									
FITZ	**Fitzroy Crossi**	**31.41**	**247**	*e*P			**P**	**18 48 00.9**	**-0.2**
7.2nm,0.6s,mb4.6									
FORT	**Forrest**	**35.12**	**224**	*e*P			**P**	**18 48 32.9**	**-0.4**
7.4nm,0.6s,mb4.7									
MBWA	**Marble Bar**	**37.61**	**244**	*e*P			**P**	**18 48 53.2**	**-1.4**
KLBR	**Kellerberrin**	**43.09**	**230**	*e*P			**P**	**18 49 39.2**	**-0.5**
MJAR	**Matsushiro Arr**	**46.44**	**340**	P			**P**	**18 50 05.6**	**-0.5**
1.5nm,0.7s,mb3.8,baz=169,slow=8.7,SNR=7.1									
KSRS	**Korea Array**	**51.41**	**332**	P			**P**	**18 50 44.8**	**+0.6**
2.0nm,0.6s,mb4.3,baz=147,slow=8.1,SNR=7.9									
ULN	**Ulaanbaatar**	**69.53**	**327**	*e*P			**P**	**18 52 48.6**	**+1.2**
7.8nm,0.9s,mb4.5									
SONM	**Songino Array**	**69.87**	**327**	P			**P**	**18 52 50.8**	**+1.3**
6.3nm,0.5s,mb4.7,baz=144,slow=6.0,SNR=33									
KKN	**Kakani**	**76.37**	**301**	*e*P			**P**	**18 53 28.5**	**+0.2**
16nm,0.8s,mb4.8									
DMN	**Daman**	**76.47**	**300**	*e*P			**P**	**18 53 29.3**	**+0.4**
13nm,0.4s,mb5.0									
GKN	**Gorkha**	**76.98**	**301**	*e*P			**P**	**18 53 31.1**	**-0.6**
20nm,0.7s,mb5.0									
KOLN	**Koldanda**	**77.80**	**300**	*e*P			**P**	**18 53 35.0**	**-1.3**
10nm,0.6s,mb4.8									
QSPA	**South Pole Qui**	**82.90**	**180**	P			**P**	**18 54 03.2**	**+0.5**
1.4nm,0.4s,mb4.1,baz=259,slow=0.8,SNR=7.0									
MK31	**Makanchi Array**	**84.03**	**319**	*e*P			**P**	**18 54 09.5**	**+0.5**
MKAR	**Makanchi Array**	**84.03**	**319**	P			**P**	**18 54 09.6**	**+0.6**
5.2nm,0.7s,mb4.5,baz=100,slow=5.9,SNR=22									
ZALV	**Zalesovo Beam**	**84.73**	**326**	P			**P**	**18 54 11.2**	**-1.2**
2.7nm,0.5s,mb4.4,baz=117,slow=5.8,SNR=13									
KURK	**Kurchatov**	**87.43**	**322**	*e*P			**P**	**18 54 25.2**	**-0.5**
AKASG	**Malin Array Be**	**118.10**	**325**	PKP			PKPdf	19 00 23.5	-1.4
0.5nm,0.5s,baz=52,slow=2.5,SNR=4.6									
TORD	**Torodi Ar. Bea**	**153.87**	**285**	PKPbc			PKPbc	19 01 37.5	-0.9
0.4nm,0.4s,baz=70,slow=2.2,SNR=6.3									
TORD				PKPab			PKPab	19 01 50.6	-1.1
0.7nm,0.6s,baz=89,slow=4.3,SNR=5.0									

ISCJB ***12*** *18:43:38.8±1.0, 3809N±004×2037E±006, h5km, Error ellipse: s-maj=7.8km s-min=4.4km az=153.7*
CSEM ***12*** *18:43:38.9±0.2, 3808N×2033E, h1km±2km, MD3.6, Error ellipse: s-maj=4.1km s-min=2.2km az=50.0*
NEIC ***12*** *18:43:39.5, 38.15N×2039E, h5km, MD3.6(ATH), After ATH.*
ATH ***12*** *18:43:39.5, 38.15N×2039E, h5km±1km, MD3.6/4*
THE ***12*** *18:43:40.2, 38.11N×2043E, h3km, ML3.2*
ISC 12 18:43:39.6±1.2, 3809N±004×2038E±007, h7km±8km, n12, σ0:89/20, Greece

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.19**	**61**	*e*PG			**Pg**	**18 43 43.1**	**-0.3**
VLS				*e*SG			**Sg**	**18 43 45.5**	**-0.4**
KFL	**Anninata**	**0.32**	**86**	*e*Pg			**Pg**	**18 43 45.8**	**-0.1**
LKD	**Levkas**	**0.65**	**19**	*e*Pg			**Pg**	**18 43 51.6**	**-0.6**
LKD				*e*Sg			**Sg**	**18 44 01.2**	**+0.5**
RLS	**Riolos of Patr**	**0.86**	**92**	*e*PG			**Pg**	**18 43 55.6**	**-0.4**
RLS				*e*SB			**Sb**	**18 44 07.7**	**-0.8**
SELA	**Sela**	**1.21**	**81**	*e*Pg			**Pg**	**18 44 01.4**	**-1.3**
SELA				*e*Sg			**Sg**	**18 44 19.6**	**+1.2**
EVR	**Evrytania**	**1.39**	**53**	*e*PB			**Pb**	**18 44 05.4**	**-0.6**
IGT	**Igoumenitsa**	**1.44**	**358**	*e*Pg			**Pg**	**18 44 06.4**	**-0.9**
IGT				*e*Sg			**Sg**	**18 44 27.7**	**+1.7**
ITM	**Ithomi**	**1.52**	**126**	*e*PB			**Pg**	**18 44 09.6**	**+0.8**
ITM				*e*SB			**Sg**	**18 44 30.7**	**+2.1**
PYL	**PYLOS**	**1.61**	**137**	*e*Pg			**Pg**	**18 44 09.1**	**-1.3**
KEK	**Kerkira**	**1.69**	**345**	*e*Pg			**Pn**	**18 44 09.9**	**-0.4**
KEK				*e*Sn			**Sg**	**18 44 41.9**	**+8.1**
THL	**Klokotos Trika**	**1.95**	**40**	*e*PN			**Pb**	**18 44 15.5**	**0.0**
THL				*e*SN			**Sg**	**18 44 41.9**	**-0.3**
DID	**Didima**	**2.33**	**104**	*e*Pn			**Pn**	**18 44 19.0**	**+0.6**

NEIC ***12*** *19:02:42.9, 1502N×9481W, h14km, MD4.5(MEX), After MEX.*
MEX 12 19:02:43.8±0.6, 1509N×9481W, h16km±50km, MD4.4, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**1.43**	**298**	*i* P			Pn	19 03 05.0	-4.0
HUIG				*i* S			Sn	19 03 22.6	-4.9
CMIG	**Matias Romero**	**1.99**	**358**	*i* P			Pn	19 03 14.0	-2.8
CMIG				*i* S			Sn	19 03 36.0	-5.5
VHO	**Vista Hermosa**	**2.70**	**317**	*i* P			Pn	19 03 15.6	-11
VHO				*i* S			Sn	19 03 56.6	-2.4
VHO	**Vista Hermosa**	**2.70**	**317**	*e*P			Pn	19 03 24.6	-2.0
VHO				*i* S			Sn	19 03 55.6	-3.4
CCIG	**Comitan**	**2.83**	**65**	*i* P			Pn	19 03 26.0	-2.4
CCIG				*i* S			Sn	19 03 58.0	-4.2
CCIG				*i* S			Sn	19 04 01.2	-0.9
CCIG	**Comitan**	**2.83**	**65**	*i* P			Pn	19 03 26.0	-2.4
CCIG				*i* S			Sn	19 03 58.0	-4.2
TUIG	**Tuzandepetl**	**2.95**	**7**	*i* P			Pn	19 03 27.0	-3.0
PPM	**Popocatepetl**	**5.38**	**318**	*i* P			Pn	19 03 56.0	-7.5
PPM				*i* S			Sn	19 05 08.1	+3.0
PPM	**Popocatepetl**	**5.38**	**318**	*i* P			Pn	19 04 00.7	-2.8
PPM				*i* S			Sn	19 05 02.9	-2.2

ISCJB ***12*** *19:11:11.8±0.6, 6161S±008×1607E±02, h10km, mb4.4/9, MS5.0/8, Error ellipse: s-maj=16.8km s-min=10.5km az=165.5*
IDC ***12*** *19:11:11.8±1.1, 6159S×16042E, h0km, mb4.4/6, mb1 4.5/6, mb1mx4.4/11, mbtmp4.3/6, MS5.1/10, Ms1 5.1/10, ms1mx4.8/19, Error ellipse: s-maj=61.7km s-min=21.3km az=69.0*
GCMT ***12*** *19:11:12.7±0.2, 6154S×16099E, h12km, MW5.4/79, Moment Tensor Solution. s49,c68; s79,c140; Duration: 1s3 Moment tensor: Scale 10^17Nm; Mrr-0.13±.04; Mθθ 1.71±.03; Mφφ-1.58±.04; Mrθ-0.46±.09; Mθφ-0.34±.03; Mφr 0.33±.10; Best double couple: M0 1.76600×10^17*

NP1:φ230.00000°, δ72.00000°, λ178.00000°. NP2: φ-321.00000°, δ88.00000°, λ18.00000°. Principal axes: T 1.8650, Plg14.0000°, Azm187.0000°; N -0.1960, Plg72.0000°, Azm328.0000°; P -1.6670, Plg11.0000°, Azm94.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.
NEIC ***12*** *19:11:12.7±0.7, 6162S×16046E, h10km, mb4.6/3 Error ellipse: s-maj=38.9km s-min=12.7km az=72.0*
ISC 12 19:11:13.3±0.6, 6161S±008×1608E±02, h10km, n47, σ1:39/20, mb4.4/9, MS5.0/8, 7C-2D, Balleny Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**15.99**	**179**	LR			LR	19 20 20.3	
comp=Z,12μm,18.1s,baz=63,slow=34									
SBA	**Scott Base**	**16.43**	**176**	*e*P			**Pn**	**19 15 01.3**	**-2.2**
192nm,1.8s									
RPZ	**Rata Peaks**	**18.93**	**23**	LR			LR	19 22 04.6	
comp=Z,8μm,19.4s,baz=231,slow=34									
URZ	**Urewera**	**25.47**	**31**	LR			LR	19 26 01.8	
comp=Z,6μm,18.2s,MS5.2,baz=330,slow=35									
QSPA	**South Pole Qui**	**28.48**	**180**	P			**P**	**19 17 10.2**	**+2.2**
1.7nm,0.7s,mb3.8,baz=359,slow=1.3,SNR=4.2									
QSPA				LR			LR	19 27 13.2	
comp=Z,4μm,19.4s,MS5.0,baz=29,slow=34									
STKA	**Stephens Creek**	**32.26**	**328**	*e*P			**P**	**19 17 43.8**	**+2.1**
7.3nm,1.7s,mb4.2									
STKA	**Stephens Creek**	**32.26**	**328**	P			**P**	**19 17 41.8**	**0.0**
6.6nm,1.2s,mb4.3,baz=162,slow=10,SNR=6.5									
STKA				LR			LR	19 28 50.7	
comp=Z,4μm,19.2s,MS5.1,baz=157,slow=33									
FORT	**Forrest**	**37.51**	**310**	*e*P			**P**	**19 18 29.3**	**+2.3**
4.8nm,0.7s,mb4.3									
MAW	**Mawson**	**38.19**	**218**	LR			LR	19 34 37.5	
comp=Z,5μm,18.4s,MS5.4,baz=122,slow=37									
ASAR	**Alice Springs**	**42.15**	**322**	P			**P**	**19 19 05.2**	**-0.4**
6.4nm,0.8s,mb4.3,baz=161,slow=7.9,SNR=80									
CTA	**Charters Tower**	**42.72**	**340**	*e*P			**P**	**19 19 10.1**	**-0.2**
15nm,1.2s,mb4.6									
WB2	**Warramunga Arr**	**45.54**	**324**	*e*P			**P**	**19 19 33.3**	**+0.4**
WB2	**Warramunga Arr**	**45.54**	**324**	*e*P			**P**	**19 19 31.5**	**-1.4**
WRA	**Warramunga Arr**	**45.55**	**324**	P			**P**	**19 19 30.4**	**-2.5**
WRA				PcP			PcP	19 21 13.0	+1.5
WRA	**Warramunga Arr**	**45.55**	**324**	P			**P**	**19 19 30.4**	**-2.5**
3.6nm,1.0s,mb4.3,baz=159,slow=6.4,SNR=12									
WRA				PcP			PcP	19 21 13.0	+1.5
2.0nm,0.9s,baz=171,slow=3.2,SNR=6.4									
WRA				LR			LR	19 38 58.4	
comp=Z,626nm,18.3s,MS4.6,baz=115,slow=37									
VNA3	**Neumayer Olymp**	**47.26**	**184**	*e*			**P**	**19 19 46.6**	**+0.7**
VNA3				*e*				19 19 52.3	
VNA3				*e*				19 19 57.2	
VNA2	**Neumayer--Watz**	**47.49**	**185**	*e*			**P**	**19 19 48.0**	**+0.3**
baz=168,slow=5.9									
VNA2				*e*				19 19 54.0	
VNA2				*e*				19 19 58.7	
FITZ	**Fitzroy Crossi**	**49.99**	**314**	*e*P			**P**	**19 20 10.0**	**+2.5**
16nm,1.3s,mb4.9									
FITZ	**Fitzroy Crossi**	**49.99**	**314**	*e*P			**P**	**19 20 05.6**	**-1.9**
TBI	**Tubuai**	**50.94**	**65**	*e*S			**S**	**19 27 31.1**	**0.0**
470nm,28.5s									
TBI				*e*LQ				19 31 58.9	
2μm,28.8s									
TBI				*e*LR			LR	19 34 48.0	
660nm,23.5s									
TBI	**Tubuai**	**50.94**	**65**	*e*T				20 14 39.5	
44nm,0.4s									
HNR	**Honiara**	**52.08**	**359**	LR			LR	19 38 04.1	
comp=Z,3μm,19.7s,MS5.3,baz=176,slow=31									
PAE	**Paea**	**55.93**	**61**	*e*T				20 20 52.8	
65nm,0.3s									
PPT	**Papeete**	**56.02**	**61**	*e*S			**S**	**19 28 40.3**	**+0.2**
378nm,23.7s									
PPT				*e*LR			LR	19 37 07.5	
779nm,26.5s,baz=211									
RKT	**Rikitea**	**57.70**	**79**	*e*LR			LR	19 37 40.2	
2μm,29.8s,baz=199									
RKT	**Rikitea**	**57.70**	**79**	*e*T				20 23 07.3	
29nm,0.3s									
VAH	**Vaihoa**	**58.92**	**62**	*e*T				20 24 36.9	
58nm,0.3s									
GUMO	**Guam**	**76.01**	**344**	LR			LR	19 55 18.7	
comp=Z,273nm,19.4s,MS4.6,baz=246,slow=35									
BOSA	**Boshof**	**83.20**	**218**	P			**P**	**19 23 38.4**	**-1.0**
BOSA	**Boshof**	**83.20**	**218**	P			**P**	**19 23 38.4**	**-1.0**
2.6nm,0.7s,mb4.4,baz=161,slow=5.3,SNR=5.2									
BOSA				LR			LR	19 58 38.2	
comp=Z,878nm,19.7s,MS5.1,baz=157,slow=34									
LPAZ	**La Paz**	**93.25**	**134**	P			**P**	**19 24 28.0**	**0.0**
0.9nm,0.6s,mb4.4,baz=194,slow=4.2,SNR=3.5									
PDAR	**Pinedale Array**	**126.30**	**66**	PKP			PKPdf	19 30 15.9	+0.8
0.6nm,1.0s,baz=82,slow=3.3,SNR=4.0									
TORD	**Torodi Ar. Bea**	**129.31**	**207**	PKP			PKPdf	19 30 22.3	+0.6
1.7nm,1.0s,baz=165,slow=0.9,SNR=6.3									
YKA	**Yellowknife Ar**	**139.20**	**45**	PKP			PKPdf	19 30 33.0	-5.6
YKA	**Yellowknife Ar**	**139.20**	**45**	PKhKP				19 30 33.0	
0.1nm,0.3s,baz=254,slow=2.9,SNR=3.2									
FCC	**Fort Churchill**	**144.54**	**60**	*e*PKPdf			PKPdf	19 30 45.7	-2.6
TIRR	**Tirgusor**	**147.55**	**260**	↑*i*P			PKPbc	19 30 57.2	+0.6
VRI	**Vrincioaia**	**149.40**	**260**	↑P			PKPbc	19 31 03.8	+2.5
VRI	**Vrincioaia**	**149.40**	**260**	↑*i*P			PKPbc	19 31 03.8	+2.5
MLR	**Muntele Rosu**	**149.49**	**259**	↑P			PKPbc	19 31 02.7	+1.2
MLR	**Muntele Rosu**	**149.49**	**259**	↑*i*P			PKPbc	19 31 02.7	+1.2
RES	**Resolute Bay**	**151.42**	**33**	*e*PKPbc			PKPbc	19 31 04.2	-1.1
BZS	**Buzias**	**151.59**	**255**	↑P			PKPdf	19 31 03.0	+2.7
BZS	**Buzias**	**151.59**	**255**	↑*i*P			PKPdf	19 31 03.0	+2.7
AKASG	**Malin Array Be**	**151.60**	**270**	PKPbc			PKPbc	19 31 04.5	-1.9
0.2nm,0.2s,baz=74,slow=3.1,SNR=5.5									
PKSM	**Moragy**	**153.41**	**252**	↓P			PKPbc	19 31 11.6	+1.0
PKSM	**Moragy**	**153.41**	**252**	↓*i*P			PKPbc	19 31 11.6	+1.1

IDC ***12*** *19:25:37.0±0.9, 2406N×12567E, h0km, mb3.8/6, mb1 4.0/7, mb1mx3.8/19, mbtmp3.8/7, ML3.9/1, Error ellipse: s-maj=38.1km s-min=18.5km az=76.0*
JMA ***12*** *19:25:37.5±0.3, 2384N×12583E, h21km, M4.4*
NEIC ***12*** *19:25:38.5±0.6, 2400N×12557E, h10km, mb3.6/1, Error ellipse: s-maj=17.2km s-min=12.3km az=97.0*
ISCJB ***12*** *19:25:39.5±0.5, 2396N±005×12587E±004, h33km, mb3.7/6, Error ellipse: s-maj=6.9km s-min=4.9km az=173.0*
ISC 12 19:25:40.6±1.5, 2400N±006×12581E±004, h29km±10km, n28, σ0:94/34, mb3.7/6, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JOGS	**Gusukube**	**0.84**	**334**	P			**Pb**	**19 25 55.9**	**-0.8**
JOGS				S			**Sb**	**19 26 08.7**	**+1.1**
JMJ	**Miyako jima 2**	**0.94**	**330**	P			**Pn**	**19 25 57.4**	**-0.4**
JMJ				S			**Sb**	**19 26 11.3**	**+0.9**
JTJ	**Tarama**	**1.19**	**302**	P			**Pn**	**19 26 00.3**	**-1.1**
JTJ				S			**Sn**	**19 26 18.1**	**+1.5**
JIJ	**Ishigaki jima**	**1.56**	**284**	P			**Pn**	**19 26 05.5**	**-0.9**
JIJ				*e*S			**Sn**	**19 26 25.7**	**0.0**
JKRS	**Kuro-shima**	**1.66**	**278**	P			**Pn**	**19 26 07.3**	**-0.5**
HATJ	**Hateruma jima**	**1.83**	**272**	P			**Pn**	**19 26 09.6**	**-0.6**
IRIF	**Iriomote-Funau**	**1.93**	**280**	P			**Pn**	**19 26 10.5**	**-1.0**
JKE	**Kume jima 2**	**2.48**	**21**	P			**Pn**	**19 26 19.4**	**+0.4**
YOJ	**Yonaguni jima**	**2.59**	**281**	P			**Pn**	**19 26 19.9**	**-0.7**
JJT2	**Tamagusuku 2**	**2.76**	**39**	P			**Pn**	**19 26 23.9**	**+1.0**
JAGN	**Aguni-jima**	**2.88**	**26**	P			**Pn**	**19 26 25.2**	**+0.6**
JOW	**Kunigami**	**3.59**	**38**	P			**Pn**	**19 26 35.2**	**+0.8**
JOW	**Kunigami**	**3.59**	**38**	Pn			**Pn**	**19 26 34.9**	**+0.5**
19nm,0.3s,baz=206,slow=12,SNR=61									
JOW				Sn			**Sn**	**19 27 14.3**	**-1.5**
9.7nm,0.3s,baz=281,slow=29,SNR=3.7									
JIH	**Iheya**	**3.59**	**32**	P			**Pn**	**19 26 34.5**	**+0.1**
JTK	**Tokunoshima**	**4.71**	**36**	P			**Pn**	**19 26 49.2**	**-0.5**
JMZ	**Minamidaito 2**	**5.24**	**69**	P			**Pn**	**19 26 55.1**	**-1.8**
JAM	**Amami Oshima**	**5.56**	**37**	P			**Pn**	**19 27 00.9**	**-0.5**
JAM				*e*S			**Sn**	**19 27 59.5**	**-4.8**
MAJO	**Matsushiro**	**16.44**	**38**	*e*P			**Pn**	**19 29 33.6**	**+4.4**
3.2nm,0.6s									
MJAR	**Matsushiro Arr**	**16.44**	**38**	Pn			**Pn**	**19 29 32.9**	**+3.7**
0.2nm,0.3s,baz=226,slow=9.9,SNR=8.5									
MK31	**Makanchi Array**	**41.45**	**314**	*e*P			**P**	**19 33 24.5**	**-0.2**
MKAR	**Makanchi Array**	**41.45**	**314**	P			**P**	**19 33 24.3**	**-0.4**
0.7nm,0.6s,mb3.5,baz=96,slow=11,SNR=12									
ZALV	**Zalesovo Beam**	**42.75**	**325**	P			**P**	**19 33 34.6**	**-0.6**
0.5nm,0.6s,mb3.5,baz=125,slow=9.7,SNR=3.5									
WRA	**Warramunga Arr**	**44.46**	**169**	P			**P**	**19 33 50.8**	**+1.5**
3.3nm,0.9s,mb4.0,baz=348,slow=8.9,SNR=18									
ASAR	**Alice Springs**	**48.03**	**170**	P			**P**	**19 34 18.9**	**+1.6**
0.5nm,0.5s,mb3.8,baz=355,slow=8.1,SNR=15									
ASAR				PcP			PcP	19 35 47.1	+2.1
0.5nm,0.8s,baz=326,slow=1.8,SNR=4.9									
STKA	**Stephens Creek**	**57.58**	**164**	P			**P**	**19 35 28.2**	**+0.5**
STKA	**Stephens Creek**	**57.58**	**164**	P			**P**	**19 35 28.2**	**+0.5**
2.3nm,0.7s,mb4.3,baz=5.7,slow=10,SNR=5.1									
YKA	**Yellowknife Ar**	**81.45**	**24**	P			**P**	**19 37 55.5**	**+0.8**
YKA	**Yellowknife Ar**	**81.45**	**24**	P			**P**	**19 37 55.5**	**+0.8**
0.4nm,0.8s,mb3.4,baz=302,slow=4.9,SNR=6.4									

MAN 12 19:42:03, 1262N×12355E, h65km, mb3.6, ML2.3, MS1.8, Luzon

IDC 12 19:48:14.1±18.0, 2270S×17484W, h0km, mb4.2/5, mb1 4.4/5, mb1mx4.0/17, mbtmp4.2/5, Error ellipse: s-maj=331.2km s-min=141.5km az=81.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**36.25**	**267**	*e*P			P	19 55 20.8	+1.5
5.6nm,0.3s									
CTA	**Charters Tower**	**36.25**	**267**	P			P	19 55 20.4	+1.1
7.1nm,0.3s,baz=97,slow=11,SNR=12									
STKA	**Stephens Creek**	**39.57**	**247**	*e*P			P	19 55 46.5	-0.7
2.8nm,1.2s									
STKA	**Stephens Creek**	**39.57**	**247**	P			P	19 55 46.3	-0.9
0.5nm,0.3s,baz=90,slow=9.8,SNR=5.6									
ASAR	**Alice Springs**	**46.92**	**258**	P			P	19 56 46.0	-0.7
1.0nm,0.5s,baz=94,slow=7.4,SNR=22									
WB2	**Warramunga Arr**	**47.23**	**263**	*e*P			P	19 56 48.9	-0.3
WRA	**Warramunga Arr**	**47.24**	**263**	P			P	19 56 49.1	-0.2
2.5nm,0.3s,baz=97,slow=8.4,SNR=132									
KAKA	**Kakadu**	**50.97**	**272**	*e*P			P	19 57 19.6	+1.6
15nm,1.4s									
FITZ	**Fitzroy Crossi**	**55.67**	**263**	P			P	19 57 53.0	+0.5
0.7nm,0.3s,baz=86,slow=7.2,SNR=5.2									

ISCJB ***12*** *19:48:35.9±0.7, 4063N±004×2360E±009, h17km±12km, Error ellipse: s-maj=11.7km s-min=5.2km az=160.2*
ATH ***12*** *19:48:35.7, 4062N×2351E, h23km, MD3.0/3*
CSEM ***12*** *19:48:36.4±0.1, 4061N×2357E, h15km, ML2.3, Error ellipse: s-maj=2.0km s-min=0.9km az=59.0*
THE ***12*** *19:48:36.2, 4060N×2355E, h17km, ML2.3*
ISC 12 19:48:35.7±0.7, 4063N±004×2361E±009, h18km±8km, n9, σ0:41/16, Greece

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SOH	**Sokhos**	**0.27**	**315**	*e*Pg			**Pg**	**19 48 42.0**	**+0.3**
SOH				*e*Sg			**Sg**	**19 48 46.0**	**+0.1**
PLG	**Polygyros**	**0.28**	**205**	*e*Pg			**Pg**	**19 48 41.9**	**0.0**
PLG				*e*Sg			**Sg**	**19 48 45.6**	**-0.5**
PLG	**Polygyros**	**0.28**	**205**	*e*PB			**Pg**	**19 48 41.8**	**-0.1**
PLG				*e*SB			**Sg**	**19 48 45.6**	**-0.5**
HORT	**Hortiatis**	**0.39**	**266**	*e*Pg			**Pg**	**19 48 43.7**	**0.0**
HORT				*e*Sg			**Sg**	**19 48 48.7**	**-0.3**
OUR	**Ouranopolis**	**0.41**	**136**	*e*Pg			**Pg**	**19 48 44.7**	**+0.5**
PAIG	**Paliouri**	**0.70**	**175**	*e*Pg			**Pg**	**19 48 49.1**	**-0.4**
PAIG				*e*Sg			**Sg**	**19 48 58.9**	**0.0**
NVR	**Nevrokopi**	**0.75**	**15**	*e*PN			**Pn**	**19 48 51.0**	**-0.4**
NVR				*e*SN			**Sn**	**19 49 01.8**	**-0.5**
KNT	**Kendrikon**	**0.76**	**315**	*e*Pg			**Pg**	**19 48 50.6**	**0.0**
KNT				*e*Sg			**Sg**	**19 49 00.9**	**+0.3**
NEO	**Neokhori**	**1.35**	**193**	*e*PN			**

comp=Z,18nm,0.8s,mb5.1
SVW2 Sparrevohn 78.63 22 *e*P **P 20 36 28.0 0.0**
TTA Tatalina 79.64 21 *e*P **P 20 36 33.6 +0.1**
IMA2 Indian Mountai 82.41 19 *e*P **P 20 36 48.1 0.0**
QSPA South Pole Qui 82.53 180 *e*P **P 20 36 49.7 +1.0**
comp=Z,10.0nm,1.2s,mb4.7
MCK McKinley 82.68 22 *e*P **P 20 36 48.5 -1.1**
comp=Z,4.4nm,0.6s,mb4.7
MK31 Makanchi Array 83.38 319 *e*P **P 20 36 54.2 +0.6**
MKAR Makanchi Array 83.38 319 P **P 20 36 54.1 +0.4**
comp=Z,2.0nm,0.7s,mb4.3,baz=104,slow=5.4,SNR=27
COLA College 83.70 21 *e*P **P 20 36 53.0 -1.9**
comp=Z,4.2nm,0.6s,mb4.8
ZALV Zalesovo Beam 84.24 326 P **P 20 36 57.2 -0.7**
ZALV Zalesovo Beam 84.24 326 P **P 20 36 57.2 -0.7**
comp=Z,4.3nm,0.5s,mb4.8,baz=115,slow=5.4,SNR=25
INK Inuvik 90.34 21 P **P 20 37 26.5 -0.6**
INK Inuvik 90.34 21 P **P 20 37 26.5 -0.6**
comp=Z,0.7nm,0.4s,mb4.3,baz=217,slow=3.4,SNR=4.5
NVAR Mina Array Bea 92.44 52 P **P 20 37 38.3 +0.7**
comp=Z,1.1nm,0.7s,mb4.3,baz=247,slow=8.3,SNR=2.4
TPNV Topopah Spring 93.88 53 *e*P **P 20 37 48.0 +3.8**
YKA Yellowknife Ar 97.00 28 P **P 20 37 56.9 -1.0**
comp=Z,0.7nm,0.8s,mb4.1,baz=264,slow=4.6,SNR=7.8
PDAR Pinedale Array 99.42 48 P **P 20 38 10.5 +1.4**
comp=Z,0.7nm,1.0s,mb4.2,baz=224,slow=3.4,SNR=4.1
AKASG Malin Array Be 117.58 324 PKP PKPdf 20 43 11.9 -0.4
comp=Z,0.4nm,0.4s,baz=49,slow=2.2,SNR=4.5
GERES GERESS Array B 127.15 329 PKP PKPdf 20 43 31.8 +1.1
comp=Z,0.4nm,0.5s,baz=75,slow=2.1,SNR=6.4
TORD Torodi Ar. Bea 152.60 284 PKP PKPdf 20 44 17.0 0.0
TORD PKPbc PKPbc 20 44 23.8 -0.2
TORD Torodi Ar. Bea 152.60 284 PKP PKPdf 20 44 17.0 0.0
comp=Z,0.1nm,0.6s,baz=67,slow=14,SNR=2.2
TORD PKPbc PKPbc 20 44 23.8 -0.2
comp=Z,1.4nm,0.6s,baz=79,slow=2.4,SNR=14
DBIC Dimbokro 159.43 269 PKPab PKPab 20 45 04.1 +0.2
comp=Z,4.0nm,1.0s,baz=269,slow=6.6,SNR=3.7

IDC 12 20:28:21.1±28.0,1633S×17610W,h0km,mb4.4/4, mb1 4.5/4,mb1mx4.0/15,mbtmp4.4/4,MS3.7/1,Ms1 3.7/1, ms1mx3.1/27,Error ellipse: s-maj=545.1km s-min=135.8km az=83.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**22.65**	**194**	LR	LR	20 40 34.6	
	comp=Z,199nm,20.4s,baz=275,slow=32						
STKA	**Stephens Creek**	**41.32**	**240**	*e*P	P	20 36 09.1	+0.4
	2.1nm,0.5s						
STKA	**Stephens Creek**	**41.32**	**240**	P	P	20 36 09.1	+0.4
	2.9nm,0.5s,baz=105,slow=8.5,SNR=16						
WB2	**Warramunga Arr**	**47.09**	**258**	*e*P	P	20 36 54.6	-0.5
WRA	**Warramunga Arr**	**47.10**	**258**	P	P	20 36 54.6	-0.6
	1.5nm,0.6s,baz=95,slow=7.5,SNR=60						
ASAR	**Alice Springs**	**47.35**	**253**	P	P	20 36 57.0	-0.1
	11nm,0.4s,baz=87,slow=8.2,SNR=207						
KAKA	**Kakadu**	**49.84**	**267**	*e*P	P	20 37 17.6	+1.2
	4.0nm,0.4s						
FITZ	**Fitzroy Crossi**	**55.48**	**259**	P	P	20 37 58.2	+0.1
	0.6nm,0.3s,baz=71,slow=3.5,SNR=4.9						

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*NIED **12** 20:31:00,2380N×12580E,h17km,Mw4.6 Best double couple: M0=8.95000×10^15 NP1:φ=14.00000°,δ=83.00000°, λ=63.00000°. NP2:φ=270.00000°,δ=27.00000°,λ=164.00000°.*
*IDC **12** 20:31:55.1±0.6,2407N×12553E,h0km,mb4.2/19, mb1 4.4/23,mb1mx4.3/29,mbtmp4.3/23,ML4.1/4,Error ellipse: s-maj=21.9km s-min=12.5km az=81.0*
*JMA **12** 20:31:55.2±0.2,2383N×12584E,h30km,M5.0*
JMA Felt I J1.
*ISCJB **12** 20:31:56.6±0.9,2401N±004×12580E±003,h24km±6km, mb4.4/41,MS4.4/7,Error ellipse: s-maj=7.4km s-min=4.1km az=158.9*
*NEIC **12** 20:31:56.0±3.4,2402N×12562E,h5km±21km,mb4.7/13, MW4.6(NIED),Error ellipse: s-maj=9.2km s-min=8.6km az=146.0*
NEIC Recorded [1 JMA] on Miyako-jima.
*MOS **12** 20:31:58.6±1.4,2406N×12561E,h33km,mb4.9/14, MS4.5/5,Error ellipse: s-maj=12.4km s-min=6.7km az=107.4*
*BJI **12** 20:31:59.9,2423N×12539E,h11km,mB4.8,mb4.4,ML4.1, Ms4.5,Msz4.4*

ISC 12 20:31:56.5±1.3,2399N±004×12576E±003,h12km±8km, n127,σ1°21/141,mb4.4/41,MS4.4/7,14C-5D, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOGS	**Gusukube**	**0.83**	**338**	P	**Pb**	**20 32 13.4**	**+0.4**
JOGS				S	**Sb**	**20 32 26.5**	**+2.4**
JMJ	**Miyako jima 2**	**0.93**	**333**	P	**Pb**	**20 32 14.8**	**+0.3**
JMJ				S	**Sb**	**20 32 29.2**	**+2.4**
JTJ	**Tarama**	**1.16**	**304**	P	**Pn**	**20 32 17.6**	**-1.0**
JTJ				S	**Sb**	**20 32 34.0**	**+0.4**
JIJ	**Ishigaki jima**	**1.52**	**285**	P	**Pn**	**20 32 22.7**	**-0.9**
JIJ				S	**Sn**	**20 32 43.1**	**-0.2**
JKRS	**Kuro-shima**	**1.61**	**279**	P	**Pn**	**20 32 24.5**	**-0.4**
HATJ	**Hateruma jima**	**1.79**	**273**	P	**Pn**	**20 32 26.5**	**-0.7**
IRIF	**Iriomote-Funau**	**1.88**	**281**	P	**Pn**	**20 32 28.1**	**-0.5**
JKE	**Kume jima 2**	**2.51**	**22**	P	**Pn**	**20 32 36.4**	**-0.8**
YOJ	**Yonaguni jima**	**2.55**	**281**	P	**Pn**	**20 32 37.5**	**-0.2**
JJT2	**Tamagusuku 2**	**2.80**	**40**	P	**Pn**	**20 32 40.7**	**-0.5**
NAH1	**Naha**	**2.82**	**38**	P	**Pn**	**20 32 41.9**	**+0.5**
JAGN	**Aguni-jima**	**2.92**	**27**	P	**Pn**	**20 32 42.9**	**+0.1**
JIH	**Iheya**	**3.63**	**33**	P	**Pn**	**20 32 52.2**	**-0.4**
JOW	**Kunigami**	**3.63**	**38**	P	**Pn**	**20 32 52.2**	**-0.5**
JOW	**Kunigami**	**3.63**	**38**	Pn	**Pn**	**20 32 52.2**	**-0.4**
	79nm,0.3s,baz=300,slow=5.2,SNR=215						
NACB	**Ninganchiao**	**3.81**	**274**	*e*P	**Pn**	**20 32 52.6**	**-2.4**
TATO	**Taipei**	**4.01**	**285**	*e*P	**Pn**	**20 32 59.1**	**+1.2**
YHNB	**Yeheng**	**4.05**	**281**	*e*P	**Pn**	**20 32 57.3**	**-1.1**
JTK	**Tokunoshima**	**4.75**	**37**	P	**Pn**	**20 33 06.7**	**-1.3**
JTK				*e*S	**Sn**	**20 33 57.1**	**-6.0**
JMZ	**Minamidaito 2**	**5.29**	**69**	P	**Pn**	**20 33 12.6**	**-2.8**
JMZ				*e*S	**Sn**	**20 34 09.4**	**-6.9**
JAM	**Amami Oshima**	**5.60**	**37**	P	**Pn**	**20 33 18.4**	**-1.3**
JAM				S	**Sn**	**20 34 17.3**	**-6.7**
JZK	**Kikaishima**	**5.74**	**40**	P	**Pn**	**20 33 21.0**	**-0.6**
QZH	**Quanzhou**	**6.60**	**280**	P	**Pn**	**20 33 32.7**	**-0.7**
QZH				S	**Sn**	**20 34 47.2**	**-1.3**
QZH				Smax			
	comp=N,140nm,1.2s						
QZH				Smax			
	comp=E,180nm,1.5s						
QZH				LR	LR		
	comp=N,2μm,10.3s						
QZH				LR	LR		
	comp=E,3μm,11.2s						
QZH				LR	LR		
	comp=Z,4μm,11.0s						
JNN	**Nakanoshima**	**6.89**	**31**	P	**Pn**	**20 33 36.6**	**-0.8**
NJ2	**Nanjing**	**10.08**	**324**	*e*P	**Pn**	**20 34 22.6**	**+1.4**
NJ2				AMB	AMB		
	comp=Z,40nm,0.5s						
JNU	**Nakatsue**	**10.15**	**25**	Pn	**Pn**	**20 34 21.3**	**-0.8**
	comp=Z,1.1nm,0.3s,baz=212,slow=13,SNR=7.5						
JNU				Sn	**Sn**	**20 36 16.9**	**+0.9**
	comp=Z,0.3nm,0.3s,baz=337,slow=21,SNR=2.7						
WHN	**Wuhan**	**12.06**	**305**	⇑P	**Pn**	**20 34 52.7**	**+4.4**
WHN				LR	LR		
	comp=Z,3μm,15.2s						
KSRS	**Korea Array**	**13.55**	**7**	Pn	**Pn**	**20 35 09.2**	**+0.6**
	comp=Z,0.1nm,0.3s,baz=184,slow=13,SNR=7.9						
JHJ	**Hachijo jima 2**	**15.31**	**50**	Sn	**Sn**	**20 38 20.1**	**-1.8**
	comp=Z,6.9nm,0.3s,baz=255,slow=10,SNR=3.9						
QIZ	**Qiongzhong**	**15.61**	**255**	P	**Pn**	**20 35 35.8**	**-0.6**
QIZ				S	**Sn**	**20 38 26.9**	**-2.5**
QIZ				LR	LR		
	comp=N,468nm,20.9s						
QIZ				LR	LR		
	comp=E,502nm,18.1s						
QIZ				LR	LR		
	comp=Z,773nm,17.9s						
JOD2	**Odawara 2**	**16.12**	**43**	P	**Pn**	**20 35 41.8**	**-1.3**
MAJO	**Matsushiro**	**16.48**	**38**	*e*P	**Pn**	**20 35 49.7**	**+2.1**
	comp=Z,25nm,0.8s						
MAJO	**Matsushiro**	**16.48**	**38**	*e*P	**Pn**	**20 35 49.7**	**+2.1**
MAJO				pmax	pmax		
	comp=Z,25nm,0.8s						
MAT	**Matsushiro**	**16.48**	**38**	P	**Pn**	**20 35 49.3**	**+1.7**
MAT				S	**Sn**	**20 38 57.4**	**+6.9**
MAT	**Matsushiro**	**16.48**	**38**	P	**Pn**	**20 35 52.6**	**+5.0**
MJAR	**Matsushiro Arr**	**16.48**	**38**	Pn	**Pn**	**20 35 49.6**	**+2.0**
	comp=Z,1.0nm,0.3s,baz=227,slow=9.7,SNR=30						
JRY	**Ryogami san**	**16.51**	**40**	P	**Pn**	**20 35 53.9**	**+5.9**
BJT	**Baijiatuau**	**17.91**	**335**	P	**Pn**	**20 36 06.6**	**+1.1**
BJI	**Beijing**	**17.93**	**335**	P	**Pn**	**20 36 05.9**	**+0.2**
BJI				AMB	AMB		
	comp=Z,7.0nm,0.8s						
BJI				LR	LR		
	comp=N,2μm,14.3s						
BJI				LR	LR		
	comp=E,714nm,13.4s						
BJI				LR	LR		
	comp=Z,2μm,17.6s						
JYA	**Atsumi**	**18.79**	**36**	P	**Pn**	**20 36 15.4**	**-0.8**
JMM	**Marumori**	**18.88**	**39**	P	**Pn**	**20 36 17.4**	**+0.1**
JOM	**Ohasama**	**20.27**	**37**	P	**P**	**20 36 29.6**	**-2.4**
CD2	**Chengdu**	**20.68**	**294**	P	**P**	**20 36 38.2**	**+1.7**
CD2				AMB	AMB		
	comp=Z,20nm,0.7s						
KMI	**Kunming**	**20.96**	**278**	⇑P	**P**	**20 36 41.8**	**+2.2**
KMI				AP		20 36 44.5	
KMI				S	**S**	**20 40 20.4**	**-13**
KMI				AMB	AMB		
	comp=Z,10.0nm,1.0s						
KMI				AMB	AMB		
	comp=Z,143nm,3.6s						
KMI				LR	LR		
	comp=N,693nm,13.7s,MS4.4						
KMI				LR	LR		
	comp=E,883nm,11.6s,MS4.4						
KMI				LR	LR		
	comp=Z,1μm,13.9s,MS4.5						
BTO	**Baotou**	**21.19**	**325**	*e*P	**P**	**20 36 42.0**	**+0.1**
LZH	**Lanzhou**	**22.42**	**308**	*e*P	**P**	**20 36 56.5**	**+1.4**
LZH				AP		20 37 02.6	
LZH				XP	sP	20 37 05.1	+5.1
LZH				AMB	AMB		
	comp=Z,20nm,1.4s,mb4.3						
LZH				AMB	AMB		
	comp=Z,108nm,5.2s						
ERM	**Erimo**	**23.08**	**35**	*e*P	**P**	**20 37 00.3**	**-1.7**
ASAJ	**Asahikawa**	**24.36**	**30**	P	**P**	**20 37 14.1**	**-0.3**
	comp=Z,7.4nm,0.6s,mb4.3,baz=217,slow=14,SNR=9.7						
HABR	**Khabarovsk**	**25.52**	**14**	*e*P	**P**	**20 37 20.8**	**-4.0**
HABR				*e*		20 37 32.6	
HABR				*e*		20 40 55.1	
HABR				*e*		20 48 16.7	
HIA	**Hailar**	**25.67**	**351**	*e*P	**P**	**20 37 24.9**	**-1.3**
HIA	**Hailar**	**25.67**	**351**	*e*P	**P**	**20 37 25.3**	**-0.9**
YSS	**Yuzh-Sakhalins**	**26.66**	**27**	*e*P	**P**	**20 37 38.3**	**+3.2**
	comp=Z,23nm,0.9s,mb4.7						
YSS	**Yuzh-Sakhalins**	**26.66**	**27**	⇑*e*P	**P**	**20 37 35.0**	**-0.2**
YSS				pmax	pmax		
	comp=Z,12nm,0.7s,mb4.5						
GTA	**Gaotai**	**26.77**	**311**	*e*P	**P**	**20 37 36.4**	**+0.1**
GTA				AP	pP	20 37 41.7	+1.8
GTA				XP	sP	20 37 44.5	+3.1
GTA				SKS		20 47 45.0	
GTA				AMB	AMB		
	comp=Z,4.0nm,1.0s,mb3.9						
GTA				AMB	AMB		
	comp=Z,215nm,6.9s						
GTA				LR	LR		
	comp=N,165nm,16.0s,MS3.7						
GTA				LR	LR		
	comp=E,81nm,15.3s,MS3.7						
GTA				LR	LR		
	comp=Z,97nm,14.5s,MS3.5						
ULN	**Ulaanbaatar**	**28.09**	**333**	*e*P	**P**	**20 37 47.3**	**-0.7**
SONM	**Songino Array**	**28.34**	**332**	P	**P**	**20 37 47.8**	**-2.4**
	comp=Z,0.6nm,0.4s,mb3.6,baz=330,slow=18,SNR=3.3						
LSA	**Lhasa**	**31.32**	**288**	*e*P	**P**	**20 38 14.3**	**-2.6**
MOY	**Mondy**	**33.53**	**332**	*e*P	**P**	**20 38 35.0**	**-1.0**
WMQ	**Urumqi**	**36.85**	**312**	*e*P	**P**	**20 39 05.9**	**+1.2**
WMQ				AMB	AMB		
	comp=Z,7.0nm,0.6s,mb4.7						
YAK	**Yakutsk**	**38.12**	**3**	⇑*e*P	**P**	**20 39 15.9**	**+0.7**
MKAR	**Makanchi Array**	**41.42**	**314**	*i* P	**P**	**20 39 42.4**	**-0.5**
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.5s						
MKAR	**Makanchi Array**	**41.42**	**314**	P	**P**	**20 39 41.6**	**-1.3**
	comp=Z,2.7nm,0.5s,mb4.1,baz=98,slow=9.1,SNR=11						
FITZ	**Fitzroy Crossi**	**41.83**	**180**	P	**P**	**20 39 46.2**	**-0.2**
	comp=Z,1.7nm,0.6s,mb3.8,baz=349,slow=16,SNR=4.3						
ZAA0	**Zalesovo Array**	**42.73**	**325**	*e*P	**P**	**20 39 52.5**	**-1.0**
ZALV	**Zalesovo Beam**	**42.73**	**325**	P	**P**	**20 39 51.1**	**-2.4**
	comp=Z,2.2nm,0.5s,mb4.1,baz=113,slow=7.9,SNR=10						
ZAL	**Zalesovo**	**42.74**	**325**	P	**P**	**20 39 51.1**	**-2.4**
SEY	**Seymchan**	**42.82**	**18**	⇑*e*P	**P**	**20 39 54.5**	**+0.5**
WRAB	**Tennant Creek**	**44.45**	**168**	*e*P	**P**	**20 40 08.9**	**+1.3**
	comp=Z,11nm,0.9s,mb4.6						
WRAB	**Tennant Creek**	**44.45**	**168**	*e*P	**P**	**20 40 08.9**	**+1.3**
WRAB				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.6						
WRA	**Warramunga Arr**	**44.46**	**168**	*i* P	**P**	**20 40 08.3**	**+0.6**
WRA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
WRA	**Warramunga Arr**	**44.46**	**168**	P	**P**	**20 40 08.4**	**+0.7**
	comp=Z,10nm,0.8s,mb4.6,baz=348,slow=8.9,SNR=46						
WB2	**Warramunga Arr**	**44.46**	**168**	*e*P	**P**	**20 40 08.5**	**+0.8**
KURK	**Kurchatov**	**44.96**	**319**	*e*P	**P**	**20 40 10.1**	**-1.3**
	comp=Z,9.7nm,1.2s,mb4.5						
KURK	**Kurchatov**	**44.96**	**319**	⇑*e*P	**P**	**20 40 12.9**	**+1.5**
TKM2	**Tokmak 2**	**45.19**	**307**	*e*P	**P**	**20 40 14.0**	**+0.6**
	comp=Z,5.8nm,0.7s,mb4.5						
TKM2	**Tokmak 2**	**45.19**	**307**	*e*P	**P**	**20 40 14.0**	**+0.6**
TKM2				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.5						
FRU	**Bishkek**	**45.89**	**307**	*e*P	**P**	**20 40 20.0**	**+1.1**
FRU				*e*		20 40 35.0	
UCH	**Uchtor**	**45.90**	**306**	*e*P	**P**	**20 40 20.4**	**+1.4**
	comp=Z,10nm,0.9s,mb4.8						
ASAR	**Alice Springs**	**48.02**	**170**	P	**P**	**20 40 37.0**	**+1.4**
	comp=Z,1.7nm,0.5s,mb4.3,baz=355,slow=14,SNR=38						
ASAR				PcP	PcP	20 42 05.0	+1.3
	comp=Z,1.7nm,0.8s,baz=349,slow=3.1,SNR=6.7						
KBL	**Kabul**	**50.02**	**296**	*e*P	**P**	**20 40 50.7**	**-0.4**
	comp=Z,12nm,1.1s,mb4.8						
KBL	**Kabul**	**50.02**	**296**	*e*P	**P**	**20 40 50.7**	**-0.3**
KBL				pmax	pmax		
	comp=Z,12nm,1.1s,mb4.8						
BVAR	**Borovoye Array**	**50.49**	**320**	P	**P**	**20 40 52.6**	**-1.8**
	comp=Z,0.7nm,0.5s,mb4.0,baz=108,slow=9.2,SNR=5.2						
BILL	**Bilibino**	**50.50**	**18**	⇑*e*P	**P**	**20 40 54.1**	**0.0**
BILL				*e*S	**S**	**20 48 07.3**	**-0.2**
BILL				pmax	pmax		
	comp=Z,2.0nm,1.0s,mb4.1						
BILL				MLR	MLR		
	comp=Z,200nm,15.0s,MS4.2						
SVE	**Sverdlovsk**	**56.69**	**323**	⇑*e*P	**P**	**20 41 40.3**	**+0.6**
SVE				*e*SS	SS	20 53 21.9	+2.7
SVE				pmax	pmax		
	comp=Z,10.0nm,0.7s,mb5.0						
SVE				MLR	MLR		
	comp=Z,658nm,17.0s,MS4.8						
STKA	**Stephens Creek**	**57.58**	**164**	*e*P	**P**	**20 41 47.4**	**+1.2**
	comp=Z,1.5nm,0.6s,mb4.2						
STKA	**Stephens Creek**	**57.58**	**164**	P	**P**	**20 41 47.9**	**+1.7**
	comp=Z,2.0nm,0.5s,mb4.4,baz=343,slow=10,SNR=8.9						
ARU	**Arti**	**57.78**	**323**	*e*P	**P**	**20 41 46.8**	**-0.7**
	comp=Z,24nm,1.3s,mb5.1						
ARU	**Arti**	**57.78**	**323**	*c i*P	**P**	**20 41 46.0**	**-1.4**
ARU				*e*		20 42 33.8	
ARU				*e*		20 43 52.5	
ARU				*e*PPP		20 45 13.5	
ARU				*e*S	**S**	**20 49 43.9**	**-2.4**
ARU				*e*SS	SS	20 53 28.8	-7.7
ARU				pmax	pmax		
	comp=Z,10.0nm,1.7s,mb4.6						
MCK	**McKinley**	**66.72**	**29**	*e*P	**P**	**20 42 48.4**	**+1.2**
	comp=Z,6.4nm,1.2s,mb4.5						
MCK	**McKinley**	**66.72**	**29**	*e*P	**P**	**20 42 48.4**	**+1.2**
MCK				pmax	pmax		
	comp=Z,6.0nm,1.2s,mb4.5						
TMCR	**Tamitsa**	**67.71**	**332**	*e*P	**P**	**20 42 51.8**	**-1.7**
TMCR				*e*		20 43 15.4	
TMCR				pmax	pmax		
	comp=Z,23nm,1.2s,mb5.1						
KIV	**Kislovodsk**	**68.94**	**310**	*e*P	**P**	**20 43 02.7**	**+1.2**
	comp=Z,14nm,0.9s,mb4.9						
KIV	**Kislovodsk**	**68.94**	**310**	*e*P	**P**	**20 43 02.0**	**+0.4**
KIV				pmax	pmax		
	comp=Z,20nm,1.2s,mb4.9						
APA	**Apatity**	**68.97**	**336**	⇑*i*P	**P**	**20 43 02.7**	**+1.4**
APA				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.7						
OBN	**Obninsk**	**70.22**	**322**	⇓*e*P	**P**	**20 43 09.9**	**+0.6**
OBN				pmax	pmax		
	comp=Z,5.0nm,1.2s,mb4.3						
OBN				MLR	MLR		
	comp=Z,200nm,18.0s,MS4.4						
JOF	**Joensuu**	**70.91**	**331**	*e*p	**P**	**20 43 12.7**	**-0.6**
	comp=Z,1.9nm,0.5s,mb4.3						
SOC	**Sochi**	**71.12**	**310**	*e*P	**P**	**20 43 12.2**	**-2.8**
SOC				pmax	pmax		
	comp=Z,40nm,0.8s,mb5.4						
SOC				MLR	MLR		
	comp=Z,197nm,15.0s,MS4.5						
ARCES	**ARCESS Array B**	**71.27**	**339**	P	**P**	**20 43 15.2**	**-0.2**
	comp=Z,2.5nm,0.9s,mb4.1,baz=66,slow=6.4,SNR=9.8						
INK	**Inuvik**	**71.82**	**23**	*e*P	**P**	**20 43 19.6**	**+0.9**
	comp=Z,178nm,0.9s						
INK	**Inuvik**	**71.82**	**23**	P	**P**	**20 43 20.1**	**+1.3**
	comp=Z,3.7nm,0.9s,mb4.3,baz=315,slow=4.1,SNR=12						
ANN	**Anapa**	**72.37**	**312**	*e*P	**P**	**20 43 17.2**	**-5.2**
ANN				*e*S	S	20 52 32.7	-13
ANN				pmax	pmax		
	comp=Z,89nm,1.4s,mb5.5						
ANN				MLR	MLR		
	comp=Z,280nm,18.0s,MS4.6						
MALT	**Malatya**	**73.55**	**305**	*e*P	**P**	**20 43 29.9**	**+0.3**
	comp=Z,5.3nm,1.0s,mb4.4						
MALT	**Malatya**	**73.55**	**305**	*e*P	**P**	**20 43 29.9**	**+0.3**
MALT				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.4						
FINES	**FINESS Array B**	**73.70**	**330**	P	**P**	**20 43 30.2**	**+0.1**
FINES	**FINESS Array B**	**73.70**	**330**	*i* P	**P**	**20 43 30.5**	**+0.5**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
FINES	**FINESS Array B**	**73.70**	**330**	P	**P**	**20 43 30.2**	**+0.1**
	comp=Z,1.2nm,0.6s,mb4.0,baz=75,slow=6.3,SNR=12						
AKASG	**Malin Array Be**	**75.77**	**319**	P	**P**	**20 43 41.7**	**-0.5**
	comp=Z,1.4nm,0.6s,mb4.1,baz=58,slow=6.2,SNR=6.5						
RES	**Resolute Bay**	**78.15**	**10**	*e*P	**P**	**20 43 55.9**	**+0.7**
	comp=Z,174nm,0.9s						
TIRR	**Tirgusor**	**78.55**	**314**	⇑*i*P	**P**	**20 43 59.4**	**+1.4**
VRI	**Vrincioaia**	**79.11**	**315**	⇓P	**P**	**20 44 03.2**	**+2.1**
VRI	**Vrincioaia**	**79.11**	**315**	⇓*i*P	**P**	**20 44 03.2**	**+2.2**
HFS	**Hagfors**	**79.75**	**332**	P	**P**	**20 44 04.4**	**+0.2**
	comp=Z,2.8nm,0.7s,mb4.3,baz=86,slow=7.6,SNR=6.1						
MLR	**Muntele Rosu**	**79.76**	**315**	⇑*i*P	**P**	**20 43 59.0**	**-5.6**
KWP	**Kalwaria**	**80.05**	**320**	⇓P	**P**	**20 44 07.9**	**+1.8**
KWP	**Kalwaria**	**80.05**	**320**	⇓*i*P	**P**	**20 44 07.9**	**+1.9**
NB2	**NORSAR Subarra**	**80.31**	**333**	P	**P**	**20 44 08.6**	**-0.4**
	comp=Z,4.7nm,1.2s,mb4.3,baz=58,slow=4.8						
NOA	**NORSAR Array B**	**80.31**	**333**	P	**P**	**20 44 07.0**	**-0.3**
NOA	**NORSAR Array B**	**80.31**	**333**	P	**P**	**20 44 07.0**	**-0.3**
	comp=Z,1.2nm,0.7s,mb3.9,baz=57,slow=5.2,SNR=7.0						
YKA	**Yellowknife Ar**	**81.49**	**24**	P	**P**	**20 44 14.6**	**+1.1**
	comp=Z,1.8nm,0.7s,mb4.1,baz=302,slow=5.2,SNR=28						
VTS	**Vitosha**	**82.77**	**313**	⇑P	**P**	**20 44 21.9**	**+1.3**
VTS	**Vitosha**	**82.77**	**313**	⇑*i*P	**P**	**20 44 21.9**	**+1.3**
CLL	**Collm**	**84.68**	**324**	*e*P	**P**	**20 44 32.0**	**+1.8**
CLL				pmax	pmax		
	comp=Z,12nm,1.5s,mb4.8						
CLL	**Collm**	**84.68**	**324**	*e*P	**P**	**20 44 32.0**	**+1.8**
	comp=Z,12nm,1.5s,mb4.8						
GERES	**GERESS Array B**	**85.61**	**322**	P	**P**	**20 44 35.6**	**+0.6**
	comp=Z,0.9nm,0.6s,mb4.2,baz=46,slow=3.9,SNR=8.5						
DAVOX	**Davos/Dischmat**	**88.89**	**322**	P	**P**	**20 44 51.3**	**+0.5**
	comp=Z,3.5nm,0.9s,mb4.7,baz=63,slow=6.8,SNR=3.9						
DAVOS	**Davos**	**88.91**	**322**	P	**P**	**20 44 51.3**	**+0.4**
EKA	**Eskdalemuir Ar**	**89.80**	**334**	P	**P**	**20 44 54.2**	**-0.7**
	comp=Z,0.9nm,0.8s,mb4.2,baz=27,slow=5.6,SNR=4.6						

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*ISCJB **12** 20:34:53.7±1.5,138S±0.1×759W±0.1,h70km±13km, mb3.9/5,Error ellipse: s-maj=29.1km s-min=9.0km az=140.5*
*NEIC **12** 20:34:55.0±1.4,1370S×7584W,h61km±12km,mb3.8/1, Error ellipse: s-maj=23.4km s-min=10.7km az=47.0*
NEIC Felt [II] at Ica and Pisco.
*IDC **12** 20:34:55.9±2.0,1363S×7572W,h65km±16km,mb3.6/4, mb1 3.7/8,mb1mx3.6/21,mbtmp3.5/8,Error ellipse: s-maj=37.7km s-min=13.2km az=46.0*

ISC 12 20:34:54.7±1.3,138S±01×759W±02,h63km±12km,n20, σ1°08/18,mb3.9/5,Central Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**2.01**	**333**	*e*P	**Pn**	**20 35 25.1**	**-1.2**
NNA	**Nana**	**2.01**	**333**	P	**Pn**	**20 35 25.9**	**-0.5**
	29nm,0.3s,baz=160,slow=13,SNR=55						
NNA				S	**Sn**	**20 35 51.5**	**+1.0**
	293nm,0.3s,baz=243,slow=19,SNR=18						
ATAH	**Atahualpa**	**7.17**	**340**	P	**Pn**	**20 36 34.9**	**-2.1**
	0.2nm,0.3s,baz=45,slow=23,SNR=1.8						
ATAH				S	**Sn**	**20 37 57.4**	**+0.3**
	0.6nm,0.3s,baz=306,slow=7.1,SNR=2.2						
LPAZ	**La Paz**	**7.91**	**109**	*e*P	**Pn**	**20 36 48.9**	**+1.8**
	5.7nm,0.6s						
LPAZ	**La Paz**	**7.91**	**109**	P	**Pn**	**20 36 49.2

1.3nm,0.5s,mb3.8,baz=305,slow=4.1,SNR=4.1
TXAR Lajitas Array 55.68 86 P **P 21 08 04.6 -0.3**
0.8nm,0.5s,mb3.8,baz=304,slow=6.1,SNR=5.6
MKAR Makanchi Array 61.30 310 P **P 21 08 43.5 0.0**
0.4nm,0.8s,mb3.3,baz=69,slow=4.8,SNR=3.8
MKAR pP pP 21 09 24.8 +2.2
0.3nm,0.8s,baz=66,slow=3.5,SNR=2.5

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*ISCJB **12** 21:05:51.8±1.2, 3832N±004×2039E±009, h8km±10km, Error ellipse: s-maj=13.3km s-min=5.6km az=157.2*
*CSEM **12** 21:05:52.8±0.2, 3835N×2049E, h12km, MD3.4, Error ellipse: s-maj=4.7km s-min=2.0km az=66.0*
*THE **12** 21:05:53.0, 3832N×2048E, h10km, ML2.7*
*NEIC **12** 21:05:52.5, 3835N×2050E, h9km±7km, MD3.4/4*
*ATH **12** 21:05:52.5, 3835N×2050E, h9km±7km, MD3.4(ATH), After ATH.*
ISC 12 21:05:52.7±1.1, 3833N±004×205E±01, h17km±7km, n11, σ0§97/16, 1D, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.17**	**157**	*e*PG	**Pg**	**21 05 56.5**	**-0.5**
VLS				*e*SG	**Sg**	**21 06 00.2**	**+0.3**
KFL	**Anninata**	**0.31**	**135**	*e*Pg	**Pg**	**21 05 59.7**	**+0.4**
LKD	**Levkas**	**0.39**	**16**	*e*Pg	**Pg**	**21 06 00.5**	**-0.3**
LKD				*e*Sg	**Sg**	**21 06 07.2**	**+1.0**
LKD	**Levkas**	**0.39**	**16**	*e*Pg	**Pg**	**21 06 00.5**	**-0.3**
LKD				*e*Sg	**Sg**	**21 06 07.2**	**+1.0**
RLS	**Riolos of Patr**	**0.80**	**110**	*e*PG	**Pg**	**21 06 07.9**	**-0.5**
SELA	**Sela**	**1.09**	**92**	*e*Pg	**Pg**	**21 06 13.3**	**-0.6**
SELA				*e*Sg	**Sg**	**21 06 32.2**	**+4.1**
EVR	**Evrytania**	**1.18**	**60**	⇓*i*PB	**Pb**	**21 06 14.6**	**0.0**
IGT	**Igoumenitsa**	**1.21**	**354**	*e*Pg	**Pg**	**21 06 14.7**	**-1.4**
IGT				*e*Sg	**Sg**	**21 06 33.0**	**+1.1**
KEK	**Kerkira**	**1.49**	**338**	*e*PB	**Pb**	**21 06 19.9**	**0.0**
AGG	**Agios Georgios**	**1.58**	**64**	*e*Pg	**Pg**	**21 06 20.7**	**-2.5**
ITM	**Ithomi**	**1.61**	**135**	*e*PB	**Pb**	**21 06 23.4**	**+1.4**

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*ISCJB **12** 21:10:42.0±2.7, 853S±009×1304E±0.1, h88km±28km, mb3.5/2, Error ellipse: s-maj=20.4km s-min=10.2km az=140.7*
*IDC **12** 21:10:44.3±5.2, 860S×13036E, h96km±55km, mb3.5/2, mb1 3.5/6, mb1mx3.3/15, mbtmp3.4/6, Error ellipse: s-maj=46.6km s-min=20.1km az=36.0*
ISC 12 21:10:43.8±2.8, 86S±01×1304E±01, h91km±31km, n6, σ0§66/10, mb3.5/2, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Kupang**	**6.84**	**256**	P	**Pn**	**21 12 22.1**	**+0.5**
1.6nm,0.3s,baz=322,slow=22,SNR=2.7							
BATI				S	**Sn**	**21 13 37.1**	**-0.9**
2.2nm,0.3s,baz=130,slow=22,SNR=4.7							
FITZ	**Fitzroy Crossi**	**10.55**	**206**	P	**Pn**	**21 13 12.2**	**+0.1**
0.5nm,0.3s,baz=34,slow=13,SNR=14							
FITZ				S	**Sn**	**21 15 09.1**	**+0.7**
0.4nm,0.3s,baz=95,slow=23,SNR=7.2							
WRA	**Warramunga Arr**	**11.94**	**162**	P	**Pn**	**21 13 31.3**	**+0.4**
0.4nm,0.3s,baz=345,slow=13,SNR=22							
WRA				S	**Sn**	**21 15 41.6**	**-0.6**
0.2nm,0.3s,baz=338,slow=23,SNR=3.3							
ASAR	**Alice Springs**	**15.39**	**168**	P	**Pn**	**21 14 15.5**	**-0.4**
0.3nm,0.3s,baz=341,slow=8.8,SNR=18							
ASAR				S	**S**	**21 17 06.5**	**-10**
0.0nm,0.3s,baz=354,slow=24,SNR=2.8							
MKAR	**Makanchi Array**	**69.74**	**327**	P		**21 21 45.0**	**+1.0**
0.5nm,0.5s,mb3.6,baz=121,slow=7.8,SNR=13							
ZALV	**Zalesovo Beam**	**73.15**	**334**	P		**21 22 03.5**	**-0.9**
0.3nm,0.4s,mb3.5,baz=132,slow=2.1,SNR=2.4							

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*CSEM **12** 21:19:21.6, 1243N×4525E, h6km, ML3.7, After DHMR*
DHMR 12 21:19:21.6±1.1, 1243N×4525E, h6km±6km, ML3.7, 3C-1D, Western Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ADEN	**Aden**	**0.44**	**323**	*i* P	Pg	21 19 30.4	+0.3
TRBA	**At Turbah**	**1.37**	**306**	⇑*i*P	Pn	21 19 46.9	-0.3
TRBA				*i* S	Sb	21 20 06.8	+1.4
TRBA				AML	AML	21 20 16.7	
comp=N,1μm,0.6s							
LBOS		**1.44**	**360**	⇑*i*P	Pn	21 19 47.6	-0.6
LBOS				*i* S	Sb	21 20 09.2	+1.9
BDHA	**Al Bayda'**	**1.57**	**11**	⇑*i*P	Pn	21 19 50.4	+0.4
BDHA				*i* S	Sn	21 20 13.1	+2.4
UDYN	**Al 'Udayn**	**1.98**	**321**	⇓*i*P	Pn	21 19 56.7	+1.1
UDYN				*i* S	Sn	21 20 23.2	+2.5
UDYN				AML	AML	21 20 40.0	
comp=N,823nm,0.6s							
DHBB	**Dhamar BB**	**2.29**	**339**	*i* P	Pn	21 20 01.9	+2.0
DHBB				*i* S	Sn	21 20 33.4	+5.0
HAJJ	**Hajjah**	**3.63**	**334**	*i* S	Sn	21 21 07.9	+6.5

IDC 12 21:28:00.7±6.4, 821S×12872E, h123km±68km, mb2.9/1, mb1 2.9/5, mb1mx2.9/15, mbtmp2.8/5, Error ellipse: s-maj=58.9km s-min=22.7km az=37.0, Timor Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Kupang**	**5.37**	**248**	P	Pn	21 29 18.9	+0.1
1.3nm,0.3s,baz=135,slow=23,SNR=2.8							
BATI				S	Sn	21 30 20.2	+0.6
2.7nm,0.3s,baz=106,slow=12,SNR=4.5							
FITZ	**Fitzroy Crossi**	**10.28**	**197**	P	Pn	21 30 25.5	+0.5
0.2nm,0.3s,baz=19,slow=16,SNR=7.7							
FITZ				S	Sn	21 32 18.3	-0.1
1.0nm,0.3s,baz=299,slow=22,SNR=7.7							
WRA	**Warramunga Arr**	**12.87**	**156**	P	Pn	21 30 57.7	-1.5
0.2nm,0.3s,baz=329,slow=14,SNR=26							
WRA				S	Sn	21 33 17.7	-3.4
0.9nm,0.3s,baz=336,slow=22,SNR=10							
ASAR	**Alice Springs**	**16.15**	**163**	P	Pn	21 31 42.7	+1.9
0.1nm,0.3s,baz=329,slow=9.4,SNR=5.7							
ASAR				S	S	21 34 35.7	-9.0
0.3nm,0.3s,baz=305,slow=11,SNR=5.6							
MKAR	**Makanchi Array**	**68.55**	**328**	P	P	21 38 50.0	0.0
0.1nm,0.4s,baz=110,slow=7.8,SNR=5.1							

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*NEIC **12** 21:34:13.0, 3478N×2175E, h10km, ML4.6(ATH), After ATH.*
*IDC **12** 21:34:16.7±1.3, 3550N×2247E, h0km, mb3.6/6, mb1 3.6/7, mb1mx3.4/23, mbtmp3.5/7, ML3.4/1, MS3.2/1, Ms1 3.2/1, ms1mx2.5/32, Error ellipse: s-maj=28.5km s-min=25.0km az=126.0*
*ISCJB **12** 21:34:18.0±0.8, 3540N±007×22.13E±008, h10km, mb3.4/7, Error ellipse: s-maj=12.1km s-min=7.5km az=42.0*
ISC 12 21:34:18.9±1.0, 3530N±008×2215E±009, h10km, n30, σ1§40/29, mb3.4/7, Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARN	**Karanos**	**1.45**	**85**	*e*P	**Pn**	**21 34 44.5**	**-0.7**
PYL	**PYLOS**	**1.63**	**348**	*e*P	**Pn**	**21 34 48.2**	**+0.5**
ITM	**Ithomi**	**1.89**	**355**	P	**Pn**	**21 34 52.9**	**+1.7**
VLX	**Vlachokerasia**	**2.08**	**5**	*e*P	**Pn**	**21 34 55.4**	**+1.6**
SIVA	**Sivas**	**2.20**	**97**	*e*P	**Pn**	**21 34 57.0**	**+1.6**
IDI	**Anoyia**	**2.24**	**89**	P	**Pn**	**21 34 56.0**	**-0.1**
DID	**Didima**	**2.37**	**21**	*e*P	**Pn**	**21 34 59.9**	**+2.1**
LAST	**Lasithi**	**2.73**	**92**	*e*P	**Pn**	**21 35 02.7**	**-0.1**
LTK	**Loutraki**	**2.80**	**13**	*e*P	**Pn**	**21 35 05.8**	**+2.1**
SELA	**Sela**	**2.98**	**356**	*e*P	**Pn**	**21 35 09.2**	**+3.0**
AGG	**Agios Georgios**	**3.72**	**2**	*e*P	**Pn**	**21 35 17.1**	**+0.7**
PAIG	**Paliouri**	**4.78**	**14**	*e*P	**Pn**	**21 35 30.0**	**-0.9**
LIT	**Litokhoron**	**4.80**	**3**	*e*P	**Pn**	**21 35 31.1**	**-0.2**
SRN	**Sarande**	**4.88**	**340**	*e*PN	**Pn**	**21 35 32.7**	**+0.4**
PLG	**Polygyros**	**5.17**	**11**	*e*P	**Pn**	**21 35 35.5**	**-0.8**
OUR	**Ouranopolis**	**5.23**	**16**	*e*P	**Pn**	**21 35 36.5**	**-0.6**
SOH	**Sokhos**	**5.59**	**9**	*e*P	**Pn**	**21 35 41.6**	**-0.6**
KNT	**Kendrikon**	**5.88**	**6**	*e*P	**Pn**	**21 35 45.6**	**-0.5**
QSH	**Qafa e Shtames**	**6.46**	**345**	*e*PN	**Pn**	**21 35 53.0**	**-1.0**
PUK	**Puka**	**6.96**	**346**	*e*PN	**Pn**	**21 36 00.0**	**-0.9**
MGR	**Morigerati**	**7.12**	**315**	Pn	**Pn**	**21 36 05.9**	**+2.9**
MMAI	**Mount Meron Ar**	**11.22**	**98**	Pn	**Pn**	**21 36 54.2**	**-5.1**
0.3nm,0.3s,baz=291,slow=12,SNR=4.9							
VRAC	**Vranov**	**14.58**	**345**	LR	LR	21 42 58.0	
comp=Z,89nm,18.8s,baz=327,slow=36							
HFS	**Hagfors**	**25.45**	**350**	P	**P**	**21 39 44.1**	**-2.5**
0.8nm,0.6s,mb3.4,baz=145,slow=10,SNR=3.7							
FINES	**FINESS Array B**	**26.28**	**4**	P	**P**	**21 39 52.4**	**-1.8**
0.5nm,0.6s,mb3.2,baz=163,slow=10.0,SNR=3.2							
EKA	**Eskdalemuir Ar**	**26.54**	**327**	P	**P**	**21 39 54.8**	**-1.8**
0.5nm,0.6s,mb3.2,baz=128,slow=8.1,SNR=3.0							
TORD	**Torodi Ar. Bea**	**28.77**	**225**	P	**P**	**21 40 18.9**	**+2.1**
0.3nm,0.6s,mb3.2,baz=36,slow=9.7,SNR=7.6							
ARCES	**ARCESS Array B**	**34.34**	**2**	P	**P**	**21 41 02.0**	**-3.4**
1.2nm,0.8s,mb3.9,baz=185,slow=11,SNR=4.9							
MKAR	**Makanchi Array**	**45.75**	**56**	P	**P**	**21 42 37.1**	**-3.2**
0.8nm,0.7s,mb3.8,baz=268,slow=7.8,SNR=11							
YKA	**Yellowknife Ar**	**76.54**	**341**	P	**P**	**21 46 09.2**	**+0.3**
0.1nm,0.5s,mb3.0,baz=35,slow=5.7,SNR=3.0							

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*CSEM **12** 21:35:01.2±0.2, 3837N×2004E, h8km, ML4.0, Error ellipse: s-maj=4.9km s-min=2.6km az=18.0*
*IDC **12** 21:35:01.4±1.1, 3844N×2039E, h0km, mb4.0/7, mb1 3.9/13, mb1mx3.8/27, mbtmp3.8/13, ML3.7/5, MS3.0/4, Ms1 3.0/4, ms1mx2.6/37, Error ellipse: s-maj=20.8km s-min=16.9km az=157.0*
*ATH **12** 21:35:02.1, 3834N×2042E, h3km±2km, MD4.2/9, ML4.0*
*ISCJB **12** 21:35:02.9±0.7, 3846N±003×2023E±004, h21km±6km, mb3.9/8, MS2.9/2, Error ellipse: s-maj=5.1km s-min=4.2km az=135.4*
*NEIC **12** 21:35:02.1, 3834N×2042E, h3km, ML4.0(ATH), After ATH.*
*PDG **12** 21:35:05.7±0.2, 3873N×2021E, h0km±11km, ML3.7/10, Error ellipse: s-maj=3.6km s-min=4.3km az=0.0*
*NAO **12** 21:35:30.0, 4177N×2572E, h33km, mb3.3*
ISC 12 21:35:02.5±0.7, 3842N±003×2035E±003, h7km±5km, n95, σ1§32/123, mb3.9/8, MS2.9/2, 17C-13D, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.31**	**142**	P	**Pg**	**21 35 06.8**	**-1.8**
LKD	**Levkas**	**0.37**	**40**	*e*P	**Pg**	**21 35 09.7**	**-0.1**
KFL	**Anninata**	**0.47**	**132**	*e*P	**Pg**	**21 35 09.1**	**-2.5**
RLS	**Riolos of Patr**	**0.95**	**112**	*e*PB	**Pb**	**21 35 18.7**	**-2.7**
RLS				*e*SG	**Sg**	**21 35 30.9**	**-2.4**
IGT	**Igoumenitsa**	**1.11**	**360**	*e*P	**Pg**	**21 35 23.7**	**-0.1**
EVR	**Evrytania**	**1.25**	**66**	*e*PB	**Pb**	**21 35 24.6**	**-1.8**
JAN	**Janina**	**1.29**	**18**	*e*PN	**Pn**	**21 35 27.9**	**+0.8**
JAN				*e*SB	**Sb**	**21 35 45.9**	**+1.8**
KEK	**Kerkira**	**1.36**	**342**	*e*PB	**Pb**	**21 35 29.3**	**+1.0**
SRN	**Sarande**	**1.48**	**350**	*i* SN	**Sn**	**21 35 56.7**	**+7.5**
MEV	**Metsovon**	**1.53**	**27**	*e*P	**Pn**	**21 35 29.1**	**-1.2**
THL	**Klokotos Trika**	**1.73**	**48**	*e*PB	**Pb**	**21 35 35.0**	**+0.3**
THL				*e*SB	**Sb**	**21 35 59.0**	**+2.4**
LKR	**Lokris**	**2.09**	**83**	*e*PN	**Pn**	**21 35 39.0**	**+0.9**
KZN	**Kozani**	**2.18**	**30**	*e*PN	**Pn**	**21 35 42.5**	**+3.2**
KBN	**Korca**	**2.23**	**9**	*e*PN	**Pn**	**21 35 43.4**	**+3.5**
KBN				*i* SN	**Sg**	**21 36 20.5**	**+6.4**
NEO	**Neokhori**	**2.42**	**68**	*e*PB	**Pb**	**21 35 43.3**	**-3.0**
FNA	**Florina**	**2.49**	**18**	*e*P	**Pn**	**21 35 41.1**	**-2.4**
NAIG	**Nisos Aigina**	**2.57**	**104**	*e*PN	**Pn**	**21 35 46.0**	**+1.4**
ATH	**Athens Observa**	**2.69**	**99**	*e*PN	**Pn**	**21 35 48.1**	**+1.8**
ATH				*e*SN	**Sn**	**21 36 20.8**	**+1.6**
OHR	**Ohrid**	**2.71**	**7**	*e*Pn	**Pn**	**21 35 48.5**	**+2.0**
PTL	**Penteli**	**2.80**	**97**	*e*PB	**Pb**	**21 35 49.5**	**-3.3**
TIP	**Timpagrande**	**2.90**	**286**	*e*P	**Pn**	**21 35 45.7**	**-3.5**
TIP	**Timpagrande**	**2.90**	**286**	*e*P	**Pn**	**21 35 45.7**	**-3.5**
TIR	**Tirane**	**2.95**	**353**	*e*P	**Pn**	**21 35 51.6**	**+1.9**
TIR	**Tirane**	**2.95**	**353**	*e*PN	**Pn**	**21 35 51.7**	**+1.9**
KRUS	**Krusevo**	**3.02**	**13**	*i* Pn	**Pn**	**21 35 50.1**	**-0.7**
PLG	**Polygyros**	**3.09**	**50**	*e*PN	**Pn**	**21 35 54.0**	**+2.2**
PLG				*e*SB	**Sb**	**21 36 32.1**	**-3.7**
PUK	**Puka**	**3.63**	**355**	*i* SN	**Sn**	**21 36 46.7**	**+4.4**
ULC	**Ulcinj**	**3.64**	**347**	⇓*i*Pn	**Pn**	**21 35 59.9**	**+0.7**
ULC				*e*Sn	**Sn**	**21 36 41.7**	**-0.7**
MTTG	**Motta San Giov**	**3.69**	**265**	Pn	**Pn**	**21 36 00.7**	**+0.7**
NVR	**Nevrokopi**	**3.98**	**42**	*e*PN	**Pn**	**21 36 06.7**	**+2.7**
BUM	**Brajici-Budva**	**4.03**	**345**	⇑*i*Pn	**Pn**	**21 36 05.3**	**+0.6**
BUM				*e*Sn	**Sn**	**21 36 51.0**	**-1.1**
PDG	**Podgorica**	**4.09**	**349**	*e*Sn	**Sn**	**21 36 52.7**	**-0.9**
TTG	**Podgorica**	**4.09**	**349**	⇑*i*Pn	**Pn**	**21 36 06.2**	**+0.7**
TTG				*e*Sn	**Sn**	**21 36 52.7**	**-0.9**
PVY	**Plav**	**4.18**	**356**	⇑*i*Pn	**Pn**	**21 36 07.5**	**+0.8**
PVY				*e*Sn	**Sn**	**21 36 55.0**	**-0.8**
HCY	**Herceg Novi**	**4.26**	**341**	⇑*i*Pn	**Pn**	**21 36 08.3**	**+0.5**
HCY				*e*Sn	**Sn**	**21 36 56.6**	**-1.2**
BEY	**Berane**	**4.46**	**356**	*e*Sn	**Sn**	**21 37 01.6**	**-1.1**
IVA	**Berane**	**4.46**	**356**	⇓*i*Pn	**Pn**	**21 36 11.7**	**+1.2**
IVA				*e*Sn	**Sn**	**21 37 01.6**	**-1.1**
NKY	**Niksic**	**4.50**	**347**	⇓*i*Pn	**Pn**	**21 36 11.8**	**+0.6**
NKY				*e*Sn	**Sn**	**21 37 02.3**	**-1.5**
BRY	**Bratogost**	**4.68**	**344**	⇑*i*Pn	**Pn**	**21 36 13.7**	**+0.1**
BRY				*e*Sn	**Sn**	**21 37 06.8**	**-1.3**
CSSN	**Cassano Irpino**	**4.78**	**302**	Pn	**Pn**	**21 36 18.5**	**+3.6**
VAE	**Valguarnera**	**4.78**	**260**	Pn	**Pn**	**21 36 12.9**	**-2.1**
0.7nm,0.3s,baz=112,slow=15,SNR=4.3							
VAE				Sn	**Sn**	**21 37 10.9**	**+0.2**
2.2nm,0.3s,baz=229,slow=16,SNR=3.0							
RDO	**Rodhopi**	**4.84**	**54**	*e*PN	**Pn**	**21 36 17.7**	**+1.9**
STON	**Ston**	**4.88**	**336**	*e*Pn	**Pn**	**21 36 16.4**	**+0.1**
STON				Sn	**Sn**	**21 37 11.2**	**-1.9**
STON	**Ston**	**4.88**	**336**	*e*Pn	**Pn**	**21 36 16.4**	**+0.1**
STON				Sn	**Sn**	**21 37 11.1**	**-1.9**
UPM	**Unac-Piva**	**4.90**	**348**	⇓*i*Pn	**Pn**	**21 36 17.6**	**+1.0**
UPM				*e*Sn	**Sn**	**21 37 12.1**	**-1.4**
PLE	**Pljevlja**	**4.96**	**352**	⇓*i*Pn	**Pn**	**21 36 18.4**	**+1.0**
PLE				*e*Sn	**Sn**	**21 37 13.7**	**-1.2**
FGSL	**Fruska Gora**	**6.74**	**357**	*e*Pn	**Pn**	**21 36 40.9**	**-1.0**
GZR	**Gura Zlata**	**7.20**	**14**	⇑*i*P	**Pn**	**21 36 46.5**	**-1.7**
BZS	**Buzias**	**7.25**	**7**	⇑P	**Pn**	**21 36 55.0**	**+6.1**
BZS	**Buzias**	**7.25**	**7**	⇑*i*P	**Pn**	**21 36 55.0**	**+6.1**
NVLJ	**Novalja**	**7.38**	**328**	*e*Pn	**Pn**	**21 36 50.8**	**+0.1**
NVLJ				Sn	**Sn**	**21 38 11.8**	**-2.9**
NVLJ	**Novalja**	**7.38**	**328**	*e*Pn	**Pn**	**21 36 50.8**	**+0.1**
NVLJ				Sn	**Sn**	**21 38 11.7**	**-3.0**
PKSM	**Moragy**	**7.89**	**351**	⇑P	**Pn**	**21 36 57.7**	**+0.1**
PKSM	**Moragy**	**7.89**	**351**	⇑*i*P	**Pn**	**21 36 57.7**	**+0.1**
BOJS	**Bojanci**	**8.03**	**333**	*i* Pn	**Pn**	**21 37 00.3**	**+0.7**
MLR	**Muntele Rosu**	**8.20**	**29**	Pn	**Pn**	**21 37 02.6**	**+0.7**
MLR				⇑P		21 37 11.2	
MLR	**Muntele Rosu**	**8.20**	**29**	Pn	**Pn**	**21 37 02.7**	**+0.7**
0.1nm,0.3s,baz=205,slow=16,SNR=3.2							
MLR	**Muntele Rosu**	**8.20**	**29**	⇑*i*P	**Pn**	**21 37 11.2**	**+9.3**
CRES	**Cresnjev**	**8.24**	**335**	*i* Pn	**Pn**	**21 37 02.5**	**0.0**
LEGS	**Legarje**	**8.39**	**335**	*i* Pn	**Pn**	**21 37 04.6**	**+0.1**
CEY	**Cerknica**	**8.53**	**331**	*i* Pn	**Pn**	**21 37 07.1**	**+0.6**
SKDS	**Skadanscina**	**8.54**	**329**	*i* Pn	**Pn**	**21 37 06.8**	**+0.3**
SKDS	**Skadanscina**	**8.54**	**329**	*i* Pn	**Pn**	**21 37 06.8**	**+0.3**
VRI	**Vrincioaia**	**8.82**	**30**	⇑P	**Pn**	**21 37 18.3**	**+8.0**
VRI	**Vrincioaia**	**8.82**	**30**	⇑*i*P	**Pn**	**21 37 18.3**	**+7.9**
VOY	**Vojsko**	**8.98**	**330**	*e*Pn	**Pn**	**21 37 14.0**	**+1.4**
VOY				*e*Sn	**Sn**	**21 38 54.0**	**0.0**
VOY	**Vojsko**	**8.98**	**330**	*e*	**Pn**	**21 37 14.0**	**+1.4**
VOY				*e*Sn	**Sn**	**21 38 54.0**	**0.0**
OBKA	**Obir**	**9.14**	**334**	⇑*i*Pn	**Pn**	**21 37 14.9**	**+0.1**
OBKA				⇓*i*Sn	**Sn**	**21 38 55.6**	**-2.3**
KEST	**Kesra**	**9.19**	**256**	Pn	**Pn**	**21 37 17.4**	**+1.8**
0.1nm,0.3s,baz=231,slow=20,SNR=3.1							
KEST				Sn	**Sn**	**21 38 52.0**	**-7.2**
0.0nm,0.3s,baz=145,slow=10.0,SNR=1.8							
KEST				LR	LR	21 41 50.0	
comp=Z,54nm,18.5s,baz=1.8,slow=44							
PSZ	**Piszkesteto**	**9.50**	**358**	⇓P	**Pn**	**21 37 26.3**	**+6.6**
PSZ	**Piszkesteto**	**9.50**	**358**	⇓*i*P	**Pn**	**21 37 26.3**	**+6.6**
KECS	**Kecovo**	**10.06**	**1**	*e*PN	**Pn**	**21 37 27.7**	**+0.3**
KBA	**Koelnbreinsper**	**10.06**	**332**	⇑*i*Pn	**Pn**	**21 37 27.9**	**+0.5**
KBA				⇑*i*Sn	**Sn**	**21 39 18.4**	**-2.1**
VYHS	**Vyhne**	**10.13**	**354**	*e*PN	**Pn**	**21 37 28.4**	**+0.1**
VYHS				*e*SN	Sn	21 39 48.7	+27
MOA	**Molln**	**10.41**	**337**	⇓*i*Pn	**Pn**	**21 37 32.2**	**0.0**
MOA				⇓*i*Sn	**Sn**	**21 39 25.9**	**-3.2**
CRVS	**Cervenica-Dubn**	**10.51**	**4**	*e*PN	**Pn**	**21 37 36.6**	**+3.1**
STHS	**Stebnicka Huta**	**11.01**	**3**	*e*PN	**Pn**	**21 37 35.2**	**-5.2**
MOTA	**Moosalm**	**11.19**	**326**	⇓*i*Pn	**Pn**	**21 37 43.7**	**+0.8**
MOTA				⇓*i*Sn	**Sn**	**21 39 47.8**	**-0.4**
DAVOX	**Davos/Dischmat**	**11.36**	**321**	Pn	**Pn**	**21 37 46.7**	**+1.5**
0.3nm,0.3s,baz=207,slow=9.5,SNR=1.9							
DAVOX				Sn	**Sn**	**21 39 42.0**	**-10**
0.4nm,0.3s,baz=168,slow=14,SNR=2.4							
GERES	**GERESS Array B**	**11.47**	**337**	Pn	**Pn**	**21 37 46.7**	**0.0**
0.2nm,0.3s,baz=154,slow=13,SNR=6.7							
GERES				LR	LR	21 43 02.6	
comp=Z,109nm,18.2s,baz=91,slow=42							
KHC	**Kasperske Hory**	**11.76**	**338**	*e*P	**Pn**	**21 37 51.0**	**+0.3**
MMAI	**Mount Meron Ar**	**13.37**	**109**	Pn	**Pn**	**21 38 10.7**	**-2.0**
0.5nm,0.3s,baz=316,slow=11,SNR=4.9							
MALT	**Malatya**	**14.19**	**85**	⇓*i*P	**Pn**	**21 38 33.3**	**+9.4**
ASF	**Jabal al Asfar**	**14.88**	**110**	Pn	**Pn**	**21 38 37.5**	**+4.3**
0.1nm,0.3s,baz=219,slow=6.5,SNR=2.0							
ESDC	**Sonseca Array**	**18.91**	**281**	P	**Pn**	**21 39 25.0**	**+0.7**
0.2nm,0.3s,baz=168,slow=32,SNR=4.7							
HFS	**Hagfors**	**22.14**	**351**	P	**P**	**21 39 59.3**	**+0.8**
2.8nm,0.5s,mb3.9,baz=150,slow=12,SNR=12							
FINES	**FINESS Array B**	**23.32**	**7**	P	**P**	**21 40 09.7**	**-1.4**
1.4nm,0.5s,mb3.7,baz=170,slow=9.9,SNR=5.9							
NB2	**NORSAR Subarra**	**23.35**	**349**	P	**P**	**21 40 12.7**	**+1.3**
comp=Z,0.9nm,0.6s,mb3.4,baz=149,slow=11							
NOA	**NORSAR Array B**	**23.35**	**349**	P	**P**	**21 40 11.9**	**+0.5**
comp=Z,0.5nm,0.5s,mb3.2,baz=157,slow=10,SNR=4.7							
NOA				LR	LR	21 50 34.0	
comp=Z,28nm,19.1s,MS2.7,baz=80,slow=40							
AKTO	**Aktyubinsk**	**29.15**	**53**	P	**P**	**21 41 03.8**	**-0.2**
comp=Z,0.7nm,0.3s,mb3.8,baz=355,slow=2.0,SNR=4.1							
TORD	**Torodi Ar. Bea**	**30.13**	**218**	P	**P**	**21 41 12.8**	**-0.2**
comp=Z,1.0nm,0.9s,mb3.5,baz=29,slow=8.9,SNR=4.3							
ARCES	**ARCESS Array B**	**31.30**	**3**	LR	LR	21 53 50.7	
comp=Z,38nm,20.7s,MS3.0,baz=168,slow=36							
MKAR	**Makanchi Array**	**45.29**	**59**	P	**P**	**21 43 20.6**	**-0.2**
comp=Z,0.9nm,0.5s,mb3.9,baz=276,slow=7.4,SNR=11							
ZALV	**Zalesovo Beam**	**45.63**	**48**	P	**P**	**21 43 23.6**	**+0.2**
comp=Z,3.5nm,0.6s,mb4.5,baz=278,slow=9.1,SNR=13							
SCHQ	**Schefferville**	**58.19**	**317**	P	**P**	**21 44 56.0**	**-1.0**
comp=Z,2.2nm,0.9s,mb4.2,baz=239,slow=7.7,SNR=2.9							

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*IDC **12** 22:00:12.7±1.1, 3693S×17780E, h169km±9km, mb4.2/9, mb1 4.3/9, mb1mx4.3/13, mbtmp4.2/9, Error ellipse: s-maj=20.0km s-min=14.7km az=12.0*
*ISCJB **12** 22:00:13.7±0.5, 3709S±005×17749E±007, h177km±3km, mb4.5/13, Error ellipse: s-maj=9.4km s-min=7.0km az=154.4*
*NEIC **12** 22:00:13.8, 3686S×17768E, h159km, mb4.7/5, After WEL.*
*WEL **12** 22:00:14.4±0.3, 3687S×17766E, h154km±2km, ML5.3/25, Error ellipse: s-maj=2.2km s-min=1.6km az=0.0*
WEL Felt from Bay of Plenty to Gisborne, maximum reported intensity MM 4.
ISC 12 22:00:14.6±0.5, 3708S±005×17751E±007, h171km±3km, n153, σ1§45/150, mb4.5/13, 6C-1D, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WIZ	**White Island**	**0.51**	**210**	P	**Pn**	**22 00 37.7**	**-0.7**
WIZ	**White Island**	**0.51**	**210**	PN	**Pn**	**22 00 37.3**	**-1.1**
MXZ	**Matakaoa Point**	**0.79**	**127**	P	**Pn**	**22 00 38.4**	**-1.5**
MXZ	**Matakaoa Point**	**0.79**	**127**	⇑PN	**Pn**	**22 00 38.4**	**-1.5**
MXZ				SN	**Sn**	**22 00 57.2**	**-2.2**
OPRZ	**Ohinepanea**	**1.08**	**225**	⇑PN	**Pn**	**22 00 42.5**	**+0.5**
OPRZ				SN	**Sn**	**22 01 03.5**	**+12**
PUZ	**Puketiti**	**1.15**	**149**	P	**Pn**	**22 00 42.1**	**-0.5**
PUZ	**Puketiti**	**1.15**

DSZ	**Denniston Nort**	**6.42 222**	PN	**Pn**	**22 01 44.3**	**-2.6**
LTZ	**Lake Taylor**	**6.97 214**	*e*P	**Pn**	**22 01 51.5**	**-2.6**
LTZ	**Lake Taylor**	**6.97 214**	PN	**Pn**	**22 01 51.5**	**-2.6**
MQZ	**McQueen's Vall**	**7.58 208**	*e*P	**Pn**	**22 01 58.9**	**-3.3**
MQZ	**McQueen's Vall**	**7.58 208**	PN	**Pn**	**22 01 58.9**	**-3.3**
WVZ	**Waitaha Valley**	**7.92 219**	*e*P	**Pn**	**22 02 05.5**	**-1.2**
WVZ	**Waitaha Valley**	**7.92 219**	PN	**Pn**	**22 02 05.5**	**-1.2**
RPZ	**Rata Peaks**	**8.25 215**	P	**Pn**	**22 02 09.2**	**-1.9**
	9.5nm,0.3s,baz=32,slow=3.8,SNR=12					
RPZ			S	**Sn**	**22 03 37.1**	**-6.1**
	42nm,0.3s,baz=329,slow=18,SNR=20					
RPZ	**Rata Peaks**	**8.25 215**	PN	**Pn**	**22 02 09.0**	**-2.0**
FOZ	**Fox Glacier**	**8.80 220**	*e*P	**Pn**	**22 02 15.1**	**-3.3**
FOZ	**Fox Glacier**	**8.80 220**	PN	**Pn**	**22 02 15.1**	**-3.3**
LBZ	**Lake Benmore**	**9.17 215**	*e*P	**Pn**	**22 02 20.3**	**-2.8**
LBZ	**Lake Benmore**	**9.17 215**	PN	**Pn**	**22 02 20.3**	**-2.9**
ARMA	**Armidale**	**22.48 280**	*e*P	**P**	**22 05 03.3**	**+3.6**
STKA	**Stephens Creek**	**29.94 269**	*e*P	**P**	**22 06 08.7**	**+2.1**
	3.3nm,0.7s,mb4.2					
STKA	**Stephens Creek**	**29.94 269**	P	**P**	**22 06 08.6**	**+2.0**
	3.9nm,0.6s,mb4.3,baz=102,slow=11,SNR=14					
STKA			PcP	PcP	22 09 03.1	-1.7
	2.3nm,0.9s,baz=5.7,slow=1.1,SNR=2.8					
CTA	**Charters Tower**	**32.05 293**	*e*P	**P**	**22 06 26.1**	**+0.9**
	14nm,0.9s,mb4.7					
CTA	**Charters Tower**	**32.05 293**	P	**P**	**22 06 25.6**	**+0.4**
	16nm,0.7s,mb4.8,baz=129,slow=9.5,SNR=8.6					
ASAR	**Alice Springs**	**39.59 277**	P	**P**	**22 07 30.1**	**+0.8**
	16nm,0.7s,mb4.8,baz=122,slow=8.2,SNR=190					
ASAR			PcP	PcP	22 09 31.1	-1.9
	1.3nm,0.5s,baz=118,slow=4.5,SNR=5.0					
ASAR			ScP	ScP	22 13 02.1	-3.4
	0.7nm,0.6s,baz=128,slow=3.9,SNR=4.5					
ASAR			S	**S**	**22 13 20.0**	**+0.6**
	0.8nm,0.8s,baz=125,slow=12,SNR=5.2					
FORT	**Forrest**	**41.14 264**	*e*P	**P**	**22 07 42.3**	**+0.4**
	19nm,0.5s,mb5.0					
WB2	**Warramunga Arr**	**41.20 282** ⇑	*i*P	**P**	**22 07 42.5**	**-0.1**
WRAB	**Tennant Creek**	**41.21 282**	*e*P	**P**	**22 07 42.6**	**0.0**
	11nm,0.6s,mb4.7					
WRA	**Warramunga Arr**	**41.22 282**	P	**P**	**22 07 42.5**	**-0.1**
	14nm,0.6s,mb4.8,baz=122,slow=7.6,SNR=137					
WRA			PcP	PcP	22 09 37.1	-1.2
	2.5nm,0.9s,baz=126,slow=3.1,SNR=4.6					
WRA			ScP	ScP	22 13 08.8	-3.1
	0.8nm,0.7s,baz=113,slow=3.6,SNR=6.5					
WRA			S	**S**	**22 13 45.0**	**+1.5**
	1.5nm,1.2s,baz=38,slow=36,SNR=2.8					
FITZ	**Fitzroy Crossi**	**49.08 278**	*e*P	**P**	**22 08 43.8**	**-0.8**
	12nm,0.7s,mb4.6					
FITZ	**Fitzroy Crossi**	**49.08 278**	P	**P**	**22 08 44.8**	**+0.2**
	5.8nm,0.7s,mb4.3,baz=166,slow=11,SNR=12					
MBWA	**Marble Bar**	**52.16 271**	*e*P	**P**	**22 09 06.3**	**-1.4**
QSPA	**South Pole Qui**	**53.04 180**	P	**P**	**22 09 17.9**	**+4.6**
	14nm,0.8s,mb4.8,baz=32,slow=4.1,SNR=39					
MAW	**Mawson**	**64.74 203**	P	**P**	**22 10 35.1**	**+1.1**
	4.2nm,0.6s,mb4.4,baz=88,slow=7.1,SNR=3.6					
VNA3	**Neumayer Olymp**	**71.86 178**	*e*	**P**	**22 11 20.4**	**+2.3**
VNA3			*e*		22 11 22.9	
VNA3			*e*		22 11 26.5	
VNA3			*e*		22 11 32.0	
VNA2	**Neumayer--Watz**	**72.24 178**	*e*	**P**	**22 11 23.1**	**+2.7**
	baz=176,slow=5.5					
VNA2			*e*		22 11 25.5	
VNA2			*e*		22 11 29.1	
VNA2			*e*		22 11 35.1	
VNA1	**Neumayer--Stat**	**72.49 178**	*e*	**P**	**22 11 25.1**	**+3.2**
VNA1			*e*		22 11 27.5	
VNA1			*e*		22 11 31.0	
VNA1			*e*		22 11 37.4	
PLCA	**Paso Flores**	**80.61 134**	P	**P**	**22 12 10.6**	**+2.6**
PLCA	**Paso Flores**	**80.61 134**	P	**P**	**22 12 10.6**	**+2.6**
	2.7nm,0.8s,mb3.9,baz=217,slow=5.1,SNR=3.6					
MJAR	**Matsushiro Arr**	**81.81 329**	P	**P**	**22 12 12.3**	**-1.8**
	2.8nm,0.8s,mb3.9,baz=154,slow=4.5,SNR=9.3					
ASAJ	**Asahikawa**	**86.80 336**	P	**P**	**22 12 38.3**	**-0.7**
	5.1nm,0.8s,mb4.4,baz=79,slow=4.1,SNR=4.8					
KSRS	**Korea Array**	**87.19 323**	P	**P**	**22 12 40.9**	**-0.3**
	3.6nm,0.9s,mb4.2,baz=148,slow=5.7,SNR=7.2					
MKAR	**Makanchi Array**	**119.09 308**	PKP	PKPdf	22 18 39.1	-3.3
	1.0nm,0.8s,baz=91,slow=0.9,SNR=8.6					
ZALV	**Zalesovo Beam**	**120.43 317**	PKP	PKPdf	22 18 41.6	-3.2
	0.4nm,0.4s,baz=129,slow=2.0,SNR=3.1					
KURK	**Kurchatov**	**122.82 312**	*e*PKPdf	PKPdf	22 18 46.5	-2.9
AML	**Almayashu**	**122.91 301**	*e*PKPdf	PKPdf	22 18 47.4	-2.6
SCHQ	**Schefferville**	**133.63 46**	SKPbc	SKPbc	22 22 18.6	-3.9
	2.3nm,0.8s,baz=333,slow=2.3,SNR=3.6					
ARCES	**ARCESS Array B**	**144.13 344**	PKP	PKPdf	22 19 25.0	-3.7
	2.6nm,0.6s,baz=35,slow=3.8,SNR=15					
JOF	**Joensuu**	**146.93 332**	*e*pkp	PKPdf	22 19 32.3	-1.3
MALT	**Malatya**	**147.79 285**	*e*PKPbc	PKPbc	22 19 38.1	-0.8
KAF	**Kangasniemi**	**149.25 334**	*e*pkp	PKPdf	22 19 38.3	+0.9
DBIC	**Dimbokro**	**149.65 175**	PKP	PKPdf	22 19 35.9	-3.7
	3.1nm,0.8s,baz=95,slow=3.4,SNR=3.6					
DBIC			PKPbc	PKPbc	22 19 44.2	-0.1
	15nm,0.9s,baz=142,slow=3.6,SNR=16					
FINES	**FINESS Array B**	**149.77 333**	PKPbc	PKPbc	22 19 40.7	-2.5
	7.8nm,0.8s,baz=30,slow=4.6,SNR=29					
AKASG	**Malin Array Be**	**153.63 311**	PKPbc	PKPbc	22 19 49.6	-2.7
	3.0nm,0.7s,baz=62,slow=2.5,SNR=13					
AKASG			PKPab	PKPab	22 20 04.0	-1.7
	0.4nm,0.4s,baz=64,slow=3.8,SNR=5.3					
NOA	**NORSAR Array B**	**154.50 344**	PKPbc	PKPbc	22 19 51.5	-2.3
	0.6nm,0.7s,baz=29,slow=2.0,SNR=3.5					
NOA			PKPab	PKPab	22 20 05.4	-3.7
	1.2nm,0.8s,baz=24,slow=3.4,SNR=3.6					
TORD	**Torodi Ar. Bea**	**155.87 190**	PKP	PKPdf	22 19 47.5	-1.1
	1.0nm,0.8s,baz=236,slow=0.3,SNR=4.8					
TORD			PKPbc	PKPdf	22 19 56.9	+8.3
	1.1nm,0.4s,baz=157,slow=3.4,SNR=35					
TORD			PKPab	PKPab	22 20 16.5	+0.4
	4.0nm,0.5s,baz=172,slow=3.8,SNR=24					
GERES	**GERESS Array B**	**163.35 320**	PKPab	PKPab	22 20 47.2	-0.7
	0.1nm,0.4s,baz=35,slow=4.9,SNR=3.7					

CSEM ***12*** *22:00:15.0±0.7, 3869N×2900W, h0km±13km, MD3.5, Error ellipse: s-maj=15.8km s-min=4.8km az=75.0, After PDA*
PDA ***12*** *22:00:15.0±0.7, 3869N×2900W, h0km±13km, MD3.5, Error ellipse: s-maj=15.8km s-min=4.8km az=75.0*
SVSA 12 22:00:15.0±0.7, 3869N×2900W, h0km±13km, MD3.5, Error ellipse: s-maj=15.8km s-min=4.8km az=75.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CALA	**Caldeira**	**0.26**	**114**	*e*P	Pg	22 00 19.8	-0.1
CALA				*e*S	Sg	22 00 23.7	+0.4
HOR	**Horta**	**0.33**	**118**	*e*P	Pg	22 00 21.2	-0.2
HOR				*e*S	Sg	22 00 25.5	-0.2
PICO	**Pico**	**0.49**	**112**	*e*P	Pg	22 00 24.3	-0.1
PICO				*e*S	Sg	22 00 31.1	+0.4
ROSA	**Rosais**	**0.60**	**87**	*e*P	Pg	22 00 25.2	-1.2
ROSA				*e*S	Sg	22 00 33.5	-0.7

ISCJB ***12*** *22:02:00.2±0.3, 3856N±002×2164E±003, h10km, Error ellipse: s-maj=3.4km s-min=2.9km az=1.5*
THE ***12*** *22:02:00.8, 3857N×2166E, h3km, ML3.4*
NEIC ***12*** *22:02:00.7, 3857N×2165E, h0km, ML3.6(ATH), ML3.6(THE), After THE.*
ATH ***12*** *22:02:00.3, 3857N×2163E, h12km±1km, MD3.6/11, ML3.6*
CSEM ***12*** *22:02:01.9±0.1, 3858N×2167E, h20km, ML3.4, Error ellipse: s-maj=2.9km s-min=2.2km az=67.0*
ISC 12 22:02:00.9±0.3, 3856N±002×2165E±003, h10km, n36, σ1§24/50, 1C, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SELA	**Sela**	**0.34**	**146**	*e*Pg	**Pg**	**22 02 06.9**	**-0.8**
SELA				*e*Sg	**Sg**	**22 02 13.4**	**+1.1**
EVR	**Evrytania**	**0.38**	**19**	⇑*i*PG	**Pg**	**22 02 07.4**	**-0.9**
EVR				*e*SB	**Sg**	**22 02 13.4**	**+0.1**
RLS	**Riolos of Patr**	**0.52**	**196**	*e*PG	**Pg**	**22 02 10.4**	**-0.7**
RLS				*e*SB	**Sg**	**22 02 18.9**	**+0.9**
AGG	**Agios Georgios**	**0.70**	**49**	*e*Pg	**Pg**	**22 02 13.7**	**-0.9**
AGG				*e*Sg	**Sg**	**22 02 24.7**	**+1.0**
LKD	**Levkas**	**0.80**	**281**	*e*Pg	**Pg**	**22 02 15.1**	**-1.2**
LKD				*e*Sg	**Sg**	**22 02 28.4**	**+1.7**
KFL	**Anninata**	**0.81**	**236**	*e*Pg	**Pg**	**22 02 15.4**	**-1.2**
VLS	**Valsamata**	**0.92**	**245**	*e*PG	**Pg**	**22 02 16.9**	**-1.7**
THL	**Klokotos Trika**	**1.04**	**16**	*e*PG	**Pg**	**22 02 19.7**	**-1.2**
THL				*e*SN	**Sn**	**22 02 34.7**	**-1.5**
LTK	**Loutraki**	**1.17**	**117**	*e*Pg	**Pg**	**22 02 22.6**	**-0.8**
JAN	**Janina**	**1.26**	**331**	*e*PB	**Pb**	**22 02 23.8**	**-0.9**
MEV	**Metsovon**	**1.26**	**345**	*e*Pg	**Pg**	**22 02 25.1**	**-0.1**
VLX	**Vlachokerasia**	**1.32**	**154**	*e*Pg	**Pg**	**22 02 24.9**	**-1.4**
VLX				*e*Sg	**Sg**	**22 02 45.8**	**+2.3**
ITM	**Ithomi**	**1.40**	**171**	*e*PG	**Pg**	**22 02 26.5**	**-1.3**
IGT	**Igoumenitsa**	**1.41**	**314**	*e*Pg	**Pg**	**22 02 26.7**	**-1.3**
NEO	**Neokhori**	**1.44**	**58**	*e*PG	**Pg**	**22 02 26.9**	**-1.6**
NEO				*e*SB	**Sb**	**22 02 47.5**	**+1.4**
DID	**Didima**	**1.64**	**130**	*e*Pb	**Pb**	**22 02 30.7**	**-0.5**
NAIG	**Nisos Aigina**	**1.66**	**118**	*e*PG	**Pg**	**22 02 31.3**	**-1.4**
LIT	**Litokhoron**	**1.67**	**23**	*e*Pb	**Pn**	**22 02 30.5**	**+0.3**
ATH	**Athens Observa**	**1.73**	**109**	*e*PN	**Pn**	**22 02 32.6**	**+1.5**
KZN	**Kozani**	**1.74**	**3**	*e*PG	**Pg**	**22 02 33.2**	**-1.2**
KZN				*e*SN	**Sn**	**22 02 56.1**	**+2.6**
PTL	**Penteli**	**1.82**	**106**	*e*PB	**Pn**	**22 02 32.5**	**+0.3**
KEK	**Kerkira**	**1.84**	**309**	*e*PN	**Pn**	**22 02 33.8**	**+1.2**
PAIG	**Paliouri**	**2.08**	**49**	P	**Pn**	**22 02 35.6**	**-0.3**
PAIG				S	**Sn**	**22 03 01.4**	**-0.5**
PAIG	**Paliouri**	**2.08**	**49**	*e*Pn	**Pn**	**22 02 35.6**	**-0.3**
PAIG				*e*Sn	**Sn**	**22 03 02.7**	**+0.8**
PAIG	**Paliouri**	**2.08**	**49**	*e*Pn	**Pn**	**22 02 35.6**	**-0.3**
PAIG				S	**Sn**	**22 03 01.4**	**-0.5**
VLI	**Veliai**	**2.11**	**151**	*e*PN	**Pn**	**22 02 38.2**	**+2.0**
FNA	**Florina**	**2.23**	**355**	*e*Pn	**Pn**	**22 02 39.7**	**+1.8**
PLG	**Polygyros**	**2.28**	**37**	*e*Pn	**Pn**	**22 02 38.6**	**0.0**
PLG	**Polygyros**	**2.28**	**37**	*e*Pb	**Pn**	**22 02 39.2**	**+0.6**
SOH	**Sokhos**	**2.61**	**30**	*e*Pn	**Pn**	**22 02 44.1**	**+0.9**
KNT	**Kendrikon**	**2.77**	**20**	*e*Pn	**Pn**	**22 02 46.3**	**+1.0**
KRUS	**Krusevo**	**2.82**	**354**	*i*Pn	**Pn**	**22 02 49.6**	**+3.6**
KRUS	**Krusevo**	**2.82**	**354**	*i*Pn	**Pn**	**22 02 49.5**	**+3.5**
NVR	**Nevrokopi**	**3.26**	**31**	*e*PB	**Pb**	**22 02 54.6**	**-4.3**
TIP	**Timpagrande**	**3.87**	**281**	*e*Pn	**Pn**	**22 03 00.5**	**+0.1**
TIP				*e*Sn	**Sn**	**22 03 48.4**	**+2.5**
TIP	**Timpagrande**	**3.87**	**281**	*e*Pn	**Pn**	**22 03 00.5**	**+0.1**
TIP				*e*Sn	**Sn**	**22 03 48.4**	**+2.5**

THE ***12*** *22:03:33.8, 3836N×2027E, h7km, ML3.4*
ISCJB ***12*** *22:03:34.8±1.2, 3837N±004×204E±0.1, h13km, Error ellipse: s-maj=13.7km s-min=4.6km az=163.5*
CSEM ***12*** *22:03:36.6±0.2, 3833N×2048E, h2km, MD3.6, Error ellipse: s-maj=5.0km s-min=1.8km az=72.0*
NEIC ***12*** *22:03:36.0, 3831N×2045E, h13km, MD3.6(ATH), After ATH.*
ATH ***12*** *22:03:36.0, 3831N×2045E, h13km±1km, MD3.6/4*
ISC 12 22:03:35.3±1.3, 3835N±004×204E±01, h1km±10km, n12, σ1§13/16, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.22**	**139**	*e*PG	**Pg**	**22 03 40.1**	**+0.5**
VLS				*e*SG	**Sg**	**22 03 43.8**	**+1.3**
KFL	**Anninata**	**0.38**	**128**	*e*Pg	**Pg**	**22 03 42.9**	**+0.2**
KFL	**Anninata**	**0.38**	**128**	*e*Pg	**Pg**	**22 03 42.8**	**+0.1**
LKD	**Levkas**	**0.41**	**28**	*e*Pg	**Pg**	**22 03 42.9**	**-0.3**
LKD				*e*Sg	**Sg**	**22 03 49.2**	**+0.7**
RLS	**Riolos of Patr**	**0.88**	**109**	*e*PB	**Pb**	**22 03 51.9**	**-1.6**
IGT	**Igoumenitsa**	**1.19**	**357**	*e*Pg	**Pg**	**22 03 55.5**	**-2.6**
IGT				*e*Sg	**Sg**	**22 04 13.1**	**-0.4**
JAN	**Janina**	**1.35**	**15**	*e*PB	**Pb**	**22 04 02.3**	**+0.8**
JAN				*e*SB	**Sb**	**22 04 20.4**	**+1.0**
KEK	**Kerkira**	**1.45**	**341**	*e*PG	**Pg**	**22 04 03.9**	**+0.9**
ITM	**Ithomi**	**1.68**	**134**	*e*PB	**Pb**	**22 04 06.4**	**-0.6**
THL	**Klokotos Trika**	**1.75**	**45**	*e*PG	**Pg**	**22 04 08.5**	**-0.3**
LKR	**Lokris**	**2.06**	**81**	*e*PB	**Pb**	**22 04 11.0**	**-2.5**
NEO	**Neokhori**	**2.40**	**66**	*e*PN	**Pn**	**22 04 17.0**	**+1.2**

NEIC ***12*** *22:21:19.0, 1501N×9469W, h28km, MD4.2(MEX), After MEX.*
MEX 12 22:21:19.5±0.6, 1504N×9469W, h32km±67km, MD4.2, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**2.05**	**355**	*i*P	Pn	22 21 50.0	-1.7
CMIG				*i*S	Sn	22 22 13.8	-2.3
SCX	**San Cristobal**	**2.60**	**49**	*i*P	Pn	22 21 58.5	-0.7
SCX				*i*S	Sn	22 22 33.4	+3.7
SCX	**San Cristobal**	**2.60**	**49**	*i*P	Pn	22 21 58.5	-0.7
SCX				*i*S	Sn	22 22 27.0	-2.7
CCIG	**Comitan**	**2.75**	**63**	*e*P	Pn	22 21 59.5	-1.8
CCIG				*i*S	Sn	22 22 31.7	-1.8
VHO	**Vista Hermosa**	**2.82**	**316**	*i*P	Pn	22 22 00.5	-1.7
VHO				*i*S	Sn	22 22 33.4	-1.7
UTMO	**Huajuapan**	**4.08**	**313**	*e*P	Pn	22 22 20.1	+0.5
UTMO				*i*S	Sn	22 23 03.1	-3.1
PPM	**Popocatepetl**	**5.50**	**317**	*i*P	Pn	22 22 40.5	+1.4
PPM	**Popocatepetl**	**5.50**	**317**	*i*P	Pn	22 22 40.0	+0.8
PPM				*i*S	Sn	22 23 48.5	+7.3

IDC ***12*** *22:29:47.8±9.5, 2841S×17984E, h449km±69km, mb3.6/5, mb1 3.7/7, mb1mx3.4/16, mbtmp3.6/7, Error ellipse: s-maj=114.2km s-min=19.2km az=43.0*
ISC 12 22:29:41.4±1.8, 281S±02×1798W±02, h400km, n13, σ0§97/12, mb4.0/5, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**10.52**	**194**	P	**P**	**22 32 06.4**	**+1.9**
	0.7nm,0.3s,baz=265,slow=22,SNR=5.1						
RPZ	**Rata Peaks**	**17.29**	**203**	P	**P**	**22 33 16.9**	**-1.3**
	1.3nm,0.3s,baz=224,slow=23,SNR=4.9						
CTA	**Charters Tower**	**31.93**	**277**	P	**P**	**22 35 34.1**	**+2.0**
	4.4nm,0.5s,mb4.1,baz=104,slow=8.2,SNR=3.8						
STKA	**Stephens Creek**	**33.57**	**254**	*e*P	**P**	**22 35 45.3**	**-0.6**
	2.7nm,0.4s,mb3.9						
STKA	**Stephens Creek**	**33.57**	**254**	P	**P**	**22 35 45.3**	**-0.6**
	3.2nm,0.4s,mb4.0,baz=100,slow=11,SNR=22						
ASAR	**Alice Springs**	**41.72**	**265**	P	**P**	**22 36 52.9**	**-0.6**
	3.9nm,0.5s,mb4.0,baz=94,slow=6.9,SNR=86						
WB2	**Warramunga Arr**	**42.48**	**271**	*e*P	**P**	**22 36 59.2**	**-0.3**
WRA	**Warramunga Arr**	**42.49**	**271**	P	**P**	**22 36 59.4**	**-0.2**
	5.6nm,0.4s,mb4.2,baz=109,slow=8.0,SNR=120						
QSPA	**South Pole Qui**	**62.05**	**180**	P	**P**	**22 39 21.0**	**+0.4**
	2.2nm,1.0s,mb3.6,baz=146,slow=1.7,SNR=8.3						
VNA3	**Neumayer Olymp**	**80.74**	**177**	*e*	**P**	**22 41 10.9**	**-0.1**
VNA3				*e*		22 41 12.3	
VNA3				*e*		22 41 16.3	
VNA2	**Neumayer--Watz**	**81.16**	**177**	*e*	**P**	**22 41 13.2**	**+0.1**
	baz=179,slow=5.8						
VNA2				*e*		22 41 14.5	
VNA2				*e*		22 41 18.5	
VNA1	**Neumayer--Stat**	**81.40**	**177**	*e*	**P**	**22 41 13.6**	**-0.8**
VNA1				*e*		22 41 15.1	
VNA1				*e*		22 41 18.2	
TORD	**Torodi Ar. Bea**	**165.11**	**186**	PKPab	PKPab	22 49 57.7	-0.7
	0.3nm,0.7s,baz=151,slow=4.3,SNR=3.5						

ISCJB ***12*** *22:37:57.4±2.2, 151N±0.1×9478W±004, h15km±20km, mb3.4/2, Error ellipse: s-maj=24.5km s-min=6.4km az=6.2*
IDC ***12*** *22:37:57.8±3.8, 1527N×9461W, h0km, mb3.4/2, mb1 3.9/4, mb1mx3.6/21, mbtmp3.6/4, ML3.9/2, MS3.1/1, Ms1 3.1/1, ms1mx2.4/25, Error ellipse: s-maj=50.5km s-min=39.8km az=177.0*
NEIC ***12*** *22:37:59.7, 1500N×9480W, h12km, MD4.4(MEX), Error ellipse: s-maj=2.9km s-min=2.2km az=67.0*
MEX ***12*** *22:38:00.6±0.6, 1502N×9484W, h23km±26km, MD4.4*
ISC 12 22:37:57.8±2.7, 152N±01×9473W±004, h3km±23km, n18, σ1§32/34, mb3.4/2, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**1.45**	**294**	*i*P	**Pn**	**22 38 22.9**	**-2.0**
HUIG				*i*S	**Sn**	**22 38 39.8**	**-4.6**
HUIG	**Huatulco**	**1.45**	**294**	*i*P	**Pn**	**22 38 22.7**	**-2.2**
HUIG				*i*S	**Sn**	**22 38 39.3**	**-5.1**
CMIG	**Matias Romero**	**1.90**	**355**	*i*P	**Pn**	**22 38 31.0**	**0.0**
CMIG				Pn	**Pn**	**22 38 31.5**	**+0.4**
CMIG				Sn	**Sn**	**22 38 54.3**	**-1.1**
CMIG				*i*S	**Sn**	**22 38 56.1**	**+0.7**
CMIG	**Matias Romero**	**1.90**	**355**	Pn	**Pn**	**22 38 31.5**	**+0.4**
	15nm,0.3s,baz=163,slow=15,SNR=101						
CMIG				Sn	**Sn**	**22 38 54.3**	**-1.1**
	22nm,0.3s,baz=172,slow=14,SNR=11						
SCX	**San Cristobal**	**2.53**	**52**	*i*P	**Pn**	**22 38 41.2**	**+1.4**
SCX				*i*S	**Sn**	**22 39 20.3**	**+9.1**
SCX	**San Cristobal**	**2.53**	**52**	*i*P	**Pn**	**22 38 41.2**	**+1.4**
SCX				*i*S	**Sn**	**22 39 12.4**	**+1.3**
VHO	**Vista Hermosa**	**2.69**	**314**	*i*P	**Pn**	**22 38 40.8**	**-1.1**
VHO				*i*S	**Sn**	**22 39 14.9**	**-0.1**
VHO	**Vista Hermosa**	**2.69**	**314**	*i*P	**Pn**	**22 38 40.8**	**-1.1**
VHO				*i*S	**Sn**	**22 39 13.5**	**-1.4**
CCIG	**Comitan**	**2.72**	**66**	*i*P	**Pn**	**22 38 43.6**	**+1.2**
CCIG				*i*S	**Sn**	**22 39 15.7**	**-0.2**
UTMO	**Huajuapan**	**3.95**	**312**	*i*P	**Pn**	**22 39 02.5**	**+3.2**
UTMO				*i*S	**Sn**	**22 39 47.7**	**+1.5**
PPM	**Popocatepetl**	**5.36**	**317**	*i*P	**Pn**	**22 39 06.8**	**-12**
PPM				*i*S	**Sn**	**22 40 23.6**	**+2.6**
PPM	**Popocatepetl**	**5.36**	**317**	*i*P	**Pn**	**22 39 18.5**	**-0.2**
PPM				*i*S	**Sn**	**22 49 23.6**	**+2.6**
TEIG	**Tepich**	**7.93**	**50**	Pn	**Pn**	**22 39 52.6**	**-1.4**
TEIG				Sn	**Sn**	**22 41 22.7**	**-1.6**
TEIG				LR	LR	22 43 15.9	
TEIG	**Tepich**	**7.93**	**50**	Pn	**Pn**	**22 39 52.6**	**-1.4**
	2.5nm,0.3s,baz=166,slow=2.1,SNR=11						
TEIG				Sn	**Sn**	**22 41 22.7**	**-1.6**
	1.3nm,0.3s,baz=2.0,slow=18,SNR=3.0						
TEIG				LR	LR	22 43 15.9	
	comp=Z,150nm,20.0s,baz=128,slow=41						
TXAR	**Lajitas Array**	**16.31**	**331**	Pn	**Pn**	**22 41 48.5**	**+0.6**
	0.1nm,0.3s,baz=178,slow=12,SNR=4.7						
PDAR	**Pinedale Array**	**30.29**	**338**	P	**P**	**22 44 11.5**	**+1.3**
	0.3nm,0.7s,mb3.1,baz=154,slow=11,SNR=2.3						
YKA	**Yellowknife Ar**	**49.29**	**348**	P	**P**	**22 46 47.2**	**-0.5**
YKA	**Yellowknife Ar**	**49.29**	**348**	P	**P**	**22 46 47.2**	**-0.4**
	0.6nm,0.7s,mb3.7,baz=152,slow=7.2,SNR=11						

IDC ***12*** *22:58:10.7±1.6, 2810S×6736W, h124km±16km, mb3.7/6, mb1 3.8/10, mb1mx3.6/20, mbtmp3.6/10, MS2.5/1, Ms1 2.7/1, ms1mx2.4/27, Error ellipse: s-maj=27.9km s-min=13.3km az=94.0*
ISCJB ***12*** *22:58:11.1±0.8, 2813S±004×6743W±007, h144km±8km, mb4.0/12, Error ellipse: s-maj=10.9km s-min=5.9km az=169.2*
GUC ***12*** *22:58:12.3±1.1, 2811S×6752W, h150km, ML5.1*
NEIC ***12*** *22:58:12.3, 28.11S×6752W, h150km, mb4.4/6, After GUC.*
ISC 12 22:58:11.7±0.7, 2810S±004×6738W±007, h133km±7km, n46, σ0§95/53, mb4.0/12, 3C-2D, La Rioja Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPCH	**Copiapo**	**2.74**	**285**	⇑*i*P	**Pn**	**22 58 56.1**	**+1.1**
CPCH				*i*S	**Sn**	**22 59 28.3**	**-0.1**
CPCH	**Copiapo**	**2.74**	**285**	⇑*i*P	**Pn**	**22 58 56.1**	**+1.1**
CPCH				*i*S	**Sn**	**22 59 28.3**	**-0.1**
CPCH				AML	AML	22 59 35.6	
	comp=E,8μm,0.1s						
VACH	**Vallenar**	**3.02**	**260**	*i*P	**Pn**	**22 59 00.2**	**+1.7**
VACH				*e*S	**Sn**	**22 59 35.4**	**+0.6**
VACH	**Vallenar**	**3.02**	**260**	*i*P	**Pn**	**22 59 00.2**	**+1.7**
VACH				*e*S	**Sn**	**22 59 35.4**	**+0.6**
VACH				AML	AML	22 59 38.5	
	comp=N,4μm,0.3s						
LCO	**Las Campanas**	**3.06**	**252**	*e*Pn	**Pn**	**22 59 00.2**	**+1.1**
LCO				*e*Sn	**Sn**	**22 59 36.1**	**+0.3**
CDCH	**Caldera**	**3.23**	**288**	⇑*i*P	**Pn**	**22 59 01.4**	**+0.1**
CDCH				*i*S	**Sn**	**22 59 37.5**	**-2.3**
CFAA	**Coronel Fontan**	**3.57**	**192**	P	**Pn**	**22 59 06.5**	**+0.7**
	comp=N,5.0nm,0.3s,baz=10,slow=12,SNR=447						
CFAA				S	**Sn**	**22 59 46.6**	**-1.1**
	comp=N,9.9nm,0.3s,baz=250,slow=16,SNR=24						
TLL	**Tololo Astrono**	**3.64**	**235**	⇓*i*P	**Pn**	**22 59 07.8**	**+1.1**
TLL				*i*S	**Sn**	**22 59 50.1**	**+0.9**

UDYN				AML	AML	23 05 25.7
	comp=N,563nm,0.5s					
DHBB	**Dhamar BB**	**2.37**	**339**	*i* P	Pn	23 04 47.3 +2.3
DHBB				*i* S	Sn	23 05 19.4 +5.5
HAJJ	**Hajjah**	**3.70**	**334**	*i* S	Sn	23 05 53.0 +6.1
MUKL	**Al Mukalla**	**4.24**	**60**	*i* P	Pn	23 05 12.6 +1.9

CSEM ***12*** *23:07:27.4, 1235N×4524E, h8km, ML3.8, After DHMR*

DHMR 12 23:07:27.4±1.2, 1235N×4524E, h8km±9km, ML3.8, 4C-2D, Western Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRBA	**At Turbah**	**1.41**	**309**	⇑*i*P	Pn	23 07 53.7	+0.4
TRBA				*i* S	Sb	23 08 14.1	+2.0
TRBA				AML	AML	23 08 23.6	
	comp=N,2μm,0.7s						
LBOS		**1.52**	**0**	⇓*i*P	Pn	23 07 54.7	-0.1
LBOS				*i* S	Sn	23 08 17.5	+2.8
BDHA	**Al Bayda'**	**1.65**	**11**	⇑*i*P	Pn	23 07 57.3	+0.7
BDHA				*i* S	Sn	23 08 20.9	+2.9
BDHA				AML	AML	23 08 41.0	
	comp=E,2μm,0.6s						
BDHA	**Al Bayda'**	**1.65**	**11**	⇑*i*P	Pn	23 07 57.3	+0.7
BDHA				*i* S	Sn	23 08 20.9	+2.9
UDYN	**Al 'Udayn**	**2.04**	**322**	⇑*i*P	Pn	23 08 03.5	+1.5
UDYN				*i* S	Sn	23 08 30.9	+3.4
UDYN				AML	AML	23 08 46.9	
	comp=N,1μm,0.5s						
DHBB	**Dhamar BB**	**2.36**	**339**	⇓*i*P	Pn	23 08 08.9	+2.4
DHBB				*i* S	Sn	23 08 40.2	+4.6
HAJJ	**Hajjah**	**3.69**	**335**	*i* S	Sn	23 09 13.9	+5.4
MUKL	**Al Mukalla**	**4.25**	**60**	*i* P	Pn	23 08 34.2	+1.7
MUKL				*i* S	Sn	23 09 27.6	+5.2

GUC 12 23:43:27.1±0.8, 2446S×6767W, h200km, ML3.6, 1C-2D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPN1	**Cerro Paranal**	**2.50**	**266**	*e*P	Pn	23 44 13.5	+2.6
CPN1				*i* S	Sn	23 44 48.2	+3.1
CPN1				AML	AML	23 44 50.0	
	comp=E,151nm,0.4s						
CEN1	**Los Morros**	**2.55**	**294**	⇓*i*P	Pn	23 44 14.0	+2.4
CEN1				*i* S	Sn	23 44 48.8	+2.6
CEN1				AML	AML	23 44 49.9	
	comp=N,138nm,0.7s						
ANCH	**Antofagasta**	**2.62**	**287**	⇓*i*P	Pn	23 44 13.5	+1.1
ANCH				*i* S	Sn	23 44 49.0	+1.4
CDCH	**Caldera**	**3.86**	**227**	⇑*i*P	Pn	23 44 28.8	+1.8
CDCH				*i* S	Sn	23 45 16.7	+2.5

NEIC ***12*** *23:53:23.0±1.4, 2707S×178.17W, h246km±10km, mb4.1/1, Error ellipse: s-maj=24.0km s-min=16.2km az=47.0*
IDC ***12*** *23:53:23.4±2.5, 2710S×178.15W, h248km±18km, mb3.4/5, mb1 3.6/6, mb1mx3.5/15, mbtmp3.4/6, Error ellipse: s-maj=36.8km s-min=19.2km az=42.0*
ISCJB ***12*** *23:53:26.7±1.0, 2774S±008×1787W±02, h260km±8km, mb3.6/6, Error ellipse: s-maj=23.3km s-min=12.7km az=3.9*

ISC 12 23:53:28.7±0.9, 2792S±008×1788W±02, h257km±8km, n26, σ1°29/18, mb3.6/6, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.52**	**151**	P	**Pn**	**23 54 06.9**	**-0.9**
RAO				S	**S**	**23 54 39.9**	**+1.2**
RAO	**Raoul Island**	**1.52**	**151**	P	**Pn**	**23 54 06.9**	**-0.9**
	210nm,0.3s,baz=263,slow=23,SNR=7.0						
RAO				S	**S**	**23 54 39.9**	**+1.2**
	407nm,0.3s,baz=105,slow=22,SNR=10						
PUZ	**Puketiti**	**10.43**	**193**	SN	**S**	**23 57 48.2**	**-1.1**
URZ	**Urewera**	**10.87**	**197**	P	**Pn**	**23 56 04.3**	**+6.3**
	1.7nm,0.3s,baz=131,slow=8.7,SNR=7.5						
URZ				S	**S**	**23 57 58.7**	**-1.0**
	4.7nm,0.3s,baz=146,slow=21,SNR=14						
BFZ	**Birch Farm**	**13.38**	**197**	SN	Sx	23 58 54.5	
MRZ	**Mangatainoka R**	**13.54**	**199**	SN	Sx	23 58 55.6	
KIW	**Kapiti Island**	**13.92**	**200**	SN	Sx	23 59 05.3	
MRW	**Makara Radio**	**14.32**	**200**	SN	Sx	23 59 15.1	
TCW	**Tory Channel**	**14.44**	**201**	SN	Sx	23 59 17.1	
TUWZ	**Tuamarina**	**14.74**	**202**	SN	Sx	23 59 23.9	
NNZ	**Nelson**	**14.75**	**204**	SN	Sx	23 59 26.3	
THZ	**Tophouse**	**15.40**	**204**	SN	Sx	23 59 40.5	
LTZ	**Lake Taylor**	**16.52**	**204**	SN	Sx	00 00 03.6	
RPZ	**Rata Peaks**	**17.77**	**205**	S	**S**	**00 00 30.4**	**+1.5**
	0.8nm,0.3s,baz=313,slow=12,SNR=6.4						
STKA	**Stephens Creek**	**34.46**	**254**	P	**P**	**23 59 54.5**	**+2.1**
	0.4nm,0.3s,mb3.4,baz=85,slow=12,SNR=2.7						
ASAR	**Alice Springs**	**42.62**	**265**	P	**P**	**00 01 00.6**	**+0.4**
	0.9nm,0.6s,mb3.2,baz=103,slow=7.5,SNR=10						
WB2	**Warramunga Arr**	**43.37**	**270**	*e*P	**P**	**00 01 06.0**	**-0.2**
WRA	**Warramunga Arr**	**43.38**	**270**	P	**P**	**00 01 06.1**	**-0.2**
	2.6nm,0.5s,mb3.8,baz=108,slow=6.2,SNR=47						
KAKA	**Kakadu**	**47.88**	**278**	*e*P	**P**	**00 01 39.8**	**-1.6**
	11nm,1.2s,mb4.0						
VNDA	**Vanda**	**50.49**	**185**	P	**P**	**00 02 02.8**	**+2.6**
	0.9nm,0.5s,mb3.3,baz=14,slow=6.1,SNR=13						
QSPA	**South Pole Qui**	**62.18**	**180**	P	**P**	**00 03 23.4**	**+1.0**
QSPA	**South Pole Qui**	**62.18**	**180**	P	**P**	**00 03 23.4**	**+1.1**
	1.5nm,0.6s,mb3.8,baz=109,slow=3.2,SNR=8.5						
VNA3	**Neumayer Olymp**	**80.81**	**176**	*e*	**P**	**00 05 11.7**	**-1.7**
VNA2	**Neumayer--Watz**	**81.24**	**177**	*e*	**P**	**00 05 14.6**	**-1.0**
	baz=196,slow=6.0						
HFS	**Hagfors**	**146.69**	**349**	PKPbc	PKPbc	00 12 33.1	-6.4
	2.7nm,1.1s,baz=72,slow=9.3,SNR=4.3						
TORD	**Torodi Ar. Bea**	**165.29**	**182**	PKPab	PKPab	00 13 59.8	-2.0
	0.4nm,0.8s,baz=178,slow=4.4,SNR=3.9						

CSEM ***13*** *00:00:25.4±0.1, 3900N×4146E, h5km, MD2.9, Error ellipse: s-maj=2.5km s-min=2.1km az=3.0*
ISK ***13*** *00:00:25.6, 3902N×4145E, h5km, MD2.9*
ISCJB ***13*** *00:00:26.8±0.5, 3902N±003×4146E±004, h5km, Error ellipse: s-maj=4.9km s-min=3.9km az=148.3*
DDA ***13*** *00:00:27.5, 3897N×4144E, h8km±3km, Md3.2*

ISC 13 00:00:27.1±0.6, 3902N±003×4146E±004, h7km±6km, n14, σ0°89/22, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNGL	**BINGOL**	**0.25**	**255**	*i* P	**Pg**	**00 00 32.0**	**0.0**
BNGL				*i* S	**Sg**	**00 00 36.1**	**+0.7**
BINT	**Bingol**	**0.77**	**260**	*e*PG	**Pg**	**00 00 40.8**	**-1.1**
BINT				*e*SG	**Sg**	**00 00 51.8**	**-0.1**
BTMT	**Batman**	**0.82**	**178**	*e*PG	**Pg**	**00 00 43.0**	**0.0**
ERZM	**Erzurum**	**0.89**	**356**	*i* P	**Pg**	**00 00 43.2**	**-1.1**
ERZM				*i* S	**Sg**	**00 00 54.4**	**-1.4**
EZM	**Erzurum**	**0.89**	**355**	*e*PG	**Pg**	**00 00 43.6**	**-0.7**
EZM				*e*SG	**Sg**	**00 00 55.2**	**-0.6**
HOMI	**Horasan**	**1.08**	**19**	*i* P	**Pg**	**00 00 49.0**	**+1.0**
HOMI				*i* S	**Sg**	**00 01 03.2**	**+1.2**
TUTA	**Tutak**	**1.12**	**70**	*i* P	**Pg**	**00 00 48.0**	**-0.6**
TUTA				*i* S	**Sg**	**00 01 04.4**	**+1.1**
TUTA	**Tutak**	**1.12**	**70**	*i* P	**Pg**	**00 00 48.0**	**-0.7**
TUTA				*i* S	**Sg**	**00 01 04.4**	**+1.2**
KOPT	**Kop Dagi**	**1.25**	**324**	*i* P	**Pn**	**00 00 50.8**	**-0.1**
KOPT				*i* S	**Sb**	**00 01 08.0**	**+0.9**
AGRB	**Hanur-Agry**	**1.32**	**64**	*e*PN	**Pn**	**00 00 51.0**	**-0.9**
EZC	**Erzincan**	**1.47**	**300**	*e*PN	**Pg**	**00 00 58.2**	**+3.0**
SIRT	**Sirnak**	**1.70**	**153**	*e*PN	**Pn**	**00 00 56.8**	**-0.3**
CLDR	**Caldiran**	**1.92**	**85**	*e*PN	**Pn**	**00 01 00.4**	**+0.2**
GUMT	**Gumushane**	**2.10**	**314**	*e*PN	**Pn**	**00 01 02.9**	**+0.3**

NIED ***13*** *00:02:00, 3720N×13650E, h5km, Mw3.7 Best double couple: M0 3.57000×10^14 NP1:ϕs=15.00000°, δ60.00000°, λ96.00000°. NP2:ϕs183.00000°, δ30.00000°, λ80.00000°.*
ISCJB ***13*** *00:02:51.0±1.3, 3719N±006×13638E±007, h5km±8km, mb3.3/6, Error ellipse: s-maj=11.6km s-min=7.0km az=138.5*
IDC ***13*** *00:02:51.7±1.0, 3713N×13639E, h0km, mb3.4/6, mb1 3.6/6, mb1mx3.5/21, mbtmp3.4/6, Error ellipse: s-maj=28.2km s-min=12.3km az=28.0*
JMA ***13*** *00:02:53.2, 3717N×13652E, h0km, M3.7*
JMA Felt I J1.

ISC 13 00:02:52.3±1.3, 3718N±005×13642E±008, h3km±8km, n13, σ0°60/17, mb3.3/6, 1C-3D, Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JJH	**Hakui**	**0.38**	**131**	⇓P	**Pg**	**00 03 00.1**	**+0.4**
JJH				*e*S	**Sg**	**00 03 04.8**	**+0.1**
JHG	**Hegura jima**	**0.78**	**31**	⇑P	**Pg**	**00 03 07.7**	**+0.4**
JSZ	**Suzu**	**0.80**	**70**	⇓P	**Pg**	**00 03 07.3**	**-0.4**
JSZ				*e*S	**Sg**	**00 03 17.9**	**-0.2**
JTT	**Ttatey**	**0.93**	**128**	⇓P	**Pg**	**00 03 10.1**	**0.0**
JTT				*e*S	**Sg**	**00 03 22.7**	**+0.5**
MAT	**Matsushiro**	**1.57**	**113**	P	**Pn**	**00 03 20.9**	**-0.1**
MAT				S	**Sn**	**00 03 41.4**	**-0.4**
MJAR	**Matsushiro Arr**	**1.57**	**113**	Pg	**Pg**	**00 03 21.5**	**-0.9**
	34nm,0.3s,baz=300,slow=17,SNR=114						
MJAR				Lg		00 03 41.5	
	28nm,0.3s,baz=302,slow=30,SNR=15						
SONM	**Songino Array**	**24.42**	**305**	P	**P**	**00 08 11.1**	**-0.7**
	0.4nm,0.5s,mb3.1,baz=120,slow=8.5,SNR=2.4						
MKAR	**Makanchi Array**	**40.65**	**301**	P	**P**	**00 10 33.5**	**0.0**
	0.2nm,0.6s,mb2.9,baz=81,slow=9.3,SNR=3.1						
INK	**Inuvik**	**56.07**	**27**	P	**P**	**00 12 32.2**	**+0.1**
	baz=313,slow=4.3						
WRA	**Warramunga Arr**	**56.84**	**182**	P	**P**	**00 12 37.8**	**-0.3**
	0.3nm,0.5s,mb3.6,baz=358,slow=7.6,SNR=7.5						
YKA	**Yellowknife Ar**	**65.65**	**29**	P	**P**	**00 13 37.2**	**-0.2**
	0.3nm,0.8s,mb3.4,baz=303,slow=6.9,SNR=4.4						
FINES	**FINESS Array B**	**66.78**	**331**	P	**P**	**00 13 44.5**	**-0.1**
	0.2nm,0.4s,mb3.5,baz=110,slow=8.3,SNR=3.7						
PDAR	**Pinedale Array**	**80.35**	**43**	P	**P**	**00 15 06.9**	**+2.0**
	0.5nm,0.8s,mb3.5,baz=250,slow=3.0,SNR=4.0						

IDC ***13*** *00:12:22.8±1.8, 105N×12625E, h0km, mb3.7/3, mb1 3.9/4, mb1mx3.6/16, mbtmp3.7/4, ML3.5/1, Error ellipse: s-maj=114.9km s-min=22.8km az=68.0*
ISCJB ***13*** *00:12:25.8±1.3, 10N±02×126.17E±009, h33km, mb3.8/3, Error ellipse: s-maj=21.8km s-min=13.3km az=0.8*

ISC 13 00:12:27.9±1.3, 10N±01×12625E±009, h35km, n5, σ0°36/6, mb3.8/3, 1D, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNE	**Ternate**	**1.14**	**100**	⇓*e*P	**Pn**	**00 12 47.5**	**+0.2**
TNE				*e*S	**Sn**	**00 13 01.5**	**-0.2**
FITZ	**Fitzroy Crossi**	**18.97**	**182**	P	**Pn**	**00 16 46.9**	**-0.4**
	0.1nm,0.3s,baz=5.7,slow=10,SNR=3.7						
WRA	**Warramunga Arr**	**22.26**	**160**	P	**P**	**00 17 22.1**	**+0.2**
	1.5nm,0.5s,mb3.7,baz=338,slow=11,SNR=40						
ASAR	**Alice Springs**	**25.61**	**164**	P	**P**	**00 17 54.4**	**+0.3**
	1.6nm,0.3s,mb4.0,baz=346,slow=12,SNR=28						
MKAR	**Makanchi Array**	**59.54**	**326**	P	**P**	**00 22 27.8**	**-0.1**
	0.3nm,0.5s,mb3.6,baz=118,slow=6.0,SNR=9.2						

IDC ***13*** *00:17:22.1±1.0, 728S×12727E, h0km, mb4.0/4, mb1 4.1/8, mb1mx3.9/15, mbtmp4.0/8, ML4.0/4, MS3.0/1, Ms1 3.0/1, ms1mx2.6/18, Error ellipse: s-maj=36.2km s-min=18.1km az=78.0*
NEIC ***13*** *00:17:27.2±0.7, 737S×12720E, h35km, mb4.1/4, Error ellipse: s-maj=25.2km s-min=10.0km az=69.0*
ISCJB ***13*** *00:17:32.1±1.6, 778S±008×12724E±007, h121km±17km, mb4.0/6, Error ellipse: s-maj=15.8km s-min=7.8km az=36.1*

ISC 13 00:17:34.3±1.6, 790S±009×12727E±007, h128km±17km, n17, σ0°94/24, mb4.0/6, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Kupang**	**4.24**	**237**	Pn	**Pn**	**00 18 34.5**	**-2.7**
	30nm,0.3s,baz=74,slow=3.5,SNR=17						
BATI				Sn	**Sn**	**00 19 26.9**	**+0.8**
	12nm,0.3s,baz=150,slow=20,SNR=6.4						
BATI				LR	LR	00 20 30.5	
	comp=Z,176nm,21.9s,baz=108,slow=41						
KAKA	**Kakadu**	**6.98**	**134**	*e*P	**Pn**	**00 19 14.5**	**+0.5**
	8.0nm,0.4s						
KAKA				*e*S	**Sn**	**00 20 35.6**	**+3.6**
FITZ	**Fitzroy Crossi**	**10.26**	**189**	*e*P	**Pn**	**00 19 58.2**	**0.0**
	6.9nm,0.6s						
FITZ				*e*S	**Sn**	**00 21 49.7**	**-1.8**
FITZ	**Fitzroy Crossi**	**10.26**	**189**	Pn	**Pn**	**00 19 57.5**	**-0.7**
	0.6nm,0.3s,baz=32,slow=13,SNR=15						
FITZ				Sn	**Sn**	**00 21 52.0**	**+0.4**
	2.3nm,0.3s,baz=270,slow=22,SNR=11						
WRA	**Warramunga Arr**	**13.79**	**151**	Pn	**Pn**	**00 20 44.4**	**0.0**
	0.5nm,0.3s,baz=332,slow=13,SNR=9.7						
WRA				Sn	**Sn**	**00 23 16.0**	**-0.8**
	0.8nm,0.3s,baz=330,slow=22,SNR=10						
WB2	**Warramunga Arr**	**13.79**	**151**	*e*P	**Pn**	**00 20 45.0**	**+0.4**
WB2				*e*S	**Sn**	**00 23 16.6**	**-0.3**
MBWA	**Marble Bar**	**15.06**	**208**	*e*Pn	**Pn**	**00 21 03.6**	**+3.0**
	7.5nm,0.8s						
ASAR	**Alice Springs**	**16.92**	**159**	P	**Pn**	**00 21 28.1**	**+4.7**
	0.3nm,0.3s,baz=334,slow=10,SNR=21						
ASAR				S	**S**	**00 24 32.2**	**+0.2**
	0.3nm,0.3s,baz=312,slow=19,SNR=8.9						
FORT	**Forrest**	**22.77**	**178**	*e*P	**P**	**00 22 34.1**	**+8.1**
	4.8nm,0.5s,mb4.1						
STKA	**Stephens Creek**	**27.33**	**153**	*e*P	**P**	**00 23 14.9**	**+7.7**
	1.5nm,0.6s,mb3.7						
STKA	**Stephens Creek**	**27.33**	**153**	P	**P**	**00 23 14.6**	**+7.3**
	1.8nm,0.6s,mb3.8,baz=334,slow=10,SNR=5.8						
SONM	**Songino Array**	**58.49**	**344**	P	**P**	**00 27 16.6**	**-0.3**
	0.5nm,0.6s,mb3.7,baz=152,slow=6.0,SNR=3.2						
MK31	**Makanchi Array**	**67.53**	**328**	*e*P	**P**	**00 28 16.4**	**-0.3**
MK31				*e*		00 28 26.2	
MKAR	**Makanchi Array**	**67.53**	**328**	P	**P**	**00 28 17.0**	**+0.3**
	1.8nm,0.7s,mb4.0,baz=128,slow=7.8,SNR=23						
ZAA0	**Zalesovo Array**	**71.22**	**335**	*e*P	**P**	**00 28 38.9**	**-0.3**
ZAA0				*e*		00 28 47.5	
ZALV	**Zalesovo Beam**	**71.22**	**335**	P	**P**	**00 28 38.8**	**-0.4**
	2.3nm,0.7s,mb4.1,baz=123,slow=4.2,SNR=11						
KURK	**Kurchatov**	**71.90**	**330**	*e*P	**P**	**00 28 44.0**	**+0.5**
	3.0nm,0.8s,mb4.2						
KURK				*e*		00 28 52.5	

NEIC ***13*** *00:28:25.3, 3859N×2162E, h28km, MD3.3(ATH), After ATH.*
ATH ***13*** *00:28:25.3, 3859N×2162E, h28km±2km, MD3.3/4*
ISCJB ***13*** *00:28:26.7±0.5, 3854N±003×2165E±005, h25km±6km, Error ellipse: s-maj=6.5km s-min=5.2km az=31.2*
CSEM ***13*** *00:28:26.5±0.2, 3859N×2163E, h15km, ML2.8, Error ellipse: s-maj=5.8km s-min=4.5km az=113.0*
THE ***13*** *00:28:27.2, 3856N×2164E, h3km, ML2.8*

ISC 13 00:28:26.8±0.5, 3856N±003×2165E±005, h21km±6km, n13, σ1°06/20, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SELA	**Sela**	**0.34**	**146**	*e*Pg	**Pb**	**00 28 33.4**	**-0.9**
SELA				*e*Sg	**Sb**	**00 28 39.8**	**+0.4**
EVR	**Evrytania**	**0.37**	**19**	*e*PB	**Pb**	**00 28 33.8**	**-1.0**
EVR				*e*SB	**Sb**	**00 28 39.6**	**-0.6**
RLS	**Riolos of Patr**	**0.53**	**196**	*e*PN	**Pb**	**00 28 36.2**	**-1.1**
RLS				*e*SN	**Sb**	**00 28 45.5**	**+1.0**
AGG	**Agios Georgios**	**0.70**	**49**	*e*Pg	**Pb**	**00 28 40.1**	**-0.3**
AGG				*e*Sg	**Sb**	**00 28 51.4**	**+1.8**
LKD	**Levkas**	**0.80**	**281**	*e*Pg	**Pb**	**00 28 41.7**	**-0.3**
LKD				*e*Sg	**Sb**	**00 28 53.9**	**+1.6**
VLS	**Valsamata**	**0.92**	**246**	*e*PN	**Pn**	**00 28 43.0**	**-1.5**
VLS				*e*SN	**Sn**	**00 28 56.4**	**-0.7**
THL	**Klokotos Trika**	**1.04**	**16**	*e*PN	**Pn**	**00 28 45.4**	**-0.8**
THL				*e*SN	**Sn**	**00 29 00.5**	**+0.4**
LKR	**Lokris**	**1.06**	**85**	*e*PN	**Pn**	**00 28 45.6**	**-0.9**
LTK	**Loutraki**	**1.17**	**117**	*e*Pg	**Pn**	**00 28 49.0**	**+1.1**
LTK	**Loutraki**	**1.17**	**117**	*e*Pg	**Pn**	**00 28 49.0**	**+1.1**
ITM	**Ithomi**	**1.40**	**171**	*e*PN	**Pn**	**00 28 52.0**	**+0.9**
IGT	**Igoumenitsa**	**1.41**	**314**	*e*Pg	**Pn**	**00 28 54.2**	**+2.9**
NEO	**Neokhori**	**1.43**	**58**	*e*PN	**Pn**	**00 28 51.3**	**-0.3**

NIED ***13*** *00:55:00, 3670N×14420E, h8km, Mw3.6 Best double couple: M0 3.03000×10^14 NP1:ϕs195.00000°, δ65.00000°, λ-90.00000°. NP2:ϕs16.00000°, δ25.00000°, λ-89.00000°.*

JMA 13 00:55:27.9±0.3, 3669N×14424E, h51km, M3.5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**2.78**	**285**	P	Pn	00 56 10.9	+1.1
JFK				*e*S	Sn	00 56 43.2	+1.1
ONAJ	**Iwakimizuishiy**	**2.79**	**279**	P	Pn	00 56 12.0	+2.0
ONAJ				*e*S	Sn	00 56 44.1	+1.7
JHO	**Hitachi**	**2.95**	**270**	P	Pn	00 56 14.0	+1.7
JHO				*e*S	Sn	00 56 47.3	+0.8
JMK	**Ichinoseki**	**3.29**	**314**	P	Pn	00 56 18.5	+1.6
JMK				*e*S	Sn	00 56 55.3	+0.6
BSO1	**Boso 1**	**3.34**	**234**	P	Pn	00 56 18.5	+0.9
BSO3	**Boso 3**	**3.57**	**239**	P	Pn	00 56 21.6	+0.8
JAG	**Ashikaga**	**3.86**	**267**	P	Pn	00 56 26.0	+1.3
JAG				*e*S	Sn	00 57 10.6	+1.8
JRY	**Ryogami san**	**4.36**	**263**	P	Pn	00 56 33.1	+1.5
JRY				*e*S	Sn	00 57 22.6	+1.5
MAT	**Matsushiro**	**4.86**	**270**	P	Pn	00 56 39.3	+0.9
MAT				*e*S	Sn	00 57 31.3	-2.0

IDC 13 01:06:05.9±7.1, 1987S×6902W, h114km±48km, mb3.5/1, mb1 3.4/3, mb1mx3.1/18, mbtmp3.1/3, Error ellipse: s-maj=66.4km s-min=33.1km az=45.0, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**3.66**	**14**	P	Pn	01 07 01.8	+0.9
	0.6nm,0.3s,baz=192,slow=8.0,SNR=20						
LPAZ				S	Sn	01 07 44.8	+1.5
	0.2nm,0.3s,baz=83,slow=18,SNR=2.4						
SIV	**San Ignacio**	**8.49**	**64**	P	Pn	01 08 05.5	-0.6
	0.3nm,0.3s,baz=256,slow=10,SNR=9.4						
TORD	**Torodi Ar. Bea**	**76.91**	**71**	P	P	01 17 46.5	+0.2
	0.4nm,0.5s,baz=252,slow=5.2,SNR=18						
YKA	**Yellowknife Ar**	**89.62**	**341**	P	P	01 18 50.0	-0.2
	0.4nm,0.6s,baz=130,slow=4.7,SNR=17						

ISCJB ***13*** *01:15:54.0±1.3, 236S±01×666W±02, h196km±28km, Error ellipse: s-maj=32.1km s-min=13.2km az=31.2*
GUC ***13*** *01:15:57.6±0.6, 2370S×6709W, h225km, ML4.1*
IDC ***13*** *01:16:01.8±10.0, 2285S×6651W, h232km±67km, mb3.2/1, mb1 3.1/4, mb1mx3.0/17, mbtmp3.0/4, Error ellipse: s-maj=114.4km s-min=32.3km az=24.0*

ISC 13 01:15:54.9±1.2, 236S±01×666W±02, h184km±27km, n9, σ1°34/11, 2C, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEN1	**Los Morros**	**3.34**	**272**	*e*P	**Pn**	**01 16 49.8**	**+2.1**
CEN1				*i* S	**Sn**	**01 17 30.1**	**+1.1**
CEN1				AML	AML	01 17 32.3	
	comp=E,92nm,0.2s						
ANCH	**Antofagasta**	**3.52**	**268**	⇑*i*P	**Pn**	**01 16 51.2**	**+1.1**
ANCH				*i* S	**Sn**	**01 17 31.6**	**-1.6**
ANCH				AML	AML	01 17 32.6	
	comp=N,375nm,0.1s						
CPN1	**Cerro Paranal**	**3.65**	**253**	⇑*i*P	**Pn**	**01 16 53.3**	**+1.6**
CPN1				*i* S	**Sn**	**01 17 35.5**	**-0.6**
CPN1				AML	AML	01 17 37.1	
	comp=E,296nm,0.5s						
CDCH	**Caldera**	**5.19**	**227**	*i* S	**Sn**	**01 18 09.9**	**-1.6**
LPAZ	**La Paz**	**7.40**	**348**	P	**Pn**	**01 17 39.0**	**-1.2**
	comp=E,0.2nm,0.3s,baz=180,slow=9.1,SNR=7.3						
LPAZ				S	Sx	01 18 57.4	
	baz=248,slow=19,SNR=2.6						
SIV	**San Ignacio**	**9.15**	**35**	P	**Pn**	**01 18 01.9**	**-1.4**
	comp=E,1.0nm,0.3s,baz=228,slow=9.2,SNR=20						
BDFB	**Brasilia**	**19.17**	**69**	P	**P**	**01 20 05.9**	**+1.4**
	comp=E,0.2nm,0.3s,baz=239,slow=18,SNR=8.2						
TORD	**Torodi Ar. Bea**	**76.05**	**69**	P	**P**	**01 27 21.8**	**-0.6**
	comp=E,0.4nm,0.5s,baz=257,slow=5.4,SNR=13						
MKAR	**Makanchi Array**	**145.95**	**39**	PKPbc	PKPbc	01 35 12.6	0.0
	comp=E,0.2nm,0.3s,baz=316,slow=4.0,SNR=3.0						

ISCJB ***13*** *01:25:22.4±1.5, 3834N±005×203E±0.1, h11km±10km, Error ellipse: s-maj=15.1km s-min=7.7km az=163.1*
CSEM ***13*** *01:25:23.8±0.2, 3834N×2031E, h12km, MD3.5, Error ellipse: s-maj=5.3km s-min=2.1km az=71.0*
THE ***13*** *01:25:24.2, 3835N×2036E, h3km, ML2.7*
NEIC ***13*** *01:25:25.8, 3833N×2050E, h13km, MD3.5(ATH), After ATH.*
ATH ***13*** *01:25:25.8, 3833N×2050E, h13km±2km, MD3.5/4*

ISC 13 01:25:22.9±1.6, 3833N±005×203E±01, h14km±9km, n10, σ0°45/13, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.30**	**121**	⇑*i*PG	**Pg**	**01 25 29.7**	**+0.6**
VLS				*e*SG	**Sg**	**01 25 33.5**	**+0.2**
KFL	**Anninata**	**0.47**	**118**	*e*Pg	**Pg**	**01 25 32.5**	**+0.3**
LKD	**Levkas**	**0.48**	**39**	*e*Pg	**Pg**	**01 25 32.5**	**+0.1**
LKD				*e*Sg	**Sg**	**01 25 38.9**	**0.0**
RLS	**Riolos of Patr**	**0.98**	**106**	*e*PB	**Pb**	**01 25 41.6**	**-0.1**
IGT	**Igoumenitsa**	**1.20**	**2**	*e*Pg	**Pg**	**01 25 46.1**	**+0.1**
SELA	**Sela**	**1.28**	**92**	*e*Pg	**Pg**	**01 25 46.8**	**-0.8**
SELA				*e*Sg	**Sg**	**01 26 04.4**	**+0.2**
EVR	**Evrytania**	**1.34**	**64**	*e*PN	**Pn**	**01 25 47.7**	**+0.6**
KEK	**Kerkira**	**1.43**	**345**	*e*PB	**Pb**	**01 25 53.8**	**+4.6**
ITM	**Ithomi**	**1.75**	**131**	*e*PG	**Pg**	**01 25 55.7**	**-0.8**
THL	**Klokotos Trika**	**1.83**	**47**

	comp=N,2μm,0.5s					
KUR			smax			
	comp=E,5μm,0.5s					
KUR			smax			
	comp=N,13μm,13.0s					
KUR			smax			
	comp=E,8μm,13.0s					
KUR			smax			
	comp=Z,11μm,13.0s					
KUR	**Kuril'sk**	**3.79 248**	⇑ *i* P	**Pn**	**01 29 03.2**	**-1.0**
KUR			AMB	AMB	01 29 05.0	
	comp=Z,3μm,2.0s					
KUR			AMB	AMB	01 29 05.3	
	comp=Z,183nm,0.8s					
KUR			AMB	AMB	01 29 05.3	
	comp=Z,161nm,0.8s					
KUR			AMB	AMB	01 29 05.3	
	comp=Z,537nm,0.8s					
KUR			*i* S	**Sn**	**01 29 50.0**	**+2.4**
KUR			A		01 29 51.0	
	comp=Z,12μm,2.0s					
KUR			A		01 29 51.0	
	comp=Z,4μm,2.0s					
KUR			A		01 30 07.0	
	comp=Z,2μm,0.5s					
KUR			A		01 30 07.0	
	comp=Z,5μm,0.5s					
KUR			AMS	AMS	01 30 40.0	
	comp=Z,11μm,13.0s					
KUR			AMS	AMS	01 30 40.0	
	comp=Z,13μm,13.0s					
KUR			AMS	AMS	01 30 40.0	
	comp=Z,8μm,13.0s					
SKR	**Severo-Kuril's**	**4.47 28**	*e*P	**Pn**	**01 29 12.5**	**-1.0**
SKR			AMB	AMB	01 29 16.0	
	comp=Z,2μm,2.0s					
SKR			AMB	AMB	01 29 16.7	
	comp=Z,680nm,0.5s					
SKR			AMB	AMB	01 29 16.7	
	comp=Z,190nm,0.5s					
SKR			AMB	AMB	01 29 16.7	
	comp=Z,2μm,0.5s					
SKR			pP		01 29 21.9	
SKR			*e*S	**Sn**	**01 30 03.0**	**-1.2**
SKR			A		01 30 27.0	
	comp=Z,3μm,4.0s					
SKR			A		01 30 27.0	
	comp=Z,4μm,4.0s					
SKR			A		01 30 27.0	
	comp=Z,3μm,4.0s					
SKR			A		01 30 27.0	
	comp=Z,4μm,4.0s					
SKR			A		01 30 27.0	
	comp=Z,2μm,0.5s					
SKR			A		01 30 27.0	
	comp=Z,1μm,0.5s					
SKR			A		01 30 27.0	
	comp=Z,750nm,0.5s					
SKR			AMS	AMS	01 31 00.0	
	comp=Z,4μm,10.0s					
SKR			AMS	AMS	01 31 00.0	
	comp=Z,3μm,10.0s					
SKR			AMS	AMS	01 31 00.0	
	comp=Z,8μm,10.0s					
SKR			AMS	AMS	01 31 00.0	
	comp=Z,4μm,10.0s					
SKR			AMS	AMS	01 31 00.0	
	comp=Z,3μm,10.0s					
SKR			AMS	AMS	01 31 00.0	
	comp=Z,8μm,10.0s					
YUK	**Yuzh-Kuril'sk**	**5.63 243**	*e*P	**Pn**	**01 29 30.3**	**+0.9**
YUK			AMB	AMB	01 29 30.9	
	comp=Z,190nm,0.5s					
YUK			AMB	AMB	01 29 30.9	
	comp=Z,270nm,0.5s					
YUK			AMB	AMB	01 29 40.9	
	comp=Z,2μm,2.0s					
YUK			AMB	AMB	01 29 40.9	
	comp=Z,2μm,3.0s					
YUK			AMB	AMB	01 29 40.9	
	comp=Z,2μm,1.0s					
YUK			*i* S	**Sn**	**01 30 35.0**	**+2.3**
YUK			A		01 30 36.3	
	comp=Z,7μm,0.7s					
YUK			A		01 30 36.3	
	comp=Z,3μm,0.6s					
YUK			A		01 30 38.5	
	comp=Z,7μm,3.0s					
YUK			A		01 30 38.5	
	comp=Z,5μm,3.0s					
YUK			AMS	AMS	01 31 49.8	
	comp=Z,10μm,16.0s					
YUK			AMS	AMS	01 31 49.8	
	comp=Z,8μm,16.0s					
YUK			AMS	AMS	01 31 49.8	
	comp=Z,5μm,14.0s					
NEM2	**Nemuro 2**	**6.07 238**	P	**Pn**	**01 29 34.3**	**-1.2**
NEM2			*e*S	**Sn**	**01 30 42.3**	**-1.5**
JRA	**Rausu**	**6.13 245**	P	**Pn**	**01 29 38.3**	**+1.9**
JRA			*e*S	**Sn**	**01 30 49.8**	**+4.6**
JNK	**Nakash**	**6.57 244**	P	**Pn**	**01 29 43.5**	**+1.2**
JNK			*e*S	**Sn**	**01 30 57.1**	**+1.2**
JTKR	**Abashiri--Toko**	**6.89 249**	P	**Pn**	**01 29 49.1**	**+2.4**
JAK	**Akkeshi**	**6.91 240**	P	**Pn**	**01 29 45.5**	**-1.5**
JAK			*e*S	**Sn**	**01 31 00.4**	**-3.9**
YSS	**Yuzh-Sakhalins**	**6.92 275**	*e*Pn	**Pn**	**01 29 49.5**	**+2.4**
YSS	**Yuzh-Sakhalins**	**6.92 275**	κ*e*PN	**Pn**	**01 29 51.3**	**+4.2**
YSS			*e*		01 31 16.0	
YSS			pmax	pmax		
	comp=N,50nm,0.8s					
YSS			pmax	pmax		
	comp=E,60nm,0.8s					
YSS			pmax	pmax		
	comp=Z,50nm,0.8s					
YSS			MLR	MLR		
	comp=E,4μm,18.0s					
YSS			MLR	MLR		
	comp=Z,4μm,18.0s					
YSS	**Yuzh-Sakhalins**	**6.92 275**	⇓ *e*P	**Pn**	**01 29 51.3**	**+4.2**
YSS			AMB	AMB	01 29 56.0	
	comp=Z,50nm,0.8s					
YSS			AMB	AMB	01 29 56.0	
	comp=Z,60nm,0.8s					
YSS			AMB	AMB	01 29 56.0	
	comp=Z,50nm,0.8s					
YSS			*e*S	**Sn**	**01 31 07.5**	**+3.1**
YSS			A		01 31 12.0	
	comp=Z,80nm,0.5s					
YSS			A		01 31 12.0	
	comp=Z,150nm,0.8s					
YSS			*e*LQ		01 31 27.0	
YSS			*e*LR	LR	01 31 52.0	
YSS			AMS	AMS	01 32 07.0	
	comp=Z,4μm,18.0s					
YSS			AMS	AMS	01 32 07.0	
	comp=Z,4μm,18.0s					
JMP	**Maruseppu**	**7.22 251**	P	**Pn**	**01 29 54.0**	**+2.7**
PET	**Petropavlovsk**	**7.29 29**	*e*Pn	**Pn**	**01 29 52.8**	**+0.7**
PET			*e*Sn	**Sn**	**01 31 22.9**	**+9.3**
PET	**Petropavlovsk**	**7.29 29**	*e*PN	**Pn**	**01 29 51.7**	**-0.5**
PET			pmax	pmax		
	comp=Z,400nm,3.4s					
PET			pmax	pmax		
	comp=Z,138nm,0.6s					
PET			pmax	pmax		
	comp=Z,200nm,15.1s					
PET			MLR	MLR		
	comp=Z,2μm,18.0s					
PET			MLR	MLR		
	comp=Z,2μm,16.0s					
JAR	**Ashorobuto**	**7.31 245**	P	**Pn**	**01 29 53.5**	**+1.0**
JAR			*e*S	**Sn**	**01 31 16.5**	**+2.4**
JSE	**Soyaes**	**7.39 259**	P	**Pn**	**01 29 59.2**	**+5.7**
JOB	**Onbets**	**7.48 242**	P	**Pn**	**01 29 55.2**	**+0.4**
JOB			*e*S	**Sn**	**01 31 18.1**	**-0.3**
UGL	**Uglegorsk**	**7.59 292**	*e*PN	**Pn**	**01 30 00.5**	**+4.1**
UGL			S	**Sn**	**01 31 26.0**	**+4.9**
UGL			pmax	pmax		
	comp=Z,140nm,0.9s					
UGL			pmax	pmax		
	comp=Z,400nm,2.0s					
UGL			smax			
	comp=N,98nm,0.7s					
UGL			smax			
	comp=E,120nm,0.7s					
UGL			smax			
	comp=N,500nm,4.0s					
UGL			smax			
	comp=E,1μm,4.0s					
UGL			MLR	MLR		
	comp=Z,2μm,16.0s					
UGL			MLR	MLR		
	comp=N,2μm,14.0s					
UGL			MLR	MLR		
	comp=E,2μm,16.0s					
UGL	**Uglegorsk**	**7.59 292**	*e*P	**Pn**	**01 30 00.5**	**+4.1**
UGL			AMB	AMB	01 30 04.0	
	comp=E,400nm,2.0s					
UGL			AMB	AMB	01 30 04.0	
	comp=E,140nm,0.9s					
UGL			pP		01 30 10.0	
UGL			*e*S0		01 31 26.0	
UGL			A		01 31 36.0	
	comp=E,98nm,0.7s					
UGL			A		01 31 36.0	
	comp=E,120nm,0.7s					
UGL			A		01 31 40.0	
	comp=E,500nm,4.0s					
UGL			A		01 31 40.0	
	comp=E,1μm,4.0s					
UGL			A		01 31 40.0	
	comp=E,500nm,6.0s					
UGL			*e*L		01 31 52.0	
UGL			AMS	AMS	01 33 10.0	
	comp=E,2μm,14.0s					
UGL			AMS	AMS	01 33 10.0	
	comp=E,2μm,16.0s					
UGL			AMS	AMS	01 33 10.0	
	comp=E,2μm,16.0s					
ASAJ	**Asahikawa**	**7.68 253**	P	**Pn**	**01 30 01.7**	**+4.1**
ASAJ	**Asahikawa**	**7.68 253**	PN	**Pn**	**01 30 01.3**	**+3.7**
ASAJ			S	**Sn**	**01 31 30.2**	**+7.0**
ASAJ			pmax	pmax		
	comp=Z,8.0nm,0.3s					
ASAJ			smax			
	comp=N,4.0nm,0.3s					
ASAJ			MLR	MLR		
	comp=Z,3μm,19.5s					
ASAJ	**Asahikawa**	**7.68 253**	P	**Pn**	**01 30 01.3**	**+3.7**
	comp=Z,7.5nm,0.3s,baz=86,slow=15,SNR=81					
ASAJ			S	**Sn**	**01 31 30.2**	**+7.0**
	comp=Z,4.0nm,0.3s,baz=67,slow=17,SNR=1.6					
ASAJ			LR	LR	01 32 49.9	
	comp=Z,3μm,19.5s,baz=350,slow=36					
JKK2	**Kamakawa 2**	**7.68 251**	P	**Pn**	**01 30 00.5**	**+2.9**
JWK2	**Keihoku**	**7.75 263**	P	**Pn**	**01 30 04.7**	**+6.1**
TYV	**Tymovskoe**	**7.86 305**	*e*P	**Pn**	**01 30 00.5**	**+0.5**
TYV			AMB	AMB	01 30 05.0	
	comp=Z,15nm,0.8s					
TYV			AMB	AMB	01 30 05.0	
	comp=Z,19nm,0.8s					
TYV			AMB	AMB	01 30 05.0	
	comp=Z,18nm,1.0s					
JCH	**Churui**	**7.93 242**	P	**Pn**	**01 30 00.5**	**-0.5**
JCH			S	**Sn**	**01 31 26.5**	**-2.9**
JSS	**Shosan**	**8.06 257**	P	**Pn**	**01 30 08.7**	**+5.8**
JFR	**Furan**	**8.11 247**	P	**Pn**	**01 30 05.9**	**+2.4**
JAB	**Ashibetsu**	**8.19 250**	P	**Pn**	**01 30 07.7**	**+3.2**
JHR	**Hokuryu**	**8.41 253**	P	**Pn**	**01 30 11.7**	**+4.2**
JEM	**Erimo**	**8.41 239**	P	**Pn**	**01 30 08.0**	**+0.4**
JEM			*e*S	**Sn**	**01 31 40.7**	**-0.5**
ERM	**Erimo**	**8.41 239**	*e*Pn	**Pn**	**01 30 08.0**	**+0.4**
	comp=Z,212nm,0.8s					
ERM			*e*Sn	**Sn**	**01 31 43.1**	**+1.9**
ERM	**Erimo**	**8.41 239**	*e*PN	**Pn**	**01 30 08.0**	**+0.4**
ERM			pmax	pmax		
	comp=Z,212nm,0.8s					
JBT2	**Biratori 2**	**8.46 246**	P	**Pn**	**01 30 08.4**	**+0.2**
JBT2			*e*S	**Sn**	**01 31 42.8**	**+0.5**
JNBK	**Urakawa-nobuka**	**8.49 242**	P	**Pn**	**01 30 08.8**	**+0.1**
JNBK			*e*S	**Sn**	**01 31 41.5**	**-1.7**
JEW	**Eniwo**	**9.00 248**	P	**Pn**	**01 30 16.3**	**+0.6**
JEW			*e*S	**Sn**	**01 32 10.8**	**+15**
OKH	**Okha**	**9.28 320**	*e*rx	rx	01 30 34.0	
OKH			*e*LQ		01 32 52.4	
OKH			AMS	AMS	01 35 46.0	
	comp=Z,2μm,10.0s					
OKH			AMS	AMS	01 35 46.0	
	comp=Z,2μm,13.0s					
OKH			AMS	AMS	01 35 46.0	
	comp=Z,2μm,13.0s					
JSK	**Shakotan**	**9.39 253**	P	**Pn**	**01 30 23.6**	**+2.5**
JNB	**Noboribetsu**	**9.45 247**	P	**Pn**	**01 30 22.9**	**+1.0**
JNB			*e*S	**Sn**	**01 32 05.0**	**-1.8**
JKB	**Kayabe**	**9.77 244**	P	**Pn**	**01 30 26.1**	**-0.1**
JKB			*e*S	**Sn**	**01 32 09.1**	**-5.4**
JSH	**Shimam**	**10.00 250**	P	**Pn**	**01 30 31.0**	**+1.6**
JSH			*e*S	**Sn**	**01 32 25.5**	**+5.3**
JOT	**Ohata**	**10.05 242**	P	**Pn**	**01 30 27.7**	**-2.4**
JOT			*e*S	**Sn**	**01 32 15.0**	**-6.5**
JYM2	**Yakumo 2**	**10.06 247**	P	**Pn**	**01 30 30.9**	**+0.7**
NKL	**Nikolayevsk**	**10.09 314**	*e*P	**Pn**	**01 30 30.0**	**-0.6**
NKL			AMB	AMB	01 30 33.5	
	comp=Z,13nm,1.0s					
NKL			AMB	AMB	01 30 33.5	
	comp=Z,26nm,1.0s					
NKL			sP		01 30 45.0	
NKL			*e*L		01 32 44.0	
NKL			AMS	AMS	01 35 08.0	
	comp=Z,1μm,14.0s					
NKL			AMS	AMS	01 35 08.0	
	comp=Z,1μm,14.0s					
JSR	**Shiriuchi**	**10.35 244**	P	**Pn**	**01 30 33.1**	**-1.1**
JSR			*e*S	**Sn**	**01 32 24.0**	**-4.8**
JTM	**Tenmabayashi**	**10.40 239**	P	**Pn**	**01 30 32.7**	**-2.2**
JTM			*e*S	**Sn**	**01 32 21.1**	**-9.0**
JANG	**Nango**	**10.41 236**	P	**Pn**	**01 30 32.1**	**-2.9**
JANG			*e*S	**Sn**	**01 32 20.8**	**-10**
JTH	**Tanohata**	**10.51 233**	P	**Pn**	**01 30 33.2**	**-3.2**
JTH			*e*S	**Sn**	**01 32 22.3**	**-10**
JOSM	**Okushiri--Mats**	**10.64 249**	P	**Pn**	**01 30 38.4**	**+0.2**
JOM	**Ohasama**	**11.15 233**	P	**Pn**	**01 30 42.0**	**-3.1**
JOM			*e*S	**Sn**	**01 32 39.6**	**-8.9**
OFUJ	**Ofunato**	**11.23 231**	P	**Pn**	**01 30 42.1**	**-4.1**
OFUJ			*e*S	**Sn**	**01 32 40.8**	**-10**
TEY	**Ternei**	**11.45 267**	*e*P	**Pn**	**01 30 54.0**	**+4.8**
TEY			AMS	AMS	01 35 20.0	
	comp=Z,2μm,15.0s					
TEY			AMS	AMS	01 35 20.0	
	comp=Z,2μm,15.0s					
TEY			AMS	AMS	01 35 20.0	
	comp=Z,3μm,15.0s					
JRG	**Rokugo**	**11.57 235**	P	**Pn**	**01 30 48.5**	**-2.4**
JRG			*e*S	**Sn**	**01 32 51.8**	**-6.9**
JIO	**Ouri**	**11.86 230**	P	**Pn**	**01 30 50.7**	**-4.1**
JIO			*e*S	**Sn**	**01 32 55.4**	**-10**
JMM	**Marumori**	**12.59 229**	P	**Pn**	**01 31 02.1**	**-2.7**
JMM			*e*S	**Sn**	**01 33 14.8**	**-8.8**
JYA	**Atsumi**	**12.64 234**	P	**Pn**	**01 31 02.9**	**-2.6**
MA2	**Magadan**	**12.88 355**	*e*Pn	**Pn**	**01 31 10.6**	**+2.0**
	comp=Z,56nm,0.5s					
MA2	**Magadan**	**12.88 355**	*i* PN	**Pn**	**01 31 11.1**	**+2.5**
JSD	**Sado**	**13.85 236**	P	**Pn**	**01 31 18.0**	**-4.0**
KLR	**Kul'dur**	**14.32 288**	*e*P	**Pn**	**01 31 26.0**	**-2.4**
KLR			*e*		01 34 16.5	
KLR			MLR	MLR		
	comp=Z,3μm,13.5s					
MAJO	**Matsushiro**	**14.95 232**	*e*Pn	**Pn**	**01 31 32.9**	**-4.0**
MAT	**Matsushiro**	**14.95 232**	P	**Pn**	**01 31 33.7**	**-3.2**
MAT			S	**Sn**	**01 34 22.0**	**+0.8**
MAT	**Matsushiro**	**14.95 232**	P	**Pn**	**01 31 32.4**	**-4.5**
MJAR	**Matsushiro Arr**	**14.95 232**	P	**Pn**	**01 31 33.9**	**-3.0**
MJAR			pmax	pmax		
	comp=Z,1.0nm,0.3s					
MJAR	**Matsushiro Arr**	**14.95 232**	P	**Pn**	**01 31 33.9**	**-3.0**
	comp=Z,0.9nm,0.3s,baz=30,slow=13,SNR=19					
SMY	**Shemya**	**14.95 59**	*e*P	**Pn**	**01 31 34.6**	**-2.2**
	comp=Z,90nm,0.4s					
SMY	**Shemya**	**14.95 59**	*e*P	**Pn**	**01 31 34.6**	**-2.2**
SMY			pmax	pmax		
	comp=Z,90nm,0.4s					
JRY	**Ryogami san**	**14.97 229**	P	**Pn**	**01 31 34.3**	**-2.9**
JRY			*e*S	**Sn**	**01 34 13.3**	**-8.5**
JGF	**Kuroka**	**16.11 232**	P	**Pn**	**01 31 51.8**	**-0.1**
SEY	**Seymchan**	**16.19 359**	⇑ *e*P	**Pn**	**01 31 54.1**	**+1.3**
MDJ	**Mudanjiang**	**16.37 271**	P	**Pn**	**01 31 56.0**	**+0.7**
MDJ			AP	pP	01 32 04.0	-3.0
MDJ			XP	sP	01 32 07.3	-4.2
MDJ			S	**S**	**01 34 57.7**	**-9.4**
MDJ			PCP	PcP	01 36 48.4	+1.9
MDJ			SCP	ScP	01 40 21.6	+3.6
MDJ			PCS	PcS	01 40 24.3	+2.2
MDJ			SCS	ScS	01 44 00.8	+3.8
MDJ			AMB	AMB		
	comp=Z,16nm,0.7s					
MDJ			AMB	AMB		
	comp=Z,260nm,5.6s					
MDJ			LR	LR		
	comp=N,318nm,12.3s					
MDJ			LR	LR		
	comp=E,1μm,16.0s					
MDJ			LR	LR		
	comp=Z,1μm,20.9s					
MDJ	**Mudanjiang**	**16.37 271**	*e*Pn	**Pn**	**01 31 53.7**	**-1.6**
	comp=Z,14nm,0.8s					
JWT	**Wachi**	**17.42 235**	P	**Pn**	**01 32 06.9**	**-1.5**
JWT			*e*S	**S**	**01 35 21.7**	**-6.8**
ZEA	**Zeya**	**17.72 303**	*e*P	**Pn**	**01 32 13.4**	**+1.5**
ZEA			AMB	AMB	01 32 21.5	
	comp=Z,21nm,1.2s					
ZEA			AMB	AMB	01 32 22.0	
	comp=Z,400nm,6.0s					
ZEA			AMB	AMB	01 32 22.0	
	comp=Z,400nm,6.0s					
ZEA			sP	sP	01 32 32.6	+6.3
ZEA			A		01 35 54.0	
	comp=Z,800nm,12.0s					
ZEA			A		01 35 54.0	
	comp=Z,500nm,12.0s					
ZEA			A		01 35 54.0	
	comp=Z,500nm,13.0s					
CN2	**Changchun**	**19.46 271**	*e*P	**Pn**	**01 32 34.9**	**+1.7**
CN2			*e*XP	sP	01 32 45.1	-0.5
CN2			*e*S	**S**	**01 36 07.0**	**-2.7**
CN2			AMB	AMB		
	comp=Z,10.0nm,0.6s					
CN2			AMB	AMB		
	comp=Z,200nm,3.0s					
CN2			LR	LR		
	comp=N,760nm,17.0s					
CN2			LR	LR		
	comp=E,950nm,17.0s					
CN2			LR	LR		
	comp=Z,1μm,16.0s					
NRGR	**Nerungri**	**19.89 310**	*e*P	pP	01 32 51.8	+6.2
NRGR			S	**S**	**01 36 19.0**	**+1.0**
NRGR			smax			
	comp=N,35nm,0.5s					
YAK	**Yakutsk**	**20.19 328**	P	**P**	**01 32 38.6**	**-0.9**
YAK	**Yakutsk**	**20.19 328**	*e*P	pP	01 32 53.1	+4.2
YAK			*i* *PP	pP	01 32 58.7	+10
YAK			*e*		01 33 07.7	
YAK			*e*SS		01 36 49.5	
YAK			pmax	pmax		
	comp=Z,21nm,0.8s					
YAK			pmax	pmax		
	comp=N,11nm,1.3s					
YAK			pmax	pmax		
	comp=E,12nm,1.3s					
YAK			pmax	pmax		
	comp=Z,47nm,1.3s					
YAK			MLR	MLR		
	comp=N,400nm,16.0s,MS4.1					
YAK			MLR	MLR		
	comp=Z,300nm,16.0s,MS3.7					
YAK			MLR	MLR		
	comp=E,500nm,15.0s,MS4.1					
KSRS	**Korea Array**	**20.63 252**	P	**P**	**01 32 44.7**	**+0.2**
	comp=E,11nm,0.7s,baz=60,slow=8.5,SNR=21					
KSRS			LR	LR	01 41 46.0	
	comp=E,800nm,18.5s,MS4.1,baz=64,slow=39					
KS15	**Wonju Array Si**	**20.66 252**	*e*Pn	**P**	**01 32 49.0**	**+4.2**
CBIJ	**Chichi jima**	**21.38 207**	LR	LR	01 40 07.5	
	comp=E,380nm,21.4s,MS3.8,baz=36,slow=34					
JNU	**Nakatsue**	**21.57 239**	P	**P**	**01 32 54.8**	**0.0**
JNU			LR	LR	01 41 53.6	
JNU	**Nakatsue**	**21.57 239**	P	**P**	**01 32 54.9**	**+0.2**
JNU	**Nakatsue**	**21.57 239**	P	**P**	**01 32 54.8**	**0.0**
	comp=E,22nm,0.8s,mb4.7,baz=126,slow=16,SNR=8.5					
JNU			LR	LR	01 41 53.6	
	comp=E,473nm,19.6s,MS3.9,baz=37,slow=38					
HIA	**Hailar**	**22.18 289**	*e*P	**P**	**01 32 56.4**	**-4.6**
BILL	**Bilibino**	**22.41 13**	*e*P	**P**	**01 33 02.5**	**-0.8**
	comp=E,7.2nm,0.4s,mb4.5					
BILL	**Bilibino**	**22.41 13**	*i* P	**P**	**01 33 02.7**	**-0.6**
BILL			*e*		01 33 26.7	
BILL			pmax	pmax		
	comp=Z,7.0nm,1.2s,mb4.0					
BILL			MLR	MLR		
	comp=Z,1μm,18.0s,MS4.4					
BOD	**Bodaibo**	**25.82 310**	*e*P	**P**	**01 33 35.9**	**0.0**
BOD			pmax	pmax		
	comp=Z,3.0nm,1.4s,mb3.6					
BOD			pmax	pmax		
	comp=Z,7.0nm,1.3s,mb4.0					
CIT	**Chita**	**25.86 296**	*e*P	pP	01 33 48.8	+2.4
GAMB	**Gambell**	**25.91 36**	*e*P	**P**	**01 33 36.7**	**+0.1**
AKUT	**Akutan**	**27.03 59**	*e*P	**P**	**01 33 39.2**	**-7.6**
	comp=Z,520nm,2.0s,mb5.7					
AKUT			LR	LR		
	comp=Z,500nm,20.0s,MS4.1					
BJI	**Beijing**	**27.29 269**	P	**P**	**01 33 53.9**	**+4.6**
BJI			AMB	AMB		
	comp=Z,12nm,0.7s,mb4.5					
BJI			LR	LR		
	comp=N,670nm,16.2s,MS4.6					
BJI			LR	LR		
	comp=E,1μm,18.2s,MS4.6					
BJI			LR	LR		
	comp=Z,1μm,22.7s,MS4.5					
TIXI	**Tiksi**	**27.39 344**	*e*P	**P**	**01 33 49.8**	**0.0**
TIXI			pmax	pmax		
	comp=Z,1.0nm,1.0s					
TNA	**Tin City**	**28.11 34**	*e*P	**P**	**01 33 56.9**	**+0.5**
	comp=Z,16nm,0.9s,mb4.7					
TNA			*e*PP	PP	01 34 59.0	-1.1
SSE	**Sheshan**	**28.93 249**	P	**P**	**01 34 01.8**	**-2.2**
SSE			S	**S**	**01 38 53.3**	**+1.1**
SSE			XS	sS	01 39 07.5	-1.5
SSE			AMB	AMB		
	comp=Z,35nm,0.7s,mb5.2					
SSE			LR	LR		
	comp=N,236nm,20.2s,MS4.2					
SSE			LR	LR		
	comp=E,497nm,20.2s,MS4.2					
SSE			LR	LR		
	comp=Z,654nm,21.2s,MS4.2					
NJ2	**Nanjing**	**29.82 253**	*e*P	**P**	**01 34 14.9**	**+3.0**
NJ2			AMB	AMB		
	comp=Z,40nm,0.6s,mb5.3					
HHC	**Hu-ho-hao-te**	**30.10 274**	*e*P	**P**	**01 34 17.4**	**+3.1**
HHC			AP	pP	01 34 27.4	+2.9
HHC			XP	sP	01 34 30.9	+2.1
HHC			PP	PP	01 35 16.1	-6.3
HHC			S	**S**	**01 39 17.7**	**+7.3**
HHC			XS	sS	01 39 30.6	+3.4
HHC			PCS	PcS	01 41 02.0	+3.5
HHC			SCS	ScS	01 44 51.7	+1.8
HHC			AMB	AMB		
	comp=Z,13nm,1.2s,mb4.5					
HHC			AMB	AMB		
	comp=Z,109nm,3.9s					
HHC			LR	LR		
	comp=N,752nm,16.3s,MS4.5					
HHC			LR	LR		
	comp=E,645nm,15.7s,MS4.5					
HHC			LR	LR		
	comp=Z,771nm,18.4s,MS4.4					
ULN	**Ulaanbaatar**	**30.71 289**	P	**P**	**01 34 20.9**	**+1.3**
	comp=Z,3.5nm,0.4s,mb4.5					
ULN	**Ulaanbaatar**	**30.71 289**	P	**P**	**01 34 20.9**	**+1.3**
ULN			pmax	pmax		
	comp=Z,3.0nm,0.4s,mb4.5					
SONM	**Songino Array**	**31.14 289**	P	**P**	**01 34 25.2**	**+1.8**
SONM			pmax	pmax		
	comp=Z,3.0nm,0.9s					
SONM			MLR	MLR		
	comp=Z,970nm,18.0s					
SONM	**Songino Array**	**31.14 289**	P	**P**	**01 34 25.2**	**+1.8**
	comp=Z,3.3nm,0.9s,mb4.2,baz=80,slow=7.1,SNR=7.4					
SONM			LR	LR	01 48 01.0	
	comp=Z,970nm,18.0s,MS4.5,baz=61,slow=38					
ZAK	**Zakamensk**	**32.49 295**	*e*P	**P**	**01 34 35.4**	**+0.2**
ZAK			pmax	pmax		
	comp=Z,2.0nm,1.2s,mb3.8					
TTA	**Tatalina**	**32.52 42**	*e*P	**P**	**01 34 35.9**	**+0.6**
SVW2	**Sparrevohn**	**32.60 45**	*e*P	**P**	**01 34 36.0**	**-0.1**

TATO Taipei 33.10 240 P **P** **01 34 40.8 0.0**
IMA2 Indian Mountai 33.89 36 *e*P **P** **01 34 47.3 +0.1**
XAN Xi'an 35.33 265 P **P** **01 35 00.6 +0.6**
XAN AP pP 01 35 11.7 +1.4
XAN PP PP 01 36 24.5 +4.1
XAN PPP 01 36 42.0
XAN S **S** **01 40 35.7 +4.0**
XAN SCP ScP 01 41 08.1 -4.4
XAN SCS ScS 01 45 14.0 -2.8
XAN AMB AMB
comp=Z,15nm,0.8s,mb5.0
XAN LR LR
comp=N,372nm,15.3s,MS4.5
XAN LR LR
comp=E,459nm,15.3s,MS4.5
XAN LR LR
comp=Z,737nm,17.6s,MS4.5
MCK McKinley 35.75 40 *e*P **P** **01 35 03.6 +0.3**
comp=Z,18nm,1.0s,mb5.0
MCK *e* pP 01 35 14.8 +1.3
MCK McKinley 35.75 40 *e*P **P** **01 35 03.6 +0.3**
MCK *e* pP 01 35 14.8 +1.2
MCK pmax pmax
comp=Z,18nm,1.0s,mb5.0
SML Sawmill 36.08 44 *e*P **P** **01 35 06.0 -0.1**
SML *e* pP 01 35 18.3 +1.9
COLA College 36.23 38 *e*P **P** **01 35 07.9 +0.5**
comp=Z,21nm,0.7s,mb5.2
COLA *e* pP 01 35 19.8 +2.2
COLA College 36.23 38 *e*P **P** **01 35 07.9 +0.5**
COLA *e* pP 01 35 19.8 +2.1
COLA pmax pmax
comp=Z,21nm,0.7s,mb5.2
LZH Lanzhou 37.70 272 *e*P **P** **01 35 21.5 +1.3**
LZH AP pP 01 35 29.0 -1.5
LZH XP sP 01 35 32.5 -2.3
LZH PP PP 01 36 50.6 +4.1
LZH *e*S **S** **01 41 10.7 +2.9**
LZH *e*SS SS 01 43 43.4 -10
LZH AMB AMB
comp=Z,26nm,1.2s,mb4.8
LZH AMB AMB
comp=Z,95nm,5.5s
LZH LR LR
comp=N,747nm,13.8s
LZH LR LR
comp=Z,1µm,17.9s,MS4.7
GTA Gaotai 38.78 279 *e*P **P** **01 35 30.7 +1.5**
GTA AP pP 01 35 39.3 -0.3
GTA XP sP 01 35 43.6 -0.3
GTA PP PP 01 37 03.7 +5.4
GTA PPP 01 37 27.3
GTA S **S** **01 41 25.7 +1.6**
GTA XS sS 01 41 41.5 +0.3
GTA SS SS 01 44 08.9 -6.6
GTA AMB AMB
comp=Z,5.0nm,0.7s,mb4.3
GTA AMB AMB
comp=Z,141nm,6.5s
GTA LR LR
comp=N,409nm,16.4s,MS4.5
GTA LR LR
comp=E,309nm,15.3s,MS4.5
GTA LR LR
comp=Z,553nm,18.3s,MS4.4
EGAK Eagle 39.09 38 *e*P **P** **01 35 30.8 -0.8**
comp=Z,12nm,0.7s,mb4.7
EGAK *e* 01 35 43.8
DAWY Dawson 39.94 39 *e*P **P** **01 35 39.2 +0.6**
DAWY *e* 01 35 52.2
CD2 Chengdu 40.69 265 P **P** **01 35 45.8 +0.6**
CD2 AP pP 01 35 52.7 -2.9
CD2 XP sP 01 35 55.9 -4.0
CD2 PP PP 01 37 24.2 +4.9
CD2 S **S** **01 41 55.2 +2.3**
CD2 SS SS 01 44 50.1 -3.9
CD2 AMB AMB
comp=Z,10.0nm,0.5s,mb4.7
CD2 AMB AMB
comp=Z,30nm,5.8s
CD2 LR LR
comp=N,120nm,12.6s,MS4.2
CD2 LR LR
comp=E,150nm,11.8s,MS4.2
CD2 LR LR
comp=Z,160nm,14.4s,MS4.0
GYA Guiyang 41.54 257 P **P** **01 35 52.9 +0.7**
GYA AP pP 01 36 02.4 -0.2
GYA XP sP 01 36 06.2 -0.7
GYA PP PP 01 37 33.9 +5.4
GYA PCP PcP 01 37 52.4 +3.3
GYA SCP ScP 01 41 39.2 +2.9
GYA S **S** **01 42 08.2 +2.7**
GYA SS SS 01 45 06.7 -4.2
GYA SCS ScS 01 45 54.0 +1.2
GYA AMB AMB
comp=Z,10.0nm,0.8s,mb4.5
GYA AMB AMB
comp=Z,70nm,6.7s
GYA LR LR
comp=N,470nm,18.6s,MS4.5
GYA LR LR
comp=E,460nm,19.4s,MS4.5
GYA LR LR
comp=Z,390nm,19.6s,MS4.3
INK Inuvik 41.73 32 *e*P **P** **01 35 53.3 +0.1**
comp=Z,440nm,0.6s
INK Inuvik 41.73 32 P **P** **01 35 53.0 -0.2**
comp=Z,13nm,0.5s,mb4.8,baz=293,slow=6.5,SNR=55
ZALV Zalesovo Beam 42.44 306 P **P** **01 35 57.7 -1.5**
ZALV PcP PcP 01 37 51.7 0.0
ZALV LR LR 01 54 22.1
ZALV Zalesovo Beam 42.44 306 P **P** **01 35 57.7 -1.5**
comp=Z,0.9nm,0.5s,mb3.7,baz=57,slow=6.0,SNR=4.2
ZALV PcP PcP 01 37 51.7 0.0
comp=Z,0.7nm,0.4s,baz=74,slow=2.6,SNR=2.8
ZALV LR LR 01 54 22.1
comp=Z,215nm,19.0s,MS4.1,baz=69,slow=37
ZAL Zalesovo 42.45 306 P **P** **01 35 57.7 -1.7**
ZAL 01 37 51.7
QIZ Qiongzhong 44.69 247 P **P** **01 36 14.7 -3.0**
QIZ XP sP 01 36 27.2 -5.3
QIZ PP PP 01 38 00.5 -1.9
QIZ S **S** **01 42 49.9 -1.9**
QIZ XS sS 01 43 05.8 -3.3
QIZ AMB AMB
comp=Z,5.0nm,1.3s,mb4.2
QIZ LR LR
comp=N,241nm,20.0s,MS4.4
QIZ LR LR
comp=E,388nm,20.9s,MS4.4
QIZ LR LR
comp=Z,478nm,22.0s,MS4.4
WMQ Urumqi 44.74 291 *e*P **P** **01 36 20.7 +2.8**
WMQ AP pP 01 36 29.0 +0.6
WMQ XP sP 01 36 31.0 -1.6
WMQ S **S** **01 42 56.0 +3.9**
WMQ XS sS 01 43 08.0 -1.4
WMQ SS SS 01 46 10.0 -3.0
WMQ AMB AMB
comp=Z,10.0nm,0.6s,mb4.8
WMQ AMB AMB
comp=Z,186nm,4.3s
WMQ LR LR
comp=N,693nm,14.5s,MS4.8
WMQ LR LR
comp=E,487nm,15.2s,MS4.8
WMQ LR LR
comp=Z,758nm,19.4s,MS4.6
KMI Kunming 45.06 259 P **P** **01 36 22.1 +1.4**
KMI S **S** **01 42 57.9 +0.7**
KMI AMB AMB
comp=Z,10.0nm,0.6s,mb4.8
KMI LR LR
comp=N,306nm,17.3s,MS4.5
KMI LR LR
comp=E,343nm,19.3s,MS4.5
KMI LR LR
comp=Z,510nm,20.2s,MS4.5
DLBC Dease Lake 45.71 46 *e*P **P** **01 36 27.1 +1.7**
DLBC *e* pP 01 36 39.3 +3.4
MK31 Makanchi Array 46.76 297 *e*P **P** **01 36 33.6 -0.2**
MK31 *e*PcP PcP 01 38 06.4 -0.3
MKAR Makanchi Array 46.76 297 P **P** **01 36 33.4 -0.4**
MKAR pmax pmax
comp=Z,2.0nm,0.6s
MKAR MLR MLR
comp=Z,669nm,18.9s
MKAR Makanchi Array 46.76 297 P **P** **01 36 33.4 -0.4**
comp=Z,1.9nm,0.6s,mb4.2,baz=70,slow=8.2,SNR=13
MKAR LR LR 01 57 26.2
comp=Z,669nm,18.9s,MS4.6,baz=64,slow=38
KURK Kurchatov 47.19 303 *e*P **P** **01 36 36.7 -0.4**
comp=Z,3.0nm,0.6s,mb4.4
KURK *e* 01 36 50.2
KURK Kurchatov 47.19 303 *e*P **P** **01 36 36.7 -0.4**
KURK *e* 01 36 50.2
KURK pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
BVAR Borovoye Array 50.69 309 P **P** **01 37 03.9 0.0**
comp=Z,0.7nm,0.4s,mb4.0,baz=54,slow=10,SNR=4.2
BVAR LR LR 01 57 52.9
comp=Z,259nm,20.7s,MS4.2,baz=60,slow=35
BRVK Borovoye 50.73 309 P **P** **01 37 03.0 -1.2**
RES Resolute Bay 50.87 18 *e*P **P** **01 37 05.0 0.0**
comp=Z,128nm,0.8s,mb5.9
YKA Yellowknife Ar 51.01 37 P **P** **01 37 05.7 -0.4**
YKA LR LR 02 01 49.6
YKA Yellowknife Ar 51.01 37 P **P** **01 37 05.7 -0.5**
YKA pmax pmax
comp=Z,9.0nm,0.7s
YKA MLR MLR
comp=Z,124nm,19.1s
YKA Yellowknife Ar 51.01 37 P **P** **01 37 05.7 -0.4**
comp=Z,8.6nm,0.7s,mb4.8,baz=294,slow=7.0,SNR=133
YKA LR LR 02 01 49.6
comp=Z,124nm,19.1s,MS4.0,baz=285,slow=40
CHTO Chiang Mai 51.94 256 *e*P **P** **01 37 13.2 -0.5**
comp=Z,12nm,0.8s,mb4.9
CHTO *e* 01 37 27.7
CHTO Chiang Mai 51.94 256 *e*P **P** **01 37 13.2 -0.5**
CHTO *e* 01 37 27.7
CHTO pmax pmax
comp=Z,12nm,0.8s,mb4.9
CM31 Chiang Mai Arr 52.19 256 *e*P **P** **01 37 16.6 +1.0**
comp=Z,2.7nm,0.5s,mb4.4
TKM2 Tokmak 2 52.81 296 P **P** **01 37 19.2 -0.6**
EKS2 Erkin-Say 54.08 297 *e*P **P** **01 37 30.1 +1.0**
comp=Z,2.2nm,0.8s,mb4.1
EKS2 *e* pP 01 37 42.2 +2.4
AML Almayashu 54.42 296 *e*P **P** **01 37 30.6 -1.0**
B05A Bryant 54.55 55 ⇑P **P** **01 37 32.1 -0.4**
baz=54
JIRN Jiri 54.76 274 *e*P **P** **01 37 35.2 +0.9**
B06A Marblemount 54.76 54 ⇓P **P** **01 37 33.4 -0.6**
baz=54
ARU Arti 54.86 317 *e*P **P** **01 37 34.9 +0.2**
ARU Arti 54.86 317 *c i*P **P** **01 37 35.8 +1.2**
ARU *e* 01 39 34.9
ARU *e*PPP 01 40 47.4
ARU *e*S **S** **01 45 14.9 +1.9**
ARU *e*SS SS 01 48 55.1 -0.8
ARU pmax pmax
comp=Z,3.0nm,0.7s,mb4.4
ARU MLR MLR
comp=Z,280nm,18.0s,MS4.4
A07A Ashnola River, 55.08 53 P **P** **01 37 36.4 0.0**
baz=55,SNR=6.6
C05A Tolt Reservoir 55.09 55 ⇑P **P** **01 37 36.2 -0.2**
baz=55
KKN Kakani 55.30 275 *e*P **P** **01 37 39.3 +1.1**
comp=Z,50nm,0.7s,mb5.7
KKN Kakani 55.30 275 *e*P **P** **01 37 39.3 +1.1**
KKN pmax pmax
comp=Z,50nm,0.7s,mb5.7
DMN Daman 55.53 275 *e*P **P** **01 37 41.3 +1.4**
B07A Winthrop 55.55 54 ⇑P **P** **01 37 39.5 -0.2**
baz=55
GKN Gorkha 55.60 276 *e*P **P** **01 37 41.5 +1.1**
comp=Z,32nm,0.6s,mb5.5
F04A Amboy 55.65 57 ⇑P **P** **01 37 39.9 -0.6**
baz=55
A08A Turner Farm, O 55.74 53 P **P** **01 37 41.2 +0.1**
baz=55,SNR=5.8
D06A Cle Elum 55.85 55 ⇓P **P** **01 37 41.4 -0.5**
baz=56
C07A Waterville 56.01 54 ⇑P **P** **01 37 42.3 -0.7**
baz=56
G04A Mulino 56.03 58 ⇓P **P** **01 37 43.3 +0.1**
baz=56
B08A Colville Reser 56.04 53 ⇑P **P** **01 37 42.7 -0.5**
baz=56,SNR=6.0
A09A Danville 56.10 53 ⇑P **P** **01 37 43.6 -0.1**
baz=56,SNR=6.8
D07A Quincy 56.34 55 ⇓P **P** **01 37 45.4 +0.1**
baz=56
J02A Umpqua 56.43 60 ⇑P **P** **01 37 46.6 +0.6**
baz=56
EDM Edmonton 56.43 46 *e*P **P** **01 37 45.5 -0.5**
KOLN Koldanda 56.46 276 *e*P **P** **01 37 47.6 +1.1**
comp=Z,51nm,1.0s,mb5.5
H04A Detroit Lake 56.50 58 ⇓P **P** **01 37 46.2 -0.3**
baz=56
C08A Higginbotham F 56.52 54 ⇑P **P** **01 37 46.2 -0.5**
baz=56
B09A Rice 56.66 53 ⇓P **P** **01 37 47.2 -0.4**
baz=56
G05A Wamic 56.68 57 ⇓P **P** **01 37 47.9 0.0**
baz=56
E07A Sunnyside 56.77 55 ⇓P **P** **01 37 48.4 -0.1**
baz=56
I04A Tendick Farm, 56.87 59 ⇓P **P** **01 37 49.1 -0.1**
baz=57
H05A Madras 57.08 58 P **P** **01 37 51.2 +0.6**
baz=57,SNR=5.1
F07A Phinny Hill Vi 57.11 56 ⇓P **P** **01 37 51.6 +0.8**
baz=57
NEW Newport 57.31 53 *e*P **P** **01 37 51.9 -0.3**
comp=Z,3.7nm,1.1s,mb4.3
NEW Newport 57.31 53 *e*P **P** **01 37 51.9 -0.3**
NEW pmax pmax
comp=Z,4.0nm,1.1s
A11A Hall Mountain, 57.32 52 P **P** **01 37 52.7 +0.4**
baz=57,SNR=5.8
D09A Jones Farm, Ri 57.35 54 ⇓P **P** **01 37 52.3 -0.2**
baz=57
J04A Umpqua Nationa 57.37 60 ⇓P **P** **01 37 53.1 +0.4**
baz=57
H06A Lindquist Farm 57.55 57 ⇑P **P** **01 37 53.9 0.0**
baz=57
B11A Sandpoint 57.62 52 ⇑P **P** **01 37 54.7 +0.2**
baz=57
G07A Ruggs Ranch, H 57.62 57 ⇑P **P** **01 37 54.6 +0.1**
baz=57
E09A Wood Farm, Sta 57.76 55 ⇓P **P** **01 37 55.4 -0.1**
baz=58
ARCES ARCESS Array B 57.76 341 P **P** **01 37 54.5 -0.7**
comp=Z,1.4nm,0.5s,mb4.2,baz=35,slow=7.2,SNR=16
ARCES LR LR 02 09 40.5
comp=Z,161nm,19.2s,MS4.2,baz=31,slow=43
J05A Fort Rock 57.87 59 ⇓P **P** **01 37 56.7 +0.4**
baz=58
YBH Yreka Blue Hor 57.90 62 ⇓P **P** **01 37 56.5 +0.1**
baz=58
G08A Pilot Rock 58.01 56 P **P** **01 37 57.9 +0.7**
baz=58,SNR=5.5
I06A Prineville 58.08 58 ⇑P **P** **01 37 58.3 +0.6**
baz=58
E10A Myers Farm, Un 58.35 54 ⇓P **P** **01 37 59.4 -0.2**
baz=58
A13A Flathead Natio 58.38 51 ⇑P **P** **01 37 59.6 -0.1**
baz=58
M04C Macdoel 58.39 61 ⇓P **P** **01 38 00.2 +0.3**
baz=58
K05A Summer Lake 58.40 60 ⇑P **P** **01 38 00.5 +0.5**
baz=58
I07A Izee 58.41 58 ⇑P **P** **01 38 00.2 +0.2**
baz=58
D11A Klaveano Farm, 58.45 53 P **P** **01 37 59.6 -0.7**
baz=58,SNR=7.8
J06A Christmas Vall 58.52 59 ⇓P **P** **01 38 01.0 +0.2**
baz=58,SNR=7.3
WALA Waterton Lakes 58.57 50 *e*P **P** **01 38 00.5 -0.5**
comp=Z,12nm,0.8s,mb5.0
F10A Beach Ranch, E 58.59 55 ⇓P **P** **01 38 01.5 +0.3**
baz=58
H08A Prairie City 58.63 57 P **P** **01 38 02.2 +0.6**
baz=58,SNR=5.6
B13A Whitefish 58.68 51 P **P** **01 38 02.5 +0.7**
baz=58,SNR=14
WDC Whiskeytown Da 58.68 63 ⇓P **P** **01 38 01.9 -0.1**
baz=58
K06A Valley Falls 58.73 59 P **P** **01 38 03.0 +0.7**
baz=58,SNR=11
L05A Lakeview 58.84 60 ⇑P **P** **01 38 03.6 +0.6**
baz=59
P01C Double 8 Ranch 58.86 64 ⇑P **P** **01 38 03.5 +0.2**
baz=59
E11A Bogner Ranch, 58.93 54 P **P** **01 38 03.4 -0.3**
baz=59,SNR=5.4
C13A Hot Springs 59.04 52 ⇑P **P** **01 38 04.3 0.0**
baz=59
I08A Drewsey 59.05 57 ⇑P **P** **01 38 05.1 +0.6**
baz=59
G10A Bishop Farm, J 59.06 55 P **P** **01 38 04.7 +0.1**
baz=59,SNR=8.9
M05C Lookout 59.06 61 ⇓P **P** **01 38 04.5 -0.1**
baz=59
H09A Durkee 59.12 56 ⇓P **P** **01 38 04.8 -0.2**
baz=59
HATC Hat Creek Radi 59.20 62 ⇑P **P** **01 38 05.2 -0.3**
baz=59
MOD Modoc 59.24 60 *e*P **P** **01 38 05.6 -0.2**
comp=Z,7.8nm,0.7s,mb4.8
MOD Modoc 59.24 60 P **P** **01 38 05.8 0.0**
baz=59,SNR=5.7
F11A Grangeville 59.24 54 ⇓P **P** **01 38 05.9 +0.1**
baz=59
K07A Rock Creek Ran 59.39 59 ⇑P **P** **01 38 06.9 0.0**
baz=59
J08A Circle Bar Ran 59.44 58 ⇓P **P** **01 38 07.5 +0.3**
baz=59
D13A Huson 59.45 52 ⇑P **P** **01 38 07.1 -0.1**
baz=59
I09A Lost Marbles R 59.49 57 ⇓P **P** **01 38 07.9 +0.3**
baz=59
M06C Likely Place G 59.56 61 ⇑P **P** **01 38 08.1 +0.1**
baz=59
H10A Noah's Angus R 59.69 56 P **P** **01 38 09.3 +0.4**
baz=59,SNR=7.2
O04C Chester 59.73 62 ⇑P **P** **01 38 09.1 -0.1**
baz=59
L07A Adell 59.74 60 P **P** **01 38 09.8 +0.6**
baz=60,SNR=5.5
K08A Mann Creek Ran 59.81 58 ⇑P **P** **01 38 10.1 +0.3**
baz=60
F12A Elk City 59.82 54 P **P** **01 38 10.7 +0.9**
baz=60,SNR=10
J09A Fry Pan Ranch, 59.87 58 ⇓P **P** **01 38 10.6 +0.4**
baz=60
MSO Missoula 59.89 52 *e*P **P** **01 38 09.7 -0.5**
comp=Z,3.4nm,0.8s,mb4.4
ORV Oroville 59.94 63 ⇑P **P** **01 38 10.0 -0.6**
baz=60
I10A Payette 59.97 56 ⇓P **P** **01 38 11.5 +0.8**
baz=60
D14A Greenough 59.98 52 P **P** **01 38 10.7 -0.1**
baz=60,SNR=16
E13A Victor 59.99 53 ⇓P **P** **01 38 11.5 +0.6**
baz=60
H11A Donnelly 60.04 55 P **P** **01 38 11.5 +0.2**
baz=60,SNR=8.5
O05C Quincy 60.05 62 ⇓P **P** **01 38 11.6 +0.2**
baz=60
CHMT Chamberlain Mo 60.22 52 *e*P **P** **01 38 11.8 -0.7**
CHMT *e* 01 38 27.2
N06A Buffalo Meadow 60.22 61 ⇑P **P** **01 38 12.7 +0.1**
baz=60
L08A Fields 60.23 59 ⇓P **P** **01 38 12.8 +0.2**
baz=60
M07A Soldier Meadow 60.23 60 P **P** **01 38 13.1 +0.5**
baz=60,SNR=18
K09A Rome 60.28 58 ⇑P **P** **01 38 13.2 +0.2**
baz=60
F13A Darby 60.31 54 ⇑P **P** **01 38 13.3 +0.2**
baz=60
E14A Clinton 60.39 53 P **P** **01 38 13.6 -0.1**
baz=60,SNR=8.8
BEKR Beckwourth 60.44 62 ⇑P **P** **01 38 14.1 0.0**
baz=60,SNR=5.7
D15A Lincoln 60.53 52 P **P** **01 38 15.3 +0.7**
baz=60,SNR=5.3
O06A Flanigan 60.58 62 ⇑P **P** **01 38 15.0 -0.1**
baz=60,SNR=6.5
M08A Happy Creek Ra 60.66 60 ⇑P **P** **01 38 16.0 +0.4**
baz=60
N07B Gerlach 60.72 60 ⇓P **P** **01 38 15.8 -0.2**
baz=60
K10A MacKenzie Ranc 60.73 58 P **P** **01 38 16.2 +0.2**
baz=60,SNR=9.9
L09A Wilkinson Ranc 60.73 59 ⇑P **P** **01 38 16.2 +0.2**
baz=60
H12A Diamond D Ranc 60.79 55 ⇓P **P** **01 38 16.9 +0.6**
baz=60
G13A Cobalt 60.80 54 P **P** **01 38 16.1 -0.3**
baz=60,SNR=11
FFC Flin Flon 60.84 40 *e*P **P** **01 38 16.1 -0.4**
comp=Z,17nm,0.8s,mb5.2
FFC Flin Flon 60.84 40 *e*P **P** **01 38 16.2 -0.4**
FFC pmax pmax
comp=Z,17nm,0.8s,mb5.2
E15A Deer Lodge 60.85 52 P **P** **01 38 17.1 +0.3**
baz=60,SNR=7.7
LAVA Lava Cap Winer 60.90 63 ⇓P **P** **01 38 16.7 -0.5**
baz=61
MFID Camas Ranch 60.93 56 ⇓P **P** **01 38 17.4 0.0**
baz=61
HRY Holter Researc 61.11 51 *e*P **P** **01 38 19.0 +0.5**
HRY *e* 01 38 33.0
H13A Challis 61.11 55 P **P** **01 38 18.6 -0.1**
baz=61,SNR=6.7
G14A Jackson 61.13 54 ⇑P **P** **01 38 19.0 +0.2**
baz=61
WCN Washoe City 61.16 62 ⇓P **P** **01 38 18.6 -0.4**
baz=61
K11A Parker Ranch, 61.22 57 ⇓P **P** **01 38 19.2 -0.1**
baz=61
N08A GE Springer Mi 61.22 60 P **P** **01 38 19.3 -0.1**
baz=61,SNR=7.0
JOF Joensuu 61.22 334 *ep* **P** **01 38 15.8 -3.2**
comp=Z,1.1nm,0.4s,mb4.3
F15A Butte 61.29 53 P **P** **01 38 20.4 +0.6**
baz=61,SNR=14
S04C Ingram Canyon, 61.31 65 ⇓P **P** **01 38 19.2 -0.9**
baz=61
FCC Fort Churchill 61.34 33 *e*P **P** **01 38 19.1 -0.8**
comp=Z,16nm,0.7s,mb5.3
FCC Fort Churchill 61.34 33 *e*P **P** **01 38 19.1 -0.8**
FCC pmax pmax
comp=Z,16nm,0.7s,mb5.3
EGMT Eagleton 61.38 49 *e*P **P** **01 38 20.2 -0.2**
comp=Z,9.7nm,0.8s,mb5.0
EGMT *e* 01 38 35.2
L10A Juniper Basin 61.39 58 P **P** **01 38 21.1 +0.6**
baz=61,SNR=5.7
J12A Stokes Ranch, 61.45 56 P **P** **01 38 21.6 +0.7**
baz=61,SNR=6.1
N09A Rock Creek Ran 61.53 60 P **P** **01 38 21.7 +0.2**
baz=61,SNR=5.2
CMB Columbia Colle 61.56 64 *e*P **P** **01 38 21.8 0.0**
CMB Columbia Colle 61.56 64 ⇑P **P** **01 38 21.7 0.0**
baz=61
I13A Wildhorse Cree 61.60 55 P **P** **01 38 22.5 +0.6**
baz=61,SNR=7.2
PACP Pacheco Peak 61.65 65 ⇑P **P** **01 38 22.7 +0.4**
baz=61
HLID Hailey 61.65 56 *e*P **P** **01 38 21.9 -0.3**
comp=Z,7.7nm,1.3s,mb4.7
HLID *e* 01 38 35.5
HLID Hailey 61.65 56 ⇑P **P** **01 38 22.5 +0.3**
baz=61
M10A I.L. Ranch, Tu 61.70 59 P **P** **01 38 23.2 +0.6**
baz=61,SNR=7.2
G15A Dillon 61.72 53 P **P** **01 38 23.1 +0.4**
baz=61,SNR=8.6
L11A Cat Creek Ranc 61.75 58 P **P** **01 38 23.8 +0.8**
baz=62,SNR=7.3
R06C Coleville 61.83 63 ⇑P **P** **01 38 23.7 +0.2**
baz=62
HAST Hastings Reser 61.87 66 ⇓P **P** **01 38 23.6 -0.2**
baz=62
BOZ Bozeman (W) 61.89 52 *e*P **P** **01 38 23.9 +0.1**
comp=Z,11nm,1.0s,mb5.0
BOZ *e* 01 38 38.9
BOZ Bozeman (W) 61.89 52 *e*P **P** **01 38 23.9 +0.1**
BOZ *e* 01 38 38.9
BOZ pmax pmax
comp=Z,11nm,1.0s,mb4.9
J13A Cove Ranch, Pi 61.89 56 P **P** **01 38 24.5 +0.6**

baz=62,SNR=5.5
K12A Draper Farm, C 61.95 57 ⇑P P 01 38 24.4 +0.1
baz=62
S05C Merced 62.03 64 ⇑P P 01 38 24.2 -0.7
baz=62
L12A House Creek Ra 62.19 57 ⇑P P 01 38 26.5 +0.6
baz=62
M11A Holland Ranch, 62.19 58 ⇑P P 01 38 26.4 +0.5
baz=62
R07C Lee Vining 62.35 63 ⇓P P 01 38 26.9 -0.1
baz=62
O10A Cortez Mining, 62.49 60 ⇑P P 01 38 28.6 +0.6
baz=62
QLMT Earthquake Lak 62.51 53 *e*P **P 01 38 28.7 +0.6**
Q08A Gabbs 62.54 62 ⇑P P 01 38 28.6 +0.3
baz=62,SNR=5.1
NVAR Mina Array Bea 62.59 62 P P 01 38 28.4 -0.2
comp=Z,4.5nm,0.6s,mb4.8,baz=304,slow=5.3,SNR=12
T06C Millerton Lake 62.63 64 ⇓P P 01 38 28.4 -0.5
baz=62
KCC Kaiser Creek 62.67 64 ⇓P P 01 38 28.8 -0.3
baz=62
M12A Wells 62.71 58 ⇓P P 01 38 30.1 +0.7
baz=62
PKD Parkfield 62.78 66 ⇑P P 01 38 29.9 0.0
baz=62
P10A Eureka 62.94 60 ⇑P P 01 38 31.3 +0.3
baz=63
K14A Jones Ranch, D 62.99 56 ⇓P P 01 38 31.9 +0.6
baz=63
N12A Clover Valley, 63.00 58 ⇑P P 01 38 32.2 +0.9
baz=63
M13A Montello 63.18 57 ⇓P P 01 38 33.2 +0.7
baz=63
HELL Mitchell Peak 63.26 64 P P 01 38 32.4 -0.7
baz=63,SNR=7.3
S08C White Mtn Res 63.26 63 ⇑P P 01 38 33.3 +0.2
baz=63
KAF Kangasniemi 63.34 335 *ep* **P 01 38 31.5 -1.7**
comp=Z,1.4nm,0.4s,mb4.4
KAF Kangasniemi 63.34 335 *e*P **P 01 38 31.5 -1.7**
KAF pmax pmax
comp=Z,1.0nm,0.4s,mb4.3
IMW Indian Meadow 63.38 54 *e*P **P 01 38 33.9 +0.1**
comp=Z,6.3nm,1.0s,mb4.7
FLWY Flagg Ranch 63.39 53 *e*P **P 01 38 34.1 +0.2**
comp=Z,67nm,2.0s,mb5.4
N13A Wendover, West 63.48 58 ⇓P P 01 38 34.6 +0.1
baz=63
Q10A Clear Creek Ra 63.49 61 ⇑P P 01 38 34.7 +0.2
baz=63
RLMT Red Lodge 63.50 52 *e*P **P 01 38 34.5 -0.1**
comp=Z,6.6nm,0.8s,mb4.7
O12A Currie 63.54 59 P P 01 38 35.1 +0.2
baz=63,SNR=10
TPAW Teton Pass 63.64 54 *e*P **P 01 38 36.1 +0.7**
comp=Z,11nm,0.8s,mb4.9
VES Vestal, Richgr 63.76 65 ⇑P P 01 38 36.1 -0.4
baz=64
REDW Red Top Meadow 63.77 54 *e*P **P 01 38 36.7 +0.3**
comp=Z,10nm,0.9s,mb4.8
R10A Warm Springs 63.89 61 ⇑P P 01 38 37.5 +0.2
baz=64
DGMT Dagmar 63.92 46 *e*P **P 01 38 36.6 -0.7**
comp=Z,12nm,0.8s,mb5.0
FINES FINESS Array B 63.93 335 P P 01 38 35.9 -1.3
FINES LR LR 02 10 51.7
FINES FINESS Array B 63.93 335 P P 01 38 35.9 -1.2
FINES pmax pmax
comp=Z,3.0nm,0.4s
FINES MLR MLR
comp=Z,236nm,18.0s
FINES FINESS Array B 63.93 335 P P 01 38 35.9 -1.3
comp=Z,3.3nm,0.4s,mb4.7,baz=39,slow=7.5,SNR=55
FINES LR LR 02 10 51.7
comp=Z,236nm,18.0s,MS4.4,baz=260,slow=40
P12A McGill 63.96 59 ⇓P P 01 38 38.0 +0.3
baz=64
N14A Grayback Hills 64.08 57 ⇓P P 01 38 38.9 +0.5
baz=64
O13A Hicks Ranch, I 64.08 58 ⇓P P 01 38 38.9 +0.5
baz=64
LAO LASA Array 64.08 49 *e*P **P 01 38 38.7 +0.3**
comp=Z,7.7nm,0.8s,mb4.8
M15A Larsen Ranch, 64.11 56 ⇑P P 01 38 38.3 -0.4
baz=64
ISA Isabella 64.25 65 *e*P **P 01 38 39.1 -0.6**
ISA Isabella 64.25 65 ⇑P P 01 38 38.7 -0.9
baz=64
R11A Troy Canyon, C 64.28 61 ⇓P P 01 38 39.9 +0.1
baz=64
ARVC Arvin 64.38 65 ⇑P P 01 38 40.6 +0.2
baz=64
P13A Bates Ranch, G 64.50 59 ⇓P P 01 38 41.3 +0.1
baz=64
HWUT Hardware Ranch 64.52 56 *e*P **P 01 38 41.6 +0.3**
comp=Z,7.5nm,1.0s,mb4.7
BSC Santa Cruz Isl 64.60 67 ⇓P P 01 38 42.3 +0.3
baz=64
MPMC Manual Prospec 64.60 64 P P 01 38 42.4 +0.5
baz=64,SNR=5.1
S11A Rachel 64.64 61 ⇓P P 01 38 42.7 +0.5
baz=64
DUG Dugway 64.72 58 *e*P **P 01 38 42.6 0.0**
comp=Z,7.2nm,1.0s,mb4.7
DUG Dugway 64.72 58 *e*P **P 01 38 42.6 0.0**
DUG pmax pmax
comp=Z,7.0nm,1.0s,mb4.7
FURC Furnace Creek, 64.72 63 ⇓P P 01 38 43.0 +0.3
baz=64
TPNV Topopah Spring 64.79 62 *e*P **P 01 38 43.2 +0.1**
BW06 Boulder Array 64.88 54 *e*P **P 01 38 43.1 -0.6**
comp=Z,5.5nm,0.8s,mb4.6
PDAR Pinedale Array 64.88 54 P P 01 38 43.3 -0.4
comp=Z,4.3nm,0.7s,mb4.6,baz=289,slow=1.6,SNR=27
PDAR LR LR 02 06 55.2
comp=Z,144nm,21.1s,MS4.1,baz=326,slow=36
EDW2 Edwards Air Fo 65.06 65 ⇓P P 01 38 45.4 +0.5
baz=65
U10A Ash Meadows, A 65.08 63 ⇓P P 01 38 45.2 +0.1
baz=65
S12A Delamar Landin 65.20 61 ⇓P P 01 38 46.4 +0.6
baz=65
T11A Corn Creek, Al 65.22 61 P P 01 38 46.2 +0.3
baz=65,SNR=6.4
DECC Green Verdugo 65.26 66 ⇑P P 01 38 46.5 +0.2
baz=65
GSC Goldstone 65.52 64 ⇓P P 01 38 48.4 +0.4
baz=65
S13A Holt Ranch, En 65.81 60 ⇑P P 01 38 49.9 +0.1
baz=66
V11A Goodsprings 66.01 63 ⇓P P 01 38 51.4 +0.3
baz=66
S14A Cedar City 66.11 60 ⇑P P 01 38 52.0 +0.3
baz=66
HEC Hector,Ludlow 66.12 64 ⇑P P 01 38 52.0 +0.2
baz=66
CCUT Cedar City 66.13 60 *e*P **P 01 38 51.9 +0.1**
T13A Saint George 66.16 61 ⇓P P 01 38 52.4 +0.4
baz=66
U12A Valley of Fire 66.16 62 ⇑P P 01 38 52.5 +0.4
baz=66
V12A Nelson 66.44 62 ⇓P P 01 38 54.3 +0.4
baz=66
U13A Pakoon Wash 66.52 61 P P 01 38 54.9 +0.5
baz=66,SNR=7.8
GMRC Granite Mounta 66.57 64 ⇑P P 01 38 54.7 0.0
baz=66
T14A Hurricane 66.62 60 P P 01 38 55.5 +0.5
baz=66,SNR=5.5
ULM Lac du Bonnet 66.62 41 P P 01 38 53.5 -1.3
comp=Z,7.3nm,0.6s,mb4.9,baz=319,slow=7.0,SNR=15
ULM LR LR 02 11 43.8
comp=Z,202nm,19.5s,MS4.3,baz=257,slow=39
SRU San Rafael 66.76 57 *e*P **P 01 38 55.3 -0.5**
comp=Z,8.0nm,0.7s,mb4.9
SRU San Rafael 66.76 57 *e*P **P 01 38 55.3 -0.5**
SRU pmax pmax
comp=Z,8.0nm,0.7s,mb4.9
RSSD Black Hills 66.95 50 *e*P **P 01 38 56.2 -0.8**
comp=Z,7.7nm,0.7s,mb4.8
RSSD *e* 01 39 12.0
RSSD Black Hills 66.95 50 *e*P **P 01 38 56.2 -0.7**
RSSD *e* 01 39 12.0
RSSD pmax pmax
comp=Z,8.0nm,0.7s,mb4.9
T15A Red Dirt Ranch 67.07 60 ⇓P P 01 38 57.9 +0.1
baz=67
IRM Iron Mountain 67.30 64 ⇑P P 01 38 59.4 +0.1
baz=67
BC3 Big Chuckw Mtn 67.44 65 ⇑P P 01 39 00.2 0.0
baz=67
W13A Hualapai Mount 67.44 62 ⇑P P 01 39 00.3 +0.1
baz=67
V14A Boquillas Ranc 67.56 62 P P 01 39 01.2 +0.3
baz=67,SNR=8.9
DVTC Desert V Tower 67.70 66 ⇑P P 01 39 02.5 +0.6
baz=67
PDMCI Parker Dam,Lak 67.82 63 ⇑P P 01 39 02.7 +0.1
baz=68
W14A Seligman 67.86 62 P P 01 39 03.0 +0.2
baz=68,SNR=10
Y12C Blythe 67.95 64 ⇑P P 01 39 03.2 -0.2
baz=68
NB2 NORSAR Subarra 68.14 341 P P 01 39 03.1 -1.0
comp=Z,5.7nm,0.6s,mb4.8,baz=27,slow=6.5
NOA NORSAR Array B 68.14 341 P P 01 39 03.5 -0.7
NOA LR LR 02 16 49.4
NOA NORSAR Array B 68.14 341 P P 01 39 03.5 -0.7
comp=Z,6.1nm,0.7s,mb4.8,baz=27,slow=6.2,SNR=29
NOA LR LR 02 16 49.4
comp=Z,163nm,18.2s,MS4.3,baz=25,slow=43
GLA Glamis 68.24 65 ⇑P P 01 39 05.3 0.0
baz=68
Y13A Salome 68.34 63 ⇑P P 01 39 05.7 -0.2
baz=68
HFS Hagfors 68.36 339 P P 01 39 04.5 -1.1
HFS pmax pmax
comp=Z,8.0nm,0.5s
HFS Hagfors 68.36 339 P P 01 39 04.5 -1.0
comp=Z,8.4nm,0.5s,mb5.1,baz=56,slow=5.8,SNR=73
WRAB Tennant Creek 68.47 199 P P 01 39 06.7 +0.1
X14A Yava 68.47 62 ⇑P P 01 39 07.1 +0.4
baz=68
WB2 Warramunga Arr 68.48 199 *e*P **P 01 39 05.9 -0.8**
WB2 Warramunga Arr 68.48 199 P P 01 39 05.8 -0.9
WRA Warramunga Arr 68.48 199 *i*P **P 01 39 05.6 -1.1**
WRA pmax pmax
comp=Z,1.0nm,0.6s
WRA Warramunga Arr 68.48 199 P P 01 39 04.9 -1.8
comp=Z,1.3nm,0.6s,mb4.1,baz=19,slow=6.8,SNR=8.9
SMCO Snowmass 68.74 55 *e*P **P 01 39 08.0 -0.3**
comp=Z,4.3nm,0.6s,mb4.6
Y14A Wickenburg 68.76 63 ⇑P P 01 39 08.7 +0.2
baz=68
X15A Humboldt 68.86 62 P P 01 39 09.8 +0.7
baz=69,SNR=5.2
ISCO Idaho Springs 69.08 54 *e*P **P 01 39 10.8 +0.5**
comp=Z,3.8nm,0.6s,mb4.5
ISCO *e* 01 39 25.4
ISCO Idaho Springs 69.08 54 *e*P **P 01 39 10.9 +0.5**
ISCO *e* 01 39 25.4
ISCO pmax pmax
comp=Z,4.0nm,0.6s,mb4.5
FITZ Fitzroy Crossi 69.08 208 *e*P **P 01 39 09.6 -0.9**
comp=Z,5.8nm,0.6s,mb4.7
Y15A Casa Rosa Ranc 69.16 62 ⇓P P 01 39 11.4 +0.5
baz=69
Z14A Wintersburg 69.19 63 ⇓P P 01 39 11.7 +0.5
baz=69
MVCO Mesa Verde 69.22 58 *e*P **P 01 39 11.3 0.0**
comp=Z,7.3nm,0.9s,mb4.6
X16A Lo Mia Camp, P 69.39 62 P P 01 39 13.0 +0.6
baz=69,SNR=8.7
Z16A Peralta Trail, 70.13 62 ⇑P P 01 39 17.2 +0.2
baz=70
SDCO Great Sand Dun 70.57 55 *e*P **P 01 39 19.3 -0.3**
comp=Z,2.5nm,0.9s,mb4.1
ECSD EROS,Sioux Fal 71.00 46 *e*P **P 01 39 21.0 -1.1**
comp=Z,6.3nm,0.8s,mb4.6
ECSD *e* 01 39 36.3
216A Three Points, 71.03 63 ⇑P P 01 39 22.9 +0.4
baz=71
AKASG Malin Array Be 71.42 326 P P 01 39 23.0 -1.5
AKASG Malin Array Be 71.42 326 P P 01 39 23.0 -1.5
AKASG pmax pmax
comp=Z,2.0nm,0.4s
AKASG Malin Array Be 71.42 326 P P 01 39 23.0 -1.5
comp=Z,1.8nm,0.4s,mb4.4,baz=34,slow=6.2,SNR=11
119A Ashpeak Ranch, 71.81 61 ⇓P P 01 39 27.8 +0.6
baz=72
218A Dragoon 71.91 63 ⇑P P 01 39 28.4 +0.6
baz=72
ANMO Albuquerque 71.98 58 *e*P **P 01 39 28.0 -0.1**
ANMO Albuquerque 71.98 58 *e*P **P 01 39 28.2 +0.1**
ASAR Alice Springs 72.18 198 P P 01 39 29.0 -0.2
ASAR pmax pmax
comp=Z,4.0nm,0.7s
ASAR Alice Springs 72.18 198 P P 01 39 29.0 -0.2
comp=Z,3.9nm,0.7s,mb4.5,baz=14,slow=5.4,SNR=37
318A Bisbee 72.32 63 ⇑P P 01 39 30.3 0.0
baz=72
PALK Pallekele 72.51 262 *e*P **P 01 39 32.7 +1.1**
ANN Anapa 72.53 318 *e*P **P 01 39 25.9 -5.4**
ANN pmax pmax
comp=Z,110nm,1.7s,mb5.5
319A Douglas 72.80 62 ⇓P P 01 39 33.2 +0.1
baz=72
SCHQ Schefferville 73.36 23 *e*P **P 01 39 35.6 -0.4**
SCHQ Schefferville 73.36 23 P P 01 39 35.7 -0.3
comp=Z,4.1nm,0.9s,mb4.4,baz=29,slow=12,SNR=7.8
SCHQ LR LR 02 12 12.9
comp=Z,149nm,19.4s,MS4.3,baz=358,slow=36
MBWA Marble Bar 73.94 212 P P 01 39 38.9 -0.8
KWP Kalwaria 74.70 329 *e*P **P 01 39 44.0 +0.1**
comp=Z,14nm,1.0s,mb4.8
KWP Kalwaria 74.70 329 *e*P **P 01 39 44.0 +0.1**
KWP pmax pmax
comp=Z,14nm,1.0s,mb4.8
KWP Kalwaria 74.70 329 *i*P **P 01 39 44.3 +0.4**
STHS Stebnicka Huta 75.39 330 *e*P **P 01 39 48.4 +0.5**
comp=Z,3.8nm,0.8s,mb4.4
STHS *e* 01 39 55.3
STHS Stebnicka Huta 75.39 330 *e*P **P 01 39 48.4 +0.5**
STHS *e* 01 39 55.3
STHS pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
KOLS Kolonicke sedl 75.44 329 *e*P **P 01 39 47.7 -0.5**
KOLS *e* 02 10 08.8
CRVS Cervenica-Dubn 75.75 329 *e*P **P 01 39 50.1 +0.1**
UPC Upice 76.17 333 *e*P **P 01 39 52.4 +0.1**
DPC Dobruska-Polom 76.21 333 *e*P **P 01 39 52.4 -0.2**
EKA Eskdalemuir Ar 76.27 346 P P 01 39 52.7 -0.1
EKA pmax pmax
comp=Z,1.0nm,0.7s
EKA Eskdalemuir Ar 76.27 346 P P 01 39 52.7 -0.1
comp=Z,0.8nm,0.7s,mb3.8,baz=20,slow=4.9,SNR=5.2
MORC Moravsky Berou 76.33 332 *e*P **P 01 39 52.5 -0.7**
comp=Z,4.1nm,1.1s,mb4.3
MORC *e* 01 40 09.5
MORC Moravsky Berou 76.33 332 *e*P **P 01 39 52.5 -0.7**
MORC *e* 01 40 09.5
MORC pmax pmax
comp=Z,4.0nm,1.1s,mb4.3
MORC Moravsky Berou 76.33 332 *i*P **P 01 39 53.0 -0.2**
CLL Collm 76.36 335 *i*P **P 01 39 52.4 -1.0**
CLL pmax pmax
comp=Z,6.0nm,0.7s,mb4.6
CLL Collm 76.36 335 *i*P **P 01 39 52.4 -1.0**
comp=Z,6.0nm,0.7s,mb4.6
CLL *i* (PcP) PcP 01 40 03.4 -1.7
CLL *i* pP pP 01 40 08.1 +3.6
KECS Kecovo 76.45 330 *e*P **P 01 39 51.4 -2.6**
comp=Z,1.8nm,0.7s,mb4.1
KECS *e* pP 01 40 04.1 -1.0
KECS Kecovo 76.45 330 *e*P **P 01 39 51.4 -2.6**
KECS *e* pP 01 40 04.1 -1.0
KECS pmax pmax
comp=Z,2.0nm,0.7s,mb4.2
BRG Berggiesshubel 76.47 335 *e*P pP 01 40 04.6 -0.5
BRG *e* 01 40 09.4
BRG LR LR
comp=Z,150nm,21.2s,MS4.3
BRG Berggiesshubel 76.47 335 *e*P pP 01 40 04.6 -0.5
BRG *e* 01 40 09.4
BRG pmax pmax
comp=Z,2.0nm,1.0s,mb4.0
BRG pmax pmax
comp=Z,3.0nm,1.2s,mb4.1
BRG MLR MLR
comp=N,97nm,16.9s,MS4.4
BRG MLR MLR
comp=E,161nm,20.8s,MS4.4
BRG MLR MLR
comp=Z,154nm,21.2s,MS4.3
BRG Berggiesshubel 76.47 335 *e*P pP 01 40 04.6 -0.5
comp=Z,3.0nm,1.0s
BRG *e* 01 40 09.4
comp=Z,4.5nm,1.1s
BRG
comp=N,162nm,16.9s
BRG
comp=E,269nm,20.8s
BRG
comp=Z,257nm,21.2s
WMOK Wichita Mounta 76.49 53 *e*P **P 01 39 53.6 -0.8**
PVCC Panska Ves 76.59 334 *e*P **P 01 39 59.3 +4.6**
MLR Muntele Rosu 76.93 325 P P 01 39 57.1 +0.4
MLR pmax pmax
comp=Z,4.0nm,0.6s
MLR Muntele Rosu 76.93 325 P P 01 39 57.1 +0.4
comp=Z,3.6nm,0.6s,mb4.5,baz=157,slow=11,SNR=16
MLR Muntele Rosu 76.93 325 *i*P **P 01 39 57.2 +0.5**
MALT Malatya 76.99 313 *e*P **P 01 39 58.7 +1.5**
comp=Z,1.4nm,0.8s,mb3.9
MALT Malatya 76.99 313 *e*P **P 01 39 58.7 +1.5**
MALT pmax pmax
comp=Z,1.0nm,0.8s,mb3.8
VYHS Vyhne 77.01 331 *e*P **P 01 39 57.4 +0.3**
comp=Z,26nm,2.3s,mb4.7
VYHS *e* pP 01 40 10.0 +1.8
VYHS *e*PP PP 01 42 38.6 -11
VYHS Vyhne 77.01 331 *e*P **P 01 39 57.4 +0.3**
VYHS *e* pP 01 40 10.0 +1.8
VYHS pmax pmax
comp=Z,26nm,2.3s,mb4.8
VRAC Vranov 77.04 332 P P 01 39 57.9 +0.6
VRAC pmax pmax
comp=Z,1.0nm,0.5s
VRAC Vranov 77.04 332 P P 01 39 57.9 +0.6
comp=Z,1.4nm,0.5s,mb4.2,baz=63,slow=8.5,SNR=3.5
VRAC Vranov 77.04 332 ⇑*i*P **P 01 39 57.9 +0.6**
PRU Pruhonice 77.08 334 *e*P **P 01 39 57.7 +0.2**
PSZ Piszkesteto 77.14 330 *e*P **P 01 39 56.6 -1.3**
VOIR 77.33 325 ⇑*i*P **P 01 39 59.6 +0.6**
TREC Trest 77.40 333 *e*P **P 01 39 58.9 -0.4**
MODS Modra-Piesok 77.63 331 *ep*P pP 01 40 12.5 +0.8
TXAR Lajitas Array 77.64 60 P P 01 40 00.2 -0.8
TXAR Lajitas Array 77.64 60 P P 01 40 00.2 -0.8
TXAR pmax pmax
comp=Z,6.0nm,0.5s
TXAR Lajitas Array 77.64 60 P P 01 40 00.2 -0.8
comp=Z,5.6nm,0.5s,mb4.8,baz=300,slow=4.9,SNR=115
ZST Bratislava 77.84 331 *e*P **P 01 40 02.6 +0.8**
comp=Z,4.6nm,0.8s,mb4.5
ZST Bratislava 77.84 331 *e*P **P 01 40 02.6 +0.8**
ZST pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
KHC Kasperske Hory 78.13 334 *e*P **P 01 40 03.6 +0.3**
KHC *ep*P pP 01 40 20.0 +5.5
GRA1 Grafenberg Arr 78.31 336 *e*P **P 01 40 03.9 -0.5**
comp=Z,5.0nm,1.1s,mb4.4
GRA1 *ep*P pP 01 40 09.1 -6.4
GRF Grafenberg Arr 78.31 336 *e*P **P 01 40 03.9 -0.5**
GRF *e**PP pP 01 40 09.1 -6.4
GRF pmax pmax
comp=Z,5.0nm,1.1s,mb4.4
GRF Grafenberg Arr 78.31 336 *e*P **P 01 40 03.9 -0.5**
GRF *e**PP pP 01 40 09.1 -6.4
GRF pmax pmax
comp=Z,5.0nm,1.1s,mb4.4
GRF Grafenberg Arr 78.31 336 *e*P **P 01 40 03.9 -0.5**
comp=Z,5.0nm,1.1s,mb4.4
GRF *ep*P pP 01 40 09.1 -6.4
GERES GERESS Array B 78.35 334 P P 01 40 03.8 -0.8
GERES pmax pmax
comp=Z,1.0nm,0.5s
GERES MLR MLR
comp=Z,195nm,20.5s
GERES GERESS Array B 78.35 334 P P 01 40 03.8 -0.7
comp=Z,0.9nm,0.5s,mb3.9,baz=37,slow=5.9,SNR=10
GERES LR LR 02 17 45.1
comp=Z,195nm,20.5s,MS4.4,baz=274,slow=38
UMR Umm Al-Rimmam 78.45 301 *e*P **P 01 40 05.1 -0.4**
UMR AMb AMB 01 40 15.5
comp=Z,52nm,1.6s,mb5.2
CONA Conrad Observa 78.48 332 ⇑*i*P **P 01 40 05.3 -0.1**
comp=Z,3.3nm,0.6s,mb4.4
BZS Buzias 78.49 327 ⇓P **P 01 40 05.2 -0.2**
BZS Buzias 78.49 327 ⇓*i*P **P 01 40 05.2 -0.2**
MIB Mutribah 78.49 301 *e*P **P 01 40 05.4 -0.3**
MIB AMb AMB 01 40 08.3
comp=Z,34nm,0.9s,mb5.3
STKA Stephens Creek 78.95 190 P P 01 40 08.6 +0.8
NAY Al-Naaiem 78.95 301 *e*P **P 01 40 07.5 -0.7**
NAY AMb AMB 01 40 21.4
comp=Z,39nm,1.6s,mb5.1
RDF Al-Radifah 79.01 301 *e*P **P 01 40 07.8 -0.7**
RDF AMb AMB 01 40 15.1
comp=Z,86nm,1.6s,mb5.4
PKSM Moragy 79.05 330 ⇑*i*P **P 01 40 05.9 -2.6**
BAIF Baives 79.79 340 *e*P **P 01 40 10.6 -1.8**
KBA Koelnbreinsper 80.03 333 ⇑*i*P **P 01 40 13.0 -0.8**
comp=Z,8.1nm,0.9s,mb4.7
KBA Koelnbreinsper 80.03 333 ⇑*i*P **P 01 40 13.0 -0.8**
KBA pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
WATA Walderalm 80.33 334 ⇓*i*P **P 01 40 16.1 +0.7**
comp=Z,2.6nm,0.8s,mb4.2
WATA Walderalm 80.33 334 ⇓*i*P **P 01 40 16.1 +0.7**
comp=Z,2.6nm,0.8s,mb4.2
WATA Walderalm 80.33 334 ⇓*i*P **P 01 40 16.1 +0.7**
WATA pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
VTS Vitosha 80.44 325 ⇑P **P 01 40 14.7 -1.4**
VTS Vitosha 80.44 325 ⇑*i*P **P 01 40 14.7 -1.4**
CDF Champ du Feu 80.56 338 *e*P **P 01 40 14.9 -1.7**
comp=Z,24nm,1.3s,mb4.7
CDF Champ du Feu 80.56 338 *e*P **P 01 40 14.9 -1.7**
comp=Z,12nm,1.3s,mb4.7
CDF Champ du Feu 80.56 338 *e*P **P 01 40 14.9 -1.7**
CDF pmax pmax
comp=Z,12nm,1.3s,mb4.7
MEZF Maizieres J'vi 81.04 339 *e*P **P 01 40 17.6 -1.6**
comp=Z,26nm,1.0s,mb4.8
MEZF Maizieres J'vi 81.04 339 *e*P **P 01 40 17.6 -1.6**
comp=Z,26nm,1.0s,mb5.1
HAU Haudompre 81.17 338 *e*P **P 01 40 17.9 -2.0**
HAU *e*MLR MLR
comp=Z,243nm,23.0s,MS4.2
HAU Haudompre 81.17 338 *e*P **P 01 40 17.9 -2.0**
HAU MLR MLR
comp=Z,240nm,23.0s,MS4.5
HINF Hinteralfeld 81.22 338 *e*P **P 01 40 18.1 -2.0**
GRR Gorron 82.48 343 *e*P **P 01 40 25.0 -1.8**
LOR Lormes 82.48 339 *e*P **P 01 40 25.0 -1.8**
comp=Z,32nm,1.2s,mb4.8
LOR *e*MLR MLR
comp=Z,235nm,22.8s,MS4.2
LOR Lormes 82.48 339 *e*P **P 01 40 25.0 -1.8**
comp=Z,16nm,1.2s,mb4.8
LOR LR LR
comp=Z,240nm,22.8s,MS4.5
LOR Lormes 82.48 339 *e*P **P 01 40 25.0 -1.8**
LOR pmax pmax
comp=Z,16nm,1.2s,mb4.8
LOR MLR MLR
comp=Z,240nm,22.8s,MS4.5
SSF Saint Saulge 82.76 339 *e*P **P 01 40 26.5 -1.8**
comp=Z,6.3nm,0.7s,mb4.5
SSF Saint Saulge 82.76 339 *e*P **P 01 40 26.5 -1.8**
comp=Z,3.2nm,0.7s,mb4.5
SSF Saint Saulge 82.76 339 *e*P **P 01 40 26.5 -1.8**
SSF pmax pmax
comp=Z,3.0nm,0.7s,mb4.4
SWET Sewanee 82.81 45 *e*P **P 01 40 27.8 -0.9**
SGMF Saint Gilles 82.95 344 *e*P **P 01 40 27.6 -1.6**
AVF Avril sur Loir 83.05 339 *e*P **P 01 40 28.3 -1.5**
comp=Z,18nm,1.1s,mb4.7
AVF Avril sur Loir 83.05 339 *e*P **P 01 40 28.3 -1.5**
comp=Z,9.3nm,1.1s,mb4.7
AVF Avril sur Loir 83.05 339 *e*P **P 01 40 28.3 -1.5**
AVF pmax pmax
comp=Z,9.0nm,1.1s,mb4.7
SMF Signal de Mont 83.07 339 *e*P **P 01 40 28.3 -1.6**
comp=Z,25nm,1.1s,mb4.8
SMF Signal de Mont 83.07 339 *e*P **P 01 40 28.3 -1.6**
comp=Z,13nm,1.1s,mb4.9
SMF Signal de Mont 83.07 339 *e*P **P 01 40 28.3 -1.6**

SMF				pmax	pmax		
	comp=Z,13nm,1.1s,mb4.9						
LPL	**La Plagne**	**83.37**	**337**	*e*P	**P**	**01 40 30.7**	**-0.7**
LPG	**La Plagne**	**83.38**	**337**	*e*P	**P**	**01 40 30.7**	**-0.8**
	comp=Z,16nm,1.0s,mb4.7						
LPG	**La Plagne**	**83.38**	**337**	*e*P	**P**	**01 40 30.7**	**-0.8**
	comp=Z,7.8nm,1.0s,mb4.7						
LPG	**La Plagne**	**83.38**	**337**	*e*P	**P**	**01 40 30.7**	**-0.8**
LPG				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.7						
ORIF	**Oris-en-Rattie**	**84.15**	**337**	*e*P	**P**	**01 40 34.6**	**-0.8**
ORIF				*e*MLR	MLR		
	comp=Z,236nm,21.5s,MS4.2						
NWAO	**Narrogin (SRO)**	**85.59**	**209**	*e*P	**P**	**01 40 42.5**	**0.0**
ESDC	**Sonseca Array**	**91.47**	**342**	LR	LR	02 24 36.3	
	comp=Z,116nm,20.2s,MS4.3,baz=320,slow=37						
KEST	**Kesra**	**91.55**	**331**	LR	LR	02 28 13.2	
	comp=Z,57nm,18.2s,MS4.0,baz=247,slow=39						
TORD	**Torodi Ar. Bea**	**114.97**	**329**	PKP	PKiKP	01 46 43.7	-1.9
	comp=Z,0.2nm,0.5s,baz=37,slow=0.4,SNR=6.6						
LPAZ	**La Paz**	**134.49**	**62**	*e*PKPdf	PKPdf	01 47 23.6	+0.8
BDFB	**Brasilia**	**144.43**	**36**	PKIKP	PKPdf	01 47 38.4	-2.5
BDFB				pmax	pmax		
	comp=Z,1.0nm,0.4s						
BDFB	**Brasilia**	**144.43**	**36**	PKP	PKPdf	01 47 38.4	-2.4
	comp=Z,0.7nm,0.4s,baz=231,slow=19,SNR=4.9						
PLCA	**Paso Flores**	**148.40**	**95**	PKPbc	PKPbc	01 47 49.4	-1.0
PLCA	**Paso Flores**	**148.40**	**95**	PKP2	PKPbc	01 47 49.4	-1.0
PLCA				pmax	pmax		
	comp=Z,6.0nm,0.7s						
PLCA	**Paso Flores**	**148.40**	**95**	PKPbc	PKPbc	01 47 49.4	-0.9
	comp=Z,5.6nm,0.7s,baz=253,slow=4.7,SNR=15						
SNAA	**Sanae**	**152.53**	**196**	PKPbc	PKPbc	01 47 58.0	-1.2
	comp=Z,0.7nm,0.5s,baz=208,slow=4.8,SNR=26						
SNAA				PKPab	PKPab	01 48 06.6	-3.3
	comp=Z,0.7nm,0.7s,baz=194,slow=14,SNR=4.2						
VNA2	**Neumayer--Watz**	**153.98**	**195**	*e*PKPdf	PKPbc	01 48 01.9	-0.6
	baz=271,slow=1.6						
VNA2				*e*		01 48 11.8	
VNA2				*e*		01 48 15.9	
VNA2				*e*		01 48 24.9	
VNA2				*e*		01 48 29.8	
VNA2				*e*		01 48 37.7	
VNA2				*e*		01 48 43.2	
VNA3	**Neumayer Olymp**	**154.08**	**193**	*e*PKPdf	PKPbc	01 48 01.9	-0.8
VNA3				*e*		01 48 11.7	
VNA3				*e*		01 48 15.7	
VNA3				*e*		01 48 24.9	
VNA3				*e*		01 48 29.9	
VNA3				*e*		01 48 38.0	
VNA3				*e*		01 48 43.6	

ISCJB ***13*** *01:48:22.7±0.7,3828N±003×2041E±003,h4km±5km, Error ellipse: s-maj=4.7km s-min=3.1km az=35.7*
ROM ***13*** *01:48:22.3±0.2,3827N×2062E,h10km,Ml3.3/13, Error ellipse: s-maj=7.9km s-min=0.0km az=28.0*
THE ***13*** *01:48:23.9,3833N×2046E,h3km,ML4.1*
NEIC ***13*** *01:48:23.8,3829N×2050E,h17km,MD3.9(ATH), After ATH.*
ATH ***13*** *01:48:23.8,3829N×2050E,h17km±1km,MD3.9/12,ML3.9*
ISC 13 01:48:24.1±0.6,3829N±002×2045E±003,h7km±4km,n61,σ0=99/75,1C,Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.16**	**134**	⇑*i*PB	**Pg**	**01 48 27.7**	**+0.4**
VLS				*e*SB	**Sg**	**01 48 31.0**	**+1.5**
LKD	**Levkas**	**0.45**	**21**	*e*Pg	**Pg**	**01 48 31.4**	**-1.4**
LKD				*e*Sg	**Sg**	**01 48 37.4**	**-1.3**
RLS	**Riolos of Patr**	**0.84**	**106**	*e*PN	**Pg**	**01 48 39.2**	**-1.0**
SELA	**Sela**	**1.14**	**90**	*e*Pg	**Pg**	**01 48 44.3**	**-1.6**
SELA				*e*Sg	**Sg**	**01 49 01.7**	**+1.0**
EVR	**Evrytania**	**1.24**	**59**	*e*PN	**Pn**	**01 48 45.8**	**-2.1**
IGT	**Igoumenitsa**	**1.25**	**356**	*e*Pg	**Pg**	**01 48 46.5**	**-1.5**
IGT				*e*Sg	**Sg**	**01 49 04.8**	**+0.6**
JAN	**Janina**	**1.40**	**13**	*e*PN	**Pn**	**01 48 50.7**	**+0.6**
KEK	**Kerkira**	**1.51**	**341**	*e*PN	**Pn**	**01 48 52.0**	**+0.4**
KEK	**Kerkira**	**1.51**	**341**	Pn	**Pn**	**01 48 51.1**	**-0.5**
	143nm,0.6s						
ITM	**Ithomi**	**1.61**	**133**	*e*PN	**Pn**	**01 48 53.3**	**+0.3**
SRN	**Sarande**	**1.63**	**348**	*e*PN	**Pn**	**01 48 54.6**	**+1.4**
SRN				*i* SN	**Sg**	**01 49 17.2**	**+0.8**
AGG	**Agios Georgios**	**1.65**	**63**	*e*Pb	**Pb**	**01 48 53.2**	**-1.6**
AGG				*e*Sb	**Sb**	**01 49 16.5**	**+0.7**
PYL	**PYLOS**	**1.73**	**143**	*e*Pb	**Pb**	**01 48 54.9**	**-1.3**
THL	**Klokotos Trika**	**1.77**	**43**	*e*PN	**Pn**	**01 48 55.3**	**+0.2**
VLX	**Vlachokerasia**	**1.78**	**120**	*e*Pb	**Pb**	**01 48 55.2**	**-1.9**
LTK	**Loutraki**	**2.00**	**97**	*e*Pn	**Pn**	**01 48 59.0**	**+0.6**
LKR	**Lokris**	**2.04**	**79**	*e*PN	**Pn**	**01 48 59.4**	**+0.6**
KZN	**Kozani**	**2.26**	**27**	*e*PN	**Pn**	**01 49 03.0**	**+1.1**
DID	**Didima**	**2.34**	**109**	*e*Pn	**Pn**	**01 49 03.5**	**+0.5**
KBN	**Korca**	**2.35**	**6**	*e*PN	**Pg**	**01 49 10.0**	**+0.9**
KBN				*i* SN	**Sg**	**01 49 42.6**	**+3.1**
SCTE	**Santa Cesarea**	**2.35**	**320**	Pn	**Pn**	**01 49 02.1**	**-1.1**
	150nm,0.6s						
NEO	**Neokhori**	**2.40**	**64**	*e*PB	**Pn**	**01 49 03.5**	**-0.3**
LIT	**Litokhoron**	**2.41**	**41**	*e*Pn	**Pn**	**01 49 04.7**	**+0.7**
NAIG	**Nisos Aigina**	**2.46**	**101**	*e*PN	**Pn**	**01 49 05.5**	**+0.9**
VLI	**Veliai**	**2.53**	**128**	*e*PN	**Pn**	**01 49 05.4**	**-0.1**
ATH	**Athens Observa**	**2.60**	**96**	*e*PB	**Pn**	**01 49 07.2**	**+0.7**
PTL	**Penteli**	**2.71**	**94**	*e*PB	**Pn**	**01 49 08.5**	**+0.5**
LCI	**Lecce**	**2.73**	**319**	Pn	**Pn**	**01 49 07.5**	**-0.9**
	35nm,0.3s						
BIA	**Bitola**	**2.81**	**14**	*e*Pn	**Pn**	**01 49 08.6**	**-0.9**
BIA	**Bitola**	**2.81**	**14**	*i* Pn	**Pn**	**01 49 10.4**	**+0.9**
BIA				*i* Sn	**Sn**	**01 49 44.0**	**+0.3**
AOS	**Alonnisos**	**2.83**	**71**	*e*Pn	**Pn**	**01 49 09.5**	**-0.2**
OHR	**Ohrid**	**2.83**	**5**	*i* Pn	**Pn**	**01 49 10.9**	**+1.1**
OHR				*i* Sn	**Sn**	**01 49 44.4**	**+0.2**
PAIG	**Paliouri**	**3.00**	**56**	*e*Pn	**Pn**	**01 49 11.2**	**-0.9**
TIP	**Timpagrande**	**3.02**	**288**	*e*Pn	**Pn**	**01 49 12.2**	**-0.1**
TIP				Sn	**Sn**	**01 49 46.1**	**-2.6**
TIP	**Timpagrande**	**3.02**	**288**	Pn	**Pn**	**01 49 12.3**	**0.0**
SERS	**Sersale**	**3.03**	**285**	Pn	**Pn**	**01 49 12.6**	**+0.1**
GRG	**Griva**	**3.06**	**29**	*e*Pn	**Pn**	**01 49 12.5**	**-0.5**
PLG	**Polygyros**	**3.12**	**47**	*e*Pn	**Pn**	**01 49 13.5**	**-0.3**
PLG	**Polygyros**	**3.12**	**47**	*e*PN	**Pn**	**01 49 13.2**	**-0.6**
KRUS	**Krusevo**	**3.14**	**11**	*i* Pn	**Pn**	**01 49 15.1**	**+1.1**
PLAC	**Placanica**	**3.15**	**274**	Pn	**Pn**	**01 49 13.9**	**-0.3**
SOH	**Sokhos**	**3.39**	**41**	*e*Pn	**Pn**	**01 49 17.7**	**+0.3**
OUR	**Ouranopolis**	**3.42**	**52**	*e*Pn	**Pn**	**01 49 17.8**	**-0.1**
KNT	**Kendrikon**	**3.44**	**33**	*e*Pn	**Pn**	**01 49 17.9**	**-0.2**
VAY	**Valandovo**	**3.44**	**28**	*i* Pn	**Pn**	**01 49 21.8**	**+3.7**
NOCI	**Noci**	**3.62**	**315**	Pn	**Pn**	**01 49 19.6**	**-0.9**
	84nm,0.7s						
CRAC	**Craco**	**3.74**	**305**	Pn	**Pn**	**01 49 22.5**	**+0.3**
	171nm,0.9s						
PUK	**Puka**	**3.77**	**354**	*e*PN	**Pn**	**01 49 21.9**	**-0.8**
PUK				*i* SN	**Sn**	**01 50 06.2**	**-1.2**
SCHR	**S. Chirco Rap**	**3.89**	**301**	Pn	**Pn**	**01 49 25.9**	**+1.6**
	38nm,1.2s						
AMUR	**Altamura**	**3.96**	**313**	Pn	**Pn**	**01 49 24.3**	**-0.9**
	54nm,0.8s						
SIRI	**Monte Sirino -**	**4.03**	**299**	Pn	**Pn**	**01 49 27.4**	**+1.2**
	27nm,0.4s						
MCEL	**Monticello**	**4.14**	**301**	Pn	**Pn**	**01 49 28.3**	**+0.6**
	33nm,0.7s						
MTSN	**Montesano sull**	**4.14**	**300**	Pn	**Pn**	**01 49 28.6**	**+0.8**
	55nm,0.8s						
MGR	**Morigerati**	**4.22**	**297**	Pn	**Pn**	**01 49 28.6**	**-0.3**
	31nm,0.3s						
CMPR	**Campora**	**4.47**	**299**	Pn	**Pn**	**01 49 33.7**	**+1.4**
	29nm,1.1s						
MCRV	**Calabrutti - M**	**4.78**	**303**	Pn	**Pn**	**01 49 36.7**	**+0.2**
	17nm,0.4s						
SGTA	**Sant Agata di**	**4.84**	**308**	Pn	**Pn**	**01 49 38.3**	**+0.9**
	155nm,2.6s						
NRCA	**Norcia**	**7.19**	**311**	Pn	**Pn**	**01 50 10.1**	**+0.4**
	2.0nm,0.8s						
NVLJ	**Novalja**	**7.54**	**328**	*e*Pn	**Pn**	**01 50 12.2**	**-2.2**
NVLJ				Sn	**Sn**	**01 51 34.6**	**-5.5**
BOJS	**Bojanci**	**8.18**	**333**	*i* Pn	**Pn**	**01 50 22.6**	**-0.6**
BOJS				*i* Sn	**Sn**	**01 51 50.1**	**-5.8**
JAVS	**Javornik**	**8.96**	**330**	*e*Pn	**Pn**	**01 50 34.3**	**+0.5**
JAVS				*i* Sn	**Sn**	**01 52 07.0**	**-7.9**

BJI ***13*** *01:50:19.8,1622S×17861W,h5km,mB5.2,mb5.1,Ms5.2, Msz4.7*
IDC ***13*** *01:50:21.3±0.7,1608S×17877W,h0km,mb4.6/13, mb1 4.8/13,mb1mx4.7/18,mbtmp4.6/13,MS4.7/18, Ms1 4.7/18,ms1mx4.5/23,Error ellipse: s-maj=29.0km s-min=16.3km az=149.0*
ISCJB ***13*** *01:50:22.6±0.2,1606S±006×17896W±005,h13km, mb5.0/56,MS4.7/31,Error ellipse: s-maj=9.2km s-min=5.2km az=149.6*
SZGRF ***13*** *01:50:24.8,1509S×17769W,h33km,Fiji Islands region*
NEIC ***13*** *01:50:27.5±0.2,1608S×17888W,h35km,mb5.2/37, MS5.1/5,Error ellipse: s-maj=11.8km s-min=6.7km az=143.0*
GCMT ***13*** *01:50:27.5±0.2,1588S×17865W,h16km,MW5.2/98, Moment Tensor Solution. s66,c95; s98,c170; Duration: 1s0 Moment tensor: Scale 10^16Nm; Mrr0.58±.17; Mθθ-3.49±.16; Mφφ2.91±.16; Mrθ-1.64±.44; Mφφ8.51±.15; Mφr0.26±.44; Best double couple: M0 9.23400×10^16 NP1:φs80.00000°,δ88.00000°,λ-10.00000°. NP2: φs80.00000°,δ88.00000°,λ-178.00000°. Principal axes: T 8.8650, Plg5.0000°, Azm125.0000°; N 0.7410, Plg80.0000°, Azm246.0000°; P -9.6030, Plg8.0000°, Azm34.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
MOS ***13*** *01:50:28.5±1.5,1534S×17896W,h33km,mb5.3/18, MS4.7/5 Error ellipse: s-maj=14.3km s-min=10.7km az=66.9*
ISC 13 01:50:24.3±0.2,1606S±006×17893W±005,h14km, h14km±1.1km:pP-P,n449,σ0=67/308,mb5.0/56,MS4.7/31, 84C-85D,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.24**	**74**	*e*Pn	**Pn**	**01 52 02.5**	**-7.3**
	73nm,1.0s						
AFI	**Afiamalu**	**7.24**	**74**	*e*P	**Pn**	**01 52 02.5**	**-7.3**
AFI				pmax	pmax		
	comp=Z,73nm,1.0s						
RAO	**Raoul Island**	**13.16**	**176**	Pn	**Pn**	**01 53 29.8**	**-1.1**
RAR	**Rarotonga**	**18.86**	**109**	LR	LR	02 00 10.0	
	comp=Z,1μm,18.1s,baz=269,slow=32						
HNR	**Honiara**	**21.62**	**285**	*e*Pn	**P**	**01 55 17.2**	**+2.9**
	comp=Z,97nm,0.9s,mb5.2						
HNR	**Honiara**	**21.62**	**285**	*e*P	**P**	**01 55 17.2**	**+2.9**
HNR				pmax	pmax		
	comp=Z,97nm,0.9s,mb5.2						
HNR	**Honiara**	**21.62**	**285**	P	**P**	**01 55 14.6**	**+0.3**
	comp=Z,54nm,0.6s,mb5.2,baz=161,slow=1.5,SNR=3.1						
HNR				LR	LR	02 02 24.7	
	comp=Z,5μm,18.7s,MS5.0,baz=172,slow=33						
URZ	**Urewera**	**22.39**	**188**	P	**P**	**01 55 20.6**	**-1.6**
	comp=Z,9.3nm,0.7s,mb4.3,baz=308,slow=12,SNR=2.4						
URZ				LR	LR	02 03 28.5	
	comp=Z,3μm,18.7s,MS4.7,baz=194,slow=35						
PPT	**Papeete**	**28.13**	**97**	*e*LQ		02 02 15.7	
	comp=Z,2μm,28.0s						
PPT				*e*LR	LR	02 03 17.6	
	comp=Z,2μm,26.0s,baz=265						
PPT	**Papeete**	**28.13**	**97**	LR	LR	02 03 45.5	
	comp=Z,961nm,20.9s,MS4.4,baz=270,slow=29						
TBI	**Tubuai**	**28.64**	**109**	*e*S	**S**	**02 01 02.3**	**-6.8**
	comp=Z,318nm,26.0s						
TBI				*e*LR	LR	02 03 41.1	
	comp=Z,4μm,29.5s						
PMOR	**Pomariorio Ree**	**29.91**	**92**	*e*P	**P**	**01 56 28.4**	**-3.7**
	comp=Z,103nm,1.3s,mb5.4						
VAH	**Vaihoa**	**30.14**	**93**	*e*P	**P**	**01 56 30.2**	**-3.9**
	comp=Z,68nm,1.3s,mb5.2						
CTA	**Charters Tower**	**33.30**	**258**	P	**P**	**01 57 04.0**	**+2.1**
	comp=Z,3.2nm,0.3s,mb4.7,baz=94,slow=14						
CTA				LR	LR	02 09 11.0	
	comp=Z,923nm,18.6s,MS4.5,baz=255,slow=34						
CTAO	**Charters Tower**	**33.30**	**258**	*e*P	**P**	**01 57 03.8**	**+1.9**
	comp=Z,13nm,0.8s,mb4.9						
CTAO	**Charters Tower**	**33.30**	**258**	*e*P	**P**	**01 57 03.8**	**+1.9**
CTAO				pmax	pmax		
	comp=Z,13nm,0.8s,mb4.9						
TAOE	**Nuku Hiva Isla**	**38.49**	**84**	*e*LR	LR	02 08 00.7	
	comp=Z,20μm,26.6s						
STKA	**Stephens Creek**	**39.11**	**239**	*e*P	**P**	**01 57 52.3**	**+0.8**
	comp=Z,19nm,1.1s,mb4.7						
STKA	**Stephens Creek**	**39.11**	**239**	P	**P**	**01 57 52.1**	**+0.6**
	comp=Z,23nm,1.1s,mb4.8,baz=71,slow=7.8,SNR=21						
STKA				LR	LR	02 12 48.7	
	comp=Z,1μm,19.1s,MS4.8,baz=64,slow=34						
RKT	**Rikitea**	**41.88**	**107**	*e*LQ		02 08 06.4	
	comp=Z,990nm,31.8s						
RKT				*e*LR	LR	02 09 45.2	
	comp=Z,2μm,28.2s,baz=272						
WB2	**Warramunga Arr**	**44.49**	**258**	*e*P	**P**	**01 58 35.1**	**-0.6**
WRAB	**Tennant Creek**	**44.49**	**258**	*e*P	**P**	**01 58 35.7**	**0.0**
WRAB	**Tennant Creek**	**44.49**	**258**	*e*P	**P**	**01 58 34.3**	**-1.4**
WRA	**Warrmunga Arr**	**44.50**	**258**	P	**P**	**01 58 34.8**	**-0.9**
	comp=Z,18nm,1.1s,mb4.8,baz=89,slow=6.9,SNR=30						
ASAR	**Alice Springs**	**44.84**	**252**	P	**P**	**01 58 38.5**	**0.0**
	comp=Z,24nm,1.0s,mb5.0,baz=85,slow=8.4,SNR=89						
GUMO	**Guam**	**46.35**	**307**	LR	LR	02 16 05.5	
	comp=Z,426nm,20.7s,MS4.4,baz=112,slow=33						
KAKA	**Kakadu**	**47.14**	**267**	*e*P	**P**	**01 58 57.1**	**+0.4**
FORT	**Forrest**	**50.37**	**243**	*e*P	**P**	**01 59 19.8**	**-1.5**
	comp=Z,13nm,0.8s,mb5.0						
FITZ	**Fitzroy Crossi**	**52.86**	**259**	*e*P	**P**	**01 59 41.3**	**+1.2**
	comp=Z,13nm,1.2s,mb4.8						
MBWA	**Marble Bar**	**58.05**	**255**	*e*P	**P**	**02 00 17.4**	**-0.1**
SBA	**Scott Base**	**62.22**	**183**	*e*P	**P**	**02 00 47.5**	**+2.4**
MJAR	**Matsushiro Arr**	**66.14**	**323**	P	**P**	**02 01 11.3**	**0.0**
	comp=Z,9.6nm,1.1s,mb4.8,baz=162,slow=7.0,SNR=9.2						
MJAR				LR	LR	02 25 16.3	
	comp=Z,352nm,20.9s,MS4.5,baz=140,slow=32						
MAJO	**Matsushiro**	**66.14**	**323**	*e*P	**P**	**02 01 11.6**	**+0.2**
	comp=Z,41nm,1.7s,mb5.2						
MAJO	**Matsushiro**	**66.14**	**323**	*e*P	**P**	**02 01 11.6**	**+0.2**
MAJO				pmax	pmax		
	comp=Z,41nm,1.7s,mb5.2						
MAT	**Matsushiro**	**66.14**	**323**	P	**P**	**02 01 10.8**	**-0.6**
MAT				S	S	02 09 50.0	-10
CASY	**Casey**	**67.60**	**204**	*e*P	**P**	**02 01 20.5**	**+0.2**
	comp=Z,11nm,0.8s,mb5.0						
JNU	**Nakatsue**	**68.47**	**316**	P	**P**	**02 01 26.8**	**+0.6**
	comp=Z,20nm,0.9s,mb5.1,baz=233,slow=20,SNR=2.3						
YSS	**Yuzh-Sakhalins**	**71.55**	**333**	*e*	**P**	**02 01 45.7**	**+0.8**
YSS				MLR	MLR		
	comp=Z,200nm,17.0s,MS4.5						
KSRS	**Korea Array**	**73.00**	**318**	P	**P**	**02 01 52.2**	**-1.5**
	comp=Z,1.5nm,0.8s,mb4.0,baz=110,slow=7.0,SNR=3.1						
KSRS				LR	LR	02 28 30.9	
	comp=Z,224nm,19.4s,MS4.5,baz=146,slow=31						
QSPA	**South Pole Qui**	**73.98**	**180**	*e*P	**P**	**02 01 59.5**	**+0.6**
	comp=Z,49nm,1.1s,mb5.3						
MIR	**Mirnyy**	**74.63**	**205**	*e*P	**P**	**02 02 09.0**	**+6.1**
MIR				pmax	pmax		
	comp=Z,200nm,2.0s,mb5.7						
U04C	**Hernandez Rese**	**75.69**	**45**	⇓P	**P**	**02 02 10.2**	**+0.8**
	baz=76						
PACP	**Pacheco Peak**	**75.69**	**44**	⇑P	**P**	**02 02 10.0**	**+0.5**
	baz=76						
S04C	**Ingram Canyon,**	**75.94**	**44**	⇑P	**P**	**02 02 11.3**	**+0.4**
	baz=76						
MNRC	**McLaughlin Nat**	**75.97**	**42**	⇓P	**P**	**02 02 11.4**	**+0.4**
	baz=76						
GASB	**Alder Springs**	**76.23**	**41**	⇓P	**P**	**02 02 13.3**	**+0.8**
	baz=76						
NJ2	**Nanjing**	**76.39**	**309**	*e*P	**P**	**02 02 16.5**	**+3.0**
MDJ	**Mudanjiang**	**76.40**	**325**	P	**P**	**02 02 12.6**	**-0.7**
MDJ				AP	pP	02 02 15.9	-1.9
MDJ				PCP	PcP	02 02 24.1	-0.9
MDJ				PP	PP	02 05 03.4	-1.9
MDJ				S	S	02 11 57.5	-0.7
MDJ				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.7						
MDJ				AMB	AMB		
	comp=Z,120nm,3.1s						
MDJ				LR	LR		
	comp=N,70nm,17.4s,MS4.4						
MDJ				LR	LR		
	comp=E,150nm,20.2s,MS4.4						
MDJ				LR	LR		
	comp=Z,216nm,20.9s,MS4.4						
MDJ	**Mudanjiang**	**76.40**	**325**	P	**P**	**02 02 12.8**	**-0.5**
O02C	**Red Bluff**	**76.48**	**41**	⇓P	**P**	**02 02 14.4**	**+0.5**
	baz=76						
N02C	**Big Bar**	**76.53**	**40**	⇓P	**P**	**02 02 14.3**	**+0.2**
	baz=77						
T06C	**Millerton Lake**	**76.76**	**45**	⇑P	**P**	**02 02 15.1**	**-0.5**
	baz=77						
CMB	**Columbia Colle**	**76.85**	**44**	*e*P	**P**	**02 02 15.4**	**-0.7**
	comp=Z,23nm,1.3s,mb5.0						
CMB	**Columbia Colle**	**76.85**	**44**	*e*P	**P**	**02 02 15.4**	**-0.6**
CMB				pmax	pmax		
	comp=Z,23nm,1.3s,mb5.0						
CMB	**Columbia Colle**	**76.85**	**44**	P	**P**	**02 02 15.7**	**-0.3**
	baz=77,SNR=10						
WDC	**Whiskeytown Da**	**76.87**	**41**	⇓P	**P**	**02 02 15.4**	**-0.7**
	baz=77						
ISA	**Isabella**	**76.91**	**47**	*e*P	**P**	**02 02 16.4**	**0.0**
	comp=Z,24nm,1.3s,mb5.0						
ISA	**Isabella**	**76.91**	**47**	*e*P	**P**	**02 02 16.4**	**0.0**
ISA				pmax	pmax		
	comp=Z,24nm,1.3s,mb5.0						
ISA	**Isabella**	**76.91**	**47**	⇑P	**P**	**02 02 16.3**	**-0.1**
	baz=77						
ORV	**Oroville**	**76.95**	**42**	⇓P	**P**	**02 02 16.1**	**-0.5**
	baz=77						
HELL	**Mitchell Peak**	**77.06**	**46**	⇓P	**P**	**02 02 16.8**	**-0.5**
	baz=77						
M02C	**Callahan**	**77.14**	**40**	⇓P	**P**	**02 02 17.6**	**+0.1**
	baz=77						
KCC	**Kaiser Creek**	**77.19**	**45**	⇓P	**P**	**02 02 18.2**	**+0.3**
	baz=77						
PFO	**Pinyon Flat Ob**	**77.33**	**49**	LR	LR	02 29 17.0	
	comp=Z,631nm,19.3s,MS5.0,baz=127,slow=30						
P05C	**Yuba Gap, Truc**	**77.39**	**43**	⇓P	**P**	**02 02 19.3**	**+0.3**
	baz=77						
R05C	**Kirkwood Meado**	**77.42**	**43**	P	**P**	**02 02 19.2**	**0.0**
	baz=78,SNR=10						
YBH	**Yreka Blue Hor**	**77.42**	**40**	*e*P	**P**	**02 02 19.6**	**+0.4**
	comp=Z,44nm,1.4s,mb5.2						
YBH	**Yreka Blue Hor**	**77.42**	**40**	*e*P	**P**	**02 02 19.6**	**+0.5**
YBH				pmax	pmax		
	comp=Z,44nm,1.4s						
YBH	**Yreka Blue Hor**	**77.42**	**40**	⇑P	**P**	**02 02 19.2**	**0.0**
	baz=78						
M03C	**McCloud**	**77.52**	**40**	P	**P**	**02 02 19.9**	**+0.2**
	baz=78,SNR=8.3						
O04C	**Chester**	**77.64**	**42**	⇓P	**P**	**02 02 20.7**	**+0.3**
	baz=78						
MLAC	**Mammoth Lakes**	**77.68**	**45**	⇓P	**P**	**02 02 21.1**	**+0.4**
	baz=78						
HATC	**Hat Creek Radi**	**77.68**	**41**	⇑P	**P**	**02 02 20.8**	**+0.2**
	baz=78						
R06C	**Coleville**	**77.73**	**44**	⇓P	**P**	**02 02 20.9**	**-0.1**
	baz=78						
HUMO	**Hull Mountain**	**77.78**	**39**	*e*P	**P**	**02 02 22.4**	**+1.3**
HUMO	**Hull Mountain**	**77.78**	**39**	⇓P	**P**	**02 02 21.0**	**-0.1**
	baz=78						
MPMC	**Manual Prospec**	**77.80**	**47**	⇓P	**P**	**02 02 21.6**	**+0.1**
	baz=78						
BEKR	**Beckwourth**	**77.86**	**42**	P	**P**	**02 02 21.7**	**0.0**
	baz=78,SNR=11						
WCN	**Washoe City**	**77.95**	**43**	⇓P	**P**	**02 02 22.3**	**+0.2**
	baz=78						
LPIG	**La Paz**	**77.96**	**60**	LR	LR	02 28 25.1	
	comp=Z,348nm,19.8s,MS4.7,baz=225,slow=29						
M04C	**Macdoel**	**77.99**	**40**	⇓P	**P**	**02 02 22.3**	**0.0**
	baz=78						
S08C	**White Mtn Res**	**78.06**	**45**	⇓P	**P**	**02 02 22.7**	**-0.1**
	baz=78						
J03A	**Ideyld Park**	**78.21**	**38**	⇓P	**P**	**02 02 23.4**	**-0.1**
	baz=78						
CN2	**Changchun**	**78.26**	**322**	*e*P	**P**	**02 02 23.5**	**-0.3**
CN2				*e*XP	sP	02 02 30.5	+0.6
CN2				*e*S	S	02 12 15.4	-3.1
CN2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.9						
CN2				AMB	AMB		
	comp=Z,200nm,5.0s						
CN2				LR	LR		
	comp=N,310nm,22.0s,MS4.8						
CN2				LR	LR		
	comp=E,400nm,22.0s,MS4.8						
CN2				LR	LR		
	comp=Z,270nm,19.0s,MS4.6						
O06A	**Flanigan**	**78.36**	**42**	P	**P**	**02 02 24.4**	**0.0**
	baz=78,SNR=10						
NVAR	**Mina Array Bea**	**78.45**	**44**	P	**P**	**02 02 24.0**	**-1.0**
	comp=Z,12nm,1.1s,mb4.7,baz=219,slow=7.1,SNR=14						
M06C	**Likely Place G**	**78.52**	**41**	⇑P	**P**	**02 02 25.1**	**-0.1**
	baz=79						
IRM	**Iron Mountain**	**78.55**	**49**	⇑P	**P**	**02 02 25.6**	**0.0**
	baz=78						
J04A	**Umpqua Nationa**	**78.65**	**39**	⇓P	**P**	**02 02 26.5**	**+0.5**
	baz=79						
N06A	**Buffalo Meadow**	**78.67**	**42**	P	**P**	**02 02 26.5**	**+0.4**
	baz=79,SNR=19						
L05A	**Lakeview**	**78.76**	**40**	⇓P	**P**	**02 02 27.2**	**+0.7**
	baz=79						
H03A	**Soap

P10A	Eureka	80.29	44	⇓P	P	02 02 35.2	+0.3
	baz=80						
X14A	Yava	80.35	50	⇓P	P	02 02 35.4	0.0
	baz=80						
L08A	Fields	80.39	41	⇓P	P	02 02 35.6	+0.1
	baz=80						
S12A	Delamar Landin	80.41	46	⇓P	P	02 02 36.5	+0.9
	baz=80						
J07A	Hines	80.42	40	⇑P	P	02 02 35.8	+0.3
	baz=80						
Q11A	Duckwater	80.45	45	⇑P	P	02 02 36.0	+0.1
	baz=80						
U13A	Pakoon Wash	80.46	48	⇓P	P	02 02 36.1	+0.1
	baz=80						
Y15A	Casa Rosa Ranc	80.53	51	⇓P	P	02 02 36.5	+0.1
	baz=80						
F05A	White Salmon	80.54	37	⇑P	P	02 02 36.3	+0.1
	baz=81						
W14A	Seligman	80.54	49	⇑P	P	02 02 36.7	+0.2
	baz=80						
H06A	Lindquist Farm	80.55	38	⇑P	P	02 02 36.0	-0.2
	baz=81,SNR=5.2						
M09A	Marrel Ranch,	80.56	42	⇑P	P	02 02 36.9	+0.5
	baz=81						
K08A	Mann Creek Ran	80.59	41	⇓P	P	02 02 36.7	+0.3
	baz=81						
O10A	Cortez Mining,	80.60	43	⇑P	P	02 02 37.0	+0.4
	baz=81						
G06A	Carlson Farm,	80.65	38	⇑P	P	02 02 36.8	0.0
	baz=81						
I07A	Izee	80.69	39	⇑P	P	02 02 37.1	+0.1
	baz=81						
V14A	Boquillas Ranc	80.72	49	⇓P	P	02 02 37.2	-0.1
	baz=81						
217A	Green Valley	80.73	53	⇑P	P	02 02 37.7	+0.2
	baz=81						
L09A	Wilkinson Ranc	80.73	41	⇑P	P	02 02 37.4	+0.1
	baz=81						
GNW	Green Mountain	80.75	35	eP	P	02 02 37.0	-0.2
E05A	Randle	80.75	36	⇓P	P	02 02 37.2	-0.1
	baz=81						
TTA	Tatalina	80.75	10	eP	P	02 02 35.6	-1.3
C04A	Brinnon	80.76	35	⇓P	P	02 02 37.3	0.0
	baz=81						
T13A	Saint George	80.79	47	⇑P	P	02 02 37.9	+0.2
	baz=81						
X15A	Humboldt	80.84	50	⇓P	P	02 02 38.1	+0.1
	baz=81						
R12A	Pony Springs,	80.92	46	⇑P	P	02 02 38.5	+0.1
	baz=81						
J08A	Circle Bar Ran	80.93	40	⇑P	P	02 02 38.3	0.0
	baz=81						
H07A	Lands Inn, Kim	80.93	39	⇓P	P	02 02 38.2	-0.1
	baz=81						
PMR	Palmer	80.94	14	eP	P	02 02 37.2	-0.7
	comp=Z,38nm,1.4s,mb5.1						
PMR	Palmer	80.94	14	eP	P	02 02 37.2	-0.7
PMR				pmax	pmax		
	comp=Z,38nm,1.4s,mb5.1						
TUC	Tucson	80.98	53	eP	P	02 02 39.3	+0.5
D05A	Enumclaw	80.99	35	⇑P	P	02 02 38.4	-0.1
	baz=81						
U14A	Mt Trumbull	81.03	48	⇑P	P	02 02 39.5	+0.5
	baz=81						
K09A	Rome	81.05	41	P	P	02 02 39.4	+0.4
	baz=81,SNR=17						
O11A	Cowboy Ranch,	81.08	44	P	P	02 02 39.5	+0.3
	baz=81,SNR=12						
S13A	Holt Ranch, En	81.08	47	⇑P	P	02 02 39.7	+0.5
	baz=81						
Q12A	Willow Creek R	81.11	45	⇓P	P	02 02 39.6	+0.2
	baz=81						
I08A	Drewsey	81.16	39	⇓P	P	02 02 39.8	+0.3
	baz=81						
E06A	Yakima	81.19	36	⇑P	P	02 02 40.1	+0.5
	baz=81						
M10A	I.L. Ranch, Tu	81.20	42	⇓P	P	02 02 39.9	+0.1
	baz=81						
318A	Bisbee	81.22	54	⇓P	P	02 02 40.0	-0.2
	baz=81						
G07A	Ruggs Ranch, H	81.24	38	⇓P	P	02 02 39.7	-0.2
	baz=81						
P12A	McGill	81.27	45	⇓P	P	02 02 40.4	+0.2
	baz=81						
X16A	Lo Mia Camp, P	81.40	51	⇑P	P	02 02 41.3	+0.3
	baz=81						
218A	Dragoon	81.40	53	⇑P	P	02 02 41.0	-0.1
	baz=81						
CCUT	Cedar City	81.42	47	eP	P	02 02 41.2	+0.2
H08A	Prairie City	81.43	39	⇑P	P	02 02 40.9	0.0
	baz=82,SNR=5.4						
C05A	Tolt Reservoir	81.45	35	⇑P	P	02 02 40.7	-0.2
	baz=82						
L10A	Juniper Basin	81.53	42	⇑P	P	02 02 41.5	0.0
	baz=82,SNR=11						
B05A	Bryant	81.55	34	⇑P	P	02 02 41.0	-0.5
	baz=82						
K10A	MacKenzie Ranc	81.63	41	P	P	02 02 42.0	0.0
	baz=82,SNR=15						
M11A	Holland Ranch,	81.64	43	⇓P	P	02 02 42.5	+0.4
	baz=82						
G08A	Pilot Rock	81.67	38	P	P	02 02 42.0	-0.2
	baz=82,SNR=11						
O12A	Currie	81.76	44	⇑P	P	02 02 43.5	+0.7
	baz=82						
TNA	Tin City	81.80	5	eP	P	02 02 40.5	-1.9
P13A	Bates Ranch, G	81.86	45	⇓P	P	02 02 43.4	+0.1
	baz=82,SNR=6.6						
T15A	Red Dirt Ranch	81.87	48	⇓P	P	02 02 43.7	+0.2
	baz=82,SNR=5.2						
SEY	Seymchan	81.88	347⇑	eP	P	02 02 41.8	-1.0
WUAZ	Wupatki	81.93	50	eP	P	02 02 46.3	+2.5
	comp=Z,36nm,1.8s,mb5.0						
WUAZ	Wupatki	81.93	50	⇑P	P	02 02 43.9	+0.1
	baz=82						
HAWA	Hanford	81.93	37	eP	P	02 02 43.5	0.0
	comp=Z,38nm,1.4s,mb5.1						
L11A	Cat Creek Ranc	82.03	42	⇑P	P	02 02 44.2	0.0
	baz=82,SNR=13						
BJT	Baijiatuau	82.12	315	P	P	02 02 45.5	+0.8
BJI	Beijing	82.13	315	P	P	02 02 44.0	-0.7
BJI				S	S	02 13 04.6	+5.3
BJI				AMB	AMB		
	comp=Z,9.0nm,0.8s,mb4.8						
BJI				LR	LR		
	comp=N,170nm,26.2s,MS4.5						
BJI				LR	LR		
	comp=E,196nm,21.7s,MS4.5						
BJI				LR	LR		
	comp=Z,281nm,27.8s						
K11A	Parker Ranch,	82.16	41	⇑P	P	02 02 45.0	+0.2
	baz=82,SNR=6.8						
M12A	Wells	82.20	43	⇑P	P	02 02 45.6	+0.5
	baz=82,SNR=5.8						
119A	Ashpeak Ranch,	82.31	53	⇑P	P	02 02 46.3	+0.4
	baz=82						
I10A	Payette	82.34	40	⇑P	P	02 02 46.4	+0.6
	baz=82						
C07A	Waterville	82.35	36	⇑P	P	02 02 45.2	-0.5
	baz=82						
N13A	Wendover, West	82.40	44	⇑P	P	02 02 46.3	+0.1
	baz=82						
BMO	Blue Mountains	82.43	39	eP	P	02 02 44.5	-1.7
	comp=Z,31nm,1.6s,mb5.0						
BMO	Blue Mountains	82.43	39	eP	P	02 02 44.5	-1.7
BMO				pmax	pmax		
	comp=Z,31nm,1.6s,mb5.0						
T16A	Glen Canyon Da	82.48	48	⇑P	P	02 02 46.9	+0.2
	baz=82						
L12A	House Creek Ra	82.50	42	⇓P	P	02 02 46.8	+0.2
	baz=82						
MFID	Camas Ranch	82.61	41	⇓P	P	02 02 46.8	-0.4
	baz=83,SNR=10						
H10A	Noah's Angus R	82.63	40	⇓P	P	02 02 46.5	-0.8
	baz=83,SNR=10						
D08A	Wollman Farm,	82.65	37	⇑P	P	02 02 47.2	-0.1
	baz=83						
MSU	Marysvale	82.69	47	eP	P	02 02 48.4	+0.7
B07A	Winthrop	82.75	35	P	P	02 02 47.2	-0.6
	baz=83,SNR=9.1						
G10A	Bishop Farm, J	82.77	39	⇓P	P	02 02 47.8	-0.1
	baz=83,SNR=6.3						
E09A	Wood Farm, Sta	82.81	37	⇑P	P	02 02 49.0	+0.9
	baz=83						
K12A	Draper Farm, C	82.81	42	⇓P	P	02 02 48.8	+0.6
	baz=83						
MCK	McKinley	82.86	13	eP	P	02 02 46.9	-1.1
	comp=Z,69nm,1.7s,mb5.4						
MCK	McKinley	82.86	13	eP	P	02 02 46.9	-1.1
MCK				pmax	pmax		
	comp=Z,69nm,1.7s,mb5.4						
A07A	Ashnola River,	82.93	34	⇓P	P	02 02 48.7	0.0
	baz=83						
J12A	Stokes Ranch,	82.99	41	⇓P	P	02 02 49.0	-0.1
	baz=83,SNR=14						
D09A	Jones Farm, Ri	83.00	37	⇓P	P	02 02 48.7	-0.4
	baz=83						
DUG	Dugway	83.03	45	eP	P	02 02 49.9	+0.5
	comp=Z,22nm,1.4s,mb5.0						
DUG	Dugway	83.03	45	eP	P	02 02 49.9	+0.5
DUG				pmax	pmax		
	comp=Z,22nm,1.4s,mb5.0						
DUG	Dugway	83.03	45	⇓P	P	02 02 49.0	-0.4
	baz=83						
B08A	Colville Reser	83.13	35	⇓P	P	02 02 49.3	-0.4
	baz=83						
H11A	Donnelly	83.14	40	P	P	02 02 49.9	-0.1
	baz=83,SNR=12						
SKAG	Skagway	83.16	21	eP	P	02 02 55.0	+5.3
M14A	Sheep Mountain	83.28	44	P	P	02 02 50.3	-0.4
	baz=83,SNR=19						
G11A	Walters Elk Ra	83.34	39	⇓P	P	02 02 50.1	-0.8
	baz=83						
K13A	Stover Farm, H	83.34	42	⇓P	P	02 02 50.8	-0.2
	baz=83						
A08A	Turner Farm, O	83.49	35	P	P	02 02 51.0	-0.5
	baz=84,SNR=9.3						
HLID	Hailey	83.58	41	eP	P	02 02 51.6	-0.6
	comp=Z,36nm,1.5s,mb5.3						
HLID	Hailey	83.58	41	⇑P	P	02 02 52.0	-0.2
	baz=84						
J13A	Cove Ranch, Pi	83.65	42	P	P	02 02 52.9	+0.4
	baz=84,SNR=17						
GYA	Guiyang	83.69	300	P	P	02 02 51.9	-1.3
GYA				PP	PP	02 06 07.2	+0.9
GYA				SKS		02 13 11.7	
GYA				S	S	02 13 13.8	-2.0
GYA				PS		02 14 07.0	
GYA				SS	SS	02 18 41.8	-1.4
GYA				AMB	AMB		
	comp=Z,20nm,1.0s,mb5.2						
GYA				AMB	AMB		
	comp=Z,130nm,7.2s						
GYA				LR	LR		
	comp=N,490nm,20.4s,MS5.1						
GYA				LR	LR		
	comp=E,590nm,21.0s,MS5.1						
GYA				LR	LR		
	comp=Z,570nm,20.8s,MS4.9						
TMUT	Trail Mountain	83.72	46	eP	P	02 02 53.4	+0.4
H12A	Diamond D Ranc	83.78	40	P	P	02 02 52.9	-0.3
	baz=84,SNR=9.2						
B09A	Rice	83.83	36	⇑P	P	02 02 52.6	-0.8
	baz=84						
A09A	Danville	83.88	35	⇓P	P	02 02 53.4	-0.1
	baz=84						
K14A	Jones Ranch, D	83.89	43	⇑P	P	02 02 53.7	0.0
	baz=84						
I13A	Wildhorse Cree	83.94	41	⇑P	P	02 02 54.0	0.0
	baz=84,SNR=5.7						
CTU	Camp Tracy	83.97	45	eP	P	02 02 57.4	+3.1
IMA2	Indian Mountai	84.05	10	eP	P	02 02 53.6	-0.4
COLA	College	84.09	13	eP	P	02 02 53.2	-1.1
	comp=Z,20nm,1.1s,mb5.2						
COLA	College	84.09	13	eP	P	02 02 50.3	-4.0
SRU	San Rafael	84.11	47	eP	P	02 02 54.6	-0.4
F12A	Elk City	84.14	39	P	P	02 02 54.1	-0.8
	baz=84,SNR=14						
JLU	Jordanelle	84.14	45	eP	P	02 02 55.6	+0.5
D11A	Klaveano Farm,	84.15	38	⇑P	P	02 02 54.3	-0.7
	baz=84						
H13A	Challis	84.16	41	P	P	02 02 55.1	0.0
	baz=84,SNR=12						
NEW	Newport	84.32	36	eP	P	02 02 54.6	-1.3
	comp=Z,3.5nm,1.3s,mb4.3						
NEW	Newport	84.32	36	eP	P	02 02 54.6	-1.3
NEW				pmax	pmax		
	comp=Z,3.0nm,1.3s						
G13A	Cobalt	84.44	40	⇑P	P	02 02 56.1	-0.4
	baz=84						
HWUT	Hardware Ranch	84.51	44	eP	P	02 02 56.4	-0.6
	comp=Z,24nm,1.5s,mb5.1						
BILL	Bilibino	84.56	354	P	P	02 02 55.6	-1.0
	comp=Z,6.2nm,1.0s,mb4.7						
BILL	Bilibino	84.56	354	eP	P	02 02 53.8	-2.8
BILL				pmax	pmax		
	comp=Z,21nm,1.9s,mb4.9						
F13A	Darby	84.71	39	⇓P	P	02 02 57.0	-0.9
	baz=85						
D12A	Red Ives Fores	84.73	38	⇑P	P	02 02 57.0	-0.9
	baz=85						
B11A	Sandpoint	84.84	36	⇑P	P	02 02 57.6	-0.9
	baz=85						
MNTX	Cornudas Mount	84.93	55	eP	P	02 02 58.8	-0.5
	comp=Z,17nm,1.4s,mb5.0						
G14A	Jackson	84.99	40	⇓P	P	02 02 59.3	0.0
	baz=85						
A11A	Hall Mountain,	85.11	36	⇑P	P	02 02 59.2	-0.7
	baz=85						
E13A	Victor	85.12	39	⇑P	P	02 02 58.5	-1.4
	baz=85						
MCMT	McKenzie Canyo	85.17	41	eP	P	02 03 00.2	0.0
D13A	Huson	85.28	38	⇓P	P	02 02 59.6	-1.1
	baz=85						
AHID	Auburn Hatcher	85.34	43	eP	P	02 03 01.2	0.0
ANMO	Albuquerque	85.35	52	eP	P	02 03 00.3	-1.1
	comp=Z,19nm,1.4s,mb5.0						
ANMO	Albuquerque	85.35	52	eP	P	02 03 00.3	-1.1
ANMO				pmax	pmax		
	comp=Z,19nm,1.4s						
MAW	Mawson	85.42	200	LR	LR	02 34 54.1	
	comp=Z,515nm,20.8s,MS4.9,baz=100,slow=31						
TXAR	Lajitas Array	85.44	58	P	P	02 03 01.0	-0.9
	comp=Z,2.8nm,0.9s,mb4.4,baz=223,slow=5.5,SNR=23						
TXAR				LR	LR	02 33 59.2	
	comp=Z,594nm,18.1s,MS5.0,baz=10.0,slow=31						
MSO	Missoula	85.46	39	eP	P	02 03 02.4	+0.7
DAWY	Dawson	85.46	16	eP	P	02 03 01.1	-0.2
E14A	Clinton	85.53	39	⇓P	P	02 03 01.7	-0.3
	baz=86						
G15A	Dillon	85.55	41	⇓P	P	02 03 01.8	-0.3
	baz=86						
EGAK	Eagle	85.57	15	eP	P	02 03 01.4	-0.4
DLMT	Dillon	85.58	40	eP	P	02 03 03.3	+1.1
	comp=Z,30nm,1.3s,mb5.4						
HHC	Hu-ho-hao-te	85.63	315	eP	P	02 03 04.3	+1.7
HHC				PP	PP	02 06 24.7	+2.9
HHC				SKS		02 13 28.9	
HHC				S	S	02 13 38.8	+4.3
HHC				AMB	AMB		
	comp=Z,11nm,0.4s,mb5.4						
HHC				AMB	AMB		
	comp=Z,127nm,3.2s						
HHC				LR	LR		
	comp=N,116nm,10.0s						
HHC				LR	LR		
	comp=E,198nm,23.1s						
HHC				LR	LR		
	comp=Z,251nm,22.6s						
TPAW	Teton Pass	85.77	43	eP	P	02 03 03.9	+0.7
	comp=Z,29nm,1.3s,mb5.3						
REDW	Red Top Meadow	85.78	43	eP	P	02 03 02.9	-0.3
D14A	Greenough	85.84	39	⇓P	P	02 03 02.8	-0.7
	baz=86						
SNOW	Snow King Moun	85.88	43	eP	P	02 03 04.4	+0.6
	comp=Z,43nm,1.4s,mb5.5						
LRM	Limekiln Ridge	85.89	40	eP	P	02 03 03.9	+0.2
B13A	Whitefish	85.90	37	⇓P	P	02 03 03.3	-0.4
	baz=86						
CHMT	Chamberlain Mo	85.91	39	eP	P	02 03 03.4	-0.5
IMW	Indian Meadow	85.96	42	eP	P	02 03 04.1	-0.1
	comp=Z,44nm,1.4s,mb5.5						
MOOW	Moose Ponds	86.02	42	eP	P	02 03 04.8	+0.3
	comp=Z,32nm,1.6s,mb5.3						
C14A	Swan Lake	86.03	38	⇓P	P	02 03 04.0	-0.4
	baz=86						
E15A	Deer Lodge	86.05	39	⇑P	P	02 03 04.1	-0.4
	baz=86						
QLMT	Earthquake Lak	86.07	41	eP	P	02 03 05.8	+1.1
FLWY	Flagg Ranch	86.20	42	eP	P	02 03 06.2	+0.9
YFT	Old Faithful	86.27	42	eP	P	02 03 06.7	+1.0
BOZ	Bozeman (W)	86.31	40	eP	P	02 03 06.1	+0.3
	comp=Z,25nm,1.5s,mb5.2						
BOZ	Bozeman (W)	86.31	40	eP	P	02 03 06.1	+0.2
BOZ				pmax	pmax		
	comp=Z,25nm,1.5s,mb5.2						
BOZ	Bozeman (W)	86.31	40	⇑P	P	02 03 05.7	-0.2
	baz=86						
BW06	Boulder Array	86.36	44	eP	P	02 03 06.1	-0.1
	comp=Z,19nm,1.4s,mb5.1						
PDAR	Pinedale Array	86.36	44	P	P	02 03 05.2	-1.1
	comp=Z,3.5nm,1.0s,mb4.5,baz=204,slow=3.3,SNR=18						
PDAR				LR	LR	02 34 01.5	
	comp=Z,380nm,19.3s,MS4.8,baz=268,slow=30						
D15A	Lincoln	86.41	39	⇑P	P	02 03 06.0	-0.3
	baz=86						
YNR	Norris Junctio	86.49	42	eP	P	02 03 13.0	+6.3
KMI	Kunming	86.55	297	P	P	02 03 07.4	-0.1
KMI				AP	pP	02 03 10.3	-1.8
KMI				XP	sP	02 03 11.4	-2.3
KMI				PPP		02 08 27.0	
KMI				S	S	02 13 39.2	-5.0
KMI				AMB	AMB		
	comp=Z,7.0nm,0.8s,mb4.9						
KMI				AMB	AMB		
	comp=Z,93nm,6.0s						
KMI				LR	LR		
	comp=N,252nm,21.5s,MS4.8						
KMI				LR	LR		
	comp=E,350nm,20.5s,MS4.8						
KMI				LR	LR		
	comp=Z,474nm,22.5s,MS4.8						
WALA	Waterton Lakes	86.56	37	eP	P	02 03 07.0	0.0
LKWY	Lake	86.60	42	eP	P	02 03 09.3	+2.0
SMCO	Snowmass	86.65	48	eP	P	02 03 11.3	+3.6
HRY	Holter Researc	86.68	39	eP	P	02 03 07.5	-0.2
SDCO	Great Sand Dun	87.15	50	eP	P	02 03 09.5	-0.6
RWWY	Rawlins	87.50	45	eP	P	02 03 11.7	-0.1
RLMT	Red Lodge	87.57	42	eP	P	02 03 12.0	-0.1
GCMT	Greycliff	87.61	41	eP	P	02 03 11.7	-0.5
CD2	Chengdu	87.65	303	eP	P	02 03 08.4	-4.4
CD2				PP	PP	02 06 35.7	-2.7
CD2				S	S	02 13 46.8	-7.8
CD2				AMB	AMB		
	comp=Z,40nm,0.9s,mb5.7						
CD2				AMB	AMB		
	comp=Z,120nm,6.8s						
CD2				LR	LR		
	comp=N,390nm,21.6s,MS4.9						
CD2				LR	LR		
	comp=E,400nm,21.6s,MS4.9						
CD2				LR	LR		
	comp=Z,310nm,20.4s,MS4.7						
EGMT	Eagleton	88.53	39	eP	P	02 03 21.0	+4.5
	comp=Z,11nm,0.9s,mb5.2						
CIT	Chita	89.37	325	eP	P	02 03 20.8	+0.5
LZH	Lanzhou	89.37	308	⇓P	P	02 03 22.5	+1.7
LZH				AP	pP	02 03 27.3	+1.9
LZH				XP	sP	02 03 29.6	+2.6
LZH				PP	PP	02 06 55.2	+3.1
LZH				SKS		02 13 49.8	
LZH				eS	S	02 14 08.5	-2.2
LZH				XS	sS	02 14 16.7	-1.5
LZH				PS	PS	02 15 17.5	+0.3
LZH				AMB	AMB		
	comp=Z,27nm,1.5s,mb5.4						
LZH				AMB	AMB		
	comp=Z,132nm,8.6s						
LZH				LR	LR		
	comp=E,498nm,16.6s						
LZH				LR	LR		
	comp=Z,776nm,19.5s,MS5.1						
LAO	LASA Array	90.15	41	eP	P	02 03 25.0	+0.9
INK	Inuvik	90.25	15	eP	P	02 03 22.1	-2.0
	comp=Z,69nm,0.9s,mb6.0						
RSSD	Black Hills	90.59	44	eP	P	02 03 26.1	-0.2
SONM	Songino Array	91.83	319	LR	LR	02 43 12.0	
	comp=Z,167nm,19.7s,MS4.5,baz=250,slow=34						
DGMT	Dagmar	92.11	40	eP	P	02 03 38.1	+4.9
VNA3	Neumayer Olymp	92.60	177	eP	P	02 03 34.5	-0.7
VNA3				e	pP	02 03 39.5	-0.3
VNA3				e		02 03 46.3	
YKA	Yellowknife Ar	92.87	25	P	P	02 03 37.1	+0.7
	comp=Z,0.3nm,0.6s,baz=246,slow=4.5,SNR=2.8						
YKA				LR	LR	02 40 02.1	
	comp=Z,352nm,18.8s,MS4.8,baz=255,slow=32						
PLCA	Paso Flores	92.96	134	LR	LR	02 38 41.1	
	comp=Z,239nm,20.2s,MS4.6,baz=200,slow=31						
VNA2	Neumayer--Watz	93.04	177	eP	P	02 03 36.9	-0.3
VNA2				e	pP	02 03 41.7	-0.1
VNA2				e		02 03 48.2	
VNA1	Neumayer--Stat	93.27	177	eP	P	02 03 39.1	+0.8
VNA1				e	pP	02 03 43.1	+0.2
VNA1				e		02 03 50.3	
TIXI	Tiksi	94.25	345⇑	eP	P	02 03 42.4	-0.2
TIXI				pmax	pmax		
	comp=Z,2.0nm,1.4s,mb4.3						
ULM	Lac du Bonnet	97.83	40	LR	LR	02 41 38.2	
	comp=Z,467nm,20.5s,MS5.0,baz=32,slow=32						
KURK	Kurchatov	110.12	319	ePKiKP	PKiKP	02 08 54.7	-0.9
BVAR	Borovoye Array	115.10	321	PKP	PKiKP	02 09 04.0	-0.9
	comp=Z,0.8nm,0.7s,baz=91,slow=5.8,SNR=4.4						
BRVK	Borovoye	115.16	321	PKiKP	PKiKP	02 09 05.0	0.0
ARU	Arti	121.04	327	PKPdf	PKPdf	02 09 16.2	-0.1
ARU	Arti	121.04	327	i PKIKP	PKPdf	02 09 13.3	-3.0
ARU						02 10 41.9	
ARU				SS	SS	02 27 09.7	-8.0
ARCES	ARCESS Array B	124.42	350	PKP	PKPdf	02 09 23.2	+0.8
	comp=Z,3.6nm,0.8s,baz=27,slow=4.1,SNR=5.7						
FINES	FINESS Array B	131.29	344	PKP	PKPdf	02 09 34.1	-1.6
FINES	FINESS Array B	131.29	344	PKP	PKPdf	02 09 34.1	-1.6
	comp=Z,0.9nm,0.9s,baz=87,slow=4.9,SNR=2.7						
OBN	Obninsk	132.44	333	ePKIKP	PKPdf	02 09 41.0	+2.9
OBN				pmax	pmax		
	comp=Z,5.0nm,1.0s						
OBN				MLR	MLR		
	comp=Z,100nm,18.0s,MS4.6						
SOC	Sochi	137.27	318	eP	Pdif	02 06 55.9	+1.1
SOC				i		02 09 48.1	
SOC				e		02 12 28.0	
SOC				ePPP		02 15 32.5	
AKASG	Malin Array Be	138.70	333	PKP	PKPdf	02 09 49.3	-0.6
	comp=Z,1.9nm,0.8s,baz=41,slow=1.3,SNR=9.6						
STHS	Stebnicka Huta	142.90	338	ePKP	PKPdf	02 09 56.4	-1.1
NRDL	Niedersach Rie	142.95	351	ePKPdf	PKPdf	02 09 57.7	+0.2
NRDL				ePP	PP	02 13 01.7	-4.4
CFR	Carcaliu	143.12	328	P	PKPdf	02 09 56.4	-1.6
UZH	Uzhgorod	143.16	336	ePKIKP	PKPdf	02 10 01.0	+3.0
UZH				i		02 10 06.0	
CLZ	Clausthal	143.54	350	ePKPdf	PKPdf	02 09 59.4	+0.8
CLL	Collm	143.56	347	ePKPdf	PKPdf	02 10 00.5	+1.9
CLL	Collm	143.56	347	ePKPdf	PKPdf	02 09 59.0	+0.4
CLL				e(pPKPdf)		02 10 06.0	
	comp=Z,10.0nm,1.4s						
CLL				Lm		02 17 00.0	
	comp=Z,200nm,19.9s						
UPC	Upice	143.59	344	ePKP	PKPdf	02 09 59.7	+1.0
DPC	Dobruska-Polom	143.65	343	ePKP	PKPdf	02 09 59.7	+0.9
DPC				ex	x	02 10 04.5	
BRG	Berggiesshubel	143.76	346	ePKIKP	PKPdf	02 10 01.6	+2.6
BRG				e		02 10 07.9	
BRG				pmax	pmax		
	comp=Z,11nm,1.9s						
BRG				pmax	pmax		
	comp=Z,4.0nm,1.1s						
BRG	Berggiesshubel	143.76	346	ePKP

PRD	**Provadia**	**144.85 326**	*i* P	PKPdf	02 09 57.2	-4.0
MANZ	**Manzenberg**	**145.00 348**	*e*PKPdf	PKPdf	02 10 00.9	-0.3
MODS	**Modra-Piesok**	**145.14 341**	*e*PKP	PKPdf	02 10 02.1	+0.6
ROTZ	**Rotzenmuhle**	**145.19 347**	*e*PKPdf	PKPdf	02 10 00.7	-0.8
BUD	**Budapest**	**145.33 338**⇊	*e*PKP	PKPdf	02 10 02.3	+0.5
ZST	**Bratislava**	**145.35 341**	*e*PKP	PKPdf	02 10 01.0	-0.9
ZST			*e*		02 10 06.0	
GRA1	**Grafenberg Arr**	**145.46 348**	*e*PKPdf	PKPdf	02 10 01.4	-0.6
GRF	**Grafenberg Arr**	**145.46 348**	*e*PKPdf	PKPdf	02 10 01.4	-0.6
GRFO	**Grafenberg**	**145.46 348**	*e*PKPbc	PKPbc	02 10 02.0	0.0
KHC	**Kasperske Hory**	**145.47 345**	*e*PKP	PKPdf	02 09 59.9	-2.1
KHC			*ex*	x	02 10 02.3	
KHC			*ex*	x	02 10 05.3	
GZR	**Gura Zlata**	**145.54 333**	P	PKPdf	02 10 02.8	+0.5
GZR	**Gura Zlata**	**145.54 333**⇊	*i*P	PKPdf	02 10 03.2	+0.9
CSS	**Prodhromos**	**145.55 309**	*e*PKPdf	PKPdf	02 10 03.5	+0.8
SZH	**Strazhica**	**145.59 327**	*i* P	PKPbc	02 10 07.1	+4.5
ZIMR		**145.61 328**	P	PKPdf	02 10 03.8	+1.4
WET	**Wettzell**	**145.63 346**	*e*PKPdf	PKPdf	02 10 01.6	-0.7
WET			*e*PP	PP	02 13 20.8	-1.4
GEC2	**GERESS Array S**	**145.71 345**	*e*PKPdf	PKPdf	02 10 02.1	-0.4
GERES	**GERESS Array B**	**145.71 345**	PKPbc	PKPbc	02 10 00.7	-2.1
	comp=Z,2.9nm,0.9s,baz=7.6,slow=4.0,SNR=16					
BZS	**Buzias**	**145.87 334**	⇑P	PKPdf	02 10 00.5	-2.4
BZS			P		02 10 04.0	
BZS	**Buzias**	**145.87 334**	PKIKP	PKPdf	02 10 04.0	+1.2
BZS	**Buzias**	**145.87 334**⇑	*i*P	PKPdf	02 10 00.5	-2.3
GIVF	**Givet**	**145.91 356**	*e*PKP1	PKPbc	02 10 02.9	-0.5
DOU	**Dourbes**	**145.94 356**	PKPdf	PKPdf	02 10 02.8	0.0
CONA	**Conrad Observa**	**145.96 342**⇑	*i*PKPdf	PKPdf	02 10 02.0	-0.9
	comp=Z,27nm,1.4s,SNR=19					
SOP	**Sopron**	**145.97 341**⇊	*e*PKP	PKPbc	02 10 04.7	+1.1
BAIF	**Baives**	**146.00 356**	*e*PKP1	PKPbc	02 10 03.4	-0.2
	comp=Z,24nm,1.2s					
WLF	**Walferdange**	**146.23 354**	*e*PKPdf	PKPbc	02 10 05.2	+0.8
WLF	**Walferdange**	**146.23 354**	PKPdf	PKPdf	02 10 03.1	-0.2
WLF	**Walferdange**	**146.23 354**	*e*PKPdf	PKPdf	02 10 04.0	+0.7
WLF			*e*PP	PP	02 13 24.7	-0.9
MOA	**Molln**	**146.49 344**⇑	*i*P	PKPdf	02 10 02.9	-0.9
	comp=Z,13nm,1.0s					
PKSM	**Moragy**	**146.55 338**	P	PKPdf	02 10 05.2	+1.2
PKSM	**Moragy**	**146.55 338**⇑	*i*P	PKPdf	02 10 03.7	-0.3
STU	**Stuttgart**	**146.71 350**	*e*PKPdf	PKPdf	02 10 05.5	+1.4
LANF	**Langenberg**	**146.71 352**	PKP	PKPbc	02 10 06.1	+0.3
FUR	**Furstenfeldbru**	**146.90 347**	*e*PKPdf	PKPdf	02 10 04.2	-0.3
KDZ	**Kurdzhali**	**146.98 325**	*i* P	PKPdf	02 10 05.7	+0.9
PGB	**Panagyurishte**	**147.01 328**	*i* P	PKPbc	02 10 10.6	+3.7
BFO	**Black Forest**	**147.27 351**	PKPdf	PKPdf	02 10 07.0	+1.9
BFO	**Black Forest**	**147.27 351**	*e*PKPdf	PKPdf	02 10 06.0	+0.9
BFO			*e*PP	PP	02 13 28.4	-3.4
RZN	**Rozhen**	**147.34 326**	*i* P	PKPbc	02 10 08.7	+0.9
CDF	**Champ du Feu**	**147.34 352**	*e*PKP1	PKPbc	02 10 07.5	-0.1
	comp=Z,35nm,1.0s					
FLN	**La Foliniere**	**147.37 2**	*e*PKP1	PKPbc	02 10 06.8	-0.8
	comp=Z,67nm,1.3s					
FLN			*e*MLR	MLR		
	comp=Z,355nm,21.2s,MS4.8					
FLN	**La Foliniere**	**147.37 2**	*e*PKP2	PKPbc	02 10 06.8	-0.8
FLN			MLR	MLR		
	comp=Z,360nm,21.3s,MS5.1					
VTS	**Vitosha**	**147.47 329**	P	PKPbc	02 10 09.5	+1.4
VTS	**Vitosha**	**147.47 329**⇑	*i*P	PKPbc	02 10 09.4	+1.3
VTS	**Vitosha**	**147.47 329**	*i* P	PKPdf	02 10 07.6	+2.0
MEZF	**Maizieres J'vi**	**147.49 355**	*e*PKP1	PKPbc	02 10 08.1	+0.1
LDF	**La Druitiere**	**147.54 1**	*e*PKP1	PKPbc	02 10 07.4	-0.7
ROSF	**Rostrenen**	**147.62 5**	*e*PKP1	PKPbc	02 10 07.4	-1.0
	comp=Z,115nm,1.8s					
MOTA	**Moosalm**	**147.72 347**⇊	*i*P	PKPdf	02 10 06.3	+0.4
	comp=Z,24nm,1.4s,SNR=7.4					
GRR	**Gorron**	**147.72 2**	*e*PKP1	PKPbc	02 10 08.1	-0.5
	comp=Z,63nm,1.4s					
SGMF	**Saint Gilles**	**147.76 5**	*e*PKP1	PKPbc	02 10 07.9	-0.8
	comp=Z,40nm,1.2s					
HAU	**Haudompre**	**147.85 353**	*e*PKP1	PKPbc	02 10 08.9	-0.1
	comp=Z,65nm,1.6s					
HAU			*e*MLR	MLR		
	comp=Z,282nm,21.8s,MS4.7					
HAU	**Haudompre**	**147.85 353**	*e*PKP2	PKPbc	02 10 08.9	-0.1
HAU			MLR	MLR		
	comp=Z,280nm,21.8s,MS5.0					
MMB	**Musomiste**	**147.93 327**	*i* P	PKPbc	02 10 09.2	-0.2
ABTA	**Abfaltersbach**	**147.96 345**⇑	*i*PKPdf	PKPdf	02 10 04.9	-1.4
	SNR=7.8					
HINF	**Hinteralfeld**	**147.98 353**	*e*PKP1	PKPbc	02 10 09.2	-0.1
DAVA	**Damuels**	**148.02 349**⇑	*i*P	PKPbc	02 10 09.8	+0.3
	comp=Z,19nm,1.3s,SNR=6.2					
QUIF	**Quistinic**	**148.04 5**	*e*PKP1	PKPbc	02 10 08.7	-0.8
	comp=Z,64nm,1.5s					
LJU	**Ljubljana**	**148.06 342**	*e*PKPbc	PKPbc	02 10 09.3	-0.4
KKB	**Krupnik**	**148.06 328**	*i* P	PKPbc	02 10 09.5	-0.3
FETA	**Feichten**	**148.11 347**⇑	*i*PKiKP	PKiKP	02 10 09.9	-1.6
	comp=Z,20nm,1.2s,SNR=9.7					
BOJS	**Bojanci**	**148.32 341**	*e*PKPdf	PKPdf	02 10 07.1	+0.2
BOJS			*e*PKPbc	PKPbc	02 10 10.3	0.0
CEY	**Cerknica**	**148.37 342**	*e*PKPbc	PKPbc	02 10 09.9	-0.5
LOMF	**Lomont**	**148.44 353**	PKP	PKPbc	02 10 09.6	-1.0
LOR	**Lormes**	**148.80 356**	*e*PKP1	PKPbc	02 10 11.3	-0.2
LOR			*e*MLR	MLR		
	comp=Z,288nm,21.2s,MS4.7					
LOR	**Lormes**	**148.80 356**	*e*PKP2	PKPbc	02 10 11.3	-0.2
LOR			MLR	MLR		
	comp=Z,290nm,21.3s,MS5.0					
SSF	**Saint Saulge**	**149.03 357**	*e*PKP1	PKPbc	02 10 12.2	+0.1
	comp=Z,11nm,0.9s					
CABF	**La Chapelle**	**149.26 353**	*e*PKP1	PKPbc	02 10 13.2	+0.5
	comp=Z,39nm,1.1s					
AVF	**Avril sur Loir**	**149.30 357**	*e*PKP1	PKPbc	02 10 12.5	-0.3
SMF	**Signal de Mont**	**149.42 356**	*e*PKP1	PKPbc	02 10 13.1	0.0
MFF	**Saint Martin d**	**149.53 2**	*e*PKP1	PKPbc	02 10 13.2	-0.2
BGF	**Bois d'Agland**	**149.56 358**	*e*PKP1	PKPbc	02 10 13.3	-0.1
TCF	**Toulx Ste Croi**	**149.85 358**	*e*PKP1	PKPbc	02 10 14.0	-0.2
	comp=Z,114nm,1.8s					
LPL	**La Plagne**	**150.25 352**	*e*PKP1	PKPbc	02 10 16.1	+0.9
	comp=Z,31nm,1.3s					
LPG	**La Plagne**	**150.27 352**	*e*PKP1	PKPbc	02 10 16.3	+1.1
	comp=Z,58nm,1.3s					
PYM	**Petit Puy Mans**	**150.36 357**	PKP	PKPbc	02 10 15.1	-0.3
BNI	**Bardonecchia**	**150.72 352**	*e*PKPdf	PKPbc	02 10 18.1	+1.8
RJF	**Les Rejaudoux**	**150.85 359**	*e*PKP1	PKPbc	02 10 16.4	-0.2
RJF			*e*MLR	MLR		
	comp=Z,388nm,20.5s,MS4.9					
RJF	**Les Rejaudoux**	**150.85 359**	*e*PKP	PKPbc	02 10 16.4	-0.2
RJF			LR	LR		
	comp=Z,390nm,20.5s,MS5.2					
LBL	**Lubilhac**	**150.86 357**	PKP	PKPbc	02 10 15.9	-0.7
ORIF	**Oris-en-Rattie**	**150.95 353**	*e*PKP1	PKPbc	02 10 17.1	+0.3
	comp=Z,58nm,1.5s					
ORIF			*e*MLR	MLR		
	comp=Z,293nm,22.2s,MS4.7					
MBDF	**Montbardon**	**151.02 352**	*e*PKP1	PKPbc	02 10 17.3	+0.3
	comp=Z,31nm,1.1s					
VIVF	**Saint-Julien-l**	**151.14 355**	*e*PKP1	PKPbc	02 10 17.4	+0.1
	comp=Z,91nm,1.5s					
LFF	**La Frestale**	**151.21 0**	*e*PKP1	PKPbc	02 10 17.3	-0.1
CAF	**Calviac**	**151.22 359**	*e*PKP1	PKPbc	02 10 17.5	0.0
	comp=Z,57nm,1.5s					
SMRF	**Simiane la Rot**	**151.91 353**	*e*PKP1	PKPbc	02 10 19.7	+0.6
	comp=Z,96nm,1.4s					
LASF	**Ste Croix**	**151.98 356**	*e*PKP1	PKPbc	02 10 19.7	+0.5
	comp=Z,78nm,1.4s					
MTLF	**Montolieu**	**152.79 358**	*e*PKP1	PKPbc	02 10 21.2	+0.1
EPF	**Esparros**	**153.12 1**	*e*PKP1	PKPbc	02 10 22.0	+0.2
TIP	**Timpagrande**	**153.19 332**	*e*PKPdf	PKPbc	02 10 22.3	+0.2
TORD	**Torodi Ar. Bea**	**177.04 192**	PKP	PKPdf	02 10 32.7	-2.7
	comp=Z,2.1nm,0.9s,baz=344,slow=0.7,SNR=7.7					
TORD			PKPab	PKPab	02 12 17.8	-0.8

NIED ***13*** *01:53:00, 46.60N×15.320E, h53km, Mw4.7 Best double couple: M0 1.30000×10^16 NP1:φs=89.00000°, δ69.00000°, λ-93.00000°. NP2:φs=277.00000°, δ21.00000°, λ-83.00000°.*
BJI ***13*** *01:53:24.4, 46.74N×15.327E, h13km, mB4.9, mb4.6, Ms4.4, Msz3.9*
ISCJB ***13*** *01:53:28.4±0.6, 46.67N±0.04×15.296E±0.05, h33km±6km, mb4.5/56, MS3.9/11, Error ellipse: s-maj=7.4km s-min=4.1km az=145.2*
SZGRF ***13*** *01:53:28.0, 46.1 1N×15.323E, h33km, mb4.4, Kuril Islands, Russia*
JMA ***13*** *01:53:28.8±0.8, 46.63N×15.324E, h30km, M5.1*
SKHL ***13*** *01:53:28.7±2.2, 46.70N×153.10E, h52km±42km, mb5.0/6, ms4.1/2, msh5.5/2*
MOS ***13*** *01:53:29.2±1.2, 46.68N×152.95E, h42km, mb4.7/23, Error ellipse: s-maj=8.5km s-min=6.1km az=79.2*
NEIC ***13*** *01:53:33.2±0.8, 46.78N×152.89E, h58km±6km, mb4.7/27, Error ellipse: s-maj=7.6km s-min=3.7km az=155.0*
IDC ***13*** *01:53:35.0±3.4, 46.79N×152.79E, h75km±31km, mb4.0/21, mb1 4.2/22, mb1mx4.1/26, mbtmp4.0/22, MS3.7/6, Ms1 3.7/6, ms1mx3.4/31, Error ellipse: s-maj=16.2km s-min=13.4km az=148.0*
ISC 13 01:53:30.7±0.5, 46.66N±0.04×152.99E±0.05, h35km±4km, h9km±5.1km: pP-P, n200, σ1.9 30/229, mb4.5/56, MS3.9/11, 9C-2D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.85**	**250**	⇑*i*PN	**Pn**	**01 54 26.8**	**-0.5**
KUR				*i* S	**Sn**	**01 55 12.0**	**+0.8**
KUR				pmax	pmax		
	comp=Z,2μm,1.0s						
KUR				pmax	pmax		
	comp=N,330nm,0.4s						
KUR				pmax	pmax		
	comp=E,160nm,0.4s						
KUR				pmax	pmax		
	comp=Z,720nm,0.4s						
KUR				smax			
	comp=N,470nm,0.5s						
KUR				smax			
	comp=E,2μm,0.5s						
KUR				smax			
	comp=N,6μm,2.0s						
KUR				smax			
	comp=E,6μm,2.0s						
KUR	**Kuril'sk**	**3.85**	**250**	⇑*i*P	**Pn**	**01 54 26.8**	**-0.5**
KUR				AMB	AMB	01 54 28.6	
KUR				AMB	AMB	01 54 29.0	
	comp=E,326nm,0.4s						
KUR				AMB	AMB	01 54 29.0	
	comp=E,163nm,0.4s						
KUR				AMB	AMB	01 54 29.0	
	comp=E,717nm,0.4s						
KUR				*e*S	**Sn**	**01 55 12.0**	**+0.8**
KUR				A		01 55 28.0	
KUR				A		01 55 28.0	
	comp=E,471nm,0.5s						
KUR				A		01 55 28.0	
	comp=E,2μm,0.5s						
SKR	**Severo-Kuril's**	**4.53**	**26**	*e*P	**Pn**	**01 54 36.4**	**-0.3**
SKR				AMB	AMB	01 54 39.4	
SKR				AMB	AMB	01 54 39.4	
	comp=E,120nm,0.5s						
SKR				AMB	AMB	01 54 39.4	
	comp=E,770nm,0.5s						
SKR				*e*S	**Sn**	**01 55 25.5**	**-2.5**
SKR				A		01 55 48.0	
SKR				A		01 55 48.0	
	comp=E,600nm,2.0s						
SKR				A		01 55 49.0	
	comp=E,680nm,0.6s						
SKR				A		01 55 49.0	
	comp=E,540nm,0.6s						
SKR				A		01 55 49.0	
	comp=E,210nm,0.6s						
SKR				AMS	AMS	01 56 22.0	
	comp=E,1μm,14.0s						
SKR				AMS	AMS	01 56 22.0	
	comp=E,2μm,14.0s						
SKR				AMS	AMS	01 56 22.0	
	comp=E,1μm,14.0s						
YUK	**Yuzh-Kuril'sk**	**5.67**	**245**	*e*P	**Pn**	**01 54 54.0**	**+1.7**
YUK				AMB	AMB	01 54 57.5	
	comp=E,190nm,0.4s						
YUK				A		01 56 11.8	
	comp=E,360nm,0.5s						
YUK				A		01 56 11.8	
	comp=E,790nm,0.5s						
YUK				A		01 56 19.1	
	comp=E,4μm,1.0s						
YUK				A		01 56 19.1	
	comp=E,5μm,1.0s						
NEM2	**Nemuro 2**	**6.10**	**240**	P	**Pn**	**01 54 57.7**	**-0.5**
NEM2				*e*S	**Sn**	**01 56 03.6**	**-3.2**
JRA	**Rausu**	**6.18**	**247**	P	**Pn**	**01 55 01.7**	**+2.4**
JRA				*e*S	**Sn**	**01 56 13.6**	**+4.9**
JNK	**Nakash**	**6.61**	**245**	P	**Pn**	**01 55 06.9**	**+1.7**
JNK				*e*S	**Sn**	**01 56 20.5**	**+1.2**
JAK	**Akkeshi**	**6.94**	**241**	P	**Pn**	**01 55 09.3**	**-0.5**
JAK				*e*S	**Sn**	**01 56 24.6**	**-2.8**
JTKR	**Abashiri--Toko**	**6.94**	**251**	P	**Pn**	**01 55 12.2**	**+2.4**
YSS	**Yuzh-Sakhalins**	**7.03**	**276**	*e*Pn	**Pn**	**01 55 13.8**	**+2.7**
YSS	**Yuzh-Sakhalins**	**7.03**	**276**⇊	*e*PN	**Pn**	**01 55 14.1**	**+3.1**
YSS				*e*S	**Sn**	**01 56 31.8**	**+2.1**
YSS				pmax	pmax		
	comp=E,70nm,0.8s						
YSS				pmax	pmax		
	comp=Z,60nm,0.8s						
YSS				smax			
	comp=N,60nm,0.8s						
YSS				MLR	MLR		
	comp=E,500nm,18.0s						
YSS				MLR	MLR		
	comp=Z,800nm,18.0s						
YSS	**Yuzh-Sakhalins**	**7.03**	**276**⇊	*e*P	**Pn**	**01 55 14.1**	**+3.1**
YSS				AMB	AMB	01 55 17.8	
	comp=Z,70nm,0.8s						
YSS				AMB	AMB	01 55 17.8	
	comp=Z,60nm,0.8s						
YSS				*e*S	**Sn**	**01 56 31.8**	**+2.1**
YSS				A		01 56 34.7	
	comp=Z,60nm,0.8s						
YSS				AMS	AMS	01 57 30.0	
	comp=Z,800nm,18.0s						
YSS				AMS	AMS	01 57 30.0	
	comp=Z,500nm,18.0s						
JMP	**Maruseppu**	**7.29**	**252**	P	**Pn**	**01 55 17.4**	**+2.9**
JMP	**Maruseppu**	**7.29**	**252**	P	**Pn**	**01 55 17.4**	**+2.9**
JMP				*e*S	**Sn**	**01 56 52.2**	**+16**
PET	**Petropavlovsk**	**7.35**	**28**	*e*Pn	**Pn**	**01 55 16.2**	**+0.9**
PET	**Petropavlovsk**	**7.35**	**28**	*e*PN	**Pn**	**01 55 14.9**	**-0.4**
PET				pmax	pmax		
	comp=Z,55nm,0.5s						
PET				MLR	MLR		
	comp=Z,400nm,14.0s						
JAR	**Ashorobuto**	**7.35**	**246**	P	**Pn**	**01 55 17.0**	**+1.6**
JAR				*e*S	**Sn**	**01 56 38.0**	**+0.5**
JSE	**Soyaes**	**7.47**	**261**	P	**Pn**	**01 55 21.7**	**+4.7**
JOB	**Onbets**	**7.52**	**243**	P	**Pn**	**01 55 18.3**	**+0.6**
JOB				*e*S	**Sn**	**01 56 39.9**	**-1.7**
UGL	**Uglegorsk**	**7.74**	**292**	*e*PN	**Pn**	**01 55 24.5**	**+3.8**
UGL				*e*		01 56 50.0	
UGL				pmax	pmax		
	comp=Z,120nm,0.9s						
UGL				MLR	MLR		
	comp=Z,500nm,16.0s						
UGL				MLR	MLR		
	comp=N,350nm,14.0s						
UGL				MLR	MLR		
	comp=E,550nm,16.0s						
JKK2	**Kamakawa 2**	**7.74**	**253**	P	**Pn**	**01 55 23.7**	**+2.9**
ASAJ	**Asahikawa**	**7.75**	**255**	P	**Pn**	**01 55 24.6**	**+3.8**
ASAJ	**Asahikawa**	**7.75**	**255**	P	**Pn**	**01 55 24.4**	**+3.6**
ASAJ				*e*S	**Sn**	**01 57 03.7**	**+16**
ASAJ	**Asahikawa**	**7.75**	**255**	P	**Pn**	**01 55 24.4**	**+3.6**
	comp=E,5.2nm,0.3s,baz=88,slow=14,SNR=70						
ASAJ				S	**Sn**	**01 56 47.5**	**+0.3**
	comp=E,1.4nm,0.3s,baz=90,slow=20,SNR=1.7						
ASAJ				LR	LR	01 58 12.6	
	comp=E,485nm,19.6s,baz=348,slow=36						
JWK2	**Keihoku**	**7.84**	**264**	P	**Pn**	**01 55 27.9**	**+5.8**
JWK2	**Keihoku**	**7.84**	**264**	P	**Pn**	**01 55 28.1**	**+6.0**
JCH	**Churui**	**7.97**	**243**	P	**Pn**	**01 55 23.7**	**-0.1**
JCH				*e*S	**Sn**	**01 56 48.8**	**-3.9**
TYV	**Tymovskoe**	**8.02**	**305**	*e*P	**Pn**	**01 55 25.2**	**+0.7**
TYV				AMB	AMB	01 55 27.2	
	comp=E,9.0nm,0.8s						
TYV				AMB	AMB	01 55 27.2	
	comp=E,13nm,0.8s						
TYV				*e*S	**Sn**	**01 56 54.0**	**+0.1**
TYV				A		01 56 55.0	
	comp=E,12nm,0.6s						
TYV				A		01 56 55.0	
	comp=E,5.0nm,0.6s						
JFR	**Furan**	**8.16**	**248**	P	**Pn**	**01 55 28.6**	**+2.1**
JAB	**Ashibetsu**	**8.25**	**251**	P	**Pn**	**01 55 31.1**	**+3.4**
ERM	**Erimo**	**8.44**	**240**	*e*Pn	**Pn**	**01 55 31.3**	**+1.0**
	comp=E,65nm,0.5s						
ERM				*e*Sn	**Sn**	**01 57 00.5**	**-3.7**
ERM	**Erimo**	**8.44**	**240**	*e*PN	**Pn**	**01 55 31.3**	**+1.0**
ERM				pmax	pmax		
	comp=Z,65nm,0.5s						
JEM	**Erimo**	**8.44**	**240**	P	**Pn**	**01 55 30.9**	**+0.6**
JEM				*e*S	**Sn**	**01 57 02.5**	**-1.7**
JEM	**Erimo**	**8.44**	**240**	P	**Pn**	**01 55 31.9**	**+1.6**
JEM				*e*S	**Sn**	**01 57 15.0**	**+11**
JHR	**Hokuryu**	**8.47**	**254**	P	**Pn**	**01 55 34.1**	**+3.3**
JBT2	**Biratori 2**	**8.50**	**247**	P	**Pn**	**01 55 32.5**	**+1.3**
JNBK	**Urakawa-nobuka**	**8.53**	**243**	P	**Pn**	**01 55 31.0**	**-0.5**
JNBK				*e*S	**Sn**	**01 57 03.3**	**-3.1**
JEW	**Eniwo**	**9.05**	**249**	P	**Pn**	**01 55 40.1**	**+1.3**
JEW	**Eniwo**	**9.05**	**249**	*e*S	**Sn**	**01 57 39.0**	**+20**
JNB	**Noboribetsu**	**9.50**	**248**	P	**Pn**	**01 55 45.5**	**+0.6**
JNB				*e*S	**Sn**	**01 57 27.1**	**-3.3**
JKB	**Kayabe**	**9.81**	**245**	P	**Pn**	**01 55 48.4**	**-0.7**
JKB				*e*S	**Sn**	**01 57 32.2**	**-5.7**
JSH	**Shimam**	**10.06**	**251**	P	**Pn**	**01 55 53.9**	**+1.4**
JSH	**Shimam**	**10.06**	**251**	P	**Pn**	**01 55 53.2**	**+0.7**
JOT	**Ohata**	**10.09**	**243**	P	**Pn**	**01 55 51.1**	**-1.8**
JOT				*e*S	**Sn**	**01 57 35.2**	**-9.5**
JYM2	**Yakumo 2**	**10.11**	**248**	P	**Pn**	**01 55 52.7**	**-0.5**
NKL	**Nikolayevsk**	**10.25**	**314**	*e*P	**Pn**	**01 55 54.0**	**-1.1**
NKL				AMB	AMB	01 55 55.0	
	comp=Z,13nm,1.0s						
JSR	**Shiriuchi**	**10.39**	**245**	P	**Pn**	**01 55 57.1**	**0.0**
JANG	**Nango**	**10.43**	**237**	P	**Pn**	**01 55 54.6**	**-3.0**
JTM	**Tenmabayashi**	**10.43**	**240**	P	**Pn**	**01 55 55.9**	**-1.7**
JTM				*e*S	**Sn**	**01 57 44.2**	**-8.9**
JTM	**Tenmabayashi**	**10.43**	**240**	P	**Pn**	**01 55 55.5**	**-2.1**
JTM				*e*S	**Sn**	**01 57 44.2**	**-8.9**
JTH	**Tanohata**	**10.52**	**234**	*e*S	**Sn**	**01 57 45.2**	**-10**
JOSM	**Okushiri--Mats**	**10.70**	**250**	P	**Pn**	**01 56 01.6**	**+0.3**
JOM	**Ohasama**	**11.16**	**234**	P	**Pn**	**01 56 04.6**	**-3.0**
JOM				*e*S	**Sn**	**01 58 00.0**	**-11**
OFUJ	**Ofunato**	**11.23**	**232**	P	**Pn**	**01 56 05.5**	**-3.1**
OFUJ				*e*S	**Sn**	**01 58 02.0**	**-11**
JRG	**Rokugo**	**11.59**	**236**	P	**Pn**	**01 56 11.5**	**-1.9**
JRG				*e*S	**Sn**	**01 58 11.2**	**-10**
JIO	**Ouri**	**11.86**	**230**	P	**Pn**	**01 56 14.7**	**-2.5**
JIO				*e*S	**Sn**	**01 58 17.1**	**-11**
JYA	**Atsumi**	**12.66**	**235**	P	**Pn**	**01 56 25.8**	**-2.3**
JYA	**Atsumi**	**12.66**	**235**	P	**Pn**	**01 56 25.5**	**-2.6**
JYA				*e*S	**Sn**	**01 58 39.7**	**-8.0**
MA2	**Magadan**	**13.01**	**355**	*e*Pn	**Pn**	**01 56 33.6**	**+0.8**
MA2	**Magadan**	**13.01**	**355**	*c i*PN	**Pn**	**01 56 33.4**	**+0.7**
MA2				pmax	pmax		
	comp=Z,25nm,0.6s						
KLR	**Kul'dur**	**14.46**	**288**	*e*P	**Pn**	**01 56 50.5**	**-2.1**
MJAR	**Matsushiro Arr**	**14.96**	**233**	P	**Pn**	**01 56 56.8**	**-2.5**
MJAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MJAR	**Matsushiro Arr**	**14.96**	**233**	P	**Pn**	**01 56 56.8**	**-2.5**
	comp=Z,0.5nm,0.3s,baz=26,slow=14,SNR=12						
MAJO	**Matsushiro**	**14.96**	**233**	*e*Pn	**Pn**	**01 56 56.7**	**-2.7**
MAT	**Matsushiro**	**14.96**	**233**	P	**Pn**	**01 56 56.0**	**-3.3**
MAT				*e*S	**Sn**	**01 59 54.8**	**+11**
MAT	**Matsushiro**	**14.96**	**233**	P	**Pn**	**01 56 56.6**	**-2.7**
SEY	**Seymchan**	**16.32**	**359**⇑	*e*P	**Pn**	**01 57 16.4**	**-0.3**
MDJ	**Mudanjiang**	**16.48**	**271**	Pn	**Pn**	**01 57 20.1**	**+1.1**
YAK	**Yakutsk**	**20.36**	**328**⇑	*i*P	**P**	**01 58 05.1**	**+1.4**
YAK				pmax	pmax		
	comp=Z,18nm,0.5s						
KSRS	**Korea Array**	**20.69**	**253**	P	**P**	**01 58 09.1**	**+1.5**
	comp=Z,9.2nm,0.8s,baz=58,slow=10,SNR=18						
KSRS				LR	LR	02 05 34.3	
	comp=Z,89nm,21.2s,MS3.1,baz=55,slow=35						
KS15	**Wonju Array Si**	**20.72**	**253**	*e*Pn	**P**	**01 58 09.5**	**+1.6**
JNU	**Nakatsue**	**21.60**	**239**	P	**P**	**01 58 17.8**	**+0.4**
	comp=Z,29nm,0.9s,mb4.7,baz=100,slow=6.6,SNR=9.3						
JNU				LR	LR	02 06 42.3	
	comp=Z,168nm,21.8s,MS3.4,baz=38,slow=36						
HIA	**Hailar**	**22.32**	**289**	*e*P	**P**	**01 58 23.1**	**-1.8**
BILL	**Bilibino**	**22.50**	**13**	*e*P	**P**	**01 58 24.7**	**-2.0**
	comp=Z,5.0nm,0.7s,mb4.0						
BILL	**Bilibino**	**22.50**	**13**	*e*P	**P**	**01 58 24.9**	**-1.8**
BILL				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb3.8						
BILL				MLR	MLR		
	comp=Z,200nm,15.0s,MS3.7						
GAMB	**Gambell**	**25.95**	**36**	*e*P	**P**	**01 59 00.7**	**+1.4**
BOD	**Bodaibo**	**25.98**	**310**	*e*P	**P**	**01 58 51.9**	**-7.8**
BOD				pmax	pmax		
	comp=Z,3.0nm,1.1s,mb3.7						
TIXI	**Tiksi**	**27.53**	**344**	*e*P	**P**	**01 59 15.8**	**+2.3**
TIXI				pmax	pmax		
	comp=Z,4.0nm,2.5s,mb3.6						

comp=Z,128nm,5.0s
GTA LR LR
comp=N,106nm,17.2s,MS4.0
GTA LR LR
comp=E,131nm,15.3s,MS4.0
GTA LR LR
comp=Z,107nm,16.4s,MS3.8
EGAK Eagle 39.13 38 *eP* **P 02 00 53.6 -0.6**
DAWY Dawson 39.97 39 *eP* **P 02 01 01.3 +0.1**
DAWY *e* 02 01 16.6
GYA Guiyang 41.61 258 P **P 02 01 15.0 -0.2**
GYA AP pP 02 01 19.8 -5.7
GYA XP sP 02 01 22.4 -7.3
GYA AMB AMB
comp=Z,10.0nm,0.8s,mb4.5
GYA AMB AMB
comp=Z,90nm,6.0s
GYA LR LR
comp=N,490nm,18.6s,MS4.6
GYA LR LR
comp=E,480nm,18.2s,MS4.6
GYA LR LR
comp=Z,450nm,17.8s,MS4.4
INK Inuvik 41.78 32 *eP* **P 02 01 16.5 +0.4**
INK Inuvik 41.78 32 P **P 02 01 16.8 +0.7**
comp=Z,9.4nm,0.6s,mb4.6,baz=291,slow=6.9,SNR=92
ZALV Zalesovo Beam 42.60 306 P **P 02 01 20.7 -2.2**
comp=Z,0.4nm,0.4s,mb3.5,baz=71,slow=9.9,SNR=2.8
ZALV PcP PcP 02 03 13.4 -1.2
comp=Z,1.2nm,0.9s,baz=27,slow=3.5,SNR=3.6
ZALV LR LR 02 19 44.2
comp=Z,52nm,19.0s,MS3.4,baz=63,slow=37
ZAL Zalesovo 42.61 306 P **P 02 01 20.7 -2.4**
ZAL 02 03 13.4
WMQ Urumqi 44.88 291 *eP* **P 02 01 43.0 +1.6**
WMQ *eS* **S 02 08 21.0 +4.4**
WMQ AMB AMB
comp=Z,6.0nm,0.6s,mb4.6
WMQ LR LR
comp=N,190nm,22.3s,MS4.2
WMQ LR LR
comp=E,266nm,21.2s,MS4.2
WMQ LR LR
comp=Z,165nm,20.4s,MS4.0
KMI Kunming 45.14 259 P **P 02 01 45.9 +2.2**
KMI AP pP 02 01 50.7 -3.4
KMI XP sP 02 01 52.0 -6.3
KMI AMB AMB
comp=Z,6.0nm,0.8s,mb4.5
MK31 Makanchi Array 46.91 297 *eP* **P 02 01 56.4 -1.0**
MKAR Makanchi Array 46.91 297 P **P 02 01 56.0 -1.4**
MKAR LR LR 02 22 48.9
MKAR Makanchi Array 46.91 297 P **P 02 01 56.0 -1.4**
MKAR pmax pmax
comp=Z,1.0nm,0.4s
MKAR MLR MLR
comp=Z,152nm,18.2s
MKAR Makanchi Array 46.91 297 P **P 02 01 56.0 -1.4**
comp=Z,0.6nm,0.4s,mb3.9,baz=71,slow=8.6,SNR=6.3
MKAR LR LR 02 22 48.9
comp=Z,152nm,18.2s,MS4.0,baz=251,slow=38
KURK Kurchatov 47.35 304 *eP* **P 02 02 01.3 +0.6**
comp=Z,3.0nm,1.0s,mb4.2
KURK Kurchatov 47.35 304⇑ *eP* **P 02 01 58.9 -1.8**
LSA Lhasa 50.20 273 *eP* **P 02 02 24.6 +1.8**
BVAR Borovoye Array 50.85 309 P **P 02 02 26.2 -1.3**
comp=Z,0.4nm,0.3s,mb3.8,baz=51,slow=9.4,SNR=4.2
BRVK Borovoye 50.90 310 *eP* **P 02 02 27.7 -0.1**
BRVK *e* 02 02 41.6
RES Resolute Bay 50.95 18 *eP* **P 02 02 27.4 -0.6**
comp=Z,35nm,0.7s,mb5.4
YKW3 Yellowknife Ar 51.01 37 *eP* **P 02 02 28.6 +0.1**
YKA Yellowknife Ar 51.05 37 P **P 02 02 28.8 0.0**
YKA Yellowknife Ar 51.05 37 P **P 02 02 28.8 0.0**
YKA pmax pmax
comp=Z,6.0nm,0.7s
YKA Yellowknife Ar 51.05 37 P **P 02 02 28.8 0.0**
comp=Z,6.0nm,0.7s,mb4.6,baz=295,slow=7.1,SNR=90
CHTO Chiang Mai 52.02 257 *eP* **P 02 02 37.3 +0.7**
comp=Z,6.6nm,0.8s,mb4.6
CHTO Chiang Mai 52.02 257 *eP* **P 02 02 37.3 +0.7**
CHTO pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
CM31 Chiang Mai Arr 52.27 256 P **P 02 02 38.2 -0.2**
EKS2 Erkin-Say 54.23 297 *eP* **P 02 02 51.5 -1.1**
JIRN Jiri 54.87 275 *eP* **P 02 02 58.3 +0.8**
ARU Arti 55.02 317 *eP* **P 02 02 58.7 +0.5**
ARU *e* 02 05 09.6
ARU *eS* **S 02 10 39.7 +2.1**
ARU *eSS* SS 02 14 24.6 +3.7
KKN Kakani 55.41 275 *eP* **P 02 03 02.5 +1.1**
comp=Z,24nm,0.7s,mb5.3
KKN Kakani 55.41 275 *eP* **P 02 03 02.5 +1.1**
KKN pmax pmax
comp=Z,24nm,0.7s,mb5.3
DMN Daman 55.65 275 *eP* **P 02 03 03.8 +0.7**
comp=Z,28nm,0.7s,mb5.4
GKN Gorkha 55.72 276 *eP* **P 02 03 03.8 +0.2**
comp=Z,28nm,0.7s,mb5.4
EDM Edmonton 56.44 46 *eP* **P 02 03 08.4 +0.1**
KOLN Koldanda 56.58 276 *eP* **P 02 03 10.0 +0.3**
comp=Z,23nm,0.8s,mb5.3
NEW Newport 57.30 53 *eP* **P 02 03 14.5 -0.1**
ARCES ARCESS Array B 57.91 341 P **P 02 03 17.5 -1.1**
ARCES pmax pmax
comp=Z,3.0nm,0.9s
ARCES ARCESS Array B 57.91 341 P **P 02 03 17.5 -1.1**
comp=Z,2.8nm,0.9s,mb4.3,baz=27,slow=5.6,SNR=4.5
WDC Whiskeytown Da 58.65 63 *eP* **P 02 03 25.1 +0.9**
comp=Z,2.7nm,0.6s,mb4.5
WDC Whiskeytown Da 58.65 63 *eP* **P 02 03 25.1 +1.0**
WDC pmax pmax
comp=Z,3.0nm,0.6s,mb4.5
MOD Modoc 59.21 60 *eP* **P 02 03 28.8 +0.8**
comp=Z,7.6nm,0.9s,mb4.7
WVOR Wild Horse Val 59.88 59 P **P 02 03 33.1 +0.5**
MSO Missoula 59.89 52 *eP* **P 02 03 33.7 +1.1**
comp=Z,17nm,1.4s,mb4.9
FFC Flin Flon 60.87 40 P **P 02 03 39.8 +0.7**
comp=Z,88nm,0.8s,mb5.9,SNR=6.4
FFC Flin Flon 60.87 40 *eP* **P 02 03 39.4 +0.2**
comp=Z,13nm,0.9s,mb5.0
JOF Joensuu 61.38 334 *ep* **P 02 03 39.7 -2.8**
comp=Z,0.6nm,0.3s,mb4.2
EGMT Eagleton 61.38 49 *eP* **P 02 03 43.4 +0.6**
comp=Z,11nm,0.9s,mb5.0
FCC Fort Churchill 61.39 33 *eP* **P 02 03 41.9 -0.7**
comp=Z,11nm,0.8s,mb5.0
FCC Fort Churchill 61.39 33 *eP* **P 02 03 41.9 -0.7**
FCC pmax pmax
comp=Z,11nm,0.8s,mb5.0
HLID Hailey 61.63 56 *eP* **P 02 03 42.8 -1.7**
BOZ Bozeman (W) 61.88 52 *eP* **P 02 03 46.6 +0.5**
comp=Z,4.9nm,0.9s,mb4.6
BOZ Bozeman (W) 61.88 52 *eP* **P 02 03 46.7 +0.6**
BOZ pmax pmax
comp=Z,5.0nm,0.9s,mb4.6
NVAR Mina Array Bea 62.55 62 P **P 02 03 51.7 +0.9**
comp=Z,3.1nm,0.8s,mb4.5,baz=303,slow=5.6,SNR=5.4
KAF Kangasniemi 63.49 335 *ep* **P 02 03 53.9 -2.7**
comp=Z,1.1nm,0.5s,mb4.2
KAF Kangasniemi 63.49 335 *eP* **P 02 03 53.9 -2.7**
KAF pmax pmax
comp=Z,1.0nm,0.5s,mb4.2
MOOW Moose Ponds 63.57 54 *eP* **P 02 03 58.5 +1.0**
comp=Z,1.9nm,0.6s,mb4.3
TPAW Teton Pass 63.62 54 *eP* **P 02 03 58.6 +0.8**
FIA1 FINESS Array S 64.09 335 *eP* **P 02 03 59.2 -1.3**
FINES FINESS Array B 64.09 335 P **P 02 03 59.2 -1.4**
FINES pmax pmax
comp=Z,2.0nm,0.5s
FINES FINESS Array B 64.09 335 P **P 02 03 59.1 -1.4**
comp=Z,1.9nm,0.5s,mb4.4,baz=42,slow=8.2,SNR=18
DUG Dugway 64.70 58 *eP* **P 02 04 05.6 +0.7**
comp=Z,4.0nm,0.8s,mb4.5
DUG Dugway 64.70 58 *eP* **P 02 04 05.6 +0.7**
DUG pmax pmax
comp=Z,4.0nm,0.8s,mb4.5
BW06 Boulder Array 64.87 54 *eP* **P 02 04 06.1 +0.1**
comp=Z,3.5nm,0.8s,mb4.4
PDAR Pinedale Array 64.87 54 P **P 02 04 06.2 +0.3**
comp=Z,3.1nm,0.8s,mb4.4,baz=299,slow=2.0,SNR=8.9
ULM Lac du Bonnet 66.65 41 P **P 02 04 16.6 -0.7**
comp=Z,5.1nm,0.8s,mb4.6,baz=284,slow=5.7,SNR=11
SRU San Rafael 66.74 57 *eP* **P 02 04 18.8 +0.7**
AGMN Agassiz Refuge 68.06 42 *eP* **P 02 04 25.8 -0.5**

NB2 NORSAR Subarra 68.29 341 P **P 02 04 26.1 -1.4**
comp=Z,5.2nm,0.7s,mb4.7,baz=28,slow=6.5
NOA NORSAR Array B 68.29 341 P **P 02 04 26.5 -1.0**
NOA pmax pmax
comp=Z,4.0nm,0.6s
NOA NORSAR Array B 68.29 341 P **P 02 04 26.5 -1.0**
comp=Z,4.1nm,0.6s,mb4.6,baz=28,slow=6.3,SNR=22
WRA Warramunga Arr 68.40 199 P **P 02 04 28.1 -0.4**
WRA pmax pmax
comp=Z,1.0nm,0.8s
WRA Warramunga Arr 68.40 199 P **P 02 04 28.1 -0.5**
comp=Z,1.0nm,0.8s,mb3.9,baz=14,slow=6.8,SNR=4.8
SMCO Snowmass 68.73 55 *eP* **P 02 04 31.1 +0.5**
FITZ Fitzroy Crossi 69.02 208 *eP* **P 02 04 33.1 +0.6**
comp=Z,6.8nm,0.9s,mb4.6
ISCO Idaho Springs 69.06 54 *eP* **P 02 04 33.4 +0.7**
KIV Kislovodsk 70.81 314 *eP* **P 02 04 43.2 -0.1**
comp=Z,2.7nm,0.4s,mb4.5
KIV *e* 02 04 58.5
KIV Kislovodsk 70.81 314 *eP* **P 02 04 43.2 -0.1**
KIV *e* 02 04 58.5
KIV pmax pmax
comp=Z,3.0nm,0.4s,mb4.6
AKASG Malin Array Be 71.58 326 P **P 02 04 46.2 -1.7**
AKASG pmax pmax
comp=Z,2.0nm,0.5s
AKASG Malin Array Be 71.58 326 P **P 02 04 46.2 -1.7**
comp=Z,2.0nm,0.5s,mb4.3,baz=33,slow=6.2,SNR=18
AKBB Malin Array Si 71.58 326 *eP* **P 02 04 46.6 -1.3**
AKBB *e* 02 05 02.5
ANMO Albuquerque 71.95 58 *eP* **P 02 04 50.0 -0.3**
comp=Z,0.9nm,0.6s,mb3.9
ANMO Albuquerque 71.95 58 *eP* **P 02 04 50.0 -0.4**
ANMO pmax pmax
comp=Z,1.0nm,0.6s
ASAR Alice Springs 72.09 198 P **P 02 04 52.0 +0.9**
ASAR pmax pmax
comp=Z,2.0nm,0.7s
ASAR Alice Springs 72.09 198 P **P 02 04 52.0 +0.9**
comp=Z,2.3nm,0.7s,mb4.2,baz=13,slow=5.6,SNR=21
SCHQ Schefferville 73.43 23 P **P 02 04 58.0 -0.8**
SCHQ Schefferville 73.43 23 P **P 02 04 58.0 -0.8**
comp=Z,2.4nm,0.8s,mb4.2,baz=29,slow=14,SNR=3.4
CLL Collm 76.52 335 *eP* **P 02 05 15.0 -1.7**
comp=Z,5.0nm,0.8s,mb4.5
CLL Collm 76.52 335 *eP* **P 02 05 15.0 -1.7**
CLL pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
CLL Collm 76.52 335⇑ *iP* **P 02 05 15.6 -1.1**
comp=Z,5.0nm,0.8s,mb4.5
MLR Muntele Rosu 77.09 325 P **P 02 05 19.3 -0.7**
MLR pmax pmax
comp=Z,3.0nm,0.7s
MLR Muntele Rosu 77.09 325 P **P 02 05 19.3 -0.7**
comp=Z,3.1nm,0.7s,mb4.4,baz=174,slow=9.4,SNR=13
TXAR Lajitas Array 77.61 60 P **P 02 05 23.1 -0.1**
TXAR pmax pmax
comp=Z,3.0nm,0.5s
TXAR Lajitas Array 77.61 60 P **P 02 05 23.1 -0.1**
comp=Z,2.7nm,0.5s,mb4.4,baz=301,slow=4.8,SNR=61
KHC Kasperske Hory 78.29 334 *eP* **P 02 05 26.0 -0.6**
GRA1 Grafenberg Arr 78.47 336 *eP* **P 02 05 27.3 -0.3**
comp=Z,3.0nm,0.8s,mb4.3
GRF Grafenberg Arr 78.47 336 *eP* **P 02 05 27.3 -0.3**
GRF pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
GRF Grafenberg Arr 78.47 336 *eP* **P 02 05 27.3 -0.3**
GRF pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
GRF Grafenberg Arr 78.47 336 *eP* **P 02 05 27.3 -0.3**
comp=Z,3.0nm,0.8s,mb4.3
GERES GERESS Array B 78.50 334 P **P 02 05 27.1 -0.7**
GERES pmax pmax
comp=Z,1.0nm,0.6s
GERES GERESS Array B 78.50 334 P **P 02 05 27.1 -0.7**
comp=Z,0.7nm,0.6s,mb3.8,baz=38,slow=6.8,SNR=8.8
CFAA Coronel Fontan 145.09 79 PKPbc PKPbc 02 13 02.8 -0.7
comp=Z,1.2nm,0.8s,baz=274,slow=3.3,SNR=16
PLCA Paso Flores 148.28 95 PKP2 PKPbc 02 13 12.4 -0.1
PLCA pmax pmax
comp=Z,5.0nm,0.8s
PLCA Paso Flores 148.28 95 PKPbc PKPbc 02 13 12.3 -0.1
comp=Z,5.2nm,0.8s,baz=292,slow=1.4,SNR=8.1
VNA2 Neumayer--Watz 153.89 195 *e*PKPdf PKPbc 02 13 23.2 -1.5
VNA2 *e* 02 13 40.1
VNA2 *e* 02 13 44.6
VNA3 Neumayer Olymp 153.98 193 *e*PKPdf PKPbc 02 13 23.5 -1.4
VNA3 *e* 02 13 38.7
VNA3 *e* 02 13 43.6

*CSEM **13** 01:59:57.0, 4303N×4534E, h64km, mb3.8, After OBN*
MOS 13 01:59:57.2±0.2, 4303N×4534E, h64km, mb3.8/1, Error ellipse: s-maj=20.5km s-min=13.6km az=12.3, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SNJR	**Sundja**	**0.39**	**276**	*i P*		02 00 10.2	+1.8
SNJR				*i* S		02 00 24.0	+7.5
VLKR	**Vladikavkaz**	**0.48**	**272**	*eP*		02 00 11.3	+2.0
VLKR				*eS*		02 00 25.2	+7.1
BTKR	**Batakoyurt**	**0.67**	**301**	*i P*		02 00 13.1	+1.7
BTKR				*i* S		02 00 28.4	+6.7
ARNR	**Ardon**	**0.79**	**282**	*i P*		02 00 14.4	+1.7
ARNR				*i* S		02 00 30.4	+6.2
LACR	**Lac**	**0.79**	**255**	*i P*		02 00 14.1	+1.3
LACR				*i* S		02 00 29.8	+5.6
KMSR	**Komsomolskaya**	**0.84**	**294**	*i P*		02 00 15.0	+1.7
KMSR				*eS*		02 00 31.3	+6.1
KORR	**Kora**	**0.93**	**274**	*i P*		02 00 16.0	+1.5
KORR				*i* S		02 00 33.4	+6.1
PRTR	**Priterechnaya**	**1.05**	**313**	*i P*		02 00 16.6	+0.6
PRTR				*i* S		02 00 34.2	+4.1
ZEI	**Tsey**	**1.09**	**257**	*i P*		02 00 17.4	+0.9
ZEI				*i* S		02 00 35.4	+4.5
LSNR	**Lesken**	**1.14**	**283**	*i P*		02 00 18.3	+1.1
LSNR				*i* S		02 00 37.1	+5.0
DIGR	**Digorskoe uzhe**	**1.30**	**265**	*i P*		02 00 20.0	+0.8
DIGR				*i* S		02 00 40.0	+4.3
TBLG	**Delisi**	**1.37**	**199**	*eP*		02 00 21.2	+0.9
TBLG				*eS*		02 00 41.9	+4.3
TBLG	**Delisi**	**1.37**	**199**	P		02 00 42.3	+4.7
TBLG				S		02 00 44.2	+6.6
TBLG	**Delisi**	**1.37**	**199**	P		02 00 21.2	+1.0
TBLG				S		02 00 41.9	+4.3
GOR	**Gori**	**1.39**	**221**	P		02 00 23.0	+2.6
MTA	**Mtatsminda**	**1.40**	**197**	P		02 00 41.9	+3.8
MTA				S		02 00 44.0	+5.9
MTA	**Mtatsminda**	**1.40**	**197**	P		02 00 22.0	+1.4
MTA				S		02 00 41.9	+3.8
DGRG	**David-gareji**	**1.58**	**179**	P		02 00 46.7	+4.2
DGRG				S		02 00 49.4	+6.9
DGRG	**David-gareji**	**1.58**	**179**	P		02 00 23.7	+0.7
DGRG				S		02 00 46.8	+4.3

GUC 13 02:02:06.2±0.4, 2756S×6922W, h92km±9km, ML3.5, 1C-2D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CPCH	**Copiapo**	**1.02**	**281**	⇓*iP*		02 02 26.4	+0.1
CPCH				*i* S		02 02 42.0	+0.7
CPCH				AML	AML	02 02 43.0	
	comp=E,4μm,0.1s						
CDCH	**Caldera**	**1.51**	**289**	⇓*iP*		02 02 32.5	+0.4
CDCH				*i* S		02 02 52.2	+0.4
CDCH				AML	AML	02 02 53.7	
	comp=E,331nm,0.3s						
VACH	**Vallenar**	**1.69**	**233**	⇑*iP*		02 02 34.8	+0.4
VACH				*i* S		02 02 56.5	+0.6
VACH				AML	AML	02 02 58.5	
	comp=N,1μm,0.1s						
CPN1	**Cerro Paranal**	**3.11**	**340**	*i* S		02 03 31.2	+1.6
CPN1				AML	AML	02 03 46.0	
	comp=E,50nm,0.7s						

*ISCJB **13** 02:25:14.9±2.5, 39S±0.1×1539E±02, h452km±27km, mb3.9/17, Error ellipse: s-maj=26.6km s-min=12.2km az=26.0*
*NEIC **13** 02:25:15.5±2.1, 393S×1539±4E, h448km±22km, mb4.1/12, Error ellipse: s-maj=16.8km s-min=11.9km az=91.0*
*IDC **13** 02:25:16.4±2.3, 392S×1537±8E, h448km±24km, mb3.3/6, mb1 3.6/7, mb1mx3.4/14, mbtmp3.4/7, Error ellipse: s-maj=31.6km s-min=12.0km az=120.0*
ISC 13 02:25:15.7±2.2, 40S±01×1540E±02, h450km±25km, n31, σ0°75/28, mb3.9/17, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**17.71**	**204**	P		**02 28 55.8**	**+0.3**
	1.7nm,0.3s,baz=37,slow=11,SNR=13						
CTAO	**Charters Tower**	**17.71**	**204**	*eP*		**02 28 55.6**	**+0.2**
	13nm,0.7s						
KAKA	**Kakadu**	**22.98**	**246**	*eP*		**02 29 46.2**	**+2.0**
	5.9nm,0.9s,mb4.0						
WB2	**Warramunga Arr**	**24.86**	**229**	*eP*		**02 30 00.8**	**-0.1**
WRA	**Warramunga Arr**	**24.87**	**229**	P		**02 30 00.9**	**-0.2**
	2.5nm,0.6s,mb3.8,baz=52,slow=9.3,SNR=21						
WRA				PcP	PcP	02 33 24.3	+1.7
	0.9nm,0.4s,baz=47,slow=2.6,SNR=7.5						
WRA				S	**S**	**02 33 50.6**	**-0.6**
	0.8nm,0.7s,baz=62,slow=14,SNR=4.1						
ASAR	**Alice Springs**	**27.55**	**223**	P		**02 30 24.6**	**-0.1**
	1.7nm,0.3s,mb3.9,baz=55,slow=9.2,SNR=39						
ASAR				PcP	PcP	02 33 30.4	+1.6
	0.6nm,0.5s,baz=44,slow=3.0,SNR=6.8						
ASAR				S	**S**	**02 34 33.5**	**+0.2**
	0.8nm,0.6s,baz=50,slow=14,SNR=7.7						
FITZ	**Fitzroy Crossi**	**31.08**	**241**	*eP*		**02 30 54.6**	**-1.0**
	7.7nm,1.6s,mb3.9						
FORT	**Forrest**	**36.17**	**220**	*eP*		**02 31 38.4**	**-0.3**
	0.6nm,0.7s,mb3.1						
NWAO	**Narrogin (SRO)**	**44.80**	**226**	*eP*		**02 32 46.9**	**-1.2**
	36nm,0.6s,mb5.0						
KULM	**Kulim**	**54.03**	**279**	*eP*		**02 33 56.1**	**-0.8**
ULN	**Ulaanbaatar**	**65.89**	**327**	*eP*		**02 35 15.2**	**-0.4**
	1.2nm,0.7s,mb3.6						
SONM	**Songino Array**	**66.23**	**327**	P		**02 35 18.7**	**+1.0**
	0.9nm,0.5s,mb3.7,baz=109,slow=5.7,SNR=4.0						
CASY	**Casey**	**69.16**	**197**	*eP*		**02 35 35.4**	**0.0**
	4.0nm,0.6s,mb4.1						
BILL	**Bilibino**	**72.35**	**5**	*eP*		**02 35 54.2**	**0.0**
	3.2nm,0.7s,mb4.0						
MK31	**Makanchi Array**	**80.45**	**319**	*eP*		**02 36 40.2**	**+0.8**
MKAR	**Makanchi Array**	**80.45**	**319**	P		**02 36 40.2**	**+0.8**
	0.9nm,0.6s,mb3.5,baz=100,slow=6.1,SNR=9.5						
COLA	**College**	**80.64**	**22**	*eP*		**02 36 39.1**	**-0.9**
	3.6nm,0.7s,mb4.0						
ZALV	**Zalesovo Beam**	**81.09**	**326**	P		**02 36 42.3**	**-0.3**
ZALV	**Zalesovo Beam**	**81.09**	**326**	P		**02 36 42.3**	**-0.3**
	0.6nm,0.4s,mb3.5,baz=113,slow=6.7,SNR=3.5						
KURK	**Kurchatov**	**83.81**	**322**	*eP*		**02 36 56.2**	**-0.3**
	1.1nm,0.4s,mb3.7						
TKM2	**Tokmak 2**	**84.18**	**314**	*eP*		**02 36 59.2**	**+0.6**
	2.7nm,0.6s,mb4.0						
EKS2	**Erkin-Say**	**85.45**	**313**	*eP*		**02 37 05.3**	**+0.5**
QSPA	**South Pole Qui**	**86.01**	**180**	*eP*		**02 37 08.3**	**+1.6**
	6.2nm,0.8s,mb4.3						
INK	**Inuvik**	**87.25**	**21**	*eP*		**02 37 12.4**	**-0.4**
BRVK	**Borovoye**	**89.32**	**323**	*eP*		**02 37 22.1**	**-0.7**
YKA	**Yellowknife Ar**	**94.14**	**28**	P		**02 37 44.6**	**-0.2**
	0.5nm,0.8s,mb3.6,baz=268,slow=4.7,SNR=12						
GERES	**GERESS Array B**	**123.92**	**329**	PKP	PKPdf	02 43 21.3	-0.5
	0.2nm,0.3s,baz=328,slow=2.0,SNR=4.2						
BDFB	**Brasilia**	**150.82**	**132**	PKPbc	PKPbc	02 44 18.6	+1.3
	1.1nm,0.5s,baz=154,slow=23,SNR=4.3						
TOA0	**Torodi Ar. Sit**	**151.12**	**290**	*e*PKPbc	PKPbc	02 44 18.2	+0.2
TORD	**Torodi Ar. Bea**	**151.12**	**290**	PKPbc	PKPbc	02 44 18.4	+0.4
TORD				PKPab	PKPab	02 44 27.7	0.0
TORD	**Torodi Ar. Bea**	**151.12**	**290**	PKPbc	PKPbc	02 44 18.4	+0.4
	3.0nm,0.7s,baz=56,slow=1.7,SNR=68						
TORD				PKPab	PKPab	02 44 27.7	0.0
	0.4nm,0.8s,baz=50,slow=3.4,SNR=4.1						

*NEIC **13** 02:29:21.2, 3502S×7055W, h18km, ML2.5(GUC), After GUC.*
GUC 13 02:29:21.2±0.6, 3502S×7055W, h18km±2km, MD3.5, ML2.5, 8C-3D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SFDO	**San Fernando**	**0.56**	**316**	⇓*iP*	Pg	02 29 32.0	-0.2
SFDO				*i* S	Sg	02 29 39.8	0.0
CICH	**Cipreses**	**0.70**	**9**	⇓*iP*	Pb	02 29 34.6	-0.4
CICH				*i* S	Sb	02 29 44.6	+0.2
CACH	**El Canelo**	**0.90**	**357**	⇑*iP*	Pb	02 29 37.9	-0.4
CACH				*i* S	Sb	02 29 50.4	+0.4
CHCH	**Chadas Angostu**	**1.09**	**355**	⇑*iP*	Pb	02 29 41.4	0.0
CHCH				*i* S	Sb	02 29 56.7	+1.3
LMEL	**Las Melosas**	**1.20**	**14**	⇑*iP*	Pn	02 29 43.3	+0.1
LMEL				*i* S	Sb	02 30 00.1	+1.5
LMEL	**Las Melosas**	**1.20**	**14**	⇑*iP*	Pn	02 29 43.3	+0.1
LMEL				*i* S	Sb	02 30 00.1	+1.5
LMEL				AML	AML	02 30 02.1	
	comp=N,116nm,0.2s						
LNV	**Longovilo**	**1.28**	**326**	⇑*iP*	Pn	02 29 44.2	0.0
LNV				*i* S	Sb	02 30 01.7	+0.9
PCH	**Pirque**	**1.40**	**1**	*eP*	Pn	02 29 46.7	+0.9
PCH				*i* S	Sn	02 30 06.2	+2.4
TACH	**Talagante**	**1.40**	**347**	⇓*iP*	Pn	02 29 46.5	+0.7
TACH				*i* S	Sn	02 30 05.8	+1.9
RCDM	**Rinconada Maip**	**1.54**	**352**	⇑*iP*	Pn	02 29 48.9	+1.1
RCDM				*i* S	Sn	02 30 09.7	+2.3
RCDM	**Rinconada Maip**	**1.54**	**352**	⇑*iP*	Pn	02 29 48.9	+1.1
RCDM				*i* S	Sn	02 30 09.7	+2.3
RCDM				AML	AML	02 30 15.8	
	comp=E,174nm,0.4s						
CLCH	**Cerro Calan**	**1.62**	**0**	*eP*	Pn	02 29 50.6	+1.7
CLCH				*i* S	Sn	02 30 12.6	+3.2
CLCH				AML	AML	02 30 19.4	
	comp=E,94nm,0.4s						
FCH	**Farellones**	**1.70**	**7**	⇑*iP*	Pn	02 29 52.5	+2.5
FCH				*i* S	Sn	02 30 15.7	+4.3
FCH				AML	AML	02 30 17.7	
	comp=E,77nm,0.3s						
PEL	**Peldehue**	**1.87**	**356**	*eP*	Pn	02 29 54.2	+1.8
PEL				*i* S	Sn	02 30 20.3	+4.7
PEL				AML	AML	02 30 25.9	
	comp=N,112nm,0.5s						

*ISCJB **13** 02:31:24.0±0.8, 152S±02×1796W±02, h10km, mb4.1/7, MS3.9/7, Error ellipse: s-maj=34.0km s-min=18.9km az=157.5*
*IDC **13** 02:31:24.8±1.6, 1442S×17995W, h0km, mb3.8/5, mb1 4.1/5, mb1mx3.9/14, mbtmp3.8/5, MS3.9/7, Ms1 3.9/7, ms1mx3.5/27, Error ellipse: s-maj=165.8km s-min=24.4km az=152.0*
*NEIC **13** 02:31:25.5±0.7, 1524S×17951W, h10km, mb4.3/2, Error ellipse: s-maj=45.2km s-min=18.2km az=149.0*
ISC 13 02:31:25.4±0.8, 153S±02×1795W±02, h10km, n17, σ0°88/10, mb4.1/7, MS3.9/7, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**23.12**	**187**	LR	LR	02 44 12.4	
	comp=Z,429nm,20.1s,MS3.9,baz=359,slow=32						
PPT	**Papeete**	**28.78**	**99**	LR	LR	02 45 34.4	
	comp=Z,264nm,21.6s,MS3.8,baz=251,slow=29						
RPZ	**Rata Peaks**	**29.50**	**194**	LR	LR	02 46 27.1	
	comp=Z,283nm,21.8s,MS3.9,baz=359,slow=30						
STKA	**Stephens Creek**	**39.07**	**238**	P		**02 38 53.8**	**+1.0**
	6.2nm,0.9s,mb4.3,baz=17,slow=11,SNR=3.6						
STKA				LR	LR	02 52 33.8	
	comp=Z,166nm,20.1s,MS3.9,baz=32,slow=32						
WRA	**Warramunga Arr**	**44.15**	**257**	P		**02 39 32.9**	**-1.7**
	1.9nm,1.1s,mb3.7,baz=93,slow=9.1,SNR=4.0						
ASAR	**Alice Springs**	**44.57**	**252**	P		**02 39 38.5**	**+0.6**
	6.7nm,1.0s,mb4.4,baz=88,slow=8.6,SNR=18						
FORT	**Forrest**	**50.25**	**243**	*eP*		**02 40 22.6**	**+0.5**
	1.2nm,0.9s,mb3.9						
JNU	**Nakatsue**	**67.51**	**316**	LR	LR	03 05 13.8	
	comp=Z,47nm,20.4s,MS3.7,baz=59,slow=30						
QSPA	**South Pole Qui**	**74.79**	**180**	*eP*		**02 43 05.2**	**-0.1**
	9.0nm,1.0s,mb4.7						
TXAR	**Lajitas Array**	**85.47**	**58**	P		**02 44 05.1**	**+1.3**
	0.9nm,0.9s,mb3.9,baz=234,slow=11,SNR=6.3						
TXAR				LR	LR	03 13 08.1	
	comp=Z,92nm,20.5s,MS4.2,baz=180,slow=29						
PDAR	**Pinedale Array**	**86.16**	**44**	P		**02 44 06.0**	**-0.8**
	0.2nm,0.4s,mb3.7,baz=259,slow=5.4,SNR=3.9						
YKA	**Yellowknife Ar**	**92.37**	**25**	LR	LR	03 20 45.0	
	comp=Z,45nm,19.7s,MS3.9,baz=270,slow=32						

VNA3	Neumayer Olymp	93.44	177	e		P	02 44 39.7 -1.1
VNA2	Neumayer--Watz	93.87	177	e		P	02 44 42.9 +0.2
	baz=137,slow=2.7						
VNA1	Neumayer--Stat	94.11	177	e		P	02 44 43.9 +0.1
KHC	Kasperske Hory	144.55	345	ePKP	PKPdf		02 51 02.5 +0.3
KHC				epPKP	pPKPdf		02 51 06.5 +0.9
GERES	GERESS Array B	144.79	345	PKP	PKPdf		02 51 03.9 +1.3
	0.7nm,0.7s,baz=3.8,slow=4.0,SNR=8.1						

*IDC **13** 02:46:18.2±0.7, 5146N×178.18W, h0km, mb4.0/15, mb1 4.3/15, mb1mx4.1/26, mbtmp4.0/15, MS3.7/1, Ms1 3.7/1, ms1mx2.8/34, Error ellipse: s-maj=22.2km s-min=14.8km az=171.0*

*BJI **13** 02:46:21.4, 5120N×17800W, h25km, mB4.6, mb4.5, Ms4.4, Msz4.4*

*NEIC **13** 02:46:23.4, 5122N×17803W, h26km, mb4.2/20, ML4.3(AEIC), After AEIC.*

*ISCJB **13** 02:46:24.9±0.7, 5156N±008×178.14W±005, h54km±6km, mb4.2/36, MS4.2/2, Error ellipse: s-maj=13.0km s-min=5.0km az=175.4*

ISC 13 02:46:26.0±0.7, 5152N±008×17812W±005, h48km±6km, n142, σ0°81/139, mb4.2/36, MS4.2/2, 32C-37D, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ADK	Adak	0.96	67	P		Pn	02 46 41.8 -1.4
ADK				S		Sn	02 46 55.1 -0.6
AMKA	Amchitka	1.62	266	P		Pn	02 46 50.5 -1.6
AMKA				S		Sn	02 47 12.6 +0.8
SMY	Shemya	4.95	287	ePn		Pn	02 47 37.4 -0.2
SPIA	Saint Paul Isl	7.29	36	P		Pn	02 48 13.2 +3.4
UNV	Unalaska Valle	7.43	67	P		Pn	02 48 13.3 +1.6
SDPT	Sand Point	11.19	63	eP		Pn	02 49 02.7 -0.4
	138nm,1.5s						
SVW2	Sparrevohn	15.67	44	ePn		Pn	02 50 07.2 +3.9
SVW2				eP			02 50 08.6
KDAK	Kodiak Island	15.99	57	ePn		Pn	02 50 07.0 -0.3
TTA	Tatalina	16.44	37	eP		Pn	02 50 17.3 +4.3
BILL	Bilibino	18.23	341	eP		Pn	02 50 37.6 +2.5
	9.3nm,1.0s						
IMA2	Indian Mountai	19.10	31	eP		Pn	02 50 45.8 +0.2
IMA2				eP			02 50 48.2
MCK	McKinley	19.61	40	eP		Pn	02 50 50.0 -1.7
	7.4nm,0.8s						
COLA	College	20.54	38	eP		P	02 51 01.1 +1.2
	4.4nm,0.6s						
MENT	Mentasta	21.54	45	eP		P	02 51 12.2 +1.4
MENT				eP			02 51 13.7
DAWY	Dawson	23.71	43	eP		P	02 51 31.7 -1.4
SKAG	Skagway	25.11	55	eP		P	02 51 47.2 +1.3
	9.7nm,1.1s,mb4.2						
INK	Inuvik	27.10	35	eP		P	02 52 02.6 -1.1
INK				PcP		PcP	02 55 22.8 -0.4
INK	Inuvik	27.10	35	P		P	02 52 02.8 -0.9
	0.7nm,0.3s,mb3.6,baz=238,slow=11,SNR=23						
INK				PcP		PcP	02 55 22.8 -0.4
	1.3nm,0.5s,baz=283,slow=4.7,SNR=11						
MJAR	Matsushiro Arr	34.23	261	P		P	02 53 05.8 -1.1
	1.5nm,0.9s,mb3.9,baz=46,slow=13,SNR=3.0						
YKA	Yellowknife Ar	34.82	47	P		P	02 53 10.5 -1.2
YKA				PcP		PcP	02 55 43.5 -0.2
YKA	Yellowknife Ar	34.82	47	P		P	02 53 10.5 -1.2
	0.6nm,0.4s,mb3.9,baz=280,slow=8.9,SNR=19						
YKA				PcP		PcP	02 55 43.5 -0.2
	0.6nm,0.5s,baz=286,slow=3.1,SNR=11						
B05A	Bryant	35.49	73	⇓P		P	02 53 18.2 +0.6
	baz=35						
A07A	Ashnola River,	36.15	71	⇓P		P	02 53 24.0 +0.7
	baz=36,SNR=9.0						
F04A	Amboy	36.40	76	⇑P		P	02 53 26.0 +0.6
	baz=36						
B07A	Winthrop	36.57	71	⇓P		P	02 53 27.1 +0.2
	baz=36,SNR=5.2						
A08A	Turner Farm, O	36.85	70	⇑P		P	02 53 29.6 +0.4
	baz=37,SNR=5.8						
J02A	Umpqua	37.01	81	⇑P		P	02 53 31.6 +0.9
	baz=37						
B08A	Colville Reser	37.09	71	⇑P		P	02 53 31.8 +0.5
	baz=37,SNR=6.9						
A09A	Danville	37.24	70	⇑P		P	02 53 33.0 +0.4
	baz=37						
I04A	Tendick Farm,	37.50	79	⇑P		P	02 53 35.3 +0.5
	baz=37						
B09A	Rice	37.76	70	⇓P		P	02 53 37.1 +0.2
	baz=38						
CN2	Changchun	37.94	281	eP		P	02 53 42.8 +4.3
D08A	Wollman Farm,	37.95	73	⇑P		P	02 53 38.5 -0.1
	baz=38						
C09A	Chrisman Ranch	37.98	71	⇓P		P	02 53 38.9 +0.2
	baz=38						
NEW	Newport	38.43	70	eP		P	02 53 42.1 -0.5
	8.1nm,0.6s,mb4.6						
NEW	Newport	38.43	70	P		P	02 53 42.0 -0.6
	8.5nm,0.6s,mb4.7,baz=297,slow=7.5,SNR=14						
J05A	Fort Rock	38.49	79	⇑P		P	02 53 44.1 +0.9
	baz=38						
CBIJ	Chichi jima	38.53	246	LR		LR	03 05 32.8
	comp=Z,116nm,21.6s,MS3.7,baz=116,slow=30						
A11A	Hall Mountain,	38.55	69	P		P	02 53 44.0 +0.5
	baz=38,SNR=5.8						
D10A	Wagner Farm, O	38.93	72	⇓P		P	02 53 46.8 0.0
	baz=39						
M04C	Macdoel	38.95	82	⇑P		P	02 53 47.5 +0.5
	baz=39						
K05A	Summer Lake	39.01	80	⇓P		P	02 53 48.2 +0.7
	baz=39						
I07A	Izee	39.12	77	⇓P		P	02 53 48.8 +0.4
	baz=39						
J06A	Christmas Vall	39.17	79	⇑P		P	02 53 49.4 +0.5
	baz=39						
K06A	Valley Falls	39.36	79	⇓P		P	02 53 51.3 +0.9
	baz=39						
D11A	Klaveano Farm,	39.49	71	⇑P		P	02 53 51.1 -0.4
	baz=39						
M05C	Lookout	39.62	82	⇓P		P	02 53 52.9 +0.3
	baz=40						
HATC	Hat Creek Radi	39.73	83	⇓P		P	02 53 54.2 +0.7
	baz=40						
MOD	Modoc	39.83	81	⇓P		P	02 53 55.1 +0.7
	baz=40						
E11A	Bogner Ranch,	39.92	72	⇑P		P	02 53 54.4 -0.6
	baz=40						
G10A	Bishop Farm, J	39.92	74	⇓P		P	02 53 55.4 +0.3
	baz=40						
B13A	Whitefish	39.93	69	⇓P		P	02 53 55.0 -0.1
	baz=40						
K07A	Rock Creek Ran	40.04	79	⇓P		P	02 53 56.8 +0.7
	baz=40						
D12A	Red Ives Fores	40.07	71	⇓P		P	02 53 55.9 -0.4
	baz=40						
F11A	Grangeville	40.19	73	⇓P		P	02 53 56.9 -0.4
	baz=40						
C13A	Hot Springs	40.21	70	⇓P		P	02 53 57.4 -0.1
	baz=40						
L07A	Adell	40.36	80	⇓P		P	02 53 58.8 +0.1
	baz=40						
K08A	Mann Creek Ran	40.48	78	⇓P		P	02 54 00.1 +0.4
	baz=40						
WVOR	Wild Horse Val	40.55	79	eP		P	02 54 00.4 +0.1
	2.8nm,0.7s,mb4.0						
D13A	Huson	40.58	70	⇑P		P	02 54 00.2 -0.3
	baz=40						
C14A	Swan Lake	40.65	69	⇑P		P	02 54 00.8 -0.2
	baz=40						
N06A	Buffalo Meadow	40.78	82	⇓P		P	02 54 02.5 +0.3
	baz=41						
F12A	Elk City	40.80	72	P		P	02 54 02.4 +0.1
	baz=41,SNR=6.2						
M07A	Soldier Meadow	40.82	80	⇑P		P	02 54 02.9 +0.3
	baz=41						
L08A	Fields	40.87	79	⇓P		P	02 54 03.2 +0.2
	baz=41						
D14A	Greenough	41.14	70	P		P	02 54 04.7 -0.5
	baz=41,SNR=11						
N07B	Gerlach	41.29	81	⇑P		P	02 54 05.4 -1.1
	baz=41						
F13A	Darby	41.33	72	⇓P		P	02 54 06.6 -0.1
	baz=41						
I11A	Placerville	41.37	75	⇑P		P	02 54 06.8 -0.2
	baz=41						
L09A	Wilkinson Ranc	41.38	79	⇑P		P	02 54 07.6 +0.5
	baz=41						
K10A	MacKenzie Ranc	41.44	77	⇓P		P	02 54 08.1 +0.5
	baz=41						
E14A	Clinton	41.49	71	⇓P		P	02 54 07.9 -0.2
	baz=41						
H12A	Diamond D Ranc	41.68	74	⇑P		P	02 54 09.0 -0.6
	baz=42						
D15A	Lincoln	41.74	69	P		P	02 54 09.8 -0.2
	baz=42,SNR=5.5						
G13A	Cobalt	41.76	73	P		P	02 54 10.3 +0.1
	baz=42,SNR=5.5						
N08A	GE Springer Mi	41.81	81	⇓P		P	02 54 10.5 -0.2
	baz=42						
K11A	Parker Ranch,	41.95	77	⇓P		P	02 54 11.9 +0.1
	baz=42						
E15A	Deer Lodge	41.99	70	⇑P		P	02 54 11.8 -0.3
	baz=42						
H13A	Challis	42.03	73	⇑P		P	02 54 12.5 0.0
	baz=42						
L10A	Juniper Basin	42.08	78	⇓P		P	02 54 12.6 -0.3
	baz=42						
J12A	Stokes Ranch,	42.25	76	⇑P		P	02 54 14.7 +0.5
	baz=42						
M10A	I.L. Ranch, Tu	42.36	79	⇑P		P	02 54 15.5 +0.3
	baz=42						
F15A	Butte	42.39	71	⇓P		P	02 54 15.0 -0.3
	baz=42						
L11A	Cat Creek Ranc	42.47	77	⇓P		P	02 54 16.6 +0.6
	baz=42						
I13A	Wildhorse Cree	42.47	74	P		P	02 54 16.4 +0.3
	baz=42,SNR=6.2						
HLID	Hailey	42.49	75	eP		P	02 54 15.8 -0.4
	1.8nm,0.9s,mb3.7						
HLID	Hailey	42.49	75	⇑P		P	02 54 16.3 +0.1
	baz=42						
K12A	Draper Farm, C	42.72	76	⇑P		P	02 54 18.4 +0.4
	baz=43						
J13A	Cove Ranch, Pi	42.73	75	⇑P		P	02 54 18.1 0.0
	baz=43						
G15A	Dillon	42.76	72	⇓P		P	02 54 18.1 -0.2
	baz=43						
EGMT	Eagleton	42.83	67	⇑P		P	02 54 17.9 -1.0
	baz=43						
L12A	House Creek Ra	42.93	77	⇓P		P	02 54 19.8 +0.1
	baz=43						
BOZ	Bozeman (W)	43.00	71	eP		P	02 54 19.7 -0.6
	4.5nm,0.7s,mb4.3						
BOZ	Bozeman (W)	43.00	71	⇑P		P	02 54 20.2 -0.1
	baz=43						
NVAR	Mina Array Bea	43.11	83	P		P	02 54 21.4 +0.1
	0.5nm,0.5s,mb3.5,baz=325,slow=7.2,SNR=3.6						
M12A	Wells	43.41	78	⇑P		P	02 54 23.6 -0.1
	baz=43						
N12A	Clover Valley,	43.67	78	⇑P		P	02 54 25.8 +0.1
	baz=44						
O12A	Currie	44.20	79	P		P	02 54 30.3 +0.3
	baz=44,SNR=5.2						
FLWY	Flagg Ranch	44.42	72	eP		P	02 54 32.0 +0.3
	4.2nm,0.6s,mb4.3						
MOOW	Moose Ponds	44.58	72	eP		P	02 54 33.5 +0.5
R11A	Troy Canyon, C	44.84	82	⇓P		P	02 54 34.7 -0.5
	baz=45						
P13A	Bates Ranch, G	45.13	79	⇓P		P	02 54 37.2 -0.2
	baz=45						
DUG	Dugway	45.42	78	eP		P	02 54 39.6 -0.1
	2.5nm,0.7s,mb4.2						
DUG	Dugway	45.42	78	⇓P		P	02 54 39.8 0.0
	baz=45						
FCC	Fort Churchill	45.55	47	eP		P	02 54 38.2 -2.3
T11A	Corn Creek, Al	45.76	83	⇓P		P	02 54 42.3 -0.1
	baz=46						
BW06	Boulder Array	45.86	73	eP		P	02 54 42.5 -0.6
	7.1nm,0.9s,mb4.6						
PDAR	Pinedale Array	45.86	73	P		P	02 54 43.0 -0.1
	4.4nm,0.5s,mb4.6,baz=325,slow=2.7,SNR=35						
U12A	Valley of Fire	46.70	83	⇑P		P	02 54 49.8 0.0
	baz=47						
T13A	Saint George	46.71	82	⇑P		P	02 54 50.1 +0.2
	baz=47						
SRU	San Rafael	47.48	77	eP		P	02 54 55.7 -0.1
	3.7nm,0.9s,mb4.3						
V14A	Boquillas Ranc	48.10	83	⇓P		P	02 55 00.5 -0.1
	baz=48						
RSSD	Black Hills	48.31	68	eP		P	02 55 00.8 -1.4
	1.7nm,0.4s,mb4.4						
SMCO	Snowmass	49.59	75	eP		P	02 55 11.7 -0.4
	1.7nm,0.9s,mb4.1						
SDCO	Great Sand Dun	51.40	75	eP		P	02 55 25.9 +0.1
	1.5nm,0.9s,mb3.9						
TUC	Tucson	51.74	84	eP		P	02 55 27.8 -0.5
ANMO	Albuquerque	52.64	79	eP		P	02 55 34.8 -0.2
	1.5nm,0.8s,mb4.0						
MNTX	Cornudas Mount	55.51	81	eP		P	02 55 54.9 -1.0
	2.3nm,0.9s,mb4.2						
LZH	Lanzhou	55.75	287	eP		P	02 55 59.3 +1.7
LZH				AP		pP	02 56 06.5 -4.5
LZH				XP		sP	02 56 09.8 -6.8
LZH				ePP		PP	02 58 05.2 +3.1
LZH				AMB		AMB	
	comp=Z,18nm,1.4s,mb4.9						
LZH				AMB		AMB	
	comp=Z,63nm,7.5s						
LZH				LR		LR	
	comp=N,397nm,16.7s						
LZH				LR		LR	
	comp=Z,553nm,17.8s,MS4.7						
WMOK	Wichita Mounta	57.45	74	eP		P	02 56 11.1 +1.4
	comp=Z,4.2nm,0.8s,mb4.5						
ARCES	ARCESS Array B	58.02	350	P		P	02 56 12.2 -1.0
	comp=Z,4.0nm,1.0s,mb4.4,baz=26,slow=6.7,SNR=14						
TXAR	Lajitas Array	58.21	82	P		P	02 56 13.9 -1.2
	comp=Z,1.0nm,0.6s,mb4.0,baz=306,slow=4.7,SNR=14						
KURK	Kurchatov	59.23	314	eP		P	02 56 23.5 +1.7
	comp=Z,1.1nm,0.6s,mb4.1						
MKAR	Makanchi Array	60.28	309	P		P	02 56 27.9 -1.2
	comp=Z,0.3nm,0.3s,mb3.8,baz=49,slow=6.8,SNR=3.7						
GYA	Guiyang	60.73	276	P		P	02 56 35.2 +2.7
GYA				AMB		AMB	
	comp=Z,10.0nm,0.8s,mb5.0						
BVAR	Borovoye Array	61.05	320	P		P	02 56 33.9 -0.5
	comp=Z,1.2nm,0.3s,mb4.5,baz=52,slow=7.5,SNR=8.6						
WVT	Waverly	62.88	65	eP		P	02 56 45.6 -1.2
	comp=Z,3.3nm,0.9s,mb4.5						
JOF	Joensuu	63.56	345	ep		P	02 56 49.4 -1.5
KMI	Kunming	64.13	278	P		P	02 56 58.7 +3.5
KMI				AP		pP	02 57 04.6 -4.3
KMI				XP		sP	02 57 08.4 -6.0
KMI				AMB		AMB	
	comp=Z,5.0nm,0.8s,mb4.6						
QIZ	Qiongzhong	64.19	268	P		P	02 56 59.4 +3.7
QIZ				S		S	03 05 34.3 +4.9
QIZ				AMB		AMB	
	comp=Z,14nm,2.2s,mb4.6						
QIZ				AMB		AMB	
	comp=Z,150nm,4.1s						
FINES	FINESS Array B	65.74	348	P		P	02 57 04.4 -0.7
	comp=Z,0.5nm,0.3s,mb4.0,baz=16,slow=6.7,SNR=8.7						
NOA	NORSAR Array B	67.54	355	P		P	02 57 15.8 -0.8
	comp=Z,1.2nm,1.0s,mb3.9,baz=90,slow=8.9,SNR=3.3						
LSA	Lhasa	67.79	290	eP		P	02 57 20.4 +1.6
	comp=Z,12nm,0.5s,mb5.2						
HFS	Hagfors	68.29	354	P		P	02 57 21.1 -0.2
AKASG	Malin Array Be	75.54	342	P		P	02 58 04.4 -0.5
	comp=Z,0.4nm,0.3s,mb3.9,baz=20,slow=6.1,SNR=4.3						
WRA	Warramunga Arr	82.41	224	P		P	02 58 40.9 -1.9
	comp=Z,0.3nm,0.5s,mb3.5,baz=33,slow=6.2,SNR=3.7						
ASAR	Alice Springs	85.88	223	P		P	02 58 59.4 -0.9
	comp=Z,1.0nm,0.8s,mb4.1,baz=27,slow=5.3,SNR=6.7						
TORD	Torodi Ar. Bea	115.60	0	PKP		PKPdf	03 05 00.7 -2.2
	comp=Z,0.3nm,0.6s,baz=341,slow=2.1,SNR=5.3						
DBIC	Dimbokro	121.75	8	PKP		PKPdf	03 05 13.3 -1.4
	comp=Z,5.5nm,1.0s,baz=104,slow=7.0,SNR=6.5						
TSUM	Tsumeb	145.45	333	PKPbc		PKPbc	03 05 58.7 +0.1
	comp=Z,2.8nm,0.5s,baz=356,slow=8.4,SNR=7.1						
LBTB	Lobatse	147.92	317	PKPbc		PKPbc	03 06 05.5 -0.1
	comp=Z,8.2nm,0.5s,baz=240,slow=2.0,SNR=23						
BOSA	Boshof	151.19	314	PKPbc		PKPbc	03 06 12.8 -0.7
	comp=Z,5.9nm,0.7s,baz=22,slow=21,SNR=11						

*ISCJB **13** 02:55:05.9±1.3, 3828N±005×205E±0.1, h2km, Error ellipse: s-maj=17.7km s-min=4.7km az=162.7*

*NEIC **13** 02:55:05.9, 3817N×2040E, h16km, MD3.5(ATH), After ATH.*

*ATH **13** 02:55:05.9, 3817N×2040E, h16km±2km, MD3.5/4*

*CSEM **13** 02:55:07.5±0.3, 3831N×2052E, h2km, MD3.5, Error ellipse: s-maj=8.8km s-min=3.1km az=69.0*

*THE **13** 02:55:07.0, 3832N×2052E, h3km, ML2.7*

ISC 13 02:55:07.5±0.8, 3832N±003×206E±01, h2km±10km, n9, σ0°98/12, 1C, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	Valsamata	0.14	172	⇑iPB		Pg	02 55 10.0 -0.3
VLS				eSB		Sg	02 55 13.2 +1.0
KFL	Anninata	0.27	140	ePg		Pg	02 55 12.9 +0.1
LKD	Levkas	0.39	10	ePg		Pg	02 55 13.9 -1.2
LKD				eSg		Sg	02 55 20.6 +0.4
RLS	Riolos of Patr	0.76	110	ePN		Pn	02 55 21.9 -3.4
EVR	Evrytania	1.14	58	ePN		Pn	02 55 31.6 +1.0
IGT	Igoumenitsa	1.22	352	ePg		Pg	02 55 29.9 -1.2
IGT				eSg		Sg	02 55 47.6 +0.7
KEK	Kerkira	1.51	337	ePN		Pn	02 55 35.9 +0.2
ITM	Ithomi	1.57	136	ePN		Pn	02 55 35.4 -1.0
THL	Klokotos Trika	1.68	42	ePN		Pn	02 55 39.2 +1.2

IDC 13 03:15:37.2±5.9, 2085S×16836E, h0km, mb3.7/2, mb1 4.0/2, mb1mx3.7/12, mbtmp3.7/2, Error ellipse: s-maj=238.1km s-min=51.0km az=149.0, Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	2.16	235	eP		Pn	03 16 13.7 -0.7
DZM				eS		Sn	03 16 42.5 +0.6
WRA	Warramunga Arr	31.86	266	P		P	03 22 04.0 -0.3
	0.7nm,1.0s,baz=98,slow=8.8,SNR=2.5						
ASAR	Alice Springs	31.96	258	P		P	03 22 05.5 +0.3
	0.9nm,0.6s,baz=86,slow=9.2,SNR=17						
KHC	Kasperske Hory	145.34	331	eP		PKPbc	03 35 15.5 -1.3
KHC				ex		x	03 35 26.5
GERES	GERESS Array B	145.49	330	PKPbc		PKPbc	03 35 16.6 -0.7
	1.6nm,0.8s,baz=29,slow=3.0,SNR=13						

*IDC **13** 03:24:58.3±2.4, 2437N×12505E, h0km, mb3.5/3, mb1 3.7/5, mb1mx3.5/20, mbtmp3.5/5, ML3.9/1, MS2.8/2, Ms1 2.8/2, ms1mx2.5/21, Error ellipse: s-maj=91.0km s-min=24.7km az=106.0*

*JMA **13** 03:25:02.7±0.5, 2391N×12580E, h46km, M3.4*

*ISCJB **13** 03:25:03.2±0.6, 2402N±005×12582E±004, h33km, mb3.4/3, Error ellipse: s-maj=7.7km s-min=4.5km az=162.8*

ISC 13 03:25:04.5±0.7, 2403N±006×12577E±004, h35km, n20, σ1°04/26, mb3.4/3, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOGS	Gusukube	0.80	336	P		Pn	03 25 19.4 +0.1
JOGS				eS		Sn	03 25 32.7 +2.8
JMJ	Miyako jima 2	0.89	331	P		Pn	03 25 20.7 +0.1
JMJ				eS		Sn	03 25 32.1 -0.2
JTJ	Tarama	1.15	302	P		Pn	03 25 23.7 -0.4
JTJ				S		Sn	03 25 40.7 +2.2
JIJ	Ishigaki jima	1.52	283	P		Pn	03 25 29.0 -0.2
JIJ				eS		Sn	03 25 46.8 -1.0
JKRS	Kuro-shima	1.62	278	P		Pn	03 25 30.5 -0.1
HATJ	Hateruma jima	1.79	271	P		Pn	03 25 32.7 -0.3
HATJ				eS		Sn	03 25 53.4 -1.2
IRIF	Iriomote-Funau	1.89	280	P		Pn	03 25 33.6 -0.6
JKE	Kume jima 2	2.46	22	P		Pn	03 25 42.3 +0.1
JKE				eS		Sn	03 26 10.4 -0.7
YOJ	Yonaguni jima	2.55	280	P		Pn	03 25 43.3 -0.1
JAGN	Aguni-jima	2.88	27	P		Pn	03 25 48.7 +0.9
JOW	Kunigami	3.59	39	P		Pn	03 25 58.2 +0.5
JOW	Kunigami	3.59	39	Pn		Pn	03 25 58.2 +0.5
	16nm,0.3s,baz=198,slow=13,SNR=39						
JOW				Sn		Sn	03 26 38.7 -0.2
	4.8nm,0.3s,baz=75,slow=20,SNR=4.3						
JOW				LR		LR	03 27 41.4
	comp=Z,174nm,20.8s,baz=60,slow=43						
JTK	Tokunoshima	4.71	37	P		Pn	03 26 12.6 -0.5
JMZ	Minamidaito 2	5.26	69	P		Pn	03 26 18.6 -2.1
JAM	Amami Oshima	5.56	37	P		Pn	03 26 24.2 -0.5
JNU	Nakatsue	10.11	25	LR		LR	03 31 43.1
	comp=Z,39nm,18.2s,baz=246,slow=40						
MJAR	Matsushiro Arr	16.44	38	Pn		Pn	03 28 53.1 +0.7
	baz=221,slow=8.6,SNR=2.3						
WRA	Warramunga Arr	44.50	168	P		P	03 33 14.7 +2.0
	0.9nm,0.8s,mb3.5,baz=349,slow=8.5,SNR=4.3						
ASAR	Alice Springs	48.07	170	P		P	03 33 43.6 +3.0
	0.3nm,0.5s,mb3.6,baz=356,slow=8.4,SNR=6.4						
YKA	Yellowknife Ar	81.44	24	P		P	03 37 16.7 -1.0
	0.2nm,0.7s,mb3.2,baz=302,slow=5.7,SNR=4.8						

*ISCJB **13** 03:51:06.1±1.2, 3839N±004×204E±0.1, h14km±7km, Error ellipse: s-maj=17.1km s-min=5.8km az=166.6*

*CSEM **13** 03:51:06.8±0.2, 3840N×2045E, h15km, MD3.6, Error ellipse: s-maj=7.1km s-min=3.2km az=66.0*

*THE **13** 03:51:06.7, 3838N×2045E, h7km, ML3.0*

*NEIC **13** 03:51:06.1, 3845N×2047E, h8km, MD3.6(ATH), After ATH.*

*ATH **13** 03:51:06.1, 3845N×2047E, h8km, MD3.6/5*

ISC 13 03:51:06.8±1.0, 3839N±004×205E±01, h17km±6km, n9, σ0°68/12, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	Valsamata	0.22	160	ePG		Pg	03 51 11.5 -0.6
VLS				eSG		Sg	03 51 16.8 +1.2
LKD	Levkas	0.34	21	ePg		Pg	03 51 13.2 -0.9
LKD				eSg		Sg	03 51 19.1 +0.2
KFL	Anninata	0.36	140	ePg		Pg	03 51 14.2 -0.2
RLS	Riolos of Patr	0.84	113	ePB		Pb	03 51 23.4 +0.5
IGT	Igoumenitsa	1.15	354	ePg		Pg	03 51 28.2 -0.9
IGT				eSg		Sg	03 51 45.2 +1.1
EVR	Evrytania	1.16	63	ePB		Pb	03 51 28.2 -0.2
KEK	Kerkira	1.43	338	ePB		Pn	03 51 32.0 0.0
ITM	Ithomi	1.66	136	ePG		Pg	03 51 38.0 -0.7
THL	Klokotos Trika	1.67	45	ePG		Pn	03 51 35.8 +0.5

IDC 13 04:18:58.1±1.6, 2228S×14801E, h0km, mb3.8/1, mb1 3.7/5, mb1mx3.6/12, mbtmp3.6/5, ML3.6/4, Error ellipse: s-maj=29.0km s-min=18.3km az=59.0, Queensland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	Charters Tower	2.73	323	Pn		Pn	04 19 43.0 -0.2
	5.4nm,0.3s,baz=137,slow=17,SNR=102						
CTA				Pg		Pg	04 19 48.4 -2.0
	23nm,0.3s,baz=134,slow=16,SNR=29						
CTA				Lg			04 20 23.7
	29nm,0.3s,baz=242,slow=23,SNR=12						
STKA	Stephens Creek	11.13	209	Pn		Pn	04 21 37.7 -0.8
	0.5nm,0.3s,baz=31,slow=12,SNR=11						
STKA				Lg

OHR eLg 04 24 02.7
comp=E,102nm,0.5s
FNA Florina 0.66 88 *e*Pg Pn 04 23 56.8 -0.3
FNA *e*Sg Sn 04 24 08.7 +2.4
BIA Bitola 0.67 68 *e*Pg Pn 04 23 57.0 -0.2
BIA *e*Sg Sn 04 24 09.6 +3.1
BIA Bitola 0.67 68 *e*Pg Pn 04 23 57.5 +0.2
BIA *e*Sg Sn 04 24 09.8 +3.3
BIA eLg 04 24 10.6
comp=E,61nm,0.3s
BIA eLg 04 24 10.7
comp=N,28nm,0.2s
BIA Bitola 0.67 68 *e*Pg Pn 04 23 57.4 +0.2
BIA *e*Sg Sn 04 24 09.6 +3.1
KRUS Krusevo 0.82 43 *e*Pg Pn 04 24 01.4 +2.1
KRUS *e*Sg Sn 04 24 14.9 +4.7
IGT Igoumenitsa 1.24 186 *e*Pg Pn 04 24 05.2 +0.1
IGT *e*Sg Sn 04 24 22.0 +1.5

ISCJB ***13*** *04:32:23.9±0.4, 2073N±005×11981E±009, h10km, mb4.0/18, Error ellipse: s-maj=11.7km s-min=6.9km az=177.3*
IDC ***13*** *04:32:24.2±0.6, 2069N×11968E, h0km, mb3.8/14, mb1 4.0/15, mb1mx3.9/23, mbtmp3.8/15, ML3.4/1, MS3.2/3, Ms1 3.2/3, ms1mx2.9/23, Error ellipse: s-maj=30.5km s-min=12.1km az=69.0*
NEIC ***13*** *04:32:25.7±0.4, 2076N×11979E, h10km, mb4.1/5, Error ellipse: s-maj=14.1km s-min=7.1km az=66.0*
BJI ***13*** *04:32:29.1, 2069N×11907E, h10km, mb4.5, Ms3.9, Msz3.6*
MAN ***13*** *04:32:29, 1680N×12190E, h347km, mb4.0, ML2.8, MS2.5*
ISC 13 04:32:25.8±0.4, 2075N±005×11982E±009, h10km, n28, σ0.85/28, mb4.0/18, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NACB	**Ninganchiao**	**3.78**	**25**	*e*Pn	**Pn**	**04 33 22.6**	**-1.5**
NACB				*e*Sn	**Sn**	**04 34 08.1**	**-0.7**
QZH	**Quanzhou**	**4.33**	**345**	P	**Pn**	**04 33 31.6**	**0.0**
QZH				LR	LR		
	comp=N,580nm,8.1s						
QZH				LR	LR		
	comp=E,580nm,6.3s						
QZH				LR	LR		
	comp=Z,550nm,11.1s						
JNU	**Nakatsue**	**15.77**	**36**	LR	LR	04 41 53.8	
	comp=Z,79nm,21.9s,baz=155,slow=36						
KSRS	**Korea Array**	**18.07**	**21**	P	**Pn**	**04 36 38.8**	**+1.8**
	comp=Z,0.1nm,0.3s,baz=198,slow=11,SNR=3.2						
KSRS				LR	LR	04 45 09.2	
	comp=Z,42nm,18.2s,baz=190,slow=42						
MJAR	**Matsushiro Arr**	**22.48**	**42**	P	**P**	**04 37 26.9**	**+1.7**
	comp=Z,2.1nm,0.7s,mb3.7,baz=226,slow=6.9,SNR=6.4						
SONM	**Songino Array**	**29.12**	**341**	P	**P**	**04 38 26.9**	**+0.2**
	comp=Z,0.4nm,0.8s,mb3.2,baz=162,slow=10.0,SNR=2.6						
BATI	**Kupang**	**30.99**	**173**	P	**P**	**04 38 43.5**	**0.0**
	comp=Z,38nm,0.6s,mb5.4,baz=316,slow=2.2,SNR=7.4						
FITZ	**Fitzroy Crossi**	**39.03**	**171**	*e*P	**P**	**04 39 52.1**	**-0.7**
	comp=Z,5.1nm,1.3s,mb4.1						
FITZ	**Fitzroy Crossi**	**39.03**	**171**	P	**P**	**04 39 52.4**	**-0.4**
	comp=Z,1.6nm,0.8s,mb3.8,baz=354,slow=9.2,SNR=4.1						
MK31	**Makanchi Array**	**40.02**	**319**	*e*P	**P**	**04 40 01.3**	**+0.5**
MKAR	**Makanchi Array**	**40.02**	**319**	P	**P**	**04 40 00.9**	**+0.1**
	comp=Z,0.7nm,0.5s,mb3.6,baz=115,slow=9.8,SNR=6.8						
MKAR				PcP	PcP	04 42 06.7	+0.9
	comp=Z,0.9nm,0.7s,baz=108,slow=4.2,SNR=5.8						
ZAA0	**Zalesovo Array**	**42.50**	**330**	*e*P	**P**	**04 40 20.5**	**-0.6**
ZALV	**Zalesovo Beam**	**42.50**	**330**	P	**P**	**04 40 21.0**	**-0.1**
	comp=Z,0.6nm,0.4s,mb3.6,baz=102,slow=12,SNR=3.9						
WRA	**Warramunga Arr**	**42.86**	**160**	P	**P**	**04 40 23.3**	**-1.1**
	comp=Z,3.9nm,0.8s,mb4.2,baz=344,slow=9.0,SNR=8.2						
WRA				PcP	PcP	04 42 15.8	+0.3
	comp=Z,1.3nm,0.7s,baz=343,slow=4.0,SNR=5.8						
WB2	**Warramunga Arr**	**42.87**	**160**	*e*P	**P**	**04 40 24.5**	**+0.1**
UCH	**Uchtor**	**43.55**	**310**	*e*P	**P**	**04 40 30.3**	**+0.5**
	comp=Z,3.0nm,1.1s,mb3.9						
KURK	**Kurchatov**	**43.98**	**323**	*e*P	**P**	**04 40 32.2**	**-0.9**
	comp=Z,2.8nm,0.9s,mb4.0						
AML	**Almayashu**	**44.12**	**310**	*e*P	**P**	**04 40 35.2**	**+0.9**
	comp=Z,3.6nm,0.9s,mb4.1						
ASAR	**Alice Springs**	**46.23**	**162**	P	**P**	**04 40 51.0**	**-0.3**
	comp=Z,6.7nm,1.2s,mb4.4,baz=342,slow=6.4,SNR=13						
ASAR				PcP	PcP	04 42 27.1	+0.2
	comp=Z,0.9nm,0.7s,baz=329,slow=3.4,SNR=4.6						
CTA	**Charters Tower**	**48.13**	**146**	P	**P**	**04 41 07.1**	**+1.0**
	comp=Z,7.7nm,0.8s,mb4.8,baz=355,slow=8.5,SNR=5.6						
CTAO	**Charters Tower**	**48.13**	**146**	*e*P	**P**	**04 41 07.4**	**+1.3**
	comp=Z,11nm,0.8s,mb4.9						
BVAR	**Borovoye Array**	**49.58**	**323**	P	**P**	**04 41 17.9**	**+1.0**
	comp=Z,0.3nm,0.5s,mb3.6,baz=88,slow=7.3,SNR=2.8						
STKA	**Stephens Creek**	**56.33**	**158**	P	**P**	**04 42 07.2**	**+0.3**
	comp=Z,0.8nm,0.5s,mb4.0,baz=3.4,slow=14,SNR=4.2						
AKTK	**Aktyubinsk**	**56.39**	**317**	P	**P**	**04 42 07.4**	**+0.2**
AKTO	**Aktyubinsk**	**56.39**	**317**	P	**P**	**04 42 07.4**	**+0.2**
	comp=Z,0.4nm,0.2s,mb4.0,baz=92,slow=1.8,SNR=5.1						
FINES	**FINESS Array B**	**73.77**	**330**	P	**P**	**04 43 59.5**	**-0.5**
	comp=Z,0.8nm,0.7s,mb3.7,baz=114,slow=8.4,SNR=2.6						
AKASG	**Malin Array Be**	**74.60**	**319**	P	**P**	**04 44 03.0**	**-2.0**
	comp=Z,0.1nm,0.3s,mb3.2,baz=76,slow=6.4,SNR=3.2						
YKA	**Yellowknife Ar**	**86.61**	**22**	P	**P**	**04 45 08.7**	**-0.4**
	comp=Z,0.4nm,0.8s,mb3.7,baz=317,slow=4.9,SNR=6.9						

CSEM ***13*** *04:37:40.9, 1207N×4501E, h11km, ML3.5, After DHMR*
DHMR 13 04:37:40.9±2.0, 1207N×4501E, h11km±18km, ML3.5, 3C-1D, Western Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ADEN	**Aden**	**0.70**	**358**↑	*e*P	Pg	04 37 53.8	-0.7
ADEN				*i* S	Sg	04 38 04.2	+0.4
ADEN				AML	AML	04 38 11.8	
	comp=N,4μm,0.5s						
ADEN	**Aden**	**0.70**	**358**↑	*e*P	Pg	04 37 53.8	-0.8
ADEN				*i* S	Sg	04 38 04.2	+0.4
	comp=N,2μm,0.5s						
TRBA	**At Turbah**	**1.45**	**323**↑	*i* P	Pn	04 38 07.3	+0.3
TRBA				*i* S	Sn	04 38 27.8	+1.7
TRBA				AML	AML	04 38 36.2	
	comp=N,426nm,0.3s						
LBOS		**1.81**	**7**	*e*P	Pn	04 38 11.5	-0.5
LBOS				*i* S	Sn	04 38 38.7	+3.8
BDHA	**Al Bayda'**	**1.97**	**16**	*i* P	Pn	04 38 16.5	+2.3
BDHA				AML	AML	04 38 24.8	
	comp=N,516nm,0.5s						
BDHA				*i* S	Sn	04 38 42.8	+3.9
UDYN	**Al 'Udayn**	**2.15**	**332**	*e*P	Pn	04 38 18.7	+2.0
UDYN				*i* S	Sn	04 38 47.7	+4.4
UDYN				AML	AML	04 39 02.8	
	comp=Z,256nm,0.6s						
DHBB	**Dhamar BB**	**2.56**	**346**↓	*i* P	Pn	04 38 25.3	+2.9
DHBB				*i* S	Sn	04 38 58.8	+5.3

IDC 13 04:37:43.8±4.0, 2048S×16809E, h37km±7km, mb3.5/3, mb1 3.7/3, mb1mx3.5/13, mbtmp3.5/3, Error ellipse: s-maj=134.9km s-min=31.8km az=143.0, Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**2.20**	**224**	*e*P	Pn	04 38 13.8	-4.1
DZM				*e*S	Sn	04 38 43.1	-0.8
WRA	**Warramunga Arr**	**31.64**	**265**	P	P	04 44 04.2	+0.6
	1.1nm,1.1s,baz=97,slow=8.7,SNR=2.6						
WRA				pP	pP	04 44 13.9	-0.2
	0.3nm,0.7s,baz=92,slow=8.6,SNR=1.8						
ASAR	**Alice Springs**	**31.79**	**258**	P	P	04 44 04.8	-0.1
	0.8nm,0.8s,baz=86,slow=9.3,SNR=6.6						
ASAR				pP	pP	04 44 15.0	-0.4
	1.3nm,0.7s,baz=88,slow=8.9,SNR=5.7						
SONM	**Songino Array**	**87.56**	**324**	P	P	04 50 28.1	+0.4
	0.5nm,0.7s,baz=107,slow=5.0,SNR=3.0						
SONM				pP	pP	04 50 40.3	+0.9
	0.2nm,0.4s,baz=131,slow=4.0,SNR=1.2						
GERES	**GERESS Array B**	**145.04**	**330**	PKPbc	PKPbc	04 57 15.1	-1.3
	0.9nm,0.6s,baz=64,slow=2.3,SNR=6.2						
GERES				pPKPbc		04 57 27.7	
	0.3nm,0.5s,baz=40,slow=4.4,SNR=3.4						

MOS ***13*** *05:12:14.1±2.3, 4653N×15307E, h33km, mb4.3/4, Error ellipse: s-maj=21.0km s-min=15.0km az=49.8*

ISCJB ***13*** *05:12:19.7±1.9, 468N±02×1527E±02, h78km±15km, mb3.6/7, Error ellipse: s-maj=36.6km s-min=14.8km az=137.6*
IDC ***13*** *05:12:23.7±4.9, 4677N×15253E, h97km±43km, mb3.5/7, mb1 3.6/8, mb1mx3.4/21, mbtmp3.5/8, Error ellipse: s-maj=35.1km s-min=27.1km az=107.0*
ISC 13 05:12:21.4±1.7, 468N±02×1527E±02, h76km±13km, n18, σ0.94/18, mb3.6/7, 2C, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.71**	**247**	PN	**Pn**	**05 13 11.0**	**-5.2**
KUR				pmax	pmax		
	comp=Z,80nm,0.4s						
SKR	**Severo-Kuril's**	**4.51**	**29**	*e*PN	**Pn**	**05 13 27.0**	**-0.1**
SKR				pmax	pmax		
	comp=Z,30nm,0.5s						
YSS	**Yuzh-Sakhalins**	**6.82**	**275**↑	*e*PN	**Pn**	**05 14 03.0**	**+4.3**
YSS				pmax	pmax		
	comp=Z,20nm,0.8s						
ASAJ	**Asahikawa**	**7.59**	**253**	PN	**Pn**	**05 14 10.1**	**+0.9**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ	**Asahikawa**	**7.59**	**253**	P	**Pn**	**05 14 10.1**	**+0.9**
	comp=Z,0.6nm,0.3s,baz=83,slow=14,SNR=4.5						
ERM	**Erimo**	**8.33**	**239**↑	*e*PN	**Pn**	**05 14 15.9**	**-3.4**
KSRS	**Korea Array**	**20.54**	**252**	P	**P**	**05 16 56.6**	**+3.2**
	comp=Z,1.2nm,0.6s,baz=53,slow=12,SNR=4.4						
MKAR	**Makanchi Array**	**46.68**	**297**	P	**P**	**05 20 41.2**	**-0.9**
	comp=Z,0.3nm,0.3s,mb3.5,baz=82,slow=7.5,SNR=3.1						
YKA	**Yellowknife Ar**	**51.07**	**37**	P	**P**	**05 21 15.9**	**+0.5**
	comp=Z,0.1nm,0.6s,mb3.0,baz=297,slow=7.0,SNR=3.5						
FINES	**FINESS Array B**	**63.89**	**335**	P	**P**	**05 22 45.2**	**-0.3**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
FINES	**FINESS Array B**	**63.89**	**335**	P	**P**	**05 22 45.2**	**-0.3**
	comp=Z,1.0nm,0.4s,mb4.0,baz=41,slow=8.7,SNR=11						
NB2	**NORSAR Subarra**	**68.11**	**341**	P	**P**	**05 23 12.5**	**0.0**
	comp=Z,1.0nm,0.6s,mb3.8,baz=28,slow=6.2						
NOA	**NORSAR Array B**	**68.11**	**341**	P	**P**	**05 23 12.8**	**+0.3**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
NOA	**NORSAR Array B**	**68.11**	**341**	P	**P**	**05 23 12.8**	**+0.3**
	comp=Z,1.3nm,0.6s,mb4.0,baz=28,slow=6.4,SNR=5.9						
AKASG	**Malin Array Be**	**71.36**	**326**	P	**P**	**05 23 32.7**	**0.0**
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.7s						
AKASG	**Malin Array Be**	**71.36**	**326**	P	**P**	**05 23 32.0**	**-0.7**
	comp=Z,2.3nm,0.7s,mb4.1,baz=42,slow=6.0,SNR=4.4						
ASAR	**Alice Springs**	**72.15**	**198**	P	**P**	**05 23 37.5**	**-0.2**
	comp=Z,0.4nm,0.5s,mb3.5,baz=17,slow=6.0,SNR=4.9						
GERES	**GERESS Array B**	**78.30**	**334**	P	**P**	**05 24 13.2**	**+0.4**
	comp=Z,0.3nm,0.4s,mb3.3,baz=17,slow=4.1,SNR=3.2						

CASC ***13*** *05:41:25.9±2.9, 1945N×10504W, h0km±178km, mb5.9(NEIC)*
IDC ***13*** *05:42:20.3±1.3, 1731N×10014W, h15km±7km, mb5.2/29, mb1 5.2/32, mb1mx5.2/32, mbtmp5.1/32, ML4.7/3, MS5.6/32, Ms1 5.6/32, ms1mx5.5/34, Error ellipse: s-maj=10.1km s-min=6.2km az=61.0*
SZGRF ***13*** *05:42:20.7, 1664N×10075W, h36km, mb5.7, MS5.8, Near coast of Guerrero, Mexico*
CRAAG ***13*** *05:42:21.8, 1748N×100.16W, Mb5.9*
ISCJB ***13*** *05:42:21.4±0.1, 1725N±002×10024W±001, h33km, mb5.8/275, MS5.8/232, Error ellipse: s-maj=2.7km s-min=1.5km az=25.6*
IGIL ***13*** *05:42:21.8, 1740N×100.10W, h28km, MS5.7*
MOS ***13*** *05:42:21.6±1.0, 1735N×100.19W, h33km, mb6.1/105, MS5.7/75, Error ellipse: s-maj=5.8km s-min=3.4km az=79.9*
MEX ***13*** *05:42:23.0±0.6, 1713N×10038W, h34km±4km, MD5.6*
BJI ***13*** *05:42:23.5, 1730N×10020W, h34km, mB6.2, mb5.6, Ms6.2, Msz6.0*
NEIC ***13*** *05:42:23.0±0.1, 1730N×10020W, h34km, mb5.9/214, ME6.0, MS5.8/175, MW6.0, MD6.3(MEX), Error ellipse: s-maj=3.2km s-min=2.4km az=37.0 Broadband fault plane solution: P waves. NP1:φs290.00000°, δ80.00000°, λ90.00000°. NP2:φs110.00000°, δ10.00000°, λ90.00000°. Principal axes: T Plg55.0000°, Azm200.0000°; N Plg0.0000°, Azm0.0000°; P Plg35.0000°, Azm20.0000°; Moment Tensor Solution. s41 Moment tensor: Scale 1018 Nm; Mrr0.37; Mθθ-0.59; Mφφ0.21; Mrθ-1.08; Mθφ0.12; Mφr0.42; Best double couple: M0 1.30000×1018 NP1: φs75.00000°, δ14.00000°, λ54.00000°. NP2:φs291.00000°, δ79.00000°, λ98.00000°. Principal axes: T 1.1700, Plg55.0000°, Azm212.0000°; N 0.1900, Plg8.0000°, Azm110.0000°; P -1.3600, Plg34.0000°, Azm15.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*
NEIC Two houses damaged at Atoyac. Power outages occurred in Acapulco and Mexico City. Felt [V] at Acapulco, Atoyac, Chapultepec and Chilpancingo; [IV] at Atizapan, Cuernavaca, Huixquilucan, Irapuato, Ixtapa, Jiutepec, Metepec, Mexico City, Morelia, Naucalpan, Nezahualcoyotl, Oaxtepec, Puebla, Tepoztlan, Tlalnepantla and Toluca; [III] at Colima, Cuautitlan Izcalli, Cuautla, Guadalajara and Zihuatanejo; [II] at Cholula. Felt in Colima, Distrito Federal, Estado de Mexico, Guerrero, Jalisco, Michoacan, Morelos, Puebla, Veracruz and at Oaxaca.
GCMT ***13*** *05:42:23.0±0.1, 1737N×100.14W, h43km, MW6.0/105, Moment Tensor Solution. s105,c223; s86,c273; Duration: 2≥3 Moment tensor: Scale 1018Nm; Mrr0.57±.01; Mθθ-0.60±.01; Mφφ0.03±.01; Mrθ-0.86±.01; Mθφ0.13±.01; Mφr0.22±.01; Best double couple: M0 1.07000×1018 NP1:φs98.00000°, δ17.00000°, λ84.00000°. NP2:φs284.00000°, δ73.00000°, λ92.00000°. Principal axes: T 1.0430, Plg62.0000°, Azm197.0000°; N 0.0550, Plg2.0000°, Azm104.0000°; P -1.0970, Plg28.0000°, Azm13.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
BGS ***13*** *05:42:38.3±1.4, 1904N×9766W, h33km, mb5.7, MS5.8*
ISC 13 05:42:23.3±0.1, 1724N±002×10020W±001, h35km, h35km±5km: pP-P, n1427, σ0.93/1257, mb5.7/275, MS5.8/232, 152C-220D, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.20**	**198**	*i* P	**Pn**	**05 42 27.8**	**-2.4**
CAIG				*i* S	**Sn**	**05 42 31.6**	**-3.3**
ACX	**Acapulco**	**0.46**	**144**	*i* P	**Pn**	**05 42 32.0**	**-1.5**
MEIG	**Mezcala**	**0.88**	**39**	*i* P	**Pn**	**05 42 39.0**	**-0.2**
MEIG				*i* S	**Sn**	**05 42 52.7**	**+1.9**
ZIIG	**Zihuatanejo**	**1.26**	**287**	*i* P	**Pn**	**05 42 41.0**	**-3.4**
ZIIG				*i* S	**Sn**	**05 42 54.4**	**-5.7**
PLIG	**Platanillo**	**1.32**	**30**	*i* P	**Pn**	**05 42 46.4**	**+1.0**
PLIG				*i* S	**Sn**	**05 43 04.4**	**+2.7**
YAIG	**Yautepec**	**1.94**	**34**	*i* P	**Pn**	**05 42 54.3**	**+0.5**
YAIG				*i* S	**Sn**	**05 43 19.6**	**+2.7**
PNIG	**Pinotepa**	**2.16**	**113**	*e*P	**Pn**	**05 42 57.1**	**+0.3**
PNIG				*i* S	**Sn**	**05 43 23.6**	**+1.2**
SZVM	**Salazar**	**2.21**	**21**	*i* P	**Pn**	**05 42 59.2**	**+1.7**
SZVM				*i* S	**Sn**	**05 43 23.8**	**+0.2**
UNM	**Universidad Na**	**2.29**	**25**	*i* P	**Pn**	**05 42 59.9**	**+1.2**
UNM				*i* S	**Sn**	**05 43 28.1**	**+2.4**
PPM	**Popocatepetl**	**2.35**	**39**	*e*P	**Pn**	**05 43 01.0**	**+1.6**
PPM				*i* S	**Sn**	**05 43 31.6**	**+4.4**
PPM	**Popocatepetl**	**2.35**	**39**	*e*P	**Pn**	**05 43 01.0**	**+1.6**
PPM				*i* S	**Sn**	**05 43 31.1**	**+3.9**
UTMO	**Huajuapan**	**2.36**	**75**	*e*P	**Pn**	**05 43 01.2**	**+1.6**
UTMO				*i* S	**Sn**	**05 43 29.4**	**+2.0**
PBVM	**Pinon**	**2.43**	**26**	*i* P	**Pn**	**05 43 01.3**	**+0.8**
PBVM				*i* S	**Sn**	**05 43 30.9**	**+1.8**
MOIG	**Morelia**	**2.60**	**339**	*i* P	**Pn**	**05 43 01.8**	**-1.1**
MOIG				*i* S	**Sn**	**05 43 32.8**	**-0.4**
TPIG	**Tehuac#an**	**2.95**	**66**	*e*P	**Pn**	**05 43 08.8**	**+1.1**
TPIG				*i* S	**Sn**	**05 43 46.1**	**+4.2**
MMIG	**Aquila**	**3.17**	**290**	*e*P	**Pn**	**05 43 07.5**	**-3.2**
MMIG				*i* S	**Sn**	**05 43 41.5**	**-5.8**
DEIG	**Demacu**	**3.24**	**20**	*e*P	**Pn**	**05 43 12.0**	**+0.3**
DEIG				*i* S	**Sn**	**05 43 50.0**	**+1.0**
VHO	**Vista Hermosa**	**3.32**	**92**	*e*P	**Pn**	**05 43 15.3**	**+2.5**
VHO				*i* S	**Sn**	**05 43 53.4**	**+2.3**
HUIG	**Huatulco**	**4.19**	**110**	*i* P	**Pn**	**05 43 26.0**	**+1.2**
HUIG				*i* S	**Sn**	**05 44 13.7**	**+1.1**
SFJM	**Santa Fe**	**4.20**	**321**	*i* P	**Pn**	**05 43 22.5**	**-2.4**
LVIG	**Laguna Verde**	**4.36**	**55**	*e*P	**Pn**	**05 43 27.5**	**+0.5**
LVIG				*i* S	**Sn**	**05 44 19.9**	**+3.3**
CMIG	**Matias Romero**	**5.09**	**91**	Pg	**Pn**	**05 43 56.0**	**+19**
CMIG				*i* S	**Sn**	**05 44 37.2**	**+2.6**
CMIG				Lg		05 45 01.6	
CMIG				LR	LR	05 46 00.5	
CMIG	**Matias Romero**	**5.09**	**91**	Pn	**Pn**	**05 43 35.9**	**-1.2**
	42nm,0.3s,baz=264,slow=11,SNR=178						
CMIG				Pg	**Pn**	**05 43 56.0**	**+19**
	144nm,0.3s,baz=286,slow=14,SNR=23						
CMIG				Lg		05 45 01.6	
	280nm,0.3s,baz=270,slow=7.1,SNR=11						
CMIG				LR	LR	05 46 00.5	
	comp=Z,49μm,19.1s,baz=261,slow=44						
CMIG	**Matias Romero**	**5.09**	**91**	*e*P	**Pn**	**05 43 38.4**	**+1.3**
CMIG				*i* S	**Sn**	**05 44 37.2**	**+2.6**
CJM	**Chamela**	**5.12**	**297**	*e*P	**Pn**	**05 43 36.9**	**-0.6**
CJM				*i* S	**Sn**	**05 44 31.3**	**-4.0**
CJM	**Chamela**	**5.12**	**297**	*e*P	**Pn**	**05 43 36.1**	**-1.4**
CJM				*i* S	**Sn**	**05 44 31.3**	**-4.0**
TUIG	**Tuzandepetl**	**5.57**	**81**	*i* P	**Pn**	**05 43 46.3**	**+2.6**
TUIG				*i* S	**Sn**	**05 44 48.6**	**+2.1**
ANIG	**Ahuacatlan**	**5.57**	**314**	*e*P	**Pn**	**05 43 43.9**	**+0.2**
ANIG				*i* S	**Sn**	**05 44 49.5**	**+3.0**
CCIG	**Comitan**	**7.79**	**96**	*i* P	**Pn**	**05 44 17.0**	**+2.8**
CCIG				*i* S	**Sn**	**05 45 43.4**	**+2.2**
MAIG	**Mazatlaan**	**8.31**	**316**	*e*P	**Pn**	**05 44 21.7**	**+0.3**
MAIG				*i* S	**Sn**	**05 45 57.9**	**+3.9**
SCIG	**Sabancuy**	**8.74**	**77**	*e*P	**Pn**	**05 44 26.8**	**-0.6**
SCIG				*i* S	**Sn**	**05 46 08.6**	**+3.9**
KVTX	**Kingsville**	**10.47**	**11**	*e*Pn	**Pn**	**05 44 51.9**	**+0.9**
RTR	**El Retiro**	**10.70**	**107**	*e*P	x	05 45 09.4	
RTR				*e*S	x	05 48 05.4	
SBLS	**San Blas**	**10.74**	**107**	*e*P	x	05 45 10.0	
SBLS				*e*S	x	05 48 07.0	
SNJE	**San Jose**	**10.75**	**107**	*e*P	x	05 45 09.4	
HPIG		**10.89**	**333**	*i* P	**Pn**	**05 44 58.2**	**+1.5**
HPIG				*i* S	**Sn**	**05 47 04.7**	**+7.3**
LPIG	**La Paz**	**11.66**	**307**	Pn	**Pn**	**05 45 09.0**	**+1.8**
	5.9nm,0.3s,baz=239,slow=2.5,SNR=6.7						
LPIG				Lg		05 48 32.0	
	5.2nm,0.3s,baz=163,slow=2.6,SNR=2.4						
LPIG				LR	LR	05 50 31.1	
	comp=Z,8μm,18.0s,baz=136,slow=42						
LPIG	**La Paz**	**11.66**	**307**	*i* P	**Pn**	**05 45 05.4**	**-1.9**
TEIG	**Tepich**	**11.68**	**73**	Pn	**Pn**	**05 45 08.2**	**+0.6**
TEIG				Sn	**Sn**	**05 47 21.7**	**+4.9**
TEIG				LR	LR	05 50 34.6	
TEIG	**Tepich**	**11.68**	**73**	Pn	**Pn**	**05 45 08.2**	**+0.6**
	6.4nm,0.3s,baz=263,slow=9.1,SNR=25						
TEIG				Sn	**Sn**	**05 47 21.7**	**+4.9**
	35nm,0.3s,baz=249,slow=23,SNR=10						
TEIG				LR	LR	05 50 34.6	
	comp=Z,25μm,19.8s,baz=76,slow=43						
TXAR	**Lajitas Array**	**12.45**	**346**	Pn	**Pn**	**05 45 19.6**	**+1.6**
	0.9nm,0.3s,baz=161,slow=13,SNR=81						
TXAR				Lg		05 48 57.7	
	1.4nm,0.3s,baz=158,slow=27,SNR=4.3						
TXAR				LR	LR	05 50 34.6	
	comp=Z,83μm,18.9s,baz=295,slow=40						
TGUH	**Tegucigalpa,Un**	**12.85**	**102**	*e*Pn	**Pn**	**05 45 26.1**	**+2.5**
JCT	**Junction City**	**13.18**	**2**	*e*Pn	**Pn**	**05 45 28.4**	**+0.3**
HKT	**Hockley**	**13.27**	**17**↓	*i* Pn	**Pn**	**05 45 28.0**	**-1.2**
	3μm,1.5s						
HKT	**Hockley**	**13.27**	**17**↓	*i* P	**Pn**	**05 45 28.0**	**-1.2**
HKT				pmax	pmax		
	comp=Z,3μm,1.5s						
CGIG		**14.87**	**333**	*i* P	**Pn**	**05 45 51.5**	**+0.5**
CGIG				*i* S	**Sn**	**05 48 37.6**	**+3.1**
MNTX	**Cornudas Mount**	**15.14**	**343**↓	*i* Pn	**Pn**	**05 45 54.7**	**+0.1**
NATX	**Nacogdoches**	**15.30**	**18**↓	*i* Pn	**Pn**	**05 45 54.9**	**-1.8**
VCR	**Vista de Mar**	**15.82**	**115**	*e*P	**Pn**	**05 46 06.8**	**+3.3**
VCR	**Vista de Mar**	**15.82**	**115**	*e*P	**Pn**	**05 46 09.5**	**+6.0**
319A	**Douglas**	**16.31**	**331**	↓P	**Pn**	**05 46 10.3**	**+0.7**
	baz=16,SNR=67						
JCR	**Jicaral**	**16.40**	**115**	*e*P	**Pn**	**05 46 15.2**	**+4.3**
JCR	**Jicaral**	**16.40**	**115**	*e*P	**Pn**	**05 46 17.3**	**+6.4**
318A	**Bisbee**	**16.70**	**330**	P	**Pn**	**05 46 15.5**	**+0.9**
	baz=17,SNR=32						
CGA2	**Cerro Gallo 2**	**16.89**	**113**	*e*P	**Pn**	**05 46 19.7**	**+2.6**
CGA2	**Cerro Gallo 2**	**16.89**	**113**	*e*P	**Pn**	**05 46 20.3**	**+3.2**
PRS1	**Puriscal**	**17.04**	**113**	*e*P	**Pn**	**05 46 22.8**	**+3.8**
PRS1	**Puriscal**	**17.04**	**113**	*e*P	**Pn**	**05 46 22.5**	**+3.6**
SOR	**Soroa**	**17.07**	**68**	*e*P	**Pn**	**05 46 17.8**	**-1.6**
218A	**Dragoon**	**17.16**	**331**	↓P	**Pn**	**05 46 21.3**	**+0.9**
	baz=17,SNR=32						
LAJ	**Bijagual**	**17.26**	**113**	*e*P	**Pn**	**05 46 21.3**	**-0.5**
LAJ	**Bijagual**	**17.26**	**113**↓	*e*P	**Pn**	**05 46 22.6**	**+0.9**
217A	**Green Valley**	**17.38**	**328**	P	**Pn**	**05 46 24.1**	**+1.0**
	baz=17,SNR=56						
LCR2	**La Lucha 2**	**17.42**	**113**	*e*P	**Pn**	**05 46 26.6**	**+3.0**
LCR2	**La Lucha 2**	**17.42**	**113**↑	*e*P	**Pn**	**05 46 26.8**	**+3.1**
WMOK	**Wichita Mounta**	**17.47**	**4**↓	*i* Pn	**Pn**	**05 46 21.9**	**-2.3**
119A	**Ashpeak

baz=21
X14A Yava 20.57 329 P P 05 47 00.2 +1.1
baz=21,SNR=67
PLAL Pickwick Lake 20.72 29 eP P 05 46 58.5 -2.2
comp=Z,576nm,0.8s
PLAL LR LR
comp=Z,17µm,19.0s,MS5.4
GNAR Gosnell 20.73 24 ePn P 05 47 00.2 -0.5
WUAZ Wupatki 20.74 333 ePn P 05 47 02.3 +1.5
WUAZ LR LR
comp=Z,83µm,21.0s,MS6.1
WUAZ Wupatki 20.74 333 ⇓P P 05 47 02.2 +1.3
baz=21,SNR=154
W15A Williams 20.85 331 ⇑P P 05 47 03.6 +1.5
baz=21,SNR=50
Y12C Blythe 20.87 325 P P 05 47 02.9 +0.6
baz=21,SNR=40
HALT Halls 20.95 25 eP P 05 47 03.4 +0.2
SDCO Great Sand Dun 20.95 348⇓iP P 05 47 02.7 -0.4
comp=Z,364nm,1.0s
SDCO LR LR
comp=Z,63µm,20.0s,MS6.0
DVTC Desert V Tower 21.01 320 ⇓P P 05 47 04.6 +0.7
baz=21
SWSC Sam W. Stewart 21.02 321 ⇑P P 05 47 04.8 +0.8
baz=21,SNR=15
PDMCI Parker Dam,Lak 21.08 326 ⇑P P 05 47 05.1 +0.6
baz=21,SNR=30
X13A Yucca 21.14 327 ⇑P P 05 47 05.9 +0.7
baz=21,SNR=83
MVCO Mesa Verde 21.20 341 eP P 05 47 05.2 -0.6
MVCO LR LR
comp=Z,57µm,22.0s,MS5.9
MVCO Mesa Verde 21.20 341 P P 05 47 05.9 +0.1
baz=21,SNR=98
PVMO Portageville 21.24 24 eP P 05 47 05.7 -0.6
comp=Z,666nm,0.8s,mb6.0
W14A Seligman 21.26 330 P P 05 47 07.7 +1.2
baz=21,SNR=123
GLAT Glass 21.28 25 eP P 05 47 05.9 -0.8
BC3 Big Chuckw Mtn 21.33 323 ⇓P P 05 47 07.7 +0.5
baz=21,SNR=35
MONP Monument Peak 21.37 320 ⇓P P 05 47 08.2 +0.6
baz=21,SNR=14
BCIP Isla Barro Col 21.37 109⇑iP P 05 47 08.6 +0.7
comp=Z,305nm,1.2s,mb5.5
BCIP LR LR
comp=Z,9µm,20.0s,MS5.2
BAR Barrett 21.38 319 eP P 05 47 08.4 +0.5
PARMO Parma 21.44 24⇓eP P 05 47 06.8 -1.6
MCJ Malvern 21.48 85⇓eP P 05 47 09.9 +0.9
CBKS Cedar Bluff 21.50 1⇓iP P 05 47 07.0 -2.0
comp=Z,972nm,1.0s,mb6.1
CBKS LR LR
comp=Z,16µm,21.0s,MS5.4
CBKS Cedar Bluff 21.50 1⇓iP P 05 47 07.0 -2.0
CBKS pmax pmax
comp=Z,972nm,1.0s,mb6.1
CBKS MLR MLR
comp=Z,16µm,21.0s,MS5.4
UTMT University of 21.52 26 eP P 05 47 07.9 -1.3
IRM Iron Mountain 21.52 324 ⇓P P 05 47 10.1 +0.7
baz=22,SNR=106
W13A Hualapai Mount 21.57 328 P P 05 47 10.8 +1.0
baz=22,SNR=61
V14A Boquillas Ranc 21.62 330 P P 05 47 11.3 +1.0
baz=22,SNR=55
NEE2 Needles Airpor 21.69 326 ⇓P P 05 47 11.7 +0.6
baz=22
WVT Waverly 21.78 28⇓iP P 05 47 09.3 -2.8
comp=Z,317nm,1.0s,mb5.7
WVT LR LR
comp=Z,13µm,20.0s,MS5.3
WVT Waverly 21.78 28⇓iP P 05 47 09.3 -2.8
WVT pmax pmax
comp=Z,317nm,1.0s,mb5.7
WVT MLR MLR
comp=Z,13µm,20.0s,MS5.3
109C Camp Elliot, M 21.79 319 ⇑P P 05 47 12.2 -0.1
baz=22
BBJ Bamboo Saint A 21.87 84⇓eP P 05 47 15.1 +1.9
PFO Pinyon Flat Ob 21.88 321 P P 05 47 14.0 +0.8
comp=Z,1µm,1.4s,mb6.2,SNR=11
PFO Pinyon Flat Ob 21.88 321 eP P 05 47 13.9 +0.7
comp=Z,457nm,1.2s,mb5.8
PFO LR LR
comp=Z,16µm,19.0s,MS5.5
PFO Pinyon Flat Ob 21.88 321 eP P 05 47 13.9 +0.7
PFO pmax pmax
comp=Z,457nm,1.2s,mb5.8
PFO MLR MLR
comp=Z,16µm,19.0s,MS5.5
PFO Pinyon Flat Ob 21.88 321 P P 05 47 13.9 +0.7
comp=Z,34nm,0.8s,mb4.8,baz=138,slow=7.2,SNR=14
PFO S S 05 51 05.8 -7.2
comp=Z,2.9nm,0.7s,baz=212,slow=20,SNR=1.4
PFO Lg 05 54 09.3
comp=Z,7.5nm,1.0s,baz=124,slow=9.3,SNR=2.3
PFO LR LR 05 55 24.1
comp=Z,16µm,20.1s,MS5.4,baz=139,slow=36
PFO Pinyon Flat Ob 21.88 321 ⇓P P 05 47 14.0 +0.8
baz=22,SNR=15
BELC Belle Mtn. 21.89 323 ⇓P P 05 47 13.7 +0.5
baz=22,SNR=15
SWET Sewanee 21.96 33 eP P 05 47 12.0 -2.0
KSU1 Kansas State U 22.00 7 eP P 05 47 12.2 -2.2
KSU1 LR LR
comp=Z,35µm,19.0s,MS5.8
GOGA Godfrey 22.04 40 eP P 05 47 13.3 -1.5
GOGA LR LR
comp=Z,10µm,20.0s,MS5.2
T16A Glen Canyon Da 22.05 335 P P 05 47 15.4 +0.5
baz=22,SNR=36
LMGC Las Mercedes 22.16 79 eP P 05 47 17.4 +1.2
LMGC eS S 05 51 21.2 +2.6
comp=N,1µm,20.7s
LMGC e
comp=E,14µm,20.7s
BNJ Bonny Gate 22.17 84⇓eP P 05 47 17.4 +1.0
CCM Cathedral Cave 22.18 19 eP P 05 47 14.1 -2.2
CCM LR LR
comp=Z,26µm,22.0s,MS5.6
LDFC Landfair 22.19 326 eP P 05 47 18.4 +2.0
W12A Cal Nev Ari 22.23 327 ⇓P P 05 47 17.4 +0.5
baz=22,SNR=6.5
GMRC Granite Mounta 22.26 325 P P 05 47 17.8 +0.5
baz=22,SNR=31
U14A Mt Trumbull 22.29 331 P P 05 47 17.9 +0.4
baz=22,SNR=35
STH Stony Hill 22.31 84 eP P 05 47 18.4 +0.5
FVM French Village 22.38 21 eP P 05 47 16.1 -2.3
GWJ Greenwich 22.38 84⇓eP P 05 47 19.9 +1.2
T15A Red Dirt Ranch 22.44 334 P P 05 47 19.6 +0.5
baz=22,SNR=85
V12A Nelson 22.55 328 ⇓P P 05 47 20.4 +0.1
baz=23,SNR=51
SIUC Southern Illin 22.57 23 eP P 05 47 18.3 -2.2
comp=Z,894nm,1.1s,mb6.1
BBRC Big Bear Sol-O 22.61 322 ⇓P P 05 47 21.3 +0.3
baz=23
SMCO Snowmass 22.64 346 eP P 05 47 21.1 -0.1
comp=Z,478nm,1.1s,mb5.8
U13A Pakoon Wash 22.66 330 P P 05 47 21.8 +0.4
baz=23,SNR=69
HEC Hector,Ludlow 22.68 324 P P 05 47 22.0 +0.3
baz=23,SNR=31
CMJ Castle Mountai 22.72 84⇓eP P 05 47 23.5 +1.2
SCI San Clemente I 22.78 317 ⇑P P 05 47 23.1 +0.4
baz=23
T14A Hurricane 22.78 333 P P 05 47 22.9 +0.2
baz=23,SNR=44
CPCT Cooper Cave 22.89 35 eP P 05 47 21.9 -1.9
TUQ Turquoise Mtn. 22.90 325 ⇑P P 05 47 24.6 +0.6
baz=23,SNR=6.0
V11A Goodsprings 22.94 327 P P 05 47 24.7 +0.3
baz=23,SNR=53
U12A Valley of Fire 22.95 329 P P 05 47 24.7 +0.2
baz=23,SNR=44
CIS Catalina Islan 22.95 318 ⇑P P 05 47 24.4 -0.2
baz=23
ISCO Idaho Springs 22.96 349 eP P 05 47 24.1 -0.5
comp=Z,463nm,1.1s,mb5.8
ISCO LR LR
comp=Z,16µm,19.0s,MS5.5
ISCO Idaho Springs 22.96 349 eP P 05 47 24.1 -0.5
ISCO pmax pmax
comp=Z,463nm,1.1s,mb5.8
ISCO MLR MLR
comp=Z,16µm,19.0s,MS5.5
SLM Saint Louis 23.03 20 eP P 05 47 23.1 -2.2
comp=Z,694nm,1.1s,mb6.0
SLM Saint Louis 23.03 20 eP P 05 47 23.1 -2.2
SLM pmax pmax
comp=Z,694nm,1.1s,mb6.0
BFSC Mount Baldy St 23.04 321 ⇓P P 05 47 25.2 -0.2
baz=23,SNR=17
FMP Fort Macarthur 23.08 319 ⇑P P 05 47 25.8 -0.2
baz=23
RRX Edison Barstow 23.10 323 ⇑P P 05 47 26.1 +0.1
baz=23
T13A Saint George 23.12 331 ⇓P P 05 47 26.6 +0.3
baz=23,SNR=74
T12A Moapa 23.27 329 ⇑P P 05 47 27.8 0.0
baz=23,SNR=5.7
MWC Mount Wilson 23.27 320 eP P 05 47 29.4 +1.5
GSC Goldstone 23.29 324 eP P 05 47 28.4 +0.3
GSC Goldstone 23.29 324 P P 05 47 28.4 +0.4
baz=23,SNR=36
CCUT Cedar City 23.31 333⇓iP P 05 47 28.4 +0.1
U11A Corn Creek 23.36 328 ⇑P P 05 47 28.7 -0.1
baz=23,SNR=11
RCC Rio Carpintero 23.38 79 eP P 05 47 29.4 +0.2
RCC eS S 05 51 32.7 -6.9
comp=N,11µm,19.0s
RCC e
comp=E,3µm,16.8s
USIN University of 23.40 26 eP P 05 47 27.5 -1.6
S14A Cedar City 23.40 333 P P 05 47 29.6 +0.3
baz=23,SNR=60
SHOC Shoshone 23.43 326 ⇑P P 05 47 29.3 -0.3
baz=24,SNR=8.7
TKL Tuckaleechee C 23.45 35 P P 05 47 27.5 -2.2
TKL S S 05 51 40.7 +0.2
TKL Tuckaleechee C 23.45 35 P P 05 47 27.5 -2.2
comp=E,93nm,0.8s,mb5.2,baz=211,slow=9.7,SNR=61
TKL S S 05 51 40.7 +0.3
comp=E,18nm,0.9s,baz=142,slow=15,SNR=1.9
DECC Green Verdugo 23.46 320 ⇓P P 05 47 29.8 0.0
baz=24
ARUT Antelope Range 23.54 333 eP P 05 47 30.8 +0.3
ARUT eScP ScP 05 54 47.8 -3.0
S13A Holt Ranch, En 23.56 332 P P 05 47 30.9 +0.2
baz=24,SNR=57
SRU San Rafael 23.58 340 eP P 05 47 29.9 -0.9
SNCC San Nicolas Is 23.59 316 PFAKE 05 47 40.0 +9.0
SNCC LR LR
comp=Z,16µm,20.0s,MS5.5
SNCC San Nicolas Is 23.59 316 ⇓P P 05 47 30.6 -0.4
baz=24
MSU Marysvale 23.64 336 eP P 05 47 31.3 -0.1
EDW2 Edwards Air Fo 23.68 321 ⇓P P 05 47 31.6 -0.2
baz=24,SNR=20
COW Cow Castle Cre 23.79 44 eP P 05 47 32.2 -0.6
R14A James Farms, M 23.80 334 ⇑P P 05 47 33.0 +0.2
baz=24,SNR=9.2
BLG Laguna Peak 23.83 318 ⇓P P 05 47 33.4 +0.2
baz=24
U10A Ash Meadows, A 23.85 326 ⇑P P 05 47 33.9 +0.6
baz=24,SNR=12
LRMC Laurel Mountai 23.92 323 ⇓P P 05 47 34.4 +0.4
baz=24
T11A Corn Creek, Al 23.92 329 ⇑P P 05 47 34.3 +0.4
baz=24,SNR=27
OSI Osito Adit 23.95 320 ⇑P P 05 47 34.5 +0.3
baz=24
NHSC New Hope 23.97 45 eP P 05 47 34.2 -0.3
NHSC LR LR
comp=Z,6µm,22.0s,MS5.0
TMUT Trail Mountain 23.98 339⇓iP P 05 47 34.1 -0.3
JSC Jenkinsville 23.99 41 eP P 05 47 33.5 -1.2
S12A Delamar Landin 24.04 330 P P 05 47 36.0 +1.0
baz=24,SNR=14
BSC Santa Cruz Isl 24.12 317 ⇑P P 05 47 35.7 -0.1
baz=24
FURC Furnace Creek, 24.17 326 P P 05 47 36.9 +0.6
baz=24,SNR=24
WCI Wyandotte Cave 24.20 28⇓iP P 05 47 34.4 -2.1
comp=Z,224nm,0.8s,mb5.7
WCI LR LR
comp=Z,11µm,19.0s,MS5.4
WCI Wyandotte Cave 24.20 28 eP P 05 47 34.9 -1.7
TPNV Topopah Spring 24.21 327 eP P 05 47 37.8 +1.2
TPNV LR LR
comp=Z,21µm,20.0s,MS5.6
TPNV Topopah Spring 24.21 327 ⇓P P 05 47 37.5 +0.8
baz=24,SNR=40
MPMC Manual Prospec 24.22 324 P P 05 47 37.5 +0.8
baz=24,SNR=70
TZTN Tazewell 24.22 34 eP P 05 47 35.5 -1.3
TZTN LR LR
comp=Z,10µm,19.0s,MS5.3
ARVC Arvin 24.35 321 P P 05 47 38.6 +0.6
baz=24,SNR=18
PHWY Pilot Hill 24.40 350 eP P 05 47 37.6 -0.7
LHS Liberty Hill 24.40 42 eP P 05 47 37.9 -0.5
S11A Rachel 24.50 329 ⇑P P 05 47 40.1 +0.9
baz=24,SNR=28
ISA Isabella 24.50 322 eP P 05 47 40.3 +0.9
ISA LR LR
comp=Z,11µm,21.0s,MS5.3
ISA Isabella 24.50 322 ⇓P P 05 47 40.1 +0.8
baz=24,SNR=46
R12A Pony Springs, 24.51 332 P P 05 47 40.0 +0.6
baz=24,SNR=36
MASC Masc 24.76 79 eP P 05 47 44.0 +2.1
MASC eS S 05 52 05.9 +3.9
comp=N,18nm,0.1s
MASC e
comp=E,20nm,0.1s
MPU Maple Canyon 24.77 339 eP P 05 47 41.8 +0.1
MPU LR LR
comp=Z,81µm,19.0s,MS6.2
PKM Peak Mountain 24.81 319 ⇓P P 05 47 42.6 +0.5
baz=25,SNR=6.2
CWC Cottonwood Cre 24.82 324 ⇑P P 05 47 43.0 +0.8
baz=25
GRAC Grapevine Rang 24.84 326 ⇓P P 05 47 43.3 +0.9
baz=25,SNR=39
NLU North Lily Min 24.87 338 eP P 05 47 43.1 +0.5
BLO Bloomington 24.89 26 eP P 05 47 41.4 -1.4
R11A Troy Canyon, C 24.98 330 P P 05 47 44.3 +0.7
baz=25,SNR=87
VES Vestal, Richgr 24.98 322 ⇓P P 05 47 44.4 +0.7
baz=25,SNR=45
DAU Daniels Canyon 24.99 340 eP P 05 47 43.7 0.0
HDIL Hopedale 25.07 20 eP P 05 47 42.4 -2.0
HDIL LR LR
comp=Z,33µm,22.0s,MS5.8
RWWY Rawlins 25.10 348 eP P 05 47 44.6 0.0
S10A Tonopah Range, 25.13 328 P P 05 47 45.7 +0.7
baz=25,SNR=98
P13A Bates Ranch, G 25.19 334 P P 05 47 46.2 +0.7
baz=25,SNR=51
Q12A Willow Creek R 25.19 332 P P 05 47 46.0 +0.5
baz=25,SNR=22
SMMC Simmler 25.19 319 ⇑P P 05 47 46.4 +0.8
baz=25,SNR=21
JLU Jordanelle 25.23 340 eP P 05 47 46.2 +0.3
R10A Warm Springs 25.27 329 P P 05 47 47.5 +1.2
baz=25,SNR=32
S09A Goldfield 25.30 327 P P 05 47 47.0 +0.4
baz=25,SNR=65
TIN Tinemaha 25.35 325 ⇓P P 05 47 48.2 +1.3
baz=25,SNR=15
DUG Dugway 25.35 337⇓iP P 05 47 47.1 +0.1
DUG LR LR
comp=Z,92µm,19.0s,MS6.3
DUG Dugway 25.35 337 eP P 05 47 46.7 -0.2
DUG Dugway 25.35 337 P P 05 47 47.4 +0.5
baz=25,SNR=51
Q11A Duckwater 25.41 331 P P 05 47 48.3 +0.8
baz=25,SNR=35
CTU Camp Tracy 25.41 339 eP P 05 47 47.9 +0.4
V05C Boulder Hill, 25.50 320 ⇑P P 05 47 49.1 +0.8
baz=26
NOQ North Oquirrh 25.50 339 eP P 05 47 49.0 +0.6
HELL Mitchell Peak 25.53 323 P P 05 47 49.5 +0.9
baz=26,SNR=96
PTRM Twissleman Ran 25.55 320 eP P 05 47 50.4 +1.6
P12A McGill 25.58 333 ⇑P P 05 47 49.6 +0.5
baz=26,SNR=43
R09A Tonopah 25.62 328 P P 05 47 50.1 +0.7
baz=26,SNR=35
S08C White Mtn Res 25.64 325 P P 05 47 50.7 +1.1
baz=26,SNR=44
Q10A Clear Creek Ra 25.74 330 P P 05 47 51.9 +1.3
baz=26,SNR=45
O13A Hicks Ranch, I 25.75 335 ⇓P P 05 47 51.2 +0.6
baz=26,SNR=23
MTUM Tungsten Hills 25.75 325 eP P 05 47 51.6 +1.0
N15A Stansbury Isla 25.85 338 ⇓P P 05 47 51.4 -0.1
baz=26
PKD Parkfield 25.94 320 ⇑P P 05 47 52.9 +0.6
baz=26,SNR=7.3
U05C Westside ANR, 25.94 321 ⇑P P 05 47 53.1 +0.8
baz=26
V04C Ramage Ranch, 25.94 319 ⇑P P 05 47 52.9 +0.5
baz=26
N14A Grayback Hills 26.06 337 ⇓P P 05 47 53.8 +0.4
baz=26,SNR=26
BGU Big Grassy Mou 26.07 337⇓iP P 05 47 53.3 -0.2
MLAC Mammoth Lakes 26.10 325 ⇓P P 05 47 54.9 +1.2
baz=26,SNR=8.3
Q09A Carvers 26.13 329 ⇑P P 05 47 55.1 +1.1
baz=26,SNR=9.2
KCC Kaiser Creek 26.15 324 ⇓P P 05 47 54.6 +0.4
baz=26,SNR=64
T06C Milleton Lake 26.15 323 P P 05 47 53.8 -0.5
baz=26,SNR=39
HWUT Hardware Ranch 26.17 340⇓iP P 05 47 54.0 -0.4
comp=Z,378nm,1.0s,mb5.9
HWUT LR LR
comp=Z,62µm,19.0s,MS6.2
O12A Currie 26.17 334 P P 05 47 55.0 +0.6
baz=26,SNR=36
SPUT South Promonto 26.20 339 eP P 05 47 56.1 +1.5
R08A Mina 26.23 327 ⇓P P 05 47 56.3 +1.3
baz=26,SNR=45
ELN Prospectdale 26.27 37 eP P 05 47 54.8 -0.6
M15A Larsen Ranch, 26.33 339 ⇑P P 05 47 55.5 -0.4
baz=26
U04C Hernandez Rese 26.36 320 ⇓P P 05 47 56.6 +0.5
baz=26,SNR=17
NVAR Mina Array Bea 26.39 327 P P 05 47 57.1 +0.7
NVAR PcP PcP 05 51 21.9 +0.5
NVAR S S 05 52 29.4 +1.9
NVAR Lg 05 56 21.8
NVAR Mina Array Bea 26.39 327 P P 05 47 57.1 +0.7
comp=Z,80nm,0.7s,mb5.4,baz=154,slow=9.7,SNR=252
NVAR PcP PcP 05 51 21.9 +0.5
comp=Z,2.9nm,0.5s,baz=121,slow=3.5,SNR=7.4
NVAR S S 05 52 29.4 +1.9
comp=Z,2.4nm,1.1s,baz=136,slow=56,SNR=2.6
NVAR Lg 05 56 21.8
comp=Z,0.5nm,0.7s,baz=65,slow=43,SNR=2.2
P10A Eureka 26.40 331 ⇓P P 05 47 57.3 +0.8
baz=26,SNR=28
V03C Hunter Liggett 26.42 319 ⇑P P 05 47 57.4 +0.7
baz=26,SNR=6.2
O11A Cowboy Ranch, 26.45 333 P P 05 47 57.5 +0.6
baz=26,SNR=33
BLA Blacksburg 26.45 37⇓eP P 05 47 56.3 -0.6
comp=Z,1µm,1.0s,mb6.3
BLA LR LR
comp=Z,11µm,19.0s,MS5.4
BLA Blacksburg 26.45 37⇓eP P 05 47 56.3 -0.7
BLA pmax pmax
comp=Z,1µm,1.0s,mb6.3
BLA MLR MLR
comp=Z,11µm,19.0s,MS5.4
N13A Wendover, West 26.45 336 ⇑P P 05 47 57.3 +0.4
baz=26,SNR=9.7
Q08A Gabbs 26.52 328 ⇓P P 05 47 58.7 +1.1
baz=27,SNR=159
R07C Lee Vining 26.54 325 ⇑P P 05 47 59.1 +1.3
baz=27,SNR=56
ECSD EROS,Sioux Fal 26.58 6 eP P 05 47 56.1 -2.0
ECSD LR LR
comp=Z,25µm,20.0s,MS5.8
T05C Eagle Field, D 26.64 321 ⇑P P 05 47 58.8 +0.1
baz=27
BW06 Boulder Array 26.66 345⇓iP P 05 47 57.9 -0.9
comp=Z,347nm,1.0s,mb5.8
BW06 LR LR
comp=Z,45µm,19.0s,MS6.0
PDAR Pinedale Array 26.66 345 P P 05 47 58.0 -0.8
comp=Z,30nm,0.7s,mb5.0,baz=145,slow=8.9,SNR=121
PDAR PcP PcP 05 51 22.2 +0.2
comp=Z,6.1nm,0.4s,baz=130,slow=5.3,SNR=12
PDAR S S 05 52 34.9 +3.3
comp=Z,2.0nm,0.8s,baz=290,slow=14,SNR=1.9
PDAR Lg 05 56 31.7
comp=Z,1.6nm,1.1s,baz=7.4,slow=36,SNR=2.9
PDAR LR LR 05 59 36.5
comp=Z,43µm,19.1s,MS6.0,baz=183,slow=39
P09A Austin 26.67 330 ⇑P P 05 47 59.4 +0.6
baz=27,SNR=25
M14A Sheep Mountain 26.69 338 P P 05 47 59.2 +0.2
baz=27,SNR=46
HVU Hansel Valley 26.73 339 eP P 05 47 60.0 +0.6
S05C Merced 26.74 322 ⇓P P 05 47 59.5 -0.1
baz=27,SNR=38
CNNC Cliffs of the 26.76 44 eP P 05 47 59.8 0.0
CNNC LR LR
comp=Z,7µm,21.0s,MS5.2
N12A Clover Valley, 26.79 334 ⇓P P 05 48 00.2 +0.2
baz=27,SNR=28
HAST Hastings Reser 26.85 319 ⇑P P 05 48 01.0 +0.4
baz=27,SNR=11
M13A Montello 26.87 336 ⇑P P 05 48 00.9 +0.2
baz=27,SNR=14
O10A Cortez Mining, 26.96 332 ⇑P P 05 48 01.9 +0.4
baz=27,SNR=9.8
JFWS Jewell Farm 26.96 16 eP P 05 47 59.3 -2.1
JFWS LR LR
comp=Z,32µm,22.0s,MS5.8
RSSD Black Hills 26.99 354⇓iP P 05 48 00.9 -0.8
comp=Z,65nm,0.9s,mb5.2
RSSD LR LR
comp=Z,27µm,20.0s,MS5.8
RSSD Black Hills 26.99 354⇓iP P 05 48 00.9 -0.8
RSSD pmax pmax
comp=Z,65nm,0.9s,mb5.2
RSSD MLR MLR
comp=Z,27µm,20.0s,MS5.8
SAO San Andreas Ge 27.02 320 eP P 05 48 02.2 0.0
comp=Z,109nm,1.0s,mb5.3
SAO LR LR
comp=Z,10µm,20.0s,MS5.4
SAO San Andreas Ge 27.02 320 eP P 05 48 02.2 +0.1
SAO pmax pmax
comp=Z,109nm,1.0s,mb5.3
SAO MLR MLR
comp=Z,10µm,20.0s,MS5.4
Q07A Schurz 27.04 327 ⇓P P 05 48 03.3 +1.1
baz=27
N11A Elko Archery C 27.05 333 ⇑P P 05 48 02.7 +0.4
baz=27,SNR=9.7
R06C Coleville 27.07 325 ⇓P P 05 48 03.8 +1.3
baz=27,SNR=32
AHID Auburn Hatcher 27.08 342 eP P 05 48 02.0 -0.6
AHID LR LR
comp=Z,17µm,20.0s,MS5.6
PACP Pacheco Peak 27.09 321 ⇓P P 05 48 02.9 +0.2
baz=27,SNR=10
M12A Wells 27.21 335 P P 05 48 04.2 +0.4
baz=27,SNR=60
P08A Dixie Valley 27.23 329 ⇓P P 05 48 04.8 +0.8
baz=27,SNR=10
CMB Columbia Colle 27.25 323⇓iP P 05 48 04.1 -0.1
comp=Z,96nm,1.0s,mb5.3
CMB LR LR
comp=Z,11µm,21.0s,MS5.4
CMB Columbia Colle 27.25 323⇓iP P 05 48 04.1 0.0
CMB pmax pmax
comp=Z,97nm,1.0s,mb5.3
CMB MLR MLR
comp=Z,11µm,21.0s,MS5.4
CMB Columbia Colle 27.25 323 ⇓P P 05 48 04.3 +0.1
baz=27,SNR=27
N10A Dunphy 27.30 332 P P 05 48 05.0 +0.4
baz=27,SNR=8.4
ACSO Alum Creek Sta 27.34 30 eP P 05 48 03.2 -1.7
ACSO LR LR
comp=Z,15µm,19.0s,MS5.6
L13A Double Diamond 27.42 337 P P 05 48 06.0 +0.4
baz=27,SNR=26
S04C Ingram Canyon, 27.44 322 ⇑P P 05 48 06.1 +0.2
baz=28,SNR=12
P07A Fallon 27.52 328 ⇑P P 05 48 07.7 +1.1

baz=28
SDDR Presa de Saban 27.52 82 *e*P P 05 48 08.8 +2.0
SDDR LR LR
comp=Z,10µm,21.0s,MS5.4
K14A Jones Ranch, D 27.54 339 P P 05 48 06.8 +0.1
baz=28,SNR=73
R05C Kirkwood Meado 27.55 325 ⇑P P 05 48 07.9 +1.1
baz=28,SNR=43
REDW Red Top Meadow 27.56 343 *e*P P 05 48 06.5 -0.4
comp=Z,261nm,0.9s,mb5.9
M11A Holland Ranch, 27.58 334 ⇑P P 05 48 07.6 +0.6
baz=28,SNR=62
SNOW Snow King Moun 27.63 343⇓*i*P P 05 48 07.2 -0.3
comp=Z,376nm,1.0s,mb6.0
BNLO Ben Lomond (Sa 27.71 320 ⇑P P 05 48 08.6 +0.4
baz=28
TPAW Teton Pass 27.71 343⇓*i*P P 05 48 07.8 -0.3
comp=Z,610nm,1.0s,mb6.2
R04C Big Horse Ranc 27.72 323 ⇓P P 05 48 09.5 +1.2
baz=28,SNR=30
LOHW Long Hollow 27.73 344⇓*i*P P 05 48 07.7 -0.6
comp=Z,143nm,0.8s,mb5.7
O08A Rochester Mine 27.73 330 ⇓P P 05 48 09.0 +0.5
baz=28
WENL Wente Brothers 27.77 321 ⇑P P 05 48 09.7 +0.8
baz=28,SNR=12
WCN Washoe City 27.80 326 P P 05 48 10.6 +1.5
baz=28,SNR=44
DCID1 Drake Creek 27.87 343 *e*P P 05 48 10.0 +0.3
L12A House Creek Ra 27.87 336 P P 05 48 09.7 0.0
baz=28,SNR=26
N09A Rock Creek Ran 27.87 331 ⇓P P 05 48 10.1 +0.4
baz=28,SNR=25
MOOW Moose Ponds 27.89 344⇓*i*P P 05 48 08.5 -1.3
comp=Z,306nm,1.0s,mb5.9
MOOW *e*PcP PcP 05 51 25.7 +0.8
JRSC Jasper Ridge 27.92 320 ⇑P P 05 48 10.7 +0.6
baz=28
LAVA Lava Cap Winer 27.95 324 ⇓P P 05 48 11.1 +0.7
baz=28,SNR=26
K13A Stover Farm, H 27.95 338 P P 05 48 10.9 +0.5
baz=28,SNR=95
M10A I.L. Ranch, Tu 27.97 333 ⇑P P 05 48 11.2 +0.6
baz=28,SNR=15
BDM Black Diamond 28.05 322 ⇑P P 05 48 12.3 +0.9
baz=28
IMW Indian Meadow 28.08 343 *e*P P 05 48 10.8 -0.7
comp=Z,262nm,1.1s,mb5.8
N08A GE Springer Mi 28.10 330 P P 05 48 12.2 +0.5
baz=28,SNR=19
P06A Stead Airport, 28.15 327 ⇑P P 05 48 13.3 +1.1
baz=28,SNR=9.4
ROSC El Rosal 28.17 113 *e*P P 05 48 17.0 +4.4
ROSC S **S** 05 53 01.2 +5.2
ROSC LR LR 05 59 22.0
ROSC El Rosal 28.17 113 P P 05 48 13.8 +1.2
comp=Z,12nm,0.7s,mb4.6,baz=282,slow=24,SNR=34
ROSC S **S** 05 53 01.2 +5.2
comp=Z,3.6nm,0.7s,baz=85,slow=21,SNR=1.6
ROSC LR LR 05 59 22.0
comp=Z,3µm,21.8s,MS4.8,baz=349,slow=36
L11A Cat Creek Ranc 28.18 335 ⇓P P 05 48 12.6 +0.2
baz=28,SNR=145
FLWY Flagg Ranch 28.19 344 *e*P P 05 48 12.6 +0.1
comp=Z,330nm,1.2s,mb5.8
K12A Draper Farm, C 28.25 337 P P 05 48 13.5 +0.5
baz=28,SNR=67
P05C Yuba Gap, Truc 28.26 325 ⇓P P 05 48 14.5 +1.3
baz=28,SNR=32
M09A Marrel Ranch, 28.29 332 P P 05 48 14.3 +0.9
baz=28,SNR=30
Q04C Lincoln 28.37 324 ⇑P P 05 48 15.4 +1.2
baz=28,SNR=14
L10A Juniper Basin 28.40 334 ⇓P P 05 48 14.9 +0.6
baz=28,SNR=59
URVA University of 28.41 40⇓*i*P P 05 48 13.8 -0.7
O06A Flanigan 28.47 327 P P 05 48 16.2 +1.2
baz=28,SNR=53
MCWV Mont Chateau 28.49 34 *e*P P 05 48 14.1 -1.1
comp=Z,437nm,1.1s,mb6.0
MCWV LR LR
comp=Z,10µm,22.0s,MS5.4
N07B Gerlach 28.50 329 P P 05 48 16.0 +0.7
baz=28,SNR=31
BEKR Beckwourth 28.53 326 P P 05 48 16.6 +1.0
baz=29,SNR=66
LKWY Lake 28.56 345 *e*P P 05 48 17.3 +1.6
LKWY LR LR
comp=Z,26µm,22.0s,MS5.8
YFT Old Faithful 28.57 344 *e*P P 05 48 17.2 +1.4
FARB Farallon Islan 28.57 320 ⇑P P 05 48 16.8 +0.8
baz=29
Q03C Winters 28.59 323 ⇑P P 05 48 17.9 +1.7
baz=29
J13A Cove Ranch, Pi 28.64 338 P P 05 48 16.5 0.0
baz=29,SNR=33
CVS Carmenet Viney 28.66 322 ⇓P P 05 48 17.0 +0.3
baz=29
AAM Ann Arbor 28.70 26⇓*i*P P 05 48 15.3 -1.7
comp=Z,256nm,0.6s,mb6.1
AAM LR LR
comp=Z,14µm,19.0s,MS5.6
AAM Ann Arbor 28.70 26⇓*i*P P 05 48 15.3 -1.8
AAM pmax pmax
comp=Z,256nm,0.6s,mb6.1
AAM MLR MLR
comp=Z,14µm,19.0s,MS5.6
M08A Happy Creek Ra 28.74 331 ⇑P P 05 48 17.7 +0.3
baz=29
OHCM Honcut 28.77 324 *e*P P 05 48 18.5 +0.8
YNR Norris Junctio 28.77 344 *e*P P 05 48 18.8 +1.2
MCCM Marconi Confer 28.79 321 *e*P P 05 48 18.4 +0.6
comp=Z,258nm,1.1s,mb5.9
MCCM LR LR
comp=Z,15µm,20.0s,MS5.6
MCCM Marconi Confer 28.79 321 ⇓P P 05 48 18.5 +0.6
baz=29
K11A Parker Ranch, 28.80 335 P P 05 48 18.1 +0.2
baz=29,SNR=49
YMR Madison River 28.80 344⇓*i*P P 05 48 18.0 +0.1
comp=Z,148nm,1.1s,mb5.6
YMR LR LR
comp=Z,23µm,21.0s,MS5.8
RLMT Red Lodge 28.82 347 *e*P P 05 48 17.2 -0.8
RLMT LR LR
comp=Z,68µm,20.0s,MS6.2
J12A Stokes Ranch, 28.85 337 P P 05 48 18.4 +0.1
baz=29,SNR=74
NSHM Saint Helena R 28.87 322 *e*P P 05 48 18.3 -0.3
NSHM *e*pP pP 05 48 28.8 +0.1
SUTB Sutter Butte 28.87 324 ⇓P P 05 48 19.4 +0.9
baz=29,SNR=7.1
L09A Wilkinson Ranc 28.87 332 P P 05 48 18.9 +0.4
baz=29,SNR=33
HLID Hailey 28.87 338⇓*i*P P 05 48 18.5 0.0
comp=Z,76nm,0.8s,mb5.5
HLID LR LR
comp=Z,50µm,19.0s,MS6.1
HLID Hailey 28.87 338 ⇑P P 05 48 18.8 +0.3
baz=29,SNR=42
O05C Quincy 28.90 326 ⇓P P 05 48 20.0 +1.2
baz=29,SNR=15
N06A Buffalo Meadow 28.91 328 P P 05 48 19.6 +0.7
baz=29,SNR=82
CBN Corbin 28.92 39 *e*P P 05 48 20.6 +1.6
comp=Z,685nm,1.2s,mb6.3
CBN *e*pP pP 05 48 28.6 -0.5
CBN LR LR
comp=Z,8µm,20.0s,MS5.3
ORV Oroville 28.93 325 ⇓P P 05 48 20.0 +0.8
baz=29,SNR=30
MNRC McLaughlin Nat 29.01 322 ⇑P P 05 48 21.0 +1.2
baz=29,SNR=7.7
M07A Soldier Meadow 29.07 330 ⇓P P 05 48 20.5 +0.2
baz=29,SNR=26
I13A Wildhorse Cree 29.07 339 ⇑P P 05 48 20.5 +0.1
baz=29,SNR=40
QLMT Earthquake Lak 29.08 343 *e*P P 05 48 21.0 +0.6
K10A MacKenzie Ranc 29.15 334 P P 05 48 21.1 +0.1
baz=29,SNR=47
O04C Chester 29.25 326 P P 05 48 23.4 +1.4
baz=29,SNR=69
MFID Camas Ranch 29.26 336 P P 05 48 22.2 +0.1
baz=29,SNR=60
ELFS Eagle Lake Fie 29.27 327 P P 05 48 23.4 +1.3
baz=29,SNR=27
L08A Fields 29.31 332 P P 05 48 22.3 -0.1
baz=29,SNR=38

K09A Rome 29.44 333 ⇑P P 05 48 24.2 +0.6
baz=30,SNR=116
HOPS Hopland 29.45 322 *e*P P 05 48 26.2 +2.4
comp=Z,346nm,1.3s,mb5.9
HOPS *e*pP pP 05 48 32.3 -1.6
HOPS LR LR
comp=Z,12µm,19.0s,MS5.5
HOPS Hopland 29.45 322 ⇓P P 05 48 24.8 +1.0
baz=30
MCMT McKenzie Canyo 29.48 342 *e*P P 05 48 24.7 +0.8
O03C Acorn Hollow, 29.53 325 ⇑P P 05 48 24.6 +0.1
baz=30,SNR=7.6
GCMT Greycliff 29.54 347 *e*P P 05 48 23.5 -1.0
M06C Likely Place G 29.57 328 ⇑P P 05 48 25.7 +0.9
baz=30,SNR=57
WVOR Wild Horse Val 29.63 332⇓*i*P P 05 48 25.2 -0.1
comp=Z,111nm,1.1s,mb5.5
WVOR *e*PcP PcP 05 51 28.4 -0.9
WVOR LR LR
comp=Z,39µm,19.0s,MS6.1
WVOR Wild Horse Val 29.63 332⇓*i*P P 05 48 25.2 -0.1
WVOR *e* 05 51 28.4
WVOR pmax pmax
comp=Z,111nm,1.1s,mb5.5
WVOR MLR MLR
comp=Z,39µm,19.0s,MS6.1
L07A Adell 29.63 330 P P 05 48 25.7 +0.4
baz=30,SNR=44
J10A Berg Farm, Mel 29.64 335 ⇑P P 05 48 25.3 -0.1
baz=30
G15A Dillon 29.68 342 P P 05 48 26.2 +0.5
baz=30,SNR=40
GASB Alder Springs 29.68 323 ⇓P P 05 48 27.1 +1.2
baz=30,SNR=19
H13A Challis 29.70 339 P P 05 48 26.1 +0.3
baz=30,SNR=33
I11A Placerville 29.74 337 ⇑P P 05 48 26.6 +0.4
baz=30
LAO LASA Array 29.78 352 *e*P P 05 48 25.4 -1.2
comp=Z,254nm,1.0s,mb5.9
LAO LR LR
comp=Z,14µm,19.0s,MS5.6
ALLY Alegheny Colle 29.80 31 *e*P P 05 48 26.3 -0.4
HATC Hat Creek Radi 29.80 326 P P 05 48 27.7 +0.9
baz=30,SNR=14
K08A Mann Creek Ran 29.80 332 P P 05 48 27.3 +0.5
baz=30,SNR=69
BOZ Bozeman (W) 29.89 344⇓*i*P P 05 48 27.0 -0.5
comp=Z,40nm,1.0s,mb5.1
BOZ LR LR
comp=Z,25µm,19.0s,MS5.9
BOZ Bozeman (W) 29.89 344⇓*i*P P 05 48 27.0 -0.5
BOZ pmax pmax
comp=Z,40nm,1.0s,mb5.1
BOZ MLR MLR
comp=Z,25µm,19.0s,MS5.9
BOZ Bozeman (W) 29.89 344 P P 05 48 27.0 -0.5
baz=30,SNR=48
H12A Diamond D Ranc 29.89 339 P P 05 48 28.0 +0.4
baz=30,SNR=37
DLMT Dillon 29.89 342 *e*P P 05 48 28.0 +0.4
comp=Z,246nm,1.1s,mb5.8
P01C Double 8 Ranch 29.92 322 ⇑P P 05 48 29.0 +1.2
baz=30,SNR=6.9
SDV Santo Domingo 29.94 102⇑*i*P P 05 48 30.4 +2.0
comp=Z,120nm,1.1s,mb5.5
SDV LR LR
comp=Z,2µm,20.0s,MS4.6
SDV Santo Domingo 29.94 102 P P 05 48 29.7 +1.3
comp=Z,22nm,0.6s,mb5.1,baz=357,slow=2.6,SNR=25
SDV S **S** 05 53 25.5 +1.7
comp=Z,3.5nm,0.8s,baz=334,slow=9.9,SNR=1.4
SDV Lg 05 58 17.4
comp=Z,1.4nm,0.6s,baz=183,slow=21,SNR=1.9
SDV LR LR 06 01 28.8
comp=Z,8µm,20.7s,MS5.4,baz=327,slow=38
J09A Fry Pan Ranch, 29.98 334 P P 05 48 28.7 +0.3
baz=30,SNR=68
MOD Modoc 30.01 329 *e*P P 05 48 29.2 +0.6
MOD LR LR
comp=Z,13µm,21.0s,MS5.5
MOD Modoc 30.01 329 ⇓P P 05 48 28.9 +0.3
baz=30,SNR=34
SDMD Soldier's Deli 30.01 38 *e*P P 05 48 28.5 -0.2
M05C Lookout 30.03 327 ⇓P P 05 48 29.3 +0.5
baz=30,SNR=42
G14A Jackson 30.04 341 ⇑P P 05 48 28.9 0.0
baz=30,SNR=33
O02C Red Bluff 30.08 324 ⇑P P 05 48 29.1 -0.2
baz=30
K07A Rock Creek Ran 30.11 331 ⇑P P 05 48 30.1 +0.5
baz=30,SNR=38
G13A Cobalt 30.16 340 ⇑P P 05 48 29.8 -0.1
baz=30,SNR=66
KCPM Cahto Peak 30.20 323 *e*P P 05 48 30.7 +0.3
KCPM *e*pP pP 05 48 41.5 +0.9
I10A Payette 30.21 336 P P 05 48 31.0 +0.6
baz=30,SNR=8.2
COWI Conover 30.21 15 *e*P P 05 48 28.8 -1.6
COWI LR LR
comp=Z,17µm,19.0s,MS5.7
WDC Whiskeytown Da 30.22 325⇓*i*P P 05 48 28.8 -1.7
comp=Z,11nm,0.7s,mb4.7
WDC LR LR
comp=Z,5µm,21.0s,MS5.2
WDC Whiskeytown Da 30.22 325⇓*i*P P 05 48 28.8 -1.7
WDC pmax pmax
comp=Z,11nm,0.7s,mb4.7
WDC MLR MLR
comp=Z,5µm,21.0s,MS5.2
WDC Whiskeytown Da 30.22 325 P P 05 48 29.1 -1.4
baz=30,SNR=6.9
KIPM Iron Peak 30.23 323 *e*P P 05 48 31.7 +1.1
ERPA Erie 30.23 31 *e*pP pP 05 48 42.9 +2.2
SSPA Standing Stone 30.24 35 *e*P P 05 48 29.9 -0.8
SSPA LR LR
comp=Z,12µm,19.0s,MS5.5
LRM Limekiln Ridge 30.27 343 *e*P P 05 48 30.9 0.0
J08A Circle Bar Ran 30.30 333 P P 05 48 31.5 +0.3
baz=30,SNR=82
F15A Butte 30.30 343 P P 05 48 31.2 +0.1
baz=30,SNR=54
L05A Lakeview 30.38 329 ⇑P P 05 48 32.9 +1.0
baz=30,SNR=23
H11A Donnelly 30.43 337 ⇑P P 05 48 32.4 0.0
baz=30,SNR=123
GLMI Grayling 30.46 22⇓*i*P P 05 48 30.7 -1.8
comp=Z,417nm,0.8s,mb6.2
GLMI LR LR
comp=Z,29µm,19.0s,MS6.0
M03C McCloud 30.48 326 ⇓P P 05 48 32.4 -0.4
baz=30,SNR=8.1
I09A Lost Marbles R 30.49 335 ⇑P P 05 48 32.9 +0.1
baz=30,SNR=52
F14A Wisdom 30.53 342 ⇓P P 05 48 33.3 +0.1
baz=31
H10A Noah's Angus R 30.61 336 ⇑P P 05 48 33.5 -0.4
baz=31,SNR=59
O01C Eel River Cons 30.64 323 ⇓P P 05 48 35.5 +1.3
baz=31
K06A Valley Falls 30.66 330 P P 05 48 34.8 +0.4
baz=31,SNR=12
J07A Hines 30.68 332 P P 05 48 34.3 -0.2
baz=31,SNR=11
MVL Millersville 30.68 37 *e*P P 05 48 35.2 +0.6
M04C Macdoel 30.69 327 ⇑P P 05 48 35.2 +0.5
baz=31,SNR=24
I08A Drewsey 30.79 334 ⇑P P 05 48 35.5 0.0
baz=31,SNR=38
N02C Big Bar 30.80 324 ⇓P P 05 48 36.3 +0.6
baz=31,SNR=6.8
F13A Darby 30.81 341 P P 05 48 35.5 -0.1
baz=31,SNR=65
E15A Deer Lodge 30.88 343 ⇑P P 05 48 35.4 -0.9
baz=31,SNR=42
K05A Summer Lake 30.92 330 P P 05 48 37.2 +0.6
baz=31,SNR=15
HRY Holter Researc 30.92 344 *e*P P 05 48 36.2 -0.4
M02C Callahan 30.95 326 ⇑P P 05 48 36.0 -1.0
baz=31,SNR=9.6
J06A Christmas Vall 30.97 331 ⇓P P 05 48 36.8 -0.3
baz=31,SNR=12
L04A Klamath Falls 31.00 328 ⇓P P 05 48 37.7 +0.3
baz=31
H09A Durkee 31.03 335 ⇑P P 05 48 37.2 -0.4
baz=31,SNR=43
BMO Blue Mountains 31.05 336 *e*P P 05 48 36.8 -1.0

BMO LR LR
comp=Z,22µm,21.0s,MS5.8
KHMM Horse Mountain 31.08 324 *e*P P 05 48 39.4 +1.3
F12A Elk City 31.08 339 ⇑P P 05 48 38.1 0.0
baz=31,SNR=141
E14A Clinton 31.11 342 ⇑P P 05 48 38.0 -0.3
baz=31,SNR=46
YBH Yreka Blue Hor 31.11 326 *e*P P 05 48 37.2 -1.2
YBH LR LR
comp=Z,12µm,19.0s,MS5.6
YBH Yreka Blue Hor 31.11 326 P P 05 48 37.4 -1.0
baz=31,SNR=9.5
G11A Walters Elk Ra 31.12 338 P P 05 48 38.0 -0.5
baz=31,SNR=122
AGMN Agassiz Refuge 31.18 6 *e*P P 05 48 37.4 -1.5
AGMN LR LR
comp=Z,18µm,22.0s,MS5.7
JCC Jacoby Creek 31.21 324 ⇑P P 05 48 40.0 +0.8
baz=31
K04A Chilquin 31.24 329 ⇑P P 05 48 39.8 +0.2
baz=31,SNR=7.1
DGMT Dagmar 31.32 355 *e*P P 05 48 39.1 -1.0
comp=Z,436nm,1.2s,mb6.2
DGMT LR LR
comp=Z,18µm,19.0s,MS5.8
H08A Prairie City 31.32 334 P P 05 48 39.8 -0.4
baz=31,SNR=71
I07A Izee 31.33 333 P P 05 48 40.0 -0.3
baz=31,SNR=17
E13A Victor 31.34 341 P P 05 48 40.0 -0.4
baz=31,SNR=57
G10A Bishop Farm, J 31.35 337 ⇓P P 05 48 39.9 -0.5
baz=31,SNR=104
D15A Lincoln 31.41 344 P P 05 48 40.5 -0.5
baz=31,SNR=21
EYMN Ely 31.44 11 *e*P P 05 48 39.4 -1.8
EYMN LR LR
comp=Z,34µm,22.0s,MS6.0
MPR Mayaguez 31.49 83 *e*pP pP 05 48 59.1 +7.0
CHMT Chamberlain Mo 31.50 343 *e*P P 05 48 41.1 -0.6
J05A Fort Rock 31.50 330 P P 05 48 41.9 +0.1
baz=32,SNR=14
F11A Grangeville 31.50 338 ⇑P P 05 48 41.0 -0.8
baz=32
I06A Prineville 31.53 332 P P 05 48 41.9 -0.2
baz=32,SNR=8.1
KRMB Red Mountain 31.61 325⇓*e*P P 05 48 43.1 +0.3
MSO Missoula 31.62 342⇓*i*P P 05 48 42.0 -0.8
comp=Z,39nm,1.0s,mb5.2
MSO *e*PcP PcP 05 51 35.9 +1.5
MSO LR LR
comp=Z,38µm,19.0s,MS6.1
EGMT Eagleton 31.68 348 *e*P P 05 48 42.7 -0.6
comp=Z,188nm,1.1s,mb5.8
EGMT LR LR
comp=Z,9µm,19.0s,MS5.5
EGMT Eagleton 31.68 348 P P 05 48 42.8 -0.5
baz=32,SNR=24
D14A Greenough 31.72 343 P P 05 48 43.0 -0.6
baz=32,SNR=30
H07A Lands Inn, Kim 31.76 333 ⇓P P 05 48 43.8 -0.3
baz=32
HUMO Hull Mountain 31.86 327 *e*P P 05 48 43.2 -1.8
comp=Z,65nm,1.3s,mb5.3
HUMO LR LR
comp=Z,8µm,21.0s,MS5.4
HUMO Hull Mountain 31.86 327 ⇑P P 05 48 43.8 -1.2
baz=32
L02A Cave Junction 31.88 326 ⇑P P 05 48 45.0 -0.1
baz=32
J04A Umpqua Nationa 31.89 329 P P 05 48 45.8 +0.5
baz=32,SNR=22
E11A Bogner Ranch, 31.93 339 ⇑P P 05 48 44.5 -1.0
baz=32,SNR=53
M01C Crescent City 31.95 325 ⇓P P 05 48 46.5 +0.7
baz=32,SNR=6.6
F10A Beach Ranch, E 31.96 337 P P 05 48 45.6 -0.3
baz=32,SNR=107
F09A S2 Ranch, Elgi 32.00 336 ⇑P P 05 48 45.7 -0.5
baz=32,SNR=6.7
D13A Huson 32.01 341 P P 05 48 45.6 -0.6
baz=32,SNR=65
G08A Pilot Rock 32.07 335 P P 05 48 46.2 -0.5
baz=32,SNR=65
BRNJ Basking Ridge 32.17 38 *e*P P 05 48 49.8 +2.1
I05A Bend 32.18 331 P P 05 48 48.0 +0.3
baz=32,SNR=9.0
H06A Lindquist Farm 32.21 333 P P 05 48 47.7 -0.2
baz=32,SNR=22
K02A Glendale 32.25 327 ⇑P P 05 48 48.0 -0.4
baz=32
D12A Red Ives Fores 32.25 340 ⇓P P 05 48 47.2 -1.1
baz=32
KBO Bosley Butte 32.26 325 *e*P P 05 48 49.7 +1.3
G07A Ruggs Ranch, H 32.34 334 P P 05 48 49.0 -0.2
baz=32,SNR=31
BINY Binghamton 32.35 35 *e*P P 05 48 48.1 -1.2
BINY LR LR
comp=Z,15µm,19.0s,MS5.7
E10A Myers Farm, Un 32.36 338 ⇑P P 05 48 48.1 -1.2
baz=32,SNR=7.4
F08A Pendleton 32.41 335 ⇓P P 05 48 48.7 -1.0
baz=32
C14A Swan Lake 32.41 343 ⇓P P 05 48 49.1 -0.6
baz=32
J03A Ideyld Park 32.42 328 ⇑P P 05 48 49.1 -0.7
baz=32,SNR=6.5
SJG San Juan 32.43 83 *e*P P 05 48 49.9 -0.4
comp=Z,240nm,0.9s,mb6.0
SJG LR LR
comp=Z,6µm,19.0s,MS5.3
SJG San Juan 32.43 83 *e*P P 05 48 49.9 -0.4
SJG pmax pmax
comp=Z,240nm,0.9s
SJG MLR MLR
comp=Z,6µm,19.0s
SJG San Juan 32.43 83 S S 05 54 04.5 +1.8
comp=Z,2.0nm,0.3s,baz=287,slow=19,SNR=1.9
SJG LR LR 06 02 38.5
comp=Z,5µm,20.7s,MS5.2,baz=272,slow=38
I04A Tendick Farm, 32.45 329 ⇑P P 05 48 49.7 -0.4
baz=32,SNR=14
H05A Madras 32.54 332 ⇓P P 05 48 50.6 -0.3
baz=33
C13A Hot Springs 32.57 342 P P 05 48 50.1 -1.0
baz=33,SNR=18
D11A Klaveano Farm, 32.57 339 P P 05 48 49.9 -1.3
baz=33,SNR=19
CPNY Central Park 32.59 39 *e*P P 05 48 52.6 +1.2
SADO Sadowa 32.65 28 P P 05 48 49.9 -2.0
SADO S **S** 05 54 01.7 -3.8
SADO Sadowa 32.65 28 P P 05 48 49.9 -2.0
SADO S **S** 05 54 01.7 -3.8
CPD Cerro la Pandu 32.66 83 *e*P P 05 48 50.9 -1.4
CBYP Canovanas 32.70 83 *e*P P 05 48 49.7 -3.0
HUMP Col San Antoni 32.71 83 *e*P P 05 48 52.9 +0.2
J02A Umpqua 32.72 328 ⇓P P 05 48 52.4 -0.1
baz=33,SNR=13
G06A Carlson Farm, 32.73 333 ⇑P P 05 48 52.0 -0.6
baz=33
PAL Palisades 32.76 38 *e*P P 05 48 52.6 -0.3
comp=Z,400nm,1.1s,mb6.3
PAL Palisades 32.76 38 *e*P P 05 48 52.6 -0.3
PAL pmax pmax
comp=Z,400nm,1.1s,mb6.3
E09A Wood Farm, Sta 32.76 337 ⇑P P 05 48 51.5 -1.3
baz=33
KEBM Edson Butte 32.77 326 *e*P P 05 48 54.3 +1.3
BSMT Bassoo Peak 32.79 342 *e*P P 05 48 52.1 -0.9
K01A Sixes 32.80 326 ⇑P P 05 48 51.4 -1.8
baz=33
D10A Wagner Farm, O 32.90 338 ⇑P P 05 48 52.9 -1.1
baz=33,SNR=8.5
F07A Phinny Hill Vi 32.96 334 P P 05 48 54.2 -0.3
baz=33,SNR=12
MTP Monte Pirata 33.00 83 *e*P P 05 48 52.3 -3.0
H04A Detroit Lake 33.01 331 P P 05 48 54.8 -0.2
baz=33,SNR=31
I03A Eugene 33.01 329 ⇑P P 05 48 55.0 0.0
baz=33,SNR=18
G05A Wamic 33.04 332 ⇓P P 05 48 55.4 +0.1
baz=33,SNR=9.7
E08A Dider Farm, El 33.09 336 ⇑P P 05 48 53.9 -1.8
baz=33
ULM Lac du Bonnet 33.11 5⇓*i*P P 05 48 53.4 -2.4
comp=Z,251nm,1.3s,mb6.0
ULM LR LR

comp=Z,18μm,22.0s,MS5.7
ULM Lac du Bonnet 33.11 5 P P 05 48 52.6 -3.2
comp=Z,44nm,0.6s,mb5.5,baz=191,slow=9.5,SNR=88
ULM S S 05 54 04.6 -7.9
comp=Z,3.8nm,0.8s,baz=93,slow=21,SNR=1.4
ULM Lg 05 59 57.9
comp=Z,6.2nm,1.1s,baz=91,slow=14,SNR=4.9
ULM LR LR 06 02 56.3
comp=Z,11μm,20.7s,MS5.6,baz=182,slow=37
B13A Whitefish 33.17 343 P P 05 48 56.0 -0.3
baz=33,SNR=49
HAWA Hanford 33.20 335 *eP* **P 05 48 54.8 -1.8**
comp=Z,27nm,0.8s,mb5.2
HAWA LR LR
comp=Z,53μm,21.0s,MS6.2
F06A Goldendale 33.21 333 ⇓P **P 05 48 56.7 -0.1**
baz=33,SNR=8.7
HOOD Mount Hood Mea 33.25 332 *eP* **P 05 48 57.9 +0.8**
D09A Jones Farm, Ri 33.28 337 P **P 05 48 56.4 -0.9**
baz=33,SNR=30
I02A Mapleton 33.31 328 ⇑P **P 05 48 57.2 -0.4**
baz=33
E07A Sunnyside 33.46 335 P **P 05 48 58.5 -0.4**
baz=34,SNR=12
COR Corvallis 33.47 329 *eP* **P 05 48 59.3 +0.2**
comp=Z,112nm,1.0s,mb5.8
COR LR LR
comp=Z,21μm,22.0s,MS5.8
COR Corvallis 33.47 329 *eP* **P 05 48 59.3 +0.3**
COR pmax pmax
comp=Z,112nm,1.0s,mb5.8
COR MLR MLR
comp=Z,21μm,22.0s,MS5.8
D08A Wollman Farm, 33.51 337 P **P 05 48 58.2 -1.1**
baz=34,SNR=11
H03A Soap Creek Ran 33.53 330 ⇓P **P 05 48 59.5 0.0**
baz=34,SNR=6.6
G04A Mulino 33.54 331 P **P 05 48 59.4 -0.2**
baz=34,SNR=14
C10A Spilker Farm, 33.57 339 ⇓P **P 05 48 59.0 -0.9**
baz=34,SNR=9.0
B12A Libby 33.58 341 P **P 05 48 59.6 -0.4**
baz=34,SNR=9.1
F05A White Salmon 33.60 333 ⇓P **P 05 49 00.7 +0.5**
baz=34,SNR=50
WALA Waterton Lakes 33.63 344 *eP* **P 05 49 00.1 -0.2**
comp=Z,123nm,0.9s,mb5.8
A13A Flathead Natio 33.66 343 ⇑P **P 05 49 00.5 -0.1**
baz=34
B11A Sandpoint 33.80 341 ⇓P **P 05 49 00.9 -1.0**
baz=34
H02A Toledo 33.88 329 ⇓P **P 05 49 02.7 +0.2**
baz=34
NEW Newport 33.89 340 ⇓*iP* **P 05 49 01.4 -1.2**
comp=Z,109nm,1.2s,mb5.7
NEW LR LR
comp=Z,25μm,21.0s,MS5.9
NEW Newport 33.89 340 ⇓*iP* **P 05 49 01.4 -1.3**
NEW pmax pmax
comp=Z,109nm,1.2s
NEW MLR MLR
comp=Z,25μm,21.0s
NEW Newport 33.89 340 P **P 05 49 02.5 -0.2**
comp=Z,15nm,0.6s,mb5.1,baz=148,slow=9.2,SNR=22
NEW Lg 06 00 29.1
comp=Z,0.6nm,0.4s,baz=268,slow=16,SNR=3.1
NEW LR LR 06 04 29.4
comp=Z,45μm,18.7s,MS6.2,baz=166,slow=39
C09A Chrisman Ranch 33.89 338 P **P 05 49 02.3 -0.4**
baz=34,SNR=33
E06A Yakima 33.91 334 ⇓P **P 05 49 03.2 +0.4**
baz=34,SNR=40
B10A Chitwood Farm, 33.96 340 ⇑P **P 05 49 02.2 -1.1**
baz=34
G03A Yamhill 34.00 330 ⇓P **P 05 49 03.7 +0.1**
baz=34,SNR=9.3
A12A Yaak River Ran 34.02 342 ⇓P **P 05 49 03.5 -0.3**
baz=34,SNR=8.7
D07A Quincy 34.03 336 P **P 05 49 03.6 -0.2**
baz=34,SNR=21
F04A Amboy 34.06 332 P **P 05 49 04.1 -0.1**
baz=34,SNR=11
C08A Higginbotham F 34.16 337 P **P 05 49 04.7 -0.3**
baz=34,SNR=14
A11A Hall Mountain, 34.26 341 ⇓P **P 05 49 05.2 -0.6**
baz=34,SNR=12
E05A Randle 34.26 333 P **P 05 49 06.2 +0.3**
baz=34,SNR=37
D06A Cle Elum 34.38 335 P **P 05 49 07.5 +0.6**
baz=34,SNR=28
B09A Rice 34.38 339 ⇓P **P 05 49 06.3 -0.6**
baz=34,SNR=28
ACCN Adirondack Com 34.42 35 *eP* **P 05 49 06.2 -1.0**
LON Longmire 34.43 333 *eP* **P 05 49 07.5 +0.2**
C07A Waterville 34.47 336 P **P 05 49 07.7 0.0**
baz=34,SNR=34
NCB Newcomb 34.50 34 *eP* **P 05 49 06.8 -1.2**
NCB LR LR
comp=Z,16μm,21.0s,MS5.7
F03A Seaside 34.58 331 ⇓P **P 05 49 08.6 -0.1**
baz=35
A10A Northport 34.66 340 P **P 05 49 08.2 -1.0**
baz=35,SNR=9.4
E04A Onalaska 34.70 332 ⇓P **P 05 49 10.2 +0.5**
baz=35,SNR=15
BRYW Bryant College 34.73 39 ⇓*iP* **P 05 49 09.1 -0.9**
comp=Z,9μm,2.4s
B08A Colville Reser 34.75 337 P **P 05 49 09.7 -0.4**
baz=35,SNR=29
LONY Lake Ozonia 34.76 33 *eP* **P 05 49 08.7 -1.5**
comp=Z,165nm,1.3s,mb5.8
LONY LR LR
comp=Z,19μm,19.0s,MS5.9
D05A Enumclaw 34.85 334 P **P 05 49 11.3 +0.4**
baz=35,SNR=8.6
MSNY Massena 34.88 32 *eP* **P 05 49 09.2 -2.0**
C06A Tall Timber Ra 34.98 336 ⇓P **P 05 49 12.3 +0.2**
baz=35,SNR=6.9
A09A Danville 35.00 339 P **P 05 49 11.8 -0.4**
baz=35,SNR=12
E03A Lebam 35.05 332 ⇓P **P 05 49 13.0 +0.3**
baz=35,SNR=22
HRV Adam Dziewonsk 35.07 38 *eP* **P 05 49 13.5 +0.6**
comp=Z,470nm,2.3s,mb6.0
HRV LR LR
comp=Z,8μm,20.0s,MS5.5
HRV Adam Dziewonsk 35.07 38 *eP* **P 05 49 13.5 +0.6**
HRV pmax pmax
comp=Z,471nm,2.3s,mb6.0
HRV MLR MLR
comp=Z,8μm,20.0s,MS5.5
C05A Tolt Reservoir 35.12 335 P **P 05 49 12.8 -0.5**
baz=35,SNR=36
B07A Winthrop 35.12 337 P **P 05 49 12.8 -0.5**
baz=35,SNR=8.4
WES Weston 35.13 38 *eP* **P 05 49 12.9 -0.5**
comp=Z,134nm,0.9s,mb5.9
WES Weston 35.13 38 P **P 05 49 17.3 +3.8**
WES pmax pmax
comp=Z,130nm,0.9s,mb5.9
D04A Dobbs Creek Ra 35.14 333 ⇑P **P 05 49 13.4 -0.1**
baz=35
A08A Turner Farm, O 35.23 338 P **P 05 49 13.7 -0.5**
baz=35,SNR=16
BBSR BB Station 35.39 58 *eP* **P 05 49 14.3 -1.5**
comp=Z,340nm,1.3s,mb6.1
BBSR LR LR
comp=Z,8μm,20.0s,MS5.5
HNH Hanover 35.39 36 ⇓*iP* **P 05 49 15.4 -0.3**
comp=Z,430nm,1.3s,mb6.2
FRNY Flat Rock 35.42 33 *eP* **P 05 49 15.0 -0.9**
GNW Green Mountain 35.50 333 *eP* **P 05 49 15.7 -0.8**
D03A Wishkah Elem. 35.57 332 ⇑P **P 05 49 17.6 +0.5**
baz=36,SNR=6.0
C04A Brinnon 35.68 333 ⇑P **P 05 49 17.4 -0.6**
baz=36,SNR=23
B06A Marblemount 35.70 336 P **P 05 49 17.8 -0.5**
baz=36,SNR=8.9
A07A Ashnola River, 35.71 337 P **P 05 49 18.0 -0.3**
baz=36,SNR=16
B05A Bryant 35.74 335 P **P 05 49 17.8 -0.8**
baz=36,SNR=16
NLWA Neilton Lookou 35.82 332 *eP* **P 05 49 16.3 -3.0**
NLWA LR LR
comp=Z,34μm,20.0s,MS6.1
NLWA Neilton Lookou 35.82 332 ⇓P **P 05 49 19.7 +0.4**
baz=36,SNR=8.2
LBNH Lisbon 35.93 35 *eP* **P 05 49 20.4 +0.1**
comp=Z,1μm,2.0s,mb6.5
LBNH LR LR
comp=Z,10μm,19.0s,MS5.6
LBNH Lisbon 35.93 35 *eP* **P 05 49 20.4 +0.1**
LBNH pmax pmax
comp=Z,1μm,2.0s,mb6.5
LBNH MLR MLR
comp=Z,10μm,19.0s,MS5.6
A06A Chilliwack 36.16 336 ⇑P **P 05 49 21.6 -0.7**
baz=36
B04A Port Angeles 36.17 333 ⇑P **P 05 49 22.4 +0.1**
baz=36,SNR=9.3
A05A Maple Falls 36.32 336 ⇓P **P 05 49 22.8 -0.8**
baz=36,SNR=19
A04A Legoe Bay, Lum 36.35 335 P **P 05 49 23.8 0.0**
baz=36,SNR=16
C03A Quillayute Air 36.55 332 ⇑P **P 05 49 25.4 -0.1**
baz=37
PGC Sidney 36.60 334 *eP* **P 05 49 26.0 0.0**
comp=Z,277nm,1.1s,mb6.0
NNA Nana 37.10 140 ⇑*iP* **P 05 49 31.5 +0.9**
comp=Z,17nm,1.0s,mb4.8
NNA *e*PcP PcP 05 51 50.9 +0.2
NNA LR LR
comp=Z,14μm,21.0s,MS5.7
NNA Nana 37.10 140 S **S 05 55 20.7 +6.2**
comp=Z,2.0nm,0.3s,baz=204,slow=14,SNR=1.8
NNA LR LR 06 01 48.6
comp=Z,14μm,19.7s,MS5.8,baz=312,slow=32
MGG Marie-Galante 37.25 86 *eP* **P 05 49 30.1 -1.8**
EDM Edmonton 37.35 347 *eP* **P 05 49 30.8 -1.4**
FFC Flin Flon 37.43 358 P **P 05 49 31.8 -1.1**
comp=Z,487nm,0.6s,mb6.5,SNR=47
FFC Flin Flon 37.43 358 ⇓*iP* **P 05 49 31.2 -1.7**
comp=Z,299nm,1.3s,mb6.0
FFC LR LR
comp=Z,47μm,19.0s,MS6.3
FFC Flin Flon 37.43 358 ⇓*iP* **P 05 49 31.2 -1.7**
FFC pmax pmax
comp=Z,299nm,1.3s,mb6.0
FFC MLR MLR
comp=Z,47μm,19.0s,MS6.3
DEG La Desirade 37.45 86 *eP* **P 05 49 31.7 -1.9**
GRGR Grenville 37.59 92 *eP* **P 05 49 35.2 +0.4**
comp=Z,924nm,1.4s,mb6.3
GRGR LR LR
comp=Z,5μm,22.0s,MS5.3
SVB Belmont 37.74 90 *eP* **P 05 49 44.9 +8.8**
SVB Belmont 37.74 90 *e* **P 05 49 44.9 +8.8**
SSV Crater Summit 37.79 90 *eP* **P 05 49 36.5 0.0**
SSV Crater Summit 37.79 90 *e* **P 05 49 36.5 0.0**
PKME Peaks-Kenny Pk 38.04 36 ⇑*iP* **P 05 49 37.5 -0.7**
comp=Z,140nm,1.1s,mb5.6
PKME LR LR
comp=Z,15μm,19.0s,MS5.8
BBGH Gun Hill 39.38 90 PFAKE 05 50 00.0 +10
BBGH LR LR
comp=Z,8μm,22.0s,MS5.5
BBB Bella Bella 41.23 334 P **P 05 50 05.0 +0.4**
comp=Z,30nm,0.7s,mb5.0,baz=96,slow=7.8,SNR=16
BBB LR LR 06 08 11.1
comp=Z,10μm,21.1s,MS5.6,baz=148,slow=38
FCC Fort Churchill 41.70 5 ⇓*iP* **P 05 50 07.1 -1.3**
comp=Z,162nm,1.3s,mb5.5
FCC *e*PP PP 05 51 44.4 -0.7
FCC Fort Churchill 41.70 5 ⇓*iP* **P 05 50 07.1 -1.3**
FCC *e* 05 51 44.4
FCC pmax pmax
comp=Z,162nm,1.3s,mb5.5
ARE Arequipa 43.84 138 *eP* **P 05 50 28.0 +1.7**
RPN Rapa Nui 44.98 192 P **P 05 50 36.6 +1.3**
comp=Z,2μm,1.6s,mb6.8,SNR=7.6
RPN Rapa Nui 44.98 192 ⇑*iP* **P 05 50 35.9 +0.6**
comp=Z,1μm,1.6s,mb6.6
RPN LR LR
comp=Z,22μm,22.0s,MS6.0
RPN Rapa Nui 44.98 192 P **P 05 50 36.2 +0.9**
comp=Z,311nm,1.2s,mb6.0,baz=346,slow=8.3,SNR=13
RPN S **S 05 57 15.2 +3.8**
comp=Z,24nm,0.8s,baz=301,slow=6.8,SNR=2.3
SCHQ Schefferville 45.41 27 ⇓*iP* **P 05 50 37.2 -1.2**
comp=Z,133nm,0.9s,mb5.8
SCHQ *e*PP PP 05 52 24.7 -0.2
SCHQ LR LR
comp=Z,14μm,19.0s,MS5.9
SCHQ Schefferville 45.41 27 P **P 05 50 37.2 -1.1**
comp=Z,31nm,0.7s,mb5.2,baz=229,slow=6.5,SNR=78
SCHQ S **S 05 57 17.4 +0.4**
comp=Z,12nm,1.1s,baz=213,slow=6.8,SNR=2.1
SCHQ Lg 06 06 27.3
comp=Z,2.5nm,1.0s,baz=221,slow=15,SNR=1.8
SCHQ LR LR 06 11 58.6
comp=Z,12μm,18.4s,MS5.9,baz=230,slow=39
CRAG Craig 45.66 334 *eP* **P 05 50 41.0 +0.7**
comp=Z,682nm,1.4s,mb6.4
LPAZ La Paz 45.93 135 ⇑*iP* **P 05 50 44.0 +1.1**
comp=Z,147nm,1.4s,mb5.7
LPAZ LR LR
comp=Z,10μm,19.0s,MS5.8
LPAZ La Paz 45.93 135 ⇑*iP* **P 05 50 44.0 +1.1**
LPAZ pmax pmax
comp=Z,147nm,1.4s
LPAZ MLR MLR
comp=Z,10μm,19.0s
LPAZ La Paz 45.93 135 P **P 05 50 44.0 +1.1**
comp=Z,113nm,1.3s,mb5.6,baz=338,slow=9.4,SNR=97
LPAZ S **S 05 57 29.5 +4.1**
comp=Z,1.4nm,1.0s,baz=114,slow=15,SNR=2.1
LPAZ Lg 06 06 42.5
comp=Z,0.5nm,0.8s,baz=172,slow=8.8,SNR=2.1
LPAZ LR LR 06 08 30.6
comp=Z,10μm,18.9s,MS5.8,baz=311,slow=34
WRAK Wrangell Islan 46.01 336 PFAKE 05 50 50.0 +7.0
WRAK LR LR
comp=Z,35μm,20.0s,MS6.3
YKA Yellowknife Ar 46.32 351 P **P 05 50 43.4 -2.0**
YKA PcP PcP 05 52 18.9 -1.2
YKA PP PP 05 52 30.3 -4.0
YKA Lg 06 06 49.6
YKA LR LR 06 11 32.5
YKA Yellowknife Ar 46.32 351 P **P 05 50 43.4 -2.0**
YKA 05 52 18.9
YKA 05 52 30.3
YKA Yellowknife Ar 46.32 351 P **P 05 50 43.4 -2.0**
comp=Z,35nm,0.9s,mb5.3,baz=161,slow=7.2,SNR=296
YKA PcP PcP 05 52 18.9 -1.2
comp=Z,12nm,1.0s,baz=153,slow=4.2,SNR=3.6
YKA PP PP 05 52 30.3 -4.0
comp=Z,7.4nm,0.9s,baz=156,slow=4.2,SNR=5.1
YKA Lg 06 06 49.6
comp=Z,0.6nm,1.1s,baz=28,slow=41,SNR=2.6
YKA LR LR 06 11 32.5
comp=Z,24μm,18.3s,MS6.2,baz=140,slow=38
DLBC Dease Lake 46.64 339 ⇓*iP* **P 05 50 49.0 +1.0**
DLBC Dease Lake 46.64 339 P **P 05 50 47.1 -0.8**
DLBC S **S 05 57 38.8 +4.3**
DLBC Lg 06 07 05.1
TAOE Nuku Hiva Isla 47.24 240 *eS* **S 05 57 43.8 -0.5**
comp=Z,52μm,25.9s
TAOE *e*LQ 06 02 04.7
comp=Z,158μm,25.8s
TAOE *e*LR LR 06 04 00.8
comp=Z,509μm,25.5s
SIT Sitka 47.64 335 *eP* **P 05 50 55.2 -0.6**
comp=Z,108nm,1.1s,mb5.8
SIT *e*pP pP 05 51 06.5 +0.2
SIT LR LR
comp=Z,31μm,19.0s,MS6.3
SIT Sitka 47.64 335 *eP* **P 05 50 55.2 -0.6**
SIT *e**PP pP 05 51 06.5 +0.2
SIT pmax pmax
comp=Z,108nm,1.1s,mb5.8
SIT MLR MLR
comp=Z,31μm,19.0s,MS6.3
SKAG Skagway 49.27 337 ⇓*iP* **P 05 51 08.7 +0.3**
comp=Z,97nm,1.2s,mb5.7
SIV San Ignacio 50.78 128 P **P 05 51 19.2 -1.2**
comp=Z,43nm,0.5s,mb5.6,baz=303,slow=7.4,SNR=221
PTCN Pitcairn Islan 51.16 215 PFAKE 05 51 40.0 +17
PTCN LR LR
comp=Z,9μm,20.0s,MS5.8
POHA Pohakuloa 52.34 282 ⇑*iP* **P 05 51 32.0 0.0**
comp=Z,537nm,1.3s,mb6.3
POHA *e*pP pP 05 51 42.3 -0.4
RKT Rikitea 52.58 221 *eP* **P 05 51 33.3 -0.4**
comp=Z,119nm,1.1s,mb5.8
RKT *e*S **S 05 58 57.1 -1.4**
comp=Z,3μm,31.2s
RKT *e*SS SS 06 02 37.2 -0.2
comp=Z,1μm,29.5s
RKT *e*LQ 06 04 27.6
comp=Z,1μm,28.2s
RKT *e*LR LR 06 06 43.4
comp=Z,18μm,27.2s
RKT Rikitea 52.58 221 *eP* **P 05 51 33.3 -0.4**
comp=Z,119nm,1.0s,mb5.8
RKT *e*S **S 05 58 57.1 -1.4**
RKT *e*SS SS 06 02 37.2 -0.2
RKT *e*LQ 06 04 27.6
RKT Rikitea 52.58 221 *eP* **P 05 51 33.3 -0.4**
RKT *e*S **S 05 58 57.1 -1.4**
RKT *e*SS SS 06 02 37.2 -0.2
RKT pmax pmax
comp=Z,119nm,1.0s,mb5.8
DAWY Dawson 53.82 340 ⇓*iP* **P 05 51 42.2 -0.1**
EYAK Cordova Ski Ar 54.07 334 ⇓*iP* **P 05 51 45.0 +0.9**
comp=Z,221nm,1.1s,mb6.0
LCO Las Campanas 54.10 148 ⇑*iP* **P 05 51 45.6 +0.9**
comp=Z,408nm,1.8s,mb6.1
LCO *e*pP pP 05 51 55.8 +0.4
LCO LR LR
comp=Z,13μm,21.0s,MS6.0
HON Honolulu 54.46 284 *eP* **P 05 51 47.9 +0.3**
HON *e*pP pP 05 51 58.1 -0.1
KIP Kipapa 54.46 284 *eP* **P 05 51 47.5 -0.2**
comp=Z,614nm,1.4s,mb6.3
KIP *e*pP pP 05 51 58.3 0.0
KIP LR LR
comp=Z,2μm,19.0s,MS5.3
KIP Kipapa 54.46 284 *eP* **P 05 51 47.5 -0.1**
KIP *e**PP pP 05 51 58.3 0.0
KIP pmax pmax
comp=Z,614nm,1.4s,mb6.3
KIP MLR MLR
comp=Z,2μm,19.0s,MS5.3
MENT Mentasta 54.62 337 *eP* **P 05 51 48.0 -0.1**
EGAK Eagle 54.87 340 ⇓*iP* **P 05 51 49.6 -0.3**
comp=Z,256nm,1.0s,mb6.2
EGAK *e*pP pP 05 52 00.1 -0.5
EGAK LR LR
comp=Z,9μm,21.0s,MS5.8
TLL Tololo Astrono 54.99 149 ⇑*iP* **P 05 51 52.5 +1.3**
INK Inuvik 55.22 346 ⇓*iP* **P 05 51 51.8 -0.6**
comp=Z,87nm,3.9s
INK Inuvik 55.22 346 P **P 05 51 51.6 -0.8**
INK Inuvik 55.22 346 P **P 05 51 51.9 -0.5**
comp=Z,88nm,0.7s,mb5.9,baz=132,slow=6.9,SNR=252
INK S **S 05 59 34.0 +0.9**
comp=Z,2.9nm,1.2s,baz=9.7,slow=27,SNR=3.4
SML Sawmill 55.80 335 *eP* **P 05 51 56.6 +0.1**
SML *e*pP pP 05 52 07.6 +0.3
KDAK Kodiak Island 55.86 329 *eP* **P 05 51 57.4 +0.3**
comp=Z,167nm,1.1s,mb6.0
KDAK LR LR
comp=Z,2μm,20.0s,MS5.2
SLKM Skilak Lake 55.95 333 *eP* **P 05 51 57.7 0.0**
PMR Palmer 56.02 334 *eP* **P 05 51 58.1 -0.1**
comp=Z,40nm,0.6s,mb5.6
PMR Palmer 56.02 334 *eP* **P 05 51 58.1 -0.1**
PMR pmax pmax
comp=Z,41nm,0.6s,mb5.6
VAH Vaihoa 56.83 238 *eP* **P 05 52 04.8 +0.2**
comp=Z,233nm,1.2s,mb6.1
PMOR Pomariorio Ree 56.92 239 *eP* **P 05 52 05.6 +0.3**
comp=Z,353nm,1.5s,mb6.2
MCK McKinley 57.02 337 ⇓*iP* **P 05 52 05.2 -0.1**
comp=Z,317nm,1.2s,mb6.2
MCK LR LR
comp=Z,5μm,21.0s,MS5.6
MCK McKinley 57.02 337 ⇓*iP* **P 05 52 05.2 -0.1**
MCK pmax pmax
comp=Z,317nm,1.2s,mb6.2
MCK MLR MLR
comp=Z,5μm,21.0s,MS5.6
COLA College 57.23 338 ⇓*eP* **P 05 52 06.2 -0.5**
comp=Z,239nm,1.2s,mb6.1
COLA LR LR
comp=Z,18μm,21.0s,MS6.1
COLA College 57.23 338 ⇓*eP* **P 05 52 06.2 -0.5**
COLA pmax pmax
comp=Z,239nm,1.2s,mb6.1
COLA MLR MLR
comp=Z,18μm,21.0s,MS6.1
CFAA Coronel Fontan 57.44 148 P **P 05 52 09.5 +0.8**
comp=Z,14nm,1.3s,mb4.8,baz=318,slow=6.1,SNR=45
CFAA S **S 06 00 13.4 +10**
comp=Z,0.1nm,0.7s,baz=258,slow=9.8,SNR=2.1
CFAA LR LR 06 12 25.3
comp=Z,1μm,18.1s,MS5.1,baz=339,slow=31
RES Resolute Bay 57.53 2 ⇓*iP* **P 05 52 07.5 -1.3**
comp=Z,23nm,0.5s,mb5.5
RES Resolute Bay 57.53 2 ⇓*iP* **P 05 52 07.5 -1.2**
RES pmax pmax
comp=Z,23nm,0.5s,mb5.5
CLCH Cerro Calan 57.77 151 *i* P **P 05 52 11.4 +0.5**
FCH Farellones 57.83 150 *i* P **P 05 52 10.7 -0.7**
LMEL Las Melosas 58.30 151 ⇑*iP* **P 05 52 15.7 +1.0**
CHGN Chignik 58.32 326 *eP* **P 05 52 14.7 +0.2**
SVW2 Sparrevohn 58.58 332 *eP* **P 05 52 15.3 -1.0**
TTA Tatalina 59.49 334 *eP* **P 05 52 21.3 -1.3**
TVO Taravao 59.51 237 *eP* **P 05 52 23.5 +0.1**
comp=Z,224nm,1.1s,mb6.1
TVO Taravao 59.51 237 *eP* **P 05 52 23.5 +0.1**
TVO pmax pmax
comp=Z,224nm,1.1s,mb6.1
PPT Papeete 59.66 237 *eP* **P 05 52 24.6 +0.2**
comp=Z,153nm,1.8s,mb5.7
PPT *e*S **S 06 00 30.6 -2.1**
comp=Z,5μm,26.5s
PPT *e*SS SS 06 04 29.4 +0.3
comp=Z,2μm,26.5s
PPT *e*LQ 06 07 31.0
comp=Z,7μm,26.5s
PPT *e*LR LR 06 09 50.5
comp=Z,19μm,25.8s
PPT Papeete 59.66 237 P **P 05 52 25.8 +1.4**
comp=Z,43nm,0.9s,mb5.5,baz=40,slow=6.0,SNR=4.6
PPT LR LR 06 10 49.3
comp=Z,6μm,20.4s,MS5.7,baz=59,slow=29
PAE Paea 59.71 237 *eP* **P 05 52 24.7 0.0**
comp=Z,232nm,1.4s,mb6.0
PAE Paea 59.71 237 *eP* **P 05 52 24.7 0.0**
PAE pmax pmax
comp=Z,232nm,1.4s,mb6.0
CCHI Chillan 59.78 154 *i* P **P 05 52 25.1 +0.2**
IMA2 Indian Mountai 59.94 338 *eP* **P 05 52 24.5 -1.1**
FALS False Pass 60.70 324 *eP* **P 05 52 30.4 -0.6**
comp=Z,600nm,1.1s,mb6.6
BDFB Brasilia 60.95 119 P **P 05 52 33.0 -0.3**
comp=Z,12nm,0.7s,mb5.1,baz=288,slow=16,SNR=32
BDFB LR LR 06 19 08.4
comp=Z,4μm,18.8s,MS5.5,baz=130,slow=36
AKUT Akutan 61.91 323 *eP* **P 05 52 38.0 -1.2**
comp=Z,169nm,1.1s,mb6.1
UNV Unalaska Valle 62.30 322 *eP* **P 05 52 40.5 -1.3**
comp=Z,535nm,1.2s,mb6.5
UNV LR LR
comp=Z,8μm,19.0s,MS5.9
TBI Tubuai 62.80 232 *eS* **S 06 01 10.4 -2.2**
comp=Z,3μm,33.0s
TBI *e*SS SS 06 05 18.1 -0.2
comp=Z,2μm,31.0s
TBI *e*LR LR 06 11 24.8
comp=Z,16μm,26.2s
PLCA Paso Flores 63.92 155 ⇑*iP* **P 05 52 53.0 +0.3**
comp=Z,168nm,1.4s,mb5.9
PLCA *e*pP pP 05 53 03.4 -0.1
PLCA LR LR
comp=Z,6μm,20.0s,MS5.8
PLCA Paso Flores 63.92 155 ⇑*iP* **P 05 52 53.0 +0.4**
PLCA *e**PP pP 05 53 03.4 -0.1
PLCA pmax pmax
comp=Z,168nm,1.4s
PLCA MLR MLR
comp=Z,6μm,20.0s
PLCA Paso Flores 63.92 155 P **P 05 52 52.5 -0.1**
comp=Z,60nm,1.2s,mb5.5,baz=332,slow=8.7,SNR=23
PLCA LR LR 06 14 47.4
comp=Z,6μm,19.6s,MS5.8,baz=345,slow=30
TNA Tin City 65.25 335 ⇓*iP* **P 05 53 00.8 -0.3**
comp=Z,149nm,1.2s,mb5.9
TNA LR LR

comp=Z,7µm,19.0s,MS5.9
LPA La Plata 65.58 143 *ce*P P **05 53 02.0 -1.6**
LPA *ep*P pP 05 53 14.0 -0.5
LPA *e*S S 06 01 47.0 +0.3
LPA *ep*S 06 02 02.0
LPA SKIKP 06 03 07.0
LPA *ep*SKS 06 03 12.0
LPA
comp=Z,6µm,18.0s
TRQA Tornquist 65.68 148⇑*i*P P **05 53 03.4 -0.8**
comp=Z,126nm,1.4s,mb5.8
TRQA LR LR
comp=Z,13µm,21.0s,MS6.1
GAMB Gambell 66.51 333 *e*P P **05 53 08.8 -0.3**
comp=Z,62nm,1.3s,mb5.5
ALE Alert 66.97 5 P P **05 53 10.0 -1.9**
comp=Z,864nm,1.1s,mb6.7,SNR=43
RCBR Riachuelo 67.51 104⇑*i*P P **05 53 18.0 +1.6**
comp=Z,155nm,1.2s,mb5.9
RCBR LR LR
comp=Z,4µm,21.0s,MS5.6
PDA Ponta Delgada 67.57 56 *e*LR LR 06 14 00.0
ADK Adak 68.31 320⇑*i*P P **05 53 19.9 -0.9**
comp=Z,330nm,1.3s,mb6.2
ADK LR LR
comp=Z,3µm,19.0s,MS5.5
ADK Adak 68.31 320⇑*i*P P **05 53 19.9 -0.9**
ADK pmax pmax
comp=Z,330nm,1.3s,mb6.2
ADK MLR MLR
comp=Z,3µm,19.0s,MS5.5
CAM4 Nova Friburgo 68.77 123⇑*i*P P **05 53 23.5 -0.6**
CAM4 *i* pP 05 53 34.1 -1.0
CAM4 *i* 05 53 46.9
CAM4 *i* 05 53 52.7
CAM4 *i* 05 54 01.7
CAM3 Guarapari 69.64 120⇑*i*P P **05 53 24.4 -5.1**
CAM3 *i* 05 53 30.5
CAM3 *i* pP 05 53 36.8 -3.6
CAM3 *i* 05 53 43.8
RAR Rarotonga 69.78 239 P P **05 53 31.5 +1.1**
comp=Z,32nm,0.8s,mb5.3,baz=225,slow=2.6,SNR=5.5
RAR LR LR 06 15 58.2
comp=Z,5µm,18.9s,MS5.8,baz=25,slow=29
BORG Borgarnes 69.81 27 *e*P P **05 53 25.9 -4.0**
comp=Z,411nm,1.4s,mb6.2
BORG LR LR
comp=Z,6µm,19.0s,MS5.8
BORG Borgarnes 69.81 27 P P **05 53 28.9 -0.9**
comp=Z,49nm,1.1s,mb5.4,baz=271,slow=7.4,SNR=6.4
AMKA Amchitka 70.83 319 *e*P P **05 53 34.6 -1.7**
MIDW Midway 70.98 294 *e*P P **05 53 37.3 -0.4**
comp=Z,398nm,1.4s,mb6.2
MIDW LR LR
comp=Z,2µm,19.0s,MS5.4
DAG Danmarks Havn 71.40 14⇑*i*P P **05 53 38.8 -0.6**
DAG pmax pmax
comp=Z,290nm,1.5s,mb6.0
DAG Danmarks Havn 71.40 14⇑*i*P P **05 53 38.8 -0.6**
comp=Z,291nm,1.5s,mb6.0
SMY Shemya 73.89 321 PFAKE 05 54 10.0 +15
SMY LR LR
comp=Z,2µm,22.0s,MS5.3
JMIC Jan Mayen 74.39 20 *e*P P **05 54 00.8 +3.7**
JMIC AMS AMS 06 27 36.8
comp=Z,3µm,22.6s,MS5.6
PMAR Madeira 75.37 60 *e*P P **05 54 05.6 +2.0**
comp=Z,189nm,1.7s,mb5.8
PMAR *ep*P pP 05 54 14.8 +0.2
BILL Bilibino 75.47 337⇓*e*P P **05 54 03.2 -0.3**
comp=Z,175nm,1.4s,mb5.8
BILL LR LR
comp=Z,11µm,21.0s,MS6.1
BILL Bilibino 75.47 337 *d*i*P* P **05 54 02.6 -0.8**
BILL *i* pP 05 54 13.8 -0.7
BILL *i* 05 56 49.7
BILL *i*S S 06 03 40.8 -0.2
BILL *i*SS SS 06 08 37.5 +6.1
BILL pmax pmax
comp=Z,118nm,1.6s,mb5.6
BILL MLR MLR
comp=Z,8µm,18.0s,MS6.1
PMPS Porto Santo 75.78 59 *ep*P pP 05 54 17.0 0.0
EGOM La Gomera 76.04 65 P P **05 54 13.4 +5.9**
comp=Z,78nm,1.0s,mb5.6
CCAN Las Canadas 76.55 64 P P **05 54 16.0 +5.6**
VAL Valentia 76.60 40 *e*P P **05 54 17.2 +7.0**
EBAJ Bajamar 76.71 64 P pP 05 54 21.0 -1.3
AFI Afiamalu 77.12 251 *e*P P **05 54 14.2 +0.5**
comp=Z,34nm,0.8s,mb5.3
AFI LR LR
comp=Z,3µm,20.0s,MS5.6
AFI Afiamalu 77.12 251 *e*P P **05 54 14.2 +0.5**
AFI pmax pmax
comp=Z,34nm,0.8s,mb5.3
AFI MLR MLR
comp=Z,3µm,20.0s,MS5.6
KBS Kingsbay 77.33 11 *e*P P **05 54 14.9 +1.0**
comp=Z,163nm,1.1s,mb5.9
KBS LR LR
comp=Z,5µm,19.0s,MS5.9
KBS Kingsbay 77.33 11 *e*P P **05 54 12.3 -1.5**
KBS *e*S S 06 04 02.7 +1.6
KBS AMS AMS 06 31 57.8
comp=Z,3µm,20.2s,MS5.7
KBS Kingsbay 77.33 11 *d*i*P* P **05 54 14.6 +0.8**
RTO Tolsta 77.57 33 *e*P P **05 54 15.3 -0.1**
EFI East Falkland 77.83 155 PFAKE 05 54 30.0 +13
EFI LR LR
comp=Z,7µm,20.0s,MS6.0
EFI East Falkland 77.83 155⇓*i*P P **05 54 16.2 -0.7**
RRR Rubha Reidh 77.89 33 *e*P P **05 54 17.1 -0.1**
DCN Croghan 78.08 38 *e*P P **05 54 18.3 -0.1**
DCN Croghan 78.08 38 *e*P pP 05 54 29.8 +0.3
KPL Plockton 78.09 34 P P **05 54 17.5 -0.9**
KPL AMb AMB 05 54 31.0
comp=Z,238nm,1.5s,mb5.9
KPL Plockton 78.09 34 *e*P P **05 54 17.5 -0.9**
KPL AMb AMB 05 54 31.0
comp=Z,238nm,1.5s,mb5.9
KPL AMS AMS 06 29 04.9
comp=Z,4µm,21.0s,MS5.8
KAR1 Arisaig 78.09 34 *e*P P **05 54 17.6 -0.8**
REB Eisgbrachaidh 78.10 33 *e*P P **05 54 18.4 0.0**
RSC Scourie 78.11 32 *e*P P **05 54 18.6 +0.1**
DMUB Kingscourt 78.17 37 *e*P P **05 54 18.9 0.0**
DMUB Kingscourt 78.17 37 *e*P pP 05 54 30.5 +0.5
KAC Achnashellach 78.24 33 *e*P P **05 54 18.5 -0.7**
KSB Sheil Bridge 78.24 34⇓*e*P P **05 54 18.8 -0.4**
GCL Cushendall 78.35 36 *e*P P **05 54 19.5 -0.4**
SPB4 Spitsbergen Ar 78.45 11 *e*P P **05 54 20.6 +0.6**
GMK Mull of Kintyr 78.58 36 *e*P P **05 54 20.6 -0.6**
DSB Dublin 78.63 38 *e*P P **05 54 21.4 -0.1**
comp=Z,62nm,1.0s,mb5.5
GMM Mts of Mourne 78.64 37 *e*P P **05 54 21.1 -0.4**
MDO Dochfour 78.74 33 *e*P P **05 54 21.6 -0.4**
ORE Reay 78.78 32 *e*P P **05 54 22.4 +0.2**
EFAM Famara 78.98 63 P P **05 54 29.8 +5.9**
EAB Aberfoyle 79.07 35⇓*e*P P **05 54 23.1 -0.7**
PGBU Glenifferbraes 79.08 35 *e*P P **05 54 23.7 -0.2**
PGBU AMb AMB 05 54 37.5
comp=Z,269nm,1.5s,mb6.0
GAL1 Galloway 79.19 36 P P **05 54 24.1 -0.5**
GAL1 AMb AMB 05 54 37.9
comp=Z,156nm,1.6s,mb5.7
GAL1 Galloway 79.19 36 *e*P P **05 54 24.1 -0.5**
GAL1 *e*P 05 54 24.1
GAL1 AMb AMB 05 54 37.9
comp=Z,156nm,1.6s,mb5.7
GAL1 AMS AMS 06 30 45.7
comp=Z,5µm,19.4s,MS5.8
MCD Coleburn Disti 79.28 33 *e*P P **05 54 25.0 +0.1**
EMAZ Mazaricos 79.34 48 P P **05 54 24.5 -1.1**
comp=Z,25nm,1.1s,mb5.0
GIM North Isle of 79.47 36 *e*P P **05 54 26.2 +0.1**
EBH Black Hill 79.50 34 *e*P P **05 54 25.8 -0.4**
MME1 Meikle Cairn 79.51 33 *e*P P **05 54 25.2 -1.0**
GCD Castle Douglas 79.62 36 *e*P P **05 54 25.9 -1.0**
EAU Auchinoon 79.64 35⇓*e*P P **05 54 26.6 -0.3**
STS Santiago 79.66 48 P P **05 54 27.6 +0.2**
comp=Z,35nm,1.1s,mb5.2
STS Santiago 79.66 48 P P **05 54 27.6 +0.3**
STS pmax pmax
comp=Z,35nm,1.1s,mb5.2

EDI Edinburgh 79.76 35 P P **05 54 27.4 -0.2**
EDI AMb AMB 05 54 41.9
comp=Z,233nm,1.3s,mb6.0
EDI Edinburgh 79.76 35 *e*P P **05 54 27.4 -0.2**
EDI AMb AMB 05 54 41.9
comp=Z,233nm,1.3s,mb6.0
EDI AMS AMS 06 30 18.1
comp=Z,5µm,21.5s,MS5.8
CPZ Penzance 79.86 41 *e*P P **05 54 27.2 -1.1**
EBL Broad Law 79.88 35 *e*P P **05 54 27.7 -0.5**
ESK Eskdalemuir 79.91 35 P P **05 54 28.0 -0.4**
comp=Z,230nm,1.0s,mb6.1,SNR=8.9
ESK Eskdalemuir 79.91 35 P P **05 54 27.7 -0.8**
ESK AMb AMB 05 54 41.7
comp=Z,160nm,1.7s,mb5.7
ESK Eskdalemuir 79.91 35 *e*P P **05 54 27.7 -0.8**
ESK AMb AMB 05 54 41.7
comp=Z,160nm,1.7s,mb5.7
ESK AMS AMS 06 32 46.4
comp=Z,4µm,18.0s,MS5.8
ESK Eskdalemuir 79.91 35 *e*P P **05 54 28.0 -0.5**
comp=Z,186nm,1.2s,mb5.9
ESK LR LR
comp=Z,4µm,19.0s,MS5.8
ESK Eskdalemuir 79.91 35 *e*P P **05 54 28.0 -0.4**
ESK pmax pmax
comp=Z,186nm,1.2s,mb5.9
ESK MLR MLR
comp=Z,4µm,19.0s,MS5.8
ECK Cauldkaine Hil 79.99 35⇓*e*P P **05 54 28.6 -0.3**
PMAFR Mafra 80.07 52 *e*P P **05 54 28.9 -0.7**
comp=Z,195nm,1.7s,mb5.8
PMAFR *ep*P pP 05 54 39.8 -0.9
PMAFR *e*S S 06 04 32.9 +1.2
PMAFR *e*SS SS 06 09 43.1 +1.1
PMAFR Mafra 80.07 52 *e*LR LR 06 20 00.8
comp=Z,2µm,29.7s
ESY Stoneypath 80.07 35⇓*e*P P **05 54 29.1 -0.2**
CMA1 Manaccan 80.16 41 *e*P P **05 54 28.8 -1.1**
CKE Keswick 80.16 36 *e*P P **05 54 29.8 0.0**
LIS Lisbon 80.23 53 *e*P P **05 54 30.3 -0.2**
LIS *e*S S 06 04 31.4 -2.0
LIS *e*S S 06 04 31.5 -1.9
LIS AMS AMS 06 28 58.5
comp=Z,3µm,19.0s,MS5.6
LIS Lisbon 80.23 53 *e*S S 06 04 31.4 -2.0
LIS A 06 28 58.5
comp=Z,3µm,19.0s
CSA1 St Austell 80.24 40 *e*P P **05 54 30.2 -0.1**
ELOB Lobios 80.26 49 P P **05 54 31.0 +0.4**
comp=Z,16nm,0.9s,mb5.0
PCAB Cabril 80.32 49 *e*P P **05 54 30.7 -0.2**
comp=Z,162nm,1.4s,mb5.8
PCAB *ep*P pP 05 54 41.8 -0.2
XSO Sourhope Farm 80.39 35⇓*e*P P **05 54 30.6 -0.4**
EPON Pontenova 80.55 48 P P **05 54 32.4 +0.3**
comp=Z,71nm,1.3s,mb5.4
XAL Allendale 80.58 35⇓*e*P P **05 54 32.1 0.0**
PVRL Vila Real 80.66 50 *e*P P **05 54 33.0 +0.2**
comp=Z,168nm,1.8s,mb5.7
PVRL *ep*P pP 05 54 43.0 -0.9
PVIS Viseu 80.67 50 *e*P P **05 54 32.7 -0.1**
comp=Z,161nm,1.4s,mb5.8
PVIS *ep*P pP 05 54 43.1 -0.8
DYA Yadsworthy 80.81 40 *e*P P **05 54 32.8 -0.5**
DYA AMb AMB 05 54 46.0
comp=Z,200nm,1.5s,mb5.8
PTEO Sao Teotonio 80.84 54 *e*P P **05 54 34.5 +0.7**
comp=Z,283nm,1.8s,mb5.9
PTEO *ep*P pP 05 54 44.6 -0.3
PFVI Vila Bisbo 80.87 54 *e*P P **05 54 34.3 +0.3**
comp=Z,347nm,1.5s,mb6.1
PFVI *ep*P pP 05 54 44.4 -0.7
PFVI *e*S S 06 04 40.4 +0.3
PFVI *e*SS SS 06 09 59.4 +5.4
PFVI Vila Bisbo 80.87 54 *e*LR LR 06 20 36.4
comp=Z,3µm,18.7s
BJO1 Bjornoya 80.89 14 *e*P pP 05 54 48.4 +3.9
BJO1 *e* 06 04 44.0
BJO1 LR LR
comp=Z,8µm,21.3s,MS6.0
BJO Bjornoya 80.93 14 *e*P pP 05 54 48.4 +3.7
BJO *e* 06 04 44.0
BJO AMS AMS 06 32 01.1
comp=Z,8µm,21.3s,MS6.0
MCH1 Michaelchurch 80.94 38 *e*P P **05 54 33.0 -1.1**
MCH1 AMb AMB 05 54 46.5
comp=Z,110nm,1.4s,mb5.6
MORF Marmelete 80.96 54 *e*P P **05 54 34.8 +0.4**
comp=Z,144nm,2.3s,mb5.5
MORF *ep*P pP 05 54 45.3 -0.3
MORF *e*S S 06 04 42.1 +1.0
MORF *e*SS SS 06 09 54.9 -0.5
MORF Marmelete 80.96 54 *e*LR LR 06 20 50.8
comp=Z,3µm,20.9s
MTE Manteigas 81.01 51 *e*P P **05 54 34.3 -0.3**
comp=Z,211nm,1.1s,mb6.0
MTE *ep*P pP 05 54 44.5 -1.2
MTE Manteigas 81.01 51 *e*PP PP 05 57 43.6 +4.2
MTE *e*S S 06 04 41.8 +0.3
MTE *e*SS SS 06 09 58.0 +2.1
MTE *e*LQ 06 16 14.3
MTE *e*LR LR 06 20 26.4
comp=Z,3µm,23.3s
MTE Manteigas 81.01 51⇓*i*P P **05 54 34.2 -0.5**
comp=Z,200nm,1.4s,mb5.8
EVO Evora 81.13 52 *e*P P **05 54 34.4 -1.0**
comp=Z,189nm,1.4s,mb5.5
EVO *e*MLR MLR
comp=Z,5µm,22.2s,MS5.5
EVO Evora 81.13 52 *e*P P **05 54 34.9 -0.5**
EVO *ep*P pP 05 54 45.6 -0.9
LHO Holmfirth 81.17 37 *e*P P **05 54 34.7 -0.5**
HPK Haverah Park 81.18 36 P P **05 54 35.4 +0.2**
HPK AMb AMB 05 54 50.1
comp=Z,290nm,1.5s,mb6.0
HPK Haverah Park 81.18 36 *e*P P **05 54 35.4 +0.2**
HPK AMb AMB 05 54 50.1
comp=Z,290nm,1.5s,mb6.0
HPK AMS AMS 06 32 05.7
comp=Z,4µm,19.3s,MS5.8
MVO Moncorvo 81.19 50 *e*P P **05 54 35.6 0.0**
comp=Z,208nm,1.7s,mb5.8
MVO *ep*P pP 05 54 45.6 -1.1
MVO Moncorvo 81.19 50 *e*PP PP 05 57 45.4 +4.5
MVO *e*S S 06 04 43.8 +0.5
MVO *e*SS SS 06 10 06.4 +7.9
MVO *e*LR LR 06 20 05.5
comp=Z,2µm,16.5s
ECAL Calabor 81.20 49 P P **05 54 36.2 +0.6**
comp=Z,112nm,1.5s,mb5.6
PCBR Castelo Branco 81.20 51 *e*P P **05 54 35.5 -0.2**
comp=Z,268nm,1.5s,mb6.0
PCBR *ep*P pP 05 54 46.4 -0.4
PBRG Braganca 81.23 49 *e*P P **05 54 35.8 0.0**
comp=Z,164nm,1.4s,mb5.8
PBRG *ep*P pP 05 54 46.6 -0.3
KWE Weaver Farm 81.33 37⇓*e*P P **05 54 36.2 +0.2**
PESTR Estremoz 81.37 52 *e*P P **05 54 35.9 -0.7**
comp=Z,173nm,1.5s,mb5.8
PESTR *ep*P pP 05 54 46.9 -0.8
PESTR *e*S S 06 04 45.3 0.0
PESTR *e*SS SS 06 10 02.4 +1.0
PESTR Estremoz 81.37 52 *e*LR LR 06 20 32.1
comp=Z,2µm,23.3s
PBEJ Beja 81.38 53 *e*P P **05 54 37.2 +0.5**
comp=Z,217nm,1.9s,mb5.8
PBEJ *ep*P pP 05 54 47.0 -0.8
PBEJ Beja 81.38 53 *e*PP PP 05 57 43.2 +0.6
KBI1 Birley Grange 81.44 37 *e*P P **05 54 36.6 0.0**
PBDV Barranco-do-Ve 81.53 54 *e*P P **05 54 38.0 +0.5**
comp=Z,279nm,1.6s,mb5.9
PBDV *ep*P pP 05 54 48.2 -0.4
PBDV Barranco-do-Ve 81.53 54 *e*S S 06 04 49.4 +2.4
PBDV *e*SS SS 06 10 05.5 +1.6
PBDV Barranco-do-Ve 81.53 54 *e*LR LR 06 21 04.1
comp=Z,3µm,24.2s
PVAQ Vaqueiros 81.65 54 *e*P P **05 54 38.3 +0.2**
comp=Z,300nm,1.4s,mb6.0
PVAQ *ep*P pP 05 54 48.7 -0.6
PVAQ Vaqueiros 81.65 54 *e*PP PP 05 57 49.5 +4.6
PVAQ *e*S S 06 04 49.5 +1.2
PVAQ *e*SS SS 06 10 06.8 +1.1
PVAQ *e*LQ 06 17 05.7

PVAQ *e*LR LR 06 21 11.0
comp=Z,3µm,20.0s
CWF Charnwood Fore 81.72 37 *e*P P **05 54 38.3 +0.1**
CWF AMb AMB 05 54 49.7
comp=Z,84nm,1.3s,mb5.5
EGRO El Granado 81.80 53 P P **05 54 39.7 +0.8**
comp=Z,14nm,1.0s,mb4.8
ROSF Rostrenen 81.81 42 *e*P P **05 54 37.8 -0.9**
comp=Z,198nm,1.2s,mb5.6
ROSF Rostrenen 81.81 42 *e*P P **05 54 37.8 -0.9**
comp=Z,99nm,1.2s,mb5.6
ROSF Rostrenen 81.81 42 *e*P P **05 54 37.8 -0.9**
ROSF pmax pmax
comp=Z,99nm,1.2s,mb5.6
EBAD Badajoz 81.83 52 P P **05 54 39.3 +0.3**
comp=Z,39nm,1.3s,mb5.2
EARI Arriondas 81.92 47 P P **05 54 39.3 -0.1**
comp=Z,31nm,1.2s,mb5.1
PBAR Barrancos 81.97 53 *e*P P **05 54 39.8 0.0**
comp=Z,247nm,1.7s,mb5.9
PBAR *ep*P pP 05 54 49.8 -1.1
PBAR Barrancos 81.97 53 *e*S S 06 04 52.5 +1.0
PBAR *e*SS SS 06 10 12.2 +1.9
PBAR Barrancos 81.97 53 *e*LR LR 06 20 17.7
comp=Z,3µm,17.4s
QUIF Quistinic 82.00 42 *e*P P **05 54 38.9 -0.8**
comp=Z,103nm,1.0s,mb5.4
QUIF Quistinic 82.00 42 *e*P P **05 54 38.9 -0.8**
comp=Z,52nm,1.0s,mb5.4
QUIF Quistinic 82.00 42 *e*P P **05 54 38.9 -0.8**
QUIF pmax pmax
comp=Z,51nm,1.0s,mb5.4
WOL Wolverton 82.20 39 *e*P P **05 54 41.4 +0.7**
SGMF Saint Gilles 82.29 42 *e*P P **05 54 40.3 -0.9**
comp=Z,340nm,1.5s,mb5.8
SGMF Saint Gilles 82.29 42 *e*P P **05 54 40.3 -0.9**
comp=Z,170nm,1.5s,mb5.8
SGMF Saint Gilles 82.29 42 *e*P P **05 54 40.3 -0.9**
SGMF pmax pmax
comp=Z,170nm,1.5s,mb5.8
EMIN Mina Concepcio 82.36 53 P P **05 54 42.0 +0.2**
comp=Z,19nm,1.0s,mb5.0
SEY Seymchan 82.47 334⇓*i*P P **05 54 41.2 -0.6**
BER Bergen 82.61 29 *e*P P **05 54 40.6 -2.1**
BER *i* 06 05 05.2
BER AMS AMS 06 30 34.0
comp=Z,3µm,23.0s,MS5.7
MOL Molde 82.75 26 *e*P P **05 54 40.8 -2.5**
MOL LR LR
comp=Z,2µm,25.5s,MS5.4
MOL Molde 82.75 26 *e*P P **05 54 43.9 +0.5**
MOL AMS AMS 06 28 59.6
comp=Z,2µm,25.5s,MS5.4
PET Petropavlovsk 82.92 323 *e*P P **05 54 45.2 +0.7**
comp=Z,224nm,1.5s,mb6.0
PET *ep*P pP 05 54 54.6 -1.0
PET LR LR
comp=Z,3µm,21.0s,MS5.6
PET Petropavlovsk 82.92 323⇑*i*P P **05 54 44.7 +0.3**
PET *e* 05 58 00.1
PET *i*S S 06 05 00.1 -0.6
PET *e*PS 06 05 52.8
PET *e*SS SS 06 10 26.8 +3.2
PET pmax pmax
comp=Z,2µm,6.7s
PET pmax pmax
comp=Z,155nm,1.5s,mb5.8
PET pmax pmax
comp=Z,1µm,10.9s
PET smax
comp=N,3µm,14.4s
PET smax
comp=N,2µm,12.9s
PET MLR MLR
comp=Z,3µm,20.0s,MS5.7
ELAN Lanestosa 83.18 47 P P **05 54 46.0 0.0**
comp=Z,19nm,1.0s,mb5.1
ECAB El Cabril 83.22 52 P P **05 54 47.1 +0.8**
comp=Z,30nm,1.0s,mb5.3
ESPR Espera 83.23 54 P P **05 54 47.2 +0.9**
comp=Z,26nm,1.0s,mb5.2
GRR Gorron 83.33 41 *e*P P **05 54 46.0 -0.6**
comp=Z,373nm,1.2s,mb6.0
GRR Gorron 83.33 41 *e*P P **05 54 46.0 -0.6**
comp=Z,187nm,1.2s,mb6.0
GRR Gorron 83.33 41 *e*P P **05 54 46.0 -0.6**
GRR pmax pmax
comp=Z,187nm,1.2s,mb6.0
GUD Guadarrama 83.42 50 P P **05 54 47.3 0.0**
FLN La Foliniere 83.45 41 *e*P P **05 54 47.3 +0.1**
comp=Z,287nm,1.0s,mb6.0
FLN *e*MLR MLR
comp=Z,6µm,19.8s,MS5.7
FLN La Foliniere 83.45 41 *e*P P **05 54 47.3 +0.1**
comp=Z,143nm,1.0s,mb6.0
FLN LR LR
comp=Z,6µm,19.8s,MS6.0
FLN La Foliniere 83.45 41 *e*P P **05 54 47.3 +0.1**
FLN pmax pmax
comp=Z,143nm,1.0s,mb6.0
FLN MLR MLR
comp=Z,6µm,19.8s,MS6.0
TRO Tromso 83.51 18 *e*P P **05 54 43.9 -3.3**
TRO *e* 05 58 00.1
TRO *i* 06 05 08.0
TRO AMS AMS 06 35 03.0
comp=Z,2µm,20.6s,MS5.4
PAB San Pablo 83.60 51⇓*i*P P **05 54 48.2 0.0**
comp=Z,242nm,1.4s,mb6.1
PAB LR LR
comp=Z,3µm,19.0s,MS5.6
PAB San Pablo 83.60 51⇓*i*P P **05 54 48.2 0.0**
PAB pmax pmax
comp=Z,242nm,1.4s,mb6.1
PAB MLR MLR
comp=Z,3µm,19.0s,MS5.6
DOMB Dombas 83.61 27 *e*P P **05 54 48.6 +0.8**
DOMB *ep*P pP 05 54 59.8 +0.9
FUNA Funafuti 83.63 259 PFAKE 05 55 00.0 +11
FUNA LR LR
comp=Z,4µm,19.0s,MS5.8
NSS Namsos 83.70 24 *e*P P **05 54 49.4 +1.2**
NSS *e*SKS 06 05 06.4
NSS *i* 06 05 14.6
NSS AMS AMS 06 33 35.7
comp=Z,4µm,20.2s,MS5.8
LDF La Druitiere 83.73 41 *e*P P **05 54 48.5 -0.2**
comp=Z,437nm,1.4s,mb6.1
LDF La Druitiere 83.73 41 *e*P P **05 54 48.5 -0.2**
comp=Z,218nm,1.4s,mb6.1
LDF La Druitiere 83.73 41 *e*P P **05 54 48.5 -0.2**
LDF pmax pmax
comp=Z,218nm,1.4s,mb6.1
EADA Adamuz 83.83 52 P P **05 54 49.3 -0.2**
comp=Z,39nm,1.3s,mb5.4
MOR8 Moi Rana 83.84 22 *e*P P **05 54 52.4 +3.5**
ESDC Sonseca Array 83.85 51 P P **05 54 49.7 +0.2**
comp=Z,1.7nm,0.4s,mb4.5,baz=307,slow=4.4,SNR=17
ESDC LR LR 06 35 12.5
comp=Z,3µm,18.6s,MS5.8,baz=285,slow=38
ESLA Sonseca Array 83.85 51 *e*P P **05 54 49.5 0.0**
comp=Z,65nm,1.4s,mb5.6
ESLA LR LR
comp=Z,21µm,19.0s,MS6.5
ECRI Cripan 84.02 47 P P **05 54 50.5 +0.2**
comp=Z,9.1nm,0.7s,mb5.0
ECRI Cripan 84.02 47 P P **05 54 50.5 +0.2**
ECRI pmax pmax
comp=Z,9.0nm,0.7s,mb5.0
EMIJ Mijas 84.15 54 P P **05 54 52.0 +0.9**
comp=Z,32nm,1.1s,mb5.4
ELUQ Luque 84.25 53 P P **05 54 53.0 +1.4**
comp=Z,2.8nm,0.3s,mb4.9
ELUQ Luque 84.25 53 P P **05 54 53.0 +1.4**
ELUQ pmax pmax
comp=Z,3.0nm,0.3s,mb4.9
MFF Saint Martin d 84.36 43 *e*P P **05 54 51.4 -0.5**
comp=Z,637nm,1.7s,mb6.2
MFF Saint Martin d 84.36 43 *e*P P **05 54 51.4 -0.5**
comp=Z,318nm,1.7s,mb6.2
MFF Saint Martin d 84.36 43 *e*P P **05 54 51.4 -0.5**
MFF pmax pmax
comp=Z,318nm,1.7s,mb6.2
EBAN Banos Encina 84.43 52 P P **05 54 53.1 +0.6**
comp=Z,15nm,0.8s,mb5.2
EBAN Banos Encina 84.43 52 P P **05 54 53.1 +0.6**

EBAN pmax pmax
comp=Z,15nm,0.8s,mb5.2
ELOJ Sierra Loja 84.45 53 P P 05 54 54.2 +1.5
comp=Z,68nm,1.2s,mb5.7
ELOJ Sierra Loja 84.45 53 P P 05 54 54.2 +1.6
ELOJ pmax pmax
comp=Z,68nm,1.2s,mb5.7
MENF Mencas 84.47 39 *e*P **P 05 54 53.0 +0.6**
MATF Mathat 84.52 44 *e*P **P 05 54 53.9 +1.2**
EALK Alkurruntz 84.53 47 P **P 05 54 52.5 -0.3**
comp=Z,12nm,1.0s,mb5.0
MA2 Magadan 84.55 331 *e*P **P 05 54 52.5 -0.1**
comp=Z,86nm,1.5s,mb5.7
MA2 *e*pP pP 05 55 02.8 -1.0
MA2 LR LR
comp=Z,4µm,19.0s,MS5.8
MA2 Magadan 84.55 331 *d i*P **P 05 54 52.0 -0.6**
MA2 pmax pmax
comp=Z,61nm,1.7s,mb5.5
SJPF Ste Jean 84.76 47 *e*P **P 05 54 53.7 -0.3**
comp=Z,494nm,1.7s,mb6.1
SJPF Ste Jean 84.76 47 *e*P **P 05 54 53.7 -0.3**
comp=Z,247nm,1.7s,mb6.1
SJPF Ste Jean 84.76 47 *e*P **P 05 54 53.7 -0.3**
SJPF pmax pmax
comp=Z,247nm,1.7s,mb6.1
ERON Agron 84.76 53 P **P 05 54 55.2 +1.0**
comp=Z,40nm,1.1s,mb5.5
ECOG Cogollos-Vega 84.86 53 P **P 05 54 56.0 +1.3**
comp=Z,111nm,1.3s,mb5.8
ECOG Cogollos-Vega 84.86 53 P **P 05 54 56.0 +1.3**
ECOG pmax pmax
comp=Z,111nm,1.3s,mb5.8
KONO Kongsberg 84.87 29 *e*P **P 05 54 54.7 +0.4**
comp=Z,709nm,1.4s,mb6.6
KONO LR LR
comp=Z,3µm,20.0s,MS5.6
KONO Kongsberg 84.87 29 *e*P **P 05 54 57.5 +3.3**
KONO *e*SKS 06 05 23.6
KONO AMS AMS 06 31 51.0
comp=Z,3µm,23.2s,MS5.7
KONO Kongsberg 84.87 29 *e*P **P 05 54 54.7 +0.5**
KONO pmax pmax
comp=Z,709nm,1.4s,mb6.6
KONO MLR MLR
comp=Z,3µm,20.0s,MS5.6
ETOR Torete 84.89 49 P **P 05 54 55.7 +0.9**
comp=Z,16nm,1.1s,mb5.0
ETOR Torete 84.89 49 P **P 05 54 55.7 +0.9**
ETOR pmax pmax
comp=Z,16nm,1.1s,mb5.1
NAO01 NORSAR Array S 84.92 27 *e*P **P 05 54 55.4 +0.9**
comp=Z,80nm,1.4s,mb5.7
NAO01 LR LR
comp=Z,4µm,21.0s,MS5.8
NB2 NORSAR Subarra 84.98 27 P **P 05 54 54.7 -0.1**
comp=Z,173nm,1.7s,mb5.9,baz=299,slow=4.8
NOA NORSAR Array B 84.98 27 P **P 05 54 54.9 +0.1**
comp=Z,26nm,1.1s,mb5.3,baz=297,slow=4.8,SNR=21
NOA LR LR 06 33 12.0
comp=Z,2µm,21.7s,MS5.5,baz=295,slow=36
EGUA Guajares 85.00 53 P **P 05 54 55.6 +0.2**
EQES Quesada 85.08 52 P **P 05 54 56.8 +1.1**
comp=Z,27nm,0.9s,mb5.4
SKR Severo-Kuril's 85.21 322 *e*P **P 05 54 50.6 -5.5**
SKR *e* 05 55 05.7
SKR *e*PPP 06 00 10.0
SKR *e*S S 06 05 19.0 -4.7
SKR pmax pmax
comp=Z,110nm,1.0s,mb5.9
SKR pmax pmax
comp=E,1µm,10.0s
SKR pmax pmax
comp=Z,2µm,10.0s
SKR smax
comp=N,2µm,16.0s
SKR smax
comp=E,2µm,16.0s
SKR MLR MLR
comp=N,1µm,20.0s,MS5.7
SKR MLR MLR
comp=E,3µm,20.0s,MS5.7
SKR MLR MLR
comp=Z,2µm,20.0s,MS5.5
EVIA Vianos 85.24 51 P **P 05 54 57.6 +1.1**
comp=Z,58nm,0.7s,mb5.8
EVIA Vianos 85.24 51 P **P 05 54 57.6 +1.0**
EVIA pmax pmax
comp=Z,58nm,0.7s,mb5.8
OSL Oslo 85.26 28 *e*P pP 05 55 11.0 +3.6
OSL Oslo 85.26 28 *es*P pP 05 55 10.7 +3.4
ETSF Etsaut 85.29 47 *e*P **P 05 54 56.6 -0.1**
comp=Z,361nm,1.4s,mb6.0
ETSF Etsaut 85.29 47 *e*P **P 05 54 56.6 -0.1**
comp=Z,181nm,1.4s,mb6.0
ETSF Etsaut 85.29 47 *e*P **P 05 54 56.6 -0.1**
ETSF pmax pmax
comp=Z,181nm,1.4s,mb6.0
REYF Montagne du Re 85.35 46 *e*P **P 05 54 57.5 +0.5**
TIXI Tiksi 85.35 346 ‖ *e*P **P 05 54 55.3 -1.1**
comp=Z,354nm,1.3s,mb6.3
TIXI *e*pP pP 05 55 06.1 -1.5
TIXI LR LR
comp=Z,5µm,19.0s,MS6.0
TIXI Tiksi 85.35 346 ‖ *e*P **P 05 54 54.2 -2.2**
TIXI pmax pmax
comp=Z,207nm,1.3s,mb6.1
ARCES ARCESS Array B 85.43 17 P **P 05 54 56.4 -0.5**
comp=Z,16nm,0.7s,mb5.3,baz=288,slow=2.1,SNR=17
ARCES LR LR 06 36 47.1
comp=Z,3µm,20.4s,MS5.7,baz=316,slow=38
ARE0 ARCESS Array S 85.43 17 *e*P **P 05 54 57.6 +0.8**
EBER Berja 85.49 53 P **P 05 54 58.4 +0.5**
comp=Z,30nm,0.8s,mb5.5
LFF La Frestale 85.50 44 *e*P **P 05 54 56.9 -0.8**
comp=Z,980nm,1.6s,mb6.4
LFF La Frestale 85.50 44 *e*P **P 05 54 56.9 -0.8**
comp=Z,490nm,1.6s,mb6.4
LFF La Frestale 85.50 44 *e*P **P 05 54 56.9 -0.8**
LFF pmax pmax
comp=Z,490nm,1.6s,mb6.4
LABF Labassere 85.68 46 *e*P **P 05 54 58.5 -0.1**
UCC Uccle 85.69 38 P **P 05 54 58.8 +0.3**
comp=Z,207nm,1.6s,mb6.1
VIEF Viey 85.70 47 *e*P **P 05 54 58.5 -0.2**
KEV Kevo 85.70 16 *e*p **P 05 54 54.0 -4.2**
comp=Z,22nm,0.9s,mb5.4
KEV Kevo 85.70 16 *e*P **P 05 54 59.5 +1.3**
comp=Z,88nm,0.9s,mb6.0
KEV LR LR
comp=Z,4µm,22.0s,MS5.8
KEV Kevo 85.70 16 *e*P **P 05 54 59.5 +1.3**
KEV pmax pmax
comp=Z,88nm,0.9s,mb6.0
KEV MLR MLR
comp=Z,4µm,22.0s,MS5.8
ESAC San Caprasio 85.73 48 P **P 05 54 60.0 +1.0**
comp=Z,54nm,1.0s,mb5.7
SNF Seneffe 85.75 38 P **P 05 54 58.1 -0.8**
comp=Z,134nm,1.9s,mb5.8
EBIE Bielsa 85.84 47 P **P 05 55 00.1 +0.6**
comp=Z,26nm,0.7s,mb5.6
EPF Esparros 85.87 46 *e*P **P 05 54 59.0 -0.6**
comp=Z,797nm,1.5s,mb6.4
EPF Esparros 85.87 46 *e*P **P 05 54 59.0 -0.6**
comp=Z,398nm,1.5s,mb6.4
EPF Esparros 85.87 46 *e*P **P 05 54 59.0 -0.6**
EPF pmax pmax
comp=Z,398nm,1.5s,mb6.4
BAIF Baives 85.87 39 *e*P **P 05 54 59.0 -0.4**
comp=Z,451nm,1.2s,mb6.3
BAIF Baives 85.87 39 *e*P **P 05 54 59.0 -0.4**
comp=Z,226nm,1.2s,mb6.3
BAIF Baives 85.87 39 *e*P **P 05 54 59.0 -0.4**
BAIF pmax pmax
comp=Z,226nm,1.2s,mb6.3
RJF Les Rejaudoux 85.89 44 *e*P **P 05 54 58.7 -0.9**
comp=Z,593nm,1.3s,mb6.3
RJF *e*MLR MLR
comp=Z,3µm,19.2s,MS5.4
RJF Les Rejaudoux 85.89 44 *e*P **P 05 54 58.7 -0.9**
comp=Z,296nm,1.3s,mb6.4
RJF LR LR
comp=Z,3µm,19.3s,MS5.7
RJF Les Rejaudoux 85.89 44 *e*P **P 05 54 58.7 -0.9**
RJF pmax pmax
comp=Z,296nm,1.3s,mb6.4
RJF MLR MLR
comp=Z,3µm,19.3s,MS5.7
HYF Humbligny 85.92 42 *e*P **P 05 54 59.1 -0.7**
RESF Ens 85.94 46 *e*P **P 05 55 00.4 +0.5**
ETOB Tobarra 85.95 51 P **P 05 55 01.3 +1.2**
comp=Z,20nm,0.8s,mb5.4
ENIJ Nijar 85.99 53 P **P 05 55 01.8 +1.4**
comp=Z,8.1nm,0.6s,mb5.1
ENIJ Nijar 85.99 53 P **P 05 55 01.8 +1.5**
ENIJ pmax pmax
comp=Z,8.0nm,0.6s,mb5.1
TCF Toulx Ste Croi 86.00 43 *e*P **P 05 54 59.0 -1.1**
comp=Z,305nm,1.1s,mb6.2
TCF Toulx Ste Croi 86.00 43 *e*P **P 05 54 59.0 -1.1**
comp=Z,153nm,1.1s,mb6.1
TCF Toulx Ste Croi 86.00 43 *e*P **P 05 54 59.0 -1.1**
TCF pmax pmax
comp=Z,153nm,1.1s,mb6.1
MUD Monsted U'grnd 86.04 32 *e*P **P 05 54 59.7 -0.4**
MUD *i* S PP 05 58 22.5 +2.4
MUD pmax pmax
comp=Z,74nm,0.8s,mb6.0
MUD MLR MLR
comp=Z,2µm,26.0s,MS5.5
MUD Monsted U'grnd 86.04 32 *i* P **P 05 54 59.7 -0.4**
comp=Z,74nm,0.8s,mb6.0
MUD *i* S PP 05 58 22.5 +2.4
MUD
comp=Z,2µm,26.0s
ECHE Chera 86.07 50 P **P 05 55 01.3 +0.7**
comp=Z,18nm,0.8s,mb5.3
ECHE Chera 86.07 50 P **P 05 55 01.3 +0.6**
ECHE pmax pmax
comp=Z,18nm,0.8s,mb5.3
DOU Dourbes 86.09 39 P **P 05 55 00.1 -0.4**
comp=Z,112nm,1.9s,mb5.8
EMOS Mosqueruela 86.18 49 P **P 05 55 02.2 +1.0**
comp=Z,43nm,1.0s,mb5.6
MELF Melles 86.21 46 *e*P **P 05 55 01.8 +0.5**
GIVF Givet 86.22 39 *e*P **P 05 55 00.8 -0.4**
comp=Z,493nm,1.2s,mb6.3
GIVF Givet 86.22 39 *e*P **P 05 55 00.8 -0.4**
comp=Z,247nm,1.2s,mb6.3
GIVF Givet 86.22 39 *e*P **P 05 55 00.8 -0.4**
GIVF pmax pmax
comp=Z,247nm,1.2s,mb6.3
PMSA Palmer Station 86.30 165 PFAKE 05 55 10.0 +9.0
PMSA LR LR
comp=Z,4µm,20.0s,MS5.8
BGF Bois d'Agland 86.31 42 *e*P **P 05 55 00.6 -1.1**
comp=Z,277nm,1.0s,mb6.1
BGF Bois d'Agland 86.31 42 *e*P **P 05 55 00.6 -1.1**
comp=Z,139nm,1.0s,mb6.1
BGF Bois d'Agland 86.31 42 *e*P **P 05 55 00.6 -1.1**
BGF pmax pmax
comp=Z,139nm,1.0s,mb6.1
VERF Verneugheol 86.37 43 *e*P **P 05 55 01.5 -0.5**
CAF Calviac 86.38 44 *e*P **P 05 55 01.2 -0.9**
comp=Z,880nm,2.0s,mb6.3
CAF Calviac 86.38 44 *e*P **P 05 55 01.2 -0.9**
comp=Z,440nm,2.0s,mb6.3
CAF Calviac 86.38 44 *e*P **P 05 55 01.2 -0.9**
CAF pmax pmax
comp=Z,440nm,2.0s,mb6.3
BCLA Clavier 86.39 38 P **P 05 55 01.6 -0.4**
comp=Z,144nm,1.8s,mb5.9
MLS Moulis 86.41 46 *e*P **P 05 55 02.4 +0.1**
BEBN Eben Emael 86.46 38 P **P 05 55 03.6 +1.3**
comp=Z,60nm,1.5s,mb5.6
SALF Salau 86.55 46 *e*P **P 05 55 03.8 +0.9**
FRNF Fourmols 86.55 44 *e*P **P 05 55 03.3 +0.4**
SSF Saint Saulge 86.55 42 *e*P **P 05 55 01.7 -1.1**
comp=Z,318nm,1.1s,mb6.2
SSF Saint Saulge 86.55 42 *e*P **P 05 55 01.7 -1.1**
comp=Z,159nm,1.1s,mb6.2
SSF Saint Saulge 86.55 42 *e*P **P 05 55 01.7 -1.1**
SSF pmax pmax
comp=Z,159nm,1.1s,mb6.2
AVF Avril sur Loir 86.55 42 *e*P **P 05 55 01.5 -1.4**
comp=Z,140nm,1.0s,mb5.8
AVF Avril sur Loir 86.55 42 *e*P **P 05 55 01.5 -1.4**
comp=Z,70nm,1.0s,mb5.8
AVF Avril sur Loir 86.55 42 *e*P **P 05 55 01.5 -1.4**
AVF pmax pmax
comp=Z,70nm,1.0s,mb5.8
ERTA Horta de San J 86.56 48 P **P 05 55 03.6 +0.6**
comp=Z,133nm,1.5s,mb6.0
HGN Heimansgroeve 86.62 38 *e*P **P 05 55 02.8 -0.3**
comp=Z,60nm,2.2s,mb5.4
HGN Heimansgroeve 86.62 38 *e*pP pP 05 55 14.1 -0.2
comp=Z,88nm,2.0s
HGN Heimansgroeve 86.62 38 *ex* x 05 55 22.3
comp=Z,202nm,1.4s
HGN Heimansgroeve 86.62 38 *e*PP PP 05 58 20.8 -4.1
HGN Heimansgroeve 86.62 38 *i* S S 06 05 49.9 +12
HGN Heimansgroeve 86.62 38 *e*SS SS 06 11 07.4 -11
AGO Saint Agoulin 86.68 43 *e*P **P 05 55 03.4 -0.1**
LOR Lormes 86.70 41 *e*P **P 05 55 02.7 -0.9**
comp=Z,418nm,1.0s,mb6.3
LOR *e*MLR MLR
comp=Z,5µm,20.2s,MS5.6
LOR Lormes 86.70 41 *e*P **P 05 55 02.7 -0.9**
comp=Z,209nm,1.0s,mb6.3
LOR LR LR
comp=Z,5µm,20.3s,MS5.9
LOR Lormes 86.70 41 *e*P **P 05 55 02.7 -0.9**
LOR pmax pmax
comp=Z,209nm,1.0s,mb6.3
LOR MLR MLR
comp=Z,5µm,20.3s,MS5.9
CART Cartagena 86.70 52 *e*P **P 05 55 03.6 -0.2**
comp=Z,184nm,1.6s,mb6.1
CART *e*pP pP 05 55 13.0 -2.0
PYM Petit Puy Mans 86.71 43 *e*P **P 05 55 04.1 +0.4**
MEM Membach 86.73 38 P **P 05 55 03.3 -0.3**
comp=Z,78nm,1.5s,mb5.7
EBEN Beniarda 86.91 51 P **P 05 55 06.2 +1.4**
comp=Z,64nm,1.2s,mb5.7
SMF Signal de Mont 86.92 42 *e*P **P 05 55 03.3 -1.4**
comp=Z,162nm,1.1s,mb5.9
SMF Signal de Mont 86.92 42 *e*P **P 05 55 03.3 -1.4**
comp=Z,81nm,1.1s,mb5.9
SMF Signal de Mont 86.92 42 *e*P **P 05 55 03.3 -1.4**
SMF pmax pmax
comp=Z,81nm,1.1s,mb5.9
EPOB Poblet 86.95 48 P **P 05 55 05.1 +0.2**
comp=Z,20nm,1.1s,mb5.2
MEZF Maizieres J'vi 86.98 40 *e*P **P 05 55 04.1 -0.8**
comp=Z,350nm,1.0s,mb6.2
MEZF Maizieres J'vi 86.98 40 *e*P **P 05 55 04.1 -0.8**
comp=Z,350nm,1.0s,mb6.5
PLDF La Plantade 87.03 43 *e*P **P 05 55 05.0 -0.2**
MTLF Montolieu 87.05 46 *e*P **P 05 55 04.5 -0.9**
comp=Z,280nm,1.4s,mb6.0
MTLF Montolieu 87.05 46 *e*P **P 05 55 04.5 -0.9**
comp=Z,140nm,1.4s,mb6.0
MTLF Montolieu 87.05 46 *e*P **P 05 55 04.5 -0.9**
MTLF pmax pmax
comp=Z,140nm,1.4s,mb6.0
LBL Lubilhac 87.06 43 *e*P **P 05 55 05.7 +0.3**
WLF Walferdange 87.19 39 *e*P **P 05 55 06.0 +0.2**
comp=Z,51nm,1.1s,mb5.7
WLF *e*pP pP 05 55 16.1 -1.0
WLF Walferdange 87.19 39 *e*P **P 05 55 06.1 +0.2**
WLF *e**PP pP 05 55 16.1 -1.0
WLF pmax pmax
comp=Z,51nm,1.1s,mb5.7
WLF Walferdange 87.19 39 P **P 05 55 06.2 +0.3**
comp=Z,124nm,1.8s,mb5.8
WLF Walferdange 87.19 39 *e*P **P 05 55 06.2 +0.3**
comp=Z,57nm,1.2s,mb5.7
COLF Collangettes 87.24 43 *e*P **P 05 55 08.4 +2.1**
USTO Oran 87.66 53 P pP 05 55 20.0 +0.3
THEF They Montfort 87.66 40 *e*P **P 05 55 08.1 -0.1**
RUP Ruppelstein 87.71 38 *e*P **P 05 55 08.7 +0.3**
LASF Ste Croix 87.89 44 *e*P **P 05 55 09.3 -0.1**
comp=Z,630nm,1.6s,mb6.3
ABH Alteburg 87.93 38 *e*P **P 05 55 09.8 +0.4**
HAU Haudompre 87.97 40 *e*P **P 05 55 09.0 -0.7**
comp=Z,118nm,0.8s,mb5.9
HAU *e*MLR MLR
comp=Z,7µm,18.5s,MS5.8
HAU Haudompre 87.97 40 *e*P **P 05 55 09.0 -0.7**
comp=Z,59nm,0.8s,mb5.9
HAU LR LR
comp=Z,7µm,18.5s,MS6.1
HAU Haudompre 87.97 40 *e*P **P 05 55 09.0 -0.7**
HAU pmax pmax
comp=Z,59nm,0.8s,mb5.9
HAU MLR MLR
comp=Z,7µm,18.5s,MS6.1
COP Copenhagen 88.02 32 *e*P **P 05 55 10.2 +0.4**
COP *i* 05 58 35.6
COP *i* S S 06 05 41.2 -10
COP MLR MLR
comp=Z,2µm,24.0s,MS5.3
COP Copenhagen 88.02 32 *i* P **P 05 55 10.2 +0.4**
COP *i* 05 58 35.6
COP *i* S S 06 05 41.2 -10
COP
comp=Z,2µm,24.0s
RAO Raoul Island 88.02 239 PFAKE 05 55 20.0 +10
RAO LR LR
comp=Z,4µm,20.0s,MS5.8
ODJA Bouhanifia 88.10 54 P **P 05 55 18.0 +7.4**
VIVF Saint-Julien-I 88.13 43 *e*P **P 05 55 09.6 -0.9**
comp=Z,345nm,1.7s,mb6.0
VIVF Saint-Julien-I 88.13 43 *e*P **P 05 55 09.6 -0.9**
comp=Z,172nm,1.7s,mb6.0
VIVF Saint-Julien-I 88.13 43 *e*P **P 05 55 09.6 -0.9**
VIVF pmax pmax
comp=Z,172nm,1.7s,mb6.0
NRDL Niedersach Rie 88.26 35 *e*P **P 05 55 10.7 -0.3**
comp=Z,46nm,1.2s,mb5.6
NRDL *e*pP pP 05 55 21.4 -0.8
HINF Hinteralfeld 88.36 40 *e*P **P 05 55 10.8 -0.7**
comp=Z,75nm,0.9s,mb5.6
HINF Hinteralfeld 88.36 40 *e*P **P 05 55 10.8 -0.7**
comp=Z,38nm,0.9s,mb5.6
HINF Hinteralfeld 88.36 40 *e*P **P 05 55 10.8 -0.7**
HINF pmax pmax
comp=Z,38nm,0.9s,mb5.6
CABF La Chapelle 88.36 41 *e*P **P 05 55 10.3 -1.3**
comp=Z,92nm,0.9s,mb5.7
CABF La Chapelle 88.36 41 *e*P **P 05 55 10.3 -1.3**
comp=Z,46nm,0.9s,mb5.7
CABF La Chapelle 88.36 41 *e*P **P 05 55 10.3 -1.3**
CABF pmax pmax
comp=Z,46nm,0.9s,mb5.7
CDF Champ du Feu 88.37 39 *e*P **P 05 55 11.0 -0.6**
comp=Z,136nm,1.0s,mb5.8
CDF Champ du Feu 88.37 39 *e*P **P 05 55 11.0 -0.6**
comp=Z,68nm,1.0s,mb5.8
CDF Champ du Feu 88.37 39 *e*P **P 05 55 11.0 -0.6**
CDF pmax pmax
comp=Z,68nm,1.0s,mb5.8
ECH Echery 88.38 40 *e*P **P 05 55 11.3 -0.3**
ASCN Ascension 88.38 99 PFAKE 05 55 20.0 +7.7
ASCN LR LR
comp=Z,1µm,19.0s,MS5.3
LANF Langenberg 88.45 39 *e*P **P 05 55 11.8 -0.2**
MOF Molkenrain 88.51 40 *e*P **P 05 55 11.8 -0.5**
LOMF Lomont 88.53 41 *e*P **P 05 55 12.2 -0.1**
CLZ Clausthal 88.70 36 *e*P **P 05 55 13.3 +0.2**
CLZ *e* 05 58 41.0
CLZ pmax pmax
comp=Z,65nm,1.2s,mb5.8
CLZ Clausthal 88.70 36 *e*P **P 05 55 13.3 +0.2**
comp=Z,65nm,1.2s,mb5.8
CLZ *e*PP PP 05 58 41.0 -0.6
EANR 'Ain N'Sour 88.84 53 P **P 05 55 17.5 +3.4**
OG01 Vacheresse 88.85 42 *e*P **P 05 55 13.8 -0.1**
ORIF Oris-en-Rattie 88.90 43 *e*P **P 05 55 13.2 -0.9**
comp=Z,80nm,0.9s,mb5.7
ORIF *e*MLR MLR
comp=Z,5µm,19.0s,MS5.7
ORIF Oris-en-Rattie 88.90 43 *e*P **P 05 55 13.2 -0.9**
comp=Z,40nm,0.9s,mb5.8
ORIF Oris-en-Rattie 88.90 43 *e*P **P 05 55 13.2 -0.9**
ORIF pmax pmax
comp=Z,40nm,0.9s,mb5.8
APA Apatity 88.91 16 ‖ *i*P pP 05 55 24.4 -0.5
APA *i* 05 55 37.5
APA *i* 06 05 34.0
APA pmax pmax
comp=Z,21nm,1.0s,mb5.4
APA pmax pmax
comp=Z,1µm,9.0s
APA MLR MLR
comp=Z,4µm,22.0s,MS5.8
UBBA Unterbreizbach 88.95 37 *e*P **P 05 55 14.3 +0.1**
comp=Z,83nm,1.7s,mb5.8
UBBA *e*PP PP 05 58 43.9 +0.3
ECHA Ech Chlef 88.97 52 P pP 05 55 26.5 +0.6
RGN Rugen 89.01 32 *e*P **P 05 55 13.7 -0.7**
comp=Z,77nm,1.0s,mb6.0
FELD Feldberg im Sc 89.04 40 *e*P **P 05 55 14.8 +0.1**
BFO Black Forest 89.04 39 *e*P **P 05 55 14.0 -0.7**
BFO *e**PP pP 05 55 24.6 -1.4
BFO *e* 05 58 42.0
BFO pmax pmax
comp=Z,40nm,1.5s,mb5.5
BFO Black Forest 89.04 39 *e*P **P 05 55 14.0 -0.7**
comp=Z,40nm,1.5s,mb5.5
BFO *e*pP pP 05 55 24.6 -1.4
BFO *e*PP PP 05 58 42.0 -2.4
EBNR Beni Rached 89.05 52 P pP 05 55 28.7 +2.4
SMRF Simiane la Rot 89.07 44 *e*P **P 05 55 14.4 -0.6**
comp=Z,268nm,1.8s,mb6.0
SMRF Simiane la Rot 89.07 44 *e*P **P 05 55 14.4 -0.6**
comp=Z,268nm,1.8s,mb6.3
RSL Roselend 89.07 42 *e*P **P 05 55 15.1 +0.2**
ETRT Tiaret 89.19 53 P pP 05 55 28.0 +1.0
LPL La Plagne 89.21 42 *e*P **P 05 55 15.4 -0.2**
comp=Z,162nm,1.4s,mb5.9
LPL La Plagne 89.21 42 *e*P **P 05 55 15.4 -0.2**
comp=Z,81nm,1.4s,mb5.9
LPL La Plagne 89.21 42 *e*P **P 05 55 15.4 -0.2**
LPL pmax pmax
comp=Z,81nm,1.4s,mb5.9
LPG La Plagne 89.23 42 *e*P **P 05 55 15.4 -0.3**
comp=Z,258nm,1.4s,mb6.1
LPG La Plagne 89.23 42 *e*P **P 05 55 15.4 -0.3**
comp=Z,129nm,1.4s,mb6.1
LPG La Plagne 89.23 42 *e*P **P 05 55 15.4 -0.3**
LPG pmax pmax
comp=Z,129nm,1.4s,mb6.1
OG25 Le Caire 89.24 44 *e*P **P 05 55 16.0 +0.2**
BNI Bardonecchia 89.36 43 *e*P **P 05 55 16.3 -0.1**
comp=Z,44nm,1.0s,mb5.8
BNI Bardonecchia 89.36 43 *e*P **P 05 55 16.3 0.0**
BNI pmax pmax
comp=Z,44nm,1.0s,mb5.7
SPAK Spaichingen-Ko 89.42 39 *e*P **P 05 55 15.9 -0.6**
BSD Bornholm Skovb 89.54 31 *e*P **P 05 55 16.7 -0.2**
BSD *i* S PP 05 58 50.0 +1.9
BSD pmax pmax
comp=Z,41nm,1.1s,mb5.7
BSD MLR MLR
comp=Z,3µm,25.0s,MS5.6
BSD Bornholm Skovb 89.54 31 *i* P **P 05 55 16.7 -0.2**
comp=Z,41nm,1.1s,mb5.7
BSD *i* S PP 05 58 50.0 +1.9
BSD
comp=Z,3µm,25.0s
MBDF Montbardon 89.56 43 *e*P **P 05 55 16.6 -0.6**
comp=Z,64nm,1.0s,mb5.6
MBDF Montbardon 89.56 43 *e*P **P 05 55 16.6 -0.6**
comp=Z,32nm,1.0s,mb5.6
MBDF Montbardon 89.56 43 *e*P **P 05 55 16.6 -0.6**
MBDF pmax pmax
comp=Z,32nm,1.0s,mb5.6
MOX Moxa 89.94 36 *e*P **P 05 55 18.6 -0.3**
comp=Z,52nm,1.6s,mb5.6
MOX *e* pP 05 55 26.9 -3.2
comp=Z,87nm,1.5s
MOX
comp=Z,3µm,21.0s
MOX Moxa 89.94 36 *e*P **P 05 55 18.6 -0.3**
MOX *e* pP 05 55 26.9 -3.2
MOX pmax pmax
comp=Z,52nm,1.6s,mb5.6
MOX pmax pmax
comp=Z,87nm,1.5s,mb5.9
MOX MLR MLR
comp=Z,3µm,21.0s,MS5.7
MOX Moxa 89.94 36 *e*P **P 05 55 18.6 -0.3**
comp=Z,45nm,1.5s,mb5.6
MOX *e*pP pP 05 55 29.6 -0.5
MOX *e*PP PP 05 58 51.1 -0.4
FRF La Foret Royal 89.95 44 *e*P **P 05 55 17.7 -1.4**

comp=Z,132nm,1.3s,mb5.8
FRF La Foret Royal 89.95 44 *e*P **P 05 55 17.7 -1.4**
comp=Z,66nm,1.3s,mb5.8
FRF La Foret Royal 89.95 44 *e*P **P 05 55 17.7 -1.4**
FRF pmax pmax
comp=Z,66nm,1.3s,mb5.8
LMR La Mourre 89.95 44 *e*P **P 05 55 18.0 -1.1**
comp=Z,190nm,1.5s,mb5.9
LMR La Mourre 89.95 44 *e*P **P 05 55 18.0 -1.1**
comp=Z,95nm,1.5s,mb5.9
LMR La Mourre 89.95 44 *e*P **P 05 55 18.0 -1.1**
LMR pmax pmax
comp=Z,95nm,1.5s,mb5.9
DOI San Damiano 89.96 43 P **P 05 55 18.9 -0.2**
comp=Z,110nm,1.3s,mb6.0
DOI San Damiano 89.96 43 P **P 05 55 18.9 -0.2**
DOI pmax pmax
comp=Z,110nm,1.3s,mb6.0
GRFO Grafenberg 90.15 37 *e*P **P 05 55 19.7 -0.2**
comp=Z,87nm,1.6s,mb5.8
GRFO *ep*P pP 05 55 30.3 -0.8
GRFO LR LR
comp=Z,3µm,20.0s,MS5.7
GRFO Grafenberg 90.15 37 P **P 05 55 21.2 +1.3**
GRFO *e* pP 05 55 31.8 +0.7
GRFO pmax pmax
comp=Z,94nm,1.2s,mb6.0
GRA1 Grafenberg Arr 90.15 37 *e*P **P 05 55 20.4 +0.5**
comp=Z,74nm,1.6s,mb5.8
GRA1 *ep*P pP 05 55 31.0 -0.1
GRA1 *e*PP PP 05 58 53.2 0.0
GRA1 *e*S S 06 06 17.4 +6.4
GRA1 *e*SS SS 06 11 59.1 -10
GRA1 LR LR
comp=Z,3µm,19.8s,MS5.8
GRF Grafenberg Arr 90.15 37 *e*P **P 05 55 20.4 +0.5**
GRF *e**PP pP 05 55 31.0 -0.1
GRF *e* 05 58 53.2
GRF *e*S S 06 06 17.4 +6.4
GRF pmax pmax
comp=Z,74nm,1.6s,mb5.8
GRF MLR MLR
comp=Z,3µm,19.8s,MS5.8
GRF Grafenberg Arr 90.15 37 *e*P **P 05 55 20.4 +0.5**
GRF *e**PP pP 05 55 31.0 -0.1
GRF *e* 05 58 53.2
GRF *e*S S 06 06 17.4 +6.4
GRF pmax pmax
comp=Z,74nm,1.6s,mb5.8
GRF MLR MLR
comp=Z,3µm,19.8s,MS5.8
GRF Grafenberg Arr 90.15 37 *e*P **P 05 55 20.4 +0.5**
comp=Z,74nm,1.6s,mb5.8
GRF *ep*P pP 05 55 31.0 -0.1
GRF *e*PP PP 05 58 53.2 0.0
GRF *e*S S 06 06 17.4 +6.4
GRF *e*SS SS 06 11 59.1 -10
GRF *e*L 06 37 25.0
comp=Z,3µm,19.8s
EMHD Djebel Mahouad 90.16 52 P pP 05 55 31.8 +0.3
CLL Collm 90.40 35 *i* P **P 05 55 20.4 -0.6**
comp=Z,40nm,1.5s,mb5.5
CLL *i* sP sP 05 55 31.6 -4.7
CLL *e*SKS 06 05 49.0
CLL *e*PS PS 06 07 18.0 -6.1
CLL LR LR
comp=Z,3µm,21.8s,MS5.7
CLL Collm 90.40 35 *i* P **P 05 55 20.4 -0.6**
CLL *i* *SP sP 05 55 31.6 -4.7
CLL *e* 06 05 49.0
CLL *e*PS PS 06 07 18.0 -6.1
CLL pmax pmax
comp=Z,40nm,1.5s,mb5.5
CLL MLR MLR
comp=Z,3µm,21.8s,MS5.7
CLL Collm 90.40 35 *e*P **P 05 55 20.6 -0.4**
comp=Z,40nm,1.5s,mb5.5
CLL *ep*P pP 05 55 31.5 -0.8
CLL *es*P sP 05 55 34.8 -1.5
CLL *e*PP PP 05 58 51.5 -3.6
CLL *e*SKSac SKSac 06 05 52.0 +2.3
CLL *e*S S 06 06 10.7 -2.6
CLL *e*PS PS 06 07 21.9 -2.2
CLL *e*SS SS 06 12 12.5 -0.6
CLL *e*PKKPdf PKKPdf 06 12 45.8 +0.1
CLL *e*SSS 06 15 55.4
CLL *e*LR LR 06 25 42.4
CLL Collm 90.40 35 *i* P **P 05 55 20.4 -0.6**
comp=Z,40nm,1.5s,mb5.5
CLL *ex* x 05 55 27.0
CLL *i* pP pP 05 55 31.6 -0.7
CLL *e*Pmax pP 05 55 33.0 +0.7
CLL *ex* x 05 55 45.0
comp=Z,91nm,1.3s
CLL *e*PP PP 05 58 51.0 -4.1
CLL *e*SKSac SKSac 06 05 49.0 -0.7
CLL *e*S S 06 06 12.0 -1.3
CLL *e*PS PS 06 07 18.0 -6.1
CLL *e*SS SS 06 12 13.0 -0.1
CLL *e*PKKPdf PKKPdf 06 12 46.0 +0.3
CLL *e*SSS 06 15 54.0
CLL L 06 37 00.0
comp=Z,3µm,21.8s
KAF Kangasniemi 90.42 22 *ep* **P 05 55 18.6 -2.3**
baz=309,slow=4.4
DAVA Damuels 90.44 40 ⇓*i*P **P 05 55 21.3 0.0**
comp=Z,152nm,1.8s,mb6.0,SNR=18
DAVA Damuels 90.44 40 ⇓*i*PcP PcP 05 55 21.3 -1.1
comp=Z,152nm,1.8s,SNR=18
TUE Stuetta 90.47 41 P **P 05 55 20.6 -0.8**
TANN Tannenbergstha 90.53 36 *e*P **P 05 55 21.6 0.0**
comp=Z,50nm,1.5s,mb5.6
TANN *ep*P pP 05 55 32.4 -0.5
TANN *e*PP PP 05 58 55.9 -0.2
MANZ Manzenberg 90.53 37 *e*P **P 05 55 21.7 +0.1**
comp=Z,44nm,1.7s,mb5.5
MANZ *e*PP PP 05 58 56.1 -0.1
NKC Novy Kostel 90.60 36 *e*P **P 05 55 22.1 +0.1**
NKC *ep*P pP 05 55 33.0 -0.2
NKC *e*PP PP 05 58 50.7 -6.1
NKC *e*SKS 06 05 51.1
NKC *e* 06 07 24.5
NKC Novy Kostel 90.60 36 *e*P **P 05 55 22.1 +0.1**
NKC *e**PP pP 05 55 33.0 -0.2
NKC *e* 06 05 51.1
NKC *e* 06 07 24.5
NKC Novy Kostel 90.60 36 *e*P **P 05 55 22.1 +0.1**
NKC *ep*P pP 05 55 33.0 -0.2
NKC *e*PP PP 05 58 50.7 -6.1
NKC *e*SKS 06 05 51.1
NKC *e*PS PS 06 07 24.5 -1.9
NKC AMS AMS 06 36 50.0
comp=Z,4µm,19.9s,MS5.9
ROTZ Rotzenmuhle 90.69 37 *e*P **P 05 55 22.5 +0.1**
comp=Z,48nm,1.6s,mb5.6
ROTZ *e*PP PP 05 58 56.3 -1.1
FIN Finale Ligure 90.71 43 P **P 05 55 22.4 -0.2**
FIA1 FINESS Array S 90.77 23 *e*P **P 05 55 20.9 -1.6**
FINES FINESS Array B 90.77 23 P **P 05 55 21.4 -1.1**
comp=Z,8.8nm,1.0s,mb5.0,baz=310,slow=4.5,SNR=16
FINES PKKPbc PKKPbc 06 12 48.4 -1.4
comp=Z,1.9nm,0.9s,baz=64,slow=4.4,SNR=3.8
FINES LR LR 06 36 44.0
comp=Z,6µm,21.5s,MS6.0,baz=305,slow=36
RETA Reutte 90.88 39⇑*i*PcP PcP 05 55 23.4 -1.0
comp=Z,183nm,1.8s,SNR=11
FETA Feichten 91.07 40 *i* PcP PcP 05 55 24.5 -0.8
comp=Z,91nm,1.9s,SNR=17
BRG Berggiesshubel 91.13 35 *i* P **P 05 55 24.3 -0.1**
comp=Z,10nm,1.0s,mb5.1
BRG *i* pP 05 55 35.2 -0.5
BRG *i* 05 55 44.2
BRG PP PP 05 58 56.0 -4.9
BRG SKS 06 05 55.0
BRG S S 06 06 20.0 +0.1
BRG PS PS 06 07 31.0 -1.2
BRG SS SS 06 12 13.0 -11
BRG LR LR
comp=Z,2µm,23.3s,MS5.5
BRG Berggiesshubel 91.13 35 *i* P **P 05 55 24.3 -0.1**
BRG *i* pP 05 55 35.2 -0.5
BRG 05 58 56.0
BRG 06 05 55.0
BRG S S 06 06 20.0 +0.1
BRG PS PS 06 07 31.0 -1.2
BRG pmax pmax
comp=Z,10.0nm,1.0s,mb5.1
BRG pmax pmax
comp=Z,48nm,1.6s,mb5.6
BRG pmax pmax
comp=Z,34nm,1.2s,mb5.5
BRG MLR MLR
comp=N,1µm,22.3s,MS5.5
BRG MLR MLR
comp=E,1µm,21.8s,MS5.5
BRG MLR MLR
comp=Z,2µm,23.3s,MS5.5
BRG Berggiesshubel 91.13 35 *e*P **P 05 55 24.1 -0.3**
comp=Z,83nm,1.7s,mb5.8
BRG *e*PP PP 05 58 59.3 -1.6
BRG Berggiesshubel 91.13 35 *i* P **P 05 55 24.3 -0.1**
comp=Z,17nm,1.0s,mb5.3
BRG *i* pP 05 55 35.2 -0.5
comp=Z,80nm,1.6s
BRG *i* 05 55 44.2
comp=Z,56nm,1.2s
BRG PP PP 05 58 56.0 -4.9
BRG SKS 06 05 55.0
BRG S S 06 06 20.0 +0.1
BRG PS PS 06 07 31.0 -1.2
BRG SS SS 06 12 13.0 -11
BRG
comp=N,2µm,22.3s
BRG
comp=E,2µm,21.8s
BRG
comp=Z,4µm,23.2s
BOB Bobbio (Coli) 91.27 42 P **P 05 55 26.0 +0.8**
WET Wettzell 91.37 37 *e*P **P 05 55 25.6 0.0**
WET *e**PP pP 05 55 36.4 -0.4
WET pmax pmax
comp=Z,86nm,1.7s,mb5.8
WET Wettzell 91.37 37 *e*P **P 05 55 25.6 0.0**
comp=Z,86nm,1.7s,mb5.8
WET *ep*P pP 05 55 36.4 -0.4
JOF Joensuu 91.60 20 *ep* **P 05 55 23.9 -2.5**
comp=Z,4.9nm,0.7s,mb5.0
PVCC Panska Ves 91.65 35 *e*P **P 05 55 26.4 -0.4**
PVCC *e**PP pP 05 55 37.6 -0.5
PVCC *e* 06 05 56.5
PVCC *e* 06 07 34.9
PVCC MLR MLR
comp=Z,3µm,17.4s,MS5.8
PVCC Panska Ves 91.65 35 *e*P **P 05 55 26.4 -0.4**
PVCC *ep*P pP 05 55 37.6 -0.5
PVCC *e*PP PP 05 58 59.5 -5.5
PVCC *e*SKS 06 05 56.5
PVCC *e*PS PS 06 07 34.9 -3.0
PVCC AMS AMS 06 41 10.0
comp=Z,3µm,17.4s,MS5.8
GKP Gorka Klasztor 91.66 32 *e*P **P 05 55 26.0 -0.8**
GKP *ep*P pP 05 55 31.3 -6.8
GKP *e*PP PP 05 59 05.1 +0.1
GKP *e*SKS 06 05 52.9
GKP *e*S S 06 06 19.9 -4.8
GKP *ep*S 06 06 30.6
GKP *es*S sS 06 06 38.0 -5.3
GKP LMZ 06 32 59.1
comp=Z,8µm,27.5s
GKP Gorka Klasztor 91.66 32 *e*P **P 05 55 26.0 -0.8**
GKP *ep*P pP 05 55 31.3 -6.8
GKP *e*PP PP 05 59 05.1 +0.1
GKP *e*SKS 06 05 52.9
GKP *e*S S 06 06 19.9 -4.7
GKP *ep*S 06 06 30.6
GKP *e*SS sS 06 06 38.0 -5.3
GKP LR LR
comp=Z,8µm,27.5s,MS6.0
GKP Gorka Klasztor 91.66 32 *e*P **P 05 55 26.0 -0.8**
GKP *e**PP pP 05 55 31.3 -6.8
GKP *e* 05 59 05.1
GKP *e* 06 05 52.9
GKP *e*S S 06 06 19.9 -4.7
GKP MLR MLR
comp=Z,8µm,27.5s,MS6.0
YAK Yakutsk 91.75 339 *e*P **P 05 55 25.8 -1.2**
comp=Z,42nm,0.6s,mb5.9
YAK *ep*P pP 05 55 37.0 -1.3
YAK LR LR
comp=Z,4µm,19.0s,MS5.8
YAK Yakutsk 91.75 339 *e*P **P 05 55 26.4 -0.6**
YAK *i* *PP pP 05 55 36.6 -1.7
YAK *e* 05 59 02.7
YAK *e*S S 06 05 55.6 -29
YAK *i* 06 06 27.2
YAK *i* SS SS 06 12 40.7 +8.9
YAK pmax pmax
comp=Z,77nm,1.0s,mb6.0
YAK pmax pmax
comp=N,23nm,1.7s
YAK pmax pmax
comp=E,22nm,1.3s
YAK pmax pmax
comp=Z,229nm,2.5s,mb6.1
YAK pmax pmax
comp=N,115nm,2.2s
YAK pmax pmax
comp=E,109nm,2.3s
YAK smax
comp=N,839nm,6.2s
YAK smax
comp=E,271nm,3.5s
KHC Kasperske Hory 91.78 37⇑*e*P **P 05 55 25.4 -2.1**
KHC Kasperske Hory 91.78 37 *e*P **P 05 55 27.4 -0.1**
KHC *ep*P pP 05 55 37.9 -0.8
KHC *e*PP PP 05 59 03.0 -3.0
KHC *e*SKS 06 05 58.5
KHC *e*PS PS 06 07 40.0 +0.6
KHC *e*SS SS 06 12 32.7 -0.3
KHC AMS AMS 06 38 00.0
comp=Z,4µm,20.1s,MS5.9
PRU Pruhonice 91.90 36 *e*P **P 05 55 27.8 -0.2**
PRU *e**PP pP 05 55 37.9 -1.4
PRU *e* 06 05 59.6
PRU *e* 06 07 39.7
PRU *e* 06 12 33.5
PRU MLR MLR
comp=Z,4µm,20.4s,MS5.9
PRU Pruhonice 91.90 36 *e*P **P 05 55 27.8 -0.2**
PRU *ep*P pP 05 55 37.9 -1.4
PRU *e*PP PP 05 59 00.2 -6.8
PRU *e*SKS 06 05 59.6
PRU *e*PS PS 06 07 39.7 -1.1
PRU *e*SS SS 06 12 33.5 -1.2
PRU AMS AMS 06 37 40.0
comp=Z,4µm,20.4s,MS5.9
GEC2 GERESS Array S 91.99 37 *e*P **P 05 55 28.1 -0.3**
GEC2 *e* 05 59 06.2
GEC2 pmax pmax
comp=Z,74nm,1.8s,mb5.7
GEC2 GERESS Array S 91.99 37 *e*P **P 05 55 28.1 -0.3**
GEC2 *e*PP PP 05 59 06.2 -1.5
GERES GERESS Array B 91.99 37 P **P 05 55 27.9 -0.5**
comp=Z,2.4nm,0.7s,mb4.6,baz=310,slow=2.9,SNR=21
GERES PP PP 05 59 19.0 +11
comp=Z,1.8nm,0.8s,baz=289,slow=4.1,SNR=3.6
GERES PKKPbc PKKPbc 06 12 54.4 +8.1
comp=Z,0.3nm,0.2s,baz=101,slow=2.7,SNR=5.3
GERES LR LR 06 39 09.8
comp=Z,3µm,19.0s,MS5.7,baz=302,slow=37
SET Setif 91.99 51 P **P 05 55 30.0 +1.3**
CTI Castel Tesino 92.08 40 P **P 05 55 28.7 -0.3**
DFRA Djebel Bou Aff 92.21 51 P **P 05 55 31.0 +1.3**
ABTA Abfaltersbach 92.28 39⇑*i*PcP PcP 05 55 29.9 -0.7
comp=Z,102nm,1.9s,SNR=12
KSP Ksiaz 92.44 35 *e*P **P 05 55 30.6 +0.1**
KSP *e*PcP PcP 05 55 32.5 +1.4
KSP *ep*P pP 05 55 40.8 -0.9
KSP *e*PP PP 05 59 10.9 -0.3
KSP *e*SKS 06 06 06.3
KSP *e*S S 06 06 35.3 +3.6
KSP LMZ 06 36 25.6
KSP Ksiaz 92.44 35 *e*P **P 05 55 30.3 -0.2**
KSP *ep*P pP 05 55 40.7 -1.0
KSP *e*PP PP 05 59 05.1 +0.1
KSP *e*SKS 06 05 52.9
KSP *e*S S 06 06 19.9 -4.8
KSP *ep*S 06 06 30.6
KSP *es*S sS 06 06 38.0 -5.3
KSP LMZ 06 32 59.1
comp=Z,8µm,27.5s
KSP Ksiaz 92.44 35 *e*P **P 05 55 30.3 -0.2**
KSP *e**PP pP 05 55 40.7 -1.0
KSP *e* 05 59 10.0
KSP *e* 06 05 58.0
KSP *e*SP SP 06 07 41.0 -0.7
KSP LR LR
comp=Z,12µm,24.1s,MS6.3
KSP Ksiaz 92.44 35 *e*P **P 05 55 30.3 -0.2**
KSP *e**PP pP 05 55 40.7 -1.0
KSP *e* 05 59 10.0
KSP *e* 06 05 58.0
KSP *e*SP SP 06 07 41.0 -0.7
KSP MLR MLR
comp=Z,12µm,24.1s,MS6.3
UPC Upice 92.45 35 *e*P **P 05 55 30.4 -0.2**
UPC *ep*P pP 05 55 41.1 -0.7
UPC *e*PP PP 05 59 11.2 -0.1
CMER Merouana 92.59 52 P **P 05 55 38.0 +6.5**
KBA Koelnbreinsper 92.63 39 *i* P **P 05 55 31.3 -0.1**
comp=Z,110nm,2.1s,mb5.9,SNR=11
KBA Koelnbreinsper 92.63 39 *i* PcP PcP 05 55 31.3 -0.8
comp=Z,110nm,2.1s,SNR=11
KBA Koelnbreinsper 92.63 39 *i* P **P 05 55 31.3 -0.2**
KBA pmax pmax
comp=Z,110nm,2.1s,mb5.9
DPC Dobruska-Polom 92.71 35 *e*P **P 05 55 31.5 -0.2**
DPC *ep*P pP 05 55 42.6 -0.4
DPC *e*PP PP 05 59 10.9 -2.4
DPC *e*SKS 06 06 03.0
DPC *e*PKKP PKKPbc 06 12 44.2 -0.4
DPC AMS AMS 06 36 20.0
comp=Z,4µm,23.5s,MS5.8
TMCR Tamitsa 92.72 17⇑*i*P **P 05 55 29.7 -1.8**
TMCR *e**PP pP 05 55 40.0 -2.8
TMCR pmax pmax
comp=Z,88nm,1.5s,mb6.0
CASM Ain Smara 92.77 51 P **P 05 55 36.0 +3.6**
TREC Trest 92.78 36 *e*P **P 05 55 31.9 -0.2**
TREC *ep*P pP 05 55 42.5 -0.9
TREC *e*PP PP 05 59 10.9 -3.0
TREC AMS AMS 06 38 40.0
comp=Z,6µm,19.9s,MS6.0
CTEI Djebel Teioual 92.79 51 P **P 05 55 34.0 +1.6**
MOA Molln 92.80 38⇓*i*P **P 05 55 32.0 -0.2**
comp=Z,84nm,1.9s,mb5.8,SNR=14
MOA Molln 92.80 38⇓*i*PcP PcP 05 55 32.0 -0.9
comp=Z,84nm,1.9s,SNR=14
CKFL Kef-Lekhel 92.89 51 P **P 05 55 37.0 +4.1**
VSU Vasula 92.94 25⇑*e*P **P 05 55 30.9 -1.7**
PTCC Patocco-Chiusa 92.96 39 P **P 05 55 32.6 -0.4**
comp=Z,35nm,0.9s,mb5.8
MYKA Terra Mystica 93.03 39⇓*i*PcP PcP 05 55 32.5 -1.4
comp=Z,444nm,2.1s
CSNT Castellina Chi 93.03 43 P **P 05 55 30.9 -2.5**
LIC Lamto 93.09 83⇑*i*P **P 05 55 33.9 -0.4**
comp=Z,207nm,1.4s,mb6.1
LIC *e*MLR MLR
comp=Z,3µm,20.5s,MS5.5
LIC Lamto 93.09 83⇑*i*P **P 05 55 33.9 -0.4**
comp=Z,103nm,1.4s,mb6.1
LIC LR LR
comp=Z,2µm,20.5s,MS5.5
DBIC Dimbokro 93.12 82 *e*P **P 05 55 33.8 -0.6**
comp=Z,104nm,1.1s,mb6.2
DBIC *ep*P pP 05 55 44.6 -1.1
DBIC LR LR
comp=Z,2µm,20.0s,MS5.6
DBIC Dimbokro 93.12 82 *e*P **P 05 55 33.8 -0.6**
DBIC *e**PP pP 05 55 44.6 -1.0
DBIC pmax pmax
comp=Z,104nm,1.1s
DBIC MLR MLR
comp=Z,2µm,20.0s
DBIC Dimbokro 93.12 82 P **P 05 55 33.8 -0.6**
comp=Z,15nm,0.9s,mb5.4,baz=282,slow=5.8,SNR=14
DBIC LR LR 06 36 11.2
comp=Z,2µm,19.6s,MS5.6,baz=276,slow=35
ROBS Robic 93.13 40 *e*P **P 05 55 32.9 -0.9**
ROBS *ep*P pP 05 55 44.1 -0.9
ROBS *e* 05 55 51.5
ROBS *e*PP PP 05 59 14.8 -2.0
CRE Caprese Michel 93.39 42 P **P 05 55 33.5 -1.6**
VRAC Vranov 93.40 36 ⇓P **P 05 55 34.6 -0.4**
VRAC Vranov 93.40 36⇓*i*P **P 05 55 34.6 -0.3**
MAON Monte Argentar 93.40 44 P **P 05 55 34.4 -0.7**
PUL Pulkovo 93.45 23⇓*e*P **P 05 55 32.9 -2.0**
VOY Vojsko 93.47 40 *e*P **P 05 55 34.9 -0.4**
VOY *e* pP 05 55 45.7 -0.9
VOY *e* 05 55 58.3
VOY *e* 05 56 01.3
VOY *e* 05 59 29.2
VOY Vojsko 93.47 40 *e*(P) **P 05 55 34.9 -0.4**
VOY *e* pP 05 55 45.7 -0.9
VOY *e* 05 55 58.3
VOY *e* 05 56 01.3
MORC Moravsky Berou 93.68 35⇓*i*P **P 05 55 35.9 -0.4**
comp=Z,42nm,0.9s,mb5.9
MORC *ep*P pP 05 55 45.7 -1.8
MORC Moravsky Berou 93.68 35⇓*i*P **P 05 55 35.9 -0.3**
MORC *e**PP pP 05 55 45.7 -1.8
MORC pmax pmax
comp=Z,42nm,0.9s,mb5.9
MORC Moravsky Berou 93.68 35⇓*i*P **P 05 55 36.1 -0.1**
CONA Conrad Observa 93.69 37⇓*i*PcP PcP 05 55 36.4 -0.5
comp=Z,157nm,2.2s,SNR=25
LJU Ljubljana 93.85 39 *e*P **P 05 55 36.6 -0.5**
LJU *ep*P pP 05 55 47.8 -0.5
LJU *e*PP PP 05 59 20.8 -1.6
LJU *e*S SKSac 06 06 09.9 +0.6
LJU *e*SP SP 06 08 02.6 +5.0
LJU *e* 06 12 57.1
CEY Cerknica 93.94 40 *e*P **P 05 55 37.0 -0.5**
CEY *ep*P pP 05 55 48.5 -0.2
CEY *e*S SKSac 06 06 10.9 +1.2
OKC Ostrava-Krasne 93.97 35 *e*P **P 05 55 36.7 -0.9**
OKC *ep*P pP 05 55 48.2 -0.6
OKC *e*PP PP 05 59 19.5 -3.7
OKC *e*SKS 06 06 09.0
OKC Ostrava-Krasne 93.97 35 *e*P **P 05 55 36.7 -0.9**
OKC *ep*P pP 05 55 48.2 -0.6
OKC *e*PP PP 05 59 19.5 -3.7
OKC *e*SKS 06 06 09.0
OKC AMS AMS 06 37 10.0
comp=Z,4µm,23.6s,MS5.8
TOLF Tolfa 94.14 44 P **P 05 55 37.9 -0.6**
WAR Warsaw 94.15 32 *e*P **P 05 55 38.1 -0.2**
WAR *e*PP PP 05 59 25.1 +0.6
WAR LMZ 06 35 07.2
comp=Z,8µm,26.1s
SUW Suwalki 94.16 30 *e*P **P 05 55 37.2 -1.2**
SUW *e*PcP PcP 05 55 39.4 +0.6
SUW *ep*P pP 05 55 48.5 -1.0
SUW *e*SKS 06 06 05.1
SUW *e*SKS 06 06 09.7
SUW *e*S S 06 06 43.4 -3.4
SUW *e*SS SS 06 13 05.8 -0.9
SUW LMZ 06 32 06.9
comp=Z,5µm,31.0s
SUW Suwalki 94.16 30 *e*P **P 05 55 37.2 -1.1**
SUW *e*PcP PcP 05 55 39.4 +0.6
SUW *ep*P pP 05 55 48.5 -1.1
SUW *e*SKS 06 06 05.1
SUW *e*S S 06 06 43.3 -3.5
SUW *e*SS SS 06 13 05.8 -0.9
SOP Sopron 94.22 37⇑*ep*P pP 05 55 49.9 -0.1
ZST Bratislava 94.27 37 *e*P **P 05 55 39.3 +0.3**
comp=Z,109nm,1.4s,mb6.1
ZST *e* pP 05 55 50.2 0.0
ZST *e* 05 55 58.4
ZST *e*PP PP 05 59 23.8 -1.8
ZST *e* 05 59 38.9
ZST *e*S SKSac 06 06 13.4 +2.0
ZST *e*SP SP 06 08 08.1 +6.0
ZST LR LR
comp=Z,2µm,20.0s,MS5.5
ZST Bratislava 94.27 37 *e*P **P 05 55 39.3 +0.3**
ZST *e* pP 05 55 50.2 0.0
ZST *e* 05 59 23.8
ZST *e*S SKSac 06 06 13.4 +2.0
ZST *e*SP SP 06 08 08.1 +6.0
ZST pmax pmax
comp=Z,109nm,1.4s,mb6.1
ZST MLR MLR
comp=Z,2µm,20.0s,MS5.5
ZST Bratislava 94.27 37 *e*P **P 05 55 39.3 +0.3**
ZST *ep*P pP 05 55 50.1 -0.1
ZST *es*P sP 05 55 58.4 +4.1

ZST				*e*PP	PP	05 59 23.8	-1.8
ZST				*e*		05 59 38.9	
MODS	**Modra-Piesok**	**94.27**	**36**	*i* P	**P**	**05 55 39.7**	**+0.7**
MODS				*e*	pP	05 55 50.3	+0.1
MODS				*e*PP	PP	05 59 22.0	-3.6
MODS				*e*		05 59 38.6	
MODS				*e*S	SKSac	06 06 13.3	+1.8
MODS				*e*S	S	06 06 38.7	-9.3
MODS				*e*SP	SP	06 08 05.6	+3.5
MODS	**Modra-Piesok**	**94.27**	**36**	*i* P	**P**	**05 55 39.7**	**+0.7**
MODS				*e*	pP	05 55 50.3	+0.1
MODS				*e*		05 59 22.0	
MODS				*e*S	SKSac	06 06 13.3	+1.8
MODS				*e*S	S	06 06 38.7	-9.3
MODS				*e*SP	SP	06 08 05.6	+3.5
MODS	**Modra-Piesok**	**94.27**	**36**	*i* P	**P**	**05 55 39.7**	**+0.7**
MODS				*e*pP	pP	05 55 50.3	+0.1
MODS				*e*PP	PP	05 59 22.0	-3.6
MODS				*e*		05 59 38.6	
BOJS	**Bojanci**	**94.56**	**40**	*e*P	**P**	**05 55 40.1**	**-0.3**
BOJS				*e*pP	pP	05 55 51.3	-0.3
BOJS				*e*PP	PP	05 59 24.5	-3.4
OJC	**Ojcow**	**94.66**	**34**	*e*P	**P**	**05 55 39.9**	**-0.8**
OJC				*e*pP	pP	05 55 49.8	-2.2
OJC				*e*PP	PP	05 59 26.8	-1.7
OJC				*e*SKSac	SKSac	06 06 11.5	-2.0
OJC				*e*SP	SP	06 08 04.0	-2.3
OJC				L		06 38 08.2	
	comp=Z,3.9nm,23.6s						
YSS	**Yuzh-Sakhalins**	**94.76**	**322**	*e*P	**P**	**05 55 40.8**	**-0.5**
	comp=Z,62nm,1.5s,mb5.8						
YSS				*e*pP	pP	05 55 50.6	-1.9
YSS				LR	LR		
	comp=Z,2μm,20.0s,MS5.6						
YSS	**Yuzh-Sakhalins**	**94.76**	**322⇑**	*e*P	**P**	**05 55 41.0**	**-0.3**
YSS				*e*	pP	05 55 49.8	-2.7
YSS				*e*		05 59 38.0	
YSS				*e*		06 06 12.0	
YSS				*e*S	S	06 06 48.0	-4.3
YSS				*e*PS	PS	06 08 04.0	-8.4
YSS				*e*SS	SS	06 13 14.0	-1.7
YSS				*e*SSS		06 17 02.0	
YSS				pmax	pmax		
	comp=E,40nm,1.2s						
YSS				pmax	pmax		
	comp=Z,50nm,1.2s,mb5.8						
YSS				smax			
	comp=N,1μm,6.0s						
YSS				MLR	MLR		
	comp=E,2μm,19.0s						
YSS				MLR	MLR		
	comp=Z,2μm,19.0s,MS5.5						
FIAM	**Fiamignano**	**94.78**	**43**	P	**P**	**05 55 41.1**	**-0.4**
KOLL	**Kolacno**	**94.80**	**36**	*e*P	**P**	**05 55 41.7**	**+0.3**
KOLL				*e*pP	pP	05 55 53.2	+0.6
URZ	**Urewera**	**94.93**	**232**	LR	LR	06 30 07.0	
	comp=Z,3μm,18.6s,MS5.8,baz=340,slow=30						
VYHS	**Vyhne**	**95.08**	**36**	*i* P	**P**	**05 55 42.8**	**+0.1**
	comp=Z,51nm,1.6s,mb5.7						
VYHS				*e*	pP	05 55 53.9	-0.1
VYHS				*e*		05 56 03.5	
VYHS				*e*PP	PP	05 59 30.5	-1.4
VYHS				*e*		05 59 40.7	
VYHS				*e*S	SKSac	06 06 17.6	+1.8
VYHS	**Vyhne**	**95.08**	**36**	*i* P	**P**	**05 55 42.8**	**+0.1**
VYHS				*e*pP	pP	05 55 53.9	-0.1
VYHS				*e*		05 56 03.5	
VYHS				*e*PP	PP	05 59 30.5	-1.4
VYHS				*e*		05 59 40.7	
VYHS				*e*S	SKSac	06 06 17.6	+1.8
VYHS				pmax	pmax		
	comp=Z,51nm,1.6s,mb5.7						
VYHS	**Vyhne**	**95.08**	**36**	*i* P	**P**	**05 55 42.8**	**+0.1**
VYHS				*e*pP	pP	05 55 53.9	-0.1
VYHS				*e*		05 56 03.5	
VYHS				*e*PP	PP	05 59 30.5	-1.4
VYHS				*e*		05 59 40.7	
KEST	**Kesra**	**95.10**	**50**	P	**P**	**05 55 43.5**	**+0.5**
	comp=Z,2.6nm,0.9s,mb4.7,baz=67,slow=22,SNR=2.5						
KEST				LR	LR	06 37 06.7	
	comp=Z,894nm,21.9s,MS5.2,baz=344,slow=35						
GUAR	**Guarcino**	**95.14**	**44**	P	**P**	**05 55 42.9**	**-0.2**
	comp=Z,417nm,1.8s,mb6.6						
NIE	**Niedzica**	**95.38**	**34**	*e*P	**P**	**05 55 44.6**	**+0.6**
NIE				*e*pP	pP	05 55 55.5	+0.2
BUD	**Budapest**	**95.74**	**37⇑**	*e*pP	pP	05 55 57.1	+0.1
MIDA	**Miranda**	**95.83**	**43**	P	**P**	**05 55 46.3**	**0.0**
STHS	**Stebnicka Huta**	**95.88**	**34**	*e*P	**P**	**05 55 46.8**	**+0.5**
	comp=Z,27nm,0.9s,mb5.7						
STHS				*e*	pP	05 55 58.0	+0.4
STHS				*e*PP	PP	05 59 33.8	-4.3
STHS				*e*		05 59 46.7	
STHS	**Stebnicka Huta**	**95.88**	**34**	*e*P	**P**	**05 55 46.8**	**+0.5**
STHS				*e*	pP	05 55 58.0	+0.4
STHS				*e*		05 59 33.8	
STHS				pmax	pmax		
	comp=Z,27nm,0.9s,mb5.7						
MNK	**Minsk**	**95.98**	**28**	*e*P	**P**	**05 55 43.0**	**-3.6**
MNK				MLR	MLR		
	comp=Z,10μm,22.0s,MS6.2						
MNK				MLR	MLR		
	comp=E,9μm,22.0s						
PSZ	**Piszkesteto**	**95.99**	**36**	*e*P	**P**	**05 55 46.8**	**0.0**
	comp=E,84nm,1.3s,mb6.0						
PSZ				*e*pP	pP	05 55 57.3	-0.8
PSZ				*e*PP	PP	05 59 37.8	-1.1
PSZ	**Piszkesteto**	**95.99**	**36**	*e*P	**P**	**05 55 47.6**	**+0.7**
PSZ				*e**PP	pP	05 55 58.9	+0.8
PSZ				pmax	pmax		
	comp=Z,84nm,1.3s,mb6.0						
PSZ	**Piszkesteto**	**95.99**	**36⇓**	*i*P	**P**	**05 55 47.4**	**+0.5**
PSZ	**Piszkesteto**	**95.99**	**36⇑**	*e*PcP	PcP	05 55 47.7	+0.7
KECS	**Kecovo**	**96.00**	**35**	*e*P	**P**	**05 55 47.2**	**+0.3**
	comp=Z,19nm,0.9s,mb5.5						
KECS				*e*	pP	05 55 57.6	-0.6
KECS				*e*		05 56 07.6	
KECS				*e*		05 59 53.2	
KECS	**Kecovo**	**96.00**	**35**	*e*P	**P**	**05 55 47.2**	**+0.3**
KECS				*e*	pP	05 55 57.6	-0.6
KECS				pmax	pmax		
	comp=Z,19nm,0.9s,mb5.5						
KECS	**Kecovo**	**96.00**	**35**	*e*P	**P**	**05 55 47.2**	**+0.3**
KECS				*e*pP	pP	05 55 57.6	-0.6
KECS				*e*		05 56 07.6	
KECS				*e*		05 59 53.1	
PKSM	**Moragy**	**96.21**	**38**	⇓P	**P**	**05 55 46.6**	**-1.3**
PKSM	**Moragy**	**96.21**	**38**	⇓*i*P	**P**	**05 55 46.6**	**-1.3**
CRVS	**Cervenica-Dubn**	**96.30**	**34**	*e*P	**P**	**05 55 48.4**	**+0.2**
CRVS				*e*		05 56 05.4	
CRVS				*e*		05 56 16.1	
CRVS				*e*S	SKSac	06 06 21.8	-0.4
CRVS	**Cervenica-Dubn**	**96.30**	**34**	*e*P	**P**	**05 55 48.4**	**+0.2**
CRVS				*e*		05 56 05.4	
CRVS				*e*S	SKSac	06 06 21.8	-0.4
CRVS	**Cervenica-Dubn**	**96.30**	**34**	*e*P	**P**	**05 55 48.4**	**+0.2**
CRVS				*e*sP	sP	05 56 05.4	+1.9
CRVS				*e*		05 56 16.1	
KWP	**Kalwaria**	**96.53**	**33**	*e*P	**P**	**05 55 48.7**	**-0.6**
KWP				*e*pP	pP	05 55 59.0	-1.5
KWP				*e*PP	PP	05 59 43.8	+0.8
KWP				*e*SKS		06 06 19.7	
KWP				*e*S	S	06 07 03.1	-4.5
KWP				LMZ		06 33 51.5	
	comp=Z,6μm,30.4s						
KWP	**Kalwaria**	**96.53**	**33**	*e*P	**P**	**05 55 48.7**	**-0.6**
KWP				*e**PP	pP	05 55 59.0	-1.5
KWP				*e*		05 59 43.8	
KWP				*e*		06 06 19.7	
KWP				*e*S	S	06 07 03.1	-4.5
KWP	**Kalwaria**	**96.53**	**33**	⇓*i*P	**P**	**05 55 49.3**	**0.0**
KOLS	**Kolonicke sedl**	**96.71**	**34**	*e*P	**P**	**05 55 50.5**	**+0.4**
KOLS				*e*	pP	05 56 03.0	+1.6
KOLS				*e*S	SKSac	06 06 24.6	+0.2
KOLS	**Kolonicke sedl**	**96.71**	**34**	*e*P	**P**	**05 55 50.5**	**+0.4**
KOLS				*e*pP	pP	05 56 03.0	+1.6
UZH	**Uzhgorod**	**96.90**	**34**	*e*P	**P**	**05 55 51.6**	**+0.6**
UZH				*e*	pP	05 56 01.8	-0.4
UZH				*e*		05 59 47.0	
UZH				*e*		06 06 24.0	
UZH				*e*S	S	06 07 08.6	-2.2
UZH				*e*PS	PS	06 08 30.0	-5.7
UZH				*e*SS	SS	06 13 50.0	+4.1
ERM	**Erimo**	**97.06**	**318**	*e*P	**P**	**05 55 51.3**	**-0.5**
	comp=Z,96nm,1.3s,mb6.1						
ERM				LR	LR		
	comp=Z,1μm,22.0s,MS5.4						
ERM	**Erimo**	**97.06**	**318**	*e*P	**P**	**05 55 51.3**	**-0.5**
ERM				pmax	pmax		
	comp=Z,96nm,1.3s,mb6.1						
ERM				MLR	MLR		
	comp=Z,1μm,22.0s,MS5.4						
LVV	**L'vov**	**97.11**	**33**	*e*P	**P**	**05 55 50.5**	**-1.4**
LVV				*e*		05 59 48.7	
LVV				*e*		06 06 25.3	
LVV				*e*S	S	06 07 02.1	-10
LVV				*e*		06 08 32.1	
LVV				MLR	MLR		
	comp=N,1μm,25.0s,MS5.6						
LVV				MLR	MLR		
	comp=E,2μm,25.0s,MS5.6						
TOA0	**Torodi Ar. Sit**	**97.20**	**74**	*e*P	**P**	**05 55 51.9**	**-1.1**
TOA0				*e*pP	pP	05 56 01.5	-2.7
TORD	**Torodi Ar. Bea**	**97.20**	**74**	P	**P**	**05 55 51.9**	**-1.1**
TORD				PP	PP	05 59 58.0	+8.5
TORD				PKKP	PKKPbc	06 12 31.5	-0.2
TORD				LR	LR	06 39 29.3	
TORD	**Torodi Ar. Bea**	**97.20**	**74**	P	**P**	**05 55 51.9**	**-1.1**
	comp=E,4.4nm,1.0s,mb4.8,baz=289,slow=4.9,SNR=17						
TORD				PP	PP	05 59 58.0	+8.5
	comp=E,4.2nm,1.1s,baz=286,slow=7.6,SNR=4.2						
TORD				PKKP	PKKPbc	06 12 31.5	-0.2
	comp=E,3.4nm,0.9s,baz=109,slow=2.7,SNR=13						
TORD				LR	LR	06 39 29.3	
	comp=E,4μm,20.7s,MS5.8,baz=275,slow=35						
SNZO	**South Karori**	**97.59**	**229**	PFAKE		05 56 10.0	+16
SNZO				LR	LR		
	comp=Z,5μm,20.0s,MS6.0						
HABR	**Khabarovsk**	**98.20**	**326**	*e*P	**P**	**05 55 57.0**	**+0.2**
HABR				*e*	pP	05 56 05.1	-3.0
HABR				*e*		05 59 54.0	
HABR				*e*S	SKSac	06 06 32.0	0.0
HABR				*e*		06 14 07.7	
BZS	**Buzias**	**98.27**	**37**	⇓P	**P**	**05 55 57.0**	**-0.2**
BZS	**Buzias**	**98.27**	**37**	⇓*i*P	**P**	**05 55 57.0**	**-0.2**
TIP	**Timpagrande**	**98.71**	**44**	*e*P	**P**	**05 55 55.7**	**-3.7**
	comp=Z,47nm,1.4s,mb5.8						
TIP				*e*pP	pP	05 56 09.2	-1.4
GZR	**Gura Zlata**	**99.06**	**37**	⇓*i*P	**P**	**05 56 01.2**	**+0.5**
MOS	**Moscow**	**99.07**	**23**	*e*P	**P**	**05 55 58.2**	**-2.3**
MOS				pmax	pmax		
	comp=Z,54nm,0.8s,mb6.1						
MOS				MLR	MLR		
	comp=Z,5μm,22.3s,MS6.0						
KIEV	**Kiev**	**99.12**	**30**	*e*Pdif	**P**	**05 55 59.2**	**-1.6**
	comp=Z,14nm,0.9s,mb5.5						
KIEV				LR	LR		
	comp=Z,2μm,20.0s,MS5.6						
KIEV	**Kiev**	**99.12**	**30**	*e*P	**P**	**05 55 59.2**	**-1.7**
KIEV				pmax	pmax		
	comp=Z,14nm,0.9s,mb5.5						
KIEV				MLR	MLR		
	comp=Z,2μm,20.0s,MS5.6						
AKASG	**Malin Array Be**	**99.12**	**30**	*i* P	**P**	**05 55 59.2**	**-1.7**
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.8s						
AKASG	**Malin Array Be**	**99.12**	**30**	P	**P**	**05 55 59.3**	**-1.6**
	comp=Z,2.1nm,0.8s,mb4.7,baz=296,slow=3.7,SNR=16						
AKASG				PP	PP	06 00 01.8	-1.0
	comp=Z,2.0nm,0.7s,baz=310,slow=7.9,SNR=4.4						
AKASG				PKKPbc	PKKPbc	06 12 27.2	-0.1
	comp=Z,0.2nm,0.3s,baz=103,slow=2.2,SNR=4.4						
AKASG				LR	LR	06 46 33.9	
	comp=Z,2μm,19.5s,MS5.7,baz=330,slow=39						
AKBB	**Malin Array Si**	**99.12**	**30**	*e*Pdif	**P**	**05 55 58.9**	**-2.0**
OBN	**Obninsk**	**99.14**	**23⇑**	*i*P	**P**	**05 55 57.4**	**-3.5**
OBN				LR	LR		
	comp=Z,7μm,21.0s,MS6.2						
OBN	**Obninsk**	**99.14**	**23⇑**	*i*P	**P**	**05 55 57.3**	**-3.6**
OBN				*i*		06 00 01.2	
OBN				*i* S	SKSac	06 06 29.1	-7.4
OBN				*i* PS	PS	06 08 56.6	-3.1
OBN				*i* SS	SS	06 14 19.3	+2.5
OBN				pmax	pmax		
	comp=Z,109nm,1.7s,mb6.1						
OBN				MLR	MLR		
	comp=Z,3μm,18.0s,MS5.8						
KLR	**Kul'dur**	**99.42**	**328**	*e*P	**P**	**05 55 58.7**	**-3.5**
KLR				*e*		06 09 00.0	
KLR				*e*		06 14 25.5	
BOD	**Bodaibo**	**100.03**	**342**	*e*P	Pdif	05 56 03.3	-1.5
BOD				pmax	pmax		
	comp=Z,58nm,0.9s						
MLR	**Muntele Rosu**	**100.78**	**35**	⇑P	Pdif	05 56 07.3	-0.9
MLR	**Muntele Rosu**	**100.78**	**35**	P	Pdif	05 56 08.2	0.0
	comp=Z,4.0nm,0.9s,baz=19,slow=3.8,SNR=5.4						
MLR				PKKPbc	PKKPbc	06 12 21.2	-1.3
	comp=Z,4.1nm,1.0s,baz=211,slow=6.0,SNR=5.0						
MLR	**Muntele Rosu**	**100.78**	**35**	⇑*i*P	Pdif	05 56 07.3	-0.9
KIS	**Kishinev**	**101.36**	**33**	*e*P	Pdif	05 56 10.0	-0.8
KIS				*e*		06 06 44.0	
KIS	**Kishinev**	**101.36**	**33**	*e*PKP	PP	06 00 12.0	-7.9
KIS	**Kishinev**	**101.36**	**33**	*e*PP	PP	06 00 12.0	-7.9
KIS	**Kishinev**	**101.36**	**33**	*e*PS	PS	06 09 02.0	-22
HNR	**Honiara**	**102.08**	**264**	PFAKE		05 56 30.0	+16
HNR				LR	LR		
	comp=Z,1μm,20.0s,MS5.5						
VRSR	**Storozhevoye**	**103.14**	**25**	*e*P	Pdif	05 56 18.0	-0.7
VRSR				*e*		06 06 54.9	
VRSR				*e*S	Sdif	06 07 56.1	-6.8
VRSR				*e*SP	SP	06 09 30.9	-6.5
VRSR				pmax	pmax		
	comp=N,1.0nm,0.7s						
VRSR				pmax	pmax		
	comp=E,3.0nm,0.7s						
VRSR				pmax	pmax		
	comp=Z,3.0nm,0.7s						
VRSR				smax			
	comp=N,20nm,4.4s						
VRSR				smax			
	comp=E,20nm,4.7s						
VRSR				smax			
	comp=Z,10.0nm,4.7s						
MAJO	**Matsushiro**	**103.21**	**315**	PFAKE		05 56 30.0	+11
MAJO				LR	LR		
	comp=Z,1μm,20.0s,MS5.4						
MAT	**Matsushiro**	**103.21**	**315**	P	Pdif	05 56 14.0	-5.0
MAT				*e*S	Sdif	06 08 07.0	+3.5
MJAR	**Matsushiro Arr**	**103.21**	**315**	Pdiff	Pdif	05 56 19.6	+0.6
	comp=Z,1.8nm,0.6s,baz=45,slow=4.1,SNR=4.4						
MDJ	**Mudanjiang**	**103.55**	**326**	PFAKE		05 56 30.0	+9.5
MDJ				LR	LR		
	comp=Z,3μm,20.0s,MS5.8						
ARU	**Arti**	**104.47**	**12**	*e*Pdif	Pdif	05 56 22.9	-1.7
	comp=Z,14nm,0.9s						
ARU				LR	LR		
	comp=Z,3μm,20.0s,MS5.8						
ARU	**Arti**	**104.47**	**12**	*e*P	Pdif	05 56 21.8	-2.8
ARU				*e*S	SKSac	06 06 58.9	-3.0
ARU				*e*PS	PS	06 09 49.5	-6.5
HIA	**Hailar**	**104.91**	**334**	PFAKE		05 56 40.0	+13
HIA				LR	LR		
	comp=Z,10μm,20.0s,MS6.4						
ELBA	**Catalca**	**104.92**	**38**	*i* P	PKiKP	06 00 43.8	+1.9
SIM	**Simferopol'**	**105.47**	**32**	P		05 56 42.6	
SIM				*e*	PP	06 00 48.0	-2.5
SIM				*e*		06 07 08.0	
SIM				*e*S	SKSdf	06 07 47.0	-4.9
SIM				*e*PS	PS	06 10 12.0	+5.1
SIM				*e*PPS		06 11 03.0	
SIM				*e*SS	SS	06 15 52.0	+7.3
SIM				pmax	pmax		
	comp=Z,80nm,10.0s						
SIM				pmax	pmax		
	comp=Z,200nm,9.6s						
AKHS	**Akhisar**	**105.98**	**40**	*i* P	PKiKP	06 00 45.7	+1.8
CN2	**Changchun**	**106.29**	**327**	PDIF	Pdif	05 56 33.6	+0.9
CN2				PP	PP	06 01 00.6	+4.0
CN2				*e*S	Sdif	06 08 26.3	-2.9
CN2				PS	PS	06 10 15.0	-0.5
CN2				LR	LR		
	comp=N,3μm,21.0s,MS5.9						
CN2				LR	LR		
	comp=E,2μm,21.0s,MS5.9						
CN2				LR	LR		
	comp=Z,4μm,21.0s,MS5.9						
VNA3	**Neumayer Olymp**	**106.36**	**160**	*e*PKiKP	PP	06 00 56.0	-1.3
VNA3				*e*		06 01 03.9	
VNA1	**Neumayer--Stat**	**106.77**	**160**	*e*PKiKP	PP	06 00 59.7	-0.6
VNA1				*e*		06 01 08.0	
GDZ	**Gediz**	**106.85**	**39**	*i* P	PKiKP	06 00 41.6	-3.9
BORA	**Eskisehir**	**106.92**	**38**	*i* P	PP	06 00 55.8	-5.6
VNA2	**Neumayer--Watz**	**107.08**	**160**	*e*PKiKP	PP	06 01 02.5	0.0
VNA2				*e*		06 01 11.4	
QSPA	**South Pole Qui**	**107.16**	**180**	PFAKE		06 01 00.0	+15
QSPA				LR	LR		
	comp=Z,4μm,19.0s,MS6.0						
SBA	**Scott Base**	**107.38**	**193**	PFAKE		06 01 00.0	+15
SBA				LR	LR		
	comp=Z,3μm,19.0s,MS5.9						
ANTO	**Ankara**	**108.27**	**36**	PFAKE		06 01 00.0	+12
ANTO				LR	LR		
	comp=Z,1μm,21.0s,MS5.5						
TLY	**Talaya**	**108.28**	**345**	PFAKE		06 01 00.0	+12
TLY				LR	LR		
	comp=Z,5μm,21.0s,MS6.0						
BOYT	**Boyabat**	**108.36**	**34**	*i* P	PKiKP	06 00 58.1	+10
VNDA	**Vanda**	**108.44**	**193**	*e*PKP	PKiKP	06 00 47.3	+0.1
VNDA				LR	LR		
	comp=Z,4μm,21.0s,MS6.0						
KDHN	**Kadinhani**	**108.78**	**38**	*i* P	PKiKP	06 00 51.4	+2.3
GUMO	**Guam**	**108.84**	**291**	PFAKE		06 01 00.0	+10
GUMO				LR	LR		
	comp=Z,917nm,20.0s,MS5.3						
ZAA0	**Zalesovo Array**	**108.97**	**357**	*e*Pdif	Pdif	05 56 45.0	+0.4
ZALV	**Zalesovo Beam**	**108.97**	**357**	Pdiff	Pdif	05 56 44.9	+0.3
	comp=Z,1.6nm,0.8s,baz=336,slow=3.3,SNR=4.2						
ZALV				PKiKP	PKiKP	06 00 49.3	+0.3
	comp=Z,1.9nm,0.7s,baz=21,slow=1.2,SNR=4.3						
ZALV				PP	PP	06 01 11.4	-4.2
	comp=Z,13nm,1.0s,baz=356,slow=7.4,SNR=7.3						
ZALV				PKKPbc	PKKPbc	06 12 05.5	+7.4
	comp=Z,1.0nm,0.7s,baz=270,slow=0.3,SNR=4.9						
KSRS	**Korea Array**	**109.22**	**321**	PKiKP	PKiKP	06 00 49.4	-0.6
	comp=Z,1.5nm,0.6s,baz=60,slow=0.6,SNR=4.5						
CDAG	**Cicekdag**	**109.32**	**36**	*i* P		06 01 03.2	
BRVK	**Borovoye**	**109.51**	**6**	PFAKE		06 01 00.0	+10
BRVK				LR	LR		
	comp=Z,8μm,19.0s,MS6.3						
ZAK	**Zakamensk**	**109.56**	**344**	*e*P	Pdif	05 56 47.3	+0.1
ZAK				pmax	pmax		
	comp=Z,2.0nm,2.0s						
ZAK				pmax	pmax		
	comp=Z,6.0nm,1.6s						
AKTK	**Aktyubinsk**	**109.94**	**15**	PKPdf	PKiKP	06 00 49.6	-1.3
AKTO	**Aktyubinsk**	**109.94**	**15**	PKiKP	PKiKP	06 00 49.6	-1.3
	comp=Z,2.0nm,0.8s,baz=8.5,slow=9.7,SNR=3.9						
INCN	**Inchon**	**109.97**	**322**	PFAKE		06 01 00.0	+8.6
INCN				LR	LR		
	comp=Z,3μm,20.0s,MS5.8						
AVNT	**Avonos**	**110.18**	**36**	*i* P	PP	06 01 22.0	-3.1
KIV	**Kislovodsk**	**110.28**	**28**	*i* PKIKP	PKiKP	06 00 51.6	-0.1
KIV				*e*		06 01 27.2	
KIV				*e*		06 07 24.7	
KIV				pmax	pmax		
	comp=Z,10.0nm,1.0s						
KIV				MLR	MLR		
	comp=Z,2μm,19.0s,MS5.6						
ERMK	**Ermenek**	**110.50**	**39**	*i* P	PP	06 01 19.5	-8.1
ULN	**Ulaanbaatar**	**110.75**	**341**	*e*PKP	PKiKP	06 00 51.8	-0.7
ULN				LR	LR		
	comp=Z,5μm,19.0s,MS6.2						
ULN	**Ulaanbaatar**	**110.75**	**341**	*d i*PKIKP	PKiKP	06 00 50.9	-1.6
SONM	**Songino Array**	**110.98**	**341**	PKIKP	PKiKP	06 00 53.2	+0.3
SONM	**Songino Array**	**110.98**	**341**	Pdiff	Pdif	05 56 55.6	+2.0
	comp=Z,0.4nm,0.7s,baz=75,slow=1.7,SNR=3.3						
SONM				PKiKP	PKiKP	06 00 53.2	+0.3
	comp=Z,0.8nm,0.7s,baz=356,slow=2.3,SNR=4.1						
SONM				PKKPbc	PKKPbc	06 11 49.0	-2.5
	comp=Z,1.8nm,1.0s,baz=185,slow=2.1,SNR=8.5						
DL2	**Dalian**	**111.80**	**326**	*e*PDIF	Pdif	05 56 58.3	+1.1
DL2				PP	PP	06 01 43.0	+6.3
DL2				PP	PP		
	comp=Z,250nm,6.7s						
DL2				LR	LR		
	comp=N,1μm,16.7s,MS5.6						
DL2				LR	LR		
	comp=E,1μm,17.1s,MS5.6						
DL2				LR	LR		
	comp=Z,2μm,19.0s,MS5.6						
KEMA	**Kemaliye**	**111.81**	**33**	*i* P	PP	06 01 25.3	-11
ANDN	**Andirin**	**111.86**	**36**	*i* P	PP	06 01 23.8	-13
ARTV	**Artvin**	**112.10**	**30**	*i* P	PP	06 01 27.2	-12
KURK	**Kurchatov**	**112.33**	**1**	PFAKE		06 01 10.0	+15
KURK				LR	LR		
	comp=Z,5μm,20.0s,MS6.1						
KURK	**Kurchatov**	**112.33**	**1**	*i* PKIKP	PKiKP	06 00 54.9	-0.5
MALT	**Malatya**	**112.47**	**34**	*e*PKP	PKiKP	06 00 54.2	-1.9
MALT				*e*PP	PP	06 01 39.0	-2.5
ATAB	**Bozova**	**113.02**	**35**	*i* P	PP	06 01 43.0	-2.5
MAK	**Makhachkala**	**113.14**	**25**	*i* PKIKP	PKiKP	06 00 56.0	-1.2
MAK				*i*		06 01 50.4	
MAK				*e*		06 08 04.5	
MAK				*i* PS	PS	06 11 21.4	-0.7
MAK				MLR	MLR		
	comp=Z,5μm,21.0s,MS6.1						
MAK				MLR	MLR		
	comp=N,6μm,22.0s,MS6.2						
MAK				MLR	MLR		
	comp=E,3μm,19.0s,MS6.2						
DIGO	**Kars**	**113.38**	**30**	*i* P	PP	06 01 45.9	-1.9
BNGL	**BINGOL**	**113.42**	**32**	*i* P	PP	06 01 42.1	-6.1
BJT	**Baijiatuau**	**113.72**	**330**	PFAKE		06 01 10.0	+12
BJT				LR	LR		
	comp=Z,6μm,19.0s,MS6.2						
MARD	**Mardin**	**114.47**	**33**	*i* P	PP	06 01 49.5	-6.2
HHC	**Hu-ho-hao-te**	**115.11**	**334**	*e*PKP	PKiKP	06 01 00.6	-0.5
HHC				PP	PP	06 02 08.3	+8.3
HHC				PKS		06 04 38.3	
HHC				SKS	SKSdf	06 08 08.5	-2.2
HHC				SKKS	SKKSac	06 08 53.9	-6.0
HHC				PP	PP		
	comp=Z,771nm,7.6s						
HHC				LR	LR		
	comp=N,2μm,21.0s,MS6.0						
HHC				LR	LR		
	comp=E,4μm,21.4s,MS6.0						
HHC				LR	LR

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WMQ                                SKKS    SKKSac  06 09 20.0 -4.3
WMQ                                SS      SS      06 18 44.0 +3.0
WMQ                                PP      PP
        comp=Z,768nm,7.4s
WMQ                                LR      LR
        comp=N,5μm,24.9s
WMQ                                LR      LR
        comp=E,2μm,17.2s
WMQ                                LR      LR
        comp=Z,7μm,27.5s,MS6.1
TKM2    Tokmak 2        120.01  4  ePKPdf   PKPdf   06 01 09.8 -0.6
TKM2                               LR      LR
        comp=Z,3μm,20.0s,MS6.0
FRU     Bishkek         120.04  4  ePKIKP   PKPdf   06 01 10.0 -0.5
FRU                                e                  06 02 33.0
FRU                                e                  06 05 06.0
FRU                                e                  06 08 02.0
FRU                                e                  06 12 24.0
FRU                                pmax    pmax
        comp=Z,580nm,2.8s
EKS2    Erkin-Say       120.14  5  ePKPdf   PKPdf   06 01 11.4 +0.7
EKS2                               LR      LR
        comp=Z,5μm,20.0s,MS6.1
GTA     Gaotai          120.62 342 PKP      PKPdf   06 01 11.6 -0.1
GTA                                XPKP               06 01 27.4
GTA                                PKS                06 04 46.0
GTA                                PPP                06 05 11.3
GTA                                SKS     SKSdf   06 08 15.8 -5.4
GTA                                SKKS    SKKSac  06 09 29.5 -6.9
GTA                                PP      PP
        comp=Z,511nm,8.0s
GTA                                LR      LR
        comp=N,4μm,20.3s,MS6.2
GTA                                LR      LR
        comp=E,3μm,19.1s,MS6.2
GTA                                LR      LR
        comp=Z,5μm,20.6s,MS6.2
UCH     Uchtor          120.63  5  ePKPdf   PKPdf   06 01 12.1 +0.4
UCH                                e                  06 01 22.8
UCH                                LR      LR
        comp=Z,4μm,19.0s,MS6.1
AML     Almayashu       120.66  5  ePKPdf   PKPdf   06 01 11.9 +0.2
AML                                ePP     PP      06 02 34.9 -3.2
AML                                LR      LR
        comp=Z,5μm,19.0s,MS6.2
TSUM    Tsumeb          121.15 102 ePKPdf   PKPdf   06 01 13.3 +0.1
TSUM                               LR      LR
        comp=Z,2μm,20.0s,MS5.8
TATO    Taipei          121.60 315 PFAKE            06 01 30.0 +16
TATO                               LR      LR
        comp=Z,2μm,19.0s,MS5.7
XAN     Xi'an           121.94 332 PKP      PKPdf   06 01 13.5 -0.9
WHN     Wuhan           122.01 325 PKP      PKPdf   06 01 14.0 -0.6
WHN                                LR      LR
        comp=Z,5μm,23.5s,MS6.1
LZH     Lanzhou         122.28 337 ⇓PKP     PKPdf   06 01 15.3 +0.3
LZH                                XPKP               06 01 29.9
LZH                                PP      PP      06 02 54.5 +5.0
LZH                                PKS                06 04 50.1
LZH                                PPP                06 05 29.0
LZH                                SKS     SKSdf   06 08 22.3 -2.2
LZH                                SKKS    SKKSac  06 09 42.5 -4.9
LZH                                PS      PS      06 12 50.3 +5.5
LZH                                SS      SS      06 19 27.4 +1.2
LZH                                PP      PP
        comp=Z,1μm,8.6s
LZH                                LR      LR
        comp=E,2μm,18.5s
LZH                                LR      LR
        comp=Z,4μm,20.3s,MS6.1
STKA    Stephens Creek  122.62 243 ePKP     PKPdf   06 01 13.8 -1.9
        comp=Z,20nm,0.8s
STKA                               epPKP   pPKPdf  06 01 25.9 -1.3
STKA                               ePP     PP      06 02 52.8 -0.6
STKA    Stephens Creek  122.62 243 PKP      PKPdf   06 01 14.6 -1.0
        comp=Z,25nm,0.8s,baz=74,slow=2.1,SNR=3.7
STKA                               PKKPbc  PKKPbc  06 11 20.6 +11
        comp=Z,2.3nm,0.8s,baz=280,slow=1.7,SNR=4.7
QZH     Quanzhou        123.55 317 ePKP     PKPdf   06 01 17.5 -0.2
QZH                                PP      PP      06 03 04.3 +5.6
QZH                                PP      PP
        comp=Z,1μm,6.6s
QZH                                LR      LR
        comp=N,3μm,14.3s,MS6.1
QZH                                LR      LR
        comp=E,990nm,14.0s,MS6.1
QZH                                LR      LR
        comp=Z,3μm,19.6s
NAY     Al-Naaiem       124.10  35 eP      PKPdf   06 01 17.1 -1.6
NAY                                AMb     AMB     06 01 30.4
        comp=Z,37nm,1.0s
UMR     Umm Al-Rimmam124.12  34 eP      PKPdf   06 01 16.6 -2.1
UMR                                AMb     AMB     06 01 30.7
        comp=Z,86nm,1.2s
RDF     Al-Radifah      124.52  35 eP      PKPdf   06 01 17.7 -1.8
RDF                                AMb     AMB     06 01 22.0
        comp=Z,38nm,0.9s
QRN     Al-Qurain       124.86  34 eP      PKPdf   06 01 18.6 -1.6
QRN                                AMb     AMB     06 01 21.9
        comp=Z,120nm,1.3s
SUR     Sutherland      125.00 118 PFAKE            06 01 30.0 +10
SUR                                LR      LR
        comp=Z,3μm,20.0s,MS6.0
CD2     Chengdu         126.87 334 ePKP     PKPdf   06 01 23.5 -0.4
CD2                                XPKP               06 01 36.9
CD2                                PP      PP      06 03 22.3 +2.0
CD2                                PKS                06 04 57.8
CD2                                SKS     SKSdf   06 08 30.3 -3.0
CD2                                SKKS    SKKSac  06 10 10.3 -6.6
CD2                                PP      PP
        comp=Z,70nm,3.6s
CD2                                LR      LR
        comp=N,2μm,23.4s
CD2                                LR      LR
        comp=Z,2μm,23.4s,MS5.8
CASY    Casey           126.99 195 PFAKE            06 01 30.0 +7.0
CASY                               LR      LR
        comp=Z,5μm,20.0s,MS6.2
KBL     Kabul           127.50  11 ePKPdf   PKPdf   06 01 25.3 +0.2
KBL                                e                  06 01 35.8
WB2     Warramunga Arr  128.41 258 ePKP     PKPdf   06 01 25.7 -1.4
WB2                                epPKP   pPKPdf  06 01 36.7 -1.9
WB2                                ePP     PP      06 03 42.6 +10
WRAB    Tennant Creek   128.41 258 ePKPdf   PKPdf   06 01 25.7 -1.3
WRAB                               LR      LR
        comp=Z,2μm,19.0s,MS5.7
WRAB    Tennant Creek   128.41 258⇑iPKIKP   PKPdf   06 01 25.1 -2.0
WRA     Warramunga Arr  128.42 258 PKhKP            06 01 11.8
        comp=Z,0.4nm,0.5s,baz=77,slow=4.0,SNR=26
WRA                                PKP     PKPdf   06 01 25.8 -1.2
        comp=Z,30nm,0.7s,baz=81,slow=2.3,SNR=128
MAW     Mawson          128.50 172 PKP      PKPdf   06 01 25.1 -0.7
MAW                                LR      LR
        comp=Z,9μm,20.0s,MS6.4
MAW     Mawson          128.50 172 PKP      PKPdf   06 01 25.1 -0.7
        comp=Z,18nm,0.9s,baz=112,slow=1.4,SNR=11
BOSA    Boshof          128.89 113 ePKPdf   PKPdf   06 01 27.3 -0.4
BOSA                               e                  06 01 38.1
BOSA    Boshof          128.89 113 PKP      PKPdf   06 01 27.2 -0.5
        comp=Z,20nm,1.0s,baz=302,slow=4.5,SNR=11
KAKA    Kakadu          129.07 267 ePKP     PKPdf   06 01 28.6 +0.2
        comp=Z,24nm,0.9s
KAKA                               epPKP   pPKPdf  06 01 38.7 -1.3
LBTB    Lobatse         129.13 108 ePKPdf   PKPdf   06 01 27.9 -0.4
LBTB                               e                  06 01 39.2
LBTB                               LR      LR
        comp=Z,3μm,22.0s,MS5.9
LBTB    Lobatse         129.13 108 PKP      PKPdf   06 01 28.1 -0.2
        comp=Z,9.4nm,0.9s,baz=277,slow=3.6,SNR=6.4
ASAR    Alice Springs   129.14 253 PKhKP            06 01 12.1
        comp=Z,0.8nm,0.7s,baz=85,slow=3.7,SNR=5.8
ASAR                               PKP     PKPdf   06 01 27.3 -1.1
        comp=Z,13nm,0.8s,baz=86,slow=1.8,SNR=18
MIR     Mirnyy          129.96 187⇑iPKIKP   PKPdf   06 01 29.0 +0.4
MIR                                i                  06 01 39.0
MIR                                pmax    pmax
        comp=Z,200nm,2.0s
THN     Thein Dam       130.45  5  ex      x       06 01 37.0
LSZ     Lusaka          130.53  96 PKP      PKPdf   06 01 32.0 +0.9
LSZ                                SKPbc   SKPbc   06 04 53.1 +0.9
LSZ                                LR      LR
        comp=Z,2μm,19.0s,MS5.7
LSZ     Lusaka          130.53  96 PKP      PKPdf   06 01 32.0 +0.9
        comp=Z,7.3nm,1.0s,baz=358,slow=1.7,SNR=7.9
LSZ                                SKPbc   SKPbc   06 04 53.1 +0.9
        comp=Z,1.1nm,0.3s,baz=280,slow=2.8,SNR=7.5
MATP    Matopo          131.50 102 PKP      PKPdf   06 01 34.0 +1.1
        comp=Z,5.7nm,0.8s,baz=350,slow=1.9,SNR=8.6
MATP                               SKPbc   SKPbc   06 04 57.5 +1.8
        comp=Z,1.3nm,0.3s,baz=276,slow=4.6,SNR=6.7
SMLA    Simla           131.84  3  eP      PKPdf   06 01 32.5 -0.9
LSA     Lhasa           132.06 347 PKP      PKPdf   06 01 35.0 +1.1
LSA                                XPKP               06 01 48.4
LSA                                LR      LR
        comp=N,2μm,20.6s
LSA                                LR      LR
        comp=E,2μm,26.8s
LSA                                LR      LR
        comp=Z,4μm,24.7s,MS6.0
LSA     Lhasa           132.06 347 ePKIKP   PKPdf   06 01 34.6 +0.7
LSA                                MLR     MLR
        comp=Z,4μm,20.0s,MS6.1
KMI     Kunming         132.33 331 PKP      PKPdf   06 01 34.8 +0.3
KMI                                XPKP               06 01 48.3
KMI                                PP      PP      06 03 57.4 +1.4
KMI                                PKS                06 05 09.8
KMI                                PPP                06 06 48.3
KMI                                SKS     SKSdf   06 08 41.1 -2.4
KMI                                SKKS    SKKSac  06 10 45.3 -5.6
KMI                                PP      PP
        comp=Z,980nm,7.4s
KMI                                LR      LR
        comp=N,2μm,20.4s,MS5.9
KMI                                LR      LR
        comp=E,2μm,21.0s,MS5.9
KMI                                LR      LR
        comp=Z,2μm,21.0s,MS5.9
DDI     Dehra Dun       132.68  2  eP      PKPdf   06 01 36.0 +1.0
QIZ     Qiongzhong      133.40 319 PKP      PKPdf   06 01 35.6 -1.0
QIZ                                XPKP               06 01 51.9
QIZ                                PP      PP      06 04 07.6 +4.3
QIZ                                PKS                06 05 11.1
QIZ                                PP      PP
        comp=Z,389nm,11.2s
QIZ                                LR      LR
        comp=N,2μm,20.0s
QIZ                                LR      LR
        comp=Z,2μm,20.9s,MS5.9
QIZ     Qiongzhong      133.40 319 PFAKE            06 01 50.0 +13
QIZ                                LR      LR
        comp=Z,3μm,20.0s,MS5.9
ATD     Arta Tunnel     133.63  54 PKP      PKPdf   06 01 38.3 +1.2
        comp=Z,4.6nm,0.7s,baz=260,slow=20,SNR=5.2
FORT    Forrest         134.23 244 ePKP     PKPdf   06 01 31.5 -6.3
        comp=Z,5.7nm,0.8s
FORT                               e                  06 01 37.6
FORT                               ePKS               06 05 05.1
FORT    Forrest         134.23 244 ePKP     PKPdf   06 01 31.5 -6.3
FORT                               ePKPdf  PKPdf   06 01 37.6 -0.2
FORT                               ePKS               06 05 05.1
NDI     New Delhi       134.28  3  eP      PKPdf   06 01 37.0 -1.0
KMBO    Kilima Mbogo    135.21  74 PKP      PKPdf   06 01 38.4 -1.7
KMBO                               ePKPdf  PKPdf   06 01 41.5 +1.3
KMBO                               LR      LR
        comp=Z,4μm,21.0s,MS6.1
KMBO    Kilima Mbogo    135.21  74 PKP      PKPdf   06 01 38.4 -1.7
        comp=Z,2.9nm,0.9s,baz=6.2,slow=7.4,SNR=3.0
MYLDM   Lahad Datu      135.75 297 ⇑P       PKPdf   06 01 43.3 +2.1
SHL     Shillong        135.85 344 eP       PKPdf   06 01 41.0 -0.1
SHL                                ex      x       06 05 14.0
IMP     Imphal          136.01 341 eP       PKPdf   06 01 38.0 -3.4
FITZ    Fitzroy Crossi  136.40 262 ePKP             06 01 29.0
        comp=Z,6.2nm,0.8s
FITZ                               epPKP   PKPdf   06 01 40.6 -1.6
FITZ                               ePKS    SKPbc   06 05 12.0 +0.1
FITZ    Fitzroy Crossi  136.40 262 ePKP             06 01 29.0
FITZ                               epPKP   PKPdf   06 01 40.6 -1.6
FITZ                               ePKPdf  PKPdf   06 01 41.5 -0.7
FITZ                               ePKS    SKPbc   06 05 12.0 +0.1
SDKM    Sandakan        136.62 298 ⇓P       PKPdf   06 01 44.4 +1.6
KKM     Kota Kinabalu   137.22 300 ePKPdf   PKPdf   06 01 42.3 -1.6
KKM     Kota Kinabalu   137.22 300 ⇑P       PKPdf   06 01 43.1 -0.8
CHG     Chiang Mai      139.53 331 ⇑P       PKPdf   06 01 47.1 -0.9
        comp=Z,45nm,1.0s
CHTO    Chiang Mai      139.53 331 ePKPdf   PKPdf   06 01 47.7 -0.3
CHTO                               LR      LR
        comp=Z,3μm,19.0s,MS6.1
BHPL    Bhopal          139.70  3  ex      x       06 01 40.8
BLSP    Bilaspur        140.81 357 eP       PKPdf   06 01 48.3 -2.0
NST     Nakhon Sawan    141.64 327 P        PKPdf   06 01 42.2 -10
NGP     Nagpur          141.84  1  eP       PKPdf   06 01 48.8 -3.3
MBWA    Marble Bar      142.15 258 ePKPpre          06 01 46.0
MBWA                               ePKPdf  PKPdf   06 01 52.5 -0.1
MBWA                               LR      LR
        comp=Z,2μm,20.0s,MS5.8
AKL     Akola           142.19  4  eP      PKPdf   06 01 52.3 -0.4
SBUM    Sibu            142.51 298 ⇑P       PKPdf   06 01 49.7 -3.8
KLBR    Kellerberrin    142.80 240 ePKP     PKPdf   06 01 47.9 -5.6
        comp=Z,69nm,1.0s
NWAO    Narrogin (SRO)  142.90 238 ePKPpre          06 01 48.7
NWAO                               LR      LR
        comp=Z,1μm,22.0s,MS5.6
POO     Poona           143.97  10 eP       PKPdf   06 01 54.1 -1.8
MUN     Mundaring       143.98 239 ePKP     PKPdf   06 01 53.5 -2.0
MUN                                e                  06 02 05.9
NNT     Nongplab        144.41 325 P        PKPdf   06 01 55.5 -1.3
LATR    Latur           144.42  5  eP       PKPdf   06 01 55.2 -1.6
KSM     Kuching         144.64 299 ePKPdf   PKPdf   06 01 54.8 -2.5
KSM     Kuching         144.64 299 ⇑P       PKPdf   06 01 56.1 -1.2
VIS     Vishakhapatnam  145.08 354 eP       PKPbc   06 01 55.5 -1.8
KAD     Karad           145.23  9  eP       PKPbc   06 01 56.5 -1.3
HYB     Hyderabad       145.54  2  ePKP     PKPdf   06 01 57.0 -1.7
HYB                                e                  06 02 08.0
HYB                                ePP     PP      06 05 17.0 -0.2
HYB     Hyderabad       145.54  2  i PKP    PKPdf   06 01 57.0 -1.7
        comp=Z,440nm,1.0s
HYB                                epPKP   pPKPdf  06 02 08.0 -2.2
HYB                                ePP     PP      06 05 20.0 +2.8
KTGM    Kuala Trenggan  147.84 312 ⇑P       PKPdf   06 02 05.0 +2.4
SNG     Songkhla        148.19 318 P        PKPdf   06 02 06.0 +2.8
        comp=Z,202nm,1.0s
OPO     Ambohidratompo148.96  97 PKPbc      PKPbc   06 02 06.6 -1.8
        comp=Z,63nm,1.2s,baz=240,slow=2.2,SNR=34
KULM    Kulim           149.57 316 ePKPdf   PKPdf   06 02 05.7 +0.2
KULM                               ePKPbc  PKPbc   06 02 10.2 +0.2
KULM                               ePKPab  PKPab   06 02 16.0 +1.0
KULM    Kulim           149.57 316 ⇑P       PKPdf   06 02 10.0 +1.5
MNGI    Mangalore       149.61  10 eP       PKPdf   06 02 02.9 -2.5
MYKOM   Kota Tinggi     149.66 306 ⇓P       PKPdf   06 02 07.0 +1.3
MDRS    Chennai         149.88 359⇓ex       PKiKP   06 02 12.5 +0.8
MDRS                               ex      SKPdf   06 05 36.5 -0.5
IPM     Ipoh            149.91 314 ⇓P       PKPdf   06 02 07.2 +1.2
KGM     Kluang          149.93 307 ⇓P       PKPdf   06 02 07.2 +1.1
FRIM    Kepong          150.36 311 ⇓P       PKPdf   06 02 07.5 +0.7
PSI     Prapat          152.56 315 PKP      PKPdf   06 02 09.2 -0.8
        comp=Z,11nm,0.8s,baz=231,slow=4.2,SNR=16
PSI                                PKPbc   PKPbc   06 02 16.8 -0.2
        comp=Z,53nm,0.8s,baz=220,slow=1.1,SNR=28
PSI                                PKPab   PKPab   06 02 26.4 -1.0
        comp=Z,91nm,1.1s,baz=302,slow=1.8,SNR=12
KOD     Kodaikanal      152.60  5  eP       PKPdf   06 02 09.4 -0.6
TRD     Trivandrum      154.26  6  eP       PKPdf   06 02 10.5 -2.0
TRD                                AMb     AMB     06 02 17.6
        comp=Z,65nm,1.7s
PALK    Pallekele       155.63 358 ePKPdf   PKPdf   06 02 14.7 +0.3
PALK                               LR      LR
        comp=Z,2μm,22.0s,MS5.9
```

*IDC **13** 05:42:55.8±1.8, 4729N×15293E, h0km, mb3.9/6, mb1 4.1/8, mb1mx3.8/24, mbtmp4.0/8, ML3.7/2, Error ellipse: s-maj=52.8km s-min=23.1km az=148.0*

*ISCJB **13** 05:42:57.6±1.6, 468N±0.1×1528E±02, h43km±13km, mb3.8/6, Error ellipse: s-maj=31.9km s-min=7.7km az=138.4*

*MOS **13** 05:42:58.4±1.2, 4682N×15275E, h54km, mb4.2/4, Error ellipse: s-maj=21.8km s-min=12.9km az=59.0*

ISC 13 05:42:59.4±1.5, 468N±01×1528E±02, h45km±12km, n22, σ0958/24, mb3.8/6, 3C-1D, Kuril Islands

```
Code    Station Name    Δ°   AZ°   Phase ID                Time      Res
                                  Op      ISC             h m s     ISC
KUR     Kuril'sk        3.80 248  ePN     Pn              05 43 55.0 -0.2
KUR                               eS      Sn              05 44 39.5 +0.9
KUR                               pmax    pmax
        comp=Z,110nm,0.5s
KUR                               smax
        comp=N,940nm,1.0s
KUR                               smax
        comp=E,570nm,1.0s
SKR     Severo-Kuril's  4.46  28  ePN     Pn              05 44 05.0 +0.7
SKR                               eS      Sn              05 44 54.7 -0.1
SKR                               pmax    pmax
        comp=N,40nm,0.5s
SKR                               pmax    pmax
        comp=Z,100nm,0.5s
SKR                               smax
        comp=N,120nm,0.5s
SKR                               smax
        comp=E,80nm,0.5s
YSS     Yuzh-Sakhalins  6.91 275⇓ePN     Pn              05 44 37.2 -0.8
ASAJ    Asahikawa       7.68 253  PN      Pn              05 44 52.7 +4.2
ASAJ                              pmax    pmax
        comp=Z,1.0nm,0.3s
ASAJ    Asahikawa       7.68 253  Pn      Pn              05 44 52.7 +4.2
        comp=Z,1.1nm,0.3s,baz=74,slow=13,SNR=8.5
ERM     Erimo           8.41 239⇑ePN     Pn              05 44 58.0 -0.6
MJAR    Matsushiro Arr  14.95 232 Pn      Pn              05 46 33.7 +6.1
        comp=Z,0.3nm,0.3s,baz=34,slow=8.4,SNR=4.1
KSRS    Korea Array     20.63 252 P       P               05 47 40.3 +5.6
        comp=Z,0.9nm,0.6s,baz=68,slow=12,SNR=2.2
BILL    Bilibino        22.39  13 eP      P               05 47 53.4 0.0
TIXI    Tiksi           27.37 344⇑eP      P               05 48 39.6 -0.2
TIXI                              pmax    pmax
        comp=Z,2.0nm,1.2s,mb3.5
COLA    College         36.22  38⇑eP      P               05 49 56.3 -1.1
INK     Inuvik          41.72  32 P       P               05 50 44.0 +0.8
INK                               pmax    pmax
        comp=Z,1.0nm,0.6s
INK     Inuvik          41.72  32 P       P               05 50 44.0 +0.8
        comp=Z,1.2nm,0.6s,mb3.7,baz=265,slow=6.6,SNR=18
FINES   FINESS Array B  63.92 335 eP      P               05 53 26.9 -0.1
FINES   FINESS Array B  63.92 335 P       P               05 53 26.9 0.0
        comp=Z,0.5nm,0.4s,mb3.9,baz=32,slow=7.5,SNR=6.4
NB2     NORSAR Subarra  68.12 341 P       P               05 53 54.4 +0.4
        comp=Z,0.1nm,0.5s,mb3.1,baz=30,slow=6.5
NOA     NORSAR Array B  68.12 341 P       P               05 53 54.2 +0.2
NOA                               pmax    pmax
        comp=Z,1.0nm,0.6s
NOA     NORSAR Array B  68.12 341 P       P               05 53 54.1 +0.2
        comp=Z,1.0nm,0.6s,mb4.0,baz=28,slow=6.5,SNR=4.1
AKASG   Malin Array Be  71.40 326 eP      P               05 54 14.7 +0.4
AKASG   Malin Array Be  71.40 326 P       P               05 54 14.0 -0.3
        comp=Z,0.6nm,0.4s,mb3.9,baz=35,slow=6.7,SNR=4.1
TXAR    Lajitas Array   77.64  60 P       P               05 54 51.1 +0.2
TXAR                              pmax    pmax
        comp=Z,4.0nm,1.0s
TXAR    Lajitas Array   77.64  60 P       P               05 54 51.0 +0.2
        comp=Z,3.8nm,1.0s,mb4.3,baz=299,slow=3.7,SNR=4.0
```

CASC 13 05:55:59.0±1.7, 903N×8293W, h6km±9km, MD3.6, 2D, Panama-Costa Rica border region

```
Code    Station Name    Δ°   AZ°   Phase ID                Time      Res
                                  Op      ISC             h m s     ISC
BAR1                    0.43 299⇓eP       Pg              05 56 07.0 -0.3
BAR1                              eS      Sg              05 56 12.9 -0.1
CNI     Changuinola     0.56  47 eP       Pg              05 56 09.2 -0.6
DVD     David           0.76 141 eP       Pg              05 56 12.8 -0.8
URSC    Urasca          1.16 314 eP       Pg              05 56 20.6 -0.6
URSC                              eS      Sg              05 56 35.9 -0.4
LCR2    La Lucha 2      1.27 304 eP       Pn              05 56 21.9 -1.4
LCR2                              eS      Sg              05 56 39.8 -0.1
LAJ     Bijagual        1.44 305⇓iP       Pn              05 56 29.8 +4.2
LAJ                               eS      Sb              05 56 53.5 +8.8
PRS1    Puriscal        1.66 305 eP       Pn              05 56 27.8 -0.9
PRS1                              eS      Sn              05 56 49.6 -0.6
CGA2    Cerro Gallo 2   1.80 303 eP       Pn              05 56 30.3 -0.3
CGA2                              eS      Sn              05 56 54.7 +0.9
```

MEX 13 06:00:30.4±0.9, 1708N×10043W, h41km±9km, MD3.5, Guerrero

```
Code    Station Name    Δ°   AZ°   Phase ID                Time      Res
                                  Op      ISC             h m s     ISC
CAIG    El Cayaco       0.15 101 i P      Pn              06 00 35.9 -1.5
CAIG                              i S      Sn              06 00 40.7 -1.7
ACX     Acapulco        0.53 113 i P      Pn              06 00 40.5 -1.1
ACX                               i S      Sn              06 00 47.0 -2.5
PLIG    Platanillo      1.57  34 i P      Pn              06 00 53.7 -2.2
PLIG                              i S      Sn              06 01 13.4 -1.6
```

IDC 13 06:05:50.8±4.5, 957S×15537E, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.7/13, mbtmp3.7/4, Error ellipse: s-maj=126.1km s-min=33.1km az=116.0, D'Entrecasteaux Islands region

```
Code    Station Name    Δ°   AZ°   Phase ID                Time      Res
                                  Op      ISC             h m s     ISC
WRA     Warramunga Arr  22.77 241 P       P               06 10 54.9 -0.1
        2.5nm,0.8s,baz=65,slow=9.8,SNR=10.0
ASAR    Alice Springs   24.84 233 P       P               06 11 14.2 -0.9
        1.5nm,0.7s,baz=64,slow=9.6,SNR=4.5
SONM    Songino Array   71.69 328 P       P               06 17 14.6 +0.1
        0.7nm,0.9s,baz=134,slow=6.4,SNR=3.8
MKAR    Makanchi Array  85.56 319 P       P               06 18 31.9 +0.9
        0.2nm,0.4s,baz=96,slow=4.3,SNR=2.6
```

*NEIC **13** 06:07:39.8, 4509S×16743E, h123km, MG4.1(WEL), After WEL.*

WEL 13 06:07:39.8±0.2, 4510S×16744E, h123km±1km, ML4.2/16, Error ellipse: s-maj=2.1km s-min=1.2km az=90.0, South Island

```
Code    Station Name    Δ°   AZ°   Phase ID                Time      Res
                                  Op      ISC             h m s     ISC
DCZ     Deep Cove       0.43 207  P       Pn              06 07 57.2 -0.4
DCZ                               S       Sn              06 08 10.4 -0.7
DCZ     Deep Cove       0.43 207  PN      Pn              06 07 57.2 -0.4
DCZ                               SN      Sn              06 08 10.4 -0.8
MSZ     Milford Sound   0.55  40  P       Pn              06 07 58.4 +0.1
MSZ                               S       Sn              06 08 11.6 -0.7
MSZ     Milford Sound   0.55  40  PN      Pn              06 07 58.4 +0.1
MSZ                               SN      Sn              06 08 12.2 -0.1
MLZ     Mavora Lakes    0.58 116  P       Pn              06 07 58.3 -0.2
MLZ     Mavora Lakes    0.58 116  PN      Pn              06 07 58.3 -0.2
MLZ                               SN      Sn              06 08 11.7 -1.0
WHZ     Wether Hill Ro  0.88 156  P       Pn              06 08 00.9 0.0
WHZ     Wether Hill Ro  0.88 156  PN      Pn              06 08 00.9 0.0
WKZ     Wanaka          1.15  77  P       Pn              06 08 03.7 +0.1
WKZ                               S       Sn              06 08 20.9 -0.7
WKZ     Wanaka          1.15  77  PN      Pn              06 08 03.7 +0.1
WKZ                               SN      Sn              06 08 20.9 -0.7
EAZ     Earnscleugh     1.33  97  P       Pn              06 08 05.3 -0.1
EAZ     Earnscleugh     1.33  97  PN      Pn              06 08 05.3 -0.2
JCZ     Jackson Bay     1.39  43  P       Pn              06 08 05.8 -0.3
JCZ     Jackson Bay     1.39  43  PN      Pn              06 08 05.8 -0.3
TUZ     Tuapeka         1.77 120  P       Pn              06 08 10.3 -0.2
TUZ     Tuapeka         1.77 120  PN      Pn              06 08 10.3 -0.1
APZ     The Paps        1.78 168 ePN      Pn              06 08 10.4 -0.2
SYZ     Scrubby Hill    1.87 141  PN      Pn              06 08 11.7 0.0
LBZ     Lake Benmore    2.08  71 eP       Pn              06 08 12.8 -1.6
LBZ                               S       Sn              06 08 37.2 -3.6
LBZ     Lake Benmore    2.08  71  PN      Pn              06 08 12.8 -1.6
LBZ                               SN      Sn              06 08 37.2 -3.6
FOZ     Fox Glacier     2.23  47 eP       Pn              06 08 15.3 -0.9
FOZ     Fox Glacier     2.23  47  PN      Pn              06 08 15.3 -0.8
ODZ     Otahua Downs    2.27  90  P       Pn              06 08 15.6 -1.1
ODZ     Otahua Downs    2.27  90  PN      Pn              06 08 15.6 -1.2
HHSZ    Highcliff Hill  2.36 111  PN      Pn              06 08 17.4 -0.5
HHSZ                              SN      Sn              06 08 43.7 -3.4
RPZ     Rata Peaks      2.94  63 eP       Pn              06 08 23.1 -2.2
RPZ     Rata Peaks      2.94  63  PN      Pn              06 08 23.1 -2.2
WVZ     Waitaha Valley  3.12  51 eP       Pn              06 08 25.4 -2.3
WVZ                               S       Sn              06 08 59.6 -5.0
WVZ     Waitaha Valley  3.12  51  PN      Pn              06 08 25.4 -2.3
WVZ                               SN      Sn              06 08 59.6 -5.1
MQZ     McQueen's Vall  3.99  71 eP       Pn              06 08 38.0 -1.1
MQZ     McQueen's Vall  3.99  71  PN      Pn              06 08 38.0 -1.1
LTZ     Lake Taylor     4.19  58 eP       Pn              06 08 38.9 -2.9
LTZ                               S       Sn              06 09 24.9 -5.0
LTZ     Lake Taylor     4.19  58  PN      Pn              06 08 38.9 -2.9
LTZ                               SN      Sn              06 09 24.9 -5.0
DSZ     Denniston Nort  4.62  45 eP       Pn              06 08 45.3 -2.3
DSZ                               S       Sn              06 09 34.6 -5.7
DSZ     Denniston Nort  4.62  45  PN      Pn              06 08 45.3 -2.3
DSZ                               SN      Sn              06 09 34.6 -5.7
```

THZ	Tophouse	5.19	52	*e*P		Pn	06 08 52.5	-2.8
THZ	Tophouse	5.19	52	PN		Pn	06 08 52.5	-2.8

NEIC ***13*** *06:32:13.0, 1720N×10055W, h28km, MD3.9(MEX), After MEX.*

MEX 13 06:32:13.3±0.6, 1719N×10052W, h29km±9km, MD4.1, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.28**	**120**	*i* P	Pb	06 32 19.1	-1.1
CAIG				*i* S	Sb	06 32 23.3	-1.7
PLIG	**Platanillo**	**1.54**	**39**	*e*P	Pn	06 32 37.0	-1.9
PLIG				*i* S	Sn	06 32 54.9	-3.1
YAIG	**Yautepec**	**2.16**	**39**	*i* P	Pn	06 32 45.2	-2.2
YAIG				*i* S	Sn	06 33 11.2	-2.1
SZVM	**Salazar**	**2.38**	**27**	*e*P	Pn	06 32 48.0	-2.4
SZVM				*i* S	Sn	06 33 16.4	-2.3
PNIG	**Pinotepa**	**2.42**	**109**	*i* P	Pn	06 32 48.8	-2.2
PNIG				*i* S	Sn	06 33 17.8	-1.8
UNM	**Universidad Na**	**2.48**	**31**	*e*P	Pn	06 32 52.0	+0.2
UNM				*i* S	Sn	06 33 20.2	-1.0
MOIG	**Morelia**	**2.56**	**346**	*i* P	Pn	06 32 52.5	-0.4
MOIG				*i* S	Sn	06 33 20.7	-2.3
MOIG	**Morelia**	**2.56**	**346**	*i* P	Pn	06 32 51.5	-1.4
MOIG				*i* S	Sn	06 33 20.7	-2.3
TPIG	**Tehuac#an**	**3.25**	**67**	*e*P	Pn	06 33 00.4	-1.9
TPIG				*i* S	Sn	06 33 38.2	-1.8
DEIG	**Demacu**	**3.40**	**24**	*i* P	Pn	06 33 07.3	+2.9
DEIG				*i* S	Sn	06 33 44.8	+1.0
VHO	**Vista Hermosa**	**3.62**	**91**	*i* P	Pn	06 33 04.0	-3.5
VHO				*e*S	Sn	06 33 45.1	-4.2
SFJM	**Santa Fe**	**4.06**	**324**	*i* P	Pn	06 33 10.0	-3.5
HUIG	**Huatulco**	**4.46**	**108**	*i* S	Sn	06 34 11.3	+1.3
CMIG	**Matias Romero**	**5.39**	**90**	*i* P	Pn	06 33 30.1	-1.7
CMIG				*e*S	Sn	06 34 27.3	-5.6

NEIC ***13*** *07:13:30.6, 1891N×6771W, h6km, MD3.6(RSPR), After RSPR.*

RSPR 13 07:13:30.6, 1891N×6771W, h6km±1km, MD3.6/22, MD3.6/22, 13C-9D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGPR	**Aguadilla, PR**	**0.72**	**128**	⇑*e*P	Pg	07 13 43.2	-1.2
AGPR				*e*S	Sg	07 13 54.5	+0.6
IMO	**Isla Mona**	**0.82**	**193**	⇓*i*P	Pg	07 13 44.7	-1.6
IMO				*e*S	Sg	07 13 56.3	-0.6
MPR	**Mayaguez**	**0.88**	**142**	⇑*e*P	Pg	07 13 45.6	-1.9
MPR				*e*S	Sg	07 13 58.8	-0.2
LSP	**Las Mesas**	**0.94**	**141**	⇓*e*P	Pg	07 13 46.8	-1.9
LRS	**Lares**	**1.03**	**127**	⇑*e*P	Pg	07 13 47.9	-2.5
LRS				*e*S	Sg	07 14 02.0	-1.7
CRPR	**Cabo Rojo, PR**	**1.07**	**147**	⇓*e*P	Pg	07 13 48.5	-2.5
CRPR				*e*S	Sg	07 14 03.7	-1.2
AOPR	**Arecibo Observ**	**1.07**	**121**	⇑*e*P	Pg	07 13 48.6	-2.5
AOPR				*e*S	Sg	07 14 02.2	-2.8
GBPR	**Guanica, Bosqu**	**1.22**	**139**	⇑*e*P	Pg	07 13 51.9	-2.1
GBPR	**Guanica, Bosqu**	**1.22**	**139**	*e*S	Sg	07 14 08.8	-1.0
CELP	**Cerrillos**	**1.36**	**127**	⇓*e*P	Pn	07 13 53.5	-2.6
CELP				*e*S	Sb	07 14 11.6	-2.6
OBIP	**Obispado Ponce**	**1.36**	**129**	⇑*e*P	Pn	07 13 53.1	-3.0
OBIP				*e*S	Sb	07 14 10.9	-3.2
SMN1	**Samana, DR**	**1.50**	**281**	⇓*e*P	Pn	07 13 54.4	-3.6
SMN1	**Samana, DR**	**1.50**	**281**	*e*S	Sn	07 14 13.9	-4.1
ICM	**Isla Caja Muer**	**1.52**	**132**	⇓*e*P	Pn	07 13 56.5	-1.8
ICM				*e*S	Sn	07 14 15.0	-3.4
SJG	**San Juan**	**1.68**	**118**	⇑*e*P	Pn	07 13 58.1	-2.5
SJG				*e*S	Sn	07 14 18.2	-4.3
SJG	**San Juan**	**1.68**	**118**	⇑*e*P	Pn	07 13 58.0	-2.6
SJG				*e*S	Sn	07 14 19.1	-3.4
CBYP	**Canovanas**	**1.87**	**110**	⇓*e*P	Pn	07 13 57.8	-5.3
CBYP	**Canovanas**	**1.87**	**110**	*e*S	Sn	07 14 22.0	-5.2
CPD	**Cerro la Pandu**	**1.92**	**117**	⇓*e*P	Pn	07 13 60.0	-3.8
CPD				*e*S	Sn	07 14 24.6	-3.6
HUMP	**Col San Antoni**	**1.93**	**113**	⇑*e*P	Pn	07 14 01.7	-2.2
HUMP				*e*S	Sn	07 14 24.9	-3.5
STDO	**Santo Domingo**	**2.15**	**258**	⇑*e*P	Pn	07 14 05.0	-2.0
STDO				*e*S	Sn	07 14 32.5	-1.5
MTP	**Monte Pirata**	**2.21**	**111**	⇑*e*P	Pn	07 14 02.0	-5.8
MTP	**Monte Pirata**	**2.21**	**111**	*e*S	Sn	07 14 30.9	-4.4
STVI	**Saint Thomas**	**2.68**	**102**	⇓*e*P	Pn	07 14 11.9	-2.3
STVI				*e*S	Sn	07 14 42.8	-4.2
TBVI	**Tortola**	**2.98**	**99**	⇑*e*P	Pn	07 14 15.7	-2.7
TBVI				*e*S	Sn	07 14 50.8	-3.7
SDDR	**Presa de Saban**	**3.38**	**272**	⇑*e*P	Pn	07 14 22.4	-1.6
SDDR				*e*S	Sn	07 15 02.0	-2.4

CASC 13 07:16:14.5±0.9, 865N×8286W, h32km±4km, MD3.6, 1C-1D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BAR1		**0.73**	**323**	⇑*e*P	Pn	07 16 27.7	-1.0
BAR1				*e*S	Sb	07 16 39.5	+0.8
CNI	**Changuinola**	**0.83**	**24**	*e*P	Pn	07 16 30.1	+0.1
URSC	**Urasca**	**1.48**	**323**	⇓*i*P	Pn	07 16 39.3	+0.3
URSC				*e*S	Sn	07 16 58.8	+1.5
LCR2	**La Lucha 2**	**1.56**	**314**	*e*P	Pn	07 16 40.0	-0.1
PRS1	**Puriscal**	**1.95**	**313**	*e*P	Pn	07 16 44.8	-0.6
PRS1				*e*S	Sn	07 17 09.6	+0.8
PTP	**Ponta Puerca**	**19.27**	**59**	*e*S		07 16 31.6	

IDC 13 07:27:32.7±1.8, 1660S×17822W, h0km, mb3.8/6, mb1 4.1/6, mb1mx3.8/15, mbtmp3.7/6, Error ellipse: s-maj=146.8km s-min=23.7km az=151.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**39.43**	**240**	P	P	07 35 04.3	-0.3
	1.5nm,0.7s,baz=85,slow=12,SNR=3.3						
WRA	**Warramunga Arr**	**45.07**	**258**	P	P	07 35 51.0	+0.2
	0.4nm,0.5s,baz=97,slow=6.8,SNR=5.6						
ASAR	**Alice Springs**	**45.34**	**253**	P	P	07 35 52.9	0.0
	2.2nm,0.7s,baz=87,slow=8.6,SNR=26						
TXAR	**Lajitas Array**	**85.14**	**58**	P	P	07 40 11.4	+0.3
	0.2nm,0.4s,baz=207,slow=7.8,SNR=4.0						
PDAR	**Pinedale Array**	**86.28**	**43**	P	P	07 40 17.0	+0.6
	0.4nm,0.5s,baz=191,slow=1.5,SNR=3.6						
YKA	**Yellowknife Ar**	**93.07**	**25**	P	P	07 40 47.6	-0.4
	0.1nm,0.6s,baz=240,slow=4.7,SNR=4.1						

NEIC ***13*** *08:03:02.5, 17.12N×100.39W, h32km, MD4.0(MEX), After MEX.*

MEX 13 08:03:02.4±0.6, 1712N×10040W, h34km±6km, MD4.0, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.14**	**120**	*i* P	Pb	08 03 06.9	-1.7
CAIG				*i* S	Sb	08 03 11.4	-1.5
ACX	**Acapulco**	**0.53**	**119**	*i* P	Pb	08 03 11.6	-1.9
ACX				*i* S	Sb	08 03 18.5	-2.5
ZIIG	**Zihuatanejo**	**1.13**	**296**	*e*P	Pn	08 03 20.1	-1.7
ZIIG				*i* S	Sn	08 03 33.3	-2.8
PLIG	**Platanillo**	**1.53**	**34**	*e*P	Pn	08 03 25.1	-2.2
PLIG				*i* S	Sn	08 03 43.8	-2.1
YAIG	**Yautepec**	**2.15**	**36**	*e*P	Pn	08 03 33.7	-2.1
YAIG				*i* S	Sn	08 03 59.2	-2.0
PNIG	**Pinotepa**	**2.29**	**108**	*i* P	Pn	08 03 37.2	-0.6
PNIG				*i* S	Sn	08 04 02.5	-2.3
UNM	**Universidad Na**	**2.48**	**28**	*i* P	Pn	08 03 39.3	-1.2
UNM				*i* S	Sn	08 04 07.8	-1.8
PPM	**Popocatepetl**	**2.57**	**41**	*i* P	Pn	08 03 41.1	-0.5
PPM				*i* S	Sn	08 04 11.3	-0.3
UTMO	**Huajuapan**	**2.58**	**74**	*i* P	Pn	08 03 40.5	-1.2
UTMO				*i* S	Sn	08 04 09.3	-2.5
PBVM	**Pinon**	**2.62**	**28**	*i* P	Pn	08 03 43.6	+1.2
PBVM				*i* S	Sn	08 04 12.9	-0.1
MOIG	**Morelia**	**2.65**	**344**	*e*P	Pn	08 03 43.5	+0.7
MOIG				*i* S	Sn	08 04 12.6	-1.1
MMIG	**Aquila**	**3.04**	**293**	*i* P	Pn	08 03 46.5	-1.6
MMIG				*i* S	Sn	08 04 21.7	-1.6
TPIG	**Tehuac#an**	**3.17**	**65**	*i* P	Pn	08 03 47.7	-2.2
TPIG				*i* S	Sn	08 04 24.8	-1.7
DEIG	**Demacu**	**3.42**	**22**	*i* P	Pn	08 03 53.5	+0.2
DEIG				*i* S	Sn	08 04 34.0	+1.4
VHO	**Vista Hermosa**	**3.50**	**90**	*i* P	Pn	08 03 54.2	-0.3
CMIG	**Matias Romero**	**5.27**	**90**	*i* P	Pn	08 04 19.8	+1.0

IDC ***13*** *08:10:17.5±1.8, 4029N×7178E, h0km, mb3.4/3, mb1 3.5/6, mb1mx3.4/24, mbtmp3.4/6, ML3.0/3, Error ellipse: s-maj=41.6km s-min=19.7km az=163.0*

ISCJB ***13*** *08:10:21.5±0.6, 4076N±006×7167E±008, h10km, mb3.2/3, Error ellipse: s-maj=10.8km s-min=5.7km az=39.9*

NNC ***13*** *08:10:22.0±5.0, 4069N×7173E, h0km, mb3.8, mpv3.6, Error ellipse: s-maj=52.7km s-min=26.0km az=11.0*

NEIC ***13*** *08:10:26.3±0.9, 4081N×7165E, h52km±13km, Error ellipse: s-maj=13.5km s-min=10.2km az=157.0*

ISC 13 08:10:23.3±0.6, 4080N±005×7173E±007, h10km, n24, σ1$31/29, mb3.2/3, 2C-2D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**1.99**	**47**	*e*Pn	**Pn**	**08 10 57.5**	**+0.5**
AML				*e*Sg	**Sg**	**08 11 27.9**	**+0.8**
AML	**Almayashu**	**1.99**	**47**	P	**Pn**	**08 10 57.5**	**+0.6**
	SNR=100						
EKS2	**Erkin-Say**	**2.41**	**39**	*e*Pn	**Pn**	**08 11 04.5**	**+1.7**
EKS2				*e*Sg	**Sg**	**08 11 37.8**	**-2.9**
EKS2	**Erkin-Say**	**2.41**	**39**	P	**Pn**	**08 11 07.2**	**+4.4**
	SNR=24						
KK31	**Karatay Array**	**2.48**	**339**	Pn	**Pn**	**08 11 05.3**	**+1.7**
	10nm,0.4s,baz=154,slow=17,SNR=170						
KK31				⇑Lg		08 11 44.1	
	56nm,0.4s,baz=150,slow=30						
UCH	**Uchtor**	**2.53**	**55**	*e*Pn	**Pn**	**08 11 05.1**	**+0.7**
UCH	**Uchtor**	**2.53**	**55**	P	**Pn**	**08 11 05.2**	**+0.8**
	SNR=11						
AAK	**Ala-Archa**	**2.77**	**47**	P	**Pn**	**08 11 08.0**	**+0.4**
	SNR=7.5						
KZA	**Kyzart**	**2.94**	**63**	P	**Pn**	**08 11 10.8**	**+0.8**
	SNR=13						
USP	**Ospenovka**	**3.22**	**39**	P	**Pn**	**08 11 14.9**	**+1.0**
	SNR=7.5						
TKM2	**Tokmak 2**	**3.58**	**52**	⇑Pn	**Pn**	**08 11 19.7**	**+0.9**
	4.4nm,0.3s						
TKM2				⇓Pg	**Pg**	**08 11 29.6**	**-2.3**
	11nm,0.5s						
TKM2				⇓Lg		08 12 19.3	
	31nm,0.8s						
TKM2	**Tokmak 2**	**3.58**	**52**	*e*Pn	**Pn**	**08 11 19.9**	**+1.0**
TKM2				Pg	**Pg**	**08 11 29.6**	**-2.3**
TKM2				Lg		08 12 19.3	
TKM2	**Tokmak 2**	**3.58**	**52**	P	**Pn**	**08 11 20.0**	**+1.2**
	SNR=14						
ULHL	**Ulahol**	**3.68**	**65**	P	**Pg**	**08 11 31.6**	**-2.2**
	SNR=6.0						
KBL	**Kabul**	**6.60**	**200**	*e*P	**Pn**	**08 12 01.6**	**+1.3**
KBL				*e*S	**Sn**	**08 13 14.9**	**-0.7**
MKAR	**Makanchi Array**	**9.70**	**48**	Pn	**Pn**	**08 12 43.0**	**+0.2**
	0.1nm,0.3s,baz=232,slow=14,SNR=6.3						
AB31	**Akbulak array**	**11.87**	**319**	P	**Pn**	**08 13 09.8**	**-2.6**
	0.4nm,0.5s,baz=129,slow=14,SNR=8.5						
AB31	**Akbulak array**	**11.87**	**319**	P	**Pn**	**08 13 09.8**	**-2.6**
AKTK	**Aktyubinsk**	**13.58**	**320**	Pn	**Pn**	**08 13 35.9**	**+0.1**
AKTO	**Aktyubinsk**	**13.58**	**320**	Pn	**Pn**	**08 13 35.9**	**+0.1**
	0.1nm,0.3s,baz=116,slow=12,SNR=2.6						
ZALV	**Zalesovo Beam**	**15.83**	**29**	Pn	**Pn**	**08 14 06.7**	**+0.7**
	0.1nm,0.3s,baz=211,slow=7.9,SNR=4.2						
SONM	**Songino Array**	**25.62**	**62**	P	**P**	**08 15 51.6**	**-1.0**
	0.2nm,0.5s,mb2.9,baz=262,slow=10.0,SNR=2.1						
TORD	**Torodi Ar. Bea**	**66.45**	**267**	P	**P**	**08 21 08.9**	**-4.1**
	0.4nm,0.5s,mb3.7,baz=59,slow=4.7,SNR=6.4						
YKA	**Yellowknife Ar**	**76.93**	**3**	P	**P**	**08 22 13.4**	**-2.0**
	0.1nm,0.4s,mb3.1,baz=350,slow=5.3,SNR=5.8						

NEIC ***13*** *08:14:58.2, 1720N×100.59W, h28km, MD3.8(MEX), After MEX.*

MEX 13 08:14:58.5±0.6, 1717N×10051W, h37km±8km, MD3.8, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.26**	**118**	*i* P	Pn	08 15 04.8	-1.4
CAIG				*i* S	Sn	08 15 09.7	-1.7
ACX	**Acapulco**	**0.65**	**118**	*i* P	Pn	08 15 02.1	-9.1
ACX				*i* S	Sn	08 15 11.9	-8.3
ACX	**Acapulco**	**0.65**	**118**	*i* P	Pn	08 15 09.7	-1.4
ACX				*i* S	Sn	08 15 16.9	-3.2
MEIG	**Mezcala**	**1.13**	**49**	*i* P	Pn	08 15 15.9	-2.0
MEIG				*i* S	Sn	08 15 29.8	-2.4
PLIG	**Platanillo**	**1.55**	**38**	*i* P	Pn	08 15 22.9	-0.7
PLIG				*i* S	Sn	08 15 41.4	-1.1
YAIG	**Yautepec**	**2.17**	**39**	*e*P	Pn	08 15 30.8	-1.3
YAIG				*i* S	Sn	08 15 57.5	-0.3
YAIG	**Yautepec**	**2.17**	**39**	*e*P	Pn	08 15 30.8	-1.3
YAIG				*i* S	Sn	08 15 56.6	-1.2
MOIG	**Morelia**	**2.57**	**346**	*i* P	Pn	08 15 35.7	-2.0
MOIG				*i* S	Sn	08 16 05.5	-2.2
PPM	**Popocatepetl**	**2.60**	**43**	*e*P	Pn	08 15 37.7	-0.4
PPM				*i* S	Sn	08 16 07.2	-1.2
UTMO	**Huajuapan**	**2.67**	**75**	*i* P	Pn	08 15 37.8	-1.2
UTMO				*i* S	Sn	08 16 07.6	-2.4
TPIG	**Tehuac#an**	**3.25**	**67**	*i* S	Sn	08 16 22.8	-1.6
VHO	**Vista Hermosa**	**3.61**	**91**	*i* P	Pn	08 15 52.5	+0.5
VHO				*i* S	Sn	08 16 32.4	-1.0

NEIC ***13*** *08:32:28.9, 17.16N×100.31W, h35km, MD3.5(MEX), After MEX.*

MEX 13 08:32:28.8±0.5, 1716N×10031W, h36km±6km, MD3.5, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.12**	**159**	*i* P	Pn	08 32 33.6	-1.4
CAIG				*i* S	Sn	08 32 37.3	-2.0
ACX	**Acapulco**	**0.47**	**127**	*i* P	Pn	08 32 37.4	-1.7
ACX				*i* S	Sn	08 32 44.8	-1.4
MEIG	**Mezcala**	**1.01**	**41**	*e*P	Pn	08 32 44.7	-1.8
MEIG				*i* S	Sn	08 32 57.3	-2.1
ZIIG	**Zihuatanejo**	**1.19**	**292**	*i* P	Pn	08 32 47.0	-1.9
ZIIG				*i* S	Sn	08 33 01.8	-2.1
UTMO	**Huajuapan**	**2.48**	**74**	*i* P	Pn	08 33 05.1	-1.6
UTMO				*i* S	Sn	08 33 34.0	-1.8
MOIG	**Morelia**	**2.64**	**342**	*e*P	Pn	08 33 08.9	-0.1
MOIG				*i* S	Sn	08 33 39.4	-0.4

CSEM ***13*** *08:34:07.2±0.2, 3953N×2987E, h16km±2km, MD2.7, Error ellipse: s-maj=4.6km s-min=3.4km az=84.0*

ISK ***13*** *08:34:07.5, 3954N×2990E, h17km, MD2.7*

ISCJB ***13*** *08:34:08.5±0.5, 3954N±004×2996E±005, h26km±8km, Error ellipse: s-maj=7.3km s-min=5.6km az=28.8*

DDA ***13*** *08:34:08.0, 3964N×2982E, h7km±8km, Md2.8*

ISC 13 08:34:08.3±0.5, 3956N±003×2992E±005, h16km±6km, n13, σ0$92/21, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BORA	**Eskisehir**	**0.52**	**52**	*i* P	**Pg**	**08 34 18.5**	**-0.2**
BORA				*i* S	**Sg**	**08 34 25.6**	**0.0**
ALT	**Altintas**	**0.52**	**164**	*e*PG	**Pg**	**08 34 18.1**	**-0.6**
ALT				*e*SG	**Sg**	**08 34 25.6**	**-0.1**
GDZ	**Gediz**	**0.58**	**216**	*i* P	**Pg**	**08 34 18.4**	**-1.3**
GDZ				*i* S	**Sg**	**08 34 29.0**	**+1.5**
ESKT	**Eskisehir**	**0.72**	**93**	*i* P	**Pb**	**08 34 24.2**	**+1.7**
ESKT				*i* S	**Sb**	**08 34 36.4**	**+4.3**
SEYT	**Eskypehyr**	**0.72**	**93**	*i* P	**Pb**	**08 34 24.2**	**+1.7**
SEYT				*i* S	**Sb**	**08 34 36.4**	**+4.3**
IZI	**Iznik**	**0.85**	**336**	*e*PG	**Pg**	**08 34 23.8**	**-1.1**
IZI				*e*SG	**Sg**	**08 34 36.8**	**+0.7**
GULT	**Gulveren**	**0.98**	**27**	*e*PG	**Pg**	**08 34 27.6**	**+0.1**
DST	**Dursunbey**	**1.00**	**273**	*e*PG	**Pg**	**08 34 27.0**	**-0.7**
DST				*e*SG	**Sg**	**08 34 41.7**	**+0.9**
YLV	**Yalova**	**1.09**	**337**	*e*PN	**Pn**	**08 34 28.4**	**-0.6**
HRT	**Hereke**	**1.28**	**351**	*e*PN	**Pn**	**08 34 32.0**	**+0.4**
KCT	**Karacabey**	**1.40**	**301**	*e*PN	**Pn**	**08 34 32.3**	**-0.9**
KULA	**Kula-Manisa**	**1.43**	**224**	*e*PN	**Pn**	**08 34 32.6**	**-1.1**
BTOK	**Tokmak**	**1.47**	**279**	*i* P	**Pn**	**08 34 35.5**	**+1.3**
BTOK				*i* S	**Sn**	**08 34 60.0**	**+6.8**

CASC ***13*** *08:42:54.9±2.6, 1794N×105.18W, h0km±287km, mb5.5(NEIC)*

MOS ***13*** *08:43:45.8±0.8, 1738N×100.12W, h31km, mb5.6/69, MS4.9/18, Error ellipse: s-maj=6.7km s-min=3.9km az=83.5*

ISCJB ***13*** *08:43:46.8±0.1, 1728N±002×100.18W±0.01, h43km, mb5.4/179, MS4.9/49, Error ellipse: s-maj=3.3km s-min=1.7km az=22.9*

BJI ***13*** *08:43:46.0, 17.10N×100.30W, h33km, mB5.5, Ms5.7, Msz5.3*

NEIC ***13*** *08:43:47.5, 17.14N×100.31W, h34km, mb5.5/123, After MEX.*

MEX ***13*** *08:43:47.5±0.7, 17.14N×100.30W, h36km±5km, MD5.3*

GCMT ***13*** *08:43:47.5±0.2, 1740N×100.23W, h67km±2km, MW5.3/82, Moment Tensor Solution. s65,c105; s82,c147; Duration: 1s1 Moment tensor: Scale 1017Nm; Mrr0.01±.03; Mθθ-0.49±.03; Mφφ0.47±.03; Mrθ-0.95±.02; Mθφ-0.39±.03; Mφr0.55±.02; Best double couple: M0 1.25700×1017 NP1:φs28.00000°, δ29.00000°, λ0.00000°. NP2:φs297.00000°, δ90.00000°, λ119.00000°. Principal axes: T 1.2950, Plg38.0000°, Azm234.0000°; N -0.0770, Plg29.0000°, Azm117.0000°; P -1.2190, Plg38.0000°, Azm1.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

SZGRF ***13*** *08:43:48.8, 17.19N×99.38W, h37km, mb5.2, MS5.0, Guerrero, Mexico*

IDC ***13*** *08:43:50.0±2.0, 1738N×100.12W, h58km±17km, mb4.6/27, mb1 4.8/32, mb1mx4.7/34, mbtmp4.6/32, MS4.9/26, Ms1 4.9/26, ms1mx4.7/33, Error ellipse: s-maj=15.0km s-min=9.2km az=52.0*

ISC 13 08:43:48.9±0.2, 1730N±002×10012W±002, h46km, h46km±2.2km: pP-P, n914, σ0$81/894, mb5.4/179, MS4.9/49, 114C-97D, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.29**	**209**	*i* P	**Pn**	**08 43 52.2**	**-5.3**
CAIG				*i* S	**Sn**	**08 43 56.2**	**-7.3**
ACX	**Acapulco**	**0.47**	**155**	*i* P	**Pn**	**08 43 55.4**	**-4.1**
MEIG	**Mezcala**	**0.79**	**38**	*i* P	**Pn**	**08 44 03.4**	**-0.2**
MEIG				*i* S	**Sn**	**08 44 16.1**	**+1.8**
PLIG	**Platanillo**	**1.24**	**28**	*i* P	**Pn**	**08 44 09.9**	**+0.2**
PLIG				*i* S	**Sn**	**08 44 27.5**	**+2.2**
ZIIG	**Zihuatanejo**	**1.32**	**284**	*i* P	**Pn**	**08 44 06.1**	**-4.7**
ZIIG				*i* S	**Sn**	**08 44 21.0**	**-6.2**
YAIG	**Yautepec**	**1.85**	**33**	*e*P	**Pn**	**08 44 18.0**	**-0.1**
YAIG				*i* S	**Sn**	**08 44 43.5**	**+3.2**
PNIG	**Pinotepa**	**2.11**	**115**	*e*P	**Pn**	**08 44 21.2**	**-0.5**
PNIG				*i* S	**Sn**	**08 44 46.2**	**-0.6**
SZVM	**Salazar**	**2.13**	**19**	*i* P	**Pn**	**08 44 23.5**	**+1.5**
SZVM				*i* S	**Sn**	**08 44 49.4**	**+2.2**
UNM	**Universidad Na**	**2.21**	**24**	*i* P	**Pn**	**08 44 25.0**	**+2.0**
UNM				*e*S	**Sn**	**08 44 54.3**	**+5.2**
PPM	**Popocatepetl**	**2.26**	**39**	*i* P	**Pn**	**08 44 24.4**	**+0.6**
PPM				*i* S	**Sn**	**08 44 54.1**	**+3.7**
PPM	**Popocatepetl**	**2.26**	**39**	*e*P	**Pn**	**08 44 21.8**	**-2.0**
PPM				*i* P		08 44 24.4	
PPM				*i* S	**Sn**	**08 44 54.1**	**+3.7**
UTMO	**Huajuapan**	**2.27**	**76**	*i* P	**Pn**	**08 44 25.1**	**+1.1**
UTMO				*i* S	**Sn**	**08 44 53.7**	**+3.0**
PBVM	**Pinon**	**2.35**	**25**	*i* P	**Pn**	**08 44 24.7**	**-0.3**
PBVM				*i* S	**Sn**	**08 44 56.6**	**+4.1**
MOIG	**Morelia**	**2.57**	**337**	*i* P	**Pn**	**08 44 26.2**	**-1.8**
MOIG				*i* S	**Sn**	**08 44 57.0**	**-1.1**
TPIG	**Tehuac#an**	**2.85**	**67**	*e*P	**Pn**	**08 44 33.1**	**+1.2**
TPIG				*i* S	**Sn**	**08 45 08.0**	**+2.9**
DEIG	**Demacu**	**3.16**	**19**	*i* P	**Pn**	**08 44 36.3**	**+0.2**
DEIG				*i* S	**Sn**	**08 45 14.9**	**+2.4**
MMIG	**Aquila**	**3.22**	**288**	*i* P	**Pn**	**08 44 32.9**	**-4.1**
MMIG				*i* S	**Sn**	**08 45 08.3**	**-5.8**
VHO	**Vista Hermosa**	**3.25**	**94**	*e*P	**Pn**	**08 44 38.8**	**+1.5**
VHO				*i* S	**Sn**	**08 45 16.1**	**+1.4**
OXX	**Oaxaca**	**3.26**	**93**	*e*P	**Pn**	**08 44 38.1**	**+0.7**
OXX				*i* S	**Sn**	**08 45 14.9**	**0.0**
HUIG	**Huatulco**	**4.14**	**111**	*e*P	**Pn**	**08 44 50.0**	**+0.4**
HUIG				*i* S	**Sn**	**08 45 36.3**	**-0.4**
LVIG	**Laguna Verde**	**4.26**	**55**	*e*P	**Pn**	**08 44 59.0**	**+7.7**
CMIG	**Matias Romero**	**5.01**	**92**	*i* P	**Pn**	**08 45 02.6**	**+1.1**
CMIG				*i* S	**Sn**	**08 45 57.2**	**-1.0**
CMIG				S	**Sn**	**08 46 00.5**	**+2.3**
CMIG				LR	LR	08 47 09.6	
CMIG	**Matias Romero**	**5.01**	**92**	*i* P	**Pn**	**08 45 02.6**	**+1.1**
CMIG				*i* S	**Sn**	**08 45 57.2**	**-1.0**
CJM	**Chamela**	**5.16**	**296**	*i* P	**Pn**	**08 45 01.3**	**-2.3**
CJM				*i* S	**Sn**	**08 45 58.2**	**-3.6**
TUIG	**Tuzandepetl**	**5.48**	**82**	*e*P	**Pn**	**08 45 07.8**	**-0.2**
ANIG	**Ahuacatlan**	**5.59**	**313**	*i* P	**Pn**	**08 45 09.1**	**-0.4**
ANIG				*i* S	**Sn**	**08 46 18.1**	**+5.7**
CCIG	**Comitan**	**7.71**	**96**	*e*P	**Pn**	**08 45 41.1**	**+2.4**
MAIG	**Mazatlaan**	**8.32**	**316**	*e*P	**Pn**	**08 45 48.2**	**+1.2**
SCIG	**Sabancuy**	**8.66**	**78**	*i* P	**Pn**	**08 45 52.4**	**+0.8**
RTR	**El Reti

TUC Tucson 17.79 329 ePn Pn 08 47 53.1 +0.1
216A Three Points, 17.88 327 ⇓P Pn 08 47 54.6 +0.4
baz=18,SNR=10
Z18A Geronimo 18.08 332 P Pn 08 47 57.7 +1.1
baz=18,SNR=32
BRAL Brewton 18.10 39 ePn Pn 08 47 57.6 +0.7
comp=Z,1μm,1.4s
MIAR Mount Ida 18.15 18 eP Pn 08 47 56.0 -1.5
comp=Z,453nm,1.4s
MIAR Mount Ida 18.15 18 eP Pn 08 47 56.0 -1.4
MIAR pmax pmax
comp=Z,453nm,1.4s
BAR1 18.20 114 eP Pn 08 48 00.4 +2.1
116A Eloy 18.45 328 P Pn 08 48 01.1 0.0
baz=18,SNR=21
ANMO Albuquerque 18.47 343 ePn Pn 08 48 01.3 -0.1
comp=Z,299nm,1.5s
ANMO Albuquerque 18.47 343 d iP Pn 08 48 01.0 -0.3
ANMO Albuquerque 18.47 343 P Pn 08 48 01.2 -0.1
comp=Z,1.0nm,0.3s,baz=153,slow=12,SNR=64
ANMO LR LR 08 56 11.5
comp=Z,8μm,19.4s,baz=162,slow=40
UALR University of 18.74 20 ePn Pn 08 48 03.0 -1.6
comp=Z,548nm,1.3s
115A Sonoran Desert 18.83 327 ⇓P Pn 08 48 05.5 -0.2
baz=19,SNR=10
Z16A Peralta Trail, 18.94 330 P Pn 08 48 06.2 -0.8
baz=19,SNR=53
Y16A Circle Bar Ran 19.40 330 P Pn 08 48 11.7 -0.9
baz=19,SNR=99
MGV Manicaragua 19.55 73 eP Pn 08 48 14.6 +0.1
MGV eS S 08 51 55.0 +3.7
comp=N,2.4nm,2.4s
MGV e
comp=E,1.8nm,3.4s
LRAL Lakeview Retre 19.63 35 ePn Pn 08 48 12.6 -2.7
comp=E,312nm,1.1s
Z14A Wintersburg 19.72 327 P Pn 08 48 14.7 -1.7
baz=20,SNR=22
X16A Lo Mia Camp, P 19.83 331 ⇓P Pn 08 48 16.3 -1.4
baz=20,SNR=118
Y15A Casa Rosa Ranc 19.88 329 P Pn 08 48 16.4 -1.7
baz=20,SNR=28
HBAR Harrisburg 20.04 23 eP P 08 48 17.5 -0.5
HBAR e 08 48 31.6
Y14A Wickenburg 20.20 328 P P 08 48 20.3 +0.5
baz=20,SNR=31
X15A Humboldt 20.26 330 P P 08 48 21.2 +0.8
baz=20,SNR=54
DWPF Disney 20.29 55 ePn P 08 48 21.1 +0.3
GLA Glamis 20.53 323 eP P 08 48 23.9 +0.5
GLA Glamis 20.53 323 P P 08 48 23.9 +0.5
baz=20,SNR=45
Y13A Salome 20.54 326 P P 08 48 24.1 +0.7
baz=20,SNR=63
X14A Yava 20.56 329 ⇑P P 08 48 24.3 +0.6
baz=20
PLAL Pickwick Lake 20.63 29 eP P 08 48 22.1 -2.3
GNAR Gosnell 20.64 24 ePn P 08 48 25.7 +1.1
WUAZ Wupatki 20.72 333 eP P 08 48 26.5 +1.1
comp=E,451nm,1.0s
WUAZ Wupatki 20.72 333 P P 08 48 26.7 +1.2
baz=21,SNR=84
W15A Williams 20.84 331 P P 08 48 28.1 +1.4
baz=21,SNR=54
HALT Halls 20.86 25 eP P 08 48 25.7 -1.3
SDCO Great Sand Dun 20.91 348 eP P 08 48 27.4 -0.1
comp=E,306nm,1.4s
DVTC Desert V Tower 21.02 320 P P 08 48 29.3 +0.7
baz=21,SNR=12
SWSC Sam W. Stewart 21.03 321 ⇑P P 08 48 29.2 +0.4
baz=21,SNR=19
PDMCI Parker Dam,Lak 21.07 326 P P 08 48 29.6 +0.4
baz=21,SNR=33
X13A Yucca 21.14 327 P P 08 48 30.2 +0.3
baz=21,SNR=68
MVCO Mesa Verde 21.16 341 eP P 08 48 29.9 -0.2
MVCO Mesa Verde 21.16 341 P P 08 48 30.1 -0.1
baz=21,SNR=71
GLAT Glass 21.20 25 eP P 08 48 30.4 -0.1
W14A Seligman 21.25 330 P P 08 48 32.0 +0.9
baz=21,SNR=49
BCIP Isla Barro Col 21.32 110 eP P 08 48 34.2 +2.1
BC3 Big Chuckw Mtn 21.33 323 P P 08 48 32.2 +0.2
baz=21,SNR=46
PARMO Parma 21.36 23 eP P 08 48 31.1 -1.1
MONP Monument Peak 21.37 320 ⇓P P 08 48 32.8 +0.4
baz=21,SNR=8.2
BAR Barrett 21.39 319 eP P 08 48 33.4 +0.7
UTMT University of 21.43 26 eP P 08 48 33.3 +0.3
CBKS Cedar Bluff 21.44 1 eP P 08 48 31.6 -1.5
CCCC Cccc 21.45 76 eP P 08 48 38.7 +5.2
IRM Iron Mountain 21.52 324 ⇑P P 08 48 34.4 +0.4
baz=22,SNR=18
W13A Hualapai Mount 21.56 328 P P 08 48 35.2 +0.7
baz=22,SNR=37
V14A Boquillas Ranc 21.60 330 ⇓P P 08 48 35.8 +0.9
baz=22,SNR=58
NEE2 Needles Airpor 21.69 326 ⇓P P 08 48 36.1 +0.3
baz=22,SNR=8.8
WVT Waverly 21.69 28 eP P 08 48 33.5 -2.4
109C Camp Elliot, M 21.80 319 ⇓P P 08 48 37.6 +0.5
baz=22
SWET Sewanee 21.87 33 eP P 08 48 35.9 -1.8
PFO Pinyon Flat Ob 21.89 321 P P 08 48 38.1 +0.1
comp=E,355nm,1.6s,mb5.5,SNR=8.5
PFO Pinyon Flat Ob 21.89 321 eP P 08 48 38.3 +0.4
comp=E,233nm,1.6s,mb5.4
PFO Pinyon Flat Ob 21.89 321 eP P 08 48 38.3 +0.3
PFO pmax pmax
comp=Z,233nm,1.6s,mb5.4
PFO Pinyon Flat Ob 21.89 321 P P 08 48 37.7 -0.3
comp=Z,34nm,1.1s,mb4.7,baz=136,slow=8.1,SNR=18
PFO LR LR 08 57 12.5
comp=Z,2μm,19.5s,MS4.6,baz=144,slow=37
PFO Pinyon Flat Ob 21.89 321 P P 08 48 38.5 +0.6
baz=22,SNR=13
BELC Belle Mtn. 21.89 322 ⇓P P 08 48 38.3 +0.3
baz=22,SNR=10
KSU1 Kansas State U 21.94 7 eP P 08 48 36.6 -1.9
T16A Glen Canyon Da 22.03 335 P P 08 48 39.8 +0.3
baz=22,SNR=41
LMGC Las Mercedes 22.07 79 eP P 08 48 42.8 +2.8
LMGC eS S 08 52 50.3 +9.3
comp=N,2μm,21.1s
LMGC e
comp=E,3μm,22.2s
CCM Cathedral Cave 22.10 19 eP P 08 48 38.1 -2.0
STH Stony Hill 22.22 84 ⇓eP P 08 48 40.7 -1.0
W12A Cal Nev Ari 22.23 327 ⇑P P 08 48 41.8 +0.2
baz=22,SNR=22
GMRC Granite Mounta 22.26 324 P P 08 48 42.1 +0.2
baz=22,SNR=37
U14A Mt Trumbull 22.28 331 P P 08 48 42.5 +0.4
baz=22,SNR=28
FVM French Village 22.30 21 eP P 08 48 39.9 -2.3
comp=E,396nm,1.4s,mb5.7
FVM French Village 22.30 21 eP P 08 48 39.9 -2.4
FVM pmax pmax
comp=Z,396nm,1.4s,mb5.7
MURC Murrieta 22.33 320 P P 08 48 42.9 +0.1
baz=22,SNR=24
T15A Red Dirt Ranch 22.43 334 P P 08 48 43.9 +0.2
baz=22,SNR=45
SIUC Southern Illin 22.48 23 eP P 08 48 42.1 -2.1
comp=Z,400nm,1.3s,mb5.7
V12A Nelson 22.54 327 P P 08 48 45.1 +0.2
baz=22,SNR=44
SMCO Snowmass 22.60 346 eP P 08 48 45.2 -0.3
comp=Z,148nm,1.1s,mb5.3
BBRC Big Bear Sol-O 22.62 322 ⇓P P 08 48 46.2 +0.5
baz=23
U13A Pakoon Wash 22.64 330 P P 08 48 46.2 +0.2
baz=23,SNR=67
HEC Hector,Ludlow 22.68 323 ⇓P P 08 48 46.5 +0.2
baz=23,SNR=31
T14A Hurricane 22.77 332 ⇑P P 08 48 47.3 +0.1
baz=23,SNR=24
CPCT Cooper Cave 22.79 35 eP P 08 48 46.1 -1.4
TUQ Turquoise Mtn. 22.89 325 ⇓P P 08 48 48.8 +0.2
baz=23,SNR=15
ISCO Idaho Springs 22.92 349 eP P 08 48 48.0 -0.8
V11A Goodsprings 22.93 327 ⇓P P 08 48 48.8 -0.2
baz=23,SNR=32
U12A Valley of Fire 22.94 329 ⇑P P 08 48 49.0 0.0
baz=23,SNR=28
SLM Saint Louis 22.95 20 eP P 08 48 47.1 -2.0
comp=Z,373nm,1.2s,mb5.7
SLM Saint Louis 22.95 20 eP P 08 48 47.1 -2.1
SLM pmax pmax
comp=Z,373nm,1.2s,mb5.7
CIS Catalina Islan 22.96 318 ⇓P P 08 48 49.5 +0.1
baz=23
BFSC Mount Baldy St 23.05 320 ⇑P P 08 48 50.3 0.0
baz=23,SNR=7.6
FMP Fort Macarthur 23.09 318 ⇓P P 08 48 50.7 -0.1
baz=23
RRX Edison Barstow 23.10 323 ⇓P P 08 48 50.9 +0.1
baz=23
T13A Saint George 23.11 331 ⇓P P 08 48 51.2 +0.4
baz=23,SNR=68
T12A Moapa 23.25 329 ⇓P P 08 48 52.3 -0.1
baz=23
MWC Mount Wilson 23.28 320 eP P 08 48 54.2 +1.4
GSC Goldstone 23.29 324 eP P 08 48 52.8 +0.1
GSC Goldstone 23.29 324 ⇑P P 08 48 52.8 +0.1
baz=23,SNR=18
CCUT Cedar City 23.30 333 eP P 08 48 53.6 +0.8
USIN University of 23.31 26 eP P 08 48 51.0 -2.0
U11A Corn Creek 23.35 328 ⇑P P 08 48 53.3 0.0
baz=23,SNR=6.2
TKL Tuckaleechee C 23.36 35 P P 08 48 52.2 -1.2
TKL LR LR 09 00 25.0
TKL Tuckaleechee C 23.36 35 P P 08 48 52.2 -1.2
comp=Z,86nm,0.7s,mb5.3,baz=198,slow=12,SNR=140
TKL LR LR 09 00 25.0
comp=Z,1μm,21.1s,MS4.3,baz=226,slow=43
S14A Cedar City 23.39 333 ⇑P P 08 48 54.3 +0.6
baz=23,SNR=18
SHOC Shoshone 23.43 325 ⇓P P 08 48 54.0 -0.1
baz=23
DECC Green Verdugo 23.47 319 ⇓P P 08 48 54.5 +0.1
baz=23
ARUT Antelope Range 23.53 333 eP P 08 48 55.6 +0.7
S13A Holt Ranch, En 23.54 332 ⇓P P 08 48 55.5 +0.4
baz=24,SNR=37
SRU San Rafael 23.55 339 eP P 08 48 54.5 -0.6
MSU Marysvale 23.62 336 eP P 08 48 55.2 -0.6
EDW2 Edwards Air Fo 23.68 321 ⇑P P 08 48 56.3 -0.1
baz=24,SNR=14
COW Cow Castle Cre 23.69 44 eP P 08 48 56.7 +0.2
R14A James Farms, M 23.78 334 ⇑P P 08 48 57.6 +0.3
baz=24,SNR=9.0
BLG Laguna Peak 23.84 318 ⇑P P 08 48 58.0 +0.2
baz=24
U10A Ash Meadows, A 23.84 326 ⇑P P 08 48 58.5 +0.7
baz=24
NHSC New Hope 23.88 45 eP P 08 48 59.0 +0.8
JSC Jenkinsville 23.90 41 eP P 08 48 57.8 -0.6
T11A Corn Creek, Al 23.91 329 P P 08 48 58.8 +0.4
baz=24,SNR=19
LRMC Laurel Mountai 23.92 323 ⇓P P 08 48 59.1 +0.6
baz=24
TMUT Trail Mountain 23.95 338 eP P 08 48 58.9 +0.1
OSI Osito Adit 23.95 320 ⇓P P 08 48 59.1 +0.3
baz=24
S12A Delamar Landin 24.02 330 ⇓P P 08 49 00.2 +0.7
baz=24,SNR=17
WCI Wyandotte Cave 24.12 27 eP P 08 48 57.1 -3.2
BSC Santa Cruz Isl 24.13 317 ⇑P P 08 49 00.8 +0.3
baz=24
TZTN Tazewell 24.13 34 eP P 08 48 59.6 -0.9
FURC Furnace Creek, 24.17 325 ⇑P P 08 49 01.4 +0.6
baz=24,SNR=24
TPNV Topopah Spring 24.20 327 eP P 08 49 02.2 +1.1
TPNV Topopah Spring 24.20 327 ⇑P P 08 49 02.1 +0.9
baz=24,SNR=21
MPMC Manual Prospec 24.22 324 P P 08 49 01.8 +0.5
baz=24,SNR=36
LHS Liberty Hill 24.31 42 eP P 08 49 02.1 0.0
ARVC Arvin 24.36 320 ⇑P P 08 49 03.1 +0.6
baz=24,SNR=10
PHWY Pilot Hill 24.36 350 eP P 08 49 01.8 -0.7
S11A Rachel 24.48 329 ⇓P P 08 49 04.4 +0.7
baz=24,SNR=19
R12A Pony Springs, 24.49 332 P P 08 49 04.3 +0.6
baz=24,SNR=19
ISA Isabella 24.50 322 eP P 08 49 04.7 +0.8
ISA Isabella 24.50 322 P P 08 49 04.5 +0.6
baz=24,SNR=17
MASC Masc 24.68 79 eP P 08 49 07.6 +2.0
MASC eS S 08 53 36.7 +12
comp=N,2.7nm,5.5s
MASC e
comp=E,3.0nm,3.6s
MPU Maple Canyon 24.74 339 eP P 08 49 06.2 +0.3
BLO Bloomington 24.81 26 eP P 08 49 05.3 -1.3
PKM Peak Mountain 24.82 319 ⇑P P 08 49 07.0 +0.2
baz=25
CWC Cottonwood Cre 24.82 324 ⇓P P 08 49 07.4 +0.6
baz=25,SNR=14
GRAC Grapevine Rang 24.83 326 ⇑P P 08 49 07.8 +0.9
baz=25
NLU North Lily Min 24.84 338 eP P 08 49 07.0 +0.1
R11A Troy Canyon, C 24.96 330 P P 08 49 08.6 +0.6
baz=25,SNR=53
DAU Daniels Canyon 24.96 340 eP P 08 49 08.0 0.0
VES Vestal, Richgr 24.99 321 P P 08 49 09.0 +0.7
baz=25,SNR=70
HDIL Hopedale 24.99 20 eP P 08 49 06.9 -1.4
RWWY Rawlins 25.06 347 eP P 08 49 08.6 -0.2
S10A Tonopah Range, 25.12 328 P P 08 49 10.1 +0.6
baz=25,SNR=67
P13A Bates Ranch, G 25.17 334 P P 08 49 10.5 +0.6
baz=25,SNR=41
Q12A Willow Creek R 25.18 332 ⇑P P 08 49 10.3 +0.3
baz=25,SNR=19
SMMC Simmler 25.20 319 ⇑P P 08 49 10.9 +0.7
baz=25,SNR=20
JLU Jordanelle 25.20 339 eP P 08 49 10.5 +0.3
R10A Warm Springs 25.26 329 ⇑P P 08 49 11.7 +0.9
baz=25
S09A Goldfield 25.30 327 P P 08 49 11.6 +0.5
baz=25,SNR=85
DUG Dugway 25.32 337 eP P 08 49 11.6 +0.3
DUG Dugway 25.32 337 P P 08 49 11.7 +0.4
baz=25,SNR=40
TIN Tinemaha 25.34 324 ⇑P P 08 49 12.5 +1.0
baz=25
CTU Camp Tracy 25.38 339 eP P 08 49 12.2 +0.4
Q11A Duckwater 25.39 331 P P 08 49 12.7 +0.8
baz=25,SNR=44
NOQ North Oquirrh 25.48 338 eP P 08 49 13.0 +0.4
comp=E,69nm,1.1s,mb5.1
NOQ epP pP 08 49 26.6 +2.0
V05C Boulder Hill, 25.50 320 ⇓P P 08 49 14.0 +1.1
baz=26
HELL Mitchell Peak 25.53 323 P P 08 49 14.1 +0.9
baz=26,SNR=76
PTRM Twisleman Ran 25.55 320 eP P 08 49 14.4 +1.0
P12A McGill 25.57 333 P P 08 49 14.0 +0.5
baz=26,SNR=18
R09A Tonopah 25.61 328 ⇑P P 08 49 14.5 +0.6
baz=26,SNR=46
S08C White Mtn Res 25.63 325 P P 08 49 15.2 +1.1
baz=26,SNR=47
O13A Hicks Ranch, I 25.73 335 ⇓P P 08 49 15.4 +0.5
baz=26,SNR=14
Q10A Clear Creek Ra 25.73 330 P P 08 49 15.9 +0.9
baz=26,SNR=48
MTUM Tungsten Hills 25.74 325 eP P 08 49 15.6 +0.5
N15A Stansbury Isla 25.83 338 ⇑P P 08 49 15.5 -0.3
baz=26
U05C Westside ANR, 25.94 321 ⇓P P 08 49 17.2 +0.2
baz=26
PKD Parkfield 25.94 320 ⇓P P 08 49 17.0 0.0
baz=26,SNR=6.9
V04C Ramage Ranch, 25.95 319 ⇓P P 08 49 17.3 +0.2
baz=26
N14A Grayback Hills 26.04 337 ⇑P P 08 49 17.9 +0.2
baz=26,SNR=22
BGU Big Grassy Mou 26.04 337 eP P 08 49 17.8 +0.1
MLAC Mammoth Lakes 26.09 325 ⇓P P 08 49 19.4 +1.1
baz=26,SNR=6.7
Q09A Carvers 26.12 329 ⇓P P 08 49 19.4 +0.9
baz=26,SNR=6.8
HWUT Hardware Ranch 26.14 340 eP P 08 49 18.3 -0.3
comp=E,192nm,1.2s,mb5.5
HWUT epP pP 08 49 32.1 +1.4
KCC Kaiser Creek 26.15 324 ⇓P P 08 49 19.4 +0.6
baz=26,SNR=48
T06C Milleton Lake 26.15 322 ⇓P P 08 49 18.3 -0.6
baz=26,SNR=22
O12A Currie 26.16 334 P P 08 49 19.4 +0.6
baz=26,SNR=22
ELN Prospectdale 26.18 37 eP P 08 49 19.0 0.0
R08A Mina 26.23 327 ⇑P P 08 49 20.4 +1.0
baz=26,SNR=77
M15A Larsen Ranch, 26.31 339 ⇑P P 08 49 19.9 -0.3
baz=26
BLA Blacksburg 26.36 37 eP P 08 49 20.1 -0.6
comp=E,725nm,1.2s,mb6.1
BLA Blacksburg 26.36 37 eP P 08 49 20.1 -0.6
BLA pmax pmax
comp=Z,725nm,1.2s,mb6.1
U04C Hernandez Rese 26.36 320 ⇑P P 08 49 21.1 +0.4
baz=26,SNR=6.8
NVAR Mina Array Bea 26.39 327 P P 08 49 22.0 +1.0
comp=Z,73nm,1.1s,mb5.1,baz=141,slow=10,SNR=164
NVAR PcP PcP 08 52 46.2 +0.5
comp=Z,4.3nm,0.9s,baz=133,slow=3.7,SNR=5.1
P10A Eureka 26.39 331 ⇑P P 08 49 21.6 +0.7
baz=26,SNR=23
V03C Hunter Liggett 26.43 319 ⇑P P 08 49 21.9 +0.6
baz=26
N13A Wendover, West 26.43 336 ⇓P P 08 49 21.6 +0.3
baz=26
O11A Cowboy Ranch, 26.43 333 P P 08 49 21.8 +0.5
baz=26,SNR=17
ECSD EROS,Sioux Fal 26.52 6 eP P 08 49 20.6 -1.4
Q08A Gabbs 26.52 328 P P 08 49 23.1 +1.0
baz=26,SNR=103
R07C Lee Vining 26.54 325 P P 08 49 23.5 +1.2
baz=26,SNR=18
BW06 Boulder Array 26.63 344 eP P 08 49 22.2 -0.8
comp=Z,86nm,1.1s,mb5.2
PDAR Pinedale Array 26.63 344 P P 08 49 22.2 -0.8
comp=Z,22nm,1.0s,mb4.7,baz=147,slow=8.8,SNR=62
PDAR PcP PcP 08 52 45.9 -0.3
comp=Z,2.4nm,0.4s,baz=132,slow=5.1,SNR=12
PDAR LR LR 09 01 01.1
comp=Z,4μm,20.3s,MS4.9,baz=180,slow=39
T05C Eagle Field, D 26.65 321 ⇑P P 08 49 23.4 +0.1
baz=27
P09A Austin 26.66 330 ⇓P P 08 49 23.9 +0.6
baz=27,SNR=12
M14A Sheep Mountain 26.66 337 ⇓P P 08 49 23.6 +0.2
baz=27,SNR=42
CNNC Cliffs of the 26.67 44 eP P 08 49 23.3 -0.2
HVU Hansel Valley 26.70 339 eP P 08 49 23.8 0.0
S05C Merced 26.75 322 ⇑P P 08 49 24.0 -0.1
baz=27,SNR=18
N12A Clover Valley, 26.77 334 P P 08 49 24.6 +0.3
baz=27,SNR=38
M13A Montello 26.85 336 ⇑P P 08 49 25.2 +0.2
baz=27,SNR=42
HAST Hastings Reser 26.86 319 ⇑P P 08 49 25.4 +0.2
baz=27,SNR=5.8
JFWS Jewell Farm 26.88 16 eP P 08 49 23.7 -1.6
O10A Cortez Mining, 26.94 332 ⇑P P 08 49 26.3 +0.3
baz=27,SNR=16
N11A Elko Archery C 27.03 333 P P 08 49 27.2 +0.5
baz=27,SNR=12
AHID Auburn Hatcher 27.05 342 eP P 08 49 26.6 -0.3
R06C Coleville 27.07 325 P P 08 49 28.4 +1.3
baz=27,SNR=29
PACP Pacheco Peak 27.09 321 ⇑P P 08 49 27.4 +0.1
baz=27,SNR=8.5
M12A Wells 27.19 335 P P 08 49 28.4 +0.3
baz=27,SNR=50
P08A Dixie Valley 27.23 329 ⇑P P 08 49 28.8 +0.3
baz=27,SNR=6.8
ACSO Alum Creek Sta 27.25 30 eP P 08 49 27.2 -1.4
comp=Z,149nm,1.0s,mb5.5
CMB Columbia Colle 27.25 323 eP P 08 49 28.5 -0.2
comp=Z,59nm,1.4s,mb4.9
CMB epP pP 08 49 40.8 0.0
CMB Columbia Colle 27.25 323 eP P 08 49 28.5 -0.2
CMB e*PP pP 08 49 40.8 0.0
CMB pmax pmax
comp=Z,59nm,1.4s,mb4.9
CMB Columbia Colle 27.25 323 P P 08 49 28.8 +0.1
baz=27,SNR=15
N10A Dunphy 27.29 332 ⇑P P 08 49 29.3 +0.3
baz=27
L13A Double Diamond 27.39 337 P P 08 49 30.4 +0.5
baz=27,SNR=28
SDDR Presa de Saban 27.44 82 eP P 08 49 32.6 +1.9
S04C Ingram Canyon, 27.44 321 ⇓P P 08 49 30.4 0.0
baz=27,SNR=7.5
K14A Jones Ranch, D 27.52 339 ⇓P P 08 49 31.0 0.0
baz=28,SNR=59
P07A Fallon 27.52 327 ⇓P P 08 49 32.2 +1.1
baz=28
REDW Red Top Meadow 27.53 343 eP P 08 49 30.6 -0.5
comp=Z,155nm,1.4s,mb5.4
R05C Kirkwood Meado 27.54 325 P P 08 49 32.5 +1.2
baz=28,SNR=21
M11A Holland Ranch, 27.56 334 P P 08 49 32.3 +0.8
baz=28,SNR=41
SNOW Snow King Moun 27.59 343 eP P 08 49 31.5 -0.2
comp=Z,164nm,1.3s,mb5.5
TPAW Teton Pass 27.68 343 eP P 08 49 32.1 -0.3
comp=Z,290nm,1.1s,mb5.8
LOHW Long Hollow 27.69 343 eP P 08 49 32.1 -0.5
R04C Big Horse Ranc 27.72 323 ⇑P P 08 49 34.0 +1.1
baz=28,SNR=21
O08A Rochester Mine 27.72 329 ⇓P P 08 49 33.4 +0.5
baz=28
WENL Wente Brothers 27.77 321 ⇑P P 08 49 34.2 +0.8
baz=28,SNR=11
WCN Washoe City 27.80 326 P P 08 49 34.9 +1.3
baz=28,SNR=39
DCID1 Drake Creek 27.84 343 eP P 08 49 34.3 +0.4
L12A House Creek Ra 27.85 336 ⇑P P 08 49 34.2 +0.2
baz=28,SNR=14
MOOW Moose Ponds 27.86 343 eP P 08 49 33.4 -0.6
N09A Rock Creek Ran 27.86 331 P P 08 49 34.6 +0.5
baz=28,SNR=13
JRSC Jasper Ridge 27.93 320 ⇑P P 08 49 35.0 +0.2
baz=28
K13A Stover Farm, H 27.93 338 P P 08 49 35.0 +0.2
baz=28,SNR=69
LAVA Lava Cap Winer 27.95 324 ⇑P P 08 49 35.5 +0.5
baz=28,SNR=18
M10A I.L. Ranch, Tu 27.96 333 ⇑P P 08 49 35.5 +0.5
baz=28,SNR=15
BDM Black Diamond 28.06 321 ⇓P P 08 49 36.9 +0.9
baz=28
N08A GE Springer Mi 28.09 330 P P 08 49 36.4 +0.2
baz=28,SNR=16
ROSC El Rosal 28.12 113 P P 08 49 35.9 -0.9
ROSC epP pP 08 49 52.5 +3.6
ROSC El Rosal 28.12 113 P P 08 49 35.9 -0.9
comp=Z,1.4nm,0.4s,mb4.0,baz=281,slow=21,SNR=1.8
P06A Stead Airport, 28.15 326 ⇓P P 08 49 37.7 +1.0
baz=28,SNR=8.3
L11A Cat Creek Ranc 28.16 335 P P 08 49 37.1 +0.3
baz=28,SNR=59
K12A Draper Farm, C 28.22 337 P P 08 49 37.8 +0.4
baz=28,SNR=34
P05C Yuba Gap, Truc 28.26 325 P P 08 49 39.1 +1.4
baz=28,SNR=20
M09A Marrel Ranch, 28.28 332 ⇓P P 08 49 38.4 +0.6
baz=28,SNR=21
URVA University of 28.32 40 eP P 08 49 38.2 -0.1
URVA epP pP 08 49 49.0 -1.4
URVA esP sP 08 49 52.7 -3.1
Q04C Lincoln 28.37 323 ⇓P P 08 49 39.8 +1.1
baz=28,SNR=13
L10A Juniper Basin 28.38 334 ⇓P P 08 49 39.3 +0.5
baz=28,SNR=8.4
MCWV Mont Chateau 28.40 34 eP P 08 49 38.4 -0.6
comp=Z,123nm,1.2s,mb5.4
O06A Flanigan 28.47 327 P P 08 49 40.5 +0.9
baz=28,SNR=61
N07B Gerlach 28.49 329 ⇑P P 08 49 40.0 +0.2
baz=28,SNR=19
LKWY Lake 28.52 345 eP P 08 49 35.0 -5.0
BEKR Beckwourth 28.53 326 P P 08 49 41.2 +1.1
baz=28,SNR=40
YFT Old Faithful 28.53 344 eP P 08 49 41.1 +1.1
AAM Ann Arbor 28.62 26 eP P 08 49 39.9 -0.9
comp=Z,80nm,0.8s,mb5.5
AAM epP pP 08 49 53.6 +0.6
AAM Ann Arbor 28.62 26 eP P 08 49 39.9 -0.9
AAM e*PP pP 08 49 53.6 +0.6
AAM pmax pmax
comp=Z,79nm,0.8s,mb5.5
J13A Cove Ranch, Pi 28.62 338 P P 08 49 40.7 -0.1

baz=29,SNR=28
CVS Carmenet Viney 28.67 321 ⇊P P 08 49 41.7 +0.3
baz=29
M08A Happy Creek Ra 28.73 331 ⇊P P 08 49 42.1 +0.3
baz=29
YNR Norris Junctio 28.74 344 eP P 08 49 45.1 +3.2
OHCM Honcut 28.77 324 eP P 08 49 42.9 +0.7
YMR Madison River 28.77 344 eP P 08 49 42.3 +0.1
comp=Z,70nm,1.4s,mb5.2
YMR epP pP 08 49 56.4 +2.2
RLMT Red Lodge 28.78 346 eP P 08 49 41.5 -0.7
K11A Parker Ranch, 28.78 335 P P 08 49 42.3 0.0
baz=29,SNR=43
CBN Corbin 28.82 39 eP P 08 49 42.8 +0.1
comp=Z,292nm,1.3s,mb5.8
J12A Stokes Ranch, 28.82 337 P P 08 49 42.8 +0.1
baz=29,SNR=54
HLID Hailey 28.84 338 eP P 08 49 43.0 +0.1
HLID Hailey 28.84 338 ⇑P P 08 49 43.0 +0.1
baz=29,SNR=29
L09A Wilkinson Ranc 28.85 332 P P 08 49 43.2 +0.3
baz=29,SNR=22
SUTB Sutter Butte 28.86 324 ⇑P P 08 49 43.5 +0.4
baz=29,SNR=11
O05C Quincy 28.89 326 ⇑P P 08 49 44.5 +1.2
baz=29
N06A Buffalo Meadow 28.90 328 P P 08 49 44.1 +0.8
baz=29,SNR=86
ORV Oroville 28.93 324 P P 08 49 44.4 +0.8
baz=29,SNR=33
MNRC McLaughlin Nat 29.01 322 ⇑P P 08 49 45.0 +0.6
baz=29,SNR=9.1
QLMT Earthquake Lak 29.04 343 eP P 08 49 45.2 +0.6
I13A Wildhorse Cree 29.05 339 P P 08 49 44.9 +0.2
baz=29,SNR=30
M07A Soldier Meadow 29.06 330 P P 08 49 44.9 +0.1
baz=29,SNR=22
K10A MacKenzie Ranc 29.13 334 P P 08 49 45.5 +0.1
baz=29,SNR=24
O04C Chester 29.24 326 ⇑P P 08 49 47.3 +0.9
baz=29,SNR=35
MFID Camas Ranch 29.24 336 P P 08 49 46.5 +0.1
baz=29,SNR=32
ELFS Eagle Lake Fie 29.27 327 P P 08 49 47.9 +1.3
baz=29,SNR=18
L08A Fields 29.29 332 P P 08 49 46.9 +0.1
baz=29,SNR=29
K09A Rome 29.43 333 P P 08 49 48.5 +0.5
baz=29,SNR=124
MCMT McKenzie Canyo 29.45 341 ⇊P P 08 49 48.9 +0.7
HOPS Hopland 29.45 322 ⇑P P 08 49 49.3 +1.0
baz=29
GCMT Greycliff 29.50 346 eP P 08 49 48.1 -0.6
M06C Likely Place G 29.57 328 P P 08 49 50.3 +1.0
baz=30,SNR=33
WVOR Wild Horse Val 29.62 332 P P 08 49 49.2 -0.5
L07A Adell 29.62 330 P P 08 49 50.3 +0.5
baz=30,SNR=22
J10A Berg Farm, Mel 29.62 335 ⇊P P 08 49 49.6 -0.2
baz=30,SNR=13
G15A Dillon 29.65 342 P P 08 49 50.5 +0.5
baz=30,SNR=27
H13A Challis 29.67 339 P P 08 49 50.1 0.0
baz=30,SNR=33
GASB Alder Springs 29.68 323 ⇑P P 08 49 51.6 +1.3
baz=30,SNR=9.9
ALLY Alegheny Colle 29.71 31 eP P 08 49 49.1 -1.4
I11A Placerville 29.71 337 P P 08 49 50.9 +0.3
baz=30,SNR=35
LBCM Butte Creek Ri 29.75 326 P P 08 49 51.4 +0.5
K08A Mann Creek Ran 29.79 332 P P 08 49 51.8 +0.5
baz=30,SNR=56
HATC Hat Creek Radi 29.80 326 ⇑P P 08 49 51.9 +0.6
baz=30,SNR=6.6
BOZ Bozeman (W) 29.85 344 eP P 08 49 51.3 -0.4
BOZ Bozeman (W) 29.85 344 P P 08 49 51.4 -0.3
baz=30,SNR=15
H12A Diamond D Ranc 29.86 339 P P 08 49 52.2 +0.3
baz=30,SNR=50
DLMT Dillon 29.86 342 eP P 08 49 52.2 +0.4
SDV Santo Domingo 29.88 102 eP P 08 49 54.4 +2.1
SDV Santo Domingo 29.88 102 P P 08 49 53.3 +0.9
comp=Z,8.7nm,1.0s,mb4.4,baz=296,slow=6.9,SNR=9.1
SDV LR LR 09 02 48.6
comp=Z,1µm,21.4s,MS4.5,baz=325,slow=38
P01C Double 8 Ranch 29.92 322 ⇑P P 08 49 53.4 +0.9
baz=30
SDMD Soldier's Deli 29.92 38 eP P 08 49 51.5 -0.9
J09A Fry Pan Ranch, 29.96 334 ⇊P P 08 49 53.1 +0.3
baz=30
MOD Modoc 30.00 329 eP P 08 49 53.5 +0.4
comp=Z,221nm,1.8s,mb5.6
MOD Modoc 30.00 329 ⇑P P 08 49 53.3 +0.2
baz=30,SNR=20
G14A Jackson 30.02 341 P P 08 49 53.3 +0.1
baz=30,SNR=41
M05C Lookout 30.02 327 P P 08 49 53.9 +0.6
baz=30,SNR=30
LTIM Timbered Crate 30.07 327 P P 08 49 53.7 0.0
K07A Rock Creek Ran 30.10 331 P P 08 49 54.5 +0.5
baz=30,SNR=47
G13A Cobalt 30.13 340 ⇑P P 08 49 54.4 +0.2
baz=30,SNR=46
COWI Conover 30.14 15 eP P 08 49 52.9 -1.3
SSPA Standing Stone 30.15 35 eP P 08 49 53.8 -0.7
I10A Payette 30.19 336 ⇑P P 08 49 54.9 +0.2
baz=30,SNR=6.5
KIPM Iron Peak 30.23 323 eP P 08 49 56.6 +1.4
LRM Limekiln Ridge 30.24 343 eP P 08 49 55.2 +0.1
F15A Butte 30.27 343 P P 08 49 55.5 +0.1
baz=30,SNR=18
J08A Circle Bar Ran 30.28 333 P P 08 49 56.0 +0.4
baz=30,SNR=66
L05A Lakeview 30.37 329 P P 08 49 57.2 +0.8
baz=30,SNR=30
GLMI Grayling 30.37 22 eP P 08 49 55.3 -1.1
comp=Z,108nm,0.8s,mb5.6
H11A Donnelly 30.41 337 P P 08 49 56.6 -0.1
baz=30,SNR=59
LASM Arnica Sink 30.42 327 ⇊P P 08 49 57.2 +0.4
I09A Lost Marbles R 30.47 334 ⇊P P 08 49 57.2 0.0
baz=30,SNR=26
M03C McCloud 30.47 326 P P 08 49 56.9 -0.4
baz=30,SNR=7.6
F14A Wisdom 30.50 342 ⇊P P 08 49 57.4 -0.1
baz=30
H10A Noah's Angus R 30.59 336 P P 08 49 57.8 -0.5
baz=30,SNR=56
MVL Millersville 30.59 37 eP P 08 49 58.1 -0.2
K06A Valley Falls 30.65 330 P P 08 49 59.1 +0.2
baz=31,SNR=14
J07A Hines 30.66 332 ⇊P P 08 49 58.8 -0.1
baz=31,SNR=9.2
M04C Macdoel 30.69 327 P P 08 49 59.6 +0.4
baz=31,SNR=23
I08A Drewsey 30.77 333 ⇑P P 08 49 59.7 -0.2
baz=31,SNR=19
LHEM Herd Peak 30.77 327 P P 08 49 59.9 -0.1
F13A Darby 30.78 340 ⇊P P 08 49 59.7 -0.2
baz=31
E15A Deer Lodge 30.84 343 P P 08 50 00.1 -0.4
baz=31,SNR=16
HRY Holter Researc 30.89 344 eP P 08 50 01.2 +0.3
K05A Summer Lake 30.91 329 P P 08 50 01.6 +0.5
baz=31,SNR=8.7
J06A Christmas Vall 30.95 331 ⇑P P 08 50 00.9 -0.6
baz=31,SNR=10
L04A Klamath Falls 31.00 328 ⇊P P 08 50 02.0 +0.1
baz=31
H09A Durkee 31.01 335 P P 08 50 01.8 -0.3
baz=31,SNR=44
BMO Blue Mountains 31.03 336 eP P 08 50 01.2 -1.0
comp=Z,248nm,2.2s,mb5.7
F12A Elk City 31.05 339 ⇑P P 08 50 02.4 +0.1
baz=31,SNR=111
KHMM Horse Mountain 31.08 324 eP P 08 50 03.4 +0.7
E14A Clinton 31.08 342 ⇊P P 08 50 02.3 -0.3
baz=31,SNR=16
G11A Walters Elk Ra 31.10 338 P P 08 50 02.5 -0.3
baz=31,SNR=66
YBH Yreka Blue Hor 31.11 326 eP P 08 50 02.0 -0.9
AGMN Agassiz Refuge 31.11 6 eP P 08 50 01.5 -1.4
JCC Jacoby Creek 31.21 324 ⇑P P 08 50 04.4 +0.6
baz=31
K04A Chilquin 31.23 328 ⇊P P 08 50 04.0 0.0
baz=31
BUOR Burton Butte 31.25 327 P P 08 50 04.3 +0.1

DGMT Dagmar 31.27 355 eP P 08 50 03.4 -0.8
comp=Z,87nm,1.0s,mb5.5
H08A Prairie City 31.30 334 P P 08 50 04.3 -0.2
baz=31,SNR=39
I07A Izee 31.31 333 ⇊P P 08 50 04.1 -0.5
baz=31,SNR=12
E13A Victor 31.32 341 P P 08 50 04.2 -0.4
baz=31,SNR=45
G10A Bishop Farm, J 31.32 337 P P 08 50 04.2 -0.6
baz=31,SNR=62
EYMN Ely 31.37 11 eP P 08 50 03.0 -2.1
comp=Z,106nm,1.8s,mb5.4
D15A Lincoln 31.38 344 ⇊P P 08 50 04.6 -0.6
baz=31,SNR=10
CHMT Chamberlain Mo 31.46 343 eP P 08 50 05.4 -0.6
F11A Grangeville 31.48 338 ⇑P P 08 50 05.4 -0.7
baz=31
J05A Fort Rock 31.49 330 ⇊P P 08 50 06.1 -0.2
baz=32,SNR=12
I06A Prineville 31.52 332 ⇊P P 08 50 06.0 -0.5
baz=32
MSO Missoula 31.59 342 eP P 08 50 07.0 -0.1
KRMB Red Mountain 31.61 325 eP P 08 50 06.8 -0.6
EGMT Eagleton 31.64 348 eP P 08 50 07.3 -0.2
comp=Z,160nm,1.6s,mb5.6
EGMT Eagleton 31.64 348 ⇊P P 08 50 07.1 -0.4
baz=32,SNR=18
D14A Greenough 31.69 342 P P 08 50 07.3 -0.6
baz=32,SNR=21
H07A Lands Inn, Kim 31.74 333 P P 08 50 08.0 -0.4
baz=32,SNR=55
HUMO Hull Mountain 31.86 327 eP P 08 50 09.9 +0.4
J04A Umpqua Nationa 31.89 329 ⇊P P 08 50 09.9 +0.2
baz=32,SNR=18
E11A Bogner Ranch, 31.90 339 P P 08 50 08.8 -1.1
baz=32,SNR=64
F10A Beach Ranch, E 31.94 337 P P 08 50 09.7 -0.5
baz=32,SNR=107
M01C Crescent City 31.95 325 ⇑P P 08 50 10.9 +0.6
baz=32
F09A S2 Ranch, Elgi 31.98 336 P P 08 50 10.0 -0.5
baz=32,SNR=21
D13A Huson 31.98 341 P P 08 50 09.8 -0.7
baz=32,SNR=52
G08A Pilot Rock 32.05 335 P P 08 50 10.7 -0.4
baz=32,SNR=67
BRNJ Basking Ridge 32.07 38 epP pP 08 50 27.1 +3.5
VIPM Ingram Point 32.14 332 ⇊P P 08 50 11.5 -0.4
I05A Bend 32.17 331 ⇑P P 08 50 12.4 +0.2
baz=32,SNR=6.6
H06A Lindquist Farm 32.19 332 P P 08 50 12.1 -0.3
baz=32,SNR=16
D12A Red Ives Fores 32.23 340 ⇑P P 08 50 11.5 -1.1
baz=32
KBO Bosley Butte 32.26 325 eP P 08 50 13.5 +0.5
KBO epP pP 08 50 27.3 +2.2
BINY Binghamton 32.26 35 eP P 08 50 12.9 -0.2
ATAH Atahualpa 32.31 137 P P 08 50 17.2 +3.5
comp=Z,34nm,0.8s,mb5.2,baz=325,slow=6.4,SNR=17
G07A Ruggs Ranch, H 32.33 334 P P 08 50 13.3 -0.3
baz=32,SNR=29
E10A Myers Farm, Un 32.33 338 P P 08 50 12.6 -1.0
baz=32,SNR=9.5
SJG San Juan 32.35 83 eP P 08 50 14.1 0.0
comp=Z,232nm,1.7s,mb5.7
SJG San Juan 32.35 83 eP P 08 50 14.1 0.0
SJG pmax pmax
comp=Z,232nm,1.7s
SJG San Juan 32.35 83 P P 08 50 13.6 -0.5
comp=Z,5.1nm,0.2s,mb4.9,baz=291,slow=20,SNR=5.0
C14A Swan Lake 32.38 343 ⇑P P 08 50 13.4 -0.6
baz=32,SNR=12
I04A Tendick Farm, 32.44 329 ⇊P P 08 50 13.9 -0.7
baz=32,SNR=5.7
CPNY Central Park 32.50 39 epP pP 08 50 26.6 -0.8
H05A Madras 32.52 331 ⇊P P 08 50 14.9 -0.4
baz=32
C13A Hot Springs 32.54 342 P P 08 50 14.4 -1.0
baz=32,SNR=14
D11A Klaveano Farm, 32.55 339 ⇊P P 08 50 14.2 -1.3
baz=32,SNR=9.0
CPD Cerro la Pandu 32.58 83 eP P 08 50 18.7 +2.6
CBYP Canovanas 32.62 83 eP P 08 50 14.3 -2.1
PAL Palisades 32.66 38 eP P 08 50 15.3 -1.3
comp=Z,108nm,1.0s,mb5.7
PAL epP pP 08 50 27.3 -1.5
PAL Palisades 32.66 38 eP P 08 50 15.3 -1.3
PAL e*PP pP 08 50 27.3 -1.5
PAL pmax pmax
comp=Z,108nm,1.0s,mb5.7
G06A Carlson Farm, 32.72 333 ⇑P P 08 50 16.5 -0.5
baz=33,SNR=6.9
E09A Wood Farm, Sta 32.74 337 ⇑P P 08 50 15.7 -1.5
baz=33,SNR=6.8
BSMT Bassoo Peak 32.76 342 eP P 08 50 15.7 -1.6
KEBM Edson Butte 32.77 326 eP P 08 50 17.8 +0.3
KEBM pP pP 08 50 31.9 +2.3
D10A Wagner Farm, O 32.88 338 ⇊P P 08 50 17.5 -0.9
baz=33,SNR=8.4
MTP Monte Pirata 32.92 83 eP P 08 50 16.0 -3.0
F07A Phinny Hill Vi 32.94 334 ⇊P P 08 50 18.2 -0.7
baz=33,SNR=7.8
H04A Detroit Lake 33.00 331 P P 08 50 19.2 -0.2
baz=33,SNR=23
I03A Eugene 33.00 329 ⇊P P 08 50 19.4 -0.1
baz=33,SNR=14
G05A Wamic 33.02 332 ⇊P P 08 50 19.5 -0.2
baz=33,SNR=6.9
ULM Lac du Bonnet 33.05 5 P P 08 50 17.7 -2.1
comp=Z,26nm,0.8s,mb5.2,baz=190,slow=9.3,SNR=51
ULM LR LR 09 04 19.2
comp=Z,2µm,20.8s,MS4.7,baz=186,slow=37
B13A Whitefish 33.13 342 P P 08 50 20.3 -0.3
baz=33,SNR=26
HAWA Hanford 33.18 335 eP P 08 50 20.1 -0.9
RNO Roman Nose 33.19 328 P P 08 50 21.6 +0.4
F06A Goldendale 33.20 333 ⇑P P 08 50 21.3 +0.1
baz=33,SNR=7.1
HOOD Mount Hood Mea 33.23 332 eP P 08 50 22.8 +1.3
SSOR Sweet Springs 33.25 300 P P 08 50 21.1 -0.6
D09A Jones Farm, Ri 33.26 337 ⇑P P 08 50 20.5 -1.2
baz=33,SNR=14
E07A Sunnyside 33.44 335 ⇊P P 08 50 22.7 -0.6
baz=33
D08A Wollman Farm, 33.49 336 ⇑P P 08 50 22.2 -1.5
baz=33,SNR=6.4
H03A Soap Creek Ran 33.52 329 ⇑P P 08 50 23.6 -0.4
baz=34
G04A Mulino 33.52 331 ⇊P P 08 50 23.6 -0.5
baz=34,SNR=6.0
C10A Spilker Farm, 33.55 339 ⇊P P 08 50 23.1 -1.1
baz=34
B12A Libby 33.55 341 ⇑P P 08 50 23.8 -0.4
baz=34,SNR=7.3
F05A White Salmon 33.58 333 ⇑P P 08 50 25.2 +0.7
baz=34,SNR=34
WALA Waterton Lakes 33.60 344 eP P 08 50 24.3 -0.3
comp=Z,205nm,2.3s,mb5.7
A13A Flathead Natio 33.62 343 ⇊P P 08 50 24.7 -0.2
baz=34
B11A Sandpoint 33.77 340 ⇑P P 08 50 25.5 -0.6
baz=34,SNR=11
NEW Newport 33.87 339 LR LR 09 05 53.2
comp=Z,4µm,19.3s,MS5.2,baz=164,slow=39
C09A Chrisman Ranch 33.87 338 P P 08 50 26.5 -0.5
baz=34,SNR=19
E06A Yakima 33.90 334 ⇑P P 08 50 27.8 +0.6
baz=34,SNR=35
G03A Yamhill 33.98 330 ⇑P P 08 50 27.9 -0.1
baz=34
A12A Yaak River Ran 33.99 342 ⇑P P 08 50 27.6 -0.4
baz=34
D07A Quincy 34.01 336 P P 08 50 28.1 -0.1
baz=34,SNR=7.9
EBG Ellensburg 34.02 335 P P 08 50 27.0 -1.3
F04A Amboy 34.05 332 ⇑P P 08 50 28.0 -0.5
baz=34,SNR=8.9
C08A Higginbotham F 34.14 337 ⇑P P 08 50 28.9 -0.4
baz=34,SNR=10
A11A Hall Mountain, 34.23 341 ⇑P P 08 50 29.5 -0.6
baz=34,SNR=8.9
E05A Randle 34.24 333 P P 08 50 30.6 +0.4
baz=34,SNR=19
TWW Teanaway 34.32 335 P P 08 50 31.7 +0.8
ACCN Adirondack Com 34.32 35 eP P 08 50 30.5 -0.5
B09A Rice 34.35 339 P P 08 50 30.7 -0.5
baz=34,SNR=16

D06A Cle Elum 34.36 335 ⇑P P 08 50 31.4 +0.2
baz=34,SNR=28
LON Longmire 34.41 333 eP P 08 50 30.6 -1.1
WTV Waterville 34.41 336 P P 08 50 30.3 -1.4
C07A Waterville 34.45 336 P P 08 50 31.9 -0.1
baz=34,SNR=38
F03A Seaside 34.57 331 ⇑P P 08 50 33.6 +0.5
baz=34
A10A Northport 34.63 340 ⇑P P 08 50 32.6 -1.0
baz=35,SNR=5.8
E04A Onalaska 34.69 332 ⇑P P 08 50 34.3 +0.2
baz=35,SNR=14
B08A Colville Reser 34.72 337 P P 08 50 34.0 -0.4
baz=35,SNR=25
MSNY Massena 34.79 32 eP P 08 50 34.2 -0.8
D05A Enumclaw 34.83 334 ⇊P P 08 50 35.5 +0.2
baz=35,SNR=10.0
C06A Tall Timber Ra 34.96 335 ⇊P P 08 50 36.6 +0.2
baz=35
A09A Danville 34.98 339 P P 08 50 36.1 -0.4
baz=35,SNR=9.2
E03A Lebam 35.03 331 ⇊P P 08 50 37.4 +0.3
baz=35,SNR=7.8
WES Weston 35.04 38 eP P 08 50 39.5 +2.3
B07A Winthrop 35.10 337 P P 08 50 37.1 -0.5
baz=35,SNR=9.3
C05A Tolt Reservoir 35.10 334 P P 08 50 37.4 -0.2
baz=35,SNR=19
D04A Dobbs Creek Ra 35.12 333 ⇊P P 08 50 37.7 -0.1
baz=35
A08A Turner Farm, O 35.20 338 ⇑P P 08 50 38.0 -0.5
baz=35,SNR=13
FRNY Flat Rock 35.33 33 eP P 08 50 40.2 +0.5
FRNY epP pP 08 50 54.2 +2.3
GNW Green Mountain 35.48 333 eP P 08 50 40.2 -0.7
D03A Wishkah Elem. 35.55 332 ⇑P P 08 50 41.8 +0.2
baz=36
JCW Jim Creek 35.60 335 P P 08 50 41.0 -1.0
C04A Brinnon 35.66 333 P P 08 50 42.0 -0.4
baz=36,SNR=7.9
B06A Marblemount 35.68 335 ⇑P P 08 50 42.0 -0.6
baz=36
A07A Ashnola River, 35.69 337 ⇑P P 08 50 42.3 -0.3
baz=36,SNR=8.8
B05A Bryant 35.72 335 P P 08 50 42.0 -1.0
baz=36,SNR=11
NLWA Neilton Lookou 35.81 332 eP P 08 50 44.6 +0.9
NLWA Neilton Lookou 35.81 332 ⇊P P 08 50 43.8 +0.1
baz=36,SNR=7.4
A06A Chilliwack 36.14 336 ⇊P P 08 50 46.1 -0.4
baz=36
B04A Port Angeles 36.15 333 ⇑P P 08 50 46.9 +0.2
baz=36
A05A Maple Falls 36.30 335 P P 08 50 47.4 -0.5
baz=36,SNR=9.9
A04A Legoe Bay, Lum 36.33 335 ⇑P P 08 50 48.1 -0.1
baz=36
PGC Sidney 36.59 334 eP P 08 50 50.5 +0.2
NNA Nana 37.09 140 P P 08 50 55.9 +0.9
NNA Nana 37.09 140 P P 08 50 55.9 +0.9
comp=Z,6.8nm,0.7s,mb4.6,baz=308,slow=9.8,SNR=5.5
FFC Flin Flon 37.38 358 P P 08 50 55.2 -1.8
comp=Z,252nm,1.4s,mb5.8,SNR=23
FFC Flin Flon 37.38 358 eP P 08 50 55.6 -1.3
comp=Z,57nm,1.0s,mb5.3
FFC Flin Flon 37.38 358 eP P 08 50 55.7 -1.3
FFC pmax pmax
comp=Z,57nm,1.0s,mb5.4
FCC Fort Churchill 41.64 5 eP P 08 51 31.4 -1.0
ARE Arequipa 43.84 138 eP P 08 51 52.0 +1.3
RPN Rapa Nui 45.06 192 P P 08 52 00.3 0.0
comp=Z,107nm,0.8s,mb5.8,baz=331,slow=5.8,SNR=6.4
RPN LR LR 09 06 23.3
comp=Z,2µm,20.9s,MS5.1,baz=8.8,slow=30
SCHQ Schefferville 45.32 27 P P 08 52 01.2 -0.9
comp=Z,11nm,0.5s,mb4.9,baz=225,slow=7.9,SNR=60
SCHQ LR LR 09 13 30.7
comp=Z,1µm,19.1s,MS4.9,baz=12,slow=39
LPAZ La Paz 45.91 135 P P 08 52 07.8 +0.5
comp=Z,8.9nm,0.8s,mb4.7,baz=338,slow=8.1,SNR=26
LPAZ LR LR 09 09 44.9
comp=Z,608nm,18.9s,MS4.6,baz=128,slow=34
YKA Yellowknife Ar 46.27 351 P P 08 52 07.8 -1.7
comp=Z,24nm,0.8s,mb5.2,baz=160,slow=7.3,SNR=228
YKA LR LR 09 13 04.7
comp=Z,2µm,18.3s,MS5.2,baz=145,slow=38
DLBC Dease Lake 46.61 339 eP P 08 52 12.8 +0.6
TAOE Nuku Hiva Isla 47.33 240 eS S 08 59 05.3 -4.0
comp=Z,10µm,24.7s
TAOE eLR LR 09 05 26.7
comp=Z,85µm,25.8s,baz=56
SKAG Skagway 49.25 337 eP P 08 52 33.0 +0.4
comp=Z,96nm,1.6s,mb5.6
RKT Rikitea 52.67 221 eS S 09 00 22.0 -1.4
comp=Z,405nm,27.2s
RKT eLR LR 09 08 05.3
comp=Z,3µm,27.5s,baz=38
DAWY Dawson 53.80 340 eP P 08 53 05.4 -1.1
KIP Kipapa 54.52 284⇑ eP P 08 52 13.2 -0.2
MENT Mentasta 54.60 337 eP P 08 53 12.9 +0.5
EGAK Eagle 54.84 340 eP P 08 53 13.9 -0.2
comp=Z,44nm,0.9s,mb5.5
INK Inuvik 55.19 346 eP P 08 53 16.0 -0.5
SML Sawmill 55.78 335 eP P 08 53 20.1 -0.8
SLKM Skilak Lake 55.94 333 eP P 08 53 22.1 0.0
PMR Palmer 56.00 334 eP P 08 53 22.4 -0.1
comp=Z,39nm,1.4s,mb5.2
PMR LR LR
comp=Z,1µm,19.0s,MS4.9
PMR Palmer 56.00 334 eP P 08 53 22.4 -0.1
PMR pmax pmax
comp=Z,39nm,1.4s,mb5.2
PMR MLR MLR
comp=Z,1µm,19.0s,MS4.9
VAH Vaihoa 56.92 238 eP P 08 53 29.0 -0.7
comp=Z,122nm,1.1s,mb5.8
MCK McKinley 57.00 336 eP P 08 53 29.5 -0.1
comp=Z,64nm,1.2s,mb5.5
MCK McKinley 57.00 336 eP P 08 53 29.5 -0.1
MCK pmax pmax
comp=Z,64nm,1.2s,mb5.5
PMOR Pomariorio Ree 57.02 239 eP P 08 53 29.7 -0.7
comp=Z,124nm,1.1s,mb5.8
COLA College 57.20 338 i P P 08 53 30.1 -0.9
COLA College 57.20 338d iP P 08 53 30.0 -1.0
RES Resolute Bay 57.47 2⇊ iP P 08 53 31.6 -1.1
SVW2 Sparrevohn 58.57 332 eP P 08 53 39.9 -0.7
TTA Tatalina 59.48 334 eP P 08 53 46.6 -0.3
comp=Z,0.4nm,1.2s
PPT Papeete 59.75 237 eS S 09 01 54.5 -3.0
comp=Z,919nm,28.0s
PPT eLQ 09 08 54.4
comp=Z,744nm,26.2s
PPT eLR LR 09 11 12.6
comp=Z,3µm,26.0s,baz=53
PPT Papeete 59.75 237 LR LR 09 11 51.9
comp=Z,1µm,20.9s,MS5.1,baz=70,slow=28
IMA2 Indian Mountai 59.91 338 eP P 08 53 48.7 -1.1
BDFB Brasilia 60.92 120 P P 08 53 57.8 +0.3
comp=Z,7.8nm,0.8s,mb4.9,baz=280,slow=14,SNR=22
TBI Tubuai 62.90 232 eS S 09 02 35.4 -1.9
comp=Z,316nm,30.0s
TBI Tubuai 62.90 232 eLR LR 09 12 51.0
comp=Z,2µm,27.0s,baz=56
PLCA Paso Flores 63.94 155 P P 08 54 17.4 +0.2
comp=Z,19nm,1.0s,mb5.1,baz=331,slow=8.7,SNR=15
PLCA LR LR 09 16 11.3
comp=Z,627nm,19.1s,MS4.8,baz=335,slow=30
TNA Tin City 65.23 335 eP P 08 54 25.0 -0.3
comp=Z,50nm,1.3s,mb5.4
GAMB Gambell 66.49 333 eP P 08 54 32.6 -0.8
comp=Z,29nm,1.5s,mb5.1
ALE Alert 66.91 5 P P 08 54 35.3 -0.6
comp=Z,203nm,1.0s,mb6.1,SNR=9.0
ADK Adak 68.31 320 eP P 08 54 43.6 -1.5
comp=Z,96nm,1.3s,mb5.7
ADK Adak 68.31 320 eP P 08 54 43.7 -1.5
ADK pmax pmax
comp=Z,96nm,1.3s,mb5.7
RAR Rarotonga 69.88 239 LR LR 09 16 54.9
comp=Z,969nm,19.8s,MS5.0,baz=274,slow=28
DAG Danmarks Havn 71.32 14⇑ iP P 08 55 02.7 -0.6
DAG pmax pmax
comp=Z,39nm,1.2s,mb5.2
DAG Danmarks Havn 71.32 14⇑ iP P 08 55 02.7 -0.6
comp=Z,39nm,1.2s,mb5.2
BILL Bilibino 75.45 337d iP P 08 55 27.2 -0.5

BILL *i* pP 08 55 40.0 -1.1
BILL pmax pmax
comp=Z,54nm,1.2s,mb5.3
KBS Kingsbay 77.26 11 ‖*i*P **P 08 55 37.7 -0.1**
DCN Croghan 77.99 38 *e*P **P 08 55 42.2 -0.1**
DMUB Kingscourt 78.08 37 *e*P **P 08 55 42.8 0.0**
EMAZ Mazaricos 79.24 48 P **P 08 55 49.7 +0.3**
comp=Z,82nm,1.1s,mb5.6
STS Santiago 79.56 48 P **P 08 55 51.6 +0.4**
comp=Z,30nm,0.9s,mb5.2
STS Santiago 79.56 48 P **P 08 55 51.6 +0.4**
STS pmax pmax
comp=Z,30nm,0.9s,mb5.2
ESK Eskdalemuir 79.82 35 *e*P **P 08 55 52.0 -0.2**
comp=Z,28nm,1.1s,mb5.1
ESK Eskdalemuir 79.82 35 *e*P **P 08 55 52.1 -0.2**
ESK pmax pmax
comp=Z,28nm,1.1s,mb5.1
EKA Eskdalemuir Ar 79.84 35 P **P 08 55 52.2 -0.1**
comp=Z,19nm,1.1s,mb5.0,baz=283,slow=5.1,SNR=21
PMAFR Mafra 79.97 52 *e*LR LR 09 20 58.2
comp=Z,306nm,25.1s
ELOB Lobios 80.16 49 P **P 08 55 53.9 -0.5**
comp=Z,105nm,1.5s,mb5.5
PCAB Cabril 80.23 49 *e*P **P 08 55 55.1 +0.3**
comp=Z,85nm,2.0s,mb5.3
EPON Pontenova 80.45 48 P **P 08 55 55.2 -0.7**
comp=Z,174nm,1.8s,mb5.7
PVRL Vila Real 80.56 50 *e*P **P 08 55 57.1 +0.5**
comp=Z,62nm,1.8s,mb5.2
PVIS Viseu 80.57 50 *e*P **P 08 55 56.8 +0.2**
comp=Z,64nm,1.8s,mb5.2
PFVI Vila Bisbo 80.77 54 *e*LR LR 09 22 00.0
comp=Z,522nm,27.8s
MORF Marmelete 80.86 54 *e*P **P 08 55 58.5 +0.2**
comp=Z,50nm,2.0s,mb5.1
MORF Marmelete 80.86 54 *e*LR LR 09 23 42.2
comp=Z,491nm,24.6s
MTE Manteigas 80.91 51 *e*P **P 08 55 58.1 -0.4**
comp=Z,91nm,1.5s,mb5.5
MTE Manteigas 80.91 51 *e*LR LR 09 21 45.3
comp=Z,354nm,22.8s
MTE Manteigas 80.91 51 *e*P **P 08 55 58.6 +0.1**
comp=Z,42nm,1.4s,mb5.2
MTE *e*pP pP 08 56 13.5 +1.5
EVO Evora 81.04 53 *e*P **P 08 55 58.8 -0.4**
comp=Z,92nm,1.3s,mb5.2
EVO *e*MLR MLR
comp=Z,697nm,23.0s,MS4.7
EVO Evora 81.04 53 *e*P **P 08 55 59.2 0.0**
MVO Moncorvo 81.09 50 *e*P **P 08 55 59.0 -0.4**
comp=Z,87nm,1.6s,mb5.4
MVO Moncorvo 81.09 50 *e*LR LR 09 21 55.8
comp=Z,304nm,11.5s
PCBR Castelo Branco 81.10 51 *e*P **P 08 56 00.0 +0.5**
comp=Z,79nm,1.4s,mb5.5
PBRG Braganca 81.13 49 *e*P **P 08 56 00.1 +0.5**
comp=Z,58nm,1.2s,mb5.4
PESTR Estremoz 81.27 52 *e*P **P 08 56 00.0 -0.4**
comp=Z,66nm,2.0s,mb5.2
PESTR Estremoz 81.27 52 *e*LR LR 09 21 30.9
comp=Z,402nm,20.1s
PBEJ Beja 81.28 53 *e*P **P 08 56 00.9 +0.4**
comp=Z,58nm,1.9s,mb5.2
PBDV Barranco-do-Ve 81.43 54 *e*P **P 08 56 01.4 +0.1**
comp=Z,87nm,1.5s,mb5.5
PBDV Barranco-do-Ve 81.43 54 *e*LR LR 09 22 10.2
comp=Z,499nm,24.2s
PVAQ Vaqueiros 81.56 54 *e*P **P 08 56 02.2 +0.2**
comp=Z,98nm,1.6s,mb5.5
PVAQ Vaqueiros 81.56 54 *e*LR LR 09 21 38.1
comp=Z,450nm,15.4s
EGRO El Granado 81.70 53 P **P 08 56 02.8 +0.1**
comp=Z,38nm,1.0s,mb5.3
ROSF Rostrenen 81.71 42 *e*P **P 08 56 02.1 -0.4**
comp=Z,72nm,1.4s,mb5.1
ROSF Rostrenen 81.71 42 *e*P **P 08 56 02.1 -0.4**
comp=Z,36nm,1.4s,mb5.1
ROSF Rostrenen 81.71 42 *e*P **P 08 56 02.1 -0.4**
ROSF pmax pmax
comp=Z,36nm,1.4s,mb5.1
EBAD Badajoz 81.73 52 P **P 08 56 03.4 +0.5**
comp=Z,30nm,1.0s,mb5.2
EARI Arriondas 81.82 47 P **P 08 56 02.9 -0.4**
comp=Z,51nm,1.1s,mb5.4
PBAR Barrancos 81.87 53 *e*P **P 08 56 03.1 -0.5**
comp=Z,58nm,1.7s,mb5.2
PBAR Barrancos 81.87 53 *e*LR LR 09 22 01.9
comp=Z,338nm,21.7s
QUIF Quistinic 81.90 42 *e*P **P 08 56 03.2 -0.4**
comp=Z,49nm,1.2s,mb5.0
QUIF Quistinic 81.90 42 *e*P **P 08 56 03.2 -0.4**
comp=Z,25nm,1.2s,mb5.0
QUIF Quistinic 81.90 42 *e*P **P 08 56 03.2 -0.4**
QUIF pmax pmax
comp=Z,25nm,1.2s,mb5.0
SGMF Saint Gilles 82.19 42 *e*P **P 08 56 05.7 +0.6**
comp=Z,54nm,0.9s,mb5.2
SGMF Saint Gilles 82.19 42 *e*P **P 08 56 05.7 +0.6**
comp=Z,27nm,0.9s,mb5.2
SGMF Saint Gilles 82.19 42 *e*P **P 08 56 05.7 +0.6**
SGMF pmax pmax
comp=Z,27nm,0.9s,mb5.2
EMIN Mina Concepcio 82.26 53 P **P 08 56 05.8 +0.2**
comp=Z,50nm,1.1s,mb5.4
SEY Seymchan 82.45 334 ‖*i*P **P 08 56 06.7 +0.6**
PET Petropavlovsk 82.92 323 ‖*e*P **P 08 56 08.0 -0.8**
PET Petropavlovsk 82.92 323 *e*P **P 08 56 09.1 +0.3**
PET *e*S S 09 06 22.2 -1.9
PET *e*PS 09 07 14.1
PET *e*SS SS 09 11 49.8 +2.5
PET pmax pmax
comp=Z,31nm,0.9s,mb5.3
PET MLR MLR
comp=Z,400nm,21.0s,MS4.8
ELAN Lanestosa 83.08 47 P **P 08 56 10.5 +0.7**
comp=Z,59nm,1.0s,mb5.6
ECAB El Cabril 83.13 52 P **P 08 56 10.6 +0.4**
comp=Z,98nm,1.0s,mb5.8
ESPR Espera 83.13 54 P **P 08 56 10.5 +0.3**
comp=Z,40nm,0.8s,mb5.5
GRR Gorron 83.23 41 *e*P **P 08 56 10.2 -0.3**
GUD Guadarrama 83.33 50 P **P 08 56 11.4 +0.2**
comp=Z,28nm,1.0s,mb5.2
GUD Guadarrama 83.33 50 P **P 08 56 11.4 +0.3**
GUD pmax pmax
comp=Z,28nm,1.0s,mb5.2
FLN La Foliniere 83.35 41 *e*P **P 08 56 11.3 +0.2**
comp=Z,167nm,1.4s,mb5.6
FLN *e*MLR MLR
comp=Z,935nm,19.2s,MS4.9
FLN La Foliniere 83.35 41 *e*P **P 08 56 11.3 +0.2**
comp=Z,84nm,1.4s,mb5.6
FLN LR LR
comp=Z,930nm,19.3s,MS5.2
FLN La Foliniere 83.35 41 *e*P **P 08 56 11.3 +0.2**
FLN pmax pmax
comp=Z,84nm,1.4s,mb5.6
FLN MLR MLR
comp=Z,930nm,19.3s,MS5.2
PAB San Pablo 83.50 51 *e*P **P 08 56 12.1 +0.1**
comp=Z,67nm,1.4s,mb5.6
PAB *e*pP pP 08 56 27.2 +1.6
PAB San Pablo 83.50 51 *e*P **P 08 56 12.1 0.0**
PAB *e**PP pP 08 56 27.2 +1.6
PAB pmax pmax
comp=Z,67nm,1.4s,mb5.6
LDF La Druitiere 83.63 41 *e*P **P 08 56 12.5 0.0**
comp=Z,156nm,1.6s,mb5.6
LDF La Druitiere 83.63 41 *e*P **P 08 56 12.5 0.0**
comp=Z,78nm,1.6s,mb5.6
LDF La Druitiere 83.63 41 *e*P **P 08 56 12.5 0.0**
LDF pmax pmax
comp=Z,78nm,1.6s,mb5.6
EADA Adamuz 83.73 52 P **P 08 56 12.7 -0.6**
comp=Z,122nm,1.4s,mb5.8
ESDC Sonseca Array 83.75 51 P **P 08 56 13.0 -0.3**
comp=Z,6.8nm,1.0s,mb4.8,baz=296,slow=4.6,SNR=23
ESDC LR LR 09 36 53.7
comp=Z,455nm,18.5s,MS4.9,baz=305,slow=38
ESLA Sonseca Array 83.75 51 *e*P **P 08 56 13.8 +0.5**
comp=Z,13nm,1.4s,mb4.9
ESLA *e*pP pP 08 56 28.6 +1.7
EMIJ Mijas 84.05 54 P **P 08 56 15.4 +0.4**
comp=Z,135nm,1.5s,mb5.9
MFF Saint Martin d 84.26 43 *e*P **P 08 56 15.6 -0.2**
EBAN Banos Encina 84.33 52 P **P 08 56 16.4 +0.1**
comp=Z,26nm,1.0s,mb5.3
EBAN Banos Encina 84.33 52 P **P 08 56 16.4 +0.1**
EBAN pmax pmax
comp=Z,26nm,1.0s,mb5.3
ELOJ Sierra Loja 84.36 53 P **P 08 56 17.1 +0.6**
comp=Z,56nm,1.2s,mb5.6
ELOJ Sierra Loja 84.36 53 P **P 08 56 17.1 +0.6**
ELOJ pmax pmax
comp=Z,56nm,1.2s,mb5.6
MENF Mencas 84.37 39 *e*P **P 08 56 16.1 -0.1**
MA2 Magadan 84.53 331 *i*P **P 08 56 16.6 -0.3**
MA2 Magadan 84.53 331 *d*P **P 08 56 16.5 -0.4**
MA2 pmax pmax
comp=Z,25nm,1.7s,mb5.1
ERON Agron 84.66 53 P **P 08 56 18.3 +0.3**
comp=Z,38nm,1.0s,mb5.5
SJPF Ste Jean 84.66 47 *e*P **P 08 56 18.0 +0.1**
comp=Z,139nm,1.5s,mb5.6
SJPF Ste Jean 84.66 47 *e*P **P 08 56 18.0 +0.1**
comp=Z,70nm,1.5s,mb5.6
SJPF Ste Jean 84.66 47 *e*P **P 08 56 18.0 +0.1**
SJPF pmax pmax
comp=Z,70nm,1.5s,mb5.6
ECOG Cogollos-Vega 84.77 53 P **P 08 56 19.1 +0.6**
comp=Z,36nm,1.0s,mb5.5
ECOG Cogollos-Vega 84.77 53 P **P 08 56 19.1 +0.6**
ECOG pmax pmax
comp=Z,36nm,1.0s,mb5.5
KONO Kongsberg 84.78 29 *i*P **P 08 56 18.3 +0.2**
ETOR Torete 84.80 49 P **P 08 56 18.9 +0.3**
comp=Z,31nm,1.3s,mb5.3
ETOR Torete 84.80 49 P **P 08 56 19.0 +0.4**
ETOR pmax pmax
comp=Z,31nm,1.3s,mb5.3
NOA NORSAR Array B 84.89 27 P **P 08 56 19.2 +0.5**
comp=Z,8.1nm,1.0s,mb4.8,baz=301,slow=4.9,SNR=9.0
NOA LR LR 09 34 34.0
comp=Z,335nm,21.8s,MS4.7,baz=300,slow=36
EQES Quesada 84.98 52 P **P 08 56 18.8 -0.8**
comp=Z,32nm,0.8s,mb5.5
EVIA Vianos 85.15 51 P **P 08 56 21.0 +0.6**
comp=Z,22nm,0.6s,mb5.5
EVIA Vianos 85.15 51 P **P 08 56 21.0 +0.6**
EVIA pmax pmax
comp=Z,22nm,0.6s,mb5.5
ETSF Etsaut 85.19 47 *e*P **P 08 56 20.6 +0.1**
comp=Z,174nm,1.6s,mb5.6
ETSF Etsaut 85.19 47 *e*P **P 08 56 20.6 +0.1**
comp=Z,87nm,1.6s,mb5.6
ETSF Etsaut 85.19 47 *e*P **P 08 56 20.6 +0.1**
ETSF pmax pmax
comp=Z,87nm,1.6s,mb5.6
REYF Montagne du Re 85.25 46 *e*P **P 08 56 21.7 +0.9**
TIXI Tiksi 85.31 346 ‖*e*P **P 08 56 19.4 -1.2**
ARCES ARCESS Array B 85.36 17 P **P 08 56 20.7 -0.1**
comp=Z,7.5nm,0.8s,mb4.9,baz=301,slow=5.0,SNR=8.7
ARCES LR LR 09 38 08.7
comp=Z,416nm,20.1s,MS4.8,baz=304,slow=38
ARE0 ARCESS Array S 85.36 17 *e*P **P 08 56 20.7 -0.2**
ARE0 *e*pP pP 08 56 33.4 -1.1
EBER Berja 85.40 53 P **P 08 56 22.9 +1.2**
comp=Z,88nm,1.3s,mb5.7
LFF La Frestale 85.40 44 *e*P **P 08 56 21.2 -0.3**
comp=Z,166nm,1.3s,mb5.7
LFF La Frestale 85.40 44 *e*P **P 08 56 21.2 -0.3**
comp=Z,83nm,1.3s,mb5.7
LFF La Frestale 85.40 44 *e*P **P 08 56 21.2 -0.3**
LFF pmax pmax
comp=Z,83nm,1.3s,mb5.7
UCC Uccle 85.59 38 P **P 08 56 22.9 +0.5**
comp=Z,60nm,1.6s,mb5.6
ESAC San Caprasio 85.64 48 P **P 08 56 23.0 +0.2**
comp=Z,344nm,1.8s,mb6.3
SNF Seneffe 85.66 38 P **P 08 56 23.5 +0.8**
comp=Z,47nm,1.9s,mb5.4
EBIE Bielsa 85.75 47 P **P 08 56 22.9 -0.5**
comp=Z,123nm,1.7s,mb5.9
EPF Esparros 85.77 46 *e*P **P 08 56 23.2 -0.2**
comp=Z,194nm,1.4s,mb5.8
EPF Esparros 85.77 46 *e*P **P 08 56 23.2 -0.2**
comp=Z,97nm,1.4s,mb5.8
EPF Esparros 85.77 46 *e*P **P 08 56 23.2 -0.2**
EPF pmax pmax
comp=Z,97nm,1.4s,mb5.8
BAIF Baives 85.78 39 *e*P **P 08 56 23.1 -0.2**
comp=Z,133nm,1.2s,mb5.7
BAIF Baives 85.78 39 *e*P **P 08 56 23.1 -0.2**
comp=Z,67nm,1.2s,mb5.7
BAIF Baives 85.78 39 *e*P **P 08 56 23.1 -0.2**
BAIF pmax pmax
comp=Z,67nm,1.2s,mb5.8
RJF Les Rejaudoux 85.79 44 *e*P **P 08 56 23.0 -0.5**
comp=Z,153nm,1.3s,mb5.8
RJF *e*MLR MLR
comp=Z,408nm,22.2s,MS4.5
RJF Les Rejaudoux 85.79 44 *e*P **P 08 56 23.0 -0.5**
comp=Z,76nm,1.3s,mb5.8
RJF LR LR
comp=Z,410nm,22.3s,MS4.8
RJF Les Rejaudoux 85.79 44 *e*P **P 08 56 23.0 -0.5**
RJF pmax pmax
comp=Z,77nm,1.3s,mb5.8
RJF MLR MLR
comp=Z,410nm,22.3s,MS4.8
RESF Ens 85.84 47 *e*P **P 08 56 24.5 +0.7**
ETOB Tobarra 85.86 51 P **P 08 56 24.9 +0.9**
comp=Z,458nm,2.5s,mb6.3
TCF Toulx Ste Croi 85.90 43 *e*P **P 08 56 23.4 -0.6**
comp=Z,140nm,1.5s,mb5.7
TCF Toulx Ste Croi 85.90 43 *e*P **P 08 56 23.4 -0.6**
comp=Z,70nm,1.5s,mb5.7
TCF Toulx Ste Croi 85.90 43 *e*P **P 08 56 23.4 -0.6**
TCF pmax pmax
comp=Z,70nm,1.5s,mb5.7
ECHE Chera 85.98 50 P **P 08 56 25.5 +1.0**
comp=Z,12nm,0.9s,mb5.1
ECHE Chera 85.98 50 P **P 08 56 25.5 +1.0**
ECHE pmax pmax
comp=Z,12nm,0.9s,mb5.1
DOU Dourbes 86.00 39 P **P 08 56 25.3 +0.9**
comp=Z,29nm,1.7s,mb5.2
EMOS Mosqueruela 86.08 49 P **P 08 56 24.6 -0.4**
comp=Z,258nm,2.0s,mb6.1
GIVF Givet 86.13 39 *e*P **P 08 56 25.1 +0.1**
BGF Bois d'Agland 86.22 42 *e*P **P 08 56 24.8 -0.8**
comp=Z,79nm,1.4s,mb5.5
BGF Bois d'Agland 86.22 42 *e*P **P 08 56 24.8 -0.8**
comp=Z,39nm,1.4s,mb5.5
BGF Bois d'Agland 86.22 42 *e*P **P 08 56 24.8 -0.8**
BGF pmax pmax
comp=Z,39nm,1.4s,mb5.4
VERF Verneugheol 86.27 43 *e*P **P 08 56 24.8 -1.0**
CAF Calviac 86.29 44 *e*P **P 08 56 25.4 -0.5**
comp=Z,171nm,1.8s,mb5.7
CAF Calviac 86.29 44 *e*P **P 08 56 25.4 -0.5**
comp=Z,86nm,1.8s,mb5.7
CAF Calviac 86.29 44 *e*P **P 08 56 25.4 -0.5**
CAF pmax pmax
comp=Z,86nm,1.8s,mb5.7
BCLA Clavier 86.30 38 P **P 08 56 27.8 +2.0**
comp=Z,46nm,1.6s,mb5.5
MLS Moulis 86.32 46 *e*P **P 08 56 25.9 -0.2**
EMUR La Murta 86.34 52 P **P 08 56 26.2 -0.2**
comp=Z,120nm,1.4s,mb5.9
BEBN Eben Emael 86.37 38 P **P 08 56 27.9 +1.8**
comp=Z,17nm,1.4s,mb5.1
HFS Hagfors 86.40 27 P **P 08 56 26.4 +0.3**
comp=Z,1.0nm,0.5s,mb4.3,baz=222,slow=44,SNR=3.1
SALF Salau 86.45 46 *e*P **P 08 56 27.9 +1.1**
FRNF Fournols 86.45 44 *e*P **P 08 56 26.5 -0.2**
SSF Saint Saulge 86.46 42 *e*P **P 08 56 25.8 -0.9**
comp=Z,23nm,0.9s,mb5.1
SSF Saint Saulge 86.46 42 *e*P **P 08 56 25.8 -0.9**
comp=Z,11nm,0.9s,mb5.1
SSF Saint Saulge 86.46 42 *e*P **P 08 56 25.8 -0.9**
SSF pmax pmax
comp=Z,11nm,0.9s,mb5.1
AVF Avril sur Loir 86.46 42 *e*P **P 08 56 25.7 -1.0**
HGN Heimansgroeve 86.53 38 *e*P **P 08 56 26.4 -0.6**
comp=Z,17nm,1.0s,mb5.2
HGN Heimansgroeve 86.53 38 *e*pP pP 08 56 39.4 -1.2
HGN Heimansgroeve 86.53 38 *e*sP sP 08 56 47.3 +1.6
LOR Lormes 86.60 41 *e*P **P 08 56 26.9 -0.5**
comp=Z,137nm,1.4s,mb5.7
LOR *e*MLR MLR
comp=Z,778nm,20.5s,MS4.8
LOR Lormes 86.60 41 *e*P **P 08 56 26.9 -0.5**
comp=Z,69nm,1.4s,mb5.7
LOR LR LR
comp=Z,780nm,20.5s,MS5.1
LOR Lormes 86.60 41 *e*P **P 08 56 26.9 -0.5**
LOR pmax pmax
comp=Z,69nm,1.4s,mb5.7
LOR MLR MLR
comp=Z,780nm,20.5s,MS5.1
PYM Petit Puy Mans 86.61 43 *e*P **P 08 56 27.0 -0.5**
MEM Membach 86.64 38 P **P 08 56 28.5 +1.0**
comp=Z,27nm,1.5s,mb5.2
SMF Signal de Mont 86.82 42 *e*P **P 08 56 27.5 -1.0**
comp=Z,74nm,1.5s,mb5.4
SMF Signal de Mont 86.82 42 *e*P **P 08 56 27.5 -1.0**
comp=Z,37nm,1.5s,mb5.4
SMF Signal de Mont 86.82 42 *e*P **P 08 56 27.5 -1.0**
SMF pmax pmax
comp=Z,37nm,1.5s,mb5.4
EPOB Poblet 86.86 48 P **P 08 56 27.2 -1.6**
comp=Z,90nm,1.4s,mb5.8
MEZF Maizieres J'vi 86.88 40 *e*P **P 08 56 28.7 -0.1**
IBBN Ibbenburen 86.95 36 *e*P **P 08 56 29.3 +0.3**
comp=Z,14nm,0.6s,mb5.4
MTLF Montolieu 86.95 46 *e*P **P 08 56 28.9 -0.3**
comp=Z,124nm,1.7s,mb5.6
MTLF Montolieu 86.95 46 *e*P **P 08 56 28.9 -0.3**
comp=Z,62nm,1.7s,mb5.6
MTLF Montolieu 86.95 46 *e*P **P 08 56 28.9 -0.3**
MTLF pmax pmax
comp=Z,62nm,1.7s,mb5.6
LBL Lubilhac 86.96 44 *e*P **P 08 56 29.3 +0.1**
WLF Walferdange 87.09 39 *e*P **P 08 56 29.3 -0.5**
comp=Z,21nm,1.1s,mb5.3
WLF *e*pP pP 08 56 43.6 +0.2
WLF *e*sP sP 08 56 50.3 +1.8
WLF Walferdange 87.09 39 *e*P **P 08 56 29.3 -0.5**
WLF *e**PP pP 08 56 43.6 +0.2
WLF pmax pmax
comp=Z,21nm,1.1s,mb5.3
WLF Walferdange 87.09 39 P **P 08 56 30.5 +0.7**
comp=Z,39nm,1.4s,mb5.5
WLF Walferdange 87.09 39 *e*P **P 08 56 29.6 -0.2**
comp=Z,36nm,1.3s,mb5.4
WLF *e*PP PP 08 59 51.9 -1.4
LASF Ste Croix 87.79 44 *e*P **P 08 56 32.8 -0.5**
comp=Z,107nm,1.3s,mb5.6
HAU Haudompre 87.87 40 *e*P **P 08 56 33.5 -0.1**
HAU *e*MLR MLR
comp=Z,798nm,22.2s,MS4.8
HAU Haudompre 87.87 40 *e*P **P 08 56 33.5 -0.1**
HAU MLR MLR
comp=Z,800nm,22.3s,MS5.1
VIVF Saint-Julien-l 88.04 43 *e*P **P 08 56 33.7 -0.7**
comp=Z,113nm,1.6s,mb5.5
VIVF Saint-Julien-l 88.04 43 *e*P **P 08 56 33.7 -0.7**
comp=Z,56nm,1.6s,mb5.5
VIVF Saint-Julien-l 88.04 43 *e*P **P 08 56 33.7 -0.7**
VIVF pmax pmax
comp=Z,56nm,1.6s,mb5.5
NRDL Niedersach Rie 88.17 35 *e*P **P 08 56 34.7 -0.2**
comp=Z,21nm,1.3s,mb5.2
HINF Hinteralfeld 88.26 40 *e*P **P 08 56 35.2 -0.2**
CABF La Chapelle 88.27 41 *e*P **P 08 56 34.4 -1.0**
comp=Z,67nm,1.5s,mb5.3
CABF La Chapelle 88.27 41 *e*P **P 08 56 34.4 -1.0**
comp=Z,34nm,1.5s,mb5.3
CABF La Chapelle 88.27 41 *e*P **P 08 56 34.4 -1.0**
CABF pmax pmax
comp=Z,34nm,1.5s,mb5.4
CDF Champ du Feu 88.28 40 *e*P **P 08 56 35.5 0.0**
comp=Z,37nm,1.2s,mb5.2
CDF Champ du Feu 88.28 40 *e*P **P 08 56 35.5 0.0**
comp=Z,19nm,1.2s,mb5.2
CDF Champ du Feu 88.28 40 *e*P **P 08 56 35.5 0.0**
CDF pmax pmax
comp=Z,19nm,1.2s,mb5.2
ECH Echery 88.28 40 *e*P **P 08 56 34.6 -0.9**
MOF Molkenrain 88.42 40 *e*P **P 08 56 35.8 -0.3**
LOMF Lomont 88.43 41 *e*P **P 08 56 36.3 +0.1**
CLZ Clausthal 88.61 36 *e*P **P 08 56 36.6 -0.3**
CLZ *e* 09 00 04.0
CLZ pmax pmax
comp=Z,34nm,1.3s,mb5.5
CLZ Clausthal 88.61 36 *e*P **P 08 56 36.6 -0.3**
comp=Z,34nm,1.3s,mb5.5
CLZ *e*PP PP 09 00 04.0 -1.3
APA Apatity 88.83 16 ‖*e*P **P 08 56 34.6 -3.1**
APA pmax pmax
comp=Z,18nm,1.2s,mb5.3
APA MLR MLR
comp=Z,800nm,20.0s,MS5.1
UBBA Unterbreizbach 88.85 37 *e*P **P 08 56 38.2 +0.1**
comp=Z,18nm,1.4s,mb5.2
BFO Black Forest 88.95 39 *e*P **P 08 56 37.5 -1.1**
BFO *e* 09 00 06.3
BFO pmax pmax
comp=Z,14nm,1.2s,mb5.2
BFO Black Forest 88.95 39 *e*P **P 08 56 37.5 -1.1**
comp=Z,14nm,1.2s,mb5.2
BFO *e*PP PP 09 00 06.3 -1.9
LPL La Plagne 89.12 42 *e*P **P 08 56 39.2 -0.3**
comp=Z,82nm,1.5s,mb5.5
LPL La Plagne 89.12 42 *e*P **P 08 56 39.2 -0.3**
comp=Z,41nm,1.5s,mb5.5
LPL La Plagne 89.12 42 *e*P **P 08 56 39.2 -0.3**
LPL pmax pmax
comp=Z,41nm,1.5s,mb5.5
LPG La Plagne 89.14 42 *e*P **P 08 56 39.6 0.0**
comp=Z,107nm,1.5s,mb5.7
LPG La Plagne 89.14 42 *e*P **P 08 56 39.6 0.0**
comp=Z,54nm,1.5s,mb5.7
LPG La Plagne 89.14 42 *e*P **P 08 56 39.6 0.0**
LPG pmax pmax
comp=Z,54nm,1.5s,mb5.7
STU Stuttgart 89.28 39 *e*P **P 08 56 39.4 -0.8**
MBDF Montbardon 89.46 43 *e*P **P 08 56 40.5 -0.6**
comp=Z,40nm,1.1s,mb5.4
MBDF Montbardon 89.46 43 *e*P **P 08 56 40.5 -0.6**
comp=Z,20nm,1.1s,mb5.4
MBDF Montbardon 89.46 43 *e*P **P 08 56 40.5 -0.6**
MBDF pmax pmax
comp=Z,20nm,1.1s,mb5.4
PZZ Prazzo 89.77 43 P **P 08 56 43.0 +0.5**
MOX Moxa 89.85 36 *e*P **P 08 56 42.8 0.0**
MOX *e* 09 00 15.5
MOX
comp=Z,500nm,20.0s
MOX Moxa 89.85 36 *e*P **P 08 56 42.9 +0.1**
comp=Z,23nm,1.5s,mb5.3
MOX *e*PP PP 09 00 13.8 -1.4
FRF La Foret Royal 89.85 44 *e*P **P 08 56 43.3 +0.3**
LMR La Mourre 89.85 44 *e*P **P 08 56 41.7 -1.3**
comp=Z,104nm,1.4s,mb5.7
LMR La Mourre 89.85 44 *e*P **P 08 56 41.7 -1.3**
comp=Z,52nm,1.4s,mb5.7
LMR La Mourre 89.85 44 *e*P **P 08 56 41.7 -1.3**
LMR pmax pmax
comp=Z,52nm,1.4s,mb5.7
GRA1 Grafenberg Arr 90.06 37 *e*P **P 08 56 43.5 -0.3**
comp=Z,51nm,1.7s,mb5.6
GRA1 *e*pP pP 08 56 54.6 -2.9
GRA1 *e*S S 09 07 28.8 -4.7
GRA1 LR LR
comp=Z,500nm,19.2s,MS5.0
GRF Grafenberg Arr 90.06 37 *e*P **P 08 56 43.5 -0.3**
GRF *e**PP pP 08 56 54.7 -2.8
GRF *e*S S 09 07 28.8 -4.7
GRF pmax pmax
comp=Z,51nm,1.7s,mb5.6
GRF MLR MLR
comp=Z,500nm,19.2s,MS5.0
GRF Grafenberg Arr 90.06 37 *e*P **P 08 56 43.5 -0.3**
GRF *e**PP pP 08 56 54.6 -2.9
GRF *e*S S 09 07 28.8 -4.7
GRF pmax pmax
comp=Z,51nm,1.7s,mb5.6
GRF MLR MLR
comp=Z,500nm,19.2s,MS5.0
GRF Grafenberg Arr 90.06 37 *e*P **P 08 56 43.5 -0.3**
comp=Z,51nm,1.7s,mb5.6
GRF *e*pP pP 08 56 54.7 -2.8
GRF *e*S S 09 07 28.8 -4.7
GRF *e*L 09 38 47.1
comp=Z,527nm,19.2s
SBF Sospel 90.25 44 *e*P **P 08 56 44.8 0.0**
comp=Z,91nm,1.1s,mb5.7

SBF Sospel 90.25 44 *e*P **P 08 56 44.8 0.0**
comp=Z,45nm,1.1s,mb5.7
SBF Sospel 90.25 44 *e*P **P 08 56 44.8 0.0**
SBF pmax pmax
comp=Z,45nm,1.1s,mb5.7
CLL Collm 90.31 35 *i* P **P 08 56 45.0 +0.1**
comp=Z,18nm,1.4s,mb5.2
CLL *e*SKS 09 07 11.0
CLL LR LR
comp=Z,400nm,21.7s,MS4.8
CLL Collm 90.31 35 *i* P **P 08 56 45.0 +0.1**
CLL *e* 09 07 11.0
CLL pmax pmax
comp=Z,18nm,1.4s,mb5.2
CLL MLR MLR
comp=Z,400nm,21.7s,MS4.8
CLL Collm 90.31 35 *e*P **P 08 56 44.9 0.0**
comp=Z,18nm,1.4s,mb5.2
CLL *e*PP PP 09 00 17.4 -1.5
CLL Collm 90.31 35 *i* P **P 08 56 45.0 +0.1**
comp=Z,18nm,1.4s,mb5.2
CLL *e*sP sP 08 57 00.0 -3.7
CLL *e*PP PP 09 00 18.0 -0.9
CLL *e*SKSac SKSac 09 07 11.0 -1.5
CLL *e*PS PS 09 08 46.0 -1.9
CLL L 09 38 00.0
comp=Z,400nm,21.7s
KAF Kangasniemi 90.34 22 *e*p **P 08 56 43.4 -1.4**
DAVA Damuels 90.34 40⇑ *i*P **P 08 56 45.4 +0.2**
comp=Z,27nm,1.3s,mb5.4
TANN Tannenbergstha 90.43 36 *e*P **P 08 56 45.2 -0.3**
comp=Z,24nm,1.6s,mb5.3
TANN *e*PP PP 09 00 19.0 -0.9
MANZ Manzenberg 90.43 37 *e*P **P 08 56 44.7 -0.8**
comp=Z,16nm,1.5s,mb5.1
NKC Novy Kostel 90.51 36 *e*P **P 08 56 45.5 -0.4**
NKC *e*pP pP 08 56 57.5 -2.1
NKC *e*PP PP 09 00 19.8 -0.7
NKC Novy Kostel 90.51 36 *e*P **P 08 56 45.5 -0.4**
NKC *e*pP pP 08 56 57.5 -2.1
NKC *e*PP PP 09 00 19.8 -0.7
NKC AMS AMS 09 38 00.0
comp=Z,600nm,16.4s,MS5.1
DAVOX Davos/Dischmat 90.56 40 P **P 08 56 46.6 +0.4**
comp=Z,1.3nm,0.5s,mb4.5,baz=306,slow=18,SNR=4.9
ROTZ Rotzenmuhle 90.59 37 *e*P **P 08 56 46.1 -0.2**
comp=Z,12nm,1.4s,mb5.0
ROTZ *e*PP PP 09 00 19.8 -1.4
FINES FINESS Array B 90.68 23 P **P 08 56 45.4 -1.0**
comp=Z,4.7nm,1.0s,mb4.8,baz=29,slow=4.4,SNR=6.8
FINES LR LR 09 38 16.8
comp=Z,852nm,20.9s,MS5.2,baz=118,slow=36
BRG Berggiesshubel 91.04 35 *e*P **P 08 56 47.8 -0.6**
comp=Z,19nm,1.8s,mb5.1
BRG *e* pP 08 56 58.6 -3.4
BRG PP PP 09 00 21.0 -3.7
BRG SKS 09 07 19.0
BRG *e* 09 08 54.0
BRG LR LR
comp=Z,350nm,25.1s,MS4.7
BRG Berggiesshubel 91.04 35 *e*P **P 08 56 47.8 -0.5**
BRG *e* pP 08 56 58.6 -3.4
BRG 09 00 21.0
BRG 09 07 19.0
BRG *e* 09 08 54.0
BRG pmax pmax
comp=Z,19nm,1.8s,mb5.1
BRG pmax pmax
comp=Z,13nm,1.5s,mb5.0
BRG MLR MLR
comp=N,154nm,15.4s
BRG MLR MLR
comp=E,250nm,39.2s
BRG MLR MLR
comp=Z,353nm,25.1s
BRG Berggiesshubel 91.04 35 *e*P **P 08 56 47.5 -0.8**
comp=Z,31nm,1.8s,mb5.3
BRG *e*pP pP 08 56 58.5 -3.5
BRG Berggiesshubel 91.04 35 *e*P **P 08 56 47.8 -0.6**
comp=Z,31nm,1.8s,mb5.3
BRG *e* pP 08 56 58.6 -3.4
comp=Z,21nm,1.5s
BRG PP PP 09 00 21.0 -3.7
BRG SKS 09 07 19.0
BRG *e* 09 08 54.0
BRG
comp=N,257nm,15.4s
BRG
comp=E,417nm,39.2s
BRG
comp=Z,590nm,25.1s
WET Wettzell 91.27 37 *e*P **P 08 56 49.2 -0.3**
WET pmax pmax
comp=Z,37nm,1.7s,mb5.4
WET Wettzell 91.27 37 *e*P **P 08 56 49.2 -0.3**
comp=Z,37nm,1.7s,mb5.4
PVCC Panska Ves 91.56 35 *e*P **P 08 56 50.8 +0.1**
PVCC *e*PP PP 09 00 28.6 -0.1
PVCC AMS AMS 09 39 30.0
comp=Z,500nm,17.1s,MS5.0
KHC Kasperske Hory 91.68 37 *e*P **P 08 56 51.3 0.0**
KHC *e*pP pP 08 57 01.4 -3.6
KHC Kasperske Hory 91.68 37 *e*P **P 08 56 51.3 0.0**
KHC *e*pP pP 08 57 01.4 -3.6
KHC *e*PP PP 09 00 28.9 -0.9
KHC AMS AMS 09 39 20.0
comp=Z,600nm,21.2s,MS5.0
YAK Yakutsk 91.72 339⇑ *e*P **P 08 56 50.9 -0.3**
YAK Yakutsk 91.72 339 *e*P **P 08 56 48.9 -2.3**
YAK pmax pmax
comp=Z,42nm,1.0s,mb5.7
YAK pmax pmax
comp=N,14nm,1.2s
YAK pmax pmax
comp=E,11nm,1.2s
PRU Pruhonice 91.81 36 *e*P **P 08 56 51.8 -0.1**
PRU *e*pP pP 08 57 03.6 -2.0
PRU *e*PP PP 09 00 31.0 +0.2
PRU AMS AMS 09 39 00.0
comp=Z,700nm,22.5s,MS5.0
GEC2 GERESS Array S 91.89 37 *e*P **P 08 56 52.2 -0.1**
GEC2 *e**PP pP 08 57 02.2 -3.8
GEC2 *e* 09 00 30.7
GEC2 pmax pmax
comp=Z,24nm,1.8s,mb5.2
GEC2 GERESS Array S 91.89 37 *e*P **P 08 56 52.2 -0.1**
comp=Z,24nm,1.8s,mb5.2
GEC2 *e*pP pP 08 57 02.2 -3.8
GEC2 *e*PP PP 09 00 30.7 -0.8
GERES GERESS Array B 91.89 37 P **P 08 56 52.2 -0.1**
comp=Z,1.3nm,0.8s,mb4.3,baz=338,slow=3.2,SNR=11
GERES LR LR 09 44 06.5
comp=Z,374nm,18.6s,MS4.9,baz=132,slow=39
ABTA Abfaltersbach 92.19 39⇑ *i*P **P 08 56 54.0 +0.2**
comp=Z,18nm,1.3s,mb5.2
UPC Upice 92.36 35 *e*P **P 08 56 54.5 0.0**
UPC *e*pP pP 08 57 04.8 -3.4
UPC *e*PP PP 09 00 34.4 -0.7
KBA Koelnbreinsper 92.54 39⇑ *i*P **P 08 56 55.5 +0.2**
DPC Dobruska-Polom 92.61 35 *e*P **P 08 56 55.8 +0.2**
DPC *e*pP pP 08 57 06.5 -2.8
DPC *e*PP PP 09 00 36.4 -0.7
DPC AMS AMS 09 38 00.0
comp=Z,600nm,21.0s,MS5.0
TMCR Tamitsa 92.65 17 *e*P **P 08 56 53.9 -1.6**
TMCR pmax pmax
comp=Z,22nm,0.5s,mb5.8
TREC Trest 92.69 36 AMS AMS 09 40 10.0
comp=Z,900nm,20.1s,MS5.2
VSU Vasula 92.85 25⇑ *e*P **P 08 56 56.6 +0.1**
PTCC Patocco-Chiusa 92.86 39 P **P 08 56 56.3 -0.6**
comp=Z,9.5nm,0.9s,mb5.2
GRFL Gerfalco 92.88 43 P **P 08 56 57.0 0.0**
LIC Lamto 93.01 83⇑ *i*P **P 08 56 58.0 -0.2**
comp=Z,69nm,1.3s,mb5.6
LIC *e*MLR MLR
comp=Z,614nm,22.2s,MS4.7
LIC Lamto 93.01 83⇑ *i*P **P 08 56 58.0 -0.2**
comp=Z,35nm,1.3s,mb5.6
LIC LR LR
comp=Z,310nm,22.3s,MS4.7
ROBS Robic 93.04 40 *e*P **P 08 56 57.0 -0.7**
ROBS *e* pP 08 57 07.3 -4.0
ROBS *e* 08 57 15.6
DBIC Dimbokro 93.04 82 P **P 08 56 57.4 -1.0**
comp=Z,4.7nm,1.0s,mb4.9,baz=281,slow=5.0,SNR=4.0
DBIC LR LR 09 37 12.7
comp=Z,464nm,18.8s,MS5.0,baz=272,slow=34
SFI Santa Sofia 93.10 42 P **P 08 56 58.0 0.0**
comp=Z,30nm,1.1s,mb5.6
SFI Santa Sofia 93.10 42 P **P 08 56 58.0 0.0**
SFI pmax pmax
comp=Z,30nm,1.1s,mb5.6
VRAC Vranov 93.31 36 P **P 08 56 58.1 -0.7**
comp=Z,2.9nm,0.3s,mb5.2,baz=338,slow=23,SNR=5.6
OBKA Obir 93.54 39⇑ *i*P **P 08 56 59.7 -0.2**
comp=Z,16nm,1.1s,mb5.4
MORC Moravsky Berou 93.58 35 *e*P **P 08 56 59.8 -0.3**
comp=Z,14nm,1.3s,mb5.2
MORC *e*pP pP 08 57 14.8 +1.0
MORC Moravsky Berou 93.58 35 *e*P **P 08 56 59.8 -0.3**
MORC *e**PP pP 08 57 14.8 +1.0
MORC pmax pmax
comp=Z,14nm,1.3s,mb5.2
CONA Conrad Observa 93.60 37⇑ *i*P **P 08 56 58.4 -1.8**
comp=Z,10nm,1.2s,mb5.1
CEY Cerknica 93.84 40 *e*P **P 08 57 01.3 -0.1**
CEY *e*PP PP 09 00 44.9 -1.9
OKC Ostrava-Krasne 93.88 35 AMS AMS 09 38 30.0
comp=Z,500nm,21.6s,MS4.9
ZST Bratislava 94.17 37 *e*P **P 08 57 03.7 +0.9**
comp=Z,34nm,1.6s,mb5.5
ZST *e* pP 08 57 13.4 -3.1
ZST *e*PP PP 09 00 50.4 +1.1
ZST LR LR
comp=Z,300nm,19.1s,MS4.8
ZST Bratislava 94.17 37 *e*P **P 08 57 03.7 +0.9**
ZST *e* pP 08 57 13.4 -3.1
ZST *e* 09 00 50.4
ZST pmax pmax
comp=Z,34nm,1.6s,mb5.5
ZST MLR MLR
comp=Z,300nm,19.1s,MS4.8
ZST Bratislava 94.17 37 *e*P **P 08 57 03.7 +0.9**
ZST *e*pP pP 08 57 13.4 -3.1
ZST *e*PP PP 09 00 50.4 +1.1
MODS Modra-Piesok 94.18 36 *e*P **P 08 57 03.6 +0.7**
MODS *e*pP pP 08 57 18.1 +1.5
MODS *e*PP PP 09 00 48.8 -0.6
CRES Cresnjev 94.42 39 *e*P **P 08 57 03.5 -0.5**
BOJS Bojanci 94.46 40 *e*P **P 08 57 04.3 +0.1**
BOJS *e*PP PP 09 00 50.0 -1.6
OJC Ojcow 94.57 34 *e*P **P 08 57 04.4 -0.2**
YSS Yuzh-Sakhalins 94.76 322⇑ *e*P **P 08 57 04.5 -1.1**
YSS Yuzh-Sakhalins 94.76 322⇑ *e*P **P 08 57 05.0 -0.6**
YSS pmax pmax
comp=Z,20nm,1.1s,mb5.5
VYHS Vyhne 94.99 36 *e*P **P 08 57 06.7 +0.1**
comp=Z,25nm,2.2s,mb5.2
VYHS *e* pP 08 57 16.7 -3.6
VYHS *e*PP PP 09 00 53.5 -2.2
VYHS Vyhne 94.99 36 *e*P **P 08 57 06.7 +0.1**
VYHS *e* pP 08 57 16.7 -3.6
VYHS *e* 09 00 53.5
VYHS pmax pmax
comp=Z,25nm,2.2s,mb5.3
KEST Kesra 95.00 50 LR LR 09 42 16.2
comp=Z,116nm,18.7s,MS4.4,baz=257,slow=37
STHS Stebnicka Huta 95.79 34 *e*P **P 08 57 10.8 +0.6**
comp=Z,10nm,1.1s,mb5.2
STHS *e* pP 08 57 25.4 +1.5
STHS *e* 08 57 39.8
STHS *e*PP PP 09 00 58.1 -3.7
STHS Stebnicka Huta 95.79 34 *e*P **P 08 57 10.8 +0.6**
STHS *e* pP 08 57 25.4 +1.5
STHS *e* 09 00 58.1
STHS pmax pmax
comp=Z,10.0nm,1.1s,mb5.2
KECS Kecovo 95.91 35 *e*P **P 08 57 11.1 +0.3**
comp=Z,5.7nm,1.3s,mb4.8
KECS *e* pP 08 57 26.9 +2.4
KECS Kecovo 95.91 35 *e*P **P 08 57 11.1 +0.3**
KECS *e* pP 08 57 26.9 +2.4
KECS pmax pmax
comp=Z,6.0nm,1.3s,mb4.9
CRVS Cervenica-Dubn 96.20 34 *e*P **P 08 57 12.5 +0.4**
CRVS *e*PCP PcP 08 57 18.6 +6.3
KWP Kalwaria 96.44 33 *e*P **P 08 57 13.3 +0.1**
KOLS Kolonicke sedl 96.62 34 *e*P **P 08 57 13.2 -0.8**
UZH Uzhgorod 96.81 34 *d i*P **P 08 57 15.4 +0.5**
UZH *e* pP 08 57 27.2 -1.4
UZH *e* pP 08 57 32.6 +4.0
UZH *e* 09 01 16.0
UZH *e*S S 09 08 27.4 -5.9
LVV L'vov 97.02 33 *e*P **P 08 57 15.7 -0.1**
LVV *e* pP 08 57 32.3 +2.8
TORD Torodi Ar. Bea 97.11 74 P **P 08 57 15.7 -1.2**
comp=Z,3.5nm,1.2s,mb4.7,baz=287,slow=3.7,SNR=6.4
TORD PKKP PKKPbc 09 13 56.0 -0.3
comp=Z,0.9nm,0.8s,baz=88,slow=3.0,SNR=7.3
TORD LR LR 09 39 13.3
comp=Z,558nm,21.6s,MS5.0,baz=285,slow=34
HABR Khabarovsk 98.19 327 *e*P **P 08 57 21.4 +0.3**
HABR *e* pP 08 57 32.0 -2.8
HABR *e* 09 01 21.4
HABR *e* 09 03 26.2
HABR *e*S SKSac 09 07 56.4 +1.1
HABR *e* 09 15 30.9
HABR *e* 09 19 20.7
AKASG Malin Array Be 99.04 30 P **P 08 57 23.6 -1.2**
comp=Z,0.4nm,0.4s,mb4.3,baz=297,slow=3.7,SNR=5.2
AKASG PKKPbc PKKPbc 09 13 48.9 -3.1
comp=Z,0.1nm,0.3s,baz=100,slow=2.3,SNR=4.6
AKASG LR LR 09 47 55.0
comp=Z,353nm,19.4s,MS4.9,baz=310,slow=39
OBN Obninsk 99.06 24⇓ *e*P **P 08 57 23.6 -1.2**
OBN LR LR
comp=Z,900nm,20.0s,MS5.3
OBN Obninsk 99.06 24 *e*P **P 08 57 23.5 -1.3**
OBN *i* 09 01 25.9
OBN pmax pmax
comp=Z,34nm,1.6s,mb5.6
OBN MLR MLR
comp=Z,900nm,20.0s,MS5.3
CN2 Changchun 106.28 327 PDIF Pdif 08 57 53.0 -4.0
KIV Kislovodsk 110.19 28⇑ *i*PKIKP PKiKP 09 02 15.6 -0.2
KIV MLR MLR
comp=Z,500nm,19.0s,MS5.1
SONM Songino Array 110.95 341 PKKPbc PKKPbc 09 13 12.9 -3.0
comp=Z,1.0nm,0.8s,baz=222,slow=2.0,SNR=7.0
HHC Hu-ho-hao-te 115.09 334 *e*PKP PKiKP 09 02 26.6 +1.3
HHC PP PP 09 03 31.3 +7.0
HHC PP PP
comp=Z,188nm,5.3s
NJ2 Nanjing 118.33 323 *e*PKP PKPdf 09 02 34.1 +2.3
WMQ Urumqi 118.76 354 *e*PKP PKPdf 09 02 35.0 +2.7
WMQ XPKP 09 02 51.0
WMQ PP PP 09 03 56.5 +7.0
WMQ PKS 09 06 10.0
WMQ PP PP
comp=Z,202nm,5.2s
WMQ LR LR
comp=N,1μm,26.8s,MS5.6
WMQ LR LR
comp=E,836nm,24.9s,MS5.6
WMQ LR LR
comp=Z,984nm,25.0s,MS5.3
GTA Gaotai 120.59 342 PKP PKPdf 09 02 35.1 -0.8
GTA XPKP 09 02 51.1
XAN Xi'an 121.93 332 PKP PKPdf 09 02 37.5 -1.1
LZH Lanzhou 122.26 337 *e*PKP PKPdf 09 02 38.5 -0.7
LZH XPKP 09 02 53.1
LZH PP PP 09 04 17.6 +3.8
LZH PKS 09 06 13.5
LZH PPP 09 06 52.8
LZH SKS SKSdf 09 09 45.3 -2.4
LZH SKKS SKKSac 09 11 04.6 -5.9
LZH PP PP
comp=Z,152nm,8.5s
LZH LR LR
comp=E,654nm,18.3s
LZH LR LR
comp=Z,892nm,20.5s,MS5.4
STKA Stephens Creek 122.71 243 *e*PKP PKPdf 09 02 38.9 -1.2
comp=Z,10nm,0.8s
STKA *e*pPKP pPKPdf 09 02 49.6 -4.6
STKA Stephens Creek 122.71 243 PKP PKPdf 09 02 39.2 -0.9
comp=Z,13nm,0.8s,baz=68,slow=2.2,SNR=32
CD2 Chengdu 126.85 334 *e*PKP PKPdf 09 02 46.3 -1.9
CD2 XPKP 09 03 00.6
CD2 PKS 09 06 21.5
CD2 PP PP
comp=Z,130nm,10.6s
CD2 LR LR
comp=N,470nm,19.2s
CD2 LR LR
comp=Z,600nm,16.8s,MS5.3
WB2 Warramunga Arr 128.50 258 *e*PKP PKPdf 09 02 50.1 -1.4
WB2 *e*pPKP pPKPdf 09 03 02.0 -3.6
WRAB Tennant Creek 128.50 258 *e*PKPdf PKPdf 09 02 50.4 -1.1
WRA Warramunga Arr 128.51 258⇑ *i*PKIKP PKPdf 09 02 50.2 -1.3
WRA Warramunga Arr 128.51 258 PKP PKPdf 09 02 50.3 -1.2
comp=Z,14nm,0.8s,baz=82,slow=2.3,SNR=94
MAW Mawson 128.54 172 PKP PKPdf 09 02 49.5 -0.7
comp=Z,12nm,0.9s,baz=280,slow=4.2,SNR=8.2
BOSA Boshof 128.84 113 PKP PKPdf 09 02 51.6 -0.3
comp=Z,12nm,1.0s,baz=286,slow=2.9,SNR=8.5
ASAR Alice Springs 129.24 253 PKP PKPdf 09 02 51.8 -1.0
ASAR Alice Springs 129.24 253 PKiKP 09 02 47.4
comp=Z,7.4nm,0.9s,baz=127,slow=1.7,SNR=4.9
ASAR PKP PKPdf 09 02 51.8 -1.0
comp=Z,8.2nm,0.9s,baz=98,slow=2.0,SNR=47
GYA Guiyang 129.31 329 PDIF Pdif 08 59 37.6 -1.7
GYA PKP PKPdf 09 02 52.4 -0.6
GYA PP PP 09 05 04.3 +3.3
GYA PKS 09 06 27.4
GYA PPP 09 07 51.8
GYA SKS SKSdf 09 09 56.3 -4.9
GYA SKKS SKKSac 09 11 49.9 -5.7
GYA S Sdif 09 12 58.5 -6.1
GYA PP PP
comp=Z,190nm,7.2s
GYA LR LR
comp=N,860nm,23.6s,MS5.5
GYA LR LR
comp=E,690nm,24.8s,MS5.5
GYA LR LR
comp=Z,800nm,26.4s,MS5.3
KMI Kunming 132.31 332 PKP PKPdf 09 02 59.4 +0.7
KMI PP PP 09 05 21.8 +1.5
KMI PPP 09 08 15.3
KMI PP PP
comp=Z,102nm,5.0s
KMI LR LR
comp=N,284nm,19.4s,MS5.2
KMI LR LR
comp=E,343nm,16.2s,MS5.2
KMI LR LR
comp=Z,433nm,19.2s,MS5.2
FITZ Fitzroy Crossi 136.48 262 *e*pPKP PKPdf 09 03 05.2 -1.4
MBWA Marble Bar 142.24 258 *e*PKPdf PKPdf 09 03 09.9 -7.1
KSM Kuching 144.68 299 *e*PKPdf PKPdf 09 03 19.3 -2.2
HYB Hyderabad 145.48 2 *e*P PKPdf 09 03 21.0 -1.8
HYB *e* 09 03 32.5
HYB Hyderabad 145.48 2 *i* PKP PKPdf 09 03 21.0 -1.8

IDC ***13*** *08:51:52.6±0.9, 688S×15500E, h0km, mb4.0/7, mb1 4.2/8, mb1mx4.0/15, mbtmp4.1/8, ML4.2/1, MS4.0/2, Ms1 4.0/2, ms1mx3.1/32, Error ellipse: s-maj=27.4km s-min=22.1km az=125.0*
NEIC ***13*** *08:51:54.0±0.6, 688S×15508E, h10km, mb4.4/1, Error ellipse: s-maj=15.9km s-min=13.2km az=159.0*
ISCJB ***13*** *08:51:59.4±4.0, 7.1S±02×1552E±01, h66km±41km, mb3.8/8, Error ellipse: s-maj=34.9km s-min=15.8km az=150.7*

ISC 13 08:52:00.2±3.4, 70S±02×1551E±01, h59km±36km, n16, σ0972/16, mb3.9/8, MS4.8/1, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.32**	**117**	*e*Pn		**Pn**	**08 53 16.0**	**-1.1**
	143nm,0.9s							
HNR				*e*Sn		**Sn**	**08 54 18.0**	**+0.8**
HNR	**Honiara**	**5.32**	**117**	Pn		**Pn**	**08 53 17.4**	**+0.2**
	6.7nm,0.3s,baz=278,slow=7.2,SNR=4.3							
HNR				Sn		**Sn**	**08 54 23.1**	**+5.9**
	7.0nm,0.3s,baz=86,slow=14,SNR=5.4							
HNR				LR		LR	08 54 53.5	
	comp=Z,230nm,20.7s,baz=355,slow=33							
KAKA	**Kakadu**	**23.06**	**254**	*e*P		**P**	**08 57 01.1**	**+0.2**
	6.8nm,0.6s,mb4.2							
WB2	**Warramunga Arr**	**23.91**	**235**	*e*P		**P**	**08 57 08.8**	**0.0**
WRA	**Warramunga Arr**	**23.92**	**235**	P		**P**	**08 57 08.7**	**-0.1**
	2.9nm,0.6s,mb3.9,baz=59,slow=9.4,SNR=27							
ASAR	**Alice Springs**	**26.27**	**229**	P		**P**	**08 57 28.9**	**-1.2**
	0.4nm,0.5s,mb3.2,baz=59,slow=9.6,SNR=13							
STKA	**Stephens Creek**	**27.77**	**205**	P		**P**	**08 57 44.4**	**+0.8**
	2.5nm,0.8s,mb3.9,baz=30,slow=15,SNR=4.5							
RAO	**Raoul Island**	**33.66**	**134**	LR		LR	09 09 48.4	
	comp=Z,2μm,20.5s,MS4.8,baz=166,slow=32							
SONM	**Songino Array**	**69.44**	**327**	P		**P**	**09 03 03.5**	**+1.4**
	2.0nm,0.8s,mb4.1,baz=125,slow=6.2,SNR=5.3							
HYB	**Hyderabad**	**79.42**	**289**	*i* P		**P**	**09 04 01.5**	**+0.8**
MKAR	**Makanchi Array**	**83.52**	**319**	P		**P**	**09 04 21.1**	**-0.6**
	0.6nm,0.6s,mb3.9,baz=95,slow=4.9,SNR=2.5							
ZAA0	**Zalesovo Array**	**84.28**	**326**	*e*P		**P**	**09 04 25.3**	**-0.2**
INK	**Inuvik**	**89.69**	**21**	P		**P**	**09 04 51.2**	**-0.2**
INK	**Inuvik**	**89.69**	**21**	P		**P**	**09 04 51.2**	**-0.2**
	1.1nm,0.8s,mb4.2,baz=247,slow=3.0,SNR=8.7							
YKA	**Yellowknife Ar**	**96.29**	**28**	P		**P**	**09 05 21.3**	**-0.7**
	0.2nm,0.4s,mb3.9,baz=268,slow=4.6,SNR=4.7							
TORD	**Torodi Ar. Bea**	**153.17**	**285**	PKPbc		PKPbc	09 11 51.7	-0.7
	0.6nm,0.9s,baz=72,slow=3.2,SNR=2.9							
TORD				PKPab		PKPab	09 12 04.6	+0.3
	0.5nm,0.8s,baz=70,slow=4.7,SNR=3.3							

MEX 13 08:52:25.2±0.7, 1726N×10028W, h17km±71km, MD3.5, Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.21**	**176**	*i* P		Pg	08 52 29.2	-1.0
CAIG				*i* S		Sg	08 52 32.9	-0.6
ACX	**Acapulco**	**0.52**	**138**	*i* P		Pg	08 52 34.2	-1.4
ACX				*i* S		Sg	08 52 40.5	-2.2
MEIG	**Mezcala**	**0.92**	**43**	*i* P		Pb	08 52 39.9	-2.8
MEIG				*i* S		Sb	08 52 50.0	-4.6
PPM	**Popocatepetl**	**2.39**	**41**	*i* S		Sn	08 53 31.1	-1.5
UTMO	**Huajuapan**	**2.43**	**76**	*i* P		Pn	08 53 03.2	-0.9
UTMO				*i* S		Sn	08 53 30.6	-3.0

IDC 13 08:52:46.7±71.0, 1046S×17923E, h0km, mb3.8/3, mb1 3.9/3, mb1mx3.6/14, mbtmp3.8/3, MS4.0/1, Ms1 4.0/1, ms1mx2.9/37, Error ellipse: s-maj=1294.0km s-min=176.6km az=68.0, North of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
RPZ	**Rata Peaks**	**33.88**	**191**	LR		LR	09 11 51.3	
	comp=Z,253nm,19.4s,baz=16,slow=34							
STKA	**Stephens Creek**	**40.75**	**233**	P		P	09 00 29.8	+0.1
	0.8nm,0.5s,baz=76,slow=8.3,SNR=4.1							
WRA	**Warramunga Arr**	**44.21**	**252**	P		P	09 00 58.0	0.0
	0.1nm,0.3s,baz=82,slow=6.1,SNR=4.6							
ASAR	**Alice Springs**	**45.08**	**247**	P		P	09 01 04.7	-0.2
	1.2nm,0.6s,baz=78,slow=8.5,SNR=29							

BJI ***13*** *09:14:41.9, 177S×12751E, h8km, mB5.5, mb5.5, Ms4.9, Msz4.7*
ISCJB ***13*** *09:14:49.2±0.8, 107S±002×12702E±003, h13km±4km, mb5.5/15, MS4.8/43, Error ellipse: s-maj=5.3km s-min=3.7km az=167.0*
GCMT ***13*** *09:14:50.8±0.1, 108S×12699E, h12km, MW5.5/94, Moment Tensor Solution. s64,c105; s94,c168; Duration: 1s3 Moment tensor: Scale 1017Nm; Mrr-0.81±.03; Mθθ0.80±.02; Mφφ0.01±.03; Mrθ0.80±.06; Mθφ1.39±.02; Mφr-0.64±.07; Best double couple: M0 1.90600×1017 NP1:φs16.00000°, δ57.00000°, λ-152.00000°. NP2:φs270.00000°, δ67.00000°, λ-37.00000°. Principal axes: T 1.8770, Plg6.0000°, Azm325.0000°; N 0.0580, Plg47.0000°, Azm62.0000°; P -1.9350, Plg42.0000°, Azm230.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***13*** *09:14:50.8±2.3, 1.13S×12696E, h12km±14km, mb5.5/40*

Error ellipse: s-maj=6.7km s-min=3.8km az=71.0
NEIC Felt [III] on Sanana and at Labuha.
*MOS **13** 09:14:52.2±1.1, 1.04S×126.92E, h33km, mb5.6/36, MS4.8/8, Error ellipse: s-maj=11.3km s-min=6.1km az=109.5*
*IDC **13** 09:14:53.0±1.8, 1.15S×127.05E, h27km±11km, mb5.0/22, mb1 5.0/24, mb1mx5.0/26, mbtmp5.0/24, ML4.8/2, MS4.6/16, Ms1 4.6/16, ms1mx4.5/31, Error ellipse: s-maj=17.8km s-min=7.6km az=75.0*
ISC 13 09:14:53.1±0.8, 109S±002×12703E±003, h27km±5km, h18km±1.7km: pP-P, n335, σ1°04/334, mb5.5/115, MS4.8/43, 21C-13D, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNE	**Ternate**	**1.89**	**10**	⇑*eP*	**Pn**	**09 15 20.0**	**-3.6**
TNE				*eS*	**Sn**	**09 15 45.5**	**-1.1**
AAI	**Ambon**	**2.84**	**156**	P	**Pn**	**09 15 36.3**	**-0.3**
5μm,0.9s							
PCI	**Palu**	**7.19**	**271**	P	**Pn**	**09 16 35.8**	**-0.7**
3μm,1.0s							
TLE	**Tual**	**7.28**	**129**	⇑*eP*	**Pn**	**09 16 38.0**	**+0.3**
DAV	**Davao City (W)**	**8.23**	**350**	*e*Pn	**Pn**	**09 16 51.6**	**+0.8**
KAPI	**Kappang**	**8.24**	**242**	Pn	**Pn**	**09 16 51.5**	**+0.5**
3μm,0.8s							
BATI	**Kupang**	**9.66**	**200**	Pn	**Pn**	**09 17 13.2**	**+2.8**
2.3nm,0.3s,baz=100,slow=0.7,SNR=12							
KAKA	**Kakadu**	**12.74**	**155**	*e*P	**Pn**	**09 17 50.4**	**-2.1**
129nm,0.6s							
KDM	**Kudat**	**12.91**	**308**	⇓P	**Pn**	**09 17 58.4**	**+3.5**
KKM	**Kota Kinabalu**	**12.91**	**303**	*e*Pn	**Pn**	**09 17 55.4**	**+0.5**
KKM	**Kota Kinabalu**	**12.91**	**303**	⇑P	**Pn**	**09 17 55.2**	**+0.3**
KMMI	**Kalianget**	**14.30**	**245**	P	**Pn**	**09 18 15.1**	**+1.1**
243nm,1.3s							
KRKI	**Karangkates**	**16.13**	**244**	P	**Pn**	**09 18 42.8**	**+4.7**
473nm,0.9s							
KSM	**Kuching**	**16.91**	**279**	*e*Pn	**Pn**	**09 18 46.2**	**-1.8**
KSM	**Kuching**	**16.91**	**279**	⇑P	**Pn**	**09 18 46.1**	**-1.9**
FITZ	**Fitzroy Crossi**	**16.96**	**185**	*e*P	**Pn**	**09 18 46.6**	**-2.0**
77nm,0.8s							
FITZ				*e*S	**Sn**	**09 21 55.7**	**-0.8**
FITZ	**Fitzroy Crossi**	**16.96**	**185**	Pn	**Pn**	**09 18 47.6**	**-1.1**
1.5nm,0.3s,baz=22,slow=11,SNR=72							
FITZ				Sn	**Sn**	**09 21 56.8**	**+0.3**
0.3nm,0.3s,baz=38,slow=19,SNR=1.8							
FITZ				LR	LR	09 25 51.3	
comp=Z,2μm,20.6s,baz=4.1,slow=39							
TPI	**Tanjungpandan**	**19.43**	**265**	P	**Pn**	**09 19 17.5**	**-1.4**
623nm,1.1s							
JCJI	**Jatiwangi**	**19.46**	**254**	P	**Pn**	**09 19 20.1**	**+0.8**
831nm,1.6s							
WRAB	**Tennant Creek**	**20.06**	**160**	P	**P**	**09 19 22.2**	**-2.2**
536nm,0.9s,SNR=33							
WRAB	**Tennant Creek**	**20.06**	**160**	*e*P	**P**	**09 19 23.1**	**-1.3**
WRAB	**Tennant Creek**	**20.06**	**160**	⇑*i*P	**P**	**09 19 22.2**	**-2.2**
WRA	**Warramunga Arr**	**20.06**	**160**	P	**P**	**09 19 22.1**	**-2.3**
4.0nm,0.3s,baz=340,slow=11,SNR=231							
WRA				S	**S**	**09 23 03.0**	**-5.6**
baz=347,slow=22,SNR=4.3							
WB2	**Warramunga Arr**	**20.07**	**160**	⇑*i*P	**P**	**09 19 22.5**	**-1.9**
WB2				*e*S	**S**	**09 23 11.3**	**+2.6**
LEM	**Lembang**	**20.18**	**253**	P	**P**	**09 19 27.2**	**+1.4**
445nm,1.1s							
MBWA	**Marble Bar**	**21.18**	**199**	*e*P	**P**	**09 19 35.8**	**-0.8**
368nm,1.4s,mb5.5							
MBWA	**Marble Bar**	**21.18**	**199**	P	**P**	**09 19 36.3**	**-0.2**
SNR=31							
MBWA	**Marble Bar**	**21.18**	**199**	P	**P**	**09 19 36.3**	**-0.2**
SNR=31							
SBJI	**Serang**	**21.44**	**256**	P	**P**	**09 19 39.9**	**+0.5**
848nm,2.0s,mb5.7							
KLI	**Kotabumi**	**22.45**	**260**	P	**P**	**09 19 51.9**	**+1.7**
781nm,1.0s,mb6.1							
GUMO	**Guam**	**22.92**	**50**	*e*P	**P**	**09 19 56.8**	**+1.6**
182nm,1.1s,mb5.4							
GUMO	**Guam**	**22.92**	**50**	*e*P	**P**	**09 19 55.9**	**+0.7**
GUMO	**Guam**	**22.92**	**50**	P	**P**	**09 19 56.4**	**+1.2**
157nm,1.1s,mb5.3,baz=216,slow=14,SNR=2.0							
GUMO				LR	LR	09 27 27.4	
comp=Z,2μm,19.0s,MS4.6,baz=1.4,slow=33							
MYKOM	**Kota Tinggi**	**23.35**	**277**	⇓P	**P**	**09 20 00.0**	**+0.3**
ASAR	**Alice Springs**	**23.42**	**164**	P	**P**	**09 19 58.6**	**-1.7**
ASAR				S	**S**	**09 24 10.9**	**-0.7**
ASAR	**Alice Springs**	**23.42**	**164**	P	**P**	**09 19 58.5**	**-1.8**
63nm,0.7s,mb5.1,baz=347,slow=11,SNR=454							
ASAR				S	**S**	**09 24 10.8**	**-0.8**
42nm,1.3s,baz=344,slow=19,SNR=5.8							
ASAR				ScP	ScP	09 27 24.1	+1.4
2.1nm,0.9s,baz=20,slow=4.0,SNR=4.7							
KSI	**Kapahiang**	**24.54**	**264**	P	**P**	**09 20 11.4**	**+0.6**
1μm,0.8s,mb6.4							
NACB	**Ningancchiao**	**25.66**	**348**	*e*P	**P**	**09 20 20.8**	**0.0**
QIZ	**Qiongzhong**	**26.16**	**321**	⇑P	**P**	**09 20 25.5**	**+0.1**
QIZ				AP	pP	09 20 29.1	-4.3
QIZ				S	**S**	**09 24 57.3**	**+1.6**
QIZ				AMB	AMB		
comp=Z,40nm,1.1s,mb4.9							
QIZ				AMB	AMB		
comp=Z,707nm,7.4s							
QIZ				LR	LR		
comp=N,2μm,19.2s							
QIZ				LR	LR		
comp=Z,2μm,24.8s							
QIZ	**Qiongzhong**	**26.16**	**321**	*e*P	**P**	**09 20 25.1**	**-0.3**
comp=Z,46nm,1.0s,mb5.0							
YHNB	**Yeheng**	**26.18**	**348**	*e*P	**P**	**09 20 24.8**	**-0.7**
TATO	**Taipei**	**26.46**	**349**	*e*P	**P**	**09 20 27.4**	**-0.6**
comp=Z,268nm,1.4s,mb5.6							
IPM	**Ipoh**	**26.56**	**282**	⇑P	**P**	**09 20 28.6**	**-0.5**
PPI	**Padang Panjang**	**26.63**	**271**	P	**P**	**09 20 29.8**	**0.0**
comp=Z,311nm,1.1s,mb5.8							
CTA	**Charters Tower**	**26.65**	**136**	*e*P	**P**	**09 20 30.9**	**+1.1**
comp=Z,35nm,0.9s,mb4.9							
CTA				*e*S	**S**	**09 25 04.6**	**+1.1**
CTA	**Charters Tower**	**26.65**	**136**	*e*P	**P**	**09 20 30.9**	**+1.1**
CTA				*e*S	**S**	**09 25 04.6**	**+1.1**
CTA				pmax	pmax		
comp=Z,35nm,0.9s							
CTA	**Charters Tower**	**26.65**	**136**	P	**P**	**09 20 29.5**	**-0.3**
comp=Z,34nm,0.8s,mb5.0,baz=324,slow=12,SNR=18							
CTAO	**Charters Tower**	**26.65**	**136**	*e*P	**P**	**09 20 30.5**	**+0.7**
comp=Z,179nm,1.5s,mb5.4							
CTAO				LR	LR		
comp=Z,3μm,21.0s,MS4.8							
CTAO	**Charters Tower**	**26.65**	**136**	*e*P	**P**	**09 20 30.5**	**+0.7**
CTAO				pmax	pmax		
comp=Z,179nm,1.5s,mb5.4							
CTAO				MLR	MLR		
comp=Z,3μm,21.0s,MS4.8							
KULM	**Kulim**	**27.09**	**284**	⇓P	**P**	**09 20 33.3**	**-0.6**
QZH	**Quanzhou**	**27.13**	**343**	*i* P	**P**	**09 20 34.5**	**+0.4**
QZH				S	**S**	**09 25 11.3**	**+0.3**
QZH				AMB	AMB		
comp=Z,180nm,0.8s,mb5.7							
QZH				AMB	AMB		
comp=Z,1μm,8.3s							
QZH				LR	LR		
comp=N,1μm,12.6s,MS4.8							
QZH				LR	LR		
comp=E,1μm,12.5s,MS4.8							
QZH				LR	LR		
comp=Z,1μm,16.8s,MS4.6							
GZH	**Guangzhou**	**27.47**	**332**	P	**P**	**09 20 40.3**	**+3.1**
GZH				S	**S**	**09 25 23.3**	**+7.0**
GZH				LR	LR		
comp=N,1μm,12.6s,MS4.9							
GZH				LR	LR		
comp=E,1μm,10.2s,MS4.9							
GZH				LR	LR		
comp=Z,2μm,23.1s							
SNG	**Songkhla**	**27.60**	**288**	P	**P**	**09 20 38.0**	**-0.4**
comp=Z,172nm,1.0s,mb5.6							
JOW	**Kunigami**	**27.78**	**2**	P	**P**	**09 20 40.7**	**+0.8**
comp=Z,136nm,0.9s,mb5.6,baz=190,slow=8.3,SNR=21							
PSI	**Prapat**	**28.36**	**278**	P	**P**	**09 20 44.5**	**-0.7**
comp=Z,166nm,0.8s,mb5.7,baz=99,slow=4.1,SNR=95							
KKTK	**Khon Kaen**	**29.50**	**307**	P	**P**	**09 20 55.0**	**-0.3**
comp=Z,1μm,0.6s							
FORT	**Forrest**	**29.55**	**178**	*e*P	**P**	**09 20 55.0**	**-0.5**
comp=Z,54nm,0.8s,mb5.3							
NST	**Nakhon Sawan**	**31.36**	**303**	P	**P**	**09 21 10.8**	**-1.0**
comp=Z,42nm,0.9s,mb5.3							
KLBR	**Kellerberrin**	**31.58**	**195**	*e*P	**P**	**09 21 14.4**	**+0.9**
comp=Z,57nm,1.0s,mb5.3							
CBIJ	**Chichi jima**	**31.59**	**26**	P	**P**	**09 21 12.5**	**-1.2**
comp=Z,83nm,0.8s,mb5.6,baz=125,slow=21,SNR=12							
MUN	**Mundaring**	**32.38**	**197**	*e*P	**P**	**09 21 16.1**	**-4.4**
SSE	**Sheshan**	**32.48**	**351**	P	**P**	**09 21 22.9**	**+1.5**
SSE				AP	pP	09 21 26.6	-2.9
SSE				S	**S**	**09 26 33.3**	**-1.4**
SSE				AMB	AMB		
comp=Z,59nm,0.7s,mb5.5							
SSE				AMB	AMB		
comp=Z,174nm,7.5s							
SSE				LR	LR		
comp=N,702nm,28.6s,MS4.3							
SSE				LR	LR		
comp=E,659nm,28.6s,MS4.3							
SSE				LR	LR		
comp=Z,750nm,28.4s,MS4.2							
NWAO	**Narrogin (SRO)**	**32.98**	**195**	P	**P**	**09 21 26.5**	**+0.7**
NWAO				LR	LR	09 34 14.4	
NWAO	**Narrogin (SRO)**	**32.98**	**195**	*e*P	**P**	**09 21 25.3**	**-0.5**
NWAO	**Narrogin (SRO)**	**32.98**	**195**	P	**P**	**09 21 26.5**	**+0.7**
comp=Z,6.3nm,0.7s,mb4.7,baz=30,slow=10,SNR=5.6							
NWAO				LR	LR	09 34 14.5	
comp=Z,1μm,21.5s,MS4.6,baz=224,slow=35							
BDT	**Bhumibol Dam**	**33.08**	**305**	P	**P**	**09 21 27.0**	**+0.1**
comp=Z,13nm,0.8s,mb4.9							
STKA	**Stephens Creek**	**33.58**	**157**	⇑*i*P	**P**	**09 21 31.0**	**0.0**
comp=Z,44nm,0.6s,mb5.6							
STKA				*e*S	**S**	**09 26 51.5**	**-0.3**
STKA	**Stephens Creek**	**33.58**	**157**	P	**P**	**09 21 31.2**	**+0.3**
comp=Z,61nm,0.8s,mb5.6,baz=334,slow=8.2,SNR=101							
WHN	**Wuhan**	**33.69**	**340**	⇓P	**P**	**09 21 32.6**	**+0.6**
WHN				AP	pP	09 21 40.0	-0.1
WHN				S	**S**	**09 26 55.8**	**+2.2**
WHN				AMB	AMB		
comp=Z,254nm,1.0s,mb6.1							
WHN				AMB	AMB		
comp=Z,849nm,5.1s							
WHN				LR	LR		
comp=Z,2μm,20.2s,MS4.8							
GYA	**Guiyang**	**33.70**	**326**	⇑*i*P	**P**	**09 21 33.3**	**+1.2**
GYA				AP	pP	09 21 37.8	-2.5
GYA				XP	sP	09 21 40.6	-3.0
GYA				PP	PP	09 22 49.3	+0.5
GYA				S	**S**	**09 26 52.1**	**-1.7**
GYA				SCS	ScS	09 31 58.3	+2.1
GYA				AMB	AMB		
comp=Z,40nm,0.9s,mb5.3							
GYA				AMB	AMB		
comp=Z,320nm,5.5s							
GYA				LR	LR		
comp=N,3μm,13.8s,MS5.3							
GYA				LR	LR		
comp=E,3μm,17.7s,MS5.3							
GYA				LR	LR		
comp=Z,3μm,19.5s,MS5.0							
HNR	**Honiara**	**33.78**	**105**	*e*P	**P**	**09 21 33.5**	**+0.4**
NJ2	**Nanjing**	**33.85**	**347**	*e*P	**P**	**09 21 35.1**	**+1.7**
NJ2				AP	pP	09 21 39.9	-1.6
NJ2				XP	sP	09 21 42.4	-2.4
NJ2				PP	PP	09 22 49.6	-0.8
NJ2				S	**S**	**09 27 01.0**	**+5.0**
NJ2				XS	sS	09 27 09.0	-0.4
NJ2				AMB	AMB		
comp=Z,120nm,0.8s,mb5.9							
NJ2				AMB	AMB		
comp=Z,430nm,7.8s							
NJ2				LR	LR		
comp=N,2μm,22.5s,MS4.8							
NJ2				LR	LR		
comp=E,1μm,20.8s,MS4.8							
CHG	**Chiang Mai**	**33.95**	**307**	⇓P	**P**	**09 21 33.9**	**-0.5**
comp=E,73nm,0.7s,mb5.7							
CHTO	**Chiang Mai**	**33.95**	**307**	⇓*i*P	**P**	**09 21 33.8**	**-0.6**
comp=E,26nm,0.8s,mb5.2							
CHTO				LR	LR		
comp=Z,502nm,21.0s,MS4.2							
CHTO	**Chiang Mai**	**33.95**	**307**	⇓*i*P	**P**	**09 21 33.8**	**-0.6**
CHTO				pmax	pmax		
comp=Z,26nm,0.8s,mb5.2							
CHTO				MLR	MLR		
comp=Z,502nm,21.0s,MS4.2							
CHTO	**Chiang Mai**	**33.95**	**307**	P	**P**	**09 21 34.2**	**-0.2**
SNR=12							
CHTO	**Chiang Mai**	**33.95**	**307**	P	**P**	**09 21 34.2**	**-0.2**
SNR=12							
JNU	**Nakatsue**	**34.22**	**6**	P	**P**	**09 21 37.4**	**+0.9**
comp=Z,29nm,1.0s,mb5.2,baz=39,slow=3.6,SNR=4.6							
JNU				LR	LR	09 33 32.6	
comp=Z,1μm,21.2s,MS4.7,baz=178,slow=33							
KMI	**Kunming**	**35.10**	**320**	P	**P**	**09 21 45.8**	**+1.5**
KMI				AP	pP	09 21 54.8	+2.4
KMI				PP	PP	09 23 05.3	+1.1
KMI				PPP		09 23 26.4	
KMI				S	**S**	**09 27 13.1**	**-2.3**
KMI				SSS		09 29 43.4	
KMI				AMB	AMB		
comp=Z,40nm,1.2s,mb5.2							
KMI				AMB	AMB		
comp=Z,348nm,6.9s							
KMI				LR	LR		
comp=N,1μm,23.3s							
KMI				LR	LR		
comp=E,914nm,17.8s							
KMI				LR	LR		
comp=Z,1μm,23.3s,MS4.6							
ADE	**Adelaide**	**35.42**	**163**	P	**P**	**09 21 47.8**	**+0.8**
ARMA	**Armidale**	**37.37**	**144**	*e*P	**P**	**09 22 03.9**	**+0.3**
comp=Z,1.3nm,1.0s							
TIA	**Tai'an**	**38.23**	**347**	*e*P	**P**	**09 22 10.3**	**-0.5**
TIA				AMB	AMB		
comp=Z,34nm,1.0s,mb5.0							
KSRS	**Korea Array**	**38.35**	**1**	P	**P**	**09 22 12.2**	**+0.4**
comp=Z,22nm,0.8s,mb5.0,baz=179,slow=9.6,SNR=34							
KSRS				PcP	PcP	09 24 27.6	+2.3
comp=Z,5.2nm,0.8s,baz=192,slow=3.1,SNR=4.1							
KSRS				ScP	ScP	09 28 13.3	+1.8
comp=Z,4.5nm,0.9s,baz=177,slow=3.6,SNR=6.9							
KSRS				LR	LR	09 36 07.1	
comp=Z,719nm,20.2s,MS4.5,baz=180,slow=33							
CD2	**Chengdu**	**38.75**	**327**	⇑*i*P	**P**	**09 22 15.6**	**+0.3**
CD2				AP	pP	09 22 20.6	-2.9
CD2				XP	sP	09 22 23.9	-2.9
CD2				PP	PP	09 23 49.8	+5.4
CD2				PCP	PcP	09 24 26.8	+0.1
CD2				SCS	ScS	09 32 23.1	-0.9
CD2				AMB	AMB		
comp=Z,140nm,0.6s,mb5.9							
CD2				AMB	AMB		
comp=Z,430nm,6.1s							
CD2				LR	LR		
comp=N,1μm,25.2s							
CD2				LR	LR		
comp=E,1μm,18.0s							
CD2				LR	LR		
comp=Z,1μm,22.8s,MS4.7							
MAJO	**Matsushiro**	**38.85**	**14**	*e*P	**P**	**09 22 16.7**	**+0.7**
comp=Z,182nm,2.1s,mb5.4							
MAJO				LR	LR		
comp=Z,2μm,20.0s,MS4.9							
MAJO	**Matsushiro**	**38.85**	**14**	*e*P	**P**	**09 22 16.7**	**+0.7**
MAJO				pmax	pmax		
comp=Z,182nm,2.1s,mb5.4							
MAJO				MLR	MLR		
comp=Z,2μm,20.0s,MS4.9							
MAT	**Matsushiro**	**38.85**	**14**	P	**P**	**09 22 13.9**	**-2.1**
MAT				S	**S**	**09 28 11.0**	**-1.4**
MJAR	**Matsushiro Arr**	**38.85**	**14**	P	**P**	**09 22 15.0**	**-1.0**
MJAR				ScP	ScP	09 28 14.0	+0.6
MJAR				LR	LR	09 38 34.5	
MJAR	**Matsushiro Arr**	**38.85**	**14**	P	**P**	**09 22 15.0**	**-1.0**
MJAR						09 28 14.0	
MJAR	**Matsushiro Arr**	**38.85**	**14**	P	**P**	**09 22 15.0**	**-1.0**
comp=Z,10nm,0.5s,mb4.8,baz=188,slow=8.9,SNR=27							
MJAR				ScP	ScP	09 28 14.0	+0.6
comp=Z,18nm,1.2s,baz=202,slow=4.0,SNR=15							
MJAR				LR	LR	09 38 34.5	
comp=Z,1μm,19.1s,MS4.8,baz=195,slow=36							
XAN	**Xi'an**	**38.86**	**336**	P	**P**	**09 22 16.1**	**-0.1**
XAN				S	**S**	**09 28 10.8**	**-1.8**
XAN				AMB	AMB		
comp=Z,151nm,1.1s,mb5.6							
XAN				AMB	AMB		
comp=Z,334nm,6.7s							
XAN				LR	LR		
comp=N,564nm,22.7s,MS4.5							
XAN				LR	LR		
comp=E,627nm,25.7s,MS4.5							
XAN				LR	LR		
comp=Z,800nm,20.3s							
CNB	**Canberra Magne**	**39.90**	**151**	*e*P	**P**	**09 22 26.8**	**+2.0**
comp=Z,45nm,1.1s,mb5.1							
DL2	**Dalian**	**40.10**	**353**	P	**P**	**09 22 25.9**	**-0.5**
DL2				S	**S**	**09 28 30.5**	**-0.6**
DL2				AMB	AMB		
comp=Z,30nm,0.9s,mb5.0							
DL2				AMB	AMB		
comp=Z,160nm,8.0s							
DL2				LR	LR		
comp=N,280nm,15.8s,MS4.5							
DL2				LR	LR		
comp=E,450nm,16.1s,MS4.5							
DL2				LR	LR		
comp=Z,620nm,13.6s,MS4.6							
BJT	**Baijiatuau**	**42.09**	**348**	*e*P	**P**	**09 22 42.7**	**-0.1**
comp=Z,125nm,0.9s,mb5.5							
BJT	**Baijiatuau**	**42.09**	**348**	*e*P	**P**	**09 22 42.7**	**-0.1**
BJT				pmax	pmax		
comp=Z,125nm,0.9s							
BJI	**Beijing**	**42.12**	**348**	P	**P**	**09 22 42.4**	**-0.6**
BJI				PP	PP	09 24 19.8	-1.0
BJI				SCP	ScP	09 28 26.0	-0.1
BJI				S	**S**	**09 28 58.3**	**-2.6**
BJI				AMB	AMB		
comp=Z,87nm,1.0s,mb5.3							
BJI				LR	LR		
comp=N,619nm,17.3s,MS4.7							
BJI				LR	LR		
comp=E,571nm,18.8s,MS4.7							
BJI				LR	LR		
comp=Z,1μm,29.5s							
LZH	**Lanzhou**	**42.82**	**332**	⇓P	**P**	**09 22 50.0**	**+1.2**
LZH				AP	pP	09 23 00.1	+3.0
LZH				PP	PP	09 24 33.0	+4.5
LZH				PCP	PcP	09 24 40.0	+0.3
LZH				PPP		09 25 10.0	
LZH				SCP	ScP	09 28 29.3	+0.2
LZH				PCS	PcS	09 28 32.1	+0.2
LZH				S	**S**	**09 29 12.0**	**+0.5**
LZH				XS	sS	09 29 29.3	+4.2
LZH				SCS	ScS	09 32 45.6	-2.6
LZH				AMB	AMB		
comp=Z,135nm,1.4s,mb5.5							
LZH				AMB	AMB		
comp=Z,983nm,8.9s							
LZH				LR	LR		
comp=E,2μm,12.6s							
LZH				LR	LR		
comp=Z,3μm,17.2s,MS5.2							
SHL	**Shillong**	**43.08**	**310**	*e*P	**P**	**09 22 51.0**	**-0.1**
SHL				*ex*	x	09 29 12.0	
HHC	**Hu-ho-hao-te**	**44.05**	**343**	*e*P	**P**	**09 22 58.9**	**+0.3**
HHC				AP	pP	09 23 03.4	-3.5
HHC				XP	sP	09 23 06.3	-3.9
HHC				PP	PP	09 24 42.0	+0.4
HHC				PCP	PcP	09 24 44.3	+0.5
HHC				PCS	PcS	09 28 34.3	-2.4
HHC				S	**S**	**09 29 30.6**	**+1.3**
HHC				SCS	ScS	09 32 54.8	-0.8
HHC				AMB	AMB		
comp=Z,43nm,1.0s,mb5.1							
HHC				AMB	AMB		
comp=Z,342nm,3.4s							
HHC				LR	LR		
comp=N,811nm,19.6s,MS4.8							
HHC				LR	LR		
comp=E,766nm,20.2s,MS4.8							
HHC				LR	LR		
comp=Z,836nm,21.6s,MS4.6							
BTO	**Baotou**	**44.30**	**341**	*e*P	**P**	**09 22 59.3**	**-1.3**
CN2	**Changchun**	**44.71**	**358**	*e*P	**P**	**09 23 07.8**	**+4.0**
CN2				*e*XP	sP	09 23 14.8	-0.6
CN2				PP	PP	09 24 53.8	+5.2
CN2				*e*S	**S**	**09 29 45.3**	**+6.5**
CN2				SS	SS	09 32 58.4	-1.5
CN2				AMB	AMB		
comp=Z,10.0nm,0.7s,mb4.8							
CN2				AMB	AMB		
comp=Z,200nm,3.0s							
CN2				LR	LR		
comp=N,1μm,16.0s,MS4.9							
CN2				LR	LR		
comp=E,430nm,16.0s,MS4.9							
CN2				LR	LR		
comp=Z,910nm,16.0s,MS4.8							
TAU	**Tasmania Unive**	**45.43**	**159**	*e*P	**P**	**09 23 09.5**	**-0.1**
comp=Z,38nm,1.0s,mb5.2							
TAU	**Tasmania Unive**	**45.43**	**159**	*e*P	**P**	**09 23 09.5**	**-0.1**
TAU				pmax	pmax		
comp=Z,38nm,1.0s,mb5.2							
MDJ	**Mudanjiang**	**45.56**	**3**	P	**P**	**09 23 11.0**	**+0.4**
MDJ				AP	pP	09 23 14.1	-4.8
MDJ				XP	sP	09 23 15.4	-6.8
MDJ				PCP	PcP	09 24 49.3	+0.4
MDJ				PP	PP	09 24 57.8	+0.2
MDJ				SCP	ScP	09 28 42.3	+2.2
MDJ				PCS	PcS	09 28 43.5	+0.7
MDJ				S	**S**	**09 29 52.8**	**+1.7**
MDJ				SCS	ScS	09 33 06.6	+1.5
MDJ				AMB	AMB		
comp=Z,52nm,0.9s,mb5.5							
MDJ				AMB	AMB		
comp=Z,228nm,5.0s							
MDJ				LR	LR		
comp=N,763nm,16.9s							
MDJ				LR	LR		
comp=E,517nm,22.2s							
MDJ				LR	LR		
comp=Z,941nm,16.9s,MS4.8							
MDJ	**Mudanjiang**	**45.56**	**3**	*e*P	**P**	**09 23 10.6**	**0.0**
comp=Z,48nm,0.8s,mb5.5							
LSA	**Lhasa**	**45.92**	**315**	P	**P**	**09 23 15.4**	**+1.7**
LSA	**Lhasa**	**45.92**	**315**	*e*P	**P**	**09 23 14.5**	**+0.8**
comp=Z,38nm,0.6s,mb5.5							
LSA	**Lhasa**	**45.92**	**315**	*e*P	**P**	**09 23 14.5**	**+0.8**
LSA				pmax	pmax		
comp=Z,38nm,0.6s,mb5.5							
VIS	**Vishakhapatnam**	**46.90**	**296**	*e*P	**P**	**09 23 21.4**	**-0.1**
VIS				AMb	AMB	09 23 25.7	
comp=Z,105nm,1.2s,mb5.6							
VIS				*ex*	x	09 30 09.7	
PALK	**Pallekele**	**46.95**	**281**	P	**P**	**09 23 22.1**	**0.0**
comp=Z,387nm,0.9s,mb6.3,SNR=9.9							
PALK	**Pallekele**	**46.95**	**281**	*e*P	**P**	**09 23 21.9**	**-0.1**
comp=Z,39nm,0.7s,mb5.4							
PALK	**Pallekele**	**46.95**	**281**	P	**P**	**09 23 22.5**	**+0.4**
SNR=8.3							
PALK	**Pallekele**	**46.95**	**281**	P	**P**	**09 23 22.5**	**+0.4**
SNR=8.3							
BOK	**Bokaro**	**46.99**	**304**	*e*P	**P**	**09 23 20.1**	**-2.1**
BOK				AMb	AMB	09 23 28.9	
comp=Z,44nm,1.0s,mb5.3							
ASAJ	**Asahikawa**	**47.10**	**15**	LR	LR	09 44 05.9	
comp=Z,2μm,19.6s,MS5.0,baz=188,slow=37							
GTA	**Gaotai**	**47.39**	**331**	P	**P**	**09 23 25.9**	**+0.8**
GTA				AP	pP	09 23 29.9	-3.5
GTA				XP	sP	09 23 32.0	-4.7
GTA				P

YSS	**Yuzh-Sakhalins**	**49.79**	**14**	*e*P	**P**	**09 23 43.8**	**+0.4**
YSS	**Yuzh-Sakhalins**	**49.79**	**14⇑**	*e*P	**P**	**09 23 43.3**	**-0.1**
YSS				*e*		09 25 11.8	
YSS				*e*S	**S**	**09 30 49.0**	**-2.1**
YSS				*e*		09 33 24.0	
YSS				pmax	pmax		
	comp=Z,30nm,0.9s,mb5.3						
YSS				MLR	MLR		
	comp=N,900nm,17.0s						
YSS				MLR	MLR		
	comp=Z,900nm,17.0s,MS4.8						
HABR	**Khabarovsk**	**49.85**	**7**	*e*P	**P**	**09 23 43.5**	**-0.3**
HABR				*e*		09 24 57.3	
HABR				*e*		09 25 34.0	
HABR				*e*		09 26 29.3	
HABR				*e*S	**S**	**09 30 56.4**	**+4.5**
HABR				*e*		09 33 33.8	
HABR				*e*		09 35 50.6	
HABR				pmax	pmax		
	comp=Z,57nm,1.2s,mb5.5						
HABR				MLR	MLR		
	comp=Z,1μm,16.8s,MS4.9						
GKN	**Gorkha**	**49.90**	**309**	*e*P	**P**	**09 23 45.4**	**+0.9**
	comp=Z,410nm,0.9s,mb6.4						
KLR	**Kul'dur**	**50.28**	**4**	*e*P	**P**	**09 23 40.0**	**-7.1**
KLR				*e*S	**S**	**09 30 48.0**	**-10**
HIA	**Hailar**	**50.55**	**354**	*e*P	**P**	**09 23 49.2**	**+0.2**
	comp=Z,99nm,1.4s,mb5.5						
HIA	**Hailar**	**50.55**	**354**	*e*P	**P**	**09 23 49.2**	**+0.1**
HIA				pmax	pmax		
	comp=Z,99nm,1.4s						
KOLN	**Koldanda**	**50.60**	**308**	*e*P	**P**	**09 23 50.8**	**+0.9**
TRD	**Trivandrum**	**50.80**	**282**	*e*P	**P**	**09 23 51.6**	**0.0**
HYB	**Hyderabad**	**51.15**	**293**	*e*P	**P**	**09 23 54.0**	**-0.2**
	comp=Z,420nm,1.0s,mb6.3						
HYB				*e*		09 25 09.0	
HYB				*e*S	**S**	**09 31 12.0**	**+1.0**
HYB	**Hyderabad**	**51.15**	**293**	*e*P	**P**	**09 23 54.0**	**-0.2**
HYB				*e*		09 25 09.0	
HYB				*e*S	**S**	**09 31 12.0**	**+1.0**
HYB				pmax	pmax		
	comp=Z,420nm,1.0s,mb6.3						
HYB	**Hyderabad**	**51.15**	**293⇓**	*i*P	**P**	**09 23 54.0**	**-0.2**
	comp=Z,420nm,1.0s,mb6.3						
HYB				*e*PcP	PcP	09 25 11.0	+1.4
HYB				*e*S	**S**	**09 31 12.0**	**+1.0**
SONM	**Songino Array**	**51.94**	**342**	P	**P**	**09 23 59.6**	**+0.1**
	comp=Z,67nm,0.9s,mb5.6,baz=158,slow=8.3,SNR=130						
SONM				ScP	ScP	09 29 08.1	+1.0
	comp=Z,7.1nm,0.9s,baz=151,slow=3.4,SNR=10						
LATR	**Latur**	**53.25**	**294**	*e*x	**P**	**09 24 06.5**	**-3.3**
AKL	**Akola**	**53.49**	**297**	*i* P	**P**	**09 24 11.5**	**0.0**
AKL				*i* S	**S**	**09 31 42.9**	**-0.1**
BHPL	**Bhopal**	**53.94**	**300**	*e*P	**P**	**09 24 14.8**	**0.0**
BHPL				*e*x	x	09 31 41.8	
CIT	**Chita**	**54.12**	**350**	*e*P	**P**	**09 24 15.1**	**-0.5**
CIT				*e*		09 24 26.2	
CIT				*e*		09 26 22.0	
CIT				*e*		09 31 50.7	
CIT				*e*		09 32 09.6	
CIT				pmax	pmax		
	comp=Z,139nm,1.6s,mb5.6						
KAD	**Karad**	**55.16**	**292**	*e*P	**P**	**09 24 23.1**	**-0.6**
POO	**Poona**	**55.76**	**293**	*i* P	**P**	**09 24 26.0**	**-2.0**
	comp=Z,200nm,1.0s,mb6.1						
DDI	**Dehra Dun**	**56.08**	**308**	*e*P	**P**	**09 24 30.0**	**-0.1**
NDI	**New Delhi**	**56.09**	**306**	*e*P	**P**	**09 24 28.0**	**-2.2**
TLY	**Talaya**	**56.17**	**343**	P	**P**	**09 24 31.2**	**+0.8**
	comp=Z,321nm,0.9s,mb6.3,SNR=9.6						
TLY	**Talaya**	**56.17**	**343**	*e*P	**P**	**09 24 31.1**	**+0.7**
TLY	**Talaya**	**56.17**	**343**	*e*P	**P**	**09 24 31.0**	**+0.6**
TLY				*e*S	**S**	**09 32 18.3**	**+0.4**
TLY				*e*PS		09 32 31.0	
TLY				pmax	pmax		
	comp=Z,25nm,1.1s,mb5.2						
TLY				MLR	MLR		
	comp=Z,599nm,19.0s,MS4.7						
TLY	**Talaya**	**56.17**	**343**	P	**P**	**09 24 31.4**	**+1.0**
	SNR=26						
TLY	**Talaya**	**56.17**	**343**	P	**P**	**09 24 31.4**	**+1.0**
	SNR=26						
IRK	**Irkutsk**	**56.49**	**343⇓**	*i*P	**P**	**09 24 32.1**	**-0.5**
IRK				*e*S	**S**	**09 32 21.9**	**-0.2**
IRK				pmax	pmax		
	comp=Z,104nm,1.6s,mb5.6						
WMQ	**Urumqi**	**56.85**	**327⇓**	*i*P	**P**	**09 24 36.0**	**+0.6**
WMQ				AP	pP	09 24 41.0	-2.8
WMQ				XP	sP	09 24 44.0	-3.1
WMQ				PCP	PcP	09 25 31.0	+0.2
WMQ				PP	PP	09 26 45.0	+3.0
WMQ				SCP	ScP	09 29 30.0	+1.3
WMQ				S	**S**	**09 32 28.0**	**+0.8**
WMQ				AMB	AMB		
	comp=Z,67nm,1.1s,mb5.6						
WMQ				AMB	AMB		
	comp=Z,441nm,4.0s						
WMQ				LR	LR		
	comp=N,2μm,23.3s,MS5.2						
WMQ				LR	LR		
	comp=E,1μm,19.4s,MS5.2						
WMQ				LR	LR		
	comp=Z,1μm,24.9s						
SDNR	**Sundarnagar**	**57.41**	**309**	*e*P	**P**	**09 24 40.5**	**+0.9**
NRGR	**Nerungri**	**57.59**	**358**	*e*P	**P**	**09 24 36.5**	**-3.8**
NRGR				S	**S**	**09 32 25.1**	**-11**
NRGR				smax			
	comp=N,28nm,0.7s						
RPZ	**Rata Peaks**	**57.71**	**143**	P	**P**	**09 24 41.8**	**+0.4**
	comp=N,30nm,1.0s,mb5.3,baz=274,slow=6.6,SNR=2.9						
CLNS	**Chul'man**	**57.76**	**359**	*e*P	**P**	**09 24 42.1**	**+0.6**
DLH	**Dalhousie**	**58.62**	**310**	*e*P	**P**	**09 24 49.0**	**+1.0**
THN	**Thein Dam**	**58.77**	**309**	*e*P	**P**	**09 24 48.2**	**-0.9**
RAO	**Raoul Island**	**59.36**	**124**	*e*P	**P**	**09 24 53.6**	**+0.3**
BOD	**Bodaibo**	**59.64**	**352**	*e*P	**P**	**09 24 53.7**	**-0.9**
BOD				pmax	pmax		
	comp=Z,39nm,1.1s,mb5.3						
PET	**Petropavlovsk**	**60.05**	**21**	*e*P	**P**	**09 24 57.8**	**+0.3**
	comp=Z,91nm,1.4s,mb5.6						
PET	**Petropavlovsk**	**60.05**	**21⇑**	*e*P	**P**	**09 24 58.3**	**+0.8**
PET				pmax	pmax		
	comp=Z,67nm,1.3s,mb5.5						
BHJ	**Bhuj**	**60.76**	**297**	*e*P	**P**	**09 25 01.9**	**-1.0**
MKAR	**Makanchi Array**	**61.69**	**327**	P	**P**	**09 25 08.7**	**0.0**
MKAR				ScP	ScP	09 29 50.7	+0.6
MKAR				S	**S**	**09 33 29.6**	**0.0**
MKAR				LR	LR	09 55 42.5	
MKAR	**Makanchi Array**	**61.69**	**327**	P	**P**	**09 25 08.7**	**0.0**
MKAR				S	**S**	**09 33 29.6**	**0.0**
MKAR	**Makanchi Array**	**61.69**	**327**	P	**P**	**09 25 08.7**	**0.0**
	comp=Z,44nm,0.6s,mb5.8,baz=116,slow=8.2,SNR=88						
MKAR				ScP	ScP	09 29 50.7	+0.6
	comp=Z,6.7nm,0.9s,baz=125,slow=6.1,SNR=8.3						
MKAR				S	**S**	**09 33 29.6**	**0.0**
	comp=Z,0.8nm,0.7s,baz=140,slow=11,SNR=3.6						
MKAR				LR	LR	09 55 42.6	
	comp=Z,314nm,18.3s,MS4.5,baz=227,slow=40						
KSH	**Kashi**	**61.69**	**317**	*e*P	**P**	**09 25 10.9**	**+2.0**
KSH				*e*AP	pP	09 25 15.3	-2.2
KSH				*e*XP	sP	09 25 17.8	-2.9
KSH				*e*PCP	PcP	09 25 52.9	+2.7
KSH				*e*PP	PP	09 27 28.3	+3.3
KSH				*e*PPP		09 28 57.4	
KSH				*e*SCP	ScP	09 29 51.1	+0.8
KSH				PCS	PcS	09 29 53.6	+0.5
KSH				S	**S**	**09 33 30.4**	**+0.4**
KSH				AMB	AMB		
	comp=Z,229nm,1.1s,mb6.2						
KSH				AMB	AMB		
	comp=Z,2μm,5.4s						
KSH				LR	LR		
	comp=N,1μm,8.6s						
KSH				LR	LR		
	comp=E,1μm,12.2s						
KSH				LR	LR		
	comp=Z,719nm,13.1s,MS5.0						
ULHL	**Ulahol**	**62.82**	**320**	P	**P**	**09 25 17.2**	**+0.8**
	SNR=19						
YAK	**Yakutsk**	**62.98**	**1**	*e*P	**P**	**09 25 17.7**	**+0.6**
YAK	**Yakutsk**	**62.98**	**1**	*e*P	**P**	**09 25 16.0**	**-1.1**
YAK				*i*		09 25 54.4	
YAK				*e*S	**S**	**09 33 41.0**	**-4.4**
YAK				*i* *SS	sS	09 34 21.3	+22
YAK				*i*		09 35 04.7	
YAK				pmax	pmax		
	comp=Z,107nm,0.9s,mb6.0						
YAK				pmax	pmax		
	comp=N,49nm,1.3s						
YAK				pmax	pmax		
	comp=E,19nm,1.3s						
YAK				smax			
	comp=N,389nm,2.9s						
YAK				smax			
	comp=Z,268nm,5.5s						
YAK				smax			
	comp=E,2μm,6.7s						
MA2	**Magadan**	**63.28**	**13⇑**	*e*P	**P**	**09 25 19.5**	**+0.3**
KZA	**Kyzart**	**63.38**	**319**	P	**P**	**09 25 21.7**	**+1.5**
	SNR=71						
TKM2	**Tokmak 2**	**63.57**	**320**	*e*P	**P**	**09 25 22.0**	**+0.6**
	comp=E,48nm,0.9s,mb5.5						
TKM2	**Tokmak 2**	**63.57**	**320**	*e*P	**P**	**09 25 22.0**	**+0.6**
TKM2				pmax	pmax		
	comp=Z,48nm,0.9s,mb5.5						
TKM2	**Tokmak 2**	**63.57**	**320**	P	**P**	**09 25 22.0**	**+0.6**
	SNR=39						
KBK	**Karagaybulak**	**63.86**	**320**	P	**P**	**09 25 24.7**	**+1.4**
	SNR=30						
UCH	**Uchtor**	**63.94**	**319**	*e*P	**P**	**09 25 25.1**	**+1.2**
	comp=Z,67nm,0.9s,mb5.7						
UCH	**Uchtor**	**63.94**	**319**	P	**P**	**09 25 25.3**	**+1.4**
	SNR=73						
AAK	**Ala-Archa**	**64.14**	**319**	P	**P**	**09 25 25.8**	**+0.6**
	comp=Z,250nm,1.0s,mb6.2,SNR=26						
AAK	**Ala-Archa**	**64.14**	**319**	P	**P**	**09 25 26.5**	**+1.3**
	SNR=30						
CHMS	**Chumysh**	**64.15**	**320**	P	**P**	**09 25 23.9**	**-1.3**
	SNR=6.2						
FRU	**Bishkek**	**64.16**	**320**	*e*P	**P**	**09 25 26.0**	**+0.7**
FRU				*i*		09 25 55.0	
FRU				pmax	pmax		
	comp=Z,90nm,2.0s,mb5.5						
AML	**Almayashu**	**64.43**	**319**	*e*P	**P**	**09 25 28.1**	**+1.0**
	comp=Z,92nm,0.9s,mb5.8						
AML	**Almayashu**	**64.43**	**319**	P	**P**	**09 25 28.3**	**+1.2**
	SNR=85						
USP	**Ospenovka**	**64.44**	**320**	P	**P**	**09 25 27.3**	**+0.2**
	SNR=66						
EKS2	**Erkin-Say**	**64.62**	**319**	*e*P	**P**	**09 25 28.9**	**+0.6**
	comp=Z,78nm,1.0s,mb5.7						
EKS2	**Erkin-Say**	**64.62**	**319**	P	**P**	**09 25 29.0**	**+0.7**
	SNR=49						
KBL	**Kabul**	**64.72**	**309**	*e*P	**P**	**09 25 29.2**	**+0.1**
	comp=Z,52nm,0.6s,mb5.7						
ZALV	**Zalesovo Beam**	**65.00**	**334**	P	**P**	**09 25 29.3**	**-1.3**
ZALV				P'P'ab		09 54 24.6	
ZALV	**Zalesovo Beam**	**65.00**	**334**	P	**P**	**09 25 29.3**	**-1.3**
	comp=Z,18nm,0.8s,mb5.1,baz=116,slow=5.8,SNR=55						
ZALV				PKP2ab		09 54 24.6	
	comp=Z,1.8nm,0.9s,baz=306,slow=3.5,SNR=5.1						
ZAL	**Zalesovo**	**65.00**	**334**	P	**P**	**09 25 29.3**	**-1.3**
KURK	**Kurchatov**	**65.96**	**329**	P	**P**	**09 25 36.9**	**+0.1**
	comp=Z,519nm,0.8s,mb6.6,SNR=57						
KURK	**Kurchatov**	**65.96**	**329**	*e*P	**P**	**09 25 36.5**	**-0.3**
KURK	**Kurchatov**	**65.96**	**329⇑**	*e*P	**P**	**09 25 35.9**	**-0.9**
KURK	**Kurchatov**	**65.96**	**329**	P	**P**	**09 25 36.6**	**-0.2**
	SNR=41						
KURK	**Kurchatov**	**65.96**	**329**	P	**P**	**09 25 36.6**	**-0.2**
	SNR=41						
DRV				SS	SS	09 38 39.0	-0.5
DRV				R		09 47 00.0	
DRV	**Dumont d'Urvil**	**66.09**	**174**	S	SKSac	09 35 25.0	-6.2
CASY	**Casey**	**66.11**	**187**	*e*P	**P**	**09 25 38.3**	**+0.8**
	comp=Z,18nm,0.8s,mb5.2						
NVS	**Novosibirsk**	**66.29**	**334**	*i* P	**P**	**09 25 37.5**	**-1.3**
NVS				*i*		09 28 00.4	
NVS				*i* S	S	09 34 24.3	-2.2
NVS				*i*		09 35 26.3	
NVS				pmax	pmax		
	comp=Z,32nm,0.6s,mb5.5						
NVS				pmax	pmax		
	comp=N,46nm,1.3s						
NVS				pmax	pmax		
	comp=E,28nm,1.2s						
NVS				pmax	pmax		
	comp=Z,33nm,1.9s,mb5.0						
NVS				pmax	pmax		
	comp=N,31nm,1.7s						
NVS				pmax	pmax		
	comp=E,18nm,1.3s						
NVS				smax			
	comp=N,124nm,2.5s						
NVS				smax			
	comp=E,79nm,2.0s						
SEY	**Seymchan**	**66.64**	**12⇑**	*e*P	**P**	**09 25 41.0**	**+0.1**
KKAR	**Karatay Array**	**66.97**	**318**	*i* P	**P**	**09 25 43.3**	**-0.2**
KKAR				pmax	pmax		
	comp=Z,42nm,1.0s,mb5.4						
MIR	**Mirnyy**	**69.58**	**194**	*e*P	**P**	**09 26 00.0**	**+0.7**
MIR				pmax	pmax		
	comp=Z,100nm,1.0s,mb5.7						
WBK	**Wadi Bani Khal**	**70.24**	**294**	P	**P**	**09 26 04.8**	**+0.6**
	SNR=9.9						
WBK	**Wadi Bani Khal**	**70.24**	**294**	P	**P**	**09 26 04.8**	**+0.6**
	SNR=9.9						
ADK	**Adak**	**70.78**	**33**	*e*P	**P**	**09 26 08.4**	**+1.4**
	comp=Z,19nm,0.8s,mb5.1						
ADK	**Adak**	**70.78**	**33**	*e*P	**P**	**09 26 08.4**	**+1.4**
ADK				pmax	pmax		
	comp=Z,19nm,0.8s,mb5.1						
JMDO	**Jabal Madar**	**70.99**	**294**	P	**P**	**09 26 09.3**	**+0.4**
	SNR=19						
JMDO	**Jabal Madar**	**70.99**	**294**	P	**P**	**09 26 09.3**	**+0.4**
	SNR=19						
SMDO	**Samad**	**71.15**	**295**	P	**P**	**09 26 10.2**	**+0.4**
	SNR=15						
SMDO	**Samad**	**71.15**	**295**	P	**P**	**09 26 10.2**	**+0.4**
	SNR=15						
BIDO	**Bidbid**	**71.16**	**295**	P	**P**	**09 26 10.0**	**+0.1**
	SNR=18						
BIDO	**Bidbid**	**71.16**	**295**	P	**P**	**09 26 10.0**	**+0.1**
	SNR=18						
BVA0	**Borovoye Array**	**71.51**	**328**	*i* P	**P**	**09 26 10.5**	**-0.9**
BVA0				pmax	pmax		
	comp=Z,54nm,1.1s,mb5.4						
BVAR	**Borovoye Array**	**71.51**	**328**	P	**P**	**09 26 11.7**	**+0.4**
	comp=Z,36nm,0.9s,mb5.3,baz=138,slow=7.6,SNR=53						
BRVK	**Borovoye**	**71.58**	**328**	P	**P**	**09 26 11.3**	**-0.5**
	comp=Z,293nm,1.0s,mb6.2,SNR=18						
BRVK	**Borovoye**	**71.58**	**328⇑**	*e*P	**P**	**09 26 10.8**	**-1.0**
BRVK	**Borovoye**	**71.58**	**328**	P	**P**	**09 26 11.4**	**-0.4**
BRVK				pmax	pmax		
	comp=Z,88nm,0.8s,mb5.7						
BRVK	**Borovoye**	**71.58**	**328**	P	**P**	**09 26 11.6**	**-0.2**
	SNR=28						
BRVK	**Borovoye**	**71.58**	**328**	P	**P**	**09 26 11.6**	**-0.2**
	SNR=28						
CHKZ	**Chkalovo**	**71.70**	**329**	P	**P**	**09 26 10.2**	**-2.3**
BSY	**Bisya**	**71.88**	**294**	P	**P**	**09 26 14.5**	**+0.3**
	SNR=24						
BSY	**Bisya**	**71.88**	**294**	P	**P**	**09 26 14.5**	**+0.3**
	SNR=24						
HOQ	**Hoqain**	**71.91**	**295**	P	**P**	**09 26 14.9**	**+0.5**
	SNR=11						
HOQ	**Hoqain**	**71.91**	**295**	P	**P**	**09 26 14.9**	**+0.5**
	SNR=11						
ZRNK	**Zerenda**	**72.22**	**327**	P	**P**	**09 26 13.7**	**-1.9**
ZRNK				pmax	pmax		
	comp=Z,126nm,1.1s,mb5.8						
TIXI	**Tiksi**	**72.62**	**1⇑**	*e*P	**P**	**09 26 16.0**	**-1.7**
TIXI	**Tiksi**	**72.62**	**1⇑**	*e*P	**P**	**09 26 16.9**	**-0.8**
TIXI				pmax	pmax		
	comp=Z,58nm,1.2s,mb5.4						
HATD	**Hatta, Dubai**	**73.17**	**296**	P	**P**	**09 26 22.6**	**+0.7**
	SNR=9.3						
HATD	**Hatta, Dubai**	**73.17**	**296**	P	**P**	**09 26 22.6**	**+0.7**
	SNR=9.3						
ASHO	**Ashiyiah**	**73.21**	**296**	P	**P**	**09 26 22.9**	**+0.7**
	SNR=11						
ASHO	**Ashiyiah**	**73.21**	**296**	P	**P**	**09 26 22.9**	**+0.7**
	SNR=11						
RBK	**Rabkut**	**73.97**	**288**	P	**P**	**09 26 26.7**	**0.0**
	SNR=7.1						
RBK	**Rabkut**	**73.97**	**288**	P	**P**	**09 26 26.7**	**0.0**
	SNR=7.1						
BILL	**Bilibino**	**74.11**	**14**	*e*P	**P**	**09 26 27.9**	**+1.4**
BILL	**Bilibino**	**74.11**	**14**	*e*P	**P**	**09 26 27.8**	**+1.3**
BILL				pmax	pmax		
	comp=Z,14nm,2.5s,mb4.5						
BILL				MLR	MLR		
	comp=Z,400nm,16.0s,MS4.8						
ABKT	**Ailbek**	**74.16**	**310**	P	**P**	**09 26 27.7**	**+0.3**
	comp=Z,145nm,0.8s,mb6.0,SNR=7.3						
WHFO	**Wadi Hawf**	**74.42**	**289**	P	**P**	**09 26 28.4**	**-1.0**
	SNR=9.3						
WHFO	**Wadi Hawf**	**74.42**	**289**	P	**P**	**09 26 28.4**	**-1.0**
	SNR=9.3						
ABTO	**Aybut**	**74.81**	**288**	P	**P**	**09 26 31.5**	**-0.1**
	SNR=12						
ABTO	**Aybut**	**74.81**	**288**	P	**P**	**09 26 31.5**	**-0.1**
	SNR=12						
AB31	**Akbulak array**	**76.06**	**322**	P	**P**	**09 26 37.2**	**-0.9**
AB31				pmax	pmax		
	comp=Z,21nm,0.9s,mb5.1						
AKTO	**Aktyubinsk**	**77.61**	**322**	P	**P**	**09 26 45.8**	**-1.1**
AKTO				pmax	pmax		
	comp=Z,1.0nm,1.1s						
SVE	**Sverdlovsk**	**78.20**	**329**	*e*P	**P**	**09 26 49.4**	**-0.6**
SVE				pmax	pmax		
	comp=Z,43nm,1.0s,mb5.3						
VNDA	**Vanda**	**78.64**	**173**	P	**P**	**09 26 52.5**	**+0.4**
	comp=Z,4.0nm,0.8s,mb4.4,baz=310,slow=7.1,SNR=12						
GAMB	**Gambell**	**78.66**	**23**	*e*P	**P**	**09 26 53.0**	**+0.6**
	comp=Z,21nm,1.1s,mb5.0						
MAW	**Mawson**	**79.37**	**201**	*e*P	**P**	**09 26 58.6**	**+2.4**
	comp=Z,14nm,1.4s,mb4.7						
MAW	**Mawson**	**79.37**	**201**	*e*P	**P**	**09 26 58.6**	**+2.4**
MAW				pmax	pmax		
	comp=Z,14nm,1.4s						
MAW	**Mawson**	**79.37**	**201**	P	**P**	**09 26 57.8**	**+1.5**
	comp=Z,2.1nm,0.6s,mb4.2,baz=97,slow=8.1,SNR=2.8						
SBA	**Scott Base**	**79.56**	**172**	*e*P	**P**	**09 26 57.4**	**+0.3**
	comp=Z,33nm,1.5s,mb5.0						
SBA	**Scott Base**	**79.56**	**172**	*e*P	**P**	**09 26 57.4**	**+0.3**
SBA				pmax	pmax		
	comp=Z,33nm,1.5s,mb5.0						
QRN	**Al-Qurain**	**80.97**	**299**	*e*P	**P**	**09 27 04.7**	**-1.1**
QRN				AMb	AMB	09 27 10.8	
	comp=Z,155nm,0.8s,mb6.0						
SOKR	**Solikamsk**	**81.03**	**331**	*e*P	**P**	**09 27 03.0**	**-2.3**
SOKR				pmax	pmax		
	comp=Z,20nm,0.9s,mb5.0						
SOKR				MLR	MLR		
	comp=Z,570nm,23.0s,MS4.9						
UMR	**Umm Al-Rimmam**	**81.23**	**300**	*e*P	**P**	**09 27 06.1**	**-1.0**
UMR				AMb	AMB	09 27 12.4	
	comp=Z,91nm,1.0s,mb5.7						
RDF	**Al-Radifah**	**81.31**	**299**	*e*P	**P**	**09 27 06.7**	**-0.8**
RDF				AMb	AMB	09 27 12.2	
	comp=Z,74nm,0.8s,mb5.7						
MIB	**Mutribah**	**81.59**	**300**	*e*P	**P**	**09 27 07.9**	**-1.0**
MIB				AMb	AMB	09 27 13.3	
	comp=Z,128nm,0.9s,mb5.8						
NAY	**Al-Naaiem**	**81.61**	**300**	*e*P	**P**	**09 27 08.0**	**-1.1**
NAY				AMb	AMB	09 27 13.8	
	comp=Z,67nm,0.8s,mb5.6						
RST	**Umm Al-Ruwaisa**	**81.85**	**300**	*e*P	**P**	**09 27 09.1**	**-1.3**
RST				AMb	AMB	09 27 14.9	
	comp=Z,144nm,0.8s,mb5.9						
MAK	**Makhachkala**	**83.07**	**313**	*e*P	**P**	**09 27 09.3**	**-7.1**
MAK				*e*	pP	09 27 15.6	-10
MAK				*i*		09 30 27.3	
MAK				*e*S	S	09 37 30.9	-3.4
MAK				*i*		09 38 30.4	
MAK				pmax	pmax		
	comp=Z,20nm,0.3s,mb5.6						
PPT	**Papeete**	**83.38**	**107**	*e*SS	SS	09 43 17.4	+13
	comp=Z,398nm,27.0s						
PPT	**Papeete**	**83.38**	**107**	*e*LR	LR	09 53 35.4	
	comp=Z,1μm,33.2s						
PPT	**Papeete**	**83.38**	**107**	LR	LR	10 04 18.1	
	comp=Z,305nm,18.4s,MS4.7,baz=130,slow=36						
TBI	**Tubuai**	**83.61**	**113**	*e*SS	SS	09 43 09.8	+2.2
	comp=Z,258nm,31.8s						
TBI	**Tubuai**	**83.61**	**113**	*e*LR	LR	09 53 43.0	
	comp=Z,1μm,26.0s						
DGRG	**David-gareji**	**84.45**	**312**	P	**P**	**09 27 24.1**	**+0.6**
SVW2	**Sparrevohn**	**84.86**	**28**	*e*P	**P**	**09 27 26.6**	**+1.4**
MTA	**Mtatsminda**	**84.91**	**312**	P	**P**	**09 27 24.1**	**-1.7**
TBLG	**Delisi**	**84.95**	**312**	*e*P	**P**	**09 27 26.1**	**0.0**
TBLG	**Delisi**	**84.95**	**312**	P	**P**	**09 27 26.1**	**+0.1**
TTA	**Tatalina**	**85.04**	**27**	*e*P	**P**	**09 27 27.3**	**+1.3**
	comp=Z,64nm,1.5s,mb5.5						
TTA	**Tatalina**	**85.04**	**27**	*e*P	**P**	**09 27 27.3**	**+1.3**
TTA				pmax	pmax		
	comp=Z,63nm,1.5s,mb5.5						
ONI	**Oni**	**85.99**	**313**	P	**P**	**09 27 31.0**	**-0.2**
IMA2	**Indian Mountai**	**86.64**	**24**	*e*P	**P**	**09 27 35.4**	**+1.5**
KIV	**Kislovodsk**	**86.66**	**314**	*e*P	**P**	**09 27 34.2**	**-0.3**
KIV	**Kislovodsk**	**86.66**	**314**	*e*P	**P**	**09 27 33.6**	**-0.9**
KIV				*i* S	S	09 38 09.8	-0.2
KIV				pmax	pmax		
	comp=Z,20nm,1.6s,mb5.1						
SYO	**Syowa Base**	**88.07**	**201⇓**	*e*P	**P**	**09 27 40.0**	**-0.7**
SYO	**Syowa Base**	**88.07**	**201⇓**	*e*P	**P**	**09 27 46.6**	**+5.9**
MCK	**McKinley**	**88.32**	**26**	*e*P	**P**	**09 27 42.7**	**+0.7**
	comp=Z,6.7nm,0.9s,mb4.9						
MCK	**McKinley**	**88.32**	**26**	*e*P	**P**	**09 27 42.7**	**+0.7**
MCK				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.9						
MCK	**McKinley**	**88.32**	**26**	P	**P**	**09 27 44.2**	**+2.2**
MCK				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.5						
QSPA	**South Pole Qui**	**88.85**	**180**	*e*P	**P**	**09 27 44.5**	**+0.3**
	comp=Z,37nm,1.1s,mb5.6						
QSPA	**South Pole Qui**	**88.85**	**180**	P	**P**	**09 27 45.0**	**+0.7**
	comp=Z,8.6nm,0.9s,mb5.1,baz=345,slow=1.6,SNR=14						
COLA	**College**	**88.90**	**25**	*e*P	**P**	**09 27 43.6**	**-1.1**
	comp=Z,2.0nm,0.6s,mb4.6						
COLA	**College**	**88.90**	**25**	*e*P	**P**	**09 27 43.6**	**-1.1**
COLA				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.6						
VORD	**Divnogorie**	**89.40**	**321**	*e*P	**P**	**09 27 45.6**	**-1.8**
VORD				pmax	pmax		
	comp=Z,8.0nm,0.6s,mb5.2						
VORD				pmax	pmax		
	comp=N,6.0nm,0.5s						
VORD				pmax	pmax		
	comp=E,10.0nm,0.9s						
MALT	**Malatya**	**89.56**	**308**	*e*P	**P**	**09 27 48.4**	**0.0**
	com

comp=Z,0.7nm,0.5s,mb4.3,baz=90,slow=5.6,SNR=4.9
FINES LR LR 10 16 57.5
comp=Z,260nm,20.9s,MS4.7,baz=189,slow=39
RKT Rikitea 96.94 113 eLR LR 10 00 05.6
comp=Z,940nm,34.5s
BOSA Boshof 99.81 241 LR LR 10 09 12.8
comp=Z,579nm,20.9s,MS5.1,baz=124,slow=33
UZH Uzhgorod 100.53 319 eP Pdif 09 28 38.2 +0.1
NB2 NORSAR Subarra 103.20 333 Pdif Pdif 09 28 47.7 -2.2
comp=Z,1.0nm,0.7s,baz=68,slow=4.4
NOA NORSAR Array B 103.20 333 Pdif Pdif 09 28 47.7 -2.3
NOA PP PP 09 32 57.2 -7.5
NOA NORSAR Array B 103.20 333 Pdiff Pdif 09 28 47.7 -2.3
comp=Z,1.5nm,0.9s,baz=69,slow=5.1,SNR=3.3
NOA PP PP 09 32 57.2 -7.5
comp=Z,0.8nm,0.7s,baz=63,slow=6.4,SNR=3.5
YKA Yellowknife Ar 103.72 25 Pdif Pdif 09 28 53.8 +1.5
YKA Yellowknife Ar 103.72 25 Pdiff Pdif 09 28 53.8 +1.5
comp=Z,0.2nm,0.5s,baz=294,slow=4.6,SNR=5.6
YKA PKiKP PKiKP 09 33 09.8 -0.3
comp=Z,0.3nm,0.7s,baz=303,slow=1.8,SNR=4.6
YKA PKKPbc PKKPbc 09 44 44.0 -2.1
comp=Z,0.3nm,0.7s,baz=117,slow=3.2,SNR=9.0
BRG Berggiesshubel 105.24 323 eP PP 09 33 22.7 +2.4
comp=Z,8.3nm,1.3s
CLL Collm 105.67 323 ePP PP 09 33 26.0 +2.6
CRES Cresnjev 105.69 318 ePP PP 09 33 26.8 +3.0
LEGS Legarje 105.75 318 ePP PP 09 33 26.0 +1.8
KHC Kasperske Hory 105.99 321 ePP PP 09 33 28.5 +2.7
GERES GERESS Array B 106.00 321 PKiKP PKiKP 09 33 14.0 -0.7
comp=Z,0.3nm,0.2s,baz=102,slow=1.4,SNR=2.0
GRF Grafenberg Arr 107.28 322 ePP PP 09 33 39.2 +4.0
LPG La Plagne 111.59 319 ePP PP 09 34 04.9 -1.7
comp=Z,40nm,1.3s
LPL La Plagne 111.59 319 ePP PP 09 34 04.4 -2.2
SMF Signal de Mont 113.00 321 ePP PP 09 34 15.6 -1.0
AVF Avril sur Loir 113.24 322 ePP PP 09 34 16.2 -2.1
PDAR Pinedale Array 114.72 43 PKKPbc PKKPbc 09 44 10.2 -0.1
comp=Z,0.8nm,0.7s,baz=123,slow=6.5,SNR=6.0
ULM Lac du Bonnet 118.99 30 PKP PKPdf 09 33 40.2 +0.8
ULM Lac du Bonnet 118.99 30 PKP PKPdf 09 33 40.2 +0.9
comp=Z,1.3nm,0.5s,baz=226,slow=3.0,SNR=4.1
ANMO Albuquerque 119.96 50 PFAKE 09 33 50.0 +8.3
ANMO LR LR
comp=Z,672nm,20.0s,MS5.3
TOA0 Torodi Ar. Sit 124.58 285 ePKPdf PKPdf 09 33 50.7 -0.3
TORD Torodi Ar. Bea 124.58 285 PKP PKPdf 09 33 50.6 -0.5
comp=Z,4.6nm,0.8s,baz=55,slow=1.4,SNR=23
TORD PP PP 09 35 36.0 -1.9
comp=Z,3.3nm,0.9s,baz=68,slow=4.4,SNR=4.2
SCHQ Schefferville 125.24 10 PKP PKPdf 09 33 51.8 +0.6
comp=Z,5.4nm,1.0s,baz=48,slow=2.1,SNR=11
JCT Junction City 126.88 52 ePKPdf PKPdf 09 33 56.0 +0.9
DBIC Dimbokro 131.70 278 PKP PKPdf 09 34 05.4 +0.7
comp=Z,4.6nm,0.9s,baz=81,slow=5.6,SNR=3.5
TKL Tuckaleechee C 135.26 36 PKP PKPdf 09 34 11.8 +1.0
comp=Z,2.0nm,0.5s,baz=44,slow=11,SNR=4.5
LCO Las Campanas 145.60 152 ePKPdf PKPdf 09 34 31.2 +1.5
LPAZ La Paz 157.16 140 PKP PKPdf 09 34 48.9 +1.5
LPAZ La Paz 157.16 140 PKP PKPdf 09 34 48.9 +1.5
comp=Z,0.6nm,0.5s,baz=340,slow=4.0,SNR=3.4

*NEIC **13** 09:20:41.0, 17.16N×100.48W, h31km, MD3.7(MEX), After MEX.*

MEX 13 09:20:42.0±0.5, 1715N×10039W, h35km±5km, MD3.7, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.16**	**132**	*i* P	Pb	09 20 47.0	-1.4
CAIG				*i* S	Sb	09 20 51.0	-1.7
ACX	**Acapulco**	**0.54**	**122**	*i* P	Pn	09 20 51.5	-1.6
ACX				*i* S	Sn	09 20 58.2	-2.7
MEIG	**Mezcala**	**1.06**	**44**	*i* P	Pn	09 20 58.4	-2.1
MEIG				*i* S	Sn	09 21 11.7	-2.3
ZIIG	**Zihuatanejo**	**1.12**	**294**	*i* P	Pn	09 20 59.6	-1.6
ZIIG				*i* S	Sn	09 21 08.9	-6.5
ZIIG	**Zihuatanejo**	**1.12**	**294**	*i* P	Pn	09 20 59.6	-1.6
ZIIG				*i* S	Sn	09 21 12.9	-2.6
PLIG	**Platanillo**	**1.49**	**34**	*e*P	Pn	09 21 05.0	-1.4
PLIG				*i* S	Sn	09 21 23.8	-0.9
PLIG	**Platanillo**	**1.49**	**34**	*e*P	Pn	09 21 05.0	-1.4
PLIG				*i* S	Sn	09 21 23.1	-1.6
PPM	**Popocatepetl**	**2.54**	**41**	*i* P	Pn	09 21 24.2	+3.5
PPM				*i* S	Sn	09 21 53.7	+3.4
PPM	**Popocatepetl**	**2.54**	**41**	*i* P	Pn	09 21 22.5	+1.8
PPM				*i* S	Sn	09 21 52.9	+2.5
UTMO	**Huajuapan**	**2.56**	**74**	*i* P	Pn	09 21 19.1	-1.9
UTMO				*i* S	Sn	09 21 50.2	-0.7
VHO	**Vista Hermosa**	**3.50**	**91**	*e*P	Pn	09 21 29.1	-4.8
VHO				*i* S	Sn	09 22 18.5	+4.4
VHO	**Vista Hermosa**	**3.50**	**91**	*e*P	Pn	09 21 33.6	-0.4
VHO				*i* S	Sn	09 22 13.1	-1.1

*ISCJB **13** 09:26:50.1±0.5, 1727N±004×100.49W±003, h13km, mb3.4/5, Error ellipse: s-maj=5.2km s-min=3.6km az=9.0*
*IDC **13** 09:26:51.5±4.5, 1748N×100.18W, h0km, mb3.5/5, mb1 3.7/7, mb1mx3.6/21, mbtmp3.4/7, ML3.2/2, Error ellipse: s-maj=85.2km s-min=30.4km az=22.0*
*NEIC **13** 09:26:53.4, 1725N×100.51W, h13km, MD4.1(MEX), After MEX.*
*MEX **13** 09:26:53.4±0.6, 1724N×100.50W, h13km±7km, MD4.2*

ISC 13 09:26:51.4±0.7, 1725N±004×100.51W±003, h21km±6km, n31, σ1§07/49, mb3.4/5, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.30**	**131**	*i* P	**Pb**	**09 26 58.8**	**+0.6**
CAIG				*e*S	**Sb**	**09 27 03.5**	**+0.7**
ZIIG	**Zihuatanejo**	**0.98**	**292**	*i* P	**Pb**	**09 27 09.5**	**-0.3**
ZIIG				*i* S	**Sb**	**09 27 21.3**	**-1.0**
MEIG	**Mezcala**	**1.08**	**51**	*i* P	**Pn**	**09 27 10.1**	**-1.3**
MEIG				*i* S	**Sb**	**09 27 24.1**	**-1.1**
PLIG	**Platanillo**	**1.49**	**40**	*i* P	**Pn**	**09 27 16.6**	**-0.3**
PLIG				*i* S	**Sn**	**09 27 34.3**	**-1.4**
YAIG	**Yautepec**	**2.11**	**40**	*i* P	**Pn**	**09 27 24.7**	**-0.8**
YAIG				*i* S	**Sn**	**09 27 52.0**	**+0.8**
SZVM	**Salazar**	**2.33**	**27**	*e*P	**Pn**	**09 27 28.7**	**+0.3**
SZVM				*i* S	**Sn**	**09 27 57.0**	**+0.6**
UNM	**Universidad Na**	**2.43**	**31**	*i* P	**Pn**	**09 27 29.6**	**-0.3**
UNM				*i* S	**Sn**	**09 27 59.9**	**+1.0**
PNIG	**Pinotepa**	**2.43**	**110**	*e*P	**Pn**	**09 27 31.1**	**+1.1**
PNIG				*i* S	**Sn**	**09 27 57.0**	**-2.1**
PNIG	**Pinotepa**	**2.43**	**110**	*e*P	**Pn**	**09 27 30.8**	**+0.9**
PNIG				*i* S	**Sn**	**09 27 58.0**	**-1.0**
MOIG	**Morelia**	**2.50**	**345**	*i* P	**Pn**	**09 27 30.2**	**-0.7**
MOIG				*i* S	**Sn**	**09 27 58.3**	**-2.5**
MOIG	**Morelia**	**2.50**	**345**	*e*P	**Pn**	**09 27 31.7**	**+0.8**
MOIG				*i* S	**Sn**	**09 28 01.8**	**+1.0**
PPM	**Popocatepetl**	**2.54**	**44**	*i* P	**Pn**	**09 27 31.8**	**+0.3**
PPM				*i* S	**Sn**	**09 28 03.9**	**+2.1**
PBVM	**Pinon**	**2.57**	**32**	*i* P	**Pn**	**09 27 31.6**	**-0.2**
UTMO	**Huajuapan**	**2.65**	**77**	*i* P	**Pn**	**09 27 34.1**	**+1.3**
MMIG	**Aquila**	**2.90**	**291**	*i* P	**Pn**	**09 27 36.4**	**+0.1**
MMIG				*i* S	**Sn**	**09 28 10.5**	**0.0**
TPIG	**Tehuac#an**	**3.22**	**68**	*e*P	**Pn**	**09 27 39.9**	**-0.8**
TPIG				*i* S	**Sn**	**09 28 18.5**	**+0.1**
DEIG	**Demacu**	**3.34**	**24**	*e*P	**Pn**	**09 27 43.3**	**+0.8**
VHO	**Vista Hermosa**	**3.61**	**92**	*i* P	**Pn**	**09 27 42.6**	**-3.5**
VHO	**Vista Hermosa**	**3.61**	**92**	*i* P	**Pn**	**09 27 45.9**	**-0.2**
VHO				*i* S	**Sn**	**09 28 26.8**	**-1.4**
HUIG	**Huatulco**	**4.47**	**109**	*i* S	**Sn**	**09 28 56.9**	**+7.5**
ANIG	**Ahuacatlan**	**5.36**	**316**	*i* P	**Pn**	**09 28 11.2**	**+1.0**
ANIG				*i* S	**Sn**	**09 29 09.6**	**-1.8**
CMIG	**Matias Romero**	**5.38**	**91**	*i* P	**Pn**	**09 28 10.7**	**+0.2**
CMIG				*e*S	**Sn**	**09 29 11.3**	**-0.4**
CMIG				Lg		09 29 24.4	
CMIG	**Matias Romero**	**5.38**	**91**	Pn	**Pn**	**09 28 09.9**	**-0.5**
1.1nm,0.3s,baz=262,slow=11,SNR=33							
CMIG				Lg		09 29 24.4	
11nm,0.3s,baz=91,slow=14,SNR=7.9							
CMIG	**Matias Romero**	**5.38**	**91**	*i* P	**Pn**	**09 28 10.7**	**+0.2**
CMIG				*e*S	**Sn**	**09 29 11.3**	**-0.4**
TXAR	**Lajitas Array**	**12.38**	**347**	Pn	**Pn**	**09 29 50.4**	**+4.0**
TXAR	**Lajitas Array**	**12.38**	**347**	Pn	**Pn**	**09 29 50.4**	**+4.0**
0.0nm,0.3s,baz=173,slow=15,SNR=2.3							
TKL	**Tuckaleechee C**	**23.61**	**36**	P	**P**	**09 31 59.8**	**-1.4**
2.2nm,0.9s,mb3.6,baz=346,slow=9.0,SNR=1.6							
NVAR	**Mina Array Bea**	**26.23**	**327**	P	**P**	**09 32 29.2**	**+4.3**
0.8nm,0.9s,mb3.3,baz=142,slow=11,SNR=4.3							
PDAR	**Pinedale Array**	**26.58**	**345**	P	**P**	**09 32 29.9**	**+1.9**
0.2nm,0.4s,mb3.0,baz=147,slow=12,SNR=2.5							
ULM	**Lac du Bonnet**	**33.13**	**5**	P	**P**	**09 33 28.7**	**+2.8**
1.2nm,0.8s,mb3.9,baz=198,slow=8.2,SNR=2.7							
YKA	**Yellowknife Ar**	**46.27**	**351**	P	**P**	**09 35 15.0**	**0.0**
0.2nm,0.8s,mb3.1,baz=157,slow=7.4,SNR=3.2							

MAN 13 09:27:35, 845N×12687E, h1km, mb4.3, ML3.1, MS2.9, Mindanao

MEX 13 09:28:10.2±0.4, 1698N×9995W, h8km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.31**	**283**	*i* P	Pg	09 28 16.0	-0.3
CAIG				*i* S	Sg	09 28 20.6	+0.2
MEIG	**Mezcala**	**0.99**	**19**	*i* P	Pg	09 28 26.8	-2.6
MEIG				*i* S	Sg	09 28 39.5	-2.8
PLIG	**Platanillo**	**1.47**	**17**	*i* P	Pn	09 28 34.4	-2.7
PLIG				*i* S	Sn	09 28 52.5	-4.0
UNM	**Universidad Na**	**2.45**	**17**	*i* P	Pn	09 28 47.9	-2.7

*BJI **13** 09:34:15.3, 352N×12594E, h10km, mB5.1, mb4.8, Ms4.8, Msz4.6*
*NEIC **13** 09:34:22.6±0.2, 431N×12557E, h10km, mb4.9/36, Error ellipse: s-maj=9.3km s-min=5.0km az=68.0*
*MOS **13** 09:34:24.1±1.1, 429N×12547E, h33km, mb4.9/19, Error ellipse: s-maj=14.5km s-min=6.8km az=105.7*
*IDC **13** 09:34:32.3±0.7, 420N×12567E, h97km±5km, mb4.3/20, mb1 4.3/20, mb1mx4.3/23, mbtmp4.3/20, MS4.1/1, Ms1 4.1/1, ms1mx3.5/30, Error ellipse: s-maj=17.9km s-min=7.8km az=76.0*
*MAN **13** 09:34:33, 431N×12579E, h89km, mb5.5, ML4.5, MS4.8*
*ISCJB **13** 09:34:35.4±0.8, 432N±003×12583E±004, h138km±7km, mb4.6/77, Error ellipse: s-maj=7.2km s-min=4.9km az=166.8*

ISC 13 09:34:37.0±0.8, 427N±003×12581E±004, h139km±7km, h4km±8.4km:pP-P, n167, σ1§25/166, mb4.6/76, 12C-15D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**2.79**	**355**	*e*P	**Pn**	**09 35 18.0**	**-3.2**
TSM	**Tawau**	**7.92**	**270**	⇑P	**Pn**	**09 36 28.3**	**-1.1**
AAI	**Ambon**	**8.26**	**163**	P	**Pn**	**09 36 29.4**	**-4.6**
184nm,0.9s							
SDKM	**Sandakan**	**8.69**	**279**	⇓P	**Pn**	**09 36 38.9**	**-0.8**
KDM	**Kudat**	**9.31**	**287**	⇓P	**Pn**	**09 36 49.8**	**+1.7**
KKM	**Kota Kinabalu**	**9.72**	**281**	⇓P	**Pn**	**09 36 54.9**	**+1.4**
BTM	**Bintulu**	**12.75**	**266**	⇑P	**Pn**	**09 37 33.5**	**+0.1**
SBUM	**Sibu**	**13.69**	**263**	⇓P	**Pn**	**09 37 46.2**	**+0.7**
BATI	**Kupang**	**14.54**	**188**	P	**Pn**	**09 37 55.9**	**-0.5**
11nm,0.3s,baz=70,slow=0.6,SNR=9.7							
KSM	**Kuching**	**15.73**	**260**	*e*Pn	**Pn**	**09 38 10.8**	**-0.3**
KSM	**Kuching**	**15.73**	**260**	⇑P	**Pn**	**09 38 11.8**	**+0.6**
KAKA	**Kakadu**	**18.11**	**159**	*e*P	**P**	**09 38 35.7**	**-2.7**
56nm,0.6s							
TPI	**Tanjungpandan**	**19.44**	**249**	P	**P**	**09 38 53.0**	**+0.1**
200nm,1.1s							
YHNB	**Yeheng**	**20.72**	**349**	*e*P	**P**	**09 39 01.6**	**-5.0**
GUMO	**Guam**	**20.96**	**63**	P	**P**	**09 39 09.3**	**0.0**
155nm,1.2s							
GUMO	**Guam**	**20.96**	**63**	P	**P**	**09 39 09.3**	**+0.1**
GUMO				pmax	pmax		
comp=Z,155nm,1.2s							
GUMO	**Guam**	**20.96**	**63**	LR	LR	09 45 56.6	
comp=Z,448nm,18.6s,baz=114,slow=32							
QIZ	**Qiongzhong**	**21.41**	**315**	P	**P**	**09 39 13.3**	**-0.6**
QIZ	**Qiongzhong**	**21.41**	**315**	*e*P	**P**	**09 39 13.6**	**-0.3**
comp=Z,13nm,0.8s,mb4.3							
MYKOM	**Kota Tinggi**	**22.07**	**264**	⇓P	**P**	**09 39 22.6**	**+1.6**
FITZ	**Fitzroy Crossi**	**22.23**	**180**	*e*P	**P**	**09 39 20.8**	**-1.8**
comp=Z,34nm,0.6s,mb5.0							
FITZ				*e*S	**S**	**09 43 14.9**	**-2.5**
FITZ	**Fitzroy Crossi**	**22.23**	**180**	P	**P**	**09 39 21.2**	**-1.4**
comp=Z,25nm,0.7s,mb4.8,baz=13,slow=10,SNR=48							
JOW	**Kunigami**	**22.55**	**6**	P	**P**	**09 39 25.6**	**-0.1**
comp=Z,46nm,0.8s,mb5.0,baz=200,slow=9.2,SNR=13							
KGM	**Kluang**	**22.57**	**265**	⇓P	**P**	**09 39 27.2**	**+1.1**
KTGM	**Kuala Trenggan**	**22.62**	**274**	⇓P	**P**	**09 39 28.7**	**+2.2**
FRIM	**Kepong**	**24.16**	**268**	⇑P	**P**	**09 39 42.2**	**+1.6**
KSI	**Kapahiang**	**24.50**	**252**	P	**P**	**09 39 46.8**	**+3.1**
comp=Z,282nm,1.6s,mb5.5							
IPM	**Ipoh**	**24.71**	**271**	⇑P	**P**	**09 39 47.4**	**+1.8**
KULM	**Kulim**	**25.09**	**273**	*e*P	**P**	**09 39 49.1**	**0.0**
KULM	**Kulim**	**25.09**	**273**	⇑P	**P**	**09 39 51.5**	**+2.5**
WRAB	**Tennant Creek**	**25.48**	**161**	P	**P**	**09 39 52.0**	**-0.4**
comp=Z,660nm,0.4s							
WRAB	**Tennant Creek**	**25.48**	**161**	*e*P	**P**	**09 39 52.0**	**-0.4**
comp=Z,120nm,1.1s,mb5.3							
WRAB	**Tennant Creek**	**25.48**	**161**	⇓*i*P	**P**	**09 39 51.4**	**-1.0**
WRA	**Warramunga Arr**	**25.48**	**161**	P	**P**	**09 39 51.8**	**-0.7**
comp=Z,53nm,0.5s,mb5.3,baz=330,slow=11,SNR=522							
WRA				S	**S**	**09 44 08.3**	**-1.2**
comp=Z,5.8nm,1.1s,baz=334,slow=16,SNR=6.7							
WRA				ScP	ScP	09 46 51.5	+4.1
comp=Z,2.6nm,0.7s,baz=339,slow=3.2,SNR=8.3							
WB2	**Warramunga Arr**	**25.49**	**161**	⇓*i*P	**P**	**09 39 51.9**	**-0.6**
WB2				*e*	pP	09 40 16.7	-5.0
WB2				*e*S	**S**	**09 44 08.3**	**-1.3**
WB2				*e*SCS	ScS	09 50 38.7	+2.0
KKTK	**Khon Kaen**	**25.56**	**300**	⇓P	**P**	**09 39 54.0**	**+0.8**
comp=Z,586nm,0.7s							
PPI	**Padang Panjang**	**25.82**	**260**	P	**P**	**09 39 56.1**	**+0.4**
comp=Z,105nm,1.1s,mb5.4							
MBWA	**Marble Bar**	**25.97**	**193**	*e*P	**P**	**09 39 54.6**	**-2.2**
PSI	**Prapat**	**26.88**	**268**	P	**P**	**09 40 05.2**	**+0.1**
comp=Z,18nm,0.8s,mb4.7,baz=98,slow=2.5,SNR=15							
PSI				ScP	ScP	09 46 54.3	+2.6
comp=Z,7.9nm,0.8s,baz=161,slow=2.6,SNR=5.3							
CBIJ	**Chichi jima**	**27.56**	**33**	P	**P**	**09 40 10.8**	**-0.2**
comp=Z,86nm,0.8s,mb5.5,baz=283,slow=19,SNR=11							
NST	**Nakhon Sawan**	**27.67**	**296**	P	**P**	**09 40 12.7**	**+0.6**
NJ2	**Nanjing**	**28.39**	**348**	*e*P	**P**	**09 40 18.6**	**+0.2**
NJ2				AP	pP	09 40 23.9	-24
NJ2				XP	sP	09 40 26.6	-37
NJ2				PP	PP	09 41 08.4	-17
NJ2				AMB	AMB		
comp=Z,30nm,0.6s,mb5.2							
NJ2				AMB	AMB		
comp=Z,1μm,4.4s							
NJ2				LR	LR		
comp=N,1μm,21.2s							
NJ2				LR	LR		
comp=E,1μm,20.8s							
NJ2				LR	LR		
comp=Z,13μm,21.8s							
GYA	**Guiyang**	**28.68**	**322**	P	**P**	**09 40 20.4**	**-0.6**
GYA				AP	pP	09 40 24.6	-26
GYA				XP	sP	09 40 27.8	-39
GYA				PP	PP	09 41 13.8	-15
GYA				S	**S**	**09 45 08.8**	**+9.0**
GYA				SCP	ScP	09 47 12.8	+16
GYA				SCS	ScS	09 51 04.8	+14
GYA				AMB	AMB		
comp=Z,20nm,0.8s,mb4.9							
GYA				AMB	AMB		
comp=Z,130nm,4.9s							
GYA				LR	LR		
comp=N,800nm,13.8s							
GYA				LR	LR		
comp=E,1μm,17.0s							
GYA				LR	LR		
comp=Z,720nm,15.5s							
ASAR	**Alice Springs**	**28.87**	**164**	P	**P**	**09 40 22.7**	**0.0**
comp=Z,7.8nm,0.4s,mb4.8,baz=341,slow=7.0,SNR=434							
ASAR				S	**S**	**09 45 03.5**	**+0.7**
comp=Z,2.9nm,1.1s,baz=358,slow=24,SNR=5.7							
ASAR				ScP	ScP	09 47 01.9	+4.4
comp=Z,5.0nm,0.9s,baz=350,slow=2.2,SNR=15							
CM31	**Chiang Mai Arr**	**29.81**	**300**	*e*P	**P**	**09 40 30.6**	**-0.4**
comp=Z,16nm,0.7s,mb4.9							
CHG	**Chiang Mai**	**29.96**	**301**	⇓P	**P**	**09 40 33.0**	**+0.6**
comp=Z,100nm,1.0s,mb5.5							
CHTO	**Chiang Mai**	**29.96**	**301**	*e*P	**P**	**09 40 33.3**	**+0.9**
KMI	**Kunming**	**30.35**	**315**	P	**P**	**09 40 33.4**	**-2.4**
KMI				AMB	AMB		
comp=Z,11nm,1.0s,mb4.5							
CTA	**Charters Tower**	**31.46**	**141**	*e*P	**P**	**09 40 47.0**	**+1.4**
comp=Z,12nm,0.9s,mb4.6							
CTA	**Charters Tower**	**31.46**	**141**	*e*P	**P**	**09 40 47.0**	**+1.4**
CTA				pmax	pmax		
comp=Z,12nm,0.9s							
CTA	**Charters Tower**	**31.46**	**141**	P	**P**	**09 40 46.7**	**+1.2**
comp=Z,16nm,0.8s,mb4.8,baz=311,slow=10,SNR=7.7							
CTAO	**Charters Tower**	**31.46**	**141**	*e*P	**P**	**09 40 45.7**	**+0.1**
comp=Z,19nm,0.9s,mb4.8							
CTAO	**Charters Tower**	**31.46**	**141**	*e*P	**P**	**09 40 45.7**	**+0.1**
CTAO				pmax	pmax		
comp=Z,19nm,0.9s,mb4.8							
KSRS	**Korea Array**	**33.08**	**3**	P	**P**	**09 41 00.5**	**+0.9**
comp=Z,8.9nm,0.8s,mb4.6,baz=181,slow=9.6,SNR=24							
XAN	**Xi'an**	**33.52**	**334**	P	**P**	**09 41 02.3**	**-1.1**
XAN				AMB	AMB		
comp=Z,8.0nm,0.8s,mb4.5							
CD2	**Chengdu**	**33.67**	**324**	*e*P	**P**	**09 41 04.3**	**-0.4**
CD2				XP	sP	09 41 08.5	-42
CD2				PP	PP	09 42 16.6	-7.2
CD2				S	**S**	**09 46 25.4**	**+7.9**
CD2				AMB	AMB		
comp=Z,20nm,0.6s,mb5.0							
CD2				AMB	AMB		
comp=Z,40nm,5.8s							
CD2				LR	LR		
comp=N,160nm,14.4s							
CD2				LR	LR		
comp=E,160nm,12.8s							
CD2				LR	LR		
comp=Z,180nm,16.4s							
MJAR	**Matsushiro Arr**	**34.08**	**18**	P	**P**	**09 41 08.5**	**+0.4**
comp=Z,4.2nm,0.7s,mb4.3,baz=188,slow=8.5,SNR=12							
MAJO	**Matsushiro**	**34.08**	**18**	*e*P	**P**	**09 41 07.5**	**-0.7**
comp=Z,6.1nm,0.8s,mb4.4							
MAJO	**Matsushiro**	**34.08**	**18**	*e*P	**P**	**09 41 07.5**	**-0.7**
MAJO				pmax	pmax		
comp=Z,6.0nm,0.8s,mb4.4							
MAT	**Matsushiro**	**34.08**	**18**	P	**P**	**09 41 07.4**	**-0.8**
FORT	**Forrest**	**34.92**	**177**	⇓*i*P	**P**	**09 41 15.4**	**-0.1**
comp=Z,21nm,0.5s,mb5.0							
KLBR	**Kellerberrin**	**36.48**	**192**	*e*P	**P**	**09 41 28.3**	**-0.5**
comp=Z,31nm,0.7s,mb5.0							
HNR	**Honiara**	**36.64**	**112**	*e*P	**P**	**09 41 29.2**	**-1.2**
comp=Z,67nm,0.7s,mb5.4							
HNR	**Honiara**	**36.64**	**112**	*e*P	**P**	**09 41 29.2**	**-1.2**
HNR				pmax	pmax		
comp=Z,67nm,0.7s,mb5.4							
BJI	**Beijing**	**36.66**	**348**	P	**P**	**09 41 29.1**	**-1.1**
BJI				AMB	AMB		
comp=Z,5.0nm,0.8s,mb4.2							
MUN	**Mundaring**	**37.19**	**194**	*e*P	**P**	**09 41 34.5**	**-0.3**
LZH	**Lanzhou**	**37.58**	**330**	*e*P	**P**	**09 41 38.5**	**+0.5**
LZH				AP	pP	09 41 43.3	-25
LZH				XP	sP	09 41 45.6	-39
LZH				PP	PP	09 43 07.3	+0.6
LZH				*e*S	**S**	**09 47 27.0**	**+10**
LZH				AMB	AMB		
comp=Z,37nm,1.3s,mb4.8							
LZH				AMB	AMB		
comp=Z,157nm,5.4s							
LZH				LR	LR		
comp=N,789nm,13.5s							
LZH				LR	LR		
comp=Z,1μm,17.7s							
NWAO	**Narrogin (SRO)**	**37.88**	**192**	*e*P	**P**	**09 41 39.9**	**-0.7**
comp=Z,5.7nm,0.7s,mb4.3							
NWAO	**Narrogin (SRO)**	**37.88**	**192**	*e*P	**P**	**09 41 39.9**	**-0.7**
NWAO				pmax	pmax		
comp=Z,6.0nm,0.7s							
NWAO	**Narrogin (SRO)**	**37.88**	**192**	P	**P**	**09 41 40.0**	**-0.6**
comp=Z,3.7nm,0.4s,mb4.4,baz=29,slow=8.8,SNR=6.5							
HHC	**Hu-ho-hao-te**	**38.60**	**343**	*e*P	**P**	**09 41 47.1**	**+0.6**
HHC				AP	pP	09 41 52.4	-25
HHC				XP	sP	09 41 54.8	-38
HHC				PP	PP	09 43 23.8	+6.0
HHC				S	**S**	**09 47 50.6**	**+18**
HHC				XS	sS	09 47 53.3	-32
HHC				SCS	ScS	09 51 57.9	+16
HHC				AMB	AMB		
comp=Z,12nm,0.3s,mb5.0							
HHC				LR	LR		
comp=N,420nm,16.3s							
HHC				LR	LR		
comp=E,310nm,14.7s							
HHC				LR	LR		
comp=Z,499nm,18.4s							
SHL	**Shillong**	**38.82**	**306**	*e*P	**P**	**09 41 47.0**	**-1.6**
STKA	**Stephens Creek**	**38.96**	**158**	⇓*i*P	**P**	**09 41 50.4**	**+0.7**
comp=Z,40nm,0.9s,mb5.0							
STKA	**Stephens Creek**	**38.96**	**158**	P	**P**	**09 41 50.5**	**+0.8**
comp=Z,50nm,0.8s,mb5.2,baz=333,slow=7.9,SNR=98							
CN2	**Changchun**	**39.37**	**360**	*e*P	**P**	**09 41 55.6**	**+2.8**
CN2				AMB	AMB		
comp=Z,10.0nm,0.6s,mb4.6							
MDJ	**Mudanjiang**	**40.32**	**4**	P	**P**	**09 42 01.8**	**+1.1**
MDJ				AP	pP	09 42 04.8	-27
MDJ				XP	sP	09 42 06.0	-41
MDJ				AMB	AMB		
comp=Z,27nm,1.0s,mb4.8							
MDJ				AMB	AMB		
comp=Z,185nm,3.5s							
MDJ	**Mudanjiang**	**40.32**	**4**	*e*P	**P**	**09 42 02.1**	**+1.4**
comp=Z,12nm,0.7s,mb4.7							
ADE	**Adelaide**	**40.87**	**164**	⇓*i*P	**P**	**09 42 07.4**	**+2.0**
LSA	**Lhasa**	**41.39**	**312**	P	**P**	**09 42 11.0**	**+1.2**
LSA	**Lhasa**	**41.39**	**312**	*e*P	**P**	**09 42 08.3**	**

YAK	**Yakutsk**	**57.70**	**2**	*e*P	**P**	**09 44 13.8**	**+1.0**
YAK	**Yakutsk**	**57.70**	**2**	*e*P	**P**	**09 44 13.4**	**+0.7**
YAK				pmax	pmax		
	comp=Z,75nm,0.9s,mb5.5						
YAK				pmax	pmax		
	comp=N,25nm,1.1s						
YAK				pmax	pmax		
	comp=E,10.0nm,1.2s						
MA2	**Magadan**	**58.41**	**15**	*e*P	**P**	**09 44 18.9**	**+1.2**
	comp=E,5.8nm,0.6s,mb4.6						
MA2	**Magadan**	**58.41**	**15**	*e*P	**P**	**09 44 18.9**	**+1.2**
MA2				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.6						
TKM2	**Tokmak 2**	**58.73**	**319**	*e*P	**P**	**09 44 20.0**	**-0.3**
	comp=Z,5.7nm,0.9s,mb4.4						
TKM2	**Tokmak 2**	**58.73**	**319**	*e*P	**P**	**09 44 20.0**	**-0.3**
TKM2				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.4						
UCH	**Uchtor**	**59.16**	**318**	*e*P	**P**	**09 44 23.8**	**+0.6**
	comp=Z,19nm,1.2s,mb4.8						
AML	**Almayashu**	**59.67**	**317**	*e*P	**P**	**09 44 25.9**	**-0.9**
	comp=Z,5.1nm,0.8s,mb4.4						
ZALV	**Zalesovo Beam**	**59.69**	**333**	P	**P**	**09 44 25.1**	**-1.6**
	comp=Z,2.9nm,0.8s,mb4.2,baz=132,slow=7.0,SNR=9.0						
ZAL	**Zalesovo**	**59.69**	**333**	P	**P**	**09 44 25.1**	**-1.6**
EKS2	**Erkin-Say**	**59.83**	**318**	*e*P	**P**	**09 44 26.7**	**-1.1**
	comp=Z,11nm,1.2s,mb4.5						
KURK	**Kurchatov**	**60.79**	**328**	P	**P**	**09 44 33.2**	**-1.0**
	comp=Z,99nm,0.6s,SNR=9.1						
KURK	**Kurchatov**	**60.79**	**328**	*e*P	**P**	**09 44 33.6**	**-0.6**
	comp=Z,10nm,0.6s,mb4.8						
KURK	**Kurchatov**	**60.79**	**328⇑**	*e*P	**P**	**09 44 33.1**	**-1.1**
NVS	**Novosibirsk**	**60.98**	**333**	*i* P	**P**	**09 44 33.9**	**-1.5**
SEY	**Seymchan**	**61.72**	**13⇑**	*e*P	**P**	**09 44 43.7**	**+3.5**
RAO	**Raoul Island**	**63.39**	**126**	*e*P	**P**	**09 44 54.0**	**+2.0**
	comp=Z,438nm,0.9s						
RAO	**Raoul Island**	**63.39**	**126**	*e*P	**P**	**09 44 54.0**	**+2.0**
RAO				pmax	pmax		
	comp=Z,438nm,0.9s						
BVAR	**Borovoye Array**	**66.37**	**327**	P	**P**	**09 45 10.1**	**-0.7**
	comp=Z,3.3nm,0.7s,mb4.3,baz=128,slow=9.6,SNR=18						
BRVK	**Borovoye**	**66.44**	**327**	*e*P	**P**	**09 45 10.6**	**-0.6**
	comp=Z,0.5nm,0.8s						
BRVK	**Borovoye**	**66.44**	**327**	*e*P	**P**	**09 45 10.6**	**-0.7**
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.8s,mb3.7						
TIXI	**Tiksi**	**67.32**	**1**	*e*P	**P**	**09 45 17.2**	**+0.8**
	comp=Z,23nm,0.8s,mb5.1						
TIXI	**Tiksi**	**67.32**	**1⇑**	*e*P	**P**	**09 45 16.4**	**-0.1**
BILL	**Bilibino**	**69.27**	**15**	*e*P	**P**	**09 45 30.3**	**+1.6**
	comp=Z,6.0nm,1.6s,mb4.1						
BILL	**Bilibino**	**69.27**	**15**	*e*P	**P**	**09 45 31.0**	**+2.3**
BILL				*e*		09 45 56.8	
BILL				pmax	pmax		
	comp=Z,9.0nm,2.2s,mb4.1						
AKTK	**Aktyubinsk**	**72.67**	**322**	P	**P**	**09 45 49.0**	**-0.6**
AKTO	**Aktyubinsk**	**72.67**	**322**	P	**P**	**09 45 49.0**	**-0.6**
	comp=Z,4.4nm,0.9s,mb4.2,baz=105,slow=4.6,SNR=12						
ARU	**Arti**	**73.99**	**328**	*e*P	**P**	**09 45 56.0**	**-1.1**
	comp=Z,19nm,1.4s,mb4.6						
ARU	**Arti**	**73.99**	**328**	*d i*P	**P**	**09 45 55.5**	**-1.7**
ARU				*e*		09 48 38.1	
ARU				*e*S	S	09 55 25.6	+7.5
ARU				*e*SS	SS	10 00 05.8	+0.3
ARU				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.5						
QRN	**Al-Qurain**	**77.34**	**298**	*e*P	**P**	**09 46 15.3**	**-1.6**
QRN				AMb	AMB	09 46 29.7	
	comp=Z,57nm,1.3s,mb5.0						
MIB	**Mutribah**	**77.89**	**299**	*e*P	**P**	**09 46 18.5**	**-1.4**
MIB				AMb	AMB	09 46 21.1	
	comp=Z,23nm,0.7s,mb4.9						
NAY	**Al-Naaiem**	**77.95**	**299**	*e*P	**P**	**09 46 18.1**	**-2.1**
NAY				AMb	AMB	09 46 24.4	
	comp=Z,16nm,1.6s,mb4.4						
RST	**Umm Al-Ruwaisa**	**78.17**	**299**	*e*P	**P**	**09 46 19.8**	**-1.7**
RST				AMb	AMB	09 46 22.0	
	comp=Z,15nm,0.6s,mb4.8						
KIV	**Kislovodsk**	**82.10**	**314**	*e*P	**P**	**09 46 43.1**	**+0.9**
KIV				pmax	pmax		
	comp=Z,13nm,1.2s,mb4.4						
KIV				MLR	MLR		
	comp=Z,200nm,18.0s						
IMA2	**Indian Mountai**	**82.26**	**24**	*e*P	**P**	**09 46 45.3**	**+2.7**
PMR	**Palmer**	**83.91**	**29**	*e*P	**P**	**09 46 53.3**	**+2.2**
	comp=Z,5.6nm,0.9s,mb4.3						
PMR	**Palmer**	**83.91**	**29**	*e*P	**P**	**09 46 53.3**	**+2.2**
PMR				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.3						
COLA	**College**	**84.60**	**25**	*e*P	**P**	**09 46 56.9**	**+2.4**
	comp=Z,2.2nm,0.5s,mb4.1						
COLA	**College**	**84.60**	**25**	*e*P	**P**	**09 46 56.9**	**+2.4**
COLA				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.1						
MALT	**Malatya**	**85.33**	**308**	*e*P	**P**	**09 46 59.3**	**+0.5**
	comp=Z,3.8nm,1.3s,mb4.0						
MALT	**Malatya**	**85.33**	**308**	*e*P	**P**	**09 46 59.3**	**+0.6**
MALT				pmax	pmax		
	comp=Z,4.0nm,1.3s,mb4.0						
OBN	**Obninsk**	**86.09**	**325**	*e*P	**P**	**09 47 02.6**	**+0.5**
OBN				pmax	pmax		
	comp=Z,11nm,0.7s,mb4.7						
JOF	**Joensuu**	**88.28**	**333**	*e*p	**P**	**09 47 10.7**	**-1.8**
	comp=Z,4.2nm,0.4s,mb4.6						
KMBO	**Kilima Mbogo**	**88.65**	**269**	*e*P	**P**	**09 47 15.8**	**+0.5**
	comp=Z,1.3nm,0.5s,mb4.1						
KMBO	**Kilima Mbogo**	**88.65**	**269**	*e*P	**P**	**09 47 15.8**	**+0.5**
KMBO				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ARCES	**ARCESS Array B**	**89.62**	**340**	P	**P**	**09 47 17.9**	**-0.8**
	comp=Z,2.0nm,0.6s,mb4.2,baz=75,slow=5.1,SNR=9.3						
KAF	**Kangasniemi**	**90.69**	**332**	*e*p	**P**	**09 47 21.8**	**-2.0**
	comp=Z,1.9nm,0.5s,mb4.4,baz=71,slow=4.1						
KAF	**Kangasniemi**	**90.69**	**332**	*e*P	**P**	**09 47 21.8**	**-2.0**
KAF				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.4						
AKASG	**Malin Array Be**	**90.89**	**321**	P	**P**	**09 47 23.6**	**-1.4**
	comp=Z,0.5nm,0.4s,mb3.9,baz=70,slow=4.6,SNR=4.3						
FINES	**FINESS Array B**	**90.92**	**332**	P	**P**	**09 47 23.8**	**-1.1**
	comp=Z,1.6nm,0.7s,mb4.1,baz=85,slow=4.6,SNR=6.3						
QSPA	**South Pole Qui**	**94.18**	**180**	*e*P	**P**	**09 47 41.7**	**+2.2**
	comp=Z,6.4nm,1.0s,mb4.7						
DAG	**Danmarks Havn**	**96.60**	**352⇑**	*i*P	**P**	**09 47 50.9**	**+0.3**
DAG				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.8						
DAG	**Danmarks Havn**	**96.60**	**352⇑**	*i*P	**P**	**09 47 50.9**	**+0.3**
	comp=Z,3.7nm,0.8s,mb4.8						
NB2	**NORSAR Subarra**	**97.89**	**333**	P	**P**	**09 47 55.3**	**-1.4**
	comp=Z,0.2nm,0.7s,mb3.7,baz=69,slow=5.3						
NOA	**NORSAR Array B**	**97.89**	**333**	P	**P**	**09 47 55.6**	**-1.1**
	comp=Z,1.3nm,0.7s,mb4.5,baz=66,slow=4.6,SNR=6.2						
YKA	**Yellowknife Ar**	**99.38**	**24**	P	Pdif	09 48 05.1	+1.6
YKA				pP	pP	09 48 27.8	-11
YKA				PKKPbc	PKKPbc	10 04 26.2	-2.8
YKA	**Yellowknife Ar**	**99.38**	**24**	P	Pdif	09 48 05.1	+1.6
	comp=Z,0.3nm,0.8s,baz=294,slow=4.8,SNR=5.6						
YKA				pP	pP	09 48 27.8	-11
	comp=Z,0.4nm,0.7s,baz=299,slow=4.3,SNR=5.6						
YKA				PKKPbc	PKKPbc	10 04 26.2	-2.8
	comp=Z,0.1nm,0.6s,baz=119,slow=2.9,SNR=4.7						
SCHQ	**Schefferville**	**120.17**	**8**	PKP	PKPdf	09 53 12.8	+1.4
	comp=Z,0.8nm,0.4s,baz=72,slow=6.4,SNR=5.7						
TORD	**Torodi Ar. Bea**	**121.88**	**288**	PKP	PKPdf	09 53 16.3	+0.5
	comp=Z,3.6nm,0.8s,baz=49,slow=1.8,SNR=20						
TORD				pPKP	pPKPdf	09 53 40.8	-12
	comp=Z,2.6nm,0.8s,baz=39,slow=1.3,SNR=6.9						
TORD				SKP		09 56 42.6	
	comp=Z,1.1nm,0.8s,baz=54,slow=1.9,SNR=4.4						
TXAR	**Lajitas Array**	**121.99**	**51**	PKP	PKPdf	09 53 17.9	+2.2
TXAR				pPKP	pPKPdf	09 53 41.4	-11
TXAR	**Lajitas Array**	**121.99**	**51**	PKP	PKPdf	09 53 17.9	+2.2
	comp=Z,0.7nm,0.8s,baz=159,slow=1.9,SNR=6.2						
TXAR				pPKP	pPKPdf	09 53 41.4	-11
	comp=Z,0.3nm,0.6s,baz=220,slow=0.7,SNR=2.4						
JCT	**Junction City**	**124.39**	**48**	*e*PKPdf	PKPdf	09 53 22.5	+2.3
DBIC	**Dimbokro**	**129.57**	**282**	PKP	PKPdf	09 53 32.0	+1.4
	comp=Z,1.9nm,0.6s,baz=79,slow=6.8,SNR=3.8						

MAN 13 09:53:27,977N×12515E,h33km,mb4.5,ML3.4,MS3.2, Mindanao

MAN 13 10:44:03,690N×12488E,h37km,mb4.2,ML3.1,MS2.8, Mindanao

IDC 13 10:50:10.1±1.1,692N×7310W,h152km±93km,mb3.2/2, mb1 3.4/4,mb1mx3.1/20,mbtmp3.3/4,Error ellipse: s-maj=236.7km s-min=7.9km az=133.0,Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSC	**El Rosal**	**2.38**	**211**	P	Pn	10 50 50.8	+0.9
	21nm,0.3s,baz=274,slow=23,SNR=89						
ROSC				S	Sn	10 51 21.7	+1.2
	14nm,0.3s,baz=88,slow=21,SNR=9.4						
SDV	**Santo Domingo**	**3.13**	**51**	P	Pn	10 51 00.3	+1.1
	10nm,0.3s,baz=242,slow=2.5,SNR=85						
SDV				S	Sn	10 51 37.7	+0.5
	9.6nm,0.3s,baz=58,slow=20,SNR=23						
ULM	**Lac du Bonnet**	**47.20**	**340**	P	P	10 58 27.5	+0.1
	1.2nm,0.6s,baz=148,slow=9.5,SNR=2.7						
YKA	**Yellowknife Ar**	**63.18**	**340**	P	P	11 00 21.4	-0.2
	0.2nm,0.5s,baz=133,slow=6.8,SNR=11						

MAN 13 11:21:35,1154N×12538E,h9km,mb4.3,ML3.2,MS3.0, Samar

KRSC 13 11:27:12.7±1.3,4913N×15672E,h31km±30km,ML3.9, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALID	**Alaid**	**1.90**	**337**	*e*P	Pn	11 27 43.6	+0.7
ALID				*e*S	Sn	11 28 06.1	+0.4
MIPR	**Malaya Ipel'ka**	**3.15**	**0**	*e*P	Pn	11 28 03.0	+2.9
MIPR				*e*S	Sn	11 28 39.4	+2.8
RUS	**Russkaya**	**3.50**	**18**	*e*P	Pn	11 28 08.3	+3.4
RUS				*e*S	Sn	11 28 48.4	+3.3
AVH	**Avacha**	**4.33**	**16**	*e*P	Pn	11 28 21.6	+5.3
AVH				*e*S	Sn	11 29 11.4	+5.7
NLC	**Nalytchevo**	**4.37**	**21**	*e*S	Sn	11 29 08.9	+2.2
SPN	**Mys Shipunski**	**4.49**	**26**	*e*P	Pn	11 28 22.5	+4.1
SPN				*e*S	Sn	11 29 13.3	+3.8
GNL	**Ganaly**	**4.63**	**9**	*e*P	Pn	11 28 25.2	+4.7
MKZ	**Mys Kozlova**	**6.26**	**28**	*e*P	Pn	11 28 46.4	+3.7
MKZ				*e*S	Sn	11 29 54.9	+1.8
KBTR	**Krutoberegovo**	**8.00**	**25**	*e*P	Pn	11 29 10.1	+3.5

IDC 13 11:42:36.6±2.3,5517S×2872W,h0km,mb3.8/1, mb1 4.1/1,mb1mx3.7/12,mbtmp3.8/1,Error ellipse: s-maj=85.5km s-min=47.3km az=7.0,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**17.94**	**158**	*e*P	Pn	11 46 51.9	+4.9
VNA1				*e*		11 46 54.2	
VNA1				*e*		11 47 06.2	
VNA3	**Neumayer Olymp**	**18.11**	**160**	*e*P	Pn	11 46 55.6	+6.4
VNA3				*e*		11 46 58.1	
VNA3				*e*		11 47 09.8	
VNA2	**Neumayer--Watz**	**18.34**	**158**	*e*P	Pn	11 46 51.5	-0.4
	baz=319,slow=11						
VNA2				*e*		11 46 53.9	
VNA2				*e*		11 47 04.6	
LPAZ	**La Paz**	**49.16**	**306**	P	P	11 51 26.7	+0.7
	0.9nm,0.6s,baz=209,slow=11,SNR=4.4						
TORD	**Torodi Ar. Bea**	**72.73**	**31**	P	P	11 54 06.4	+0.1
	1.2nm,0.7s,baz=201,slow=6.8,SNR=9.8						
YKA	**Yellowknife Ar**	**134.94**	**319**	PKP	PKPdf	12 01 55.5	-0.4
	0.2nm,0.7s,baz=126,slow=2.2,SNR=3.7						
SONM	**Songino Array**	**151.53**	**86**	PKPbc	PKPbc	12 02 31.5	0.0
	0.5nm,0.7s,baz=236,slow=1.7,SNR=4.3						

*THE **13** 11:51:32.3,3834N×2039E,h3km,ML3.6*
*ISCJB **13** 11:51:33.6±0.9,3836N±003×2050E±007,h9km,Error ellipse: s-maj=8.6km s-min=4.3km az=161.7*
*CSEM **13** 11:51:34.1±0.4,3833N×2051E,h10km,MD3.5,Error ellipse: s-maj=8.2km s-min=3.7km az=81.0*
*NEIC **13** 11:51:34.4,3832N×2051E,h9km,MD3.5(ATH),After ATH.*
*ATH **13** 11:51:34.4,3832N×2051E,h9km±5km,MD3.5/8*

ISC 13 11:51:33.6±1.1,3835N±004×2045E±008,h2km±9km,n12, σ1°04/18,Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.21**	**147**	*e*PG	**Pg**	**11 51 37.4**	**-0.1**
VLS				*e*SG	**Sg**	**11 51 40.9**	**+0.7**
KFL	**Anninata**	**0.36**	**132**	*e*Pg	**Pg**	**11 51 39.8**	**-0.7**
KFL				*e*Sg	**Sg**	**11 51 45.8**	**+0.6**
LKD	**Levkas**	**0.39**	**24**	*e*Pg	**Pg**	**11 51 40.2**	**-0.8**
LKD				*e*Sg	**Sg**	**11 51 46.7**	**+0.6**
RLS	**Riolos of Patr**	**0.86**	**110**	*e*PG	**Pg**	**11 51 49.0**	**-0.9**
RLS				*e*SB	**Sg**	**11 52 01.4**	**+0.4**
SELA	**Sela**	**1.14**	**93**	*e*Pg	**Pg**	**11 51 54.3**	**-1.1**
SELA				*e*Sg	**Sg**	**11 52 11.8**	**+1.7**
EVR	**Evrytania**	**1.21**	**62**	*e*PN	**Pn**	**11 51 56.3**	**-1.1**
JAN	**Janina**	**1.34**	**13**	*e*PB	**Pb**	**11 51 59.9**	**+0.5**
KEK	**Kerkira**	**1.45**	**340**	*e*PB	**Pg**	**11 52 03.3**	**+2.0**
AGG	**Agios Georgios**	**1.62**	**65**	*e*Pb	**Pn**	**11 52 02.3**	**-0.8**
AGG				*e*Sb	**Sn**	**11 52 27.6**	**+3.1**
ITM	**Ithomi**	**1.66**	**134**	*e*PB	**Pb**	**11 52 05.3**	**+0.6**
THL	**Klokotos Trika**	**1.72**	**45**	*e*PG	**Pg**	**11 52 05.7**	**-0.8**
LKR	**Lokris**	**2.02**	**81**	*e*PG	**Pg**	**11 52 11.0**	**-1.4**

*ISCJB **13** 12:09:56.2±2.5,207S±01×688W±02,h104km±22km, mb3.9/5,Error ellipse: s-maj=25.3km s-min=17.0km az=160.8*
*IDC **13** 12:09:58.7±1.1,2069S×6877W,h110km±6km,mb3.6/7, mb1 3.7/9,mb1mx3.6/18,mbtmp3.6/9,Error ellipse: s-maj=25.4km s-min=21.7km az=32.0*
*NEIC **13** 12:09:59.3±1.6,2069S×6870W,h115km±14km,mb3.9/1, Error ellipse: s-maj=18.4km s-min=15.6km az=69.0*

ISC 13 12:09:58.9±2.0,206S±01×687W±02,h110km±17km,n12, σ0°87/13,mb3.9/5,Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**4.37**	**8**	P	**Pn**	**12 11 05.9**	**+2.6**
	4.4nm,0.3s,baz=190,slow=12,SNR=73						
LPAZ				S	**Sn**	**12 11 52.6**	**-0.7**
	0.9nm,0.3s,baz=226,slow=9.3,SNR=3.8						
SIV	**San Ignacio**	**8.62**	**59**	P	**Pn**	**12 11 59.9**	**-1.0**
	5.6nm,0.3s,baz=249,slow=12,SNR=86						
PLCA	**Paso Flores**	**20.08**	**184**	*e*P	**P**	**12 14 23.3**	**-0.4**
	8.2nm,1.3s						
PLCA	**Paso Flores**	**20.08**	**184**	P	**P**	**12 14 23.2**	**-0.4**
	1.4nm,0.6s,baz=360,slow=14,SNR=4.2						
BDFB	**Brasilia**	**20.30**	**79**	P	**P**	**12 14 27.0**	**+0.8**
	1.1nm,0.4s,baz=257,slow=18,SNR=3.1						
TXAR	**Lajitas Array**	**60.03**	**325**	P	**P**	**12 19 54.2**	**-0.1**
	0.2nm,0.6s,mb3.3,baz=146,slow=9.8,SNR=3.3						
DBIC	**Dimbokro**	**68.33**	**74**	P	**P**	**12 20 49.0**	**+0.1**
DBIC	**Dimbokro**	**68.33**	**74**	P	**P**	**12 20 49.0**	**+0.1**
	3.8nm,0.8s,mb4.3,baz=240,slow=6.5,SNR=4.4						
ULM	**Lac du Bonnet**	**74.56**	**342**	P	**P**	**12 21 24.6**	**-0.8**
	1.4nm,0.6s,mb3.9,baz=164,slow=11,SNR=4.6						
TORD	**Torodi Ar. Bea**	**76.91**	**70**	P	**P**	**12 21 39.9**	**+0.2**
	1.5nm,0.6s,mb3.9,baz=255,slow=5.4,SNR=29						
TORD				pP	pP	12 22 07.5	-0.1
	0.7nm,0.5s,baz=248,slow=5.2,SNR=3.0						
TORD				sP	sP	12 22 20.5	+1.0
	1.4nm,0.9s,baz=243,slow=5.9,SNR=3.4						
YKA	**Yellowknife Ar**	**90.44**	**341**	P	**P**	**12 22 47.9**	**+0.4**
YKA				pP	pP	12 23 15.9	-0.4
YKA	**Yellowknife Ar**	**90.44**	**341**	P	**P**	**12 22 47.9**	**+0.4**
	0.7nm,0.5s,mb4.0,baz=132,slow=4.6,SNR=27						
YKA				pP	pP	12 23 15.9	-0.4
	0.4nm,0.7s,baz=132,slow=4.6,SNR=4.7						

*IDC **13** 12:20:47.8±0.6,166N×9700E,h0km,mb4.7/22, mb1 4.7/22,mb1mx4.6/28,mbtmp4.7/22,ML3.4/1,MS4.0/12, Ms1 4.0/12,ms1mx3.8/28,Error ellipse: s-maj=18.9km s-min=13.6km az=32.0*
*BJI **13** 12:20:50.6,156N×9726E,h37km,mB5.1,mb5.0,Ms4.7, Msz4.6*
*ISCJB **13** 12:20:50.4±0.2,172N±004×9707E±003,h26km,mb4.8/88, MS4.3/32,Error ellipse: s-maj=5.4km s-min=3.9km az=18.2*
*MOS **13** 12:20:52.0±0.9,186N×9716E,h33km,mb5.1/31,MS4.3/4, Error ellipse: s-maj=12.8km s-min=5.8km az=104.6*
*NEIC **13** 12:20:53.9±1.1,171N×9715E,h40km±9km,mb4.9/34, Error ellipse: s-maj=9.1km s-min=4.4km az=48.0*
*SZGRF **13** 12:21:00.5,3.16N×9656E,h33km,mb4.7,Northern Sumatera, Indonesia*

ISC 13 12:20:52.4±0.2,170N±004×9705E±003,h27km, h27km±1.3km:pP-P,n230,σ1°00/242,mb4.8/88,MS4.3/32, 28C-18D,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.17**	**60**	Pn	**Pn**	**12 21 26.7**	**0.0**
	10nm,0.3s,baz=251,slow=5.3,SNR=71						
PSI				Sn	**Sn**	**12 21 53.2**	**+0.4**
	70nm,0.3s,baz=300,slow=16,SNR=10						
TSI	**Tuntungan**	**2.34**	**40**	P	**Pn**	**12 21 30.2**	**+1.0**
	4μm,0.8s						
PPI	**Padang Panjang**	**3.97**	**123**	P	**Pn**	**12 21 52.5**	**+1.0**
	326nm,0.8s						
BSI	**Banda Aceh**	**4.16**	**335**	P	**Pn**	**12 21 50.9**	**-3.3**
	210nm,1.1s						
IPM	**Ipoh**	**4.84**	**55**	⇑P	**Pn**	**12 22 04.7**	**+1.3**
KULM	**Kulim**	**5.06**	**45**	*e*Pn	**Pn**	**12 22 07.0**	**+0.5**
KULM	**Kulim**	**5.06**	**45**	⇓P	**Pn**	**12 22 07.4**	**+0.9**
KGM	**Kluang**	**6.27**	**87**	⇑P	**Pn**	**12 22 25.0**	**+1.8**
SNG	**Songkhla**	**6.50**	**33**	P	**Pn**	**12 22 27.0**	**+0.6**
	406nm,1.0s						
MYKOM	**Kota Tinggi**	**6.79**	**89**	⇑P	**Pn**	**12 22 31.8**	**+1.4**
KTGM	**Kuala Trenggan**	**7.06**	**59**	⇓P	**Pn**	**12 22 35.2**	**+1.1**
KSI	**Kapahiang**	**7.67**	**134**	P	**Pn**	**12 22 39.3**	**-3.1**
	407nm,0.5s						
NNT	**Nongplab**	**11.15**	**14**	P	**Pn**	**12 23 30.0**	**-0.1**
TPI	**Tanjungpandan**	**11.48**	**113**	P	**Pn**	**12 23 36.0**	**+1.3**
	50nm,1.1s						
KSM	**Kuching**	**13.25**	**91**	*e*P	**Pn**	**12 23 57.2**	**-1.7**
KSM				*e*		12 24 10.7	
KSM	**Kuching**	**13.25**	**91**	⇑P	**Pn**	**12 24 01.3**	**+2.4**
NST	**Nakhon Sawan**	**14.22**	**12**	P	**Pn**	**12 24 10.0**	**-2.1**
SBUM	**Sibu**	**15.18**	**87**	⇓P	**Pn**	**12 24 26.3**	**+1.3**
BTM	**Bintulu**	**16.09**	**84**	⇓P	**Pn**	**12 24 38.9**	**+2.0**
CM31	**Chiang Mai Arr**	**16.76**	**6**	*e*P	**Pn**	**12 24 43.3**	**-2.1**
	6.0nm,0.6s						
CHG	**Chiang Mai**	**17.11**	**6**	⇓P	**Pn**	**12 24 47.2**	**-2.6**
	29nm,0.8s						
CHTO	**Chiang Mai**	**17.11**	**6**	*e*P	**Pn**	**12 24 48.5**	**-1.3**
KKM	**Kota Kinabalu**	**19.60**	**77**	⇓P	**Pn**	**12 25 19.0**	**-1.2**
KDM	**Kudat**	**20.39**	**75**	⇑P	**P**	**12 25 28.3**	**+0.9**
SDKM	**Sandakan**	**20.48**	**78**	⇓P	**P**	**12 25 28.6**	**+0.3**
TSM	**Tawau**	**20.95**	**82**	⇓P	**P**	**12 25 32.9**	**-0.6**
TRD	**Trivandrum**	**21.12**	**289**	⇓*e*P	**P**	**12 25 34.0**	**-1.2**
QIZ	**Qiongzhong**	**21.30**	**35**	P	**P**	**12 25 36.5**	**-0.7**
QIZ				AP		12 25 42.9	
QIZ				XS	sS	12 29 43.1	-1.4
QIZ				AMB	AMB		
	comp=Z,29nm,1.0s,mb4.6						
QIZ				LR	LR		
	comp=N,409nm,18.8s,MS4.0						
QIZ				LR	LR		
	comp=E,338nm,16.6s,MS4.0						
QIZ				LR	LR		
	comp=Z,499nm,15.2s,MS4.0						
QIZ	**Qiongzhong**	**21.30**	**35**	*e*P	**P**	**12 25 36.0**	**-1.2**
	comp=Z,50nm,1.3s,mb4.7						
KMI	**Kunming**	**23.93**	**13**	P	**P**	**12 26 04.8**	**+0.5**
KMI				AP		12 26 12.1	
KMI				PPP		12 26 51.8	
KMI				S	**S**	**12 30 21.3**	**+2.1**
KMI				XS	sS	12 30 33.8	+1.4
KMI				SSS		12 31 33.6	
KMI				SCP	ScP	12 33 19.3	-4.0
KMI				AMB	AMB		
	comp=Z,17nm,0.8s,mb4.5						
KMI				LR	LR		
	comp=N,863nm,14.2s,MS4.5						
KMI				LR	LR		
	comp=E,527nm,12.6s,MS4.5						
KMI				LR	LR		
	comp=Z,837nm,15.4s,MS4.3						
HYB	**Hyderabad**	**23.97**	**312**	*e*P	**P**	**12 26 07.0**	**+2.2**
HYB	**Hyderabad**	**23.97**	**312**	*i* P	**P**	**12 26 07.0**	**+2.2**
GYA	**Guiyang**	**26.30**	**20**	P	**P**	**12 26 25.1**	**-0.7**
GYA				AP	pP	12 26 31.8	-2.1
GYA				PP		12 27 11.6	
GYA				PCP	PcP	12 29 54.6	+2.8
GYA				S	**S**	**12 30 58.3**	**+1.3**
GYA				XS	sS	12 31 09.4	-0.9
GYA				SS		12 32 07.3	
GYA				SCP	ScP	12 33 31.5	+1.5
GYA				AMB	AMB		
	comp=Z,20nm,1.2s,mb4.5						
GYA				AMB	AMB		
	comp=Z,120nm,4.6s						
GYA				LR	LR		
	comp=N,600nm,14.2s,MS4.4						
GYA				LR	LR		
	comp=E,640nm,17.2s,MS4.4						
GYA				LR	LR		
	comp=Z,620nm,15.8s,MS4.2						
JIRN	**Jiri**	**27.84**	**339**	*e*P	**P**	**12 26 40.7**	**+1.0**
DMN	**Daman**	**28.19**	**337**	*e*P	**P**	**12 26 44.2**	**+1.3**
KKN	**Kakani**	**28.29**	**338**	*e*P	**P**	**12 26 44.7**	**+1.0**
	comp=Z,44nm,1.0s,mb5.0						
KKN	**Kakani

comp=E,298nm,14.5s,MS4.4
XAN LR LR
comp=Z,795nm,15.9s,MS4.5
FITZ Fitzroy Crossi 34.34 126 *e*P **P 12 27 35.7 -1.4**
comp=Z,7.9nm,0.8s,mb4.7
LZH Lanzhou 34.79 10 ⇑P **P 12 27 40.0 -0.8**
LZH AP pP 12 27 47.5 -1.4
LZH XP sP 12 27 50.8 -1.5
LZH PP PP 12 28 58.6 -1.4
LZH *e*S **S 12 33 09.1 -0.7**
LZH XS sS 12 33 21.5 -1.7
LZH *e*SS SS 12 35 25.0 -17
LZH AMB AMB
comp=Z,23nm,1.3s,mb5.0
LZH AMB AMB
comp=Z,97nm,5.6s
LZH LR LR
comp=N,716nm,13.4s
LZH LR LR
comp=Z,1μm,17.3s,MS4.7
NJ2 Nanjing 36.52 32 *e*P **P 12 27 57.1 +1.4**
NJ2 AP pP 12 28 03.5 -0.4
NJ2 XP sP 12 28 05.3 -1.9
NJ2 PP PP 12 29 21.3 +2.1
NJ2 S **S 12 33 38.0 +1.5**
NJ2 XS sS 12 33 47.0 -2.9
NJ2 AMB AMB
comp=Z,30nm,0.6s,mb5.3
NJ2 AMB AMB
comp=Z,150nm,9.0s
NJ2 LR LR
comp=N,1μm,17.6s,MS4.8
NJ2 LR LR
comp=E,770nm,18.0s,MS4.8
THN Thein Dam 36.58 329 *e*P **P 12 27 54.8 -1.4**
SSE Sheshan 37.10 36 P **P 12 27 57.4 -3.2**
SSE S **S 12 33 41.8 -3.4**
SSE AMB AMB
comp=Z,29nm,0.8s,mb5.2
SSE LR LR
comp=N,211nm,20.0s,MS4.0
SSE LR LR
comp=E,106nm,20.2s,MS4.0
SSE LR LR
comp=Z,262nm,16.5s,MS4.1
GTA Gaotai 37.62 4 *e*P **P 12 28 04.6 -0.3**
GTA AP pP 12 28 14.0 +0.9
GTA XP sP 12 28 18.8 +2.4
GTA PP PP 12 29 35.3 +4.1
GTA PPP 12 29 57.3
GTA PCP PcP 12 30 21.6 -0.7
GTA S **S 12 33 53.8 +0.8**
GTA XS sS 12 34 09.8 +3.4
GTA SS SS 12 36 32.0 -6.8
GTA AMB AMB
comp=Z,27nm,1.1s,mb4.9
GTA AMB AMB
comp=Z,108nm,8.4s
GTA LR LR
comp=N,249nm,13.7s,MS4.3
GTA LR LR
comp=E,212nm,14.1s,MS4.3
GTA LR LR
comp=Z,267nm,15.2s,MS4.2
KAKA Kakadu 37.93 113 *e*P **P 12 28 05.8 -2.1**
comp=Z,19nm,1.2s,mb4.7
JOW Kunigami 39.01 47 P **P 12 28 16.8 -0.1**
comp=Z,16nm,0.6s,mb5.0,baz=177,slow=20,SNR=15
BTO Baotou 40.48 15 *e*P **P 12 28 28.0 -0.8**
HHC Hu-ho-hao-te 41.13 17 *e*P **P 12 28 35.3 +1.1**
HHC AP pP 12 28 41.1 -1.3
HHC XP sP 12 28 44.8 -0.9
HHC PP PP 12 30 14.5 +5.1
HHC PCP PcP 12 30 33.4 +0.1
HHC PCS PcS 12 34 22.8 -1.5
HHC S **S 12 34 50.6 +5.0**
HHC XS sS 12 34 57.4 -1.8
HHC SS SS 12 37 48.1 -0.9
HHC SCS ScS 12 38 36.3 -0.6
HHC AMB AMB
comp=Z,28nm,0.4s,mb5.2
HHC AMB AMB
comp=Z,129nm,4.6s
HHC LR LR
comp=N,585nm,15.5s
HHC LR LR
comp=E,379nm,21.0s
HHC LR LR
comp=Z,483nm,15.9s,MS4.5
BJT Baijiatuau 41.92 22 *e*P **P 12 28 40.6 -0.1**
comp=Z,92nm,1.0s,mb5.4
BJT Baijiatuau 41.92 22 *e*P **P 12 28 40.6 0.0**
BJT pmax pmax
comp=Z,92nm,1.0s
BJI Beijing 41.94 22 P **P 12 28 41.0 +0.2**
BJI AMB AMB
comp=Z,80nm,0.9s,mb5.3
BJI LR LR
comp=N,215nm,18.6s,MS4.4
BJI LR LR
comp=E,373nm,18.6s,MS4.4
BJI LR LR
comp=Z,149nm,19.1s,MS3.9
WRA Warramunga Arr 42.42 122 P **P 12 28 43.9 -1.2**
comp=Z,5.8nm,0.8s,mb4.3,baz=302,slow=9.1,SNR=32
WRA LR LR 12 48 00.5
comp=Z,126nm,19.1s,MS3.8,baz=150,slow=38
WRAB Tennant Creek 42.43 122 *e*P **P 12 28 44.0 -1.1**
WRAB Tennant Creek 42.43 122 ⇓*i*P **P 12 28 44.1 -1.0**
WB2 Warramunga Arr 42.43 122 *e*P **P 12 28 44.2 -1.0**
WMQ Urumqi 42.76 350 P **P 12 28 48.5 +1.0**
WMQ AP pP 12 28 56.0 +0.3
WMQ XP sP 12 28 59.0 -0.1
WMQ PP PP 12 30 30.0 +3.0
WMQ *e*S **S 12 35 10.0 +0.3**
WMQ AMB AMB
comp=Z,19nm,1.4s,mb4.6
WMQ AMB AMB
comp=Z,121nm,3.9s
WMQ LR LR
comp=N,186nm,20.0s,MS4.3
WMQ LR LR
comp=E,384nm,23.5s,MS4.3
WMQ LR LR
comp=Z,144nm,24.4s,MS3.8
FORT Forrest 43.75 140 *e*P **P 12 28 56.7 +1.1**
comp=Z,14nm,0.6s,mb4.9
ASAR Alice Springs 43.81 127 P **P 12 28 55.5 -0.7**
comp=Z,5.3nm,1.0s,mb4.2,baz=306,slow=7.4,SNR=33
ASAR PcP PcP 12 30 42.8 +0.1
comp=Z,1.1nm,1.0s,baz=311,slow=4.8,SNR=4.6
ASAR S **S 12 35 21.1 -4.5**
comp=Z,1.2nm,1.0s,baz=303,slow=15,SNR=5.9
ULHL Ulahol 44.48 338 P **P 12 29 02.4 +1.1**
SNR=15
JNU Nakatsue 44.53 42 P **P 12 29 01.6 -0.4**
JNU LR LR 12 49 57.6
JNU Nakatsue 44.53 42 P **P 12 29 01.6 -0.4**
comp=Z,12nm,0.9s,mb4.7,baz=217,slow=7.0,SNR=4.7
JNU LR LR 12 49 57.6
comp=Z,213nm,18.2s,MS4.1,baz=232,slow=39
KZA Kyzart 44.72 337 P **P 12 29 04.7 +1.4**
SNR=8.9
UCH Uchtor 45.14 336 *e*P **P 12 29 08.0 +1.4**
comp=Z,21nm,0.9s,mb5.0
UCH Uchtor 45.14 336 P **P 12 29 08.1 +1.5**
SNR=31
TKM2 Tokmak 2 45.31 338 *e*P **P 12 29 09.0 +1.1**
comp=Z,41nm,1.3s,mb5.1
TKM2 Tokmak 2 45.31 338 *e*P **P 12 29 09.0 +1.1**
TKM2 pmax pmax
comp=Z,41nm,1.3s,mb5.1
TKM2 Tokmak 2 45.31 338 P **P 12 29 09.1 +1.2**
SNR=17
KBK Karagaybulak 45.33 337 P **P 12 29 09.8 +1.6**
SNR=15
AML Almayashu 45.39 336 *e*P **P 12 29 10.1 +1.5**
comp=Z,23nm,1.0s,mb5.0
AML Almayashu 45.39 336 P **P 12 29 10.2 +1.5**
SNR=18
AAK Ala-Archa 45.49 337 P **P 12 29 11.2 +1.8**
SNR=7.6
KS15 Wonju Array Si 45.50 35 *e*P **P 12 29 09.4 -0.1**
KSRS Korea Array 45.53 35 P **P 12 29 09.3 -0.5**
comp=Z,19nm,0.8s,mb5.1,baz=221,slow=9.1,SNR=41
KSRS LR LR 12 49 48.8
comp=Z,172nm,18.3s,MS4.0,baz=217,slow=38
FRU Bishkek 45.61 337 *e*P **P 12 29 11.0 +0.7**
EKS2 Erkin-Say 45.80 336 *e*P **P 12 29 13.1 +1.3**
comp=Z,13nm,0.8s,mb4.9
EKS2 Erkin-Say 45.80 336 P **P 12 29 13.2 +1.4**
SNR=9.2
USP Ospenovka 46.02 337 P **P 12 29 14.5 +0.9**
SNR=30
SONM Songino Array 46.67 9 P **P 12 29 18.8 +0.3**
comp=Z,13nm,0.6s,mb5.0,baz=190,slow=9.0,SNR=111
SONM PcP PcP 12 30 52.3 +0.3
comp=Z,3.0nm,0.9s,baz=183,slow=3.4,SNR=4.2
MK31 Makanchi Array 46.73 346 *e*P **P 12 29 19.4 +0.3**
MKAR Makanchi Array 46.73 346 P **P 12 29 19.4 +0.4**
MKAR 12 31 12.5
MKAR Makanchi Array 46.73 346 P **P 12 29 19.4 +0.3**
comp=Z,45nm,0.8s,mb5.4,baz=157,slow=7.9,SNR=167
MKAR PP PP 12 31 12.5 +3.3
comp=Z,4.9nm,1.0s,baz=159,slow=8.7,SNR=3.2
MKAR LR LR 12 52 47.2
comp=Z,137nm,20.8s,MS3.9,baz=162,slow=41
ULN Ulaanbaatar 46.80 9 *e*P **P 12 29 19.3 -0.3**
comp=Z,9.7nm,0.8s,mb4.8
ULN Ulaanbaatar 46.80 9⇑*e*P **P 12 29 19.4 -0.2**
KK31 Karatay Array 47.55 334 *i* P **P 12 29 25.6 +0.1**
KK31 pmax pmax
comp=Z,9.0nm,0.7s,mb4.9
ZAK Zakamensk 48.80 5 *e*P **P 12 29 34.7 -0.3**
ZAK *e* 12 30 58.9
ZAK *e* 12 31 30.8
ZAK pmax pmax
comp=Z,6.0nm,0.9s,mb4.6
ZAK pmax pmax
comp=Z,2.0nm,1.1s,mb4.1
ZAK pmax pmax
comp=Z,2.0nm,1.6s,mb3.9
CN2 Changchun 48.93 27 *e*P **P 12 29 35.4 -0.8**
CN2 *e*S **S 12 36 37.8 -0.7**
CN2 AMB AMB
comp=Z,10.0nm,0.7s,mb5.0
CN2 AMB AMB
comp=Z,200nm,3.0s
CN2 LR LR
comp=N,330nm,15.0s,MS4.5
CN2 LR LR
comp=E,230nm,15.0s,MS4.5
CN2 LR LR
comp=Z,740nm,16.0s,MS4.8
MOY Mondy 49.91 3 *e*P **P 12 29 43.9 +0.4**
TLY Talaya 50.12 5 *e*P **P 12 29 45.8 +0.7**
comp=Z,13nm,0.8s,mb5.0
TLY Talaya 50.12 5 *e*P **P 12 29 45.9 +0.8**
TLY *e* 12 31 34.6
TLY *e*S **S 12 36 50.4 -4.4**
TLY *e*SS SS 12 40 16.4 -12
TLY pmax pmax
comp=Z,14nm,0.8s,mb5.0
TLY MLR MLR
comp=Z,259nm,18.0s,MS4.3
HIA Hailar 51.22 19 *e*P **P 12 29 52.9 -0.6**
comp=Z,13nm,0.8s,mb4.9
HIA Hailar 51.22 19 *e*P **P 12 29 52.9 -0.6**
HIA pmax pmax
comp=Z,13nm,0.8s
KURK Kurchatov 51.28 345 *e*P **P 12 29 54.2 +0.4**
KURK Kurchatov 51.28 345⇑*e*P **P 12 29 54.0 +0.1**
MAJO Matsushiro 51.43 43 *e*P **P 12 29 54.6 -0.6**
comp=Z,13nm,0.8s,mb4.9
MAJO Matsushiro 51.43 43 *e*P **P 12 29 54.6 -0.6**
MAJO pmax pmax
comp=Z,13nm,0.8s,mb4.9
MAT Matsushiro 51.43 43 P **P 12 29 53.9 -1.3**
MAT *e*S **S 12 37 33.0 +19**
MJAR Matsushiro Arr 51.43 43 P **P 12 29 54.5 -0.7**
comp=Z,12nm,1.0s,mb4.8,baz=214,slow=5.9,SNR=26
MDJ Mudanjiang 51.51 29 P **P 12 29 55.9 +0.2**
MDJ AP pP 12 30 02.3 -1.8
MDJ XP sP 12 30 04.9 -2.5
MDJ AMB AMB
comp=Z,16nm,1.0s,mb4.9
MDJ AMB AMB
comp=Z,173nm,3.5s
MDJ LR LR
comp=N,84nm,15.9s,MS4.1
MDJ LR LR
comp=E,119nm,15.3s,MS4.1
MDJ LR LR
comp=Z,199nm,16.5s,MS4.2
MDJ Mudanjiang 51.51 29 *e*P **P 12 29 56.3 +0.6**
CIT Chita 52.02 13 *e*P **P 12 30 00.0 +0.6**
CIT *e* pP 12 30 08.6 +0.8
CIT *e* 12 30 13.8
CIT *e* 12 31 12.7
CIT *e* 12 32 03.6
CIT pmax pmax
comp=Z,41nm,1.4s,mb5.2
CTA Charters Tower 52.85 117 *e*P **P 12 30 05.8 -0.3**
comp=Z,6.8nm,0.8s,mb4.6
CTA Charters Tower 52.85 117 *e*P **P 12 30 05.8 -0.3**
CTA pmax pmax
comp=Z,7.0nm,0.8s
CTAO Charters Tower 52.85 117 *e*P **P 12 30 05.9 -0.3**
ZAL Zalesovo 53.04 351 P **P 12 30 07.1 +0.2**
ZAA0 Zalesovo Array 53.05 351 *e*P **P 12 30 06.8 -0.2**
ZALV Zalesovo Beam 53.05 351 P **P 12 30 07.1 +0.1**
comp=Z,72nm,0.9s,mb5.6,baz=174,slow=6.0,SNR=198
STKA Stephens Creek 53.80 132 *e*P **P 12 30 13.3 +0.4**
comp=Z,6.0nm,0.8s,mb4.6
STKA Stephens Creek 53.80 132 P **P 12 30 13.4 +0.5**
comp=Z,7.7nm,0.8s,mb4.7,baz=317,slow=5.4,SNR=18
STKA LR LR 12 53 36.3
comp=Z,204nm,20.2s,MS4.2,baz=22,slow=37
NVS Novosibirsk 54.17 350⇑*i*P **P 12 30 14.5 -0.6**
NVS *e**PP pP 12 30 31.3 +7.7
NVS *e*S **S 12 37 47.7 -2.6**
NVS pmax pmax
comp=N,28nm,1.0s
NVS pmax pmax
comp=E,19nm,1.0s
NVS pmax pmax
comp=Z,42nm,1.0s,mb5.3
NVS smax
comp=N,11nm,2.2s
NVS smax
comp=E,20nm,2.0s
BRVK Borovoye 55.80 341 *e*P **P 12 30 26.5 -0.5**
KLR Kul'dur 55.88 27 *e*P **P 12 30 22.7 -4.9**
KLR pmax pmax
comp=Z,38nm,1.2s,mb5.3
ZRNK Zerenda 56.14 340 *i* P **P 12 30 27.9 -1.5**
ZRNK pmax pmax
comp=Z,9.0nm,1.0s,mb4.8
CHKZ Chkalovo 56.21 341 *i* P **P 12 30 29.0 -0.9**
CHKZ pmax pmax
comp=Z,23nm,0.9s,mb5.2
HABR Khabarovsk 56.90 29 *e*P **P 12 30 33.0 -1.9**
HABR *e* 12 31 28.9
HABR *e* 12 32 38.6
HABR *e*S **S 12 38 24.8 -2.2**
HABR *e* 12 40 18.5
HABR *e* 12 42 04.6
BOD Bodaibo 57.55 11 *e*P **P 12 30 39.0 -0.4**
BOD pmax pmax
comp=Z,15nm,1.1s,mb4.9
BOD pmax pmax
comp=Z,12nm,1.4s,mb4.7
ASAJ Asahikawa 58.36 37 P **P 12 30 45.6 +0.4**
comp=Z,11nm,0.8s,mb4.9,baz=299,slow=19,SNR=9.2
AKTK Aktyubinsk 58.73 332 P **P 12 30 47.2 -0.5**
AKTO Aktyubinsk 58.73 332 *i* P **P 12 30 46.3 -1.4**
AKTO Aktyubinsk 58.73 332 P **P 12 30 47.2 -0.5**
comp=Z,5.8nm,0.8s,mb4.6,baz=129,slow=8.9
KMBO Kilima Mbogo 59.86 268 LR LR 12 55 07.5
comp=Z,79nm,18.2s,MS3.9,baz=91,slow=34
YSS Yuzh-Sakhalins 60.02 34 *e*P **P 12 30 57.2 +0.4**
YSS Yuzh-Sakhalins 60.02 34⇑*e*P **P 12 30 56.0 -0.8**
YSS *e**PP pP 12 31 04.4 -0.9
YSS *e**SP sP 12 31 08.8 +0.3
YSS *e*S **S 12 39 04.0 -3.8**
YSS pmax pmax
comp=Z,40nm,1.0s,mb5.4
YSS MLR MLR
comp=Z,200nm,15.0s,MS4.4
ARU Arti 62.67 337 *e*P **P 12 31 14.1 -0.4**
comp=Z,13nm,1.1s,mb5.0
ARU Arti 62.67 337*c i*P **P 12 31 13.8 -0.7**
ARU *e* 12 31 47.4
ARU *e* 12 33 30.3
ARU *e*PPP 12 35 00.5
ARU *e*S **S 12 39 41.1 0.0**
ARU SS SS 12 43 48.4 +2.4
ARU pmax pmax
comp=Z,15nm,1.2s,mb5.0
KIV Kislovodsk 63.84 319 *e*P **P 12 31 21.1 -1.4**
comp=Z,24nm,1.1s,mb5.1
KIV Kislovodsk 63.84 319*d i*P **P 12 31 22.6 +0.1**
KIV *e* 12 31 59.2
KIV *e*S **S 12 40 04.0 +7.9**
KIV pmax pmax
comp=Z,17nm,1.0s,mb5.0
MALT Malatya 64.69 312 *e*P **P 12 31 28.6 +0.4**
YAK Yakutsk 64.99 16 *e*P **P 12 31 28.8 -0.9**
YAK Yakutsk 64.99 16 *e*P **P 12 31 28.6 -1.0**
YAK pmax pmax
comp=N,19nm,0.9s
YAK pmax pmax
comp=Z,79nm,0.9s,mb5.7
YAK pmax pmax
comp=E,21nm,1.3s
YAK MLR MLR
comp=Z,433nm,19.0s,MS4.7
YAK MLR MLR
comp=N,216nm,16.0s,MS4.5
YAK MLR MLR
comp=E,165nm,16.0s,MS4.5
VRSR Storozhevoye 69.07 325 *e*P **P 12 31 54.6 -1.2**
VRSR pmax pmax
comp=Z,3.0nm,1.0s,mb4.2
VRSR pmax pmax
comp=N,2.0nm,0.9s
VRSR pmax pmax
comp=E,4.0nm,0.9s
MA2 Magadan 70.95 26⇑*e*P **P 12 32 06.9 -0.3**
MA2 pmax pmax
comp=Z,22nm,1.3s,mb4.9
PET Petropavlovsk 71.91 34 *e*P **P 12 32 12.3 -0.7**
comp=Z,14nm,0.8s,mb4.9
PET Petropavlovsk 71.91 34⇓*i*P **P 12 32 12.6 -0.5**
PET *e* 12 41 28.9
PET pmax pmax
comp=Z,22nm,0.8s,mb5.1
PET MLR MLR
comp=Z,100nm,17.0s,MS4.2
OBN Obninsk 72.12 328⇓*i*P **P 12 32 13.9 -0.4**
OBN *e* 12 32 40.6
OBN pmax pmax
comp=Z,16nm,1.0s,mb4.9
TIXI Tiksi 72.73 10 *e*P **P 12 32 16.3 -1.4**
comp=Z,18nm,0.9s,mb5.0
TIXI Tiksi 72.73 10⇑*e*P **P 12 32 16.2 -1.4**
TIXI pmax pmax
comp=Z,18nm,0.8s,mb5.0
SEY Seymchan 73.37 23⇑*e*P **P 12 32 21.4 -0.2**
TIRR Tirgusor 73.67 316 ⇓P **P 12 32 23.7 0.0**
TIRR Tirgusor 73.67 316⇓*i*P **P 12 32 23.7 0.0**
AKASG Malin Array Be 74.78 322 P **P 12 32 29.0 -1.1**
comp=Z,4.4nm,0.7s,mb4.5,baz=92,slow=4.6,SNR=20
KIEV Kiev 74.79 322 *e*P **P 12 32 28.4 -1.7**
comp=Z,5.1nm,0.9s,mb4.5
KIEV Kiev 74.79 322 *e*P **P 12 32 28.4 -1.7**
KIEV pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
BOSA Boshof 74.90 240 LR LR 13 02 40.4
comp=Z,121nm,20.2s,MS4.2,baz=295,slow=34
VRI Vrincioaia 75.16 317⇑P **P 12 32 32.8 +0.4**
VRI Vrincioaia 75.16 317⇑*i*P **P 12 32 32.8 +0.4**
TMCR Tamitsa 75.41 337 *e*P **P 12 32 32.0 -1.4**
TMCR *e**PP pP 12 32 42.6 +0.4
MLR Muntele Rosu 75.61 317 ⇓P **P 12 32 35.5 +0.5**
MLR Muntele Rosu 75.61 317 P **P 12 32 35.1 +0.1**
comp=Z,5.2nm,0.7s,mb4.6,baz=121,slow=3.5,SNR=9.7
MLR Muntele Rosu 75.61 317⇓*i*P **P 12 32 35.5 +0.5**
DRGR 78.07 317⇑P **P 12 32 50.0 +1.2**
DRGR 78.07 317⇑*i*P **P 12 32 50.0 +1.2**
KWP Kalwaria 78.60 320⇑P **P 12 32 52.5 +0.8**
KWP Kalwaria 78.60 320⇑*i*P **P 12 32 52.5 +0.8**
APA Apatity 78.61 339⇑*i*P **P 12 32 50.6 -0.8**
APA *i* 12 33 05.6
APA pmax pmax
comp=Z,18nm,1.0s,mb5.0
KOLS Kolonicke sedl 78.75 320 *e*P **P 12 32 53.8 +1.3**
CRVS Cervenica-Dubn 79.27 319 *e*P **P 12 32 57.0 +1.6**
FINES FINESS Array B 79.50 332 P **P 12 32 56.0 -0.4**
FINES FINESS Array B 79.50 332 P **P 12 32 56.0 -0.3**
comp=Z,5.6nm,0.9s,mb4.5,baz=103,slow=6.1,SNR=14
STHS Stebnicka Huta 79.50 320 *e*P **P 12 32 57.7 +1.1**
comp=Z,4.3nm,0.8s,mb4.4
STHS Stebnicka Huta 79.50 320 *e*P **P 12 32 57.7 +1.1**
STHS pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
STHS Stebnicka Huta 79.50 320 *e*P **P 12 32 57.6 +1.0**
KECS Kecovo 79.84 319 *e*P **P 12 32 57.8 -0.7**
comp=Z,2.0nm,0.7s,mb4.2
KECS *e*PP PP 12 36 03.0 +3.0
KECS Kecovo 79.84 319 *e*P **P 12 32 57.8 -0.7**
KECS *e* 12 36 03.0
KECS pmax pmax
comp=Z,2.0nm,0.7s,mb4.2
PSZ Piszkesteto 80.14 318⇑P **P 12 33 00.6 +0.4**
PSZ Piszkesteto 80.14 318⇑*i*P **P 12 33 00.6 +0.5**
BILL Bilibino 80.76 21 *e*P **P 12 33 01.4 -1.6**
BILL pmax pmax
comp=Z,6.0nm,1.6s,mb4.3
PKSM Moragy 80.76 316⇑P **P 12 33 03.4 -0.1**
PKSM Moragy 80.76 316⇑*i*P **P 12 33 03.4 -0.1**
VYHS Vyhne 80.93 319 *e*P **P 12 33 04.0 -0.3**
comp=Z,1.4nm,1.0s,mb3.9
VYHS Vyhne 80.93 319 *e*P **P 12 33 04.0 -0.3**
VYHS pmax pmax
comp=Z,1.0nm,1.0s,mb3.7
MORC Moravsky Berou 81.93 320⇑P **P 12 33 07.3 -2.4**
MORC Moravsky Berou 81.93 320⇑*i*P **P 12 33 07.3 -2.3**
ARCES ARCESS Array B 82.02 340 P **P 12 33 09.4 -0.3**
ARCES LR LR 13 11 58.4
ARCES ARCESS Array B 82.02 340 P **P 12 33 09.4 -0.3**
comp=Z,3.8nm,0.6s,mb4.5,baz=96,slow=6.3,SNR=13
ARCES LR LR 13 11 58.4
comp=Z,80nm,18.0s,MS4.1,baz=267,slow=37
ZST Bratislava 82.04 318 *e*P **P 12 33 10.6 +0.4**
comp=Z,11nm,1.0s,mb4.8
ZST Bratislava 82.04 318 *e*P **P 12 33 10.6 +0.4**
ZST pmax pmax
comp=Z,11nm,1.0s,mb4.7
DPC Dobruska-Polom 82.78 320 *e*P **P 12 33 14.2 +0.2**
DPC *e*PCP PcP 12 33 20.6 +1.7
GROS Grobnik 82.95 316 *e*P **P 12 33 15.0 0.0**
BOJS Bojanci 83.04 315 *e*P **P 12 33 15.4 -0.1**
PERS Pernice 83.23 317 *e*P **P 12 33 16.4 0.0**
LJU Ljubljana 83.59 316 *e*P **P 12 33 18.9 +0.6**
BRG Berggiesshubel 84.34 321 *e*P **P 12 33 22.5 +0.5**
BRG pmax pmax
comp=Z,4.0nm,1.2s,mb4.4
BRG Berggiesshubel 84.34 321 *e*P **P 12 33 22.3 +0.3**
comp=Z,7.0nm,1.2s,mb4.7
BRG Berggiesshubel 84.34 321 *e*P **P 12 33 22.5 +0.5**
comp=Z,6.7nm,1.2s,mb4.7
GEC2 GERESS Array S 84.35 319 *e*P **P 12 33 22.2 +0.1**
GERES GERESS Array B 84.35 319 P **P 12 33 21.3 -0.8**
comp=Z,3.3nm,0.9s,mb4.5,baz=87,slow=5.5,SNR=15
KHC Kasperske Hory 84.45 319 *e*P **P 12 33 22.7 +0.1**
KHC *e*pP pP 12 33 31.0 -0.5
WET Wettzell 84.91 319 *e*P **P 12 33 24.6 -0.4**
WET pmax pmax
comp=Z,4.0nm,0.9s,mb4.5
WET Wettzell 84.91 319 *e*P **P 12 33 24.6 -0.4**
comp=Z,4.0nm,0.9s,mb4.5
CLL Collm 84.96 321 *i* P **P 12 33 25.3 +0.1**
CLL pmax pmax
comp=Z,5.0nm,1.1s,mb4.6
CLL Collm 84.96 321 *e*P **P 12 33 25.3 +0.1**
comp=Z,6.0nm,1.3s,mb4.6
CLL Collm 84.96 321 *i* P **P 12 33 25.3 +0.1**
comp=Z,5.0nm,1.1s,mb4.6
CLL *i* pP pP 12 33 35.3 +1.3
CLL *e*sP sP 12 33 39.0 +1.8
HFS Hagfors 85.22 330 P **P 12 33 25.9 -0.4**
comp=Z,1.9nm,0.8s,mb4.3,baz=181,slow=9.5,SNR=3.3
TANN Tannenbergstha 85.25 320 *e*P **P 12 33 25.7 -0.9**
comp=Z,3.0nm,1.0s,mb4.4

ROTZ	Rotzenmuhle	85.38	320	*eP*	P	12 33 27.4	+0.1
	comp=Z,4.0nm,0.9s,mb4.5						
MANZ	Manzenberg	85.45	320	*eP*	P	12 33 28.1	+0.4
	comp=Z,7.0nm,1.1s,mb4.7						
MOX	Moxa	85.80	320	*eP*	P	12 33 29.9	+0.5
MOX	Moxa	85.80	320	*eP*	P	12 33 29.1	-0.3
	comp=Z,8.0nm,1.4s,mb4.8						
GRA1	Grafenberg Arr	86.01	320	*eP*	P	12 33 31.0	+0.5
	comp=Z,8.0nm,0.7s,mb5.1						
GRF	Grafenberg Arr	86.01	320	*eP*	P	12 33 31.0	+0.5
GRF			pmax	pmax			
	comp=Z,8.0nm,0.7s,mb5.1						
GRF	Grafenberg Arr	86.01	320	*eP*	P	12 33 31.0	+0.5
GRF			pmax	pmax			
	comp=Z,8.0nm,0.7s,mb5.1						
GRF	Grafenberg Arr	86.01	320	*eP*	P	12 33 31.0	+0.5
	comp=Z,8.0nm,0.7s,mb5.1						
VNDA	Vanda	86.33	169	LR	LR	13 07 13.0	
	comp=Z,139nm,19.8s,MS4.4,baz=177,slow=32						
NB2	NORSAR Subarra	86.50	331	P	P	12 33 32.0	-0.6
	comp=Z,2.1nm,0.8s,mb4.4,baz=95,slow=4.8						
NOA	NORSAR Array B	86.50	331	P	P	12 33 32.4	-0.2
NOA				LR	LR	13 16 18.9	
NOA	NORSAR Array B	86.50	331	P	P	12 33 32.4	-0.2
	comp=Z,3.4nm,0.8s,mb4.6,baz=93,slow=5.0,SNR=10.0						
NOA				LR	LR	13 16 18.9	
	comp=Z,39nm,18.6s,MS3.8,baz=45,slow=38						
CLZ	Clausthal	86.62	322	*eP*	P	12 33 33.5	+0.1
NRDL	Niedersach Rie	86.80	322	*eP*	P	12 33 34.8	+0.5
DAVOX	Davos/Dischmat	86.83	317	P	P	12 33 35.4	+0.8
	comp=Z,3.8nm,0.6s,mb4.8,baz=83,slow=3.9,SNR=5.2						
DAVOS	Davos	86.89	317	P	P	12 33 35.4	+0.5
GAMB	Gambell	89.05	26	*eP*	P	12 33 44.6	-0.1
EKA	Eskdalemuir Ar	94.42	326	P	P	12 34 10.1	+0.2
	comp=Z,0.9nm,0.9s,mb4.2,baz=116,slow=3.8,SNR=4.0						
TORD	Torodi Ar. Bea	94.83	283	P	P	12 34 12.9	+0.3
	comp=Z,0.4nm,0.8s,mb3.9,baz=107,slow=3.7,SNR=2.4						
TORD				LR	LR	13 15 58.0	
	comp=Z,110nm,19.3s,MS4.3,baz=75,slow=35						
IMA2	Indian Mountai	96.18	23	*eP*	P	12 34 17.3	-0.3
COLA	College	98.89	23⇑	*eP*	P	12 34 31.0	+1.2
YKA	Yellowknife Ar	111.66	15	PP	PP	12 40 03.4	-2.2
	comp=Z,0.4nm,0.7s,baz=330,slow=7.6,SNR=5.1						
ULM	Lac du Bonnet	127.08	10	PKP	PKPdf	12 39 52.3	-1.9
	comp=Z,2.0nm,0.8s,baz=332,slow=1.8,SNR=6.2						
NVAR	Mina Array Bea	128.47	35	PKP	PKPdf	12 39 57.5	+0.3
	comp=Z,0.3nm,0.6s,baz=232,slow=4.4,SNR=3.2						
PDAR	Pinedale Array	129.66	25	PKP	PKPdf	12 40 00.1	+0.7
	comp=Z,0.4nm,0.5s,baz=265,slow=4.5,SNR=3.5						
PDAR				PP	PP	12 42 09.0	0.0
	comp=Z,0.4nm,0.7s,baz=284,slow=3.6,SNR=3.8						
TXAR	Lajitas Array	143.32	31	PKhKP		12 40 21.3	
	comp=Z,0.7nm,0.9s,baz=313,slow=2.0,SNR=6.4						
TXAR				PP	PP	12 43 36.9	+2.0
	comp=Z,0.4nm,1.0s,baz=313,slow=6.0,SNR=3.3						

WEL 13 12:27:52.7±0.2, 3782S×17759E, h44km±2km, ML3.6/8, Error ellipse: s-maj=1.1km s-min=1.0km az=0.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WIZ	White Island	0.43	312	P*	Pn	12 28 02.3	-0.4
MWZ	Matawai	0.52	185	P*	Pn	12 28 03.3	-0.6
MWZ				S*	Sn	12 28 11.6	-0.2
URZ	Urewera	0.58	220	P*	Pn	12 28 04.2	-0.4
URZ				S*	Sn	12 28 12.8	-0.4
PUZ	Puketiti	0.59	116	PN	Pn	12 28 04.7	-0.1
MXZ	Matakaoa Point	0.62	66	P*	Pn	12 28 05.1	-0.1
MXZ				*e*S*	Sn	12 28 13.5	-0.6
EDRZ	Edgecumbe	0.73	246	P*	Pn	12 28 06.6	0.0
MARZ	Manawahe	0.74	256	P*	Pn	12 28 06.3	-0.4
OPRZ	Ohinepanea	0.82	268	P*	Pn	12 28 07.3	-0.5
TAZ	Tarawera	0.95	244	P*	Pn	12 28 09.7	+0.2
LIRZ	Lichensteins R	0.97	258	P*	Pn	12 28 09.9	0.0
TGRZ	Tauranga	1.05	274	P*	Pn	12 28 10.4	-0.6
KARZ	Kaharoa	1.08	259	P*	Pn	12 28 11.2	-0.2
KNZ	Kokohu	1.21	177	PN	Pn	12 28 12.6	-0.5
BKZ	Black Stump Fm	1.60	212	P*	Pn	12 28 18.1	-0.4
KUZ	Kuaotunu	1.83	305	PN	Pn	12 28 20.7	-0.9
KUZ				*e*SN	Sn	12 28 42.2	-1.4
KRVZ	Karewarewa	1.99	229	P*	Pn	12 28 25.0	+1.2
NGZ	Ngauruhoe	2.07	228	P*	Pn	12 28 26.3	+1.4
TUVZ	Tukino	2.10	226	P*	Pn	12 28 26.7	+1.4
FWVZ	Far West T-bar	2.15	227	P*	Pn	12 28 28.0	+2.0
WNVZ	Wahianoa	2.17	225	P*	Pn	12 28 27.6	+1.3
TRVZ	Turoa	2.18	227	P*	Pn	12 28 28.5	+2.1
MTVZ	Mangateitei	2.28	226	P*	Pn	12 28 29.4	+1.6
PKVZ	Pokaka	2.29	229	P*	Pn	12 28 29.6	+1.6
WAZ	Wanganui	2.81	226	PN	Pn	12 28 36.4	+1.3
MRZ	Mangatainoka R	3.24	208	PN	Pn	12 28 38.6	-2.4
TCW	Tory Channel	4.25	216	PN	Pn	12 28 52.1	-2.7
TUWZ	Tuamarina	4.58	217	PN	Pn	12 28 56.9	-2.5
BSWZ	Blackbirch Sta	4.83	215	PN	Pn	12 29 00.7	-2.1

NDI 13 12:41:39.1±0.9, 3427N×8088E, h37km±999km, MD3.9, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOSI	Joshimath	3.87	197	*ex*	x	12 50 10.9	
SDNR	Sundarnagar	4.30	231	*eP*	Pn	12 43 06.0	+24
SDNR				*eS*	Sn	12 43 27.5	-3.3
SMLA	Simla	4.43	226	*eP*	Pn	12 43 12.9	+29
SMLA				*eS*	Sn	12 43 38.2	+4.1
DLH	Dalhousie	4.46	249	*eP*	Pn	12 42 44.0	-0.1
DLH				*eS*	Sn	12 42 49.0	-46
DLH				*eP*		12 48 55.0	
THN	Thein Dam	4.69	248	*eP*	Pn	12 42 47.5	+0.1
THN				*eS*	Sn	12 42 59.9	-41
THN				*ex*	x	12 49 13.9	
PTH	Pithoragarh	4.74	187	*eP*	Pn	12 42 47.5	-0.6
PTH				*eS*	Sn	12 42 59.9	-42

ISCJB ***13*** *12:44:01.0±0.8, 439N±0.1×14934E±0.10, h33km, mb3.8/11, Error ellipse: s-maj=18.6km s-min=5.6km az=152.3*
NIED ***13*** *12:44:00, 4430N×14920E, h32km, Mw3.8 Best double couple: M0:6.66000×10^14 NP1:φ=54.00000°, δ=81.00000°, λ=136.00000°. NP2:φ=153.00000°, δ=46.00000°, λ=13.00000°.*
IDC ***13*** *12:44:01.2±0.9, 4464N×149.19E, h0km, mb3.7/12, mb1 3.8/13, mb1mx3.8/22, mbtmp3.7/13, ML3.1/1, MS3.0/1, Ms1 3.0/1, ms1mx2.4/36, Error ellipse: s-maj=24.4km s-min=20.6km az=80.0*
NEIC ***13*** *12:44:02.8±0.7, 4460N×14903E, h10km, MG3.6(JMA), Error ellipse: s-maj=19.4km s-min=13.4km az=141.0*
JMA ***13*** *12:44:02.2±0.6, 4434N×14925E, h30km, M3.6*
ISC 13 12:44:02.7±0.7, 4376N±010×14936E±009, h35km, n40, σ1§16/43, mb3.8/11, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	Nemuro 2	2.66	263	P	Pn	12 44 42.7	-0.3
NEM2				*eS*	Sn	12 45 12.6	-1.4
JRA	Rausu	3.07	275	P	Pn	12 44 49.2	+0.5
JNK	Nakash	3.37	269	P	Pn	12 44 52.8	0.0
JAK	Akkeshi	3.48	259	P	Pn	12 44 54.8	+0.4
JAK				*eS*	Sn	12 45 34.2	-0.2
JTKR	Abashiri--Toko	3.95	275	P	Pn	12 45 01.2	+0.4
JAR	Ashorobuto	4.09	265	P	Pn	12 45 03.8	+1.1
JOB	Onbets	4.12	260	P	Pn	12 45 04.2	+1.1
JMP	Maruseppu	4.34	275	P	Pn	12 45 07.1	+0.9
JCH	Churui	4.53	257	P	Pn	12 45 10.7	+1.9
ERM	Erimo	4.88	251	*eP*	Pn	12 45 16.9	+3.3
JEM	Erimo	4.88	251	P	Pn	12 45 16.4	+2.8
ASAJ	Asahikawa	4.90	277	Pn	Pn	12 45 14.8	+1.0
	0.8nm,0.3s,baz=103,slow=16,SNR=5.5						
ASAJ				LR	LR	12 47 19.1	
	comp=Z,149nm,19.6s,baz=23,slow=42						
JNBK	Urakawa-nobuka	5.07	255	P	Pn	12 45 17.2	+1.1
JNBK				*eS*	Sn	12 46 12.4	-0.9
JBT2	Biratori 2	5.20	262	P	Pn	12 45 18.8	+0.8
JNB	Noboribetsu	6.23	261	P	Pn	12 45 33.3	+1.3
JKB	Kayabe	6.40	256	P	Pn	12 45 35.5	+1.0
JTH	Tanohata	6.78	238	*eS*	Sn	12 46 52.1	-3.4
JTM	Tenmabayashi	6.83	247	*eS*	Sn	12 46 53.3	-3.5
OFUJ	Ofunato	7.43	234	P	Pn	12 45 49.3	+0.7
OFUJ				*eS*	Sn	12 47 08.7	-2.9
JRG	Rokugo	7.86	239	*eS*	Sn	12 47 20.6	-1.5
JIO	Ouri	8.04	231	P	Pn	12 45 57.2	+0.3
JIO				*eS*	Sn	12 47 22.7	-3.9
SONM	Songino Array	29.94	293	P	P	12 50 07.0	-0.3
	0.5nm,0.5s,mb3.5,baz=78,slow=6.8,SNR=4.0						
IMA2	Indian Mountai	37.77	34	*eP*	P	12 51 14.9	-0.1
ZALV	Zalesovo Beam	42.27	307	P	P	12 51 49.5	-2.9
	0.3nm,0.3s,mb3.3,baz=31,slow=3.4,SNR=2.1						
INK	Inuvik	45.59	30	*eP*	P	12 52 17.7	-1.1
MK31	Makanchi Array	45.99	298	*eP*	P	12 52 21.6	-0.8
MKAR	Makanchi Array	45.99	298	P	P	12 52 21.7	-0.6
MKAR	Makanchi Array	45.99	298	P	P	12 52 21.7	-0.6
	1.2nm,0.7s,mb3.9,baz=78,slow=8.5,SNR=9.4						
YKA	Yellowknife Ar	54.90	34	P	P	12 53 29.6	+0.3
	0.2nm,0.6s,mb3.3,baz=294,slow=6.8,SNR=5.5						
AKTK	Aktyubinsk	58.74	312	P	P	12 53 57.1	+0.4
AKTO	Aktyubinsk	58.74	312	P	P	12 53 57.1	+0.4
	0.3nm,0.3s,mb3.8,baz=58,slow=7.0,SNR=2.4						
JOF	Joensuu	62.82	333	*ep*	P	12 54 19.9	-4.3
	0.9nm,0.3s,mb4.4						
WRA	Warramunga Arr	64.87	196	P	pP	12 54 46.3	-2.6
	0.3nm,0.7s,baz=15,slow=6.9,SNR=3.6						
FINES	FINESS Array B	65.58	334	P	P	12 54 40.9	-1.5
	1.1nm,0.6s,mb4.1,baz=46,slow=8.2,SNR=6.4						
ASAR	Alice Springs	68.58	195	P	pP	12 55 12.1	-0.5
	0.3nm,0.8s,baz=11,slow=5.9,SNR=3.6						
NB2	NORSAR Subarra	70.16	340	P	P	12 55 09.9	-1.3
	comp=Z,0.7nm,0.5s,mb3.9,baz=30,slow=6.5						
NOA	NORSAR Array B	70.16	340	P	P	12 55 10.2	-1.0
	comp=Z,2.0nm,0.8s,mb4.1,baz=32,slow=5.9,SNR=6.6						
AKASG	Malin Array Be	72.51	325	P	P	12 55 24.4	-1.2
	comp=Z,0.8nm,0.6s,mb3.8,baz=32,slow=5.6,SNR=3.5						
GERES	GERESS Array B	79.92	332	P	P	12 56 07.3	-0.3
	comp=Z,0.8nm,0.5s,mb3.9,baz=29,slow=5.6,SNR=2.6						
TXAR	Lajitas Array	81.30	58	P	P	12 56 16.1	+0.6
	comp=Z,0.2nm,0.5s,mb3.3,baz=296,slow=2.5,SNR=3.8						

NEIC ***13*** *12:56:43.6±2.0, 505N×9384E, h30km, Error ellipse: s-maj=69.9km s-min=13.9km az=51.0*
ISCJB ***13*** *12:56:50.8±5.6, 54N±04×945E±06, h98km±38km, mb3.7/6, Error ellipse: s-maj=124.1km s-min=20.6km az=148.3*
IDC ***13*** *12:56:52.4±5.7, 546N×9464E, h90km±44km, mb3.4/6, mb1 3.4/7, mb1mx3.3/21, mbtmp3.4/7, Error ellipse: s-maj=99.5km s-min=17.3km az=59.0*
ISC 13 12:56:52.5±5.1, 54N±04×946E±06, h95km±34km, n8, σ0§36/8, mb3.7/6, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	Prapat	5.07	120	P	Pn	12 58 06.3	0.0
	1.2nm,0.3s,baz=298,slow=18,SNR=3.8						
MK31	Makanchi Array	42.57	348	*eP*	P	13 04 38.7	-0.2
MKAR	Makanchi Array	42.57	348	P	P	13 04 38.9	0.0
	2.5nm,0.6s,mb4.1,baz=169,slow=7.2,SNR=26						
SONM	Songino Array	43.48	12	P	P	13 04 46.2	0.0
	0.4nm,0.7s,mb3.3,baz=187,slow=7.3,SNR=3.1						
WRA	Warramunga Arr	46.53	124	P	P	13 05 10.4	-0.4
	0.2nm,0.3s,mb3.3,baz=305,slow=8.9,SNR=8.7						
ASAR	Alice Springs	48.05	129	P	P	13 05 23.0	+0.4
	0.2nm,0.4s,mb3.3,baz=301,slow=8.1,SNR=9.2						
ZALV	Zalesovo Beam	49.04	352	P	P	13 05 30.0	+0.3
	1.8nm,0.6s,mb4.2,baz=176,slow=6.7,SNR=9.1						
BVAR	Borovoye Array	51.44	342	P	P	13 05 47.8	-0.1
	0.7nm,0.5s,mb4.0,baz=144,slow=7.8,SNR=3.6						

ISCJB ***13*** *12:58:14.7±0.4, 3851N±002×2163E±003, h2km, Error ellipse: s-maj=3.7km s-min=3.1km az=9.7*
CSEM ***13*** *12:58:15.1±0.1, 3853N×2162E, h2km, ML3.5, Error ellipse: s-maj=2.2km s-min=1.8km az=99.0*
THE ***13*** *12:58:15.0, 3850N×2162E, h3km, ML3.5*
NEIC ***13*** *12:58:15.2, 3854N×2160E, h8km, MD3.5(ATH), After ATH.*
ATH ***13*** *12:58:15.2, 3854N×2160E, h8km±2km, MD3.5/12*
ISC 13 12:58:15.2±0.4, 3851N±002×2164E±003, h3km±6km, n25, σ0§95/33, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SELA	Sela	0.31	140	*e*Pg	Pg	12 58 21.0	-0.1
SELA				*e*Sg	Sg	12 58 26.7	+1.6
EVR	Evrytania	0.43	18	*e*PG	Pg	12 58 22.9	-0.5
EVR				*e*SB	Sg	12 58 29.3	+0.3
RLS	Riolos of Patr	0.47	197	*e*PB	Pg	12 58 24.3	0.0
RLS				*e*SB	Sg	12 58 32.0	+1.6
AGG	Agios Georgios	0.74	46	*e*Pg	Pg	12 58 28.7	-0.7
AGG				*e*Sg	Sg	12 58 40.5	+1.4
KFL	Anninata	0.78	239	*e*Pg	Pg	12 58 29.1	-1.1
LKD	Levkas	0.80	284	*e*Pg	Pg	12 58 29.2	-1.4
LKD				*e*Sg	Sg	12 58 42.1	+1.2
VLS	Valsamata	0.89	248	*e*PG	Pg	12 58 31.6	-0.7
VLS				*e*SB	Sg	12 58 45.1	+1.2
LKR	Lokris	1.07	82	*e*PN	Pn	12 58 36.5	-0.7
THL	Klokotos Trika	1.09	15	*e*PG	Pg	12 58 35.4	-0.8
LTK	Loutraki	1.15	115	*e*Pg	Pg	12 58 37.1	-0.2
VLX	Vlachokerasia	1.28	153	*e*Pg	Pn	12 58 38.5	-1.5
JAN	Janina	1.30	332	*e*PB	Pb	12 58 39.3	-1.0
ITM	Ithomi	1.35	170	*e*PG	Pg	12 58 40.6	-0.5
IGT	Igoumenitsa	1.44	315	*e*Pg	Pn	12 58 41.1	-1.1
NEO	Neokhori	1.47	57	*e*PG	Pn	12 58 42.2	-0.4
NAIG	Nisos Aigina	1.64	117	*e*PB	Pb	12 58 47.0	+0.9
LIT	Litokhoron	1.72	22	*e*Pb	Pn	12 58 45.5	-0.6
KZN	Kozani	1.80	3	*e*PN	Pn	12 58 48.4	+1.3
KEK	Kerkira	1.87	311	*e*PN	Pn	12 58 48.6	+0.5
VLI	Veliai	2.06	150	*e*PN	Pg	12 58 53.6	-1.2
FNA	Florina	2.28	355	*e*Pn	Pn	12 58 54.4	+0.6
SOH	Sokhos	2.66	29	*e*Pn	Pn	12 58 59.2	+0.2
OHR	Ohrid	2.68	346	*e*Pn	Pn	12 59 04.0	+4.8
OHR				*i* Sn	Sg	12 59 41.0	-0.2
KRUS	Krusevo	2.87	354	*e*Pn	Pn	12 59 03.7	+1.8
KRUS				*i* Sn	Sb	12 59 43.2	+0.6
KRUS	Krusevo	2.87	354	*e*Pn	Pn	12 59 03.6	+1.7

ISCJB ***13*** *13:03:20.9±0.3, 6259N±003×15120W±008, h94km±5km, mb3.7/6, Error ellipse: s-maj=5.8km s-min=4.6km az=169.5*
IDC ***13*** *13:03:20.7±2.6, 6258N×15155W, h69km±28km, mb3.4/6, mb1 3.6/9, mb1mx3.4/23, mbtmp3.4/9, Error ellipse: s-maj=20.2km s-min=17.6km az=74.0*
NEIC ***13*** *13:03:22.1, 6258N×15113W, h81km, MG3.5(AEIC), After AEIC.*
ISC 13 13:03:22.1±0.3, 6258N±003×15120W±008, h85km±5km, n42, σ0§89/51, mb3.7/6, Central Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRF	Thorofare Moun	0.97	25	P	Pn	13 03 40.4	-0.6
TRF				S	Sn	13 03 55.0	-0.2
KTH	Kantishna Hill	0.98	7	P	Pn	13 03 41.6	+0.3
KTH				S	Sn	13 03 55.5	-0.1
GHO	Glory Hole Cre	1.34	126	P	Pn	13 03 45.6	0.0
PMR	Palmer	1.39	135	P	Pn	13 03 45.8	-0.3
PMR				S	Sn	13 04 04.3	-0.1
FIB	Fire Island	1.50	161	P	Pn	13 03 48.9	+1.3
MCK	McKinley	1.55	41	P	Pn	13 03 48.3	+0.2
SML	Sawmill	1.55	119	P	Pn	13 03 48.3	+0.1
SML				S	Sn	13 04 09.3	+1.3
RC01	Rabbit Creek A	1.65	155	P	Pn	13 03 48.9	-0.6
RC01				S	Sn	13 04 10.4	+0.2
SLKM	Skilak Lake	2.13	167	P	Pn	13 03 56.1	+0.3
TTA	Tatalina	2.24	281	P	Pn	13 03 57.4	+0.1
TT01	Tatalina	2.24	280	P	Pn	13 03 57.3	0.0
SVW2	Sparrevohn	2.56	236	P	Pn	13 04 01.4	-0.1
SEW	Seward	2.62	161	P	Pn	13 04 02.7	+0.3
PAX	Paxson	2.66	79	P	Pn	13 04 03.5	+0.6
COLA	College	2.74	31	P	Pn	13 04 03.9	0.0
COLA				S	Sn	13 04 33.9	-2.1
IL1	Eielson Array	2.92	39	P	Pn	13 04 06.1	-0.2
EYAK	Cordova Ski Ar	3.31	126	P	Pn	13 04 10.7	-1.0
DOT	Dot Lake	3.41	69	P	Pn	13 04 13.1	+0.1
DOT				S	Sn	13 04 54.9	+2.6
MENT	Mentasta	3.46	81	P	Pn	13 04 13.9	+0.3
IM3	Indian Mountai	3.59	343	P	Pn	13 04 15.8	+0.4
IMA2	Indian Mountai	3.67	344	P	Pn	13 04 16.9	+0.5
BCA3	Beaver Creek A	4.34	79	P	Pn	13 04 25.4	-0.3
COLD	Coldfoot	4.69	5	P	Pn	13 04 31.1	+0.9
KDAK	Kodiak Island	4.86	189	P	Pn	13 04 31.4	-1.3
KDAK	Kodiak Island	4.86	189	P	Pn	13 04 30.8	-1.9
	2.9nm,0.3s,baz=11,slow=11,SNR=18						
KDAK				S	Sn	13 05 26.0	-1.6
	3.8nm,0.3s,baz=335,slow=21,SNR=20						
EGAK	Eagle	4.98	59	P	Pn	13 04 34.0	-0.2
DAWY	Dawson	5.52	69	P	Pn	13 04 41.3	-0.3
BM3	Burnt Mountain	5.60	27	P	Pn	13 04 43.0	+0.3
PNL	Peninsula	6.42	112	P	Pn	13 04 53.5	-0.3
TNA	Tin City	7.91	300	P	Pn	13 05 15.9	+1.8
WHY	Whitehorse	8.01	97	P	Pn	13 05 14.7	-0.8
SKAG	Skagway	8.31	105	P	Pn	13 05 18.6	-1.0
INK	Inuvik	9.30	44	*e*Pn	Pn	13 05 33.1	0.0
	206nm,0.9s						
INK	Inuvik	9.30	44	P	Pn	13 05 34.1	+1.0
	0.5nm,0.3s,baz=238,slow=17,SNR=41						
INK				S	Sn	13 07 12.8	-3.0
	0.5nm,0.3s,baz=268,slow=20,SNR=4.1						
YKA	Yellowknife Ar	16.74	74	P	Pn	13 07 11.1	+0.3
	0.2nm,0.3s,baz=283,slow=13,SNR=7.9						
RES	Resolute Bay	22.66	35	*eP*	P	13 08 14.7	-1.0
NVAR	Mina Array Bea	31.36	125	P	P	13 09 36.3	+2.0
	0.5nm,0.8s,mb3.3,baz=307,slow=8.9,SNR=3.4						
TXAR	Lajitas Array	45.17	115	P	P	13 11 31.4	+1.4
	0.4nm,0.7s,mb3.3,baz=339,slow=5.9,SNR=6.1						
SONM	Songino Array	53.99	306	P	P	13 12 37.4	+0.6
	0.7nm,0.7s,mb3.8,baz=34,slow=7.6,SNR=7.8						
ZALV	Zalesovo Beam	55.81	324	P	P	13 12 49.4	-0.4
	0.4nm,0.3s,mb3.9,baz=12,slow=8.8,SNR=3.4						
BVAR	Borovoye Array	60.18	332	P	P	13 13 19.7	-0.6
	0.7nm,0.4s,mb4.0,baz=45,slow=9.0,SNR=5.3						
MKAR	Makanchi Array	62.95	322	P	P	13 13 38.0	-1.0
	0.5nm,0.4s,mb3.8,baz=40,slow=6.0,SNR=8.1						

IDC 13 13:16:47.6±1.9, 1995S×6925W, h103km±7km, mb3.9/2, mb1 3.9/3, mb1mx3.4/17, mbtmp3.7/3, Error ellipse: s-maj=54.9km s-min=36.7km az=34.0, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	La Paz	3.79	17	P	Pn	13 17 44.7	+0.6
	1.9nm,0.3s,baz=200,slow=7.3,SNR=27						
TORD	Torodi Ar. Bea	77.14	71	P	P	13 28 30.4	-0.1
	1.4nm,0.4s,baz=251,slow=5.5,SNR=31						
TORD				pP	pP	13 28 57.6	+0.7
	1.0nm,0.8s,baz=262,slow=6.6,SNR=2.6						
TORD				sP	sP	13 29 08.2	+0.3
	0.5nm,0.7s,baz=255,slow=5.7,SNR=1.6						
YKA	Yellowknife Ar	89.62	341	P	P	13 29 33.6	+0.3
	0.8nm,0.6s,baz=134,slow=4.7,SNR=21						
YKA				pP	pP	13 29 59.8	-0.5
	0.5nm,0.8s,baz=134,slow=4.7,SNR=4.1						

MEX 13 13:22:20.2±0.8, 1713N×10033W, h41km±8km, MD3.8, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	El Cayaco	0.11	144	*i* P	Pn	13 22 25.3	-1.6
CAIG				*i* S	Sn	13 22 29.9	-1.7
ACX	Acapulco	0.48	124	*i* P	Pn	13 22 29.0	-1.7
ACX				*i* S	Sn	13 22 37.0	-1.1
MEIG	Mezcala	1.04	41	*i* P	Pn	13 22 36.2	-2.2
MEIG				*i* S	Sn	13 22 49.3	-2.4
PLIG	Platanillo	1.48	32	*i* P	Pn	13 22 44.0	-0.4
PLIG				*i* S	Sn	13 23 01.1	-1.4
SZVM	Salazar	2.36	22	*e*P	Pn	13 22 55.4	-1.0
SZVM				*i* S	Sn	13 23 22.9	-1.3
MOIG	Morelia	2.66	342	*e*P	Pn	13 23 00.8	+0.3
MOIG				*i* S	Sn	13 23 31.5	-0.1
VHO	Vista Hermosa	3.44	90	*e*P	Pn	13 23 10.0	-1.4
VHO				*i* S	Sn	13 23 49.0	-1.9

TRN ***13*** *13:23:26.3, 1119N×62.19W, h136km, MD3.2*
ISCJB ***13*** *13:23:27.1±1.2, 1119N±006×62.14W±005, h129km±9km, Error ellipse: s-maj=10.6km s-min=7.4km az=150.8*
FUNV ***13*** *13:23:28.4, 1129N×62.10W, h122km, MW2.3*
ISC 13 13:23:27.6±1.4, 1119N±006×6215W±005, h127km±10km, n9, σ0§67/16, 1C, Windward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIV	Guiria	0.55	188⇑	*i* P	Pn	13 23 47.1	+0.4
GUIV				*e*S	Sn	13 24 00.8	-0.3
TRN	Trinidad (W)	0.91	127	*e*P	Pn	13 23 49.3	-0.1
TRN				*e*S	Sn	13 24 06.1	+0.1
ITEV	Isla Los Testi	0.98	279	*e*P	Pn	13 23 49.9	-0.2
ITEV				*e*S	Sn	13 24 06.2	-1.0
GRW	Mount Saint Ca	1.07	26	*e*P	Pn	13 23 50.5	-0.5
GRW				*e*S	Sn	13 24 08.8	+0.1
CRUV

Error ellipse: s-maj=13.3km s-min=8.0km az=76.0
*IDC **13** 13:54:56.9±5.4, 3748N×7239E, h233km±52km, mb3.0/3, mb1 3.3/7, mb1mx3.0/24, mbtmp3.2/7, Error ellipse: s-maj=33.1km s-min=23.3km az=30.0*
*NNC **13** 13:54:59.3±3.6, 3785N×7223E, h201km±31km, mb2.7, mpv4.0, Error ellipse: s-maj=34.2km s-min=17.2km az=6.0*
ISC 13 13:54:56.0±0.6,**3761N**±004×**7223E**±008,**h205**km±7km, **n41**,σ1º**15/52**,**mb3.1**/3,**8C-2D**,**Tajikistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**3.50**	**56**	P	**Pn**	**13 55 51.5**	**-0.3**
KSH				S	**Sn**	**13 56 33.9**	**-1.7**
KSH				AMB	AMB		
	comp=Z,299nm,0.4s						
KSH				Smax			
	comp=N,1μm,0.4s						
KSH				Smax			
	comp=E,991nm,0.6s						
KBL	**Kabul**	**4.00**	**221**	*e*P	**Pn**	**13 55 56.7**	**-1.3**
AML	**Almayashu**	**4.66**	**14**	*e*P	**Pn**	**13 56 06.6**	**+0.5**
AML				*e*S	**Sn**	**13 56 56.3**	**-5.1**
AML	**Almayashu**	**4.66**	**14**	P	**Pn**	**13 56 06.8**	**+0.7**
	SNR=53						
UCH	**Uchtor**	**4.94**	**20**	*e*P	**Pn**	**13 56 09.8**	**+0.2**
	comp=E,83nm,0.7s						
UCH				*e*S	**Sn**	**13 57 06.0**	**-1.8**
UCH	**Uchtor**	**4.94**	**20**	P	**Pn**	**13 56 10.2**	**+0.6**
	SNR=35						
KZA	**Kyzart**	**5.03**	**27**	P	**Pn**	**13 56 10.8**	**-0.1**
	SNR=23						
EKS2	**Erkin-Say**	**5.18**	**13**	*e*P	**Pn**	**13 56 12.8**	**0.0**
	comp=E,12nm,0.7s						
EKS2				*e*S	**Sn**	**13 57 03.7**	**-10**
EKS2	**Erkin-Say**	**5.18**	**13**	P	**Pn**	**13 56 13.7**	**+0.9**
	SNR=9.9						
AAK	**Ala-Archa**	**5.31**	**18**	P	**Pn**	**13 56 15.2**	**+0.9**
	SNR=10						
KBK	**Karagaybulak**	**5.46**	**22**	P	**Pn**	**13 56 17.7**	**+1.5**
	SNR=7.2						
ULHL	**Ulahol**	**5.56**	**32**	P	**Pn**	**13 56 17.3**	**-0.3**
	SNR=21						
KK31	**Karatay Array**	**5.64**	**347**	P	**Pn**	**13 56 19.2**	**+0.6**
	comp=E,1.8nm,0.2s,baz=161,slow=13,SNR=64						
KK31				⇑S	**Sn**	**13 57 21.9**	**-2.2**
	comp=E,50nm,0.5s,baz=159,slow=23						
KK31	**Karatay Array**	**5.64**	**347**	P	**Pn**	**13 56 19.2**	**+0.6**
KK31				S	**Sn**	**13 57 21.9**	**-2.2**
CHMS	**Chumysh**	**5.72**	**19**	P	**Pn**	**13 56 20.0**	**+0.4**
	SNR=6.7						
TKM2	**Tokmak 2**	**5.90**	**25**	⇓P	**Pn**	**13 56 22.3**	**+0.4**
	comp=E,23nm,0.6s						
TKM2				⇑S	**Sn**	**13 57 29.7**	**-0.3**
	comp=E,11nm,0.8s						
TKM2	**Tokmak 2**	**5.90**	**25**	*e*P	**Pn**	**13 56 21.9**	**+0.1**
	comp=E,28nm,0.6s						
TKM2				*e*S	**Sn**	**13 57 18.9**	**-11**
TKM2	**Tokmak 2**	**5.90**	**25**	P	**Pn**	**13 56 22.4**	**+0.5**
	SNR=40						
MK31	**Makanchi Array**	**11.82**	**36**	⇑P	**Pn**	**13 57 38.0**	**-0.2**
	comp=E,1.5nm,0.7s,baz=208,slow=10,SNR=7.7						
MKAR	**Makanchi Array**	**11.82**	**36**	P	**Pn**	**13 57 37.5**	**-0.8**
	comp=E,0.2nm,0.3s,baz=217,slow=14,SNR=5.4						
KOLN	**Koldanda**	**13.70**	**132**	*e*P	**Pn**	**13 58 03.5**	**+1.5**
KURK	**Kurchatov**	**13.88**	**17**	⇑P	**Pn**	**13 58 06.1**	**+2.1**
KURK	**Kurchatov**	**13.88**	**17**	P	**Pn**	**13 58 06.1**	**+2.1**
GKN	**Gorkha**	**14.15**	**129**	*e*P	**Pn**	**13 58 07.5**	**-0.1**
	comp=E,43nm,0.5s						
AB31	**Akbulak array**	**14.65**	**327**	⇑P	**Pn**	**13 58 14.0**	**+0.5**
	comp=E,1.6nm,0.6s,baz=133,slow=11,SNR=15						
KKN	**Kakani**	**14.70**	**128**	*e*P	**Pn**	**13 58 13.7**	**-0.7**
DMN	**Daman**	**14.72**	**129**	*e*P	**Pn**	**13 58 14.5**	**-0.1**
VOSK	**Vostochnaya**	**15.14**	**357**	⇑P	**Pn**	**13 58 18.2**	**-1.2**
	comp=E,0.8nm,0.6s						
JIRN	**Jiri**	**15.37**	**126**	*e*P	**Pn**	**13 58 22.1**	**-0.4**
	comp=E,6.0nm,0.3s						
BVA0	**Borovoye Array**	**15.47**	**356**	P	**Pn**	**13 58 24.7**	**+1.2**
	comp=E,0.2nm,0.6s,baz=161,slow=11,SNR=11						
BVAR	**Borovoye Array**	**15.47**	**356**	P	**Pn**	**13 58 25.2**	**+1.7**
	comp=E,0.5nm,0.3s,baz=162,slow=11,SNR=13						
BVAR				S	**S**	**14 01 14.3**	**-0.4**
	comp=E,0.2nm,0.3s,baz=165,slow=24,SNR=4.3						
ZRNK	**Zerenda**	**15.51**	**353**	⇑P	**Pn**	**13 58 25.3**	**+1.4**
	comp=E,1.1nm,0.6s						
CHKZ	**Chkalovo**	**16.11**	**357**	⇓P	**P**	**13 58 31.9**	**+1.4**
	comp=E,0.8nm,0.6s						
AKTK	**Aktyubinsk**	**16.36**	**326**	P	**P**	**13 58 35.1**	**+1.8**
AKTK				S	**S**	**14 01 32.2**	**-1.7**
AKTO	**Aktyubinsk**	**16.36**	**326**	⇑P	**P**	**13 58 35.0**	**+1.7**
	comp=E,0.6nm,0.5s						
AKTO	**Aktyubinsk**	**16.36**	**326**	P	**P**	**13 58 35.1**	**+1.8**
	comp=E,0.8nm,0.3s,baz=133,slow=9.7,SNR=21						
AKTO				S	**S**	**14 01 32.2**	**-1.7**
	comp=E,0.1nm,0.3s,baz=156,slow=20,SNR=3.6						
ZAA0	**Zalesovo Array**	**18.50**	**24**	*e*P	**P**	**13 58 56.4**	**-0.2**
ZALV	**Zalesovo Beam**	**18.50**	**24**	P	**P**	**13 58 56.8**	**+0.2**
	comp=E,1.4nm,0.3s,baz=221,slow=10,SNR=65						
TORD	**Torodi Ar. Bea**	**66.72**	**269**	P	**P**	**14 05 23.8**	**-1.6**
	comp=E,0.4nm,0.4s,mb3.4,baz=50,slow=6.2,SNR=6.1						
YKA	**Yellowknife Ar**	**80.09**	**3**	P	**P**	**14 06 41.6**	**-1.0**
	comp=E,0.1nm,0.5s,mb2.7,baz=351,slow=5.8,SNR=3.4						
WRA	**Warramunga Arr**	**81.75**	**123**	P	**P**	**14 06 48.7**	**-3.2**
	comp=E,0.3nm,0.4s,mb3.2,baz=326,slow=5.1,SNR=11						

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*MOS **13** 14:09:14.3±0.8, 3644N×7064E, h211km, mb4.4/20, Error ellipse: s-maj=11.6km s-min=6.2km az=75.8*
*BJI **13** 14:09:15.3, 3650N×7067E, h213km, mB4.7, mb4.6*
*ISCJB **13** 14:09:15.3±0.3, 3648N±002×7068E±003, h216km±3km, mb4.2/45, Error ellipse: s-maj=4.4km s-min=3.5km az=158.9*
*NEIC **13** 14:09:16.0±0.5, 3645N×7071E, h214km±5km, mb4.5/24, Error ellipse: s-maj=5.7km s-min=5.1km az=65.0*
*IDC **13** 14:09:16.7±0.6, 3642N×7072E, h220km±5km, mb3.8/16, mb1 3.9/19, mb1mx3.8/25, mbtmp3.8/19, Error ellipse: s-maj=11.3km s-min=10.0km az=169.0*
*NNC **13** 14:09:20.9±3.7, 3690N×7081E, h219km±29km, mb3.4, mpv4.5, Error ellipse: s-maj=32.3km s-min=19.5km az=6.0*
ISC 13 14:09:16.2±0.3,**3647N**±002×**7069E**±003,**h210**km±3km, **h215**km±3.2km:**pP-P**,**n164**,σ1º**03**/192,**mb4.2**/45,**17C-11D**, **Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**2.34**	**215**	⇑*i*Pn	**Pn**	**14 10 00.1**	**+1.0**
KBL				*e*S	**S**	**14 10 32.4**	**-0.1**
CEP	**Cherat**	**2.82**	**159**	⇑P	**Pn**	**14 10 05.9**	**+1.5**
CHCP	**Chirah Chowk**	**3.51**	**142**	P	**Pn**	**14 10 14.0**	**+1.6**
THW	**Thamme Wali**	**3.77**	**166**	⇓P	**Pn**	**14 10 16.5**	**+0.9**
DRP	**Derazinda**	**4.73**	**185**	⇓P	**Pn**	**14 10 23.1**	**-4.4**
KSH	**Kashi**	**5.17**	**52**	P	**Pn**	**14 10 34.1**	**+1.2**
KSH				S	**S**	**14 11 31.4**	**-2.2**
KSH				Smax			
	comp=N,2μm,0.7s						
KSH				Smax			
	comp=E,5μm,1.0s						
THN	**Thein Dam**	**5.78**	**133**	*e*P	**Pn**	**14 10 41.2**	**+0.3**
THN				*ex*	x	14 11 48.1	
AML	**Almayashu**	**6.12**	**21**	⇓*e*Pn	**Pn**	**14 10 44.9**	**0.0**
	comp=E,317nm,0.5s						
AML				*e*Sn	**S**	**14 11 47.2**	**-8.3**
AML	**Almayashu**	**6.12**	**21**	P	**Pn**	**14 10 45.1**	**+0.2**
	SNR=556						
UCH	**Uchtor**	**6.47**	**26**	⇓*i*Pn	**Pn**	**14 10 49.8**	**+0.3**
	comp=E,185nm,0.5s						
UCH				*e*Sn	**S**	**14 12 00.8**	**-2.9**
UCH	**Uchtor**	**6.47**	**26**	P	**Pn**	**14 10 50.0**	**+0.4**
	SNR=103						
KZA	**Kyzart**	**6.62**	**31**	P	**Pn**	**14 10 51.5**	**0.0**
	SNR=102						
KK31	**Karatay Array**	**6.63**	**359**	⇓P	**Pn**	**14 10 51.2**	**-0.4**
	comp=E,18nm,0.4s,baz=175,slow=13,SNR=7.9						
KK31				⇑S	**S**	**14 12 02.9**	**-4.5**
	comp=E,22nm,0.3s,baz=178,slow=20						
EKS2	**Erkin-Say**	**6.63**	**20**	⇓*e*Pn	**Pn**	**14 10 51.4**	**-0.2**
	comp=E,27nm,0.6s						
EKS2				*e*Sn	**S**	**14 12 00.2**	**-7.3**
EKS2	**Erkin-Say**	**6.63**	**20**	P	**Pn**	**14 10 52.1**	**+0.5**
	SNR=48						
AAK	**Ala-Archa**	**6.82**	**24**	P	**Pn**	**14 10 54.5**	**+0.4**
	SNR=107						
BHK	**Bhakra**	**6.93**	**135**	*ex*	x	14 11 00.4	
BHK				*e*S	**S**	**14 12 09.4**	**-5.3**
KBK	**Karagaybulak**	**7.00**	**27**	P	**Pn**	**14 10 56.9**	**+0.6**
	SNR=53						
FRU	**Bishkek**	**7.04**	**24**	*i* PN	**Pn**	**14 10 56.5**	**-0.4**
FRU				*i*		14 12 15.5	
FRU				pmax	pmax		
	comp=E,600nm,1.6s						
SDNR	**Sundarnagar**	**7.20**	**132**	*e*P	**Pn**	**14 10 58.4**	**-0.6**
SDNR				*e*S	**S**	**14 12 15.5**	**-5.4**
ULHL	**Ulahol**	**7.20**	**35**	P	**Pn**	**14 10 58.7**	**-0.2**
	SNR=76						
CHMS	**Chumysh**	**7.23**	**24**	P	**Pn**	**14 11 00.1**	**+0.8**
	SNR=10						
TKM2	**Tokmak 2**	**7.47**	**29**	⇓*e*Pn	**Pn**	**14 11 02.2**	**-0.2**
	comp=E,73nm,0.4s						
TKM2				*e*Sn	**S**	**14 12 14.2**	**-13**
TKM2	**Tokmak 2**	**7.47**	**29**	⇓*e*PN	**Pn**	**14 11 02.3**	**-0.2**
TKM2				pmax	pmax		
	comp=E,73nm,0.4s						
TKM2	**Tokmak 2**	**7.47**	**29**	P	**Pn**	**14 11 02.7**	**+0.2**
	SNR=26						
SMLA	**Simla**	**7.58**	**133**	*e*P	**Pn**	**14 11 03.6**	**-0.4**
SMLA				AMb	AMB	14 11 05.6	
	comp=Z,107nm,0.3s						
SMLA				*e*S	**S**	**14 12 23.2**	**-6.7**
KLP	**Kalpa**	**7.98**	**126**	*e*P	**Pn**	**14 11 08.8**	**-0.3**
KLP				AMb	AMB	14 11 11.8	
	comp=Z,140nm,0.3s						
KLP				*ex*	x	14 12 22.7	
DDI	**Dehra Dun**	**8.69**	**133**	*i* P	**Pn**	**14 11 19.0**	**+0.6**
DDI				*ex*	x	14 12 56.0	
JOSI	**Joshimath**	**9.46**	**126**	*e*P	**Pn**	**14 11 27.8**	**-0.6**
JOSI				AMb	AMB	14 11 30.8	
	comp=Z,502nm,0.7s						
JOSI				*e*S	**S**	**14 13 08.8**	**-5.7**
NDI	**New Delhi**	**9.52**	**143**	*e*P	**Pn**	**14 11 28.7**	**-0.4**
NDI				AMb	AMB	14 11 29.6	
	comp=Z,64nm,0.4s						
NDI				*e*S	**S**	**14 13 07.0**	**-8.8**
NDI				*e*S	**S**	**14 13 08.0**	**-7.9**
JASL	**Jaisalmer**	**9.52**	**179**	*e*P	**Pn**	**14 11 28.2**	**-0.9**
JASL				AMb	AMB	14 11 34.6	
	comp=Z,37nm,0.4s						
AYAN	**Aya Nagar**	**9.64**	**144**	*e*P	**Pn**	**14 11 29.2**	**-1.5**
AYAN				AMb	AMB	14 11 31.3	
	comp=Z,57nm,0.6s						
AYAN				*e*S	**S**	**14 13 08.7**	**-10**
KUDL	**Kundal**	**9.64**	**148**	*e*P	**Pn**	**14 11 30.1**	**-0.6**
KUDL				AMb	AMB	14 11 33.9	
	comp=Z,21nm,0.5s						
KUDL				*e*S	**S**	**14 13 10.1**	**-8.7**
BISR	**Bishrakh**	**9.72**	**142**	*e*P	**Pn**	**14 11 31.1**	**-0.6**
SONA	**Sohna**	**9.81**	**145**	*e*P	**Pn**	**14 11 32.3**	**-0.7**
SONA				AMb	AMB	14 11 33.0	
	comp=Z,17nm,0.4s						
SONA				*e*S	**S**	**14 13 13.2**	**-10**
AJM	**Ajmer**	**10.51**	**160**	*i* x	**Pn**	**14 11 38.0**	**-3.9**
AJM				*i* x	**S**	**14 13 33.0**	**-6.6**
PTH	**Pithoragarh**	**10.56**	**128**	*e*P	**Pn**	**14 11 41.2**	**-1.3**
PTH				*ex*	x	14 11 48.1	
MK31	**Makanchi Array**	**13.46**	**36**	P	**Pn**	**14 12 18.3**	**-0.6**
	comp=Z,57nm,1.1s,baz=226,slow=11,SNR=170						
MK31	**Makanchi Array**	**13.46**	**36**	*e*Pn	**Pn**	**14 12 17.9**	**-1.1**
MK31	**Makanchi Array**	**13.46**	**36**	*i* P	**Pn**	**14 12 18.2**	**-0.7**
MK31				pmax	pmax		
	comp=Z,12nm,0.4s						
MKAR	**Makanchi Array**	**13.46**	**36**	P	**Pn**	**14 12 18.1**	**-0.8**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MKAR	**Makanchi Array**	**13.46**	**36**	P	**Pn**	**14 12 18.1**	**-0.8**
	comp=Z,1.4nm,0.3s,baz=226,slow=14,SNR=56						
KOLN	**Koldanda**	**13.95**	**125**	*e*P	**Pn**	**14 12 24.2**	**-0.9**
	comp=Z,28nm,0.2s						
GKN	**Gorkha**	**14.50**	**122**	*e*P	**Pn**	**14 12 31.8**	**-0.1**
	comp=Z,77nm,0.2s						
WMQ	**Urumqi**	**14.92**	**55**	P	**Pn**	**14 12 37.3**	**+0.4**
WMQ				XP		14 13 34.5	
WMQ				S	**S**	**14 15 19.8**	**-2.5**
WMQ				PCP	PcP	14 17 32.0	+1.0
WMQ				AMB	AMB		
	comp=Z,43nm,0.6s						
WMQ				AMB	AMB		
	comp=Z,105nm,4.6s						
AB31	**Akbulak array**	**14.99**	**332**	P	**Pn**	**14 12 36.1**	**-1.5**
	comp=Z,3.9nm,0.5s,baz=145,slow=12,SNR=64						
DMN	**Daman**	**15.07**	**122**	*e*P	**Pn**	**14 12 39.4**	**+0.6**
	comp=Z,121nm,0.5s						
KKN	**Kakani**	**15.08**	**121**	*e*P	**Pn**	**14 12 39.1**	**+0.2**
	comp=Z,33nm,0.2s						
KKN				*e*S	**S**	**14 15 20.9**	**-5.2**
KURK	**Kurchatov**	**15.34**	**19**	⇑P	**Pn**	**14 12 40.4**	**-1.4**
	comp=Z,5.7nm,0.8s						
KURK	**Kurchatov**	**15.34**	**19**	⇑*e*Pn	**Pn**	**14 12 39.5**	**-2.4**
	comp=Z,10nm,0.8s						
KURK	**Kurchatov**	**15.34**	**19**	⇑*i*P	**Pn**	**14 12 39.6**	**-2.3**
JIRN	**Jiri**	**15.79**	**119**	*e*P	**Pn**	**14 12 48.2**	**+0.7**
	comp=Z,196nm,0.4s						
VOSK	**Vostochnaya**	**16.25**	**1**	⇑P	**P**	**14 12 52.1**	**+0.2**
	comp=Z,15nm,0.7s						
BVA0	**Borovoye Array**	**16.56**	**359**	⇑P	**P**	**14 12 55.7**	**+0.5**
	comp=Z,1.2nm,0.6s,baz=179,slow=14,SNR=46						
BVAR	**Borovoye Array**	**16.56**	**359**	P	**P**	**14 12 55.6**	**+0.3**
BVAR				pmax	pmax		
	comp=Z,3.0nm,0.3s						
BVAR	**Borovoye Array**	**16.56**	**359**	P	**P**	**14 12 55.6**	**+0.4**
	comp=Z,3.3nm,0.3s,baz=158,slow=8.8,SNR=37						
BRVK	**Borovoye**	**16.59**	**359**	*e*P	**P**	**14 12 55.3**	**-0.4**
	comp=Z,13nm,0.7s						
BRVK	**Borovoye**	**16.59**	**359**	*e*P	**P**	**14 12 55.3**	**-0.4**
BRVK				pmax	pmax		
	comp=Z,13nm,0.7s						
AKTK	**Aktyubinsk**	**16.68**	**331**	P	**P**	**14 12 57.5**	**+0.8**
AKTK				pP		14 13 34.5	
AKTK				sP	sP	14 13 55.6	-1.9
AKTK				S	**S**	**14 15 56.5**	**-3.4**
AKTO	**Aktyubinsk**	**16.68**	**331**	⇑P	**P**	**14 12 57.5**	**+0.8**
	comp=Z,3.6nm,0.8s						
AKTO	**Aktyubinsk**	**16.68**	**331**	P	**P**	**14 12 57.5**	**+0.8**
AKTO				S	**S**	**14 15 56.5**	**-3.5**
AKTO				pmax	pmax		
	comp=Z,2.0nm,0.3s						
AKTO				pmax	pmax		
	comp=N,1.0nm,0.3s						
AKTO	**Aktyubinsk**	**16.68**	**331**	P	**P**	**14 12 57.5**	**+0.8**
	comp=N,2.3nm,0.3s,baz=142,slow=10,SNR=62						
AKTO				pP		14 13 34.5	
	comp=N,0.5nm,0.3s,baz=141,slow=12,SNR=3.4						
AKTO				sP	sP	14 13 55.6	-1.9
	comp=N,0.4nm,0.3s,baz=144,slow=11,SNR=2.6						
AKTO				S	**S**	**14 15 56.5**	**-3.4**
	comp=N,0.3nm,0.3s,baz=306,slow=19,SNR=3.7						
POO	**Poona**	**18.09**	**170**	*ex*	x	14 13 22.0	
LSA	**Lhasa**	**18.41**	**106**	*e*P	**P**	**14 13 19.0**	**+3.2**
	comp=N,20nm,0.8s						
LSA	**Lhasa**	**18.41**	**106**	*e*P	**P**	**14 13 19.0**	**+3.2**
LSA				pmax	pmax		
	comp=Z,19nm,0.8s						
ZAL	**Zalesovo**	**20.03**	**25**	P	**P**	**14 13 32.9**	**0.0**
ZAL				*SP	sP	14 14 37.0	+2.6
ZALV	**Zalesovo Beam**	**20.05**	**25**	P	**P**	**14 13 32.9**	**-0.2**
	comp=Z,29nm,0.4s,baz=221,slow=11,SNR=146						
ZALV				sP	sP	14 14 37.0	+2.4
	comp=Z,12nm,0.6s,baz=215,slow=11,SNR=2.5						
HYB	**Hyderabad**	**20.21**	**158**	*e*P	**P**	**14 13 38.0**	**+2.8**
HYB				*e*		14 17 56.0	
HYB	**Hyderabad**	**20.21**	**158**	*i* P	**P**	**14 13 38.0**	**+2.8**
HYB				*e*S	**S**	**14 17 07.5**	**-2.8**
DGRG	**David-gareji**	**20.27**	**292**	P	**P**	**14 13 38.0**	**+2.4**
NVS	**Novosibirsk**	**20.30**	**21**	⇑*i*P	**P**	**14 13 35.3**	**-0.4**
NVS				*i*		14 14 39.6	
NVS				*i* S	**S**	**14 17 09.8**	**-1.5**
NVS				*e*SS		14 17 37.6	
NVS				pmax	pmax		
	comp=Z,47nm,1.3s						
NVS				pmax	pmax		
	comp=N,67nm,1.6s						
NVS				pmax	pmax		
	comp=E,21nm,1.7s						
NVS				smax			
	comp=N,38nm,1.8s						
NVS				smax			
	comp=E,9.0nm,1.3s						
KBD	**Kabd**	**20.62**	**256**	*e*P	**P**	**14 13 39.3**	**-0.1**
KBD				AMb	AMB	14 13 43.1	
	comp=Z,134nm,0.5s						
QRN	**Al-Qurain**	**20.64**	**255**	*e*P	**P**	**14 13 39.4**	**-0.3**
QRN				AMb	AMB	14 13 45.0	
	comp=Z,44nm,0.3s						
TBLG	**Delisi**	**20.78**	**293**	*e*P	**P**	**14 13 42.4**	**+1.5**
TBLG	**Delisi**	**20.78**	**293**	P	**P**	**14 13 42.4**	**+1.5**
RDF	**Al-Radifah**	**20.84**	**255**	*e*P	**P**	**14 13 41.6**	**-0.2**
RDF				AMb	AMB	14 13 46.2	
	comp=Z,54nm,0.5s						
NAY	**Al-Naaiem**	**20.94**	**257**	*e*P	**P**	**14 13 42.6**	**-0.2**
NAY				AMb	AMB	14 13 48.1	
	comp=Z,18nm,0.5s						
RST	**Umm Al-Ruwaisa**	**21.02**	**258**	*e*P	**P**	**14 13 43.0**	**-0.7**
RST				AMb	AMB	14 13 45.5	
	comp=Z,70nm,0.5s						
SHL	**Shillong**	**21.12**	**115**	*e*P	**P**	**14 13 45.0**	**+0.2**
ARU	**Arti**	**21.58**	**342**	*e*P	**P**	**14 13 49.1**	**-0.1**
	comp=Z,10nm,0.7s,mb4.5						
ARU				*e*pP		14 14 28.6	
ARU	**Arti**	**21.58**	**342**	*c i*P	**P**	**14 13 49.1**	**-0.1**
ARU				*e*S	**S**	**14 17 34.9**	**+1.4**
ARU				pmax	pmax		
	comp=Z,14nm,1.0s,mb4.5						
ONI	**Oni**	**21.83**	**295**	P	**P**	**14 13 52.8**	**+1.1**
KIV	**Kislovodsk**	**22.58**	**298**	*e*P	**P**	**14 14 00.3**	**+1.7**
KIV				*e*PP		14 14 34.2	
KIV				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.3						
GTA	**Gaotai**	**23.12**	**74**	*e*P	**P**	**14 14 05.3**	**+1.7**
GTA				AP		14 14 47.3	
GTA				PP		14 14 50.1	
GTA				XP	sP	14 15 14.8	+6.9
GTA				PCP	PcP	14 17 48.6	+3.1
GTA				S	**S**	**14 18 01.0**	**+2.3**
GTA				SS		14 19 10.9	
GTA				AMB	AMB		
	comp=Z,16nm,1.2s,mb4.4						
GTA				AMB	AMB		
	comp=Z,53nm,8.7s						
GTA				LR	LR		
	comp=N,82nm,14.4s						
GTA				LR	LR		
	comp=E,98nm,14.8s						
GTA				LR	LR		
	comp=Z,82nm,14.1s						
MOY	**Mondy**	**26.31**	**45**	*e*P	**P**	**14 14 33.6**	**+1.4**
ANN	**Anapa**	**26.43**	**299**	*e*P	**P**	**14 14 38.0**	**+4.6**
ANN				pmax	pmax		
	comp=Z,74nm,1.6s,mb5.1						
LZH	**Lanzhou**	**26.66**	**81**	P	**P**	**14 14 36.6**	**+1.0**
LZH				AP	pP	14 15 20.8	+3.1
LZH				PP	PP	14 15 32.3	-7.9
LZH				XP	sP	14 15 46.8	+4.6
LZH				AMB	AMB		
	comp=Z,24nm,1.4s,mb4.6						
LZH				AMB	AMB		
	comp=Z,62nm,4.7s						
VRSR	**Storozhevoye**	**26.83**	**313**	*e*P	**P**	**14 14 36.8**	**-0.1**
VRSR				*e*PP	pP	14 15 15.0	-4.0
VRSR				*e*SP	sP	14 15 40.7	-2.8
VRSR				*e*		14 17 54.4	
VRSR				*e*S	**S**	**14 18 52.5**	**-4.6**
VRSR				*e*		14 25 00.8	
VRSR				pmax	pmax		
	comp=Z,2.0nm,1.4s,mb3.5						
VRSR				pmax	pmax		
	comp=N,2.0nm,0.8s						
VRSR				pmax	pmax		
	comp=E,2.0nm,0.8s						
VRSR				smax			
	comp=N,30nm,4.6s						
VRSR				smax			
	comp=Z,40nm,4.4s						
VRSR				smax			
	comp=E,30nm,4.6s						
ZAK	**Zakamensk**	**27.20**	**49**	*e*P	**P**	**14 14 41.1**	**+0.9**
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.1s,mb4.0						
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.5s,mb3.9						
TLY	**Talaya**	**27.85**	**46**	*e*P	**P**	**14 14 46.6**	**+0.7**
	comp=Z,4.5nm,0.7s,mb4.2						
TLY	**Talaya**	**27.85**	**46**	⇓*e*P	**P**	**14 14 47.4**	**+1.5**
TLY				pmax	pmax		
	comp=Z,1.0nm,1.3s,mb3.3						
CD2	**Chengdu**	**27.98**	**92**	*e*P	**P**	**14 14 48.8**	**+1.4**
CD2				AP	pP	14 15 31.8	+2.1
CD2				PP	PP	14 15 52.0	-2.9
CD2				XP	sP	14 15 56.3	+2.2
CD2				XS	sS	14 20 29.5	-2.2
CD2				SS	SS	14 20 59.3	-24
CD2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.6						
CD2				AMB	AMB		
	comp=Z,20nm,5.8s						
SONM	**Songino Array**	**28.56**	**55**	P	**P**	**14 14 53.5**	**+1.2**
SONM				pmax	pmax		
	comp=Z,4.0nm,0.9s						
SONM	**Songino Array**	**28.56**	**55**	P	**P**	**14 14 53.5**	**+1.2**
	comp=Z,4.3nm,0.8s,mb4.1,baz=261,slow=9.2,SNR=32						
ULN	**Ulaanbaatar**	**29.00**	**55**	*e*P	**P**	**14 14 55.7**	**-0.5**
	comp=Z,4.3nm,1.1s,mb4.0						
ULN	**Ulaanbaatar**	**29.00**	**55**	⇑*e*P	**P**	**14 14 56.9**	**+0.7**
KMI	**Kunming**	**29.64**	**103**	P	**P**	**14 15 04.3**	**+2.2**
KMI				AMB	AMB		
	comp=Z,5.0nm,0.8s,mb4.2						
OBN	**Obninsk**	**29.80**	**320**	P	**P**	**14 15 03.1**	**0.0**
OBN	**Obninsk**	**29.80**	**320**	⇓*i*P	**P**	**14 15 03.3**	**+0.2**
OBN				*PP	pP	14 15 47.4	+1.7
OBN				*i*		14 16 15.6	
OBN				*e*		14 18 02.4	
OBN				pmax	pmax		
	comp=Z,25nm,1.8s,mb4.5						
HHC	**Hu-ho-hao-te**	**32.01**	**69**	*e*P	**P**	**14 15 24.3**	**+1.6**
HHC				AP	pP	14

FINES			pP	pP		14 16 54.8 +2.8
FINES			sP	sP		14 17 19.1 +3.1
FINES	**FINESS Array B**	**37.37 326**	P	**P**		**14 16 08.6 +0.3**
FINES			*PP	pP		14 16 54.7 +2.7
FINES			*SP	sP		14 17 19.2 +3.1
FINES			pmax	pmax		
	comp=Z,1.0nm,0.4s					
FINES			pmax	pmax		
	comp=N,1.0nm,0.6s					
FINES			pmax	pmax		
	comp=N,2.0nm,0.8s					
FINES	**FINESS Array B**	**37.37 326**	P	**P**		**14 16 08.6 +0.3**
	comp=N,1.0nm,0.4s,mb3.7,baz=114,slow=10,SNR=13					
FINES			pP	pP		14 16 54.7 +2.8
	comp=N,0.8nm,0.6s,baz=121,slow=15,SNR=2.0					
FINES			sP	sP		14 17 19.1 +3.1
	comp=N,2.1nm,0.8s,baz=111,slow=10,SNR=3.2					
HIA	**Hailar**	**37.52 54**	P	**P**		**14 16 09.8 +0.2**
	comp=N,4.6nm,0.9s,mb4.0					
HIA	**Hailar**	**37.52 54**	P	**P**		**14 16 09.9 +0.2**
HIA			pmax	pmax		
	comp=Z,5.0nm,0.9s					
GVD	**Gavdhos**	**37.62 282**	P	**P**		**14 16 10.2 -0.5**
	comp=Z,35nm,1.1s,mb4.8					
ARCES	**ARCESS Array B**	**41.08 338**	P	**P**		**14 16 39.4 +0.6**
ARCES			pmax	pmax		
	comp=Z,4.0nm,0.6s					
ARCES	**ARCESS Array B**	**41.08 338**	P	**P**		**14 16 39.4 +0.6**
	comp=Z,4.0nm,0.6s,mb4.0,baz=106,slow=7.8,SNR=21					
ARE0	**ARCESS Array S**	**41.08 338**	P	**P**		**14 16 38.7 -0.1**
CN2	**Changchun**	**41.85 62**	*eP*	**P**		**14 16 46.9 +1.5**
PSI	**Prapat**	**42.43 136**	P	**P**		**14 16 50.5 0.0**
PSI			pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.1					
PSI	**Prapat**	**42.43 136**	P	**P**		**14 16 50.5 0.0**
	comp=Z,4.6nm,0.6s,mb4.1,baz=295,slow=8.1,SNR=6.0					
CLL	**Collm**	**43.02 309**	*eP*	**P**		**14 16 53.0 -1.7**
YAK	**Yakutsk**	**44.14 35**	*eP*	**P**		**14 17 03.1 -0.3**
	comp=Z,40nm,0.8s,mb4.8					
YAK	**Yakutsk**	**44.14 35**	*eP*	**P**		**14 17 03.1 -0.4**
YAK			pmax	pmax		
	comp=Z,40nm,0.8s,mb4.8					
NB2	**NORSAR Subarra**	**44.25 323**	P	**P**		**14 17 03.4 -1.0**
	comp=Z,1.1nm,0.5s,mb3.4,baz=97,slow=7.9					
NOA	**NORSAR Array B**	**44.25 323**	P	**P**		**14 17 04.0 -0.4**
NOA			*PP	pP		14 17 50.8 +1.4
NOA			pmax	pmax		
	comp=Z,1.0nm,0.8s					
NOA			pmax	pmax		
	comp=N,1.0nm,0.6s					
NOA	**NORSAR Array B**	**44.25 323**	P	**P**		**14 17 04.0 -0.4**
	comp=N,0.8nm,0.8s,baz=104,slow=7.3,SNR=8.5					
NOA			pP	pP		14 17 50.8 +1.4
	comp=N,1.1nm,0.6s,baz=97,slow=8.0,SNR=2.5					
KSRS	**Korea Array**	**45.13 71**	P	**P**		**14 17 11.9 +0.2**
	comp=N,1.2nm,0.6s,mb3.4,baz=274,slow=7.1,SNR=6.2					
TIXI	**Tiksi**	**45.90 22⇑**	*eP*	**P**		**14 17 17.0 -0.2**
TIXI			pmax	pmax		
	comp=Z,17nm,0.7s,mb4.5					
HABR	**Khabarovsk**	**47.64 54**	*eP*	**P**		**14 17 32.5 +1.5**
HABR			*e*	pP		14 18 16.4 -0.3
HABR			*e*			14 18 56.6
HABR			*eS*	**S**		**14 24 14.8 +4.7**
HABR			*e*			14 25 35.6
HABR			*e*			14 27 02.5
HABR			pmax	pmax		
	comp=Z,9.0nm,0.3s,mb4.6					
KMBO	**Kilima Mbogo**	**48.62 227**	*eP*	**P**		**14 17 40.0 +1.0**
	comp=Z,4.1nm,0.6s,mb3.9					
KMBO	**Kilima Mbogo**	**48.62 227**	P	**P**		**14 17 40.3 +1.4**
KMBO			pmax	pmax		
	comp=Z,5.0nm,0.7s					
KMBO	**Kilima Mbogo**	**48.62 227**	P	**P**		**14 17 40.3 +1.4**
	comp=Z,5.4nm,0.7s,mb4.0,baz=42,slow=12,SNR=14					
YSS	**Yuzh-Sakhalins**	**53.05 55**	*eP*	**P**		**14 18 11.8 +0.3**
	comp=Z,12nm,0.8s,mb4.4					
YSS	**Yuzh-Sakhalins**	**53.05 55⇑**	*eP*	**P**		**14 18 11.4 -0.1**
YSS			*i* *PP	pP		14 18 55.6 -2.6
YSS			pmax	pmax		
	comp=Z,25nm,1.6s,mb4.4					
MJAR	**Matsushiro Arr**	**53.20 68**	P	**P**		**14 18 11.8 -1.0**
MJAR			pmax	pmax		
	comp=Z,3.0nm,1.0s					
MJAR	**Matsushiro Arr**	**53.20 68**	P	**P**		**14 18 11.8 -0.9**
	comp=Z,3.4nm,1.0s,mb3.7,baz=285,slow=9.5,SNR=5.6					
SEY	**Seymchan**	**54.59 34⇑**	*eP*	**P**		**14 18 22.5 +0.1**
SEY			*i* *PP	pP		14 19 07.3 -2.0
ESDC	**Sonseca Array**	**57.25 298**	P	**P**		**14 18 41.6 0.0**
	comp=Z,0.5nm,0.4s,mb3.5,baz=60,slow=7.6,SNR=4.0					
BILL	**Bilibino**	**58.75 26**	*eP*	**P**		**14 18 52.0 +0.4**
	comp=Z,9.7nm,1.0s,mb4.4					
BILL	**Bilibino**	**58.75 26**	*c iP*	**P**		**14 18 51.8 +0.3**
BILL			*e*			14 21 03.5
BILL			pmax	pmax		
	comp=Z,13nm,1.2s,mb4.4					
TOA0	**Torodi Ar. Sit**	**65.46 268**	*eP*	**P**		**14 19 34.6 -2.3**
TORD	**Torodi Ar. Bea**	**65.46 268**	P	**P**		**14 19 35.1 -1.9**
	comp=Z,4.4nm,0.6s,mb4.3,baz=49,slow=5.7,SNR=59					
TORD			pP	pP		14 20 26.7 +1.1
	comp=Z,1.8nm,0.5s,baz=44,slow=5.8,SNR=3.8					
RES	**Resolute Bay**	**68.71 356**	P	**P**		**14 19 56.0 -0.4**
	comp=Z,36nm,0.9s,mb5.0					
IMA2	**Indian Mountai**	**72.23 17**	*eP*	**P**		**14 20 17.1 -0.7**
INK	**Inuvik**	**73.98 9**	*eP*	**P**		**14 20 27.8 -0.2**
	comp=Z,184nm,0.8s					
COLA	**College**	**74.58 16**	*eP*	**P**		**14 20 31.2 -0.3**
	comp=Z,6.5nm,0.8s,mb4.3					
COLA	**College**	**74.58 16**	*d iP*	**P**		**14 20 31.6 +0.1**
TSUM	**Tsumeb**	**74.70 232**	P	**P**		**14 20 32.6 -0.2**
	comp=Z,4.8nm,1.0s,mb4.1					
TSUM	**Tsumeb**	**74.70 232**	P	**P**		**14 20 33.1 +0.2**
	comp=Z,2.6nm,0.8s,mb3.9,baz=58,slow=9.5,SNR=4.3					
FITZ	**Fitzroy Crossi**	**75.08 126**	*eP*	**P**		**14 20 34.3 -0.7**
	comp=Z,3.7nm,0.8s,mb4.1					
KAKA	**Kakadu**	**75.94 118**	*eP*	**P**		**14 20 38.6 -1.4**
	comp=Z,5.7nm,0.6s,mb4.4					
BOSA	**Boshof**	**77.56 220**	P	**P**		**14 20 48.6 -0.2**
BOSA			pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.0					
BOSA	**Boshof**	**77.56 220**	P	**P**		**14 20 48.6 -0.2**
	comp=Z,2.9nm,0.8s,mb3.9,baz=63,slow=11,SNR=3.5					
YKA	**Yellowknife Ar**	**81.29 2**	P	**P**		**14 21 08.4 -0.1**
YKA			*PP	pP		14 22 01.5 +2.3
YKA			pmax	pmax		
	comp=Z,2.0nm,0.5s					
YKA			pmax	pmax		
	comp=N,1.0nm,0.8s					
YKA	**Yellowknife Ar**	**81.29 2**	P	**P**		**14 21 08.4 -0.1**
	comp=N,1.9nm,0.5s,mb4.0,baz=349,slow=5.3,SNR=42					
YKA			pP	pP		14 22 01.5 +2.4
	comp=N,1.3nm,0.8s,baz=349,slow=5.5,SNR=4.7					
WRA	**Warramunga Arr**	**82.19 122**	*i P*	**P**		**14 21 12.1 -1.7**
WRA			pmax	pmax		
	comp=Z,5.0nm,0.7s					
WRA	**Warramunga Arr**	**82.19 122**	P	**P**		**14 21 12.2 -1.6**
	comp=Z,4.8nm,0.7s,mb4.2,baz=323,slow=4.9,SNR=54					
WRAB	**Tennant Creek**	**82.19 122**	*eP*	**P**		**14 21 11.9 -1.9**
	comp=Z,7.5nm,0.8s,mb4.4					
WRAB	**Tennant Creek**	**82.19 122⇑**	*eP*	**P**		**14 21 12.2 -1.6**
WB2	**Warramunga Arr**	**82.20 122**	*eP*	**P**		**14 21 12.2 -1.6**
WB2	**Warramunga Arr**	**82.20 122**	*eP*	**P**		**14 21 12.0 -1.8**
DLBC	**Dease Lake**	**83.88 11**	P	**P**		**14 21 14.8 -7.0**
ASAR	**Alice Springs**	**84.44 125**	P	**P**		**14 21 23.8 -1.4**
ASAR			pmax	pmax		
	comp=Z,4.0nm,0.8s					
ASAR	**Alice Springs**	**84.44 125**	P	**P**		**14 21 23.8 -1.4**
	comp=Z,4.0nm,0.8s,mb4.2,baz=311,slow=4.7,SNR=86					
FORT	**Forrest**	**85.83 133**	*eP*	**P**		**14 21 31.3 -0.6**
	comp=Z,6.3nm,0.6s,mb4.5					

CSEM ***13*** *14:14:15.6, 3868N×2119E, h10km, MD3.0/3, After ATH*
THE ***13*** *14:14:25.7, 3841N×2099E, h3km, ML2.2*

ATH 13 14:14:15.6, 3868N×2119E, h10km, MD3.0/3, 1C, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKD	**Levkas**	**0.42**	**274**	*eP*	Pg	14 14 32.6	+8.7
LKD				*eS*	Sg	14 14 38.8	+9.3
EVR	**Evrytania**	**0.54**	**64⇑**	*iPB*	Pb	14 14 26.0	-1.1
KFL	**Anninata**	**0.65**	**209**	*eP*	Pg	14 14 31.8	+3.6
KFL				*eS*	Sg	14 14 37.7	+1.0
RLS	**Riolos of Patr**	**0.66**	**161**	*ePB*	Pb	14 14 28.3	-0.9
VLS	**Valsamata**	**0.69**	**223**	*ePB*	Pb	14 14 29.0	-0.7
IGT	**Igoumenitsa**	**1.08**	**322**	*eP*	Pg	14 14 48.9	+13
IGT				*eS*	Sg	14 15 07.0	+17

IDC ***13*** *14:23:58.8±1.6, 6065N×13039E, h0km, mb4.3/2, mb1 4.2/4, mb1mx3.9/11, mbtmp4.1/4, ML4.0/2, Error ellipse: s-maj=89.8km s-min=24.1km az=67.0*
ISCJB ***13*** *14:24:08.4±1.4, 6265S×0065×1310E±0.1, h119km±18km, mb4.4/3, Error ellipse: s-maj=24.6km s-min=9.3km az=177.3*
NEIC ***13*** *14:24:10.9±3.3, 6305S×13058E, h112km±32km, mb4.9/4, Error ellipse: s-maj=36.1km s-min=23.6km az=65.0*

ISC 13 14:24:09.6±1.5, 639S±006×1310E±01, h112km±19km, n12, σ0:95/18, mb4.4/3, 1C, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TLE	**Tual**	**1.88**	**67⇑**	*eP*	**Pn**	**14 24 31.0**	**-10**
TLE				*eS*	**Sn**	**14 25 05.0**	**-0.2**
KAKA	**Kakadu**	**6.44**	**167**	*ePn*	**Pn**	**14 25 47.6**	**+5.8**
	23nm,0.3s						
KAKA				*eSn*	**Sn**	**14 26 59.5**	**+5.5**
FITZ	**Fitzroy Crossi**	**12.76**	**204**	*ePn*	**Pn**	**14 27 07.4**	**+0.4**
	9.7nm,0.5s						
FITZ				*eSn*	**Sn**	**14 29 19.1**	**-8.4**
WRAB	**Tennant Creek**	**13.85**	**167**	*ePn*	**Pn**	**14 27 21.7**	**+0.6**
WRAB				*eSn*	**Sn**	**14 29 53.3**	**-0.4**
WRA	**Warramunga Arr**	**13.85**	**167**	Pn	**Pn**	**14 27 23.5**	**+2.3**
	0.6nm,0.3s,baz=344,slow=12,SNR=32						
WRA				Sn	**Sn**	**14 29 52.9**	**-1.0**
	1.3nm,0.3s,baz=336,slow=24,SNR=8.3						
ASAR	**Alice Springs**	**17.40**	**171**	P	**Pn**	**14 28 09.8**	**+4.3**
	0.7nm,0.3s,baz=356,slow=11,SNR=70						
ASAR				S	**S**	**14 31 18.9**	**-0.6**
	0.5nm,0.3s,baz=356,slow=25,SNR=7.7						
MBWA	**Marble Bar**	**18.30**	**216**	*ePn*	**Pn**	**14 28 15.6**	**-0.6**
STKA	**Stephens Creek**	**27.22**	**160**	*eP*	**P**	**14 29 47.8**	**+4.8**
	1.6nm,0.4s,mb3.9						
STKA	**Stephens Creek**	**27.22**	**160**	P	**P**	**14 29 48.5**	**+5.5**
	0.9nm,0.3s,mb3.8,baz=339,slow=12,SNR=5.3						
CASY	**Casey**	**61.46**	**189**	*eP*	**P**	**14 34 15.3**	**+1.4**
	23nm,0.8s,mb5.3						
MK31	**Makanchi Array**	**68.27**	**326**	*eP*	**P**	**14 34 57.6**	**-0.9**
MKAR	**Makanchi Array**	**68.27**	**326**	P	**P**	**14 34 57.9**	**-0.5**
	1.5nm,0.3s,mb4.2,baz=116,slow=7.5,SNR=17						

IDC ***13*** *14:27:53.6±1.2, 1673N×9794E, h0km, mb3.9/7, mb1 4.0/7, mb1mx3.8/19, mbtmp3.9/7, Error ellipse: s-maj=72.9km s-min=17.9km az=61.0*
ISCJB ***13*** *14:27:54.3±0.7, 1686N±004×9832E±006, h10km, mb3.8/7, Error ellipse: s-maj=8.4km s-min=5.1km az=155.8*
NEIC ***13*** *14:27:55.6±0.8, 1687N×9819E, h10km, Error ellipse: s-maj=23.1km s-min=12.9km az=82.0*

ISC 13 14:27:55.6±0.7, 1683N±004×9825E±005, h10km, n17, σ0:99/23, mb3.8/7, 1C, Near south coast of Myanmar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BDT	**Bhumibol Dam**	**0.82**	**60**	P	**Pg**	**14 28 13.0**	**+1.5**
CM31	**Chiang Mai Arr**	**1.74**	**22⇑**	*iPn*	**Pn**	**14 28 25.7**	**-0.2**
CM31				*eSg*	**Sg**	**14 28 51.8**	**+0.1**
CHG	**Chiang Mai**	**2.08**	**18**	PG	**Pn**	**14 28 30.3**	**-0.2**
CHG				SG	**Sg**	**14 29 00.8**	**-1.6**
CHTO	**Chiang Mai**	**2.08**	**18**	*ePn*	**Pn**	**14 28 29.8**	**-0.7**
CHTO				*eSn*	**Sn**	**14 29 00.4**	**+4.0**
NST	**Nakhon Sawan**	**2.14**	**122**	PN	**Pn**	**14 28 32.0**	**+0.6**
NST				PG	**Pg**	**14 28 38.0**	**+1.3**
NST				SG	**Sg**	**14 29 03.2**	**-1.3**
KKTK	**Khon Kaen**	**4.41**	**96**	PG	**Pn**	**14 29 03.0**	**+0.4**
KKTK				SG	**Sg**	**14 30 17.0**	**-0.3**
NNT	**Nongplab**	**4.46**	**161**	P	**Pg**	**14 29 18.5**	**-2.5**
KULM	**Kulim**	**11.71**	**168**	Pn	**Pn**	**14 30 36.0**	**-6.8**
SONM	**Songino Array**	**31.63**	**10**	P	**P**	**14 34 19.5**	**+0.8**
	0.8nm,0.7s,mb3.6,baz=199,slow=7.7,SNR=7.9						
MKAR	**Makanchi Array**	**32.67**	**340**	P	**P**	**14 34 28.4**	**+0.6**
	0.5nm,0.5s,mb3.7,baz=147,slow=9.6,SNR=6.6						
ZALV	**Zalesovo Beam**	**38.49**	**347**	P	**P**	**14 35 17.4**	**-0.3**
ZALV	**Zalesovo Beam**	**38.49**	**347**	P	**P**	**14 35 17.4**	**-0.3**
	0.5nm,0.3s,mb3.8,baz=170,slow=9.0,SNR=4.9						
WRA	**Warramunga Arr**	**50.91**	**134**	P	**P**	**14 36 58.0**	**+0.7**
	1.2nm,0.6s,mb4.0,baz=324,slow=7.6,SNR=15						
WRA				PcP	PcP	14 38 13.7	0.0
	0.5nm,0.7s,baz=325,slow=3.5,SNR=4.8						
ASAR	**Alice Springs**	**53.23**	**138**	P	**P**	**14 37 15.2**	**+0.7**
	0.9nm,0.6s,mb3.9,baz=319,slow=7.1,SNR=18						
FINES	**FINESS Array B**	**66.84**	**330**	P	**P**	**14 38 46.9**	**-0.5**
	0.5nm,0.4s,mb3.9,baz=90,slow=7.6,SNR=4.1						
NB2	**NORSAR Subarra**	**74.01**	**330**	P	**P**	**14 39 31.2**	**0.0**
	comp=Z,0.9nm,0.7s,mb3.8,baz=86,slow=5.6						
NOA	**NORSAR Array B**	**74.01**	**330**	P	**P**	**14 39 29.7**	**-1.5**
	comp=Z,1.4nm,0.8s,mb3.9,baz=85,slow=5.8,SNR=4.7						

NIED ***13*** *14:31:00, 3910N×14230E, h35km, Mw3.5 Best double couple: M0:1.96000×10^14 NP1:φs:36.00000°, δ46.00000°, λ:89.00000°. NP2:φs:217.00000°, δ44.00000°, λ:91.00000°.*
JMA ***13*** *14:31:36.3±0.1, 3908N×14231E, h38km±1km, M3.5*

ISC 13 14:31:35.4±1.9, 3905N±005×1424E±01, h26km±9km, n9, σ0:56/16, 1C-5D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**0.53**	**273**	⇓*P*	**Pb**	**14 31 46.9**	**+0.8**
OFUJ				S	**Sb**	**14 31 54.3**	**+1.0**
MIYJ	**Miyakonagasawa**	**0.67**	**322**	⇓*P*	**Pb**	**14 31 48.5**	**+0.2**
MIYJ				S	**Sb**	**14 31 56.9**	**-0.3**
JMK	**Ichinoseki**	**0.88**	**264**	⇓*P*	**Pb**	**14 31 52.0**	**0.0**
JMK				*eS*	**Sb**	**14 32 03.2**	**-0.2**
JOM	**Ohasama**	**0.92**	**298**	⇓*P*	**Pn**	**14 31 52.5**	**-0.1**
JOM				*eS*	**Sb**	**14 32 04.2**	**-0.3**
JTH	**Tanohata**	**0.96**	**337**	P	**Pn**	**14 31 53.0**	**-0.2**
JIO	**Ouri**	**0.98**	**233**	⇑*P*	**Pn**	**14 31 53.2**	**-0.3**
JIO				S	**Sb**	**14 32 04.8**	**-1.4**
JKZ	**Kuzumaki**	**1.22**	**320**	⇓*P*	**Pn**	**14 31 57.0**	**+0.3**
JKZ				*eS*	**Sn**	**14 32 12.0**	**-0.4**
JANG	**Nango**	**1.47**	**334**	P	**Pn**	**14 32 00.0**	**-0.2**
JOU	**Okura**	**1.48**	**243**	P	**Pn**	**14 32 01.1**	**+0.7**
JOU				*eS*	**Sn**	**14 32 19.4**	**+0.5**

JMA 13 14:33:06.9±0.1, 2874N×12890E, h42km, M3.5, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAM	**Amami Oshima**	**0.70**	**118**	P	Pn	14 33 20.1	-0.3
JAM				S	Sn	14 33 30.5	+0.4
JTK	**Tokunoshima**	**0.95**	**177**	P	Pn	14 33 24.2	+0.4
JTK				*eS*	Sn	14 33 37.0	+0.8
JZK	**Kikaishima**	**1.03**	**114**	P	Pn	14 33 25.0	+0.1
JZK				S	Sn	14 33 39.6	+1.4
JNN	**Nakanoshima**	**1.39**	**38**	P	Pn	14 33 30.5	+0.7
JIH	**Iheya**	**1.89**	**206**	P	Pn	14 33 37.1	+0.4
JIH				*eS*	Sn	14 34 00.4	+1.2
JOW	**Kunigami**	**1.98**	**196**	P	Pn	14 33 37.6	-0.3
JOW				*eS*	Sn	14 34 02.0	+0.5
JKC	**Kuchinoerabu**	**2.05**	**33**	P	Pn	14 33 39.6	+0.7
JKC				*eS*	Sn	14 34 04.9	+1.6
JAGN	**Aguni-jima**	**2.60**	**215**	P	Pn	14 33 46.9	+0.5
JAGN				*eS*	Sn	14 34 16.9	+0.1
JTN	**Tanegashima 3**	**2.63**	**43**	P	Pn	14 33 47.4	+0.6
JTN				*eS*	Sn	14 34 17.9	+0.4
JJT2	**Tamagusuku 2**	**2.79**	**202**	P	Pn	14 33 49.6	+0.6
JKE	**Kume jima 2**	**3.05**	**218**	P	Pn	14 33 53.0	+0.4
JKE				S	Sn	14 34 28.5	+0.6

BJI ***13*** *14:42:25.0, 1820N×10270W, h10km, mB5.5, Ms5.1, Msz4.8*
NEIC ***13*** *14:42:26.6±0.3, 1818N×10274W, h10km, mb5.0/137, MS4.4/3, MD4.7(MEX), Error ellipse: s-maj=6.3km s-min=3.7km az=217.0*
GCMT ***13*** *14:42:26.6±0.5, 1808N×10285W, h24km, MW5.0/57, Moment Tensor Solution. s36,c43; s57,c82; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr3.54±.23; Mθθ-3.46±.15; Mφφ-0.08±.17; Mrθ2.03±.19; Mrφ1.28±.12; Mθφ-1.05±.28; Best double couple: M0:4.36300×10^16 NP1:φs:283.00000°, δ30.00000°, λ:81.00000°. NP2: φs:114.00000°, δ61.00000°, λ:95.00000°. Principal axes: T 4.2020, Plg74.0000°, Azm37.0000°; N 0.3200, Plg4.0000°, Azm291.0000°; P -4.5250, Plg16.0000°, Azm200.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISCJB ***13*** *14:42:27.7±0.6, 1817N±003×10284W±002, h27km±4km, mb4.9/147, MS4.3/31 Error ellipse: s-maj=6.1km s-min=2.5km az=21.3*
IDC ***13*** *14:42:28.5±0.6, 1815N×10268W, h24km±4km, mb4.6/16, mb1 4.7/20, mb1mx4.7/23, mbtmp4.5/20, ML3.8/4, MS4.2/22, Ms1 4.2/22, ms1mx4.1/33, Error ellipse: s-maj=20.8km s-min=12.3km az=70.0*
MOS ***13*** *14:42:29.9±1.2, 1828N×10273W, h39km, mb5.3/62, MS4.4/7, Error ellipse: s-maj=7.6km s-min=4.3km az=83.2*
MEX ***13*** *14:42:29.5±0.7, 1807N×10294W, h16km±8km, MD4.9*
SZGRF ***13*** *14:42:31.1, 1809N×10268W, h33km, mb5.0, Michoacan, Mexico*

ISC 13 14:42:28.2±0.8, 1814N±003×10283W±002, h18km±5km, h23km±2.8km: pP-P, n446, σ1:10/443, mb4.9/147, MS4.3/31, 29C-25D, Michoacan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMIG	**Aquila**	**0.51**	**286**	⇓*iP*	**Pg**	**14 42 36.5**	**-2.0**
MMIG				*i* S	**Sg**	**14 42 43.6**	**-1.8**
MOIG	**Morelia**	**2.18**	**45**	*i P*	**Pn**	**14 43 04.3**	**+0.8**
MOIG				*i* S	**Sn**	**14 43 32.4**	**+2.5**
MOIG	**Morelia**	**2.18**	**45⇑**	*iP*	**Pn**	**14 43 04.3**	**+0.8**
MOIG				*i* S	**Sn**	**14 43 30.5**	**+0.6**
SFJM	**Santa Fe**	**2.34**	**355**	*i P*	**Pn**	**14 43 06.0**	**+0.3**
SFJM	**Santa Fe**	**2.34**	**355**	*i P*	**Pn**	**14 43 05.0**	**-0.7**
CAIG	**El Cayaco**	**2.68**	**114**	*i P*	**Pn**	**14 43 15.7**	**+5.3**
CAIG				*i* S	**Sn**	**14 43 49.1**	**+6.8**
CAIG	**El Cayaco**	**2.68**	**114**	*i P*	**Pn**	**14 43 10.7**	**+0.3**
CAIG				*i* S	**Sn**	**14 43 41.8**	**-0.5**
MEIG	**Mezcala**	**3.06**	**94**	*i P*	**Pn**	**14 43 16.0**	**+0.3**
MEIG				*i* S	**Sn**	**14 43 51.8**	**0.0**
PLIG	**Platanillo**	**3.17**	**85**	*eP*	**Pn**	**14 43 23.0**	**+5.8**
PLIG				*i* S	**Sn**	**14 44 01.7**	**+7.2**
PLIG	**Platanillo**	**3.17**	**85**	*i P*	**Pn**	**14 43 17.8**	**+0.6**
PLIG				*i* S	**Sn**	**14 43 56.0**	**+1.4**
ANIG	**Ahuacatlan**	**3.30**	**331**	*i P*	**Pn**	**14 43 19.7**	**+0.8**
ANIG				*i* S	**Sn**	**14 43 56.3**	**-1.5**
SZVM	**Salazar**	**3.47**	**70**	*eP*	**Pn**	**14 43 22.8**	**+1.5**
SZVM				*i* S	**Sn**	**14 44 04.1**	**+2.2**
YAIG	**Yautepec**	**3.64**	**78**	*eP*	**Pn**	**14 43 24.8**	**+1.2**
YAIG				*i* S	**Sb**	**14 44 17.4**	**+1.5**
YAIG	**Yautepec**	**3.64**	**78**	*eP*	**Pn**	**14 43 25.1**	**+1.5**
YAIG				*i* S	**Sn**	**14 44 05.1**	**-1.0**
UNM	**Universidad Na**	**3.66**	**71**	*eP*	**Pn**	**14 43 29.8**	**+6.0**
UNM				*i* S	**Sb**	**14 44 16.2**	**-0.1**
UNM	**Universidad Na**	**3.66**	**71**	*eP*	**Pn**	**14 43 25.6**	**+1.8**
UNM				*i* S	**Sn**	**14 44 07.9**	**+1.4**
PBVM	**Pinon**	**3.77**	**69**	*i P*	**Pn**	**14 43 27.4**	**+1.9**
PPM	**Popocatepetl**	**4.09**	**76**	*i P*	**Pn**	**14 43 31.0**	**+1.2**
PPM				*eP*		14 43 32.8	
PPM				*i* S	**Sn**	**14 44 31.4**	**+14**
PPM	**Popocatepetl**	**4.09**	**76**	*i P*	**Pn**	**14 43 31.0**	**+1.2**
PPM				*eP*		14 43 31.9	
PPM				*i* S	**Sn**	**14 44 18.7**	**+1.5**
DEIG	**Demacu**	**4.18**	**58**	*eP*	**Pn**	**14 43 34.7**	**+3.7**
DEIG				*i* S	**Sn**	**14 44 23.8**	**+4.4**
PNIG	**Pinotepa**	**4.82**	**110**	*i P*	**Pn**	**14 43 37.4**	**-2.4**
PNIG				*i* S	**Sn**	**14 44 35.5**	**+0.3**
PNIG	**Pinotepa**	**4.82**	**110**	*i P*	**Pn**	**14 43 41.6**	**+1.8**
PNIG				*i* S	**Sn**	**14 44 33.4**	**-1.8**
TPIG	**Tehuac#an**	**5.20**	**86**	*i P*	**Pn**	**14 43 46.8**	**+1.7**
TPIG				*i* S	**Sn**	**14 44 49.0**	**+4.4**
VHO	**Vista Hermosa**	**5.91**	**99**	*eP*	**Pn**	**14 43 54.9**	**0.0**
VHO				*i* S	**Sb**	**14 45 21.2**	**0.0**
VHO	**Vista Hermosa**	**5.91**	**99**	*eP*	**Pn**	**14 43 55.8**	**+0.9**
VHO				*i* S	**Sn**	**14 45 03.7**	**+1.6**
OXX	**Oaxaca**	**5.92**	**99**	*i P*	**Pn**	**14 43 56.5**	**+1.6**
MAIG	**Mazatlaan**	**6.04**	**327**	*i P*	**Pn**	**14 43 56.6**	**0.0**
LVIG	**Laguna Verde**	**6.27**	**74**	*i P*	**Pn**	**14 44 01.6**	**+1.9**
LVIG				*i* S	**Sn**	**14 45 19.6**	**+8.6**
LVIG	**Laguna Verde**	**6.27**	**74**	*i P*	**Pn**	**14 44 01.6**	**+1.9**
LVIG				*i* S	**Sn**	**14 45 10.9**	**0.0**
HUIG	**Huatulco**	**6.85**	**109**	*eP*	**Pn**	**14 44 09.2**	**+1.4**
HUIG				*i* S	**Sn**	**14 45 32.4**	**+7.1**
HUIG	**Huatulco**	**6.85**	**109**	*eP*	**Pn**	**14 44 09.2**	**+1.4**
HUIG				*i* S	**Sn**	**14 45 23.8**	**-1.6**
CMIG	**Matias Romero**	**7.65**	**97**	Pn	**Pn**	**14 44 19.1**	**+0.4**
	1.2nm,0.3s,baz=271,slow=13,SNR=13						
CMIG				Lg		14 46 23.1	
	9.0nm,0.3s,baz=193,slow=14,SNR=4.5						
CMIG				LR	LR	14 47 43.6	
	comp=Z,3μm,18.8s,baz=84,slow

CBKS pmax pmax
comp=Z,71nm,0.9s
GSC Goldstone 21.12 327 *eP* **P 14 47 13.6 +1.6**
comp=Z,31nm,1.0s,mb4.6
GSC Goldstone 21.12 327 *eP* **P 14 47 13.6 +1.7**
GSC pmax pmax
comp=Z,31nm,1.0s,mb4.6
SMCO Snowmass 21.27 351 *eP* **P 14 47 12.5 -0.9**
comp=Z,28nm,0.9s,mb4.6
SMCO *e* 14 47 17.6
SMCO *ePcP* PcP 14 51 17.2 -0.8
PLAL Pickwick Lake 21.30 35 *eP* **P 14 47 11.8 -2.0**
comp=Z,105nm,0.8s,mb5.2
PLAL *ePcP* PcP 14 51 17.0 -1.2
CCUT Cedar City 21.43 337 *eP* **P 14 47 17.6 +2.4**
CCUT *ePcP* PcP 14 51 18.3 0.0
KSU1 Kansas State U 21.57 13 *eP* **P 14 47 15.7 -1.0**
comp=Z,102nm,0.8s,mb5.3
KSU1 *ePcP* PcP 14 51 18.5 0.0
ARUT Antelope Range 21.67 337 *eP* **P 14 47 20.2 +2.4**
ARUT *e* 14 47 29.8
ISCO Idaho Springs 21.71 354 *eP* **P 14 47 17.5 -0.8**
comp=Z,16nm,1.1s,mb4.3
ISCO Idaho Springs 21.71 354 *eP* **P 14 47 17.5 -0.7**
ISCO pmax pmax
comp=Z,16nm,1.1s,mb4.4
PARMO Parma 21.75 29 *eP* **P 14 47 19.6 +0.9**
MSU Marysvale 21.87 340 *eP* **P 14 47 21.5 +1.6**
MSU *e* 14 47 32.4
MSU *ePcP* PcP 14 51 20.1 +0.9
SRU San Rafael 21.94 344 *eP* **P 14 47 20.3 -0.3**
comp=Z,10nm,0.9s,mb4.3
SRU San Rafael 21.94 344 *eP* **P 14 47 20.3 -0.3**
SRU pmax pmax
comp=Z,10.0nm,0.9s,mb4.2
DWPF Disney 22.00 59 *eP* **P 14 47 19.5 -2.0**
comp=Z,49nm,0.8s,mb5.0
TPNV Topopah Spring 22.15 330 *eP* **P 14 47 23.8 +0.9**
comp=Z,22nm,1.0s,mb4.5
TPNV Topopah Spring 22.15 330 *eP* **P 14 47 23.8 +0.9**
TPNV pmax pmax
comp=Z,22nm,1.0s,mb4.5
CCM Cathedral Cave 22.28 25 *eP* **P 14 47 22.9 -1.4**
comp=Z,44nm,0.8s,mb4.9
CCM Cathedral Cave 22.28 25 *eP* **P 14 47 22.9 -1.4**
CCM pmax pmax
comp=Z,44nm,0.8s,mb4.9
ISA Isabella 22.29 325 *eP* **P 14 47 25.4 +1.0**
comp=Z,42nm,0.9s,mb4.9
ISA Isabella 22.29 325 *eP* **P 14 47 25.4 +1.0**
ISA pmax pmax
comp=Z,42nm,0.9s,mb4.9
WVT Waverly 22.29 34 *eP* **P 14 47 22.0 -2.5**
comp=Z,32nm,1.0s,mb4.7
WVT Waverly 22.29 34 *eP* **P 14 47 22.0 -2.4**
WVT pmax pmax
comp=Z,32nm,1.0s,mb4.7
TMUT Trail Mountain 22.30 343 *eP* **P 14 47 25.7 +1.2**
FVM French Village 22.55 26 *eP* **P 14 47 25.6 -1.6**
comp=Z,52nm,0.7s,mb5.1
FVM French Village 22.55 26 *eP* **P 14 47 25.6 -1.6**
FVM pmax pmax
comp=Z,52nm,0.7s,mb5.1
SWET Sewanee 22.68 38 *eP* **P 14 47 26.1 -2.5**
SIUC Southern Illin 22.86 29 *eP* **P 14 47 29.1 -1.3**
comp=Z,68nm,1.0s,mb5.0
GOGA Godfrey 23.07 45 *eP* **P 14 47 30.5 -2.2**
comp=Z,35nm,0.9s,mb4.8
GOGA Godfrey 23.07 45 *eP* **P 14 47 30.5 -2.3**
GOGA pmax pmax
comp=Z,35nm,0.9s,mb4.8
MPU Maple Canyon 23.09 343 *eP* **P 14 47 33.6 +0.8**
comp=Z,11nm,0.8s,mb4.3
NLU North Lily Min 23.16 342 *eP* **P 14 47 34.4 +0.8**
PHWY Pilot Hill 23.19 355 *eP* **P 14 47 32.9 -1.0**
JLU Jordanelle 23.58 343 *eP* **P 14 47 37.5 -0.4**
MTUM Tungsten Hills 23.60 327 *eP* **P 14 47 39.0 +0.9**
DUG Dugway 23.61 341 *eP* **P 14 47 38.8 +0.7**
comp=Z,26nm,1.3s,mb4.5
DUG Dugway 23.61 341 *eP* **P 14 47 38.8 +0.7**
DUG pmax pmax
comp=Z,26nm,1.3s,mb4.5
CPCT Cooper Cave 23.68 40 *eP* **P 14 47 35.7 -3.2**
CTU Camp Tracy 23.75 343 *eP* **P 14 47 39.2 -0.3**
comp=Z,22nm,0.9s,mb4.6
RWWY Rawlins 23.76 352 *eP* **P 14 47 38.3 -1.3**
comp=Z,13nm,0.8s,mb4.4
RWWY *ePcP* PcP 14 51 22.9 -0.1
CCCC Cccc 23.79 79 *e* **P 14 47 44.5 +4.5**
USIN University of 23.79 31 *eP* **P 14 47 37.8 -2.1**
comp=Z,232nm,1.3s,mb5.5
TKL Tuckaleechee C 24.28 40 P **P 14 47 42.2 -2.2**
TKL LR LR 14 59 31.6
TKL Tuckaleechee C 24.28 40 P **P 14 47 42.2 -2.2**
comp=Z,18nm,0.9s,mb4.5,baz=202,slow=11,SNR=16
TKL LR LR 14 59 31.6
comp=Z,362nm,20.6s,MS3.8,baz=141,slow=42
NVAR Mina Array Bea 24.31 329 P **P 14 47 45.8 +1.2**
comp=Z,11nm,0.8s,mb4.4,baz=145,slow=10,SNR=99
BGU Big Grassy Mou 24.34 341 *eP* **P 14 47 44.5 -0.4**
HWUT Hardware Ranch 24.55 344 *eP* **P 14 47 47.1 +0.3**
comp=Z,9.6nm,0.8s,mb4.4
WCI Wyandotte Cave 24.68 32 *eP* **P 14 47 46.0 -2.0**
comp=Z,72nm,0.8s,mb5.3
WCI *ePcP* PcP 14 51 24.4 -0.7
WCI Wyandotte Cave 24.68 32 *eP* **P 14 47 46.0 -2.0**
WCI *e* 14 51 24.4
WCI pmax pmax
comp=Z,72nm,0.8s,mb5.2
TZTN Tazewell 25.00 39 *eP* **P 14 47 48.1 -2.9**
comp=Z,23nm,1.0s,mb4.7
HVU Hansel Valley 25.05 342 P **P 14 47 51.0 -0.3**
comp=Z,16nm,1.0s,mb4.5
HVU Hansel Valley 25.05 342 P **P 14 47 51.0 -0.3**
HVU pmax pmax
comp=Z,16nm,1.0s,mb4.5
CMB Columbia Colle 25.07 326 *eP* **P 14 47 51.5 0.0**
comp=Z,16nm,1.1s,mb4.5
CMB Columbia Colle 25.07 326 *eP* **P 14 47 51.5 0.0**
CMB pmax pmax
comp=Z,15nm,1.1s,mb4.4
HDIL Hopedale 25.20 25 *eP* **P 14 47 50.7 -2.0**
comp=Z,184nm,0.8s,mb5.7
PDAR Pinedale Array 25.20 348 P **P 14 47 51.9 -0.8**
comp=Z,5.4nm,0.7s,mb4.2,baz=148,slow=8.9,SNR=39
PDAR PcP PcP 14 51 25.8 -0.3
comp=Z,2.3nm,0.8s,baz=152,slow=4.3,SNR=6.0
PDAR LR LR 14 59 16.0
comp=Z,2μm,19.1s,MS4.5,baz=188,slow=40
BLO Bloomington 25.29 31 *eP* **P 14 47 51.1 -2.4**
comp=Z,54nm,0.9s,mb5.1
BLO Bloomington 25.29 31 *eP* **P 14 47 51.1 -2.5**
BLO pmax pmax
comp=Z,54nm,0.9s,mb5.1
RCC Rio Carpintero 25.70 81 *e* **P 14 47 58.1 +0.6**
RSSD Black Hills 25.92 358 *eP* **P 14 47 58.3 -0.9**
comp=Z,6.1nm,1.0s,mb4.1
RSSD *e* 14 48 16.0
RSSD *ePcP* PcP 14 51 27.6 -0.1
RSSD Black Hills 25.92 358 *eP* **P 14 47 58.3 -0.8**
RSSD *e* 14 48 16.0
RSSD *e* 14 51 27.6
RSSD pmax pmax
comp=Z,6.0nm,1.0s,mb4.1
REDW Red Top Meadow 26.04 347 *eP* **P 14 47 59.7 -0.6**
comp=Z,14nm,0.7s,mb4.6
ECSD EROS,Sioux Fal 26.04 10 *eP* **P 14 47 58.9 -1.4**
comp=Z,21nm,0.8s,mb4.7
SNOW Snow King Moun 26.11 347 *eP* **P 14 48 00.9 -0.1**
comp=Z,18nm,0.6s,mb4.8
TPAW Teton Pass 26.18 347 *eP* **P 14 48 01.8 +0.3**
comp=Z,11nm,0.7s,mb4.5
MOOW Moose Ponds 26.39 347 *eP* **P 14 48 02.7 -0.7**
comp=Z,9.0nm,1.0s,mb4.2
MOOW *ePcP* PcP 14 51 29.2 +0.4
IMW Indian Meadow 26.57 347 *eP* **P 14 48 04.8 -0.2**
comp=Z,8.5nm,0.7s,mb4.4
FLWY Flagg Ranch 26.70 347 *eP* **P 14 48 06.0 -0.2**
comp=Z,10.0nm,0.7s,mb4.5
FLWY *ePcP* PcP 14 51 30.7 +1.2
JFWS Jewell Farm 26.90 21 *eP* **P 14 48 05.6 -2.4**
comp=Z,40nm,0.8s,mb5.0
JFWS Jewell Farm 26.90 21 *eP* **P 14 48 05.6 -2.4**
JFWS pmax pmax
comp=Z,40nm,0.8s,mb5.0
YFT Old Faithful 27.08 347 *eP* **P 14 48 10.9 +1.3**

LKWY Lake 27.10 348 *eP* **P 14 48 09.7 -0.1**
comp=Z,3.8nm,0.7s,mb4.0
LKWY Lake 27.10 348 *eP* **P 14 48 09.7 -0.1**
LKWY pmax pmax
comp=Z,4.0nm,0.7s,mb4.1
HLID Hailey 27.16 341 *eP* **P 14 48 10.3 -0.1**
comp=Z,4.5nm,0.9s,mb4.0
YMR Madison River 27.31 347 *eP* **P 14 48 12.1 +0.4**
comp=Z,9.8nm,0.7s,mb4.5
BLA Blacksburg 27.35 41 *eP* **P 14 48 09.7 -2.5**
comp=Z,24nm,0.8s,mb4.8
BLA Blacksburg 27.35 41 *eP* **P 14 48 09.7 -2.5**
BLA pmax pmax
comp=Z,24nm,0.8s,mb4.8
RLMT Red Lodge 27.43 350 *eP* **P 14 48 11.4 -1.3**
comp=Z,6.6nm,1.1s,mb4.1
QLMT Earthquake Lak 27.57 347 *eP* **P 14 48 15.0 +1.0**
WVOR Wild Horse Val 27.70 334 *eP* **P 14 48 15.5 +0.3**
comp=Z,30nm,0.9s,mb4.9
WVOR *ePcP* PcP 14 51 31.9 0.0
WVOR Wild Horse Val 27.70 334 *eP* **P 14 48 15.5 +0.3**
WVOR *e* 14 51 31.9
WVOR pmax pmax
comp=Z,30nm,0.9s,mb4.9
ACSO Alum Creek Sta 27.89 34 *eP* **P 14 48 14.9 -2.0**
comp=Z,19nm,0.7s,mb4.8
LTIM Timbered Crate 27.98 329 ⇓P **P 14 48 18.9 +1.1**
MOD Modoc 27.99 331 *eP* **P 14 48 18.3 +0.5**
comp=Z,35nm,0.9s,mb5.0
GCMT Greycliff 28.15 350 *eP* **P 14 48 19.2 0.0**
DLMT Dillon 28.34 345 *eP* **P 14 48 21.1 +0.2**
comp=Z,8.7nm,0.8s,mb4.4
BOZ Bozeman (W) 28.39 347 *eP* **P 14 48 21.1 -0.2**
comp=Z,6.8nm,0.8s,mb4.3
BOZ *ePcP* PcP 14 51 33.1 -0.5
BOZ *e* 14 51 42.7
BOZ Bozeman (W) 28.39 347 *eP* **P 14 48 21.1 -0.2**
BOZ *e* 14 51 33.1
BOZ pmax pmax
comp=Z,7.0nm,0.8s,mb4.3
AAM Ann Arbor 29.09 30 *eP* **P 14 48 25.6 -2.1**
comp=Z,55nm,0.6s,mb5.5
AAM Ann Arbor 29.09 30 *eP* **P 14 48 25.6 -2.0**
AAM pmax pmax
comp=Z,55nm,0.6s,mb5.5
BMO Blue Mountains 29.25 339 *eP* **P 14 48 28.6 -0.4**
comp=Z,4.3nm,0.8s,mb4.2
BMO *ePcP* PcP 14 51 35.4 -0.4
BMO *e* 14 51 43.4
BBOR Butler Butte 29.86 330 ⇓P **P 14 48 33.9 -0.5**
J04A Umpqua Nationa 29.86 331 ⇑P **P 14 48 34.8 +0.3**
baz=30,SNR=8.1
H07A Lands Inn, Kim 29.87 336 P **P 14 48 35.0 +0.5**
baz=30,SNR=15
SDDR Presa de Saban 29.89 83 *eP* **P 14 48 36.0 +0.9**
comp=Z,25nm,0.9s,mb4.9
D15A Lincoln 29.90 347 P **P 14 48 34.6 -0.1**
baz=30,SNR=11
CHMT Chamberlain Mo 29.95 346 *eP* **P 14 48 34.8 -0.4**
D14A Greenough 30.17 345 P **P 14 48 37.1 0.0**
baz=30,SNR=8.9
F09A S2 Ranch, Elgi 30.21 339 ⇑P **P 14 48 38.1 +0.6**
baz=30
F10A Beach Ranch, E 30.21 340 ⇑P **P 14 48 38.5 +1.0**
baz=30,SNR=6.8
I05A Bend 30.22 333 ⇑P **P 14 48 38.6 +1.0**
baz=30,SNR=7.0
G08A Pilot Rock 30.23 337 P **P 14 48 37.9 +0.3**
baz=30,SNR=19
E11A Bogner Ranch, 30.23 341 ⇓P **P 14 48 36.8 -0.9**
baz=30
DGMT Dagmar 30.27 358 *eP* **P 14 48 37.5 -0.4**
comp=Z,32nm,0.9s,mb5.0
H06A Lindquist Farm 30.29 335 ⇑P **P 14 48 38.7 +0.4**
baz=30,SNR=7.0
EGMT Eagleton 30.33 351 *eP* **P 14 48 38.0 -0.5**
comp=Z,24nm,0.9s,mb4.9
EGMT *ePcP* PcP 14 51 38.2 -0.2
EGMT Eagleton 30.33 351 P **P 14 48 38.7 +0.2**
baz=30,SNR=13
D13A Huson 30.42 344 P **P 14 48 39.1 -0.2**
baz=30,SNR=20
HBO Huckleberry Mo 30.43 332 ⇓P **P 14 48 40.2 +0.7**
HUOR Husband 30.43 332 ⇓P **P 14 48 41.0 +1.4**
G07A Ruggs Ranch, H 30.47 336 P **P 14 48 40.5 +0.6**
baz=30,SNR=6.3
IRO Indian Ridge 30.53 332 ⇓P **P 14 48 41.2 +0.8**
AGMN Agassiz Refuge 30.61 9 *eP* **P 14 48 39.4 -1.6**
comp=Z,84nm,0.8s,mb5.6
J02A Umpqua 30.65 330 ⇑P **P 14 48 42.2 +0.8**
baz=31
ROSC El Rosal 30.82 112 P **P 14 48 47.0 +3.7**
G06A Carlson Farm, 30.83 335 ⇑P **P 14 48 44.1 +1.1**
baz=31
I03A Eugene 30.97 331 P **P 14 48 45.5 +1.3**
baz=31,SNR=9.3
C13A Hot Springs 30.99 345 ⇓P **P 14 48 44.1 -0.3**
baz=31
H04A Detroit Lake 31.03 333 P **P 14 48 45.4 +0.7**
baz=31,SNR=7.3
G05A Wamic 31.11 334 ⇓P **P 14 48 46.2 +0.8**
baz=31
EYMN Ely 31.13 15 *eP* **P 14 48 43.3 -2.4**
comp=Z,45nm,0.9s,mb5.3
EYMN *ePcP* PcP 14 51 39.3 -1.3
RNO Roman Nose 31.14 330 ⇓P **P 14 48 47.4 +1.6**
D10A Wagner Farm, O 31.19 341 ⇓P **P 14 48 47.1 +1.0**
baz=31
I02A Mapleton 31.25 330 ⇑P **P 14 48 47.7 +0.9**
baz=31
F06A Goldendale 31.32 335 ⇓P **P 14 48 48.7 +1.4**
baz=31,SNR=5.8
H03A Soap Creek Ran 31.52 332 ⇑P **P 14 48 49.7 +0.7**
baz=32
G04A Mulino 31.57 333 ⇑P **P 14 48 50.3 +0.8**
baz=32
B13A Whitefish 31.61 345 P **P 14 48 50.3 +0.5**
baz=32,SNR=7.6
E07A Sunnyside 31.63 337 ⇑P **P 14 48 51.3 +1.2**
baz=32
F05A White Salmon 31.69 335 P **P 14 48 52.1 +1.6**
baz=32,SNR=24
GULW Guler Mountain 31.78 335 P **P 14 48 52.9 +1.6**
G03A Yamhill 32.01 332 ⇑P **P 14 48 54.0 +0.6**
baz=32
E06A Yakima 32.04 336 P **P 14 48 55.3 +1.7**
baz=32,SNR=13
WALA Waterton Lakes 32.12 346 *eP* **P 14 48 53.5 -0.8**
comp=Z,7.4nm,0.9s,mb4.5
F04A Amboy 32.12 334 ⇑P **P 14 48 54.5 +0.1**
baz=32
EBG Ellensburg 32.19 337 ⇓P **P 14 48 56.6 +1.6**
E05A Randle 32.36 335 P **P 14 48 57.9 +1.4**
baz=32,SNR=9.4
A12A Yaak River Ran 32.42 344 ⇑P **P 14 48 57.5 +0.6**
baz=32
ULM Lac du Bonnet 32.51 8 *eP* **P 14 48 55.1 -2.6**
comp=Z,24nm,0.9s,mb5.1
ULM *ePcP* PcP 14 51 42.3 -1.9
ULM *e* 14 51 51.3
ULM Lac du Bonnet 32.51 8 P **P 14 48 55.5 -2.2**
comp=Z,24nm,0.8s,mb5.2,baz=193,slow=9.6,SNR=52
ULM LR LR 15 03 14.9
comp=Z,650nm,19.2s,MS4.3,baz=71,slow=38
D06A Cle Elum 32.53 337 ⇑P **P 14 48 58.8 +0.8**
baz=32
SDV Santo Domingo 32.58 102 *eP* **P 14 48 59.7 +0.9**
comp=Z,15nm,0.8s,mb5.0
SDV *ePcP* PcP 14 51 44.4 -0.8
SDV Santo Domingo 32.58 102 LR LR 15 03 03.9
comp=Z,302nm,19.6s,MS4.0,baz=340,slow=38
F03A Seaside 32.61 333 ⇓P **P 14 49 00.1 +1.5**
baz=33
FMW Mount Fremont 32.63 336 ⇓P **P 14 49 00.3 +1.5**
C07A Waterville 32.67 338 ⇑P **P 14 48 59.7 +0.6**
baz=33
B09A Rice 32.67 341 ⇑P **P 14 48 59.6 +0.4**
baz=33
B08A Colville Reser 33.00 340 ⇑P **P 14 49 02.0 +0.1**
baz=33
E03A Lebam 33.09 333 ⇓P **P 14 49 04.2 +1.3**
baz=33
C05A Tolt Reservoir 33.27 337 ⇓P **P 14 49 05.1 +0.7**
baz=33
A09A Danville 33.30 341 ⇓P **P 14 49 05.0 +0.4**
baz=33
HDW Hoodsport 33.76 335 ⇓P **P 14 49 09.2 +0.6**

JCW Jim Creek 33.77 337 ⇓P **P 14 49 09.0 +0.2**
C04A Brinnon 33.78 335 ⇓P **P 14 49 09.0 +0.2**
baz=34
B06A Marblemount 33.88 338 ⇓P **P 14 49 10.3 +0.7**
baz=34
NLWA Neilton Lookou 33.89 334 ⇑P **P 14 49 10.6 +0.8**
baz=34
B05A Bryant 33.89 337 ⇓P **P 14 49 10.0 +0.2**
baz=34
B04A Port Angeles 34.27 335 ⇑P **P 14 49 14.2 +1.2**
baz=34
A05A Maple Falls 34.50 337 ⇓P **P 14 49 15.8 +0.8**
baz=34
A04A Legoe Bay, Lum 34.50 337 ⇑P **P 14 49 15.9 +0.9**
baz=34
ATAH Atahualpa 34.73 134 LR LR 15 01 23.7
comp=Z,268nm,19.1s,MS4.0,baz=13,slow=33
SJG San Juan 34.82 84 *eP* **P 14 49 17.3 -1.0**
comp=Z,38nm,0.8s,mb5.4
SJG San Juan 34.82 84 *eP* **P 14 49 17.3 -0.9**
SJG pmax pmax
comp=Z,38nm,0.8s
CPD Cerro la Pandu 35.05 84 *eP* **P 14 49 18.1 -2.2**
comp=Z,34nm,1.1s,mb5.2
CPD *e* 14 49 26.3
CPD Cerro la Pandu 35.05 84 *eP* **P 14 49 18.1 -2.1**
CPD *e* 14 49 26.3
CPD pmax pmax
comp=Z,34nm,1.1s,mb5.2
MTP Monte Pirata 35.39 84 *eP* **P 14 49 18.8 -4.3**
EDM Edmonton 35.95 349 *eP* **P 14 49 25.9 -1.6**
FFC Flin Flon 36.52 1 *eP* **P 14 49 30.7 -1.6**
comp=Z,44nm,1.3s,mb5.1
FFC *e* 14 49 39.6
FFC Flin Flon 36.52 1 *eP* **P 14 49 30.7 -1.6**
FFC *e* 14 49 39.6
FFC pmax pmax
comp=Z,44nm,1.3s,mb5.1
PCRV Puerto La Cruz 37.81 97 LR LR 15 06 52.5
comp=Z,319nm,18.4s,MS4.2,baz=108,slow=39
NNA Nana 39.42 138 P **P 14 50 00.5 +3.2**
NNA Nana 39.42 138 LR LR 15 04 38.2
comp=Z,104nm,18.4s,MS3.7,baz=64,slow=34
FCC Fort Churchill 41.06 7 *eP* **P 14 50 08.5 -1.9**
comp=Z,20nm,0.8s,mb4.8
FCC *ePcP* PcP 14 52 08.3 -1.6
FCC Fort Churchill 41.06 7 *eP* **P 14 50 08.5 -1.9**
FCC *e* 14 52 08.3
FCC pmax pmax
comp=Z,20nm,0.8s,mb4.8
DLBC Dease Lake 44.92 340 *eP* **P 14 50 42.8 +1.2**
DLBC *ePcP* PcP 14 52 23.0 +0.2
YKA Yellowknife Ar 45.06 352 P **P 14 50 40.6 -2.1**
YKA 14 52 22.3
YKA Yellowknife Ar 45.06 352 P **P 14 50 40.6 -2.1**
comp=Z,14nm,0.9s,mb4.8,baz=162,slow=7.4,SNR=136
YKA PcP PcP 14 52 22.3 -0.9
comp=Z,2.6nm,0.8s,baz=158,slow=3.4,SNR=10
YKA LR LR 15 11 23.4
comp=Z,253nm,18.3s,MS4.2,baz=150,slow=38
TAOE Nuku Hiva Isla 45.57 237 *eLR* LR 15 03 29.3
comp=Z,13μm,25.4s
SCHQ Schefferville 45.77 28 *eP* **P 14 50 46.2 -2.2**
comp=Z,35nm,0.8s,mb5.3
SCHQ Schefferville 45.77 28 P **P 14 50 46.9 -1.5**
comp=Z,37nm,0.9s,mb5.3,baz=233,slow=6.9,SNR=35
LPAZ La Paz 48.35 133 *eP* **P 14 51 08.7 -0.3**
comp=Z,2.3nm,0.9s,mb4.2
LPAZ *e* pP 14 51 15.3 +0.4
LPAZ *ePcP* PcP 14 52 35.1 -0.5
LPAZ La Paz 48.35 133 *eP* **P 14 51 08.7 -0.4**
LPAZ *e* pP 14 51 15.3 +0.4
LPAZ *e* 14 52 35.1
LPAZ pmax pmax
comp=Z,2.0nm,0.9s
LPAZ La Paz 48.35 133 P **P 14 51 07.8 -1.3**
comp=Z,2.1nm,0.8s,mb4.2,baz=335,slow=12,SNR=6.2
LPAZ pP pP 14 51 15.9 +1.0
comp=Z,4.2nm,0.9s,baz=209,slow=1.2,SNR=7.0
LPAZ PcP PcP 14 52 35.4 -0.2
comp=Z,2.3nm,0.9s,baz=307,slow=5.1,SNR=2.6
RKT Rikitea 51.66 219 *eS* **S 14 59 01.7 +7.1**
comp=Z,161nm,36.0s
RKT *eLR* LR 15 06 28.1
comp=Z,493nm,29.8s
DAWY Dawson 52.13 341 *eP* **P 14 51 37.0 -0.1**
EGAK Eagle 53.18 341 *eP* **P 14 51 44.8 0.0**
comp=Z,22nm,0.9s,mb5.1
INK Inuvik 53.75 346 *eP* **P 14 51 48.2 -0.7**
comp=Z,846nm,0.8s
SLKM Skilak Lake 54.02 333 *eP* **P 14 51 51.3 +0.3**
PMR Palmer 54.13 335 *eP* **P 14 51 51.7 -0.1**
comp=Z,23nm,0.7s,mb5.2
PMR Palmer 54.13 335 *eP* **P 14 51 51.7 -0.1**
PMR pmax pmax
comp=Z,23nm,0.7s,mb5.2
MCK McKinley 55.21 337 *eP* **P 14 51 59.9 +0.2**
comp=Z,26nm,1.0s,mb5.2
MCK McKinley 55.21 337 *eP* **P 14 51 59.9 +0.3**
MCK pmax pmax
comp=Z,26nm,1.0s,mb5.2
COLA College 55.47 338 *eP* **P 14 52 00.8 -0.6**
comp=Z,19nm,0.9s,mb5.1
COLA *ePcP* PcP 14 53 00.8 -0.6
COLA College 55.47 338 *eP* **P 14 52 00.9 -0.6**
COLA *e* 14 53 00.9
COLA pmax pmax
comp=Z,19nm,0.9s,mb5.1
SVW2 Sparrevohn 56.62 332 *eP* **P 14 52 09.1 -0.7**
RES Resolute Bay 56.72 3 *eP* **P 14 52 08.1 -2.2**
comp=Z,172nm,0.9s,mb6.1
RES *e* 14 52 17.7
RES *ePcP* PcP 14 53 05.2 -0.9
TTA Tatalina 57.59 334 *eP* **P 14 52 15.7 -0.9**
comp=Z,54nm,1.2s,mb5.5
TTA Tatalina 57.59 334 *eP* **P 14 52 15.7 -0.9**
TTA pmax pmax
comp=Z,54nm,1.2s,mb5.5
PPT Papeete 58.08 235 *eS* **S 15 00 24.4 +3.3**
comp=Z,152nm,29.8s
PPT *eSS* SS 15 04 13.1 +0.1
comp=Z,89nm,24.5s
PPT *eLR* LR 15 09 20.4
comp=Z,445nm,25.2s,baz=60
PPT Papeete 58.08 235 LR LR 15 12 58.7
comp=Z,261nm,18.4s,MS4.4,baz=321,slow=31
IMA2 Indian Mountai 58.17 338 *eP* **P 14 52 19.4 -1.2**
TBI Tubuai 61.44 230 *eLR* LR 15 11 04.4
comp=Z,419nm,25.5s,baz=49
TNA Tin City 63.38 335 *eP* **P 14 52 56.0 0.0**
comp=Z,40nm,0.9s,mb5.5
BDFB Brasilia 63.58 118 P **P 14 52 57.6 -0.6**
comp=Z,3.2nm,0.8s,mb4.4,baz=268,slow=16,SNR=8.8
GAMB Gambell 64.56 333 *eP* **P 14 53 03.5 -0.4**
PLCA Paso Flores 65.81 154 *eP* **P 14 53 12.0 -0.2**
comp=Z,15nm,1.0s,mb5.0
PLCA *e* pP 14 53 18.0 -0.2
PLCA Paso Flores 65.81 154 *eP* **P 14 53 12.0 -0.2**
PLCA pmax pmax
comp=Z,15nm,1.0s
PLCA Paso Flores 65.81 154 P **P 14 53 10.6 -1.6**
comp=Z,5.5nm,0.8s,mb4.6,baz=325,slow=7.0,SNR=5.7
PLCA pP pP 14 53 18.9 +0.7
comp=Z,11nm,0.8s,baz=331,slow=6.2,SNR=7.9
PLCA LR LR 15 18 01.2
comp=Z,252nm,18.1s,MS4.5,baz=1.5,slow=32
ADK Adak 66.00 319 *eP* **P 14 53 11.3 -2.1**
comp=Z,11nm,0.8s,mb4.9
ADK *e* 14 53 18.9
ADK Adak 66.00 319 *eP* **P 14 53 11.3 -2.1**
ADK *e* 14 53 18.9
ADK pmax pmax
comp=Z,11nm,0.8s,mb4.9
TRQA Tornquist 67.80 146 *eP* **P 14 53 23.6 -1.4**
comp=Z,4.2nm,0.8s,mb4.5
TRQA *e* pP 14 53 29.7 -1.3
BILL Bilibino 73.67 337 *eP* **P 14 53 60.0 -0.4**
comp=Z,8.3nm,1.0s,mb4.6
BILL Bilibino 73.67 337 *c iP* **P 14 54 00.3 0.0**
BILL *e* 14 54 15.4
BILL pmax pmax
comp=Z,16nm,1.3s,mb4.8
BILL MLR MLR
comp=Z,400nm,15.0s,MS4.8
SEY Seymchan 80.55 333 ⇑*eP* **P 14 54 39.5 +0.4**
ESK Eskdalemuir 80.61 35 *eP* **P 14 54 39.5 -0.1**

comp=Z,17nm,0.9s,mb5.0
ESK Eskdalemuir 80.61 35 *e*P **P 14 54 39.5 -0.1**
ESK pmax pmax
comp=Z,17nm,0.9s,mb5.0
STS Santiago 80.92 48 P **P 14 54 41.7 +0.2**
comp=Z,26nm,1.0s,mb5.1
STS Santiago 80.92 48 P **P 14 54 41.7 +0.2**
STS pmax pmax
comp=Z,26nm,1.0s,mb5.1
ELOB Lobios 81.56 49 P **P 14 54 44.8 -0.1**
comp=Z,15nm,0.9s,mb4.9
EPON Pontenova 81.78 47 P **P 14 54 46.0 0.0**
comp=Z,16nm,0.9s,mb4.9
PVIS Viseu 82.01 50 *e*P **P 14 54 47.5 +0.2**
comp=Z,26nm,1.1s,mb5.1
MTE Manteigas 82.36 50 *e*P **P 14 54 49.0 -0.2**
comp=Z,36nm,1.3s,mb5.1
MVO Moncorvo 82.51 49 *e*P **P 14 54 50.2 +0.3**
comp=Z,24nm,1.7s,mb5.0
MA2 Magadan 82.54 331⇑*e*P **P 14 54 49.7 0.0**
MA2 pmax pmax
comp=Z,31nm,1.9s,mb5.0
EVO Evora 82.56 52 *e*P **P 14 54 49.7 -0.6**
comp=Z,40nm,0.9s,mb5.1
EVO *e*MLR MLR
comp=Z,190nm,20.5s,MS4.2
PCBR Castelo Branco 82.58 51 *e*P **P 14 54 50.5 +0.2**
comp=Z,24nm,1.3s,mb5.1
PESTR Estremoz 82.78 52 *e*P **P 14 54 51.8 +0.4**
ROSF Rostrenen 82.81 42 *e*P **P 14 54 51.4 +0.1**
comp=Z,13nm,0.8s,mb4.7
ROSF Rostrenen 82.81 42 *e*P **P 14 54 51.4 +0.1**
comp=Z,6.3nm,0.8s,mb4.7
ROSF Rostrenen 82.81 42 *e*P **P 14 54 51.4 +0.1**
ROSF pmax pmax
comp=Z,6.0nm,0.8s,mb4.7
PBEJ Beja 82.83 52 *e*P **P 14 54 50.8 -0.8**
comp=Z,18nm,1.0s,mb5.0
PBDV Barranco-do-Ve 83.01 53 *e*P **P 14 54 53.7 +1.1**
comp=Z,75nm,1.5s,mb5.5
QUIF Quistinic 83.01 42 *e*P **P 14 54 51.7 -0.7**
comp=Z,19nm,0.9s,mb4.8
QUIF Quistinic 83.01 42 *e*P **P 14 54 51.7 -0.7**
comp=Z,9.5nm,0.9s,mb4.8
QUIF Quistinic 83.01 42 *e*P **P 14 54 51.7 -0.7**
QUIF pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
PVAQ Vaqueiros 83.12 53 *e*P **P 14 54 51.6 -1.6**
comp=Z,31nm,1.3s,mb5.2
SGMF Saint Gilles 83.29 41 *e*P **P 14 54 53.9 +0.1**
PBAR Barrancos 83.40 52 *e*P **P 14 54 54.8 +0.2**
comp=Z,12nm,1.6s,mb4.7
EMIN Mina Concepcio 83.80 52 P **P 14 54 57.0 +0.3**
comp=Z,11nm,0.7s,mb5.1
TIXI Tiksi 83.86 346 *e*P **P 14 54 55.2 -1.1**
comp=Z,26nm,1.0s,mb5.3
TIXI Tiksi 83.86 346⇑*e*P **P 14 54 55.1 -1.2**
TIXI pmax pmax
comp=Z,32nm,1.1s,mb5.4
GRR Gorron 84.30 41 *e*P **P 14 54 59.5 +0.5**
comp=Z,51nm,0.9s,mb5.4
GRR Gorron 84.30 41 *e*P **P 14 54 59.5 +0.5**
comp=Z,26nm,0.9s,mb5.3
GRR Gorron 84.30 41 *e*P **P 14 54 59.5 +0.5**
GRR pmax pmax
comp=Z,26nm,0.9s,mb5.4
FLN La Foliniere 84.40 41 *e*P **P 14 55 00.0 +0.5**
comp=Z,86nm,0.9s,mb5.6
FLN *e*MLR MLR
comp=Z,89nm,17.0s,MS3.9
FLN La Foliniere 84.40 41 *e*P **P 14 55 00.0 +0.5**
comp=Z,43nm,0.9s,mb5.6
FLN LR LR
comp=Z,90nm,17.0s,MS4.2
FLN La Foliniere 84.40 41 *e*P **P 14 55 00.0 +0.5**
FLN pmax pmax
comp=Z,43nm,0.9s,mb5.6
FLN MLR MLR
comp=Z,90nm,17.0s,MS4.2
LDF La Druitiere 84.69 41 *e*P **P 14 55 01.5 +0.6**
comp=Z,38nm,1.0s,mb5.2
LDF La Druitiere 84.69 41 *e*P **P 14 55 01.5 +0.6**
comp=Z,19nm,1.0s,mb5.2
LDF La Druitiere 84.69 41 *e*P **P 14 55 01.5 +0.6**
LDF pmax pmax
comp=Z,19nm,1.0s,mb5.2
ESPR Espera 84.70 53 P **P 14 55 01.8 +0.6**
comp=Z,8.3nm,0.9s,mb4.9
GUD Guadarrama 84.74 49 P **P 14 55 02.0 +0.6**
comp=Z,15nm,1.0s,mb5.1
GUD Guadarrama 84.74 49 P **P 14 55 02.0 +0.6**
GUD pmax pmax
comp=Z,15nm,1.0s,mb5.1
PAB San Pablo 84.96 50 *e*P **P 14 55 02.7 +0.2**
comp=Z,20nm,1.0s,mb5.2
PAB San Pablo 84.96 50 *e*P **P 14 55 02.7 +0.2**
PAB pmax pmax
comp=Z,20nm,1.0s,mb5.2
ESDC Sonseca Array 85.20 50 P **P 14 55 04.0 +0.3**
comp=Z,5.2nm,0.7s,mb4.8,baz=304,slow=4.9,SNR=23
ESLA Sonseca Array 85.20 50 *e*P **P 14 55 03.1 -0.6**
comp=Z,1.6nm,0.8s,mb4.2
ECRI Cripan 85.24 47 P **P 14 55 04.6 +0.8**
comp=Z,18nm,0.9s,mb5.2
ECRI Cripan 85.24 47 P **P 14 55 04.6 +0.8**
ECRI pmax pmax
comp=Z,18nm,0.9s,mb5.2
EADA Adamuz 85.25 52 P **P 14 55 04.3 +0.3**
comp=Z,8.8nm,0.7s,mb5.0
KONO Kongsberg 85.27 28⇑*e*P **P 14 55 04.1 +0.5**
ARCES ARCESS Array B 85.28 16 P **P 14 55 03.2 -0.2**
comp=Z,16nm,1.0s,mb5.1,baz=320,slow=3.6,SNR=11
ARCES LR LR 15 35 20.1
comp=Z,214nm,18.2s,MS4.6,baz=302,slow=37
NB2 NORSAR Subarra 85.31 26 P **P 14 55 03.6 -0.2**
comp=Z,6.6nm,0.8s,mb4.8,baz=298,slow=4.8
NOA NORSAR Array B 85.31 26 P **P 14 55 03.6 -0.2**
comp=Z,6.3nm,0.8s,mb4.8,baz=300,slow=4.7,SNR=23
NOA LR LR 15 34 52.1
comp=Z,95nm,18.4s,MS4.2,baz=150,slow=37
MFF Saint Martin d 85.40 42 *e*P **P 14 55 04.5 0.0**
comp=Z,34nm,1.1s,mb5.1
MFF Saint Martin d 85.40 42 *e*P **P 14 55 04.5 0.0**
comp=Z,17nm,1.1s,mb5.1
MFF Saint Martin d 85.40 42 *e*P **P 14 55 04.5 0.0**
MFF pmax pmax
comp=Z,17nm,1.1s,mb5.1
EALK Alkurruntz 85.72 46 P **P 14 55 06.1 -0.1**
comp=Z,156nm,2.2s,mb5.8
EBAN Banos Encina 85.83 51 P **P 14 55 07.3 +0.4**
comp=Z,14nm,0.8s,mb5.2
EBAN Banos Encina 85.83 51 P **P 14 55 07.4 +0.5**
EBAN pmax pmax
comp=Z,14nm,0.8s,mb5.2
ELOJ Sierra Loja 85.90 52 P **P 14 55 08.3 +1.1**
comp=Z,13nm,0.8s,mb5.2
ELOJ Sierra Loja 85.90 52 P **P 14 55 08.3 +1.0**
ELOJ pmax pmax
comp=Z,13nm,0.8s,mb5.2
SJPF Ste Jean 85.95 46 *e*P **P 14 55 07.0 -0.3**
ETOR Torete 86.18 48 P **P 14 55 09.0 +0.4**
comp=Z,14nm,0.8s,mb5.3
ETOR Torete 86.18 48 P **P 14 55 09.0 +0.5**
ETOR pmax pmax
comp=Z,14nm,0.8s,mb5.2
ERON Agron 86.20 52 P **P 14 55 09.8 +1.1**
comp=Z,17nm,0.9s,mb5.3
ECOG Cogollos-Vega 86.30 52 P **P 14 55 10.3 +1.1**
comp=Z,8.8nm,0.7s,mb5.1
ECOG Cogollos-Vega 86.30 52 P **P 14 55 10.3 +1.1**
ECOG pmax pmax
comp=Z,9.0nm,0.7s,mb5.1
ETSF Etsaut 86.48 46 *e*P **P 14 55 10.5 +0.5**
comp=Z,43nm,0.9s,mb5.4
ETSF Etsaut 86.48 46 *e*P **P 14 55 10.5 +0.5**
comp=Z,22nm,0.9s,mb5.4
ETSF Etsaut 86.48 46 *e*P **P 14 55 10.5 +0.5**
ETSF pmax pmax
comp=Z,22nm,0.9s,mb5.4
EQES Quesada 86.49 51 P **P 14 55 11.9 +1.7**
comp=Z,7.7nm,0.6s,mb5.1
LFF La Frestale 86.59 44 *e*P **P 14 55 10.1 -0.4**
comp=Z,37nm,0.8s,mb5.4
LFF La Frestale 86.59 44 *e*P **P 14 55 10.1 -0.4**
comp=Z,18nm,0.8s,mb5.4
LFF La Frestale 86.59 44 *e*P **P 14 55 10.1 -0.4**
LFF pmax pmax
comp=Z,18nm,0.8s,mb5.3
EVIA Vianos 86.62 51 P **P 14 55 11.5 +0.7**
comp=Z,26nm,0.7s,mb5.6
EVIA Vianos 86.62 51 P **P 14 55 11.5 +0.7**
EVIA pmax pmax
comp=Z,26nm,0.7s,mb5.6
BAIF Baives 86.73 38 *e*P **P 14 55 11.5 +0.5**
comp=Z,14nm,0.8s,mb5.0
BAIF Baives 86.73 38 *e*P **P 14 55 11.5 +0.5**
comp=Z,7.1nm,0.8s,mb5.0
BAIF Baives 86.73 38 *e*P **P 14 55 11.5 +0.5**
BAIF pmax pmax
comp=Z,7.0nm,0.8s,mb4.9
RJF Les Rejaudoux 86.96 43 *e*P **P 14 55 11.5 -0.8**
comp=Z,60nm,1.0s,mb5.5
RJF *e*MLR MLR
comp=Z,80nm,17.8s,MS3.9
RJF Les Rejaudoux 86.96 43 *e*P **P 14 55 11.5 -0.8**
comp=Z,30nm,1.0s,mb5.5
RJF LR LR
comp=Z,80nm,17.8s,MS4.2
RJF Les Rejaudoux 86.96 43 *e*P **P 14 55 11.5 -0.8**
RJF pmax pmax
comp=Z,30nm,1.0s,mb5.5
RJF MLR MLR
comp=Z,80nm,17.8s,MS4.2
TCF Toulx Ste Croi 87.03 42 *e*P **P 14 55 11.7 -0.9**
EBIE Bielsa 87.04 46 P **P 14 55 13.3 +0.6**
comp=Z,17nm,0.8s,mb5.3
GIVF Givet 87.07 38 *e*P **P 14 55 12.3 -0.4**
ECHE Chera 87.40 49 P **P 14 55 14.8 +0.2**
comp=Z,6.7nm,0.9s,mb4.9
ECHE Chera 87.40 49 P **P 14 55 14.8 +0.3**
ECHE pmax pmax
comp=Z,7.0nm,0.9s,mb4.9
EMOS Mosqueruela 87.47 48 P **P 14 55 15.8 +0.9**
comp=Z,21nm,0.7s,mb5.5
SSF Saint Saulge 87.53 41 *e*P **P 14 55 13.9 -1.1**
comp=Z,13nm,0.9s,mb4.9
SSF Saint Saulge 87.53 41 *e*P **P 14 55 13.9 -1.1**
comp=Z,6.3nm,0.9s,mb4.8
SSF Saint Saulge 87.53 41 *e*P **P 14 55 13.9 -1.1**
SSF pmax pmax
comp=Z,6.0nm,0.9s,mb4.8
LOR Lormes 87.67 41 *e*P **P 14 55 14.8 -0.9**
comp=Z,22nm,1.0s,mb5.0
LOR *e*MLR MLR
comp=Z,149nm,18.8s,MS4.1
LOR Lormes 87.67 41 *e*P **P 14 55 14.8 -0.9**
comp=Z,11nm,1.0s,mb5.0
LOR LR LR
comp=Z,150nm,18.8s,MS4.4
LOR Lormes 87.67 41 *e*P **P 14 55 14.8 -0.9**
LOR pmax pmax
comp=Z,11nm,1.0s,mb5.0
LOR MLR MLR
comp=Z,150nm,18.8s,MS4.4
MTLF Montolieu 88.19 45 *e*P **P 14 55 17.7 -0.5**
comp=Z,18nm,1.1s,mb4.9
MTLF Montolieu 88.19 45 *e*P **P 14 55 17.7 -0.5**
comp=Z,9.1nm,1.0s,mb5.0
MTLF Montolieu 88.19 45 *e*P **P 14 55 17.7 -0.5**
MTLF pmax pmax
comp=Z,9.0nm,1.0s,mb5.0
VIVF Saint-Julien-l 89.19 43 *e*P **P 14 55 22.2 -0.7**
comp=Z,29nm,1.3s,mb5.2
VIVF Saint-Julien-l 89.19 43 *e*P **P 14 55 22.2 -0.7**
comp=Z,14nm,1.3s,mb5.2
VIVF Saint-Julien-l 89.19 43 *e*P **P 14 55 22.2 -0.7**
VIVF pmax pmax
comp=Z,15nm,1.3s,mb5.2
CDF Champ du Feu 89.25 39 *e*P **P 14 55 22.2 -0.9**
HINF Hinteralfeld 89.27 39 *e*P **P 14 55 22.8 -0.4**
ORIF Oris-en-Rattie 89.94 42 *e*P **P 14 55 25.8 -0.6**
comp=Z,5.5nm,0.7s,mb4.7
ORIF *e*MLR MLR
comp=Z,179nm,17.5s,MS4.2
ORIF Oris-en-Rattie 89.94 42 *e*P **P 14 55 25.8 -0.6**
comp=Z,2.8nm,0.6s,mb4.8
ORIF Oris-en-Rattie 89.94 42 *e*P **P 14 55 25.8 -0.6**
ORIF pmax pmax
comp=Z,3.0nm,0.6s,mb4.8
YAK Yakutsk 89.99 338 *e*P **P 14 55 24.5 -1.8**
comp=Z,15nm,0.8s,mb5.4
YAK Yakutsk 89.99 338 *e*P **P 14 55 25.3 -1.0**
YAK pmax pmax
comp=Z,16nm,0.9s,mb5.3
SMRF Simiane la Rot 90.15 43 *e*P **P 14 55 26.6 -0.8**
LPL La Plagne 90.22 41 *e*P **P 14 55 27.6 -0.1**
LPG La Plagne 90.24 42 *e*P **P 14 55 27.6 -0.2**
KAF Kangasniemi 90.52 21 *e*p **P 14 55 26.3 -2.4**
comp=Z,6.8nm,0.8s,mb5.0,baz=309,slow=4.5
KAF Kangasniemi 90.52 21 *e*P **P 14 55 26.3 -2.4**
KAF pmax pmax
comp=Z,7.0nm,0.8s,mb5.0
FINES FINESS Array B 90.89 22 P **P 14 55 29.5 -1.0**
comp=Z,3.4nm,0.8s,mb4.7,baz=249,slow=3.3,SNR=9.6
GRA1 Grafenberg Arr 90.94 36 *e*P **P 14 55 30.8 -0.1**
comp=Z,9.0nm,1.1s,mb5.0
GRF Grafenberg Arr 90.94 36 *e*P **P 14 55 30.8 -0.1**
GRF pmax pmax
comp=Z,9.0nm,1.1s,mb5.0
GRF Grafenberg Arr 90.94 36 *e*P **P 14 55 30.8 -0.1**
GRF pmax pmax
comp=Z,9.0nm,1.1s,mb5.0
GRF Grafenberg Arr 90.94 36 *e*P **P 14 55 30.8 -0.1**
comp=Z,9.0nm,1.1s,mb5.0
FRF La Foret Royal 91.03 43 *e*P **P 14 55 30.9 -0.6**
CLL Collm 91.10 34 *e*P **P 14 55 31.0 -0.7**
CLL pmax pmax
comp=Z,4.0nm,0.9s,mb4.8
CLL Collm 91.10 34 *e*P **P 14 55 31.0 -0.7**
comp=Z,4.0nm,0.9s,mb4.8
JOF Joensuu 91.60 19 *e*p **P 14 55 30.5 -3.2**
comp=Z,2.8nm,0.7s,mb4.7
BRG Berggiesshubel 91.83 34 *e*P **P 14 55 34.7 -0.4**
BRG pmax pmax
comp=Z,4.0nm,1.1s,mb4.7
BRG MLR MLR
comp=N,163nm,20.0s,MS4.6
BRG MLR MLR
comp=E,101nm,15.4s,MS4.6
BRG MLR MLR
comp=Z,130nm,19.4s,MS4.4
BRG Berggiesshubel 91.83 34 *e*P **P 14 55 34.7 -0.4**
comp=Z,6.2nm,1.1s,mb4.8
BRG
comp=N,272nm,20.0s
BRG
comp=E,169nm,15.4s
BRG
comp=Z,217nm,19.4s
YSS Yuzh-Sakhalins 92.51 321 *e*P **P 14 55 37.4 -0.9**
comp=Z,12nm,0.9s,mb5.3
YSS Yuzh-Sakhalins 92.51 321⇓*e*P **P 14 55 37.9 -0.4**
YSS pmax pmax
comp=Z,20nm,1.0s,mb5.5
KHC Kasperske Hory 92.55 36 *e*P **P 14 55 38.0 -0.4**
KHC *e*x x 14 55 47.1
PRU Pruhonice 92.62 35 *e*P **P 14 55 38.1 -0.7**
GERES GERESS Array B 92.77 36 P **P 14 55 39.4 0.0**
comp=Z,1.5nm,0.9s,mb4.4,baz=335,slow=5.9,SNR=6.8
GERES LR LR 15 39 38.1
comp=Z,106nm,18.1s,MS4.3,baz=86,slow=37
DPC Dobruska-Polom 93.39 34 *e*P **P 14 55 42.1 -0.2**
ZST Bratislava 95.02 36 *e*P **P 14 55 50.5 +0.7**
comp=Z,17nm,1.4s,mb5.3
ZST LR LR
comp=Z,100nm,17.3s,MS4.3
ZST Bratislava 95.02 36 *e*P **P 14 55 50.5 +0.7**
ZST pmax pmax
comp=Z,17nm,1.4s,mb5.3
ZST MLR MLR
comp=Z,100nm,17.3s,MS4.3
LIC Lamto 95.45 82 *e*P **P 14 55 50.9 -1.6**
comp=Z,23nm,1.0s,mb5.3
LIC *e*MLR MLR
comp=Z,151nm,22.0s,MS4.1
LIC Lamto 95.45 82 *e*P **P 14 55 50.9 -1.6**
comp=Z,11nm,1.0s,mb5.3
LIC LR LR
comp=Z,80nm,22.0s,MS4.2
DBIC Dimbokro 95.47 81 *e*P **P 14 55 51.1 -1.5**
comp=Z,4.1nm,0.9s,mb4.9
DBIC Dimbokro 95.47 81 *e*P **P 14 55 51.1 -1.5**
DBIC pmax pmax
comp=Z,4.0nm,0.9s
DBIC Dimbokro 95.47 81 P **P 14 55 51.6 -1.0**
comp=Z,3.4nm,0.9s,mb4.8,baz=252,slow=6.4,SNR=3.9
DBIC LR LR 15 38 51.9
comp=Z,98nm,19.1s,MS4.3,baz=275,slow=36
VYHS Vyhne 95.79 35 *e*P **P 14 55 53.4 +0.1**
comp=Z,5.1nm,1.1s,mb4.9
VYHS Vyhne 95.79 35 *e*P **P 14 55 53.4 +0.1**
VYHS pmax pmax
comp=Z,5.0nm,1.1s,mb4.9
HABR Khabarovsk 96.05 325 *e*P **P 14 55 53.8 -0.7**
HABR *e* 15 01 48.7
HABR *e*S SKSac 15 06 20.5 -10
HABR *e* 15 07 07.2
HABR *e* 15 13 34.8
HABR *e* 15 17 19.9
KEST Kesra 96.43 49 LR LR 15 42 08.0
comp=Z,53nm,19.0s,MS4.0,baz=220,slow=37
STHS Stebnicka Huta 96.52 33 *e*P **P 14 55 57.0 +0.4**
comp=Z,3.0nm,0.9s,mb4.7
STHS Stebnicka Huta 96.52 33 *e*P **P 14 55 57.0 +0.4**
STHS pmax pmax
comp=Z,3.0nm,0.9s,mb4.7
KECS Kecovo 96.69 34 *e*P **P 14 55 57.3 -0.1**
comp=Z,5.2nm,1.0s,mb4.9
KECS Kecovo 96.69 34 *e*P **P 14 55 57.3 -0.1**
KECS pmax pmax
comp=Z,5.0nm,1.0s,mb4.9
PSZ Piszkesteto 96.70 35 *e*P **P 14 55 58.4 +0.9**
comp=Z,8.2nm,0.8s,mb5.2
PSZ Piszkesteto 96.70 35 *e*P **P 14 55 58.4 +0.9**
PSZ pmax pmax
comp=Z,8.0nm,0.8s,mb5.2
CRVS Cervenica-Dubn 96.95 33 *e*P **P 14 55 59.0 +0.4**
KOLS Kolonicke sedl 97.35 33 *e*P **P 14 55 54.6 -5.8**
OBN Obninsk 99.29 22⇑*i*P **P 14 56 07.6 -1.3**
OBN *e* 15 00 08.1
OBN pmax pmax
comp=Z,40nm,2.5s,mb5.5
OBN MLR MLR
comp=Z,200nm,15.0s,MS4.7
TORD Torodi Ar. Bea 99.34 73 P **P 14 56 07.3 -2.8**
comp=Z,0.6nm,0.9s,mb4.1,baz=272,slow=5.2,SNR=3.0
TORD LR LR 15 42 05.5
comp=Z,136nm,18.1s,MS4.5,baz=285,slow=36
AKASG Malin Array Be 99.56 29 P **P 14 56 08.8 -1.5**
AKASG Malin Array Be 99.56 29 P **P 14 56 08.8 -1.5**
comp=Z,2.5nm,0.7s,mb4.7,baz=296,slow=3.7,SNR=10
SONM Songino Array 109.29 340 PKiKP PKiKP 15 00 56.0 -1.2
comp=Z,0.3nm,0.6s,baz=29,slow=3.3,SNR=2.8
KIV Kislovodsk 110.61 26 *i* PKIKP PKiKP 15 01 00.2 +0.4
KIV pmax pmax
comp=Z,5.0nm,1.2s
HHC Hu-ho-hao-te 113.18 332 *e*PKP PKiKP 15 01 01.8 -3.0
HHC PP PP 15 01 57.8 +4.2
HHC PKS 15 04 34.8
HHC PP PP
comp=Z,102nm,5.1s
HHC LR LR
comp=Z,148nm,15.1s,MS4.7
MKAR Makanchi Array 115.20 356 PKP PKiKP 15 01 07.0 -1.6
MKAR PKKPab PKKPab 15 11 48.3 -3.3
MKAR Makanchi Array 115.20 356 PKP PKiKP 15 01 07.0 -1.6
comp=Z,0.6nm,0.6s,baz=29,slow=1.9,SNR=7.9
MKAR PKKPab PKKPab 15 11 48.3 -3.3
comp=Z,0.2nm,0.4s,baz=183,slow=4.6,SNR=3.6
WMQ Urumqi 117.59 351 *e*PKP PKPdf 15 01 09.0 -4.2
EKS2 Erkin-Say 119.42 3 *e*PKPdf PKPdf 15 01 16.5 -0.3
EKS2 *e* 15 01 25.4
UCH Uchtor 119.88 2 *e*PKPdf PKPdf 15 01 18.1 +0.4
UCH *e* 15 01 27.3
AML Almayashu 119.94 3 *e*PKPdf PKPdf 15 01 17.8 0.0
LZH Lanzhou 120.45 335 *e*PKP PKPdf 15 01 18.3 -0.7
LZH LR LR
comp=E,153nm,18.2s
LZH LR LR
comp=Z,217nm,20.4s,MS4.8
STKA Stephens Creek 120.79 243 PKP PKPdf 15 01 19.1 -0.5
comp=Z,3.2nm,0.9s,baz=126,slow=1.8,SNR=9.4
STKA pPKP pPKPdf 15 01 27.9 +2.0
comp=Z,4.2nm,0.8s,baz=54,slow=2.9,SNR=7.0
CD2 Chengdu 124.94 332 *e*PKP PKPdf 15 01 25.4 -2.3
CD2 PP PP 15 03 17.5 +2.7
CD2 PKS 15 05 00.8
CD2 SKKS SKKSac 15 10 04.8 -9.0
CD2 PP PP
comp=Z,100nm,8.4s
CD2 LR LR
comp=N,240nm,20.4s
CD2 LR LR
comp=Z,210nm,18.8s,MS4.8
WRA Warramunga Arr 126.15 258 PKP PKPdf 15 01 29.3 -0.9
comp=Z,2.9nm,0.8s,baz=80,slow=1.9,SNR=20
WRA pPKP pPKPdf 15 01 38.2 +1.6
comp=Z,5.1nm,0.8s,baz=80,slow=1.6,SNR=16
ASAR Alice Springs 127.00 254 PKhKP 15 01 23.3
comp=Z,0.6nm,0.9s,baz=86,slow=4.7,SNR=5.2
ASAR PKP PKPdf 15 01 30.6 -1.1
comp=Z,2.0nm,0.8s,baz=100,slow=2.2,SNR=16
ASAR pPKP pPKPdf 15 01 39.0 +1.0
comp=Z,3.1nm,0.8s,baz=99,slow=2.5,SNR=13
GYA Guiyang 127.22 326 *e*PDIF Pdif 14 58 11.0 -2.1
GYA PKP PKPdf 15 01 31.3 -0.9
GYA PP PP 15 03 33.8 +3.6
GYA PKS 15 05 06.3
GYA S Sdif 15 11 21.6 -11
GYA PP PP
comp=Z,120nm,7.6s
GYA LR LR
comp=N,200nm,22.2s,MS5.0
GYA LR LR
comp=E,240nm,21.4s,MS5.0
GYA LR LR
comp=Z,320nm,20.8s,MS5.0
KMI Kunming 130.31 329 PKP PKPdf 15 01 38.9 +0.8
KMI PP PP 15 03 53.8 +3.5
KMI SS SS 15 21 13.4 -2.5
KMI LR LR
comp=N,113nm,17.4s,MS4.8
KMI LR LR
comp=E,109nm,18.6s,MS4.8
KMI LR LR
comp=Z,120nm,19.8s,MS4.6
BOSA Boshof 131.54 112 PKP PKPdf 15 01 40.4 +0.1
comp=Z,3.5nm,0.8s,baz=319,slow=4.2,SNR=4.9
FITZ Fitzroy Crossi 134.05 262 PKP PKPdf 15 01 45.6 +0.4
comp=Z,1.2nm,0.9s,baz=80,slow=6.1,SNR=2.4
HYB Hyderabad 144.64 358 *e*P PKPdf 15 02 02.0 -2.6
HYB Hyderabad 144.64 358 *i* PKP PKPdf 15 02 02.0 -2.6
comp=Z,65nm,1.0s
KULM Kulim 147.16 313 *e*PKPbc PKPbc 15 02 10.3 -0.9
KULM *e* 15 02 18.3
PSI Prapat 150.12 312 PKP PKPdf 15 02 13.4 -0.4
comp=Z,33nm,0.9s,baz=0.0,slow=3.0,SNR=3.3
PSI PKPbc PKPbc 15 02 17.8 -1.1
comp=Z,30nm,0.8s,baz=328,slow=3.0,SNR=28

MEX 13 14:55:45.4±0.4, 1718N×10044W, h38km±5km, MD3.6, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.21**	**128**	*i* P	Pn	14 55 51.2	-1.4
CAIG				*i* S	Sn	14 55 55.9	-1.8
ACX	**Acapulco**	**0.59**	**122**	*i* P	Pn	14 55 55.5	-1.9
ACX				*i* S	Sn	14 56 04.0	-1.8
MEIG	**Mezcala**	**1.08**	**47**	*i* P	Pn	14 56 02.4	-1.6
MEIG				*i* S	Sn	14 56 15.5	-2.3
PLIG	**Platanillo**	**1.50**	**37**	*i* P	Pn	14 56 08.8	-1.1
PLIG				*i* S	Sn	14 56 26.0	-2.2

ISCJB ***13*** *15:00:22.4±0.7, 88S±02×1114E±0.1, h10km, mb3.9/12, Error ellipse: s-maj=27.4km s-min=6.7km az=38.9*
IDC ***13*** *15:00:22.8±1.4, 881S×1142E, h0km, mb3.7/7, mb1 3.8/7, mb1mx3.7/15, mbtmp3.7/7, Error ellipse: s-maj=63.3km s-min=17.8km az=56.0*
NEIC ***13*** *15:00:23.1±0.8, 905S×11128E, h10km, mb4.1/5, Error ellipse: s-maj=34.8km s-min=11.9km az=54.0*
ISC 13 15:00:24.3±0.7, 88S±02×1114E±01, h10km, n18, σ0§65/20, mb3.9/12, 1C-1D, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOGI	**Yogyakarta**	**1.50**	**312**⇓*e*P		**Pg**	**15 00 56.5**	**+3.4**

YOGI				*e*S	Sg	15 01 16.6	+4.1
BJII	**Banjamegara**	**2.25**	**311⇑**	*e*P	Pg	15 01 07.7	+0.2
BJII				*e*S	Sg	15 01 35.3	-1.4
MBWA	**Marble Bar**	**14.64**	**148**	*e*Pn	Pn	15 03 45.3	-6.4
MBWA				*e*Sn	Sx	15 06 06.2	
KULM	**Kulim**	**17.66**	**322**	P	Pn	15 04 23.1	-7.5
WRA	**Warramunga Arr**	**24.76**	**119**	P	P	15 05 46.8	+0.5
	1.2nm,0.7s,mb3.5,baz=291,slow=12,SNR=9.8						
WRA				PcP	PcP	15 09 23.4	+0.2
	0.4nm,0.9s,baz=307,slow=1.4,SNR=4.7						
WRAB	**Tennant Creek**	**24.77**	**119**	P	P	15 05 46.3	-0.1
	3.0nm,0.9s,mb3.8						
ASAR	**Alice Springs**	**26.09**	**127**	P	P	15 05 58.4	+0.1
	0.3nm,0.4s,mb3.1,baz=301,slow=9.4,SNR=18						
ASAR				PcP	PcP	15 09 26.3	+0.2
	0.5nm,0.5s,baz=308,slow=2.0,SNR=12						
STKA	**Stephens Creek**	**36.20**	**134**	P	P	15 07 27.1	-0.3
	1.1nm,0.7s,mb3.9,baz=324,slow=12,SNR=3.6						
HNR	**Honiara**	**47.89**	**95**	P	P	15 08 58.3	-4.8
MJAR	**Matsushiro Arr**	**51.68**	**28**	P	P	15 09 31.3	-0.2
	0.9nm,0.6s,mb3.9,baz=213,slow=8.3,SNR=3.7						
ULN	**Ulaanbaatar**	**56.58**	**356**	*e*P	P	15 10 06.8	-0.3
	1.2nm,0.5s,mb4.2						
SONM	**Songino Array**	**56.59**	**356**	P	P	15 10 07.7	+0.6
	0.6nm,0.5s,mb3.9,baz=176,slow=8.2,SNR=8.3						
SONM				PcP	PcP	15 11 03.7	+0.1
	0.4nm,0.5s,baz=185,slow=3.0,SNR=3.5						
UCH	**Uchtor**	**61.00**	**329**	P	P	15 10 38.4	+0.5
	0.6nm,0.6s,mb3.9						
MK31	**Makanchi Array**	**61.16**	**338**	*e*P	P	15 10 38.6	-0.3
MKAR	**Makanchi Array**	**61.16**	**338**	P	P	15 10 39.0	+0.1
	0.7nm,0.5s,mb4.1,baz=152,slow=7.6,SNR=11						
KURK	**Kurchatov**	**65.77**	**338**	P	P	15 11 09.0	-0.4
	1.2nm,0.7s,mb4.0						
ZALV	**Zalesovo Beam**	**66.46**	**343**	P	P	15 11 13.4	-0.3
	0.5nm,0.4s,mb3.9,baz=123,slow=5.5,SNR=5.4						
KMBO	**Kilima Mbogo**	**74.18**	**271**	P	P	15 12 01.6	-0.3
	7.0nm,1.3s,mb4.4						

ISCJB ***13*** *15:02:27.2±0.6, 677N×007×7301W±007, h166km±6km, mb3.5/4, Error ellipse: s-maj=15.3km s-min=7.1km az=44.8*
FUNV ***13*** *15:02:27.8, 676N×7318W, h170km, MW3.1*
IDC ***13*** *15:02:27.5±0.8, 669N×7298W, h159km±10km, mb3.0/3, mb1 3.5/5, mb1mx3.2/20, mbtmp3.1/5, Error ellipse: s-maj=32.9km s-min=8.0km az=131.0*
NEIC ***13*** *15:02:28.4±0.8, 664N×7291W, h172km±9km, mb4.1/1, Error ellipse: s-maj=26.9km s-min=13.1km az=124.0*

ISC 13 15:02:28.3±0.6, 675N±007×7299W±007, h161km±6km, n23, σ0°72/28, mb3.5/4, 2C-1D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**1.30**	**31⇓**	*i*P	Pn	15 02 57.5	+0.8
CAPV				*e*S	Sn	15 03 18.9	+0.4
ROSC	**El Rosal**	**2.31**	**215**	P	Pn	15 03 08.4	+0.8
	22nm,0.3s,baz=97,slow=19,SNR=22						
ROSC				S	Sn	15 03 37.0	-1.0
	7.0nm,0.3s,baz=101,slow=18,SNR=6.4						
SOCV	**Socops**	**2.61**	**54⇑**	*e*P	Pn	15 03 12.2	+1.0
SOCV				*e*S	Sn	15 03 44.6	+0.1
VIGV	**El Vigia**	**2.63**	**38**	*e*P	Pn	15 03 11.8	+0.3
VIGV				*e*S	Sn	15 03 44.4	-0.6
SDV	**Santo Domingo**	**3.16**	**48**	P	Pn	15 03 19.0	+0.9
SDV				S	Sn	15 03 56.8	+0.1
SDV	**Santo Domingo**	**3.16**	**48**	P	Pn	15 03 19.0	+0.9
	8.8nm,0.3s,baz=261,slow=4.8,SNR=39						
SDV				S	Sn	15 03 56.8	+0.1
	13nm,0.3s,baz=66,slow=23,SNR=30						
ELOV	**Elorza**	**3.49**	**86**	*e*P	Pn	15 03 23.2	+0.9
VIRV	**Villa del Rosa**	**3.77**	**9⇑**	*i*P	Pn	15 03 24.2	-1.8
VIRV				*e*S	Sn	15 04 06.4	-4.4
QARV	**Quebrada Arrib**	**4.21**	**35**	*e*P	Pn	15 03 31.8	+0.2
SANV	**Sanarito**	**4.38**	**51**	*e*P	Pn	15 03 33.4	-0.4
CURV	**Curarigua**	**4.42**	**43**	*e*P	Pn	15 03 34.1	-0.2
TEPV	**Terepaima**	**4.93**	**49**	*e*P	Pn	15 03 41.7	+0.7
SIQV	**Siquisique**	**4.99**	**39**	*e*P	Pn	15 03 41.2	-0.6
BAUV	**El Baul**	**5.37**	**66**	*e*P	Pn	15 03 46.1	-0.7
TURV	**Turiamo**	**6.28**	**54**	*e*P	Pn	15 03 58.3	-0.6
CAOV	**Caicara del Or**	**6.64**	**85**	*e*P	Pn	15 04 03.2	-0.4
BIRV	**Birongo**	**7.61**	**60**	*e*P	Pn	15 04 15.5	-1.0
WVT	**Waverly**	**32.25**	**337**	P	P	15 08 42.9	+1.4
	3.2nm,0.8s,mb4.1						
TXAR	**Lajitas Array**	**36.61**	**312**	P	P	15 09 19.1	-0.1
	0.3nm,0.5s,mb3.1,baz=119,slow=9.4,SNR=3.5						
PDAR	**Pinedale Array**	**48.21**	**324**	P	P	15 10 52.7	+0.1
	0.2nm,0.5s,mb3.0,baz=138,slow=9.7,SNR=2.4						
YKA	**Yellowknife Ar**	**63.38**	**340**	P	P	15 12 39.8	-0.3
	0.6nm,0.6s,mb3.6,baz=130,slow=6.6,SNR=17						
ASAR	**Alice Springs**	**149.17**	**234**	PKPbc	PKPbc	15 21 57.5	-1.0
	0.1nm,0.4s,baz=118,slow=3.3,SNR=4.2						
WRA	**Warramunga Arr**	**150.42**	**241**	PKPbc	PKPbc	15 22 00.7	-1.0
	0.2nm,0.4s,baz=108,slow=2.6,SNR=10						

CSEM ***13*** *15:08:41.9±0.3, 3839N×2046E, h5km, MD3.6, Error ellipse: s-maj=5.5km s-min=2.6km az=74.0*
SKO ***13*** *15:08:41.6, 3846N×1970E, h0km*
ATH ***13*** *15:08:42.4, 3832N×2047E, h13km±2km, MD3.6/9*
NEIC ***13*** *15:08:42.4, 3832N×2047E, h13km, MD3.6(ATH), After ATH.*
ISCJB ***13*** *15:08:42.9±0.8, 3838N±003×2056E±006, h3km±5km, Error ellipse: s-maj=7.4km s-min=4.2km az=166.9*
THE ***13*** *15:08:43.6, 3837N×2057E, h3km, ML3.6*

ISC 13 15:08:43.1±0.9, 3837N±003×2053E±006, h2km±6km, n22, σ1°00/31, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.20**	**165**	*e*PG	Pg	15 08 46.6	-0.2
VLS				*e*SG	Sg	15 08 50.1	+0.8
KFL	**Anninata**	**0.33**	**141**	*e*Pg	Pg	15 08 48.9	-0.5
LKD	**Levkas**	**0.35**	**16**	*e*Pg	Pg	15 08 49.3	-0.6
LKD				*e*Sg	Sg	15 08 55.5	+1.0
RLS	**Riolos of Patr**	**0.80**	**112**	*e*PG	Pg	15 08 57.9	-0.5
RLS				*e*SB	Sg	15 09 10.2	+1.4
SELA	**Sela**	**1.08**	**94**	*e*Pg	Pg	15 09 02.5	-1.2
SELA				*e*Sg	Sg	15 09 18.7	+0.9
EVR	**Evrytania**	**1.15**	**61**	*e*PN	Pg	15 09 04.2	-0.8
IGT	**Igoumenitsa**	**1.18**	**353**	*e*Sg	Sg	15 09 23.1	+2.2
IGT	**Igoumenitsa**	**1.18**	**353**	*e*Sg	Sg	15 09 23.0	+2.2
JAN	**Janina**	**1.31**	**11**	*e*PB	Pb	15 09 08.5	0.0
KEK	**Kerkira**	**1.46**	**337**	*e*PB	Pn	15 09 10.3	-0.2
AGG	**Agios Georgios**	**1.56**	**65**	*e*Pg	Pn	15 09 11.6	-0.2
AGG				*e*Sg	Sg	15 09 32.6	-0.5
ITM	**Ithomi**	**1.62**	**136**	*e*PG	Pn	15 09 12.4	-0.3
THL	**Klokotos Trika**	**1.67**	**44**	*e*PN	Pn	15 09 14.2	+0.9
LTK	**Loutraki**	**1.95**	**99**	*e*Pb	Pn	15 09 17.5	+0.3
LKR	**Lokris**	**1.96**	**81**	*e*PN	Pb	15 09 18.8	-0.7
DID	**Didima**	**2.31**	**111**	*e*Pn	Pn	15 09 22.8	+0.7
VLI	**Veliai**	**2.52**	**130**	*e*PN	Pn	15 09 25.5	+0.4
BIA	**Bitola**	**2.72**	**13**	*i* Pn	Pn	15 09 28.5	+0.7
BIA				*i* Sn	Sb	15 10 03.1	-3.2
OHR	**Ohrid**	**2.75**	**4**	*i* Pn	Pn	15 09 26.1	-2.1
OHR				*i* Sn	Sn	15 10 02.7	+0.7
KRUS	**Krusevo**	**3.05**	**10**	*i* Pn	Pn	15 09 32.3	-0.1
KRUS				*i* Sn	Sn	15 10 10.2	+0.8
KRUS	**Krusevo**	**3.05**	**10**	*i* Pn	Pn	15 09 32.2	-0.1
KRUS				*i* Sn	Sn	15 10 10.2	+0.8
VAY	**Valandovo**	**3.34**	**27**	*i* Pn	Pb	15 09 40.4	-2.7

IDC ***13*** *15:20:53.8±24.0, 682S×14655E, h171km±140km, mb3.2/3, mb1 3.4/5, mb1mx3.2/13, mbtmp3.2/5, ML3.7/2, Error ellipse: s-maj=221.0km s-min=50.2km az=29.0*

ISC 13 15:20:50.1±13.0, 67S±08×1465E±05, h139km±64km, n9, σ0°55/9, mb3.8/2, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**13.36**	**181**	P	Pn	15 23 54.6	+0.3
	0.2nm,0.3s,baz=360,slow=13,SNR=6.9						
KAKA	**Kakadu**	**15.07**	**245**	*e*P	Pn	15 24 15.7	-0.2
	7.9nm,0.6s						
WB2	**Warramunga Arr**	**17.68**	**221**	*e*P	Pn	15 24 47.6	-0.2
WRA	**Warramunga Arr**	**17.69**	**221**	P	Pn	15 24 47.5	-0.4
	0.3nm,0.3s,baz=42,slow=11,SNR=22						
ASAR	**Alice Springs**	**20.78**	**214**	P	P	15 25 21.1	+0.8
	0.5nm,0.4s,baz=47,slow=9.1,SNR=37						
FITZ	**Fitzroy Crossi**	**23.27**	**239**	*e*P	P	15 25 45.5	+0.1
	7.3nm,0.6s,mb4.3						
FITZ	**Fitzroy Crossi**	**23.27**	**239**	P	P	15 25 46.3	+0.9
	4.5nm,0.6s,mb4.1,baz=74,slow=9.3,SNR=16						
STKA	**Stephens Creek**	**25.50**	**190**	*e*P	P	15 26 04.5	-1.1
	0.5nm,0.4s,mb3.5						
STKA	**Stephens Creek**	**25.50**	**190**	P	P	15 26 05.0	-0.5
	0.4nm,0.4s,mb3.4,baz=36,slow=8.7,SNR=4.4						

IDC 13 15:26:28.9±1.5, 759S×15577E, h0km, mb3.5/3, mb1 3.6/4, mb1mx3.4/13, mbtmp3.6/4, ML3.8/1, MS3.8/1, Ms1 3.8/1, ms1mx2.8/17, Error ellipse: s-maj=42.8km s-min=34.8km az=6.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.52**	**114**	Pn	Pn	15 27 38.7	+0.1
	4.9nm,0.3s,baz=260,slow=3.4,SNR=3.9						
HNR				Sn	Sn	15 28 27.4	-4.6
	8.4nm,0.3s,baz=275,slow=18,SNR=2.5						
WRA	**Warramunga Arr**	**24.12**	**237**	P	P	15 31 46.9	+0.3
	0.2nm,0.6s,baz=64,slow=9.5,SNR=3.5						
NWAO	**Narrogin (SRO)**	**43.68**	**229**	LR	LR	15 54 09.7	
	comp=Z,132nm,21.5s,baz=102,slow=38						
MKAR	**Makanchi Array**	**84.36**	**319**	P	P	15 39 01.5	-1.5
	0.5nm,0.7s,baz=104,slow=6.1,SNR=3.4						
ZALV	**Zalesovo Beam**	**85.10**	**326**	P	P	15 39 08.6	+2.0
	0.6nm,0.5s,baz=123,slow=5.3,SNR=4.0						

NIED ***13*** *15:28:00, 3730N×13670E, h5km, Mw3.5 Best double couple: Mo1.87000×10^14 NP1:φs5.00000°, δ56.00000°, λ95.00000°. NP2:φs177.00000°, δ34.00000°, λ83.00000°.*
ISCJB ***13*** *15:28:28.7±1.1, 3728N±004×13660E±007, h12km±8km, mb3.6/2, Error ellipse: s-maj=9.0km s-min=7.2km az=167.6*
IDC ***13*** *15:28:29.9±3.3, 3701N×13655E, h0km, mb3.4/2, mb1 3.6/3, mb1mx3.3/21, mbtmp3.4/3, ML3.2/1, MS4.0/1, Ms1 4.0/1, ms1mx2.6/20, Error ellipse: s-maj=77.4km s-min=15.9km az=7.0*
JMA ***13*** *15:28:29.6, 3728N×13668E, h3km±1km, M3.5*
JMA Felt II J1.

ISC 13 15:28:30.1±0.9, 3728N±003×13669E±007, h10km±6km, n9, σ0°58/14, mb3.6/2, 1C-1D, Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JJH	**Hakui**	**0.36**	**168**	⇑P	Pg	15 28 37.0	-0.2
JJH				S	Sg	15 28 42.6	+0.6
JSZ	**Suzu**	**0.56**	**72**	⇓P	Pg	15 28 40.6	-0.4
JSZ				S	Sg	15 28 48.8	+0.4
JHG	**Hegura jima**	**0.60**	**18**	P	Pg	15 28 41.9	+0.2
JHG				S	Sg	15 28 49.8	+0.2
JTT	**Ttatey**	**0.85**	**142**	P	Pg	15 28 45.9	-0.5
JTT				S	Sg	15 28 58.1	+0.7
MAT	**Matsushiro**	**1.42**	**121**	P	Pn	15 28 55.7	-0.2
MAT				S	Sn	15 29 15.3	+0.7
MJAR	**Matsushiro Arr**	**1.42**	**121**	Pg	Pg	15 28 56.0	-1.4
	20nm,0.3s,baz=314,slow=18,SNR=119						
MJAR				Lg		15 29 16.4	
	13nm,0.3s,baz=283,slow=26,SNR=10						
KSRS	**Korea Array**	**6.99**	**274**	Pn	Pn	15 30 13.1	+0.7
	0.5nm,0.3s,baz=87,slow=14,SNR=6.6						
WRA	**Warramunga Arr**	**56.95**	**183**	P	P	15 38 15.1	-0.5
	0.4nm,0.5s,mb3.8,baz=360,slow=7.8,SNR=11						
ASAR	**Alice Springs**	**60.67**	**183**	P	P	15 38 41.0	-0.4
	0.2nm,0.6s,mb3.4,baz=12,slow=10,SNR=7.1						

ISCJB ***13*** *15:53:04.3±0.9, 3838N±004×205E±0.1, h2km±11km, Error ellipse: s-maj=16.3km s-min=5.1km az=168.2*
CSEM ***13*** *15:53:04.9±0.2, 3837N×2050E, h2km, MD3.5, Error ellipse: s-maj=6.7km s-min=2.1km az=70.0*
THE ***13*** *15:53:04.5, 3836N×2052E, h13km, ML3.1*
NEIC ***13*** *15:53:04.2, 3834N×2048E, h14km, MD3.5(ATH), After ATH.*
ATH ***13*** *15:53:04.2, 3834N×2048E, h14km, MD3.5/5*

ISC 13 15:53:04.7±0.9, 3836N±004×205E±01, h10km±8km, n9, σ0°76/12, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.19**	**164**	*e*PG	Pg	15 53 08.8	+0.1
VLS				*e*SG	Sg	15 53 12.2	+0.8
KFL	**Anninata**	**0.33**	**140**	*e*Pg	Pg	15 53 11.1	-0.1
LKD	**Levkas**	**0.36**	**16**	*e*Pg	Pg	15 53 11.5	-0.3
LKD				*e*Sg	Sg	15 53 17.6	+1.0
RLS	**Riolos of Patr**	**0.81**	**112**	*e*PB	Pb	15 53 20.1	-0.6
SELA	**Sela**	**1.08**	**94**	*e*Pg	Pg	15 53 24.4	-1.1
IGT	**Igoumenitsa**	**1.18**	**353**	*e*Pg	Pg	15 53 26.1	-1.2
IGT				*e*Sg	Sg	15 53 42.5	-0.1
KEK	**Kerkira**	**1.46**	**338**	*e*PB	Pb	15 53 31.9	0.0
ITM	**Ithomi**	**1.62**	**136**	*e*PB	Pb	15 53 34.7	0.0
THL	**Klokotos Trika**	**1.67**	**44**	*e*PN	Pn	15 53 35.6	+1.6

IDC 13 16:07:10.6±1.8, 316N×12709E, h0km, mb3.4/4, mb1 3.6/4, mb1mx3.4/16, mbtmp3.4/4, Error ellipse: s-maj=149.1km s-min=23.3km az=65.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.04**	**163**	P	P	16 12 27.4	-0.1
	0.6nm,0.5s,baz=343,slow=10,SNR=14						
WB2	**Warramunga Arr**	**24.04**	**163**	*e*P	P	16 12 27.5	-0.1
ASAR	**Alice Springs**	**27.48**	**166**	P	P	16 12 58.8	+0.1
	0.1nm,0.3s,baz=345,slow=9.8,SNR=7.6						
STKA	**Stephens Creek**	**37.47**	**159**	*e*P	P	16 14 26.2	+0.2
	1.8nm,1.4s						
STKA	**Stephens Creek**	**37.47**	**159**	P	P	16 14 26.0	0.0
	0.6nm,0.6s,baz=351,slow=8.5,SNR=5.1						
MKAR	**Makanchi Array**	**58.22**	**325**	P	P	16 17 06.9	+0.2
	0.2nm,0.3s,baz=122,slow=7.6,SNR=3.1						

IDC ***13*** *16:07:53.1±1.9, 3.10N×12694E, h0km, mb3.9/4, mb1 4.0/4, mb1mx3.7/16, mbtmp3.9/4, Error ellipse: s-maj=172.0km s-min=22.9km az=65.0*
ISCJB ***13*** *16:07:56.1±1.6, 3.1N±03×1267E±06, h33km, mb3.8/5, Error ellipse: s-maj=91.7km s-min=20.2km az=157.6*

ISC 13 16:07:58.2±1.5, 31N±02×1269E±05, h35km, n8, σ0°51/8, mb3.8/5, 1D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNE	**Ternate**	**2.32**	**169⇓**	*e*P	Pn	16 08 25.5	-8.5
FITZ	**Fitzroy Crossi**	**21.09**	**183**	*e*P	P	16 12 39.6	-0.1
	3.3nm,1.2s,mb3.5						
WRA	**Warramunga Arr**	**24.01**	**163**	P	P	16 13 09.4	-0.5
	2.7nm,0.6s,mb3.8,baz=341,slow=10,SNR=21						
WB2	**Warramunga Arr**	**24.01**	**163**	*e*P	P	16 13 09.6	-0.3
ASAR	**Alice Springs**	**27.44**	**166**	P	P	16 13 42.0	+1.1
	0.6nm,0.3s,mb3.6,baz=345,slow=6.7,SNR=14						
STKA	**Stephens Creek**	**37.45**	**159**	*e*P	P	16 15 08.6	+0.2
	2.1nm,0.9s,mb4.0						
STKA	**Stephens Creek**	**37.45**	**159**	P	P	16 15 08.0	-0.4
	1.2nm,0.4s,mb4.1,baz=336,slow=8.5,SNR=9.4						
MKAR	**Makanchi Array**	**58.20**	**325**	P	P	16 17 48.8	0.0
	0.5nm,0.5s,mb3.8,baz=114,slow=8.8,SNR=5.4						

PDA ***13*** *16:08:40.9±1.0, 3734N×2465W, h0km, MD4.1, ML4.2, Error ellipse: s-maj=13.6km s-min=5.2km az=36.0*
CSEM ***13*** *16:08:40.9±1.0, 3734N×2465W, h0km, ML4.2, Error ellipse: s-maj=13.6km s-min=5.2km az=36.0, After PDA*

SVSA 13 16:08:40.9±1.0, 3734N×2465W, h0km, MD4.1, ML4.2, Error ellipse: s-maj=13.6km s-min=5.2km az=36.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDA	**Ponta Delgada**	**0.90**	**297**	*e*P	Pg	16 08 55.0	-3.2
PDA				*e*S	Sg	16 09 00.8	-9.1
PSCM	**Serra do Cume**	**2.38**	**306**	*i* P	Pn	16 09 16.1	-5.0
PSCM				*e*S	Sn	16 09 42.7	-8.3
PSCM				A		16 09 46.4	
	704nm,0.2s						
ADH	**Angra Heroismo**	**2.43**	**304**	*e*P	Pn	16 09 17.1	-4.7
ADH				*e*S	Sn	16 09 44.2	-8.0
PSBA	**Serra de Santa**	**2.55**	**305**	*e*P	Pn	16 09 18.9	-4.6
PSBA				*e*S	Sn	16 09 47.6	-7.6
PSBA				A		16 09 51.4	
	807nm,0.4s						
PSBA	**Serra de Santa**	**2.55**	**305**	*e*P	Pn	16 09 18.9	-4.6
PSBA				*e*S	Sn	16 09 47.6	-7.6
PID	**Ribeirinha**	**2.96**	**293**	*e*P	Pn	16 09 24.4	-4.7
PID				*e*S	Sn	16 09 57.3	-8.0
PMAN	**Manadas**	**3.01**	**297**	*e*P	Pn	16 09 25.1	-4.7
PMAN				*e*S	Sn	16 09 58.0	-8.5
PMAN				A		16 10 00.3	
	64nm,0.1s						
PMAN	**Manadas**	**3.01**	**297**	*e*P	Pn	16 09 25.1	-4.7
PMAN				*e*S	Sn	16 09 58.0	-8.5
ROSA	**Rosais**	**3.15**	**297**	*e*P	Pn	16 09 27.4	-4.4
ROSA				*e*S	Sn	16 10 01.9	-8.2
SRBC	**Serra Branca**	**3.17**	**303**	*e*P	Pn	16 09 27.7	-4.2
SRBC				*e*S	Sn	16 10 02.3	-8.1
PICO	**Pico**	**3.20**	**292**	*e*P	Pn	16 09 28.3	-4.2
PICO				*e*S	Sn	16 10 03.4	-7.9
HOR	**Horta**	**3.36**	**292**	*e*P	Pn	16 09 30.2	-4.5
HOR				*e*S	Sn	16 10 06.8	-8.5
CALA	**Caldeira**	**3.44**	**292**	*e*P	Pn	16 09 31.2	-4.4
CALA				*e*S	Sn	16 10 09.0	-8.0
PCED	**Cedros**	**3.45**	**293**	*e*P	Pn	16 09 31.3	-4.6

NEIC ***13*** *16:10:18.6, 18.17N×68.16W, h80km, MD3.3(RSPR), After RSPR.*

RSPR 13 16:10:18.6, 1817N×6816W, h80km, MD3.3/14, MD3.3/14, 15C-3D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IMO	**Isla Mona**	**0.25**	**103⇓**	*e*P	Pn	16 10 30.3	-0.3
IMO				*e*S	Sn	16 10 39.1	-0.4
CRPR	**Cabo Rojo, PR**	**1.01**	**99⇓**	*e*P	Pn	16 10 37.1	-0.7
CRPR				*e*S	Sn	16 10 51.6	-0.6
LSP	**Las Mesas**	**1.02**	**89⇑**	*e*P	Pn	16 10 37.6	-0.3
LSP				*e*S	Sn	16 10 52.2	-0.2
AGPR	**Aguadilla, PR**	**1.04**	**73⇑**	*e*P	Pn	16 10 37.1	-1.1
AGPR				*e*S	Sn	16 10 52.4	-0.4
GBPR	**Guanica, Bosqu**	**1.24**	**99⇑**	*e*P	Pn	16 10 39.9	-0.7
GBPR	**Guanica, Bosqu**	**1.24**	**99**	*e*S	Sn	16 10 56.6	-0.4
LRS	**Lares**	**1.26**	**84⇑**	*e*P	Pn	16 10 40.4	-0.4
LRS				*e*S	Sn	16 10 57.5	-0.1
AOPR	**Arecibo Observ**	**1.35**	**82⇑**	*e*P	Pn	16 10 41.7	-0.3
AOPR				*e*S	Sn	16 10 59.1	-0.6
SMN1	**Samana, DR**	**1.46**	**314⇑**	*e*P	Pn	16 10 43.1	-0.4
SMN1	**Samana, DR**	**1.46**	**314**	*e*S	Sn	16 11 01.9	-0.3
OBIP	**Obispado Ponce**	**1.49**	**95⇑**	*e*P	Pn	16 10 42.8	-0.9
OBIP				*e*S	Sn	16 11 02.2	-0.5
CELP	**Cerrillos**	**1.51**	**93⇑**	*e*P	Pn	16 10 42.9	-1.1
CELP				*e*S	Sn	16 11 02.5	-0.7
ICM	**Isla Caja Muer**	**1.59**	**100⇓**	*i*P	Pn	16 10 44.1	-0.9
ICM				*e*S	Sn	16 11 04.0	-1.0
SJG	**San Juan**	**1.92**	**91⇑**	*e*P	Pn	16 10 48.0	-1.3
SJG				*e*S	Sn	16 11 12.3	-0.5
SJG	**San Juan**	**1.92**	**91⇑**	*e*P	Pn	16 10 48.0	-1.3
SJG	**San Juan**	**1.92**	**91**	*e*S	Sn	16 11 11.6	-1.1
SJG	**San Juan**	**1.92**	**91⇑**	*e*P	Pn	16 10 48.0	-1.3
SJG				*e*S	Sn	16 11 11.6	-1.1
CPD	**Cerro la Pandu**	**2.14**	**93⇑**	*e*P	Pn	16 10 50.6	-1.7
CPD				*e*S	Sn	16 11 15.2	-3.0
CBYP	**Canovanas**	**2.19**	**87⇑**	*e*P	Pn	16 10 49.6	-3.4
CBYP				*e*S	Sn	16 11 16.1	-3.3
HUMP	**Col San Antoni**	**2.20**	**90⇑**	*e*P	Pn	16 10 52.9	-0.3
HUMP				*e*S	Sn	16 11 18.2	-1.3
MTP	**Monte Pirata**	**2.48**	**91⇑**	*e*P	Pn	16 10 53.2	-3.7
MTP				*e*S	Sn	16 11 23.4	-3.0
SDDR	**Presa de Saban**	**3.07**	**286**	*e*Pn	Pn	16 11 07.0	+2.1
SDDR				*e*Sn	Sn	16 11 46.3	+5.6

ISCJB ***13*** *16:18:10.7±0.7, 4227N±005×7599E±003, h2km±7km, Error ellipse: s-maj=7.7km s-min=4.3km az=173.7*
KNET ***13*** *16:18:10.1±0.5, 4228N×7601E, h14km±4km, ml2.2, Error ellipse: s-maj=4.5km s-min=3.4km az=161.0*
NNC ***13*** *16:18:10.6±4.9, 4227N×7599E, h0km, mb3.1, mpv2.9, Error ellipse: s-maj=31.3km s-min=14.6km az=10.0*

ISC 13 16:18:11.0±0.7, 4226N±005×7602E±004, h12km±5km, n12, σ0°59/22, 14C-8D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ULHL	**Ulahol**	**0.17**	**94**	⇑P	Pg	16 18 14.8	0.0
	58nm,0.1s,SNR=863						
ULHL				⇑S	Sg	16 18 17.4	0.0
	705nm,0.1s						
KZA	**Kyzart**	**0.60**	**253**	P	Pg	16 18 22.9	+0.3
	15nm,0.1s,SNR=84						
KZA				⇑S	Sg	16 18 31.6	+1.1
	97nm,0.2s						
TKM2	**Tokmak 2**	**0.73**	**335**	⇑P	Pg	16 18 24.6	-0.5
	6.1nm,0.3s						
TKM2				⇑S	Sg	16 18 34.5	-0.2
	84nm,0.2s						
TKM2	**Tokmak 2**	**0.73**	**335**	⇓P	Pg	16 18 24.7	-0.5
	19nm,0.

4.1nm,1.1s
FITZ Fitzroy Crossi 12.22 195 P **Pn 16 37 21.1 +0.9**
0.2nm,0.3s,baz=30,slow=9.0,SNR=4.8
FITZ S **S 16 39 36.3 -0.1**
0.0nm,0.3s,baz=108,slow=20,SNR=2.4
WRA Warramunga Arr 14.57 160 P **Pn 16 37 48.8 0.0**
0.3nm,0.3s,baz=340,slow=12,SNR=22
WRA S **S 16 40 41.5 +12**
0.1nm,0.3s,baz=328,slow=21,SNR=3.6
WB2 Warramunga Arr 14.57 160 *e*P **Pn 16 37 48.6 -0.3**
ASAR Alice Springs 17.95 165 P **P 16 38 25.9 -0.1**
0.6nm,0.3s,baz=346,slow=11,SNR=92
ASAR S **S 16 41 33.2 -5.8**
baz=348,slow=23,SNR=3.4
STKA Stephens Creek 28.09 157 P **P 16 40 02.5 -0.2**
0.5nm,0.4s,mb3.5,baz=333,slow=14,SNR=2.8

*NEIC **13** 16:44:01.8, 1704N×10031W, h48km, MD3.7(MEX), After MEX.*
MEX 13 16:44:02.7±1.1, 1709N×10034W, h43km±13km, MD3.7, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.09**	**122**	*i* P	Pn	16 44 08.0	-1.6
CAIG				*i* S	Sn	16 44 12.6	-1.8
CAIG	**El Cayaco**	**0.09**	**122**	*e*P	Pn	16 44 08.3	-1.3
CAIG				*i* S	Sn	16 44 12.6	-1.8
MEIG	**Mezcala**	**1.08**	**40**	*i* P	Pn	16 44 19.2	-2.1
MEIG				*i* S	Sn	16 44 32.9	-2.2
ZIIG	**Zihuatanejo**	**1.19**	**296**	*i* P	Pn	16 44 21.1	-1.7
ZIIG				*i* S	Sn	16 44 36.2	-1.6
ZIIG	**Zihuatanejo**	**1.19**	**296**	*i* P	Pn	16 44 21.1	-1.7
ZIIG				*i* S	Sn	16 44 35.6	-2.2
PLIG	**Platanillo**	**1.52**	**32**	*i* P	Pn	16 44 27.1	-0.3
PLIG				*i* S	Sn	16 44 45.3	-0.7
VHO	**Vista Hermosa**	**3.45**	**90**	*i* P	Pn	16 44 54.2	+0.2
VHO				*i* S	Sn	16 45 33.1	-0.6

*IDC **13** 16:45:58.4±9.7, 530S×6807E, h0km, mb3.6/5, mb1 3.7/5, mb1mx3.5/19, mbtmp3.6/5, MS3.8/1, Ms1 3.8/1, ms1mx3.2/23, Error ellipse: s-maj=311.6km s-min=28.5km az=65.0*
ISC 13 16:45:59.2±1.4, 54S±01×679E±02, h10km, n7, σ0°61/7, mb3.7/5, 1C, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRD	**Trivandrum**	**16.48**	**33**	⇑*i* P	**Pn**	**16 49 50.0**	**-0.7**
TRD				*i* S	**Sn**	**16 52 54.0**	**+0.2**
NWAO	**Narrogin (SRO)**	**53.42**	**127**	LR	LR	17 13 04.0	
	comp=Z,84nm,18.9s,baz=285,slow=30						
MKAR	**Makanchi Array**	**53.48**	**12**	P	**P**	**16 55 18.6**	**-1.0**
	0.1nm,0.3s,mb3.3,baz=197,slow=4.5,SNR=3.2						
ZALV	**Zalesovo Beam**	**60.78**	**11**	P	**P**	**16 56 11.8**	**+0.6**
	0.4nm,0.4s,mb3.9,baz=214,slow=4.7,SNR=3.3						
SONM	**Songino Array**	**62.84**	**28**	P	**P**	**16 56 26.0**	**+0.8**
	1.1nm,0.8s,mb4.0,baz=224,slow=4.0,SNR=4.7						
ASAR	**Alice Springs**	**65.90**	**113**	P	**P**	**16 56 45.8**	**+0.1**
	0.3nm,0.8s,mb3.4,baz=292,slow=4.9,SNR=3.9						
WRA	**Warramunga Arr**	**66.05**	**109**	P	**P**	**16 56 46.7**	**-0.1**
	1.0nm,0.9s,mb3.9,baz=287,slow=6.1,SNR=5.8						

*ISCJB **13** 16:48:54.0±0.7, 49S±01×685E±01, h10km, mb4.2/17, MS4.1/11, Error ellipse: s-maj=16.4km s-min=15.3km az=28.1*
*BJI **13** 16:48:54.5, 490S×6850E, h10km, mB5.0, mb4.5, Ms4.7, Msz4.5*
*IDC **13** 16:48:54.9±1.6, 480S×6864E, h0km, mb3.8/6, mb1 3.9/6, mb1mx3.7/20, mbtmp3.8/6, MS4.1/10, Ms1 4.0/10, ms1mx3.8/22, Error ellipse: s-maj=58.6km s-min=25.1km az=54.0*
*GCMT **13** 16:48:56.2±0.4, 504S×6855E, h12km, MW4.9/68, Moment Tensor Solution. s17,c20; s68,c90; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}=-2.29±.09; $M_{\theta\theta}$1.55±.09; $M_{\phi\phi}$0.73±.09; $M_{r\theta}$1.02±.33; $M_{r\phi}$-0.46±.08; $M_{\theta\phi}$-1.85±.40; Best double couple: $M_0$2.88000×10^{16} NP1:ϕ_s109.00000°, δ25.00000°, λ-118.00000°. NP2: ϕ_s319.00000°, δ68.00000°, λ-78.00000°. Principal axes: T 2.4820, Plg22.0000°, Azm40.0000°; N 0.7960, Plg11.0000°, Azm134.0000°; P -3.2790, Plg65.0000°, Azm249.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **13** 16:48:56.1±0.6, 491S×6855E, h10km, mb4.7/9 Error ellipse: s-maj=14.7km s-min=13.5km az=34.0*
ISC 13 16:48:56.2±0.7, 49S±01×685E±01, h10km, n29, σ1°04/21, mb4.2/17, MS4.1/11, Chagos Archipelago region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMBO	**Kilima Mbogo**	**31.47**	**276**	P	**P**	**16 55 18.9**	**+0.5**
	3.0nm,1.1s,mb4.0						
KMBO	**Kilima Mbogo**	**31.47**	**276**	LR	LR	17 05 24.9	
	comp=Z,196nm,19.7s,MS3.8,baz=93,slow=31						
LSZ	**Lusaka**	**40.96**	**252**	LR	LR	17 10 40.4	
	comp=Z,354nm,20.0s,MS4.2,baz=335,slow=32						
UCH	**Uchtor**	**47.25**	**6**	P	**P**	**16 57 30.9**	**+1.4**
	22nm,1.9s,mb4.8						
BOSA	**Boshof**	**47.28**	**235**	LR	LR	17 14 30.8	
	comp=Z,342nm,19.4s,MS4.3,baz=79,slow=32						
EKS2	**Erkin-Say**	**47.61**	**5**	*e*P	**P**	**16 57 34.5**	**+2.1**
	10nm,1.6s,mb4.6						
TKM2	**Tokmak 2**	**48.06**	**7**	*e*P	**P**	**16 57 36.6**	**+0.8**
	8.7nm,1.5s,mb4.6						
KKM	**Kota Kinabalu**	**48.83**	**78**	P	**P**	**16 57 42.1**	**-0.2**
WMQ	**Urumqi**	**51.52**	**18**	P	**P**	**16 58 05.0**	**+2.9**
WMQ				AP	pP	16 58 13.0	+7.7
WMQ				XP	sP	16 58 16.0	+9.5
WMQ				PCP	PcP	16 59 15.0	-1.2
WMQ				S	**S**	**17 05 28.0**	**+5.5**
WMQ				AMB	AMB		
	comp=Z,8.0nm,1.2s,mb4.5						
WMQ				AMB	AMB		
	comp=Z,114nm,4.6s						
WMQ				LR	LR		
	comp=N,536nm,19.3s,MS4.6						
WMQ				LR	LR		
	comp=E,149nm,21.6s,MS4.6						
WMQ				LR	LR		
	comp=Z,434nm,18.9s,MS4.5						
TSUM	**Tsumeb**	**51.61**	**249**	P	**P**	**16 58 03.5**	**+0.2**
	comp=Z,12nm,1.2s,mb4.7						
GTA	**Gaotai**	**52.72**	**30**	*e*P	**P**	**16 58 11.3**	**+0.1**
GTA				AP	pP	16 58 17.6	+3.2
GTA				XP	sP	16 58 21.3	+5.7
GTA				AMB	AMB		
	comp=Z,3.0nm,1.4s,mb4.0						
MK31	**Makanchi Array**	**52.93**	**12**	*e*P	**P**	**16 58 11.6**	**-1.0**
MKAR	**Makanchi Array**	**52.93**	**12**	P	**P**	**16 58 10.8**	**-1.7**
	comp=Z,0.4nm,0.6s,mb3.5,baz=183,slow=6.1,SNR=6.5						
MKAR				PcP	PcP	16 59 21.9	+0.5
	comp=Z,0.4nm,0.8s,baz=217,slow=3.6,SNR=2.3						
KURK	**Kurchatov**	**56.11**	**8**	*e*P	**P**	**16 58 36.0**	**+0.4**
	comp=Z,1.6nm,0.8s,mb4.1						
ZAA0	**Zalesovo Array**	**60.24**	**11**	*e*P	**P**	**16 59 03.5**	**-0.9**
ZALV	**Zalesovo Beam**	**60.24**	**11**	P	**P**	**16 59 03.0**	**-1.4**
	comp=Z,0.4nm,0.4s,mb3.9,baz=212,slow=5.3,SNR=5.8						
ZALV				LR	LR	17 24 24.9	
	comp=Z,78nm,20.3s,MS3.8,baz=359,slow=35						
ARU	**Arti**	**61.70**	**354**	*e*P	**P**	**16 59 13.6**	**-0.7**
	comp=Z,8.0nm,1.3s,mb4.7						
SONM	**Songino Array**	**62.17**	**28**	P	**P**	**16 59 18.0**	**+0.3**
	comp=Z,2.3nm,1.0s,mb4.3,baz=218,slow=6.3,SNR=11						
SONM				LR	LR	17 26 11.0	
	comp=Z,396nm,19.9s,MS4.6,baz=87,slow=36						
ULN	**Ulaanbaatar**	**62.50**	**28**	P	**P**	**16 59 20.2**	**+0.3**
	comp=Z,10nm,1.6s,mb4.7						
MAW	**Mawson**	**62.68**	**182**	LR	LR	17 18 20.0	
	comp=Z,193nm,20.4s,MS4.3,baz=181,slow=28						
AKASG	**Malin Array Be**	**64.90**	**334**	P	**P**	**16 59 34.2**	**-1.5**
	comp=Z,0.1nm,0.3s,mb3.4,baz=130,slow=5.7,SNR=4.6						
ASAR	**Alice Springs**	**65.48**	**114**	P	**P**	**16 59 39.6**	**-0.5**
	comp=Z,0.7nm,0.9s,mb3.7,baz=285,slow=6.1,SNR=6.6						
WRA	**Warramunga Arr**	**65.59**	**110**	P	**P**	**16 59 40.7**	**-0.1**
	comp=Z,1.9nm,0.9s,mb4.1,baz=283,slow=6.4,SNR=7.9						
WRA				LR	LR	17 22 36.1	
	comp=Z,171nm,20.4s,MS4.2,baz=60,slow=31						
WRAB	**Tennant Creek**	**65.60**	**110**	P	**P**	**16 59 41.5**	**+0.6**
	comp=Z,7.8nm,1.1s,mb4.7						

FINES	**FINESS Array B**	**73.85**	**340**	LR	LR	17 34 52.3	
	comp=Z,62nm,18.1s,MS3.9,baz=152,slow=37						
GUMO	**Guam**	**77.93**	**75**	LR	LR	17 32 11.8	
	comp=Z,45nm,18.1s,MS3.8,baz=207,slow=33						
NOA	**NORSAR Array B**	**79.22**	**335**	LR	LR	17 36 27.0	
	comp=Z,48nm,18.6s,MS3.9,baz=180,slow=36						
NVAR	**Mina Array Bea**	**146.09**	**10**	PKPbc	PKPbc	17 08 37.7	+0.8
	comp=Z,1.2nm,0.8s,baz=316,slow=2.5,SNR=6.3						
TXAR	**Lajitas Array**	**154.64**	**344**	PKPbc	PKPbc	17 08 58.9	+0.7
	comp=Z,0.4nm,0.7s,baz=15,slow=2.0,SNR=2.6						
TXAR				PKPab	PKPab	17 09 13.0	+0.3
	comp=Z,1.0nm,0.8s,baz=23,slow=1.2,SNR=3.8						

CASC 13 16:51:56.0±2.2, 752N×8021W, h85km±17km, MD4.3, 1D, Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AZU	**Azuero**	**0.28**	**346**	⇓*i* P	Pn	16 52 10.0	+1.2
AZU				*e*S	Sn	16 52 17.9	-0.3
CNI	**Changuinola**	**2.96**	**310**	*e*P	Pn	16 52 40.4	-0.5
CNI				*e*S	Sn	16 53 10.5	-5.0
BAR1		**3.51**	**299**	*e*P	Pn	16 52 48.3	-0.1
BAR1				*e*S	Sn	16 53 30.4	+1.5
URSC	**Urasca**	**4.21**	**303**	*e*P	Pn	16 53 00.1	+2.2
URSC				*e*S	Sn	16 53 51.5	+5.6
LCR2	**La Lucha 2**	**4.35**	**301**	*e*P	Pn	16 53 00.5	+0.7
PRS1	**Puriscal**	**4.74**	**301**	*e*P	Pn	16 53 06.1	+1.1
PTP	**Ponta Puerca**	**17.75**	**52**	*e*P		16 52 36.9	
PTP				*e*S		16 53 11.5	

*NEIC **13** 16:52:26.0±2.0, 483S×6885E, h10km, mb4.5/1, Error ellipse: s-maj=76.0km s-min=29.6km az=62.0*
IDC 13 16:52:23.6±1.9, 485S×6889E, h0km, mb3.8/5, mb1 3.9/5, mb1mx3.6/20, mbtmp3.8/5, Error ellipse: s-maj=69.0km s-min=28.8km az=59.0, Chagos Archipelago region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**52.77**	**12**	P	P	17 01 40.0	-0.4
	0.2nm,0.2s,baz=200,slow=8.5,SNR=3.9						
MKAR				PcP	PcP	17 02 49.7	-0.2
	0.1nm,0.2s,baz=216,slow=1.2,SNR=2.7						
ZALV	**Zalesovo Beam**	**60.08**	**11**	P	P	17 02 32.0	-0.4
	0.8nm,0.6s,baz=203,slow=7.7,SNR=4.7						
SONM	**Songino Array**	**61.93**	**28**	P	P	17 02 45.7	+0.6
	2.0nm,0.9s,baz=223,slow=6.1,SNR=7.1						
ASAR	**Alice Springs**	**65.20**	**114**	P	P	17 03 06.5	-0.8
	0.6nm,0.9s,baz=281,slow=5.4,SNR=4.8						
WRA	**Warramunga Arr**	**65.30**	**110**	P	P	17 03 08.6	+0.7
	1.6nm,1.0s,baz=284,slow=6.5,SNR=6.1						
TIXI	**Tiksi**	**85.51**	**16**	*e*P	P	17 05 01.7	-1.4
	4.6nm,1.3s						
NVAR	**Mina Array Bea**	**145.94**	**10**	PKPbc	PKPbc	17 12 05.6	0.0
	baz=343,slow=1.9						
TXAR	**Lajitas Array**	**154.64**	**345**	PKPbc	PKPbc	17 12 27.4	+0.1
	0.1nm,0.5s,baz=18,slow=3.9,SNR=2.9						
TXAR				PKPab	PKPab	17 12 41.5	-0.3
	1.8nm,1.2s,baz=101,slow=4.8,SNR=4.1						

MEX 13 16:57:33.4±1.3, 1700N×10029W, h51km±12km, MD3.6, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.05**	**28**	*i* P	Pn	16 57 40.1	-1.2
CAIG				*i* S	Sn	16 57 45.0	-1.9
MEIG	**Mezcala**	**1.12**	**35**	*i* P	Pn	16 57 51.0	-1.8
MEIG				*i* S	Sn	16 58 04.0	-3.2
ZIIG	**Zihuatanejo**	**1.27**	**298**	*i* P	Pn	16 57 53.0	-1.8
ZIIG				*i* S	Sn	16 58 08.7	-2.1
PLIG	**Platanillo**	**1.57**	**28**	*i* P	Pn	16 57 57.9	-1.1
PLIG				*i* S	Sn	16 58 17.6	-0.6

SKHL 13 17:04:28.6±0.9, 5465N×12341E, h10km, mb3.8/4, Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TUP	**Tupik**	**2.03**	**265**	*e*Pn	Pn	17 05 02.7	0.0
KROS	**Kirovskiy**	**2.09**	**95**	*e*Pn	Pn	17 05 02.3	-1.3
KROS				*e*Sg	Sg	17 05 33.6	-2.0
KROS				A		17 05 35.7	
	66nm,0.5s						
KROS				A		17 05 35.7	
	69nm,0.5s						
KROS				A		17 05 35.7	
	26nm,0.5s						
ZEA	**Zeya**	**2.43**	**110**	*e*Pg	Pg	17 05 13.0	-2.2
ZEA				*e*Sn	Sn	17 05 38.0	-0.1
ZEA				*e*Sg	Sg	17 05 44.0	-2.7
ZEA				A		17 05 45.2	
	49nm,0.6s						
ZEA				A		17 05 45.2	
	59nm,0.6s						
YASR	**Yasnyy**	**3.02**	**115**	*e*rx	rx	17 05 20.3	
YASR				*e*Pg	Pg	17 05 22.6	-3.9
YASR				AMB	AMB	17 05 26.5	
	14nm,0.6s						
YASR				*e*Sg	Sg	17 06 02.6	-3.0
YASR				A		17 06 09.6	
	18nm,0.6s						
YASR				A		17 06 09.6	
	33nm,0.6s						
YASR				A		17 06 09.6	
	3.0nm,0.6s						
BMKR	**Bomnak**	**3.15**	**87**	*e*Pn	Pn	17 05 21.2	+3.0
BMKR				*e*Pg	Pg	17 05 25.5	-3.5
BMKR				AMB	AMB	17 05 26.5	
	9.0nm,0.5s						
BMKR				*e*Sn	Sn	17 05 58.5	+2.6
BMKR				*e*Sg	Sg	17 06 07.0	-2.8
BMKR				A		17 06 16.1	
	30nm,0.5s						
BMKR				A		17 06 16.1	
	35nm,0.5s						
BMKR				A		17 06 16.1	
	32nm,0.5s						
CRS	**Chara**	**3.68**	**310**	*e*Pg	Pg	17 05 35.6	-3.4
CRS				AMB	AMB	17 05 36.6	
	48nm,0.5s						
CRS				*e*Sg	Sg	17 06 22.8	-3.7
CRS				A		17 06 23.8	
	51nm,1.0s						
EKMR	**Ekimchan**	**5.86**	**102**	*e*Pn	Pn	17 05 56.4	+1.0
EKMR				AMB	AMB	17 05 57.4	
	4.0nm,0.3s						
EKMR				*e*Sg	Sg	17 07 32.0	-4.7
EKMR				A		17 07 39.0	
	7.0nm,0.5s						

*CSEM **13** 17:20:49.9±0.1, 4057N×2730E, h8km, MD3.0, Error ellipse: s-maj=1.3km s-min=1.1km az=3.0*
*ISCJB **13** 17:20:50.0±0.6, 4055N±003×2730E±003, h2km±6km, Error ellipse: s-maj=5.2km s-min=4.1km az=172.5*
*ISK **13** 17:20:50.1, 4056N×2730E, h7km, MD3.0*
*DDA **13** 17:20:50.9, 4064N×2727E, h17km±2km, Md3.0*
*ATH **13** 17:20:56.9, 4037N×2650E, h10km, MD3.3/3*
ISC 13 17:20:50.4±0.4, 4057N±003×2726E±003, h9km±4km, n23, σ0°79/31, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RKY	**Sarkoy-Tekirda**	**0.14**	**332**	PG	**Pg**	**17 20 53.9**	**+0.4**
RKY				*e*SG	**Sg**	**17 20 55.9**	**+0.3**
MFT	**Murefte**	**0.22**	**3**	PG	**Pg**	**17 20 55.2**	**+0.3**
MFT				*e*SG	**Sg**	**17 20 58.8**	**+0.8**
MRMT	**Marmara Adasi**	**0.26**	**81**	PG	**Pg**	**17 20 55.0**	**-0.5**
MRMT				*e*SG	**Sg**	**17 20 58.6**	**-0.4**
LPK	**Lapseki**	**0.43**	**244**	PG	**Pg**	**17 20 59.4**	**+0.6**
BNT	**Bandirma**	**0.54**	**112**	PG	**Pg**	**17 21 00.0**	**-0.9**
KCT	**Karacabey**	**0.89**	**109**	*e*PG	**Pg**	**17 21 06.9**	**-0.6**
BTOK	**Tokmak**	**0.99**	**144**	*i* P	**Pg**	**17 21 09.2**	**-0.3**
BTOK				*i* S	**Sg**	**17 21 23.6**	**+1.2**
CTT	**Catalca**	**1.06**	**56**	*e*PG	**Pg**	**17 21 09.9**	**-0.8**
ELBA	**Catalca**	**1.06**	**56**	*i* P	**Pg**	**17 21 09.0**	**-1.7**
ELBA				*i* S	**Sg**	**17 21 25.6**	**+1.1**
BOZC	**Bozcaada**	**1.18**	**232**	*i* P	**Pg**	**17 21 12.0**	**-0.8**
BOZC				*i* S	**Sg**	**17 21 28.5**	**+0.3**

AYVA	**Ayvalik**	**1.33**	**200**	*i* P	**Pn**	**17 21 15.1**	**0.0**
AYVA				*i* S	**Sb**	**17 21 33.6**	**+1.0**
DST	**Dursunbey**	**1.42**	**132**	*e*PN	**Pn**	**17 21 16.6**	**+0.3**
RDO	**Rodhopi**	**1.43**	**294**	*e*PB	**Pb**	**17 21 17.1**	**-0.1**
ISK	**Istanbul-Kandi**	**1.45**	**69**	*e*PN	**Pn**	**17 21 16.7**	**-0.1**
GEMT	**Gemlik**	**1.47**	**94**	*e*PN	**Pn**	**17 21 17.1**	**+0.1**
KLYT	**Kilyos**	**1.51**	**62**	*e*PN	**Pn**	**17 21 17.7**	**+0.1**
PRK	**Paraskevi**	**1.52**	**210**	*e*PB	**Pb**	**17 21 18.4**	**-0.4**
YLV	**Yalova**	**1.61**	**89**	*e*PN	**Pn**	**17 21 19.3**	**+0.4**
IZI	**Iznik**	**1.70**	**97**	*e*PN	**Pn**	**17 21 20.3**	**+0.1**
LIA	**Limnos Island**	**1.73**	**248**	*e*PB	**Pn**	**17 21 18.0**	**-2.6**
HRT	**Hereke**	**1.85**	**81**	*e*PN	**Pn**	**17 21 22.8**	**+0.6**
ADVT	**Abdulvahap**	**1.89**	**93**	*e*PN	**Pn**	**17 21 23.7**	**+0.9**
BORA	**Eskisehir**	**2.54**	**105**	*i* P	**Pg**	**17 21 35.5**	**-3.5**
BORA				*i* S	**Sg**	**17 22 12.3**	**+0.4**

*ISCJB **13** 17:41:56.0±1.3, 3622N±007×2246E±009, h8km±9km, Error ellipse: s-maj=14.9km s-min=7.3km az=140.7*
*CSEM **13** 17:41:55.9±0.7, 3617N×2234E, h10km, MD3.3, Error ellipse: s-maj=11.5km s-min=6.0km az=20.0*
*THE **13** 17:41:55.9, 3606N×2209E, h20km, ML3.1*
*NEIC **13** 17:41:56.8, 3622N×2242E, h21km±1km, MD3.3(ATH), After ATH.*
*ATH **13** 17:41:56.8, 3622N×2242E, h21km±1km, MD3.3/5*
ISC 13 17:41:55.4±1.3, 3614N±006×2234E±007, h6km±8km, n10, σ1°15/15, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KYTH	**Kithira**	**0.58**	**76**	*e*PN	**Pg**	**17 42 07.0**	**+0.4**
VLI	**Veliai**	**0.75**	**40**	*e*PN	**Pn**	**17 42 09.7**	**-2.9**
VLI				*e*SN	**Sg**	**17 42 19.1**	**-0.6**
PYL	**PYLOS**	**0.89**	**328**	*e*Pg	**Pg**	**17 42 12.0**	**-0.6**
PYL				*e*Sg	**Sg**	**17 42 25.6**	**+1.4**
ITM	**Ithomi**	**1.09**	**342**	*e*PB	**Pb**	**17 42 15.9**	**-0.8**
ITM				*e*SN	**Sn**	**17 42 31.3**	**-1.3**
VLX	**Vlachokerasia**	**1.23**	**2**	*e*Pg	**Pg**	**17 42 17.6**	**-1.4**
VLX				*e*Sg	**Sg**	**17 42 35.8**	**+0.9**
KARN	**Karanos**	**1.48**	**119**	*e*Pb	**Pb**	**17 42 22.9**	**-0.4**
DID	**Didima**	**1.54**	**28**	*e*Pb	**Pb**	**17 42 23.4**	**-0.9**
DID				*e*Sb	**Sb**	**17 42 45.6**	**+1.5**
VAM	**Vamos**	**1.68**	**115**	*e*PN	**Pn**	**17 42 27.0**	**+1.7**
LTK	**Loutraki**	**1.94**	**15**	*e*Pn	**Pn**	**17 42 29.6**	**+0.7**
RLS	**Riolos of Patr**	**2.04**	**340**	*e*PN	**Pn**	**17 42 31.4**	**+1.2**

MAN 13 18:00:55, 1804N×12068E, h50km, mb4.1, ML3.0, MS2.7, Luzon

*BJI **13** 18:10:58.3, 3345N×14154E, h56km, mB5.1, mb4.9, Ms4.8, Msz4.7*
*NIED **13** 18:11:00, 3370N×14100E, h50km, Mw5.4 Best double couple: $M_0$1.28000×10^{17} NP1:ϕ_s336.00000°, δ59.00000°, λ60.00000°. NP2:ϕ_s204.00000°, δ42.00000°, λ130.00000°.*
*MOS **13** 18:11:01.9±0.8, 3360N×14085E, h34km, mb5.5/116, MS4.8/26, Error ellipse: s-maj=8.1km s-min=3.9km az=112.5*
*JMA **13** 18:11:04.2±0.1, 3368N×14106E, h55km±4km, M5.3*
JMA Felt III J1.
*ISCJB **13** 18:11:05.0±0.1, 3355N±002×14083E±002, h61km, mb5.3/242, Error ellipse: s-maj=2.7km s-min=1.8km az=10.6*
*SZGRF **13** 18:11:05.0, 3424N×14088E, h33km, mb5.4, Near east coast of eastern Honshu, Japan*
*BGS **13** 18:11:05.0±1.3, 3291N×13948E, h60km±999km, mb5.5*
*IDC **13** 18:11:05.6±1.3, 3359N×14104E, h55km±11km, mb4.8/20, mb1 4.9/25, mb1mx4.9/26, mbtmp4.8/25, MS4.5/13, Ms1 4.6/13, ms1mx4.4/40, Error ellipse: s-maj=13.0km s-min=8.0km az=80.0*
*NEIC **13** 18:11:06.3±0.1, 3359N×14081E, mb5.3/153, MW5.3(NIED), Error ellipse: s-maj=3.2km s-min=2.7km az=157.0*
NEIC Recorded [3 JMA] on Hachijo-jima; [2 JMA] on Mikura-jima and Miyake-jima; [1 JMA] on Aoga-shima, Kozu-shima, Nii-jima and O-shima. Also recorded [1 JMA] in Chiba, Fukushima, Ibaraki, Kanagawa, Miyagi, Nagano, Shizuoka, Tochigi and Yamanashi Prefectures, Honshu.
*GCMT **13** 18:11:06.3±0.2, 3360N×14116E, h46km, MW5.4/75, Moment Tensor Solution. s73,c127; s75,c146; Duration: 1°2 Moment tensor: Scale 10^{17}Nm; M_{rr}1.05±.03; $M_{\theta\theta}$0.37±.02; $M_{\phi\phi}$-1.42±.02; $M_{r\theta}$-0.57±.02; $M_{\theta\phi}$0.25±.02; $M_{r\phi}$0.09±.02; Best double couple: $M_0$1.41800×10^{17} NP1:ϕ_s199.00000°, δ48.00000°, λ131.00000°. NP2:ϕ_s326.00000°, δ56.00000°, λ54.00000°. Principal axes: T 1.3720, Plg60.0000°, Azm178.0000°; N 0.0970, Plg29.0000°, Azm349.0000°; P -1.4650, Plg4.0000°, Azm81.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 13 18:11:06.9±0.1, 3360N±002×14082E±002, h63km, h63km±1.1km; pP-P, n1023, σ0°83/1042, mb5.3/242, 205C-110D, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**0.97**	**240**	⇓P	**Pn**	**18 11 24.9**	**+0.3**
JHJ2				S	**Sn**	**18 11 39.9**	**+2.2**
JHJ	**Hachijo jima 2**	**0.99**	**242**	P	**Pn**	**18 11 24.9**	**+0.1**
	10μm,0.3s,baz=254,slow=23,SNR=3039						
JHJ				S	**Sn**	**18 11 40.1**	**+2.0**
BSO1	**Boso 1**	**1.06**	**7**	⇑P	**Pn**	**18 11 22.0**	**-3.8**
JMY	**Miyakejima3**	**1.19**	**294**	⇓P	**Pn**	**18 11 27.1**	**-0.3**
JMY				S	**Sn**	**18 11 42.7**	**-0.1**
BSO3	**Boso 3**	**1.23**	**348**	⇑P	**Pn**	**18 11 25.5**	**-2.5**
BSO4	**Boso 4**	**1.45**	**344**	⇑P	**Pn**	**18 11 29.0**	**-1.9**
NJJJ	**Nii jima 2**	**1.51**	**303**	⇓P	**Pn**	**18 11 31.5**	**-0.2**
NJJJ				S	**Sn**	**18 11 51.8**	**+1.4**
JKO	**Kozu shima**	**1.52**	**293**	P	**Pn**	**18 11 32.0**	**+0.2**
JKO				S	**Sn**	**18 11 52.2**	**+1.5**
KTR	**Katsuura**	**1.60**	**345**	⇑P	**Pn**	**18 11 30.8**	**-2.2**
KTR				S	**Sn**	**18 11 50.1**	**-2.6**
JIM2	**Oshima 3**	**1.60**	**315**	⇓P	**Pn**	**18 11 31.9**	**-1.1**
JIM2				S	**Sn**	**18 11 52.0**	**-0.8**
JIZS	**Izushimoda**	**1.96**	**305**	⇓P	**Pn**	**18 11 37.8**	**0.0**
JIZS				S	**Sn**	**18 12 03.0**	**+1.7**
AJI	**Ajiro2**	**2.03**	**316**	⇓P	**Pn**	**18 11 37.7**	**-1.1**
JOD2	**Odawara 2**	**2.19**	**320**	⇓P	**Pn**	**18 11 40.0**	**-1.0**
JOD2				S	**Sn**	**18 12 06.4**	**-0.6**
TOK	**Tokyo**	**2.26**	**338**	P	**Pn**	**18 11 40.6**	**-1.3**
JSG	**Sagara**

MAT	**Matsushiro**	**3.64 325**	P	**Pn**	**18 12 01.0**	**+0.3**
MAT			S	**Sn**	**18 12 43.0**	**+0.7**
MAT	**Matsushiro**	**3.64 325**	P	**Pn**	**18 12 00.9**	**+0.2**
TSUJ	**Tsu 2**	**3.81 288**	⇓P	**Pn**	**18 12 04.3**	**+1.2**
JKN2	**Miekihoku**	**3.83 281**	⇓P	**Pn**	**18 12 04.7**	**+1.4**
JGN	**Niukaw**	**3.89 313**	⇓P	**Pn**	**18 12 05.9**	**+1.7**
JHK	**Hiroka**	**3.93 339**	P	**Pn**	**18 12 03.1**	**-1.6**
JFT	**Otama**	**3.94 354**	P	**Pn**	**18 12 02.1**	**-2.6**
JGM	**Miyama**	**3.98 303**	⇓P	**Pn**	**18 12 07.1**	**+1.8**
JJN	**Nakama**	**4.12 329**	P	**Pn**	**18 12 07.2**	**0.0**
JTT	**Ttatey**	**4.14 317**	⇓P	**Pn**	**18 12 09.0**	**+1.4**
JIZZ	**Izumozaki**	**4.29 337**	⇑P	**Pn**	**18 12 09.6**	**+0.1**
JHE	**Heguri**	**4.39 285**	P	**Pn**	**18 12 12.2**	**+1.3**
JWY	**Kouya**	**4.39 280**	⇓P	**Pn**	**18 12 12.8**	**+1.9**
JFM	**Mihama**	**4.43 297**	⇓P	**Pn**	**18 12 12.9**	**+1.4**
JKG	**Kaga**	**4.55 307**	⇓P	**Pn**	**18 12 15.3**	**+2.1**
JWM	**Minabe**	**4.56 275**	⇓P	**Pn**	**18 12 15.0**	**+1.7**
JSZ	**Suzu**	**4.77 325**	P	**Pn**	**18 12 16.0**	**-0.1**
JWT	**Wachi**	**4.78 292**	P	**Pn**	**18 12 18.0**	**+1.7**
JSD	**Sado**	**4.90 336**	⇓P	**Pn**	**18 12 16.1**	**-1.8**
JAW	**Awa shima**	**5.01 346**	P	**Pn**	**18 12 18.1**	**-1.4**
JKS	**Kasai**	**5.13 287**	P	**Pn**	**18 12 22.8**	**+1.6**
JYK	**Kaneyama**	**5.33 356**	P	**Pn**	**18 12 21.2**	**-2.5**
JOM	**Ohasama**	**5.88 4**	P	**Pn**	**18 12 27.7**	**-3.6**
CBIJ	**Chichi jima**	**6.58 169**	P	**Pn**	**18 12 37.6**	**-3.4**
	comp=Z,158nm,0.3s,baz=323,slow=9.9,SNR=154					
CBIJ			S	**Sn**	**18 13 47.9**	**-6.8**
	comp=Z,234nm,0.3s,baz=287,slow=22,SNR=6.5					
JNU	**Nakatsue**	**8.33 269**	P	**Pn**	**18 13 07.5**	**+2.7**
	comp=Z,7.2nm,0.3s,baz=63,slow=12,SNR=38					
JNU			LR	LR	18 15 30.6	
	comp=Z,1μm,21.5s,baz=86,slow=31					
ERM	**Erimo**	**8.61 12**	Pn	**Pn**	**18 13 03.2**	**-5.4**
	comp=Z,1μm,0.4s,SNR=53					
ERM	**Erimo**	**8.61 12**	*e*Pn	**Pn**	**18 13 03.9**	**-4.7**
	comp=Z,158nm,0.5s					
ERM			*e*Sn	**Sn**	**18 14 31.7**	**-12**
ERM	**Erimo**	**8.61 12**	*e*P	**Pn**	**18 13 03.9**	**-4.7**
ERM			pmax	pmax		
	comp=Z,158nm,0.5s					
ASAJ	**Asahikawa**	**10.60 7**	P	**Pn**	**18 13 30.4**	**-5.3**
	comp=Z,13nm,0.3s,baz=206,slow=13,SNR=57					
ASAJ			S	**Sn**	**18 15 21.8**	**-11**
	comp=Z,16nm,0.3s,baz=66,slow=31,SNR=8.0					
KSRS	**Korea Array**	**11.19 294**	P	**Pn**	**18 13 46.6**	**+2.7**
	comp=Z,2.4nm,0.3s,baz=107,slow=14,SNR=62					
KSRS			LR	LR	18 18 09.3	
	comp=Z,5μm,18.4s,baz=104,slow=37					
INCN	**Inchon**	**12.19 293**	*e*Pn	**Pn**	**18 14 02.8**	**+5.3**
JOW	**Kunigami**	**12.76 241**	P	**Pn**	**18 14 07.2**	**+1.7**
	comp=Z,0.8nm,0.3s,baz=62,slow=8.2,SNR=6.7					
JOW			LR	LR	18 18 38.6	
	comp=Z,5μm,21.3s,baz=80,slow=35					
KUR	**Kuril'sk**	**12.83 23**	P	**Pn**	**18 13 58.7**	**-7.5**
KUR			pmax	pmax		
	comp=Z,110nm,0.8s					
YSS	**Yuzh-Sakhalins**	**13.43 6**	*e*Pn	**Pn**	**18 14 09.2**	**-5.2**
YSS	**Yuzh-Sakhalins**	**13.43 6**	⇑*e*P	**Pn**	**18 14 08.9**	**-5.4**
YSS			pmax	pmax		
	comp=Z,110nm,0.9s					
YSS			pmax	pmax		
	comp=N,100nm,0.8s					
YSS			MLR	MLR		
	comp=Z,2μm,20.0s					
YSS			MLR	MLR		
	comp=N,2μm,19.0s					
YSS			MLR	MLR		
	comp=E,4μm,19.0s					
MDJ	**Mudanjiang**	**14.02 325**	P	**Pn**	**18 14 22.1**	**-0.2**
MDJ			S	**Sn**	**18 16 56.9**	**+0.6**
MDJ			PCP	PcP	18 19 38.5	0.0
MDJ			AMB	AMB		
	comp=Z,23nm,0.8s					
MDJ			AMB	AMB		
	comp=Z,190nm,4.2s					
MDJ			LR	LR		
	comp=N,1μm,13.6s					
MDJ			LR	LR		
	comp=E,3μm,16.3s					
MDJ			LR	LR		
	comp=Z,3μm,15.4s					
MDJ	**Mudanjiang**	**14.02 325**	*e*Pn	**Pn**	**18 14 21.0**	**-1.3**
	comp=Z,46nm,0.8s					
HABR	**Khabarovsk**	**15.48 345**	*e*P	**Pn**	**18 14 42.1**	**+0.9**
HABR			*e*		18 17 34.4	
HABR			pmax	pmax		
	comp=Z,23nm,0.6s					
UGL	**Uglegorsk**	**15.50 3**	*e*P	**Pn**	**18 14 44.0**	**+2.6**
UGL			pmax	pmax		
	comp=Z,90nm,0.8s					
UGL			pmax	pmax		
	comp=Z,500nm,2.0s					
UGL			MLR	MLR		
	comp=N,3μm,23.0s					
UGL			MLR	MLR		
	comp=E,3μm,23.0s					
UGL			MLR	MLR		
	comp=Z,3μm,23.0s					
CN2	**Changchun**	**15.72 315**	*e*P	**Pn**	**18 14 46.0**	**+1.8**
CN2			*e*AP	pP	18 14 56.4	-3.9
CN2			*e*XP	sP	18 15 05.1	-3.2
CN2			*e*S	**S**	**18 17 39.3**	**-10**
CN2			AMB	AMB		
	comp=Z,200nm,4.0s					
CN2			LR	LR		
	comp=N,2μm,22.0s					
CN2			LR	LR		
	comp=E,2μm,22.0s					
CN2			LR	LR		
	comp=Z,2μm,22.0s					
DL2	**Dalian**	**16.36 294**	P	**Pn**	**18 14 56.3**	**+4.0**
DL2			AP	pP	18 15 06.6	-0.8
DL2			PP		18 15 10.8	
DL2			XP	sP	18 15 15.8	+0.4
DL2			S	**S**	**18 17 58.4**	**-3.7**
DL2			XS	sS	18 18 12.3	-11
DL2			SS		18 18 15.8	
DL2			AMB	AMB		
	comp=Z,20nm,1.1s					
DL2			AMB	AMB		
	comp=Z,190nm,7.8s					
DL2			LR	LR		
	comp=N,1μm,15.2s					
DL2			LR	LR		
	comp=E,2μm,15.9s					
DL2			LR	LR		
	comp=Z,2μm,17.9s					
SSE	**Sheshan**	**16.78 267**	P	**Pn**	**18 14 58.6**	**+1.0**
SSE			S	**S**	**18 18 07.9**	**-2.9**
SSE			XS	sS	18 18 30.0	-2.1
SSE			AMB	AMB		
	comp=Z,64nm,0.8s					
SSE			AMB	AMB		
	comp=Z,387nm,5.5s					
SSE			LR	LR		
	comp=N,2μm,16.0s					
SSE			LR	LR		
	comp=E,672nm,16.1s					
SSE			LR	LR		
	comp=Z,2μm,18.2s					
KLR	**Kul'dur**	**17.02 339**	*e*P	**Pn**	**18 14 52.4**	**-8.0**
KLR			*e*S	**S**	**18 18 11.5**	**-3.9**
TATO	**Taipei**	**18.90 248**	*e*P	**Pn**	**18 15 22.4**	**-1.1**
	comp=Z,590nm,2.2s					
YHNB	**Yeheng**	**19.15 247**	*e*P	**Pn**	**18 15 24.3**	**-2.2**
NACB	**Ninganchiao**	**19.25 246**	*e*P	**Pn**	**18 15 24.7**	**-3.0**
TIA	**Tai'an**	**19.60 284**	*e*P	**Pn**	**18 15 30.3**	**-1.5**
GUMO	**Guam**	**20.25 169**	*e*P	**P**	**18 15 37.1**	**0.0**
	comp=Z,723nm,1.1s					
GUMO	**Guam**	**20.25 169**	P	**P**	**18 15 37.2**	**+0.1**
GUMO			pmax	pmax		
	comp=Z,267nm,0.7s					
GUMO			MLR	MLR		
	comp=Z,429nm,20.9s					
GUMO	**Guam**	**20.25 169**	P	**P**	**18 15 37.2**	**+0.1**
	comp=Z,266nm,0.7s,baz=169,slow=3.0,SNR=14					
GUMO			LR	LR	18 21 04.0	
	comp=Z,429nm,20.9s,baz=3.0,slow=30					
SKR	**Severo-Kuril's**	**20.43 29**	*e*P	**P**	**18 15 30.0**	**-8.8**
SKR			*e*		18 15 45.6	
SKR			*e*		18 15 54.0	
SKR			*e*PPP		18 16 12.0	
SKR			*e*S	**S**	**18 19 12.0**	**-12**
SKR			*e*SS		18 19 44.0	
SKR			pmax	pmax		
	comp=Z,60nm,0.7s					
SKR			pmax	pmax		
	comp=N,1μm,3.0s					
SKR			pmax	pmax		
	comp=Z,1μm,3.0s					
SKR			smax			
	comp=N,40nm,0.5s					
SKR			smax			
	comp=E,40μm,0.5s					
SKR			smax			
	comp=N,1μm,6.0s					
SKR			smax			
	comp=E,1μm,8.0s					
SKR			MLR	MLR		
	comp=N,1μm,12.0s					
SKR			MLR	MLR		
	comp=E,1μm,12.0s					
SKR			MLR	MLR		
	comp=Z,1μm,12.0s					
BJI	**Beijing**	**20.72 295**	P	**P**	**18 15 41.9**	**-0.1**
BJI			AP		18 15 54.0	
BJI			XP	sP	18 15 59.8	-3.6
BJI			S	**S**	**18 19 30.6**	**+0.8**
BJI			XS	sS	18 19 51.6	-0.3
BJI			AMB	AMB		
	comp=Z,14nm,0.8s					
BJI			LR	LR		
	comp=N,3μm,22.8s					
BJI			LR	LR		
	comp=E,1μm,24.4s					
BJI			LR	LR		
	comp=Z,2μm,26.1s					
BJT	**Baijiatuau**	**20.72 295**	*e*P	**P**	**18 15 42.9**	**+0.9**
	comp=Z,20nm,0.6s					
BJT	**Baijiatuau**	**20.72 295**	*e*P	**P**	**18 15 42.9**	**+0.9**
BJT			pmax	pmax		
	comp=Z,20nm,0.6s					
QZH	**Quanzhou**	**21.19 252**	P	**P**	**18 15 46.8**	**-0.3**
QZH			S	**S**	**18 19 36.1**	**-3.2**
QZH			LR	LR		
	comp=N,2μm,16.1s					
QZH			LR	LR		
	comp=E,930nm,12.1s					
QZH			LR	LR		
	comp=Z,2μm,24.4s					
HIA	**Hailar**	**22.13 321**	*e*P	**P**	**18 15 53.8**	**-3.2**
	comp=Z,25nm,0.6s,mb4.8					
HIA	**Hailar**	**22.13 321**	*e*P	**P**	**18 15 53.8**	**-3.2**
HIA			pmax	pmax		
	comp=Z,25nm,0.6s					
WHN	**Wuhan**	**22.61 270**	⇑P	**P**	**18 16 02.3**	**0.0**
WHN			S	**S**	**18 19 58.8**	**-7.0**
WHN			AMB	AMB		
	comp=Z,695nm,4.2s					
WHN			LR	LR		
	comp=Z,3μm,17.3s					
PET	**Petropavlovsk**	**23.24 28**	*e*P	**P**	**18 16 07.0**	**-1.5**
	comp=Z,205nm,1.6s,mb5.3					
PET	**Petropavlovsk**	**23.24 28**	*i* P	**P**	**18 16 06.0**	**-2.5**
PET			*e*S	**S**	**18 20 13.5**	**-2.0**
PET			pmax	pmax		
	comp=Z,400nm,7.2s					
PET			pmax	pmax		
	comp=Z,1μm,3.0s					
PET			pmax	pmax		
	comp=Z,34nm,0.7s,mb4.9					
PET			MLR	MLR		
	comp=Z,700nm,19.0s					
TIY	**Taiyuan**	**23.39 288**	P	**P**	**18 16 12.6**	**+2.6**
TIY			PP		18 16 40.1	
TIY			PPP		18 16 49.8	
TIY			S	**S**	**18 20 19.3**	**+1.1**
TIY			LR	LR		
	comp=N,400nm,10.5s					
TIY			LR	LR		
	comp=E,2μm,14.2s					
TIY			LR	LR		
	comp=Z,2μm,15.7s					
HHC	**Hu-ho-hao-te**	**24.32 296**	*e*P	**P**	**18 16 18.6**	**+0.1**
HHC			AP		18 16 32.9	
HHC			XP	sP	18 16 38.8	-2.3
HHC			PP		18 16 55.6	
HHC			S	**S**	**18 20 25.6**	**-7.6**
HHC			XS	sS	18 20 53.6	-5.4
HHC			AMB	AMB		
	comp=Z,19nm,0.4s,mb4.9					
HHC			AMB	AMB		
	comp=Z,246nm,4.7s					
HHC			LR	LR		
	comp=N,1μm,15.9s					
HHC			LR	LR		
	comp=E,1μm,20.0s					
HHC			LR	LR		
	comp=Z,2μm,22.9s					
BTO	**Baotou**	**25.45 295**	*e*P	**P**	**18 16 29.3**	**+0.5**
NRGR	**Nerungri**	**25.58 339**	*e*P	**P**	**18 16 29.9**	**+0.2**
NRGR			S	**S**	**18 20 50.5**	**-2.4**
NRGR			smax			
	comp=E,34nm,0.7s					
CLNS	**Chul'man**	**25.68 340**	*e*P	**P**	**18 16 31.4**	**+0.8**
CLNS			*e*		18 20 00.5	
CLNS			*e*S	**S**	**18 20 59.8**	**+5.3**
CLNS			*e*SS		18 22 11.1	
CLNS			pmax	pmax		
	comp=Z,66nm,0.7s,mb5.3					
CLNS			pmax	pmax		
	comp=N,40nm,0.8s					
CLNS			pmax	pmax		
	comp=E,33nm,0.8s					
CLNS			pmax	pmax		
	comp=N,49nm,0.8s					
CLNS			pmax	pmax		
	comp=E,42nm,0.8s					
CLNS			pmax	pmax		
	comp=Z,99nm,0.8s,mb5.4					
CLNS			smax			
	comp=N,675nm,14.0s					
CLNS			smax			
	comp=Z,538nm,15.4s					
CLNS			smax			
	comp=E,568nm,13.8s					
CLNS			MLR	MLR		
	comp=Z,1μm,15.0s					
CLNS			MLR	MLR		
	comp=N,800nm,14.0s					
CLNS			MLR	MLR		
	comp=E,600nm,14.0s					
GZH	**Guangzhou**	**26.28 254**	P	**P**	**18 16 32.0**	**-4.4**
GZH			S	**S**	**18 20 56.6**	**-8.0**
GZH			LR	LR		
	comp=N,1μm,17.0s					
GZH			LR	LR		
	comp=E,1μm,21.5s					
GZH			LR	LR		
	comp=Z,1μm,22.8s					
XAN	**Xi'an**	**26.45 280**	P	**P**	**18 16 37.1**	**-0.8**
XAN			S	**S**	**18 21 01.3**	**-5.9**
XAN			SCP	ScP	18 23 34.0	-2.1
XAN			AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.5					
XAN			AMB	AMB		
	comp=Z,186nm,5.9s					
XAN			LR	LR		
	comp=N,2μm,19.2s					
XAN			LR	LR		
	comp=E,1μm,23.3s					
XAN			LR	LR		
	comp=Z,2μm,21.3s					
MA2	**Magadan**	**26.81 11**	*e*P	**P**	**18 16 40.4**	**-0.4**
	comp=Z,85nm,0.8s,mb5.3					
MA2	**Magadan**	**26.81 11**	*e*P	**P**	**18 16 40.5**	**-0.3**
MA2			*e*	pP	18 16 56.7	+0.6
MA2			*i* S	**S**	**18 21 11.2**	**-1.1**
MA2			pmax	pmax		
	comp=Z,30nm,0.8s,mb4.9					
MA2			MLR	MLR		
	comp=Z,1μm,19.0s					
CIT	**Chita**	**26.94 321**	*e*P	**P**	**18 16 42.8**	**+0.7**
CIT			*e*		18 16 52.1	
CIT			*e*	pP	18 16 57.8	+0.5
CIT			*e*		18 20 02.8	
CIT			*e*		18 21 15.4	
CIT			*e*		18 22 25.8	
CIT			pmax	pmax		
	comp=Z,110nm,2.4s,mb5.0					
ULN	**Ulaanbaatar**	**29.03 310**	*e*P	**P**	**18 17 01.9**	**+1.2**
ULN			*e*PcP	PcP	18 20 08.1	+0.5
ULN	**Ulaanbaatar**	**29.03 310**	P	**P**	**18 17 02.8**	**+2.1**
	SNR=19					
ULN	**Ulaanbaatar**	**29.03 310**	P	**P**	**18 17 02.8**	**+2.1**
	SNR=19					
YAK	**Yakutsk**	**29.33 349**	*e*P	**P**	**18 17 02.6**	**-0.6**
	comp=Z,78nm,0.7s,mb5.5					
YAK	**Yakutsk**	**29.33 349**	*c i*P	**P**	**18 17 02.5**	**-0.8**
YAK			*i* *PP	pP	18 17 11.6	-7.0
YAK			*i* PPP		18 18 10.1	
YAK			*i*		18 27 36.9	
YAK			pmax	pmax		
	comp=Z,38nm,0.9s,mb5.1					
YAK			pmax	pmax		
	comp=N,17nm,1.1s					
YAK			pmax	pmax		
	comp=E,7.0nm,1.3s					
YAK			MLR	MLR		
	comp=Z,3μm,26.0s					
YAK			MLR	MLR		
	comp=N,2μm,22.0s					
YAK			MLR	MLR		
	comp=E,2μm,24.0s					
SONM	**Songino Array**	**29.44 309**	P	**P**	**18 17 06.1**	**+1.7**
SONM					18 20 09.2	
SONM			pmax	pmax		
	comp=Z,11nm,0.6s					
SONM			pmax	pmax		
	comp=Z,4.0nm,0.6s					
SONM			MLR	MLR		
	comp=Z,2μm,19.0s					
SONM	**Songino Array**	**29.44 309**	P	**P**	**18 17 06.1**	**+1.7**
	comp=Z,11nm,0.6s,mb4.8,baz=114,slow=9.1,SNR=43					
SONM			PcP	PcP	18 20 09.2	+0.5
	comp=Z,3.5nm,0.6s,baz=120,slow=2.9,SNR=4.4					
SONM			LR	LR	18 29 21.5	
	comp=Z,2μm,19.0s,baz=103,slow=37					
BOD	**Bodaibo**	**30.24 331**	*e*P	**P**	**18 17 10.9**	**-0.5**
BOD			*e*		18 20 09.3	
BOD			pmax	pmax		
	comp=Z,51nm,1.5s,mb5.0					
SEY	**Seymchan**	**30.25 10**	⇑*e*P	**P**	**18 17 11.2**	**-0.2**
GYA	**Guiyang**	**30.32 266**	P	**P**	**18 17 10.8**	**-1.6**
GYA			AP	pP	18 17 25.6	-2.1
GYA			XP	sP	18 17 35.8	+0.7
GYA			PP	PP	18 18 14.4	-7.3
GYA			S	**S**	**18 22 04.3**	**-3.8**
GYA			XS	sS	18 22 34.3	0.0
GYA			SCP	ScP	18 23 48.8	+0.5
GYA			SCS	ScS	18 27 43.3	-1.1
GYA			AMB	AMB		
	comp=Z,40nm,0.8s,mb5.2					
GYA			AMB	AMB		
	comp=Z,160nm,4.8s					
GYA			LR	LR		
	comp=N,790nm,15.1s					
GYA			LR	LR		
	comp=E,1μm,18.9s					
GYA			LR	LR		
	comp=Z,2μm,16.1s					
LZH	**Lanzhou**	**30.33 285**	*e*P	**P**	**18 17 12.5**	**+0.1**
LZH			AP	pP	18 17 27.3	-0.5
LZH			XP	sP	18 17 34.5	-0.7
LZH			PP	PP	18 18 13.6	-8.2
LZH			*e*S	**S**	**18 22 06.5**	**-1.7**
LZH			XS	sS	18 22 32.3	-2.1
LZH			AMB	AMB		
	comp=Z,35nm,1.2s,mb5.0					
LZH			AMB	AMB		
	comp=Z,207nm,5.6s					
LZH			LR	LR		
	comp=N,1μm,13.2s					
LZH			LR	LR		
	comp=Z,2μm,17.5s					
QIZ	**Qiongzhong**	**31.18 250**	P	**P**	**18 17 20.3**	**+0.2**
QIZ			XP	sP	18 17 39.5	-3.3
QIZ			S	**S**	**18 22 23.3**	**+1.5**
QIZ			AMB	AMB		
	comp=Z,7.0nm,1.1s,mb4.4					
QIZ			AMB	AMB		
	comp=Z,97nm,3.8s					
QIZ			LR	LR		
	comp=N,553nm,24.2s					
QIZ			LR	LR		
	comp=E,845nm,26.5s					
QIZ			LR	LR		
	comp=Z,2μm,26.2s					
CD2	**Chengdu**	**31.35 275**	P	**P**	**18 17 20.3**	**-1.2**
CD2			AP	pP	18 17 34.8	-2.1
CD2			XP	sP	18 17 42.8	-1.4
CD2			PP	PP	18 18 25.3	-7.8
CD2			PCP	PcP	18 20 12.6	-1.4
CD2			S	**S**	**18 22 22.3**	**-1.9**
CD2			XS	sS	18 22 46.8	-3.7
CD2			PCS	PcS	18 23 55.8	-2.6
CD2			SCS	ScS	18 27 45.3	-4.0
CD2			AMB	AMB		
	comp=Z,40nm,0.5s,mb5.5					
CD2			AMB	AMB		
	comp=Z,130nm,4.1s					
CD2			LR	LR		
	comp=N,2μm,14.4s					
CD2			LR	LR		
	comp=E,2μm,14.6s					
CD2			LR	LR		
	comp=Z,2μm,15.6s					
ZAK	**Zakamensk**	**32.13 313**	*e*P	**P**	**18 17 29.2**	**+1.1**
ZAK			*e*		18 20 15.6	
ZAK			*e*		18 22 38.6	
ZAK			pmax	pmax		
	comp=Z,14nm,1.2s,mb4.7					
ZAK			pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.3					
IRK	**Irkutsk**	**32.15 317**	*e*P	**P**	**18 17 28.6**	**+0.4**
IRK			pmax	pmax		
	comp=Z,83nm,2.0s,mb5.2					
TLY	**Talaya**	**32.32 315**	P	**P**	**18 17 31.1**	**+1.4**
	comp=Z,299nm,0.6s,mb6.3,SNR=11					
TLY	**Talaya**	**32.32 315**	*e*PcP	**P**	**18 17 31.3**	**+1.6**
TLY			*e*PcP	PcP	18 20 16.8	+0.5
TLY	**Talaya**	**32.32 315**	*c i*P	**P**	**18 17 31.2**	**+1.5**
TLY			*e*S	**S**	**18 22 42.9**	**+4.0**
TLY			pmax	pmax		
	comp=Z,33nm,0.7s,mb5.3					
TLY			MLR	MLR		
	comp=Z,1μm,21.0s					
TLY	**Talaya**	**32.32 315**	P	**P**	**18 17 31.7**	**+2.0**
	SNR=26					
TLY	**Talaya**	**32.32 315**	P	**P**	**18 17 31.7**	**+2.0**
	SNR=26					
GTA	**Gaotai**	**33.26 292**	*e*P	**P**	**18 17 37.8**	**-0.2**
GTA			AP	pP	18 17 52.1	-1.4
GTA			XP	sP	18 17 58.0	-2.9
GTA			PP	PP	18 18 49.3	-4.8
GTA			PPP		18 19 07.1	
GTA			PCP	PcP	18 20 18.8	-0.3
GTA			S	**S**	**18 22 52.5**	**-1.2**
GTA			XS	sS	18 23 18.1	-1.9
GTA			SCP	ScP	18 23 58.3	+0.3
GTA			PCS	PcS	18 24 03.5	-1.2
GTA			SCS	ScS	18 27 56.8	-1.9
GTA			AMB	AMB		
	comp=Z,9.0nm,1.2s,mb4.6					
GTA			AMB	AMB		
	comp=Z,78nm,8.4s					
GTA			LR	LR		
	comp=N,1μm,21.3s					
GTA			LR	LR		
	comp=E,1μm,21.7s					
GTA			LR	LR		
	comp=Z,1μm,26.2s					
MOY	**Mondy**	**33.89 314**	*e*P	**P**	**18 17 44.6**	**+1.2**
MOY			pmax	pmax		
	comp=Z,34nm,1.6s,mb5.0					
KMI	**Kunming**	**34.09 266**	P	**P**	**18 17 44.5**	**-1.0**
KMI			AP	pP	18 18 00.4	-0.6
KMI			XP	sP	18 18 07.4	-0.9
KMI			PP	PP	18 18 59.3	-4.3
KMI			PPP		18 19 17.3	
KMI			S	**S**	**18 23 02.5**	**-4.4**
KMI			XS	sS	18 23 29.5	-3.8
KMI			AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.8					
KMI			AMB	AMB		
	comp=Z,138nm,5.4s					

KMI				LR	LR		
	comp=N,989nm,15.2s						
KMI				LR	LR		
	comp=E,2μm,17.2s						
KMI				LR	LR		
	comp=Z,2μm,16.5s						
KDM	**Kudat**	**34.61**	**225**	⇑P	**P**	**18 17 46.8**	**-3.2**
SDKM	**Sandakan**	**35.43**	**223**	⇑P	**P**	**18 17 56.1**	**-0.9**
ADK	**Adak**	**35.55**	**46**	*e*P	**P**	**18 17 56.4**	**-1.2**
	comp=Z,21nm,0.8s,mb5.1						
ADK	**Adak**	**35.55**	**46**	*e*P	**P**	**18 17 56.4**	**-1.3**
ADK				pmax	pmax		
	comp=Z,21nm,0.8s,mb5.1						
KKM	**Kota Kinabalu**	**35.67**	**225**	*e*P	**P**	**18 17 59.1**	**-0.1**
KKM	**Kota Kinabalu**	**35.67**	**225**	⇓P	**P**	**18 17 58.6**	**-0.5**
TSM	**Tawau**	**36.15**	**221**	⇑P	**P**	**18 18 01.4**	**-1.8**
BILL	**Bilibino**	**37.46**	**15**	*e*P	**P**	**18 18 12.5**	**-1.3**
	comp=Z,23nm,1.1s,mb4.9						
BILL	**Bilibino**	**37.46**	**15**	⇓*i*P	**P**	**18 18 12.4**	**-1.4**
BILL				pmax	pmax		
	comp=Z,16nm,1.6s,mb4.6						
BILL				MLR	MLR		
	comp=Z,400nm,17.0s						
TIXI	**Tiksi**	**38.65**	**354**	*e*P	**P**	**18 18 23.0**	**-0.7**
	comp=Z,27nm,0.7s,mb5.1						
TIXI	**Tiksi**	**38.65**	**354**	⇑*e*P	**P**	**18 18 22.6**	**-1.1**
TIXI				pmax	pmax		
	comp=Z,13nm,0.8s,mb4.7						
BTM	**Bintulu**	**39.81**	**227**	⇑P	**P**	**18 18 33.8**	**-0.3**
CHG	**Chiang Mai**	**40.07**	**259**	⇓P	**P**	**18 18 35.8**	**-0.4**
	comp=Z,32nm,0.7s,mb5.2						
CHTO	**Chiang Mai**	**40.07**	**259**	*e*P	**P**	**18 18 35.7**	**-0.5**
	comp=Z,13nm,0.8s,mb4.7						
CHTO	**Chiang Mai**	**40.07**	**259**	*e*P	**P**	**18 18 35.7**	**-0.5**
CHTO				pmax	pmax		
	comp=Z,13nm,0.8s,mb4.7						
CHTO	**Chiang Mai**	**40.07**	**259**	P	**P**	**18 18 36.1**	**-0.1**
	SNR=6.0						
CHTO	**Chiang Mai**	**40.07**	**259**	P	**P**	**18 18 36.1**	**-0.1**
	SNR=6.0						
NST	**Nakhon Sawan**	**40.75**	**254**	P	**P**	**18 18 41.0**	**-0.8**
SBUM	**Sibu**	**40.92**	**227**	⇑P	**P**	**18 18 42.2**	**-1.0**
GAMB	**Gambell**	**41.93**	**29**	*e*P	**P**	**18 18 51.1**	**+0.2**
	comp=Z,6.6nm,0.8s,mb4.3						
WMQ	**Urumqi**	**42.05**	**300**	*e*P	**P**	**18 18 52.6**	**+0.4**
WMQ				AP	pP	18 19 08.0	-0.1
WMQ				XP	sP	18 19 15.0	-0.3
WMQ				PP	PP	18 20 34.0	+3.6
WMQ				S	**S**	**18 25 07.0**	**+0.2**
WMQ				XS	sS	18 25 33.0	-0.6
WMQ				SCS	ScS	18 28 47.0	-1.5
WMQ				AMB	AMB		
	comp=Z,93nm,1.0s,mb5.4						
WMQ				AMB	AMB		
	comp=Z,361nm,4.9s						
WMQ				LR	LR		
	comp=N,796nm,19.4s						
WMQ				LR	LR		
	comp=E,665nm,14.6s						
WMQ				LR	LR		
	comp=Z,976nm,24.3s						
LSA	**Lhasa**	**42.14**	**279**	P	**P**	**18 18 54.0**	**+0.9**
LSA				LR	LR		
	comp=N,230nm,16.8s						
LSA				LR	LR		
	comp=E,990nm,18.9s						
LSA				LR	LR		
	comp=Z,1μm,18.9s						
LSA	**Lhasa**	**42.14**	**279**	*e*P	**P**	**18 18 54.4**	**+1.2**
	comp=Z,7.9nm,0.6s,mb4.5						
LSA	**Lhasa**	**42.14**	**279**	*e*P	**P**	**18 18 54.4**	**+1.3**
LSA				pmax	pmax		
	comp=Z,8.0nm,0.6s,mb4.5						
KSM	**Kuching**	**42.87**	**228**	*e*P	**P**	**18 18 58.5**	**-0.6**
KSM	**Kuching**	**42.87**	**228**	⇑P	**P**	**18 18 59.2**	**+0.1**
SHL	**Shillong**	**42.98**	**273**	*e*P	**P**	**18 19 00.0**	**+0.1**
KAPI	**Kappang**	**43.27**	**211**	P	**P**	**18 19 00.4**	**-1.9**
	comp=Z,268nm,1.4s,mb5.8,SNR=12						
ZAA0	**Zalesovo Array**	**43.94**	**315**	*e*P	**P**	**18 19 07.1**	**-0.1**
ZALV	**Zalesovo Beam**	**43.94**	**315**	P	**P**	**18 19 07.5**	**+0.2**
	comp=Z,18nm,0.6s,mb5.0,baz=96,slow=6.8,SNR=70						
ZALV				PcP	PcP	18 20 51.8	-0.3
	comp=Z,57nm,0.6s,baz=96,slow=3.1,SNR=26						
ZALV				LR	LR	18 37 08.6	
	comp=Z,474nm,21.4s,baz=92,slow=36						
ZAL	**Zalesovo**	**43.95**	**315**	P	**P**	**18 19 07.5**	**+0.1**
ZAL						18 20 51.8	
TNA	**Tin City**	**44.10**	**28**	*e*P	**P**	**18 19 11.5**	**+3.1**
	comp=Z,21nm,1.0s,mb4.8						
KTGM	**Kuala Trenggan**	**44.88**	**240**	⇓P	**P**	**18 19 14.7**	**-0.6**
NVS	**Novosibirsk**	**44.92**	**316**	⇑*i*P	**P**	**18 19 15.2**	**+0.1**
NVS				*e*		18 21 02.0	
NVS				*i* S	**S**	**18 25 48.2**	**-0.2**
NVS				pmax	pmax		
	comp=Z,88nm,1.3s,mb5.4						
NVS				pmax	pmax		
	comp=N,22nm,1.2s						
NVS				pmax	pmax		
	comp=E,80nm,1.2s						
NVS				smax			
	comp=N,52nm,1.8s						
NVS				smax			
	comp=E,49nm,2.5s						
MK31	**Makanchi Array**	**45.61**	**305**	*e*P	**P**	**18 19 20.9**	**+0.3**
MKAR	**Makanchi Array**	**45.61**	**305**	P	**P**	**18 19 21.2**	**+0.5**
MKAR				pmax	pmax		
	comp=Z,27nm,0.7s						
MKAR				pmax	pmax		
	comp=N,1.0nm,0.5s						
MKAR				MLR	MLR		
	comp=Z,696nm,19.1s						
MKAR	**Makanchi Array**	**45.61**	**305**	P	**P**	**18 19 21.1**	**+0.5**
	comp=Z,27nm,0.7s,mb5.3,baz=90,slow=9.6,SNR=274						
MKAR				ScP	ScP	18 24 46.5	+1.0
	comp=Z,1.3nm,0.5s,baz=74,slow=3.1,SNR=6.9						
MKAR				LR	LR	18 39 15.0	
	comp=Z,696nm,19.1s,baz=86,slow=37						
HNR	**Honiara**	**46.49**	**154**	LR	LR	18 38 07.1	
	comp=Z,567nm,19.6s,baz=358,slow=35						
KULM	**Kulim**	**46.72**	**242**	*e*P	**P**	**18 19 29.5**	**-0.3**
KULM	**Kulim**	**46.72**	**242**	⇑P	**P**	**18 19 30.2**	**+0.4**
KAKA	**Kakadu**	**46.73**	**191**	⇑*i*P	**P**	**18 19 28.6**	**-1.1**
	comp=Z,115nm,0.8s,mb5.9						
MYKOM	**Kota Tinggi**	**46.87**	**235**	⇓P	**P**	**18 19 30.4**	**-0.5**
JIRN	**Jiri**	**46.93**	**278**	*e*P	**P**	**18 19 32.0**	**+0.7**
	comp=Z,59nm,0.4s,mb5.9						
IPM	**Ipoh**	**46.99**	**241**	⇓P	**P**	**18 19 30.9**	**-1.0**
KGM	**Kluang**	**47.07**	**236**	⇓P	**P**	**18 19 32.4**	**-0.1**
KKN	**Kakani**	**47.63**	**279**	*e*P	**P**	**18 19 36.6**	**-0.2**
	comp=Z,40nm,0.6s,mb5.6						
KKN	**Kakani**	**47.63**	**279**	*e*P	**P**	**18 19 36.6**	**-0.2**
KKN				pmax	pmax		
	comp=Z,40nm,0.6s,mb5.6						
KURK	**Kurchatov**	**47.73**	**311**	P	**P**	**18 19 37.4**	**+0.2**
	comp=Z,432nm,0.6s,mb6.7,SNR=77						
KURK	**Kurchatov**	**47.73**	**311**	*e*P	**P**	**18 19 37.2**	**0.0**
	comp=Z,100nm,0.9s,mb5.8						
KURK	**Kurchatov**	**47.73**	**311**	⇑*e*P	**P**	**18 19 37.1**	**-0.1**
KURK	**Kurchatov**	**47.73**	**311**	P	**P**	**18 19 37.5**	**+0.3**
	SNR=21						
KURK	**Kurchatov**	**47.73**	**311**	P	**P**	**18 19 37.5**	**+0.3**
	SNR=21						
DMN	**Daman**	**47.84**	**278**	*e*P	**P**	**18 19 38.5**	**+0.1**
GKN	**Gorkha**	**48.09**	**279**	*e*P	**P**	**18 19 39.9**	**-0.4**
	comp=Z,76nm,0.7s,mb5.8						
TTA	**Tatalina**	**48.54**	**33**	*e*P	**P**	**18 19 50.0**	**+6.8**
SVW2	**Sparrevohn**	**48.57**	**35**	*e*P	**P**	**18 19 47.5**	**+4.0**
BOK	**Bokaro**	**48.68**	**273**	*e*P	**P**	**18 19 45.2**	**+0.3**
BOK				AMb	AMB	18 19 54.2	
	comp=Z,19nm,0.5s,mb5.4						
KOLN	**Koldanda**	**49.03**	**279**	*e*P	**P**	**18 19 47.5**	**0.0**
IMA2	**Indian Mountai**	**49.91**	**29**	*e*P	**P**	**18 19 55.1**	**+1.5**
KDAK	**Kodiak Island**	**50.01**	**40**	P	**P**	**18 19 53.0**	**-1.5**
	comp=Z,11nm,0.6s,mb5.0,baz=282,slow=6.0,SNR=14						
ULHL	**Ulahol**	**50.58**	**300**	P	**P**	**18 20 00.1**	**+0.9**
	SNR=19						
TKM2	**Tokmak 2**	**50.90**	**301**	*e*P	**P**	**18 20 02.5**	**+1.0**
	comp=Z,37nm,0.6s,mb5.5						
TKM2				*e*	pP	18 20 18.2	+0.4
TKM2	**Tokmak 2**	**50.90**	**301**	*e*P	**P**	**18 20 02.5**	**+1.0**
TKM2				*e*	pP	18 20 18.2	+0.4
TKM2				pmax	pmax		
	comp=Z,37nm,0.6s,mb5.5						
TKM2	**Tokmak 2**	**50.90**	**301**	P	**P**	**18 20 02.8**	**+1.3**
	SNR=35						
KZA	**Kyzart**	**51.34**	**300**	P	**P**	**18 20 06.8**	**+2.0**
	SNR=22						
KBK	**Karagaybulak**	**51.43**	**301**	P	**P**	**18 20 06.3**	**+0.9**
	SNR=48						
CHMS	**Chumysh**	**51.49**	**301**	P	**P**	**18 20 06.5**	**+0.6**
	SNR=8.7						
FRU	**Bishkek**	**51.62**	**301**	*e*P	**P**	**18 20 06.7**	**-0.2**
FRU				*e*		18 20 16.5	
FRU				*i*	pP	18 20 24.0	+0.8
FRU				*e*		18 27 27.0	
FRU				pmax	pmax		
	comp=Z,140nm,2.0s,mb5.5						
FRU				MLR	MLR		
	comp=Z,1μm,18.0s						
PMR	**Palmer**	**51.69**	**35**	*e*P	**P**	**18 20 10.8**	**+3.7**
	comp=Z,32nm,1.0s,mb5.2						
PMR	**Palmer**	**51.69**	**35**	*e*P	**P**	**18 20 10.8**	**+3.7**
PMR				pmax	pmax		
	comp=Z,32nm,1.0s,mb5.2						
AAK	**Ala-Archa**	**51.76**	**301**	P	**P**	**18 20 07.1**	**-0.8**
	comp=Z,84nm,0.6s,mb5.8,SNR=18						
AAK	**Ala-Archa**	**51.76**	**301**	P	**P**	**18 20 08.2**	**+0.3**
	SNR=14						
MCK	**McKinley**	**51.78**	**32**	*e*P	**P**	**18 20 08.2**	**+0.5**
	comp=Z,34nm,1.2s,mb5.2						
MCK	**McKinley**	**51.78**	**32**	*e*P	**P**	**18 20 08.2**	**+0.5**
MCK				pmax	pmax		
	comp=Z,34nm,1.2s,mb5.2						
UCH	**Uchtor**	**51.84**	**300**	*e*P	**P**	**18 20 09.7**	**+1.2**
	comp=Z,18nm,0.7s,mb5.1						
UCH	**Uchtor**	**51.84**	**300**	P	**P**	**18 20 10.0**	**+1.5**
	SNR=26						
SML	**Sawmill**	**52.07**	**35**	*e*P	**P**	**18 20 10.2**	**+0.3**
COLA	**College**	**52.26**	**31**	*e*P	**P**	**18 20 11.3**	**0.0**
	comp=Z,10nm,0.8s,mb4.8						
COLA	**College**	**52.26**	**31**	*c i*P	**P**	**18 20 10.8**	**-0.5**
EKS2	**Erkin-Say**	**52.27**	**301**	*e*P	**P**	**18 20 11.8**	**+0.1**
	comp=Z,9.4nm,0.6s,mb4.9						
EKS2	**Erkin-Say**	**52.27**	**301**	P	**P**	**18 20 11.8**	**+0.1**
	SNR=14						
CHKZ	**Chkalovo**	**52.35**	**315**	*i* P	**P**	**18 20 11.6**	**-0.5**
CHKZ				pmax	pmax		
	comp=Z,64nm,1.5s,mb5.3						
AML	**Almayashu**	**52.45**	**300**	*e*P	**P**	**18 20 14.0**	**+1.0**
	comp=Z,83nm,0.6s,mb5.8						
AML				*e*	pP	18 20 30.4	+1.0
AML	**Almayashu**	**52.45**	**300**	P	**P**	**18 20 14.1**	**+1.0**
	SNR=64						
BLSP	**Bilaspur**	**52.52**	**273**	*e*P	**P**	**18 20 12.2**	**-1.6**
BLSP				AMb	AMB	18 20 26.7	
	comp=Z,26nm,0.7s,mb5.3						
BRVK	**Borovoye**	**52.63**	**314**	P	**P**	**18 20 14.1**	**-0.1**
	comp=Z,221nm,0.8s,mb6.1,SNR=32						
BRVK	**Borovoye**	**52.63**	**314**	*e*P	**P**	**18 20 14.5**	**+0.3**
	comp=Z,41nm,0.9s,mb5.4						
BRVK	**Borovoye**	**52.63**	**314**	*e*P	**P**	**18 20 14.5**	**+0.3**
BRVK				pmax	pmax		
	comp=Z,41nm,0.9s,mb5.4						
BRVK	**Borovoye**	**52.63**	**314**	P	**P**	**18 20 14.8**	**+0.6**
	SNR=16						
BRVK	**Borovoye**	**52.63**	**314**	P	**P**	**18 20 14.8**	**+0.6**
	SNR=16						
DDI	**Dehra Dun**	**52.63**	**285**	*e*P	**P**	**18 20 13.9**	**-0.7**
SMLA	**Simla**	**53.06**	**286**	*e*P	**P**	**18 20 16.8**	**-0.9**
SMLA				AMb	AMB	18 20 18.8	
	comp=Z,36nm,0.4s,mb5.7						
FITZ	**Fitzroy Crossi**	**53.41**	**198**	⇑*i*P	**P**	**18 20 20.0**	**-0.2**
	comp=Z,118nm,0.6s,mb6.0						
FITZ				*e*PCP	PcP	18 21 28.3	+1.5
FITZ				*e*S	**S**	**18 27 47.4**	**-0.5**
ZRNK	**Zerenda**	**53.41**	**314**	*i* P	**P**	**18 20 19.9**	**0.0**
ZRNK				pmax	pmax		
	comp=Z,35nm,0.6s,mb5.5						
DLH	**Dalhousie**	**53.53**	**288**	*e*P	**P**	**18 20 20.0**	**-1.1**
WRAB	**Tennant Creek**	**53.58**	**188**	P	**P**	**18 20 20.0**	**-1.5**
	comp=Z,2μm,0.5s						
WRAB	**Tennant Creek**	**53.58**	**188**	*e*P	**P**	**18 20 20.9**	**-0.6**
	comp=Z,155nm,0.5s,mb6.2						
WRAB	**Tennant Creek**	**53.58**	**188**	⇑*i*P	**P**	**18 20 20.8**	**-0.7**
WB2	**Warramunga Arr**	**53.59**	**188**	⇑*i*P	**P**	**18 20 20.8**	**-0.8**
WB2				*e*S	**S**	**18 27 50.3**	**0.0**
WRA	**Warramunga Arr**	**53.59**	**188**	P	**P**	**18 20 21.3**	**-0.3**
WRA				pmax	pmax		
	comp=Z,179nm,0.4s						
WRA				MLR	MLR		
	comp=Z,96nm,20.4s						
WRA	**Warramunga Arr**	**53.59**	**188**	P	**P**	**18 20 21.3**	**-0.3**
	comp=Z,179nm,0.4s,mb6.3,baz=3.1,slow=7.5,SNR=572						
WRA				LR	LR	18 42 28.4	
	comp=Z,96nm,20.4s,baz=160,slow=35						
CTA	**Charters Tower**	**53.63**	**174**	*e*P	**P**	**18 20 21.2**	**-0.6**
	comp=Z,8.3nm,0.5s,mb4.9						
CTA	**Charters Tower**	**53.63**	**174**	*e*P	**P**	**18 20 21.2**	**-0.6**
CTA				pmax	pmax		
	comp=Z,8.0nm,0.5s						
CTAO	**Charters Tower**	**53.63**	**174**	*e*P	**P**	**18 20 21.5**	**-0.4**
	comp=Z,28nm,1.0s,mb5.1						
CTAO	**Charters Tower**	**53.63**	**174**	*e*P	**P**	**18 20 21.5**	**-0.3**
CTAO				pmax	pmax		
	comp=Z,28nm,1.0s,mb5.2						
THN	**Thein Dam**	**53.76**	**288**	*e*P	**P**	**18 20 21.7**	**-1.2**
NDI	**New Delhi**	**53.91**	**283**	*e*P	**P**	**18 20 23.0**	**-1.0**
NDI				AMb	AMB	18 20 26.2	
	comp=Z,46nm,0.5s,mb5.7						
MENT	**Mentasta**	**54.16**	**33**	*e*P	**P**	**18 20 25.8**	**+0.6**
KK31	**Karatay Array**	**54.48**	**302**	*i* P	**P**	**18 20 27.8**	**-0.1**
KK31				pmax	pmax		
	comp=Z,62nm,1.0s,mb5.5						
EGAK	**Eagle**	**55.12**	**31**	*e*P	**P**	**18 20 32.2**	**0.0**
	comp=Z,4.4nm,0.6s,mb4.7						
BHPL	**Bhopal**	**55.95**	**277**	*e*P	**P**	**18 20 36.6**	**-2.2**
DAWY	**Dawson**	**55.97**	**31**	*e*P	**P**	**18 20 39.0**	**+0.7**
AJM	**Ajmer**	**56.88**	**282**	*e*P	**P**	**18 20 42.3**	**-3.0**
AJM				AMb	AMB	18 20 45.3	
	comp=Z,36nm,0.5s,mb5.7						
ASAR	**Alice Springs**	**57.32**	**188**	P	**P**	**18 20 47.8**	**-0.5**
ASAR				pmax	pmax		
	comp=Z,47nm,0.6s						
ASAR	**Alice Springs**	**57.32**	**188**	P	**P**	**18 20 47.8**	**-0.5**
	comp=Z,47nm,0.6s,mb5.7,baz=3.0,slow=6.3,SNR=752						
AKL	**Akola**	**57.42**	**274**	*e*P	**P**	**18 20 48.9**	**-0.4**
SVE	**Sverdlovsk**	**57.43**	**320**	⇓*e*P	**P**	**18 20 49.0**	**+0.2**
SVE				pmax	pmax		
	comp=Z,81nm,0.7s,mb5.9						
SVE				MLR	MLR		
	comp=Z,523nm,12.0s						
INK	**Inuvik**	**57.67**	**26**	*e*P	**P**	**18 20 49.8**	**-0.6**
	comp=Z,526nm,0.8s,mb6.6						
INK	**Inuvik**	**57.67**	**26**	P	**P**	**18 20 49.9**	**-0.4**
	comp=Z,6.9nm,0.6s,mb4.9,baz=284,slow=6.3,SNR=56						
HYB	**Hyderabad**	**57.68**	**270**	*e*P	**P**	**18 20 51.0**	**-0.1**
HYB	**Hyderabad**	**57.68**	**270**	⇑*i*P	**P**	**18 20 51.0**	**-0.1**
HYB				*e*S	**S**	**18 28 46.0**	**+0.9**
MBWA	**Marble Bar**	**58.04**	**203**	*e*P	**P**	**18 20 53.0**	**-0.4**
	comp=Z,57nm,0.6s,mb5.8						
MBWA	**Marble Bar**	**58.04**	**203**	P	**P**	**18 20 53.5**	**+0.1**
	SNR=12						
MBWA	**Marble Bar**	**58.04**	**203**	P	**P**	**18 20 53.5**	**+0.1**
	SNR=12						
KBL	**Kabul**	**58.24**	**293**	*e*P	**P**	**18 20 54.9**	**+0.1**
	comp=Z,22nm,0.8s,mb5.2						
ARU	**Arti**	**58.64**	**320**	P	**P**	**18 20 57.7**	**+0.5**
	comp=Z,1μm,0.5s,SNR=56						
ARU	**Arti**	**58.64**	**320**	*e*P	**P**	**18 20 56.8**	**-0.4**
	comp=Z,118nm,0.6s,mb6.1						
ARU	**Arti**	**58.64**	**320**	*c i*P	**P**	**18 20 57.1**	**-0.1**
ARU				*e*		18 21 45.1	
ARU				*e*		18 23 02.4	
ARU				*e*S	**S**	**18 29 00.5**	**+3.9**
ARU				*e*		18 30 43.5	
ARU				*e*SS	SS	18 32 53.5	+3.8
ARU				pmax	pmax		
	comp=Z,118nm,0.7s,mb6.0						
ARU				MLR	MLR		
	comp=Z,856nm,18.0s						
SKAG	**Skagway**	**58.73**	**36**	*e*P	**P**	**18 20 57.0**	**-0.7**
SOKR	**Solikamsk**	**58.78**	**324**	*e*P	**P**	**18 20 58.5**	**+0.3**
SOKR				S	S	18 29 20.7	+22
SOKR				pmax	pmax		
	comp=Z,20nm,0.8s,mb5.2						
SOKR				MLR	MLR		
	comp=Z,700nm,17.0s						
LATR	**Latur**	**58.86**	**272**	*ex*	**P**	**18 20 54.1**	**-5.3**
LATR				AMb	AMB	18 21 00.3	
	comp=Z,33nm,0.9s,mb5.3						
EIDS	**Eidsvold**	**59.44**	**169**	*e*P	**P**	**18 21 03.0**	**0.0**
	comp=Z,13nm,0.7s,mb5.1						
POO	**Poona**	**61.07**	**274**	*e*P	**P**	**18 21 13.7**	**-0.7**
POO				AMb	AMB	18 21 16.9	
	comp=Z,53nm,1.3s,mb5.5						
PALK	**Pallekele**	**61.20**	**259**	P	**P**	**18 21 15.6**	**+0.2**
	comp=Z,131nm,0.7s,mb6.2,SNR=7.9						
PALK	**Pallekele**	**61.20**	**259**	*e*P	**P**	**18 21 15.3**	**-0.1**
	comp=Z,15nm,0.7s,mb5.2						
KAD	**Karad**	**61.38**	**272**	*e*P	**P**	**18 21 16.2**	**-0.3**
KAD				AMb	AMB	18 21 18.9	
	comp=Z,45nm,1.1s,mb5.5						
DLBC	**Dease Lake**	**61.65**	**37**	*e*P	**P**	**18 21 18.2**	**+0.5**
KOD	**Kodaikanal**	**62.24**	**264**	*e*P	**P**	**18 21 21.9**	**-0.5**
GOA	**Goa**	**62.57**	**271**	*ex*	x	18 21 19.5	
ALE	**Alert**	**63.57**	**3**	P	**P**	**18 21 30.0**	**-0.2**
	comp=Z,109nm,0.7s,mb6.0,SNR=6.0						
KBS	**Kingsbay**	**63.96**	**350**	*e*P	**P**	**18 21 33.3**	**+0.4**
	comp=Z,74nm,0.9s,mb5.7						
KBS				*e*pP	pP	18 21 49.1	-0.6
KBS	**Kingsbay**	**63.96**	**350**	*e*P	**P**	**18 21 33.3**	**+0.5**
KBS				*e**PP	pP	18 21 49.1	-0.5
KBS				pmax	pmax		
	comp=Z,74nm,0.9s,mb5.7						
ARMA	**Armidale**	**64.48**	**170**	⇑*i*P	**P**	**18 21 37.2**	**+0.4**
ABKT	**Ailbek**	**65.10**	**300**	P	**P**	**18 21 41.8**	**+0.9**
	comp=Z,87nm,0.6s,mb6.0,SNR=5.4						
STKA	**Stephens Creek**	**65.12**	**179**	⇑*i*P	**P**	**18 21 40.6**	**-0.3**
	comp=Z,22nm,0.6s,mb5.4						
STKA	**Stephens Creek**	**65.12**	**179**	P	**P**	**18 21 40.8**	**-0.2**
	comp=Z,25nm,0.6s,mb5.4,baz=347,slow=7.1,SNR=52						
FORT	**Forrest**	**65.15**	**192**	⇑*i*P	**P**	**18 21 41.2**	**+0.1**
	comp=Z,173nm,0.5s,mb6.3						
TMCR	**Tamitsa**	**65.54**	**332**	*e*P	**P**	**18 21 41.6**	**-1.7**
TMCR				*e*	pP	18 21 57.3	-2.8
APA	**Apatity**	**65.63**	**336**	⇑*i*P	**P**	**18 21 42.0**	**-1.8**
APA				pmax	pmax		
	comp=Z,20nm,0.7s,mb5.3						
APA				MLR	MLR		
	comp=Z,2μm,20.0s						
RES	**Resolute Bay**	**66.05**	**14**	*e*P	**P**	**18 21 45.9**	**-0.5**
	comp=Z,1μm,0.8s						
KEV	**Kevo**	**66.49**	**340**	*ep*	**P**	**18 21 47.7**	**-1.6**
	comp=Z,18nm,0.7s,mb5.2						
KEV	**Kevo**	**66.49**	**340**	*e*P	**P**	**18 21 47.7**	**-1.6**
KEV				pmax	pmax		
	comp=Z,18nm,0.7s,mb5.2						
YKW3	**Yellowknife Ar**	**67.00**	**29**	*e*P	**P**	**18 21 51.5**	**-1.1**
YKA	**Yellowknife Ar**	**67.03**	**29**	P	**P**	**18 21 51.7**	**-1.2**
YKA	**Yellowknife Ar**	**67.03**	**29**	P	**P**	**18 21 51.7**	**-1.2**
YKA				pmax	pmax		
	comp=Z,3.0nm,0.6s						
YKA	**Yellowknife Ar**	**67.03**	**29**	P	**P**	**18 21 51.7**	**-1.2**
	comp=Z,3.0nm,0.6s,mb4.5,baz=298,slow=6.3,SNR=78						
ARCES	**ARCESS Array B**	**67.04**	**340**	P	**P**	**18 21 52.8**	**0.0**
ARCES				pmax	pmax		
	comp=Z,6.0nm,0.6s						
ARCES	**ARCESS Array B**	**67.04**	**340**	P	**P**	**18 21 52.8**	**-0.1**
	comp=Z,5.8nm,0.6s,mb4.8,baz=65,slow=8.2,SNR=26						
ARE0	**ARCESS Array S**	**67.04**	**340**	*e*P	**P**	**18 21 52.2**	**-0.6**
KLBR	**Kellerberrin**	**68.39**	**201**	⇑*i*P	**P**	**18 22 01.4**	**-0.3**
	comp=Z,81nm,1.0s,mb5.7						
JOF	**Joensuu**	**68.77**	**332**	*ep*	**P**	**18 22 02.6**	**-1.2**
	comp=Z,22nm,0.5s,mb5.3						
CNB	**Canberra Magne**	**69.02**	**173**	*e*P	**P**	**18 22 05.8**	**+0.3**
	comp=Z,28nm,1.6s,mb4.9						
DAG	**Danmarks Havn**	**69.15**	**355**	⇓*i*P	**P**	**18 22 05.6**	**-0.4**
DAG				pmax	pmax		
	comp=Z,9.0nm,0.7s,mb4.8						
DAG	**Danmarks Havn**	**69.15**	**355**	⇓*i*P	**P**	**18 22 05.6**	**-0.4**
	comp=Z,8.9nm,0.7s,mb4.8						
MUN	**Mundaring**	**69.23**	**202**	⇑*i*P	**P**	**18 22 06.4**	**-0.5**
MOS	**Moscow**	**69.73**	**324**	*e*P	**P**	**18 22 07.2**	**-2.6**
MOS				*e*	pP	18 22 26.1	-0.8
MOS				*e*		18 24 46.1	
MOS				*e*S	S	18 31 14.5	+0.8
MOS				pmax	pmax		
	comp=Z,53nm,1.0s,mb5.4						
NWAO	**Narrogin (SRO)**	**69.79**	**201**	*e*P	**P**	**18 22 10.3**	**0.0**
	comp=Z,102nm,0.7s,mb5.9						
NWAO	**Narrogin (SRO)**	**69.79**	**201**	*e*P	**P**	**18 22 10.4**	**0.0**
NWAO				pmax	pmax		
	comp=Z,102nm,0.7s						
NWAO	**Narrogin (SRO)**	**69.79**	**201**	P	**P**	**18 22 11.0**	**+0.6**
	SNR=5.5						
NWAO	**Narrogin (SRO)**	**69.79**	**201**	P	**P**	**18 22 11.0**	**+0.6**
	SNR=5.5						
B05A	**Bryant**	**70.07**	**45**	⇓P	**P**	**18 22 12.1**	**+0.1**
	baz=70						
OBN	**Obninsk**	**70.57**	**324**	*e*P	**P**	**18 22 14.8**	**-0.1**
	comp=Z,31nm,0.7s,mb5.3						
OBN	**Obninsk**	**70.57**	**324**	*c i*P	**P**	**18 22 14.5**	**-0.5**
OBN				*e*	pP	18 22 32.3	+0.3

baz=72
EDM Edmonton 72.36 37 eP P 18 22 25.4 -0.3
MOR8 Moi Rana 72.42 340 eP P 18 22 24.4 -1.5
MOR8 AMb AMB 18 22 25.3
comp=Z,47nm,0.8s,mb5.5
MOR8 epP pP 18 22 42.8 -0.2
G06A Carlson Farm, 72.42 47 ⇑P P 18 22 26.0 -0.3
baz=72
J04A Umpqua Nationa 72.49 50 ⇓P P 18 22 26.2 -0.5
baz=72
HAWA Hanford 72.50 46 eP P 18 22 27.3 +0.5
comp=Z,9.2nm,0.8s,mb4.8
F07A Phinny Hill Vi 72.52 46 ⇓P P 18 22 26.7 -0.2
baz=72
C09A Chrisman Ranch 72.53 44 ⇑P P 18 22 26.4 -0.5
baz=72
D08A Wollman Farm, 72.53 45 ⇑P P 18 22 26.8 -0.1
baz=72
HATD Hatta, Dubai 72.53 288 P P 18 22 28.3 +0.9
SNR=6.9
HATD Hatta, Dubai 72.53 288 P P 18 22 28.3 +0.9
SNR=6.9
MTA Mtatsminda 72.58 309 P P 18 22 27.8 +0.5
TBLG Delisi 72.60 309 eP P 18 22 27.9 +0.5
TBLG Delisi 72.60 309 P P 18 22 28.0 +0.5
ASHO Ashiyiah 72.66 288 P P 18 22 28.8 +0.7
SNR=8.4
ASHO Ashiyiah 72.66 288 P P 18 22 28.8 +0.7
SNR=8.4
BSY Bisya 72.70 286 P P 18 22 29.3 +0.9
SNR=9.6
BSY Bisya 72.70 286 P P 18 22 29.3 +0.9
SNR=9.6
VIPM Ingram Point 72.79 48 P P 18 22 28.1 -0.4
KIV Kislovodsk 72.80 312 P P 18 22 29.7 +1.1
comp=Z,1μm,0.7s,SNR=37
KIV Kislovodsk 72.80 312 eP P 18 22 29.7 +1.1
comp=Z,166nm,0.8s,mb6.0
KIV Kislovodsk 72.80 312c iP P 18 22 29.3 +0.7
KIV i pP 18 22 45.9 +0.2
KIV i S S 18 31 56.7 +7.1
KIV pmax pmax
comp=Z,102nm,0.6s,mb5.9
KIV MLR MLR
comp=Z,400nm,17.0s
KIV Kislovodsk 72.80 312 P P 18 22 29.7 +1.1
SNR=15
KIV Kislovodsk 72.80 312 P P 18 22 29.7 +1.1
SNR=15
H06A Lindquist Farm 72.86 47 ⇑P P 18 22 28.9 0.0
baz=73
YBH Yreka Blue Hor 72.86 51 eP P 18 22 30.1 +1.2
comp=Z,13nm,1.0s,mb4.8
YBH Yreka Blue Hor 72.86 51 eP P 18 22 30.1 +1.1
YBH pmax pmax
comp=Z,13nm,1.0s
YBH Yreka Blue Hor 72.86 51 ⇑P P 18 22 28.4 -0.6
baz=73
GOR Gori 72.88 309 P P 18 22 30.3 +1.2
D09A Jones Farm, Ri 72.89 45 ⇑P P 18 22 29.3 +0.3
baz=73
N02C Big Bar 72.92 52 ⇑P P 18 22 29.5 +0.1
baz=73
M02C Callahan 72.93 51 ⇑P P 18 22 29.2 -0.2
baz=73
NEW Newport 72.95 43 eP P 18 22 29.5 +0.1
comp=Z,116nm,2.3s,mb5.4
NEW Newport 72.95 43 eP P 18 22 29.5 +0.1
NEW pmax pmax
comp=Z,116nm,2.3s
G07A Ruggs Ranch, H 72.99 47 ⇓P P 18 22 29.5 -0.2
baz=73
ONI Oni 73.01 310 P P 18 22 31.0 +1.2
A11A Hall Mountain, 73.02 42 ⇓P P 18 22 29.9 +0.2
baz=73,SNR=6.5
VSU Vasula 73.17 330c iP P 18 22 30.6 +0.1
LHEM Herd Peak 73.23 51 P P 18 22 31.6 +0.4
E09A Wood Farm, Sta 73.27 45 ⇑P P 18 22 31.3 0.0
baz=73
M04C Macdoel 73.39 51 ⇓P P 18 22 32.0 -0.1
baz=73
G08A Pilot Rock 73.41 46 ⇓P P 18 22 31.7 -0.5
baz=73
K05A Summer Lake 73.52 50 ⇓P P 18 22 33.3 +0.4
baz=73,SNR=12
WDC Whiskeytown Da 73.54 52 eP P 18 22 33.8 +0.8
comp=Z,12nm,0.9s,mb4.8
WDC Whiskeytown Da 73.54 52 eP P 18 22 33.8 +0.8
WDC pmax pmax
comp=Z,12nm,0.9s,mb4.8
WDC Whiskeytown Da 73.54 52 ⇓P P 18 22 33.0 0.0
baz=73
P01C Double 8 Ranch 73.57 53 ⇓P P 18 22 33.5 +0.3
baz=73
O02C Red Bluff 73.58 53 ⇓P P 18 22 33.8 +0.5
baz=73
J06A Christmas Vall 73.72 49 ⇑P P 18 22 32.7 -1.3
baz=74
GASB Alder Springs 73.89 53 ⇑P P 18 22 35.6 +0.5
baz=74
K06A Valley Falls 73.89 49 ⇑P P 18 22 35.3 +0.3
baz=74
L05A Lakeview 73.91 50 ⇑P P 18 22 35.3 +0.2
baz=74
LTIM Timbered Crate 73.93 51 P P 18 22 35.0 -0.3
H08A Prairie City 73.99 47 ⇓P P 18 22 36.2 +0.6
baz=74
D11A Klaveano Farm, 74.04 44 ⇓P P 18 22 37.2 +1.4
baz=74
F10A Beach Ranch, E 74.09 45 ⇑P P 18 22 37.4 +1.3
baz=74
HATC Hat Creek Radi 74.13 51 ⇓P P 18 22 36.8 +0.3
baz=74
J07A Hines 74.19 48 P P 18 22 38.6 +1.9
baz=74,SNR=9.4
LBCM Butte Creek Ri 74.19 51 P P 18 22 37.2 +0.4
MOD Modoc 74.32 50 eP P 18 22 38.6 +1.1
comp=Z,146nm,2.3s,mb5.5
MOD Modoc 74.32 50 ⇓P P 18 22 37.8 +0.2
baz=74
WALA Waterton Lakes 74.32 41 eP P 18 22 37.5 0.0
I08A Drewsey 74.37 48 ⇓P P 18 22 38.0 +0.3
baz=74
B13A Whitefish 74.39 42 ⇓P P 18 22 38.9 +1.0
baz=74
MNRC McLaughlin Nat 74.47 54 ⇓P P 18 22 38.1 -0.4
baz=74
E11A Bogner Ranch, 74.49 44 ⇑P P 18 22 39.7 +1.2
baz=74
G10A Bishop Farm, J 74.52 46 P P 18 22 38.9 +0.3
baz=74,SNR=9.2
H09A Durkee 74.52 47 ⇑P P 18 22 39.8 +1.2
baz=74
M06C Likely Place G 74.57 51 ⇓P P 18 22 38.9 -0.1
baz=74
K07A Rock Creek Ran 74.58 49 P P 18 22 39.6 +0.6
baz=74,SNR=19
O04C Chester 74.63 52 ⇓P P 18 22 39.8 +0.4
baz=74
BMO Blue Mountains 74.64 46 eP P 18 22 39.5 +0.2
ARTV Artvin 74.70 309 iP P 18 22 40.2 +0.4
C13A Hot Springs 74.71 43 ⇓P P 18 22 40.3 +0.6
baz=74
J08A Circle Bar Ran 74.71 48 P P 18 22 41.0 +1.2
baz=74,SNR=9.0
ORV Oroville 74.75 53 ⇓P P 18 22 39.1 -0.9
baz=74
F11A Grangeville 74.77 45 ⇑P P 18 22 40.5 +0.5
baz=74
SOC Sochi 74.84 312 eP P 18 22 40.6 +0.1
SOC eS S 18 32 17.3 +4.8
SOC e 18 32 53.2
SOC eSS SS 18 37 04.3 +3.5
SOC eSSS 18 40 11.9
SOC pmax pmax
comp=Z,63nm,0.7s,mb5.7
I09A Lost Marbles R 74.84 47 ⇓P P 18 22 41.0 +0.5
baz=75
OHCM Honcut 74.87 53 eP P 18 22 42.0 +1.2
L07A Adell 74.87 50 ⇑P P 18 22 41.5 +0.8
baz=75,SNR=18
K08A Mann Creek Ran 75.04 49 ⇑P P 18 22 41.9 +0.2
baz=75,SNR=10
MNK Minsk 75.09 326 eP P 18 22 41.0 -0.8
MNK pmax pmax
comp=Z,140nm,1.0s,mb5.8
TVAN Van 75.10 306 iP P 18 22 41.4 -0.7

H10A Noah's Angus R 75.12 46 P P 18 22 42.1 0.0
baz=75,SNR=19
J09A Fry Pan Ranch, 75.17 48 ⇑P P 18 22 43.0 +0.6
baz=75
N06A Buffalo Meadow 75.22 51 ⇑P P 18 22 43.2 +0.4
baz=75
HOMI Horasan 75.31 308 iP P 18 22 42.0 -1.3
F12A Elk City 75.37 45 P P 18 22 43.7 +0.2
baz=75,SNR=17
HAKT HAKKARI 75.39 305 iP P 18 22 43.2 -0.7
L08A Fields 75.41 49 P P 18 22 44.6 +0.8
baz=75,SNR=12
H11A Donnelly 75.50 46 P P 18 22 44.2 0.0
baz=75,SNR=8.8
K09A Rome 75.53 48 ⇓P P 18 22 44.6 +0.1
baz=75
ANN Anapa 75.57 314 eP P 18 22 43.2 -1.5
ANN e*PP pP 18 22 50.7 -11
ANN eS S 18 32 21.4 +0.8
ANN pmax pmax
comp=Z,91nm,1.3s,mb5.5
D14A Greenough 75.65 43 ⇑P P 18 22 45.1 0.0
baz=75
ERZM Erzurum 75.73 308 iP P 18 22 46.4 +0.7
M08A Happy Creek Ra 75.78 50 ⇓P P 18 22 46.4 +0.4
baz=76
CHMT Chamberlain Mo 75.88 43 eP P 18 22 52.3 +5.8
F13A Darby 75.89 44 P P 18 22 46.3 -0.2
baz=76,SNR=9.2
L09A Wilkinson Ranc 75.93 49 ⇑P P 18 22 47.1 +0.3
baz=76
K10A MacKenzie Ranc 76.02 48 P P 18 22 48.1 +0.8
baz=76,SNR=15
E14A Clinton 76.03 43 ⇑P P 18 22 48.6 +1.3
baz=76
WCN Washoe City 76.03 52 ⇑P P 18 22 47.8 +0.4
baz=76
R05C Kirkwood Meado 76.14 53 ⇑P P 18 22 48.2 +0.1
baz=76
MACK Trabzon 76.21 310 iP P 18 22 48.2 -0.2
PACP Pacheco Peak 76.21 55 ⇑P P 18 22 47.3 -1.2
baz=76
D15A Lincoln 76.22 42 ⇓P P 18 22 49.0 +0.7
baz=76
KOPT Kop Dagi 76.24 309 iP P 18 22 49.7 +1.1
H12A Diamond D Ranc 76.27 45 P P 18 22 48.8 +0.1
baz=76,SNR=18
CMB Columbia Colle 76.28 53 ⇑P P 18 22 48.5 -0.4
baz=76
N08A GE Springer Mi 76.30 50 P P 18 22 49.4 +0.5
baz=76,SNR=17
MFID Camas Ranch 76.31 47 P P 18 22 49.5 +0.6
baz=76,SNR=9.9
G13A Cobalt 76.34 45 P P 18 22 48.7 -0.4
baz=76,SNR=13
F14A Wisdom 76.44 44 ⇓P P 18 22 50.4 +0.8
baz=76
E15A Deer Lodge 76.51 43 ⇑P P 18 22 50.2 +0.2
baz=76
K11A Parker Ranch, 76.54 48 P P 18 22 50.6 +0.4
baz=76,SNR=17
H13A Challis 76.62 45 P P 18 22 51.0 +0.3
baz=76,SNR=17
L10A Juniper Basin 76.65 48 P P 18 22 51.5 +0.7
baz=76,SNR=14
R06C Coleville 76.65 53 ⇓P P 18 22 51.6 +0.6
baz=76
UMR Umm Al-Rimmam 76.65 297 eP P 18 22 50.8 -0.4
UMR AMb AMB 18 22 52.3
comp=Z,79nm,0.6s,mb5.9
G14A Jackson 76.70 44 ⇓P P 18 22 51.3 +0.1
baz=76
AKASG Malin Array Be 76.72 323 P P 18 22 50.7 -0.4
AKASG LR LR 19 00 09.2
AKASG Malin Array Be 76.72 323 P P 18 22 50.7 -0.4
AKASG pmax pmax
comp=Z,27nm,0.6s
AKASG MLR MLR
comp=Z,1μm,19.4s
AKASG Malin Array Be 76.72 323 P P 18 22 50.7 -0.4
comp=Z,27nm,0.6s,mb5.3,baz=48,slow=6.0,SNR=168
AKASG LR LR 19 00 09.2
comp=Z,1μm,19.4s,baz=45,slow=38
MIB Mutribah 76.80 297 eP P 18 22 51.7 -0.3
MIB AMb AMB 18 22 53.5
comp=Z,145nm,0.6s,mb6.1
J12A Stokes Ranch, 76.84 47 ⇑P P 18 22 52.3 +0.3
baz=77
KBD Kabd 76.86 296 eP P 18 22 52.0 -0.3
KBD AMb AMB 18 22 53.4
comp=Z,288nm,0.6s,mb6.4
FFC Flin Flon 76.87 32 P P 18 22 51.7 -0.1
comp=Z,84nm,0.7s,mb5.8,SNR=5.3
FFC Flin Flon 76.87 32 eP P 18 22 50.9 -0.9
comp=Z,32nm,0.8s,mb5.3
FFC Flin Flon 76.87 32 eP P 18 22 50.9 -0.9
FFC pmax pmax
comp=Z,32nm,0.8s,mb5.3
M10A I.L. Ranch, Tu 76.91 49 ⇑P P 18 22 52.8 +0.5
baz=77
QRN Al-Qurain 76.92 296 eP P 18 22 52.6 0.0
QRN AMb AMB 18 22 53.8
comp=Z,132nm,0.6s,mb6.0
F15A Butte 76.92 43 P P 18 22 52.8 +0.4
baz=77,SNR=34
L11A Cat Creek Ranc 77.04 48 P P 18 22 54.0 +0.9
baz=77,SNR=22
I13A Wildhorse Cree 77.06 46 P P 18 22 54.0 +0.8
baz=77,SNR=23
DOMB Dombas 77.07 339 eP P 18 22 52.8 -0.1
HLID Hailey 77.08 46 eP P 18 22 53.8 +0.5
HLID Hailey 77.08 46 P P 18 22 53.9 +0.6
baz=77,SNR=14
RDF Al-Radifah 77.10 296 eP P 18 22 53.7 0.0
RDF AMb AMB 18 22 55.0
comp=Z,180nm,0.6s,mb6.2
DLMT Dillon 77.14 44 eP P 18 22 54.2 +0.7
comp=Z,40nm,0.8s,mb5.4
R07C Lee Vining 77.15 53 ⇑P P 18 22 53.9 +0.1
baz=77
NAY Al-Naaiem 77.16 297 eP P 18 22 53.8 -0.2
NAY AMb AMB 18 22 55.2
comp=Z,82nm,0.6s,mb5.8
NB2 NORSAR Subarra 77.17 337 P P 18 22 53.0 -0.4
comp=Z,38nm,0.7s,mb5.4,baz=41,slow=5.6
NOA NORSAR Array B 77.17 337 P P 18 22 53.2 -0.2
NOA LR LR 19 01 46.3
NOA NORSAR Array B 77.17 337 P P 18 22 53.2 -0.2
NOA pmax pmax
comp=Z,35nm,0.7s
NOA MLR MLR
comp=Z,574nm,19.6s
NOA NORSAR Array B 77.17 337 P P 18 22 53.2 -0.2
comp=Z,35nm,0.7s,mb5.4,baz=40,slow=5.7,SNR=186
NOA LR LR 19 01 46.3
comp=Z,574nm,19.6s,baz=15,slow=39
GRSN GIRESUNGRSN 77.18 311 iP P 18 22 52.6 -1.2
EGMT Eagleton 77.19 40 eP P 18 22 54.0 +0.2
O09A Fish Creek Ran 77.23 50 ⇓P P 18 22 55.0 +0.8
baz=77,SNR=5.9
PKD Parkfield 77.28 55 ⇓P P 18 22 54.6 0.0
baz=77
FCC Fort Churchill 77.30 26 eP P 18 22 53.2 -1.0
comp=Z,25nm,0.8s,mb5.2
FCC Fort Churchill 77.30 26 eP P 18 22 53.2 -1.0
FCC pmax pmax
comp=Z,25nm,0.8s,mb5.2
K12A Draper Farm, C 77.31 47 ⇓P P 18 22 54.8 +0.2
baz=77
G15A Dillon 77.31 44 P P 18 22 55.0 +0.5
baz=77,SNR=11
J13A Cove Ranch, Pi 77.32 46 P P 18 22 55.8 +1.1
baz=77,SNR=8.4
KCC Kaiser Creek 77.38 54 ⇑P P 18 22 55.1 0.0
baz=77
M11A Holland Ranch, 77.43 49 ⇑P P 18 22 55.5 +0.2
baz=77
NVAR Mina Array Bea 77.46 52 P P 18 22 56.1 +0.6
comp=Z,2.9nm,0.7s,mb4.3,baz=307,slow=4.0,SNR=17
Q08A Gabbs 77.47 52 ⇑P P 18 22 55.7 +0.1
baz=77
MARD Mardin 77.50 306 iP P 18 22 55.0 -0.8
L12A House Creek Ra 77.51 48 ⇓P P 18 22 56.5 +0.7
baz=77,SNR=10
SUW Suwalki 77.52 328 eP P 18 22 55.3 -0.2
BOZ Bozeman (W) 77.53 43 eP P 18 22 56.1 +0.3
O10A Cortez Mining, 77.61 50 ⇑P P 18 22 57.1 +0.8

baz=77
K13A Stover Farm, H 77.80 47 ⇓P P 18 22 58.0 +0.7
baz=78
MTUM Tungsten Hills 77.87 53 eP P 18 22 59.5 +1.7
WHFO Wadi Hawf 77.92 283 P P 18 22 58.1 -0.3
SNR=9.1
WHFO Wadi Hawf 77.92 283 P P 18 22 58.1 -0.3
SNR=9.1
HELL Mitchell Peak 77.92 54 ⇓P P 18 22 57.8 -0.3
baz=78
KEMA Kemaliye 77.94 309 iP P 18 22 58.9 +0.7
M12A Wells 77.98 48 ⇓P P 18 22 59.7 +1.3
baz=78
ELZG Elazig 78.05 308 iP P 18 22 58.9 +0.1
S08C White Mtn Res 78.05 53 ⇓P P 18 22 59.1 +0.3
baz=78
QLMT Earthquake Lak 78.12 44 eP P 18 23 00.0 +1.0
L13A Double Diamond 78.20 47 ⇑P P 18 23 00.8 +1.3
baz=78
N12A Clover Valley, 78.22 49 ⇓P P 18 23 00.3 +0.6
baz=78
O11A Cowboy Ranch, 78.23 50 ⇓P P 18 23 00.4 +0.6
baz=78
R09A Tonopah 78.37 52 P P 18 23 00.8 +0.2
baz=78,SNR=16
K14A Jones Ranch, D 78.41 46 P P 18 23 01.8 +1.1
baz=78,SNR=8.4
M13A Montello 78.48 48 ⇑P P 18 23 01.6 +0.5
baz=78
Q10A Clear Creek Ra 78.49 51 ⇑P P 18 23 01.5 +0.4
baz=78
MALT Malatya 78.52 308 eP P 18 23 02.9 +1.6
MALT Malatya 78.52 308⇑iP P 18 23 02.8 +1.4
ABTO Aybut 78.60 283 P P 18 23 02.0 -0.1
SNR=11
ABTO Aybut 78.60 283 P P 18 23 02.0 -0.1
SNR=11
YFT Old Faithful 78.69 44 eP P 18 23 04.7 +2.5
O12A Currie 78.74 49 P P 18 23 03.2 +0.7
baz=78,SNR=18
KONO Kongsberg 78.75 337 eP P 18 23 02.3 +0.1
KONO Kongsberg 78.75 337⇑eP P 18 23 01.4 -0.8
ISA Isabella 78.85 55 eP P 18 23 02.7 -0.6
ISA Isabella 78.85 55 ⇑P P 18 23 02.8 -0.5
baz=79
GRAC Grapevine Rang 78.86 53 ⇑P P 18 23 03.5 +0.2
baz=79
S10A Tonopah Range, 78.86 52 P P 18 23 03.9 +0.7
baz=79,SNR=14
LKWY Lake 78.87 44 eP P 18 23 05.7 +2.5
comp=Z,36nm,1.0s,mb5.2
LKWY e pP 18 23 22.4 +1.9
LKWY Lake 78.87 44 eP P 18 23 05.7 +2.5
LKWY e pP 18 23 22.4 +1.9
LKWY pmax pmax
comp=Z,36nm,1.0s,mb5.3
M14A Sheep Mountain 78.90 47 P P 18 23 04.1 +0.7
baz=79,SNR=18
Q11A Duckwater 78.96 51 ⇓P P 18 23 03.7 0.0
baz=79
FLWY Flagg Ranch 78.98 44 eP P 18 23 05.6 +1.8
comp=Z,44nm,1.0s,mb5.3
BOYT Boyabat 79.00 313 iP P 18 23 04.8 +0.8
P12A McGill 79.08 50 P P 18 23 04.9 +0.5
baz=79,SNR=15
HVU Hansel Valley 79.09 47 eP P 18 23 05.5 +1.1
MOOW Moose Ponds 79.15 44 eP P 18 23 05.6 +0.8
RLMT Red Lodge 79.18 43 eP P 18 23 05.5 +0.6
TPAW Teton Pass 79.19 45 eP P 18 23 06.2 +1.2
comp=Z,28nm,0.8s,mb5.2
R11A Troy Canyon, C 79.28 51 P P 18 23 05.8 +0.3
baz=79,SNR=14
O13A Hicks Ranch, I 79.29 49 ⇑P P 18 23 06.3 +0.7
baz=79
MPMC Manual Prospec 79.30 54 ⇑P P 18 23 05.8 +0.1
baz=79,SNR=7.3
LOHW Long Hollow 79.32 44 eP P 18 23 06.1 +0.5
comp=Z,13nm,0.9s,mb4.9
SNOW Snow King Moun 79.32 45 eP P 18 23 06.4 +0.8
comp=Z,36nm,0.9s,mb5.3
REDW Red Top Meadow 79.32 45 eP P 18 23 06.8 +1.1
comp=Z,41nm,1.1s,mb5.3
N14A Grayback Hills 79.38 48 ⇑P P 18 23 06.8 +0.7
baz=79,SNR=5.6
Q12A Willow Creek R 79.38 50 ⇓P P 18 23 06.7 +0.6
baz=79
BGU Big Grassy Mou 79.43 48 eP P 18 23 06.8 +0.4
RUND Rundenannen 79.46 339 eP P 18 23 08.6 +2.5
LRMC Laurel Mountai 79.49 54 ⇓P P 18 23 06.3 -0.4
baz=79
FURC Furnace Creek, 79.49 53 ⇑P P 18 23 06.4 -0.3
baz=79
AHID Auburn Hatcher 79.53 45 eP P 18 23 07.3 +0.5
comp=Z,12nm,0.6s,mb5.0
CTKT Corum 79.53 312 iP P 18 23 07.2 +0.3
EDW2 Edwards Air Fo 79.61 55 ⇓P P 18 23 07.1 -0.3
baz=79,SNR=8.8
GZT Gaziantep 79.62 308 iP P 18 23 08.6 +1.2
TPNV Topopah Spring 79.63 53 eP P 18 23 07.5 0.0
comp=Z,37nm,1.1s,mb5.2
TPNV Topopah Spring 79.63 53 eP P 18 23 07.5 0.0
TPNV pmax pmax
comp=Z,37nm,1.1s,mb5.2
P13A Bates Ranch, G 79.66 49 ⇓P P 18 23 08.7 +1.1
baz=79
N15A Stansbury Isla 79.77 48 ⇑P P 18 23 08.8 +0.7
baz=80
DGMT Dagmar 79.84 38 eP P 18 23 07.9 -0.5
comp=Z,52nm,1.2s,mb5.3
BALT Daday 79.86 313 iP P 18 23 09.2 +0.6
LVV L'vov 79.87 324 eP P 18 23 07.7 -0.8
LVV e pP 18 23 25.1 -0.8
U10A Ash Meadows, A 79.88 53 ⇓P P 18 23 09.3 +0.5
baz=80
LAO LASA Array 79.90 40 eP P 18 23 08.2 -0.6
comp=Z,57nm,1.0s,mb5.5
LAO e pP 18 23 24.6 -1.6
R12A Pony Springs, 79.93 51 P P 18 23 09.4 +0.4
baz=80,SNR=10.0
HWUT Hardware Ranch 79.93 47 eP P 18 23 09.2 +0.2
comp=Z,46nm,1.1s,mb5.3
DUG Dugway 79.99 48 eP P 18 23 09.9 +0.6
comp=Z,34nm,1.0s,mb5.2
DUG Dugway 79.99 48 eP P 18 23 09.9 +0.5
DUG pmax pmax
comp=Z,33nm,1.0s,mb5.2
T11A Corn Creek, Al 80.15 52 P P 18 23 10.5 +0.2
baz=80,SNR=8.6
NOQ North Oquirrh 80.15 48 eP P 18 23 10.4 +0.2
comp=Z,174nm,2.1s,mb5.6
GSC Goldstone 80.18 54 eP P 18 23 10.7 +0.2
comp=Z,18nm,1.0s,mb5.0
GSC Goldstone 80.18 54 eP P 18 23 10.7 +0.2
GSC pmax pmax
comp=Z,18nm,1.0s,mb5.0
GSC Goldstone 80.18 54 ⇑P P 18 23 10.4 -0.1
baz=80
BFSC Mount Baldy St 80.19 55 ⇓P P 18 23 10.1 -0.5
baz=80
BSD Bornholm Skovb 80.24 332 iP P 18 23 09.6 -0.8
BSD pmax pmax
comp=Z,25nm,0.7s,mb5.2
BSD Bornholm Skovb 80.24 332 iP P 18 23 09.6 -0.8
comp=Z,25nm,0.7s,mb5.2
ANDN Andirin 80.29 309 iP P 18 23 11.3 +0.3
CTU Camp Tracy 80.36 47 eP P 18 23 12.4 +1.1
comp=Z,60nm,1.3s,mb5.4
CDAG Cicekdag 80.37 311 iP P 18 23 10.1 -1.3
PDAR Pinedale Array 80.44 45 P P 18 23 11.3 -0.4
comp=Z,3.5nm,0.7s,mb4.4,baz=282,slow=2.5,SNR=28
ELDT Eldivan 80.45 312 iP P 18 23 11.6 -0.2
AVNT Avonos 80.56 310 iP P 18 23 12.5 +0.1
NLU North Lily Min 80.59 48 eP P 18 23 13.0 +0.5
JLU Jordanelle 80.59 47 eP P 18 23 13.1 +0.5
GKP Gorka Klasztor 80.62 330 eP P 18 23 12.3 -0.1
KWP Kalwaria 80.64 324 eP P 18 23 13.2 +0.6
KWP Kalwaria 80.64 324⇑iP P 18 23 13.2 +0.6
TUQ Turquoise Mtn. 80.70 54 ⇑P P 18 23 13.5 +0.3
baz=80
HEC Hector,Ludlow 80.77 54 P P 18 23 13.6 -0.1
baz=81,SNR=7.7
COP Copenhagen 80.77 333⇑iP P 18 23 13.1 -0.1
COP pmax pmax
comp=Z,28nm,0.6s,mb5.4
COP Copenhagen 80.77 333⇑iP P 18 23 13.1 -0.1
comp=Z,28nm,0.6s,mb5.4

V11A	Goodsprings	80.81	53	⇑P		P	18 23 14.0 +0.2
	baz=81						
DAU	Daniels Canyon	80.82	47	eP		P	18 23 14.4 +0.6
MPU	Maple Canyon	80.83	48	eP		P	18 23 14.3 +0.4
	comp=Z,12nm,0.5s,mb5.1						
S13A	Holt Ranch, En	80.84	51	⇓P		P	18 23 14.3 +0.3
	baz=81						
COBT	Iskenderun	80.95	308	iP		P	18 23 15.5 +0.9
TIRR	Tirgusor	80.99	318	⇑P		P	18 23 14.7 0.0
TIRR	Tirgusor	80.99	318	⇑iP		P	18 23 14.7 +0.1
VRI	Vrincioaia	81.03	320	⇑P		P	18 23 15.8 +1.0
VRI	Vrincioaia	81.03	320	⇑iP		P	18 23 15.8 +1.0
PLOR	Plostina	81.08	320	⇑iP		P	18 23 16.1 +1.0
HARR	Harsova	81.12	318	⇑P		P	18 23 15.6 +0.3
HARR	Harsova	81.12	318	⇑iP		P	18 23 15.6 +0.3
T13A	Saint George	81.13	51	⇑P		P	18 23 15.0 -0.5
	baz=81						
CCUT	Cedar City	81.18	51	eP		P	18 23 15.7 0.0
CCUT				e		pP	18 23 32.7 -0.5
S14A	Cedar City	81.18	50	⇑P		P	18 23 16.0 +0.2
	baz=81						
ANTO	Ankara	81.21	312	eP		P	18 23 16.6 +0.7
	comp=Z,27nm,0.6s,mb5.3						
ANTO				e		pP	18 23 32.8 -0.5
ANTO	Ankara	81.21	312	eP		P	18 23 16.6 +0.7
ANTO				e		pP	18 23 32.8 -0.5
ANTO					pmax	pmax	
	comp=Z,27nm,0.6s,mb5.3						
ANTO	Ankara	81.21	312	P		P	18 23 17.0 +1.1
	SNR=6.4						
ANTO	Ankara	81.21	312	P		P	18 23 17.0 +1.1
	SNR=6.4						
ANTO	Ankara	81.21	312	⇑iP		P	18 23 16.6 +0.7
GMRC	Granite Mounta	81.25	54	P		P	18 23 16.3 +0.1
	baz=81,SNR=11						
V12A	Nelson	81.25	53	⇑P		P	18 23 16.6 +0.4
	baz=81						
KOLS	Kolonicke sedl	81.32	324	eP		P	18 23 16.5 +0.2
MUD	Monsted U'grnd	81.37	335	⇑iP		P	18 23 16.2 -0.2
MUD					pmax	pmax	
	comp=Z,22nm,0.8s,mb5.1						
MUD	Monsted U'grnd	81.37	335	⇑iP		P	18 23 16.2 -0.2
	comp=Z,22nm,0.8s,mb5.1						
MSU	Marysvale	81.37	49	eP		P	18 23 17.6 +0.8
PFO	Pinyon Flat Ob	81.38	55	eP		P	18 23 16.7 -0.2
	comp=Z,38nm,1.0s,mb5.3						
PFO	Pinyon Flat Ob	81.38	55	eP		P	18 23 16.7 -0.2
PFO					pmax	pmax	
	comp=Z,38nm,1.0s,mb5.3						
PFO	Pinyon Flat Ob	81.38	55	P		P	18 23 16.8 -0.1
	baz=81,SNR=7.0						
BELC	Belle Mtn.	81.47	55	P		P	18 23 17.2 -0.1
	baz=81,SNR=6.3						
STHS	Stebnicka Huta	81.49	325	eP		P	18 23 17.7 +0.5
	comp=Z,12nm,0.8s,mb4.9						
STHS	Stebnicka Huta	81.49	325	eP		P	18 23 17.7 +0.5
STHS					pmax	pmax	
	comp=Z,12nm,0.8s,mb4.9						
UZH	Uzhgorod	81.51	324	diP		P	18 23 17.0 -0.3
UZH				e			18 23 23.6
UZH				i		pP	18 23 36.2 +1.5
UZH				eS		S	18 33 21.0 -2.9
UZH					MLR	MLR	
	comp=Z,500nm,18.0s						
TMUT	Trail Mountain	81.52	48	eP		P	18 23 17.6 +0.1
TMUT				e		pP	18 23 34.3 -0.6
PSN	Preselentsi	81.61	317	P		P	18 23 18.6 +0.7
OJC	Ojcow	81.62	326	eP		P	18 23 18.1 +0.2
T14A	Hurricane	81.64	51	⇓P		P	18 23 18.9 +0.6
	baz=81						
MLR	Muntele Rosu	81.69	320	⇑P		P	18 23 18.6 +0.3
MLR	Muntele Rosu	81.69	320	LR		LR	19 02 51.8
	comp=Z,742nm,21.3s,baz=228,slow=38						
MLR	Muntele Rosu	81.69	320	⇑iP		P	18 23 18.6 +0.3
CRVS	Cervenica-Dubn	81.73	324	iP		P	18 23 18.8 +0.3
HENT	Hendek	81.79	314	iP		P	18 23 18.4 -0.5
MONP	Monument Peak	81.81	56	⇓P		P	18 23 19.2 0.0
	baz=82						
IRM	Iron Mountain	81.95	54	⇓P		P	18 23 20.0 +0.1
	baz=82						
U14A	Mt Trumbull	81.96	52	P		P	18 23 20.3 +0.4
	baz=82,SNR=8.4						
BC3	Big Chuckw Mtn	82.04	55	P		P	18 23 20.2 -0.1
	baz=82,SNR=10						
SRU	San Rafael	82.05	48	eP		P	18 23 20.5 +0.1
	comp=Z,27nm,0.8s,mb5.2						
SRU	San Rafael	82.05	48	eP		P	18 23 20.5 +0.1
SRU					pmax	pmax	
	comp=Z,27nm,0.8s,mb5.2						
T15A	Red Dirt Ranch	82.12	51	P		P	18 23 21.2 +0.5
	baz=82,SNR=8.1						
DVTC	Desert V Tower	82.16	56	⇓P		P	18 23 20.9 -0.1
	baz=82						
VOIR		82.21	320	⇑P		P	18 23 22.1 +1.0
VOIR		82.21	320	⇑iP		P	18 23 22.1 +1.1
W13A	Hualapai Mount	82.26	53	⇓P		P	18 23 21.2 -0.3
	baz=82						
KDHN	Kadinhani	82.44	311	iP		P	18 23 22.0 -0.4
V14A	Boquillas Ranc	82.47	52	P		P	18 23 23.1 +0.5
	baz=82,SNR=8.9						
RWWY	Rawlins	82.47	44	eP		P	18 23 21.7 -0.8
	comp=Z,73nm,1.5s,mb5.4						
KECS	Kecovo	82.49	325	iP		P	18 23 22.6 +0.1
	comp=Z,4.7nm,0.9s,mb4.4						
KECS	Kecovo	82.49	325	iP		P	18 23 22.6 +0.1
KECS					pmax	pmax	
	comp=Z,5.0nm,0.9s,mb4.4						
DRGR		82.53	322	⇓P		P	18 23 23.0 +0.3
DRGR		82.53	322	⇓iP		P	18 23 23.0 +0.3
PDMCI	Parker Dam,Lak	82.55	54	⇓P		P	18 23 23.0 -0.1
	baz=82						
X13A	Yucca	82.59	53	P		P	18 23 23.6 +0.3
	baz=82,SNR=8.2						
ESKT	Eskisehir	82.61	313	iP		P	18 23 22.3 -1.0
Y12C	Blythe	82.61	54	⇓P		P	18 23 23.1 -0.3
	baz=82						
BORA	Eskisehir	82.64	313	iP		P	18 23 23.2 -0.2
ULM	Lac du Bonnet	82.65	33	P		P	18 23 21.8 -1.5
	comp=Z,6.2nm,0.8s,mb4.7,baz=337,slow=6.2,SNR=11						
OKC	Ostrava-Krasne	82.65	327	⇑iP		P	18 23 23.3 +0.1
W14A	Seligman	82.73	52	⇑P		P	18 23 24.3 +0.4
	baz=82						
KSP	Ksiaz	82.76	328	eP		P	18 23 24.3 +0.5
KSP	Ksiaz	82.76	328	⇑eP		P	18 23 24.1 +0.3
KSP				ePcP		PcP	18 23 28.4 -0.2
GLA	Glamis	82.81	55	eP		P	18 23 24.3 -0.1
	comp=Z,26nm,0.9s,mb5.3						
GLA	Glamis	82.81	55	eP		P	18 23 24.3 -0.1
GLA					pmax	pmax	
	comp=Z,26nm,0.9s,mb5.3						
GLA	Glamis	82.81	55	⇓P		P	18 23 24.6 +0.2
	baz=83						
BSEG	Bad Segeberg	82.90	333	eP		P	18 23 23.9 -0.6
	comp=Z,27nm,0.9s,mb5.3						
MORC	Moravsky Berou	82.97	327	eP		P	18 23 25.2 +0.3
	comp=Z,58nm,1.7s,mb5.3						
MORC	Moravsky Berou	82.97	327	P		P	18 23 25.3 +0.4
MORC	Moravsky Berou	82.97	327	⇑iP		P	18 23 25.1 +0.2
DPC	Dobruska-Polom	83.11	328	⇑iP		P	18 23 26.1 +0.5
UPC	Upice	83.13	328	⇑eP		P	18 23 25.9 +0.2
UPC				ePP		pP	18 23 39.5 -3.7
SZH	Strazhica	83.13	318	P		P	18 23 26.1 +0.2
PSZ	Piszkesteto	83.17	324	eP		P	18 23 26.5 +0.6
	comp=Z,55nm,1.1s,mb5.5						
PSZ	Piszkesteto	83.17	324	⇑iP		P	18 23 26.7 +0.7
PSZ	Piszkesteto	83.17	324	⇑eP		P	18 23 26.6 +0.6
ZIMR		83.20	319	P		P	18 23 25.9 -0.3
VYHS	Vyhne	83.27	325	iP		P	18 23 27.2 +0.7
	comp=Z,28nm,1.3s,mb5.1						
VYHS	Vyhne	83.27	325	iP		P	18 23 27.2 +0.7
VYHS					pmax	pmax	
	comp=Z,28nm,1.3s,mb5.1						
W15A	Williams	83.29	52	⇓P		P	18 23 27.7 +0.9
	baz=83						
X14A	Yava	83.29	53	P		P	18 23 27.6 +0.7
	baz=83,SNR=7.0						
KOLL	Kolacno	83.42	326	iP		P	18 23 27.9 +0.7
GZR	Gura Zlata	83.44	321	⇓P		P	18 23 27.8 +0.4
GZR	Gura Zlata	83.44	321	⇓iP		P	18 23 27.8 +0.4
Y14A	Wickenburg	83.53	53	⇑P		P	18 23 28.3 +0.2
	baz=83						
ORE	Reay	83.55	342	eP		P	18 23 27.8 0.0
GDZ	Gediz	83.72	313	iP		P	18 23 28.2 -0.8
X15A	Humboldt	83.72	53	P		P	18 23 29.9 +0.9
	baz=84,SNR=7.8						
VRAC	Vranov	83.74	327	⇑P		P	18 23 29.3 +0.4
VRAC	Vranov	83.74	327	P		P	18 23 29.5 +0.6
VRAC	Vranov	83.74	327	⇑iP		P	18 23 29.3 +0.4
PHWY	Pilot Hill	83.74	44	eP		P	18 23 28.9 -0.2
PVCC	Panska Ves	83.75	329	⇑iP		P	18 23 29.1 +0.2
PVCC				ePCP		PcP	18 23 36.4 +3.5
BRG	Berggiesshubel	83.76	329	eP		P	18 23 28.7 -0.2
	comp=Z,13nm,1.0s,mb5.0						
BRG				PP		PP	18 26 57.0 +15
BRG				S		S	18 33 56.0 +9.2
BRG				SS		SS	18 39 36.0 +22
BRG				LR		LR	
	comp=Z,850nm,23.8s						
BRG	Berggiesshubel	83.76	329	eP		P	18 23 28.7 -0.2
BRG				S		S	18 33 56.0 +9.2
BRG					pmax	pmax	
	comp=Z,13nm,1.0s,mb5.0						
BRG					MLR	MLR	
	comp=N,595nm,23.6s						
BRG					MLR	MLR	
	comp=E,499nm,23.2s						
BRG					MLR	MLR	
	comp=Z,848nm,23.8s						
BRG	Berggiesshubel	83.76	329	eP		P	18 23 28.5 -0.4
	comp=Z,22nm,1.0s,mb5.2						
BRG	Berggiesshubel	83.76	329	eP		P	18 23 28.7 -0.2
	comp=Z,22nm,1.0s,mb5.2						
BRG				PP		PP	18 26 57.0 +15
BRG				S		S	18 33 56.0 +9.2
BRG				SS		SS	18 39 36.0 +22
BRG							
	comp=N,994nm,23.6s						
BRG							
	comp=E,833nm,23.2s						
BRG							
	comp=Z,1μm,23.8s						
CSS	Prodhromos	83.79	308	eP		P	18 23 29.5 0.0
CLL	Collm	83.83	330	eP		P	18 23 28.5 -0.8
	comp=Z,38nm,0.9s,mb5.5						
CLL	Collm	83.83	330	⇑iP		P	18 23 28.8 -0.5
	comp=Z,39nm,0.9s,mb5.5						
CLL				ePcP		PcP	18 23 33.0 -0.3
CLL				eS		S	18 33 54.0 +6.5
CLL				LmV			19 08 00.0
	comp=Z,500nm,20.8s						
ISP	Isparta	83.85	312	c iP		P	18 23 29.2 -0.5
BZS	Buzias	83.89	322	⇑P		P	18 23 29.5 -0.3
BZS	Buzias	83.89	322	P		P	18 23 29.9 +0.2
BZS	Buzias	83.89	322	⇑iP		P	18 23 29.5 -0.2
BUD	Budapest	83.89	325	⇑eP		P	18 23 30.2 +0.5
Y15A	Casa Rosa Ranc	83.97	53	P		P	18 23 30.6 +0.2
	baz=84,SNR=9.0						
AGMN	Agassiz Refuge	84.04	34	eP		P	18 23 28.9 -1.5
	comp=Z,26nm,1.3s,mb5.2						
SART	Tekirdag	84.08	316	iP		P	18 23 29.4 -1.4
RSC	Scourie	84.08	343	⇑eP		P	18 23 30.6 +0.2
MODS	Modra-Piesok	84.09	326	iP		P	18 23 31.6 +0.9
MODS				ePP		PP	18 26 48.5 +3.8
NRDL	Niedersach Rie	84.09	332	eP		P	18 23 30.1 -0.5
	comp=Z,15nm,1.2s,mb5.0						
PRU	Pruhonice	84.16	328	⇑iP		P	18 23 31.1 +0.1
PRU				ePCP		PcP	18 23 36.3 +1.6
PRU				AMS		AMS	19 05 20.0
	comp=Z,400nm,14.6s						
BTOK	Tokmak	84.17	314	iP		P	18 23 30.3 -1.0
SMCO	Snowmass	84.19	46	eP		P	18 23 32.0 +0.6
	comp=Z,35nm,1.1s,mb5.4						
MVH1	Achvaich	84.21	342	⇑eP		P	18 23 31.1 0.0
TREC	Trest	84.25	328	⇑iP		P	18 23 31.7 +0.3
TREC				AMS		AMS	19 05 10.0
	comp=Z,900nm,16.6s						
MCD	Coleburn Disti	84.27	341	⇑eP		P	18 23 30.8 -0.6
X16A	Lo Mia Camp, P	84.28	52	P		P	18 23 32.4 +0.5
	baz=84,SNR=7.6						
ZST	Bratislava	84.30	326	eP		P	18 23 32.2 +0.4
	comp=Z,16nm,0.6s,mb5.3						
ZST				LR		LR	
	comp=Z,400nm,18.8s						
ZST	Bratislava	84.30	326	eP		P	18 23 32.2 +0.4
ZST					pmax	pmax	
	comp=Z,16nm,0.6s,mb5.3						
ZST					MLR	MLR	
	comp=Z,400nm,18.8s						
ZST	Bratislava	84.30	326	eP		P	18 23 32.2 +0.4
RTO	Tolsta	84.31	343	⇑iP		P	18 23 31.8 +0.2
REB	Eisghbrachaidh	84.31	343	⇑eP		P	18 23 31.8 +0.1
MME1	Meikle Cairn	84.42	341	⇑eP		P	18 23 31.7 -0.5
MVCO	Mesa Verde	84.48	49	eP		P	18 23 33.0 +0.1
	comp=Z,13nm,0.7s,mb5.2						
CLZ	Clausthal	84.49	332	eP		P	18 23 32.4 -0.2
CLZ					pmax	pmax	
	comp=Z,49nm,1.2s,mb5.5						
CLZ	Clausthal	84.49	332	eP		P	18 23 32.4 -0.2
	comp=Z,49nm,1.2s,mb5.5						
Y16A	Circle Bar Ran	84.58	53	⇑P		P	18 23 33.8 +0.4
	baz=84						
ALN	Alexandroupoli	84.60	316	eP		P	18 23 33.3 -0.2
ISCO	Idaho Springs	84.61	45	eP		P	18 23 34.2 +0.7
	comp=Z,76nm,1.9s,mb5.5						
ISCO	Idaho Springs	84.61	45	eP		P	18 23 34.2 +0.7
ISCO					pmax	pmax	
	comp=Z,76nm,1.9s,mb5.5						
RRR	Rubha Reidh	84.68	343	⇑iP		P	18 23 33.4 0.0
MDO	Dochfour	84.68	342	⇑eP		P	18 23 33.1 -0.4
TANN	Tannenbergstha	84.73	330	eP		P	18 23 33.4 -0.5
	comp=Z,12nm,0.9s,mb5.0						
115A	Sonoran Desert	84.79	54	⇓P		P	18 23 34.5 0.0
	baz=85						
GOLH	Golhisar	84.82	312	iP		P	18 23 33.8 -0.8
RRH	Rhenigidale	84.83	343	⇑eP		P	18 23 34.0 -0.3
AKHS	Akhisar	84.86	314	iP		P	18 23 33.8 -0.9
KAC	Achnashellach	84.87	342	⇑iP		P	18 23 34.6 +0.1
NKC	Novy Kostel	84.87	330	⇑iP		P	18 23 34.6 0.0
MOX	Moxa	84.91	330	eP		P	18 23 34.4 -0.4
MOX	Moxa	84.91	330	eP		P	18 23 34.2 -0.6
	comp=Z,23nm,0.9s,mb5.3						
SOP	Sopron	84.92	326	⇑eP		P	18 23 35.5 +0.6
SOF	Sofiya	84.95	319	P		P	18 23 36.2 +1.0
PKSM	Moragy	84.97	324	⇑P		P	18 23 34.6 -0.6
PKSM	Moragy	84.97	324	P		P	18 23 35.1 -0.1
PKSM	Moragy	84.97	324	⇑iP		P	18 23 34.6 -0.6
CONA	Conrad Observa	85.07	326	iPcP		PcP	18 23 36.3 -2.5
	comp=Z,34nm,0.7s,SNR=37						
VTS	Vitosha	85.08	319	eP		P	18 23 36.1 +0.3
VTS	Vitosha	85.08	319	⇑iP		P	18 23 37.0 +1.2
VTS	Vitosha	85.08	319	P		P	18 23 36.5 +0.7
KPL	Plockton	85.10	343	⇑iP		P	18 23 35.8 +0.3
KPL				AMb		AMB	18 23 37.2
	comp=Z,120nm,1.9s,mb5.7						
IBBN	Ibbenburen	85.14	333	eP		P	18 23 35.1 -0.8
	comp=Z,35nm,0.8s,mb5.5						
MANZ	Manzenberg	85.20	330	eP		P	18 23 35.8 -0.4
	comp=Z,23nm,0.8s,mb5.4						
KHC	Kasperske Hory	85.21	328	⇑iP		P	18 23 36.4 +0.1
KHC				ePCP		PcP	18 23 43.0 +3.6
KHC				epP		pP	18 23 53.0 -0.8
KHC				AMS		AMS	19 02 30.0
	comp=Z,600nm,21.6s						
116A	Eloy	85.22	54	⇑P		P	18 23 36.9 +0.2
	baz=85						
KSK	Scoval	85.25	343	⇑eP		P	18 23 36.3 0.0
ROTZ	Rotzenmuhle	85.33	329	eP		P	18 23 36.8 -0.1
	comp=Z,26nm,1.0s,mb5.3						
ELO	Logie Almond	85.36	341	⇑iP		P	18 23 36.6 -0.3
GEC2	GERESS Array S	85.37	328	eP		P	18 23 36.4 -0.7
GEC2					pmax	pmax	
	comp=Z,16nm,0.7s,mb5.3						
GEC2	GERESS Array S	85.37	328	eP		P	18 23 36.4 -0.7
	comp=Z,16nm,0.7s,mb5.3						
GERES	GERESS Array B	85.37	328	P		P	18 23 36.8 -0.3
GERES					pmax	pmax	
	comp=Z,11nm,0.6s						
GERES	GERESS Array B	85.37	328	P		P	18 23 36.8 -0.3
	comp=Z,11nm,0.6s,mb5.2,baz=36,slow=5.5,SNR=108						
AKAS	Kas	85.42	311	iP		P	18 23 35.0 -2.6
UBBA	Unterbreizbach	85.43	331	eP		P	18 23 36.7 -0.7
	comp=Z,9.0nm,0.8s,mb5.0						
MMB	Musomiste	85.47	318	P		P	18 23 37.5 -0.2
KDAG	Bornova	85.49	314	iP		P	18 23 36.5 -1.4
EBH	Black Hill	85.50	341	⇑eP		P	18 23 37.2 -0.4
WET	Wettzell	85.51	329	eP		P	18 23 37.5 -0.3
WET					pmax	pmax	
	comp=Z,18nm,1.2s,mb5.2						
WET	Wettzell	85.51	329	eP		P	18 23 37.5 -0.3
	comp=Z,18nm,1.2s,mb5.2						
KAR1	Arisaig	85.52	342	⇑eP		P	18 23 37.5 -0.2
ESY	Stoneypath	85.54	340	⇑iP		P	18 23 37.6 -0.2
KKB	Krupnik	85.64	318	P		P	18 23 39.3 +0.7
ARSA	Arzberg	85.72	326	⇑iP		P	18 23 38.9 0.0
	comp=Z,15nm,0.8s,mb5.3,SNR=9.6						
ARSA	Arzberg	85.72	326	⇑iPcP		PcP	18 23 38.9 -2.8
	comp=Z,15nm,0.8s,SNR=9.6						
216A	Three Points,	85.72	54	⇓P		P	18 23 39.4 +0.2
	baz=86						
WTSB	Winterswijk	85.77	334	⇑iP		P	18 23 38.4 -0.7
	comp=Z,29nm,0.8s,mb5.5						
DIVS	Divibare	85.77	322	eP		P	18 23 39.0 -0.3
EAB	Aberfoyle	85.78	341	⇑iP		P	18 23 39.0 0.0
EBL	Broad Law	85.79	340	⇑eP		P	18 23 38.8 -0.3
GRA1	Grafenberg Arr	85.80	330	eP		P	18 23 39.1 -0.1
	comp=Z,40nm,0.9s,mb5.7						
GRF	Grafenberg Arr	85.80	330	eP		P	18 23 39.1 -0.1
GRF					pmax	pmax	
	comp=Z,40nm,0.9s,mb5.7						
GRF	Grafenberg Arr	85.80	330	eP		P	18 23 39.1 -0.1
GRF					pmax	pmax	
	comp=Z,40nm,0.9s,mb5.7						
GRF	Grafenberg Arr	85.80	330	eP		P	18 23 39.1 -0.1
	comp=Z,40nm,0.9s,mb5.7						
GRFO	Grafenberg	85.80	330	eP		P	18 23 39.6 +0.3
	comp=Z,30nm,0.9s,mb5.5						
GRFO	Grafenberg	85.80	330	eP		P	18 23 39.6 +0.4
GRFO					pmax	pmax	
	comp=Z,30nm,0.9s,mb5.5						
XSO	Sourhope Farm	85.81	340	⇑iP		P	18 23 39.0 -0.1
EAU	Auchinoon	85.84	341	⇑iP		P	18 23 39.4 +0.1
MOA	Molln	85.86	327	⇑iP		P	18 23 39.6 0.0
	comp=Z,18nm,1.3s,mb5.2,SNR=7.8						
MOA	Molln	85.86	327	⇑iPcP		PcP	18 23 39.6 -2.7
	comp=Z,18nm,1.3s,SNR=7.8						
URLA	Izmir	85.92	314	iP		P	18 23 38.9 -1.2
SDCO	Great Sand Dun	85.99	47	eP		P	18 23 40.8 +0.3
	comp=Z,9.5nm,1.1s,mb4.9						
PGBU	Glenifferbraes	86.15	341	⇑eP		P	18 23 40.8 0.0
PGBU				AMb		AMB	18 23 41.8
	comp=Z,175nm,0.9s,mb6.3						
ESK	Eskdalemuir	86.23	340	P		P	18 23 41.5 +0.3
	comp=Z,229nm,0.6s,mb6.6,SNR=12						
ESK	Eskdalemuir	86.23	340	⇑eP		P	18 23 40.5 -0.7
ESK				AMb		AMB	18 23 43.9
	comp=Z,46nm,1.7s,mb5.4						
ESK	Eskdalemuir	86.23	340	eP		P	18 23 40.9 -0.3
	comp=Z,27nm,0.8s,mb5.5						
ESK	Eskdalemuir	86.23	340	eP		P	18 23 40.9 -0.3
ESK					pmax	pmax	
	comp=Z,27nm,0.8s,mb5.5						
BDRM	Kayabasi	86.24	313	iP		P	18 23 40.9 -0.7
VAY	Valandovo	86.29	318	eP		P	18 23 41.1 -0.8
VAY	Valandovo	86.29	318	iP		P	18 23 41.2 -0.6
EYMN	Ely	86.30	32	eP		P	18 23 41.1 -0.6
	comp=Z,76nm,1.9s,mb5.6						
217A	Green Valley	86.30	54	⇑P		P	18 23 42.5 +0.4
	baz=86						
ECK	Cauldkaine Hil	86.33	340	⇑iP		P	18 23 41.6 -0.1
XAL	Allendale	86.34	340	⇑eP		P	18 23 41.4 -0.4
PERS	Pernice	86.36	326	eP		P	18 23 41.8 -0.3
SKO	Skopje	86.47	319	iP		P	18 23 43.2 +0.6
GRG	Griva	86.63	318	eP		P	18 23 42.9 -0.7
218A	Dragoon	86.69	54	⇑P		P	18 23 44.8 +0.8
	baz=86						
119A	Ashpeak Ranch,	86.70	53	⇓P		P	18 23 44.6 +0.6
	baz=86						
CRES	Cresnjev	86.79	325	eP		P	18 23 43.6 -0.6
GCD	Castle Douglas	86.83	340	⇑iP		P	18 23 43.9 -0.3
CKE	Keswick	86.84	340	⇑eP		P	18 23 43.6 -0.6
KBA	Koelnbreinsper	86.85	327	⇑iP		P	18 23 43.8 -0.6
	comp=Z,11nm,0.8s,mb5.1,SNR=8.8						
KBA	Koelnbreinsper	86.85	327	⇑iP		P	18 23 43.8 -0.6
KBA					pmax	pmax	
	comp=Z,11nm,0.8s,mb5.1						
GMK	Mull of Kintyr	86.86	342	eP		P	18 23 44.5 +0.2
ECSD	EROS,Sioux Fal	86.92	38	eP		P	18 23 43.9 -1.0
	comp=Z,14nm,0.8s,mb5.2						
FUR	Furstenfeldbru	86.94	329	eP		P	18 23 44.5 -0.4
FUR					pmax	pmax	
	comp=Z,24nm,0.6s,mb5.6						
FUR	Furstenfeldbru	86.94	329	eP		P	18 23 44.5 -0.4
	comp=Z,24nm,0.6s,mb5.6						
KRUS	Krusevo	86.99	319	iP		P	18 23 45.1 -0.1
GAL1	Galloway	87.04	341	⇑eP		P	18 23 44.8 -0.4
GAL1				AMb		AMB	18 23 45.8
	comp=Z,52nm,0.8s,mb5.8						
MYKA	Terra Mystica	87.05	337	⇑iP		P	18 23 44.4 -1.0
	comp=Z,17nm,1.0s,mb5.2						
HGN	Heimansgroeve	87.06	333	⇑iP		P	18 23 44.7 -0.6
	comp=Z,33nm,1.0s,mb5.5						
HGN	Heimansgroeve	87.06	333	eS		S	18 34 29.1 +10
318A	Bisbee	87.06	54	⇑P		P	18 23 46.4 +0.6
	baz=87						
LJU	Ljubljana	87.07	326	eP		P	18 23 44.7 -0.8
BEBN	Eben Emael	87.13	333	P		P	18 23 45.3 -0.4
BOJS	Bojanci	87.13	325	eP		P	18 23 45.2 -0.6
MEM	Membach	87.16	333	P		P	18 23 45.2 -0.7
	comp=Z,7.3nm,1.0s,mb4.9						
LIT	Litokhoron	87.16	317	eP		P	18 23 44.7 -1.4
ANMO	Albuquerque	87.18	49	eP		P	18 23 46.5 +0.2

comp=Z,24nm,0.8s,mb5.2
BAIF Baives 88.27 334 *e*P **P 18 23 50.8 -0.4**
comp=Z,12nm,0.8s,mb5.2
BAIF Baives 88.27 334 *e*P **P 18 23 50.8 -0.4**
BAIF pmax pmax
comp=Z,12nm,0.8s,mb5.2
SBD1 Bryn Du 88.35 339⇑ *i*P **P 18 23 51.4 -0.1**
CTI Castel Tesino 88.39 327 P **P 18 23 50.9 -1.0**
comp=Z,7.1nm,0.6s,mb5.1
CTI Castel Tesino 88.39 327 P **P 18 23 50.9 -1.0**
CTI pmax pmax
comp=Z,7.0nm,0.6s,mb5.1
CDF Champ du Feu 88.42 331 *e*P **P 18 23 51.3 -0.6**
comp=Z,30nm,0.9s,mb5.2
CDF Champ du Feu 88.42 331 *e*P **P 18 23 51.3 -0.6**
comp=Z,15nm,0.9s,mb5.2
CDF Champ du Feu 88.42 331 *e*P **P 18 23 51.3 -0.6**
CDF pmax pmax
comp=Z,15nm,0.9s,mb5.2
DMUB Kingscourt 88.49 342 *e*P **P 18 23 51.9 -0.3**
HLM1 Long Mynd 88.58 339⇑ *i*P **P 18 23 52.1 -0.5**
SKP1 Kophill 88.62 337⇑ *e*P **P 18 23 51.8 -0.9**
SCHQ Schefferville 88.77 16 P **P 18 23 53.0 -0.4**
comp=Z,11nm,0.7s,mb5.3,baz=348,slow=4.6,SNR=26
HAE Alders End 88.89 338⇑ *i*P **P 18 23 53.8 -0.2**
DLF Lyons Farm 88.93 341 *e*P **P 18 23 53.8 -0.4**
DSB Dublin 88.94 341 *e*P **P 18 23 53.8 -0.5**
comp=Z,16nm,0.6s,mb5.5
MCH1 Michaelchurch 89.06 339⇑ *i*P **P 18 23 54.5 -0.3**
MCH1 AMb AMB 18 23 55.7
comp=Z,74nm,0.6s,mb6.2
HINF Hinteralfeld 89.07 331 *e*P **P 18 23 54.0 -1.0**
comp=Z,14nm,1.0s,mb5.0
HINF Hinteralfeld 89.07 331 *e*P **P 18 23 54.0 -1.0**
comp=Z,7.1nm,1.0s,mb5.0
HINF Hinteralfeld 89.07 331 *e*P **P 18 23 54.0 -1.0**
HINF pmax pmax
comp=Z,7.0nm,1.0s,mb5.0
HTR Trewern Hill 89.08 339⇑ *i*P **P 18 23 54.5 -0.4**
DCN Croghan 89.09 342 *e*P **P 18 23 54.6 -0.4**
HAU Haudompre 89.12 331 *e*P **P 18 23 54.3 -0.9**
comp=Z,14nm,0.8s,mb5.0
HAU *e*MLR MLR
comp=Z,416nm,18.8s
HAU Haudompre 89.12 331 *e*P **P 18 23 54.3 -0.9**
comp=Z,6.8nm,0.8s,mb5.0
HAU LR LR
comp=Z,420nm,18.8s
HAU Haudompre 89.12 331 *e*P **P 18 23 54.3 -0.9**
HAU pmax pmax
comp=Z,7.0nm,0.8s,mb5.0
HAU MLR MLR
comp=Z,420nm,18.8s
MEZF Maizieres J'vi 89.23 332 *e*P **P 18 23 55.2 -0.5**
HGH Gray Hill 89.32 338⇑ *e*P **P 18 23 55.5 -0.6**
RGNG Rignano Grg 89.77 322 P **P 18 23 58.0 -0.4**
VAI Varese 89.81 329 P **P 18 23 57.6 -0.9**
comp=Z,339nm,2.2s,mb6.3
VAI Varese 89.81 329 P **P 18 23 57.6 -0.9**
VAI pmax pmax
comp=Z,339nm,2.2s,mb6.3
SNTG Esanatoglia 89.91 325 P **P 18 23 58.9 -0.1**
comp=Z,143nm,1.3s,mb6.1
SFI Santa Sofia 89.94 326 P **P 18 23 59.8 +0.7**
comp=Z,31nm,0.8s,mb5.7
SFI Santa Sofia 89.94 326 P **P 18 23 59.8 +0.7**
SFI pmax pmax
comp=Z,31nm,0.8s,mb5.7
VMG Vicchio 90.03 326 P **P 18 24 00.6 +1.0**
comp=Z,28nm,0.6s,mb5.8
TERO Teramo 90.06 324 P **P 18 23 59.5 -0.2**
CRE Caprese Michel 90.10 326 P **P 18 24 00.0 +0.1**
comp=Z,15nm,0.7s,mb5.5
CRE Caprese Michel 90.10 326 P **P 18 24 00.0 +0.1**
CRE pmax pmax
comp=Z,15nm,0.7s,mb5.4
NRCA Norcia 90.14 324 P **P 18 24 00.1 0.0**
comp=Z,12nm,0.7s,mb5.3
ASS Assisi 90.19 325 P **P 18 23 59.9 -0.4**
comp=Z,2.5nm,0.7s,mb4.7
ASS Assisi 90.19 325 P **P 18 23 59.9 -0.4**
ASS pmax pmax
comp=Z,3.0nm,0.7s,mb4.7
ERBM Eremo 90.20 327 P **P 18 24 00.9 +0.5**
KSU1 Kansas State U 90.21 41 *e*P **P 18 24 00.0 -0.5**
comp=Z,20nm,0.8s,mb5.5
GDL2 Guadalupe Moun 90.28 50 *e*P **P 18 24 00.7 -0.3**
CABF La Chapelle 90.35 331 *e*P **P 18 24 00.4 -0.6**
AQU L'Aquila 90.36 324 *e*P **P 18 24 01.6 +0.4**
comp=Z,25nm,0.8s,mb5.6
AQU L'Aquila 90.36 324 *e*P **P 18 24 01.6 +0.5**
AQU pmax pmax
comp=Z,25nm,0.8s,mb5.6
BOB Bobbio (Coli) 90.37 328 P **P 18 24 02.1 +1.0**
HTL Hartland 90.39 339⇑ *e*P **P 18 24 00.4 -0.7**
HTL AMb AMB 18 24 01.7
comp=Z,33nm,0.8s,mb5.7
LOR Lormes 90.70 332 *e*P **P 18 24 01.9 -0.7**
comp=Z,8.0nm,0.7s,mb4.8
LOR *e*MLR MLR
comp=Z,731nm,23.0s
LOR Lormes 90.70 332 *e*P **P 18 24 01.9 -0.7**
comp=Z,4.0nm,0.7s,mb4.9
LOR LR LR
comp=Z,730nm,23.0s
LOR Lormes 90.70 332 *e*P **P 18 24 01.9 -0.7**
LOR pmax pmax
comp=Z,4.0nm,0.7s,mb4.9
LOR MLR MLR
comp=Z,730nm,23.0s
DYA Yadsworthy 90.72 338⇑ *e*P **P 18 24 01.9 -0.7**
DYA AMb AMB 18 24 03.5
comp=Z,44nm,1.5s,mb5.6
LPL La Plagne 90.96 330 *e*P **P 18 24 03.8 0.0**
comp=Z,20nm,0.6s,mb5.3
LPL La Plagne 90.96 330 *e*P **P 18 24 03.8 0.0**
comp=Z,9.9nm,0.6s,mb5.3
LPL La Plagne 90.96 330 *e*P **P 18 24 03.8 0.0**
LPL pmax pmax
comp=Z,10.0nm,0.6s,mb5.3
LPG La Plagne 90.96 330 *e*P **P 18 24 03.9 0.0**
comp=Z,26nm,0.7s,mb5.4
LPG La Plagne 90.96 330 *e*P **P 18 24 03.9 0.0**
comp=Z,13nm,0.7s,mb5.4
LPG La Plagne 90.96 330 *e*P **P 18 24 03.9 0.0**
LPG pmax pmax
comp=Z,13nm,0.7s,mb5.4
SSF Saint Saulge 91.01 332 *e*P **P 18 24 03.5 -0.5**
comp=Z,18nm,0.9s,mb5.1
SSF Saint Saulge 91.01 332 *e*P **P 18 24 03.5 -0.5**
comp=Z,8.9nm,0.9s,mb5.1
SSF Saint Saulge 91.01 332 *e*P **P 18 24 03.5 -0.5**
SSF pmax pmax
comp=Z,9.0nm,0.9s,mb5.1
FLN La Foliniere 91.04 336 *e*P **P 18 24 03.5 -0.6**
comp=Z,35nm,0.8s,mb5.4
FLN *e*MLR MLR
comp=Z,876nm,22.5s
FLN La Foliniere 91.04 336 *e*P **P 18 24 03.5 -0.6**
comp=Z,17nm,0.8s,mb5.4
FLN LR LR
comp=Z,880nm,22.5s
FLN La Foliniere 91.04 336 *e*P **P 18 24 03.5 -0.6**
FLN pmax pmax
comp=Z,17nm,0.8s,mb5.4
FLN MLR MLR
comp=Z,880nm,22.5s
LDF La Druitiere 91.06 335 *e*P **P 18 24 03.2 -1.0**
comp=Z,24nm,0.8s,mb5.3
LDF La Druitiere 91.06 335 *e*P **P 18 24 03.2 -1.0**
comp=Z,12nm,0.8s,mb5.3
LDF La Druitiere 91.06 335 *e*P **P 18 24 03.2 -1.0**
LDF pmax pmax
comp=Z,12nm,0.8s,mb5.3
CSA1 St Austell 91.08 339⇑ *e*P **P 18 24 03.5 -0.8**
SMF Signal de Mont 91.22 332 *e*P **P 18 24 04.4 -0.6**
comp=Z,27nm,1.0s,mb5.2
SMF Signal de Mont 91.22 332 *e*P **P 18 24 04.4 -0.6**
comp=Z,13nm,1.0s,mb5.2
SMF Signal de Mont 91.22 332 *e*P **P 18 24 04.4 -0.6**
SMF pmax pmax
comp=Z,13nm,1.0s,mb5.2
AVF Avril sur Loir 91.29 332 *e*P **P 18 24 04.9 -0.5**
comp=Z,47nm,0.8s,mb5.6
AVF Avril sur Loir 91.29 332 *e*P **P 18 24 04.9 -0.5**
comp=Z,24nm,0.8s,mb5.6
AVF Avril sur Loir 91.29 332 *e*P **P 18 24 04.9 -0.5**
AVF pmax pmax
comp=Z,24nm,0.8s,mb5.6
BNI Bardonecchia 91.35 329 *e*P **P 18 24 05.7 0.0**
comp=Z,12nm,0.7s,mb5.3
BNI Bardonecchia 91.35 329 *e*P **P 18 24 05.7 0.0**
BNI pmax pmax
comp=Z,12nm,0.7s,mb5.3
CMA1 Manaccan 91.39 339⇑ *e*P **P 18 24 04.9 -0.9**
GRR Gorron 91.49 336 *e*P **P 18 24 05.8 -0.4**
comp=Z,55nm,0.8s,mb5.7
GRR Gorron 91.49 336 *e*P **P 18 24 05.8 -0.4**
comp=Z,28nm,0.8s,mb5.6
GRR Gorron 91.49 336 *e*P **P 18 24 05.8 -0.4**
GRR pmax pmax
comp=Z,28nm,0.8s,mb5.6
MBDF Montbardon 91.57 329 *e*P **P 18 24 05.9 -0.8**
comp=Z,30nm,0.7s,mb5.4
MBDF Montbardon 91.57 329 *e*P **P 18 24 05.9 -0.8**
comp=Z,15nm,0.7s,mb5.4
MBDF Montbardon 91.57 329 *e*P **P 18 24 05.9 -0.8**
MBDF pmax pmax
comp=Z,15nm,0.7s,mb5.4
BGF Bois d'Agland 91.68 332 *e*P **P 18 24 06.7 -0.5**
ORIF Oris-en-Rattie 91.80 330 *e*P **P 18 24 06.8 -0.9**
comp=Z,18nm,0.6s,mb5.2
ORIF *e*MLR MLR
comp=Z,506nm,22.8s
ORIF Oris-en-Rattie 91.80 330 *e*P **P 18 24 06.8 -0.9**
comp=Z,8.8nm,0.6s,mb5.3
ORIF Oris-en-Rattie 91.80 330 *e*P **P 18 24 06.8 -0.9**
ORIF pmax pmax
comp=Z,9.0nm,0.6s,mb5.3
SBF Sospel 91.97 328 *e*P **P 18 24 07.5 -1.1**
comp=Z,63nm,0.7s,mb5.8
SBF Sospel 91.97 328 *e*P **P 18 24 07.5 -1.1**
comp=Z,32nm,0.7s,mb5.8
SBF Sospel 91.97 328 *e*P **P 18 24 07.5 -1.1**
SBF pmax pmax
comp=Z,32nm,0.7s,mb5.8
TCF Toulx Ste Croi 92.15 333 *e*P **P 18 24 09.1 -0.2**
comp=Z,20nm,0.8s,mb5.2
TCF Toulx Ste Croi 92.15 333 *e*P **P 18 24 09.1 -0.2**
comp=Z,10nm,0.8s,mb5.2
TCF Toulx Ste Croi 92.15 333 *e*P **P 18 24 09.1 -0.2**
TCF pmax pmax
comp=Z,10.0nm,0.8s,mb5.2
SGMF Saint Gilles 92.18 336 *e*P **P 18 24 09.0 -0.4**
comp=Z,56nm,1.0s,mb5.6
SGMF Saint Gilles 92.18 336 *e*P **P 18 24 09.0 -0.4**
comp=Z,28nm,1.0s,mb5.5
SGMF Saint Gilles 92.18 336 *e*P **P 18 24 09.0 -0.4**
SGMF pmax pmax
comp=Z,28nm,1.0s,mb5.5
PGF Pioggiola 92.31 327 *e*P **P 18 24 08.5 -1.7**
ROSF Rostrenen 92.34 337 *e*P **P 18 24 09.9 -0.3**
comp=Z,35nm,0.9s,mb5.4
ROSF Rostrenen 92.34 337 *e*P **P 18 24 09.9 -0.3**
comp=Z,17nm,0.9s,mb5.4
ROSF Rostrenen 92.34 337 *e*P **P 18 24 09.9 -0.3**
ROSF pmax pmax
comp=Z,17nm,0.9s,mb5.4
VIVF Saint-Julien-I 92.35 330 *e*P **P 18 24 09.8 -0.5**
comp=Z,33nm,0.8s,mb5.4
VIVF Saint-Julien-I 92.35 330 *e*P **P 18 24 09.8 -0.5**
comp=Z,16nm,0.8s,mb5.4
VIVF Saint-Julien-I 92.35 330 *e*P **P 18 24 09.8 -0.5**
VIVF pmax pmax
comp=Z,16nm,0.8s,mb5.4
FRF La Foret Royal 92.56 329 *e*P **P 18 24 10.2 -1.1**
comp=Z,31nm,0.7s,mb5.5
FRF La Foret Royal 92.56 329 *e*P **P 18 24 10.2 -1.1**
comp=Z,15nm,0.7s,mb5.5
FRF La Foret Royal 92.56 329 *e*P **P 18 24 10.2 -1.1**
FRF pmax pmax
comp=Z,15nm,0.7s,mb5.5
TXAR Lajitas Array 92.61 52 P **P 18 24 11.7 -0.1**
TXAR pmax pmax
comp=Z,6.0nm,0.7s
TXAR Lajitas Array 92.61 52 P **P 18 24 11.7 -0.1**
comp=Z,6.4nm,0.7s,mb5.2,baz=295,slow=3.2,SNR=32
QUIF Quistinic 92.67 337 *e*P **P 18 24 10.9 -0.8**
comp=Z,41nm,1.0s,mb5.5
QUIF Quistinic 92.67 337 *e*P **P 18 24 10.9 -0.8**
comp=Z,20nm,1.0s,mb5.5
QUIF Quistinic 92.67 337 *e*P **P 18 24 10.9 -0.8**
QUIF pmax pmax
comp=Z,20nm,1.0s,mb5.5
SMRF Simiane la Rot 92.69 329 *e*P **P 18 24 11.2 -0.7**
comp=Z,16nm,0.8s,mb5.2
SMRF Simiane la Rot 92.69 329 *e*P **P 18 24 11.2 -0.7**
comp=Z,16nm,0.8s,mb5.5
MFF Saint Martin d 92.76 334 *e*P **P 18 24 12.0 -0.2**
comp=Z,30nm,0.9s,mb5.4
MFF Saint Martin d 92.76 334 *e*P **P 18 24 12.0 -0.2**
comp=Z,15nm,0.9s,mb5.4
MFF Saint Martin d 92.76 334 *e*P **P 18 24 12.0 -0.2**
MFF pmax pmax
comp=Z,15nm,0.9s,mb5.4
LMR La Mourre 92.80 328 *e*P **P 18 24 11.5 -0.9**
comp=Z,24nm,0.7s,mb5.5
LMR La Mourre 92.80 328 *e*P **P 18 24 11.5 -0.9**
comp=Z,12nm,0.7s,mb5.4
LMR La Mourre 92.80 328 *e*P **P 18 24 11.5 -0.9**
LMR pmax pmax
comp=Z,12nm,0.7s,mb5.4
RJF Les Rejaudoux 93.23 333 *e*P **P 18 24 14.3 -0.1**
comp=Z,32nm,0.8s,mb5.5
RJF *e*MLR MLR
comp=Z,525nm,22.0s
RJF Les Rejaudoux 93.23 333 *e*P **P 18 24 14.3 -0.1**
comp=Z,16nm,0.8s,mb5.5
RJF LR LR
comp=Z,530nm,22.0s
RJF Les Rejaudoux 93.23 333 *e*P **P 18 24 14.3 -0.1**
RJF pmax pmax
comp=Z,16nm,0.8s,mb5.5
RJF MLR MLR
comp=Z,530nm,22.0s
LASF Ste Croix 93.32 330 *e*P **P 18 24 14.0 -0.8**
comp=Z,41nm,0.9s,mb5.6
CAF Calviac 93.34 332 *e*P **P 18 24 14.3 -0.6**
comp=Z,20nm,0.8s,mb5.3
CAF Calviac 93.34 332 *e*P **P 18 24 14.3 -0.6**
comp=Z,9.8nm,0.8s,mb5.3
CAF Calviac 93.34 332 *e*P **P 18 24 14.3 -0.6**
CAF pmax pmax
comp=Z,10.0nm,0.8s,mb5.3
LFF La Frestale 93.84 333 *e*P **P 18 24 17.2 0.0**
comp=Z,18nm,0.7s,mb5.3
LFF La Frestale 93.84 333 *e*P **P 18 24 17.2 0.0**
comp=Z,8.9nm,0.7s,mb5.3
LFF La Frestale 93.84 333 *e*P **P 18 24 17.2 0.0**
LFF pmax pmax
comp=Z,9.0nm,0.7s,mb5.3
CCM Cathedral Cave 93.84 39 *e*P **P 18 24 16.2 -1.1**
comp=Z,7.5nm,0.6s,mb5.3
CCM Cathedral Cave 93.84 39 *e*P **P 18 24 16.2 -1.1**
CCM pmax pmax
comp=Z,8.0nm,0.6s,mb5.3
JCT Junction City 94.33 49 *e*P **P 18 24 19.3 -0.5**
comp=Z,17nm,1.1s,mb5.4
JCT Junction City 94.33 49 *e*P **P 18 24 19.3 -0.4**
JCT pmax pmax
comp=Z,17nm,1.1s,mb5.4
MTLF Montolieu 94.60 331 *e*P **P 18 24 19.8 -0.9**
comp=Z,11nm,0.8s,mb5.0
MTLF Montolieu 94.60 331 *e*P **P 18 24 19.8 -0.9**
comp=Z,5.6nm,0.8s,mb5.0
MTLF Montolieu 94.60 331 *e*P **P 18 24 19.8 -0.9**
MTLF pmax pmax
comp=Z,6.0nm,0.8s,mb5.1
MIAR Mount Ida 95.18 42 *e*P **P 18 24 23.1 -0.5**
comp=Z,19nm,1.0s,mb5.5
MIAR Mount Ida 95.18 42 *e*P **P 18 24 23.1 -0.4**
MIAR pmax pmax
comp=Z,19nm,1.0s,mb5.5
EPF Esparros 95.61 332 *e*P **P 18 24 24.7 -0.6**
ETSF Etsaut 96.07 333 *e*P **P 18 24 26.9 -0.5**
comp=Z,16nm,0.8s,mb5.2
ETSF Etsaut 96.07 333 *e*P **P 18 24 26.9 -0.5**
comp=Z,7.9nm,0.8s,mb5.2
ETSF Etsaut 96.07 333 *e*P **P 18 24 26.9 -0.5**
ETSF pmax pmax
comp=Z,8.0nm,0.8s,mb5.2
SJPF Ste Jean 96.14 333 *e*P **P 18 24 27.1 -0.6**
KEST Kesra 97.44 322 P **P 18 24 33.1 -0.7**
comp=Z,2.5nm,0.7s,mb4.8,baz=295,slow=3.9,SNR=5.9
EVO Evora 102.62 335 *e*P Pdif 18 24 55.8 -0.9
comp=Z,9.6nm,0.8s
MAW Mawson 116.22 205 PKIKP PKPdf 18 29 41.9 0.0
MAW pmax pmax
comp=Z,2.0nm,0.6s
MAW Mawson 116.22 205 PKP PKPdf 18 29 41.9 -0.1
comp=Z,2.0nm,0.6s,baz=54,slow=8.9,SNR=3.6
TORD Torodi Ar. Bea 119.36 313 PKP PKPdf 18 29 48.5 -1.1
comp=Z,2.8nm,0.6s,baz=16,slow=1.8,SNR=41
QSPA South Pole Qui 123.34 180 PKP PKPdf 18 29 54.9 -0.4
comp=Z,17nm,0.7s,baz=310,slow=1.1,SNR=56
BOSA Boshof 125.38 257 PKIKP PKPdf 18 30 00.9 +0.1
BOSA pmax pmax
comp=Z,6.0nm,0.6s
BOSA Boshof 125.38 257 PKP PKPdf 18 30 00.9 +0.1
comp=Z,5.5nm,0.6s,baz=32,slow=1.4,SNR=18
SDV Santo Domingo 128.25 41 *e*PKPdf PKPdf 18 30 06.5 -0.3
DBIC Dimbokro 128.40 314 PKIKP PKPdf 18 30 06.9 -0.1
DBIC pmax pmax
comp=Z,3.0nm,0.5s
DBIC Dimbokro 128.40 314 PKP PKPdf 18 30 06.9 -0.2
comp=Z,3.2nm,0.5s,baz=62,slow=2.7,SNR=11
LIC Lamto 128.86 314 *e*PKIKP PKPdf 18 30 05.5 -2.4
comp=Z,19nm,0.8s
ROSC El Rosal 129.33 48 PKP PKPdf 18 30 10.0 +1.1
comp=Z,6.9nm,0.6s,baz=262,slow=23,SNR=4.4
PMSA Palmer Station 145.30 162 *e*PKPbc PKPbc 18 30 35.4 -1.0
ARE Arequipa 146.31 68 *e*P PKPdf 18 30 41.0 +1.3
LPAZ La Paz 148.75 64 *e*PKPdf PKPdf 18 30 44.8 +1.1
LPAZ *e*PKPbc PKPbc 18 30 48.2 +0.6
LPAZ La Paz 148.75 64 PKPbc PKPbc 18 30 48.3 +0.7
comp=Z,30nm,0.7s,baz=1.6,slow=5.4,SNR=40
USHA Ushuaia 150.52 145 PKPbc PKPbc 18 30 51.3 +0.6
comp=Z,54nm,0.7s,baz=198,slow=2.5,SNR=39
BDFB Brasilia 160.42 26 PKP2 PKPab 18 31 40.5 -0.3
BDFB pmax pmax
comp=Z,1.0nm,0.8s
BDFB Brasilia 160.42 26 PKPab PKPab 18 31 40.5 -0.3
comp=Z,1.4nm,0.8s,baz=99,slow=26,SNR=3.9

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*ISCJB **13** 18:16:47.2±0.7, 62.10N±004×156.67E±006, h10km, Error ellipse: s-maj=6.3km s-min=4.1km az=9.3*
*NERS **13** 18:16:50.2, 62.20N×156.75E, h0km, Felt I=IV MSK at Omsukchan)*
*MOS **13** 18:16:51.6±2.0, 62.35N×156.66E, h12km, mb4.4/1, Error ellipse: s-maj=42.2km s-min=41.0km az=101.5*
MOS Felt (IV) at Omsukchan.

ISC 13 18:16:49.3±0.7, 62.15N±004×156.76E±006, h10km, n13, σ1§37/27, 2C-1D, Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
OMS	**Omsukchan**	**0.59**	**309**		*e*P		**Pg**	**18 17 00.0**	**-0.6**
OMS					*e*			18 17 08.0	
OMS					pmax		pmax		
	comp=Z,910nm,0.5s								
OMS					smax				
	comp=N,2μm,1.0s								
OMS	**Omsukchan**	**0.59**	**309**⇑		*e*Pg		**Pg**	**18 17 00.0**	**-0.6**
OMS					Pgmax			18 17 03.0	
	comp=N,910nm,0.5s								
OMS					*e*Sg		**Sg**	**18 17 08.0**	**-0.3**
OMS					Sgmax			18 17 13.3	
	comp=N,2μm,1.0s								
EVNR	**Evensk**	**1.21**	**100**	⇑	Sgmax		**Pg**	**18 17 12.6**	**+0.2**
EVNR					Pgmax			18 17 14.3	
	comp=N,370nm,0.2s								
EVNR					*e*Sg		**Sg**	**18 17 28.0**	**0.0**
EVNR					Sgmax			18 17 31.2	
	comp=N,2μm,0.3s								
EVNR					Sgmax			18 17 31.2	
	comp=N,1μm,0.3s								
SEY	**Seymchan**	**2.17**	**293**		P		**Pn**	**18 17 27.8**	**+2.4**
SEY					S		**Sn**	**18 17 55.4**	**+3.0**
SEY					pmax		pmax		
	comp=Z,80nm,0.3s								
SEY					smax				
	comp=N,520nm,0.2s								
SEY	**Seymchan**	**2.17**	**293**		*e*P		**Pn**	**18 17 27.8**	**+2.4**
SEY					*e*Pg		**Pg**	**18 17 29.5**	**-1.4**
SEY					Pgmax			18 17 30.0	
	comp=N,70nm,0.4s								
SEY					*e*S		**Sn**	**18 17 55.4**	**+3.0**
SEY					*e*Sg		**Sg**	**18 17 58.9**	**-0.1**
SEY					Sgmax			18 18 01.3	
	comp=N,1μm,0.2s								
SEY					Sgmax			18 18 01.3	
	comp=N,700nm,0.2s								
TLAR	**Talaya**	**2.32**	**246**		*e*P		**Pg**	**18 17 32.4**	**-1.3**
TLAR					*e*			18 18 04.6	
TLAR					pmax		pmax		
	comp=Z,30nm,0.2s								
TLAR					smax				
	comp=E,420nm,0.3s								
TLAR	**Talaya**	**2.32**	**246**		*e*P		**Pb**	**18 17 32.0**	**+0.9**
TLAR					*e*Pg		**Pg**	**18 17 34.8**	**+1.1**
TLAR					Pgmax			18 17 37.8	
	comp=E,90nm,0.2s								
TLAR					*e*Sg		**Sg**	**18 18 06.3**	**+2.6**
TLAR					Sgmax			18 18 07.4	
	comp=E,420nm,0.3s								
MA2	**Magadan**	**3.91**	**231**	*d*	*i*P		**Pn**	**18 17 53.4**	**+4.2**
MA2					S		**Sn**	**18 18 33.2**	**-1.9**
MA2					pmax		pmax		
	comp=Z,20nm,0.4s								
MA2					pmax		pmax		
	comp=Z,70nm,0.7s								
MA2					smax				
	comp=N,180nm,0.7s								
MA2					smax				
	comp=E,120nm,0.7s								
MA2	**Magadan**	**3.91**	**231**		*e*Pg		**Pg**	**18 18 03.2**	**-0.8**
MA2					Pgmax			18 18 04.5	
	comp=E,70nm,0.7s								
MA2					*e*S		**Sn**	**18 18 33.2**	**-1.9**
MA2					*e*Sg		**Sg**	**18 18 54.6**	**0.0**
MA2					Sgmax			18 19 00.5	
	comp=E,180nm,0.7s								
MA2					Sgmax			18 19 00.5	
	comp=E,120nm,0.7s								
SUUS	**Susuman**	**4.04**	**283**		*e*P		**Pn**	**18 17 55.5**	**+4.5**
SUUS					*e*S		**Sn**	**18 18 41.5**	**+3.2**
SUUS					pmax		pmax		
	comp=Z,10.0nm,0.3s								
SUUS					pmax		pmax		
	comp=Z,30nm,0.5s								
SUUS					smax				
	comp=N,230nm,0.6s								
SUUS					smax				
	comp=E,90nm,0.4s								
SUUS	**Susuman**	**4.04**	**283**		*e*Pg		**Pg**	**18 18 05.8**	**-0.8**
SUUS					Pgmax			18 18 08.6	
	comp=E,30nm,0.5s								
SUUS					*e*S		**Sn**	**18 18 41.5**	**+3.2**
SUUS					*e*Sg		**Sg**	**18 18 58.5**	**-0.3**
SUUS					Sgmax			18 19 04.9	
	comp=E,230nm,0.6s								
SUUS					Sgmax			18 19 04.9	
	comp=E,90nm,0.4s								
OCHR	**Omchak**	**4.23**	**267**		*e*S		**Sn**	**18 18 40.5**	**-2.6**
OCHR					*e*			18 18 41.8	
OCHR					Sgmax			18 18 45.0	
	comp=E,170nm,0.4s								
OCHR					Sgmax			18 18 45.0	
	comp=E,110nm,0.3s								
BILL	**Bilibino**	**7.14**	**30**		*e*Sg		**Sg**	**18 20 31.3**	**-6.8**
BILL					Sgmax			18 20 45.9	
	comp=E,110nm,0.8s								
BILL					Sgmax			18 20 45.9	
	comp=E,30nm,0.6s								

MEX 13 18:21:40.4±1.1, 17.11N×100.18W, h29km±19km, MD3.5, Guerrero

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.10**	**233**		*i*P		Pb	18 21 44.1	-1.5
CAIG					*i*S		Sb	18 21 47.7	-1.4
ACX	**Acapulco**	**0.35**	**133**		*i*P		Pb	18 21 48.0	-0.5
ACX					*i*S		Sb	18 21 51.0	-3.0
MEIG	**Mezcala**	**0.97**	**33**		*i*P		Pn	18 21 55.4	-2.7
MEIG					*i*S		Sn	18 22 08.1	-2.9

SZGRF **13** *18:24:17.2, 34.96S×110.17W, h10km, mb5.8, Southern East Pacific Rise*

IDC **13** *18:24:17.8±0.4, 34.96S×109.00W, h0km, mb5.2/22, mb1 5.2/23, mb1mx5.2/23, mbtmp5.1/23, ML4.1/1, MS5.7/27, Ms1 5.7/27, ms1mx5.6/29, Error ellipse: s-maj=15.8km s-min=12.8km az=116.0*

ISCJB **13** *18:24:18.1±0.2, 34.99S±004×108.78W±005, h10km, mb5.5/127, MS5.8/208, Error ellipse: s-maj=5.9km s-min=4.9km az=154.5*

MOS **13** *18:24:18.3±0.8, 34.88S×108.87W, h10km, mb5.9/43, MS5.7/50, Error ellipse: s-maj=12.3km s-min=7.0km az=85.3*

NEIC **13** *18:24:19.2±0.1, 35.05S×108.84W, h10km, mb5.7/105, MS5.8/166, MW6.1, Error ellipse: s-maj=5.9km s-min=4.7km az=95.0, Moment Tensor Solution. s32 Moment tensor: Scale 10^{18}Nm; M_{rr}0.16; $M_{\theta\theta}$0.91; $M_{\phi\phi}$-1.07; $M_{r\theta}$0.02; $M_{\theta\phi}$-1.51; $M_{\phi r}$-0.18; Best double couple: $M_0$1.80000×10^{18} NP1:ϕ_s73.00000°, δ84.00000°, λ-180.00000°. NP2:ϕ_s343.00000°, δ90.00000°, λ-6.00000°. Principal axes: T 1.7300, Plg4.0000°, Azm29.0000°; N 0.1700, Plg84.0000°, Azm161.0000°; P -1.8900, Plg4.0000°, Azm298.0000°;*

GCMT **13** *18:24:19.2±0.1, 35.07S×108.85W, h14km, MW6.1/114, Moment Tensor Solution. s114,c258; s112,c391; Duration: ≥≥7 Moment tensor: Scale 10^{18}Nm; M_{rr}0.09±.01; $M_{\theta\theta}$0.84±.01; $M_{\phi\phi}$-0.93±.01; $M_{r\theta}$0.21±.02; $M_{\theta\phi}$-1.36±.01; $M_{\phi r}$-0.14±.02; Best double couple: $M_0$1.64600×10^{18} NP1:ϕ_s73.00000°, δ83.00000°, λ174.00000°. NP2:ϕ_s164.00000°, δ84.00000°, λ7.00000°. Principal axes: T 1.6200, Plg9.0000°, Azm28.0000°; N 0.0530, Plg81.0000°, Azm205.0000°; P -1.6720, Plg1.0000°, Azm298.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

BJI **13** *18:24:20.1, 35.10S×108.80W, h10km, mB5.9, Ms6.1, Msz5.9*

ISC 13 18:24:19.9±0.2, 3502S±004×10882W±005, h10km, (h10km±.2km:pP-P), n902, σ0°65/568, mb5.5/127, MS5.8/207, 137C-111D, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPN	**Rapa Nui**	**7.88**	**357**	Pn	**Pn**	**18 26 17.1**	**+2.6**
	3μm,1.2s,SNR=6.2						
RPN	**Rapa Nui**	**7.88**	**357**	*e*Pn	**Pn**	**18 26 16.0**	**+1.5**
RPN	**Rapa Nui**	**7.88**	**357**	Pn	**Pn**	**18 26 13.0**	**-1.5**
	2.9nm,0.3s,baz=166,slow=5.0,SNR=15						
RPN				Sn	**Sn**	**18 27 49.9**	**+6.2**
	1.4nm,0.3s,baz=284,slow=19,SNR=2.2						
RPN				LR	LR	18 28 25.2	
	comp=Z,58μm,18.4s,baz=175,slow=32						
PTCN	**Pitcairn Islan**	**20.88**	**293**	PFAKE		18 29 10.0	+7.8
PTCN				LR	LR		
	comp=Z,56μm,22.0s,MS5.9						
RKT	**Rikitea**	**25.67**	**290**	*e*P	**P**	**18 29 49.1**	**-0.9**
	comp=Z,104nm,1.2s,mb5.2						
RKT				*e*LR	LR	18 36 04.1	
	comp=Z,73μm,28.0s,baz=123						
PLCA	**Paso Flores**	**30.57**	**112**	P	**P**	**18 30 35.2**	**+1.6**
PLCA	**Paso Flores**	**30.57**	**112**	P	**P**	**18 30 35.2**	**+1.6**
	comp=Z,34nm,0.8s,mb5.2,baz=272,slow=9.0,SNR=27						
LMEL	**Las Melosas**	**31.74**	**99**	⇓*i*P	**P**	**18 30 44.8**	**+0.8**
FCH	**Farellones**	**31.79**	**98**	⇑*i*P	**P**	**18 30 43.2**	**-1.3**
TLL	**Tololo Astrono**	**32.26**	**92**	⇓*i*P	**P**	**18 30 49.6**	**+0.9**
LCO	**Las Campanas**	**32.73**	**90**	*e*P	**P**	**18 30 53.1**	**+0.3**
	comp=Z,65nm,0.7s,mb5.7						
LCO				LR	LR		
	comp=Z,39μm,21.0s,MS6.1						
USHA	**Ushuaia**	**34.14**	**138**	LR	LR	18 41 24.5	
	comp=Z,28μm,20.7s,MS6.0,baz=271,slow=30						
NNA	**Nana**	**36.95**	**60**	*e*P	**P**	**18 31 30.3**	**+1.0**
	comp=Z,176nm,1.6s,mb5.6						
NNA				LR	LR		
	comp=Z,14μm,19.0s,MS5.8						
TBI	**Tubuai**	**37.11**	**277**	*e*S	**S**	**18 37 16.6**	**-0.3**
	comp=Z,4μm,28.0s						
TBI				*e*LQ		18 39 54.3	
	comp=Z,22μm,33.8s						
TBI				*e*LR	LR	18 41 29.7	
	comp=Z,59μm,27.2s,baz=109						
TRQA	**Tornquist**	**37.45**	**109**	*e*P	**P**	**18 31 33.8**	**+0.4**
	comp=Z,162nm,1.5s,mb5.6						
TRQA				*e*PP	PP	18 32 59.2	+0.5
TRQA				LR	LR		
	comp=Z,25μm,22.0s,MS6.0						
ARE	**Arequipa**	**38.08**	**71**	*e*P	**P**	**18 31 40.0**	**+1.1**
TAOE	**Nuku Hiva Isla**	**38.72**	**305**	*e*S	**S**	**18 37 34.6**	**-6.8**
	comp=Z,161μm,26.7s						
TAOE				*e*LR	LR	18 42 02.7	
	comp=Z,1154μm,27.0s						
ATAH	**Atahualpa**	**39.49**	**52**	P	**P**	**18 31 51.8**	**+1.1**
	comp=Z,30nm,1.0s,mb5.0,baz=229,slow=4.9,SNR=28						
ATAH				LR	LR	18 42 14.1	
	comp=Z,4μm,20.0s,MS5.3,baz=45,slow=27						
EFI	**East Falkland**	**39.62**	**131**	PFAKE		18 32 00.0	+8.6
EFI				LR	LR		
	comp=Z,24μm,21.0s,MS6.0						
EFI	**East Falkland**	**39.62**	**131**	⇓*i*P	**P**	**18 31 51.0**	**-0.4**
VAH	**Vaihoa**	**39.95**	**290**	*e*P	**P**	**18 31 54.2**	**-0.4**
	comp=Z,235nm,1.3s,mb5.8						
PMSA	**Palmer Station**	**40.02**	**152**	*e*P	**P**	**18 31 55.3**	**+0.7**
PMSA				LR	LR		
	comp=Z,13μm,19.0s,MS5.8						
PMSA	**Palmer Station**	**40.02**	**152**	P	**P**	**18 31 55.4**	**+0.9**
	comp=Z,37nm,1.0s,mb5.0,baz=338,slow=3.3,SNR=5.4						
PMSA				LR	LR	18 44 08.3	
	comp=Z,13μm,18.8s,MS5.8,baz=294,slow=30						
PAE	**Paea**	**40.09**	**285**	*e*P	**P**	**18 31 55.7**	**0.0**
	comp=Z,88nm,1.0s,mb5.4						
PAE	**Paea**	**40.09**	**285**	*e*P	**P**	**18 31 55.7**	**0.0**
PAE				pmax	pmax		
	comp=Z,88nm,1.0s,mb5.4						
PPT	**Papeete**	**40.14**	**285**	*e*P	**P**	**18 31 56.4**	**+0.3**
	comp=Z,87nm,1.1s,mb5.4						
PPT				*e*S	**S**	**18 37 59.7**	**-3.1**
	comp=Z,7μm,26.0s						
PPT				*e*LQ		18 41 09.1	
	comp=Z,33μm,28.0s						
PPT				*e*LR	LR	18 42 49.4	
	comp=Z,69μm,25.8s,baz=120						
PPT	**Papeete**	**40.14**	**285**	P	**P**	**18 31 55.9**	**-0.2**
	comp=Z,22nm,0.4s,mb5.2,baz=84,slow=8.3,SNR=3.2						
PPT				LR	LR	18 43 50.3	
	comp=Z,26μm,18.8s,MS6.1,baz=123,slow=29						
PMOR	**Pomariorio Ree**	**40.30**	**290**	*e*P	**P**	**18 31 56.8**	**-0.7**
	comp=Z,144nm,1.4s,mb5.5						
LPAZ	**La Paz**	**40.80**	**73**	*e*P	**P**	**18 32 03.4**	**+1.8**
	comp=Z,102nm,1.1s,mb5.4						
LPAZ				LR	LR		
	comp=Z,6μm,20.0s,MS5.4						
LPAZ	**La Paz**	**40.80**	**73**	*e*P	**P**	**18 32 03.4**	**+1.8**
LPAZ				pmax	pmax		
	comp=Z,102nm,1.1s						
LPAZ				MLR	MLR		
	comp=Z,6μm,20.0s						
LPAZ	**La Paz**	**40.80**	**73**	P	**P**	**18 32 04.0**	**+2.3**
	comp=Z,36nm,0.9s,mb5.0,baz=228,slow=3.2,SNR=12						
LPAZ				LR	LR	18 45 57.7	
	comp=Z,4μm,18.7s,MS5.3,baz=53,slow=32						
LPA	**La Plata**	**41.33**	**105**	*ce*P	**P**	**18 32 03.0**	**-2.8**
LPA				*e*S	**S**	**18 38 22.0**	**+1.9**
LPA							
	comp=Z,46μm,19.0s						
RAR	**Rarotonga**	**46.53**	**273**	LR	LR	18 47 42.9	
	comp=Z,6μm,19.0s,MS5.6,baz=126,slow=30						
ROSC	**El Rosal**	**51.24**	**46**	*e*P	**P**	**18 33 25.3**	**+1.4**
ROSC	**El Rosal**	**51.24**	**46**	P	**P**	**18 33 25.6**	**+1.8**
	comp=Z,136nm,1.0s,mb5.8,baz=227,slow=3.2,SNR=61						
ROSC				LR	LR	18 51 01.5	
	comp=Z,8μm,20.8s,MS5.7,baz=202,slow=31						
BCIP	**Isla Barro Col**	**51.79**	**38**	*e*P	**P**	**18 33 28.2**	**+0.3**
	comp=Z,220nm,1.9s,mb5.8						
BCIP				LR	LR		
	comp=Z,15μm,19.0s,MS6.0						
TGUH	**Tegucigalpa,Un**	**52.91**	**27**	*e*P	**P**	**18 33 36.7**	**+0.4**
	comp=Z,373nm,1.4s,mb6.1						
TGUH				LR	LR		
	comp=Z,11μm,21.0s,MS5.9						
CMIG	**Matias Romero**	**53.48**	**17**	P	**P**	**18 33 40.3**	**-0.1**
	comp=Z,19nm,1.0s,mb5.0,baz=200,slow=7.0,SNR=19						
CMIG				LR	LR	18 50 49.3	
	comp=Z,16μm,20.7s,MS6.0,baz=192,slow=30						
SBA	**Scott Base**	**54.89**	**195**	*e*P	**P**	**18 33 50.9**	**+0.9**
	comp=Z,382nm,2.2s,mb6.0						
SBA				LR	LR		
	comp=Z,12μm,21.0s,MS5.9						
SBA	**Scott Base**	**54.89**	**195**	*e*P	**P**	**18 33 50.9**	**+0.9**
SBA				pmax	pmax		
	comp=Z,382nm,2.2s,mb6.0						
SBA				MLR	MLR		
	comp=Z,12μm,21.0s,MS5.9						
QSPA	**South Pole Qui**	**55.19**	**180**	P	**P**	**18 33 53.6**	**+1.4**
QSPA				LR	LR	18 53 26.3	
QSPA	**South Pole Qui**	**55.19**	**180**	P	**P**	**18 33 53.6**	**+1.5**
	comp=Z,38nm,1.0s,mb5.4,baz=114,slow=3.5,SNR=19						
QSPA				LR	LR	18 53 26.3	
	comp=Z,5μm,19.1s,MS5.6,baz=112,slow=32						
SFJM	**Santa Fe**	**55.47**	**7**	*i*P	**P**	**18 33 54.5**	**-0.3**
LVIG	**Laguna Verde**	**55.70**	**14**	*i*P	**P**	**18 33 55.5**	**-1.0**
VNDA	**Vanda**	**55.97**	**195**	LR	LR	18 52 45.3	
	comp=Z,13μm,21.1s,MS6.0,baz=97,slow=30						
SDV	**Santo Domingo**	**56.64**	**47**	*e*P	**P**	**18 34 01.2**	**-2.2**
SDV				LR	LR		
	comp=Z,3μm,22.0s,MS5.4						
BDFB	**Brasilia**	**57.40**	**87**	P	**P**	**18 34 09.4**	**+0.6**
	comp=Z,14nm,1.1s,mb4.9,baz=233,slow=14,SNR=17						
BDFB				LR	LR	18 56 40.9	
	comp=Z,7μm,18.2s,MS5.8,baz=57,slow=34						
RAO	**Raoul Island**	**57.75**	**255**	LR	LR	18 51 57.9	
	comp=Z,3μm,19.4s,MS5.4,baz=104,slow=29						
URZ	**Urewera**	**58.02**	**243**	P	**P**	**18 34 13.0**	**0.0**
	comp=Z,44nm,1.2s,mb5.4,baz=106,slow=2.1,SNR=4.7						
TEIG	**Tepich**	**58.30**	**23**	P	**P**	**18 34 15.0**	**+0.1**
	comp=Z,31nm,0.9s,mb5.3,baz=194,slow=6.5,SNR=8.0						
TEIG				LR	LR	18 54 13.6	
	comp=Z,13μm,19.7s,MS6.1,baz=172,slow=31						
SNZO	**South Karori**	**58.65**	**239**	PFAKE		18 34 30.0	+13
SNZO				LR	LR		
	comp=Z,10μm,19.0s,MS6.0						
LPIG	**La Paz**	**58.81**	**358**	LR	LR	18 53 37.6	
	comp=Z,6μm,19.3s,MS5.7,baz=183,slow=30						
VNA3	**Neumayer Olymp**	**60.12**	**158**	*e*P	**P**	**18 34 27.5**	**+0.6**
VNA3				*e*	pP	18 34 30.2	+0.1
VNA3				*e*		18 34 34.4	
VNA3				*e*		18 34 41.4	
VNA3				*e*		18 34 57.4	
VNA3				*e*		18 35 11.0	
RPZ	**Rata Peaks**	**60.30**	**235**	P	**P**	**18 34 28.3**	**-0.3**
	comp=Z,54nm,1.2s,mb5.4,baz=94,slow=12,SNR=3.8						
VNA1	**Neumayer--Stat**	**60.76**	**158**	*e*P	**P**	**18 34 32.2**	**+0.8**
VNA1				*e*	pP	18 34 35.0	+0.4
VNA1				*e*		18 34 39.6	
VNA1				*e*		18 34 46.7	
VNA1				*e*		18 35 02.3	
VNA1				*e*		18 35 15.4	
VNA2	**Neumayer--Watz**	**60.92**	**158**	*e*P	**P**	**18 34 32.9**	**+0.5**
	baz=271,slow=5.6						
VNA2				*e*	pP	18 34 35.8	+0.1
VNA2				*e*		18 34 40.0	
VNA2				*e*		18 34 45.9	
VNA2				*e*		18 35 03.3	
VNA2				*e*		18 35 16.0	
CAM3	**Guarapari**	**60.98**	**96**	(P)	**P**	**18 34 33.0**	**-0.5**
SNAA	**Sanae**	**61.94**	**160**	LR	LR	18 57 39.8	
	comp=Z,1μm,19.6s,MS5.2,baz=262,slow=32						
SOR	**Soroa**	**62.49**	**27**	*e*P	**P**	**18 34 43.0**	**-0.5**
MGV	**Manicaragua**	**63.06**	**30**	*e*P	**P**	**18 34 38.1**	**-9.3**
KVTX	**Kingsville**	**63.07**	**11**	PFAKE		18 35 00.0	+13
KVTX				LR	LR		
	comp=Z,5μm,21.0s,MS5.7						
RCC	**Rio Carpintero**	**63.10**	**35**	*e*P	**P**	**18 34 44.9**	**-2.8**
MASC	**Masc**	**63.96**	**36**	*e*P	**P**	**18 34 52.6**	**-0.8**
MASC				*e*S	**S**	**18 43 30.0**	**+0.6**
	comp=N,1.6nm,8.2s						
MASC				*e*			
	comp=E,2.9nm,8.4s						
MOAC	**Moa**	**64.03**	**35**	*e*P	**P**	**18 34 54.6**	**+0.8**
TXAR	**Lajitas Array**	**64.19**	**5**	P	**P**	**18 34 54.4**	**-0.3**
	comp=E,14nm,1.1s,mb4.9,baz=184,slow=10.0,SNR=26						
TXAR				LR	LR	18 58 04.2	
	comp=E,5μm,19.6s,MS5.7,baz=210,slow=32						
SDDR	**Presa de Saban**	**64.45**	**40**	*e*P	**P**	**18 34 56.2**	**-0.4**
	comp=E,249nm,1.8s,mb5.9						
SDDR				LR	LR		
	comp=Z,5μm,19.0s,MS5.7						
GRGR	**Grenville**	**64.75**	**52**	PFAKE		18 35 10.0	+11
GRGR				LR	LR		
	comp=Z,5μm,21.0s,MS5.7						
JCT	**Junction City**	**65.70**	**9**	*e*P	**P**	**18 35 03.7**	**-0.8**
	comp=Z,171nm,1.3s,mb5.9						
JCT				LR	LR		
	comp=Z,1μm,20.0s,MS5.1						
JCT	**Junction City**	**65.70**	**9**	*e*P	**P**	**18 35 03.7**	**-0.7**
JCT				pmax	pmax		
	comp=Z,171nm,1.3s,mb5.9						
JCT				MLR	MLR		
	comp=Z,1μm,20.0s,MS5.1						
HKT	**Hockley**	**65.77**	**12**	*e*P	**P**	**18 35 05.2**	**+0.3**
	comp=Z,191nm,1.8s,mb5.8						
HKT				LR	LR		
	comp=Z,3μm,19.0s,MS5.5						
HKT	**Hockley**	**65.77**	**12**	*e*P	**P**	**18 35 05.2**	**+0.3**
HKT				pmax	pmax		
	comp=Z,191nm,1.8s,mb5.8						
HKT				MLR	MLR		
	comp=Z,3μm,19.0s,MS5.5						
319A	**Douglas**	**66.04**	**360**	⇓P	**P**	**18 35 06.5**	**-0.2**
	baz=66,SNR=16						
DRV				SS	SS	18 48 06.0	-2.7
DRV				L		18 52 00.0	
DRV				R		18 55 00.0	
DRV	**Dumont d'Urvil**	**66.06**	**204**	S	S	18 44 09.0	+15
318A	**Bisbee**	**66.11**	**359**	⇑P	**P**	**18 35 07.1**	**0.0**
	baz=66,SNR=42						
MAIT	**Maitri**	**66.38**	**162**	*e*P	**P**	**18 35 07.5**	**-0.9**
MNTX	**Cornudas Mount**	**66.44**	**3**	*e*P	**P**	**18 35 08.2**	**-1.0**
	comp=Z,125nm,1.8s,mb5.6						
MNTX				LR	LR		
	comp=Z,3μm,19.0s,MS5.6						
217A	**Green Valley**	**66.46**	**358**	⇑P	**P**	**18 35 09.4**	**+0.1**
	baz=67,SNR=12						
SJG	**San Juan**	**66.58**	**45**	*e*P	**P**	**18 35 08.5**	**-1.8**
	comp=Z,91nm,1.2s,mb5.7						
SJG				LR	LR		
	comp=Z,4μm,19.0s,MS5.7						
SJG	**San Juan**	**66.58**	**45**	*e*P	**P**	**18 35 08.5**	**-1.9**
SJG				pmax	pmax		
	comp=Z,91nm,1.2s						
SJG				MLR	MLR		
	comp=Z,4μm,19.0s						
218A	**Dragoon**	**66.64**	**359**	P	**P**	**18 35 10.4**	**-0.1**
	baz=67,SNR=15						
CPD	**Cerro la Pandu**	**66.65**	**45**	*e*P	**P**	**18 35 07.2**	**-3.7**
	comp=Z,140nm,1.4s,mb5.8						
CPD	**Cerro la Pandu**	**66.65**	**45**	*e*P	**P**	**18 35 07.2**	**-3.7**
CPD				pmax	pmax		
	comp=Z,140nm,1.4s,mb5.8						
216A	**Three Points,**	**66.71**	**358**	P	**P**	**18 35 11.3**	**+0.4**
	baz=67,SNR=12						
BBGH	**Gun Hill**	**66.87**	**53**	PFAKE		18 35 20.0	+7.7
BBGH				LR	LR		
	comp=Z,11μm,22.0s,MS6.0						
MTP	**Monte Pirata**	**66.91**	**45**	*e*P	**P**	**18 35 06.4**	**-6.1**
TUC	**Tucson**	**67.00**	**358**	*e*P	**P**	**18 35 12.2**	**-0.5**
	comp=Z,135nm,1.8s,mb5.7						
TUC				LR	LR		
	comp=Z,6μm,20.0s,MS5.8						
TUC	**Tucson**	**67.00**	**358**	P	**P**	**18 35 12.5**	**-0.2**
TUC				pmax	pmax		
	comp=Z,130nm,1.8s,mb5.7						
116A	**Eloy**	**67.28**	**357**	⇑P	**P**	**18 35 14.8**	**+0.2**
	baz=68,SNR=11						
119A	**Ashpeak Ranch,**	**67.43**	**360**	⇓P	**P**	**18 35 15.4**	**0.0**
	baz=68,SNR=15						
115A	**Sonoran Desert**	**67.44**	**357**	⇓P	**P**	**18 35 15.1**	**-0.4**
	baz=68,SNR=6.9						
DVTC	**Desert V Tower**	**67.66**	**353**	⇓P	**P**	**18 35 17.6**	**+0.6**
	baz=68,SNR=7.2						
NATX	**Nacogdoches**	**67.74**	**13**	*e*P	**P**	**18 35 18.4**	**+0.9**
	comp=Z,703nm,1.6s,mb6.4						
NATX				LR	LR		
	comp=Z,2μm,20.0s,MS5.4						
DWPF	**Disney**	**67.91**	**26**	*e*P	**P**	**18 35 18.6**	**0.0**
	comp=Z,392nm,1.4s,mb6.2						
DWPF				LR	LR		
	comp=Z,6μm,19.0s,MS5.8						
SWSC	**Sam W. Stewart**	**67.92**	**354**	⇓P	**P**	**18 35 18.9**	**+0.4**
	baz=68						
MONP	**Monument Peak**	**67.92**	**353**	⇓P	**P**	**18 35 18.8**	**+0.2**
	baz=68,SNR=10						
GLA	**Glamis**	**67.94**	**355**	*e*P	**P**	**18 35 18.4**	**-0.4**
	comp=Z,212nm,1.9s,mb5.8						
GLA	**Glamis**	**67.94**	**355**	*e*P	**P**	**18 35 18.4**	**-0.3**
GLA				pmax	pmax		
	comp=Z,212nm,1.9s,mb5.8						
GLA	**Glamis**	**67.94**	**355**	⇑P	**P**	**18 35 18.6**	**-0.1**
	baz=68,SNR=8.9						
109C	**Camp Elliot, M**	**67.99**	**352**	⇑P	**P**	**18 35 18.9**	**-0.1**
	baz=68						
Z16A	**Peralta Trail,**	**68.04**	**358**	⇑P	**P**	**18 35 19.2**	**-0.1**
	baz=68						
Z14A	**Wintersburg**	**68.13**	**356**	⇑P	**P**	**18 35 19.8**	**-0.1**
	baz=68						
SCI	**San Clemente I**	**68.25**	**351**	⇓P	**P**	**18 35 20.2**	**-0.5**
	baz=69						
Y16A	**Circle Bar Ran**	**68.58**	**358**	⇑P	**P**	**18 35 22.9**	**+0.3**
	baz=69,SNR=20						
BC3	**Big Chuckw Mtn**	**68.59**	**354**	⇓P	**P**	**18 35 23.1**	**+0.3**
	baz=69,SNR=16						
Y12C	**Blythe**	**68.61**	**355**	⇑P	**P**	**18 35 23.1**	**+0.1**
	baz=69,SNR=5.5						
Y13A	**Salome**	**68.63**	**356**	⇓P	**P**	**18 35 22.9**	**-0.1**
	baz=69,SNR=15						
PFO	**Pinyon Flat Ob**	**68.64**	**353**	P	**P**	**18 35 23.4**	**+0.3**
	comp=Z,221nm,1.5s,mb5.9,SNR=6.1						
PFO	**Pinyon Flat Ob**	**68.64**	**353**	*e*P	**P**	**18 35 23.0**	**-0.1**
	comp=Z,66nm,1.3s,mb5.4						
PFO				LR	LR		
	comp=Z,4μm,20.0s,MS5.7						
PFO	**Pinyon Flat Ob**	**68.64**	**353**	*e*P	**P**	**18 35 23.0**	**-0.1**
PFO				pmax	pmax		
	comp=Z,66nm,1.3s,mb5.4						
PFO				MLR	MLR		
	comp=Z,4μm,20.0s,MS5.7						
PFO	**Pinyon Flat Ob**	**68.64**	**353**	LR	LR	18 58 41.7	
	comp=Z,4μm,18.6s,MS5.7,baz=18,slow=30						
PFO	**Pinyon Flat Ob**	**68.64**	**353**	⇑P	**P**	**18 35 23.2**	**+0.2**
	baz=69,SNR=9.4						
SNCC	**San Nicolas Is**	**68.64**	**350**	PFAKE		18 35 30.0	+6.9
SNCC				LR	LR		
	comp=Z,4μm,20.0s,MS5.6						
SNCC	**San Nicolas Is**	**68.64**	**350**	⇑P	**P**	**18 35 23.7**	**+0.6**
	baz=69						
CIS	**Catalina Islan**	**68.65**	**351**	⇑P	**P**	**18 35 23.3**	**+0.1**
	baz=69						
Y15A	**Casa Rosa Ranc**	**68.69**	**357**	P	**P**	**18 35 23.9**	**+0.5**
	baz=69,SNR=18						
Y14A	**Wickenburg**	**68.71**	**356**	⇑P	**P**	**18 35 23.5**	**0.0**
	baz=69,SNR=15						
Y22C	**IRIS PASSCAL I**	**68.75**	**2**	⇑P	**P**	**18 35 23.9**	**+0.1**
	baz=69						
BRAL	**Brewton**	**68.80**	**20**	*e*P	**P**	**18 35 25.1**	**+0.9**
	comp=Z,422nm,1.7s,mb6.1						
BRAL				LR	LR		
	comp=Z,10μm,21.0s,MS6.0						
BNM	**Barren Site**	**68.84**	**2**	*e*P	**P**	**18 35 23.7**	**-0.5**
LENM	**Lemitar**	**68.84**	**2**	*e*P	**P**	**18 35 24.4**	**+0.1**
FMP	**Fort Macarthur**	**68.94**	**352**	⇓P	**P**	**18 35 25.0**	**0.0**
	baz=69						
BELC	**Belle Mtn.**	**68.98**	**354**	⇓P	**P**	**18 35 25.5**	**+0.3**
	baz=69,SNR=16						
LPM	**Los Pinos Moun**	**69.00**	**2**	*e*P	**P**	**18 35 27.3**	**+2.0**
IRM	**Iron Mountain**	**69.07**	**354**	⇓P	**P**	**18 35 25.6**	**-0.1**
	baz=70,SNR=10.0						
LAZ	**Ladron**	**69.07**	**1**	*e*P	**P**	**18 35 26.4**	**+0.6**
X16A	**Lo Mia Camp, P**	**69.12**	**358**	P	**P**	**18 35 26.0**	**0.0**
	baz=70,SNR=15						
PDMCI	**Parker Dam,Lak**	**69.13**	**355**	⇓P	**P**	**18 35 26.1**	**-0.1**
	baz=70,SNR=5.4						
X15A	**Humboldt**	**69.22**	**357**	P	**P**	**18 35 26.9**	**+0.3**
	baz=70,SNR=29						
X14A	**Yava**	**69.23**	**356**	P	**P**	**18 35 27.1**	**+0.3**
	baz=70,SNR=12						
BBRC	**Big Bear Sol-O**	**69.33**	**353**	⇑P	**P**	**18 35 28.0**	**+0.7**
	baz=70						
BFSC	**Mount Baldy St**	**69.39**	**352**	⇓P	**P**	**18 35 28.0**	**+0.3**
	baz=70,SNR=11						
BSC	**Santa Cruz Isl**	**69.39**	**350**	⇑P	**P**	**18 35 27.4**	**-0.3**
	baz=70						
X13A	**Yucca**	**69.41**	**356**	P	**P**	**18 35 28.4**	**+0.5**
	baz=70,SNR=12						
BLG	**Laguna Peak**	**69.43**	**351**	⇑P	**P**	**18 35 27.9**	**-0.1**
	baz=70						
DECC	**Green Verdugo**	**69.48**	**352**	⇓P	**P**	**18 35 28.3**	**+0.1**
	baz=70						
NEE2	**Needles Airpor**	**69.63**	**355**	⇑P	**P**	**18 35 29.5**	**+0.3**
	baz=70						
ANMO	**Albuquerque**	**69.64**	**2**	*e*P	**P**	**18 35 28.5**	**-0.7**
	comp=Z,143nm,2.2s,mb5.5						
ANMO				LR	LR		
	comp=Z,5μm,19.0s,MS5.8						
ANMO	**Albuquerque**	**69.64**	**2**	*c i*P	**P**	**18 35 28.8**	**-0.4**
GMRC	**Granite Mounta**	**69.73**	**354**	P	**P**	**18 35 30.2**	**+0.4**
	baz=70,SNR=20						
HEC	**Hector,Ludlow**	**69.84**	**353**	⇑P	**P**	**18 35 30.9**	**+0.4**
	baz=70,SNR=5.6						
OSI	**Osito Adit**	**69.89**	**351**	⇑P	**P**	**18 35 30.8**	**0.0**
	baz=70						
W15A	**Williams**	**69.91**	**357**	⇑P	**P**	**18 35 31.3**	**+0.4**
	baz=70						
W13A	**Hualapai Mount**	**69.91**	**356**	⇑P	**P**	**18 35 30.9**	**0.0**
	baz=70,SNR=13						
RRX	**Edison Barstow**	**69.95**	**353**	⇑P	**P**	**18 35 31.2**	**0.0**
	baz=70						
W14A	**Seligman**	**69.98**	**356**	P	**P**	**18 35 31.8**	**+0.5**
	baz=70,SNR=41						
WMOK	**Wichita Mounta**	**70.02**	**9**	PFAKE		18 35 40.0	+8

ISA	Isabella	70.89	352	P	P	18 35 37.4 +0.5
	baz=71,SNR=28					
SHOC	Shoshone	70.89	354	⇑P	P	18 35 37.2 +0.3
	baz=71					
UALR	University of	71.12	14	eP	P	18 35 36.5 -1.8
	comp=Z,474nm,2.0s,mb6.1					
VES	Vestal, Richgr	71.14	351	⇑P	P	18 35 38.3 -0.1
	baz=72,SNR=7.1					
MPMC	Manual Prospec	71.17	353	P	P	18 35 39.0 +0.5
	baz=72,SNR=39					
V04C	Ramage Ranch,	71.18	350	⇑P	P	18 35 38.8 +0.2
	baz=72					
U14A	Mt Trumbull	71.18	356	P	P	18 35 38.9 +0.3
	baz=72,SNR=24					
U13A	Pakoon Wash	71.23	356	P	P	18 35 39.0 +0.1
	baz=72,SNR=17					
V05C	Boulder Hill,	71.27	351	⇓P	P	18 35 39.6 +0.4
	baz=72					
U12A	Valley of Fire	71.28	355	⇑P	P	18 35 39.2 -0.1
	baz=72					
U11A	Corn Creek	71.34	354	⇑P	P	18 35 39.9 +0.3
	baz=72					
U10A	Ash Meadows, A	71.41	354	⇑P	P	18 35 40.3 +0.3
	baz=72,SNR=14					
PKD	Parkfield	71.44	350	⇑P	P	18 35 40.1 -0.1
	baz=72,SNR=7.1					
FURC	Furnace Creek,	71.51	353	P	P	18 35 41.2 +0.5
	baz=72,SNR=14					
T12A	Moapa	71.59	355	⇓P	P	18 35 41.2 +0.2
	baz=72					
CWC	Cottonwood Cre	71.61	352	⇓P	P	18 35 41.5 +0.3
	baz=72					
T16A	Glen Canyon Da	71.68	358	⇓P	P	18 35 41.6 0.0
	baz=72					
T15A	Red Dirt Ranch	71.74	357	P	P	18 35 42.1 +0.1
	baz=72,SNR=18					
T14A	Hurricane	71.82	356	⇓P	P	18 35 42.4 -0.1
	baz=72,SNR=5.7					
T13A	Saint George	71.82	356	P	P	18 35 42.8 +0.3
	baz=72,SNR=23					
MVCO	Mesa Verde	71.86	0	eP	P	18 35 42.2 -0.5
	comp=Z,328nm,1.9s,mb5.9					
MVCO				LR	LR	
	comp=Z,5μm,20.0s,MS5.7					
U04C	Hernandez Rese	71.88	350	P	P	18 35 43.9 +1.1
	baz=72,SNR=14					
TPNV	Topopah Spring	71.93	354	eP	P	18 35 43.8 +0.6
	comp=Z,272nm,1.9s,mb5.9					
TPNV				LR	LR	
	comp=Z,4μm,19.0s,MS5.8					
TPNV	Topopah Spring	71.93	354	eP	P	18 35 43.8 +0.7
TPNV				pmax	pmax	
	comp=Z,272nm,1.9s,mb5.9					
TPNV				MLR	MLR	
	comp=Z,4μm,19.0s,MS5.8					
TPNV	Topopah Spring	71.93	354	P	P	18 35 43.9 +0.7
	baz=72					
HELL	Mitchell Peak	71.96	351	P	P	18 35 42.8 -0.5
	baz=72,SNR=26					
HAST	Hastings Reser	72.02	349	⇑P	P	18 35 44.0 +0.3
	baz=72					
GRAC	Grapevine Rang	72.09	353	⇓P	P	18 35 44.5 +0.4
	baz=72,SNR=16					
GOGA	Godfrey	72.10	22	eP	P	18 35 43.9 -0.4
	comp=Z,244nm,1.9s,mb5.8					
GOGA				LR	LR	
	comp=Z,4μm,20.0s,MS5.7					
GOGA	Godfrey	72.10	22	eP	P	18 35 43.9 -0.3
GOGA				pmax	pmax	
	comp=Z,244nm,1.9s,mb5.8					
GOGA				MLR	MLR	
	comp=Z,4μm,20.0s,MS5.7					
T11A	Corn Creek, Al	72.14	355	P	P	18 35 44.8 +0.4
	baz=72,SNR=28					
HBAR	Harrisburg	72.22	15	eP	P	18 35 44.4 -0.5
TIN	Tinemaha	72.24	352	⇓P	P	18 35 44.9 -0.1
	baz=73					
PLAL	Pickwick Lake	72.28	18	eP	P	18 35 43.7 -1.6
	comp=Z,103nm,1.5s,mb5.5					
PLAL				LR	LR	
	comp=Z,5μm,19.0s,MS5.8					
CCUT	Cedar City	72.32	356	eP	P	18 35 45.8 +0.3
T06C	Millerton Lake	72.37	351	P	P	18 35 45.6 -0.2
	baz=73,SNR=20					
SAO	San Andreas Ge	72.37	349	PFAKE		18 36 00.0 +14
SAO				LR	LR	
	comp=Z,3μm,21.0s,MS5.6					
S13A	Holt Ranch, En	72.38	356	P	P	18 35 46.1 +0.3
	baz=73,SNR=31					
T05C	Eagle Field, D	72.39	350	⇑P	P	18 35 46.7 +0.8
	baz=73					
SDCO	Great Sand Dun	72.46	3	eP	P	18 35 45.8 -0.5
	comp=Z,115nm,1.8s,mb5.5					
SDCO				LR	LR	
	comp=Z,4μm,20.0s,MS5.7					
S12A	Delamar Landin	72.47	355	⇑P	P	18 35 47.1 +0.7
	baz=73,SNR=8.5					
S14A	Cedar City	72.52	356	⇓P	P	18 35 47.4 +0.8
	baz=73					
MTUM	Tungsten Hills	72.57	352	eP	P	18 35 47.6 +0.7
S11A	Rachel	72.58	354	P	P	18 35 48.0 +1.0
	baz=73,SNR=14					
PACP	Pacheco Peak	72.59	350	⇑P	P	18 35 47.5 +0.4
	baz=73					
KCC	Kaiser Creek	72.63	351	⇑P	P	18 35 48.0 +0.6
	baz=73,SNR=5.3					
S08C	White Mtn Res	72.67	352	P	P	18 35 48.4 +0.9
	baz=73,SNR=47					
RCBR	Riachuelo	72.69	85	PFAKE		18 36 00.0 +12
RCBR				LR	LR	
	comp=Z,9μm,19.0s,MS6.0					
GNAR	Gosnell	72.76	16	eP	P	18 35 47.6 -0.6
	comp=Z,4μm,1.7s					
S05C	Merced	72.78	350	⇑P	P	18 35 48.3 0.0
	baz=73					
S09A	Goldfield	72.79	353	⇑P	P	18 35 48.7 +0.4
	baz=73,SNR=20					
BNLO	Ben Lomond (Sa	72.85	349	⇓P	P	18 35 48.5 -0.1
	baz=73					
MLAC	Mammoth Lakes	72.87	352	⇓P	P	18 35 49.2 +0.4
	baz=73					
NHSC	New Hope	72.89	25	PFAKE		18 36 00.0 +11
NHSC				LR	LR	
	comp=Z,5μm,20.0s,MS5.8					
S10A	Tonopah Range,	72.93	354	P	P	18 35 49.5 +0.4
	baz=73,SNR=22					
KIP	Kipapa	73.00	312	PFAKE		18 36 00.0 +10
KIP				LR	LR	
	comp=Z,12μm,22.0s,MS6.1					
KIP	Kipapa	73.00	312	d iP	P	18 35 48.0 -1.9
R14A	James Farms, M	73.05	357	⇓P	P	18 35 49.9 +0.2
	baz=74					
SWET	Sewanee	73.07	19	eP	P	18 35 48.8 -1.2
S04C	Ingram Canyon,	73.08	350	⇑P	P	18 35 50.7 +0.7
	baz=74,SNR=5.9					
JRSC	Jasper Ridge	73.12	349	⇓P	P	18 35 50.5 +0.3
	baz=74					
R12A	Pony Springs,	73.17	355	P	P	18 35 51.3 +0.8
	baz=74,SNR=21					
GLAT	Glass	73.22	16	eP	P	18 35 50.9 +0.1
MSU	Marysvale	73.22	357	eP	P	18 35 51.4 +0.5
WENL	Wente Brothers	73.26	349	⇑P	P	18 35 51.5 +0.4
	baz=74					
R11A	Troy Canyon, C	73.26	354	P	P	18 35 51.5 +0.4
	baz=74,SNR=55					
R10A	Warm Springs	73.27	354	⇓P	P	18 35 51.5 +0.4
	baz=74					
R09A	Tonopah	73.29	353	P	P	18 35 51.7 +0.5
	baz=74,SNR=46					
R07C	Lee Vining	73.35	352	P	P	18 35 52.6 +1.0
	baz=74,SNR=26					
WVT	Waverly	73.44	18	eP	P	18 35 50.5 -1.6
	comp=Z,212nm,2.0s,mb5.7					
WVT				LR	LR	
	comp=Z,6μm,21.0s,MS5.8					
WVT	Waverly	73.44	18	eP	P	18 35 50.5 -1.6
WVT				pmax	pmax	
	comp=Z,212nm,2.0s,mb5.7					
WVT				MLR	MLR	
	comp=Z,6μm,21.0s,MS5.8					
CMB	Columbia Colle	73.47	350	eP	P	18 35 52.1 -0.1
	comp=Z,176nm,1.9s,mb5.7					
CMB				LR	LR	
	comp=Z,2μm,21.0s,MS5.4					
CMB	Columbia Colle	73.47	350	eP	P	18 35 52.1 -0.2
CMB				pmax	pmax	
	comp=Z,176nm,1.9s,mb5.7					
CMB				MLR	MLR	
	comp=Z,2μm,21.0s,MS5.4					
CMB	Columbia Colle	73.47	350	⇑P	P	18 35 52.4 +0.2
	baz=74,SNR=20					
PARMO	Parma	73.49	16	eP	P	18 35 52.2 -0.2
R08A	Mina	73.50	352	⇑P	P	18 35 53.0 +0.5
	baz=74,SNR=18					
JSC	Jenkinsville	73.60	24	eP	P	18 35 53.1 -0.1
NVAR	Mina Array Bea	73.60	352	P	P	18 35 53.6 +0.6
	comp=Z,32nm,1.1s,mb5.2,baz=166,slow=8.2,SNR=56					
BDM	Black Diamond	73.60	349	⇓P	P	18 35 53.7 +0.7
	baz=74					
CPCT	Cooper Cave	73.68	20	eP	P	18 35 52.7 -0.9
SYO	Syowa Base	73.69	169⇑	eP	P	18 35 51.0 -2.3
SYO	Syowa Base	73.69	169⇑	iP	P	18 35 53.9 +0.6
Q13A	Wheeler Ranch,	73.76	356	⇑P	P	18 35 54.4 +0.4
	baz=74					
Q11A	Duckwater	73.76	354	P	P	18 35 54.6 +0.7
	baz=74,SNR=48					
R04C	Big Horse Ranc	73.77	350	⇑P	P	18 35 53.9 -0.1
	baz=74					
SRU	San Rafael	73.77	359	eP	P	18 35 53.7 -0.3
	comp=Z,46nm,1.3s,mb5.2					
SRU	San Rafael	73.77	359	eP	P	18 35 53.7 -0.3
SRU				pmax	pmax	
	comp=Z,45nm,1.3s,mb5.2					
Q10A	Clear Creek Ra	73.81	354	⇑P	P	18 35 54.8 +0.5
	baz=74,SNR=22					
R06C	Coleville	73.83	351	P	P	18 35 55.4 +1.0
	baz=74,SNR=28					
SMCO	Smiass	73.84	1	eP	P	18 35 54.8 +0.4
	comp=Z,65nm,1.3s,mb5.4					
Q09A	Carvers	73.89	353	⇑P	P	18 35 55.6 +0.9
	baz=74					
Q12A	Willow Creek R	73.89	355	⇑P	P	18 35 54.9 +0.2
	baz=74,SNR=15					
LHS	Liberty Hill	73.93	24	eP	P	18 35 54.4 -0.7
CBKS	Cedar Bluff	73.94	7	eP	P	18 35 55.0 -0.1
	comp=Z,215nm,1.4s,mb5.9					
CBKS				LR	LR	
	comp=Z,11μm,21.0s,MS6.1					
CBKS	Cedar Bluff	73.94	7	eP	P	18 35 55.0 0.0
CBKS				pmax	pmax	
	comp=Z,215nm,1.4s,mb5.9					
CBKS				MLR	MLR	
	comp=Z,11μm,21.0s,MS6.1					
MCCM	Marconi Confer	73.95	349	PFAKE		18 36 10.0 +15
MCCM				LR	LR	
	comp=Z,4μm,20.0s,MS5.7					
MCCM	Marconi Confer	73.95	349	⇑P	P	18 35 55.5 +0.4
	baz=74					
TMUT	Trail Mountain	73.97	358	eP	P	18 35 55.3 +0.1
Q08A	Gabbs	73.99	353	⇓P	P	18 35 55.7 +0.4
	baz=74,SNR=9.3					
CVS	Carmenet Viney	74.08	349	⇓P	P	18 35 55.8 -0.1
	baz=74					
R05C	Kirkwood Meado	74.09	351	P	P	18 35 56.5 +0.6
	baz=74,SNR=37					
TKL	Tuckaleechee C	74.09	21	LR	LR	19 03 33.5
	comp=Z,8μm,21.1s,MS6.0,baz=189,slow=32					
Q07A	Schurz	74.16	352	⇑P	P	18 35 57.0 +0.7
	baz=75					
LAVA	Lava Cap Winer	74.23	350	⇓P	P	18 35 56.6 -0.1
	baz=75,SNR=13					
P13A	Bates Ranch, G	74.25	356	P	P	18 35 57.1 +0.3
	baz=75,SNR=44					
NSHM	Saint Helena R	74.27	349	eP	P	18 35 57.4 +0.4
Q03C	Winters	74.29	349	⇑P	P	18 35 57.6 +0.5
	baz=75					
P12A	McGill	74.33	355	P	P	18 35 57.4 +0.1
	baz=75,SNR=19					
Q04C	Lincoln	74.40	350	⇓P	P	18 35 58.2 +0.5
	baz=75					
TRIS	Tristan da Cun	74.43	124	PFAKE		18 36 10.0 +12
TRIS				LR	LR	
	comp=Z,3μm,19.0s,MS5.6					
ISCO	Idaho Springs	74.50	3	eP	P	18 35 58.3 0.0
	comp=Z,112nm,1.9s,mb5.5					
ISCO				LR	LR	
	comp=Z,6μm,22.0s,MS5.9					
ISCO	Idaho Springs	74.50	3	eP	P	18 35 58.3 0.0
ISCO				pmax	pmax	
	comp=Z,112nm,1.9s,mb5.5					
ISCO				MLR	MLR	
	comp=Z,6μm,22.0s,MS5.9					
CCM	Cathedral Cave	74.51	14	eP	P	18 35 57.4 -1.0
	comp=Z,274nm,1.9s,mb5.9					
CCM				LR	LR	
	comp=Z,3μm,20.0s,MS5.6					
CCM	Cathedral Cave	74.51	14	eP	P	18 35 57.4 -1.0
CCM				pmax	pmax	
	comp=Z,274nm,1.9s,mb5.9					
CCM				MLR	MLR	
	comp=Z,3μm,20.0s,MS5.6					
P09A	Austin	74.59	353	⇑P	P	18 35 59.1 +0.3
	baz=75,SNR=5.4					
CASY	Casey	74.60	195	PFAKE		18 36 10.0 +11
CASY				LR	LR	
	comp=Z,9μm,20.0s,MS6.0					
MNRC	McLaughlin Nat	74.60	349	⇓P	P	18 35 59.1 +0.3
	baz=75,SNR=6.3					
P10A	Eureka	74.60	354	⇓P	P	18 35 59.1 +0.3
	baz=75,SNR=9.0					
KSU1	Kansas State U	74.61	10	eP	P	18 35 59.1 +0.2
	comp=Z,102nm,1.5s,mb5.5					
KSU1				LR	LR	
	comp=Z,5μm,19.0s,MS5.9					
FVM	French Village	74.61	15	eP	P	18 35 57.6 -1.3
	comp=Z,313nm,1.9s,mb5.9					
FVM	French Village	74.61	15	eP	P	18 35 57.6 -1.3
FVM				pmax	pmax	
	comp=Z,313nm,1.9s,mb5.9					
SIUC	Southern Illin	74.62	16	eP	P	18 35 58.1 -0.9
	comp=Z,94nm,1.3s,mb5.6					
WCN	Washoe City	74.64	351	⇑P	P	18 35 59.5 +0.4
	baz=75,SNR=11					
NLU	North Lily Min	74.66	357	eP	P	18 35 59.6 +0.4
MPU	Maple Canyon	74.70	358	eP	P	18 35 59.2 -0.2
	comp=Z,70nm,1.4s,mb5.4					
MPU				LR	LR	
	comp=Z,6μm,20.0s,MS5.9					
P05C	Yuba Gap, Truc	74.75	351	⇓P	P	18 35 60.0 +0.3
	baz=75,SNR=11					
HOPS	Hopland	74.81	349	PFAKE		18 36 10.0 +10
HOPS				LR	LR	
	comp=Z,4μm,20.0s,MS5.7					
HOPS	Hopland	74.81	349	⇑P	P	18 36 00.6 +0.5
	baz=75					
P08A	Dixie Valley	74.83	353	⇓P	P	18 36 00.6 +0.4
	baz=75					
SUTB	Sutter Butte	74.84	350	⇓P	P	18 35 59.7 -0.6
	baz=75					
OHCM	Honcut	74.90	350	eP	P	18 36 00.9 +0.3
O13A	Hicks Ranch, I	74.93	356	⇑P	P	18 36 00.8 0.0
	baz=75,SNR=7.2					
DUG	Dugway	74.93	357	eP	P	18 36 00.3 -0.4
	comp=Z,121nm,1.8s,mb5.5					
DUG				LR	LR	
	comp=Z,2μm,19.0s,MS5.5					
DUG	Dugway	74.93	357	eP	P	18 36 00.4 -0.3
DUG				pmax	pmax	
	comp=Z,121nm,1.8s,mb5.5					
DUG				MLR	MLR	
	comp=Z,2μm,19.0s,MS5.5					
TZTN	Tazewell	74.98	21	eP	P	18 36 00.7 -0.4
	comp=Z,519nm,2.1s,mb6.1					
TZTN				LR	LR	
	comp=Z,8μm,22.0s,MS6.0					
P06A	Stead Airport,	75.02	351	⇑P	P	18 36 01.8 +0.5
	baz=75					
O11A	Cowboy Ranch,	75.04	355	P	P	18 36 01.6 +0.3
	baz=76,SNR=31					
DAU	Daniels Canyon	75.09	358	eP	P	18 36 02.3 +0.7
O12A	Currie	75.11	355	⇑P	P	18 36 01.8 0.0
	baz=76,SNR=19					
ORV	Oroville	75.12	350	P	P	18 36 02.3 +0.4
	baz=76,SNR=10					
O09A	Fish Creek Ran	75.21	353	P	P	18 36 02.8 +0.4
	baz=76,SNR=22					
USIN	University of	75.22	17	eP	P	18 36 01.6 -0.9
	comp=Z,152nm,1.3s,mb5.8					
BEKR	Beckwourth	75.27	351	P	P	18 36 03.3 +0.6
	baz=76,SNR=29					
O10A	Cortez Mining,	75.27	354	⇑P	P	18 36 03.1 +0.4
	baz=76					
JLU	Jordanelle	75.28	358	eP	P	18 36 02.8 0.0
P01C	Double 8 Ranch	75.32	348	⇑P	P	18 36 03.7 +0.7
	baz=76,SNR=5.8					
NOQ	North Oquirrh	75.36	357	eP	P	18 36 03.7 +0.5
	comp=Z,115nm,1.4s,mb5.6					
CTU	Camp Tracy	75.38	358	eP	P	18 36 03.4 0.0
	comp=Z,81nm,1.5s,mb5.4					
GASB	Alder Springs	75.40	349	⇑P	P	18 36 04.5 +1.0
	baz=76,SNR=27					
O08A	Rochester Mine	75.43	353	⇑P	P	18 36 03.9 +0.3
	baz=76					
O05C	Quincy	75.44	350	⇓P	P	18 36 04.0 +0.3
	baz=76,SNR=8.7					
O06A	Flanigan	75.50	351	⇓P	P	18 36 04.5 +0.5
	baz=76,SNR=16					
KCPM	Cahto Peak	75.57	348	eP	P	18 36 05.5 +1.1
N14A	Grayback Hills	75.60	357	P	P	18 36 04.5 -0.1
	baz=76,SNR=14					
N15A	Stansbury Isla	75.61	357	⇑P	P	18 36 04.6 -0.1
	baz=76					
CNNC	Cliffs of the	75.62	26	PFAKE		18 36 20.0 +15
CNNC				LR	LR	
	comp=Z,5μm,20.0s,MS5.8					
O03C	Acorn Hollow,	75.63	350	⇑P	P	18 36 04.3 -0.5
	baz=76					
N13A	Wendover, West	75.66	356	⇑P	P	18 36 04.9 -0.1
	baz=76					
BGU	Big Grassy Mou	75.67	357	eP	P	18 36 03.5 -1.5
KIPM	Iron Peak	75.67	348	eP	P	18 36 05.1 +0.1
N10A	Dunphy	75.69	354	⇓P	P	18 36 05.4 +0.3
	baz=76					
N12A	Clover Valley,	75.71	355	⇓P	P	18 36 05.0 -0.2
	baz=76,SNR=20					
N11A	Elko Archery C	75.73	355	⇑P	P	18 36 04.7 -0.6
	baz=76					
WCI	Wyandotte Cave	75.81	18	eP	P	18 36 04.8 -1.0
	comp=Z,17nm,1.0s,mb4.9					
WCI				LR	LR	
	comp=Z,6μm,20.0s,MS5.9					
WCI	Wyandotte Cave	75.81	18	eP	P	18 36 04.8 -1.1
WCI				pmax	pmax	
	comp=Z,17nm,1.0s,mb4.9					
WCI				MLR	MLR	
	comp=Z,6μm,20.0s,MS5.9					
O04C	Chester	75.81	350	⇓P	P	18 36 06.1 +0.3
	baz=76,SNR=9.4					
N08A	GE Springer Mi	75.91	353	P	P	18 36 06.7 +0.3
	baz=76,SNR=35					
N09A	Rock Creek Ran	75.92	353	⇓P	P	18 36 06.8 +0.4
	baz=76,SNR=6.9					
O02C	Red Bluff	75.92	349	⇓P	P	18 36 06.7 +0.3
	baz=76,SNR=17					
TAU	Tasmania Unive	75.94	227	PFAKE		18 36 20.0 +13
TAU				LR	LR	
	comp=Z,5μm,20.0s,MS5.8					
N07B	Gerlach	76.00	352	P	P	18 36 07.4 +0.5
	baz=76,SNR=30					
PHWY	Pilot Hill	76.01	3	eP	P	18 36 06.8 -0.1
SPUT	South Promonto	76.03	357	eP	P	18 36 06.7 -0.3
O01C	Eel River Cons	76.05	348	⇑P	P	18 36 07.7 +0.5
	baz=76					
ELFS	Eagle Lake Fie	76.06	351	⇑P	P	18 36 07.5 +0.3
	baz=76,SNR=6.5					
N06A	Buffalo Meadow	76.07	351	P	P	18 36 07.5 +0.2
	baz=76,SNR=45					
M13A	Montello	76.16	356	⇓P	P	18 36 07.3 -0.5
	baz=77,SNR=11					
M15A	Larsen Ranch,	76.18	357	⇑P	P	18 36 07.2 -0.7
	baz=77					
M14A	Sheep Mountain	76.26	356	P	P	18 36 07.7 -0.6
	baz=77,SNR=12					
M12A	Wells	76.26	355	⇑P	P	18 36 08.2 -0.2
	baz=77					
WDC	Whiskeytown Da	76.28	349	eP	P	18 36 08.0 -0.4
	comp=Z,91nm,1.4s,mb5.5					
WDC				LR	LR	
	comp=Z,3μm,21.0s,MS5.6					
WDC	Whiskeytown Da	76.28	349	eP	P	18 36 08.0 -0.5
WDC				pmax	pmax	
	comp=Z,91nm,1.4s,mb5.5					
WDC				MLR	MLR	
	comp=Z,3μm,21.0s,MS5.6					
WDC	Whiskeytown Da	76.28	349	P	P	18 36 08.0 -0.4
	baz=77,SNR=18					
HWUT	Hardware Ranch	76.29	358	eP	P	18 36 08.4 -0.1
	comp=Z,23nm,1.3s,mb5.0					
HWUT				LR	LR	
	comp=Z,5μm,20.0s,MS5.8					
M11A	Holland Ranch,	76.34	355	⇑P	P	18 36 08.8 0.0
	baz=77,SNR=18					
RWWY	Rawlins	76.35	1	eP	P	18 36 08.3 -0.5
	comp=Z,164nm,1.8s,mb5.7					
HATC	Hat Creek Radi	76.35	350	⇓P	P	18 36 08.9 0.0
	baz=77,SNR=5.9					
LBCM	Butte Creek Ri	76.36	350	P	P	18 36 09.1 +0.2
ELN	Prospectdale	76.47	23	eP	P	18 36 09.4 -0.2
M09A	Marrel Ranch,	76.48	353	⇓P	P	18 36 09.9 +0.3
	baz=77					
M10A	I.L. Ranch, Tu	76.49	354	P	P	18 36 09.9 +0.3
	baz=77,SNR=22					
HVU	Hansel Valley	76.51	357	eP	P	18 36 07.9 -1.8
	comp=Z,141nm,2.0s,mb5.5					
HVU	Hansel Valley	76.51	357	eP	P	18 36 07.9 -1.8
HVU				pmax	pmax	
	comp=Z,141nm,2.0s,mb5.5					
BLA	Blacksburg	76.56	23	eP	P	18 36 09.5 -0.6
	comp=Z,144nm,1.4s,mb5.7					
BLA				LR	LR	
	comp=Z,3μm,21.0s,MS5.6					
BLA	Blacksburg	76.56	23	eP	P	18 36 09.5 -0.6
BLA				pmax	pmax	
	comp=Z,144nm,1.4s,mb5.7					
BLA				MLR	MLR	
	comp=Z,3μm,21.0s,MS5.6					
M08A	Happy Creek Ra	76.60	353	P	P	18 36 11.1 +0.8
	baz=77,SNR=20					
M06C	Likely Place G	76.60	351	⇑P	P	18 36 10.7 +0.4
	baz=77,SNR=7.5					
M07A	Soldier Meadow	76.62	352	P	P	18 36 11.0 +0.6
	baz=77,SNR=20					
N02C	Big Bar	76.64	349	⇓P	P	18 36 10.9 +0.4
	baz=77,SNR=12					
BLO	Bloomington	76.64	18	eP	P	18 36 09.4 -1.2
	comp=Z,151nm,1.7s,mb5.7					
BLO	Bloomington	76.64	18	eP	P	18 36 09.4 -1.2
BLO				pmax	pmax	
	comp=Z,151nm,1.7s,mb5.7					
LTIM	Timbered Crate	76.71	350	P	P	18 36 11.2 +0.4
JCC	Jacoby Creek	76.75	348	⇑P	P	18 36 11.0 -0.1
	baz=77					
M05C	Lookout	76.84	350	⇑P	P	18 36 11.7 0.0
	baz=77,SNR=7.7					
L13A	Double Diamond	76.87	356	⇑P	P	18 36 11.3 -0.5
	baz=77,SNR=17					
M03C	McCloud	76.90	350	⇓P	P	18 36 11.5 -0.5
	baz=77					
L12A	House Creek Ra	77.00	355	⇓P	P	18 36 12.4 -0.1
	baz=77,SNR=10					
L10A	Juniper Basin	77.04	354	P	P	18 36 12.7 -0.1
	baz=78,SNR=20					
L11A	Cat Creek Ranc	77.07	355	P	P	18 36 13.0 +0.1
	baz=78,SNR=35					
L09A	Wilkinson Ranc	77.09	353	⇑P	P	18 36 13.2 +0.2
	baz=78,SNR=19					
M02C	Callahan	77.12	349	⇑P	P	18 36 13.2 0.0
	baz=78,SNR=19					
LASM	Arnica Sink	77.14	350	P	P	18 36 13.8 +0.6
LHEM	Herd Peak	77.26	350	P	P	18 36 14.4 +0.4
L07A	Adell	77.27	352	P	P	18 36 14.9 +1.0
	baz=78,SNR=34					
MOD	Modoc	77.27	351	eP	P	18 36 14.1 +0.1
	comp=Z,130nm,1.5s,mb5.6					
MOD				LR	LR	
	comp=Z,2μm,19.0s,MS5.5					
MOD	Modoc	77.27	351	P	P	18 36 14.2 +0.2
	baz=78,SNR=34					
K14A	Jones Ranch, D	77.29	357	⇓P	P	18 36 13.4 -0.7
	baz=78					
HDIL	Hopedale	77.32	15	eP	P	18 36 14.1 -0.3
	comp=Z,447nm,1.9s,mb6.1					
HDIL				LR	LR	
	comp=Z,3μm,20.0s,MS5.7					
L08A	Fields	77.33	353	P	P	18 36 14.9 +0.5
	baz=78,SNR=14					
M04C	Macdoel	77.35	350	P	P	18 36 14.7 +0.2
	baz=78,S

comp=Z,200nm,1.5s,mb5.8
MIR MLR MLR
comp=Z,8µm,20.0s,MS6.0
BW06 Boulder Array 77.41 359 *e*P **P 18 36 13.3 -1.5**
comp=Z,66nm,1.3s,mb5.4
BW06 LR LR
comp=Z,5µm,19.0s,MS5.8
PDAR Pinedale Array 77.41 359 P **P 18 36 13.8 -1.0**
comp=Z,26nm,1.0s,mb5.1,baz=159,slow=6.1,SNR=48
PDAR LR LR 19 05 02.0
comp=Z,4µm,18.3s,MS5.8,baz=193,slow=32
YBH Yreka Blue Hor 77.43 349 *e*P **P 18 36 14.5 -0.5**
comp=Z,139nm,2.1s,mb5.5
YBH LR LR
comp=Z,4µm,20.0s,MS5.7
YBH Yreka Blue Hor 77.43 349 *e*P **P 18 36 14.5 -0.4**
YBH pmax pmax
comp=Z,139nm,2.1s
YBH MLR MLR
comp=Z,4µm,20.0s
YBH Yreka Blue Hor 77.43 349 ⇑P **P 18 36 14.3 -0.6**
baz=78,SNR=8.3
AHID Auburn Hatcher 77.44 358 *e*P **P 18 36 14.9 0.0**
comp=Z,150nm,1.9s,mb5.6
AHID LR LR
comp=Z,6µm,20.0s,MS5.9
K13A Stover Farm, H 77.44 356 ⇑P **P 18 36 14.8 -0.2**
baz=78,SNR=18
L05A Lakeview 77.48 351 P **P 18 36 15.9 +0.7**
baz=78,SNR=24
K12A Draper Farm, C 77.48 355 ⇑P **P 18 36 15.1 -0.1**
baz=78,SNR=5.3
MAW Mawson 77.50 177 P **P 18 36 15.7 +0.5**
comp=Z,17nm,0.9s,mb5.0,baz=218,slow=6.3,SNR=9.8
MAW LR LR 19 08 42.6
comp=Z,3µm,19.3s,MS5.6,baz=8.0,slow=34
WVOR Wild Horse Val 77.60 353 *e*P **P 18 36 15.7 -0.1**
comp=Z,93nm,1.4s,mb5.5
WVOR LR LR
comp=Z,3µm,19.0s,MS5.7
WVOR Wild Horse Val 77.60 353 *e*P **P 18 36 15.7 -0.2**
WVOR pmax pmax
comp=Z,93nm,1.4s,mb5.5
WVOR MLR MLR
comp=Z,3µm,19.0s,MS5.7
K11A Parker Ranch, 77.69 355 P **P 18 36 16.3 -0.1**
baz=78,SNR=21
L04A Klamath Falls 77.75 350 ⇓P **P 18 36 16.8 +0.2**
baz=78
M01C Crescent City 77.77 348 ⇓P **P 18 36 16.7 -0.1**
baz=78
K09A Rome 77.77 353 P **P 18 36 17.0 +0.2**
baz=78,SNR=26
K10A MacKenzie Ranc 77.77 354 P **P 18 36 16.9 +0.1**
baz=78,SNR=27
URVA University of 77.84 25 *e*P **P 18 36 16.6 -0.8**
K08A Mann Creek Ran 77.88 353 ⇓P **P 18 36 17.9 +0.5**
baz=78,SNR=6.8
K07A Rock Creek Ran 77.92 352 P **P 18 36 18.4 +0.8**
baz=78,SNR=35
L02A Cave Junction 77.98 349 ⇓P **P 18 36 17.8 -0.2**
baz=78
REDW Red Top Meadow 78.03 358 *e*P **P 18 36 17.9 -0.3**
comp=Z,105nm,1.5s,mb5.5
J12A Stokes Ranch, 78.10 355 P **P 18 36 18.4 -0.2**
baz=78,SNR=18
SNOW Snow King Moun 78.12 359 *e*P **P 18 36 19.5 +0.7**
comp=Z,33nm,1.0s,mb5.2
K06A Valley Falls 78.14 351 P **P 18 36 19.9 +1.0**
baz=79,SNR=18
K05A Summer Lake 78.15 351 P **P 18 36 19.8 +0.8**
baz=79,SNR=23
K04A Chilquin 78.15 350 ⇓P **P 18 36 19.1 +0.2**
baz=79
TPAW Teton Pass 78.16 358 *e*P **P 18 36 18.2 -0.7**
comp=Z,51nm,1.0s,mb5.4
J13A Cove Ranch, Pi 78.19 356 P **P 18 36 19.2 +0.1**
baz=79,SNR=27
DCID1 Drake Creek 78.27 358 *e*P **P 18 36 19.6 +0.1**
LOHW Long Hollow 78.27 359 *e*P **P 18 36 18.9 -0.6**
comp=Z,68nm,1.4s,mb5.4
MFID Camas Ranch 78.32 355 ⇑P **P 18 36 19.1 -0.7**
baz=79,SNR=6.1
HUMO Hull Mountain 78.33 349 *e*P **P 18 36 19.9 0.0**
comp=Z,286nm,2.1s,mb5.8
HUMO LR LR
comp=Z,4µm,20.0s,MS5.8
HUMO Hull Mountain 78.33 349 ⇑P **P 18 36 19.7 -0.2**
baz=79,SNR=11
HLID Hailey 78.37 356 *e*P **P 18 36 20.0 -0.2**
comp=Z,86nm,1.3s,mb5.5
HLID LR LR
comp=Z,4µm,19.0s,MS5.8
HLID Hailey 78.37 356 P **P 18 36 20.3 +0.2**
baz=79,SNR=63
J10A Berg Farm, Mel 78.41 354 ⇑P **P 18 36 20.1 -0.2**
baz=79
MOOW Moose Ponds 78.41 359 *e*P **P 18 36 19.2 -1.1**
comp=Z,40nm,1.4s,mb5.2
J09A Fry Pan Ranch, 78.41 353 P **P 18 36 20.9 +0.5**
baz=79,SNR=38
CBN Corbin 78.47 25 PFAKE 18 36 30.0 +9.2
CBN LR LR
comp=Z,10µm,19.0s,MS6.2
J08A Circle Bar Ran 78.50 353 P **P 18 36 21.3 +0.5**
baz=79,SNR=21
BBOR Butler Butte 78.56 350 P **P 18 36 21.0 -0.1**
IMW Indian Meadow 78.56 358 *e*P **P 18 36 20.4 -0.7**
comp=Z,57nm,1.2s,mb5.4
K02A Glendale 78.56 349 ⇓P **P 18 36 21.1 -0.1**
baz=79,SNR=7.0
ACSO Alum Creek Sta 78.57 20 *e*P **P 18 36 20.3 -1.0**
comp=Z,52nm,1.2s,mb5.3
ACSO LR LR
comp=Z,9µm,22.0s,MS6.1
J06A Christmas Vall 78.58 352 P **P 18 36 21.4 +0.2**
baz=79,SNR=36
J07A Hines 78.60 352 ⇓P **P 18 36 21.5 +0.2**
baz=79,SNR=8.5
RIV Riverview 78.60 237 *e*P **P 18 36 22.0 0.0**
I13A Wildhorse Cree 78.70 356 P **P 18 36 22.1 +0.1**
baz=79,SNR=30
FLWY Flagg Ranch 78.74 359 *e*P **P 18 36 21.6 -0.6**
comp=Z,107nm,1.4s,mb5.6
J05A Fort Rock 78.75 351 ⇑P **P 18 36 22.5 +0.3**
baz=79,SNR=26
BBSR BB Station 78.80 37 PFAKE 18 36 30.0 +7.2
BBSR LR LR
comp=Z,3µm,19.0s,MS5.7
I11A Placerville 78.82 355 ⇑P **P 18 36 22.5 -0.1**
baz=79
J04A Umpqua Nationa 78.82 350 ⇓P **P 18 36 22.8 +0.1**
baz=79
RSSD Black Hills 78.88 4 *e*P **P 18 36 23.2 +0.3**
comp=Z,42nm,1.4s,mb5.2
RSSD LR LR
comp=Z,286nm,20.0s,MS4.6
RSSD Black Hills 78.88 4 *e*P **P 18 36 23.2 +0.3**
RSSD pmax pmax
comp=Z,42nm,1.4s,mb5.2
RSSD MLR MLR
comp=Z,286nm,20.0s,MS4.6
MCWV Mont Chateau 78.97 22 *e*P **P 18 36 23.6 +0.1**
comp=Z,175nm,1.8s,mb5.7
MCWV LR LR
comp=Z,7µm,20.0s,MS6.0
CNB Canberra Magne 78.98 235 *e*P **P 18 36 24.5 +0.5**
comp=Z,39nm,1.2s,mb5.2
I09A Lost Marbles R 79.03 353 P **P 18 36 24.3 +0.5**
baz=79,SNR=11
I08A Drewsey 79.05 353 P **P 18 36 24.4 +0.5**
baz=80,SNR=11
I10A Payette 79.06 354 ⇓P **P 18 36 24.1 +0.1**
baz=80
J03A Ideyld Park 79.07 350 ⇓P **P 18 36 23.8 -0.2**
baz=80,SNR=9.0
YFT Old Faithful 79.11 359 *e*P **P 18 36 24.9 +0.7**
ECSD EROS,Sioux Fal 79.16 9 *e*P **P 18 36 23.1 -1.4**
comp=Z,275nm,2.0s,mb5.8
ECSD LR LR
comp=Z,4µm,20.0s,MS5.7
J02A Umpqua 79.16 349 ⇓P **P 18 36 25.5 +1.0**
baz=80
LKWY Lake 79.22 359 *e*P **P 18 36 26.6 +1.8**
comp=Z,12nm,1.0s,mb4.8
LKWY LR LR
comp=Z,6µm,20.0s,MS6.0
LKWY Lake 79.22 359 *e*P **P 18 36 26.6 +1.8**
LKWY pmax pmax
comp=Z,12nm,1.0s,mb4.8
LKWY MLR MLR
comp=Z,6µm,20.0s,MS6.0
HSO Harness Mounta 79.24 349 ⇓P **P 18 36 25.7 +0.8**
I06A Prineville 79.27 352 ⇑P **P 18 36 25.5 +0.5**
baz=80
I07A Izee 79.32 352 P **P 18 36 25.9 +0.5**
baz=80,SNR=37
YMR Madison River 79.33 358 *e*P **P 18 36 25.9 +0.5**
comp=Z,128nm,1.6s,mb5.6
YMR LR LR
comp=Z,5µm,22.0s,MS5.8
H13A Challis 79.36 356 ⇓P **P 18 36 24.9 -0.6**
baz=80,SNR=8.8
YNR Norris Junctio 79.38 359 *e*P **P 18 36 25.8 +0.2**
H12A Diamond D Ranc 79.38 356 P **P 18 36 25.8 +0.2**
baz=80,SNR=16
JFWS Jewell Farm 79.39 14 PFAKE 18 36 40.0 +14
JFWS LR LR
comp=Z,6µm,19.0s,MS5.9
I04A Tendick Farm, 79.41 350 ⇓P **P 18 36 25.4 -0.4**
baz=80
HBO Huckleberry Mo 79.44 350 ⇓P **P 18 36 26.2 +0.2**
QLMT Earthquake Lak 79.51 358 *e*P **P 18 36 26.8 +0.5**
MCMT McKenzie Canyo 79.55 357 *e*P **P 18 36 26.3 -0.3**
H10A Noah's Angus R 79.56 354 ⇑P **P 18 36 26.1 -0.5**
baz=80,SNR=11
H11A Donnelly 79.61 355 ⇓P **P 18 36 26.4 -0.5**
baz=80,SNR=9.3
I05A Bend 79.61 351 ⇓P **P 18 36 26.9 0.0**
baz=80
H08A Prairie City 79.67 353 P **P 18 36 27.5 +0.3**
baz=80,SNR=24
I03A Eugene 79.71 349 ⇑P **P 18 36 27.8 +0.4**
baz=80
H09A Durkee 79.71 354 P **P 18 36 27.9 +0.5**
baz=80,SNR=8.5
SDMD Soldier's Deli 79.73 25 *e*P **P 18 36 26.8 -0.9**
comp=Z,73nm,1.1s,mb5.5
RLMT Red Lodge 79.76 360 *e*P **P 18 36 27.1 -0.6**
comp=Z,42nm,1.3s,mb5.2
RLMT LR LR
comp=Z,3µm,20.0s,MS5.6
I02A Mapleton 79.82 349 ⇑P **P 18 36 28.1 0.0**
baz=80
BMO Blue Mountains 79.87 354 *e*P **P 18 36 28.0 -0.3**
comp=Z,129nm,1.8s,mb5.6
BMO LR LR
comp=Z,3µm,20.0s,MS5.6
VIPM Ingram Point 79.87 351 ⇓P **P 18 36 29.0 +0.7**
G15A Dillon 79.88 357 P **P 18 36 28.6 +0.2**
baz=80,SNR=9.4
BROR Big Rock Looko 79.88 350 ⇓P **P 18 36 28.4 0.0**
G13A Cobalt 79.89 356 P **P 18 36 28.1 -0.3**
baz=80,SNR=31
G14A Jackson 80.00 357 ⇓P **P 18 36 28.7 -0.2**
baz=80
H06A Linquist Farm 80.06 352 P **P 18 36 29.5 +0.2**
baz=80,SNR=16
DLMT Dillon 80.08 357 *e*P **P 18 36 28.6 -0.8**
comp=Z,37nm,1.4s,mb5.1
H05A Madras 80.08 351 ⇓P **P 18 36 29.8 +0.4**
baz=80
ARMA Armidale 80.21 240 *e*P **P 18 36 32.5 +1.7**
H04A Detroit Lake 80.25 350 ⇑P **P 18 36 29.7 -0.6**
baz=81,SNR=7.6
G10A Bishop Farm, J 80.29 354 P **P 18 36 30.6 0.0**
baz=81,SNR=24
COR Corvallis 80.31 350 PFAKE 18 36 40.0 +9.3
COR LR LR
comp=Z,3µm,19.0s,MS5.6
AAM Ann Arbor 80.32 19 *e*P **P 18 36 30.5 -0.3**
comp=Z,284nm,2.0s,mb5.8
AAM LR LR
comp=Z,7µm,20.0s,MS6.0
AAM Ann Arbor 80.32 19 *e*P **P 18 36 30.5 -0.3**
AAM pmax pmax
comp=Z,284nm,2.0s,mb5.8
AAM MLR MLR
comp=Z,7µm,20.0s,MS6.0
BOZ Bozeman (W) 80.33 358 *e*P **P 18 36 30.3 -0.4**
comp=Z,96nm,1.9s,mb5.4
BOZ LR LR
comp=Z,2µm,22.0s,MS5.5
BOZ Bozeman (W) 80.33 358 *e*P **P 18 36 30.3 -0.4**
BOZ pmax pmax
comp=Z,96nm,1.9s,mb5.4
BOZ MLR MLR
comp=Z,2µm,22.0s,MS5.5
BOZ Bozeman (W) 80.33 358 P **P 18 36 30.5 -0.3**
baz=81
G09A Cove 80.33 354 ⇓P **P 18 36 30.7 -0.1**
baz=81
H03A Soap Creek Ran 80.40 350 ⇓P **P 18 36 31.3 +0.1**
baz=81
G08A Pilot Rock 80.46 353 P **P 18 36 31.8 +0.4**
baz=81,SNR=21
SSPA Standing Stone 80.49 23 *e*P **P 18 36 30.5 -1.2**
comp=Z,170nm,1.8s,mb5.7
SSPA LR LR
comp=Z,6µm,20.0s,MS5.9
G07A Ruggs Ranch, H 80.51 352 ⇑P **P 18 36 32.1 +0.4**
baz=81,SNR=9.8
F15A Butte 80.55 357 ⇓P **P 18 36 32.2 +0.2**
baz=81,SNR=7.2
F14A Wisdom 80.56 357 ⇑P **P 18 36 31.7 -0.3**
baz=81,SNR=7.9
F13A Darby 80.58 356 P **P 18 36 31.8 -0.3**
baz=81,SNR=29
G06A Carlson Farm, 80.59 352 P **P 18 36 32.2 0.0**
baz=81,SNR=8.6
F12A Elk City 80.61 355 P **P 18 36 32.1 -0.2**
baz=81,SNR=26
G05A Wamic 80.68 351 ⇓P **P 18 36 32.6 0.0**
baz=81
F09A S2 Ranch, Elgi 80.77 354 ⇑P **P 18 36 32.9 -0.3**
baz=81
G04A Mulino 80.80 350 ⇑P **P 18 36 32.7 -0.6**
baz=81
F11A Grangeville 80.80 355 P **P 18 36 33.0 -0.3**
baz=81,SNR=16
F10A Beach Ranch, E 80.97 354 ⇑P **P 18 36 33.3 -0.9**
baz=81,SNR=12
F06A Goldendale 81.13 352 ⇓P **P 18 36 35.2 +0.1**
baz=82
E15A Deer Lodge 81.14 357 P **P 18 36 35.5 +0.4**
baz=82,SNR=8.9
F07A Phinny Hill Vi 81.16 352 ⇓P **P 18 36 35.2 0.0**
baz=82
E14A Clinton 81.17 357 ⇑P **P 18 36 35.1 -0.1**
baz=82,SNR=9.0
E13A Victor 81.23 356 ⇑P **P 18 36 34.9 -0.6**
baz=82,SNR=8.2
E11A Bogner Ranch, 81.27 355 P **P 18 36 35.4 -0.4**
baz=82,SNR=23
F05A White Salmon 81.33 351 ⇑P **P 18 36 35.8 -0.3**
baz=82
LAO LASA Array 81.36 2 *e*P **P 18 36 35.9 -0.4**
comp=Z,285nm,1.9s,mb5.9
LAO LR LR
comp=Z,4µm,20.0s,MS5.7
E10A Myers Farm, Un 81.47 354 ⇓P **P 18 36 35.9 -0.9**
baz=82
F04A Amboy 81.50 350 ⇑P **P 18 36 36.4 -0.6**
baz=82,SNR=7.7
E09A Wood Farm, Sta 81.59 354 ⇑P **P 18 36 36.9 -0.5**
baz=82
MSO Missoula 81.60 356 *e*P **P 18 36 37.2 -0.3**
comp=Z,72nm,1.9s,mb5.3
MSO LR LR
comp=Z,2µm,20.0s,MS5.5
HAWA Hanford 81.61 353 *e*P **P 18 36 38.0 +0.5**
comp=Z,142nm,1.8s,mb5.6
HAWA LR LR
comp=Z,3µm,20.0s,MS5.6
CHMT Chamberlain Mo 81.65 357 *e*P **P 18 36 37.9 +0.1**
E08A Dider Farm, El 81.66 353 ⇑P **P 18 36 38.0 +0.2**
baz=82
F03A Seaside 81.67 350 ⇑P **P 18 36 38.5 +0.6**
baz=82
D15A Lincoln 81.75 357 ⇑P **P 18 36 39.0 +0.7**
baz=82,SNR=6.2
E07A Sunnyside 81.81 352 ⇓P **P 18 36 39.1 +0.5**
baz=82,SNR=5.8
D14A Greenough 81.83 357 P **P 18 36 38.9 +0.2**
baz=82,SNR=15
D13A Huson 81.89 356 ⇓P **P 18 36 38.6 -0.4**
baz=82,SNR=7.4
E06A Yakima 81.92 352 ⇑P **P 18 36 39.5 +0.3**
baz=82,SNR=5.2
D11A Klaveano Farm, 81.97 355 P **P 18 36 39.0 -0.4**
baz=82,SNR=17
E05A Randle 82.03 351 ⇑P **P 18 36 39.9 +0.1**
baz=82
D10A Wagner Farm, O 82.05 354 ⇑P **P 18 36 39.2 -0.6**
baz=82
D09A Jones Farm, Ri 82.15 353 ⇓P **P 18 36 40.0 -0.4**
baz=83,SNR=5.7
PAL Palisades 82.18 26 *e*P **P 18 36 40.3 -0.4**
comp=Z,50nm,1.0s,mb5.4
PAL Palisades 82.18 26 *e*P **P 18 36 40.3 -0.4**
PAL pmax pmax
comp=Z,50nm,1.0s,mb5.4
D08A Wollman Farm, 82.20 353 ⇑P **P 18 36 40.9 +0.2**
baz=83
E03A Lebam 82.27 350 ⇓P **P 18 36 41.1 +0.1**
baz=83
D07A Quincy 82.45 352 ⇑P **P 18 36 42.2 +0.2**
baz=83,SNR=6.8
C13A Hot Springs 82.48 356 ⇓P **P 18 36 42.0 -0.2**
baz=83,SNR=14
BINY Binghamton 82.52 24 PFAKE 18 36 50.0 +7.6
BINY LR LR
comp=Z,7µm,20.0s,MS6.0
D06A Cle Elum 82.55 352 ⇓P **P 18 36 42.2 -0.3**
baz=83
EGMT Eagleton 82.67 359 *e*P **P 18 36 43.3 +0.2**
comp=Z,122nm,1.8s,mb5.6
EGMT LR LR
comp=Z,5µm,22.0s,MS5.8
COWI Conover 82.67 14 *e*P **P 18 36 43.0 -0.2**
comp=Z,350nm,2.0s,mb6.0
COWI LR LR
comp=Z,4µm,20.0s,MS5.7
D05A Enumclaw 82.68 351 ⇓P **P 18 36 43.0 -0.2**
baz=83
C10A Spilker Farm, 82.81 354 ⇑P **P 18 36 43.8 0.0**
baz=83
C09A Chrisman Ranch 82.88 354 P **P 18 36 44.5 +0.4**
baz=83,SNR=6.3
C08A Higginbotham F 82.94 353 ⇓P **P 18 36 43.9 -0.5**
baz=83
WTV Waterville 82.94 352 P **P 18 36 44.7 +0.2**
C07A Waterville 82.95 352 ⇑P **P 18 36 44.4 -0.2**
baz=83,SNR=6.7
NLWA Neilton Lookou 83.14 350 PFAKE 18 37 00.0 +14
NLWA LR LR
comp=Z,2µm,19.0s,MS5.5
NLWA Neilton Lookou 83.14 350 ⇓P **P 18 36 45.8 +0.3**
baz=84
C05A Tolt Reservoir 83.14 351 ⇓P **P 18 36 45.1 -0.4**
baz=84
B13A Whitefish 83.17 356 ⇓P **P 18 36 45.2 -0.4**
baz=84,SNR=5.2
DGMT Dagmar 83.22 3 *e*P **P 18 36 46.7 +0.8**
comp=Z,263nm,1.8s,mb6.0
DGMT LR LR
comp=Z,8µm,22.0s,MS6.0
NEW Newport 83.24 354 *e*P **P 18 36 45.7 -0.3**
comp=Z,255nm,1.9s,mb5.9
NEW LR LR
comp=Z,4µm,20.0s,MS5.8
NEW Newport 83.24 354 *e*P **P 18 36 45.7 -0.3**
NEW pmax pmax
comp=Z,255nm,1.9s
NEW MLR MLR
comp=Z,4µm,20.0s
C06A Tall Timber Ra 83.27 352 ⇓P **P 18 36 45.4 -0.8**
baz=84
B10A Chitwood Farm, 83.28 354 ⇓P **P 18 36 46.1 -0.2**
baz=84
C04A Brinnon 83.33 350 ⇑P **P 18 36 46.3 -0.2**
baz=84
B12A Libby 83.33 355 ⇓P **P 18 36 46.3 -0.2**
baz=84
B11A Sandpoint 83.35 355 ⇓P **P 18 36 46.1 -0.6**
baz=84,SNR=5.2
B09A Rice 83.48 354 ⇑P **P 18 36 46.8 -0.4**
baz=84,SNR=9.5
EIDS Eidsvold 83.50 244 *e*P **P 18 36 46.9 -1.3**
comp=Z,18nm,1.5s,mb5.0
B08A Colville Reser 83.53 353 ⇓P **P 18 36 46.4 -1.2**
baz=84
B07A Winthrop 83.71 352 ⇓P **P 18 36 47.8 -0.7**
baz=84
A13A Flathead Natio 83.72 356 ⇑P **P 18 36 48.6 +0.1**
baz=84
AGMN Agassiz Refuge 83.75 9 *e*P **P 18 36 47.9 -0.7**
comp=Z,159nm,1.9s,mb5.8
AGMN LR LR
comp=Z,4µm,21.0s,MS5.8
B05A Bryant 83.75 351 ⇑P **P 18 36 47.9 -0.8**
baz=84
C03A Quillayute Air 83.78 349 ⇑P **P 18 36 48.5 -0.3**
baz=84
A12A Yaak River Ran 83.80 355 ⇑P **P 18 36 48.3 -0.6**
baz=84
WALA Waterton Lakes 83.82 357 *e*P **P 18 36 49.2 +0.2**
comp=Z,127nm,1.9s,mb5.7
QUA2 Belchertown 83.86 26 *e*P **P 18 36 49.4 +0.1**
comp=Z,77nm,1.0s,mb5.8
A11A Hall Mountain, 83.87 355 P **P 18 36 49.0 -0.3**
baz=84,SNR=7.5
B06A Marblemount 83.93 352 ⇑P **P 18 36 48.5 -1.1**
baz=84
A10A Northport 83.99 354 ⇓P **P 18 36 49.6 -0.2**
baz=84
EYMN Ely 84.03 12 *e*P **P 18 36 48.9 -1.2**
comp=Z,41nm,1.3s,mb5.4
EYMN LR LR
comp=Z,8µm,19.0s,MS6.1
A09A Danville 84.07 354 P **P 18 36 50.7 +0.4**
baz=84,SNR=6.3
A08A Turner Farm, O 84.11 353 P **P 18 36 50.6 +0.1**
baz=84,SNR=6.8
PGC Sidney 84.31 350 *e*P **P 18 36 53.3 +1.8**
comp=Z,36nm,0.8s,mb5.6
A07A Ashnola River, 84.32 352 P **P 18 36 51.8 +0.2**
baz=85,SNR=13
WES Weston 84.33 27 PFAKE 18 37 00.0 +8.2
WES LR LR
comp=Z,5µm,21.0s,MS5.9
HRV Adam Dziewonsk 84.34 27 PFAKE 18 37 00.0 +8.2
HRV LR LR
comp=Z,7µm,21.0s,MS6.0
A06A Chilliwack 84.50 352 ⇓P **P 18 36 51.7 -0.7**
baz=85
NCB Newcomb 84.68 24 *e*P **P 18 36 52.0 -1.6**
comp=Z,95nm,1.3s,mb5.8
NCB LR LR
comp=Z,5µm,20.0s,MS5.9
LONY Lake Ozonia 85.14 24 *e*P **P 18 36 55.3 -0.5**
comp=Z,104nm,1.4s,mb5.8
LONY LR LR
comp=Z,4µm,19.0s,MS5.8
MSNY Massena 85.38 23 *e*P **P 18 36 57.9 +0.9**
ULM Lac du Bonnet 85.66 8 P **P 18 36 56.6 -1.7**
comp=Z,24nm,1.0s,mb5.4,baz=194,slow=4.3,SNR=20
ULM LR LR 19 11 35.0
comp=Z,3µm,20.6s,MS5.7,baz=183,slow=33
HNR Honiara 85.67 262 PFAKE 18 37 10.0 +11
HNR LR LR
comp=Z,2µm,21.0s,MS5.5
HNR Honiara 85.67 262 LR LR 19 08 59.0
comp=Z,2µm,20.1s,MS5.4,baz=176,slow=31
LBNH Lisbon 85.72 26 PFAKE 18 37 10.0 +11
LBNH LR LR
comp=Z,7µm,22.0s,MS6.0
STKA Stephens Creek 86.21 233 *e*P **P 18 37 00.7 -1.0**
comp=Z,7.7nm,1.4s,mb4.7
STKA Stephens Creek 86.21 233 P **P 18 37 00.3 -1.4**
comp=Z,12nm,1.2s,mb5.0,baz=120,slow=6.0,SNR=8.8
STKA LR LR 19 09 28.5
comp=Z,6µm,20.2s,MS6.0,baz=122,slow=32
PKME Peaks-Kenny Pk 87.55 27 PFAKE 18 37 20.0 +12
PKME LR LR
comp=Z,4µm,21.0s,MS5.8
EDM Edmonton 87.96 357 *e*P **P 18 37 08.5 -0.9**
ASCN Ascension 89.13 99 PFAKE 18 37 30.0 +14
ASCN LR LR
comp=Z,4µm,20.0s,MS5.8
FFC Flin Flon 89.57 4 *e*P **P 18 37 15.1 -1.9**
comp=Z,33nm,1.4s,mb5.5
FFC LR LR
comp=Z,10µm,20.0s,MS6.2

FFC Flin Flon 89.57 4 *e*P **P** **18 37 15.1 -1.8**
FFC pmax pmax
comp=Z,33nm,1.4s,mb5.5
FFC MLR MLR
comp=Z,10µm,20.0s,MS6.2
CTAO Charters Tower 90.21 245 PFAKE 18 37 30.0 +9.0
CTAO LR LR
comp=Z,3µm,19.0s,MS5.7
MIDW Midway 90.22 305 PFAKE 18 37 30.0 +9.3
MIDW LR LR
comp=Z,6µm,21.0s,MS6.0
WRAK Wrangell Islan 93.25 347 PFAKE 18 37 40.0 +6.0
WRAK LR LR
comp=Z,2µm,19.0s,MS5.6
FCC Fort Churchill 94.23 8 *e*P **P** **18 37 36.3 -2.1**
comp=Z,24nm,1.4s,mb5.4
FCC Fort Churchill 94.23 8 *e*P **P** **18 37 36.3 -2.1**
FCC pmax pmax
comp=Z,25nm,1.4s,mb5.5
SIT Sitka 94.42 346 PFAKE 18 37 50.0 +11
SIT LR LR
comp=Z,2µm,20.0s,MS5.6
SCHQ Schefferville 96.48 23 P **P** **18 37 46.5 -2.4**
SCHQ LR LR 19 16 02.8
SCHQ Schefferville 96.48 23 P **P** **18 37 46.5 -2.4**
comp=Z,6.1nm,1.0s,mb5.0,baz=221,slow=8.2,SNR=3.8
SCHQ LR LR 19 16 02.8
comp=Z,5µm,22.0s,MS5.9,baz=212,slow=32
ASAR Alice Springs 96.72 235 P **P** **18 37 49.4 -1.5**
comp=Z,3.5nm,1.2s,mb4.7,baz=146,slow=3.4,SNR=9.0
YKA Yellowknife Ar 97.28 357 P **P** **18 37 50.5 -1.8**
YKA PKKPbc PKKPbc 18 54 30.6 -2.2
YKA LR LR 19 17 13.4
YKA Yellowknife Ar 97.28 357 P **P** **18 37 50.5 -1.8**
comp=Z,2.6nm,0.9s,mb4.6,baz=171,slow=4.4,SNR=19
YKA PKKPbc PKKPbc 18 54 30.6 -2.2
comp=Z,0.6nm,0.8s,baz=339,slow=3.0,SNR=9.1
YKA LR LR 19 17 13.4
comp=Z,3µm,19.3s,MS5.8,baz=135,slow=33
SUR Sutherland 97.96 139 PFAKE 18 38 10.0 +14
SUR LR LR
comp=Z,6µm,22.0s,MS6.0
WRAB Tennant Creek 98.92 238 PFAKE 18 38 10.0 +9.2
WRAB LR LR
comp=Z,7µm,19.0s,MS6.2
WRA Warramunga Arr 98.92 238 P **P** **18 37 59.7 -1.2**
comp=Z,1.7nm,1.2s,mb4.5,baz=137,slow=4.5,SNR=6.2
WRA LR LR 19 18 44.3
comp=Z,6µm,18.8s,MS6.1,baz=155,slow=33
KDAK Kodiak Island 99.48 338 PFAKE 18 38 10.0 +7.7
KDAK LR LR
comp=Z,540nm,19.0s,MS5.1
NWAO Narrogin (SRO) 99.79 218 PFAKE 18 38 10.0 +5.7
NWAO LR LR
comp=Z,3µm,20.0s,MS5.7
UNV Unalaska Valle 101.54 329 PFAKE 18 38 20.0 +7.9
UNV LR LR
comp=Z,17µm,21.0s,MS6.5
PMR Palmer 101.67 342 PFAKE 18 38 20.0 +7.3
PMR LR LR
comp=Z,1µm,20.0s,MS5.5
EGAK Eagle 102.65 346 PFAKE 18 38 30.0 +13
EGAK LR LR
comp=Z,2µm,20.0s,MS5.6
MCK McKinley 103.43 343 PFAKE 18 38 30.0 +10
MCK LR LR
comp=Z,2µm,20.0s,MS5.6
COLA College 104.14 344 PFAKE 18 38 30.0 +6.3
COLA LR LR
comp=Z,3µm,20.0s,MS5.8
INK Inuvik 104.66 351 PKKPbc PKKPbc 18 54 08.9 -2.5
comp=Z,1.6nm,0.9s,baz=25,slow=7.6,SNR=5.2
LIC Lamto 104.83 93 *e*P Pdif 18 38 25.1 -1.6
LIC *e*MLR MLR
comp=Z,8µm,21.2s,MS5.9
LIC Lamto 104.83 93 *e*P Pdif 18 38 25.1 -1.6
LIC LR LR
comp=Z,4µm,21.3s,MS5.9
ADK Adak 104.87 324 PFAKE 18 38 40.0 +13
ADK LR LR
comp=Z,5µm,22.0s,MS6.0
TSUM Tsumeb 105.88 128 PFAKE 18 43 00.0 +16
TSUM LR LR
comp=Z,5µm,19.0s,MS6.1
MBWA Marble Bar 107.59 227 PFAKE 18 43 00.0 +12
MBWA LR LR
comp=Z,4µm,19.0s,MS6.0
SMY Shemya 109.99 321 PFAKE 18 43 00.0 +9.1
SMY LR LR
comp=Z,5µm,22.0s,MS6.1
TNA Tin City 110.13 338 PFAKE 18 43 00.0 +9.2
TNA LR LR
comp=Z,2µm,21.0s,MS5.7
GUMO Guam 110.95 272 PFAKE 18 43 00.0 +6.1
GUMO LR LR
comp=Z,3µm,20.0s,MS5.8
TORD Torodi Ar. Bea 114.16 91 PKP PKiKP 18 42 57.6 -2.4
TORD PP PP 18 43 51.2 -3.8
TORD PKKPbc PKKPbc 18 53 37.5 -1.8
TORD Torodi Ar. Bea 114.16 91 PKP PKiKP 18 42 57.6 -2.4
comp=Z,1.0nm,0.9s,baz=286,slow=1.3,SNR=3.9
TORD PP PP 18 43 51.2 -3.8
comp=Z,2.5nm,1.0s,baz=241,slow=7.7,SNR=4.5
TORD PKKPbc PKKPbc 18 53 37.4 -1.9
comp=Z,1.0nm,1.0s,baz=62,slow=3.0,SNR=3.2
PFVI Vila Bisbo 117.20 62 *e*PP PP 18 44 23.7 +7.5
PFVI Vila Bisbo 117.20 62 *e*SS SS 19 00 29.6 +3.7
PFVI Vila Bisbo 117.20 62 *e*LQ 19 11 44.5
PFVI *e*LR LR 19 20 06.2
comp=Z,2µm,18.0s
MORF Marmelete 117.40 62 *e*SS SS 19 00 37.2 +8.7
MORF Marmelete 117.40 62 *e*LR LR 19 22 32.0
comp=Z,2µm,20.0s
PMAFR Mafra 117.62 60 *e*SS SS 19 00 32.4 +1.1
PMAFR Mafra 117.62 60 *e*LQ 19 11 41.4
PMAFR Mafra 117.62 60 *e*LR LR 19 21 59.6
comp=Z,3µm,20.0s
PBDV Barranco-do-Ve 117.90 62 *e*PP PP 18 44 28.2 +7.1
PBDV Barranco-do-Ve 117.90 62 *e*SS SS 19 00 37.5 +2.5
PBDV Barranco-do-Ve 117.90 62 *e*LQ 19 11 32.3
PBDV *e*LR LR 19 20 24.2
comp=Z,2µm,22.0s
PVAQ Vaqueiros 118.12 62 *e*PP PP 18 44 22.4 -0.2
PVAQ Vaqueiros 118.12 62 *e*SS SS 19 00 41.0 +3.2
PVAQ Vaqueiros 118.12 62 *e*LQ 19 11 28.8
PVAQ *e*LR LR 19 20 40.2
comp=Z,2µm,22.0s
PBEJ Beja 118.27 62 *e*PP PP 18 44 31.7 +8.1
EVO Evora 118.36 61 *e*PP PP 18 44 23.8 -0.4
PET Petropavlovsk 118.50 317 PFAKE 18 43 20.0 +13
PET LR LR
comp=Z,5µm,20.0s,MS6.2
PESTR Estremoz 118.80 61 *e*PP PP 18 44 26.7 -0.6
PESTR Estremoz 118.80 61 *e*SS SS 19 00 51.5 +4.9
PESTR Estremoz 118.80 61 *e*LQ 19 11 47.8
PESTR *e*LR LR 19 21 14.9
comp=Z,2µm,22.0s
PBAR Barrancos 118.92 62 *e*SS SS 19 00 50.0 +1.8
PBAR Barrancos 118.92 62 *e*LQ 19 12 03.9
PBAR *e*LR LR 19 20 59.7
comp=Z,2µm,20.0s
PCBR Castelo Branco 119.26 60 *e*PP PP 18 44 31.2 +0.8
PVIS Viseu 119.30 59 *e*PP PP 18 44 31.1 +0.4
MTE Manteigas 119.43 59 *e*SS SS 19 00 57.6 +3.0
MTE Manteigas 119.43 59 *e*LQ 19 14 10.8
MTE *e*LR LR 19 20 52.5
comp=Z,3µm,20.0s
PCAB Cabril 119.58 58 *e*PP PP 18 44 33.5 +0.9
PVRL Vila Real 119.64 58 *e*PP PP 18 44 32.4 -0.6
BORG Borgarnes 120.04 30 PFAKE 18 43 20.0 +10
BORG LR LR
comp=Z,3µm,19.0s,MS5.9
MVO Moncorvo 120.08 59 *e*PP PP 18 44 36.1 +0.1
MVO Moncorvo 120.08 59 *e*SS SS 19 01 05.3 +2.4
MVO Moncorvo 120.08 59 *e*LQ 19 14 20.3
MVO *e*LR LR 19 21 13.6
comp=Z,2µm,22.0s
BILL Bilibino 120.12 334 *i* PKIKP PKPdf 18 43 08.5 -1.4
BILL *e* 18 44 32.2
BILL *e*PS PS 18 54 18.0 -7.2
BILL pmax pmax
comp=Z,5.0nm,1.9s
PBRG Braganca 120.51 58 *e*PP PP 18 44 38.4 -0.6
PAB San Pablo 121.39 61 PFAKE 18 43 20.0 +6.8
PAB LR LR
comp=Z,2µm,21.0s,MS5.8
ESDC Sonseca Array 121.71 61 PKP PKPdf 18 43 12.5 -1.3
comp=Z,0.7nm,0.5s,baz=260,slow=1.8,SNR=4.7
ESDC PP PP 18 44 46.4 -0.8
comp=Z,3.5nm,1.0s,baz=257,slow=5.9,SNR=4.3
ESLA Sonseca Array 121.71 61 PFAKE 18 43 20.0 +6.2
ESLA LR LR
comp=Z,5µm,20.0s,MS6.2
SEY Seymchan 124.43 327⇑ *e*PKIKP PKPdf 18 43 16.7 -1.6
MA2 Magadan 124.56 323 PFAKE 18 43 30.0 +11
MA2 LR LR
comp=Z,2µm,20.0s,MS5.8
ERM Erimo 124.76 300 PFAKE 18 43 30.0 +10
ERM LR LR
comp=Z,5µm,22.0s,MS6.2
SJPF Ste Jean 124.80 58 *e*PKIKP PKPdf 18 43 18.1 -1.5
comp=Z,24nm,1.0s
ETSF Etsaut 125.20 59 *e*PKIKP PKPdf 18 43 19.0 -1.4
EPF Esparros 125.87 59 *e*PKIKP PKPdf 18 43 20.5 -1.2
comp=Z,9.0nm,0.7s
JMIC Jan Mayen 126.00 23 *e*SS SS 19 02 18.2 +1.6
JMIC AMS AMS 19 30 08.3
comp=Z,863nm,23.4s,MS5.3
YSS Yuzh-Sakhalins 126.43 306 *e*PKPdf PKPdf 18 43 21.4 -1.2
YSS LR LR
comp=Z,3µm,19.0s,MS6.0
YSS Yuzh-Sakhalins 126.43 306 *i* PKIKP PKPdf 18 43 21.5 -1.1
YSS MLR MLR
comp=N,500nm,17.0s,MS5.6
YSS MLR MLR
comp=Z,1µm,17.0s,MS5.6
YSS MLR MLR
comp=E,1µm,18.0s,MS5.6
GRR Gorron 126.48 52 *e*PKIKP PKPdf 18 43 21.1 -1.5
MFF Saint Martin d 126.51 54 *e*PKIKP PKPdf 18 43 21.3 -1.5
ESK Eskdalemuir 126.51 43 PFAKE 18 43 30.0 +7.5
ESK LR LR
comp=Z,2µm,20.0s,MS5.7
MJAR Matsushiro Arr 126.63 292 PKP PKPdf 18 43 22.5 -0.9
comp=Z,3.5nm,0.9s,baz=130,slow=2.4,SNR=6.2
MAJO Matsushiro 126.63 292 PFAKE 18 43 30.0 +6.7
MAJO LR LR
comp=Z,3µm,22.0s,MS5.9
MAT Matsushiro 126.63 292 PP PP 18 45 17.0 -3.3
FLN La Foliniere 126.81 52 *e*PKIKP PKPdf 18 43 21.7 -1.6
comp=Z,34nm,1.1s
FLN *e*MLR MLR
comp=Z,2µm,19.2s,MS5.6
FLN La Foliniere 126.81 52 *e*PKIKP PKPdf 18 43 21.7 -1.6
FLN MLR MLR
comp=Z,2µm,19.3s,MS5.9
LDF La Druitiere 127.00 52 *e*PKIKP PKPdf 18 43 22.4 -1.2
comp=Z,24nm,1.2s
TCF Toulx Ste Croi 128.01 55 *e*PKIKP PKPdf 18 43 23.9 -1.7
BGF Bois d'Agland 128.50 55 *e*PKIKP PKPdf 18 43 25.2 -1.4
AVF Avril sur Loir 128.89 55 *e*PKIKP PKPdf 18 43 25.4 -1.9
SSF Saint Saulge 129.05 55 *e*PKIKP PKPdf 18 43 25.6 -2.0
SMF Signal de Mont 129.19 55 *e*PKIKP PKPdf 18 43 26.3 -1.6
comp=Z,29nm,1.3s
LOR Lormes 129.33 54 *e*PKIKP PKPdf 18 43 26.8 -1.3
comp=Z,8.2nm,0.9s
LOR *e*MLR MLR
comp=Z,3µm,22.5s,MS5.6
LOR Lormes 129.33 54 *e*PKIKP PKPdf 18 43 26.8 -1.3
LOR MLR MLR
comp=Z,3µm,22.5s,MS5.9
SMRF Simiane la Rot 129.79 59 *e*PKIKP PKPdf 18 43 27.5 -1.6
KBS Kingsbay 129.91 13 PFAKE 18 43 40.0 +12
KBS LR LR
comp=Z,4µm,22.0s,MS6.1
BAIF Baives 130.06 51 *e*PKIKP PKPdf 18 43 28.2 -1.2
comp=Z,12nm,1.1s
MEZF Maizieres J'vi 130.35 53 *e*PKIKP PKPdf 18 43 29.0 -1.0
FRF La Foret Royal 130.45 60 *e*PKIKP PKPdf 18 43 28.7 -1.7
KSM Kuching 130.63 236 *e*PKPdf PKPdf 18 43 31.1 -0.6
LPL La Plagne 130.93 57 *e*PKIKP PKPdf 18 43 30.2 -1.0
LPG La Plagne 130.94 57 *e*PKIKP PKPdf 18 43 30.0 -1.2
HAU Haudompre 131.12 54 *e*PKIKP PKPdf 18 43 29.9 -1.6
HAU *e*MLR MLR
comp=Z,2µm,20.2s,MS5.6
HAU Haudompre 131.12 54 *e*PKIKP PKPdf 18 43 29.9 -1.6
HAU MLR MLR
comp=Z,2µm,20.3s,MS5.9
WLF Walferdange 131.25 52 *e*PKPdf PKPdf 18 43 30.9 -0.8
HABR Khabarovsk 131.83 307 P Pdif 18 40 24.1 -2.7
HABR *e* 18 43 31.2
HABR *e* 18 43 32.6
HABR *e* 18 45 53.7
HABR *e* 18 48 43.9
HABR *e* 18 50 38.1
PGF Pioggiola 131.91 61 *e*PKIKP PKPdf 18 43 31.9 -1.3
KMBO Kilima Mbogo 132.05 131 PFAKE 18 43 50.0 +16
KMBO LR LR
comp=Z,5µm,21.0s,MS6.2
BFO Black Forest 132.48 54 *e*PKPdf PKPdf 18 43 34.5 +0.4
BFO *e*PP PP 18 46 03.1 +4.9
BFO LR LR
comp=Z,2µm,21.0s,MS5.7
BFO Black Forest 132.48 54 *e*PKPdf PKPdf 18 43 34.5 +0.4
BFO *e*PP PP 18 46 03.1 +4.9
IBBN Ibbenburen 132.56 48 *e*PP PP 18 46 02.4 +3.9
TIXI Tiksi 132.91 339 *e*PKPdf PKPdf 18 43 33.6 -0.6
TIXI LR LR
comp=Z,3µm,20.0s,MS6.0
TIXI Tiksi 132.91 339⇑ *i*PKIKP PKPdf 18 43 32.4 -1.8
KONO Kongsberg 133.66 38 PFAKE 18 43 50.0 +14
KONO LR LR
comp=Z,1µm,20.0s,MS5.7
KONO Kongsberg 133.66 38 *e*SS SS 19 03 50.1 -1.2
KONO AMS AMS 19 31 18.8
comp=Z,1µm,22.1s,MS5.5
UBBA Unterbreizbach 133.83 50 *e*PKPdf PKPdf 18 43 36.5 0.0
NRDL Niedersach Rie 134.01 48 *e*PKPdf PKPdf 18 43 36.0 -0.8
NRDL *e*PP PP 18 46 10.6 +2.8
KLR Kul'dur 134.09 307 *e*PKIKP PKPdf 18 43 32.8 -4.3
KLR pmax pmax
comp=Z,80nm,2.0s
CLZ Clausthal 134.13 49 *e*PKPdf PKPdf 18 43 35.8 -1.3
CLZ *e*PP PP 18 46 10.9 +2.3
BSEG Bad Segeberg 134.18 46 *e*PKPdf PKPdf 18 43 36.6 -0.5
BSEG *e*PP PP 18 46 10.6 +1.8
NB2 NORSAR Subarra 134.34 36 PKPdf PKPdf 18 43 36.1 -1.1
comp=Z,327nm,3.3s,baz=277,slow=1.9
NB2 NORSAR Subarra 134.34 36 PKPdf PKPdf 18 43 36.1 -1.1
baz=277,slow=1.9
NOA NORSAR Array B 134.34 36 PKP PKPdf 18 43 37.2 0.0
NOA NORSAR Array B 134.34 36 PKP PKPdf 18 43 37.2 0.0
comp=Z,1.1nm,0.8s,baz=285,slow=2.3,SNR=3.7
FUR Furstenfeldbru 134.41 54 *e*PKPdf PKPdf 18 43 36.6 -1.1
GRFO Grafenberg 134.52 52 PFAKE 18 43 50.0 +12
GRFO LR LR
comp=Z,2µm,20.0s,MS5.7
GRA1 Grafenberg Arr 134.52 52 *e*PKPdf PKPdf 18 43 37.1 -0.8
GRA1 *e*PP PP 18 46 12.8 +1.6
GRA1 *e*SS SS 19 04 05.0 +2.6
GRA1 LR LR
comp=Z,2µm,21.5s,MS5.8
GRF Grafenberg Arr 134.52 52 *e*PKPdf PKPdf 18 43 37.1 -0.8
GRF *e*PP PP 18 46 12.8 +1.6
GRF *e*SS SS 19 04 05.0 +2.6
GRF *e*L 19 40 14.2
comp=Z,2µm,21.5s
KSRS Korea Array 134.76 290 PKP PKPdf 18 43 38.9 +0.1
comp=Z,4.9nm,0.9s,baz=123,slow=3.8,SNR=7.6
MOX Moxa 134.84 51 *e*PKP PKPdf 18 43 38.6 +0.2
comp=Z,28nm,1.8s
MOX
comp=Z,1µm,21.0s
MOX Moxa 134.84 51 *e*PKIKP PKPdf 18 43 38.6 +0.2
MOX pmax pmax
comp=Z,28nm,1.8s
MOX MLR MLR
comp=Z,1µm,21.0s,MS5.6
MOX Moxa 134.84 51 *e*PKPdf PKPdf 18 43 38.0 -0.4
YAK Yakutsk 134.91 325 *e*PKPdf PKPdf 18 43 37.7 -0.5
YAK LR LR
comp=Z,4µm,22.0s,MS6.1
YAK Yakutsk 134.91 325 *i* PKIKP PKPdf 18 43 37.6 -0.6
YAK *i* SS SS 19 04 04.1 -2.0
YAK *i* SSS 19 09 07.5
YAK pmax pmax
comp=N,4.0nm,1.2s
YAK pmax pmax
comp=E,4.0nm,1.2s
YAK pmax pmax
comp=Z,18nm,1.2s
YAK pmax pmax
comp=Z,192nm,5.1s
YAK pmax pmax
comp=N,27nm,2.4s
YAK pmax pmax
comp=E,95nm,3.5s
MDJ Mudanjiang 134.98 301 PKP PKPdf 18 43 38.4 -0.5
MDJ PKS 18 47 12.9
MDJ SKS SKSdf 18 50 49.3 -0.6
MDJ PS PS 18 56 35.3 -0.6
MDJ SS SS 19 04 09.4 +1.1
MDJ PP PP
comp=Z,230nm,4.4s
MDJ LR LR
comp=N,2µm,20.4s,MS6.0
MDJ LR LR
comp=E,3µm,20.4s,MS6.0
MDJ LR LR
comp=Z,4µm,20.4s,MS6.1
MDJ Mudanjiang 134.98 301 PFAKE 18 43 50.0 +11
MDJ LR LR
comp=Z,4µm,22.0s,MS6.1
MANZ Manzenberg 135.12 52 *e*PKPdf PKPdf 18 43 38.4 -0.6
MANZ *e*PP PP 18 46 16.6 +1.7
ROTZ Rotzenmuhle 135.17 52 *e*PKPdf PKPdf 18 43 37.8 -1.3
TRO Tromso 135.31 23 *e*SS SS 19 04 17.5 +7.0
TRO AMS AMS 19 35 36.7
comp=Z,2µm,22.6s,MS5.7
NKC Novy Kostel 135.35 51 *e*PKPdf PKPdf 18 43 38.9 -0.5
NKC *e*pPKP pPKPdf 18 43 45.9 +3.1
NKC *e*SS SS 19 04 15.6 +3.3
TANN Tannenbergstha 135.37 51 *e*PKPdf PKPdf 18 43 38.7 -0.7
TANN *e*PP PP 18 46 16.4 -0.1
WET Wettzell 135.56 53 *e*PKPdf PKPdf 18 43 38.4 -1.4
TATO Taipei 135.69 271 PFAKE 18 43 50.0 +9.2
TATO LR LR
comp=Z,2µm,21.0s,MS5.8
CLL Collm 135.75 50 *e*PKPdf PKPdf 18 43 39.3 -0.8
CLL *e*PP PP 18 46 20.1 +1.2
CLL Collm 135.75 50 *e*PKPdf PKPdf 18 43 40.0 -0.1
comp=Z,11nm,1.2s
CLL *e*PP PP 18 46 20.0 +1.1
CLL *e*SS SS 19 04 18.0 +1.0
CLL L 19 38 00.0
comp=Z,2µm,21.5s
INCN Inchon 135.76 290 PFAKE 18 43 50.0 +9.4
INCN LR LR
comp=Z,3µm,21.0s,MS6.0
KHC Kasperske Hory 136.02 53 *e*PKP PKPdf 18 43 39.5 -1.2
KHC *e* 18 43 44.9
KHC *e* 18 46 25.0
KHC *e* 19 03 55.3
KHC *e* 19 09 27.4
KHC LR LR
comp=Z,2µm,19.6s,MS5.9
KHC Kasperske Hory 136.02 53 *e*PKIKP PKPdf 18 43 39.5 -1.2
KHC *e* 18 43 44.9
KHC *e* 18 46 25.0
KHC *e* 19 09 27.4
KHC MLR MLR
comp=Z,2µm,19.6s,MS5.9
KHC Kasperske Hory 136.02 53 *e*PKPpre 18 43 33.5
KHC *e*PKPdf PKPdf 18 43 39.5 -1.2
KHC *e*pPKP pPKPdf 18 43 44.9 +0.8
KHC *e*PP PP 18 46 25.0 +4.4
KHC *e*x x 19 03 55.3
KHC *e*x x 19 09 27.4
KHC AMS AMS 19 44 20.0
comp=Z,2µm,19.6s,MS5.9
GEC2 GERESS Array S 136.08 53 *e*PKPdf PKPdf 18 43 39.7 -1.1
GERES GERESS Array B 136.08 53 PKP PKPdf 18 43 39.0 -1.8
comp=Z,0.6nm,0.7s,baz=147,slow=2.7,SNR=7.3
BRG Berggiesshubel 136.33 51 *e*PKIKP PKPdf 18 43 40.0 -1.2
BRG pmax pmax
comp=Z,13nm,1.9s
BRG Berggiesshubel 136.33 51 *e*PKP PKPdf 18 43 40.0 -1.2
comp=Z,22nm,1.9s
BRG *i* 18 47 23.0
PRU Pruhonice 136.69 52 *e*PKPdf PKPdf 18 43 44.4 +2.5
PRU *e*SS SS 19 04 28.9 +0.6
PRU *e*x x 19 09 39.6
PRU AMS AMS 19 44 50.0
comp=Z,2µm,19.3s,MS5.9
PVCC Panska Ves 136.72 51 *e*PKPdf PKPdf 18 43 40.7 -1.2
PVCC AMS AMS 19 45 30.0
comp=Z,2µm,19.8s,MS5.8
BOJS Bojanci 136.84 58 *e*PKPdf PKPdf 18 43 44.4 +2.0
PERS Pernice 136.86 57 *e*PKPdf PKPdf 18 43 40.7 -1.6
CRES Cresnjev 137.02 58 *e*PKPdf PKPdf 18 43 43.3 +0.7
TREC Trest 137.28 53 *e*PKPdf PKPdf 18 43 43.8 +0.8
TREC AMS AMS 19 41 50.0
comp=Z,2µm,19.9s,MS5.9
UPC Upice 137.64 51 *e*PKPdf PKPdf 18 43 46.3 +2.7
UPC *e*PP PP 18 46 34.9 +4.2
KEV Kevo 137.76 21 PFAKE 18 43 50.0 +6.7
KEV LR LR
comp=Z,2µm,22.0s,MS5.8
CN2 Changchun 137.82 299 *e*PKP PKPdf 18 43 46.0 +1.8
CN2 PP PP 18 46 38.1 +6.0
CN2 SS SS 19 04 47.1 +4.9
CN2 PP PP
comp=Z,200nm,5.0s
CN2 LR LR
comp=N,1µm,20.0s,MS5.7
CN2 LR LR
comp=E,1µm,20.0s,MS5.7
CN2 LR LR
comp=Z,2µm,21.0s,MS5.8
DPC Dobruska-Polom 137.84 51 *e*PKPdf PKPdf 18 43 45.9 +1.9
DPC *e*x x 19 04 30.2
DPC *e*x x 19 09 56.4
DPC AMS AMS 19 48 30.0
comp=Z,2µm,18.1s,MS5.8
QZH Quanzhou 138.06 269 PKP PKPdf 18 43 43.6 -1.6
QZH PP PP 18 46 35.0 +1.1
QZH SS SS 19 04 42.8 -2.8
QZH LR LR
comp=N,2µm,19.0s,MS6.0
QZH LR LR
comp=E,2µm,17.2s,MS6.0
QZH LR LR
comp=Z,2µm,24.2s
CLNS Chul'man 138.09 318 *e*PKIKP PKPdf 18 43 41.9 -2.3
CLNS pmax pmax
comp=N,8.0nm,0.9s
CLNS pmax pmax
comp=Z,13nm,0.9s
CLNS pmax pmax
comp=E,12nm,1.0s
SSE Sheshan 138.25 279 PKP PKPdf 18 43 41.9 -3.5
SSE PP PP 18 46 39.3 +4.2
SSE SS SS 19 04 49.5 +1.6
SSE LR LR
comp=N,636nm,29.0s,MS5.5
SSE LR LR
comp=E,967nm,28.8s,MS5.5
SSE LR LR
comp=Z,1µm,24.2s,MS5.6
ZST *e* 18 54 13.8
ZST Bratislava 138.31 55 *e*PP PP 18 46 31.5 -3.4
ZST *e*SKKSac SKKSac 18 54 13.8 +45
ZST Bratislava 138.31 55 *e*PP PP 18 46 31.5 -3.4
MODS Modra-Piesok 138.43 54 *e*PKP 18 43 35.9
MODS *e* PKPdf 18 43 48.3 +3.2
MODS *e*PP PP 18 46 31.1 -4.6
OKC Ostrava-Krasne 139.01 52 *e*PKP PKPdf 18 43 50.0 +3.8
OKC *e* 18 43 57.2
OKC Ostrava-Krasne 139.01 52 *e*PKIKP PKPdf 18 43 50.0 +3.8
OKC *e* 18 43 57.2
OKC Ostrava-Krasne 139.01 52 *e*PKPdf PKPdf 18 43 50.0 +3.8
OKC *e*x x 18 43 57.2
OKC AMS AMS 19 40 10.0
comp=Z,2µm,18.3s,MS5.8
PKSM Moragy 139.26 58 ⇑P PKPdf 18 43 48.1 +1.3
PKSM Moragy 139.26 58⇑ *i*P PKPdf 18 43 48.1 +1.4
VYHS Vyhne 139.47 54 *e*PKP PKPdf 18 43 39.8 -7.2
VYHS *e* 18 43 49.6
VYHS *e*PP PP 18 46 40.0 -2.1
DL2 Dalian 139.92 291 PKP PKPdf 18 43 51.1 +2.9
DL2 PP PP 18 46 46.4 +1.2
DL2 SS SS 19 05 08.8 +1.6

DL2 PP PP
comp=Z,220nm,5.0s
DL2 LR LR
comp=N,840nm,21.2s,MS5.6
DL2 LR LR
comp=E,820nm,21.8s,MS5.6
DL2 LR LR
comp=Z,2μm,24.4s,MS5.8
RLS Riolos of Patr 140.32 71 *e*P PKPdf 18 43 49.0 +0.1
EVR Evrytania 140.74 69 *e*P PKPdf 18 43 45.7 -4.0
FINES FINESS Array B 141.20 33 PKP PKPdf 18 43 48.8 -1.0
FINES FINESS Array B 141.20 33 PKhKP 18 43 42.0
comp=Z,0.4nm,0.5s,baz=176,slow=34,SNR=5.2
FINES PKP PKPdf 18 43 48.8 -1.0
comp=Z,1.4nm,0.7s,baz=270,slow=2.9,SNR=5.6
BZS Buzias 141.31 59⇑*i*P PKPdf 18 43 56.7 +6.2
UZH Uzhgorod 141.76 54 *e*PKIKP PKPdf 18 43 50.0 -1.2
UZH MLR MLR
comp=Z,900nm,16.0s,MS5.6
HIA Hailar 141.95 307 PFAKE 18 44 00.0 +8.5
HIA LR LR
comp=Z,2μm,20.0s,MS6.0
KWP Kalwaria 141.98 52 *e*PKPdf PKPdf 18 43 49.3 -2.2
ATH Athens Observa 142.05 71 *e*P PKPdf 18 43 48.2 -3.9
QIZ Qiongzhong 142.32 255 PKP PKPdf 18 43 52.5 -0.6
QIZ PP PP 18 47 03.3 +3.3
QIZ SS SS 19 05 34.0 -1.4
QIZ PP PP
comp=Z,225nm,9.0s
QIZ LR LR
comp=E,733nm,26.9s
QIZ LR LR
comp=Z,2μm,34.4s
QIZ Qiongzhong 142.32 255 PFAKE 18 44 00.0 +6.9
QIZ LR LR
comp=Z,1μm,21.0s,MS5.6
LVV L'vov 142.82 52 *e*PKIKP PKPdf 18 44 00.5 +7.5
BOD Bodaibo 143.58 322 *e*PKHKP 18 43 49.0
BOD pmax pmax
comp=Z,61nm,1.8s
VOIR 143.72 59⇑*i*P PKPdf 18 44 02.4 +7.6
RDO Rodhopi 143.88 66 *e*P PKPdf 18 43 52.7 -2.5
ZIMR 143.91 62 PKIKP PKPdf 18 44 00.5 +5.3
PRK Paraskevi 144.22 70 *e*P PKPdf 18 43 51.3 -4.6
BJI Beijing 144.26 292 PKP PKPdf 18 43 53.1 -2.8
BJI PP PP 18 47 09.8 -1.7
BJI PP PP
comp=Z,361nm,6.5s
BJI LR LR
comp=N,1μm,25.9s,MS5.7
BJI LR LR
comp=E,1μm,28.4s,MS5.7
BJI LR LR
comp=Z,3μm,27.4s,MS6.0
BJT Baijiatuau 144.26 292 *e*PKPdf PKPdf 18 43 52.6 -3.3
BJT LR LR
comp=Z,3μm,21.0s,MS6.0
MNK Minsk 144.30 43 *e*PKHKP 18 43 51.0
MLR Muntele Rosu 144.35 59 P PKPdf 18 43 55.3 -0.5
MLR Muntele Rosu 144.35 59 PKP PKPdf 18 43 53.4 -2.5
comp=Z,11nm,1.0s,baz=156,slow=0.5,SNR=13
MLR Muntele Rosu 144.35 59⇑*i*P PKPdf 18 43 53.6 -2.3
URLA Izmir 144.35 71 *i*P PKPdf 18 43 48.9 -7.2
SMG Samos 144.44 72 *e*P PKPdf 18 43 50.2 -6.1
TMCR Tamitsa 144.55 24 *i*PKIKP PKPdf 18 43 52.3 -3.3
VRI Vrincioaia 144.89 58⇑⇑P PKPdf 18 44 00.8 +4.0
VRI Vrincioaia 144.89 58⇑*i*P PKPdf 18 44 00.8 +4.0
SART Tekirdag 145.08 67 *i*P PKPbc 18 43 51.1 -5.7
ARG Arkhangelos 145.19 75 *e*P PKPbc 18 43 58.3 +1.0
AKHS Akhisar 145.37 71 *i*P PKPbc 18 43 54.4 -3.4
CIT Chita 145.47 313 *e*PKIKP PKPdf 18 43 56.6 -1.0
CIT pmax pmax
comp=Z,514nm,2.0s
HARR Harsova 145.77 60 P PKPdf 18 43 58.4 0.0
HARR Harsova 145.77 60⇓*i*P PKPdf 18 43 57.4 -0.9
NNT Nongplab 145.85 236 P PKPdf 18 44 02.0 +2.6
KIEV Kiev 145.99 49 *e*PKPdf PKPdf 18 43 56.7 -1.8
KIEV LR LR
comp=Z,2μm,20.0s,MS5.8
AKASG Malin Array Be 146.00 49 PKPbc PKPbc 18 43 56.4 -3.0
comp=Z,13nm,1.1s,baz=274,slow=3.8,SNR=20
TIRR Tirgusor 146.12 61 P PKPdf 18 43 59.5 +0.6
TIRR Tirgusor 146.12 61⇑*i*P PKPdf 18 43 58.3 -0.6
KIS Kishinev 146.26 56 *i*PKIKP PKPdf 18 43 58.0 -1.1
KIS *e* 18 47 32.0
KIS pmax pmax
comp=Z,1μm,3.0s
KIS pmax pmax
comp=Z,2μm,4.0s
KIS MLR MLR
comp=N,2μm,22.0s
KIS MLR MLR
comp=Z,2μm,22.0s,MS5.8
KIS MLR MLR
comp=Z,3μm,20.0s
AKAS Kas 146.37 76 *i*P PKPdf 18 43 56.6 -3.1
TIY Taiyuan 146.86 287 *e*PKP PKPdf 18 44 01.5 +1.1
TIY PKP2 PKPab 18 44 07.3 +3.6
TIY PP PP 18 47 30.8 +3.7
TIY LR LR
comp=N,477nm,13.8s,MS5.8
TIY LR LR
comp=E,1μm,16.3s,MS5.8
TIY LR LR
comp=Z,2μm,20.7s,MS5.9
ISP Isparta 147.33 73 *e*PKPbc PKPbc 18 44 04.3 +0.7
BORA Eskisehir 147.50 69 *i*P PKPdf 18 43 59.9 -1.6
NST Nakhon Sawan 147.69 241 P PKPdf 18 44 02.0 -0.4
comp=Z,46nm,1.7s
ESKT Eskisehir 147.78 70 *i*P PKPdf 18 43 58.8 -3.1
HHC Hu-ho-hao-te 147.83 293 *e*PKP PKPdf 18 44 03.8 +1.9
HHC PKS 18 47 35.8
HHC PP PP 18 47 37.8 +5.1
HHC SKS SKSdf 18 51 10.0 -0.4
HHC PP PP
comp=Z,825nm,6.1s
HHC LR LR
comp=N,715nm,20.1s,MS5.7
HHC LR LR
comp=E,1μm,21.1s,MS5.7
HHC LR LR
comp=Z,2μm,20.6s,MS5.8
HENT Hendek 147.91 67 *i*P PKPdf 18 43 59.9 -2.2
GYA Guiyang 148.46 264 *i*PKP PKPdf 18 44 02.6 -0.8
GYA PKP2 PKPab 18 44 11.3 +0.9
GYA PKS 18 47 35.9
GYA PP PP 18 47 38.6 +2.0
GYA PPP 18 50 59.8
GYA SKS SKSdf 18 51 08.0 -4.0
GYA SKKS SKKSac 18 54 26.0 -2.0
GYA SS SS 19 06 44.5 -1.2
GYA SSS 19 12 20.8
GYA PP PP
comp=Z,250nm,7.9s
GYA LR LR
comp=N,1μm,23.8s,MS5.9
GYA LR LR
comp=E,2μm,24.6s,MS5.9
GYA LR LR
comp=Z,2μm,26.5s,MS5.8
KDHN Kadinhani 148.67 72 *i*P PKPdf 18 43 58.8 -4.6
OBN Obninsk 148.83 39 *e*PKPbc PKPbc 18 44 05.3 -1.7
OBN LR LR
comp=Z,2μm,21.0s,MS5.9
OBN Obninsk 148.83 39 *i*PKP2 PKPbc 18 44 05.1 -1.9
OBN *e* 18 47 46.4
OBN pmax pmax
comp=Z,75nm,1.4s
BTO Baotou 148.99 292 *e*PKP PKPdf 18 44 05.9 +2.0
XAN Xi'an 149.01 279 PKP PKPbc 18 44 07.8 -0.4
XAN PP PP
comp=Z,381nm,8.7s
XAN LR LR
comp=N,432nm,31.0s
XAN LR LR
comp=E,1μm,36.9s
XAN LR LR
comp=Z,2μm,41.4s
MOS Moscow 149.09 37 *e*PKHKP 18 44 00.9
MOS *e* 18 47 37.3
MOS *e* 18 51 01.7
MOS pmax pmax
comp=Z,70nm,1.4s
MOS pmax pmax
comp=Z,1μm,3.1s
MOS MLR MLR
comp=Z,2μm,18.1s,MS5.9
CSS Prodhromos 149.11 79 *e*PKPbc PKPbc 18 44 07.5 -0.8
ANTO Ankara 149.30 69 *e*PKPbc PKPbc 18 44 08.0 -0.7
ANTO LR LR
comp=Z,1μm,21.0s,MS5.7
ANTO Ankara 149.30 69 PKPdf PKPbc 18 44 08.1 -0.6
BDT Bhumibol Dam 149.54 242 P PKPbc 18 44 10.0 +0.1
comp=Z,20nm,0.9s
BALT Daday 149.80 66 *i*P PKPdf 18 44 03.1 -2.0
ELDT Eldivan 149.81 68 *i*P PKPbc 18 44 09.7 -0.3
SIM Simferopol' 150.14 59 *i*PKIKP PKPbc 18 44 09.8 -0.8
SIM MLR MLR
comp=Z,2μm,19.0s,MS5.9
ULN Ulaanbaatar 150.48 307 PFAKE 18 44 20.0 +14
ULN LR LR
comp=Z,3μm,20.0s,MS6.1
CDAG Cicekdag 150.50 70 *i*P PKPdf 18 44 02.0 -4.2
CHG Chiang Mai 150.59 244⇑P PKPbc 18 44 11.4 -1.0
comp=Z,150nm,1.0s
CHTO Chiang Mai 150.59 244 *e*PKPdf PKPdf 18 44 06.2 -0.9
CHTO *e*PKPbc PKPbc 18 44 12.0 -0.4
CHTO LR LR
comp=Z,1μm,20.0s,MS5.7
BHL Bhannes 150.78 82 *e*P PKPdf 18 44 07.1 +0.2
AVNT Avonos 150.83 72 *i*P PKPdf 18 44 06.4 -0.4
IRK Irkutsk 150.85 316⇓*i*PKIKP PKPbc 18 44 11.3 -0.7
IRK *e* 18 51 07.6
IRK pmax pmax
comp=Z,318nm,2.0s
SONM Songino Array 150.92 307 PKP PKPdf 18 44 05.0 -1.7
comp=Z,8.7nm,0.9s,baz=153,slow=1.0,SNR=8.3
SONM PKPbc PKPbc 18 44 10.5 -1.8
comp=Z,25nm,0.9s,baz=138,slow=1.8,SNR=59
PALK Pallekele 151.03 200 *e*PKPbc PKPbc 18 44 12.6 -1.0
PALK LR LR
comp=Z,3μm,19.0s,MS6.1
KMI Kunming 151.07 259 PKP PKPdf 18 44 06.1 -1.5
KMI APKP 18 44 13.8
KMI PKP2 PKPab 18 44 21.4 +0.3
KMI PP PP 18 47 52.9 +1.3
KMI PPP 18 51 17.0
KMI PP PP
comp=Z,389nm,5.4s
KMI LR LR
comp=N,617nm,18.5s,MS5.7
KMI LR LR
comp=E,951nm,20.1s,MS5.7
KMI LR LR
comp=Z,1μm,23.1s,MS5.6
ASF Jabal al Asfar 151.38 86 PKPbc PKPbc 18 44 12.5 -1.4
comp=Z,7.1nm,0.9s,baz=137,slow=2.3,SNR=11
TLY Talaya 151.42 316 *e*PKPbc PKPbc 18 44 12.6 -0.8
TLY LR LR
comp=Z,6μm,22.0s,MS6.3
TLY Talaya 151.42 316*ce*PKIKP PKPdf 18 44 07.5 +0.2
TLY *i* 18 44 12.7
TLY pmax pmax
comp=Z,51nm,1.0s
VOR Voronezh 151.68 44 *e*PKIKP PKPdf 18 44 07.0 -0.7
VOR pmax pmax
comp=Z,300nm,3.0s
COBT Iskenderun 151.71 77 *i*P PKPdf 18 44 09.7 +1.5
VRSR Storozhevoye 151.88 45 *e*PKIKP PKPbc 18 44 13.4 -1.0
VRSR pmax pmax
comp=N,4.0nm,0.9s
VRSR pmax pmax
comp=E,2.0nm,0.9s
VRSR pmax pmax
comp=Z,6.0nm,0.9s
ANDN Andirin 151.90 74 *i*P PKPdf 18 44 08.6 +0.1
ZAK Zakamensk 152.12 313 *e*PKIKP PKPdf 18 44 07.8 -0.6
ZAK *i* 18 44 13.9
ZAK pmax pmax
comp=Z,3.0nm,2.0s
ZAK pmax pmax
comp=Z,21nm,1.8s
CD2 Chengdu 152.43 271 *e*PKP PKPdf 18 44 08.0 -1.5
CD2 APKP 18 44 14.5
CD2 PKP2 PKPab 18 44 25.8 -0.8
CD2 PP PP 18 48 01.8 +2.3
CD2 SKS SKSdf 18 51 10.3 -6.6
CD2 SKKS SKKSac 18 54 43.8 -6.0
CD2 PP PP
comp=Z,750nm,8.4s
CD2 LR LR
comp=N,1μm,20.4s,MS6.1
CD2 LR LR
comp=E,3μm,20.4s,MS6.1
CD2 LR LR
comp=Z,3μm,22.8s,MS6.1
ANN Anapa 152.50 59 *i*PKIKP PKPdf 18 44 08.3 -0.8
ANN pmax pmax
comp=Z,97nm,2.3s
GZT Gaziantep 152.84 75 *i*P PKPdf 18 44 06.4 -3.5
MOY Mondy 152.93 317 *e*PKIKP PKPdf 18 44 09.4 -0.1
MOY pmax pmax
comp=Z,142nm,2.6s
MALT Malatya 153.60 73 *e*PKPdf PKPdf 18 44 10.7 -0.2
MALT Malatya 153.60 73⇑*i*P PKPdf 18 44 11.0 0.0
KEMA Kemaliye 153.68 71 *i*P PKPdf 18 44 04.2 -6.8
SOC Sochi 154.31 61 *e*PKIKP PKPdf 18 44 11.3 -0.5
SOC *e* 18 48 10.4
SOC *e*PPP 18 51 39.0
SOC *e*SS SS 19 07 52.2 +2.5
SOC pmax pmax
comp=Z,36nm,1.1s
KOPT Kop Dagi 155.22 69 *i*P PKPdf 18 44 11.9 -1.3
MARD Mardin 155.40 76 *i*P PKPdf 18 44 11.9 -1.6
BNGL BINGOL 155.75 72 *i*P PKPdf 18 44 13.0 -0.9
ARTV Artvin 156.24 66 *i*P PKPdf 18 44 11.9 -2.6
HOMI Horasan 156.30 69 *i*P PKPdf 18 44 14.1 -0.5
KIV Kislovodsk 156.36 59 PFAKE 18 44 30.0 +15
KIV LR LR
comp=Z,2μm,22.0s,MS5.9
KIV Kislovodsk 156.36 59 *e*PKIKP PKPdf 18 44 18.2 +3.7
KIV *e* 18 48 21.4
KIV *i*SS SS 19 08 13.6 +1.9
KIV pmax pmax
comp=Z,7.0nm,1.2s
GTA Gaotai 156.82 289 PKP PKPdf 18 44 13.5 -1.8
GTA APKP 18 44 18.5
GTA XPKP 18 44 21.5
GTA PP PP 18 48 24.8 +0.9
GTA SKS SKSdf 18 51 13.3 -8.1
GTA PPP 18 52 03.4
GTA SKKS SKKSac 18 55 13.5 +0.5
GTA SS SS 19 08 20.6 +3.4
GTA PP PP
comp=Z,455nm,12.2s
GTA LR LR
comp=N,659nm,28.1s,MS5.6
GTA LR LR
comp=E,1μm,25.5s,MS5.6
GTA LR LR
comp=Z,2μm,25.8s,MS5.9
ARU Arti 156.92 18 *e*PKPdf PKPdf 18 44 15.5 +0.6
ARU *e*PKPab PKPab 18 44 45.7 +0.9
ARU LR LR
comp=Z,3μm,22.0s,MS6.1
ARU Arti 156.92 18 *i*PKIKP PKPdf 18 44 12.3 -2.5
TUTA Tutak 157.03 71 *i*P PKPdf 18 44 13.0 -2.6
ONI Oni 157.17 62 P PKPdf 18 44 15.6 -0.1
DIGO Kars 157.40 68 *i*P PKPdf 18 44 15.2 -0.8
HAKT HAKKARI 157.74 75 *i*P PKPdf 18 44 13.0 -3.5
MTA Mtatsminda 158.31 64 P PKPdf 18 44 15.8 -1.3
NVS Novosibirsk 158.48 341 *i*PKIKP PKPdf 18 44 13.9 -2.9
NVS *i* 18 48 33.4
NVS pmax pmax
comp=Z,77nm,2.0s
NVS pmax pmax
comp=N,26nm,1.9s
NVS pmax pmax
comp=E,30nm,1.9s
ZAA0 Zalesovo Array 158.79 337 *e*PKPdf PKPdf 18 44 15.0 -2.2
ZAA0 *e*PKPdif 18 44 26.5
ZAA0 *e*PKPab PKPab 18 44 52.5 -0.5
ZALV Zalesovo Beam 158.79 337 PKP PKPdf 18 44 14.4 -2.8
comp=E,5.8nm,1.0s,baz=117,slow=2.0,SNR=10
ZALV PKPab PKPab 18 44 52.8 -0.2
comp=E,14nm,1.0s,baz=28,slow=3.5,SNR=11
ZAL Zalesovo 158.80 337 PKIKP PKPdf 18 44 14.5 -2.8
AGT Agartala 159.34 243 *ex* x 18 44 14.0
SHL Shillong 159.83 248 *e*P PKPdf 18 44 19.0 -0.4
MAK Makhachkala 160.00 60 *e*PKIKP PKPdf 18 44 20.3 +1.3
MAK pmax pmax
comp=Z,112nm,1.7s
MAK MLR MLR
comp=Z,3μm,22.0s
HYB Hyderabad 161.28 202 *i*PKP PKPab 18 45 06.0 +1.3
AKTO Aktyubinsk 161.85 28 PP PP 18 48 50.1 0.0
comp=Z,4.4nm,1.2s,baz=316,slow=4.9,SNR=3.7
BRVK Borovoye 161.95 2 PFAKE 18 44 30.0 +9.2
BRVK LR LR
comp=Z,2μm,20.0s
BVAR Borovoye Array 161.99 2 PP PP 18 48 50.4 0.0
comp=Z,2.1nm,1.0s,baz=140,slow=0.6,SNR=5.2
LSA Lhasa 162.32 258 PKP PKPdf 18 44 22.0 +0.1
LSA Lhasa 162.32 258 *e*PKIKP PKPdf 18 44 21.5 -0.4
LSA MLR MLR
comp=Z,3μm,22.0s
KURK Kurchatov 163.40 343 *e*PKPdf PKPdf 18 44 19.1 -3.1
KURK *e*PKPab PKPab 18 45 11.6 -1.6
KURK LR LR
comp=Z,5μm,21.0s
POO Poona 163.41 189⇑*i*x x 18 44 28.0
comp=Z,107nm,1.5s
WMQ Urumqi 164.52 310 PKP PKPdf 18 44 21.5 -2.0
WMQ APKP 18 44 32.0
WMQ PKP2 PKPab 18 45 18.0 -0.5
WMQ PKS 18 47 53.0
WMQ PP PP 18 49 06.0 +1.1
WMQ PP PP
comp=Z,567nm,5.7s
WMQ LR LR
comp=N,2μm,20.4s
WMQ LR LR
comp=E,2μm,21.6s
WMQ LR LR
comp=Z,3μm,23.0s
MK31 Makanchi Array 165.56 328 *e*PKPdf PKPdf 18 44 22.4 -1.9
MK31 *e*PKPab PKPab 18 45 23.6 +0.7
MKAR Makanchi Array 165.56 328 PKP PKPdf 18 44 21.6 -2.7
comp=Z,0.5nm,0.9s,baz=345,slow=1.9,SNR=6.5
MKAR PKPab PKPab 18 45 23.9 +1.0
comp=Z,2.5nm,0.9s,baz=41,slow=4.1,SNR=6.1
MKAR PP PP 18 49 09.2 -0.5
comp=Z,3.8nm,1.1s,baz=81,slow=3.8,SNR=5.6
TKM2 Tokmak 2 171.39 338 PFAKE 18 44 40.0 +12
TKM2 LR LR
comp=Z,3μm,21.0s
FRU Bishkek 171.75 342 *e*PKIKP PKPdf 18 44 27.0 -1.5
FRU *e* 18 49 43.0
FRU *e* 18 53 46.0
FRU pmax pmax
comp=Z,220nm,3.0s
FRU MLR MLR
comp=Z,4μm,22.0s
EKS2 Erkin-Say 172.10 346 *e*PKPdf PKPdf 18 44 27.1 -1.6
EKS2 LR LR
comp=Z,3μm,22.0s
UCH Uchtor 172.34 341 *e*PKPdf PKPdf 18 44 29.1 +0.3
UCH LR LR
comp=Z,4μm,22.0s
AML Almayashu 172.63 345 *e*PKPdf PKPdf 18 44 28.9 0.0
AML LR LR
comp=Z,4μm,21.0s
KSH Kashi 174.10 321 *e*PKP PKPdf 18 44 30.5 +1.0
KSH *e*PKP2 PKPab 18 46 07.5 +6.6
KSH *e*PP PP 18 50 00.9 +8.0
KSH SKS SKSdf 18 51 32.6 0.0
KSH PPP 18 54 15.4
KSH PP PP
comp=Z,2μm,6.8s
KSH LR LR
comp=N,2μm,12.8s
KSH LR LR
comp=E,2μm,9.3s
KSH LR LR
comp=Z,2μm,14.6s
KBL Kabul 178.18 104 *e*PKPdf PKPdf 18 44 30.8 +0.2
KBL *e*PKPab 18 46 18.3

IDC 13 18:27:53.9±53.0, 1838S×17977E, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.8/14, mbtmp3.9/3, Error ellipse: s-maj=948.1km s-min=154.1km az=79.0, Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**36.89**	**241**	P	P	18 35 04.9	+0.6
	1.6nm,0.9s,baz=82,slow=14,SNR=3.1						
WRA	**Warramunga Arr**	**42.85**	**260**	P	P	18 35 53.8	-0.3
	0.5nm,0.5s,baz=97,slow=7.3,SNR=21						
ASAR	**Alice Springs**	**43.00**	**255**	P	P	18 35 55.0	-0.3
	2.9nm,0.7s,baz=88,slow=9.0,SNR=82						

*ISCJB **13** 18:42:39.0±0.9, 57.1S±0.1×248W±05, h10km, mb3.9/5, Error ellipse: s-maj=38.6km s-min=13.5km az=158.3*
*IDC **13** 18:42:38.8±1.0, 57.12S×249.9W, h0km, mb4.0/4, mb1 4.1/5, mb1mx3.9/16, mbtmp3.9/5, ML3.8/1, Error ellipse: s-maj=46.7km s-min=22.7km az=77.0*

ISC 13 18:42:40.8±0.9, 571S±01×248W±05, h10km, n11, σ0.9s84/9, mb3.9/5, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNA1	**Neumayer--Stat**	**15.34**	**159**	*e*P	**Pn**	**18 46 17.8**	**+0.8**
VNA1				*e*		18 46 20.5	
VNA1				*e*		18 46 22.1	
VNA1				*e*		18 46 27.0	
VNA3	**Neumayer Olymp**	**15.58**	**162**	*e*P	**Pn**	**18 46 20.5**	**+0.4**
VNA3				*e*		18 46 23.0	
VNA3				*e*		18 46 25.0	
VNA3				*e*		18 46 27.8	
VNA2	**Neumayer--Watz**	**15.73**	**159**	*e*P	**Pn**	**18 46 22.2**	**+0.1**
	baz=324,slow=15						
VNA2				*e*		18 46 24.9	
VNA2				*e*		18 46 26.6	
VNA2				*e*		18 46 30.7	
SNAA	**Sanae**	**17.25**	**157**	P	**Pn**	**18 46 41.9**	**+0.5**
	0.3nm,0.3s,baz=330,slow=17,SNR=81						
QSPA	**South Pole Qui**	**33.16**	**180**	P	**P**	**18 49 15.7**	**-1.1**
	0.9nm,0.6s,mb3.9,baz=95,slow=6.3,SNR=6.9						
VNDA	**Vanda**	**45.59**	**182**	P	**P**	**18 51 00.3**	**0.0**
	0.8nm,0.6s,mb3.9,baz=176,slow=5.2,SNR=5.9						
LPAZ	**La Paz**	**52.07**	**303**	P	**P**	**18 51 51.6**	**+0.9**
	2.2nm,0.6s,mb4.2,baz=180,slow=5.8,SNR=9.3						
TORD	**Torodi Ar. Bea**	**73.34**	**27**	P	**P**	**18 54 12.6**	**+0.1**
	0.4nm,0.7s,mb3.5,baz=199,slow=7.1,SNR=5.9						
ASAR	**Alice Springs**	**97.58**	**160**	P	**P**	**18 56 13.3**	**-1.9**
	0.3nm,0.7s,mb3.9,baz=182,slow=4.7,SNR=5.2						
YKA	**Yellowknife Ar**	**137.84**	**316**	PKP	PKPdf	19 02 02.6	-1.2
	0.2nm,0.4s,baz=129,slow=2.6,SNR=5.6						
INK	**Inuvik**	**147.46**	**319**	PKPbc	PKPbc	19 02 21.9	-1.4
	1.0nm,0.6s,baz=23,slow=3.7,SNR=5.3						

IDC 13 19:00:38.8±6.1, 2089S×17727W, h0km, mb3.7/3, mb1 3.8/3, mb1mx3.6/14, mbtmp3.7/3, MS4.2/1, Ms1 4.2/1, ms1mx3.8/17, Error ellipse: s-maj=183.4km s-min=98.1km az=145.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**17.98**	**194**	LR	LR	19 10 55.9	
	comp=Z,780nm,18.1s,baz=101,slow=34						
STKA	**Stephens Creek**	**38.23**	**245**	P	P	19 08 00.4	-0.3
	0.5nm,0.5s,baz=80,slow=12,SNR=3.7						
ASAR	**Alice Springs**	**45.09**	**257**	P	P	19 08 56.8	-0.2
	0.8nm,0.7s,baz=101,slow=7.4,SNR=14						
WRA	**Warramunga Arr**	**45.22**	**262**	P	P	19 08 58.2	+0.2
	0.3nm,0.3s,baz=96,slow=8.2,SNR=36						
NOA	**NORSAR Array B**	**139.44**	**354**	PKP	PKPdf	19 20 07.2	-0.4
	0.8nm,0.9s,baz=21,slow=4.0,SNR=3.5						

*NEIC **13** 19:02:55.2, 1888N×6772W, h43km, MD3.2(RSPR), After RSPR.*

RSPR 13 19:02:55.2, 1888N×6772W, h43km±13km, MD3.2/14, MD3.2/14, 10C-3D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AGPR	**Aguadilla, PR**	**0.70**	**125**⇑	*e*P	Pn	19 03 06.5	-2.2
AGPR				*e*S	Sn	19 03 18.1	-0.4
IMO	**Isla Mona**	**0.78**	**193**⇑	*e*P	Pn	19 03 07.9	-2.0

IMO				eS	Sn	19 03 19.1	-1.4
LSP	**Las Mesas**	**0.92**	**139**⇑	eP	Pn	19 03 10.3	-1.3
LRS	**Lares**	**1.01**	**125**⇓	iP	Pn	19 03 11.4	-1.5
LRS				eS	Sn	19 03 24.5	-1.5
CRPR	**Cabo Rojo, PR**	**1.04**	**146**⇑	eP	Pn	19 03 12.2	-1.1
CRPR				eS	Sn	19 03 26.6	-0.1
AOPR	**Arecibo Observ**	**1.05**	**120**⇑	eP	Pn	19 03 13.0	-0.6
AOPR				eS	Sn	19 03 25.8	-1.3
GBPR	**Guanica, Bosqu**	**1.20**	**138**	eS	Sn	19 03 33.2	+2.7
CELP	**Cerrillos**	**1.34**	**126**⇑	eP	Pn	19 03 16.9	-0.6
CELP				eS	Sn	19 03 34.8	+0.7
ICM	**Isla Caja Muer**	**1.50**	**131**⇑	eP	Pn	19 03 18.8	-0.8
SMN1	**Samana, DR**	**1.50**	**282**⇓	eP	Pn	19 03 17.8	-1.9
SMN1	**Samana, DR**	**1.50**	**282**	eS	Sn	19 03 38.5	+0.4
CBYP	**Canovanas**	**1.86**	**109**⇑	eP	Pn	19 03 22.6	-2.1
CPD	**Cerro la Pandu**	**1.90**	**116**⇓	eP	Pn	19 03 24.6	-0.6
HUMP	**Col San Antoni**	**1.92**	**112**⇑	eP	Pn	19 03 25.9	+0.5
MTP	**Monte Pirata**	**2.19**	**110**⇑	eP	Pn	19 03 25.3	-3.9
SDDR	**Presa de Saban**	**3.38**	**272**	ePn	Pn	19 03 46.4	+0.9
SDDR				eSn	Sn	19 04 26.0	+1.6

*ISCJB **13** 19:15:51.9±0.5, 545N±02×1653W±01, h109km±6km, mb3.7/9, Error ellipse: s-maj=27.8km s-min=7.4km az=158.1*

*NEIC **13** 19:15:55.3, 5424N×16508W, h91km, MG3.4(AEIC), After AEIC.*

*IDC **13** 19:15:57.5±7.6, 5474N×16478W, h126km±55km, mb3.5/8, mb1 3.6/10, mb1mx3.4/26, mbtmp3.4/10, Error ellipse: s-maj=65.7km s-min=24.3km az=34.0*

ISC 13 19:15:53.1±0.5, 544N±02×1652W±01, h104km±6km, n17, σ0°83/22, mb3.7/9, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKUT	**Akutan**	**0.43**	**226**	P	**Pn**	**19 16 08.9**	**0.0**
AKUT				S	**Sn**	**19 16 20.5**	**-0.1**
AKLV	**Akutan Long Va**	**0.50**	**237**	P	**Pn**	**19 16 09.5**	**+0.2**
AKLV				S	**Sn**	**19 16 21.5**	**+0.1**
UNV	**Unalaska Valle**	**0.95**	**232**	P	**Pn**	**19 16 13.2**	**-0.1**
UNV				S	**Sn**	**19 16 27.6**	**-0.8**
FALS	**False Pass**	**1.14**	**68**	P	**Pn**	**19 16 16.2**	**+0.9**
FALS				S	**Sn**	**19 16 33.2**	**+1.1**
SDPT	**Sand Point**	**2.90**	**70**	P	**Pn**	**19 16 38.3**	**+0.7**
SDPT				S	**Sn**	**19 17 10.6**	**-1.2**
KDAK	**Kodiak Island**	**7.83**	**60**	P	**Pn**	**19 17 43.1**	**-1.0**
	0.7nm,0.3s,baz=233,slow=10,SNR=10						
INK	**Inuvik**	**20.25**	**34**	P	**P**	**19 20 18.7**	**-1.0**
	0.3nm,0.3s,baz=259,slow=11,SNR=8.4						
YKA	**Yellowknife Ar**	**27.02**	**52**	P	**P**	**19 21 22.8**	**-2.1**
	0.2nm,0.3s,mb3.1,baz=281,slow=11,SNR=11						
PDAR	**Pinedale Array**	**37.66**	**85**	P	**P**	**19 22 59.0**	**+1.2**
	0.4nm,0.5s,mb3.5,baz=296,slow=4.8,SNR=3.7						
TXAR	**Lajitas Array**	**50.33**	**94**	P	**P**	**19 24 39.0**	**0.0**
	0.4nm,0.4s,mb3.7,baz=297,slow=3.5,SNR=4.1						
ARCES	**ARCESS Array B**	**56.09**	**355**	P	**P**	**19 25 21.6**	**+0.9**
	4.0nm,0.9s,mb4.5,baz=8.6,slow=7.7,SNR=6.3						
JOF	**Joensuu**	**62.27**	**352**	ep	**P**	**19 26 02.8**	**-0.5**
	0.6nm,0.4s,mb4.0						
KAF	**Kangasniemi**	**63.44**	**354**	ep	**P**	**19 26 10.3**	**-0.8**
FINES	**FINESS Array B**	**64.12**	**354**	P	**P**	**19 26 15.5**	**-0.1**
	0.6nm,0.4s,mb3.7,baz=18,slow=8.8,SNR=6.4						
AKTO	**Aktyubinsk**	**69.40**	**332**	P	**P**	**19 26 50.4**	**+1.1**
	1.8nm,0.6s,mb4.1,baz=46,slow=8.2,SNR=9.5						
AKASG	**Malin Array Be**	**74.53**	**351**	P	**P**	**19 27 20.1**	**+0.2**
	0.4nm,0.4s,mb3.5,baz=12,slow=5.9,SNR=5.5						
GERES	**GERESS Array B**	**77.09**	**1**	P	**P**	**19 27 35.3**	**+0.9**
	0.4nm,0.6s,mb3.3,baz=27,slow=6.1,SNR=4.2						

IDC 13 19:21:48.0±2.0, 477S×6789E, h0km, mb3.5/6, mb1 3.6/6, mb1mx3.5/20, mbtmp3.5/6, Error ellipse: s-maj=69.4km s-min=25.5km az=55.0, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**52.90**	**12**	P	P	19 31 07.2	+1.5
	0.2nm,0.2s,baz=190,slow=11,SNR=3.4						
ZALV	**Zalesovo Beam**	**60.20**	**11**	P	P	19 31 56.8	-0.8
	0.2nm,0.3s,baz=208,slow=8.2,SNR=2.3						
SONM	**Songino Array**	**62.33**	**28**	P	P	19 32 11.6	-0.5
	0.3nm,0.3s,baz=139,slow=25,SNR=3.3						
AKASG	**Malin Array Be**	**64.46**	**334**	P	P	19 32 25.3	-0.9
	0.1nm,0.4s,baz=74,slow=18,SNR=2.7						
ASAR	**Alice Springs**	**66.14**	**114**	P	P	19 32 37.5	-0.2
	0.4nm,0.9s,baz=278,slow=6.5,SNR=4.2						
WRA	**Warramunga Arr**	**66.26**	**110**	P	P	19 32 38.4	-0.1
	0.9nm,0.9s,baz=286,slow=6.3,SNR=4.8						
NVAR	**Mina Array Bea**	**146.02**	**9**	PKPbc	PKPbc	19 41 31.8	+1.6
	0.3nm,0.6s,baz=294,slow=2.9,SNR=2.1						

*IDC **13** 19:47:57.6±0.7, 856S×15748E, h0km, mb4.1/12, mb1 4.3/13, mb1mx4.2/17, mbtmp4.1/13, ML4.4/1, MS3.6/2, Ms1 3.6/2, ms1mx3.5/18, Error ellipse: s-maj=21.2km s-min=18.4km az=132.0*

*BJI **13** 19:47:58.0, 834S×15794E, h16km, mB5.3, mb4.6, Ms5.1, Msz4.9*

*NEIC **13** 19:47:59.5±0.5, 855S×15752E, h10km, mb4.6/7, Error ellipse: s-maj=13.9km s-min=11.3km az=154.0*

*ISCJB **13** 19:48:01.9±0.4, 866S±008×15743E±007, h33km, mb4.4/26, MS4.8/3, Error ellipse: s-maj=11.2km s-min=9.7km az=12.1*

ISC 13 19:48:01.0±4.1, 862S±009×15750E±008, h17km±25km, h23km±3.0km: pP-P, n37, σ1°08/38, mb4.4/26, MS4.8/3, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.54**	**109**	ePn	**Pn**	**19 48 40.1**	**-1.4**
HNR				eSn	**Sn**	**19 49 16.6**	**+4.5**
HNR	**Honiara**	**2.54**	**109**	Pn	**Pn**	**19 48 41.0**	**-0.6**
	75nm,0.3s,baz=261,slow=5.9,SNR=22						
HNR				Sn	**Sn**	**19 49 19.0**	**+6.9**
	122nm,0.3s,baz=98,slow=23,SNR=12						
HNR				LR	LR	19 49 24.2	
	comp=Z,575nm,21.9s,baz=175,slow=33						
CTA	**Charters Tower**	**15.76**	**222**	LR	LR	19 56 46.0	
	comp=Z,537nm,18.4s,baz=86,slow=34						
WRAB	**Tennant Creek**	**25.06**	**241**	eP	**P**	**19 53 23.9**	**-0.8**
	13nm,1.0s,mb4.4						
WB2	**Warramunga Arr**	**25.06**	**241**	eP	**P**	**19 53 24.5**	**-0.2**
WRA	**Warramunga Arr**	**25.07**	**241**	P	**P**	**19 53 24.6**	**-0.2**
	8.7nm,1.1s,mb4.2,baz=66,slow=9.4,SNR=21						
WRA				PcP	PcP	19 56 57.6	-1.8
	1.3nm,0.8s,baz=70,slow=2.6,SNR=6.4						
ASAR	**Alice Springs**	**27.09**	**234**	P	**P**	**19 53 42.9**	**-0.2**
	1.7nm,1.0s,mb3.5,baz=65,slow=9.1,SNR=8.0						
ASAR				PcP	PcP	19 57 01.4	-2.6
	0.5nm,0.7s,baz=64,slow=4.2,SNR=4.1						
STKA	**Stephens Creek**	**27.46**	**210**	eP	**P**	**19 53 47.9**	**+1.7**
	2.3nm,0.6s,mb3.9						
STKA	**Stephens Creek**	**27.46**	**210**	P	**P**	**19 53 45.4**	**-0.9**
	4.8nm,1.1s,mb3.9,baz=22,slow=11,SNR=3.8						
FITZ	**Fitzroy Crossi**	**32.35**	**250**	eP	**P**	**19 54 30.3**	**+0.5**
	3.5nm,0.9s,mb4.2						
FITZ	**Fitzroy Crossi**	**32.35**	**250**	P	**P**	**19 54 30.2**	**+0.5**
	0.9nm,0.6s,mb3.8,baz=113,slow=7.6,SNR=4.4						
BATI	**Kupang**	**33.41**	**265**	P	**P**	**19 54 38.4**	**-0.8**
	8.5nm,0.8s,mb4.7,baz=160,slow=19,SNR=2.1						
KSRS	**Korea Array**	**53.55**	**331**	P	**P**	**19 57 21.1**	**+0.1**
	2.3nm,0.9s,mb4.1,baz=90,slow=27,SNR=3.8						
NJ2	**Nanjing**	**54.75**	**320**	eP	**P**	**19 57 31.8**	**+1.9**
NJ2				AMB	AMB		
	comp=Z,20nm,0.5s,mb5.4						
GYA	**Guiyang**	**60.41**	**307**	P	**P**	**19 58 11.4**	**+1.6**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.9						
BJI	**Beijing**	**61.66**	**325**	P	**P**	**19 58 16.0**	**-2.1**
BJI				AMB	AMB		
	comp=Z,6.0nm,1.1s,mb4.6						
KMI	**Kunming**	**62.98**	**304**	P	**P**	**19 58 28.5**	**+1.3**
KMI				AP	pP	19 58 36.3	+3.5
KMI				XP	sP	19 58 40.3	+5.4
KMI				AMB	AMB		
	comp=Z,6.0nm,1.1s,mb4.6						
CD2	**Chengdu**	**64.76**	**310**	eP	**P**	**19 58 42.3**	**+3.5**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb5.1						
CD2				AMB	AMB		
	comp=Z,30nm,4.8s						
HHC	**Hu-ho-hao-te**	**64.87**	**323**	eP	**P**	**19 58 35.6**	**-3.7**
HHC				S	**S**	**20 07 18.9**	**-1.1**
HHC				XS	sS	20 07 33.1	+3.9
HHC				AMB	AMB		
	comp=Z,12nm,0.4s,mb5.3						
HHC				AMB	AMB		
	comp=Z,547nm,13.9s						
HHC				LR	LR		
	comp=N,775nm,19.0s,MS5.0						
HHC				LR	LR		
	comp=E,553nm,19.6s,MS5.0						
HHC				LR	LR		
	comp=Z,762nm,18.1s,MS4.9						
LZH	**Lanzhou**	**67.21**	**315**	eP	**P**	**19 58 55.3**	**+0.8**
LZH				AP	pP	19 58 59.9	-0.2
LZH				XP	sP	19 59 02.5	+0.3
LZH				PP	PP	20 01 25.8	+2.9
LZH				AMB	AMB		
	comp=Z,19nm,1.3s,mb5.0						
LZH				AMB	AMB		
	comp=Z,65nm,6.7s						
LZH				LR	LR		
	comp=N,475nm,15.2s						
LZH				LR	LR		
	comp=Z,683nm,17.6s,MS4.9						
VNDA	**Vanda**	**68.91**	**179**	P	**P**	**19 59 04.3**	**-0.2**
	comp=Z,1.6nm,0.8s,mb4.0,baz=321,slow=8.0,SNR=7.6						
GTA	**Gaotai**	**71.62**	**316**	eP	**P**	**19 59 21.4**	**-0.3**
GTA				AP	pP	19 59 29.0	+1.6
GTA				XP	sP	19 59 32.3	+2.9
GTA				AMB	AMB		
	comp=Z,4.0nm,1.7s,mb4.1						
ULN	**Ulaanbaatar**	**71.71**	**327**	eP	**P**	**19 59 22.6**	**+0.6**
	comp=Z,6.3nm,1.4s,mb4.3						
SONM	**Songino Array**	**72.05**	**327**	P	**P**	**19 59 21.4**	**-2.7**
	comp=Z,2.1nm,1.0s,mb4.0,baz=127,slow=4.5,SNR=6.6						
SHL	**Shillong**	**72.26**	**300**	eP	**P**	**19 59 26.0**	**+0.2**
LSA	**Lhasa**	**74.24**	**304**	P	**P**	**19 59 39.0**	**+1.6**
LSA	**Lhasa**	**74.24**	**304**	eP	**P**	**19 59 38.5**	**+1.1**
	comp=Z,7.7nm,1.0s,mb4.6						
QSPA	**South Pole Qui**	**81.36**	**180**	eP	**P**	**20 00 16.8**	**+0.6**
	comp=Z,10nm,1.1s,mb4.7						
WMQ	**Urumqi**	**81.70**	**317**	eP	**P**	**20 00 18.5**	**-0.1**
WMQ				AMB	AMB		
	comp=Z,7.0nm,1.3s,mb4.4						
WMQ				LR	LR		
	comp=Z,214nm,18.5s,MS4.5						
MCK	**McKinley**	**82.65**	**21**	eP	**P**	**20 00 22.5**	**-0.6**
	comp=Z,21nm,1.3s,mb5.0						
MKAR	**Makanchi Array**	**86.26**	**318**	P	**P**	**20 00 41.7**	**-0.1**
MKAR	**Makanchi Array**	**86.26**	**318**	P	**P**	**20 00 41.7**	**-0.1**
	comp=Z,1.3nm,0.7s,mb4.3,baz=103,slow=5.5,SNR=15						
ZALV	**Zalesovo Beam**	**86.92**	**326**	P	**P**	**20 00 43.0**	**-1.8**
	comp=Z,0.2nm,0.3s,mb3.9,baz=152,slow=6.4,SNR=2.6						
NVAR	**Mina Array Bea**	**90.78**	**51**	P	**P**	**20 01 04.6**	**+1.1**
	comp=Z,0.4nm,0.3s,mb4.2,baz=238,slow=4.3,SNR=7.0						
YKA	**Yellowknife Ar**	**96.61**	**28**	P	**P**	**20 01 29.4**	**-0.3**
YKA	**Yellowknife Ar**	**96.61**	**28**	P	**P**	**20 01 29.4**	**-0.3**
	comp=Z,0.2nm,0.5s,mb3.8,baz=264,slow=4.8,SNR=5.9						
LPAZ	**La Paz**	**128.50**	**119**	PKP	PKPdf	20 07 08.4	+0.4
	comp=Z,1.1nm,0.3s,baz=304,slow=4.6,SNR=6.0						

*NEIC **13** 19:59:56.4, 17.19N×100.32W, h28km, MD4.3(MEX), After MEX.*

MEX 13 19:59:55.7±1.1, 1714N×10030W, h38km±9km, MD4.3, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.09**	**159**	iP	Pn	20 00 00.4	-1.7
CAIG				iS	Sn	20 00 04.9	-1.6
ACX	**Acapulco**	**0.46**	**126**	iP	Pn	20 00 03.7	-2.1
ACX				iS	Sn	20 00 12.1	-0.7
ACX	**Acapulco**	**0.46**	**126**	iP	Pn	20 00 03.7	-2.1
ACX				iS	Sn	20 00 11.7	-1.1
MEIG	**Mezcala**	**1.02**	**40**	iP	Pn	20 00 11.5	-2.0
MEIG				iS	Sn	20 00 24.0	-2.7
ZIIG	**Zihuatanejo**	**1.21**	**293**	iP	Pn	20 00 13.9	-2.1
ZIIG				iS	Sn	20 00 29.5	-1.7
PLIG	**Platanillo**	**1.47**	**31**	eP	Pn	20 00 18.4	-1.2
PLIG				eS	Sn	20 00 36.0	-1.6
YAIG	**Yautepec**	**2.08**	**34**	eP	Pn	20 00 26.9	-1.2
YAIG				eS	Sn	20 00 51.4	-1.4
PNIG	**Pinotepa**	**2.21**	**109**	eP	Pn	20 00 32.3	+2.4
PNIG				eS	Sn	20 00 58.2	+2.2
PNIG	**Pinotepa**	**2.21**	**109**	eP	Pn	20 00 28.4	-1.5
PNIG				iS	Sn	20 00 52.6	-3.4
SZVM	**Salazar**	**2.35**	**22**	eP	Pn	20 00 31.1	-0.6
SZVM				iS	Sn	20 00 56.4	-2.9
UNM	**Universidad Na**	**2.43**	**26**	iP	Pn	20 00 38.1	+5.2
UNM				iS	Sn	20 01 06.0	+4.6
UTMO	**Huajuapan**	**2.48**	**73**	iP	Pn	20 00 33.1	-0.5
UTMO				iS	Sn	20 01 02.8	0.0
PPM	**Popocatepetl**	**2.50**	**39**	iP	Pn	20 00 32.5	-1.3
PPM				eP		20 00 34.2	
PPM				eS	Sn	20 01 00.1	-3.0
PBVM	**Pinon**	**2.57**	**27**	eP	Pn	20 00 35.8	+1.0
PBVM				iS	Sn	20 01 06.5	+1.6
MOIG	**Morelia**	**2.67**	**342**	eP	Pn	20 00 36.5	+0.4
MOIG				eS	Sn	20 01 07.0	-0.3
TPIG	**Tehuac#an**	**3.08**	**65**	iP	Pn	20 00 41.3	-0.6
TPIG				iS	Sn	20 01 16.0	-1.4
DEIG	**Demacu**	**3.37**	**21**	eP	Pn	20 00 45.8	-0.1
DEIG				eS	Sn	20 01 23.6	-1.1
VHO	**Vista Hermosa**	**3.41**	**91**	eP	Pn	20 00 47.0	+0.5
VHO				eS	Sn	20 01 24.9	-0.8
OXX	**Oaxaca**	**3.42**	**90**	eP	Pn	20 00 46.5	-0.1
SFJM	**Santa Fe**	**4.22**	**323**	iP	Pn	20 00 56.0	-1.6
HUIG	**Huatulco**	**4.25**	**108**	iS	Sn	20 01 41.0	-5.3
HUIG				iS	Sn	20 01 43.1	-3.2
CMIG	**Matias Romero**	**5.18**	**90**	iP	Pn	20 01 12.2	+1.5
CMIG				eS	Sn	20 02 12.2	+2.9
ANIG	**Ahuacatlan**	**5.58**	**315**	iP	Pn	20 01 17.8	+1.6

FUNV 13 20:10:37.5, 679N×7311W, h169km, MW3.8, 1C-2D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**1.33**	**36**⇓	iP	Pn	20 11 06.3	-0.6
CAPV				eS	Sn	20 11 27.7	-1.8
VIGV	**El Vigia**	**2.67**	**40**	eP	Pn	20 11 20.6	-1.0
VIGV				eS	Sn	20 11 52.2	-3.7
SOCV	**Socops**	**2.68**	**56**	eP	Pn	20 11 21.2	-0.6
SOCV				eS	Sn	20 11 53.0	-3.0
VIRV	**Villa del Rosa**	**3.75**	**11**	eP	Pn	20 11 33.1	-2.0
VIRV				eS	Sn	20 12 15.2	-5.0
QARV	**Quebrada Arrib**	**4.25**	**37**⇑	iP	Pn	20 11 40.7	-0.8
QARV				eS	Sn	20 12 26.6	-4.9
SANV	**Sanarito**	**4.45**	**52**	eP	Pn	20 11 42.7	-1.3
SANV				eS	Sn	20 12 30.3	-5.7
CURV	**Curarigua**	**4.47**	**44**	eP	Pn	20 11 43.0	-1.3
CURV				eS	Sn	20 12 31.4	-5.1
DABV	**Dabajuro**	**4.78**	**31**	eP	Pn	20 11 47.1	-1.3
DABV				eS	Sn	20 12 38.1	-5.7
TEPV	**Terepaima**	**5.00**	**51**	eP	Pn	20 11 49.9	-1.3
TEPV				eS	Sn	20 12 43.2	-5.7
SIQV	**Siquisique**	**5.03**	**40**	eP	Pn	20 11 50.1	-1.6
SIQV				eS	Sn	20 12 43.6	-6.2
BAUV	**El Baul**	**5.46**	**67**⇓	iP	Pn	20 11 54.5	-2.8
BAUV				eS	Sn	20 12 52.9	-6.9
PAYV	**Puerto Ayacuch**	**5.59**	**104**	eP	Pn	20 11 57.1	-1.9
TURV	**Turiamo**	**6.35**	**55**	eP	Pn	20 12 07.1	-2.0
CAOV	**Caicara del Or**	**6.75**	**85**	eP	Pn	20 12 12.0	-2.4
CAOV				eS	Sn	20 13 22.3	-8.3

*NEIC **13** 20:29:00.2, 17.18N×100.30W, h32km, MD3.6(MEX), After MEX.*

MEX 13 20:28:59.7±1.0, 1717N×10031W, h35km±11km, MD3.5, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.13**	**161**	iP	Pn	20 29 04.1	-1.8
CAIG				iS	Sn	20 29 08.6	-1.6
ACX	**Acapulco**	**0.48**	**129**	iP	Pn	20 29 08.0	-2.1
ACX				iS	Sn	20 29 16.5	-0.9
MEIG	**Mezcala**	**1.00**	**41**	iP	Pn	20 29 15.4	-1.8
MEIG				iS	Sn	20 29 28.2	-1.9
ZIIG	**Zihuatanejo**	**1.18**	**292**	iP	Pn	20 29 26.3	+6.6
ZIIG				iS	Sn	20 29 33.5	-1.1
ZIIG	**Zihuatanejo**	**1.18**	**292**	iP	Pn	20 29 18.6	-1.2
ZIIG				iS	Sn	20 29 33.5	-1.1
PPM	**Popocatepetl**	**2.48**	**40**	eP	Pn	20 29 47.5	+10
PPM	**Popocatepetl**	**2.48**	**40**	eP	Pn	20 29 40.0	+2.5

IDC 13 20:29:15.9±1.7, 917S×12533E, h0km, mb3.3/1, mb1 3.8/4, mb1mx3.6/14, mbtmp3.6/4, ML3.7/2, Error ellipse: s-maj=39.7km s-min=26.5km az=73.0, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Kupang**	**1.94**	**238**	Pn	Pn	20 29 50.4	+0.4
	4.7nm,0.3s,baz=94,slow=8.3,SNR=19						
BATI				Sn	Sn	20 30 09.0	-6.1
	10nm,0.3s,baz=88,slow=18,SNR=8.2						
FITZ	**Fitzroy Crossi**	**8.88**	**178**	Pn	Pn	20 31 24.8	-0.8
	0.4nm,0.3s,baz=9.2,slow=12,SNR=14						
FITZ				Sn	Sn	20 32 59.3	-7.2
	0.5nm,0.3s,baz=107,slow=22,SNR=7.0						
WRA	**Warramunga Arr**	**13.81**	**142**	Pn	Pn	20 32 33.7	+0.7
	0.5nm,0.3s,baz=323,slow=14,SNR=64						
WRA				Sn	Sn	20 35 00.9	-6.2
	0.2nm,0.3s,baz=324,slow=23,SNR=5.0						
ASAR	**Alice Springs**	**16.59**	**151**	Pn	Pn	20 33 10.1	+0.1
	0.2nm,0.3s,baz=320,slow=11,SNR=14						
ASAR				Sn	Sn	20 36 08.3	-6.6
	0.1nm,0.3s,baz=284,slow=17,SNR=3.9						
MKAR	**Makanchi Array**	**67.61**	**330**	P	P	20 40 14.5	+0.1
	0.2nm,0.6s,baz=120,slow=6.4,SNR=2.3						

*NIED **13** 20:42:00, 3670N×14120E, h44km, Mw4.5 Best double couple: M0 6.88000×10^15 NP1:φs214.00000°, δ89.00000°, λ-94.00000°. NP2:φs109.00000°, δ4.00000°, λ-15.00000°.*

*BJI **13** 20:42:22.3, 3664N×14140E, h55km, mB4.9, mb4.7, Ms4.4, Msz4.0*

*MOS **13** 20:42:23.6±1.1, 3672N×141.17E, h44km, mb4.6/29, MS4.0/4, Error ellipse: s-maj=9.5km s-min=6.2km az=106.4*

*ISCJB **13** 20:42:23.6±0.6, 3664N±003×14123E±005, h47km±3km, mb4.5/60, MS4.0/12, Error ellipse: s-maj=6.8km s-min=5.1km az=32.6*

*JMA **13** 20:42:24.4±0.1, 3665N×141.19E, h46km±1km, M4.6 Broadband fault plane solution: P waves. NP1: φs194.00000°, δ15.00000°, λ112.00000°. NP2: φs351.00000°, δ76.00000°, λ84.00000°. Principal axes: T Plg58.0000°, Azm254.0000°; N Plg5.0000°, Azm353.0000°; P Plg31.0000°, Azm86.0000°;*

JMA Felt II J1.

*NEIC **13** 20:42:24.6±0.2, 3665N×141.22E, mb4.6/25, MW4.5(NIED) Error ellipse: s-maj=5.6km s-min=5.2km az=142.0*

NEIC Recorded [2 JMA] in Chiba, Fukushima, Ibaraki and Tochigi; [1 JMA] in Gumma, Miyagi, Saitama and Tokyo Prefectures.

*IDC **13** 20:42:25.6±1.9, 3667N×141.14E, h47km±18km, mb4.0/22, mb1 4.1/27, mb1mx4.1/31, mbtmp4.0/27, ML3.8/5, MS3.8/11, Ms1 3.8/11, ms1mx3.5/41, Error ellipse: s-maj=16.7km s-min=11.9km az=91.0*

*SZGRF **13** 20:42:34.6, 36.15N×141.60E, h33km, mb4.9, Near east coast of eastern Honshu, Japan*

ISC 13 20:42:24.5±0.6, 3666N±003×14123E±005, h36km±4km, h39km±2.0km: pP-P, n168, σ0°93/168, mb4.5/60, MS4.0/12, 9C-10D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHO	**Hitachi**	**0.54**	**265**	⇓P	**Pn**	**20 42 35.3**	**-0.4**
JHO				S	**Sn**	**20 42 43.4**	**-0.1**
ONAJ	**Iwakimizuishiy**	**0.56**	**322**	⇓P	**Pn**	**20 42 35.6**	**-0.4**
ONAJ				S	**Sn**	**20 42 43.2**	**-0.9**
JFK	**Kawauchi**	**0.76**	**338**	⇓P	**Pn**	**20 42 38.4**	**-0.4**
JYT	**Yasato**	**0.94**	**243**	⇓P	**Pn**	**20 42 40.9**	**-0.4**
JYT				S	**Sn**	**20 42 52.9**	**-0.6**
JFT	**Otama**	**1.12**	**320**	⇓P	**Pn**	**20 42 44.5**	**+0.8**
JFT				S	**Sn**	**20 42 58.5**	**+0.7**
JMM	**Marumori**	**1.25**	**344**	⇓P	**Pn**	**20 42 45.3**	**-0.3**
JFY	**Yanaizu**	**1.43**	**302**	⇓P	**Pn**	**20 42 48.8**	**+0.8**
JAG	**Ashikaga**	**1.45**	**261**	⇓P	**Pn**	**20 42 48.4**	**+0.1**
MJAR	**Matsushiro Arr**	**2.44**	**268**	P	**Pn**	**20 43 03.0**	**+1.2**
MJAR				LR	LR	20 44 10.0	
MJAR	**Matsushiro Arr**	**2.44**	**268**	P	**Pn**	**20 43 03.0**	**+1.2**
MJAR				pmax	pmax		
	comp=Z,109nm,0.3s						
MJAR				MLR	MLR		
	comp=Z,1μm,20.5s						
MJAR	**Matsushiro Arr**	**2.44**	**268**	P	**Pn**	**20 43 03.0**	**+1.2**
	comp=Z,109nm,0.3s,baz=104,slow=10,SNR=95						
MJAR				LR	LR	20 44 10.0	
	comp=Z,1μm,20.5s,baz=100,slow=45						
MAJO	**Matsushiro**	**2.44**	**268**	ePn	**Pn**	**20 43 03.6**	**+1.7**
MAT	**Matsushiro**	**2.44**	**268**	P	**Pn**	**20 43 03.7**	**+1.9**
MAT				S	**Sn**	**20 43 32.6**	**+2.2**
JHJ	**Hachijo jima 2**	**3.73**	**199**	P	**Pn**	**20 43 19.4**	**-0.1**
	comp=Z,184nm,0.3s,baz=255,slow=4.4,SNR=24						
ERM	**Erimo**	**5.55**	**15**⇑	eP	**Pn**	**20 43 44.1**	**-0.5**
ASAJ	**Asahikawa**	**7.52**	**8**	P	**Pn**	**20 44 11.4**	**-0.2**
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ASAJ	**Asahikawa**	**7.52**	**8**	P	**Pn**	**20 44 11.4**	**-0.2**
	comp=Z,2.3nm,0.3s,baz=190,slow=9.3,SNR=16						
JNU	**Nakatsue**	**9.21**	**250**	P	**Pn**	**20 44 35.6**	**+0.8**
	comp=Z,0.4nm,0.3s,baz=104,slow=13,S

comp=Z,143nm,6.3s
HHC LR LR
comp=N,122nm,10.2s
HHC LR LR
comp=E,161nm,4.6s
HHC LR LR
comp=Z,222nm,12.2s,MS3.8
CIT Chita 24.85 317 *eP* **P 20 47 41.8 -1.5**
YAK Yakutsk 26.40 348 *eP* **P 20 47 57.7 +0.4**
comp=Z,20nm,0.8s,mb4.7
YAK *e* pP 20 48 07.8 +0.2
YAK Yakutsk 26.40 348 *eP* **P 20 47 56.3 -1.0**
YAK *eS* **S 20 52 27.6 -0.4**
YAK *i* *SS sS 20 52 48.4 +3.4
YAK pmax pmax
comp=N,5.0nm,1.0s
YAK pmax pmax
comp=Z,21nm,1.0s,mb4.6
YAK pmax pmax
comp=E,3.0nm,1.1s
YAK smax
comp=N,163nm,3.7s
YAK smax
comp=E,137nm,6.9s
XAN Xi'an 26.42 274 P **P 20 47 57.5 -0.3**
SEY Seymchan 27.18 11⇑ *eP* **P 20 48 06.0 +1.7**
ULN Ulaanbaatar 27.45 305 *eP* **P 20 48 06.3 -0.5**
comp=E,5.1nm,0.6s,mb4.2
ULN Ulaanbaatar 27.45 305⇑ *eP* **P 20 48 06.6 -0.2**
BOD Bodaibo 27.77 328 *eP* **P 20 48 09.1 -0.5**
BOD pmax pmax
comp=Z,7.0nm,0.9s,mb4.3
SONM Songino Array 27.88 305 P **P 20 48 10.2 -0.5**
SONM pmax pmax
comp=Z,10.0nm,0.8s
SONM Songino Array 27.88 305 P **P 20 48 10.2 -0.5**
comp=Z,9.5nm,0.8s,mb4.5,baz=106,slow=8.1,SNR=46
LZH Lanzhou 29.99 280 *eP* **P 20 48 27.8 -1.8**
LZH AMB AMB
comp=Z,24nm,1.3s,mb4.8
LZH AMB AMB
comp=Z,63nm,4.8s
LZH LR LR
comp=E,502nm,13.2s
LZH LR LR
comp=Z,798nm,17.5s,MS4.4
ZAK Zakamensk 30.39 309 *eP* **P 20 48 32.8 -0.2**
ZAK pmax pmax
comp=Z,4.0nm,1.0s,mb4.1
TLY Talaya 30.47 311⇑ *eP* **P 20 48 32.2 -1.4**
GYA Guiyang 31.02 261 P **P 20 48 38.0 -0.8**
GYA AMB AMB
comp=Z,10.0nm,1.0s,mb4.6
CD2 Chengdu 31.53 271 *eP* **P 20 48 42.6 -0.6**
CD2 XP sP 20 49 00.1 +2.2
CD2 PP PP 20 49 48.1 -6.7
CD2 S **S 20 53 45.8 -3.5**
CD2 XS sS 20 54 06.0 -0.3
CD2 SS SS 20 55 35.3 -30
CD2 AMB AMB
comp=Z,20nm,0.8s,mb5.0
CD2 AMB AMB
comp=Z,30nm,4.8s
CD2 LR LR
comp=N,150nm,14.4s
CD2 LR LR
comp=Z,120nm,12.8s,MS3.8
GTA Gaotai 32.54 288 *eP* **P 20 48 51.8 -0.2**
GTA AP pP 20 49 09.8 +7.5
GTA PP PP 20 50 02.4 -3.4
GTA PPP 20 50 19.5
GTA S **S 20 54 00.1 -4.7**
GTA XS sS 20 54 30.5 +8.6
GTA SCP ScP 20 55 13.1 -5.9
GTA PCS PcS 20 55 19.8 -3.2
GTA SS SS 20 55 59.5 -26
GTA AMB AMB
comp=Z,2.0nm,0.6s,mb4.2
GTA AMB AMB
comp=Z,86nm,4.6s
GTA LR LR
comp=N,173nm,19.0s,MS3.9
GTA LR LR
comp=E,134nm,14.4s,MS3.9
GTA LR LR
comp=Z,173nm,15.2s,MS3.9
BILL Bilibino 34.42 16 *eP* **P 20 49 09.5 +1.4**
BILL pmax pmax
comp=Z,6.0nm,2.0s,mb4.2
KMI Kunming 34.76 262 P **P 20 49 10.8 -0.7**
KMI AMB AMB
comp=Z,6.0nm,1.4s,mb4.3
TIXI Tiksi 35.64 353 *eP* **P 20 49 18.4 -0.1**
comp=Z,2.2nm,0.7s,mb4.2
TIXI Tiksi 35.64 353 *eP* **P 20 49 18.4 -0.1**
TIXI pmax pmax
comp=Z,2.0nm,0.7s,mb4.2
WMQ Urumqi 40.88 297 *eP* **P 20 50 03.6 +0.7**
WMQ PP PP 20 51 42.0 +4.6
WMQ S **S 20 56 09.0 -2.8**
WMQ AMB AMB
comp=Z,45nm,0.8s,mb5.2
WMQ AMB AMB
comp=Z,113nm,5.4s
WMQ LR LR
comp=N,159nm,19.3s,MS4.0
WMQ LR LR
comp=E,174nm,21.2s,MS4.0
WMQ LR LR
comp=Z,222nm,21.8s,MS4.0
ZAA0 Zalesovo Array 42.06 313 *eP* **P 20 50 12.4 0.0**
ZALV Zalesovo Beam 42.06 313 P **P 20 50 12.6 +0.2**
comp=Z,8.9nm,0.5s,mb4.7,baz=97,slow=7.2,SNR=58
ZALV LR LR 21 08 34.4
comp=Z,101nm,19.2s,MS3.7,baz=355,slow=37
ZAL Zalesovo 42.07 313 P **P 20 50 12.6 +0.1**
LSA Lhasa 42.10 276 P **P 20 50 14.6 +1.5**
LSA Lhasa 42.10 276 *eP* **P 20 50 13.4 +0.3**
comp=Z,5.5nm,0.8s,mb4.2
LSA Lhasa 42.10 276 *eP* **P 20 50 13.4 +0.3**
LSA pmax pmax
comp=Z,6.0nm,0.8s,mb4.3
MK31 Makanchi Array 44.20 302 *eP* **P 20 50 29.7 -0.1**
MKAR Makanchi Array 44.20 302 P **P 20 50 30.0 +0.2**
MKAR pmax pmax
comp=Z,2.0nm,0.5s
MKAR MLR MLR
comp=Z,89nm,18.2s
MKAR Makanchi Array 44.20 302 P **P 20 50 29.9 +0.1**
comp=Z,2.2nm,0.5s,mb4.2,baz=88,slow=9.3,SNR=32
MKAR LR LR 21 09 40.3
comp=Z,89nm,18.2s,MS3.7,baz=258,slow=37
KURK Kurchatov 46.05 308 *eP* **P 20 50 43.8 -0.7**
comp=Z,36nm,0.8s,mb5.3
KURK Kurchatov 46.05 308⇑ *eP* **P 20 50 44.0 -0.5**
JIRN Jiri 46.91 275 *eP* **P 20 50 53.0 +1.5**
KKN Kakani 47.58 276 *eP* **P 20 50 57.1 +0.3**
comp=Z,18nm,0.7s,mb5.2
KKN Kakani 47.58 276 *eP* **P 20 50 57.1 +0.3**
KKN pmax pmax
comp=Z,18nm,0.7s,mb5.2
GKN Gorkha 48.00 277 *eP* **P 20 51 00.2 +0.2**
comp=Z,28nm,0.7s,mb5.4
KOLN Koldanda 48.93 277 *eP* **P 20 51 07.6 +0.4**
MCK McKinley 49.02 34 *eP* **P 20 51 09.7 +2.3**
comp=Z,3.8nm,0.9s,mb4.4
MCK McKinley 49.02 34 *eP* **P 20 51 09.7 +2.3**
MCK pmax pmax
comp=Z,4.0nm,0.9s,mb4.5
HNR Honiara 49.11 155 LR LR 21 12 08.8
comp=Z,146nm,18.3s,MS4.0,baz=1.7,slow=36
ULHL Ulahol 49.41 298 P **P 20 51 11.5 +0.8**
SNR=6.5
COLA College 49.47 32⇑ *eP* **P 20 51 11.3 +0.5**
TKM2 Tokmak 2 49.68 299 *eP* **P 20 51 13.4 +0.7**
comp=Z,13nm,0.7s,mb5.1
TKM2 Tokmak 2 49.68 299 *eP* **P 20 51 13.4 +0.7**
TKM2 pmax pmax
comp=Z,13nm,0.7s,mb5.1
TKM2 Tokmak 2 49.68 299 P **P 20 51 14.0 +1.3**
SNR=9.5
KAKA Kakadu 49.80 191 *eP* **P 20 51 13.9 +0.1**
comp=Z,12nm,0.8s,mb5.0
KZA Kyzart 50.17 298 P **P 20 51 18.4 +2.0**
SNR=7.3
KBK Karagaybulak 50.22 298 P **P 20 51 17.7 +1.0**
SNR=17
USP Ospenovka 50.36 299 P **P 20 51 18.3 +0.5**
SNR=7.2
AAK Ala-Archa 50.54 299 P **P 20 51 19.9 +0.7**
SNR=5.5
UCH Uchtor 50.65 298 *eP* **P 20 51 20.9 +0.9**
comp=Z,4.1nm,0.8s,mb4.4
UCH Uchtor 50.65 298 P **P 20 51 21.9 +1.8**
SNR=5.7
BVAR Borovoye Array 50.72 313 LR LR 21 12 44.5
comp=Z,153nm,20.6s,MS4.0,baz=264,slow=36
BRVK Borovoye 50.77 313 *eP* **P 20 51 21.0 +0.2**
comp=Z,7.3nm,0.9s,mb4.6
BRVK Borovoye 50.77 313 *eP* **P 20 51 21.0 +0.2**
BRVK pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
EKS2 Erkin-Say 51.04 299 *eP* **P 20 51 23.1 +0.1**
comp=Z,4.7nm,0.7s,mb4.5
EKS2 Erkin-Say 51.04 299 P **P 20 51 23.4 +0.4**
SNR=7.9
AML Almayashu 51.26 298 *eP* **P 20 51 25.5 +0.9**
comp=Z,29nm,1.0s,mb5.2
AML Almayashu 51.26 298 P **P 20 51 26.2 +1.6**
SNR=14
PSI Prapat 51.48 239 P **P 20 51 26.4 -0.2**
PSI Prapat 51.48 239 P **P 20 51 26.4 -0.2**
PSI pmax pmax
comp=Z,2.0nm,0.4s,mb4.4
PSI Prapat 51.48 239 P **P 20 51 26.4 -0.2**
comp=Z,2.2nm,0.4s,mb4.4,baz=295,slow=0.7,SNR=5.3
ZRNK Zerenda 51.55 313 *i P* **P 20 51 26.4 -0.2**
ZRNK pmax pmax
comp=Z,9.0nm,0.7s,mb4.8
KK31 Karatay Array 53.19 300 *i P* **P 20 51 38.9 0.0**
KK31 pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
INK Inuvik 54.78 27 *eP* **P 20 51 51.3 +1.1**
comp=Z,115nm,0.9s
INK Inuvik 54.78 27 P **P 20 51 49.8 -0.4**
comp=Z,1.0nm,0.7s,mb4.0,baz=304,slow=7.5,SNR=4.4
SVE Sverdlovsk 55.33 319 *eP* **P 20 51 54.6 +0.3**
FITZ Fitzroy Crossi 56.42 198 P **P 20 52 01.9 -0.5**
comp=Z,3.7nm,1.1s,mb4.3,baz=31,slow=7.4,SNR=3.4
ARU Arti 56.55 319 *eP* **P 20 52 02.2 -0.8**
comp=Z,9.2nm,0.8s,mb4.9
ARU Arti 56.55 319 *c i P* **P 20 52 02.4 -0.6**
ARU *e* 20 52 58.3
ARU *e* 20 54 04.3
ARU *e* PPP 20 55 26.2
ARU *eS* **S 20 59 51.8 0.0**
ARU *e* SS SS 21 03 37.3 -1.6
ARU pmax pmax
comp=Z,7.0nm,0.7s,mb4.8
WRAB Tennant Creek 56.66 188 *eP* **P 20 52 02.8 -1.3**
comp=Z,5.9nm,0.8s,mb4.7
WRAB Tennant Creek 56.66 188 *eP* **P 20 52 02.8 -1.3**
WRAB pmax pmax
comp=Z,6.0nm,0.8s,mb4.7
WB2 Warramunga Arr 56.67 188 *eP* **P 20 52 03.5 -0.7**
WRA Warramunga Arr 56.67 188 P **P 20 52 03.5 -0.7**
WRA pmax pmax
comp=Z,4.0nm,0.5s
WRA Warramunga Arr 56.67 188 P **P 20 52 03.5 -0.7**
comp=Z,3.8nm,0.5s,mb4.7,baz=6.3,slow=7.4,SNR=142
KBL Kabul 57.42 291 *eP* **P 20 52 09.6 +0.1**
comp=Z,4.1nm,0.7s,mb4.6
AKTO Aktyubinsk 58.82 312 *i P* **P 20 52 18.6 -0.5**
ASAR Alice Springs 60.40 188 P **P 20 52 30.0 -0.1**
ASAR pmax pmax
comp=Z,3.0nm,0.7s
ASAR Alice Springs 60.40 188 P **P 20 52 29.9 -0.2**
comp=Z,3.0nm,0.7s,mb4.4,baz=10,slow=5.9,SNR=29
MBWA Marble Bar 60.99 203 *eP* **P 20 52 33.5 -0.7**
comp=Z,9.2nm,1.2s,mb4.8
RES Resolute Bay 63.00 14 *eP* **P 20 52 46.9 -0.2**
comp=Z,183nm,1.2s
RES *ep*P pP 20 52 58.6 +0.5
YKA Yellowknife Ar 64.20 30 P **P 20 52 55.0 -0.2**
YKA Yellowknife Ar 64.20 30 P **P 20 52 55.0 -0.2**
YKA pmax pmax
comp=Z,1.0nm,0.8s
YKA Yellowknife Ar 64.20 30 P **P 20 52 55.0 -0.2**
comp=Z,0.6nm,0.8s,mb3.6,baz=301,slow=6.5,SNR=11
JOF Joensuu 66.22 332 *ep* **P 20 53 07.1 -1.2**
comp=Z,1.6nm,0.4s,mb4.4
STKA Stephens Creek 68.18 180 *eP* **P 20 53 21.1 +0.2**
comp=Z,1.6nm,0.5s,mb4.3
STKA Stephens Creek 68.18 180 P **P 20 53 21.1 +0.2**
comp=Z,2.1nm,0.5s,mb4.4,baz=337,slow=9.7,SNR=12
FORT Forrest 68.21 192 *eP* **P 20 53 21.4 +0.2**
comp=Z,13nm,0.6s,mb5.1
OBN Obninsk 68.31 323 *eP* **P 20 53 21.8 +0.2**
OBN pmax pmax
comp=Z,17nm,1.6s,mb4.8
KAF Kangasniemi 68.57 333 *ep* **P 20 53 21.8 -1.4**
comp=Z,1.5nm,0.4s,mb4.3,baz=49,slow=5.9
KAF Kangasniemi 68.57 333 *eP* **P 20 53 21.8 -1.4**
KAF pmax pmax
comp=Z,2.0nm,0.4s,mb4.4
FINES FINESS Array B 69.08 332 P **P 20 53 25.9 -0.4**
FINES pmax pmax
comp=Z,2.0nm,0.7s
FINES FINESS Array B 69.08 332 P **P 20 53 25.9 -0.4**
comp=Z,1.8nm,0.7s,mb4.1,baz=57,slow=7.0,SNR=6.8
KIV Kislovodsk 71.04 311 *eP* **P 20 53 38.4 -0.3**
comp=Z,8.4nm,0.8s,mb4.7
KIV Kislovodsk 71.04 311 *eP* **P 20 53 39.9 +1.2**
KIV *i* 20 54 00.2
KIV *e* 20 56 18.2
KIV pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
HFS Hagfors 74.37 336 P **P 20 53 57.4 -0.7**
HFS pmax pmax
comp=Z,2.0nm,0.7s
HFS MLR MLR
comp=Z,121nm,18.9s
HFS Hagfors 74.37 336 P **P 20 53 57.4 -0.7**
comp=Z,2.0nm,0.7s,mb4.1,baz=64,slow=6.8,SNR=7.0
HFS LR LR 21 28 38.3
comp=Z,121nm,18.9s,MS4.2,baz=276,slow=37
NB2 NORSAR Subarra 74.48 337 P **P 20 53 58.3 -0.4**
comp=Z,1.5nm,0.7s,mb4.0,baz=40,slow=5.9
NOA NORSAR Array B 74.48 337 P **P 20 53 58.2 -0.5**
NOA LR LR 21 28 04.3
NOA NORSAR Array B 74.48 337 P **P 20 53 58.2 -0.5**
NOA pmax pmax
comp=Z,3.0nm,0.8s
NOA MLR MLR
comp=Z,79nm,18.2s
NOA NORSAR Array B 74.48 337 P **P 20 53 58.2 -0.5**
comp=Z,2.8nm,0.8s,mb4.2,baz=39,slow=5.8,SNR=13
NOA LR LR 21 28 04.3
comp=Z,79nm,18.2s,MS4.0,baz=195,slow=37
AKASG Malin Array Be 74.50 322 P **P 20 53 58.6 -0.5**
AKASG pmax pmax
comp=Z,2.0nm,0.5s
AKASG MLR MLR
comp=Z,100nm,19.8s
AKASG Malin Array Be 74.50 322 P **P 20 53 58.6 -0.5**
comp=Z,1.8nm,0.5s,mb4.3,baz=46,slow=6.1,SNR=24
AKASG LR LR 21 28 53.4
comp=Z,100nm,19.8s,MS4.1,baz=70,slow=37
NVAR Mina Array Bea 75.33 53 P **P 20 54 05.7 +1.6**
NVAR Mina Array Bea 75.33 53 P **P 20 54 05.7 +1.6**
comp=Z,1.9nm,0.9s,mb4.0,baz=277,slow=10,SNR=12
TPNV Topopah Spring 77.52 53 *eP* **P 20 54 17.4 +0.9**
comp=Z,1.9nm,0.7s,mb4.1
TPNV Topopah Spring 77.52 53 *eP* **P 20 54 17.4 +0.9**
TPNV pmax pmax
comp=Z,2.0nm,0.7s,mb4.2
DUG Dugway 77.71 49 *eP* **P 20 54 18.7 +1.2**
comp=Z,2.0nm,0.9s,mb4.0
DUG Dugway 77.71 49 *eP* **P 20 54 18.7 +1.2**
DUG pmax pmax
comp=Z,2.0nm,0.9s,mb4.0
PDAR Pinedale Array 78.03 45 P **P 20 54 20.1 +0.8**
comp=Z,0.8nm,0.7s,mb3.8,baz=295,slow=4.1,SNR=7.5
MLR Muntele Rosu 79.58 320 P **P 20 54 27.4 -0.3**
comp=Z,0.3nm,0.4s,mb3.6,baz=86,slow=13,SNR=2.4
ULM Lac du Bonnet 79.89 33 P **P 20 54 28.6 -0.7**
comp=Z,0.5nm,0.4s,mb3.8,baz=336,slow=5.9,SNR=3.2
OKC Ostrava-Krasne 80.28 327 *epP* pP 20 54 46.6 +3.9
DPC Dobruska-Polom 80.70 328 *epP* pP 20 54 45.0 +0.1
BRG Berggiesshubel 81.30 329 *i P* **P 20 54 38.1 +1.3**
BRG pmax pmax
comp=Z,1.0nm,0.2s,mb4.4
BRG Berggiesshubel 81.30 329 *i P* **P 20 54 38.1 +1.3**
comp=Z,2.3nm,0.2s,mb4.7
PVCC Panska Ves 81.31 329 *epP* pP 20 54 49.4 +1.2
CLL Collm 81.35 330⇓ *i P* **P 20 54 37.0 -0.1**
CLL *epP* pP 20 54 48.0 -0.4
CLL Collm 81.35 330⇓ *i P* **P 20 54 37.0 -0.1**
CLL *epP* pP 20 54 48.0 -0.4
PRU Pruhonice 81.73 328 *epP* pP 20 54 52.1 +1.7
NKC Novy Kostel 82.40 330 *epP* pP 20 54 54.4 +0.4
KHC Kasperske Hory 82.79 328 *epP* pP 20 54 55.8 -0.2
KHC *ex* x 20 55 14.5
GERES GERESS Array B 82.95 328 P **P 20 54 44.6 -0.9**
GERES pmax pmax
comp=Z,1.0nm,0.7s
GERES GERESS Array B 82.95 328 P **P 20 54 44.6 -0.9**
comp=Z,0.7nm,0.7s,mb3.8,baz=37,slow=6.9,SNR=5.8
GRF Grafenberg Arr 83.32 330 *eP* pP 20 55 00.0 +1.2
comp=Z,6.0nm,0.9s
EKA Eskdalemuir Ar 83.44 340 P **P 20 54 47.4 -0.5**
EKA pmax pmax
comp=Z,1.0nm,0.8s
EKA Eskdalemuir Ar 83.44 340 P **P 20 54 47.4 -0.5**
comp=Z,0.7nm,0.8s,mb3.8,baz=34,slow=6.1,SNR=4.3
ANMO Albuquerque 84.93 50 *c i P* **P 20 54 57.5 +1.6**
SCHQ Schefferville 85.74 16 P **P 20 54 58.6 -1.0**
comp=Z,1.2nm,0.7s,mb4.2,baz=287,slow=20,SNR=2.7
TXAR Lajitas Array 90.46 52 P **P 20 55 23.4 +0.8**
TXAR pmax pmax
comp=Z,1.0nm,0.9s
TXAR Lajitas Array 90.46 52 P **P 20 55 23.4 +0.7**
comp=Z,1.4nm,0.9s,mb4.3,baz=328,slow=4.4,SNR=6.6
LPAZ La Paz 147.00 60 *e*PKPbc PKPbc 21 02 04.3 +0.5
LPAZ La Paz 147.00 60 PKPbc PKPbc 21 02 04.4 +0.7
comp=Z,2.9nm,0.6s,baz=319,slow=3.6,SNR=14

KRSC 13 20:47:21.0±0.6, 5311N×16054E, h38km±38km, ML3.8, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.31**	**268**	*eP*	Pn	20 47 29.6	+0.4
SPN				*i* S	Sn	20 47 35.4	+0.5
NLC	**Nalytchevo**	**0.72**	**275**	*eP*	Pn	20 47 34.9	+0.2
NLC				*i* S	Sn	20 47 44.7	+0.2
AVH	**Avacha**	**1.09**	**279**	*eP*	Pn	20 47 40.9	+1.1
AVH				*i* S	Sn	20 47 54.8	+1.1
KII	**Karymskiy**	**1.13**	**325**	*eP*	Pn	20 47 40.8	+0.5
KII				*i* S	Sn	20 47 54.7	+0.1
PET	**Petropavlovsk**	**1.14**	**266**	*eP*	Pn	20 47 42.3	+1.9
RUS	**Russkaya**	**1.41**	**242**	*eP*	Pn	20 47 44.9	+0.8
RUS				*i* S	Sn	20 48 02.2	+0.9
GRL	**Gorelyy**	**1.60**	**251**	*eP*	Pn	20 47 48.7	+2.0
GRL				*i* S	Sn	20 48 08.7	+2.6
MKZ	**Mys Kozlova**	**1.61**	**25**	*eP*	Pn	20 47 46.8	-0.1
MKZ				*i* S	Sn	20 48 05.1	-1.3
GNL	**Ganaly**	**1.66**	**292**	*eP*	Pn	20 47 49.2	+1.6
GNL				*i* S	Sn	20 48 09.9	+2.2
TUMR	**Tumrok**	**2.19**	**354**	*eP*	Pn	20 47 56.7	+1.9
TUMR				*i* S	Sn	20 48 22.3	+1.6
MIPR	**Malaya Ipel'ka**	**2.45**	**252**	*eP*	Pn	20 48 00.7	+2.3
KMNR	**Kamenistaya**	**2.66**	**356**	*eP*	Pn	20 48 04.2	+3.0
KMNR				*i* S	Sn	20 48 36.5	+4.3
KOZ	**Kozyrevsk**	**2.98**	**353**	*eP*	Pn	20 48 07.8	+2.1
KOZ				*i* S	Sn	20 48 42.7	+2.6
SRDR	**Sredinnyy**	**3.25**	**352**	*eP*	Pn	20 48 11.9	+2.5
KBTR	**Krutoberegovo**	**3.38**	**22**	*eP*	Pn	20 48 13.2	+2.1
KBTR				*i* S	Sn	20 48 51.7	+1.9
BDR	**Baidarnaya**	**3.49**	**6**	P	Pn	20 48 16.3	+3.7
SMKR	**Semkarok**	**3.52**	**8**	*eP*	Pn	20 48 16.2	+3.1
SRKR	**Sorokina**	**3.57**	**6**	*eP*	Pn	20 48 16.6	+2.8

IDC 13 20:58:02.9±2.2, 620S×12931E, h0km, mb3.6/1, mb1 3.6/3, mb1mx3.4/13, mbtmp3.4/3, ML3.4/2, Error ellipse: s-maj=114.4km s-min=33.2km az=68.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.51**	**161**	Pn	Pn	21 01 28.0	-1.7
	0.1nm,0.3s,baz=339,slow=13,SNR=12						
WRA				Sn	Sn	21 04 02.3	-9.2
	0.3nm,0.3s,baz=333,slow=23,SNR=10						
ASAR	**Alice Springs**	**17.93**	**166**	Pn	Pn	21 02 15.2	+1.4
	0.2nm,0.3s,baz=346,slow=10,SNR=9.5						
ASAR				Sn	Sn	21 05 27.1	-7.3
	0.1nm,0.3s,baz=356,slow=26,SNR=3.4						
MKAR	**Makanchi Array**	**67.18**	**327**	P	P	21 08 58.9	+0.1
	0.4nm,0.6s,baz=114,slow=7.7,SNR=5.4						

IDC 13 21:04:48.9±9.6, 2351S×17956W, h452km±98km, mb3.3/3, mb1 3.4/4, mb1mx3.1/16, mbtmp3.3/4, Error ellipse: s-maj=75.4km s-min=36.5km az=29.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**14.98**	**190**	P	P	21 08 00.3	+0.7
	1.1nm,0.3s,baz=266,slow=0.8,SNR=5.5						
URZ				S	S	21 10 32.2	-4.9
	0.4nm,0.3s,baz=180,slow=19,SNR=4.5						
CTA	**Charters Tower**	**31.88**	**269**	P	P	21 10 36.4	+0.8
	5.2nm,0.5s,baz=95,slow=11,SNR=7.7						
ASAR	**Alice Springs**	**42.50**	**260**	P	P	21 12 03.1	-0.1
	0.9nm,0.8s,baz=98,slow=7.8,SNR=7.9						
WRA	**Warramunga Arr**	**42.84**	**266**	P	P	21 12 05.3	-0.6
	1.0nm,0.4s,baz=91,slow=8.5,SNR=39						
HFS	**Hagfors**	**142.24**	**349**	PKhKP		21 23 23.5	
	1.0nm,0.4s,baz=29,slow=3.3,SNR=12						
AKASG	**Malin Array Be**	**144.86**	**328**	PKP	PKPdf	21 23 31.6	-1.6
	0.3nm,0.4s,baz=44,slow=4.0,SNR=7.6						
MMAI	**Mount Meron Ar**	**147.91**	**295**	PKPbc	PKPbc	21 23 42.6	0.0
	0.8nm,0.5s,baz=77,slow=5.3,SNR=5.7						
EKA	**Eskdalemuir Ar**	**148.11**	**4**	PKPbc	PKPbc	21 23 42.0	-0.4
	0.6nm,0.9s,baz=359,slow=3.3,SNR=3.5						

*IDC **13** 21:06:06.1±1.1, 3823N×2059E, h0km, mb3.5/7, mb1 3.5/11, mb1mx3.5/27, mbtmp3.5/11, ML3.5/4, Error ellipse: s-maj=21.0km s-min=18.9km az=100.0*
*PDG **13** 21:06:08.2±0.4, 3823N×2040E, h17km±1km, ML3.8/8, Error ellipse: s-maj=1.6km s-min=2.4km az=0.0*
*THE **13** 21:06:09.3, 3822N×2050E, h1km, ML4.3*
*NEIC **13** 21:06:09.4, 3823N×2056E, h18km, ML4.3(THE), ML3.9(ATH), ML3.8(PDG), After ATH.*
*ATH **13** 21:06:09.4, 3823N×2056E, h18km±1km, MD3.8/13, ML3.9*
*ISCJB **13** 21:06:09.4±0.4, 3824N±002×2045E±003, h19km±4km, mb3.4/8, Error ellipse: s-maj=4.3km s-min=3.0km az=31.6*
*CSEM **13** 21:06:09.9±0.1, 3821N×2053E, h8km, ML3.9, Error ellipse: s-maj=2.2km s-min=1.1km az=31.0*

ISC 13 21:06:10.2±0.4, 3824N±002×2053E±002, h14km±3km, n116, σ1§20/149, mb3.4/8, 9C-16D, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.07**	**141**	*e*PB	**Pg**	**21 06 13.1**	**+0.1**
VLS				*e*SB	**Sg**	**21 06 15.7**	**+0.7**
KFL	**Anninata**	**0.24**	**122**	*e*Pg	**Pg**	**21 06 14.9**	**-0.5**
LKD	**Levkas**	**0.48**	**11**	*e*Pg	**Pg**	**21 06 18.9**	**-0.9**
LKD				*e*Sg	**Sg**	**21 06 26.5**	**+0.3**
RLS	**Riolos of Patr**	**0.76**	**103⇑**	*i*PN	**Pg**	**21 06 23.7**	**-1.3**
RLS				*e*SN	**Sg**	**21 06 33.4**	**-1.6**
SELA	**Sela**	**1.07**	**87**	*e*Pg	**Pg**	**21 06 29.1**	**-1.8**
SELA				*e*Sg	**Sg**	**21 06 46.1**	**+1.2**
EVR	**Evrytania**	**1.21**	**55**	*e*PN	**Pn**	**21 06 31.8**	**-1.0**
EVR				*e*SN	**Sn**	**21 06 48.1**	**-0.9**
IGT	**Igoumenitsa**	**1.30**	**353**	*e*Pg	**Pn**	**21 06 33.4**	**-0.6**
IGT				*e*Sg	**Sg**	**21 06 53.6**	**+1.3**
JAN	**Janina**	**1.44**	**10**	*e*PN	**Pn**	**21 06 36.7**	**+0.8**
JAN				*e*SN	**Sn**	**21 06 56.6**	**+2.0**
ITM	**Ithomi**	**1.53**	**133**	*e*PN	**Pn**	**21 06 37.3**	**+0.2**
ITM				*e*SN	**Sn**	**21 06 58.5**	**+1.7**
KEK	**Kerkira**	**1.58**	**339**	*e*PB	**Pn**	**21 06 38.0**	**+0.1**
AGG	**Agios Georgios**	**1.61**	**60**	*e*Pb	**Pb**	**21 06 38.8**	**-1.0**
AGG				*e*Sb	**Sb**	**21 07 00.8**	**+0.7**
PYL	**PYLOS**	**1.65**	**144**	*e*Pb	**Pb**	**21 06 38.2**	**-2.2**
VLX	**Vlachokerasia**	**1.70**	**120**	*e*Pb	**Pb**	**21 06 40.5**	**-0.8**
THL	**Klokotos Trika**	**1.76**	**41**	*e*PN	**Pn**	**21 06 41.7**	**+1.4**
LTK	**Loutraki**	**1.93**	**96**	*e*Pb	**Pn**	**21 06 43.3**	**+0.6**
LTK				*e*Sb	**Sb**	**21 07 08.5**	**-0.7**
LKR	**Lokris**	**1.98**	**77**	*e*PN	**Pn**	**21 06 44.5**	**+1.1**

KZN	Kozani	2.28	25	*e*PN	Pn	21 06 48.9	+1.4
NEO	Neokhori	2.36	62	P	Pn	21 06 49.7	+1.1
NAIG	Nisos Aigina	2.39	101	*e*PN	Pn	21 06 49.8	+0.9
LIT	Litokhoron	2.41	39	*e*Pn	Pn	21 06 50.0	+0.8
LIT				*e*Sn	Sn	21 07 21.8	+3.3
VLI	Veliai	2.44	128	*e*PB	Pn	21 06 50.8	+1.1
ATH	Athens Observa	2.53	95	*e*PB	Pn	21 06 51.8	+0.9
FNA	Florina	2.63	14	*e*Pn	Pn	21 06 52.8	+0.5
PTL	Penteli	2.64	93	*e*PN	Pn	21 06 52.0	-0.3
AOS	Alonnisos	2.78	69	*e*Pn	Pn	21 06 54.6	+0.3
KYTH	Kithira	2.79	134	*e*PN	Pn	21 06 55.7	+1.2
LCI	Lecce	2.81	319	Pn	Pn	21 06 54.2	-0.6
BIA	Bitola	2.85	12	*i* Pn	Pn	21 06 57.7	+2.4
BIA				*i* Sn	Sn	21 07 31.9	+2.6
BIA	Bitola	2.85	12	*i* Pn	Pn	21 06 57.6	+2.4
BIA				*i* Sn	Sn	21 07 31.8	+2.5
OHR	Ohrid	2.88	4	*i* Pn	Pn	21 06 57.0	+1.3
OHR				*e*Sn	Sn	21 07 33.1	+3.0
PAIG	Paliouri	2.98	54	*e*Pn	Pn	21 06 56.7	-0.4
GRG	Griva	3.08	27	*e*Pn	Pn	21 06 58.6	+0.1
TIP	Timpagrande	3.10	289	P	Pn	21 06 58.7	0.0
PLG	Polygyros	3.11	46	*e*Pn	Pn	21 06 58.6	-0.3
PLG	Polygyros	3.11	46	*e*Pn	Pn	21 06 58.8	-0.1
TIR	Tirane	3.15	351	P	Pn	21 06 59.9	+0.5
KRUS	Krusevo	3.18	10	*i* Pn	Pn	21 07 00.9	+1.1
KRUS				*i* Sn	Sn	21 07 38.6	+1.1
KRUS	Krusevo	3.18	10	*i* Pn	Pn	21 07 00.8	+1.0
TA1	Taranto	3.32	312	*e*Pn	Pn	21 07 02.1	+0.3
SOH	Sokhos	3.38	39	*e*Pn	Pn	21 07 03.4	+0.8
OUR	Ouranopolis	3.40	51	*e*Pn	Pn	21 07 03.2	+0.3
KNT	Kendrikon	3.45	31	*e*Pn	Pn	21 07 03.8	+0.4
VAY	Valandovo	3.46	26	*i* Pn	Pn	21 07 03.9	+0.2
VAY	Valandovo	3.46	26	*i* Pn	Pn	21 07 03.8	+0.1
PE1	Pezze di Greco	3.52	318	*e*Pn	Pn	21 07 04.5	+0.1
SKO	Skopje	3.80	10	*e*Pn	Pb	21 07 18.4	+1.4
ULC	Ulcinj	3.85	346	⇓*i*Pn	Pn	21 07 08.2	-0.8
ULC				*e*Sn	Sn	21 07 53.1	-1.0
SG1	Sgolgore (BA)	3.95	312	*e*Pn	Pn	21 07 10.4	0.0
BAI	Bari	4.02	317	*e*Pn	Pn	21 07 11.4	0.0
VAM	Vamos	4.08	133	*e*PN	Pn	21 07 12.8	+0.6
APE	Apeiranthos	4.14	105	⇑*i*P	Sn	21 07 54.1	-7.0
BUM	Brajici-Budva	4.25	343	⇑*i*Pn	Pn	21 07 13.4	-1.1
BUM				*e*Sn	Sn	21 08 03.3	-0.6
PDG	Podgorica	4.30	347	⇓*i*Pn	Pn	21 07 14.4	-0.8
PDG				*e*Sn	Sn	21 08 03.9	-1.2
TTG	Podgorica	4.30	347	⇓*i*Pn	Pn	21 07 14.4	-0.8
TTG				*e*Sn	Sn	21 08 03.9	-1.2
CDT	Castel del Mon	4.34	312	*e*Pn	Pn	21 07 15.7	-0.1
PVY	Plav	4.38	355	⇓*i*Pn	Pn	21 07 16.3	+0.1
PVY				*e*Sn	Sn	21 08 07.5	+0.5
HCY	Herceg Novi	4.48	340	⇑*i*Pn	Pn	21 07 15.9	-1.8
HCY				*e*Sn	Sn	21 08 08.2	-1.5
BEY	Berane	4.66	354	⇓*i*Pn	Pn	21 07 20.3	+0.2
IVA	Berane	4.66	354	⇓*i*Pn	Pn	21 07 20.3	+0.2
IVA				*e*Sn	Sn	21 08 14.4	+0.5
SGO	Sicignano	4.66	301	Pn	Pn	21 07 22.1	+1.9
NKY	Niksic	4.72	346	⇓*i*Pn	Pn	21 07 20.5	-0.5
NKY				*e*Sn	Sn	21 08 14.3	-1.2
VTS	Vitosha	4.81	24	⇓P	Pn	21 07 28.9	+6.7
VTS	Vitosha	4.81	24	⇓*i*P	Pn	21 07 28.9	+6.7
FG4	Candela	4.83	308	Pn	Pn	21 07 22.1	-0.4
RDO	Rodhopi	4.83	51	P	Pn	21 07 24.0	+1.5
BRY	Bratogost	4.90	343	⇓*i*Pn	Pn	21 07 22.7	-0.7
BRY				*e*Sn	Sn	21 08 18.1	-1.8
FGMS	Monte Sant'Ang	4.94	316	Pn	Pn	21 07 23.7	-0.3
CSSN	Cassano Irpino	5.00	303	Pn	Pn	21 07 26.6	+1.8
	39nm,0.5s						
FG5	Orsara di Pugl	5.07	309	Pn	Pn	21 07 26.4	+0.6
	56nm,0.4s						
STON	Ston	5.11	336	*e*Pn	Pn	21 07 24.7	-1.6
STON				Sn	Sn	21 08 19.7	-5.4
STON	Ston	5.11	336	*e*Pn	Pn	21 07 24.7	-1.6
STON				Sn	Sn	21 08 19.6	-5.4
UPM	Unac-Piva	5.11	347	⇓*i*Pn	Pn	21 07 26.0	-0.4
UPM				*e*Sn	Sn	21 08 24.7	-0.5
RGNG	Rignano Grg	5.12	314	Pn	Pn	21 07 26.0	-0.5
PLE	Pljevlja	5.16	351	⇑*i*Pn	Pn	21 07 26.8	-0.2
MRB1	Monte Rocchett	5.17	306	Pn	Pn	21 07 28.5	+1.4
	86nm,0.5s						
FG2	Serracapriola	5.45	313	Pn	Pn	21 07 31.0	0.0
	141nm,0.3s						
SGG	Gregorio Mates	5.69	306	Pn	Pn	21 07 36.5	+2.3
	42nm,0.7s						
MIDA	Miranda	5.90	307	Pn	Pn	21 07 39.2	+2.0
	24nm,0.7s						
SDI	San Donato	6.22	306	Pn	Pn	21 07 42.3	+0.7
	3.9nm,0.4s						
VVLD	Villa Vallelon	6.42	307	Pn	Pn	21 07 46.1	+1.7
	24nm,0.4s						
AQU	L'Aquila	6.83	309	⇓P	Pn	21 07 51.5	+1.6
AQU	L'Aquila	6.83	309	⇓*i*P	Pn	21 07 51.5	+1.6
TERO	Teramo	6.86	312	Pn	Pn	21 07 51.2	+0.8
	24nm,0.7s						
FIAM	Fiamignano	6.95	308	Pn	Pn	21 07 54.8	+3.2
	15nm,0.5s						
NRCA	Norcia	7.28	311	Pn	Pn	21 07 57.2	+1.1
	4.0nm,0.4s						
BZS	Buzias	7.42	6	⇑*i*P	Sn	21 09 17.0	-5.0
CING	Cingoli	7.57	315	Pn	Pn	21 08 00.2	+0.1
	18nm,1.0s						
NVLJ	Novalja	7.62	328	*e*Pn	Pn	21 07 59.7	-1.0
NVLJ				Sn	Sn	21 09 21.0	-5.8
SNTG	Esanatoglia	7.64	313	Pn	Pn	21 08 01.5	+0.5
	3.7nm,0.3s						
VOIR		7.95	24	⇑*i*P	Pn	21 08 02.5	-2.8
FSSB	Fossombrone	8.01	315	Pn	Pn	21 08 06.2	+0.1
	24nm,0.5s						
PIEI	Pieia	8.04	314	Pn	Pn	21 08 07.2	+0.6
	15nm,0.7s						
PKSM	Moragy	8.09	351	⇓P	Pn	21 08 03.5	-3.8
PKSM	Moragy	8.09	351	⇓*i*P	Pn	21 08 03.5	-3.8
BADI	Badiali	8.19	313	Pn	Pn	21 08 10.6	+2.0
	11nm,0.5s						
BOJS	Bojanci	8.26	333	*i* Pn	Pn	21 08 08.5	-1.0
BOJS				*i* Sn	Sn	21 09 37.4	-5.2
MLR	Muntele Rosu	8.30	27	Pn	Pn	21 08 10.7	+0.6
	0.2nm,0.3s,baz=158,slow=19,SNR=4.8						
SKDS	Skadanscina	8.77	328	*i* Pn	Pn	21 08 14.7	-1.8
SKDS				*i* Sn	Sn	21 09 48.0	-7.2
PLOR	Plostina	8.87	29	⇓*i*P	Pn	21 08 25.9	+8.0
VRI	Vrincioaia	8.91	29	⇑P	Pn	21 08 25.7	+7.2
VRI	Vrincioaia	8.91	29	⇑*i*P	Pn	21 08 25.7	+7.3
JAVS	Javornik	9.03	330	*i* Pn	Pn	21 08 19.1	-1.1
JAVS				*i* Sn	Sn	21 09 55.3	-6.4
VOY	Vojsko	9.21	330	*e*Pn	Pn	21 08 21.3	-1.4
VOY				*e*Sn	Sn	21 09 59.7	-6.4
PERS	Pernice	9.30	336	*i* Pn	Pn	21 08 22.1	-1.7
PERS				*i* Sn	Sn	21 10 00.9	-7.2
GERES	GERESS Array B	11.70	337	Pn	Pn	21 08 55.2	-1.4
	0.2nm,0.3s,baz=158,slow=14,SNR=7.7						
GERES				Sn	Sn	21 10 58.3	-8.6
	0.1nm,0.3s,baz=148,slow=24,SNR=3.5						
MMAI	Mount Meron Ar	13.17	109	Pn	Pn	21 09 13.0	-3.8
	0.1nm,0.3s,baz=309,slow=12,SNR=3.7						
AKASG	Malin Array Be	13.91	24	Pn	Pn	21 09 24.6	-2.3
	0.2nm,0.3s,baz=212,slow=9.0,SNR=3.2						
HFS	Hagfors	22.34	351	P	P	21 11 05.3	-2.1
	0.9nm,0.5s,mb3.5,baz=146,slow=11,SNR=7.3						
EKA	Eskdalemuir Ar	23.39	325	P	P	21 11 16.9	-1.5
	0.8nm,1.0s,mb3.1,baz=128,slow=9.3,SNR=3.5						
FINES	FINESS Array B	23.49	7	P	P	21 11 16.1	-3.3
	0.6nm,0.5s,mb3.3,baz=180,slow=10.0,SNR=10						
NOA	NORSAR Array B	23.56	349	P	P	21 11 18.5	-1.7
	0.3nm,0.5s,mb3.0,baz=165,slow=12,SNR=2.7						
TORD	Torodi Ar. Bea	30.08	219	P	P	21 12 18.0	-1.2
	0.4nm,0.7s,mb3.3,baz=24,slow=11,SNR=3.1						
BVAR	Borovoye Array	37.08	50	P	P	21 13 17.6	-2.1
	0.2nm,0.5s,mb3.2,baz=245,slow=6.2,SNR=3.3						
MKAR	Makanchi Array	45.27	58	P	P	21 14 24.0	-3.1
	0.6nm,0.4s,mb3.8,baz=279,slow=6.8,SNR=21						
ZALV	Zalesovo Beam	45.65	48	P	P	21 14 27.4	-2.6
	1.0nm,0.4s,mb4.1,baz=275,slow=8.4,SNR=5.4						
STKA	Stephens Creek	132.04	101	PKP	PKPdf	21 25 21.9	-1.5
	1.2nm,0.8s,baz=295,slow=4.2,SNR=2.9						

IDC 13 21:07:42.8±28.0, 2204S×17410W, h0km, mb4.1/4, mb1 4.2/4, mb1mx3.9/17, mbtmp4.1/4, Error ellipse: s-maj=515.2km s-min=156.1km az=77.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	Charters Tower	36.98	266	P	P	21 14 55.0	+0.8
	2.9nm,0.3s,baz=87,slow=12,SNR=6.7						
STKA	Stephens Creek	40.45	246	P	P	21 15 22.5	-0.8
	1.3nm,1.0s,baz=78,slow=9.3,SNR=3.5						
ASAR	Alice Springs	47.73	258	P	P	21 16 21.4	-0.3
	0.9nm,0.5s,baz=102,slow=7.3,SNR=13						
WRA	Warramunga Arr	48.00	263	P	P	21 16 23.9	-0.1
	1.5nm,0.3s,baz=96,slow=8.4,SNR=109						

IDC 13 21:24:08.6±1.6, 199N×10001E, h145km±47km, mb3.1/3, mb1 3.3/3, mb1mx3.0/19, mbtmp3.1/3, Error ellipse: s-maj=184.5km s-min=21.1km az=54.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	Prapat	1.35	307	P	Pn	21 24 35.9	-0.4
	3.3nm,0.3s,baz=143,slow=11,SNR=7.5						
PSI				S	Sn	21 24 56.5	-0.8
	2.1nm,0.3s,baz=9.8,slow=21,SNR=17						
WRA	Warramunga Arr	40.12	125	P	P	21 31 30.1	-0.3
	1.3nm,0.4s,baz=303,slow=9.0,SNR=21						
ASAR	Alice Springs	41.68	130	P	P	21 31 43.6	+0.4
	0.2nm,0.4s,baz=304,slow=7.9,SNR=5.1						
MKAR	Makanchi Array	47.22	343	P	P	21 32 26.8	0.0
	0.2nm,0.8s,baz=138,slow=12,SNR=2.8						

IDC 13 21:41:02.8±9.8, 1852N×14665E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.3/18, mbtmp3.3/3, Error ellipse: s-maj=355.7km s-min=30.5km az=78.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	40.08	198	P	P	21 48 40.1	-0.1
	0.7nm,0.8s,baz=21,slow=10,SNR=6.5						
ASAR	Alice Springs	43.73	197	P	P	21 49 09.9	0.0
	0.1nm,0.3s,baz=17,slow=6.8,SNR=3.5						
MKAR	Makanchi Array	59.24	314	P	P	21 51 06.0	0.0
	0.1nm,0.5s,baz=100,slow=7.5,SNR=2.7						

MEX 13 21:41:06.8±0.3, 1712N×10035W, h44km±5km, MD3.5, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	El Cayaco	0.10	133	*i* P	Pn	21 41 12.4	-1.5
CAIG				*i* S	Sn	21 41 17.2	-1.7
MEIG	Mezcala	1.06	41	*i* P	Pn	21 41 23.8	-1.5
MEIG				*i* S	Sn	21 41 36.7	-2.1
ZIIG	Zihuatanejo	1.17	295	*i* P	Pn	21 41 24.9	-1.8
ZIIG				*i* S	Sn	21 41 39.5	-2.1
PLIG	Platanillo	1.50	32	*i* P	Pn	21 41 30.4	-0.9
PLIG				*i* S	Sn	21 41 47.5	-2.1

*THE **13** 21:46:06.6, 3834N×2046E, h3km, ML2.7*
*ISCJB **13** 21:46:07.5±0.8, 3836N±003×2055E±007, h12km, Error ellipse: s-maj=7.8km s-min=4.1km az=177.1*
*CSEM **13** 21:46:07.1±0.2, 3837N×2052E, h5km, MD3.4, Error ellipse: s-maj=5.6km s-min=2.4km az=80.0*
*NEIC **13** 21:46:07.9, 3828N×2051E, h12km, MD3.4(ATH), After ATH.*
*ATH **13** 21:46:07.9, 3828N×2051E, h12km±2km, MD3.4/6*

ISC 13 21:46:07.3±1.0, 3834N±003×2048E±007, h1km±8km, n12, σ1§05/17, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	Valsamata	0.18	151	*e*PG	Pg	21 46 10.8	0.0
VLS				*e*SG	Sg	21 46 14.4	+1.2
KFL	Anninata	0.34	133	*e*Pg	Pg	21 46 13.2	-0.5
LKD	Levkas	0.39	20	*e*Pg	Pg	21 46 13.5	-1.2
LKD				*e*Sg	Sg	21 46 19.6	-0.3
RLS	Riolos of Patr	0.83	110	*e*PB	Pg	21 46 22.4	-0.7
SELA	Sela	1.11	93	*e*Pg	Pg	21 46 27.4	-1.2
EVR	Evrytania	1.19	61	*e*PN	Pn	21 46 29.8	-1.3
EVR				*e*SB	Sb	21 46 47.8	+1.2
IGT	Igoumenitsa	1.20	355	*e*Pg	Pn	21 46 29.2	-2.0
IGT				*e*Sg	Sg	21 46 46.8	+1.1
KEK	Kerkira	1.47	339	*e*PB	Pb	21 46 37.1	+1.7
AGG	Agios Georgios	1.60	64	*e*Pg	Pn	21 46 36.1	-0.7
AGG				*e*Sg	Sg	21 46 58.8	0.0
ITM	Ithomi	1.63	135	*e*PB	Pb	21 46 38.4	+0.2
THL	Klokotos Trika	1.71	44	*e*PN		21 46 40.0	
THL				*e*SN	Sg	21 47 03.4	+1.1
VLI	Veliai	2.54	129	*e*PN	Pn	21 46 50.8	+1.2

*IDC **13** 21:56:47.0±0.5, 5247N×16823W, h0km, mb4.9/21, mb1 5.1/21, mb1mx5.0/24, mbtmp4.9/21, MS4.7/24, Ms1 4.7/24, ms1mx4.5/38, Error ellipse: s-maj=18.2km s-min=12.1km az=171.0*
*MOS **13** 21:56:50.2±0.9, 5246N×16827W, h28km, mb5.4/130, MS4.9/26, Error ellipse: s-maj=7.6km s-min=3.8km az=92.3*
*BJI **13** 21:56:50.1, 5267N×16848W, h26km, mB5.4, mb5.2, Ms5.3, Msz5.1*
*ISCJB **13** 21:56:51.3±0.1, 5239N±003×16824W±002, h37km, mb5.1/304, MS4.9/72, Error ellipse: s-maj=3.7km s-min=1.7km az=15.6*
*NEIC **13** 21:56:52.9±0.2, 5240N×16821W, mb5.2/204, ML4.5(AEIC), Error ellipse: s-maj=4.6km s-min=2.5km az=9.0*
*GCMT **13** 21:56:52.9±0.2, 5220N×16801W, h18km, MW5.3/100, Moment Tensor Solution. s72,c119; s100,c191; Duration: 1§1 Moment tensor: Scale 1017Nm; Mrr0.94±.03; Mθθ-0.54±.02; Mφφ-0.39±.02; Mrθ0.68±.04; Mθφ-0.41±.01; Mφr0.59±.04; Best double couple: M0 1.28300×1017 NP1:φs230.00000°, δ23.00000°, λ91.00000°. NP2:φs49.00000°, δ67.00000°, λ90.00000°. Principal axes: T 1.3080, Plg68.0000°, Azm319.0000°; N -0.0500, Plg0.0000°, Azm49.0000°; P -1.2580, Plg22.0000°, Azm140.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*BGS **13** 21:56:56.0±1.4, 5277N×16592W, h33km, mb5.2*
*SZGRF **13** 21:56:59.4, 5375N×16951W, h33km, mb5.2, MS4.9, Fox Islands, Aleutian Islands, United States*

ISC 13 21:56:53.3±0.1, 5245N±003×16827W±002, h39km, h39km±1.1km: pP-P, n1048, σ0§81/1037, mb5.1/304, MS4.9/72, 135C-111D, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UNV	Unalaska Valle	1.76	37	P	Pn	21 57 19.3	-1.9
UNV				S	Sn	21 57 42.2	-0.2
AKLV	Akutan Long Va	2.21	38	P	Pn	21 57 26.2	-1.1
AKLV				S	Sn	21 57 53.9	+0.5
AKUT	Akutan	2.26	41	*e*P	Pn	21 57 26.3	-1.7
FALS	False Pass	3.76	48	P	Pn	21 57 48.0	-0.7
FALS				S	Sn	21 58 31.0	-0.7
SPIA	Saint Paul Isl	4.88	347	P	Pn	21 58 06.0	+2.0
ADK	Adak	5.21	267	P	Pn	21 58 08.5	-0.1
ADK				S	Sn	21 59 07.7	+0.4
SDPT	Sand Point	5.45	55	P	Pn	21 58 09.5	-2.3
CHGN	Chignik	6.93	52	*e*P	Pn	21 58 32.4	+0.3
AMKA	Amchitka	7.76	267	P	Pn	21 58 43.4	-0.2
KDAK	Kodiak Island	10.44	53	Pn	Pn	21 59 17.0	-3.2
	339nm,0.5s,SNR=24						
KDAK	Kodiak Island	10.44	53	*e*Pn	Pn	21 59 17.1	-3.1
	47nm,0.6s						
SMY	Shemya	10.73	278	*e*Pn	Pn	21 59 23.7	-0.5
	46nm,0.5s						
SMY	Shemya	10.73	278	*e*P	Pn	21 59 23.7	-0.5
SMY				pmax	pmax		
	comp=Z,45nm,0.5s						
SVW2	Sparrevohn	11.10	34	*e*P	Pn	21 59 31.3	+2.2
GAMB	Gambell	11.50	352	*e*Pn	Pn	21 59 35.8	+1.1
	comp=Z,87nm,1.3s						
TTA	Tatalina	12.36	27	*e*P	Pn	21 59 51.4	+5.1
SLKM	Skilak Lake	12.79	44	*e*Pn	Pn	21 59 51.3	-1.0
TNA	Tin City	13.15	1	*e*Pn	Pn	21 59 58.9	+1.6
	comp=Z,54nm,1.1s						
PMR	Palmer	13.82	41	*e*Pn	Pn	22 00 06.5	+0.2
	comp=Z,15nm,0.5s						
PMR	Palmer	13.82	41	*e*P	Pn	22 00 06.5	+0.2
PMR				pmax	pmax		
	comp=Z,15nm,0.5s						
SML	Sawmill	14.26	41	*e*Pn	Pn	22 00 09.2	-3.1
EYAK	Cordova Ski Ar	14.78	48	*e*Pn	Pn	22 00 15.1	-4.3
	comp=Z,34nm,0.7s						
MCK	McKinley	15.16	34	*e*P	Pn	22 00 24.7	+0.4
	comp=Z,32nm,0.9s						
MCK	McKinley	15.16	34	*e*P	Pn	22 00 24.7	+0.4
MCK				pmax	pmax		
	comp=Z,32nm,0.9s						
IMA2	Indian Mountai	15.49	23	*e*P	Pn	22 00 30.7	+2.1
COLA	College	16.26	32	*e*P	Pn	22 00 35.1	-3.3
	comp=Z,77nm,1.0s						
COLA	College	16.26	32	*d i*P	Pn	22 00 35.6	-2.8
MENT	Mentasta	16.69	41	*e*P	Pn	22 00 43.0	-0.8
EGAK	Eagle	18.56	38	*e*P	Pn	22 01 04.1	-2.8
	comp=Z,44nm,0.9s						
DAWY	Dawson	18.93	41	*e*P	Pn	22 01 08.9	-2.4
SIT	Sitka	19.44	63	*e*P	Pn	22 01 16.6	-0.9
	comp=Z,150nm,1.3s						
SIT	Sitka	19.44	63	*e*P	Pn	22 01 16.6	-0.9
SIT				pmax	pmax		
	comp=Z,150nm,1.3s						
SKAG	Skagway	19.57	56	*e*P	Pn	22 01 18.4	-0.6
	comp=Z,104nm,1.0s						
BILL	Bilibino	19.85	332	*e*P	Pn	22 01 22.4	+0.2
	comp=Z,79nm,1.1s						
BILL	Bilibino	19.85	332	*c i*P	Pn	22 01 20.9	-1.3
BILL				pmax	pmax		
	comp=Z,19nm,1.0s						
BILL				MLR	MLR		
	comp=Z,6μm,16.0s						
PET	Petropavlovsk	19.94	285	*e*P	Pn	22 01 21.0	-2.5
	comp=Z,98nm,0.6s						
PET	Petropavlovsk	19.94	285	*e*P	Pn	22 01 21.2	-2.3
PET				*e*S	S	22 05 02.4	-1.2
PET				pmax	pmax		
	comp=Z,196nm,0.7s						
PET				pmax	pmax		
	comp=Z,1μm,19.9s						
PET				smax			
	comp=N,2μm,40.9s						
PET				smax			
	comp=E,900nm,24.2s						
PET				MLR	MLR		
	comp=Z,2μm,20.0s						
PET				MLR	MLR		
	comp=Z,3μm,16.0s						
WRAK	Wrangell Islan	21.11	65	*e*P	P	22 01 37.2	+3.1
	comp=Z,93nm,1.5s,mb4.9						
SKR	Severo-Kuril's	22.07	280	*e*P	P	22 01 39.0	-5.6
SKR				*e*		22 02 10.0	
SKR				*e*SS		22 06 37.0	
SKR				pmax	pmax		
	comp=Z,90nm,1.0s,mb5.2						
SKR				pmax	pmax		
	comp=Z,1μm,14.0s						
SKR				MLR	MLR		
	comp=E,1μm,16.0s,MS4.7						
SKR				MLR	MLR		
	comp=Z,1μm,16.0s,MS4.4						
SKR				MLR	MLR		
	comp=N,2μm,20.0s,MS4.7						
DLBC	Dease Lake	22.27	59	*e*P	P	22 01 48.5	+2.0
DLBC				*e*		22 02 07.0	
DLBC	Dease Lake	22.27	59	P	P	22 01 44.9	-1.7
	baz=265,slow=11						
INK	Inuvik	22.91	33	*e*P	P	22 01 49.9	-3.4
	comp=N,1μm,0.8s,mb6.3						
INK	Inuvik	22.91	33	P	P	22 01 50.3	-3.0
	comp=N,33nm,0.8s,mb4.8,baz=233,slow=11,SNR=61						
INK				PcP	PcP	22 05 42.4	+0.2
	comp=N,6.1nm,0.9s,baz=185,slow=2.7,SNR=3.5						
SEY	Seymchan	23.11	312	⇑*e*P	P	22 01 54.4	-1.0
MA2	Magadan	23.66	304	*e*P	P	22 01 60.0	-0.8
	comp=N,10nm,0.6s,mb4.4						
MA2	Magadan	23.66	304	*e*P	P	22 02 01.0	+0.2
MA2				*e*		22 02 40.5	
MA2				*e*S	S	22 06 10.7	-1.7
MA2				pmax	pmax		
	comp=Z,20nm,0.8s,mb4.6						
MA2				MLR	MLR		
	comp=Z,4μm,17.0s,MS5.0						
BBB	Bella Bella	24.33	74	LR	LR	22 11 03.8	
	comp=Z,2μm,18.2s,MS4.6,baz=286,slow=35						
B06A	Marblemount	29.62	79	⇓P	P	22 02 54.6	+0.2
	baz=30						
YKA	Yellowknife Ar	29.68	49	P	P	22 02 53.9	-0.9
YKA				PcP	PcP	22 05 57.9	-0.1
YKA				ScP	ScP	22 09 39.3	+2.7
YKA				LR	LR	22 16 44.4	
YKA	Yellowknife Ar	29.68	49	P	P	22 02 53.9	-1.0
YKA						22 05 57.9	
YKA						22 09 39.3	
YKA	Yellowknife Ar	29.68	49	P	P	22 02 53.9	-0.9
	comp=Z,6.0nm,0.9s,mb4.3,baz=270,slow=8.3,SNR=55						
YKA				PcP	PcP	22 05 57.9	-0.1
	comp=Z,2.6nm,0.7s,baz=291,slow=2.3,SNR=8.7						
YKA				ScP	ScP	22 09 39.3	+2.7
	comp=Z,1.2nm,0.9s,baz=273,slow=3.0,SNR=6.5						
YKA				LR	LR	22 16 44.4	
	comp=Z,2μm,18.6s,MS4.8,baz=155,slow=40						
A07A	Ashnola River,	30.05	77	⇑P	P	22 02 58.7	+0.4
	baz=30						
F04A	Amboy	30.24	84	⇑P	P	22 03 00.3	+0.3
	baz=30						
H03A	Soap Creek Ran	30.34	87	⇓P	P	22 03 00.9	0.0
	baz=30						
I02A	Mapleton	30.36	88	⇓P	P	22 03 01.0	-0.1
	baz=30						
COR	Corvallis	30.38	87	*e*P	P	22 03 01.9	+0.6
	comp=Z,45nm,1.0s,mb5.2						
COR	Corvallis	30.38	87	*e*P	P	22 03 01.9	+0.6
COR				pmax	pmax		
	comp=Z,45nm,1.0s,mb5.2						
B07A	Winthrop	30.46	78	⇓P	P	22 03 02.2	+0.3
	baz=30						
I03A

J04A	Umpqua Nationa	31.83	88	⇑P	P	22 03 14.6 +0.6
	baz=32					
I05A	Bend	31.85	86	⇑P	P	22 03 14.6 +0.4
	baz=32					
H06A	Lindquist Farm	32.12	84	⇑P	P	22 03 17.0 +0.4
	baz=32					
G07A	Ruggs Ranch, H	32.25	83	⇓P	P	22 03 18.2 +0.6
	baz=32					
YBH	Yreka Blue Hor	32.31	91	eP	P	22 03 19.1 +0.9
	comp=E,18nm,0.9s,mb4.9					
YBH	Yreka Blue Hor	32.31	91	⇓P	P	22 03 19.2 +0.9
	baz=32,SNR=13					
NEW	Newport	32.34	77	eP	P	22 03 18.1 -0.3
	comp=E,14nm,0.9s,mb4.8					
NEW				epP	pP	22 03 30.5 +1.3
NEW	Newport	32.34	77	eP	P	22 03 18.1 -0.3
NEW				e*PP	pP	22 03 30.5 +1.2
NEW				pmax	pmax	
	comp=Z,14nm,0.9s					
J05A	Fort Rock	32.34	87	P	P	22 03 19.2 +0.8
	baz=32,SNR=11					
K04A	Chilquin	32.41	89	⇑P	P	22 03 19.7 +0.6
	baz=32					
M02C	Callahan	32.42	92	⇑P	P	22 03 20.2 +1.0
	baz=32,SNR=10					
N02C	Big Bar	32.47	93	P	P	22 03 20.5 +0.8
	baz=32,SNR=18					
A11A	Hall Mountain,	32.48	75	⇑P	P	22 03 20.3 +0.7
	baz=32					
EDM	Edmonton	32.50	66	eP	P	22 03 19.5 -0.3
E09A	Wood Farm, Sta	32.55	80	⇓P	P	22 03 20.0 -0.3
	baz=32					
O01C	Eel River Cons	32.57	94	⇓P	P	22 03 21.3 +0.7
	baz=32,SNR=6.1					
I06A	Prineville	32.61	86	⇑P	P	22 03 20.9 +0.1
	baz=32					
G08A	Pilot Rock	32.67	83	⇓P	P	22 03 21.2 -0.1
	baz=32					
B11A	Sandpoint	32.71	76	⇑P	P	22 03 21.4 -0.2
	baz=32					
M04C	Macdoel	32.81	90	⇑P	P	22 03 23.2 +0.6
	baz=33,SNR=13					
K05A	Summer Lake	32.86	88	⇓P	P	22 03 23.5 +0.5
	baz=33,SNR=12					
A12A	Yaak River Ran	32.91	75	⇓P	P	22 03 23.8 +0.4
	baz=33					
M03C	McCloud	32.93	91	⇓P	P	22 03 24.0 +0.3
	baz=33					
I07A	Izee	32.97	85	⇑P	P	22 03 24.2 +0.2
	baz=33,SNR=6.0					
KIPM	Iron Peak	32.98	94	eP	P	22 03 22.6 -1.5
KCPM	Cahto Peak	32.99	95	eP	P	22 03 24.6 +0.4
TIXI	Tiksi	33.02	329	eP	P	22 03 23.7 -0.4
	comp=Z,8.7nm,0.8s,mb4.7					
TIXI	Tiksi	33.02	329	⇑eP	P	22 03 23.6 -0.5
TIXI				pmax	pmax	
	comp=Z,12nm,1.2s,mb4.7					
J06A	Christmas Vall	33.02	87	⇑P	P	22 03 25.3 +0.8
	baz=33,SNR=15					
WDC	Whiskeytown Da	33.09	93	eP	P	22 03 25.4 +0.3
	comp=Z,44nm,1.3s,mb5.2					
WDC	Whiskeytown Da	33.09	93	eP	P	22 03 25.4 +0.3
WDC				pmax	pmax	
	comp=Z,44nm,1.3s,mb5.2					
WDC	Whiskeytown Da	33.09	93	⇓P	P	22 03 25.6 +0.5
	baz=33,SNR=13					
O02C	Red Bluff	33.18	93	⇑P	P	22 03 26.5 +0.7
	baz=33,SNR=26					
E10A	Myers Farm, Un	33.19	80	⇑P	P	22 03 25.7 -0.2
	baz=33					
K06A	Valley Falls	33.21	87	P	P	22 03 27.2 +1.1
	baz=33,SNR=11					
H08A	Prairie City	33.24	84	⇓P	P	22 03 26.5 +0.1
	baz=33					
P01C	Double 8 Ranch	33.27	95	⇓P	P	22 03 27.0 +0.3
	baz=33,SNR=6.3					
L05A	Lakeview	33.28	89	⇓P	P	22 03 27.8 +1.1
	baz=33,SNR=12					
F10A	Beach Ranch, E	33.37	80	⇓P	P	22 03 27.2 -0.3
	baz=33					
D11A	Klaveano Farm,	33.38	78	⇑P	P	22 03 26.8 -0.8
	baz=33					
G09A	Cove	33.39	82	P	P	22 03 27.7 +0.1
	baz=33,SNR=6.7					
J07A	Hines	33.47	86	⇑P	P	22 03 27.9 -0.5
	baz=33					
GASB	Alder Springs	33.54	94	⇑P	P	22 03 30.0 +1.0
	baz=33,SNR=9.3					
HATC	Hat Creek Radi	33.61	91	P	P	22 03 30.4 +0.8
	baz=34,SNR=11					
I08A	Drewsey	33.63	84	⇓P	P	22 03 29.9 +0.2
	baz=34					
YAK	Yakutsk	33.63	311	eP	P	22 03 27.6 -2.0
	comp=Z,33nm,0.6s,mb5.4					
YAK	Yakutsk	33.63	311	eP	P	22 03 25.4 -4.1
YAK				e		22 04 38.1
YAK				e		22 06 06.8
YAK				eS	S	22 08 49.0 -0.2
YAK				eSS	SS	22 10 55.1 -20
YAK				eSSS		22 11 15.7
YAK				pmax	pmax	
	comp=N,5.0nm,1.0s					
YAK				pmax	pmax	
	comp=Z,43nm,1.0s,mb5.3					
YAK				pmax	pmax	
	comp=E,14nm,1.1s					
YAK				pmax	pmax	
	comp=Z,150nm,4.9s					
YAK				pmax	pmax	
	comp=N,71nm,3.3s					
YAK				pmax	pmax	
	comp=E,155nm,4.3s					
YAK				smax		
	comp=E,470nm,15.8s					
YAK				smax		
	comp=Z,210nm,15.5s					
YAK				smax		
	comp=N,69nm,10.7s					
YAK				MLR	MLR	
	comp=Z,3µm,17.0s,MS5.1					
YAK				MLR	MLR	
	comp=N,1µm,18.0s,MS5.1					
YAK				MLR	MLR	
	comp=E,3µm,18.0s,MS5.1					
MOD	Modoc	33.68	89	eP	P	22 03 30.5 +0.3
	comp=E,30nm,1.0s,mb5.2					
MOD	Modoc	33.68	89	P	P	22 03 30.8 +0.6
	baz=34,SNR=19					
HOPS	Hopland	33.73	95	eP	P	22 03 30.4 -0.2
	comp=E,119nm,1.6s,mb5.6					
HOPS	Hopland	33.73	95	⇑P	P	22 03 30.6 -0.1
	baz=34					
O03C	Acorn Hollow,	33.75	93	⇓P	P	22 03 31.0 +0.2
	baz=34					
G10A	Bishop Farm, J	33.78	81	P	P	22 03 31.4 +0.3
	baz=34,SNR=11					
E11A	Bogner Ranch,	33.79	79	⇓P	P	22 03 30.4 -0.8
	baz=34					
B13A	Whitefish	33.86	75	⇑P	P	22 03 31.2 -0.5
	baz=34					
WALA	Waterton Lakes	33.88	74	eP	P	22 03 32.1 +0.2
	comp=E,14nm,1.0s,mb4.8					
K07A	Rock Creek Ran	33.88	87	P	P	22 03 32.6 +0.7
	baz=34,SNR=7.6					
BMO	Blue Mountains	33.90	82	eP	P	22 03 32.5 +0.5
	comp=E,27nm,1.4s,mb5.0					
BMO				esP	sP	22 03 48.1 +0.5
M06C	Likely Place G	33.98	90	⇓P	P	22 03 33.1 +0.3
	baz=34,SNR=7.0					
J08A	Circle Bar Ran	33.98	85	⇓P	P	22 03 32.9 +0.1
	baz=34					
ERM	Erimo	33.99	272	eP	P	22 03 33.9 +0.9
	comp=E,32nm,0.7s,mb5.4					
ERM	Erimo	33.99	272	eP	P	22 03 33.9 +1.0
ERM				pmax	pmax	
	comp=Z,32nm,0.7s,mb5.4					
F11A	Grangeville	34.06	80	⇓P	P	22 03 33.1 -0.4
	baz=34					
I09A	Lost Marbles R	34.10	84	⇑P	P	22 03 33.6 -0.3
	baz=34					
C13A	Hot Springs	34.12	76	P	P	22 03 33.9 -0.1
	baz=34,SNR=5.3					
O04C	Chester	34.13	92	⇑P	P	22 03 34.6 +0.5
	baz=34,SNR=24					
ELFS	Eagle Lake Fie	34.17	91	P	P	22 03 35.5 +1.0
	baz=34,SNR=14					
MNRC	McLaughlin Nat	34.18	95	⇑P	P	22 03 34.9 +0.3
	baz=34					
L07A	Adell	34.21	88	⇓P	P	22 03 34.8 0.0
	baz=34,SNR=7.1					
G11A	Walters Elk Ra	34.24	81	⇑P	P	22 03 34.5 -0.5
	baz=34,SNR=9.8					
NSHM	Saint Helena R	34.31	95	eP	P	22 03 35.7 0.0
K08A	Mann Creek Ran	34.33	86	⇑P	P	22 03 36.3 +0.5
	baz=34,SNR=7.3					
ORV	Oroville	34.34	93	⇑P	P	22 03 35.4 -0.6
	baz=34,SNR=8.1					
SUTB	Sutter Butte	34.37	94	⇓P	P	22 03 35.8 -0.4
	baz=34					
H10A	Noah's Angus R	34.37	82	P	P	22 03 36.1 -0.1
	baz=34,SNR=22					
WVOR	Wild Horse Val	34.40	87	eP	P	22 03 36.7 +0.3
	comp=Z,41nm,1.2s,mb5.2					
WVOR	Wild Horse Val	34.40	87	eP	P	22 03 36.7 +0.2
WVOR				pmax	pmax	
	comp=Z,41nm,1.2s,mb5.2					
J09A	Fry Pan Ranch,	34.43	85	⇑P	P	22 03 36.9 +0.2
	baz=34,SNR=14					
O05C	Quincy	34.45	92	⇓P	P	22 03 37.4 +0.5
	baz=34,SNR=7.6					
D13A	Huson	34.48	77	⇑P	P	22 03 36.4 -0.7
	baz=34					
OHCM	Honcut	34.48	93	eP	P	22 03 36.7 -0.5
OHCM				esP	sP	22 03 53.6 +0.8
CVS	Carmenet Viney	34.51	96	⇑P	P	22 03 37.5 0.0
	baz=34					
Q03C	Winters	34.60	95	⇑P	P	22 03 38.7 +0.5
	baz=34					
I10A	Payette	34.61	83	⇑P	P	22 03 38.7 +0.4
	baz=34					
N06A	Buffalo Meadow	34.64	90	P	P	22 03 39.2 +0.6
	baz=34,SNR=23					
F12A	Elk City	34.67	79	P	P	22 03 38.6 -0.1
	baz=34,SNR=17					
M07A	Soldier Meadow	34.67	89	⇓P	P	22 03 39.4 +0.6
	baz=34,SNR=17					
L08A	Fields	34.72	87	P	P	22 03 39.9 +0.7
	baz=35,SNR=8.2					
H11A	Donnelly	34.76	82	P	P	22 03 39.2 -0.3
	baz=35,SNR=7.2					
K09A	Rome	34.81	86	⇑P	P	22 03 40.0 +0.1
	baz=35					
BEKR	Beckwourth	34.85	92	P	P	22 03 40.4 +0.1
	baz=35,SNR=12					
MSO	Missoula	34.91	77	eP	P	22 03 40.5 -0.3
	comp=Z,20nm,1.4s,mb4.8					
MSO				epP	pP	22 03 52.1 +0.4
MSO				esP	sP	22 03 56.7 +0.3
E13A	Victor	34.96	78	⇑P	P	22 03 40.5 -0.7
	baz=35					
O06A	Flanigan	34.99	91	⇓P	P	22 03 42.2 +0.6
	baz=35					
P05C	Yuba Gap, Truc	35.04	93	P	P	22 03 41.9 -0.1
	baz=35,SNR=12					
D14A	Greenough	35.05	76	⇑P	P	22 03 41.4 -0.6
	baz=35,SNR=9.5					
M08A	Happy Creek Ra	35.12	88	P	P	22 03 43.1 +0.5
	baz=35,SNR=16					
N07B	Gerlach	35.15	89	⇑P	P	22 03 43.5 +0.6
	baz=35					
F13A	Darby	35.21	79	P	P	22 03 43.1 -0.3
	baz=35,SNR=7.2					
I11A	Placerville	35.22	83	⇑P	P	22 03 43.4 -0.1
	baz=35,SNR=5.1					
L09A	Wilkinson Ranc	35.23	87	⇓P	P	22 03 43.7 +0.1
	baz=35,SNR=8.8					
JRSC	Jasper Ridge	35.24	97	⇓P	P	22 03 44.4 +0.6
	baz=35					
CHMT	Chamberlain Mo	35.28	77	eP	P	22 03 43.3 -0.7
K10A	MacKenzie Ranc	35.28	85	P	P	22 03 44.6 +0.5
	baz=35,SNR=7.3					
LAVA	Lava Cap Winer	35.30	94	P	P	22 03 44.2 0.0
	baz=35,SNR=9.3					
E14A	Clinton	35.39	77	⇑P	P	22 03 44.6 -0.3
	baz=35					
WENL	Wente Brothers	35.40	96	⇓P	P	22 03 44.9 -0.2
	baz=35					
R04C	Big Horse Ranc	35.49	94	⇓P	P	22 03 45.3 -0.6
	baz=35					
HABR	Khabarovsk	35.51	287	⇑eP	P	22 03 45.5 -0.5
HABR				e		22 05 05.8
HABR				e		22 06 14.4
HABR				eS	S	22 09 20.6 +2.1
HABR				e		22 14 02.4
HABR				pmax	pmax	
	comp=Z,76nm,1.1s,mb5.5					
H12A	Diamond D Ranc	35.54	81	⇑P	P	22 03 45.6 -0.6
	baz=35,SNR=8.1					
WCN	Washoe City	35.56	92	⇓P	P	22 03 46.8 +0.3
	baz=35,SNR=7.8					
MFID	Camas Ranch	35.56	83	⇓P	P	22 03 46.2 -0.3
	baz=35					
G13A	Cobalt	35.63	80	P	P	22 03 46.9 -0.1
	baz=36,SNR=8.0					
D15A	Lincoln	35.66	76	⇓P	P	22 03 46.9 -0.3
	baz=36,SNR=5.8					
N08A	GE Springer Mi	35.66	89	P	P	22 03 47.6 +0.3
	baz=36,SNR=16					
M09A	Marrel Ranch,	35.70	87	⇓P	P	22 03 48.1 +0.4
	baz=36					
R05C	Kirkwood Meado	35.74	93	P	P	22 03 48.4 +0.4
	baz=36,SNR=18					
F14A	Wisdom	35.77	78	⇓P	P	22 03 48.1 -0.1
	baz=36					
K11A	Parker Ranch,	35.80	84	⇓P	P	22 03 48.4 -0.1
	baz=36,SNR=11					
E15A	Deer Lodge	35.89	77	P	P	22 03 48.9 -0.4
	baz=36,SNR=7.5					
H13A	Challis	35.90	81	P	P	22 03 48.8 -0.5
	baz=36,SNR=7.2					
L10A	Juniper Basin	35.92	86	P	P	22 03 49.8 +0.2
	baz=36,SNR=6.7					
P07A	Fallon	35.95	91	⇑P	P	22 03 50.0 +0.2
	baz=36					
CMB	Columbia Colle	35.97	94	eP	P	22 03 49.7 -0.3
	comp=Z,8.5nm,0.8s,mb4.7					
CMB	Columbia Colle	35.97	94	eP	P	22 03 50.4 +0.4
CMB				pmax	pmax	
	comp=Z,9.0nm,0.8s,mb4.8					
CMB	Columbia Colle	35.97	94	⇓P	P	22 03 49.9 -0.1
	baz=36,SNR=9.9					
N09A	Rock Creek Ran	35.99	88	⇓P	P	22 03 50.6 +0.4
	baz=36					
RES	Resolute Bay	36.01	26	eP	P	22 03 48.0 -1.9
	comp=Z,234nm,1.0s,mb6.1					
G14A	Jackson	36.01	79	⇓P	P	22 03 50.0 -0.3
	baz=36					
PACP	Pacheco Peak	36.08	96	⇑P	P	22 03 51.0 +0.1
	baz=36					
J12A	Stokes Ranch,	36.10	83	⇑P	P	22 03 51.2 +0.1
	baz=36,SNR=11					
M10A	I.L. Ranch, Tu	36.20	86	⇓P	P	22 03 52.1 +0.1
	baz=36					
R06C	Coleville	36.23	93	P	P	22 03 53.0 +0.7
	baz=36,SNR=21					
F15A	Butte	36.28	78	⇑P	P	22 03 52.5 -0.1
	baz=36					
L11A	Cat Creek Ranc	36.31	85	⇓P	P	22 03 53.0 +0.1
	baz=36,SNR=13					
HAST	Hastings Reser	36.32	97	⇑P	P	22 03 52.7 -0.4
	baz=36,SNR=7.7					
I13A	Wildhorse Cree	36.33	81	⇑P	P	22 03 52.9 -0.1
	baz=36,SNR=12					
HLID	Hailey	36.34	82	eP	P	22 03 52.8 -0.3
	comp=Z,88nm,2.1s,mb5.3					
HLID	Hailey	36.34	82	P	P	22 03 53.1 0.0
	baz=36,SNR=9.0					
P08A	Dixie Valley	36.35	90	⇓P	P	22 03 53.3 +0.1
	baz=36					
S05C	Merced	36.44	95	⇑P	P	22 03 54.2 +0.1
	baz=36					
DLMT	Dillon	36.47	78	eP	P	22 03 54.0 -0.2
	comp=Z,31nm,1.4s,mb5.0					
DLMT				epP	pP	22 04 05.7 +0.6
K12A	Draper Farm, C	36.56	84	⇓P	P	22 03 54.8 -0.2
	baz=36					
J13A	Cove Ranch, Pi	36.58	82	⇓P	P	22 03 55.3 +0.2
	baz=36,SNR=14					
MCMT	McKenzie Canyo	36.60	79	eP	P	22 03 54.1 -1.2
O09A	Fish Creek Ran	36.60	89	⇑P	P	22 03 55.4 0.0
	baz=36					
G15A	Dillon	36.64	79	⇓P	P	22 03 55.2 -0.4
	baz=36,SNR=11					
M11A	Holland Ranch,	36.71	86	⇓P	P	22 03 56.5 +0.2
	baz=36					
R07C	Lee Vining	36.75	93	⇓P	P	22 03 56.9 +0.2
	baz=37,SNR=7.2					
V03C	Hunter Liggett	36.76	98	⇓P	P	22 03 56.4 -0.4
	baz=37					
L12A	House Creek Ra	36.77	85	⇑P	P	22 03 57.2 +0.4
	baz=37,SNR=8.8					
EGMT	Eagleton	36.80	73	eP	P	22 03 56.1 -0.9
	comp=Z,38nm,0.9s,mb5.2					
EGMT	Eagleton	36.80	73	P	P	22 03 56.6 -0.4
	baz=37,SNR=9.5					
U04C	Hernandez Rese	36.80	97	⇓P	P	22 03 57.4 +0.2
	baz=37,SNR=6.5					
BOZ	Bozeman (W)	36.90	77	eP	P	22 03 57.3 -0.5
	comp=Z,14nm,1.1s,mb4.7					
BOZ				epP	pP	22 04 08.7 -0.1
BOZ				esP	sP	22 04 13.3 -0.1
BOZ	Bozeman (W)	36.90	77	eP	P	22 03 57.3 -0.5
BOZ				e*PP	pP	22 04 08.7 -0.1
BOZ				pmax	pmax	
	comp=Z,14nm,1.1s,mb4.7					
BOZ	Bozeman (W)	36.90	77	⇑P	P	22 03 57.8 0.0
	baz=37					
Q08A	Gabbs	36.95	91	⇑P	P	22 03 58.2 -0.2
	baz=37,SNR=15					
O10A	Cortez Mining,	36.95	88	⇑P	P	22 03 58.7 +0.3
	baz=37					
NVAR	Mina Array Bea	36.99	92	P	P	22 03 58.4 -0.3
	comp=Z,11nm,0.8s,mb4.8,baz=300,slow=7.2,SNR=29					
T06C	Millerton Lake	37.04	95	P	P	22 03 59.0 -0.1
	baz=37,SNR=9.2					
K13A	Stover Farm, H	37.05	83	⇑P	P	22 03 59.5 +0.3
	baz=37					
KCC	Kaiser Creek	37.07	94	⇓P	P	22 03 58.9 -0.5
	baz=37,SNR=13					
R08A	Mina	37.16	92	⇓P	P	22 04 00.2 0.0
	baz=37					
MLAC	Mammoth Lakes	37.17	93	⇓P	P	22 04 01.1 +0.8
	baz=37					
PKD	Parkfield	37.23	97	⇑P	P	22 04 01.2 +0.5
	baz=37					
M12A	Wells	37.26	85	⇓P	P	22 04 01.2 +0.3
	baz=37,SNR=6.7					
Q09A	Carvers	37.43	91	⇓P	P	22 04 02.1 -0.3
	baz=37					
L13A	Double Diamond	37.46	84	⇓P	P	22 04 02.8 +0.2
	baz=37					
MTUM	Tungsten Hills	37.52	94	eP	P	22 04 03.9 +0.8
O11A	Cowboy Ranch,	37.57	88	⇑P	P	22 04 03.6 0.0
	baz=37					
S08C	White Mtn Res	37.66	93	⇑P	P	22 04 05.2 +0.8
	baz=38,SNR=14					
HELL	Mitchell Peak	37.67	95	P	P	22 04 04.3 -0.1
	baz=38,SNR=31					
M13A	Montello	37.75	85	⇑P	P	22 04 05.3 +0.2
	baz=38					
R09A	Tonopah	37.87	91	P	P	22 04 06.2 +0.1
	baz=38,SNR=20					
Q10A	Clear Creek Ra	37.91	90	⇑P	P	22 04 07.0 +0.5
	baz=38,SNR=15					
TIN	Tinemaha	37.91	94	⇑P	P	22 04 07.1 +0.6
	baz=38					
YNR	Norris Junctio	37.96	78	eP	P	22 04 07.5 +0.7
YNR				esP	sP	22 04 23.1 +0.7
SMMC	Simmler	37.98	97	⇑P	P	22 04 07.5 +0.4
	baz=38					
YFT	Old Faithful	38.01	79	eP	P	22 04 09.9 +2.6
N13A	Wendover, West	38.02	86	⇑P	P	22 04 07.6 +0.2
	baz=38					
O12A	Currie	38.04	87	P	P	22 04 08.2 +0.6
	baz=38,SNR=8.9					
S09A	Goldfield	38.10	92	⇓P	P	22 04 08.3 +0.3
	baz=38					
M14A	Sheep Mountain	38.16	84	⇓P	P	22 04 08.8 +0.2
	baz=38,SNR=6.2					
VES	Vestal, Richgr	38.19	96	⇑P	P	22 04 08.7 -0.2
	baz=38					
LKWY	Lake	38.21	78	eP	P	22 04 10.3 +1.3
	comp=Z,18nm,0.9s,mb4.8					
LKWY				epP	pP	22 04 20.9 +0.9
LKWY	Lake	38.21	78	eP	P	22 04 10.3 +1.3
LKWY				e*PP	pP	22 04 20.9 +1.0
LKWY				pmax	pmax	
	comp=Z,18nm,0.9s,mb4.8					
IMW	Indian Meadow	38.26	79	eP	P	22 04 09.8 +0.4
	comp=Z,17nm,0.9s,mb4.8					
FLWY	Flagg Ranch	38.30	79	eP	P	22 04 09.9 +0.2
	comp=Z,35nm,1.2s,mb5.0					
R10A	Warm Springs	38.30	91	P	P	22 04 10.1 +0.3
	baz=38,SNR=11					
Q11A	Duckwater	38.35	89	P	P	22 04 10.2 0.0
	baz=38,SNR=9.0					
S10A	Tonopah Range,	38.36	91	P	P	22 04 10.4 +0.1
	baz=38,SNR=19					
PKM	Peak Mountain	38.37	98	⇓P	P	22 04 10.7 +0.3
	baz=38,SNR=5.8					
P12A	McGill	38.42	88	P	P	22 04 11.1 +0.3
	baz=38,SNR=13					
TPAW	Teton Pass	38.48	80	eP	P	22 04 11.2 +0.1
	comp=Z,16nm,1.0s,mb4.7					
RLMT	Red Lodge	38.59	77	eP	P	22 04 11.9 -0.2
	comp=Z,31nm,0.9s,mb5.0					
RLMT				epP	pP	22 04 23.3 +0.2
RLMT				esP	sP	22 04 28.5 +0.7
REDW	Red Top Meadow	38.61	80	eP	P	22 04 12.5 +0.2
	comp=Z,16nm,0.9s,mb4.7					
N14A	Grayback Hills	38.64	85	⇓P	P	22 04 12.3 -0.4
	baz=38					
ISA	Isabella	38.67	96	eP	P	22 04 12.5 -0.5
	comp=Z,14nm,0.9s,mb4.7					
ISA	Isabella	38.67	96	eP	P	22 04 12.5 -0.4
ISA				pmax	pmax	
	comp=Z,14nm,0.9s,mb4.7					
ISA	Isabella	38.67	96	⇓P	P	22 04 12.3 -0.7
	baz=38,SNR=13					
BGU	Big Grassy Mou	38.70	85	eP	P	22 04 13.3 +0.3
R11A	Troy Canyon, C	38.71	90	P	P	22 04 13.0 -0.2
	baz=39,SNR=16					
Q12A	Willow Creek R	38.74	88	⇓P	P	22 04 13.4 0.0
	baz=39,SNR=13					
AHID	Auburn Hatcher	38.80	81	eP	P	22 04 14.2 +0.3
	comp=Z,9.5nm,0.3s,mb5.0					
AHID				epP	pP	22 04 25.0 +0.1
P13A	Bates Ranch, G	38.98	87	P	P	22 04 15.4 0.0
	baz=39,SNR=11					
MPMC	Manual Prospec	39.01	94	P	P	22 04 15.6 -0.2
	baz=39,SNR=11					
N15A	Stansbury Isla	39.03	84	⇓P	P	22 04 15.9 +0.1
	baz=39					
FURC	Furnace Creek,	39.13	93	P	P	22 04 17.2 +0.5
	baz=39,SNR=5.4					
HWUT	Hardware Ranch	39.19	83	eP	P	22 04 16.9 -0.2
	comp=Z,4.4nm,0.8s,mb4.2					
TPNV	Topopah Spring	39.19	92	eP	P	22 04 17.3 0.0
	comp=Z,24nm,0.9s,mb4.9					
TPNV				esP	sP	22 04 33.3 +0.4
TPNV	Topopah Spring	39.19	92	P	P	22 04 17.0 -0.2
TPNV				pmax	pmax	
	comp=Z,24nm,0.9s,mb4.9					
TPNV	Topopah Spring	39.19	92	P	P	22 04 17.2 0.0
	baz=39,SNR=19					
DUG	Dugway	39.27	85	eP	P	22 04 18.1 +0.2
	comp=Z,26nm,1.2s,mb4.8					
DUG	Dugway	39.27	85	eP	P	22 04 18.1 +0.3
DUG				pmax	pmax	
	comp=Z,25nm,1.2s,mb4.8					
DUG	Dugway	39.27	85	⇑P	P	22 04 17.6 -0.2
	baz=39,SNR=11					
LRMC	Laurel Mountai	39.27	95	⇓P	P	22 04 17.7 -0.2
	baz=39					
R12A	Pony Springs,	39.32	89	⇓P	P	22 04 18.4 +0.1
	baz=39					
U10A	Ash Meadows, A	39.48	93	⇑P	P	22 04 19.9 +0.2
	baz=39,SNR=6.7					
EDW2	Edwards Air Fo	39.49	96	⇓P	P	22 04 19.3 -0.4
	baz=39					
CTU	Camp Tracy	39.61	84	eP	P	22 04 20.6 -0.2
	comp=Z,25nm,1.1s,mb4.8					
T11A	Corn Creek, Al	39.63	91	P	P	22 04 20.7 -0.2
	baz=40,SNR=16					
BW06	Boulder Array	39.73	80	eP	P	22 04 21.3 -0.4
	comp=Z,18nm,0.9s,mb4.8					
PDAR	Pinedale Array	39.73	80	P	P	22 04 21.0 -0.6
	comp=Z,16nm,0.9s,mb4.7,baz=305

NLU	North Lily Min	39.86	85	eP	P	22 04 20.3	-2.5
GSC	Goldstone	39.93	95	eP	P	22 04 23.3	-0.1
	comp=Z,53nm,1.1s,mb5.2						
GSC	Goldstone	39.93	95	eP	P	22 04 23.3	-0.1
GSC				pmax	pmax		
	comp=Z,53nm,1.1s,mb5.2						
GSC	Goldstone	39.93	95	P	P	22 04 23.3	-0.1
	baz=40,SNR=18						
DAU	Daniels Canyon	40.08	84	eP	P	22 04 25.2	+0.5
MPU	Maple Canyon	40.09	85	eP	P	22 04 18.7	-6.0
	comp=Z,37nm,0.7s,mb5.2						
BFSC	Mount Baldy St	40.12	97	⇓P	P	22 04 24.6	-0.4
	baz=40,SNR=6.0						
S13A	Holt Ranch, En	40.25	89	⇑P	P	22 04 25.7	-0.3
	baz=40,SNR=9.7						
ALE	Alert	40.37	11	P	P	22 04 26.0	-0.5
	comp=Z,83nm,0.5s,mb5.7,SNR=8.0						
FCC	Fort Churchill	40.37	51	eP	P	22 04 26.4	-0.4
	comp=Z,34nm,0.9s,mb5.1						
FCC	Fort Churchill	40.37	51	eP	P	22 04 26.4	-0.4
FCC				pmax	pmax		
	comp=Z,34nm,0.9s,mb5.1						
MAJO	Matsushiro	40.37	269	eP	P	22 04 27.5	+0.4
	comp=Z,34nm,0.8s,mb5.1						
MAJO	Matsushiro	40.37	269	eP	P	22 04 27.5	+0.4
MAJO				pmax	pmax		
	comp=Z,34nm,0.8s,mb5.1						
MJAR	Matsushiro Arr	40.37	269	P	P	22 04 26.7	-0.4
	comp=Z,16nm,0.9s,mb4.8,baz=46,slow=7.5,SNR=28						
MAT	Matsushiro	40.37	269	P	P	22 04 26.5	-0.6
MAT				S	S	22 10 32.0	-0.3
TUQ	Turquoise Mtn.	40.38	94	⇓P	P	22 04 26.9	-0.2
	baz=40						
V11A	Goodsprings	40.41	93	⇓P	P	22 04 27.2	-0.2
	baz=40						
HEC	Hector,Ludlow	40.53	95	P	P	22 04 28.3	-0.2
	baz=40,SNR=6.7						
CCUT	Cedar City	40.57	89	eP	P	22 04 28.9	+0.2
T13A	Saint George	40.58	90	⇓P	P	22 04 28.6	-0.2
	baz=40,SNR=6.7						
MSU	Marysvale	40.69	87	eP	P	22 04 29.9	+0.2
MSU	Marysvale	40.69	87	P	P	22 04 30.4	+0.7
MDJ	Mudanjiang	40.73	285	P	P	22 04 28.3	-1.6
MDJ				AP	pP	22 04 39.3	-1.7
MDJ				XP	sP	22 04 44.4	-1.2
MDJ				AMB	AMB		
	comp=Z,12nm,1.1s,mb4.4						
MDJ				AMB	AMB		
	comp=Z,157nm,3.9s						
MDJ				LR	LR		
	comp=N,554nm,12.6s,MS5.0						
MDJ				LR	LR		
	comp=E,1μm,12.6s,MS5.0						
MDJ				LR	LR		
	comp=Z,1μm,17.2s,MS4.9						
TMUT	Trail Mountain	40.79	85	eP	P	22 04 30.9	+0.4
V12A	Nelson	40.84	92	P	P	22 04 31.4	+0.4
	baz=41,SNR=6.4						
U13A	Pakoon Wash	40.93	91	P	P	22 04 32.4	+0.7
	baz=41,SNR=9.3						
GMRC	Granite Mounta	40.98	94	P	P	22 04 31.7	-0.3
	baz=41,SNR=7.6						
W12A	Cal Nev Ari	41.11	93	⇓P	P	22 04 33.2	0.0
	baz=41						
PFO	Pinyon Flat Ob	41.28	96	eP	P	22 04 33.8	-0.8
	comp=Z,29nm,1.4s,mb4.7						
PFO	Pinyon Flat Ob	41.28	96	eP	P	22 04 33.8	-0.8
PFO				pmax	pmax		
	comp=Z,29nm,1.4s,mb4.7						
PFO	Pinyon Flat Ob	41.28	96	⇓P	P	22 04 33.7	-0.9
	baz=41						
BELC	Belle Mtn.	41.29	95	⇓P	P	22 04 34.2	-0.5
	baz=41						
SRU	San Rafael	41.33	85	eP	P	22 04 35.6	+0.7
	comp=Z,23nm,1.1s,mb4.7						
SRU	San Rafael	41.33	85	eP	P	22 04 35.6	+0.7
SRU				pmax	pmax		
	comp=Z,23nm,1.1s,mb4.7						
U14A	Mt Trumbull	41.41	90	P	P	22 04 36.3	+0.7
	baz=41,SNR=5.9						
T15A	Red Dirt Ranch	41.51	89	P	P	22 04 36.7	+0.2
	baz=41,SNR=7.5						
IRM	Iron Mountain	41.70	94	P	P	22 04 37.9	-0.1
	baz=42,SNR=6.9						
RWWY	Rawlins	41.77	80	eP	P	22 04 38.1	-0.4
	comp=Z,43nm,1.2s,mb5.0						
MONP	Monument Peak	41.80	97	⇑P	P	22 04 38.6	-0.3
	baz=42						
W13A	Hualapai Mount	41.85	92	⇑P	P	22 04 38.8	-0.4
	baz=42,SNR=5.9						
BC3	Big Chuckw Mtn	41.86	95	⇓P	P	22 04 39.3	0.0
	baz=42						
V14A	Boquillas Ranc	41.97	91	⇑P	P	22 04 40.5	+0.3
	baz=42,SNR=7.5						
SWSC	Sam W. Stewart	42.14	96	⇑P	P	22 04 41.4	-0.2
	baz=42						
DVTC	Desert V Tower	42.15	97	⇑P	P	22 04 41.7	0.0
	baz=42						
X13A	Yucca	42.22	93	⇑P	P	22 04 41.4	-0.9
	baz=42						
PDMCI	Parker Dam,Lak	42.23	93	⇓P	P	22 04 41.8	-0.5
	baz=42						
W14A	Seligman	42.26	92	⇓P	P	22 04 42.4	-0.2
	baz=42,SNR=6.7						
Y12C	Blythe	42.36	94	⇑P	P	22 04 42.6	-0.8
	baz=42,SNR=5.2						
BOD	Bodaibo	42.47	309	eP	P	22 04 42.3	-1.7
BOD				pmax	pmax		
	comp=Z,17nm,0.6s,mb4.8						
GLA	Glamis	42.66	95	eP	P	22 04 45.4	-0.4
	comp=Z,25nm,1.2s,mb4.8						
GLA	Glamis	42.66	95	eP	P	22 04 45.4	-0.4
GLA				pmax	pmax		
	comp=Z,25nm,1.2s,mb4.8						
GLA	Glamis	42.66	95	⇑P	P	22 04 45.6	-0.2
	baz=42						
Y13A	Salome	42.74	94	⇑P	P	22 04 46.4	-0.1
	baz=43						
W15A	Williams	42.78	91	⇑P	P	22 04 47.1	+0.3
	baz=43						
X14A	Yava	42.88	92	⇑P	P	22 04 47.3	-0.3
	baz=43,SNR=9.9						
PHWY	Pilot Hill	43.06	79	eP	P	22 04 48.0	-0.9
WUAZ	Wupatki	43.11	90	eP	P	22 04 49.5	+0.1
	comp=Z,22nm,1.1s,mb4.8						
WUAZ	Wupatki	43.11	90	⇑P	P	22 04 49.2	-0.3
	baz=43						
Y14A	Wickenburg	43.16	93	⇓P	P	22 04 49.6	-0.3
	baz=43						
X15A	Humboldt	43.26	92	⇑P	P	22 04 50.3	-0.4
	baz=43						
SMCO	Snowmass	43.44	82	eP	P	22 04 51.4	-0.8
	comp=Z,17nm,1.2s,mb4.6						
ULM	Lac du Bonnet	43.52	63	P	P	22 04 51.0	-1.6
	comp=Z,5.8nm,1.1s,mb4.2,baz=314,slow=8.1,SNR=6.0						
ULM				LR	LR	22 23 24.9	
	comp=Z,2μm,19.8s,MS4.9,baz=310,slow=37						
Y15A	Casa Rosa Ranc	43.56	92	⇑P	P	22 04 52.7	-0.5
	baz=43						
Z14A	Wintersburg	43.59	93	⇓P	P	22 04 52.8	-0.5
	baz=43						
CN2	Changchun	43.64	286	eP	P	22 04 52.8	-0.8
CN2				eXP	sP	22 05 03.6	-5.8
CN2				eS	S	22 11 19.0	-1.3
CN2				AMB	AMB		
	comp=Z,50nm,0.6s,mb5.4						
CN2				AMB	AMB		
	comp=Z,200nm,4.0s						
CN2				LR	LR		
	comp=N,1μm,16.0s,MS5.0						
CN2				LR	LR		
	comp=E,1μm,16.0s,MS5.0						
CN2				LR	LR		
	comp=Z,2μm,16.0s,MS5.1						
MVCO	Mesa Verde	43.76	86	eP	P	22 04 53.9	-0.8
	comp=Z,54nm,1.7s,mb5.0						
MVCO	Mesa Verde	43.76	86	⇓P	P	22 04 54.1	-0.6
	baz=44						
X16A	Lo Mia Camp, P	43.80	91	⇓P	P	22 04 55.0	0.0
	baz=44,SNR=6.2						
HIA	Hailar	43.82	296	eP	P	22 04 53.9	-1.2
	comp=Z,12nm,0.8s,mb4.7						
HIA	Hailar	43.82	296	c iP	P	22 04 53.6	-1.4
ISCO	Idaho Springs	43.88	81	eP	P	22 04 55.5	-0.1
	comp=Z,8.3nm,1.0s,mb4.4						
ISCO	Idaho Springs	43.88	81	eP	P	22 04 55.6	0.0
ISCO				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.4						
Y16A	Circle Bar Ran	44.14	92	⇓P	P	22 04 57.7	-0.1
	baz=44						
115A	Sonoran Desert	44.48	94	⇑P	P	22 05 00.5	0.0
	baz=44						
Z16A	Peralta Trail,	44.53	92	⇓P	P	22 05 01.0	0.0
	baz=44						
AGMN	Agassiz Refuge	44.59	65	eP	P	22 04 59.8	-1.4
	comp=Z,9.9nm,0.8s,mb4.7						
SDCO	Great Sand Dun	45.24	83	eP	P	22 05 06.2	-0.3
	comp=Z,9.4nm,0.9s,mb4.6						
TUC	Tucson	45.63	93	eP	P	22 05 09.1	-0.6
	comp=Z,62nm,1.4s,mb5.3						
TUC				epP	pP	22 05 19.0	-1.8
TUC				esP	sP	22 05 25.3	-0.1
TUC	Tucson	45.63	93	eP	P	22 05 09.1	-0.6
TUC				e*PP	pP	22 05 19.0	-1.8
TUC				e*SP	sP	22 05 25.3	-0.1
TUC				pmax	pmax		
	comp=Z,62nm,1.4s,mb5.3						
CIT	Chita	45.63	302	eP	P	22 05 09.5	+0.1
CIT				pmax	pmax		
	comp=Z,18nm,1.2s,mb4.9						
SNY	Shenyang	45.92	285	P	P	22 05 14.6	+2.8
SNY				LR	LR		
	comp=N,1μm,16.5s,MS5.2						
SNY				LR	LR		
	comp=E,1μm,15.3s,MS5.2						
SNY				LR	LR		
	comp=Z,2μm,16.3s,MS5.2						
KSRS	Korea Array	46.06	277	P	P	22 05 12.8	-0.3
	comp=Z,25nm,0.8s,mb5.2,baz=55,slow=7.3,SNR=45						
KSRS				PcP	PcP	22 06 49.9	+1.1
	comp=Z,5.2nm,1.0s,baz=50,slow=3.5,SNR=4.4						
KSRS				LR	LR	22 22 52.9	
	comp=Z,841nm,20.4s,MS4.7,baz=53,slow=34						
119A	Ashpeak Ranch,	46.23	91	⇓P	P	22 05 14.4	+0.1
	baz=46						
218A	Dragoon	46.32	92	⇓P	P	22 05 14.5	-0.5
	baz=46,SNR=6.4						
ANMO	Albuquerque	46.49	87	eP	P	22 05 16.2	-0.2
	comp=Z,9.6nm,1.1s,mb4.6						
ANMO				epP	pP	22 05 27.4	-0.1
ANMO	Albuquerque	46.49	87	⇑eP	P	22 05 15.8	-0.6
ANMO	Albuquerque	46.49	87	LR	LR	22 22 49.1	
	comp=Z,1μm,19.2s,MS4.8,baz=128,slow=34						
318A	Bisbee	46.72	93	⇓P	P	22 05 17.8	-0.4
	baz=47						
ECSD	EROS,Sioux Fal	46.81	71	eP	P	22 05 16.4	-2.4
	comp=Z,11nm,0.9s,mb4.8						
INCN	Inchon	46.83	278	eP	P	22 05 19.9	+0.9
	comp=Z,97nm,1.1s,mb5.6						
BNM	Barren Site	46.92	88	eP	P	22 05 19.5	-0.3
EYMN	Ely	47.19	63	eP	P	22 05 20.3	-1.4
	comp=Z,18nm,1.0s,mb5.0						
CBKS	Cedar Bluff	48.04	78	eP	P	22 05 28.0	-0.3
	comp=Z,38nm,1.0s,mb5.4						
CBKS				esP	sP	22 05 43.3	-0.9
CBKS	Cedar Bluff	48.04	78	eP	P	22 05 28.0	-0.4
CBKS				e*SP	sP	22 05 43.3	-0.9
CBKS				pmax	pmax		
	comp=Z,38nm,1.0s,mb5.4						
DL2	Dalian	48.92	283	P	P	22 05 35.1	0.0
DL2				eS	S	22 12 37.5	+1.4
DL2				XS	sS	22 12 54.8	+0.1
DL2				AMB	AMB		
	comp=Z,20nm,0.8s,mb5.2						
DL2				AMB	AMB		
	comp=Z,120nm,4.6s						
DL2				LR	LR		
	comp=N,380nm,15.9s,MS4.6						
DL2				LR	LR		
	comp=E,340nm,15.8s,MS4.6						
DL2				LR	LR		
	comp=Z,520nm,16.9s,MS4.6						
MNTX	Cornudas Mount	49.36	89	eP	P	22 05 38.0	-0.6
	comp=Z,15nm,0.9s,mb5.0						
DAG	Danmarks Havn	49.61	9	⇑iP	P	22 05 39.6	-0.4
DAG				pmax	pmax		
	comp=Z,28nm,1.0s,mb5.2						
DAG	Danmarks Havn	49.61	9	⇑iP	P	22 05 39.6	-0.4
	comp=Z,28nm,1.0s,mb5.2						
IRK	Irkutsk	50.19	307	eP	P	22 05 41.8	-2.8
IRK				pmax	pmax		
	comp=Z,44nm,1.3s,mb5.3						
TLY	Talaya	50.84	307	eP	P	22 05 50.0	+0.5
	comp=Z,24nm,1.0s,mb5.1						
TLY	Talaya	50.84	307	eP	P	22 05 49.6	+0.1
TLY				eS	S	22 13 21.4	+19
TLY				e		22 15 33.6	
TLY				pmax	pmax		
	comp=Z,19nm,0.9s,mb5.0						
TLY				MLR	MLR		
	comp=Z,2μm,18.0s,MS5.1						
JFWS	Jewell Farm	50.96	68	eP	P	22 05 47.7	-2.8
	comp=Z,16nm,0.8s,mb5.0						
JFWS	Jewell Farm	50.96	68	eP	P	22 05 47.7	-2.9
JFWS				pmax	pmax		
	comp=Z,16nm,0.8s,mb5.0						
BJI	Beijing	51.40	288	P	P	22 05 54.3	+0.4
BJI				PP	PP	22 07 53.5	+2.6
BJI				SCP	ScP	22 10 56.3	-4.9
BJI				SCS	ScS	22 15 42.3	+1.6
BJI				AMB	AMB		
	comp=Z,25nm,0.8s,mb5.2						
BJI				AMB	AMB		
	comp=Z,447nm,4.3s						
BJI				LR	LR		
	comp=N,2μm,16.5s,MS5.3						
BJI				LR	LR		
	comp=E,2μm,18.7s,MS5.3						
BJI				LR	LR		
	comp=Z,2μm,17.3s,MS5.2						
BJT	Baijiatuau	51.41	288	eP	P	22 05 54.3	+0.3
	comp=Z,22nm,0.9s,mb5.1						
BJT	Baijiatuau	51.41	288	eP	P	22 05 54.3	+0.3
BJT				pmax	pmax		
	comp=Z,22nm,0.9s						
ULN	Ulaanbaatar	51.47	301	eP	P	22 05 53.7	-0.6
	comp=Z,24nm,0.8s,mb5.2						
ULN	Ulaanbaatar	51.47	301	eP	P	22 05 53.7	-0.7
ULN				pmax	pmax		
	comp=Z,24nm,0.8s,mb5.2						
ZAK	Zakamensk	51.82	306	⇑iP	P	22 05 56.6	-0.3
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.4s,mb4.2						
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.5s,mb4.2						
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.5s,mb3.8						
SONM	Songino Array	51.84	301	P	P	22 05 57.4	+0.3
	comp=Z,13nm,0.7s,mb5.0,baz=56,slow=6.8,SNR=50						
SONM				PcP	PcP	22 07 10.2	+0.7
	comp=Z,2.7nm,0.6s,baz=78,slow=2.4,SNR=2.4						
LPIG	La Paz	51.84	100	LR	LR	22 22 30.6	
	comp=Z,347nm,21.6s,MS4.3,baz=26,slow=30						
TXAR	Lajitas Array	52.07	90	P	P	22 05 58.2	-0.8
	comp=Z,19nm,0.9s,mb5.0,baz=299,slow=5.6,SNR=48						
TXAR				LR	LR	22 26 35.3	
	comp=Z,674nm,19.0s,MS4.7,baz=10.0,slow=34						
MOY	Mondy	52.14	308	eP	P	22 05 59.6	+0.4
MOY				pmax	pmax		
	comp=Z,41nm,2.6s,mb4.9						
HDIL	Hopedale	53.03	69	eP	P	22 06 04.2	-1.9
	comp=Z,24nm,0.7s,mb5.2						
HDIL				esP	sP	22 06 21.0	-1.0
HHC	Hu-ho-hao-te	53.52	292	eP	P	22 06 09.8	+0.2
HHC				AP	pP	22 06 23.0	+2.0
HHC				XP	sP	22 06 27.1	+1.6
HHC				PCP	PcP	22 07 15.3	-0.7
HHC				PP	PP	22 08 11.8	+1.7
HHC				SCP	ScP	22 11 07.8	-2.6
HHC				PCS	PcS	22 11 12.8	-2.2
HHC				S	S	22 13 39.4	-0.2
HHC				SCS	ScS	22 15 51.8	-3.8
HHC				SS	SS	22 17 15.8	-3.8
HHC				AMB	AMB		
	comp=Z,23nm,0.5s,mb5.4						
HHC				AMB	AMB		
	comp=Z,273nm,7.2s						
HHC				LR	LR		
	comp=N,2μm,14.9s,MS5.4						
HHC				LR	LR		
	comp=E,2μm,15.7s,MS5.4						
HHC				LR	LR		
	comp=Z,2μm,19.0s,MS5.2						
JCT	Junction City	53.62	86	eP	P	22 06 09.1	-1.5
	comp=Z,27nm,0.9s,mb5.2						
JCT	Junction City	53.62	86	eP	P	22 06 09.1	-1.4
JCT				pmax	pmax		
	comp=Z,27nm,0.9s,mb5.2						
SLM	Saint Louis	53.76	72	eP	P	22 06 09.0	-2.4
FVM	French Village	54.09	73	eP	P	22 06 11.3	-2.5
	comp=Z,24nm,1.1s,mb5.0						
FVM				esP	sP	22 06 27.1	-2.6
FVM	French Village	54.09	73	eP	P	22 06 11.3	-2.5
FVM				e*SP	sP	22 06 27.1	-2.6
FVM				pmax	pmax		
	comp=Z,24nm,1.1s,mb5.0						
SSE	Sheshan	54.46	276	P	P	22 06 14.1	-2.5
SSE				S	S	22 13 56.3	+3.8
SSE				XS	sS	22 14 09.3	-2.0
SSE				AMB	AMB		
	comp=Z,33nm,0.6s,mb5.4						
SSE				AMB	AMB		
	comp=Z,285nm,6.7s						
SSE				LR	LR		
	comp=N,255nm,24.8s,MS4.4						
SSE				LR	LR		
	comp=E,301nm,25.5s,MS4.4						
SSE				LR	LR		
	comp=Z,382nm,28.6s,MS4.3						
BTO	Baotou	54.56	292	eP	P	22 06 17.0	-0.2
BTO				AMB	AMB		
	comp=Z,11nm,1.1s,mb4.8						
MIAR	Mount Ida	54.57	78	eP	P	22 06 15.9	-1.4
	comp=Z,26nm,1.1s,mb5.2						
MIAR	Mount Ida	54.57	78	eP	P	22 06 15.9	-1.4
MIAR				pmax	pmax		
	comp=Z,26nm,1.1s,mb5.2						
SCHQ	Schefferville	54.91	44	eP	P	22 06 19.1	-0.4
	comp=Z,37nm,1.3s,mb5.3						
SCHQ	Schefferville	54.91	44	P	P	22 06 19.3	-0.2
	comp=Z,18nm,0.9s,mb5.1,baz=323,slow=8.1,SNR=14						
TIY	Taiyuan	55.12	288	P	P	22 06 21.3	0.0
TIY				PP	PP	22 08 25.9	+1.4
TIY				SCS	ScS	22 16 04.3	-2.7
TIY				AMB	AMB		
	comp=Z,273nm,3.5s						
TIY				LR	LR		
	comp=N,1μm,17.3s,MS5.2						
TIY				LR	LR		
	comp=E,1μm,13.5s,MS5.2						
TIY				LR	LR		
	comp=Z,2μm,16.7s,MS5.2						
NJ2	Nanjing	55.20	279	eP	P	22 06 25.0	+3.0
NJ2				S	S	22 14 06.0	+3.6
NJ2				AMB	AMB		
	comp=Z,60nm,0.8s,mb5.7						
NJ2				AMB	AMB		
	comp=Z,450nm,5.4s						
NJ2				LR	LR		
	comp=N,1μm,15.8s,MS5.3						
NJ2				LR	LR		
	comp=E,1μm,13.7s,MS5.3						
USIN	University of	55.71	71	eP	P	22 06 23.8	-1.7
	comp=E,33nm,1.0s,mb5.3						
WVT	Waverly	56.87	72	eP	P	22 06 31.5	-2.3
	comp=E,56nm,1.5s,mb5.4						
WVT				esP	sP	22 06 47.9	-1.9
WVT	Waverly	56.87	72	eP	P	22 06 31.5	-2.3
WVT				e*SP	sP	22 06 47.9	-1.9
WVT				pmax	pmax		
	comp=Z,56nm,1.5s,mb5.4						
PLAL	Pickwick Lake	57.52	74	eP	P	22 06 36.4	-2.0
	comp=Z,10nm,0.8s,mb4.9						
KEV	Kevo	57.60	354	ep	P	22 06 36.6	-1.9
	comp=Z,18nm,0.5s,mb5.3						
KEV	Kevo	57.60	354	eP	P	22 06 36.6	-1.9
KEV				pmax	pmax		
	comp=Z,18nm,0.5s,mb5.4						
NVS	Novosibirsk	57.81	320	i P	P	22 06 39.8	-0.3
NVS				e		22 07 34.0	
NVS				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.8						
NVS				pmax	pmax		
	comp=N,4.0nm,1.1s						
NVS				pmax	pmax		
	comp=E,6.0nm,1.3s						
ZAA0	Zalesovo Array	57.82	318	eP	P	22 06 38.4	-1.8
ZALV	Zalesovo Beam	57.82	318	P	P	22 06 39.4	-0.8
	comp=E,4.0nm,0.6s,mb4.6,baz=42,slow=6.9,SNR=19						
ZALV				PcP	PcP	22 07 33.0	+0.5
	comp=E,3.2nm,0.6s,baz=27,slow=4.6,SNR=4.2						
ZALV				LR	LR	22 33 09.5	
	comp=E,744nm,18.4s,MS4.8,baz=55,slow=38						
ZAL	Zalesovo	57.84	318	P	P	22 06 39.4	-0.9
ZAL						22 07 33.0	
MSNY	Massena	57.90	57	eP	P	22 06 39.3	-1.6
MSNY				epP	pP	22 06 51.6	-0.7
ARCES	ARCESS Array B	57.91	354	P	P	22 06 39.9	-0.8
ARCES				PcP	PcP	22 07 33.2	+0.6
ARCES				LR	LR	22 35 21.0	
ARCES	ARCESS Array B	57.91	354	P	P	22 06 39.9	-0.8
ARCES						22 07 33.2	
ARCES	ARCESS Array B	57.91	354	P	P	22 06 39.9	-0.8
	comp=E,22nm,0.8s,mb5.2,baz=14,slow=8.9,SNR=32						
ARCES				PcP	PcP	22 07 33.2	+0.6
	comp=E,5.1nm,0.7s,baz=12,slow=4.6,SNR=2.6						
ARCES				LR	LR	22 35 21.0	
	comp=E,934nm,18.1s,MS4.9,baz=4.1,slow=40						
ARE0	ARCESS Array S	57.91	354	eP	P	22 06 39.9	-0.8
TRO	Tromso	58.12	357	eP	P	22 06 40.8	-1.3
TRO				AMb	AMB	22 06 51.9	
	comp=Z,110nm,1.7s,mb5.6						
NCB	Newcomb	58.94	57	eP	P	22 06 47.6	-0.6
	comp=Z,37nm,1.3s,mb5.3						
WHN	Wuhan	58.99	281	P	P	22 06 47.5	-1.2
WHN				AMB	AMB		
	comp=Z,36nm,0.8s,mb5.5						
WHN				LR	LR		
	comp=Z,1μm,18.0s,MS5.1						
APA	Apatity	59.20	351	⇑iP	P	22 06 44.4	-5.3
APA				pmax	pmax		
	comp=Z,18nm,1.0s,mb5.1						
APA				MLR	MLR		
	comp=Z,2μm,17.0s,MS5.4						
SSPA	Standing Stone	59.34	62	eP	P	22 06 49.6	-1.4
	comp=Z,18nm,0.9s,mb5.1						
TKL	Tuckaleechee C	59.55	70	LR	LR	22 33 36.5	
	comp=Z,1μm,18.8s,MS5.2,baz=320,slow=37						
XAN	Xi'an	59.72	287	P	P	22 06 53.5	-0.2
XAN				PCP	PcP	22 07 38.1	-2.2
XAN				PP	PP	22 09 05.5	0.0
XAN				PPP		22 10 42.5	
XAN				SCP	ScP	22 11 34.3	-3.6
XAN				S	S	22 15 05.3	+3.6
XAN				PS		22 15 16.3	
XAN				SCS	ScS	22 16 37.0	-3.7
XAN				AMB	AMB		
	comp=Z,20nm,1.1s,mb5.1						
XAN				AMB	AMB		
	comp=Z,311nm,10.0s						
XAN				LR	LR		
	comp=N,302nm,17.5s,MS5.2						
XAN				LR	LR		
	comp=E,1μm,16.4s,MS5.2						
XAN				LR	LR		
	comp=Z,1μm,16.8s,MS5.1						
BLA	Blacksburg	60.36	67	eP	P	22 06 56.0	-2.1
	comp=Z,15nm,1.0s,mb5.0						
BLA	Blacksburg	60.36	67	eP	P	22 06 56.0	-2.1
BLA				pmax	pmax		
	comp=Z,15nm,1.0s,mb5.0						
QZH	Quanzhou	60.48	273	⇑iP	P	22 06 59.0	0.0
QZH				S	S	22 15 05.0	-6.6
QZH				AMB	AMB		
	comp=Z,520nm,5.8s						
QZH				LR	LR		
	comp=Z,660nm,14.5s,MS4.9						
GTA	Gaotai	61.04	298	eP	P	22 07 02.3	-0.4
GTA			

comp=Z,19nm,1.1s,mb5.1
GTA AMB AMB
comp=Z,274nm,8.0s
GTA LR LR
comp=N,1µm,18.6s,MS5.4
GTA LR LR
comp=E,2µm,18.2s,MS5.4
GTA LR LR
comp=Z,2µm,19.8s,MS5.2
LZH Lanzhou 61.18 293 ⇑P P 22 07 04.5 +0.8
LZH AP pP 22 07 17.0 +1.8
LZH PP PP 22 09 21.3 +3.0
LZH *e*S **S 22 15 17.8 -2.5**
LZH XS sS 22 15 39.5 +0.1
LZH SS SS 22 19 19.1 -1.1
LZH AMB AMB
comp=Z,27nm,1.3s,mb5.2
LZH AMB AMB
comp=Z,176nm,6.0s
LZH LR LR
comp=E,1µm,17.6s
LZH LR LR
comp=Z,3µm,19.7s,MS5.4
MOR8 Moi Rana 61.69 359 *e*P P 22 07 04.7 -2.0
comp=Z,39nm,1.0s,mb5.5
MOR8 Moi Rana 61.69 359 *e*P P 22 07 04.7 -2.0
MOR8 AMb AMB 22 07 08.2
comp=Z,39nm,1.0s,mb5.5
TMCR Tamitsa 61.94 347 ⇓*i*P P 22 07 07.8 -0.5
TMCR *e**PP pP 22 07 17.0 -2.9
TMCR *e* 22 07 51.9
TMCR pmax pmax
comp=Z,38nm,1.1s,mb5.4
SOKR Solikamsk 62.57 336 *e*P P 22 07 12.0 -0.7
SOKR pmax pmax
comp=Z,40nm,1.1s,mb5.5
SOKR MLR MLR
comp=Z,2µm,22.0s,MS5.2
KURK Kurchatov 62.76 319 *e*P P 22 07 13.6 -0.4
comp=Z,22nm,1.3s,mb5.1
KURK Kurchatov 62.76 319⇑*e*P P 22 07 13.4 -0.7
SVE Sverdlovsk 63.93 333⇑*e*P P 22 07 21.8 +0.1
SVE pmax pmax
comp=Z,48nm,0.9s,mb5.5
JOF Joensuu 63.95 350 *e*p P 22 07 20.0 -1.7
comp=Z,11nm,0.5s,mb5.1
WMQ Urumqi 64.01 309 P P 22 07 23.1 +0.7
WMQ AP pP 22 07 33.0 -1.0
WMQ XP sP 22 07 37.0 -1.5
WMQ PCP PcP 22 07 58.5 +0.9
WMQ PP PP 22 09 46.0 +3.0
WMQ S **S 22 15 55.0 -0.6**
WMQ XS sS 22 16 12.0 -2.8
WMQ SCS ScS 22 17 11.0 -1.8
WMQ AMB AMB
comp=Z,29nm,0.8s,mb5.4
WMQ AMB AMB
comp=Z,190nm,7.6s
WMQ LR LR
comp=N,2µm,18.9s,MS5.5
WMQ LR LR
comp=E,2µm,15.7s,MS5.5
WMQ LR LR
comp=Z,3µm,17.7s,MS5.5
BRVK Borovoye 64.04 325 P P 22 07 22.9 +0.4
comp=Z,272nm,1.2s,mb6.2,SNR=28
BRVK Borovoye 64.04 325 *e*P P 22 07 22.0 -0.5
comp=Z,45nm,0.9s,mb5.5
BRVK Borovoye 64.04 325 *e*P P 22 07 22.0 -0.5
BRVK pmax pmax
comp=Z,45nm,0.9s,mb5.5
MK31 Makanchi Array 64.24 314 *e*P P 22 07 23.1 -0.8
MK31 Makanchi Array 64.24 314 *i*P P 22 07 22.9 -1.0
MK31 pmax pmax
comp=Z,1.0nm,0.3s,mb4.3
MKAR Makanchi Array 64.24 314 P P 22 07 23.1 -0.7
comp=Z,5.9nm,0.6s,mb4.8,baz=51,slow=6.7,SNR=7.6
MKAR LR LR 22 35 56.2
comp=Z,793nm,19.1s,MS4.9,baz=38,slow=37
ZRNK Zerenda 64.57 326 *i*P P 22 07 25.2 -0.7
ZRNK pmax pmax
comp=Z,44nm,0.8s,mb5.5
ARU Arti 64.86 333 P P 22 07 27.7 0.0
comp=Z,322nm,0.6s,mb6.5,SNR=29
ARU Arti 64.86 333 *e*P P 22 07 26.9 -0.8
comp=Z,44nm,0.8s,mb5.5
ARU Arti 64.86 333*c i*P P 22 07 27.0 -0.7
ARU *e* 22 07 55.9
ARU *e* 22 09 47.6
ARU *e*S **S 22 16 06.0 +0.4**
ARU *e*SS SS 22 20 13.5 -2.9
ARU *e*SSS 22 23 14.2
ARU pmax pmax
comp=Z,58nm,1.0s,mb5.6
CD2 Chengdu 64.99 289 P P 22 07 29.8 +0.8
CD2 AP pP 22 07 39.9 -0.7
CD2 XP sP 22 07 43.1 -2.0
CD2 PP PP 22 09 54.1 +2.2
CD2 PCS 22 12 05.5
CD2 S **S 22 16 07.0 -1.0**
CD2 XS sS 22 16 20.9 -6.4
CD2 SS SS 22 20 19.5 -0.3
CD2 AMB AMB
comp=Z,40nm,0.6s,mb5.6
CD2 AMB AMB
comp=Z,470nm,4.9s
CD2 LR LR
comp=N,1µm,16.2s,MS5.4
CD2 LR LR
comp=E,2µm,17.4s,MS5.4
CD2 LR LR
comp=Z,1µm,18.0s,MS5.2
GZH Guangzhou 65.05 276 P P 22 07 26.4 -3.1
GZH S S 22 16 03.6 -5.4
GZH LR LR
comp=N,427nm,16.0s,MS4.9
GZH LR LR
comp=E,358nm,15.7s,MS4.9
GZH LR LR
comp=Z,763nm,18.5s,MS4.9
KAF Kangasniemi 65.20 353 *e*p P 22 07 28.5 -1.4
comp=Z,34nm,0.5s,mb5.6,baz=6.1,slow=6.1
KAF Kangasniemi 65.20 353 *e*P P 22 07 28.5 -1.4
KAF pmax pmax
comp=Z,34nm,0.5s,mb5.6
TAOE Nuku Hiva Isla 65.64 149 *e*S S 22 16 10.3 -5.8
comp=Z,7µm,24.4s
TAOE *e*SS SS 22 20 25.5 -5.5
comp=Z,7µm,24.5s
TAOE *e*LR LR 22 26 59.4
comp=Z,19µm,23.5s,baz=345
DOMB Dombas 65.84 1 *e*P P 22 07 33.2 -0.8
comp=Z,36nm,0.5s,mb5.7
DOMB Dombas 65.84 1 *e*P P 22 07 33.2 -0.8
DOMB AMb AMB 22 07 33.8
comp=Z,36nm,0.5s,mb5.7
FIA1 FINESS Array S 65.88 353 *e*P P 22 07 33.1 -1.2
FINES FINESS Array B 65.88 353 P **P 22 07 33.4 -0.9**
FINES LR LR 22 40 28.2
FINES FINESS Array B 65.88 353 P **P 22 07 33.4 -0.9**
comp=Z,18nm,0.5s,mb5.3,baz=22,slow=8.3,SNR=167
FINES LR LR 22 40 28.3
comp=Z,589nm,18.0s,MS4.8,baz=137,slow=40
GYA Guiyang 66.57 283 P P 22 07 39.8 +0.5
GYA AP pP 22 07 52.4 +1.5
GYA XP sP 22 07 56.8 +1.4
GYA PCP PcP 22 08 09.5 +1.1
GYA PP PP 22 10 08.9 +3.1
GYA PPP 22 11 44.6
GYA SCP 22 12 08.3
GYA S S 22 16 31.4 +4.0
GYA XS sS 22 16 46.0 -0.7
GYA SKS 22 17 29.8
GYA SS SS 22 20 44.8 +0.3
GYA AMB AMB
comp=Z,30nm,1.1s,mb5.2
GYA AMB AMB
comp=Z,200nm,5.4s
GYA LR LR
comp=N,550nm,17.1s,MS5.0
GYA LR LR
comp=E,590nm,15.3s,MS5.0
GYA LR LR
comp=Z,970nm,15.9s,MS5.1
NB2 NORSAR Subarra 66.86 0 P **P 22 07 39.6 -1.0**
comp=Z,11nm,0.5s,mb5.1,baz=357,slow=6.2
NOA NORSAR Array B 66.86 0 P **P 22 07 40.0 -0.6**
comp=Z,9.1nm,0.5s,mb5.1,baz=360,slow=6.2,SNR=59
NOA LR LR 22 39 09.6
comp=Z,361nm,20.1s,MS4.6,baz=345,slow=38
NAO01 NORSAR Array S 67.06 0 *e*P P 22 07 40.6 -1.2
comp=Z,2.9nm,0.5s,mb4.6
TEIG Tepich 68.18 85 LR LR 22 35 38.0
comp=Z,220nm,20.2s,MS4.4,baz=330,slow=34
KONO Kongsberg 68.25 1 *e*P P 22 07 48.4 -0.9
comp=Z,26nm,0.8s,mb5.3
KONO Kongsberg 68.25 1⇑*e*P P 22 07 49.2 -0.1
ORE Reay 68.65 9 *e*P P 22 07 51.9 0.0
VSU Vasula 68.78 352*c i*P P 22 07 52.4 -0.3
MVH1 Achvaich 69.22 9 *e*P P 22 07 55.3 -0.2
PMOR Pomariorio Ree 69.45 159 *e*P P 22 07 54.6 -2.6
comp=Z,47nm,1.2s,mb5.3
MCD Coleburn Disti 69.65 9 *e*P P 22 07 57.7 -0.4
MDO Dochfour 69.68 9 *e*P P 22 07 58.0 -0.3
VAH Vaihoa 69.73 159 *e*P P 22 07 56.1 -2.9
comp=Z,40nm,1.1s,mb5.3
KMI Kunming 69.90 285 P **P 22 08 00.3 +0.2**
KMI XP sP 22 08 14.6 -1.7
KMI PP PP 22 10 39.3 +4.6
KMI PPP 22 12 20.3
KMI S S 22 17 11.0 +3.9
KMI PS 22 17 43.6
KMI SKS 22 17 55.4
KMI AMB AMB
comp=Z,19nm,1.1s,mb4.9
KMI AMB AMB
comp=Z,322nm,7.4s
KMI LR LR
comp=N,519nm,16.8s,MS5.1
KMI LR LR
comp=E,739nm,15.6s,MS5.1
KMI LR LR
comp=Z,948nm,15.6s,MS5.2
MOS Moscow 70.08 345 *e*P P 22 07 58.8 -1.9
TKM2 Tokmak 2 70.21 316 *e*P P 22 08 02.2 +0.4
comp=Z,15nm,1.1s,mb4.8
TKM2 Tokmak 2 70.21 316 *e*P P 22 08 02.2 +0.4
TKM2 pmax pmax
comp=Z,15nm,1.1s,mb4.8
TKM2 Tokmak 2 70.21 316 P **P 22 08 02.5 +0.7**
SNR=7.9
QIZ Qiongzhong 70.25 276 P **P 22 08 01.5 -0.8**
QIZ XP sP 22 08 17.6 -0.9
QIZ S S 22 17 11.6 +0.3
QIZ XS sS 22 17 27.8 -2.9
QIZ SS SS 22 21 41.8 +0.2
QIZ AMB AMB
comp=Z,12nm,1.5s,mb4.6
QIZ AMB AMB
comp=Z,312nm,6.2s
QIZ LR LR
comp=N,339nm,18.2s,MS4.9
QIZ LR LR
comp=E,462nm,16.4s,MS4.9
QIZ LR LR
comp=Z,466nm,14.5s,MS4.9
QIZ Qiongzhong 70.25 276 *e*P P 22 08 03.0 +0.7
comp=Z,11nm,1.0s,mb4.8
USP Ospenovka 70.40 316 P **P 22 08 03.1 +0.2**
SNR=24
ULHL Ulahol 70.48 315 P **P 22 08 04.3 +0.9**
SNR=21
CHMS Chumysh 70.51 316 P **P 22 08 03.6 0.0**
SNR=7.4
FRU Bishkek 70.70 316 *i*P P 22 08 05.5 +0.7
FRU *e* pP 22 08 18.0 +1.5
FRU pmax pmax
comp=Z,60nm,1.7s,mb5.2
FRU MLR MLR
comp=Z,2µm,17.0s,MS5.3
KBK Karagaybulak 70.70 316 P **P 22 08 05.0 +0.2**
SNR=21
OBN Obninsk 70.84 345 *e*P P 22 08 04.4 -1.0
comp=Z,37nm,0.6s,mb5.5
OBN Obninsk 70.84 345*c i*P P 22 08 04.5 -0.9
OBN *e* 22 08 25.9
OBN pmax pmax
comp=Z,52nm,1.0s,mb5.4
AAK Ala-Archa 70.92 316 P **P 22 08 05.9 -0.2**
comp=Z,126nm,0.9s,mb5.8,SNR=25
AAK Ala-Archa 70.92 316 P **P 22 08 06.2 +0.1**
SNR=27
EAB Aberfoyle 70.92 9 *e*P P 22 08 05.8 0.0
EBH Black Hill 70.94 9 *e*P P 22 08 05.6 -0.4
KZA Kyzart 71.05 315 P **P 22 08 07.6 +0.7**
SNR=8.5
EKS2 Erkin-Say 71.20 317 *e*P P 22 08 07.5 -0.3
comp=Z,17nm,0.9s,mb5.0
EKS2 Erkin-Say 71.20 317 P **P 22 08 07.9 +0.1**
SNR=30
UCH Uchtor 71.24 316 *e*P P 22 08 08.8 +0.7
comp=Z,9.6nm,1.1s,mb4.6
UCH Uchtor 71.24 316 P **P 22 08 09.3 +1.2**
SNR=10
PGBU Glenifferbraes 71.28 10 *e*P P 22 08 07.6 -0.4
PGBU AMb AMB 22 08 09.9
comp=Z,44nm,1.3s,mb5.2
EAU Auchinoon 71.35 9 *e*P P 22 08 08.4 0.0
MUD Monsted U'grnd 71.44 1 *i*P P 22 08 09.2 +0.2
MUD pmax pmax
comp=Z,17nm,1.0s,mb4.9
MUD MLR MLR
comp=Z,350nm,20.0s,MS4.6
MUD Monsted U'grnd 71.44 1 *i*P P 22 08 09.2 +0.2
comp=Z,17nm,1.0s,mb4.9
MUD
comp=Z,350nm,20.0s
EBL Broad Law 71.46 9 *e*P P 22 08 09.3 +0.2
PPT Papeete 71.59 161 *e*S S 22 17 20.6 -5.9
comp=Z,2µm,25.5s
PPT *e*LQ 22 26 20.9
comp=Z,852nm,24.8s
PPT *e*LR LR 22 29 39.9
comp=Z,1µm,30.0s,baz=348
PPT Papeete 71.59 161 LR LR 22 32 55.6
comp=Z,415nm,20.2s,MS4.7,baz=328,slow=30
AML Almayashu 71.67 316 *e*P P 22 08 11.1 +0.4
comp=Z,26nm,1.1s,mb5.1
AML Almayashu 71.67 316 P **P 22 08 11.4 +0.8**
SNR=18
XSO Sourhope Farm 71.81 8 *e*P P 22 08 11.2 0.0
ESK Eskdalemuir 71.89 9 P **P 22 08 11.0 -0.7**
comp=Z,138nm,0.9s,mb5.9,SNR=6.2
ESK Eskdalemuir 71.89 9 *e*P P 22 08 11.3 -0.4
ESK AMb AMB 22 08 13.3
comp=Z,36nm,1.0s,mb5.2
ESK Eskdalemuir 71.89 9 *e*P P 22 08 11.2 -0.5
comp=Z,24nm,0.9s,mb5.1
ESK Eskdalemuir 71.89 9 *e*P P 22 08 11.2 -0.5
ESK pmax pmax
comp=Z,24nm,0.9s,mb5.1
ECK Cauldkaine Hil 72.03 9 *e*P P 22 08 12.3 -0.3
KK31 Karatay Array 72.18 319 *i*P P 22 08 13.0 -0.7
KK31 pmax pmax
comp=Z,23nm,0.8s,mb5.2
GAL1 Galloway 72.19 10 *e*P P 22 08 12.9 -0.6
GAL1 AMb AMB 22 08 15.8
comp=Z,68nm,1.3s,mb5.4
COP Copenhagen 72.23 360 *e*P P 22 08 14.0 +0.2
COP pmax pmax
comp=Z,16nm,0.9s,mb5.0
COP MLR MLR
comp=Z,230nm,19.0s,MS4.5
COP Copenhagen 72.23 360 *i*P P 22 08 14.0 +0.2
comp=Z,16nm,0.9s,mb5.0
COP
comp=Z,220nm,19.0s
XAL Allendale 72.43 8 *e*P P 22 08 14.9 -0.1
BSD Bornholm Skovb 72.77 358 *i*P P 22 08 16.5 -0.5
BSD pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
BSD MLR MLR
comp=Z,360nm,17.0s,MS4.7
BSD Bornholm Skovb 72.77 358 *i*P P 22 08 16.5 -0.5
comp=Z,9.3nm,0.9s,mb4.7
BSD
comp=Z,360nm,17.0s
DMUB Kingscourt 72.89 11 *e*P P 22 08 17.7 0.0
LSA Lhasa 73.02 297 P **P 22 08 21.0 +2.1**
LSA Lhasa 73.02 297 *e*P P 22 08 20.4 +1.5
comp=Z,54nm,1.0s,mb5.4
LSA Lhasa 73.02 297 *e*P P 22 08 20.4 +1.5
LSA pmax pmax
comp=Z,54nm,1.0s,mb5.4
RGN Rugen 73.37 359 *e*P P 22 08 20.7 +0.2
comp=Z,31nm,0.8s,mb5.3
RGN *e*pP pP 22 08 32.6 +0.3
HPK Haverah Park 73.38 8 *e*P P 22 08 20.5 -0.1
HPK AMb AMB 22 08 25.3
comp=Z,64nm,1.5s,mb5.3
DCN Croghan 73.39 12 *e*P P 22 08 20.8 +0.1
SUW Suwalki 73.48 353 *e*P P 22 08 20.7 -0.5
DSB Dublin 73.59 11 *e*P P 22 08 21.3 -0.6
comp=Z,19nm,1.0s,mb5.0
DSB *e*pP pP 22 08 33.0 -0.6
LHO Holmfirth 73.77 8 *e*P P 22 08 22.4 -0.5
BSEG Bad Segeberg 73.98 1 *e*P P 22 08 24.5 +0.4
comp=Z,23nm,1.0s,mb5.1
KBI1 Birley Grange 74.09 8 *e*P P 22 08 24.8 0.0
VRSR Storozhevoye 74.14 342 *e*P P 22 08 24.2 -0.9
VRSR pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
VRSR pmax pmax
comp=N,5.0nm,0.9s
VRSR pmax pmax
comp=E,2.0nm,1.1s
SBD1 Bryn Du 74.27 9 *e*P P 22 08 25.7 -0.1
KWE Weaver Farm 74.29 8 *e*P P 22 08 26.1 +0.2
VORD Divnogorie 74.36 342 *e*P P 22 08 24.8 -1.6
VORD pmax pmax
comp=Z,20nm,0.6s,mb5.2
VORD pmax pmax
comp=N,40nm,1.0s
VORD pmax pmax
comp=E,8.0nm,0.7s
GKP Gorka Klasztor 74.55 357 *e*P P 22 08 27.7 +0.3
CWF Charnwood Fore 74.62 8 *e*P P 22 08 27.5 -0.4
CWF AMb AMB 22 08 29.9
comp=Z,51nm,1.3s,mb5.3
HLM1 Long Mynd 74.69 9 *e*P P 22 08 28.0 -0.3
HTR Trewern Hill 75.08 10 *e*P P 22 08 30.1 -0.5
MCH1 Michaelchurch 75.19 9 *e*P P 22 08 31.2 0.0
MCH1 *e*P 22 08 31.2
MCH1 AMb AMB 22 08 32.7
comp=Z,60nm,1.2s,mb5.4
HAE Alders End 75.20 9 *e*P P 22 08 31.5 +0.3
SSW Stow on the Wo 75.33 9 *e*P P 22 08 32.6 +0.6
NRDL Niedersach Rie 75.42 1 *e*P P 22 08 32.5 0.0
comp=Z,22nm,1.1s,mb5.0
IBBN Ibbenburen 75.56 3 *e*P P 22 08 34.0 +0.7
comp=Z,62nm,1.3s,mb5.4
SHL Shillong 75.83 293 *e*P P 22 08 35.0 -0.3
WTSB Winterswijk 75.88 3 *e*P P 22 08 35.4 +0.3
comp=Z,32nm,1.5s,mb5.0
HTL Hartland 76.03 10 *e*P P 22 08 35.9 -0.1
HTL AMb AMB 22 08 39.7
comp=Z,41nm,1.3s,mb5.2
CLZ Clausthal 76.08 1 *e*P P 22 08 37.1 +0.8
CLZ pmax pmax
comp=Z,32nm,1.1s,mb5.2
CLZ Clausthal 76.08 1 *e*P P 22 08 37.1 +0.8
comp=Z,32nm,1.1s,mb5.2
SWK Warminster 76.11 9 *e*P P 22 08 36.8 +0.4
AKASG Malin Array Be 76.17 349 *i*P P 22 08 35.7 -1.1
AKASG pmax pmax
comp=Z,13nm,0.5s
AKASG Malin Array Be 76.17 349 P **P 22 08 35.1 -1.6**
comp=Z,12nm,0.5s,mb5.1,baz=16,slow=5.9,SNR=54
AKASG LR LR 22 47 15.2
comp=Z,780nm,18.0s,MS5.1,baz=30,slow=40
AKBB Malin Array Si 76.17 349 *e*P P 22 08 35.4 -1.3
AKBB Malin Array Si 76.17 349 P **P 22 08 35.7 -1.1**
KIEV Kiev 76.18 349 *e*P P 22 08 35.5 -1.3
comp=Z,18nm,0.6s,mb5.2
KIEV Kiev 76.18 349 P **P 22 08 35.7 -1.1**
KIEV pmax pmax
comp=Z,18nm,0.6s,mb5.2
CLL Collm 76.61 359 *i*P P 22 08 39.4 +0.1
comp=Z,18nm,1.2s,mb4.9
CLL *e*pP pP 22 08 50.0 -1.1
CLL *e*SKS 22 18 43.0
CLL LR LR
comp=Z,600nm,18.8s,MS4.9
CLL Collm 76.61 359 *i*P P 22 08 39.4 +0.1
CLL *e**PP pP 22 08 50.0 -1.1
CLL *e* 22 18 43.0
CLL pmax pmax
comp=Z,18nm,1.2s,mb4.9
CLL MLR MLR
comp=Z,600nm,18.8s,MS4.9
CLL Collm 76.61 359 *e*P P 22 08 39.4 +0.1
comp=Z,15nm,1.0s,mb4.9
CLL Collm 76.61 359 *i*P P 22 08 39.4 +0.1
comp=Z,18nm,1.2s,mb4.9
CLL *e*pP pP 22 08 50.0 -1.1
CLL *e*S S 22 18 18.0 -4.4
CLL *e*SKSac SKSac 22 18 43.0 -4.6
CLL *e*SS SS 22 23 30.0 +13
CLL *e*(SSS) 22 27 30.0
CLL *e*SSSS 22 29 00.0
CLL LmV 22 50 00.0
comp=Z,600nm,18.8s
DYA Yadsworthy 76.64 10 *e*P P 22 08 39.0 -0.4
DYA AMb AMB 22 08 40.8
comp=Z,63nm,1.4s,mb5.4
CPZ Penzance 76.72 11 *e*P P 22 08 39.7 -0.2
CCA1 Carnmenellis 76.74 11 *e*P P 22 08 39.7 -0.3
CRQ2 Rosemanowes 2 76.76 11 *e*P P 22 08 39.5 -0.7
CMA1 Manaccan 76.85 11 *e*P P 22 08 40.9 +0.2
CHG Chiang Mai 76.98 284 ⇑P P 22 08 41.8 -0.1
comp=Z,26nm,1.2s,mb5.0
CHTO Chiang Mai 76.98 284 *e*P P 22 08 41.4 -0.5
comp=Z,21nm,1.3s,mb4.9
CHTO Chiang Mai 76.98 284 *e*P P 22 08 41.4 -0.5
CHTO pmax pmax
comp=Z,21nm,1.3s,mb4.9
BEBN Eben Emael 77.00 4 P **P 22 08 41.6 +0.1**
KSP Ksiaz 77.01 357 *e*P P 22 08 41.9 +0.4
KSP Ksiaz 77.01 357⇑*e*P P 22 08 41.8 +0.2
BRG Berggiesshubel 77.04 359 *i*P P 22 08 42.0 +0.3
comp=Z,10.0nm,1.1s,mb4.7
BRG *e* pP 22 08 53.0 -0.5
BRG *e* 22 18 37.0
BRG SS SS 22 23 41.0 +18
BRG LR LR
comp=Z,340nm,19.0s,MS4.7
BRG Berggiesshubel 77.04 359 *i*P P 22 08 42.0 +0.3
BRG *e* pP 22 08 53.0 -0.5
BRG pmax pmax
comp=Z,10.0nm,1.1s,mb4.7
BRG pmax pmax
comp=Z,13nm,1.4s,mb4.7
BRG MLR MLR
comp=N,314nm,22.8s
BRG MLR MLR
comp=E,205nm,14.2s
BRG MLR MLR
comp=Z,340nm,19.0s,MS4.7
BRG Berggiesshubel 77.04 359 *e*P P 22 08 41.9 +0.2
comp=Z,17nm,1.1s,mb4.9
BRG Berggiesshubel 77.04 359 *i*P P 22 08 42.0 +0.3
comp=Z,17nm,1.1s,mb4.9
BRG *e* pP 22 08 53.0 -0.5
comp=Z,21nm,1.4s
BRG *e* 22 18 37.0
BRG SS SS 22 23 41.0 +18
BRG
comp=N,524nm,22.8s
BRG
comp=E,342nm,14.2s
BRG
comp=Z,568nm,19.0s
HGN Heimansgroeve 77.05 4 *e*P P 22 08 42.1 +0.3
comp=Z,24nm,1.2s,mb5.0
HGN Heimansgroeve 77.05 4 *e*S S 22 18 42.9 +16
UBBA Unterbreizbach 77.10 1 *e*P P 22 08 42.2 +0.2
comp=Z,18nm,1.6s,mb4.8
MEM Membach 77.20 4 P **P 22 08 43.1 +0.5**
comp=Z,17nm,1.3s,mb4.8
SNF Seneffe 77.23 5 P **P 22 08 43.4 +0.7**
TBI Tubuai 77.24 162 *e*S S 22 18 27.4 -2.2
comp=Z,503nm,28.0s
TBI Tubuai 77.24 162 *e*LQ 22 28 38.2
comp=Z,489nm,26.8s
TBI *e*LR LR 22 32 05.3
comp=Z,592nm,34.2s,baz=343

CM31 Chiang Mai Arr 77.26 284 *eP* **P 22 08 43.6 +0.2**
comp=Z,13nm,0.7s,mb5.0
MOX Moxa 77.28 0 *eP* **P 22 08 43.1 0.0**
comp=Z,30nm,1.1s,mb5.1
MOX *e* pP 22 08 54.5 -0.4
MOX
comp=Z,500nm,18.0s
MOX Moxa 77.28 0 *eP* **P 22 08 43.1 0.0**
MOX *e* pP 22 08 54.5 -0.4
MOX pmax pmax
comp=Z,30nm,1.1s,mb5.1
MOX MLR MLR
comp=Z,500nm,18.0s,MS4.9
MOX Moxa 77.28 0 *eP* **P 22 08 43.6 +0.5**
comp=Z,25nm,1.1s,mb5.1
JIRN Jiri 77.31 299 *eP* **P 22 08 43.8 +0.2**
comp=Z,26nm,0.4s,mb5.5
UPC Upice 77.36 357 *eP* **P 22 08 44.0 +0.5**
UPC *epP* pP 22 08 55.1 -0.2
BCLA Clavier 77.36 4 P **P 22 08 43.4 -0.1**
comp=Z,16nm,1.5s,mb4.7
PVCC Panska Ves 77.37 358 *eP* **P 22 08 44.2 +0.6**
PVCC AMS AMS 22 48 50.0
comp=Z,600nm,17.0s,MS5.0
OJC Ojcow 77.48 355 *eP* **P 22 08 44.6 +0.4**
DPC Dobruska-Polom 77.50 357 *eP* **P 22 08 45.1 +0.8**
DPC *epP* pP 22 08 57.5 +1.3
DPC AMS AMS 22 50 50.0
comp=Z,600nm,16.2s,MS5.0
TANN Tannenbergstha 77.51 360 *eP* **P 22 08 44.9 +0.5**
comp=Z,15nm,1.4s,mb4.7
LVV L'vov 77.58 352 *eP* **P 22 08 45.0 +0.3**
DOU Dourbes 77.65 5 P **P 22 08 45.4 +0.2**
comp=Z,11nm,1.3s,mb4.6
GIVF Givet 77.66 5 *eP* **P 22 08 45.0 -0.2**
comp=Z,49nm,1.0s,mb5.1
GIVF Givet 77.66 5 *eP* **P 22 08 45.0 -0.2**
comp=Z,24nm,1.0s,mb5.1
GIVF Givet 77.66 5 *eP* **P 22 08 45.0 -0.2**
GIVF pmax pmax
comp=Z,25nm,1.0s,mb5.1
BAIF Baives 77.67 5 *eP* **P 22 08 44.9 -0.3**
comp=Z,40nm,1.1s,mb5.0
BAIF Baives 77.67 5 *eP* **P 22 08 44.9 -0.3**
comp=Z,20nm,1.1s,mb5.0
BAIF Baives 77.67 5 *eP* **P 22 08 44.9 -0.3**
BAIF pmax pmax
comp=Z,20nm,1.1s,mb5.0
KKN Kakani 77.69 300 *eP* **P 22 08 45.6 -0.1**
comp=Z,27nm,0.7s,mb5.3
KKN Kakani 77.69 300 *eP* **P 22 08 45.6 -0.1**
KKN pmax pmax
comp=Z,27nm,0.7s,mb5.3
NKC Novy Kostel 77.69 360 *eS* S 22 18 44.3 +10
GKN Gorkha 77.86 300 *eP* **P 22 08 46.3 -0.4**
comp=Z,40nm,0.7s,mb5.5
KWP Kalwaria 77.87 353 *eP* **P 22 08 46.9 +0.5**
KWP Kalwaria 77.87 353 P **P 22 08 46.3 -0.1**
KWP pmax pmax
comp=Z,77nm,1.0s,mb5.6
KWP Kalwaria 77.87 353 ⇑*iP* **P 22 08 46.6 +0.2**
PRU Pruhonice 77.91 358 *eP* **P 22 08 47.2 +0.6**
PRU *epP* pP 22 09 00.6 +2.2
PRU Pruhonice 77.91 358 *eP* **P 22 08 47.2 +0.6**
PRU *epP* pP 22 09 00.6 +2.2
PRU AMS AMS 22 53 20.0
DMN Daman 77.93 300 *eP* **P 22 08 47.3 +0.2**
MANZ Manzenberg 77.94 360 *eP* **P 22 08 47.2 +0.4**
comp=Z,12nm,1.2s,mb4.7
OKC Ostrava-Krasne 77.95 356 *eP* **P 22 08 47.7 +0.9**
OKC *epP* pP 22 08 58.0 -0.6
OKC Ostrava-Krasne 77.95 356 *eP* **P 22 08 47.7 +0.9**
OKC *epP* pP 22 08 58.0 -0.6
OKC AMS AMS 22 52 20.0
comp=Z,700nm,15.3s,MS5.1
MORC Moravsky Berou 78.03 356 *eP* **P 22 08 47.9 +0.7**
comp=Z,20nm,1.1s,mb5.0
MORC Moravsky Berou 78.03 356 *eP* **P 22 08 47.9 +0.6**
MORC pmax pmax
comp=Z,20nm,1.1s,mb5.0
MORC Moravsky Berou 78.03 356 ⇑*iP* **P 22 08 47.7 +0.4**
WLF Walferdange 78.16 4 P **P 22 08 48.7 +0.8**
comp=Z,13nm,1.3s,mb4.7
WLF Walferdange 78.16 4 *eP* **P 22 08 48.8 +0.9**
comp=Z,19nm,1.2s,mb4.9
ROTZ Rotzenmuhle 78.16 360 *eP* **P 22 08 48.3 +0.3**
comp=Z,20nm,1.3s,mb4.9
STHS Stebnicka Huta 78.19 354 *eP* **P 22 08 49.6 +1.4**
comp=Z,26nm,1.0s,mb5.1
STHS *e* pP 22 09 00.0 0.0
STHS Stebnicka Huta 78.19 354 *eP* **P 22 08 49.6 +1.4**
STHS *e* pP 22 09 00.0 0.0
STHS pmax pmax
comp=Z,26nm,1.0s,mb5.1
GRA1 Grafenberg Arr 78.24 0 *eP* **P 22 08 49.6 +1.2**
comp=Z,33nm,1.1s,mb5.2
GRA1 LR LR
comp=Z,500nm,18.4s,MS4.9
GRF Grafenberg Arr 78.24 0 *eP* **P 22 08 49.6 +1.2**
GRF pmax pmax
comp=Z,33nm,1.1s,mb5.2
GRF MLR MLR
comp=Z,500nm,18.4s,MS4.9
GRF Grafenberg Arr 78.24 0 *eP* **P 22 08 49.6 +1.2**
GRF pmax pmax
comp=Z,33nm,1.1s,mb5.2
GRF MLR MLR
comp=Z,500nm,18.4s,MS4.9
GRF Grafenberg Arr 78.24 0 *eP* **P 22 08 49.6 +1.2**
comp=Z,33nm,1.1s,mb5.2
GRF *eL* 22 51 32.2
comp=Z,503nm,18.4s
GRFO Grafenberg 78.24 0 *eP* **P 22 08 49.5 +1.1**
comp=Z,32nm,1.0s,mb5.2
GRFO Grafenberg 78.24 0 *eP* **P 22 08 49.5 +1.1**
GRFO pmax pmax
comp=Z,32nm,1.0s,mb5.2
NIE Niedzica 78.25 354 *eP* **P 22 08 49.8 +1.3**
VRAC Vranov 78.54 357 P **P 22 08 51.4 +1.4**
VRAC Vranov 78.54 357 ⇑*iP* **P 22 08 50.4 +0.3**
TREC Trest 78.58 357 *eP* **P 22 08 51.1 +0.8**
TREC *epP* pP 22 09 02.0 -0.2
TREC AMS AMS 22 51 20.0
comp=Z,700nm,17.3s,MS5.0
KOLN Koldanda 78.60 301 *eP* **P 22 08 50.3 -0.5**
comp=Z,53nm,1.0s,mb5.4
KOLS Kolonicke sedl 78.60 353 *eP* **P 22 08 50.9 +0.5**
KOLS Kolonicke sedl 78.60 353 *eP* **P 22 08 50.8 +0.4**
FLN La Foliniere 78.63 8 *eP* **P 22 08 50.3 -0.3**
FLN *eMLR* MLR
comp=Z,752nm,19.2s,MS4.7
FLN La Foliniere 78.63 8 *eP* **P 22 08 50.3 -0.3**
FLN MLR MLR
comp=Z,750nm,19.3s,MS5.0
CRVS Cervenica-Dubn 78.69 353 *eP* **P 22 08 51.0 +0.1**
NST Nakhon Sawan 78.71 281 P **P 22 08 51.2 -0.3**
WET Wettzell 78.78 359 *eP* **P 22 08 52.1 +0.7**
WET pmax pmax
comp=Z,22nm,1.3s,mb4.9
WET Wettzell 78.78 359 *eP* **P 22 08 52.1 +0.7**
comp=Z,22nm,1.3s,mb4.9
ROSF Rostrenen 78.78 10 *eP* **P 22 08 50.9 -0.5**
comp=Z,39nm,1.1s,mb4.9
ROSF Rostrenen 78.78 10 *eP* **P 22 08 50.9 -0.5**
comp=Z,19nm,1.1s,mb5.0
ROSF Rostrenen 78.78 10 *eP* **P 22 08 50.9 -0.5**
ROSF pmax pmax
comp=Z,19nm,1.1s,mb4.9
KHC Kasperske Hory 78.79 359⇑*eP* **P 22 08 51.8 +0.4**
KHC Kasperske Hory 78.79 359 *eP* **P 22 08 52.7 +1.3**
KHC *epP* pP 22 09 02.0 -1.3
KHC *ex* x 22 09 12.5
KHC *eS* S 22 18 55.1 +9.2
KHC AMS AMS 22 50 10.0
comp=Z,600nm,15.4s,MS5.0
LDF La Druitiere 78.83 8 *eP* **P 22 08 51.3 -0.4**
comp=Z,29nm,0.7s,mb5.0
LDF La Druitiere 78.83 8 *eP* **P 22 08 51.3 -0.4**
comp=Z,15nm,0.7s,mb5.0
LDF La Druitiere 78.83 8 *eP* **P 22 08 51.3 -0.4**
LDF pmax pmax
comp=Z,15nm,0.7s,mb5.0
LANF Langenberg 78.89 3 *eP* **P 22 08 52.3 +0.3**
UZH Uzhgorod 78.90 353 *eP* **P 22 08 54.0 +1.9**
UZH *e* 22 09 01.6
UZH *eS* S 22 18 56.0 +8.9
SGMF Saint Gilles 78.94 10 *eP* **P 22 08 52.0 -0.3**
comp=Z,38nm,0.9s,mb5.0
SGMF Saint Gilles 78.94 10 *eP* **P 22 08 52.0 -0.3**
comp=Z,19nm,0.9s,mb5.0
SGMF Saint Gilles 78.94 10 *eP* **P 22 08 52.0 -0.3**
SGMF pmax pmax
comp=Z,19nm,0.9s,mb5.0
GRR Gorron 78.97 9 *eP* **P 22 08 52.2 -0.3**
comp=Z,85nm,1.2s,mb5.3
GRR Gorron 78.97 9 *eP* **P 22 08 52.2 -0.3**
comp=Z,42nm,1.2s,mb5.2
GRR Gorron 78.97 9 *eP* **P 22 08 52.2 -0.3**
GRR pmax pmax
comp=Z,43nm,1.2s,mb5.2
GEC2 GERESS Array S 79.07 359 *eP* **P 22 08 53.5 +0.5**
GEC2 pmax pmax
comp=Z,16nm,1.1s,mb4.9
GEC2 GERESS Array S 79.07 359 *eP* **P 22 08 53.5 +0.5**
comp=Z,16nm,1.1s,mb4.9
GERES GERESS Array B 79.07 359 P **P 22 08 54.0 +1.0**
comp=Z,11nm,1.0s,mb4.8,baz=1.9,slow=4.0,SNR=42
STU Stuttgart 79.14 2 *eP* **P 22 08 54.0 +0.6**
comp=Z,21nm,1.1s,mb5.0
KECS Kecovo 79.17 354 *eP* **P 22 08 54.7 +1.1**
comp=Z,16nm,1.0s,mb4.9
KECS Kecovo 79.17 354 *eP* **P 22 08 54.7 +1.1**
KECS pmax pmax
comp=Z,16nm,1.0s,mb4.9
KOLL Kolacno 79.19 355 *eP* **P 22 08 54.8 +1.1**
QUIF Quistinic 79.21 10 *eP* **P 22 08 53.3 -0.5**
comp=Z,36nm,1.1s,mb4.9
QUIF Quistinic 79.21 10 *eP* **P 22 08 53.3 -0.5**
comp=Z,18nm,1.1s,mb4.9
QUIF Quistinic 79.21 10 *eP* **P 22 08 53.3 -0.5**
QUIF pmax pmax
comp=Z,18nm,1.1s,mb4.9
VYHS Vyhne 79.25 355 *iP* **P 22 08 55.0 +1.0**
comp=Z,21nm,1.1s,mb5.0
VYHS *e* 22 09 03.1
VYHS Vyhne 79.25 355 *iP* **P 22 08 55.0 +1.0**
VYHS *e* 22 09 03.1
VYHS pmax pmax
comp=Z,21nm,1.1s,mb5.0
VYHS Vyhne 79.25 355 *iP* **P 22 08 55.0 +1.0**
VYHS *epP* pP 22 09 03.0 -2.9
MEZF Maizieres J'vi 79.27 5 *eP* **P 22 08 53.9 -0.2**
CDF Champ du Feu 79.45 3 *eP* **P 22 08 54.9 -0.2**
comp=Z,44nm,1.2s,mb5.0
CDF Champ du Feu 79.45 3 *eP* **P 22 08 54.9 -0.2**
comp=Z,22nm,1.2s,mb5.0
CDF Champ du Feu 79.45 3 *eP* **P 22 08 54.9 -0.2**
CDF pmax pmax
comp=Z,22nm,1.2s,mb5.0
BFO Black Forest 79.56 2 P **P 22 08 56.0 +0.3**
comp=Z,105nm,1.3s,mb5.6,SNR=8.9
BFO Black Forest 79.56 2 *eP* **P 22 08 56.3 +0.6**
BFO pmax pmax
comp=Z,25nm,1.1s,mb5.1
BFO Black Forest 79.56 2 *eP* **P 22 08 56.3 +0.6**
comp=Z,25nm,1.1s,mb5.1
THEF They Montfort 79.58 4 *eP* **P 22 08 56.0 +0.2**
ZST Bratislava 79.63 356 *iP* **P 22 08 57.8 +1.7**
comp=Z,34nm,0.9s,mb5.3
ZST *e* pP 22 09 08.0 +0.1
ZST LR LR
comp=Z,600nm,16.6s,MS5.0
ZST Bratislava 79.63 356 *iP* **P 22 08 57.8 +1.7**
ZST *e* pP 22 09 08.0 +0.1
ZST pmax pmax
comp=Z,34nm,0.9s,mb5.3
ZST MLR MLR
comp=Z,600nm,16.6s,MS5.0
ZST Bratislava 79.63 356 *iP* **P 22 08 57.8 +1.7**
ZST *epP* pP 22 09 08.0 +0.1
ECH Echery 79.64 3 *eP* **P 22 08 56.5 +0.4**
FUR Furstenfeldbru 79.77 0 *eP* **P 22 08 57.8 +1.0**
FUR pmax pmax
comp=Z,43nm,1.2s,mb5.2
FUR Furstenfeldbru 79.77 0 *eP* **P 22 08 57.8 +1.0**
comp=Z,43nm,1.2s,mb5.2
PSZ Piszkesteto 79.77 354 *eP* **P 22 08 57.4 +0.6**
comp=Z,31nm,1.0s,mb5.2
PSZ Piszkesteto 79.77 354 *eP* **P 22 08 57.4 +0.6**
PSZ pmax pmax
comp=Z,31nm,1.0s,mb5.2
PSZ Piszkesteto 79.77 354⇑*iP* **P 22 08 57.4 +0.6**
PSZ Piszkesteto 79.77 354⇓*eP* **P 22 08 58.5 +1.7**
IAS Iasi 79.82 349 P **P 22 08 57.0 0.0**
HAU Haudompre 79.82 4 *eP* **P 22 08 57.0 -0.1**
comp=Z,36nm,0.9s,mb5.0
HAU *e*MLR MLR
comp=Z,592nm,21.0s,MS4.6
HAU Haudompre 79.82 4 *eP* **P 22 08 57.0 -0.1**
comp=Z,18nm,0.9s,mb5.0
HAU LR LR
comp=Z,590nm,21.0s,MS4.9
HAU Haudompre 79.82 4 *eP* **P 22 08 57.0 -0.1**
HAU pmax pmax
comp=Z,18nm,0.9s,mb5.0
HAU MLR MLR
comp=Z,590nm,21.0s,MS4.9
KIS Kishinev 79.86 348 *eP* **P 22 08 56.0 -1.3**
KIS *e* 22 11 57.0
KIS *e* 22 13 48.0
KIS *e* 22 19 17.0
KIS MLR MLR
comp=Z,1μm,17.0s,MS5.4
KIS MLR MLR
comp=Z,900nm,20.0s
CONA Conrad Observa 79.94 357⇑*iP* **P 22 08 58.5 +0.8**
comp=Z,42nm,1.1s,mb5.3,SNR=25
MOF Molkenrain 80.00 3 *eP* **P 22 08 57.9 -0.2**
KBL Kabul 80.01 315 *eP* **P 22 08 56.7 -1.6**
comp=Z,38nm,0.9s,mb5.3
HINF Hinteralfeld 80.03 3 *eP* **P 22 08 57.9 -0.3**
comp=Z,45nm,1.1s,mb5.0
HINF Hinteralfeld 80.03 3 *eP* **P 22 08 57.9 -0.3**
comp=Z,22nm,1.1s,mb5.0
HINF Hinteralfeld 80.03 3 *eP* **P 22 08 57.9 -0.3**
HINF pmax pmax
comp=Z,22nm,1.1s,mb5.0
MOA Molln 80.06 358⇑*iP* **P 22 08 59.2 +0.8**
comp=Z,22nm,1.1s,mb5.0,SNR=12
SOP Sopron 80.16 357⇓*eP* **P 22 09 00.6 +1.7**
BUD Budapest 80.25 355⇓*eP* **P 22 09 01.1 +1.7**
KIV Kislovodsk 80.33 338 P **P 22 09 01.0 +1.1**
comp=Z,322nm,1.0s,mb6.2,SNR=15
KIV Kislovodsk 80.33 338 *eP* **P 22 08 59.9 -0.1**
comp=Z,57nm,1.0s,mb5.5
KIV Kislovodsk 80.33 338*c iP* **P 22 09 00.5 +0.6**
KIV *i* S S 22 19 15.4 +13
KIV pmax pmax
comp=Z,61nm,1.0s,mb5.5
KIV Kislovodsk 80.33 338⇑*iP* **P 22 09 00.1 +0.2**
LOR Lormes 80.44 5 *eP* **P 22 09 00.1 -0.3**
comp=Z,57nm,1.1s,mb5.1
LOR *e*MLR MLR
comp=Z,946nm,20.2s,MS4.8
LOR Lormes 80.44 5 *eP* **P 22 09 00.1 -0.3**
comp=Z,29nm,1.1s,mb5.1
LOR LR LR
comp=Z,950nm,20.3s,MS5.1
LOR Lormes 80.44 5 *eP* **P 22 09 00.1 -0.3**
LOR pmax pmax
comp=Z,29nm,1.1s,mb5.1
LOR MLR MLR
comp=Z,950nm,20.3s,MS5.1
RETA Reutte 80.44 1⇑*iP* **P 22 09 01.2 +0.8**
comp=Z,31nm,1.3s,mb5.1,SNR=12
LOMF Lomont 80.49 3 *eP* **P 22 09 01.0 +0.3**
BOK Bokaro 80.55 297 *eP* **P 22 09 01.8 +0.4**
MOTA Moosalm 80.58 0⇓*iP* **P 22 09 02.1 +0.8**
comp=Z,47nm,1.1s,mb5.3,SNR=17
MOTA Moosalm 80.58 0⇓*iP* **P 22 09 02.1 +0.9**
MOTA pmax pmax
comp=Z,47nm,1.1s,mb5.3
WATA Walderalm 80.60 0⇑*iP* **P 22 09 01.8 +0.5**
comp=Z,37nm,1.0s,mb5.2,SNR=16
WATA Walderalm 80.60 0⇑*iP* **P 22 09 01.8 +0.5**
WATA pmax pmax
comp=Z,37nm,1.0s,mb5.3
SSF Saint Saulge 80.62 6 *eP* **P 22 09 01.1 -0.3**
comp=Z,41nm,0.9s,mb5.1
SSF Saint Saulge 80.62 6 *eP* **P 22 09 01.1 -0.3**
comp=Z,20nm,0.9s,mb5.1
SSF Saint Saulge 80.62 6 *eP* **P 22 09 01.1 -0.3**
SSF pmax pmax
comp=Z,21nm,0.9s,mb5.1
ARSA Arzberg 80.63 357⇓*iP* **P 22 09 02.2 +0.7**
comp=Z,23nm,1.0s,mb5.1,SNR=14
ARSA Arzberg 80.63 357⇓*iP* **P 22 09 02.2 +0.7**
comp=Z,23nm,1.0s,mb5.1
DAVA Damuels 80.63 1⇑*iP* **P 22 09 02.3 +0.8**
comp=Z,11nm,0.9s,mb4.8
ANN Anapa 80.64 342 *eP* **P 22 09 01.5 -0.1**
ANN *e* 22 12 06.2
ANN *eS* S 22 19 11.1 +5.5
ANN pmax pmax
comp=Z,52nm,1.2s,mb5.3
RKT Rikitea 80.66 149 *e*LR LR 22 34 11.7
comp=Z,702nm,24.8s,baz=338
WTTA Wattenberg 80.67 0⇑*iP* **P 22 09 02.4 +0.7**
comp=Z,39nm,0.9s,mb5.3,SNR=19
WTTA Wattenberg 80.67 0⇑*iP* **P 22 09 02.4 +0.7**
WTTA pmax pmax
comp=Z,39nm,0.9s,mb5.3
DRGR 80.69 352 P **P 22 09 02.6 +0.8**
DRGR 80.69 352⇑*iP* **P 22 09 02.5 +0.7**
SQTA Sankt Quirin 80.71 0⇑*iP* **P 22 09 02.7 +0.8**
comp=Z,46nm,1.0s,mb5.4,SNR=29
SQTA Sankt Quirin 80.71 0⇑*iP* **P 22 09 02.7 +0.8**
SQTA pmax pmax
comp=Z,46nm,1.0s,mb5.4
MFF Saint Martin d 80.81 8 *eP* **P 22 09 02.0 -0.4**
comp=Z,89nm,0.9s,mb5.4
MFF Saint Martin d 80.81 8 *eP* **P 22 09 02.0 -0.4**
comp=Z,45nm,0.9s,mb5.4
MFF Saint Martin d 80.81 8 *eP* **P 22 09 02.0 -0.4**
MFF pmax pmax
comp=Z,45nm,0.9s,mb5.4
KBA Koelnbreinsper 80.84 359⇑*iP* **P 22 09 03.8 +1.2**
comp=Z,141nm,1.4s,mb5.7,SNR=49
KBA Koelnbreinsper 80.84 359⇑*iP* **P 22 09 03.8 +1.2**
KBA pmax pmax
comp=Z,141nm,1.4s,mb5.7
AVF Avril sur Loir 80.88 6 *eP* **P 22 09 02.3 -0.5**
comp=Z,49nm,0.9s,mb5.2
AVF Avril sur Loir 80.88 6 *eP* **P 22 09 02.3 -0.5**
comp=Z,25nm,0.9s,mb5.1
AVF Avril sur Loir 80.88 6 *eP* **P 22 09 02.3 -0.5**
AVF pmax pmax
comp=Z,25nm,0.9s,mb5.1
FETA Feichten 80.91 1⇑*iP* **P 22 09 03.7 +0.8**
comp=Z,60nm,1.1s,mb5.4,SNR=40
SMF Signal de Mont 81.06 5 *eP* **P 22 09 03.5 -0.2**
comp=Z,83nm,1.1s,mb5.3
SMF Signal de Mont 81.06 5 *eP* **P 22 09 03.5 -0.2**
comp=Z,41nm,1.1s,mb5.3
SMF Signal de Mont 81.06 5 *eP* **P 22 09 03.5 -0.2**
SMF pmax pmax
comp=Z,41nm,1.1s,mb5.3
BGF Bois d'Agland 81.08 6 *eP* **P 22 09 03.7 -0.2**
comp=Z,41nm,0.9s,mb5.1
BGF Bois d'Agland 81.08 6 *eP* **P 22 09 03.7 -0.2**
comp=Z,21nm,0.9s,mb5.1
BGF Bois d'Agland 81.08 6 *eP* **P 22 09 03.7 -0.2**
BGF pmax pmax
comp=Z,21nm,0.9s,mb5.1
SIM Simferopol' 81.09 344*cePP* **P 22 09 04.6 +0.6**
SIM *eS* S 22 19 11.0 +0.7
SIM pmax pmax
comp=Z,13nm,1.1s,mb4.8
SIM pmax pmax
comp=Z,70nm,9.6s
NDI New Delhi 81.11 306 *eP* **P 22 09 02.0 -2.4**
ABTA Abfaltersbach 81.18 359⇓*iP* **P 22 09 04.7 +0.3**
comp=Z,52nm,1.2s,mb5.3,SNR=30
CABF La Chapelle 81.20 4 *eP* **P 22 09 04.3 -0.2**
comp=Z,65nm,0.9s,mb5.3
CABF La Chapelle 81.20 4 *eP* **P 22 09 04.3 -0.2**
comp=Z,33nm,0.9s,mb5.3
CABF La Chapelle 81.20 4 *eP* **P 22 09 04.3 -0.2**
CABF pmax pmax
comp=Z,33nm,0.9s,mb5.3
VRI Vrincioaia 81.22 349⇑*iP* **P 22 09 06.1 +1.5**
PLOR Plostina 81.25 350⇑*iP* **P 22 09 05.7 +0.9**
PERS Pernice 81.25 358 *eP* **P 22 09 05.3 +0.5**
PERS *e* pP 22 09 16.5 -0.2
TCF Toulx Ste Croi 81.31 7 *eP* **P 22 09 04.6 -0.5**
comp=Z,29nm,0.9s,mb4.9
TCF Toulx Ste Croi 81.31 7 *eP* **P 22 09 04.6 -0.5**
comp=Z,14nm,0.9s,mb4.9
TCF Toulx Ste Croi 81.31 7 *eP* **P 22 09 04.6 -0.5**
TCF pmax pmax
comp=Z,14nm,0.9s,mb4.9
SOC Sochi 81.34 340 *eP* **P 22 09 06.1 +0.8**
SOC *e*PP pP 22 09 14.2 -3.1
SOC *e*SP sP 22 09 18.3 -3.4
SOC *eS* S 22 19 14.5 +1.5
SOC pmax pmax
comp=Z,60nm,0.9s,mb5.5
ABKT Ailbek 81.36 325 P **P 22 09 06.6 +1.1**
comp=Z,337nm,1.2s,mb6.2,SNR=21
OBKA Obir 81.39 358⇑*iP* **P 22 09 06.1 +0.5**
comp=Z,33nm,1.1s,mb5.2,SNR=12
KOGS Kog 81.41 357 *eP* **P 22 09 06.0 +0.4**
KOGS *e* pP 22 09 16.9 -0.6
TUE Stuetta 81.44 2 P **P 22 09 07.2 +1.4**
BRMO Bormio 81.45 1 P **P 22 09 07.3 +1.5**
ONI Oni 81.46 337 P **P 22 09 07.2 +1.3**
PTCC Patocco-Chiusa 81.52 359 P **P 22 09 06.6 +0.4**
comp=Z,49nm,1.5s,mb5.2
PKSM Moragy 81.54 355 P **P 22 09 06.7 +0.3**
PKSM Moragy 81.54 355⇑*iP* **P 22 09 05.8 -0.5**
AGO Saint Agoulin 81.60 6 *eP* **P 22 09 07.4 +0.7**
GMNA Gemona 81.65 359 P **P 22 09 07.4 +0.5**
comp=Z,225nm,1.1s,mb6.0
ROBS Robic 81.68 359 *eP* **P 22 09 06.5 -0.5**
MLR Muntele Rosu 81.68 350 P **P 22 09 08.8 +1.7**
MLR Muntele Rosu 81.68 350⇓*iP* **P 22 09 07.1 0.0**
PLDF La Plantade 81.72 6 *eP* **P 22 09 07.9 +0.6**
OG05 Jujurieux 81.74 4 *eP* **P 22 09 08.1 +0.7**
VOIR 81.83 351⇓*iP* **P 22 09 10.2 +2.4**
MABI Malga Bissina 81.87 1 P **P 22 09 09.3 +1.2**
CTI Castel Tesino 81.88 0 P **P 22 09 08.2 +0.1**
comp=Z,39nm,1.2s,mb5.2
CTI Castel Tesino 81.88 0 P **P 22 09 08.2 +0.1**
CTI pmax pmax
comp=Z,39nm,1.2s,mb5.2
PYM Petit Puy Mans 81.89 6 *eP* **P 22 09 09.1 +0.9**
TBLG Delisi 81.94 336 *eP* **P 22 09 08.8 +0.3**
TBLG Delisi 81.94 336 P **P 22 09 08.9 +0.3**
BZS Buzias 81.95 353 P **P 22 09 09.2 +0.7**
BZS Buzias 81.95 353⇑*iP* **P 22 09 08.2 -0.3**
MTA Mtatsminda 81.96 336 P **P 22 09 09.7 +1.0**
VAI Varese 82.03 2 P **P 22 09 09.3 +0.4**
comp=Z,60nm,0.8s,mb5.6
VAI Varese 82.03 2 P **P 22 09 09.3 +0.4**
VAI pmax pmax
comp=Z,60nm,0.8s,mb5.6
DGRG David-gareji 82.04 335 P **P 22 09 10.2 +1.1**
GZR Gura Zlata 82.08 352 P **P 22 09 09.9 +0.7**
GZR Gura Zlata 82.08 352⇓*iP* **P 22 09 09.1 -0.1**
RSL Roselend 82.14 4 *eP* **P 22 09 10.8 +1.3**
CEY Cerknica 82.17 358 *eP* **P 22 09 09.6 0.0**
COLF Collangettes 82.17 6 *eP* **P 22 09 10.4 +0.7**
RJF Les Rejaudoux 82.23 7 *eP* **P 22 09 09.5 -0.5**
comp=Z,30nm,0.9s,mb5.0
RJF *e*MLR MLR
comp=Z,744nm,19.8s,MS4.8
RJF Les Rejaudoux 82.23 7 *eP* **P 22 09 09.5 -0.5**
comp=Z,15nm,0.9s,mb4.9
RJF LR LR
comp=Z,740nm,19.8s,MS5.0
RJF Les Rejaudoux 82.23 7 *eP* **P 22 09 09.5 -0.5**
RJF pmax pmax
comp=Z,15nm,0.9s,mb4.9
RJF MLR MLR
comp=Z,740nm,19.8s,MS5.0
HARR Harsova 82.24 348 P **P 22 09 10.5 +0.5**
HARR Harsova 82.24 348⇑*iP* **P 22 09 09.8 -0.2**
ORO Oropa 82.25 3 P **P 22 09 11.6 +1.5**
comp=Z,71nm,1.3s,mb5.4
ORO Oropa 82.25 3 P **P 22 09 11.6 +1.5**
ORO pmax pmax
comp=Z,71nm,1.3s,mb5.4
LPL La Plagne 82.32 4 *eP* **P 22 09 10.1 -0.3**
comp=Z,43nm,1.1s,mb5.0
LPL La Plagne 82.32 4 *eP* **P 22 09 10.1 -0.3**
comp=Z,21nm,1.1s,mb5.0

LPL	La Plagne	82.32	4	eP	P	22 09 10.1	-0.3
LPL				pmax	pmax		
comp=Z,21nm,1.1s,mb5.0							
CTA	Charters Tower	82.33	223	LR	LR	22 41 38.5	
comp=Z,244nm,18.3s,MS4.6,baz=48,slow=33							
LPG	La Plagne	82.34	4	eP	P	22 09 10.1	-0.4
comp=Z,58nm,1.3s,mb5.0							
LPG	La Plagne	82.34	4	eP	P	22 09 10.1	-0.4
comp=Z,29nm,1.3s,mb5.0							
LPG	La Plagne	82.34	4	eP	P	22 09 10.1	-0.4
LPG				pmax	pmax		
comp=Z,29nm,1.3s,mb5.0							
BOJS	Bojanci	82.38	358	eP	P	22 09 10.8	+0.1
TIRR	Tirgusor	82.41	348	P	P	22 09 11.5	+0.6
TIRR	Tirgusor	82.41	348	⇑iP	P	22 09 10.4	-0.5
LBL	Lubilhac	82.43	6	eP	P	22 09 11.5	+0.5
LFF	La Frestale	82.53	8	eP	P	22 09 11.2	-0.4
comp=Z,42nm,0.6s,mb5.4							
LFF	La Frestale	82.53	8	eP	P	22 09 11.2	-0.4
comp=Z,21nm,0.6s,mb5.3							
LFF	La Frestale	82.53	8	eP	P	22 09 11.2	-0.4
LFF				pmax	pmax		
comp=Z,21nm,0.6s,mb5.3							
GRN	Grenoble	82.55	4	eP	P	22 09 13.0	+1.3
GDM	Grand'Maison	82.61	4	eP	P	22 09 13.3	+1.4
CAF	Calviac	82.65	7	eP	P	22 09 11.9	-0.3
comp=Z,53nm,1.0s,mb5.2							
CAF	Calviac	82.65	7	eP	P	22 09 11.9	-0.3
comp=Z,26nm,1.0s,mb5.2							
CAF	Calviac	82.65	7	eP	P	22 09 11.9	-0.3
CAF				pmax	pmax		
comp=Z,26nm,1.0s,mb5.2							
BNI	Bardonecchia	82.78	4	eP	P	22 09 14.3	+1.4
comp=Z,37nm,1.0s,mb5.4							
BNI	Bardonecchia	82.78	4	eP	P	22 09 13.9	+1.0
BNI				pmax	pmax		
comp=Z,37nm,1.0s,mb5.4							
ORIF	Oris-en-Rattie	82.88	4	eP	P	22 09 12.8	-0.6
comp=Z,20nm,0.7s,mb5.0							
ORIF				eMLR	MLR		
comp=Z,772nm,20.2s,MS4.8							
ORIF	Oris-en-Rattie	82.88	4	eP	P	22 09 12.8	-0.6
comp=Z,10nm,0.7s,mb5.0							
ORIF	Oris-en-Rattie	82.88	4	eP	P	22 09 12.8	-0.6
ORIF				pmax	pmax		
comp=Z,10.0nm,0.7s,mb5.0							
VIVF	Saint-Julien-I	82.89	5	eP	P	22 09 12.9	-0.5
comp=Z,30nm,0.9s,mb5.0							
VIVF	Saint-Julien-I	82.89	5	eP	P	22 09 12.9	-0.5
comp=Z,15nm,0.9s,mb5.0							
VIVF	Saint-Julien-I	82.89	5	eP	P	22 09 12.9	-0.5
VIVF				pmax	pmax		
comp=Z,15nm,0.9s,mb5.0							
OG22	Abries	83.02	3	eP	P	22 09 16.0	+1.9
MBDF	Montbardon	83.11	4	eP	P	22 09 14.2	-0.4
comp=Z,97nm,1.1s,mb5.5							
MBDF	Montbardon	83.11	4	eP	P	22 09 14.2	-0.4
comp=Z,49nm,1.1s,mb5.5							
MBDF	Montbardon	83.11	4	eP	P	22 09 14.2	-0.4
MBDF				pmax	pmax		
comp=Z,49nm,1.1s,mb5.5							
BOB	Bobbio (Coli)	83.14	2	P	P	22 09 16.4	+1.7
EPON	Pontenova	83.22	14	P	P	22 09 13.8	-1.4
comp=Z,50nm,1.4s,mb5.4							
DOI	San Damiano	83.35	3	P	P	22 09 16.0	+0.2
comp=Z,10nm,0.5s,mb5.1							
DOI	San Damiano	83.35	3	P	P	22 09 16.0	+0.2
DOI				pmax	pmax		
comp=Z,10.0nm,0.5s,mb5.1							
SURF	Saint Ours	83.36	4	eP	P	22 09 17.4	+1.6
OG25	Le Caire	83.44	4	eP	P	22 09 17.3	+1.0
STS	Santiago	83.44	15	P	P	22 09 15.2	-1.1
comp=Z,33nm,1.3s,mb5.2							
STS	Santiago	83.44	15	P	P	22 09 15.2	-1.1
STS				pmax	pmax		
comp=Z,33nm,1.3s,mb5.2							
EARI	Arriondas	83.51	12	P	P	22 09 17.1	+0.4
comp=Z,115nm,1.8s,mb5.7							
ZIMR		83.55	350	P	P	22 09 17.2	+0.4
KSM	Kuching	83.60	264	eP	P	22 09 17.4	-0.1
LASF	Ste Croix	83.62	6	eP	P	22 09 16.5	-0.7
FNVD	Fontana Vidola	83.76	0	P	P	22 09 19.8	+1.9
VLC	Villacollemand	83.77	1	P	P	22 09 18.7	+0.8
ELAN	Lanestosa	83.80	11	P	P	22 09 17.8	-0.4
comp=Z,82nm,1.1s,mb5.8							
SMRF	Simiane la Rot	83.81	4	eP	P	22 09 17.7	-0.5
comp=Z,69nm,1.1s,mb5.4							
SMRF	Simiane la Rot	83.81	4	eP	P	22 09 17.7	-0.5
comp=Z,69nm,1.1s,mb5.7							
TOUF	Mont Tournerai	83.84	3	eP	P	22 09 19.6	+1.3
BDI	Bagni Di Lucca	83.86	1	P	P	22 09 19.9	+1.5
SAOF	Saorge	83.88	3	eP	P	22 09 19.0	+0.5
BLSP	Bilaspur	83.93	299	eP	P	22 09 18.8	-0.4
BLSP				AMb	AMB	22 09 33.2	
comp=Z,25nm,1.3s,mb5.2							
MVIF	Mont Vial	83.95	3	eP	P	22 09 19.9	+1.0
LUCF	Luceram	83.97	3	eP	P	22 09 19.9	+0.9
SBF	Sospel	84.00	3	eP	P	22 09 18.5	-0.6
comp=Z,120nm,1.0s,mb5.7							
SBF	Sospel	84.00	3	eP	P	22 09 18.5	-0.6
comp=Z,60nm,1.0s,mb5.7							
SBF	Sospel	84.00	3	eP	P	22 09 18.5	-0.6
SBF				pmax	pmax		
comp=Z,60nm,1.0s,mb5.7							
REVF	Revere	84.12	3	eP	P	22 09 20.3	+0.6
SJPF	Ste Jean	84.16	10	eP	P	22 09 19.2	-0.8
comp=Z,11nm,0.5s,mb4.9							
SJPF	Ste Jean	84.16	10	eP	P	22 09 19.2	-0.8
comp=Z,5.6nm,0.5s,mb5.0							
SJPF	Ste Jean	84.16	10	eP	P	22 09 19.2	-0.8
SJPF				pmax	pmax		
comp=Z,6.0nm,0.5s,mb5.0							
TAVF	Tavernes	84.19	4	eP	P	22 09 21.5	+1.4
AJM	Ajmer	84.21	307	eP	P	22 09 17.7	-2.8
AJM				AMb	AMB	22 09 20.7	
comp=Z,15nm,1.3s,mb5.0							
HOMI	Horasan	84.23	337	iP	P	22 09 22.0	+1.6
MTLF	Montolieu	84.24	7	eP	P	22 09 19.5	-0.9
comp=Z,61nm,1.1s,mb5.4							
MTLF	Montolieu	84.24	7	eP	P	22 09 19.5	-0.9
comp=Z,30nm,1.1s,mb5.3							
MTLF	Montolieu	84.24	7	eP	P	22 09 19.5	-0.9
MTLF				pmax	pmax		
comp=Z,31nm,1.1s,mb5.3							
DYDN	Diyadin	84.27	336	iP	P	22 09 22.0	+1.4
FRF	La Foret Royal	84.27	4	eP	P	22 09 20.0	-0.5
comp=Z,67nm,1.0s,mb5.4							
FRF	La Foret Royal	84.27	4	eP	P	22 09 20.0	-0.5
comp=Z,33nm,1.0s,mb5.4							
FRF	La Foret Royal	84.27	4	eP	P	22 09 20.0	-0.5
FRF				pmax	pmax		
comp=Z,33nm,1.0s,mb5.4							
BOYT	Boyabat	84.38	343	iP	P	22 09 21.8	+0.7
EPF	Esparros	84.39	8	eP	P	22 09 20.6	-0.5
comp=Z,41nm,1.0s,mb5.2							
EPF	Esparros	84.39	8	eP	P	22 09 20.6	-0.5
comp=Z,20nm,1.0s,mb5.2							
EPF	Esparros	84.39	8	eP	P	22 09 20.6	-0.5
EPF				pmax	pmax		
comp=Z,20nm,1.0s,mb5.2							
ETSF	Etsaut	84.44	9	eP	P	22 09 20.5	-0.9
comp=Z,88nm,1.1s,mb5.5							
ETSF	Etsaut	84.44	9	eP	P	22 09 20.5	-0.9
comp=Z,44nm,1.1s,mb5.5							
ETSF	Etsaut	84.44	9	eP	P	22 09 20.5	-0.9
ETSF				pmax	pmax		
comp=Z,44nm,1.1s,mb5.5							
CSNT	Castellina Chi	84.46	0	P	P	22 09 21.2	-0.3
BERF	Bertagne	84.48	4	eP	P	22 09 22.9	+1.3
ERZM	Erzurum	84.49	338	iP	P	22 09 22.5	+0.8
LMR	La Mourre	84.49	4	eP	P	22 09 20.2	-1.4
comp=Z,110nm,1.4s,mb5.5							
LMR	La Mourre	84.49	4	eP	P	22 09 20.2	-1.4
comp=Z,55nm,1.4s,mb5.5							
LMR	La Mourre	84.49	4	eP	P	22 09 20.2	-1.4
LMR				pmax	pmax		
comp=Z,55nm,1.4s,mb5.5							
ECRI	Cripan	84.52	11	P	P	22 09 22.0	+0.2
comp=Z,8.3nm,0.8s,mb4.9							
ECRI	Cripan	84.52	11	P	P	22 09 22.0	+0.2
ECRI				pmax	pmax		
comp=Z,8.0nm,0.8s,mb4.9							
MLS	Moulis	84.53	8	eP	P	22 09 22.5	+0.7
BALT	Daday	84.53	344	iP	P	22 09 22.6	+0.7
CING	Cingoli	84.55	359	P	P	22 09 23.0	+1.1
KOPT	Kop Dagi	84.58	338	iP	P	22 09 24.1	+1.9
RESF	Ens	84.61	8	eP	P	22 09 23.2	+0.9
TUTA	Tutak	84.62	336	iP	P	22 09 21.9	-0.5
MURB	Monte Urbino	84.67	359	P	P	22 09 23.8	+1.3
EBIE	Bielsa	84.72	9	P	P	22 09 22.7	-0.1
comp=Z,81nm,1.4s,mb5.7							
SOF	Sofiya	84.72	351	P	P	22 09 18.6	-4.2
PBRG	Braganca	84.77	14	eP	P	22 09 23.7	+0.6
comp=Z,18nm,2.4s,mb4.8							
VTS	Vitosha	84.82	352	P	P	22 09 23.3	0.0
VTS	Vitosha	84.82	352	⇑iP	P	22 09 22.8	-0.5
VTS	Vitosha	84.82	352	P	P	22 09 23.0	-0.3
ASS	Assisi	84.86	359	P	P	22 09 24.5	+1.0
comp=Z,9.7nm,1.2s,mb4.8							
ASS	Assisi	84.86	359	P	P	22 09 24.5	+1.0
ASS				pmax	pmax		
comp=Z,10.0nm,1.2s,mb4.8							
BATI	Kupang	85.08	246	LR	LR	22 40 54.3	
comp=Z,353nm,22.0s,MS4.7,baz=271,slow=31							
PVRL	Vila Real	85.14	15	eP	P	22 09 26.5	+1.5
comp=Z,36nm,1.9s,mb5.2							
CTKT	Corum	85.17	343	iP	P	22 09 25.9	+0.8
TVAN	Van	85.30	336	iP	P	22 09 26.6	+0.8
PGF	Pioggiola	85.35	2	eP	P	22 09 25.3	-0.7
comp=Z,69nm,0.7s,mb5.6							
PGF	Pioggiola	85.35	2	eP	P	22 09 25.3	-0.7
comp=Z,34nm,0.7s,mb5.6							
PGF	Pioggiola	85.35	2	eP	P	22 09 25.3	-0.7
PGF				pmax	pmax		
comp=Z,35nm,0.7s,mb5.6							
MVO	Moncorvo	85.36	14	eP	P	22 09 27.3	+1.3
comp=Z,20nm,1.2s,mb5.1							
MVO	Moncorvo	85.36	14	eLR	LR	22 42 30.9	
comp=Z,511nm,18.0s							
BHPL	Bhopal	85.50	303	eP	P	22 09 26.4	-0.6
BHPL				AMb	AMB	22 09 41.6	
comp=Z,31nm,0.2s,mb6.0							
MAON	Monte Argentar	85.50	0	P	P	22 09 27.4	+0.7
KDZ	Kurdzhali	85.53	350	P	P	22 09 28.0	+1.1
MNS	Montasola	85.54	359	P	P	22 09 26.7	-0.2
AQU	L'Aquila	85.57	359	eP	P	22 09 26.7	-0.4
comp=Z,52nm,1.0s,mb5.7							
AQU	L'Aquila	85.57	359	eP	P	22 09 26.7	-0.3
AQU				pmax	pmax		
comp=Z,52nm,1.0s,mb5.7							
AQU	L'Aquila	85.57	359	⇓iP	P	22 09 29.9	+2.9
SKO	Skopje	85.58	353	iP	P	22 09 28.2	+1.1
ESAC	San Caprasio	85.61	9	P	P	22 09 26.5	-0.8
comp=Z,302nm,2.3s,mb6.1							
HENT	Hendek	85.63	346	iP	P	22 09 27.6	+0.3
PVIS	Viseu	85.66	15	eP	P	22 09 28.5	+0.9
comp=Z,24nm,1.6s,mb5.2							
KEMA	Kemaliye	85.74	339	iP	P	22 09 28.5	+0.5
MMB	Musomiste	85.77	351	P	P	22 09 28.0	-0.1
NVR	Nevrokopi	85.99	351	eP	P	22 09 29.2	0.0
RDO	Rodhopi	86.02	350	eP	P	22 09 29.2	-0.1
MTE	Manteigas	86.03	15	eP	P	22 09 30.4	+1.0
comp=Z,23nm,1.3s,mb5.2							
MTE	Manteigas	86.03	15	eLR	LR	22 41 22.6	
comp=Z,655nm,18.0s							
EPOB	Poblet	86.12	8	P	P	22 09 29.1	-0.7
comp=Z,130nm,2.5s,mb5.7							
VAY	Valandovo	86.14	352	iP	P	22 09 30.1	+0.2
KRUS	Krusevo	86.20	353	iP	P	22 09 30.3	+0.1
ALN	Alexandroupoli	86.21	349	eP	P	22 09 30.1	-0.1
CDAG	Cicekdag	86.22	343	iP	P	22 09 26.9	-3.4
ANTO	Ankara	86.25	344	eP	P	22 09 32.3	+1.8
comp=Z,32nm,0.9s,mb5.6							
ANTO	Ankara	86.25	344	eP	P	22 09 31.3	+0.8
ANTO				pmax	pmax		
comp=Z,32nm,1.0s,mb5.5							
ANTO	Ankara	86.25	344	⇑iP	P	22 09 31.4	+0.9
GUD	Guadarrama	86.27	12	P	P	22 09 30.0	-0.6
comp=Z,5.9nm,1.1s,mb4.7							
GUD	Guadarrama	86.27	12	P	P	22 09 30.0	-0.5
GUD				pmax	pmax		
comp=Z,6.0nm,1.1s,mb4.7							
KNT	Kendrikon	86.27	352	eP	P	22 09 30.8	+0.3
SART	Tekirdag	86.28	348	iP	P	22 09 29.5	-1.1
ETOR	Torete	86.34	10	P	P	22 09 30.7	-0.2
comp=Z,5.1nm,1.3s,mb4.6							
ETOR	Torete	86.34	10	P	P	22 09 30.7	-0.2
ETOR				pmax	pmax		
comp=Z,5.0nm,1.3s,mb4.6							
OHR	Ohrid	86.49	353	iP	P	22 09 23.3	-8.4
KULM	Kulim	86.51	274	eP	P	22 09 31.4	-0.7
KULM				epP	pP	22 09 43.8	-0.3
GRG	Griva	86.51	352	eP	P	22 09 32.0	+0.2
BIA	Bitola	86.54	353	iP	P	22 09 30.4	-1.4
PCBR	Castelo Branco	86.58	15	eP	P	22 09 33.5	+1.4
comp=Z,30nm,1.4s,mb5.3							
MALT	Malatya	86.67	339	eP	P	22 09 33.9	+1.3
comp=Z,7.1nm,0.9s,mb4.9							
MALT				epP	pP	22 09 44.5	0.0
MALT	Malatya	86.67	339	eP	P	22 09 33.9	+1.3
MALT				e*PP	pP	22 09 44.5	-0.1
MALT				pmax	pmax		
comp=Z,7.0nm,0.9s,mb4.9							
FNA	Florina	86.77	353	eP	P	22 09 32.5	-0.6
HORT	Hortiatis	86.81	351	eP	P	22 09 32.8	-0.4
ESKT	Eskisehir	86.91	345	iP	P	22 09 33.7	0.0
OUR	Ouranopolis	86.98	351	eP	P	22 09 33.7	-0.3
PLG	Polygyros	87.00	351	eP	P	22 09 33.5	-0.7
PLG	Polygyros	87.00	351	eP	P	22 09 33.0	-1.1
BTOK	Tokmak	87.08	347	iP	P	22 09 35.1	+0.5
PMAFR	Mafra	87.15	16	eLR	LR	22 44 24.9	
comp=Z,636nm,16.0s							
ESDC	Sonseca Array	87.24	12	P	P	22 09 34.8	-0.5
comp=Z,6.0nm,1.4s,mb4.6							
ESDC	Sonseca Array	87.24	12	P	P	22 09 35.6	+0.2
comp=Z,5.8nm,0.6s,mb5.0,baz=349,slow=4.7,SNR=31							
ESDC				LR	LR	22 52 07.0	
comp=Z,611nm,19.9s,MS5.0,baz=335,slow=38							
ESLA	Sonseca Array	87.24	12	eP	P	22 09 35.2	-0.1
comp=Z,3.2nm,1.0s,mb4.5							
LIA	Limnos Island	87.29	350	eP	P	22 09 31.0	-4.6
PAB	San Pablo	87.32	12	eP	P	22 09 35.7	0.0
comp=Z,13nm,1.2s,mb5.0							
PAB	San Pablo	87.32	12	eP	P	22 09 35.7	0.0
PAB				pmax	pmax		
comp=Z,13nm,1.2s,mb5.0							
PAIG	Paliouri	87.42	351	eP	P	22 09 35.3	-0.9
PESTR	Estremoz	87.52	15	eP	P	22 09 37.0	+0.3
comp=Z,18nm,1.8s,mb5.0							
PESTR	Estremoz	87.52	15	eLR	LR	22 43 16.5	
comp=Z,422nm,18.0s							
GDZ	Gediz	87.54	346	iP	P	22 09 36.9	+0.2
WRA	Warramunga Arr	87.58	232	P	P	22 09 35.4	-1.7
comp=Z,3.2nm,0.8s,mb4.6,baz=33,slow=5.9,SNR=23							
WRA				LR	LR	22 45 12.0	
comp=Z,286nm,21.1s,MS4.7,baz=60,slow=33							
SDV	Santo Domingo	87.65	79	LR	LR	22 49 48.9	
comp=Z,384nm,18.9s,MS4.8,baz=94,slow=36							
ECHE	Chera	87.67	10	P	P	22 09 37.0	-0.5
comp=Z,12nm,1.0s,mb5.1							
ECHE	Chera	87.67	10	P	P	22 09 37.0	-0.4
ECHE				pmax	pmax		
comp=Z,12nm,1.0s,mb5.1							
KDHN	Kadinhani	87.68	344	iP	P	22 09 37.2	-0.2
EVO	Evora	87.78	15	eP	P	22 09 36.4	-1.5
comp=Z,20nm,1.1s,mb5.0							
EVO				eMLR	MLR		
comp=Z,1μm,18.8s,MS5.0							
EVO	Evora	87.78	15	eP	P	22 09 38.3	+0.4
comp=Z,92nm,2.4s,mb5.6							
THL	Klokotos Trika	87.93	352	eP	P	22 09 37.6	-1.0
KEK	Kerkira	87.95	354	eP	P	22 09 38.6	-0.1
NEO	Neokhori	88.08	351	eP	P	22 09 38.3	-1.0
IGT	Igoumenitsa	88.09	353	eP	P	22 09 38.7	-0.7
PBAR	Barrancos	88.28	15	eP	P	22 09 41.0	+0.7
comp=Z,23nm,1.6s,mb5.2							
PBAR	Barrancos	88.28	15	eLR	LR	22 41 38.0	
comp=Z,450nm,20.0s							
EVIA	Vianos	88.44	11	P	P	22 09 40.2	-0.8
comp=Z,21nm,1.2s,mb5.2							
EVIA	Vianos	88.44	11	P	P	22 09 40.3	-0.8
EVIA				pmax	pmax		
comp=Z,21nm,1.2s,mb5.2							
EVR	Evrytania	88.59	352	eP	P	22 09 42.2	+0.4
ROSC	El Rosal	88.59	84	LR	LR	22 50 51.3	
comp=Z,170nm,21.7s,MS4.4,baz=18,slow=37							
EADA	Adamuz	88.65	13	P	P	22 09 41.6	-0.4
comp=Z,29nm,1.2s,mb5.5							
EMIN	Mina Concepcio	88.74	14	P	P	22 09 41.4	-1.1
comp=Z,36nm,1.4s,mb5.5							
EBAN	Banos Encina	88.75	12	P	P	22 09 42.4	-0.1
comp=Z,16nm,1.6s,mb5.1							
EBAN	Banos Encina	88.75	12	P	P	22 09 42.4	-0.1
EBAN				pmax	pmax		
comp=Z,16nm,1.6s,mb5.1							
COBT	Iskenderun	88.86	340	iP	P	22 09 44.3	+1.2
MORF	Marmelete	88.87	16	eP	P	22 09 43.9	+0.8
comp=Z,29nm,1.2s,mb5.5							
MORF	Marmelete	88.87	16	eLR	LR	22 43 39.1	
comp=Z,724nm,18.0s							
PVAQ	Vaqueiros	88.93	15	eLR	LR	22 44 05.7	
comp=Z,645nm,18.0s							
PFVI	Vila Bisbo	89.01	16	eLR	LR	22 43 54.3	
comp=Z,577nm,18.0s							
PBDV	Barranco-do-Ve	89.05	16	eLR	LR	22 44 10.7	
comp=Z,712nm,18.0s							
EQES	Quesada	89.20	12	P	P	22 09 44.5	-0.2
comp=Z,266nm,2.3s,mb6.2							
GOLH	Golhisar	89.34	346	iP	P	22 09 44.9	-0.4
LTK	Loutraki	89.37	351	eP	P	22 09 44.1	-1.4
ERMK	Ermenek	89.38	343	iP	P	22 09 46.1	+0.6
RLS	Riolos of Patr	89.47	352	eP	P	22 09 46.7	+0.8
ECOG	Cogollos-Vega	89.66	12	P	P	22 09 46.3	-0.5
comp=Z,16nm,1.4s,mb5.2							
ECOG	Cogollos-Vega	89.66	12	P	P	22 09 46.3	-0.5
ECOG				pmax	pmax		
comp=Z,16nm,1.4s,mb5.2							
HYB	Hyderabad	89.70	299	eP	P	22 09 47.0	-0.3
HYB	Hyderabad	89.70	299	iP	P	22 09 47.0	-0.3
ELOJ	Sierra Loja	89.71	13	P	P	22 09 47.6	+0.6
comp=Z,18nm,1.1s,mb5.3							
ELOJ	Sierra Loja	89.71	13	P	P	22 09 47.6	+0.6
ELOJ				pmax	pmax		
comp=Z,18nm,1.1s,mb5.3							
ESPR	Espera	89.74	14	P	P	22 09 46.5	-0.7
comp=Z,107nm,1.9s,mb5.8							
ASAR	Alice Springs	90.96	231	P	P	22 09 51.7	-1.1
comp=Z,3.7nm,0.8s,mb4.8,baz=34,slow=4.7,SNR=26							
KEST	Kesra	92.17	2	P	P	22 09 59.0	+0.5
comp=Z,3.7nm,1.0s,mb4.7,baz=280,slow=13,SNR=4.6							
MIB	Mutribah	92.38	330	eP	P	22 09 58.6	-1.0
MIB				AMb	AMB	22 10 02.1	
comp=Z,67nm,0.8s,mb6.0							
UMR	Umm Al-Rimmam	92.49	329	eP	P	22 09 59.2	-0.9
UMR				AMb	AMB	22 10 02.5	
comp=Z,29nm,0.9s,mb5.6							
NAY	Al-Naaiem	92.92	329	eP	P	22 10 01.2	-0.8
NAY				AMb	AMB	22 10 04.1	
comp=Z,17nm,1.0s,mb5.4							
RDF	Al-Radifah	93.13	329	eP	P	22 10 01.9	-1.1
RDF				AMb	AMB	22 10 06.9	
comp=Z,52nm,1.0s,mb5.9							
STKA	Stephens Creek	94.69	221	LR	LR	22 48 12.0	
comp=Z,394nm,19.1s,MS4.9,baz=23,slow=33							
TORD	Torodi Ar. Bea	114.10	11	PKP	PKiKP	22 15 26.7	-1.6
comp=Z,0.6nm,0.6s,baz=336,slow=2.5,SNR=11							
TORD				PKKPbc	PKKPbc	22 26 05.8	-1.2
comp=Z,1.0nm,1.1s,baz=135,slow=4.2,SNR=3.1							
KMBO	Kilima Mbogo	124.59	328	PKP	PKPdf	22 15 49.8	+1.2
comp=Z,3.8nm,0.9s,baz=61,slow=23,SNR=4.4							
TSUM	Tsumeb	146.51	350	ePKPbc	PKPbc	22 16 30.0	-0.1
LBTB	Lobatse	150.65	334	ePKPbc	PKPbc	22 16 41.0	+0.3
MAW	Mawson	151.35	218	PKPbc	PKPbc	22 16 40.3	-0.7
comp=Z,6.3nm,0.6s,baz=270,slow=6.4,SNR=8.8							
BOSA	Boshof	154.15	332	PKP	PKPdf	22 16 40.2	-0.2
comp=Z,4.6nm,1.0s,baz=108,slow=2.7,SNR=3.6							
BOSA				PKPbc	PKPbc	22 16 48.0	-0.5
comp=Z,4.3nm,0.7s,baz=143,slow=8.7,SNR=12							
SNAA	Sanae	159.65	167	PKPab	PKPab	22 17 25.9	+1.0
comp=Z,0.4nm,0.6s,baz=169,slow=20,SNR=5.6							

CSEM ***13*** *22:02:10.3±0.4,2753N×3481E,h1km±1km,ML3.9,Error ellipse: s-maj=15.3km s-min=8.8km az=122.0*
ISCJB ***13*** *22:02:11.2±1.4,2763N±008×350E±02,h10km,Error ellipse: s-maj=21.4km s-min=11.3km az=0.1*
GII ***13*** *22:02:13.4±2.3,2771N×3486E,h6km±350km,mb4.2/3, ML3.9/6*
SGS ***13*** *22:02:16.9,2804N×3452E,h10km*
ISC 13 22:02:12.1±1.5,2764N±009×349E±02,h5km±8km,n22, σ0°76/28,Red Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSHS		0.66	356	P	Pg	22 02 24.2	-0.6
JLOS		1.23	27	S	Sg	22 02 51.1	-0.4
JLOS		1.23	27	P	Pg	22 02 36.3	+0.7
WJHS		1.65	123	P	Sn	22 02 50.4	-13
HQLS		1.66	6	P	Pn	22 02 39.9	-2.1
EIL	Elat	2.02	2	Pn	Pn	22 02 45.8	-1.1
EIL				Sn	Sn	22 03 11.5	-1.1
HRFI	Mount Harif	2.39	4	Pn	Pn	22 02 51.5	-0.5
HRFI				Sn	Sn	22 03 21.8	+0.2
KRMI	Paran Flat	2.47	357	Pn	Pn	22 02 52.9	-0.1
KRMI				Sn	Sn	22 03 23.5	0.0
PRNI	Paran	2.70	3	Pn	Pn	22 02 56.0	-0.2
ZFRI	Zfri	2.91	6	Pn	Pn	22 02 59.5	+0.3
KZIT	Kziot	3.27	353	Pn	Pn	22 03 04.

DEIG *i* S **Sn** **22 21 44.3 +3.3**
VHO Vista Hermosa 3.42 92 *e*P **Pn** **22 21 04.9 +0.6**
OXX Oaxaca 3.42 91 *e*P **Pn** **22 21 05.0 +0.6**
SFJM Santa Fe 4.17 322 *i* P **Pn** **22 21 18.5 +3.8**
HUIG Huatulco 4.27 109 *e*S **Sn** **22 22 02.2 -2.6**
HUIG Huatulco 4.27 109 *i* S **Sn** **22 22 07.0 +2.2**
LVIG Laguna Verde 4.46 55 *e*P **Pn** **22 21 26.3 +7.7**
LVIG *i* S **Sn** **22 22 14.7 +5.3**
CMIG Matias Romero 5.18 90 P **Pn** **22 21 27.1 -1.5**
CMIG *e*P 22 21 27.7
CMIG S **Sn** **22 22 23.0 -4.2**
CMIG LR LR 22 23 40.3
CMIG Matias Romero 5.18 90 P **Pn** **22 21 27.1 -1.5**
1.8nm,0.3s,baz=279,slow=10,SNR=16
CMIG S **Sn** **22 22 23.0 -4.2**
6.9nm,0.3s,baz=290,slow=19,SNR=5.8
CMIG LR LR 22 23 40.3
comp=Z,188nm,18.4s,baz=145,slow=42
CMIG Matias Romero 5.18 90 *e*P **Pn** **22 21 29.6 +1.0**
LNIG Linares 7.70 6 *e*P **Pn** **22 22 06.2 +3.0**
TXAR Lajitas Array 12.46 346 P **Pn** **22 23 12.6 +4.1**
TXAR Lajitas Array 12.46 346 P **Pn** **22 23 12.6 +4.1**
0.1nm,0.3s,baz=164,slow=10,SNR=2.4
BNM Barren Site 17.81 343 *e*Pn **Pn** **22 24 14.3 -4.3**
ANMO Albuquerque 18.51 344 P **Pn** **22 24 29.5 +2.2**
0.1nm,0.3s,baz=148,slow=6.0,SNR=4.3
KSU1 Kansas State U 22.06 8 *e*P **P** **22 25 04.9 -0.4**
12nm,0.6s,mb4.5
NVAR Mina Array Bea 26.38 327 P **P** **22 25 49.6 +3.0**
0.8nm,0.7s,mb3.4,baz=144,slow=10,SNR=6.2
NVAR pP pP 22 26 05.7 +9.5
1.1nm,0.6s,baz=140,slow=12,SNR=4.1
PDAR Pinedale Array 26.68 345 P **P** **22 25 50.8 +1.6**
0.4nm,0.6s,mb3.1,baz=146,slow=14,SNR=4.3
PDAR pP pP 22 26 08.5 +10
1.7nm,0.8s,baz=151,slow=11,SNR=6.5
ULM Lac du Bonnet 33.16 5 P **P** **22 26 45.0 -1.6**
ULM pP pP 22 27 02.0 +5.7
ULM Lac du Bonnet 33.16 5 P **P** **22 26 45.0 -1.6**
1.0nm,0.6s,mb3.9,baz=212,slow=11,SNR=3.7
ULM pP pP 22 27 02.0 +5.7
3.3nm,0.6s,baz=192,slow=9.2,SNR=4.9
SCHQ Schefferville 45.49 27 P **P** **22 28 25.7 -3.6**
2.2nm,0.9s,mb4.0,baz=222,slow=12,SNR=2.4
SCHQ pP pP 22 28 43.7 +4.4
2.4nm,0.8s,baz=224,slow=13,SNR=2.0
YKA Yellowknife Ar 46.34 351 P **P** **22 28 36.1 +0.2**
YKA pP pP 22 28 52.0 +6.1
YKA Yellowknife Ar 46.34 351 P **P** **22 28 36.1 +0.2**
0.4nm,0.6s,mb3.5,baz=158,slow=7.3,SNR=6.0
YKA pP pP 22 28 52.0 +6.1
0.5nm,0.5s,baz=157,slow=7.2,SNR=6.2
TORD Torodi Ar. Bea 97.30 74 P **P** **22 33 40.6 -3.2**
0.3nm,0.9s,mb3.7,baz=306,slow=4.8,SNR=2.5
WRA Warramunga Arr 128.32 258 PKP PKPdf 22 39 17.4 +0.1
0.9nm,0.7s,baz=85,slow=2.1,SNR=11
ASAR Alice Springs 129.04 253 PKP PKPdf 22 39 18.2 -0.3
0.5nm,0.9s,baz=98,slow=1.3,SNR=4.5
FITZ Fitzroy Crossi 136.30 262 PKP PKPdf 22 39 29.7 -2.6
3.2nm,0.9s,baz=126,slow=3.4,SNR=7.0

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*IDC **13** 22:51:08.6±0.6, 1828N×121.12E, h0km, mb4.0/16, mb1 4.2/19, mb1mx4.2/25, mbtmp4.1/19, ML4.1/3, MS3.5/3, Ms1 3.5/3, ms1mx3.2/29, Error ellipse: s-maj=26.0km s-min=11.6km az=72.0*
*MAN **13** 22:51:10, 1856N×120.14E, h17km, mb4.8, ML3.7, MS3.7*
*ISCJB **13** 22:51:11.8±0.4, 1826N±006×1212E±01, h35km, mb4.1/19, Error ellipse: s-maj=15.0km s-min=8.1km az=170.5*
*NEIC **13** 22:51:13.7±0.3, 1825N×121.15E, h35km, mb4.8/4, Error ellipse: s-maj=13.5km s-min=7.1km az=80.0*
ISC 13 22:51:14.5±3.1, 1828N±008×1212E±02, h43km±30km, n29, σ0s89/29, mb4.1/19, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOW	**Kunigami**	**10.72**	**36**	Pn	**Pn**	**22 53 46.5**	**+0.9**
	5.4nm,0.3s,baz=207,slow=12,SNR=38						
JOW				LR	LR	22 57 49.7	
	comp=Z,274nm,19.0s,baz=124,slow=37						
JNU	**Nakatsue**	**17.14**	**29**	P	**Pn**	**22 55 10.4**	**-0.5**
	0.4nm,0.3s,baz=187,slow=8.4,SNR=7.1						
JNU				LR	LR	23 02 00.3	
	comp=Z,100nm,19.6s,baz=36,slow=38						
KSRS	**Korea Array**	**19.99**	**16**	P	**P**	**22 55 41.5**	**-1.8**
	0.5nm,0.3s,baz=199,slow=11,SNR=15						
MJAR	**Matsushiro Arr**	**23.57**	**36**	P	**P**	**22 56 21.6**	**+0.3**
	0.7nm,0.5s,mb3.4,baz=224,slow=14,SNR=3.1						
SONM	**Songino Array**	**31.87**	**341**	P	**P**	**22 57 35.1**	**-0.4**
	0.5nm,0.8s,mb3.4,baz=163,slow=6.9,SNR=3.4						
FITZ	**Fitzroy Crossi**	**36.41**	**173**	*e*P	**P**	**22 58 14.0**	**-1.1**
	2.5nm,0.4s,mb4.5						
FITZ	**Fitzroy Crossi**	**36.41**	**173**	P	**P**	**22 58 14.2**	**-0.9**
	1.6nm,0.5s,mb4.2,baz=31,slow=5.2,SNR=9.7						
WRA	**Warramunga Arr**	**40.11**	**161**	P	**P**	**22 58 45.6**	**-0.6**
	3.6nm,0.8s,mb4.2,baz=342,slow=9.1,SNR=24						
WRA				PcP	PcP	23 00 50.5	+0.3
	0.7nm,0.5s,baz=345,slow=3.3,SNR=4.5						
WB2	**Warramunga Arr**	**40.11**	**161**	*e*P	**P**	**22 58 45.7**	**-0.5**
WB2	**Warramunga Arr**	**40.11**	**161**	*e*P	**P**	**22 58 44.5**	**-1.7**
MK31	**Makanchi Array**	**42.74**	**321**	*e*P	**P**	**22 59 08.3**	**+0.8**
MKAR	**Makanchi Array**	**42.74**	**321**	P	**P**	**22 59 07.1**	**-0.4**
	1.8nm,0.9s,mb3.8,baz=113,slow=9.8,SNR=7.4						
ASAR	**Alice Springs**	**43.49**	**163**	P	**P**	**22 59 14.1**	**+0.3**
	7.4nm,0.6s,mb4.6,baz=341,slow=7.0,SNR=95						
ZALV	**Zalesovo Beam**	**45.29**	**330**	P	**P**	**22 59 27.0**	**-0.9**
	0.5nm,0.5s,mb3.6,baz=108,slow=9.3,SNR=3.6						
CTA	**Charters Tower**	**45.36**	**146**	P	**P**	**22 59 30.8**	**+2.0**
	5.2nm,0.8s,mb4.4,baz=153,slow=4.5,SNR=2.8						
FORT	**Forrest**	**49.22**	**172**	*e*P	**P**	**22 59 58.4**	**-0.2**
	24nm,1.1s,mb5.1						
KLBR	**Kellerberrin**	**49.69**	**184**	*e*P	**P**	**23 00 01.7**	**-0.6**
	63nm,1.2s,mb5.5						
BVAR	**Borovoye Array**	**52.34**	**324**	P	**P**	**23 00 22.1**	**+0.2**
	1.2nm,0.7s,mb3.9,baz=122,slow=11,SNR=5.7						
STKA	**Stephens Creek**	**53.56**	**158**	*e*P	**P**	**23 00 32.4**	**+1.2**
	3.5nm,0.6s,mb4.5						
STKA	**Stephens Creek**	**53.56**	**158**	P	**P**	**23 00 32.3**	**+1.1**
	4.3nm,0.6s,mb4.6,baz=337,slow=7.5,SNR=13						
AKTK	**Aktyubinsk**	**59.09**	**318**	P	**P**	**23 01 10.9**	**+0.5**
AKTO	**Aktyubinsk**	**59.09**	**318**	P	**P**	**23 01 10.9**	**+0.5**
	1.3nm,0.7s,mb4.1,baz=121,slow=12,SNR=3.0						
JOF	**Joensuu**	**73.86**	**332**	*e*p	**P**	**23 02 40.5**	**-4.1**
	0.8nm,0.4s,mb4.0						
ARCES	**ARCESS Array B**	**75.01**	**339**	P	**P**	**23 02 52.5**	**+1.4**
	8.7nm,1.1s,mb4.6,baz=24,slow=4.9,SNR=2.2						
FINES	**FINESS Array B**	**76.55**	**331**	P	**P**	**23 02 59.8**	**-0.3**
	1.3nm,0.8s,mb3.9,baz=29,slow=4.4,SNR=3.3						
AKASG	**Malin Array Be**	**77.31**	**319**	P	**P**	**23 03 04.8**	**+0.3**
	0.3nm,0.4s,mb3.5,baz=69,slow=4.7,SNR=2.5						
NB2	**NORSAR Subarra**	**83.44**	**333**	P	**P**	**23 03 42.9**	**+5.6**
	comp=Z,0.6nm,0.7s,mb3.7,baz=63,slow=5.6						
NOA	**NORSAR Array B**	**83.44**	**333**	P	**P**	**23 03 37.8**	**+0.5**
	comp=Z,0.6nm,0.9s,mb3.6,baz=66,slow=5.5,SNR=2.8						
YKA	**Yellowknife Ar**	**88.38**	**23**	P	**P**	**23 04 00.8**	**-0.9**
	comp=Z,0.6nm,0.6s,mb4.0,baz=313,slow=4.4,SNR=18						

MEX 13 23:01:47.1±0.3, 1718N×10041W, h41km±4km, MD3.6, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.19**	**135**	*i* P	Pn	23 01 53.0	-1.5
CAIG				*i* S	Sn	23 01 57.7	-1.8
ACX	**Acapulco**	**0.56**	**124**	*i* P	Pn	23 01 57.0	-1.7
ACX				*i* S	Sn	23 02 05.0	-2.0
MEIG	**Mezcala**	**1.05**	**45**	*i* P	Pn	23 02 03.9	-1.5
MEIG				*i* S	Sn	23 02 16.7	-2.2

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*CSEM **13** 23:31:25.8±1.1, 2767N×3450E, h2km, ML3.9, Error ellipse: s-maj=25.7km s-min=20.2km az=109.0*
SGS 13 23:31:33.2, 2788N×3485E, h8km, Red Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSHS		**0.42**	**354**	P	Pg	23 31 39.7	-1.7
JLOS		**1.02**	**34**	S	Sg	23 32 05.8	-0.3
JLOS		**1.02**	**34**	P	Pg	23 31 51.9	-1.0
HQLS		**1.42**	**8**	P	Pn	23 31 57.4	-2.0
HQLS		**1.42**	**8**	P	Pn	23 31 57.4	-2.0
HQLS				S	Sn	23 32 15.6	-2.7

IDC 13 23:33:23.6±3.8, 535S×14649E, h0km, mb3.4/2, mb1 3.6/3, mb1mx3.4/14, mbtmp3.4/3, ML3.4/1, Error ellipse: s-maj=109.0km s-min=54.4km az=119.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**15.68**	**241**	*e*P	Pn	23 37 07.5	+1.5
	8.8nm,0.9s						
WB2	**Warramunga Arr**	**18.70**	**218**	*e*P	Pn	23 37 43.2	-0.8
WRA	**Warramunga Arr**	**18.71**	**218**	P	Pn	23 37 43.1	-1.0
	0.1nm,0.3s,baz=42,slow=11,SNR=6.7						
ASAR	**Alice Springs**	**21.88**	**212**	P	P	23 38 18.4	+0.2
	0.4nm,0.5s,baz=49,slow=9.0,SNR=6.5						
FITZ	**Fitzroy Crossi**	**23.99**	**236**	*e*P	P	23 38 40.2	+0.1
	4.3nm,0.8s						
FITZ	**Fitzroy Crossi**	**23.99**	**236**	P	P	23 38 39.2	-0.9
	1.2nm,0.5s,baz=57,slow=6.8,SNR=5.3						
TORD	**Torodi Ar. Bea**	**144.43**	**285**	PKP	PKPdf	23 53 04.3	+1.3
	0.2nm,0.3s,baz=72,slow=3.3,SNR=12						

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*IDC **13** 23:36:42.8±0.7, 5241N×16824W, h0km, mb4.2/20, mb1 4.4/20, mb1mx4.4/26, mbtmp4.2/20, MS3.4/3, Ms1 3.4/3, ms1mx3.0/25, Error ellipse: s-maj=21.7km s-min=13.5km az=178.0*
*ISCJB **13** 23:36:44.1±1.8, 5241N±007×16827W±006, h15km±10km, mb4.6/73, MS3.9/6, Error ellipse: s-maj=11.8km s-min=6.4km az=170.8*
*NEIC **13** 23:36:45.9±2.4, 5229N×16820W, h20km±15km, mb4.7/40, Error ellipse: s-maj=11.2km s-min=6.4km az=193.0*
*BJI **13** 23:36:46.0, 5291N×16852W, h20km, mB5.0, mb4.8, Ms4.8, Msz4.5*
*MOS **13** 23:36:47.6±0.9, 5254N×16848W, h33km, mb5.0/41, Error ellipse: s-maj=14.1km s-min=5.8km az=95.3*
*SZGRF **13** 23:36:51.4, 5263N×16781W, h33km, mb4.9, Fox Islands, Aleutian Islands, United States*
ISC 13 23:36:46.7±2.0, 5248N±007×16825W±006, h19km±12km, h24km±4.1km: pP-P, n206, σ0s89/210, mb4.6/73, MS3.9/6, 17C-3D, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UNV	**Unalaska Valle**	**1.73**	**37**	*e*Pn	**Pn**	**23 37 14.7**	**-0.9**
AKLV	**Akutan Long Va**	**2.18**	**38**	P	**Pn**	**23 37 22.2**	**+0.4**
FALS	**False Pass**	**3.73**	**48**	Pn	**Pn**	**23 37 42.2**	**-1.0**
SPIA	**Saint Paul Isl**	**4.85**	**347**	P	**Pn**	**23 38 02.7**	**+4.2**
ADK	**Adak**	**5.22**	**267**	P	**Pn**	**23 38 04.5**	**+0.8**
SDPT	**Sand Point**	**5.42**	**55**	*e*P	**Pn**	**23 38 04.9**	**-1.5**
SVW2	**Sparrevohn**	**11.06**	**34**	*e*Pn	**Pn**	**23 39 27.3**	**+3.6**
GAMB	**Gambell**	**11.47**	**352**	*e*Pn	**Pn**	**23 39 33.3**	**+4.0**
SLKM	**Skilak Lake**	**12.76**	**44**	*e*Pn	**Pn**	**23 39 47.1**	**+0.2**
IMA2	**Indian Mountai**	**15.46**	**23**	*e*P	**Pn**	**23 40 28.4**	**+5.0**
COLA	**College**	**16.22**	**32**	*c i*P	**Pn**	**23 40 33.6**	**+0.4**
EGAK	**Eagle**	**18.53**	**38**	*e*P	**Pn**	**23 41 01.4**	**-0.5**
DAWY	**Dawson**	**18.90**	**41**	*e*Pn	**Pn**	**23 41 06.0**	**-0.4**
SKAG	**Skagway**	**19.54**	**56**	*e*Pn	**Pn**	**23 41 14.0**	**-0.2**
BILL	**Bilibino**	**19.83**	**332**	*e*P	**Pn**	**23 41 18.4**	**+0.9**
	17nm,1.0s						
BILL	**Bilibino**	**19.83**	**332**	⇓*i*P	**Pn**	**23 41 16.2**	**-1.2**
BILL				pmax	pmax		
	comp=Z,18nm,1.2s						
BILL				MLR	MLR		
	comp=Z,200nm,14.0s						
PET	**Petropavlovsk**	**19.95**	**285**	*e*P	**Pn**	**23 41 17.6**	**-1.5**
	comp=Z,28nm,0.6s						
PET	**Petropavlovsk**	**19.95**	**285**	⇑*e*P	**Pn**	**23 41 16.9**	**-2.1**
PET				pmax	pmax		
	comp=Z,32nm,0.8s						
INK	**Inuvik**	**22.88**	**33**	*e*P	**P**	**23 41 46.1**	**-2.5**
INK	**Inuvik**	**22.88**	**33**	P	**P**	**23 41 46.3**	**-2.3**
	comp=Z,6.0nm,0.7s,mb4.2,baz=241,slow=10.0,SNR=19						
INK				LR	LR	23 51 26.1	
	comp=Z,147nm,20.1s,MS3.4,baz=213,slow=38						
SEY	**Seymchan**	**23.10**	**312**	⇑*e*P	**P**	**23 41 51.1**	**+0.1**
YKA	**Yellowknife Ar**	**29.65**	**49**	P	**P**	**23 42 50.3**	**-0.3**
YKA				PcP	PcP	23 45 53.8	-0.5
YKA				ScP	ScP	23 49 34.6	-0.4
YKA				LR	LR	23 55 37.3	
YKA	**Yellowknife Ar**	**29.65**	**49**	P	**P**	**23 42 50.3**	**-0.3**
YKA						23 45 53.8	
YKA						23 49 34.6	
YKA	**Yellowknife Ar**	**29.65**	**49**	P	**P**	**23 42 50.3**	**-0.3**
	comp=Z,0.8nm,0.6s,mb3.6,baz=270,slow=7.7,SNR=20						
YKA				PcP	PcP	23 45 53.8	-0.5
	comp=Z,0.7nm,0.7s,baz=286,slow=2.3,SNR=8.3						
YKA				ScP	ScP	23 49 34.6	-0.4
	comp=Z,0.2nm,0.7s,baz=280,slow=3.3,SNR=5.1						
YKA				LR	LR	23 55 37.3	
	comp=Z,55nm,20.1s,MS3.2,baz=155,slow=38						
YBH	**Yreka Blue Hor**	**32.30**	**91**	*e*P	**P**	**23 43 15.1**	**+1.0**
TIXI	**Tiksi**	**33.00**	**329**	*e*P	**P**	**23 43 20.0**	**+0.1**
TIXI	**Tiksi**	**33.00**	**329**	⇑*e*P	**P**	**23 43 19.5**	**-0.4**
TIXI				pmax	pmax		
	comp=Z,7.0nm,1.6s,mb4.3						
HABR	**Khabarovsk**	**35.51**	**287**	*e*P	**P**	**23 43 40.9**	**-1.0**
HABR				*e*		23 46 09.3	
HABR				S	**S**	**23 49 12.3**	**-3.8**
HABR				*e*		23 51 37.4	
HABR				*e*		23 53 58.1	
NVAR	**Mina Array Bea**	**36.98**	**92**	P	**P**	**23 43 54.6**	**0.0**
	comp=Z,1.6nm,0.7s,mb4.0,baz=312,slow=7.1,SNR=8.5						
MTUM	**Tungsten Hills**	**37.51**	**94**	*e*P	**P**	**23 43 59.5**	**+0.5**
LOHW	**Long Hollow**	**38.60**	**80**	*e*P	**P**	**23 44 09.5**	**+1.3**
PDAR	**Pinedale Array**	**39.71**	**80**	P	**P**	**23 44 16.9**	**-0.6**
	comp=Z,1.9nm,0.8s,mb3.9,baz=301,slow=4.5,SNR=14						
FCC	**Fort Churchill**	**40.34**	**51**	*e*P	**P**	**23 44 22.1**	**-0.4**
	comp=Z,6.7nm,0.9s,mb4.4						
FCC	**Fort Churchill**	**40.34**	**51**	*e*P	**P**	**23 44 22.1**	**-0.4**
FCC				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.4						
MJAR	**Matsushiro Arr**	**40.38**	**269**	P	**P**	**23 44 23.0**	**-0.2**
	comp=Z,2.5nm,0.8s,mb4.0,baz=65,slow=7.5,SNR=5.8						
MSU	**Marysvale**	**40.67**	**87**	*e*P	**P**	**23 44 23.4**	**-2.2**
BOD	**Bodaibo**	**42.46**	**309**	*e*P	**P**	**23 44 37.8**	**-2.1**
BOD				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.0						
HIA	**Hailar**	**43.82**	**296**	*c i*P	**P**	**23 44 50.7**	**-0.3**
KSRS	**Korea Array**	**46.07**	**277**	P	**P**	**23 45 09.8**	**+0.7**
	comp=Z,5.6nm,0.8s,mb4.6,baz=54,slow=7.5,SNR=14						
KSRS				LR	LR	00 05 56.3	
	comp=Z,30nm,18.5s,MS3.3,baz=195,slow=38						
ANMO	**Albuquerque**	**46.48**	**87**	⇑*e*P	**P**	**23 45 15.5**	**+3.2**
ANMO	**Albuquerque**	**46.48**	**87**	P	**P**	**23 45 12.9**	**+0.6**
	comp=Z,0.4nm,0.3s,mb3.8,baz=354,slow=9.2,SNR=1.8						
SPB4	**Spitsbergen Ar**	**49.58**	**359**	*e*P	**P**	**23 45 35.1**	**-0.6**
DAG	**Danmarks Havn**	**49.58**	**9**	⇑*i*P	**P**	**23 45 35.4**	**-0.4**
DAG				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.6						
DAG	**Danmarks Havn**	**49.58**	**9**	⇑*i*P	**P**	**23 45 35.4**	**-0.4**
	comp=Z,5.2nm,0.8s,mb4.6						
TLY	**Talaya**	**50.83**	**307**	*e*P	**P**	**23 45 44.1**	**-1.4**
	comp=Z,5.7nm,0.9s,mb4.5						
TLY	**Talaya**	**50.83**	**307**	⇓*i*P	**P**	**23 45 45.8**	**+0.3**
TLY				pmax	pmax		
	comp=Z,1.0nm,1.0s,mb3.7						
ULN	**Ulaanbaatar**	**51.47**	**301**	⇑*e*P	**P**	**23 45 50.4**	**0.0**
SONM	**Songino Array**	**51.83**	**301**	P	**P**	**23 45 53.6**	**+0.5**
	comp=Z,2.3nm,0.6s,mb4.3,baz=55,slow=6.9,SNR=6.6						
TXAR	**Lajitas Array**	**52.06**	**90**	P	**P**	**23 45 53.8**	**-1.3**
	comp=Z,1.7nm,0.9s,mb4.0,baz=296,slow=5.7,SNR=6.7						
BTO	**Baotou**	**54.56**	**292**	*e*P	**P**	**23 46 13.5**	**+0.2**
PLAL	**Pickwick Lake**	**57.50**	**74**	*e*P	**P**	**23 46 31.8**	**-2.6**
	comp=Z,29nm,0.9s,mb5.3						
KEV	**Kevo**	**57.57**	**354**	*e*p	**P**	**23 46 33.1**	**-1.3**
	comp=Z,12nm,0.6s,mb5.1						
KEV	**Kevo**	**57.57**	**354**	*e*P	**P**	**23 46 33.1**	**-1.3**
KEV				pmax	pmax		
	comp=Z,12nm,0.6s,mb5.1						
ZALV	**Zalesovo Beam**	**57.80**	**318**	P	**P**	**23 46 35.7**	**-0.6**
ZALV	**Zalesovo Beam**	**57.80**	**318**	P	**P**	**23 46 35.7**	**-0.6**
	comp=Z,1.3nm,0.5s,mb4.2,baz=34,slow=5.6,SNR=6.9						
ZAL	**Zalesovo**	**57.82**	**318**	P	**P**	**23 46 35.7**	**-0.6**
ARCES	**ARCESS Array B**	**57.88**	**354**	P	**P**	**23 46 35.8**	**-0.8**
	comp=Z,6.1nm,0.9s,mb4.7,baz=8.9,slow=10,SNR=10						
GTA	**Gaotai**	**61.04**	**298**	*e*P	**P**	**23 46 58.8**	**0.0**
GTA				AP	pP	23 47 08.3	+3.3
GTA				XP	sP	23 47 12.8	+5.5
GTA				PP	PP	23 49 15.8	+2.9
GTA				PPP		23 50 44.8	
GTA				S	**S**	**23 55 14.5**	**-1.8**
GTA				SS	SS	23 59 14.3	-1.0
GTA				AMB	AMB		
	comp=Z,8.0nm,0.6s,mb5.0						
GTA				AMB	AMB		
	comp=Z,118nm,7.6s						
GTA				LR	LR		
	comp=N,99nm,17.5s,MS4.2						
GTA				LR	LR		
	comp=E,138nm,18.3s,MS4.2						
GTA				LR	LR		
	comp=Z,91nm,17.1s,MS4.0						
LZH	**Lanzhou**	**61.18**	**292**	*e*P	**P**	**23 47 00.8**	**+1.0**
LZH				AP	pP	23 47 05.5	-0.5
LZH				XP	sP	23 47 07.8	-0.6
LZH				PP	PP	23 49 17.5	+3.2
LZH				AMB	AMB		
	comp=Z,19nm,1.4s,mb5.0						
LZH				AMB	AMB		
	comp=Z,63nm,6.7s						
LZH				LR	LR		
	comp=N,445nm,16.8s						
LZH				LR	LR		
	comp=Z,637nm,19.3s,MS4.8						
KURK	**Kurchatov**	**62.74**	**319**	⇑*e*P	**P**	**23 47 09.3**	**-0.8**
SVE	**Sverdlovsk**	**63.91**	**333**	*e*P	**P**	**23 47 17.9**	**+0.2**
SVE				pmax	pmax		
	comp=Z,11nm,0.7s,mb5.0						
JOF	**Joensuu**	**63.92**	**350**	*e*p	**P**	**23 47 16.0**	**-1.7**
	comp=Z,5.3nm,0.6s,mb4.8						
WMQ	**Urumqi**	**64.00**	**309**	P	**P**	**23 47 19.1**	**+0.6**
WMQ				AMB	AMB		
	comp=Z,8.0nm,0.6s,mb4.9						
WMQ				AMB	AMB		
	comp=Z,89nm,5.4s						
BRVK	**Borovoye**	**64.02**	**325**	*e*P	**P**	**23 47 18.3**	**-0.2**
	comp=Z,13nm,0.9s,mb5.0						
BRVK	**Borovoye**	**64.02**	**325**	*e*P	**P**	**23 47 18.3**	**-0.2**
BRVK				pmax	pmax		
	comp=Z,13nm,0.9s,mb5.0						
MK31	**Makanchi Array**	**64.23**	**314**	*e*P	**P**	**23 47 19.0**	**-0.9**
MKAR	**Makanchi Array**	**64.23**	**314**	P	**P**	**23 47 19.3**	**-0.6**
	comp=Z,2.2nm,0.6s,mb4.4,baz=48,slow=6.5,SNR=24						
ARU	**Arti**	**64.83**	**333**	*c i*P	**P**	**23 47 23.3**	**-0.4**
ARU				*e*		23 47 52.1	
ARU				*e*S	**S**	**23 56 00.4**	**-2.9**
ARU				*e*SS	SS	00 00 18.5	+4.8
ARU				pmax	pmax		
	comp=Z,17nm,1.0s,mb5.0						
CD2	**Chengdu**	**64.99**	**289**	*e*P	**P**	**23 47 25.9**	**+0.7**
CD2				XP	sP	23 47 40.1	+6.4
CD2				PP	PP	23 49 51.0	+3.2
CD2				S	**S**	**23 56 04.0**	**-2.0**
CD2				XS	sS	23 56 21.0	+4.8
CD2				AMB	AMB		
	comp=Z,20nm,0.5s,mb5.4						
CD2				AMB	AMB		
	comp=Z,30nm,4.8s						
CD2				LR	LR		
	comp=N,350nm,13.2s						
CD2				LR	LR		
	comp=Z,160nm,10.8s,MS4.5						
KAF	**Kangasniemi**	**65.17**	**353**	*e*p	**P**	**23 47 24.4**	**-1.5**
	comp=Z,15nm,0.6s,mb5.2,baz=5.8,slow=6.1						
KAF	**Kangasniemi**	**65.17**	**353**	*e*P	**P**	**23 47 24.4**	**-1.5**
KAF				pmax	pmax		
	comp=Z,15nm,0.6s,mb5.2						
FINES	**FINESS Array B**	**65.85**	**353**	*i* P	**P**	**23 47 29.8**	**-0.5**
FINES				pmax	pmax		
	comp=Z,7.0nm,0.5s						
FINES	**FINESS Array B**	**65.85**	**353**	P	**P**	**23 47 29.5**	**-0.8**
	comp=Z,6.5nm,0.5s,mb4.9,baz=22,slow=8.9,SNR=79						
GYA	**Guiyang**	**66.58**	**283**	P	**P**	**23 47 35.9**	**+0.4**
GYA				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.8						
NB2	**NORSAR Subarra**	**66.83**	**0**	P	**P**	**23 47 36.1**	**-0.4**
	comp=Z,4.3nm,0.6s,mb4.7,baz=358,slow=6.2						
NOA	**NORSAR Array B**	**66.83**	**0**	P	**P**	**23 47 36.4**	**-0.1**
	comp=Z,4.7nm,0.7s,mb4.6,baz=0.0,slow=6.3,SNR=22						
VSU	**Vasula**	**68.75**	**352**	*d i*P	**P**	**23 47 48.5**	**-0.1**
KMI	**Kunming**	**69.90**	**285**	P	**P**	**23 47 57.0**	**+0.7**
KMI				AP	pP	23 48 03.8	+1.2
KMI				XP	sP	23 48 07.5	+2.6
KMI				AMB	AMB		
	comp=Z,7.0nm,0.9s,mb4.6						
AKTO	**Aktyubinsk**	**70.26**	**331**	*i* P	**P**	**23 47 58.0**	**-0.1**
USP	**Ospenovka**	**70.38**	**316**	P	**P**	**23 47 59.5**	**+0.5**
	SNR=7.0						
ULHL	**Ulahol**	**70.47**	**315**	P	**P**	**23 47 60.0**	**+0.4**
	SNR=5.3						
OBN	**Obninsk**	**70.82**	**345**	*c i*P	**P**	**23 48 00.6**	**-0.8**
OBN				*e*		23 48 22.6	
OBN				pmax	pmax		
	comp=Z,34nm,2.4s,mb4.8						
AAK	**Ala-Archa**	**70.90**	**316**	P	**P**	**23 48 02.8**	**+0.6**
	SNR=8.2						
EKS2	**Erkin-Say**	**71.18**	**317**	*e*P	**P**	**23 48 03.7**	**-0.2**
	comp=Z,3.4nm,0.6s,mb4.5						
EKS2	**Erkin-Say**	**71.18**	**317**	P	**P**	**23 48 04.5**	**+0.6**
	SNR=7.8						
AML	**Almayashu**	**71.65**	**316**	P	**P**	**23 48 08.0**	**+1.2**
	SNR=5.1					

comp=Z,1.9nm,0.8s,mb4.1,baz=5.3,slow=7.2,SNR=15
KECS Kecovo 79.14 354 *eP* **P 23 48 49.2 -0.4**
comp=Z,3.4nm,1.0s,mb4.2
KECS Kecovo 79.14 354 *eP* **P 23 48 49.2 -0.4**
KECS pmax pmax
comp=Z,3.0nm,1.0s,mb4.2
KOLL Kolacno 79.16 356 *eP* **P 23 48 51.2 +1.5**
VYHS Vyhne 79.22 355 *eP* **P 23 48 50.9 +0.8**
comp=Z,5.8nm,1.2s,mb4.4
VYHS Vyhne 79.22 355 *eP* **P 23 48 50.9 +0.8**
VYHS pmax pmax
comp=Z,6.0nm,1.2s,mb4.4
CDF Champ du Feu 79.42 3 *eP* **P 23 48 51.5 +0.4**
comp=Z,25nm,1.3s,mb4.7
CDF Champ du Feu 79.42 3 *eP* **P 23 48 51.5 +0.4**
comp=Z,13nm,1.3s,mb4.7
CDF Champ du Feu 79.42 3 *eP* **P 23 48 51.5 +0.4**
CDF pmax pmax
comp=Z,13nm,1.3s,mb4.7
MODS Modra-Piesok 79.42 356 *eP* **P 23 48 52.4 +1.3**
BFO Black Forest 79.53 2 *eP* **P 23 48 48.7 -3.0**
comp=Z,8.8nm,1.3s,mb4.5
BFO Black Forest 79.53 2 *eP* **P 23 48 48.7 -3.0**
BFO pmax pmax
comp=Z,9.0nm,1.3s,mb4.5
ZST Bratislava 79.60 356 *eP* **P 23 48 53.6 +1.5**
comp=Z,12nm,1.3s,mb4.7
ZST Bratislava 79.60 356 *eP* **P 23 48 53.6 +1.5**
ZST pmax pmax
comp=Z,12nm,1.3s,mb4.7
HAU Haudompre 79.79 4 *eP* **P 23 48 53.5 +0.4**
CONA Conrad Observa 79.91 357⇑ *iP* **P 23 48 54.9 +1.1**
comp=Z,11nm,1.3s,mb4.7
HINF Hinteralfeld 80.00 3 *eP* **P 23 48 54.5 +0.2**
KIV Kislovodsk 80.31 338 *eP* **P 23 48 54.4 -1.7**
comp=Z,11nm,1.0s,mb4.7
KIV Kislovodsk 80.31 338⇑ *iP* **P 23 48 56.2 +0.2**
KIV *e* 23 49 04.5
KIV pmax pmax
comp=Z,12nm,1.0s,mb4.8
LOR Lormes 80.40 5 *eP* **P 23 48 56.8 +0.3**
comp=Z,7.9nm,0.9s,mb4.4
LOR Lormes 80.40 5 *eP* **P 23 48 56.8 +0.3**
comp=Z,4.0nm,0.9s,mb4.3
LOR Lormes 80.40 5 *eP* **P 23 48 56.8 +0.3**
LOR pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
SSF Saint Saulge 80.59 6 *eP* **P 23 48 57.8 +0.3**
comp=Z,9.4nm,0.7s,mb4.5
SSF Saint Saulge 80.59 6 *eP* **P 23 48 57.8 +0.3**
comp=Z,4.7nm,0.7s,mb4.5
SSF Saint Saulge 80.59 6 *eP* **P 23 48 57.8 +0.3**
SSF pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
MFF Saint Martin d 80.77 8 *eP* **P 23 48 58.8 +0.3**
comp=Z,21nm,1.0s,mb4.7
MFF Saint Martin d 80.77 8 *eP* **P 23 48 58.8 +0.3**
comp=Z,10nm,1.0s,mb4.7
MFF Saint Martin d 80.77 8 *eP* **P 23 48 58.8 +0.3**
MFF pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
KBA Koelnbreinsper 80.81 359⇑ *iP* **P 23 49 00.4 +1.7**
comp=Z,24nm,1.1s,mb5.0
KBA Koelnbreinsper 80.81 359⇑ *iP* **P 23 49 00.4 +1.7**
KBA pmax pmax
comp=Z,24nm,1.1s,mb5.0
AVF Avril sur Loir 80.85 6 *eP* **P 23 48 59.0 +0.1**
comp=Z,11nm,0.8s,mb4.5
AVF Avril sur Loir 80.85 6 *eP* **P 23 48 59.0 +0.1**
comp=Z,5.6nm,0.8s,mb4.5
AVF Avril sur Loir 80.85 6 *eP* **P 23 48 59.0 +0.1**
AVF pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
FETA Feichten 80.88 1⇑ *iP* **P 23 48 60.0 +1.0**
comp=Z,12nm,1.1s,mb4.8
SMF Signal de Mont 81.02 6 *eP* **P 23 49 00.0 +0.2**
comp=Z,10nm,0.8s,mb4.5
SMF Signal de Mont 81.02 6 *eP* **P 23 49 00.0 +0.2**
comp=Z,5.1nm,0.8s,mb4.5
SMF Signal de Mont 81.02 6 *eP* **P 23 49 00.0 +0.2**
SMF pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
BGF Bois d'Agland 81.05 6 *eP* **P 23 49 00.1 +0.2**
CABF La Chapelle 81.17 4 *eP* **P 23 49 01.5 +0.9**
PERS Pernice 81.22 358 *eP* **P 23 49 01.7 +0.8**
TCF Toulx Ste Croi 81.27 7 *eP* **P 23 49 01.2 +0.1**
comp=Z,4.9nm,0.6s,mb4.3
TCF Toulx Ste Croi 81.27 7 *eP* **P 23 49 01.2 +0.1**
comp=Z,2.5nm,0.6s,mb4.3
TCF Toulx Ste Croi 81.27 7 *eP* **P 23 49 01.2 +0.1**
TCF pmax pmax
comp=Z,2.0nm,0.6s,mb4.2
ZAVS Zavodnje 81.43 358 *eP* **P 23 49 02.9 +0.9**
ROBS Robic 81.64 359 *eP* **P 23 49 03.0 -0.1**
RJF Les Rejaudoux 82.20 7 *eP* **P 23 49 06.1 +0.1**
LPL La Plagne 82.29 4 *eP* **P 23 49 06.6 +0.1**
LPG La Plagne 82.31 4 *eP* **P 23 49 06.6 0.0**
comp=Z,9.7nm,0.9s,mb4.4
LPG La Plagne 82.31 4 *eP* **P 23 49 06.6 0.0**
comp=Z,4.8nm,0.9s,mb4.4
LPG La Plagne 82.31 4 *eP* **P 23 49 06.6 0.0**
LPG pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
BOJS Bojanci 82.35 358 *eP* **P 23 49 07.1 +0.2**
LFF La Frestale 82.50 8 *eP* **P 23 49 08.0 +0.4**
comp=Z,11nm,0.5s,mb4.7
LFF La Frestale 82.50 8 *eP* **P 23 49 08.0 +0.4**
comp=Z,5.4nm,0.5s,mb4.7
LFF La Frestale 82.50 8 *eP* **P 23 49 08.0 +0.4**
LFF pmax pmax
comp=Z,5.0nm,0.5s,mb4.7
CAF Calviac 82.62 7 *eP* **P 23 49 08.6 +0.4**
comp=Z,13nm,1.0s,mb4.6
CAF Calviac 82.62 7 *eP* **P 23 49 08.6 +0.4**
comp=Z,6.7nm,1.0s,mb4.6
CAF Calviac 82.62 7 *eP* **P 23 49 08.6 +0.4**
CAF pmax pmax
comp=Z,7.0nm,1.0s,mb4.7
VIVF Saint-Julien-l 82.85 5 *eP* **P 23 49 10.2 +0.7**
comp=Z,26nm,1.2s,mb4.8
VIVF Saint-Julien-l 82.85 5 *eP* **P 23 49 10.2 +0.7**
comp=Z,13nm,1.2s,mb4.8
VIVF Saint-Julien-l 82.85 5 *eP* **P 23 49 10.2 +0.7**
VIVF pmax pmax
comp=Z,13nm,1.2s,mb4.8
MBDF Montbardon 83.08 4 *eP* **P 23 49 10.9 +0.3**
comp=Z,13nm,0.8s,mb4.7
MBDF Montbardon 83.08 4 *eP* **P 23 49 10.9 +0.3**
comp=Z,6.3nm,0.8s,mb4.7
MBDF Montbardon 83.08 4 *eP* **P 23 49 10.9 +0.3**
MBDF pmax pmax
comp=Z,6.0nm,0.8s,mb4.7
MTLF Montolieu 84.20 7 *eP* **P 23 49 17.2 +0.8**
FRF La Foret Royal 84.24 4 *eP* **P 23 49 17.1 +0.5**
comp=Z,43nm,1.1s,mb5.2
FRF La Foret Royal 84.24 4 *eP* **P 23 49 17.1 +0.5**
comp=Z,22nm,1.1s,mb5.2
FRF La Foret Royal 84.24 4 *eP* **P 23 49 17.1 +0.5**
FRF pmax pmax
comp=Z,22nm,1.1s,mb5.2
BOYT Boyabat 84.35 343 *iP* **P 23 49 18.0 +0.8**
EPF Esparros 84.36 8 *eP* **P 23 49 17.2 0.0**
comp=Z,15nm,1.1s,mb4.7
EPF Esparros 84.36 8 *eP* **P 23 49 17.2 0.0**
comp=Z,7.4nm,1.1s,mb4.7
EPF Esparros 84.36 8 *eP* **P 23 49 17.2 0.0**
EPF pmax pmax
comp=Z,7.0nm,1.1s,mb4.7
ETSF Etsaut 84.41 9 *eP* **P 23 49 18.3 +0.8**
comp=Z,18nm,0.9s,mb4.9
ETSF Etsaut 84.41 9 *eP* **P 23 49 18.3 +0.8**
comp=Z,9.0nm,0.9s,mb4.9
ETSF Etsaut 84.41 9 *eP* **P 23 49 18.3 +0.8**
ETSF pmax pmax
comp=Z,9.0nm,0.9s,mb4.9
ERZM Erzurum 84.46 338 *iP* **P 23 49 13.7 -4.1**
BALT Daday 84.51 344 *iP* **P 23 49 18.4 +0.4**
TUTA Tutak 84.59 336 *iP* **P 23 49 18.7 +0.2**
CTKT Corum 85.14 343 *iP* **P 23 49 20.3 -0.9**
PGF Pioggiola 85.32 2 *eP* **P 23 49 22.7 +0.6**
comp=Z,75nm,1.1s,mb5.4
PGF Pioggiola 85.32 2 *eP* **P 23 49 22.7 +0.6**
comp=Z,38nm,1.1s,mb5.4
PGF Pioggiola 85.32 2 *eP* **P 23 49 22.7 +0.6**
PGF pmax pmax
comp=Z,38nm,1.1s,mb5.4

AQU L'Aquila 85.53 359 *eP* **P 23 49 22.5 -0.7**
comp=Z,7.8nm,0.8s,mb5.0
AQU L'Aquila 85.53 359 *eP* **P 23 49 22.5 -0.6**
AQU pmax pmax
comp=Z,8.0nm,0.8s,mb5.0
ESDC Sonseca Array 87.21 12 P **P 23 49 31.6 +0.1**
comp=Z,1.1nm,0.6s,mb4.2,baz=348,slow=4.5,SNR=9.5
WRA Warramunga Arr 87.61 232 *iP* **P 23 49 32.0 -1.4**
WRA pmax pmax
comp=Z,1.0nm,0.7s
WRA Warramunga Arr 87.61 232 P **P 23 49 30.6 -2.8**
comp=Z,0.5nm,0.7s,mb3.8,baz=37,slow=6.0,SNR=6.4
PSI Prapat 89.53 274 P **P 23 49 42.1 -0.6**
comp=Z,2.2nm,0.3s,mb4.9,baz=198,slow=6.8,SNR=3.7
ASAR Alice Springs 90.99 231 P **P 23 49 47.4 -1.9**
comp=Z,0.9nm,0.8s,mb4.2,baz=23,slow=4.2,SNR=7.4

IDC 13 23:39:20.1±2.0, 3454S×10925W, h0km, mb3.9/4, mb1 4.3/4, mb1mx3.9/16, mbtmp3.9/4, MS4.1/4, Ms1 4.1/4, ms1mx3.6/20, Error ellipse: s-maj=69.4km s-min=31.8km az=31.0, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**31.09**	**113**	P	P	23 45 41.3	+1.4
2.8nm,0.8s,baz=254,slow=9.3,SNR=3.0							
PPT	**Papeete**	**39.67**	**285**	LR	LR	23 58 15.2	
comp=Z,319nm,19.5s,baz=121,slow=29							
LPAZ	**La Paz**	**41.02**	**74**	P	P	23 47 04.9	-0.2
1.8nm,0.8s,baz=212,slow=5.0,SNR=7.6							
CMIG	**Matias Romero**	**53.13**	**17**	LR	LR	00 05 11.9	
comp=Z,114nm,21.2s,baz=5.3,slow=29							
VNDA	**Vanda**	**56.34**	**195**	LR	LR	00 08 15.7	
comp=Z,324nm,20.2s,baz=176,slow=31							
TXAR	**Lajitas Array**	**63.74**	**5**	LR	LR	00 12 21.0	
comp=Z,92nm,19.0s,baz=5.0,slow=31							
NVAR	**Mina Array Bea**	**73.08**	**353**	P	P	23 50 53.6	+1.8
1.3nm,1.0s,baz=177,slow=4.5,SNR=5.4							
PDAR	**Pinedale Array**	**76.93**	**360**	P	P	23 51 13.8	-0.1
0.8nm,0.9s,baz=167,slow=5.6,SNR=6.3							
SONM	**Songino Array**	**150.34**	**307**	PKPbc	PKPbc	23 59 11.9	-1.0
1.5nm,0.9s,baz=96,slow=4.3,SNR=6.9							

IDC 13 23:42:04.5±39.0, 5065N×16707W, h0km, mb3.7/4, mb1 3.8/4, mb1mx3.4/23, mbtmp3.7/4, Error ellipse: s-maj=968.1km s-min=59.4km az=159.0, South of Aleutian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**53.43**	**303**	P	P	23 51 26.3	+0.6
0.3nm,0.5s,baz=64,slow=6.6,SNR=2.5							
MKAR	**Makanchi Array**	**66.04**	**315**	P	P	23 52 52.0	-0.6
0.2nm,0.2s,baz=45,slow=6.0,SNR=3.5							
FINES	**FINESS Array B**	**67.76**	**353**	P	P	23 53 03.3	0.0
0.8nm,0.5s,baz=15,slow=9.8,SNR=7.5							
NOA	**NORSAR Array B**	**68.66**	**1**	P	P	23 53 09.4	+0.4
0.6nm,0.8s,baz=357,slow=6.3,SNR=3.3							

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*ISCJB **13** 23:43:18.8±1.2, 3836N±004×2036E±009, h13km±7km, Error ellipse: s-maj=13.3km s-min=5.4km az=156.4*
*THE **13** 23:43:19.2, 3836N×2034E, h3km, ML2.8*
*CSEM **13** 23:43:20.3±0.2, 3837N×2050E, h12km, MD3.4, Error ellipse: s-maj=4.5km s-min=1.9km az=69.0*
*NEIC **13** 23:43:20.0, 3838N×2050E, h10km±4km, MD3.4(ATH), After ATH.*
*ATH **13** 23:43:20.0, 3838N×2050E, h10km±4km, MD3.4/6*
ISC 13 23:43:19.4±1.2, 3835N±005×204E±01, h18km±7km, n10, σ0°82/15, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.22**	**139**	*e*PG	**Pg**	**23 43 24.5**	**-0.1**
VLS				*e*SG	**Sg**	**23 43 28.6**	**+0.4**
KFL	**Anninata**	**0.38**	**128**	*e*Pg	**Pg**	**23 43 27.1**	**-0.2**
LKD	**Levkas**	**0.41**	**28**	*e*Pg	**Pg**	**23 43 27.1**	**-0.7**
LKD				*e*Sg	**Sg**	**23 43 33.6**	**+0.2**
RLS	**Riolos of Patr**	**0.89**	**109**	*e*PG	**Pg**	**23 43 35.3**	**-1.3**
RLS				*e*SB	**Sb**	**23 43 46.5**	**-1.2**
SELA	**Sela**	**1.17**	**93**	*e*Sg	**Sg**	**23 44 00.2**	**+2.8**
SELA				*e*Sg	**Sg**	**23 44 13.1**	**+16**
IGT	**Igoumenitsa**	**1.19**	**357**	*e*Pg	**Pg**	**23 43 42.0**	**-0.3**
IGT				*e*Sg	**Sg**	**23 43 58.1**	**+0.3**
EVR	**Evrytania**	**1.24**	**62**	*e*PB	**Pb**	**23 43 42.2**	**0.0**
KEK	**Kerkira**	**1.44**	**341**	*e*PG	**Pg**	**23 43 47.0**	**-0.2**
ITM	**Ithomi**	**1.68**	**134**	*e*PB	**Pb**	**23 43 51.2**	**+1.5**
THL	**Klokotos Trika**	**1.75**	**45**	*e*PB	**Pb**	**23 43 51.8**	**+0.9**

IDC 14 00:19:50.2±1.3, 2138S×5554E, h0km, mb3.9/5, mb1 4.0/6, mb1mx3.7/23, mbtmp3.9/6, ML3.0/1, MS4.2/18, Ms1 4.2/18, ms1mx4.0/37, Error ellipse: s-maj=59.7km s-min=25.5km az=24.0, Mauritius - Reunion region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPO	**Ambohidratompo**	**8.33**	**288**	Pn	Pn	00 21 50.5	-1.9
0.2nm,0.3s,baz=68,slow=11,SNR=2.2							
OPO				Sn	Sn	00 23 19.7	-7.6
0.2nm,0.3s,baz=344,slow=20,SNR=1.9							
MATP	**Matopo**	**25.27**	**267**	LR	LR	00 34 40.5	
comp=Z,465nm,18.1s,baz=4.6,slow=35							
LSZ	**Lusaka**	**26.64**	**279**	LR	LR	00 35 51.9	
comp=Z,676nm,18.8s,baz=45,slow=36							
KMBO	**Kilima Mbogo**	**26.89**	**316**	LR	LR	00 34 26.4	
comp=Z,372nm,19.3s,baz=277,slow=33							
LBTB	**Lobatse**	**27.73**	**257**	LR	LR	00 35 49.9	
comp=Z,1μm,18.2s,baz=108,slow=35							
BOSA	**Boshof**	**28.32**	**249**	LR	LR	00 36 06.1	
comp=Z,672nm,18.5s,baz=151,slow=34							
MAW	**Mawson**	**46.45**	**176**	LR	LR	00 41 20.6	
comp=Z,164nm,21.4s,baz=246,slow=28							
TORD	**Torodi Ar. Bea**	**63.02**	**298**	P	P	00 30 20.2	+0.8
1.0nm,1.1s,baz=116,slow=6.6,SNR=4.2							
TORD				LR	LR	00 57 46.7	
comp=Z,280nm,18.7s,baz=200,slow=36							
DBIC	**Dimbokro**	**65.44**	**288**	LR	LR	00 58 33.8	
comp=Z,443nm,18.5s,baz=90,slow=36							
QSPA	**South Pole Qui**	**68.75**	**180**	LR	LR	00 58 01.7	
comp=Z,262nm,20.0s,baz=71,slow=33							
ASAR	**Alice Springs**	**71.52**	**109**	P	P	00 31 13.8	+0.5
1.3nm,0.9s,baz=254,slow=5.7,SNR=8.4							
KEST	**Kesra**	**71.69**	**322**	LR	LR	01 03 58.8	
comp=Z,108nm,18.3s,baz=240,slow=37							
WRA	**Warramunga Arr**	**72.95**	**105**	P	P	00 31 21.6	-0.4
1.8nm,0.9s,baz=261,slow=5.1,SNR=7.3							
WRA				LR	LR	00 59 49.1	
comp=Z,154nm,18.5s,baz=210,slow=33							
BVAR	**Borovoye Array**	**75.21**	**9**	LR	LR	01 03 43.3	
comp=Z,83nm,18.4s,baz=266,slow=35							
STKA	**Stephens Creek**	**75.82**	**119**	LR	LR	01 00 47.7	
comp=Z,268nm,18.8s,baz=204,slow=32							
ZALV	**Zalesovo Beam**	**79.16**	**17**	P	P	00 31 56.5	+0.1
1.5nm,0.8s,baz=228,slow=3.7,SNR=6.2							
ESDC	**Sonseca Array**	**82.26**	**318**	LR	LR	01 10 36.3	
comp=Z,99nm,19.0s,baz=5.0,slow=37							
SONM	**Songino Array**	**82.62**	**32**	P	P	00 32 15.3	+0.2
0.3nm,0.3s,baz=199,slow=8.5,SNR=4.0							
JOW	**Kunigami**	**85.16**	**59**	LR	LR	01 07 27.2	
comp=Z,74nm,18.6s,baz=244,slow=34							
NOA	**NORSAR Array B**	**89.55**	**340**	LR	LR	01 14 08.9	
comp=Z,58nm,20.1s,baz=355,slow=36							
KSRS	**Korea Array**	**89.72**	**49**	LR	LR	01 15 02.4	
comp=Z,41nm,18.6s,baz=5.3,slow=37							
JNU	**Nakatsue**	**89.95**	**54**	LR	LR	01 10 42.8	
comp=Z,78nm,20.0s,baz=43,slow=34							

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*ISCJB **14** 00:22:54.0±1.5, 3833N±005×2042E±009, h0km±10km, Error ellipse: s-maj=13.2km s-min=5.3km az=150.3*
*THE **14** 00:22:54.7, 3835N×2042E, h3km, ML2.8*
*NEIC **14** 00:22:55.3, 3834N×2049E, h17km, MD3.4(ATH), After ATH.*
*ATH **14** 00:22:55.3, 3834N×2049E, h17km±1km, MD3.4/7*
ISC 14 00:22:55.9±0.9, 3837N±003×2049E±008, h8km±6km, n12, σ0°99/17, 1D, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.20**	**158**	*i,i*PB	**Pg**	**00 22 59.7**	**-0.3**
VLS				*e*SB	**Sg**	**00 23 03.7**	**+0.9**
KFL	**Anninata**	**0.35**	**138**	*e*Pg	**Pg**	**00 23 02.3**	**-0.4**
LKD	**Levkas**	**0.36**	**20**	*e*Pg	**Pg**	**00 23 02.2**	**-0.7**
LKD				*e*Sg	**Sg**	**00 23 08.2**	**+0.5**
RLS	**Riolos of Patr**	**0.83**	**112**	*e*PN	**Pg**	**00 23 11.3**	**-0.5**
RLS				*e*SN	**Sg**	**00 23 22.7**	**+0.2**
SELA	**Sela**	**1.10**	**94**	*e*Pg	**Pg**	**00 23 15.8**	**-1.3**
SELA				*e*Sg	**Sg**	**00 23 34.1**	**+2.7**
EVR	**Evrytania**	**1.17**	**62**	*e*PN	**Pn**	**00 23 17.2**	**-1.2**
IGT	**Igoumenitsa**	**1.17**	**354**	*e*Pg	**Pg**	**00 23 16.9**	**-1.5**
IGT				*e*Sg	**Sg**	**00 23 34.8**	**+1.3**
KEK	**Kerkira**	**1.45**	**338**	*e*PN	**Pn**	**00 23 23.2**	**+0.9**
AGG	**Agios Georgios**	**1.58**	**65**	*e*Pb	**Pb**	**00 23 24.2**	**-1.0**
ITM	**Ithomi**	**1.64**	**136**	*e*PN	**Pn**	**00 23 25.3**	**+0.3**
THL	**Klokotos Trika**	**1.68**	**44**	*e*PN	**Pn**	**00 23 26.5**	**+1.0**
VLI	**Veliai**	**2.55**	**130**	*e*PN	**Pn**	**00 23 37.7**	**+0.3**

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*IDC **14** 00:36:25.4±13.0, 4555N×15282E, h0km, mb3.8/4, mb1 3.9/4, mb1mx3.5/21, mbtmp3.8/4, Error ellipse: s-maj=351.7km s-min=52.3km az=176.0*
*MOS **14** 00:36:36.1±1.8, 4689N×15254E, h41km, mb4.2/3, Error ellipse: s-maj=48.9km s-min=22.4km az=91.6*
ISC 14 00:36:38.8±2.9, 470N±04×1528E±03, h35km, n12, σ0°22/12, mb3.8/4, 1C-1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**4.34**	**29**	*e*PN	**Pn**	**00 37 42.0**	**-0.1**
YAK	**Yakutsk**	**20.02**	**327**	*e*P	**P**	**00 41 08.4**	**+0.2**
KURK	**Kurchatov**	**47.06**	**303**	*e*P	**P**	**00 45 01.7**	**-4.9**
YKA	**Yellowknife Ar**	**50.90**	**37**	P	**P**	**00 45 36.1**	**+0.2**
YKA	**Yellowknife Ar**	**50.90**	**37**	P	**P**	**00 45 36.1**	**+0.3**
0.3nm,0.6s,mb3.4,baz=296,slow=7.1,SNR=6.8							
FINES	**FINESS Array B**	**63.76**	**335**	*i* P	**P**	**00 47 06.6**	**+0.1**
FINES				pmax	pmax		
comp=Z,1.0nm,0.4s							
FINES	**FINESS Array B**	**63.76**	**335**	P	**P**	**00 47 06.7**	**+0.2**
comp=Z,0.5nm,0.4s,mb3.9,baz=37,slow=9.6,SNR=7.5							
NB2	**NORSAR Subarra**	**67.96**	**341**	P	**P**	**00 47 33.4**	**-0.2**
comp=Z,0.5nm,0.6s,mb3.7,baz=28,slow=6.2							
NOA	**NORSAR Array B**	**67.96**	**341**	P	**P**	**00 47 33.5**	**-0.1**
NOA				pmax	pmax		
comp=Z,1.0nm,0.6s							
NOA	**NORSAR Array B**	**67.96**	**341**	P	**P**	**00 47 33.5**	**-0.1**
comp=Z,0.8nm,0.6s,mb3.9,baz=28,slow=6.2,SNR=5.1							
AKASG	**Malin Array Be**	**71.25**	**326**	P	**P**	**00 47 53.7**	**-0.3**
AKASG				pmax	pmax		
comp=Z,1.0nm,0.4s							
AKASG	**Malin Array Be**	**71.25**	**326**	P	**P**	**00 47 53.7**	**-0.3**
comp=Z,0.8nm,0.4s,mb4.0,baz=34,slow=5.5,SNR=7.1							

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*DDA **14** 00:39:06.4, 3837N×39.11E, h18km±3km, Md2.9*
*ISCJB **14** 00:39:07.8±0.7, 3838N±004×39.10E±005, h9km±6km, Error ellipse: s-maj=6.3km s-min=6.2km az=34.5*
*ISK **14** 00:39:07.4, 3842N×3908E, h6km, MD2.8*
ISC 14 00:39:07.9±0.7, 3838N±004×3910E±005, h6km±7km, n11, σ0°60/18, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ELZG	**Elazig**	**0.15**	**323**	*i* P	**Pg**	**00 39 11.3**	**+0.2**
ELZG				*i* S	**Sg**	**00 39 13.7**	**+0.6**
MALT	**Malatya**	**0.53**	**263**	*e*PG	**Pg**	**00 39 18.0**	**-0.2**
MALT				*e*SG	**Sg**	**00 39 25.8**	**+0.7**
MYA	**Malataya**	**0.53**	**265**	PG	**Pg**	**00 39 18.0**	**-0.2**
URFA	**Urfa**	**0.96**	**193**	*e*PG	**Pg**	**00 39 27.1**	**+0.8**
DIY	**Diyarbakir**	**1.01**	**118**	*e*PG	**Pg**	**00 39 27.6**	**+0.3**
KEMA	**Kemaliye**	**1.01**	**332**	*i* P	**Pg**	**00 39 26.2**	**-1.1**
KEMA				*i* S	**Sg**	**00 39 40.0**	**-0.4**
ATAB	**Bozova**	**1.11**	**215**	*i* P	**Pg**	**00 39 29.0**	**-0.1**
ATAB				*i* S	**Sg**	**00 39 42.2**	**-1.3**
BINT	**Bingol**	**1.20**	**65**	*e*PN	**Pn**	**00 39 31.1**	**-0.1**
GZT	**Gaziantep**	**1.59**	**231**	*i* P	**Pn**	**00 39 36.6**	**+0.1**
GZT				*i* S	**Sn**	**00 39 57.8**	**+0.4**
MARD	**Mardin**	**1.70**	**128**	*i* P	**Pn**	**00 39 38.8**	**+0.7**
MARD				*i* S	**Sn**	**00 39 59.6**	**-0.6**
ANDN	**Andirin**	**2.32**	**251**	*i* P	**Pn**	**00 39 51.4**	**+4.8**
ANDN				*i* S	**Sn**	**00 40 22.8**	**+7.4**

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*ISCJB **14** 00:47:48.6±1.7, 5230N±007×16828W±007, h4km±10km, mb4.5/59, MS4.5/2, Error ellipse: s-maj=12.5km s-min=5.5km az=155.4*
*IDC **14** 00:47:49.0±0.9, 5242N×168.13W, h0km, mb4.2/18, mb1 4.3/18, mb1mx4.3/25, mbtmp4.2/18, Error ellipse: s-maj=26.3km s-min=15.2km az=5.0*
*BJI **14** 00:47:50.2, 5260N×16783W, h36km, mB5.0, mb4.8, Ms4.6, Msz4.4*
*NEIC **14** 00:47:54.9±0.5, 5234N×168.10W, h35km, mb4.5/32, ML3.6(AEIC), Error ellipse: s-maj=13.0km s-min=6.8km az=162.0*
*MOS **14** 00:47:54.3±0.9, 5245N×16854W, h33km, mb4.7/13, Error ellipse: s-maj=23.2km s-min=10.0km az=102.5*
*SZGRF **14** 00:47:56.1, 5219N×16990W, h33km, mb4.7, Fox Islands, Aleutian Islands, United States*
ISC 14 00:47:50.0±2.0, 5234N±007×16821W±007, h2km±12km, n132, σ1°04/139, mb4.5/59, MS4.5/2, 12C, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UNV	**Unalaska Valle**	**1.82**	**34**	P	**Pn**	**00 48 22.5**	**+0.2**
UNV				S	**Sn**	**00 48 48.2**	**+2.2**
AKGG	**Akutan Green G**	**2.29**	**35**	P	**Pn**	**00 48 29.8**	**+1.1**
AKGG				S	**Sn**	**00 48 57.6**	**+0.2**
AKUT	**Akutan**	**2.32**	**38**	*e*P	**Pn**	**00 48 29.4**	**+0.3**
FALS	**False Pass**	**3.81**	**47**	*e*Pn	**Pn**	**00 48 49.3**	**-0.2**
FALS				*e*Sn	**Sn**	**00 49 32.8**	**-2.1**
SPIA	**Saint Paul Isl**	**4.99**	**347**	P	**Pn**	**00 49 08.2**	**+2.5**
ADK	**Adak**	**5.25**	**268**	P	**Pn**	**00 49 09.7**	**+0.4**
ADK				S	**Sn**	**00 50 10.7**	**+0.3**
ADK	**Adak**	**5.25**	**268**	P	**Pn**	**00 49 09.6**	**+0.3**
ADK				S	**Sn**	**00 50 10.6**	**+0.3**
SDPT	**Sand Point**	**5.48**	**54**	*e*P	**Pn**	**00 49 10.9**	**-1.6**
CHGN	**Chignik**	**6.96**	**51**	*e*P	**Pn**	**00 49 32.4**	**-0.5**
SVW2	**Sparrevohn**	**11.16**	**33**	*e*Pn	**Pn**	**00 50 34.6**	**+4.2**
IMA2	**Indian Mountai**	**15.58**	**22**	*e*P	**Pn**	**00 51 33.6**	**+3.3**
COLA	**College**	**16.33**	**32**	*e*Pn	**Pn**	**00 51 39.0**	**-1.0**
7.4nm,0.8s							
COLA	**College**	**16.33**	**32⇑**	*e*P	**Pn**	**00 51 39.3**	**-0.7**
EGAK	**Eagle**	**18.62**	**38**	*e*Pn	**Pn**	**00 52 07.9**	**-0.7**
DAWY	**Dawson**	**18.98**	**41**	*e*Pn	**Pn**	**00 52 12.7**	**-0.3**
BILL	**Bilibino**	**19.96**	**332**	*e*P	**Pn**	**00 52 23.1**	**-1.5**
14nm,1.1s							
BILL	**Bilibino**	**19.96**	**332**	*e*P	**Pn**	**00 52 24.9**	**+0.3**
BILL				pmax	pmax		
comp=Z,11nm,1.0s							
BILL				MLR	MLR		
comp=Z,200nm,16.0s							
PET	**Petropavlovsk**	**20.01**	**285**	*e*P	**P**	**00 52 23.0**	**-0.6**
comp=Z,13nm,0.8s							
PET	**Petropavlovsk**	**20.01**	**285⇑**	*e*P	**P**	**00 52 24.3**	**+0.7**
PET				pmax	pmax		
comp=Z,19nm,0.9s							
INK	**Inuvik**	**22.98**	**33**	*e*P	**P**	**00 52 53.0**	**-2.5**
INK	**Inuvik**	**22.98**	**33**	P	**P**	**00 52 53.3**	**-2.1**
comp=Z,4.8nm,0.7s,mb4.0,baz=236,slow=11,SNR=23							
INK				PcP	PcP

comp=Z,6.2nm,1.1s,mb4.5
ULN Ulaanbaatar 51.56 301⇑ *eP* **P 00 56 57.2 +0.1**
SONM Songino Array 51.92 301 P **P 00 56 59.4 -0.4**
comp=Z,1.9nm,0.8s,mb4.1,baz=49,slow=7.4,SNR=8.6
TXAR Lajitas Array 52.03 90 P **P 00 56 58.6 -2.3**
comp=Z,1.2nm,0.6s,mb4.0,baz=305,slow=4.5,SNR=5.9
HHC Hu-ho-hao-te 53.59 292 *eP* **P 00 57 13.4 +1.2**
HHC AP 00 57 24.0
HHC XP sP 00 57 27.8 +15
HHC PCP PcP 00 58 21.3 +2.5
HHC PP PP 00 59 14.1 +1.5
HHC S **S 01 04 42.8 -3.4**
HHC PS 01 04 56.4
HHC SCS ScS 01 06 58.1 -4.4
HHC SS SS 01 08 18.0 -8.0
HHC AMB AMB
comp=Z,17nm,0.4s,mb5.3
HHC AMB AMB
comp=Z,109nm,4.1s
HHC LR LR
comp=N,120nm,13.1s,MS4.4
HHC LR LR
comp=E,192nm,13.1s,MS4.4
HHC LR LR
comp=Z,104nm,9.0s
SCHQ Schefferville 54.96 44 P **P 00 57 20.7 -1.3**
SCHQ Schefferville 54.96 44 P **P 00 57 20.7 -1.3**
comp=Z,3.4nm,0.8s,mb4.4,baz=272,slow=5.8,SNR=4.4
KEV Kevo 57.71 354 *ep* **P 00 57 39.4 -2.0**
comp=Z,4.1nm,0.6s,mb4.6
ZALV Zalesovo Beam 57.92 318 P **P 00 57 43.0 -0.1**
comp=Z,0.7nm,0.5s,mb4.0,baz=64,slow=6.6,SNR=2.5
ARCES ARCESS Array B 58.02 354 P **P 00 57 42.2 -1.3**
comp=Z,3.0nm,0.7s,mb4.4,baz=20,slow=11,SNR=6.1
LZH Lanzhou 61.26 293 *eP* **P 00 58 05.5 -0.9**
LZH AP 00 58 16.3
LZH XP sP 00 58 19.0 +12
LZH PP PP 01 00 21.8 +1.0
LZH AMB AMB
comp=Z,17nm,1.4s,mb5.0
LZH AMB AMB
comp=Z,53nm,6.8s
LZH LR LR
comp=N,235nm,16.8s
LZH LR LR
comp=Z,439nm,18.9s,MS4.6
LHS Liberty Hill 62.10 69 *eP* **P 00 58 13.8 +1.8**
JOF Joensuu 64.06 350 *ep* **P 00 58 22.2 -2.4**
comp=Z,2.3nm,0.6s,mb4.4
BVAR Borovoye Array 64.14 325 P **P 00 58 25.2 -0.1**
comp=Z,5.7nm,0.5s,mb4.8,baz=50,slow=5.6,SNR=29
MKAR Makanchi Array 64.34 314 *i P* **P 00 58 26.5 -0.2**
MKAR pmax pmax
comp=Z,3.0nm,0.8s
MKAR Makanchi Array 64.34 314 P **P 00 58 24.7 -2.0**
comp=Z,2.5nm,0.8s,mb4.3,baz=53,slow=4.5,SNR=5.2
ARU Arti 64.97 333*c iP* **P 00 58 30.2 -0.5**
ARU *e* 00 59 01.7
ARU *e* 01 00 51.0
ARU *e*S **S 01 07 10.0 -2.8**
ARU *e*SS SS 01 11 19.4 -4.0
ARU pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
CD2 Chengdu 65.06 289 *eP* **P 00 58 32.8 +1.1**
CD2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.9
CD2 AMB AMB
comp=Z,30nm,6.8s
KAF Kangasniemi 65.31 353 *ep* **P 00 58 31.3 -1.5**
comp=Z,12nm,0.6s,mb5.1,baz=5.6,slow=6.1
FINES FINESS Array B 65.99 353 *i P* **P 00 58 36.7 -0.5**
FINES pmax pmax
comp=Z,8.0nm,0.8s
FINES FINESS Array B 65.99 353 P **P 00 58 35.6 -1.6**
comp=Z,7.5nm,0.8s,mb4.8,baz=23,slow=8.8,SNR=29
GYA Guiyang 66.63 283 P **P 00 58 41.0 -0.9**
GYA AMB AMB
comp=Z,10.0nm,0.8s,mb4.9
NB2 NORSAR Subarra 66.97 0 P **P 00 58 43.0 -0.5**
comp=Z,2.2nm,0.7s,mb4.3,baz=0.4,slow=6.2
NOA NORSAR Array B 66.97 0 P **P 00 58 42.7 -0.8**
NOA NORSAR Array B 66.97 0 P **P 00 58 42.7 -0.8**
comp=Z,3.0nm,0.7s,mb4.4,baz=0.2,slow=6.3,SNR=15
VSU Vasula 68.89 352⇑ *eP* **P 00 58 55.1 -0.5**
KMI Kunming 69.96 285 P **P 00 59 03.8 +1.0**
KMI AP 00 59 10.1
KMI AMB AMB
comp=Z,5.0nm,0.7s,mb4.5
OBN Obninsk 70.96 345⇑ *iP* **P 00 59 06.8 -1.6**
OBN pmax pmax
comp=Z,7.0nm,0.7s,mb4.7
EKS2 Erkin-Say 71.30 317 *eP* **P 00 59 07.5 -3.1**
AKASG Malin Array Be 76.28 349 *i P* **P 00 59 38.7 -1.0**
AKASG pmax pmax
comp=Z,3.0nm,0.7s
AKASG Malin Array Be 76.28 349 P **P 00 59 37.5 -2.2**
comp=Z,2.9nm,0.7s,mb4.3,baz=14,slow=5.7,SNR=10
CLL Collm 76.72 359 *eP* **P 00 59 42.0 -0.2**
BRG Berggiesshubel 77.14 359 *eP* **P 00 59 45.2 +0.6**
BRG pmax pmax
comp=Z,4.0nm,1.1s,mb4.3
BRG Berggiesshubel 77.14 359 *eP* **P 00 59 45.2 +0.5**
comp=Z,5.8nm,1.1s,mb4.4
DPC Dobruska-Polom 77.61 357 *eP* **P 00 59 48.2 +1.0**
BAIF Baives 77.77 5 *eP* **P 00 59 48.4 +0.3**
comp=Z,2.7nm,0.5s,mb4.1
BAIF Baives 77.77 5 *eP* **P 00 59 48.4 +0.3**
comp=Z,1.4nm,0.5s,mb4.2
KWP Kalwaria 77.98 353 *eP* **P 00 59 49.4 0.0**
comp=Z,12nm,1.0s,mb4.8
PRU Pruhonice 78.02 358 *eP* **P 00 59 50.1 +0.6**
OKC Ostrava-Krasne 78.05 356 *eP* **P 00 59 50.6 +0.9**
STHS Stebnicka Huta 78.30 354 *eP* **P 00 59 52.2 +1.1**
comp=Z,4.1nm,0.9s,mb4.4
STHS *e* 01 00 02.0
STHS Stebnicka Huta 78.30 354 *eP* **P 00 59 52.2 +1.1**
STHS *e* 01 00 02.0
STHS pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
GRA1 Grafenberg Arr 78.34 0 *eP* **P 00 59 52.2 +0.9**
comp=Z,7.0nm,1.0s,mb4.5
GRF Grafenberg Arr 78.34 0 *eP* **P 00 59 52.2 +0.9**
GRF pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
GRF Grafenberg Arr 78.34 0 *eP* **P 00 59 52.2 +0.9**
comp=Z,7.0nm,1.0s,mb4.5
TREC Trest 78.69 358 *eP* **P 00 59 54.0 +0.8**
FLN La Foliniere 78.73 8 *eP* **P 00 59 53.3 -0.2**
CRVS Cervenica-Dubn 78.80 354 *eP* **P 00 59 53.8 0.0**
KHC Kasperske Hory 78.89 359 *eP* **P 00 59 55.5 +1.1**
LDF La Druitiere 78.93 8 *eP* **P 00 59 54.2 -0.4**
comp=Z,6.4nm,0.8s,mb4.3
LDF La Druitiere 78.93 8 *eP* **P 00 59 54.2 -0.4**
comp=Z,3.2nm,0.8s,mb4.3
GRR Gorron 79.07 9 *eP* **P 00 59 55.3 0.0**
comp=Z,7.3nm,0.8s,mb4.3
GRR Gorron 79.07 9 *eP* **P 00 59 55.3 0.0**
comp=Z,3.7nm,0.8s,mb4.4
GERES GERESS Array B 79.18 359 P **P 00 59 55.7 -0.2**
comp=Z,1.6nm,0.8s,mb4.0,baz=0.0,slow=4.3,SNR=10
KECS Kecovo 79.28 354 *eP* **P 00 59 56.9 +0.4**
comp=Z,2.5nm,0.9s,mb4.1
KECS Kecovo 79.28 354 *eP* **P 00 59 56.9 +0.4**
KECS pmax pmax
comp=Z,3.0nm,0.9s,mb4.2
KOLL Kolacno 79.30 356 *eP* **P 00 59 57.6 +1.0**
VYHS Vyhne 79.36 355 *i P* **P 00 59 57.6 +0.7**
comp=Z,3.3nm,1.0s,mb4.2
VYHS Vyhne 79.36 355 *i P* **P 00 59 57.6 +0.7**
VYHS pmax pmax
comp=Z,3.0nm,1.0s,mb4.2
CDF Champ du Feu 79.55 3 *eP* **P 00 59 58.1 +0.1**
ZST Bratislava 79.74 356 *i P* **P 01 00 00.5 +1.5**
comp=Z,8.5nm,1.2s,mb4.5
ZST Bratislava 79.74 356 *i P* **P 01 00 00.5 +1.5**
ZST pmax pmax
comp=Z,9.0nm,1.2s,mb4.6
HAU Haudompre 79.92 4 *eP* **P 01 00 00.3 +0.3**
comp=Z,12nm,1.0s,mb4.5
HAU Haudompre 79.92 4 *eP* **P 01 00 00.3 +0.3**
comp=Z,6.0nm,1.0s,mb4.5
HINF Hinteralfeld 80.13 3 *eP* **P 01 00 01.3 +0.2**
KIV Kislovodsk 80.45 338 *eP* **P 01 00 03.8 +0.9**
KIV *e* 01 00 09.5
KIV pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
LOR Lormes 80.54 5 *eP* **P 01 00 03.6 +0.3**
comp=Z,9.6nm,1.1s,mb4.3
LOR Lormes 80.54 5 *eP* **P 01 00 03.6 +0.3**
comp=Z,4.8nm,1.1s,mb4.3
SSF Saint Saulge 80.72 6 *eP* **P 01 00 04.5 +0.2**
comp=Z,6.0nm,0.8s,mb4.3
SSF Saint Saulge 80.72 6 *eP* **P 01 00 04.5 +0.2**
comp=Z,3.0nm,0.8s,mb4.3
MFF Saint Martin d 80.90 8 *eP* **P 01 00 05.5 +0.2**
comp=Z,19nm,1.0s,mb4.7
MFF Saint Martin d 80.90 8 *eP* **P 01 00 05.5 +0.2**
comp=Z,9.5nm,1.0s,mb4.7
KBA Koelnbreinsper 80.95 359⇑ *iP* **P 01 00 07.1 +1.6**
comp=Z,16nm,1.0s,mb4.9
KBA Koelnbreinsper 80.95 359⇑ *iPcP* **P 01 00 07.1 +1.6**
comp=Z,16nm,1.0s,mb4.9
AVF Avril sur Loir 80.98 6 *eP* **P 01 00 05.8 +0.1**
comp=Z,8.3nm,0.9s,mb4.4
AVF Avril sur Loir 80.98 6 *eP* **P 01 00 05.8 +0.1**
comp=Z,4.2nm,0.9s,mb4.4
FETA Feichten 81.01 1⇑ *iP* **P 01 00 07.0 +1.1**
comp=Z,9.4nm,1.1s,mb4.7
SMF Signal de Mont 81.16 6 *eP* **P 01 00 06.7 +0.1**
comp=Z,18nm,1.1s,mb4.6
SMF Signal de Mont 81.16 6 *eP* **P 01 00 06.7 +0.1**
comp=Z,9.2nm,1.1s,mb4.6
CABF La Chapelle 81.30 4 *eP* **P 01 00 08.3 +0.9**
comp=Z,23nm,1.2s,mb4.7
CABF La Chapelle 81.30 4 *eP* **P 01 00 08.3 +0.9**
comp=Z,11nm,1.2s,mb4.7
TCF Toulx Ste Croi 81.41 7 *eP* **P 01 00 07.9 -0.1**
comp=Z,7.4nm,0.9s,mb4.3
TCF Toulx Ste Croi 81.41 7 *eP* **P 01 00 07.9 -0.1**
comp=Z,3.7nm,0.9s,mb4.3
LFF La Frestale 82.63 8 *eP* **P 01 00 14.7 +0.3**
comp=Z,14nm,0.9s,mb4.7
LFF La Frestale 82.63 8 *eP* **P 01 00 14.7 +0.3**
comp=Z,7.3nm,0.9s,mb4.7
CAF Calviac 82.75 7 *eP* **P 01 00 15.5 +0.4**
comp=Z,11nm,1.0s,mb4.5
CAF Calviac 82.75 7 *eP* **P 01 00 15.5 +0.4**
comp=Z,5.4nm,1.0s,mb4.5
ORIF Oris-en-Rattie 82.98 4 *eP* **P 01 00 17.3 +1.0**
comp=Z,5.6nm,0.7s,mb4.4
ORIF Oris-en-Rattie 82.98 4 *eP* **P 01 00 17.3 +1.0**
comp=Z,2.8nm,0.7s,mb4.4
VIVF Saint-Julien-I 82.99 5 *eP* **P 01 00 17.6 +1.3**
comp=Z,8.8nm,0.9s,mb4.5
VIVF Saint-Julien-I 82.99 5 *eP* **P 01 00 17.6 +1.3**
comp=Z,4.4nm,0.9s,mb4.5
MBDF Montbardon 83.21 4 *eP* **P 01 00 18.4 +0.9**
comp=Z,8.5nm,0.8s,mb4.5
MBDF Montbardon 83.21 4 *eP* **P 01 00 18.4 +0.9**
comp=Z,4.3nm,0.8s,mb4.5
MTLF Montolieu 84.34 7 *eP* **P 01 00 23.7 +0.5**
comp=Z,10nm,0.9s,mb4.7
MTLF Montolieu 84.34 7 *eP* **P 01 00 23.7 +0.5**
comp=Z,5.3nm,0.9s,mb4.7
ETSF Etsaut 84.54 9 *eP* **P 01 00 25.1 +0.8**
ANTO Ankara 86.37 344 *eP* **P 01 00 33.3 -0.2**
comp=Z,4.8nm,0.6s,mb4.9
ESDC Sonseca Array 87.34 12 P **P 01 00 37.2 -1.0**
comp=Z,1.5nm,0.8s,mb4.2,baz=336,slow=6.2,SNR=6.0
ASAR Alice Springs 90.93 231 P **P 01 00 54.5 -0.6**
comp=Z,0.5nm,0.9s,mb3.8,baz=28,slow=4.2,SNR=3.8

SZGRF ***14*** *00:47:57.5,3704N×8629E,h13km,mb4.4,Southern Xinjiang, China*
IDC ***14*** *00:48:44.6±0.7,3937N×7765E,h0km,mb4.2/11, mb1 4.3/14,mb1mx4.1/25,mbtmp4.1/14,ML3.4/3,MS3.5/2, Ms1 3.5/2,ms1mx3.0/43,Error ellipse: s-maj=18.6km s-min=14.1km az=59.0*
LDG ***14*** *00:48:44.6±0.6,3940N×7754E,h10km,Mb4.4/10,Error ellipse: s-maj=24.8km s-min=7.0km az=143.0*
ISCJB ***14*** *00:48:47.9±0.2,3933N±002×7783E±004,h33km, mb4.2/26,Error ellipse: s-maj=4.4km s-min=2.8km az=169.5*
MOS ***14*** *00:48:47.4±1.1,3928N×7770E,h32km,mb4.5/12,Error ellipse: s-maj=13.4km s-min=7.1km az=106.8*
BJI ***14*** *00:48:48.2,3947N×7773E,h23km,mB4.3,mb4.3,ML4.3, Ms4.2,Msz3.7*
NNC ***14*** *00:48:50.8±2.7,3973N×7803E,h0km,mb4.0,mpv4.0, Error ellipse: s-maj=25.9km s-min=18.2km az=166.0*
NEIC ***14*** *00:48:53.6±1.3,3965N×7766E,h57km±9km,mb4.4/12, Error ellipse: s-maj=16.5km s-min=8.6km az=154.0*
ISC 14 00:48:48.0±1.0,3934N±002×7767E±004,h15km±6km, n121,σ1§42/139,mb4.2/26,15C-11D,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KSH	**Kashi**	**1.32**	**278**	⇓*i*	*P*	G	**Pg**	**00 49 11.9**	**-1.6**
KSH						SG	**Sg**	**00 49 29.0**	**-1.7**
KSH						Smax			
	comp=N,4μm,0.7s								
KSH						Smax			
	comp=E,4μm,0.7s								
ULHL	**Ulahol**	**3.10**	**340**	P			**Pn**	**00 49 38.3**	**+2.0**
	SNR=93								
KZA	**Kyzart**	**3.29**	**327**	P			**Pn**	**00 49 41.1**	**+2.0**
	SNR=80								
UCH	**Uchtor**	**3.75**	**321**	P			**Pn**	**00 49 47.0**	**+1.7**
	SNR=40								
KBK	**Karagaybulak**	**3.90**	**329**	P			**Pb**	**00 49 55.5**	**-1.0**
	SNR=22								
TKM2	**Tokmak 2**	**3.90**	**337**	⇓Pn			**Pn**	**00 49 49.6**	**+2.2**
	comp=E,33nm,0.5s								
TKM2						Pg	**Pb**	**00 49 55.2**	**-1.3**
TKM2						⇓Lg		00 50 47.2	
	comp=E,534nm,1.0s								
TKM2	**Tokmak 2**	**3.90**	**337**	*e*Pn			**Pn**	**00 49 49.4**	**+2.0**
TKM2				*e*Sn			**Sb**	**00 50 44.3**	**+0.7**
TKM2	**Tokmak 2**	**3.90**	**337**	P			**Pn**	**00 49 49.7**	**+2.2**
	SNR=12								
KNDC	**Almaty**	**3.91**	**352**	⇑Pg			**Pb**	**00 49 56.4**	**-0.3**
	comp=E,150nm,0.6s								
KNDC				⇑Lg				00 50 47.4	
	comp=E,538nm,0.6s								
AAA	**Alma-Ata**	**3.97**	**352**	*e*PN			**Pb**	**00 49 56.8**	**-0.8**
AAA				*e*S			**Sb**	**00 50 47.0**	**+1.6**
AAA				smax					
	comp=N,1.0nm,0.5s								
AAK	**Ala-Archa**	**4.07**	**325**	P			**Pn**	**00 49 52.0**	**+2.2**
	SNR=16								
AML	**Almayashu**	**4.11**	**314**	*e*Pn			**Pn**	**00 49 50.8**	**+0.5**
AML	**Almayashu**	**4.11**	**314**	P			**Pn**	**00 49 52.2**	**+2.0**
	SNR=13								
FRU	**Bishkek**	**4.18**	**328**	*e*PN			**Pn**	**00 49 53.5**	**+2.2**
FRU				*i* S			**Sg**	**00 50 55.0**	**-7.3**
FRU				pmax			pmax		
	comp=Z,130nm,1.5s								
FRU				smax					
	comp=N,890μm,1.8s								
CHMS	**Chumysh**	**4.27**	**330**	P			**Pn**	**00 49 54.5**	**+2.0**
	SNR=9.6								
EKS2	**Erkin-Say**	**4.43**	**320**	⇓*i*P			**Pn**	**00 49 57.0**	**+2.3**
EKS2	**Erkin-Say**	**4.43**	**320**	P			**Pn**	**00 49 57.0**	**+2.2**
	SNR=15								
USP	**Ospenovka**	**4.59**	**330**	P			**Pn**	**00 50 04.4**	**+7.5**
	SNR=14								
KK31	**Karatay Array**	**6.57**	**307**	⇑Pn			**Pn**	**00 50 33.0**	**+8.9**
	comp=N,0.8nm,0.6s,baz=136,slow=15								
KK31				Pg			**Pg**	**00 50 45.4**	**-8.4**
	baz=125,slow=15								
KK31				⇑Lg				00 52 12.9	
	baz=134,slow=29								
CHCP	**Chirah Chowk**	**6.69**	**213**	P			**Pn**	**00 50 29.0**	**+3.3**
DLH	**Dalhousie**	**6.92**	**192**	*e*P			**Pn**	**00 50 32.0**	**+3.1**
DLH				*e*S			**Sn**	**00 51 50.0**	**+2.6**
THN	**Thein Dam**	**7.07**	**194**	*e*P			**Pn**	**00 50 33.2**	**+2.2**
THN				*e*S			**Sn**	**00 51 59.6**	**+8.5**
CEP	**Cherat**	**7.19**	**222**	P			**Pn**	**00 50 34.5**	**+1.8**
CEP				S			**Sn**	**00 51 53.0**	**-1.1**
SDNR	**Sundarnagar**	**7.84**	**184**	*e*P			**Pn**	**00 50 47.5**	**+5.9**
SDNR				*e*S			**Sn**	**00 52 13.0**	**+2.9**
THW	**Thamme Wali**	**8.10**	**218**	P			**Pn**	**00 50 46.6**	**+1.5**
MK31	**Makanchi Array**	**8.18**	**23**	⇓Pn			**Pn**	**00 50 46.5**	**+0.3**
	comp=N,11nm,0.8s,baz=198,slow=12,SNR=37								
MK31				⇑Lg				00 52 54.9	
	comp=N,13nm,0.6s,baz=187,slow=24								
MK31	**Makanchi Array**	**8.18**	**23**	*e*P			**Pn**	**00 50 46.2**	**0.0**
MKAR	**Makanchi Array**	**8.18**	**23**	Pn			**Pn**	**00 50 45.7**	**-0.5**
MKAR				Lg				00 53 03.9	
MKAR				LR			LR	00 54 00.1	
MKAR	**Makanchi Array**	**8.18**	**23**	Pn			**Pn**	**00 50 45.7**	**-0.5**
	comp=N,1.1nm,0.3s,baz=197,slow=12,SNR=30								
MKAR				Lg				00 53 03.9	
	comp=N,1.2nm,0.3s,baz=200,slow=20,SNR=2.9								
MKAR				LR			LR	00 54 00.1	
	comp=N,68nm,21.2s,baz=206,slow=39								
KBL	**Kabul**	**8.40**	**238**	*e*Pn			**Pn**	**00 50 54.4**	**+5.2**
	comp=N,7.6nm,0.6s								
WMQ	**Urumqi**	**8.75**	**56**	*e*P			**Pn**	**00 50 52.8**	**-1.1**
WMQ				S			**Sn**	**00 52 31.8**	**-0.4**
WMQ				Smax					
	comp=N,107nm,1.0s								
WMQ				Smax					
	comp=E,121nm,1.0s								
JOSI	**Joshimath**	**8.90**	**169**	*e*P			**Pn**	**00 50 49.9**	**-6.2**
JOSI				*e*S			**Sn**	**00 52 29.2**	**-6.9**
JOSI				AML			AML	00 52 38.1	
	comp=N,123nm,0.9s								
JOSI				AML			AML	00 52 40.4	
	comp=E,148nm,0.7s								
DDI	**Dehra Dun**	**9.00**	**178**	*e*S			**Sn**	**00 52 40.0**	**+1.4**
NDI	**New Delhi**	**10.64**	**182**	*e*P			**Pn**	**00 51 20.0**	**+0.1**
SONA	**Sohna**	**11.07**	**183**	*e*S			**Sn**	**00 53 23.6**	**-5.8**
SONA				AML			AML	00 53 28.3	
	comp=E,29nm,0.5s								
KUDL	**Kundal**	**11.21**	**185**	*e*P			**Pn**	**00 51 27.3**	**-0.4**
KUDL				*e*S			**Sn**	**00 53 26.6**	**-6.1**
KUDL				AML			AML	00 53 33.8	
	comp=E,15nm,0.8s								
KUDL				AML			AML	00 53 40.3	
	comp=N,23nm,0.5s								
KURK	**Kurchatov**	**11.39**	**3**	⇑Pn			**Pn**	**00 51 30.1**	**-0.1**
	comp=N,1.7nm,0.7s								
KURK				⇑Lg				00 54 41.7	
	comp=N,30nm,1.1s								
KURK	**Kurchatov**	**11.39**	**3**	*e*Pn			**Pn**	**00 51 29.8**	**-0.4**
	comp=N,3.4nm,0.7s								
KURK				*e*Sn			**Sn**	**00 53 47.0**	**+10**
KURK	**Kurchatov**	**11.39**	**3**	*e*P			**Pn**	**00 51 29.8**	**-0.4**
KURK				*e*				00 53 47.0	
KURK				pmax			pmax		
	comp=Z,3.0nm,0.7s								
GKN	**Gorkha**	**12.70**	**151**	*e*Pn			**Pn**	**00 51 46.8**	**-1.4**
GKN				*e*Sn			**Sn**	**00 54 03.6**	**-5.8**
	comp=Z,36nm,0.6s								
KKN	**Kakani**	**13.14**	**149**	*e*Pn			**Pn**	**00 51 52.9**	**-1.3**
KKN				*e*Sn			**Sn**	**00 54 15.5**	**-4.6**
	comp=Z,32nm,0.7s								
JIRN	**Jiri**	**13.64**	**146**	*e*Pn			**Pn**	**00 52 00.8**	**-0.1**
JIRN				*e*Sn			**Sn**	**00 54 28.6**	**-3.6**
	comp=Z,5.1nm,0.2s								
VOSK	**Vostochnaya**	**14.16**	**343**	⇑Pn			**Pn**	**00 52 09.9**	**+2.1**
	comp=Z,1.2nm,0.8s								
VOSK				⇓Lg				00 56 11.7	
	comp=Z,36nm,1.7s								
BVA0	**Borovoye Array**	**14.57**	**342**	⇓Pn			**Pn**	**00 52 15.2**	**+1.7**
	comp=Z,0.8nm,0.9s,baz=152,slow=12,SNR=9.2								
BVA0				⇓Lg				00 56 21.6	
	comp=Z,4.2nm,1.4s,baz=159,slow=26,SNR=5.3								
BVAR	**Borovoye Array**	**14.57**	**342**	P			**Pn**	**00 52 10.8**	**-2.7**
BVAR								00 54 46.0	
BVAR	**Borovoye Array**	**14.57**	**342**	Pn			**Pn**	**00 52 10.8**	**-2.7**
	comp=Z,0.1nm,0.3s,baz=144,slow=12,SNR=5.0								
BVAR				Sn			**Sn**	**00 54 46.0**	**-8.8**
	comp=Z,0.1nm,0.3s,baz=160,slow=17,SNR=2.2								
BVAR				Lg				00 56 22.1	
	comp=Z,0.2nm,0.3s,baz=157,slow=24,SNR=6.0								
ZRNK	**Zerenda**	**14.86**	**339**	⇑Pn			**Pn**	**00 52 18.6**	**+1.1**
	comp=Z,2.9nm,0.8s								
ZRNK				⇑Lg				00 56 31.7	
	comp=Z,24nm,1.4s								
ZAL	**Zalesovo**	**15.39**	**16**	P			**Pn**	**00 52 20.7**	**-3.7**
ZAA0	**Zalesovo Array**	**15.40**	**16**	*e*Pn			**Pn**	**00 52 21.2**	**-3.4**
ZALV	**Zalesovo Beam**	**15.40**	**16**	Pn			**Pn**	**00 52 20.6**	**-4.0**
	comp=Z,0.1nm,0.3s,baz=201,slow=29,SNR=2.1								
NVS	**Novosibirsk**	**15.96**	**12**	*e*P			**Pn**	**00 52 31.1**	**-0.7**
AB31	**Akbulak array**	**16.06**	**314**	⇓Pn			**Pn**	**00 52 35.0**	**+1.8**
	comp=Z,1.0nm,0.6s,baz=116,slow=12,SNR=7.1								
GTA	**Gaotai**	**17.12**	**83**	*e*P			**Pn**	**00 52 48.5**	**+1.7**
GTA				AP			pP	00 52 51.6	-0.9
GTA				XP			sP	00 52 53.4	-1.0
GTA				S			**Sn**	**00 55 59.4**	**+2.5**
GTA				LG2				00 58 15.8	
GTA				AMB			AMB		
	comp=Z,3.0nm,0.5s								
GTA				LR			LR		
	comp=N,198nm,6.5s								
GTA				LR			LR		
	comp=E,240nm,7.6s								
GTA				LR			LR		
	comp=Z,141nm,7.2s								
AKTO	**Aktyubinsk**	**17.74**	**315**	⇑Pn			**Pn**	**00 52 53.2**	**-1.1**
	comp=Z,0.4nm,0.8s								
LZH	**Lanzhou**	**20.94**	**91**	*e*P			**P**	**00 53 29.3**	**-0.9**
LZH				AP				00 53 36.1	
LZH				XP			sP	00 53 38.5	+2.3
LZH				AMB			AMB		
	comp=Z,17nm,1.3s								
LZH				AMB			AMB		
	comp=Z,66nm,4.2s								
ZAK	**Zakamensk**	**21.14**	**50**	*e*P			**P**	**00 53 33.5**	**+1.2**
ZAK				pmax			pmax		
	comp=Z,2.0nm,1.4s,mb3.2								
ARU	**Arti**	**21.24**	**330**	*e*P			**P**	**00 53 35.6**	**+2.3**
SONM	**Songino Array**	**22.37**	**58**	P			**P**	**00 53 44.7**	**-0.8**
	comp=Z,2.6nm,0.8s,mb3.7,baz=253,slow=10,SNR=16								
ULN	**Ulaanbaatar**	**22.81**	**58**	*e*Pn			**P**	**00 53 52.1**	**+2.0**
	comp=Z,4.5nm,1.0s,mb3.9								
ULN	**Ulaanbaatar**	**22.81**	**58**	*e*P			**P**	**00 53 52.2**	**+2.0**
ULN				pmax			pmax		
	comp=Z,4.0nm,1.0s,mb3.8								
XAN	**Xi'an**	**25.54**	**92**	P			**P**	**00 54 21.8**	**+5.6**
XAN				AMB			AMB		
	comp=Z,9.0nm,1.0s,mb4.2								
JOF	**Joensuu**	**36.26**	**326**	*ep*			**P**	**00 55 48.9**	**-1.4**
	comp=Z,6.0nm,0.7s,mb4.6								
PLOR	**Plostina**	**37.58**	**297⇑**	*i*P			**P**	**00 56 02.6**	**+0.9**
MLR	**Muntele Rosu**	**38.12**	**297⇑**	*i*P			**P**	**00 56 07.3**	**+1.0**
FINES	**FINESS Array B**	**38.26**	**323**	P			**P**	**00 56 05.8**	**-1.5**
FINES	**FINESS Array B**	**38.26**	**323**	P			**P**	**00 56 05.8**	**-1.5**
	comp=Z,1.5nm,0.5s,mb4.0,baz=105,slow=9.0,SNR=17								
KAF	**Kangasniemi**	**38.29**	**324**	*ep*			**P**	**00 56 06.4**	**-1.1**
DRGR		**40.12**	**299**	⇓*i*P			**P**	**00 56 23.5**	**+0.5**
ARCES	**ARCESS Array B**	**40.68**	**335**	P			**P**	**00 56 26.4**	**-1.0**
ARCES	**ARCESS Array B**	**40.68**	**335**	P			**P**	**00 56 26.4**	**-1.0**
	comp=Z,4.6nm,0.7s,mb4.2,baz=92,slow=8.5,SNR=7.5								
BZS	**Buzias**	**41.09**	**298**	⇓*i*P			**P**	**00 56 31.5**	**+0.5**
TIXI	**Tiksi**	**41.17**	**22**	*e*Pn			**P**	**00 56 30.9**	**-0.5**
	comp=Z,2.3nm,0.4s,mb4.2								
TIXI	**Tiksi**	**41.17**	**22**	*e*P			**P**	**00 56 30.9**	**-0.5**
TIXI				pmax			pmax		
	comp=Z,2.0nm,0.4s,mb4.1								
PKSM	**Moragy**	**42.99**	**299⇑**	*i*P			**P**	**00 56 46.4**	**-0.2**
MORC	**Moravsky Berou**	**43.02**	**305⇑**	*i*P			**P**	**00 56 49.0**	**+2.3**
NB2	**NORSAR Subarra**	**45.39**	**321**	P			**P**	**00 57 04.4**	**-1.1**
	comp=Z,1.6nm,0.6s,mb4.0,baz=87,slow=7.9								
NOA	**NORSAR Array B**	**45.39**	**321**	P			**P**	**00 57 04.3**	**-1.3**
	comp=Z,3.1nm,0.8s,mb4.2,baz=88,slow=7.8,SNR=7.9								
GERES	**GERESS Array B**	**45.67**	**304**	P			**P**	**00 57 07.4**	**-0.5**
	comp=Z,2.3nm,0.7s,mb4.2,baz=70,slow=7.7,SNR=15								
GRA1	**Grafenberg Arr

CABF La Chapelle 51.22 303 *eP* **P 00 57 49.9 -0.9**
comp=Z,4.0nm,1.0s,mb4.3
CABF La Chapelle 51.22 303 *eP* **P 00 57 49.9 -0.9**
CABF pmax pmax
comp=Z,4.0nm,1.0s,mb4.3
MBDF Montbardon 51.41 300 *eP* **P 00 57 51.0 -1.2**
comp=Z,16nm,1.1s,mb4.6
MBDF Montbardon 51.41 300 *eP* **P 00 57 51.0 -1.2**
comp=Z,7.8nm,1.1s,mb4.5
MBDF Montbardon 51.41 300 *eP* **P 00 57 51.0 -1.2**
MBDF pmax pmax
comp=Z,8.0nm,1.1s,mb4.6
FRF La Foret Royal 51.91 299 *eP* **P 00 57 55.0 -1.0**
comp=Z,63nm,1.3s,mb5.1
FRF La Foret Royal 51.91 299 *eP* **P 00 57 55.0 -1.0**
comp=Z,32nm,1.3s,mb5.1
FRF La Foret Royal 51.91 299 *eP* **P 00 57 55.0 -1.0**
FRF pmax pmax
comp=Z,31nm,1.3s,mb5.1
LOR Lormes 52.44 304 *eP* **P 00 57 58.4 -1.5**
comp=Z,5.0nm,0.8s,mb4.2
LOR Lormes 52.44 304 *eP* **P 00 57 58.4 -1.5**
comp=Z,2.5nm,0.8s,mb4.2
LOR Lormes 52.44 304 *eP* **P 00 57 58.4 -1.5**
LOR pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
SMF Signal de Mont 52.67 304 *eP* **P 00 58 00.4 -1.1**
comp=Z,11nm,1.1s,mb4.4
SMF Signal de Mont 52.67 304 *eP* **P 00 58 00.4 -1.1**
comp=Z,5.6nm,1.1s,mb4.4
SMF Signal de Mont 52.67 304 *eP* **P 00 58 00.4 -1.1**
SMF pmax pmax
comp=Z,6.0nm,1.1s,mb4.4
VIVF Saint-Julien-l 52.76 301 *eP* **P 00 58 01.5 -0.8**
AVF Avril sur Loir 52.93 304 *eP* **P 00 58 02.4 -1.1**
comp=Z,13nm,1.0s,mb4.5
AVF Avril sur Loir 52.93 304 *eP* **P 00 58 02.4 -1.1**
comp=Z,6.6nm,1.0s,mb4.5
AVF Avril sur Loir 52.93 304 *eP* **P 00 58 02.4 -1.1**
AVF pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
TCF Toulx Ste Croi 53.85 304 *eP* **P 00 58 09.5 -0.7**
comp=Z,4.4nm,0.8s,mb4.1
TCF Toulx Ste Croi 53.85 304 *eP* **P 00 58 09.5 -0.7**
comp=Z,2.2nm,0.8s,mb4.1
TCF Toulx Ste Croi 53.85 304 *eP* **P 00 58 09.5 -0.7**
TCF pmax pmax
comp=Z,2.0nm,0.8s,mb4.1
ESDC Sonseca Array 60.75 299 P **P 00 58 58.0 -1.1**
comp=Z,1.2nm,0.8s,mb4.1,baz=51,slow=6.7,SNR=4.6
INK Inuvik 70.16 12 P **P 00 59 57.5 -1.9**
comp=Z,6.4nm,1.2s,mb4.4,baz=13,slow=8.6,SNR=9.7
TORD Torodi Ar. Bea 70.98 272 P **P 01 00 03.4 -1.9**
TORD Torodi Ar. Bea 70.98 272 P **P 01 00 03.4 -1.9**
comp=Z,1.7nm,0.9s,mb4.0,baz=48,slow=5.4,SNR=27
FITZ Fitzroy Crossi 72.61 132 P **P 01 00 15.0 +0.1**
comp=Z,2.5nm,1.0s,mb4.1,baz=6.6,slow=4.7,SNR=2.8
YKA Yellowknife Ar 78.03 6 P **P 01 00 43.1 -2.5**
YKA pmax pmax
comp=Z,2.0nm,0.7s
YKA Yellowknife Ar 78.03 6 P **P 01 00 43.1 -2.4**
comp=Z,1.7nm,0.7s,mb4.1,baz=345,slow=5.5,SNR=32
WRA Warramunga Arr 79.24 127 P **P 01 00 52.1 -0.7**
comp=Z,2.3nm,0.9s,mb4.1,baz=331,slow=5.0,SNR=12
ASAR Alice Springs 81.77 130 P **P 01 01 05.7 -0.6**
ASAR pmax pmax
comp=Z,3.0nm,0.8s
ASAR Alice Springs 81.77 130 P **P 01 01 05.7 -0.6**
comp=Z,2.7nm,0.8s,mb4.2,baz=318,slow=5.9,SNR=22
SUR Sutherland 88.72 225 LR LR 01 41 10.2
comp=Z,112nm,18.4s,baz=158,slow=36

*ISCJB **14** 00:52:05.6±0.7,349S±0.1×1094W±.02,h10km,mb4.1/9, MS4.2/12,Error ellipse: s-maj=25.3km s-min=16.8km az=0.5*
*IDC **14** 00:52:05.4±1.0,3484S×10944W,h0km,mb4.2/8, mb1 4.4/8,mb1mx4.1/17,mbtmp4.2/8,MS4.2/12, Ms1 4.2/12,ms1mx3.9/24,Error ellipse: s-maj=33.6km s-min=24.7km az=70.0*
*NEIC **14** 00:52:07.7±0.8,3483S×10937W,h10km,mb4.4/2,Error ellipse: s-maj=26.8km s-min=18.2km az=90.0*
ISC 14 00:52:07.8±0.8,348S±01×1094W±.02,h10km,n20, σ1§12/11,mb4.1/9,MS4.2/12,Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**31.09**	**113**	P	**P**	**00 58 27.9**	**+1.8**
	8.9nm,1.0s,mb4.5						
PLCA	**Paso Flores**	**31.09**	**113**	P	**P**	**00 58 27.2**	**+1.2**
	4.8nm,0.9s,mb4.3,baz=256,slow=9.4,SNR=4.5						
PLCA				LR	LR	01 07 36.6	
	comp=Z,342nm,18.1s,MS4.1,baz=180,slow=30						
USHA	**Ushuaia**	**34.60**	**138**	LR	LR	01 08 36.7	
	comp=Z,330nm,21.4s,MS4.0,baz=235,slow=29						
PPT	**Papeete**	**39.63**	**285**	LR	LR	01 11 37.4	
	comp=Z,648nm,18.4s,MS4.5,baz=118,slow=30						
LPAZ	**La Paz**	**41.21**	**74**	P	**P**	**00 59 52.5**	**-0.4**
	2.4nm,0.9s,mb3.9,baz=223,slow=2.5,SNR=4.1						
LPAZ				LR	LR	01 12 36.2	
	comp=Z,162nm,21.4s,MS3.9,baz=75,slow=30						
ROSC	**El Rosal**	**51.46**	**47**	P	**P**	**01 01 12.3**	**-1.1**
	2.0nm,0.4s,mb4.4,baz=96,slow=18,SNR=5.5						
SBA	**Scott Base**	**54.95**	**195**	P	**P**	**01 01 38.1**	**-0.2**
	2.3nm,1.0s,mb4.2						
QSPA	**South Pole Qui**	**55.37**	**180**	P	**P**	**01 01 40.9**	**-0.5**
	3.4nm,1.0s,mb4.3,baz=115,slow=5.8,SNR=5.1						
VNDA	**Vanda**	**56.03**	**195**	LR	LR	01 20 08.9	
	comp=Z,302nm,18.9s,MS4.4,baz=162,slow=30						
BDFB	**Brasilia**	**57.87**	**87**	LR	LR	01 24 38.2	
	comp=Z,187nm,20.1s,MS4.2,baz=59,slow=34						
TXAR	**Lajitas Array**	**64.05**	**6**	P	**P**	**01 02 41.0**	**-0.6**
	0.2nm,0.5s,mb3.4,baz=199,slow=7.4,SNR=3.9						
TXAR				LR	LR	01 27 01.1	
	comp=Z,98nm,18.0s,MS4.0,baz=5.0,slow=33						
NVAR	**Mina Array Bea**	**73.35**	**353**	P	**P**	**01 03 40.7**	**+1.2**
	1.5nm,0.8s,mb4.0,baz=163,slow=6.3,SNR=12						
DAU	**Daniels Canyon**	**74.89**	**359**	*eP*	**P**	**01 03 50.1**	**+1.7**
PDAR	**Pinedale Array**	**77.22**	**360**	P	**P**	**01 04 02.0**	**+0.4**
	2.2nm,0.9s,mb4.1,baz=163,slow=5.9,SNR=16						
PDAR				LR	LR	01 32 58.9	
	comp=Z,115nm,19.4s,MS4.2,baz=116,slow=32						
HNR	**Honiara**	**85.22**	**262**	LR	LR	01 34 25.9	
	comp=Z,126nm,20.2s,MS4.3,baz=176,slow=30						
ULM	**Lac du Bonnet**	**85.55**	**9**	P	**P**	**01 04 43.4**	**-2.2**
	2.2nm,0.9s,mb4.4,baz=186,slow=8.4,SNR=4.7						
ULM				LR	LR	01 40 18.4	
	comp=Z,137nm,19.2s,MS4.4,baz=226,slow=34						
YKA	**Yellowknife Ar**	**97.07**	**358**	LR	LR	01 46 30.7	
	comp=Z,56nm,19.4s,MS4.1,baz=105,slow=34						
NWAO	**Narrogin (SRO)**	**99.64**	**218**	LR	LR	01 42 12.3	
	comp=Z,132nm,20.4s,MS4.4,baz=4.8,slow=30						
AKASG	**Malin Array Be**	**146.24**	**49**	PKPbc	PKPbc	01 11 45.6	-2.4
	0.2nm,0.3s,baz=284,slow=3.7,SNR=3.8						
SONM	**Songino Array**	**150.42**	**307**	PKPbc	PKPbc	01 11 57.5	-1.6
	3.5nm,1.1s,baz=137,slow=2.3,SNR=13						

*IDC **14** 01:02:42.2±1.0,000S×123.14E,h0km,mb3.6/4,mb1 3.9/5, mb1mx3.7/17,mbtmp3.7/5,ML3.4/1,Error ellipse: s-maj=114.8km s-min=19.0km az=68.0*
*ISCJB **14** 01:02:45.5±0.9,01S±02×123OE±05,h33km,mb3.7/5, Error ellipse: s-maj=75.1km s-min=14.3km az=158.5*
*NEIC **14** 01:02:47.6±0.8,004S×123.17E,h35km,mb3.7/1,Error ellipse: s-maj=62.8km s-min=11.7km az=68.0*
ISC 14 01:02:47.7±1.0,01S±02×1232E±05,h35km,n7,σ0§64/7, mb3.7/5,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**18.11**	**172**	P	**Pn**	**01 06 57.0**	**+0.4**
	0.1nm,0.3s,baz=11,slow=10,SNR=2.2						
WRAB	**Tennant Creek**	**22.60**	**152**	*eP*	**P**	**01 07 44.7**	**-0.7**
	1.3nm,0.4s,mb3.7						
WRA	**Warramunga Arr**	**22.60**	**152**	P	**P**	**01 07 45.2**	**-0.2**
	1.7nm,0.5s,mb3.7,baz=329,slow=10,SNR=17						
WB2	**Warramunga Arr**	**22.61**	**152**	*eP*	**P**	**01 07 45.5**	**0.0**
ASAR	**Alice Springs**	**25.69**	**157**	P	**P**	**01 08 15.1**	**+0.4**
	1.2nm,0.5s,mb3.6,baz=345,slow=12,SNR=17						
ASAR				PcP	PcP	01 11 42.7	-1.9
	0.6nm,0.5s,baz=344,slow=2.1,SNR=10						
SONM	**Songino Array**	**49.87**	**345**	P	**P**	**01 11 38.5**	**+1.0**
	0.3nm,0.6s,mb3.5,baz=168,slow=7.4,SNR=3.3						
MKAR	**Makanchi Array**	**58.74**	**328**	P	**P**	**01 12 41.0**	**-1.0**
	0.2nm,0.3s,mb3.6,baz=125,slow=8.2,SNR=3.3						

*NEIC **14** 01:15:46.8,3697N×2808E,h58km,MD3.4(ATH),After ATH.*
*CSEM **14** 01:15:46.7±0.2,3694N×2777E,h4km±1km,MD3.2,Error ellipse: s-maj=2.2km s-min=1.7km az=124.0*
*ATH **14** 01:15:46.8,3697N×2808E,h58km±5km,MD3.4/4*
*ISCJB **14** 01:15:47.6±0.5,3696N±002×2777E±003,h8km±4km, Error ellipse: s-maj=4.7km s-min=3.7km az=169.3*
*ISK **14** 01:15:47.1,3695N×2776E,h11km,MD3.2*
*DDA **14** 01:15:48.2,3701N×2777E,h7km±3km,Md3.0*
ISC 14 01:15:48.1±0.4,3695N±002×2776E±004,h10km±4km,n24, σ1§01/36,1C,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAT	**Datca**	**0.27**	**213**	*e*PG	**Pg**	**01 15 52.9**	**-0.6**
DAT				*e*SG	**Sg**	**01 15 57.4**	**+0.3**
BDRM	**Kayabasi**	**0.27**	**294**	*i* P	**Pg**	**01 15 53.5**	**-0.2**
BDRM				*i* S	**Sg**	**01 15 58.3**	**+0.9**
MLSB	**Milas**	**0.34**	**3**	*e*PG	**Pg**	**01 15 54.5**	**-0.4**
MLSB				*e*SG	**Sg**	**01 15 59.9**	**+0.3**
BODT	**Bodrum**	**0.37**	**287**	*e*PG	**Pg**	**01 15 55.2**	**-0.3**
YER	**Yerkesik**	**0.46**	**66**	*e*PG	**Pg**	**01 15 56.5**	**-0.7**
AYDN	**Tasoluk**	**0.71**	**8**	*i* P	**Pg**	**01 16 01.5**	**-0.5**
AYDN				*i* S	**Sg**	**01 16 10.7**	**-0.6**
AYDN	**Tasoluk**	**0.71**	**8**	*i* P	**Pg**	**01 16 01.5**	**-0.4**
AYDN				*i* S	**Sg**	**01 16 10.6**	**-0.7**
ARG	**Arkhangelos**	**0.79**	**158**	⇑*i*P	**Pg**	**01 16 02.4**	**-1.0**
ARG				*e*S	**Sg**	**01 16 13.8**	**0.0**
SMG	**Samos**	**1.05**	**316**	*e*P	**Pg**	**01 16 08.4**	**0.0**
SMG				*e*S	**Sg**	**01 16 25.0**	**+2.9**
DENT	**Denizli**	**1.29**	**51**	*e*PN	**Pn**	**01 16 11.8**	**-0.4**
GOLH	**Golhisar**	**1.47**	**78**	*i* P	**Pn**	**01 16 16.2**	**+1.5**
GOLH				*i* S	**Sn**	**01 16 35.5**	**+1.6**
KARP	**Karpathos**	**1.48**	**199**	*e*P	**Pn**	**01 16 14.0**	**-0.8**
KARP				*e*S	**Sn**	**01 16 33.8**	**-0.4**
KDAG	**Bornova**	**1.50**	**345**	*i* P	**Pn**	**01 16 15.0**	**-0.1**
BLCB	**Balcova**	**1.54**	**339**	*e*PN	**Pn**	**01 16 15.1**	**-0.5**
AKAS	**Kas**	**1.65**	**115**	*i* P	**Pn**	**01 16 17.0**	**-0.2**
AKAS				*i* S	**Sg**	**01 16 43.1**	**+1.9**
URLA	**Izmir**	**1.68**	**327**	*i* P	**Pn**	**01 16 19.6**	**+2.0**
URLA				*i* S	**Sn**	**01 16 41.4**	**+2.3**
KULA	**Kula-Manisa**	**1.72**	**24**	*e*PN	**Pn**	**01 16 17.2**	**-0.8**
ELL	**Elmali**	**1.74**	**96**	*e*PN	**Pn**	**01 16 18.4**	**+0.1**
AKHS	**Akhisar**	**1.92**	**1**	*i* P	**Pn**	**01 16 20.1**	**-0.8**
AKHS				*i* S	**Sn**	**01 16 42.5**	**-2.6**
AKS	**Akhisar**	**1.92**	**1**	*e*PN	**Pn**	**01 16 20.6**	**-0.3**
BCK	**Bucak**	**2.32**	**76**	*e*PN	**Pn**	**01 16 27.1**	**+0.8**
AYVA	**Ayvalik**	**2.50**	**341**	*i* P	**Pg**	**01 16 36.1**	**+0.1**
GDZ	**Gediz**	**2.53**	**32**	*i* P	**Pn**	**01 16 27.7**	**-1.5**
PRK	**Paraskevi**	**2.57**	**333**	*e*P	**Pn**	**01 16 29.4**	**-0.4**

*IDC **14** 01:26:42.9±0.6,027S×125.14E,h0km,mb4.3/14, mb1 4.3/15,mb1mx4.2/22,mbtmp4.3/15,ML3.6/1,MS3.2/1, Ms1 3.2/1,ms1mx2.8/22,Error ellipse: s-maj=34.8km s-min=13.1km az=75.0*
*BJI **14** 01:26:47.8,020S×12530E,h35km,mB5.3,mb4.7*
*NEIC **14** 01:26:47.8±0.3,024S×12535E,h35km,mb4.6/3,Error ellipse: s-maj=21.5km s-min=6.8km az=70.0*
*ISCJB **14** 01:26:48.1±2.5,032S±005×1253E±0.1,h52km±24km, mb4.3/18,Error ellipse: s-maj=22.3km s-min=8.7km az=178.4*
ISC 14 01:26:49.3±2.2,032S±005×1253E±01,h46km±22km,n33, σ1§02/31,mb4.3/18,1D,Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNE	**Ternate**	**2.35**	**62**	⇓*e*P	**Pn**	**01 27 26.0**	**+0.6**
TNE				*e*S	**Sn**	**01 27 53.0**	**0.0**
BATI	**Kupang**	**9.95**	**189**	LR	LR	01 32 54.4	
	comp=Z,144nm,21.1s,baz=140,slow=37						
KAKA	**Kakadu**	**14.20**	**150**	*e*P	**Pn**	**01 30 06.9**	**-1.0**
	14nm,0.6s						
FITZ	**Fitzroy Crossi**	**17.67**	**179**	P	**Pn**	**01 30 53.2**	**+1.0**
	0.1nm,0.3s,baz=14,slow=13,SNR=4.0						
WRAB	**Tennant Creek**	**21.41**	**156**	*e*P	**P**	**01 31 32.8**	**-0.7**
	6.7nm,0.6s,mb4.2						
WRA	**Warramunga Arr**	**21.42**	**156**	P	**P**	**01 31 32.8**	**-0.7**
	4.2nm,0.6s,mb3.9,baz=334,slow=12,SNR=14						
WB2	**Warramunga Arr**	**21.42**	**156**	*e*P	**P**	**01 31 33.2**	**-0.4**
ASAR	**Alice Springs**	**24.66**	**161**	P	**P**	**01 32 06.1**	**+0.2**
	1.4nm,0.6s,mb3.7,baz=339,slow=9.5,SNR=22						
ASAR				PcP	PcP	01 35 43.2	+0.6
	0.7nm,0.6s,baz=339,slow=2.4,SNR=4.5						
JOW	**Kunigami**	**27.15**	**6**	P	**P**	**01 32 29.6**	**+1.3**
	10nm,0.6s,mb4.5,baz=188,slow=13,SNR=8.4						
NJ2	**Nanjing**	**32.77**	**350**	*e*P	**P**	**01 33 19.6**	**+1.6**
STKA	**Stephens Creek**	**34.97**	**155**	*e*P	**P**	**01 33 38.1**	**+0.9**
STKA	**Stephens Creek**	**34.97**	**155**	P	**P**	**01 33 37.9**	**+0.7**
	3.7nm,0.7s,mb4.4,baz=347,slow=5.9,SNR=8.7						
KSRS	**Korea Array**	**37.66**	**3**	P	**P**	**01 34 00.8**	**+0.8**
	0.8nm,0.5s,mb3.7,baz=272,slow=40,SNR=3.5						
MJAR	**Matsushiro Arr**	**38.59**	**17**	P	**P**	**01 34 06.5**	**-1.4**
MJAR	**Matsushiro Arr**	**38.59**	**17**	P	**P**	**01 34 06.5**	**-1.4**
	3.4nm,0.7s,mb4.2,baz=194,slow=8.2,SNR=7.4						
GTA	**Gaotai**	**45.91**	**332**	*e*P	**P**	**01 35 09.0**	**+1.6**
GTA				AMB	AMB		
	comp=Z,5.0nm,0.8s,mb4.5						
SONM	**Songino Array**	**50.70**	**344**	P	**P**	**01 35 42.4**	**-1.8**
	comp=Z,2.9nm,0.8s,mb4.3,baz=148,slow=8.7,SNR=18						
SONM				PcP	PcP	01 37 01.3	+0.3
	comp=Z,0.2nm,0.4s,baz=150,slow=3.2,SNR=3.5						
MK31	**Makanchi Array**	**60.10**	**327**	*e*P	**P**	**01 36 51.1**	**-0.8**
MKAR	**Makanchi Array**	**60.10**	**327**	P	**P**	**01 36 51.5**	**-0.5**
	comp=Z,2.8nm,0.5s,mb4.5,baz=123,slow=8.8,SNR=18						
UCH	**Uchtor**	**62.23**	**319**	*e*P	**P**	**01 37 07.4**	**+1.0**
	comp=Z,3.0nm,0.6s,mb4.6						
EKS2	**Erkin-Say**	**62.92**	**320**	*e*P	**P**	**01 37 10.4**	**-0.6**
	comp=Z,5.0nm,0.8s,mb4.7						
ZALV	**Zalesovo Beam**	**63.57**	**335**	P	**P**	**01 37 12.5**	**-2.5**
ZALV	**Zalesovo Beam**	**63.57**	**335**	P	**P**	**01 37 12.5**	**-2.5**
	comp=Z,0.6nm,0.4s,mb4.0,baz=114,slow=6.6,SNR=6.2						
BVAR	**Borovoye Array**	**69.95**	**328**	P	**P**	**01 37 55.7**	**0.0**
	comp=Z,1.5nm,0.6s,mb4.1,baz=123,slow=7.1,SNR=11						
AKTK	**Aktyubinsk**	**75.95**	**323**	P	**P**	**01 38 30.4**	**-0.9**
AKTO	**Aktyubinsk**	**75.95**	**323**	P	**P**	**01 38 30.4**	**-0.9**
	comp=Z,5.2nm,0.6s,mb4.7,baz=111,slow=6.7,SNR=17						
IMA2	**Indian Mountai**	**86.64**	**24**	*e*P	**P**	**01 39 27.8**	**+0.1**
KMBO	**Kilima Mbogo**	**88.04**	**269**	P	**P**	**01 39 36.2**	**+0.6**
KMBO	**Kilima Mbogo**	**88.04**	**269**	P	**P**	**01 39 36.2**	**+0.6**
	comp=Z,1.9nm,0.7s,mb4.5,baz=70,slow=10,SNR=6.3						
ASF	**Jabal al Asfar**	**88.81**	**302**	P	**P**	**01 39 39.2**	**+0.4**
	comp=Z,4.0nm,0.9s,mb4.7,baz=337,slow=3.4,SNR=6.6						
QSPA	**South Pole Qui**	**89.61**	**180**	P	**P**	**01 39 43.3**	**+1.7**
	comp=Z,0.9nm,0.7s,mb4.2,baz=84,slow=5.6,SNR=4.1						
RSSD	**Black Hills**	**118.24**	**38**	*e*PKPdf	PKPdf	01 45 30.5	-1.3
TORD	**Torodi Ar. Bea**	**122.70**	**285**	PKP	PKPdf	01 45 41.5	+0.3
	comp=Z,1.2nm,0.8s,baz=55,slow=1.3,SNR=9.1						

IDC 14 01:34:40.8±1.6,220S×12721E,h0km,mb3.4/2,mb1 3.8/4, mb1mx3.6/17,mbtmp3.6/4,ML3.9/2,Error ellipse: s-maj=131.3km s-min=23.9km az=75.0,Ceram Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**15.88**	**185**	Pn	Pn	01 38 27.2	+1.4
	0.2nm,0.3s,baz=27,slow=9.0,SNR=4.5						
WRA	**Warramunga Arr**	**18.96**	**159**	P	Pn	01 39 03.9	-0.4
	0.5nm,0.3s,baz=336,slow=12,SNR=6.1						
ASAR	**Alice Springs**	**22.30**	**164**	P	P	01 39 39.5	-0.4
	0.8nm,0.3s,baz=343,slow=11,SNR=17						
SONM	**Songino Array**	**53.05**	**343**	P	P	01 43 59.8	+0.1
	0.2nm,0.3s,baz=144,slow=5.2,SNR=3.1						

*ISCJB **14** 01:43:03.0±1.0,3840N±003×2041E±009,h2km,Error ellipse: s-maj=10.1km s-min=4.4km az=166.5*
*NEIC **14** 01:43:02.9,3838N×2038E,h9km,MD3.2(ATH),After ATH.*
*ATH **14** 01:43:02.9,3838N×2038E,h9km±1km,MD3.2/5*
*CSEM **14** 01:43:03.5±0.2,3839N×2041E,h2km,MD3.2,Error ellipse: s-maj=4.4km s-min=2.1km az=69.0*
*THE **14** 01:43:04.3,3840N×2058E,h12km,ML2.1*
ISC 14 01:43:03.6±1.0,3839N±003×2044E±009,h3km±10km,n10, σ0§92/15,1D,Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.24**	**151**	⇓*i*PG	**Pg**	**01 43 08.3**	**+0.1**
VLS				*e*SG	**Sg**	**01 43 12.6**	**+1.2**
LKD	**Levkas**	**0.35**	**27**	*e*Pg	**Pg**	**01 43 10.5**	**+0.1**
LKD				*e*Sg	**Sg**	**01 43 15.4**	**+0.3**
KFL	**Anninata**	**0.39**	**136**	*e*Pg	**Pg**	**01 43 10.9**	**-0.1**
RLS	**Riolos of Patr**	**0.87**	**112**	*e*PB	**Pb**	**01 43 20.1**	**-1.2**
IGT	**Igoumenitsa**	**1.14**	**356**	*e*Pg	**Pg**	**01 43 25.2**	**-0.2**
IGT				*e*Sg	**Sg**	**01 43 41.5**	**+1.2**
IGT	**Igoumenitsa**	**1.14**	**356**	*e*Pg	**Pg**	**01 43 25.2**	**-0.3**
IGT				*e*Sg	**Sg**	**01 43 41.5**	**+1.2**
SELA	**Sela**	**1.15**	**95**	*e*Pg	**Pg**	**01 43 23.6**	**-1.9**
EVR	**Evrytania**	**1.19**	**63**	*e*PG	**Pg**	**01 43 25.9**	**-0.5**
EVR				*e*SB	**Sb**	**01 43 43.3**	**+0.8**
KEK	**Kerkira**	**1.41**	**339**	*e*PB	**Pb**	**01 43 29.4**	**-1.1**
ITM	**Ithomi**	**1.69**	**135**	*e*PN	**Pn**	**01 43 35.0**	**+1.1**

*ISCJB **14** 01:48:09.9±0.9,3838N±004×2045E±009,h8km±7km, Error ellipse: s-maj=13.1km s-min=4.9km az=160.9*
*CSEM **14** 01:48:09.9±0.2,3838N×2042E,h15km,MD3.3,Error ellipse: s-maj=4.6km s-min=1.4km az=72.0*
*NEIC **14** 01:48:09.5,3837N×2035E,h10km,MD3.3(ATH),After ATH.*
*ATH **14** 01:48:09.5,3837N×2035E,h10km±2km,MD3.3/6*
*THE **14** 01:48:10.8,3838N×2051E,h8km,ML2.4*
ISC 14 01:48:10.2±0.9,3837N±004×2045E±009,h13km±6km,n10, σ0§90/15,Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.22**	**150**	*e*PG	**Pg**	**01 48 15.0**	**0.0**
VLS				*e*SG	**Sg**	**01 48 19.4**	**+1.1**
LKD	**Levkas**	**0.37**	**26**	*e*Pg	**Pg**	**01 48 17.2**	**-0.5**
LKD				*e*Sg	**Sg**	**01 48 22.9**	**+0.2**
KFL	**Anninata**	**0.38**	**134**	*e*Pg	**Pg**	**01 48 17.5**	**-0.2**
RLS	**Riolos of Patr**	**0.86**	**111**	*e*PN	**Pn**	**01 48 27.6**	**-0.4**
RLS				*e*SB	**Sb**	**01 48 40.3**	**+1.9**
IGT	**Igoumenitsa**	**1.16**	**356**	*e*Pg	**Pg**	**01 48 32.6**	**0.0**
IGT				*e*Sg	**Sg**	**01 48 49.1**	**+1.3**
EVR	**Evrytania**	**1.20**	**63**	*e*PN	**Pn**	**01 48 32.4**	**-0.2**
KEK	**Kerkira**	**1.43**	**340**	*e*PB	**Pb**	**01 48 36.3**	**-0.4**
KEK				*e*SB	**Sb**	**01 48 55.1**	**+0.3**
AGG	**Agios Georgios**	**1.61**	**66**	*e*Pg	**Pg**	**01 48 38.0**	**-3.1**
ITM	**Ithomi**	**1.67**	**135**	*e*PG	**Pg**	**01 48 41.2**	**-1.0**
THL	**Klokotos Trika**	**1.71**	**45**	*e*PG	**Pg**	**01 48 42.4**	**-0.6**

*ISCJB **14** 02:20:34.8±0.9,3835N±003×2045E±006,h11km,Error ellipse: s-maj=7.0km s-min=3.9km az=159.6*
*THE **14** 02:20:34.9,3834N×2043E,h9km,ML3.2*
*NEIC **14** 02:20:35.5,3830N×2045E,h11km,MD3.5(ATH),After ATH.*
*ATH **14** 02:20:35.5,3830N×2045E,h11km±1km,MD3.5/7*
*CSEM **14** 02:20:36.1±0.2,3833N×2046E,h1km±2km,MD3.5,Error ellipse: s-maj=3.7km s-min=1.8km az=67.0*
ISC 14 02:20:34.9±1.0,3833N±003×2040E±007,h6km±12km,n11, σ0§67/18,Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.21**	**136**	*e*PG	**Pg**	**02 20 39.8**	**+0.7**
VLS				*e*SG	**Sg**	**02 20 42.5**	**+0.5**
KFL	**Anninata**	**0.38**	**126**	*e*Pg	**Pg**	**02 20 42.2**	**0.0**
LKD	**Levkas**	**0.42**	**27**	*e*Pg	**Pg**	**02 20 42.5**	**-0.6**
LKD				*e*Sg	**Sg**	**02 20 48.6**	**-0.1**
RLS	**Riolos of Patr**	**0.88**	**108**	*e*PG	**Pg**	**02 20 51.2**	**-0.7**
RLS				*e*SB	**Sg**	**02 21 03.3**	**0.0**
SELA	**Sela**	**1.17**	**92**	*e*Pg	**Pg**	**02 20 55.7**	**-1.7**
SELA				*e*Sg	**Sg**	**02 21 13.0**	**+0.3**
IGT	**Igoumenitsa**	**1.20**	**357**	*e*Pg	**Pg**	**02 20 56.7**	**-1.2**
IGT				*e*Sg	**Sg**	**02 21 14.0**	**+0.4**
EVR	**Evrytania**	**1.25**	**62**	*e*PG	**Pg**	**02 20 58.6**	**-0.3**
EVR				*e*SB	**Sg**	**02 21 15.6**	**+0.6**
JAN	**Janina**	**1.37**	**15**	*e*PB	**Pb**	**02 21 01.5**	**+0.6**
KEK	**Kerkira**	**1.46**	**341**	*e*PB	**Pg**	**02 21 03.8**	**+0.9**
ITM	**Ithomi**	**1.67**	**133**	*e*PB	**Pb**	**02 21 06.2**	**+0.2**
THL	**Klokotos Trika**	**1.76**	**45**	*e*PN	**Pb**	**02 21 07.3**	**-0.3**
THL				*e*SN	**Sg**	**02 21 32.0**	**+0.5**

*ISCJB **14** 02:31:40.2±0.7,3095S±002×714W±0.1,h68km±5km, mb4.0/5,Error ellipse: s-maj=18.4km s-min=3.6km az=3.1*
*GUC **14** 02:31:41.0±0.8,3095S×7135W,h56km±4km,MD4.0,MD4.0, ML4.1*
*NEIC **14** 02:31:41.0,3095S×7135W,h56km,MD4.0(GUC),After GUC.*
*IDC **14** 02:31:44.0±4.2,3098S×7129W,h90km±32km,mb3.8/4, mb1 3.6/7,mb1mx3.4/19,mbtmp3.6/7,Error ellipse: s-maj=46.4km s-min=19.9km az=107.0*
ISC 14 02:31:41.1±0.7,3094S±002×715W±01,h61km±5km,n45, σ0§54/55,mb4.0/5,6C-3D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OVCH	**Ovalle**	**0.39**	**33**	*i* P	**Pn**	**02 31 51.6**	**-0.5**
OVCH				*i* S	**Sn**	**02 31 59.6**	**-0.5**
CMCH	**Combarbala**	**0

LPAZ	**La Paz**	**14.90**	**12**	P		**Pn**		**02 35 12.2**	**+4.0**
	comp=N,0.0nm,0.3s,baz=225,slow=11,SNR=2.5								
SIV	**San Ignacio**	**17.64**	**35**	P		**Pn**		**02 35 42.2**	**-0.5**
	comp=N,0.1nm,0.3s,baz=196,slow=7.0,SNR=6.7								
USHA	**Ushuaia**	**23.98**	**176**	P		**P**		**02 36 49.3**	**-0.3**
	comp=N,7.8nm,0.9s,mb4.1,baz=355,slow=12,SNR=3.6								
BDFB	**Brasilia**	**26.28**	**60**	P		**P**		**02 37 10.2**	**-0.8**
	comp=N,1.5nm,1.0s,mb3.5,baz=221,slow=18,SNR=3.9								
SDV	**Santo Domingo**	**39.60**	**1**	*eP*		pP		02 39 22.2	0.0
SNAA	**Sanae**	**54.23**	**159**	P		**P**		**02 40 59.8**	**-0.4**
	comp=N,1.2nm,0.7s,mb4.0,baz=317,slow=4.7,SNR=14								
DBIC	**Dimbokro**	**73.73**	**72**	P		**P**		**02 43 08.4**	**-0.6**
	comp=N,5.2nm,0.8s,mb4.5,baz=243,slow=3.0,SNR=7.3								
SDCO	**Great Sand Dun**	**75.38**	**333**	*eP*		sP		02 43 41.4	-0.2
HWUT	**Hardware Ranch**	**81.12**	**331**	*eP*		pP		02 44 06.2	-0.5
TORD	**Torodi Ar. Bea**	**82.70**	**70**	P		**P**		**02 43 57.5**	**-1.0**
	comp=N,1.5nm,0.7s,mb4.2,baz=277,slow=5.5,SNR=34								
BOZ	**Bozeman (W)**	**84.50**	**333**	*eP*		pP		02 44 25.2	+1.1
ASAR	**Alice Springs**	**120.52**	**207**	PKP		PKPdf		02 50 25.2	-1.1
	comp=N,0.2nm,0.5s,baz=116,slow=2.2,SNR=2.9								
WRA	**Warramunga Arr**	**123.67**	**209**	PKP		PKPdf		02 50 31.5	-0.9
WRA	**Warramunga Arr**	**123.67**	**209**	PKP		PKPdf		02 50 31.5	-0.8
	comp=N,0.5nm,0.5s,baz=163,slow=1.6,SNR=4.4								
ZALV	**Zalesovo Beam**	**151.35**	**30**	PKPbc		PKPbc		02 51 26.8	-0.5
	comp=N,1.6nm,0.6s,baz=297,slow=3.0,SNR=9.4								

IDC 14 02:33:33.4±4.0, 489S×14806E, h0km, mb3.4/3, mb1 3.7/3, mb1mx3.5/14, mbtmp3.5/3, Error ellipse: s-maj=116.8km s-min=48.1km az=111.0, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**20.05**	**221**	P	P	02 38 08.7	+0.4
	0.6nm,0.4s,baz=45,slow=9.7,SNR=5.5						
ASAR	**Alice Springs**	**23.12**	**215**	P	P	02 38 41.5	+0.3
	0.4nm,0.4s,baz=48,slow=8.2,SNR=9.7						
FITZ	**Fitzroy Crossi**	**25.54**	**237**	P	P	02 39 03.3	-0.8
	1.3nm,0.6s,baz=71,slow=8.8,SNR=3.2						
TORD	**Torodi Ar. Bea**	**145.81**	**286**	PKPbc	PKPbc	02 53 15.2	-0.4
	0.6nm,1.0s,baz=78,slow=2.9,SNR=5.2						

IDC 14 02:36:09.2±1.2, 252N×12705E, h0km, mb3.7/7, mb1 3.9/7, mb1mx3.8/16, mbtmp3.7/7, Error ellipse: s-maj=112.3km s-min=16.3km az=71.0

NEIC 14 02:36:10.7±0.6, 251N×12701E, h10km, mb4.3/3, Error ellipse: s-maj=34.6km s-min=7.0km az=68.0

ISCJB 14 02:36:12.4±0.8, 25N±0.1×1268E±0.3, h33km, mb4.0/10, Error ellipse: s-maj=50.5km s-min=10.3km az=158.0

ISC 14 02:36:14.5±0.8, 25N±0.1×1270E±0.3, h35km, n14, σ0=45/14, mb4.0/10, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**20.49**	**184**	P	**P**	**02 40 50.1**	**+0.6**
	1.4nm,0.4s,baz=39,slow=12,SNR=3.2						
WRA	**Warramunga Arr**	**23.42**	**162**	P	**P**	**02 41 20.1**	**-0.6**
	1.2nm,0.3s,mb3.8,baz=338,slow=11,SNR=8.7						
WB2	**Warramunga Arr**	**23.42**	**162**	*eP*	**P**	**02 41 20.8**	**0.0**
WB2	**Warramunga Arr**	**23.42**	**162**	*eP*	**P**	**02 41 20.5**	**-0.3**
ASAR	**Alice Springs**	**26.84**	**166**	P	**P**	**02 41 51.4**	**-0.5**
	0.5nm,0.6s,mb3.2,baz=339,slow=6.4,SNR=9.2						
CHTO	**Chiang Mai**	**31.89**	**303**	*eP*	**P**	**02 42 36.3**	**-0.4**
	1.7nm,0.7s,mb4.0						
FORT	**Forrest**	**33.08**	**178**	*eP*	**P**	**02 42 47.2**	**+0.2**
	6.1nm,0.6s,mb4.7						
STKA	**Stephens Creek**	**36.88**	**159**	P	**P**	**02 43 20.2**	**+0.5**
STKA	**Stephens Creek**	**36.88**	**159**	P	**P**	**02 43 20.2**	**+0.5**
	1.1nm,0.5s,mb4.0,baz=325,slow=14,SNR=5.2						
SONM	**Songino Array**	**48.56**	**342**	P	**P**	**02 44 55.0**	**+0.8**
	0.3nm,0.4s,mb3.7,baz=155,slow=9.5,SNR=2.9						
MKAR	**Makanchi Array**	**58.72**	**326**	P	**P**	**02 46 08.8**	**+0.1**
	0.4nm,0.5s,mb3.7,baz=116,slow=9.8,SNR=3.0						
TKM2	**Tokmak 2**	**60.85**	**319**	*eP*	**P**	**02 46 23.6**	**+0.2**
	2.1nm,0.8s,mb4.3						
ZALV	**Zalesovo Beam**	**61.81**	**333**	P	**P**	**02 46 29.2**	**-0.5**
	0.5nm,0.3s,mb4.1,baz=120,slow=5.2,SNR=3.0						
KURK	**Kurchatov**	**62.93**	**328**	*eP*	**P**	**02 46 37.1**	**-0.1**
	2.1nm,0.5s,mb4.5						

NEIC 14 02:39:09.7, 1722N×10038W, h36km, MD4.2(MEX), After MEX.

MEX 14 02:39:09.8±0.6, 1721N×10038W, h35km±6km, MD4.3, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.20**	**147**	*i* P	Pn	02 39 14.9	-1.7
CAIG				*i* S	Sn	02 39 19.6	-1.6
ACX	**Acapulco**	**0.56**	**128**	*i* P	Pn	02 39 19.2	-2.1
ACX				*i* S	Sn	02 39 27.7	-1.7
ACX				*i* S	Sn	02 39 28.2	-1.2
ACX	**Acapulco**	**0.56**	**128**	*i* P	Pn	02 39 19.2	-2.1
ACX				*i* S	Sn	02 39 27.7	-1.7
MEIG	**Mezcala**	**1.01**	**46**	*i* P	Pn	02 39 25.6	-2.0
MEIG				*i* S	Sn	02 39 38.4	-2.2
ZIIG	**Zihuatanejo**	**1.11**	**291**	*i* P	Pn	02 39 27.0	-1.8
ZIIG				*i* S	Sn	02 39 40.9	-1.9
PLIG	**Platanillo**	**1.44**	**35**	*i* P	Pn	02 39 32.1	-1.3
PLIG				*i* S	Sn	02 39 48.6	-2.5
YAIG	**Yautepec**	**2.06**	**37**	*i* P	Pn	02 39 40.6	-1.3
YAIG				*i* S	Sn	02 40 07.5	+1.0
YAIG	**Yautepec**	**2.06**	**37**	*i* P	Pn	02 39 40.6	-1.3
YAIG				*i* S	Sn	02 40 05.5	-1.0
MZVM		**2.25**	**29**	*eP*	Pn	02 39 43.1	-1.4
MZVM				*i* S	Sn	02 40 09.1	-2.0
SZVM	**Salazar**	**2.30**	**24**	*i* P	Pn	02 39 44.6	-0.7
SZVM				*i* S	Sn	02 40 11.1	-1.3
PNIG	**Pinotepa**	**2.31**	**110**	*i* P	Pn	02 39 49.0	+3.6
PNIG				*i* S	Sn	02 40 10.2	-2.3
PNIG	**Pinotepa**	**2.31**	**110**	*eP*	Pn	02 39 46.8	+1.5
PNIG				*i* S	Sn	02 40 10.2	-2.3
UNM	**Universidad Na**	**2.39**	**28**	*eP*	Pn	02 39 47.0	+0.5
UNM				*i* S	Sn	02 40 16.5	+1.8
UNM	**Universidad Na**	**2.39**	**28**	*i* P	Pn	02 39 45.0	-1.6
UNM				*eP*		02 39 47.0	
UNM				*i* S	Sn	02 40 13.5	-1.2
PPM	**Popocatepetl**	**2.49**	**42**	*i* P	Pn	02 39 46.4	-1.4
PPM				*i* S	Sn	02 40 17.6	+0.7
PPM	**Popocatepetl**	**2.49**	**42**	*i* P	Pn	02 39 46.4	-1.4
PPM				*i* P		02 39 46.8	
PPM				*i* S	Sn	02 40 15.6	-1.3
PBVM	**Pinon**	**2.53**	**29**	*i* P	Pn	02 39 50.7	+2.2
PBVM				*i* S	Sn	02 40 18.5	+0.4
UTMO	**Huajuapan**	**2.54**	**76**	*i* P	Pn	02 39 47.8	-0.7
UTMO				*i* S	Sn	02 40 20.9	+2.8
MOIG	**Morelia**	**2.57**	**343**	*i* P	Pn	02 39 51.4	+2.5
MOIG				*i* S	Sn	02 40 23.0	+4.0
MOIG	**Morelia**	**2.57**	**343**	*i* P	Pn	02 39 47.9	-1.1
MOIG				*i* S	Sn	02 40 17.5	-1.4
PTVM	**Pico Tres Padr**	**2.66**	**27**	*eP*	Pn	02 39 46.5	-3.6
PTVM	**Pico Tres Padr**	**2.66**	**27**	*eP*	Pn	02 39 47.7	-2.4
PTVM				*i* S	Sn	02 40 19.2	-1.9
IIO	**Organos**	**2.84**	**33**	*eP*	Pn	02 39 51.0	-1.6
IIO	**Organos**	**2.84**	**33**	*eP*	Pn	02 39 52.0	-0.6
IIO				*i* S	Sn	02 40 24.7	-1.0
MMIG	**Aquila**	**3.02**	**291**	*eP*	Pn	02 39 53.6	-1.6
MMIG				*i* S	Sn	02 40 28.5	-1.6
TPIG	**Tehuac#an**	**3.12**	**67**	*i* P	Pn	02 39 56.7	+0.2
TPIG				*i* S	Sn	02 40 29.8	-2.7
DEIG	**Demacu**	**3.33**	**22**	*eP*	Pn	02 39 58.4	-1.0
DEIG				*i* S	Sn	02 40 37.4	-0.2
VHO	**Vista Hermosa**	**3.49**	**92**	*i* P	Pn	02 40 03.6	+2.0
VHO				*i* S	Sn	02 40 40.3	-1.4
OXX	**Oaxaca**	**3.50**	**92**	*i* P	Pn	02 40 00.7	-1.0
SFJM	**Santa Fe**	**4.12**	**323**	*i* S	Pn	02 40 18.4	+8.2
SFJM	**Santa Fe**	**4.12**	**323**	*i* P	Pn	02 40 09.3	-0.9
SFJM				*i* S	Sn	02 40 57.1	0.0
CMIG	**Matias Romero**	**5.26**	**91**	*i* P	Pn	02 40 26.7	+0.8
CMIG				*i* S	Sn	02 41 26.5	+1.2
ANIG	**Ahuacatlan**	**5.47**	**315**	*i* P	Pn	02 40 29.0	+0.2
ANIG				*i* S	Sn	02 41 33.1	+2.6
LNIG	**Linares**	**7.69**	**6**	*i* P	Pn	02 41 05.2	+5.8

MEX 14 02:47:32.7±0.4, 1715N×10040W, h39km±5km, MD3.5, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.17**	**129**	*i* P	Pn	02 47 38.2	-1.5
CAIG				*i* S	Sn	02 47 42.8	-1.6
ACX	**Acapulco**	**0.54**	**121**	*i* P	Pn	02 47 42.5	-1.5
ACX				*i* S	Sn	02 47 50.0	-2.0
MEIG	**Mezcala**	**1.07**	**44**	*i* P	Pn	02 47 49.5	-1.7
MEIG				*i* S	Sn	02 48 02.6	-2.3
PLIG	**Platanillo**	**1.50**	**35**	*i* P	Pn	02 47 56.1	-1.0
PLIG				*i* S	Sn	02 48 13.9	-1.6

MAN 14 03:02:33, 801N×12746E, h44km, mb5.8, ML4.8, MS5.1

MOS 14 03:02:34.1±1.0, 789N×12698E, h33km, mb5.4/35, Error ellipse: s-maj=12.5km s-min=5.5km az=114.8

ISCJB 14 03:02:35.9±0.2, 783N±003×12702E±004, h53km, mb5.2/121, MS4.2/33, Error ellipse: s-maj=6.2km s-min=3.5km az=164.8

BJI 14 03:02:36.4, 789N×12677E, h49km, mB5.0, mb5.0, Ms4.5, Msz4.2

NEIC 14 03:02:37.7±0.1, 783N×12699E, mb5.1/48, Error ellipse: s-maj=5.8km s-min=3.3km az=70.0

GCMT 14 03:02:37.7±0.3, 794N×12730E, h32km±1km, MW5.0/69, Moment Tensor Solution. s24,c27; s69,c99; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.24±.19; $M_{\theta\theta}$-1.99±.13; $M_{\phi\phi}$2.23±.16; $M_{r\theta}$0.46±.17; $M_{\theta\phi}$-2.25±.12; $M_{r\phi}$1.75±.24; Best double couple: $M_0$3.57000×10^{16} NP1:ϕ_s291.00000°, δ60.00000°, λ-179.00000°. NP2: ϕ_s201.00000°, δ90.00000°, λ-30.00000°. Principal axes: T 3.7390, Plg21.0000°, Azm250.0000°; N -0.3350, Plg60.0000°, Azm20.0000°; P -3.4020, Plg21.0000°, Azm152.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.

IDC 14 03:02:37.2±0.5, 789N×12706E, h47km±4km, mb4.7/26, mb1 4.8/27, mb1mx4.8/29, mbtmp4.7/27, MS4.1/19, Ms1 4.1/19, ms1mx4.0/29 Error ellipse: s-maj=16.8km s-min=7.7km az=83.0

ISC 14 03:02:38.0±0.2, 785N±002×12704E±004, h55km, h55km±1.3km; pP-P, n325, σ0=98/310, mb5.2/121, MS4.2/33, 48C-22D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**1.64**	**242**	*e*Pn	**Pn**	**03 03 07.3**	**+2.9**
DAV	**Davao City (W)**	**1.64**	**242**	*e*P	**Pn**	**03 03 07.0**	**+2.6**
TNE	**Ternate**	**7.02**	**177**	⇑*e*P	**Pn**	**03 04 17.0**	**-1.2**
TNE				*e*S	**Sn**	**03 05 37.0**	**+0.2**
MYLDM	**Lahad Datu**	**8.89**	**253**	⇑P	**Pn**	**03 04 50.4**	**+6.6**
TSM	**Tawau**	**9.77**	**249**	⇓P	**Pn**	**03 05 01.4**	**+5.5**
SDKM	**Sandakan**	**10.02**	**258**	⇓P	**Pn**	**03 05 04.0**	**+4.8**
KDM	**Kudat**	**10.16**	**265**	⇑P	**Pn**	**03 05 07.8**	**+6.5**
KKM	**Kota Kinabalu**	**10.89**	**261**	*e*Pn	**Pn**	**03 05 16.9**	**+5.7**
KKM	**Kota Kinabalu**	**10.89**	**261**	⇑P	**Pn**	**03 05 17.9**	**+6.7**
BTM	**Bintulu**	**14.63**	**252**	⇑P	**Pn**	**03 06 06.5**	**+4.5**
KAPI	**Kappang**	**14.70**	**210**	Pn	**Pn**	**03 06 02.2**	**-0.6**
	312nm,1.1s,SNR=14						
SBUM	**Sibu**	**15.70**	**251**	⇑P	**Pn**	**03 06 19.9**	**+4.2**
YHNB	**Yeheng**	**17.58**	**343**	*e*P	**Pn**	**03 06 40.5**	**+1.3**
KSM	**Kuching**	**17.83**	**250**	*e*P	**Pn**	**03 06 45.2**	**+2.9**
KSM	**Kuching**	**17.83**	**250**	⇓P	**Pn**	**03 06 46.2**	**+3.8**
BATI	**Kupang**	**18.25**	**191**	P	**Pn**	**03 06 49.1**	**+1.7**
	23nm,0.3s,baz=33,slow=2.4,SNR=21						
BATI				S	**S**	**03 10 13.4**	**+0.3**
	3.4nm,0.3s,baz=78,slow=19,SNR=5.8						
BATI				LR	LR	03 14 29.1	
	comp=Z,283nm,19.8s,baz=324,slow=39						
GUMO	**Guam**	**18.42**	**70**	LR	LR	03 12 34.8	
	comp=Z,416nm,19.5s,baz=260,slow=32						
QZH	**Quanzhou**	**18.82**	**336**	⇑*i*P	**Pn**	**03 06 56.3**	**+2.1**
QZH				S	**S**	**03 10 23.3**	**-1.2**
QZH				AMB	AMB		
	comp=Z,540nm,10.1s						
QZH				LR	LR		
	comp=N,1μm,17.3s						
QZH				LR	LR		
	comp=E,440nm,5.9s						
QZH				LR	LR		
	comp=Z,720nm,15.8s						
JOW	**Kunigami**	**18.92**	**3**	P	**Pn**	**03 06 57.0**	**+1.5**
	comp=Z,4.0nm,0.3s,baz=198,slow=9.5,SNR=32						
JOW				LR	LR	03 12 12.6	
	comp=Z,326nm,21.8s,baz=314,slow=30						
QIZ	**Qiongzhong**	**20.06**	**305**	⇑P	**P**	**03 07 06.1**	**-0.7**
QIZ				AP		03 07 18.6	
QIZ				AMB	AMB		
	comp=Z,48nm,0.8s						
QIZ				AMB	AMB		
	comp=Z,247nm,13.4s						
QIZ				LR	LR		
	comp=N,581nm,17.7s,MS4.1						
QIZ				LR	LR		
	comp=E,497nm,17.4s,MS4.1						
QIZ				LR	LR		
	comp=Z,990nm,19.3s,MS4.2						
QIZ	**Qiongzhong**	**20.06**	**305**	⇑*i*P	**P**	**03 07 06.3**	**-0.5**
	comp=Z,30nm,0.7s						
GZH	**Guangzhou**	**20.07**	**321**	P	**P**	**03 07 09.0**	**+2.1**
GZH				LR	LR		
	comp=N,303nm,24.4s,MS3.9						
GZH				LR	LR		
	comp=E,554nm,24.4s,MS3.9						
GZH				LR	LR		
	comp=Z,679nm,21.3s,MS4.0						
KAKA	**Kakadu**	**21.12**	**165**	⇓*i*P	**P**	**03 07 17.1**	**-1.2**
	comp=Z,230nm,0.6s,mb5.7						
SSE	**Sheshan**	**23.77**	**347**	P	**P**	**03 07 43.8**	**-1.7**
SSE				AP		03 07 55.9	
SSE				XP	sP	03 08 02.1	-3.5
SSE				S	**S**	**03 11 59.5**	**+2.4**
SSE				AMB	AMB		
	comp=Z,54nm,0.7s,mb5.1						
SSE				AMB	AMB		
	comp=Z,147nm,4.2s						
SSE				LR	LR		
	comp=N,130nm,17.8s,MS3.5						
SSE				LR	LR		
	comp=E,67nm,17.8s,MS3.5						
SSE				LR	LR		
	comp=Z,158nm,18.7s,MS3.5						
MYKOM	**Kota Tinggi**	**23.87**	**257**	⇓P	**P**	**03 07 49.5**	**+2.9**
KTGM	**Kuala Trenggan**	**23.88**	**265**	⇓P	**P**	**03 07 48.3**	**+1.6**
CBIJ	**Chichi jima**	**23.93**	**35**	P	**P**	**03 07 49.2**	**+2.2**
	comp=Z,54nm,0.8s,mb5.0,baz=292,slow=19,SNR=3.9						
KGM	**Kluang**	**24.32**	**257**	⇑P	**P**	**03 07 53.2**	**+2.4**
KKTK	**Khon Kaen**	**25.11**	**292**	⇓P	**P**	**03 07 58.9**	**+1.0**
	comp=Z,1μm,0.5s						
NJ2	**Nanjing**	**25.26**	**344**	*e*P	**P**	**03 08 00.6**	**+1.5**
NJ2				AMB	AMB		
	comp=Z,30nm,0.8s,mb4.9						
JNU	**Nakatsue**	**25.40**	**8**	P	**P**	**03 08 00.6**	**+0.2**
	comp=Z,10nm,0.8s,mb4.4,baz=116,slow=16,SNR=5.9						
FITZ	**Fitzroy Crossi**	**25.82**	**183**	⇓*i*P	**P**	**03 08 04.1**	**-0.2**
	comp=Z,16nm,0.3s,mb5.0						
FITZ				*e*S	**S**	**03 12 38.3**	**+8.2**
FITZ	**Fitzroy Crossi**	**25.82**	**183**	P	**P**	**03 08 03.8**	**-0.4**
	comp=Z,17nm,0.7s,mb4.7,baz=14,slow=13,SNR=23						
IPM	**Ipoh**	**26.07**	**264**	⇓P	**P**	**03 08 09.5**	**+2.8**
KULM	**Kulim**	**26.33**	**266**	*e*P	**P**	**03 08 09.8**	**+0.7**
KULM	**Kulim**	**26.33**	**266**	⇑P	**P**	**03 08 13.7**	**+4.6**
GYA	**Guiyang**	**26.79**	**316**	*e*P	**P**	**03 08 13.0**	**0.0**
GYA				AP	pP	03 08 29.3	+2.6
GYA				XP	sP	03 08 35.1	+1.9
GYA				PCP	PcP	03 11 37.6	+2.6
GYA				S	**S**	**03 12 46.4**	**+1.1**
GYA				SCP	ScP	03 15 11.6	+0.9
GYA				PCS	PcS	03 15 17.5	+1.1
GYA				AMB	AMB		
	comp=Z,20nm,0.8s,mb4.7						
GYA				AMB	AMB		
	comp=Z,120nm,4.6s						
GYA				LR	LR		
	comp=N,720nm,15.2s,MS4.5						
GYA				LR	LR		
	comp=E,780nm,16.2s,MS4.5						
GYA				LR	LR		
	comp=Z,690nm,15.9s,MS4.3						
NST	**Nakhon Sawan**	**27.44**	**289**	P	**P**	**03 08 18.4**	**-0.5**
	comp=Z,44nm,0.7s,mb5.1						
PSI	**Prapat**	**28.43**	**261**	P	**P**	**03 08 27.9**	**+0.1**
	comp=Z,13nm,0.8s,mb4.6,baz=74,slow=4.1,SNR=14						
PSI				PcP	PcP	03 11 39.6	+0.5
	comp=Z,4.3nm,0.7s,baz=259,slow=2.9,SNR=4.2						
WRAB	**Tennant Creek**	**28.53**	**165**	P	**P**	**03 08 27.0**	**-1.5**
	comp=Z,806nm,0.7s,SNR=16						
WRAB	**Tennant Creek**	**28.53**	**165**	*c i*P	**P**	**03 08 33.3**	**+4.8**
WRA	**Warramunga Arr**	**28.53**	**166**	P	**P**	**03 08 27.3**	**-1.3**
	comp=Z,9.9nm,0.6s,mb4.7,baz=350,slow=9.7,SNR=39						
WB2	**Warramunga Arr**	**28.54**	**165**	*e*P	**P**	**03 08 27.5**	**-1.1**
WB2				*e*		03 08 33.5	
KMI	**Kunming**	**28.86**	**309**	P	**P**	**03 08 31.3**	**-0.2**
KMI				AP	pP	03 08 45.8	+0.5
KMI				XP	sP	03 08 52.9	+1.1
KMI				PP	PP	03 09 27.8	-10
KMI				PPP		03 09 41.8	
KMI				S	**S**	**03 13 18.5**	**+0.5**
KMI				AMB	AMB		
	comp=Z,17nm,0.8s,mb4.8						
KMI				LR	LR		
	comp=N,276nm,19.5s,MS4.3						
KMI				LR	LR		
	comp=E,626nm,19.5s,MS4.3						
KMI				LR	LR		
	comp=Z,698nm,19.5s,MS4.3						
BDT	**Bhumibol Dam**	**28.88**	**292**	P	**P**	**03 08 32.0**	**+0.2**
CM31	**Chiang Mai Arr**	**29.27**	**294**	*eP*	**P**	**03 08 35.7**	**+0.5**
	comp=Z,8.4nm,0.7s,mb4.6						
CHG	**Chiang Mai**	**29.38**	**295**	⇑P	**P**	**03 08 36.4**	**+0.2**
	comp=Z,28nm,1.1s,mb4.9						
CHTO	**Chiang Mai**	**29.38**	**295**	⇑*i*P	**P**	**03 08 36.2**	**0.0**
	comp=Z,16nm,1.1s,mb4.7						
CHTO				*e*PcP	PcP	03 11 41.1	-0.3
CHTO	**Chiang Mai**	**29.38**	**295**	⇑*i*P	**P**	**03 08 36.2**	**0.0**
CHTO				*e*		03 11 41.2	
CHTO				pmax	pmax		
	comp=Z,16nm,1.1s,mb4.7						
CHTO	**Chiang Mai**	**29.38**	**295**	P	**P**	**03 08 36.7**	**+0.5**
	SNR=7.8						
CHTO	**Chiang Mai**	**29.38**	**295**	P	**P**	**03 08 36.7**	**+0.5**
	SNR=7.8						
KSRS	**Korea Array**	**29.48**	**1**	P	**P**	**03 08 37.6**	**+0.8**
	comp=Z,3.2nm,0.7s,mb4.2,baz=183,slow=10,SNR=8.5						
KSRS				ScP	ScP	03 15 20.3	+1.5
	comp=Z,3.0nm,0.7s,baz=119,slow=39,SNR=5.7						
KSRS				LR	LR	03 20 16.2	
	comp=Z,190nm,18.1s,MS3.8,baz=174,slow=36						
MBWA	**Marble Bar**	**29.70**	**194**	*eP*	**P**	**03 08 39.5**	**+0.5**
	comp=Z,14nm,0.7s,mb4.8						
MJAR	**Matsushiro Arr**	**30.32**	**18**	P	**P**	**03 08 44.1**	**-0.2**
	comp=Z,4.0nm,0.8s,mb4.2,baz=194,slow=10,SNR=8.0						
XAN	**Xi'an**	**30.96**	**330**	P	**P**	**03 08 47.8**	**-2.2**
XAN				S	**S**	**03 13 41.9**	**-8.9**
XAN				AMB	AMB		
	comp=Z,28nm,0.8s,mb5.1						
XAN				AMB	AMB		
	comp=Z,32nm,5.3s						
XAN				LR	LR		
	comp=N,161nm,20.2s						
XAN				LR	LR		
	comp=Z,164nm,19.6s,MS3.7						
DL2	**Dalian**	**31.30**	**352**	P	**P**	**03 08 53.5**	**+0.6**
DL2				AMB	AMB		
	comp=Z,40nm,0.9s,mb5.2						
CD2	**Chengdu**	**31.62**	**320**	*eP*	**P**	**03 08 54.5**	**-1.3**
CD2				AP	pP	03 09 07.0	-2.7
CD2				XP	sP	03 09 14.3	-1.8
CD2				PP	PP	03 10 00.8	-7.3
CD2				PCP	PcP	03 11 44.5	-2.6
CD2				S	**S**	**03 14 00.3**	**-0.8**
CD2				XS	sS	03 14 20.8	-3.8
CD2				PCS	PcS	03 15 28.3	-3.4
CD2				SCS	ScS	03 19 20.1	-3.9
CD2				AMB	AMB		
	comp=Z,20nm,0.8s,mb5.0						
CD2				AMB	AMB		
	comp=Z,80nm,8.4s						
CD2				LR	LR		
	comp=N,1μm,19.2s,MS4.7						
CD2				LR	LR		
	comp=E,1μm,19.2s,MS4.7						
CD2				LR	LR		
	comp=Z,550nm,20.4s,MS4.2						
ASAR	**Alice Springs**	**32.03**	**168**	P	**P**	**03 08 58.7**	**-0.8**
ASAR						03 11 49.3	
ASAR	**Alice Springs**	**32.03**	**168**	P	**P**	**03 08 58.6**	**-0.8**
	comp=Z,4.6nm,0.4s,mb4.6,baz=345,slow=7.1,SNR=56						
ASAR				PcP	PcP	03 11 49.3	+1.0
	comp=Z,0.9nm,0.3s,baz=344,slow=2.2,SNR=3.4						
ASAR				ScP	ScP	03 15 29.4	+1.9
	comp=Z,1.4nm,0.8s,baz=351,slow=4.2,SNR=5.5						
BJT	**Baijiatuau**	**33.48**	**345**	*eP*	**P**	**03 09 11.4**	**-0.6**
	comp=Z,46nm,1.0s,mb5.4						
BJT	**Baijiatuau**	**33.48**	**345**	*eP*	**P**	**03 09 11.4**	**-0.6**
BJT				pmax	pmax		
	comp=Z,46nm,1.0s						
BJI	**Beijing**	**33.50**	**345**	P	**P**	**03 09 11.5**	**-0.6**
BJI				S	**S**	**03 14 37.0**	**+6.9**
BJI				AMB	AMB		
	comp=Z,36nm,0.9s,mb5.3						
BJI				LR	LR		
	comp=N,211nm,15.0s,MS4.1						
BJI				LR	LR		
	comp=E,180nm,14.0s,MS4.1						
BJI				LR	LR		
	comp=Z,162nm,17.6s,MS3.8						
CTA	**Charters Tower**	**33.59**	**146**	*eP*	**P**	**03 09 13.2**	**+0.1**
	comp=Z,38nm,0.9s,mb5.3						
CTA	**Charters Tower**	**33.59**	**146**	*eP*	**P**	**03 09 13.2**	**+0.1**
CTA				pmax

comp=Z,376nm,19.3s,MS4.2,baz=356,slow=33
SHL Shillong 37.83 302⇑*i*P P 03 09 49.0 -0.5
SHL *e*S **S 03 15 37.5 +0.6**
FORT Forrest 38.42 179⇓*i*P P 03 09 54.4 +0.1
comp=Z,39nm,0.4s,mb5.5
FORT *e*S **S 03 15 44.5 -1.0**
TURI Tura 39.13 301 *e*x x 03 10 08.0
GTA Gaotai 39.80 326⇑P P 03 10 05.3 -0.5
GTA AP pP 03 10 17.6 -2.3
GTA XP sP 03 10 22.8 -3.5
GTA PP PP 03 11 41.9 +3.8
GTA PCP PcP 03 12 12.3 +1.2
GTA SCP ScP 03 15 58.3 +2.7
GTA PCS PcS 03 16 01.3 +0.1
GTA S **S 03 16 05.0 -1.2**
GTA XS sS 03 16 25.3 -4.8
GTA SS SS 03 18 55.0 -9.0
GTA AMB AMB
comp=Z,20nm,1.0s,mb4.8
GTA AMB AMB
comp=Z,104nm,4.6s
GTA LR LR
comp=N,259nm,17.1s,MS4.3
GTA LR LR
comp=E,400nm,22.0s,MS4.3
GTA LR LR
comp=Z,281nm,16.7s
LSA Lhasa 40.07 308 P **P 03 10 09.0 +0.8**
LSA Lhasa 40.07 308 *e*P **P 03 10 08.9 +0.7**
comp=Z,77nm,1.1s,mb5.3
LSA Lhasa 40.07 308 *e*P **P 03 10 08.9 +0.7**
LSA pmax pmax
comp=Z,77nm,1.1s,mb5.3
KLBR Kellerberrin 40.21 192 *e*P **P 03 10 09.8 +0.6**
comp=Z,210nm,1.5s,mb5.7
EIDS Eidsvold 40.47 145 *e*P **P 03 10 10.5 -1.0**
comp=Z,4.2nm,0.8s,mb4.2
MUN Mundaring 40.93 194 *e*P **P 03 10 16.3 +1.1**
HABR Khabarovsk 41.05 8 *e*P **P 03 10 13.5 -2.5**
HABR *e* pP 03 10 29.2 -1.0
HABR *e* 03 20 13.2
YSS Yuzh-Sakhalins 41.22 16 *e*P pP 03 10 33.0 +1.4
KLR Kul'dur 41.43 5 *e*P **P 03 10 15.0 -4.1**
NWAO Narrogin (SRO) 41.61 192 *e*P **P 03 10 21.5 +0.8**
comp=Z,46nm,1.0s,mb5.1
NWAO Narrogin (SRO) 41.61 192 *e*P **P 03 10 21.5 +0.8**
NWAO pmax pmax
comp=Z,46nm,1.0s
NWAO Narrogin (SRO) 41.61 192 P **P 03 10 21.6 +0.9**
comp=Z,25nm,0.6s,mb5.0,baz=15,slow=7.1,SNR=15
HIA Hailar 41.73 353⇓*i*P P 03 10 22.3 +0.8
comp=Z,54nm,1.1s,mb5.1
HIA Hailar 41.73 353⇓*i*P P 03 10 22.3 +0.7
HIA pmax pmax
comp=Z,54nm,1.1s
STKA Stephens Creek 41.88 161⇓*i*P P 03 10 22.6 -0.3
comp=Z,19nm,0.8s,mb4.8
STKA Stephens Creek 41.88 161 P **P 03 10 22.7 -0.2**
comp=Z,21nm,0.7s,mb4.8,baz=341,slow=7.5,SNR=54
STKA LR LR 03 29 13.4
comp=Z,154nm,20.0s,MS3.9,baz=13,slow=38
JIRN Jiri 43.33 302 *e*P **P 03 10 35.6 +0.7**
comp=Z,12nm,0.2s,mb5.2
ULN Ulaanbaatar 43.34 340⇑*i*P P 03 10 34.7 0.0
comp=Z,11nm,0.5s,mb4.8
ULN *e*PcP PcP 03 12 23.0 +0.4
ULN Ulaanbaatar 43.34 340⇑*i*P P 03 10 34.7 0.0
ULN *e* 03 12 23.0
ULN pmax pmax
comp=Z,11nm,0.5s,mb4.8
ULN Ulaanbaatar 43.34 340 P **P 03 10 35.3 +0.6**
SNR=6.1
ULN Ulaanbaatar 43.34 340 P **P 03 10 35.3 +0.6**
SNR=6.1
SONM Songino Array 43.54 340 P **P 03 10 35.7 -0.5**
SONM 03 12 23.6
SONM Songino Array 43.54 340 P **P 03 10 35.7 -0.6**
comp=Z,4.3nm,0.5s,mb4.4,baz=157,slow=8.7,SNR=24
SONM PcP PcP 03 12 23.6 +0.3
comp=Z,1.8nm,0.7s,baz=145,slow=3.4,SNR=4.2
SONM LR LR 03 29 56.0
comp=Z,223nm,21.1s,MS4.0,baz=261,slow=38
VIS Vishakhapatnam 43.64 287 *e*P **P 03 10 36.7 -0.9**
ADE Adelaide 43.99 166 P **P 03 10 39.7 -0.3**
KKN Kakani 44.14 302 *e*P **P 03 10 41.2 -0.2**
comp=Z,81nm,0.9s,mb5.5
KKN Kakani 44.14 302 *e*P **P 03 10 41.2 -0.2**
KKN pmax pmax
comp=Z,81nm,0.9s,mb5.5
DMN Daman 44.23 302 *e*P **P 03 10 41.9 -0.2**
comp=Z,60nm,0.8s,mb5.4
GKN Gorkha 44.74 302 *e*P **P 03 10 45.8 -0.4**
comp=Z,31nm,0.7s,mb5.3
ARMA Armidale 44.77 149⇓*i*P P 03 10 46.4 0.0
comp=Z,1.6nm,0.8s
ARMA *e*PP PP 03 12 29.7 -2.2
CIT Chita 45.41 348 *e*P **P 03 10 52.2 +1.1**
CIT *e* pP 03 11 08.4 +2.9
CIT pmax pmax
comp=Z,163nm,1.0s,mb5.8
BLSP Bilaspur 45.46 293 *e*P **P 03 10 51.3 -0.7**
BLSP AMb AMB 03 10 52.6
comp=Z,21nm,0.9s,mb5.0
KOLN Koldanda 45.55 301 *e*P **P 03 10 52.6 0.0**
comp=Z,133nm,0.8s,mb5.9
ZAK Zakamensk 46.78 339 *e*P **P 03 11 01.2 -0.7**
ZAK *e* 03 12 35.2
ZAK *e* 03 12 47.6
ZAK pmax pmax
comp=Z,5.0nm,1.3s,mb4.3
ZAK pmax pmax
comp=Z,4.0nm,1.0s,mb4.3
ZAK pmax pmax
comp=Z,4.0nm,1.0s,mb4.3
RIV Riverview 47.35 152 *e*P **P 03 11 08.1 +1.6**
TLY Talaya 47.76 340⇑*i*P P 03 11 09.8 +0.3
comp=Z,30nm,1.2s,mb5.2
TLY Talaya 47.76 340 *e*P **P 03 11 09.9 +0.4**
TLY *e*S **S 03 18 01.3 -0.6**
TLY *e*SSS 03 22 39.6
TLY pmax pmax
comp=Z,34nm,1.2s,mb5.2
TLY MLR MLR
comp=Z,121nm,17.0s,MS3.9
TLY Talaya 47.76 340 P **P 03 11 10.4 +0.9**
SNR=9.2
TLY Talaya 47.76 340 P **P 03 11 10.4 +0.9**
SNR=9.2
CNB Canberra Magne 47.82 155 *e*P **P 03 11 11.0 +0.8**
comp=Z,66nm,1.0s,mb5.6
IRK Irkutsk 48.03 341 *e*P **P 03 11 09.5 -2.1**
IRK *e* 03 20 53.7
IRK pmax pmax
comp=Z,35nm,1.1s,mb5.3
HYB Hyderabad 48.14 286 *e*P **P 03 11 13.5 +0.5**
comp=Z,50nm,1.0s,mb5.5
HYB Hyderabad 48.14 286 *e*P **P 03 11 13.5 +0.5**
HYB pmax pmax
comp=Z,50nm,1.0s,mb5.5
HYB Hyderabad 48.14 286 *i*P **P 03 11 13.5 +0.5**
comp=Z,50nm,1.0s,mb5.5
MOY Mondy 48.66 339 *e*P **P 03 11 17.2 +0.8**
MOY pmax pmax
comp=Z,43nm,2.4s,mb5.0
CLNS Chul'man 48.89 358 *e*P **P 03 11 10.3 -7.8**
CLNS pmax pmax
comp=N,13nm,0.8s
CLNS pmax pmax
comp=E,10.0nm,0.8s
CLNS pmax pmax
comp=Z,13nm,0.8s,mb5.0
CLNS MLR MLR
comp=Z,100nm,13.0s,MS4.0
CLNS MLR MLR
comp=N,100nm,15.0s,MS4.1
CLNS MLR MLR
comp=E,100nm,16.0s,MS4.1
KOD Kodaikanal 48.98 277 *e*x x 03 11 12.4
KOD AMb AMB 03 11 21.6
comp=Z,27nm,0.6s,mb5.5
TRD Trivandrum 49.55 274 *e*P **P 03 11 23.1 -0.8**
TRD AMb AMB 03 11 26.1
comp=Z,14nm,0.7s,mb5.1
WMQ Urumqi 49.59 323⇓*i*P P 03 11 24.6 +0.9
WMQ AP pP 03 11 37.0 -1.3
WMQ XP sP 03 11 44.0 -0.6
WMQ PCP PcP 03 12 47.0 +2.3
WMQ *e*S **S 03 18 28.0 0.0**
WMQ AMB AMB
comp=Z,32nm,0.8s,mb5.4
WMQ AMB AMB
comp=Z,198nm,3.5s
WMQ LR LR
comp=N,410nm,26.0s,MS4.4
WMQ LR LR
comp=E,290nm,28.0s,MS4.4
WMQ LR LR
comp=Z,232nm,22.6s
BHPL Bhopal 49.93 294 *e*P **P 03 11 26.3 -0.4**
BHPL AMb AMB 03 11 27.9
comp=Z,21nm,1.2s,mb5.0
LATR Latur 50.12 287 *e*P **P 03 11 24.9 -3.2**
LATR AMb AMB 03 11 25.8
comp=Z,46nm,0.7s,mb5.6
BOD Bodaibo 50.87 351⇓*i*P P 03 11 33.7 +0.6
BOD pmax pmax
comp=Z,62nm,0.9s,mb5.5
DDI Dehra Dun 50.92 303 *e*P **P 03 11 33.5 -0.5**
NDI New Delhi 51.22 301 *e*P **P 03 11 34.1 -2.2**
NDI AMb AMB 03 11 36.2
comp=Z,36nm,0.4s,mb5.7
SMLA Simla 51.88 304 *e*P **P 03 11 41.0 -0.1**
SMLA AMb AMB 03 11 41.9
comp=Z,58nm,0.3s,mb6.0
KAD Karad 52.29 286 *e*P **P 03 11 44.2 -0.3**
KAD AMb AMB 03 11 45.6
comp=Z,31nm,1.4s,mb5.0
POO Poona 52.69 287 *e*P **P 03 11 46.5 -0.9**
POO AMb AMB 03 11 47.4
comp=Z,19nm,0.9s,mb5.0
THN Thein Dam 53.42 305 *e*P **P 03 11 50.7 -1.8**
YAK Yakutsk 54.11 2⇑*e*P P 03 11 57.2 +0.2
YAK pmax pmax
comp=Z,54nm,1.4s,mb5.3
MK31 Makanchi Array 54.41 324⇑*i*P P 03 11 59.5 +0.1
MKAR Makanchi Array 54.41 324 P **P 03 11 60.0 +0.5**
MKAR PcP PcP 03 13 03.0 +0.3
MKAR LR LR 03 36 49.1
MKAR Makanchi Array 54.41 324 P **P 03 12 00.0 +0.5**
MKAR 03 13 03.0
MKAR Makanchi Array 54.41 324 P **P 03 11 60.0 +0.5**
comp=Z,90nm,0.8s,mb5.8,baz=121,slow=8.0,SNR=498
MKAR PcP PcP 03 13 03.0 +0.3
comp=Z,7.1nm,0.6s,baz=110,slow=3.9,SNR=2.8
MKAR LR LR 03 36 49.1
comp=Z,181nm,19.1s,MS4.2,baz=263,slow=38
KSH Kashi 55.42 313 *e*P **P 03 12 08.6 +1.7**
KSH *e*AP pP 03 12 21.3 -0.4
KSH *e*XP sP 03 12 26.5 -1.4
KSH *e*PCP PcP 03 13 09.3 +2.6
KSH *e*PP PP 03 14 13.6 +2.4
KSH *e*PPP 03 15 27.8
KSH *e*SCP ScP 03 17 02.4 +1.3
KSH PCS PcS 03 17 07.4 +0.6
KSH S **S 03 19 46.8 -1.0**
KSH XS sS 03 20 08.3 -4.3
KSH SCS ScS 03 21 50.8 -0.7
KSH SS SS 03 23 31.8 -1.3
KSH AMB AMB
comp=Z,112nm,1.0s,mb5.8
KSH AMB AMB
comp=Z,489nm,5.4s
KSH LR LR
comp=Z,709nm,7.3s
ULHL Ulahol 56.23 316 P **P 03 12 13.2 +0.5**
SNR=34
KZA Kyzart 56.85 316 P **P 03 12 18.4 +1.3**
SNR=54
TKM2 Tokmak 2 56.93 317⇑*i*P P 03 12 17.8 +0.1
comp=Z,16nm,0.8s,mb5.1
TKM2 *e*PP PP 03 14 22.8 -1.8
TKM2 Tokmak 2 56.93 317⇑*i*P P 03 12 17.8 +0.2
TKM2 *e* 03 14 22.8
TKM2 pmax pmax
comp=Z,17nm,0.8s,mb5.1
TKM2 Tokmak 2 56.93 317 P **P 03 12 18.0 +0.4**
SNR=17
BHJ Bhuj 57.02 293 *e*P **P 03 12 18.2 -0.4**
BHJ AMb AMB 03 12 21.8
comp=Z,23nm,0.3s,mb5.6
ZAA0 Zalesovo Array 57.10 332 *e*P **P 03 12 17.6 -1.1**
ZAA0 *e*pP pP 03 12 33.0 -0.4
ZALV Zalesovo Beam 57.10 332 P **P 03 12 17.9 -0.7**
comp=Z,34nm,0.8s,mb5.4,baz=116,slow=6.8,SNR=129
ZALV pP 03 12 32.1 -1.4
comp=Z,13nm,0.8s,baz=101,slow=7.7,SNR=6.0
ZALV LR LR 03 39 54.4
comp=Z,90nm,18.2s,MS3.9,baz=168,slow=39
ZAL Zalesovo 57.11 332 P **P 03 12 17.9 -0.8**
ZAL *PP pP 03 12 32.1 -1.4
KBK Karagaybulak 57.27 316 P **P 03 12 20.9 +0.8**
SNR=18
UCH Uchtor 57.42 316⇑*i*P P 03 12 22.2 +1.1
comp=Z,50nm,0.8s,mb5.6
UCH Uchtor 57.42 316 P **P 03 12 22.1 +1.0**
SNR=77
CHMS Chumysh 57.53 317 P **P 03 12 21.9 0.0**
SNR=10
FRU Bishkek 57.56 316 *e*P **P 03 12 22.0 -0.1**
AAK Ala-Archa 57.58 316 P **P 03 12 21.1 -1.1**
comp=Z,65nm,0.8s,mb5.7,SNR=11
AAK Ala-Archa 57.58 316 P **P 03 12 22.7 +0.5**
SNR=11
USP Ospenovka 57.80 317 P **P 03 12 24.0 +0.2**
SNR=18
AML Almayashu 57.95 315 P **P 03 12 25.9 +1.1**
SNR=45
SEY Seymchan 57.98 13⇑*e*P P 03 12 26.8 +2.2
NVS Novosibirsk 58.38 332⇑*i*P P 03 12 26.7 -0.9
NVS *i*S **S 03 20 19.1 -7.2**
NVS pmax pmax
comp=N,28nm,1.0s
NVS pmax pmax
comp=E,35nm,1.0s
NVS pmax pmax
comp=Z,53nm,1.0s,mb5.5
NVS smax
comp=N,17nm,2.3s
NVS smax
comp=E,33nm,2.3s
KURK Kurchatov 58.48 326 P **P 03 12 28.8 +0.4**
comp=E,658nm,0.7s,SNR=74
KURK Kurchatov 58.48 326⇑*i*P P 03 12 28.2 -0.2
comp=E,135nm,1.0s,mb5.9
KURK Kurchatov 58.48 326⇑*e*P P 03 12 27.8 -0.6
KURK Kurchatov 58.48 326 P **P 03 12 28.6 +0.2**
SNR=39
KURK Kurchatov 58.48 326 P **P 03 12 28.6 +0.2**
SNR=39
KBL Kabul 59.34 306⇑*i*P P 03 12 34.1 -0.5
comp=E,28nm,0.8s,mb5.3
KK31 Karatay Array 60.49 315 *i*P **P 03 12 42.0 -0.4**
KK31 pmax pmax
comp=Z,25nm,0.5s,mb5.5
TIXI Tiksi 63.75 1 *e*P **P 03 13 03.2 -0.4**
comp=Z,50nm,1.2s,mb5.4
TIXI Tiksi 63.75 1 *e*P **P 03 13 03.3 -0.4**
TIXI pmax pmax
comp=Z,50nm,1.2s,mb5.4
BRVK Borovoye 64.15 326 P **P 03 13 06.2 -0.5**
comp=Z,416nm,0.7s,SNR=26
BRVK Borovoye 64.15 326⇑*i*P P 03 13 06.3 -0.3
comp=Z,43nm,0.7s,mb5.6
BRVK Borovoye 64.15 326⇑*i*P P 03 13 06.3 -0.4
BRVK pmax pmax
comp=Z,43nm,0.7s,mb5.6
BRVK Borovoye 64.15 326 P **P 03 13 06.8 +0.2**
SNR=13
BRVK Borovoye 64.15 326 P **P 03 13 06.8 +0.2**
SNR=13
RPZ Rata Peaks 64.96 146 P **P 03 13 11.8 -0.3**
comp=Z,36nm,0.9s,mb5.4,baz=75,slow=7.8,SNR=8.2
BILL Bilibino 65.52 15 *e*P **P 03 13 15.5 +0.2**
comp=Z,16nm,1.1s,mb5.0
BILL Bilibino 65.52 15⇓*i*P P 03 13 16.5 +1.2
BILL *i* pP 03 13 30.1 -0.3
BILL pmax pmax
comp=Z,14nm,2.1s,mb4.6
BIDO Bidbid 67.60 292 P **P 03 13 29.4 0.0**
SNR=8.8
BIDO Bidbid 67.60 292 P **P 03 13 29.4 0.0**
SNR=8.8
JMDO Jabal Madar 67.61 291 P **P 03 13 29.1 -0.4**
SNR=6.0
JMDO Jabal Madar 67.61 291 P **P 03 13 29.1 -0.4**
SNR=6.0
HOQ Hoqain 68.35 292 P **P 03 13 34.0 -0.1**
SNR=8.9
HOQ Hoqain 68.35 292 P **P 03 13 34.0 -0.1**
SNR=8.9
HATD Hatta, Dubai 69.44 294 P **P 03 13 41.1 +0.2**
SNR=5.7
HATD Hatta, Dubai 69.44 294 P **P 03 13 41.1 +0.2**
SNR=5.7
ASHO Ashiyiah 69.51 293 P **P 03 13 41.0 -0.3**
SNR=5.6
ASHO Ashiyiah 69.51 293 P **P 03 13 41.0 -0.3**
SNR=5.6
GAMB Gambell 70.54 24 *e*P **P 03 13 48.0 +1.1**
comp=Z,17nm,1.0s,mb4.9
GAMB *e*pP pP 03 14 02.6 +0.5
SVE Sverdlovsk 70.65 328 *e*P **P 03 13 46.9 -0.8**
SVE *e*S S 03 22 50.1 -7.4
SVE pmax pmax
comp=Z,45nm,0.7s,mb5.5
RBK Rabkut 71.36 286 P **P 03 13 53.2 +0.5**
SNR=5.4
RBK Rabkut 71.36 286 P **P 03 13 53.2 +0.5**
SNR=5.4
ARU Arti 71.66 327 P **P 03 13 52.7 -1.1**
comp=Z,309nm,0.6s,mb6.4,SNR=8.8
ARU Arti 71.66 327⇑*i*P P 03 13 52.6 -1.1
comp=Z,26nm,0.6s,mb5.3
ARU Arti 71.66 327*c* *i*P **P 03 13 52.6 -1.1**
ARU *e**PP pP 03 14 07.9 -1.1
ARU *e* pP 03 14 10.9 +1.9
ARU *e* 03 16 27.6
ARU *e*S S 03 23 07.0 -2.2
ARU *e*SS SS 03 27 43.1 -2.3
ARU pmax pmax
comp=Z,28nm,0.6s,mb5.4
WHFO Wadi Hawf 71.76 286 P **P 03 13 55.0 -0.1**
SNR=10
WHFO Wadi Hawf 71.76 286 P **P 03 13 55.0 -0.1**
SNR=10
ABTO Aybut 72.23 286 P **P 03 13 58.0 0.0**
SNR=12
ABTO Aybut 72.23 286 P **P 03 13 58.0 0.0**
SNR=12
QRN Al-Qurain 76.76 298 *e*P **P 03 14 23.1 -0.9**
QRN AMb AMB 03 14 24.4
comp=Z,105nm,0.8s,mb5.8
UMR Umm Al-Rimmam 76.91 298 *e*P **P 03 14 24.2 -0.7**
UMR AMb AMB 03 14 25.7
comp=Z,73nm,0.9s,mb5.6
RDF Al-Radifah 77.07 298 *e*P **P 03 14 24.7 -1.1**
RDF AMb AMB 03 14 26.6
comp=Z,63nm,0.9s,mb5.5
SVW2 Sparrevohn 77.07 29 *e*P **P 03 14 26.0 +0.8**
SVW2 *e*pP pP 03 14 41.1 +0.6
MIB Mutribah 77.23 299 *e*P **P 03 14 25.8 -0.9**
MIB AMb AMB 03 14 27.0
comp=Z,84nm,0.7s,mb5.8
NAY Al-Naaiem 77.33 298 *e*P **P 03 14 26.3 -1.0**
NAY AMb AMB 03 14 27.9
comp=Z,44nm,0.8s,mb5.5
IMA2 Indian Mountai 78.52 24 *e*P **P 03 14 34.3 +1.2**
IMA2 *e*pP pP 03 14 49.7 +1.1
TBLG Delisi 79.09 311 *e*P **P 03 14 37.3 +0.6**
TBLG Delisi 79.09 311 P **P 03 14 37.3 +0.6**
GOR Gori 79.55 311 P **P 03 14 40.6 +1.3**
PMR Palmer 80.21 29 *e*P **P 03 14 42.8 +0.5**
comp=Z,7.6nm,1.0s,mb4.6
PMR *e*pP pP 03 14 58.3 +0.4
PMR Palmer 80.21 29 *e*P **P 03 14 42.8 +0.4**
PMR *e**PP pP 03 14 58.3 +0.4
PMR pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
GOF Gofitskoye 80.27 314 *e*P **P 03 14 34.6 -8.5**
MCK McKinley 80.37 27 *e*P **P 03 14 43.6 +0.4**
comp=Z,12μm,0.8s
KIV Kislovodsk 80.55 313 *e*P **P 03 14 44.9 +0.3**
comp=Z,30nm,0.8s,mb5.3
KIV Kislovodsk 80.55 313*d* *i*P **P 03 14 45.0 +0.4**
KIV *e* 03 14 51.6
KIV pmax pmax
comp=Z,28nm,0.6s,mb5.4
KIV MLR MLR
comp=Z,100nm,19.0s,MS4.2
KIV Kislovodsk 80.55 313⇑*i*P P 03 14 44.9 +0.3
COLA College 80.87 26 *e*P **P 03 14 46.0 +0.1**
comp=Z,3.8nm,0.9s,mb4.3
COLA College 80.87 26⇓*i*P P 03 14 46.1 +0.2
TMCR Tamitsa 82.56 334 *e*P **P 03 14 53.0 -1.8**
TMCR pmax pmax
comp=Z,48nm,1.3s,mb5.4
VRSR Storozhevoye 82.60 321 *e*P **P 03 14 54.6 -0.6**
VRSR pmax pmax
comp=Z,7.0nm,0.9s,mb4.7
VRSR pmax pmax
comp=E,5.0nm,0.9s
SOC Sochi 82.71 313 *e*P **P 03 14 54.0 -2.0**
SOC *e* 03 18 02.9
SOC *e*S S 03 25 05.7 -4.1
SOC *e*SSS 03 34 00.9
SOC pmax pmax
comp=Z,31nm,0.7s,mb5.5
SOC MLR MLR
comp=Z,750nm,22.0s,MS5.0
ATD Arta Tunnel 82.81 281 P **P 03 14 58.3 +1.2**
comp=Z,50nm,0.9s,mb5.5,baz=73,slow=4.6,SNR=20
OPO Ambohidratompo 82.95 250 P **P 03 14 57.0 -0.7**
comp=Z,6.9nm,0.8s,mb4.7,baz=30,slow=2.1,SNR=5.9
MOS Moscow 83.25 325 *e*P **P 03 14 57.0 -1.5**
MOS *e* 03 18 04.5
MOS *e* 03 25 22.2
MOS pmax pmax
comp=Z,84nm,1.0s,mb5.7
EGAK Eagle 83.73 26 *e*P **P 03 15 01.9 +1.0**
comp=Z,14nm,1.0s,mb5.0
EGAK *e*pP pP 03 15 16.9 +0.5
OBN Obninsk 83.89 325*c* *i*P **P 03 15 01.2 -0.6**
OBN *i* pP 03 15 16.8 -0.6
OBN pmax pmax
comp=Z,88nm,1.6s,mb5.6
MALT Malatya 84.11 308⇑*i*P P 03 15 04.2 +0.9
comp=Z,12nm,0.7s,mb5.1
MALT Malatya 84.11 308⇑*i*P P 03 15 04.4 +1.1
APA Apatity 84.19 337⇑*i*P P 03 15 04.2 +1.1
APA pmax pmax
comp=Z,18nm,1.0s,mb5.2
ANN Anapa 84.25 314 *e*P **P 03 14 59.1 -4.8**
ANN pmax pmax
comp=Z,119nm,1.5s,mb5.8
DAWY Dawson 84.57 26 *e*P **P 03 15 06.5 +1.5**
DAWY *e*pP pP 03 15 21.7 +1.0
JOF Joensuu 85.68 333 *e*p **P 03 15 09.4 -1.2**
comp=Z,28nm,0.6s,mb5.7
ASF Jabal al Asfar 86.00 302 P **P 03 15 13.6 +0.7**
comp=Z,15nm,0.8s,mb5.3,baz=319,slow=3.7,SNR=25
PPT Papeete 86.09 108 *e*LR LR 03 42 34.0
comp=Z,158nm,22.5s,baz=283
PPT Papeete 86.09 108 LR LR 03 49 09.7
comp=Z,275nm,21.6s,MS4.6,baz=303,slow=32
KEV Kevo 86.15 340 *e*p **P 03 15 09.7 -3.2**
comp=Z,18nm,0.9s,mb5.3
FKH Fakeheh 86.17 304 *e*P **P 03 15 14.7 +0.9**
INK Inuvik 86.25 22 *e*P **P 03 15 13.9 +0.5**
comp=Z,797nm,1.6s
INK *e*pP pP 03 15 28.5 -0.5
SIM Simferopol' 86.58 315*d* *i*P **P 03 15 15.8 +0.3**
SIM pmax pmax
comp=Z,721nm,0.9s
ARCES ARCESS Array B 86.72 340 P **P 03 15 15.2 -0.5**
comp=Z,11nm,0.9s,mb5.1,baz=81,slow=7.5,SNR=12
ARCES LR LR 03 54 57.1
comp=Z,243nm,18.8s,MS4.6,baz=249,slow=36
BHL Bhannes 86.83 304 *e*P **P 03 15 17.3 +0.4**
TBI Tubuai 87.16 114 *e*LR LR 03 43 08.3
comp=Z,329nm,24.0s
VNDA Vanda 87.44 173 *e*P **P 03 15 20.0 +1.0**
comp=Z,7.6nm,0.9s,mb4.9
VNDA *e*pP pP 03 15 34.5 -0.1
VNDA Vanda 87.44 173 *e*P **P 03 15 20.0 +1.0**
VNDA *e**PP pP 03 15 34.5 -0.2
VNDA pmax pmax

comp=Z,8.0nm,0.9s
VNDA Vanda 87.44 173 P **P 03 15 19.2 +0.2**
comp=Z,5.1nm,0.9s,mb4.7,baz=316,slow=7.0,SNR=13
VNDA LR LR 03 53 38.1
comp=Z,199nm,18.4s,MS4.6,baz=313,slow=35
KAF Kangasniemi 88.11 332 *e*p **P 03 15 20.8 -1.7**
comp=Z,5.9nm,0.6s,mb5.0,baz=70,slow=4.3
ANTO Ankara 88.27 310 ⇑P **P 03 15 24.2 +0.5**
FIA1 FINESS Array S 88.37 332 *e*P **P 03 15 23.1 -0.7**
FIA1 *e*pP pP 03 15 37.1 -2.3
FINES FINESS Array B 88.37 332 P **P 03 15 23.2 -0.6**
FINES pP pP 03 15 37.2 -2.3
FINES PP PP 03 18 51.2 -0.4
FINES LR LR 03 58 14.1
FINES FINESS Array B 88.37 332 P **P 03 15 23.2 -0.5**
FINES *PP pP 03 15 37.2 -2.3
FINES 03 18 51.2
FINES FINESS Array B 88.37 332 P **P 03 15 23.2 -0.6**
comp=Z,7.0nm,0.7s,mb5.0,baz=67,slow=5.6,SNR=50
FINES pP pP 03 15 37.2 -2.3
comp=Z,3.3nm,0.5s,baz=75,slow=5.5,SNR=5.0
FINES PP PP 03 18 51.2 -0.4
comp=Z,1.8nm,1.0s,baz=103,slow=16,SNR=2.9
FINES LR LR 03 58 14.1
comp=Z,112nm,19.0s,MS4.3,baz=93,slow=38
VSU Vasula 88.73 329*c i*P **P 03 15 24.6 -0.9**
AKASG Malin Array Be 88.91 321 P **P 03 15 25.5 -1.0**
AKASG LR LR 04 00 32.4
AKASG Malin Array Be 88.91 321 P **P 03 15 25.5 -1.0**
comp=Z,11nm,0.8s,mb5.2,baz=68,slow=4.3,SNR=34
AKASG LR LR 04 00 32.4
comp=Z,141nm,20.7s,MS4.4,baz=10.0,slow=39
AKBB Malin Array Si 88.91 321 *e*P **P 03 15 25.1 -1.4**
KIEV Kiev 88.92 321 *e*P **P 03 15 25.1 -1.4**
comp=Z,12nm,0.9s,mb5.2
KIEV Kiev 88.92 321 *e*P **P 03 15 25.1 -1.5**
KIEV pmax pmax
comp=Z,13nm,0.9s,mb5.3
KMBO Kilima Mbogo 89.94 269 *e*P **P 03 15 32.7 +0.6**
comp=Z,8.8nm,0.9s,mb5.1
KMBO Kilima Mbogo 89.94 269 *i*P **P 03 15 33.2 +1.1**
KMBO pmax pmax
comp=Z,8.0nm,0.9s
KMBO Kilima Mbogo 89.94 269 P **P 03 15 32.6 +0.5**
comp=Z,7.5nm,0.9s,mb5.0,baz=52,slow=6.0,SNR=17
KMBO LR LR 03 53 54.1
comp=Z,91nm,18.4s,MS4.2,baz=97,slow=34
SUW Suwalki 91.75 325 *e*P **P 03 15 38.5 -1.1**
MLR Muntele Rosu 92.16 316 ⇑P **P 03 15 41.6 -0.1**
MLR Muntele Rosu 92.16 316 P **P 03 15 41.7 -0.1**
comp=Z,2.8nm,0.8s,mb4.6,baz=69,slow=6.2,SNR=4.1
MLR Muntele Rosu 92.16 316 ⇑*i*P **P 03 15 41.6 -0.2**
LVV L'vov 92.36 321 *e*P **P 03 15 32.6 -10**
KWP Kalwaria 93.23 321 *e*P **P 03 15 46.8 +0.2**
KWP Kalwaria 93.23 321 *e*P **P 03 15 46.8 +0.2**
KWP Kalwaria 93.23 321 ⇓*i*P **P 03 15 47.4 +0.8**
DAG Danmarks Havn 93.24 353 ⇑*i*P **P 03 15 45.6 -0.5**
DAG pmax pmax
comp=Z,2.0nm,0.5s,mb4.8
DAG Danmarks Havn 93.24 353 ⇑*i*P **P 03 15 45.6 -0.5**
comp=Z,2.1nm,0.5s,mb4.8
RES Resolute Bay 93.73 10 *e*P **P 03 15 49.0 +0.6**
comp=Z,420nm,1.1s
RES *e*pP pP 03 16 05.0 +0.8
UZH Uzhgorod 93.77 320*c i*P **P 03 15 49.0 -0.1**
UZH *e* pP 03 16 03.7 -1.2
TAOE Nuku Hiva Isla 93.95 98 *e*LR LR 03 46 16.9
comp=Z,6μm,21.9s
DRGR 94.01 318 ⇑P **P 03 15 50.5 +0.2**
DRGR 94.01 318 ⇑*i*P **P 03 15 50.5 +0.2**
STHS Stebnicka Huta 94.21 321 *e*P **P 03 15 51.5 +0.4**
comp=Z,6.8nm,1.3s,mb4.9
STHS *e* 03 16 12.6
STHS Stebnicka Huta 94.21 321 *e*P **P 03 15 51.5 +0.4**
STHS pmax pmax
comp=Z,7.0nm,1.3s,mb4.9
CRVS Cervenica-Dubn 94.22 320 *e*P **P 03 15 51.3 +0.1**
CRVS *e* pP 03 16 09.7 +2.8
CRVS Cervenica-Dubn 94.22 320 *e*P **P 03 15 51.2 0.0**
CRVS *e*pP pP 03 16 09.7 +2.8
KECS Kecovo 94.97 320 *e*P **P 03 15 54.2 -0.4**
comp=Z,1.7nm,0.7s,mb4.6
KECS Kecovo 94.97 320 *e*P **P 03 15 54.2 -0.4**
KECS pmax pmax
comp=Z,2.0nm,0.7s,mb4.7
NB2 NORSAR Subarra 95.25 334 P **P 03 15 54.0 -1.6**
comp=Z,1.7nm,0.7s,mb4.6,baz=65,slow=4.6
NOA NORSAR Array B 95.25 334 P **P 03 15 54.4 -1.2**
NOA pP pP 03 16 08.5 -2.9
NOA PP PP 03 19 35.2 -11
NOA LR LR 04 03 07.3
NOA NORSAR Array B 95.25 334 P **P 03 15 54.4 -1.2**
NOA *PP pP 03 16 08.5 -2.9
NOA NORSAR Array B 95.25 334 P **P 03 15 54.4 -1.3**
comp=Z,2.2nm,0.7s,mb4.7,baz=65,slow=4.6,SNR=13
NOA pP pP 03 16 08.5 -2.9
comp=Z,1.1nm,0.7s,baz=65,slow=4.6,SNR=3.3
NOA PP PP 03 19 35.2 -11
comp=Z,0.6nm,0.7s,baz=66,slow=7.8,SNR=3.8
NOA LR LR 04 03 07.3
comp=Z,63nm,18.1s,MS4.1,baz=75,slow=38
NAO01 NORSAR Array S 95.48 334 *e*P **P 03 15 55.6 -1.1**
comp=Z,1.9nm,0.6s,mb4.7
PSZ Piszkesteto 95.51 320 *e*P **P 03 15 57.0 -0.1**
comp=Z,2.5nm,0.9s,mb4.6
PSZ Piszkesteto 95.51 320 *e*P **P 03 15 57.0 -0.1**
PSZ pmax pmax
comp=Z,2.0nm,0.9s,mb4.5
YKA Yellowknife Ar 95.64 24 P **P 03 15 57.6 +0.2**
YKA PKKPbc PKKPbc 03 32 46.4 -3.7
YKA LR LR 03 59 58.7
YKA Yellowknife Ar 95.64 24 P **P 03 15 57.6 +0.2**
comp=Z,1.0nm,0.9s,mb4.3,baz=304,slow=4.7,SNR=19
YKA PKKPbc PKKPbc 03 32 46.4 -3.7
comp=Z,2.2nm,1.3s,baz=121,slow=2.8,SNR=9.4
YKA LR LR 03 59 58.7
comp=Z,41nm,20.3s,MS3.9,baz=155,slow=36
BSD Bornholm Skovb 95.93 328 *i*P **P 03 15 58.0 -0.9**
BSD pmax pmax
comp=Z,6.0nm,0.7s,mb5.1
BSD Bornholm Skovb 95.93 328 *i*P **P 03 15 58.0 -0.9**
comp=Z,5.7nm,0.7s,mb5.1
MORC Moravsky Berou 96.38 322 *e*P **P 03 16 00.8 -0.2**
comp=Z,3.2nm,1.1s,mb4.7
MORC Moravsky Berou 96.38 322 *e*P **P 03 16 00.8 -0.2**
MORC pmax pmax
comp=Z,3.0nm,1.1s,mb4.6
BRG Berggiesshubel 98.12 324 *e*P **P 03 16 08.6 -0.2**
BRG pmax pmax
comp=Z,6.0nm,1.4s,mb4.9
BRG Berggiesshubel 98.12 324 *e*(P) **P 03 16 08.6 -0.2**
comp=Z,10nm,1.4s,mb5.2
CLL Collm 98.50 325 *i*P **P 03 16 10.3 -0.2**
CLL LmV 04 03 00.0
comp=Z,100nm,18.7s
KHC Kasperske Hory 99.02 322⇑*e*P **P 03 16 13.4 +0.5**
GERES GERESS Array B 99.06 322 P **P 03 16 13.3 +0.2**
comp=Z,1.9nm,0.7s,mb4.7,baz=69,slow=4.4,SNR=17
GERES LR LR 04 05 19.0
comp=Z,101nm,18.8s,MS4.3,baz=268,slow=38
GRA1 Grafenberg Arr 100.20 324 *e*Pdif Pdif 03 16 18.8 +0.8
GRF Grafenberg Arr 100.20 324 *e*Pdiff Pdif 03 16 18.8 +0.8
SDCO Great Sand Dun 113.27 43 *e*PKP PKiKP 03 21 11.2 +1.2
ANMO Albuquerque 114.00 46 *e*PKP PKiKP 03 21 12.2 +0.7
MNTX Cornudas Mount 116.37 49 *e*PKPdf PKPdf 03 21 15.8 -0.4
TXAR Lajitas Array 118.80 50 PKIKP PKPdf 03 21 21.6 +0.7
TXAR 03 21 35.9
TXAR Lajitas Array 118.80 50 PKP PKPdf 03 21 21.6 +0.7
comp=Z,0.3nm,0.6s,baz=83,slow=0.1,SNR=6.3
TXAR pPKP pPKPdf 03 21 35.9 -1.3
comp=Z,0.8nm,0.7s,baz=242,slow=0.8,SNR=7.2
TXAR PKKPbc PKKPbc 03 31 34.1 -2.7
comp=Z,0.2nm,0.8s,baz=312,slow=54,SNR=3.2
WMOK Wichita Mounta 119.45 43 *e*PKPdf PKPdf 03 21 21.3 -0.7
JCT Junction City 121.11 47 *e*PKPdf PKPdf 03 21 25.6 +0.3
JCT *e*pP 03 21 41.2
TOA0 Torodi Ar. Sit 121.85 291 *e*PKPdf PKPdf 03 21 26.8 -0.2
TORD Torodi Ar. Bea 121.85 291 PKP PKPdf 03 21 26.6 -0.5
comp=Z,2.0nm,0.8s,baz=53,slow=2.0,SNR=19
TORD pPKP pPKPdf 03 21 41.9 -1.5
comp=Z,2.1nm,0.8s,baz=58,slow=1.9,SNR=5.7
TORD PKKPbc PKKPbc 03 31 25.2 +0.1
comp=Z,0.5nm,0.6s,baz=255,slow=2.5,SNR=8.3
ACSO Alum Creek Sta 124.72 28 *e*PKPdf PKPdf 03 21 32.4 +0.4
ACSO *e*pP 03 21 47.2

WVT Waverly 125.34 35 *e*PKPdf PKPdf 03 21 33.7 +0.5
WVT *e*pP 03 21 47.6
PLCA Paso Flores 143.69 157 PKP PKPdf 03 22 06.6 -0.6
comp=Z,3.7nm,0.9s,baz=152,slow=4.9,SNR=3.8
SDDR Presa de Saban 147.79 34 *e*PKPbc PKPbc 03 22 17.7 0.0
TRQA Tornquist 148.84 166 *e*PKPbc PKPbc 03 22 20.7 +0.8
SJG San Juan 151.11 27 *e*PKPbc PKPbc 03 22 26.0 0.0
SJG *e*PKPab PKPab 03 22 32.6 -1.0
CPD Cerro la Pandu 151.28 26 *e*PKPbc PKPbc 03 22 25.7 -0.7
CPD *e*PKPab PKPab 03 22 33.3 -1.0
CFAA Coronel Fontan 152.40 151 PKPbc PKPbc 03 22 29.5 +0.9
CFAA pPKPbc pPKPbc 03 22 43.7 -1.1
CFAA Coronel Fontan 152.40 151 PKPbc PKPbc 03 22 29.5 +0.9
comp=Z,1.0nm,0.7s,baz=224,slow=2.5,SNR=4.8
CFAA pPKPbc pPKPbc 03 22 43.7 -1.1
comp=Z,2.0nm,0.7s,baz=229,slow=3.5,SNR=7.3
ROSC El Rosal 155.23 60 *e*PKPdf PKPdf 03 22 28.1 +1.8
SDV Santo Domingo 155.79 47 *e*PKPdf PKPdf 03 22 27.9 +0.9
SDV *e*PKPab PKPab 03 22 53.3 -0.3
LPAZ La Paz 162.97 121 *e*PKPdf PKPdf 03 22 36.5 +1.4
LPAZ *e*PKPdif pPKPdf 03 22 52.0 +0.5
LPAZ *e*PKPab PKPab 03 23 26.5 +1.7
LPAZ La Paz 162.97 121 *e*PKIKP PKPdf 03 22 36.5 +1.4
LPAZ *e* 03 22 52.0
LPAZ La Paz 162.97 121 PKP PKPdf 03 22 36.4 +1.3
comp=Z,0.7nm,0.7s,baz=53,slow=5.4,SNR=4.5
LPAZ PKPab PKPab 03 23 25.8 +1.1
comp=Z,3.9nm,0.9s,baz=256,slow=2.6,SNR=8.6
SIV San Ignacio 168.67 136 PKP PKPdf 03 22 40.2 +0.5
comp=Z,0.9nm,0.8s,baz=269,slow=3.1,SNR=5.9
SIV PKPab PKPab 03 23 49.7 -0.1
comp=Z,2.2nm,1.1s,baz=188,slow=6.9,SNR=2.8

MAN 14 03:30:44,1062N×12247E,h96km,mb3.9,ML2.6,MS2.3, Panay

*NEIC **14** 03:45:07.5±3.5,757S×12804E,h171km±37km,mb3.9/2, Error ellipse: s-maj=41.2km s-min=20.5km az=56.0*
*IDC **14** 03:45:08.4±5.3,755S×12826E,h183km±53km,mb3.3/3, mb1 3.4/7,mb1mx3.3/15,mbtmp3.3/7,MS3.3/1,Ms1 3.3/1, ms1mx2.7/14,Error ellipse: s-maj=68.2km s-min=25.0km az=56.0*
*ISCJB **14** 03:45:11.2±2.5,78S×01×1281E±02,h235km±26km, mb3.6/5,Error ellipse: s-maj=32.2km s-min=15.7km az=150.2*
ISC 14 03:45:11.1±2.4,77S±01×1282E±02,h215km±24km,n11, σ1º04/13,mb3.6/5,Banda Sea
Code Station Name Δ° AZ° Phase ID Time Res
Op ISC h m s ISC
BATI Kupang 5.12 241 P **Pn 03 46 26.4 -0.9**
12nm,0.3s,baz=97,slow=2.7,SNR=12
BATI S **S 03 47 29.9 +2.1**
9.5nm,0.3s,baz=105,slow=24,SNR=5.6
FITZ Fitzroy Crossi 10.61 193 P **Pn 03 47 36.6 -1.4**
0.3nm,0.3s,baz=41,slow=4.6,SNR=8.2
FITZ S **S 03 49 31.5 -5.3**
0.6nm,0.3s,baz=278,slow=21,SNR=6.1
WRA Warramunga Arr 13.52 155 P **Pn 03 48 14.8 +0.2**
0.4nm,0.3s,baz=337,slow=12,SNR=10
WRA S **S 03 50 34.2 -11**
0.4nm,0.3s,baz=339,slow=21,SNR=4.5
ASAR Alice Springs 16.77 162 P **P 03 48 54.8 +2.3**
0.3nm,0.3s,baz=338,slow=9.7,SNR=39
ASAR S **S 03 51 56.2 -0.3**
0.1nm,0.3s,baz=26,slow=24,SNR=3.7
HNR Honiara 31.43 95 LR LR 04 02 58.7
comp=Z,57nm,20.1s,baz=2.2,slow=34
SONM Songino Array 58.58 343 P **P 03 54 45.3 0.0**
0.9nm,0.6s,mb3.5,baz=159,slow=12,SNR=4.1
MKAR Makanchi Array 67.87 328 P **P 03 55 46.9 +0.6**
0.5nm,0.5s,mb3.4,baz=126,slow=8.5,SNR=4.8
ZALV Zalesovo Beam 71.46 335 P **P 03 56 07.4 -0.6**
0.6nm,0.6s,mb3.4,baz=122,slow=5.4,SNR=2.8
KURK Kurchatov 72.22 329 *e*P **P 03 56 12.4 -0.2**
1.0nm,0.5s,mb3.7
BRVK Borovoye 77.81 328 *e*P **P 03 56 44.5 0.0**
1.1nm,0.4s,mb3.8
TORD Torodi Ar. Bea 127.20 281 PKP PKPdf 04 03 52.0 +1.2
0.4nm,0.8s,baz=107,slow=2.6,SNR=4.2

*NEIC **14** 03:50:52.7,3070S×7123W,h45km,MD4.1(GUC),After GUC.*
GUC 14 03:50:52.7±0.8,3070S×7123W,h45km±1km,MD4.1, ML3.7,4C-3D,Near coast of central Chile
Code Station Name Δ° AZ° Phase ID Time Res
Op ISC h m s ISC
OVCH Ovalle 0.10 15⇑*i*P Pn 03 51 00.1 +0.2
OVCH *i* S Sn 03 51 05.8 +0.8
CMCH Combarbala 0.51 157 *e*P Pn 03 51 03.9 +0.1
CMCH *i* S Sn 03 51 12.9 +1.2
CMCH Combarbala 0.51 157 *e*P Pn 03 51 03.9 +0.1
CMCH *i* S Sn 03 51 12.9 +1.2
CMCH AML AML 03 51 13.2
comp=N,26μm,0.2s
TLL Tololo Astrono 0.65 35⇓*i*P Pn 03 51 06.5 +0.9
TLL *i* S Sn 03 51 16.9 +2.1
TLL Tololo Astrono 0.65 35⇓*i*P Pn 03 51 06.5 +0.9
TLL *i* S Sn 03 51 16.9 +2.1
TLL AML AML 03 51 18.6
comp=N,2μm,0.4s
LSCH La Serena 0.79 359⇑*i*P Pn 03 51 58.2 +51
LSCH *i* S Sn 03 52 09.4 +51
CHNG Los Chungos 1.20 191⇓*i*P Pn 03 50 54.4 -19
CHNG *i* S Sn 03 51 10.1 -18
PTCH Petorca 1.58 171⇑*i*P Pn 03 51 18.7 +0.4
PTCH *i* S Sn 03 51 38.3 +0.9
PTCH Petorca 1.58 171⇑*i*P Pn 03 51 18.7 +0.4
PTCH *i* S Sn 03 51 38.3 +0.9
PTCH AML AML 03 51 42.6
comp=N,336nm,0.1s
LCO Las Campanas 1.75 15 *e*Pn Pn 03 51 21.0 +0.4
LCO *e*Sn Sn 03 51 34.0 -7.6
PACH Papudo 1.84 185 *e*P Pn 03 51 22.1 +0.3
JACH Jahuel 2.05 165 *e*P Pn 03 51 26.2 +1.6
VACH Vallenar 2.16 11 *e*P Pn 03 51 27.0 +0.8
VACH *i* S Sn 03 51 52.8 +1.0
VACH Vallenar 2.16 11 *e*P Pn 03 51 27.0 +0.8
VACH *i* S Sn 03 51 52.8 +1.0
VACH AML AML 03 51 55.2
comp=N,2μm,0.1s
PEL Peldehue 2.48 169 *e*P Pn 03 51 31.7 +1.2
PEL *i* S Sn 03 52 01.1 +1.5
PEL AML AML 03 52 15.0
comp=N,368nm,0.2s
FCH Farellones 2.74 163 *e*P Pn 03 51 36.1 +2.0
FCH AML AML 03 52 21.6
comp=E,265nm,0.9s
CLCH Cerro Calan 2.75 168 *e*P Pn 03 51 35.6 +1.4
CLCH *i* S Sn 03 52 10.8 +4.6
CLCH AML AML 03 52 20.1
comp=N,288nm,0.7s
RCDM Rinconada Maip 2.80 173 *e*P Pn 03 51 35.7 +0.7
RCDM *i* S Sn 03 52 08.2 +0.7
RCDM Rinconada Maip 2.80 173 *e*P Pn 03 51 35.7 +0.7
RCDM *i* S Sn 03 52 08.2 +0.7
RCDM AML AML 03 52 18.0
comp=E,300nm,0.4s
TACH Talagante 2.95 175 *e*P Pn 03 51 38.2 +1.2
PCH Pirque 2.97 168 *e*P Pn 03 51 38.4 +1.0
LMEL Las Melosas 3.25 165 *e*P Pn 03 51 43.6 +2.4
LMEL *i* S Sn 03 52 23.0 +4.3
CHCH Chadas Angostu 3.26 172 *e*P Pn 03 51 42.0 +0.8

*ISCJB **14** 03:58:01.3±0.5,1717N±004×10027W±003,h41km±5km, mb3.6/6,Error ellipse: s-maj=7.0km s-min=4.9km az=22.7*
*NEIC **14** 03:58:03.5,1720N×10029W,h31km,MD4.5(MEX),After MEX.*
*MEX **14** 03:58:03.5±0.6,1720N×10030W,h31km±5km,MD4.5*
*IDC **14** 03:58:03.6±1.3,1720N×10028W,h49km±9km,mb3.5/6, mb1 3.8/10,mb1mx3.6/24,mbtmp3.5/10,ML3.4/4,MS3.0/1, Ms1 3.0/1,ms1mx2.5/21,Error ellipse: s-maj=26.2km s-min=13.2km az=27.0*
ISC 14 03:58:02.2±0.5,1718N±005×10028W±004,h33km±5km, h42km±6.0km:pP-P,n29,σ1º23/43,mb3.6/6,Guerrero

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.13**	**177**	*i* P		**Pb**	**03 58 08.1**	**-0.1**
CAIG				*i* S		**Sb**	**03 58 11.8**	**-0.6**
ACX	**Acapulco**	**0.47**	**132**	*i* P		**Pb**	**03 58 12.0**	**-0.2**
ACX				*i* S		**Sb**	**03 58 19.0**	**-0.2**
MEIG	**Mezcala**	**0.97**	**40**	*i* P		**Pn**	**03 58 18.7**	**-0.7**
MEIG				*i* S		**Sn**	**03 58 30.9**	**-1.1**
ZIIG	**Zihuatanejo**	**1.21**	**291**	*i* P		**Pn**	**03 58 21.4**	**-1.4**
ZIIG				*i* S		**Sn**	**03 58 37.4**	**-0.6**
ZIIG	**Zihuatanejo**	**1.21**	**291**	*i* P		**Pn**	**03 58 21.4**	**-1.4**
ZIIG				*i* S		**Sn**	**03 58 37.1**	**-0.9**
PLIG	**Platanillo**	**1.41**	**31**	*i* P		**Pn**	**03 58 25.5**	**0.0**
PLIG				*i* S		**Sn**	**03 58 42.2**	**-0.8**
PNIG	**Pinotepa**	**2.20**	**111**	*i* P		**Pn**	**03 58 36.4**	**0.0**
PNIG				*i* S		**Sn**	**03 59 01.1**	**-1.4**
PNIG				*i* S		**Sn**	**03 59 02.9**	**+0.4**
SZVM	**Salazar**	**2.29**	**22**	*e*P		**Pn**	**03 58 38.6**	**+0.9**
SZVM				*i* S		**Sn**	**03 59 03.5**	**-1.2**
UNM	**Universidad Na**	**2.38**	**26**	*e*P		**Pn**	**03 58 39.5**	**+0.7**
PPM	**Popocatepetl**	**2.44**	**40**	*i* P		**Pn**	**03 58 39.0**	**-0.7**
TPIG	**Tehuac#an**	**3.04**	**66**	*i* P		**Pn**	**03 58 49.0**	**+1.2**
TPIG				*i* S		**Sn**	**03 59 22.9**	**-0.2**
VHO	**Vista Hermosa**	**3.39**	**91**	*i* P		**Pn**	**03 58 54.0**	**+1.3**
VHO				*i* S		**Sn**	**03 59 32.2**	**+0.5**
OXX	**Oaxaca**	**3.40**	**91**	*e*P		**Pn**	**03 58 54.0**	**+1.2**
SFJM	**Santa Fe**	**4.20**	**322**	*i* P		**Pn**	**03 59 07.0**	**+3.1**
HUIG	**Huatulco**	**4.24**	**109**	*e*P		**Pn**	**03 59 13.7**	**+9.3**
HUIG				*i* S		**Sn**	**03 59 51.0**	**-1.8**
CMIG	**Matias Romero**	**5.16**	**90**	P		**Pn**	**03 59 18.9**	**+1.8**
2.3nm,0.3s,baz=267,slow=9.0,SNR=16								
CMIG				S		**Sn**	**04 00 17.8**	**+2.4**
4.1nm,0.3s,baz=308,slow=16,SNR=5.3								
CMIG				LR		LR	04 01 37.8	
comp=Z,178nm,20.5s,baz=186,slow=42								
CMIG	**Matias Romero**	**5.16**	**90**	*e*P		**Pn**	**03 59 15.9**	**-1.1**
CMIG				*i* S		**Sn**	**04 00 18.1**	**+2.7**
TEIG	**Tepich**	**11.77**	**73**	P		**Pn**	**04 00 50.8**	**+3.1**
TEIG				S		**Sn**	**04 02 54.8**	**-3.1**
TEIG	**Tepich**	**11.77**	**73**	P		**Pn**	**04 00 50.8**	**+3.1**
0.6nm,0.3s,baz=162,slow=17,SNR=4.0								
TEIG				S		**Sn**	**04 02 54.8**	**-3.1**
0.4nm,0.3s,baz=13,slow=19,SNR=2.4								
TXAR	**Lajitas Array**	**12.49**	**346**	P		**Pn**	**04 01 00.4**	**+2.9**
0.0nm,0.3s,baz=168,slow=19,SNR=4.2								
ANMO	**Albuquerque**	**18.54**	**344**	P		**Pn**	**04 02 17.4**	**+1.1**
0.1nm,0.3s,baz=176,slow=10,SNR=4.7								
ANMO				pP		pP	04 02 26.0	+1.3
0.1nm,0.3s,baz=150,slow=12,SNR=6.7								
TKL	**Tuckaleechee C**	**23.54**	**35**	P		**P**	**04 03 08.4**	**-1.2**
1.5nm,0.7s,mb3.5,baz=180,slow=9.5,SNR=3.5								
NVAR	**Mina Array Bea**	**26.41**	**327**	P		**P**	**04 03 37.6**	**+1.9**
3.2nm,1.1s,mb3.8,baz=156,slow=8.9,SNR=13								
NVAR				pP		pP	04 03 47.1	+1.9
1.3nm,0.8s,baz=150,slow=9.2,SNR=4.5								
PDAR	**Pinedale Array**	**26.70**	**345**	P		**P**	**04 03 38.6**	**+0.4**
0.4nm,0.6s,mb3.1,baz=144,slow=13,SNR=4.2								
PDAR				pP		pP	04 03 49.7	+1.9
0.9nm,0.6s,baz=143,slow=11,SNR=5.4								
ULM	**Lac du Bonnet**	**33.18**	**5**	P		**P**	**04 04 35.1**	**-0.3**
0.9nm,0.6s,mb3.9,baz=216,slow=7.1,SNR=1.8								
YKA	**Yellowknife Ar**	**46.37**	**351**	P		**P**	**04 06 22.8**	**-2.1**
0.8nm,0.9s,mb3.6,baz=158,slow=7.2,SNR=10.0								
YKA				pP		pP	04 06 39.1	+4.3
0.5nm,0.5s,baz=158,slow=7.6,SNR=7.7								
SIV	**San Ignacio**	**50.80**	**128**	P		**P**	**04 06 58.8**	**-0.8**
0.9nm,0.6s,mb3.9,baz=305,slow=8.6,SNR=7.5								
WRA	**Warramunga Arr**	**128.34**	**258**	PKP		PKPdf	04 17 05.5	-0.6
0.4nm,0.8s,baz=82,slow=2.4,SNR=4.8								
ASAR	**Alice Springs**	**129.06**	**253**	PKP		PKPdf	04 17 07.2	-0.1
0.1nm,0.5s,baz=68,slow=38,SNR=2.8								

IDC 14 03:59:54.2±4.2,747S×15564E,h0km,mb3.9/5,mb1 4.0/5, mb1mx3.8/14,mbtmp3.9/5,Error ellipse: s-maj=127.7km s-min=28.1km az=114.0,Bougainville - Solomon Islands region
Code Station Name Δ° AZ° Phase ID Time Res
Op ISC h m s ISC
WRA Warramunga Arr 24.08 237 P P 04 05 12.1 +0.5
1.8nm,0.6s,baz=62,slow=9.3,SNR=10
ASAR Alice Springs 26.35 230 P P 04 05 31.7 -0.4
0.3nm,0.6s,baz=54,slow=9.5,SNR=3.6
SONM Songino Array 70.08 327 P P 04 11 09.1 +0.9
1.7nm,0.7s,baz=142,slow=7.0,SNR=9.3
MKAR Makanchi Array 84.18 319 P P 04 12 27.6 +0.2
0.5nm,0.4s,baz=97,slow=5.8,SNR=6.6
ZALV Zalesovo Beam 84.92 326 P P 04 12 30.3 -0.8
0.7nm,0.3s,baz=97,slow=3.3,SNR=3.6

IDC 14 04:09:46.5±2.9,4643N×15488E,h0km,mb3.6/7, mb1 3.9/7,mb1mx3.6/22,mbtmp3.6/7,Error ellipse: s-maj=82.7km s-min=29.3km az=3.0,East of Kuril Islands
Code Station Name Δ° AZ° Phase ID Time Res
Op ISC h m s ISC
INK Inuvik 41.27 32 P P 04 17 33.2 +0.4
1.0nm,0.9s,baz=301,slow=8.0,SNR=5.8
MKAR Makanchi Array 48.17 298 P P 04 18 28.8 +0.6
0.2nm,0.3s,baz=64,slow=6.7,SNR=4.0
YKA Yellowknife Ar 50.45 37 P P 04 18 45.2 -0.1
0.9nm,0.9s,baz=295,slow=7.1,SNR=13
NVAR Mina Array Bea 61.49 63 P P 04 20 05.4 +0.6
0.4nm,0.7s,baz=290,slow=5.7,SNR=4.0
PDAR Pinedale Array 63.94 55 P P 04 20 21.5 +0.4
0.2nm,0.6s,baz=194,slow=0.6,SNR=3.5
FINES FINESS Array B 64.84 336 P P 04 20 26.0 -0.7
1.8nm,0.9s,baz=355,slow=4.6,SNR=4.9
TXAR Lajitas Array 76.58 62 P P 04 21 38.5 -0.2
0.5nm,0.8s,baz=323,slow=5.2,SNR=5.6

*SZGRF **14** 04:30:33.5,3733N×3971E,h33km,mb4.3,Turkey*
*NSSC **14** 04:30:35.6,3870N×3936E,h18km±8km*
*ISK **14** 04:30:36.9,3832N×3928E,h5km,MD4.3,ML4.2*
*GII **14** 04:30:37.2±2.1,3842N×3923E,h0km±34km,mb4.3/1, ML4.2/1*
*NEIC **14** 04:30:37.0,3830N×3931E,h5km,mb4.3/36,ML4.3(ISK), After ISK.*
*DDA **14** 04:30:37.2,3835N×3929E,h5km±5km,Md4.3,Ml4.5*
*IDC **14** 04:30:37.8±0.6,3823N×3936E,h0km,mb4.1/15, mb1 4.1/22,mb1mx4.0/28,mbtmp4.0/22,ML3.9/7,MS3.3/11, Ms1 3.3/11,ms1mx3.1/33,Error ellipse: s-maj=14.1km s-min=10.9km az=126.0*
*ISCJB **14** 04:30:38.4±0.1,3828N±002×3932E±002,h10km, mb4.2/45,MS3.2/11,Error ellipse: s-maj=2.4km s-min=1.9km az=136.7*
*MOS **14** 04:30:38.1±0.9,3816N×3931E,h12km,mb4.4/28,Error ellipse: s-maj=7.0km s-min=4.5km az=124.8*
ISC 14 04:30:40.0±0.1,3827N±002×3934E±002,h10km,n250, σ0º96/266,mb4.2/45,MS3.2/11,16C-16D,Turkey
Code Station Name Δ° AZ° Phase ID Time Res
Op ISC h m s ISC
MALT Malatya 0.72 274 PG **Pg 04 30 50.7 -3.2**
MALT *e*SG **Sg 04 31 00.8 -2.5**
MALT Malatya 0.72 274 *e*Pg **Pg 04 30 50.3 -3.6**
MALT *e*Sg **Sg 04 30 57.8 -5.6**
MALT Malatya 0.72 274 Pg **Pg 04 30 50.8 -3.1**
MALT Sg **Sg 04 31 01.3 -2.1**
MYA Malataya 0.72 275 PG **Pg 04 30 50.8 -3.2**
DIY Diyarbakir 0.79 118 *e*PG **Pg 04 30 54.3 -0.9**
URFA Urfa 0.92 207 *e*PG **Pg 04 30 56.5 -1.3**
BINT Bingol 1.09 56 *e*PN **Pn 04 30 58.2 -3.0**
ATAB Bozova 1.15 226⇓*i*P **Pb 04 31 00.5 -1.5**
ATAB *i* S **Sb 04 31 17.3 +0.5**
KEMA Kemaliye 1.20 327⇑*i*P **Pb 04 30 57.9 -4.9**
KEMA *i* S **Sb 04 31 10.9 -7.5**
DRBT Darb Altahta 1.46 165 ⇓P **Pg 04 31 12.0 +4.0**
DRBT ⇓S **Sg 04 31 38.9 +12**
MARD Mardin 1.48 129⇑*i*P **Pn 04 31 05.5 -1.2**
MARD *i* S **Sn 04 31 25.0 -1.1**
EZC Erzincan 1.52 14 *e*PN **Pn 04 31 04.7 -2.6**
BNGL BINGOL 1.57 64 *i* P **Pn 04 31 07.0 -1.0**
BNGL *i* S **Sg 04 31 30.8 +0.2**
KBSD Kabsdagh 1.58 143 ⇓P **Pn 04 31 07.9 -0.2**
KBSD ⇓S **Sn 04 31 29.7 +1.1**
GZT Gaziantep 1.68 238⇓*i*P **Pn 04 31 08.2 -1.1**
BTMT Batman 1.69 92 *e*PN **Pn 04 31 08.2 -1.4**

SFNV **Sufian** 1.94 161 ⇑P Pn 04 31 13.7 +0.6
SFNV ⇑S Sg 04 31 41.1 -1.4
KOPT **Kop Dagi** 1.97 27 *i* P Pn 04 31 12.9 -0.4
GAZ **Gaziantep** 2.01 238 *e*PN Pn 04 31 12.8 -1.2
KMRS **Kahramanmaras** 2.08 249 *e*PN Pn 04 31 13.6 -1.3
GUMT **Gumushane** 2.19 3 *e*PN Pn 04 31 15.6 -0.9
EZM **Erzurum** 2.27 43 *e*PN Pn 04 31 17.2 -0.4
ERZM **Erzurum** 2.27 43⇑*i*P Pn 04 31 17.5 0.0
SLMH **Al Salmeh** 2.34 209 ⇓P Pn 04 31 18.0 -0.5
SVSK **Karacayir** 2.46 313 *e*PN Pn 04 31 19.5 -0.6
ANDN **Andirin** 2.47 255⇓*i*P Pn 04 31 18.5 -1.7
ANDN *i* S Sg 04 31 54.8 -4.4
SIRT **Sirnak** 2.57 106 *e*PN Pn 04 31 21.9 +0.3
BSHR **Al Beshri** 2.62 171 ⇑P Pn 04 31 26.8 +4.5
HOMI **Horasan** 2.67 48 *i* P Pn 04 31 22.2 -0.8
JHLN **Al Jahlan** 2.69 196 ⇓P Pn 04 31 23.3 0.0
JHLN ⇓S Sn 04 31 59.6 +3.7
DRWC **Darouich** 2.69 233 ⇑P Pn 04 31 22.0 -1.3
DRWC ⇑S Sn 04 31 56.0 +0.1
BNN **Bunyan** 2.80 283 *e*PN Pn 04 31 23.9 -0.9
KOZT **Kozan** 2.89 255 *e*PN Pn 04 31 25.4 -0.6
TUTA **Tutak** 2.94 66 *i* P Pn 04 31 26.2 -0.5
TOKT **Tokat** 2.99 314 *e*PN Pn 04 31 26.6 -0.7
COBT **Iskenderun** 3.01 236 *i* P Pn 04 31 26.1 -1.6
CEYT **Ceyhan** 3.12 247 *e*PN Pn 04 31 29.1 -0.1
AGRB **Hanur-Agry** 3.13 64 *e*PN Pn 04 31 29.6 +0.2
VANT **Van** 3.19 86 *e*PN Pn 04 31 29.0 -1.1
VANB **Van** 3.19 83 *e*PN Pn 04 31 30.5 +0.2
BTCH **Batrach** 3.20 227 ⇑P Pn 04 31 29.2 -1.1
BTCH ⇑S Sn 04 32 09.1 +0.5
TVAN **Van** 3.20 84 *i* P Pn 04 31 29.3 -1.1
HTY **Hatay** 3.34 231 *e*PN Pn 04 31 32.3 +0.1
YOZ **Yozgat** 3.42 295 *e*PN Pn 04 31 33.0 -0.4
HAKT **HAKKARI** 3.52 100⇑*i*P Pn 04 31 33.9 -0.9
ARTV **Artvin** 3.53 34⇑*i*P Pn 04 31 34.5 -0.4
KARA **Karaisali** 3.54 255 *e*PN Pn 04 31 34.8 -0.3
HKR **Hakkari** 3.55 100 *e*PN Pn 04 31 35.9 +0.8
KRTS **Karatas** 3.58 243 *e*PN Pn 04 31 35.6 +0.1
MSL **Mosul** 3.58 122 *ex* x 04 31 32.0
MSL *i* x x 04 32 15.5
MSL *i* x x 04 32 32.5
ARNB **Al Arnab** 3.61 229 ⇑P Pn 04 31 35.2 -0.7
ARNB ⇑S Sn 04 32 19.0 +0.4
WRDH **Warideh** 3.62 221 ⇑P Pn 04 31 35.6 -0.5
WRDH ⇑S Sn 04 32 19.5 +0.7
SLNF **Slenfeh** 3.65 224 ⇑P Pn 04 31 35.6 -0.9
SLNF ⇑S Sn 04 32 19.9 +0.2
KARS **Kars** 3.73 50 *e*PN Pn 04 31 37.9 +0.2
NIG **Nigde** 3.73 269 *e*PN Pn 04 31 37.4 -0.2
DIGO **Kars** 3.79 54⇑*i*P Pn 04 31 38.6 +0.2
BIDA **Albida** 4.05 218 ⇑P Pn 04 31 41.1 -1.0
BIDA ⇑S Sn 04 32 29.8 +0.2
MERS **Mersin** 4.08 251 *e*PN Pn 04 31 42.6 +0.3
CDAG **Cicekdag** 4.11 291⇑*i*P Pn 04 31 40.0 -2.7
CORM **Corum** 4.13 299 *e*PN Pn 04 31 42.9 -0.2
RABH **Abou Rabah** 4.19 205 ⇑P Pn 04 31 44.6 +0.6
CTKT **Corum** 4.24 305⇓*i*P Pn 04 31 45.4 +0.8
ROOS **tl_alroos** 4.41 203 ⇓P Pn 04 31 47.6 +0.6
FKH **Fakeheh** 4.67 211 *e*Pn Pn 04 31 50.0 -0.6
MARH **Ras Al Marh** 4.82 210 ⇓P Pn 04 31 53.3 +0.7
HWQ **Hawqa** 4.83 216 *e*Pn Pn 04 31 52.5 -0.3
ELDT **Eldivan** 5.09 298 *i* P Pn 04 31 56.4 +0.1
BHL **Bhannes** 5.28 216 *e*Pn Pn 04 31 59.2 +0.3
SOC **Sochi** 5.32 3 *e*P Pn 04 32 05.6 +6.2
SOC *e* 04 33 11.7
SOC pmax pmax
comp=Z,79nm,0.9s
SOC MLR MLR
comp=Z,200nm,12.0s
ONI **Oni** 5.33 35 P Pn 04 32 00.1 +0.5
ONI S Sg 04 33 32.8 +1.8
QASN **Qassioun** 5.34 209 ⇑P Pn 04 32 00.5 +0.7
ANTO **Ankara** 5.34 289 *e*Pn Pn 04 31 59.6 -0.1
comp=Z,46nm,0.9s
ANTO **Ankara** 5.34 289 *e*P Pn 04 31 59.6 -0.1
ANTO pmax pmax
comp=Z,46nm,0.9s
MTA **Mtatsminda** 5.41 49 S Sg 04 33 42.6 +9.1
RCY **Rachaya** 5.56 212 *e*Pn Pn 04 32 03.3 +0.5
BALT **Daday** 5.62 307 *i* P Pn 04 32 03.8 +0.2
DGRG **David-gareji** 5.62 54 P Pg 04 32 22.1 -5.6
DGRG S Sx 04 34 05.5
HRI **Mount Hermon** 5.79 212 Pn Pn 04 32 07.3 +1.4
CSS **Prodhromos** 5.85 238 *e*Pn Pn 04 32 06.6 -0.2
comp=Z,14nm,0.5s
KSDI **Kefar Szold** 5.88 212 Pn Pn 04 32 07.8 +0.6
KSHT **Keshet** 6.00 210 Pn Pn 04 32 09.9 +1.0
MMA0 **Mount Meron ar** 6.14 213 Pn Pn 04 32 11.7 +1.0
MMAI **Mount Meron Ar** 6.14 213 Pn Pn 04 32 10.9 +0.2
comp=Z,26nm,0.3s,baz=66,slow=15,SNR=127
MMAI Lg 04 33 54.3
comp=Z,9.4nm,0.3s,baz=13,slow=19,SNR=3.5
MMC4 **Mount Meron ar** 6.14 212 Pn Pn 04 32 11.8 +1.0
MMB2 **Mount Meron ar** 6.15 213 Pn Pn 04 32 12.2 +1.4
HNTI **Hanita** 6.18 214 Pn Pn 04 32 12.1 +0.8
KIV **Kislovodsk** 6.22 23 *e*P Pn 04 32 15.8 +4.0
KIV pmax pmax
comp=Z,19nm,1.6s
KIV MLR MLR
comp=Z,100nm,17.0s
ASF **Jabal al Asfar** 6.40 199 Pn Pn 04 32 14.7 +0.4
comp=Z,2.0nm,0.3s,baz=256,slow=12,SNR=25
ASF Lg 04 34 01.0
comp=Z,2.9nm,0.3s,baz=270,slow=20,SNR=2.2
ASF LR LR 04 35 01.8
comp=Z,118nm,19.3s,baz=142,slow=42
BHD **Baghdad** 6.45 139 *ex* x 04 32 13.0
BHD *ex* x 04 33 26.0
MMLI **Mount Malkishu** 6.64 210 Pn Pn 04 32 18.3 +0.7
OFRI **'Ofer** 6.66 214 Pn Pn 04 32 19.1 +1.2
ANN **Anapa** 6.68 348 *e*P Pn 04 32 19.8 +1.7
ANN *e*S Sn 04 33 44.6 +10
ANN pmax pmax
comp=Z,76nm,1.6s
HMDT **Nahal Hemdat** 6.76 209 Pn Pn 04 32 20.2 +0.9
SLTI **Sal'it** 6.96 212 Pn Pn 04 32 23.5 +1.4
DSI **Dead Sea** 7.43 207 Pn Pn 04 32 29.8 +1.3
YTIR **Yattir** 7.71 208 Pn Pn 04 32 33.6 +1.3
PRNI **Paran** 8.67 206 Pn Pn 04 32 46.3 +0.9
EIL **Elat** 9.32 204 Pn Pn 04 32 54.9 +0.6
EIL Lg 04 35 37.7
EIL LR LR 04 36 55.5
EIL **Elat** 9.32 204 Pn Pn 04 32 54.9 +0.6
comp=Z,0.6nm,0.3s,baz=6.7,slow=11,SNR=6.4
EIL Lg 04 35 37.7
comp=Z,0.4nm,0.3s,baz=9.5,slow=18,SNR=2.0
EIL LR LR 04 36 55.5
comp=Z,179nm,21.4s,baz=286,slow=41
MLR **Muntele Rosu** 12.31 310 Pn Pn 04 33 38.3 +3.1
comp=Z,0.1nm,0.3s,baz=130,slow=16,SNR=2.2
MLR LR LR 04 39 38.7
comp=Z,148nm,20.0s,baz=306,slow=44
AKASG **Malin Array Be** 14.36 333 Pn Pn 04 34 01.2 -1.9
comp=Z,0.3nm,0.3s,baz=145,slow=12,SNR=6.0
AKBB **Malin Array Si** 14.36 333 *e*P Pn 04 34 04.8 +1.6
KOLS **Kolonicke sedl** 16.29 316 *e*P Pn 04 34 33.6 +4.9
KOLS *e* 04 34 52.4
KWP **Kalwaria** 16.47 319 *e*P Pn 04 34 34.5 +3.6
comp=Z,13nm,1.0s
KWP **Kalwaria** 16.47 319 *e*P Pn 04 34 34.5 +3.5
KWP pmax pmax
comp=Z,13nm,1.0s
CRVS **Cervenica-Dubn** 16.71 315 *e*P Pn 04 34 38.8 +4.7
OBN **Obninsk** 16.96 355*d*iP Pn 04 34 39.1 +2.0
OBN pmax pmax
comp=Z,6.0nm,0.5s
KECS **Kecovo** 17.05 313 *e*P Pn 04 34 44.3 +6.0
comp=Z,2.7nm,0.9s
KECS **Kecovo** 17.05 313 *e*P Pn 04 34 44.3 +6.0
KECS pmax pmax
comp=Z,3.0nm,0.9s
KECS **Kecovo** 17.05 313 *e*P Pn 04 34 44.3 +6.0
KECS *e* 08 08 32.9
STHS **Stebnicka Huta** 17.12 316 *e*P Pn 04 34 43.5 +4.3
comp=Z,4.0nm,1.2s
STHS **Stebnicka Huta** 17.12 316 *e*P Pn 04 34 43.5 +4.3
STHS pmax pmax
comp=Z,4.0nm,1.2s
PSZ **Piszkesteto** 17.13 310 *e*P Pn 04 34 40.9 +1.6
comp=Z,4.3nm,0.8s
PSZ **Piszkesteto** 17.13 310 *e*P Pn 04 34 40.9 +1.6
PSZ pmax pmax
comp=Z,4.0nm,0.8s
TIP **Timpagrande** 17.64 280 *e*P Pn 04 34 46.6 +0.8
comp=Z,49nm,1.4s
AKTK **Aktyubinsk** 18.00 41 P Pn 04 34 48.8 -1.4
AKTO **Aktyubinsk** 18.00 41 P Pn 04 34 48.8 -1.4
comp=Z,0.6nm,0.3s,baz=222,slow=9.9,SNR=15
VYHS **Vyhne** 18.02 311 *e*P Pn 04 34 51.9 +1.5
comp=Z,5.1nm,1.3s
VYHS **Vyhne** 18.02 311 *e*P Pn 04 34 51.9 +1.5
VYHS pmax pmax
comp=Z,5.0nm,1.3s
MODS **Modra-Piesok** 18.91 309 *e*P Pn 04 35 02.3 +1.1
ZST **Bratislava** 18.94 309 *e*P Pn 04 35 01.9 +0.3
comp=Z,8.2nm,0.4s
ZST **Bratislava** 18.94 309 *e*P Pn 04 35 01.9 +0.3
ZST pmax pmax
comp=Z,8.0nm,0.4s
MORC **Moravsky Berou** 19.37 313 *e*P Pn 04 35 06.2 -0.6
comp=Z,7.7nm,1.1s
MORC **Moravsky Berou** 19.37 313 *e*P Pn 04 35 06.2 -0.5
MORC pmax pmax
comp=Z,8.0nm,1.1s
CONA **Conrad Observa** 19.61 307⇓*i*P Pn 04 35 08.9 -0.8
comp=Z,18nm,1.2s
VRAC **Vranov** 19.71 311 P Pn 04 35 09.4 -1.4
comp=Z,0.1nm,0.3s,baz=110,slow=10,SNR=4.0
VRAC LR LR 04 42 54.2
comp=Z,78nm,18.0s,baz=118,slow=37
AQU **L'Aquila** 20.17 290 *e*P P 04 35 14.1 -0.3
comp=Z,23nm,1.0s
AQU **L'Aquila** 20.17 290 *e*P P 04 35 14.1 -0.3
AQU pmax pmax
comp=Z,23nm,1.0s
DPC **Dobruska-Polom** 20.33 314 *e*P P 04 35 17.8 +1.7
TREC **Trest** 20.36 310 *e*P P 04 35 16.9 +0.4
UPC **Upice** 20.58 314 *e*P P 04 35 20.4 +1.6
UPC *ex* x 04 35 34.0
MOA **Molln** 20.59 306⇑*i*P P 04 35 19.9 +0.9
comp=Z,16nm,1.1s
KBA **Koelnbreinsper** 20.97 303⇑*i*P P 04 35 23.8 +0.7
comp=Z,18nm,1.1s
KBA **Koelnbreinsper** 20.97 303⇑*i*P P 04 35 23.8 +0.7
KBA pmax pmax
comp=Z,18nm,1.1s
PRU **Pruhonice** 21.20 312 *e*P P 04 35 25.9 +0.3
GEC2 **GERESS Array S** 21.28 308 *e*P P 04 35 26.6 +0.1
GERES **GERESS Array B** 21.28 308 P P 04 35 26.3 -0.1
GERES LR LR 04 43 52.5
GERES **GERESS Array B** 21.28 308 P P 04 35 26.3 -0.1
comp=Z,3.3nm,0.9s,mb3.7,baz=115,slow=9.3,SNR=22
GERES LR LR 04 43 52.5
comp=Z,52nm,19.9s,MS2.9,baz=277,slow=37
PVCC **Panska Ves** 21.41 313 *e*P P 04 35 29.3 +1.5
KHC **Kasperske Hory** 21.46 309 *e*P P 04 35 28.1 -0.2
KHC *e* 04 35 28.3
VSU **Vasula** 21.80 342⇑*e*P P 04 35 33.2 +1.2
BRG **Berggiesshubel** 21.92 313 *e*P P 04 35 34.6 +1.3
BRG pmax pmax
comp=Z,10.0nm,1.9s,mb3.9
BRG **Berggiesshubel** 21.92 313 *e*P P 04 35 34.6 +1.3
comp=Z,17nm,1.9s,mb4.2
ARU **Arti** 22.22 29 *e*P P 04 35 35.4 -1.0
comp=Z,5.5nm,0.6s,mb4.2
ARU **Arti** 22.22 29*d*iP P 04 35 35.0 -1.4
ARU *e*PPP 04 36 04.4
ARU *e*S S 04 39 42.2 +1.3
ARU pmax pmax
comp=Z,16nm,1.2s,mb4.3
NKC **Novy Kostel** 22.54 311 *e*P P 04 35 40.0 +0.1
CLL **Collm** 22.64 314 *e*P P 04 35 42.0 +1.0
comp=Z,15nm,1.4s,mb4.2
CLL **Collm** 22.64 314 *e*(sP) sP 04 35 42.0 -3.1
comp=Z,15nm,1.4s
CLL *i* x x 04 35 47.7
CLL *e*PP 04 35 55.0
CLL LmV 04 43 00.0
comp=Z,100nm,20.3s
GRA1 **Grafenberg Arr** 23.09 309 *e*P P 04 35 44.6 -1.2
comp=Z,16nm,1.5s,mb4.2
GRF **Grafenberg Arr** 23.09 309 *e*P P 04 35 44.6 -1.2
GRF pmax pmax
comp=Z,16nm,1.5s,mb4.2
GRF **Grafenberg Arr** 23.09 309 *e*P P 04 35 44.6 -1.2
GRF pmax pmax
comp=Z,16nm,1.5s,mb4.2
GRF **Grafenberg Arr** 23.09 309 *e*P P 04 35 44.6 -1.2
comp=Z,16nm,1.5s,mb4.2
GRFO **Grafenberg** 23.10 309 *e*P P 04 35 44.6 -1.1
comp=Z,27nm,1.3s,mb4.5
GRFO **Grafenberg** 23.10 309 *e*P P 04 35 44.6 -1.2
GRFO pmax pmax
comp=Z,27nm,1.3s,mb4.5
DAVOX **Davos/Dischmat** 23.21 301 LR LR 04 45 01.5
comp=Z,63nm,19.1s,MS3.1,baz=194,slow=37
SVE **Sverdlovsk** 23.31 30 *e*P P 04 35 48.2 +0.3
PGF **Pioggiola** 23.43 290 *e*P P 04 35 48.5 -0.9
comp=Z,108nm,1.3s,mb4.8
PGF **Pioggiola** 23.43 290 *e*P P 04 35 48.5 -0.9
comp=Z,54nm,1.3s,mb4.8
PGF **Pioggiola** 23.43 290 *e*P P 04 35 48.5 -0.9
PGF pmax pmax
comp=Z,54nm,1.3s,mb4.8
KEST **Kesra** 24.04 273 P P 04 35 54.9 -0.2
comp=Z,4.4nm,1.0s,mb3.8,baz=303,slow=4.3,SNR=4.1
SBF **Sospel** 24.60 293 *e*P P 04 35 59.4 -0.8
comp=Z,57nm,1.2s,mb4.7
SBF **Sospel** 24.60 293 *e*P P 04 35 59.4 -0.8
comp=Z,28nm,1.2s,mb4.7
SBF **Sospel** 24.60 293 *e*P P 04 35 59.4 -0.8
SBF pmax pmax
comp=Z,28nm,1.2s,mb4.7
FINES **FINESS Array B** 24.63 345 *i* P P 04 35 59.9 -0.3
FINES pmax pmax
comp=Z,3.0nm,0.6s
FINES **FINESS Array B** 24.63 345 P P 04 35 59.8 -0.5
comp=Z,2.6nm,0.6s,mb4.0,baz=142,slow=9.4,SNR=21
FINES LR LR 04 45 48.7
comp=Z,83nm,18.9s,MS3.2,baz=172,slow=37
MBDF **Montbardon** 25.12 295 *e*P P 04 36 05.1 +0.2
comp=Z,11nm,0.9s,mb4.1
MBDF **Montbardon** 25.12 295 *e*P P 04 36 05.1 +0.2
comp=Z,5.7nm,0.9s,mb4.1
MBDF **Montbardon** 25.12 295 *e*P P 04 36 05.1 +0.2
MBDF pmax pmax
comp=Z,6.0nm,0.9s,mb4.1
JOF **Joensuu** 25.16 351 *e*p P 04 36 03.5 -1.6
comp=Z,3.3nm,0.5s,mb4.1
FRF **La Foret Royal** 25.17 293 *e*P P 04 36 04.9 -0.4
comp=Z,78nm,1.5s,mb4.7
FRF **La Foret Royal** 25.17 293 *e*P P 04 36 04.9 -0.4
comp=Z,39nm,1.5s,mb4.7
FRF **La Foret Royal** 25.17 293 *e*P P 04 36 04.9 -0.4
FRF pmax pmax
comp=Z,39nm,1.5s,mb4.7
KAF **Kangasniemi** 25.19 346 *e*p P 04 36 02.3 -3.0
LPG **La Plagne** 25.19 297 *e*P P 04 36 06.0 +0.5
comp=Z,14nm,1.0s,mb4.1
LPG **La Plagne** 25.19 297 *e*P P 04 36 06.0 +0.5
comp=Z,6.8nm,1.0s,mb4.1
LPG **La Plagne** 25.19 297 *e*P P 04 36 06.0 +0.5
LPG pmax pmax
comp=Z,7.0nm,1.0s,mb4.2
LPL **La Plagne** 25.21 297 *e*P P 04 36 05.8 +0.1
comp=Z,10nm,1.0s,mb4.0
LPL **La Plagne** 25.21 297 *e*P P 04 36 05.8 +0.1
comp=Z,5.1nm,1.0s,mb4.0
LPL **La Plagne** 25.21 297 *e*P P 04 36 05.8 +0.1
LPL pmax pmax
comp=Z,5.0nm,1.0s,mb4.0
BNI **Bardonecchia** 25.21 296 *e*P P 04 36 05.8 +0.1
comp=Z,12nm,1.2s,mb4.3
BNI **Bardonecchia** 25.21 296 *e*P P 04 36 05.8 +0.1
BNI pmax pmax
comp=Z,12nm,1.2s,mb4.3
CDF **Champ du Feu** 25.26 304 *e*P P 04 36 06.3 +0.1
LMR **La Mourre** 25.26 292 *e*P P 04 36 05.7 -0.5
HINF **Hinteralfeld** 25.43 303 *e*P P 04 36 08.0 +0.3
comp=Z,12nm,0.8s,mb4.2
HINF **Hinteralfeld** 25.43 303 *e*P P 04 36 08.0 +0.3
comp=Z,5.9nm,0.8s,mb4.2
HINF **Hinteralfeld** 25.43 303 *e*P P 04 36 08.0 +0.3
HINF pmax pmax
comp=Z,6.0nm,0.8s,mb4.2
ORIF **Oris-en-Rattie** 25.77 296 *e*P P 04 36 10.7 -0.1
ORIF *e*MLR MLR
comp=Z,118nm,18.2s,MS3.1
CABF **La Chapelle** 25.77 300 *e*P P 04 36 10.5 -0.3
comp=Z,11nm,1.0s,mb4.0
CABF **La Chapelle** 25.77 300 *e*P P 04 36 10.5 -0.3
comp=Z,5.4nm,1.0s,mb4.0
CABF **La Chapelle** 25.77 300 *e*P P 04 36 10.5 -0.3
CABF pmax pmax
comp=Z,5.0nm,1.0s,mb4.0
HAU **Haudompre** 25.80 303 *e*P P 04 36 11.4 +0.4
HAU *e*MLR MLR
comp=Z,94nm,22.5s,MS3.0
HAU **Haudompre** 25.80 303 *e*P P 04 36 11.4 +0.4
HAU MLR MLR
comp=Z,90nm,22.5s,MS3.2
BRVK **Borovoye** 25.94 45 *e*P P 04 36 12.9 +0.6
comp=Z,2.5nm,0.5s,mb4.0
BRVK **Borovoye** 25.94 45 *e*P P 04 36 12.9 +0.6
BRVK pmax pmax
comp=Z,2.0nm,0.5s,mb3.9
BVAR **Borovoye Array** 25.99 45 P P 04 36 13.0 +0.3
comp=Z,1.5nm,0.6s,mb3.7,baz=234,slow=7.1,SNR=11
BVAR LR LR 04 48 14.3
comp=Z,80nm,21.4s,MS3.2,baz=45,slow=41
EKS2 **Erkin-Say** 26.45 69 *e*P P 04 36 19.1 +2.1
comp=Z,4.2nm,0.9s,mb4.0
LASF **Ste Croix** 27.19 294 *e*P P 04 36 23.3 -0.3
comp=Z,53nm,1.4s,mb4.6
HFS **Hagfors** 27.24 332 P P 04 36 23.3 -0.6
comp=Z,2.5nm,0.8s,mb3.8,baz=122,slow=12,SNR=7.0
HFS LR LR 04 47 44.9
comp=Z,104nm,19.3s,MS3.4,baz=230,slow=38
SMF **Signal de Mont** 27.31 299 *e*P P 04 36 25.0 +0.3
comp=Z,29nm,1.3s,mb4.3
SMF **Signal de Mont** 27.31 299 *e*P P 04 36 25.0 +0.3
comp=Z,14nm,1.3s,mb4.3
SMF **Signal de Mont** 27.31 299 *e*P P 04 36 25.0 +0.3
SMF pmax pmax
comp=Z,14nm,1.3s,mb4.3
LOR **Lormes** 27.36 301 *e*P P 04 36 25.6 +0.5
comp=Z,6.3nm,0.8s,mb3.9
LOR *e*MLR MLR
comp=Z,104nm,19.2s,MS3.1
LOR **Lormes** 27.36 301 *e*P P 04 36 25.6 +0.5
comp=Z,3.2nm,0.8s,mb3.9
LOR LR LR
comp=Z,100nm,19.3s,MS3.4
LOR **Lormes** 27.36 301 *e*P P 04 36 25.6 +0.5
LOR pmax pmax
comp=Z,3.0nm,0.8s,mb3.9
LOR MLR MLR
comp=Z,100nm,19.3s,MS3.4
AVF **Avril sur Loir** 27.66 300 *e*P P 04 36 28.3 +0.5
comp=Z,14nm,1.3s,mb4.2
AVF **Avril sur Loir** 27.66 300 *e*P P 04 36 28.3 +0.5
comp=Z,7.3nm,1.3s,mb4.2
AVF **Avril sur Loir** 27.66 300 *e*P P 04 36 28.3 +0.5
AVF pmax pmax
comp=Z,7.0nm,1.3s,mb4.1
TKM2 **Tokmak 2** 27.78 69 *e*P P 04 36 30.5 +1.6
comp=Z,3.8nm,1.0s,mb4.0
TKM2 **Tokmak 2** 27.78 69 *e*P P 04 36 30.5 +1.6
TKM2 pmax pmax
comp=Z,4.0nm,1.0s,mb4.0
TCF **Toulx Ste Croi** 28.41 298 *e*P P 04 36 34.7 +0.2
NB2 **NORSAR Subarra** 28.76 332 P P 04 36 37.8 +0.3
comp=Z,2.8nm,1.1s,mb3.9,baz=130,slow=9.3
NOA **NORSAR Array B** 28.76 332 LR LR 04 50 35.0
comp=Z,43nm,19.3s,MS3.1,baz=230,slow=42
MFF **Saint Martin d** 30.05 299 *e*P P 04 36 49.2 +0.1
KURK **Kurchatov** 30.30 53 *e*P P 04 36 51.9 +0.7
comp=Z,5.9nm,0.9s,mb4.3
KURK **Kurchatov** 30.30 53⇑*e*P P 04 36 51.4 +0.2
FLN **La Foliniere** 30.41 303 *e*P P 04 36 52.5 +0.3
FLN *e*MLR MLR
comp=Z,114nm,18.8s,MS3.2
FLN **La Foliniere** 30.41 303 *e*P P 04 36 52.5 +0.3
FLN MLR MLR
comp=Z,110nm,18.8s,MS3.5
ARCES **ARCESS Array B** 32.20 351 P P 04 37 07.1 -0.6
comp=Z,3.4nm,0.8s,mb4.2,baz=143,slow=4.2,SNR=6.6
MK31 **Makanchi Array** 32.44 61 *e*P P 04 37 10.1 +0.1
MKAR **Makanchi Array** 32.44 61 *i* P P 04 37 11.1 +1.0
MKAR pmax pmax
comp=Z,2.0nm,0.6s
MKAR **Makanchi Array** 32.44 61 P P 04 37 10.1 +0.1
comp=Z,1.5nm,0.6s,mb4.0,baz=267,slow=8.1,SNR=9.9
ESDC **Sonseca Array** 33.46 286 P P 04 37 19.0 -0.1
comp=Z,1.1nm,0.8s,mb3.9,baz=59,slow=9.9,SNR=4.0
NVS **Novosibirsk** 33.78 46 *e*P P 04 37 22.0 +0.3
ZAL **Zalesovo** 34.53 48 P P 04 37 28.2 0.0
ZALV **Zalesovo Beam** 34.54 48 P P 04 37 28.2 -0.2
comp=Z,2.0nm,0.5s,mb4.3,baz=259,slow=9.0,SNR=12
ZALV LR LR 04 53 01.3
comp=Z,36nm,19.0s,MS3.1,baz=226,slow=39
TOA0 **Torodi Ar. Sit** 41.71 243 *e*P P 04 38 29.1 0.0
TORD **Torodi Ar. Bea** 41.71 243 P P 04 38 27.4 -1.7
TORD **Torodi Ar. Bea** 41.71 243 P P 04 38 27.4 -1.7
comp=Z,2.1nm,0.9s,mb3.8,baz=48,slow=8.1,SNR=14
ZAK **Zakamensk** 45.96 53 *e*P P 04 39 03.0 +0.1
ZAK *e* 04 40 39.6
ZAK pmax pmax
comp=Z,2.0nm,1.0s,mb4.0
ZAK pmax pmax
comp=Z,1.0nm,1.0s,mb3.7
TLY **Talaya** 45.96 51 *e*P P 04 39 04.4 +1.5
TLY pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
SONM **Songino Array** 48.51 56 P P 04 39 22.8 0.0
comp=Z,0.7nm,0.5s,mb3.9,baz=343,slow=19,SNR=5.6
ULN **Ulaanbaatar** 48.93 56 *e*P P 04 39 26.5 +0.5
comp=Z,7.1nm,0.9s,mb4.7
ULN **Ulaanbaatar** 48.93 56*c*iP P 04 39 27.3 +1.2
BOD **Bodaibo** 50.77 42 *e*P P 04 39 39.2 -0.7
DBIC **Dimbokro** 50.82 243 *e*P P 04 39 39.3 -1.5
comp=Z,3.3nm,0.5s,mb4.5
DBIC **Dimbokro** 50.82 243 P P 04 39 38.5 -2.4
DBIC pmax pmax
comp=Z,3.0nm,0.6s
DBIC **Dimbokro** 50.82 243 P P 04 39 38.5 -2.4
comp=Z,2.5nm,0.6s,mb4.3,baz=61,slow=8.8,SNR=7.2
TIXI **Tiksi** 54.05 23⇑*e*P P 04 40 04.6 +0.5
HIA **Hailar** 56.50 51⇑*i*P P 04 40 23.3 +1.3
LBTB **Lobatse** 64.25 194 *e*P P 04 41 15.0 -0.2
comp=Z,2.1nm,0.8s,mb4.2
LBTB **Lobatse** 64.25 194 *e*P P 04 41 15.0 -0.2
LBTB pmax pmax
comp=Z,2.0nm,0.8s,mb4.2
SEY **Seymchan** 65.95 27⇑*e*P P 04 41 26.8 +0.9
BILL **Bilibino** 66.82 19 *e*P P 04 41 30.8 -0.6
BILL pmax pmax
comp=Z,10.0nm,1.9s,mb4.5
KSRS **Korea Array** 67.11 60 P P 04 41 32.9 -0.8
comp=Z,4.9nm,0.9s,mb4.5,baz=292,slow=6.2,SNR=11
BOSA **Boshof** 67.82 193 P P 04 41 36.7 -1.4
BOSA **Boshof** 67.82 193 P P 04 41 36.7 -1.4
comp=Z,4.5nm,1.0s,mb4.5,baz=198,slow=18,SNR=5.0
SCHQ **Schefferville** 67.90 323 P P 04 41 38.6 +0.1
comp=Z,2.8nm,1.0s,mb4.2,baz=14,slow=7.3,SNR=5.5
YKA **Yellowknife Ar** 77.42 348 P P 04 42 34.4 -0.4
YKA **Yellowknife Ar** 77.42 348 *i* P P 04 42 35.0 +0.2
YKA pmax pmax
comp=Z,1.0nm,1.0s
YKA **Yellowknife Ar** 77.42 348 P P 04 42 34.4 -0.4
comp=Z,0.7nm,1.0s,mb3.5,baz=25,slow=5.5,SNR=7.6

*JMA **14** 04:33:04.8, 35.01N×136.88E, h37km±1km, M2.6*
*ISCJB **14** 04:33:05.1±0.6, 35.00N±0.04×136.83E±0.05, h30km±6km,*
Error ellipse: s-maj=7.9km s-min=5.3km az=30.8
ISC 14 04:33:05.2±0.6, 35.00N±0.04×136.82E±0.05, h28km±6km,
n10, σ0=56/17, Western Honshu

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
TSUJ	Tsu 2	0.44	229	P		Pb	04 33 14.7	+0.1
TSUJ				*e*S		Sb	04 33 21.9	+1.0
JIE	Ise	0.61	189	P		Pb	04 33 17.3	-0.1
JIE				*e*S		Sb	04 33 25.9	+0.2
JGM	Miyama	0.70	353	P		Pb	04 33 18.4	-0.6
JGM				*e*S		Sb	04 33 27.9	-0.4
JKN2	Miekihoku	0.88	211	P		Pn	04 33 21.1	-0.7
JKN2				*e*S		Sb	04 33 33.2	-0.1
JHE	Heguri	1.00	250	P		Pn	04 33 23.2	-0.2
JHE				*e*S		Sn	04 33 36.8	+0.3
TK04	Tokai 4	1.06	125	P		Pn	04 33 24.2	0.0
SHZ3	Shizuoka 3	1.14	86	P		Pn	04 33 24.4	-0.9

JWT	Wachi	1.20	284	P	Pn	04 33 25.9 -0.2
JWT				eS	Sn	04 33 41.5 0.0
JWY	Kouya	1.28	233	P	Pn	04 33 26.9 -0.3
MAT	Matsushiro	1.91	36	P	Pn	04 33 36.5 +0.6
MAT				S	Sn	04 34 00.4 +1.4

IDC 14 04:51:37.5±5.3, 3077S×17951W, h0km, mb4.3/3, mb1 4.5/3, mb1mx4.0/13, mbtmp4.3/3, Error ellipse: s-maj=203.9km s-min=49.9km az=153.0

ISC 14 04:52:15.7±2.3, 328S±03×1799W±06, h363km±40km, n11, σ0°98/14, mb3.7/3, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	5.03	197	ePN	Pn	04 53 37.0	+1.0
MXZ				SN	S	04 54 40.7	-0.5
PUZ	Puketiti	5.52	196	ePN	Pn	04 53 41.0	-0.5
PUZ				SN	S	04 54 50.5	-0.5
MWZ	Matawai	5.96	200	ePN	Pn	04 53 47.1	+0.8
MWZ				eSN	S	04 55 00.4	+0.4
BFZ	Birch Farm	8.50	200	ePN	Pn	04 54 16.7	+1.0
BFZ				SN	S	04 55 54.5	+0.6
MRZ	Mangatainoka R	8.70	204	ePN	Pn	04 54 17.1	-1.0
KIW	Kapiti Island	9.11	206	ePN	Pn	04 54 22.8	-0.1
THZ	Tophouse	10.68	211	ePN	Pn	04 54 39.3	-2.1
STKA	Stephens Creek	32.47	261	P	P	04 58 15.7	+2.0
	1.0nm,0.5s,mb3.4,baz=95,slow=11,SNR=3.4						
ASAR	Alice Springs	41.47	270	P	P	04 59 28.4	-0.3
	1.8nm,0.3s,mb3.7,baz=105,slow=7.4,SNR=43						
WRA	Warramunga Arr	42.68	276	P	P	04 59 37.3	-1.0
	3.9nm,0.3s,mb4.0,baz=111,slow=8.1,SNR=34						
FINES	FINESS Array B	146.76	337	PKPbc	PKPbc	05 11 14.7	0.0
	1.9nm,0.7s,baz=54,slow=4.5,SNR=11						

NEIC 14 04:53:21.8, 17.14N×100.44W, h42km, MD3.8(MEX), After MEX.

MEX 14 04:53:22.1±0.5, 1717N×10042W, h40km±6km, MD3.8, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	El Cayaco	0.19	130	iP	Pn	04 53 27.8	-1.5
CAIG				iS	Sn	04 53 32.6	-1.7
ACX	Acapulco	0.56	122	iP	Pn	04 53 32.0	-1.7
ACX				iS	Sn	04 53 40.0	-1.9
MEIG	Mezcala	1.07	45	iP	Pn	04 53 38.8	-1.8
MEIG				iS	Sn	04 53 51.6	-2.6
PLIG	Platanillo	1.50	35	iP	Pn	04 53 45.4	-1.1
PLIG				iS	Sn	04 54 04.8	0.0
PLIG	Platanillo	1.50	35	iP	Pn	04 53 45.4	-1.1
PLIG				iS	Sn	04 54 03.0	-1.8
PPM	Popocatepetl	2.54	42	eP	Pn	04 54 01.5	+0.6

MEX 14 04:58:45.5±0.4, 1719N×10041W, h40km±5km, MD3.6, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	El Cayaco	0.19	136	iP	Pn	04 58 51.3	-1.5
CAIG				iS	Sn	04 58 56.1	-1.7
ACX	Acapulco	0.57	124	iP	Pn	04 58 55.5	-1.7
ACX				iS	Sn	04 59 03.5	-1.9
MEIG	Mezcala	1.05	46	iP	Pn	04 59 02.5	-1.3
MEIG				iS	Sn	04 59 15.0	-2.2
PLIG	Platanillo	1.48	36	iP	Pn	04 59 08.7	-0.9
PLIG				iS	Sn	04 59 25.8	-1.9

ISCJB 14 05:18:33.1±0.5, 3836N±003×2198E±004, h10km±4km, Error ellipse: s-maj=5.9km s-min=4.3km az=28.2
CSEM 14 05:18:33.9±0.1, 3834N×2197E, h8km, MD3.5, Error ellipse: s-maj=1.9km s-min=1.6km az=107.0
THE 14 05:18:33.9, 3836N×2196E, h7km, ML3.2
NEIC 14 05:18:33.4, 3834N×2198E, h18km, MD3.5(ATH), After ATH.
ATH 14 05:18:33.4, 3834N×2198E, h18km±1km, MD3.5/10

ISC 14 05:18:33.7±0.4, 3835N±003×2198E±004, h11km±4km, n20, σ0°88/27, 4C-3D, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SELA	Sela	0.10	221	ePg	Pg	05 18 36.3	-0.1
SELA				eSg	Sg	05 18 38.3	-0.1
RLS	Riolos of Patr	0.50	234	⇑iPB	Pg	05 18 43.3	-0.1
RLS				eSB	Sg	05 18 50.7	+0.7
EVR	Evrytania	0.58	347	iPN	Pg	05 18 44.6	-0.3
EVR				eSN	Sg	05 18 53.6	+1.0
AGG	Agios Georgios	0.72	22	ePg	Pg	05 18 46.9	-0.8
AGG				eSg	Sg	05 18 57.9	+0.8
LTK	Loutraki	0.84	113	ePg	Pg	05 18 50.9	+0.9
LTK	Loutraki	0.84	113	ePg	Pg	05 18 50.8	+0.8
LKR	Lokris	0.85	69	⇑iPN	Pn	05 18 49.7	-2.0
KFL	Anninata	0.97	256	ePg	Pg	05 18 51.8	-0.5
VLX	Vlachokerasia	1.03	162	ePg	Pg	05 18 53.0	-0.6
VLX				eSg	Sg	05 19 08.4	+1.5
LKD	Levkas	1.10	289	ePg	Pg	05 18 54.2	-0.6
VLS	Valsamata	1.11	261	⇓iPB	Pb	05 18 53.8	-1.1
VLS				eSN	Sn	05 19 10.3	-0.1
ITM	Ithomi	1.17	182	⇓iPN	Pn	05 18 55.6	-0.4
THL	Klokotos Trika	1.21	1	⇑iPN	Pn	05 18 56.4	-0.2
THL				eSN	Sn	05 19 13.5	+0.5
DID	Didima	1.30	130	ePg	Pg	05 18 57.8	-1.0
NEO	Neokhori	1.36	45	⇑iPN	Pn	05 18 59.3	+0.7
JAN	Janina	1.57	326	ePN	Pn	05 19 02.3	+0.8
LIT	Litokhoron	1.79	13	ePb	Pb	05 19 04.8	-1.7
VLI	Veliai	1.80	155	ePN	Pn	05 19 05.6	+0.9
PAIG	Paliouri	2.05	40	ePn	Pn	05 19 08.2	0.0
KEK	Kerkira	2.17	309	ePN	Pn	05 19 11.6	+1.8

CASC 14 05:20:13.8±3.3, 1240N×8780W, h20km±12km, MD3.6, ML2.8, 1C-2D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNCH	Conchagua	0.87	358	eP	x	05 20 51.2	
CNCH				eS	x	05 21 04.3	
TEL3	Telica 3	0.95	79	eP	Pb	05 20 32.0	+0.5
TELN	Telica	0.97	78	eP	Pb	05 20 32.0	+0.2
CNGN	Cerro Negro	1.08	85	eP	Pn	05 20 32.3	-1.5
BLLM	Bellamira	1.12	338	⇑eP	x	05 20 54.0	
BLLM				eS	x	05 21 08.4	
VSM	San Miguel	1.12	336	eP	x	05 20 55.1	
VSM				eS	x	05 21 09.4	
COPN	Copaltepe	1.20	100	⇓eP	Pn	05 20 35.1	-0.3
COPN				eS	Sb	05 20 51.0	+0.1
MOMJ	Momotombo	1.23	89	eP	Pn	05 20 36.0	+0.1
MOMJ				eS	Sb	05 20 52.2	+0.4
CSAN		1.36	99	eP	Pn	05 20 38.3	+0.6
CSAN				eS	Sn	05 20 54.9	-0.3
MGAN	Managua	1.54	99	eP	Pn	05 20 39.8	-0.3
MGAN				⇓eS	Sn	05 21 00.4	+0.9
MGAN				i		05 21 01.0	
	comp=N,123nm,0.3s						
TICN	Ticuantepe	1.57	103	eP	Pn	05 20 41.0	+0.4
TICN				eS	Sn	05 21 00.5	+0.1
HUEN		1.59	92	eP	Pn	05 20 41.0	+0.2
LCBS	La Ceiba	1.70	317	eP	x	05 21 01.6	
LCBS				eS	x	05 21 22.7	
LFRS	El Faro	1.73	315	eP	x	05 21 02.0	
LFRS				eS	x	05 21 22.0	
BOQS	Boqueron	1.96	313	eP	x	05 21 05.7	
BOQS				eS	x	05 21 28.2	

ISCJB 14 05:34:34.5±0.5, 2867N±006×1287E±01, h145km±6km, mb3.3/5, Error ellipse: s-maj=17.0km s-min=5.7km az=32.2
JMA 14 05:34:35.9±0.1, 2873N×12858E, h128km, M3.4
IDC 14 05:34:35.7±1.1, 2860N×12864E, h146km±13km, mb3.1/5, mb1 3.3/6, mb1mx3.1/23, mbtmp3.1/6, Error ellipse: s-maj=28.5km s-min=16.9km az=96.0
NEIC 14 05:34:36.3±1.0, 2860N×12859E, h151km±12km, MG3.4(JMA), Error ellipse: s-maj=29.8km s-min=14.8km az=101.0

ISC 14 05:34:35.5±0.5, 2867N±006×12865E±010, h140km±6km, n19, σ0°76/28, mb3.3/5, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAM	Amami Oshima	0.88	107	P	Pn	05 34 58.0	-0.3
JAM				S	Sn	05 35 14.0	-1.5
JTK	Tokunoshima	0.92	163	P	Pn	05 34 59.1	+0.5
JTK				eS	Sn	05 35 16.2	+0.1
JZK	Kikaishima	1.22	106	P	Pn	05 35 02.3	+0.9
JZK				S	Sn	05 35 22.0	+1.0
JNN	Nakanoshima	1.59	42	P	Pn	05 35 05.2	-0.1
JNN				eS	Sn	05 35 27.2	-0.8
JIH	Iheya	1.73	201	P	Pn	05 35 07.4	+0.4
JIH				S	Sn	05 35 31.0	0.0
JOW	Kunigami	1.86	190	P	Pn	05 35 08.4	0.0
JOW				eS	Sn	05 35 33.0	-0.5
JOW	Kunigami	1.86	190	P	Pn	05 35 08.6	+0.2
	28nm,0.3s,baz=88,slow=16,SNR=138						
JOW				S	Sn	05 35 33.0	-0.5
	baz=163,slow=19						
JAGN	Aguni-jima	2.42	211	P	Pn	05 35 15.5	+0.4
JAGN				eS	Sn	05 35 45.0	-0.6
JTN	Tanegashima 3	2.84	45	P	Pn	05 35 20.1	-0.3
JKE	Kume jima 2	2.86	216	P	Pn	05 35 20.9	+0.2
JTSR	Tashiro 2	3.18	38	P	Pn	05 35 24.7	-0.1
JNU	Nakatsue	4.84	23	P	Pn	05 35 49.4	+2.8
	1.0nm,0.3s,baz=145,slow=9.7,SNR=11						
JNU				S	Sn	05 36 42.0	+0.1
	0.4nm,0.3s,baz=347,slow=18,SNR=2.0						
MKAR	Makanchi Array	40.23	310	P	P	05 41 59.4	+1.0
	0.3nm,0.3s,mb3.4,baz=89,slow=9.4,SNR=2.1						
WRA	Warramunga Arr	48.63	173	P	P	05 43 05.4	+0.1
	0.5nm,0.6s,mb3.3,baz=355,slow=8.2,SNR=5.0						
BVAR	Borovoye Array	48.73	317	P	P	05 43 04.4	-1.3
	0.3nm,0.4s,mb3.3,baz=92,slow=7.1,SNR=3.0						
INK	Inuvik	66.52	24	P	P	05 45 09.0	-0.8
INK	Inuvik	66.52	24	P	P	05 45 09.0	-0.8
	0.2nm,0.4s,mb3.3,baz=302,slow=3.6,SNR=4.8						
YKA	Yellowknife Ar	76.17	25	P	P	05 46 07.6	-0.3
YKA	Yellowknife Ar	76.17	25	P	P	05 46 07.6	-0.3
	0.2nm,0.6s,mb2.9,baz=304,slow=6.2,SNR=8.6						

IDC 14 05:43:53.2±0.8, 184N×12638E, h0km, mb4.2/9, mb1 4.3/9, mb1mx4.1/16, mbtmp4.1/9, Error ellipse: s-maj=101.3km s-min=14.9km az=68.0
NEIC 14 05:43:54.7±0.5, 186N×12648E, h10km, mb4.4/8, Error ellipse: s-maj=44.3km s-min=7.8km az=69.0
ISCJB 14 05:43:56.5±0.6, 19N±01×1264E±02, h33km, mb4.2/15, Error ellipse: s-maj=38.0km s-min=8.6km az=157.3

ISC 14 05:43:58.6±0.6, 18N±01×1265E±03, h35km, n27, σ0°71/25, mb4.2/15, 2D, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNE	Ternate	1.38	138	⇓eP	Pn	05 44 21.0	-0.3
TNE	Ternate	1.38	138	⇓eP	Pn	05 44 28.5	+7.2
TNE				eS	Sn	05 44 33.5	-4.8
KAKA	Kakadu	15.61	158	eP	Pn	05 47 40.8	+4.7
	38nm,0.6s						
WRAB	Tennant Creek	22.96	161	eP	P	05 48 59.8	-0.3
	8.8nm,0.6s,mb4.4						
WRA	Warramunga Arr	22.97	161	P	P	05 48 59.6	-0.5
	5.4nm,0.4s,mb4.3,baz=338,slow=11,SNR=44						
WB2	Warramunga Arr	22.97	161	eP	P	05 49 00.0	-0.2
MBWA	Marble Bar	23.76	196	eP	P	05 49 07.8	-0.2
	3.0nm,0.7s,mb3.8						
ASAR	Alice Springs	26.35	164	P	P	05 49 31.6	+0.1
	1.3nm,0.4s,mb3.8,baz=349,slow=14,SNR=36						
ASAR				PcP	PcP	05 52 57.6	+0.6
	0.5nm,0.5s,baz=353,slow=2.4,SNR=4.9						
FORT	Forrest	32.45	177	eP	P	05 50 25.3	-0.3
	1.5nm,0.7s,mb3.9						
STKA	Stephens Creek	36.46	158	eP	P	05 51 01.6	+1.3
STKA	Stephens Creek	36.46	158	P	P	05 51 00.8	+0.6
	1.3nm,0.4s,mb4.3,baz=343,slow=7.8,SNR=7.8						
SONM	Songino Array	49.01	342	P	P	05 52 42.4	+0.6
	0.9nm,0.6s,mb4.0,baz=162,slow=7.6,SNR=6.2						
MK31	Makanchi Array	58.96	326	eP	P	05 53 54.7	+0.2
MKAR	Makanchi Array	58.96	326	P	P	05 53 54.9	+0.4
MKAR	Makanchi Array	58.96	326	P	P	05 53 54.9	+0.4
	1.8nm,0.3s,mb4.5,baz=120,slow=7.6,SNR=21						
TKM2	Tokmak 2	60.99	319	eP	P	05 54 08.2	-0.3
	1.5nm,0.5s,mb4.4						
ZALV	Zalesovo Beam	62.16	334	P	P	05 54 15.1	-1.1
ZALV	Zalesovo Beam	62.16	334	P	P	05 54 15.1	-1.1
	0.6nm,0.3s,mb4.2,baz=121,slow=6.7,SNR=3.5						
KURK	Kurchatov	63.20	328	eP	P	05 54 23.2	0.0
	5.7nm,0.4s,mb5.0						
BVAR	Borovoye Array	68.76	327	P	P	05 54 57.9	-1.0
	0.9nm,0.5s,mb4.0,baz=116,slow=5.1,SNR=7.5						
BRVK	Borovoye	68.84	327	eP	P	05 55 00.8	+1.5
	1.9nm,0.5s,mb4.3						
VNDA	Vanda	81.58	173	eP	P	05 56 13.7	+1.4
	1.8nm,0.8s,mb4.0						
VNDA	Vanda	81.58	173	P	P	05 56 13.3	+1.1
	1.5nm,0.7s,mb4.0,baz=312,slow=6.8,SNR=7.9						
FINES	FINESS Array B	93.37	322	P	P	05 57 08.9	-0.9
	0.9nm,0.8s,mb4.3,baz=47,slow=7.7,SNR=2.9						
YKA	Yellowknife Ar	101.34	24	P	Pdif	05 57 46.7	+0.7
	0.1nm,0.8s,baz=303,slow=6.2,SNR=4.1						
TORD	Torodi Ar. Bea	123.22	287	PKP	PKPdf	06 02 53.2	+0.4
	0.3nm,0.7s,baz=27,slow=0.6,SNR=2.3						
CFAA	Coronel Fontan	147.29	156	PKPbc	PKPbc	06 03 36.9	-2.1
	0.2nm,0.8s,baz=309,slow=1.8,SNR=6.0						

ISCJB 14 05:48:37.5±1.5, 158S±01×737W±01, h91km±10km, mb4.0/15, Error ellipse: s-maj=28.6km s-min=7.4km az=34.7
NEIC 14 05:48:38.6±1.1, 1568S×7356W, h83km±9km, mb4.1/9, Error ellipse: s-maj=21.4km s-min=8.8km az=221.0
IDC 14 05:48:40.2±2.4, 1558S×7364W, h91km±17km, mb3.9/7, mb1 4.0/10, mb1mx3.8/20, mbtmp3.9/10, MS3.0/3, Ms1 3.0/3, ms1mx2.7/29, Error ellipse: s-maj=38.8km s-min=11.0km az=31.0

ISC 14 05:48:38.7±1.5, 159S±02×738W±01, h86km±10km, n38, σ1°15/33, mb4.0/15, 1D, Southern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARE	Arequipa	2.27	106	⇓iP	Pn	05 49 13.7	-0.6
ARE				eS	Sn	05 49 32.0	-10
NNA	Nana	4.86	322	ePn	Pn	05 49 48.5	-0.9
NNA				eSn	Sn	05 50 41.7	-2.8
NNA	Nana	4.86	322	P	Pn	05 49 50.6	+1.2
	8.0nm,0.3s,baz=156,slow=14,SNR=18						
NNA				S	Sn	05 50 41.6	-2.8
	70nm,0.3s,baz=157,slow=11,SNR=9.2						
LPAZ	La Paz	5.44	95	ePn	Pn	05 49 59.2	+2.0
LPAZ	La Paz	5.44	95	P	Pn	05 49 59.4	+2.1
	2.4nm,0.3s,baz=278,slow=11,SNR=41						
LPAZ				S	Sn	05 50 58.9	+0.3
	baz=336,slow=20,SNR=1.6						
ATAH	Atahualpa	9.89	332	P	Pn	05 50 57.7	-0.3
	0.4nm,0.3s,baz=75,slow=15,SNR=2.0						
ATAH				S	Sn	05 52 49.5	+2.2
	0.6nm,0.3s,baz=357,slow=19,SNR=1.8						
SIV	San Ignacio	12.22	92	P	Pn	05 51 26.0	-3.7
	0.2nm,0.3s,baz=278,slow=11,SNR=8.6						
CFAA	Coronel Fontan	16.47	163	LR	LR	05 57 46.6	
	comp=Z,15nm,21.3s,baz=268,slow=33						
ROSC	El Rosal	20.58	358	eP	P	05 53 10.9	+0.1
ROSC	El Rosal	20.58	358	P	P	05 53 13.2	+2.4
	8.8nm,0.7s,baz=127,slow=5.9,SNR=8.3						
SDV	Santo Domingo	24.77	7	eP	P	05 53 51.9	-0.6
	6.8nm,0.9s,mb4.1						
SDV	Santo Domingo	24.77	7	P	P	05 53 51.9	-0.6
	4.0nm,0.7s,mb4.0,baz=267,slow=3.7,SNR=7.3						
SDV				LR	LR	06 03 24.1	
	comp=Z,57nm,19.5s,baz=157,slow=36						
PCRV	Puerto La Cruz	27.40	20	LR	LR	06 06 13.2	
	comp=Z,59nm,20.2s,baz=29,slow=39						
WVT	Waverly	53.38	346	eP	P	05 57 47.6	-1.8
	3.7nm,1.0s,mb4.4						
TXAR	Lajitas Array	53.40	327	P	P	05 57 50.0	+0.4
	1.6nm,0.6s,mb4.2,baz=152,slow=8.9,SNR=28						
WCI	Wyandotte Cave	55.06	348	eP	P	05 58 00.3	-1.3
	21nm,1.5s,mb4.9						
ANMO	Albuquerque	59.30	329	eP	P	05 58 31.9	+0.4
	0.9nm,0.7s,mb3.9						
SDCO	Great Sand Dun	61.09	332	eP	P	05 58 44.4	+0.7
	1.1nm,0.6s,mb4.1						
MSU	Marysvale	64.95	327	eP	P	05 59 10.4	+1.1
DUG	Dugway	66.54	328	eP	P	05 59 20.8	+1.3
	2.8nm,0.8s,mb4.1						
HWUT	Hardware Ranch	67.00	330	eP	P	05 59 22.7	+0.4
	1.3nm,0.6s,mb3.9						
NVAR	Mina Array Bea	68.23	324	P	P	05 59 30.6	+0.4
	0.2nm,0.5s,mb3.2,baz=142,slow=9.1,SNR=3.7						
ULM	Lac du Bonnet	68.63	345	eP	P	05 59 30.9	-1.5
	1.4nm,0.6s,mb4.0						
ULM	Lac du Bonnet	68.63	345	P	P	05 59 31.9	-0.5
	1.5nm,0.5s,mb4.1,baz=160,slow=8.5,SNR=5.2						
HLID	Hailey	69.85	330	eP	P	05 59 41.1	+1.0
	0.6nm,0.5s,mb3.7						
SCHQ	Schefferville	70.65	4	P	P	05 59 44.1	-0.6
	2.1nm,0.8s,mb4.0,baz=270,slow=11,SNR=3.8						
TORD	Torodi Ar. Bea	79.98	73	P	P	06 00 38.3	-0.8
	1.8nm,0.8s,mb4.0,baz=271,slow=5.5,SNR=7.1						
YKA	Yellowknife Ar	84.39	342	P	P	06 00 60.0	-1.1
YKA	Yellowknife Ar	84.39	342	P	P	06 00 60.0	-1.1
	1.5nm,0.9s,mb3.8,baz=144,slow=5.0,SNR=23						
BOSA	Boshof	90.20	120	P	P	06 01 30.4	+0.4
	2.6nm,1.0s,mb4.3,baz=236,slow=2.2,SNR=3.9						
MAW	Mawson	91.00	165	LR	LR	06 39 52.3	
	comp=Z,177nm,20.8s,baz=73,slow=34						
ASAR	Alice Springs	132.31	215	PKP	PKPdf	06 07 44.5	+0.9
ASAR	Alice Springs	132.31	215	PKP	PKPdf	06 07 44.5	+0.9
	0.4nm,0.9s,baz=145,slow=2.6,SNR=3.6						
WRA	Warramunga Arr	134.96	219	PKP	PKPdf	06 07 49.7	+1.1
	0.9nm,1.0s,baz=141,slow=2.1,SNR=4.0						
ZALV	Zalesovo Beam	138.47	19	PKP	PKPdf	06 07 54.5	+0.4
	0.6nm,0.4s,baz=300,slow=2.9,SNR=6.1						
MKAR	Makanchi Array	143.28	28	PKP	PKPdf	06 08 00.6	-2.4
	0.2nm,0.2s,baz=323,slow=2.2,SNR=2.9						
SONM	Songino Array	148.11	360	PKPbc	PKPbc	06 08 15.3	+0.9
	2.5nm,0.9s,baz=324,slow=2.2,SNR=9.6						
KSRS	Korea Array	151.17	322	PKPbc	PKPbc	06 08 23.1	+0.8
	4.0nm,1.0s,baz=2.7,slow=1.6,SNR=8.5						

IDC 14 06:12:50.1±7.2, 968N×9250E, h0km, mb3.6/3, mb1 3.9/3, mb1mx3.6/20, mbtmp3.6/3, Error ellipse: s-maj=371.0km s-min=27.1km az=60.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	Port Blair	1.98	7	eP	x	06 13 43.8	
PBA				eS	x	06 13 59.2	
PBA				ex	x	06 14 08.0	
	comp=N,207nm,0.5s						
PBA				ex	x	06 14 08.4	
	comp=E,176nm,0.2s						
MKAR	Makanchi Array	38.00	349	P	P	06 20 09.8	0.0
	comp=E,0.2nm,0.2s,baz=177,slow=10,SNR=3.0						
WRA	Warramunga Arr	50.62	126	P	P	06 21 51.5	+0.2
	comp=E,1.4nm,0.4s,baz=305,slow=8.5,SNR=11						
ASAR	Alice Springs	52.31	130	P	P	06 22 03.6	-0.2
	comp=E,0.4nm,0.4s,baz=308,slow=7.4,SNR=9.2						

ISCJB 14 06:19:38.4±0.7, 4562N±004×2125E±004, h7km±7km, Error ellipse: s-maj=6.4km s-min=4.4km az=171.7
CSEM 14 06:19:38.6±0.5, 4563N×2127E, h14km±5km, MD2.6/3, Error ellipse: s-maj=11.3km s-min=3.9km az=4.0, After BUC
BUC 14 06:19:38.6±0.5, 4563N×2127E, h14km±5km, MD2.6/3, Error ellipse: s-maj=11.3km s-min=3.9km az=4.0
BEO 14 06:19:39.0±0.5, 4565N×2135E, h13km±3km, ML2.1/6

ISC 14 06:19:39.3±0.6, 4563N±004×2130E±004, h12km±6km, n11, σ0°63/19, 4C-3D, Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BZS	Buzias	0.23	92	⇓iPg	Pg	06 19 44.1	+0.1
BZS				eSg	Sg	06 19 47.8	+0.6
BZS	Buzias	0.23	92	⇓iP	Pg	06 19 44.2	+0.2
BZS				iS	Sg	06 19 48.2	+1.0
GZR	Gura Zlata	1.07	102	⇑iP	Pb	06 19 59.3	-0.4
GZR				iS	Sb	06 20 13.8	+0.2
FGSL	Fruska Gora	1.15	246	⇑iPg	Pg	06 20 00.8	-0.5
FGSL				eSg	Sg	06 20 17.1	+0.8
DJES	Djerdap	1.32	138	eSg	Sg	06 20 20.2	-1.5
DRGR		1.52	40	⇑iP	Pn	06 20 06.6	+0.2
DRGR				iS	Sn	06 20 26.1	-0.1
GRUS	Gruza	1.79	194	ePn	Pn	06 20 09.8	-0.2
GRUS				eSg	Sg	06 20 37.3	+0.6
DIVS	Divibare	1.79	212	ePn	Pn	06 20 10.8	+0.8
DIVS				eSg	Sg	06 20 36.6	-0.1
PKSM	Moragy	1.94	289	⇑iPn	Pn	06 20 11.7	-0.5
PKSM				eSg	Sg	06 20 40.9	-0.9
PKSM	Moragy	1.94	289	⇓iP	Pn	06 20 11.8	-0.4
VYHS	Vyhne	3.33	331	ePN	Pn	06 20 31.6	+0.5
VYHS				ePP		16 05 31.0	

NEIC 14 06:26:20.6±0.5, 379N×9580E, h30km, mb4.5/10, Error ellipse: s-maj=15.9km s-min=6.6km az=50.0
IDC 14 06:26:23.5±4.9, 386N×9594E, h52km±40km, mb4.0/12, mb1 4.0/13, mb1mx3.9/22, mbtmp4.0/13, ML4.0/1, MS3.0/1, Ms1 3.0/1, ms1mx2.6/27, Error ellipse: s-maj=49.9km s-min=13.2km az=59.0
ISCJB 14 06:26:24.3±2.3, 390N±008×960E±01, h77km±19km, mb4.3/22, Error ellipse: s-maj=21.0km s-min=9.6km az=151.0

ISC 14 06:26:25.7±2.3, 388N±008×960E±01, h73km±19km, n35, σ0°71/35, mb4.3/22, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	Prapat	3.13	110	P	Pn	06 27 12.3	-0.4
PSI				S	Sn	06 27 52.2	+3.1
PSI	Prapat	3.13	110	P	Pn	06 27 12.3	-0.4
	16nm,0.3s,baz=318,slow=8.7,SNR=184						
PSI				S	Sn	06 27 52.2	+3.1
	11nm,0.3s,baz=305,slow=12,SNR=5.3						
KULM	Kulim	4.87	73	ePn	Pn	06 27 35.0	-1.4
KULM				eSn	Sn	06 28 32.2	+0.7
KSM	Kuching	14.52	99	ePn	Pn	06 29 38.0	-10
KKM	Kota Kinabalu	20.28	83	eP	P	06 30 55.5	-0.2
MBWA	Marble Bar	34.08	138	eP	P	06 33 03.1	-0.3
	1.6nm,0.6s,mb4.0						
FITZ	Fitzroy Crossi	36.50	128	eP	P	06 33 21.7	-2.6
	4.0nm,0.6s,mb4.5						
FITZ	Fitzroy Crossi	36.50	128	P	P	06 33 23.0	-1.2
	2.0nm

STKA	Stephens Creek	56.06	133	P	P	06 35 57.8	+0.4
	1.0nm,0.6s,mb4.0,baz=311,slow=9.9,SNR=5.1						
TIXI	Tiksi	70.79	10	eP	P	06 37 33.5	-0.5
	5.7nm,0.7s,mb4.5						
JOF	Joensuu	75.22	335	ep	P	06 37 59.4	-0.8
	1.4nm,0.5s,mb4.0						
FINES	FINESS Array B	77.07	332	P	P	06 38 11.1	+0.3
	0.7nm,0.4s,mb3.7,baz=92,slow=5.3,SNR=7.1						
ARCES	ARCESS Array B	79.62	340	P	P	06 38 25.4	+0.7
	1.3nm,0.4s,mb4.1,baz=97,slow=6.8,SNR=15						
NOA	NORSAR Array B	84.08	331	P	P	06 38 48.2	-0.1
	0.6nm,0.8s,mb3.5,baz=91,slow=6.3,SNR=3.0						
ULM	Lac du Bonnet	125.13	9	PKP	PKPdf	06 45 18.0	+0.1
ULM	Lac du Bonnet	125.13	9	PKP	PKPdf	06 45 18.0	+0.1
	1.4nm,0.7s,baz=335,slow=3.7,SNR=5.0						
TXAR	Lajitas Array	141.98	28	PKP	PKPdf	06 45 49.0	-1.1
	0.2nm,0.6s,baz=45,slow=1.9,SNR=3.8						

IDC 14 06:28:15.1±31.0, 1606S×17521W, h0km, mb4.3/4, mb1 4.5/4, mb1mx3.9/16, mbtmp4.3/4, Error ellipse: s-maj=599.4km s-min=151.5km az=84.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	42.20	240	eP	P	06 36 08.8	-1.1
	1.7nm,0.5s						
STKA	Stephens Creek	42.20	240	P	P	06 36 10.6	+0.7
	3.0nm,0.6s,baz=75,slow=7.9,SNR=7.0						
WRA	Warramunga Arr	48.00	257	P	P	06 36 56.1	-0.2
	1.0nm,0.4s,baz=96,slow=7.7,SNR=6.1						
ASAR	Alice Springs	48.25	252	P	P	06 36 57.9	-0.3
	6.3nm,0.5s,baz=88,slow=8.2,SNR=85						
FITZ	Fitzroy Crossi	56.37	259	P	P	06 37 58.1	-0.5
	0.9nm,0.7s,baz=162,slow=9.6,SNR=3.6						

ISCJB 14 06:37:43.6±4.7, 523N±0.1×1684W±0.2, h24km±33km, mb3.7/10, Error ellipse: s-maj=22.6km s-min=14.1km az=39.3
IDC 14 06:37:43.4±2.0, 5249N×168.13W, h0km, mb3.6/8, mb1 3.9/8, mb1mx3.7/24, mbtmp3.6/8, Error ellipse: s-maj=51.1km s-min=23.6km az=24.0
NEIC 14 06:37:45.3, 5224N×167.91W, h2km, ML2.9(AEIC), After AEIC.

ISC 14 06:37:42.4±4.8, 524N±01×1684W±02, h0km±31km, n15, σ0°76/17, mb3.8/10, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UNV	Unalaska Valle	1.85	36	P	Pn	06 38 15.9	+0.5
UNV				S	Sn	06 38 39.2	-0.3
AKLV	Akutan Long Va	2.30	38	P	Pn	06 38 21.9	+0.3
AKLV				S	Sn	06 38 51.1	+0.5
INK	Inuvik	23.01	33	P	P	06 42 46.4	-2.0
	1.3nm,0.5s,mb3.7,baz=226,slow=9.5,SNR=13						
YKA	Yellowknife Ar	29.77	49	P	P	06 43 50.7	+0.5
YKA	Yellowknife Ar	29.77	49	P	P	06 43 50.7	+0.5
	0.2nm,0.6s,mb3.1,baz=272,slow=7.9,SNR=8.3						
NVAR	Mina Array Bea	37.04	92	P	P	06 44 53.0	-0.8
NVAR	Mina Array Bea	37.04	92	P	P	06 44 53.0	-0.8
	0.2nm,0.5s,mb3.1,baz=339,slow=9.7,SNR=2.2						
PDAR	Pinedale Array	39.79	80	P	P	06 45 17.1	+0.3
	0.4nm,0.5s,mb3.3,baz=308,slow=5.5,SNR=4.1						
TXAR	Lajitas Array	52.12	90	P	P	06 46 54.8	+0.5
	0.3nm,0.7s,mb3.3,baz=305,slow=4.4,SNR=3.5						
JOF	Joensuu	64.02	350	ep	P	06 48 16.0	-1.1
	0.6nm,0.3s,mb4.3						
MKAR	Makanchi Array	64.26	314	P	P	06 48 19.8	+0.9
	0.2nm,0.3s,mb3.8,baz=50,slow=8.1,SNR=4.3						
KAF	Kangasniemi	65.28	352	ep	P	06 48 25.0	-0.3
	3.8nm,0.6s,mb4.8,baz=7.2,slow=6.0						
FINES	FINESS Array B	65.96	352	P	P	06 48 30.3	+0.5
	1.4nm,0.5s,mb4.4,baz=19,slow=8.8,SNR=13						
NB2	NORSAR Subarra	66.94	0	P	P	06 48 35.8	-0.2
	comp=Z,1.1nm,0.6s,mb4.3,baz=0.9,slow=6.2						
NOA	NORSAR Array B	66.94	0	P	P	06 48 36.6	+0.6
	comp=Z,0.9nm,0.7s,mb4.1,baz=360,slow=6.2,SNR=4.9						

IDC 14 06:37:55.6±2.9, 3316S×17910E, h0km, mb3.5/2, mb1 3.7/3, mb1mx3.6/14, mbtmp3.5/3, ML3.3/1, Error ellipse: s-maj=62.6km s-min=34.4km az=92.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUZ	Puketiti	4.95	188	ePN	Pn	06 39 05.4	-5.8
PUZ				SN	Sn	06 40 08.0	-1.1
MWZ	Matawai	5.32	193	ePN	Pn	06 39 12.7	-3.5
URZ	Urewera	5.34	197	Pn	Pn	06 39 14.9	-1.6
	1.0nm,0.3s,baz=278,slow=23,SNR=12						
URZ				Sn	Sn	06 40 22.4	+3.6
	0.7nm,0.3s,baz=176,slow=19,SNR=3.7						
URZ	Urewera	5.34	197	ePN	Pn	06 39 14.0	-2.5
MRZ	Mangatainoka R	8.00	200	ePN	Pn	06 39 48.0	-5.0
ASAR	Alice Springs	40.60	271	P	P	06 45 37.9	+0.6
	0.5nm,0.7s,baz=109,slow=7.2,SNR=7.3						
WRA	Warramunga Arr	41.85	277	P	P	06 45 46.8	-0.8
	0.5nm,0.6s,baz=115,slow=7.8,SNR=3.5						
FINES	FINESS Array B	146.79	337	PKPbc	PKPbc	06 57 38.4	-0.4
	1.7nm,0.9s,baz=48,slow=2.8,SNR=4.5						

IDC 14 07:04:34.3±1.9, 457S×10241E, h0km, mb4.1/8, mb1 4.1/8, mb1mx3.9/18, mbtmp4.1/8, Error ellipse: s-maj=94.8km s-min=18.0km az=53.0
ISCJB 14 07:04:38.3±1.7, 445S±04×1027E±05, h33km, mb4.1/8, Error ellipse: s-maj=86.8km s-min=15.8km az=143.2

ISC 14 07:04:39.9±1.7, 45S±04×1025E±05, h35km, n9, σ0°45/8, mb4.1/8, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	34.57	119	P	P	07 11 25.2	-0.4
	0.6nm,0.4s,mb3.9,baz=303,slow=9.0,SNR=3.8						
ASAR	Alice Springs	35.75	125	P	P	07 11 35.5	-0.2
	0.3nm,0.3s,mb3.7,baz=297,slow=8.1,SNR=8.2						
STKA	Stephens Creek	45.61	131	P	P	07 12 57.4	+0.4
	1.6nm,0.6s,mb4.2,baz=289,slow=5.8,SNR=4.2						
SONM	Songino Array	52.26	3	P	P	07 13 48.3	+0.7
	2.5nm,0.7s,mb4.2,baz=185,slow=9.7,SNR=19						
MKAR	Makanchi Array	54.14	343	P	P	07 14 01.0	-0.5
	1.3nm,0.6s,mb4.1,baz=152,slow=8.1,SNR=12						
ZALV	Zalesovo Beam	60.12	348	P	P	07 14 43.0	-0.6
	4.5nm,0.5s,mb4.8,baz=173,slow=5.2,SNR=20						
FINES	FINESS Array B	87.50	332	P	P	07 17 24.1	+0.4
	0.2nm,0.4s,mb3.7,baz=123,slow=6.8,SNR=4.7						
ARCES	ARCESS Array B	89.69	340	P	P	07 17 34.0	0.0
	2.5nm,0.9s,mb4.5,baz=85,slow=4.0,SNR=2.7						
TXAR	Lajitas Array	145.03	42	PKPbc	PKPbc	07 24 13.6	-0.1
	0.6nm,0.5s,baz=249,slow=0.6,SNR=10						

IDC 14 07:18:53.3±1.3, 3110S×17859W, h0km, mb4.3/5, mb1 4.4/6, mb1mx4.1/16, mbtmp4.3/6, ML3.5/1, Error ellipse: s-maj=38.4km s-min=30.1km az=160.0

ISC 14 07:19:13.5±1.7, 3217S±006×1793W±03, h150km, n29, σ0°96/28, mb4.2/6, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	5.72	199	PN	Pn	07 20 37.8	+1.3
MXZ				SN	Sn	07 21 47.2	+5.9
PUZ	Puketiti	6.21	198	ePN	Pn	07 20 43.6	+0.6
PUZ				SN	Sn	07 21 57.6	+4.5
MWZ	Matawai	6.67	202	ePN	Pn	07 20 49.4	+0.3
URZ	Urewera	6.74	205	Pn	Pn	07 20 51.7	+1.6
	0.7nm,0.3s,baz=196,slow=7.3,SNR=17						
URZ				Sn	Sn	07 22 11.8	+6.1
	2.7nm,0.3s,baz=108,slow=20,SNR=4.4						
URZ	Urewera	6.74	205	ePN	Pn	07 20 50.9	+0.9
URZ				eSN	Sn	07 22 13.2	+7.5
KNZ	Kokohu	7.26	199	ePN	Pn	07 20 57.7	+0.7
BKZ	Black Stump Fm	7.77	205	ePN	Pn	07 21 03.8	+0.1
BFZ	Birch Farm	9.21	202	ePN	Pn	07 21 22.5	-0.5
BFZ				SN	Sn	07 23 05.9	+0.8
MRZ	Mangatainoka R	9.42	204	ePN	Pn	07 21 23.5	-2.1
MRZ				eSN	Sn	07 23 10.3	+0.3
KIW	Kapiti Island	9.84	206	ePN	Pn	07 21 29.8	-1.5
TCW	Tory Channel	10.38	208	ePN	Pn	07 21 36.2	-2.2
TCW				eSN	Sn	07 23 33.0	-0.2
NNZ	Nelson	10.76	211	ePN	Pn	07 21 42.7	-0.8
MQZ	McQueen's Vall	13.14	206	SN	Sn	07 24 34.4	-5.1
STKA	Stephens Creek	33.01	260	eP	P	07 25 40.1	+5.7
	2.0nm,0.9s,mb3.9						
STKA	Stephens Creek	33.01	260	P	P	07 25 38.7	+4.3
	1.8nm,0.6s,mb4.0,baz=101,slow=9.2,SNR=6.3						
CTA	Charters Tower	33.02	283	P	P	07 25 35.5	+0.8
	5.4nm,0.8s,mb4.3,baz=115,slow=12,SNR=2.8						
ASAR	Alice Springs	41.92	270	P	P	07 26 50.0	+0.6
	3.0nm,0.5s,mb4.2,baz=106,slow=7.4,SNR=17						
WB2	Warramunga Arr	43.06	275	eP	P	07 26 58.7	0.0
WRA	Warramunga Arr	43.07	275	P	P	07 26 58.9	+0.1
	3.2nm,0.4s,mb4.3,baz=112,slow=7.9,SNR=27						
KAKA	Kakadu	48.16	282	eP	P	07 27 37.9	-0.9
	7.1nm,0.8s,mb4.3						
FITZ	Fitzroy Crossi	51.25	272	P	P	07 28 02.4	+0.2
	1.7nm,0.7s,mb3.8,baz=144,slow=18,SNR=5.5						
YKA	Yellowknife Ar	107.52	26	PKKPbc	PKKPbc	07 48 37.8	-0.7
	0.1nm,0.6s,baz=42,slow=3.9,SNR=4.2						
JOF	Joensuu	143.62	337	epkp	PKPdf	07 38 23.4	-6.2
KAF	Kangasniemi	145.81	339	epkp	PKPdf	07 38 30.4	-3.0
FINES	FINESS Array B	146.39	338	PKPbc	PKPbc	07 38 33.2	-2.8
	4.3nm,0.4s,baz=52,slow=4.6,SNR=54						
NB2	NORSAR Subarra	150.30	350	PKP	PKPdf	07 38 45.3	+4.5
	comp=Z,0.7nm,0.5s,baz=16,slow=2.6						
NOA	NORSAR Array B	150.30	350	PKPbc	PKPbc	07 38 42.9	-3.2
	comp=Z,1.3nm,0.6s,baz=15,slow=4.2,SNR=7.1						
AKASG	Malin Array Be	151.96	320	PKPbc	PKPbc	07 38 48.6	-1.8
	comp=Z,0.6nm,0.5s,baz=57,slow=2.7,SNR=3.9						
TORD	Torodi Ar. Bea	161.04	183	PKPab	PKPab	07 39 42.8	+2.7
	comp=Z,0.3nm,0.5s,baz=168,slow=4.7,SNR=6.0						

IDC 14 07:27:35.4±0.7, 1065S×12470E, h0km, mb4.2/5, mb1 4.5/8, mb1mx4.3/15, mbtmp4.4/8, ML4.8/3, MS3.3/3, Ms1 3.3/3, ms1mx3.0/21, Error ellipse: s-maj=37.5km s-min=15.5km az=56.0
ISCJB 14 07:27:39.0±1.0, 1109S±006×12452E±007, h63km±12km, mb4.1/6, Error ellipse: s-maj=13.5km s-min=7.5km az=137.0
NEIC 14 07:27:38.2±0.7, 1090S×12450E, h20km, mb4.4/3, Error ellipse: s-maj=19.6km s-min=10.4km az=59.0

ISC 14 07:27:39.8±0.8, 1098S±007×12447E±006, h39km±12km, n27, σ1°09/28, mb4.1/6, MS3.1/2, 1D, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	Kupang	1.10	314	Pn	Pn	07 27 59.4	+0.7
	4μm,0.3s,baz=153,slow=4.1,SNR=817						
WSI	Waingapu	4.31	287	↓eP	Pn	07 28 53.5	+11
WSI				eS	Sn	07 29 31.0	-0.8
FITZ	Fitzroy Crossi	7.17	171	eP	Pn	07 29 23.4	+1.3
	40nm,0.4s						
FITZ				eS	Sn	07 30 37.4	-4.9
FITZ	Fitzroy Crossi	7.17	171	Pn	Pn	07 29 23.9	+1.8
	7.6nm,0.3s,baz=8.4,slow=12,SNR=169						
FITZ				Sn	Sn	07 30 39.7	-2.6
	30nm,0.3s,baz=164,slow=11,SNR=41						
KAKA	Kakadu	7.99	103	eP	Pn	07 29 34.8	+1.4
	23nm,0.3s						
KAKA				eS	Sn	07 31 02.6	+0.1
MBWA	Marble Bar	11.10	204	ePn	Pn	07 30 16.7	+0.7
WRA	Warramunga Arr	13.03	134	Pn	Pn	07 30 41.4	-1.0
	5.1nm,0.3s,baz=300,slow=13,SNR=54						
WRA				Sn	Sn	07 32 58.0	-8.1
	13nm,0.3s,baz=308,slow=24,SNR=16						
WRA				LR	LR	07 36 21.2	
	comp=Z,168nm,19.8s,baz=325,slow=40						
WRAB	Tennant Creek	13.03	134	ePn	Pn	07 30 41.7	-0.7
	1.9nm,0.4s						
WB2	Warramunga Arr	13.04	134	eP	Pn	07 30 40.6	-1.9
WB2				eS	Sn	07 32 57.4	-8.9
ASAR	Alice Springs	15.49	146	Pn	Pn	07 31 15.6	+0.1
	5.6nm,0.3s,baz=318,slow=12,SNR=489						
ASAR				Sn	Sn	07 33 59.8	-6.2
	6.1nm,0.3s,baz=314,slow=22,SNR=25						
KKM	Kota Kinabalu	18.80	334	eP	Pn	07 31 56.9	0.0
FORT	Forrest	19.98	171	eP	Pn	07 32 12.0	+1.2
	26nm,0.7s						
CTA	Charters Tower	22.84	116	LR	LR	07 40 55.8	
	comp=Z,55nm,21.9s,MS3.0,baz=230,slow=35						
STKA	Stephens Creek	26.13	145	eP	P	07 33 13.9	+3.7
	5.6nm,0.8s,mb4.2						
STKA	Stephens Creek	26.13	145	P	P	07 33 13.8	+3.5
	5.1nm,0.7s,mb4.2,baz=312,slow=9.2,SNR=16						
STKA				LR	LR	07 43 15.8	
	comp=Z,68nm,18.2s,MS3.2,baz=25,slow=36						
SONM	Songino Array	60.72	346	P	P	07 37 47.0	-0.1
	1.4nm,0.6s,mb4.3,baz=164,slow=8.7,SNR=6.7						
MK31	Makanchi Array	68.75	330	P	P	07 38 39.7	+0.1
MKAR	Makanchi Array	68.75	330	P	P	07 38 39.4	-0.2
	0.7nm,0.5s,mb3.8,baz=136,slow=7.3,SNR=7.8						
ZAA0	Zalesovo Array	72.89	337	P	P	07 38 59.2	-5.4
ZALV	Zalesovo Beam	72.89	337	P	P	07 39 03.6	-1.0
	1.0nm,0.5s,mb4.0,baz=115,slow=5.8,SNR=4.9						
KURK	Kurchatov	73.22	332	eP	P	07 39 00.6	-5.9
	3.0nm,0.8s,mb4.3						
QSPA	South Pole Qui	79.02	180	P	P	07 39 42.4	+3.2
	3.0nm,0.7s,mb4.3,baz=248,slow=3.1,SNR=17						
YKA	Yellowknife Ar	113.70	26	PKiKP	PKiKP	07 46 15.0	+1.4
	0.2nm,0.5s,baz=296,slow=1.9,SNR=15						
PDAR	Pinedale Array	123.56	46	PKP	PKPdf	07 46 36.3	+3.1
	0.2nm,0.3s,baz=315,slow=0.3,SNR=4.2						
TORD	Torodi Ar. Bea	124.09	278	PKP	PKPdf	07 46 36.3	+1.3
	1.1nm,0.7s,baz=65,slow=1.9,SNR=6.9						
ELN	Prospectdale	145.39	37	ePKPdf	PKPdf	07 47 15.4	+1.5
LPAZ	La Paz	150.18	155	PKPbc	PKPbc	07 47 31.4	+3.9
	1.9nm,0.7s,baz=200,slow=3.1,SNR=13						

MEX 14 07:38:13.2±0.5, 1716N×10047W, h42km±6km, MD3.8, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	El Cayaco	0.22	118	iP	Pn	07 38 19.6	-1.3
CAIG				iS	Sn	07 38 24.4	-2.0
ACX	Acapulco	0.60	118	iP	Pn	07 38 23.5	-1.9
ACX				iS	Sn	07 38 32.5	-1.6
MEIG	Mezcala	1.12	47	iP	Pn	07 38 30.7	-1.7
MEIG				iS	Sn	07 38 44.4	-2.2
PLIG	Platanillo	1.54	37	iP	Pn	07 38 37.0	-1.2
PLIG				iS	Sn	07 38 55.4	-1.6

MEX 14 07:49:31.3±0.5, 1719N×10044W, h41km±6km, MD3.6, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	El Cayaco	0.21	130	iP	Pn	07 49 37.4	-1.3
CAIG				iS	Sn	07 49 42.2	-1.8
ACX	Acapulco	0.59	122	iP	Pn	07 49 41.5	-1.8
ACX				iS	Sn	07 49 50.0	-1.8
MEIG	Mezcala	1.07	47	iP	Pn	07 49 48.7	-1.2
MEIG				iS	Sn	07 50 01.3	-2.2

RSPR 14 07:53:37.0, 1963N×6522W, h81km±12km, MD3.6/3, MD3.6/3, 3C, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBYP	Canovanas	1.48	204	↑eP	Pn	07 54 01.1	-0.9
CBYP	Canovanas	1.48	204	eS	Sn	07 54 20.6	-0.4
MTP	Monte Pirata	1.55	192	↑eP	Pn	07 54 02.7	-0.4
MTP	Monte Pirata	1.55	192	eS	Sn	07 54 22.3	-0.4
CRPR	Cabo Rojo, PR	2.41	228	↑eP	Pn	07 54 14.0	-0.4

MEX 14 07:55:30.9±1.4, 1827N×10057W, h16km±24km, MD3.6, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	El Cayaco	1.25	167	iP	Pn	07 55 49.7	-3.9
CAIG				iS	Sb	07 56 04.9	-5.0
MOIG	Morelia	1.52	337	iP	Pn	07 55 55.3	-2.1
MOIG				iS	Sn	07 56 11.2	-5.7
ACX	Acapulco	1.53	156	iP	Pn	07 55 54.5	-3.0
ACX				iS	Sn	07 56 10.0	-7.0

NEIC 14 08:08:01.9±6.9, 2327N×14354E, h0km±42km, mb4.4/1, Error ellipse: s-maj=29.5km s-min=12.3km az=82.0
IDC 14 08:08:01.8±1.1, 2327N×14357E, h0km, mb3.8/7, mb1 3.9/9, mb1mx3.8/20, mbtmp3.8/9, ML3.4/2, MS3.0/2, Ms1 3.0/2, ms1mx2.6/23, Error ellipse: s-maj=42.7km s-min=19.5km az=83.0
ISCJB 14 08:08:04.6±5.1, 2333N±009×1434E±03, h29km±36km, mb3.8/8, Error ellipse: s-maj=45.9km s-min=13.3km az=170.3

ISC 14 08:08:06.5±4.9, 2334N±009×1435E±03, h29km±35km, n17, σ0°62/16, mb3.8/8, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	Chichi jima	3.93	343	Pn	Pn	08 09 05.3	+0.6
	2.9nm,0.3s,baz=118,slow=17,SNR=5.7						
CBIJ				Sn	Sn	08 09 48.8	-1.1
	19nm,0.3s,baz=266,slow=22,SNR=7.6						
MJAR	Matsushiro Ar	13.93	342	Pn	Pn	08 11 21.6	-0.3
	0.3nm,0.3s,baz=141,slow=11,SNR=3.6						
JNU	Nakatsue	14.78	314	LR	LR	08 16 10.5	
	comp=Z,53nm,18.4s,baz=260,slow=33						
KSRS	Korea Array	19.42	320	LR	LR	08 20 08.9	
	comp=Z,44nm,18.6s,baz=140,slow=37						
SONM	Songino Array	38.28	319	P	P	08 15 24.0	-0.2
	0.4nm,0.6s,mb3.4,baz=132,slow=6.0,SNR=3.8						
WRA	Warramunga Arr	43.94	192	P	P	08 16 10.6	-0.3
	0.5nm,0.3s,mb3.7,baz=8.0,slow=7.8,SNR=9.0						
ASAR	Alice Springs	47.64	192	P	P	08 16 39.0	-1.2
	0.3nm,0.8s,mb3.4,baz=12,slow=6.9,SNR=5.4						
ZALV	Zalesovo Beam	53.12	321	P	P	08 17 21.2	-0.1
ZALV	Zalesovo Beam	53.12	321	P	P	08 17 21.2	-0.1
	1.5nm,0.5s,mb4.2,baz=110,slow=7.9,SNR=7.3						
MK31	Makanchi Array	53.82	312	eP	P	08 17 26.7	+0.2
MKAR	Makanchi Array	53.82	312	P	P	08 17 27.5	+1.0
MKAR	Makanchi Array	53.82	312	P	P	08 17 27.5	+1.0
	1.6nm,0.7s,mb4.1,baz=92,slow=8.6,SNR=15						
KURK	Kurchatov	56.49	316	eP	P	08 17 46.3	+0.6
	3.7nm,1.0s,mb4.4						
YKA	Yellowknife Ar	74.88	28	P	P	08 19 44.2	+0.1
YKA	Yellowknife Ar	74.88	28	P	P	08 19 44.2	+0.1
	0.5nm,0.7s,mb3.6,baz=293,slow=5.6,SNR=11						
FINES	FINESS Array B	81.83	334	P	P	08 20 23.0	+0.5
FINES	FINESS Array B	81.83	334	P	P	08 20 23.0	+0.5
	0.9nm,0.7s,mb3.8,baz=104,slow=6.1,SNR=4.1						

ISCJB 14 08:16:36.5±0.5, 3831N±003×2161E±004, h15km±6km, Error ellipse: s-maj=5.6km s-min=4.7km az=4.4
CSEM 14 08:16:36.7±0.1, 3828N×2163E, h12km, ML3.5, Error ellipse: s-maj=3.1km s-min=2.2km az=170.0
THE 14 08:16:36.2, 3828N×2160E, h3km, ML3.5
NEIC 14 08:16:36.0, 3827N×2164E, h22km±2km, MD3.6(ATH), After ATH.
ATH 14 08:16:36.0, 3827N×2164E, h22km±2km, MD3.5/7

ISC 14 08:16:36.4±0.5, 3828N±003×2162E±003, h15km±4km, n14, σ1°05/23, 3C-4D, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SELA	Sela	0.21	90	ePg	Pg	08 16 41.4	+0.2
SELA				eSg	Sg	08 16 44.8	+0.3
RLS	Riolos of Patr	0.25	209	↓iPB	Pg	08 16 42.1	+0.3
RLS				eSB	Sg	08 16 46.8	+1.3
EVR	Evrytania	0.66	13	↓iPN	Pn	08 16 49.1	-2.1
EVR				eSN	Sg	08 16 58.9	+1.0
KFL	Anninata	0.68	256	ePg	Pg	08 16 49.2	-0.4
VLS	Valsamata	0.82	263	↓iPB	Pb	08 16 51.6	-0.8
VLS				eSN	Sn	08 17 04.9	-0.4
LKD	Levkas	0.88	300	ePg	Pg	08 16 52.2	-1.2
LKD				eSg	Sg	08 17 05.5	+0.7
AGG	Agios Georgios	0.93	36	ePg	Pg	08 16 53.3	-1.1
LTK	Loutraki	1.09	103	ePg	Pg	08 16 57.0	-0.4
LTK				eSg	Sg	08 17 11.5	-0.2
ITM	Ithomi	1.12	167	↓iPN	Pn	08 16 56.9	-0.7
ITM				eSN	Sn	08 17 13.4	+0.6
LKR	Lokris	1.14	71	↑iPN	Pn	08 16 57.4	-0.5
THL	Klokotos Trika	1.32	13	↑iPN	Pn	08 17 01.6	+1.2
THL				eSN	Sn	08 17 20.4	+2.7
DID	Didima	1.49	121	ePg	Pg	08 17 02.6	-2.5
DID				eSg	Sg	08 17 24.9	+0.4
NEO	Neokhori	1.62	50	ePN	Pn	08 17 04.7	+0.2
VLI	Veliai	1.88	146	↑iPN	Pn	08 17 09.6	+1.6

ISCJB 14 08:49:31.1±0.9, 8.1N±02×389W±02, h10km, mb4.0/9, MS3.6/15, Error ellipse: s-maj=25.1km s-min=20.2km az=136.9
IDC 14 08:49:31.3±1.1, 808N×3887W, h0km, mb4.0/6, mb1 4.2/6, mb1mx3.8/22, mbtmp4.0/6, MS3.6/15, Ms1 3.6/15, ms1mx3.4/33, Error ellipse: s-maj=32.5km s-min=23.5km az=127.0
NEIC 14 08:49:32.6±0.8, 808N×3885W, h10km, mb4.3/2, Error ellipse: s-maj=22.3km s-min=17.8km az=136.0

ISC 14 08:49:32.9±0.9, 81N±02×389W±02, h10km, n22, σ0°69/9, mb4.0/9, MS3.6/15, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCRV	Puerto La Cruz	25.54	277	LR	LR	09 04 22.9	
	comp=Z,80nm,19.9s,MS3.2,baz=268,slow=35						
SJG	San Juan	28.35	293	LR	LR	09 04 00.6	
	comp=Z,87nm,19.8s,MS3.4,baz=278,slow=31						
SIV	San Ignacio	32.51	223	P	P	08 56 03.9	-0.2
	5.4nm,1.0s,mb4.5,baz=62,slow=12,SNR=22						
ROSC	El Rosal	35.39	267	LR	LR	09 10 07.2	
	comp=Z,61nm,20.0s,MS3.4,baz=13,slow=35						
LPAZ	La Paz	37.78	230	P	P	08 56 50.1	+0.6
	4.7nm,1.0s,mb4.2,baz=50,slow=9.1,SNR=16						
LPAZ				LR	LR	09 11 02.6	
	comp=Z,57nm,19.2s,MS3.4,baz=60,slow=34						
MDT	Midelt	40.11	47	LR	LR	09 09 40.5	
	comp=Z,66nm,21.1s,MS3.5,baz=29,slow=30						

SONM Songino Array 73.56 326 P P 09 06 08.0 +1.0
0.4nm,0.6s,baz=114,slow=3.8,SNR=2.8

*ISCJB **14** 08:58:28.3±0.6,8.1N±0.1×389W±0.1,h10km,mb3.9/9, MS3.4/6,Error ellipse: s-maj=19.7km s-min=15.6km az=166.5*
*IDC **14** 08:58:28.4±0.9,808N×3888W,h0km,mb3.9/7,mb1 4.1/7, mb1mx3.8/22,mbtmp3.9/7,MS3.4/6,Ms1 3.4/6, ms1mx3.2/27,Error ellipse: s-maj=26.3km s-min=21.9km az=144.0*
*NEIC **14** 08:58:29.7±0.7,800N×3878W,h10km,mb4.1/1,Error ellipse: s-maj=22.0km s-min=15.4km az=155.0*
ISC 14 08:58:30.1±0.6,81N±01×388W±01,h10km,n15,σ0:90/12, mb3.9/9,MS3.4/6,Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res	ISC
PCRV	**Puerto La Cruz**	**25.57**	**277**	LR		LR	09 12 51.6		
	comp=Z,43nm,19.4s,MS3.0,baz=270,slow=34								
SJG	**San Juan**	**28.39**	**293**	LR		LR	09 13 07.7		
	comp=Z,38nm,19.7s,MS3.0,baz=103,slow=31								
SIV	**San Ignacio**	**32.49**	**223**	P		**P**	**09 05 01.4**	**+0.2**	
	4.0nm,0.9s,mb4.3,baz=59,slow=9.7,SNR=19								
ROSC	**El Rosal**	**35.41**	**267**	LR		LR	09 19 07.3		
	comp=Z,68nm,19.5s,MS3.4,baz=178,slow=35								
LPAZ	**La Paz**	**37.76**	**230**	P		**P**	**09 05 46.9**	**+0.2**	
	3.0nm,1.0s,mb4.0,baz=50,slow=8.4,SNR=12								
LPAZ				LR		LR	09 22 38.3		
	comp=Z,41nm,20.5s,MS3.2,baz=273,slow=38								
TOA0	**Torodi Ar. Sit**	**40.12**	**79**	*e*P		**P**	**09 06 06.0**	**-0.4**	
TORD	**Torodi Ar. Bea**	**40.12**	**79**	P		**P**	**09 06 06.0**	**-0.5**	
	1.6nm,0.7s,mb3.9,baz=273,slow=8.7,SNR=8.2								
TORD				LR		LR	09 20 05.6		
	comp=Z,81nm,18.8s,MS3.6,baz=270,slow=32								
CFAA	**Coronel Fontan**	**48.43**	**214**	P		**P**	**09 07 12.0**	**-0.8**	
	0.3nm,1.0s,mb3.3,baz=40,slow=10,SNR=6.5								
ULM	**Lac du Bonnet**	**63.10**	**323**	P		**P**	**09 08 58.0**	**+0.2**	
	1.7nm,0.9s,mb4.2,baz=77,slow=5.7,SNR=3.6								
TXAR	**Lajitas Array**	**64.19**	**299**	P		**P**	**09 09 04.2**	**-1.3**	
	0.5nm,0.6s,mb3.7,baz=81,slow=7.7,SNR=4.2								
SDCO	**Great Sand Dun**	**66.69**	**308**	*e*P		**P**	**09 09 23.9**	**+2.3**	
	1.2nm,0.8s,mb4.0								
BOSA	**Boshof**	**71.68**	**124**	P		**P**	**09 09 53.8**	**+1.2**	
	4.6nm,1.1s,mb4.3,baz=252,slow=5.9,SNR=3.6								
BOSA				LR		LR	09 37 10.6		
	comp=Z,70nm,18.5s,MS4.0,baz=74,slow=32								
ARUT	**Antelope Range**	**72.96**	**307**	*e*P		**P**	**09 09 59.5**	**-0.7**	
YKA	**Yellowknife Ar**	**76.34**	**332**	P		**P**	**09 10 19.3**	**+0.1**	
YKA	**Yellowknife Ar**	**76.34**	**332**	P		**P**	**09 10 19.3**	**+0.1**	
	0.4nm,0.7s,mb3.5,baz=95,slow=6.2,SNR=7.1								

*ISCJB **14** 09:19:31.4±1.0,3837N±003×2048E±007,h3km±9km, Error ellipse: s-maj=9.4km s-min=5.3km az=167.4*
*THE **14** 09:19:31.7,3837N×2047E,h3km,ML3.2*
*NEIC **14** 09:19:31.7,3835N×2052E,h11km,MD3.6(ATH),After ATH.*
*ATH **14** 09:19:31.7,3835N×2052E,h11km±3km,MD3.6/6*
*CSEM **14** 09:19:32.3±0.1,3837N×2054E,h2km,MD3.6,Error ellipse: s-maj=3.1km s-min=1.4km az=72.0*
ISC 14 09:19:31.3±1.0,3836N±004×2043E±008,h9km±8km,n13, σ0:92/19,4D,Greece

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res	ISC
VLS	**Valsamata**	**0.22**	**145**	⇓*i*PG		**Pg**	**09 19 35.9**	**+0.1**	
VLS				*e*SG		**Sg**	**09 19 39.3**	**+0.5**	
KFL	**Anninata**	**0.38**	**131**	*e*Pg		**Pg**	**09 19 38.6**	**-0.1**	
KFL				*e*Sg		**Sg**	**09 19 44.1**	**+0.4**	
LKD	**Levkas**	**0.39**	**26**	*e*Pg		**Pg**	**09 19 38.7**	**-0.2**	
LKD				*e*Sg		**Sg**	**09 19 44.2**	**+0.1**	
LKD	**Levkas**	**0.39**	**26**	*e*Pg		**Pg**	**09 19 38.7**	**-0.3**	
LKD				*e*Sg		**Sg**	**09 19 44.2**	**+0.1**	
RLS	**Riolos of Patr**	**0.87**	**110**	⇓*i*PB		**Pb**	**09 19 46.9**	**-1.7**	
SELA	**Sela**	**1.15**	**94**	*e*Pg		**Pg**	**09 19 52.0**	**-1.4**	
SELA				*e*Sg		**Sg**	**09 20 09.8**	**+1.3**	
IGT	**Igoumenitsa**	**1.18**	**356**	*e*Pg		**Pg**	**09 19 53.9**	**0.0**	
EVR	**Evrytania**	**1.22**	**62**	*e*PB		**Pb**	**09 19 53.5**	**-0.9**	
JAN	**Janina**	**1.34**	**14**	*e*PB		**Pb**	**09 19 56.8**	**+0.3**	
KEK	**Kerkira**	**1.44**	**340**	⇓*i*PB		**Pb**	**09 19 59.3**	**+1.0**	
AGG	**Agios Georgios**	**1.63**	**65**	*e*Pg		**Pg**	**09 20 00.5**	**-2.0**	
AGG				*e*Sg		**Sg**	**09 20 24.4**	**+0.7**	
THL	**Klokotos Trika**	**1.73**	**45**	⇓*i*PB		**Pb**	**09 20 03.7**	**+0.6**	
LTK	**Loutraki**	**2.03**	**99**	*e*Pn		**Pn**	**09 20 06.6**	**+1.0**	

IDC 14 09:26:35.1±5.9,776S×15690E,h0km,mb3.9/3,mb1 4.0/4, mb1mx3.7/15,mbtmp4.0/4,ML4.3/1,Error ellipse: s-maj=125.5km s-min=33.7km az=6.0,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res	ISC
HNR	**Honiara**	**3.44**	**119**	Pn		Pn	09 27 30.0	0.0	
	31nm,0.3s,baz=259,slow=6.0,SNR=6.6								
HNR				Sn		Sn	09 28 07.7	-3.8	
	45nm,0.3s,baz=288,slow=15,SNR=4.9								
WRA	**Warramunga Arr**	**24.99**	**239**	P		P	09 32 01.5	+0.8	
	2.9nm,0.8s,baz=64,slow=9.0,SNR=13								
ASAR	**Alice Springs**	**27.13**	**232**	P		P	09 32 19.2	-1.0	
	0.1nm,0.3s,baz=64,slow=10,SNR=4.2								
STKA	**Stephens Creek**	**27.91**	**209**	P		P	09 32 27.1	+0.1	
	1.3nm,0.8s,baz=35,slow=15,SNR=7.8								

MEX 14 09:36:23.0±0.4,1718N×10037W,h36km±4km,MD3.6, Guerrero

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res	ISC
CAIG	**El Cayaco**	**0.16**	**143**	*i*P		Pn	09 36 28.0	-1.5	
CAIG				*i*S		Sn	09 36 32.3	-1.7	
ACX	**Acapulco**	**0.53**	**125**	*i*P		Pn	09 36 32.5	-1.6	
ACX				*i*S		Sn	09 36 39.5	-2.3	
MEIG	**Mezcala**	**1.03**	**44**	*i*P		Pn	09 36 39.3	-1.7	
MEIG				*i*S		Sn	09 36 52.1	-2.1	

CASC 14 09:39:24.0±1.8,814N×8298W,h17km±10km,MD3.9,1C, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res	ISC
DVD	**David**	**0.60**	**61**	*e*S		Sg	09 39 44.3	+0.4	
BAR1		**1.14**	**343**	⇑*e*P		Pn	09 39 43.6	-1.6	
BAR1				*e*S		Sb	09 39 59.9	+0.1	
CNI	**Changuinola**	**1.35**	**20**	*e*P		Pn	09 39 47.3	-0.7	
CNI				*e*S		Sn	09 40 06.1	+0.7	
BUS	**Buena Vista**	**1.60**	**331**	*e*P		Pn	09 39 51.3	-0.2	
BUS				*e*S		Sn	09 40 13.1	+1.3	
URSC	**Urasca**	**1.86**	**335**	*e*P		Pn	09 39 54.5	-0.5	
URSC				*e*S		Sn	09 40 18.6	+0.5	
LCR2	**La Lucha 2**	**1.89**	**328**	*e*P		Pn	09 39 55.1	-0.3	
LCR2				*e*S		Sn	09 40 20.0	+1.2	
LAJ	**Bijagual**	**2.05**	**327**	*e*P		Pn	09 39 59.7	+2.1	
PRS1	**Puriscal**	**2.25**	**324**	*e*P		Pn	09 40 00.0	-0.5	
PRS1				*e*S		Sn	09 40 29.1	+1.2	
CGA2	**Cerro Gallo 2**	**2.37**	**322**	*e*P		Pn	09 40 03.3	+1.2	
CGA2				*e*S		Sn	09 40 33.2	+2.4	
PTP	**Ponta Puerca**	**19.64**	**58**	*e*P			09 39 28.1		

*NEIC **14** 09:45:16.7,3737S×17660E,h213km,MG3.8(WEL),After WEL.*
WEL 14 09:45:16.7±0.2,3737S×17660E,h213km±1km,ML3.9/7, Error ellipse: s-maj=1.5km s-min=1.4km az=90.0,add extra data - kuz s,myrz,toz,hiz,vrz,waz.,North Island

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time	Res	ISC
KUZ	**Kuaotunu**	**0.94**	**311**	P		Pn	09 45 47.3	-0.2	
KUZ	**Kuaotunu**	**0.94**	**311**	PN		Pn	09 45 47.3	-0.1	
URZ	**Urewera**	**0.98**	**156**	P		Pn	09 45 47.7	+0.1	
URZ	**Urewera**	**0.98**	**156**	PN		Pn	09 45 47.7	+0.1	
URZ				SN		S	09 46 11.7	-0.2	
MWZ	**Matawai**	**1.21**	**143**	*e*P		Pn	09 45 49.4	+0.2	
MWZ				S		S	09 46 14.6	-0.1	
MWZ	**Matawai**	**1.21**	**143**	PN		Pn	09 45 49.4	+0.2	
MWZ				SN		S	09 46 14.6	-0.1	
MXZ	**Matakaoa Point**	**1.37**	**99**	*e*P		Pn	09 45 50.6	+0.1	
MXZ	**Matakaoa Point**	**1.37**	**99**	PN		Pn	09 45 50.6	+0.1	
MXZ				SN		S	09 46 17.1	+0.4	
PUZ	**Puketiti**	**1.49**	**119**	*e*P		Pn	09 45 51.6	+0.2	
PUZ	**Puketiti**	**1.49**	**119**	PN		Pn	09 45 51.6	+0.2	
PUZ				SN		S	09 46 17.5	-1.1	
BKZ	**Black Stump Fm**	**1.80**	**183**	P		Pn	09 45 54.4	+0.2	
BKZ	**Black Stump Fm**	**1.80**	**183**	PN		Pn	09 45 54.4	+0.2	
BKZ				SN		S	09 46 23.2	-0.4	
KNZ	**Kokohu**	**1.85**	**153**	*e*P		Pn	09 45 55.2	+0.5	
KNZ	**Kokohu**	**1.85**	**153**	PN		Pn	09 45 55.1	+0.4	
KNZ				SN		S	09 46 24.4	-0.2	
PXZ	**Pawanui**	**2.67**	**176**	PN		Pn	09 46 03.1	-0.1	
WPHZ	**Waipukurau**	**2.70**	**183**	PN		Pn	09 46 03.2	-0.3	
BFZ	**Birch Farm**	**3.32**	**185**	*e*P		Pn	09 46 09.9	-0.8	
BFZ	**Birch Farm**	**3.32**	**185**	PN		Pn	09 46 09.7	-1.0	
MRZ	**Mangatainoka R**	**3.38**	**193**	*e*P		Pn	09 46 10.0	-1.4	
MRZ	**Mangatainoka R**	**3.38**	**193**	PN		Pn	09 46 10.0	-1.5	
TIWZ	**Tintock**	**3.45**	**189**	*e*PN		Pn	09 46 10.3	-1.9	
KIW	**Kapiti Island**	**3.73**	**200**	P		Pn	09 46 13.8	-1.8	
KIW	**Kapiti Island**	**3.73**	**200**	PN		Pn	09 46 13.8	-1.7	
MTW	**Mount Morrison**	**3.88**	**192**	P		Pn	09 46 15.4	-2.0	
MTW				S		S	09 47 02.2	-3.2	
MTW	**Mount Morrison**	**3.88**	**192**	PN		Pn	09 46 15.4	-2.0	
CAW	**Cannon Point**	**3.92**	**197**	P		Pn	09 46 15.9	-2.0	
CAW	**Cannon Point**	**3.92**	**197**	PN		Pn	09 46 15.8	-2.1	
MRW	**Makara Radio**	**4.13**	**200**	P		Pn	09 46 18.5	-1.9	
MRW	**Makara Radio**	**4.13**	**200**	PN		Pn	09 46 18.5	-2.0	
TCW	**Tory Channel**	**4.24**	**204**	P		Pn	09 46 19.9	-1.9	
TCW	**Tory Channel**	**4.24**	**204**	PN		Pn	09 46 19.9	-2.0	
TUWZ	**Tuamarina**	**4.55**	**206**	PN		Pn	09 46 23.5	-2.2	
NNZ	**Nelson**	**4.59**	**212**	*e*PN		Pn	09 46 23.9	-2.2	
THZ	**Tophouse**	**5.24**	**212**	*e*P		Pn	09 46 32.7	-1.6	
THZ	**Tophouse**	**5.24**	**212**	PN		Pn	09 46 32.7	-1.6	
LTZ	**Lake Taylor**	**6.35**	**210**	*e*P		Pn	09 46 45.5	-3.0	
LTZ	**Lake Taylor**	**6.35**	**210**	PN		Pn	09 46 45.5	-3.0	

*IDC **14** 10:00:49.6±0.7,3629S×9808W,h0km,mb4.5/15, mb1 4.7/16,mb1mx4.6/22,mbtmp4.6/16,ML4.2/1,MS4.6/25, Ms1 4.6/25,ms1mx4.5/28,Error ellipse: s-maj=19.0km s-min=16.0km az=62.0*
*ISCJB **14** 10:00:50.5±0.3,3645S±005×9777W±007,h10km, mb4.6/43,MS4.6/27,Error ellipse: s-maj=8.3km s-min=7.1km az=39.2*
*GCMT **14** 10:00:52.2±0.1,3639S×9820W,h20km,MW5.4/92, Moment Tensor Solution. s78,c139; s92,c170; Duration: 1s2 Moment tensor: Scale 1017Nm; M_{rr}-0.05±.02; $M_{\theta\theta}$-0.06±.02; $M_{\phi\phi}$0.10±.02; $M_{r\theta}$0.15±.04; $M_{\theta\phi}$-1.51±.02; $M_{\phi r}$0.03±.04; Best double couple: $M_0$1.52000×1017 NP1:ϕ_s181.00000°,δ84.00000°, λ-2.00000°. NP2:ϕ_s272.00000°,δ88.00000°, λ-174.00000°. Principal axes: T 1.5390, Plg3.0000°, Azm46.0000°; N -0.0380, Plg84.0000°, Azm287.0000°; P -1.5010, Plg5.0000°, Azm137.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **14** 10:00:52.2±0.3,3640S×9790W,h10km,mb4.8/32 Error ellipse: s-maj=9.9km s-min=7.5km az=221.0*
*BJI **14** 10:00:53.2,3640S×9790W,h20km,mB5.0,Ms5.2,Msz4.8*
ISC 14 10:00:52.4±0.3,3643S±005×9782W±006,h10km,n122, σ0:93/84,mb4.6/43,MS4.6/27,1C,West Chile Rise

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time	Res	ISC
RPN	**Rapa Nui**	**13.48**	**310**	Pn		**Pn**	**10 04 00.3**	**-3.4**	
	1.3nm,0.3s,baz=158,slow=5.7,SNR=3.6								
RPN				LR		LR	10 07 30.0		
	comp=Z,4μm,21.6s,baz=122,slow=30								
PLCA	**Paso Flores**	**21.71**	**110**	*e*P		**P**	**10 05 45.4**	**+1.9**	
	98nm,1.3s,mb5.1								
PLCA	**Paso Flores**	**21.71**	**110**	P		**P**	**10 05 45.5**	**+2.0**	
	61nm,1.1s,mb4.9,baz=272,slow=10,SNR=12								
PLCA				LR		LR	10 12 11.5		
	comp=Z,2μm,19.2s,MS4.6,baz=276,slow=31								
LCO	**Las Campanas**	**23.93**	**80**	*e*P		**P**	**10 06 08.2**	**+1.5**	
	84nm,1.4s,mb5.0								
CFAA	**Coronel Fontan**	**24.94**	**88**	P		**P**	**10 06 16.3**	**+0.5**	
	3.8nm,0.9s,mb3.9,baz=254,slow=8.7,SNR=16								
CFAA				LR		LR	10 13 45.1		
	comp=Z,369nm,20.2s,MS3.9,baz=255,slow=31								
USHA	**Ushuaia**	**27.27**	**142**	P		**P**	**10 06 36.9**	**+0.2**	
	27nm,1.1s,mb4.7,baz=267,slow=10,SNR=7.6								
USHA				LR		LR	10 14 55.1		
	comp=Z,3μm,21.2s,MS4.8,baz=273,slow=31								
TRQA	**Tornquist**	**28.47**	**104**	*e*P		**P**	**10 06 47.9**	**+0.3**	
	11nm,1.2s,mb4.4								
PTCN	**Pitcairn Islan**	**29.83**	**283**	*e*P		**P**	**10 06 59.9**	**+0.2**	
	124nm,0.5s								
ARE	**Arequipa**	**30.67**	**57**	*e*P		**P**	**10 07 07.0**	**-0.3**	
NNA	**Nana**	**30.81**	**43**	*e*P		**P**	**10 07 07.5**	**-1.0**	
	47nm,1.6s,mb5.1								
NNA	**Nana**	**30.81**	**43**	LR		LR	10 16 27.4		
	comp=Z,2μm,19.2s,MS4.8,baz=254,slow=30								
LPAZ	**La Paz**	**33.11**	**61**	*e*P		**P**	**10 07 29.3**	**+0.6**	
	42nm,0.9s,mb5.4								
LPAZ	**La Paz**	**33.11**	**61**	P		**P**	**10 07 29.1**	**+0.5**	
	55nm,1.0s,mb5.4,baz=223,slow=5.4,SNR=48								
LPAZ				LR		LR	10 18 06.3		
	comp=Z,451nm,21.5s,MS4.2,baz=263,slow=31								
ATAH	**Atahualpa**	**34.25**	**36**	P		**P**	**10 07 38.0**	**-0.6**	
	19nm,1.0s,mb5.0,baz=234,slow=7.6,SNR=13								
RKT	**Rikitea**	**34.65**	**282**	*e*S		**S**	**10 13 12.5**	**+0.8**	
	192nm,29.2s								
RKT				*e*LQ			10 15 33.0		
	4μm,29.0s								
RKT				*e*LR		LR	10 16 51.0		
	2μm,26.0s,baz=124								
PMSA	**Palmer Station**	**34.77**	**155**	LR		LR	10 18 16.7		
	comp=Z,1μm,20.5s,MS4.5,baz=125,slow=30								
SIV	**San Ignacio**	**38.43**	**68**	P		**P**	**10 08 13.5**	**-0.8**	
	6.6nm,0.8s,mb4.4,baz=239,slow=9.3,SNR=25								
TBI	**Tubuai**	**46.13**	**272**	*e*S		**S**	**10 16 03.4**	**+0.3**	
	114nm,32.0s								
TBI				*e*LQ			10 20 16.8		
	916nm,23.8s								
TBI				*e*LR		LR	10 22 16.6		
	873nm,29.0s,baz=114								
ROSC	**El Rosal**	**46.58**	**33**	*e*P		**P**	**10 09 22.7**	**+2.1**	
ROSC				LR		LR	10 26 03.2		
ROSC	**El Rosal**	**46.58**	**33**	P		**P**	**10 09 18.9**	**-1.7**	
	7.4nm,0.3s,mb5.0,baz=259,slow=10,SNR=30								
ROSC				LR		LR	10 26 03.2		
	comp=Z,800nm,19.6s,MS4.7,baz=201,slow=32								
TAOE	**Nuku Hiva Isla**	**47.18**	**295**	*e*S		**S**	**10 16 18.5**	**+0.2**	
	11μm,24.7s								
TAOE				*e*LR		LR	10 22 34.9		
	23μm,30.2s								
BDFB	**Brasilia**	**48.71**	**78**	P		**P**	**10 09 37.7**	**+0.5**	
	11nm,1.1s,mb4.8,baz=222,slow=13,SNR=11								
BDFB				LR		LR	10 28 54.5		
	comp=Z,817nm,18.4s,MS4.8,baz=49,slow=34								
PPT	**Papeete**	**49.19**	**278**	*e*S		**S**	**10 16 47.3**	**+0.7**	
	188nm,25.0s								
PPT				*e*LR		LR	10 23 38.8		
	1μm,23.5s,baz=127								
PPT	**Papeete**	**49.19**	**278**	*e*P		**P**	**10 09 40.9**	**+0.1**	
PPT	**Papeete**	**49.19**	**278**	LR		LR	10 24 15.5		
	comp=Z,854nm,18.8s,MS4.8,baz=15,slow=29								
SDV	**Santo Domingo**	**51.82**	**35**	*e*P		**P**	**10 10 00.5**	**-0.2**	
QSPA	**South Pole Qui**	**53.79**	**180**	P		**P**	**10 10 14.0**	**-0.4**	
QSPA	**South Pole Qui**	**53.79**	**180**	P		**P**	**10 10 14.0**	**-0.4**	
	2.8nm,0.8s,mb4.3,baz=135,slow=13,SNR=11								
VNA3	**Neumayer Olymp**	**55.40**	**157**	*e*P		**P**	**10 10 25.0**	**-1.3**	
VNA3				*e*		pP	10 10 29.8	+0.3	
VNA3				*e*			10 10 33.9		
VNA3				*e*			10 10 41.7		
RAR	**Rarotonga**	**55.49**	**268**	LR		LR	10 27 26.3		
	comp=Z,445nm,21.7s,MS4.5,baz=152,slow=29								
SBA	**Scott Base**	**55.83**	**195**	*e*P		**P**	**10 10 29.2**	**-0.1**	
	292nm,2.9s								
VNA1	**Neumayer--Stat**	**55.98**	**156**	*e*P		**P**	**10 10 30.2**	**-0.2**	
VNA1				*e*		pP	10 10 34.5	+0.9	
VNA1				*e*			10 10 39.0		
VNA1				*e*			10 10 46.5		
VNA2	**Neumayer--Watz**	**56.19**	**157**	*e*P		**P**	**10 10 29.5**	**-2.5**	
VNA2				*e*			10 10 35.3		
VNA2				*e*			10 10 39.9		
VNA2				*e*			10 10 47.0		
VNDA	**Vanda**	**56.93**	**195**	*e*P		**P**	**10 10 37.2**	**+0.1**	
	16nm,1.6s,mb4.8								
VNDA	**Vanda**	**56.93**	**195**	P		**P**	**10 10 37.5**	**+0.3**	
	2.1nm,1.1s,mb4.1,baz=113,slow=9.0,SNR=4.3								
VNDA				LR		LR	10 28 58.4		
	comp=Z,363nm,21.1s,MS4.5,baz=106,slow=30								
SDDR	**Presa de Saban**	**60.55**	**29**	*e*P		**P**	**10 11 01.6**	**-1.3**	
	16nm,1.0s,mb5.1								
CBYP	**Canovanas**	**62.23**	**35**	*e*P		**P**	**10 11 09.2**	**-5.1**	
RCBR	**Riachuelo**	**64.07**	**77**	*e*P		**P**	**10 11 26.1**	**-0.7**	
	14nm,1.0s,mb4.9								
URZ	**Urewera**	**65.22**	**240**	LR		LR	10 33 05.0		
	comp=Z,316nm,20.0s,MS4.5,baz=42,slow=30								
TXAR	**Lajitas Array**	**65.54**	**354**	P		**P**	**10 11 33.8**	**-2.8**	
	0.5nm,0.8s,mb3.6,baz=287,slow=42,SNR=3.2								
TXAR				LR		LR	10 34 52.9		
	comp=Z,300nm,20.4s,MS4.5,baz=65,slow=31								
RAO	**Raoul Island**	**65.88**	**251**	LR		LR	10 36 06.1		
	comp=Z,276nm,18.1s,MS4.5,baz=139,slow=32								
JCT	**Junction City**	**66.58**	**358**	*e*P		**P**	**10 11 43.5**	**+0.9**	
	9.1nm,1.0s,mb4.8								
RPZ	**Rata Peaks**	**66.69**	**232**	LR		LR	10 31 58.4		
	comp=Z,606nm,21.9s,MS4.8,baz=87,slow=28								
TUC	**Tucson**	**69.45**	**348**	*e*P		**P**	**10 12 02.6**	**+2.0**	
SYO	**Syowa Base**	**70.27**	**165**	⇑*e*P		**P**	**10 12 05.7**	**+0.4**	
MIAR	**Mount Ida**	**70.72**	**4**	*e*P		**P**	**10 12 08.1**	**-0.3**	
	2.9nm,0.8s,mb4.3								
ANMO	**Albuquerque**	**71.47**	**353**	*e*P		**P**	**10 12 14.0**	**+1.1**	
	24nm,2.3s,mb4.7								
PLAL	**Pickwick Lake**	**71.62**	**8**	*e*P		**P**	**10 12 13.5**	**-0.3**	
	15nm,1.4s,mb4.7								
SWET	**Sewanee**	**72.14**	**10**	*e*P		**P**	**10 12 16.5**	**-0.4**	
LDFC	**Landfair**	**72.94**	**345**	*e*P		**P**	**10 12 21.7**	**0.0**	
MVCO	**Mesa Verde**	**73.94**	**351**	*e*P		**P**	**10 12 28.3**	**+0.8**	
SDCO	**Great Sand Dun**	**74.15**	**354**	*e*P		**P**	**10 12 28.7**	**0.0**	
	1.1nm,0.9s,mb3.8								
ISA	**Isabella**	**74.25**	**343**	*e*P		**P**	**10 12 29.0**	**-0.5**	
	5.6nm,1.0s,mb4.5								
CCM	**Cathedral Cave**	**74.36**	**5**	*e*P		**P**	**10 12 28.2**	**-1.8**	
KSU1	**Kansas State U**	**75.17**	**1**	*e*P		**P**	**10 12 34.8**	**+0.2**	
	6.8nm,0.8s,mb4.6								
MAW	**Mawson**	**75.26**	**172**	*e*P		**P**	**10 12 35.3**	**+0.3**	
	1.0nm,0.5s,mb4.0								
MAW	**Mawson**	**75.26**	**172**	LR		LR	10 43 04.5		
	comp=Z,396nm,21.7s,MS4.7,baz=8.5,slow=34								
SMCO	**Snowmass**	**75.71**	**353**	*e*P		**P**	**10 12 38.3**	**+0.6**	
SRU	**San Rafael**	**76.08**	**350**	*e*P		**P**	**10 12 41.0**	**+1.2**	
TMUT	**Trail Mountain**	**76.36**	**349**	*e*P		**P**	**10 12 41.5**	**+0.1**	
NVAR	**Mina Array Bea**	**76.86**	**344**	P		**P**	**10 12 41.5**	**-2.8**	
	2.2nm,0.8s,mb4.2,baz=171,slow=7.3,SNR=12								
CMB	**Columbia Colle**	**76.98**	**342**	*e*P		**P**	**10 12 44.2**	**-0.8**	
	1.9nm,0.7s,mb4.1								
DAU	**Daniels Canyon**	**77.46**	**350**	*e*P		**P**	**10 12 47.4**	**-0.2**	
DUG	**Dugway**	**77.49**	**348**	*e*P		**P**	**10 12 48.9**	**+1.2**	
ACSO	**Alum Creek Sta**	**77.50**	**12**	*e*P		**P**	**10 12 47.3**	**-0.6**	
HWUT	**Hardware Ranch**	**78.67**	**350**	*e*P		**P**	**10 12 54.7**	**+0.4**	
	1.5nm,0.6s,mb4.1								
AAM	**Ann Arbor**	**79.42**	**11**	*e*P		**P**	**10 12 59.0**	**+0.6**	
	14nm,0.8s,mb4.9								
BW06	**Boulder Array**	**79.54**	**351**	*e*P		**P**	**10 12 59.7**	**+0.7**	
	12nm,1.4s,mb4.6								
PDAR	**Pinedale Array**	**79.54**	**351**	P		**P**	**10 12 57.3**	**-1.8**	
	5.6nm,0.9s,mb4.5,baz=161,slow=5.7,SNR=11								
PDAR				LR		LR	10 42 43.1		
	comp=Z,103nm,18.2s,MS4.2,baz=10,slow=32								
REDW	**Red Top Meadow**	**80.30**	**350**	*e*P		**P**	**10 13 02.6**	**-0.5**	
	11nm,1.2s,mb4.7								
RSSD	**Black Hills**	**80.37**	**355**	*e*P		**P**	**10 13 03.5**	**0.0**	
	41nm,0.6s,mb5.5								
SNOW	**Snow King Moun**	**80.38**	**350**	*e*P		**P**	**10 13 05.0**	**+1.5**	
TPAW	**Teton Pass**	**80.44**	**350**	*e*P		**P**	**10 13 04.1**	**+0.3**	
	16nm,1.3s,mb4.8								
LOHW	**Long Hollow**	**80.51**	**351**	*e*P		**P**	**10 13 03.2**	**-1.0**	
	16nm,1.7s,mb4.7								
DCID1	**Drake Creek**	**80.57**	**350**	*e*P		**P**	**10 13 05.0**	**+0.4**	
MOOW	**Moose Ponds**	**80.66**	**

KMI PP PP 10 25 12.6 +3.9
KMI SS SS 10 45 13.3 -0.2
KMI SSS 10 51 20.3
KMI PP PP
comp=Z,46nm,6.9s
KMI LR LR
comp=N,110nm,17.9s
KMI LR LR
comp=E,102nm,23.4s
KMI LR LR
comp=Z,164nm,34.5s
CD2 Chengdu 161.23 259 *e*PKP PKPdf 10 20 52.3 -0.9
CD2 APKP 10 21 00.5
CD2 XPKP 10 21 02.9
CD2 PKP2 PKPab 10 21 38.3 +1.4
CD2 SKS SKSdf 10 27 53.0 -5.3
CD2 SKKS SKKSac 10 32 05.5 -3.3
CD2 SS SS 10 45 31.8 -4.7
CD2 PP PP
comp=Z,150nm,10.2s
CD2 LR LR
comp=N,150nm,24.4s
CD2 LR LR
comp=Z,130nm,22.4s
ZALV Zalesovo Beam 162.38 355 PKP PKPdf 10 20 51.9 -1.8
ZALV PKPab PKPab 10 21 39.5 -1.6
ZALV Zalesovo Beam 162.38 355 PKP PKPdf 10 20 51.9 -1.8
comp=Z,0.2nm,0.3s,baz=11,slow=2.9,SNR=3.1
ZALV PKPab PKPab 10 21 39.5 -1.6
comp=Z,0.4nm,0.5s,baz=254,slow=4.2,SNR=2.8
LZH Lanzhou 162.52 275 *e*PKP PKPdf 10 20 51.5 -2.9
LZH APKP 10 20 54.8
LZH PKP2 PKPab 10 21 41.8 -0.7
LZH PP PP 10 25 27.5 0.0
LZH SKS SKSdf 10 27 53.3 -5.8
LZH SKKS SKKSac 10 32 13.4 -1.9
LZH *e*SS SS 10 45 47.8 -2.3
LZH PP PP
comp=Z,87nm,9.1s
LZH LR LR
comp=N,137nm,18.5s
LZH LR LR
comp=Z,199nm,20.3s
MKAR Makanchi Array 169.64 360 PKPab PKPab 10 22 10.5 -2.8
comp=Z,0.2nm,0.2s,baz=340,slow=1.7,SNR=3.4

*IDC **14** 10:04:37.5±1.1,5204N×17620W,h0km,mb3.6/5,*
mb1 3.9/5,mb1mx3.6/24,mbtmp3.6/5,Error ellipse:
s-maj=83.5km s-min=23.0km az=139.0
*ISCJB **14** 10:04:54.1±1.1,52.1N±03×1756W±04,h146km±10km,*
mb3.3/5,Error ellipse: s-maj=61.3km s-min=18.2km
az=144.3
*NEIC **14** 10:04:55.4±1.2,5207N×17564W,h148km±12km,*
MG3.1(AEIC),Error ellipse: s-maj=51.2km s-min=14.5km
az=144.0
ISC 14 10:04:55.2±1.1,521N±03×1756W±04,h145km±10km,n10,
σ0s86/11,mb3.3/5,Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ADK	**Adak**	**0.68**	**255**	P	**Pn**	**10 05 16.6**	**-0.2**
ADK				S	**Sn**	**10 05 32.9**	**-0.5**
AMKA	**Amchitka**	**3.22**	**260**	*e*Pn	**Pn**	**10 05 46.6**	**+1.5**
DAWY	**Dawson**	**22.26**	**43**	*e*P	**P**	**10 09 39.6**	**-0.4**
INK	**Inuvik**	**25.77**	**35**	P	**P**	**10 10 11.6**	**-0.4**
	0.4nm,0.3s,mb3.5,baz=264,slow=8.4,SNR=7.9						
YKA	**Yellowknife Ar**	**33.32**	**48**	P	**P**	**10 11 18.6**	**-0.1**
YKA	**Yellowknife Ar**	**33.32**	**48**	P	**P**	**10 11 18.6**	**-0.1**
	0.1nm,0.5s,mb2.8,baz=281,slow=7.7,SNR=4.4						
PDAR	**Pinedale Array**	**44.23**	**75**	P	**P**	**10 12 51.2**	**+1.6**
PDAR	**Pinedale Array**	**44.23**	**75**	P	**P**	**10 12 51.2**	**+1.6**
	1.0nm,0.7s,mb3.5,baz=301,slow=3.4,SNR=7.8						
WRA	**Warramunga Arr**	**83.89**	**226**	P	**P**	**10 17 07.3**	**-1.2**
	0.3nm,0.7s,mb3.1,baz=34,slow=5.9,SNR=8.1						
ASAR	**Alice Springs**	**87.34**	**225**	P	**P**	**10 17 25.3**	**-0.2**
	0.9nm,0.7s,mb3.7,baz=25,slow=5.2,SNR=11						

*ISCJB **14** 10:11:07.8±1.2,3832N±004×204E±0.1,h2km,Error*
ellipse: s-maj=12.6km s-min=4.1km az=155.0
*NEIC **14** 10:11:07.6,3829N×2038E,h5km,MD3.4(ATH),After*
ATH.
*ATH **14** 10:11:07.6,3829N×2038E,h5km±1km,MD3.4/5*
*CSEM **14** 10:11:08.1±0.2,3831N×2040E,h2km,MD3.4,Error*
ellipse: s-maj=4.9km s-min=1.5km az=57.0
*THE **14** 10:11:08.2,3833N×2042E,h3km,ML3.0*
ISC 14 10:11:08.2±1.3,3831N±005×204E±01,h6km±8km,n8,
σ0s84/13,2C,Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.20**	**133**	⇑*i*PG	**Pg**	**10 11 12.1**	**0.0**
VLS				*e*SG	**Sg**	**10 11 15.4**	**+0.7**
KFL	**Anninata**	**0.36**	**124**	*e*Pg	**Pg**	**10 11 14.9**	**-0.3**
KFL				*e*Sg	**Sg**	**10 11 20.7**	**+0.7**
LKD	**Levkas**	**0.44**	**26**	*e*Pg	**Pg**	**10 11 15.8**	**-0.9**
LKD				*e*Sg	**Sg**	**10 11 22.1**	**-0.3**
RLS	**Riolos of Patr**	**0.87**	**107**	⇑*i*PG	**Pg**	**10 11 24.3**	**-0.7**
RLS				*e*SB	**Sb**	**10 11 36.9**	**-0.8**
IGT	**Igoumenitsa**	**1.22**	**357**	*e*Pg	**Pg**	**10 11 30.8**	**-0.8**
IGT				*e*Sg	**Sg**	**10 11 48.9**	**+1.4**
KEK	**Kerkira**	**1.48**	**341**	*e*PB	**Pb**	**10 11 35.6**	**-0.5**
ITM	**Ithomi**	**1.65**	**133**	*e*PB	**Pb**	**10 11 38.8**	**-0.2**
THL	**Klokotos Trika**	**1.77**	**45**	*e*PN	**Pn**	**10 11 41.3**	**+1.9**

*IDC **14** 10:18:38.8±1.9,501S×152.18E,h94km±8km,mb3.9/4,*
mb1 4.1/4,mb1mx3.5/15,mbtmp3.9/4,Error ellipse:
s-maj=56.3km s-min=29.3km az=118.0
NEIC 14 10:18:39.3±1.6,488S×15189E,mb4.2/4,Error ellipse:
s-maj=43.1km s-min=25.7km az=119.0,New Britain
region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRAB	**Tennant Creek**	**22.71**	**227**	*e*P	P	10 23 33.8	+0.3
	3.8nm,0.6s						
WRAB				*e*pP	pP	10 23 53.3	+1.3
WB2	**Warramunga Arr**	**22.71**	**227**	*e*P	P	10 23 33.1	-0.5
WRA	**Warramunga Arr**	**22.72**	**227**	P	P	10 23 33.8	+0.1
	5.7nm,0.5s,baz=53,slow=9.8,SNR=72						
WRA				pP	pP	10 23 53.4	+1.3
	6.4nm,0.6s,baz=53,slow=10.0,SNR=11						
ASAR	**Alice Springs**	**25.49**	**221**	P	P	10 23 59.9	+0.8
	2.9nm,0.5s,baz=55,slow=9.2,SNR=29						
ASAR				pP	pP	10 24 21.4	+1.7
	8.8nm,0.7s,baz=56,slow=8.9,SNR=19						
STKA	**Stephens Creek**	**28.54**	**199**	*e*P	P	10 24 26.3	0.0
	2.7nm,1.1s						
STKA	**Stephens Creek**	**28.54**	**199**	P	P	10 24 25.1	-1.2
	0.9nm,0.4s,baz=29,slow=12,SNR=6.1						
FITZ	**Fitzroy Crossi**	**28.83**	**241**	*e*P	P	10 24 29.3	+0.2
	1.7nm,0.3s						
FITZ	**Fitzroy Crossi**	**28.83**	**241**	P	P	10 24 29.5	+0.5
	1.0nm,0.4s,baz=37,slow=8.3,SNR=8.3						
FITZ				pP	pP	10 24 50.8	+0.8
	1.5nm,0.5s,baz=48,slow=11,SNR=3.2						
FORT	**Forrest**	**34.16**	**218**	*e*P	P	10 25 15.9	+0.2
	8.5nm,0.5s						
KLBR	**Kellerberrin**	**41.60**	**226**	*e*P	P	10 26 17.6	-0.7
	137nm,1.5s						
TORD	**Torodi Ar. Bea**	**149.47**	**288**	PKPbc	PKPbc	10 38 19.2	+0.4
	0.7nm,0.9s,baz=101,slow=1.5,SNR=2.9						
TORD				pPKPbc	pPKPbc	10 38 43.7	-0.6
	0.3nm,0.4s,baz=73,slow=1.6,SNR=3.3						

*IDC **14** 10:27:38.3±4.3,334N×127.12E,h0km,mb3.8/4,mb1 4.0/4,*
mb1mx3.6/18,mbtmp3.8/4,Error ellipse: s-maj=102.9km
s-min=66.0km az=82.0
*NEIC **14** 10:27:39.9±0.8,329N×12699E,h10km,mb4.1/3,Error*
ellipse: s-maj=52.6km s-min=14.1km az=75.0
*ISCJB **14** 10:27:41.3±1.5,33N±03×1268E±06,h33km,mb3.9/5,*
Error ellipse: s-maj=91.1km s-min=20.4km az=158.9
ISC 14 10:27:43.5±1.4,33N±02×1270E±05,h35km,n9,σ0s30/8,
mb3.9/5,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**21.28**	**184**	*e*P	**P**	**10 32 27.1**	**+0.1**
	2.2nm,0.4s,mb3.8						
FITZ	**Fitzroy Crossi**	**21.28**	**184**	P	**P**	**10 32 27.1**	**+0.1**
	1.4nm,0.6s,mb3.5,baz=14,slow=11,SNR=10						
WRA	**Warramunga Arr**	**24.18**	**163**	P	**P**	**10 32 56.3**	**-0.4**
	1.8nm,0.4s,mb3.8,baz=344,slow=9.9,SNR=43						
WB2	**Warramunga Arr**	**24.18**	**163**	*e*P	**P**	**10 32 56.4**	**-0.3**
ASAR	**Alice Springs**	**27.61**	**166**	P	**P**	**10 33 27.8**	**+0.1**
	0.4nm,0.5s,mb3.3,baz=343,slow=7.9,SNR=8.8						
STKA	**Stephens Creek**	**37.62**	**159**	*e*P	**P**	**10 34 55.5**	**+0.5**
	1.0nm,0.3s,mb4.0						
STKA	**Stephens Creek**	**37.62**	**159**	P	**P**	**10 34 55.6**	**+0.6**
	1.6nm,0.5s,mb4.0,baz=320,slow=12,SNR=8.2						
KURK	**Kurchatov**	**62.26**	**328**	*e*P	**P**	**10 38 01.8**	**0.0**
	3.6nm,1.0s,mb4.5						
LKWY	**Lake**	**110.19**	**40**	*e*PKP	PKiKP	10 46 13.0	+1.1

IDC 14 10:41:46.5±1.2,810N×3888W,h0km,mb3.7/4,mb1 4.0/4,
mb1mx3.7/20,mbtmp3.7/4,Error ellipse: s-maj=37.6km
s-min=27.1km az=168.0,Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**37.75**	**230**	P	P	10 49 05.5	+1.0
	1.8nm,0.8s,baz=44,slow=7.8,SNR=8.6						
TORD	**Torodi Ar. Bea**	**40.16**	**79**	P	P	10 49 24.4	-0.3
	1.2nm,0.6s,baz=273,slow=9.2,SNR=9.4						
ULM	**Lac du Bonnet**	**63.02**	**323**	P	P	10 52 16.2	+0.9
	1.0nm,0.8s,baz=134,slow=6.4,SNR=4.4						
TXAR	**Lajitas Array**	**64.12**	**299**	P	P	10 52 21.8	-1.2
	0.3nm,0.6s,baz=96,slow=9.2,SNR=2.6						
YKA	**Yellowknife Ar**	**76.27**	**332**	P	P	10 53 37.4	+0.6
	0.3nm,0.7s,baz=100,slow=6.2,SNR=12						

IDC 14 10:45:01.3±4.2,215S×10185E,h0km,mb3.6/4,mb1 3.7/4,
mb1mx3.5/18,mbtmp3.6/4,MS3.7/2,Ms1 3.7/2,
ms1mx3.1/30,Error ellipse: s-maj=170.6km
s-min=23.3km az=58.0,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**36.33**	**121**	P	P	10 52 06.6	-0.6
	0.4nm,1.0s,baz=310,slow=10.0,SNR=6.4						
ASAR	**Alice Springs**	**37.68**	**127**	P	P	10 52 19.0	+0.3
	0.4nm,0.4s,baz=302,slow=7.7,SNR=21						
JNU	**Nakatsue**	**44.52**	**36**	LR	LR	11 11 20.8	
	comp=Z,44nm,20.6s,baz=68,slow=36						
KSRS	**Korea Array**	**46.23**	**29**	LR	LR	11 12 54.7	
	comp=Z,142nm,18.8s,baz=122,slow=36						
SONM	**Songino Array**	**49.94**	**4**	P	P	10 53 57.5	+0.6
	1.3nm,0.5s,baz=187,slow=9.2,SNR=12						
MKAR	**Makanchi Array**	**51.69**	**343**	P	P	10 54 09.5	-0.6
	0.5nm,0.4s,baz=139,slow=8.0,SNR=3.8						

*ISCJB **14** 10:50:56.3±1.6,484N±0.1×1545E±02,h86km±14km,*
mb3.6/7,Error ellipse: s-maj=30.2km s-min=11.2km
az=41.0
*MOS **14** 10:50:56.7±1.1,4840N×15438E,h90km,mb3.9/5,Error*
ellipse: s-maj=37.1km s-min=16.8km az=71.1
*IDC **14** 10:51:01.7±4.8,4826N×15422E,h119km±43km,mb3.4/7,*
mb1 3.5/8,mb1mx3.3/23,mbtmp3.4/8,MS3.3/1,Ms1 3.3/1,
ms1mx2.5/22,Error ellipse: s-maj=29.0km s-min=19.0km
az=104.0
ISC 14 10:50:57.9±1.4,484N±01×1544E±02,h84km±13km,n18,
σ1s19/19,mb3.6/7,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.56**	**25**	*e*PN	**Pn**	**10 51 35.0**	**-2.3**
SKR				*e*S	**Sn**	**10 52 06.1**	**-1.4**
SKR				pmax	pmax		
	comp=Z,40nm,0.5s						
SKR				smax			
	comp=N,200nm,0.2s						
SKR				smax			
	comp=E,270nm,0.2s						
PET	**Petropavlovsk**	**5.37**	**28**	*e*PN	**Pn**	**10 52 17.1**	**+1.7**
PET				*e*S	**Sn**	**10 53 16.7**	**+0.9**
PET				pmax	pmax		
	comp=Z,21nm,1.3s						
PET				smax			
	comp=E,45nm,0.6s						
ASAJ	**Asahikawa**	**9.24**	**247**	PN	**Pn**	**10 53 09.5**	**+1.3**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ	**Asahikawa**	**9.24**	**247**	P	**Pn**	**10 53 09.5**	**+1.3**
	comp=Z,0.7nm,0.3s,baz=52,slow=17,SNR=6.1						
KSRS	**Korea Array**	**22.17**	**250**	P	**P**	**10 55 46.2**	**-0.6**
	comp=Z,1.7nm,0.6s,mb3.5,baz=38,slow=10.0,SNR=7.8						
JOW	**Kunigami**	**29.62**	**233**	LR	LR	11 08 53.0	
	comp=Z,52nm,19.5s,baz=228,slow=36						
MKAR	**Makanchi Array**	**47.01**	**297**	P	**P**	**10 59 21.0**	**+0.6**
	comp=Z,0.2nm,0.3s,mb3.4,baz=62,slow=7.5,SNR=2.6						
YKA	**Yellowknife Ar**	**49.09**	**38**	*i* P	**P**	**10 59 37.7**	**+1.5**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
YKA	**Yellowknife Ar**	**49.09**	**38**	P	**P**	**10 59 37.8**	**+1.6**
	comp=Z,0.6nm,0.8s,mb3.6,baz=299,slow=7.2,SNR=11						
BVAR	**Borovoye Array**	**50.53**	**309**	P	**P**	**10 59 46.3**	**-0.9**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
BVAR	**Borovoye Array**	**50.53**	**309**	P	**P**	**10 59 46.3**	**-1.0**
	comp=Z,0.5nm,0.3s,mb4.0,baz=60,slow=7.3,SNR=8.0						
FINES	**FINESS Array B**	**62.95**	**335**	*i* P	**P**	**11 01 15.1**	**+0.1**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.9s						
FINES	**FINESS Array B**	**62.95**	**335**	P	**P**	**11 01 14.8**	**-0.1**
	comp=Z,1.5nm,0.8s,mb4.0,baz=57,slow=7.0,SNR=3.5						
WRA	**Warramunga Arr**	**70.34**	**200**	*i* P	**P**	**11 02 01.7**	**-0.7**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
WRA	**Warramunga Arr**	**70.34**	**200**	P	**P**	**11 02 00.8**	**-1.6**
	comp=Z,0.5nm,0.6s,mb3.5,baz=17,slow=6.5,SNR=12						
AKASG	**Malin Array Be**	**70.69**	**327**	*i* P	**P**	**11 01 54.5**	**-10**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ASAR	**Alice Springs**	**74.04**	**200**	*e*P	**P**	**11 02 24.1**	**-0.3**
ASAR	**Alice Springs**	**74.04**	**200**	P	**P**	**11 02 24.1**	**-0.2**
	comp=Z,0.4nm,0.5s,mb3.4,baz=11,slow=5.6,SNR=10						

IDC 14 11:02:12.9±27.0,1869S×17427W,h0km,mb4.0/4,
mb1 4.1/4,mb1mx3.7/17,mbtmp4.0/4,Error ellipse:
s-maj=540.7km s-min=160.0km az=88.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**41.74**	**243**	P	P	11 10 03.5	-0.4
	2.4nm,1.0s,baz=117,slow=9.0,SNR=3.5						
WRA	**Warramunga Arr**	**48.37**	**260**	P	P	11 10 56.7	-0.1
	0.8nm,0.3s,baz=96,slow=7.0,SNR=86						
ASAR	**Alice Springs**	**48.38**	**255**	P	P	11 10 56.5	-0.4
	2.0nm,0.5s,baz=90,slow=8.1,SNR=50						
FITZ	**Fitzroy Crossi**	**56.78**	**260**	P	P	11 11 59.8	+0.6
	0.3nm,0.5s,baz=103,slow=7.3,SNR=3.1						

*IGQ **14** 11:09:33.0,075S×7981W,h10km±6km,Mb4.6,Ms4.4,*
Error ellipse: s-maj=7.9km s-min=2.7km az=156.3
*ISCJB **14** 11:09:34.6±0.6,078S±004×7989W±007,h97km±7km,*
mb4.3/29,Error ellipse: s-maj=12.4km s-min=6.9km
az=169.3
*IDC **14** 11:09:36.6±2.0,073S×8000W,h99km±19km,mb3.9/10,*
mb1 4.0/14,mb1mx3.9/24,mbtmp3.9/14,MS3.4/8,
Ms1 3.4/8,ms1mx3.1/33,Error ellipse: s-maj=18.8km
s-min=11.6km az=70.0
*NEIC **14** 11:09:36.5±1.1,077S×7992W,h100km±12km,mb4.5/20,*
MD4.9(IGQ),Error ellipse: s-maj=11.4km s-min=6.9km
az=70.0
NEIC Felt at Portoviejo.
ISC 14 11:09:35.8±0.7,076S±004×7985W±008,h90km±8km,n170,
σ0s82/164,mb4.3/29,36C-50D,Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAG1	**Magdalena**	**0.69**	**6**	⇑P	**Pn**	**11 09 46.8**	**-5.4**
TERV	**Terraza Guagua**	**1.37**	**65**	P	**Pn**	**11 09 58.3**	**-1.6**
PINO	**Pino**	**1.38**	**64**	⇑P	**Pn**	**11 09 58.1**	**-1.9**
GGP	**Refugio Guagua**	**1.38**	**65**	⇑P	**Pn**	**11 09 58.3**	**-1.8**
IGUA	**Igualata**	**1.41**	**121**	⇑P	**Pn**	**11 09 59.5**	**-0.9**
IGUA	**Igualata**	**1.41**	**121**	⇑S	**Sn**	**11 10 18.8**	**-0.1**
VC1	**Cotopaxi 1**	**1.45**	**85**	⇑P	**Pn**	**11 10 01.1**	**+0.2**
TAMB	**Tambo**	**1.48**	**87**	⇑P	**Pn**	**11 10 01.4**	**+0.1**
RETU	**Refugio**	**1.56**	**116**	⇓P	**Pn**	**11 10 00.4**	**-1.9**
RETU	**Refugio**	**1.56**	**116**	⇓S	**Sn**	**11 10 24.4**	**+2.1**
ARRY	**Arrayan**	**1.57**	**118**	P	**Pn**	**11 10 01.4**	**-1.1**
PATA	**Patacocha**	**1.59**	**117**	⇑P	**Pn**	**11 10 02.7**	**0.0**
ANTI	**Antisana**	**1.71**	**80**	⇑P	**Pn**	**11 10 05.0**	**+0.8**
COTA	**Cotacachi**	**1.86**	**54**	⇑P	**Pn**	**11 10 05.4**	**-0.8**
CAYR	**Refugio Cayamb**	**2.00**	**67**	⇑P	**Pn**	**11 10 08.9**	**+1.0**
CAYA	**Cayambe**	**2.03**	**66**	⇓P	**Pn**	**11 10 09.8**	**+1.4**
CONE	**Cono NE Rev Vo**	**2.31**	**73**	⇑P	**Pn**	**11 10 14.1**	**+2.0**
LAV3	**Lava3-Reventad**	**2.31**	**73**	P	**Pn**	**11 10 13.8**	**+1.7**
ATAH	**Atahualpa**	**6.36**	**167**	P	**Pn**	**11 11 09.4**	**+2.3**
	9.6nm,0.3s,baz=17,slow=9.5,SNR=33						
ATAH				S	**Sn**	**11 12 25.9**	**+7.6**
	14nm,0.3s,baz=35,slow=16,SNR=4.4						
ATAH				LR	LR	11 13 38.1	
	comp=Z,346nm,20.6s,baz=334,slow=37						
ROSC	**El Rosal**	**7.84**	**45**	*e*Pn	**Pn**	**11 11 29.6**	**+2.4**
ROSC	**El Rosal**	**7.84**	**45**	P	**Pn**	**11 11 30.8**	**+3.5**
	6.3nm,0.3s,baz=93,slow=14,SNR=16						
ROSC				S	**Sn**	**11 12 60.0**	**+5.5**
	3.4nm,0.3s,baz=270,slow=20,SNR=2.1						
ROSC				LR	LR	11 15 00.5	
	comp=Z,63nm,18.5s,baz=191,slow=41						
NNA	**Nana**	**11.54**	**165**	*e*Pn	**Pn**	**11 12 16.6**	**-1.0**
NNA	**Nana**	**11.54**	**165**	P	**Pn**	**11 12 16.5**	**-1.1**
	7.1nm,0.3s,baz=304,slow=13,SNR=10						
NNA				S	**Sn**	**11 14 22.4**	**-2.3**
	16nm,0.3s,baz=188,slow=17,SNR=9.9						
SDV	**Santo Domingo**	**13.27**	**44**	*e*Pn	**Pn**	**11 12 42.4**	**+1.6**
SDV	**Santo Domingo**	**13.27**	**44**	P	**Pn**	**11 12 45.2**	**+4.5**
	1.2nm,0.3s,baz=229,slow=4.4,SNR=9.2						
TGUH	**Tegucigalpa,Un**	**16.46**	**334**	*e*P	**Pn**	**11 13 21.8**	**+0.4**
	13nm,0.8s						
PCRV	**Puerto La Cruz**	**18.64**	**54**	P	**Pn**	**11 13 48.4**	**+0.5**
	1.4nm,0.3s,baz=284,slow=10,SNR=4.6						
PCRV				LR	LR	11 21 49.0	
	comp=Z,120nm,19.0s,baz=242,slow=39						
LPAZ	**La Paz**	**19.27**	**144**	*e*P	**Pn**	**11 13 55.5**	**+0.1**
	6.6nm,0.6s						
LPAZ	**La Paz**	**19.27**	**144**	P	**Pn**	**11 13 55.7**	**+0.3**
	0.5nm,0.3s,baz=322,slow=11,SNR=25						
TEIG	**Tepich**	**22.43**	**339**	P	**P**	**11 14 26.6**	**-0.8**
	18nm,0.8s,mb4.4,baz=138,slow=6.2,SNR=10						
TEIG				LR	LR	11 21 27.5	
	comp=Z,85nm,21.4s,baz=188,slow=32						
CMIG	**Matias Romero**	**23.12**	**321**	P	**P**	**11 14 33.2**	**-1.1**
CMIG				LR	LR	11 21 50.1	
CMIG	**Matias Romero**	**23.12**	**321**	P	**P**	**11 14 33.2**	**-1.1**
	3.8nm,0.7s,mb3.8,baz=139,slow=3.9,SNR=6.2						
CMIG				LR	LR	11 21 50.1	
	comp=Z,87nm,21.1s,baz=188,slow=32						
SIV	**San Ignacio**	**23.91**	**130**	P	**P**	**11 14 42.6**	**+1.0**
	2.4nm,0.5s,mb3.8,baz=309,slow=9.4,SNR=17						
LRAL	**Lakeview Retre**	**34.29**	**349**	*e*P	**P**	**11 16 12.8**	**-0.8**
	9.0nm,0.7s,mb4.7						
BDFB	**Brasilia**	**34.72**	**117**	LR	LR	11 31 25.3	
	comp=Z,89nm,20.8s,baz=1.8,slow=38						
LHS	**Liberty Hill**	**35.07**	**359**	*e*P	**P**	**11 16 19.6**	**-0.6**
SWET	**Sewanee**	**36.24**	**352**	*e*P	**P**	**11 16 29.2**	**-1.1**
CPCT	**Cooper Cave**	**36.29**	**354**	*e*P	**P**	**11 16 30.1**	**-0.6**
TKL	**Tuckaleechee C**	**36.42**	**355**	LR	LR	11 31 40.3	
	comp=Z,39nm,19.0s,baz=40,slow=36						
WVT	**Waverly**	**37.45**	**349**	*e*P	**P**	**11 16 38.5**	**-2.0**
	4.9nm,0.5s,mb4.7						
TXAR	**Lajitas Array**	**37.60**	**325**	P	**P**	**11 16 41.4**	**-0.6**
	1.1nm,0.7s,mb3.8,baz=146,slow=9.1,SNR=6.0						
SIUC	**Southern Illin**	**39.26**	**348**	*e*P	**P**	**11 16 53.9**	**-1.7**
	0.7nm,0.3s,mb4.0						
WMOK	**Wichita Mounta**	**39.52**	**335**	*e*P	**P**	**11 16 57.4**	**-0.5**
	0.3nm,0.9s,mb3.1						
FVM	**French Village**	**39.77**	**347**	*e*P	**P**	**11 16 59.2**	**-0.8**
CCM	**Cathedral Cave**	**40.03**	**346**	*e*P	**P**	**11 16 59.8**	**-2.3**
MNTX	**Cornudas Mount**	**40.35**	**325**	*e*P	**P**	**11 17 04.3**	**-0.4**
AMTX	**Amarillo**	**40.93**	**332**	*e*P	**P**	**11 17 09.7**	**+0.2**
KSU1	**Kansas State U**	**42.55**	**341**	*e*P	**P**	**11 17 22.3**	**-0.4**
	14nm,0.8s,mb4.8						
BNM	**Barren Site**	**42.87**	**327**	*e*P	**P**	**11 17 25.7**	**+0.3**
318A	**Bisbee**	**42.93**	**321**	⇓P	**P**	**11 17 25.9**	**0.0**
	baz=43,SNR=5.3						
218A	**Dragoon**	**43.32**	**321**	⇓P	**P**	**11 17 29.4**	**+0.3**
	baz=43,SNR=5.3						
LAZ	**Ladron**	**43.34**	**326**	*e*P	**P**	**11 17 29.8**	**+0.6**
ANMO	**Albuquerque**	**43.38**	**328**	*e*P	**P**	**11 17 30.1**	**+0.6**
	13nm,1.0s,mb4.6						
217A	**Green Valley**	**43.67**	**321**	⇑P	**P**	**11 17 32.0**	**+0.1**
	baz=44						
216A	**Three Points,**	**44.23**	**320**	⇓P	**P**	**11 17 36.5**	**+0.1**
	baz=44						
116A	**Eloy**	**44.76**	**321**	P	**P**	**11 17 40.7**	**+0.1**
	baz=45,SNR=8.1						
SDCO	**Great Sand Dun**	**45.05**	**331**	*e*P	**P**	**11 17 43.5**	**+0.8**
Y16A	**Circle Bar Ran**	**45.50**	**322**	⇓P	**P**	**11 17 47.1**	**+0.7**
	baz=46,SNR=6.8						
X16A	**Lo Mia Camp, P**	**45.84**	**323**	⇓P	**P**	**11 17 49.3**	**+0.3**
	baz=46,SNR=8.6						
X15A	**Humboldt**	**46.37**	**322**	⇓P	**P**	**11 17 53.8**	**+0.6**
	baz=46						
WUAZ	**Wupatki**	**46.55**	**324**	*e*P	**P**	**11 17 55.6**	**+1.0**
	12nm,0.9s,mb4.6						
WUAZ	**Wupatki**	**46.55**	**324**	⇓P	**P**	**11 17 55.5**	**+0.9**
	baz=47,SNR=7.9						
ISCO	**Idaho Springs**	**46.74**	**333**	*e*P	**P**	**11 17 56.5**	**+0.5**
	51nm,2.6s,mb4.8						
X14A	**Yava**	**46.76**	**322**	⇓P	**P**	**11 17 56.4**	**+0.2**
	baz=47						
ECSD	**EROS,Sioux Fal**	**46.77**	**343**	*e*P	**P**	**11 17 54.5**	**-1.6**
SMCO	**Snowmass**	**46.89**	**331**	*e*P	**P**	**11 17 58.3**	**+1.1**
GLA	**Glamis**	**47.09**	**319**	*e*P	**P**	**11 17 59.1**	**+0.3**
GLA	**Glamis**	**47.09**	**319**	⇑P	**P**	**11 17 58.8**	**-0.1**
	baz=47						
V14A	**Boquillas Ranc**	**47.67**	**323**	⇓P	**P**	**11 18 03.8**	**+0.6**
	baz=48,SNR=6.1						
BC3	**Big Chuckw Mtn**	**47.87**	**319**	⇑P	**P**	**11 18 05.1**	**+0.2**
	baz=48						
PFO	**Pinyon

11nm,0.6s,mb5.1,baz=157,slow=7.8,SNR=33
NVAR Mina Array Bea 52.64 322 P P 11 18 40.4 -0.4
1.2nm,0.6s,mb4.1,baz=129,slow=7.7,SNR=12
L11A Cat Creek Ranc 53.61 327 ⇑P P 11 18 47.8 0.0
baz=54
J13A Cove Ranch, Pi 53.64 329 ⇓P P 11 18 48.3 +0.2
baz=54,SNR=5.1
HLID Hailey 53.88 329 eP P 11 18 49.9 +0.1
3.4nm,0.8s,mb4.4
HLID Hailey 53.88 329 ⇓P P 11 18 49.9 +0.1
baz=54,SNR=6.1
I13A Wildhorse Cree 53.98 330 ⇓P P 11 18 50.8 +0.3
baz=54
BOZ Bozeman (W) 54.07 333 eP P 11 18 50.8 -0.4
4.7nm,0.8s,mb4.6
BOZ Bozeman (W) 54.07 333 ⇓P P 11 18 51.2 +0.1
baz=54
H13A Challis 54.52 330 ⇓P P 11 18 54.3 -0.1
baz=55
F15A Butte 54.61 332 ⇑P P 11 18 55.1 +0.1
baz=55
K10A MacKenzie Ranc 54.63 327 P P 11 18 55.5 +0.2
baz=55,SNR=8.1
G13A Cobalt 54.89 331 ⇓P P 11 18 57.2 +0.1
baz=55
I11A Placerville 54.92 329 ⇓P P 11 18 57.6 +0.2
baz=55
HRY Holter Researc 54.97 334 eP P 11 18 57.9 +0.3
N06A Buffalo Meadow 55.01 323 ⇑P P 11 18 58.3 +0.3
baz=55
K09A Rome 55.05 326 P P 11 18 58.8 +0.5
baz=55,SNR=22
L08A Fields 55.06 326 ⇑P P 11 18 58.4 0.0
baz=55
ORV Oroville 55.30 321 ⇓P P 11 19 00.9 +0.7
baz=55,SNR=5.9
K08A Mann Creek Ran 55.49 326 ⇓P P 11 19 01.7 +0.2
baz=56
H11A Donnelly 55.50 329 ⇓P P 11 19 01.0 -0.5
baz=56
E14A Clinton 55.50 332 ⇓P P 11 19 01.4 -0.1
baz=56,SNR=5.3
D15A Lincoln 55.53 333 ⇑P P 11 19 01.8 +0.1
baz=56
H10A Noah's Angus R 55.80 329 ⇓P P 11 19 02.7 -0.9
baz=56
I09A Lost Marbles R 55.91 328 ⇑P P 11 19 04.1 -0.3
baz=56
MSO Missoula 56.02 332 eP P 11 19 05.0 -0.1
G11A Walters Elk Ra 56.12 330 ⇓P P 11 19 05.1 -0.8
baz=56
M05C Lookout 56.17 323 ⇓P P 11 19 06.3 0.0
baz=56
F11A Grangeville 56.40 330 ⇑P P 11 19 07.2 -0.8
baz=56
SCHQ Schefferville 56.44 9 P P 11 19 06.2 -1.8
3.3nm,1.1s,mb4.3,baz=196,slow=7.4,SNR=4.0
D13A Huson 56.45 332 ⇓P P 11 19 08.1 -0.2
baz=57
M03C McCloud 56.70 323 ⇑P P 11 19 09.8 -0.4
baz=57
E11A Bogner Ranch, 56.76 331 ⇑P P 11 19 09.7 -0.7
baz=57
J06A Christmas Vall 56.76 326 ⇓P P 11 19 10.7 +0.2
baz=57
H08A Prairie City 56.77 328 ⇓P P 11 19 11.3 +0.7
baz=57
G09A Cove 56.81 329 ⇑P P 11 19 10.3 -0.5
baz=57
D12A Red Ives Fores 56.84 332 ⇓P P 11 19 10.7 -0.4
baz=57
F09A S2 Ranch, Elgi 57.17 329 ⇓P P 11 19 14.4 +1.0
baz=57,SNR=7.7
I06A Prineville 57.23 326 ⇓P P 11 19 15.0 +1.1
baz=57
H07A Lands Inn, Kim 57.30 327 ⇑P P 11 19 14.0 -0.3
baz=57
D11A Klaveano Farm, 57.31 331 ⇓P P 11 19 13.9 -0.4
baz=57
B13A Whitefish 57.40 333 ⇓P P 11 19 15.5 +0.6
baz=58
J05A Fort Rock 57.40 325 P P 11 19 15.5 +0.5
baz=58,SNR=5.4
G08A Pilot Rock 57.43 328 P P 11 19 15.8 +0.6
baz=58,SNR=5.8
D10A Wagner Farm, O 57.77 331 ⇓P P 11 19 17.0 -0.5
baz=58
H06A Lindquist Farm 57.81 327 ⇑P P 11 19 17.7 -0.2
baz=58
J04A Umpqua Nationa 57.88 325 ⇑P P 11 19 18.5 +0.1
baz=58
I05A Bend 57.96 326 ⇓P P 11 19 19.3 +0.3
baz=58
NEW Newport 58.55 332 eP P 11 19 22.2 -0.7
3.6nm,1.1s,mb4.3
J02A Umpqua 58.81 324 ⇓P P 11 19 25.1 +0.3
baz=59
B09A Rice 59.15 331 ⇓P P 11 19 27.4 +0.3
baz=59,SNR=5.4
H03A Soap Creek Ran 59.42 325 ⇑P P 11 19 29.3 +0.2
baz=60
A09A Danville 59.74 331 ⇓P P 11 19 31.0 -0.1
baz=60,SNR=5.0
A08A Turner Farm, O 60.05 331 ⇑P P 11 19 33.8 +0.5
baz=60
D05A Enumclaw 60.26 328 ⇓P P 11 19 35.0 +0.2
baz=60
FCC Fort Churchill 60.41 352 eP P 11 19 34.5 -1.0
0.5nm,0.5s,mb3.8
EDM Edmonton 60.61 338 eP P 11 19 36.3 -0.7
PMSA Palmer Station 64.89 173 eP P 11 20 00.3 -5.0
6.0nm,0.3s,mb4.9
YKA Yellowknife Ar 68.30 343 P P 11 20 26.1 -0.9
YKA Yellowknife Ar 68.30 343 P P 11 20 26.1 -0.9
1.3nm,0.7s,mb3.9,baz=140,slow=5.4,SNR=52
DBIC Dimbokro 75.19 83 eP P 11 21 03.3 -6.0
19nm,1.5s,mb4.6
DBIC Dimbokro 75.19 83 P P 11 21 09.9 +0.6
2.8nm,0.7s,mb4.1,baz=255,slow=16,SNR=4.3
EGAK Eagle 78.83 337 eP P 11 21 27.4 -1.3
4.6nm,1.1s,mb4.2
TORD Torodi Ar. Bea 81.94 77 P P 11 21 46.5 +0.2
0.9nm,0.8s,mb3.6,baz=278,slow=5.8,SNR=7.3
QSPA South Pole Qui 89.29 180 LR LR 11 55 27.8
comp=Z,190nm,20.2s,baz=249,slow=31
ZALV Zalesovo Beam 125.50 11 PKP PKPdf 11 28 26.1 -0.4
0.6nm,0.4s,baz=341,slow=0.7,SNR=4.3
MKAR Makanchi Array 131.57 16 PKP PKPdf 11 28 40.0 +1.7
0.2nm,0.4s,baz=339,slow=1.7,SNR=3.7
SONM Songino Array 132.80 354 PKP PKPdf 11 28 41.1 +0.5
0.3nm,0.7s,baz=354,slow=1.8,SNR=3.0
ASAR Alice Springs 139.20 231 PKhKP 11 28 49.3
0.2nm,0.5s,baz=129,slow=3.6,SNR=2.7
ASAR PKP PKPdf 11 28 54.1 +0.9
0.3nm,0.7s,baz=114,slow=2.5,SNR=3.4
WRA Warramunga Arr 140.68 237 PKhKP 11 28 49.2
0.4nm,0.8s,baz=125,slow=3.2,SNR=4.7
WRA PKP PKPdf 11 28 55.9 -0.1
0.3nm,0.6s,baz=115,slow=2.6,SNR=4.7
FITZ Fitzroy Crossi 148.69 232 PKPbc PKPbc 11 29 12.6 -1.1
1.2nm,0.7s,baz=126,slow=2.6,SNR=3.6

*SGS **14** 11:13:54.9, 2997N×3633E, h5km*
*GII **14** 11:13:54.6±1.9, 2985N×3629E, h0km*
*CSEM **14** 11:13:55.0±0.1, 2977N×3623E, h1km, ML2.7, Error ellipse: s-maj=3.4km s-min=2.2km az=97.0, Mining explosion.*
ISC 14 11:13:53.3±1.4,**2985N**±005×**3641E**±008,**h0**km,**n11**,
σ0:**63**/15,**Western Arabian Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HRFI	Mount Harif	1.21	279	Pg	Pg	11 14 15.8	-0.6
HRFI				Sg	Sg	11 14 32.4	+0.4
ZFRI	Zfri	1.28	304	Pg	Pg	11 14 17.1	-0.7
ZFRI	Zfri	1.28	304	Pg	Pg	11 14 17.0	-0.8
EIL	Elat	1.28	262	Pg	Pg	11 14 17.5	-0.4
EIL				Sg	Sg	11 14 35.5	+1.0
HQLS		1.30	245	P	Pg	11 14 17.6	-0.5
HQLS				S	Sg	11 14 34.5	-0.5
PRNI	Paran	1.32	293	Pg	Pg	11 14 17.9	-0.6
JLOS		1.37	216	P	Pg	11 14 19.2	-0.3
JLOS		1.37	216	P	Pg	11 14 19.2	-0.4
JLOS				S	Sg	11 14 38.1	+0.8
MZDA	Masada	1.71	328	Pn	Pn	11 14 25.2	+0.8
YTIR	Yattir	1.88	324	Pn	Pn	11 14 27.5	+0.9

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RSHS		2.09	223	P	Pn	11 14 29.6	0.0

*ISCJB **14** 11:23:12.6±0.5, 680N×006×7296W×006, h172km±5km, mb3.8/6, Error ellipse: s-maj=11.1km s-min=6.9km az=138.5*
*NEIC **14** 11:23:13.9±0.7, 673N×7299W, h173km±7km, mb4.2/1, Error ellipse: s-maj=16.1km s-min=10.1km az=131.0*
*FUNV **14** 11:23:13.0, 676N×7315W, h168km, MW4.0*
*IDC **14** 11:23:13.3±0.6, 671N×7293W, h166km±7km, mb3.5/4, mb1 3.8/7, mb1mx3.5/21, mbtmp3.8/7, Error ellipse: s-maj=22.4km s-min=7.3km az=132.0*
ISC 14 11:23:13.6±0.5,**680N**±006×**7295W**±006,**h166**km±5km,**n32**,
σ0:**79**/37,**mb3.8/6**,**13C-1D**,**Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	Capacho	1.24	31	⇑iP	Pn	11 23 42.3	+0.4
CAPV				eS	Sn	11 24 03.3	-0.4
ROSC	El Rosal	2.36	215	P	Pn	11 23 54.2	+0.3
235nm,0.3s,baz=87,slow=14,SNR=448							
ROSC				S	Sn	11 24 24.8	-0.3
321nm,0.3s,baz=90,slow=20,SNR=12							
SOCV	Socops	2.55	54	⇑iP	Pn	11 23 57.1	+0.9
SOCV				eS	Sn	11 24 29.6	+0.5
VIGV	El Vigia	2.57	38	⇑iP	Pn	11 23 56.8	+0.4
VIGV				eS	Sn	11 24 28.9	-0.6
SDV	Santo Domingo	3.10	48	P	Pn	11 24 04.3	+1.4
145nm,0.3s,baz=235,slow=5.8,SNR=1034							
SDV				S	Sn	11 24 41.9	+0.8
86nm,0.3s,baz=265,slow=19,SNR=25							
ELOV	Elorza	3.45	86	⇑iP	Pn	11 24 08.6	+1.2
ELOV				eS	Sn	11 24 48.7	-0.3
VIRV	Villa del Rosa	3.72	8	⇓iP	Pn	11 24 09.1	-1.7
VIRV				eS	Sn	11 24 51.1	-4.2
QARV	Quebrada Arrib	4.16	35	⇑iP	Pn	11 24 16.8	+0.4
SANV	Sanarito	4.32	51	⇑iP	Pn	11 24 18.7	+0.2
CURV	Curarigua	4.36	43	⇑iP	Pn	11 24 19.0	+0.1
DABV	Dabajuro	4.70	29	eP	Pn	11 24 23.6	+0.2
TEPV	Terepaima	4.88	50	⇑iP	Pn	11 24 25.9	+0.2
SIQV	Siquisique	4.93	39	⇑iP	Pn	11 24 26.2	-0.3
BAUV	El Baul	5.31	66	⇑iP	Pn	11 24 30.6	-0.8
IMOV	Isla Los Monje	5.89	20	eP	Pn	11 24 38.4	-0.6
TURV	Turiamo	6.22	54	eP	Pn	11 24 43.3	-0.2
CAOV	Caicara del Or	6.60	85	⇑iP	Pn	11 24 47.5	-1.0
MERV	Las Mercedes	7.03	69	eP	Pn	11 24 53.2	-0.9
BIRV	Birongo	7.55	61	⇑iP	Pn	11 24 59.7	-1.4
CUPV	Cepira	7.79	65	⇑iP	Pn	11 25 03.5	-0.8
PCRV	Puerto La Cruz	8.89	67	P	Pn	11 25 20.5	+1.8
2.5nm,0.3s,baz=214,slow=6.6,SNR=10							
SDDR	Presa de Saban	12.22	7	ePn	Pn	11 26 02.5	+0.1
ULM	Lac du Bonnet	47.37	340	P	P	11 31 30.3	-0.6
ULM	Lac du Bonnet	47.37	340	P	P	11 31 30.3	-0.6
2.1nm,0.5s,mb4.1,baz=144,slow=5.8,SNR=8.5							
SCHQ	Schefferville	48.15	5	P	P	11 31 37.8	+1.0
2.5nm,0.6s,mb4.0,baz=211,slow=5.3,SNR=9.3							
PDAR	Pinedale Array	48.20	324	P	P	11 31 38.6	+1.3
0.2nm,0.4s,mb3.1,baz=114,slow=9.0,SNR=3.7							
FLWY	Flagg Ranch	49.65	325	eP	P	11 31 48.2	-0.3
2.5nm,0.4s,mb4.2							
YKA	Yellowknife Ar	63.34	340	P	P	11 33 24.7	-0.1
0.9nm,0.5s,mb3.9,baz=133,slow=6.7,SNR=66							
TORD	Torodi Ar. Bea	73.58	78	P	P	11 34 28.6	-0.7
TORD	Torodi Ar. Bea	73.58	78	P	P	11 34 28.6	-0.7
0.6nm,1.1s,mb3.2,baz=282,slow=7.0,SNR=2.6							
ASAR	Alice Springs	149.23	234	PKPbc	PKPbc	11 42 42.9	-0.6
0.8nm,0.6s,baz=120,slow=3.6,SNR=17							
WRA	Warramunga Arr	150.47	241	PKPbc	PKPbc	11 42 45.6	-1.0
0.6nm,0.4s,baz=108,slow=2.7,SNR=34							

*ISCJB **14** 11:32:40.4±0.6, 3487S±009×109.1W±02, h10km, mb4.2/13, MS4.1/16, Error ellipse: s-maj=20.3km s-min=12.2km az=169.1*
*IDC **14** 11:32:40.8±0.8, 3479S×109.16W, h0km, mb4.2/12, mb1 4.4/12, mb1mx4.3/19, mbtmp4.2/12, MS4.1/17, Ms1 4.1/17, ms1mx3.9/26, Error ellipse: s-maj=24.5km s-min=19.7km az=71.0*
*NEIC **14** 11:32:42.4±0.6, 3477S×109.11W, h10km, Error ellipse: s-maj=20.2km s-min=16.3km az=64.0*
*BJI **14** 11:32:45.5, 3480S×109.10W, h10km*
ISC 14 11:32:42.5±0.6,**3485S**±009×**1091W**±02,**h10**km,
(h6km±.3km**:pP-P)**,**n38**,σ1:**18**/21,**mb4.2**/13,**MS4.1**/16,
Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPN	Rapa Nui	7.70	358	LR	LR	11 36 46.0	
comp=Z,1μm,18.8s,baz=0.9,slow=32							
RKT	Rikitea	25.39	290	eLR	LR	11 44 33.1	
1μm,28.8s,baz=118							
PLCA	Paso Flores	30.85	113	P	P	11 39 01.1	+2.3
1.8nm,0.8s,mb4.0,baz=249,slow=10.0,SNR=4.7							
PLCA				LR	LR	11 48 20.2	
comp=Z,267nm,18.4s,MS3.9,baz=189,slow=30							
CFAA	Coronel Fontan	34.18	96	P	P	11 39 27.9	-0.1
0.4nm,0.8s,mb3.4,baz=260,slow=9.7,SNR=4.6							
TBI	Tubuai	36.85	277	eLR	LR	11 49 51.6	
1μm,26.5s							
TAOE	Nuku Hiva Isla	38.43	305	eLR	LR	11 50 46.9	
17μm,27.3s							
ATAH	Atahualpa	39.58	53	LR	LR	11 52 21.3	
comp=Z,153nm,19.0s,MS3.9,baz=48,slow=30							
PPT	Papeete	39.87	285	eS	S	11 46 32.3	+11
96nm,27.5s							
PPT				eLR	LR	11 51 09.4	
1μm,25.8s,baz=121							
PPT	Papeete	39.87	285	LR	LR	11 51 49.7	
comp=Z,652nm,21.5s,MS4.4,baz=113,slow=29							
LPAZ	La Paz	40.99	74	P	P	11 40 26.8	+1.0
2.3nm,0.7s,mb3.9,baz=247,slow=6.2,SNR=12							
LPAZ				LR	LR	11 53 09.3	
comp=Z,116nm,20.2s,MS3.7,baz=257,slow=30							
RAR	Rarotonga	46.29	273	LR	LR	11 55 07.6	
comp=Z,306nm,20.8s,MS4.2,baz=110,slow=29							
SIV	San Ignacio	46.79	79	P	P	11 41 11.4	-1.0
2.9nm,0.9s,mb4.2,baz=251,slow=11,SNR=7.3							
ROSC	El Rosal	51.30	47	P	P	11 41 47.6	+0.6
17nm,1.0s,mb4.9,baz=257,slow=21,SNR=11							
ROSC				LR	LR	11 58 59.6	
comp=Z,109nm,21.6s,MS3.8,baz=25,slow=31							
QSPA	South Pole Qui	55.35	180	P	P	11 42 16.7	+0.8
6.2nm,1.0s,mb4.6,baz=133,slow=4.8,SNR=14							
VNDA	Vanda	56.07	195	LR	LR	12 00 35.4	
comp=Z,278nm,21.5s,MS4.3,baz=85,slow=30							
SDV	Santo Domingo	56.71	47	P	P	11 42 24.1	-2.4
2.9nm,0.7s,mb4.4,baz=297,slow=6.8,SNR=4.6							
BDFB	Brasilia	57.63	87	LR	LR	12 04 53.9	
comp=Z,159nm,18.6s,MS4.2,baz=341,slow=34							
RPZ	Rata Peaks	60.20	235	LR	LR	12 01 02.0	
comp=Z,256nm,19.6s,MS4.4,baz=134,slow=28							
VNA3	Neumayer Olymp	60.35	158	e	P	11 42 50.0	-1.2
VNA3				e	pP	11 42 52.0	-2.4
VNA3				e		11 42 56.0	
VNA3				e		11 43 00.3	
VNA3				e		11 43 07.7	
VNA1	Neumayer--Stat	61.00	158	e	P	11 42 55.5	-0.1
VNA1				e	pP	11 42 57.3	-1.5
VNA1				e		11 43 01.4	
VNA1				e		11 43 05.4	
VNA2	Neumayer--Watz	61.16	158	e	P	11 42 56.1	-0.6
VNA2				e	pP	11 42 57.7	-2.2
VNA2				e		11 43 01.8	
VNA2				e		11 43 06.0	
VNA2				e		11 43 12.6	
TXAR	Lajitas Array	64.05	5	P	P	11 43 16.3	-0.1
TXAR				LR	LR	12 07 42.1	
TXAR	Lajitas Array	64.05	5	P	P	11 43 16.3	-0.1
0.7nm,0.8s,mb3.8,baz=154,slow=12,SNR=3.6							
TXAR				LR	LR	12 07 42.2	
comp=Z,81nm,18.4s,MS3.9,baz=5.0,slow=33							
LAZ	Ladron	68.92	2	eP	P	11 43 48.1	+0.7
NVAR	Mina Array Bea	73.41	352	P	P	11 44 16.4	+1.8
2.1nm,0.9s,mb4.1,baz=162,slow=7.2,SNR=15							
DAU	Daniels Canyon	74.92	358	eP	P	11 44 24.5	+1.2
JLU	Jordanelle	75.11	358	eP	P	11 44 24.5	+0.1
PDAR	Pinedale Array	77.25	360	P	P	11 44 36.6	+0.1
3.1nm,1.0s,mb4.2,baz=162,slow=5.8,SNR=15							
PDAR				LR	LR	12 13 48.6	
comp=Z,101nm,18.1s,MS4.2,baz=348,slow=32							
MAW	Mawson	77.68	177	P	P	11 44 39.2	+0.4
4.6nm,0.9s,mb4.4,baz=207,slow=9.0,SNR=4.1							
HNR	Honiara	85.46	262	LR	LR	12 15 26.2	
comp=Z,121nm,18.4s,MS4.3,baz=180,slow=30							
ULM	Lac du Bonnet	85.54	8	P	P	11 45 18.4	-1.9
4.8nm,1.2s,mb4.6,baz=178,slow=3.9,SNR=5.4							
ULM				LR	LR	12 21 27.6	
comp=Z,110nm,18.8s,MS4.3,baz=286,slow=34							
SCHQ	Schefferville	96.42	23	LR	LR	12 24 46.5	
comp=Z,87nm,20.5s,MS4.2,baz=188,slow=32							
YKA	Yellowknife Ar	97.11	357	P	P	11 46 11.9	-2.2
0.2nm,0.9s,mb3.5,baz=172,slow=4.0,SNR=3.9							
YKA				LR	LR	12 25 45.7	
comp=Z,52nm,20.3s,MS4.0,baz=280,slow=33							
NWAO	Narrogin (SRO)	99.77	218	LR	LR	12 21 09.4	
comp=Z,140nm,19.8s,MS4.5,baz=22,slow=29							
AKASG	Malin Array Be	146.07	49	PKPbc	PKPbc	11 52 20.1	-2.1
0.2nm,0.3s,baz=270,slow=3.3,SNR=5.1							
CHTO	Chiang Mai	150.44	245	ePKPbc	PKPbc	11 52 34.5	-0.2
CHTO				ePKPab	PKPab	11 52 40.8	-0.4
SONM	Songino Array	150.63	307	PKPbc	PKPbc	11 52 34.1	-0.2
5.3nm,0.9s,baz=111,slow=1.7,SNR=21							
KMI	Kunming	150.87	259	PKP	PKPbc	11 52 36.8	+1.2

*IDC **14** 11:33:55.7±1.6, 780N×81.99W, h0km, mb3.7/4, mb1 3.9/6, mb1mx3.7/21, mbtmp3.8/6, ML3.2/2, MS3.1/3, Ms1 3.1/3, ms1mx2.7/30, Error ellipse: s-maj=57.0km s-min=24.2km az=45.0*
*CASC **14** 11:33:56.1±1.6, 755N×82.12W, h0km±9km, MD4.2*
*ISCJB **14** 11:33:59.2±1.4, 76N±02×8206W±008, h49km±13km, mb3.7/4, Error ellipse: s-maj=27.6km s-min=8.8km az=22.4*
*NEIC **14** 11:34:01.8±2.4, 771N×8203W, h50km±23km, Error ellipse: s-maj=31.6km s-min=14.1km az=212.0*
ISC 14 11:34:00.8±1.4,**76N**±02×**8206W**±008,**h41**km±13km,**n20**,
σ0:**94**/20,**mb3.7**/4,**1C-2D**,**South of Panama**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DVD	David	0.90	334	eP	Pn	11 34 13.4	-3.5
AZU	Azuero	1.78	84	eP	Pn	11 34 29.0	0.0
CNI	Changuinola	1.84	346	eP	Pn	11 34 29.1	-0.7
BAR1		2.03	322	⇑eP	Pn	11 34 31.5	-1.0
BAR1				eS	Sn	11 34 59.7	+3.0
BUS	Buena Vista	2.55	319	eP	Pn	11 34 39.3	-0.4
BCIP	Isla Barro Col	2.68	55	ePn	Pn	11 34 42.3	+0.9
URSC	Urasca	2.78	322	⇓eP	Pn	11 34 42.9	+0.1
URSC				eS	Sn	11 35 19.3	+4.2
LCR2	La Lucha 2	2.85	318	eP	Pn	11 34 43.5	-0.3
LAJ	Bijagual	3.02	318	eP	Pn	11 34 46.9	+0.8
SJS	Escuela Geolog	3.03	320	eP	Pn	11 34 46.7	+0.4
CGA2	Cerro Gallo 2	3.36	315	⇓eP	Pn	11 34 51.5	+0.6
JCR	Jicaral	3.74	306	eP	Pn	11 34 55.0	-1.0
ROSC	El Rosal	8.16	109	LR	LR	11 38 48.8	
comp=Z,101nm,20.7s,baz=169,slow=36							
SDV	Santo Domingo	11.38	83	Pn	Pn	11 36 40.5	-0.3
0.1nm,0.3s,baz=264,slow=11,SNR=2.5							
SDV				LR	LR	11 41 27.4	
comp=Z,71nm,20.6s,baz=307,slow=40							
CMIG	Matias Romero	15.66	308	Pn	Pn	11 37 38.6	-0.1
0.2nm,0.3s,baz=54,slow=14,SNR=4.1							
SIV	San Ignacio	31.34	139	P	P	11 40 18.5	+0.8
0.8nm,0.5s,mb3.8,baz=309,slow=14,SNR=4.4							
ULM	Lac du Bonnet	44.03	347	P	P	11 42 02.5	-1.8
2.4nm,0.8s,mb4.0,baz=154,slow=9.4,SNR=6.8							
NVAR	Mina Array Bea	44.81	319	P	P	11 42 11.6	+0.8
0.3nm,0.6s,mb3.3,baz=130,slow=7.8,SNR=4.2							
YKA	Yellowknife Ar	59.69	343	P	P	11 44 00.8	0.0
0.4nm,0.7s,mb3.5,baz=133,slow=7.0,SNR=5.4							
ASAR	Alice Springs	142.02	241	PKP	PKPdf	11 53 31.3	+2.1
0.4nm,0.8s,baz=106,slow=2.2,SNR=5.5							

*IDC **14** 11:34:14.2±1.1, 3321N×9081E, h0km, mb3.3/4, mb1 3.5/5, mb1mx3.4/20, mbtmp3.3/5, ML2.8/1, Error ellipse: s-maj=40.4km s-min=24.3km az=68.0*
*ISCJB **14** 11:34:19.4±1.9, 3332N±010×909E±02, h49km±21km, mb3.2/5, Error ellipse: s-maj=33.7km s-min=15.6km az=169.1*
*NEIC **14** 11:34:20.7±1.4, 3329N×9075E, h46km±16km, Error ellipse: s-maj=24.6km s-min=10.7km az=77.0*
ISC 14 11:34:21.0±1.7,**3332N**±010×**908E**±02,**h48**km±19km,**n8**,
σ0:**70**/8,**mb3.2**/5,**Qinghai**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSA	Lhasa	3.62	175	ePn	Pn	11 35 14.6	+0.1
MKAR	Makanchi Array	14.94	337	Pn	Pn	11 37 48.3	-0.7
0.2nm,0.3s,baz=141,slow=15,SNR=3.5							
SONM	Songino Array	18.67	34	P	Pn	11 38 36.2	+0.6
0.0nm,0.3s,baz=240,slow=11,SNR=2.7							
ZALV	Zalesovo Beam	21.06	350	P	P	11 39 01.0	+0.3
1.0nm,0.8s,mb3.2,baz=166,slow=13,SNR=6.4							
WRA	Warramunga Arr	67.31	135	P	P	11 45 10.8	-0.1
0.2nm,0.5s,mb3.4,baz=327,slow=7.2,SNR=5.7							
ASAR	Alice Springs	69.98	138	P	P	11 45 27.0	-0.5
0.4nm,0.6s,mb3.5,baz=316,slow=6.1,SNR=7.7							
TORD	Torodi Ar. Bea	82.17	281	P	P	11 46 38.0	+0.8
0.3nm,0.9s,mb3.2,baz=36,slow=3.7,SNR=2.9							
YKA	Yellowknife Ar	82.35	12	P	P	11 46 37.0	-0.4
0.1nm,0.8s,mb2.8,baz=289,slow=1.9,SNR=3.2							

*NIED **14** 11:44:00, 3080N×14230E, h5km, Mw4.1 Best double couple: M0:1.57000×10^15 NP1:φs:323.00000°, δ60.00000°, λ:62.00000°. NP2:φs:190.00000°, δ:41.00000°, λ:129.00000°.*
*ISCJB **14** 11:44:13.5±1.7, 3088N±005×1422E±01, h15km±13km, mb3.9/15, Error ellipse: s-maj=15.6km s-min=6.2km az=158.3*
*JMA **14** 11:44:14.2±0.2, 3084N×14232E, h35km, M4.2*
*IDC **14** 11:44:19.0±0.7, 3077N×142.10E, h42km±6km, mb3.5/12, mb1 3.8/15, mb1mx3.7/23, mbtmp3.6/15, ML3.8/3, MS3.0/4, Ms1 3.0/4, ms1mx2.8/34, Error ellipse: s-maj=19.7km s-min=10.8km az=64.0*
*NEIC **14** 11:44:19.4±0.5, 3083N×142.11E, mb4.3/1, Error ellipse: s-maj=16.7km s-min=10.1km az=74.0*
ISC 14 11:44:15.9±2.0,**3085N**±005×**1422E**±01,**h17**km±13km,
h42km±1.4km**:pP-P**,**n42**,σ1:**04**/48,**mb3.9**/15,**Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ	Hachijo jima 2	3.06	318	P	Pn	11 45 03.4	-0.1
15nm,0.3s,baz=51,slow=17,SNR=3.9							
JHJ				S	Sn	11 45 39.1	-0.7
15nm,0.3s,baz=127,slow=20,SNR=3.2							
CBIJ	Chichi jima	3.74	180	P	Pn	11 45 11.4	-1.4
CBIJ	Chichi jima	3.74	180	P	Pn	11 45 11.2	-1.6
11nm,0.3s,baz=265,slow=19,SNR=12							
CBIJ				S	Sn	11 45 51.5	-4.9
12nm,0.3s,baz=287,slow=19,SNR=9.1							
CBIJ				LR	LR	11 46 32.5	
comp=Z,200nm,21.8s,baz=157,slow=36							
BSO1	Boso 1	3.94	345	P	Pn	11 45 14.3	-1.2
BSO3	Boso 3	4.20	341	P	Pn	11 45 19.8	+0.7
JOD2	Odawara 2	5.12	330	P	Pn	11 45 32.2	+0.3
JHU	Hanno	5.56	335	P	Pn	11 45 38.0	+0.2
JHU				eS	Sn	11 46 41.2	-0.1
JYT	Yasato	5.62	343	P	Pn	11 45 39.3	+0.6
JNY	Yasuok	5.79	322	P	Pn	11 45 44.6	+3.6
JRY	Ryogami san	5.85	333	P	Pn	11 45 42.4	+0.6
JRY				eS	Sn	11 46 48.3	-0.2
JHO	Hitachi	5.91	347	P	Pn	11 45 41.5	-1.1
JHO				eS	Sn	11 46 46.4	-3.5
JAG	Ashikaga	6.02	338	P	Pn	11 45 43.8	-0.4
JAG				eS	Sn	11 46 51.4	-1.3
MJAR	Matsushiro Arr	6.58	331	P	Pn	11

ASAJ	**Asahikawa**	**13.25**	**1**	P	**Pn**	**11 47 22.7**	**-0.5**
	0.5nm,0.3s,baz=234,slow=11,SNR=4.7						
KSRS	**Korea Array**	**13.54**	**303**	LR	LR	11 52 41.0	
	comp=Z,77nm,18.2s,baz=295,slow=37						
SONM	**Songino Array**	**32.12**	**312**	P	**P**	**11 50 42.7**	**+0.4**
	1.2nm,0.9s,mb3.7,baz=101,slow=7.7,SNR=8.5						
ZALV	**Zalesovo Beam**	**46.73**	**317**	P	**P**	**11 52 43.4**	**-0.4**
	0.3nm,0.4s,mb3.6,baz=107,slow=4.8,SNR=3.1						
ZALV				pP	pP	11 52 55.6	+6.5
	1.7nm,0.8s,baz=86,slow=6.1,SNR=4.5						
MKAR	**Makanchi Array**	**48.17**	**307**	P	**P**	**11 52 55.0**	**-0.1**
	0.5nm,0.4s,mb3.9,baz=92,slow=9.8,SNR=5.6						
MKAR				pP	pP	11 53 07.3	+6.8
	2.3nm,0.7s,baz=90,slow=9.6,SNR=6.4						
WB2	**Warramunga Arr**	**51.06**	**190**	*e*P	**P**	**11 53 16.2**	**-1.1**
WRA	**Warramunga Arr**	**51.06**	**190**	P	**P**	**11 53 15.8**	**-1.6**
	0.9nm,0.4s,mb4.1,baz=5.6,slow=7.7,SNR=25						
FITZ	**Fitzroy Crossi**	**51.21**	**200**	*e*P	**P**	**11 53 20.8**	**+2.3**
	3.3nm,0.9s,mb4.3						
ASAR	**Alice Springs**	**54.78**	**189**	P	**P**	**11 53 43.8**	**-1.0**
	0.3nm,0.5s,mb3.6,baz=354,slow=5.7,SNR=13						
ASAR				pP	pP	11 53 56.1	+5.9
	1.4nm,0.9s,baz=5.2,slow=5.7,SNR=7.2						
BVAR	**Borovoye Array**	**55.34**	**316**	P	**P**	**11 53 50.0**	**+1.4**
	0.8nm,0.6s,mb3.9,baz=83,slow=4.6,SNR=3.2						
BVAR				pP	pP	11 54 00.9	+6.9
	1.9nm,0.7s,baz=116,slow=10,SNR=3.1						
INK	**Inuvik**	**59.63**	**25**	P	**P**	**11 54 18.7**	**+0.1**
	0.9nm,0.9s,mb3.8,baz=269,slow=11,SNR=3.9						
AKTK	**Aktyubinsk**	**63.39**	**315**	P	**P**	**11 54 47.3**	**+3.1**
AKTO	**Aktyubinsk**	**63.39**	**315**	P	**P**	**11 54 47.3**	**+3.0**
	0.5nm,0.5s,mb3.9,baz=88,slow=9.5,SNR=4.7						
YKA	**Yellowknife Ar**	**68.85**	**29**	P	**P**	**11 55 18.3**	**-0.9**
	0.5nm,0.9s,mb3.4,baz=292,slow=5.9,SNR=8.3						
YKA				pP	pP	11 55 31.5	+6.8
	1.0nm,1.0s,baz=297,slow=6.0,SNR=6.6						
NVAR	**Mina Array Bea**	**78.20**	**52**	P	**P**	**11 56 15.5**	**+0.9**
	0.3nm,0.6s,mb3.4,baz=298,slow=5.3,SNR=3.6						
AKASG	**Malin Array Be**	**79.62**	**323**	P	**P**	**11 56 21.4**	**-0.7**
	0.8nm,0.6s,mb3.9,baz=51,slow=6.1,SNR=4.2						
FLWY	**Flagg Ranch**	**80.12**	**44**	*e*P	**P**	**11 56 25.9**	**+0.9**
	52nm,1.0s,mb5.4						
NB2	**NORSAR Subarra**	**80.15**	**338**	P	**P**	**11 56 25.2**	**+0.4**
	comp=Z,1.6nm,0.9s,mb4.0,baz=41,slow=5.6						
NOA	**NORSAR Array B**	**80.15**	**338**	P	**P**	**11 56 24.4**	**-0.4**
	comp=Z,0.8nm,0.7s,mb3.8,baz=41,slow=5.3,SNR=4.1						
TXAR	**Lajitas Array**	**93.34**	**53**	P	**P**	**11 57 31.8**	**+1.6**
	comp=Z,0.7nm,0.8s,mb4.1,baz=305,slow=4.4,SNR=3.9						
CPD	**Cerro la Pandu**	**124.38**	**33**	*e*PKPdf	PKPdf	12 03 14.7	+0.1
LPAZ	**La Paz**	**148.77**	**69**	PKPbc	PKPbc	12 04 04.2	+1.2
	comp=Z,0.8nm,0.8s,baz=0.0,slow=1.0,SNR=4.0						

MEX 14 11:50:37.9±0.3, 1718N×10040W, h45km±3km, MD3.5, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.18**	**136**	*i* P	Pn	11 50 44.2	-1.3
CAIG				*i* S	Sn	11 50 49.1	-1.7
ACX	**Acapulco**	**0.55**	**124**	*i* P	Pn	11 50 48.0	-1.5
ACX				*i* S	Sn	11 50 56.0	-1.8
MEIG	**Mezcala**	**1.05**	**45**	*i* P	Pn	11 50 54.8	-1.4
MEIG				*i* S	Sn	11 51 07.7	-2.0

*ISCJB **14** 12:04:16.5±0.5, 3665N±004×7142E±006, h183km±7km, mb3.5/9, Error ellipse: s-maj=8.7km s-min=5.3km az=146.4*
*IDC **14** 12:04:16.2±6.3, 3641N×7131E, h170km±57km, mb3.2/7, mb1 3.3/11, mb1mx3.2/23, mbtmp3.2/11, Error ellipse: s-maj=31.9km s-min=18.3km az=23.0*
*NEIC **14** 12:04:17.8±0.8, 3654N×7139E, h184km±9km, mb4.7/3, Error ellipse: s-maj=11.5km s-min=8.0km az=54.0*
*NNC **14** 12:04:25.7±3.5, 3730N×7129E, h210km±34km, mb2.4, mpv3.5, Error ellipse: s-maj=32.3km s-min=21.6km az=26.0*

ISC 14 12:04:17.5±0.5, 3664N±004×7144E±006, h176km±7km, n30, σ0°90/40, mb3.5/9, 5C-3D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**2.87**	**224**	*e*Pn	**Pn**	**12 05 05.0**	**+0.6**
KBL				*e*Sn	**Sn**	**12 05 39.8**	**-0.9**
THN	**Thein Dam**	**5.48**	**139**	*e*P	**Pn**	**12 05 38.8**	**+1.1**
THN				*e*S	**Sn**	**12 06 41.8**	**+1.2**
DLH	**Dalhousie**	**5.54**	**136**	*e*P	**Sn**	**12 06 42.0**	**+0.1**
AML	**Almayashu**	**5.75**	**17**	*e*Pn	**Pn**	**12 05 41.4**	**+0.3**
	24nm,0.4s						
AML				*e*Sn	**Sn**	**12 06 41.9**	**-5.0**
KK31	**Karatay Array**	**6.49**	**354**	⇑P	**Pn**	**12 05 50.5**	**-0.3**
	3.1nm,0.5s,baz=175,slow=12,SNR=50						
KK31				⇑S	**Sn**	**12 06 59.4**	**-5.0**
	41nm,0.9s,baz=179,slow=20,SNR=21						
SDNR	**Sundarnagar**	**6.88**	**137**	*e*P	**Pn**	**12 05 56.0**	**0.0**
SDNR				*e*S	**Sn**	**12 07 09.0**	**-4.7**
TKM2	**Tokmak 2**	**7.04**	**26**	⇓P	**Pn**	**12 05 59.4**	**+1.4**
	2.1nm,0.6s						
TKM2				⇓S	**Sn**	**12 07 15.2**	**-2.1**
	2.9nm,0.6s						
JOSI	**Joshimath**	**9.09**	**130**	*e*P	**Pn**	**12 06 26.4**	**+1.2**
JOSI				*e*S	**Sn**	**12 08 03.9**	**-2.6**
JOSI				AML	AML	12 08 10.8	
	comp=N,55nm,0.7s						
JOSI				AML	AML	12 08 11.3	
	comp=E,53nm,0.5s						
MKAR	**Makanchi Array**	**12.97**	**35**	P	**Pn**	**12 07 19.4**	**+4.1**
	comp=E,0.2nm,0.3s,baz=213,slow=8.7,SNR=4.7						
KOLN	**Koldanda**	**13.56**	**127**	*e*P	**Pn**	**12 07 22.5**	**-0.4**
	comp=E,8.3nm,0.4s						
KOLN				*e*S	**Sn**	**12 09 43.8**	**-10**
GKN	**Gorkha**	**14.08**	**124**	*e*P	**Pn**	**12 07 29.1**	**-0.3**
	comp=E,10nm,0.3s						
KKN	**Kakani**	**14.65**	**123**	*e*P	**Pn**	**12 07 35.8**	**-0.7**
AB31	**Akbulak array**	**15.13**	**330**	⇑P	**Pn**	**12 07 42.8**	**+0.6**
	comp=E,0.4nm,0.3s,baz=136,slow=12,SNR=14						
AB31				⇓S	**S**	**12 10 19.6**	**-11**
	comp=E,1.1nm,0.6s						
JIRN	**Jiri**	**15.36**	**121**	*e*P	**Pn**	**12 07 45.5**	**+0.4**
BVAR	**Borovoye Array**	**16.40**	**358**	P	**Pn**	**12 07 57.1**	**-0.4**
	comp=E,0.4nm,0.3s,baz=157,slow=8.6,SNR=5.9						
AKTK	**Aktyubinsk**	**16.84**	**329**	P	**Pn**	**12 08 02.5**	**-0.3**
AKTO	**Aktyubinsk**	**16.84**	**329**	⇑P	**Pn**	**12 08 02.4**	**-0.4**
	comp=E,0.3nm,0.6s						
AKTO				⇑S	**S**	**12 11 01.3**	**-7.2**
	comp=E,0.6nm,1.4s						
AKTO	**Aktyubinsk**	**16.84**	**329**	P	**Pn**	**12 08 02.5**	**-0.3**
	comp=E,0.5nm,0.3s,baz=142,slow=9.3,SNR=6.5						
ZALV	**Zalesovo Beam**	**19.64**	**24**	P	**P**	**12 08 33.1**	**+0.7**
	comp=E,0.5nm,0.3s,baz=222,slow=10,SNR=6.8						
AKASG	**Malin Array Be**	**33.13**	**309**	P	**P**	**12 10 36.3**	**-0.5**
	comp=E,0.4nm,0.3s,mb3.6,baz=82,slow=7.6,SNR=4.2						
JOF	**Joensuu**	**35.92**	**330**	*ep*	**P**	**12 11 00.9**	**+0.4**
	comp=E,2.2nm,0.4s,mb4.1						
FINES	**FINESS Array B**	**37.56**	**326**	P	**P**	**12 11 15.2**	**+0.8**
	comp=E,0.7nm,0.4s,mb3.7,baz=126,slow=9.0,SNR=11						
ARCES	**ARCESS Array B**	**41.15**	**337**	P	**P**	**12 11 45.0**	**+1.1**
	comp=E,1.5nm,0.6s,mb3.8,baz=107,slow=8.2,SNR=9.3						
NB2	**NORSAR Subarra**	**44.48**	**323**	P	**P**	**12 12 10.8**	**0.0**
	comp=Z,1.1nm,0.5s,mb3.7,baz=98,slow=7.9						
NOA	**NORSAR Array B**	**44.48**	**323**	P	**P**	**12 12 11.2**	**+0.4**
	comp=Z,1.3nm,0.5s,mb3.8,baz=96,slow=7.7,SNR=9.0						
TORD	**Torodi Ar. Bea**	**66.08**	**269**	P	**P**	**12 14 44.1**	**-1.7**
	comp=Z,0.6nm,0.5s,mb3.7,baz=50,slow=5.7,SNR=9.7						
YKA	**Yellowknife Ar**	**81.09**	**3**	P	**P**	**12 16 12.9**	**+0.4**
YKA	**Yellowknife Ar**	**81.09**	**3**	P	**P**	**12 16 12.9**	**+0.4**
	comp=Z,0.2nm,0.4s,mb3.1,baz=351,slow=5.4,SNR=11						
WRA	**Warramunga Arr**	**81.76**	**122**	P	**P**	**12 16 16.0**	**-0.7**
	comp=Z,0.1nm,0.3s,mb2.9,baz=328,slow=5.4,SNR=7.0						
ASAR	**Alice Springs**	**84.04**	**125**	P	**P**	**12 16 27.9**	**-0.4**
	comp=Z,0.2nm,0.6s,mb3.0,baz=310,slow=5.3,SNR=5.3						

*NEIC **14** 12:07:01.2, 17.19N×100.38W, h38km, MD4.2(MEX), After MEX.*

MEX 14 12:07:01.1±0.6, 1719N×10038W, h39km±6km, MD4.3, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.17**	**143**	*i* P	Pn	12 07 06.4	-1.6
CAIG				*i* S	Sn	12 07 11.3	-1.5
ACX	**Acapulco**	**0.54**	**126**	*i* P	Pn	12 07 10.9	-1.5
ACX				*i* S	Sn	12 07 18.3	-2.0
MEIG	**Mezcala**	**1.03**	**44**	*i* P	Pn	12 07 16.9	-2.2
MEIG				*i* S	Sn	12 07 30.1	-2.2
ZIIG	**Zihuatanejo**	**1.12**	**292**	*i* P	Pn	12 07 18.7	-1.6
ZIIG				*i* S	Sn	12 07 32.2	-2.2
PLIG	**Platanillo**	**1.46**	**35**	*i* P	Pn	12 07 23.9	-1.1
PLIG				*i* S	Sn	12 07 41.5	-1.3
YAIG	**Yautepec**	**2.08**	**37**	*i* P	Pn	12 07 29.5	-4.0
YAIG				*i* S	Sn	12 07 54.2	-4.0
YAIG	**Yautepec**	**2.08**	**37**	*i* P	Pn	12 07 31.7	-1.8
YAIG				*i* S	Sn	12 07 57.5	-0.7
MZVM		**2.27**	**29**	*i* P	Pn	12 07 35.5	-0.7
MZVM				*i* S	Sn	12 08 01.4	-1.4
PNIG	**Pinotepa**	**2.29**	**110**	*i* P	Pn	12 07 39.5	+3.1
PNIG				*i* S	Sn	12 08 01.7	-1.8
PNIG	**Pinotepa**	**2.29**	**110**	*i* P	Pn	12 07 35.5	-0.9
PNIG				*i* S	Sn	12 08 01.7	-1.8
SZVM	**Salazar**	**2.33**	**24**	*e*P	Pn	12 07 35.5	-1.4
SZVM				*i* S	Sn	12 08 02.5	-1.7
UNM	**Universidad Na**	**2.42**	**28**	*i* P	Pn	12 07 43.5	+5.4
UNM				*i* S	Sn	12 08 08.2	+1.7
UNM	**Universidad Na**	**2.42**	**28**	*i* P	Pn	12 07 37.8	-0.3
UNM				*e*P		12 07 40.0	
UNM				*i* S	Sn	12 08 04.9	-1.6
PPM	**Popocatepetl**	**2.50**	**41**	*i* P	Pn	12 07 40.3	+1.0
PPM				*i* S	Sn	12 08 07.8	-0.8
PPM	**Popocatepetl**	**2.50**	**41**	*i* P	Pn	12 07 38.3	-1.0
PPM				*i* S	Sn	12 08 07.8	-0.8
UTMO	**Huajuapan**	**2.54**	**75**	*i* P	Pn	12 07 39.1	-0.7
UTMO				*i* S	Sn	12 08 08.4	-1.1
PBVM	**Pinon**	**2.56**	**29**	*i* P	Pn	12 07 43.2	+3.2
PBVM	**Pinon**	**2.56**	**29**	*i* P	Pn	12 07 38.7	-1.4
PBVM				*i* S	Sn	12 08 07.1	-2.8
MOIG	**Morelia**	**2.59**	**343**	*i* P	Pn	12 07 40.0	-0.6
MOIG				*e*S	Sn	12 08 04.9	-6.0
MOIG	**Morelia**	**2.59**	**343**	*i* P	Pn	12 07 40.0	-0.6
MOIG				*e*S	Sn	12 08 07.9	-3.0
PTVM	**Pico Tres Padr**	**2.68**	**26**	*i* P	Pn	12 07 37.7	-4.0
PTVM				*i* S	Sn	12 08 04.2	-8.7
PTVM	**Pico Tres Padr**	**2.68**	**26**	*i* P	Pn	12 07 41.8	+0.1
PTVM				*i* S	Sn	12 08 11.6	-1.3
IIO	**Organos**	**2.86**	**33**	*i* P	Pn	12 07 43.2	-1.0
IIO				*i* S	Sn	12 08 15.7	-1.8
TPIG	**Tehuac#an**	**3.12**	**66**	*i* P	Pn	12 07 47.1	-0.7
TPIG				*i* S	Sn	12 08 24.6	+0.7
DEIG	**Demacu**	**3.35**	**22**	*i* P	Pn	12 07 53.6	+2.7
DEIG				*i* S	Sn	12 08 30.9	+1.4
VHO	**Vista Hermosa**	**3.49**	**91**	*i* P	Pn	12 07 52.1	-0.7
VHO				*i* S	Sn	12 08 32.4	-0.5
OXX	**Oaxaca**	**3.50**	**91**	*i* P	Pn	12 07 49.8	-3.1
OXX				*i* S	Sn	12 08 36.9	+3.8
SFJM	**Santa Fe**	**4.14**	**323**	*i* P	Pn	12 08 01.5	-0.3
SFJM				*i* S	Sn	12 08 52.3	+3.3
CMIG	**Matias Romero**	**5.25**	**90**	*e*P	Pn	12 08 28.8	+12
CMIG				*i* S	Sn	12 09 18.0	+1.5
CMIG	**Matias Romero**	**5.25**	**90**	*e*P	Pn	12 08 22.4	+5.3
CMIG				*i* S	Sn	12 09 16.7	+0.3
ANIG	**Ahuacatlan**	**5.49**	**315**	*i* P	Pn	12 08 26.5	+6.1

FUNV 14 12:17:22.5, 680N×7313W, h169km, MW3.5, 1C-7D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**1.33**	**37**	⇓*i*P	Pn	12 17 51.3	-0.6
CAPV				*e*S	Sn	12 18 12.7	-1.9
VIGV	**El Vigia**	**2.67**	**41**	⇓*i*P	Pn	12 18 05.8	-0.9
VIGV				*e*S	Sn	12 18 37.6	-3.3
SOCV	**Socops**	**2.69**	**57**	⇓*i*P	Pn	12 18 06.1	-0.8
SOCV				*e*S	Sn	12 18 37.7	-3.6
ELOV	**Elorza**	**3.62**	**87**	*e*P	Pn	12 18 17.6	-0.9
ELOV				*e*S	Sn	12 18 57.8	-4.3
VIRV	**Villa del Rosa**	**3.75**	**11**	*e*P	Pn	12 18 18.2	-1.8
VIRV				*e*S	Sn	12 19 00.4	-4.6
QARV	**Quebrada Arrib**	**4.25**	**37**	⇓*i*P	Pn	12 18 25.8	-0.8
SANV	**Sanarito**	**4.45**	**53**	*e*P	Pn	12 18 27.8	-1.4
CURV	**Curarigua**	**4.47**	**44**	⇓*i*P	Pn	12 18 28.1	-1.3
TEPV	**Terepaima**	**5.00**	**51**	⇓*i*P	Pn	12 18 34.9	-1.4
SIQV	**Siquisique**	**5.04**	**40**	⇓*i*P	Pn	12 18 34.9	-1.8
BAUV	**El Baul**	**5.47**	**67**	⇑*i*P	Pn	12 18 39.8	-2.6
TURV	**Turiamo**	**6.36**	**55**	*e*P	Pn	12 18 52.2	-2.0
CAOV	**Caicara del Or**	**6.78**	**85**	*e*P	Pn	12 18 57.1	-2.6

IDC 14 12:17:52.1±12.0, 045S×12809E, h0km, mb3.4/2, mb1 3.5/3, mb1mx3.3/15, mbtmp3.4/3, ML3.1/1, MS3.6/4, Ms1 3.6/4, ms1mx3.2/21, Error ellipse: s-maj=221.4km s-min=44.3km az=133.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Kupang**	**10.64**	**204**	LR	LR	12 24 01.8	
	comp=Z,206nm,18.4s,baz=270,slow=35						
FITZ	**Fitzroy Crossi**	**17.70**	**188**	P	Pn	12 21 59.1	-1.2
	0.1nm,0.3s,baz=30,slow=8.1,SNR=3.1						
WRA	**Warramunga Arr**	**20.31**	**163**	P	P	12 22 28.1	-1.8
	0.3nm,0.9s,baz=344,slow=13,SNR=9.7						
ASAR	**Alice Springs**	**23.76**	**167**	P	P	12 23 08.2	+1.7
	0.5nm,0.5s,baz=339,slow=9.1,SNR=11						
HNR	**Honiara**	**32.94**	**107**	P	P	12 24 28.3	-0.4
	23nm,0.3s,baz=268,slow=14,SNR=4.4						
STKA	**Stephens Creek**	**33.76**	**159**	P	P	12 24 35.8	+0.2
	0.4nm,0.4s,baz=338,slow=8.7,SNR=3.2						
KSRS	**Korea Array**	**37.72**	**360**	LR	LR	12 39 10.8	
	comp=Z,90nm,19.5s,baz=114,slow=34						
SONM	**Songino Array**	**51.67**	**341**	LR	LR	12 47 32.5	
	comp=Z,93nm,21.4s,baz=61,slow=34						
ZALV	**Zalesovo Beam**	**64.91**	**333**	LR	LR	12 58 37.8	
	comp=Z,48nm,19.1s,baz=159,slow=38						

*NEIC **14** 12:22:19.7, 17.19N×100.36W, h24km, MD4.3(MEX), After MEX.*

MEX 14 12:22:18.9±1.1, 1717N×10037W, h36km±9km, MD4.4, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.16**	**141**	*i* P	Pn	12 22 23.8	-1.7
CAIG				*i* S	Sn	12 22 28.6	-1.3
ACX	**Acapulco**	**0.53**	**125**	*i* P	Pn	12 22 28.1	-1.9
ACX				*i* S	Sn	12 22 35.6	-2.2
MEIG	**Mezcala**	**1.04**	**44**	*i* P	Pn	12 22 34.6	-2.3
MEIG				*i* S	Sn	12 22 47.3	-3.0
ZIIG	**Zihuatanejo**	**1.13**	**293**	*i* P	Pn	12 22 36.3	-1.9
ZIIG				*i* S	Sn	12 22 48.1	-4.3
ZIIG	**Zihuatanejo**	**1.13**	**293**	*i* P	Pn	12 22 36.3	-1.9
ZIIG				*i* S	Sn	12 22 50.4	-2.0
PLIG	**Platanillo**	**1.47**	**34**	*i* P	Pn	12 22 39.8	-3.2
PLIG				*i* S	Sn	12 22 59.0	-1.9
PLIG	**Platanillo**	**1.47**	**34**	*i* P	Pn	12 22 41.4	-1.5
PLIG				*i* S	Sn	12 22 59.6	-1.3
YAIG	**Yautepec**	**2.09**	**36**	*e*P	Pn	12 22 48.5	-3.0
YAIG				*i* S	Sn	12 23 16.9	+0.7
YAIG	**Yautepec**	**2.09**	**36**	*i* P	Pn	12 22 49.5	-1.9
YAIG				*i* S	Sn	12 23 12.9	-3.4
MZVM		**2.28**	**28**	*i* P	Pn	12 22 53.0	-1.0
MZVM				*i* S	Sn	12 23 19.1	-1.9
PNIG	**Pinotepa**	**2.29**	**110**	*i* P	Pn	12 22 54.6	+0.4
PNIG				*i* S	Sn	12 23 18.1	-3.0
PNIG	**Pinotepa**	**2.29**	**110**	*i* P	Pn	12 22 54.3	+0.1
PNIG				*i* S	Sn	12 23 18.1	-3.0
SZVM	**Salazar**	**2.34**	**24**	*e*P	Pn	12 22 53.7	-1.1
SZVM				*i* S	Sn	12 23 20.5	-1.9
UNM	**Universidad Na**	**2.43**	**28**	*i* P	Pn	12 22 55.1	-0.9
UNM				*e*P		12 22 57.0	
UNM				*i* S	Sn	12 23 24.5	-0.1
PPM	**Popocatepetl**	**2.51**	**41**	*i* P	Pn	12 22 58.8	+1.6
PPM				*i* S	Sn	12 23 25.7	-0.9
PPM	**Popocatepetl**	**2.51**	**41**	*i* P	Pn	12 22 57.1	-0.2
PPM				*e*P		12 22 58.2	
PPM				*i* S	Sn	12 23 25.7	-0.9
UTMO	**Huajuapan**	**2.54**	**75**	*i* P	Pn	12 22 56.7	-0.9
UTMO				*i* S	Sn	12 23 27.2	-0.1
PBVM	**Pinon**	**2.57**	**28**	*i* P	Pn	12 22 56.7	-1.3
PBVM				*i* S	Sn	12 23 26.4	-1.6
MOIG	**Morelia**	**2.61**	**343**	*i* P	Pn	12 22 57.8	-0.8
MOIG				*i* S	Sn	12 23 23.9	-5.1
MOIG	**Morelia**	**2.61**	**343**	*i* P	Pn	12 22 57.8	-0.8
MOIG				*i* S	Sn	12 23 29.6	+0.6
PTVM	**Pico Tres Padr**	**2.69**	**26**	*e*P	Pn	12 22 54.4	-5.3
PTVM	**Pico Tres Padr**	**2.69**	**26**	*e*P	Pn	12 22 54.6	-5.0
PTVM				*i* S	Sn	12 23 23.0	-8.0
IIO	**Organos**	**2.87**	**33**	*i* P	Pn	12 23 01.9	-0.3
IIO				*i* S	Sn	12 23 34.7	-0.9
MMIG	**Aquila**	**3.04**	**292**	*i* P	Pn	12 23 02.9	-1.6
MMIG				*i* S	Sn	12 23 37.1	-2.6
TPIG	**Tehuac#an**	**3.13**	**66**	*e*P	Pn	12 23 04.6	-1.1
TPIG				*e*S	Sn	12 23 42.1	+0.2
DEIG	**Demacu**	**3.36**	**22**	*i* P	Pn	12 23 07.0	-1.9
DEIG				*i* S	Sn	12 23 48.3	+0.8
VHO	**Vista Hermosa**	**3.48**	**91**	*i* P	Pn	12 23 15.9	+5.3
VHO				*i* S	Sn	12 23 49.9	-0.7
VHO	**Vista Hermosa**	**3.48**	**91**	*i* P	Pn	12 23 11.8	+1.2
VHO				*i* S	Sn	12 23 48.5	-2.1
OXX	**Oaxaca**	**3.49**	**91**	*e*P	Pn	12 23 20.3	+10
OXX	**Oaxaca**	**3.49**	**91**	*e*P	Pn	12 23 11.2	+0.5
OXX				*i* S	Sn	12 23 51.0	+0.2
SFJM	**Santa Fe**	**4.15**	**323**	*i* P	Pn	12 23 25.5	+5.7
SFJM	**Santa Fe**	**4.15**	**323**	*i* P	Pn	12 23 19.4	-0.4
SFJM				*i* S	Sn	12 24 08.2	+1.1
HUIG	**Huatulco**	**4.33**	**108**	*i* S	Sn	12 24 10.2	-1.2
CMIG	**Matias Romero**	**5.25**	**90**	*i* P	Pn	12 23 35.5	+0.6
CMIG				*e*S	Sn	12 24 30.2	-4.0
ANIG	**Ahuacatlan**	**5.50**	**315**	*i* P	Pn	12 23 33.9	-4.5
LNIG	**Linares**	**7.73**	**6**	*e*P	Pn	12 24 09.7	+0.6
LNIG				*i* S	Sn	12 25 38.0	+2.6

*TEH **14** 13:05:21.6, 3074N×5736E, h19km, ML3.7*
*ISCJB **14** 13:06:39.7±1.3, 3083N±004×5723E±006, h9km±13km, Error ellipse: s-maj=8.5km s-min=7.0km az=153.6*
*CSEM **14** 13:06:39.9±0.1, 3076N×5736E, h16km, ML3.7, Error ellipse: s-maj=3.9km s-min=1.7km az=134.0*
*THR **14** 13:06:40.3±0.4, 3079N×5727E, h15km±5km, ML3.2*

ISC 14 13:06:40.6±1.5, 3082N±004×5725E±007, h6km±15km, n19, σ0°92/25, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRBR	**Kerman**	**0.94**	**207**	*e*Pg	**Pg**	**13 06 57.9**	**-0.7**
KRBR				*e*Sg	**Sg**	**13 07 10.6**	**-0.1**
KRBR				AML	AML	13 07 15.8	
	comp=N,924nm,0.6s						
KRBR	**Kerman**	**0.94**	**207**	*e*Pg	**Pg**	**13 06 57.9**	**-0.7**
	SNR=91						
KRBR				*e*Sg	**Sg**	**13 07 10.6**	**-0.1**
	SNR=91						
IBAF	**Bafgh**	**1.64**	**298**	*e*Pn	**Pb**	**13 07 11.4**	**+0.2**
IBAF				*e*Sn	**Sg**	**13 07 34.4**	**+1.2**
IBAF				*e*		13 07 36.2	
	comp=Z,6μm,0.1s						
IBAF	**Bafgh**	**1.64**	**298**	*e*Pn	**Pb**	**13 07 11.4**	**+0.2**
IBAF				*e*Sn	**Sg**	**13 07 34.4**	**+1.2**
IKOO	**Kooshah**	**2.19**	**43**	*e*Pn	**Pn**	**13 07 17.1**	**-0.4**
IKOO				*e*Sn	**Sn**	**13 07 43.9**	**-1.1**
IMEH	**Mehriz**	**2.33**	**285**	*e*Pn	**Pb**	**13 07 21.1**	**-2.0**
IMEH				*e*		13 07 59.4	
	comp=Z,2μm,0.3s						
ITEG	**Tejag**	**2.43**	**31**	*e*Pn	**Pn**	**13 07 20.4**	**-0.5**
ITEG				*e*Sn	**Sn**	**13 07 50.6**	**-0.3**
ICHK	**Chekchek**	**2.81**	**301**	*e*Pn	**Pb**	**13 07 28.3**	**-3.0**
ICHK				*e*		13 08 18.1	
	comp=Z,2μm,0.2s						
IDAH	**Dahanechah**	**2.94**	**49**	*e*Pn	**Pn**	**13 07 28.3**	**+0.5**
IMON	**Monand**	**3.13**	**40**	*e*Pn	**Pn**	**13 07 30.4**	**-0.1**
ISAD	**Sadrabad**	**3.24**	**291**	*e*Pn	**Pb**	**13 07 34.7**	**-3.8**
ISAD				*e*		13 08 31.4	
	comp=N,1μm,0.3s						
ZHSF	**Zahedan**	**3.28**	**111**	*e*PN5	**Pn**	**13 07 33.0**	**+0.5**
ZHSF				AML	AML	13 08 23.7	
	comp=E,58nm,0.7s						
ZHSF				AML	AML	13 08 26.6	
	comp=N,62nm,0.7s						
BNDS	**

comp=Z,85nm,20.9s,MS4.2,baz=12,slow=29
JHJ Hachijo jima 2 96.11 342 LR LR 14 05 11.3
comp=Z,297nm,19.8s,MS4.8,baz=139,slow=34
JNU Nakatsue 97.65 335 LR LR 14 06 01.7
comp=Z,55nm,18.1s,MS4.1,baz=217,slow=34
ATAH Atahualpa 97.74 121 LR LR 13 59 29.5
comp=Z,105nm,19.6s,MS4.3,baz=174,slow=30
MKAR Makanchi Array 125.07 305 PKP PKPdf 13 30 28.9 -2.3
0.1nm,0.2s,baz=177,slow=2.7,SNR=1.9
PDAR Pinedale Array 126.36 66 PKP PKPdf 13 30 32.0 -1.8
0.3nm,0.4s,baz=93,slow=3.1,SNR=2.8
TORD Torodi Ar. Bea 129.16 207 PKP PKPdf 13 30 37.5 -2.6
0.8nm,1.0s,baz=202,slow=3.1,SNR=3.5
YKA Yellowknife Ar 139.32 45 PKP PKPdf 13 30 53.4 -4.1
YKA Yellowknife Ar 139.32 45 PKhKP 13 30 45.1
0.5nm,1.1s,baz=216,slow=4.5,SNR=4.0
YKA PKP PKPdf 13 30 53.4 -4.1
0.9nm,1.1s,baz=224,slow=3.0,SNR=6.6
FCC Fort Churchill 144.62 60 *e*PKPdf PKPdf 13 31 03.1 -4.0
AKASG Malin Array Be 151.62 269 PKPbc PKPbc 13 31 23.7 -1.4
0.8nm,0.5s,baz=105,slow=1.9,SNR=7.8

*ISCJB **14** 13:32:57.8±0.8,3835N±003×2036E±007,h3km,Error ellipse: s-maj=8.3km s-min=3.7km az=154.1*
*CSEM **14** 13:32:58.9±0.3,3835N×2043E,h5km,MD3.8,Error ellipse: s-maj=8.8km s-min=3.3km az=63.0*
*THE **14** 13:32:58.1,3836N×2037E,h3km,ML3.8*
*NEIC **14** 13:32:58.6,3831N×2042E,h14km,MD3.8(ATH),After ATH.*
*ATH **14** 13:32:58.6,3831N×2042E,h14km±2km,MD3.8/8*
ISC 14 13:32:58.6±0.9,3835N±003×2041E±007,h0km±6km,n18, σ0§90/25,2C-2D,Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.23**	**142**	⇓*i*PG	**Pg**	**13 33 03.0**	**+0.1**
VLS				*e*SG	**Sg**	**13 33 07.1**	**+1.3**
KFL	**Anninata**	**0.38**	**129**	*e*Pg	**Pg**	**13 33 05.5**	**-0.4**
KFL				*e*Sg	**Sg**	**13 33 12.5**	**+1.6**
LKD	**Levkas**	**0.40**	**28**	*e*Pg	**Pg**	**13 33 05.5**	**-0.8**
LKD				*e*Sg	**Sg**	**13 33 12.0**	**+0.5**
RLS	**Riolos of Patr**	**0.88**	**109**	⇑*i*PG	**Pg**	**13 33 14.7**	**-0.8**
SELA	**Sela**	**1.17**	**93**	*e*Pg	**Pg**	**13 33 19.7**	**-1.3**
IGT	**Igoumenitsa**	**1.18**	**357**	*e*Pg	**Pg**	**13 33 20.1**	**-1.2**
IGT				*e*Sg	**Sg**	**13 33 37.9**	**+1.4**
EVR	**Evrytania**	**1.23**	**62**	⇑*i*PN	**Pn**	**13 33 21.5**	**-1.5**
JAN	**Janina**	**1.34**	**15**	*e*PB	**Pb**	**13 33 25.0**	**+0.3**
KEK	**Kerkira**	**1.44**	**341**	*e*PG	**Pg**	**13 33 26.3**	**+0.1**
AGG	**Agios Georgios**	**1.64**	**65**	*e*Pb	**Pn**	**13 33 27.9**	**-0.8**
AGG				*e*Sb	**Sb**	**13 33 51.5**	**+0.5**
ITM	**Ithomi**	**1.68**	**134**	⇓*i*PB	**Pb**	**13 33 29.4**	**-0.9**
THL	**Klokotos Trika**	**1.74**	**45**	*e*PN	**Pb**	**13 33 30.9**	**-0.5**
LTK	**Loutraki**	**2.04**	**99**	*e*Pn	**Pn**	**13 33 34.3**	**+0.1**
LKR	**Lokris**	**2.05**	**81**	*e*PN	**Pn**	**13 33 35.2**	**+0.9**
FNA	**Florina**	**2.54**	**17**	*e*Pn	**Pn**	**13 33 40.3**	**-0.7**
KRUS	**Krusevo**	**3.08**	**12**	*e*Pn	**Pn**	**13 33 49.9**	**+1.4**
KRUS				*e*Sn	**Sn**	**13 34 26.3**	**+0.4**
KRUS	**Krusevo**	**3.08**	**12**	*e*Pn	**Pn**	**13 33 49.8**	**+1.4**
KRUS				*e*Sn	**Sn**	**13 34 26.2**	**+0.3**
SG1	**Sgolgore (BA)**	**3.81**	**312**	*e*Pn	**Pn**	**13 33 58.8**	**+0.4**

*NEIC **14** 13:42:39.2,1703N×6114W,h112km,MD4.0(TRN),After TRN.*
TRN 14 13:42:39.1,1700N×6111W,h15km,MD4.2,Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MDN	**Morne-Daniel**	**1.69**	**189**	*e*P	Pn	13 43 09.9	+1.8
MDN				*e*S	Sn	13 43 32.5	+3.0
DBCT	**Belle View Cho**	**1.73**	**187**	*e*P	Pn	13 43 10.6	+1.9
DBCT				*e*S	Sn	13 43 33.5	+2.9
DPMT	**Pointe Michel**	**1.75**	**188**	*e*P	Pn	13 43 11.4	+2.5
DPMT				*e*S	Sn	13 43 34.3	+3.4
DSHT	**Scott's Head**	**1.79**	**188**	*e*P	Pn	13 43 11.0	+1.4
DSHT				*e*S	Sn	13 43 32.8	+0.8

*ISCJB **14** 13:46:37.5±0.5,7.49N±005×7307W±006,h157km±6km, mb3.4/3,Error ellipse: s-maj=11.0km s-min=7.1km az=37.1*
*IDC **14** 13:46:38.0±0.9,7.45N×7304W,h146km±12km,mb3.2/3, mb1 3.5/5,mb1mx3.2/20,mbtmp3.3/5,MS3.6/2,Ms1 3.6/2, ms1mx2.8/16,Error ellipse: s-maj=28.8km s-min=8.7km az=130.0*
*FUNV **14** 13:46:39.0,7.44N×7320W,h144km,MW3.6*
ISC 14 13:46:38.5±0.5,7.48N±005×7306W±006,h153km±6km,n21, σ0§85/26,mb3.4/3,2C-1D,Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**0.83**	**63**	⇓*e*P	**Pn**	**13 47 02.4**	**+0.1**
CAPV				*e*S	**Sn**	**13 47 20.4**	**0.0**
VIGV	**El Vigia**	**2.16**	**51**	*e*P	**Pn**	**13 47 16.9**	**+1.3**
VIGV				*e*S	**Sn**	**13 47 43.3**	**-1.0**
SOCV	**Socops**	**2.33**	**70**	*e*P	**Pn**	**13 47 18.4**	**+0.8**
SOCV				*e*S	**Sn**	**13 47 48.0**	**+0.1**
SDV	**Santo Domingo**	**2.78**	**60**	P	**Pn**	**13 47 24.2**	**+0.9**
	3.7nm,0.3s,baz=282,slow=2.7,SNR=39						
SDV				S	**Sn**	**13 47 57.1**	**-0.7**
	12nm,0.3s,baz=77,slow=19,SNR=14						
ROSC	**El Rosal**	**2.90**	**206**	P	**Pn**	**13 47 24.9**	**+0.1**
	14nm,0.3s,baz=88,slow=13,SNR=19						
ROSC				S	**Sn**	**13 48 00.1**	**-0.4**
	6.8nm,0.3s,baz=91,slow=22,SNR=4.0						
VIRV	**Villa del Rosa**	**3.07**	**12**	*e*P	**Pn**	**13 47 26.1**	**-0.8**
VIRV				*e*S	**Sn**	**13 48 02.4**	**-2.0**
ELOV	**Elorza**	**3.58**	**97**	⇑*i*P	**Pn**	**13 47 34.0**	**+0.6**
ELOV				*e*S	**Sn**	**13 48 14.8**	**-1.2**
QARV	**Quebrada Arrib**	**3.69**	**43**	⇑*i*P	**Pn**	**13 47 35.7**	**+0.8**
CURV	**Curarigua**	**3.96**	**50**	*e*P	**Pn**	**13 47 38.9**	**+0.5**
SANV	**Sanarito**	**4.02**	**60**	*e*P	**Pn**	**13 47 39.7**	**+0.6**
TEPV	**Terepaima**	**4.55**	**57**	*e*P	**Pn**	**13 47 47.4**	**+1.3**
BAUV	**El Baul**	**5.18**	**73**	*e*P	**Pn**	**13 47 53.9**	**-0.5**
TURV	**Turiamo**	**5.94**	**60**	*e*P	**Pn**	**13 48 05.3**	**+0.8**
BIRV	**Birongo**	**7.34**	**66**	*e*P	**Pn**	**13 48 22.6**	**-0.5**
TXAR	**Lajitas Array**	**36.07**	**311**	P	**P**	**13 53 25.9**	**+0.3**
	0.1nm,0.4s,mb2.8,baz=143,slow=8.2,SNR=2.7						
TXAR				LR	LR	14 09 52.5	
	comp=Z,74nm,18.6s,baz=5.0,slow=39						
ULM	**Lac du Bonnet**	**46.69**	**340**	P	**P**	**13 54 51.5**	**-0.2**
	0.9nm,0.4s,mb3.8,baz=150,slow=8.6,SNR=4.7						
YKA	**Yellowknife Ar**	**62.67**	**340**	P	**P**	**13 56 47.4**	**+0.8**
	0.6nm,0.5s,mb3.7,baz=132,slow=6.8,SNR=21						
YKA				pP	pP	13 57 20.2	-2.6
	0.3nm,0.6s,baz=130,slow=7.4,SNR=4.3						
YKA				LR	LR	14 22 14.7	
	comp=Z,64nm,21.0s,baz=165,slow=34						
VNA3	**Neumayer Olymp**	**88.78**	**163**	*e*P	**P**	**13 59 12.7**	**-1.7**
VNA3				*e*		13 59 15.0	
VNA3				*e*		13 59 16.4	
VNA2	**Neumayer--Watz**	**89.30**	**163**	*e*P	**P**	**13 59 16.4**	**-0.5**
	baz=309,slow=15						
VNA2				*e*		13 59 18.8	
VNA2				*e*		13 59 19.9	
ASAR	**Alice Springs**	**149.54**	**235**	PKP	PKPdf	14 06 06.5	+0.6
	0.2nm,0.4s,baz=117,slow=3.2,SNR=3.8						
ASAR				PKPbc	PKPbc	14 06 10.4	-0.2
	0.2nm,0.4s,baz=127,slow=3.3,SNR=4.8						
ASAR				PKPab	PKPab	14 06 14.9	-1.1
	0.2nm,0.4s,baz=111,slow=3.6,SNR=5.6						
WRA	**Warramunga Arr**	**150.70**	**242**	PKPbc	PKPbc	14 06 13.6	+0.1
	0.5nm,0.4s,baz=107,slow=2.6,SNR=26						

*NEIC **14** 13:53:40.6,17.16N×100.34W,h35km,MD3.9(MEX),After MEX.*
MEX 14 13:53:39.6±0.9,1713N×10042W,h39km±8km,MD3.9, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.17**	**117**	*i*P	Pn	13 53 45.1	-1.4
CAIG				*i*S	Sn	13 53 49.7	-1.6
ACX	**Acapulco**	**0.55**	**118**	*i*P	Pn	13 53 49.2	-1.8
ACX				*i*S	Sn	13 53 56.7	-2.2
MEIG	**Mezcala**	**1.10**	**44**	*i*P	Pn	13 53 56.7	-1.9
MEIG				*i*S	Sn	13 54 10.1	-2.5
PLIG	**Platanillo**	**1.54**	**35**	*i*P	Pn	13 54 03.8	-0.7
PLIG				*i*S	Sn	13 54 18.7	-4.6
PLIG				*i*S	Sn	13 54 20.2	-3.1
PLIG	**Platanillo**	**1.54**	**35**	*i*P	Pn	13 54 03.8	-0.7
PLIG				*i*S	Sn	13 54 20.8	-2.5
PPM	**Popocatepetl**	**2.58**	**41**	*i*P	Pn	13 54 20.9	+2.1
PPM				*i*S	Sn	13 54 48.9	-0.1
PPM	**Popocatepetl**	**2.58**	**41**	*i*P	Pn	13 54 20.6	+1.8
PPM				*i*S	Sn	13 54 47.0	-1.9
UTMO	**Huajuapan**	**2.60**	**74**	*i*P	Pn	13 54 17.4	-1.7
UTMO				*i*S	Sn	13 54 47.2	-2.2
MMIG	**Aquila**	**3.02**	**293**	*e*P	Pn	13 54 22.0	-2.9
MMIG				*i*S	Sn	13 54 59.2	-0.7

*NIED **14** 14:08:00,3730N×13670E,h5km,Mw3.4 Best double couple: M0:1.50000×10^14 NP1:φ=23.00000°,δ72.00000°, λ111.00000°. NP2:φ=152.00000°,δ27.00000°,λ42.00000°.*
*ISCJB **14** 14:08:13.3±1.7,3729N±006×1367E±02,h8km±11km, Error ellipse: s-maj=23.6km s-min=9.2km az=174.5*
*JMA **14** 14:08:13.8,3726N×13672E,h6km±1km,M3.5*
JMA Felt III J1.
ISC 14 14:08:13.9±1.8,3728N±005×1367E±02,h11km±10km,n5, σ0§63/8,1C-1D,Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JJH	**Hakui**	**0.36**	**172**	⇑P	**Pg**	**14 08 20.8**	**-0.2**
JJH				*e*S	**Sg**	**14 08 26.1**	**+0.3**
JSZ	**Suzu**	**0.54**	**71**	⇓P	**Pg**	**14 08 24.1**	**-0.4**
JHG	**Hegura jima**	**0.59**	**16**	P	**Pg**	**14 08 26.0**	**+0.6**
JTT	**Ttatey**	**0.83**	**144**	P	**Pg**	**14 08 29.5**	**-0.5**
JTT				S	**Sg**	**14 08 41.1**	**+0.3**
MAT	**Matsushiro**	**1.40**	**121**	P	**Pn**	**14 08 38.7**	**-0.6**
MAT				S	**Sn**	**14 08 58.3**	**+0.5**

IDC 14 14:19:21.0±2.1,268N×9548E,h0km,mb3.7/5,mb1 3.7/6, mb1mx3.6/21,mbtmp3.7/6,ML3.3/1,MS2.8/1,Ms1 2.8/1, ms1mx2.7/34,Error ellipse: s-maj=68.9km s-min=21.0km az=53.0,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**3.44**	**88**	Pn	Pn	14 20 17.1	+1.2
	2.6nm,0.3s,baz=306,slow=18,SNR=12						
PSI				LR	LR	14 21 11.7	
	comp=Z,139nm,19.3s,baz=245,slow=32						
WRA	**Warramunga Arr**	**44.27**	**122**	P	P	14 27 32.2	-0.6
	0.8nm,1.0s,baz=302,slow=9.1,SNR=3.1						
MKAR	**Makanchi Array**	**45.41**	**347**	P	P	14 27 41.7	+0.3
	1.6nm,0.6s,baz=163,slow=8.3,SNR=22						
ASAR	**Alice Springs**	**45.66**	**127**	P	P	14 27 43.9	+0.2
	0.2nm,0.8s,baz=306,slow=8.1,SNR=4.5						
SONM	**Songino Array**	**45.96**	**10**	P	P	14 27 44.8	-0.8
	0.7nm,0.9s,baz=188,slow=8.3,SNR=4.7						
ZALV	**Zalesovo Beam**	**51.85**	**352**	P	P	14 28 30.9	+0.2
	2.4nm,0.7s,baz=182,slow=7.5,SNR=13						

IDC 14 14:22:03.7±5.5,128S×15597E,h0km,mb3.7/4,mb1 3.9/4, mb1mx3.6/16,mbtmp3.7/4,Error ellipse: s-maj=160.1km s-min=34.8km az=105.0,North of Solomon Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**28.13**	**227**	P	P	14 27 56.9	-0.8
	0.9nm,0.5s,baz=52,slow=10.0,SNR=13						
ASAR	**Alice Springs**	**30.86**	**222**	P	P	14 28 22.5	+0.6
	0.4nm,0.4s,baz=57,slow=8.9,SNR=12						
FITZ	**Fitzroy Crossi**	**34.15**	**239**	P	P	14 28 51.2	+0.5
	1.1nm,0.8s,baz=39,slow=13,SNR=3.0						
MKAR	**Makanchi Array**	**79.81**	**318**	P	P	14 34 14.1	+0.1
	0.1nm,0.3s,baz=109,slow=6.7,SNR=2.3						

*ISCJB **14** 15:00:29.9±4.2,236S±02×1792E±02,h514km±45km, mb3.8/8,Error ellipse: s-maj=40.3km s-min=21.5km az=31.7*
*NEIC **14** 15:00:29.9±3.3,2361S×17928E,h502km±36km,mb3.9/5, Error ellipse: s-maj=33.6km s-min=18.2km az=205.0*
*IDC **14** 15:00:31.0±5.1,2360S×17926E,h520km±53km,mb3.3/6, mb1 3.5/7,mb1mx3.2/15,mbtmp3.3/7,Error ellipse: s-maj=39.4km s-min=26.9km az=31.0*
ISC 14 15:00:30.0±3.7,236S±02×1793E±02,h504km±38km,n18, σ0§66/15,mb3.8/8,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**14.71**	**187**	P	**P**	**15 03 36.6**	**-0.3**
	1.8nm,0.3s,baz=297,slow=0.3,SNR=13						
CTA	**Charters Tower**	**30.80**	**270**	*e*P	**P**	**15 06 05.2**	**+1.1**
	11nm,1.3s,mb4.1						
CTA	**Charters Tower**	**30.80**	**270**	P	**P**	**15 06 04.2**	**0.0**
	15nm,1.1s,mb4.3,baz=246,slow=22,SNR=6.8						
STKA	**Stephens Creek**	**34.20**	**248**	*e*P	**P**	**15 06 34.4**	**+1.4**
	1.1nm,0.6s,mb3.5						
STKA	**Stephens Creek**	**34.20**	**248**	P	**P**	**15 06 33.6**	**+0.7**
	1.2nm,0.5s,mb3.5,baz=83,slow=7.6,SNR=6.0						
ASAR	**Alice Springs**	**41.41**	**260**	P	**P**	**15 07 32.4**	**+0.3**
	1.3nm,0.7s,mb3.4,baz=93,slow=8.3,SNR=13						
ASAR				PcP	PcP	15 09 16.6	-1.7
	0.3nm,0.5s,baz=126,slow=3.0,SNR=4.2						
WB2	**Warramunga Arr**	**41.74**	**266**	*e*P	**P**	**15 07 34.5**	**-0.2**
WRA	**Warramunga Arr**	**41.75**	**266**	P	**P**	**15 07 34.0**	**-0.8**
	0.5nm,0.3s,mb3.5,baz=90,slow=5.9,SNR=48						
FORT	**Forrest**	**45.77**	**249**	*e*P	**P**	**15 08 05.2**	**-0.7**
	10nm,0.7s,mb4.4						
FORT	**Forrest**	**45.77**	**249**	*e*P	**P**	**15 08 04.9**	**-1.0**
	1.2nm,0.6s,mb3.5						
QSPA	**South Pole Qui**	**66.46**	**180**	*e*P	**P**	**15 10 29.3**	**+1.0**
	2.6nm,0.5s,mb4.1						
MAW	**Mawson**	**77.77**	**201**	*e*P	**P**	**15 11 34.1**	**-0.1**
	3.0nm,0.6s,mb3.9						
MAW	**Mawson**	**77.77**	**201**	P	**P**	**15 11 34.2**	**0.0**
	2.6nm,0.5s,mb3.9,baz=163,slow=8.1,SNR=9.6						
VNA2	**Neumayer--Watz**	**85.60**	**178**	*e*	**P**	**15 12 13.5**	**-0.7**
	baz=190,slow=4.1						
VNA2				*e*		15 12 14.7	
VNA2				*e*		15 12 18.0	
TXAR	**Lajitas Array**	**90.86**	**58**	P	**P**	**15 12 39.6**	**+0.1**
	0.3nm,0.5s,mb3.4,baz=94,slow=33,SNR=3.5						
HFS	**Hagfors**	**142.14**	**348**	PKhKP		15 18 57.4	
	1.1nm,0.8s,baz=87,slow=3.0,SNR=4.0						
CLL	**Colln**	**150.39**	**340**	*e*PKPbc	PKPbc	15 19 23.0	-0.8
TORD	**Torodi Ar. Bea**	**169.33**	**193**	PKPab	PKPab	15 20 54.5	-1.2
	0.3nm,0.7s,baz=182,slow=3.3,SNR=3.5						

IDC 14 15:14:54.1±4.8,321N×12641E,h0km,mb3.6/4,mb1 3.9/4, mb1mx3.5/17,mbtmp3.7/4,MS3.6/1,Ms1 3.6/1, ms1mx2.8/31,Error ellipse: s-maj=105.8km s-min=72.7km az=84.0,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**21.20**	**182**	P	P	15 19 41.2	-0.2
	1.3nm,0.3s,baz=16,slow=10,SNR=20						
WRA	**Warramunga Arr**	**24.29**	**162**	P	P	15 20 15.2	+1.8
	0.7nm,0.3s,baz=341,slow=9.9,SNR=17						
ASAR	**Alice Springs**	**27.70**	**165**	P	P	15 20 44.7	+0.5
	0.2nm,0.4s,baz=341,slow=7.6,SNR=5.3						
STKA	**Stephens Creek**	**37.77**	**159**	P	P	15 22 10.2	-1.8
	1.2nm,0.8s,baz=339,slow=8.6,SNR=2.2						
STKA				LR	LR	15 36 47.7	
	comp=Z,91nm,19.1s,baz=206,slow=35						

*ISCJB **14** 15:15:16.9±2.2,220N±0.1×1430E±03,h275km±17km, mb3.5/8,Error ellipse: s-maj=47.3km s-min=23.6km az=173.1*
*IDC **14** 15:15:17.4±2.3,2195N×14298E,h265km±19km,mb3.2/8, mb1 3.3/10,mb1mx3.1/23,mbtmp3.2/10,Error ellipse: s-maj=34.3km s-min=18.1km az=85.0*
ISC 14 15:15:17.8±2.2,220N±02×1430E±03,h268km±17km,n11, σ0§91/12,mb3.5/8,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**5.14**	**352**	P	**Pn**	**15 16 37.2**	**+1.5**
	1.1nm,0.3s,baz=256,slow=16,SNR=7.9						
CBIJ				S	**S**	**15 17 37.1**	**-1.0**
	4.3nm,0.3s,baz=307,slow=21,SNR=6.7						
MJAR	**Matsushiro Arr**	**15.09**	**345**	P	**Pn**	**15 18 37.3**	**-0.9**
	0.4nm,0.3s,baz=166,slow=11,SNR=7.3						
KSRS	**Korea Array**	**20.18**	**323**	P	**P**	**15 19 33.6**	**+1.3**
	1.3nm,0.5s,baz=146,slow=8.5,SNR=8.0						
WRA	**Warramunga Arr**	**42.52**	**192**	P	**P**	**15 22 46.7**	**-0.7**
	0.3nm,0.4s,mb2.9,baz=8.5,slow=8.7,SNR=7.9						
ZALV	**Zalesovo Beam**	**53.87**	**322**	P	**P**	**15 24 13.3**	**-0.1**
	0.7nm,0.4s,mb3.3,baz=107,slow=7.4,SNR=4.1						
MKAR	**Makanchi Array**	**54.37**	**313**	P	**P**	**15 24 17.6**	**+0.5**
	0.2nm,0.2s,mb3.0,baz=94,slow=8.2,SNR=2.3						
BVAR	**Borovoye Array**	**62.34**	**319**	P	**P**	**15 25 12.3**	**+0.5**
	0.4nm,0.3s,mb3.5,baz=74,slow=6.3,SNR=4.4						
YKA	**Yellowknife Ar**	**76.28**	**28**	P	**P**	**15 26 38.0**	**+1.3**
	0.3nm,0.5s,mb3.2,baz=291,slow=5.7,SNR=6.5						
ARCES	**ARCESS Array B**	**78.59**	**341**	P	**P**	**15 26 48.4**	**-1.0**
	2.9nm,0.8s,mb4.0,baz=359,slow=10,SNR=5.5						
JOF	**Joensuu**	**79.98**	**334**	*e*p	**P**	**15 26 56.3**	**-0.7**
	1.2nm,0.4s,mb4.0						
FINES	**FINESS Array B**	**82.84**	**334**	P	**P**	**15 27 11.6**	**-0.4**
	0.8nm,0.5s,mb3.8,baz=73,slow=5.4,SNR=12						

*IDC **14** 15:22:36.9±1.2,722S×15550E,h0km,mb4.2/8, mb1 4.2/10,mb1mx4.1/17,mbtmp4.2/10,ML3.9/2,Error ellipse: s-maj=32.8km s-min=19.2km az=105.0*
*NEIC **14** 15:22:38.2±0.7,7.19S×15556E,h10km,mb4.7/6,Error ellipse: s-maj=14.8km s-min=12.8km az=111.0*
*ISCJB **14** 15:22:44.0±2.6,7.4S±0.1×1558E±0.1,h81km±28km, mb4.1/13,Error ellipse: s-maj=22.4km s-min=13.3km az=146.5*
ISC 14 15:22:45.2±2.4,74S±01×1557E±01,h75km±27km,n22, σ0§61/24,mb4.1/13,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.63**	**116**	Pn	**Pn**	**15 23 53.4**	**+0.6**
HNR				Sn	**Sn**	**15 24 45.1**	**-0.2**
HNR	**Honiara**	**4.63**	**116**	Pn	**Pn**	**15 23 53.4**	**+0.6**
	12nm,0.3s,baz=239,slow=4.0,SNR=11						
HNR				Sn	**Sn**	**15 24 45.1**	**-0.2**
	7.3nm,0.3s,baz=263,slow=22,SNR=8.5						
CTA	**Charters Tower**	**15.63**	**215**	Pn	**Pn**	**15 26 20.0**	**-1.1**
	0.2nm,0.3s,baz=31,slow=12,SNR=2.2						
KAKA	**Kakadu**	**23.54**	**255**	*e*P	**P**	**15 27 49.3**	**+0.3**
	8.2nm,0.8s,mb4.1						
KAKA	**Kakadu**	**23.54**	**255**	*e*P	**P**	**15 27 48.5**	**-0.5**
	16nm,0.6s,mb4.5						
WRAB	**Tennant Creek**	**24.21**	**237**	*e*P	**P**	**15 27 55.5**	**+0.5**
	3.3nm,0.5s,mb3.9						
WB2	**Warramunga Arr**	**24.21**	**237**	*e*P	**P**	**15 27 55.9**	**+0.9**
WRA	**Warramunga Arr**	**24.22**	**237**	P	**P**	**15 27 55.7**	**+0.6**
	2.7nm,0.5s,mb3.9,baz=61,slow=9.6,SNR=89						
ASAR	**Alice Springs**	**26.49**	**230**	P	**P**	**15 28 15.6**	**-0.1**
	0.8nm,0.7s,mb3.2,baz=58,slow=9.8,SNR=18						
STKA	**Stephens Creek**	**27.72**	**207**	P	**P**	**15 28 26.0**	**-0.5**
	0.7nm,0.6s,mb3.4,baz=30,slow=14,SNR=6.2						
FITZ	**Fitzroy Crossi**	**31.18**	**247**	*e*P	**P**	**15 28 58.0**	**+0.6**
	4.0nm,0.6s,mb4.3						
FITZ	**Fitzroy Crossi**	**31.18**	**247**	*e*P	**P**	**15 28 57.8**	**+0.4**
	4.9nm,0.7s,mb4.3						
FITZ	**Fitzroy Crossi**	**31.18**	**247**	P	**P**	**15 28 56.5**	**-0.9**
	2.4nm,0.7s,mb4.0,baz=81,slow=8.0,SNR=13						
KLBR	**Kellerberrin**	**42.81**	**231**	*e*P	**P**	**15 30 35.8**	**0.0**
	15nm,0.4s,mb5.1						
MJAR	**Matsushiro Arr**	**46.68**	**341**	P	**P**	**15 31 05.7**	**-0.7**
MJAR	**Matsushiro Arr**	**46.68**	**341**	P	**P**	**15 31 05.7**	**-0.7**
	0.8nm,0.5s,mb3.7,baz=157,slow=6.8,SNR=7.8						
ULN	**Ulaanbaatar**	**69.72**	**327**	*e*P	**P**	**15 33 46.8**	**-0.3**
	2.7nm,0.6s,mb4.2						
SONM	**Songino Array**	**70.06**	**327**	P	**P**	**15 33 50.1**	**+1.0**
	3.8nm,0.5s,mb4.5,baz=144,slow=6.4,SNR=57						
QSPA	**South Pole Qui**	**82.60**	**180**	*e*P	**P**	**15 34 59.6**	**0.0**
	4.3nm,0.7s,mb4.4						
MK31	**Makanchi Array**	**84.18**	**319**	*e*P	**P**	**15 35 08.4**	**+0.2**
MK31				*e*		15 35 18.2	
MKAR	**Makanchi Array**	**84.18**	**319**	P	**P**	**15 35 08.5**	**+0.2**
	3.5nm,0.7s,mb4.3,baz=100,slow=6.1,SNR=48						
ZALV	**Zalesovo Beam**	**84.91**	**326**	P	**P**	**15 35 10.7**	**-1.1**
	1.1nm,0.4s,mb4.1,baz=114,slow=5.3,SNR=6.7						

IDC 14 15:23:22.6±21.0,1654S×17680W,h480km±203km, mb3.7/6,mb1 3.8/6,mb1mx3.3/18,mbtmp3.7/6,Error ellipse: s-maj=155.6km s-min=29.7km az=34.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**22.29**	**193**	P	P	15 27 43.2	+0.2
	10nm,0.7s,baz=294,slow=3.3,SNR=13						
CTA	**Charters Tower**	**35.21**	**258**	*e*P	P	15 29 35.3	-0.4
	13nm,1.5s						
CTA	**Charters Tower**	**35.21**	**258**	P	P	15 29 35.1	-0.6
	6.8nm,0.9s,baz=88,slow=12,SNR=4.4						
CNB	**Canberra Magne**	**35.48**	**232**	*e*P	P	15 29 36.9	-0.9
	7.8nm,0.5s						
STKA	**Stephens Creek**	**40.64**	**240**	*e*P	P	15 30 19.6	-0.4
	4.3nm,0.6s						
STKA	**Stephens Creek**	**40.64**	**240**	P	P	15 30 19.6	-0.4
	4.6nm,0.5s,baz=88,slow=9.1,SNR=27						
WB2	**Warramunga Arr**	**46.40**	**258**	*e*P	P	15 31 04.5	-0.7
WRA	**Warramunga Arr**	**46.41**	**258**	P	P	15 31 04.8	-0.5
	2.2nm,0.5s,baz=95,slow=6.8,SNR=40						
ASAR	**Alice Springs**	**46.65**	**253**	P	P	15 31 07.0

ϕ_s27.00000°, δ65.00000°, λ86.00000°. Principal axes: T 4.1840, Plg70.0000°, Azm290.0000°; N 0.0020, Plg3.0000°, Azm28.0000°; P -4.1860, Plg20.0000°, Azm120.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.

ISC 14 15:50:11.4±1.0,3569N±003×14198E±004,h28km±6km, h44km±1.8km:pP-P,n207,σ1§27/210,mb4.6/77,MS4.8/53, 14C-5D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.92**	**271**	P	**Pn**	**15 50 28.0**	**-0.4**
BSO1	**Boso 1**	**1.32**	**219**	P	**Pn**	**15 50 32.5**	**-1.6**
JHO	**Hitachi**	**1.47**	**309**	P	**Pn**	**15 50 34.7**	**-1.3**
BSO3	**Boso 3**	**1.50**	**234**	*e*S	**Sn**	**15 50 59.3**	**+4.3**
JFK	**Kawauchi**	**1.89**	**332**	P	**Pn**	**15 50 39.9**	**-2.0**
JAG	**Ashikaga**	**2.18**	**290**	P	**Pn**	**15 50 45.3**	**-0.5**
JAG				S	**Sn**	**15 51 15.7**	**+3.9**
JMM	**Marumori**	**2.37**	**337**	P	**Pn**	**15 50 46.6**	**-1.9**
JMM				*e*S	**Sn**	**15 51 15.8**	**-0.8**
JOD2	**Odawara 2**	**2.40**	**261**	P	**Pn**	**15 50 48.7**	**-0.2**
JOD2				S	**Sn**	**15 51 20.9**	**+3.5**
JRY	**Ryogami san**	**2.52**	**278**	P	**Pn**	**15 50 51.1**	**+0.5**
JYN	**Shimob**	**2.81**	**267**	P	**Pn**	**15 50 55.5**	**+1.0**
JNS	**Sasagawa**	**3.01**	**316**	P	**Pn**	**15 50 58.0**	**+0.7**
JHJ2	**Mitsune**	**3.14**	**215**	*e*S	**Sn**	**15 51 35.2**	**-0.3**
JHJ	**Hachijo jima 2**	**3.15**	**216**	Pn	**Pn**	**15 50 59.0**	**-0.1**
	139nm,0.3s,baz=219,slow=19,SNR=17						
JHJ				Sn	**Sn**	**15 51 34.6**	**-1.1**
	145nm,0.3s,baz=253,slow=23,SNR=10						
MJAR	**Matsushiro Arr**	**3.17**	**287**	Pn	**Pn**	**15 51 00.1**	**+0.7**
	9.2nm,0.3s,baz=86,slow=8.9,SNR=82						
MAJO	**Matsushiro**	**3.17**	**287**	*e*Pn	**Pn**	**15 51 00.7**	**+1.2**
MAT	**Matsushiro**	**3.17**	**287**	P	**Pn**	**15 51 00.5**	**+1.0**
MAT				*e*S	**Sn**	**15 51 42.0**	**+5.6**
MAT	**Matsushiro**	**3.17**	**287**	P	**Pn**	**15 51 00.8**	**+1.3**
JMK	**Ichinoseki**	**3.31**	**350**	P	**Pn**	**15 50 59.5**	**-1.9**
JMK				*e*S	**Sn**	**15 51 37.1**	**-2.7**
JYK	**Kaneyama**	**3.47**	**339**	P	**Pn**	**15 51 02.4**	**-1.2**
ERM	**Erimo**	**6.38**	**8**	*e*Pn	**Pn**	**15 51 41.0**	**-2.6**
	118nm,0.9s						
ERM				*e*Sn	**Sn**	**15 52 48.0**	**-7.4**
ERM	**Erimo**	**6.38**	**8**	*e*P	**Pn**	**15 51 41.0**	**-2.5**
ERM				*e*		15 52 48.0	
ERM				pmax	pmax		
	comp=Z,118nm,0.9s						
ASAJ	**Asahikawa**	**8.43**	**3**	P	**Pn**	**15 52 08.7**	**-2.9**
ASAJ						15 53 41.5	
ASAJ				pmax	pmax		
	comp=Z,3.0nm,0.3s						
ASAJ				smax			
	comp=N,2.0nm,0.3s						
ASAJ	**Asahikawa**	**8.43**	**3**	Pn	**Pn**	**15 52 08.7**	**-2.9**
	comp=N,2.5nm,0.3s,baz=209,slow=8.3,SNR=23						
ASAJ				Sn	**Sn**	**15 53 41.5**	**-4.2**
	comp=N,2.1nm,0.3s,baz=131,slow=32,SNR=6.9						
CBIJ	**Chichi jima**	**8.57**	**179**	Pn	**Pn**	**15 52 08.9**	**-4.7**
	comp=N,15nm,0.3s,baz=356,slow=21,SNR=32						
CBIJ				Sn	**Sn**	**15 53 38.7**	**-11**
	comp=N,10nm,0.3s,baz=274,slow=22,SNR=3.0						
CBIJ				LR	LR	15 55 40.4	
	comp=N,1μm,18.5s,baz=356,slow=39						
JNU	**Nakatsue**	**9.53**	**258**	Pn	**Pn**	**15 52 27.4**	**+0.7**
	comp=N,0.4nm,0.3s,baz=55,slow=13,SNR=14						
KUR	**Kuril'sk**	**10.53**	**23**	*e*P	**Pn**	**15 52 41.0**	**+0.6**
KUR				S	**Sn**	**15 54 48.0**	**+11**
YSS	**Yuzh-Sakhalins**	**11.27**	**3**	*e*Pn	**Pn**	**15 52 47.2**	**-3.2**
YSS	**Yuzh-Sakhalins**	**11.27**	**3**	⇑*e*P	**Pn**	**15 52 47.0**	**-3.5**
YSS				pmax	pmax		
	comp=Z,30nm,1.0s						
YSS				MLR	MLR		
	comp=Z,5μm,14.0s						
KSRS	**Korea Array**	**11.44**	**283**	Pn	**Pn**	**15 52 52.3**	**-0.7**
	comp=Z,0.3nm,0.3s,baz=105,slow=13,SNR=16						
KSRS				LR	LR	15 57 13.2	
	comp=Z,2μm,19.8s,baz=95,slow=37						
KS15	**Wonju Array Si**	**11.47**	**283**	*e*Pn	**Pn**	**15 52 56.3**	**+3.0**
MDJ	**Mudanjiang**	**13.00**	**317**	P	**Pn**	**15 53 16.4**	**+2.2**
MDJ				S	**Sn**	**15 55 41.0**	**+3.3**
MDJ				SCS	ScS	16 05 53.5	-0.4
MDJ				AMB	AMB		
	comp=Z,7.0nm,1.1s						
MDJ				AMB	AMB		
	comp=Z,401nm,7.2s						
MDJ				LR	LR		
	comp=N,2μm,12.9s						
MDJ				LR	LR		
	comp=E,884nm,11.8s						
MDJ				LR	LR		
	comp=Z,2μm,12.6s						
MDJ	**Mudanjiang**	**13.00**	**317**	*e*Pn	**Pn**	**15 53 17.8**	**+3.6**
HABR	**Khabarovsk**	**13.76**	**340**	*e*P	**Pn**	**15 53 22.2**	**-2.3**
JOW	**Kunigami**	**14.66**	**237**	Pn	**Pn**	**15 53 38.0**	**+1.0**
	comp=Z,0.3nm,0.3s,baz=10.0,slow=11,SNR=2.5						
CN2	**Changchun**	**15.06**	**308**	*e*P	**Pn**	**15 53 41.3**	**-0.9**
CN2				*e*AP	pP	15 53 50.1	-4.6
CN2				*e*S	**Sn**	**15 56 27.4**	**-0.6**
CN2				SS		15 56 47.1	
CN2				AMB	AMB		
	comp=Z,10.0nm,1.2s						
CN2				AMB	AMB		
	comp=Z,800nm,8.0s						
CN2				LR	LR		
	comp=N,4μm,13.0s						
CN2				LR	LR		
	comp=E,5μm,13.0s						
CN2				LR	LR		
	comp=Z,6μm,14.0s						
KLR	**Kul'dur**	**15.47**	**334**	*e*P	**Pn**	**15 53 45.2**	**-2.3**
KLR				*e*		15 56 46.0	
KLR				MLR	MLR		
	comp=E,4μm,13.0s						
KLR				MLR	MLR		
	comp=Z,42μm,13.0s						
SNY	**Shenyang**	**15.60**	**299**	⇑P	**Pn**	**15 53 48.1**	**-1.1**
SNY				AMB	AMB		
	comp=Z,13nm,2.4s						
SNY				AMB	AMB		
	comp=Z,534nm,11.4s						
SNY				LR	LR		
	comp=N,4μm,15.6s						
SNY				LR	LR		
	comp=E,1μm,15.6s						
SNY				LR	LR		
	comp=Z,1μm,16.5s						
DL2	**Dalian**	**16.51**	**287**	⇑P	**Pn**	**15 54 00.4**	**-0.6**
DL2				XP	sP	15 54 14.5	+0.1
DL2				S	**Sn**	**15 57 02.5**	**-0.8**
DL2				XS	sS	15 57 13.8	-13
DL2				AMB	AMB		
	comp=Z,20nm,1.1s						
DL2				AMB	AMB		
	comp=Z,310nm,8.4s						
DL2				LR	LR		
	comp=N,3μm,13.0s						
DL2				LR	LR		
	comp=E,2μm,12.6s						
DL2				LR	LR		
	comp=Z,3μm,12.0s						
SSE	**Sheshan**	**17.95**	**261**	P	**Pn**	**15 54 19.3**	**+0.3**
SSE				AMB	AMB		
	comp=Z,47nm,0.6s						
SSE				AMB	AMB		
	comp=Z,314nm,12.1s						
SSE				LR	LR		
	comp=N,5μm,15.3s						
SSE				LR	LR		
	comp=E,2μm,15.3s						
SSE				LR	LR		
	comp=Z,2μm,15.7s						
NJ2	**Nanjing**	**19.54**	**266**	*e*P	**Pn**	**15 54 40.9**	**+2.7**
NJ2				AP	pP	15 54 50.9	+6.6
NJ2				XP	sP	15 54 55.9	+8.1
NJ2				PP		15 55 00.8	
NJ2				S	**Sn**	**15 58 14.0**	**-2.6**
NJ2				XS	sS	15 58 29.0	+1.2
NJ2				AMB	AMB		
	comp=Z,20nm,0.6s						
NJ2				AMB	AMB		
	comp=Z,550nm,9.0s						
NJ2				LR	LR		
	comp=N,2μm,10.3s						
NJ2				LR	LR		
	comp=E,890nm,11.6s						
NJ2				LR	LR		
	comp=Z,12μm,11.6s						
BJI	**Beijing**	**20.80**	**290**	P	**P**	**15 54 48.6**	**-1.9**
BJI				S	**S**	**15 58 38.8**	**-2.4**
BJI				AMB	AMB		
	comp=Z,13nm,1.1s						
BJI				LR	LR		
	comp=N,2μm,13.1s,MS4.8						
BJI				LR	LR		
	comp=E,2μm,14.5s,MS4.8						
BJI				LR	LR		
	comp=Z,1μm,16.6s,MS4.4						
BJT	**Baijiatuau**	**20.81**	**290**	*e*P	**P**	**15 54 49.3**	**-1.3**
	comp=Z,32nm,1.0s						
BJT	**Baijiatuau**	**20.81**	**290**	*e*P	**P**	**15 54 49.3**	**-1.2**
BJT				pmax	pmax		
	comp=Z,32nm,1.0s						
PET	**Petropavlovsk**	**20.94**	**29**	*e*P	**P**	**15 54 53.1**	**+1.3**
	comp=Z,54nm,1.1s						
PET	**Petropavlovsk**	**20.94**	**29**	⇑*i*P	**P**	**15 54 53.0**	**+1.2**
PET				pmax	pmax		
	comp=Z,22nm,0.9s						
PET				MLR	MLR		
	comp=Z,1μm,18.0s,MS4.3						
HIA	**Hailar**	**21.18**	**317**	*e*P	**P**	**15 54 56.2**	**+1.8**
	comp=Z,20nm,0.9s,mb4.4						
HIA	**Hailar**	**21.18**	**317**	*e*P	**P**	**15 54 56.2**	**+1.7**
HIA				pmax	pmax		
	comp=Z,20nm,0.9s						
GUMO	**Guam**	**22.16**	**173**	P	**P**	**15 55 04.5**	**-0.7**
	comp=Z,94nm,1.0s,mb5.2,baz=27,slow=9.2,SNR=3.6						
QZH	**Quanzhou**	**22.80**	**248**	*e*P	**P**	**15 55 07.0**	**-5.0**
QZH				S	**S**	**15 59 04.3**	**-15**
QZH				LR	LR		
	comp=N,3μm,14.2s,MS5.1						
QZH				LR	LR		
	comp=E,3μm,12.7s,MS5.1						
QZH				LR	LR		
	comp=Z,4μm,14.1s,MS5.0						
WHN	**Wuhan**	**23.67**	**265**	*e*P	**P**	**15 55 19.0**	**-1.7**
WHN				LR	LR		
	comp=Z,4μm,12.7s,MS5.1						
TIY	**Taiyuan**	**23.74**	**284**	*i* P	**P**	**15 55 24.3**	**+3.0**
TIY				AMB	AMB		
	comp=Z,306nm,7.9s						
TIY				LR	LR		
	comp=N,1μm,12.2s,MS5.0						
TIY				LR	LR		
	comp=E,3μm,12.4s,MS5.0						
TIY				LR	LR		
	comp=Z,5μm,11.7s,MS5.2						
NRGR	**Nerungri**	**24.00**	**336**	*e*P	**P**	**15 55 17.4**	**-6.1**
CLNS	**Chul'man**	**24.09**	**337**	*e*P	**P**	**15 55 27.4**	**+3.1**
CLNS				*e**PP		15 55 34.3	
CLNS				*e*		15 55 42.5	
CLNS				*e*PPP		15 55 54.2	
CLNS				*e*		15 59 08.6	
CLNS				*e*S	**S**	**15 59 45.1**	**+5.1**
CLNS				pmax	pmax		
	comp=Z,26nm,0.9s,mb4.7						
CLNS				pmax	pmax		
	comp=N,11nm,0.8s						
CLNS				pmax	pmax		
	comp=E,8.0nm,0.8s						
CLNS				pmax	pmax		
	comp=Z,35nm,1.2s,mb4.7						
CLNS				pmax	pmax		
	comp=N,26nm,1.1s						
CLNS				pmax	pmax		
	comp=E,27nm,1.0s						
CLNS				smax			
	comp=N,1μm,12.8s						
CLNS				smax			
	comp=Z,879nm,12.8s						
CLNS				smax			
	comp=E,891nm,11.9s						
CLNS				MLR	MLR		
	comp=Z,4μm,13.0s,MS5.1						
CLNS				MLR	MLR		
	comp=N,2μm,12.0s,MS5.1						
CLNS				MLR	MLR		
	comp=E,4μm,15.0s,MS5.1						
HHC	**Hu-ho-hao-te**	**24.36**	**291**	*e*P	**P**	**15 55 27.8**	**+0.8**
HHC				AP		15 55 38.8	
HHC				XP	sP	15 55 45.3	+6.8
HHC				PP		15 56 05.4	
HHC				PCP	PcP	15 59 07.3	+1.4
HHC				PCS	PcS	16 02 47.1	+1.4
HHC				AMB	AMB		
	comp=Z,24nm,0.4s,mb5.0						
HHC				AMB	AMB		
	comp=Z,244nm,5.1s						
HHC				LR	LR		
	comp=N,2μm,14.7s,MS4.9						
HHC				LR	LR		
	comp=E,2μm,13.3s,MS4.9						
HHC				LR	LR		
	comp=Z,2μm,14.1s,MS4.8						
MA2	**Magadan**	**24.57**	**11**	*e*P	**P**	**15 55 28.2**	**-0.5**
	comp=Z,29nm,1.1s,mb4.7						
MA2				*e*pP		15 55 41.0	
MA2	**Magadan**	**24.57**	**11**	*e*P	**P**	**15 55 27.7**	**-1.0**
MA2				*e*		15 55 39.9	
MA2				*e*		15 56 05.8	
MA2				*e*S	**S**	**15 59 41.4**	**-6.3**
MA2				*e*SS		16 00 50.7	
MA2				pmax	pmax		
	comp=Z,30nm,1.4s,mb4.6						
MA2				MLR	MLR		
	comp=Z,1μm,19.0s,MS4.3						
BTO	**Baotou**	**25.53**	**291**	*e*P	**P**	**15 55 38.5**	**+0.9**
CIT	**Chita**	**25.97**	**318**	*e*P	**P**	**15 55 41.4**	**-0.1**
CIT				*e*		15 55 52.6	
CIT				*e*		15 56 00.4	
CIT				pmax	pmax		
	comp=Z,111nm,2.2s,mb5.0						
XAN	**Xi'an**	**27.11**	**276**	P	**P**	**15 55 51.8**	**-0.1**
XAN				PP		15 56 36.5	
XAN				PPP		15 56 52.9	
XAN				S	**S**	**16 00 25.0**	**-3.4**
XAN				AMB	AMB		
	comp=Z,17nm,1.2s,mb4.5						
XAN				AMB	AMB		
	comp=Z,257nm,6.4s						
XAN				LR	LR		
	comp=N,575nm,15.0s,MS4.8						
XAN				LR	LR		
	comp=E,2μm,14.2s,MS4.8						
XAN				LR	LR		
	comp=Z,3μm,15.0s,MS4.9						
YAK	**Yakutsk**	**27.48**	**347**	*e*P	**P**	**15 55 54.5**	**-0.4**
	comp=Z,42nm,0.8s,mb5.0						
YAK	**Yakutsk**	**27.48**	**347**	⇑*e*P	**P**	**15 55 54.3**	**-0.6**
YAK				pmax	pmax		
	comp=Z,37nm,1.1s,mb4.8						
YAK				MLR	MLR		
	comp=Z,3μm,15.0s,MS5.0						
GZH	**Guangzhou**	**27.83**	**251**	*e*P	**P**	**15 55 55.1**	**-3.4**
GZH				S	**S**	**16 00 33.9**	**-6.0**
GZH				LR	LR		
	comp=N,2μm,17.9s,MS4.7						
GZH				LR	LR		
	comp=E,1μm,20.4s,MS4.7						
GZH				LR	LR		
	comp=Z,3μm,15.1s						
SEY	**Seymchan**	**28.02**	**10**	⇑*e*P	**P**	**15 56 00.2**	**+0.4**
ULN	**Ulaanbaatar**	**28.50**	**306**	*e*P	**P**	**15 56 05.2**	**+0.9**
	comp=Z,13nm,0.9s,mb4.7						
ULN	**Ulaanbaatar**	**28.50**	**306**	*c i*P	**P**	**15 56 04.9**	**+0.7**
BOD	**Bodaibo**	**28.91**	**329**	*e*P	**P**	**15 56 07.5**	**-0.2**
BOD				pmax	pmax		
	comp=Z,23nm,1.5s,mb4.7						
SONM	**Songino Array**	**28.93**	**306**	P	**P**	**15 56 09.1**	**+1.1**
	comp=Z,10.0nm,0.7s,mb4.7,baz=106,slow=9.2,SNR=38						
SONM				LR	LR	16 06 54.9	
	comp=Z,554nm,20.1s,MS4.2,baz=71,slow=35						
LZH	**Lanzhou**	**30.77**	**282**	*e*P	**P**	**15 56 24.8**	**+0.3**
LZH				AP	pP	15 56 37.3	+4.6
LZH				XP	sP	15 56 42.5	+6.4
LZH				PP	PP	15 57 27.0	-7.1
LZH				AMB	AMB		
	comp=Z,34nm,1.3s,mb5.0						
LZH				AMB	AMB		
	comp=Z,72nm,4.8s						
LZH				LR	LR		
	comp=N,784nm,13.3s						
LZH				LR	LR		
	comp=Z,1μm,16.9s,MS4.5						
IRK	**Irkutsk**	**31.35**	**314**	⇑*i*P	**P**	**15 56 20.9**	**-8.5**
IRK				*e*S	**S**	**16 01 42.8**	**+8.2**
IRK				pmax	pmax		
	comp=Z,41nm,2.0s,mb4.9						
ZAK	**Zakamensk**	**31.47**	**310**	⇑*i*P	**P**	**15 56 31.3**	**+0.8**
ZAK				pmax	pmax		
	comp=Z,6.0nm,2.0s,mb4.1						
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.1s,mb3.6						
GYA	**Guiyang**	**31.48**	**263**	P	**P**	**15 56 30.4**	**-0.4**
GYA				AP	pP	15 56 44.8	+5.8
GYA				XP	sP	15 56 50.3	+7.9
GYA				PP	PP	15 57 37.3	-4.8
GYA				PCP	PcP	15 59 24.5	+1.0
GYA				S	**S**	**16 01 35.5**	**-1.7**
GYA				XS	sS	16 01 57.3	+6.5
GYA				SCP	ScP	16 03 02.4	-2.3
GYA				PCS	PcS	16 03 07.8	-0.2
GYA				SCS	ScS	16 06 58.6	-3.9
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.7						
GYA				AMB	AMB		
	comp=Z,90nm,4.9s						
GYA				LR	LR		
	comp=N,430nm,17.6s,MS4.3						
GYA				LR	LR		
	comp=E,380nm,16.8s,MS4.3						
GYA				LR	LR		
	comp=Z,410nm,17.9s,MS4.2						
TLY	**Talaya**	**31.57**	**312**	*e*P	**P**	**15 56 32.6**	**+1.4**
TLY	**Talaya**	**31.57**	**312**	*e*P	**P**	**15 56 32.2**	**+0.9**
TLY				*e*		15 57 39.9	
TLY				*e*PPP		15 57 48.3	
TLY				*e*S	**S**	**16 01 45.1**	**+7.1**
TLY				pmax	pmax		
	comp=Z,25nm,1.2s,mb4.9						
TLY				MLR	MLR		
	comp=Z,2μm,14.0s,MS4.8						
CD2	**Chengdu**	**32.16**	**273**	P	**P**	**15 56 36.8**	**0.0**
CD2				AP	pP	15 56 49.6	+4.6
CD2				XP	sP	15 56 54.9	+6.5
CD2				PP	PP	15 57 44.9	-4.7
CD2				S	**S**	**16 01 45.0**	**-2.8**
CD2				XS	sS	16 02 05.3	+3.9
CD2				SS	SS	16 03 39.4	-27
CD2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.8						
CD2				AMB	AMB		
	comp=Z,30nm,5.8s						
QIZ	**Qiongzhong**	**32.83**	**248**	P	**P**	**15 56 45.4**	**+2.7**
QIZ				AP	pP	15 56 51.8	+0.9
QIZ				PP	PP	15 57 55.8	-1.3
QIZ				S	**S**	**16 01 57.3**	**-1.0**
QIZ				XS	sS	16 02 15.3	+3.4
QIZ				AMB	AMB		
	comp=Z,6.0nm,1.8s,mb4.2						
QIZ				AMB	AMB		
	comp=Z,188nm,8.6s						
QIZ				LR	LR		
	comp=N,1μm,16.0s						
QIZ				LR	LR		
	comp=Z,1μm,13.4s,MS4.8						
MOY	**Mondy**	**33.16**	**312**	*e*P	**P**	**15 56 46.2**	**+0.9**
GTA	**Gaotai**	**33.42**	**289**	⇑P	**P**	**15 56 48.5**	**+0.8**
GTA				AP	pP	15 56 59.9	+4.0
GTA				XP	sP	15 57 05.8	+6.5
GTA				PP	PP	15 58 01.8	-1.6
GTA				S	**S**	**16 02 06.6**	**-0.6**
GTA				XS	sS	16 02 27.1	+6.4
GTA				AMB	AMB		
	comp=Z,12nm,1.2s,mb4.7						
GTA				AMB	AMB		
	comp=Z,201nm,4.6s						
GTA				LR	LR		
	comp=N,2μm,14.8s,MS5.0						
GTA				LR	LR		
	comp=E,1μm,13.3s,MS5.0						
GTA				LR	LR		
	comp=Z,1μm,14.1s,MS4.8						
BILL	**Bilibino**	**35.19**	**16**	*e*P	**P**	**15 57 01.4**	**-1.2**
	comp=Z,11nm,1.0s,mb4.8						
BILL	**Bilibino**	**35.19**	**16**	⇓*i*P	**P**	**15 57 01.4**	**-1.2**
BILL				pmax	pmax		
	comp=Z,8.0nm,1.3s,mb4.5						
BILL				MLR	MLR		
	comp=Z,1μm,18.0s,MS4.7						
KMI	**Kunming**	**35.24**	**264**	P	**P**	**15 57 04.5**	**+0.9**
KMI				AP	pP	15 57 17.5	+5.6
KMI				XP	sP	15 57 23.1	+7.9
KMI				PP	PP	15 58 24.8	+1.0
KMI				PPP		15 58 44.0	
KMI				S	**S**	**16 02 33.9**	**-1.7**
KMI				XS	sS	16 02 55.8	+6.6
KMI				SS	SS	16 04 51.9	-17
KMI				SSS		16 05 20.6	
KMI				SCS	ScS	16 07 18.0	-4.1
KMI				AMB	AMB		
	comp=Z,6.0nm,1.4s,mb4.3						
KMI				LR	LR		
	comp=N,1μm,13.6s,MS5.1						
KMI				LR	LR		
	comp=E,2μm,15.9s,MS5.1						
KMI				LR	LR		
	comp=Z,2μm,15.9s,MS4.8						
TIXI	**Tiksi**	**36.67**	**353**	*e*P	**P**	**15 57 14.8**	**-0.5**
	comp=Z,7.8nm,0.9s,mb4.5						
TIXI	**Tiksi**	**36.67**	**353**	⇑*e*P	**P**	**15 57 14.0**	**-1.3**
TIXI				pmax	pmax		
	comp=Z,9.0nm,1.4s,mb4.4						
TIXI				MLR	MLR		
	comp=Z,2μm,18.0s,MS4.9						
CHTO	**Chiang Mai**	**41.43**	**258**	*e*P	**P**	**15 57 54.8**	**-0.9**
	comp=Z,4.6nm,0.9s,mb4.1						
CHTO	**Chiang Mai**	**41.43**	**258**	*e*P	**P**	**15 57 54.8**	**-0.9**
CHTO				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.1						
CM31	**Chiang Mai Arr**	**41.63**	**257**	*e*P	**P**	**15 57 56.9**	**-0.5**
	comp=Z,3.4nm,0.9s,mb4.0						
TNA	**Tin City**	**41.80**	**29**	*e*P	**P**	**15 58 00.0**	**+1.8**
	comp=Z,7.6nm,1.1s,mb4.2						
WMQ	**Urumqi**	**41.87**	**298**	P	**P**	**15 58 01.8**	**+2.8**
WMQ				AP	pP	15 58 14.0	+6.6
WMQ				PP	PP	15 59 43.0	+7.0
WMQ				S	**S**	**16 04 17.0**	**+1.8**
WMQ				XS	sS	16 04 36.0	+7.1
WMQ				SS	SS	16 07 17.0	-4.8
WMQ				AMB	AMB		
	comp=Z,45nm,1.5s,mb4.9						
WMQ				AMB	AMB		
	comp=Z,390nm,7.4s						
WMQ				LR	LR		
	comp=N,2μm,15.5s,MS5.2						
WMQ				LR	LR		
	comp=E,2μm,14.6s,MS5.2						
WMQ				LR	LR		
	comp=Z,1μm,13.0s,MS5.0						
LSA	**Lhasa**	**42.81**	**277**	*e*P	**P**	**15 58 08.7**	**+1.8**
	comp=Z,6.1nm,0.8s,mb4.4						
LSA	**Lhasa**	**42.81**	**277**	*e*P	**P**	**15 58 08.7**	**+1.8**
LSA				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.4						
ZAA0	**Zalesovo Array**	**43.16**	**313**	*e*P	**P**	**15 58 09.2**	**-0.2**
ZALV	**Zalesovo Beam**	**43.16**	**313**	P	**P**	**15 58 09.7**	**+0.3**
	comp=Z,4.9nm,0.6s,mb4.4,baz=94,slow=6.5,SNR=21						
ZALV				LR	LR	16 17 08.1	
	comp=Z,360nm,20.3s,MS4.3,baz=82,slow=38						
ZAL	**Zalesovo**	**43.17**	**313**	P	**P**	**15 58 09.7**	**+0.2**
SHL	**Shillong**	**43.87**	**271**	*e*P	**P**	**15 58 18.0**	**+2.5**
NVS	**Novosibirsk**	**44.10**	**315**	⇑*i*P	**P**	**15 58 16.8**	**-0.2**
NVS				*e*S	**S**	**16 04 47.1**	**-0.6**
NVS				pmax	pmax		
	comp=E,20nm,1.7s						
NVS				pmax	pmax		
	comp=Z,28nm,1.7s,mb4.7						
NVS				smax			
	comp=N,60nm,3.6s						
MK31	**Makanchi Array**	**45.23**	**303**	*e*P	**P**	**15 58 26.7**	**+0.6**
MKAR	**Makanchi Array**	**45.23**	**303**	*i* P	**P**	**15 58 30.8**	**+4.7**
MKAR				pmax	pmax		
	comp=Z,10.0nm,0.8s						
MKAR	**Makanchi Array**	**45.23**	**303**	P	**P**	**15 58 26.6**	**+0.5**
	comp=Z,11nm,0.8s,mb4.7,baz=89,slow=8.0,SNR=26						
MKAR				LR	LR	16 17 12.1	
	comp=Z,598nm,19.1s,MS4.5,baz=76,slow=36						

SVW2 Sparrevohn 46.32 37 *eP* **P 15 58 37.8 +3.4**
KURK Kurchatov 47.13 309 *eP* **P 15 58 41.1 +0.2**
comp=Z,34nm,1.0s,mb5.2
KURK Kurchatov 47.13 309 *eP* **P 15 58 41.1 +0.2**
KURK pmax pmax
comp=Z,33nm,1.0s,mb5.2
IMA2 Indian Mountai 47.61 30 *eP* **P 15 58 47.6 +3.1**
JIRN Jiri 47.61 277 *eP* **P 15 58 50.0 +5.0**
HNR Honiara 47.98 156 LR LR 16 15 06.8
comp=Z,342nm,19.4s,MS4.3,baz=357,slow=31
KKN Kakani 48.30 277 *eP* **P 15 58 51.5 +1.2**
comp=Z,34nm,1.0s,mb5.3
KKN Kakani 48.30 277 *eP* **P 15 58 51.5 +1.2**
KKN pmax pmax
comp=Z,34nm,1.0s,mb5.3
GKN Gorkha 48.73 278 *eP* **P 15 58 54.0 +0.4**
comp=Z,57nm,1.0s,mb5.6
BATI Kupang 48.82 204 LR LR 16 17 23.5
comp=Z,216nm,19.9s,MS4.1,baz=99,slow=34
KAKA Kakadu 48.98 192 *eP* **P 15 58 50.8 -4.7**
comp=Z,55nm,1.1s,mb5.5
MCK McKinley 49.50 33 *eP* **P 15 59 02.5 +3.5**
comp=Z,98nm,2.6s,mb5.4
MCK McKinley 49.50 33 *eP* **P 15 59 02.5 +3.5**
MCK pmax pmax
comp=Z,98nm,2.6s,mb5.4
KOLN Koldanda 49.66 278 *eP* **P 15 59 01.1 +0.3**
comp=Z,49nm,1.3s,mb5.4
SML Sawmill 49.81 36 *eP* **P 15 59 01.7 +0.4**
SML *ep*P pP 15 59 13.4 +3.5
COLA College 49.97 32 *eP* **P 15 59 02.4 -0.2**
comp=Z,4.7nm,0.8s,mb4.6
COLA College 49.97 32‖ *eP* **P 15 59 03.8 +1.2**
TKM2 Tokmak 2 50.68 300 *eP* **P 15 59 09.1 +0.8**
comp=Z,33nm,1.2s,mb5.1
TKM2 Tokmak 2 50.68 300 *eP* **P 15 59 09.1 +0.8**
TKM2 pmax pmax
comp=Z,33nm,1.2s,mb5.1
FRU Bishkek 51.40 300 *eP* **P 15 59 14.0 +0.3**
FRU MLR MLR
comp=Z,2μm,14.0s,MS5.2
PSI Prapat 51.52 241 LR LR 16 21 24.3
comp=Z,267nm,18.6s,MS4.3,baz=3.9,slow=36
UCH Uchtor 51.64 299 *eP* **P 15 59 17.4 +1.9**
comp=Z,7.7nm,0.9s,mb4.6
BVAR Borovoye Array 51.82 313 P **P 15 59 16.4 -0.2**
comp=Z,1.6nm,0.8s,mb4.0,baz=100,slow=8.2
BRVK Borovoye 51.88 313 *eP* **P 15 59 17.7 +0.7**
comp=Z,4.2nm,0.6s,mb4.5
BRVK Borovoye 51.88 313 *eP* **P 15 59 17.7 +0.6**
BRVK pmax pmax
comp=Z,4.0nm,0.6s,mb4.5
EKS2 Erkin-Say 52.04 300 *eP* **P 15 59 19.1 +0.6**
comp=Z,9.2nm,1.2s,mb4.6
AML Almayashu 52.25 299 *eP* **P 15 59 21.9 +1.9**
comp=Z,31nm,1.0s,mb5.2
INK Inuvik 55.37 27 *eP* **P 15 59 42.2 -0.2**
comp=Z,198nm,0.8s
INK Inuvik 55.37 27 P **P 15 59 42.5 0.0**
comp=Z,2.9nm,0.8s,mb4.3,baz=180,slow=0.0
INK LR LR 16 28 16.1
comp=Z,579nm,18.1s,MS4.7,baz=126,slow=41
CTA Charters Tower 55.62 175 LR LR 16 22 21.9
comp=Z,198nm,19.1s,MS4.2,baz=188,slow=35
FITZ Fitzroy Crossi 55.70 199 *eP* **P 15 59 44.0 -1.3**
comp=Z,18nm,1.0s,mb5.0
WRAB Tennant Creek 55.79 189 *eP* **P 15 59 43.1 -2.9**
comp=Z,24nm,0.8s,mb5.3
WRAB *ep*P pP 15 59 56.6 +2.1
WRAB Tennant Creek 55.79 189 *eP* **P 15 59 43.1 -2.9**
WRAB *e**PP pP 15 59 56.6 +2.0
WRAB pmax pmax
comp=Z,24nm,0.8s,mb5.3
WB2 Warramunga Arr 55.80 189 *eP* **P 15 59 45.1 -0.9**
WRA Warramunga Arr 55.80 189 P **P 15 59 44.9 -1.1**
comp=Z,8.6nm,0.9s,mb4.8,baz=7.2,slow=7.5,SNR=44
SVE Sverdlovsk 56.46 319⇑ *eP* **P 15 59 51.0 +0.6**
SVE *e* 16 09 40.6
SVE *e*SS SS 16 11 29.5 +3.2
SVE *e*SSS 16 13 42.2
SVE pmax pmax
comp=Z,13nm,0.8s,mb5.0
SVE MLR MLR
comp=Z,2μm,15.0s,MS5.2
ARU Arti 57.67 319 *eP* **P 15 59 58.6 -0.4**
comp=Z,14nm,0.8s,mb5.0
ARU Arti 57.67 319 *c iP* **P 15 59 58.9 -0.1**
ARU *e*PPP 16 03 24.4
ARU *e*S **S 16 07 53.5 -2.0**
ARU *e*SS SS 16 11 41.7 -3.7
ARU *e*SSS 16 14 05.4
ARU pmax pmax
comp=Z,20nm,1.7s,mb4.9
HYB Hyderabad 58.64 270 *eP* **P 16 00 07.0 +0.6**
HYB Hyderabad 58.64 270 *i* P **P 16 00 07.5 +1.1**
ASAR Alice Springs 59.53 189 P **P 16 00 11.3 -0.9**
comp=Z,1.8nm,0.9s,mb4.1,baz=0.1,slow=5.5,SNR=20
AKTO Aktyubinsk 59.92 313 *i* P **P 16 00 14.0 -0.7**
MBWA Marble Bar 60.34 204 *eP* **P 16 00 16.9 -1.0**
comp=Z,10nm,0.8s,mb4.9
RES Resolute Bay 63.78 14 *eP* **P 16 00 39.5 -0.8**
comp=Z,247nm,0.9s
APA Apatity 64.10 336⇑ *iP* pP 16 00 53.0 +1.8
APA pmax pmax
comp=Z,9.0nm,1.0s,mb4.8
APA MLR MLR
comp=Z,2μm,19.0s,MS5.3
TMCR Tamitsa 64.14 332 *eP* **P 16 00 48.9 +6.1**
TMCR *e**PP pP 16 01 01.4 +10
YKA Yellowknife Ar 64.74 30 *i* P **P 16 00 51.0 +4.2**
YKA pmax pmax
comp=Z,2.0nm,0.8s
YKA Yellowknife Ar 64.74 30 P **P 16 00 44.4 -2.4**
comp=Z,0.2nm,0.7s,baz=302,slow=6.2,SNR=4.2
ARCES ARCESS Array B 65.41 340 LR LR 16 35 03.6
comp=Z,993nm,18.3s,MS5.0,baz=279,slow=41
DAG Danmarks Havn 67.15 355 *eP* **P 16 01 06.0 +3.9**
DAG pmax pmax
comp=Z,1.0nm,0.6s,mb4.0
DAG Danmarks Havn 67.15 355 *i* P **P 16 01 06.0 +3.9**
comp=Z,1.3nm,0.6s,mb4.1
STKA Stephens Creek 67.21 180 *eP* **P 16 01 00.9 -2.0**
comp=Z,4.8nm,1.0s,mb4.5
STKA Stephens Creek 67.21 180 P **P 16 00 57.9 -5.0**
comp=Z,1.2nm,0.8s,mb4.0,baz=355,slow=12,SNR=2.4
STKA LR LR 16 29 52.3
comp=Z,226nm,19.2s,MS4.4,baz=23,slow=36
JOF Joensuu 67.36 332 *ep* **P 16 01 09.9 +6.3**
comp=Z,2.7nm,0.6s,mb4.5
FORT Forrest 67.40 193 *eP* **P 16 01 04.0 -0.1**
comp=Z,2.8nm,0.7s,mb4.4
OBN Obninsk 69.45 324 *eP* **P 16 01 16.8 0.0**
OBN *e* 16 01 38.8
OBN *e*S S 16 10 26.7 +4.6
OBN pmax pmax
comp=Z,17nm,1.5s,mb4.8
OBN MLR MLR
comp=Z,700nm,15.0s,MS5.0
KAF Kangasniemi 69.71 333 *ep* **P 16 01 18.9 +0.6**
comp=Z,4.6nm,0.8s,mb4.5
FINES FINESS Array B 70.22 333 P **P 16 01 20.6 -0.7**
comp=Z,1.7nm,0.7s,mb4.1,baz=67,slow=7.7,SNR=4.8
FINES LR LR 16 34 27.4
comp=Z,348nm,20.3s,MS4.6,baz=204,slow=38
VRSR Storozhevoye 70.23 319 *eP* **P 16 01 21.7 0.0**
VRSR pmax pmax
comp=Z,1.0nm,0.9s,mb3.8
VRSR pmax pmax
comp=N,2.0nm,0.8s
VRSR pmax pmax
comp=E,2.0nm,1.0s
VRSR MLR MLR
comp=N,50nm,14.0s,MS4.3
VRSR MLR MLR
comp=Z,150nm,14.0s,MS4.4
VRSR MLR MLR
comp=E,120nm,15.0s,MS4.3
KIV Kislovodsk 72.14 312 *d iP* **P 16 01 34.5 +1.2**
KIV *e* 16 01 52.8
KIV pmax pmax
comp=Z,23nm,1.5s,mb4.9
KIV Kislovodsk 72.14 312⇑ *iP* **P 16 01 34.9 +1.6**
SOC Sochi 74.14 312 *eP* **P 16 01 40.4 -4.8**
SOC *e*S S 16 11 12.3 -4.2
SOC *e*SS SS 16 16 01.5 +0.4
FFC Flin Flon 74.58 33 *eP* **P 16 01 49.5 +1.9**
comp=Z,5.1nm,1.0s,mb4.4
FFC Flin Flon 74.58 33 *eP* **P 16 01 49.5 +1.9**
FFC pmax pmax
comp=Z,5.0nm,1.0s,mb4.4
FCC Fort Churchill 74.99 27 *eP* **P 16 01 50.0 +0.2**
comp=Z,8.5nm,1.2s,mb4.5
FCC Fort Churchill 74.99 27 *eP* **P 16 01 50.0 +0.1**
FCC pmax pmax
comp=Z,8.0nm,1.2s,mb4.5
NVAR Mina Array Bea 75.42 53 P **P 16 01 53.5 +0.8**
comp=Z,0.2nm,0.4s,mb3.4,baz=286,slow=6.4,SNR=3.2
NB2 NORSAR Subarra 75.60 338 P **P 16 01 52.6 -0.7**
comp=Z,2.9nm,1.0s,mb4.2,baz=37,slow=5.9
NOA NORSAR Array B 75.60 338 P **P 16 01 53.1 -0.2**
comp=Z,1.2nm,0.9s,mb3.8,baz=39,slow=5.7,SNR=3.4
NOA LR LR 16 38 14.6
comp=Z,665nm,18.3s,MS5.0,baz=40,slow=38
AKASG Malin Array Be 75.64 323 P **P 16 01 51.9 -1.9**
comp=Z,1.9nm,0.6s,mb4.2,baz=46,slow=6.0,SNR=9.5
AKASG LR LR 16 38 03.2
comp=Z,310nm,19.4s,MS4.6,baz=40,slow=38
KIEV Kiev 75.65 323 *eP* **P 16 01 53.1 -0.7**
comp=Z,8.8nm,1.0s,mb4.6
KIEV Kiev 75.65 323 *eP* **P 16 01 53.2 -0.6**
KIEV pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
SIM Simferopol' 76.61 316 P **P 16 02 01.5 +2.1**
SIM S S 16 11 47.0 +3.2
IMW Indian Meadow 76.79 45 *eP* **P 16 02 01.7 +1.3**
comp=Z,5.5nm,1.1s,mb4.4
PDAR Pinedale Array 78.28 46 P **P 16 02 09.1 +0.4**
comp=Z,0.7nm,0.6s,mb3.8,baz=164,slow=0.2,SNR=6.2
SRU San Rafael 79.95 49 *eP* **P 16 02 18.2 +0.3**
comp=Z,2.5nm,0.8s,mb4.2
SRU San Rafael 79.95 49 *eP* **P 16 02 18.2 +0.3**
SRU pmax pmax
comp=Z,2.0nm,0.8s,mb4.1
KOLS Kolonicke sedl 80.18 324 *eP* **P 16 02 18.7 -0.3**
comp=Z,76nm,2.9s,mb5.1
KOLS Kolonicke sedl 80.18 324 *eP* **P 16 02 18.7 -0.3**
KOLS pmax pmax
comp=Z,76nm,2.9s,mb5.1
ULM Lac du Bonnet 80.37 33 P **P 16 02 21.9 +1.9**
comp=Z,1.2nm,0.7s,mb3.9,baz=14,slow=12,SNR=3.3
OJC Ojcow 80.41 327 *eP* pP 16 02 30.4 +1.3
GLA Glamis 80.83 56 *eP* **P 16 02 21.7 -1.1**
comp=Z,3.1nm,0.7s,mb4.3
GLA Glamis 80.83 56 *eP* **P 16 02 21.7 -1.1**
GLA pmax pmax
comp=Z,3.0nm,0.7s,mb4.3
OKC Ostrava-Krasne 81.42 327 AMS AMS 16 42 10.0
comp=Z,700nm,15.4s,MS5.1
MORC Moravsky Berou 81.73 327‖ *iP* pP 16 02 38.1 +1.9
DPC Dobruska-Polom 81.84 328 *eP* pP 16 02 39.8 +3.1
DPC AMS AMS 16 43 30.0
comp=Z,1μm,14.0s,MS5.4
PVCC Panska Ves 82.44 329 AMS AMS 16 45 50.0
comp=Z,1μm,15.6s,MS5.3
CLL Collm 82.49 331 *eP* **P 16 02 31.0 -0.2**
comp=Z,3.0nm,0.6s,mb4.4
CLL LR LR
comp=Z,1μm,15.0s,MS5.4
CLL Collm 82.49 331 *eP* **P 16 02 31.0 -0.2**
CLL pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
CLL MLR MLR
comp=Z,1μm,15.0s,MS5.4
PRU Pruhonice 82.87 329 *eP* pP 16 02 42.6 +0.5
PRU AMS AMS 16 44 20.0
comp=Z,1μm,14.0s,MS5.5
TREC Trest 82.99 328 AMS AMS 16 44 40.0
comp=Z,2μm,14.2s,MS5.5
RPZ Rata Peaks 83.34 159 LR LR 16 33 26.3
comp=Z,317nm,20.5s,MS4.7,baz=351,slow=31
NKC Novy Kostel 83.54 330 AMS AMS 16 44 00.0
comp=Z,1μm,16.1s,MS5.3
PPT Papeete 83.62 117 *e*LR LR 16 28 34.0
comp=Z,647nm,29.8s
PPT Papeete 83.62 117 LR LR 16 38 13.1
comp=Z,314nm,18.1s,MS4.7,baz=308,slow=35
KHC Kasperske Hory 83.93 329 *eP* pP 16 02 48.3 +0.7
KHC AMS AMS 16 45 10.0
comp=Z,1μm,13.2s,MS5.4
GERES GERESS Array B 84.09 329 P **P 16 02 38.9 -0.6**
comp=Z,0.2nm,0.3s,mb3.8,baz=55,slow=12,SNR=2.3
GERES LR LR 16 42 06.9
comp=Z,459nm,19.6s,MS4.9,baz=59,slow=37
VTS Vitosha 84.13 319‖ *iP* **P 16 02 40.9 +1.1**
ANMO Albuquerque 85.09 50 *eP* **P 16 02 42.2 -2.7**
comp=Z,1.7nm,0.7s,mb4.3
ANMO Albuquerque 85.09 50 *eP* **P 16 02 42.2 -2.6**
ANMO pmax pmax
comp=Z,2.0nm,0.7s
TAOE Nuku Hiva Isla 85.40 104 *e*LR LR 16 29 12.5
comp=Z,13μm,31.9s
SCHQ Schefferville 86.50 16 LR LR 16 42 34.8
comp=Z,250nm,19.4s,MS4.6,baz=193,slow=36
TBI Tubuai 87.44 121 *e*LR LR 16 30 15.8
comp=Z,387nm,27.8s,baz=313
TXAR Lajitas Array 90.57 53 P **P 16 03 10.9 -0.3**
comp=Z,1.1nm,0.9s,mb4.2,baz=302,slow=2.8,SNR=9.0
TXAR LR LR 16 44 46.1
comp=Z,137nm,18.5s,MS4.4,baz=355,slow=36
KEST Kesra 96.37 323 LR LR 16 52 04.8
comp=Z,117nm,20.4s,MS4.3,baz=350,slow=39
ESDC Sonseca Array 98.69 334 LR LR 16 55 09.2
comp=Z,383nm,18.7s,MS4.9,baz=20,slow=40
QSPA South Pole Qui 125.44 180 PKP PKPdf 16 09 08.8 +0.4
comp=Z,1.5nm,1.0s,baz=22,slow=5.4,SNR=3.1
LPAZ La Paz 146.94 62 *e*PKPdf PKPdf 16 09 51.9 +2.1
LPAZ La Paz 146.94 62 PKP2 PKPab 16 09 51.2 -2.0
LPAZ pmax pmax
comp=Z,2.0nm,0.7s
LPAZ La Paz 146.94 62 PKPbc PKPbc 16 09 51.2 -0.6
comp=Z,1.8nm,0.7s,baz=25,slow=7.6,SNR=8.8

*CSEM **14** 15:59:47.5, 3523N×2254E, h21km, MD3.7/5, After ATH*
*NEIC **14** 15:59:47.5, 3523N×2254E, h21km, MD3.7(ATH), After ATH.*

ATH 14 15:59:47.5, 3523N×2254E, h21km±6km, MD3.7/5, Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KYTH	**Kithira**	**1.12**	**21**	*e*PN	Pn	16 00 08.5	+0.5
KYTH				*e*SN	Sn	16 00 24.0	+1.2
VAM	**Vamos**	**1.37**	**82**	*e*PN	Pn	16 00 14.4	+3.0
VLI	**Veliai**	**1.52**	**12**	*e*PN	Pn	16 00 15.1	+1.7
VLI				*e*SN	Sn	16 00 35.4	+2.8
ITM	**Ithomi**	**2.01**	**346**	*e*PN	Pn	16 00 23.3	+3.1
LKR	**Lokris**	**3.43**	**6**	*e*PN	Pn	16 00 42.8	+3.0
NEO	**Neokhori**	**4.11**	**7**	*e*PN	Pn	16 00 52.2	+3.2
THL	**Klokotos Trika**	**4.35**	**355**	*e*PN	Pn	16 00 55.3	+3.0

*ISCJB **14** 15:59:55.7±0.6, 3456N±004×2497E±007, h33km, Error ellipse: s-maj=7.9km s-min=6.0km az=164.7*
*CSEM **14** 15:59:55.7±0.2, 3461N×2484E, h40km, MD3.4, Error ellipse: s-maj=8.8km s-min=4.1km az=94.0*
*THE **14** 15:59:58.9, 3489N×2488E, h21km*
*ATH **14** 16:00:06.6, 3499N×2581E, h10km, MD3.4/3*
*HLW **14** 16:00:07.7, 3396N×2579E, h33km, Mb3.3*

ISC 14 15:59:56.4±0.9, 3464N±006×2493E±007, h32km±8km, n17, σ0 95/21, 3C-2D, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIVA	**Sivas**	**0.40**	**345**	*e*Pg	**Pb**	**16 00 05.4**	**+0.1**
SIVA				*e*Sg	**Sb**	**16 00 11.0**	**-0.4**
XRY	**Khrisi**	**0.67**	**69**	*e*PG	**Pb**	**16 00 10.0**	**+0.3**
LAST	**Lasithi**	**0.69**	**40**	*e*Pg	**Pn**	**16 00 09.9**	**-0.1**
LAST				*e*Sg	**Sb**	**16 00 19.6**	**+0.3**
GVD	**Gavdhos**	**0.72**	**287**	*e*Pg	**Pn**	**16 00 12.1**	**+1.7**
GVD	**Gavdhos**	**0.72**	**287**	*e*Pn	**Pn**	**16 00 12.0**	**+1.6**
GVD	**Gavdhos**	**0.72**	**287**	*e*Pg	**Pn**	**16 00 12.1**	**+1.7**
NPS	**Neapolis**	**0.84**	**42**	*e*PB	**Pn**	**16 00 12.4**	**+0.4**
KARN	**Karanos**	**1.13**	**313**	*e*Pg	**Pn**	**16 00 14.8**	**-1.3**
ZKR	**Zakros**	**1.16**	**65**	*e*Pg	**Pn**	**16 00 17.2**	**+0.8**
KARP	**Karpathos**	**2.04**	**63**	*e*PB	**Pn**	**16 00 29.8**	**+1.2**
APE	**Apeiranthos**	**2.48**	**11**	*e*Pn	**Pn**	**16 00 33.4**	**-1.2**
HMAT	**Matruh**	**3.97**	**152**	‖P	**Pn**	**16 00 55.9**	**+0.7**
HMAT	**Matruh**	**3.97**	**152**	P	**Pn**	**16 00 55.8**	**+0.7**
SWA1		**5.40**	**173**⇑	*e*P	**Pn**	**16 01 15.7**	**+1.0**
GLL	**Jalalah**	**7.64**	**129**⇑	*e*P	**Pn**	**16 01 43.8**	**-1.8**
GLL				S	**Sn**	**16 02 54.0**	**-17**
HFRF	**Wahat Farafira**	**8.01**	**158**⇑	*e*P	**Pn**	**16 01 50.2**	**-0.3**
SUZ		**8.22**	**123**‖	*e*P	**Pn**	**16 01 52.1**	**-1.4**
SUZ				S	**Sn**	**16 03 08.2**	**-17**

*ISCJB **14** 16:02:55.8±0.3, 3724N±005×2438W±003, h10km, mb4.2/4, MS3.1/3, Error ellipse: s-maj=6.9km s-min=3.7km az=3.6*
*CSEM **14** 16:02:55.4±0.1, 3717N×2436W, h10km, mb4.2/4, Ms3.0, Error ellipse: s-maj=3.4km s-min=1.6km az=8.0*
*NEIC **14** 16:02:55.6±4.5, 3724N×2469W, h10km, mb4.2/7, Error ellipse: s-maj=74.8km s-min=8.7km az=90.0*
*PDA **14** 16:03:03.0±0.8, 37.19N×2466W, h0km, MD4.0, ML3.9, Error ellipse: s-maj=5.0km s-min=2.8km az=90.0*
*SVSA **14** 16:03:03.0±0.8, 37.19N×2466W, h0km, MD4.0, ML3.9, Error ellipse: s-maj=5.0km s-min=2.8km az=90.0*

ISC 14 16:02:57.4±0.3, 3732N±004×2447W±003, h10km, n54, σ1 9 16/66, mb4.2/4, MS3.1/3, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSMN	**Pico do Norte,**	**0.57**	**237**	*e*P	**Pg**	**16 03 09.6**	**+1.2**
PSMN				*e*S	**Sg**	**16 03 15.3**	**-0.6**
PDA	**Ponta Delgada**	**1.04**	**295**	*e*P	**Pg**	**16 03 18.6**	**+1.2**
PDA				*e*S	**Sg**	**16 03 30.7**	**-0.3**
PSCM	**Serra do Cume**	**2.51**	**304**	*e*P	**Pn**	**16 03 39.7**	**+1.5**
PSCM				*e*S	**Sn**	**16 04 07.3**	**-1.5**
PSCM				A		16 04 09.9	
250nm,0.4s							
PSCM	**Serra do Cume**	**2.51**	**304**	*e*P	**Pn**	**16 03 39.7**	**+1.5**
PSCM				*e*S	**Sn**	**16 04 07.3**	**-1.5**
ADH	**Angra Heroismo**	**2.56**	**302**	*e*P	**Pn**	**16 03 40.1**	**+1.2**
ADH				*e*S	**Sn**	**16 04 08.2**	**-1.9**
PID	**Ribeirinha**	**3.10**	**292**	*e*P	**Pn**	**16 03 47.5**	**+1.2**
PMAN	**Manadas**	**3.15**	**296**	*e*P	**Pn**	**16 03 47.8**	**+0.8**
PMAN				*e*S	**Sn**	**16 04 22.5**	**-2.1**
PMAN				A		16 04 25.1	
65nm,0.4s							
PMAN	**Manadas**	**3.15**	**296**	*e*P	**Pn**	**16 03 47.8**	**+0.8**
PMAN				*e*S	**Sn**	**16 04 22.5**	**-2.1**
ROSA	**Rosais**	**3.29**	**296**	*e*P	**Pn**	**16 03 50.5**	**+1.5**
ROSA				*e*S	**Sn**	**16 04 25.8**	**-2.4**
SRBC	**Serra Branca**	**3.30**	**302**	*e*P	**Pn**	**16 03 48.2**	**-0.9**
SRBC				*e*S	**Sn**	**16 04 23.5**	**-4.8**
PICO	**Pico**	**3.34**	**292**	*e*P	**Pn**	**16 03 51.2**	**+1.5**
PICO				*e*S	**Sn**	**16 04 26.7**	**-2.8**
CALA	**Caldeira**	**3.58**	**292**	*e*P	**Pn**	**16 03 54.1**	**+1.2**
CALA				*e*S	**Sn**	**16 04 32.2**	**-3.0**
PMAR	**Madeira**	**7.71**	**124**	*e*Pn	**Pn**	**16 04 50.6**	**+0.9**
PMAR				*e*Sn	**Sn**	**16 06 08.8**	**-8.2**
PMAR				A		16 06 16.0	
25nm,0.4s							
PMAR				*e*T		16 12 22.6	
PMPS	**Porto Santo**	**7.90**	**120**	*e*Pn	**Pn**	**16 04 52.4**	**+0.1**
PMPS				*e*T		16 12 47.4	
EGOM	**La Gomera**	**10.98**	**144**	P	**Pn**	**16 05 33.4**	**-1.2**
10nm,0.2s							
EGOM				S	**Sn**	**16 07 22.6**	**-15**
EGOM	**La Gomera**	**10.98**	**144**	P	**Pn**	**16 05 33.4**	**-1.2**
10nm,0.2s							
EBAJ	**Bajamar**	**11.10**	**140**	P	**Pn**	**16 05 35.7**	**-0.4**
8.2nm,0.3s							
EBAJ	**Bajamar**	**11.10**	**140**	P	**Pn**	**16 05 35.7**	**-0.4**
8.2nm,0.3s							
CCAN	**Las Canadas**	**11.22**	**142**	P	**Pn**	**16 05 37.2**	**-0.7**
3.0nm,0.3s							
MORF	**Marmelete**	**12.60**	**85**	*e*T		16 18 26.0	
EVOP	**Sao Brissos**	**12.97**	**80**	*e*Pn	**Pn**	**16 05 58.3**	**-3.4**
EVOP				*e*Sn	**Sn**	**16 08 15.5**	**-10**
0.9nm,0.2s							
EVO	**Evora**	**13.05**	**80**	*e*Pn	**Pn**	**16 05 58.3**	**-4.6**
EVO				*e*Sn	**Sn**	**16 08 15.5**	**-13**
1.9nm,0.2s							
EVO				*e*MLR	MLR		
comp=Z,107nm,20.0s							
PBEJ	**Beja**	**13.18**	**82**	*e*S	**Sn**	**16 08 20.9**	**-10**
PVAQ	**Vaqueiros**	**13.33**	**85**	*e*T		16 18 41.6	
PBAR	**Barrancos**	**13.82**	**81**	*e*S	**Sn**	**16 08 36.4**	**-11**
MVO	**Moncorvo**	**14.05**	**69**	*e*S	**Sn**	**16 08 40.5**	**-12**
MVO	**Moncorvo**	**14.05**	**69**	*e*T		16 19 07.9	
SJPF	**Ste Jean**	**18.65**	**65**	*e*P	**Pn**	**16 07 16.0**	**+0.5**
QUIF	**Quistinic**	**18.86**	**49**	*e*P	**Pn**	**16 07 18.9**	**+0.8**
ROSF	**Rostrenen**	**18.99**	**48**	*e*P	**Pn**	**16 07 19.9**	**+0.3**
ETSF	**Etsaut**	**19.09**	**66**	*e*P	**Pn**	**16 07 20.6**	**-0.3**
SGMF	**Saint Gilles**	**19.38**	**49**	*e*P	**Pn**	**16 07 24.4**	**+0.1**
EPF	**Esparros**	**19.77**	**65**	*e*P	**Pn**	**16 07 28.5**	**-0.5**
MFF	**Saint Martin d**	**20.26**	**55**	*e*P	**P**	**16 07 34.0**	**+1.1**
comp=Z,30nm,1.3s							
MFF	**Saint Martin d**	**20.26**	**55**	*e*P	**P**	**16 07 34.0**	**+1.1**
comp=Z,15nm,1.3s							
GRR	**Gorron**	**20.46**	**50**	*e*P	**P**	**16 07 36.3**	**+1.3**
comp=Z,44nm,1.1s							
GRR	**Gorron**	**20.46**	**50**	*e*P	**P**	**16 07 36.3**	**+1.3**
comp=Z,22nm,1.1s							
FLN	**La Foliniere**	**20.84**	**49**	*e*P	**P**	**16 07 40.2**	**+1.1**
comp=Z,14nm,1.0s							
FLN				*e*MLR	MLR		
comp=Z,90nm,17.2s,MS2.9							
FLN	**La Foliniere**	**20.84**	**49**	*e*P	**P**	**16 07 40.2**	**+1.1**
comp=Z,6.8nm,1.0s							
FLN				LR	LR		
comp=Z,90nm,17.3s,MS3.2							
LDF	**La Druitiere**	**20.99**	**50**	*e*P	**P**	**16 07 41.4**	**+0.7**
MTLF	**Montolieu**	**21.17**	**65**	*e*P	**P**	**16 07 42.6**	**-0.1**
comp=Z,115nm,1.9s,mb4.6							
MTLF	**Montolieu**	**21.17**	**65**	*e*P	**P**	**16 07 42.6**	**-0.1**
comp=Z,58nm,1.9s,mb4.6							
CAF	**Calviac**	**21.32**	**61**	*e*P	**P**	**16 07 45.0**	**+0.7**
TCF	**Toulx Ste Croi**	**21.73**	**57**	*e*P	**P**	**16 07 49.2**	**+0.5**
LASF	**Ste Croix**	**22.44**	**64**	*e*P	**P**	**16 07 55.5**	**-0.9**
AVF	**Avril sur Loir**	**22.62**	**56**	*e*P	**P**	**16 07 57.4**	**-0.8**
SSF	**Saint Saulge**	**22.80**	**56**	*e*P	**P**	**16 07 59.3**	**-0.7**
SMF	**Signal de Mont**	**22.91**	**57**	*e*P	**P**	**16 08 00.6**	**-0.7**
comp=Z,6.5nm,0.9s,mb3.8							
SMF	**Signal de Mont**	**22.91**	**57**	*e*P	**P**	**16 08 00.6**	**-0.7**
comp=Z,3.2nm,0.9s,mb3.8							
LOR	**Lormes**	**23.08**	**56**	*e*P	**P**	**16 08 02.4**	**-0.7**
comp=Z,5.0nm,0.7s,mb3.8							
LOR				*e*MLR	MLR		
comp=Z,114nm,17.8s,MS3.1							
LOR	**Lormes**	**23.08**	**56**	*e*P	**P**	**16 08 02.4**	**-0.7**
comp=Z,2.5nm,0.7s,mb3.8							
LOR				LR	LR		
comp=Z,110nm,17.8s,MS3.4							
ORIF	**Oris-en-Rattie**	**23.99**	**62**	*e*P	**P**	**16 08 10.3**	**-1.8**
comp=Z,60nm,1.5s,mb4.5							
ORIF				*e*MLR	MLR		
comp=Z,100nm,18.5s,MS3.0							
ORIF	**Oris-en-Rattie**	**23.99**	**62**	*e*P	**P**	**16 08 10.3**	**-1.8**
comp=Z,30nm,1.5s,mb4.5							
CABF	**La Chapelle**	**24.42**	**58**	*e*P	**P**	**16 08 15.0**	**-0.9**

IDC 14 16:04:59.8±5.4, 6304S×15255E, h0km, mb3.5/1, mb1 3.7/2, mb1mx3.6/11, mbtmp3.5/2, ML3.2/1, MS3.8/2, Ms1 3.7/2, ms1mx3.3/19, Error ellipse: s-maj=331.6km s-min=38.9km az=77.0, Balleny Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**14.85**	**172**	Pn	Pn	16 08 31.4	+0.7
0.1nm,0.3s,baz=309,slow=14,SNR=4.6							
VNDA				LR	LR	16 13 51.3	
comp=Z,185nm,19.1s,baz=339,slow=36							
MAW	**Mawson**	**34.61**	**222**	LR	LR	16 27 32.1	
comp=Z,219nm,18.7s,baz=65,slow=39							
ASAR	**Alice Springs**	**41.30**	**334**	P	P	16 12 46.8	+0.1
0.6nm,0.8s,baz=162,slow=8.4,SNR=15							
AKASG	**Malin Array Be**	**147.80**	**274**	PKPbc	PKPbc	16 24 44.2	-1.0
0.2nm,0.3s,baz=111,slow=1.5,SNR=3.9							

*NEIC **14** 16:11:14.9, 38.13S×17622E, h165km, MG4.1(WEL), After WEL.*

WEL 14 16:11:15.4±0.3, 3814S×17623E, h158km±2km, ML4.0/19, Error ellipse: s-maj=1.6km s-min=1.3km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARZ	**Kaharoa**	**0.11**	**5**	P	Pn	16 11 36.8	+0.2
KARZ	**Kaharoa**	**0.11**	**5**	PN	Pn	16 11 36.8	+0.2
LIRZ	**Lichensteins R**	**0.18**	**43**	P	Pn	16 11 37.0	+0.3

LIRZ	**Lichensteins R**	**0.18**	**43**	PN	Pn	16 11 37.0	+0.3
MARZ	**Manawahe**	**0.38**	**67**	P	Pn	16 11 37.6	+0.4
MARZ	**Manawahe**	**0.38**	**67**	PN	Pn	16 11 37.6	+0.4
TGRZ	**Tauranga**	**0.41**	**3**	P	Pn	16 11 37.3	0.0
TGRZ	**Tauranga**	**0.41**	**3**	PN	Pn	16 11 37.3	0.0
URZ	**Urewera**	**0.70**	**100**	P	Pn	16 11 38.7	-0.1
URZ	**Urewera**	**0.70**	**100**	PN	Pn	16 11 38.7	-0.1
URZ				*e*SN	Sn	16 11 56.2	-0.4
RATZ	**Rangitukua**	**0.82**	**206**	P	Pn	16 11 39.9	+0.3
RATZ	**Rangitukua**	**0.82**	**206**	PN	Pn	16 11 39.9	+0.3
MWZ	**Matawai**	**1.04**	**101**	P	Pn	16 11 41.6	+0.3
MWZ	**Matawai**	**1.04**	**101**	PN	Pn	16 11 41.6	+0.3
MWZ				SN	Sn	16 12 01.2	+0.2
BKZ	**Black Stump Fm**	**1.05**	**169**	P	Pn	16 11 41.7	+0.3
BKZ	**Black Stump Fm**	**1.05**	**169**	PN	Pn	16 11 41.7	+0.3
BKZ				SN	Sn	16 12 00.7	-0.6
WTVZ	**West Tongariro**	**1.10**	**207**	P	Pn	16 11 42.0	+0.2
WTVZ	**West Tongariro**	**1.10**	**207**	PN	Pn	16 11 42.0	+0.2
OTVZ	**Oturere**	**1.12**	**203**	PN	Pn	16 11 42.5	+0.6
OTVZ				SN	Sn	16 12 03.0	+0.6
TWVZ	**Taurewa**	**1.12**	**213**	P	Pn	16 11 42.2	+0.2
TWVZ	**Taurewa**	**1.12**	**213**	PN	Pn	16 11 42.2	+0.2
HIZ	**Hauiti**	**1.15**	**250**	P	Pn	16 11 42.3	+0.1
HIZ	**Hauiti**	**1.15**	**250**	PN	Pn	16 11 42.3	+0.1
NGZ	**Ngauruhoe**	**1.15**	**205**	P	Pn	16 11 42.9	+0.7
NGZ	**Ngauruhoe**	**1.15**	**205**	PN	Pn	16 11 42.9	+0.6
WPVZ	**Whakapapa**	**1.20**	**206**	P	Pn	16 11 42.9	+0.3
WPVZ	**Whakapapa**	**1.20**	**206**	PN	Pn	16 11 42.9	+0.3
TUVZ	**Tukino**	**1.22**	**202**	PN	Pn	16 11 43.2	+0.3
TUVZ				SN	Sn	16 12 04.5	+0.5
FWVZ	**Far West T-bar**	**1.24**	**205**	*e*P	Pn	16 11 43.2	+0.2
FWVZ	**Far West T-bar**	**1.24**	**205**	PN	Pn	16 11 43.2	+0.1
TRVZ	**Turoa**	**1.28**	**204**	PN	Pn	16 11 43.8	+0.4
WNVZ	**Wahianoa**	**1.29**	**202**	P	Pn	16 11 43.7	+0.2
WNVZ	**Wahianoa**	**1.29**	**202**	PN	Pn	16 11 43.7	+0.2
MOVZ	**Moawhango**	**1.32**	**196**	P	Pn	16 11 43.6	-0.2
MOVZ	**Moawhango**	**1.32**	**196**	PN	Pn	16 11 43.6	-0.3
PKVZ	**Pokaka**	**1.34**	**211**	PN	Pn	16 11 44.0	-0.1
MTVZ	**Mangateitei**	**1.38**	**205**	PN	Pn	16 11 44.6	+0.2
KNZ	**Kokohu**	**1.44**	**128**	*e*P	Pn	16 11 45.6	+0.7
KNZ	**Kokohu**	**1.44**	**128**	PN	Pn	16 11 45.6	+0.6
KNZ				SN	Sn	16 12 07.5	-0.1
KUZ	**Kuaotunu**	**1.44**	**344**	P	Pn	16 11 44.6	-0.5
KUZ	**Kuaotunu**	**1.44**	**344**	PN	Pn	16 11 44.6	-0.4
VRZ	**Vera Road**	**1.52**	**229**	P	Pn	16 11 45.7	-0.1
VRZ	**Vera Road**	**1.52**	**229**	PN	Pn	16 11 45.7	-0.1
PUZ	**Puketiti**	**1.60**	**88**	P	Pn	16 11 46.6	0.0
PUZ				S	Sn	16 12 10.3	-0.3
PUZ	**Puketiti**	**1.60**	**88**	PN	Pn	16 11 46.6	-0.1
PUZ				*e*SN	Sn	16 12 09.4	-1.2
MXZ	**Matakaoa Point**	**1.74**	**71**	P	Pn	16 11 48.4	+0.3
MXZ	**Matakaoa Point**	**1.74**	**71**	PN	Pn	16 11 48.4	+0.2
RAEZ	**Rainy Point**	**1.84**	**231**	P	Pn	16 11 49.7	+0.5
WAZ	**Wanganui**	**1.89**	**211**	P	Pn	16 11 49.5	-0.2
WAZ	**Wanganui**	**1.89**	**211**	PN	Pn	16 11 49.5	-0.3
TSZ	**Takapari Road**	**1.93**	**186**	P	Pn	16 11 49.7	-0.6
TSZ	**Takapari Road**	**1.93**	**186**	PN	Pn	16 11 49.7	-0.6
WPHZ	**Waipukurau**	**1.94**	**175**	PN	Pn	16 11 49.9	-0.3
PXZ	**Pawanui**	**1.96**	**166**	PN	Pn	16 11 50.5	-0.1
NEZ	**North Egmont**	**2.02**	**235**	P	Pn	16 11 51.8	+0.6
NEZ	**North Egmont**	**2.02**	**235**	PN	Pn	16 11 51.8	+0.6
PKE	**Pukeiti**	**2.05**	**238**	P	Pn	16 11 51.6	0.0
PKE	**Pukeiti**	**2.05**	**238**	PN	Pn	16 11 51.6	0.0
NWEZ	**Newall Road**	**2.17**	**238**	P	Pn	16 11 53.2	+0.2
NWEZ	**Newall Road**	**2.17**	**238**	PN	Pn	16 11 53.2	+0.3
BFZ	**Birch Farm**	**2.54**	**180**	*e*P	Pn	16 11 56.2	-1.2
BFZ	**Birch Farm**	**2.54**	**180**	PN	Pn	16 11 56.2	-1.2
MRZ	**Mangatainoka R**	**2.57**	**191**	P	Pn	16 11 56.2	-1.6
MRZ	**Mangatainoka R**	**2.57**	**191**	PN	Pn	16 11 56.2	-1.6
MRZ				*e*SN	Sn	16 12 27.6	-3.0
TIWZ	**Tintock**	**2.65**	**186**	PN	Pn	16 11 57.3	-1.4
KIW	**Kapiti Island**	**2.91**	**200**	P	Pn	16 11 59.8	-2.1
KIW	**Kapiti Island**	**2.91**	**200**	PN	Pn	16 11 59.8	-2.1
MTW	**Mount Morrison**	**3.07**	**190**	P	Pn	16 12 01.5	-2.5
MTW	**Mount Morrison**	**3.07**	**190**	PN	Pn	16 12 01.5	-2.4
CAW	**Cannon Point**	**3.10**	**196**	P	Pn	16 12 02.1	-2.2
CAW	**Cannon Point**	**3.10**	**196**	PN	Pn	16 12 02.1	-2.2
DUWZ	**D'Urville Isla**	**3.21**	**213**	PN	Pn	16 12 03.1	-2.6
TRWZ	**Traveller**	**3.29**	**187**	PN	Pn	16 12 04.4	-2.3
PAWZ	**Paruwai Farm**	**3.30**	**191**	P	Pn	16 12 04.2	-2.7
PAWZ	**Paruwai Farm**	**3.30**	**191**	PN	Pn	16 12 04.2	-2.6
MRW	**Makara Radio**	**3.31**	**200**	P	Pn	16 12 04.4	-2.5
MRW	**Makara Radio**	**3.31**	**200**	PN	Pn	16 12 04.4	-2.6
WEL	**Wellington**	**3.34**	**199**	P	Pn	16 12 04.9	-2.5
WEL	**Wellington**	**3.34**	**199**	PN	Pn	16 12 04.9	-2.5
MSWZ	**Moikau Station**	**3.36**	**193**	P	Pn	16 12 04.9	-2.7
MSWZ	**Moikau Station**	**3.36**	**193**	PN	Pn	16 12 04.9	-2.7
SNZO	**South Karori**	**3.38**	**200**	P	Pn	16 12 05.0	-2.9
SNZO	**South Karori**	**3.38**	**200**	PN	Pn	16 12 05.0	-2.8
TCW	**Tory Channel**	**3.42**	**206**	P	Pn	16 12 05.6	-2.8
TCW	**Tory Channel**	**3.42**	**206**	PN	Pn	16 12 05.6	-2.8
TUWZ	**Tuamarina**	**3.73**	**207**	PN	Pn	16 12 09.1	-3.2
NNZ	**Nelson**	**3.78**	**215**	P	Pn	16 12 09.7	-3.3
NNZ	**Nelson**	**3.78**	**215**	PN	Pn	16 12 09.7	-3.3
QRZ	**Quartz Range**	**3.93**	**226**	*e*P	Pn	16 12 11.2	-3.7
QRZ	**Quartz Range**	**3.93**	**226**	PN	Pn	16 12 11.2	-3.7
BSWZ	**Blackbirch Sta**	**4.01**	**206**	P	Pn	16 12 12.7	-3.2
BSWZ	**Blackbirch Sta**	**4.01**	**206**	PN	Pn	16 12 12.7	-3.2
THZ	**Tophouse**	**4.43**	**214**	*e*P	Pn	16 12 17.6	-3.9
THZ	**Tophouse**	**4.43**	**214**	PN	Pn	16 12 17.6	-3.9
KHZ	**Kahutara**	**4.75**	**205**	P	Pn	16 12 22.0	-3.6
KHZ	**Kahutara**	**4.75**	**205**	PN	Pn	16 12 22.0	-3.5
DSZ	**Denniston Nort**	**4.96**	**222**	*e*P	Pn	16 12 24.0	-4.3
DSZ	**Denniston Nort**	**4.96**	**222**	*e*PN	Pn	16 12 23.7	-4.6
LTZ	**Lake Taylor**	**5.54**	**212**	*e*PN	Pn	16 12 31.5	-4.5
CRLZ	**Canterbury Las**	**6.08**	**206**	PN	Pn	16 12 37.8	-5.4
MQZ	**McQueen's Vall**	**6.19**	**205**	*e*P	Pn	16 12 39.1	-5.5
MQZ	**McQueen's Vall**	**6.19**	**205**	PN	Pn	16 12 39.1	-5.5
RPZ	**Rata Peaks**	**6.81**	**213**	*e*P	Pn	16 12 48.3	-4.6
RPZ	**Rata Peaks**	**6.81**	**213**	PN	Pn	16 12 48.3	-4.6
LBZ	**Lake Benmore**	**7.73**	**214**	*e*P	Pn	16 12 59.7	-5.3
LBZ	**Lake Benmore**	**7.73**	**214**	PN	Pn	16 12 59.7	-5.3
ODZ	**Otahua Downs**	**8.07**	**209**	*e*P	Pn	16 13 04.8	-4.8
ODZ	**Otahua Downs**	**8.07**	**209**	PN	Pn	16 13 04.8	-4.8
JCZ	**Jackson Bay**	**8.18**	**221**	*e*P	Pn	16 13 06.2	-4.9
TUZ	**Tuapeka**	**9.22**	**210**	*e*P	Pn	16 13 20.3	-4.6

IDC 14 16:18:31.0±2.8, 652S×10591E, h0km, mb3.5/6, mb1 3.7/6, mb1mx3.6/19, mbtmp3.5/6, Error ellipse: s-maj=119.9km s-min=19.6km az=55.0, Sunda Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**22.42**	**123**	P	P	16 23 32.3	+0.9
	1.6nm,0.8s,baz=310,slow=8.1,SNR=4.8						
WRA	**Warramunga Arr**	**30.65**	**119**	P	P	16 24 48.2	+0.9
	0.3nm,0.5s,baz=289,slow=12,SNR=5.1						
ASAR	**Alice Springs**	**31.84**	**125**	P	P	16 24 57.7	-0.2
	0.3nm,0.5s,baz=299,slow=7.9,SNR=10						
STKA	**Stephens Creek**	**41.76**	**132**	P	P	16 26 21.2	-1.0
	2.3nm,0.7s,baz=307,slow=10,SNR=6.3						
SONM	**Songino Array**	**54.12**	**0**	P	P	16 27 56.3	-1.3
	0.2nm,0.6s,baz=191,slow=6.8,SNR=3.0						
MKAR	**Makanchi Array**	**57.08**	**341**	P	P	16 28 20.3	+1.4
	0.1nm,0.3s,baz=161,slow=5.7,SNR=2.9						

IDC 14 16:42:45.7±7.7, 530S×15265E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.5/14, mbtmp3.6/4, Error ellipse: s-maj=248.7km s-min=29.2km az=109.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.00**	**229**	P	P	16 47 51.0	-1.4
	0.6nm,0.4s,baz=60,slow=9.5,SNR=14						
ASAR	**Alice Springs**	**25.68**	**223**	P	P	16 48 18.9	+1.3
	0.2nm,0.6s,baz=60,slow=9.4,SNR=9.7						
MKAR	**Makanchi Array**	**80.60**	**319**	P	P	16 55 01.4	+1.2
	0.8nm,0.7s,baz=102,slow=5.6,SNR=8.0						
ZALV	**Zalesovo Beam**	**81.48**	**326**	P	P	16 55 03.7	-1.1
	0.5nm,0.3s,baz=121,slow=7.0,SNR=2.4						

IDC 14 16:44:44.5±11.0, 333S×14586E, h0km, mb3.6/2, mb1 3.8/3, mb1mx3.4/13, mbtmp3.6/3, ML3.4/1, Error ellipse: s-maj=176.9km s-min=93.7km az=10.0, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.98**	**213**	P	Pn	16 49 20.1	-0.2
	0.1nm,0.3s,baz=35,slow=10,SNR=9.2						
ASAR	**Alice Springs**	**23.29**	**209**	P	P	16 49 52.2	-1.9
	0.8nm,1.0s,baz=42,slow=8.3,SNR=3.0						
STKA	**Stephens Creek**	**28.68**	**188**	P	P	16 50 44.3	+1.1
	1.2nm,0.8s,baz=4.4,slow=13,SNR=2.9						

*IDC **14** 16:46:19.0±0.9, 2102S×16882E, h0km, mb4.5/8, mb1 4.7/8, mb1mx4.5/14, mbtmp4.5/8, MS3.7/5, Ms1 3.7/5, ms1mx3.3/26, Error ellipse: s-maj=29.7km s-min=21.9km az=140.0*

*LDG **14** 16:46:21.8±0.4, 2054S×16846E, h10km, Mb5.0/2, Error ellipse: s-maj=31.7km s-min=5.7km az=129.0*

*BJI **14** 16:46:21.2, 2103S×16937E, h36km, mB5.2, mb4.9, Ms5.1, Msz4.7*

*ISCJB **14** 16:46:23.4±0.4, 2101S±007×16871E±007, h37km, mb4.8/39, MS4.0/8, Error ellipse: s-maj=12.0km s-min=6.5km az=143.5*

*NEIC **14** 16:46:24.7±0.3, 2094S×16875E, mb4.9/24, Error ellipse: s-maj=12.4km s-min=7.0km az=150.0*

*MOS **14** 16:46:24.0±1.3, 2090S×16862E, h38km, mb5.1/12, Error ellipse: s-maj=14.2km s-min=12.9km az=178.4*

*SZGRF **14** 16:46:25.3, 2027S×17006E, h40km, Vanuatu Islands*

ISC 14 16:46:25.3±0.4, 2101S±007×16873E±007, h39km, h39km±1.1km: pP-P, n130, σ1§01/73, mb4.8/39, MS4.0/8, 5C-4D, Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**2.38**	**243**	*e*P	**Pn**	**16 46 59.3**	**-2.5**
DZM				*e*S	**Sn**	**16 47 28.8**	**-1.0**
CTA	**Charters Tower**	**21.07**	**268**	*e*P	**P**	**16 51 08.0**	**+1.7**
	16nm,0.9s,mb4.4						
CTA	**Charters Tower**	**21.07**	**268**	*e*P	**P**	**16 51 08.0**	**+1.7**
CTA				pmax	pmax		
	comp=Z,16nm,0.9s						
CTA	**Charters Tower**	**21.07**	**268**	P	**P**	**16 51 07.3**	**+1.0**
	comp=Z,20nm,0.9s,mb4.5,baz=87,slow=15,SNR=6.4						
CTA				LR	LR	16 56 58.2	
	comp=Z,85nm,22.0s,MS3.1,baz=77,slow=30						
CTAO	**Charters Tower**	**21.07**	**268**	*e*P	**P**	**16 51 04.2**	**-2.1**
	comp=Z,26nm,0.9s,mb4.6						
CTAO	**Charters Tower**	**21.07**	**268**	*e*P	**P**	**16 51 04.2**	**-2.1**
CTAO				pmax	pmax		
	comp=Z,26nm,0.9s,mb4.6						
CNB	**Canberra Magne**	**22.19**	**226**	*e*P	**P**	**16 51 21.0**	**+2.9**
	comp=Z,12nm,0.9s,mb4.3						
STKA	**Stephens Creek**	**26.53**	**240**	*e*P	**P**	**16 52 00.3**	**+0.9**
	comp=Z,5.6nm,0.8s,mb4.2						
STKA	**Stephens Creek**	**26.53**	**240**	P	**P**	**16 51 59.8**	**+0.3**
	comp=Z,5.6nm,0.7s,mb4.2,baz=78,slow=12,SNR=16						
STKA				LR	LR	17 01 49.3	
	comp=Z,209nm,19.9s,MS3.7,baz=21,slow=35						
WB2	**Warramunga Arr**	**32.19**	**266**	*e*P	**P**	**16 52 48.2**	**-1.6**
WRAB	**Tennant Creek**	**32.20**	**266**	*e*P	**P**	**16 52 50.2**	**+0.4**
	comp=Z,22nm,1.4s,mb4.8						
WRAB				*e*pP	pP	16 53 00.6	0.0
WRAB	**Tennant Creek**	**32.20**	**266**	*e*P	**P**	**16 52 50.2**	**+0.4**
WRAB				*e**PP	pP	16 53 00.6	-0.1
WRAB				pmax	pmax		
	comp=Z,22nm,1.4s,mb4.8						
WRA	**Warramunga Arr**	**32.20**	**266**	P	**P**	**16 52 48.7**	**-1.2**
	comp=Z,1.5nm,0.7s,mb3.9,baz=92,slow=8.0,SNR=14						
WRA				LR	LR	17 05 29.8	
	comp=Z,135nm,19.3s,MS3.6,baz=85,slow=36						
ASAR	**Alice Springs**	**32.28**	**259**	P	**P**	**16 52 50.0**	**-0.6**
	comp=Z,10.0nm,0.7s,mb4.7,baz=84,slow=9.4,SNR=96						
FORT	**Forrest**	**37.69**	**247**	*e*P	**P**	**16 53 37.5**	**+0.4**
	comp=Z,5.7nm,0.6s,mb4.5						
FORT				*e*	pP	16 53 48.0	0.0
PPT	**Papeete**	**39.42**	**92**	*e*LR	LR	17 04 36.0	
	comp=Z,150nm,30.0s						
PPT	**Papeete**	**39.42**	**92**	LR	LR	17 08 05.8	
	comp=Z,219nm,18.6s,MS4.0,baz=277,slow=33						
FITZ	**Fitzroy Crossi**	**40.62**	**266**	*e*P	**P**	**16 54 02.0**	**+0.2**
	comp=Z,17nm,1.2s,mb4.5						
FITZ	**Fitzroy Crossi**	**40.62**	**266**	LR	LR	17 09 33.1	
	comp=Z,91nm,20.3s,MS3.6,baz=315,slow=34						
MBWA	**Marble Bar**	**45.57**	**261**	*e*P	**P**	**16 54 42.5**	**+0.7**
	comp=Z,32nm,1.1s,mb5.2						
MBWA				*e*pP	pP	16 54 52.6	-0.3
KLBR	**Kellerberrin**	**46.54**	**246**	*e*P	**P**	**16 54 48.9**	**-0.4**
	comp=Z,125nm,1.6s,mb5.6						
KLBR				*e*	pP	16 54 59.4	-1.1
NWAO	**Narrogin (SRO)**	**47.00**	**244**	P	**P**	**16 54 53.5**	**+0.7**
	comp=Z,34nm,1.2s,mb5.2						
NWAO	**Narrogin (SRO)**	**47.00**	**244**	P	**P**	**16 54 53.5**	**+0.6**
NWAO				pmax	pmax		
	comp=Z,34nm,1.2s						
VNDA	**Vanda**	**56.66**	**182**	P	**P**	**16 56 04.2**	**0.0**
	comp=Z,2.8nm,1.1s,mb4.2						
VNDA	**Vanda**	**56.66**	**182**	P	**P**	**16 56 04.2**	**0.0**
VNDA				pmax	pmax		
	comp=Z,3.0nm,1.1s						
VNDA	**Vanda**	**56.66**	**182**	P	**P**	**16 56 03.3**	**-0.9**
	comp=Z,0.4nm,0.3s,mb3.9,baz=352,slow=9.9,SNR=8.1						
SBA	**Scott Base**	**56.90**	**180**	*e*P	**P**	**16 56 07.2**	**+1.3**
SBA				*e*pP	pP	16 56 19.0	+1.7
KKM	**Kota Kinabalu**	**58.12**	**292**	*e*P	**P**	**16 56 15.3**	**-0.1**
KKM				*e*pP	pP	16 56 26.7	-0.2
CASY	**Casey**	**58.32**	**204**	*e*P	**P**	**16 56 15.3**	**-0.7**
CASY				*e*pP	pP	16 56 27.1	-0.4
KSM	**Kuching**	**61.32**	**284**	*e*P	**P**	**16 56 37.3**	**-0.2**
KSM				*e*pP	pP	16 56 48.4	-0.5
MJAR	**Matsushiro Arr**	**64.09**	**333**	P	**P**	**16 56 54.6**	**-0.8**
	comp=Z,4.9nm,0.9s,mb4.5,baz=170,slow=7.9,SNR=10						
MAJO	**Matsushiro**	**64.10**	**333**	*e*P	**P**	**16 56 54.4**	**-1.1**
	comp=Z,16nm,1.1s,mb5.0						
MAJO	**Matsushiro**	**64.10**	**333**	*e*P	**P**	**16 56 54.4**	**-1.0**
MAJO				pmax	pmax		
	comp=Z,16nm,1.1s,mb5.0						
MAT	**Matsushiro**	**64.10**	**333**	P	**P**	**16 56 54.9**	**-0.5**
NJ2	**Nanjing**	**71.15**	**317**	*e*P	**P**	**16 57 41.8**	**+1.7**
NJ2				AMB	AMB		
	comp=Z,20nm,0.5s,mb5.3						
YSS	**Yuzh-Sakhalins**	**71.59**	**342**	*e*P	**P**	**16 57 42.7**	**+0.3**
	comp=Z,9.4nm,0.8s,mb4.8						
YSS	**Yuzh-Sakhalins**	**71.59**	**342**	*e*P	**P**	**16 57 42.8**	**+0.4**
YSS				pmax	pmax		
	comp=Z,18nm,1.5s,mb4.8						
KULM	**Kulim**	**71.66**	**283**	P	**P**	**16 57 42.8**	**-0.8**
MDJ	**Mudanjiang**	**74.45**	**332**	P	**P**	**16 58 00.3**	**+0.9**
MDJ				AMB	AMB		
	comp=Z,16nm,1.0s,mb4.9						
MDJ				AMB	AMB		
	comp=Z,219nm,4.1s						
CN2	**Changchun**	**75.72**	**329**	*e*P	**P**	**16 58 07.5**	**+0.8**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.9						
GYA	**Guiyang**	**76.44**	**305**	P	**P**	**16 58 11.8**	**+0.6**
GYA				AP	pP	16 58 24.6	+1.6
GYA				XP	sP	16 58 29.4	+1.9
GYA				S	S	17 07 55.0	+0.8
GYA				SKS		17 08 16.5	
GYA				PS		17 08 38.4	
GYA				AMB	AMB		
	comp=Z,20nm,1.0s,mb5.0						
GYA				AMB	AMB		
	comp=Z,110nm,6.4s						
GYA				LR	LR		
	comp=N,460nm,19.6s,MS4.9						
GYA				LR	LR		
	comp=E,390nm,18.8s,MS4.9						
GYA				LR	LR		
	comp=Z,440nm,19.9s,MS4.8						
KMI	**Kunming**	**78.81**	**302**	P	**P**	**16 58 26.4**	**+1.9**
KMI				AP	pP	16 58 36.1	-0.2
KMI				XP	sP	16 58 40.8	+0.1
KMI				AMB	AMB		
	comp=Z,8.0nm,0.9s,mb4.7						
KMI				AMB	AMB		
	comp=Z,93nm,6.0s						
CD2	**Chengdu**	**80.94**	**308**	*e*P	**P**	**16 58 36.6**	**+0.7**
CD2				AP	pP	16 58 50.9	+3.2
CD2				XS	sS	17 08 59.3	-2.5
CD2				SS	SS	17 13 59.6	+2.3
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.8						
CD2				AMB	AMB		
	comp=Z,20nm,5.6s						

HHC	**Hu-ho-hao-te**	**81.25**	**320**	*e*P	**P**	**16 58 39.4**	**+2.1**
HHC				AP	pP	16 58 49.3	+0.1
HHC				XP	sP	16 58 53.8	+0.2
HHC				S	S	17 08 47.8	+2.9
HHC				SKS		17 08 50.8	
HHC				XS	sS	17 09 02.8	-1.9
HHC				PS		17 09 38.0	
HHC				SS	SS	17 14 04.8	+3.2
HHC				AMB	AMB		
	comp=Z,22nm,0.4s,mb5.4						
HHC				AMB	AMB		
	comp=Z,208nm,5.0s						
HHC				LR	LR		
	comp=N,149nm,5.7s						
HHC				LR	LR		
	comp=E,158nm,5.7s						
HHC				LR	LR		
	comp=Z,114nm,10.0s,MS4.5						
LZH	**Lanzhou**	**83.56**	**312**	*e*P	**P**	**16 58 51.3**	**+1.8**
LZH				AP	pP	16 59 02.8	+1.4
LZH				XP	sP	16 59 06.4	+0.6
LZH				PP	PP	17 02 06.5	+3.9
LZH				SKS		17 09 06.8	
LZH				*e*SS	SS	17 14 40.3	+4.2
LZH				AMB	AMB		
	comp=Z,19nm,1.4s,mb5.0						
LZH				AMB	AMB		
	comp=Z,91nm,8.7s						
LZH				LR	LR		
	comp=N,326nm,16.7s						
LZH				LR	LR		
	comp=Z,507nm,19.2s,MS4.9						
SEY	**Seymchan**	**84.65**	**353**	*i* P	**P**	**16 58 53.3**	**-1.0**
GAMB	**Gambell**	**85.88**	**9**	*e*P	**P**	**16 59 00.2**	**-0.3**
	comp=Z,11nm,1.0s,mb5.1						
GAMB				*e*pP	pP	16 59 12.0	-0.4
GTA	**Gaotai**	**88.00**	**314**	*e*P	**P**	**16 59 12.6**	**+1.2**
GTA				AP	pP	16 59 23.6	+0.2
GTA				XP	sP	16 59 29.1	+1.4
GTA				PP	PP	17 02 44.8	+6.3
GTA				S	S	17 09 57.1	+5.0
GTA				XS	sS	17 10 15.0	+2.9
GTA				AMB	AMB		
	comp=Z,4.0nm,0.9s,mb4.7						
ULN	**Ulaanbaatar**	**88.00**	**324**	*e*P	**P**	**16 59 11.9**	**+0.7**
	comp=Z,24nm,1.4s,mb5.2						
ULN				*e*pP	pP	16 59 23.6	+0.5
ULN				*e*		16 59 30.6	
ULN	**Ulaanbaatar**	**88.00**	**324**	*e*P	**P**	**16 59 11.9**	**+0.8**
ULN				*e**PP	pP	16 59 23.6	+0.5
ULN				*e*		16 59 30.6	
ULN				pmax	pmax		
	comp=Z,24nm,1.4s,mb5.2						
VNA2	**Neumayer--Watz**	**88.28**	**181**	*e*P	**P**	**16 59 12.3**	**+0.1**
	baz=188,slow=4.5						
VNA2				*e*		16 59 14.6	
VNA2				*e*	pP	16 59 24.5	+0.3
VNA2				*e*		16 59 28.7	
SONM	**Songino Array**	**88.34**	**323**	P	**P**	**16 59 13.1**	**+0.3**
	comp=Z,4.8nm,0.8s,mb4.8,baz=146,slow=5.2,SNR=27						
OHCM	**Honcut**	**88.54**	**47**	*e*P	**P**	**16 59 13.3**	**-0.6**
OHCM				*e*pP	pP	16 59 23.1	-2.8
VNA1	**Neumayer--Stat**	**88.57**	**181**	*e*P	**P**	**16 59 13.9**	**+0.3**
VNA1				*e*		16 59 16.8	
VNA1				*e*	pP	16 59 25.5	-0.1
VNA1				*e*		16 59 30.2	
CMB	**Columbia Colle**	**88.68**	**48**	*e*P	**P**	**16 59 14.4**	**-0.2**
	comp=Z,10nm,1.1s,mb5.1						
CMB				*e*pP	pP	16 59 26.4	-0.3
CMB	**Columbia Colle**	**88.68**	**48**	*e*P	**P**	**16 59 14.4**	**-0.2**
CMB				*e**PP	pP	16 59 26.4	-0.3
CMB				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb5.1						
BILL	**Bilibino**	**88.80**	**359**	*e*P	**P**	**16 59 13.5**	**-1.0**
	comp=Z,9.4nm,1.3s,mb5.0						
BILL	**Bilibino**	**88.80**	**359**	*e*P	**P**	**16 59 13.4**	**-1.1**
BILL				pmax	pmax		
	comp=Z,11nm,1.6s,mb4.9						
ISA	**Isabella**	**88.95**	**51**	*e*P	**P**	**16 59 16.0**	**0.0**
	comp=Z,15nm,1.3s,mb5.2						
ISA				*e*pP	pP	16 59 27.5	-0.5
ISA	**Isabella**	**88.95**	**51**	*e*P	**P**	**16 59 16.0**	**0.0**
ISA				*e**PP	pP	16 59 27.5	-0.5
ISA				pmax	pmax		
	comp=Z,15nm,1.3s,mb5.2						
HUMO	**Hull Mountain**	**89.17**	**43**	*e*P	**P**	**16 59 17.0**	**+0.2**
	comp=Z,15nm,1.1s,

BOJS			*i* PKPab	PKPab	17 06 15.0	+8.6
BOJS			*e*		17 06 52.7	
MEM	**Membach**	**147.47 339**	PKP	PKPdf	17 06 03.6	+1.2
JAVS	**Javornik**	**147.66 326**	*i* PKPbc	PKPbc	17 06 05.0	-0.6
STU	**Stuttgart**	**147.82 334**	*e*PKPbc	PKPbc	17 06 06.2	+0.3
BCLA	**Clavier**	**147.87 340**	PKP	PKPbc	17 06 06.6	+0.6
SQTA	**Sankt Quirin**	**148.13 330**	⇓*i*P	PKPbc	17 06 06.9	+0.1
WLF	**Walferdange**	**148.23 338**	*e*PKPbc	PKPbc	17 06 07.1	+0.1
WLF			*ep*PKPdf	pPKPdf	17 06 19.8	+3.7
WLF	**Walferdange**	**148.23 338**	PKP	PKPbc	17 06 06.5	-0.5
WLF	**Walferdange**	**148.23 338**	*e*PKPbc	PKPbc	17 06 07.4	+0.4
GIVF	**Givet**	**148.30 340**	*e*PKP1	PKPbc	17 06 06.6	-0.6
DOU	**Dourbes**	**148.37 340**	PKP	PKPbc	17 06 07.1	-0.3
BAIF	**Baives**	**148.53 341**	*e*PKP1	PKPbc	17 06 07.2	-0.6
	comp=Z,14nm,1.0s					
DAVA	**Damuels**	**148.68 332**	⇑*i*P	PKPdf	17 06 08.6	+4.1
CDF	**Champ du Feu**	**148.87 336**	*e*PKP1	PKPbc	17 06 08.0	-0.7
	comp=Z,11nm,0.9s					
HAU	**Haudompre**	**149.55 336**	*e*PKP1	PKPbc	17 06 09.8	-0.6
	comp=Z,16nm,0.9s					
MEZF	**Maizieres J'vi**	**149.60 338**	*e*PKP1	PKPbc	17 06 10.4	-0.1
	comp=Z,40nm,1.1s					
CABF	**La Chapelle**	**150.81 335**	*e*PKP1	PKPbc	17 06 13.1	-0.4
	comp=Z,28nm,1.1s					
FLN	**La Foliniere**	**150.99 345**	*e*PKP1	PKPbc	17 06 12.5	-1.3
	comp=Z,18nm,1.0s					
LDF	**La Druitiere**	**151.06 345**	*e*PKP1	PKPbc	17 06 12.7	-1.3
	comp=Z,9.7nm,1.0s					
LOR	**Lormes**	**151.07 338**	*e*PKP1	PKPbc	17 06 14.1	0.0
	comp=Z,16nm,1.1s					
SSF	**Saint Saulge**	**151.37 339**	*e*PKP1	PKPbc	17 06 14.1	-0.7
	comp=Z,10nm,0.9s					
LPL	**La Plagne**	**151.43 333**	*e*PKP1	PKPbc	17 06 15.6	+0.6
	comp=Z,5.7nm,0.6s					
GRR	**Gorron**	**151.43 345**	*e*PKP1	PKPbc	17 06 13.8	-1.1
	comp=Z,6.3nm,0.8s					
LPG	**La Plagne**	**151.44 333**	*e*PKP1	PKPbc	17 06 15.7	+0.7
ORIF	**Oris-en-Rattie**	**152.27 333**	*e*PKP1	PKPbc	17 06 16.2	-0.7
	comp=Z,12nm,0.8s					
TORD	**Torodi Ar. Bea**	**165.36 240**	PKP	PKPdf	17 06 25.1	-1.3
	comp=Z,1.3nm,0.9s,baz=237,slow=0.8,SNR=6.0					

IDC ***14*** *16:55:27.5±0.9, 12.17N×144.24E, h0km, mb3.8/10, mb1 4.0/10, mb1mx3.9/19, mbtmp3.8/10, MS4.0/3, Ms1 4.0/3, ms1mx3.4/33, Error ellipse: s-maj=31.4km s-min=15.5km az=101.0*
ISCJB ***14*** *16:55:30.4±0.6, 12.09N±0.07×144.2E±0.1, h33km, mb4.1/18, MS4.0/3, Error ellipse: s-maj=19.5km s-min=7.7km az=18.9*
NEIC ***14*** *16:55:32.1±0.6, 12.10N×144.31E, h35km, mb4.6/8, Error ellipse: s-maj=21.3km s-min=8.9km az=99.0*

ISC 14 16:55:28.5±6.1, 12.10N±0.07×144.3E±0.1, h9km±38km, n24, σ0.90/25, mb4.1/18, MS4.0/3, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.58**	**21**	*e*Pn	**Pn**	**16 55 56.6**	**-0.2**
GUMO				Pn	**Pn**	**16 55 56.8**	**+0.1**
GUMO				*e*Sn	**Sn**	**16 56 15.9**	**-1.4**
GUMO				Sn	**Sn**	**16 56 17.4**	**0.0**
GUMO	**Guam**	**1.58**	**21**	Pn	**Pn**	**16 55 56.8**	**+0.1**
	95nm,0.3s,baz=175,slow=8.2,SNR=64						
GUMO				Sn	**Sn**	**16 56 17.4**	**+0.1**
	284nm,0.3s,baz=71,slow=23,SNR=32						
CBIJ	**Chichi jima**	**15.05**	**353**	LR	LR	17 04 03.6	
	comp=Z,11nm,19.7s,baz=162,slow=34						
MJAR	**Matsushiro Arr**	**24.95**	**348**	P	**P**	**17 00 51.4**	**-0.8**
	0.4nm,0.6s,mb3.1,baz=104,slow=41,SNR=3.9						
MJAR				LR	LR	17 10 29.4	
	comp=Z,109nm,18.4s,MS3.4,baz=180,slow=36						
MAJO	**Matsushiro**	**24.95**	**348**	P	**P**	**17 00 52.3**	**+0.1**
	31nm,1.5s,mb4.6						
KSRS	**Korea Array**	**29.20**	**333**	P	**P**	**17 01 30.4**	**-0.1**
	0.9nm,0.8s,mb3.6,baz=128,slow=9.7,SNR=3.1						
WRAB	**Tennant Creek**	**33.30**	**197**	*e*P	**P**	**17 02 06.8**	**+0.1**
	3.1nm,0.8s,mb4.3						
WRA	**Warramunga Arr**	**33.32**	**197**	P	**P**	**17 02 07.1**	**+0.3**
	1.0nm,0.7s,mb3.9,baz=20,slow=9.9,SNR=12						
ASAR	**Alice Springs**	**36.97**	**196**	P	**P**	**17 02 39.8**	**+1.4**
	1.0nm,0.6s,mb3.9,baz=20,slow=10,SNR=37						
MBWA	**Marble Bar**	**40.93**	**216**	P	**P**	**17 03 09.6**	**-1.9**
	17nm,1.4s,mb4.5						
SONM	**Songino Array**	**47.63**	**326**	P	**P**	**17 04 05.4**	**+0.5**
	0.6nm,0.9s,mb3.6,baz=153,slow=9.7,SNR=2.9						
NWAO	**Narrogin (SRO)**	**51.70**	**209**	P	**P**	**17 04 34.5**	**-1.6**
	17nm,1.2s,mb4.9						
MK31	**Makanchi Array**	**62.18**	**317**	*e*P	**P**	**17 05 50.5**	**+0.2**
MKAR	**Makanchi Array**	**62.18**	**317**	P	**P**	**17 05 50.5**	**+0.2**
	0.7nm,0.5s,mb4.0,baz=89,slow=8.8,SNR=8.3						
ZALV	**Zalesovo Beam**	**62.51**	**325**	P	**P**	**17 05 52.1**	**-0.3**
	0.5nm,0.4s,mb4.0,baz=100,slow=6.6,SNR=5.2						
KURK	**Kurchatov**	**65.36**	**320**	*e*P	**P**	**17 06 11.2**	**0.0**
	5.8nm,0.9s,mb4.6						
KDAK	**Kodiak Island**	**65.62**	**32**	LR	LR	17 31 18.4	
	comp=Z,172nm,18.6s,MS4.3,baz=107,slow=33						
UCH	**Uchtor**	**67.02**	**311**	P	**P**	**17 06 23.4**	**+1.4**
	5.0nm,1.0s,mb4.5						
AML	**Almayashu**	**67.62**	**311**	P	**P**	**17 06 27.2**	**+1.4**
	3.3nm,0.8s,mb4.4						
AML				*e*		17 06 39.6	
BRVK	**Borovoye**	**70.81**	**322**	*e*P	**P**	**17 06 45.3**	**-0.1**
	6.7nm,1.1s,mb4.5						
YKA	**Yellowknife Ar**	**84.43**	**27**	P	**P**	**17 08 01.2**	**-0.1**
	0.4nm,0.5s,mb3.8,baz=288,slow=5.0,SNR=9.6						
NVAR	**Mina Array Bea**	**88.28**	**51**	P	**P**	**17 08 21.9**	**+1.2**
	0.5nm,0.5s,mb4.0,baz=268,slow=6.9,SNR=2.3						
FINES	**FINESS Array B**	**92.27**	**335**	P	**P**	**17 08 37.4**	**-1.4**
	1.0nm,0.8s,mb4.2,baz=64,slow=4.4,SNR=7.0						
ASF	**Jabal al Asfar**	**97.91**	**305**	LR	LR	17 56 12.0	
	comp=Z,133nm,20.8s,MS4.4,baz=253,slow=37						

THE ***14*** *16:57:44.2, 38.39N×20.40E, h6km, ML2.7*
ISCJB ***14*** *16:57:45.3±1.0, 38.36N±0.04×20.48E±0.09, h7km±10km, Error ellipse: s-maj=12.1km s-min=5.7km az=15.6*
NEIC ***14*** *16:57:45.8, 38.25N×20.39E, h15km, MD3.3(ATH), After ATH.*
ATH ***14*** *16:57:45.8, 38.25N×20.39E, h15km±1km, MD3.3/5*
CSEM ***14*** *16:57:46.9±0.3, 38.36N×20.56E, h2km, MD3.3, Error ellipse: s-maj=12.6km s-min=5.2km az=70.0*

ISC 14 16:57:45.6±1.1, 38.38N±0.03×20.4E±0.1, h6km±11km, n10, σ1.9/27/16, 2D, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.23**	**150**	⇓*i*PB	**Pg**	**16 57 49.8**	**-0.4**
VLS				*e*SB	**Sg**	**16 57 54.2**	**+0.9**
LKD	**Levkas**	**0.36**	**27**	*e*Pg	**Pg**	**16 57 51.3**	**-1.4**
LKD				*e*Sg	**Sg**	**16 57 56.9**	**-0.6**
KFL	**Anninata**	**0.38**	**135**	*e*Pg	**Pg**	**16 57 52.2**	**-0.8**
KFL				*e*Sg	**Sg**	**16 57 58.3**	**+0.2**
KFL	**Anninata**	**0.38**	**135**	*e*Pg	**Pg**	**16 57 52.2**	**-0.8**
KFL				*e*Sg	**Sg**	**16 57 58.3**	**+0.2**
RLS	**Riolos of Patr**	**0.87**	**111**	*e*PB	**Pb**	**16 58 01.8**	**-1.3**
IGT	**Igoumenitsa**	**1.15**	**356**	*e*Pg	**Pg**	**16 58 05.5**	**-2.3**
IGT	**Igoumenitsa**	**1.15**	**356**	*e*Pg	**Pg**	**16 58 05.4**	**-2.3**
KEK	**Kerkira**	**1.42**	**340**	*e*PN	**Pg**	**16 58 14.7**	**+1.8**
KEK				*e*SN	**Sg**	**16 58 35.5**	**+4.2**
ITM	**Ithomi**	**1.68**	**135**	*e*PN	**Pn**	**16 58 16.1**	**+0.6**
THL	**Klokotos Trika**	**1.70**	**46**	⇓*i*PN	**Pg**	**16 58 18.9**	**+0.6**
THL				*e*SN	**Sg**	**16 58 42.9**	**+2.5**

IDC 14 17:14:16.6±8.8, 018N×123.64E, h122km±85km, mb3.1/5, mb1 3.2/6, mb1mx3.1/17, mbtmp3.1/6, ML3.7/1, Error ellipse: s-maj=98.9km s-min=19.6km az=65.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**18.27**	**174**	P	P	17 18 20.0	-0.9
	0.2nm,0.3s,baz=350,slow=14,SNR=8.1						
WRA	**Warramunga Arr**	**22.58**	**153**	P	P	17 19 06.5	-0.7
	0.5nm,0.6s,baz=332,slow=10,SNR=12						
ASAR	**Alice Springs**	**25.71**	**158**	P	P	17 19 36.9	+1.2
	0.2nm,0.4s,baz=337,slow=7.9,SNR=7.8						
ASAR				PcP	PcP	17 23 02.2	-0.7
	0.1nm,0.4s,baz=354,slow=2.2,SNR=5.4						
STKA	**Stephens Creek**	**36.13**	**154**	P	P	17 21 06.9	-0.1
	0.7nm,0.4s,baz=313,slow=13,SNR=3.5						
SONM	**Songino Array**	**49.78**	**345**	P	P	17 22 57.3	+0.5
	0.9nm,0.7s,baz=161,slow=8.8,SNR=4.0						
MKAR	**Makanchi Array**	**58.80**	**328**	P	P	17 24 02.0	-0.1
	0.5nm,0.4s,baz=122,slow=8.7,SNR=12						

SZGRF ***14*** *17:22:33.9, 43.60N×98.80E, h33km, mb4.9, Mongolia*
LDG ***14*** *17:22:35.3±0.2, 45.07N×98.25E, h10km, Mb5.0/28, Ms4.3/10, Error ellipse: s-maj=19.7km s-min=7.0km az=21.0*
NNC ***14*** *17:22:37.4±2.8, 45.44N×98.29E, h0km, mb4.7, Error ellipse: s-maj=31.2km s-min=25.6km az=107.0*
BJI ***14*** *17:22:39.4, 45.44N×98.26E, h24km, mB4.9, mb4.6, ML5.5, Ms5.0, Msz4.7*
ISCJB ***14*** *17:22:39.8±0.1, 45.36N±0.02×98.26E±0.03, h24km, mb4.8/137, MS4.4/55, Error ellipse: s-maj=3.3km s-min=2.6km az=25.4*
IDC ***14*** *17:22:40.1±0.5, 45.25N×98.27E, h16km±3km, mb4.3/22, mb1 4.5/26, mb1mx4.5/29, mbtmp4.4/26, ML4.2/4, MS4.2/26, Ms1 4.2/26, ms1mx4.0/43, Error ellipse: s-maj=16.5km s-min=10.4km az=31.0*
NEIC ***14*** *17:22:41.3±0.2, 45.29N×98.29E, mb4.9/89, MS4.6/5, Error ellipse: s-maj=4.5km s-min=3.1km az=181.0*
MOS ***14*** *17:22:41.4±0.9, 45.30N×98.31E, h40km, mb5.1/61, MS4.5/20, Error ellipse: s-maj=6.6km s-min=4.2km az=122.0*
GCMT ***14*** *17:22:41.3±0.3, 45.44N×98.31E, h36km±1km, MW4.9/59, Moment Tensor Solution. s15,c16; s59,c98; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.57±.20; $M_{\theta\theta}$0.88±.14; $M_{\phi\phi}$-1.45±.13; $M_{r\theta}$0.91±.14; $M_{\phi\phi}$2.37±.09; $M_{\phi r}$0.54±.11; Best double couple: $M_0$2.88600×10^{16} NP1:ϕ_s10.00000°, δ72.00000°, λ162.00000°. NP2: ϕ_s106.00000°, δ73.00000°, λ19.00000°. Principal axes: T 2.8450, Plg25.0000°, Azm328.0000°; N 0.0780, Plg65.0000°, Azm147.0000°; P -2.9270, Plg0.0000°, Azm238.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 14 17:22:41.9±0.1, 45.34N±0.02×98.31E±0.03, h25km, h25km±1.3km: pP-P, n412, σ1.9/01/413, mb4.8/137, MS4.4/55, 43C-28D, Mongolia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTA	**Gaotai**	**6.03**	**169**	P	**Pn**	**17 24 09.4**	**0.0**
GTA				PG	**Pn**	**17 24 24.9**	**+15**
GTA				S	**Sn**	**17 25 14.8**	**-2.8**
GTA				Smax			
	comp=N,2μm,0.7s						
GTA				Smax			
	comp=E,4μm,0.9s						
GTA				LR	LR		
	comp=N,6μm,8.4s						
GTA				LR	LR		
	comp=E,11μm,6.8s						
GTA				LR	LR		
	comp=Z,8μm,9.5s						
ZAK	**Zakamensk**	**6.05**	**32**	*e*P	**Pn**	**17 24 12.0**	**+2.4**
ZAK				*e*S	**Sn**	**17 25 21.2**	**+3.2**
ZAK				pmax	pmax		
	comp=Z,516nm,0.8s						
ZAK				smax			
	comp=E,14μm,1.1s						
SONM	**Songino Array**	**6.11**	**63**	Pn	**Pn**	**17 24 11.3**	**+0.9**
	comp=E,57nm,0.3s,baz=242,slow=15,SNR=856						
SONM				Pg	Pn	17 24 31.3	+21
	comp=E,264nm,0.3s,baz=250,slow=19,SNR=30						
SONM				Lg		17 25 52.7	
	comp=E,561nm,0.3s,baz=235,slow=29,SNR=12						
SONM				LR	LR	17 26 43.9	
	comp=E,2μm,18.7s,baz=243,slow=40						
ULN	**Ulaanbaatar**	**6.53**	**64**	⇓*i*Pn	**Pn**	**17 24 16.6**	**+0.4**
ULN				*e*Pg	Pn	17 24 39.6	+23
MOY	**Mondy**	**6.58**	**15**	⇑*i*P	**Pn**	**17 24 19.9**	**+3.1**
MOY				*e*S	**Sn**	**17 25 31.6**	**+0.7**
MOY				pmax	pmax		
	comp=Z,465nm,0.6s						
MOY				smax			
	comp=N,9μm,0.9s						
TLY	**Talaya**	**7.26**	**27**	*e*Pn	**Pn**	**17 24 28.8**	**+2.5**
	comp=N,314nm,0.6s						
TLY				*e*Pg	Pn	17 24 52.1	+26
TLY				*e*Sg	Sn	17 26 29.3	+41
TLY	**Talaya**	**7.26**	**27**	*e*P	**Pn**	**17 24 28.8**	**+2.5**
TLY				pmax	pmax		
	comp=Z,314nm,0.6s						
WMQ	**Urumqi**	**7.73**	**262**	*e*P	**Pn**	**17 24 33.8**	**+1.1**
WMQ				S	**Sn**	**17 26 01.0**	**+1.6**
WMQ				Smax			
	comp=N,2μm,1.1s						
WMQ				Smax			
	comp=E,1μm,1.1s						
WMQ				LR	LR		
	comp=N,5μm,5.2s						
WMQ				LR	LR		
	comp=E,5μm,5.5s						
WMQ				LR	LR		
	comp=Z,4μm,7.9s						
BTO	**Baotou**	**9.80**	**115**	*e*P	**Pn**	**17 25 00.6**	**-0.5**
BTO				Smax			
	comp=N,160nm,0.9s						
BTO				Smax			
	comp=E,143nm,0.7s						
LZH	**Lanzhou**	**10.15**	**154**	⇑P	**Pn**	**17 25 09.3**	**+3.3**
LZH				AP		17 25 14.8	
LZH				PP		17 25 17.6	
LZH				XP		17 25 18.8	
LZH				*e*S	**Sn**	**17 27 02.3**	**+3.4**
LZH				XS		17 27 10.9	
LZH				SS		17 27 15.5	
LZH				AMB	AMB		
	comp=Z,121nm,1.3s						
LZH				AMB	AMB		
	comp=Z,253nm,4.2s						
LZH				LR	LR		
	comp=N,5μm,10.5s						
LZH				LR	LR		
	comp=Z,6μm,11.2s						
HHC	**Hu-ho-hao-te**	**10.68**	**110**	*e*P	**Pn**	**17 25 12.4**	**-0.8**
HHC				S	**Sn**	**17 27 08.6**	**-3.2**
HHC				LG1		17 28 15.5	
HHC				LG2		17 28 18.0	
HHC				LR	LR		
	comp=N,1μm,5.6s						
HHC				LR	LR		
	comp=E,1μm,4.3s						
HHC				LR	LR		
	comp=Z,597nm,4.7s						
MK31	**Makanchi Array**	**11.23**	**283**	⇑Pn	**Pn**	**17 25 21.8**	**+1.2**
	comp=Z,38nm,1.0s,baz=93,slow=14,SNR=48						
MK31				⇑Lg		17 28 30.1	
	comp=Z,427nm,1.1s,baz=96,slow=27,SNR=5.5						
MK31	**Makanchi Array**	**11.23**	**283**	*e*P	**Pn**	**17 25 20.7**	**+0.1**
MKAR	**Makanchi Array**	**11.23**	**283**	*i* P	**Pn**	**17 25 20.6**	**0.0**
MKAR				pmax	pmax		
	comp=Z,4.0nm,0.9s						
MKAR	**Makanchi Array**	**11.23**	**283**	Pn	**Pn**	**17 25 20.0**	**-0.6**
	comp=Z,0.2nm,0.3s,baz=92,slow=14,SNR=24						
MKAR				Lg		17 28 28.5	
	comp=Z,2.8nm,0.3s,baz=97,slow=28,SNR=5.3						
MKAR				LR	LR	17 29 52.8	
	comp=Z,892nm,21.8s,baz=91,slow=39						
CIT	**Chita**	**12.08**	**51**	*e*P	**Pn**	**17 25 35.9**	**+3.7**
CIT				pmax	pmax		
	comp=Z,314nm,1.3s						
ZAA0	**Zalesovo Array**	**12.25**	**319**	*e*Pn	**Pn**	**17 25 35.9**	**+1.4**
ZAA0				*e*		17 25 47.9	
ZALV	**Zalesovo Beam**	**12.25**	**319**	Pn	**Pn**	**17 25 35.5**	**+0.9**
	comp=Z,0.5nm,0.3s,baz=129,slow=12,SNR=73						
ZALV				Lg		17 29 01.8	
	comp=Z,0.8nm,0.3s,baz=121,slow=23,SNR=6.9						
ZALV				LR	LR	17 30 27.0	
	comp=Z,1μm,20.4s,baz=136,slow=38						
ZAL	**Zalesovo**	**12.26**	**319**	P	**Pn**	**17 25 35.5**	**+0.9**
NVS	**Novosibirsk**	**13.54**	**320**	*e*P	**Pn**	**17 25 52.5**	**+0.4**
NVS				*e*		17 28 24.2	
XAN	**Xi'an**	**13.92**	**141**	P	**Pn**	**17 25 56.8**	**-0.6**
XAN				LG1		17 29 38.8	
XAN				LG2		17 29 49.3	
XAN				AMB	AMB		
	comp=Z,7.0nm,0.7s						
XAN				AMB	AMB		
	comp=Z,110nm,4.6s						
XAN				LR	LR		
	comp=E,2μm,3.9s						
XAN				LR	LR		
	comp=Z,3μm,9.8s						
BJI	**Beijing**	**14.16**	**106**	P	**Pn**	**17 25 59.3**	**-1.4**
BJI				AMB	AMB		
	comp=Z,10.0nm,0.9s						
BJI				AMB	AMB		
	comp=Z,105nm,3.7s						
BJI				LR	LR		
	comp=N,11μm,6.6s						
BJI				LR	LR		
	comp=E,4μm,5.7s						
BJI				LR	LR		
	comp=Z,1μm,17.1s						
BJT	**Baijiatuau**	**14.17**	**106**	*e*P	**Pn**	**17 25 58.8**	**-2.0**
	comp=Z,13nm,0.8s						
BJT	**Baijiatuau**	**14.17**	**106**	*e*P	**Pn**	**17 25 58.8**	**-2.0**
BJT				pmax	pmax		
	comp=Z,13nm,0.8s						
KURK	**Kurchatov**	**14.21**	**299**	⇑Pn	**Pn**	**17 25 58.9**	**-2.5**
	comp=Z,33nm,1.1s						
KURK				⇓Lg		17 30 02.9	
	comp=Z,458nm,1.5s						
KURK	**Kurchatov**	**14.21**	**299**	⇑*e*Pn	**Pn**	**17 25 58.5**	**-2.9**
	comp=Z,66nm,1.0s						
KURK				*ep*P		17 26 08.1	
KURK	**Kurchatov**	**14.21**	**299**	⇑*e*P	**Pn**	**17 25 58.5**	**-2.8**
KURK				pmax	pmax		
	comp=Z,66nm,1.0s						
KURBB	**Kurchatov Arra**	**14.24**	**299**	⇑Pn	**Pn**	**17 25 59.1**	**-2.7**
	comp=Z,9.5nm,0.9s						
KURBB				⇑Lg		17 30 07.3	
	comp=Z,155nm,1.4s						
CD2	**Chengdu**	**15.03**	**162**	P	**Pn**	**17 26 15.3**	**+2.8**
CD2				AP	pP	17 26 21.1	-3.4
CD2				XP	sP	17 26 25.8	-2.0
CD2				PP		17 26 28.6	
CD2				S	**Sn**	**17 29 01.5**	**+3.4**
CD2				AMB	AMB		
	comp=Z,30nm,0.5s						
CD2				AMB	AMB		
	comp=Z,210nm,4.6s						
CD2				LR	LR		
	comp=N,4μm,9.6s						
CD2				LR	LR		
	comp=E,2μm,8.4s						
CD2				LR	LR		
	comp=Z,3μm,11.4s						
HIA	**Hailar**	**15.05**	**67**	*e*Pn	**Pn**	**17 26 10.8**	**-1.8**
	comp=Z,31nm,0.8s						
HIA				*ep*P	pP	17 26 22.5	-2.1
HIA	**Hailar**	**15.05**	**67**	*e*P	**Pn**	**17 26 10.8**	**-1.9**
HIA				pmax	pmax		
	comp=Z,31nm,0.8s						
BOD	**Bodaibo**	**15.79**	**32**	*e*P	**Pn**	**17 26 24.9**	**+2.6**
BOD				pmax	pmax		
	comp=Z,17nm,0.9s						
BOD				pmax	pmax		
	comp=Z,77nm,0.9s						
TKM2	**Tokmak 2**	**16.48**	**270**	Pn	**Pn**	**17 26 34.6**	**+3.4**
TKM2				Lg		17 31 20.4	
TKM2	**Tokmak 2**	**16.48**	**270**	P	**Pn**	**17 26 33.0**	**+1.9**
	comp=Z,1.3nm,0.4s						
TKM2	**Tokmak 2**	**16.48**	**270**	P	**Pn**	**17 26 33.1**	**+1.9**
TKM2				pmax	pmax		
	comp=Z,1.0nm,0.4s						
TKM2	**Tokmak 2**	**16.48**	**270**	P	**Pn**	**17 26 36.2**	**+5.0**
	SNR=6.2						
LSA	**Lhasa**	**16.60**	**202**	P	**Pn**	**17 26 34.0**	**+1.2**
LSA	**Lhasa**	**16.60**	**202**	*e*Pn	**Pn**	**17 26 33.0**	**+0.1**
	comp=Z,32nm,0.6s						
LSA	**Lhasa**	**16.60**	**202**	*e*P	**Pn**	**17 26 33.0**	**+0.2**
LSA				pmax	pmax		
	comp=Z,32nm,0.6s						
KZA	**Kyzart**	**16.98**	**267**	P	**Pn**	**17 26 42.0**	**+4.5**
	SNR=13						
KBK	**Karagaybulak**	**17.01**	**269**	P	**Pn**	**17 26 39.9**	**+2.0**
	SNR=11						
CHMS	**Chumysh**	**17.05**	**270**	P	**Pn**	**17 26 42.8**	**+4.4**
	SNR=11						
USP	**Ospenovka**	**17.16**	**272**	P	**Pn**	**17 26 41.2**	**+1.5**
	SNR=27						
FRU	**Bishkek**	**17.19**	**270**	*e*P	**Pn**	**17 26 42.0**	**+1.8**
FRU				pmax	pmax		
	comp=Z,200nm,2.0s						
AAK	**Ala-Archa**	**17.34**	**269**	P	**Pn**	**17 26 42.8**	**+0.9**
	SNR=9.6						
UCH	**Uchtor**	**17.45**	**268**	⇑*e*Pn	**Pn**	**17 26 44.5**	**+1.1**
	comp=Z,2μm,3.9s						
UCH	**Uchtor**	**17.45**	**268**	P	**Pn**	**17 26 46.3**	**+3.0**
	SNR=19						
EKS2	**Erkin-Say**	**17.83**	**270**	⇑*e*Pn	**Pn**	**17 26 48.9**	**+0.7**
	comp=Z,4.2nm,1.0s						
EKS2	**Erkin-Say**	**17.83**	**270**	P	**Pn**	**17 26 49.1**	**+0.9**
	SNR=82						
AML	**Almayashu**	**18.05**	**269**	⇑*e*Pn	**Pn**	**17 26 51.4**	**+0.6**
	comp=Z,6.3nm,0.2s						
VOSK	**Vostochnaya**	**19.30**	**302**	⇑Pn	**Pn**	**17 27 04.4**	**-1.4**
	comp=Z,43nm,1.0s						
VOSK				⇑Lg		17 32 49.8	
	comp=Z,1μm,2.5s						
CN2	**Changchun**	**19.37**	**85**	*e*P	**Pn**	**17 27 06.5**	**-0.2**
CN2				*e*AP	pP	17 27 12.9	+0.5
CN2				*e*XP	sP	17 27 16.8	+1.1
CN2				*e*S	**Sn**	**17 30 39.4**	**-3.7**
CN2				AMB	AMB		
	comp=Z,30nm,0.9s						
CN2				AMB	AMB		
	comp=Z,200nm,6.0s						
CN2				LR	LR		
	comp=N,3μm,12.0s						
CN2				LR	LR		
	comp=E,2μm,12.0s						
CN2				LR	LR		
	comp=Z,2μm,12.0s						
BVA0	**Borovoye Array**	**19.71**	**303**	Pn	**Pn**	**17 27 09.3**	**-1.4**
	comp=Z,12nm,1.0s,baz=109,slow=9.5,SNR=462						
BVA0				⇓Lg		17 32 52.7	
	comp=Z,40nm,1.9s,baz=127,slow=32,SNR=4.3						
BVAR	**Borovoye Array**	**19.71**	**303**	P	**Pn**	**17 27 09.2**	**-1.5**
	comp=Z,2.1nm,0.3s,baz=102,slow=9.3,SNR=136						
CHKZ	**Chkalovo**	**19.72**	**305**	⇑Pn	**Pn**	**17 27 09.0**	**-1.9**
	comp=Z,45nm,0.8s						
CHKZ				⇓Lg		17 32 58.1	
	comp=Z,214nm,1.8s						
BRVK	**Borovoye**	**19.78**	**303**	⇑*i*P	**Pn**	**17 27 09.8**	**-1.7**
	comp=Z,72nm,0.8s						
BRVK	**Borovoye**	**19.78**	**303**	⇑*i*P	**Pn**	**17 27 09.8**	**-1.7**
BRVK				pmax	pmax		
	comp=Z,72nm,0.8s						
NRGR	**Nerungri**	**19.97**	**46**	*e*P	**Pn**	**17 27 20.8**	**+7.0**
NRGR				S	Sn	17 31

CLNS pmax pmax
comp=N,6.0nm,0.9s
CLNS pmax pmax
comp=E,3.0nm,0.7s
CLNS pmax pmax
comp=Z,63nm,1.5s
CLNS pmax pmax
comp=N,42nm,1.7s
CLNS pmax pmax
comp=E,50nm,1.2s
CLNS smax
comp=E,102nm,12.4s
CLNS smax
comp=Z,105nm,10.4s
CLNS smax
comp=N,133nm,11.8s
CLNS MLR MLR
comp=Z,1µm,12.0s,MS4.5
CLNS MLR MLR
comp=N,300nm,11.0s,MS4.4
CLNS MLR MLR
comp=E,1µm,12.0s,MS4.4
KKN Kakani 20.36 215 *e*P **P 17 27 16.8 +0.4**
comp=E,129nm,0.7s
KKN Kakani 20.36 215 *e*P **P 17 27 16.8 +0.4**
KKN pmax pmax
comp=Z,129nm,0.7s
SHL Shillong 20.40 197 *e*P **P 17 27 17.0 +0.1**
GKN Gorkha 20.44 217 *e*P **P 17 27 17.0 -0.2**
KMI Kunming 20.49 168 P **P 17 27 21.9 +4.1**
KMI AP 17 27 28.3
KMI XP sP 17 27 31.0 +3.0
KMI PP 17 27 42.0
KMI PPP 17 27 51.3
KMI S **S 17 31 02.4 -3.5**
KMI LR LR
comp=N,955nm,10.9s,MS4.5
KMI LR LR
comp=E,492nm,10.1s,MS4.5
KMI LR LR
comp=Z,1µm,11.2s,MS4.5
ZRNK Zerenda 20.52 302 ⇓Pn **P 17 27 17.8 -0.1**
comp=Z,40nm,0.8s
ZRNK ⇑Lg 17 33 21.4
comp=Z,181nm,1.9s
DMN Daman 20.59 215 *e*P **P 17 27 20.0 +1.1**
comp=Z,204nm,1.0s
NJ2 Nanjing 20.74 123 *e*P **P 17 27 23.5 +3.0**
NJ2 AP 17 27 28.3
NJ2 XP sP 17 27 33.1 +2.4
NJ2 PP 17 27 45.9
NJ2 S **S 17 31 08.0 -2.8**
NJ2 XS sS 17 31 18.0 -3.9
NJ2 AMB AMB
comp=Z,30nm,0.5s
NJ2 AMB AMB
comp=Z,270nm,3.5s
NJ2 LR LR
comp=N,3µm,12.2s,MS5.0
NJ2 LR LR
comp=E,3µm,13.0s,MS5.0
IMP Imphal 20.82 191 *ex* x 17 27 27.0
KOLN Koldanda 21.09 219 *e*P **P 17 27 24.3 0.0**
comp=E,92nm,0.9s,mb5.1
SDNR Sundarnagar 21.61 238 *ex* x 17 27 30.0
DDI Dehra Dun 21.84 234 *ex* x 17 27 32.0
MDJ Mudanjiang 22.08 81 P **P 17 27 34.8 0.0**
MDJ AP 17 27 41.0
MDJ XP sP 17 27 43.3 -1.7
MDJ PCP PcP 17 31 32.4 +0.7
MDJ S **S 17 31 37.6 +0.8**
MDJ XS sS 17 31 45.8 -2.2
MDJ SCS ScS 17 38 53.3 +1.5
MDJ AMB AMB
comp=Z,13nm,1.0s,mb4.3
MDJ AMB AMB
comp=Z,243nm,4.6s
MDJ LR LR
comp=E,2µm,9.2s
MDJ LR LR
comp=Z,2µm,9.7s
MDJ Mudanjiang 22.08 81 *e*P **P 17 27 32.8 -1.9**
comp=Z,22nm,1.0s,mb4.5
INCN Inchon 22.56 100 P **P 17 27 40.5 +0.4**
comp=Z,55nm,1.1s,mb4.9
KLR Kul'dur 22.90 68 *e*P **P 17 27 41.2 -2.3**
KLR *e*S **S 17 31 46.0 -5.7**
KLR pmax pmax
comp=E,85nm,1.8s
KLR pmax pmax
comp=Z,78nm,1.8s,mb4.8
KSRS Korea Array 23.48 99 P **P 17 27 50.2 +0.7**
comp=Z,12nm,0.8s,mb4.4,baz=284,slow=8.6,SNR=37
KSRS LR LR 17 37 34.6
comp=Z,569nm,18.4s,MS4.1,baz=302,slow=38
YAK Yakutsk 24.62 36 *e*P **P 17 27 59.2 -0.6**
comp=Z,45nm,0.8s,mb5.0
YAK Yakutsk 24.62 36 *e*P **P 17 27 59.7 -0.1**
YAK *e* 17 28 34.6
YAK *e*PPP 17 28 43.3
YAK *e* 17 31 37.2
YAK *e*S **S 17 32 19.3 0.0**
YAK *e*SS 17 33 07.3
YAK *e* 17 39 00.6
YAK pmax pmax
comp=Z,47nm,0.9s,mb5.0
YAK pmax pmax
comp=N,13nm,1.1s
YAK pmax pmax
comp=E,20nm,1.1s
YAK pmax pmax
comp=Z,258nm,6.9s
YAK pmax pmax
comp=N,96nm,4.0s
YAK pmax pmax
comp=E,40nm,1.3s
YAK smax
comp=E,89nm,5.1s
YAK smax
comp=N,192nm,7.4s
YAK MLR MLR
comp=Z,982nm,11.0s,MS4.6
YAK MLR MLR
comp=N,591nm,12.0s,MS4.6
YAK MLR MLR
comp=E,903nm,11.0s,MS4.6
KBL Kabul 24.77 254 *e*P **P 17 27 59.9 -1.5**
comp=E,16nm,0.7s,mb4.7
HABR Khabarovsk 25.14 70 ⇑*i*P **P 17 28 03.3 -1.4**
HABR *e* 17 28 13.8
HABR *e* 17 28 17.1
HABR *e* 17 28 40.3
HABR *e* 17 31 36.6
HABR *e*S **S 17 32 28.2 +0.3**
HABR *e* 17 32 45.0
HABR *e* 17 33 23.6
HABR pmax pmax
comp=Z,60nm,1.5s,mb4.9
GZH Guangzhou 25.36 146 P **P 17 28 08.5 +1.6**
GZH S **S 17 32 33.4 +1.7**
GZH LR LR
comp=N,2µm,9.6s
GZH LR LR
comp=E,897nm,11.4s
GZH LR LR
comp=Z,3µm,12.3s,MS5.0
CHRT Chiangrai 25.43 177 ⇓P **P 17 28 14.0 +6.5**
comp=Z,145nm,1.0s,mb5.5
SVE Sverdlovsk 25.96 310 ⇓*e*P **P 17 28 12.5 +0.5**
SVE pmax pmax
comp=Z,131nm,1.1s,mb5.4
SVE MLR MLR
comp=Z,735nm,16.0s,MS4.3
AB31 Akbulak array 26.12 293 Pn pP 17 28 22.6 +1.6
comp=Z,13nm,0.7s,baz=87,slow=9.1,SNR=67
AB31 ⇓Lg 17 36 26.1
comp=Z,44nm,1.6s,baz=91,slow=29,SNR=3.7
QZH Quanzhou 26.12 134 P **P 17 28 14.0 +0.2**
QZH S **S 17 32 44.3 +0.5**
QZH LR LR
comp=N,850nm,11.5s,MS4.8
QZH LR LR
comp=E,1µm,10.2s,MS4.8
QZH LR LR
comp=Z,2µm,10.7s,MS4.9
CHG Chiang Mai 26.46 179 ⇓P **P 17 28 22.6 +5.8**
comp=Z,22nm,0.9s,mb4.7
CHTO Chiang Mai 26.46 179 *e*P **P 17 28 18.5 +1.7**
comp=Z,6.8nm,0.8s,mb4.2
CHTO Chiang Mai 26.46 179 *e*P **P 17 28 18.5 +1.7**
CHTO pmax pmax
comp=Z,7.0nm,0.8s,mb4.2
ARU Arti 27.03 309 *e*P **P 17 28 21.4 -0.3**
comp=Z,18nm,0.9s,mb4.6
ARU *e*pP pP 17 28 30.3 +1.1
ARU Arti 27.03 309*c i*P **P 17 28 21.6 -0.1**
ARU *e*PPP 17 29 10.4
ARU *e* 17 31 42.9
ARU *e*S **S 17 32 56.7 -1.0**
ARU pmax pmax
comp=Z,31nm,1.2s,mb4.7
ARU MLR MLR
comp=Z,683nm,18.0s,MS4.3
AKTK Aktyubinsk 27.25 295 P **P 17 28 23.2 -0.5**
AKTK LR LR 17 39 40.0
AKTO Aktyubinsk 27.25 295 ⇓Pn **P 17 28 30.3 +6.6**
comp=Z,3.3nm,1.5s,mb3.6
AKTO ⇓Lg 17 37 00.1
comp=Z,21nm,3.3s
AKTO Aktyubinsk 27.25 295 P **P 17 28 23.2 -0.5**
comp=Z,5.7nm,1.0s,mb4.1,baz=88,slow=7.9,SNR=12
AKTO LR LR 17 39 40.0
comp=Z,825nm,19.2s,MS4.3,baz=282,slow=37
JNU Nakatsue 27.83 105 LR LR 17 39 56.3
comp=Z,429nm,20.2s,MS4.0,baz=303,slow=37
QIZ Qiongzhong 27.93 156 P **P 17 28 34.3 +4.2**
QIZ S **S 17 33 13.8 +1.4**
QIZ XS sS 17 33 23.9 -0.9
QIZ AMB AMB
comp=Z,124nm,4.6s
QIZ LR LR
comp=N,1µm,12.9s
QIZ LR LR
comp=Z,1µm,13.3s,MS4.7
BDT Bhumibol Dam 28.02 179 P **P 17 28 35.0 +4.2**
NST Nakhon Sawan 29.62 176 P **P 17 28 44.5 -0.5**
TIXI Tiksi 30.14 19 *e*P **P 17 28 48.8 -0.4**
comp=Z,8.7nm,0.9s,mb4.5
TIXI Tiksi 30.14 19*c i*P **P 17 28 49.0 -0.2**
TIXI pmax pmax
comp=Z,7.0nm,0.8s,mb4.4
TIXI MLR MLR
comp=Z,400nm,17.0s,MS4.1
JOW Kunigami 30.20 117 P **P 17 28 53.5 +3.3**
comp=Z,5.2nm,0.5s,mb4.5,baz=331,slow=19,SNR=4.3
JOW LR LR 17 41 55.3
comp=Z,466nm,19.1s,MS4.2,baz=329,slow=38
YSS Yuzh-Sakhalins 30.53 71 P **P 17 28 52.5 -0.4**
YSS Yuzh-Sakhalins 30.53 71 *e*P **P 17 28 50.0 -2.9**
YSS *e* 17 29 06.0
MJAR Matsushiro Arr 31.13 92 P **P 17 28 58.1 -0.2**
comp=Z,1.0nm,0.8s,baz=295,slow=7.8,SNR=2.6
MJAR pP pP 17 29 03.4 -2.5
comp=Z,3.5nm,0.9s,baz=287,slow=9.3,SNR=6.8
MJAR LR LR 17 41 53.2
comp=Z,313nm,18.1s,MS4.0,baz=305,slow=37
ASAJ Asahikawa 31.19 76 LR LR 17 42 06.3
comp=Z,230nm,20.7s,MS3.8,baz=353,slow=37
HYB Hyderabad 32.37 217 *e*P pP 17 29 16.5 -0.4
HYB Hyderabad 32.37 217 *i* P **P 17 29 10.5 +1.2**
HYB *e*pP pP 17 29 17.0 +0.1
MA2 Magadan 34.01 46 *i* P pP 17 29 31.2 +0.4
MA2 pmax pmax
comp=Z,17nm,1.1s,mb4.9
SEY Seymchan 34.94 40 ⇑*e*P **P 17 29 32.1 +0.8**
TMCR Tamitsa 37.77 322 *e*P **P 17 29 53.0 -2.4**
TMCR pmax pmax
comp=Z,69nm,0.5s,mb5.6
DGRG David-gareji 38.09 283 P pP 17 30 06.8 +0.8
MOS Moscow 38.74 308 *e*P **P 17 30 03.4 -0.3**
MOS *e* 17 31 42.7
MOS *e*S **S 17 35 59.2 +0.2**
MOS pmax pmax
comp=Z,46nm,1.0s,mb5.2
MOS MLR MLR
comp=Z,700nm,20.0s,MS4.5
VRSR Storozhevoye 38.85 301 *e*P **P 17 30 04.3 -0.3**
VRSR pmax pmax
comp=N,4.0nm,0.8s
VRSR pmax pmax
comp=E,8.0nm,0.8s
VRSR pmax pmax
comp=Z,5.0nm,0.8s,mb4.3
KIV Kislovodsk 38.93 288 *e*P **P 17 30 06.8 +1.5**
comp=Z,5.3nm,0.9s,mb4.3
KIV *e*pP pP 17 30 13.7 +0.7
KIV Kislovodsk 38.93 288 ⇓*i*P **P 17 30 06.4 +1.0**
KIV *e* 17 32 12.4
KIV *e*S **S 17 35 52.1 -10**
KIV pmax pmax
comp=Z,16nm,1.4s,mb4.6
KIV MLR MLR
comp=Z,400nm,17.0s,MS4.3
ONI Oni 38.94 286 P **P 17 30 07.0 +1.5**
OBN Obninsk 39.46 307 *e*P **P 17 30 08.3 -1.3**
OBN *e*pP pP 17 30 17.8 +0.6
OBN Obninsk 39.46 307 *e*P **P 17 30 09.1 -0.5**
OBN *e* 17 31 39.2
OBN *e* 17 32 11.2
OBN pmax pmax
comp=Z,42nm,1.6s,mb4.9
OBN MLR MLR
comp=Z,400nm,16.0s,MS4.3
APA Apatity 39.69 327 ⇓*i*P **P 17 30 13.0 +1.5**
APA pmax pmax
comp=Z,29nm,1.2s,mb4.9
APA MLR MLR
comp=Z,1µm,16.0s,MS4.8
JOF Joensuu 40.84 320 *e*p **P 17 30 19.9 -1.1**
comp=Z,12nm,0.8s,mb4.6
BILL Bilibino 40.85 32 *e*P **P 17 30 22.4 +1.4**
comp=Z,8.8nm,0.8s,mb4.4
BILL *e*pP pP 17 30 30.2 +1.5
BILL Bilibino 40.85 32 ⇑*i*P **P 17 30 22.5 +1.5**
BILL *i* pP 17 30 30.6 +1.9
BILL *e* 17 31 56.2
BILL *i* SS SS 17 39 21.7 -10
BILL pmax pmax
comp=Z,15nm,1.1s,mb4.5
BILL MLR MLR
comp=Z,500nm,17.0s,MS4.4
KEV Kevo 41.98 330 *e*p **P 17 30 30.0 -0.3**
comp=Z,2.4nm,0.4s,mb4.2
KEV Kevo 41.98 330 *e*P **P 17 30 30.6 +0.3**
comp=Z,73nm,1.4s,mb5.1
KEV Kevo 41.98 330 *e*P **P 17 30 30.6 +0.3**
KEV pmax pmax
comp=Z,73nm,1.4s,mb5.1
ANN Anapa 42.08 292 *e*P **P 17 30 30.8 -0.6**
ANN *e*S **S 17 36 52.5 +3.4**
ANN pmax pmax
comp=Z,38nm,1.0s,mb5.0
ANN MLR MLR
comp=N,512nm,17.0s,MS4.6
ANN MLR MLR
comp=E,479nm,17.0s,MS4.6
ANN MLR MLR
comp=Z,447nm,17.0s,MS4.4
PSI Prapat 42.37 179 LR LR 17 49 57.2
comp=Z,432nm,18.4s,MS4.4,baz=351,slow=39
ARCES ARCESS Array B 42.52 330 P **P 17 30 35.6 +0.9**
comp=Z,7.4nm,0.7s,mb4.5,baz=79,slow=8.4,SNR=31
ARCES LR LR 17 50 09.0
comp=Z,322nm,19.2s,MS4.2,baz=232,slow=39
ARE0 ARCESS Array S 42.52 330 *e*P **P 17 30 33.5 -1.2**
KAF Kangasniemi 43.27 319 *e*p **P 17 30 39.9 -0.9**
comp=Z,4.1nm,0.6s,mb4.3,baz=79,slow=7.9
FIA1 FINESS Array S 43.52 318 *e*P **P 17 30 42.6 -0.2**
FIA1 *e*PP PP 17 32 24.8 +0.9
FINES FINESS Array B 43.52 318 P **P 17 30 42.8 0.0**
comp=Z,8.3nm,0.8s,mb4.5,baz=77,slow=8.6,SNR=32
FINES LR LR 17 50 18.8
comp=Z,344nm,18.2s,MS4.3,baz=290,slow=38
MALT Malatya 44.27 283 *e*P **P 17 30 50.2 +1.0**
comp=Z,11nm,1.1s,mb4.5
MALT Malatya 44.27 283 ⇑*i*P **P 17 30 50.6 +1.4**
AKASG Malin Array Be 44.99 303 P **P 17 30 54.1 -0.6**
comp=Z,7.1nm,0.6s,mb4.7,baz=59,slow=8.6,SNR=32
AKASG LR LR 17 50 23.0
comp=Z,851nm,19.6s,MS4.7,baz=60,slow=37
AKBB Malin Array Si 44.99 303 *e*P **P 17 30 53.6 -1.1**
KIEV Kiev 45.00 303 *e*P **P 17 30 53.7 -1.2**
comp=Z,5.5nm,0.6s,mb4.6
KIEV *e*pP pP 17 31 04.1 +1.5
KIEV Kiev 45.00 303 *e*P **P 17 30 53.7 -1.2**
KIEV *e**PP pP 17 31 04.1 +1.5
KIEV pmax pmax
comp=Z,6.0nm,0.6s,mb4.6
KBS Kingsbay 45.23 344 ⇑*e*P **P 17 30 57.6 +1.2**
KIS Kishinev 46.69 298 *e*P **P 17 31 07.0 -1.2**
TIRR Tirgusor 48.05 295 ⇑P **P 17 31 18.7 -0.2**
TIRR Tirgusor 48.05 295 ⇑*i*P **P 17 31 18.7 -0.2**
VRI Vrincioaia 48.48 298 ⇓P **P 17 31 23.0 +0.9**
VRI Vrincioaia 48.48 298 ⇓*i*P **P 17 31 23.0 +0.8**
ASF Jabal al Asfar 48.56 277 P **P 17 31 24.0 +1.1**
comp=Z,12nm,0.9s,mb4.9,baz=288,slow=3.1,SNR=15
MMAI Mount Meron Ar 49.13 278 LR LR 17 54 00.7
comp=Z,108nm,20.1s,MS3.8,baz=85,slow=38
MLR Muntele Rosu 49.14 298 ⇑*i*P **P 17 31 27.9 +0.7**
KWP Kalwaria 49.26 304 *e*P **P 17 31 28.4 +0.4**
comp=Z,47nm,1.0s,mb5.5
KWP Kalwaria 49.26 304 *e*P **P 17 31 28.4 +0.3**
KWP pmax pmax
comp=Z,47nm,1.0s,mb5.5
KWP Kalwaria 49.26 304 ⇓*i*P **P 17 31 28.8 +0.7**
VOIR 49.72 298 ⇓P **P 17 31 32.2 +0.5**
VOIR 49.72 298 ⇓*i*P **P 17 31 32.2 +0.5**
KOLS Kolonicke sedl 49.82 303 *e*P **P 17 31 32.4 0.0**
STHS Stebnicka Huta 50.21 304 *e*P **P 17 31 33.2 -2.1**
comp=Z,3.2nm,1.1s,mb4.3
STHS Stebnicka Huta 50.21 304 *e*P **P 17 31 33.2 -2.1**
STHS pmax pmax
comp=Z,3.0nm,1.1s,mb4.2
NB2 NORSAR Subarra 50.45 321 P **P 17 31 36.2 -0.8**
comp=Z,12nm,0.8s,mb5.0,baz=63,slow=7.9
NOA NORSAR Array B 50.45 321 P **P 17 31 36.5 -0.4**
comp=Z,8.9nm,0.8s,mb4.9,baz=66,slow=7.5,SNR=34
NOA LR LR 17 54 21.2
comp=Z,542nm,18.4s,MS4.6,baz=60,slow=38
DRGR 50.53 300 ⇑P **P 17 31 38.0 +0.2**
DRGR 50.53 300 ⇑*i*P **P 17 31 38.0 +0.2**
GAMB Gambell 50.57 35 *e*P **P 17 31 38.6 +0.9**
comp=Z,9.9nm,1.0s,mb4.7
GAMB *e*pP pP 17 31 45.9 +0.3
NAO01 NORSAR Array S 50.68 321 *e*P **P 17 31 38.4 -0.3**
comp=Z,14nm,1.0s,mb4.8
OJC Ojcow 50.69 306 *e*P **P 17 31 38.5 -0.4**
KECS Kecovo 51.08 303 *e*P **P 17 31 41.9 0.0**
comp=Z,2.7nm,0.9s,mb4.2
KECS Kecovo 51.08 303 *e*P **P 17 31 41.9 0.0**
KECS pmax pmax
comp=Z,3.0nm,0.9s,mb4.2
KECS Kecovo 51.08 303 *e*P **P 17 31 41.9 0.0**
KECS *e* 00 24 40.1
BSD Bornholm Skovb 51.18 313 *i* P **P 17 31 41.4 -1.1**
BSD pmax pmax
comp=Z,13nm,1.0s,mb4.8
BSD MLR MLR
comp=Z,550nm,18.0s,MS4.6
BSD Bornholm Skovb 51.18 313 *i* P **P 17 31 41.4 -1.1**
comp=Z,13nm,1.0s,mb4.8
BSD
comp=Z,550nm,18.0s
TNA Tin City 51.29 32 *e*P **P 17 31 43.9 +0.7**
comp=Z,16nm,1.0s,mb4.9
TNA *e*pP pP 17 31 50.7 -0.3
EIL Elat 51.36 275 LR LR 17 55 43.6
comp=Z,172nm,20.3s,MS4.1,baz=75,slow=39
PSZ Piszkesteto 51.69 303 *e*P **P 17 31 46.8 +0.3**
comp=Z,10nm,1.4s,mb4.6
PSZ Piszkesteto 51.69 303 *e*P **P 17 31 46.8 +0.3**
PSZ pmax pmax
comp=Z,10.0nm,1.4s,mb4.5
PSZ Piszkesteto 51.69 303 ⇓*e*P **P 17 31 47.5 +1.0**
BZS Buzias 51.76 300 ⇑P **P 17 31 47.1 +0.1**
BZS Buzias 51.76 300 ⇑*i*P **P 17 31 47.1 +0.1**
KONO Kongsberg 51.77 320 ⇑*e*P **P 17 31 46.2 -0.7**
OKC Ostrava-Krasne 51.81 306 *e*P **P 17 31 47.1 -0.2**
OKC AMS AMS 17 54 00.0
comp=Z,700nm,16.3s,MS4.8
DAG Danmarks Havn 51.96 345 ⇓*i*P **P 17 31 47.8 -0.3**
DAG pmax pmax
comp=Z,16nm,1.0s,mb4.9
DAG Danmarks Havn 51.96 345 ⇓*i*P **P 17 31 47.8 -0.3**
comp=Z,16nm,1.0s,mb4.9
VYHS Vyhne 52.04 304 *i* P **P 17 31 49.6 +0.5**
comp=Z,9.1nm,1.3s,mb4.5
VYHS Vyhne 52.04 304 *i* P **P 17 31 49.6 +0.5**
VYHS pmax pmax
comp=Z,9.0nm,1.3s,mb4.5
MORC Moravsky Berou 52.18 306 *e*P **P 17 31 50.0 0.0**
comp=Z,15nm,1.4s,mb4.7
MORC Moravsky Berou 52.18 306 *e*P **P 17 31 50.1 0.0**
MORC pmax pmax
comp=Z,15nm,1.4s,mb4.7
MORC Moravsky Berou 52.18 306 ⇓*i*P **P 17 31 50.8 +0.7**
KOLL Kolacno 52.26 304 *e*P **P 17 31 51.9 +1.2**
VTS Vitosha 52.27 296 ⇓P **P 17 31 51.1 +0.2**
VTS Vitosha 52.27 296 ⇓*i*P **P 17 31 51.1 +0.3**
KSP Ksiaz 52.38 308 *e*P **P 17 31 51.7 +0.1**
DPC Dobruska-Polom 52.60 307 *e*P **P 17 31 53.9 +0.7**
DPC AMS AMS 17 54 30.0
comp=Z,700nm,16.5s,MS4.8
UPC Upice 52.70 307 *e*P **P 17 31 54.3 +0.4**
JMIC Jan Mayen 52.92 337 LR LR 17 56 52.7
comp=Z,196nm,20.2s,MS4.2,baz=86,slow=39
VRAC Vranov 52.95 306 LR LR 17 54 00.6
comp=Z,147nm,18.7s,MS4.1,baz=56,slow=36
MODS Modra-Piesok 53.01 304 *e*P **P 17 31 57.2 +1.0**
ZST Bratislava 53.20 304 *e*P **P 17 31 58.2 +0.6**
comp=Z,4.6nm,0.7s,mb4.5
ZST LR LR
comp=Z,400nm,20.0s,MS4.5
ZST Bratislava 53.20 304 *e*P **P 17 31 58.2 +0.6**
ZST pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
ZST MLR MLR
comp=Z,400nm,20.0s,MS4.5
PKSM Moragy 53.27 302 ⇓P **P 17 31 57.9 -0.3**
PKSM Moragy 53.27 302 ⇓*i*P **P 17 31 57.9 -0.3**
MUD Monsted U'grnd 53.45 316 *i* P **P 17 31 59.5 +0.2**
MUD pmax pmax
comp=Z,31nm,1.1s,mb5.2
MUD Monsted U'grnd 53.45 316 *i* P **P 17 31 59.5 +0.2**
comp=Z,31nm,1.1s,mb5.2
PVCC Panska Ves 53.50 308 *e*P **P 17 32 00.4 +0.6**
PVCC *e*pP pP 17 32 10.1 +2.5
PVCC AMS AMS 17 55 00.0
comp=Z,600nm,12.1s,MS4.9
TREC Trest 53.59 306 *e*P **P 17 32 01.0 +0.5**
BRG Berggiesshubel 53.67 308 *e*P **P 17 32 00.9 -0.2**
BRG pmax pmax
comp=Z,7.0nm,1.1s,mb4.5
BRG Berggiesshubel 53.67 308 *e*P **P 17 32 01.2 +0.1**
comp=Z,12nm,1.1s,mb4.7
BRG Berggiesshubel 53.67 308 *e*P **P 17 32 00.9 -0.2**
comp=Z,12nm,1.1s,mb4.8
SOP Sopron 53.77 304 ⇓*e*P **P 17 32 03.1 +1.3**
PRU Pruhonice 53.78 307 *e*P **P 17 32 02.1 +0.2**
PRU AMS AMS 17 55 20.0
comp=Z,600nm,16.5s,MS4.7
CLL Collm 53.98 309 *e*P **P 17 32 03.1 -0.2**
comp=Z,12nm,0.8s,mb4.9
CLL Collm 53.98 309 ⇑*i*P **P 17 32 02.8 -0.5**
comp=Z,12nm,0.8s,mb4.9
CLL *e*PP PP 17 34 03.0 -1.4
CLL *e*S **S 17 39 36.0 -1.2**
CLL LmV 17 56 00.0
comp=N,100nm,18.9s
CLL LmV 17 56 00.0
comp=E,300nm,21.4s
CLL LmV 17 56 00.0
comp=Z,400nm,19.1s
CLL Lm 19 11 00.0
comp=Z,400nm,21.3s
CONA Conrad Observa 54.05 305 ⇑*i*P **P 17 32 05.1 +1.2**
BSEG Bad Segeberg 54.10 313 *e*P **P 17 32 04.9 +0.7**
comp=Z,22nm,1.3s,mb4.9
TANN Tannenbergstha 54.72 309 *e*P **P 17 32 09.0 +0.3**
KHC Kasperske Hory 54.75 307 ⇑*e*P **P 17 32 08.9 -0.1**
KHC Kasperske Hory 54.75 307 *e*P **P 17 32 09.2 +0.2**
KHC AMS AMS 17 55 50.0
comp=Z,900nm,13.9s,MS5.0
NKC Novy Kostel 54.82 308 AMS AMS 17 55 50.0
comp=Z,700nm,10.9s,MS5.0
GEC2 GERESS Array S 54.83 306 *e*P **P 17 32 09.6 +0.1**

GEC2 pmax pmax
comp=Z,4.0nm,1.0s,mb4.4
GEC2 GERESS Array S 54.83 306 *e*P **P 17 32 09.6 +0.1**
comp=Z,4.0nm,1.0s,mb4.4
GERES GERESS Array B 54.83 306 P **P 17 32 09.2 -0.4**
comp=Z,2.0nm,0.9s,mb4.2,baz=60,slow=7.9,SNR=10
GERES LR LR 17 56 55.2
comp=Z,588nm,21.4s,MS4.6,baz=77,slow=38
MOX Moxa 55.07 309 *e*P **P 17 32 11.3 +0.1**
comp=Z,14nm,1.2s,mb4.9
MOX
comp=Z,400nm,18.0s
MOX Moxa 55.07 309 *e*P **P 17 32 11.3 +0.1**
MOX pmax pmax
comp=Z,14nm,1.2s,mb4.9
MOX MLR MLR
comp=Z,400nm,18.0s,MS4.5
MOX Moxa 55.07 309 *e*P **P 17 32 11.5 +0.3**
comp=Z,10.0nm,1.1s,mb4.8
CLZ Clausthal 55.13 311 *e*P **P 17 32 12.2 +0.6**
CLZ pmax pmax
comp=Z,17nm,1.2s,mb5.0
CLZ Clausthal 55.13 311 *e*P **P 17 32 12.2 +0.6**
comp=Z,17nm,1.2s,mb5.0
WET Wettzell 55.14 307 *e*P **P 17 32 12.2 +0.4**
WET pmax pmax
comp=Z,9.0nm,1.0s,mb4.8
WET Wettzell 55.14 307 *e*P **P 17 32 12.2 +0.4**
comp=Z,9.0nm,1.0s,mb4.8
ROTZ Rotzenmuhle 55.19 308 *e*P **P 17 32 12.6 +0.5**
comp=Z,13nm,1.2s,mb4.8
OBKA Obir 55.55 304⇑ *i*P **P 17 32 14.9 +0.1**
BOJS Bojanci 55.67 302 *i* P **P 17 32 15.5 -0.2**
GRFO Grafenberg 55.78 308 *e*P **P 17 32 17.0 +0.6**
GRFO pmax pmax
comp=Z,342nm,1.1s,mb6.3
GRFO Grafenberg 55.78 308 *e*P **P 17 32 17.0 +0.6**
comp=Z,29nm,1.1s,mb5.2
GVD Gavdhos 55.88 287 *e*P **P 17 32 14.8 -2.5**
KBA Koelnbreinsper 55.95 305⇑ *i*P **P 17 32 18.4 +0.7**
IMA2 Indian Mountai 56.06 28 *e*P **P 17 32 19.0 +0.9**
IMA2 *e*pP pP 17 32 27.1 +1.1
IBBN Ibbenburen 56.26 312 *e*P **P 17 32 19.9 +0.1**
comp=Z,24nm,1.2s,mb5.1
WTTA Wattenberg 56.84 306⇑ *i*P **P 17 32 24.4 +0.5**
TTA Tatalina 57.10 32 *e*P **P 17 32 27.0 +1.5**
comp=Z,4.0nm,0.9s,mb4.5
TTA *e*pP pP 17 32 34.8 +1.4
TTA Tatalina 57.10 32 *e*P **P 17 32 27.0 +1.5**
TTA *e**PP pP 17 32 34.8 +1.4
TTA pmax pmax
comp=Z,4.0nm,0.9s,mb4.5
MOTA Moosalm 57.10 306⇑ *i*P **P 17 32 26.0 +0.2**
SQTA Sankt Quirin 57.11 306⇓ *i*P **P 17 32 26.1 +0.2**
STU Stuttgart 57.40 308 *e*P **P 17 32 27.9 +0.1**
MEM Membach 58.10 311 P **P 17 32 33.0 +0.2**
BFO Black Forest 58.12 308 *e*P **P 17 32 31.8 -1.1**
comp=Z,9.5nm,1.3s,mb4.7
BFO Black Forest 58.12 308 *e*P **P 17 32 32.8 -0.1**
BFO pmax pmax
comp=Z,11nm,1.4s,mb4.7
BFO Black Forest 58.12 308 *e*P **P 17 32 32.8 -0.1**
comp=Z,11nm,1.4s,mb4.7
SVW2 Sparrevohn 58.36 33 *e*P **P 17 32 35.9 +1.5**
SVW2 *e*pP pP 17 32 44.0 +1.6
BCLA Clavier 58.58 312 P **P 17 32 36.2 +0.1**
comp=Z,7.4nm,1.3s,mb4.6
CDF Champ du Feu 58.65 309 *e*P **P 17 32 36.2 -0.5**
comp=Z,12nm,0.9s,mb4.6
CDF Champ du Feu 58.65 309 *e*P **P 17 32 36.2 -0.5**
comp=Z,6.3nm,0.9s,mb4.7
CDF Champ du Feu 58.65 309 *e*P **P 17 32 36.2 -0.5**
CDF pmax pmax
comp=Z,6.0nm,0.9s,mb4.6
COLA College 58.71 27 *e*P **P 17 32 36.8 0.0**
comp=Z,11nm,1.2s,mb4.8
COLA *e*pP pP 17 32 46.0 +1.3
COLA College 58.71 27 *e*P **P 17 32 36.8 0.0**
COLA *e**PP pP 17 32 46.0 +1.3
COLA pmax pmax
comp=Z,11nm,1.2s,mb4.8
GIVF Givet 59.02 311 *e*P **P 17 32 39.1 -0.1**
comp=Z,31nm,1.0s,mb5.0
GIVF Givet 59.02 311 *e*P **P 17 32 39.1 -0.1**
comp=Z,16nm,1.0s,mb5.0
GIVF Givet 59.02 311 *e*P **P 17 32 39.1 -0.1**
GIVF pmax pmax
comp=Z,16nm,1.0s,mb5.0
SNF Seneffe 59.07 312 P **P 17 32 39.9 +0.4**
comp=Z,8.2nm,1.4s,mb4.6
DOU Dourbes 59.14 312 P **P 17 32 40.5 +0.4**
comp=Z,5.2nm,2.0s,mb4.2
HINF Hinteralfeld 59.23 308 *e*P **P 17 32 39.9 -0.8**
comp=Z,3.6nm,0.6s,mb4.3
HINF Hinteralfeld 59.23 308 *e*P **P 17 32 39.9 -0.8**
comp=Z,1.8nm,0.6s,mb4.3
HINF Hinteralfeld 59.23 308 *e*P **P 17 32 39.9 -0.8**
HINF pmax pmax
comp=Z,2.0nm,0.6s,mb4.3
BAIF Baives 59.37 312 *e*P **P 17 32 41.6 0.0**
comp=Z,38nm,1.2s,mb5.0
BAIF Baives 59.37 312 *e*P **P 17 32 41.6 0.0**
comp=Z,19nm,1.2s,mb5.0
BAIF Baives 59.37 312 *e*P **P 17 32 41.6 0.0**
BAIF pmax pmax
comp=Z,19nm,1.2s,mb5.0
HAU Haudompre 59.40 309 *e*P **P 17 32 41.3 -0.5**
HAU *e*MLR MLR
comp=Z,442nm,18.9s,MS4.3
HAU Haudompre 59.40 309 *e*P **P 17 32 41.3 -0.5**
HAU MLR MLR
comp=Z,440nm,18.9s,MS4.6
MEZF Maizieres J'vi 59.82 310 *e*P **P 17 32 44.3 -0.4**
comp=Z,17nm,0.9s,mb4.8
MEZF Maizieres J'vi 59.82 310 *e*P **P 17 32 44.3 -0.4**
comp=Z,17nm,0.9s,mb5.1
BATI Kupang 59.83 151 P **P 17 32 43.8 -1.3**
comp=Z,7.3nm,0.7s,mb4.8,baz=170,slow=7.2,SNR=4.5
BATI pP pP 17 32 49.2 -3.9
comp=Z,19nm,0.7s,baz=207,slow=3.8,SNR=4.7
INK Inuvik 60.26 20 *e*P **P 17 32 47.9 +0.5**
comp=Z,470nm,0.9s
INK *e*pP pP 17 32 55.7 +0.3
CABF La Chapelle 60.35 308 *e*P **P 17 32 47.8 -0.6**
comp=Z,15nm,0.9s,mb4.7
CABF La Chapelle 60.35 308 *e*P **P 17 32 47.8 -0.6**
comp=Z,7.6nm,0.9s,mb4.7
CABF La Chapelle 60.35 308 *e*P **P 17 32 47.8 -0.6**
CABF pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
SML Sawmill 60.59 30 *e*P **P 17 32 50.5 +0.8**
SML *e*pP pP 17 32 58.9 +1.2
BORG Borgarnes 60.61 335 *e*P **P 17 32 51.8 +2.0**
LPG La Plagne 60.63 306 *e*P **P 17 32 50.5 +0.2**
comp=Z,92nm,1.5s,mb5.4
LPG La Plagne 60.63 306 *e*P **P 17 32 50.5 +0.2**
comp=Z,46nm,1.5s,mb5.4
LPG La Plagne 60.63 306 *e*P **P 17 32 50.5 +0.2**
LPG pmax pmax
comp=Z,46nm,1.5s,mb5.4
LPL La Plagne 60.63 306 *e*P **P 17 32 50.2 -0.1**
EGAK Eagle 60.85 25 *e*P **P 17 32 52.2 +0.7**
comp=Z,16nm,1.0s,mb5.1
EGAK *e*pP pP 17 33 00.6 +1.1
MBDF Montbardon 61.07 305 *e*P **P 17 32 52.5 -0.8**
comp=Z,25nm,0.9s,mb5.1
MBDF Montbardon 61.07 305 *e*P **P 17 32 52.5 -0.8**
comp=Z,12nm,0.9s,mb5.0
MBDF Montbardon 61.07 305 *e*P **P 17 32 52.5 -0.8**
MBDF pmax pmax
comp=Z,12nm,0.9s,mb5.0
LOR Lormes 61.19 309 *e*P **P 17 32 53.0 -1.1**
comp=Z,44nm,1.3s,mb5.1
LOR *e*MLR MLR
comp=Z,438nm,19.0s,MS4.3
LOR Lormes 61.19 309 *e*P **P 17 32 53.0 -1.1**
comp=Z,22nm,1.3s,mb5.1
LOR LR LR
comp=Z,440nm,19.0s,MS4.6
LOR Lormes 61.19 309 *e*P **P 17 32 53.0 -1.1**
LOR pmax pmax
comp=Z,22nm,1.3s,mb5.1
LOR MLR MLR
comp=Z,440nm,19.0s,MS4.6
SBF Sospel 61.20 304 *e*P **P 17 32 53.8 -0.4**
comp=Z,74nm,1.1s,mb5.4
SBF Sospel 61.20 304 *e*P **P 17 32 53.8 -0.4**
comp=Z,37nm,1.1s,mb5.4
SBF Sospel 61.20 304 *e*P **P 17 32 53.8 -0.4**
SBF pmax pmax
comp=Z,37nm,1.1s,mb5.4
ORIF Oris-en-Rattie 61.47 306 *e*P **P 17 32 55.5 -0.5**
comp=Z,23nm,0.8s,mb5.0
ORIF *e*MLR MLR
comp=Z,934nm,19.2s,MS4.7
ORIF Oris-en-Rattie 61.47 306 *e*P **P 17 32 55.5 -0.5**
comp=Z,12nm,0.8s,mb5.1
ORIF Oris-en-Rattie 61.47 306 *e*P **P 17 32 55.5 -0.5**
ORIF pmax pmax
comp=Z,12nm,0.8s,mb5.1
SSF Saint Saulge 61.51 309 *e*P **P 17 32 55.4 -0.9**
comp=Z,18nm,1.1s,mb4.8
SSF Saint Saulge 61.51 309 *e*P **P 17 32 55.4 -0.9**
comp=Z,8.9nm,1.1s,mb4.8
SSF Saint Saulge 61.51 309 *e*P **P 17 32 55.4 -0.9**
SSF pmax pmax
comp=Z,9.0nm,1.1s,mb4.8
SMF Signal de Mont 61.58 309 *e*P **P 17 32 55.7 -1.0**
comp=Z,26nm,1.1s,mb5.0
SMF Signal de Mont 61.58 309 *e*P **P 17 32 55.7 -1.0**
comp=Z,13nm,1.1s,mb5.0
SMF Signal de Mont 61.58 309 *e*P **P 17 32 55.7 -1.0**
SMF pmax pmax
comp=Z,13nm,1.1s,mb5.0
KDAK Kodiak Island 61.64 35 P **P 17 32 57.8 +0.8**
comp=Z,12nm,0.9s,mb5.0,baz=303,slow=2.5,SNR=9.2
AVF Avril sur Loir 61.76 309 *e*P **P 17 32 57.0 -0.9**
comp=Z,13nm,0.8s,mb4.8
AVF Avril sur Loir 61.76 309 *e*P **P 17 32 57.0 -0.9**
comp=Z,6.6nm,0.8s,mb4.8
AVF Avril sur Loir 61.76 309 *e*P **P 17 32 57.0 -0.9**
AVF pmax pmax
comp=Z,7.0nm,0.8s,mb4.8
FRF La Foret Royal 61.84 304 *e*P **P 17 32 57.6 -1.0**
LMR La Mourre 62.05 304 *e*P **P 17 32 58.9 -1.1**
BGF Bois d'Agland 62.17 309 *e*P **P 17 32 59.8 -1.0**
comp=Z,16nm,0.9s,mb4.8
BGF Bois d'Agland 62.17 309 *e*P **P 17 32 59.8 -1.0**
comp=Z,7.8nm,0.9s,mb4.8
BGF Bois d'Agland 62.17 309 *e*P **P 17 32 59.8 -1.0**
BGF pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
VIVF Saint-Julien-l 62.19 307 *e*P **P 17 33 00.2 -0.7**
comp=Z,22nm,1.1s,mb4.9
VIVF Saint-Julien-l 62.19 307 *e*P **P 17 33 00.2 -0.7**
comp=Z,11nm,1.1s,mb4.9
VIVF Saint-Julien-l 62.19 307 *e*P **P 17 33 00.2 -0.7**
VIVF pmax pmax
comp=Z,11nm,1.1s,mb4.9
SMRF Simiane la Rot 62.21 305 *e*P **P 17 33 00.5 -0.5**
LDF La Druitiere 62.52 312 *e*P **P 17 33 02.3 -0.7**
comp=Z,49nm,1.0s,mb5.3
LDF La Druitiere 62.52 312 *e*P **P 17 33 02.3 -0.7**
comp=Z,24nm,1.0s,mb5.3
LDF La Druitiere 62.52 312 *e*P **P 17 33 02.3 -0.7**
LDF pmax pmax
comp=Z,24nm,1.0s,mb5.3
FLN La Foliniere 62.60 313 *e*P **P 17 33 02.8 -0.7**
comp=Z,67nm,0.9s,mb5.5
FLN *e*MLR MLR
comp=Z,589nm,17.0s,MS4.5
FLN La Foliniere 62.60 313 *e*P **P 17 33 02.8 -0.7**
comp=Z,33nm,0.9s,mb5.5
FLN LR LR
comp=Z,590nm,17.0s,MS4.8
FLN La Foliniere 62.60 313 *e*P **P 17 33 02.8 -0.7**
FLN pmax pmax
comp=Z,33nm,0.9s,mb5.5
FLN MLR MLR
comp=Z,590nm,17.0s,MS4.8
TCF Toulx Ste Croi 62.69 309 *e*P **P 17 33 03.7 -0.5**
comp=Z,66nm,1.3s,mb5.3
TCF Toulx Ste Croi 62.69 309 *e*P **P 17 33 03.7 -0.5**
comp=Z,33nm,1.3s,mb5.3
TCF Toulx Ste Croi 62.69 309 *e*P **P 17 33 03.7 -0.5**
TCF pmax pmax
comp=Z,33nm,1.3s,mb5.3
GRR Gorron 63.03 312 *e*P **P 17 33 05.5 -0.9**
comp=Z,38nm,0.8s,mb5.3
GRR Gorron 63.03 312 *e*P **P 17 33 05.5 -0.9**
comp=Z,19nm,0.8s,mb5.3
GRR Gorron 63.03 312 *e*P **P 17 33 05.5 -0.9**
GRR pmax pmax
comp=Z,19nm,0.8s,mb5.3
CAF Calviac 63.61 308 *e*P **P 17 33 09.7 -0.6**
RJF Les Rejaudoux 63.68 309 *e*P **P 17 33 10.3 -0.5**
comp=Z,23nm,1.0s,mb4.9
RJF *e*MLR MLR
comp=Z,432nm,19.0s,MS4.3
RJF Les Rejaudoux 63.68 309 *e*P **P 17 33 10.3 -0.5**
comp=Z,11nm,1.0s,mb4.9
RJF LR LR
comp=Z,430nm,19.0s,MS4.7
RJF Les Rejaudoux 63.68 309 *e*P **P 17 33 10.3 -0.5**
RJF pmax pmax
comp=Z,11nm,1.0s,mb4.8
RJF MLR MLR
comp=Z,430nm,19.0s,MS4.7
MFF Saint Martin d 63.77 311 *e*P **P 17 33 11.0 -0.4**
comp=Z,68nm,1.2s,mb5.2
MFF Saint Martin d 63.77 311 *e*P **P 17 33 11.0 -0.4**
comp=Z,34nm,1.2s,mb5.2
MFF Saint Martin d 63.77 311 *e*P **P 17 33 11.0 -0.4**
MFF pmax pmax
comp=Z,34nm,1.2s,mb5.2
SGMF Saint Gilles 63.99 313 *e*P **P 17 33 12.3 -0.5**
comp=Z,35nm,1.1s,mb5.0
SGMF Saint Gilles 63.99 313 *e*P **P 17 33 12.3 -0.5**
comp=Z,18nm,1.1s,mb5.0
SGMF Saint Gilles 63.99 313 *e*P **P 17 33 12.3 -0.5**
SGMF pmax pmax
comp=Z,18nm,1.1s,mb5.0
ROSF Rostrenen 64.31 313 *e*P **P 17 33 14.4 -0.4**
comp=Z,8.0nm,0.8s,mb4.5
ROSF Rostrenen 64.31 313 *e*P **P 17 33 14.4 -0.4**
comp=Z,4.0nm,0.8s,mb4.5
ROSF Rostrenen 64.31 313 *e*P **P 17 33 14.4 -0.4**
ROSF pmax pmax
comp=Z,4.0nm,0.8s,mb4.5
LFF La Frestale 64.33 309 *e*P **P 17 33 14.9 -0.2**
QUIF Quistinic 64.52 313 *e*P **P 17 33 15.8 -0.5**
comp=Z,36nm,0.9s,mb5.1
QUIF Quistinic 64.52 313 *e*P **P 17 33 15.8 -0.5**
comp=Z,18nm,0.9s,mb5.1
QUIF Quistinic 64.52 313 *e*P **P 17 33 15.8 -0.5**
QUIF pmax pmax
comp=Z,18nm,0.9s,mb5.1
KEST Kesra 65.00 296 P **P 17 33 19.6 0.0**
comp=Z,1.9nm,0.9s,mb4.1,baz=76,slow=4.2,SNR=3.2
KEST LR LR 18 04 37.3
comp=Z,70nm,19.2s,MS3.9,baz=5.4,slow=39
EPF Esparros 65.77 307 *e*P **P 17 33 23.5 -1.0**
EBIE Bielsa 66.11 307 P **P 17 33 26.4 -0.2**
comp=Z,22nm,0.7s,mb5.3
ELAN Lanestosa 67.73 309 P **P 17 33 36.8 -0.1**
comp=Z,61nm,1.2s,mb5.5
FITZ Fitzroy Crossi 67.85 152 *e*P **P 17 33 37.1 -0.8**
comp=Z,7.0nm,0.9s,mb4.7
FITZ Fitzroy Crossi 67.85 152 *e*P **P 17 33 36.9 -0.9**
comp=Z,8.6nm,0.8s,mb4.8
FITZ *e* 17 33 42.3
FITZ Fitzroy Crossi 67.85 152 P **P 17 33 37.4 -0.4**
comp=Z,3.9nm,0.8s,mb4.5,baz=329,slow=16,SNR=5.1
FITZ pP pP 17 33 42.6 -3.3
comp=Z,3.9nm,0.8s,baz=344,slow=7.4,SNR=7.8
EMOS Mosqueruela 67.97 305 P **P 17 33 37.5 -1.0**
comp=Z,358nm,2.3s,mb6.0
EARI Arriondas 68.65 310 P **P 17 33 41.8 -0.8**
comp=Z,44nm,1.4s,mb5.2
EBEN Beniarda 68.92 304 P **P 17 33 42.9 -1.6**
comp=Z,581nm,2.8s,mb6.0
MBWA Marble Bar 69.00 159 *e*P **P 17 33 43.8 -1.1**
YKA Yellowknife Ar 69.33 16 *i* P **P 17 33 46.5 -0.1**
YKA pmax pmax
comp=Z,9.0nm,0.8s
YKA Yellowknife Ar 69.33 16 P **P 17 33 46.6 +0.1**
comp=Z,8.7nm,0.8s,mb4.8,baz=332,slow=6.3,SNR=145
YKA LR LR 18 08 15.9
comp=Z,41nm,18.5s,MS3.7,baz=60,slow=39
EPON Pontenova 69.66 311 P **P 17 33 48.4 -0.6**
comp=Z,13nm,0.9s,mb4.8
ETOB Tobarra 69.73 305 P **P 17 33 48.1 -1.4**
comp=Z,490nm,2.9s,mb5.9
GUD Guadarrama 69.87 308 P **P 17 33 50.4 +0.1**
comp=Z,6.7nm,0.7s,mb4.7
GUD Guadarrama 69.87 308 P **P 17 33 50.4 +0.1**
GUD pmax pmax
comp=Z,7.0nm,0.7s,mb4.7
EVIA Vianos 70.29 305 P **P 17 33 53.3 +0.3**
comp=Z,9.9nm,0.6s,mb4.9
EVIA Vianos 70.29 305 P **P 17 33 53.3 +0.4**
EVIA pmax pmax
comp=Z,10.0nm,0.6s,mb4.9
ECAL Calabor 70.40 310 P **P 17 33 52.8 -0.8**
comp=Z,11nm,0.8s,mb4.8
ESDC Sonseca Array 70.42 307 P **P 17 33 53.6 -0.1**
comp=Z,5.3nm,0.7s,mb4.6
ESDC Sonseca Array 70.42 307 P **P 17 33 53.4 -0.3**
comp=Z,5.9nm,1.0s,mb4.5,baz=43,slow=6.2,SNR=13
ESLA Sonseca Array 70.42 307 *e*P **P 17 33 53.2 -0.5**
comp=Z,11nm,1.6s,mb4.5
PBRG Braganca 70.50 310 *e*P **P 17 33 54.4 +0.3**
comp=Z,20nm,1.6s,mb4.8
KMBO Kilima Mbogo 70.89 248 LR LR 18 10 37.7
comp=Z,134nm,19.0s,MS4.2,baz=93,slow=41
MVO Moncorvo 71.09 310 *e*P **P 17 33 58.1 +0.3**
comp=Z,15nm,1.4s,mb4.7
MVO A 18 08 38.1
comp=Z,371nm,18.0s
EQES Quesada 71.19 305 P **P 17 33 57.5 -0.9**
comp=Z,137nm,2.0s,mb5.5
EADA Adamuz 71.80 306 P **P 17 34 01.9 -0.1**
comp=Z,24nm,1.2s,mb5.0
PVIS Viseu 71.88 310 *e*P **P 17 34 03.1 +0.6**
comp=Z,26nm,1.5s,mb4.9
MTE Manteigas 71.91 309 *e*P **P 17 34 03.5 +0.8**
comp=Z,22nm,1.1s,mb5.0
MTE A 18 08 44.0
comp=Z,362nm,20.0s
ELUQ Luque 72.04 305 P **P 17 34 03.2 -0.4**
comp=Z,1.7nm,0.5s,mb4.2
ELUQ Luque 72.04 305 P **P 17 34 03.2 -0.3**
ELUQ pmax pmax
comp=Z,2.0nm,0.5s,mb4.3
PCBR Castelo Branco 72.26 309 *e*P **P 17 34 05.2 +0.4**
ECAB El Cabril 72.34 306 P **P 17 34 05.0 -0.4**
comp=Z,18nm,0.9s,mb5.0
EBAD Badajoz 72.77 308 P **P 17 34 07.0 -0.9**
comp=Z,48nm,1.0s,mb5.4
WRAB Tennant Creek 72.77 145 *e*P **P 17 34 06.5 -1.3**
comp=Z,16nm,1.1s,mb4.9
WRAB *e*pP pP 17 34 11.8 -4.2
WRAB Tennant Creek 72.77 145 *e*P **P 17 34 06.5 -1.4**
WRAB pmax pmax
comp=Z,16nm,1.1s,mb4.9
WRA Warramunga Arr 72.77 145 P **P 17 34 06.9 -1.1**
comp=Z,2.0nm,0.7s,mb4.2,baz=344,slow=6.4,SNR=17
WRA pP pP 17 34 12.6 -3.4
comp=Z,5.4nm,0.8s,baz=342,slow=6.2,SNR=17
WB2 Warramunga Arr 72.78 145 *e*P **P 17 34 07.0 -0.9**
WB2 Warramunga Arr 72.78 145 *e*P **P 17 34 03.7 -4.2**
WB2 *e*P 17 34 07.0
WB2 *e*pP pP 17 34 12.1 -3.9
PESTR Estremoz 73.01 308 *e*P **P 17 34 09.2 -0.1**
comp=Z,33nm,1.3s,mb5.1
PESTR A 18 09 28.4
comp=Z,205nm,18.0s
PBAR Barrancos 73.19 307 *e*P **P 17 34 10.5 +0.1**
comp=Z,23nm,1.4s,mb4.9
PBAR A 18 10 19.1
comp=Z,138nm,16.0s
EMIN Mina Concepcio 73.27 307 P **P 17 34 10.1 -0.7**
comp=Z,10nm,0.7s,mb4.9
ESPR Espera 73.43 306 P **P 17 34 11.1 -0.7**
comp=Z,11nm,0.5s,mb5.0
EVO Evora 73.48 308 *e*P **P 17 34 12.7 +0.6**
comp=Z,22nm,1.0s,mb4.7
EVO *e*MLR MLR
comp=Z,241nm,19.8s,MS4.2
EVO Evora 73.48 308 *e*P **P 17 34 12.3 +0.2**
PBEJ Beja 73.75 308 *e*P **P 17 34 14.1 +0.4**
comp=Z,15nm,1.8s,mb4.6
SFS San Fernando 73.92 306 *e*pP pP 17 34 20.3 -2.4
PVAQ Vaqueiros 74.11 307 *e*P **P 17 34 16.1 +0.3**
comp=Z,23nm,1.5s,mb4.9
PVAQ A 18 10 47.3
comp=Z,197nm,18.0s
PBDV Barranco-do-Ve 74.35 307 *e*P **P 17 34 18.7 +1.5**
comp=Z,25nm,1.4s,mb5.0
PBDV A 18 09 25.0
comp=Z,220nm,16.0s
FCC Fort Churchill 75.75 7 *e*P **P 17 34 24.4 -0.5**
comp=Z,21nm,1.1s,mb5.0
FCC *e*pP pP 17 34 30.7 -2.3
FCC Fort Churchill 75.75 7 *e*P **P 17 34 24.4 -0.5**
FCC *e**PP pP 17 34 30.7 -2.3
FCC pmax pmax
comp=Z,21nm,1.1s,mb5.0
ASAR Alice Springs 75.95 147 P **P 17 34 25.9 -0.5**
comp=Z,0.9nm,0.6s,mb3.9,baz=339,slow=6.2,SNR=20
ASAR pP pP 17 34 30.7 -3.7
comp=Z,3.0nm,0.8s,baz=336,slow=6.2,SNR=17
EDM Edmonton 78.14 19 *e*P **P 17 34 38.8 +0.4**
KLBR Kellerberrin 78.58 163 *e*P **P 17 34 46.3 +5.4**
comp=Z,75nm,1.2s,mb5.5
FFC Flin Flon 78.83 12 *e*P **P 17 34 41.5 -0.7**
comp=Z,9.3nm,1.0s,mb4.7
FFC Flin Flon 78.83 12 *e*P **P 17 34 41.5 -0.7**
FFC pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
SCHQ Schefferville 79.41 351 P **P 17 34 44.6 -0.7**
comp=Z,3.9nm,0.8s,mb4.4,baz=0.4,slow=5.4,SNR=5.5
SCHQ LR LR 18 11 36.0
comp=Z,124nm,18.1s,MS4.3,baz=357,slow=37
MSO Missoula 83.92 22 *e*P **P 17 35 10.5 +1.2**
comp=Z,5.3nm,1.0s,mb4.6
ULM Lac du Bonnet 84.00 9 P **P 17 35 08.5 -1.1**
comp=Z,3.6nm,0.8s,mb4.6,baz=348,slow=6.6,SNR=11
ULM LR LR 18 15 11.6
comp=Z,171nm,21.9s,MS4.4,baz=350,slow=38
TOA0 Torodi Ar. Sit 85.35 284 *e*P **P 17 35 15.9 -1.1**
TORD Torodi Ar. Bea 85.35 284 P **P 17 35 16.2 -0.8**
comp=Z,6.6nm,1.1s,mb4.7,baz=52,slow=4.6,SNR=24
TORD LR LR 18 19 15.3
comp=Z,83nm,18.5s,MS4.2,baz=220,slow=40
STKA Stephens Creek 86.32 144 *e*P **P 17 35 20.4 -0.9**
comp=Z,4.5nm,0.8s,mb4.8
STKA Stephens Creek 86.32 144 *e*P **P 17 35 20.1 -1.2**
comp=Z,9.2nm,1.0s,mb5.0
STKA *e*pP pP 17 35 25.8 -3.8
STKA Stephens Creek 86.32 144 P **P 17 35 20.5 -0.8**
comp=Z,2.6nm,0.8s,mb4.5,baz=344,slow=11,SNR=6.2
PDAR Pinedale Array 88.83 20 P **P 17 35 33.6 +0.2**
comp=Z,0.6nm,0.8s,mb4.0,baz=41,slow=4.7,SNR=4.5
ECSD EROS,Sioux Fal 90.32 11 *e*P **P 17 35 40.6 +0.2**
comp=Z,5.5nm,0.9s,mb4.9
ECSD *e*pP pP 17 35 49.1 +0.4
NVAR Mina Array Bea 90.33 28 P **P 17 35 42.6 +2.1**
comp=Z,0.2nm,0.3s,mb3.9,baz=336,slow=6.3,SNR=2.9
DBIC Dimbokro 94.46 284 LR LR 18 26 13.6
comp=Z,86nm,18.9s,MS4.2,baz=272,slow=40
QSPA South Pole Qui 135.10 180 PKP PKPdf 17 41 57.5 +0.3
comp=Z,2.6nm,1.0s,baz=239,slow=7.7,SNR=6.0
SIV San Ignacio 145.99 323 PKPbc PKPbc 17 42 18.9 -0.5
comp=Z,3.6nm,0.7s,baz=85,slow=3.1,SNR=18
NNA Nana 146.50 351 PKPbc PKPbc 17 42 20.6 -0.4
comp=Z,13nm,0.7s,baz=343,slow=5.8,SNR=6.0
LPAZ La Paz 148.87 334 *e*PKPdf PKPdf 17 42 23.8 +0.3
LPAZ La Paz 148.87 334 PKP PKPdf 17 42 24.4 +0.9
comp=Z,2.7nm,0.8s,baz=45,slow=4.3,SNR=9.4
LPAZ PKPbc PKPbc 17 42 27.3 -0.2
comp=Z,2.6nm,0.7s,baz=5.8,slow=3.2,SNR=12

ISCJB ***14*** *17:24:38.8±0.5, 4896S±006×1245E±02, h10km, mb4.5/10, MS3.7/6, Error ellipse: s-maj=15.9km s-min=8.1km az=15.6*

IDC ***14*** *17:24:39.0±0.7, 4890S×12444E, h0km, mb4.4/9, mb1 4.5/10, mb1mx4.3/16, mbtmp4.4/10, ML2.3/1, MS3.8/7, Ms1 3.8/7, ms1mx3.5/24, Error ellipse: s-maj=34.1km s-min=13.9km az=105.0*

NEIC ***14*** *17:24:40.6±0.4, 4897S×12451E, h10km, mb4.4/9, Error ellipse: s-maj=13.9km s-min=7.6km az=105.0*

ISC 14 17:24:40.8±0.5, 4895S±006×1245E±02, h10km, n29, σ0=93/25, mb4.5/10, MS3.7/6, Western Indian-Antarctic Ridge

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

NWAO	**Narrogin (SRO)**	**16.91**	**339**	*eP*		**Pn**		**17 28 38.5**	**+1.1**
	12nm,0.9s								
NWAO	**Narrogin (SRO)**	**16.91**	**339**	Pn		**Pn**		**17 28 38.2**	**+0.8**
	0.5nm,0.3s,baz=158,slow=10,SNR=7.5								
NWAO				LR		LR		17 33 30.0	
	comp=Z,155nm,18.1s,baz=28,slow=32								
TAU	**Tasmania Unive**	**16.96**	**78**	P		**Pn**		**17 28 37.7**	**-0.2**
	22nm,1.1s								
FORT	**Forrest**	**18.35**	**10**	*eP*		**Pn**		**17 28 56.1**	**+0.8**
	12nm,0.6s								
CASY	**Casey**	**18.83**	**198**	*eP*		**Pn**		**17 28 59.6**	**-1.2**
	20nm,1.0s								
STKA	**Stephens Creek**	**21.37**	**43**	*eP*		**P**		**17 29 28.2**	**-0.1**
	9.4nm,0.7s,mb4.2								
STKA	**Stephens Creek**	**21.37**	**43**	*eP*		**P**		**17 29 27.7**	**-0.5**
	12nm,0.7s,mb4.3								
STKA	**Stephens Creek**	**21.37**	**43**	P		**P**		**17 29 28.3**	**+0.1**
	13nm,0.7s,mb4.3,baz=205,slow=9.7,SNR=22								
STKA				LR		LR		17 36 05.2	
	comp=Z,357nm,19.9s,MS3.8,baz=205,slow=32								
ASAR	**Alice Springs**	**26.31**	**20**	P		**P**		**17 30 15.2**	**-1.4**
	4.7nm,0.8s,mb4.1,baz=198,slow=8.8,SNR=69								
ASAR				PcP		PcP		17 33 41.9	-0.7
	0.2nm,0.8s,baz=185,slow=1.8,SNR=4.1								
WRA	**Warramunga Arr**	**30.00**	**19**	P		**P**		**17 30 47.5**	**-2.1**
WRA				LR		LR		17 42 08.9	
WRA	**Warramunga Arr**	**30.00**	**19**	P		**P**		**17 30 47.5**	**-2.1**
	0.4nm,0.7s,baz=195,slow=11,SNR=5.7								
WRA				LR		LR		17 42 08.9	
	comp=Z,243nm,18.6s,MS3.9,baz=180,slow=35								
FITZ	**Fitzroy Crossi**	**30.79**	**2**	P		**P**		**17 30 56.5**	**0.0**
FITZ				LR		LR		17 42 54.1	
FITZ	**Fitzroy Crossi**	**30.79**	**2**	P		**P**		**17 30 56.5**	**0.0**
	2.1nm,1.0s,mb3.9,baz=201,slow=8.6,SNR=4.7								
FITZ				LR		LR		17 42 54.1	
	comp=Z,72nm,18.4s,MS3.4,baz=169,slow=36								
VNDA	**Vanda**	**32.01**	**166**	*eP*		**P**		**17 31 06.2**	**-0.6**
	7.4nm,0.9s,mb4.5								
VNDA				*e*				17 31 13.2	
VNDA	**Vanda**	**32.01**	**166**	P		**P**		**17 31 07.0**	**+0.3**
	6.0nm,0.9s,mb4.4,baz=308,slow=8.2,SNR=21								
RPZ	**Rata Peaks**	**32.17**	**99**	LR		LR		17 41 06.2	
	comp=Z,200nm,21.0s,MS3.8,baz=29,slow=31								
SBA	**Scott Base**	**33.05**	**165**	*eP*		**P**		**17 31 15.8**	**+0.1**
	4.8nm,0.9s,mb4.4								
CTA	**Charters Tower**	**33.68**	**39**	LR		LR		17 44 17.4	
	comp=Z,234nm,19.2s,MS3.9,baz=232,slow=35								
MAW	**Mawson**	**35.45**	**216**	P		**P**		**17 31 36.1**	**-0.6**
	5.4nm,0.9s,mb4.5,baz=90,slow=4.0,SNR=7.3								
MAW				LR		LR		17 42 18.9	
	comp=Z,132nm,19.4s,MS3.7,baz=70,slow=30								
QSPA	**South Pole Qui**	**41.17**	**180**	*eP*		**P**		**17 32 24.9**	**+0.3**
	11nm,0.9s,mb4.5								
QSPA	**South Pole Qui**	**41.17**	**180**	P		**P**		**17 32 25.4**	**+0.7**
	11nm,1.0s,mb4.5,baz=342,slow=4.8,SNR=18								
QSPA				PcP		PcP		17 34 23.6	0.0
	4.1nm,1.1s,baz=312,slow=3.5,SNR=5.5								
SNAA	**Sanae**	**54.07**	**198**	P		**P**		**17 34 05.1**	**+0.2**
	10nm,0.9s,mb4.7,baz=152,slow=9.2,SNR=43								
VNA2	**Neumayer--Watz**	**55.57**	**197**	*e*		**P**		**17 34 16.5**	**+0.8**
	baz=145,slow=7.0								
VNA2				*e*		pP		17 34 18.1	-0.8
VNA2				*e*				17 34 24.3	
VNA2				*e*				17 34 32.5	
VNA2				*e*				17 34 38.4	
VNA1	**Neumayer--Stat**	**55.96**	**197**	*e*		**P**		**17 34 19.5**	**+1.0**
VNA1				*e*		pP		17 34 21.5	-0.2
VNA1				*e*				17 34 27.7	
VNA1				*e*				17 34 37.2	
VNA1				*e*				17 34 43.3	
FUNA	**Funafuti**	**60.82**	**68**	P		**P**		**17 34 55.0**	**+1.8**
	143nm,1.1s,mb6.0								
BOSA	**Boshof**	**74.62**	**244**	P		**P**		**17 36 20.0**	**-0.1**
	8.8nm,1.1s,mb4.6								
BOSA	**Boshof**	**74.62**	**244**	P		**P**		**17 36 19.4**	**-0.7**
	3.3nm,0.8s,mb4.3,baz=149,slow=6.2,SNR=6.0								
YKA	**Yellowknife Ar**	**145.40**	**45**	PKPbc		PKPbc		17 44 17.4	-0.2
	2.6nm,0.8s,baz=268,slow=3.3,SNR=49								
EKA	**Eskdalemuir Ar**	**147.91**	**302**	PKPbc		PKPbc		17 44 25.0	-0.1
	2.0nm,0.8s,baz=142,slow=1.8,SNR=10.0								

*ATH **14** 17:25:08.9,3843N∓2189E,h20km,MD3.1/3*
*ISCJB **14** 17:25:10.1±0.9,3846N±004×2168E±006,h22km±14km, Error ellipse: s-maj=9.2km s-min=6.1km az=39.0*
*CSEM **14** 17:25:10.1±0.2,3849N×2165E,h15km,ML2.4,Error ellipse: s-maj=4.8km s-min=3.7km az=120.0*
*THE **14** 17:25:10.1,3849N×2163E,h3km,ML2.4*
ISC 14 17:25:10.1±0.9,3847N±005×2168E±006,h22km±12km,n7, σ0§76/12,3C,Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SELA	**Sela**	**0.26**	**138**	*eP*g	**Pb**	**17 25 15.5**	**-0.8**
SELA				*e*Sg	**Sb**	17 25 20.1	-0.3
RLS	**Riolos of Patr**	**0.44**	**202**	⇑*i*PN	**Pb**	**17 25 19.0**	**-0.2**
RLS				*e*SN	**Sb**	**17 25 26.6**	**+1.2**
EVR	**Evrytania**	**0.46**	**13**	⇑*i*PB	**Pb**	**17 25 18.3**	**-1.3**
EVR				*e*SB	**Sb**	**17 25 26.1**	**+0.1**
AGG	**Agios Georgios**	**0.76**	**42**	*eP*g	**Pb**	**17 25 24.7**	**+0.1**
AGG				*e*Sg	**Sb**	**17 25 35.5**	**+1.1**
KFL	**Anninata**	**0.78**	**243**	*eP*g	**Pb**	**17 25 24.5**	**-0.6**
LKD	**Levkas**	**0.84**	**287**	*eP*g	**Pb**	**17 25 25.0**	**-1.0**
LKD				*e*Sg	**Sb**	**17 25 37.6**	**+0.7**
THL	**Klokotos Trika**	**1.13**	**13**	⇑*i*PN	**Pn**	**17 25 30.8**	**+0.2**

*ISCJB **14** 17:37:08.7±0.7,683N±008×7301W±009,h170km±7km, mb3.4/2,Error ellipse: s-maj=17.6km s-min=7.4km az=42.0*
*IDC **14** 17:37:08.6±0.8,654N×7273W,h167km±8km,mb3.1/2, mb1 3.4/4,mb1mx3.1/20,mbtmp3.2/4,Error ellipse: s-maj=30.6km s-min=8.0km az=130.0*
*FUNV **14** 17:37:10.3,689N×73.12W,h173km,MWS.2*
ISC 14 17:37:09.7±0.7,682N±008×7299W±009,h165km±8km,n20, σ0§80/25,mb3.4/2,8C,Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**1.24**	**33**	⇑*i*P	**Pn**	**17 37 38.7**	**+0.8**
CAPV				*e*S	**Sn**	**17 38 00.3**	**+0.6**
ROSC	**El Rosal**	**2.36**	**214**	P	**Pn**	**17 37 50.7**	**+0.8**
	18nm,0.3s,baz=90,slow=20,SNR=14						
ROSC				S	**Sn**	**17 38 19.7**	**-1.2**
	16nm,0.3s,baz=95,slow=16,SNR=6.5						
SOCV	**Socops**	**2.57**	**55**	⇑*i*P	**Pn**	**17 37 53.4**	**+1.0**
SOCV				*e*S	**Sn**	**17 38 25.6**	**+0.1**
VIGV	**El Vigia**	**2.58**	**39**	⇑*e*P	**Pn**	**17 37 53.1**	**+0.6**
VIGV				*e*S	**Sn**	**17 38 23.7**	**-1.9**
SDV	**Santo Domingo**	**3.11**	**49**	P	**Pn**	**17 38 00.1**	**+1.0**
	16nm,0.3s,baz=240,slow=4.1,SNR=92						
SDV				S	**Sn**	**17 38 37.2**	**-0.3**
	14nm,0.3s,baz=72,slow=20,SNR=24						
ELOV	**Elorza**	**3.49**	**87**	⇑⇑*e*P	**Pn**	**17 38 04.8**	**+0.9**
VIRV	**Villa del Rosa**	**3.71**	**9**	*e*P	**Pn**	**17 38 05.4**	**-1.3**
VIRV				*e*S	**Sn**	**17 38 45.9**	**-5.1**
QARV	**Quebrada Arrib**	**4.16**	**36**	⇑*i*P	**Pn**	**17 38 13.1**	**+0.6**
SANV	**Sanarito**	**4.34**	**52**	*e*P	**Pn**	**17 38 15.3**	**+0.6**
CURV	**Curarigua**	**4.37**	**43**	⇑*e*P	**Pn**	**17 38 15.2**	**+0.1**
TEPV	**Terepaima**	**4.89**	**50**	*e*P	**Pn**	**17 38 22.3**	**+0.4**
SIQV	**Siquisique**	**4.94**	**39**	⇑*e*P	**Pn**	**17 38 22.3**	**-0.3**
BAUV	**El Baul**	**5.34**	**66**	⇑*i*P	**Pn**	**17 38 26.8**	**-1.1**
TURV	**Turiamo**	**6.25**	**54**	*e*P	**Pn**	**17 38 39.5**	**-0.3**
CAOV	**Caicara del Or**	**6.64**	**85**	*e*P	**Pn**	**17 38 44.6**	**-0.4**
BIRV	**Birongo**	**7.58**	**61**	*e*P	**Pn**	**17 38 56.8**	**-0.7**
CUPV	**Cœpira**	**7.82**	**65**	*e*P	**Pn**	**17 39 00.2**	**-0.5**
LPAZ	**La Paz**	**23.45**	**168**	P	**P**	**17 41 59.8**	**-4.6**
	0.7nm,0.6s,mb3.3,baz=39,slow=15,SNR=5.3						
YKA	**Yellowknife Ar**	**63.31**	**340**	P	**P**	**17 47 21.1**	**+0.4**
	0.4nm,0.6s,mb3.5,baz=134,slow=6.7,SNR=10						
WRA	**Warramunga Arr**	**150.44**	**241**	PKPbc	PKPbc	17 56 42.3	-0.4
	0.2nm,0.6s,baz=103,slow=3.0,SNR=8.2						

*ISCJB **14** 17:43:28.0±0.7,3813N±003×2719E±004,h0km±6km, Error ellipse: s-maj=6.0km s-min=4.2km az=151.9*
*CSEM **14** 17:43:27.7±0.1,3814N×2724E,h2km,MD2.6,Error ellipse: s-maj=4.3km s-min=2.7km az=96.0*
*ATH **14** 17:43:27.4,3810N×2728E,h24km±2km,MD3.3/3*
*DDA **14** 17:43:28.6,3812N×2721E,h5km±2km,Md2.6*
ISC 14 17:43:28.7±0.5,3814N±002×2719E±004,h3km±5km,n13, σ0§88/25,1C-1D,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAG	**Bornova**	**0.27**	**13**	*i*P	**Pg**	**17 43 33.7**	**-0.3**
KDAG				*i*S	**Sg**	**17 43 38.2**	**+0.6**
SMG	**Samos**	**0.51**	**213**	⇓⇓*i*PN	**Pg**	**17 43 37.9**	**-0.6**
SMG				*e*SN	**Sg**	**17 43 46.0**	**+0.9**
URLA	**Izmir**	**0.52**	**296**	*i*P	**Pg**	**17 43 38.6**	**-0.1**
URLA				*i*S	**Sg**	**17 43 45.8**	**+0.3**
AYDN	**Tasoluk**	**0.72**	**131**	*i*P	**Pg**	**17 43 42.1**	**-0.5**
AYDN				*i*S	**Sg**	**17 43 50.9**	**-1.0**
AKHS	**Akhisar**	**0.89**	**33**	*i*P	**Pg**	**17 43 44.9**	**-0.9**
AKHS				*i*S	**Sg**	**17 43 57.3**	**-0.1**
BDRM	**Kayabasi**	**1.09**	**169**	*i*P	**Pg**	**17 43 48.2**	**-1.4**
BDRM				*i*S	**Sg**	**17 44 05.3**	**+1.7**
AYVA	**Ayvalik**	**1.23**	**342**	*i*P	**Pg**	**17 43 52.4**	**0.0**
AYVA				*i*S	**Sg**	**17 44 09.3**	**+0.9**
PRK	**Paraskevi**	**1.32**	**327**	⇑*i*PN	**Pn**	**17 43 53.4**	**-0.6**
PRK				*e*SN	**Sn**	**17 44 12.1**	**0.0**
APE	**Apeiranthos**	**1.69**	**232**	*e*PN	**Pn**	**17 43 58.4**	**-0.7**
BOZC	**Bozcaada**	**1.92**	**333**	*e*P	**Pn**	**17 44 03.0**	**+0.7**
BOZC				*i*S	**Sn**	**17 44 25.6**	**-1.3**
GDZ	**Gediz**	**2.03**	**61**	*i*P	**Pn**	**17 44 06.0**	**+2.2**
GDZ				*i*S	**Sn**	**17 44 29.9**	**+0.2**
GOLH	**Golhisar**	**2.08**	**115**	*e*P	**Pn**	**17 44 05.2**	**+0.8**
GOLH				*i*S	**Sn**	**17 44 39.2**	**+8.3**
GOLH	**Golhisar**	**2.08**	**115**	*e*P	**Pn**	**17 44 05.2**	**+0.7**
GOLH				*i*S	**Sn**	**17 44 39.2**	**+8.3**

*IDC **14** 17:43:39.4±5.5,1959N×9489E,h0km,mb3.5/4,mb1 3.7/4, mb1mx3.4/20,mbtmp3.5/4,MS4.4/1,Ms1 4.4/1, ms1mx3.0/35,Error ellipse: s-maj=376.6km s-min=22.7km az=62.0*
*ISCJB **14** 17:43:48.0±5.7,196N±003×948E±04,h93km±48km, mb3.4/4,Error ellipse: s-maj=70.6km s-min=21.4km az=141.9*
ISC 14 17:43:49.3±5.6,196N±003×947E±04,h84km±48km,n6, σ0§24/6,mb3.4/4,Myanmar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHG	**Chiang Mai**	**4.05**	**100**	PG	**Pn**	**17 44 48.9**	**0.0**
CHG				SG	**Sn**	**17 45 35.2**	**0.0**
MKAR	**Makanchi Array**	**29.01**	**342**	P	**P**	**17 49 41.1**	**0.0**
	0.2nm,0.5s,mb3.0,baz=152,slow=9.5,SNR=3.0						
ZALV	**Zalesovo Beam**	**35.16**	**350**	P	**P**	**17 50 34.8**	**0.0**
	0.5nm,0.3s,mb3.8,baz=159,slow=7.9,SNR=4.5						
GUMO	**Guam**	**48.28**	**89**	LR	LR	18 14 09.0	
	comp=Z,368nm,18.2s,baz=181,slow=38						
WRA	**Warramunga Arr**	**55.20**	**133**	P	**P**	**17 53 13.5**	**-0.2**
	0.3nm,0.5s,mb3.6,baz=319,slow=7.5,SNR=8.1						
ASAR	**Alice Springs**	**57.49**	**137**	P	**P**	**17 53 30.1**	**+0.2**
	0.2nm,0.5s,mb3.4,baz=315,slow=7.0,SNR=5.8						

*ISCJB **14** 17:44:44.3±0.4,1699N±002×6069W±003,h10km, mb4.2/25,MS3.4/3,Error ellipse: s-maj=4.3km s-min=3.1km az=164.5*
*TRN **14** 17:44:47.9,1680N×6093W,h19km,MD3.7,M4.0(FDF), M4.2(FDF)*
*IDC **14** 17:44:49.3±1.6,1686N×6094W,h29km±12km,mb4.0/14, mb1 4.2/16,mb1mx4.0/25,mbtmp4.1/16,MS3.3/4, Ms1 3.4/4,ms1mx3.0/36,Error ellipse: s-maj=16.7km s-min=12.6km az=66.0*
*NEIC **14** 17:44:51.7±0.9,1683N×6099W,h52km±8km,mb4.4/13, MD3.7(TRN),Error ellipse: s-maj=12.7km s-min=6.0km az=59.0*
ISC 14 17:44:46.9±1.0,1693N±002×6077W±003,h14km±6km,n71, σ1§09/84,mb4.2/25,MS3.4/3,1C-4D,Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEG	**La Desirade**	**0.67**	**205**	⇓*i*P	**Pg**	**17 45 00.4**	**+0.3**
SFG	**Saint Francois**	**0.79**	**211**	*e*P	**Pg**	**17 45 02.4**	**+0.1**
BPA	**Boggy Peak**	**1.05**	**277**	⇑*i*P	**Pb**	**17 45 06.6**	**-0.2**
BPA				*e*S	**Sb**	**17 45 21.1**	**+0.6**
MGG	**Marie-Galante**	**1.14**	**208**	⇓*e*P	**Pb**	**17 45 07.5**	**-0.9**
MGG				*e*S	**Sb**	**17 45 22.9**	**0.0**
BCG	**Bois Riant Cap**	**1.17**	**224**	*e*P	**Pn**	**17 45 07.7**	**-1.2**
DOG	**Dongo Capester**	**1.21**	**223**	*e*P	**Pn**	**17 45 08.2**	**-1.2**
LZG	**Guadaloupe-1**	**1.24**	**231**	*e*P	**Pn**	**17 45 08.7**	**-1.3**
HMG	**Houelmont**	**1.30**	**224**	*e*P	**Pn**	**17 45 09.5**	**-1.1**
HMG				*e*S	**Sb**	**17 45 27.2**	**-0.4**
TBG	**Guadaloupe-3**	**1.36**	**218**	⇓*e*P	**Pn**	**17 45 10.8**	**-0.8**
NVRH	**Round Hill, Ne**	**1.77**	**278**	*e*P	**Pn**	**17 45 18.1**	**+1.0**
NVRH				*e*S	**Sn**	**17 45 38.4**	**-1.1**
NVBH	**Bath Hotel, Ne**	**1.78**	**276**	*e*P	**Pn**	**17 45 18.1**	**+0.8**
NVBH				*e*S	**Sn**	**17 45 39.7**	**0.0**
SKTB	**Turtle Beach**	**1.79**	**279**	*e*P	**Pn**	**17 45 18.1**	**+0.7**
SKTB				*e*S	**Sn**	**17 45 41.4**	**+1.5**
SKI	**Saint Kitts**	**1.93**	**282**	*e*P	**Pn**	**17 45 20.3**	**+1.0**
SKI				*e*S	**Sn**	**17 45 44.2**	**+0.9**
BSK	**Brimstone Hill**	**2.02**	**282**	*e*P	**Pn**	**17 45 22.0**	**+1.4**
BSK				*e*S	**Sn**	**17 45 46.5**	**+0.8**
FDF	**Fort de France**	**2.21**	**190**	⇓*e*P	**Pn**	**17 45 22.5**	**-0.7**
FDF				*e*S	**Sn**	**17 45 48.6**	**-1.8**
BIM	**Bigot**	**2.42**	**187**	*e*P	**Pn**	**17 45 26.9**	**+0.8**
BIM				*e*S	**Sn**	**17 45 55.1**	**-0.3**
STMA	**St. Maarten, A**	**2.49**	**297**	*e*P	**Pn**	**17 45 29.0**	**+1.9**
STMA				*e*S	**Sn**	**17 45 57.6**	**+0.3**
SLW	**Petit Monier**	**2.90**	**183**	*e*S	**Sn**	**17 46 08.3**	**+1.1**
SSV	**Crater Summit**	**3.60**	**187**	*e*P	**Pn**	**17 45 44.1**	**+1.7**
SSV				*e*S	**Sn**	**17 46 23.9**	**-0.8**
SVB	**Belmont**	**3.67**	**187**	*e*P	**Pn**	**17 45 45.8**	**+2.5**
SVB				*e*S	**Sn**	**17 46 27.7**	**+1.4**
FCV	**Fort Charlotte**	**3.78**	**187**	*e*P	**Pn**	**17 45 46.3**	**+1.5**
MTP	**Monte Pirata**	**4.71**	**285**	*e*Pn	**Pn**	**17 45 54.2**	**-3.4**
MTP				*e*Sn	**Sn**	**17 46 44.0**	**-8.1**
GRGR	**Grenville**	**4.84**	**190**	*e*Pn	**Pn**	**17 46 00.3**	**+0.8**
CPD	**Cerro la Pandu**	**5.03**	**283**	*e*Pn	**Pn**	**17 46 00.9**	**-1.1**
SJG	**San Juan**	**5.27**	**284**	*e*Pn	**Pn**	**17 46 05.4**	**+0.2**
	147nm,0.8s						
SJG	**San Juan**	**5.27**	**284**	Pn	**Pn**	**17 46 05.4**	**+0.2**
	21nm,0.3s,baz=111,slow=12,SNR=38						
SJG				Sn	**Sn**	**17 47 06.6**	**+0.8**
	11nm,0.3s,baz=288,slow=21,SNR=3.0						
PCRV	**Puerto La Cruz**	**7.69**	**210**	Pn	**Pn**	**17 46 40.0**	**+1.4**
	2.1nm,0.3s,baz=16,slow=9.7,SNR=5.2						
PCRV				LR	LR	17 49 32.3	
	comp=Z,122nm,21.3s,baz=174,slow=38						
SDDR	**Presa de Saban**	**10.22**	**283**	*e*Pn	**Pn**	**17 47 13.3**	**+0.1**
	22nm,0.5s						
SDV	**Santo Domingo**	**12.50**	**231**	*e*Pn	**Pn**	**17 47 41.9**	**-2.6**
	6.8nm,0.6s						
SDV	**Santo Domingo**	**12.50**	**231**	Pn	**Pn**	**17 47 43.1**	**-1.5**
	0.6nm,0.3s,baz=24,slow=8.9,SNR=5.0						
BBSR	**BB Station**	**15.78**	**348**	*e*Pn	**Pn**	**17 48 26.4**	**-2.4**
	41nm,1.0s						
DWPF	**Disney**	**22.06**	**304**	*e*P	**P**	**17 49 35.5**	**-6.0**
TEIG	**Tepich**	**26.27**	**281**	P	**P**	**17 50 19.9**	**-2.1**
	14nm,0.9s,mb4.5,baz=13,slow=5.5,SNR=5.7						
TKL	**Tuckaleechee C**	**27.69**	**317**	LR	LR	18 01 22.0	
	comp=Z,128nm,18.9s,MS3.5,baz=148,slow=36						
ATAH	**Atahualpa**	**29.48**	**218**	P	**P**	**17 50 51.4**	**+0.6**
	5.2nm,0.7s,mb4.4,baz=21,slow=8.6,SNR=3.8						
ACSO	**Alum Creek Sta**	**30.16**	**325**	P	**P**	**17 50 54.5**	**-2.0**
WVT	**Waverly**	**30.69**	**314**	P	**P**	**17 50 58.7**	**-2.6**
	3.1nm,0.7s,mb4.2						
SADO	**Sadowa**	**31.77**	**335**	P	**P**	**17 51 10.8**	**+0.2**
	baz=168,slow=9.3						
SIV	**San Ignacio**	**32.71**	**181**	P	**P**	**17 51 19.5**	**+0.3**
	4.8nm,0.7s,mb4.6,baz=7.8,slow=8.2,SNR=12						
LPAZ	**La Paz**	**33.80**	**193**	P	**P**	**17 51 27.4**	**-1.2**
LPAZ	**La Paz**	**33.80**	**193**	P	**P**	**17 51 27.2**	**-1.5**
	0.5nm,0.6s,mb3.7,baz=0.0,slow=6.1,SNR=2.9						
LPAZ				LR	LR	18 06 02.1	
	comp=Z,72nm,19.1s,MS3.4,baz=276,slow=38						
BDFB	**Brasilia**	**34.72**	**158**	LR	LR	18 05 14.6	
	comp=Z,46nm,21.1s,MS3.2,baz=102,slow=35						
JCT	**Junction City**	**38.01**	**298**	*e*P	**P**	**17 52 03.6**	**-1.1**
	4.6nm,0.5s,mb4.5						
SCHQ	**Schefferville**	**38.12**	**354**	*e*P	**P**	**17 52 06.2**	**+0.9**
	6.9nm,1.1s,mb4.3						
SCHQ	**Schefferville**	**38.12**	**354**	P	**P**	**17 52 04.4**	**-0.9**
	1.9nm,0.5s,mb4.1,baz=156,slow=6.4,SNR=7.1						
WMOK	**Wichita Mounta**	**38.26**	**305**	*e*P	**P**	**17 52 05.7**	**-1.1**
	2.8nm,0.7s,mb4.1						
TXAR	**Lajitas Array**	**41.12**	**295**	P	**P**	**17 52 29.6**	**-1.1**
	0.4nm,0.5s,mb3.3,baz=120,slow=7.7,SNR=9.6						
TXAR				PcP	PcP	17 54 31.2	+1.0
	0.4nm,0.6s,baz=104,slow=5.8,SNR=3.7						
MNTX	**Cornudas Mount**	**42.93**	**298**	*e*P	**P**	**17 52 44.6**	**-0.9**
	4.9nm,0.8s,mb4.3						
ULM	**Lac du Bonnet**	**43.56**	**328**	P	**P**	**17 52 49.9**	**-0.4**
	3.7nm,0.6s,mb4.3,baz=116,slow=8.0,SNR=10						
SDCO	**Great Sand Dun**	**44.32**	**307**	*e*P	**P**	**17 52 56.2**	**-0.4**
	6.9nm,1.5s,mb4.2						
BNM	**Barren Site**	**44.39**	**302**	*e*P	**P**	**17 52 57.4**	**+0.1**
ANMO	**Albuquerque**	**44.41**	**303**	P	**P**	**17 52 57.0**	**-0.4**
	4.2nm,1.1s,mb4.1						
WUAZ	**Wupatki**	**48.47**	**303**	*e*P	**P**	**17 53 29.6**	**+0.3**
	5.7nm,0.8s,mb4.7						
PDAR	**Pinedale Array**	**48.69**	**312**	P	**P**	**17 53 31.1**	**+0.3**
	2.9nm,0.7s,mb4.4,baz=113,slow=9.4,SNR=30						
DAU	**Daniels Canyon**	**49.31**	**309**	*e*P	**P**	**17 53 36.7**	**+1.0**
JLU	**Jordanelle**	**49.50**	**309**	*e*P	**P**	**17 53 37.8**	**+0.7**
HWUT	**Hardware Ranch**	**49.82**	**310**	*e*P	**P**	**17 53 38.9**	**-0.6**
	3.6nm,0.9s,mb4.4						
BGU	**Big Grassy Mou**	**50.74**	**309**	*e*P	**P**	**17 53 46.6**	**+0.1**
TPNV	**Topopah Spring**	**52.57**	**304**	*e*P	**P**	**17 54 01.5**	**+1.2**
	11nm,0.9s,mb4.8						
NVAR	**Mina Array Bea**	**54.36**	**305**	P	**P**	**17 54 13.4**	**0.0**
	0.9nm,0.5s,mb4.0,baz=99,slow=7.1,SNR=5.4						
NEW	**Newport**	**55.27**	**317**	P	**P**	**17 54 18.8**	**-1.0**
	2.4nm,0.7s,mb4.3						
DBIC	**Dimbokro**	**55.51**	**94**	*e*P	**P**	**17 54 22.8**	**+0.8**
	15nm,1.3s,mb4.9						
DBIC	**Dimbokro**	**55.51**	**94**	P	**P**	**17 54 23.2**	**+1.2**
	2.9nm,1.0s,mb4.3,baz=194,slow=4.8,SNR=6.1						
PLCA	**Paso Flores**	**58.08**	**189**	P	**P**	**17 54 38.9**	**-0.8**
PLCA	**Paso Flores**	**58.08**	**189**	P	**P**	**17 54 38.6**	**-1.0**
	2.0nm,0.8s,mb4.2,baz=265,slow=3.1,SNR=3.5						
YKA	**Yellowknife Ar**	**58.76**	**334**	P	**P**	**17 54 43.9**	**-0.4**
	2.0nm,0.6s,mb4.3,baz=106,slow=7.3,SNR=47						
TORD	**Torodi Ar. Bea**	**60.23**	**84**	P	**P**	**17 54 55.9**	**+0.7**
TORD	**Torodi Ar. Bea**	**60.23**	**84**	P	**P**	**17 54 55.9**	**+0.7**
	2.8nm,0.8s,mb4.4,baz=291,slow=6.5,SNR=16						
NB2	**NORSAR Subarra**	**66.61**	**30**	P	**P**	**17 55 39.1**	**+2.4**
	comp=Z,0.6nm,0.8s,mb3.7,baz=259,slow=6.5						
NOA	**NORSAR Array B**	**66.61**	**30**	P	**P**	**17 55 39.0**	**+2.3**
	comp=Z,1.0nm,0.8s,mb3.9,baz=262,slow=6.5,SNR=4.0						
FINES	**FINESS Array B**	**73.79**	**30**	P	**P**	**17 56 21.9**	**+1.2**
	comp=Z,0.8nm,0.7s,mb3.8,baz=264,slow=4.0,SNR=6.8						

*ISCJB **14** 18:00:53.6±1.5,3545N±004×14504E±007,h21km±11km, mb4.6/50,MS4.5/18,Error ellipse: s-maj=12.5km s-min=6.5km az=17.5*
*MOS **14** 18:00:54.6±1.1,3545N×14496E,h29km,mb4.9/17,Error ellipse: s-maj=14.7km s-min=8.2km az=100.3*
*BJI **14** 18:00:57.0,3605N×145.10E,h60km,mB5.1,mb4.8,Ms4.7, Msz4.6*
*IDC **14** 18:00:57.0±4.1,3465N×14483E,h29km±29km,mb4.2/12, mb1 4.5/14,mb1mx4.4/17,mbtmp4.4/14,ML4.8/2,MS4.5/8, Ms1 4.5/8,ms1mx4.3/21,Error ellipse: s-maj=27.3km s-min=12.2km az=98.0*
*NEIC **14** 18:00:59.6±1.7,3605N×14505E,h60km±16km,mb4.7/29, Error ellipse: s-maj=11.2km s-min=8.1km az=107.0*
*GCMT **14** 18:00:59.6±0.2,3355N×14509E,h12km,MW5.1/87, Moment Tensor Solution. s46,c66; s87,c154; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.58±.12; $M_{\theta\theta}$-0.79±.11; $M_{\phi\phi}$0.21±.13; $M_{r\theta}$-1.11±.30; $M_{\theta\phi}$5.84±.09; $M_{\phi r}$0.80±.29; Best double couple: $M_0$5.99700×10^{16} NP1:$\phi

comp=Z,220nm,5.4s
NJ2 LR LR
comp=N,960nm,14.5s,MS4.9
NJ2 LR LR
comp=E,760nm,16.6s,MS4.9
KSRS Korea Array 43.85 340 P **P** **18 08 58.7 -1.4**
comp=E,3.4nm,0.9s,mb4.0,baz=163,slow=9.9,SNR=8.3
KSRS LR LR 18 24 11.1
comp=E,595nm,21.1s,MS4.5,baz=165,slow=32
GYA Guiyang 47.64 311 *e*P **P** **18 09 31.1 +0.8**
GYA AP pP 18 09 46.9 +4.8
GYA XP sP 18 09 52.8 +5.9
GYA PCP PcP 18 11 01.3 +1.9
GYA PP PP 18 11 24.3 +2.1
GYA SCP ScP 18 14 49.5 -1.1
GYA S **S** **18 16 23.9 +0.6**
GYA XS sS 18 16 48.6 +5.7
GYA SCS ScS 18 19 18.3 -2.6
GYA SS SS 18 19 47.3 -4.8
GYA AMB AMB
comp=Z,10.0nm,0.8s,mb4.9
GYA AMB AMB
comp=Z,90nm,5.2s
GYA LR LR
comp=N,460nm,18.0s,MS4.7
GYA LR LR
comp=E,510nm,19.8s,MS4.7
GYA LR LR
comp=Z,420nm,20.4s,MS4.4
MDJ Mudanjiang 49.97 346 P **P** **18 09 49.7 +1.9**
comp=Z,6.5nm,0.9s,mb4.7
KMI Kunming 50.00 307 P **P** **18 09 50.0 +1.6**
KMI AP pP 18 10 02.8 +2.6
KMI PP PP 18 11 46.0 +2.3
KMI PPP 18 12 43.3
KMI S **S** **18 16 56.4 -0.1**
KMI SS SS 18 20 26.1 -4.0
KMI SSS 18 21 56.9
KMI AMB AMB
comp=Z,12nm,1.2s,mb4.8
KMI AMB AMB
comp=Z,146nm,6.0s
KMI LR LR
comp=N,295nm,24.1s,MS4.3
KMI LR LR
comp=E,201nm,24.1s,MS4.3
KMI LR LR
comp=Z,406nm,24.1s,MS4.3
CN2 Changchun 50.38 342 *e*P **P** **18 09 52.8 +1.9**
CN2 *e*AP pP 18 10 05.3 +2.5
CN2 *e*S **S** **18 17 03.4 +2.2**
CN2 AMB AMB
comp=Z,10.0nm,0.6s,mb5.0
CN2 AMB AMB
comp=Z,170nm,6.0s
CN2 LR LR
comp=N,400nm,14.0s,MS4.6
CN2 LR LR
comp=E,200nm,14.0s,MS4.6
CN2 LR LR
comp=Z,600nm,15.0s,MS4.7
YSS Yuzh-Sakhalins 50.39 358 *e*P **P** **18 09 50.0 -1.0**
comp=Z,20nm,1.2s,mb5.0
YSS Yuzh-Sakhalins 50.39 358⇑ *e*P **P** **18 09 50.8 -0.1**
YSS pmax pmax
comp=Z,39nm,2.1s,mb5.1
CM31 Chiang Mai Arr 50.41 297 *e*P **P** **18 09 49.3 -2.3**
comp=Z,8.0nm,0.9s,mb4.8
CHTO Chiang Mai 50.53 298 *e*P **P** **18 09 53.9 +1.4**
comp=Z,8.6nm,1.2s,mb4.6
CHTO Chiang Mai 50.53 298 *e*P **P** **18 09 53.9 +1.4**
CHTO pmax pmax
comp=Z,9.0nm,1.2s,mb4.6
XAN Xi'an 50.60 321 P **P** **18 09 51.9 -0.9**
XAN PP PP 18 11 50.9 +1.8
XAN AMB AMB
comp=Z,5.0nm,0.7s,mb4.5
XAN AMB AMB
comp=Z,82nm,5.6s
XAN LR LR
comp=N,127nm,13.4s,MS4.3
XAN LR LR
comp=E,172nm,14.3s,MS4.3
XAN LR LR
comp=Z,247nm,16.6s,MS4.3
BJI Beijing 50.88 331 P **P** **18 09 55.3 +0.6**
BJI PP PP 18 11 51.0 -0.5
BJI S **S** **18 17 08.4 +0.1**
BJI AMB AMB
comp=Z,6.0nm,1.0s,mb4.5
BJI LR LR
comp=N,709nm,20.3s,MS4.7
BJI LR LR
comp=E,564nm,24.4s,MS4.7
BJI LR LR
comp=Z,727nm,26.3s,MS4.6
CD2 Chengdu 52.21 314 P **P** **18 10 05.5 +0.6**
CD2 XP sP 18 10 25.4 +3.7
CD2 PP PP 18 12 05.5 +1.8
CD2 S **S** **18 17 25.8 -1.2**
CD2 XS sS 18 17 49.0 +2.2
CD2 SS SS 18 21 01.8 -3.3
CD2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.9
CD2 AMB AMB
comp=Z,20nm,5.8s
KLR Kul'dur 53.88 349 *e*P **P** **18 10 12.8 -4.0**
LZH Lanzhou 55.13 319 *e*P **P** **18 10 21.8 -4.4**
LZH XP sP 18 10 42.9 -0.1
LZH PP PP 18 12 27.5 -2.5
LZH AMB AMB
comp=Z,31nm,1.5s,mb5.1
LZH AMB AMB
comp=Z,62nm,6.6s
LZH LR LR
comp=N,463nm,15.6s
LZH LR LR
comp=Z,607nm,18.7s,MS4.7
HIA Hailar 57.06 341 *e*P **P** **18 10 39.5 -0.2**
comp=Z,8.7nm,0.8s,mb4.8
HIA Hailar 57.06 341 *e*P **P** **18 10 39.5 -0.2**
HIA pmax pmax
comp=Z,9.0nm,0.8s
GTA Gaotai 59.66 320 *e*P **P** **18 10 58.4 +0.3**
GTA AP pP 18 11 12.3 +2.1
GTA XP sP 18 11 17.9 +2.9
GTA PP PP 18 13 13.1 +2.9
GTA S **S** **18 19 05.3 -0.5**
GTA XS sS 18 19 25.4 -0.5
GTA SS SS 18 23 01.0 -1.2
GTA AMB AMB
comp=Z,6.0nm,1.0s,mb4.6
GTA AMB AMB
comp=Z,88nm,4.6s
GTA LR LR
comp=N,194nm,17.9s,MS4.4
GTA LR LR
comp=E,146nm,16.7s,MS4.4
GTA LR LR
comp=Z,240nm,19.8s,MS4.3
ULN Ulaanbaatar 61.09 332 *e*P **P** **18 11 06.6 -1.0**
comp=Z,8.8nm,1.3s,mb4.7
ULN Ulaanbaatar 61.09 332⇑ *e*P **P** **18 11 07.4 -0.2**
LSA Lhasa 61.25 307 P **P** **18 11 11.6 +2.5**
LSA Lhasa 61.25 307 *e*P **P** **18 11 11.4 +2.3**
comp=Z,6.7nm,1.0s,mb4.7
LSA Lhasa 61.25 307 *e*P **P** **18 11 11.4 +2.3**
LSA pmax pmax
comp=Z,7.0nm,1.0s,mb4.8
SONM Songino Array 61.38 331 P **P** **18 11 08.1 -1.5**
comp=Z,1.2nm,0.8s,mb4.0,baz=134,slow=6.2,SNR=3.7
SONM LR LR 18 35 33.9
comp=Z,492nm,20.6s,MS4.7,baz=308,slow=34
CLNS Chul'man 62.44 348 *e*P **P** **18 11 13.6 -2.9**
CLNS pmax pmax
comp=Z,15nm,0.8s,mb5.2
CLNS pmax pmax
comp=N,7.0nm,0.7s
CLNS pmax pmax
comp=E,6.0nm,0.8s
ZAK Zakamensk 64.62 332⇑ *e*P **P** **18 11 30.6 -0.5**
ZAK pmax pmax
comp=Z,6.0nm,1.1s,mb4.5
TLY Talaya 65.34 333 P **P** **18 11 37.0 +1.2**
comp=Z,2.7nm,0.7s,mb4.4
TLY Talaya 65.34 333 *e*P **P** **18 11 36.8 +1.1**
TLY pmax pmax
comp=Z,7.0nm,1.4s,mb4.5
PPT Papeete 65.47 108 *e*LR LR 18 31 28.7
comp=Z,368nm,32.0s
TBI Tubuai 66.12 114 *e*LQ 18 28 58.5
comp=Z,527nm,34.0s
TBI *e*LR LR 18 31 44.7
comp=Z,503nm,39.0s
BOD Bodaibo 66.12 342 *e*P **P** **18 11 39.3 -1.3**
BOD pmax pmax
comp=Z,5.0nm,1.8s,mb4.2
YAK Yakutsk 66.52 352 *e*P **P** **18 11 45.6 +2.6**
comp=Z,8.9nm,0.8s,mb4.8
YAK Yakutsk 66.52 352 *e*P **P** **18 11 46.1 +3.0**
YAK *e**PP pP 18 12 12.1 +17
YAK *e* 18 14 17.8
YAK *e*PPP 18 15 50.2
YAK *e*S S 18 20 31.1 +0.5
YAK *e* 18 21 39.8
YAK *e*SS SS 18 24 50.1 +1.8
YAK pmax pmax
comp=Z,17nm,1.5s,mb4.8
YAK pmax pmax
comp=N,8.0nm,1.2s
YAK pmax pmax
comp=E,5.0nm,1.5s
YAK pmax pmax
comp=Z,108nm,4.4s
YAK pmax pmax
comp=N,92nm,5.5s
YAK pmax pmax
comp=E,100nm,5.0s
YAK smax
comp=E,106nm,10.4s
YAK smax
comp=N,83nm,9.8s
MOY Mondy 66.56 332 *e*P **P** **18 11 44.9 +1.4**
SEY Seymchan 66.60 4⇑ *e*P **P** **18 11 42.5 -1.1**
WMQ Urumqi 69.71 319 *e*P **P** **18 12 05.1 +1.6**
WMQ AP pP 18 12 19.0 +3.1
WMQ XP sP 18 12 25.0 +4.4
WMQ PCP PcP 18 12 28.0 +1.9
WMQ PP PP 18 14 42.0 +3.8
WMQ *e*S S 18 21 09.0 -0.5
WMQ XS sS 18 21 34.0 +4.0
WMQ AMB AMB
comp=Z,10.0nm,1.5s,mb4.5
WMQ AMB AMB
comp=Z,193nm,4.7s
WMQ LR LR
comp=N,314nm,25.0s,MS4.5
WMQ LR LR
comp=E,244nm,29.2s,MS4.5
WMQ LR LR
comp=Z,346nm,32.4s,MS4.4
BILL Bilibino 73.03 8 *e*P **P** **18 12 24.1 +1.0**
comp=Z,4.6nm,1.1s,mb4.3
BILL Bilibino 73.03 8 *e*P **P** **18 12 24.1 +1.0**
BILL pmax pmax
comp=Z,5.0nm,1.1s,mb4.4
VNDA Vanda 74.40 176 *e*P **P** **18 12 32.1 +1.1**
comp=Z,10nm,1.5s,mb4.5
VNDA Vanda 74.40 176 *e*P **P** **18 12 32.1 +1.1**
VNDA pmax pmax
comp=Z,10.0nm,1.5s
VNDA Vanda 74.40 176 P **P** **18 12 34.3 +3.3**
comp=Z,1.7nm,0.7s,mb4.1,baz=313,slow=6.0,SNR=9.1
MK31 Makanchi Array 74.42 321 *e*P **P** **18 12 31.4 -0.2**
MKAR Makanchi Array 74.42 321 P **P** **18 12 31.8 +0.1**
MKAR Makanchi Array 74.42 321⇑ *e*P **P** **18 12 31.7 +0.1**
MKAR Makanchi Array 74.42 321 P **P** **18 12 31.8 +0.1**
comp=Z,1.5nm,0.8s,mb4.0,baz=108,slow=7.8,SNR=12
TAOE Nuku Hiva Isla 74.47 98 *e*LR LR 18 35 30.6
comp=Z,7μm,26.4s
TIXI Tiksi 75.86 355 *e*P **P** **18 12 37.7 -1.8**
comp=Z,2.5nm,0.9s,mb4.1
TIXI Tiksi 75.86 355⇑ *e*P **P** **18 12 38.7 -0.8**
TIXI pmax pmax
comp=Z,2.0nm,0.9s,mb4.0
ZALV Zalesovo Beam 75.96 328 P **P** **18 12 40.0 -0.3**
comp=Z,1.0nm,0.7s,mb3.9,baz=108,slow=4.8,SNR=5.0
ZAL Zalesovo 75.97 328 P **P** **18 12 40.1 -0.3**
NVS Novosibirsk 77.19 328 *e*P **P** **18 12 46.6 -0.7**
NVS pmax pmax
comp=Z,16nm,1.6s,mb4.7
NVS pmax pmax
comp=N,8.0nm,1.7s
NVS pmax pmax
comp=E,8.0nm,1.4s
TKM2 Tokmak 2 77.58 315 *e*P **P** **18 12 47.9 -1.8**
comp=E,10nm,1.3s,mb4.6
TKM2 Tokmak 2 77.58 315 *e*P **P** **18 12 47.9 -1.8**
TKM2 pmax pmax
comp=Z,10.0nm,1.3s,mb4.6
KURK Kurchatov 78.14 323 *e*P **P** **18 12 52.4 -0.3**
comp=Z,7.7nm,1.1s,mb4.5
KURK Kurchatov 78.14 323⇑ *e*P **P** **18 12 53.1 +0.4**
UCH Uchtor 78.15 314 *e*P **P** **18 12 53.6 +0.7**
comp=Z,18nm,1.4s,mb4.8
AML Almayashu 78.71 314 *e*P **P** **18 12 57.0 +1.0**
comp=Z,18nm,1.2s,mb4.9
EKS2 Erkin-Say 78.79 315 *e*P **P** **18 12 56.0 -0.5**
comp=Z,8.5nm,1.2s,mb4.5
SVW2 Sparrevohn 78.92 25 *e*P **P** **18 12 57.0 +0.3**
TTA Tatalina 79.65 23 *e*P **P** **18 12 59.1 -1.6**
comp=Z,9.8nm,1.0s,mb4.7
TTA Tatalina 79.65 23 *e*P **P** **18 12 59.1 -1.6**
TTA pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
SML Sawmill 82.37 26 *e*P **P** **18 13 15.0 -0.2**
MCK McKinley 82.86 24 *e*P **P** **18 13 16.3 -1.4**
comp=Z,16nm,1.1s,mb5.0
MCK McKinley 82.86 24 *e*P **P** **18 13 16.3 -1.4**
MCK pmax pmax
comp=Z,16nm,1.1s,mb5.0
BVAR Borovoye Array 83.70 324 P **P** **18 13 21.9 -0.3**
comp=Z,3.7nm,0.8s,mb4.6,baz=104,slow=6.3,SNR=22
BRVK Borovoye 83.77 324 *e*P **P** **18 13 21.9 -0.7**
comp=Z,12nm,1.2s,mb4.9
BRVK Borovoye 83.77 324 *e*P **P** **18 13 21.9 -0.7**
BRVK pmax pmax
comp=Z,12nm,1.2s,mb4.9
DAWY Dawson 86.96 25 *e*P **P** **18 13 38.9 +0.5**
YKA Yellowknife Ar 97.98 27 P **P** **18 14 29.1 -0.3**
YKA Yellowknife Ar 97.98 27 P **P** **18 14 29.1 -0.3**
comp=Z,0.3nm,0.9s,mb3.8,baz=278,slow=4.3,SNR=4.6
LVV L'vov 112.37 323 *e*PKIKP PKiKP 18 19 28.8 -0.6
LVV MLR MLR
comp=Z,100nm,18.0s,MS4.5
LVV MLR MLR
comp=N,100nm,19.0s,MS4.6
LVV MLR MLR
comp=E,100nm,16.0s,MS4.6
TOA0 Torodi Ar. Sit 142.56 287 PKPdf PKPdf 18 20 27.8 +0.3
TORD Torodi Ar. Bea 142.56 287 PKP PKPdf 18 20 24.9 -2.6
comp=E,0.5nm,0.9s,baz=68,slow=1.1,SNR=2.4
SDV Santo Domingo 144.19 80 *e*PKPdf PKPdf 18 20 29.7 -0.7

ISCJB ***14*** *18:11:24.5±0.9, 3658N±008×2700E±005, h143km±9km, Error ellipse: s-maj=13.0km s-min=7.1km az=174.0*
ATH ***14*** *18:11:25.3, 3680N×2658E, h7km, MD3.5/7*
CSEM ***14*** *18:11:25.2±0.1, 3607N×2720E, h5km, MD2.6, Error ellipse: s-maj=3.7km s-min=3.1km az=172.0*
NEIC ***14*** *18:11:25.3, 3680N×2658E, h7km, MD3.5(ATH), After ATH.*
HLW ***14*** *18:11:33.1, 3588N×2730E, h33km, Mb3.8*
DDA ***14*** *18:11:36.9, 3663N×2768E, h7km±11km, Md2.6*
ISC 14 18:11:25.5±0.9, 3657N±008×2699E±005, h140km±9km, n20, σ1°9°03/25, 4C-9D, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BDRM	**Kayabasi**	**0.62**	**37**	*i* P	**Pn**	**18 11 47.0**	**+0.6**
BDRM				*i* S	**Sn**	**18 12 00.0**	**-2.3**
ARG	**Arkhangelos**	**0.99**	**111**	⇓*i* PG	**Pn**	**18 11 51.0**	**+1.8**
KARP	**Karpathos**	**1.03**	**172**	*e*PB	**Pn**	**18 11 50.9**	**+1.3**
NPS	**Neapolis**	**1.71**	**221**	⇓*i* PN	**Pn**	**18 11 57.0**	**+0.3**
NPS				*e*SN	**Sn**	**18 12 20.1**	**-0.4**
AKAS	**Kas**	**2.14**	**98**	*i* P	**Pn**	**18 12 03.4**	**+1.8**
AKAS				*i* S	**Sn**	**18 12 28.6**	**-0.8**
GOLH	**Golhisar**	**2.17**	**71**	*i* P	**Pn**	**18 12 03.7**	**+1.7**
GOLH				*e*S	**Sn**	**18 12 26.7**	**-3.3**
VAM	**Vamos**	**2.54**	**244**	⇑*i* PN	**Pn**	**18 12 06.9**	**+0.3**
GVD	**Gavdhos**	**2.92**	**235**	*e*PB	**Pn**	**18 12 12.5**	**+1.1**
VLI	**Veliai**	**3.26**	**274**	*e*PN	**Pn**	**18 12 14.6**	**-1.1**
VLI				*e*SN	**Sn**	**18 12 50.7**	**-3.9**
ITM	**Ithomi**	**4.10**	**280**	*e*PN	**Pn**	**18 12 26.7**	**0.0**
HMAT	**Matruh**	**5.46**	**179**	⇓P	**Pn**	**18 12 45.5**	**+0.6**
HMAT				S	Px	18 13 34.1	
SWA1		**7.36**	**189**	⇓*e*P	**Pn**	**18 13 09.8**	**-0.6**
SWA1				S	Px	18 14 20.9	
AMAG	**Maghara**	**7.87**	**137**	⇓*e*P	**Pn**	**18 13 16.3**	**-0.8**
GLL	**Jalalah**	**8.02**	**149**	⇓*e*P	**Pn**	**18 13 18.2**	**-1.0**
GLL				S	Px	18 14 34.6	
SUZ		**8.31**	**142**	⇓P	**Pn**	**18 13 22.6**	**-0.4**
HNKL	**Nakhl**	**8.84**	**137**	⇓*e*P	**Pn**	**18 13 29.7**	**-0.4**
HFRF	**Wahat Farafira**	**9.46**	**173**	⇓*e*P	**Pn**	**18 13 38.0**	**-0.5**
GRB	**Gharib**	**9.62**	**148**	⇑P	**Pn**	**18 13 40.5**	**-0.1**
ASUT		**9.94**	**156**	⇑*e*P	**Pn**	**18 13 44.6**	**-0.1**
HKAT	**Jabal Katrina**	**9.96**	**142**	⇓*e*P	**Pn**	**18 13 45.3**	**+0.1**

BJI ***14*** *18:25:25.2, 351S×14555E, h28km, mB5.3, mb4.9, Ms4.9, Msz4.7*
IDC ***14*** *18:25:25.7±0.8, 341S×14493E, h0km, mb4.5/14, mb1 4.7/16, mb1mx4.7/18, mbtmp4.6/16, ML4.7/2, MS4.6/15, Ms1 4.5/15, ms1mx4.3/23, Error ellipse: s-maj=26.4km s-min=11.0km az=98.0*
ISCJB ***14*** *18:25:27.0±0.3, 355S±004×14520E±006, h29km, mb4.8/57, MS4.6/25, Error ellipse: s-maj=8.7km s-min=5.1km az=12.2*
MOS ***14*** *18:25:27.6±1.0, 352S×145.12E, h33km, mb5.0/19, Error ellipse: s-maj=13.1km s-min=8.0km az=100.5*
GCMT ***14*** *18:25:28.3±0.2, 334S×145.15E, h12km, MW5.1/90, Moment Tensor Solution. s44,c57; s90,c154; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr0.03±.11; Mθθ-0.78±.10; Mφφ0.75±.12; Mrθ-1.67±.30; Mrφ5.57±.08; Mθφ1.05±.28; Best double couple: M0 5.93500×10^16 NP1:φs177.00000°, δ75.00000°, λ-170.00000°. NP2: φs85.00000°, δ80.00000°, λ-15.00000°. Principal axes: T 5.6260, Plg3.0000°, Azm132.0000°; N 0.6180, Plg72.0000°, Azm232.0000°; P -6.2440, Plg17.0000°, Azm41.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***14*** *18:25:28.3±3.6, 352S×145.12E, h25km±26km, mb4.9/33 Error ellipse: s-maj=9.4km s-min=7.7km az=104.0*
ISC 14 18:25:29.1±0.3, 357S±004×14519E±006, h31km, h31km±1.4km: pP-P, n142, σ1°11/153, mb4.8/57, MS4.6/25, 8C, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**15.54**	**234**	*e*P	**Pn**	**18 29 05.9**	**-0.3**
82nm,1.4s							
KAKA	**Kakadu**	**15.54**	**234**	*e*Pn	**Pn**	**18 29 04.5**	**-1.6**
92nm,1.0s							
HNR	**Honiara**	**15.77**	**112**	*e*Pn	**Pn**	**18 29 09.6**	**+0.5**
138nm,1.0s							
HNR	**Honiara**	**15.77**	**112**	*e*P	**Pn**	**18 29 09.6**	**+0.5**
HNR				pmax	pmax		
comp=Z,138nm,1.0s							
HNR	**Honiara**	**15.77**	**112**	Pn	**Pn**	**18 29 12.6**	**+3.5**
comp=Z,2.5nm,0.3s,baz=251,slow=4.8,SNR=9.7							
HNR				LR	LR	18 34 13.0	
comp=Z,2μm,21.3s,baz=352,slow=33							
CTA	**Charters Tower**	**16.45**	**176**	*e*P	pP	18 29 29.4	+1.0
comp=Z,13nm,1.0s							
CTA				*e*S	**Sn**	**18 32 37.0**	**+17**
CTA	**Charters Tower**	**16.45**	**176**	Pn	**Pn**	**18 29 25.3**	**+7.5**
CTA				*e*P		18 29 29.4	
CTA				*e*S	**Sn**	**18 32 37.0**	**+17**
CTA				LR	LR	18 35 45.7	
CTA	**Charters Tower**	**16.45**	**176**	Pn	**Pn**	**18 29 25.3**	**+7.5**
comp=Z,0.2nm,0.3s,baz=353,slow=8.1,SNR=2.1							
CTA				LR	LR	18 35 45.7	
comp=Z,1μm,19.3s,baz=360,slow=37							
CTAO	**Charters Tower**	**16.45**	**176**	Pn	**Pn**	**18 29 22.2**	**+4.4**
comp=Z,24nm,1.1s							
CTAO	**Charters Tower**	**16.45**	**176**	P	**Pn**	**18 29 22.2**	**+4.4**
CTAO				pmax	pmax		
comp=Z,24nm,1.1s							
WRAB	**Tennant Creek**	**19.40**	**212**	*e*P	**Pn**	**18 29 53.2**	**-0.9**
comp=Z,97nm,1.1s							
WRAB				*e*S	**Sn**	**18 33 37.6**	**+6.6**
WRAB	**Tennant Creek**	**19.40**	**212**	*e*P	**Pn**	**18 29 53.2**	**-0.9**
WRAB				pmax	pmax		
comp=Z,97nm,1.1s							
WB2	**Warramunga Arr**	**19.41**	**212**	*e*P	**Pn**	**18 29 53.7**	**-0.5**
WB2				*e*S	**Sn**	**18 33 27.7**	**-3.4**
WB2	**Warramunga Arr**	**19.41**	**212**	*e*P	**Pn**	**18 29 53.6**	**-0.6**
WRA	**Warramunga Arr**	**19.41**	**212**	P	**Pn**	**18 29 53.7**	**-0.5**
comp=Z,2.4nm,0.3s,baz=34,slow=10,SNR=237							
WRA				LR	LR	18 38 13.3	
comp=Z,4μm,19.9s,baz=35,slow=40							
BATI	**Kupang**	**22.36**	**252**	P	**P**	**18 30 24.5**	**-0.3**
comp=Z,51nm,0.7s,mb5.1,baz=54,slow=1.4,SNR=15							
ASAR	**Alice Springs**	**22.76**	**208**	P	**P**	**18 30 29.9**	**+0.9**
comp=Z,28nm,1.0s,mb4.6,baz=31,slow=12,SNR=171							
ASAR				S	**S**	**18 34 40.9**	**+4.6**
comp=Z,8.7nm,1.1s,baz=31,slow=18,SNR=6.2							
FITZ	**Fitzroy Crossi**	**23.98**	**232**	*e*P	**P**	**18 30 40.1**	**-1.1**
comp=Z,58nm,0.8s,mb5.1							
FITZ				*e*S	**S**	**18 34 59.6**	**+3.3**
FITZ	**Fitzroy Crossi**	**23.98**	**232**	*e*P	**P**	**18 30 40.2**	**-0.9**
comp=Z,81nm,0.8s,mb5.2							
FITZ	**Fitzroy Crossi**	**23.98**	**232**	P	**P**	**18 30 40.8**	**-0.4**
comp=Z,20nm,0.6s,mb4.8,baz=65,slow=11,SNR=116							
STKA	**Stephens Creek**	**28.36**	**186**	*e*P	**P**	**18 31 22.6**	**+2.1**
comp=Z,6.6nm,0.8s,mb4.3							
STKA	**Stephens Creek**	**28.36**	**186**	*e*P	**P**	**18 31 22.5**	**+2.0**
comp=Z,9.0nm,0.8s,mb4.5							
STKA	**Stephens Creek**	**28.36**	**186**	P	**P**	**18 31 22.9**	**+2.4**
comp=Z,7.8nm,1.0s,mb4.3,baz=333,slow=8.4,SNR=12							
STKA				LR	LR	18 43 56.3	
comp=Z,2μm,18.7s,MS4.7,baz=3.5,slow=39							
MBWA	**Marble Bar**	**30.31**	**233**	*e*P	**P**	**18 31 37.5**	**-0.5**
KKM	**Kota Kinabalu**	**30.47**	**288**	*e*P	**P**	**18 31 38.2**	**-1.4**
FORT	**Forrest**	**31.53**	**209**	*e*P	**P**	**18 31 49.7**	**+1.1**
comp=Z,21nm,0.6s,mb5.1							
FORT	**Forrest**	**31.53**	**209**	*e*P	**P**	**18 31 47.8**	**-0.8**
comp=Z,4.9nm,0.8s,mb4.4							
JOW	**Kunigami**	**34.36**	**333**	P	**P**	**18 32 12.8**	**-0.6**
comp=Z,13nm,0.8s,mb5.0,baz=166,slow=5.5,SNR=5.2							
JOW				LR	LR	18 43 11.8	
comp=Z,2μm,20.6s,MS4.8,baz=272,slow=31							
KSM	**Kuching**	**35.23**	**278**	*e*P	**P**	**18 32 20.4**	**-0.7**
NACB	**Ningangchiao**	**35.89**	**321**	*e*P	**P**	**18 32 25.7**	**-0.9**
YHNB	**Yeheng**	**36.39**	**322**	*e*P	**P**	**18 32 29.2**	**-1.6**
QZH	**Quanzhou**	**38.35**	**319**	⇑*i*P	**P**	**18 32 47.3**	**-0.2**
QZH				S	**S**	**18 38 41.5**	**+1.2**
QZH				AMB	AMB		
comp=Z,40nm,0.7s,mb5.3							
QZH				AMB	AMB		
comp=Z,500nm,4.1s							
QZH				LR	LR		
comp=N,500nm,8.7s							
QZH				LR	LR		
comp=E,720nm,14.3s							
QZH				LR	LR		
comp=Z,820nm,16.8s,MS4.6							
JNU	**Nakatsue**	**38.93**	**341**	P	**P**	**18 32 52.1**	**-0.1**
comp=Z,9.3nm,1.1s,mb4.4,baz=96,slow=9.8,SNR=3.0							
JNU				LR	LR	18 46 01.7	
comp=Z,855nm,21.1s,MS4.5,baz=155,slow=32							
NWAO	**Narrogin (SRO)**	**39.20**	**219**	P	**P**	**18 32 52.7**	**-1.9**
comp=Z,15nm,1.0s,mb4.7							
NWAO	**Narrogin (SRO)**	**39.20**	**219**	P	**P**	**18 32 52.7**	**-1.9**
NWAO				pmax	pmax		
comp=Z,15nm,1.0s							
MJAR	**Matsushiro Arr**	**40.43**	**351**	P	**P**	**18 33 02.8**	**-2.0**
comp=Z,4.7nm,1.1s,mb4.2,baz=178,slow=9.5,SNR=6.3							
MAJO	**Matsushiro**	**40.44**	**351**	*e*P	**P**	**18 33 04.0**	**-0.8**
comp=Z,33nm,1.3s,mb4.9							
MAJO	**Matsushiro**	**40.44**	**351**	*e*P	**P**	**18 33 04.0**	**-0.7**
MAJO				pmax	pmax		
comp=Z,33nm,1.3s,mb4.9							
MAT	**Matsushiro**	**40.44**	**351**	P	**P**	**18 33 03.4**	**-1.3**
MAT				S	**S**	**18 39 07.0**	**-4.3**
GZH	**Guangzhou**	**40.83**	**312**	P	**P**	**18 33 09.8**	**+1.5**
GZH				S	**S**	**18 39 24.1**	**+6.4**
GZH				LR	LR		
comp=N,350nm,17.6s,MS4.5							
GZH				LR	LR		
comp=E,534nm,18.5s,MS4.5							
GZH				LR	LR		

comp=Z,782nm,25.9s
SSE Sheshan 41.38 328 P P 18 33 12.3 -0.3
SSE S **S** **18 39 29.4 +3.9**
SSE AMB AMB
comp=Z,27nm,0.7s,mb5.0
SSE AMB AMB
comp=Z,160nm,6.2s
SSE LR LR
comp=N,613nm,20.0s,MS4.5
SSE LR LR
comp=E,394nm,20.2s,MS4.5
SSE LR LR
comp=Z,1μm,20.0s,MS4.7
QIZ Qiongzhong 41.40 304 P P 18 33 12.9 -0.1
QIZ S **S** **18 39 29.5 +3.3**
QIZ SS SS 18 42 33.6 +2.5
QIZ AMB AMB
comp=Z,14nm,1.2s,mb4.5
QIZ AMB AMB
comp=Z,221nm,4.8s
QIZ LR LR
comp=N,356nm,20.1s,MS4.4
QIZ LR LR
comp=E,353nm,22.2s,MS4.4
QIZ LR LR
comp=Z,780nm,27.0s,MS4.4
KSRS Korea Array 43.86 340 P P 18 33 31.7 -1.0
comp=Z,4.6nm,0.9s,mb4.2,baz=162,slow=9.5,SNR=12
KSRS LR LR 18 48 33.5
comp=Z,696nm,21.7s,MS4.5,baz=166,slow=32
WHN Wuhan 44.92 321 P P 18 33 42.3 +1.0
KULM Kulim 45.35 281 *eP* **P 18 33 41.3 -3.8**
GYA Guiyang 47.74 311 ⇑*iP* **P 18 34 04.5 +1.0**
GYA AP pP 18 34 13.9 +1.1
GYA XP sP 18 34 18.3 +1.8
GYA PCP PcP 18 35 34.5 +2.0
GYA PP PP 18 35 56.8 +1.3
GYA SCP ScP 18 39 25.3 +0.5
GYA S **S** **18 40 58.9 +0.8**
GYA XS sS 18 41 13.3 0.0
GYA SCS ScS 18 43 54.0 -1.2
GYA SS SS 18 44 21.8 -5.1
GYA AMB AMB
comp=Z,20nm,1.1s,mb5.1
GYA AMB AMB
comp=Z,170nm,3.8s
GYA LR LR
comp=N,480nm,18.6s,MS4.7
GYA LR LR
comp=E,560nm,19.4s,MS4.7
GYA LR LR
comp=Z,470nm,20.2s,MS4.5
NST Nakhon Sawan 48.51 294 P P 18 34 06.5 -3.1
KMI Kunming 50.10 307 P P 18 34 23.3 +1.6
KMI AP pP 18 34 32.3 +1.3
KMI XP sP 18 34 36.1 +1.4
KMI PP PP 18 36 19.3 +2.2
KMI PPP 18 37 16.3
KMI S **S** **18 41 31.5 +0.1**
KMI XS sS 18 41 46.6 -0.1
KMI SS SS 18 44 59.3 -5.7
KMI SSS 18 46 32.8
KMI AMB AMB
comp=Z,24nm,1.2s,mb5.1
KMI AMB AMB
comp=Z,190nm,5.0s
KMI LR LR
comp=N,270nm,25.2s,MS4.3
KMI LR LR
comp=E,276nm,24.2s,MS4.3
KMI LR LR
comp=Z,476nm,26.2s,MS4.4
YSS Yuzh-Sakhalins 50.35 358 P P 18 34 22.4 -0.7
comp=Z,35nm,1.5s,mb5.2
YSS Yuzh-Sakhalins 50.35 358 P P 18 34 22.4 -0.8
YSS pmax pmax
comp=Z,35nm,1.5s,mb5.2
CN2 Changchun 50.39 341 *eP* **P 18 34 25.1 +1.6**
CN2 *e*XP sP 18 34 36.1 -0.4
CN2 *e*S **S** **18 41 34.3 -0.5**
CN2 AMB AMB
comp=Z,10.0nm,1.0s,mb4.8
CN2 AMB AMB
comp=Z,130nm,4.0s
CN2 LR LR
comp=N,500nm,14.0s,MS4.8
CN2 LR LR
comp=E,300nm,14.0s,MS4.8
CN2 LR LR
comp=Z,700nm,14.0s,MS4.8
CM31 Chiang Mai Arr 50.53 297 *eP* **P 18 34 25.9 +0.9**
comp=Z,10.0nm,0.9s,mb4.8
CM31 *e* 18 34 39.1
CHG Chiang Mai 50.66 298 ⇑P **P 18 34 26.5 +0.5**
comp=Z,24nm,1.1s,mb5.0
CHTO Chiang Mai 50.66 298 *eP* **P 18 34 26.0 0.0**
comp=Z,14nm,1.2s,mb4.8
CHTO Chiang Mai 50.66 298 *eP* **P 18 34 26.0 0.0**
CHTO pmax pmax
comp=Z,14nm,1.2s,mb4.8
XAN Xi'an 50.67 321 P P 18 34 24.8 -1.0
XAN S **S** **18 41 39.3 +0.2**
XAN AMB AMB
comp=Z,18nm,1.0s,mb5.0
XAN AMB AMB
comp=Z,82nm,5.6s
XAN LR LR
comp=E,243nm,14.4s
XAN LR LR
comp=Z,407nm,16.8s,MS4.5
BJI Beijing 50.92 331 P P 18 34 26.0 -1.6
BJI PP PP 18 36 23.1 -1.1
BJI S **S** **18 41 45.8 +3.6**
BJI AMB AMB
comp=Z,10.0nm,0.7s,mb4.8
BJI LR LR
comp=N,846nm,21.9s,MS4.8
BJI LR LR
comp=E,606nm,21.3s,MS4.8
BJI LR LR
comp=Z,859nm,23.9s,MS4.7
CD2 Chengdu 52.30 314 P P 18 34 38.8 +0.7
CD2 AP pP 18 34 47.3 -0.1
CD2 XP sP 18 34 50.8 -0.3
CD2 PP PP 18 36 39.8 +2.9
CD2 S **S** **18 42 02.9 +1.3**
CD2 XS sS 18 42 15.3 -1.7
CD2 SS SS 18 45 38.8 -1.0
CD2 AMB AMB
comp=Z,50nm,0.7s,mb5.5
CD2 AMB AMB
comp=Z,80nm,5.8s
CD2 LR LR
comp=N,250nm,16.4s,MS4.6
CD2 LR LR
comp=E,350nm,14.4s,MS4.6
CD2 LR LR
comp=Z,200nm,12.8s,MS4.3
HABR Khabarovsk 52.58 352 *eP* **P 18 34 37.6 -2.2**
HABR *e* pP 18 34 47.5 -1.7
HABR *e* 18 34 51.8
HABR *e* 18 35 47.4
HABR *e* 18 36 36.6
HABR S **S** **18 42 02.5 -2.3**
HABR *e* 18 42 21.6
HABR *e* 18 44 25.8
HABR *e* 18 45 43.4
KLR Kul'dur 53.87 349 *eP* **P 18 34 43.8 -5.5**
LZH Lanzhou 55.20 319 *eP* **P 18 35 00.5 +1.2**
LZH AP pP 18 35 10.6 +1.9
LZH XP sP 18 35 14.5 +2.2
LZH PP PP 18 37 05.8 +2.8
LZH *e*S **S** **18 42 40.4 -0.4**
LZH XS sS 18 42 57.3 +1.0
LZH AMB AMB
comp=Z,22nm,1.5s,mb5.0
LZH AMB AMB
comp=Z,96nm,7.1s
LZH LR LR
comp=E,417nm,16.2s
LZH LR LR
comp=Z,621nm,18.5s,MS4.7
HIA Hailar 57.07 340 *eP* **P 18 35 11.2 -1.1**
comp=Z,18nm,1.2s,mb5.0
HIA Hailar 57.07 340 *eP* **P 18 35 11.2 -1.1**
HIA pmax pmax
comp=Z,18nm,1.2s
SHL Shillong 59.20 303 *eP* **P 18 35 29.0 +1.3**
GTA Gaotai 59.73 320 ⇑*iP* **P 18 35 31.8 +0.7**
GTA AP pP 18 35 41.6 +1.0
GTA XP sP 18 35 45.8 +1.5
GTA PP PP 18 37 46.3 +3.0
GTA S **S** **18 43 40.3 +0.1**
GTA XS sS 18 43 57.0 +1.2
GTA SS SS 18 47 37.3 +0.7
GTA AMB AMB
comp=Z,20nm,0.9s,mb5.2
GTA AMB AMB
comp=Z,235nm,4.6s
GTA LR LR
comp=N,235nm,14.8s,MS4.5
GTA LR LR
comp=E,191nm,17.1s,MS4.5
GTA LR LR
comp=Z,282nm,22.8s
ULN Ulaanbaatar 61.13 332 *eP* **P 18 35 40.6 +0.1**
comp=Z,8.0nm,1.0s,mb4.8
ULN Ulaanbaatar 61.13 332 ⇑*iP* **P 18 35 40.9 +0.4**
LSA Lhasa 61.35 307 P **P 18 35 44.0 +1.6**
LSA Lhasa 61.35 307 *eP* **P 18 35 43.8 +1.5**
comp=Z,16nm,1.1s,mb5.1
LSA Lhasa 61.35 307 *eP* **P 18 35 43.8 +1.4**
LSA pmax pmax
comp=Z,16nm,1.1s,mb5.1
SONM Songino Array 61.42 331 P **P 18 35 42.8 +0.4**
comp=Z,4.1nm,0.9s,mb4.6,baz=148,slow=5.6,SNR=15
SONM LR LR 19 01 39.0
comp=Z,640nm,19.2s,MS4.8,baz=307,slow=36
NRGR Nerungri 62.30 347 *eP* **P 18 35 49.1 +0.9**
NRGR S **S** **18 44 15.9 +3.7**
NRGR smax
comp=N,15nm,0.5s
CLNS Chul'man 62.43 348 *eP* **P 18 35 43.0 -6.0**
CLNS *e**PP pP 18 35 49.6 -9.0
CLNS *e*S **S** **18 44 14.2 +0.3**
CLNS *e*PS 18 44 47.0
CLNS pmax pmax
comp=N,8.0nm,0.8s
CLNS pmax pmax
comp=E,6.0nm,0.8s
CLNS pmax pmax
comp=Z,6.0nm,0.8s,mb4.8
CLNS pmax pmax
comp=Z,7.0nm,0.7s,mb4.9
CLNS smax
comp=E,128nm,14.4s
CLNS smax
comp=Z,47nm,12.5s
CLNS smax
comp=N,139nm,13.4s
CLNS MLR MLR
comp=Z,200nm,15.0s,MS4.4
MA2 Magadan 63.11 3 *eP* **P 18 35 54.4 +0.9**
comp=Z,7.6nm,0.8s,mb4.9
MA2 Magadan 63.11 3 *eP* **P 18 35 55.7 +2.2**
MA2 *e*S **S** **18 44 24.4 +2.2**
MA2 *e*SS SS 18 48 23.8 -4.9
MA2 *e*SSS 18 51 16.8
MA2 pmax pmax
comp=Z,10.0nm,0.9s,mb5.0
MA2 MLR MLR
comp=E,300nm,17.7s
ZAK Zakamensk 64.66 332 *eP* **P 18 36 03.6 -0.3**
ZAK pmax pmax
comp=Z,8.0nm,1.1s,mb4.7
PPT Papeete 65.33 108 *eS* S 18 45 05.4 +14
comp=Z,529nm,31.5s
PPT Papeete 65.33 108 *e*LR LR 18 56 02.2
comp=Z,407nm,30.5s
PPT Papeete 65.33 108 LR LR 19 01 28.3
comp=Z,153nm,19.5s,MS4.2,baz=272,slow=33
TLY Talaya 65.38 333 *eP* **P 18 36 07.7 -0.8**
comp=Z,11nm,1.4s,mb4.7
TLY Talaya 65.38 333 *i P* **P 18 36 08.2 -0.3**
TLY pmax pmax
comp=Z,2.0nm,1.4s,mb4.0
IRK Irkutsk 65.48 334 *eP* **P 18 36 11.0 +1.8**
IRK pmax pmax
comp=Z,31nm,4.2s
KKN Kakani 65.51 303 *eP* **P 18 36 10.3 +0.4**
comp=Z,18nm,0.8s,mb5.1
KKN Kakani 65.51 303 *eP* **P 18 36 10.3 +0.4**
KKN pmax pmax
comp=Z,18nm,0.8s,mb5.2
DMN Daman 65.59 302 *eP* **P 18 36 11.2 +0.7**
comp=Z,56nm,0.9s,mb5.6
TBI Tubuai 65.98 114 *e*LQ 18 53 34.0
comp=Z,423nm,31.8s
TBI *e*LR LR 18 56 16.3
comp=Z,522nm,39.5s
GKN Gorkha 66.11 303 *eP* **P 18 36 14.4 +0.6**
comp=Z,42nm,1.1s,mb5.4
YAK Yakutsk 66.49 352 *eP* **P 18 36 15.7 +0.2**
comp=Z,17nm,0.9s,mb5.1
YAK Yakutsk 66.49 352 *eP* **P 18 36 15.6 +0.1**
YAK *e* 18 36 44.1
YAK *e* 18 38 43.2
YAK *e*PPP 18 40 20.3
YAK *e*S S 18 44 59.4 -4.4
YAK *e**SS sS 18 45 39.1 +19
YAK *e* 18 46 01.0
YAK *e*SS SS 18 49 20.0 -1.3
YAK pmax pmax
comp=Z,24nm,1.4s,mb5.0
YAK pmax pmax
comp=N,15nm,1.3s
YAK pmax pmax
comp=E,7.0nm,1.6s
YAK pmax pmax
comp=Z,221nm,6.3s
YAK pmax pmax
comp=N,57nm,4.3s
YAK pmax pmax
comp=E,88nm,3.8s
YAK smax
comp=N,84nm,10.1s
YAK smax
comp=E,240nm,11.4s
SEY Seymchan 66.55 4 ⇑*eP* **P 18 36 15.9 +0.1**
MOY Mondy 66.59 332 *eP* **P 18 36 17.0 +0.6**
MOY pmax pmax
comp=Z,30nm,1.6s,mb5.1
KOLN Koldanda 66.92 302 *eP* **P 18 36 19.2 +0.3**
comp=Z,23nm,0.9s,mb5.2
WMQ Urumqi 69.79 319 P **P 18 36 36.8 +0.2**
WMQ AP pP 18 36 45.0 -1.2
WMQ XP sP 18 36 49.0 -0.8
WMQ PCP PcP 18 37 00.0 +0.9
WMQ PP PP 18 39 13.0 +1.7
WMQ *e*S S 18 45 43.0 -0.9
WMQ AMB AMB
comp=Z,11nm,1.0s,mb4.7
WMQ AMB AMB
comp=Z,125nm,4.0s
WMQ LR LR
comp=N,370nm,25.6s
WMQ LR LR
comp=E,308nm,20.4s
WMQ LR LR
comp=Z,382nm,33.2s
BILL Bilibino 72.96 8 *eP* **P 18 36 53.0 -2.3**
comp=Z,10nm,1.3s,mb4.6
BILL Bilibino 72.96 8 *i P* **P 18 36 55.1 -0.2**
BILL *i* 18 37 18.2
BILL pmax pmax
comp=Z,9.0nm,1.3s,mb4.5
TAOE Nuku Hiva Isla 74.31 98 *e*LR LR 19 00 07.9
comp=Z,9μm,26.5s
VNDA Vanda 74.43 176 *eP* **P 18 37 05.3 +1.5**
comp=Z,11nm,1.5s,mb4.5
VNDA Vanda 74.43 176 *eP* **P 18 37 05.3 +1.5**
VNDA pmax pmax
comp=Z,11nm,1.5s
VNDA Vanda 74.43 176 P **P 18 37 08.1 +4.3**
comp=Z,2.0nm,0.8s,mb4.1,baz=303,slow=6.8,SNR=9.1
VNDA LR LR 19 11 00.1
comp=Z,440nm,21.0s,MS4.7,baz=346,slow=37
MK31 Makanchi Array 74.49 321 *eP* **P 18 37 04.5 -0.1**
MKAR Makanchi Array 74.49 321 P **P 18 37 04.8 +0.1**
comp=Z,3.4nm,0.9s,mb4.3,baz=102,slow=7.0,SNR=32
MKAR LR LR 19 08 07.0
comp=Z,174nm,19.7s,MS4.3,baz=110,slow=34
TIXI Tiksi 75.83 355 *eP* **P 18 37 12.1 +0.2**
comp=Z,10nm,1.4s,mb4.6
TIXI Tiksi 75.83 355 ⇑*eP* **P 18 37 12.5 +0.6**
TIXI pmax pmax
comp=Z,6.0nm,1.5s,mb4.3
ZAA0 Zalesovo Array 76.01 328 *eP* **P 18 37 11.3 -1.9**
ZALV Zalesovo Beam 76.01 328 P **P 18 37 11.9 -1.3**
comp=Z,2.5nm,0.8s,mb4.2,baz=106,slow=4.5,SNR=7.5
ZALV LR LR 19 09 26.4
comp=Z,596nm,21.1s,MS4.9,baz=114,slow=35
ZAL Zalesovo 76.02 328 P **P 18 37 11.9 -1.4**
NVS Novosibirsk 77.23 328 *eP* **P 18 37 17.6 -2.5**
NVS *e*S S 18 47 20.2 +13
NVS pmax pmax
comp=Z,15nm,1.6s,mb4.7
NVS pmax pmax
comp=N,7.0nm,1.5s
NVS pmax pmax
comp=E,7.0nm,1.3s
NVS smax
comp=N,11nm,2.1s
NVS smax
comp=E,19nm,2.2s
TKM2 Tokmak 2 77.67 315 *eP* **P 18 37 22.8 0.0**
comp=E,5.3nm,0.9s,mb4.5
TKM2 Tokmak 2 77.67 315 *eP* **P 18 37 22.8 0.0**
TKM2 pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
KZA Kyzart 77.67 314 P **P 18 37 24.8 +1.9**
SNR=17
KURK Kurchatov 78.20 323 *eP* **P 18 37 24.7 -0.9**
comp=Z,15nm,1.1s,mb4.8
KURK Kurchatov 78.20 323 ⇑*iP* **P 18 37 25.2 -0.4**
UCH Uchtor 78.24 314 *eP* **P 18 37 27.2 +1.2**
comp=Z,20nm,1.3s,mb4.9
UCH Uchtor 78.24 314 P **P 18 37 27.6 +1.6**
SNR=16
AAK Ala-Archa 78.36 315 P **P 18 37 27.9 +1.2**
SNR=7.2
USP Ospenovka 78.53 315 P **P 18 37 28.1 +0.5**
SNR=7.5
AML Almayashu 78.80 314 *eP* **P 18 37 29.8 +0.7**
comp=Z,100nm,0.6s,mb5.9
AML Almayashu 78.80 314 P **P 18 37 30.5 +1.4**
SNR=17
EKS2 Erkin-Say 78.88 315 *eP* **P 18 37 30.0 +0.5**
comp=Z,22nm,1.4s,mb4.9
EKS2 Erkin-Say 78.88 315 P **P 18 37 30.5 +0.9**
SNR=13
KBL Kabul 80.66 306 *eP* **P 18 37 38.3 -1.1**
comp=Z,4.5nm,0.9s,mb4.4
KBL Kabul 80.66 306 *eP* **P 18 37 38.3 -1.1**
KBL pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
SLKM Skilak Lake 80.90 27 *eP* **P 18 37 39.9 -0.2**
IMA2 Indian Mountai 81.94 21 *eP* **P 18 37 45.8 +0.3**
SML Sawmill 82.26 26 *eP* **P 18 37 47.5 +0.2**
MCK McKinley 82.75 24 *eP* **P 18 37 48.8 -1.0**
comp=Z,27nm,1.2s,mb5.2
MCK McKinley 82.75 24 *eP* **P 18 37 48.8 -1.0**
MCK pmax pmax
comp=Z,27nm,1.2s,mb5.2
COLA College 83.64 23 ⇑*iP* **P 18 37 53.1 -1.2**
MAW Mawson 83.79 202 *eP* **P 18 37 53.4 -1.7**
MAW Mawson 83.79 202 P **P 18 37 56.1 +1.0**
comp=Z,2.6nm,0.8s,mb4.4,baz=66,slow=10.0,SNR=5.1
MAW LR LR 19 10 37.2
comp=Z,259nm,19.3s,MS4.6,baz=70,slow=32
BRVK Borovoye 83.83 324 *eP* **P 18 37 55.1 -0.4**
comp=Z,17nm,1.0s,mb5.1
BRVK Borovoye 83.83 324 *eP* **P 18 37 55.2 -0.4**
BRVK pmax pmax
comp=Z,17nm,1.0s,mb5.1
EGAK Eagle 86.30 24 *eP* **P 18 38 07.7 -0.1**
comp=Z,5.6nm,0.9s,mb4.8
DAWY Dawson 86.85 25 *eP* **P 18 38 11.0 +0.6**
INK Inuvik 90.07 22 LR LR 19 22 13.2
comp=Z,193nm,18.3s,MS4.6,baz=31,slow=38
YKA Yellowknife Ar 97.87 27 P **P 18 39 02.7 +1.2**
YKA LR LR 19 19 42.3
YKA Yellowknife Ar 97.87 27 P **P 18 39 02.7 +1.2**
comp=Z,0.6nm,0.9s,mb4.1,baz=277,slow=4.7,SNR=5.1
YKA LR LR 19 19 42.3
comp=Z,100nm,18.8s,MS4.3,baz=155,slow=33
TORD Torodi Ar. Bea 142.70 287 PKhKP 18 44 55.9
comp=Z,0.6nm,0.8s,baz=66,slow=1.2,SNR=3.6
TORD PKP PKPdf 18 45 00.7 +0.2
comp=Z,0.9nm,0.8s,baz=81,slow=2.6,SNR=3.4
SDV Santo Domingo 144.01 80 *e*PKPdf PKPdf 18 45 01.6 -1.2
SDV Santo Domingo 144.01 80 PKP PKPdf 18 45 02.8 0.0
comp=Z,7.9nm,1.1s,baz=309,slow=4.4,SNR=9.9
DBIC Dimbokro 150.01 277 PKPdf PKPdf 18 45 11.0 -1.8
DBIC PKPbc PKPbc 18 45 18.3 +0.5
DBIC *e*PKPbc PKPbc 18 45 18.4 +0.6
DBIC Dimbokro 150.01 277 PKPbc PKPbc 18 45 18.3 +0.5
comp=Z,4.9nm,1.1s,baz=124,slow=7.3,SNR=2.7

MAN 14 18:28:58, 1008N×12519E, h12km, mb3.9, ML2.7, MS2.3, Leyte

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IDC 14 18:53:42.3±2.7, 389S×15206E, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.6/15, mbtmp3.9/3, MS3.9/1, Ms1 3.9/1, ms1mx3.1/25, Error ellipse: s-maj=107.3km s-min=38.5km az=123.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**21.29**	**245**	*eP*	P	18 58 34.5	+3.9
	11nm,0.6s						
WB2	**Warramunga Arr**	**23.51**	**226**	*eP*	P	18 58 55.3	+1.0
WRA	**Warramunga Arr**	**23.52**	**226**	P	P	18 58 55.1	+0.7
	1.7nm,0.3s,baz=52,slow=10,SNR=52						
ASAR	**Alice Springs**	**26.34**	**220**	P	P	18 59 19.4	-0.7
	0.4nm,0.5s,baz=54,slow=9.2,SNR=16						
FITZ	**Fitzroy Crossi**	**29.47**	**239**	*eP*	P	18 59 49.4	+1.2
	1.4nm,0.3s						
FITZ	**Fitzroy Crossi**	**29.47**	**239**	P	P	18 59 49.5	+1.3
	1.0nm,0.4s,baz=57,slow=6.8,SNR=19						
URZ	**Urewera**	**41.14**	**150**	LR	LR	19 15 12.7	
	comp=Z,175nm,21.4s,baz=198,slow=31						
TORD	**Torodi Ar. Bea**	**149.32**	**289**	PKPbc	PKPbc	19 13 32.8	-1.4
	0.5nm,0.3s,baz=81,slow=2.3,SNR=27						

MOS ***14*** *18:59:13.6±0.8, 685S×15567E, h33km, mb5.2/25, MS4.6/5, Error ellipse: s-maj=10.8km s-min=7.4km az=113.3*

IDC ***14*** *18:59:16.9±2.4, 694S×15577E, h54km±20km, mb4.5/19, mb1 4.6/20, mb1mx4.6/21, mbtmp4.5/20, ML5.0/1, MS4.0/13, Ms1 4.0/13, ms1mx3.9/18, Error ellipse: s-maj=15.7km s-min=11.7km az=82.0*

BJI ***14*** *18:59:17.6, 677S×15580E, h72km, mB5.1, mb4.9, Ms4.9, Msz4.5*

ISCJB ***14*** *18:59:17.6±1.3, 693S±005×15575E±004, h74km±12km, mb5.0/87, Error ellipse: s-maj=7.7km s-min=6.9km az=165.5*

NEIC ***14*** *18:59:19.1±0.8, 692S×15574E, h75km±7km, mb5.0/47, Error ellipse: s-maj=4.2km s-min=4.2km az=155.0*

GCMT ***14*** *18:59:19.1±0.4, 722S×15586E, h48km±1km, MW5.0/44, Moment Tensor Solution. s41,c52; s44,c65; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}3.48±.19; $M_{\theta\theta}$-2.20±.13; $M_{\phi\phi}$-1.28±.14; $M_{r\theta}$-0.45±.12; $M_{\theta\phi}$2.05±.11; $M_{\phi r}$-0.59±.11; Best double couple: $M_0$3.74500×10^{16} NP1:ϕ_s296.00000°, δ46.00000°, λ72.00000°. NP2: ϕ_s141.00000°, δ47.00000°, λ108.00000°. Principal axes: T 3.6490, Plg77.0000°, Azm128.0000°; N 0.1920, Plg13.0000°, Azm309.0000°; P -3.8410, Plg0.0000°, Azm219.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 14 18:59:20.9±1.2, 697S±005×15575E±004, h89km±12km, h81km±2.4km: pP-P, n313, σ0.992/182, mb5.0/87, 19C-14D, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.83**	**121**	*ePn*	**Pn**	**19 00 28.4**	**-2.8**
HNR	**Honiara**	**4.83**	**121**	P	**Pn**	**19 00 28.1**	**-3.1**
HNR				S	**Sn**	**19 01 26.7**	**+0.8**
HNR				pmax	pmax		

comp=Z,59nm,0.3s
HNR smax
comp=N,196nm,0.3s
HNR MLR MLR
comp=Z,344nm,18.7s
HNR Honiara 4.83 121 P **Pn 19 00 28.1 -3.1**
comp=Z,59nm,0.3s,baz=257,slow=4.7,SNR=25
HNR S **Sn 19 01 26.7 +0.8**
comp=Z,196nm,0.3s,baz=90,slow=14,SNR=8.7
HNR LR LR 19 01 32.5
comp=Z,344nm,18.7s,baz=355,slow=28
CTA Charters Tower 15.97 214 *e*P **Pn 19 03 01.6 +1.2**
comp=Z,22nm,0.9s
CTA Charters Tower 15.97 214 P **Pn 19 03 01.2 +0.8**
CTA pmax pmax
comp=Z,1.0nm,0.3s
CTA MLR MLR
comp=Z,953nm,22.0s
CTA Charters Tower 15.97 214 P **Pn 19 03 01.2 +0.8**
comp=Z,0.6nm,0.3s,baz=44,slow=11,SNR=12
CTA LR LR 19 07 53.7
comp=Z,953nm,22.0s,baz=49,slow=32
CTAO Charters Tower 15.97 214 *e*Pn **Pn 19 03 01.3 +0.9**
comp=Z,39nm,1.0s
CTAO Charters Tower 15.97 214 *e*P **Pn 19 03 01.3 +0.9**
CTAO pmax pmax
comp=Z,39nm,1.0s
GUMO Guam 23.10 332 LR LR 19 12 08.0
comp=Z,224nm,19.0s,baz=140,slow=33
ARMA Armidale 23.65 189 *e*P **P 19 04 24.5 +0.3**
ARMA *e* 19 06 32.5
ARMA *e*PCP PcP 19 08 07.9 +1.3
KAKA Kakadu 23.65 254 *e*P **P 19 04 23.8 -0.6**
comp=Z,38nm,0.6s,mb4.9
KAKA *e*PCP PcP 19 08 05.0 -1.9
WRAB Tennant Creek 24.43 236 *e*P **P 19 04 30.9 -0.5**
comp=Z,24nm,0.5s,mb4.8
WRAB Tennant Creek 24.43 236⇓*i*P **P 19 04 31.8 +0.3**
WB2 Warramunga Arr 24.44 236⇑*i*P **P 19 04 31.5 0.0**
WB2 *i* pP 19 04 41.4
WB2 *e*PCP PcP 19 08 09.2 +0.7
WRA Warramunga Arr 24.45 236 P **P 19 04 31.6 0.0**
WRA PcP PcP 19 08 09.0 +0.5
WRA ScP ScP 19 11 45.3 +5.9
WRA LR LR 19 13 49.6
WRA Warramunga Arr 24.45 236 P **P 19 04 31.6 0.0**
WRA 19 08 09.0
WRA Warramunga Arr 24.45 236 P **P 19 04 31.6 0.0**
comp=Z,7.5nm,0.4s,mb4.3,baz=60,slow=9.3,SNR=127
WRA PcP PcP 19 08 09.0 +0.5
comp=Z,4.8nm,0.6s,baz=55,slow=2.1,SNR=8.1
WRA ScP ScP 19 11 45.3 +5.9
comp=Z,1.3nm,0.9s,baz=70,slow=3.2,SNR=4.6
WRA LR LR 19 13 49.6
comp=Z,463nm,19.4s,baz=55,slow=36
WRA PKiKP PKiKP 19 15 49.3 -1.6
comp=Z,0.2nm,0.4s,baz=318,slow=1.0,SNR=9.4
ASAR Alice Springs 26.75 229 P **P 19 04 51.7 -0.7**
ASAR PcP PcP 19 08 14.2 +0.5
ASAR Alice Springs 26.75 229 P **P 19 04 51.7 -0.7**
comp=Z,6.4nm,0.5s,mb4.4,baz=61,slow=10.0,SNR=176
ASAR PcP PcP 19 08 14.2 +0.5
comp=Z,4.5nm,0.5s,baz=63,slow=2.4,SNR=9.0
ASAR PKiKP PKiKP 19 15 50.7 -1.4
comp=Z,0.3nm,0.9s,baz=69,slow=0.4,SNR=4.3
STKA Stephens Creek 28.08 206 *e*P **P 19 05 03.3 -0.9**
comp=Z,13nm,0.6s,mb4.6
STKA *e*PCP PcP 19 08 16.7 0.0
STKA Stephens Creek 28.08 206 P **P 19 05 03.5 -0.7**
comp=Z,15nm,0.6s,mb4.7,baz=30,slow=13,SNR=16
STKA PcP PcP 19 08 16.6 -0.1
comp=Z,3.5nm,0.7s,baz=71,slow=2.1,SNR=4.3
STKA LR LR 19 16 27.0
comp=Z,583nm,18.4s,baz=26,slow=37
FITZ Fitzroy Crossi 31.35 247 *e*P **P 19 05 31.7 -1.6**
comp=Z,76nm,0.7s,mb5.5
FITZ *i* sP sP 19 05 56.6 -7.4
FITZ *e*PCP PcP 19 08 26.3 +0.9
FITZ Fitzroy Crossi 31.35 247 P **P 19 05 32.6 -0.6**
comp=Z,38nm,0.6s,mb5.3,baz=81,slow=8.8,SNR=243
FITZ PcP PcP 19 08 25.8 +0.4
comp=Z,3.4nm,0.7s,baz=108,slow=5.4,SNR=3.7
FITZ LR LR 19 18 30.2
comp=Z,264nm,18.3s,baz=76,slow=37
BATI Kupang 31.88 262 P **P 19 05 38.0 0.0**
comp=Z,18nm,0.9s,mb4.8,baz=351,slow=3.6,SNR=4.3
BATI LR LR 19 19 09.9
comp=Z,315nm,20.5s,baz=222,slow=37
FORT Forrest 35.12 224⇑*i*P **P 19 06 05.2 -0.8**
comp=Z,77nm,0.7s,mb5.6
FORT *e*PCP PcP 19 08 35.9 +0.1
TAU Tasmania Unive 36.56 190 *e*P **P 19 06 18.5 +0.4**
comp=Z,34nm,0.9s,mb5.3
TAU Tasmania Unive 36.56 190 *e*P **P 19 06 18.5 +0.4**
TAU pmax pmax
comp=Z,34nm,0.9s,mb5.3
URZ Urewera 36.67 151 P **P 19 06 18.8 -0.2**
comp=Z,9.1nm,0.4s,mb5.0,baz=13,slow=1.4,SNR=13
MBWA Marble Bar 37.56 244 *e*P **P 19 06 25.9 -0.9**
comp=Z,26nm,0.5s,mb5.3
MBWA *e* 19 06 32.6
MBWA *e*PcP PcP 19 08 41.9 -1.4
RPZ Rata Peaks 38.99 162 P **P 19 06 38.3 -0.2**
comp=Z,36nm,0.4s,mb5.5,baz=156,slow=0.8,SNR=26
KDM Kudat 41.20 289⇑P **P 19 06 59.5 +2.3**
KKM Kota Kinabalu 41.51 287 *e*P **P 19 06 59.4 -0.4**
KKM *e* 19 07 11.5
KKM Kota Kinabalu 41.51 287⇓P **P 19 07 00.4 +0.6**
KLBR Kellerberrin 43.08 230 *e*P **P 19 07 11.2 -1.1**
comp=Z,371nm,2.0s,mb5.8
BTM Bintulu 43.76 282⇓P **P 19 07 19.8 +1.8**
NWAO Narrogin (SRO) 44.07 229 *e*P **P 19 07 19.1 -1.2**
comp=Z,11nm,0.8s,mb4.6
NWAO Narrogin (SRO) 44.07 229 *e*P **P 19 07 19.1 -1.1**
NWAO pmax pmax
comp=Z,11nm,0.8s
MUN Mundaring 44.43 231 *e*P **P 19 07 22.6 -0.5**
MUN *e*PCP PcP 19 08 40.7 -25
SBUM Sibu 44.44 281⇑P **P 19 07 24.4 +1.0**
KSM Kuching 46.11 279 *e*P **P 19 07 36.5 -0.2**
KSM Kuching 46.11 279⇑P **P 19 07 36.4 -0.3**
MJAR Matsushiro Arr 46.30 340 P **P 19 07 36.8 -1.0**
comp=Z,2.6nm,0.4s,mb4.3,baz=163,slow=7.0,SNR=18
MJAR PcP PcP 19 09 11.9 +0.2
comp=Z,1.4nm,0.5s,baz=198,slow=1.1,SNR=6.7
MAJO Matsushiro 46.30 340 *e*P **P 19 07 36.5 -1.2**
comp=Z,5.7nm,0.4s,mb4.7
MAJO Matsushiro 46.30 340 *e*P **P 19 07 36.5 -1.2**
MAJO pmax pmax
comp=Z,6.0nm,0.4s,mb4.7
MAT Matsushiro 46.30 340 P **P 19 07 36.6 -1.1**
MAT *e*S **S 19 14 14.8 -3.4**
JNU Nakatsue 46.34 331 P **P 19 07 38.2 0.0**
comp=Z,5.0nm,0.5s,mb4.5,baz=15,slow=6.0,SNR=11
KSRS Korea Array 51.26 332 P **P 19 08 15.7 -0.1**
comp=Z,1.9nm,0.7s,mb4.3,baz=149,slow=8.2,SNR=7.7
KSRS PcP PcP 19 09 29.9 +0.1
comp=Z,0.7nm,0.4s,baz=154,slow=3.9,SNR=5.2
KSRS LR LR 19 26 24.9
comp=Z,105nm,20.5s,baz=328,slow=32
QIZ Qiongzhong 52.09 301 P **P 19 08 23.8 +1.6**
QIZ S **S 19 15 38.1 -1.7**
QIZ AMB AMB
comp=Z,20nm,0.9s,mb5.2
QIZ LR LR
comp=N,149nm,17.2s
QIZ LR LR
comp=Z,201nm,24.4s
QIZ Qiongzhong 52.09 301 *e*P **P 19 08 22.7 +0.5**
comp=Z,18nm,0.8s,mb5.2
NJ2 Nanjing 52.37 320 *e*P **P 19 08 25.8 +1.7**
NJ2 AMB AMB
comp=Z,60nm,0.5s,mb5.9
MYKOM Kota Tinggi 52.51 278⇑P **P 19 08 22.5 -3.0**
KGM Kluang 53.08 278⇓P **P 19 08 29.9 +0.2**
KTGM Kuala Trenggan 53.91 282⇓P **P 19 08 36.4 +0.7**
PPT Papeete 54.29 107 *e*LR LR 19 24 40.0
comp=Z,204nm,28.5s
PPT Papeete 54.29 107 LR LR 19 28 37.9
comp=Z,81nm,18.2s,baz=262,slow=32
PAE Paea 54.29 107 *e*P **P 19 08 39.3 +0.8**
comp=Z,108nm,1.1s,mb5.8
PAE Paea 54.29 107 *e*P **P 19 08 39.3 +0.8**
PAE pmax pmax
comp=Z,108nm,1.1s,mb5.8
TVO Taravao 54.62 107 *e*P **P 19 08 41.9 +1.1**
comp=Z,112nm,0.9s,mb5.9
TVO Taravao 54.62 107 *e*P **P 19 08 41.9 +1.1**
TVO pmax pmax
comp=Z,112nm,0.9s,mb5.9
YSS Yuzh-Sakhalins 54.91 349 *e*P **P 19 08 42.0 -0.3**
comp=Z,14nm,0.9s,mb5.0
YSS Yuzh-Sakhalins 54.91 349⇑*e*P **P 19 08 43.0 +0.7**
YSS *e* pP 19 09 02.0 -2.3
YSS pmax pmax
comp=Z,20nm,0.8s,mb5.2
TBI Tubuai 55.01 114 *e*P **P 19 08 43.9 +0.4**
comp=Z,148nm,1.0s,mb6.0
TBI Tubuai 55.01 114 *e*LR LR 19 24 45.1
comp=Z,303nm,26.2s
PMOR Pomariorio Ree 55.78 103 *e*P **P 19 08 50.3 +1.1**
comp=Z,132nm,1.2s,mb5.8
IPM Ipoh 55.79 280⇓P **P 19 08 48.2 -1.1**
VAH Vaihoa 56.04 104 *e*P **P 19 08 51.8 +0.7**
comp=Z,38nm,0.9s,mb5.4
KULM Kulim 56.32 281 *e*P **P 19 08 52.0 -1.1**
KULM *e* 19 09 04.6
KULM Kulim 56.32 281⇓P **P 19 08 52.9 -0.2**
MDJ Mudanjiang 56.49 338 P **P 19 08 54.1 +0.4**
comp=Z,9.5nm,1.0s,mb4.8
CN2 Changchun 57.48 334 *e*P **P 19 09 01.8 +1.1**
CN2 AMB AMB
comp=Z,10.0nm,1.0s,mb4.8
GYA Guiyang 58.03 307 P **P 19 09 05.1 +0.2**
GYA AP pP 19 09 27.6 +0.5
GYA XP sP 19 09 36.5 -0.5
GYA PCP PcP 19 09 57.3 +1.3
GYA PP PP 19 11 18.5 +4.0
GYA SCP ScP 19 13 48.8 +0.5
GYA PCS PcS 19 13 57.3 -0.3
GYA S **S 19 17 00.6 +1.6**
GYA PS 19 17 25.6
GYA XS sS 19 17 35.8 -1.2
GYA SCS ScS 19 18 45.3 -1.2
GYA AMB AMB
comp=Z,10.0nm,0.7s,mb5.0
GYA AMB AMB
comp=Z,70nm,5.2s
GYA LR LR
comp=N,490nm,20.6s
GYA LR LR
comp=E,520nm,21.4s
GYA LR LR
comp=Z,460nm,22.2s
HABR Khabarovsk 58.12 344 *e*P **P 19 09 05.2 +0.1**
HABR *e* 19 09 21.3
HABR *e* 19 09 53.3
HABR *e* 19 11 12.0
HABR *e* 19 17 24.0
HABR *e* 19 18 51.5
NST Nakhon Sawan 59.49 293⇑P **P 19 09 16.3 +1.1**
comp=Z,103nm,0.6s,mb6.0
KLR Kul'dur 59.77 342 *e*P **P 19 09 10.0 -6.4**
XAN Xi'an 60.20 316 P **P 19 09 19.1 -0.7**
XAN AMB AMB
comp=Z,6.0nm,0.8s,mb4.7
KMI Kunming 60.62 304 P **P 19 09 24.1 +1.3**
KMI AMB AMB
comp=Z,13nm,0.7s,mb5.1
CM31 Chiang Mai Arr 61.45 295 *e*P **P 19 09 29.2 +0.7**
CM31 *e* 19 09 42.1
CHG Chiang Mai 61.56 296⇑P **P 19 09 29.6 +0.4**
comp=Z,58nm,0.6s,mb5.8
CHTO Chiang Mai 61.56 296 *e*P **P 19 09 29.6 +0.4**
comp=Z,36nm,1.2s,mb5.3
CHTO *e* 19 09 42.0
CHTO Chiang Mai 61.56 296 *e*P **P 19 09 29.6 +0.4**
CHTO *e* 19 09 42.0
CHTO pmax pmax
comp=Z,36nm,1.2s,mb5.3
CD2 Chengdu 62.36 310 *e*P **P 19 09 34.8 +0.4**
CD2 AP pP 19 09 54.3 -2.6
CD2 XP sP 19 10 02.8 -3.9
CD2 PP PP 19 11 54.9 +2.1
CD2 S **S 19 17 55.1 +0.7**
CD2 XS sS 19 18 28.6 -4.2
CD2 SS SS 19 22 02.4 +2.7
CD2 AMB AMB
comp=Z,40nm,0.5s,mb5.7
CD2 AMB AMB
comp=Z,80nm,6.2s
CD2 LR LR
comp=N,150nm,26.4s
CD2 LR LR
comp=E,380nm,22.8s
CD2 LR LR
comp=Z,230nm,22.8s
HHC Hu-ho-hao-te 62.51 323 *e*P **P 19 09 38.3 +3.1**
HHC AP pP 19 09 59.6 +1.9
HHC XP sP 19 10 07.0 -0.5
HHC PP PP 19 11 58.8 +4.9
HHC PCS PcS 19 14 19.4 +2.5
HHC XS sS 19 18 32.4 -1.9
HHC SS SS 19 22 06.4 +4.7
HHC AMB AMB
comp=Z,19nm,0.4s,mb5.4
HHC AMB AMB
comp=Z,274nm,4.7s
HHC LR LR
comp=N,114nm,14.1s
HHC LR LR
comp=E,157nm,11.4s
HHC LR LR
comp=Z,163nm,7.2s
HIA Hailar 64.21 335 *e*P **P 19 09 45.8 -0.5**
comp=Z,16nm,1.1s,mb4.8
HIA *e* 19 09 59.3
HIA Hailar 64.21 335 *e*P **P 19 09 45.8 -0.4**
HIA *e* 19 09 59.3
HIA pmax pmax
comp=Z,16nm,1.1s
LZH Lanzhou 64.82 315 *e*P **P 19 09 51.5 +1.0**
LZH AP pP 19 10 11.9 -1.2
LZH XP sP 19 10 20.8 -2.1
LZH PP PP 19 12 17.6 +3.4
LZH AMB AMB
comp=Z,23nm,1.4s,mb4.8
LZH AMB AMB
comp=Z,89nm,6.3s
LZH LR LR
comp=N,397nm,16.5s
LZH LR LR
comp=Z,583nm,19.1s
CASY Casey 66.85 198 *e*P **P 19 10 02.6 -0.4**
RKT Rikitea 68.26 112 *e*LR LR 19 30 55.1
comp=Z,376nm,31.0s
CLNS Chul'man 68.42 342 *e*P **P 19 10 11.9 -1.1**
CLNS pmax pmax
comp=N,9.0nm,0.7s
CLNS pmax pmax
comp=Z,10.0nm,0.7s,mb4.8
CLNS pmax pmax
comp=N,139nm,15.2s
CLNS pmax pmax
comp=E,186nm,14.8s
GTA Gaotai 69.23 317 *e*P **P 19 10 19.3 +0.9**
GTA AP pP 19 10 38.6 -2.6
GTA XP sP 19 10 47.6 -3.4
GTA PP PP 19 12 56.0 +3.4
GTA S S 19 19 20.8 +3.2
GTA XS sS 19 19 53.1 -3.6
GTA AMB AMB
comp=Z,4.0nm,0.7s,mb4.4
GTA AMB AMB
comp=Z,115nm,3.8s
GTA LR LR
comp=N,112nm,15.6s
GTA LR LR
comp=E,84nm,16.0s
GTA LR LR
comp=Z,117nm,14.8s
ULN Ulaanbaatar 69.38 327 *e*P **P 19 10 19.8 +0.7**
comp=Z,23nm,1.0s,mb5.0
ULN *e* pP 19 10 42.4 +0.4
ULN Ulaanbaatar 69.38 327 *e*P **P 19 10 19.8 +0.7**
ULN *e* pP 19 10 42.4 +0.4
ULN pmax pmax
comp=Z,23nm,1.0s,mb5.0
SONM Songino Array 69.72 327 P **P 19 10 22.1 +0.9**
comp=Z,16nm,0.7s,mb5.0,baz=140,slow=6.0,SNR=57
SEY Seymchan 69.74 358⇑*e*P **P 19 10 20.6 -0.4**
SHL Shillong 69.92 300 *e*P **P 19 10 23.5 +0.6**
VNDA Vanda 70.59 179 *e*P **P 19 10 25.7 -0.4**
comp=Z,22nm,1.5s,mb4.8
VNDA Vanda 70.59 179 *e*P **P 19 10 25.7 -0.4**
VNDA pmax pmax
comp=Z,22nm,1.5s
VNDA Vanda 70.59 179 P **P 19 10 26.2 +0.1**
comp=Z,4.5nm,0.8s,mb4.4,baz=334,slow=6.2,SNR=19
VNDA LR LR 19 35 03.1
comp=Z,142nm,18.7s,baz=336,slow=30
SBA Scott Base 71.08 178 *e*P **P 19 10 30.1 +1.1**
comp=Z,6.6nm,0.9s,mb4.5
SBA Scott Base 71.08 178 *e*P **P 19 10 30.1 +1.0**
SBA pmax pmax
comp=Z,7.0nm,0.9s,mb4.5
YAK Yakutsk 71.69 347 *e*P **P 19 10 31.8 -1.0**
comp=Z,7.6nm,0.6s,mb4.7
YAK Yakutsk 71.69 347 *e*P **P 19 10 31.8 -1.0**
YAK pmax pmax
comp=Z,8.0nm,0.6s,mb4.7
LSA Lhasa 71.87 304 P **P 19 10 36.0 +1.3**
LSA Lhasa 71.87 304 *e*P **P 19 10 35.2 +0.5**
comp=Z,6.7nm,0.7s,mb4.6
LSA Lhasa 71.87 304 *e*P **P 19 10 35.2 +0.5**
LSA pmax pmax
comp=Z,7.0nm,0.7s,mb4.6
ZAK Zakamensk 72.86 328⇑*i*P **P 19 10 40.7 +0.6**
ZAK pmax pmax
comp=Z,9.0nm,0.9s,mb4.6
BOD Bodaibo 72.86 338 *e*P **P 19 10 38.9 -1.0**
BOD pmax pmax
comp=Z,7.0nm,0.9s,mb4.5
MIR Mirnyy 73.00 202 *e*P **P 19 10 41.0 +0.4**
MIR pmax pmax
comp=Z,100nm,1.0s,mb5.6
TLY Talaya 73.42 329 *e*P **P 19 10 43.9 +0.5**
comp=Z,7.5nm,0.7s,mb4.6
TLY Talaya 73.42 329⇓*i*P **P 19 10 43.6 +0.3**
TLY pmax pmax
comp=Z,2.0nm,0.8s,mb4.0
IRK Irkutsk 73.43 330 *e*P **P 19 10 43.1 -0.3**
IRK pmax pmax
comp=Z,31nm,0.7s,mb5.2
BOK Bokaro 74.65 297 *e*P **P 19 10 51.2 +0.1**
BOK AMb AMB 19 10 52.9
comp=Z,15nm,0.6s,mb4.9
MOY Mondy 74.78 328 *e*P **P 19 10 51.7 +0.5**
BILL Bilibino 75.20 4 *e*P **P 19 10 53.6 +0.2**
comp=Z,8.5nm,0.4s,mb4.8
BILL Bilibino 75.20 4⇑*i*P **P 19 10 53.8 +0.5**
BILL *i* 19 11 06.8
BILL pmax pmax
comp=Z,23nm,1.2s,mb4.8
JIRN Jiri 75.41 301 *e*P **P 19 10 55.8 +0.4**
comp=Z,10nm,0.3s,mb5.0
VIS Vishakhapatnam 75.56 290 *e*P **P 19 10 56.6 +0.2**
VIS AMb AMB 19 11 11.6
comp=Z,31nm,1.1s,mb5.0
PALK Pallekele 76.17 279 *e*P **P 19 11 00.0 0.0**
comp=Z,18nm,0.9s,mb4.8
PALK *e* 19 11 13.6
KKN Kakani 76.22 301 *e*P **P 19 11 00.2 +0.2**
comp=Z,45nm,0.7s,mb5.3
KKN Kakani 76.22 301 *e*P **P 19 11 00.2 +0.2**
KKN pmax pmax
comp=Z,45nm,0.7s,mb5.3
DMN Daman 76.32 300 *e*P **P 19 11 01.1 +0.5**
comp=Z,70nm,0.8s,mb5.5
KDAK Kodiak Island 76.82 26 P **P 19 11 01.8 -0.9**
KDAK Kodiak Island 76.82 26 P **P 19 11 01.8 -0.9**
comp=Z,4.2nm,0.7s,mb4.2,baz=321,slow=4.6,SNR=6.2
GKN Gorkha 76.83 301 *e*P **P 19 11 03.4 -0.1**
comp=Z,59nm,0.6s,mb5.5
TNA Tin City 77.11 15 *e*P **P 19 11 03.6 -0.6**
comp=Z,5.3nm,0.9s,mb4.3
BLSP Bilaspur 77.61 294 *e*P **P 19 11 07.8 -0.2**
BLSP AMb AMB 19 11 08.8
comp=Z,28nm,0.7s,mb5.1
KOLN Koldanda 77.65 300 *e*P **P 19 11 08.0 -0.1**
comp=Z,48nm,0.5s,mb5.5
SVW2 Sparrevohn 77.69 22 *e*P **P 19 11 07.1 -0.4**
WMQ Urumqi 79.31 317 *e*P **P 19 11 19.4 +2.5**
WMQ AP pP 19 11 40.0 -0.2
WMQ *e*S S 19 21 12.0 +1.7
WMQ AMB AMB
comp=Z,7.0nm,0.8s,mb4.5
WMQ AMB AMB
comp=Z,261nm,6.0s
WMQ LR LR
comp=N,118nm,20.2s
WMQ LR LR
comp=E,134nm,19.4s
WMQ LR LR
comp=Z,127nm,28.8s
KOD Kodaikanal 79.79 282 *e*P **P 19 11 20.3 +0.2**
KOD AMb AMB 19 11 23.9
comp=Z,37nm,1.3s,mb5.0
HYB Hyderabad 79.97 289 *e*P **P 19 11 20.5 -0.4**
HYB *e* 19 11 33.5
HYB Hyderabad 79.97 289 *i* P **P 19 11 20.5 -0.4**
HYB *e* 19 11 33.5
NGP Nagpur 80.21 293 *e*P **P 19 11 21.4 -0.8**
NGP AMb AMB 19 11 21.6
comp=Z,27nm,0.4s,mb5.4
TIXI Tiksi 80.43 352 *e*P **P 19 11 21.6 -0.7**
comp=Z,3.4nm,0.4s,mb4.5
TIXI Tiksi 80.43 352⇑*e*P **P 19 11 21.7 -0.6**
TIXI pmax pmax
comp=Z,9.0nm,1.9s,mb4.3
IMA2 Indian Mountai 81.53 19 *e*P **P 19 11 27.0 -1.2**
MCK McKinley 81.75 22 *e*P **P 19 11 27.3 -2.1**
comp=Z,16nm,1.0s,mb4.8
MCK McKinley 81.75 22 *e*P **P 19 11 27.3 -2.2**
MCK pmax pmax
comp=Z,16nm,1.0s,mb4.8
AKL Akola 81.99 292 *e*P **P 19 11 31.3 -0.4**
LATR Latur 82.01 290 *e*P **P 19 11 30.7 -1.1**
LATR AMb AMB 19 11 31.5
comp=Z,13nm,0.8s,mb4.8
BHPL Bhopal 82.09 295 *e*P **P 19 11 31.6 -0.5**
BHPL AMb AMB 19 11 32.7
comp=Z,35nm,0.9s,mb5.2
COLA College 82.79 21 *e*P **P 19 11 33.1 -1.7**
comp=Z,6.0nm,0.9s,mb4.4
COLA College 82.79 21 *e*P **P 19 11 33.1 -1.7**
COLA pmax pmax
comp=Z,6.0nm,0.9s,mb4.4
MK31 Makanchi Array 83.88 319 *e*P **P 19 11 41.0 +0.1**
MKAR Makanchi Array 83.88 319 *i* P **P 19 11 41.2 +0.4**
MKAR pmax pmax
comp=Z,8.0nm,0.5s
MKAR Makanchi Array 83.88 319 P **P 19 11 41.2 +0.4**
comp=Z,8.1nm,0.5s,mb4.8,baz=101,slow=7.3,SNR=80
MKAR LR LR 19 52 48.6
comp=Z,76nm,18.4s,baz=136,slow=38
SMLA Simla 83.88 302 *e*P **P 19 11 41.1 -0.1**
KAD Karad 84.06 288 *e*P **P 19 11 41.5 -0.9**
KAD AMb AMB 19 11 43.4
comp=Z,60nm,1.1s,mb5.3
GOA Goa 84.11 286 *e*P **P 19 11 42.8 +0.1**
GOA AMb AMB 19 11 45.4
comp=Z,53nm,1.7s,mb5.1
POO Poona 84.56 289 *e*P **P 19 11 44.2 -0.7**
POO AMb AMB 19 11 44.9
comp=Z,43nm,1.1s,mb5.3
ZAA0 Zalesovo Array 84.57 326 *e*P **P 19 11 42.7 -1.5**
ZALV Zalesovo Beam 84.57 326 P **P 19 11 43.8 -0.4**
comp=Z,8.0nm,0.5s,mb4.9,baz=117,slow=5.7,SNR=36
ZALV LR LR 19 45 60.0
comp=Z,58nm,21.2s,baz=70,slow=33
ZAL Zalesovo 84.58 326 P **P 19 11 43.8 -0.4**
MAW Mawson 84.71 203 *e*P **P 19 11 44.7 0.0**
comp=Z,8.9nm,0.6s,mb4.9
MAW Mawson 84.71 203 *e*P **P 19 11 44.7 0.0**
MAW pmax pmax
comp=Z,9.0nm,0.6s
MAW Mawson 84.71 203 P **P 19 11 45.0 +0.4**
comp=Z,12nm,0.7s,mb5.0,baz=87,slow=6.2,SNR=38
AJM Ajmer 85.17 297 *e*P **P 19 11 47.0 -0.8**
AJM AML AML 19 11 48.3
comp=Z,38nm,0.8s
EGAK Eagle 85.20 23 *e*P **P 19 11 46.8 -0.3**
comp=Z,6.5nm,0.9s,mb4.6
NVS Novosibirsk 85.74 326 *e*P **P 19 11 47.6 -2.4**
KURK Kurchatov 87.27 322 *e*P **P 19 11 57.0 -0.6**
comp=Z,3.3nm,0.4s,mb4.6

KURK Kurchatov 87.27 322 ⇑iP P 19 11 57.1 -0.5
TKM2 Tokmak 2 87.53 314 eP P 19 11 59.1 0.0
comp=Z,5.2nm,0.7s,mb4.7
TKM2 Tokmak 2 87.53 314 eP P 19 11 59.1 +0.1
TKM2 pmax pmax
comp=Z,5.0nm,0.7s,mb4.7
TKM2 Tokmak 2 87.53 314 P P 19 11 59.6 +0.6
SNR=7.5
KZA Kyzart 87.62 313 P P 19 12 01.1 +1.7
SNR=6.7
KBK Karagaybulak 87.95 313 P P 19 12 01.6 +0.6
SNR=6.4
CHMS Chumysh 88.16 314 P P 19 12 02.5 +0.5
SNR=6.0
UCH Uchtor 88.18 313 eP P 19 12 03.8 +1.6
comp=Z,4.4nm,0.8s,mb4.5
UCH Uchtor 88.18 313 P P 19 12 03.6 +1.4
SNR=8.3
AAK Ala-Archa 88.27 313 P P 19 12 03.3 +0.7
SNR=10.0
USP Ospenovka 88.39 314 P P 19 12 03.6 +0.5
SNR=7.4
AML Almayashu 88.76 313 P P 19 12 06.4 +1.5
SNR=9.9
EKS2 Erkin-Say 88.80 313 eP P 19 12 05.3 +0.2
comp=Z,4.8nm,0.8s,mb4.6
EKS2 Erkin-Say 88.80 313 P P 19 12 06.1 +1.1
SNR=9.5
INK Inuvik 89.43 21 eP P 19 12 06.6 -0.8
comp=Z,208nm,1.0s,mb6.1
NVAR Mina Array Bea 91.12 52 P P 19 12 18.1 +2.1
comp=Z,0.3nm,0.3s,mb3.9,baz=232,slow=6.7,SNR=4.8
KBL Kabul 91.20 304 eP P 19 12 15.2 -1.2
comp=Z,9.1nm,0.7s,mb5.0
BRVK Borovoye 92.79 323 eP P 19 12 22.2 -1.1
comp=Z,5.1nm,0.8s,mb4.9
BRVK Borovoye 92.79 323 eP P 19 12 22.2 -1.1
BRVK pmax pmax
comp=Z,5.0nm,0.8s,mb4.9
YKA Yellowknife Ar 95.96 28 P P 19 12 37.4 -0.2
YKA PKKPbc PKKPbc 19 29 24.5 -3.9
YKA Yellowknife Ar 95.96 28 P P 19 12 37.4 -0.2
comp=Z,0.7nm,0.5s,mb4.4,baz=268,slow=4.5,SNR=29
YKA PKKPbc PKKPbc 19 29 24.5 -3.9
comp=Z,0.7nm,0.5s,baz=85,slow=2.9,SNR=19
PDAR Pinedale Array 98.13 48 P P 19 12 47.6 -0.3
comp=Z,0.4nm,0.8s,mb4.0,baz=264,slow=4.4,SNR=2.7
PDAR LR LR 19 53 27.6
comp=Z,158nm,19.9s,baz=118,slow=33
ARU Arti 99.74 326 eP Pdif 19 12 52.7 -2.2
ARU Arti 99.74 326 eP Pdif 19 12 52.7 -2.2
SNAA Sanae 100.26 187 P Pdif 19 12 56.6 -0.5
comp=Z,0.5nm,0.6s,baz=192,slow=10,SNR=9.8
VNA3 Neumayer Olymp 101.35 185 ePdiff Pdif 19 13 01.6 -0.4
VNA3 e 19 13 04.8
VNA3 e 19 13 22.2
VNA3 e 19 13 30.2
VNA3 e 19 17 25.7
VNA3 e 19 17 28.8
VNA2 Neumayer--Watz 101.45 186 ePdiff Pdif 19 13 02.3 -0.2
VNA2 e 19 13 06.2
VNA2 e 19 13 23.9
VNA2 e 19 13 32.0
VNA2 e 19 17 26.0
VNA2 e 19 17 29.5
VNA1 Neumayer--Stat 101.80 185 ePdiff Pdif 19 13 04.7 +0.7
VNA1 e 19 13 07.7
VNA1 e 19 13 25.7
VNA1 e 19 13 33.7
VNA1 e 19 17 26.6
VNA1 e 19 17 30.2
TXAR Lajitas Array 102.59 62 PKKPbc PKKPbc 19 29 06.5 -1.9
comp=Z,0.3nm,0.6s,baz=120,slow=4.5,SNR=3.6
ARCES ARCESS Array B 109.78 343 PKPdf PKiKP 19 17 40.7 -0.4
ARCES PKKPbc PKKPbc 19 28 42.0 -5.6
ARCES ARCESS Array B 109.78 343 PKiKP PKiKP 19 17 40.7 -0.3
comp=Z,1.7nm,0.3s,baz=89,slow=1.4,SNR=54
ARCES PKKPbc PKKPbc 19 28 42.0 -5.6
comp=Z,3.8nm,0.9s,baz=226,slow=3.6,SNR=11
JOF Joensuu 111.35 336 ep PKiKP 19 17 42.2 -2.0
comp=Z,0.8nm,0.4s
KAF Kangasniemi 113.76 337 ep PKiKP 19 17 47.5 -1.3
comp=Z,1.4nm,0.4s
FINES FINESS Array B 114.22 336 PKP PKiKP 19 17 49.3 -0.4
comp=Z,2.2nm,0.5s,baz=95,slow=3.2,SNR=33
FINES PKKPbc PKKPbc 19 28 29.6 -3.1
comp=Z,1.2nm,0.8s,baz=193,slow=1.7,SNR=15
FINES PKKPab PKKPab 19 28 36.6 -0.4
comp=Z,1.5nm,0.7s,baz=207,slow=3.8,SNR=6.1
WVT Waverly 115.36 53 ePKPdf PKPdf 19 17 45.8 -6.9
PLCA Paso Flores 116.29 142 PKKPbc PKKPbc 19 28 24.3 -0.7
comp=Z,6.9nm,1.2s,baz=4.9,slow=4.4,SNR=3.6
AKASG Malin Array Be 117.95 325 PKP PKPdf 19 17 56.6 -0.6
AKASG PKKPbc PKKPbc 19 28 13.3 -6.0
AKASG Malin Array Be 117.95 325 PKP PKPdf 19 17 56.6 -0.7
comp=Z,4.0nm,0.5s,baz=60,slow=2.2,SNR=44
AKASG PKKPbc PKKPbc 19 28 13.3 -6.0
comp=Z,0.1nm,0.3s,baz=261,slow=3.2,SNR=2.5
KMBO Kilima Mbogo 118.11 265 ePKPdf PKPdf 19 17 58.5 -0.2
KMBO Kilima Mbogo 118.11 265 PKIKP PKPdf 19 17 58.4 -0.3
KMBO pmax pmax
comp=Z,1.0nm,0.2s
KMBO Kilima Mbogo 118.11 265 PKP PKPdf 19 17 58.4 -0.3
comp=Z,0.7nm,0.2s,baz=50,slow=22,SNR=3.7
NB2 NORSAR Subarra 119.92 341 PKPdf PKPdf 19 17 59.9 -0.8
comp=Z,2.5nm,0.5s,baz=42,slow=2.0
NB2 NORSAR Subarra 119.92 341 PKPdf PKPdf 19 17 59.9 -0.8
baz=42,slow=2.0
NOA NORSAR Array B 119.92 341 PKP PKPdf 19 18 00.2 -0.5
NOA PKKPab PKKPab 19 28 10.7 -1.2
NOA NORSAR Array B 119.92 341 PKP PKPdf 19 18 00.2 -0.5
comp=Z,2.4nm,0.5s,baz=45,slow=2.0,SNR=16
NOA PKKPab PKKPab 19 28 10.7 -1.2
comp=Z,1.8nm,0.7s,baz=43,slow=3.7,SNR=8.8
BOSA Boshof 120.62 231 PKP PKPdf 19 18 03.1 0.0
comp=Z,5.4nm,0.7s,baz=179,slow=3.8,SNR=13
LVV L'vov 121.31 326 e PKPdf 19 18 06.4 +2.7
SUR Sutherland 121.94 225 PKPdf PKPdf 19 18 06.2 +0.7
LBTB Lobatse 122.01 235 ePKPdf PKPdf 19 18 05.4 -0.5
KWP Kalwaria 122.15 326 ⇓iP PKPdf 19 18 05.7 +0.4
MLR Muntele Rosu 122.18 320 ⇑iP PKPdf 19 18 05.3 -0.2
BSD Bornholm Skovb 122.74 334 ⇑iPKIKP PKPdf 19 18 06.1 -0.2
BSD pmax pmax
comp=Z,9.0nm,0.6s
BSD Bornholm Skovb 122.74 334 ⇑iP PKPdf 19 18 06.1 -0.2
comp=Z,9.0nm,0.6s
KOLS Kolonicke sedl 122.75 325 ePKP PKPdf 19 18 07.0 +0.5
KOLS e 00 24 32.9
STHS Stebnicka Huta 123.07 326 ePKP PKPdf 19 18 08.1 +1.0
CFAA Coronel Fontan 123.14 135 PKP PKPdf 19 18 07.8 0.0
CFAA Coronel Fontan 123.14 135 PKP PKPdf 19 18 07.8 0.0
comp=Z,0.2nm,0.3s,baz=279,slow=3.1,SNR=3.1
CRVS Cervenica-Dubn 123.22 326 ePKP PKPdf 19 18 07.1 -0.3
CRVS Cervenica-Dubn 123.22 326 ePKP PKPdf 19 18 07.0 -0.4
CRVS e 00 24 36.0
DRGR 123.58 323 ⇓iP PKPdf 19 18 08.3 +0.1
OKC Ostrava-Krasne 124.50 328 ePKPdf PKPdf 19 18 10.3 +0.4
BZS Buzias 124.82 322 ⇓iP PKPdf 19 18 10.5 -0.1
MORC Moravsky Berou 124.86 328 ⇓iP PKPdf 19 18 11.2 +0.7
VYHS Vyhne 124.90 326 ePKP PKPdf 19 18 10.2 -0.5
DPC Dobruska-Polom 125.14 329 ePKPdf PKPdf 19 18 11.5 +0.4
VTS Vitosha 125.23 318 ⇓iP PKPdf 19 18 11.8 +0.3
BSEG Bad Segeberg 125.49 336 ePKPdf PKPdf 19 18 12.1 +0.5
MODS Modra-Piesok 125.82 327 ePKP PKPdf 19 18 13.0 +0.6
PVCC Panska Ves 125.90 330 ePKPdf PKPdf 19 18 12.9 +0.4
BRG Berggiesshubel 125.98 331 iPKIKP PKPdf 19 18 13.0 +0.3
BRG pmax pmax
comp=Z,5.0nm,0.8s
BRG MLR MLR
comp=N,155nm,21.5s
BRG MLR MLR
comp=E,157nm,15.1s
BRG MLR MLR
comp=Z,266nm,17.9s
BRG Berggiesshubel 125.98 331 ePKPdf PKPdf 19 18 13.0 +0.3
BRG Berggiesshubel 125.98 331 iPKP PKPdf 19 18 13.0 +0.4
comp=Z,8.9nm,0.8s
BRG
comp=N,259nm,21.5s
BRG
comp=E,262nm,15.1s
BRG
comp=Z,444nm,17.9s
ZST Bratislava 126.02 327 ePKP PKPdf 19 18 13.3 +0.5
CLL Collm 126.14 332 ePKP PKPdf 19 18 13.0 +0.1
CLL Collm 126.14 332 ePKPdf PKPdf 19 18 13.1 +0.2
CLL Collm 126.14 332 ⇓iPKPdf PKPdf 19 18 13.3 +0.4
comp=Z,11nm,0.6s
CLL i PKiKP PKiKP 19 18 15.2 +1.8
CLL Lm 19 35 00.0
comp=N,400nm,20.6s
CLL Lm 19 35 00.0
comp=E,300nm,20.8s
CLL Lm 19 35 00.0
comp=Z,500nm,21.0s
TREC Trest 126.22 329 ePKPdf PKPdf 19 18 13.5 +0.3
PRU Pruhonice 126.26 330 ePKPdf PKPdf 19 18 13.2 0.0
PKSM Moragy 126.28 324 ⇑iP PKPdf 19 18 13.2 -0.2
CLZ Clausthal 126.96 334 ePKPdf PKPdf 19 18 15.0 +0.5
TANN Tannenbergstha 126.99 331 ePKPdf PKPdf 19 18 14.8 +0.2
NKC Novy Kostel 127.12 331 ePKPdf PKPdf 19 18 15.3 +0.4
MOX Moxa 127.23 332 ePKP PKPdf 19 18 15.5 +0.4
MOX Moxa 127.23 332 ePKPdf PKPdf 19 18 15.3 +0.2
KHC Kasperske Hory 127.29 330 ⇑iPKIKP PKPdf 19 18 15.8 +0.6
KHC Kasperske Hory 127.29 330 ePKPdf PKPdf 19 18 15.4 +0.2
GEC2 GERESS Array S 127.41 329 ePKPdf PKPdf 19 18 16.0 +0.5
GERES GERESS Array B 127.41 329 PKP PKPdf 19 18 16.3 +0.8
comp=Z,6.1nm,0.7s,baz=69,slow=2.2,SNR=36
MANZ Manzenberg 127.45 331 ePKPdf PKPdf 19 18 15.8 +0.3
WET Wettzell 127.63 330 ePKPdf PKPdf 19 18 16.2 +0.3
GRA1 Grafenberg Arr 128.07 331 ePKPdf PKPdf 19 18 17.3 +0.6
GRF Grafenberg Arr 128.07 331 ePKPdf PKPdf 19 18 17.3 +0.6
STU Stuttgart 129.67 332 ePKPdf PKPdf 19 18 20.5 +0.7
GIVF Givet 130.61 336 ePKIKP PKPdf 19 18 21.3 -0.2
comp=Z,9.5nm,0.7s
CDF Champ du Feu 130.81 333 ePKIKP PKPdf 19 18 21.3 -0.6
comp=Z,4.3nm,0.5s
LPAZ La Paz 130.82 118 PKP PKPdf 19 18 23.6 +0.7
comp=Z,0.9nm,0.4s,baz=28,slow=2.8,SNR=4.0
BAIF Baives 130.89 336 ePKIKP PKPdf 19 18 21.9 -0.1
comp=Z,5.4nm,0.7s
HINF Hinteralfeld 131.44 332 ePKIKP PKPdf 19 18 22.6 -0.6
comp=Z,7.1nm,0.5s
HAU Haudompre 131.53 333 ePKIKP PKPdf 19 18 23.0 -0.3
comp=Z,12nm,0.5s
HAU eMLR MLR
comp=Z,98nm,17.8s
HAU Haudompre 131.53 333 ePKIKP PKPdf 19 18 23.0 -0.3
HAU MLR MLR
comp=Z,100nm,17.8s
MEZF Maizieres J'vi 131.74 334 ePKIKP PKPdf 19 18 23.7 0.0
comp=Z,20nm,0.7s
CABF La Chapelle 132.68 332 ePKIKP PKPdf 19 18 25.9 +0.4
comp=Z,16nm,0.6s
LPL La Plagne 133.16 330 ePKIKP PKPdf 19 18 26.8 +0.3
comp=Z,11nm,0.6s
LPG La Plagne 133.16 330 ePKIKP PKPdf 19 18 27.0 +0.5
comp=Z,19nm,0.8s
LOR Lormes 133.20 334 ePKIKP PKPdf 19 18 26.6 +0.1
comp=Z,6.0nm,0.5s
LOR eMLR MLR
comp=Z,160nm,20.2s
LOR Lormes 133.20 334 ePKIKP PKPdf 19 18 26.6 +0.1
LOR MLR MLR
comp=Z,160nm,20.3s
SSF Saint Saulge 133.51 334 ePKIKP PKPdf 19 18 27.2 +0.1
comp=Z,5.2nm,0.4s
SMF Signal de Mont 133.68 333 ePKIKP PKPdf 19 18 27.2 -0.2
comp=Z,5.6nm,0.4s
MBDF Montbardon 133.70 329 ePKIKP PKPdf 19 18 27.4 -0.1
FLN La Foliniere 133.75 338 ePKIKP PKPdf 19 18 27.3 -0.2
comp=Z,12nm,0.6s
FLN eMLR MLR
comp=Z,155nm,20.8s
FLN La Foliniere 133.75 338 ePKIKP PKPdf 19 18 27.3 -0.2
FLN MLR MLR
comp=Z,150nm,20.8s
LDF La Druitiere 133.75 338 ePKIKP PKPdf 19 18 27.2 -0.3
comp=Z,4.4nm,0.6s
AVF Avril sur Loir 133.79 334 ePKIKP PKPdf 19 18 27.2 -0.4
comp=Z,2.7nm,0.5s
SBF Sospel 133.96 328 ePKIKP PKPdf 19 18 27.5 -0.5
ORIF Oris-en-Rattie 134.01 330 ePKIKP PKPdf 19 18 28.2 +0.1
comp=Z,14nm,0.7s
ORIF eMLR MLR
comp=Z,132nm,18.0s
BGF Bois d'Agland 134.19 334 ePKIKP PKPdf 19 18 28.5 +0.1
comp=Z,10nm,0.5s
GRR Gorron 134.20 338 ePKIKP PKPdf 19 18 28.4 +0.1
comp=Z,8.1nm,0.6s
FRF La Foret Royal 134.59 328 ePKIKP PKPdf 19 18 29.0 -0.2
VIVF Saint-Julien-l 134.64 331 ePKIKP PKPdf 19 18 29.4 +0.1
comp=Z,12nm,0.8s
TCF Toulx Ste Croi 134.68 334 ePKIKP PKPdf 19 18 29.6 +0.3
comp=Z,17nm,0.8s
LMR La Mourre 134.81 328 ePKIKP PKPdf 19 18 29.6 0.0
SMRF Simiane la Rot 134.84 330 ePKIKP PKPdf 19 18 30.4 +0.7
SGMF Saint Gilles 134.92 340 ePKIKP PKPdf 19 18 29.5 -0.2
comp=Z,7.6nm,0.6s
ROSF Rostrenen 135.09 340 ePKIKP PKPdf 19 18 29.8 -0.2
MFF Saint Martin d 135.40 336 ePKIKP PKPdf 19 18 30.7 +0.1
comp=Z,14nm,0.8s
QUIF Quistinic 135.42 340 ePKIKP PKPdf 19 18 30.5 -0.1
LASF Ste Croix 135.61 331 ePKIKP PKPdf 19 18 31.7 +0.6
RJF Les Rejaudoux 135.75 334 ePKIKP PKPdf 19 18 31.1 -0.2
RJF eMLR MLR
comp=Z,117nm,19.8s
RJF Les Rejaudoux 135.75 334 ePKIKP PKPdf 19 18 31.1 -0.2
RJF MLR MLR
comp=Z,120nm,19.8s
CAF Calviac 135.80 333 ePKIKP PKPdf 19 18 32.0 +0.6
LFF La Frestale 136.37 334 ePKIKP PKPdf 19 18 32.6 +0.1
MTLF Montolieu 136.95 332 ePKIKP PKPdf 19 18 34.1 +0.5
EPF Esparros 138.06 333 ePKIKP PKPdf 19 18 35.1 -0.6
MVO Moncorvo 142.65 338 ePKP PKPdf 19 18 42.1 -1.9
ESDC Sonseca Array 142.68 334 PKhKP 19 18 40.4
comp=Z,0.7nm,0.6s,baz=18,slow=4.4,SNR=5.7
PVIS Viseu 143.35 339 ePKP PKPdf 19 18 42.5 -2.8
MTE Manteigas 143.50 338 ePKP PKPdf 19 18 46.3 +0.7
PCBR Castelo Branco 143.97 338 ePKP PKPdf 19 18 44.6 -1.8
PESTR Estremoz 144.86 337 ePKP PKPdf 19 18 47.3 -0.7
PBAR Barrancos 145.24 336 ePKP PKPdf 19 18 48.4 -0.3
EVO Evora 145.31 337 ePKIKP PKPdf 19 18 48.4 -0.4
comp=Z,9.0nm,0.5s
EVO eMLR MLR
comp=Z,155nm,20.2s
EVO Evora 145.31 337 ePKP PKPdf 19 18 49.1 +0.3
PBEJ Beja 145.69 337 ePKP PKPdf 19 18 50.3 +0.8
PVAQ Vaqueiros 146.17 336 ePKP PKPdf 19 18 51.8 +1.5
PBDV Barranco-do-Ve 146.40 336 ePKP PKPdf 19 18 49.4 -1.3
PTEO Sao Teotonio 146.45 337 ePKP PKPdf 19 18 53.0 +2.3
MORF Marmelete 146.63 337 ePKP PKPdf 19 18 51.2 +0.1
BDFB Brasilia 147.47 134 PKPbc PKPbc 19 18 55.3 -0.4
comp=Z,12nm,0.8s,baz=226,slow=13,SNR=9.3
TOA0 Torodi Ar. Sit 153.74 286 ePKPdf PKPdf 19 18 57.9 -4.9
TOA0 ePKPbc PKPbc 19 19 09.8 -0.9
TORD Torodi Ar. Bea 153.74 286 PKPbc PKPbc 19 19 09.8 -0.8
TORD PKPab PKPab 19 19 23.8 0.0
TORD Torodi Ar. Bea 153.74 286 PKPbc PKPbc 19 19 09.8 -0.8
comp=Z,3.7nm,0.4s,baz=52,slow=1.7,SNR=77
TORD PKPab PKPab 19 19 23.8 0.0
comp=Z,4.5nm,0.5s,baz=84,slow=4.5,SNR=16
DBIC Dimbokro 160.74 270 PKP2 PKPab 19 19 54.4 +0.3
DBIC pmax pmax
comp=Z,15nm,0.7s
DBIC Dimbokro 160.74 270 PKPab PKPab 19 19 54.4 +0.3
comp=Z,15nm,0.7s,baz=74,slow=4.5,SNR=20
LIC Lamto 160.89 269 ePKP2 PKPab 19 19 54.9 +0.1
comp=Z,25nm,0.7s

*ISCJB **14** 19:07:20.5±2.9,2364S±006×645W±0.1,h30km±21km, mb4.3/14, Error ellipse: s-maj=16.2km s-min=10.2km az=15.8*
*IDC **14** 19:07:21.7±4.6,2366S×6478W,h26km±30km, mb3.8/5, mb1 4.0/7, mb1mx3.9/16, mbtmp3.7/7, ML3.4/3, Error ellipse: s-maj=29.5km s-min=18.4km az=109.0*
*NEIC **14** 19:07:22.6±2.3,2370S×6470W,h34km±17km, mb4.5/9, MD4.5(SJA), Error ellipse: s-maj=15.6km s-min=8.4km az=83.0*
NEIC Felt [III] at Salta.
ISC 14 19:07:23.1±1.0,2370S±006×646W±01,h36km±10km,n27,
σ1º00/22,mb4.3/14,1C,Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEN1	Los Morros	5.13	272	⇑iP	Pn	19 08 40.2	+2.8
LPAZ	La Paz	8.08	335	ePn	Pn	19 09 17.3	-0.6
	21nm,1.5s						
LPAZ	La Paz	8.08	335	Pn	Pn	19 09 18.1	+0.2
	0.2nm,0.3s,baz=186,slow=11,SNR=6.9						
SIV	San Ignacio	8.36	24	Pn	Pn	19 09 21.5	-0.3
	1.6nm,0.3s,baz=216,slow=12,SNR=40						
SIV				Sn	Sn	19 10 54.9	-0.1
	1.2nm,0.3s,baz=276,slow=18,SNR=2.3						
SIV				Lg		19 11 46.3	
	2.5nm,0.3s,baz=300,slow=20,SNR=3.3						
CFAA	Coronel Fontan	8.51	201	Pn	Pn	19 09 22.3	-1.5
	0.1nm,0.3s,baz=17,slow=11,SNR=6.6						
CFAA				Lg		19 11 52.9	
	0.8nm,0.3s,baz=217,slow=16,SNR=4.3						
TRQA	Tornquist	14.49	172	ePn	Pn	19 10 46.2	+0.6
NNA	Nana	16.45	313	Pn	Pn	19 11 11.5	+0.2
	18nm,1.0s						
EFI	East Falkland	28.39	171	P	P	19 13 20.9	+7.1
	96nm,1.2s,mb5.3						
SDV	Santo Domingo	32.91	349	P	P	19 13 49.4	-4.7
	5.6nm,0.9s,mb4.5						
TXAR	Lajitas Array	64.73	323	P	P	19 17 55.9	-2.0
	0.3nm,0.7s,mb3.4,baz=150,slow=10,SNR=4.1						
QSPA	South Pole Qui	66.51	180	eP	P	19 18 08.6	0.0
	3.6nm,0.9s,mb4.4						
WMOK	Wichita Mounta	66.55	330	P	P	19 18 00.8	-8.6
	2.5nm,0.9s,mb4.2						
KSU1	Kansas State U	69.27	334	P	P	19 18 24.7	-1.8
	9.6nm,0.8s,mb4.8						
ANMO	Albuquerque	70.54	324	eP	P	19 18 34.4	0.0
	2.6nm,1.0s,mb4.1						
SDCO	Great Sand Dun	72.19	327	eP	P	19 18 45.0	+0.7
	6.9nm,1.3s,mb4.4						
TORD	Torodi Ar. Bea	74.43	68	P	P	19 18 58.6	+0.6
	1.5nm,0.6s,mb4.1,baz=254,slow=6.1,SNR=40						
PDAR	Pinedale Array	78.03	328	P	P	19 19 18.1	+0.3
	0.9nm,0.7s,mb3.8,baz=129,slow=6.9,SNR=7.5						
ULM	Lac du Bonnet	78.66	340	P	P	19 19 20.5	-0.6
	0.5nm,0.4s,mb3.8,baz=162,slow=7.3,SNR=4.1						
HLID	Hailey	81.04	326	eP	P	19 19 35.3	+1.2
	7.6nm,1.0s,mb4.6						
ESDC	Sonseca Array	84.69	43	P	P	19 19 54.4	+1.2
	0.9nm,0.8s,mb4.0,baz=232,slow=4.9,SNR=5.3						
YKA	Yellowknife Ar	94.60	339	P	P	19 20 39.5	0.0
	0.9nm,0.9s,mb4.2,baz=127,slow=4.4,SNR=17						
ASAR	Alice Springs	129.60	202	PKP	PKPdf	19 26 27.8	-1.1
	0.5nm,0.9s,baz=151,slow=2.1,SNR=4.1						
ZALV	Zalesovo Beam	142.08	29	PKP	PKPdf	19 26 51.0	0.0
	0.4nm,0.6s,baz=289,slow=4.4,SNR=3.0						
MK31	Makanchi Array	144.89	41	ePKPdf	PKPdf	19 26 55.4	-0.8
MKAR	Makanchi Array	144.89	41	PKP	PKPdf	19 26 56.1	-0.1
	0.7nm,0.7s,baz=293,slow=3.4,SNR=3.5						
SONM	Songino Array	154.87	14	PKPab	PKPab	19 27 37.0	+1.2
	0.8nm,0.8s,baz=348,slow=6.2,SNR=3.8						
ULN	Ulaanbaatar	154.98	13	ePKPab	PKPab	19 27 36.7	+0.5

*ISCJB **14** 19:09:33.4±0.5,3942N±003×2282E±004,h13km±6km, Error ellipse: s-maj=5.3km s-min=4.6km az=163.9*
*NEIC **14** 19:09:33.9,3943N×2282E,h11km,MD2.8(ATH), After ATH.*
*ATH **14** 19:09:33.9,3943N×2282E,h11km±7km,MD2.8/5*
*CSEM **14** 19:09:34.1±0.1,3941N×2279E,h7km,ML2.3, Error ellipse: s-maj=2.1km s-min=1.5km az=177.0*
*THE **14** 19:09:34.0,3942N×2282E,h13km,ML2.3*
ISC 14 19:09:33.7±0.6,3941N±003×2282E±004,h19km±8km,n11,
σ0º63/18,Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
XOR	Xorichti	0.29	99	ePg	Pg	19 09 39.9	-0.3
XOR				eSg	Sg	19 09 44.4	-0.1
NEO	Neokhori	0.33	109	ePB	Pg	19 09 40.7	-0.1
NEO				eSB	Sg	19 09 45.6	0.0
AGG	Agios Georgios	0.55	225	ePg	Pg	19 09 43.8	-0.9
AGG				eSg	Sg	19 09 53.5	+1.4
THL	Klokotos Trika	0.64	284	ePG	Pg	19 09 45.9	-0.6
THL				eSB	Sb	19 09 55.0	0.0
LIT	Litokhoron	0.73	340	ePg	Pg	19 09 47.3	-0.9
LIT				eSg	Sg	19 09 58.8	+0.9
LKR	Lokris	0.78	170	ePG	Pg	19 09 48.7	-0.2
PAIG	Paliouri	0.84	52	ePg	Pg	19 09 50.0	-0.1
PAIG				eSg	Sg	19 10 02.1	+1.0
AOS	Alonnisos	0.85	106	ePg	Pg	19 09 50.7	+0.2
EVR	Evrytania	0.93	238	ePN	Pn	19 09 52.2	+0.4
PLG	Polygyros	1.07	26	ePg	Pg	19 09 53.5	-1.1
PLG				eSg	Sg	19 10 09.0	+0.4
PLG	Polygyros	1.07	26	ePB	Pb	19 09 53.6	-0.1

*ISCJB **14** 19:13:57.6±0.7,3938N±003×2332E±005,h4km±7km, Error ellipse: s-maj=6.8km s-min=4.4km az=31.9*
*CSEM **14** 19:13:58.4±0.2,3937N×2330E,h2km,ML2.1, Error ellipse: s-maj=4.1km s-min=3.1km az=118.0*
*THE **14** 19:13:58.2,3938N×2329E,h3km,ML2.1*
*ATH **14** 19:13:58.0,3937N×2332E,h5km,MD2.8/3*
ISC 14 19:13:57.9±0.7,3936N±003×2332E±005,h7km±5km,n9,
σ0º81/17,1D,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEO	Neokhori	0.09	232	⇓iPG	Pg	19 14 00.0	0.0
NEO				eSG	Sg	19 14 01.5	0.0
XOR	Xorichti	0.10	272	ePg	Pg	19 13 59.8	-0.3
XOR				eSg	Sg	19 14 01.2	-0.4
AOS	Alonnisos	0.48	114	ePg	Pg	19 14 07.5	+0.4
PAIG	Paliouri	0.63	26	ePg	Pg	19 14 10.8	+0.7
PAIG				eSg	Sg	19 14 19.7	+1.5
LKR	Lokris	0.75	199	ePB	Pb	19 14 12.7	-0.6
LKR				eSB	Sb	19 14 23.5	-0.3
AGG	Agios Georgios	0.84	246	ePg	Pg	19 14 13.3	-0.7
AGG				eSg	Sg	19 14 26.9	+2.0
LIT	Litokhoron	0.97	319	ePg	Pg	19 14 15.8	-0.9
LIT				eSg	Sg	19 14 29.7	+0.5
PLG	Polygyros	1.01	6	ePg	Pg	19 14 16.6	-0.8
PLG				eSg	Sg	19 14 29.3	-1.3
THL	Klokotos Trika	1.03	282	ePB	Pb	19 14 17.8	-0.2
THL				eSB	Sb	19 14 32.3	+0.6

IDC 14 19:22:34.5±4.0,902S×15758E,h0km,mb3.6/3,mb1 3.7/4,
mb1mx3.5/15,mbtmp3.6/4,ML3.3/1,MS2.7/1,Ms1 2.7/1,
ms1mx2.4/25,Error ellipse: s-maj=109.5km
s-min=29.0km az=173.0,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	2.38	100	Pn	Pn	19 23 14.8	+0.1
	6.6nm,0.3s,baz=252,slow=5.5,SNR=4.8						
HNR				Sn	Sn	19 23 40.9	-3.7
	21nm,0.3s,baz=284,slow=9.2,SNR=6.6						
CTA	Charters Tower	15.52	224	LR	LR	19 31 25.3	
	comp=Z,24nm,18.1s,baz=169,slow=34						
WRA	Warramunga Arr	24.95	242	P	P	19 28 00.4	+0.7
	1.6nm,0.9s,baz=70,slow=9.9,SNR=5.6						
ASAR	Alice Springs	26.92	234	P	P	19 28 16.3	-1.3
	0.3nm,0.6s,baz=64,slow=11,SNR=3.2						
STKA	Stephens Creek	27.16	211	P	P	19 28 20.5	+0.8
	1.2nm,0.9s,baz=39,slow=14,SNR=3.1						

IDC 14 19:40:02.3±2.8,1226N×14415E,h49km±34km,mb3.3/5,
mb1 3.5/5,mb1mx3.3/19,mbtmp3.3/5,MS3.2/1,Ms1 3.2/1,
ms1mx2.7/17,Error ellipse: s-maj=55.9km
s-min=18.1km az=102.0,South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	Guam	1.50	28	P	Pn	19 40 25.4	-1.3
	98nm,0.3s,baz=185,slow=5.2,SNR=75						
GUMO				S	Sn	19 40 45.3	+0.2
	52nm,0.3s,baz=5.9,slow=21,SNR=13						
HNR	Honiara	26.66	143	LR	LR	19 54 51.7	
	comp=Z,51nm,21.1s,baz=178,slow=33						
WRA	Warramunga Arr	33.42	197	P	P	19 46 36.4	-0.2
	0.3nm,0.8s,baz=20,slow=9.8,SNR=3.6						
ASAR	Alice Springs	37.09	196	P	P	19 47 08.7	+0.7
	0.3nm,0.7s,baz=20,slow=11,SNR=5.5						
MKAR	Makanchi Array	61.96	317	P	P	19 50 17.9	+0.6
	0.3nm,0.3s,baz=95,slow=7.2,SNR=7.9						
YKA	Yellowknife Ar	84.36	27	P	P	19 52 29.2	+0.2
	0.1nm,0.5s,baz=285,slow=4.0,SNR=3.8						
FINES	FINESS Array B	92.06	335	P	P	19 53 04.3	-1.6
	1.1nm,1.0s,baz=72,slow=6.8,SNR=5.6						

*NEIC **14** 19:42:46.0, 3062S×7208W, h23km, ML2.9(GUC), After GUC.*

GUC 14 19:42:46.0±0.9, 3062S×7208W, h23km±10km, MD3.9, ML2.9, 1C, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OVCH	**Ovalle**	**0.76**	**89**	⇑*i*P	Pb	19 42 59.9	-0.6
OVCH				*i* S	Sb	19 43 10.2	-0.2
CMCH	**Combarbala**	**1.08**	**121**	*e*P	Pn	19 43 04.7	-1.0
CMCH				*i* S	Sb	19 43 20.0	+0.4
CMCH	**Combarbala**	**1.08**	**121**	*e*P	Pn	19 43 04.7	-1.0
CMCH				*i* S	Sb	19 43 20.0	+0.4
CMCH				AML	AML	19 43 21.0	
	comp=N,1μm,0.4s						
TLL	**Tololo Astrono**	**1.19**	**68**	*e*P	Pn	19 43 07.7	+0.5
TLL				*i* S	Sn	19 43 23.4	+0.6
TLL	**Tololo Astrono**	**1.19**	**68**	*e*P	Pn	19 43 07.7	+0.5
TLL				*i* S	Sn	19 43 23.4	+0.6
TLL				AML	AML	19 43 27.3	
	comp=N,440nm,0.5s						
CHNG	**Los Chungos**	**1.35**	**159**	*i* P	Pn	19 42 50.2	-19
CHNG				*i* S	Sn	19 43 07.5	-19
CHNG				AML	AML	19 43 17.3	
	comp=E,104nm,0.4s						
LCO	**Las Campanas**	**2.00**	**37**	*e*Pn	Pn	19 43 20.7	+2.2
PEL	**Peldehue**	**2.78**	**155**	*e*P	Pn	19 43 33.9	+4.8
PEL				*i* S	Sn	19 44 07.7	+5.8
PEL				AML	AML	19 44 21.3	
	comp=E,130nm,0.5s						
CLCH	**Cerro Calan**	**3.06**	**155**	*e*S	Sn	19 44 13.8	+5.0
FCH	**Farellones**	**3.10**	**151**	*e*S	Sn	19 44 13.0	+3.2
FCH				AML	AML	19 44 31.7	
	comp=E,27nm,0.6s						

THE 14 19:43:55.3, 3807N×2296E, h4km, ML2.1, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LTK	**Loutraki**	**0.05**	**169**	*e*Pg	Pg	19 43 56.6	+0.1
LTK				*e*Sg	Sg	19 43 57.5	+0.2
DID	**Didima**	**0.61**	**158**	*e*Pg	Pg	19 44 06.8	-0.2
DID				*e*Sg	Sg	19 44 15.8	+0.9
KFL	**Anninata**	**1.71**	**272**	*e*Pg	Pn	19 44 32.2	+6.3
KFL				*e*Sg	Pg	19 44 36.6	+8.5
LKD	**Levkas**	**1.92**	**290**	*e*Pg	Pn	19 44 33.3	+4.5
LKD				*e*Sg	Pg	19 44 39.6	+7.5

*ISCJB **14** 19:49:55.9±0.8, 1304N±007×1447E±02, h60km±9km, mb4.0/13, Error ellipse: s-maj=26.6km s-min=10.9km az=5.2*
*IDC **14** 19:49:56.5±1.2, 1308N×1446 9E, h41km±12km, mb3.7/9, mb1 3.9/9, mb1mx3.7/20, mbtmp3.7/9, MS3.1/1, Ms1 3.1/1, ms1mx2.7/22, Error ellipse: s-maj=32.3km s-min=14.4km az=94.0*
*NEIC **14** 19:49:57.0±0.8, 1310N×1446 4E, h53km±8km, mb4.4/5, Error ellipse: s-maj=14.2km s-min=6.8km az=100.0*

ISC 14 19:49:57.0±0.9, 1305N±007×1447E±02, h54km±9km, n27, σ0§81/25, mb4.0/13, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**0.55**	**13**	P	**Pn**	**19 50 09.0**	**-0.1**
	763nm,0.3s,baz=167,slow=9.5,SNR=377						
GUMO				S	**Sn**	**19 50 17.7**	**-0.1**
	2μm,0.3s,baz=315,slow=20,SNR=149						
JOW	**Kunigami**	**20.64**	**314**	LR	LR	20 01 21.3	
	comp=Z,48nm,19.2s,baz=188,slow=33						
MJAR	**Matsushiro Arr**	**24.12**	**347**	P	**P**	**19 55 07.4**	**-0.3**
	1.9nm,0.7s,mb3.6,baz=173,slow=6.9,SNR=9.3						
MAJO	**Matsushiro**	**24.12**	**347**	*e*P	**P**	**19 55 07.1**	**-0.6**
	42nm,1.5s,mb4.7						
MAT	**Matsushiro**	**24.12**	**347**	P	**P**	**19 55 10.6**	**+2.8**
KSRS	**Korea Array**	**28.57**	**331**	P	**P**	**19 55 48.4**	**+0.4**
	0.6nm,0.5s,mb3.6,baz=137,slow=10,SNR=3.9						
KKM	**Kota Kinabalu**	**28.96**	**259**	*e*P	**P**	**19 55 51.0**	**-0.7**
WRAB	**Tennant Creek**	**34.34**	**198**	*e*P	**P**	**19 56 38.7**	**0.0**
	5.5nm,0.8s,mb4.5						
WB2	**Warramunga Arr**	**34.34**	**198**	*e*P	**P**	**19 56 39.1**	**+0.3**
WRA	**Warramunga Arr**	**34.35**	**198**	P	**P**	**19 56 39.0**	**+0.2**
	3.4nm,0.8s,mb4.4,baz=24,slow=9.7,SNR=19						
KSM	**Kuching**	**35.98**	**254**	*e*P	**P**	**19 56 52.6**	**-0.4**
FITZ	**Fitzroy Crossi**	**36.24**	**212**	*e*P	**P**	**19 56 56.1**	**+1.0**
	2.9nm,0.8s,mb4.3						
FITZ	**Fitzroy Crossi**	**36.24**	**212**	P	**P**	**19 56 56.0**	**+0.8**
	1.6nm,0.8s,mb4.0,baz=51,slow=14,SNR=5.8						
FITZ				PcP	PcP	19 59 21.2	+1.6
	1.8nm,0.7s,baz=330,slow=6.7,SNR=5.3						
ASAR	**Alice Springs**	**38.00**	**196**	P	**P**	**19 57 10.2**	**+0.2**
	1.3nm,0.5s,mb3.9,baz=19,slow=11,SNR=31						
ASAR				PcP	PcP	19 59 26.6	+1.7
	0.6nm,0.6s,baz=51,slow=2.1,SNR=5.6						
MBWA	**Marble Bar**	**41.95**	**216**	*e*P	**P**	**19 57 43.0**	**+0.2**
	6.2nm,0.6s,mb4.4						
CM31	**Chiang Mai Arr**	**44.32**	**283**	*e*P	**P**	**19 58 08.3**	**+6.2**
	1.3nm,0.6s,mb3.8						
STKA	**Stephens Creek**	**44.77**	**184**	*e*P	**P**	**19 58 04.6**	**-0.8**
SONM	**Songino Array**	**47.10**	**325**	P	**P**	**19 58 26.0**	**+2.4**
	0.4nm,0.4s,mb3.7,baz=147,slow=8.6,SNR=2.9						
MK31	**Makanchi Array**	**61.79**	**316**	*e*P	**P**	**20 00 10.2**	**-0.1**
MKAR	**Makanchi Array**	**61.79**	**316**	P	**P**	**20 00 10.2**	**-0.1**
	0.8nm,0.5s,mb4.1,baz=90,slow=8.1,SNR=11						
KURK	**Kurchatov**	**64.91**	**320**	*e*P	**P**	**20 00 29.7**	**-1.1**
SML	**Sawmill**	**67.74**	**28**	*e*P	**P**	**20 00 48.6**	**-0.1**
YKA	**Yellowknife Ar**	**83.39**	**27**	P	**P**	**20 02 18.4**	**+0.2**
YKA	**Yellowknife Ar**	**83.39**	**27**	P	**P**	**20 02 18.4**	**+0.2**
	0.7nm,0.5s,mb3.9,baz=287,slow=5.1,SNR=20						
FINES	**FINESS Array B**	**91.60**	**335**	P	**P**	**20 02 56.8**	**-1.2**
	0.4nm,0.6s,mb3.9,baz=76,slow=8.0,SNR=5.4						
TORD	**Torodi Ar. Bea**	**135.06**	**304**	PKP	PKPdf	20 09 11.9	+0.5
	0.2nm,0.5s,baz=85,slow=1.7,SNR=6.1						
LPAZ	**La Paz**	**148.06**	**100**	PKPbc	PKPbc	20 09 40.1	+2.5
	2.9nm,0.8s,baz=342,slow=2.5,SNR=14						

IDC 14 19:58:06.9±2.6, 285S×13606E, h0km, mb3.7/2, mb1 3.8/5, mb1mx3.6/15, mbtmp3.7/5, ML3.5/2, Error ellipse: s-maj=80.8km s-min=27.2km az=87.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Kupang**	**14.32**	**239**	Pn	Pn	20 01 31.4	+0.3
	0.6nm,0.3s,baz=93,slow=19,SNR=2.5						
WRA	**Warramunga Arr**	**17.07**	**186**	Pn	Pn	20 02 05.5	-1.7
	0.1nm,0.3s,baz=3.6,slow=12,SNR=10						
WRA				Sn	Sn	20 05 10.4	-7.4
	0.2nm,0.3s,baz=6.0,slow=23,SNR=8.1						
FITZ	**Fitzroy Crossi**	**18.28**	**213**	Pn	Pn	20 02 21.6	-0.6
	0.1nm,0.3s,baz=44,slow=15,SNR=5.6						
FITZ				Sn	Sn	20 05 37.0	-10
	0.1nm,0.3s,baz=183,slow=18,SNR=2.5						
ASAR	**Alice Springs**	**20.80**	**186**	P	P	20 02 50.9	+1.0
	2.6nm,0.6s,baz=11,slow=12,SNR=32						
MKAR	**Makanchi Array**	**68.30**	**323**	P	P	20 09 09.9	+0.1
	0.5nm,0.5s,baz=114,slow=8.1,SNR=8.6						

*NEIC **14** 20:05:19.7, 1705N×10032W, h40km, MD3.7(MEX), After MEX.*

MEX 14 20:05:19.7±1.0, 1708N×10031W, h40km±8km, MD3.7, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.06**	**129**	*e*P	Pn	20 05 24.6	-1.6
CAIG				*i* S	Sn	20 05 29.0	-1.7
ACX	**Acapulco**	**0.43**	**120**	*i* P	Pn	20 05 28.0	-1.6
ACX				*i* S	Sn	20 05 35.0	-1.5
MEIG	**Mezcala**	**1.07**	**38**	*i* P	Pn	20 05 35.8	-2.4
MEIG				*i* S	Sn	20 05 48.9	-2.9
ZIIG	**Zihuatanejo**	**1.22**	**295**	*i* P	Pn	20 05 38.4	-1.8
ZIIG				*i* S	Sn	20 05 53.8	-1.8
PLIG	**Platanillo**	**1.51**	**31**	*i* P	Pn	20 05 43.8	-0.6
PLIG				*i* S	Sn	20 06 03.5	+0.6
PLIG	**Platanillo**	**1.51**	**31**	*i* P	Pn	20 05 43.8	-0.6
PLIG				*i* S	Sn	20 06 01.5	-1.4

*NEIC **14** 20:43:38.3, 4040S×17671E, h25km, ML3.9(WEL), After WEL.*

WEL 14 20:43:38.7±0.1, 4034S×17654E, h21km±1km, ML3.8/47, Error ellipse: s-maj=2.5km s-min=1.2km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WPHZ	**Waipukurau**	**0.29**	**345**	P*	Pb	20 43 44.4	-0.8
WPHZ				S*	Sb	20 43 49.3	-0.4
PXZ	**Pawanui**	**0.40**	**39**	P*	Pb	20 43 47.0	-0.1
PXZ				S*	Sb	20 43 53.5	+0.8
BFZ	**Birch Farm**	**0.41**	**213**	P	Pb	20 43 49.2	+2.0
BFZ	**Birch Farm**	**0.41**	**213**	P*	Pb	20 43 49.2	+2.0
TSZ	**Takapari Road**	**0.53**	**302**	P	Pb	20 43 48.9	-0.3
TSZ	**Takapari Road**	**0.53**	**302**	P*	Pb	20 43 48.9	-0.3
TIWZ	**Tintock**	**0.66**	**229**	P*	Pb	20 43 53.2	+1.7
MRZ	**Mangatainoka R**	**0.80**	**246**	P	Pb	20 43 54.7	+0.8
MRZ	**Mangatainoka R**	**0.80**	**246**	P*	Pb	20 43 54.7	+0.8
MOVZ	**Moawhango**	**1.11**	**327**	P	Pn	20 43 58.8	-0.3
MOVZ	**Moawhango**	**1.11**	**327**	PN	Pn	20 43 58.8	-0.3
MTW	**Mount Morrison**	**1.13**	**224**	P	Pn	20 43 58.9	-0.4
MTW	**Mount Morrison**	**1.13**	**224**	P*	Pb	20 43 58.9	-0.7
BKZ	**Black Stump Fm**	**1.18**	**358**	P	Pn	20 43 58.9	-1.0
BKZ	**Black Stump Fm**	**1.18**	**358**	PN	Pn	20 43 58.9	-1.0
TRWZ	**Traveller**	**1.24**	**211**	P*	Pb	20 44 00.7	-0.7
WNVZ	**Wahianoa**	**1.25**	**324**	P	Pn	20 44 01.3	+0.4
WNVZ	**Wahianoa**	**1.25**	**324**	PN	Pn	20 44 01.3	+0.4
MTVZ	**Mangateitei**	**1.26**	**319**	PN	Pn	20 44 01.8	+0.7
TUVZ	**Tukino**	**1.27**	**327**	P	Pn	20 44 01.7	+0.5
TUVZ	**Tukino**	**1.27**	**327**	PN	Pn	20 44 01.7	+0.4
TRVZ	**Turoa**	**1.29**	**323**	PN	Pn	20 44 01.9	+0.4
DRZ	**Dome Shelter**	**1.30**	**325**	P	Pn	20 44 02.6	+0.9
DRZ	**Dome Shelter**	**1.30**	**325**	PN	Pn	20 44 02.6	+0.9
FWVZ	**Far West T-bar**	**1.33**	**325**	P	Pn	20 44 02.3	+0.3
FWVZ	**Far West T-bar**	**1.33**	**325**	PN	Pn	20 44 02.3	+0.3
WAZ	**Wanganui**	**1.33**	**296**	P	Pn	20 44 03.1	+1.1
WAZ	**Wanganui**	**1.33**	**296**	PN	Pn	20 44 03.1	+1.1
PAWZ	**Paruwai Farm**	**1.34**	**219**	P	Pn	20 44 01.7	-0.5
PAWZ	**Paruwai Farm**	**1.34**	**219**	P*	Pb	20 44 01.7	-1.4
KIW	**Kapiti Island**	**1.34**	**247**	P	Pn	20 44 02.4	+0.2
KIW	**Kapiti Island**	**1.34**	**247**	P*	Pb	20 44 02.4	-0.8
CAW	**Cannon Point**	**1.35**	**235**	P	Pn	20 44 02.1	-0.3
CAW	**Cannon Point**	**1.35**	**235**	P*	Pb	20 44 02.1	-1.2
OTVZ	**Oturere**	**1.36**	**330**	PN	Pn	20 44 02.9	+0.5
WPVZ	**Whakapapa**	**1.37**	**326**	P	Pn	20 44 02.8	+0.2
WPVZ	**Whakapapa**	**1.37**	**326**	PN	Pn	20 44 02.8	+0.2
NGZ	**Ngauruhoe**	**1.37**	**328**	P	Pn	20 44 03.0	+0.4
NGZ	**Ngauruhoe**	**1.37**	**328**	PN	Pn	20 44 03.0	+0.4
PKVZ	**Pokaka**	**1.40**	**318**	PN	Pn	20 44 03.5	+0.5
KRVZ	**Karewarewa**	**1.43**	**331**	PN	Pn	20 44 04.0	+0.6
WTVZ	**West Tongariro**	**1.43**	**329**	P	Pn	20 44 03.5	+0.1
WTVZ	**West Tongariro**	**1.43**	**329**	PN	Pn	20 44 03.5	+0.1
MSWZ	**Moikau Station**	**1.45**	**222**	P	Pn	20 44 03.0	-0.7
MSWZ	**Moikau Station**	**1.45**	**222**	PN	Pn	20 44 03.0	-0.7
RITZ	**Rihia Road**	**1.46**	**339**	P	Pn	20 44 04.5	+0.7
RITZ	**Rihia Road**	**1.46**	**339**	PN	Pn	20 44 04.5	+0.7
HATZ	**Hinemaiaia**	**1.49**	**346**	P	Pn	20 44 03.9	-0.3
HATZ	**Hinemaiaia**	**1.49**	**346**	PN	Pn	20 44 03.9	-0.3
KATZ	**Kakaramea**	**1.51**	**334**	P	Pn	20 44 05.6	+1.0
KATZ	**Kakaramea**	**1.51**	**334**	PN	Pn	20 44 05.6	+1.1
RATZ	**Rangitukua**	**1.59**	**338**	P	Pn	20 44 06.8	+1.2
RATZ	**Rangitukua**	**1.59**	**338**	PN	Pn	20 44 06.8	+1.2
WEL	**Wellington**	**1.64**	**234**	P	Pn	20 44 05.8	-0.5
WEL	**Wellington**	**1.64**	**234**	PN	Pn	20 44 05.8	-0.5
MRW	**Makara Radio**	**1.65**	**237**	P	Pn	20 44 05.9	-0.6
MRW	**Makara Radio**	**1.65**	**237**	PN	Pn	20 44 05.9	-0.6
SNZO	**South Karori**	**1.69**	**235**	*e*P	Pn	20 44 06.3	-0.7
SNZO	**South Karori**	**1.69**	**235**	PN	Pn	20 44 06.3	-0.8
WHTZ	**Whakaora**	**1.73**	**345**	P	Pn	20 44 10.2	+2.6
WHTZ	**Whakaora**	**1.73**	**345**	PN	Pn	20 44 10.2	+2.6
WATZ	**Wairara**	**1.75**	**339**	P	Pn	20 44 08.1	+0.3
WATZ	**Wairara**	**1.75**	**339**	PN	Pn	20 44 08.1	+0.3
VRZ	**Vera Road**	**1.83**	**311**	*e*P	Pn	20 44 09.6	+0.6
VRZ	**Vera Road**	**1.83**	**311**	PN	Pn	20 44 09.6	+0.7
TCW	**Tory Channel**	**1.93**	**242**	P	Pn	20 44 09.7	-0.5
TCW	**Tory Channel**	**1.93**	**242**	PN	Pn	20 44 09.7	-0.6
RAEZ	**Rainy Point**	**1.96**	**302**	P	Pn	20 44 12.2	+1.5
DUWZ	**D'Urville Isla**	**2.05**	**256**	PN	Pn	20 44 12.5	+0.6
URZ	**Urewera**	**2.13**	**12**	*e*P	Pn	20 44 11.1	-1.9
URZ	**Urewera**	**2.13**	**12**	PN	Pn	20 44 11.1	-1.9
DFE	**Dawson Falls**	**2.13**	**298**	P	Pn	20 44 14.5	+1.4
MWZ	**Matawai**	**2.15**	**21**	*e*P	Pn	20 44 10.8	-2.5
MWZ	**Matawai**	**2.15**	**21**	PN	Pn	20 44 10.8	-2.4
NEZ	**North Egmont**	**2.17**	**299**	P	Pn	20 44 15.4	+1.9
HIZ	**Hauiti**	**2.25**	**324**	*e*P	Pn	20 44 15.3	+0.7
HIZ	**Hauiti**	**2.25**	**324**	PN	Pn	20 44 15.3	+0.7
TUWZ	**Tuamarina**	**2.25**	**240**	PN	Pn	20 44 13.5	-1.2
PKE	**Pukeiti**	**2.28**	**299**	P	Pn	20 44 17.2	+2.1
BSWZ	**Blackbirch Sta**	**2.44**	**235**	P	Pn	20 44 16.0	-1.3
BSWZ	**Blackbirch Sta**	**2.44**	**235**	PN	Pn	20 44 16.0	-1.2
NNZ	**Nelson**	**2.55**	**249**	*e*P	Pn	20 44 18.8	-0.1
NNZ	**Nelson**	**2.55**	**249**	PN	Pn	20 44 18.8	-0.1
QRZ	**Quartz Range**	**3.09**	**260**	*e*P	Pn	20 44 25.9	-0.4
QRZ	**Quartz Range**	**3.09**	**260**	PN	Pn	20 44 25.9	-0.4
THZ	**Tophouse**	**3.09**	**242**	*e*P	Pn	20 44 25.0	-1.3
THZ	**Tophouse**	**3.09**	**242**	PN	Pn	20 44 25.0	-1.3

*ISCJB **14** 20:47:44.9±1.8, 469N±02×1527E±02, h56km±14km, mb3.7/5, MS3.3/1, Error ellipse: s-maj=38.1km s-min=11.6km az=138.6*
*MOS **14** 20:47:46.4±1.7, 4705N×1526 0E, h70km, mb4.2/3, Error ellipse: s-maj=32.2km s-min=17.2km az=57.2*
*IDC **14** 20:47:46.8±9.1, 4690N×1529 4E, h63km±70km, mb3.3/6, mb1 3.5/7, mb1mx3.2/22, mbtmp3.4/7, ML3.3/1, MS3.3/1, Ms1 3.3/1, ms1mx2.4/20, Error ellipse: s-maj=73.0km s-min=27.7km az=91.0*

ISC 14 20:47:47.0±1.7, 469N±02×1527E±02, h58km±13km, n15, σ1§23/15, mb3.7/5, MS3.3/1, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.76**	**245**	PN	**Pn**	**20 48 41.4**	**-1.0**
KUR				S	**Sn**	**20 49 23.0**	**-2.4**
KUR				smax			
	comp=N,150nm,0.5s						
KUR				smax			
	comp=E,90nm,0.5s						
SKR	**Severo-Kuril's**	**4.40**	**30**	*e*PN	**Pn**	**20 48 51.0**	**-0.1**
SKR				*e*		20 49 39.5	
ASAJ	**Asahikawa**	**7.63**	**252**	PN	**Pn**	**20 49 36.9**	**+1.5**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ	**Asahikawa**	**7.63**	**252**	P	**Pn**	**20 49 36.9**	**+1.5**
	comp=Z,0.5nm,0.3s,baz=75,slow=17,SNR=5.1						
MJAR	**Matsushiro Arr**	**14.96**	**231**	P	**Pn**	**20 51 18.6**	**+3.8**
	comp=Z,0.2nm,0.3s,baz=30,slow=8.6,SNR=5.3						
KSRS	**Korea Array**	**20.58**	**252**	P	**P**	**20 52 23.5**	**+2.6**
	comp=Z,0.5nm,0.5s,baz=59,slow=10,SNR=3.7						
MKAR	**Makanchi Array**	**46.62**	**297**	P	**P**	**20 56 08.6**	**-0.5**
	comp=Z,0.4nm,0.6s,mb3.5,baz=69,slow=6.6,SNR=5.1						
MKAR				PcP	PcP	20 57 42.2	+0.1
	comp=Z,0.1nm,0.4s,baz=79,slow=4.5,SNR=2.8						
YKA	**Yellowknife Ar**	**50.96**	**37**	LR	LR	21 20 29.4	
	comp=Z,34nm,21.3s,MS3.3,baz=0.0,slow=39						
FINES	**FINESS Array B**	**63.78**	**335**	P	**P**	**20 58 12.2**	**-0.1**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
FINES	**FINESS Array B**	**63.78**	**335**	P	**P**	**20 58 12.2**	**-0.1**
	comp=Z,0.6nm,0.4s,mb4.0,baz=34,slow=7.7,SNR=13						
NOA	**NORSAR Array B**	**67.99**	**341**	P	**P**	**20 58 39.7**	**+0.3**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
NOA	**NORSAR Array B**	**67.99**	**341**	P	**P**	**20 58 39.7**	**+0.3**
	comp=Z,0.7nm,0.7s,mb3.8,baz=27,slow=6.1,SNR=3.1						
AKASG	**Malin Array Be**	**71.26**	**326**	P	**P**	**20 58 59.0**	**-0.7**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.3s						
AKASG	**Malin Array Be**	**71.26**	**326**	P	**P**	**20 58 59.0**	**-0.7**
	comp=Z,0.5nm,0.3s,mb3.9,baz=35,slow=6.4,SNR=5.6						
ASAR	**Alice Springs**	**72.27**	**198**	P	**P**	**20 59 05.2**	**-0.7**
	comp=Z,0.3nm,0.6s,mb3.4,baz=11,slow=6.2,SNR=5.3						

*ISCJB **14** 20:48:58.7±1.0, 3765N±004×2089E±006, h2km±7km, Error ellipse: s-maj=10.0km s-min=4.7km az=140.9*
*CSEM **14** 20:49:00.2±0.3, 3768N×2093E, h5km, ML3.2, Error ellipse: s-maj=6.2km s-min=2.9km az=53.0*
*THE **14** 20:49:00.1, 3767N×2092E, h3km, ML3.2*
*NEIC **14** 20:49:00.0, 3769N×2092E, h9km, MD3.3(ATH), After ATH.*
*ATH **14** 20:49:00.0, 3769N×2092E, h9km±3km, MD3.3/7*

ISC 14 20:48:59.5±1.0, 3766N±004×2088E±006, h10km±6km, n15, σ0§98/21, 1C-1D, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KFL	**Anninata**	**0.46**	**351**	*e*Pg	**Pg**	**20 49 08.8**	**+0.3**
KFL				*e*Sg	**Sg**	**20 49 15.7**	**+1.1**
VLS	**Valsamata**	**0.57**	**336**	⇑*i*PG	**Pg**	**20 49 10.6**	**+0.1**
VLS				*e*SB	**Sb**	**20 49 19.3**	**-0.3**
RLS	**Riolos of Patr**	**0.61**	**49**	⇓*i*PG	**Pg**	**20 49 10.7**	**-0.6**
RLS				*e*SB	**Sb**	**20 49 19.5**	**-1.4**
ITM	**Ithomi**	**0.96**	**119**	*e*PB	**Pb**	**20 49 18.1**	**0.0**
SELA	**Sela**	**1.01**	**52**	*e*Pg	**Pg**	**20 49 17.7**	**-1.2**
SELA				*e*Sg	**Sg**	**20 49 32.9**	**+0.9**
PYL	**PYLOS**	**1.02**	**138**	*e*Pg	**Pg**	**20 49 19.4**	**+0.2**
LKD	**Levkas**	**1.06**	**350**	*e*Pg	**Pg**	**20 49 19.1**	**-0.8**
LKD				*e*Sg	**Sg**	**20 49 33.7**	**-0.1**
VLX	**Vlachokerasia**	**1.23**	**103**	*e*Pg	**Pg**	**20 49 21.8**	**-1.2**
VLX				*e*Sg	**Sg**	**20 49 40.8**	**+1.9**
EVR	**Evrytania**	**1.45**	**30**	*e*PN	**Pn**	**20 49 25.6**	**-0.1**
LTK	**Loutraki**	**1.69**	**77**	*e*Pb	**Pb**	**20 49 30.6**	**0.0**
AGG	**Agios Georgios**	**1.78**	**39**	*e*Pb	**Pb**	**20 49 31.2**	**-0.9**
DID	**Didima**	**1.88**	**94**	*e*Pb	**Pb**	**20 49 33.1**	**-0.6**
VLI	**Veliai**	**1.89**	**119**	*e*PG	**Pg**	**20 49 35.2**	**-0.5**
LKR	**Lokris**	**1.94**	**59**	*e*PN	**Pn**	**20 49 34.5**	**+2.1**
THL	**Klokotos Trika**	**2.10**	**25**	*e*PN	**Pn**	**20 49 36.7**	**+2.1**

*IDC **14** 20:51:03.7±1.1, 023S×12475E, h0km, mb3.5/5, mb1 3.7/5, mb1mx3.5/16, mbtmp3.6/5, MS3.1/1, Ms1 3.1/1, ms1mx2.6/23, Error ellipse: s-maj=131.9km s-min=18.7km az=66.0*
*ISCJB **14** 20:51:06.5±1.0, 0.1N±01×1256E±02, h33km, mb3.6/5, Error ellipse: s-maj=23.1km s-min=16.7km az=167.9*

ISC 14 20:51:08.8±1.0, 01N±01×1257E±02, h35km, n7, σ1§18/6, mb3.6/5, 1D, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNE	**Ternate**	**1.82**	**69**	‖*e*P	**Pn**	**20 57 37.5**	**-0.2**
BATI	**Kupang**	**10.46**	**191**	LR	LR	20 57 27.5	
	comp=Z,103nm,18.9s,baz=212,slow=38						
WRA	**Warramunga Arr**	**21.68**	**157**	P	**P**	**20 55 56.5**	**-0.1**
	0.4nm,0.4s,mb3.2,baz=333,slow=11,SNR=11						
ASAR	**Alice Springs**	**24.97**	**162**	P	**P**	**20 56 29.8**	**+0.6**
	0.3nm,0.4s,mb3.1,baz=340,slow=7.1,SNR=9.3						
STKA	**Stephens Creek**	**35.22**	**156**	P	**P**	**20 57 59.6**	**-0.3**
	1.1nm,0.5s,mb4.0,baz=339,slow=8.1,SNR=6.2						
SONM	**Songino Array**	**50.38**	**343**	P	**P**	**21 00 03.9**	**+1.4**
	0.3nm,0.4s,mb3.6,baz=156,slow=7.7,SNR=2.6						
MKAR	**Makanchi Array**	**59.93**	**327**	P	**P**	**21 01 10.1**	**-1.4**
	0.4nm,0.4s,mb3.8,baz=126,slow=8.7,SNR=12						

*ISK **14** 20:52:27.8, 3726N×3443E, h9km, MD3.0*
*CSEM **14** 20:52:28.5±0.1, 3721N×3453E, h2km, MD3.0, Error ellipse: s-maj=2.9km s-min=2.0km az=119.0*
*ISCJB **14** 20:52:29.5±0.9, 3722N±004×3454E±005, h5km±8km, Error ellipse: s-maj=8.3km s-min=5.3km az=145.8*
*DDA **14** 20:52:29.7, 37.16N×3451E, h3km±1km, Md3.1*

ISC 14 20:52:29.8±0.9, 3722N±005×3453E±005, h10km±7km, n11, σ1§15/17, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MERS	**Mersin**	**0.35**	**181**	*e*PG	**Pg**	**20 52 36.4**	**-0.3**
MERS				*e*SG	**Sg**	**20 52 42.2**	**+0.8**
KARA	**Karaisali**	**0.42**	**84**	*e*PG	**Pg**	**20 52 37.7**	**-0.4**
KARA				*e*SG	**Sg**	**20 52 45.1**	**+1.4**
NIG	**Nigde**	**0.89**	**4**	*e*PG	**Pg**	**20 52 45.0**	**-2.1**
CEYT	**Ceyhan**	**1.00**	**102**	*e*PN	**Pn**	**20 52 49.7**	**-0.2**
KOZT	**Kozan**	**1.07**	**75**	*e*PN	**Pn**	**20 52 50.9**	**0.0**
IKL	**Isikli**	**1.19**	**215**	*e*PN	**Pn**	**20 52 50.0**	**-2.5**
ERMK	**Ermenek**	**1.42**	**247**	*i* P	**Pn**	**20 52 53.8**	**-1.8**
ERMK				*i* S	**Sn**	**20 53 15.4**	**+1.1**
ANDN	**Andirin**	**1.49**	**75**	*i* P	**Pn**	**20 52 57.2

n127,σ1§13/137,mb4.5/46,MS4.4/28,2D,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNN	**Nakanoshima**	**0.81**	**45**	P	**Pn**	**21 17 10.1**	**-2.1**
JNN				S	**Sb**	**21 17 21.1**	**-0.9**
JAM	**Amami Oshima**	**0.92**	**158**	P	**Pn**	**21 17 12.3**	**-1.5**
JAM				*e*S	**Sn**	**21 17 26.0**	**-0.2**
JZK	**Kikaishima**	**1.16**	**145**	P	**Pn**	**21 17 18.0**	**+1.0**
JKC	**Kuchinoerabu**	**1.46**	**35**	P	**Pn**	**21 17 19.5**	**-1.7**
JTK	**Tokunoshima**	**1.50**	**189**	P	**Pn**	**21 17 21.0**	**-0.7**
JTN	**Tanegashima 3**	**2.06**	**47**	P	**Pn**	**21 17 28.8**	**-0.7**
JTN				S	**Sn**	**21 17 54.4**	**0.0**
JOW	**Kunigami**	**2.57**	**199**	Pn	**Pn**	**21 17 36.4**	**-0.1**
	12nm,0.3s,baz=19,slow=14,SNR=29						
JOW				Sn	**Sn**	**21 18 05.8**	**-1.3**
	32nm,0.3s,baz=66,slow=19,SNR=6.0						
JNU	**Nakatsue**	**4.09**	**20**	Pn	**Pn**	**21 17 58.1**	**+0.6**
	8.0nm,0.3s,baz=197,slow=8.9,SNR=91						
SSE	**Sheshan**	**7.19**	**287**	P	**Pn**	**21 18 36.3**	**-3.7**
SSE				AMB	AMB		
	comp=Z,23nm,0.6s						
SSE				AMB	AMB		
	comp=Z,40nm,4.5s						
SSE				LR	LR		
	comp=N,2μm,10.3s						
SSE				LR	LR		
	comp=E,955nm,10.3s						
SSE				LR	LR		
	comp=Z,1μm,10.4s						
KSRS	**Korea Array**	**8.24**	**353**	Pn	**Pn**	**21 18 54.7**	**+0.4**
	comp=Z,0.3nm,0.3s,baz=179,slow=14,SNR=19						
KSRS				Sn	**Sn**	**21 20 32.5**	**+5.9**
	comp=Z,0.2nm,0.3s,baz=12,slow=36,SNR=3.2						
KSRS				LR	LR	21 22 24.0	
	comp=Z,1μm,18.6s,baz=175,slow=40						
YHNB	**Yeheng**	**8.37**	**239**	*e*Pn	**Pn**	**21 19 00.9**	**+4.7**
NJ2	**Nanjing**	**9.35**	**290**	*e*P	**Pn**	**21 19 13.6**	**+3.9**
NJ2				XP		21 19 22.0	
NJ2				S	**Sn**	**21 20 59.5**	**+5.4**
NJ2				AMB	AMB		
	comp=Z,20nm,0.5s						
NJ2				Smax			
	comp=N,20nm,0.9s						
NJ2				Smax			
	comp=E,100nm,1.2s						
NJ2				LR	LR		
	comp=N,3μm,11.2s						
NJ2				LR	LR		
	comp=E,3μm,9.0s						
NJ2				LR	LR		
	comp=Z,4μm,6.8s						
JHJ	**Hachijo jima 2**	**9.82**	**64**	LR	LR	21 22 49.3	
	comp=Z,714nm,18.0s,baz=258,slow=36						
QZH	**Quanzhou**	**10.40**	**248**	P	**Pn**	**21 19 23.0**	**-1.1**
QZH				S	**Sn**	**21 21 20.0**	**0.0**
QZH				LR	LR		
	comp=N,6μm,9.6s						
QZH				LR	LR		
	comp=E,4μm,13.3s						
QZH				LR	LR		
	comp=Z,4μm,11.1s						
MAJO	**Matsushiro**	**10.47**	**44**	*e*Pn	**Pn**	**21 19 26.8**	**+1.8**
MAT	**Matsushiro**	**10.47**	**44**	P	**Pn**	**21 19 26.1**	**+1.2**
MAT				*e*S	**Sn**	**21 21 20.0**	**-1.4**
MJAR	**Matsushiro Arr**	**10.47**	**44**	Pn	**Pn**	**21 19 26.2**	**+1.3**
	comp=Z,0.3nm,0.3s,baz=239,slow=13,SNR=8.8						
CBIJ	**Chichi jima**	**11.64**	**98**	LR	LR	21 23 33.6	
	comp=Z,621nm,19.0s,baz=337,slow=34						
WHN	**Wuhan**	**12.97**	**279**	*e*P	**Pn**	**21 19 59.9**	**+0.7**
WHN				LR	LR		
	comp=Z,4μm,9.4s						
SNY	**Shenyang**	**13.34**	**341**	P	**Pn**	**21 20 10.8**	**+6.6**
SNY				S	**Sn**	**21 22 31.6**	**-0.2**
SNY				AMB	AMB		
	comp=Z,15nm,2.4s						
SNY				AMB	AMB		
	comp=Z,423nm,4.6s						
SNY				LR	LR		
	comp=N,3μm,13.8s						
SNY				LR	LR		
	comp=E,8μm,13.5s						
SNY				LR	LR		
	comp=Z,3μm,8.9s						
BJI	**Beijing**	**15.17**	**319**	P	**Pn**	**21 20 30.0**	**+0.9**
BJI				S	**Sn**	**21 23 24.0**	**+7.6**
BJI				AMB	AMB		
	comp=Z,13nm,1.3s						
BJI				LR	LR		
	comp=N,2μm,19.9s						
BJI				LR	LR		
	comp=E,2μm,17.8s						
BJI				LR	LR		
	comp=Z,1μm,15.6s						
MDJ	**Mudanjiang**	**15.32**	**1**	P	**Pn**	**21 20 35.8**	**+4.8**
MDJ				S	**Sn**	**21 23 31.4**	**+11**
MDJ				AMB	AMB		
	comp=Z,18nm,0.8s						
MDJ				AMB	AMB		
	comp=Z,426nm,6.5s						
MDJ				LR	LR		
	comp=N,1μm,12.5s						
MDJ				LR	LR		
	comp=Z,2μm,11.2s						
GZH	**Guangzhou**	**15.52**	**250**	P	**Pn**	**21 20 33.8**	**+0.1**
GZH				S	**Sn**	**21 23 27.3**	**+2.2**
GZH				LR	LR		
	comp=N,3μm,16.9s						
GZH				LR	LR		
	comp=E,2μm,16.0s						
GZH				LR	LR		
	comp=Z,1μm,15.7s						
XAN	**Xi'an**	**17.92**	**291**	P	**Pn**	**21 21 03.8**	**-0.2**
XAN				PP		21 21 18.3	
XAN				AMB	AMB		
	comp=Z,9.0nm,1.2s						
XAN				AMB	AMB		
	comp=Z,82nm,5.6s						
XAN				LR	LR		
	comp=N,2μm,10.8s						
XAN				LR	LR		
	comp=E,530nm,11.6s						
XAN				LR	LR		
	comp=Z,1μm,14.2s						
ASAJ	**Asahikawa**	**18.25**	**32**	P	**Pn**	**21 21 06.0**	**-2.0**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,587nm,20.9s						
ASAJ	**Asahikawa**	**18.25**	**32**	P	**Pn**	**21 21 06.0**	**-2.0**
	comp=Z,1.1nm,0.3s,baz=234,slow=8.0,SNR=13						
ASAJ				LR	LR	21 28 40.7	
	comp=Z,587nm,20.9s,baz=328,slow=39						
HHC	**Hu-ho-hao-te**	**18.47**	**313**	*e*P	**Pn**	**21 21 12.6**	**+2.0**
HHC				AP	pP	21 21 23.6	+6.9
HHC				PP		21 21 27.4	
HHC				SS		21 25 00.5	
HHC				PCP	PcP	21 25 41.1	+1.0
HHC				AMB	AMB		
	comp=Z,16nm,0.3s						
HHC				AMB	AMB		
	comp=Z,551nm,4.5s						
HHC				LR	LR		
	comp=N,2μm,13.4s						
HHC				LR	LR		
	comp=E,1μm,11.7s						
HHC				LR	LR		
	comp=Z,1μm,11.3s						
BTO	**Baotou**	**19.34**	**311**	*e*P	**Pn**	**21 21 20.0**	**-1.2**
HABR	**Khabarovsk**	**19.70**	**12**	*e*P	**Pn**	**21 21 21.9**	**-3.4**
HABR				*e*S	**Sn**	**21 25 04.3**	**-1.5**
HABR				pmax	pmax		
	comp=Z,86nm,5.0s						
HABR				MLR	MLR		
	comp=Z,1μm,12.7s						
KLR	**Kul'dur**	**20.03**	**5**	*e*P	**P**	**21 21 26.7**	**-0.7**
KLR				*e*		21 25 12.5	
KLR				pmax	pmax		
	comp=Z,80nm,1.6s						
KLR				MLR	MLR		
	comp=E,1μm,12.0s						
KLR				MLR	MLR		
	comp=Z,3μm,12.0s,MS4.9						
GYA	**Guiyang**	**20.14**	**267**	P	**P**	**21 21 29.8**	**+1.0**
GYA				AP		21 21 43.8	
GYA				PCP	PcP	21 25 44.3	+0.9
GYA				SCP	ScP	21 29 14.3	-4.1
GYA				AMB	AMB		
	comp=Z,10.0nm,1.2s						
GYA				AMB	AMB		
	comp=Z,120nm,4.1s						
GYA				LR	LR		
	comp=N,2μm,11.7s,MS4.8						
GYA				LR	LR		
	comp=E,1μm,12.2s,MS4.8						
GYA				LR	LR		
	comp=Z,1μm,12.7s,MS4.5						
QIZ	**Qiongzhong**	**20.38**	**244**	P	**P**	**21 21 33.3**	**+1.7**
QIZ				S	**S**	**21 25 17.4**	**-1.6**
QIZ				AMB	AMB		
	comp=Z,122nm,4.8s						
QIZ				LR	LR		
	comp=N,1μm,18.4s,MS4.5						
QIZ				LR	LR		
	comp=E,1μm,17.7s,MS4.5						
QIZ				LR	LR		
	comp=Z,1μm,13.1s,MS4.5						
YSS	**Yuzh-Sakhalins**	**20.57**	**27**	P	**P**	**21 21 37.2**	**+3.9**
	comp=Z,12nm,0.7s						
YSS	**Yuzh-Sakhalins**	**20.57**	**27**	*e*P	**P**	**21 21 36.5**	**+3.2**
YSS				MLR	MLR		
	comp=Z,700nm,16.0s,MS4.1						
HIA	**Hailar**	**21.25**	**343**	*i* P	**P**	**21 21 41.8**	**+1.2**
GUMO	**Guam**	**21.30**	**134**	LR	LR	21 28 15.6	
	comp=Z,204nm,20.5s,MS3.5,baz=141,slow=32						
CD2	**Chengdu**	**22.08**	**281**	P	**P**	**21 21 49.3**	**-0.5**
CD2				AP		21 22 03.3	
CD2				PP		21 22 17.1	
CD2				S	**S**	**21 25 43.1**	**-9.2**
CD2				SS		21 26 25.3	
CD2				AMB	AMB		
	comp=Z,20nm,0.6s,mb4.7						
CD2				AMB	AMB		
	comp=Z,110nm,5.8s						
CD2				LR	LR		
	comp=N,2μm,11.4s,MS5.0						
CD2				LR	LR		
	comp=E,2μm,12.4s,MS5.0						
CD2				LR	LR		
	comp=Z,2μm,13.8s,MS4.7						
LZH	**Lanzhou**	**22.38**	**294**	*e*P	**P**	**21 21 53.5**	**+0.6**
LZH				AP		21 22 07.6	
LZH				*e*S	**S**	**21 25 50.3**	**-7.7**
LZH				SS		21 26 33.8	
LZH				AMB	AMB		
	comp=Z,66nm,1.6s,mb4.8						
LZH				AMB	AMB		
	comp=Z,198nm,4.8s						
LZH				LR	LR		
	comp=E,1μm,12.5s						
LZH				LR	LR		
	comp=Z,2μm,15.6s,MS4.6						
KMI	**Kunming**	**23.89**	**266**	P	**P**	**21 22 08.3**	**-0.1**
KMI				AP		21 22 18.1	
KMI				PP		21 22 40.3	
KMI				S	**S**	**21 26 14.6**	**-8.8**
KMI				XS	sS	21 26 31.8	-2.8
KMI				SSS		21 27 18.3	
KMI				AMB	AMB		
	comp=Z,12nm,1.5s,mb4.1						
KMI				LR	LR		
	comp=N,2μm,11.5s,MS4.9						
KMI				LR	LR		
	comp=E,1μm,12.6s,MS4.9						
KMI				LR	LR		
	comp=Z,878nm,10.7s,MS4.5						
ULN	**Ulaanbaatar**	**25.25**	**323**	*e*P	**P**	**21 22 20.3**	**-0.3**
	comp=Z,5.1nm,0.7s,mb4.2						
ULN	**Ulaanbaatar**	**25.25**	**323**	*e*P	**P**	**21 22 20.3**	**-0.2**
ULN				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.2						
SONM	**Songino Array**	**25.58**	**323**	P	**P**	**21 22 22.4**	**-1.1**
	comp=Z,3.0nm,0.7s,mb3.9,baz=140,slow=11,SNR=14						
SONM				LR	LR	21 32 04.9	
	comp=Z,463nm,18.7s,MS4.0,baz=123,slow=36						
KKM	**Kota Kinabalu**	**26.16**	**211**	P	**P**	**21 22 29.8**	**+0.7**
GTA	**Gaotai**	**26.20**	**301**	⇓P	**P**	**21 22 28.8**	**-0.5**
GTA				AP	pP	21 22 41.5	+5.5
GTA				XP	sP	21 22 45.9	+7.0
GTA				PP		21 23 13.5	
GTA				PPP		21 23 25.8	
GTA				S	**S**	**21 26 56.3**	**-3.8**
GTA				AMB	AMB		
	comp=Z,12nm,1.0s,mb4.4						
GTA				AMB	AMB		
	comp=Z,126nm,4.9s						
GTA				LR	LR		
	comp=N,2μm,15.2s,MS4.9						
GTA				LR	LR		
	comp=E,1μm,14.5s,MS4.9						
GTA				LR	LR		
	comp=Z,2μm,14.8s,MS4.7						
ZAK	**Zakamensk**	**28.76**	**324**	*e*P	**P**	**21 22 52.4**	**+0.4**
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.6s,mb3.8						
TLY	**Talaya**	**29.39**	**327**	*e*P	**P**	**21 22 56.8**	**-0.8**
	comp=Z,3.9nm,0.6s,mb4.3						
TLY	**Talaya**	**29.39**	**327**	*e*P	**P**	**21 22 59.4**	**+1.8**
TLY				*e*		21 24 12.2	
TLY				pmax	pmax		
	comp=Z,19nm,1.6s,mb4.6						
TLY				MLR	MLR		
	comp=Z,736nm,14.0s,MS4.5						
IRK	**Irkutsk**	**29.46**	**328**	⇓*i* P	**P**	**21 22 57.8**	**-0.4**
IRK				pmax	pmax		
	comp=Z,36nm,2.4s,mb4.7						
BOD	**Bodaibo**	**30.45**	**344**	*e*P	**P**	**21 23 05.3**	**-1.6**
PET	**Petropavlovsk**	**32.08**	**34**	*e*P	**P**	**21 23 22.4**	**+1.1**
	comp=Z,30nm,1.0s,mb5.1						
PET	**Petropavlovsk**	**32.08**	**34**	*e*P	**P**	**21 23 22.4**	**+1.1**
PET				pmax	pmax		
	comp=Z,30nm,1.0s,mb5.1						
KSM	**Kuching**	**33.00**	**217**	*e*P	**P**	**21 23 27.5**	**-2.2**
LSA	**Lhasa**	**33.05**	**280**	P	**P**	**21 23 30.4**	**+0.3**
WMQ	**Urumqi**	**36.00**	**305**	P	**P**	**21 23 55.6**	**+0.2**
WMQ				XP	sP	21 24 06.0	+0.9
WMQ				AP	pP	21 24 10.0	+7.7
WMQ				PP	PP	21 25 18.0	+0.7
WMQ				*e*S	**S**	**21 29 29.0**	**-3.9**
WMQ				AMB	AMB		
	comp=Z,11nm,1.0s,mb4.7						
WMQ				AMB	AMB		
	comp=Z,125nm,4.0s						
WMQ				LR	LR		
	comp=N,923nm,17.0s,MS4.8						
WMQ				LR	LR		
	comp=E,955nm,12.6s,MS4.8						
WMQ				LR	LR		
	comp=Z,841nm,16.0s,MS4.6						
KULM	**Kulim**	**36.04**	**234**	*e*P	**P**	**21 23 54.6**	**-1.5**
PSI	**Prapat**	**39.00**	**233**	LR	LR	21 39 13.3	
	comp=Z,247nm,20.5s,MS4.0,baz=45,slow=34						
MK31	**Makanchi Array**	**40.24**	**309**	*e*P	**P**	**21 24 30.6**	**-0.5**
MK31				*e*PcP	PcP	21 26 33.3	-1.5
MKAR	**Makanchi Array**	**40.24**	**309**	P	**P**	**21 24 30.9**	**-0.3**
MKAR				PcP	PcP	21 26 33.9	-0.9
MKAR				LR	LR	21 42 54.9	
MKAR	**Makanchi Array**	**40.24**	**309**	P	**P**	**21 24 30.9**	**-0.3**
MKAR						21 26 33.9	
MKAR	**Makanchi Array**	**40.24**	**309**	P	**P**	**21 24 30.9**	**-0.3**
	comp=Z,2.8nm,0.8s,mb4.0,baz=96,slow=9.7,SNR=24						
MKAR				PcP	PcP	21 26 33.9	-0.8
	comp=Z,0.8nm,0.7s,baz=86,slow=3.0,SNR=5.5						
MKAR				LR	LR	21 42 54.9	
	comp=Z,223nm,18.1s,MS4.0,baz=97,slow=39						
ZAA0	**Zalesovo Array**	**40.42**	**320**	*e*P	**P**	**21 24 31.8**	**-0.8**
ZALV	**Zalesovo Beam**	**40.42**	**320**	P	**P**	**21 24 32.0**	**-0.5**
	comp=Z,4.9nm,1.0s,mb4.2,baz=103,slow=7.1,SNR=15						
ZALV				PcP	PcP	21 26 35.3	+0.1
	comp=Z,0.7nm,0.6s,baz=147,slow=3.5,SNR=3.9						
ZALV				LR	LR	21 41 16.7	
	comp=Z,136nm,19.7s,MS3.8,baz=298,slow=36						
ZAL	**Zalesovo**	**40.43**	**320**	P	**P**	**21 24 32.0**	**-0.6**
ZAL						21 26 35.3	
KURK	**Kurchatov**	**43.28**	**314**	*e*P	**P**	**21 24 55.1**	**-0.9**
	comp=Z,13nm,1.3s,mb4.5						
KURK				*e*PcP	PcP	21 26 43.1	-1.6
KURK	**Kurchatov**	**43.28**	**314**	*e*P	**P**	**21 24 55.1**	**-0.9**
KURK				*e*		21 26 43.1	
KURK				pmax	pmax		
	comp=Z,13nm,1.3s,mb4.5						
BILL	**Bilibino**	**44.52**	**19**	*e*P	**P**	**21 25 08.1**	**+2.4**
BILL				*e*		21 26 49.4	
BILL				*e*SS	SS	21 35 05.5	+6.5
BILL				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.2						
BILL				MLR	MLR		
	comp=Z,200nm,16.0s,MS4.1						
TKM2	**Tokmak 2**	**44.71**	**303**	*e*P	**P**	**21 25 07.3**	**-0.3**
	comp=Z,11nm,1.0s,mb4.6						
TKM2	**Tokmak 2**	**44.71**	**303**	*e*P	**P**	**21 25 07.3**	**-0.3**
TKM2				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.6						
FRU	**Bishkek**	**45.43**	**303**	*e*P	**P**	**21 25 13.0**	**-0.3**
UCH	**Uchtor**	**45.52**	**302**	*e*P	**P**	**21 25 15.3**	**+1.2**
	comp=Z,29nm,1.4s,mb5.0						
EKS2	**Erkin-Say**	**46.06**	**302**	*e*P	**P**	**21 25 14.1**	**-4.1**
	comp=Z,5.8nm,1.3s,mb4.3						
AML	**Almayashu**	**46.14**	**302**	*e*P	**P**	**21 25 20.0**	**+1.1**
	comp=Z,40nm,1.9s,mb5.0						
FITZ	**Fitzroy Crossi**	**47.22**	**185**	*e*P	**P**	**21 25 28.3**	**+0.8**
	comp=Z,6.3nm,0.6s,mb4.7						
FITZ	**Fitzroy Crossi**	**47.22**	**185**	*e*P	**P**	**21 25 28.0**	**+0.5**
	comp=Z,8.2nm,0.7s,mb4.8						
FITZ	**Fitzroy Crossi**	**47.22**	**185**	P	**P**	**21 25 28.0**	**+0.5**
	comp=Z,3.0nm,0.6s,mb4.4,baz=11,slow=14,SNR=20						
BVAR	**Borovoye Array**	**48.64**	**316**	P	**P**	**21 25 38.2**	**0.0**
	comp=Z,5.2nm,0.7s,mb4.7,baz=91,slow=9.0,SNR=38						
BVAR				PcP	PcP	21 27 02.6	-0.8
	comp=Z,1.6nm,0.7s,baz=93,slow=3.6,SNR=3.9						
BRVK	**Borovoye**	**48.71**	**317**	*e*P	**P**	**21 25 37.8**	**-0.9**
	comp=Z,11nm,1.0s,mb4.9						
BRVK	**Borovoye**	**48.71**	**317**	*e*P	**P**	**21 25 37.8**	**-0.9**
BRVK				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.8						
WRAB	**Tennant Creek**	**49.16**	**174**	*e*P	**P**	**21 25 40.6**	**-1.8**
	comp=Z,8.6nm,1.0s,mb4.7						
WRAB	**Tennant Creek**	**49.16**	**174**	*e*P	**P**	**21 25 40.7**	**-1.8**
WRAB				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.8						
WRA	**Warramunga Arr**	**49.17**	**174**	P	**P**	**21 25 42.7**	**+0.1**
	comp=Z,2.5nm,0.7s,mb4.4,baz=354,slow=8.3,SNR=28						
WB2	**Warramunga Arr**	**49.17**	**174**	*e*P	**P**	**21 25 42.9**	**+0.3**
KBL	**Kabul**	**50.71**	**292**	*e*P	**P**	**21 25 54.8**	**+0.5**
	comp=Z,13nm,1.1s,mb4.8						
MBWA	**Marble Bar**	**50.96**	**191**	P	**P**	**21 25 56.5**	**+0.4**
TNA	**Tin City**	**52.54**	**28**	*e*P	**P**	**21 26 07.6**	**+0.1**
	comp=Z,12nm,1.6s,mb4.6						
ASAR	**Alice Springs**	**52.82**	**175**	P	**P**	**21 26 10.3**	**+0.3**
	comp=Z,0.6nm,0.7s,mb3.7,baz=6.9,slow=14,SNR=10						
ARU	**Arti**	**55.59**	**321**	*e*P	**P**	**21 26 31.8**	**+2.0**
ARU				*e*		21 27 26.8	
ARU				*e*		21 28 31.8	
ARU				*e*PPP		21 29 47.4	
ARU				*e*S	**S**	**21 34 20.2**	**+6.2**
ARU				MLR	MLR		
	comp=Z,775nm,14.0s,MS4.9						
AKTK	**Aktyubinsk**	**56.36**	**313**	P	**P**	**21 26 34.9**	**-0.6**
AKTO	**Aktyubinsk**	**56.36**	**313**	P	**P**	**21 26 34.9**	**-0.6**
	comp=Z,0.3nm,0.4s,mb3.7,baz=63,slow=9.0,SNR=3.6						
SVW2	**Sparrevohn**	**57.75**	**34**	P	**P**	**21 26 45.2**	**+0.1**
IMA2	**Indian Mountai**	**58.42**	**28**	*e*P	**P**	**21 26 51.0**	**+1.2**
MCK	**McKinley**	**60.61**	**30**	*e*P	**P**	**21 27 05.4**	**+0.5**
	comp=Z,7.2nm,1.0s,mb4.8						
MCK	**McKinley**	**60.61**	**30**	*e*P	**P**	**21 27 05.4**	**+0.5**
MCK				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.8						
SML	**Sawmill**	**61.14**	**33**	P	**P**	**21 27 03.8**	**-4.8**
STKA	**Stephens Creek**	**61.93**	**168**	*e*P	**P**	**21 27 14.2**	**0.0**
	comp=Z,35nm,1.8s,mb5.2						
STKA	**Stephens Creek**	**61.93**	**168**	P	**P**	**21 27 14.2**	**+0.1**
	comp=Z,2.6nm,1.0s,mb4.3,baz=293,slow=7.7,SNR=4.8						
STKA				LR	LR	21 51 07.2	
	comp=Z,184nm,21.2s,MS4.2,baz=22,slow=33						
INK	**Inuvik**	**65.76**	**24**	P	**P**	**21 27 38.6**	**-0.3**
	comp=Z,5.3nm,1.1s,mb4.5,baz=275,slow=5.2,SNR=11						
ARCES	**ARCESS Array B**	**67.52**	**338**	LR	LR	22 01 36.6	
	comp=Z,373nm,19.5s,MS4.6,baz=45,slow=40						
JOF	**Joensuu**	**67.83**	**331**	*e*p	**P**	**21 27 46.7**	**-5.5**
FINES	**FINESS Array B**	**70.67**	**330**	P	**P**	**21 28 07.7**	**-2.1**
	comp=Z,1.3nm,0.9s,mb3.9,baz=45,slow=3.0,SNR=3.9						
FINES				LR	LR	22 00 00.6	
	comp=Z,237nm,18.9s,MS4.5,baz=72,slow=37						
AKASG	**Malin Array Be**	**73.81**	**319**	P	**P**	**21 28 27.1**	**-1.7**
	comp=Z,0.2nm,0.4s,mb3.4,baz=58,slow=5.9,SNR=3.0						
AKASG				LR	LR	22 00 30.4	
	comp=Z,238nm,18.3s,MS4.5,baz=50,slow=36						
YKA	**Yellowknife Ar**	**75.41**	**26**	P	**P**	**21 28 37.5**	**-0.3**
YKA				LR	LR	22 02 21.9	
YKA	**Yellowknife Ar**	**75.41**	**26**	P	**P**	**21 28 37.5**	**-0.3**
	comp=Z,1.8nm,0.7s,mb4.1,baz=305,slow=5.6,SNR=44						
YKA				LR	LR	22 02 21.9	
	comp=Z,60nm,20.7s,MS3.9,baz=25,slow=36						
NB2	**NORSAR Subarra**	**76.99**	**334**	P	**P**	**21 28 48.9**	**+2.1**
	comp=Z,2.4nm,1.0s,mb4.1,baz=49,slow=5.6						
NOA	**NORSAR Array B**	**76.99**	**334**	P	**P**	**21 28 48.0**	**+1.1**
	comp=Z,0.5nm,0.7s,mb3.5,baz=49,slow=5.4,SNR=3.6						
NOA				LR	LR	22 08 10.0	
	comp=Z,144nm,18.0s,MS4.3,baz=60,slow=40						
GERES	**GERESS Array B**	**83.31**	**323**	P	**P**	**21 29 22.6**	**+1.4**
	comp=Z,0.2nm,0.4s,mb3.5,baz=37,slow=8.6,SNR=3.2						
GERES				LR	LR	22 08 58.4	
	comp=Z,250nm,19.7s,MS4.6,baz=239,slow=38						
RAR	**Rarotonga**	**84.81**	**118**	LR	LR	22 04 56.2	
	comp=Z,183nm,19.1s,MS4.5,baz=294,slow=34						
FCC	**Fort Churchill**	**85.19**	**21**	*e*P	**P**	**21 29 29.1**	**-1.5**
	comp=Z,5.1nm,0.9s,mb4.7						
FCC	**Fort Churchill**	**85.19**	**21**	*e*P	**P**	**21 29 29.1**	**-1.5**
FCC				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.6						
FFC	**Flin Flon**	**85.49**	**27**	*e*P	**P**	**21 29 30.9**	**-1.3**
	comp=Z,8.6nm,0.9s,mb4.9						
FFC	**Flin Flon**	**85.49**	**27**	*e*P	**P**	**21 29 30.9**	**-1.2**
FFC				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.9						
DLMT	**Dillon**	**86.90**	**38**	*e*P	**P**	**21 29 39.8**	**+0.5**
	comp=Z,9.2nm,0.8s,mb5.1						
NVAR	**Mina Array Bea**	**87.78**	**47**	P	**P**	**21 29 45.7**	**+2.0**
	comp=Z,1.5nm,0.6s,mb4.4,baz=56,slow=29,SNR=4.0						
IMW	**Indian Meadow**	**88.75**	**39**	P	**P**	**21 29 49.6**	**+1.5**
	comp=Z,6.0nm,1.0s,mb4.9						
FLWY	**Flagg Ranch**	**88.76**	**39**	*e*P	**P**	**21 29 49.3**	**+1.1**
	comp=Z,8.2nm,0.8s,mb5.1						
HWUT	**Hardware Ranch**	**89.89**	**41**	*e*P	**P**	**21 29 55.1**	**+1.6**
	comp=Z,7.9nm,1.2s,mb4.9						
PDAR	**Pinedale Array**	**90.25**	**39**	P	**P**	**21 29 55.7**	**+0.5**
	comp=Z,1.3nm,0.8s,mb4.3,baz=128,slow=0.4,SNR=11						
JLU	**Jordanelle**	**90.60**	**42**	P	**P**	**21 29 59.1**	**+2.2**
PPT	**Papeete**	**91.06**	**109**	LR	LR	22 09 53.0	
	comp=Z,150nm,19.0s,MS4.5,baz=276,slow=35						
ULM	**Lac du Bonnet**	**91.32**	**27**	*e*P	**P**	**21 29 58.9**	**-1.1**
	comp=Z,4.9nm,0.9s,mb4.8						
ULM	**Lac du Bonnet**	**91.32**	**27**	P	**P**	**21 29 59.5**	**-0.5**
	comp=Z,4.6nm,0.8s,mb4.9,baz=323,slow=4.2,SNR=13						
ULM				LR	LR	22 11 20.4	
	comp=Z,117

0.6nm,0.7s,baz=111,slow=4.4,SNR=6.7
WB2 Warramunga Arr 44.08 265 ||*iP* P 21 29 20.9 -0.7
WRA Warramunga Arr 44.09 265 P P 21 29 21.1 -0.5
3.0nm,0.4s,baz=96,slow=8.4,SNR=82
FORT Forrest 48.10 249 *eP* P 21 29 50.9 -1.3
12nm,0.6s
FITZ Fitzroy Crossi 52.52 264 P P 21 30 25.6 +0.6
1.3nm,0.6s,baz=124,slow=11,SNR=6.7

CSEM ***14*** *21:27:26.6±0.1, 3732N×3055E, h2km, MD2.9, Error ellipse: s-maj=3.7km s-min=1.8km az=100.0*
ISCJB ***14*** *21:27:27.1±0.8, 3732N±003×3069E±006, h2km, Error ellipse: s-maj=7.3km s-min=4.2km az=2.4*
ISK ***14*** *21:27:27.0, 3733N×3060E, h12km, MD2.9*
DDA ***14*** *21:27:30.6, 3740N×3060E, h7km±1km, Md3.0*
ISC 14 21:27:27.3±1.0, 3735N±004×3068E±007, h15km±11km, n8, σ1º16/15, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BCK	**Bucak**	**0.14**	**328**	PG	**Pg**	**21 27 30.3**	**-0.7**
BCK				*e*SG	**Sg**	**21 27 33.9**	**+0.3**
ANTB	**Antalya**	**0.44**	**183**	*e*PG	**Pg**	**21 27 35.9**	**-0.2**
ANTB				*e*SG	**Sg**	**21 27 42.9**	**+0.7**
ISP	**Isparta**	**0.52**	**345**	*e*PG	**Pg**	**21 27 37.5**	**0.0**
ELL	**Elmali**	**0.86**	**226**	*e*PG	**Pg**	**21 27 42.2**	**-1.7**
ELL				*e*SG	**Sg**	**21 27 55.1**	**-0.1**
GOLH	**Golhisar**	**0.90**	**263**	*i* P	**Pg**	**21 27 43.2**	**-1.5**
GOLH				*i* S	**Sg**	**21 27 57.9**	**+1.4**
AKAS	**Kas**	**1.41**	**218**	*i* P	**Pg**	**21 27 55.5**	**+1.2**
AKAS				*i* S	**Sg**	**21 28 20.7**	**+8.1**
KDHN	**Kadinhani**	**1.63**	**44**	*i* P	**Pg**	**21 27 59.5**	**+0.9**
KDHN				*i* S	**Sg**	**21 28 28.6**	**+8.6**
GDZ	**Gediz**	**1.98**	**332**	*e*P	**Pg**	**21 28 03.4**	**-1.9**
GDZ				*i* S	**Sg**	**21 28 34.3**	**+3.3**

NIED ***14*** *21:38:00, 3730N×13670E, h5km, Mw3.5 Best double couple: M0=2.13000×10^14 NP1:φs=160.00000°, δ80.00000°, λ17.00000°. NP2:φs=67.00000°, δ74.00000°, λ169.00000°.*
ISCJB ***14*** *21:38:54.5±0.8, 3726N±004×13665E±006, h9km±6km, mb3.6/2, Error ellipse: s-maj=7.5km s-min=6.2km az=171.8*
JMA ***14*** *21:38:55.5, 3725N×13673E, h5km, M3.8*
JMA Felt III J1.
IDC ***14*** *21:38:56.6±2.1, 3690N×13668E, h0km, mb3.4/2, mb1 3.6/4, mb1mx3.3/23, mbtmp3.4/4, ML3.2/1, MS3.4/1, Ms1 3.4/1, ms1mx2.4/27, Error ellipse: s-maj=41.8km s-min=19.7km az=178.0*
ISC 14 21:38:55.8±0.8, 3725N±003×13672E±006, h6km±6km, n10, σ0º78/16, mb3.6/2, 1C-1D, Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JJH	**Hakui**	**0.33**	**171**	||P	**Pg**	**21 39 02.3**	**+0.1**
JJH				S	**Sg**	**21 39 06.7**	**+0.2**
JSZ	**Suzu**	**0.55**	**69**	||P	**Pg**	**21 39 05.9**	**-0.4**
JSZ				S	**Sg**	**21 39 13.6**	**+0.1**
JHG	**Hegura jima**	**0.62**	**15**	P	**Pg**	**21 39 07.2**	**-0.4**
JHG				S	**Sg**	**21 39 16.2**	**+0.5**
JTT	**Ttatey**	**0.81**	**143**	P	**Pg**	**21 39 10.9**	**-0.4**
JTT				S	**Sg**	**21 39 22.3**	**+0.4**
MAT	**Matsushiro**	**1.39**	**120**	P	**Pn**	**21 39 20.1**	**-1.5**
MAT				S	**Sb**	**21 39 39.7**	**-0.3**
MJAR	**Matsushiro Arr**	**1.39**	**120**	Pn	**Pn**	**21 39 22.4**	**+0.7**
17nm,0.3s,baz=286,slow=17,SNR=146
MJAR Sn **Sn 21 39 41.8 +1.5**
28nm,0.3s,baz=277,slow=29,SNR=14
JNU Nakatsue 6.31 231 Pn **Pn 21 40 29.2 -0.2**
0.4nm,0.3s,baz=213,slow=22,SNR=5.1
KSRS Korea Array 7.01 274 Pn **Pn 21 40 40.4 +1.4**
0.4nm,0.3s,baz=88,slow=14,SNR=4.3
WRA Warramunga Arr 56.93 183 P **P 21 48 40.5 -1.3**
0.4nm,0.4s,mb3.8,baz=360,slow=7.8,SNR=11
ASAR Alice Springs 60.65 183 P **P 21 49 07.1 -0.4**
0.3nm,0.8s,mb3.5,baz=12,slow=10,SNR=4.8

IDC 14 21:47:00.8±1.2, 2092N×14627E, h0km, mb3.6/7, mb1 3.8/8, mb1mx3.7/21, mbtmp3.6/8, ML3.3/1, MS3.2/1, Ms1 3.2/1, ms1mx2.6/33, Error ellipse: s-maj=48.1km s-min=20.3km az=84.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr 17.09 337**			P	Pn	21 51 01.3	+0.3
0.1nm,0.3s,baz=161,slow=12,SNR=4.4
JOW Kunigami 17.47 293 LR LR 21 56 20.9
comp=Z,80nm,18.2s,baz=136,slow=32
KSRS Korea Array 22.91 320 P P 21 52 07.3 +1.1
1.5nm,0.5s,baz=139,slow=8.6,SNR=6.2
WRA Warramunga Arr 42.25 197 P P 21 54 56.1 +0.2
0.8nm,0.5s,baz=18,slow=8.5,SNR=13
ASAR Alice Springs 45.92 196 P P 21 55 25.2 -0.1
0.3nm,0.6s,baz=18,slow=7.2,SNR=5.3
ZALV Zalesovo Beam 56.61 322 P P 21 56 44.3 -1.0
0.4nm,0.4s,baz=103,slow=9.5,SNR=3.1
MKAR Makanchi Array 57.34 313 P P 21 56 51.6 +1.0
0.4nm,0.6s,baz=88,slow=8.6,SNR=4.6
YKA Yellowknife Ar 75.79 28 P P 21 58 49.2 +0.9
0.2nm,0.8s,baz=300,slow=5.7,SNR=4.2
FINES FINESS Array B 85.11 335 P P 21 59 37.0 -1.4
0.7nm,0.4s,baz=66,slow=5.5,SNR=17

IDC ***14*** *21:54:37.9±23.0, 1932S×17695W, h345km±183km, mb3.4/5, mb1 3.5/6, mb1mx3.2/18, mbtmp3.4/6, Error ellipse: s-maj=187.6km s-min=39.0km az=39.0*
NEIC ***14*** *21:54:52.1±6.3, 1999S×17772W, h443km±63km, mb3.7/6, Error ellipse: s-maj=64.9km s-min=18.0km az=48.0*
ISC 14 21:54:48.4±2.8, 199S±03×1777W±04, h400km, n14, σ0º83/14, mb3.7/10, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera 18.83 193**			P	**P**	**21 58 41.3**	**-0.1**
1.1nm,0.3s,baz=15,slow=16,SNR=6.2
HNR Honiara 24.01 293 *e*P **P 21 59 30.2 +0.8**
102nm,1.0s,mb5.2
CTA Charters Tower 33.87 263 P **P 22 00 56.7 +1.0**
5.0nm,0.4s,mb4.2,baz=91,slow=9.8,SNR=6.9
CTAO Charters Tower 33.87 263 *e*P **P 22 00 56.2 +0.6**
11nm,0.9s,mb4.2
STKA Stephens Creek 38.33 244 P **P 22 01 34.0 +1.2**
1.0nm,1.0s,mb3.1,baz=83,slow=17,SNR=3.3
ASAR Alice Springs 44.96 256 P **P 22 02 25.6 -0.4**
2.8nm,0.7s,mb3.7,baz=83,slow=8.5,SNR=30
ASAR PcP PcP 22 03 57.5 -1.8
0.3nm,0.5s,baz=104,slow=3.7,SNR=4.2
WB2 Warramunga Arr 44.99 261 *e*P **P 22 02 25.3 -0.9**
WRAB Tennant Creek 44.99 261 *e*P **P 22 02 26.5 +0.2**
1.4nm,0.6s,mb3.5
WRA Warramunga Arr 45.00 261 P **P 22 02 25.7 -0.6**
1.2nm,0.3s,mb3.7,baz=96,slow=7.6,SNR=95
FITZ Fitzroy Crossi 53.42 262 *e*P **P 22 03 29.3 0.0**
1.4nm,0.6s,mb3.4
FITZ Fitzroy Crossi 53.42 262 P **P 22 03 29.2 -0.1**
0.4nm,0.4s,mb3.0,baz=59,slow=5.9,SNR=4.5
MBWA Marble Bar 58.29 257 *e*P **P 22 04 01.9 -1.4**
1.8nm,0.5s,mb3.7
SBA Scott Base 58.46 184 *e*P **P 22 04 04.8 +1.2**
2.0nm,0.9s,mb3.5
QSPA South Pole Qui 70.14 180 *e*P **P 22 05 17.6 -0.7**
1.3nm,0.6s,mb3.6

IDC 14 22:04:39.1±2.3, 1278N×9236E, h0km, mb3.7/6, mb1 3.9/6, mb1mx3.6/21, mbtmp3.7/6, Error ellipse: s-maj=137.6km s-min=19.2km az=58.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array 34.95 348**			P	P	22 11 32.9	+0.2
0.9nm,0.8s,baz=155,slow=7.4,SNR=6.8
ZALV Zalesovo Beam 41.50 353 P P 22 12 27.5 -0.3
0.3nm,0.4s,baz=161,slow=6.3,SNR=4.3
FITZ Fitzroy Crossi 44.94 132 P P 22 12 55.9 -0.2
2.0nm,0.7s,baz=343,slow=11,SNR=6.4
WRA Warramunga Arr 52.57 128 P P 22 13 54.7 -0.1
0.9nm,0.7s,baz=306,slow=8.2,SNR=12

2007 APR

ASAR Alice Springs 54.43 132 P P 22 14 08.6 +0.2
0.5nm,0.6s,baz=314,slow=7.0,SNR=7.3
FINES FINESS Array B 67.59 332 P P 22 15 37.4 +0.1
0.7nm,0.7s,baz=80,slow=8.6,SNR=4.5

IDC 14 22:14:15.4±1.6, 5620S×14220W, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.8/14, mbtmp3.9/3, MS3.9/3, Ms1 3.8/3, ms1mx3.4/14, Error ellipse: s-maj=56.0km s-min=37.0km az=38.0, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda 28.66 202**			LR	LR	22 28 24.2	
comp=Z,110nm,19.0s,baz=335,slow=30
QSPA South Pole Qui 33.95 180 P P 22 20 59.8 +0.1
2.4nm,1.1s,baz=73,slow=5.2,SNR=4.2
PPT Papeete 38.97 349 LR LR 22 36 12.2
comp=Z,154nm,18.0s,baz=196,slow=34
ASAR Alice Springs 67.33 261 P P 22 25 12.8 +0.8
0.9nm,0.7s,baz=137,slow=6.2,SNR=12
WRA Warramunga Arr 70.06 264 P P 22 25 29.8 +0.7
0.4nm,0.4s,baz=144,slow=5.7,SNR=11
BOSA Boshof 94.85 169 LR LR 23 10 40.6
comp=Z,83nm,18.6s,baz=137,slow=36
ESDC Sonseca Array 148.11 103 PKPbc PKPbc 22 34 02.6 +0.4
0.2nm,0.5s,baz=259,slow=2.9,SNR=4.4
MKAR Makanchi Array 151.22 270 PKPbc PKPbc 22 34 09.2 -0.4
1.2nm,0.8s,baz=90,slow=2.9,SNR=12
MKAR PKPab PKPab 22 34 14.7 -2.8
0.7nm,0.6s,baz=66,slow=3.0,SNR=7.5

NEIC ***14*** *22:14:26.2, 4055N×2166E, h16km, MD3.4(ATH), After ATH.*
ISCJB ***14*** *22:14:26.9±0.4, 4047N±002×2178E±003, h3km, Error ellipse: s-maj=3.7km s-min=2.7km az=144.6*
ATH ***14*** *22:14:26.2, 4055N×2166E, h16km±3km, MD3.4/5*
SKO ***14*** *22:14:27.0, 4038N×2174E, h3km, M2.2, ML2.5*
CSEM ***14*** *22:14:27.5±0.1, 4055N×2176E, h2km, MD3.4, Error ellipse: s-maj=2.0km s-min=1.5km az=71.0*
THE ***14*** *22:14:28.0, 4053N×2179E, h3km, ML2.9*
ISC 14 22:14:27.8±0.4, 4048N±002×2177E±003, h11km±4km, n29, σ1º05/45, 1C, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KZN	**Kozani 0.17 179**			*e*PB	**Pg**	**22 14 32.0**	**+0.4**
KZN *e*SB **Sg 22 14 35.8 +1.6**
FNA Florina 0.43 316 *e*Pg **Pg 22 14 35.4 -0.9**
FNA *e*Sg **Sg 22 14 42.0 0.0**
FNA Florina 0.43 316 *e*Sg **Sg 22 14 42.0 +0.1**
BIA Bitola 0.64 328 *e*Pg **Pg 22 14 39.0 -1.2**
BIA *e*Sg **Sg 22 14 48.6 0.0**
BIA Bitola 0.64 328 *i* Pg **Pg 22 14 39.0 -1.2**
BIA *i* Sg **Sg 22 14 48.5 -0.1**
BIA Bitola 0.64 328 *i* Pg **Pg 22 14 39.0 -1.2**
BIA *e*Sg **Sg 22 14 48.6 0.0**
LIT Litokhoron 0.67 124 *e*Pg **Pg 22 14 40.4 -0.4**
MEV Metsovon 0.81 211 *e*Pg **Pg 22 14 44.2 +0.9**
THE Thessaloniki 0.93 80 *e*Pg **Pg 22 14 45.5 -0.2**
THL Klokotos Trika 0.93 168 ||*i*PN **Pn 22 14 45.8 -1.0**
THL *e*SN **Sn 22 14 59.8 -0.3**
OHR Ohrid 0.97 311 *i* Pg **Pg 22 14 45.1 -1.4**
OHR *i* Sg **Sg 22 15 00.4 +1.2**
OHR *e*Lg 22 15 00.9
comp=N,160nm,0.5s
OHR *e*Lg 22 15 01.0
comp=E,198nm,0.4s
OHR Ohrid 0.97 311 *e*Pg **Pg 22 14 45.1 -1.4**
OHR *e*Sg **Sg 22 15 00.3 +1.1**
KRUS Krusevo 0.97 336 *i* Pg **Pg 22 14 46.1 -0.5**
KRUS *i* Sg **Sg 22 14 59.9 +0.6**
HORT Hortiatis 1.02 83 *e*Pg **Pg 22 14 47.3 -0.2**
VAY Valandovo 1.04 36 *e*Pg **Pg 22 14 46.3 -1.5**
VAY Valandovo 1.04 36 *i* Pg **Pg 22 14 46.3 -1.5**
VAY *i* Sg **Sg 22 15 03.6 +2.2**
VAY *e*Lg 22 15 04.1
comp=E,76nm,0.8s
VAY *e*Lg 22 15 04.4
comp=N,40nm,0.4s
VAY Valandovo 1.04 36 *e*Pg **Pg 22 14 46.3 -1.5**
VAY *i* Sg **Sg 22 15 03.5 +2.1**
KNT Kendrikon 1.10 51 *e*Pg **Pg 22 14 47.8 -1.1**
SOH Sokhos 1.25 74 *e*Pg **Pg 22 14 51.5 -0.5**
SOH *e*Sg **Sg 22 15 09.6 +1.3**
STIP Stip 1.26 14 *i* Pg **Pg 22 14 52.8 +0.8**
STIP *i* Sg **Sg 22 15 09.3 +1.0**
STIP Stip 1.26 14 *i* Pg **Pg 22 14 52.7 +0.7**
STIP *i* Sg **Sg 22 15 09.2 +0.9**
PLG Polygyros 1.28 94 *e*Pg **Pg 22 14 51.6 -0.9**
PLG *e*Sg **Sg 22 15 09.6 +0.4**
PLG Polygyros 1.28 94 *e*PN **Pn 22 14 51.5 -0.2**
PLG *e*SN **Sn 22 15 10.4 +1.5**
AGG Agios Georgios 1.52 163 *e*Pg **Pg 22 14 57.6 +0.7**
EVR Evrytania 1.56 179 *e*PN **Pn 22 14 57.2 +1.7**
XOR Xorichti 1.56 135 *e*Pg **Pg 22 14 56.1 -1.7**
PAIG Paliouri 1.56 110 *e*Pg **Pg 22 14 55.8 -2.0**
NEO Neokhori 1.62 136 *e*PN **Pn 22 14 57.1 +0.8**
OUR Ouranopolis 1.70 94 *e*Pb **Pb 22 14 58.2 -0.8**

THE ***14*** *22:42:36.6, 3667N×2182E, h3km, ML3.3*
NEIC ***14*** *22:42:36.9, 3689N×2155E, h25km, MD3.4(ATH), After ATH.*
ATH ***14*** *22:42:36.9, 3689N×2155E, h25km±1km, MD3.4/8*
ISCJB ***14*** *22:42:37.0±1.3, 3692N±007×2152E±007, h12km±6km, Error ellipse: s-maj=12.1km s-min=8.7km az=36.9*
CSEM ***14*** *22:42:38.2±0.2, 3689N×2159E, h20km, MD3.4, Error ellipse: s-maj=5.6km s-min=3.1km az=43.0*
ISC 14 22:42:37.1±1.5, 3690N±007×2152E±009, h13km±6km, n11, σ0º97/15, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYL	**PYLOS 0.18**		**90**	*e*Pg	**Pg**	**22 42 41.1**	**-0.2**
PYL *e*Sg **Sg 22 42 45.2 +1.0**
ITM Ithomi 0.43 49 *e*PB **Pg 22 42 45.8 0.0**
ITM *e*SB **Sg 22 42 52.3 +0.7**
VLX Vlachokerasia 0.84 55 *e*Pg **Pg 22 42 52.0 -1.4**
VLX *e*Sg **Sg 22 43 04.6 +0.3**
VLI Veliai 1.15 98 *e*PN **Pn 22 42 58.4 -0.5**
VLI *e*SN **Sn 22 43 14.8 +0.2**
RLS Riolos of Patr 1.16 358 *e*PN **Pn 22 42 59.6 +0.6**
KYTH Kithira 1.37 116 *e*PN **Pn 22 43 02.0 +0.1**
VLS Valsamata 1.48 330 *e*PN **Pn 22 43 04.4 +1.0**
DID Didima 1.50 66 *e*Pg **Pg 22 43 03.0 -3.0**
EVR Evrytania 2.03 6 *e*PB **Pb 22 43 11.7 -2.2**
THL Klokotos Trika 2.69 8 *e*PN **Pn 22 43 20.5 +0.4**
NEO Neokhori 2.76 29 *e*PN **Pn 22 43 21.7 +0.7**

NEIC ***14*** *23:04:35.0±6.0, 772S×15775E, h10km, Error ellipse: s-maj=132.0km s-min=16.3km az=191.0*
IDC ***14*** *23:04:39.0±1.6, 851S×15763E, h0km, mb3.9/4, mb1 4.1/5, mb1mx3.8/15, mbtmp4.0/5, ML4.4/1, MS3.2/1, Ms1 3.2/1, ms1mx2.8/32, Error ellipse: s-maj=38.2km s-min=23.4km az=6.0*
ISCJB ***14*** *23:04:43.2±1.3, 86S±02×15751E±008, h33km, mb3.7/4, Error ellipse: s-maj=32.9km s-min=10.2km az=7.0*
ISC 14 23:04:45.0±1.3, 86S±02×15752E±008, h35km, n8, σ0º85/8, mb3.8/4, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara 2.54 110**			Pn	**Pn**	**23 05 19.4**	**-4.3**
83nm,0.3s,baz=216,slow=2.1,SNR=18
HNR Sn **Sn 23 05 53.4 -0.1**
74nm,0.3s,baz=268,slow=8.1,SNR=5.2
CTA Charters Tower 15.80 222 LR LR 23 13 12.9
comp=Z,88nm,19.0s,baz=231,slow=32
WB2 Warramunga Arr 25.10 241 *e*P **P 23 10 06.7 +0.1**
WB2 Warramunga Arr 25.10 241 *e*P **P 23 10 05.8 -0.8**
WRA Warramunga Arr 25.11 241 P **P 23 10 06.7 0.0**
5.2nm,1.0s,mb4.0,baz=67,slow=9.3,SNR=25
ASAR Alice Springs 27.13 234 P **P 23 10 23.8 -1.2**
1.1nm,1.1s,mb3.3,baz=62,slow=13,SNR=5.4
STKA Stephens Creek 27.51 210 P **P 23 10 29.7 +1.5**
2.1nm,0.7s,mb3.9,baz=21,slow=10,SNR=6.3
MKAR Makanchi Array 86.24 318 P **P 23 17 23.4 +0.4**
0.4nm,0.6s,mb3.8,baz=93,slow=6.1,SNR=6.5

CSEM ***14*** *23:08:44.0±0.7, 4118N×3865E, h8km, MD3.0, Error ellipse: s-maj=14.4km s-min=8.1km az=168.0*
DDA ***14*** *23:08:44.7, 4122N×3859E, h7km±2km, Md2.6*
ISCJB ***14*** *23:08:45.6±0.9, 4100N±006×3869E±004, h8km, Error ellipse: s-maj=8.6km s-min=4.5km az=0.4*
ISK ***14*** *23:08:46.8, 4097N×3877E, h18km, MD3.0*
ISC 14 23:08:45.7±1.0, 4104N±007×3867E±005, h17km±6km, n9, σ1º02/15, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESPY	**Espiye-Giresun 0.13 159**			*e*PG	**Pg**	**23 08 50.2**	**+0.6**
ESPY *e*SG **Sg 23 08 52.9 +0.7**
GRSN GIRESUNGRSN 0.32 250 *i* P **Pg 23 08 52.4 -0.1**
GRSN *i* S **Sg 23 08 56.8 -0.3**
KTUT Trabzon 0.83 93 *e*PG **Pg 23 09 01.8 -0.1**
MACK Trabzon 0.84 96 *i* P **Pb 23 09 02.2 +0.5**
MACK *i* S **Sb 23 09 13.9 +1.2**
GUMT Gumushane 0.85 133 *e*PG **Pg 23 09 01.9 -0.3**
GUMT *e*SG **Sg 23 09 12.1 -1.2**
EZC Erzincan 1.56 145 *e*PN **Pn 23 09 10.7 -1.9**
SVSK Karacayir 1.69 229 *e*PN **Pn 23 09 15.7 +1.3**
KOPT Kop Dagi 1.73 126 *i* P **Pg 23 09 18.0 -0.9**
KOPT *i* S **Sg 23 09 42.0 +0.6**
KEMA Kemaliye 1.77 184 *i* P **Pg 23 09 18.0 -1.7**
KEMA *i* S **Sg 23 09 44.3 +1.5**

ISCJB ***14*** *23:16:54.8±1.8, 367S±005×14485E±007, h1km±11km, mb4.8/46, MS4.8/29, Error ellipse: s-maj=11.3km s-min=7.7km az=11.8*
IDC ***14*** *23:16:56.6±0.7, 357S×14475E, h0km, mb4.5/13, mb1 4.6/15, mb1mx4.6/17, mbtmp4.5/15, ML4.7/2, MS4.8/19, Ms1 4.8/19, ms1mx4.6/27, Error ellipse: s-maj=24.9km s-min=14.7km az=94.0*
BJI ***14*** *23:16:59.9, 334S×14497E, h23km, mB5.1, mb4.8, Ms4.9, Msz4.7*
MOS ***14*** *23:17:00.2±1.5, 367S×14473E, h33km, mb4.8/6, Error ellipse: s-maj=13.7km s-min=9.4km az=101.9*
GCMT ***14*** *23:17:01.5±0.1, 335S×14497E, h12km, MW5.3/100, Moment Tensor Solution. s67,c107; s100,c176; Duration: 1s1 Moment tensor: Scale 10^17Nm; Mrr0.11±.02; Mθθ-0.17±.01; Mφφ0.05±.02; Mrθ-0.16±.04; Mθφ1.11±.01; Mφr-0.05±.04; Best double couple: M0=1.12900×10^17 NP1:φs=177.00000°, δ81.00000°, λ176.00000°. NP2:φs=267.00000°, δ87.00000°, λ9.00000°. Principal axes: T 1.0810, Plg9.0000°, Azm132.0000°; N 0.0970, Plg81.0000°, Azm289.0000°; P -1.1780, Plg4.0000°, Azm42.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***14*** *23:17:01.6±0.3, 367S×14481E, h35km, mb4.9/14 Error ellipse: s-maj=11.2km s-min=7.2km az=99.0*
ISC 14 23:16:58.9±1.7, 372S±004×14484E±006, h15km±11km, h37km±1.4km: pP-P, n111, σ1º24/102, mb4.7/46, MS4.8/29, 6C-1D, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu 15.17 233**			*e*P	**Pn**	**23 20 32.5**	**-0.3**
29nm,0.6s
KAKA Kakadu 15.17 233 *e*Pn **Pn 23 20 32.6 -0.2**
117nm,0.9s
KAKA *e*Sn **Sn 23 23 18.2 -2.5**
HNR Honiara 16.04 111 Pn **Pn 23 20 45.6 +1.5**
HNR LR LR 23 25 47.1
HNR Honiara 16.04 111 Pn **Pn 23 20 45.6 +1.5**
3.0nm,0.3s,baz=208,slow=0.9,SNR=5.2
HNR LR LR 23 25 47.1
comp=Z,3μm,21.8s,baz=345,slow=33
CTA Charters Tower 16.33 175 Pn **Pn 23 20 58.9 +11**
0.5nm,0.3s,baz=11,slow=15,SNR=3.6
WRAB Tennant Creek 19.09 212 *e*P **Pn 23 21 22.5 +0.5**
123nm,1.3s
WRAB Tennant Creek 19.09 212 ||*iP* **Pn 23 21 21.9 -0.1**
WB2 Warramunga Arr 19.10 212 *e*P **Pn 23 21 22.4 +0.3**
WB2 *e*S **Sn 23 24 56.5 +0.6**
WRA Warramunga Arr 19.10 212 P **Pn 23 21 22.3 +0.2**
2.6nm,0.3s,baz=33,slow=12,SNR=78
WRA LR LR 23 29 16.8
comp=Z,7μm,19.8s,baz=35,slow=39
BATI Kupang 21.98 252 P **P 23 21 52.4 -0.2**
142nm,0.9s,mb5.4,baz=46,slow=0.3,SNR=22
EIDS Eidsvold 22.35 165 *e*P **P 23 21 56.3 -0.1**
10nm,0.8s,mb4.3
ASAR Alice Springs 22.47 207 P **P 23 21 58.6 +0.9**
16nm,0.6s,mb4.6,baz=38,slow=7.0,SNR=169
FITZ Fitzroy Crossi 23.62 231 *e*P **P 23 22 08.2 -1.6**
132nm,0.8s,mb5.4
FITZ *e*S **S 23 26 24.6 +0.9**
FITZ Fitzroy Crossi 23.62 231 P **P 23 22 09.6 -0.1**
35nm,0.7s,mb4.9,baz=49,slow=9.0,SNR=115
FITZ LR LR 23 31 03.6
comp=Z,2μm,21.8s,MS4.5,baz=52,slow=36
ARMA Armidale 27.32 167 *e*P **P 23 22 41.5 -1.7**
1.3nm,1.5s
STKA Stephens Creek 28.18 186 *e*P **P 23 22 51.9 +1.0**
8.5nm,0.8s,mb4.4
STKA Stephens Creek 28.18 186 P **P 23 22 52.0 +1.1**
6.8nm,0.8s,mb4.3,baz=345,slow=8.2,SNR=14
STKA LR LR 23 35 54.6
comp=Z,3μm,18.1s,MS4.8,baz=4.2,slow=40
MBWA Marble Bar 29.94 233 *e*P **P 23 23 07.0 +0.3**
20nm,1.1s,mb4.8
FORT Forrest 31.23 209 *e*P **P 23 23 18.2 +0.2**
24nm,0.5s,mb5.3
CNB Canberra Magne 31.72 173 *e*P **P 23 23 30.8 +8.6**
41nm,1.4s,mb5.1
JOW Kunigami 34.34 333 LR LR 23 35 00.1
comp=Z,2μm,19.4s,MS5.0,baz=109,slow=32
KLBR Kellerberrin 37.65 220 *e*P **P 23 24 12.9 -0.6**
165nm,1.5s,mb5.5
NWAO Narrogin (SRO) 38.87 218 LR LR 23 41 55.2
comp=Z,5μm,18.7s,MS5.3,baz=39,slow=38
MUN Mundaring 38.89 220 *e*P **P 23 24 23.6 -0.4**
JNU Nakatsue 38.95 341 LR LR 23 37 31.3
comp=Z,2μm,21.5s,MS4.8,baz=154,slow=32
MJAR Matsushiro Arr 40.53 352 P **P 23 24 34.3 -3.2**
2.8nm,0.9s,mb3.9,baz=174,slow=8.5,SNR=5.0
MAT Matsushiro 40.53 352 P **P 23 24 33.0 -4.5**
MAT S **S 23 30 37.0 -9.1**
QIZ Qiongzhong 41.20 305 P **P 23 24 43.3 0.0**
QIZ PP PP 23 26 20.3 +1.7
QIZ S **S 23 30 57.9 +1.3**
QIZ AMB AMB
comp=Z,6.0nm,1.6s,mb4.0
QIZ AMB AMB
comp=Z,238nm,9.9s
QIZ LR LR
comp=N,495nm,28.2s
QIZ LR LR
comp=E,696nm,20.1s
QIZ LR LR
comp=Z,1μm,24.3s,MS4.7
NJ2 Nanjing 43.31 327 *e*P **P 23 25 01.5 +1.2**
NJ2 AP pP 23 25 10.3 +5.2
NJ2 XP sP 23 25 14.9 +7.9
NJ2 S **S 23 31 24.0 -3.4**
NJ2 XS sS 23 31 39.0 +3.8
NJ2 AMB AMB
comp=Z,40nm,1.4s,mb5.0
NJ2 AMB AMB
comp=Z,240nm,4.6s
NJ2 LR LR
comp=N,3μm,24.0s
NJ2 LR LR
comp=E,1μm,16.0s
KSRS Korea Array 43.88 340 P **P 23 25 02.1 -2.8**
comp=E,3.4nm,0.7s,mb4.2,baz=160,slow=9.0,SNR=7.0
KSRS LR LR 23 40 23.8
comp=E,1μm,20.3s,MS4.8,baz=164,slow=32
WHN Wuhan 44.82 322 *e*P **P 23 25 13.8 +1.3**
WHN LR LR
comp=Z,846nm,16.8s,MS4.7
URZ Urewera 45.25 144 LR LR 23 42 17.1
comp=Z,912nm,20.9s,MS4.7,baz=129,slow=34
RPZ Rata Peaks 46.09 154 LR LR 23 42 18.4
comp=Z,2μm,21.9s,MS5.0,baz=304,slow=33
PSI Prapat 46.35 277 P **P 23 25 23.6 -1.3**
comp=Z,16nm,0.8s,mb5.0,baz=97,slow=2.9,SNR=8.5
PSI Prapat 46.35 277 ||*eP* **P 23 25 24.3 -0.6**

GYA	**Guiyang**	**47.57 311**	P	**P**	**23 25 35.1**	**+0.8**
GYA			AP	pP	23 25 47.4	+8.3
GYA			XP	sP	23 25 51.6	+11
GYA			PCP	PcP	23 27 06.8	+2.7
GYA			PP	PP	23 27 28.6	+2.7
GYA			SCP	ScP	23 30 56.4	-1.6
GYA			S	**S**	**23 32 29.8**	**+0.6**
GYA			SCS	ScS	23 35 25.6	-2.4
GYA			AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.8					
GYA			AMB	AMB		
	comp=Z,80nm,4.9s					
GYA			LR	LR		
	comp=N,480nm,18.6s,MS4.7					
GYA			LR	LR		
	comp=E,560nm,19.4s,MS4.7					
GYA			LR	LR		
	comp=Z,470nm,20.2s,MS4.5					
KMI	**Kunming**	**49.91 307**	P	**P**	**23 25 53.0**	**+0.7**
KMI			S	**S**	**23 33 01.9**	**-0.3**
KMI			AMB	AMB		
	comp=Z,12nm,1.2s,mb4.8					
KMI			AMB	AMB		
	comp=Z,147nm,7.3s					
KMI			LR	LR		
	comp=N,450nm,22.4s,MS4.5					
KMI			LR	LR		
	comp=E,366nm,24.0s,MS4.5					
KMI			LR	LR		
	comp=Z,900nm,25.2s,MS4.7					
CHTO	**Chiang Mai**	**50.42 298**	*e*P	**P**	**23 25 56.6**	**+0.4**
CN2	**Changchun**	**50.42 342**	*e*P	**P**	**23 25 58.5**	**+2.7**
CN2			*e*AP	pP	23 26 09.1	+8.5
CN2			*e*S	**S**	**23 33 10.0**	**+1.3**
CN2			AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.9					
CN2			AMB	AMB		
	comp=Z,200nm,8.0s					
CN2			LR	LR		
	comp=N,700nm,17.0s,MS4.8					
CN2			LR	LR		
	comp=E,300nm,17.0s,MS4.8					
CN2			LR	LR		
	comp=Z,900nm,15.0s,MS4.9					
YSS	**Yuzh-Sakhalins**	**50.49 358**	*e*P	**P**	**23 25 56.2**	**0.0**
YSS			*e*S	**S**	**23 33 04.0**	**-5.5**
YSS			*e*SSS		23 38 06.0	
YSS			MLR	MLR		
	comp=Z,400nm,16.0s,MS4.5					
XAN	**Xi'an**	**50.57 321**	P	**P**	**23 25 55.5**	**-1.6**
XAN			S	**S**	**23 33 05.8**	**-5.3**
XAN			AMB	AMB		
	comp=Z,8.0nm,0.9s,mb4.7					
XAN			AMB	AMB		
	comp=Z,82nm,5.6s					
XAN			LR	LR		
	comp=N,224nm,11.4s,MS4.7					
XAN			LR	LR		
	comp=E,448nm,14.7s,MS4.7					
XAN			LR	LR		
	comp=Z,691nm,16.2s,MS4.8					
CD2	**Chengdu**	**52.15 314**	*e*P	**P**	**23 26 09.3**	**+0.2**
CD2			AP	pP	23 26 20.3	+6.4
CD2			XP	sP	23 26 24.1	+8.3
CD2			PP	PP	23 28 10.0	+2.4
CD2			AMB	AMB		
	comp=Z,30nm,0.8s,mb5.3					
CD2			AMB	AMB		
	comp=Z,80nm,5.2s					
CD2			LR	LR		
	comp=N,550nm,18.0s,MS4.9					
CD2			LR	LR		
	comp=E,970nm,19.2s,MS4.9					
CD2			LR	LR		
	comp=Z,800nm,19.2s,MS4.8					
HHC	**Hu-ho-hao-te**	**53.78 329**	*e*P	**P**	**23 26 24.5**	**+3.6**
HHC			AP	pP	23 26 34.4	+8.7
HHC			PCP	PcP	23 27 28.3	+1.6
HHC			PP	PP	23 28 27.5	+5.4
HHC			PCS	PcS	23 31 26.1	+0.3
HHC			SCS	ScS	23 36 07.4	-2.6
HHC			AMB	AMB		
	comp=Z,13nm,0.3s,mb5.3					
HHC			AMB	AMB		
	comp=Z,190nm,4.3s					
HHC			LR	LR		
	comp=N,721nm,25.3s					
HHC			LR	LR		
	comp=E,797nm,18.0s					
HHC			LR	LR		
	comp=Z,1μm,20.0s					
KLR	**Kul'dur**	**53.95 349**	*e*P	**P**	**23 26 16.3**	**-5.6**
KLR			MLR	MLR		
	comp=E,700nm,14.0s					
KLR			MLR	MLR		
	comp=Z,1μm,14.0s,MS5.1					
LZH	**Lanzhou**	**55.09 320**	*e*P	**P**	**23 26 29.5**	**-1.0**
LZH			AP	pP	23 26 40.8	+5.4
LZH			XP	sP	23 26 44.5	+7.3
LZH			PP	PP	23 28 34.6	+0.6
LZH			AMB	AMB		
	comp=Z,25nm,1.5s,mb5.0					
LZH			AMB	AMB		
	comp=Z,73nm,6.7s					
LZH			LR	LR		
	comp=N,497nm,16.0s					
LZH			LR	LR		
	comp=Z,608nm,19.5s,MS4.7					
SHL	**Shillong**	**58.98 303**	*e*P	**P**	**23 27 00.0**	**+1.7**
GTA	**Gaotai**	**59.62 321**	*e*P	**P**	**23 27 01.4**	**-1.1**
GTA			AP	pP	23 27 13.1	+5.7
GTA			XP	sP	23 27 17.4	+8.2
GTA			PP	PP	23 29 12.1	-2.2
GTA			S	**S**	**23 35 03.0**	**-9.4**
GTA			XS	sS	23 35 24.3	+3.9
GTA			AMB	AMB		
	comp=Z,6.0nm,1.1s,mb4.5					
GTA			AMB	AMB		
	comp=Z,177nm,6.5s					
GTA			LR	LR		
	comp=N,361nm,19.8s,MS4.6					
GTA			LR	LR		
	comp=E,250nm,17.5s,MS4.6					
GTA			LR	LR		
	comp=Z,475nm,17.5s,MS4.7					
ULN	**Ulaanbaatar**	**61.09 332**	*e*P	**P**	**23 27 11.2**	**-1.1**
	comp=Z,4.5nm,0.8s,mb4.7					
ULN	**Ulaanbaatar**	**61.09 332⇑**	*e*P	**P**	**23 27 14.1**	**+1.8**
LSA	**Lhasa**	**61.16 307**	P	**P**	**23 27 14.0**	**+0.8**
LSA	**Lhasa**	**61.16 307**	*e*P	**P**	**23 27 16.4**	**+3.2**
	comp=Z,9.4nm,1.0s,mb4.9					
SONM	**Songino Array**	**61.38 331**	P	**P**	**23 27 14.8**	**+0.5**
	comp=Z,1.8nm,0.9s,mb4.2,baz=121,slow=6.9,SNR=2.6					
SONM			LR	LR	23 53 06.6	
	comp=Z,955nm,19.3s,MS5.0,baz=311,slow=36					
MA2	**Magadan**	**63.27 3**	*e*P	**P**	**23 27 18.7**	**-8.0**
MA2			*e*S	**S**	**23 35 57.5**	**-0.4**
MA2			*e*PS		23 36 17.1	
MA2			*e*		23 37 10.3	
MA2			*e*SS	SS	23 39 57.9	-6.8
MA2			*e*SSS		23 42 43.5	
MA2			pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.9					
MA2			MLR	MLR		
	comp=E,400nm,19.7s					
JIRN	**Jiri**	**64.49 303**	*e*P	**P**	**23 27 38.3**	**+2.9**
ZAK	**Zakamensk**	**64.62 332**	*e*P	**P**	**23 27 33.2**	**-2.6**
ZAK			pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.5					
KKN	**Kakani**	**65.29 303**	*e*P	**P**	**23 27 42.3**	**+1.7**
	comp=Z,24nm,1.0s,mb5.2					
TLY	**Talaya**	**65.35 333**	*e*P	**P**	**23 27 41.9**	**+1.4**
TLY	**Talaya**	**65.35 333**	*e*P	**P**	**23 27 41.1**	**+0.6**
TLY			*e*S	S	23 36 24.0	+0.1
TLY			pmax	pmax		
	comp=Z,11nm,1.8s,mb4.6					
DMN	**Daman**	**65.38 303**	*e*P	**P**	**23 27 43.5**	**+2.3**
	comp=Z,32nm,0.8s,mb5.4					
PPT	**Papeete**	**65.61 108**	*e*S	S	23 36 25.6	-2.8
	comp=Z,946nm,30.5s					
PPT	**Papeete**	**65.61 108**	*e*LR	LR	23 47 28.4	
	comp=Z,773nm,30.8s					
PPT	**Papeete**	**65.61 108**	LR	LR	23 53 54.8	
	comp=Z,400nm,18.8s,MS4.6,baz=146,slow=34					
GKN	**Gorkha**	**65.90 303**	*e*P	**P**	**23 27 45.7**	**+1.2**
	comp=Z,46nm,1.2s,mb5.4					
BOD	**Bodaibo**	**66.16 343**	*e*P	**P**	**23 27 43.5**	**-2.1**
TBI	**Tubuai**	**66.24 114**	*e*S	S	23 36 35.4	-0.5
	comp=Z,508nm,30.8s					
TBI			*e*LQ		23 44 54.2	
	comp=Z,1μm,33.2s					
TBI			*e*LR	LR	23 47 42.9	
	comp=Z,768nm,40.0s					
TBI	**Tubuai**	**66.24 114**	*e*S	S	23 36 35.4	-0.5
TBI			*e*LQ		23 44 54.2	
MOY	**Mondy**	**66.56 332**	*e*P	**P**	**23 27 48.1**	**-0.2**
YAK	**Yakutsk**	**66.59 352**	*e*P	**P**	**23 27 49.3**	**+1.0**
YAK			pmax	pmax		
	comp=N,13nm,1.3s					
YAK			pmax	pmax		
	comp=Z,24nm,1.3s,mb5.1					
KOLN	**Koldanda**	**66.70 302**	*e*P	**P**	**23 27 49.4**	**-0.3**
	comp=Z,35nm,1.0s,mb5.3					
SEY	**Seymchan**	**66.72 4⇑**	*e*P	**P**	**23 27 52.5**	**+3.4**
WMQ	**Urumqi**	**69.67 320**	*e*P	**P**	**23 28 09.3**	**+1.3**
WMQ			AP	pP	23 28 19.0	+6.0
WMQ			XP	sP	23 28 23.0	+8.2
WMQ			PCP	PcP	23 28 32.0	+1.2
WMQ			AMB	AMB		
	comp=Z,14nm,1.2s,mb4.8					
WMQ			AMB	AMB		
	comp=Z,226nm,4.5s					
WMQ			LR	LR		
	comp=N,363nm,24.8s					
WMQ			LR	LR		
	comp=E,253nm,30.6s					
WMQ			LR	LR		
	comp=Z,342nm,32.8s					
BILL	**Bilibino**	**73.16 8**	*e*P	**P**	**23 28 30.5**	**+1.9**
BILL			*i*		23 28 48.3	
BILL			*i* S	S	23 37 49.0	-6.6
BILL			pmax	pmax		
	comp=Z,9.0nm,1.4s,mb4.5					
BILL			MLR	MLR		
	comp=Z,200nm,19.0s,MS4.4					
VNDA	**Vanda**	**74.31 176**	P	**P**	**23 28 35.7**	**+0.5**
	comp=Z,1.4nm,0.8s,mb3.9,baz=317,slow=7.1,SNR=4.3					
VNDA			LR	LR	00 00 32.5	
	comp=Z,543nm,18.9s,MS4.9,baz=347,slow=35					
MK31	**Makanchi Array**	**74.38 321**	*e*P	**P**	**23 28 34.5**	**-1.7**
MKAR	**Makanchi Array**	**74.38 321⇑**	*e*P	**P**	**23 28 38.7**	**+2.5**
MKAR	**Makanchi Array**	**74.38 321**	P	**P**	**23 28 35.7**	**-0.5**
	comp=Z,4.2nm,0.8s,mb4.4,baz=97,slow=7.9,SNR=18					
MKAR			LR	LR	23 59 34.7	
	comp=Z,298nm,19.1s,MS4.6,baz=112,slow=34					
TAOE	**Nuku Hiva Isla**	**74.64 98**	*e*SS	SS	23 42 54.9	-6.9
	comp=Z,5μm,30.4s					
TAOE			*e*LR	LR	23 51 36.7	
	comp=Z,14μm,25.7s					
TIXI	**Tiksi**	**75.95 355**	*e*P	**P**	**23 28 44.3**	**-0.5**
TIXI	**Tiksi**	**75.95 355** ‖	*i*P	**P**	**23 28 46.0**	**+1.3**
TIXI			pmax	pmax		
	comp=Z,1.0nm,0.7s,mb3.9					
ZAA0	**Zalesovo Array**	**75.95 328**	*e*P	**P**	**23 28 43.9**	**-1.2**
ZALV	**Zalesovo Beam**	**75.95 328**	P	**P**	**23 28 43.9**	**-1.2**
	comp=Z,2.0nm,0.7s,mb4.1,baz=106,slow=5.6,SNR=8.3					
ZALV			LR	LR	00 00 54.6	
	comp=Z,931nm,21.7s,MS5.1,baz=121,slow=35					
ZAL	**Zalesovo**	**75.96 328**	P	**P**	**23 28 43.9**	**-1.2**
NVS	**Novosibirsk**	**77.18 329**	*e*P	**P**	**23 28 50.2**	**-1.8**
TKM2	**Tokmak 2**	**77.52 315**	*e*P	**P**	**23 28 53.3**	**-0.9**
	comp=Z,14nm,1.4s,mb4.7					
TKM2	**Tokmak 2**	**77.52 315**	*e*P	**P**	**23 28 53.3**	**-0.9**
TKM2			pmax	pmax		
	comp=Z,14nm,1.4s,mb4.7					
UCH	**Uchtor**	**78.09 314**	*e*P	**P**	**23 28 56.9**	**-0.5**
	comp=Z,12nm,1.1s,mb4.7					
KURK	**Kurchatov**	**78.11 324**	*e*P	**P**	**23 28 59.6**	**+2.3**
	comp=Z,18nm,1.4s,mb4.8					
KURK	**Kurchatov**	**78.11 324⇑**	*e*P	**P**	**23 28 59.3**	**+2.0**
AML	**Almayashu**	**78.65 314**	*e*P	**P**	**23 29 00.2**	**-0.3**
	comp=Z,20nm,1.1s,mb5.0					
EKS2	**Erkin-Say**	**78.73 315**	*e*P	**P**	**23 28 59.5**	**-1.4**
	comp=Z,9.8nm,1.1s,mb4.7					
SVW2	**Sparrevohn**	**79.09 25**	*e*P	**P**	**23 29 01.4**	**-1.1**
RKT	**Rikitea**	**79.53 113**	*e*LR	LR	23 53 51.4	
	comp=Z,428nm,31.2s					
SML	**Sawmill**	**82.54 26**	*e*P	**P**	**23 29 20.7**	**-0.2**
MCK	**McKinley**	**83.03 24**	*e*P	**P**	**23 29 21.8**	**-1.6**
MAW	**Mawson**	**83.52 202**	P	**P**	**23 29 25.6**	**-0.3**
	comp=Z,3.2nm,0.7s,mb4.6,baz=200,slow=3.5,SNR=7.9					
MAW			LR	LR	00 03 06.5	
	comp=Z,423nm,19.8s,MS4.8,baz=75,slow=33					
BRVK	**Borovoye**	**83.74 324**	*e*P	**P**	**23 29 28.0**	**+0.7**
EGAK	**Eagle**	**86.58 24**	*e*P	**P**	**23 29 45.9**	**+4.6**
DAWY	**Dawson**	**87.13 25**	*e*P	**P**	**23 29 42.7**	**-1.3**
INK	**Inuvik**	**90.33 22**	LR	LR	00 09 07.6	
	comp=Z,790nm,20.3s,MS5.1,baz=1.3,slow=35					
BBB	**Bella Bella**	**91.09 38**	LR	LR	00 04 55.8	
	comp=Z,491nm,20.5s,MS4.9,baz=150,slow=32					
YKA	**Yellowknife Ar**	**98.16 27**	P	**P**	**23 30 34.7**	**-0.3**
YKA			LR	LR	00 11 15.8	
YKA	**Yellowknife Ar**	**98.16 27**	*i* P	**P**	**23 30 30.2**	**-4.8**
YKA	**Yellowknife Ar**	**98.16 27**	P	**P**	**23 30 34.7**	**-0.3**
	comp=Z,0.2nm,0.7s,mb3.8,baz=289,slow=5.4,SNR=2.9					
YKA			LR	LR	00 11 15.8	
	comp=Z,138nm,19.7s,MS4.5,baz=155,slow=33					
JOF	**Joensuu**	**103.86 334**	*e*p	Pdif	23 30 52.5	-8.1
BRG	**Berggiesshubel**	**117.63 327**	*e*(P)	PKPdf	23 35 43.6	-0.9
	comp=Z,2.2nm,1.1s					
CLL	**Collm**	**117.90 328**	*e*PKPdf	PKPdf	23 35 45.0	0.0
SCHQ	**Schefferville**	**122.95 21**	PKP	PKPdf	23 35 56.9	+2.3
	comp=Z,1.5nm,0.7s,baz=126,slow=4.3,SNR=3.6					
PLCA	**Paso Flores**	**125.19 147**	PKP	PKPdf	23 36 00.1	+0.7
	comp=Z,3.3nm,1.1s,baz=242,slow=5.7,SNR=2.9					
LPAZ	**La Paz**	**141.82 122**	PKP	PKPdf	23 36 33.2	+2.1
	comp=Z,1.1nm,1.0s,baz=333,slow=3.9,SNR=4.1					
TORD	**Torodi Ar. Bea**	**142.41 287**	PKP	PKPdf	23 36 30.3	-1.9
	comp=Z,1.3nm,0.7s,baz=74,slow=1.7,SNR=6.8					
DBIC	**Dimbokro**	**149.69 277**	PKPbc	PKPbc	23 36 49.4	+0.1
	comp=Z,4.4nm,0.7s,baz=76,slow=4.6,SNR=6.1					
DBIC			PKPab	PKPab	23 36 54.7	+0.2
	comp=Z,8.2nm,0.7s,baz=35,slow=3.2,SNR=7.1					

ISCJB ***14*** *23:18:52.1±1.2,2037N$_{\pm006}$×1449E$_{\pm03}$,h188^{km}±10^{km}, mb3.8/9, Error ellipse: s-maj=43.0km s-min=7.4km az=171.6*

IDC ***14*** *23:18:52.7±1.8,2031N×14491E,h178^{km}±16^{km},mb3.5/9, mb1 3.7/12,mb1mx3.5/23,mbtmp3.6/12, Error ellipse: s-maj=33.2km s-min=9.7km az=83.0*

NEIC ***14*** *23:18:53.3±1.4,2029N×14489E,h186^{km}±15^{km},mb4.3/2, Error ellipse: s-maj=30.7km s-min=9.0km az=84.0*

ISC 14 23:18:52.6±1.2,2038N$_{\pm006}$×1449E$_{\pm03}$,h177^{km}±10^{km}, n18,σ0^{s}90/20,mb3.8/9,Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**6.75**	**180**	P	**Pn**	**23 20 29.6**	**+0.1**
	5.3nm,0.3s,baz=62,slow=16,SNR=6.3						
GUMO				S	**Sn**	**23 21 47.0**	**+1.1**
	7.5nm,0.3s,baz=44,slow=23,SNR=2.6						
CBIJ	**Chichi jima**	**7.14**	**340**	P	**Pn**	**23 20 34.5**	**-0.1**
	8.8nm,0.3s,baz=118,slow=21,SNR=12						
CBIJ				S	**Sn**	**23 21 54.6**	**-0.4**
	22nm,0.3s,baz=284,slow=23,SNR=9.8						
MJAR	**Matsushiro Arr**	**17.14**	**341**	P	**Pn**	**23 22 41.1**	**-0.6**
	1.5nm,0.3s,baz=166,slow=9.1,SNR=20						
MAJO	**Matsushiro**	**17.14**	**341**	*e*P	**Pn**	**23 22 40.4**	**-1.3**
	11nm,0.6s						
MAT	**Matsushiro**	**17.14**	**341**	P	**Pn**	**23 22 41.8**	**+0.1**
KSRS	**Korea Array**	**22.54**	**323**	P	**P**	**23 23 39.3**	**+1.6**
	8.3nm,0.7s,mb4.3,baz=150,slow=9.2,SNR=27						
SONM	**Songino Array**	**41.39**	**321**	P	**P**	**23 26 22.1**	**+0.8**
	1.0nm,0.4s,mb3.8,baz=126,slow=6.5,SNR=4.5						
WRA	**Warramunga Arr**	**41.39**	**195**	P	**P**	**23 26 20.1**	**-1.5**
	1.2nm,0.6s,mb3.7,baz=14,slow=8.6,SNR=4.5						
FITZ	**Fitzroy Crossi**	**42.67**	**208**	P	**P**	**23 26 30.5**	**-1.5**
	3.9nm,0.5s,mb4.3,baz=242,slow=14,SNR=10						
ASAR	**Alice Springs**	**45.08**	**194**	P	**P**	**23 26 50.2**	**-0.8**
	1.0nm,0.7s,mb3.5,baz=17,slow=6.7,SNR=4.1						
ZAA0	**Zalesovo Array**	**56.25**	**322**	*e*P	**P**	**23 28 14.2**	**0.0**
ZALV	**Zalesovo Beam**	**56.25**	**322**	P	**P**	**23 28 14.7**	**+0.4**
	1.4nm,0.6s,mb4.0,baz=109,slow=6.9,SNR=6.7						
MK31	**Makanchi Array**	**56.78**	**313**	*e*P	**P**	**23 28 18.8**	**+0.6**
MKAR	**Makanchi Array**	**56.78**	**313**	P	**P**	**23 28 19.4**	**+1.2**
MKAR	**Makanchi Array**	**56.78**	**313**	P	**P**	**23 28 19.4**	**+1.2**
	1.0nm,0.6s,mb3.8,baz=88,slow=8.7,SNR=14						
YKA	**Yellowknife Ar**	**76.85**	**28**	P	**P**	**23 30 25.5**	**+0.8**
YKA	**Yellowknife Ar**	**76.85**	**28**	P	**P**	**23 30 25.5**	**+0.8**
	0.4nm,0.6s,mb3.2,baz=290,slow=5.7,SNR=3.7						
FINES	**FINESS Array B**	**85.06**	**335**	P	**P**	**23 31 07.5**	**-0.6**
	0.8nm,0.3s,mb3.9,baz=61,slow=5.3,SNR=26						

IDC ***14*** *23:25:20.1±0.8,339S×14490E,h0^{km},mb4.5/14, mb1 4.6/16,mb1mx4.6/18,mbtmp4.6/16,ML4.6/2,MS4.2/3, Ms1 4.2/3,ms1mx3.7/21,Error ellipse: s-maj=27.4km s-min=14.8km az=92.0*

ISCJB ***14*** *23:25:23.5±0.4,352S±005×14491E±008,h33^{km}, mb4.7/33,MS4.6/2,Error ellipse: s-maj=11.1km s-min=7.0km az=11.0*

MOS ***14*** *23:25:23.5±1.6,354S×14489E,h33^{km},mb4.9/8,Error ellipse: s-maj=14.9km s-min=10.2km az=100.6*

BJI ***14*** *23:25:24.6,299S×14505E,h20^{km},mB5.1,mb4.9,Ms4.8, Msz4.7*

NEIC ***14*** *23:25:25.1±0.5,349S×14493E,h35^{km},mb4.9/12,Error ellipse: s-maj=18.4km s-min=7.9km az=107.0*

ISC 14 23:25:20.5±5.9,350S±007×14494E±008,h2^{km}±37^{km},n70, σ1^{s}23/66,mb4.7/33,MS4.6/2,2C,Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**15.39**	**233**	Pn	**Pn**	**23 29 00.1**	**+1.3**
	114nm,0.4s						
HNR	**Honiara**	**16.03**	**112**	*e*Pn	**Pn**	**23 29 08.1**	**+0.9**
	139nm,1.1s						
HNR	**Honiara**	**16.03**	**112**	*e*P	**Pn**	**23 29 08.1**	**+0.9**
HNR				pmax	pmax		
	comp=Z,139nm,1.1s						
HNR	**Honiara**	**16.03**	**112**	Pn	**Pn**	**23 29 09.8**	**+2.6**
	comp=Z,10nm,0.3s,baz=269,slow=8.7,SNR=4.3						
HNR				LR	LR	23 34 32.1	
	comp=Z,592nm,21.4s,baz=354,slow=34						
CTA	**Charters Tower**	**16.54**	**176**	LR	LR	23 34 10.1	
	comp=Z,438nm,20.9s,baz=189,slow=32						
WRAB	**Tennant Creek**	**19.33**	**211**	*e*P	**Pn**	**23 29 46.1**	**-2.1**
	comp=Z,45nm,1.1s						
WRAB	**Tennant Creek**	**19.33**	**211**	*e*P	**Pn**	**23 29 46.1**	**-2.1**
WRAB				pmax	pmax		
	comp=Z,45nm,1.1s						
WB2	**Warramunga Arr**	**19.34**	**211**	*e*P	**Pn**	**23 29 47.0**	**-1.3**
WRA	**Warramunga Arr**	**19.34**	**212**	P	**Pn**	**23 29 47.5**	**-0.9**
	comp=Z,1.1nm,0.3s,baz=36,slow=10,SNR=15						
WRA				LR	LR	23 37 41.3	
	comp=Z,2μm,18.3s,baz=45,slow=38						
BATI	**Kupang**	**22.14**	**251**	P	**P**	**23 30 17.9**	**+0.2**
	comp=Z,144nm,1.0s,mb5.3,baz=166,slow=1.5,SNR=12						
ASAR	**Alice Springs**	**22.71**	**207**	P	**P**	**23 30 24.0**	**+0.2**
	comp=Z,13nm,0.8s,mb4.4,baz=37,slow=8.9,SNR=24						
FITZ	**Fitzroy Crossi**	**23.84**	**231**	*e*P	**P**	**23 30 35.0**	**-0.3**
	comp=Z,112nm,0.9s,mb5.3						
FITZ	**Fitzroy Crossi**	**23.84**	**231**	P	**P**	**23 30 35.8**	**+0.5**
	comp=Z,36nm,0.8s,mb4.8,baz=95,slow=16,SNR=4.3						
STKA	**Stephens Creek**	**28.41**	**186**	*e*P	**P**	**23 31 16.7**	**+0.2**
	comp=Z,6.6nm,0.9s,mb4.3						
STKA	**Stephens Creek**	**28.41**	**186**	*e*P	**P**	**23 31 16.6**	**+0.1**
STKA	**Stephens Creek**	**28.41**	**186**	P	**P**	**23 31 17.1**	**+0.6**
	comp=Z,4.7nm,0.7s,mb4.2,baz=354,slow=7.5,SNR=7.2						
FORT	**Forrest**	**31.47**	**209**	*e*P	**P**	**23 31 43.5**	**-0.2**
	comp=Z,20nm,0.6s,mb5.1						
KLBR	**Kellerberrin**	**37.88**	**219**	*e*P	**P**	**23 32 39.9**	**+0.8**
	comp=Z,80nm,1.1s,mb5.4						
MJAR	**Matsushiro Arr**	**40.32**	**352**	P	**P**	**23 32 57.4**	**-2.1**
	comp=Z,1.6nm,0.7s,mb3.8,baz=178,slow=8.8,SNR=5.2						
NJ2	**Nanjing**	**43.17**	**327**	*e*P	**P**	**23 33 21.1**	**-1.8**
NJ2				AMB	AMB		
	comp=Z,100nm,0.7s,mb5.7						
KSRS	**Korea Array**	**43.71**	**340**	P	**P**	**23 33 26.1**	**-1.0**
	comp=Z,3.3nm,0.7s,mb4.2,baz=163,slow=8.9,SNR=8.9						
PSI	**Prapat**	**46.42**	**277**	P	**P**	**23 33 48.7**	**-0.4**
	comp=Z,14nm,0.9s,mb4.9,baz=54,slow=7.0,SNR=7.5						
PSI	**Prapat**	**46.42**	**277⇑**	*e*P	**P**	**23 33 48.5**	**-0.6**
NST	**Nakhon Sawan**	**48.25**	**294**	P	**P**	**23 34 00.0**	**-3.3**
KMI	**Kunming**	**49.86**	**307**	P	**P**	**23 34 17.8**	**+2.3**
KMI				AMB	AMB		
	comp=Z,16nm,1.0s,mb5.0						
YSS	**Yuzh-Sakhalins**	**50.27**	**358**	*e*P	**P**	**23 34 19.8**	**+1.6**
YSS				*e*		23 34 36.0	
CHG	**Chiang Mai**	**50.40**	**298**	P	**P**	**23 34 22.7**	**+2.9**
KLR	**Kul'dur**	**53.75**	**349**	*e*P	**P**	**23 34 39.0**	**-5.1**
LZH	**Lanzhou**	**54.99**	**319**	*e*P	**P**	**23 34 54.8**	**+1.4**
LZH				AP		23 35 05.1	
LZH				XP	sP	23 35 09.0	+15
LZH				PP	PP	23 36 54.5	-2.1
LZH				AMB	AMB		
	comp=Z,36nm,1.5s,mb5.2						
LZH				AMB	AMB		
	comp=Z,73nm,6.9s						
LZH				LR	LR		
	comp=E,385nm,15.7s						
LZH				LR	LR		
	comp=Z,593nm,18.6s,MS4.7						
SHL	**Shillong**	**58.95**	**303**	*e*P	**P**	**23 35 23.0**	**+1.3**
GTA	**Gaotai**	**59.52**	**320**	P	**P**	**23 35 26.3**	**+0.9**
GTA				AP		23 35 37.9	
GTA				PP	PP	23 37 36.3	-0.6
GTA				S	**S**	**23 43 23.9**	**-12**
GTA				XS	sS	23 43 45.3	+8.3
GTA				AMB	AMB		
	comp=Z,9.0nm,1.1s,mb4.7						
GTA				AMB	AMB		
	comp=Z,92nm,4.9s						
GTA				LR	LR		
	comp=N,361nm,19.4s,MS4.6						
GTA				LR	LR		
	comp=E,241nm,16.7s,MS4.6						
GTA				LR	LR		
	comp=Z,322nm,16.0s,MS4.5						
LSA	**Lhasa**	**61.11**	**307**	*e*P	**P**	**23 35 38.6**	**+2.1**
	comp=Z,7.8nm,0.9s,mb4.8						
LSA	**Lhasa**	**61.11**	**307**	*e*P	**P**	**23 35 38.7**	**+2.2**
LSA				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.8						
SONM	**Songino Array**	**61.23**	**331**	P	**P**	**23 35 36.8**	**-0.2**
	comp=Z,2.5nm,0.9s,mb4.3,baz=130,slow=4.6,SNR=4.1						
MA2	**Magadan**	**63.05**	**3**	*e*P	**P**	**23 35 52.3**	**+3.4**
MA2				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb5.0						
ZAK	**Zakamensk**	**64.48**	**332⇑**	*e*P	**P**	**23 35 58.2**	**-0.3**
ZAK				pmax	pmax		
	comp=Z,6.0nm

KURK pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
SVW2 Sparrevohn 78.85 25 *e*P **P 23 37 25.9 +1.0**
SML Sawmill 82.30 26 *e*P **P 23 37 44.7 +1.3**
MCK McKinley 82.79 24 *e*P **P 23 37 44.1 -1.8**
comp=Z,9.9nm,1.1s,mb4.8
MCK McKinley 82.79 24 *e*P **P 23 37 44.1 -1.8**
MCK pmax pmax
comp=Z,10.0nm,1.1s,mb4.8
BVAR Borovoye Array 83.55 324 P **P 23 37 49.6 -0.5**
comp=Z,10.0nm,0.9s,mb4.9,baz=112,slow=6.6,SNR=14
BRVK Borovoye 83.62 324 *e*P **P 23 37 49.4 -1.1**
comp=Z,12nm,1.0s,mb5.0
BRVK Borovoye 83.62 324 *e*P **P 23 37 49.4 -1.1**
BRVK pmax pmax
comp=Z,12nm,1.0s,mb5.0
MAW Mawson 83.76 202 P **P 23 37 51.9 +1.0**
comp=Z,3.4nm,0.9s,mb4.5,baz=331,slow=8.3,SNR=3.7
QSPA South Pole Qui 86.45 180 *e*P **P 23 38 03.8 -0.4**
comp=Z,8.2nm,1.0s,mb4.9
DAWY Dawson 86.89 25 *e*P **P 23 38 06.0 -0.5**
YKA Yellowknife Ar 97.92 27 P **P 23 38 57.1 -0.6**
comp=Z,0.4nm,0.8s,mb4.0,baz=278,slow=4.6,SNR=4.5
TORD Torodi Ar. Bea 142.44 287 PKP PKPdf 23 44 53.2 -2.9
TORD Torodi Ar. Bea 142.44 287 PKP PKPdf 23 44 53.2 -2.9
comp=Z,1.1nm,0.9s,baz=51,slow=3.0,SNR=5.4
DBIC Dimbokro 149.76 277 PKPbc PKPbc 23 45 13.5 +0.3
DBIC PKPab PKPab 23 45 17.4 -1.2
DBIC Dimbokro 149.76 277 PKPbc PKPbc 23 45 13.5 +0.3
comp=Z,4.0nm,0.8s,baz=328,slow=3.6,SNR=4.5
DBIC PKPab PKPab 23 45 17.4 -1.2
comp=Z,3.7nm,0.7s,baz=197,slow=4.1,SNR=4.5

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*NEIC **14** 23:25:41.7±2.5, 9.10S×124.35E, h107km±25km, mb4.5/2, Error ellipse: s-maj=26.6km s-min=20.4km az=89.0*
*ISCJB **14** 23:25:42.2±1.4, 92S±0.1×124.4E±0.1, h128km±13km, mb3.7/2, Error ellipse: s-maj=22.7km s-min=13.9km az=142.6*
*IDC **14** 23:25:44.0±2.5, 9.34S×124.22E, h137km±26km, mb3.5/1, mb1 3.7/4, mb1mx3.4/14, mbtmp3.5/4, Error ellipse: s-maj=73.1km s-min=17.4km az=58.0*
ISC 14 23:25:43.6±1.3, 93S±01×1245E±01, h121km±13km, n7, σ1§10/11, mb3.7/2, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Kupang**	**1.21**	**220**	P	**Pn**	**23 26 07.3**	**-0.6**
	116nm,0.3s,baz=36,slow=2.8,SNR=116						
BATI				S	**Sn**	**23 26 26.2**	**-0.1**
	70nm,0.3s,baz=85,slow=22,SNR=11						
KAKA	**Kakadu**	**8.55**	**114**	*e*Pn	**Pn**	**23 27 45.1**	**+0.6**
	46nm,0.6s						
FITZ	**Fitzroy Crossi**	**8.85**	**173**	P	**Pn**	**23 27 49.4**	**+0.8**
	1.2nm,0.3s,baz=18,slow=11,SNR=26						
FITZ				S	**Sn**	**23 29 26.5**	**-0.1**
	7.2nm,0.3s,baz=259,slow=17,SNR=18						
WRA	**Warramunga Arr**	**14.27**	**139**	P	**Pn**	**23 29 01.0**	**+0.8**
	1.3nm,0.3s,baz=309,slow=14,SNR=21						
WRA				S	**Sn**	**23 31 36.2**	**-1.7**
	3.6nm,0.3s,baz=314,slow=26,SNR=10.0						
ASAR	**Alice Springs**	**16.92**	**149**	P	**Pn**	**23 29 35.0**	**+1.9**
	0.4nm,0.3s,baz=321,slow=11,SNR=24						
ASAR				S	**S**	**23 32 40.7**	**-1.2**
	1.1nm,0.3s,baz=325,slow=26,SNR=6.0						
FORT	**Forrest**	**21.66**	**172**	P	**P**	**23 30 25.6**	**+1.2**
	3.1nm,1.0s,mb3.6						
MKAR	**Makanchi Array**	**67.27**	**330**	P	**P**	**23 36 23.4**	**-1.6**
	0.7nm,0.5s,mb3.7,baz=135,slow=7.7,SNR=13						

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*NEIC **14** 23:43:33.9, 1721N×10037W, h40km, MD4.0(MEX), After MEX.*
MEX 14 23:43:34.0±0.5, 1721N×10037W, h39km±5km, MD4.1, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.19**	**150**	*i* P	Pn	23 43 39.6	-1.5
CAIG				*i* S	Sn	23 43 44.4	-1.6
ACX	**Acapulco**	**0.55**	**129**	*i* P	Pn	23 43 43.8	-1.6
ACX				*i* S	Sn	23 43 51.1	-2.3
ZIIG	**Zihuatanejo**	**1.12**	**291**	*e*P	Pn	23 43 51.6	-1.6
ZIIG				*i* S	Sn	23 44 04.8	-2.6
PLIG	**Platanillo**	**1.43**	**35**	*e*P	Pn	23 43 56.5	-0.9
PLIG				*i* S	Sn	23 44 17.3	+2.2
PLIG	**Platanillo**	**1.43**	**35**	*e*P	Pn	23 43 56.5	-0.9
PLIG				*i* S	Sn	23 44 13.3	-1.8
YAIG	**Yautepec**	**2.05**	**37**	*i* P	Pn	23 44 04.8	-1.2
YAIG				*i* S	Sn	23 44 27.5	-2.9
MZVM		**2.24**	**29**	*i* P	Pn	23 44 07.4	-1.3
MZVM				*i* S	Sn	23 44 32.3	-2.8
SZVM	**Salazar**	**2.30**	**24**	*e*P	Pn	23 44 08.9	-0.5
SZVM				*i* S	Sn	23 44 33.2	-3.2
UNM	**Universidad Na**	**2.39**	**28**	*e*P	Pn	23 44 08.5	-2.1
PPM	**Popocatepetl**	**2.48**	**42**	*i* P	Pn	23 44 14.0	+2.1
PPM						23 44 14.4	
PPM				*i* S	Sn	23 44 42.5	+1.6
PPM	**Popocatepetl**	**2.48**	**42**	*i* P	Pn	23 44 09.9	-1.9
PPM				*i* P		23 44 14.0	
PPM				*i* S	Sn	23 44 41.0	+0.1
UTMO	**Huajuapan**	**2.52**	**76**	*i* P	Pn	23 44 10.7	-1.8
UTMO				*i* S	Sn	23 44 40.5	-1.5
PBVM	**Pinon**	**2.53**	**29**	*i* P	Pn	23 44 14.4	+1.9
PBVM				*i* S	Sn	23 44 50.2	+8.1
PBVM	**Pinon**	**2.53**	**29**	*i* P	Pn	23 44 11.4	-1.1
PBVM				*i* S	Sn	23 44 40.2	-1.9
MOIG	**Morelia**	**2.57**	**342**	*i* P	Pn	23 44 14.6	+1.5
MOIG				*i* S	Sn	23 44 46.5	+3.3
MOIG	**Morelia**	**2.57**	**342**	*i* P	Pn	23 44 10.9	-2.2
MOIG				*i* S	Sn	23 44 42.1	-1.1
PTVM	**Pico Tres Padr**	**2.65**	**26**	*i* P	Pn	23 44 14.4	+0.2
PTVM	**Pico Tres Padr**	**2.65**	**26**	*i* P	Pn	23 44 13.4	-0.8
PTVM				*i* S	Sn	23 44 42.3	-2.8
IIO	**Organos**	**2.83**	**33**	*e*P	Pn	23 44 19.1	+2.3
IIO				*i* S	Sn	23 44 48.8	-0.8
IIO	**Organos**	**2.83**	**33**	*e*P	Pn	23 44 16.1	-0.7
IIO				*i* S	Sn	23 44 48.8	-0.8
TPIG	**Tehuac#an**	**3.10**	**67**	*i* P	Pn	23 44 19.2	-1.2
TPIG				*i* S	Sn	23 44 55.0	-1.4
VHO	**Vista Hermosa**	**3.48**	**92**	*i* P	Pn	23 44 18.4	-7.2
VHO				*i* S	Sn	23 44 59.3	-6.3
VHO	**Vista Hermosa**	**3.48**	**92**	*i* P	Pn	23 44 24.7	-0.9
VHO				*i* S	Sn	23 45 04.2	-1.3
CMIG	**Matias Romero**	**5.24**	**91**	*i* P	Pn	23 45 02.5	+13
CMIG				*i* S	Sn	23 45 44.2	-4.9
CMIG	**Matias Romero**	**5.24**	**91**	*i* P	Pn	23 45 00.3	+10
CMIG				*i* S	Sn	23 45 44.2	-4.9

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*ISCJB **14** 23:45:11.1±0.6, 4372N±004×105.17W±006, h0km, Error ellipse: s-maj=6.7km s-min=5.6km az=175.5*
*IDC **14** 23:45:11.0±2.5, 4337N×10523W, h0km, mb1 3.4/3, mb1mx3.2/22, mbtmp3.1/3, ML3.2/2, Error ellipse: s-maj=56.2km s-min=8.7km az=155.0*
*NEIC **14** 23:45:12.2±1.5, 4370N×105.19W, h0km, ML2.6, Error ellipse: s-maj=20.4km s-min=10.7km az=71.0, Suspected Mining explosion.*
NEIC 70 km [45 miles] SSE of Gillette.
ISC 14 23:45:12.7±0.6, 4369N±004×10522W±006, h0km, n18, σ1§22/25, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PHWY	**Pilot Hill**	**2.40**	**184**	*e*P	**Pn**	**23 45 51.1**	**-2.1**
PHWY				*e*Sn	**Sn**	**23 46 24.9**	**+1.7**
RWWY	**Rawlins**	**2.48**	**217**	*e*Pn	**Pn**	**23 45 54.9**	**+0.6**
RWWY				*e*Sn	**Sn**	**23 46 23.9**	**-1.4**
LAO	**LASA Array**	**3.08**	**347**	*e*Pn	**Pn**	**23 46 01.8**	**-0.7**
LAO				*e*Sn	**Sn**	**23 46 45.3**	**+5.3**
RLMT	**Red Lodge**	**3.23**	**298**	*e*Pn	**Pn**	**23 46 04.9**	**+0.2**
RLMT				*e*Sn	**Sn**	**23 46 45.2**	**+1.4**
PDAR	**Pinedale Array**	**3.30**	**255**	Pn	**Pn**	**23 46 06.2**	**+0.6**
	1.5nm,0.3s,baz=75,slow=17,SNR=29						
PDAR				Pg	**Pg**	**23 46 13.7**	**-2.3**
	5.0nm,0.3s,baz=72,slow=18,SNR=32						
PDAR				Sn	**Sn**	**23 46 46.1**	**+0.5**
	1.1nm,0.3s,baz=83,slow=28,SNR=4.0						
PDAR				Lg		23 46 51.4	
	6.6nm,0.3s,baz=85,slow=37,SNR=16						
GCMT	**Greycliff**	**3.80**	**305**	*e*Pn	**Pn**	**23 46 13.1**	**+0.7**
ISCO	**Idaho Springs**	**3.90**	**184**	*e*Pn	**Pn**	**23 46 15.2**	**+1.3**
FLWY	**Flagg Ranch**	**3.98**	**278**	*e*Pn	**Pn**	**23 46 13.1**	**-1.8**
MOOW	**Moose Ponds**	**4.00**	**273**	*e*Pn	**Pn**	**23 46 15.4**	**+0.1**
MOOW				*e*Pg	**Pg**	**23 46 26.5**	**-2.9**
SNOW	**Snow King Moun**	**4.03**	**269**	Pn	**Pn**	**23 46 13.0**	**-2.5**
REDW	**Red Top Meadow**	**4.11**	**267**	*e*Pn	**Pn**	**23 46 17.8**	**+1.1**
IMW	**Indian Meadow**	**4.14**	**275**	*e*Pn	**Pn**	**23 46 17.7**	**+0.5**
TPAW	**Teton Pass**	**4.17**	**269**	*e*Pn	**Pn**	**23 46 18.2**	**+0.7**
SMCO	**Snowmass**	**4.70**	**197**	*e*Pn	**Pb**	**23 46 36.5**	**+0.6**
EGMT	**Eagleton**	**5.37**	**325**	*e*Pn	**Pn**	**23 46 34.9**	**+1.0**
	6.8nm,0.5s						
ECSD	**EROS,Sioux Fal**	**6.24**	**87**	Pn	**Pn**	**23 46 45.6**	**-0.3**
ULM	**Lac du Bonnet**	**9.15**	**41**	Pn	**Pn**	**23 47 25.1**	**-0.8**
	0.9nm,0.3s,baz=235,slow=11,SNR=12						
YKA	**Yellowknife Ar**	**19.62**	**347**	P	**Pn**	**23 49 44.1**	**+0.5**
	0.1nm,0.3s,baz=155,slow=9.5,SNR=6.7						

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*IDC **14** 23:57:17.5±0.8, 340S×144.73E, h0km, mb4.4/12, mb1 4.6/14, mb1mx4.5/18, mbtmp4.5/14, ML4.5/2, MS4.1/14, Ms1 4.1/14, ms1mx4.0/20, Error ellipse: s-maj=26.1km s-min=14.5km az=90.0*
*ISCJB **14** 23:57:18.1±1.8, 352S±005×144.77E±007, h13km±11km, mb4.7/37, MS4.2/18, Error ellipse: s-maj=12.1km s-min=8.4km az=23.1*
*MOS **14** 23:57:20.9±1.9, 358S×144.82E, h33km, mb4.8/7, Error ellipse: s-maj=15.4km s-min=9.4km az=98.1*
*BJI **14** 23:57:21.3, 336S×144.62E, h22km, mB5.1, mb4.8, Ms4.6, Msz4.3*
*NEIC **14** 23:57:22.4±0.4, 350S×144.81E, h35km, mb4.8/13, Error ellipse: s-maj=12.4km s-min=7.8km az=107.0*
ISC 14 23:57:21.5±2.0, 355S±006×14475E±007, h24km±14km, h35km±2.4km: pP-P, n85, σ1§30/81, mb4.7/37, MS4.2/18, 8C-1D, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**15.20**	**233**	*e*P	**Pn**	**00 00 54.4**	**-0.4**
	50nm,1.4s						
HNR	**Honiara**	**16.18**	**112**	Pn	**Pn**	**00 01 06.1**	**-1.5**
	7.9nm,0.3s,baz=254,slow=4.5,SNR=3.6						
HNR				LR	LR	00 05 43.3	
	comp=Z,404nm,20.7s,baz=348,slow=31						
CTA	**Charters Tower**	**16.50**	**175**	LR	LR	00 07 28.3	
	comp=Z,377nm,18.1s,baz=17,slow=37						
WRAB	**Tennant Creek**	**19.18**	**211**	*e*P	**Pn**	**00 01 44.1**	**-0.5**
	55nm,1.1s						
WRAB	**Tennant Creek**	**19.18**	**211**	*e*P	**Pn**	**00 01 44.1**	**-0.6**
WRAB				pmax	pmax		
	comp=Z,55nm,1.1s						
WB2	**Warramunga Arr**	**19.19**	**211**	*e*P	**Pn**	**00 01 44.5**	**-0.2**
WRA	**Warramunga Arr**	**19.20**	**211**	P	**Pn**	**00 01 42.6**	**-2.3**
	comp=Z,0.7nm,0.3s,baz=34,slow=10,SNR=32						
WRA				LR	LR	00 10 02.5	
	comp=Z,2μm,19.8s,baz=35,slow=40						
BATI	**Kupang**	**21.94**	**251**	P	**P**	**00 02 14.9**	**+1.3**
	comp=Z,89nm,0.8s,mb5.2,baz=109,slow=2.2,SNR=11						
ASAR	**Alice Springs**	**22.58**	**207**	P	**P**	**00 02 20.5**	**+0.2**
	comp=Z,18nm,0.9s,mb4.5,baz=36,slow=8.2,SNR=48						
FITZ	**Fitzroy Crossi**	**23.65**	**231**	*e*P	**P**	**00 02 31.6**	**+0.2**
	comp=Z,57nm,0.9s,mb5.0						
FITZ	**Fitzroy Crossi**	**23.65**	**231**	P	**P**	**00 02 31.3**	**-0.1**
	comp=Z,24nm,0.8s,mb4.7,baz=57,slow=11,SNR=25						
FITZ				LR	LR	00 11 50.0	
	comp=Z,379nm,20.8s,MS3.8,baz=270,slow=37						
STKA	**Stephens Creek**	**28.33**	**186**	*e*P	**P**	**00 03 13.5**	**-0.1**
	comp=Z,5.8nm,0.7s,mb4.3						
STKA	**Stephens Creek**	**28.33**	**186**	*e*P	**P**	**00 03 12.6**	**-1.0**
STKA	**Stephens Creek**	**28.33**	**186**	P	**P**	**00 03 13.5**	**-0.1**
	comp=Z,8.8nm,0.8s,mb4.5,baz=1.5,slow=7.8,SNR=7.7						
STKA				LR	LR	00 16 04.2	
	comp=Z,455nm,18.6s,MS4.1,baz=11,slow=40						
MBWA	**Marble Bar**	**29.97**	**232**	*e*P	**P**	**00 03 28.6**	**+0.4**
	comp=Z,14nm,1.1s,mb4.6						
FORT	**Forrest**	**31.33**	**208**	*e*P	**P**	**00 03 40.0**	**-0.2**
	comp=Z,21nm,0.6s,mb5.1						
MJAR	**Matsushiro Arr**	**40.35**	**352**	P	**P**	**00 04 54.7**	**-2.6**
	comp=Z,3.6nm,0.9s,mb4.1,baz=173,slow=7.5,SNR=8.9						
MAT	**Matsushiro**	**40.35**	**352**	P	**P**	**00 04 55.1**	**-2.2**
QIZ	**Qiongzhong**	**41.03**	**304**	P	**P**	**00 05 03.3**	**+0.1**
QIZ				S	**S**	**00 11 13.5**	**-1.0**
QIZ				AMB	AMB		
	comp=Z,6.0nm,1.2s,mb4.1						
QIZ				AMB	AMB		
	comp=Z,76nm,5.1s						
QIZ				LR	LR		
	comp=E,152nm,17.5s						
QIZ				LR	LR		
	comp=Z,260nm,21.2s,MS4.1						
NJ2	**Nanjing**	**43.12**	**327**	*e*P	**P**	**00 05 21.8**	**+1.7**
NJ2				AMB	AMB		
	comp=Z,40nm,1.0s,mb5.1						
KSRS	**Korea Array**	**43.69**	**341**	P	**P**	**00 05 22.8**	**-1.9**
	comp=Z,2.3nm,0.8s,mb4.0,baz=158,slow=9.6,SNR=6.1						
KSRS				LR	LR	00 20 53.8	
	comp=Z,208nm,19.6s,MS4.0,baz=185,slow=32						
PSI	**Prapat**	**46.23**	**277⇑**	*e*P	**P**	**00 05 44.6**	**-0.7**
RPZ	**Rata Peaks**	**46.28**	**154**	P	**P**	**00 05 46.8**	**+1.7**
	comp=Z,24nm,0.9s,mb5.1,baz=53,slow=3.1,SNR=4.8						
RPZ				LR	LR	00 23 00.6	
	comp=Z,434nm,19.7s,MS4.4,baz=355,slow=33						
GYA	**Guiyang**	**47.39**	**311**	*e*P	**P**	**00 05 55.5**	**+1.4**
GYA				AP	pP	00 06 06.0	+4.4
GYA				XP	sP	00 06 10.3	+5.8
GYA				PCP	PcP	00 07 26.4	+1.8
GYA				PP	PP	00 07 46.9	+1.3
GYA				SCP	ScP	00 11 16.3	-1.1
GYA				S	**S**	**00 12 46.8**	**-0.3**
GYA				XS	sS	00 13 04.0	+4.7
GYA				SCS	ScS	00 15 44.3	-2.8
GYA				SS	SS	00 16 08.8	-6.3
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.8						
GYA				AMB	AMB		
	comp=Z,70nm,4.9s						
GYA				LR	LR		
	comp=N,380nm,18.0s,MS4.6						
GYA				LR	LR		
	comp=E,460nm,17.4s,MS4.6						
GYA				LR	LR		
	comp=Z,370nm,18.2s,MS4.4						
CN2	**Changchun**	**50.23**	**342**	*e*P	**P**	**00 06 18.5**	**+2.9**
CHTO	**Chiang Mai**	**50.26**	**298**	*e*P	**P**	**00 06 17.1**	**+0.8**
YSS	**Yuzh-Sakhalins**	**50.32**	**358**	*e*P	**P**	**00 06 16.7**	**+0.5**
YSS				*e*	pP	00 06 21.8	-1.9
BJI	**Beijing**	**50.69**	**332**	P	**P**	**00 06 16.8**	**-2.4**
BJI				S	**S**	**00 13 35.3**	**+2.3**
BJI				AMB	AMB		
	comp=Z,6.0nm,0.8s,mb4.6						
BJI				LR	LR		
	comp=N,258nm,21.2s,MS4.3						
BJI				LR	LR		
	comp=E,129nm,21.2s,MS4.3						
BJI				LR	LR		
	comp=Z,247nm,22.4s,MS4.2						
CD2	**Chengdu**	**51.97**	**314**	P	**P**	**00 06 29.3**	**+0.3**
CD2				XP	sP	00 06 43.8	+4.4
CD2				PP	PP	00 08 28.1	+0.9
CD2				S	**S**	**00 13 49.0**	**-2.0**
CD2				SS	SS	00 17 24.1	-4.3
CD2				AMB	AMB		
	comp=Z,40nm,0.8s,mb5.4						
CD2				AMB	AMB		
	comp=Z,60nm,6.4s						
CD2				LR	LR		
	comp=N,150nm,12.4s						
CD2				LR	LR		
	comp=Z,200nm,13.4s,MS4.3						
HHC	**Hu-ho-hao-te**	**53.59**	**329**	*e*P	**P**	**00 06 44.1**	**+3.4**
HHC				AP	pP	00 06 53.3	+5.1
HHC				XP	sP	00 06 57.9	+6.7
HHC				PP	PP	00 08 48.4	+6.7
HHC				PCS	PcS	00 11 48.3	+2.2
HHC				S	**S**	**00 14 11.9**	**-0.8**
HHC				XS	sS	00 14 28.3	+3.2
HHC				SCS	ScS	00 16 30.3	+1.5
HHC				SS	SS	00 17 53.8	+0.2
HHC				AMB	AMB		
	comp=Z,13nm,0.7s,mb5.0						
HHC				AMB	AMB		
	comp=Z,132nm,6.3s						
HHC				LR	LR		
	comp=N,216nm,8.4s						
HHC				LR	LR		
	comp=E,231nm,12.2s						
HHC				LR	LR		
	comp=Z,221nm,22.8s						
KLR	**Kul'dur**	**53.77**	**349**	*e*P	**P**	**00 06 38.2**	**-3.6**
LZH	**Lanzhou**	**54.90**	**320**	*e*P	**P**	**00 06 51.6**	**+1.2**
LZH				AP	pP	00 07 03.0	+5.0
LZH				XP	sP	00 07 06.3	+5.4
LZH				AMB	AMB		
	comp=Z,21nm,1.4s,mb5.0						
LZH				AMB	AMB		
	comp=Z,52nm,7.5s						
LZH				LR	LR		
	comp=E,312nm,15.9s						
LZH				LR	LR		
	comp=Z,499nm,18.7s,MS4.6						
GTA	**Gaotai**	**59.44**	**321**	⇑P	**P**	**00 07 22.8**	**+0.4**
GTA				AP	pP	00 07 34.0	+4.0
GTA				XP	sP	00 07 37.6	+4.7
GTA				PP	PP	00 09 35.8	+1.9
GTA				S	**S**	**00 15 29.3**	**-1.0**
GTA				XS	sS	00 15 47.3	+4.5
GTA				SS	SS	00 19 27.4	+1.6
GTA				AMB	AMB		
	comp=Z,8.0nm,0.8s,mb4.8						
GTA				AMB	AMB		
	comp=Z,107nm,4.6s						
GTA				LR	LR		
	comp=N,100nm,14.4s,MS4.2						
GTA				LR	LR		
	comp=E,74nm,13.3s,MS4.2						
GTA				LR	LR		
	comp=Z,121nm,19.4s						
ULN	**Ulaanbaatar**	**60.90**	**332**	*e*P	**P**	**00 07 32.2**	**-0.1**
	comp=Z,3.5nm,0.7s,mb4.6						
ULN	**Ulaanbaatar**	**60.90**	**332‖**	*e*P	**P**	**00 07 32.1**	**-0.2**
SONM	**Songino Array**	**61.19**	**332**	P	**P**	**00 07 33.7**	**-0.5**
	comp=Z,1.8nm,0.8s,mb4.2,baz=141,slow=9.6,SNR=3.8						
SONM				LR	LR	00 32 39.1	
	comp=Z,172nm,19.6s,MS4.2,baz=233,slow=35						
MA2	**Magadan**	**63.11**	**3**	*e*P	**P**	**00 07 47.7**	**+0.8**
MA2	**Magadan**	**63.11**	**3**	*e*P	**P**	**00 07 48.5**	**+1.6**
MA2				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.9						
ZAK	**Zakamensk**	**64.43**	**332**	*e*P	**P**	**00 07 54.6**	**-1.2**
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.5						
TLY	**Talaya**	**65.16**	**333**	*e*P	**P**	**00 08 04.9**	**+4.4**
TLY	**Talaya**	**65.16**	**333**	*i* P	**P**	**00 08 04.2**	**+3.7**
PPT	**Papeete**	**65.75**	**108**	LR	LR	00 34 29.1	
	comp=Z,179nm,18.9s,MS4.3,baz=352,slow=34						
BOD	**Bodaibo**	**65.98**	**343**	*e*P	**P**	**00 08 03.7**	**-1.9**
BOD				*e*		00 17 18.8	
BOD				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.5						
MOY	**Mondy**	**66.37**	**332**	*e*P	**P**	**00 08 12.2**	**+3.9**
YAK	**Yakutsk**	**66.41**	**352⇑**	*e*P	**P**	**00 08 10.7**	**+2.3**
YAK				pmax	pmax		
	comp=Z,19nm,0.5s,mb5.4						
SEY	**Seymchan**	**66.56**	**4⇑**	*e*P	**P**	**00 08 10.5**	**+1.2**
WMQ	**Urumqi**	**69.48**	**320**	*e*P	**P**	**00 08 29.0**	**+0.9**
WMQ				AP	pP	00 08 39.5	+3.7
WMQ				XP	sP	00 08 43.0	+4.3
WMQ				PCP	PcP	00 08 53.0	+1.8
WMQ				*e*S	S	00 17 32.0	-2.3
WMQ				AMB	AMB		
	comp=Z,16nm,1.0s,mb4.9						
WMQ				AMB	AMB		
	comp=Z,167nm,5.0s						
WMQ				LR	LR		
	comp=N,145nm,25.7s,MS4.3						
WMQ				LR	LR		
	comp=E,165nm,22.4s,MS4.3						
WMQ				LR	LR		
	comp=Z,163nm,19.2s,MS4.3						
BILL	**Bilibino**	**73.01**	**8⇑**	*e*P	**P**	**00 08 48.6**	**-0.3**
BILL				pmax	pmax		
	comp=Z,6.0nm,1.2s,mb4.4						
MK31	**Makanchi Array**	**74.19**	**321**	*e*P	**P**	**00 08 56.0**	**-0.3**
MKAR	**Makanchi Array**	**74.19**	**321⇑**	*e*P	**P**	**00 08 58.2**	**+1.9**
MKAR	**Makanchi Array**	**74.19**	**321**	P	**P**	**00 08 55.1**	**-1.2**
	comp=Z,4.2nm,0.9s,mb4.4,baz=101,slow=8.4,SNR=18						
MKAR				LR	LR	00 39 35.6	
	comp=Z,57nm,19.2s,MS3.9,baz=273,slow=34						
VNDA	**Vanda**	**74.48**	**176**	P	**P**	**00 08 59.3**	**+1.8**
	comp=Z,2.0nm,0.9s,mb4.0,baz=311,slow=7.1,SNR=6.2						
VNDA				LR	LR	00 39 06.8	
	comp=Z,145nm,19.7s,MS4.3,baz=82,slow=34						
ZAA0	**Zalesovo Array**	**75.76**	**328**	*e*P	**P**	**00 09 04.9**	**-0.3**
ZALV	**Zalesovo Beam**	**75.76**	**328**	P	**P**	**00 09 04.8**	**-0.4**
	comp=Z,1.5nm,0.6s,mb4.1,baz=104,slow=5.6,SNR=8.8						
ZALV				LR	LR	00 41 15.2	
	comp=Z,166nm,20.7s,MS4.3,baz=197,slow=35						
ZAL	**Zalesovo**	**75.77**	**328**	P	**P**	**00 09 04.8**	**-0.4**
TIXI	**Tiksi**	**75.77**	**355**	*e*P	**P**	**00 09 03.7**	**-1.2**
TIXI	**Tiksi**	**75.77**	**355⇑**	*e*P	**P**	**00 09 04.8**	**-0.1**
TIXI				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3						
TNA	**Tin City**	**76.97**	**18**	*e*P	**P**	**00 09 12.3**	**+0.5**
NVS	**Novosibirsk**	**76.99**	**329**	*e*P	**P**	**00 09 11.8**	**-0.3**
TKM2	**Tokmak 2**	**77.34**	**315**	*e*P	**P**	**00 09 17.9**	**+3.5**
	comp=Z,6.4nm,1.0s,mb4.5						
TKM2	**Tokmak 2**	**77.34**	**315**	*e*P	**P**	**00 09 17.9**	**+3.5**
TKM2				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.5						
UCH	**Uchtor**	**77.91**	**314**	*e*P	**P**	**00 09 18.0**	**+0.4**
	comp=Z,15nm,1.0s,mb4.9						
KURK	**Kurchatov**	**77.92**	**324**	*e*P	**P**	**00 09 16.9**	**-0.5**
	comp=Z,8.1nm,1.0s,mb4.6						
KURK	**Kurchatov**	**77.92**	**324⇑**	*e*P	**P**	**00 09 19.2**	**+1.8**
AML	**Almayashu**	**78.47**	**314**	*e*P	**P**	**00 09 21.0**	**+0.3**
	comp=Z,20nm,1.0s,mb5.0						
EKS2	**Erkin-Say**	**78.55**	**315**	*e*P	**P**	**00 09 20.2**	**-0.9**
	comp=Z,11nm,1.0s,mb4.7						
SVW2	**Sparrevohn**	**78.98**	**25**	*e*P	**P**	**00 09 23.0**	**-0.1**
TTA	**Tatalina**	**79.70**	**24**	*e*P	**P**	**00 09 23.7**	**-3.2**
	comp=Z,14nm,1.3s,mb4.7						
TTA	**Tatalina**	**79.70**	**24**	*e

DZM	**Mont Dzumac**	**3.03**	**244**	*e*P	**Pn**	**00 06 07.2**	**-0.2**
DZM				*e*S	**Sn**	**00 06 42.7**	**+0.3**
STKA	**Stephens Creek**	**27.18**	**240**	P	**P**	**00 11 00.6**	**-0.3**
STKA	**Stephens Creek**	**27.18**	**240**	P	**P**	**00 11 00.6**	**-0.3**
1.0nm,0.6s,mb3.5,baz=60,slow=14,SNR=2.7							
WRAB	**Tennant Creek**	**32.82**	**265**	*e*P	**P**	**00 11 50.0**	**-0.8**
1.1nm,0.8s,mb3.8							
WRA	**Warramunga Arr**	**32.83**	**265**	P	**P**	**00 11 50.8**	**-0.1**
0.4nm,0.3s,mb3.8,baz=90,slow=8.3,SNR=5.1							
ASAR	**Alice Springs**	**32.92**	**258**	P	**P**	**00 11 52.9**	**+1.1**
1.0nm,0.4s,mb4.1,baz=82,slow=8.7,SNR=18							
FITZ	**Fitzroy Crossi**	**41.25**	**266**	P	**P**	**00 13 01.7**	**-0.7**
1.7nm,0.8s,mb3.7,baz=80,slow=9.7,SNR=3.9							
MJAR	**Matsushiro Arr**	**64.15**	**332**	P	**P**	**00 15 50.9**	**-0.3**
2.0nm,0.8s,mb4.2,baz=150,slow=6.8,SNR=7.4							
MAW	**Mawson**	**77.08**	**202**	*e*P	**P**	**00 17 09.6**	**+0.1**
2.8nm,0.9s,mb4.2							
VNA3	**Neumayer Olymp**	**88.24**	**180**	*e*	**P**	**00 18 07.0**	**-0.4**
VNA3				*e*		00 18 10.9	
SONM	**Songino Array**	**88.51**	**323**	P	**P**	**00 18 09.9**	**+1.0**
1.3nm,0.8s,mb4.3,baz=145,slow=5.4,SNR=5.5							
VNA2	**Neumayer--Watz**	**88.53**	**181**	*e*	**P**	**00 18 09.0**	**+0.2**
baz=188,slow=5.0							
VNA2				*e*		00 18 12.6	
VNA1	**Neumayer--Stat**	**88.82**	**181**	*e*	**P**	**00 18 10.3**	**+0.1**
VNA1				*e*		00 18 14.0	
ARCES	**ARCESS Array B**	**126.56**	**345**	PKP	PKPdf	00 24 16.6	-2.2
4.1nm,0.9s,baz=48,slow=1.8,SNR=11							
FINES	**FINESS Array B**	**132.04**	**337**	PKP	PKPdf	00 24 28.2	-1.3
0.3nm,0.3s,baz=92,slow=3.0,SNR=12							
DPC	**Dobruska-Polom**	**143.62**	**331**	*e*PKP	PKPdf	00 24 48.6	-2.4
UPC	**Upice**	**143.65**	**331**	*e*PKP	PKPdf	00 24 46.8	-4.3
PVCC	**Panska Ves**	**144.27**	**332**	*e*PKP	PKPdf	00 24 50.6	-1.6
BRG	**Berggiesshubel**	**144.28**	**333**	*e*PKPbc	PKPdf	00 24 50.5	-1.7
BRG	**Berggiesshubel**	**144.28**	**333**	*i* PKP	PKPdf	00 24 50.4	-1.8
9.2nm,0.9s							
BRG				*e*		00 25 01.9	
3.2nm,0.8s							
CLL	**Collm**	**144.34**	**334**	*e*PKPbc	PKPdf	00 24 50.5	-1.8
CLL	**Collm**	**144.34**	**334**⇑	*i*PKPdf	PKPdf	00 24 50.4	-1.9
comp=Z,7.0nm,0.6s							
CLL				*i* pPKPdf	pPKPdf	00 25 01.7	-5.5
comp=Z,4.0nm,1.1s							
MODS	**Modra-Piesok**	**144.50**	**328**	*e*PKP	PKPdf	00 24 52.4	-0.2
PRU	**Pruhonice**	**144.68**	**332**	*e*PKP	PKPdf	00 24 51.8	-1.1
PRU				*e*pPKP	pPKPdf	00 25 03.0	-4.8
ZST	**Bratislava**	**144.70**	**327**	*e*PKP	PKPdf	00 24 52.6	-0.4
TREC	**Trest**	**144.74**	**330**	*e*PKP	PKPdf	00 24 52.1	-0.9
CLZ	**Clausthal**	**144.93**	**337**	*e*PKPbc	PKPdf	00 24 52.8	-0.5
TANN	**Tannenbergstha**	**145.25**	**334**	*e*PKPbc	PKPbc	00 24 53.8	+0.2
NKC	**Novy Kostel**	**145.39**	**334**	*e*PKP	PKPdf	00 24 54.4	+0.3
MOX	**Moxa**	**145.41**	**335**	*e*PKP	PKPdf	00 24 55.0	+0.9
IBBN	**Ibbenburen**	**145.43**	**340**	*e*PKPbc	PKPbc	00 24 53.9	-0.3
MANZ	**Manzenberg**	**145.72**	**334**	*e*PKPbc	PKPbc	00 24 55.4	+0.2
KHC	**Kasperske Hory**	**145.73**	**331**	*e*PKP	PKPdf	00 24 55.1	+0.4
KHC				*e*pPKP	pPKPdf	00 25 06.5	-3.2
ROTZ	**Rotzenmuhle**	**145.85**	**333**	*e*PKPbc	PKPbc	00 24 56.5	+0.9
GEC2	**GERESS Array S**	**145.88**	**331**	*e*PKPbc	PKPbc	00 24 55.9	+0.2
GERES	**GERESS Array B**	**145.88**	**331**	PKPbc	PKPbc	00 24 55.8	+0.1
comp=Z,2.7nm,0.5s,baz=30,slow=4.4,SNR=33							
UBBA	**Unterbreizbach**	**145.90**	**337**	*e*PKPbc	PKPbc	00 24 55.7	0.0
WET	**Wettzell**	**146.03**	**332**	*e*PKPbc	PKPbc	00 24 56.3	+0.2
GRF	**Grafenberg Arr**	**146.31**	**334**	*e*PKPbc	PKPbc	00 24 58.1	+1.1
CRES	**Cresnjev**	**147.11**	**326**	*e*PKPbc	PKPbc	00 24 59.4	+0.1
LJU	**Ljubljana**	**147.45**	**327**	*i* PKPbc	PKPbc	00 25 00.5	+0.2
FUR	**Furstenfeldbru**	**147.47**	**332**	*e*PKPbc	PKPab	00 25 02.8	+0.4
GORS	**Gorjuse**	**147.53**	**327**	*i* PKPbc	PKPbc	00 24 59.9	-0.6
CEY	**Cerknica**	**147.71**	**326**	*i* PKPbc	PKPbc	00 25 00.8	-0.2
GIVF	**Givet**	**148.26**	**341**	*e*PKP1	PKPbc	00 25 01.9	-0.4
BAIF	**Baives**	**148.49**	**342**	*e*PKP1	PKPbc	00 25 02.5	-0.4
BFO	**Black Forest**	**148.55**	**335**	*e*PKPbc	PKPab	00 25 07.0	+0.3
CDF	**Champ du Feu**	**148.88**	**337**	*e*PKP1	PKPbc	00 25 03.5	-0.5
HINF	**Hinteralfeld**	**149.54**	**336**	*e*PKP1	PKPbc	00 25 05.0	-0.7
HAU	**Haudompre**	**149.57**	**337**	*e*PKP1	PKPbc	00 25 05.2	-0.5
comp=Z,4.8nm,0.6s							
MEZF	**Maizieres J'vi**	**149.59**	**339**	*e*PKP1	PKPbc	00 25 05.7	-0.1
comp=Z,5.0nm,0.6s							
CABF	**La Chapelle**	**150.83**	**336**	*e*PKP1	PKPbc	00 25 08.8	0.0
comp=Z,6.7nm,0.6s							
FLN	**La Foliniere**	**150.90**	**346**	*e*PKP1	PKPbc	00 25 08.0	-0.9
comp=Z,16nm,0.6s							
LDF	**La Druitiere**	**150.98**	**346**	*e*PKP1	PKPbc	00 25 08.1	-1.0
comp=Z,7.1nm,0.6s							
LOR	**Lormes**	**151.06**	**339**	*e*PKP1	PKPbc	00 25 08.8	-0.5
comp=Z,4.2nm,0.5s							
GRR	**Gorron**	**151.34**	**346**	*e*PKP1	PKPbc	00 25 09.2	-0.7
comp=Z,8.8nm,0.5s							
SSF	**Saint Saulge**	**151.36**	**340**	*e*PKP1	PKPbc	00 25 09.5	-0.5
comp=Z,9.0nm,0.9s							
LPL	**La Plagne**	**151.48**	**334**	*e*PKP1	PKPbc	00 25 10.4	+0.1
comp=Z,4.7nm,0.5s							
LPG	**La Plagne**	**151.49**	**334**	*e*PKP1	PKPbc	00 25 10.5	+0.1
comp=Z,6.1nm,0.6s							
SGMF	**Saint Gilles**	**151.81**	**349**	*e*PKP1	PKPbc	00 25 10.0	-1.0
comp=Z,8.6nm,0.7s							
ROSF	**Rostrenen**	**151.86**	**350**	*e*PKP1	PKPbc	00 25 10.0	-1.1
comp=Z,2.5nm,0.4s							
BGF	**Bois d'Agland**	**152.02**	**340**	*e*PKP1	PKPbc	00 25 10.9	-0.6
comp=Z,6.5nm,0.6s							
MBDF	**Montbardon**	**152.10**	**333**	*e*PKP1	PKPbc	00 25 11.7	-0.1
QUIF	**Quistinic**	**152.25**	**349**	*e*PKP1	PKPbc	00 25 10.7	-1.3
comp=Z,2.8nm,0.5s							
ORIF	**Oris-en-Rattie**	**152.31**	**334**	*e*PKP1	PKPbc	00 25 11.8	-0.5
comp=Z,6.5nm,0.6s							
TCF	**Toulx Ste Croi**	**152.46**	**341**	*e*PKP1	PKPbc	00 25 11.9	-0.6
MFF	**Saint Martin d**	**152.84**	**344**	*e*PKP1	PKPbc	00 25 12.5	-0.9
comp=Z,5.2nm,0.7s							

IDC 15 00:31:05.9±1.4, 690S×15588E, h0km, mb3.7/5, mb1 3.8/6, mb1mx3.7/15, mbtmp3.8/6, ML4.3/1, MS2.7/1, Ms1 2.7/1, ms1mx2.5/19, Error ellipse: s-maj=35.6km s-min=29.5km az=97.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.75**	**122**	Pn	Pn	00 32 18.3	-0.6
15nm,0.3s,baz=275,slow=7.6,SNR=3.9							
HNR				Sn	Sn	00 33 06.5	-8.2
24nm,0.3s,baz=78,slow=14,SNR=4.2							
HNR				LR	LR	00 33 11.2	
comp=Z,85nm,20.6s,baz=189,slow=26							
WRA	**Warramunga Arr**	**24.59**	**236**	P	P	00 36 26.7	-1.2
1.3nm,0.6s,baz=62,slow=9.4,SNR=4.1							
ASAR	**Alice Springs**	**26.89**	**229**	P	P	00 36 50.1	+1.3
0.2nm,0.7s,baz=60,slow=9.1,SNR=2.9							
SONM	**Songino Array**	**69.73**	**327**	P	P	00 42 17.4	-0.4
0.9nm,0.8s,baz=104,slow=6.3,SNR=4.2							
MKAR	**Makanchi Array**	**83.91**	**318**	P	P	00 43 38.5	+0.7
0.6nm,0.5s,baz=97,slow=6.7,SNR=9.7							
ZALV	**Zalesovo Beam**	**84.59**	**326**	P	P	00 43 41.3	+0.2
0.7nm,0.6s,baz=123,slow=5.5,SNR=4.4							

*ISCJB **15** 00:52:10.9±0.3, 4059N±002×2838E±002, h5km, Error ellipse: s-maj=3.4km s-min=2.6km az=166.9*
*ISK **15** 00:52:10.4, 4057N×2838E, h8km, MD3.0*
*CSEM **15** 00:52:10.0±0.1, 4059N×2837E, h5km, MD3.0, Error ellipse: s-maj=1.8km s-min=1.2km az=172.0*
*DDA **15** 00:52:11.6, 4058N×2835E, h5km±3km, Md3.0*
*ATH **15** 00:52:28.4, 40.10N×2569E, h10km, MD3.4/3*

ISC 15 00:52:11.2±0.4, 4058N±002×2839E±002, h1km±4km, n35, σ0°98/50, 1C, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KCT	**Karacabey**	**0.32**	**184**	PG	**Pg**	**00 52 17.1**	**-0.1**
KCT				*e*SG	**Sg**	**00 52 21.5**	**+0.2**
BNT	**Bandirma**	**0.42**	**238**	PG	**Pg**	**00 52 19.2**	**0.0**
BNT				*e*SG	**Sg**	**00 52 25.6**	**+0.9**
ELBA	**Catalca**	**0.57**	**3**	*i* P	**Pg**	**00 52 22.2**	**+0.2**
ELBA				*i* S	**Sg**	**00 52 29.6**	**+0.2**
ELBA	**Catalca**	**0.57**	**3**	*i* P	**Pg**	**00 52 22.2**	**+0.2**
ELBA				*i* S	**Sg**	**00 52 29.6**	**+0.2**
CTT	**Catalca**	**0.57**	**3**	PG	**Pg**	**00 52 22.4**	**+0.4**
MRMT	**Marmara Adasi**	**0.60**	**272**	PG	**Pg**	**00 52 22.0**	**-0.8**
MRMT				*e*SG	**Sg**	**00 52 31.9**	**+1.4**
GEMT	**Gemlik**	**0.63**	**103**	PG	**Pg**	**00 52 23.0**	**-0.2**
GEMT				*e*SG	**Sg**	**00 52 32.7**	**+1.3**
ISK	**Istanbul-Kandi**	**0.70**	**46**	PG	**Pg**	**00 52 24.5**	**-0.1**
YLV	**Yalova**	**0.75**	**91**	PG	**Pg**	**00 52 24.7**	**-0.8**
KLYT	**Kilyos**	**0.83**	**36**	*e*PG	**Pg**	**00 52 27.9**	**+0.7**
BTOK	**Tokmak**	**0.86**	**199**	*i* P	**Pg**	**00 52 27.0**	**-0.7**
BTOK				*i* S	**Sg**	**00 52 39.1**	**+0.2**
IZI	**Iznik**	**0.86**	**106**	*e*PG	**Pg**	**00 52 27.4**	**-0.3**
MFT	**Murefte**	**0.87**	**284**	*e*PG	**Pg**	**00 52 26.8**	**-1.0**
SART	**Tekirdag**	**0.93**	**277**	*i* P	**Pg**	**00 52 28.1**	**-0.8**
SART				*i* S	**Sg**	**00 52 42.0**	**+1.1**
DST	**Dursunbey**	**0.99**	**169**	*e*PG	**Pg**	**00 52 30.2**	**+0.1**
HRT	**Hereke**	**1.00**	**76**	*e*PG	**Pg**	**00 52 29.8**	**-0.6**
ADVT	**Abdulvahap**	**1.04**	**98**	*e*PG	**Pg**	**00 52 30.8**	**-0.3**
LPK	**Lapseki**	**1.26**	**261**	*e*PN	**Pn**	**00 52 34.5**	**-1.4**
GPA	**Golpazari**	**1.50**	**101**	*e*PN	**Pn**	**00 52 37.8**	**-1.4**
GULT	**Gulveren**	**1.63**	**95**	*e*PN	**Pn**	**00 52 40.5**	**-0.5**
GDZ	**Gediz**	**1.71**	**150**	*i* P	**Pn**	**00 52 43.2**	**+1.1**
GDZ				*i* S	**Sn**	**00 53 03.4**	**-1.2**
BORA	**Eskisehir**	**1.73**	**113**	*e*P	**Pn**	**00 52 41.1**	**-1.2**
BORA				*i* S	**Sn**	**00 53 06.6**	**+1.5**
EZN	**Ezine**	**1.75**	**245**	*e*PN	**Pn**	**00 52 41.9**	**-0.8**
AKHS	**Akhisar**	**1.76**	**195**	*e*P	**Pn**	**00 52 42.0**	**-0.8**
AKHS	**Akhisar**	**1.76**	**195**	*i* S	**Sn**	**00 53 07.1**	**+1.3**
AKHS	**Akhisar**	**1.76**	**195**	*e*P	**Pn**	**00 52 42.0**	**-0.8**
AKHS				*i* S	**Sn**	**00 53 07.1**	**+1.3**
AYVA	**Ayvalik**	**1.82**	**226**	*e*P	**Pn**	**00 52 45.7**	**+2.0**
AYVA				*i* S	**Sn**	**00 53 05.1**	**-2.3**
HENT	**Hendek**	**1.93**	**82**	*i* P	**Pn**	**00 52 45.6**	**+0.5**
HENT				*i* S	**Sn**	**00 53 11.2**	**+1.3**
BOZC	**Bozcaada**	**1.93**	**248**	*i* P	**Pn**	**00 52 46.0**	**+0.8**
BOZC				*i* S	**Sn**	**00 53 11.9**	**+1.7**
ALT	**Altintas**	**2.02**	**138**	*e*PN	**Pn**	**00 52 46.0**	**-0.4**
PRK	**Paraskevi**	**2.10**	**231**⇑	*i*PB	**Pn**	**00 52 46.6**	**-0.9**
ESKT	**Eskisehir**	**2.17**	**118**	*e*P	**Pn**	**00 52 50.3**	**+1.9**
ESKT				*i* S	**Sn**	**00 53 20.7**	**+4.8**
ESKT	**Eskisehir**	**2.17**	**118**	*e*Pn	**Pn**	**00 52 48.3**	**-0.1**
RDO	**Rodhopi**	**2.23**	**286**	*e*PB	**Pn**	**00 52 48.3**	**-1.0**
NVR	**Nevrokopi**	**3.51**	**284**	*e*PN	**Pn**	**00 53 02.6**	**-4.3**

*ISCJB **15** 00:54:43.9±2.8, 1843N±009×1464E±02, h66km±26km, mb4.0/17, Error ellipse: s-maj=25.1km s-min=14.5km az=171.0*
*NEIC **15** 00:54:45.5±1.5, 1840N×14644E, h67km±14km, mb4.3/2, Error ellipse: s-maj=15.0km s-min=8.8km az=84.0*
*IDC **15** 00:54:47.4±3.7, 1843N×14641E, h83km±34km, mb3.8/15, mb1 4.0/17, mb1mx3.9/21, mbtmp3.8/17, MS3.6/10, Ms1 3.6/10, ms1mx3.4/31, Error ellipse: s-maj=25.3km s-min=13.9km az=82.0*

ISC 15 00:54:43.9±2.5, 1843N±008×1464E±02, h51km±23km, n28, σ0°80/22, mb4.1/17, MS3.6/9, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**5.04**	**198**	*e*Pn	**Pn**	**00 55 57.9**	**+1.0**
59nm,0.6s							
GUMO				*e*Sn	**Sn**	**00 56 50.3**	**-3.6**
GUMO	**Guam**	**5.04**	**198**	P	**Pn**	**00 56 00.9**	**+3.9**
14nm,0.3s,baz=55,slow=2.9,SNR=7.1							
GUMO				LR	LR	00 57 59.8	
comp=Z,244nm,18.5s,baz=360,slow=38							
MJAR	**Matsushiro Arr**	**19.45**	**340**	P	**Pn**	**00 59 07.2**	**-0.6**
0.2nm,0.3s,baz=166,slow=11,SNR=3.6							
JNU	**Nakatsue**	**20.22**	**319**	LR	LR	01 06 07.0	
comp=Z,59nm,18.3s,MS3.0,baz=62,slow=34							
KSRS	**Korea Array**	**24.95**	**323**	P	**P**	**01 00 02.1**	**-0.4**
0.9nm,0.6s,mb3.5,baz=138,slow=9.8,SNR=6.7							
KSRS				LR	LR	01 08 15.1	
comp=Z,79nm,21.5s,MS3.2,baz=130,slow=32							
ASAJ	**Asahikawa**	**25.82**	**354**	LR	LR	01 08 34.6	
comp=Z,98nm,21.1s,MS3.3,baz=235,slow=32							
HNR	**Honiara**	**30.73**	**153**	LR	LR	01 12 39.1	
comp=Z,155nm,18.7s,MS3.7,baz=352,slow=35							
CTA	**Charters Tower**	**38.27**	**180**	LR	LR	01 15 04.5	
comp=Z,102nm,19.8s,MS3.6,baz=228,slow=32							
WRA	**Warramunga Arr**	**39.93**	**198**	P	**P**	**01 02 14.0**	**+0.7**
4.3nm,0.8s,mb4.2,baz=17,slow=9.1,SNR=7.8							
ASAR	**Alice Springs**	**43.59**	**197**	P	**P**	**01 02 43.8**	**+0.7**
0.6nm,0.5s,mb3.6,baz=18,slow=13,SNR=16							
SONM	**Songino Array**	**43.79**	**321**	P	**P**	**01 02 45.7**	**+1.1**
1.0nm,0.6s,mb3.7,baz=144,slow=10,SNR=7.5							
STKA	**Stephens Creek**	**50.23**	**185**	P	**P**	**01 03 33.6**	**-1.3**
1.4nm,0.3s,mb4.5,baz=348,slow=9.3,SNR=6.1							
STKA				LR	LR	01 25 08.3	
comp=Z,120nm,21.3s,MS3.9,baz=21,slow=36							
ZALV	**Zalesovo Beam**	**58.65**	**322**	P	**P**	**01 04 36.0**	**+0.1**
1.7nm,0.6s,mb4.2,baz=102,slow=7.4,SNR=9.2							
ZALV				LR	LR	01 29 26.3	
comp=Z,25nm,18.4s,MS3.4,baz=355,slow=36							
MKAR	**Makanchi Array**	**59.15**	**314**	P	**P**	**01 04 39.9**	**+0.5**
0.4nm,0.5s,mb3.7,baz=92,slow=8.5,SNR=4.9							
MKAR				LR	LR	01 30 07.1	
comp=Z,48nm,18.4s,MS3.7,baz=73,slow=36							
SLKM	**Skilak Lake**	**61.07**	**30**	P	**P**	**01 04 52.7**	**+0.4**
AML	**Almayashu**	**65.19**	**309**	P	**P**	**01 05 21.1**	**+1.1**
0.9nm,0.4s,mb4.2							
BRVK	**Borovoye**	**67.19**	**321**	*e*P	**P**	**01 05 32.0**	**-0.6**
4.0nm,0.6s,mb4.6							
INK	**Inuvik**	**69.35**	**23**	P	**P**	**01 05 45.6**	**-0.2**
1.1nm,0.6s,mb3.9,baz=246,slow=7.1,SNR=6.6							
PPT	**Papeete**	**72.37**	**116**	LR	LR	01 36 56.1	
comp=Z,369nm,18.8s,MS4.7,baz=271,slow=35							
YKA	**Yellowknife Ar**	**77.90**	**28**	P	**P**	**01 06 35.6**	**-0.5**
1.3nm,0.7s,mb4.0,baz=288,slow=5.4,SNR=34							
NVAR	**Mina Array Bea**	**82.76**	**52**	P	**P**	**01 07 03.4**	**+0.7**
1.5nm,0.8s,mb4.1,baz=264,slow=4.3,SNR=10							
ARCES	**ARCESS Array B**	**82.96**	**342**	P	**P**	**01 07 03.5**	**+0.3**
8.3nm,0.6s,mb4.9,baz=64,slow=7.0,SNR=46							
FINES	**FINESS Array B**	**87.42**	**335**	P	**P**	**01 07 24.2**	**-1.4**
2.2nm,0.5s,mb4.6,baz=67,slow=5.5,SNR=41							
PDAR	**Pinedale Array**	**87.52**	**46**	P	**P**	**01 07 26.5**	**+0.1**
0.4nm,0.8s,mb3.7,baz=288,slow=6.6,SNR=3.0							
ULM	**Lac du Bonnet**	**92.43**	**35**	P	**P**	**01 07 49.6**	**+0.4**
1.4nm,1.0s,mb4.2,baz=311,slow=5.6,SNR=3.3							
NOA	**NORSAR Array B**	**93.07**	**340**	P	**P**	**01 07 50.8**	**-1.1**
0.7nm,0.7s,mb4.2,baz=45,slow=4.6,SNR=3.4							
TORD	**Torodi Ar. Bea**	**133.16**	**310**	PKP	PKPdf	01 13 54.6	-0.3
0.2nm,0.4s,baz=38,slow=1.1,SNR=7.4							
LPAZ	**La Paz**	**146.97**	**92**	PKPbc	PKPbc	01 14 22.5	+0.7
1.4nm,0.7s,baz=360,slow=4.9,SNR=6.1							

CASC 15 01:08:41.4±3.3, 1266N×8785W, h62km±69km, MD3.5, ML3.2, 2C-1D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNCH	**Conchagua**	**0.62**	**1**	*e*P	x	01 09 25.0	
CNCH				*e*S	x	01 09 36.6	
BLLM	**Bellamira**	**0.87**	**334**	*e*P	x	01 09 27.6	
BLLM				*e*S	x	01 09 41.4	
VSM	**San Miguel**	**0.87**	**332**	*e*P	x	01 09 27.6	
TEL3	**Telica 3**	**0.98**	**95**	*e*P	Pn	01 08 59.5	+0.2
TEL3				*e*S	Sn	01 09 15.5	+2.9
TELN	**Telica**	**0.99**	**93**	*e*P	Pn	01 08 59.8	+0.3
TELN				*e*S	Sn	01 09 12.7	-0.1
CAHU	**Cacacuatique**	**1.16**	**342**	*e*P	x	01 09 32.6	
CAHU				*e*S	x	01 09 49.5	
MOMJ	**Momotombo**	**1.30**	**101**	*e*P	Pn	01 09 03.3	-0.2
MOMJ				*e*S	Sn	01 09 20.2	+0.2
COPN	**Copaltepe**	**1.31**	**111**	*e*P	Pn	01 09 03.0	-0.7
COPN				*e*S	Sn	01 09 20.3	-0.1
SNVI	**San Vicente**	**1.35**	**315**	*e*P	x	01 09 33.2	
SNVI				*e*S	x	01 09 51.0	
CSAN		**1.47**	**109**	*e*P	Pn	01 09 05.8	+0.1
CSAN				*e*S	Sn	01 09 24.6	+0.6
LCBS	**La Ceiba**	**1.48**	**312**⇑	*e*P	x	01 09 35.1	
LCBS				*e*S	x	01 09 53.9	
LFRS	**El Faro**	**1.52**	**309**	*e*P	x	01 09 35.4	
LFRS				*e*S	x	01 09 54.6	
XAVN	**Gruta Xavier**	**1.57**	**109**	*e*P	Pn	01 09 07.2	+0.1
XAVN				*e*S	Sn	01 09 26.6	+0.2
LBRS	**Las Brisas**	**1.58**	**313**	*e*P	x	01 09 37.0	
LBRS				*e*S	x	01 09 55.7	
TISN	**Laguna Tiscapa**	**1.62**	**108**	*e*P	Pn	01 09 08.3	+0.5
MGAN	**Managua**	**1.64**	**108**	*e*P	Pn	01 09 07.8	-0.2
MGAN				*e*S	Sn	01 09 28.0	-0.2
comp=N,294nm,0.4s							
HUEN		**1.67**	**101**⇑	*e*P	Pn	01 09 08.4	0.0
TICN	**Ticuantepe**	**1.70**	**111**⇓	*e*P	Pn	01 09 08.8	0.0
TICN				*e*S	Sn	01 09 29.3	-0.2
BOQS	**Boqueron**	**1.76**	**308**	*e*P	x	01 09 39.1	
BOQS				*e*S	x	01 10 01.3	
APON	**Apoyo**	**1.89**	**113**	*e*P	Pn	01 09 11.3	-0.1
SBLS	**San Blas**	**2.09**	**304**	*e*P	x	01 09 43.6	
SBLS				*e*S	x	01 10 08.8	
SSNN	**San Juan del S**	**2.38**	**125**	*e*P	Pn	01 09 19.1	+1.0
CONN	**Concepcion**	**2.43**	**116**	*e*P	Pn	01 09 19.5	+0.8
LCR2	**La Lucha 2**	**4.75**	**127**	*e*P	Pn	01 09 54.1	+3.5
URSC	**Urasca**	**4.88**	**125**	*e*P	Pn	01 09 54.1	+1.8
BAR1		**5.60**	**127**	*e*P	Pn	01 10 04.0	+1.8
CHI2		**16.05**	**119**	*e*P		01 08 57.6	

*ISCJB **15** 01:12:30.6±0.4, 4139N±002×1955E±002, h1km±3km, Error ellipse: s-maj=3.1km s-min=2.5km az=28.7*
*SKO **15** 01:12:30.6, 4145N×1948E, h10km*
*CSEM **15** 01:12:32.4±0.1, 4147N×1970E, h20km, ML3.3, Error ellipse: s-maj=1.4km s-min=1.2km az=19.0*
*TIR **15** 01:12:32.2±2.1, 4145N×1962E, h27km±9km, ML2.6*
*ROM **15** 01:12:32.1±0.1, 4142N×1955E, h10km, Ml2.9/6, Error ellipse: s-maj=3.4km s-min=1.1km az=5.0*
*NEIC **15** 01:12:33.9, 4156N×1963E, h11km, ML2.8(PDG), After PDG.*
*PDG **15** 01:12:33.9±0.3, 4156N×1963E, h11km±1km, ML2.8/10, Error ellipse: s-maj=1.4km s-min=1.8km az=0.0*
*THE **15** 01:12:34.5, 4139N×1976E, h10km, ML3.3*
*BEO **15** 01:12:36.3±5.2, 4175N×1982E*

ISC 15 01:12:31.5±0.4, 4138N±002×1955E±002, h3km±3km, n91, σ1°03/129, 13C-11D, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIR	**Tirane**	**0.24**	**98**	*e*Pg	**Pg**	**01 12 37.2**	**+1.2**
TIR	**Tirane**	**0.24**	**98**	Pg	**Pg**	**01 12 37.7**	**+1.6**
TIR				Sg	**Sg**	**01 12 42.1**	**+2.9**
TIR	**Tirane**	**0.24**	**98**	*e*Pg	**Pg**	**01 12 37.2**	**+1.1**
TIR				Sg	**Sg**	**01 12 42.1**	**+2.9**
QSH	**Qafa e Shtames**	**0.30**	**62**	*e*PG	**Pg**	**01 12 40.0**	**+2.7**
QSH				*i* SG	**Sg**	**01 12 44.0**	**+2.8**
ULC	**Ulcinj**	**0.62**	**339**⇑	*i*Pg	**Pg**	**01 12 43.3**	**-0.2**
ULC				*e*Sg	**Sg**	**01 12 52.0**	**+0.4**
ULC	**Ulcinj**	**0.62**	**339**	*i* PG	**Pg**	**01 12 43.5**	**0.0**
ULC				*i* SG	**Sg**	**01 12 52.0**	**+0.4**
SDA	**Shkodra**	**0.67**	**356**	*e*PG	**Pg**	**01 12 43.7**	**-0.7**
SDA				*i* SG	**Sg**	**01 12 54.1**	**+1.0**
PUK	**Puka**	**0.71**	**21**	*e*PG	**Pg**	**01 12 43.8**	**-1.3**
PUK				*i* SG	**Sg**	**01 12 54.9**	**+0.6**
PHP	**Peshkopia**	**0.73**	**65**	*e*PG	**Pg**	**01 12 44.2**	**-1.4**
PHP				*i* SG	**Sg**	**01 12 55.3**	**+0.3**
OHR	**Ohrid**	**0.98**	**106**	*e*Pg	**Pg**	**01 12 49.9**	**-0.4**
OHR	**Ohrid**	**0.98**	**106**	*e*Pg	**Pg**	**01 12 50.0**	**-0.2**
OHR				*e*Sg	**Sg**	**01 13 04.3**	**+1.4**
OHR	**Ohrid**	**0.98**	**106**	*e*Pg	**Pg**	**01 12 49.9**	**-0.4**
OHR				*e*Sg	**Sg**	**01 13 04.3**	**+1.4**
BUM	**Brajici-Budva**	**1.04**	**332**⇓	*i*Pg	**Pg**	**01 12 52.0**	**+0.5**
BU

MLR	**Muntele Rosu**	**6.20**	**46**	⇑P	**Pn**	**01 14 04.8**	**+0.9**
MLR	**Muntele Rosu**	**6.20**	**46**	⇓P	**Pn**	**01 14 04.7**	**+0.8**
MLR	**Muntele Rosu**	**6.20**	**46**	⇑P	**Pn**	**01 14 04.8**	**+0.9**

*ISCJB **15** 01:21:28.8±0.3, 4901N±002×122.17W±002, h10km±2km, Error ellipse: s-maj=3.2km s-min=2.3km az=8.6*
*PGC **15** 01:21:29.2±0.1, 4899N×122.15W, h12km, ML2.6/14, 11km Ese of Albertabotsford, Bc Washington*
*NEIC **15** 01:21:29.2, 4899N×122.15W, h12km, MD2.8(SEA), ML2.6(PGC), After PGC.*
NEIC Felt [III] at Maple Falls. Felt at Sumas. Also felt at Abbotsford and Aldergrove, British Columbia.
ISC 15 01:21:28.8±0.3, 4900N±002×12217W±002, h9km±2km, n44, σ0°88/73, 16C-20D, British Columbia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VDB	**Vedder Mountai**	**0.05**	**64**	P	**Pg**	**01 21 31.4**	**+0.7**
VDB				S	**Sg**	**01 21 32.4**	**+0.4**
A05A	**Maple Falls**	**0.06**	**95**	⇓P	**Pg**	**01 21 30.9**	**+0.2**
	baz=0.0,SNR=1000						
A05A				⇑S	**Sg**	**01 21 32.9**	**+0.8**
	baz=0.0						
HNB	**Haney**	**0.38**	**316**	P	**Pg**	**01 21 36.9**	**+0.6**
HNB				S	**Sg**	**01 21 42.5**	**+1.1**
A04A	**Legoe Bay, Lum**	**0.45**	**231**	⇑P	**Pg**	**01 21 38.2**	**+0.5**
	baz=0.5,SNR=11						
A04A				⇑S	**Sg**	**01 21 44.7**	**+1.1**
	baz=0.5						
A06A	**Chilliwack**	**0.47**	**78**	⇑P	**Pg**	**01 21 37.8**	**-0.1**
	baz=0.4,SNR=26						
A06A				⇓S	**Sg**	**01 21 43.6**	**-0.4**
	baz=0.4						
HOPB	**Hope**	**0.62**	**52**	P	**Pg**	**01 21 40.5**	**-0.4**
HOPB				S	**Sg**	**01 21 48.7**	**-0.4**
B06A	**Marblemount**	**0.67**	**137**	⇓P	**Pg**	**01 21 40.8**	**-0.9**
	baz=0.6,SNR=56						
B06A				⇓S	**Sg**	**01 21 49.2**	**-1.1**
	baz=0.6						
SNB	**Saturna Island**	**0.70**	**251**	P	**Pg**	**01 21 42.7**	**+0.4**
SNB				S	**Sg**	**01 21 53.0**	**+1.6**
B05A	**Bryant**	**0.74**	**176**	⇓P	**Pg**	**01 21 42.6**	**-0.5**
	baz=0.7,SNR=272						
BIB	**Bowen Island**	**0.85**	**299**	P	**Pg**	**01 21 45.1**	**0.0**
BIB				S	**Sg**	**01 21 56.5**	**+0.4**
GOBB	**Galiano Island**	**0.88**	**267**	P	**Pg**	**01 21 45.6**	**-0.2**
GOBB				S	**Sg**	**01 21 57.6**	**+0.3**
PGC	**Sidney**	**0.92**	**248**	*e*P	**Pg**	**01 21 45.7**	**-0.7**
PGC				*e*S	**Sg**	**01 21 58.0**	**-0.4**
PGC	**Sidney**	**0.92**	**248**	P	**Pg**	**01 21 46.0**	**-0.5**
PGC				S	**Sg**	**01 21 58.0**	**-0.3**
WPB	**Watts Point**	**0.94**	**314**	P	**Pg**	**01 21 46.4**	**-0.5**
WPB				S	**Sg**	**01 21 58.9**	**-0.3**
VGZ	**Gonzales**	**0.96**	**233**	P	**Pg**	**01 21 46.7**	**-0.7**
VGZ				S	**Sg**	**01 21 59.2**	**-0.7**
A07A	**Ashnola River,**	**1.18**	**87**	⇑P	**Pb**	**01 21 50.2**	**-1.2**
	baz=1.1,SNR=55						
A07A				⇓S	**Sb**	**01 22 05.6**	**-1.0**
	baz=1.1						
NLLB	**Nanaimo Lost L**	**1.21**	**281**	P	**Pb**	**01 21 51.0**	**-0.9**
NLLB				S	**Sb**	**01 22 06.6**	**-1.1**
WSLR	**Whistler**	**1.23**	**337**	P	**Pn**	**01 21 51.3**	**-0.8**
WSLR				S	**Sb**	**01 22 07.2**	**-0.8**
SHB	**Sechelt**	**1.26**	**299**	P	**Pn**	**01 21 51.9**	**-0.8**
SHB				S	**Sb**	**01 22 09.0**	**-0.2**
B04A	**Port Angeles**	**1.30**	**224**	⇑P	**Pn**	**01 21 52.0**	**-1.1**
	baz=1.3,SNR=74						
B04A				⇑S	**Sb**	**01 22 09.0**	**-1.0**
	baz=1.3						
C05A	**Tolt Reservoir**	**1.35**	**166**	⇓P	**Pn**	**01 21 53.1**	**-0.7**
	baz=1.3,SNR=38						
C06A	**Tall Timber Ra**	**1.38**	**141**	⇓P	**Pn**	**01 21 53.1**	**-1.1**
	baz=1.3						
C04A	**Brinnon**	**1.39**	**203**	⇑P	**Pn**	**01 21 53.7**	**-0.8**
	baz=1.4,SNR=18						
C04A				⇓S	**Sb**	**01 22 12.0**	**-0.8**
	baz=1.4						
B07A	**Winthrop**	**1.46**	**111**	⇑P	**Pn**	**01 21 55.3**	**0.0**
	baz=1.4,SNR=72						
B07A				⇓S	**Sn**	**01 22 14.1**	**-0.5**
	baz=1.4						
PFB	**Port Renfrew**	**1.56**	**255**	P	**Pn**	**01 21 56.4**	**-0.3**
PFB				S	**Sn**	**01 22 16.5**	**-0.6**
LLLB	**Lillooet**	**1.62**	**7**	P	**Pn**	**01 21 58.2**	**+0.7**
LLLB				S	**Sn**	**01 22 19.3**	**+0.9**
D05A	**Enumclaw**	**1.82**	**176**	⇑P	**Pn**	**01 22 01.1**	**+0.8**
	baz=1.8,SNR=15						
A08A	**Turner Farm, O**	**1.91**	**90**	⇓P	**Pn**	**01 22 02.6**	**+1.1**
	baz=1.9,SNR=15						
C03A	**Quillayute Air**	**1.91**	**237**	P	**Pn**	**01 22 02.9**	**+1.4**
	baz=1.9,SNR=5.6						
C07A	**Waterville**	**1.93**	**132**	⇓P	**Pn**	**01 22 02.7**	**+0.9**
	baz=1.9,SNR=40						
D04A	**Dobbs Creek Ra**	**1.94**	**193**	⇓P	**Pn**	**01 22 03.1**	**+1.1**
	baz=1.9						
NLWA	**Neilton Lookou**	**1.97**	**216**	*e*Pn	**Pn**	**01 22 03.3**	**+1.0**
NLWA				*e*Pg	**Pg**	**01 22 11.1**	**+4.4**
NLWA				*e*Sn	**Sn**	**01 22 28.9**	**+1.8**
NLWA	**Neilton Lookou**	**1.97**	**216**	⇓Pn	**Pn**	**01 22 03.3**	**+0.9**
	baz=2.0,SNR=55						
NLWA				⇓Sn	**Sn**	**01 22 28.9**	**+1.7**
	baz=2.0						
B08A	**Colville Reser**	**1.99**	**108**	⇑Pb	**Pb**	**01 22 04.4**	**-0.8**
	baz=1.9,SNR=11						
B08A				⇑Sn	**Sn**	**01 22 28.5**	**+0.9**
	baz=1.9						
D06A	**Cle Elum**	**2.02**	**153**	⇑Pb	**Pb**	**01 22 04.7**	**-1.0**
	baz=2.0,SNR=18						
A09A	**Danville**	**2.36**	**89**	⇓Pn	**Pn**	**01 22 08.0**	**+0.2**
	baz=2.3,SNR=7.1						
C08A	**Higginbotham F**	**2.41**	**119**	⇑Pb	**Pb**	**01 22 12.0**	**-0.4**
	baz=2.3,SNR=7.0						
E06A	**Yakima**	**2.59**	**161**	⇓Pn	**Pn**	**01 22 11.8**	**+0.9**
	baz=2.5,SNR=16						
E03A	**Lebam**	**2.63**	**201**	⇓Sn	**Sn**	**01 22 44.7**	**+1.2**
	baz=2.6						
B09A	**Rice**	**2.73**	**101**	⇑Sb	**Sb**	**01 22 52.6**	**+1.4**
	baz=2.7						
E07A	**Sunnyside**	**2.90**	**147**	⇓Pb	**Pb**	**01 22 20.1**	**-0.6**
	baz=2.8						
D08A	**Wollman Farm,**	**2.92**	**131**	⇓Sb	**Sb**	**01 22 58.0**	**+1.1**
	baz=2.9						
HAWA	**Hanford**	**3.16**	**145**	*e*Pn	**Pn**	**01 22 18.9**	**+0.2**
HAWA				*e*Pg	**Pg**	**01 22 25.6**	**-3.8**
HAWA				*e*Sg	**Sg**	**01 23 07.3**	**-3.1**
D10A	**Wagner Farm, O**	**3.82**	**119**	⇑Sb	**Sb**	**01 23 24.8**	**+2.1**
	baz=3.7						

*MAN **15** 02:03:49, 505N×12582E, h125km, mb4.6, ML3.5, MS3.5*
*ISCJB **15** 02:03:59.9±3.3, 507N±009×1260E±03, h240km±36km, mb3.6/11, Error ellipse: s-maj=45.7km s-min=14.1km az=177.6*
*NEIC **15** 02:03:59.5±6.8, 5.10N×12600E, h218km±72km, mb3.6/2, Error ellipse: s-maj=41.1km s-min=10.0km az=89.0*
*IDC **15** 02:04:01.6±6.4, 509N×12605E, h240km±71km, mb3.3/9, mb1 3.4/10, mb1mx3.2/21, mbtmp3.3/10, Error ellipse: s-maj=41.2km s-min=12.4km az=88.0*
ISC 15 02:04:00.3±3.9, 509N±009×1260E±03, h225km±43km, n12, σ0°36/12, mb3.6/11, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Kupang**	**15.37**	**189**	P	**Pn**	**02 07 26.0**	**0.0**
	3.7nm,0.3s,baz=310,slow=7.9,SNR=4.0						
JOW	**Kunigami**	**21.73**	**5**	P	**P**	**02 08 34.2**	**+0.3**
	11nm,0.6s,mb4.6,baz=160,slow=15,SNR=4.7						
FITZ	**Fitzroy Crossi**	**23.04**	**181**	P	**P**	**02 08 46.0**	**0.0**
	0.7nm,0.4s,mb3.5,baz=14,slow=12,SNR=4.1						
WRA	**Warramunga Arr**	**26.19**	**162**	P	**P**	**02 09 14.4**	**0.0**
	0.6nm,0.4s,mb3.6,baz=338,slow=10,SNR=6.8						
ASAR	**Alice Springs**	**29.60**	**165**	P	**P**	**02 09 44.7**	**0.0**
	0.8nm,0.7s,mb3.5,baz=338,slow=7.6,SNR=11						
KSRS	**Korea Array**	**32.26**	**3**	P	**P**	**02 10 08.3**	**+0.5**
	2.7nm,0.9s,mb3.8,baz=196,slow=10,SNR=5.7						
MJAR	**Matsushiro Arr**	**33.25**	**18**	P	**P**	**02 10 15.5**	**-0.9**
	2.2nm,0.8s,mb3.7,baz=196,slow=9.1,SNR=7.7						
FORT	**Forrest**	**35.72**	**177**	*e*P	**P**	**02 10 37.7**	**+0.1**
	0.7nm,0.5s,mb3.5						
MKAR	**Makanchi Array**	**56.03**	**325**	P	**P**	**02 13 15.6**	**-0.1**
	0.5nm,0.4s,mb3.4,baz=129,slow=9.2,SNR=7.8						
BVAR	**Borovoye Array**	**65.79**	**327**	P	**P**	**02 14 20.9**	**-0.3**
	0.3nm,0.5s,mb3.2,baz=113,slow=6.7,SNR=3.4						
TIXI	**Tiksi**	**66.50**	**1**	*e*P	**P**	**02 14 25.9**	**+0.5**
	1.0nm,0.6s,mb3.6						
FINES	**FINESS Array B**	**90.30**	**332**	P	**P**	**02 16 35.4**	**-0.1**
	0.3nm,0.4s,mb3.5,baz=52,slow=5.6,SNR=8.7						

*ISCJB **15** 02:08:37.8±0.2, 2157S±006×6817W±005, h132km, mb4.3/41, Error ellipse: s-maj=9.3km s-min=5.4km az=39.6*
*BJI **15** 02:08:38.7, 2160S×6830W, h132km, mB4.9*
*NEIC **15** 02:08:38.7±0.3, 2156S×6830W, mb4.5/36, Error ellipse: s-maj=10.1km s-min=6.4km az=54.0*
NEIC Felt [II] at Huara, Iquique, Pisagua and Pozo Almonte.
*IDC **15** 02:08:39.2±0.6, 2153S×6827W, h134km±4km, mb4.1/14, mb1 4.2/18, mb1mx4.2/22, mbtmp4.1/18, Error ellipse: s-maj=17.1km s-min=11.7km az=52.0*
ISC 15 02:08:39.8±0.2, 2154S±006×6810W±005, h134km, h134km±1.6km; pP-P, n198, σ0°75/184, mb4.3/41, 57C-48D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**5.23**	**360**	*e*Pn	**Pn**	**02 09 56.1**	**0.0**
	78nm,0.5s						
LPAZ	**La Paz**	**5.23**	**360**	P	**Pn**	**02 09 56.1**	**+0.1**
	20nm,0.3s,baz=171,slow=8.0,SNR=203						
ARE	**Arequipa**	**5.98**	**327**	*e*P	**Pn**	**02 10 00.0**	**-6.2**
ARE				*i* S	**Sn**	**02 11 06.0**	**-7.6**
LCO	**Las Campanas**	**7.80**	**197**	*e*Pn	**Pn**	**02 10 23.1**	**-7.4**
	44nm,0.7s						
SIV	**San Ignacio**	**8.65**	**52**	P	**Pn**	**02 10 39.9**	**-2.1**
	9.3nm,0.3s,baz=246,slow=11,SNR=137						
SIV				S	**Sn**	**02 12 13.6**	**-4.4**
	0.5nm,0.3s,baz=296,slow=23,SNR=7.7						
CFAA	**Coronel Fontan**	**10.02**	**181**	P	**Pn**	**02 10 54.0**	**-6.2**
	0.2nm,0.3s,baz=355,slow=12,SNR=26						
CFAA				S	**Sn**	**02 12 40.5**	**-10**
	0.3nm,0.3s,baz=115,slow=22,SNR=3.4						
NNA	**Nana**	**12.66**	**317**	*e*Pn	**Pn**	**02 11 30.8**	**-4.4**
	14nm,0.7s						
NNA	**Nana**	**12.66**	**317**	P	**Pn**	**02 11 31.5**	**-3.6**
	2.1nm,0.3s,baz=142,slow=10,SNR=4.9						
TRQA	**Tornquist**	**17.29**	**164**	*e*P	**Pn**	**02 12 30.0**	**-2.8**
	23nm,0.6s						
ATAH	**Atahualpa**	**17.55**	**324**	P	**Pn**	**02 12 33.5**	**-2.6**
	0.8nm,0.3s,baz=171,slow=7.8,SNR=8.6						
PLCA	**Paso Flores**	**19.24**	**186**	*e*P	**P**	**02 12 51.5**	**-2.1**
	13nm,0.9s						
PLCA	**Paso Flores**	**19.24**	**186**	P	**P**	**02 12 51.6**	**-1.9**
	0.7nm,0.3s,baz=355,slow=14,SNR=22						
BDFB	**Brasilia**	**19.92**	**76**	P	**P**	**02 13 01.2**	**+0.1**
	4.5nm,0.5s,baz=247,slow=16,SNR=28						
CAM4	**Nova Friburgo**	**23.70**	**97**	⇑*i*P	**P**	**02 13 40.2**	**+0.8**
CAM4				*i*		02 13 45.0	
CAM4				*i*		02 13 48.6	
CAM4				*i*		02 14 36.5	
CAM4				*i*		02 15 49.5	
CAM3	**Guarapari**	**25.73**	**93**	⇑*i*P	**P**	**02 13 57.6**	**-0.2**
CAM3				*i*		02 14 03.0	
CAM3				*i*	pP	02 14 21.8	-4.4
CAM3				*i*		02 14 37.8	
ROSC	**El Rosal**	**26.94**	**346**	*e*P	**P**	**02 14 08.4**	**-0.3**
ROSC	**El Rosal**	**26.94**	**346**	P	**P**	**02 14 08.7**	**0.0**
	3.7nm,0.5s,mb4.2,baz=92,slow=23,SNR=4.6						
SDV	**Santo Domingo**	**30.34**	**355**	*e*P	**P**	**02 14 36.5**	**-2.4**
	3.1nm,0.4s,mb4.4						
RCBR	**Riachuelo**	**34.86**	**68**	*e*P	**P**	**02 15 18.4**	**0.0**
	17nm,0.7s,mb4.8						
RCBR				*e*PP	PP	02 16 39.7	-0.4
SWET	**Sewanee**	**58.93**	**343**	*e*P	**P**	**02 18 22.8**	**-2.0**
ELN	**Prospectdale**	**59.66**	**348**	*e*P	**P**	**02 18 28.5**	**-1.2**
VNA1	**Neumayer--Stat**	**59.99**	**161**	*e*P	**P**	**02 18 32.3**	**+0.6**
VNA1				*e*		02 18 36.6	
WVT	**Waverly**	**60.32**	**342**	*e*P	**P**	**02 18 32.0**	**-2.3**
	24nm,1.3s,mb4.9						
VNA2	**Neumayer--Watz**	**60.36**	**161**	*e*P	**P**	**02 18 34.2**	**0.0**
	baz=302,slow=7.6						
VNA2				*e*		02 18 38.4	
TXAR	**Lajitas Array**	**61.09**	**325**	P	**P**	**02 18 38.5**	**-1.2**
	1.1nm,0.6s,mb3.9,baz=150,slow=8.6,SNR=16						
TXAR				pP	pP	02 19 09.8	-2.1
	0.5nm,0.5s,baz=153,slow=8.7,SNR=4.1						
WCI	**Wyandotte Cave**	**61.86**	**344**	*e*P	**P**	**02 18 42.2**	**-2.4**
	4.5nm,0.5s,mb4.5						
FVM	**French Village**	**62.82**	**340**	*e*P	**P**	**02 18 48.9**	**-2.2**
	7.4nm,0.7s,mb4.6						
FVM				*e*pP	pP	02 19 21.4	-2.0
MNTX	**Cornudas Mount**	**63.86**	**325**	*e*P	**P**	**02 18 55.8**	**-2.2**
	4.7nm,1.0s,mb4.3						
MNTX				*e*pP	pP	02 19 28.2	-2.2
AMTX	**Amarillo**	**64.54**	**330**	*e*P	**P**	**02 19 00.7**	**-1.8**
	3.9nm,0.4s,mb4.6						
319A	**Douglas**	**65.78**	**322**	⇑P	**P**	**02 19 10.5**	**0.0**
	baz=66						
219A	**White Tail Can**	**66.23**	**322**	⇓P	**P**	**02 19 13.2**	**-0.2**
	baz=66						
318A	**Bisbee**	**66.24**	**321**	P	**P**	**02 19 13.4**	**-0.1**
	baz=66,SNR=6.7						
BNM	**Barren Site**	**66.42**	**326**	*e*P	**P**	**02 19 13.8**	**-0.8**
MAIT	**Maitri**	**66.49**	**159**	*e*P	**P**	**02 19 13.1**	**-1.4**
218A	**Dragoon**	**66.66**	**322**	⇑P	**P**	**02 19 16.2**	**0.0**
	baz=67,SNR=6.5						
119A	**Ashpeak Ranch,**	**66.82**	**323**	⇓P	**P**	**02 19 17.6**	**+0.4**
	baz=67						
CBKS	**Cedar Bluff**	**66.96**	**334**	*e*P	**P**	**02 19 16.8**	**-1.0**
	9.9nm,0.7s,mb4.8						
217A	**Green Valley**	**66.96**	**321**	P	**P**	**02 19 17.8**	**-0.2**
	baz=67,SNR=5.1						
TUC	**Tucson**	**67.33**	**322**	*e*P	**P**	**02 19 19.9**	**-0.5**
	3.4nm,1.4s,mb4.0						
216A	**Three Points,**	**67.50**	**321**	⇓P	**P**	**02 19 21.4**	**-0.1**
	baz=68						
DBIC	**Dimbokro**	**68.03**	**73**	*e*P	**P**	**02 19 24.7**	**-0.4**
	42nm,0.8s,mb5.2						
DBIC	**Dimbokro**	**68.03**	**73**	P	**P**	**02 19 25.0**	**-0.2**
	37nm,0.7s,mb5.2,baz=215,slow=6.5,SNR=58						
116A	**Eloy**	**68.05**	**321**	⇓P	**P**	**02 19 24.8**	**-0.1**
	baz=68						
Z16A	**Peralta Trail,**	**68.45**	**322**	⇑P	**P**	**02 19 27.3**	**-0.1**
	baz=69						
Y16A	**Circle Bar Ran**	**68.87**	**322**	⇓P	**P**	**02 19 30.2**	**+0.2**
	baz=69,SNR=5.2						
X16A	**Lo Mia Camp, P**	**69.24**	**323**	⇑P	**P**	**02 19 32.8**	**+0.6**
	baz=69,SNR=5.4						
Y15A	**Casa Rosa Ranc**	**69.42**	**322**	⇓P	**P**	**02 19 33.0**	**-0.3**
	baz=70						
MVCO	**Mesa Verde**	**69.74**	**327**	⇓P	**P**	**02 19 35.4**	**+0.2**
	baz=70						
X15A	**Humboldt**	**69.75**	**322**	⇑P	**P**	**02 19 35.4**	**+0.1**
	baz=70,SNR=6.7						
Y14A	**Wickenburg**	**69.80**	**321**	⇓P	**P**	**02 19 35.4**	**-0.2**
	baz=70						
WUAZ	**Wupatki**	**70.01**	**323**	⇑P	**P**	**02 19 36.9**	**0.0**
	baz=70						
X14A	**Yava**	**70.11**	**322**	⇓P	**P**	**02 19 37.7**	**+0.2**
	baz=70						
Y13A	**Salome**	**70.19**	**321**	⇑P	**P**	**02 19 38.3**	**+0.3**
	baz=70,SNR=6.3						
GLA	**Glamis**	**70.25**	**319**	⇓P	**P**	**02 19 38.6**	**+0.2**
	baz=70						
Y12C	**Blythe**	**70.56**	**320**	⇑P	**P**	**02 19 40.7**	**+0.4**
	baz=71						
PDMCI	**Parker Dam,Lak**	**70.72**	**321**	⇓P	**P**	**02 19 41.4**	**+0.2**
	baz=71						
X13A	**Yucca**	**70.74**	**321**	⇑P	**P**	**02 19 41.3**	**0.0**
	baz=71						
W14A	**Seligman**	**70.75**	**322**	⇑P	**P**	**02 19 41.3**	**-0.1**
	baz=71						
BC3	**Big Chuckw Mtn**	**71.05**	**320**	⇑P	**P**	**02 19 43.3**	**+0.1**
	baz=71						
V14A	**Boquillas Ranc**	**71.06**	**322**	⇓P	**P**	**02 19 44.3**	**+1.0**
	baz=71,SNR=7.0						
W13A	**Hualapai Mount**	**71.13**	**322**	⇓P	**P**	**02 19 43.7**	**0.0**
	baz=71						
IRM	**Iron Mountain**	**71.22**	**320**	⇓P	**P**	**02 19 44.2**	**-0.1**
	baz=71						
BELC	**Belle Mtn.**	**71.62**	**319**	⇓P	**P**	**02 19 47.1**	**+0.5**
	baz=72						
PFO	**Pinyon Flat Ob**	**71.63**	**319**	⇑P	**P**	**02 19 47.2**	**+0.5**
	baz=72						
T15A	**Red Dirt Ranch**	**71.66**	**324**	⇓P	**P**	**02 19 47.8**	**+1.0**
	baz=72,SNR=6.6						
U14A	**Mt Trumbull**	**71.67**	**323**	⇑P	**P**	**02 19 47.8**	**+0.9**
	baz=72,SNR=9.3						
GMRC	**Granite Mounta**	**71.95**	**320**	⇑P	**P**	**02 19 48.7**	**+0.1**
	baz=72						
T14A	**Hurricane**	**72.08**	**324**	⇓P	**P**	**02 19 49.8**	**+0.4**
	baz=72						
HEC	**Hector,Ludlow**	**72.38**	**320**	⇓P	**P**	**02 19 52.0**	**+0.8**
	baz=72						
U12A	**Valley of Fire**	**72.45**	**322**	⇓P	**P**	**02 19 52.1**	**+0.6**
	baz=73						
T13A	**Saint George**	**72.51**	**323**	⇑P	**P**	**02 19 52.8**	**+0.9**
	baz=73						
CCUT	**Cedar City**	**72.58**	**324**	*e*P	**P**	**02 19 53.1**	**+0.8**
S14A	**Cedar City**	**72.63**	**324**	⇓P	**P**	**02 19 53.4**	**+0.8**
	baz=73						
BFSC	**Mount Baldy St**	**72.79**	**319**	⇑P	**P**	**02 19 54.2**	**+0.6**
	baz=73						
S13A	**Holt Ranch, En**	**72.88**	**323**	⇓P	**P**	**02 19 54.8**	**+0.7**
	baz=73						
T11A	**Corn Creek, Al**	**73.40**	**322**	⇓P	**P**	**02 19 58.0**	**+0.8**
	baz=74,SNR=5.8						
EDW2	**Edwards Air Fo**	**73.42**	**319**	⇑P	**P**	**02 19 57.3**	**0.0**
	baz=74						
S12A	**Delamar Landin**	**73.45**	**323**	⇑P	**P**	**02 19 58.2**	**+0.7**
	baz=74						
LRMC	**Laurel Mountai**	**73.64**	**320**	⇑P	**P**	**02 19 59.0**	**+0.4**
	baz=74						
TPNV	**Topopah Spring**	**73.79**	**322**	⇑P	**P**	**02 20 00.3**	**+0.8**
	baz=74						
JLU	**Jordanelle**	**73.81**	**327**	*e*P	**P**	**02 19 59.2**	**-0.2**
FURC	**Furnace Creek,**	**73.82**	**321**	⇓P	**P**	**02 20 00.0**	**+0.4**
	baz=74						
R12A	**Pony Springs,**	**73.83**	**324**	⇓P	**P**	**02 20 00.1**	**+0.5**
	baz=74,SNR=5.4						
DUG	**Dugway**	**74.21**	**326**	⇓P	**P**	**02 20 01.7**	**0.0**
	baz=74						
ISA	**Isabella**	**74.24**	**319**	⇑P	**P**	**02 20 02.6**	**+0.6**
	baz=74						
P13A	**Bates Ranch, G**	**74.31**	**325**	⇓P	**P**	**02 20 02.8**	**+0.4**
	baz=74						
R11A	**Troy Canyon, C**	**74.39**	**323**	⇑P	**P**	**02 20 03.2**	**+0.3**
	baz=75						
PDAR	**Pinedale Array**	**74.52**	**330**	P	**P**	**02 20 02.8**	**-0.7**
	0.8nm,0.7s,mb3.5,baz=131,slow=8.2,SNR=4.6						
PDAR				pP	pP	02 20 34.6	-2.2
	0.8nm,0.6s,baz=145,slow=5.4,SNR=3.7						
PKM	**Peak Mountain**	**74.56**	**318**	⇑P	**P**	**02 20 04.1**	**+0.2**
	baz=75						
HWUT	**Hardware Ranch**	**74.62**	**328**	*e*P	**P**	**02 20 03.6**	**-0.5**
	5.3nm,0.8s,mb4.2						
R10A	**Warm Springs**	**74.75**	**323**	⇓P	**P**	**02 20 05.9**	**+0.9**
	baz=75						
Q11A	**Duckwater**	**74.77**	**323**	⇑P	**P**	**02 20 05.4**	**+0.4**
	baz=75						
N14A	**Grayback Hills**	**74.88**	**326**	⇑P	**P**	**02 20 05.7**	**+0.1**
	baz=75						
S09A	**Goldfield**	**74.89**	**322**	⇓P	**P**	**02 20 05.7**	**0.0**
	baz=75						
SMMC	**Simmler**	**74.94**	**318**	⇑P	**P**	**02 20 06.7**	**+0.6**
	baz=75						
M15A	**Larsen Ranch,**	**74.95**	**327**	⇑P	**P**	**02 20 05.6**	**-0.4**
	baz=75,SNR=6.0						
R09A	**Tonopah**	**75.15**	**322**	⇓P	**P**	**02 20 07.4**	**+0.1**
	baz=75						
HELL	**Mitchell Peak**	**75.24**	**320**	⇑P	**P**	**02 20 07.3**	**-0.6**
	baz=75						
O12A	**Currie**	**75.28**	**325**	⇑P	**P**	**02 20 08.4**	**+0.4**
	baz=76,SNR=5.3						
S08C	**White Mtn Res**	**75.29**	**321**	⇑P	**P**	**02 20 08.4**	**+0.3**
	baz=76						
ULM	**Lac du Bonnet**	**75.58**	**342**	*e*P	**P**	**02 20 07.4**	**-2.0**
	2.8nm,0.5s,mb4.2						
ULM				*e*pP	pP	02 20 41.2	-1.6
ULM	**Lac du Bonnet**	**75.58**	**342**	P	**P**	**02 20 08.0**	**-1.5**
	3.0nm,0.5s,mb4.2,baz=150,slow=6.8,SNR=17						
ULM				pP	pP	02 20 41.3	-1.5
	5.2nm,0.8s,baz=154,slow=5.7,SNR=8.5						
SNOW	**Snow King Moun**	**75.62**	**329**	*e*P	**P**	**02 20 09.9**	**+0.1**
	4.9nm,1.0s,mb4.1						
SNOW				*e*pP	pP	02 20 42.5	-0.7
LOHW	**Long Hollow**	**75.66**	**330**	*e*P	**P**	**02 20 09.6**	**-0.5**
	3.9nm,0.8s,mb4.1						
LOHW				*e*pP	pP	02 20 42.7	-0.7
TPAW	**Teton Pass**	**75.73**	**329**	*e*P	**P**	**02 20 10.1**	**-0.4**
	3.8nm,0.9s,mb4.0						
TPAW				*e*pP	pP	02 20 43.3	-0.6
M13A	**Montello**	**75.76**	**326**	⇑P	**P**	**02 20 10.4**	**-0.2**
	baz=76						
NVAR	**Mina Array Bea**	**75.99**	**322**	P	**P**	**02 20 11.8**	**-0.2**
	0.8nm,0.5s,mb3.6,baz=140,slow=7.2,SNR=11						
FLWY	**Flagg Ranch**	**76.06**	**330**	*e*P	**P**	**02 20 12.6**	**+0.3**
	7.0nm,0.8s,mb4.3						
Q08A	**Gabbs**	**76.07**	**322**	⇓P	**P**	**02 20 12.4**	**0.0**
	baz=76						
SYO	**Syowa Base**	**76.20**	**159**	⇓*e*P	**P**	**02 20 11.4**	**-1.4**
O10A	**Cortez Mining,**	**76.25**	**324**	⇓P	**P**	**02 20 13.7

M06C	Likely Place G	79.09	323	⇑P		P	02 20 29.3	+0.1
	baz=79							
TSUM	Tsumeb	79.31	106	*e*P		P	02 20 31.4	+0.4
	21nm,0.9s,mb4.8							
TSUM	Tsumeb	79.31	106	P		P	02 20 31.9	+0.9
	17nm,0.8s,mb4.7,baz=218,slow=6.5,SNR=11							
J08A	Circle Bar Ran	79.43	325	⇑P		P	02 20 31.3	+0.3
	baz=80							
I09A	Lost Marbles R	79.47	326	⇑P		P	02 20 31.4	+0.2
	baz=80							
M05C	Lookout	79.57	322	⇓P		P	02 20 31.6	-0.2
	baz=80							
G11A	Walters Elk Ra	79.72	328	⇓P		P	02 20 32.4	-0.1
	baz=80							
L05A	Lakeview	79.84	323	⇓P		P	02 20 33.8	+0.5
	baz=80							
G10A	Bishop Farm, J	80.07	327	⇑P		P	02 20 34.4	0.0
	baz=80,SNR=5.1							
J06A	Christmas Vall	80.27	324	⇑P		P	02 20 35.6	+0.1
	baz=80							
K05A	Summer Lake	80.32	323	⇑P		P	02 20 35.8	-0.1
	baz=80							
E11A	Bogner Ranch,	80.37	328	⇑P		P	02 20 35.3	-0.7
	baz=81							
G09A	Cove	80.40	327	⇑P		P	02 20 36.6	+0.4
	baz=81							
D12A	Red Ives Fores	80.46	329	⇓P		P	02 20 36.4	0.0
	baz=81							
I07A	Izee	80.47	325	⇑P		P	02 20 35.8	-0.8
	baz=81							
MDT	Midelt	81.20	50	P		P	02 20 41.7	+0.9
	1.8nm,0.6s,mb3.9,baz=226,slow=7.3,SNR=5.6							
I05A	Bend	81.47	324	⇑P		P	02 20 42.7	+0.8
	baz=82							
EMIN	Mina Concepcio	82.52	45	P		P	02 20 47.7	+0.1
	4.8nm,0.8s,mb4.3							
ESPR	Espera	82.56	46	P		P	02 20 48.7	+1.0
	2.9nm,0.7s,mb4.1							
BOSA	Boshof	82.77	118	P		P	02 20 49.2	0.0
BOSA	Boshof	82.77	118	P		P	02 20 49.2	0.0
	15nm,0.8s,mb4.8,baz=270,slow=2.9,SNR=31							
FCC	Fort Churchill	82.84	347	*e*P		P	02 20 47.5	-1.2
	7.3nm,0.8s,mb4.5							
FCC				*e*pP		pP	02 21 20.5	-2.0
EBAD	Badajoz	82.86	44	P		P	02 20 49.8	+0.5
	1.1nm,0.5s,mb3.8							
ELUQ	Luque	84.00	46	P		P	02 20 56.1	+1.0
	2.0nm,0.6s,mb4.0							
MAW	Mawson	84.07	163	P		P	02 20 55.2	+0.2
	8.1nm,0.8s,mb4.5,baz=207,slow=6.5,SNR=15							
LBTB	Lobatse	84.32	115	*e*P		P	02 20 57.1	0.0
	18nm,0.8s,mb4.8							
EBAN	Banos Encina	84.64	46	P		P	02 20 59.4	+1.0
	8.2nm,0.8s,mb4.5							
EQES	Quesada	84.93	46	P		P	02 20 59.6	-0.2
	1.5nm,0.7s,mb3.8							
ESDC	Sonseca Array	85.34	44	P		P	02 21 02.4	+0.7
	2.1nm,1.3s,mb3.7							
GUD	Guadarrama	85.74	43	P		P	02 21 05.3	+1.6
	3.7nm,0.7s,mb4.2							
ETOB	Tobarra	86.39	46	P		P	02 21 07.2	+0.2
	2.7nm,1.0s,mb3.9							
LSZ	Lusaka	90.17	106	P		P	02 21 26.5	+1.1
	3.5nm,0.8s,mb4.4,baz=242,slow=6.9,SNR=8.3							
YKA	Yellowknife Ar	91.48	340	P		P	02 21 29.6	-0.8
YKA				pP		pP	02 22 04.0	-0.7
YKA	Yellowknife Ar	91.48	340	P		P	02 21 29.6	-0.8
	1.8nm,0.5s,mb4.4,baz=134,slow=4.5,SNR=94							
YKA				pP		pP	02 22 04.0	-0.7
	2.4nm,0.7s,baz=133,slow=4.4,SNR=8.9							
AKTK	Aktyubinsk	129.17	42	PKP		PKPdf	02 27 29.6	-2.2
AKTO	Aktyubinsk	129.17	42	PKP		PKPdf	02 27 29.6	-2.2
	1.2nm,0.8s,baz=32,slow=4.4,SNR=4.3							
ASAR	Alice Springs	130.22	207	PKP		PKPdf	02 27 33.6	-1.1
	1.8nm,0.9s,baz=152,slow=2.6,SNR=14							
ASAR				pPKP		pPKPdf	02 28 09.4	-1.2
	0.6nm,0.8s,baz=142,slow=1.6,SNR=2.7							
WRA	Warramunga Arr	133.29	210	PKP		PKPdf	02 27 39.4	-1.2
	1.1nm,0.5s,baz=162,slow=1.7,SNR=8.1							
WRA				pPKP		pPKPdf	02 28 16.0	-0.5
	0.7nm,0.6s,baz=152,slow=1.9,SNR=3.4							
BVAR	Borovoye Array	135.40	35	PKP		PKPdf	02 27 43.7	+0.2
	1.0nm,0.6s,baz=286,slow=2.6,SNR=5.0							
ZALV	Zalesovo Beam	141.67	26	PKP		PKPdf	02 27 51.7	-3.2
	2.2nm,0.6s,baz=306,slow=3.2,SNR=6.5							
MK31	Makanchi Array	145.22	37	Pn		PKPbc	02 28 01.3	0.0
	4.5nm,0.6s,baz=188,slow=12,SNR=31							
MK31	Makanchi Array	145.22	37	*e*PKPbc		PKPbc	02 28 01.3	0.0
MKAR	Makanchi Array	145.22	37	PKPbc		PKPbc	02 28 01.4	+0.1
MKAR				pPKPbc			02 28 37.6	
MKAR	Makanchi Array	145.22	37	PKPbc		PKPbc	02 28 01.4	+0.1
	4.3nm,0.6s,baz=316,slow=5.1,SNR=19							
MKAR				pPKPbc			02 28 37.6	
	4.0nm,0.9s,baz=298,slow=2.6,SNR=3.8							
MJAR	Matsushiro Arr	152.68	309	pPKPbc		pPKPbc	02 28 55.7	-1.0
	1.4nm,0.7s,baz=97,slow=1.7,SNR=6.5							
HHC	Hu-ho-hao-te	160.75	1	*e*PKP		PKPdf	02 28 26.9	+3.0
HHC				PP		PP		
	comp=Z,102nm,4.9s							
HHC				LR		LR		
	comp=N,114nm,12.4s							
HHC				LR		LR		
	comp=E,123nm,5.3s							
HHC				LR		LR		
	comp=Z,106nm,5.4s							
LZH	Lanzhou	163.90	24	*e*PKP		PKPdf	02 28 21.6	-5.6
LZH				APKP			02 28 57.5	
LZH				XPKP			02 29 11.8	
LZH				PKP2		PKPab	02 29 17.8	-2.6
NJ2	Nanjing	167.83	331	*e*PKP		PKPdf	02 28 25.6	-4.9
CD2	Chengdu	168.16	36	*e*PKP		PKPdf	02 28 28.8	-1.9
KMI	Kunming	170.86	65	PKP		PKPdf	02 28 30.9	-1.6
GYA	Guiyang	173.16	43	*e*PKP		PKPdf	02 28 30.8	-2.7
GYA				APKP			02 29 08.3	
GYA				XPKP			02 29 21.8	
GYA				PKP2		PKPab	02 30 02.5	+0.8
GYA				PKS			02 32 02.8	
GYA				PP		PP	02 33 55.3	+2.1
GYA				PP		PP		
	comp=Z,70nm,7.8s							

SZGRF **15** *02:16:29.6,38.10N*$_{\pm}$*2155E,h10*^{km}*,mb4.1,Greece*
BJI **15** *02:16:32.4,39.15N*$_{\pm}$*2132E,h13*^{km}*,mb4.4,Ms5.0,Msz4.5*
ATH **15** *02:16:32.4,3856N*$_{\pm}$*2158E,h17*^{km}$_{\pm}$*1*^{km}*,MD4.1/19,ML4.0*
NEIC **15** *02:16:32.4,3856N*$_{\pm}$*2158E,h17*^{km}*,mb4.0/43,*
ML4.0(ATH),ML4.0(PDG),After ATH.
THE **15** *02:16:32.7,3859N*$_{\pm}$*2158E,h3*^{km}*,ML4.7*
ISCJB **15** *02:16:33.0*$_{\pm}$*0.3,3860N*$_{\pm}$*001*$_{\times}$*2151E*$_{\pm}$*002,h22*^{km}$_{\pm}$*3*^{km}*,*
mb4.2/42,MS3.4/12,Error ellipse: s-maj=2.5km
s-min=1.9km az=25.1
MOS **15** *02:16:33.8*$_{\pm}$*1.6,3858N*$_{\times}$*2138E,h31*^{km}*,mb4.4/19,Error*
ellipse: s-maj=4.6km s-min=2.5km az=111.2
PRU **15** *02:16:33.9,3855N*$_{\times}$*2145E,h0*^{km}*,M4.0*
CSEM **15** *02:16:34.3*$_{\pm}$*0.0,3856N*$_{\times}$*2165E,h20*^{km}*,mb4.2/10,Ms2.9,*
Error ellipse: s-maj=1.2km s-min=0.9km az=17.0
IDC **15** *02:16:34.5*$_{\pm}$*4.9,3863N*$_{\times}$*2151E,h18*^{km}$_{\pm}$*32*^{km}*,mb4.1/20,*
mb1 4.1/30,mb1mx4.1/37,mbtmp4.0/30,ML4.0/10,
MS3.4/12,Ms1 3.5/12,ms1mx3.2/37,Error ellipse:
s-maj=12.0km s-min=10.0km az=108.0
PDG **15** *02:16:40.1*$_{\pm}$*0.1,3888N*$_{\times}$*2054E,h12*^{km}$_{\pm}$*11*^{km}*,ML4.0/10,*
Error ellipse: s-maj=47.3km s-min=15.8km az=90.0
ISC 15 02:16:33.4$_{\pm}$**0.3,3857N**$_{\pm}$**001**$_{\times}$**2153E**$_{\pm}$**002,h11**^{km}$_{\pm}$**2**^{km}**,**
n491,$_{\sigma}$**1§40/545,mb4.2/42,MS3.4/12,45C-35D,Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EVR	Evrytania	0.41	33	⇑*i*PB	Pg	02 16 40.3	-1.2
EVR				*e*SB	Sg	02 16 47.0	+0.1
SELA	Sela	0.41	136	*e*Pg	Pg	02 16 40.3	-1.3
SELA				*e*Sg	Sg	02 16 46.8	-0.3
RLS	Riolos of Patr	0.52	185	⇓*i*PN	Pg	02 16 42.5	-1.0
RLS				*e*SN	Sg	02 16 50.5	+0.2
LKD	Levkas	0.70	281	*e*Pg	Pg	02 16 46.7	-0.3
LKD				*e*Sg	Sg	02 16 57.6	+1.6
KFL	Anninata	0.74	232	*e*Pg	Pg	02 16 47.1	-0.6
AGG	Agios Georgios	0.77	54	*e*Pg	Pg	02 16 46.4	-1.9
AGG				*e*Sg	Sg	02 16 57.0	-1.5
VLS	Valsamata	0.83	242	⇑*i*PB	Pb	02 16 48.3	-1.6
VLS				*e*SN	Sn	02 17 01.6	-1.8
THL	Klokotos Trika	1.06	21	⇓*i*PB	Pb	02 16 51.7	-2.1
LKR	Lokris	1.16	86	⇓*i*PB	Pb	02 16 52.8	-2.6
LKR				*e*SN	Sn	02 17 09.3	-2.0
JAN	Janina	1.20	334	⇑*i*PN	Pn	02 16 55.8	-0.4
LTK	Loutraki	1.26	115	*e*Pg	Pg	02 16 56.6	-1.0
LTK				*e*Sg	Sg	02 17 14.1	+0.1
IGT	Igoumenitsa	1.33	316	*e*Pg	Pg	02 16 57.9	-1.2
IGT				*e*Sg	Sg	02 17 17.8	+1.4
IGT	Igoumenitsa	1.33	316	*e*Pg	Pg	02 16 57.8	-1.2
IGT				*e*Sg	Sg	02 17 17.8	+1.4
VLX	Vlachokerasia	1.38	150	*e*Pg	Pg	02 16 57.3	-2.6
VLX				*e*Sg	Sg	02 17 17.9	+0.1
ITM	Ithomi	1.43	167	⇓*i*PN	Pn	02 16 58.5	-0.7
NEO	Neokhori	1.51	61	⇑*i*PN	Pn	02 17 00.2	-0.2
XOR	Xorichti	1.52	58	*e*Pg	Pg	02 16 59.7	-2.9
PYL	PYLOS	1.68	174	*e*Pb	Pb	02 17 03.0	-1.4
LIT	Litokhoron	1.70	26	*e*Pb	Pb	02 17 02.2	-2.4
LIT				*e*Sb	Sb	02 17 25.8	-0.3
DID	Didima	1.72	128	*e*Pb	Pb	02 17 03.5	-1.6
KZN	Kozani	1.74	6	⇓*i*PN	Pn	02 17 04.4	+0.8
NAIG	Nisos Aigina	1.75	117	*e*PN	Pn	02 17 04.0	+0.3
KEK	Kerkira	1.76	311	⇓*i*PN	Pn	02 17 05.1	+1.3
SRN	Sarande	1.76	318	*e*PN	Pn	02 17 05.3	+1.4
SRN				*i* SN	Sn	02 17 33.6	+7.3
ATH	Athens Observa	1.83	108	⇓*i*PN	Pn	02 17 04.7	0.0
PTL	Penteli	1.91	105	*e*PN	Pn	02 17 05.0	-0.9
KVR	Kavouri	1.92	112	*e*PN	Pn	02 17 05.5	-0.5
AOS	Alonnisos	1.93	71	*e*Pb	Pb	02 17 05.4	-3.2
KBN	Korca	2.13	345	*e*PN	Pn	02 17 12.3	+3.4
KBN				*i* SN	Sg	02 17 48.9	+7.2
PAIG	Paliouri	2.15	50	*e*Pn	Pn	02 17 08.0	-1.2
VLI	Veliai	2.16	148	⇑*i*PN	Pn	02 17 10.4	+1.0
PLG	Polygyros	2.33	39	*e*Pn	Pn	02 17 10.8	-0.9
PLG	Polygyros	2.33	39	⇓*i*Pn	Pn	02 17 10.8	-0.9
THE	Thessaloniki	2.34	28	*e*Pn	Pn	02 17 11.1	-0.7
HORT	Hortiatis	2.36	31	*e*Pn	Pn	02 17 11.2	-0.8
BIA	Bitola	2.45	356	*e*Pn	Pn	02 17 15.0	+1.7
BIA				*e*Sn	Sn	02 17 50.4	+7.2
KYTH	Kithira	2.58	152	*e*PB	Pb	02 17 16.0	-3.8
OUR	Ouranopolis	2.59	46	*e*Pn	Pn	02 17 14.5	-0.8
OHR	Ohrid	2.60	348	*e*Pn	Pn	02 17 19.3	+4.0
OHR				*e*Sn	Sn	02 17 55.2	+8.4
SOH	Sokhos	2.65	32	*e*Pn	Pn	02 17 16.1	0.0
KNT	Kendrikon	2.79	22	*e*Pn	Pn	02 17 18.5	+0.5
KRUS	Krusevo	2.80	356	*e*Pn	Pn	02 17 21.0	+2.9
KRUS				*e*Sn	Sn	02 17 55.1	+3.2
VAY	Valandovo	2.86	16	*e*Pn	Pn	02 17 18.9	0.0
VAY	Valandovo	2.86	16	*e*Pn	Pn	02 17 18.8	-0.2
VAY				*e*Sn	Sn	02 17 54.0	+0.7
VAY	Valandovo	2.86	16	*e*Pn	Pn	02 17 18.9	-0.1
VAY				*e*Sn	Sn	02 17 54.0	+0.6
TIR	Tirane	3.05	336	P	Pn	02 17 23.7	+2.1
LOS	Limnos	3.08	63	*e*Pn	Pn	02 17 20.8	-1.1
LIA	Limnos Island	3.13	64	*e*Pn	Pn	02 17 22.6	-0.1
LIA				P		02 17 29.2	
STIP	Stip	3.16	9	*e*Pn	Pn	02 17 24.5	+1.4
STIP				*e*Sn	Sn	02 18 03.8	+3.1
STIP	Stip	3.16	9	*e*Pn	Pn	02 17 23.7	+0.6
LCI	Lecce	3.17	305	Pn	Pn	02 17 23.8	+0.5
QSH	Qafa e Shtames	3.20	338	*e*PN	Pn	02 17 28.0	+4.4
PHP	Peshkopia	3.22	345	*e*PN	Pn	02 17 26.0	+2.1
PHP				*i* SN	Sg	02 18 27.6	+11
NVR	Nevrokopi	3.31	32	⇑*i*PN	Pn	02 17 25.0	-0.1
SKO	Skopje	3.40	359	*e*Pn	Pn	02 17 28.8	+2.5
APE	Apeiranthos	3.51	114	*e*Pn	Pn	02 17 27.9	0.0
APE	Apeiranthos	3.51	114	⇑*i*PN	Pn	02 17 28.2	+0.3
APE	Apeiranthos	3.51	114	⇓*i*P	Pn	02 17 28.3	+0.4
APE	Apeiranthos	3.51	114	*e*P	Pn	02 17 28.7	+0.8
CHOS	Chios island	3.56	92	*e*Pn	Pn	02 17 28.8	+0.2
PUK	Puka	3.68	341	*e*PN	Pn	02 17 32.0	+1.7
BOZC	Bozcaada	3.74	69	*i* P	Pn	02 17 30.6	-0.5
GADA	Gvkgeada	3.75	63	*e*PN	Pn	02 17 29.6	-1.6
TA1	Taranto	3.76	301	*e*Pn	Pn	02 17 32.9	+1.6
PRK	Paraskevi	3.76	78	⇑*i*PN	Pn	02 17 31.3	-0.1
TIP	Timpagrande	3.77	281	*e*Pn	Pn	02 17 32.3	+0.9
TIP	Timpagrande	3.77	281	*e*Pn	Pn	02 17 32.3	+0.9
ULC	Ulcinj	3.81	334	⇓*i*Pn	Pn	02 17 32.6	+0.6
ULC				*e*Sn	Sn	02 18 12.7	-4.0
PE1	Pezze di Greco	3.87	306	*e*Pn	Pn	02 17 33.1	+0.3
EZN	Ezine	3.93	70	*e*PN	Pn	02 17 32.0	-1.7
URLA	Izmir	3.99	91	*i* P	Pn	02 17 34.8	+0.4
GRI	Girifalco	4.00	275	Pn	Pn	02 17 35.9	+1.3
RDO	Rodhopi	4.02	49	⇓*i*PN	Pn	02 17 34.9	0.0
AYVA	Ayvalik	4.09	78	*i* P	Pn	02 17 36.2	+0.3
AYVA	Ayvalik	4.09	78	*i* P	Pn	02 17 36.2	+0.3
ENEZ	Enez	4.17	57	*e*PN	Pn	02 17 35.0	-2.0
PVY	Plav	4.19	344	⇓*i*Pn	Pn	02 17 39.6	+2.4
PVY				*e*Sn	Sn	02 18 24.4	-1.7
VTS	Vitosha	4.21	17	*e*Pn	Pn	02 17 39.0	+1.4
VTS	Vitosha	4.21	17	⇑*i*P	Pn	02 17 39.0	+1.4
PDG	Podgorica	4.22	337	⇑*i*PN	Pn	02 17 38.7	+1.0
PDG				*e*Sn	Sn	02 18 22.8	-4.1
TTG	Podgorica	4.22	337	⇑*i*PN	Pn	02 17 38.7	+1.0
TTG				*e*Sn	Sn	02 18 22.8	-4.1
BUM	Brajici-Budva	4.23	333	*e*Pn	Pn	02 17 38.3	+0.5
BUM				*e*Sn	Sn	02 18 22.1	-5.0
BARS	Barje	4.25	3	⇑*i*PN	Pn	02 17 40.1	+2.1
GVD	Gavdhos	4.26	150	*e*PN	Pn	02 17 40.0	+1.8
SMG	Samos	4.28	100	⇓*i*PN	Pn	02 17 39.2	+0.8
SOI	Samo	4.33	265	Pn	Pn	02 17 40.1	+0.9
BLCB	Balcova	4.33	91	*e*PN	Pn	02 17 40.4	+1.2
SG1	Sgolgore (BA)	4.37	303	*e*Pn	Pn	02 17 40.2	+0.5
BAI	Bari	4.38	307	*e*Pn	Pn	02 17 40.2	+0.3
LPK	Lapseki	4.43	64	*e*PN	Pn	02 17 39.3	-1.2
BEY	Berane	4.47	344	⇓*i*Pn	Pn	02 17 43.1	+2.0
BEY				*e*Sn	Sn	02 18 31.4	-1.6
IVA	Berane	4.47	344	⇓*i*Pn	Pn	02 17 43.1	+2.0
IVA				*e*Sn	Sn	02 18 31.4	-1.6
HCY	Herceg Novi	4.51	330	⇑*i*Pn	Pn	02 17 41.5	-0.1
HCY				*e*Sn	Sn	02 18 28.4	-5.5
KDAG	Bornova	4.51	90	*i* P	Pn	02 17 42.2	+0.6
SCLL	Scilla	4.58	268	Pn	Pn	02 17 44.8	+2.3
MTTG	Motta San Giov	4.62	265	Pn	Pn	02 17 43.6	+0.4
NKY	Niksic	4.65	336	⇓*i*Pn	Pn	02 17 44.7	+1.1
NKY				*e*Sn	Sn	02 18 33.3	-4.2
CDT	Castel del Mon	4.76	303	*e*Pn	Pn	02 17 45.5	+0.5
BODT	Bodrum	4.82	106	*e*PN	Pn	02 17 47.9	+1.9
SART	Tekirdag	4.85	62	*i* P	Pn	02 17 46.3	0.0
BRY	Bratogost	4.88	333	⇓*i*Pn	Pn	02 17 47.0	+0.3
BRY				*e*Sn	Sn	02 18 38.0	-5.2
BDRM	Kayabasi	4.92	106	*i* P	Pn	02 17 48.0	+0.7
AKHS	Akhisar	4.93	84	*e*P	Pn	02 17 50.7	+3.4
XRY	Khrisi	4.98	137	*e*PN	Pn	02 17 49.0	+0.9
PLE	Pljevlja	5.02	342	⇓*i*PN	Pn	02 17 50.2	+1.6
PLE				*e*Sn	Sn	02 18 43.4	-3.2
UPM	Unac-Piva	5.03	338	⇓*i*PN	Pn	02 17 50.3	+1.5
UPM				*e*Sn	Sn	02 18 42.6	-4.3
MLSB	Milas	5.10	103	*e*PN	Pn	02 17 50.6	+0.8
MRLC	Muro Lucano	5.14	297	Pn	Pn	02 17 51.7	+1.4
	110nm,0.4s						
STON	Ston	5.18	327	*e*Pn	Pn	02 17 49.6	-1.2
STON				Sn	Sn	02 18 46.8	-3.8
STON	Ston	5.18	327	*e*Pn	Pn	02 17 49.6	-1.3
STON				Sn	Sn	02 18 46.8	-3.9
SGO	Sicignano	5.20	294	P	Pn	02 17 52.8	+1.7
SGO				pmax	pmax		
	comp=Z,157nm,0.4s						
SGO	Sicignano	5.20	294	Pn	Pn	02 17 52.8	+1.7
	comp=Z,157nm,0.4s						
SLNA	Salina	5.25	272	Pn	Pn	02 17 52.3	+0.6
	comp=Z,269nm,0.4s						
BNT	Bandirma	5.26	68	*e*PN	Pn	02 17 52.2	+0.3
FG4	Candela	5.28	301	P	Pn	02 17 53.3	+1.1
FG4				pmax	pmax		
	comp=Z,235nm,0.4s						
FG4	Candela	5.28	301	Pn	Pn	02 17 53.3	+1.1
	comp=Z,235nm,0.4s						
FGMS	Monte Sant'Ang	5.29	308	Pn	Pn	02 17 52.8	+0.4
	comp=Z,176nm,0.4s						
MS1	Monte Sant'Ang	5.30	308	*e*Pn	Pn	02 17 52.8	+0.3
GRUS	Gruza	5.35	354	⇓*i*Pn	Pn	02 17 53.9	+0.8
CSSN	Cassano Irpino	5.51	297	Pn	Pn	02 17 57.4	+2.1
	comp=Z,40nm,0.5s						
FG5	Orsara di Pugl	5.52	301	P	Pn	02 17 56.9	+1.4
FG5				pmax	pmax		
	comp=Z,76nm,0.6s						
FG5	Orsara di Pugl	5.52	301	Pn	Pn	02 17 56.9	+1.4
	comp=Z,76nm,0.6s						
YER	Yerkesik	5.54	103	*e*PN	Pn	02 17 57.9	+2.1
KULA	Kula-Manisa	5.59	88	*e*PN	Pn	02 17 58.1	+1.6
DIVS	Divibare	5.64	349	*e*Pn	Pn	02 17 57.8	+0.7
MRB1	Monte Rocchett	5.65	299	Pn	Pn	02 17 59.1	+1.8
	comp=Z,800nm,0.7s						
VAE	Valguarnera	5.72	261	Pn	Pn	02 17 59.6	+1.3
	comp=Z,1.4nm,0.3s,baz=48,slow=14,SNR=3.1						
VAE				Sn	Sn	02 19 11.1	+7.2
	comp=Z,12nm,0.3s,baz=294,slow=16,SNR=7.7						
SVIS	Svilajnac	5.72	358	*e*Pn	Pn	02 18 00.8	+2.5
FG2	Serracapriola	5.84	306	Pn	Pn	02 18 00.6	+0.6
	comp=Z,145nm,0.6s						
DJES	Djerdap	6.10	7	*e*Pn	Pn	02 18 03.6	+0.1
GEMT	Gemlik	6.21	70	*e*PN	Pn	02 18 05.2	+0.2
GDZ	Gediz	6.23	83	*i* P	Pn	02 18 07.2	+1.9
ISK	Istanbul-Kandi	6.31	64	*e*PN	Pn	02 18 05.2	-1.2
MIDA	Miranda	6.36	301	Pn	Pn	02 18 09.0	+2.0
	comp=Z,200nm,0.5s						
YLV	Yalova	6.38	69	*e*PN	Pn	02 18 07.6	+0.3
IZI	Iznik	6.40	72	*e*PN	Pn	02 18 07.6	0.0
RNI2	Rionero Sannit	6.46	301	Pn	Pn	02 18 10.6	+2.3
	comp=Z,183nm,0.8s						
GOLH	Golhisar	6.49	99	*i* P	Pn	02 18 12.3	+3.4
ADVT	Abdulvahap	6.62	71	*e*PN	Pn	02 18 10.9	+0.3
SDI	San Donato	6.69	300	P	Pn	02 18 13.1	+1.6
SDI				pmax	pmax		
	comp=Z,23nm,0.7s						
SDI	San Donato	6.69	300	Pn	Pn	02 18 13.1	+1.6
	comp=Z,23nm,0.7s						
FGSL	Fruska Gora	6.70	350	⇓*i*Pn	Pn	02 18 11.9	+0.2
ALT	Altintas	6.72	83	*e*PN	Pn	02 18 13.2	+1.1
GZR	Gura Zlata	6.88	7	⇑*i*PN	Pn	02 18 16.5	+2.4
ELL	Elmali	6.89	103	*e*PN	Pn	02 18 16.6	+2.2
BZS	Buzias	7.04	1	P	Pn	02 18 19.3	+2.9
BZS	Buzias	7.04	1	⇓*i*P	Pn	02 18 17.2	+0.9
BZS	Buzias	7.04	1	P	Pn	02 18 19.3	+3.0
ISP	Isparta	7.11	93	⇓*e*P	Pn	02 18 18.5	+1.1
AQU	L'Aquila	7.25	304	*e*Pn	Pn	02 18 20.2	+1.0
	comp=Z,93nm,0.8s						
AQU	L'Aquila	7.25	304	P	Pn	02 18 25.2	+5.9
AQU	L'Aquila	7.25	304	⇑*i*P	Pn	02 18 21.0	+1.7
AQU	L'Aquila	7.25	304	*e*Pn	Pn	02 18 20.2	+0.9
	comp=Z,93nm,0.8s						
TERO	Teramo	7.26	306	Pn	Pn	02 18 20.5	+1.1
	comp=Z,79nm,0.5s						
VOIR		7.34	20	P	Pn	02 18 22.2	+1.7
VOIR		7.34	20	⇑*i*P	Pn	02 18 21.9	+1.4
VOIR		7.34	20	P	Pn	02 18 22.2	+1.7
FIAM	Fiamignano	7.40	303	Pn	Pn	02 18 24.4	+3.1
	comp=Z,119nm,0.9s						
HENT	Hendek	7.57	70	*i* P	Pn	02 18 24.8	+1.1
MLR	Muntele Rosu	7.65	24	P	Pn	02 18 26.7	+1.9
MLR	Muntele Rosu	7.65	24	P	Pn	02 18 26.9	+2.1
MLR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MLR				MLR	MLR		
	comp=Z,46nm,21.4s						
MLR	Muntele Rosu	7.65	24	Pn	Pn	02 18 26.9	+2.1
	comp=Z,1.3nm,0.3s,baz=196,slow=5.7,SNR=34						
MLR				LR	LR	02 20 31.7	
	comp=Z,46nm,21.4s,baz=201,slow=31						
MLR	Muntele Rosu	7.65	24	⇑*i

comp=Z,20nm,1.1s
VRAC Vranov 11.30 343 Pn **Pn 02 19 14.5 -0.2**
comp=Z,0.2nm,0.3s,baz=172,slow=12,SNR=10
VRAC Vranov 11.30 343 ⇑*i*P **Pn 02 19 15.0 +0.3**
WTTA Wattenberg 11.30 323 ⇑*i*Pn **Pn 02 19 13.7 -1.1**
SNR=19
LVV L'vov 11.39 8 *e*P **Pn 02 19 22.6 +6.7**
WATA Walderalm 11.39 323 ⇓*i*Pn **Pn 02 19 15.4 -0.5**
SNR=13
WATA ⇑*i*Sn **Sn 02 21 20.0 -3.0**
SQTA Sankt Quirin 11.48 322 ⇑*i*Pn **Pn 02 19 16.7 -0.5**
SNR=19
SQTA ⇓*i*Sn **Sn 02 21 22.4 -2.9**
OKC Ostrava-Krasne 11.52 349 *e*P **Pn 02 19 20.8 +3.1**
MORC Moravsky Berou 11.56 347 *e*Pn **Pn 02 19 20.3 +2.1**
MORC Moravsky Berou 11.56 347 *e*P **Pn 02 19 20.3 +2.1**
TREC Trest 11.56 340 *e*P **Pn 02 19 20.2 +1.9**
TREC AMS AMS 02 24 20.0
comp=Z,600nm,8.0s
TREC Trest 11.56 340 *e*P **Pn 02 19 20.2 +1.9**
comp=Z,600nm,8.0s
MOTA Moosalm 11.62 322 ⇑*i*Pn **Pn 02 19 18.7 -0.3**
SNR=41
MOTA ⇑*i*Sn **Sn 02 21 25.0 -3.6**
OJC Ojcow 11.71 355 *e*P **Pn 02 19 26.7 +6.4**
GEC2 GERESS Array S 11.72 334 *e*P **Pn 02 19 21.1 +0.7**
GERES GERESS Array B 11.72 334 Pn **Pn 02 19 20.6 +0.2**
comp=Z,0.7nm,0.3s,baz=160,slow=14,SNR=30
GERES Sn **Sn 02 21 29.1 -2.0**
comp=Z,0.6nm,0.3s,baz=148,slow=23,SNR=6.2
SBF Sospel 11.85 301 *e*P **Pn 02 19 19.4 -2.9**
comp=Z,34nm,0.9s
SBF Sospel 11.85 301 *e*P **Pn 02 19 19.4 -2.9**
comp=Z,17nm,0.9s
SBF Sospel 11.85 301 *e*P **Pn 02 19 19.4 -2.9**
SBF pmax pmax
comp=Z,17nm,0.9s
DAVOX Davos/Dischmat 11.85 318 Pn **Pn 02 19 23.7 +1.4**
comp=Z,0.7nm,0.3s,baz=127,slow=15,SNR=12
KHC Kasperske Hory 12.00 334 *e*P **Pn 02 19 24.4 +0.1**
KHC *e* 02 19 32.5
KHC *e* 02 19 40.0
KHC Kasperske Hory 12.00 334 *e*P **Pn 02 19 24.4 +0.1**
KHC *ex* x 02 19 32.5
KHC *ex* x 02 19 40.0
KHC AMS AMS 02 24 40.0
comp=Z,400nm,13.8s
FUR Furstenfeldbru 12.13 325 *e*P **Pn 02 19 24.8 -1.3**
DAVA Damuels 12.18 319 ⇑*i* **Sn 02 21 41.6 -0.9**
DAVA Damuels 12.18 319 ⇑*i*Pn **Pn 02 19 27.8 +1.1**
DAVA *i* 02 21 41.6
DAVA Damuels 12.18 319 ⇑*i*Pn **Pn 02 19 27.8 +1.1**
DAVA ⇑*i*Sn **Sn 02 21 39.0 -3.5**
WET Wettzell 12.26 332 *e*P **Pn 02 19 25.6 -2.3**
FRF La Foret Royal 12.28 299 *e*P **Pn 02 19 25.2 -3.0**
comp=Z,21nm,1.0s
FRF La Foret Royal 12.28 299 *e*P **Pn 02 19 25.2 -3.0**
comp=Z,11nm,1.0s
FRF La Foret Royal 12.28 299 *e*P **Pn 02 19 25.2 -3.0**
FRF pmax pmax
comp=Z,11nm,1.0s
LMR La Mourre 12.30 297 *e*P **Pn 02 19 25.4 -3.1**
comp=Z,21nm,1.1s
LMR La Mourre 12.30 297 *e*P **Pn 02 19 25.4 -3.1**
comp=Z,10nm,1.1s
LMR La Mourre 12.30 297 *e*P **Pn 02 19 25.4 -3.1**
LMR pmax pmax
comp=Z,10.0nm,1.1s
DPC Dobruska-Polom 12.34 344 *e*P **Pn 02 19 33.0 +4.0**
PRU Pruhonice 12.45 339 *e*P **Pn 02 19 35.1 +4.6**
PRU Pruhonice 12.45 339 *e*P **Pn 02 19 35.1 +4.6**
PRU AMS AMS 02 25 00.0
comp=Z,400nm,11.6s
MMAI Mount Meron Ar 12.55 112 Pn **Pn 02 19 32.9 +0.9**
comp=Z,1.1nm,0.3s,baz=316,slow=12,SNR=8.6
MBDF Montbardon 12.62 304 *e*P **Pn 02 19 29.6 -3.2**
comp=Z,16nm,0.7s
MBDF Montbardon 12.62 304 *e*P **Pn 02 19 29.6 -3.2**
comp=Z,7.8nm,0.7s
MBDF Montbardon 12.62 304 *e*P **Pn 02 19 29.6 -3.2**
MBDF pmax pmax
comp=Z,8.0nm,0.7s
BNI Bardonecchia 12.82 305 *e*Pn **Pn 02 19 34.7 -0.8**
PVCC Panska Ves 12.93 340 *e*P **Pn 02 19 40.8 +3.8**
PVCC AMS AMS 02 25 10.0
comp=Z,400nm,10.6s
LPG La Plagne 12.97 307 *e*P **Pn 02 19 34.8 -2.7**
comp=Z,27nm,0.9s
LPG La Plagne 12.97 307 *e*P **Pn 02 19 34.8 -2.7**
comp=Z,14nm,0.9s
LPG La Plagne 12.97 307 *e*P **Pn 02 19 34.8 -2.7**
LPG pmax pmax
comp=Z,14nm,0.9s
LPL La Plagne 12.99 307 *e*P **Pn 02 19 34.9 -2.9**
comp=Z,13nm,0.7s
LPL La Plagne 12.99 307 *e*P **Pn 02 19 34.9 -2.9**
comp=Z,6.6nm,0.7s
LPL La Plagne 12.99 307 *e*P **Pn 02 19 34.9 -2.9**
LPL pmax pmax
comp=Z,7.0nm,0.7s
ORIF Oris-en-Rattie 13.28 303 *e*P **Pn 02 19 38.6 -3.2**
comp=Z,14nm,0.9s
ORIF *e*MLR MLR
comp=Z,199nm,22.5s
ORIF Oris-en-Rattie 13.28 303 *e*P **Pn 02 19 38.6 -3.2**
comp=Z,7.1nm,0.9s
ORIF Oris-en-Rattie 13.28 303 *e*P **Pn 02 19 38.6 -3.2**
ORIF pmax pmax
comp=Z,7.0nm,0.9s
AKASG Malin Array Be 13.30 22 Pn **Pn 02 19 42.1 +0.2**
comp=Z,0.3nm,0.3s,baz=208,slow=12,SNR=10
AKBB Malin Array Si 13.30 22 *e*Pn **Pn 02 19 44.2 +2.2**
AKBB Malin Array Si 13.30 22 *e*P **Pn 02 19 44.2 +2.2**
GRA1 Grafenberg Arr 13.34 330 *e*P **Pn 02 19 45.2 +2.7**
GRF Grafenberg Arr 13.34 330 *e*P **Pn 02 19 45.2 +2.7**
ANN Anapa 13.41 57 *e*P **Pn 02 19 48.4 +4.8**
ANN pmax pmax
comp=Z,33nm,0.8s
ANN MLR MLR
comp=Z,111nm,11.0s
STU Stuttgart 13.53 323 *e*P **Pn 02 19 43.1 -2.1**
LUMB Murzuk 13.65 207 *i*P **Pn 02 19 44.0 -2.9**
SNR=34
BFO Black Forest 13.65 320 *e*P **Pn 02 19 45.0 -1.9**
CABF La Chapelle 13.91 310 *e*P **Pn 02 19 47.3 -3.0**
comp=Z,27nm,1.0s
CABF La Chapelle 13.91 310 *e*P **Pn 02 19 47.3 -3.0**
comp=Z,13nm,1.0s
CABF La Chapelle 13.91 310 *e*P **Pn 02 19 47.3 -3.0**
CABF pmax pmax
comp=Z,13nm,1.0s
MOX Moxa 13.96 333 *e*P **Pn 02 19 51.1 0.0**
MOX
comp=Z,200nm,21.0s
MOX Moxa 13.96 333 *e*P **Pn 02 19 51.9 +0.8**
VIVF Saint-Julien-l 14.06 302 *e*P **Pn 02 19 49.3 -3.1**
CLL Collm 14.08 338 ⇑*i*P **Pn 02 20 01.5 +8.9**
CLL *i* 02 20 04.5
CLL Collm 14.08 338 ⇑*i*PP **Pn 02 20 01.5 +8.9**
comp=Z,4.0nm,0.7s
CLL *i*sPP 02 20 04.5
CLL Lm 02 25 00.0
comp=N,200nm,18.2s
CLL Lm 02 25 00.0
comp=E,200nm,19.7s
HINF Hinteralfeld 14.12 316 *e*P **Pn 02 19 50.0 -3.2**
comp=E,5.3nm,0.5s
HINF Hinteralfeld 14.12 316 *e*P **Pn 02 19 50.0 -3.2**
comp=E,2.7nm,0.5s
HINF Hinteralfeld 14.12 316 *e*P **Pn 02 19 50.0 -3.2**
HINF pmax pmax
comp=Z,3.0nm,0.5s
EIL Elat 14.22 125 Pn **Pn 02 19 55.6 +1.0**
comp=Z,0.5nm,0.3s,baz=334,slow=12,SNR=5.4
CDF Champ du Feu 14.25 318 *e*P **Pn 02 19 51.9 -3.1**
comp=Z,11nm,0.8s
CDF Champ du Feu 14.25 318 *e*P **Pn 02 19 51.9 -3.1**
comp=Z,5.6nm,0.8s
CDF Champ du Feu 14.25 318 *e*P **Pn 02 19 51.9 -3.1**
CDF pmax pmax
comp=Z,6.0nm,0.8s
HAU Haudompre 14.50 315 *e*P **Pn 02 19 54.8 -3.7**
comp=Z,22nm,0.9s
HAU *e*MLR MLR
comp=Z,73nm,17.2s
HAU Haudompre 14.50 315 *e*P **Pn 02 19 54.8 -3.7**
comp=Z,11nm,0.9s
HAU Haudompre 14.50 315 *e*P **Pn 02 19 54.8 -3.7**
HAU pmax pmax
comp=Z,11nm,0.9s
SMF Signal de Mont 15.29 307 *e*P **Pn 02 20 05.9 -3.2**
comp=Z,14nm,0.8s
SMF Signal de Mont 15.29 307 *e*P **Pn 02 20 05.9 -3.2**
comp=Z,7.2nm,0.8s
SMF Signal de Mont 15.29 307 *e*P **Pn 02 20 05.9 -3.2**
SMF pmax pmax
comp=Z,7.0nm,0.8s
CLZ Clausthal 15.39 333 *e*P **Pn 02 20 14.6 +4.2**
MEZF Maizieres J'vi 15.50 315 *e*P **Pn 02 20 09.0 -2.8**
comp=Z,54nm,1.1s
MEZF Maizieres J'vi 15.50 315 *e*P **Pn 02 20 09.0 -2.8**
comp=Z,54nm,1.1s
AGO Saint Agoulin 15.50 305 *e*P **Pn 02 20 21.0 +9.1**
LOR Lormes 15.56 310 *e*P **Pn 02 20 09.5 -3.1**
comp=Z,6.7nm,0.6s
LOR *e*MLR MLR
comp=Z,78nm,19.2s
LOR Lormes 15.56 310 *e*P **Pn 02 20 09.5 -3.1**
comp=Z,3.3nm,0.6s
LOR Lormes 15.56 310 *e*P **Pn 02 20 09.5 -3.1**
LOR pmax pmax
comp=Z,3.0nm,0.6s
WLF Walferdange 15.61 320 *e*P **Pn 02 20 15.3 +2.1**
comp=Z,12nm,0.9s
WLF Walferdange 15.61 320 *e*P **Pn 02 20 15.3 +2.1**
WLF pmax pmax
comp=Z,12nm,0.9s
WLF Walferdange 15.61 320 *e*P **Pn 02 20 15.4 +2.2**
comp=Z,18nm,1.1s
WLF Walferdange 15.61 320 *e*P **Pn 02 20 15.3 +2.1**
comp=Z,12nm,0.9s
AVF Avril sur Loir 15.66 307 *e*P **Pn 02 20 11.3 -2.6**
comp=Z,22nm,1.0s
AVF Avril sur Loir 15.66 307 *e*P **Pn 02 20 11.3 -2.6**
comp=Z,11nm,1.0s
AVF Avril sur Loir 15.66 307 *e*P **Pn 02 20 11.3 -2.6**
AVF pmax pmax
comp=Z,11nm,1.0s
SSF Saint Saulge 15.68 309 *e*P **Pn 02 20 11.0 -3.2**
comp=Z,21nm,0.9s
SSF Saint Saulge 15.68 309 *e*P **Pn 02 20 11.0 -3.2**
comp=Z,10nm,0.9s
SSF Saint Saulge 15.68 309 *e*P **Pn 02 20 11.0 -3.2**
SSF pmax pmax
comp=Z,10.0nm,0.9s
CAF Calviac 15.83 300 *e*P **Pn 02 20 13.8 -2.4**
comp=Z,74nm,1.7s
CAF Calviac 15.83 300 *e*P **Pn 02 20 13.8 -2.4**
comp=Z,37nm,1.7s
CAF Calviac 15.83 300 *e*P **Pn 02 20 13.8 -2.4**
CAF pmax pmax
comp=Z,37nm,1.7s
BGF Bois d'Agland 15.88 306 *e*P **Pn 02 20 13.9 -2.9**
comp=Z,25nm,1.1s
BGF Bois d'Agland 15.88 306 *e*P **Pn 02 20 13.9 -2.9**
comp=Z,12nm,1.1s
BGF Bois d'Agland 15.88 306 *e*P **Pn 02 20 13.9 -2.9**
BGF pmax pmax
comp=Z,13nm,1.1s
TCF Toulx Ste Croi 16.19 305 *e*P **Pn 02 20 18.1 -2.6**
MEM Membach 16.30 323 AP pP 02 20 31.4 +3.3
HYF Humbligny 16.31 308 *e*P **Pn 02 20 20.0 -2.2**
RJF Les Rejaudoux 16.32 301 *e*P **Pn 02 20 20.2 -2.2**
comp=Z,15nm,1.1s
RJF *e*MLR MLR
comp=Z,96nm,18.8s
RJF Les Rejaudoux 16.32 301 *e*P **Pn 02 20 20.2 -2.2**
comp=Z,7.7nm,1.1s
RJF Les Rejaudoux 16.32 301 *e*P **Pn 02 20 20.2 -2.2**
RJF pmax pmax
comp=Z,8.0nm,1.1s
GIVF Givet 16.56 320 *e*P **Pn 02 20 23.2 -2.2**
comp=Z,35nm,1.0s
GIVF Givet 16.56 320 *e*P **Pn 02 20 23.2 -2.2**
comp=Z,17nm,1.0s
GIVF Givet 16.56 320 *e*P **Pn 02 20 23.2 -2.2**
GIVF pmax pmax
comp=Z,17nm,1.0s
DOU Dourbes 16.67 319 AP pP 02 20 35.9 +3.6
EBIE Bielsa 16.73 291 P **Pn 02 20 32.4 +4.7**
comp=Z,1.4nm,0.6s
LFF La Frestale 16.74 299 *e*P **Pn 02 20 25.6 -2.2**
comp=Z,29nm,1.1s
LFF La Frestale 16.74 299 *e*P **Pn 02 20 25.6 -2.2**
comp=Z,15nm,1.1s
LFF La Frestale 16.74 299 *e*P **Pn 02 20 25.6 -2.2**
LFF pmax pmax
comp=Z,15nm,1.1s
KIV Kislovodsk 16.78 65 *e*P **Pn 02 20 32.5 +4.2**
comp=Z,7.7nm,0.9s
KIV Kislovodsk 16.78 65 *e*P **Pn 02 20 32.5 +4.2**
KIV pmax pmax
comp=Z,8.0nm,0.9s
BAIF Baives 16.85 319 *e*P **Pn 02 20 27.2 -1.9**
comp=Z,24nm,0.9s
BAIF Baives 16.85 319 *e*P **Pn 02 20 27.2 -1.9**
comp=Z,12nm,0.9s
BAIF Baives 16.85 319 *e*P **Pn 02 20 27.2 -1.9**
BAIF pmax pmax
comp=Z,12nm,0.9s
BSD Bornholm Skovb 17.14 347 *i*P **Pn 02 20 37.5 +4.8**
BSD pmax pmax
comp=Z,18nm,0.9s
BSD Bornholm Skovb 17.14 347 *i*P **Pn 02 20 37.5 +4.8**
comp=Z,18nm,0.9s
BSEG Bad Segeberg 17.18 337 *e*P **Pn 02 20 34.6 +1.5**
comp=Z,22nm,1.5s
ETSF Etsaut 17.27 292 *e*P **Pn 02 20 33.3 -1.2**
SJPF Ste Jean 17.79 292 *e*P **Pn 02 20 40.2 -0.6**
MFF Saint Martin d 17.82 304 *e*P **Pn 02 20 40.7 -0.6**
comp=Z,12nm,0.8s
MFF Saint Martin d 17.82 304 *e*P **Pn 02 20 40.7 -0.6**
MFF pmax pmax
comp=Z,6.0nm,0.8s
MFF Saint Martin d 17.82 304 *e*P **Pn 02 20 40.7 -0.6**
comp=Z,5.9nm,0.8s
ELIZ Elizondo 18.01 292 P **Pn 02 20 46.5 +2.9**
comp=Z,1.5nm,0.5s
ELIZ Elizondo 18.01 292 P **Pn 02 20 46.5 +2.9**
ELIZ pmax pmax
comp=Z,2.0nm,0.5s
ELIZ Elizondo 18.01 292 P **Pn 02 20 46.5 +2.9**
comp=Z,1.5nm,0.5s
ETOR Torete 18.28 284 P **Pn 02 20 49.8 +2.9**
comp=Z,3.3nm,0.4s
ETOR Torete 18.28 284 P **Pn 02 20 49.8 +2.9**
ETOR pmax pmax
comp=Z,3.0nm,0.4s
ETOR Torete 18.28 284 P **Pn 02 20 49.8 +2.9**
comp=Z,3.3nm,0.4s
LDF La Druitiere 18.55 310 *e*P **Pn 02 20 49.6 -0.5**
comp=Z,14nm,0.9s
LDF La Druitiere 18.55 310 *e*P **Pn 02 20 49.6 -0.5**
LDF pmax pmax
comp=Z,7.0nm,0.9s
LDF La Druitiere 18.55 310 *e*P **Pn 02 20 49.6 -0.5**
comp=Z,6.9nm,0.9s
ECRI Cripan 18.68 290 P **Pn 02 20 53.5 +1.7**
comp=Z,3.7nm,0.6s
ECRI Cripan 18.68 290 P **Pn 02 20 53.5 +1.8**
ECRI pmax pmax
comp=Z,4.0nm,0.6s
ECRI Cripan 18.68 290 P **Pn 02 20 53.5 +1.8**
comp=Z,3.7nm,0.6s
FLN La Foliniere 18.84 310 *e*P **Pn 02 20 52.9 -0.7**
comp=Z,16nm,0.8s
FLN *e*MLR MLR
comp=Z,90nm,17.5s
FLN La Foliniere 18.84 310 *e*P **Pn 02 20 52.9 -0.7**
FLN pmax pmax
comp=Z,8.0nm,0.8s
FLN La Foliniere 18.84 310 *e*P **Pn 02 20 52.9 -0.7**
comp=Z,7.9nm,0.8s
GRR Gorron 18.91 308 *e*P **Pn 02 20 54.0 -0.6**
comp=Z,12nm,0.7s
GRR Gorron 18.91 308 *e*P **Pn 02 20 54.0 -0.6**
GRR pmax pmax
comp=Z,6.0nm,0.7s
GRR Gorron 18.91 308 *e*P **Pn 02 20 54.0 -0.6**
comp=Z,6.2nm,0.7s
ELAN Lanestosa 19.40 292 P **Pn 02 21 02.8 +2.3**
comp=Z,2.9nm,0.9s
ELAN Lanestosa 19.40 292 P **Pn 02 21 02.8 +2.3**
comp=Z,2.9nm,0.9s
OBN Obninsk 19.41 27 P **Pn 02 20 59.0 -1.5**
OBN pmax pmax
comp=Z,10.0nm,0.7s
OBN MLR MLR
comp=Z,100nm,15.0s
OBN Obninsk 19.41 27 P **Pn 02 20 59.0 -1.5**
comp=Z,100nm,15.0s
MUD Monsted U'grnd 19.68 339 *e*P **Pn 02 21 03.7 0.0**
MUD pmax pmax
comp=Z,11nm,1.3s
MUD Monsted U'grnd 19.68 339 *i*P **Pn 02 21 03.7 0.0**
comp=Z,11nm,1.3s
MUD Monsted U'grnd 19.68 339 *e*P **Pn 02 21 03.7 0.0**
comp=Z,11nm,1.3s
ESDC Sonseca Array 19.79 281 P **Pn 02 21 04.2 -1.0**
comp=Z,0.3nm,0.3s,baz=74,slow=11,SNR=14
ECOG Cogollos-Vega 19.82 274 P **Pn 02 21 08.0 +2.4**
comp=Z,3.8nm,0.7s
ECOG Cogollos-Vega 19.82 274 P **Pn 02 21 08.0 +2.4**
ECOG pmax pmax
comp=Z,4.0nm,0.7s
ECOG Cogollos-Vega 19.82 274 P **Pn 02 21 08.0 +2.4**
comp=Z,3.8nm,0.7s
SGMF Saint Gilles 19.92 307 *e*P **Pn 02 21 05.3 -1.3**
comp=Z,19nm,1.0s
SGMF Saint Gilles 19.92 307 *e*P **Pn 02 21 05.3 -1.3**
SGMF pmax pmax
comp=Z,9.0nm,1.0s
SGMF Saint Gilles 19.92 307 *e*P **Pn 02 21 05.3 -1.3**
comp=Z,9.4nm,1.0s
VSU Vasula 20.19 8 *e*P **P 02 21 08.1 +0.3**
QUIF Quistinic 20.19 306 *e*P **P 02 21 08.4 +0.5**
comp=Z,9.6nm,0.6s
QUIF Quistinic 20.19 306 *e*P **P 02 21 08.4 +0.5**
QUIF pmax pmax
comp=Z,5.0nm,0.6s
QUIF Quistinic 20.19 306 *e*P **P 02 21 08.4 +0.5**
comp=Z,4.8nm,0.6s
MOS Moscow 20.28 27 *e*P **P 02 21 12.4 +3.6**
MOS *e* 02 21 33.2
MOS pmax pmax
comp=Z,42nm,1.0s
ROSF Rostrenen 20.40 307 *e*P **P 02 21 10.3 +0.1**
comp=Z,16nm,0.8s
ROSF Rostrenen 20.40 307 *e*P **P 02 21 10.3 +0.1**
ROSF pmax pmax
comp=Z,8.0nm,0.8s
ROSF Rostrenen 20.40 307 *e*P **P 02 21 10.3 +0.1**
comp=Z,7.8nm,0.8s
EARI Arriondas 20.70 292 P **P 02 21 14.9 +1.4**
comp=Z,3.0nm,0.5s
MDT Midelt 21.95 263 P **P 02 21 28.1 +1.0**
comp=Z,4.9nm,0.9s,mb4.0,baz=98,slow=9.3,SNR=8.7
EPON Pontenova 22.12 292 P **P 02 21 33.3 +4.5**
comp=Z,3.4nm,0.7s,mb3.9
HFS Hagfors 22.14 350 P **P 02 21 28.9 0.0**
comp=Z,8.9nm,0.6s,mb4.3,baz=156,slow=13,SNR=41
HFS LR LR 02 30 11.7
comp=Z,96nm,20.6s,MS3.2,baz=289,slow=37
KONO Kongsberg 22.42 344 *e*P **P 02 21 31.6 -0.2**
FINES FINESS Array B 23.07 6 P **P 02 21 36.6 -2.1**
comp=Z,4.6nm,0.6s,mb4.1,baz=164,slow=8.9,SNR=40
FINES LR LR 02 31 30.5
comp=Z,171nm,19.2s,MS3.5,baz=239,slow=39
FIA1 FINESS Array S 23.07 6 *e*P **P 02 21 37.8 -0.9**
FIA1 FINESS Array S 23.07 6 *e*P **P 02 21 37.8 -0.9**
NAO01 NORSAR Array S 23.27 347 *e*P **P 02 21 38.8 -2.0**
comp=Z,8.2nm,0.7s,mb4.3
NAO01 NORSAR Array S 23.27 347 *e*P **P 02 21 38.8 -2.0**
comp=Z,8.2nm,0.7s,mb4.3
NB2 NORSAR Subarra 23.40 347 P **P 02 21 40.7 -1.4**
comp=Z,0.8nm,0.6s,mb3.3,baz=157,slow=10
NOA NORSAR Array B 23.40 347 P **P 02 21 40.8 -1.3**
comp=Z,2.6nm,0.6s,mb3.9,baz=158,slow=8.6,SNR=26
NOA LR LR 02 30 48.1
comp=Z,88nm,18.4s,MS3.2,baz=180,slow=37
EKA Eskdalemuir Ar 23.57 323 P **P 02 21 43.1 -0.8**
EKA pmax pmax
comp=Z,2.0nm,0.6s
EKA Eskdalemuir Ar 23.57 323 P **P 02 21 43.1 -0.8**
comp=Z,2.4nm,0.6s,mb3.8,baz=128,slow=10,SNR=26
ESK Eskdalemuir 23.59 323 *e*P **P 02 21 43.1 -0.9**
comp=Z,15nm,0.8s,mb4.5
ESK Eskdalemuir 23.59 323 *e*P **P 02 21 43.2 -0.9**
ESK pmax pmax
comp=Z,15nm,0.8s,mb4.5
ESK Eskdalemuir 23.59 323 *e*P **P 02 21 43.2 -0.9**
comp=Z,15nm,0.8s,mb4.5
KAF Kangasniemi 23.75 6 *e*p **P 02 21 42.5 -3.0**
comp=Z,3.9nm,0.6s,mb4.0
KAF Kangasniemi 23.75 6 *e*P **P 02 21 42.5 -3.0**
KAF pmax pmax
comp=Z,4.0nm,0.6s,mb4.0
JOF Joensuu 25.09 11 *e*p **P 02 21 55.8 -1.9**
comp=Z,0.8nm,0.4s,mb3.6
TMCR Tamitsa 27.44 16 *e*P **P 02 22 16.3 -2.7**
TMCR *e* 02 25 39.5
TMCR pmax pmax
comp=Z,10.0nm,1.1s,mb4.3
AKTK Aktyubinsk 28.31 53 P **P 02 22 26.8 0.0**
AKTK LR LR 02 35 08.8
AKTK Aktyubinsk 28.31 53 P **P 02 22 26.8 -0.1**
AKTO Aktyubinsk 28.31 53 P **P 02 22 26.8 0.0**
comp=Z,0.6nm,0.3s,mb3.6,baz=224,slow=10,SNR=5.0
AKTO LR LR 02 35 08.8
comp=Z,40nm,18.5s,MS3.0,baz=89,slow=39
ARU Arti 30.24 42 *e*P **P 02 22 44.4 +0.4**
comp=Z,3.1nm,0.6s,mb4.2
ARU Arti 30.24 42 *d i*P **P 02 22 43.2 -0.7**
ARU *e* 02 23 39.5
ARU *e*S **S 02 27 44.6 +1.5**
ARU *e*SS ScP 02 29 19.3 -7.2
ARU pmax pmax
comp=Z,8.0nm,1.7s,mb4.2
ARU Arti 30.24 42 *e*P **P 02 22 44.3 +0.4**
comp=Z,3.1nm,0.6s,mb4.2
TOA0 Torodi Ar. Sit 30.84 220 *e*P **P 02 22 49.5 -0.1**
TOA0 Torodi Ar. Sit 30.84 220 *e*P **P 02 22 49.5 0.0**
TORD Torodi Ar. Bea 30.84 220 P **P 02 22 49.8 +0.3**
comp=Z,6.2nm,0.5s,mb4.7,baz=31,slow=9.2,SNR=28
TORD LR LR 02 36 01.2
comp=Z,58nm,19.3s,MS3.2,baz=25,slow=38
ARCES ARCESS Array B 31.10 3 P **P 02 22 50.2 -1.1**
comp=Z,3.0nm,0.7s,mb4.2,baz=191,slow=9.2,SNR=12
ARCES LR LR 02 36 20.1
comp=Z,146nm,19.2s,MS3.7,baz=22,slow=38
KEV Kevo 31.38 4 *e*p **P 02 22 52.3 -1.5**
comp=Z,0.6nm,0.3s,mb3.9
KEV Kevo 31.38 4 *e*P **P 02 22 52.3 -1.5**
KEV pmax pmax
comp=Z,1.0nm,0.3s,mb4.1
SVE Sverdlovsk 31.45 42 *e*P **P 02 22 52.2 -2.4**
SVE pmax pmax
comp=Z,7.0nm,0.6s,mb4.7
BVAR Borovoye Array 36.26 50 P **P 02 23 36.3 -0.1**
comp=Z,1.2nm,0.7s,mb3.9,baz=247,slow=3.1,SNR=6.2
EKS2 Erkin-Say 39.36 67 *e*P **P 02 24 03.3 +0.6**
comp=Z,7.6nm,0.8s,mb4.5
EKS2 Erkin-Say 39.36 67 *e*P **P 02 24 03.3 +0.6**
comp=Z,7.6nm,0.8s,mb4.5
DBIC Dimbokro 39.72 224 *e*P **P 02 24 06.7 +0.7**
comp=Z,3.8nm,0.7s,mb4.2
DBIC Dimbokro 39.72 224 *e*P **P 02 24 06.7 +0.7**
DBIC pmax pmax
comp=Z,4.0nm,0.7s
DBIC Dimbokro 39.72 224 P **P 02 24 05.9 0.0**
comp=Z,2.1nm,0.5s,mb4.1,baz=27,slow=11,SNR=8.9
DBIC LR LR 02 41 34.2
comp=Z,68nm,20.7s,MS3.5,baz=46,slow=38
DBIC Dimbokro 39.72 224 *e*P **P 02 24 06.7 +0.7**
comp=Z,3.8nm,0.7s,mb4.2
UCH Uchtor 39.98 67 *e*P **P 02 24 09.0 +1.1**
comp=Z,4.7nm,1.1s,mb4.1
UCH Uchtor 39.98 67 *e*P **P 02 24 09.0 +1.1**
comp=Z,4.7nm,1.1s,mb4.1
LIC Lamto 40.18 224 *e*P **P 02 24 08.3 -1.5**
comp=Z,8.7nm,0.6s,mb4.4
LIC *e*MLR MLR
comp=Z,86nm,22.2s,MS3.2
LIC Lamto 40.18 224 *e*P **P 02 24 08.3 -1.5**
comp=Z,4.3nm,0.6s,mb4.4
LIC LR LR
comp=Z,40nm,22.3s,MS3.2
LIC Lamto 40.18 224 *e*P **P 02 24 08.3 -1.5**
comp=Z,4.3nm,0.6s,mb4.4

KBS	**Kingsbay**	**40.66**	**357**	*i* P		**P**	**02 24 12.0**	**-1.0**
KURK	**Kurchatov**	**41.41**	**54**	*e*P		**P**	**02 24 20.6**	**+1.0**
	comp=Z,1.7nm,0.5s,mb3.9							
KURK	**Kurchatov**	**41.41**	**54**	*e*P		**P**	**02 24 20.6**	**+1.0**
KURK				pmax		pmax		
	comp=Z,2.0nm,0.5s,mb4.0							
KURK	**Kurchatov**	**41.41**	**54**	*e*P		**P**	**02 24 20.5**	**+0.9**
	comp=Z,1.7nm,0.5s,mb3.9							
NVS	**Novosibirsk**	**43.83**	**47**	*e*P		**P**	**02 24 40.0**	**+0.8**
MK31	**Makanchi Array**	**44.42**	**59**	*e*P		**P**	**02 24 43.1**	**-0.9**
MK31	**Makanchi Array**	**44.42**	**59**	*e*P		**P**	**02 24 43.2**	**-0.9**
MKAR	**Makanchi Array**	**44.42**	**59**	P		**P**	**02 24 43.6**	**-0.5**
	comp=Z,3.9nm,0.6s,mb4.3,baz=283,slow=7.5,SNR=6.5							
MKAR				LR		LR	02 45 23.0	
	comp=Z,64nm,19.6s,MS3.5,baz=351,slow=39							
ZAL	**Zalesovo**	**44.83**	**49**	P		**P**	**02 24 46.5**	**-0.7**
ZAA0	**Zalesovo Array**	**44.84**	**48**	*e*P		**P**	**02 24 46.2**	**-1.1**
ZALV	**Zalesovo Beam**	**44.84**	**48**	P		**P**	**02 24 46.5**	**-0.8**
	comp=Z,8.2nm,0.7s,mb4.7,baz=274,slow=8.5,SNR=24							
ZALV				LR		LR	02 44 48.8	
	comp=Z,34nm,18.1s,MS3.3,baz=331,slow=38							
LSZ	**Lusaka**	**53.93**	**172**	P		**P**	**02 25 57.1**	**+0.2**
	comp=Z,1.6nm,0.7s,mb4.1,baz=338,slow=11,SNR=3.5							
TLY	**Talaya**	**56.44**	**48**	*i* P		**P**	**02 26 13.0**	**-1.8**
ZAK	**Zakamensk**	**56.70**	**49**	*e*P		**P**	**02 26 16.6**	**-0.2**
ZAK				pmax		pmax		
	comp=Z,1.0nm,0.9s,mb3.9							
ZAK	**Zakamensk**	**56.70**	**49**	*e*P		**P**	**02 26 16.6**	**-0.2**
	comp=Z,1.0nm,0.9s,mb3.9							
TSUM	**Tsumeb**	**57.59**	**184**	P		**P**	**02 26 23.3**	**+0.1**
	comp=Z,2.1nm,1.0s,mb4.1,baz=99,slow=21,SNR=3.2							
SCHQ	**Schefferville**	**58.70**	**317**	*e*P		**P**	**02 26 31.2**	**+0.5**
	comp=Z,3.0nm,0.3s,mb4.8							
SCHQ	**Schefferville**	**58.70**	**317**	P		**P**	**02 26 30.3**	**-0.4**
	comp=Z,2.5nm,0.4s,mb4.6,baz=95,slow=3.7,SNR=13							
SCHQ	**Schefferville**	**58.70**	**317**	*e*P		**P**	**02 26 31.2**	**+0.5**
	comp=Z,3.0nm,0.3s,mb4.8							
GTA	**Gaotai**	**58.94**	**62**	*e*P		**P**	**02 26 33.6**	**+0.9**
GTA				AP		pP	02 26 38.4	+2.2
GTA				XP		sP	02 26 41.4	+3.9
GTA				AMB		AMB		
	comp=Z,4.0nm,1.0s,mb4.4							
TIXI	**Tiksi**	**59.01**	**21⇑**	*e*P		**P**	**02 26 32.0**	**-0.6**
TIXI				pmax		pmax		
	comp=Z,1.0nm,0.9s,mb3.9							
TIXI	**Tiksi**	**59.01**	**21**	*e*P		**P**	**02 26 32.0**	**-0.6**
	comp=Z,1.0nm,0.9s,mb3.9							
BOD	**Bodaibo**	**59.58**	**38**	*e*P		**P**	**02 26 33.9**	**-2.8**
SONM	**Songino Array**	**59.60**	**51**	P		**P**	**02 26 36.5**	**-0.6**
	comp=Z,0.9nm,0.7s,mb3.9,baz=277,slow=8.5,SNR=4.9							
ULN	**Ulaanbaatar**	**59.98**	**51**	*e*P		**P**	**02 26 39.1**	**-0.7**
	comp=Z,1.8nm,0.7s,mb4.2							
ULN	**Ulaanbaatar**	**59.98**	**51**	*e*P		**P**	**02 26 39.1**	**-0.6**
ULN				pmax		pmax		
	comp=Z,2.0nm,0.7s,mb4.3							
ULN	**Ulaanbaatar**	**59.98**	**51**	*e*P		**P**	**02 26 39.1**	**-0.6**
	comp=Z,1.8nm,0.7s,mb4.2							
LBTB	**Lobatse**	**63.37**	**176**	*e*P		**P**	**02 27 05.7**	**+3.1**
	comp=Z,3.1nm,0.8s,mb4.5							
LBTB	**Lobatse**	**63.37**	**176**	*e*P		**P**	**02 27 05.7**	**+3.1**
LBTB				pmax		pmax		
	comp=Z,3.0nm,0.8s,mb4.5							
HHC	**Hu-ho-hao-te**	**66.16**	**56**	*e*P		**P**	**02 27 22.1**	**+1.2**
HHC				LR		LR		
	comp=N,120nm,5.4s							
HHC				LR		LR		
	comp=E,89nm,4.4s							
HHC				LR		LR		
	comp=Z,84nm,5.3s							
BOSA	**Boshof**	**66.93**	**176**	P		**P**	**02 27 26.5**	**+0.8**
BOSA				LR		LR	03 00 53.3	
BOSA	**Boshof**	**66.93**	**176**	P		**P**	**02 27 26.5**	**+0.8**
	comp=Z,1.5nm,0.5s,mb4.2,baz=265,slow=17,SNR=10							
BOSA				LR		LR	03 00 53.3	
	comp=Z,81nm,18.5s,MS4.0,baz=331,slow=40							
FCC	**Fort Churchill**	**69.31**	**330**	*e*P		**P**	**02 27 40.6**	**+0.2**
	comp=Z,2.8nm,0.8s,mb4.2							
FCC	**Fort Churchill**	**69.31**	**330**	*e*P		**P**	**02 27 40.6**	**+0.2**
FCC				pmax		pmax		
	comp=Z,3.0nm,0.8s,mb4.3							
FCC	**Fort Churchill**	**69.31**	**330**	*e*P		**P**	**02 27 40.6**	**+0.2**
	comp=Z,2.8nm,0.8s,mb4.2							
INK	**Inuvik**	**71.81**	**350**	*e*P		**P**	**02 27 54.9**	**-0.6**
INK	**Inuvik**	**71.81**	**350**	*e*P		**P**	**02 27 54.9**	**-0.6**
YKA	**Yellowknife Ar**	**73.29**	**340**	P		**P**	**02 28 04.3**	**-0.1**
	comp=Z,0.6nm,0.7s,mb3.7,baz=31,slow=5.3,SNR=18							
YKA				LR		LR	03 03 38.6	
	comp=Z,49nm,19.5s,MS3.8,baz=100,slow=39							
MA2	**Magadan**	**73.61**	**24**	*i* P		**P**	**02 28 04.6**	**-1.8**
MA2				pmax		pmax		
	comp=Z,7.0nm,1.4s,mb4.4							
MA2	**Magadan**	**73.61**	**24**	*i* P		**P**	**02 28 04.6**	**-1.8**
	comp=Z,7.0nm,1.4s,mb4.4							
ULM	**Lac du Bonnet**	**75.85**	**324**	P		**P**	**02 28 19.6**	**+0.1**
	comp=Z,2.7nm,0.9s,mb4.2,baz=29,slow=5.0,SNR=7.5							
COLA	**College**	**76.55**	**355**	*e*P		**P**	**02 28 22.2**	**-1.0**
DAWY	**Dawson**	**76.59**	**352**	*e*P		**P**	**02 28 23.9**	**+0.5**
DAWY	**Dawson**	**76.59**	**352**	*e*P		**P**	**02 28 24.0**	**+0.6**
MCK	**McKinley**	**77.75**	**356**	*e*P		**P**	**02 28 30.3**	**+0.3**
	comp=Z,4.3nm,1.0s,mb4.3							
MCK	**McKinley**	**77.75**	**356**	*e*P		**P**	**02 28 30.3**	**+0.3**
MCK				pmax		pmax		
	comp=Z,4.0nm,1.0s,mb4.3							
MCK	**McKinley**	**77.75**	**356**	*e*P		**P**	**02 28 30.3**	**+0.3**
	comp=Z,4.3nm,1.0s,mb4.3							
KSRS	**Korea Array**	**78.47**	**51**	P		**P**	**02 28 35.3**	**+0.8**
	comp=Z,1.5nm,0.8s,mb4.0,baz=312,slow=4.2,SNR=4.7							
ERM	**Erimo**	**83.82**	**40**	*i* P		**P**	**02 29 00.4**	**-2.4**
TXAR	**Lajitas Array**	**95.27**	**314**	P		**P**	**02 29 57.4**	**-0.2**
	comp=Z,0.8nm,0.9s,mb4.2,baz=55,slow=1.8,SNR=7.2							
ASAR	**Alice Springs**	**121.43**	**96**	PKP		PKPdf	02 35 26.4	-0.6
	comp=Z,0.4nm,0.7s,baz=302,slow=1.5,SNR=5.2							

IDC 15 02:26:36.3±11.0, 666S×15601E, h168km±121km, mb3.5/3, mb1 3.8/4, mb1mx3.3/15, mbtmp3.6/4, Error ellipse: s-maj=156.9km s-min=24.7km az=146.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.77**	**125**	P	Pn	02 27 47.1	0.0
	17nm,0.3s,baz=272,slow=4.0,SNR=3.6						
WRA	**Warramunga Arr**	**24.84**	**236**	P		P	02 31 44.0	+0.6
	3.0nm,0.6s,baz=61,slow=9.4,SNR=11						
ASAR	**Alice Springs**	**27.15**	**229**	P		P	02 32 03.6	-0.5
	0.4nm,0.5s,baz=58,slow=10,SNR=12						
YKA	**Yellowknife Ar**	**95.57**	**28**	P		P	02 39 42.0	-0.1
	0.5nm,0.8s,baz=264,slow=3.7,SNR=9.5						

*CSEM **15** 02:56:01.6±0.7, 3905N×4476E, h8km, MD2.9, Error ellipse: s-maj=15.1km s-min=6.5km az=75.0*
*DDA **15** 02:56:01.1, 3907N×4494E, h7km±3km, Md2.9*
*ISK **15** 02:56:04.9, 3899N×4449E, h12km, MD3.5*
ISC 15 02:56:00.3±2.3, 3904N±006×449E±01, h1km±9km, n8, σ0§90/13, Iran-Armenia-Azerbaijan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DYDN	**Diyadin**	**1.07**	**298**	*i* P	**Pg**	**02 56 21.3**	**+0.5**
DYDN				*i* S	**Sg**	**02 56 35.3**	**+0.5**
VANB	**Van**	**1.27**	**250**	*e*PG	**Pg**	**02 56 23.6**	**-1.0**
TVAN	**Van**	**1.28**	**247**	*i* P	**Pg**	**02 56 22.9**	**-2.0**
TVAN				*i* S	**Sg**	**02 56 42.6**	**+1.2**
AGRB	**Hanur-Agry**	**1.58**	**290**	*e*PN	**Pn**	**02 56 29.6**	**+0.1**
TUTA	**Tutak**	**1.67**	**283**	*i* P	**Pn**	**02 56 30.0**	**-0.6**
TUTA				*i* S	**Sn**	**02 56 52.2**	**-0.5**
HKR	**Hakkari**	**1.73**	**213**	*e*PN	**Pn**	**02 56 32.8**	**+1.3**
HKR				*e*SN	**Sn**	**02 56 53.1**	**-1.1**
HAKT	**HAKKARI**	**1.76**	**213**	*i* P	**Pn**	**02 56 32.2**	**+0.3**
HAKT				*i* S	**Sn**	**02 56 55.5**	**+0.6**
SIRT	**Sirnak**	**2.48**	**232**	*e*PN	**Pn**	**02 56 42.3**	**+0.5**

*ISK **15** 03:00:41.0, 3887N×4475E, h5km, MD3.5*
*CSEM **15** 03:00:42.8±0.2, 3895N×4459E, h5km, MD3.0, Error ellipse: s-maj=4.9km s-min=1.6km az=81.0*
*DDA **15** 03:00:47.2, 3898N×4457E, h12km±8km, Md3.0*
ISC 15 03:00:43.1±1.9, 3890N±004×448E±01, h16km±7km, n10, σ1§31/17, Turkey-Iran border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DYDN	**Diyadin**	**1.05**	**308**	*i* P	**Pb**	**03 01 02.1**	**-0.9**
DYDN				*i* S	**Sb**	**03 01 16.6**	**0.0**
VANB	**Van**	**1.12**	**255**	*e*PN	**Pn**	**03 01 03.0**	**-1.1**
TVAN	**Van**	**1.13**	**251**	*i* P	**Pb**	**03 01 04.1**	**-0.2**
TVAN				*i* S	**Sb**	**03 01 24.9**	**+6.1**
AGRB	**Hanur-Agry**	**1.54**	**297**	*e*PN	**Pg**	**03 01 10.7**	**-1.9**
AGRB				*e*SN	**Sg**	**03 01 32.8**	**+0.2**
HKR	**Hakkari**	**1.55**	**212**	*e*PN	**Pg**	**03 01 10.3**	**-2.6**
HKR				*e*SN	**Sg**	**03 01 32.4**	**-0.6**
HAKT	**HAKKARI**	**1.58**	**212**	*i* P	**Pg**	**03 01 13.7**	**+0.2**
HAKT				*i* S	**Sg**	**03 01 36.5**	**+2.5**
TUTA	**Tutak**	**1.60**	**289**	*i* P	**Pn**	**03 01 11.7**	**+0.9**
TUTA				*i* S	**Sn**	**03 01 29.9**	**-1.2**
DIGO	**Kars**	**1.85**	**325**	*e*P	**Pg**	**03 01 18.6**	**-0.1**
DIGO				*i* S	**Sg**	**03 01 44.6**	**+1.8**
SIRT	**Sirnak**	**2.31**	**233**	*e*PN	**Pn**	**03 01 21.6**	**+1.1**
BTMT	**Batman**	**2.67**	**256**	*e*PN	**Pn**	**03 01 28.0**	**+2.6**

*NEIC **15** 03:08:25.0, 1874N×6951W, h108km, MD3.6(RSPR), After RSPR.*
RSPR 15 03:08:25.0, 1874N×6951W, h108km±1km, MD3.6/8, MD3.6/8, 7C, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMN1	**Samana, DR**	**0.50**	**26⇑**	*e*P	Pn	03 08 41.4	-0.2
SMN1	**Samana, DR**	**0.50**	**26**	*e*S	Sn	03 08 53.8	-0.4
LSP	**Las Mesas**	**2.37**	**103⇑**	*e*P	Pn	03 09 02.7	+0.1
LSP				*e*S	Sn	03 09 31.6	+0.1
CRPR	**Cabo Rojo, PR**	**2.39**	**107⇑**	*e*P	Pn	03 09 02.9	-0.1
CRPR				*e*S	Sn	03 09 31.9	-0.2
LRS	**Lares**	**2.57**	**99⇑**	*e*P	Pn	03 09 06.1	+0.8
LRS				*e*S	Sn	03 09 36.6	+0.5
AOPR	**Arecibo Observ**	**2.64**	**98⇑**	*e*P	Pn	03 09 07.2	+0.9
AOPR				*e*S	Sn	03 09 36.1	-1.8
CBYP	**Canovanas**	**3.50**	**97⇑**	*e*P	Pn	03 09 13.3	-4.3
MTP	**Monte Pirata**	**3.81**	**99⇑**	*e*P	Pn	03 09 17.7	-4.1

*ISCJB **15** 03:12:35.0±0.7, 3860N±003×2157E±004, h8km±7km, Error ellipse: s-maj=6.1km s-min=5.0km az=43.4*
*CSEM **15** 03:12:35.5±0.2, 3859N×2157E, h2km, ML2.5, Error ellipse: s-maj=3.7km s-min=2.9km az=124.0*
*THE **15** 03:12:35.1, 3857N×2158E, h15km, ML2.5*
*NEIC **15** 03:12:35.4, 3859N×2155E, h5km, MD3.3(ATH), After ATH.*
*ATH **15** 03:12:35.4, 3859N×2155E, h5km, MD3.3/6*
ISC 15 03:12:35.3±0.6, 3857N±004×2158E±005, h14km±8km, n9, σ0§68/15, 2C, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SELA	**Sela**	**0.39**	**140**	*e*Pg	**Pg**	**03 12 42.6**	**-0.5**
SELA				*e*Sg	**Sg**	**03 12 48.8**	**+0.4**
EVR	**Evrytania**	**0.39**	**28⇑**	*i*PB	**Pg**	**03 12 43.0**	**-0.2**
EVR				*e*SB	**Sg**	**03 12 48.5**	**0.0**
RLS	**Riolos of Patr**	**0.52**	**190**	*e*PB	**Pb**	**03 12 45.3**	**-0.9**
RLS				*e*SB	**Sb**	**03 12 53.5**	**-0.1**
LKD	**Levkas**	**0.74**	**281**	*e*Pg	**Pg**	**03 12 49.3**	**-0.4**
LKD				*e*Sg	**Sg**	**03 13 00.0**	**+0.6**
AGG	**Agios Georgios**	**0.74**	**52**	*e*Pg	**Pg**	**03 12 49.1**	**-0.7**
AGG				*e*Sg	**Sg**	**03 13 00.4**	**+0.8**
VLS	**Valsamata**	**0.87**	**243⇑**	*i*PB	**Pb**	**03 12 51.1**	**-1.1**
VLS				*e*SB	**Sb**	**03 13 04.5**	**+0.8**
THL	**Klokotos Trika**	**1.05**	**19**	*e*PN	**Pn**	**03 12 55.5**	**-0.1**
ITM	**Ithomi**	**1.42**	**169**	*e*PB	**Pb**	**03 13 02.4**	**+0.9**
VLI	**Veliai**	**2.14**	**149**	*e*PN	**Pn**	**03 13 14.5**	**+3.9**

JMA 15 03:19:25.3, 3479N×13640E, h13km±1km, M0.1, Western Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TSUJ	**Tsu 2**	**0.08**	**169**	P	Pg	03 19 28.1	+0.1
TSUJ				S	Sg	03 19 29.8	-0.2

*NIED **15** 03:19:00, 3480N×13640E, h11km, Mw5.0 Best double couple: M0:3.94000×10¹⁶ NP1:φs=347.00000°, δ46.00000°, λ103.00000°. NP2:φs=148.00000°, δ45.00000°, λ77.00000°.*
*BJI **15** 03:19:20.0, 3456N×13738E, h10km, mB5.2, mb5.1, Ms5.1, Msz4.9*
*IDC **15** 03:19:27.6±0.4, 3478N×13626E, h0km, mb5.1/23, mb1 5.2/27, mb1mx5.1/31, mbtmp5.1/27, ML4.3/4, MS4.4/22, Ms1 4.4/22, ms1mx4.2/37, Error ellipse: s-maj=14.5km s-min=11.7km az=80.0*
*ISCJB **15** 03:19:29.2±0.1, 3479N±002×13629E±001, h16km, mb5.3/268, MS4.7/125, Error ellipse: s-maj=2.4km s-min=1.6km az=164.6*
*BGS **15** 03:19:29.1±1.2, 3435N×13546E, h17km, mb5.4, MS4.6*
*JMA **15** 03:19:29.5, 3479N×13641E, h16km, M5.4 Broadband fault plane solution: P waves. NP1:φs145.00000°, δ43.00000°, λ90.00000°. NP2:φs325.00000°, δ47.00000°, λ90.00000°. Principal axes: T Plg88.0000°, Azm238.0000°; N Plg0.0000°, Azm145.0000°; P Plg2.0000°, Azm55.0000°;*
*NEIC **15** 03:19:30.4±0.1, 3481N×13624E, mb5.4/175, MS4.6/66, MW5.0(NIED) Error ellipse: s-maj=3.4km s-min=2.4km az=159.0*
NEIC At least 12 people injured and 63 buildings damaged in the Mie-Nara-Shiga area. Felt [IV] at Kyoto and [III] at Kobe, Nagoya and Osaka. Felt in much of west-central Honshu and in eastern Shikoku. Recorded [5U JMA] in Mie; [4 JMA] in Nara and Shiga; [3 JMA] in Aichi, Fukui, Gifu, Ishikawa, Kyoto, Nagano, Osaka and Wakayama; [2 JMA] in Hyogo, Shizuoka, Tottori, Toyama and Yamanashi; [1 JMA] in Kanagawa and Okayama Prefectures. Also recorded [1 JMA] in Kagawa, Kochi and Tokushima Prefectures, Shikoku.
*GCMT **15** 03:19:30.4±0.2, 3481N×13635E, h20km, MW5.2/82, Moment Tensor Solution. s52,c66; s82,c129; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr6.30±.21; Mθθ-1.13±.12; Mφφ-5.17±.15; Mrθ1.38±.24; Mrφ2.58±.09; Mθφ0.83±.23; Best double couple: M0:6.56100×10¹⁶ NP1:φs141.00000°, δ46.00000°, λ71.00000°. NP2: φs347.00000°, δ47.00000°, λ109.00000°. Principal axes: T 6.6930, Plg76.0000°, Azm332.0000°; N -0.2650, Plg14.0000°, Azm154.0000°; P -6.4280, Plg1.0000°, Azm64.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*MOS **15** 03:19:32.8±0.7, 3509N×13620E, h33km, mb5.5/113, MS4.7/46 Error ellipse: s-maj=6.5km s-min=3.6km az=107.0*
*SZGRF **15** 03:19:34.4, 3524N×13720E, h33km, mb5.3, MS4.7, Eastern Honshu, Japan*
ISC 15 03:19:31.0±0.1, 3483N±002×13628E±002, h17km, h17km±.6km: pP-P, n1187, σ0§89/1177, mb5.3/268, MS4.7/125, 281C-119D, Western Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TSUJ	**Tsu 2**	**0.17**	**134**	⇑P	**Pg**	**03 19 32.7**	**-2.5**
TSUJ				S	**Sg**	**03 19 34.7**	**-3.5**
JEG	**Eigenji**	**0.32**	**17**	⇓P	**Pg**	**03 19 36.6**	**-1.2**
JEG				S	**Sg**	**03 19 41.4**	**-1.1**
JHE	**Heguri**	**0.52**	**251**	⇓P	**Pg**	**03 19 41.1**	**-0.1**
JHE				S	**Sg**	**03 19 49.8**	**+1.6**
JIE	**Ise**	**0.56**	**140**	⇑P	**Pg**	**03 19 38.7**	**-3.4**
JIE				S	**Sg**	**03 19 44.9**	**-4.7**
JKN2	**Miekihoku**	**0.58**	**180**	⇓P	**Pg**	**03 19 40.4**	**-2.1**
JKN2				S	**Sg**	**03 19 48.4**	**-1.9**
JAA	**Atsumi**	**0.74**	**105**	⇓P	**Pb**	**03 19 40.9**	**-4.5**
JFM	**Mihama**	**0.74**	**341**	⇓P	**Pb**	**03 19 45.2**	**-0.2**
JWY	**Kouya**	**0.83**	**223**	⇓P	**Pb**	**03 19 45.9**	**-1.0**
JWY				S	**Sb**	**03 19 58.0**	**+0.3**
JWT	**Wachi**	**0.85**	**303**	⇓P	**Pb**	**03 19 47.7**	**+0.4**
JAO	**Obara**	**0.92**	**61**	⇓P	**Pb**	**03 19 44.9**	**-3.5**
JGM	**Miyama**	**0.94**	**22**	⇓P	**Pb**	**03 19 47.5**	**-1.4**
JGM				*e*S	**Sb**	**03 19 59.6**	**-1.5**
JMIK	**Miki**	**1.01**	**269**	⇓P	**Pb**	**03 19 50.3**	**+0.4**
JGF	**Kuroka**	**1.18**	**49**	⇓P	**Pn**	**03 19 49.9**	**-2.7**
JKS	**Kasai**	**1.19**	**278**	⇑P	**Pn**	**03 19 53.3**	**+0.5**
HMMJ	**Hamamatsu 2**	**1.19**	**88**	⇓P	**Pn**	**03 19 48.4**	**-4.4**
JYZW	**Yoshizawa**	**1.21**	**81**	P	**Pn**	**03 19 48.8**	**-4.3**
JAJ2	**Tsuna**	**1.22**	**251**	⇓P	**Pn**	**03 19 52.8**	**-0.4**
TK04	**Tokai 4**	**1.39**	**108**	⇓P	**Pn**	**03 19 53.0**	**-2.6**
JNY	**Yasuok**	**1.41**	**67**	⇓P	**Pn**	**03 19 52.7**	**-3.1**
JKG	**Kaga**	**1.45**	**2**	⇑P	**Pn**	**03 19 56.9**	**+0.5**
TK02	**Tokai 2**	**1.51**	**125**	⇓P	**Pn**	**03 19 54.0**	**-3.2**
TK01	**Tokai 1**	**1.52**	**134**	P	**Pn**	**03 19 54.1**	**-3.2**
JKSM	**Kasumi**	**1.52**	**300**	⇑P	**Pn**	**03 19 57.9**	**+0.5**
JSG	**Sagara**	**1.58**	**95**	⇓P	**Pn**	**03 19 55.6**	**-2.6**
SHZ3	**Shizuoka 3**	**1.61**	**81**	⇓P	**Pn**	**03 19 55.9**	**-2.6**
JGN	**Niukaw**	**1.63**	**31**	⇓P	**Pn**	**03 19 57.9**	**-1.0**
JNT	**Takato**	**1.85**	**55**	P	**Pn**	**03 20 00.5**	**-1.4**
JTT	**Ttatey**	**1.97**	**26**	⇓P	**Pn**	**03 20 03.4**	**-0.2**
JYN	**Shimob**	**1.98**	**69**	⇓P	**Pn**	**03 20 01.8**	**-1.8**
JIZS	**Izushimoda**	**2.15**	**92**	P	**Pn**	**03 20 01.9**	**-4.0**
JNG	**Nsakai**	**2.17**	**43**	⇓P	**Pn**	**03 20 05.9**	**-0.4**
JMN	**Monobe**	**2.27**	**242**	⇓P	**Pn**	**03 20 07.6**	**0.0**
AJI	**Ajiro2**	**2.32**	**84**	P	**Pn**	**03 20 05.4**	**-3.0**
MAJO	**Matsushiro**	**2.33**	**42**	*e*Pn	**Pn**	**03 20 07.9**	**-0.5**
MAT	**Matsushiro**	**2.33**	**42**	P	**Pn**	**03 20 07.9**	**-0.5**
MAT				S	**Sn**	**03 20 36.0**	**-0.6**
MJAR	**Matsushiro Arr**	**2.33**	**42**	Pn	**Pn**	**03 20 08.1**	**-0.4**
MJAR				Sn	**Sn**	**03 20 37.8**	**+1.2**
MJAR	**Matsushiro Arr**	**2.33**	**42**	Pn	**Pn**	**03 20 08.1**	**-0.4**
	403nm,0.3s,baz=216,slow=14,SNR=712						
MJAR				Sn	**Sn**	**03 20 37.8**	**+1.2**
	526nm,0.3s,baz=134,slow=56,SNR=6.8						
JOD2	**Odawara 2**	**2.35**	**78**	P	**Pn**	**03 20 06.3**	**-2.4**
JKO	**Kozu shima**	**2.45**	**104**	P	**Pn**	**03 20 06.8**	**-3.3**
JRY	**Ryogami san**	**2.45**	**60**	⇓P	**Pn**	**03 20 09.0**	**-1.2**
JJG	**Jouge**	**2.58**	**267**	⇓P	**Pn**	**03 20 12.8**	**+0.9**
JIM2	**Oshima 3**	**2.60**	**91**	P	**Pn**	**03 20 09.2**	**-3.0**
JJN	**Nakama**	**2.74**	**33**	P	**Pn**	**03 20 14.5**	**+0.4**
JAG	**Ashikaga**	**3.04**	**57**	P	**Pn**	**03 20 17.8**	**-0.5**
JKU	**Kubokawa**	**3.06**	**241**	P	**Pn**	**03 20 18.5**	**-0.1**
JHK	**Hiroka**	**3.28**	**42**	P	**Pn**	**03 20 21.2**	**-0.4**
JIZZ	**Izumozaki**	**3.34**	**35**	P	**Pn**	**03 20 23.2**	**+0.8**
JHJ	**Hachijo jima 2**	**3.38**	**119**	Pn	**Pn**	**03 20 20.8**	**-2.1**
	332nm,0.3s,baz=226,slow=3.8,SNR=46						
JHJ				LR	LR	03 21 41.0	
	comp=Z,4μm,21.1s,baz=311,slow=39						
JKD	**Kudamatsu**	**3.72**	**259**	P	**Pn**	**03 20 29.1**	**+1.5**
JHO	**Hitachi**	**3.92**	**62**	P	**Pn**	**03 20 28.7**	**-1.7**
JUS	**Usuki**	**4.15**	**246**	P	**Pn**	**03 20 34.6**	**+1.1**
OIT2	**Oita 2**	**4.29**	**250**	P	**Pn**	**03 20 37.7**	**+2.2**
JFK	**Kawauchi**	**4.50**	**54**	P	**Pn**	**03 20 37.9**	**-0.5**
JFA	**Akaike**	**4.67**	**258**	P	**Pn**	**03 20 41.8**	**+1.1**
JTSN	**Tsuno**	**4.74**	**238**	P	**Pn**	**03 20 42.4**	**+0.7**
JNU	**Nakatsue**	**4.80**	**251**	Pn	**Pn**	**03 20 43.8**	**+1.4**
	46nm,0.3s,baz=58,slow=13,SNR=140						
JOU	**Okura**	**5.00**	**44**	P	**Pn**	**03 20 46.0**	**+0.9**
JFI	**Itaya**	**5.08**	**256**	P	**Pn**	**03 20 47.8**	**+1.5**
JTZ	**Takazaki**	**5.23**	**238**	P	**Pn**	**03 20 49.6**	**+1.2**
JUR	**Ureshino**	**5.53**	**254**	P	**Pn**	**03 20 54.0**	**+1.5**
JHD	**Hondo**	**5.63**	**247**	P	**Pn**	**03 20 55.3**	**+1.4**
JRG	**Rokugo**	**5.74**	**36**	P	**Pn**	**03 20 56.7**	**+1.4**
JSU	**Suzuyama**	**5.90**	**237**	P	**Pn**	**03 20 58.7**	**+1.2**
KSRS	**Korea Array**	**7.25**	**294**	Pn	**Pn**	**03 21 18.4**	**+2.4**
	4.9nm,0.3s,baz=106,slow=14,SNR=44						
KSRS				Sn	**Sn**	**03 22 42.1**	**+4.1**
	4.3nm,0.3s,baz=115,slow=21,SNR=4.9						
KSRS				LR	LR	03 24 11.8	
	comp=Z,3μm,18.4s,baz=113,slow=39						
KS15	**Wonju Array Si**	**7.28**	**293**	*e*Pn	**Pn**	**03 21 19.6**	**+3.2**
INCN	**Inchon**	**8.24**	**292**	*e*Pn	**Pn**	**03 21 33.0**	**+3.4**
ERM	**Erimo**	**8.98**	**35**	Pn	**Pn**	**03 21 40.0**	**+0.2**
	1μm,0.5s,SNR=22						
ERM	**Erimo**	**8.98**	**35**	*e*Pn	**Pn**	**03 21 40.4**	**+0.6**
	134nm,0.6s						
ERM	**Erimo**	**8.98**	**35**	*e*P	**Pn**	**03 21 40.4**	**+0.6**
ERM				pmax	pmax		
	comp=Z,134nm,0.6s						
CBIJ	**Chichi jima**	**9.22**	**145**	Pn	**Pn**	**03 21 43.2**	**+0.1**
	comp=Z,2.3nm,0.3s,baz=273,slow=23,SNR=2.0						
CBIJ				LR	LR	03 24 42.8	
	comp=Z,2μm,19.8s,baz=340,slow=34						
ASAJ	**Asahikawa**	**10.48**	**26**	P	**Pn**	**03 22 00.3**	**-0.1**
ASAJ				pmax	pmax		
	comp=Z,4.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,2μm,19.5s					

	comp=E,4μm,11.6s					
SSE				LR	LR	
	comp=Z,5μm,10.9s					
HABR	**Khabarovsk**	**13.67 357**	⇑	*i*P	**Pn**	**03 22 46.0 +2.1**
HABR				*e*		03 25 17.5
HABR				pmax	pmax	
	comp=Z,66nm,1.6s					
KLR	**Kul'dur**	**14.78 348**		*e*P	**Pn**	**03 22 57.0 -2.0**
KLR				MLR	MLR	
	comp=Z,12μm,13.0s					
NJ2	**Nanjing**	**14.81 264**		*e*P	**Pn**	**03 23 03.6 +4.1**
NJ2				AP	pP	03 23 07.8 -2.4
NJ2				XP	sP	03 23 11.4 -0.9
NJ2				PP		03 23 15.4
NJ2				AMB	AMB	
	comp=Z,20nm,1.3s					
NJ2				AMB	AMB	
	comp=Z,900nm,8.0s					
NJ2				LR	LR	
	comp=N,5μm,12.0s					
NJ2				LR	LR	
	comp=E,3μm,12.0s					
NJ2				LR	LR	
	comp=Z,12μm,12.0s					
UGL	**Uglegorsk**	**14.87 15**		*e*P	**Pn**	**03 22 59.0 -1.3**
UGL				*e*		03 25 44.0
UGL				pmax	pmax	
	comp=Z,100nm,1.0s					
UGL				pmax	pmax	
	comp=Z,500nm,3.0s					
UGL				MLR	MLR	
	comp=Z,2μm,13.0s					
UGL				MLR	MLR	
	comp=N,2μm,14.0s					
UGL				MLR	MLR	
	comp=E,1μm,13.0s					
TIA	**Tai'an**	**15.66 281**		*e*P	**Pn**	**03 23 13.6 +2.8**
TIA				S	**Sn**	**03 26 13.0 +9.1**
TIA				LR	LR	
	comp=N,2μm,12.0s					
TIA				LR	LR	
	comp=E,2μm,11.0s					
BJI	**Beijing**	**16.78 294**		P	**Pn**	**03 23 28.1 +3.0**
BJI				S	**Sn**	**03 26 37.0 +5.9**
BJI				AMB	AMB	
	comp=Z,50nm,0.9s					
BJI				AMB	AMB	
	comp=Z,2μm,9.1s					
BJI				LR	LR	
	comp=N,2μm,12.2s					
BJI				LR	LR	
	comp=E,4μm,11.3s					
BJI				LR	LR	
	comp=Z,2μm,17.4s					
BJT	**Baijiatuau**	**16.78 294**		*e*P	**Pn**	**03 23 27.8 +2.6**
	comp=Z,75nm,0.8s					
BJT	**Baijiatuau**	**16.78 294**		*e*P	**Pn**	**03 23 27.8 +2.7**
BJT				pmax	pmax	
	comp=Z,75nm,0.8s					
QZH	**Quanzhou**	**18.20 242**		P	**Pn**	**03 23 44.4 +1.6**
QZH				S	**Sn**	**03 27 01.3 -4.3**
QZH				AMB	AMB	
	comp=Z,1μm,4.5s					
QZH				LR	LR	
	comp=N,3μm,15.5s					
QZH				LR	LR	
	comp=E,4μm,11.4s					
QZH				LR	LR	
	comp=Z,4μm,14.6s					
HIA	**Hailar**	**18.89 325**	⇑	*i*P	**Pn**	**03 23 51.5 +0.5**
	comp=Z,408nm,1.0s					
HIA	**Hailar**	**18.89 325**	⇑	*i*P	**Pn**	**03 23 51.5 +0.5**
HIA				pmax	pmax	
	comp=Z,408nm,1.0s					
WHN	**Wuhan**	**18.93 263**		*e*P	**Pn**	**03 23 54.5 +2.8**
WHN				S	**Sn**	**03 27 31.5 +8.1**
WHN				AMB	AMB	
	comp=Z,3μm,4.7s					
WHN				LR	LR	
	comp=Z,7μm,11.6s					
TIY	**Taiyuan**	**19.43 285**		P	**Pn**	**03 23 58.9 +1.3**
TIY				AP	pP	03 24 06.3 +5.1
TIY				PPP		03 24 29.8
TIY				S	**Sn**	**03 27 38.9 +3.7**
TIY				XS	sS	03 27 48.6 +5.7
TIY				AMB	AMB	
	comp=Z,139nm,1.0s					
TIY				LR	LR	
	comp=N,2μm,8.3s					
TIY				LR	LR	
	comp=E,3μm,9.5s					
TIY				LR	LR	
	comp=Z,3μm,10.6s					
HHC	**Hu-ho-hao-te**	**20.39 294**		*i* P	**P**	**03 24 08.3 +1.4**
HHC				AP		03 24 13.0
HHC				XP	sP	03 24 15.4 +1.5
HHC				PP		03 24 28.8
HHC				S	**S**	**03 28 01.0 +6.4**
HHC				PCP	PcP	03 28 18.3 -0.8
HHC				AMB	AMB	
	comp=Z,642nm,1.5s					
HHC				LR	LR	
	comp=N,2μm,13.1s,MS5.0					
HHC				LR	LR	
	comp=E,3μm,10.0s,MS5.0					
HHC				LR	LR	
	comp=Z,3μm,10.3s,MS5.0					
SKR	**Severo-Kuril's**	**21.42 36**		*e*P	**P**	**03 24 16.0 -1.9**
SKR				*e*		03 24 28.4
SKR				*e*		03 24 42.0
SKR				*e*S	**S**	**03 28 15.0 +0.2**
SKR				*e*		03 28 18.0
SKR				*e*SS		03 28 32.0
SKR				pmax	pmax	
	comp=Z,70nm,0.8s,mb5.0					
SKR				pmax	pmax	
	comp=N,20nm,0.5s					
SKR				pmax	pmax	
	comp=E,30nm,0.5s					
SKR				pmax	pmax	
	comp=Z,1μm,6.0s					
SKR				pmax	pmax	
	comp=N,1μm,4.0s					
SKR				pmax	pmax	
	comp=E,800nm,4.0s					
SKR				pmax	pmax	
	comp=N,1μm,8.0s					
SKR				pmax	pmax	
	comp=E,1μm,8.0s					
SKR				MLR	MLR	
	comp=Z,1μm,16.0s,MS4.3					
SKR				MLR	MLR	
	comp=N,1μm,14.0s,MS4.6					
SKR				MLR	MLR	
	comp=E,1μm,14.0s,MS4.6					
BTO	**Baotou**	**21.52 293**		*e*P	**P**	**03 24 18.3 -0.7**
BTO				LR	LR	
	comp=N,956nm,15.3s,MS4.4					
BTO				LR	LR	
	comp=E,672nm,15.1s,MS4.4					
GUMO	**Guam**	**22.53 158**		LR	LR	03 31 48.2
	comp=E,533nm,18.6s,MS4.0,baz=308,slow=33					
XAN	**Xi'an**	**22.55 276**		P	**P**	**03 24 30.3 +0.1**
XAN				AP		03 24 38.4
XAN				XP	sP	03 24 44.3 +7.1
XAN				S	**S**	**03 28 37.5 +0.3**
XAN				AMB	AMB	
	comp=Z,60nm,0.8s,mb5.1					
XAN				AMB	AMB	
	comp=Z,244nm,5.9s					
XAN				LR	LR	
	comp=N,2μm,13.1s,MS5.0					
XAN				LR	LR	
	comp=E,3μm,13.1s,MS5.0					
XAN				LR	LR	
	comp=Z,4μm,12.4s,MS5.0					
ENH	**Enshi**	**23.00 266**		PFAKE		03 24 50.0 +15
ENH				LR	LR	
	comp=Z,3.0nm,22.0s					
GZH	**Guangzhou**	**23.17 246**		P	**P**	**03 24 32.9 -3.8**
GZH				LR	LR	
	comp=N,3μm,13.6s,MS4.8					
GZH				LR	LR	
	comp=E,1μm,17.6s,MS4.8					
GZH				LR	LR	
	comp=Z,3μm,13.6s,MS4.9					
NRGR	**Nerungri**	**23.21 344**		*e*P	**P**	**03 24 37.2 +0.3**
CLNS	**Chul'man**	**23.34 344**		*e*P	**P**	**03 24 35.7 -2.5**
CLNS				*e**PP		03 24 40.9
CLNS				*e*PPP		03 25 08.5
CLNS				*e*		03 28 21.9
CLNS				*e*S	**S**	**03 28 44.8 -5.0**
CLNS				pmax	pmax	
	comp=Z,34nm,0.7s,mb4.9					
CLNS				pmax	pmax	
	comp=N,15nm,0.8s					
CLNS				pmax	pmax	
	comp=E,7.0nm,0.6s					
CLNS				pmax	pmax	
	comp=Z,19nm,0.7s,mb4.6					
CLNS				pmax	pmax	
	comp=N,11nm,0.8s					
CLNS				pmax	pmax	
	comp=E,21nm,1.0s					
CLNS				smax		
	comp=N,133nm,11.3s					
CLNS				smax		
	comp=Z,73nm,11.6s					
CLNS				smax		
	comp=E,139nm,12.6s					
CLNS				MLR	MLR	
	comp=Z,2μm,14.0s,MS4.8					
CLNS				MLR	MLR	
	comp=N,1μm,11.0s,MS4.7					
CLNS				MLR	MLR	
	comp=E,1μm,11.0s,MS4.7					
PET	**Petropavlovsk**	**24.14 34**		*e*P	**P**	**03 24 45.5 -0.2**
	comp=E,66nm,1.2s,mb4.9					
PET				LR	LR	
	comp=Z,761nm,19.0s,MS4.2					
PET	**Petropavlovsk**	**24.14 34**		*i* P	**P**	**03 24 44.5 -1.3**
PET				*e*S	**S**	**03 29 01.2 -1.6**
PET				pmax	pmax	
	comp=Z,500nm,3.4s					
PET				pmax	pmax	
	comp=Z,300nm,6.3s					
PET				pmax	pmax	
	comp=Z,50nm,1.1s,mb4.9					
PET				MLR	MLR	
	comp=Z,1μm,18.0s,MS4.4					
PET				MLR	MLR	
	comp=Z,1μm,17.0s					
ULN	**Ulaanbaatar**	**25.34 310**		*e*P	**P**	**03 24 56.9 0.0**
	comp=Z,46nm,1.0s,mb5.0					
ULN				*e*PcP	PcP	03 28 28.7 -0.5
ULN				LR	LR	
	comp=Z,867nm,19.0s,MS4.3					
ULN	**Ulaanbaatar**	**25.34 310**		*e*P	**P**	**03 24 56.9 +0.1**
ULN				*e*		03 28 28.7
ULN				pmax	pmax	
	comp=Z,46nm,1.0s,mb5.0					
ULN				MLR	MLR	
	comp=Z,867nm,19.0s,MS4.3					
ULN	**Ulaanbaatar**	**25.34 310**		P	**P**	**03 24 57.5 +0.7**
	SNR=32					
ULN	**Ulaanbaatar**	**25.34 310**		P	**P**	**03 24 57.5 +0.7**
	SNR=32					
SONM	**Songino Array**	**25.75 309**		P	**P**	**03 25 00.7 +0.2**
SONM						03 28 29.3
SONM	**Songino Array**	**25.75 309**		P	**P**	**03 25 00.7 +0.2**
	comp=Z,30nm,0.6s,mb5.0,baz=111,slow=6.5,SNR=108					
SONM				PcP	PcP	03 28 29.3 -0.8
	comp=Z,3.2nm,0.7s,baz=125,slow=1.8,SNR=3.8					
SONM				LR	LR	03 35 36.5
	comp=Z,1μm,18.1s,MS4.4,baz=295,slow=38					
LZH	**Lanzhou**	**26.39 282**	⇑	P	**P**	**03 25 06.9 +0.5**
LZH				AP	pP	03 25 11.4 -0.1
LZH				XP	sP	03 25 14.0 +0.3
LZH				PP		03 25 49.5
LZH				S	**S**	**03 29 37.3 -1.7**
LZH				AMB	AMB	
	comp=Z,115nm,1.1s,mb5.3					
LZH				AMB	AMB	
	comp=Z,518nm,5.4s					
LZH				LR	LR	
	comp=E,3μm,11.2s					
LZH				LR	LR	
	comp=Z,4μm,13.0s,MS5.1					
MA2	**Magadan**	**26.53 17**		*e*P	**P**	**03 25 06.7 -0.7**
	comp=Z,172nm,1.9s,mb5.3					
MA2				LR	LR	
	comp=Z,558nm,20.0s,MS4.1					
MA2	**Magadan**	**26.53 17**	⇑	*i*P	**P**	**03 25 06.5 -0.9**
MA2				pmax	pmax	
	comp=Z,38nm,1.4s,mb4.7					
GYA	**Guiyang**	**26.73 260**		P	**P**	**03 25 09.5 -0.1**
GYA				AP	pP	03 25 14.8 0.0
GYA				XP	sP	03 25 17.6 +0.7
GYA				PP		03 25 54.8
GYA				S	**S**	**03 29 42.8 -1.8**
GYA				AMB	AMB	
	comp=Z,40nm,0.8s,mb5.0					
GYA				AMB	AMB	
	comp=Z,180nm,6.4s					
GYA				LR	LR	
	comp=N,2μm,11.0s					
GYA				LR	LR	
	comp=E,2μm,9.9s					
GYA				LR	LR	
	comp=Z,3μm,10.0s,MS5.1					
BOD	**Bodaibo**	**27.42 334**		*e*P	**P**	**03 25 12.9 -2.6**
BOD				pmax	pmax	
	comp=Z,15nm,1.7s,mb4.2					
CD2	**Chengdu**	**27.52 271**		P	**P**	**03 25 16.8 +0.1**
CD2				AP	pP	03 25 20.8 -1.0
CD2				XP	sP	03 25 24.5 +0.5
CD2				PP		03 26 04.8
CD2				S	**S**	**03 29 54.3 -2.7**
CD2				AMB	AMB	
	comp=Z,190nm,0.8s,mb5.8					
CD2				AMB	AMB	
	comp=Z,220nm,5.5s					
CD2				LR	LR	
	comp=N,5μm,13.9s,MS5.3					
CD2				LR	LR	
	comp=E,4μm,15.6s,MS5.3					
CD2				LR	LR	
	comp=Z,5μm,12.6s,MS5.2					
YAK	**Yakutsk**	**27.55 353**		*e*P	**P**	**03 25 15.2 -1.4**
	comp=Z,30nm,0.6s,mb5.1					
YAK				LR	LR	
	comp=Z,832nm,20.0s,MS4.3					
YAK	**Yakutsk**	**27.55 353**		*e*P	**P**	**03 25 15.1 -1.4**
YAK				*e**PP	pP	03 25 23.3 +1.6
YAK				*e*		03 26 01.8
YAK				*e*PPP		03 26 09.8
YAK				*e*		03 28 33.3
YAK				*e*SS		03 31 12.1
YAK				*e*SSS		03 31 26.4
YAK				*e*		03 36 02.5
YAK				pmax	pmax	
	comp=Z,32nm,0.8s,mb5.0					
YAK				pmax	pmax	
	comp=N,31nm,1.3s					
YAK				pmax	pmax	
	comp=E,11nm,1.4s					
YAK				pmax	pmax	
	comp=Z,64nm,2.1s,mb4.9					
YAK				MLR	MLR	
	comp=N,1μm,18.0s					
YAK				MLR	MLR	
	comp=Z,2μm,18.0s,MS4.7					
YAK				MLR	MLR	
	comp=E,676nm,10.0s					
QIZ	**Qiongzhong**	**28.22 243**		P	**P**	**03 25 24.3 +1.3**
QIZ				XP	sP	03 25 27.9 -2.3
QIZ				S	**S**	**03 30 08.6 +0.5**
QIZ				AMB	AMB	
	comp=Z,167nm,5.3s					
QIZ				LR	LR	
	comp=N,1μm,14.6s					
QIZ				LR	LR	
	comp=Z,1μm,14.5s,MS4.6					
QIZ	**Qiongzhong**	**28.22 243**		*e*P	**P**	**03 25 23.8 +0.8**
	comp=Z,34nm,1.3s,mb4.8					
QIZ				LR	LR	
	comp=Z,883nm,22.0s,MS4.3					
ZAK	**Zakamensk**	**28.54 313**		*e*P	**P**	**03 25 25.1 -0.5**
ZAK				pmax	pmax	
	comp=Z,12nm,1.2s,mb4.5					
ZAK				pmax	pmax	
	comp=Z,3.0nm,1.0s,mb4.0					
IRK	**Irkutsk**	**28.68 317**	⇑	*i*P	**P**	**03 25 25.9 -0.9**
IRK				*e*S	**S**	**03 30 18.9 +4.1**
IRK				pmax	pmax	
	comp=Z,34nm,1.4s,mb4.9					
TLY	**Talaya**	**28.81 316**		P	**P**	**03 25 28.3 +0.4**
	comp=Z,166nm,0.7s,mb5.9,SNR=16					
TLY	**Talaya**	**28.81 316**		*e*P	**P**	**03 25 28.1 +0.2**
TLY				*e*PcP	PcP	03 28 37.8 +0.5
TLY				LR	LR	
	comp=Z,309nm,20.0s,MS3.9					
TLY	**Talaya**	**28.81 316**	⇑	*i*P	**P**	**03 25 27.8 -0.1**
TLY				*e*		03 26 23.2
TLY				pmax	pmax	
	comp=Z,53nm,1.5s,mb5.0					
TLY				MLR	MLR	
	comp=Z,2μm,16.0s,MS4.8					
TLY	**Talaya**	**28.81 316**		P	**P**	**03 25 28.4 +0.5**
	SNR=15					
TLY	**Talaya**	**28.81 316**		P	**P**	**03 25 28.4 +0.5**
	SNR=15					
GTA	**Gaotai**	**29.30 290**	⇑	P	**P**	**03 25 32.8 +0.3**
GTA				AP	pP	03 25 41.8 +4.2
GTA				XP	sP	03 25 45.8 +6.1
GTA				PP	PP	03 26 28.0 -11
GTA				PCP	PcP	03 28 39.3 +0.5
GTA				S	**S**	**03 30 26.1 +1.2**
GTA				XS	sS	03 30 38.0 +4.6
GTA				SCP	ScP	03 32 19.9 +0.1
GTA				AMB	AMB	
	comp=Z,157nm,2.1s,mb5.4					
GTA				LR	LR	
	comp=N,1μm,11.7s,MS4.9					
GTA				LR	LR	
	comp=E,2μm,11.2s,MS4.9					
GTA				LR	LR	
	comp=Z,2μm,11.4s,MS4.9					
DAV	**Davao City (W)**	**29.33 202**		PFAKE		03 25 40.0 +7.2
DAV				LR	LR	
	comp=Z,627nm,20.0s,MS4.2					
SEY	**Seymchan**	**29.88 15**	⇑	*e*P	**P**	**03 25 37.1 -0.2**
SEY	**Seymchan**	**29.88 15**	⇑	*e*P	**P**	**03 25 37.0 -0.3**
MOY	**Mondy**	**30.34 315**		*e*P	**P**	**03 25 40.9 -0.6**
KMI	**Kunming**	**30.50 261**		P	**P**	**03 25 43.0 -0.2**
KMI				AP	pP	03 25 49.3 +0.9
KMI				XP	sP	03 25 51.9 +1.4
KMI				PP	PP	03 26 45.6 -6.4
KMI				PPP		03 27 00.6
KMI				S	**S**	**03 30 45.8 +1.9**
KMI				XS	sS	03 30 57.8 +5.4
KMI				AMB	AMB	
	comp=Z,16nm,1.0s,mb4.7					
KMI				AMB	AMB	
	comp=Z,184nm,5.2s					
KMI				LR	LR	
	comp=N,922nm,11.8s,MS5.0					
KMI				LR	LR	
	comp=E,2μm,10.1s,MS5.0					
KMI				LR	LR	
	comp=Z,2μm,10.6s,MS5.0					
KKM	**Kota Kinabalu**	**34.10 217**		*e*P	**P**	**03 26 16.4 +1.5**
KKTK	**Khon Kaen**	**35.12 247**		P	**P**	**03 26 24.0 +0.4**
CHRT	**Chiangrai**	**35.45 255**	⇑	P	**P**	**03 26 28.0 +1.5**
	comp=Z,1μm,0.9s					
CHG	**Chiang Mai**	**36.69 254**	⇑	P	**P**	**03 26 37.8 +0.7**
	comp=Z,95nm,0.7s,mb5.7					
CHTO	**Chiang Mai**	**36.69 254**		*e*P	**P**	**03 26 37.9 +0.8**
	comp=Z,57nm,0.6s,mb5.6					
CHTO				LR	LR	
	comp=Z,462nm,21.0s,MS4.2					
CHTO	**Chiang Mai**	**36.69 254**		*e*P	**P**	**03 26 37.9 +0.8**
CHTO				pmax	pmax	
	comp=Z,57nm,0.6s,mb5.6					
CHTO				MLR	MLR	
	comp=Z,462nm,21.0s,MS4.2					
CHTO	**Chiang Mai**	**36.69 254**		P	**P**	**03 26 38.3 +1.2**
	SNR=26					
CHTO	**Chiang Mai**	**36.69 254**		P	**P**	**03 26 38.3 +1.2**
	SNR=26					
CM31	**Chiang Mai Arr**	**36.89 254**		*e*P	**P**	**03 26 39.6 +0.8**
	comp=Z,32nm,0.6s,mb5.3					
CM31				LR	LR	
	comp=Z,687nm,20.0s,MS4.4					
TIXI	**Tiksi**	**37.10 356**		*e*P	**P**	**03 26 38.2 -1.7**
	comp=Z,33nm,0.7s,mb5.3					
TIXI				LR	LR	
	comp=Z,859nm,19.0s,MS4.6					
TIXI	**Tiksi**	**37.10 356**	⇑	*e*P	**P**	**03 26 38.3 -1.6**
TIXI				pmax	pmax	
	comp=Z,42nm,0.9s,mb5.3					
BILL	**Bilibino**	**37.37 18**		*e*P	**P**	**03 26 42.0 -0.3**
	comp=Z,8.4nm,0.6s,mb4.8					
BILL				LR	LR	
	comp=Z,573nm,19.0s,MS4.4					
BILL	**Bilibino**	**37.37 18**		P	**P**	**03 26 42.0 -0.3**
BILL				*e*		03 26 53.0
BILL						03 29 01.0
BILL				pmax	pmax	
	comp=Z,23nm,1.8s,mb4.7					
BILL				MLR	MLR	
	comp=Z,500nm,15.0s,MS4.4					
ADK	**Adak**	**37.48 48**		PFAKE		03 26 50.0 +6.6
ADK				LR	LR	
	comp=Z,756nm,20.0s,MS4.5					
BDT	**Bhumibol Dam**	**37.52 252**		P	**P**	**03 26 45.0 +0.8**
	comp=Z,16nm,1.0s,mb4.7					
NST	**Nakhon Sawan**	**37.57 249**		P	**P**	**03 26 46.0 +1.4**
WMQ	**Urumqi**	**38.17 299**		P	**P**	**03 26 50.5 +1.1**
WMQ				AP	pP	03 26 55.0 +0.4
WMQ				XP	sP	03 26 57.5 +0.8
WMQ				PP	PP	03 28 22.0 +5.4
WMQ				*e*S	**S**	**03 32 45.0 +3.1**
WMQ				XS	sS	03 32 58.0 +7.5
WMQ				AMB	AMB	
	comp=Z,14nm,0.7s,mb4.8					
WMQ				AMB	AMB	
	comp=Z,156nm,4.3s					
WMQ				LR	LR	
	comp=N,2μm,19.0s,MS4.9					
WMQ				LR	LR	
	comp=E,769nm,14.5s,MS4.9					
WMQ				LR	LR	
	comp=Z,1μm,14.8s,MS4.8					
LSA	**Lhasa**	**38.26 275**		*e*P	**P**	**03 26 51.5 +1.2**
	comp=Z,35nm,0.8s,mb5.2					
LSA				LR	LR	
	comp=Z,659nm,19.0s,MS4.5					
LSA	**Lhasa**	**38.26 275**		*e*P	**P**	**03 26 51.5 +1.2**
LSA				pmax	pmax	
	comp=Z,35nm,0.8s,mb5.1					
LSA				MLR	MLR	
	comp=Z,659nm,19.0s,MS4.5					
SHL	**Shillong**	**39.20 269**		*i* P	**P**	**03 26 58.5 +0.3**
SHL				*ex*	x	03 32 54.0
NNT	**Nongplab**	**39.79 245**		P	**P**	**03 27 04.7 +1.5**
ZAA0	**Zalesovo Array**	**40.40 314**		*e*P	**P**	**03 27 06.5 -1.4**
ZALV	**Zalesovo Beam**	**40.40 314**		P	**P**	**03 27 06.8 -1.0**
	comp=Z,14nm,0.8s,mb4.7,baz=100,slow=7.7,SNR=50					
ZALV				PcP	PcP	03 29 10.0 -0.7
	comp=Z,24nm,0.6s,baz=92,slow=2.8,SNR=30					
ZALV				LR	LR	03 44 18.1
	comp=Z,524nm,19.6s,MS4.4,baz=101,slow=37					
ZAL	**Zalesovo**	**40.41 314**		P	**P**	**03 27 06.9 -1.0**
ZAL						03 29 10.0
KSM	**Kuching**	**41.07 222**		*e*P	**P**	**03 27 13.9 +0.1**
NVS	**Novosibirsk**	**41.42 316**	⇑	*i*P	**P**	**03 27 15.4 -0.9**
NVS				*i*		03 29 12.9
NVS				*e*S	**S**	**03 33 23.4 -7.0**
NVS				pmax	pmax	
	comp=Z,28nm,0.9s,mb4.9					
NVS				pmax	pmax	
	comp=N,6.0nm,1.0s					
NVS				pmax	pmax	
	comp=E,26nm,0.9s					
NVS				smax		
	comp=E,26nm,2.5s					
MK31	**Makanchi Array**	**41.81 304**		*e*P	**P**	**03 27 19.6 +0.1**
MK31	**Makanchi Array**	**41.81 304**		*i* P	**P**	**03 27 18.9 -0.6**
MK31				pmax	pmax	
	comp=Z,9.0nm,0.6s,mb4.6					
MKAR	**Makanchi Array**	**41.81 304**		LR	LR	03 45 14.6
	comp=Z,592nm,19.7s,MS4.5,baz=268,slow=37					
KAPI	**Kappang**	**42.58 205**		P	**P**	**03 27 24.7 -1.4**
	comp=Z,255nm,0.7s,SNR=7.9					
GAMB	**Gambell**	**42.76 31**		*e*P	**P**	**03 27 27.5 +0.4**
JIRN	**Jiri**	**43.05 275**		*e*P	**P**	**03 27 31.0 +1.1**

comp=Z,20nm,0.6s,mb5.0
JIRN Jiri 43.05 275 *e*P **P 03 27 31.4 +1.5**
comp=Z,20nm,0.6s,mb5.0
JIRN Jiri 43.05 275 *e*P **P 03 27 31.4 +1.5**
comp=Z,20nm,0.6s,mb5.0
KKN Kakani 43.75 275 *e*P **P 03 27 36.1 +0.6**
comp=Z,148nm,0.9s,mb5.7
KKN Kakani 43.75 275 *e*P **P 03 27 36.0 +0.5**
comp=Z,224nm,1.1s,mb5.8
KKN Kakani 43.75 275 *e*P **P 03 27 36.0 +0.5**
comp=Z,224nm,1.1s,mb5.8
KKN Kakani 43.75 275 *e*P **P 03 27 36.0 +0.5**
KKN pmax pmax
comp=Z,224nm,1.1s,mb5.8
DMN Daman 43.96 275 *e*P **P 03 27 38.0 +0.7**
comp=Z,120nm,1.1s,mb5.6
DMN Daman 43.96 275 *e*P **P 03 27 38.1 +0.8**
comp=Z,120nm,1.1s,mb5.6
DMN Daman 43.96 275 *e*P **P 03 27 38.1 +0.8**
comp=Z,120nm,1.1s,mb5.5
KURK Kurchatov 44.06 309 P **P 03 27 37.2 -0.5**
comp=Z,284nm,0.9s,SNR=26
KURK Kurchatov 44.06 309 *e*P **P 03 27 36.6 -1.1**
comp=Z,44nm,0.9s,mb5.2
KURK *e*PcP PcP 03 29 21.8 -1.1
KURK LR LR
comp=Z,926nm,20.0s,MS4.7
KURK Kurchatov 44.06 309 *e*P **P 03 27 36.7 -1.0**
KURK *e* 03 29 21.8
KURK pmax pmax
comp=Z,43nm,0.9s,mb5.2
KURK MLR MLR
comp=Z,926nm,20.0s,MS4.7
KURK Kurchatov 44.06 309 P **P 03 27 37.4 -0.3**
SNR=15
KURK Kurchatov 44.06 309 P **P 03 27 37.4 -0.3**
SNR=15
KULM Kulim 44.11 236 *e*P **P 03 27 37.5 -1.1**
KULM *e*PcP PcP 03 29 23.4 -0.3
GKN Gorkha 44.19 276 *e*P **P 03 27 39.5 +0.4**
comp=Z,247nm,1.1s,mb5.9
GKN Gorkha 44.19 276 *e*P **P 03 27 39.5 +0.4**
comp=Z,160nm,0.9s,mb5.8
TNA Tin City 44.82 29 *e*P **P 03 27 44.2 +0.6**
comp=Z,77nm,1.2s,mb5.4
TNA LR LR
comp=Z,121nm,19.0s,MS3.9
BOK Bokaro 44.88 270 *e*P **P 03 27 44.1 -0.5**
BOK AMb AMB 03 27 45.8
comp=Z,48nm,1.1s,mb5.3
TKM2 Tokmak 2 47.03 299 PFAKE
TKM2 LR LR
comp=Z,636nm,19.0s,MS4.6
TKM2 Tokmak 2 47.03 299 P **P 03 28 02.6 +1.2**
SNR=19
PSI Prapat 47.09 236 P **P 03 28 02.5 +0.3**
comp=Z,21nm,0.8s,mb5.1,baz=10,slow=5.5,SNR=19
PSI LR LR 03 47 56.5
comp=Z,354nm,18.9s,MS4.3,baz=203,slow=36
KAKA Kakadu 47.41 185 *e*P **P 03 28 03.1 -1.4**
comp=Z,22nm,0.6s,mb5.3
KAKA *e*pP pP 03 28 08.6 -1.2
KZA Kyzart 47.45 298 P **P 03 28 06.6 +1.9**
SNR=8.7
KSH Kashi 47.50 294 *e*P **P 03 28 07.0 +1.9**
KSH *e*AP pP 03 28 11.4 +1.0
KSH *e*XP sP 03 28 14.3 +1.8
KSH *e*PP PP 03 29 58.3 +1.9
KSH *e*PPP 03 30 47.3
KSH *e*SCP ScP 03 33 29.8 +1.3
KSH S **S 03 35 01.3 +2.2**
KSH SCS ScS 03 37 57.6 -0.6
KSH AMB AMB
comp=Z,95nm,0.8s,mb5.9
KSH LR LR
comp=N,2μm,13.3s,MS5.5
KSH LR LR
comp=E,3μm,12.1s,MS5.5
KSH LR LR
comp=Z,2μm,11.4s,MS5.4
KBK Karagaybulak 47.55 299 P **P 03 28 06.4 +1.0**
SNR=14
CHMS Chumysh 47.62 299 P **P 03 28 06.4 +0.4**
SNR=5.5
USP Ospenovka 47.74 300 P **P 03 28 07.3 +0.4**
SNR=13
FRU Bishkek 47.75 299⇑ *i*P **P 03 28 07.0 0.0**
FRU pmax pmax
comp=Z,54nm,1.5s,mb5.4
AAK Ala-Archa 47.88 299 P **P 03 28 07.1 -0.9**
comp=Z,94nm,0.6s,SNR=11
AAK Ala-Archa 47.88 299 P **P 03 28 08.4 +0.4**
SNR=15
UCH Uchtor 47.95 298 *e*P **P 03 28 09.0 +0.4**
comp=Z,9.8nm,0.8s,mb4.9
UCH LR LR
comp=Z,698nm,20.0s,MS4.6
UCH Uchtor 47.95 298 P **P 03 28 10.1 +1.5**
SNR=14
EKS2 Erkin-Say 48.39 299 *e*P **P 03 28 12.0 +0.1**
comp=Z,11nm,1.1s,mb4.8
EKS2 LR LR
comp=Z,552nm,20.0s,MS4.5
EKS2 Erkin-Say 48.39 299 P **P 03 28 12.4 +0.5**
SNR=6.6
AML Almayashu 48.57 298 *e*P **P 03 28 14.3 +1.0**
comp=Z,25nm,0.6s,mb5.4
AML LR LR
comp=Z,698nm,20.0s,MS4.6
AML Almayashu 48.57 298 P **P 03 28 14.8 +1.5**
SNR=38
BLSP Bilaspur 48.72 270 *e*P **P 03 28 14.8 0.0**
BLSP AMb AMB 03 28 23.0
comp=Z,89nm,1.6s,mb5.6
BVAR Borovoye Array 49.00 313 P **P 03 28 16.0 -0.4**
BVAR 03 29 39.9
BVAR Borovoye Array 49.00 313 P **P 03 28 16.0 -0.5**
comp=Z,21nm,0.7s,mb5.3,baz=98,slow=8.2,SNR=109
BVAR PcP PcP 03 29 39.9 -0.3
comp=Z,18nm,0.6s,baz=92,slow=3.3,SNR=13
BVAR LR LR 03 48 05.6
comp=Z,158nm,19.4s,MS4.0,baz=81,slow=35
BRVK Borovoye 49.06 313 P **P 03 28 16.5 -0.4**
comp=Z,223nm,1.1s,SNR=22
BRVK Borovoye 49.06 313 *e*P **P 03 28 16.2 -0.7**
comp=Z,34nm,1.0s,mb5.3
BRVK *e*PcP PcP 03 29 40.0 -0.5
BRVK LR LR
comp=Z,751nm,20.0s,MS4.7
BRVK Borovoye 49.06 313 *e*P **P 03 28 16.2 -0.7**
BRVK *e* 03 29 40.0
BRVK pmax pmax
comp=Z,35nm,1.0s,mb5.3
BRVK MLR MLR
comp=Z,751nm,20.0s,MS4.7
BRVK Borovoye 49.06 313 P **P 03 28 16.9 0.0**
SNR=24
BRVK Borovoye 49.06 313 P **P 03 28 16.9 0.0**
SNR=24
SMLA Simla 49.11 283 *e*P **P 03 28 17.2 -0.4**
SMLA AMb AMB 03 28 20.7
comp=Z,36nm,1.0s,mb5.3
TTA Tatalina 49.59 34 *e*P **P 03 28 21.4 +0.6**
SVW2 Sparrevohn 49.78 36 *e*P **P 03 28 23.9 +1.6**
THN Thein Dam 49.81 285 *e*P **P 03 28 21.6 -1.3**
ZRNK Zerenda 49.84 313 *i*P **P 03 28 22.3 -0.6**
ZRNK pmax pmax
comp=Z,92nm,1.2s,mb5.7
VIS Vishakhapatnam 49.87 264 *e*P **P 03 28 22.9 -0.7**
VIS AMb AMB 03 28 25.9
comp=Z,24nm,0.7s,mb5.3
NDI New Delhi 49.98 280 *e*P **P 03 28 23.7 -0.5**
NDI AMb AMB 03 28 25.2
comp=Z,43nm,1.5s,mb5.3
KK31 Karatay Array 50.62 300 *i*P **P 03 28 28.7 -0.3**
IMA2 Indian Mountai 50.68 30 *e*P **P 03 28 29.3 +0.2**
KDAK Kodiak Island 51.50 40 P **P 03 28 35.0 -0.3**
comp=Z,418nm,0.8s,SNR=15
KDAK Kodiak Island 51.50 40 *e*P **P 03 28 34.7 -0.7**
comp=Z,62nm,0.8s,mb5.6
NGP Nagpur 51.71 271 *e*P **P 03 28 36.2 -1.2**
NGP AMb AMB 03 28 45.2
comp=Z,90nm,1.3s,mb5.5
BHPL Bhopal 52.09 274 *e*P **P 03 28 39.7 -0.5**
SLKM Skilak Lake 52.44 37 *e*P **P 03 28 42.8 +0.6**
MCK McKinley 52.76 33 *e*P **P 03 28 44.4 -0.2**
comp=Z,144nm,1.1s,mb5.8
MCK LR LR
comp=Z,181nm,20.0s,MS4.1
MCK McKinley 52.76 33 *e*P **P 03 28 44.4 -0.2**
MCK pmax pmax
comp=Z,144nm,1.1s,mb5.8
MCK MLR MLR
comp=Z,181nm,20.0s,MS4.1
PMR Palmer 52.86 35 *e*P **P 03 28 45.6 +0.3**
comp=Z,48nm,0.8s,mb5.5
PMR LR LR
comp=Z,234nm,22.0s,MS4.2
PMR Palmer 52.86 35 *e*P **P 03 28 45.6 +0.3**
PMR pmax pmax
comp=Z,48nm,0.8s,mb5.5
PMR MLR MLR
comp=Z,234nm,22.0s,MS4.2
AJM Ajmer 52.95 279 *e*P **P 03 28 45.9 -0.7**
AJM AMb AMB 03 28 48.0
comp=Z,48nm,1.0s,mb5.4
COLA College 53.15 31 *e*P **P 03 28 47.7 +0.3**
comp=Z,63nm,0.8s,mb5.6
COLA LR LR
comp=Z,159nm,19.0s,MS4.1
COLA College 53.15 31 *i*P **P 03 28 47.8 +0.4**
SML Sawmill 53.21 35 *e*P **P 03 28 48.3 +0.3**
FITZ Fitzroy Crossi 53.59 193 *e*P **P 03 28 50.6 -0.6**
comp=Z,40nm,0.6s,mb5.5
FITZ *e*pP pP 03 28 56.2 -0.4
AKL Akola 53.60 271 *e*P **P 03 28 50.8 -0.6**
AKL AMb AMB 03 28 53.0
comp=Z,107nm,1.1s,mb5.7
HYB Hyderabad 53.95 267 *e*P **P 03 28 54.0 0.0**
HYB Hyderabad 53.95 267 *i*P **P 03 28 54.0 0.0**
comp=Z,60nm,1.0s,mb5.5
HYB *e*PcP PcP 03 30 00.5 +1.3
SVE Sverdlovsk 54.05 319 *de*P **P 03 28 54.1 -0.1**
SVE pmax pmax
comp=Z,87nm,0.7s,mb5.8
SVE MLR MLR
comp=Z,719nm,16.0s,MS4.8
WRAB Tennant Creek 54.48 182 P **P 03 28 56.6 -1.1**
comp=Z,153nm,0.9s,mb5.9,SNR=16
WRAB Tennant Creek 54.48 182 *e*P **P 03 28 57.0 -0.6**
comp=Z,22nm,0.8s,mb5.1
WRAB *e*pP pP 03 29 02.6 -0.4
WRAB LR LR
comp=Z,182nm,19.0s,MS4.2
WRAB Tennant Creek 54.48 182 *e*P **P 03 28 57.0 -0.7**
WRAB *e**PP pP 03 29 02.7 -0.4
WRAB pmax pmax
comp=Z,22nm,0.8s,mb5.1
WRAB MLR MLR
comp=Z,182nm,19.0s,MS4.2
WB2 Warramunga Arr 54.49 182 *e*P **P 03 28 56.2 -1.5**
WB2 *e*pP pP 03 29 01.8 -1.3
WRA Warramunga Arr 54.49 182 P **P 03 28 56.2 -1.5**
comp=Z,12nm,0.5s,mb5.1,baz=358,slow=7.6,SNR=196
EYAK Cordova Ski Ar 54.63 36 *e*P **P 03 28 58.4 +0.1**
comp=Z,30nm,0.8s,mb5.4
LATR Latur 55.08 269 *e*P **P 03 29 01.8 -0.4**
LATR AMb AMB 03 29 03.5
comp=Z,51nm,0.7s,mb5.7
ARU Arti 55.25 319 P **P 03 29 02.9 0.0**
comp=Z,676nm,0.7s,SNR=17
ARU Arti 55.25 319 *e*P **P 03 29 02.2 -0.7**
comp=Z,166nm,1.1s
ARU LR LR
comp=Z,483nm,20.0s
ARU Arti 55.25 319 *c i*P **P 03 29 02.5 -0.4**
ARU *e* 03 31 03.8
ARU *e*PPP 03 32 15.2
ARU *e*S **S 03 36 42.3 -3.3**
ARU *e*SS SS 03 40 22.2 -7.2
ARU pmax pmax
comp=Z,193nm,1.7s,mb5.9
ARU MLR MLR
comp=Z,604nm,19.0s,MS4.7
CTAO Charters Tower 55.43 169 *e*P **P 03 29 03.4 -1.1**
comp=Z,12nm,0.9s,mb4.9
CTAO Charters Tower 55.43 169 *e*P **P 03 29 03.4 -1.1**
CTAO pmax pmax
comp=Z,12nm,0.9s,mb4.9
SOKR Solikamsk 55.55 323 *c i*P **P 03 29 04.6 -0.4**
SOKR pmax pmax
comp=Z,50nm,1.0s,mb5.5
SOKR MLR MLR
comp=Z,770nm,15.0s,MS4.9
EGAK Eagle 56.00 31 *e*P **P 03 29 07.7 -0.4**
comp=Z,35nm,0.7s,mb5.5
AB31 Akbulak array 56.16 310⇑ *e*P **P 03 29 09.2 -0.4**
DAWY Dawson 56.89 31 *e*P **P 03 29 15.0 +0.5**
DAWY *e*pP pP 03 29 19.1 -0.8
AKTK Aktyubinsk 57.04 312 P **P 03 29 15.2 -0.6**
AKTO Aktyubinsk 57.04 312 P **P 03 29 15.2 -0.6**
comp=Z,48nm,0.7s,mb5.7,baz=79,slow=4.8,SNR=92
POO Poona 57.26 271 *e*P **P 03 29 17.8 0.0**
POO AMb AMB 03 29 19.1
comp=Z,45nm,0.9s,mb5.5
KAD Karad 57.59 269 *e*P **P 03 29 19.0 -1.1**
KAD *e*P 03 29 19.8
KAD AMb AMB 03 29 21.5
comp=Z,35nm,1.2s,mb5.3
PALK Pallekele 57.80 255 PFAKE 03 29 30.0 +8.4
PALK LR LR
comp=Z,547nm,22.0s,MS4.6
MBWA Marble Bar 57.85 198 *e*P **P 03 29 20.2 -1.5**
comp=Z,23nm,0.7s,mb5.3
MBWA *e*pP pP 03 29 26.4 -0.8
ASAR Alice Springs 58.21 183 P **P 03 29 22.9 -1.3**
comp=Z,6.4nm,0.6s,mb4.9,baz=11,slow=14,SNR=88
INK Inuvik 58.22 26 *e*P **P 03 29 23.7 -0.1**
comp=Z,632nm,0.6s
BHJ Bhuj 58.44 278 *e*P **P 03 29 25.8 -0.2**
BHJ AMb AMB 03 29 26.9
comp=Z,40nm,0.9s,mb5.4
KOD Kodaikanal 58.69 260 *e*P **P 03 29 28.1 +0.3**
FUNA Funafuti 59.19 128 PFAKE 03 29 40.0 +8.7
FUNA LR LR
comp=Z,9μm,19.0s,MS5.9
SKAG Skagway 59.97 36 *e*P **P 03 29 37.1 +1.1**
comp=Z,98nm,1.3s,mb5.7
ABKT Ailbek 61.22 298 P **P 03 29 45.1 +0.2**
comp=Z,166nm,0.6s,SNR=6.2
KBS Kingsbay 62.09 350 PFAKE 03 30 00.0 +10
KBS LR LR
comp=Z,261nm,20.0s,MS4.4
KBS Kingsbay 62.09 350⇑ *e*P **P 03 29 51.8 +1.6**
CRAG Craig 62.46 40 *e*P **P 03 29 52.4 -0.6**
comp=Z,42nm,1.1s,mb5.5
ALE Alert 62.54 3 P **P 03 29 53.0 -0.2**
comp=Z,418nm,0.9s,SNR=25
TMCR Tamitsa 62.66 331 *i*P **P 03 29 53.8 -0.4**
APA Apatity 62.96 335⇓ *i*P **P 03 29 55.6 -0.5**
APA pmax pmax
comp=Z,55nm,1.0s,mb5.6
APA MLR MLR
comp=Z,700nm,14.0s,MS5.0
KEV Kevo 64.00 339 *e*P **P 03 30 02.0 -0.9**
comp=Z,28nm,0.7s,mb5.4
KEV LR LR
comp=Z,765nm,20.0s,MS4.9
KEV Kevo 64.00 339 *e*P **P 03 30 02.0 -0.9**
KEV pmax pmax
comp=Z,28nm,0.7s,mb5.4
KEV MLR MLR
comp=Z,765nm,20.0s,MS4.9
ARCES ARCESS Array B 64.56 339 P **P 03 30 06.5 -0.1**
ARCES LR LR 04 02 25.0
ARCES ARCESS Array B 64.56 339 P **P 03 30 06.5 -0.1**
comp=Z,33nm,0.6s,mb5.5,baz=65,slow=9.3,SNR=135
ARCES LR LR 04 02 25.0
comp=Z,572nm,18.4s,MS4.8,baz=64,slow=40
FORT Forrest 65.71 188 *e*P **P 03 30 13.4 -1.1**
comp=Z,37nm,0.6s,mb5.6
FORT *e*pP pP 03 30 19.3 -0.7
RES Resolute Bay 65.73 13 *e*P **P 03 30 13.5 -0.7**
comp=Z,2μm,0.9s
JOF Joensuu 65.91 331 *e*p **P 03 30 14.1 -1.4**
comp=Z,21nm,0.7s,mb5.3
TRO Tromso 66.41 340 *e*P **P 03 30 17.4 -1.3**
TRO AMb AMB 03 30 19.1
comp=Z,67nm,1.4s,mb5.5
TRO *e*pP pP 03 30 23.2 -0.9
ARMA Armidale 66.49 166 *e*P **P 03 30 19.1 -0.4**
ARMA *e*pP pP 03 30 24.1 -0.9
MOS Moscow 66.50 322 *e*P **P 03 30 18.3 -1.1**
MOS *e* pP 03 30 24.2 -0.7
MOS *e*S S 03 39 04.7 -4.3
MOS pmax pmax
comp=Z,300nm,1.7s
MOS pmax pmax
comp=Z,167nm,1.4s,mb5.9
MOS MLR MLR
comp=E,900nm,16.0s
MOS MLR MLR
comp=Z,900nm,16.0s,MS5.1
STKA Stephens Creek 66.54 175 *e*P **P 03 30 18.7 -1.1**
comp=Z,4.5nm,0.6s,mb4.7
STKA Stephens Creek 66.54 175 P **P 03 30 18.9 -0.8**
comp=Z,5.4nm,0.6s,mb4.8,baz=344,slow=6.6,SNR=21
OBN Obninsk 67.32 322 *e*P **P 03 30 24.0 -0.6**
comp=Z,72nm,1.0s,mb5.7
OBN LR LR
comp=Z,1μm,19.0s,MS5.1
OBN Obninsk 67.32 322 *α i*P **P 03 30 23.9 -0.7**
OBN pmax pmax
comp=Z,139nm,1.5s,mb5.8
OBN MLR MLR
comp=Z,1μm,16.0s,MS5.2
WBK Wadi Bani Khal 67.40 282 P **P 03 30 26.4 +0.8**
SNR=5.2
WBK Wadi Bani Khal 67.40 282 P **P 03 30 26.4 +0.8**
SNR=5.2
DAG Danmarks Havn 67.57 354⇓ *i*P **P 03 30 25.8 -0.1**
DAG pmax pmax
comp=Z,43nm,1.1s,mb5.4
DAG Danmarks Havn 67.57 354⇓ *i*P **P 03 30 25.8 -0.1**
comp=Z,43nm,1.1s,mb5.4
BIDO Bidbid 67.62 284 P **P 03 30 28.1 +1.0**
SNR=6.5
BIDO Bidbid 67.62 284 P **P 03 30 28.1 +1.0**
SNR=6.5
YKA Yellowknife Ar 67.77 28 P **P 03 30 26.8 -0.5**
YKA LR LR 04 05 33.8
YKA Yellowknife Ar 67.77 28 P **P 03 30 26.8 -0.5**
comp=Z,10nm,0.8s,mb4.9,baz=299,slow=6.4,SNR=92
YKA LR LR 04 05 33.8
comp=Z,52nm,18.0s,baz=325,slow=41
VRSR Storozhevoye 67.78 318 *c i*P **P 03 30 26.9 -0.7**
VRSR pmax pmax
comp=Z,10.0nm,0.8s,mb4.9
VRSR pmax pmax
comp=N,10.0nm,0.9s
VRSR pmax pmax
comp=E,10.0nm,0.9s
VRSR MLR MLR
comp=Z,90nm,16.0s,MS4.1
VRSR MLR MLR
comp=N,20nm,15.0s,MS4.0
VRSR MLR MLR
comp=E,70nm,16.0s,MS4.0
VORD Divnogorie 67.84 317 *e*P **P 03 30 26.9 -1.1**
VORD pmax pmax
comp=Z,40nm,0.9s,mb5.5
VORD pmax pmax
comp=N,30nm,0.8s
VORD pmax pmax
comp=E,30nm,1.0s
JMDO Jabal Madar 68.21 283 P **P 03 30 30.8 0.0**
SNR=5.4
JMDO Jabal Madar 68.21 283 P **P 03 30 30.8 0.0**
SNR=5.4
HOQ Hoqain 68.25 284 P **P 03 30 31.4 +0.4**
SNR=12
HOQ Hoqain 68.25 284 P **P 03 30 31.4 +0.4**
SNR=12
KAF Kangasniemi 68.31 332 *ep* **P 03 30 29.2 -1.5**
comp=E,29nm,0.6s,mb5.5,baz=54,slow=5.8
KAF Kangasniemi 68.31 332 *e*P **P 03 30 29.2 -1.5**
KAF pmax pmax
comp=Z,29nm,0.6s,mb5.5
KLBR Kellerberrin 68.32 197 *e*P **P 03 30 29.9 -1.2**
comp=Z,170nm,1.6s,mb5.8
HATD Hatta, Dubai 68.57 286 P **P 03 30 33.6 +0.5**
SNR=6.3
HATD Hatta, Dubai 68.57 286 P **P 03 30 33.6 +0.5**
SNR=6.3
DGRG David-gareji 68.58 306 P **P 03 30 33.7 +0.8**
ASHO Ashiyiah 68.70 286 P **P 03 30 34.3 +0.5**
SNR=5.7
ASHO Ashiyiah 68.70 286 P **P 03 30 34.3 +0.5**
SNR=5.7
BSY Bisya 68.75 283 P **P 03 30 34.3 +0.2**
SNR=9.4
BSY Bisya 68.75 283 P **P 03 30 34.3 +0.2**
SNR=9.4
FIA1 FINESS Array S 68.77 331 *e*P **P 03 30 32.9 -0.8**
FINES FINESS Array B 68.77 331 *i*P **P 03 30 33.0 -0.6**
FINES pmax pmax
comp=Z,34nm,0.7s
FINES FINESS Array B 68.77 331 P **P 03 30 33.1 -0.6**
comp=Z,34nm,0.7s,mb5.4,baz=76,slow=8.0,SNR=166
FINES LR LR 04 04 59.6
comp=Z,134nm,19.7s,MS4.2,baz=66,slow=40
MTA Mtatsminda 68.85 307 P **P 03 30 34.4 -0.1**
TBLG Delisi 68.87 307 *e*P **P 03 30 34.7 +0.1**
TBLG Delisi 68.87 307 P **P 03 30 34.8 +0.1**
KIV Kislovodsk 69.15 310 P **P 03 30 36.9 +0.6**
comp=Z,1μm,0.8s,SNR=28
KIV Kislovodsk 69.15 310⇑ *i*P **P 03 30 36.4 +0.1**
comp=Z,191nm,1.0s
KIV LR LR
comp=Z,688nm,19.0s,MS4.9
KIV Kislovodsk 69.15 310 *c i*P **P 03 30 36.6 +0.3**
KIV pmax pmax
comp=Z,191nm,1.1s,mb5.9
KIV Kislovodsk 69.15 310 P **P 03 30 36.9 +0.6**
SNR=42
KIV Kislovodsk 69.15 310 P **P 03 30 36.9 +0.6**
SNR=42
ONI Oni 69.31 308 P **P 03 30 37.9 +0.6**
NWAO Narrogin (SRO) 69.73 197 P **P 03 30 38.8 -1.0**
comp=Z,17nm,1.0s,mb4.9,baz=46,slow=7.2,SNR=7.0
MOR8 Moi Rana 69.93 338 *e*P **P 03 30 39.4 -1.4**
MOR8 Moi Rana 69.93 338⇑ *i*P **P 03 30 39.1 -1.7**
MOR8 AMb AMB 03 30 41.0
comp=Z,89nm,1.0s,mb5.6
VSU Vasula 70.19 328⇑ *i*P **P 03 30 42.0 -0.4**
ARTV Artvin 70.98 307 *i*P **P 03 30 47.9 +0.2**
AGRB Hanur-Agry 71.08 305 *e*P **P 03 30 43.7 -4.6**
B04A Port Angeles 71.12 44 ⇓P **P 03 30 48.8 +0.5**
baz=71
SOC Sochi 71.20 310 *i*P **P 03 30 48.7 -0.2**
NLWA Neilton Lookou 71.25 45 *e*P **P 03 30 49.8 +0.7**
comp=Z,71nm,1.0s,mb5.5
NLWA *e*pP pP 03 30 54.6 -0.1
NLWA Neilton Lookou 71.25 45 ⇓P **P 03 30 50.5 +1.3**
baz=71,SNR=5.7
TUTA Tutak 71.28 305 *i*P **P 03 30 50.4 +1.0**
TVAN Van 71.32 304 *i*P **P 03 30 50.5 +0.8**
A05A Maple Falls 71.43 43 ⇑P **P 03 30 50.9 +0.7**
baz=71
D03A Wishkah Elem. 71.45 45 ⇓P **P 03 30 51.7 +1.4**
baz=71
HKR Hakkari 71.56 303 P **P 03 30 51.9 +0.7**
HOMI Horasan 71.57 306 *i*P **P 03 30 52.2 +1.0**
HAKT HAKKARI 71.59 303 *i*P **P 03 30 51.5 +0.2**
A06A Chilliwack 71.72 43 ⇓P **P 03 30 53.0 +1.2**
baz=72
B05A Bryant 71.81 44 ⇓P **P 03 30 53.2 +0.7**
baz=72,SNR=13
E03A Lebam 71.87 46 ⇑P **P 03 30 53.8 +1.0**
baz=72
JCW Jim Creek 71.94 44 P **P 03 30 54.1 +0.8**
MNK Minsk 71.94 324 *e*P **P 03 30 53.0 -0.2**
MNK pmax pmax
comp=Z,190nm,1.2s,mb5.9
ANN Anapa 71.99 312 *e*P **P 03 30 50.2 -3.4**
ANN *e**PP pP 03 31 00.3 +1.1
ANN *e* 03 31 09.2
ANN *e* 03 33 28.0
ANN *e*S S 03 40 06.4 -7.9
ANN *e*SS SS 03 44 43.3 -7.1
ANN pmax pmax
comp=Z,163nm,1.7s,mb5.7
ANN MLR MLR
comp=Z,608nm,20.0s,MS4.9
ERZM Erzurum 72.00 306 *i*P **P 03 30 55.1 +1.4**
EZM Erzurum 72.00 306 P **P 03 30 55.4 +1.6**
D04A Dobbs Creek Ra 72.02 45 ⇓P **P 03 30 54.5 +0.8**
baz=72

B06A Marblemount 72.02 43 ⇊P P 03 30 53.8 0.0
baz=72
C05A Tolt Reservoir 72.35 44 ⇑P P 03 30 56.1 +0.4
baz=72,SNR=17
A07A Ashnola River, 72.35 42 ⇑P P 03 30 55.2 -0.5
baz=72,SNR=5.4
D05A Enumclaw 72.45 44 ⇊P P 03 30 57.4 +1.1
baz=72,SNR=6.3
SIRT Sirnak 72.49 304 *eP* **P 03 30 55.7 -1.0**
KOPT Kop Dagi 72.51 307 *i P* **P 03 30 57.8 +1.0**
FMW Mount Fremont 72.77 45 P **P 03 30 59.0 +0.8**
BTMT Batman 72.79 305 P **P 03 30 59.5 +1.0**
B07A Winthrop 72.82 43 ⇊P P 03 30 58.6 +0.1
baz=73,SNR=8.5
F04A Amboy 72.87 46 ⇑P P 03 30 59.5 +0.6
baz=73,SNR=14
MIB Mutribah 72.88 295 *eP* **P 03 30 58.4 -0.8**
MIB AMb AMB 03 31 00.1
comp=Z,105nm,0.8s,mb5.8
E05A Randle 72.92 45 ⇊P P 03 30 59.5 +0.4
baz=73
KBD Kabd 72.93 294 *eP* **P 03 30 59.0 -0.5**
KBD AMb AMB 03 31 01.4
comp=Z,194nm,1.1s
GUMT Gumushane 72.95 308 *eP* **P 03 30 56.9 -2.5**
A08A Turner Farm, O 73.01 42 ⇊P P 03 30 59.6 -0.1
baz=73,SNR=6.2
H03A Soap Creek Ran 73.02 47 ⇊P P 03 31 00.3 +0.5
baz=73
D06A Cle Elum 73.10 44 ⇊P P 03 31 00.6 +0.4
baz=73
EZC Erzincan 73.10 307 P **P 03 31 03.5 +3.1**
TWW Teanaway 73.12 44 P **P 03 31 01.3 +1.0**
RDF Al-Radifah 73.17 294 *eP* **P 03 31 00.1 -0.8**
RDF AMb AMB 03 31 02.1
comp=Z,111nm,0.6s,mb5.9
G04A Mulino 73.22 46 ⇊P P 03 31 00.6 -0.3
baz=73,SNR=5.4
NAY Al-Naaiem 73.23 294 *eP* **P 03 31 00.3 -1.0**
NAY AMb AMB 03 31 08.3
comp=Z,80nm,1.3s,mb5.5
TBM Table Mountain 73.25 44 P **P 03 31 01.7 +0.6**
C07A Waterville 73.27 43 ⇑P P 03 31 01.3 +0.1
baz=73
RST Umm Al-Ruwaisa 73.29 294 *eP* **P 03 31 00.4 -1.2**
RST AMb AMB 03 31 02.3
comp=Z,86nm,0.8s,mb5.7
B08A Colville Reser 73.31 42 P **P 03 31 01.5 +0.1**
baz=73,SNR=19
A09A Danville 73.38 42 ⇑P P 03 31 02.0 +0.2
baz=73,SNR=7.6
E06A Yakima 73.38 45 ⇑P P 03 31 02.2 +0.4
baz=73,SNR=6.7
I03A Eugene 73.40 48 ⇑P P 03 31 03.3 +1.2
baz=73,SNR=5.6
AKASG Malin Array Be 73.42 321 P **P 03 31 01.3 -0.8**
AKASG LR LR 04 05 25.1
AKASG Malin Array Be 73.42 321 P **P 03 31 01.3 -0.7**
comp=Z,23nm,0.6s,mb5.3,baz=50,slow=6.5,SNR=143
AKASG LR LR 04 05 25.1
comp=Z,689nm,18.2s,MS5.0,baz=55,slow=38
AKBB Malin Array Si 73.42 321 *eP* **P 03 31 00.8 -1.2**
KIEV Kiev 73.44 321 *eP* **P 03 31 01.0 -1.1**
comp=Z,62nm,1.0s,mb5.5
KIEV LR LR
comp=Z,611nm,19.0s,MS4.9
KIEV Kiev 73.44 321 *eP* **P 03 31 01.0 -1.1**
KIEV pmax pmax
comp=Z,62nm,1.0s,mb5.5
KIEV MLR MLR
comp=Z,611nm,19.0s,MS4.9
J02A Umpqua 73.55 48 ⇊P P 03 31 03.7 +0.8
baz=73
D07A Quincy 73.60 44 ⇊P P 03 31 03.8 +0.7
baz=73
EDM Edmonton 73.62 36 *eP* **P 03 31 03.3 +0.1**
H04A Detroit Lake 73.68 47 ⇊P P 03 31 04.1 +0.5
baz=74,SNR=7.0
MARD Mardin 73.72 304 *i P* **P 03 31 04.6 +0.6**
BROR Big Rock Looko 73.75 47 P **P 03 31 04.8 +0.7**
MXC Moxie City 73.75 44 P **P 03 31 04.7 +0.6**
C08A Higginbotham F 73.79 43 ⇑P P 03 31 05.3 +1.1
baz=74,SNR=5.2
G05A Wamic 73.89 46 ⇑P P 03 31 05.2 +0.3
baz=74,SNR=5.4
SIM Simferopol' 73.91 314 *c i P* **P 03 31 05.0 0.0**
SIM pmax pmax
comp=Z,44nm,0.8s,mb5.4
J03A Ideyld Park 73.92 48 ⇊P P 03 31 06.0 +1.0
baz=74
K02A Glendale 73.92 49 ⇑P P 03 31 05.8 +0.7
baz=74
B09A Rice 73.93 42 P **P 03 31 05.6 +0.5**
baz=74,SNR=15
WHFO Wadi Hawf 73.98 281 P **P 03 31 05.3 -0.5**
SNR=6.3
WHFO Wadi Hawf 73.98 281 P **P 03 31 05.3 -0.5**
SNR=6.3
E07A Sunnyside 74.02 44 ⇊P P 03 31 06.2 +0.6
baz=74,SNR=5.5
I04A Tendick Farm, 74.03 48 ⇊P P 03 31 06.3 +0.6
baz=74,SNR=13
L02A Cave Junction 74.18 50 ⇊P P 03 31 06.9 +0.3
baz=74,SNR=6.3
OD2 Odessa Site #2 74.20 43 P **P 03 31 06.7 +0.1**
C09A Chrisman Ranch 74.21 42 ⇑P P 03 31 06.9 +0.2
baz=74,SNR=6.1
KEMA Kemaliye 74.22 307 *i P* **P 03 31 07.6 +0.6**
D08A Wollman Farm, 74.27 43 P **P 03 31 07.2 +0.2**
baz=74,SNR=14
H05A Madras 74.27 46 ⇑P P 03 31 07.6 +0.5
baz=74
HAWA Hanford 74.29 44 *eP* **P 03 31 07.5 +0.3**
comp=Z,22nm,0.9s,mb5.1
G06A Carlson Farm, 74.30 46 P **P 03 31 07.5 +0.3**
baz=74,SNR=6.3
ELZG Elazig 74.31 306 *i P* **P 03 31 08.9 +1.5**
HUMO Hull Mountain 74.34 49 *eP* **P 03 31 08.5 +0.9**
comp=Z,18nm,1.1s,mb4.9
HUMO Hull Mountain 74.34 49 ⇑P P 03 31 08.2 +0.7
baz=74
F07A Phinny Hill Vi 74.34 45 ⇑P P 03 31 08.3 +0.7
baz=74,SNR=6.2
BBOR Butler Butte 74.36 49 P **P 03 31 09.2 +1.6**
SUW Suwalki 74.43 326 *eP* **P 03 31 07.2 -0.7**
E08A Dider Farm, El 74.51 44 P **P 03 31 08.8 +0.4**
baz=74,SNR=6.1
J04A Umpqua Nationa 74.51 48 ⇑P P 03 31 09.7 +1.1
baz=74,SNR=18
I05A Bend 74.52 47 ⇊P P 03 31 09.3 +0.7
baz=74
DOMB Dombas 74.52 337 *eP* **P 03 31 08.1 -0.1**
DOMB Dombas 74.52 337 *⇑i P* **P 03 31 08.0 -0.2**
DOMB AMb AMB 03 31 10.0
comp=Z,44nm,1.3s,mb5.2
DOMB *ep*P pP 03 31 13.2 -0.5
NB2 NORSAR Subarra 74.54 336 P **P 03 31 07.6 -0.8**
comp=Z,28nm,0.7s,mb5.3,baz=44,slow=5.9
NOA NORSAR Array B 74.54 336 P **P 03 31 07.8 -0.5**
NOA LR LR 04 06 47.1
NOA NORSAR Array B 74.54 336 P **P 03 31 07.8 -0.5**
comp=Z,22nm,0.7s,mb5.2,baz=44,slow=5.8,SNR=102
NOA LR LR 04 06 47.1
comp=Z,207nm,18.1s,MS4.5,baz=40,slow=38
NEW Newport 74.58 42 *eP* **P 03 31 09.1 +0.2**
comp=Z,21nm,1.1s,mb5.0
NEW Newport 74.58 42 *eP* **P 03 31 09.1 +0.3**
NEW pmax pmax
comp=Z,21nm,1.1s
A11A Hall Mountain, 74.59 41 P **P 03 31 10.0 +1.1**
baz=74,SNR=21
D09A Jones Farm, Ri 74.61 43 ⇊P P 03 31 09.1 0.0
baz=74,SNR=5.0
VIPM Ingram Point 74.71 46 P **P 03 31 10.4 +0.7**
H06A Lindquist Farm 74.75 46 ⇑P P 03 31 09.9 0.0
baz=74,SNR=5.3
MYA Malataya 74.77 306 *eP* **P 03 31 01.7 -8.4**
MALT Malatya 74.78 306 *eP* **P 03 31 00.8 -9.4**
MALT Malatya 74.78 306 *eP* **P 03 31 11.1 +0.9**
comp=Z,53nm,0.8s,mb5.5
MALT Malatya 74.78 306 *eP* **P 03 31 11.1 +0.9**
MALT pmax pmax
comp=Z,53nm,0.8s,mb5.5
MALT Malatya 74.78 306 *⇑i P* **P 03 31 11.1 +0.9**
NAO01 NORSAR Array S 74.79 336 *eP* **P 03 31 08.7 -1.1**
comp=Z,4.4nm,0.5s,mb4.6

KVT Kavak 74.83 310 *eP* **P 03 31 11.4 +0.9**
G07A Ruggs Ranch, H 74.85 45 ⇊P P 03 31 10.7 +0.3
baz=75,SNR=7.3
SVSK Karacayir 74.85 308 *eP* **P 03 31 11.7 +1.1**
B11A Sandpoint 74.89 41 ⇊P P 03 31 11.2 +0.6
baz=75,SNR=5.6
YBH Yreka Blue Hor 74.97 50 *eP* **P 03 31 12.0 +0.8**
comp=Z,38nm,1.1s,mb5.2
YBH *ep*P pP 03 31 16.4 -0.4
YBH Yreka Blue Hor 74.97 50 *eP* **P 03 31 12.0 +0.8**
YBH pmax pmax
comp=Z,37nm,1.1s
YBH Yreka Blue Hor 74.97 50 ⇊P P 03 31 12.2 +1.0
baz=75,SNR=15
URFA Urfa 74.98 305 *eP* **P 03 31 12.5 +1.1**
E09A Wood Farm, Sta 75.02 44 ⇊P P 03 31 11.4 0.0
baz=75,SNR=6.6
J05A Fort Rock 75.02 48 ⇑P P 03 31 12.4 +0.9
baz=75,SNR=23
F08A Pendleton 75.06 44 ⇊P P 03 31 12.6 +0.9
baz=75
M02C Callahan 75.07 50 ⇑P P 03 31 13.0 +1.2
baz=75,SNR=5.8
K04A Chilquin 75.09 48 ⇑P P 03 31 13.1 +1.2
baz=75,SNR=5.9
VSP Spence Mountai 75.11 49 P **P 03 31 13.0 +1.0**
D10A Wagner Farm, O 75.19 43 ⇊P P 03 31 12.3 -0.2
baz=75,SNR=6.5
L04A Klamath Falls 75.23 49 ⇊P P 03 31 12.8 +0.1
baz=75,SNR=6.6
G08A Pilot Rock 75.25 45 ⇑P P 03 31 13.0 +0.3
baz=75,SNR=7.1
I06A Prineville 75.27 47 ⇑P P 03 31 13.9 +1.0
baz=75,SNR=6.3
H07A Lands Inn, Kim 75.29 46 ⇊P P 03 31 12.9 -0.1
baz=75
BOYT Boyabat 75.36 310 *i P* **P 03 31 14.0 +0.5**
BYBT Boyabat 75.42 310 *eP* **P 03 31 13.8 0.0**
M04C Macdoel 75.48 49 P **P 03 31 15.0 +0.8**
baz=75,SNR=28
K05A Summer Lake 75.54 48 ⇊P P 03 31 15.4 +0.9
baz=75
M03C McCloud 75.59 50 ⇑P P 03 31 15.5 +0.7
baz=75,SNR=22
I07A Izee 75.61 46 ⇊P P 03 31 15.5 +0.6
baz=75,SNR=7.3
E10A Myers Farm, Un 75.62 43 P **P 03 31 15.2 +0.3**
baz=75,SNR=15
BZK Bozkurt 75.63 311 *eP* **P 03 31 15.5 +0.5**
A13A Flathead Natio 75.64 40 ⇑P P 03 31 15.6 +0.7
baz=75
J06A Christmas Vall 75.70 47 ⇑P P 03 31 16.1 +0.8
baz=76,SNR=7.5
WDC Whiskeytown Da 75.71 50 *eP* **P 03 31 15.6 0.0**
comp=Z,31nm,1.1s,mb5.2
WDC *ep*P pP 03 31 20.0 -1.1
WDC LR LR
comp=Z,230nm,20.0s,MS4.5
WDC Whiskeytown Da 75.71 50 *eP* **P 03 31 15.6 +0.1**
WDC pmax pmax
comp=Z,31nm,1.1s,mb5.2
WDC MLR MLR
comp=Z,230nm,20.0s,MS4.5
WDC Whiskeytown Da 75.71 50 P **P 03 31 15.9 +0.4**
baz=76,SNR=6.9
D11A Klaveano Farm, 75.72 42 P **P 03 31 15.4 -0.1**
baz=76,SNR=28
O02C Red Bluff 75.78 51 ⇊P P 03 31 16.9 +1.0
baz=76,SNR=5.7
KIS Kishinev 75.79 318 *eP* **P 03 31 15.0 -0.8**
KIS *e* 03 41 30.0
KIS MLR MLR
comp=Z,500nm,15.0s,MS4.9
KIS MLR MLR
comp=Z,500nm,16.0s
F10A Beach Ranch, E 75.85 44 ⇑P P 03 31 16.1 -0.1
baz=76
H08A Prairie City 75.86 45 ⇊P P 03 31 16.8 +0.5
baz=76,SNR=12
GZT Gaziantep 75.87 306 *i P* **P 03 31 17.5 +1.0**
CTKT Corum 75.88 310 *i P* **P 03 31 16.8 +0.3**
K06A Valley Falls 75.89 48 ⇊P P 03 31 17.4 +0.9
baz=76,SNR=6.2
G09A Cove 75.94 44 ⇑P P 03 31 17.0 +0.3
baz=76
B13A Whitefish 75.95 40 P **P 03 31 17.6 +0.9**
baz=76,SNR=30
L05A Lakeview 75.96 48 ⇑P P 03 31 18.0 +1.1
baz=76,SNR=7.5
KONO Kongsberg 76.10 335 *eP* **P 03 31 16.5 -0.9**
comp=Z,20nm,1.2s,mb4.9
KONO Kongsberg 76.10 335 *⇑eP* **P 03 31 16.6 -0.8**
GASB Alder Springs 76.11 51 ⇊P P 03 31 19.0 +1.2
baz=76,SNR=6.7
J07A Hines 76.13 47 P **P 03 31 19.3 +1.4**
baz=76,SNR=6.9
M05C Lookout 76.15 49 ⇊P P 03 31 18.7 +0.7
baz=76,SNR=22
E11A Bogner Ranch, 76.20 43 P **P 03 31 18.2 0.0**
baz=76,SNR=7.2
GAZ Gaziantep 76.20 306 *eP* **P 03 31 17.4 -1.0**
CORM Corum 76.23 309 *eP* **P 03 31 19.5 +1.0**
KMRS Kahramanmaras 76.23 306 *eP* **P 03 31 19.3 +0.8**
BALT Daday 76.25 311 *i P* **P 03 31 19.5 +1.0**
HATC Hat Creek Radi 76.26 50 ⇊P P 03 31 19.3 +0.7
baz=76,SNR=16
D12A Red Ives Fores 76.26 42 ⇊P P 03 31 18.6 +0.1
baz=76
I08A Drewsey 76.27 46 ⇑P P 03 31 19.2 +0.6
baz=76
G10A Bishop Farm, J 76.31 44 ⇊P P 03 31 19.1 +0.3
baz=76,SNR=24
C13A Hot Springs 76.31 41 ⇑P P 03 31 19.2 +0.4
baz=76,SNR=38
H09A Durkee 76.36 45 ⇑P P 03 31 19.4 +0.3
baz=76,SNR=6.4
MOD Modoc 76.37 48 *eP* **P 03 31 19.5 +0.3**
comp=Z,41nm,1.2s,mb5.2
MOD *ep*P pP 03 31 23.8 -1.0
MOD Modoc 76.37 48 ⇑P P 03 31 20.1 +0.9
baz=76
F11A Grangeville 76.50 43 P **P 03 31 19.9 0.0**
baz=76,SNR=33
ANDN Andirin 76.56 306 *i P* **P 03 31 20.8 +0.5**
K07A Rock Creek Ran 76.56 47 P **P 03 31 21.2 +0.9**
baz=76,SNR=31
LVV L'vov 76.62 322 *⇊i P* **P 03 31 20.4 -0.1**
LVV *e* 03 34 19.6
J08A Circle Bar Ran 76.64 46 P **P 03 31 21.4 +0.7**
baz=76,SNR=37
M06C Likely Place G 76.66 49 ⇑P P 03 31 22.2 +1.4
baz=76,SNR=5.5
C14A Swan Lake 76.70 41 ⇊P P 03 31 21.7 +0.7
baz=76
CDAG Cicekdag 76.70 309 *i P* **P 03 31 18.9 -2.2**
I09A Lost Marbles R 76.72 45 ⇊P P 03 31 21.9 +0.8
baz=76,SNR=7.3
MNRC McLaughlin Nat 76.72 52 ⇑P P 03 31 21.8 +0.5
baz=76
D13A Huson 76.72 42 ⇑P P 03 31 21.2 +0.1
baz=76,SNR=6.9
G11A Walters Elk Ra 76.73 44 P **P 03 31 21.1 -0.1**
baz=76,SNR=59
O04C Chester 76.78 50 ⇊P P 03 31 22.1 +0.5
baz=77,SNR=26
ELDT Eldivan 76.81 310 *i P* **P 03 31 22.4 +0.7**
AVNT Avonos 76.86 308 *i P* **P 03 31 22.4 +0.3**
L07A Adell 76.89 48 ⇑P P 03 31 23.1 +0.9
baz=77,SNR=69
RUND Rundenannen 76.93 337 *eP* **P 03 31 24.5 +2.5**
RUND Rundenannen 76.93 337 *eP* **P 03 31 24.2 +2.2**
RUND AMb AMB 03 31 26.3
comp=Z,59nm,1.6s,mb5.3
H10A Noah's Angus R 76.93 45 ⇊P P 03 31 22.4 +0.1
baz=77
ORV Oroville 76.94 51 ⇑P P 03 31 22.1 -0.5
baz=77,SNR=19
KOZT Kozan 76.95 307 P **P 03 31 25.6 +3.0**
K08A Mann Creek Ran 77.00 47 P **P 03 31 23.4 +0.6**
baz=77,SNR=36
J09A Fry Pan Ranch, 77.07 46 P **P 03 31 23.8 +0.6**
baz=77,SNR=45
WVOR Wild Horse Val 77.08 47 *eP* **P 03 31 23.4 +0.1**
comp=Z,28nm,0.9s,mb5.2
WVOR *ep*P pP 03 31 27.8 -1.0
WVOR Wild Horse Val 77.08 47 *eP* **P 03 31 23.4 +0.2**
WVOR *e**PP pP 03 31 27.8 -1.0

WVOR pmax pmax
comp=Z,28nm,0.9s,mb5.2
OHCM Honcut 77.08 51 *eP* **P 03 31 22.8 -0.5**
O05C Quincy 77.08 50 ⇊P P 03 31 23.5 +0.2
baz=77,SNR=14
F12A Elk City 77.09 43 ⇊P P 03 31 23.4 +0.1
baz=77,SNR=71
MSO Missoula 77.17 42 *eP* **P 03 31 23.3 -0.3**
comp=Z,13nm,1.1s,mb4.8
MSO *ep*P pP 03 31 28.0 -1.2
D14A Greenough 77.25 41 ⇊P P 03 31 23.8 -0.3
baz=77,SNR=20
KAMT Kaman 77.27 309 P **P 03 31 24.7 +0.3**
CEYT Ceyhan 77.27 306 *eP* **P 03 31 19.8 -4.6**
H11A Donnelly 77.29 44 ⇊P P 03 31 23.9 -0.4
baz=77,SNR=22
N06A Buffalo Meadow 77.31 49 ⇑P P 03 31 24.9 +0.3
baz=77,SNR=30
BSD Bornholm Skovb 77.33 330 *⇑i P* **P 03 31 23.4 -1.0**
BSD pmax pmax
comp=Z,29nm,0.7s,mb5.3
BSD Bornholm Skovb 77.33 330 *⇑i P* **P 03 31 23.4 -1.0**
comp=Z,29nm,0.7s,mb5.3
M07A Soldier Meadow 77.36 48 ⇑P P 03 31 25.3 +0.5
baz=77,SNR=51
L08A Fields 77.40 47 ⇊P P 03 31 25.7 +0.7
baz=77,SNR=44
NIG Nigde 77.40 308 P **P 03 31 26.4 +1.3**
KWP Kalwaria 77.41 322 *eP* **P 03 31 25.3 +0.3**
KWP Kalwaria 77.41 322 *⇑i P* **P 03 31 25.3 +0.4**
K09A Rome 77.47 47 P **P 03 31 25.9 +0.5**
baz=77,SNR=24
CHMT Chamberlain Mo 77.49 41 *eP* **P 03 31 25.2 -0.2**
CHMT *ep*P pP 03 31 29.7 -1.4
BEKR Beckwourth 77.49 50 P **P 03 31 25.9 +0.3**
baz=77,SNR=26
HTY Hatay 77.50 305 *eP* **P 03 31 19.8 -5.9**
ANTO Ankara 77.56 310 *eP* **P 03 31 26.3 +0.3**
comp=Z,32nm,0.6s,mb5.4
ANTO *ep*P pP 03 31 30.9 -0.6
ANTO LR LR
comp=Z,250nm,21.0s,MS4.5
ANTO Ankara 77.56 310 *eP* **P 03 31 26.3 +0.3**
ANTO *e**PP pP 03 31 31.0 -0.6
ANTO pmax pmax
comp=Z,32nm,0.6s,mb5.4
ANTO MLR MLR
comp=Z,250nm,21.0s,MS4.5
ANTO Ankara 77.56 310 P **P 03 31 26.7 +0.7**
SNR=16
ANTO Ankara 77.56 310 *⇑i P* **P 03 31 26.5 +0.5**
F13A Darby 77.58 43 ⇊P P 03 31 25.4 -0.6
baz=77
KARA Karaisali 77.59 307 *eP* **P 03 31 19.8 -6.4**
GKP Gorka Klasztor 77.61 327 *eP* **P 03 31 25.6 -0.3**
GKP Gorka Klasztor 77.61 327 *eP* **P 03 31 25.6 -0.4**
J10A Berg Farm, Mel 77.61 46 ⇊P P 03 31 26.7 +0.5
baz=77,SNR=7.0
VRI Vrincioaia 77.62 318 P **P 03 31 27.0 +0.8**
VRI Vrincioaia 77.62 318 ⇑P P 03 31 26.6 +0.4
VRI Vrincioaia 77.62 318 *⇑i P* **P 03 31 26.5 +0.3**
O06A Flanigan 77.66 50 P **P 03 31 27.0 +0.5**
baz=78,SNR=24
P05C Yuba Gap, Truc 77.66 51 ⇑P P 03 31 26.8 +0.3
baz=78,SNR=5.8
HARR Harsova 77.66 316 ⇊P P 03 31 26.7 +0.3
HARR Harsova 77.66 316 *⇊i P* **P 03 31 26.7 +0.3**
E14A Clinton 77.67 42 ⇊P P 03 31 26.6 +0.1
baz=77,SNR=6.3
PLOR Plostina 77.68 318 *⇊i P* **P 03 31 26.6 +0.1**
FFC Flin Flon 77.76 30 P **P 03 31 26.8 0.0**
comp=Z,110nm,0.9s,mb5.8,SNR=12
FFC Flin Flon 77.76 30 *eP* **P 03 31 26.0 -0.8**
comp=Z,49nm,1.4s,mb5.2
FFC Flin Flon 77.76 30 *eP* **P 03 31 26.0 -0.8**
FFC pmax pmax
comp=Z,49nm,1.4s,mb5.2
FCC Fort Churchill 77.78 24 *eP* **P 03 31 26.3 -0.5**
comp=Z,73nm,1.3s,mb5.5
FCC *ep*P pP 03 31 31.2 -1.2
FCC Fort Churchill 77.78 24 *eP* **P 03 31 26.3 -0.5**
FCC *e**PP pP 03 31 31.2 -1.2
FCC pmax pmax
comp=Z,73nm,1.3s,mb5.5
I11A Placerville 77.79 45 ⇊P P 03 31 27.3 +0.1
baz=78,SNR=6.5
D15A Lincoln 77.81 41 ⇑P P 03 31 27.0 -0.2
baz=78,SNR=6.3
M08A Happy Creek Ra 77.81 48 ⇊P P 03 31 27.8 +0.5
baz=78,SNR=17
N07B Gerlach 77.83 49 P **P 03 31 28.3 +0.8**
baz=78,SNR=5.8
LAVA Lava Cap Winer 77.89 51 ⇑P P 03 31 27.5 -0.3
baz=78,SNR=19
L09A Wilkinson Ranc 77.91 47 P **P 03 31 28.7 +0.8**
baz=78,SNR=19
K10A MacKenzie Ranc 77.93 46 ⇑P P 03 31 28.6 +0.6
baz=78,SNR=27
COP Copenhagen 77.93 331 *⇑i P* **P 03 31 27.5 -0.2**
COP pmax pmax
comp=Z,27nm,0.9s,mb5.2
COP Copenhagen 77.93 331 *⇑i P* **P 03 31 27.5 -0.2**
comp=Z,27nm,0.9s,mb5.2
H12A Diamond D Ranc 78.04 44 ⇑P P 03 31 28.6 +0.1
baz=78,SNR=20
G13A Cobalt 78.06 43 ⇊P P 03 31 28.4 -0.2
baz=78,SNR=6.4
KOLS Kolonicke sedl 78.07 322 *eP* **P 03 31 28.7 0.0**
KOLS *ep*P pP 03 31 35.7 +1.5
E15A Deer Lodge 78.12 41 ⇑P P 03 31 29.4 +0.4
baz=78,SNR=6.3
MERS Mersin 78.16 307 *eP* **P 03 31 29.9 +0.5**
MFID Camas Ranch 78.17 45 P **P 03 31 29.8 +0.5**
baz=78,SNR=22
UZH Uzhgorod 78.26 322 *eP* **P 03 31 28.3 -1.4**
UZH *e* pP 03 31 34.5 -0.8
STHS Stebnicka Huta 78.28 323 *eP* **P 03 31 30.4 +0.6**
comp=Z,14nm,0.8s,mb5.0
STHS Stebnicka Huta 78.28 323 *eP* **P 03 31 30.4 +0.6**
STHS pmax pmax
comp=Z,14nm,0.8s,mb4.9
MLR Muntele Rosu 78.29 318 P **P 03 31 30.5 +0.5**
MLR Muntele Rosu 78.29 318 LR LR 04 11 00.1
comp=Z,250nm,18.2s,MS4.6,baz=325,slow=40
MLR Muntele Rosu 78.29 318 *⇑i P* **P 03 31 30.0 +0.1**
R05C Kirkwood Meado 78.34 51 ⇊P P 03 31 30.5 +0.2
baz=78
N08A GE Springer Mi 78.35 48 ⇑P P 03 31 30.9 +0.6
baz=78,SNR=39
H13A Challis 78.37 43 ⇑P P 03 31 30.8 +0.4
baz=78,SNR=38
HRY Holter Researc 78.38 41 *eP* **P 03 31 31.1 +0.7**
K11A Parker Ranch, 78.43 46 P **P 03 31 31.3 +0.5**
baz=78,SNR=16
OJC Ojcow 78.46 324 *i P* **P 03 31 30.9 +0.1**
OJC *e* pP 03 31 35.1 -1.3
OJC Ojcow 78.46 324 *⇑i P* **P 03 31 30.9 +0.1**
OJC *e* pP 03 31 35.1 -1.3
CRVS Cervenica-Dubn 78.50 322 *eP* **P 03 31 31.0 0.0**
CMB Columbia Colle 78.53 52 *eP* **P 03 31 31.0 -0.4**
comp=Z,36nm,1.1s,mb5.2
CMB *ep*P pP 03 31 35.6 -1.4
CMB Columbia Colle 78.53 52 *eP* **P 03 31 31.0 -0.4**
CMB *e**PP pP 03 31 35.6 -1.4
CMB pmax pmax
comp=Z,36nm,1.1s,mb5.2
CMB Columbia Colle 78.53 52 P **P 03 31 31.6 +0.2**
baz=78,SNR=25
F15A Butte 78.57 42 P **P 03 31 32.0 +0.5**
baz=78,SNR=62
L10A Juniper Basin 78.59 46 P **P 03 31 32.4 +0.8**
baz=78,SNR=29
MUD Monsted U'grnd 78.62 333 *⇑i P* **P 03 31 31.2 -0.3**
MUD pmax pmax
comp=Z,37nm,1.3s,mb5.2
MUD MLR MLR
comp=Z,310nm,17.0s,MS4.7
MUD Monsted U'grnd 78.62 333 *⇑i P* **P 03 31 31.2 -0.3**
comp=Z,37nm,1.3s,mb5.2
MUD
comp=Z,300nm,17.0s
EGMT Eagleton 78.64 39 *eP* **P 03 31 31.7 -0.1**
comp=Z,68nm,1.1s,mb5.5
EGMT *ep*P pP 03 31 36.7 -0.7
EGMT Eagleton 78.64 39 P **P 03 31 32.0 +0.2**
baz=78,SNR=32

N09A Rock Creek Ran 78.68 48 ⇑P P 03 31 32.8 +0.6
baz=78,SNR=6.0
J12A Stokes Ranch, 78.69 45 ⇑P P 03 31 32.5 +0.3
baz=78
NIE Niedzica 78.74 323 *i* P **P 03 31 33.0 +0.7**
KDHN Kadinhani 78.77 309 *i* P **P 03 31 32.5 -0.2**
DLMT Dillon 78.81 42 *eP* **P 03 31 32.8 0.0**
comp=Z,66nm,1.2s,mb5.4
DLMT *ep*P pP 03 31 38.0 -0.4
VOIR 78.82 318 ⇑P **P 03 31 32.9 0.0**
VOIR 78.82 318 ⇑*iP* **P 03 31 32.8 0.0**
R06C Coleville 78.84 51 P **P 03 31 33.8 +0.7**
baz=79,SNR=19
I13A Wildhorse Cree 78.85 44 ⇑P **P 03 31 34.1 +1.1**
baz=79,SNR=34
M10A I.L. Ranch, Tu 78.88 47 ⇑P **P 03 31 34.3 +1.0**
baz=79,SNR=25
HLID Hailey 78.89 44 *eP* **P 03 31 33.7 +0.4**
comp=Z,18nm,1.0s,mb5.0
HLID *ep*P pP 03 31 38.4 -0.5
HLID Hailey 78.89 44 P **P 03 31 34.0 +0.7**
baz=79,SNR=31
L11A Cat Creek Ranc 78.96 46 P **P 03 31 34.6 +1.0**
baz=79,SNR=46
S05C Merced 78.96 52 ⇓P **P 03 31 33.8 +0.1**
baz=79
ESKT Eskisehir 78.99 311 *i* P **P 03 31 33.6 -0.3**
G15A Dillon 78.99 42 P **P 03 31 34.2 +0.4**
baz=79,SNR=34
MCMT McKenzie Canyo 79.00 43 *eP* **P 03 31 34.1 +0.2**
IKL Isikli 79.07 307 *eP* **P 03 31 34.3 -0.1**
J13A Cove Ranch, Pi 79.13 44 ⇑P **P 03 31 35.0 +0.4**
baz=79,SNR=38
BOZ Bozeman (W) 79.16 41 *eP* **P 03 31 34.2 -0.5**
comp=Z,25nm,1.1s,mb5.0
BOZ Bozeman (W) 79.16 41 *eP* **P 03 31 34.2 -0.5**
BOZ pmax pmax
comp=Z,25nm,1.1s,mb5.1
BOZ Bozeman (W) 79.16 41 P **P 03 31 35.3 +0.6**
baz=79,SNR=44
K12A Draper Farm, C 79.18 45 ⇓P **P 03 31 35.9 +1.0**
baz=79,SNR=7.6
ASF Jabal al Asfar 79.19 302 P **P 03 31 35.5 +0.3**
comp=Z,20nm,0.9s,mb5.1,baz=284,slow=3.2,SNR=28
ASF LR LR 04 13 01.0
comp=Z,160nm,19.7s,MS4.4,baz=107,slow=41
DRGR 79.22 320 P **P 03 31 35.3 +0.3**
DRGR 79.22 320 ⇑*iP* **P 03 31 35.3 +0.3**
KECS Kecovo 79.27 322 *eP* **P 03 31 33.9 -1.3**
comp=Z,6.0nm,1.0s,mb4.5
KECS *ep*PP PP 03 34 30.7 -3.7
KECS Kecovo 79.27 322 *eP* **P 03 31 33.9 -1.3**
KECS *e* 03 34 30.7
KECS pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
O09A Fish Creek Ran 79.29 48 P **P 03 31 36.6 +1.1**
baz=79,SNR=17
RAC Raciborz 79.32 325 *eP* **P 03 31 36.1 +0.6**
RAC LR LR
comp=Z,1µm,15.7s,MS5.3
M11A Holland Ranch, 79.38 47 P **P 03 31 37.4 +1.4**
baz=79,SNR=25
L12A House Creek Ra 79.41 46 P **P 03 31 37.2 +1.0**
baz=79,SNR=27
OKC Ostrava-Krasne 79.51 324 *eP* **P 03 31 36.4 -0.1**
OKC *e* pP 03 31 41.9 -0.2
OKC Ostrava-Krasne 79.51 324⇑*eP* **P 03 31 36.4 -0.1**
OKC *ep*P pP 03 31 41.9 -0.2
OKC AMS AMS 04 09 30.0
comp=Z,600nm,11.8s,MS5.2
T06C Milleton Lake 79.56 52 P **P 03 31 36.9 -0.2**
baz=79,SNR=16
Q08A Gabbs 79.61 50 P **P 03 31 37.6 +0.4**
baz=79,SNR=22
NVAR Mina Array Bea 79.63 50 P **P 03 31 37.9 +0.5**
comp=Z,16nm,0.8s,mb5.0,baz=286,slow=6.1,SNR=39
O10A Cortez Mining, 79.64 48 P **P 03 31 38.6 +1.2**
baz=79,SNR=17
K13A Stover Farm, H 79.65 45 ⇑P **P 03 31 38.9 +1.4**
baz=79,SNR=9.1
RUE Ruedersdorf 79.66 328 *eP* **P 03 31 37.2 -0.2**
comp=Z,25nm,0.8s,mb5.2
P09A Austin 79.69 49 ⇑P **P 03 31 38.9 +1.1**
baz=80
KSP Ksiaz 79.69 326 *eP* **P 03 31 37.4 -0.1**
KSP Ksiaz 79.69 326⇑*eP* **P 03 31 37.5 0.0**
KSP *e**PP pP 03 31 42.1 -1.0
KSP MLR MLR
comp=Z,2µm,14.4s,MS5.5
ZIMR 79.75 316 P **P 03 31 37.9 0.0**
MMAI Mount Meron Ar 79.75 303 P **P 03 31 38.4 +0.2**
comp=Z,35nm,1.0s,mb5.3,baz=51,slow=6.6,SNR=21
MMAI LR LR 04 08 07.3
comp=Z,100nm,18.9s,MS4.2,baz=65,slow=37
QLMT Earthquake Lak 79.78 42 *eP* **P 03 31 38.8 +0.7**
QLMT *ep*P pP 03 31 43.1 -0.6
N11A Elko Archery C 79.79 47 ⇓P **P 03 31 39.3 +1.0**
baz=80,SNR=6.6
R08A Mina 79.80 50 P **P 03 31 39.0 +0.7**
baz=80,SNR=18
MORC Moravsky Berou 79.84 325 *eP* **P 03 31 38.2 -0.1**
comp=Z,19nm,1.0s,mb5.0
MORC Moravsky Berou 79.84 325⇑*iP* **P 03 31 38.4 +0.1**
M12A Wells 79.91 46 P **P 03 31 40.2 +1.3**
baz=80,SNR=27
PSZ Piszkesteto 79.94 322 *eP* **P 03 31 39.2 +0.3**
comp=Z,38nm,1.0s,mb5.3
PSZ Piszkesteto 79.94 322 *eP* **P 03 31 39.2 +0.3**
PSZ pmax pmax
comp=Z,38nm,1.0s,mb5.3
PSZ Piszkesteto 79.94 322⇑*iP* **P 03 31 39.2 +0.3**
PSZ Piszkesteto 79.94 322⇓*eP* **P 03 31 39.4 +0.5**
DPC Dobruska-Polom 80.02 326⇑*iP* **P 03 31 39.7 +0.4**
DPC *ep*P pP 03 31 43.6 -1.3
DPC AMS AMS 04 10 30.0
comp=Z,800nm,14.9s,MS5.2
PTRM Twissleman Ran 80.02 54 *eP* **P 03 31 40.1 +0.6**
CSS Prodhromos 80.04 306 *eP* **P 03 31 38.6 -1.1**
BSEG Bad Segeberg 80.05 331 *eP* **P 03 31 39.2 -0.2**
comp=Z,34nm,1.1s,mb5.2
UPC Upice 80.05 326⇑*eP* **P 03 31 39.7 +0.2**
UPC *ep*P pP 03 31 45.4 +0.3
P10A Eureka 80.07 48 ⇑P **P 03 31 40.7 +0.9**
baz=80,SNR=7.1
L13A Double Diamond 80.07 45 ⇓P **P 03 31 41.0 +1.3**
baz=80,SNR=8.6
VYHS Vyhne 80.08 323 *i* P **P 03 31 40.0 +0.3**
comp=Z,12nm,1.1s,mb4.7
VYHS Vyhne 80.08 323 *i* P **P 03 31 40.0 +0.3**
VYHS pmax pmax
comp=Z,12nm,1.1s,mb4.7
GZR Gura Zlata 80.08 319 P **P 03 31 40.2 +0.4**
GZR Gura Zlata 80.08 319 ⇓*iP* **P 03 31 40.3 +0.6**
MTUM Tungsten Hills 80.10 51 *eP* **P 03 31 40.3 +0.3**
GDZ Gediz 80.10 311 *i* P **P 03 31 39.7 -0.2**
GCMT Greycliff 80.12 40 *eP* **P 03 31 40.4 +0.5**
GCMT *ep*P pP 03 31 45.2 -0.3
YMR Madison River 80.14 42 *eP* **P 03 31 40.9 +0.8**
comp=Z,45nm,1.3s,mb5.2
YMR LR LR
comp=Z,1µm,22.0s,MS5.3
N12A Clover Valley, 80.19 47 P **P 03 31 41.5 +1.1**
baz=80,SNR=23
ISP Isparta 80.19 309 *eP* **P 03 31 39.1 -1.3**
comp=Z,145nm,0.4s
ISP P 03 31 54.8
ISP Isparta 80.19 309 *eP* **P 03 31 39.1 -1.4**
ISP 03 31 54.8
ISP pmax pmax
comp=Z,145nm,0.4s
HELL Mitchell Peak 80.20 52 ⇑P **P 03 31 40.3 -0.3**
baz=80
KOLL Kolacno 80.24 323 *eP* **P 03 31 40.8 +0.3**
K14A Jones Ranch, D 80.24 45 P **P 03 31 41.7 +1.1**
baz=80,SNR=22
O11A Cowboy Ranch, 80.25 48 P **P 03 31 41.5 +0.8**
baz=80,SNR=6.4
S08C White Mtn Res 80.26 51 ⇓P **P 03 31 41.8 +0.9**
baz=80,SNR=18
YNR Norris Junctio 80.27 42 *eP* **P 03 31 42.3 +1.6**
YFT Old Faithful 80.35 42 *eP* **P 03 31 43.1 +1.9**
M13A Montello 80.39 46 ⇓P **P 03 31 42.4 +0.9**
baz=80,SNR=5.5
R09A Tonopah 80.52 50 P **P 03 31 42.7 +0.5**
baz=80,SNR=24
LKWY Lake 80.52 42 *eP* **P 03 31 43.8 +1.7**
comp=Z,38nm,1.1s,mb5.2
LKWY LR LR
comp=Z,353nm,22.0s,MS4.7
LKWY Lake 80.52 42 *eP* **P 03 31 43.8 +1.7**
LKWY pmax pmax
comp=Z,38nm,1.1s,mb5.2
LKWY MLR MLR
comp=Z,353nm,22.0s,MS4.7
BZS Buzias 80.56 320 P **P 03 31 42.4 +0.1**
BZS Buzias 80.56 320⇑*iP* **P 03 31 42.0 -0.3**
Q10A Clear Creek Ra 80.58 49 ⇑P **P 03 31 43.1 +0.5**
baz=80,SNR=18
VRAC Vranov 80.61 325 P **P 03 31 42.9 +0.4**
VRAC Vranov 80.61 325 LR LR 04 08 48.4
comp=Z,250nm,19.4s,MS4.6,baz=56,slow=37
VRAC Vranov 80.61 325⇑*iP* **P 03 31 42.8 +0.3**
IMW Indian Meadow 80.65 42 *eP* **P 03 31 43.5 +0.7**
comp=Z,31nm,1.1s,mb5.2
VES Vestal, Richgr 80.66 53 ⇑P **P 03 31 42.7 -0.3**
baz=80,SNR=8.7
FLWY Flagg Ranch 80.67 42 *eP* **P 03 31 43.8 +0.9**
comp=Z,73nm,1.3s,mb5.5
N13A Wendover, West 80.68 46 ⇑P **P 03 31 43.6 +0.6**
baz=80,SNR=6.8
PVCC Panska Ves 80.70 327⇑*iP* **P 03 31 42.9 0.0**
PVCC AMS AMS 04 11 20.0
comp=Z,500nm,20.0s,MS4.9
DCID1 Drake Creek 80.71 43 *eP* **P 03 31 44.5 +1.4**
O12A Currie 80.72 47 ⇑P **P 03 31 43.4 +0.1**
baz=80,SNR=8.2
PKM Peak Mountain 80.72 54 ⇓P **P 03 31 43.9 +0.5**
baz=80
S09A Goldfield 80.73 50 P **P 03 31 43.8 +0.4**
baz=80,SNR=22
BRG Berggiesshubel 80.73 327 *eP* **P 03 31 42.9 -0.2**
comp=Z,7.7nm,0.9s,mb4.6
BRG *i* pP 03 31 48.6 -0.1
BRG LR LR
comp=Z,490nm,14.3s,MS5.0
BRG Berggiesshubel 80.73 327 *eP* **P 03 31 42.9 -0.2**
BRG *i* pP 03 31 48.6 -0.1
BRG pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
BRG MLR MLR
comp=Z,490nm,14.3s,MS5.0
BRG Berggiesshubel 80.73 327 *eP* **P 03 31 43.0 -0.1**
comp=Z,13nm,1.0s,mb4.8
BRG Berggiesshubel 80.73 327 *eP* **P 03 31 42.9 -0.2**
comp=Z,13nm,0.9s,mb4.8
BRG *i* pP 03 31 48.6 -0.1
comp=Z,20nm,1.2s
BRG
comp=N,397nm,15.9s
BRG
comp=E,439nm,12.2s
BRG
comp=Z,817nm,14.3s
RLMT Red Lodge 80.77 41 *eP* **P 03 31 43.1 -0.4**
comp=Z,48nm,1.2s,mb5.3
M14A Sheep Mountain 80.79 46 P **P 03 31 44.5 +0.9**
baz=81,SNR=39
CLL Collm 80.84 328⇑*iP* **P 03 31 43.3 -0.4**
comp=Z,38nm,0.8s,mb5.4
CLL *i* pP 03 31 47.8 -1.5
CLL LR LR
comp=Z,500nm,15.6s,MS5.0
CLL Collm 80.84 328⇑*iP* **P 03 31 43.3 -0.4**
CLL pmax pmax
comp=Z,38nm,0.8s,mb5.4
CLL MLR MLR
comp=Z,500nm,15.6s,MS5.0
CLL Collm 80.84 328 *eP* **P 03 31 43.2 -0.5**
comp=Z,38nm,0.8s,mb5.4
CLL Collm 80.84 328⇑*iP* **P 03 31 43.3 -0.4**
comp=Z,38nm,0.8s,mb5.4
CLL *i* pP pP 03 31 47.8 -1.5
MOOW Moose Ponds 80.85 43 *eP* **P 03 31 44.2 +0.3**
comp=Z,40nm,1.4s,mb5.2
TPAW Teton Pass 80.91 43 *eP* **P 03 31 45.0 +0.9**
comp=Z,35nm,1.2s,mb5.2
MODS Modra-Piesok 80.92 324 *iP* **P 03 31 45.0 +0.8**
MODS *ep*P pP 03 31 49.5 -0.3
HVU Hansel Valley 80.95 45 *eP* **P 03 31 45.3 +0.8**
comp=Z,28nm,1.2s,mb5.1
HVU Hansel Valley 80.95 45 *eP* **P 03 31 45.3 +0.8**
HVU pmax pmax
comp=Z,28nm,1.2s,mb5.1
R10A Warm Springs 80.97 49 ⇓P **P 03 31 45.0 +0.3**
baz=81,SNR=6.8
S10A Tonopah Range, 81.01 50 ⇓P **P 03 31 44.3 -0.6**
baz=81,SNR=18
LOHW Long Hollow 81.02 43 *eP* **P 03 31 43.7 -1.1**
comp=Z,40nm,1.4s,mb5.2
SNOW Snow King Moun 81.03 43 *eP* **P 03 31 45.7 +0.8**
comp=Z,35nm,1.1s,mb5.2
REDW Red Top Meadow 81.04 43 *eP* **P 03 31 45.1 +0.2**
comp=Z,51nm,1.3s,mb5.3
GRAC Grapevine Rang 81.07 51 ⇑P **P 03 31 45.4 +0.2**
baz=81,SNR=6.0
PRU Pruhonice 81.09 326⇑*iP* **P 03 31 45.0 0.0**
PRU *ep*P pP 03 31 48.3 -2.3
PRU AMS AMS 04 11 10.0
comp=Z,700nm,13.9s,MS5.2
P12A McGill 81.11 48 P **P 03 31 46.0 +0.7**
baz=81,SNR=26
DGMT Dagmar 81.11 36 *eP* **P 03 31 45.1 -0.1**
comp=Z,62nm,1.1s,mb5.5
ZST Bratislava 81.13 324 *iP* **P 03 31 46.2 +0.9**
comp=Z,12nm,1.2s,mb4.7
ZST *e* pP 03 31 50.5 -0.4
ZST Bratislava 81.13 324 *iP* **P 03 31 46.2 +0.9**
ZST pmax pmax
comp=Z,12nm,1.2s,mb4.7
TREC Trest 81.14 325⇑*iP* **P 03 31 45.6 +0.3**
TREC *ep*P pP 03 31 48.8 -2.1
TREC AMS AMS 04 11 30.0
comp=Z,700nm,11.3s,MS5.3
ISA Isabella 81.16 53 *eP* **P 03 31 44.2 -1.5**
comp=Z,10nm,0.9s,mb4.8
ISA Isabella 81.16 53 *eP* **P 03 31 44.2 -1.5**
ISA pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
ISA Isabella 81.16 53 ⇓P **P 03 31 45.0 -0.7**
baz=81
GOLH Golhisar 81.16 309 *iP* **P 03 31 45.1 -0.5**
RDO Rodhopi 81.22 314 *eP* **P 03 31 45.1 -0.8**
O13A Hicks Ranch, I 81.26 47 ⇓P **P 03 31 47.3 +1.1**
baz=81,SNR=5.9
AHID Auburn Hatcher 81.28 43 PFAKE 03 32 00.0 +14
AHID LR LR
comp=Z,138nm,22.0s,MS4.3
N14A Grayback Hills 81.29 46 P **P 03 31 47.1 +0.8**
baz=81,SNR=29
LAO LASA Array 81.33 38 *eP* **P 03 31 46.0 -0.3**
comp=Z,69nm,1.1s,mb5.5
BGU Big Grassy Mou 81.33 46 *eP* **P 03 31 46.7 +0.1**
M15A Larsen Ranch, 81.34 45 ⇑P **P 03 31 46.9 +0.4**
baz=81,SNR=28
R11A Troy Canyon, C 81.38 49 ⇑P **P 03 31 47.2 +0.4**
baz=81,SNR=43
Q12A Willow Creek R 81.42 48 ⇑P **P 03 31 47.8 +0.7**
baz=81
SPUT South Promonto 81.44 45 *eP* **P 03 31 47.9 +0.8**
MPMC Manual Prospec 81.56 52 ⇑P **P 03 31 47.8 0.0**
baz=81,SNR=23
CLZ Clausthal 81.58 329 *eP* **P 03 31 47.6 0.0**
CLZ pmax pmax
comp=Z,33nm,0.9s,mb5.3
CLZ Clausthal 81.58 329 *eP* **P 03 31 47.6 0.0**
comp=Z,33nm,0.9s,mb5.3
VTS Vitosha 81.65 317 P **P 03 31 49.0 +0.9**
VTS Vitosha 81.65 317⇑*iP* **P 03 31 48.7 +0.6**
N15A Stansbury Isla 81.66 46 ⇑P **P 03 31 49.2 +1.0**
baz=81,SNR=6.5
P13A Bates Ranch, G 81.66 47 ⇑P **P 03 31 49.1 +0.8**
baz=82,SNR=6.3
PKSM Moragy 81.72 322 P **P 03 31 48.4 -0.1**
PKSM Moragy 81.72 322⇑*iP* **P 03 31 47.9 -0.5**
FURC Furnace Creek, 81.72 51 ⇑P **P 03 31 49.0 +0.4**
baz=82,SNR=6.6
TANN Tannenbergstha 81.72 328 *eP* **P 03 31 48.2 -0.2**
comp=Z,12nm,1.1s,mb4.7
AKAS Kas 81.74 308 *iP* **P 03 31 47.5 -1.3**
SOP Sopron 81.75 324⇑*eP* **P 03 31 49.1 +0.5**
HWUT Hardware Ranch 81.76 45 *eP* **P 03 31 49.3 +0.5**
comp=Z,61nm,1.2s,mb5.4
LRMC Laurel Mountai 81.78 52 ⇓P **P 03 31 49.3 +0.3**
baz=82,SNR=5.7
TPNV Topopah Spring 81.82 51 *eP* **P 03 31 48.7 -0.4**
comp=Z,40nm,0.9s,mb5.3
TPNV Topopah Spring 81.82 51 *eP* **P 03 31 48.7 -0.5**
TPNV pmax pmax
comp=Z,40nm,0.9s,mb5.3
TPNV Topopah Spring 81.82 51 ⇓P **P 03 31 49.7 +0.5**
baz=82
NKC Novy Kostel 81.86 327 *eP* **P 03 31 48.8 -0.3**
NKC *e* pP 03 31 53.6 -1.1
NKC Novy Kostel 81.86 327⇑*eP* **P 03 31 48.8 -0.3**
NKC *ep*P pP 03 31 53.6 -1.1
NKC AMS AMS 04 11 40.0
comp=Z,700nm,12.4s,MS5.2
KDAG Bornova 81.89 311 *iP* **P 03 31 49.4 -0.1**
CONA Conrad Observa 81.92 324 *iP* **P 03 31 50.1 +0.7**
SNR=18
DUG Dugway 81.92 46 *eP* **P 03 31 49.7 0.0**
comp=Z,53nm,1.2s,mb5.3
DUG Dugway 81.92 46 *eP* **P 03 31 49.7 +0.1**
DUG pmax pmax
comp=Z,53nm,1.2s,mb5.3
DUG Dugway 81.92 46 P **P 03 31 50.4 +0.8**
baz=82,SNR=45
MOX Moxa 81.92 328 *eP* **P 03 31 49.1 -0.3**
comp=Z,38nm,1.8s,mb5.0
MOX
comp=Z,300nm,17.0s
MOX Moxa 81.92 328 *eP* **P 03 31 49.1 -0.3**
MOX pmax pmax
comp=Z,38nm,1.8s,mb5.0
MOX MLR MLR
comp=Z,300nm,17.0s,MS4.7
MOX Moxa 81.92 328 *eP* **P 03 31 49.2 -0.2**
comp=Z,13nm,1.0s,mb4.8
EDW2 Edwards Air Fo 81.94 53 ⇓P **P 03 31 50.1 +0.3**
baz=82,SNR=13
AYDN Tasoluk 81.96 310 *iP* **P 03 31 50.7 +0.8**
PRK Paraskevi 81.97 313 *eP* **P 03 31 48.8 -1.1**
R12A Pony Springs, 82.00 49 P **P 03 31 50.8 +0.7**
baz=82,SNR=6.0
NOQ North Oquirrh 82.04 46 *eP* **P 03 31 51.2 +1.0**
comp=Z,53nm,1.0s,mb5.4
NVR Nevrokopi 82.07 315 *eP* **P 03 31 50.4 0.0**
U10A Ash Meadows, A 82.09 51 ⇓P **P 03 31 51.8 +1.2**
baz=82,SNR=7.3
KHC Kasperske Hory 82.14 326⇑*iP* **P 03 31 50.7 +0.1**
KHC *ep*P pP 03 31 53.3 -2.9
KHC AMS AMS 04 11 40.0
comp=Z,1µm,13.9s,MS5.3
BW06 Boulder Array 82.15 43 *eP* **P 03 31 50.2 -0.6**
comp=Z,37nm,1.3s,mb5.2
PDAR Pinedale Array 82.15 43 P **P 03 31 51.1 +0.3**
comp=Z,16nm,1.0s,mb4.9,baz=298,slow=3.2,SNR=24
MANZ Manzenberg 82.19 327 *eP* **P 03 31 50.7 -0.1**
comp=Z,13nm,0.8s,mb4.9
CTU Camp Tracy 82.23 45 *eP* **P 03 31 51.6 +0.3**
comp=Z,19nm,1.0s,mb5.0
LOS Limnos 82.25 314 *eP* **P 03 31 51.1 -0.3**
T11A Corn Creek, Al 82.29 50 P **P 03 31 52.0 +0.4**
baz=82,SNR=30
GEC2 GERESS Array S 82.29 326 *eP* **P 03 31 51.1 -0.3**
GEC2 pmax pmax
comp=Z,12nm,0.8s,mb4.9
GEC2 GERESS Array S 82.29 326 *eP* **P 03 31 51.1 -0.3**
comp=Z,12nm,0.8s,mb4.9
GERES GERESS Array B 82.29 326 P **P 03 31 51.1 -0.3**
comp=Z,7.6nm,0.7s,mb4.8,baz=38,slow=5.0,SNR=79
GERES LR LR 04 12 55.6
comp=Z,432nm,18.3s,MS4.8,baz=260,slow=39
IBBN Ibbenburen 82.29 331 *eP* **P 03 31 50.7 -0.6**
comp=Z,38nm,0.8s,mb5.4
ROTZ Rotzenmuhle 82.30 327 *eP* **P 03 31 51.8 +0.4**
comp=Z,16nm,0.9s,mb5.0
URLA Izmir 82.33 312 *iP* **P 03 31 51.6 -0.2**
DIVS Divibare 82.43 319 *eP* **P 03 31 52.1 -0.1**
WET Wettzell 82.45 326 *eP* **P 03 31 52.3 +0.1**
WET pmax pmax
comp=Z,12nm,1.0s,mb4.8
WET Wettzell 82.45 326 *eP* **P 03 31 52.3 +0.1**
comp=Z,12nm,1.0s,mb4.8
GSC Goldstone 82.46 52 *eP* **P 03 31 52.2 -0.3**
comp=Z,22nm,0.9s,mb5.1
GSC Goldstone 82.46 52 *eP* **P 03 31 52.2 -0.4**
GSC pmax pmax
comp=Z,22nm,0.9s,mb5.1
GSC Goldstone 82.46 52 ⇓P **P 03 31 52.4 -0.2**
baz=82,SNR=13
JLU Jordanelle 82.47 45 *eP* **P 03 31 53.3 +0.8**
UBBA Unterbreizbach 82.49 329 *eP* **P 03 31 52.2 -0.2**
comp=Z,12nm,1.1s,mb4.7
KAC Achnashellach 82.50 340⇑*iP* **P 03 31 52.0 -0.3**
NLU North Lily Min 82.51 46 *eP* **P 03 31 52.7 0.0**
BFSC Mount Baldy St 82.54 53 ⇓P **P 03 31 52.7 -0.3**
baz=82,SNR=5.2
ARSA Arzberg 82.56 324⇑*iP* **P 03 31 52.8 0.0**
SNR=15
OUR Ouranopolis 82.65 315 *eP* **P 03 31 53.2 -0.3**
MPU Maple Canyon 82.73 46 *eP* **P 03 31 54.7 +0.8**
comp=Z,46nm,1.2s,mb5.4
MPU LR LR
comp=Z,990nm,21.0s,MS5.2
KPL Plockton 82.74 340 P **P 03 31 52.9 -0.7**
KPL AMb AMB 03 31 54.7
comp=Z,81nm,1.4s,mb5.6
KPL Plockton 82.74 340⇑*eP* **P 03 31 52.9 -0.7**
KPL AMb AMB 03 31 54.7
comp=Z,81nm,1.4s,mb5.6
KPL AMS AMS 04 13 54.5
comp=Z,275nm,18.7s,MS4.7
MOA Molln 82.74 325 *iP* **P 03 31 53.9 +0.1**
SNR=11
GRA1 Grafenberg Arr 82.80 328 *eP* **P 03 31 54.4 +0.4**
comp=Z,95nm,1.7s,mb5.5
GRA1 LR LR
comp=Z,300nm,18.0s,MS4.7
GRF Grafenberg Arr 82.80 328 *eP* **P 03 31 54.4 +0.4**
GRF pmax pmax
comp=Z,95nm,1.7s,mb5.5
GRF MLR MLR
comp=Z,300nm,18.0s,MS4.7
GRF Grafenberg Arr 82.80 328 *eP* **P 03 31 54.4 +0.4**
GRF pmax pmax
comp=Z,95nm,1.7s,mb5.5
GRF MLR MLR
comp=Z,300nm,18.0s,MS4.7
GRF Grafenberg Arr 82.80 328 *eP* **P 03 31 54.4 +0.4**
comp=Z,95nm,1.7s,mb5.5
GRF *eL* 04 13 11.1
comp=Z,268nm,18.0s
GRFO Grafenberg 82.80 328 *eP* **P 03 31 53.9 -0.1**
comp=Z,39nm,1.2s,mb5.3
GRFO LR LR
comp=Z,167nm,20.0s,MS4.4
GRFO Grafenberg 82.80 328 *eP* **P 03 31 53.9 -0.1**
GRFO pmax pmax
comp=Z,39nm,1.2s,mb5.3
GRFO MLR MLR
comp=Z,167nm,20.0s,MS4.4
STIP Stip 82.81 316 *eP* **P 03 31 53.4 -0.9**
VAY Valandovo 82.83 316 *eP* **P 03 31 53.7 -0.6**
ELO Logie Almond 82.92 339⇑*eP* **P 03 31 54.0 -0.5**
S13A Holt Ranch, En 82.93 49 P **P 03 31 55.7 +0.8**
baz=83,SNR=26
PLG Polygyros 82.94 315 *eP* **P 03 31 54.5 -0.5**
PLG Polygyros 82.94 315 *eP* **P 03 31 54.1 -0.8**
V11A Goodsprings 83.02 51 ⇑P **P 03 31 55.9 +0.5**
baz=83,SNR=19
SKO Skopje 83.05 317 *eP* **P 03 31 56.3 +0.8**
EBH Black Hill 83.05 339⇑*eP* **P 03 31 54.5 -0.8**
ARUT Antelope Range 83.06 48 *eP* **P 03 31 56.1 +0.5**
HEC Hector,Ludlow 83.06 52 ⇓P **P 03 31 56.0 +0.4**
baz=83,SNR=7.2
ESY Stoneypath 83.06 338⇑*eP* **P 03 31 54.7 -0.5**
PERS Pernice 83.19 324 *iP* **P 03 31 56.1 0.0**
EDI Edinburgh 83.23 338 P **P 03 31 55.2 -0.9**
EDI AMb AMB 03 31 58.7
comp=Z,18nm,1.1s,mb5.0
EDI Edinburgh 83.23 338 *eP* **P 03 31 55.2 -0.9**
EDI AMb AMB 03 31 58.7
comp=Z,18nm,1.1s,mb5.0
EDI AMS AMS 04 15 20.6
comp=Z,158nm,17.0s,MS4.5
MURC Murrieta 83.23 54 ⇑P **P 03 31 56.7 +0.1**
baz=83

T13A **Saint George** 83.25 49 P P 03 31 57.4 +0.8
baz=83,SNR=31
CCUT **Cedar City** 83.25 49 eP P 03 31 56.8 +0.1
PLE **Pljevlja** 83.27 319⇑iP P 03 31 56.7 +0.1
IVA **Berane** 83.30 318⇑iP P 03 31 56.5 -0.3
XSO **Sourhope Farm** 83.30 338⇑iP P 03 31 56.1 -0.4
EBL **Broad Law** 83.31 338⇑iP P 03 31 56.2 -0.3
EAB **Aberfoyle** 83.35 339⇑iP P 03 31 56.3 -0.5
MSU **Marysvale** 83.37 47 eP P 03 31 58.2 +1.0
EAU **Auchinoon** 83.37 338⇑iP P 03 31 56.6 -0.3
GOLS **Golise** 83.38 323 eP P 03 31 56.8 -0.3
PVY **Plav** 83.44 318 eP P 03 31 56.6 -0.9
TMUT **Trail Mountain** 83.45 46 eP P 03 31 57.8 +0.2
GMRC **Granite Mounta** 83.52 52 P P 03 31 58.2 +0.2
baz=83,SNR=19
KRUS **Krusevo** 83.55 317 eP P 03 31 58.5 +0.4
OBKA **Obir** 83.55 324⇑iP P 03 31 57.6 -0.4
SNR=7.8
ULM **Lac du Bonnet** 83.58 31 eP P 03 31 56.9 -1.1
comp=Z,43nm,1.3s,mb5.4
ULM **Lac du Bonnet** 83.58 31 P P 03 31 57.3 -0.8
comp=Z,15nm,1.0s,mb5.1,baz=317,slow=5.9,SNR=23
CRES **Cresnjev** 83.59 323 iP P 03 31 57.8 -0.4
U13A **Pakoon Wash** 83.59 50 P P 03 31 59.1 +0.7
baz=83,SNR=29
UPM **Unac-Piva** 83.61 319⇑iP P 03 31 58.0 -0.4
LIT **Litokhoron** 83.67 315 eP P 03 31 57.1 -1.6
PGBU **Glenifferbraes** 83.71 339⇑eP P 03 31 58.1 -0.5
PGBU AMb AMB 03 31 58.7
comp=Z,125nm,2.0s,mb5.7
PFO **Pinyon Flat Ob** 83.72 53 P P 03 31 59.0 -0.1
comp=Z,208nm,1.2s,SNR=5.5
PFO **Pinyon Flat Ob** 83.72 53 eP P 03 31 59.0 -0.1
comp=Z,52nm,1.1s,mb5.6
PFO **Pinyon Flat Ob** 83.72 53 eP P 03 31 59.0 -0.1
PFO pmax pmax
comp=Z,52nm,1.1s,mb5.6
PFO **Pinyon Flat Ob** 83.72 53 ⇑P P 03 31 59.7 +0.6
baz=84,SNR=7.3
KBA **Koelnbreinsper** 83.72 325 iP P 03 31 58.7 -0.1
SNR=16
T14A **Hurricane** 83.73 49 P P 03 31 59.8 +0.7
baz=84,SNR=18
BIA **Bitola** 83.74 316 eP P 03 31 57.8 -1.3
ESK **Eskdalemuir** 83.75 338 P P 03 31 58.6 -0.2
comp=Z,117nm,0.7s,SNR=8.3
ESK **Eskdalemuir** 83.75 338 P P 03 31 58.3 -0.5
ESK AMb AMB 03 32 05.5
comp=Z,40nm,1.6s,mb5.3
ESK **Eskdalemuir** 83.75 338⇑eP P 03 31 58.3 -0.5
ESK AMb AMB 03 32 05.5
comp=Z,40nm,1.6s,mb5.3
ESK AMS AMS 04 16 23.6
comp=Z,174nm,18.3s,MS4.5
ESK **Eskdalemuir** 83.75 338 eP P 03 31 58.0 -0.8
comp=Z,43nm,1.4s,mb5.4
ESK **Eskdalemuir** 83.75 338 eP P 03 31 58.0 -0.8
ESK pmax pmax
comp=Z,43nm,1.4s,mb5.4
BELC **Belle Mtn.** 83.78 53 P P 03 31 59.4 0.0
baz=84,SNR=7.2
APE **Apeiranthos** 83.79 311 ⇓P P 03 31 58.2 -1.2
APE **Apeiranthos** 83.79 311 ⇓iP P 03 31 58.2 -1.2
XAL **Allendale** 83.82 337 eP P 03 31 58.3 -0.8
NKY **Niksic** 83.83 319⇑iP P 03 31 58.6 -0.9
ECK **Cauldkaine Hil** 83.84 338⇑iP P 03 31 58.8 -0.5
FUR **Furstenfeldbru** 83.89 327 eP P 03 31 59.8 +0.1
FUR pmax pmax
comp=Z,53nm,0.8s,mb5.7
FUR **Furstenfeldbru** 83.89 327 eP P 03 31 59.8 +0.1
comp=Z,53nm,0.8s,mb5.7
LJU **Ljubljana** 83.89 323 iP P 03 31 59.2 -0.6
LJU i pP 03 32 03.8 -1.6
BOJS **Bojanci** 83.92 323 eP P 03 31 59.6 -0.3
TTG **Podgorica** 83.95 318⇑iP P 03 31 59.1 -1.0
KZN **Kozani** 83.95 316 eP P 03 31 59.0 -1.2
SRU **San Rafael** 83.97 46 eP P 03 32 00.3 0.0
comp=Z,26nm,1.0s,mb5.3
SRU **San Rafael** 83.97 46 eP P 03 32 00.3 0.0
SRU pmax pmax
comp=Z,26nm,1.0s,mb5.3
OHR **Ohrid** 83.98 317 eP P 03 31 57.8 -2.5
BRY **Bratogost** 84.02 319⇑iP P 03 31 59.2 -1.2
U14A **Mt Trumbull** 84.08 49 P P 03 32 01.6 +0.7
baz=84,SNR=30
CEY **Cerknica** 84.16 323 eP P 03 32 00.4 -0.7
RWWY **Rawlins** 84.17 42 eP P 03 32 01.6 +0.3
comp=Z,50nm,1.1s,mb5.6
T15A **Red Dirt Ranch** 84.19 49 P P 03 32 02.1 +0.7
baz=84,SNR=49
PTCC **Patocco-Chiusa** 84.20 324 P P 03 32 00.0 -1.3
comp=Z,6.8nm,0.6s,mb5.0
RSSD **Black Hills** 84.21 39 PFAKE 03 32 10.0 +8.6
RSSD LR LR
comp=Z,560nm,20.0s,MS4.9
VOY **Vojsko** 84.21 324 eP P 03 32 00.3 -1.1
VOY e 03 32 09.0
BUM **Brajici-Budva** 84.23 319⇑iP P 03 32 00.6 -0.9
IRM **Iron Mountain** 84.24 52 ⇓P P 03 32 02.4 +0.7
baz=84,SNR=6.0
ROBS **Robic** 84.25 324 eP P 03 32 00.1 -1.5
ULC **Ulcinj** 84.27 318⇑iP P 03 32 01.1 -0.6
BEBN **Eben Emael** 84.29 331 P P 03 32 00.9 -0.7
comp=Z,9.2nm,1.1s,mb4.8
MEM **Membach** 84.30 331 P P 03 32 01.2 -0.5
comp=Z,16nm,1.2s,mb5.0
LKR **Lokris** 84.32 314 eP P 03 31 59.4 -2.7
ATH **Athens Observa** 84.33 313 eP P 03 32 00.3 -1.8
CKE **Keswick** 84.33 338 eP P 03 32 01.9 +0.1
FVI **Forni Avoltri** 84.34 325 P P 03 32 00.7 -1.3
comp=Z,10nm,0.5s,mb5.2
FVI **Forni Avoltri** 84.34 325 P P 03 32 00.7 -1.3
FVI pmax pmax
comp=Z,10.0nm,0.5s,mb5.2
HCY **Herceg Novi** 84.35 319⇑iP P 03 32 01.4 -0.7
GCD **Castle Douglas** 84.36 338⇑eP P 03 32 01.2 -0.7
ABTA **Abfaltersbach** 84.36 325 iP P 03 32 01.0 -1.1
SNR=15
WATA **Walderalm** 84.37 326 iP P 03 32 01.8 -0.4
SNR=15
STU **Stuttgart** 84.37 328 eP P 03 32 01.8 -0.3
comp=Z,44nm,0.9s,mb5.6
HPK **Haverah Park** 84.39 337 P P 03 32 01.5 -0.6
HPK AMb AMB 03 32 08.2
comp=Z,62nm,1.4s,mb5.5
HPK **Haverah Park** 84.39 337⇑eP P 03 32 01.5 -0.6
HPK AMb AMB 03 32 08.2
comp=Z,62nm,1.4s,mb5.5
HPK AMS AMS 04 15 11.1
comp=Z,273nm,18.4s,MS4.7
WTTA **Wattenberg** 84.39 326 iP P 03 32 02.1 -0.2
SNR=17
GMK **Mull of Kintyr** 84.44 339⇑iP P 03 32 02.0 -0.4
W13A **Hualapai Mount** 84.47 51 P P 03 32 03.5 +0.6
baz=84,SNR=17
AGG **Agios Georgios** 84.47 314 eP P 03 32 01.3 -1.5
STON **Ston** 84.49 320 P P 03 32 00.4 -2.4
MOTA **Moosalm** 84.58 326⇑iP P 03 32 02.8 -0.4
SNR=20
GAL1 **Galloway** 84.59 339 P P 03 32 02.5 -0.6
GAL1 AMb AMB 03 32 03.7
comp=Z,54nm,1.2s,mb5.5
GAL1 **Galloway** 84.59 339⇑eP P 03 32 02.5 -0.6
GAL1 AMb AMB 03 32 03.7
comp=Z,54nm,1.2s,mb5.5
GAL1 AMS AMS 04 16 19.4
comp=Z,250nm,17.8s,MS4.7
SQTA **Sankt Quirin** 84.62 326 iP P 03 32 03.2 -0.2
SNR=25
V14A **Boquillas Ranc** 84.62 50 P P 03 32 04.5 +0.8
baz=84,SNR=34
RETA **Reutte** 84.63 326 iP P 03 32 03.2 -0.3
SNR=37
BCLA **Clavier** 84.73 331 P P 03 32 03.1 -0.8
comp=Z,14nm,1.5s,mb4.9
T16A **Glen Canyon Da** 84.75 48 ⇑P P 03 32 04.3 0.0
baz=84
NVLJ **Novalja** 84.77 322 P P 03 32 01.9 -2.3
UCC **Uccle** 84.81 332 P P 03 32 03.5 -0.8
comp=Z,19nm,1.7s,mb4.9
LHO **Holmfirth** 84.81 336⇑iP P 03 32 03.6 -0.6
LANF **Langenberg** 84.81 329 eP P 03 32 03.8 -0.5
X13A **Yucca** 84.82 51 P P 03 32 04.6 0.0
baz=85,SNR=33
GCL **Cushendall** 84.83 339⇑eP P 03 32 03.8 -0.5

EVR **Evrytania** 84.85 315 eP P 03 32 03.2 -1.5
NPS **Neapolis** 84.89 310 eP P 03 32 03.0 -2.0
Y12C **Blythe** 84.90 52 ⇓P P 03 32 05.6 +0.5
baz=85,SNR=8.5
W14A **Seligman** 84.90 50 ⇑P P 03 32 05.8 +0.7
baz=85,SNR=26
JAN **Janina** 84.91 316 eP P 03 32 03.2 -1.8
KBI1 **Birley Grange** 84.94 336⇑iP P 03 32 04.1 -0.8
WLF **Walferdange** 84.97 330 eP P 03 32 04.2 -0.9
comp=Z,43nm,1.4s,mb5.4
WLF **Walferdange** 84.97 330 eP P 03 32 04.2 -0.9
WLF pmax pmax
comp=Z,43nm,1.4s,mb5.4
WLF **Walferdange** 84.97 330 P P 03 32 05.2 0.0
comp=Z,23nm,1.5s,mb5.1
WLF **Walferdange** 84.97 330 eP P 03 32 05.1 0.0
FETA **Feichten** 84.99 326 iP P 03 32 05.0 -0.3
SNR=47
GIM **North Isle of** 85.00 338 eP P 03 32 04.5 -0.7
LAST **Lasithi** 85.03 310 eP P 03 32 05.9 +0.2
SNF **Seneffe** 85.06 332 P P 03 32 05.1 -0.4
comp=Z,20nm,1.4s,mb5.1
AGMN **Agassiz Refuge** 85.07 32 eP P 03 32 04.4 -1.3
comp=Z,13nm,1.1s,mb5.0
AGMN LR LR
comp=Z,223nm,20.0s,MS4.5
BFO **Black Forest** 85.08 328 P P 03 32 05.2 -0.5
comp=Z,234nm,0.8s,SNR=20
BFO **Black Forest** 85.08 328 eP P 03 32 05.1 -0.6
comp=Z,33nm,0.8s,mb5.5
BFO LR LR
comp=Z,200nm,19.0s,MS4.5
BFO **Black Forest** 85.08 328 eP P 03 32 05.1 -0.6
BFO pmax pmax
comp=Z,33nm,0.8s,mb5.5
BFO MLR MLR
comp=Z,200nm,19.0s,MS4.5
BFO **Black Forest** 85.08 328 eP P 03 32 05.1 -0.6
comp=Z,33nm,0.8s,mb5.5
GLA **Glamis** 85.14 53 eP P 03 32 06.5 +0.2
comp=Z,40nm,1.0s,mb5.5
GLA **Glamis** 85.14 53 eP P 03 32 06.5 +0.2
GLA pmax pmax
comp=Z,40nm,1.0s,mb5.5
GLA **Glamis** 85.14 53 P P 03 32 06.5 +0.2
baz=85,SNR=16
GIVF **Givet** 85.17 331⇑iP P 03 32 05.1 -1.0
DAVA **Damuels** 85.18 327 iP P 03 32 06.0 -0.2
SNR=43
WIM **Isle of Man** 85.19 338 eP P 03 32 06.1 -0.1
SELA **Sela** 85.22 314 eP P 03 32 05.7 -0.9
KWE **Weaver Farm** 85.24 336⇑eP P 03 32 05.4 -1.1
DOU **Dourbes** 85.27 331 P P 03 32 05.6 -1.0
comp=Z,9.3nm,1.4s,mb4.7
CTI **Castel Tesino** 85.28 325 P P 03 32 05.5 -1.2
comp=Z,47nm,1.1s,mb5.5
CTI **Castel Tesino** 85.28 325 P P 03 32 05.5 -1.2
CTI pmax pmax
comp=Z,47nm,1.1s,mb5.5
IGT **Igoumenitsa** 85.29 316 eP P 03 32 06.5 -0.5
CWF **Charnwood Fore** 85.30 336⇑eP P 03 32 05.7 -1.0
CWF AMb AMB 03 32 07.9
comp=Z,57nm,1.4s,mb5.5
Y13A **Salome** 85.31 52 P P 03 32 07.6 +0.4
baz=85,SNR=6.3
PHWY **Pilot Hill** 85.40 42 eP P 03 32 07.3 -0.1
W15A **Williams** 85.44 50 ⇑P P 03 32 09.1 +1.4
baz=85,SNR=7.0
BAIF **Baives** 85.45 331⇑iP P 03 32 06.6 -0.9
comp=Z,24nm,1.0s,mb5.0
BAIF **Baives** 85.45 331⇑iP P 03 32 06.6 -0.9
comp=Z,12nm,1.0s,mb5.0
BAIF **Baives** 85.45 331⇑iP P 03 32 06.6 -0.9
BAIF pmax pmax
comp=Z,12nm,1.0s,mb5.0
CDF **Champ du Feu** 85.47 329⇑iP P 03 32 07.0 -0.7
comp=Z,63nm,1.1s,mb5.3
CDF **Champ du Feu** 85.47 329⇑iP P 03 32 07.0 -0.7
comp=Z,31nm,1.1s,mb5.4
CDF **Champ du Feu** 85.47 329⇑iP P 03 32 07.0 -0.7
CDF pmax pmax
comp=Z,31nm,1.1s,mb5.3
KEK **Kerkira** 85.48 316 eP P 03 32 06.7 -1.2
GMM **Mts of Mourne** 85.50 339⇑eP P 03 32 06.7 -0.9
X14A **Yava** 85.50 51 P P 03 32 08.8 +0.7
baz=85,SNR=20
VLI **Veliai** 85.61 312 eP P 03 32 05.2 -3.4
RLS **Riolos of Patr** 85.61 314 eP P 03 32 08.0 -0.6
LKD **Levkas** 85.66 315 eP P 03 32 08.6 -0.2
ECH **Echery** 85.67 329 eP P 03 32 08.0 -0.7
VAM **Vamos** 85.68 311 eP P 03 32 08.3 -0.7
Y14A **Wickenburg** 85.76 51 P P 03 32 09.3 -0.1
baz=86,SNR=28
WUAZ **Wupatki** 85.78 49 eP P 03 32 10.2 +0.8
comp=Z,46nm,1.1s,mb5.6
WUAZ **Wupatki** 85.78 49 P P 03 32 10.4 +1.0
baz=86,SNR=16
SBD1 **Bryn Du** 85.80 337⇑iP P 03 32 08.8 -0.5
WLF1 **Llynfaes** 85.84 338⇑eP P 03 32 08.3 -1.1
KARN **Karanos** 85.86 311 eP P 03 32 09.2 -0.6
YLL **Llanberis** 85.89 337 eP P 03 32 09.6 -0.1
X15A **Humboldt** 85.90 50 P P 03 32 10.7 +0.6
baz=86,SNR=55
ITM **Ithomi** 85.92 313 eP P 03 32 08.3 -1.8
MOF **Molkenrain** 85.96 328 eP P 03 32 09.4 -0.7
SKP1 **Kophill** 85.97 335⇑iP P 03 32 08.8 -1.3
KFL **Anninata** 85.98 314 eP P 03 32 10.2 -0.2
SMCO **Snowmass** 86.00 44 eP P 03 32 11.0 +0.5
comp=Z,30nm,0.9s,mb5.5
TUE **Stuetta** 86.03 326 P P 03 32 10.1 -0.4
VLS **Valsamata** 86.05 315 eP P 03 32 07.8 -3.0
DMUB **Kingscourt** 86.07 339 eP P 03 32 10.0 -0.5
HINF **Hinteralfeld** 86.11 329⇑iP P 03 32 09.7 -1.1
comp=Z,22nm,0.9s,mb5.1
HINF **Hinteralfeld** 86.11 329⇑iP P 03 32 09.7 -1.1
comp=Z,11nm,0.9s,mb5.1
HINF **Hinteralfeld** 86.11 329⇑iP P 03 32 09.7 -1.1
HINF pmax pmax
comp=Z,11nm,0.9s,mb5.1
GVD **Gavdhos** 86.12 310⇑iP P 03 32 10.3 -0.9
comp=Z,27nm,0.9s,mb5.5
SSW **Stow on the Wo** 86.12 336⇑eP P 03 32 10.2 -0.6
THEF **They Montfort** 86.16 329 eP P 03 32 10.1 -1.0
HAU **Haudompre** 86.18 329⇑iP P 03 32 10.1 -1.1
comp=Z,27nm,1.0s,mb5.1
HAU eMLR MLR
comp=Z,340nm,18.0s,MS4.5
HAU **Haudompre** 86.18 329⇑iP P 03 32 10.1 -1.1
comp=Z,14nm,1.0s,mb5.1
HAU LR LR
comp=Z,340nm,18.0s,MS4.8
HAU **Haudompre** 86.18 329⇑iP P 03 32 10.1 -1.1
HAU pmax pmax
comp=Z,14nm,1.0s,mb5.2
HAU MLR MLR
comp=Z,340nm,18.0s,MS4.8
Y15A **Casa Rosa Ranc** 86.18 51 P P 03 32 11.8 +0.4
baz=86,SNR=31
ATD **Arta Tunnel** 86.29 281 LR LR 04 09 37.6
comp=Z,187nm,21.5s,MS4.5,baz=291,slow=35
HAE **Alders End** 86.30 336 eP P 03 32 11.0 -0.7
MEZF **Maizieres J'vi** 86.33 330⇑iP P 03 32 11.3 -0.6
comp=Z,54nm,1.1s,mb5.4
MEZF **Maizieres J'vi** 86.33 330⇑iP P 03 32 11.3 -0.6
comp=Z,54nm,1.1s,mb5.7
ISCO **Idaho Springs** 86.34 43 eP P 03 32 13.1 +0.9
comp=Z,8.6nm,0.8s,mb5.0
ISCO LR LR
comp=Z,101nm,19.0s,MS4.2
ISCO **Idaho Springs** 86.34 43 eP P 03 32 13.1 +0.9
ISCO pmax pmax
comp=Z,9.0nm,0.8s,mb5.0
ISCO MLR MLR
comp=Z,101nm,19.0s,MS4.2
MVCO **Mesa Verde** 86.42 46 eP P 03 32 12.8 +0.2
comp=Z,26nm,1.0s,mb5.4
MVCO **Mesa Verde** 86.42 46 ⇓P P 03 32 13.2 +0.6
baz=86
RSM **Repubblica di** 86.44 323 P P 03 32 12.5 0.0
comp=Z,130nm,2.0s,mb5.8
RSM **Repubblica di** 86.44 323 P P 03 32 12.5 0.0
RSM pmax pmax
comp=Z,130nm,2.0s,mb5.8
FSSB **Fossombrone** 86.45 323 P P 03 32 12.3 -0.3
comp=Z,4.2nm,0.5s,mb4.9
X16A **Lo Mia Camp, P** 86.45 50 P P 03 32 13.8 +1.0
baz=86,SNR=32
WOL **Wolverton** 86.45 335 eP P 03 32 11.6 -0.8
MCH1 **Michaelchurch** 86.48 336⇑iP P 03 32 11.8 -0.7
MCH1 ⇑eP 03 32 11.8
MCH1 AMb AMB 03 32 20.0
comp=Z,73nm,1.9s,mb5.6
HTR **Trewern Hill** 86.50 336⇑iP P 03 32 12.1 -0.6
DCN **Croghan** 86.67 339 eP P 03 32 12.8 -0.7
HGH **Gray Hill** 86.72 336⇑iP P 03 32 13.1 -0.7
VAI **Varese** 86.75 326 P P 03 32 12.6 -1.4
comp=Z,50nm,0.9s,mb5.7
VAI **Varese** 86.75 326 P P 03 32 12.6 -1.4
VAI pmax pmax
comp=Z,50nm,0.9s,mb5.7
Y16A **Circle Bar Ran** 86.77 50 P P 03 32 15.3 +0.9
baz=87,SNR=20
NRCA **Norcia** 86.90 322 P P 03 32 14.7 -0.1
comp=Z,7.4nm,0.7s,mb5.0
SWK **Warminster** 86.94 335⇑iP P 03 32 14.4 -0.5
115A **Sonoran Desert** 87.05 52 ⇑P P 03 32 16.4 +0.7
baz=87,SNR=5.5
ERBM **Eremo** 87.07 324 P P 03 32 15.7 +0.1
comp=Z,22nm,0.7s,mb5.5
AQU **L'Aquila** 87.10 321 eP P 03 32 15.2 -0.6
comp=Z,13nm,0.8s,mb5.2
AQU **L'Aquila** 87.10 321 eP P 03 32 15.2 -0.6
AQU pmax pmax
comp=Z,13nm,0.8s,mb5.2
AQU **L'Aquila** 87.10 321⇑iP P 03 32 15.0 -0.8
Z16A **Peralta Trail,** 87.15 51 ⇓P P 03 32 17.0 +0.7
baz=87
EYMN **Ely** 87.19 30 eP P 03 32 15.3 -0.8
comp=Z,54nm,1.5s,mb5.5
EYMN LR LR
comp=Z,125nm,19.0s,MS4.3
PMOR **Pomariorio Ree** 87.23 110 eT 05 08 16.6
comp=Z,3.5nm,0.2s
CABF **La Chapelle** 87.38 328⇑iP P 03 32 16.2 -0.9
comp=Z,39nm,1.2s,mb5.2
CABF **La Chapelle** 87.38 328⇑iP P 03 32 16.2 -0.9
comp=Z,20nm,1.2s,mb5.2
CABF **La Chapelle** 87.38 328⇑iP P 03 32 16.2 -0.9
CABF pmax pmax
comp=Z,19nm,1.2s,mb5.2
116A **Eloy** 87.48 52 ⇓P P 03 32 18.4 +0.6
baz=87
PPT **Papeete** 87.49 113 eLR LR 04 00 00.7
comp=Z,164nm,23.0s
HEX **Exmoor** 87.54 336⇑iP P 03 32 17.0 -0.7
TIP **Timpagrande** 87.56 317 eP P 03 32 18.5 +0.5
comp=Z,43nm,1.5s,mb5.5
LOR **Lormes** 87.80 330⇑iP P 03 32 18.0 -1.1
comp=Z,32nm,1.1s,mb5.2
LOR eMLR MLR
comp=Z,354nm,18.0s,MS4.5
LOR **Lormes** 87.80 330⇑iP P 03 32 18.0 -1.1
comp=Z,16nm,1.1s,mb5.2
LOR LR LR
comp=Z,350nm,18.0s,MS4.8
LOR **Lormes** 87.80 330⇑iP P 03 32 18.0 -1.1
LOR pmax pmax
comp=Z,16nm,1.1s,mb5.2
LOR MLR MLR
comp=Z,350nm,18.0s,MS4.8
SDCO **Great Sand Dun** 87.82 44 eP P 03 32 19.9 +0.5
comp=Z,18nm,1.0s,mb5.2
SDCO LR LR
comp=Z,278nm,20.0s,MS4.7
HTL **Hartland** 87.83 336 P P 03 32 18.5 -0.7
HTL AMb AMB 03 32 25.9
comp=Z,54nm,1.6s,mb5.5
HTL **Hartland** 87.83 336⇑eP P 03 32 18.5 -0.7
HTL AMb AMB 03 32 25.9
comp=Z,54nm,1.6s,mb5.5
HTL AMS AMS 04 15 01.9
comp=Z,136nm,19.2s,MS4.4
LPL **La Plagne** 87.94 327⇑iP P 03 32 19.2 -0.6
comp=Z,34nm,0.9s,mb5.3
LPL **La Plagne** 87.94 327⇑iP P 03 32 19.2 -0.6
comp=Z,17nm,0.9s,mb5.3
LPL **La Plagne** 87.94 327⇑iP P 03 32 19.2 -0.6
LPL pmax pmax
comp=Z,17nm,0.9s,mb5.3
LPG **La Plagne** 87.94 327⇑iP P 03 32 19.4 -0.4
comp=Z,29nm,0.7s,mb5.3
LPG **La Plagne** 87.94 327⇑iP P 03 32 19.4 -0.4
comp=Z,14nm,0.7s,mb5.3
LPG **La Plagne** 87.94 327⇑iP P 03 32 19.4 -0.4
LPG pmax pmax
comp=Z,14nm,0.7s,mb5.3
SSF **Saint Saulge** 88.11 330⇑iP P 03 32 19.5 -1.1
comp=Z,15nm,0.9s,mb4.9
SSF **Saint Saulge** 88.11 330⇑iP P 03 32 19.5 -1.1
comp=Z,7.7nm,0.9s,mb4.9
SSF **Saint Saulge** 88.11 330⇑iP P 03 32 19.5 -1.1
SSF pmax pmax
comp=Z,8.0nm,0.9s,mb5.0
DYA **Yadsworthy** 88.12 336 P P 03 32 19.5 -1.1
DYA AMb AMB 03 32 20.9
comp=Z,51nm,1.5s,mb5.5
DYA **Yadsworthy** 88.12 336⇑eP P 03 32 19.5 -1.1
DYA AMb AMB 03 32 20.9
comp=Z,51nm,1.5s,mb5.5
DYA AMS AMS 04 18 06.2
comp=Z,239nm,17.7s,MS4.7
ECSD **EROS,Sioux Fal** 88.18 35 eP P 03 32 20.3 -0.7
comp=Z,46nm,1.2s,mb5.6
TUC **Tucson** 88.23 51 eP P 03 32 22.1 +0.6
comp=Z,11nm,1.3s,mb4.9
TUC **Tucson** 88.23 51 eP P 03 32 22.1 +0.7
TUC pmax pmax
comp=Z,11nm,1.3s,mb4.9
FLN **La Foliniere** 88.30 333⇑iP P 03 32 20.3 -1.1
comp=Z,30nm,1.1s,mb5.2
FLN eMLR MLR
comp=Z,240nm,17.8s,MS4.4
FLN **La Foliniere** 88.30 333⇑iP P 03 32 20.3 -1.1
comp=Z,15nm,1.1s,mb5.1
FLN LR LR
comp=Z,240nm,17.8s,MS4.7
FLN **La Foliniere** 88.30 333⇑iP P 03 32 20.3 -1.1
FLN pmax pmax
comp=Z,15nm,1.1s,mb5.1
FLN MLR MLR
comp=Z,240nm,17.8s,MS4.7
HYF **Humbligny** 88.30 330 eP P 03 32 20.9 -0.6
LDF **La Druitiere** 88.30 333⇑iP P 03 32 20.3 -1.1
comp=Z,25nm,0.9s,mb5.1
LDF **La Druitiere** 88.30 333⇑iP P 03 32 20.3 -1.1
comp=Z,13nm,0.9s,mb5.2
LDF **La Druitiere** 88.30 333⇑iP P 03 32 20.3 -1.1
LDF pmax pmax
comp=Z,13nm,0.9s,mb5.2
SMF **Signal de Mont** 88.31 329⇑iP P 03 32 20.4 -1.1
comp=Z,62nm,1.6s,mb5.3
SMF **Signal de Mont** 88.31 329⇑iP P 03 32 20.4 -1.1
comp=Z,31nm,1.6s,mb5.3
SMF **Signal de Mont** 88.31 329⇑iP P 03 32 20.4 -1.1
SMF pmax pmax
comp=Z,31nm,1.6s,mb5.3
BNI **Bardonecchia** 88.32 327 eP P 03 32 20.7 -0.9
comp=Z,19nm,1.0s,mb5.3
BNI **Bardonecchia** 88.32 327 eP P 03 32 20.7 -0.9
BNI pmax pmax
comp=Z,19nm,1.0s,mb5.3
AVF **Avril sur Loir** 88.39 330⇑iP P 03 32 20.8 -1.1
comp=Z,46nm,1.1s,mb5.3
AVF **Avril sur Loir** 88.39 330⇑iP P 03 32 20.8 -1.1
comp=Z,23nm,1.1s,mb5.3
AVF **Avril sur Loir** 88.39 330⇑iP P 03 32 20.8 -1.1
AVF pmax pmax
comp=Z,23nm,1.1s,mb5.3
CSA1 **St Austell** 88.51 336 eP P 03 32 21.3 -1.1
SCHQ **Schefferville** 88.52 13 P P 03 32 22.7 +0.3
SCHQ LR LR 04 14 26.6
SCHQ **Schefferville** 88.52 13 P P 03 32 22.7 +0.4
comp=Z,12nm,1.1s,mb5.2,baz=351,slow=6.0,SNR=8.8
SCHQ LR LR 04 14 26.6
comp=Z,144nm,18.6s,MS4.4,baz=103,slow=37
JRS **Jersey** 88.53 334 eP P 03 32 21.5 -1.0
MBDF **Montbardon** 88.53 327⇑iP P 03 32 21.3 -1.3
comp=Z,28nm,0.6s,mb5.5
MBDF **Montbardon** 88.53 327⇑iP P 03 32 21.3 -1.3
comp=Z,14nm,0.6s,mb5.5
MBDF **Montbardon** 88.53 327⇑iP P 03 32 21.3 -1.3
MBDF pmax pmax
comp=Z,14nm,0.6s,mb5.5

217A	Green Valley	88.56	52	⇓P		P	03 32 23.8	+0.8
	baz=88,SNR=6.0							
GRR	Gorron	88.75	333	⇑iP		P	03 32 22.7	-0.9
	comp=Z,27nm,0.9s,mb5.3							
GRR	Gorron	88.75	333	⇑iP		P	03 32 22.7	-0.9
	comp=Z,14nm,0.9s,mb5.3							
GRR	Gorron	88.75	333	⇑iP		P	03 32 22.7	-0.9
GRR					pmax	pmax		
	comp=Z,14nm,0.9s,mb5.3							
ORIF	Oris-en-Rattie	88.78	327	⇑iP		P	03 32 22.9	-0.9
	comp=Z,23nm,0.9s,mb5.2							
ORIF					eMLR	MLR		
	comp=Z,583nm,17.0s,MS4.8							
ORIF	Oris-en-Rattie	88.78	327	⇑iP		P	03 32 22.9	-0.9
	comp=Z,12nm,0.9s,mb5.2							
ORIF	Oris-en-Rattie	88.78	327	⇑iP		P	03 32 22.9	-0.9
ORIF					pmax	pmax		
	comp=Z,12nm,0.9s,mb5.2							
BGF	Bois d'Agland	88.79	330	⇑iP		P	03 32 22.8	-1.0
SBF	Sospel	88.89	326	⇑iP		P	03 32 22.8	-1.5
	comp=Z,40nm,0.8s,mb5.5							
SBF	Sospel	88.89	326	⇑iP		P	03 32 22.8	-1.5
	comp=Z,20nm,0.8s,mb5.5							
SBF	Sospel	88.89	326	⇑iP		P	03 32 22.8	-1.5
SBF					pmax	pmax		
	comp=Z,20nm,0.8s,mb5.5							
PLDF	La Plantade	88.94	329	eP		P	03 32 24.1	-0.4
AGO	Saint Agoulin	89.08	329	eP		P	03 32 24.1	-1.0
LAZ	Ladron	89.12	48	eP		P	03 32 26.4	+0.8
ANMO	Albuquerque	89.16	47	eP		P	03 32 26.6	+0.9
	comp=Z,14nm,1.0s,mb5.3							
ANMO					LR	LR		
	comp=Z,239nm,19.0s,MS4.6							
ANMO	Albuquerque	89.16	47	eP		P	03 32 26.6	+0.8
ANMO					pmax	pmax		
	comp=Z,14nm,1.0s							
ANMO					MLR	MLR		
	comp=Z,239nm,19.0s							
TCF	Toulx Ste Croi	89.27	330	⇑iP		P	03 32 25.2	-0.8
	comp=Z,13nm,0.7s,mb5.1							
TCF	Toulx Ste Croi	89.27	330	⇑iP		P	03 32 25.2	-0.8
	comp=Z,6.7nm,0.7s,mb5.1							
TCF	Toulx Ste Croi	89.27	330	⇑iP		P	03 32 25.2	-0.8
TCF					pmax	pmax		
	comp=Z,7.0nm,0.7s,mb5.1							
318A	Bisbee	89.31	51	P		P	03 32 27.1	+0.5
	baz=89,SNR=5.0							
VIVF	Saint-Julien-l	89.36	328	⇑iP		P	03 32 25.6	-0.9
	comp=Z,34nm,1.0s,mb5.3							
VIVF	Saint-Julien-l	89.36	328	⇑iP		P	03 32 25.6	-0.9
	comp=Z,17nm,1.0s,mb5.3							
VIVF	Saint-Julien-l	89.36	328	⇑iP		P	03 32 25.6	-0.9
VIVF					pmax	pmax		
	comp=Z,17nm,1.0s,mb5.3							
PYM	Petit Puy Mans	89.37	329	eP		P	03 32 26.2	-0.3
219A	White Tail Can	89.41	51	⇑P		P	03 32 27.4	+0.4
	baz=89							
SGMF	Saint Gilles	89.49	334	⇑iP		P	03 32 26.5	-0.5
	comp=Z,56nm,1.1s,mb5.5							
SGMF	Saint Gilles	89.49	334	⇑iP		P	03 32 26.5	-0.5
	comp=Z,28nm,1.1s,mb5.5							
SGMF	Saint Gilles	89.49	334	⇑iP		P	03 32 26.5	-0.5
SGMF					pmax	pmax		
	comp=Z,28nm,1.1s,mb5.5							
FRF	La Foret Royal	89.49	326	eP		P	03 32 25.7	-1.4
BNM	Barren Site	89.61	48	eP		P	03 32 28.2	+0.3
COWI	Conover	89.63	30	eP		P	03 32 27.4	-0.3
	comp=Z,11nm,0.9s,mb5.2							
SMRF	Simiane la Rot	89.66	327	⇑iP		P	03 32 25.9	-2.0
ROSF	Rostrenen	89.67	334	⇑iP		P	03 32 27.4	-0.5
	comp=Z,67nm,1.0s,mb5.6							
ROSF	Rostrenen	89.67	334	⇑iP		P	03 32 27.4	-0.5
	comp=Z,34nm,1.0s,mb5.6							
ROSF	Rostrenen	89.67	334	⇑iP		P	03 32 27.4	-0.5
ROSF					pmax	pmax		
	comp=Z,33nm,1.0s,mb5.6							
LMR	La Mourre	89.73	326	eP		P	03 32 26.9	-1.4
	comp=Z,91nm,1.3s,mb5.7							
LMR	La Mourre	89.73	326	eP		P	03 32 26.9	-1.4
	comp=Z,45nm,1.3s,mb5.6							
LMR	La Mourre	89.73	326	eP		P	03 32 26.9	-1.4
LMR					pmax	pmax		
	comp=Z,45nm,1.3s,mb5.6							
TAOE	Nuku Hiva Isla	89.77	101	eLR		LR	04 01 13.0	
	comp=Z,6μm,25.6s							
319A	Douglas	89.81	51	⇑P		P	03 32 30.1	+1.2
	baz=90,SNR=5.2							
MFF	Saint Martin d	89.95	332	⇑iP		P	03 32 28.7	-0.5
	comp=Z,48nm,1.1s,mb5.4							
MFF	Saint Martin d	89.95	332	⇑iP		P	03 32 28.7	-0.5
	comp=Z,24nm,1.1s,mb5.4							
MFF	Saint Martin d	89.95	332	⇑iP		P	03 32 28.7	-0.5
MFF					pmax	pmax		
	comp=Z,24nm,1.1s,mb5.4							
QUIF	Quistinic	89.99	334	⇑iP		P	03 32 28.7	-0.7
	comp=Z,52nm,1.5s,mb5.3							
QUIF	Quistinic	89.99	334	⇑iP		P	03 32 28.7	-0.7
	comp=Z,26nm,1.5s,mb5.3							
QUIF	Quistinic	89.99	334	⇑iP		P	03 32 28.7	-0.7
QUIF					pmax	pmax		
	comp=Z,26nm,1.5s,mb5.3							
CBKS	Cedar Bluff	90.25	40	eP		P	03 32 29.7	-1.1
	comp=Z,17nm,1.1s,mb5.3							
CBKS	Cedar Bluff	90.25	40	eP		P	03 32 29.7	-1.1
CBKS					pmax	pmax		
	comp=Z,17nm,1.1s,mb5.3							
LASF	Ste Croix	90.34	328	eP		P	03 32 30.4	-0.7
	comp=Z,50nm,1.0s,mb5.5							
RJF	Les Rejaudoux	90.35	330	⇑iP		P	03 32 30.6	-0.5
RJF					eMLR	MLR		
	comp=Z,370nm,18.5s,MS4.5							
RJF	Les Rejaudoux	90.35	330	⇑iP		P	03 32 30.6	-0.5
RJF					MLR	MLR		
	comp=Z,370nm,18.5s,MS4.8							
CAF	Calviac	90.43	329	⇑iP		P	03 32 31.3	-0.2
	comp=Z,55nm,1.3s,mb5.4							
CAF	Calviac	90.43	329	⇑iP		P	03 32 31.3	-0.2
	comp=Z,27nm,1.3s,mb5.4							
CAF	Calviac	90.43	329	⇑iP		P	03 32 31.3	-0.2
CAF					pmax	pmax		
	comp=Z,27nm,1.3s,mb5.4							
LFF	La Frestale	90.96	330	⇑iP		P	03 32 33.7	-0.3
	comp=Z,78nm,1.0s,mb5.7							
LFF	La Frestale	90.96	330	⇑iP		P	03 32 33.7	-0.3
	comp=Z,39nm,1.0s,mb5.7							
LFF	La Frestale	90.96	330	⇑iP		P	03 32 33.7	-0.3
LFF					pmax	pmax		
	comp=Z,39nm,1.0s,mb5.7							
TBI	Tubuai	91.09	118	eLR		LR	04 01 42.4	
	comp=Z,295nm,26.2s							
KSU1	Kansas State U	91.67	38	eP		P	03 32 36.3	-1.1
	comp=Z,32nm,1.0s,mb5.6							
JFWS	Jewell Farm	91.73	32	eP		P	03 32 36.9	-0.7
	comp=Z,18nm,1.1s,mb5.3							
JFWS	Jewell Farm	91.73	32	eP		P	03 32 36.9	-0.7
JFWS					pmax	pmax		
	comp=Z,18nm,1.1s,mb5.3							
AMTX	Amarillo	92.02	44	eP		P	03 32 39.5	+0.4
	comp=Z,45nm,0.9s,mb5.8							
MNTX	Cornudas Mount	92.04	49	eP		P	03 32 39.0	-0.3
	comp=Z,7.3nm,0.9s,mb5.0							
ETSF	Etsaut	93.18	330	eP		P	03 32 44.3	+0.1
	comp=Z,26nm,0.8s,mb5.4							
ETSF	Etsaut	93.18	330	eP		P	03 32 44.3	+0.1
	comp=Z,13nm,0.8s,mb5.4							
ETSF	Etsaut	93.18	330	eP		P	03 32 44.3	+0.1
ETSF					pmax	pmax		
	comp=Z,13nm,0.8s,mb5.4							
SJPF	Ste Jean	93.27	330	eP		P	03 32 43.0	-1.7
	comp=Z,30nm,1.2s,mb5.3							
SJPF	Ste Jean	93.27	330	eP		P	03 32 43.0	-1.7
	comp=Z,15nm,1.2s,mb5.3							
SJPF	Ste Jean	93.27	330	eP		P	03 32 43.0	-1.7
SJPF					pmax	pmax		
	comp=Z,15nm,1.2s,mb5.3							
WMOK	Wichita Mounta	93.76	43	eP		P	03 32 46.5	-0.6
	comp=Z,19nm,1.1s,mb5.4							
WMOK	Wichita Mounta	93.76	43	eP		P	03 32 46.5	-0.6
WMOK					pmax	pmax		
	comp=Z,19nm,1.1s,mb5.4							
TXAR	Lajitas Array	94.75	49	P		P	03 32 51.9	+0.2
TXAR	Lajitas Array	94.75	49	P		P	03 32 51.9	+0.2
	comp=Z,9.8nm,0.8s,mb5.3,baz=290,slow=3.1,SNR=89							
CCM	Cathedral Cave	95.14	36	eP		P	03 32 52.6	-0.8
	comp=Z,4.4nm,0.8s,mb4.9							
CCM	Cathedral Cave	95.14	36	eP		P	03 32 52.6	-0.8
CCM					pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.9							
JCT	Junction City	96.28	46	eP		P	03 32 58.5	-0.2
	comp=Z,18nm,1.0s,mb5.5							
JCT	Junction City	96.28	46	eP		P	03 32 58.6	-0.1
JCT					pmax	pmax		
	comp=Z,18nm,1.0s,mb5.5							
SIUC	Southern Illin	96.38	35	eP		P	03 32 58.1	-0.9
	comp=Z,15nm,0.8s,mb5.5							
ESDC	Sonseca Array	97.28	330	P		P	03 33 02.3	-0.8
	comp=Z,0.3nm,0.5s,mb4.0,baz=30,slow=4.8,SNR=9.1							
ESDC				PP		PP	03 36 53.7	-4.9
	comp=Z,0.8nm,0.8s,baz=34,slow=9.1,SNR=4.3							
WCI	Wyandotte Cave	97.29	32	eP		P	03 33 05.3	+2.2
	comp=Z,6.4nm,0.9s,mb5.0							
WCI				LR		LR		
	comp=Z,163nm,19.0s,MS4.5							
WCI	Wyandotte Cave	97.29	32	eP		P	03 33 05.3	+2.2
WCI					pmax	pmax		
	comp=Z,6.0nm,0.9s,mb5.0							
WCI				MLR		MLR		
	comp=Z,163nm,19.0s,MS4.5							
PAB	San Pablo	97.54	330	PFAKE			03 33 20.0	+16
PAB				LR		LR		
	comp=Z,349nm,21.0s,MS4.8							
KMBO	Kilima Mbogo	98.05	274	eP		P	03 33 06.6	-0.4
	comp=Z,2.7nm,1.0s,mb4.7							
KMBO				LR		LR		
	comp=Z,312nm,20.0s,MS4.8							
KMBO	Kilima Mbogo	98.05	274	eP		P	03 33 06.6	-0.4
KMBO					pmax	pmax		
	comp=Z,3.0nm,1.0s							
KMBO				MLR		MLR		
	comp=Z,312nm,20.0s							
WES	Weston	99.11	20	PFAKE			03 33 20.0	+8.8
WES				LR		LR		
	comp=Z,658nm,19.0s,MS5.2							
PLAL	Pickwick Lake	99.13	36	PFAKE			03 33 20.0	+8.6
PLAL				LR		LR		
	comp=Z,257nm,19.0s,MS4.7							
TZTN	Tazewell	99.89	32	PFAKE			03 33 30.0	+15
TZTN				LR		LR		
	comp=Z,362nm,19.0s,MS4.9							
LRAL	Lakeview Retre	101.23	36	PFAKE			03 33 30.0	+9.4
LRAL				LR		LR		
	comp=Z,200nm,20.0s,MS4.6							
BRAL	Brewton	102.85	37	PFAKE			03 33 40.0	+12
BRAL				LR		LR		
	comp=Z,875nm,20.0s,MS5.3							
CNNC	Cliffs of the	103.34	28	PFAKE			03 33 40.0	+10
CNNC				LR		LR		
	comp=Z,2μm,21.0s,MS5.6							
TOA0	Torodi Ar. Sit	115.72	310	ePKPdf		PKPdf	03 38 11.5	-1.4
TORD	Torodi Ar. Bea	115.72	310	PKP		PKPdf	03 38 11.8	-1.2
	comp=Z,2.5nm,0.6s,baz=19,slow=1.4,SNR=59							
TORD				PKKPab		PKKPab	03 48 55.1	+3.3
	comp=Z,1.4nm,1.1s,baz=243,slow=3.5,SNR=3.7							
TGUH	Tegucigalpa,Un	116.20	48	PFAKE			03 38 30.0	+16
TGUH				LR		LR		
	comp=Z,72nm,19.0s,MS4.3							
LBTB	Loubatse	120.17	259	ePKPdf		PKPdf	03 38 20.4	-0.8
SDDR	Presa de Saban	120.42	31	PFAKE			03 38 30.0	+8.1
SDDR				LR		LR		
	comp=Z,210nm,20.0s,MS4.8							
SJG	San Juan	123.20	26	PFAKE			03 38 40.0	+13
SJG				LR		LR		
	comp=Z,185nm,21.0s,MS4.7							
TSUM	Tsumeb	124.00	269	ePKPdf		PKPdf	03 38 28.2	-0.5
SYO	Syowa Base	124.39	206⇓	eP		PKPdf	03 38 26.0	-1.9
SYO	Syowa Base	124.39	206⇓	eP		PKPdf	03 38 32.0	+4.1
QSPA	South Pole Qui	124.57	180	PKP		PKPdf	03 38 27.7	-0.3
QSPA	South Pole Qui	124.57	180	PKP		PKPdf	03 38 27.7	-0.3
	comp=Z,19nm,1.0s,baz=318,slow=1.1,SNR=42							
DBIC	Dimbokro	124.80	311	ePKPdf		PKPdf	03 38 29.3	-1.2
DBIC				LR		LR		
	comp=Z,234nm,19.0s,MS4.9							
DBIC	Dimbokro	124.80	311	PKP		PKPdf	03 38 29.7	-0.8
	comp=Z,8.2nm,0.6s,baz=5.5,slow=3.3,SNR=21							
LIC	Lamto	125.25	310	ePKIKP		PKPdf	03 38 30.2	-1.1
	comp=Z,44nm,1.0s							
SDV	Santo Domingo	129.62	35	ePKPdf		PKPdf	03 38 39.2	-0.5
SDV				LR		LR		
	comp=Z,53nm,20.0s,MS4.2							
ROSC	El Rosal	131.13	42	ePKPdf		PKPdf	03 38 41.8	-0.8
NNA	Nana	142.33	61	ePKPdf		PKPdf	03 39 02.1	-1.0
NNA				LR		LR		
	comp=Z,142nm,22.0s,MS4.7							
ARE	Arequipa	149.16	61	eP		PKPbc	03 39 19.0	+0.1
RCBR	Riachuelo	150.25	344	ePKPbc		PKPbc	03 39 21.3	-0.5
RCBR				ePKPab		PKPab	03 39 27.0	-0.7
LPAZ	La Paz	151.40	56	ePKPdf		PKPdf	03 39 18.9	+0.7
LPAZ				ePKPbc		PKPbc	03 39 24.7	+0.4
LPAZ				LR		LR		
	comp=Z,158nm,20.0s,MS4.8							
LPAZ	La Paz	151.40	56	PKP		PKPdf	03 39 18.9	+0.7
	comp=Z,1.5nm,0.8s,baz=317,slow=3.3,SNR=6.5							
LPAZ				PKPbc		PKPbc	03 39 25.0	+0.7
	comp=Z,15nm,0.9s,baz=0.5,slow=3.6,SNR=36							

JMA 15 03:20:23.4,3481N×13641E,h14km±1km,M3.5,Western Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TSUJ	Tsu 2	0.10	176	P	Pg	03 20 26.4	-0.1
TSUJ				S	Sg	03 20 28.4	-0.3
JEG	Eigenji	0.33	357	eS	Sg	03 20 34.6	0.0
JKN2	Miekihoku	0.58	191	eS	Sg	03 20 41.9	-0.6

NIED ***15*** *03:20:00,3480N×136.40E,h20km,Mw4.1 Best double couple: M0:1.54000×10^15 NP1:φs140.00000°,δ59.00000°, λ76.00000°. NP2:φs345.00000°,δ34.00000°,λ112.00000°.*

JMA 15 03:20:54.7,3479N×13641E,h15km±1km,M4.0,Western Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TSUJ	Tsu 2	0.08	175	P	Pg	03 20 57.7	-0.1
TSUJ				S	Sg	03 20 59.7	0.0
JEG	Eigenji	0.34	357	S	Sg	03 21 06.5	-0.1
JIE	Ise	0.47	148	P	Pg	03 21 04.0	0.0
JIE				eS	Sg	03 21 10.1	-0.2
JKN2	Miekihoku	0.56	192	P	Pg	03 21 05.7	0.0
JKN2				eS	Sg	03 21 12.9	-0.3

ISCJB ***15*** *03:27:56.5±0.7,3659N±007×705E±0.1,h187km±8km, mb3.4/5,Error ellipse: s-maj=21.2km s-min=7.5km az=24.4*
IDC ***15*** *03:27:56.0±11.0,3629N×7059E,h185km±96km,mb3.2/5, mb1 3.3/6,mb1mx3.1/21,mbtmp3.2/6,Error ellipse: s-maj=72.3km s-min=28.7km az=39.0*
NEIC ***15*** *03:27:57.5±0.8,3645N×7065E,h192km±8km,mb3.7/1, Error ellipse: s-maj=20.2km s-min=10.0km az=123.0*

ISC 15 03:27:57.7±0.7,3663N±007×705E±02,h178km±7km,n17,σ0§99/21,mb3.4/5,1C-1D,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	Kabul	2.39	210	ePn	Pn	03 28 39.5	+0.5
KBL				eSn	Sn	03 29 10.2	-0.8
UCH	Uchtor	6.40	28	ePn	Pn	03 29 30.6	+0.8
UCH				eSn	Sn	03 30 41.8	-0.7
KK31	Karatay Array	6.47	0	P	Pn	03 29 31.9	+1.2
	10nm,0.3s,baz=199,slow=26,SNR=235						
KK31				⇑S	Sn	03 30 42.6	-1.4
	1.3nm,0.3s,baz=190,slow=24,SNR=4.3						
EKS2	Erkin-Say	6.54	22	ePn	Pn	03 29 32.6	+1.0
EKS2				eSn	Sn	03 30 44.2	-1.6
TKM2	Tokmak 2	7.42	30	⇓P	Pn	03 29 43.9	+0.8
	19nm,0.5s						
TKM2	Tokmak 2	7.42	30	ePn	Pn	03 29 43.9	+0.8
MK31	Makanchi Array	13.44	37	eP	Pn	03 31 01.4	+0.2
MKAR	Makanchi Array	13.44	37	P	Pn	03 31 03.2	+2.0
MKAR	Makanchi Array	13.44	37	P	Pn	03 31 03.2	+2.0
	0.3nm,0.3s,baz=216,slow=11,SNR=4.4						
ZALV	Zalesovo Beam	19.98	25	P	P	03 32 16.2	+0.2
ZALV	Zalesovo Beam	19.98	25	P	P	03 32 16.2	+0.2
	1.5nm,0.3s,baz=212,slow=11,SNR=8.4						
ULN	Ulaanbaatar	29.05	56	eP	P	03 33 39.9	-1.1
	0.8nm,0.5s,mb3.7						
ARCES	ARCESS Array B	40.87	338	P	P	03 35 22.1	+0.5
	2.0nm,0.8s,mb3.8,baz=98,slow=7.5,SNR=3.6						
NB2	NORSAR Subarra	44.03	323	P	P	03 35 47.2	0.0
	comp=Z,0.7nm,0.5s,mb3.5,baz=97,slow=7.9						
NOA	NORSAR Array B	44.03	323	P	P	03 35 47.3	+0.1
	comp=Z,0.8nm,0.5s,mb3.6,baz=97,slow=7.7,SNR=4.2						
YKA	Yellowknife Ar	81.14	2	P	P	03 39 52.4	-0.3
	comp=Z,0.1nm,0.4s,mb2.8,baz=349,slow=5.6,SNR=5.1						
ASAR	Alice Springs	84.67	125	P	P	03 40 07.8	-3.6
	comp=Z,0.2nm,0.4s,mb3.2,baz=313,slow=5.2,SNR=5.8						

IDC 15 03:31:09.1±0.8,2178S×6594E,h0km,mb4.0/10, mb1 4.2/10,mb1mx3.9/22,mbtmp4.0/10,Error ellipse: s-maj=28.9km s-min=21.1km az=175.0,Mauritius - Reunion region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOSA	Boshof	37.31	251	P	P	03 38 23.9	+0.7
	3.2nm,0.8s,baz=35,slow=7.4,SNR=3.9						
ASAR	Alice Springs	62.16	106	P	P	03 41 32.5	-0.1
	1.3nm,0.7s,baz=269,slow=6.1,SNR=10						
WRA	Warramunga Arr	63.45	102	P	P	03 41 40.7	-0.5
	3.2nm,1.1s,baz=259,slow=5.9,SNR=3.3						
MKAR	Makanchi Array	69.83	12	P	P	03 42 20.1	-1.2
	1.0nm,0.8s,baz=186,slow=5.6,SNR=5.6						
BVAR	Borovoye Array	74.59	3	P	P	03 42 49.0	-0.6
	0.9nm,0.8s,baz=152,slow=6.7,SNR=4.6						
ZALV	Zalesovo Beam	77.15	11	P	P	03 43 04.0	-0.3
	0.8nm,0.6s,baz=208,slow=2.9,SNR=4.8						
SONM	Songino Array	78.23	27	P	P	03 43 11.3	+0.9
	0.8nm,0.7s,baz=216,slow=7.0,SNR=5.5						
AKASG	Malin Array Be	79.10	337	P	P	03 43 15.7	+0.6
	0.3nm,0.4s,baz=147,slow=4.6,SNR=3.7						
MJAR	Matsushiro Arr	89.47	50	P	P	03 44 10.0	+1.9
	1.4nm,0.8s,baz=218,slow=4.4,SNR=6.0						
YKA	Yellowknife Ar	139.31	0	PKP	PKPdf	03 50 38.5	+0.9
	0.4nm,1.1s,baz=5.6,slow=3.2,SNR=2.7						
ULM	Lac du Bonnet	148.18	338	PKPbc	PKPbc	03 50 57.1	+0.3
	0.6nm,0.6s,baz=45,slow=2.9,SNR=2.1						

ISCJB ***15*** *03:45:44.9±0.8,2015S±01×674E±02,h10km,mb3.8/15, MS4.1/6,Error ellipse: s-maj=27.8km s-min=16.3km az=152.0*
IDC ***15*** *03:45:45.0±0.8,2009S×6735E,h0km,mb3.8/11, mb1 3.9/11,mb1mx3.8/23,mbtmp3.8/11,MS4.1/6, Ms1 4.1/6,ms1mx3.8/36,Error ellipse: s-maj=30.0km s-min=19.3km az=56.0*
NEIC ***15*** *03:45:46.7±0.7,2010S×6732E,h10km,mb4.2/3,Error ellipse: s-maj=26.4km s-min=15.8km az=62.0*

ISC 15 03:45:47.0±0.8,2015S±01×674E±02,h10km,n24,σ0§93/19, mb3.8/15,MS4.1/6,Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMBO	Kilima Mbogo	34.94	299	LR	LR	04 04 11.2	
	comp=Z,285nm,19.4s,MS4.0,baz=96,slow=32						
PSI	Prapat	38.44	57	LR	LR	04 05 01.0	
	comp=Z,64nm,20.4s,MS3.4,baz=230,slow=30						
MAW	Mawson	47.59	182	LR	LR	04 09 03.8	
	comp=Z,302nm,21.3s,MS4.2,baz=168,slow=29						
ASAR	Alice Springs	61.37	107	P	P	03 56 02.1	-1.4
	0.7nm,0.6s,mb4.0,baz=277,slow=6.4,SNR=15						
WRA	Warramunga Arr	62.52	103	P	P	03 56 09.8	-1.5
	1.0nm,0.8s,mb4.0,baz=260,slow=5.7,SNR=5.5						
EKS2	Erkin-Say	62.71	5	eP	P	03 56 11.6	-0.4
	0.7nm,0.4s,mb4.1						
TKM2	Tokmak 2	63.15	7	eP	P	03 56 13.8	-1.1
	0.8nm,0.4s,mb4.2						
STKA	Stephens Creek	66.64	117	P	P	03 56 39.4	+1.4
STKA				LR	LR	04 21 03.0	
STKA	Stephens Creek	66.64	117	P	P	03 56 39.4	+1.4
	1.8nm,0.8s,mb4.2,baz=262,slow=8.2,SNR=3.9						
STKA				LR	LR	04 21 03.0	
	comp=Z,320nm,18.1s,MS4.6,baz=216,slow=32						
MK31	Makanchi Array	67.92	11	eP	P	03 56 46.9	+1.3
MKAR	Makanchi Array	67.92	11	P	P	03 56 45.8	+0.1
	0.5nm,0.6s,mb3.7,baz=182,slow=3.6,SNR=3.6						
QSPA	South Pole Qui	70.02	180	P	P	03 56 59.2	+0.8
	2.3nm,1.0s,mb4.1,baz=228,slow=14,SNR=2.6						
AKTK	Aktyubinsk	70.69	354	P	P	03 57 02.8	+0.1
AKTO	Aktyubinsk	70.69	354	P	P	03 57 02.8	+0.1
	0.4nm,0.6s,mb3.6,baz=139,slow=9.3,SNR=1.9						
KURK	Kurchatov	71.19	8	eP	P	03 57 06.5	+0.7
	0.8nm,0.5s,mb3.9						
VNDA	Vanda	71.51	167	LR	LR	04 25 19.6	
	comp=Z,130nm,21.1s,MS4.2,baz=298,slow=33						
TORD	Torodi Ar. Bea	72.52	291	P	P	03 57 13.2	-1.4
	0.3nm,0.7s,mb3.3,baz=88,slow=5.3,SNR=3.7						
BVAR	Borovoye Array	72.85	2	P	P	03 57 14.8	-0.8
	0.4nm,0.5s,mb3.6,baz=108,slow=4.7,SNR=3.5						
ZALV	Zalesovo Beam	75.25	11	P	P	03 57 30.0	+0.3
	0.6nm,0.6s,mb3.7,baz=160,slow=4.6,SNR=3.4						
DBIC	Dimbokro	75.76	283	LR	LR	04 29 25.3	
	comp=Z,144nm,18.2s,MS4.3,baz=56,slow=35						
SONM	Songino Array	76.14	26	P	P	03 57 34.5	-0.4
	0.3nm,0.3s,mb3.7,baz=212,slow=7.8,SNR=3.4						
AKASG	Malin Array Be	78.07	336	P	P	03 57 46.4	+0.7
AKASG	Malin Array Be	78.07	336	P	P	03 57 46.4	+0.7
	0.5nm,0.7s,mb3.6,baz=142,slow=5.1,SNR=4.5						

NASN Na'in 2.92 77 *e*Pn **Pn 03 56 56.4 +1.3**
MIB Mutribah 2.99 217 *e*P **Pn 03 56 58.5 +2.4**
MIB *e*S **Sn 03 57 35.5 +4.2**
MIB AML AML 03 57 37.5
comp=Z,634nm,0.4s
UMR Umm Al-Rimmam 3.02 210 *e*P **Pn 03 56 58.9 +2.3**
UMR *e*S **Sn 03 57 36.2 +4.1**
UMR AML AML 03 57 39.8
comp=Z,805nm,0.5s
IVIS Veis 3.16 318 Pn **Pn 03 57 00.3 +1.8**
IVIS Sn **Sn 03 57 38.5 +3.0**
IVIS Veis 3.16 318 *e*Pn **Pn 03 57 00.3 +1.8**
IVIS *e*Sn **Sn 03 57 38.6 +3.1**
IVIS *e* 03 58 02.4
comp=Z,7μm,0.3s
ISFB Sefidab 3.18 47 *e*Pn **Pn 03 56 59.6 +0.8**
ISFB *e* 03 57 57.5
comp=Z,6μm,0.3s
IGHG Ghaleghazi 3.20 312 Pn **Pn 03 57 00.5 +1.5**
IGHG Sn **Sn 03 57 38.1 +1.7**
IGHG Sn **Sn 03 57 38.4 +2.0**
IGHG Ghaleghazi 3.20 312 *e*Pn **Pn 03 57 00.6 +1.6**
IGHG *e*Sn **Sn 03 57 38.1 +1.7**
IGHG *e*Sn **Sn 03 57 38.5 +2.1**
IGHG *e* 03 58 15.1
comp=Z,22μm,0.5s
IRAZ Razeghan 3.22 7 Pn **Pn 03 57 01.4 +2.1**
IRAZ Razeghan 3.22 7 *e*Pn **Pn 03 57 01.5 +2.2**
IRAZ *e* 03 58 01.7
comp=Z,17μm,0.3s
SNGE Sanandaj 3.36 330 Pn **Pn 03 57 02.0 +0.7**
SNGE Sanandaj 3.36 330 *e*Pn **Pn 03 57 02.9 +1.6**
KBD Kabd 3.37 207 *e*P **Pn 03 57 03.5 +2.2**
KBD *e*S **Sn 03 57 44.6 +4.0**
KBD AML AML 03 57 46.3
comp=Z,1μm,0.5s
ILIN Lien 3.40 323 Pn **Pn 03 57 03.7 +1.9**
ILIN Lien 3.40 323 *e*Pn **Pn 03 57 03.8 +2.0**
ILIN *e* 03 57 47.2
comp=Z,6μm,0.2s
RST Umm Al-Ruwaisa 3.41 218 *e*P **Pn 03 57 04.3 +2.4**
RST *e*S **Sn 03 57 45.8 +4.1**
RST AML AML 03 57 47.2
comp=Z,367nm,0.5s
NAY Al-Naaiem 3.50 213 *e*P **Pn 03 57 05.7 +2.6**
NAY *e*S **Sn 03 57 48.1 +4.3**
NAY AML AML 03 57 50.4
comp=Z,325nm,0.4s
IMHD Mahdasht 3.62 16 *e*Pn **Pn 03 57 06.1 +1.3**
IMHD *e* 03 58 08.6
comp=Z,11μm,0.5s
RDF Al-Radifah 3.65 207 *e*P **Pn 03 57 07.7 +2.5**
RDF *e*S **Sn 03 57 52.2 +4.7**
RDF AML AML 03 57 53.8
comp=Z,618nm,0.6s
SHI Shiraz 3.68 133 Pn **Pn 03 57 06.5 +0.9**
SHI Sn **Sn 03 57 48.8 +0.5**
SHI Shiraz 3.68 133 *e*Pn **Pn 03 57 06.5 +0.9**
SHI *e*Sn **Sn 03 57 48.9 +0.6**
SHI *e* 03 58 31.3
comp=Z,6μm,0.4s
SHI Shiraz 3.68 133 *e*Pn **Pn 03 57 06.5 +0.9**
SHI *e*Sn **Sn 03 57 48.9 +0.6**
QRN Al-Qurain 3.69 201 *e*P **Pn 03 57 08.5 +2.8**
QRN *e*S **Sn 03 57 52.4 +3.9**
QRN AML AML 03 57 53.6
comp=Z,672nm,0.4s
THKV Tehran--Karaj 3.89 18 Pn **Pn 03 57 10.0 +1.4**
THKV Tehran--Karaj 3.89 18 *e*Pn **Pn 03 57 10.4 +1.9**
THKV AML AML 03 58 24.8
comp=E,414nm,0.2s
IPAR Pars 3.90 126 *e*Pn **Pn 03 57 09.0 +0.4**
IDMV Damavand 4.00 32 Pn **Pn 03 57 11.2 +1.2**
IDMV Sn **Sn 03 57 57.1 +0.9**
IDMV Damavand 4.00 32 *e*Pn **Pn 03 57 11.2 +1.2**
IDMV *e*Sn **Sn 03 57 57.2 +1.0**
IDMV *e* 03 58 27.4
comp=Z,11μm,0.7s
IDMV Damavand 4.00 32 *e*Pn **Pn 03 57 11.2 +1.2**
IDMV *e*Sn **Sn 03 57 57.2 +1.0**
DAMV Damavand 4.02 31 Pn **Pn 03 57 12.0 +1.7**
DAMV Damavand 4.02 31 *e*Pn **Pn 03 57 11.9 +1.7**
DAMV AML AML 03 58 23.4
comp=E,289nm,0.5s
DAMV Damavand 4.02 31 *e*Pn **Pn 03 57 11.9 +1.6**
SNR=54
KFJS 4.21 198 S **Sn 03 58 03.2 +1.9**
ICHK Chekchek 4.22 88 Pn **Pn 03 57 13.5 +0.5**
ICHK Sn **Sn 03 58 01.8 +0.2**
ICHK Chekchek 4.22 88 *e*Pn **Pn 03 57 13.6 +0.6**
ICHK *e*Sn **Sn 03 58 01.8 +0.2**
ICHK *e* 03 58 43.4
comp=Z,5μm,0.4s
ICHK Chekchek 4.22 88 *e*Pn **Pn 03 57 13.6 +0.6**
ICHK *e*Sn **Sn 03 58 01.8 +0.2**
ISRV Sarvestan 4.24 131 Pn **Pn 03 57 14.2 +0.9**
ISRV Sarvestan 4.24 131 *e*Pn **Pn 03 57 14.3 +1.0**
ILAS Lasjerd 4.32 42 *e*Pn **Pn 03 57 15.1 +0.6**
ILAS *e* 03 58 44.3
comp=Z,6μm,0.4s
BHD Baghdad 4.38 285 *ex* x 03 57 15.0
BHD *ex* x 03 58 06.0
IFIR Firoozkooh 4.41 38 Pn **Pn 03 57 16.7 +1.1**
IFIR Sn **Sn 03 58 08.0 +1.8**
IFIR Firoozkooh 4.41 38 *e*Pn **Pn 03 57 16.8 +1.2**
IFIR *e* 03 57 31.4
comp=Z,3μm,0.2s
IFIR *e*Sn **Sn 03 58 08.0 +1.8**
IMEH Mehriz 4.49 99 Pn **Pn 03 57 16.8 +0.1**
IMEH Mehriz 4.49 99 *e*Pn **Pn 03 57 16.9 +0.2**
IMEH *e* 03 57 20.1
comp=Z,2μm,0.1s
ISHM Shahmirzad 4.82 41 *e*Pn **Pn 03 57 22.1 +0.8**
ISHM *e* 03 57 26.5
comp=Z,7μm,0.3s
IANJ Anjilo 4.95 48 Pn **Pn 03 57 23.2 +0.1**
IANJ Anjilo 4.95 48 *e*Pn **Pn 03 57 23.3 +0.2**
IANJ *e* 03 59 09.4
comp=Z,3μm,0.6s
IBAF Bafgh 5.26 95 Pn **Pn 03 57 27.6 +0.3**
IBAF Bafgh 5.26 95 *e*Pn **Pn 03 57 27.7 +0.4**
IBAF *e* 03 57 31.0
comp=Z,2μm,0.3s
IGLO Ghaloghah 5.30 38 Pn **Pn 03 57 34.2 +6.3**
IGLO Ghaloghah 5.30 38 *e*Pn **Pn 03 57 34.3 +6.4**
IGLO *e* 03 57 39.7
comp=Z,3μm,0.3s
BOQSS 6.31 180 P **Pn 03 57 41.4 -0.4**
ASYS 6.44 225 S **Sn 03 58 52.2 -4.1**
MSL Mosul 6.64 310 *ex* x 03 57 46.0
MSL *ex* x 03 59 02.0
HKR Hakkari 7.11 321 *e*P **Pn 03 57 50.2 -2.5**
SLWS 7.46 171 P **Pn 03 57 55.8 -1.7**
SIRT Sirnak 7.80 315 *e*P **Pn 03 58 00.5 -1.8**
VANB Van 8.06 324 *e*P **Pn 03 58 03.0 -2.7**
IKOO Kooshah 8.11 86 *e*Pn **Pn 03 58 06.8 +0.3**
BANOM Banah 8.68 134 Pn **Pn 03 58 14.4 +0.1**
SNR=7.1
IMON Monand 8.69 81 *e*Pn **Pn 03 58 15.6 +1.2**
MARD Mardin 8.75 308 *i* P **Pn 03 58 14.3 -1.0**
IKRD Kardeh 8.78 56 Pn **Pn 03 58 25.7 +10**
IKRD Kardeh 8.78 56 *e*Pn **Pn 03 58 25.8 +10**
BTMT Batman 8.82 315 *e*P **Pn 03 58 07.3 -8.9**
IAKL Akhelmad 8.83 58 *e*Pn **Pn 03 58 17.7 +1.4**
IAKL *e* 03 58 21.1
comp=Z,329nm,0.2s
NAZ Nazwa, Dubai 9.04 141 P **Pn 03 58 18.8 -0.4**
SNR=14
VAN Vannovskaya 9.13 49 *e*P **Pn 03 58 22.3 +1.8**
ASUD Al Ashush, Dub 9.16 144 P **Pn 03 58 20.3 -0.6**
SNR=14
HRDDS 9.24 180 P **Pn 03 58 20.4 -1.6**
HATD Hatta, Dubai 9.42 140 Pn **Pn 03 58 24.0 -0.5**
SNR=7.4
ASHO Ashiyiah 9.49 140 Pn **Pn 03 58 24.5 -0.9**
SNR=13
ASHO Ashiyiah 9.49 140 P **Pn 03 58 24.5 -0.9**
SNR=13
ASHO Ashiyiah 9.49 140 P **Pn 03 58 23.7 -1.8**
SNR=5.2
IMYA Miami 9.75 62 Pn **Pn 03 58 29.6 +0.7**
IMYA Miami 9.75 62 *e*Pn **Pn 03 58 29.7 +0.8**
URFA Urfa 10.16 304 *e*P **Pn 03 58 26.1 -8.4**

ATAB Bozova 10.55 303 *i* P **Pn 03 58 40.2 +0.3**
ASF Jabal al Asfar 10.62 273 Pn **Pn 03 58 39.7 -1.2**
comp=Z,5.2nm,0.3s,baz=309,slow=3.5,SNR=37
ASF LR LR 04 03 09.0
comp=Z,95nm,18.7s,baz=128,slow=39
MALT Malatya 10.86 307 *e*P **Pn 03 58 36.5 -7.6**
MALT Malatya 10.86 307 *e*Pn **Pn 03 58 43.7 -0.4**
comp=Z,6.0nm,0.6s
MALT Malatya 10.86 307 *e*P **Pn 03 58 43.7 -0.4**
MALT pmax pmax
comp=Z,6.0nm,0.6s
MALT Malatya 10.86 307 *e*P **Pn 03 58 43.7 -0.4**
comp=Z,6.0nm,0.6s
BIDO Bidbid 11.57 136 Pn **Pn 03 58 51.5 -2.4**
SNR=6.5
BSY Bisya 11.67 142 Pn **Pn 03 58 54.1 -1.2**
SNR=13
BSY Bisya 11.67 142 P **Pn 03 58 54.1 -1.2**
SNR=13
BSYO Bisya 11.70 142 P **Pn 03 58 54.1 -1.7**
SNR=13
MMAI Mount Meron Ar 11.86 278 Pn **Pn 03 58 58.3 +0.5**
comp=Z,0.8nm,0.3s,baz=88,slow=19,SNR=2.7
SMDO Samad 11.88 138 Pn **Pn 03 58 56.8 -1.4**
SNR=10.0
EIL Elat 12.68 262 Pn **Pn 03 59 08.5 -0.6**
EIL LR LR 04 05 01.5
EIL Elat 12.68 262 Pn **Pn 03 59 08.5 -0.6**
comp=Z,1.5nm,0.3s,baz=106,slow=12,SNR=4.4
EIL LR LR 04 05 01.5
comp=Z,214nm,20.8s,baz=247,slow=42
KIV Kislovodsk 12.87 338 *e*Pn **Pn 03 59 11.5 -0.1**
comp=Z,21nm,1.0s
KIV Kislovodsk 12.87 338 *e*P **Pn 03 59 11.5 -0.1**
KIV pmax pmax
comp=Z,21nm,1.0s
KIV Kislovodsk 12.87 338 *e*P **Pn 03 59 11.5 -0.1**
comp=Z,21nm,1.0s
CSS Prodhromos 13.70 286 *e*Pn **Pn 03 59 20.3 -2.7**
CDAG Cicekdag 14.26 305 *i* P **Pn 03 59 30.1 -0.5**
CTKT Corum 14.46 310 *i* P **Pn 03 59 37.6 +4.3**
SHAO Shalim 15.19 157 P **Pn 03 59 41.7 -1.5**
ELDT Eldivan 15.30 307 *i* P **Pn 03 59 50.4 +5.8**
KDHN Kadinhani 15.46 299 *i* P **Pn 03 59 52.5 +5.8**
ANTO Ankara 15.46 304 *e*Pn **Pn 03 59 46.8 +0.1**
comp=Z,35nm,1.4s
ANTO Ankara 15.46 304 *e*P **Pn 03 59 46.8 +0.1**
ANTO pmax pmax
comp=Z,35nm,1.4s
ANTO Ankara 15.46 304 *e*P **Pn 03 59 46.8 +0.1**
comp=Z,35nm,1.4s
ANTO Ankara 15.46 304 Pn **Pn 03 59 52.4 +5.7**
SNR=7.0
ISP Isparta 16.48 295 *e*P **Pn 04 00 00.2 +0.4**
comp=Z,27nm,0.8s
ISP Isparta 16.48 295 *e*P **Pn 04 00 00.2 +0.4**
ISP pmax pmax
comp=Z,27nm,0.8s
KBL Kabul 16.55 77 *e*P **Pn 04 00 01.8 +1.0**
comp=Z,20nm,1.0s
KBL Kabul 16.55 77 *e*P **Pn 04 00 01.8 +1.0**
comp=Z,20nm,1.0s
AKTK Aktyubinsk 19.30 17 P **Pn 04 00 33.1 -1.3**
AKTK LR LR 04 09 36.6
AKTK Aktyubinsk 19.30 17 P **Pn 04 00 33.1 -1.3**
AKTO Aktyubinsk 19.30 17 P **Pn 04 00 33.1 -1.3**
comp=Z,0.9nm,0.3s,baz=213,slow=9.4,SNR=16
AKTO LR LR 04 09 36.6
comp=Z,124nm,18.4s,baz=186,slow=42
CHOS Chios island 20.03 294 *e*P **P 04 00 43.0 +1.7**
LAST Lasithi 20.14 285 *e*P **P 04 00 43.5 +0.9**
APE Apeiranthos 20.23 290 ⇑*i*P **P 04 00 44.7 +1.0**
APE Apeiranthos 20.23 290 *i* P **P 04 00 44.2 +0.5**
VRSR Storozhevoye 20.44 341 *e*P **P 04 00 44.6 -1.1**
VRSR pmax pmax
comp=Z,3.0nm,0.8s
VRSR pmax pmax
comp=N,3.0nm,0.7s
VRSR pmax pmax
comp=E,2.0nm,0.7s
VRSR Storozhevoye 20.44 341 *e*P **P 04 00 44.6 -1.1**
comp=E,3.0nm,0.8s
TIRR Tirgusor 20.46 313 ⇓*i*P **P 04 00 46.3 +0.3**
ALN Alexandroupoli 20.65 301 *e*P **P 04 00 49.3 +1.2**
GVD Gavdhos 21.28 284 *e*P **P 04 00 55.0 +0.1**
comp=E,24nm,0.9s,mb4.5
GVD Gavdhos 21.28 284 *e*P **P 04 00 55.0 +0.1**
comp=E,24nm,0.9s,mb4.5
KARN Karanos 21.42 286 *e*P **P 04 00 57.9 +1.4**
AML Almayashu 21.66 56 *e*P **P 04 00 59.5 +0.4**
comp=E,23nm,0.9s,mb4.6
AML Almayashu 21.66 56 P **P 04 00 59.2 +0.2**
SNR=15
AOS Alonnisos 21.84 296 *e*P **P 04 01 02.6 +1.7**
EKS2 Erkin-Say 21.90 55 *e*P **P 04 01 01.9 +0.3**
comp=E,9.5nm,1.0s,mb4.2
EKS2 Erkin-Say 21.90 55 *e*P **P 04 01 01.9 +0.3**
comp=E,9.5nm,1.0s,mb4.2
DID Didima 22.10 291 *e*P **P 04 01 03.0 -0.8**
VRI Vrincioaia 22.20 314 P **P 04 01 05.8 +1.1**
VRI Vrincioaia 22.20 314 ⇑*i*P **P 04 01 05.7 +1.0**
VRI Vrincioaia 22.20 314 P **P 04 01 05.8 +1.1**
THN Thein Dam 22.20 82 *e*P **P 04 01 04.5 -0.4**
PLOR Plostina 22.24 314 ⇑*i*P **P 04 01 06.2 +1.1**
UCH Uchtor 22.27 56 *e*P **P 04 01 06.3 +0.8**
comp=E,21nm,1.0s,mb4.5
UCH Uchtor 22.27 56 *e*P **P 04 01 06.3 +0.8**
comp=E,21nm,1.0s,mb4.5
MLR Muntele Rosu 22.50 313 P **P 04 01 10.1 +2.2**
MLR Muntele Rosu 22.50 313 P **P 04 01 09.4 +1.5**
comp=E,22nm,0.8s,mb4.6,baz=357,slow=12,SNR=17
MLR Muntele Rosu 22.50 313 ⇓*i*P **P 04 01 09.4 +1.5**
VLX Vlachokerasia 22.77 291 *e*P **P 04 01 10.0 -0.8**
AGG Agios Georgios 23.01 295 *e*P **P 04 01 13.7 +0.4**
VOIR 23.03 312 P **P 04 01 14.8 +1.2**
VOIR 23.03 312 ⇑*i*P **P 04 01 14.7 +1.2**
LIT Litokhoron 23.07 298 *e*P **P 04 01 14.7 +0.7**
VTS Vitosha 23.18 304 P **P 04 01 17.1 +1.9**
VTS Vitosha 23.18 304 ⇓*i*P **P 04 01 17.1 +1.9**
TKM2 Tokmak 2 23.25 55 *e*P **P 04 01 16.8 +0.9**
comp=E,22nm,0.9s,mb4.6
TKM2 Tokmak 2 23.25 55 *e*P **P 04 01 16.8 +0.9**
TKM2 pmax pmax
comp=Z,22nm,0.9s,mb4.6
TKM2 Tokmak 2 23.25 55 *e*P **P 04 01 16.8 +0.9**
comp=Z,22nm,0.9s,mb4.6
AKASG Malin Array Be 23.76 327 P **P 04 01 19.2 -1.5**
comp=Z,6.7nm,0.4s,mb4.5,baz=118,slow=7.0,SNR=48
AKBB Malin Array Si 23.76 327 *e*P **P 04 01 19.5 -1.2**
AKBB Malin Array Si 23.76 327 *e*P **P 04 01 19.5 -1.2**
KIEV Kiev 23.76 327 *e*P **P 04 01 19.2 -1.5**
comp=Z,21nm,0.4s,mb4.9
KIEV Kiev 23.76 327 *e*P **P 04 01 19.3 -1.5**
KIEV pmax pmax
comp=Z,21nm,0.4s,mb4.9
KIEV Kiev 23.76 327 *e*P **P 04 01 19.2 -1.6**
comp=Z,21nm,0.4s,mb4.9
NDI New Delhi 24.19 91 *ex* **P 04 01 25.0 +0.1**
LKD Levkas 24.26 294 *e*P **P 04 01 25.4 -0.1**
KRUS Krusevo 24.27 300 *e*P **P 04 01 27.1 +1.6**
GZR Gura Zlata 24.46 310 ⇓*i*P **P 04 01 28.0 +0.8**
GZR Gura Zlata 24.46 310 P **P 04 01 28.1 +0.9**
OHR Ohrid 24.54 299 *e*P **P 04 01 28.3 +0.3**
OHR Ohrid 24.54 299 *e*P **P 04 01 28.2 +0.2**
IGT Igoumenitsa 24.61 295 *e*P **P 04 01 28.3 -0.4**
OBN Obninsk 24.64 342 ⇓*e*P **P 04 01 28.3 -0.4**
OBN *e* 04 01 33.5
OBN 04 01 59.0
OBN pmax pmax
comp=Z,27nm,0.8s,mb4.8
OBN Obninsk 24.64 342 *e*P **P 04 01 28.2 -0.5**
comp=Z,25nm,0.4s,mb5.1
MOS Moscow 24.94 344 *e*P **P 04 01 31.9 +0.4**
MOS pmax pmax
comp=Z,62nm,1.1s,mb5.0
MOS Moscow 24.94 344 *e*P **P 04 01 31.9 +0.4**
comp=Z,62nm,1.1s,mb5.0
ARU Arti 25.04 12 *e*P **P 04 01 30.4 -1.9**
comp=Z,11nm,0.9s,mb4.4
ARU Arti 25.04 12 *c i*P **P 04 01 31.9 -0.5**
ARU *e* 04 02 06.2
ARU *e*S **S 04 05 56.3 +1.2**
ARU *e*SS 04 06 47.7
ARU pmax pmax
comp=Z,17nm,1.7s,mb4.3

ARU Arti 25.04 12 *e*P **P 04 01 30.4 -2.0**
comp=Z,11nm,0.9s,mb4.4
DRGR 25.09 313 P **P 04 01 34.1 +1.2**
DRGR 25.09 313 ⇑*i*P **P 04 01 33.8 +0.9**
DRGR 25.09 313 P **P 04 01 34.1 +1.2**
BZS Buzias 25.30 310 P **P 04 01 35.7 +0.8**
BZS Buzias 25.30 310 ⇓*i*P **P 04 01 35.5 +0.6**
BZS Buzias 25.30 310 P **P 04 01 35.7 +0.8**
BRVK Borovoye 25.71 30 *e*P **P 04 01 40.3 +1.9**
comp=Z,14nm,1.3s,mb4.3
BRVK Borovoye 25.71 30 *e*P **P 04 01 40.3 +1.9**
BRVK pmax pmax
comp=Z,14nm,1.3s,mb4.3
BRVK Borovoye 25.71 30 *e*P **P 04 01 40.3 +1.9**
comp=Z,14nm,1.3s,mb4.3
BVAR Borovoye Array 25.73 30 P **P 04 01 38.6 0.0**
BVAR 04 05 07.7
BVAR Borovoye Array 25.73 30 P **P 04 01 38.6 0.0**
comp=Z,7.1nm,0.8s,mb4.2,baz=224,slow=8.0,SNR=15
BVAR PcP PcP 04 05 07.7 -0.5
comp=Z,0.5nm,0.4s,baz=171,slow=3.8,SNR=4.4
BVAR LR LR 04 13 28.1
comp=Z,121nm,19.8s,MS3.4,baz=139,slow=40
BVAR Borovoye Array 25.73 30 PcP PcP 04 05 07.7 -0.5
SVE Sverdlovsk 25.82 14 *e*P **P 04 01 39.4 0.0**
LVV L'vov 25.83 320 *e*P **P 04 01 40.0 +0.5**
DIVS Divibare 25.88 306 *e*P **P 04 01 42.6 +2.5**
UZH Uzhgorod 26.19 317 *e*P **P 04 01 45.0 +2.2**
UZH *e* 04 01 55.7
KOLS Kolonicke sedl 26.35 317 *e*P **P 04 01 45.9 +1.6**
KWP Kalwaria 26.45 319 *e*P **P 04 01 46.0 +0.8**
KWP Kalwaria 26.45 319 ⇓*i*P **P 04 01 46.1 +0.9**
CRVS Cervenica-Dubn 26.80 317 *e*P **P 04 01 49.1 +0.7**
CRVS *e*pP pP 04 01 58.2 +3.0
STHS Stebnicka Huta 27.17 318 *e*P **P 04 01 53.4 +1.7**
STHS pmax pmax
comp=Z,5.0nm,0.9s,mb4.0
STHS Stebnicka Huta 27.17 318 *e*P **P 04 01 53.4 +1.7**
comp=Z,4.9nm,0.9s,mb4.0
KECS Kecovo 27.18 315 *e*P **P 04 01 54.6 +2.8**
comp=Z,3.7nm,0.9s,mb3.9
KECS Kecovo 27.18 315 *e*P **P 04 01 54.6 +2.8**
KECS pmax pmax
comp=Z,4.0nm,0.9s,mb4.0
PSZ Piszkesteto 27.30 314 *e*P **P 04 01 54.5 +1.6**
comp=Z,6.8nm,0.9s,mb4.2
PSZ Piszkesteto 27.30 314 *e*P **P 04 01 54.5 +1.6**
PSZ pmax pmax
comp=Z,7.0nm,0.9s,mb4.2
PSZ Piszkesteto 27.30 314 ⇓*i*P **P 04 01 53.3 +0.4**
PSZ Piszkesteto 27.30 314 ⇓*e*P **P 04 01 56.9 +4.0**
PSZ Piszkesteto 27.30 314 *e*P **P 04 01 54.5 +1.6**
comp=Z,6.8nm,0.9s,mb4.2
TIP Timpagrande 27.33 294 *e*P **P 04 01 53.9 +0.7**
comp=Z,6.8nm,0.6s,mb4.3
TIP Timpagrande 27.33 294 *e*P **P 04 01 53.9 +0.7**
comp=Z,6.8nm,0.6s,mb4.3
PKSM Moragy 27.45 310 ⇑*i*P **P 04 01 55.0 +0.7**
PKSM Moragy 27.45 310 ⇑*i*P **P 04 01 55.0 +0.7**
PKSM Moragy 27.45 310 ⇓*e*P **P 04 01 55.0 +0.7**
BUD Budapest 27.67 312 ⇑*e*P **P 04 01 56.1 -0.1**
VYHS Vyhne 28.18 314 *e*P **P 04 02 00.7 -0.1**
KURK Kurchatov 28.37 41 *e*P **P 04 02 02.0 -0.4**
comp=Z,7.3nm,0.8s,mb4.4
KURK Kurchatov 28.37 41 ⇑*e*P **P 04 02 02.3 -0.1**
KURK Kurchatov 28.37 41 *e*P **P 04 02 02.0 -0.4**
comp=Z,7.3nm,0.8s,mb4.4
OJC Ojcow 28.38 318 *e*P **P 04 02 02.4 -0.1**
SUW Suwalki 28.73 327 *e*P **P 04 02 05.3 -0.3**
MK31 Makanchi Array 29.00 50 *e*P **P 04 02 08.2 +0.1**
MK31 Makanchi Array 29.00 50 *e*P **P 04 02 08.1 +0.1**
MKAR Makanchi Array 29.00 50 P **P 04 02 08.3 +0.3**
comp=Z,5.6nm,0.7s,mb4.4,baz=251,slow=7.3,SNR=23
MODS Modra-Piesok 29.09 313 *e*P **P 04 02 06.8 -2.0**
MODS pmax pmax
comp=Z,4.0nm,1.2s,mb4.0
MODS Modra-Piesok 29.09 313 *e*P **P 04 02 06.8 -2.0**
comp=Z,3.7nm,1.2s,mb4.0
KOGS Kog 29.10 309 *e*P **P 04 02 09.2 +0.2**
KOGS Kog 29.10 309 *e*P **P 04 02 09.1 +0.2**
ZST Bratislava 29.14 313 *e*P **P 04 02 08.5 -0.7**
ZST pmax pmax
comp=Z,4.0nm,0.8s,mb4.2
ZST Bratislava 29.14 313 *e*P **P 04 02 08.5 -0.7**
comp=Z,3.5nm,0.8s,mb4.1
SOP Sopron 29.30 311 ⇓*e*P **P 04 02 11.3 +0.6**
CRES Cresnjev 29.45 307 *e*P **P 04 02 13.9 +1.9**
MORC Moravsky Berou 29.48 316 *e*P **P 04 02 11.7 -0.7**
comp=Z,2.3nm,0.8s,mb4.0
MORC Moravsky Berou 29.48 316 *e*P **P 04 02 11.7 -0.6**
MORC pmax pmax
comp=Z,2.0nm,0.8s,mb3.9
MORC Moravsky Berou 29.48 316 *e*P **P 04 02 11.6 -0.7**
comp=Z,2.3nm,0.8s,mb4.0
LEGS Legarje 29.58 308 *e*P **P 04 02 15.3 +2.1**
VRAC Vranov 29.86 315 P **P 04 02 15.3 -0.4**
comp=Z,2.6nm,0.4s,mb4.3,baz=130,slow=5.9,SNR=4.1
AQU L'Aquila 30.21 300 *e*P **P 04 02 18.8 0.0**
comp=Z,13nm,1.1s,mb4.6
AQU L'Aquila 30.21 300 *e*P **P 04 02 18.8 0.0**
AQU pmax pmax
comp=Z,13nm,1.1s,mb4.6
AQU L'Aquila 30.21 300 *e*P **P 04 02 18.8 0.0**
comp=Z,13nm,1.1s,mb4.6
DPC Dobruska-Polom 30.44 316 *e*P **P 04 02 20.8 +0.1**
GERES GERESS Array B 31.48 312 P **P 04 02 29.0 -0.9**
comp=Z,1.4nm,0.4s,mb4.1,baz=111,slow=8.4,SNR=33
GERES PcP PcP 04 05 22.7 +0.1
comp=Z,0.8nm,0.7s,baz=142,slow=3.0,SNR=5.4
KHC Kasperske Hory 31.65 313 *e*P **P 04 02 31.1 -0.3**
KHC *e*pP pP 04 02 42.0 +3.7
WMQ Urumqi 32.03 58 P **P 04 02 35.3 +0.4**
WMQ XP sP 04 02 42.0 -2.5
WMQ PP PP 04 03 40.0 -7.3
WMQ *e*S **S 04 07 46.6 +1.2**
WMQ AMB AMB
comp=Z,21nm,0.9s,mb5.0
WMQ AMB AMB
comp=Z,132nm,5.1s
WMQ LR LR
comp=N,312nm,20.2s,MS4.1
WMQ LR LR
comp=E,227nm,20.8s,MS4.1
WMQ LR LR
comp=Z,269nm,25.0s,MS3.8
BRG Berggiesshubel 32.04 316 *i* P **P 04 02 35.0 +0.2**
BRG pmax pmax
comp=Z,2.0nm,1.0s,mb3.9
BRG Berggiesshubel 32.04 316 *i* P **P 04 02 35.0 +0.2**
comp=Z,1.5nm,1.0s,mb3.8
SQTA Sankt Quirin 32.64 309 ⇑*i*P **P 04 02 39.9 -0.3**
SNR=14
MOTA Moosalm 32.74 309 ⇓*i*P **P 04 02 40.4 -0.7**
SNR=9.6
MOTA Moosalm 32.74 309 P **P 04 02 40.4 -0.6**
comp=Z,9.0nm,8.0s
CLL Collm 32.75 316 *i* P **P 04 02 40.9 -0.2**
comp=Z,5.0nm,1.0s,mb4.4
CLL *i* pP pP 04 02 49.5 +1.6
CLL Collm 32.75 316 *i* P **P 04 02 40.9 -0.2**
CLL *i* *PP pP 04 02 49.5 +1.6
CLL pmax pmax
comp=Z,5.0nm,1.0s,mb4.4
CLL Collm 32.75 316 *i* P **P 04 02 40.9 -0.2**
comp=Z,5.0nm,1.0s,mb4.4
CLL *i* pP pP 04 02 49.5 +1.6
CLL *e*PPPP 04 04 06.0
TMCR Tamitsa 32.77 351 *e*P **P 04 02 39.4 -1.6**
JOF Joensuu 32.83 345 *e*p **P 04 02 39.9 -1.7**
comp=Z,1.3nm,0.4s,mb4.2
FETA Feichten 32.92 308 *i* P **P 04 02 42.6 +0.1**
SNR=17
FETA Feichten 32.92 308 P **P 04 02 42.6 0.0**
SNR=17
FINES FINESS Array B 32.95 340 P **P 04 02 41.2 -1.5**
FINES FINESS Array B 32.95 340 P **P 04 02 41.2 -1.5**
comp=Z,1.8nm,0.3s,mb4.4,baz=145,slow=8.8,SNR=44
RETA Reutte 33.00 309 *i* P **P 04 02 42.4 -0.9**
SNR=12
ZAL Zalesovo 33.23 39 P **P 04 02 45.1 -0.1**
ZAL 04 05 25.4
ZAL Zalesovo 33.23 39 PcP PcP 04 05 25.4 -1.9
ZALV Zalesovo Beam 33.25 39 P **P 04 02 45.0 -0.3**
ZALV PcP PcP 04 05 25.4 -1.9
ZALV Zalesovo Beam 33.25 39 P **P 04 02 45.0 -0.3**

comp=Z,2.3nm,0.4s,mb4.5,baz=256,slow=10,SNR=11
ZALV PcP PcP 04 05 25.4 -1.9
comp=Z,1.4nm,0.4s,baz=241,slow=3.5,SNR=5.0
KEST Kesra 33.27 287 P **P 04 02 45.3 -0.5**
comp=Z,3.4nm,1.0s,mb4.2,baz=327,slow=2.8,SNR=5.9
GRA1 Grafenberg Arr 33.29 313 *eP* **P 04 02 46.0 +0.2**
comp=Z,9.0nm,0.8s,mb4.8
GRF Grafenberg Arr 33.29 313 *eP* **P 04 02 46.0 +0.2**
GRF pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
GRF Grafenberg Arr 33.29 313 *eP* **P 04 02 46.0 +0.2**
GRF pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
GRF Grafenberg Arr 33.29 313 *eP* **P 04 02 46.0 +0.2**
comp=Z,9.0nm,0.8s,mb4.8
BSD Bornholm Skovb 33.34 324 *i* P **P 04 02 45.0 -1.2**
BSD pmax pmax
comp=Z,27nm,0.5s,mb5.4
BSD MLR MLR
comp=Z,160nm,16.0s,MS3.8
BSD Bornholm Skovb 33.34 324 *i* P **P 04 02 45.0 -1.2**
comp=Z,27nm,0.5s,mb5.4
BSD
comp=Z,160nm,16.0s
KAF Kangasniemi 33.42 340 *ep* **P 04 02 45.7 -1.1**
comp=Z,1.4nm,0.3s,mb4.4,baz=140,slow=9.2
KAF Kangasniemi 33.42 340 *eP* **P 04 02 45.7 -1.1**
KAF pmax pmax
comp=Z,1.0nm,0.3s,mb4.2
DAVA Damuels 33.54 308 *i* P **P 04 02 47.4 -0.6**
SNR=20
DAVA Damuels 33.54 308 P **P 04 02 47.4 -0.6**
comp=Z,20nm,4.0s
SBF Sospel 34.72 302 *eP* **P 04 02 57.3 -1.0**
comp=Z,93nm,1.4s,mb5.2
SBF Sospel 34.72 302 *eP* **P 04 02 57.3 -1.0**
SBF pmax pmax
comp=Z,46nm,1.4s,mb5.2
SBF Sospel 34.72 302 *eP* **P 04 02 57.3 -1.0**
comp=Z,46nm,1.4s,mb5.2
COP Copenhagen 34.86 323 *eP* **P 04 03 00.6 +1.3**
COP *i* 04 04 42.4
COP MLR MLR
comp=Z,140nm,16.0s,MS3.8
COP Copenhagen 34.86 323 *i* P **P 04 03 00.6 +1.3**
COP *i* 04 04 42.4
COP
comp=Z,140nm,16.0s
COP Copenhagen 34.86 323 *eP* **P 04 03 00.6 +1.3**
comp=Z,140nm,16.0s
KMBO Kilima Mbogo 35.10 202 LR LR 04 17 21.7
comp=Z,165nm,20.1s,MS3.8,baz=276,slow=36
FRF La Foret Royal 35.26 301 *eP* **P 04 03 02.3 -0.7**
MBDF Montbardon 35.27 303 *eP* **P 04 03 02.6 -0.5**
comp=Z,19nm,0.6s,mb4.9
MBDF Montbardon 35.27 303 *eP* **P 04 03 02.6 -0.5**
MBDF pmax pmax
comp=Z,9.0nm,0.6s,mb4.9
MBDF Montbardon 35.27 303 *eP* **P 04 03 02.6 -0.5**
comp=Z,9.3nm,0.6s,mb4.9
LMR La Mourre 35.35 301 *eP* **P 04 03 02.8 -0.9**
BNI Bardonecchia 35.38 304 *eP* **P 04 03 03.6 -0.3**
comp=Z,7.2nm,0.5s,mb4.9
BNI Bardonecchia 35.38 304 *eP* **P 04 03 03.6 -0.3**
BNI pmax pmax
comp=Z,7.0nm,0.5s,mb4.8
BNI Bardonecchia 35.38 304 *eP* **P 04 03 03.6 -0.3**
comp=Z,7.2nm,0.5s,mb4.9
LPG La Plagne 35.38 305 *eP* **P 04 03 03.4 -0.5**
comp=Z,16nm,0.8s,mb4.7
LPG La Plagne 35.38 305 *eP* **P 04 03 03.4 -0.5**
LPG pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
LPG La Plagne 35.38 305 *eP* **P 04 03 03.4 -0.5**
comp=Z,7.8nm,0.8s,mb4.7
LPL La Plagne 35.39 305 *eP* **P 04 03 03.5 -0.6**
comp=Z,8.5nm,0.5s,mb4.6
LPL La Plagne 35.39 305 *eP* **P 04 03 03.5 -0.6**
LPL pmax pmax
comp=Z,4.0nm,0.5s,mb4.6
LPL La Plagne 35.39 305 *eP* **P 04 03 03.5 -0.6**
comp=Z,4.2nm,0.5s,mb4.6
CDF Champ du Feu 35.49 310 *eP* **P 04 03 03.9 -0.9**
HINF Hinteralfeld 35.65 309 *eP* **P 04 03 05.4 -0.9**
ORIF Oris-en-Rattie 35.92 303 *eP* **P 04 03 07.9 -0.8**
CABF La Chapelle 35.98 306 *eP* **P 04 03 08.3 -0.8**
comp=Z,31nm,1.0s,mb4.9
CABF La Chapelle 35.98 306 *eP* **P 04 03 08.3 -0.8**
CABF pmax pmax
comp=Z,16nm,1.0s,mb4.9
CABF La Chapelle 35.98 306 *eP* **P 04 03 08.3 -0.8**
comp=Z,16nm,1.0s,mb4.9
HAU Haudompre 36.02 309 *eP* **P 04 03 08.6 -0.8**
SMRF Simiane la Rot 36.07 302 *eP* **P 04 03 08.9 -1.0**
WLF Walferdange 36.47 311 *eP* **P 04 03 11.9 -1.3**
comp=Z,14nm,1.3s,mb4.7
WLF Walferdange 36.47 311 *eP* **P 04 03 11.9 -1.3**
WLF pmax pmax
comp=Z,14nm,1.3s,mb4.7
WLF Walferdange 36.47 311 *eP* **P 04 03 11.9 -1.3**
comp=Z,14nm,1.3s,mb4.7
APA Apatity 36.63 350⇑ *eP* **P 04 03 11.4 -3.0**
APA pmax pmax
comp=Z,13nm,1.0s,mb4.7
MEZF Maizieres J'vi 36.96 309 *eP* **P 04 03 16.3 -1.1**
comp=Z,5.5nm,0.5s,mb4.4
MEZF Maizieres J'vi 36.96 309 *eP* **P 04 03 16.3 -1.1**
comp=Z,2.8nm,0.5s,mb4.4
LASF Ste Croix 37.31 302 *eP* **P 04 03 19.3 -1.2**
SMF Signal de Mont 37.52 306 *eP* **P 04 03 21.2 -1.0**
comp=Z,8.5nm,0.4s,mb4.5
SMF Signal de Mont 37.52 306 *eP* **P 04 03 21.2 -1.0**
SMF pmax pmax
comp=Z,4.0nm,0.4s,mb4.5
SMF Signal de Mont 37.52 306 *eP* **P 04 03 21.2 -1.0**
comp=Z,4.2nm,0.4s,mb4.5
LOR Lormes 37.58 307 *eP* **P 04 03 21.5 -1.2**
comp=Z,4.2nm,0.7s,mb4.0
LOR Lormes 37.58 307 *eP* **P 04 03 21.5 -1.2**
LOR pmax pmax
comp=Z,2.0nm,0.6s,mb4.0
LOR Lormes 37.58 307 *eP* **P 04 03 21.5 -1.2**
comp=Z,2.1nm,0.7s,mb4.0
BAIF Baives 37.78 312 *eP* **P 04 03 23.3 -1.0**
SSF Saint Saulge 37.79 307 *eP* **P 04 03 23.0 -1.5**
comp=Z,11nm,1.0s,mb4.2
SSF Saint Saulge 37.79 307 *eP* **P 04 03 23.0 -1.5**
SSF pmax pmax
comp=Z,6.0nm,1.0s,mb4.3
SSF Saint Saulge 37.79 307 *eP* **P 04 03 23.0 -1.5**
comp=Z,5.6nm,1.0s,mb4.2
AVF Avril sur Loir 37.87 306 *eP* **P 04 03 24.0 -1.2**
comp=Z,13nm,1.1s,mb4.3
AVF Avril sur Loir 37.87 306 *eP* **P 04 03 24.0 -1.2**
AVF pmax pmax
comp=Z,7.0nm,1.1s,mb4.3
AVF Avril sur Loir 37.87 306 *eP* **P 04 03 24.0 -1.2**
comp=Z,6.6nm,1.1s,mb4.3
KONO Kongsberg 38.05 328 *eP* **P 04 03 25.5 -1.0**
comp=Z,9.9nm,0.6s,mb4.7
KONO Kongsberg 38.05 328⇑ *eP* **P 04 03 26.4 -0.1**
KONO Kongsberg 38.05 328 *eP* **P 04 03 25.5 -1.0**
comp=Z,9.9nm,0.6s,mb4.7
NB2 NORSAR Subarra 38.05 331 P **P 04 03 25.3 -1.2**
comp=Z,10nm,0.5s,mb4.8,baz=122,slow=8.6
NOA NORSAR Array B 38.05 331 P **P 04 03 25.3 -1.2**
NOA NORSAR Array B 38.05 331 P **P 04 03 25.3 -1.2**
comp=Z,8.8nm,0.5s,mb4.8,baz=122,slow=8.4,SNR=71
NAO01 NORSAR Array S 38.08 330 *eP* **P 04 03 25.7 -1.1**
comp=Z,4.9nm,0.4s,mb4.6
NAO01 NORSAR Array S 38.08 330 *eP* **P 04 03 25.7 -1.1**
comp=Z,4.9nm,0.4s,mb4.6
BGF Bois d'Agland 38.19 306 *eP* **P 04 03 26.6 -1.3**
TCF Toulx Ste Croi 38.61 305 *eP* **P 04 03 30.2 -1.2**
comp=Z,18nm,1.3s,mb4.3
TCF Toulx Ste Croi 38.61 305 *eP* **P 04 03 30.2 -1.2**
TCF pmax pmax
comp=Z,9.0nm,1.3s,mb4.3
TCF Toulx Ste Croi 38.61 305 *eP* **P 04 03 30.2 -1.2**
comp=Z,9.2nm,1.3s,mb4.3
RJF Les Rejaudoux 39.03 304 *eP* **P 04 03 33.4 -1.6**
LFF La Frestale 39.57 303 *eP* **P 04 03 38.0 -1.5**
KEV Kevo 39.65 348 *ep* **P 04 03 38.5 -1.3**
comp=Z,1.0nm,0.3s,mb4.0
KEV Kevo 39.65 348 *eP* **P 04 03 38.5 -1.3**
KEV pmax pmax
comp=Z,1.0nm,0.3s,mb4.0
ARCES ARCESS Array B 39.73 347 P **P 04 03 39.8 -0.7**
comp=Z,1.2nm,0.6s,mb3.8,baz=152,slow=8.2,SNR=15
ERTA Horta de San J 39.94 297 P **P 04 03 43.6 +1.0**
comp=Z,5.7nm,0.6s,mb4.5
ERTA Horta de San J 39.94 297 P **P 04 03 43.6 +1.0**
comp=Z,5.7nm,0.6s,mb4.5
MFF Saint Martin d 40.26 306 *eP* **P 04 03 43.5 -1.6**
LDF La Druitiere 40.38 309 *eP* **P 04 03 44.6 -1.5**
ESAC San Caprasio 40.50 298 P **P 04 03 48.2 +1.0**
comp=Z,4.2nm,0.4s,mb4.5
EBEN Beniarda 40.56 293 P **P 04 03 48.8 +1.0**
comp=Z,2.0nm,0.5s,mb4.0
EBEN Beniarda 40.56 293 P **P 04 03 48.8 +1.0**
comp=Z,2.0nm,0.5s,mb4.0
EMOS Mosqueruela 40.59 296 P **P 04 03 50.1 +2.1**
comp=Z,8.5nm,0.6s,mb4.5
FLN La Foliniere 40.63 309 *eP* **P 04 03 46.8 -1.4**
comp=Z,4.0nm,0.4s,mb4.1
FLN La Foliniere 40.63 309 *eP* **P 04 03 46.8 -1.4**
FLN pmax pmax
comp=Z,2.0nm,0.4s,mb4.1
FLN La Foliniere 40.63 309 *eP* **P 04 03 46.8 -1.4**
comp=Z,2.0nm,0.4s,mb4.1
GRR Gorron 40.85 308 *eP* **P 04 03 48.4 -1.6**
comp=Z,8.0nm,0.7s,mb4.2
GRR Gorron 40.85 308 *eP* **P 04 03 48.4 -1.6**
GRR pmax pmax
comp=Z,4.0nm,0.7s,mb4.2
GRR Gorron 40.85 308 *eP* **P 04 03 48.4 -1.6**
comp=Z,4.0nm,0.7s,mb4.2
ECHE Chera 41.04 295 P **P 04 03 52.8 +1.1**
comp=Z,2.4nm,0.5s,mb4.1
ECHE Chera 41.04 295 P **P 04 03 52.8 +1.1**
ECHE pmax pmax
comp=Z,2.0nm,0.5s,mb4.0
ECHE Chera 41.04 295 P **P 04 03 52.8 +1.1**
comp=Z,2.4nm,0.5s,mb4.1
GTA Gaotai 41.05 65 *eP* **P 04 03 52.3 +0.5**
GTA AP pP 04 03 57.3 -1.5
GTA XP sP 04 04 00.9 -0.6
GTA AMB AMB
comp=Z,5.0nm,0.6s,mb4.3
ETOB Tobarra 41.60 294 P **P 04 03 57.8 +1.5**
comp=Z,5.9nm,0.5s,mb4.5
ETOR Torete 41.75 297 P **P 04 03 58.1 +0.5**
comp=Z,3.2nm,0.5s,mb4.2
ETOR Torete 41.75 297 P **P 04 03 58.1 +0.6**
ETOR pmax pmax
comp=Z,3.0nm,0.5s,mb4.2
ETOR Torete 41.75 297 P **P 04 03 58.1 +0.6**
comp=Z,3.2nm,0.5s,mb4.2
SGMF Saint Gilles 41.97 308 *eP* **P 04 03 57.7 -1.5**
comp=Z,5.6nm,0.5s,mb4.1
SGMF Saint Gilles 41.97 308 *eP* **P 04 03 57.7 -1.5**
SGMF pmax pmax
comp=Z,3.0nm,0.5s,mb4.2
SGMF Saint Gilles 41.97 308 *eP* **P 04 03 57.7 -1.5**
comp=Z,2.8nm,0.5s,mb4.1
MOY Mondy 42.00 47 *eP* **P 04 04 00.6 +1.2**
EVIA Vianos 42.34 294 P **P 04 04 03.7 +1.3**
comp=Z,6.1nm,0.7s,mb4.3
EVIA Vianos 42.34 294 P **P 04 04 03.7 +1.3**
EVIA pmax pmax
comp=Z,6.0nm,0.7s,mb4.3
ENIJ Nijar 42.35 291 P **P 04 04 03.5 +1.0**
comp=Z,4.4nm,0.6s,mb4.3
ENIJ Nijar 42.35 291 P **P 04 04 03.5 +1.0**
ENIJ pmax pmax
comp=Z,4.0nm,0.6s,mb4.2
ENIJ Nijar 42.35 291 P **P 04 04 03.5 +1.0**
comp=Z,4.4nm,0.6s,mb4.3
QUIF Quistinic 42.37 308 *eP* **P 04 04 00.7 -1.7**
comp=Z,7.5nm,0.4s,mb4.4
QUIF Quistinic 42.37 308 *eP* **P 04 04 00.7 -1.7**
QUIF pmax pmax
comp=Z,4.0nm,0.4s,mb4.4
QUIF Quistinic 42.37 308 *eP* **P 04 04 00.7 -1.7**
comp=Z,3.8nm,0.4s,mb4.4
ROSF Rostrenen 42.45 308 *eP* **P 04 04 01.8 -1.4**
comp=Z,6.6nm,0.6s,mb4.2
ROSF Rostrenen 42.45 308 *eP* **P 04 04 01.8 -1.4**
ROSF pmax pmax
comp=Z,3.0nm,0.6s,mb4.1
ROSF Rostrenen 42.45 308 *eP* **P 04 04 01.8 -1.4**
comp=Z,3.3nm,0.6s,mb4.2
EQES Quesada 42.90 293 P **P 04 04 07.4 +0.5**
comp=Z,4.0nm,0.5s,mb4.4
EBER Berja 42.91 291 P **P 04 04 08.4 +1.5**
comp=Z,8.8nm,0.5s,mb4.8
ESK Eskdalemuir 43.17 318 *eP* **P 04 04 09.0 +0.1**
comp=Z,5.5nm,0.8s,mb4.3
ESK Eskdalemuir 43.17 318 *eP* **P 04 04 09.0 +0.1**
ESK pmax pmax
comp=Z,6.0nm,0.8s,mb4.4
ESK Eskdalemuir 43.17 318 *eP* **P 04 04 09.0 +0.1**
comp=Z,5.5nm,0.8s,mb4.3
ZAK Zakamensk 43.32 49 *eP* **P 04 04 09.0 -1.1**
ZAK pmax pmax
comp=Z,3.0nm,1.0s,mb4.0
ZAK Zakamensk 43.32 49 *eP* **P 04 04 09.0 -1.1**
comp=Z,3.0nm,1.0s,mb4.0
ESDC Sonseca Array 43.33 295 P **P 04 04 10.8 +0.4**
comp=Z,2.6nm,0.6s,mb4.1,baz=74,slow=8.4,SNR=21
GUD Guadarrama 43.36 297 P **P 04 04 11.1 +0.5**
comp=Z,0.9nm,0.4s,mb3.9
GUD Guadarrama 43.36 297 P **P 04 04 11.1 +0.5**
GUD pmax pmax
comp=Z,1.0nm,0.4s,mb3.9
GUD Guadarrama 43.36 297 P **P 04 04 11.1 +0.5**
comp=Z,0.9nm,0.4s,mb3.9
ECOG Cogollos-Vega 43.38 292 P **P 04 04 10.9 +0.1**
ECOG pmax pmax
comp=Z,2.0nm,0.3s,mb4.3
ECOG Cogollos-Vega 43.38 292 P **P 04 04 10.9 +0.1**
comp=Z,1.6nm,0.3s,mb4.2
EBAN Banos Encina 43.40 293 P **P 04 04 11.8 +0.8**
comp=Z,3.8nm,0.4s,mb4.5
EBAN Banos Encina 43.40 293 P **P 04 04 11.8 +0.8**
EBAN pmax pmax
comp=Z,4.0nm,0.4s,mb4.5
EBAN Banos Encina 43.40 293 P **P 04 04 11.8 +0.8**
comp=Z,3.8nm,0.4s,mb4.5
EGUA Guajares 43.45 291 P **P 04 04 12.4 +1.0**
comp=Z,0.3nm,0.4s,mb3.4
ELOJ Sierra Loja 43.86 292 P **P 04 04 13.3 -1.4**
comp=Z,1.3nm,0.5s,mb3.9
ELOJ Sierra Loja 43.86 292 P **P 04 04 13.3 -1.4**
ELOJ pmax pmax
comp=Z,1.0nm,0.5s,mb3.8
ELOJ Sierra Loja 43.86 292 P **P 04 04 13.3 -1.4**
comp=Z,1.3nm,0.5s,mb3.9
ELUQ Luque 43.88 292 P **P 04 04 14.3 -0.5**
ELUQ pmax pmax
comp=Z,2.0nm,0.5s,mb4.1
ELUQ Luque 43.88 292 P **P 04 04 14.3 -0.5**
comp=Z,2.1nm,0.5s,mb4.1
EARI Arriondas 43.89 301 P **P 04 04 14.8 -0.1**
comp=Z,2.2nm,0.5s,mb4.1
EARI Arriondas 43.89 301 P **P 04 04 14.8 -0.1**
comp=Z,2.2nm,0.5s,mb4.1
EADA Adamuz 44.02 293 P **P 04 04 16.3 +0.3**
comp=Z,2.8nm,0.5s,mb4.2
EADA Adamuz 44.02 293 P **P 04 04 16.3 +0.3**
comp=Z,2.8nm,0.5s,mb4.2
EMIJ Mijas 44.45 291 P **P 04 04 19.0 -0.4**
comp=Z,5.3nm,0.5s,mb4.5
EMIJ Mijas 44.45 291 P **P 04 04 19.0 -0.4**
comp=Z,5.3nm,0.5s,mb4.5
ECAB El Cabril 44.69 293 P **P 04 04 22.2 +0.9**
comp=Z,10nm,0.5s,mb4.9
ECAB El Cabril 44.69 293 P **P 04 04 22.2 +0.9**
comp=Z,10nm,0.5s,mb4.9
LZH Lanzhou 44.72 69 *eP* **P 04 04 22.3 +0.7**
LZH AP pP 04 04 27.0 -1.6
LZH XP sP 04 04 29.4 -1.9
LZH PP PP 04 06 07.5 +1.5
LZH AMB AMB
comp=Z,21nm,1.4s,mb4.8
LZH AMB AMB
comp=Z,57nm,5.6s
LZH LR LR
comp=E,498nm,15.2s
LZH LR LR
comp=Z,714nm,18.5s,MS4.6
ESPR Espera 45.25 292 P **P 04 04 25.1 -0.7**
comp=Z,1.6nm,0.4s,mb4.2
ESPR Espera 45.25 292 P **P 04 04 25.1 -0.7**
comp=Z,1.6nm,0.4s,mb4.2
SONM Songino Array 45.31 53 P **P 04 04 26.3 +0.2**
comp=Z,2.9nm,0.9s,mb4.1,baz=272,slow=8.8,SNR=12
EMIN Mina Concepcio 45.72 293 P **P 04 04 29.1 -0.4**
comp=Z,1.9nm,0.5s,mb4.3
EMIN Mina Concepcio 45.72 293 P **P 04 04 29.1 -0.4**
comp=Z,1.9nm,0.5s,mb4.3
ULN Ulaanbaatar 45.75 53 *eP* **P 04 04 29.6 0.0**
comp=Z,14nm,1.0s,mb4.8
ULN Ulaanbaatar 45.75 53⇑ *eP* **P 04 04 29.7 +0.1**
ULN Ulaanbaatar 45.75 53 P **P 04 04 29.1 -0.4**
SNR=5.8
ULN Ulaanbaatar 45.75 53 P **P 04 04 29.1 -0.4**
SNR=5.8
ULN Ulaanbaatar 45.75 53 P **P 04 04 29.1 -0.5**
SNR=5.8
EBAD Badajoz 45.81 295 P **P 04 04 30.2 0.0**
comp=Z,1.8nm,0.4s,mb4.3
EBAD Badajoz 45.81 295 P **P 04 04 30.2 0.0**
comp=Z,1.8nm,0.4s,mb4.3
CD2 Chengdu 45.89 77 *eP* **P 04 04 30.3 -0.7**
CD2 AP pP 04 04 34.8 -3.2
CD2 XP sP 04 04 37.9 -2.9
CD2 PP PP 04 06 18.0 -0.6
CD2 S **S 04 11 12.9 -1.3**
CD2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.9
CD2 AMB AMB
comp=Z,20nm,5.8s
PBAR Barrancos 45.93 294 *eP* **P 04 04 31.4 +0.2**
comp=Z,29nm,1.0s,mb5.2
MTE Manteigas 45.95 297 *eP* **P 04 04 31.3 0.0**
comp=Z,23nm,1.3s,mb5.0
PVRL Vila Real 45.96 298 *eP* **P 04 04 31.6 +0.3**
comp=Z,14nm,1.6s,mb4.6
PCBR Castelo Branco 45.99 296 *eP* **P 04 04 32.0 +0.4**
comp=Z,37nm,1.4s,mb5.1
ELOB Lobios 46.13 299 P **P 04 04 33.4 +0.7**
comp=Z,1.6nm,0.5s,mb4.2
ELOB Lobios 46.13 299 P **P 04 04 33.4 +0.7**
comp=Z,1.6nm,0.5s,mb4.2
PESTR Estremoz 46.23 295 *eP* **P 04 04 33.7 +0.2**
comp=Z,14nm,2.1s,mb4.5
CHG Chiang Mai 46.26 94 ⇓P **P 04 04 33.5 -0.5**
comp=Z,12nm,1.0s,mb4.8
CHTO Chiang Mai 46.26 94 *eP* **P 04 04 32.8 -1.2**
comp=Z,12nm,0.9s,mb4.8
CHTO Chiang Mai 46.26 94 *eP* **P 04 04 32.8 -1.2**
CHTO pmax pmax
comp=Z,12nm,0.9s,mb4.8
CHTO Chiang Mai 46.26 94 P **P 04 04 33.9 -0.1**
SNR=7.5
CHTO Chiang Mai 46.26 94 P **P 04 04 33.9 -0.1**
SNR=7.5
CHTO Chiang Mai 46.26 94 *eP* **P 04 04 32.8 -1.2**
comp=Z,12nm,0.9s,mb4.8
EGRO El Granado 46.40 293 P **P 04 04 34.8 0.0**
comp=Z,1.5nm,0.5s,mb4.2
EGRO El Granado 46.40 293 P **P 04 04 34.8 0.0**
comp=Z,1.5nm,0.5s,mb4.2
CHRT Chiangrai 46.51 93 ⇑P **P 04 04 35.0 -0.9**
comp=Z,105nm,1.1s,mb5.7
PBEJ Beja 46.60 294 *eP* **P 04 04 36.9 +0.5**
comp=Z,20nm,1.6s,mb4.8
EVO Evora 46.62 295 *eP* **P 04 04 35.6 -1.0**
KMI Kunming 46.91 84 P **P 04 04 39.4 +0.3**
KMI AP pP 04 04 43.1 -3.0
KMI XP sP 04 04 44.3 -4.6
KMI PP PP 04 06 25.8 -3.7
KMI S **S 04 11 28.6 -0.3**
KMI AMB AMB
comp=Z,14nm,0.9s,mb4.9
KMI AMB AMB
comp=Z,118nm,3.3s
KMI LR LR
comp=N,190nm,15.9s,MS4.2
KMI LR LR
comp=E,129nm,17.8s,MS4.2
KMI LR LR
comp=Z,162nm,16.5s,MS4.1
TOA0 Torodi Ar. Sit 47.52 258 *eP* **P 04 04 43.9 0.0**
TORD Torodi Ar. Bea 47.52 258 P **P 04 04 44.2 +0.3**
comp=Z,7.4nm,0.9s,mb4.7,baz=55,slow=7.1,SNR=41
SPB4 Spitsbergen Ar 48.29 351 *eP* **P 04 04 47.9 -1.1**
SPB4 Spitsbergen Ar 48.29 351 *eP* **P 04 04 47.8 -1.2**
GYA Guiyang 49.73 81 P **P 04 05 01.0 +0.2**
GYA AP pP 04 05 05.6 -2.3
GYA XP sP 04 05 08.3 -2.3
GYA PCP PcP 04 06 23.3 +1.6
GYA PP PP 04 06 57.0 +1.6
GYA SCP ScP 04 10 17.6 +1.7
GYA S **S 04 12 09.6 +0.8**
GYA SCS ScS 04 14 51.0 -0.3
GYA AMB AMB
comp=Z,10.0nm,0.8s,mb4.9
GYA AMB AMB
comp=Z,70nm,4.9s
GYA LR LR
comp=N,370nm,18.2s,MS4.6
GYA LR LR
comp=E,440nm,17.8s,MS4.6
GYA LR LR
comp=Z,390nm,18.6s,MS4.4
HHC Hu-ho-hao-te 49.75 61 *eP* **P 04 05 00.4 -0.3**
HHC AP pP 04 05 10.0 +2.2
HHC XP sP 04 05 13.5 +3.0
HHC S **S 04 12 06.3 -2.3**
HHC AMB AMB
comp=Z,15nm,0.4s,mb5.4
HHC AMB AMB
comp=Z,119nm,3.9s
BOD Bodaibo 50.00 39 *eP* **P 04 05 01.1 -1.2**
BOD pmax pmax
comp=Z,7.0nm,1.0s,mb4.7
BOD Bodaibo 50.00 39 *eP* **P 04 05 01.1 -1.2**
comp=Z,7.0nm,1.0s,mb4.7
OPO Ambohidratompo 50.53 183 P **P 04 05 08.7 +2.0**
comp=Z,4.5nm,0.3s,mb4.9,baz=348,slow=9.3,SNR=9.1
KULM Kulim 54.74 108 *eP* **P 04 05 36.1 -2.0**
KULM Kulim 54.74 108 *eP* **P 04 05 36.1 -2.0**
DBIC Dimbokro 56.44 255 *eP* **P 04 05 48.7 -1.7**
comp=Z,28nm,1.4s,mb5.1
DBIC Dimbokro 56.44 255 P **P 04 05 50.2 -0.2**
DBIC pmax pmax
comp=Z,3.0nm,0.7s
DBIC Dimbokro 56.44 255 P **P 04 05 50.2 -0.1**
comp=Z,3.4nm,0.7s,mb4.5,baz=22,slow=7.5,SNR=10
DBIC Dimbokro 56.44 255 *eP* **P 04 05 48.7 -1.7**
comp=Z,28nm,1.4s,mb5.1
TIXI Tiksi 56.48 22 *eP* **P 04 05 48.8 -1.0**
comp=Z,5.6nm,0.8s,mb4.7
TIXI Tiksi 56.48 22⇑ *eP* **P 04 05 49.1 -0.7**
TIXI pmax pmax
comp=Z,7.0nm,1.2s,mb4.6
TIXI Tiksi 56.48 22 *eP* **P 04 05 48.8 -1.0**
comp=Z,5.6nm,0.8s,mb4.7
LIC Lamto 56.83 255 *eP* **P 04 05 52.2 -0.9**
comp=Z,34nm,1.1s,mb5.0
LIC Lamto 56.83 255 *eP* **P 04 05 52.2 -0.9**
comp=Z,17nm,1.1s,mb5.0
NJ2 Nanjing 57.79 70 *eP* **P 04 06 01.3 +1.6**
CN2 Changchun 59.06 55 *eP* **P 04 06 05.8 -2.6**
LBTB Lobatse 61.28 205 *eP* **P 04 06 23.8 +0.2**
comp=Z,5.7nm,0.9s,mb4.7
LBTB Lobatse 61.28 205 *eP* **P 04 06 23.8 +0.2**
LBTB pmax pmax
comp=Z,6.0nm,0.9s,mb4.7
LBTB Lobatse 61.28 205 *eP* **P 04 06 23.8 +0.2**
comp=Z,5.7nm,0.9s,mb4.7
KLR Kul'dur 61.66 48 *eP* **P 04 06 21.0 -5.0**
KSRS Korea Array 62.89 61 P **P 04 06 33.5 -1.0**
comp=Z,1.9nm,0.6s,mb4.4,baz=282,slow=7.6,SNR=6.0
BOSA Boshof 64.70 203 P **P 04 06 46.9 +0.6**
BOSA Boshof 64.70 203 P **P 04 06 46.9 +0.6**
comp=Z,4.1nm,0.7s,mb4.6,baz=2.2,slow=10,SNR=9.2
KKM Kota Kinabalu 67.18 97 *eP* **P 04 07 01.4 -1.3**
SEY Seymchan 67.38 29⇑/*P* **P 04 07 03.6 +0.4**
MA2 Magadan 68.18 33 *eP* **P 04 07 07.7 -0.6**
comp=Z,16nm,1.1s,mb5.0
MA2 Magadan 68.18 33 *eP* **P 04 07 07.9 -0.4**
MA2 pmax pmax
comp=Z,20nm,0.9s,mb5.2
MA2 Magadan 68.18 33 *eP* **P 04 07 07.7 -0.6**
comp=Z,16nm,1.1s,mb5.0
BILL Bilibino 69.67 21 *eP* **P 04 07 17.2 -0.2**

comp=Z,8.1nm,0.9s,mb4.7
BILL Bilibino 69.67 21⇓ *e*P **P 04 07 17.6 +0.2**
BILL pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
BILL Bilibino 69.67 21 *e*P **P 04 07 17.2 -0.2**
comp=Z,8.1nm,0.9s,mb4.7
MJAR Matsuhiro Arr 70.80 58 P **P 04 07 24.8 -0.1**
comp=Z,0.5nm,0.3s,mb3.9,baz=298,slow=8.9,SNR=5.2
RES Resolute Bay 70.84 351 *e*P **P 04 07 24.1 -0.4**
RES Resolute Bay 70.84 351 *e*P **P 04 07 24.1 -0.4**
SCHQ Schefferville 77.55 328 P **P 04 08 03.3 -0.7**
comp=Z,5.5nm,0.8s,mb4.5,baz=51,slow=15,SNR=14
INK Inuvik 79.77 1 *e*P **P 04 08 14.6 -1.3**
comp=Z,140nm,0.6s
INK Inuvik 79.77 1 *e*P **P 04 08 14.6 -1.3**
comp=Z,140nm,0.6s
IMA2 Indian Mountai 80.44 9 *e*P **P 04 08 18.8 -0.7**
IMA2 Indian Mountai 80.44 9 *e*P **P 04 08 18.8 -0.7**
COLA College 82.30 7 *e*P **P 04 08 29.0 -0.5**
comp=Z,11nm,0.9s,mb4.8
COLA College 82.30 7 *e*P **P 04 08 29.0 -0.5**
COLA pmax pmax
comp=Z,11nm,0.9s,mb4.8
COLA College 82.30 7 *e*P **P 04 08 29.0 -0.5**
comp=Z,11nm,0.9s,mb4.8
EGAK Eagle 82.99 5 *e*P **P 04 08 32.4 -0.6**
comp=Z,14nm,1.0s,mb4.9
EGAK Eagle 82.99 5 *e*P **P 04 08 32.4 -0.6**
comp=Z,14nm,1.0s,mb4.9
MCK McKinley 83.28 8 *e*P **P 04 08 33.5 -1.1**
comp=Z,9.4nm,1.0s,mb4.8
MCK McKinley 83.28 8 *e*P **P 04 08 33.5 -1.1**
MCK pmax pmax
comp=Z,9.0nm,1.0s,mb4.8
MCK McKinley 83.28 8 *e*P **P 04 08 33.5 -1.1**
comp=Z,9.4nm,1.0s,mb4.8
DAWY Dawson 83.80 4 *e*P **P 04 08 36.4 -0.9**
DAWY Dawson 83.80 4 *e*P **P 04 08 36.4 -0.8**
FCC Fort Churchill 84.41 342 *e*P **P 04 08 39.5 -0.9**
comp=Z,6.3nm,1.1s,mb4.7
FCC Fort Churchill 84.41 342 *e*P **P 04 08 39.5 -0.9**
FCC pmax pmax
comp=Z,6.0nm,1.1s,mb4.6
FCC Fort Churchill 84.41 342 *e*P **P 04 08 39.5 -0.9**
comp=Z,6.3nm,1.1s,mb4.7
YKA Yellowknife Ar 84.76 353 P **P 04 08 41.4 -0.7**
comp=Z,5.4nm,1.0s,mb4.6,baz=6.6,slow=5.4,SNR=49
SML Sawmill 85.22 8 *e*P **P 04 08 44.1 -0.4**
SML Sawmill 85.22 8 *e*P **P 04 08 44.1 -0.3**
FITZ Fitzroy Crossi 88.37 112 P **P 04 09 00.9 +0.5**
comp=Z,4.2nm,1.0s,mb4.6,baz=176,slow=2.9,SNR=3.7
WRA Warramunga Arr 96.26 109 *e*P **P 04 09 35.5 -1.5**
ASAR Alice Springs 97.87 113 P **P 04 09 42.7 -1.4**
comp=Z,0.7nm,1.0s,mb4.2,baz=298,slow=5.5,SNR=4.2
QSPA South Pole Qui 122.04 180 *e*PKPdf PKPdf 04 15 00.9 -0.6

IDC ***15*** *04:06:23.5±0.8, 2.14N×12637E, h0km, mb4.0/10, mb1 4.2/10, mb1mx4.0/19, mbtmp4.0/10, Error ellipse: s-maj=59.3km s-min=14.3km az=77.0*
NEIC ***15*** *04:06:24.4±0.4, 2.25N×12663E, h10km, mb4.2/7, Error ellipse: s-maj=16.6km s-min=5.3km az=65.0*
ISCJB ***15*** *04:06:25.8±4.2, 2.17N±009×1264E±0.1, h29km±30km, mb4.1/14, Error ellipse: s-maj=26.0km s-min=9.5km az=152.4*
ISC 15 04:06:27.0±4.4, 217N±009×1265E±01, h24km±32km, n27, σ0°63/26, mb4.1/14, 1D, Northern Moluccа Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNE	**Ternate**	**1.62**	**148⇓**	*e*P	**Pn**	**04 06 54.0**	**-0.1**
KKM	**Kota Kinabalu**	**10.97**	**291**	*e*Pn	**Pn**	**04 09 02.3**	**-0.3**
FITZ	**Fitzroy Crossi**	**20.16**	**182**	*e*P	**P**	**04 11 00.9**	**+1.1**
	6.9nm,0.4s						
FITZ	**Fitzroy Crossi**	**20.16**	**182**	P	**P**	**04 11 01.2**	**+1.4**
	3.5nm,0.4s,baz=6.5,slow=8.8,SNR=12						
WRAB	**Tennant Creek**	**23.27**	**161**	*e*P	**P**	**04 11 33.2**	**+0.1**
	7.1nm,0.7s,mb4.2						
WRA	**Warramunga Arr**	**23.28**	**161**	P	**P**	**04 11 32.4**	**-0.8**
	4.9nm,0.5s,mb4.2,baz=337,slow=10,SNR=21						
WB2	**Warramunga Arr**	**23.28**	**161**	*e*P	**P**	**04 11 32.6**	**-0.6**
WB2	**Warramunga Arr**	**23.28**	**161**	*e*P	**P**	**04 11 32.4**	**-0.8**
MBWA	**Marble Bar**	**24.12**	**196**	*e*P	**P**	**04 11 41.3**	**+0.2**
	2.2nm,0.5s,mb3.8						
ASAR	**Alice Springs**	**26.67**	**165**	P	**P**	**04 12 04.0**	**-0.2**
	1.4nm,0.4s,mb3.9,baz=345,slow=12,SNR=38						
ASAR				PcP	PcP	04 15 28.1	+0.2
	0.5nm,0.4s,baz=350,slow=1.9,SNR=5.6						
CHTO	**Chiang Mai**	**31.67**	**303**	*e*P	**P**	**04 12 49.4**	**+0.6**
	2.9nm,0.9s,mb4.1						
FORT	**Forrest**	**32.80**	**178**	*e*P	**P**	**04 12 59.3**	**+0.8**
	14nm,0.7s,mb5.0						
FORT	**Forrest**	**32.80**	**178**	*e*P	**P**	**04 12 59.1**	**+0.6**
	1.2nm,0.5s,mb4.1						
KSRS	**Korea Array**	**35.14**	**2**	P	**P**	**04 13 20.5**	**+1.7**
	0.8nm,0.5s,mb3.9,baz=172,slow=9.7,SNR=3.4						
NWAO	**Narrogin (SRO)**	**35.99**	**193**	P	**P**	**04 13 26.2**	**0.0**
NWAO	**Narrogin (SRO)**	**35.99**	**193**	P	**P**	**04 13 26.2**	**0.0**
	9.6nm,0.9s,mb4.7,baz=5.7,slow=10,SNR=2.7						
STKA	**Stephens Creek**	**36.76**	**158**	*e*P	**P**	**04 13 32.4**	**-0.3**
SONM	**Songino Array**	**48.70**	**342**	P	**P**	**04 15 08.8**	**-0.6**
	0.5nm,0.5s,mb3.9,baz=170,slow=12,SNR=2.9						
MK31	**Makanchi Array**	**58.71**	**326**	*e*P	**P**	**04 16 22.4**	**-0.4**
MKAR	**Makanchi Array**	**58.71**	**326**	P	**P**	**04 16 22.1**	**-0.7**
	0.5nm,0.4s,mb3.9,baz=122,slow=7.1,SNR=5.9						
KURK	**Kurchatov**	**62.94**	**328**	*e*P	**P**	**04 16 50.9**	**-0.6**
	2.7nm,0.7s,mb4.5						
BVAR	**Borovoye Array**	**68.51**	**327**	P	**P**	**04 17 27.9**	**+0.6**
	1.0nm,0.7s,mb3.9,baz=203,slow=42,SNR=4.5						
AKTK	**Aktyubinsk**	**74.75**	**322**	P	**P**	**04 18 04.8**	**-0.2**
AKTO	**Aktyubinsk**	**74.75**	**322**	P	**P**	**04 18 04.8**	**-0.2**
	0.9nm,0.5s,mb3.9,baz=94,slow=7.2,SNR=4.3						
VNDA	**Vanda**	**81.92**	**173**	*e*P	**P**	**04 18 43.8**	**-0.3**
	1.2nm,0.7s,mb3.9						
VNDA	**Vanda**	**81.92**	**173**	P	**P**	**04 18 44.5**	**+0.3**
	0.7nm,0.6s,mb3.8,baz=320,slow=8.8,SNR=7.3						
TORD	**Torodi Ar. Bea**	**123.19**	**287**	PKP	PKPdf	04 25 22.4	-0.5
	0.6nm,1.0s,baz=58,slow=1.3,SNR=3.2						

NIED ***15*** *04:12:00, 4680N×15390E, h41km, Mw5.5 Best double couple: M0 1.80000×10^17 NP1:φs216.00000°, δ76.00000°, λ145.00000°. NP2:φs315.00000°, δ56.00000°, λ17.00000°.*
CRAAG ***15*** *04:12:24.7, 4702N×15351E, Mb5.7*
BJI ***15*** *04:12:26.0, 47.12N×15355E, h26km, mB5.4, mb5.3, Ms5.2, Msz5.1*
JMA ***15*** *04:12:27.4±0.8, 4684N×15387E, h30km, M5.8*
SKHL ***15*** *04:12:27.4±1.3, 4690N×15380E, h78km±37km, mb6.2/8, mbh6.5/7, ms5.3/7*
MOS ***15*** *04:12:28.1±0.9, 4699N×15352E, h32km, mb5.8/124, MS5.0/81, Error ellipse: s-maj=6.1km s-min=3.5km az=98.5*
ISCJB ***15*** *04:12:29.4±0.1, 4699N±002×15343E±001, h42km, mb5.5/352, MS5.0/205, Error ellipse: s-maj=2.7km s-min=1.3km az=165.6*
GCMT ***15*** *04:12:30.2±0.1, 4696N×15376E, h36km, MW5.5/96, Moment Tensor Solution. s91,c179; s96,c224; Duration: 1s3 Moment tensor: Scale 10^17Nm; Mrr1.62±.03; Mθθ0.17±.02; Mφφ-1.79±.02; Mrθ-0.47±.03; Mrφ-0.24±.02; Mθφ-0.92±.03; Best double couple: M0 2.00800×10^17 NP1:φs355.00000°, δ31.00000°, λ70.00000°. NP2:φs198.00000°, δ61.00000°, λ102.00000°. Principal axes: T 1.9400, Plg72.0000°, Azm135.0000°; N 0.1340, Plg10.0000°, Azm12.0000°; P -2.0760, Plg15.0000°, Azm279.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
NEIC ***15*** *04:12:30.2±1.3, 4700N×15344E, h35km±8km, mb5.6/233, MS5.0/142, MW5.5 Error ellipse: s-maj=3.4km s-min=2.4km az=170.0, Moment Tensor Solution. s36 Moment tensor: Scale 10^17Nm; Mrr1.62; Mθθ0.43; Mφφ-2.05; Mrθ-0.23; Mθφ0.20; Mφr-0.35; Best double couple: M0 1.90000×10^17 NP1:φs344.00000°, δ41.00000°, λ72.00000°. NP2:φs186.00000°, δ51.00000°, λ105.00000°. Principal axes: T 1.7100, Plg77.0000°, Azm152.0000°; N 0.3900, Plg11.0000°, Azm357.0000°; P -2.1000, Plg5.0000°, Azm266.0000°;*
IDC ***15*** *04:12:32.0±1.1, 4709N×15326E, h52km±9km, mb4.9/33, mb1 5.0/34, mb1mx5.0/34, mbtmp4.9/34, MS4.8/25,*

Ms1 4.8/25, ms1mx4.7/35 Error ellipse: s-maj=8.8km s-min=5.9km az=139.0
SZGRF ***15*** *04:12:34.3, 4760N×15367E, h33km, mb5.8, MS5.1, Kuril Islands, Russia*
BGS ***15*** *04:12:36.4, 4835N×15428E, h33km, mb5.5, MS4.8*
ISC 15 04:12:31.7±0.1, 4705N±002×15336E±002, h44km, h44km±1.2km: pP-P, n1540, σ0°93/1534, mb5.5/352, MS5.0/204, 274C-158D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**4.07**	**26**	*e*P	**Pn**	**04 13 29.0**	**-2.3**
SKR	**Severo-Kuril's**	**4.07**	**26**	*i* PN	**Pn**	**04 13 28.9**	**-2.4**
SKR				*e*S	**Sn**	**04 14 16.0**	**-1.6**
SKR				pmax	pmax		
	comp=N,570nm,0.5s						
SKR				pmax	pmax		
	comp=E,800nm,0.5s						
SKR				pmax	pmax		
	comp=Z,2μm,0.5s						
SKR				pmax	pmax		
	comp=Z,7μm,3.0s						
SKR				pmax	pmax		
	comp=N,5μm,2.0s						
SKR				pmax	pmax		
	comp=E,2μm,2.0s						
SKR				smax			
	comp=N,9μm,6.0s						
SKR				smax			
	comp=E,22μm,8.0s						
SKR				MLR	MLR		
	comp=E,21μm,14.0s						
SKR				MLR	MLR		
	comp=Z,13μm,14.0s						
SKR				MLR	MLR		
	comp=N,15μm,9.0s						
SKR	**Severo-Kuril's**	**4.07**	**26⇑**	*i*P	**Pn**	**04 13 28.9**	**-2.4**
SKR				AMB	AMB	04 13 34.0	
	comp=N,5μm,2.0s						
SKR				AMB	AMB	04 13 34.0	
	comp=N,5μm,2.0s						
SKR				AMB	AMB	04 13 34.0	
	comp=N,2μm,2.0s						
SKR				AMB	AMB	04 13 34.0	
	comp=N,6μm,2.0s						
SKR				AMB	AMB	04 13 34.0	
	comp=N,7μm,3.0s						
SKR				AMB	AMB	04 13 34.0	
	comp=N,570nm,0.5s						
SKR				AMB	AMB	04 13 34.0	
	comp=N,800nm,0.5s						
SKR				AMB	AMB	04 13 34.0	
	comp=N,2μm,0.5s						
SKR				*e*S	**Sn**	**04 14 16.0**	**-1.6**
SKR				A		04 14 26.0	
	comp=N,22μm,8.0s						
SKR				A		04 14 26.0	
	comp=N,11μm,8.0s						
SKR				A		04 14 26.0	
	comp=N,8μm,6.0s						
SKR				A		04 14 26.0	
	comp=N,22μm,8.0s						
SKR				A		04 14 26.0	
	comp=N,10μm,8.0s						
SKR				A		04 14 26.0	
	comp=N,9μm,6.0s						
SKR				A		04 14 32.0	
	comp=N,2μm,0.6s						
SKR				A		04 14 32.0	
	comp=N,4μm,0.6s						
SKR				A		04 14 32.0	
	comp=N,2μm,0.6s						
SKR				AMS	AMS	04 15 14.0	
	comp=N,15μm,9.0s						
SKR				AMS	AMS	04 15 14.0	
	comp=N,16μm,9.0s						
SKR				AMS	AMS	04 15 14.0	
	comp=N,20μm,14.0s						
SKR				AMS	AMS	04 15 14.0	
	comp=N,12μm,14.0s						
SKR				AMS	AMS	04 15 14.0	
	comp=N,21μm,14.0s						
SKR				AMS	AMS	04 15 14.0	
	comp=N,13μm,14.0s						
KUR	**Kuril'sk**	**4.23**	**247/**	*i* PN	**Pn**	**04 13 32.3**	**-1.3**
KUR				pmax	pmax		
	comp=N,8μm,2.0s						
KUR				pmax	pmax		
	comp=E,22μm,2.0s						
KUR				pmax	pmax		
	comp=Z,18μm,2.0s						
KUR				pmax	pmax		
	comp=N,2μm,0.8s						
KUR				pmax	pmax		
	comp=E,2μm,0.8s						
KUR				pmax	pmax		
	comp=Z,7μm,0.8s						
KUR				MLR	MLR		
	comp=N,34μm,12.0s						
KUR				MLR	MLR		
	comp=E,40μm,12.0s						
KUR				MLR	MLR		
	comp=Z,36μm,12.0s						
KUR	**Kuril'sk**	**4.23**	**247⇑**	*i*P	**Pn**	**04 13 32.3**	**-1.3**
KUR			⇓	*i*P		04 13 32.3	
KUR				AMB	AMB	04 13 35.2	
	comp=Z,8μm,2.0s						
KUR				AMB	AMB	04 13 35.2	
	comp=Z,22μm,2.0s						
KUR				AMB	AMB	04 13 35.2	
	comp=Z,18μm,2.0s						
KUR				AMB	AMB	04 13 37.0	
	comp=Z,2μm,0.8s						
KUR				AMB	AMB	04 13 37.0	
	comp=Z,2μm,0.8s						
KUR				AMB	AMB	04 13 37.0	
	comp=Z,7μm,0.8s						
KUR				*i* S	**Sn**	**04 14 21.0**	**-0.6**
KUR				A		04 14 26.0	
	comp=Z,42μm,2.0s						
KUR				A		04 14 26.0	
	comp=Z,25μm,2.0s						
KUR				A		04 14 26.0	
	comp=Z,9μm,0.8s						
KUR				A		04 14 26.0	
	comp=Z,7μm,0.8s						
KUR				A		04 14 26.8	
	comp=Z,78μm,2.0s						
KUR				A		04 14 26.8	
	comp=Z,38μm,2.0s						
KUR				AMS	AMS	04 15 19.0	
	comp=Z,36μm,12.0s						
KUR				AMS	AMS	04 15 19.0	
	comp=Z,34μm,12.0s						
KUR				AMS	AMS	04 15 19.0	
	comp=Z,40μm,12.0s						
YUK	**Yuzh-Kuril'sk**	**6.07**	**243⇑**	*i* PN	**Pn**	**04 13 59.6**	**+0.8**
YUK				pmax	pmax		
	comp=Z,18μm,1.2s						
YUK				pmax	pmax		
	comp=N,18μm,2.3s						
YUK				pmax	pmax		
	comp=E,15μm,2.0s						
YUK				pmax	pmax		
	comp=N,1μm,0.5s						
YUK				pmax	pmax		
	comp=E,2μm,0.5s						
YUK				pmax	pmax		
	comp=Z,2μm,0.5s						
YUK				MLR	MLR		
	comp=Z,21μm,18.0s						
YUK				MLR	MLR		
	comp=E,33μm,21.0s						
YUK				MLR	MLR		
	comp=N,25μm,17.0s						
YUK	**Yuzh-Kuril'sk**	**6.07**	**243⇑**	*i*P	**Pn**	**04 13 59.6**	**+0.8**
YUK				AMB	AMB	04 14 10.5	
	comp=N,15μm,2.0s						
YUK				AMB	AMB	04 14 10.5	
	comp=N,18μm,2.3s						
YUK				AMB	AMB	04 14 10.5	
	comp=N,18μm,1.2s						
YUK				AMB	AMB	04 14 12.4	
	comp=N,1μm,0.5s						
YUK				AMB	AMB	04 14 12.4	
	comp=N,2μm,0.5s						
YUK				AMB	AMB	04 14 12.4	
	comp=N,2μm,0.5s						
YUK				*i* S	**Sn**	**04 15 08.5**	**+1.6**
YUK				A		04 15 23.0	
	comp=N,5μm,0.7s						
YUK				A		04 15 23.0	
	comp=N,4μm,0.5s						
YUK				A		04 15 31.7	
	comp=N,38μm,2.2s						
YUK				A		04 15 31.7	
	comp=N,16μm,3.0s						
YUK				AMS	AMS	04 16 13.2	
	comp=N,33μm,21.0s						
YUK				AMS	AMS	04 16 13.2	
	comp=N,25μm,17.0s						
YUK				AMS	AMS	04 16 13.2	
	comp=N,21μm,18.0s						
NEM2	**Nemuro 2**	**6.52**	**238**	P	**Pn**	**04 14 03.0**	**-2.0**
NEM2				*e*S	**Sn**	**04 15 13.2**	**-4.8**
JRA	**Rausu**	**6.57**	**245**	P	**Pn**	**04 14 06.7**	**+1.0**
JRA				*e*S	**Sn**	**04 15 22.4**	**+3.1**
PET	**Petropavlovsk**	**6.88**	**28**	*e*Pn	**Pn**	**04 14 08.1**	**-1.8**
	comp=N,1μm,1.3s						
PET				*e*Sn	**Sn**	**04 15 23.9**	**-2.9**
PET	**Petropavlovsk**	**6.88**	**28**	*e*PN	**Pn**	**04 14 08.0**	**-1.9**
PET				pmax	pmax		
	comp=Z,2μm,1.7s						
PET				pmax	pmax		
	comp=Z,848nm,1.3s						
PET				MLR	MLR		
	comp=Z,4μm,18.0s						
PET				MLR	MLR		
	comp=Z,4μm,17.0s						
JNK	**Nakash**	**7.01**	**244**	P	**Pn**	**04 14 11.9**	**+0.2**
JNK				*e*S	**Sn**	**04 15 29.8**	**-0.2**
YSS	**Yuzh-Sakhalins**	**7.25**	**273**	*e*Pn	**Pn**	**04 14 19.0**	**+4.0**
	comp=Z,511nm,0.7s						
YSS	**Yuzh-Sakhalins**	**7.25**	**273**	*i* PN	**Pn**	**04 14 19.0**	**+4.0**
YSS				*e*S	**Sn**	**04 15 41.0**	**+5.0**
YSS				pmax	pmax		
	comp=N,390nm,0.8s						
YSS				pmax	pmax		
	comp=E,550nm,0.8s						
YSS				pmax	pmax		
	comp=Z,610nm,0.8s						
YSS				pmax	pmax		
	comp=E,5μm,5.0s						
YSS				pmax	pmax		
	comp=Z,4μm,5.0s						
YSS				smax			
	comp=N,390nm,0.5s						
YSS				smax			
	comp=E,380nm,0.5s						
YSS				MLR	MLR		
	comp=N,3μm,14.0s						
YSS				MLR	MLR		
	comp=E,9μm,14.0s						
YSS				MLR	MLR		
	comp=Z,12μm,14.0s						
YSS	**Yuzh-Sakhalins**	**7.25**	**273**	⇓*i*P	**Pn**	**04 14 19.0**	**+4.0**
YSS				⇓*i*P		04 14 19.0	
YSS				AMB	AMB	04 14 22.1	
	comp=Z,610nm,0.8s						
YSS				AMB	AMB	04 14 22.1	
	comp=Z,390nm,0.8s						
YSS				AMB	AMB	04 14 22.1	
	comp=Z,550nm,0.8s						
YSS				AMB	AMB	04 14 23.0	
	comp=Z,4μm,5.0s						
YSS				AMB	AMB	04 14 23.0	
	comp=Z,5μm,5.0s						
YSS				*e*S	**Sn**	**04 15 41.0**	**+5.0**
YSS				A		04 15 43.0	
	comp=Z,390nm,0.5s						
YSS				A		04 15 43.0	
	comp=Z,380nm,0.5s						
YSS				*e*LQ		04 16 20.0	
YSS				AMS	AMS	04 17 18.0	
	comp=Z,10μm,14.0s						
YSS				AMS	AMS	04 17 18.0	
	comp=Z,15μm,14.0s						
YSS				AMS	AMS	04 17 18.0	
	comp=Z,3μm,14.0s						
YSS				AMS	AMS	04 17 18.0	
	comp=Z,9μm,14.0s						
YSS				AMS	AMS	04 17 18.0	
	comp=Z,12μm,14.0s						
JTKR	**Abashiri--Toko**	**7.32**	**249**	⇓P	**Pn**	**04 14 17.1**	**+1.2**
JTKR				*e*S	**Sn**	**04 15 46.2**	**+8.5**
JAK	**Akkeshi**	**7.36**	**240**	P	**Pn**	**04 14 14.5**	**-1.9**
JAK				*e*S	**Sn**	**04 15 34.6**	**-3.9**
JMP	**Maruseppu**	**7.65**	**250**	P	**Pn**	**04 14 22.4**	**+1.9**
JAR	**Ashorobuto**	**7.75**	**245**	P	**Pn**	**04 14 21.9**	**+0.1**
JAR				*e*S	**Sn**	**04 15 48.5**	**+0.4**
JSE	**Soyaes**	**7.79**	**258**	P	**Pn**	**04 14 26.9**	**+4.5**
UGL	**Uglegorsk**	**7.84**	**289**	*i* PN	**Pn**	**04 14 27.9**	**+4.9**
UGL				*e*		04 16 05.0	
UGL				pmax	pmax		
	comp=Z,840nm,0.8s						
UGL				pmax	pmax		
	comp=Z,7μm,2.0s						
UGL				MLR	MLR		
	comp=Z,19μm,16.0s						
UGL				MLR	MLR		
	comp=N,12μm,15.0s						
UGL				MLR	MLR		
	comp=E,22μm,17.0s						
UGL	**Uglegorsk**	**7.84**	**289**	⇓*i*P	**Pn**	**04 14 27.9**	**+4.9**
UGL				⇓*i*P		04 14 27.9	
UGL				AMB	AMB	04 14 29.0	
	comp=E,840nm,0.8s						
UGL				AMB	AMB	04 14 29.0	
	comp=E,140nm,0.7s						
UGL				AMB	AMB	04 14 29.0	
	comp=E,120nm,0.7s						
UGL				AMB	AMB	04 14 30.5	
	comp=E,3μm,4.0s						
UGL				AMB	AMB	04 14 30.5	
	comp=E,5μm,4.0s						
UGL				AMB	AMB	04 14 30.5	
	comp=E,7μm,2.0s						
UGL				*e*S	**Sn**	**04 15 55.5**	**+5.2**
UGL				A		04 15 58.0	
	comp=E,2μm,4.0s						
UGL				A		04 15 58.0	
	comp=E,2μm,3.0s						
UGL				A		04 16 01.5	
	comp=E,380nm,0.6s						
UGL				A		04 16 01.5	
	comp=E,120nm,0.4s						
UGL				*e*L		04 16 36.0	
UGL				AMS	AMS	04 17 34.0	
	comp=E,12μm,15.0s						
UGL				AMS	AMS	04 17 34.0	
	comp=E,19μm,16.0s						
UGL				AMS	AMS	04 17 34.0	
	comp=E,22μm,17.0s						
JOB	**Onbets**	**7.92**	**242**	P	**Pn**	**04 14 23.2**	**-1.0**
JOB				*e*S	**Sn**	**04 15 49.3**	**-3.2**
TYV	**Tymovskoe**	**8.01**	**302**	*e*P	**Pn**	**04 14 26.5**	**+1.1**
TYV				AMB	AMB	04 14 28.0	
	comp=E,3μm,4.0s						
TYV				AMB	AMB	04 14 28.0	
	comp=E,4μm,6.0s						
TYV				AMB	AMB	04 14 28.0	
	comp=E,4μm,2.0s						
TYV				AMB	AMB	04 14 36.8	
	comp=E,649nm,0.8s						
TYV				*e*S	**Sn**	**04 15 57.0**	**+2.4**
TYV				A		04 16 02.8	
	comp=E,387nm,0.8s						
TYV				A		04 16 02.8	
	comp=E,800nm,0.8s						
TYV				AMS	AMS	04 17 30.0	
	comp=E,22μm,16.0s						
TYV				AMS	AMS	04 17 30.0	
	comp=E,20μm,19.0s						
TYV				AMS	AMS	04 17 30.0	
	comp=E,10μm,20.0s						
ASAJ	**Asahikawa**	**8.10**	**253**	⇓P	**Pn**	**04 14 29.2**	**+2.6**
ASAJ	**Asahikawa**	**8.10**	**253**	PN	**Pn**	**04 14 29.4**	**+2.8**
ASAJ				pmax	pmax		
	comp=Z,58nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,14μm,20.0s						
ASAJ	**Asahikawa**	**8.10**	**253**	P	**Pn**	**04 14 29.4**	**+2.7**
	comp=Z,58nm,0.3s,baz=87,slow=17,SNR=192						

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ASAJ                                S      Sn     04 15 59.8 +3.0
    baz=258,slow=26,SNR=0.7
ASAJ                                LR     LR     04 17 28.7
    comp=Z,14µm,20.0s,baz=73,slow=37
JKK2 Kamakawa 2        8.11 251     P      Pn     04 14 28.6 +1.8
JWK2 Keihoku           8.14 262     P      Pn     04 14 32.9 +5.7
JCH  Churui            8.38 242     P      Pn     04 14 29.0 -1.4
JCH                                 eS     Sn     04 15 58.6 -5.0
JSS  Shosan            8.48 256     P      Pn     04 14 36.0 +4.2
JFR  Furan             8.55 247     P      Pn     04 14 33.5 +0.7
JFR                                 eS     Sn     04 16 10.0 +2.2
JAB  Ashibetsu         8.62 250 ⇓   P      Pn     04 14 36.1 +2.4
JHR  Hokuryu           8.83 252     P      Pn     04 14 39.3 +2.7
JEM  Erimo             8.85 239     P      Pn     04 14 36.2 -0.8
JEM                                 eS     Sn     04 16 13.3 -2.0
ERM  Erimo             8.86 239     Pn     Pn     04 14 37.6 +0.6
    comp=Z,3µm,0.5s,SNR=38
ERM  Erimo             8.86 239     ePn    Pn     04 14 36.1 -0.9
    comp=Z,619nm,0.8s
ERM  Erimo             8.86 239c    iPN    Pn     04 14 37.3 +0.3
JBT2 Biratori 2        8.89 245     P      Pn     04 14 37.1 -0.4
JNBK Urakawa-nobuka    8.94 242     P      Pn     04 14 36.2 -1.9
JNBK                                eS     Sn     04 16 12.0 -5.3
OKH  Okha              9.31 318     ePN    Pn     04 14 46.2 +3.0
OKH                                 pmax   pmax
    comp=Z,4µm,5.0s
OKH  Okha              9.31 318 ⇑   iP     Pn     04 14 46.1 +2.9
OKH                                 eP     04 14 46.2
OKH                                 AMB    AMB    04 14 49.9
    comp=Z,400nm,0.4s
OKH                                 AMB    AMB    04 14 50.0
    comp=Z,2µm,5.0s
OKH                                 AMB    AMB    04 14 50.0
    comp=Z,2µm,5.0s
OKH                                 AMB    AMB    04 14 50.0
    comp=Z,4µm,5.0s
OKH                                 eS     Sn     04 16 30.2 +3.7
OKH                                 ⇑iS    Sn     04 16 30.2 +3.7
OKH                                 A      04 16 34.3
    comp=Z,2µm,0.8s
OKH                                 A      04 16 43.8
    comp=Z,5µm,8.0s
OKH                                 eLQ    04 17 10.4
OKH                                 AMS    AMS    04 18 46.0
    comp=Z,11µm,16.0s
OKH                                 AMS    AMS    04 18 46.0
    comp=Z,7µm,16.0s
OKH                                 AMS    AMS    04 18 46.0
    comp=Z,13µm,16.0s
JEW  Eniwo             9.44 248     P      Pn     04 14 45.5 +0.6
JSK  Shakotan          9.82 253     P      Pn     04 14 51.6 +1.4
JNB  Noboribetsu       9.89 247     P      Pn     04 14 49.8 -1.3
JNB                                 eS     Sn     04 16 37.1 -3.6
NKL  Nikolayevsk      10.18 312 ⇓   iP     Pn     04 14 55.5 +0.5
NKL                                 AMB    AMB    04 14 57.5
    comp=Z,2µm,4.0s
NKL                                 AMB    AMB    04 14 57.5
    comp=Z,3µm,4.0s
NKL                                 AMB    AMB    04 14 57.5
    comp=Z,4µm,2.0s
NKL                                 AMB    AMB    04 14 58.0
    comp=Z,2µm,1.2s
NKL                                 AMB    AMB    04 14 58.0
    comp=Z,580nm,1.1s
NKL                                 eS     Sn     04 16 51.0 +3.4
NKL                                 A      04 17 03.5
    comp=Z,1µm,9.0s
NKL                                 A      04 17 03.5
    comp=Z,2µm,7.0s
NKL                                 eL     04 17 54.0
NKL                                 AMS    AMS    04 19 34.0
    comp=Z,6µm,15.0s
NKL                                 AMS    AMS    04 19 34.0
    comp=Z,10µm,15.0s
NKL                                 AMS    AMS    04 19 34.0
    comp=Z,14µm,17.0s
JKB  Kayabe           10.21 244     P      Pn     04 14 53.5 -2.0
JKB                                 eS     Sn     04 16 41.1 -7.4
JSH  Shimam           10.43 250     P      Pn     04 14 58.9 +0.4
JYM2 Yakumo 2         10.49 247     P      Pn     04 14 58.1 -1.3
JSR  Shiriuchi        10.79 244     P      Pn     04 15 01.7 -1.8
JTM  Tenmabayashi     10.85 239     P      Pn     04 15 00.9 -3.4
JTM                                 eS     Sn     04 16 53.9 -10
JANG Nango            10.86 236     P      Pn     04 14 59.8 -4.6
JANG                                eS     Sn     04 16 52.1 -12
JTH  Tanohata         10.96 234     P      Pn     04 15 02.5 -3.3
JTH                                 eS     Sn     04 16 54.4 -13
JOSM Okushiri--Mats   11.08 248     P      Pn     04 15 06.5 -0.9
OFUJ Ofunato          11.68 231     P      Pn     04 15 10.7 -4.9
OFUJ                                eS     Sn     04 17 12.8 -12
TEY  Ternei           11.82 266     eP     Pn     04 15 18.0 +0.5
TEY                                 AMB    AMB    04 15 24.0
    comp=Z,4µm,7.0s
TEY                                 AMB    AMB    04 15 24.0
    comp=Z,3µm,6.0s
TEY                                 AMS    AMS    04 20 05.0
    comp=Z,5µm,15.0s
TEY                                 AMS    AMS    04 20 05.0
    comp=Z,4µm,14.0s
TEY                                 AMS    AMS    04 20 05.0
    comp=Z,7µm,14.0s
JRG  Rokugo           12.02 235     P      Pn     04 15 16.8 -3.5
JRG                                 eS     Sn     04 17 23.8 -9.0
JOG2 Oga 2            12.16 239     P      Pn     04 15 19.7 -2.4
JIO  Ouri             12.31 230     P      Pn     04 15 19.8 -4.4
JIO                                 eS     Sn     04 17 27.7 -12
HABR Khabarovsk       12.41 283 ⇓   iPN    Pn     04 15 29.8 +4.3
HABR                                e      04 17 55.4
HABR                                pmax   pmax
    comp=Z,499nm,1.7s
MA2  Magadan          12.64 354     ePn    Pn     04 15 29.5 +0.8
    comp=Z,86nm,0.6s
MA2  Magadan          12.64 354c    iPN    Pn     04 15 30.9 +2.3
MA2                                 eS     Sn     04 17 55.8 +8.0
MA2                                 pmax   pmax
    comp=Z,100nm,0.7s
MA2                                 MLR    MLR
    comp=E,15µm,15.6s
JYA  Atsumi           13.09 235     P      Pn     04 15 31.0 -3.9
JYA                                 eS     Sn     04 17 49.6 -9.4
JFK  Kawauchi         13.37 228     P      Pn     04 15 34.4 -4.3
JFK                                 eS     Sn     04 17 51.9 -14
JFY  Yanaizu          13.95 231     P      Pn     04 15 43.1 -3.5
JFY                                 eS     Sn     04 18 14.7 -5.3
SMY  Shemya           14.50  59     eP     Pn     04 15 51.3 -2.7
    comp=E,220nm,0.9s
SMY  Shemya           14.50  59     eP     Pn     04 15 51.3 -2.7
SMY                                 pmax   pmax
    comp=Z,220nm,0.9s
KLR  Kul'dur          14.59 287     eP     Pn     04 15 53.8 -1.3
KLR                                 eS     Sn     04 18 43.0 +7.7
KLR                                 pmax   pmax
    comp=E,400nm,1.6s
KLR                                 pmax   pmax
    comp=Z,280nm,1.6s
KLR                                 MLR    MLR
    comp=Z,30µm,12.5s
MJAR Matsushiro Arr   15.40 232     P      Pn     04 16 02.0 -3.8
MJAR                                S      S      04 18 57.2 -12
MJAR Matsushiro Arr   15.40 232     P      Pn     04 16 02.0 -3.8
    comp=Z,2.6nm,0.3s,baz=28,slow=13,SNR=72
MJAR                                S      S      04 18 57.2 -12
    comp=Z,0.7nm,0.3s,baz=246,slow=44,SNR=4.5
MJAR                                LR     LR     04 22 15.6
    comp=Z,3µm,20.5s,baz=60,slow=38
MAJO Matsushiro       15.40 232     ePn    Pn     04 16 01.8 -4.0
    comp=Z,213nm,0.8s
MAJO Matsushiro       15.40 232     eP     Pn     04 16 01.8 -4.0
MAJO                                pmax   pmax
    comp=Z,213nm,0.8s
MAT  Matsushiro       15.40 232     P      Pn     04 16 01.3 -4.5
MAT                                 eS     S      04 18 56.0 -14
SEY  Seymchan         15.93 358 ⇑   eP     Pn     04 16 10.7 -1.7
SEY  Seymchan         15.93 358 ⇓   eP     Pn     04 16 10.6 -1.8
MDJ  Mudanjiang       16.73 270     P      Pn     04 16 23.1 +0.4
MDJ                                 AP     pP     04 16 28.3 -6.6
MDJ                                 XP     sP     04 16 29.6 -11
MDJ                                 S      S      04 19 29.3 -7.4
MDJ                                 SS     04 19 47.3
MDJ                                 AMB    AMB
    comp=Z,53nm,1.5s
MDJ                                 AMB    AMB
    comp=Z,497nm,8.2s
MDJ                                 LR     LR
    comp=N,3µm,19.9s
MDJ                                 LR     LR
    comp=E,4µm,22.8s
MDJ                                 LR     LR
    comp=Z,7µm,19.9s
MDJ  Mudanjiang       16.73 270     eP     Pn     04 16 23.3 +0.6
    comp=Z,199nm,1.1s
JHJ  Hachijo jima 2   17.33 221     P      Pn     04 16 27.9 -2.3
    comp=Z,22nm,0.3s,baz=56,slow=24,SNR=3.0
JHJ                                 S      S      04 19 38.2 -11
    comp=Z,34nm,0.3s,baz=229,slow=22,SNR=4.0
JHJ                                 LR     LR     04 22 53.2
    comp=Z,809nm,18.3s,baz=13,slow=36
ZEA  Zeya             17.88 302 ⇓   eP     Pn     04 16 34.5 -2.3
ZEA                                 AMB    AMB    04 16 38.7
    comp=Z,200nm,1.6s
ZEA                                 AMB    AMB    04 16 38.7
    comp=Z,340nm,1.6s
ZEA                                 AMB    AMB    04 16 38.7
    comp=Z,420nm,1.6s
ZEA                                 AMB    AMB    04 16 48.0
    comp=Z,1µm,4.0s
ZEA                                 AMB    AMB    04 16 48.0
    comp=Z,2µm,4.0s
ZEA                                 eS     S      04 19 55.0 -4.9
ZEA                                 A      04 20 02.0
    comp=Z,1µm,11.0s
ZEA                                 A      04 20 02.0
    comp=Z,700nm,11.0s
ZEA                                 A      04 20 02.0
    comp=Z,1µm,7.0s
CN2  Changchun        19.82 271 ⇑   P      Pn     04 16 57.3 -2.9
CN2                                 PP     04 17 14.5
CN2                                 eS     S      04 20 33.4 -5.7
CN2                                 AMB    AMB
    comp=Z,100nm,0.7s
CN2                                 AMB    AMB
    comp=Z,400nm,5.0s
CN2                                 LR     LR
    comp=N,3µm,16.0s
CN2                                 LR     LR
    comp=E,5µm,16.0s
CN2                                 LR     LR
    comp=Z,7µm,18.0s
CLNS Chul'man         19.96 310     eP     Pn     04 17 02.9 +1.1
CLNS                                e      04 17 13.9
CLNS                                ePPP   04 17 22.2
CLNS                                eS     S      04 20 39.4 -2.3
CLNS                                eSS    04 21 05.3
CLNS                                e      04 21 19.1
CLNS                                pmax   pmax
    comp=Z,321nm,1.0s
CLNS                                pmax   pmax
    comp=N,259nm,1.3s
CLNS                                pmax   pmax
    comp=E,239nm,1.2s
CLNS                                smax
    comp=E,89nm,1.0s
CLNS                                smax
    comp=Z,34nm,1.0s
CLNS                                smax
    comp=N,123nm,1.3s
CLNS                                MLR    MLR
    comp=Z,10µm,15.0s
CLNS                                MLR    MLR
    comp=N,4µm,14.0s
CLNS                                MLR    MLR
    comp=E,7µm,14.0s
NRGR Nerungri         20.00 309     eP     P      04 17 02.4 +2.2
NRGR                                S      S      04 20 38.9 -3.5
NRGR                                smax
    comp=E,80nm,0.6s
YAK  Yakutsk          20.16 327     eP     P      04 17 02.5 +0.6
    comp=E,486nm,0.8s
YAK                                 eS     S      04 20 48.9 +3.2
YAK                                 LR     LR
    comp=Z,4µm,20.0s,MS4.7
YAK  Yakutsk          20.16 327     deP    P      04 17 02.4 +0.4
YAK                                 e      04 17 14.9
YAK                                 eS     S      04 20 41.9 -3.8
YAK                                 eSS    04 20 57.4
YAK                                 i      04 28 26.1
YAK                                 pmax   pmax
    comp=Z,292nm,1.1s
YAK                                 pmax   pmax
    comp=N,180nm,1.3s
YAK                                 pmax   pmax
    comp=E,253nm,1.5s
YAK                                 smax
    comp=N,456nm,2.4s
YAK                                 smax
    comp=Z,513nm,2.5s
YAK                                 smax
    comp=E,665nm,2.7s
YAK                                 MLR    MLR
    comp=Z,3µm,15.0s,MS4.8
YAK                                 MLR    MLR
    comp=N,3µm,16.0s,MS4.9
YAK                                 MLR    MLR
    comp=E,1µm,12.0s,MS4.9
KSRS Korea Array      21.05 252     P      P      04 17 13.2 +1.5
    comp=E,138nm,1.0s,mb5.2,baz=59,slow=9.9,SNR=91
KSRS                                S      S      04 21 02.9 -0.7
    comp=E,2.6nm,1.0s,baz=72,slow=41,SNR=2.6
KSRS                                PcP    PcP    04 21 16.9 -0.1
    comp=E,7.6nm,1.0s,baz=333,slow=0.5,SNR=8.0
KSRS                                LR     LR     04 24 18.5
    comp=E,4µm,20.7s,MS4.8,baz=57,slow=34
CBIJ Chichi jima      21.78 208     P      P      04 17 19.1 -0.6
    comp=E,99nm,0.9s,mb5.2,baz=256,slow=5.3,SNR=4.6
CBIJ                                S      S      04 21 16.9 -1.1
    comp=E,44nm,0.7s,baz=114,slow=23,SNR=4.2
SNY  Shenyang         21.82 267 ⇓   P      P      04 17 18.8 -1.2
SNY                                 S      S      04 21 20.3 +1.7
SNY                                 AMB    AMB
    comp=Z,34nm,1.2s,mb4.7
SNY                                 AMB    AMB
    comp=Z,725nm,5.6s
SNY                                 LR     LR
    comp=E,7µm,18.0s
SNY                                 LR     LR
    comp=Z,8µm,20.2s,MS5.1
INCN Inchon           21.88 254 ⇓   iP     P      04 17 20.9 +0.3
    comp=Z,169nm,0.9s,mb5.5
INCN                                LR     LR
    comp=Z,3µm,20.0s,MS4.7
INCN Inchon           21.88 254     P      P      04 17 22.0 +1.3
    SNR=12
INCN Inchon           21.88 254     P      P      04 17 22.0 +1.3
    SNR=12
JNU  Nakatsue         22.02 239     P      P      04 17 22.9 +0.7
    comp=Z,114nm,1.1s,mb5.2,baz=45,slow=12,SNR=27
JNU                                 S      S      04 21 23.2 +0.6
    comp=Z,7.5nm,1.1s,baz=85,slow=22,SNR=2.6
JNU                                 LR     LR     04 26 41.0
    comp=Z,1µm,18.3s,MS4.4,baz=40,slow=39
BILL Bilibino         22.06  13     eP     P      04 17 20.3 -2.1
    comp=Z,66nm,0.9s,mb5.1
BILL                                LR     LR
    comp=Z,3µm,19.0s,MS4.7
BILL Bilibino         22.06  13     P      P      04 17 20.0 -2.3
BILL                                e      04 17 31.1
BILL                                e      04 17 52.1
BILL                                eS     S      04 21 18.4 -4.4
BILL                                e      04 21 26.9
BILL                                e      04 21 33.9
BILL                                eSS    04 21 53.8
BILL                                pmax   pmax
    comp=Z,7.0nm,0.6s,mb4.3
BILL                                MLR    MLR
    comp=Z,3µm,19.0s,MS4.7
HIA  Hailar           22.43 288     eP     P      04 17 23.4 -3.0
    comp=Z,220nm,1.4s,mb5.4
HIA                                 LR     LR
    comp=Z,8µm,19.0s,MS5.2
HIA  Hailar           22.43 288     eP     P      04 17 23.4 -3.1
HIA                                 pmax   pmax
    comp=Z,220nm,1.4s
HIA                                 MLR    MLR
    comp=Z,8µm,19.0s
DL2  Dalian           24.47 262     iP     P      04 17 45.0 -1.4
DL2                                 S      S      04 22 04.8 +1.2
DL2                                 AMB    AMB
    comp=Z,70nm,1.2s,mb5.0
DL2                                 AMB    AMB
    comp=Z,370nm,5.3s
DL2                                 LR     LR
    comp=N,750nm,15.0s,MS4.5
DL2                                 LR     LR
    comp=E,970nm,17.1s,MS4.5
DL2                                 LR     LR
    comp=Z,1µm,17.7s,MS4.4
GAMB Gambell          25.48  36 ⇑   iP     P      04 17 54.9 -0.4
    comp=Z,202nm,1.0s,mb5.6
BOD  Bodaibo          25.93 309     eP     P      04 17 57.6 -1.8
BOD                                 pmax   pmax
    comp=Z,27nm,1.0s,mb4.7
UNV  Unalaska Valle   26.16  60     PFAKE  04 18 10.0 +8.4
UNV                                 LR     LR
    comp=Z,7µm,20.0s,MS5.2
TIXI Tiksi            27.23 343     eP     P      04 18 09.5 -1.5
    comp=Z,45nm,1.1s,mb4.9
TIXI                                ePcP   PcP    04 21 29.0 -0.8
TIXI                                LR     LR
    comp=Z,2µm,19.0s,MS4.8
TIXI Tiksi            27.23 343     eP     P      04 18 09.5 -1.5
TIXI                                e      04 21 29.0
TIXI                                pmax   pmax
    comp=Z,45nm,1.1s,mb4.9
TIXI                                MLR    MLR
    comp=Z,2µm,19.0s,MS4.8
BJI  Beijing          27.65 269     P      P      04 18 14.8 -0.3
BJI                                 PCP    PcP    04 21 30.8 -0.5
BJI                                 S      S      04 22 55.5 +1.6
BJI                                 XS     sS     04 23 05.3 -8.2
BJI                                 AMB    AMB
    comp=Z,53nm,1.5s,mb5.0
BJI                                 AMB    AMB
    comp=Z,502nm,6.4s
BJI                                 LR     LR
    comp=N,3µm,14.3s,MS5.3
BJI                                 LR     LR
    comp=E,6µm,17.1s,MS5.3
BJI                                 LR     LR
    comp=Z,6µm,21.4s,MS5.1
BJT  Baijiatuau       27.67 269     eP     P      04 18 15.6 +0.4
    comp=Z,67nm,0.9s,mb5.3
BJT                                 LR     LR
    comp=Z,8µm,19.0s,MS5.3
BJT  Baijiatuau       27.67 269     eP     P      04 18 15.6 +0.3
BJT                                 pmax   pmax
    comp=Z,67nm,0.9s
BJT                                 MLR    MLR
    comp=Z,8µm,19.0s
TNA  Tin City         27.69  34 ⇑   iP     P      04 18 15.3 +0.2
    comp=Z,129nm,1.2s,mb5.4
TNA                                 LR     LR
    comp=Z,1µm,19.0s,MS4.6
JOW  Kunigami         28.24 233     P      P      04 18 21.0 +0.5
    comp=Z,39nm,0.8s,mb5.1,baz=61,slow=11,SNR=6.5
JOW                                 PcP    PcP    04 21 33.4 +0.4
    comp=Z,20nm,0.9s,baz=152,slow=17,SNR=5.6
JOW                                 S      S      04 23 04.6 +1.3
    comp=Z,29nm,1.1s,baz=224,slow=30,SNR=2.3
TIA  Tai'an           28.93 261     P      P      04 18 26.8 +0.3
SSE  Sheshan          29.37 249     eP     P      04 18 27.4 -3.0
SSE                                 S      S      04 23 22.0 +1.0
SSE                                 AMB    AMB
    comp=Z,39nm,0.7s,mb5.2
SSE                                 AMB    AMB
    comp=Z,109nm,5.3s
SSE                                 LR     LR
    comp=N,2µm,23.3s,MS4.6
SSE                                 LR     LR
    comp=E,955nm,23.3s,MS4.6
SSE                                 LR     LR
    comp=Z,2µm,24.4s,MS4.6
MIDW Midway           29.59 119     PFAKE  04 18 40.0 +7.6
MIDW                                LR     LR
    comp=Z,5µm,20.0s,MS5.1
NJ2  Nanjing          30.25 253     eP     P      04 18 37.5 -0.7
NJ2                                 PP     PP     04 19 35.1 -12
NJ2                                 S      S      04 23 36.0 +1.2
NJ2                                 AMB    AMB
    comp=Z,70nm,1.2s,mb5.3
NJ2                                 AMB    AMB
    comp=Z,250nm,8.0s
NJ2                                 LR     LR
    comp=N,4µm,15.2s,MS5.4
NJ2                                 LR     LR
    comp=E,5µm,16.3s,MS5.4
NJ2                                 LR     LR
    comp=Z,9µm,17.2s,MS5.5
HHC  Hu-ho-hao-te     30.44 274     eP     P      04 18 40.3 +0.4
HHC                                 AP     pP     04 18 49.8 -1.8
HHC                                 XP     sP     04 18 54.3 -2.5
HHC                                 PP     PP     04 19 42.3 -6.7
HHC                                 PCP    PcP    04 21 37.9 -0.5
HHC                                 S      S      04 23 37.6 -0.1
HHC                                 XS     sS     04 23 51.3 -6.0
HHC                                 SS     SS     04 25 17.8 -31
HHC                                 PCS    PcS    04 25 19.8 -2.2
HHC                                 SCS    ScS    04 29 15.3 +2.2
HHC                                 AMB    AMB
    comp=Z,73nm,1.2s,mb5.3
HHC                                 AMB    AMB
    comp=Z,232nm,5.3s
HHC                                 LR     LR
    comp=N,2µm,15.2s,MS5.1
HHC                                 LR     LR
    comp=E,3µm,17.7s,MS5.1
HHC                                 LR     LR
    comp=Z,3µm,19.2s,MS5.0
ULN  Ulaanbaatar      30.96 289     eP     P      04 18 42.6 -1.8
    comp=Z,34nm,1.0s,mb5.1
ULN                                 LR     LR
    comp=Z,5µm,19.0s,MS5.2
ULN  Ulaanbaatar      30.96 289     eP     P      04 18 42.6 -1.8
ULN                                 pmax   pmax
    comp=Z,34nm,1.0s,mb5.1
ULN                                 MLR    MLR
    comp=Z,5µm,19.0s,MS5.2
ULN  Ulaanbaatar      30.96 289     P      P      04 18 42.5 -1.8
    SNR=23
ULN  Ulaanbaatar      30.96 289     P      P      04 18 42.5 -1.8
    SNR=23
TIY  Taiyuan          31.33 268     iP     P      04 18 48.1 +0.4
TIY                                 XP     sP     04 19 01.6 -3.1
TIY                                 PCP    PcP    04 21 39.1 -1.7
TIY                                 S      S      04 23 54.0 +2.4
TIY                                 XS     sS     04 24 13.1 +1.8
TIY                                 SS     SS     04 25 42.3 -24
TIY                                 AMB    AMB
    comp=Z,297nm,4.1s
TIY                                 LR     LR
    comp=N,1µm,15.0s,MS5.2
TIY                                 LR     LR
    comp=E,4µm,17.9s,MS5.2
TIY                                 LR     LR
    comp=Z,4µm,20.0s,MS5.1
SONM Songino Array    31.40 289     P      P      04 18 47.7 -0.5
SONM                                04 21 41.1
SONM                                04 29 15.6
SONM Songino Array    31.40 289     P      P      04 18 47.7 -0.5
    comp=Z,8.4nm,0.8s,mb4.6,baz=69,slow=9.3,SNR=18
SONM                                PcP    PcP    04 21 41.1 +0.3
    comp=Z,3.6nm,0.8s,baz=42,slow=2.9,SNR=3.6
SONM                                ScS    ScS    04 29 15.6 -1.9
    comp=Z,0.3nm,0.4s,baz=290,slow=35,SNR=2.2
SONM                                LR     LR     04 32 35.1
    comp=Z,7µm,18.4s,MS5.3,baz=39,slow=38
BTO  Baotou           31.60 274     eP     P      04 18 48.3 -1.8
BTO                                 PP     PP     04 19 52.1 -10
BTO                                 LR     LR
    comp=N,804nm,15.7s,MS4.6
BTO                                 LR     LR
    comp=E,700nm,18.0s,MS4.6
IRK  Irkutsk          31.71 298     eP     P      04 18 50.9 0.0
IRK                                 e      04 19 54.3
IRK                                 e      04 29 17.8
IRK                                 pmax   pmax
    comp=Z,35nm,0.8s,mb5.2
TTA  Tatalina         32.08  42     eP     P      04 18 53.9 -0.2
SVW2 Sparrevohn       32.16  45     eP     P      04 18 54.4 -0.3
TLY  Talaya           32.20 297     eP     P      04 18 55.9 +0.7
    comp=Z,18nm,0.6s,mb5.1
TLY                                 LR     LR
    comp=Z,6µm,20.0s,MS5.3
TLY  Talaya           32.20 297     eP     P      04 18 57.0 +1.8
TLY                                 e      04 20 05.0
TLY                                 eS     S      04 24 11.1 +6.3
TLY                                 eSS    SS     04 26 24.6 +0.6
TLY                                 pmax   pmax
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comp=Z,19nm,0.7s,mb5.0
TLY MLR MLR
comp=Z,5μm,19.0s,MS5.2
TLY Talaya 32.20 297 P **P** **04 18 55.6 +0.4**
SNR=10
TLY Talaya 32.20 297 P **P** **04 18 55.6 +0.4**
SNR=10
IMA2 Indian Mountai 33.46 36 *e*P **P** **04 19 05.8 -0.3**
KDAK Kodiak Island 33.78 51 P **P** **04 19 07.0 -1.9**
comp=Z,397nm,0.9s,mb6.3,SNR=9.2
KDAK Kodiak Island 33.78 51 *e*P **P** **04 19 07.0 -2.0**
comp=Z,37nm,0.7s,mb5.4
KDAK LR LR
comp=Z,883nm,22.0s,MS4.4
KDAK Kodiak Island 33.78 51 P **P** **04 19 07.2 -1.7**
comp=Z,42nm,0.8s,mb5.4,baz=270,slow=4.2,SNR=20
KDAK PcP PcP 04 21 46.5 -0.6
comp=Z,16nm,0.9s,baz=138,slow=1.5,SNR=4.2
KDAK S **S** **04 24 30.9 +1.6**
comp=Z,13nm,1.2s,baz=168,slow=6.4,SNR=2.3
MOY Mondy 33.81 298 *e*P **P** **04 19 12.2 +2.9**
GUMO Guam 34.11 195 PFAKE 04 19 20.0 +7.9
GUMO LR LR
comp=Z,1μm,20.0s,MS4.6
WHN Wuhan 34.17 255 ⇓P **P** **04 19 12.6 0.0**
WHN *e*S **S** **04 24 43.8 +7.9**
WHN AMB AMB
comp=Z,37nm,0.8s,mb5.4
WHN AMB AMB
comp=Z,491nm,6.7s
WHN LR LR
comp=Z,4μm,15.4s,MS5.2
SLKM Skilak Lake 34.79 46 *e*P **P** **04 19 16.3 -1.3**
SLKM *e*PcP PcP 04 21 48.9 -1.1
PMR Palmer 35.27 44 *e*P **P** **04 19 20.7 -1.0**
comp=Z,106nm,1.1s,mb5.7
PMR LR LR
comp=Z,2μm,21.0s,MS4.7
PMR Palmer 35.27 44 *e*P **P** **04 19 20.7 -1.0**
PMR pmax pmax
comp=Z,106nm,1.1s,mb5.7
PMR MLR MLR
comp=Z,2μm,21.0s,MS4.7
MCK McKinley 35.31 41⇑*i*P **P** **04 19 21.6 -0.5**
comp=Z,183nm,1.0s,mb6.0
MCK LR LR
comp=Z,727nm,21.0s,MS4.4
MCK McKinley 35.31 41⇑*i*P **P** **04 19 21.6 -0.5**
MCK pmax pmax
comp=Z,183nm,1.0s,mb6.0
MCK MLR MLR
comp=Z,727nm,21.0s,MS4.4
QZH Quanzhou 35.32 244 P **P** **04 19 22.8 +0.2**
QZH S **S** **04 24 51.0 -2.7**
QZH AMB AMB
comp=Z,390nm,1.5s,mb6.1
QZH LR LR
comp=N,760nm,11.3s,MS5.0
QZH LR LR
comp=E,1μm,12.4s,MS5.0
QZH LR LR
comp=Z,2μm,17.7s
SML Sawmill 35.64 44⇑*i*P **P** **04 19 24.2 -0.7**
XAN Xi'an 35.71 265 P **P** **04 19 25.9 0.0**
XAN AP pP 04 19 31.1 -6.6
XAN S **S** **04 24 55.1 -4.4**
XAN AMB AMB
comp=Z,69nm,1.3s,mb5.4
XAN AMB AMB
comp=Z,244nm,5.9s
XAN LR LR
comp=N,1μm,19.8s,MS5.0
XAN LR LR
comp=E,2μm,18.9s,MS5.0
XAN LR LR
comp=Z,3μm,18.1s,MS5.2
COLA College 35.80 39⇑*i*P **P** **04 19 26.2 0.0**
comp=Z,230nm,0.8s,mb6.2
COLA LR LR
comp=Z,1μm,20.0s,MS4.7
COLA College 35.80 39⇑*i*P **P** **04 19 26.2 0.0**
COLA pmax pmax
comp=Z,230nm,0.8s,mb6.2
COLA MLR MLR
comp=Z,1μm,20.0s,MS4.7
EYAK Cordova Ski Ar 36.99 46 *e*P **P** **04 19 35.7 -0.7**
comp=Z,84nm,1.2s,mb5.4
MENT Mentasta 37.70 42 *e*P **P** **04 19 42.7 +0.3**
LZH Lanzhou 38.05 272 ⇓P **P** **04 19 46.0 +0.3**
LZH AP pP 04 19 50.6 -7.0
LZH XP sP 04 19 53.3 -10
LZH PP PP 04 21 16.3 +3.2
LZH S **S** **04 25 36.5 +1.4**
LZH SS SS 04 28 14.5 -8.2
LZH AMB AMB
comp=Z,334nm,1.5s,mb5.8
LZH AMB AMB
comp=Z,708nm,4.6s
LZH LR LR
comp=N,5μm,15.2s
LZH LR LR
comp=Z,6μm,18.7s,MS5.4
EGAK Eagle 38.66 39 *e*P **P** **04 19 49.6 -0.9**
comp=Z,159nm,1.0s,mb5.7
EGAK LR LR
comp=Z,2μm,20.0s,MS4.8
GTA Gaotai 39.09 279 *e*P **P** **04 19 54.3 -0.1**
GTA AP pP 04 19 58.3 -8.1
GTA PP PP 04 21 29.0 +4.5
GTA PCP PcP 04 22 04.4 +0.9
GTA S **S** **04 25 49.8 -1.0**
GTA XS sS 04 26 06.9 -3.8
GTA SS SS 04 28 35.6 -8.5
GTA SCS ScS 04 29 59.6 +0.1
GTA AMB AMB
comp=Z,13nm,1.6s,mb4.4
GTA AMB AMB
comp=Z,229nm,4.2s
GTA LR LR
comp=N,2μm,15.6s,MS5.3
GTA LR LR
comp=E,2μm,12.5s,MS5.3
GTA LR LR
comp=Z,3μm,18.6s
DAWY Dawson 39.50 40 *e*P **P** **04 19 57.2 -0.3**
GZH Guangzhou 39.94 247 P **P** **04 19 57.3 -4.3**
GZH S **S** **04 25 57.3 -6.4**
GZH LR LR
comp=N,1μm,20.0s,MS4.8
GZH LR LR
comp=E,732nm,17.9s,MS4.8
GZH LR LR
comp=Z,2μm,18.8s,MS5.0
CD2 Chengdu 41.08 265 P **P** **04 20 11.4 +0.5**
CD2 PP PP 04 21 46.8 +0.6
CD2 PCP PcP 04 22 11.3 +1.3
CD2 PCS PcS 04 26 00.9 -0.2
CD2 S **S** **04 26 18.5 -2.0**
CD2 SS SS 04 29 19.8 -4.1
CD2 SCS ScS 04 30 12.9 +1.4
CD2 AMB AMB
comp=Z,200nm,1.1s,mb5.7
CD2 AMB AMB
comp=Z,520nm,3.6s
CD2 LR LR
comp=N,2μm,17.4s,MS5.2
CD2 LR LR
comp=E,3μm,18.2s,MS5.2
CD2 LR LR
comp=Z,3μm,18.0s,MS5.2
INK Inuvik 41.31 33 *e*P **P** **04 20 12.6 +0.2**
comp=Z,5μm,0.9s
GYA Guiyang 41.95 257⇓*i*P **P** **04 20 18.5 +0.4**
GYA XP sP 04 20 25.6 -10
GYA PP PP 04 21 58.3 +2.6
GYA PCP PcP 04 22 14.4 +1.5
GYA SCP ScP 04 26 03.6 +4.1
GYA S **S** **04 26 26.6 -6.9**
GYA SS SS 04 29 36.3 -5.0
GYA SCS ScS 04 30 19.3 +2.4
GYA AMB AMB
comp=Z,80nm,1.1s,mb5.3
GYA AMB AMB
comp=Z,720nm,4.2s
GYA LR LR
comp=N,5μm,20.1s,MS5.5
GYA LR LR
comp=E,5μm,18.0s,MS5.5
GYA LR LR
comp=Z,4μm,20.1s,MS5.3
SKAG Skagway 42.33 46 *e*P **P** **04 20 21.6 +0.7**
comp=Z,255nm,2.1s,mb5.5
SKAG LR LR
comp=Z,500nm,22.0s,MS4.4
ZAA0 Zalesovo Array 42.58 306 *e*P **P** **04 20 23.5 +0.6**
ZALV Zalesovo Beam 42.58 306 P **P** **04 20 20.6 -2.3**
comp=Z,8.8nm,0.7s,mb4.6,baz=62,slow=8.0,SNR=20
ZALV PcP PcP 04 22 14.1 -0.4
comp=Z,5.2nm,0.4s,baz=74,slow=4.1,SNR=8.2
ZALV ScP ScP 04 26 01.5 -0.1
comp=Z,0.6nm,0.3s,baz=106,slow=3.2,SNR=3.6
ZALV ScS ScS 04 30 17.6 -2.3
comp=Z,0.4nm,0.4s,baz=114,slow=36,SNR=2.0
ZALV LR LR 04 39 21.9
comp=Z,4μm,19.2s,MS5.3,baz=68,slow=38
ZAL Zalesovo 42.59 306 P **P** **04 20 20.6 -2.4**
ZAL 04 22 14.1
ZAL 04 30 17.7
SIT Sitka 43.05 49 PFAKE 04 20 40.0 +13
SIT LR LR
comp=Z,3μm,19.0s,MS5.2
NVS Novosibirsk 43.14 307 *e*P **P** **04 20 25.0 -2.5**
NVS *e* 04 22 11.2
NVS *e*S **S** **04 26 44.9 -5.6**
NVS *e* 04 30 20.4
NVS pmax pmax
comp=Z,80nm,2.4s,mb5.0
NVS pmax pmax
comp=N,47nm,2.1s
NVS pmax pmax
comp=E,56nm,2.1s
NVS smax
comp=E,40nm,2.2s
WRAK Wrangell Islan 44.81 49 *e*P **P** **04 20 42.1 +1.3**
comp=E,73nm,1.2s,mb5.4
WRAK LR LR
comp=Z,2μm,19.0s,MS5.0
WMQ Urumqi 44.98 291⇑*i*P **P** **04 20 42.6 +0.3**
WMQ AP pP 04 20 47.0 -7.5
WMQ XP sP 04 20 49.5 -10
WMQ PCP PcP 04 22 24.0 +1.2
WMQ S **S** **04 27 20.0 +2.5**
WMQ SCS ScS 04 30 37.0 +1.6
WMQ AMB AMB
comp=Z,18nm,1.1s,mb4.8
WMQ AMB AMB
comp=Z,334nm,4.0s
WMQ LR LR
comp=N,4μm,17.1s,MS5.5
WMQ LR LR
comp=E,3μm,17.0s,MS5.5
WMQ LR LR
comp=Z,4μm,18.9s,MS5.3
QIZ Qiongzhong 45.12 247 ⇑P **P** **04 20 45.8 +2.0**
QIZ S **S** **04 27 25.1 +5.1**
QIZ XS sS 04 27 34.1 -6.2
QIZ AMB AMB
comp=Z,47nm,1.3s,mb5.2
QIZ AMB AMB
comp=Z,285nm,6.2s
QIZ LR LR
comp=E,1μm,18.6s
QIZ LR LR
comp=Z,1μm,22.8s,MS4.8
QIZ Qiongzhong 45.12 247 *e*P **P** **04 20 45.6 +1.9**
comp=Z,78nm,1.3s,mb5.4
QIZ LR LR
comp=Z,1μm,20.0s,MS4.8
DLBC Dease Lake 45.26 46 *e*P **P** **04 20 45.2 +0.8**
KMI Kunming 45.47 259 P **P** **04 20 46.8 +0.4**
KMI AP pP 04 20 53.6 -5.0
KMI XP sP 04 20 56.5 -7.2
KMI PP PP 04 22 33.3 0.0
KMI S **S** **04 27 23.3 -1.6**
KMI XS sS 04 27 36.5 -8.6
KMI SS SS 04 30 36.3 -13
KMI SSS 04 31 34.8
KMI AMB AMB
comp=Z,60nm,1.1s,mb5.3
KMI AMB AMB
comp=Z,365nm,4.0s
KMI LR LR
comp=N,2μm,17.4s,MS5.1
KMI LR LR
comp=E,1μm,16.6s,MS5.1
KMI LR LR
comp=Z,1μm,18.3s,MS4.9
MK31 Makanchi Array 46.96 297 *e*P **P** **04 20 56.2 -1.6**
MK31 Makanchi Array 46.96 297 *i*P **P** **04 20 56.7 -1.2**
MK31 pmax pmax
comp=Z,21nm,0.7s,mb5.2
MKAR Makanchi Array 46.96 297⇑*e*P **P** **04 20 56.7 -1.2**
MKAR Makanchi Array 46.96 297 P **P** **04 20 56.3 -1.6**
comp=Z,10nm,0.7s,mb4.9,baz=69,slow=6.6,SNR=33
MKAR PcP PcP 04 22 29.6 -0.1
comp=Z,4.4nm,0.5s,baz=59,slow=5.1,SNR=8.5
MKAR ScP ScP 04 26 18.9 -0.8
comp=Z,2.6nm,0.9s,baz=86,slow=1.8,SNR=3.7
MKAR S **S** **04 27 41.3 -4.5**
comp=Z,0.4nm,0.3s,baz=158,slow=42,SNR=3.4
MKAR ScS ScS 04 30 45.5 -2.6
comp=Z,0.3nm,0.4s,baz=60,slow=9.9,SNR=4.0
MKAR LR LR 04 41 57.0
comp=Z,6μm,18.1s,MS5.6,baz=71,slow=38
KURK Kurchatov 47.34 303 P **P** **04 20 59.0 -1.8**
comp=Z,312nm,0.8s,mb6.3,SNR=16
KURK Kurchatov 47.34 303 *e*P **P** **04 20 58.9 -1.9**
comp=Z,32nm,0.7s,mb5.4
KURK LR LR
comp=Z,5μm,19.0s,MS5.5
KURK Kurchatov 47.34 303 *e*P **P** **04 20 58.9 -1.9**
KURK pmax pmax
comp=Z,32nm,0.7s,mb5.4
KURK MLR MLR
comp=Z,5μm,19.0s,MS5.5
KURK Kurchatov 47.34 303 P **P** **04 20 59.9 -0.9**
SNR=23
KURK Kurchatov 47.34 303 P **P** **04 20 59.9 -0.9**
SNR=23
ALE Alert 49.43 6 P **P** **04 21 16.2 -0.3**
comp=Z,165nm,0.6s,mb6.2,SNR=11
POHA Pohakuloa 49.49 105 *e*P **P** **04 21 16.8 -1.0**
comp=Z,95nm,0.9s,mb5.8
POHA LR LR
comp=Z,3μm,20.0s,MS5.3
BAKI Biak 50.37 203 P **P** **04 21 23.7 -0.7**
LSA Lhasa 50.43 273 P **P** **04 21 27.0 +2.2**
LSA Lhasa 50.43 273 *e*P **P** **04 21 26.8 +2.0**
comp=Z,47nm,0.6s,mb5.7
LSA LR LR
comp=Z,3μm,21.0s,MS5.2
LSA Lhasa 50.43 273 *e*P **P** **04 21 26.8 +2.0**
LSA pmax pmax
comp=Z,47nm,0.6s,mb5.7
LSA MLR MLR
comp=Z,3μm,21.0s,MS5.2
RES Resolute Bay 50.50 19⇑*i*P **P** **04 21 24.8 +0.1**
comp=Z,3μm,1.0s
RES *e*PcP PcP 04 22 42.0 -0.1
YKA Yellowknife Ar 50.58 37 P **P** **04 21 25.1 -0.4**
YKA 04 22 41.8
YKA pmax pmax
comp=Z,90nm,0.9s
YKA Yellowknife Ar 50.58 37 P **P** **04 21 25.1 -0.3**
comp=Z,90nm,0.9s,mb5.7,baz=297,slow=7.2,SNR=502
YKA PcP PcP 04 22 41.8 -0.7
comp=Z,7.2nm,0.7s,baz=302,slow=3.6,SNR=6.4
BVAR Borovoye Array 50.80 309 P **P** **04 21 25.6 -1.6**
BVAR 04 22 43.1
BVAR S **S** **04 28 37.6 -2.1**
BVAR 04 31 10.1
BVAR Borovoye Array 50.80 309 P **P** **04 21 25.6 -1.7**
comp=Z,11nm,0.4s,mb5.1,baz=60,slow=6.9,SNR=17
BVAR PcP PcP 04 22 43.1 -0.4
comp=Z,4.8nm,0.5s,baz=70,slow=1.7,SNR=4.3
BVAR ScP ScP 04 26 34.0 -2.0
comp=Z,2.7nm,0.9s,baz=71,slow=6.7,SNR=4.2
BVAR S **S** **04 28 37.6 -2.1**
comp=Z,0.7nm,0.6s,baz=59,slow=14,SNR=3.9
BVAR ScS ScS 04 31 10.1 -3.6
BRVK Borovoye 50.84 309 P **P** **04 21 26.2 -1.3**
comp=Z,353nm,0.7s,mb6.4,SNR=10
BRVK Borovoye 50.84 309 *e*P **P** **04 21 25.6 -2.0**
comp=Z,42nm,0.8s,mb5.4
BRVK LR LR
comp=Z,3μm,19.0s,MS5.4
BRVK Borovoye 50.84 309 *e*P **P** **04 21 25.6 -1.9**
BRVK pmax pmax
comp=Z,42nm,0.8s,mb5.4
BRVK MLR MLR
comp=Z,3μm,19.0s,MS5.4
BRVK Borovoye 50.84 309 P **P** **04 21 26.7 -0.8**
SNR=15
BRVK Borovoye 50.84 309 P **P** **04 21 26.7 -0.8**
SNR=15
CHRT Chiangrai 51.05 257 ⇓P **P** **04 21 30.5 +1.0**
comp=Z,287nm,1.0s,mb6.2
MYLDM Lahad Datu 51.37 227 ⇓P **P** **04 21 31.2 -0.8**
ZRNK Zerenda 51.57 310 *i*P **P** **04 21 31.1 -1.9**
ZRNK pmax pmax
comp=Z,22nm,0.7s,mb5.2
KKTK Khon Kaen 51.59 251 P **P** **04 21 34.5 +0.9**
SDKM Sandakan 51.64 229 ⇑P **P** **04 21 34.7 +0.8**
IMP Imphal 51.66 266 *e*P **P** **04 21 33.0 -1.1**
KKM Kota Kinabalu 51.80 230 *e*P **P** **04 21 35.4 +0.2**
KKM Kota Kinabalu 51.80 230 ⇑P **P** **04 21 37.0 +1.8**
KBS Kingsbay 52.23 351 PFAKE 04 21 50.0 +12
KBS LR LR
comp=Z,1μm,19.0s,MS4.9
KBS Kingsbay 52.23 351 *e*S **S** **04 28 41.5 -17**
KBS AMS AMS 04 47 14.5
comp=Z,482nm,18.9s,MS4.6
CHG Chiang Mai 52.35 257 ⇓P **P** **04 21 40.2 +0.9**
comp=Z,83nm,1.4s,mb5.5
CHTO Chiang Mai 52.35 257⇓*i*P **P** **04 21 40.1 +0.8**
comp=Z,50nm,0.8s,mb5.5
CHTO LR LR
comp=Z,2μm,19.0s,MS5.1
CHTO Chiang Mai 52.35 257⇓*i*P **P** **04 21 40.1 +0.8**
CHTO pmax pmax
comp=Z,50nm,0.8s,mb5.5
CHTO MLR MLR
comp=Z,2μm,19.0s,MS5.1
CHTO Chiang Mai 52.35 257 P **P** **04 21 40.6 +1.3**
SNR=42
CHTO Chiang Mai 52.35 257 P **P** **04 21 40.6 +1.3**
SNR=42
TSM Tawau 52.45 227 ⇓P **P** **04 21 40.8 +0.9**
SHL Shillong 52.55 268 *i*P **P** **04 21 41.8 +1.1**
SHL *e*S **S** **04 29 03.0 -1.4**
CM31 Chiang Mai Arr 52.61 256 PFAKE 04 21 50.0 +8.9
CM31 LR LR
comp=Z,1μm,19.0s,MS5.0
TKM2 Tokmak 2 53.02 296 *e*P **P** **04 21 43.0 -0.9**
comp=Z,28nm,1.0s,mb5.2
TKM2 LR LR
comp=Z,4μm,19.0s,MS5.5
TKM2 Tokmak 2 53.02 296 *e*P **P** **04 21 43.0 -0.9**
TKM2 pmax pmax
comp=Z,28nm,1.0s,mb5.2
TKM2 MLR MLR
comp=Z,4μm,19.0s,MS5.5
NLWA Neilton Lookou 53.57 57 PFAKE 04 22 00.0 +12
NLWA LR LR
comp=Z,1μm,21.0s,MS5.0
NLWA Neilton Lookou 53.57 57 ⇑P **P** **04 21 48.4 +0.5**
baz=53,SNR=7.8
FRU Bishkek 53.67 296 *e*P **P** **04 21 48.5 -0.2**
FRU pmax pmax
comp=Z,67nm,2.0s,mb5.2
FRU MLR MLR
comp=Z,4μm,17.0s,MS5.5
A05A Maple Falls 53.72 54 ⇑P **P** **04 21 48.4 -0.5**
baz=54,SNR=5.2
SVE Sverdlovsk 53.73 317⇑*e*P **P** **04 21 49.9 +1.0**
SVE *e*S **S** **04 29 21.9 +2.3**
SVE pmax pmax
comp=Z,19nm,0.7s,mb5.1
SVE MLR MLR
comp=Z,2μm,14.0s,MS5.2
NST Nakhon Sawan 53.83 253 P **P** **04 21 52.0 +1.9**
AAK Ala-Archa 53.86 296 P **P** **04 21 48.5 -1.5**
comp=Z,137nm,0.6s,mb6.1,SNR=9.9
C04A Brinnon 53.91 56 ⇓P **P** **04 21 50.6 +0.2**
baz=54
SOKR Solikamsk 53.97 321*c i*P **P** **04 21 50.9 +0.3**
SOKR pmax pmax
comp=Z,40nm,0.9s,mb5.3
UCH Uchtor 54.07 296 *e*P **P** **04 21 52.3 +0.7**
comp=Z,21nm,1.4s,mb4.9
UCH LR LR
comp=Z,5μm,19.0s,MS5.6
AGT Agartala 54.09 267 *i*P **P** **04 21 53.0 +1.0**
B05A Bryant 54.10 55 P **P** **04 21 51.6 -0.2**
baz=54,SNR=12
E03A Lebam 54.20 58 ⇑P **P** **04 21 52.3 -0.3**
baz=54
EKS2 Erkin-Say 54.28 297 *e*P **P** **04 21 52.6 -0.5**
comp=Z,19nm,0.8s,mb5.1
EKS2 LR LR
comp=Z,4μm,19.0s,MS5.5
B06A Marblemount 54.31 55 ⇑P **P** **04 21 53.0 -0.2**
baz=54,SNR=5.9
BMW Boistfort Moun 54.44 58 P **P** **04 21 54.2 0.0**
A07A Ashmola River, 54.63 54 P **P** **04 21 55.2 -0.3**
baz=54,SNR=18
AML Almayashu 54.63 296 *e*P **P** **04 21 54.4 -1.3**
comp=Z,29nm,1.2s,mb5.2
AML LR LR
comp=Z,4μm,19.0s,MS5.5
C05A Tolt Reservoir 54.64 56 P **P** **04 21 55.5 -0.2**
baz=54,SNR=13
E04A Onalaska 54.66 57 ⇓P **P** **04 21 56.7 +0.8**
baz=54,SNR=6.5
KSH Kashi 54.70 292 *e*P **P** **04 21 58.8 +2.6**
KSH *e*AP pP 04 22 03.4 -5.2
KSH *e*XP sP 04 22 05.9 -7.8
KSH *e*PCP PcP 04 23 00.1 +1.6
KSH *e*PP PP 04 24 03.4 +4.6
KSH *e*PPP 04 25 16.1
KSH PCS PcS 04 26 58.3 +0.1
KSH S **S** **04 29 38.3 +5.1**
KSH XS sS 04 29 46.4 -7.4
KSH SCS ScS 04 31 44.3 +2.8
KSH AMB AMB
comp=Z,227nm,1.1s,mb6.1
KSH LR LR
comp=Z,11μm,19.5s,MS5.9
D05A Enumclaw 54.75 56 ⇓P **P** **04 21 55.8 -0.7**
baz=54,SNR=9.2
ARU Arti 54.91 317 P **P** **04 21 56.7 -0.8**
comp=Z,248nm,0.6s,mb6.4,SNR=7.9
ARU Arti 54.91 317 *e*P **P** **04 21 55.6 -1.9**
comp=Z,25nm,0.6s,mb5.4
ARU LR LR
comp=Z,3μm,20.0s,MS5.3
ARU Arti 54.91 317*d i*P **P** **04 21 55.8 -1.7**
ARU *e* 04 22 54.3
ARU *e* 04 23 58.5
ARU *e*S **S** **04 29 39.5 +4.0**
ARU pmax pmax
comp=Z,66nm,1.7s,mb5.4
ARU MLR MLR
comp=Z,3μm,20.0s,MS5.3
G03A Yamhill 55.05 59 ⇑P **P** **04 21 58.7 +0.1**
baz=55
JIRN Jiri 55.09 275 *e*P **P** **04 22 00.4 +1.2**
comp=Z,8.2nm,0.2s,mb5.5
B07A Winthrop 55.10 54 ⇑P **P** **04 21 58.8 -0.2**
baz=55,SNR=12
F04A Amboy 55.21 58 ⇑P **P** **04 21 59.1 -0.7**
baz=55,SNR=8.1
E05A Randle 55.23 57 ⇑P **P** **04 21 59.7 -0.3**
baz=55,SNR=8.5
A08A Turner Farm, O 55.29 53 P **P** **04 22 00.1 -0.2**
baz=55,SNR=26
D06A Cle Elum 55.40 56 P **P** **04 22 01.1 -0.1**
baz=55,SNR=13
H03A Soap Creek Ran 55.40 59 ⇑P **P** **04 22 01.5 +0.3**
baz=55
I02A Mapleton 55.47 60 ⇑P **P** **04 22 02.2 +0.5**
baz=55
TLE Tual 55.55 205 P **P** **04 22 02.7 +0.2**
C07A Waterville 55.56 55 P **P** **04 22 01.9 -0.5**
baz=55,SNR=14
RNO Roman Nose 55.57 60 P **P** **04 22 03.4 +1.0**
G04A Mulino 55.58 58 ⇓P **P** **04 22 02.8 +0.3**
baz=55

B08A **Colville Reser** 55.59 54 P P 04 22 02.2 -0.3
baz=55,SNR=28
WTV **Waterville** 55.62 55 P P 04 22 02.1 -0.6
KKN **Kakani** 55.63 275 eP P 04 22 04.1 +1.0
comp=Z,181nm,0.9s,mb6.1
KKN **Kakani** 55.63 275 eP P 04 22 04.1 +1.0
KKN pmax pmax
comp=Z,181nm,0.9s,mb6.1
A09A **Danville** 55.66 53 P P 04 22 03.0 0.0
baz=55,SNR=29
E06A **Yakima** 55.69 56 ⇓P P 04 22 03.0 -0.3
baz=56,SNR=16
EBG **Ellensburg** 55.72 56 P P 04 22 03.5 +0.1
K01A **Sixes** 55.76 62 ⇑P P 04 22 04.2 +0.4
baz=56
F05A **White Salmon** 55.79 57 ⇓P P 04 22 04.4 +0.4
baz=56
SSOR **Sweet Springs** 55.79 59 P P 04 22 04.5 +0.5
I03A **Eugene** 55.81 60 ⇑P P 04 22 05.4 +1.2
baz=56,SNR=8.5
BTM **Bintulu** 55.85 231 ⇑P P 04 22 05.6 +0.8
DMN **Daman** 55.86 275 eP P 04 22 06.0 +1.2
comp=Z,278nm,1.0s,mb6.3
D07A **Quincy** 55.89 55 ⇓P P 04 22 04.6 -0.1
baz=56,SNR=11
GKN **Gorkha** 55.93 276 eP P 04 22 06.1 +0.8
comp=Z,268nm,1.0s,mb6.2
J02A **Umpqua** 55.98 61 P P 04 22 06.5 +1.1
baz=56,SNR=23
EDM **Edmonton** 55.98 46⇑eP P 04 22 04.8 -0.4
KK31 **Karatay Array** 56.01 299 iP P 04 22 06.4 +0.8
H04A **Detroit Lake** 56.05 59 P P 04 22 06.0 +0.2
baz=56,SNR=38
C08A **Higginbotham F** 56.07 54 ⇓P P 04 22 05.8 -0.2
baz=56,SNR=6.5
B09A **Rice** 56.21 53 P P 04 22 06.7 -0.2
baz=56,SNR=20
A10A **Northport** 56.21 52 ⇓P P 04 22 06.9 -0.1
baz=56
G05A **Wamic** 56.23 58 ⇓P P 04 22 07.9 +0.7
baz=56,SNR=8.8
E07A **Sunnyside** 56.32 56 ⇑P P 04 22 07.5 -0.2
baz=56,SNR=13
J03A **Ideyld Park** 56.34 61 ⇓P P 04 22 08.4 +0.4
baz=56,SNR=14
DAG **Danmarks Havn** 56.35 358⇓iP P 04 22 07.0 -0.6
DAG pmax pmax
comp=Z,9.0nm,0.7s,mb4.9
DAG **Danmarks Havn** 56.35 358⇓iP P 04 22 07.0 -0.6
comp=Z,8.9nm,0.7s,mb4.9
NNT **Nongplab** 56.36 251 P P 04 22 10.0 +1.6
K02A **Glendale** 56.38 61 ⇓P P 04 22 08.7 +0.5
baz=56
I04A **Tendick Farm,** 56.43 60 P P 04 22 09.1 +0.6
baz=56,SNR=25
C09A **Chrisman Ranch** 56.49 54 P P 04 22 08.6 -0.4
baz=56,SNR=13
HNR **Honiara** 56.53 172 PFAKE 04 22 20.0 +10
HNR LR LR
comp=Z,992nm,20.0s,MS4.9
HNR **Honiara** 56.53 172 S S 04 29 59.6 +1.8
comp=Z,22nm,0.3s,baz=249,slow=1.5,SNR=2.3
HNR LR LR 04 42 42.9
comp=Z,329nm,21.7s,MS4.4,baz=3,7,slow=32
D08A **Wollman Farm,** 56.56 55 ⇑P P 04 22 08.6 -0.8
baz=56,SNR=9.2
CROR **Criterion Ridg** 56.58 58 P P 04 22 06.0 -3.6
HAWA **Hanford** 56.60 56⇑iP P 04 22 08.9 -0.8
comp=Z,116nm,1.6s,mb5.7
HAWA LR LR
comp=Z,1µm,22.0s,MS5.0
H05A **Madras** 56.63 58 P P 04 22 10.5 +0.5
baz=56,SNR=18
G06A **Carlson Farm,** 56.63 58 ⇑P P 04 22 10.0 0.0
baz=56,SNR=14
F07A **Phinny Hill Vi** 56.66 57 P P 04 22 10.4 +0.3
baz=56,SNR=15
L02A **Cave Junction** 56.66 62 P P 04 22 11.2 +0.9
baz=56,SNR=12
B10A **Chitwood Farm,** 56.78 53 ⇑P P 04 22 11.0 0.0
baz=57
HUMO **Hull Mountain** 56.79 61⇑iP P 04 22 11.5 +0.3
comp=Z,103nm,1.4s,mb5.7
HUMO LR LR
comp=Z,1µm,21.0s,MS4.9
HUMO **Hull Mountain** 56.79 61 ⇑P P 04 22 11.9 +0.7
baz=57,SNR=17
E08A **Dider Farm, El** 56.81 56 P P 04 22 11.4 +0.2
baz=57,SNR=5.3
NEW **Newport** 56.86 53 eP P 04 22 10.8 -0.8
comp=Z,98nm,1.5s,mb5.6
NEW LR LR
comp=Z,907nm,22.0s,MS4.8
NEW **Newport** 56.86 53 eP P 04 22 10.8 -0.7
NEW pmax pmax
comp=Z,98nm,1.5s
NEW MLR MLR
comp=Z,907nm,22.0s
A11A **Hall Mountain,** 56.87 52 P P 04 22 12.1 +0.5
baz=57,SNR=23
I05A **Bend** 56.89 59 P P 04 22 12.3 +0.5
baz=57,SNR=21
D09A **Jones Farm, Ri** 56.90 55 P P 04 22 11.8 -0.1
baz=57,SNR=6.8
J04A **Umpqua Nationa** 56.93 60 P P 04 22 12.9 +0.8
baz=57,SNR=22
SBUM **Sibu** 56.94 232 ⇑P P 04 22 13.6 +1.1
C10A **Spilker Farm,** 57.01 53 ⇓P P 04 22 12.7 0.0
baz=57
VIPM **Ingram Point** 57.06 58 P P 04 22 13.2 +0.2
H06A **Lindquist Farm** 57.10 58 P P 04 22 13.5 +0.2
baz=57,SNR=34
KEV **Kevo** 57.12 340 eP P 04 22 12.1 -1.0
comp=Z,1.7nm,0.3s,mb4.5
KEV LR LR
comp=Z,2µm,19.0s,MS5.2
KEV **Kevo** 57.12 340 eP P 04 22 12.1 -1.0
KEV pmax pmax
comp=Z,2.0nm,0.3s,mb4.6
KEV MLR MLR
comp=Z,2µm,19.0s,MS5.2
APA **Apatity** 57.13 337⇑iP P 04 22 14.8 +1.6
APA pmax pmax
comp=Z,18nm,1.0s,mb5.1
APA MLR MLR
comp=Z,2µm,18.0s,MS5.3
B11A **Sandpoint** 57.17 52 P P 04 22 13.8 +0.1
baz=57,SNR=9.4
G07A **Ruggs Ranch, H** 57.17 57 P P 04 22 13.8 0.0
baz=57,SNR=18
A12A **Yaak River Ran** 57.27 52 ⇑P P 04 22 15.0 +0.6
baz=57
E09A **Wood Farm, Sta** 57.31 55 ⇑P P 04 22 14.4 -0.3
baz=57,SNR=15
F08A **Pendleton** 57.37 56 ⇓P P 04 22 15.6 +0.4
baz=57
J05A **Fort Rock** 57.42 60 P P 04 22 16.6 +1.0
baz=57,SNR=50
YBH **Yreka Blue Hor** 57.45 62 eP P 04 22 16.3 +0.5
comp=Z,98nm,1.4s,mb5.7
YBH LR LR
comp=Z,1µm,22.0s,MS4.9
YBH **Yreka Blue Hor** 57.45 62 eP P 04 22 16.3 +0.5
YBH pmax pmax
comp=Z,98nm,1.4s
YBH MLR MLR
comp=Z,1µm,22.0s
YBH **Yreka Blue Hor** 57.45 62 ⇓P P 04 22 16.7 +0.8
baz=57,SNR=28
D10A **Wagner Farm, O** 57.48 54 ⇓P P 04 22 15.3 -0.6
baz=57,SNR=13
K04A **Chilquin** 57.52 61 ⇓P P 04 22 16.6 +0.3
baz=57,SNR=6.0
G08A **Pilot Rock** 57.56 57 ⇑P P 04 22 16.6 0.0
baz=57,SNR=29
M02C **Callahan** 57.57 62 P P 04 22 17.8 +1.1
baz=57,SNR=16
B12A **Libby** 57.57 52 ⇑P P 04 22 16.9 +0.3
baz=57
H07A **Lands Inn, Kim** 57.63 58 ⇑P P 04 22 17.3 +0.2
baz=57
ARCES **ARCESS Array B** 57.63 341 P P 04 22 16.2 -0.5
ARCES LR LR 04 52 40.2
ARCES **ARCESS Array B** 57.63 341 P P 04 22 16.2 -0.5
comp=Z,12nm,0.8s,mb5.0,baz=29,slow=7.3,SNR=38
ARCES LR LR 04 52 40.2
comp=Z,1µm,18.5s,MS5.1,baz=34,slow=42
ARE0 **ARCESS Array S** 57.63 341 eP P 04 22 17.3 +0.7
N02C **Big Bar** 57.63 63 ⇑P P 04 22 17.7 +0.6
baz=57,SNR=5.8
I06A **Prineville** 57.63 59 ⇑P P 04 22 17.7 +0.7
baz=57,SNR=31
L04A **Klamath Falls** 57.68 61 ⇓P P 04 22 18.4 +0.9
baz=58,SNR=16
O01C **Eel River Cons** 57.72 64 ⇑P P 04 22 19.0 +1.3
baz=58,SNR=6.3
BOK **Bokaro** 57.81 271 eP P 04 22 19.3 +0.7
BOK AMb AMB 04 22 22.4
comp=Z,147nm,1.3s,mb5.8
E10A **Myers Farm, Un** 57.90 55 P P 04 22 18.8 -0.1
baz=58,SNR=20
F09A **S2 Ranch, Elgi** 57.91 56 P P 04 22 19.3 +0.3
baz=58,SNR=15
A13A **Flathead Natio** 57.93 51 ⇓P P 04 22 19.2 +0.1
baz=58
M04C **MacDoel** 57.95 61 P P 04 22 19.8 +0.5
baz=58,SNR=28
K05A **Summer Lake** 57.95 60 P P 04 22 20.4 +1.1
baz=58,SNR=37
I07A **Izee** 57.96 58 P P 04 22 19.7 +0.3
baz=58,SNR=38
LGTI **Lohaghat** 57.99 280 eP P 04 22 21.0 +1.2
D11A **Klaveano Farm,** 58.00 54 P P 04 22 19.0 -0.6
baz=58,SNR=28
J06A **Christmas Vall** 58.08 59 P P 04 22 20.9 +0.7
baz=58,SNR=45
M03C **McCloud** 58.08 62 ⇓P P 04 22 21.0 +0.8
baz=58,SNR=13
WALA **Waterton Lakes** 58.12 51⇑iP P 04 22 20.1 -0.3
comp=Z,42nm,1.0s,mb5.4
F10A **Beach Ranch, E** 58.14 55 ⇑P P 04 22 20.8 +0.2
baz=58
TMCR **Tamitsa** 58.15 332 eP P 04 22 17.8 -2.6
TMCR pmax pmax
comp=Z,37nm,0.7s,mb5.5
H08A **Prairie City** 58.19 57 P P 04 22 21.4 +0.5
baz=58,SNR=71
B13A **Whitefish** 58.23 52 P P 04 22 21.5 +0.3
baz=58,SNR=41
WDC **Whiskeytown Da** 58.24 63⇑iP P 04 22 21.5 +0.1
comp=Z,122nm,1.5s,mb5.7
WDC **Whiskeytown Da** 58.24 63⇑iP P 04 22 21.5 +0.1
WDC pmax pmax
comp=Z,122nm,1.5s,mb5.7
WDC **Whiskeytown Da** 58.24 63 P P 04 22 21.4 0.0
baz=58,SNR=19
G09A **Cove** 58.24 56 ⇑P P 04 22 21.1 -0.2
baz=58
K06A **Valley Falls** 58.29 60 P P 04 22 22.5 +0.8
baz=58,SNR=40
O02C **Red Bluff** 58.33 64 ⇓P P 04 22 22.5 +0.5
baz=58,SNR=17
AB31 **Akbulak array** 58.37 310⇑eP P 04 22 21.2 -0.9
L05A **Lakew** 58.39 61 P P 04 22 23.2 +0.8
baz=58,SNR=37
P01C **Double 8 Ranch** 58.42 64 ⇑P P 04 22 22.5 -0.2
baz=58,SNR=6.9
E11A **Bogner Ranch,** 58.48 54 P P 04 22 22.5 -0.5
baz=58,SNR=29
J07A **Hines** 58.50 59 ⇑P P 04 22 24.0 +0.8
baz=58,SNR=9.3
D12A **Red Ives Fores** 58.54 53 ⇓P P 04 22 22.8 -0.6
baz=58
C13A **Hot Springs** 58.59 52 P P 04 22 23.8 +0.1
baz=58,SNR=19
I08A **Drewsey** 58.61 58 P P 04 22 24.8 +0.9
baz=58,SNR=14
G10A **Bishop Farm, J** 58.61 56 P P 04 22 24.0 +0.1
baz=58,SNR=93
M05C **Lookout** 58.62 62 P P 04 22 24.4 +0.4
baz=58,SNR=30
AKTK **Aktyubinsk** 58.66 312 P P 04 22 22.9 -1.3
AKTK S S 04 30 23.1 -2.0
AKTK ScS ScS 04 32 07.6 -2.3
AKTO **Aktyubinsk** 58.66 312 P P 04 22 22.9 -1.3
comp=Z,5.6nm,0.5s,mb4.8,baz=53,slow=5.9,SNR=10
AKTO S S 04 30 23.1 -2.0
comp=Z,0.5nm,0.4s,baz=229,slow=22,SNR=1.9
AKTO ScS ScS 04 32 07.6 -2.3
comp=Z,0.5nm,0.5s,baz=241,slow=20,SNR=3.2
H09A **Durkee** 58.67 57 ⇑P P 04 22 25.3 +1.0
baz=58,SNR=12
GASB **Alder Springs** 58.69 64 P P 04 22 25.6 +1.0
baz=58,SNR=18
HATC **Hat Creek Radi** 58.75 62 ⇑P P 04 22 25.7 +0.7
baz=58,SNR=14
BMO **Blue Mountains** 58.77 56⇑iP P 04 22 24.9 -0.1
comp=Z,81nm,1.2s,mb5.6
BMO LR LR
comp=Z,817nm,22.0s,MS4.8
KSM **Kuching** 58.79 233 eP P 04 22 26.0 +0.5
KSM **Kuching** 58.79 233 ⇓P P 04 22 26.5 +1.0
F11A **Grangeville** 58.79 55 ⇑P P 04 22 24.8 -0.3
baz=59,SNR=54
MOD **Modoc** 58.79 61⇓iP P 04 22 25.3 +0.1
comp=Z,110nm,1.2s,mb5.8
MOD LR LR
comp=Z,1µm,21.0s,MS5.0
MOD **Modoc** 58.79 61 ⇑P P 04 22 25.3 +0.1
baz=59,SNR=20
HOPS **Hopland** 58.87 65 ⇑P P 04 22 25.9 +0.1
baz=59
DLH **Dalhousie** 58.89 286 eP P 04 22 26.0 -0.1
O03C **Acorn Hollow,** 58.90 63 P P 04 22 25.9 -0.1
baz=59,SNR=9.3
DDI **Dehra Dun** 58.90 282 eP P 04 22 27.0 +0.8
K07A **Rock Creek Ran** 58.94 59 P P 04 22 26.8 +0.5
baz=59,SNR=40
TRO **Tromso** 58.95 343 eP P 04 22 24.4 -1.5
comp=Z,61nm,1.4s,mb5.4
TRO LR LR
comp=Z,750nm,18.4s,MS4.8
TRO **Tromso** 58.95 343 eP P 04 22 24.4 -1.5
TRO AMb AMB 04 22 30.5
comp=Z,61nm,1.4s,mb5.5
TRO AMS AMS 04 52 25.5
comp=Z,754nm,18.4s,MS4.8
C14A **Swan Lake** 58.98 52 ⇓P P 04 22 26.3 -0.1
baz=59
SMLA **Simla** 58.99 284 eP P 04 22 27.0 +0.3
SMLA AMb AMB 04 22 30.0
comp=Z,286nm,1.5s,mb6.1
J08A **Circle Bar Ran** 58.99 58 P P 04 22 27.2 +0.6
baz=59,SNR=57
D13A **Huson** 59.00 53 P P 04 22 26.3 -0.3
baz=59,SNR=26
G11A **Walters Elk Ra** 59.02 55 P P 04 22 26.8 0.0
baz=59,SNR=42
I09A **Lost Marbles R** 59.05 57 ⇑P P 04 22 27.2 +0.3
baz=59,SNR=48
M06C **Likely Place G** 59.11 61 P P 04 22 28.1 +0.6
baz=59,SNR=16
THN **Thein Dam** 59.12 286 eP P 04 22 27.5 -0.2
H10A **Noah's Angus R** 59.24 56 ⇑P P 04 22 28.4 +0.1
baz=59
O04C **Chester** 59.28 62 ⇓P P 04 22 29.2 +0.6
baz=59,SNR=20
L07A **Adell** 59.30 60 P P 04 22 29.6 +0.8
baz=59,SNR=18
ELFS **Eagle Lake Fie** 59.32 62 ⇑P P 04 22 29.3 +0.4
baz=59,SNR=5.2
MNRC **McLaughlin Nat** 59.33 65 ⇑P P 04 22 29.7 +0.7
baz=59,SNR=10.0
K08A **Mann Creek Ran** 59.37 59 P P 04 22 29.7 +0.5
baz=59,SNR=61
F12A **Elk City** 59.37 54 P P 04 22 29.3 +0.1
baz=59,SNR=63
J09A **Fry Pan Ranch,** 59.42 58 ⇑P P 04 22 30.1 +0.6
baz=59,SNR=58
MSO **Missoula** 59.45 53⇑iP P 04 22 29.4 -0.2
comp=Z,111nm,1.4s,mb5.7
MSO LR LR
comp=Z,522nm,21.0s,MS4.6
WVOR **Wild Horse Val** 59.46 59⇑iP P 04 22 29.8 0.0
comp=Z,96nm,1.0s,mb5.8
WVOR LR LR
comp=Z,861nm,21.0s,MS4.9
WVOR **Wild Horse Val** 59.46 59⇑iP P 04 22 29.8 0.0
WVOR pmax pmax
comp=Z,96nm,1.0s,mb5.8
WVOR MLR MLR
comp=Z,861nm,21.0s,MS4.9
ORV **Oroville** 59.50 63 P P 04 22 29.6 -0.5
baz=59,SNR=29
I10A **Payette** 59.52 57 P P 04 22 31.0 +0.8
baz=59,SNR=30
SUTB **Sutter Butte** 59.52 64 ⇓P P 04 22 29.5 -0.8
baz=59,SNR=17
D14A **Greenough** 59.53 52 P P 04 22 30.2 0.0
baz=59,SNR=56
E13A **Victor** 59.55 53 ⇓P P 04 22 29.9 -0.5
baz=59,SNR=44
H11A **Donnelly** 59.59 56 ⇑P P 04 22 30.7 +0.1
baz=59,SNR=88
O05C **Quincy** 59.60 63 ⇓P P 04 22 30.9 +0.1
baz=59,SNR=12
OHCM **Honcut** 59.64 64 eP P 04 22 30.5 -0.6
KAPI **Kappang** 59.73 220 P P 04 22 30.8 -1.2
comp=Z,152nm,1.6s,mb5.8,SNR=5.5
KAPI **Kappang** 59.73 220 P P 04 22 29.7 -2.3
Q03C **Winters** 59.74 65 ⇓P P 04 22 32.8 +1.0
baz=60,SNR=8.9
CHMT **Chamberlain Mo** 59.77 52 eP P 04 22 31.5 -0.4
N06A **Buffalo Meadow** 59.77 61 P P 04 22 32.4 +0.4
baz=60,SNR=55
L08A **Fields** 59.78 59 P P 04 22 32.6 +0.6
baz=60,SNR=42
M07A **Soldier Meadow** 59.78 60 ⇓P P 04 22 32.8 +0.8
baz=60,SNR=154
KTGM **Kuala Trenggan** 59.81 242 ⇓P P 04 22 35.9 +3.4
K09A **Rome** 59.83 58 ⇓P P 04 22 32.7 +0.4
baz=60,SNR=40
F13A **Darby** 59.87 54 ⇑P P 04 22 31.9 -0.7
baz=60,SNR=44
FUNA **Funafuti** 59.91 150 PFAKE 04 22 40.0 +6.8
FUNA LR LR
comp=Z,11µm,20.0s,MS6.0
SNG **Songkhla** 59.91 246 P P 04 22 35.0 +1.7
J10A **Berg Farm, Mel** 59.94 57 P P 04 22 33.3 +0.2
baz=60,SNR=12
E14A **Clinton** 59.94 53 P P 04 22 33.1 +0.1
baz=60,SNR=27
BEKR **Beckwourth** 60.00 62 ⇓P P 04 22 33.6 0.0
baz=60,SNR=58
Q04C **Lincoln** 60.01 64 ⇓P P 04 22 33.6 -0.1
baz=60,SNR=6.9
D15A **Lincoln** 60.08 52 ⇑P P 04 22 33.8 -0.2
baz=60,SNR=32
I11A **Placerville** 60.10 56 P P 04 22 34.1 -0.1
baz=60,SNR=28
O06A **Flanigan** 60.14 62 P P 04 22 34.9 +0.4
baz=60,SNR=41
P05C **Yuba Gap, Truc** 60.20 63 P P 04 22 34.9 0.0
baz=60,SNR=11
M08A **Happy Creek Ra** 60.21 60 ⇑P P 04 22 35.9 +0.8
baz=60,SNR=47
BDM **Black Diamond** 60.26 65 ⇓P P 04 22 35.3 0.0
baz=60
N07B **Gerlach** 60.27 61 ⇓P P 04 22 35.7 +0.3
baz=60,SNR=45
K10A **MacKenzie Ranc** 60.28 58 P P 04 22 36.0 +0.6
baz=60,SNR=95
L09A **Wilkinson Ranc** 60.28 59 P P 04 22 36.1 +0.6
baz=60,SNR=25
H12A **Diamond D Ranc** 60.34 55 P P 04 22 35.6 -0.2
baz=60,SNR=40
G13A **Cobalt** 60.35 55 P P 04 22 35.8 -0.1
baz=60,SNR=102
JRSC **Jasper Ridge** 60.37 66 ⇑P P 04 22 35.8 -0.3
baz=60
F14A **Wisdom** 60.38 53 ⇓P P 04 22 36.4 +0.3
baz=60,SNR=7.0
P06A **Stead Airport,** 60.40 62 ⇑P P 04 22 36.4 +0.1
baz=60,SNR=9.5
E15A **Deer Lodge** 60.40 53 ⇓P P 04 22 36.1 -0.1
baz=60,SNR=44
FFC **Flin Flon** 60.40 40 P P 04 22 36.5 +0.4
comp=Z,359nm,1.3s,mb6.2,SNR=37
FFC **Flin Flon** 60.40 40⇑iP P 04 22 36.0 -0.1
comp=Z,36nm,0.6s,mb5.6
FFC LR LR
comp=Z,1µm,20.0s,MS5.0
FFC **Flin Flon** 60.40 40⇑iP P 04 22 36.0 -0.1
FFC pmax pmax
comp=Z,36nm,0.6s,mb5.6
FFC MLR MLR
comp=Z,1µm,20.0s,MS5.0
LAVA **Lava Cap Winer** 60.45 64 ⇓P P 04 22 36.5 -0.2
baz=60,SNR=36
MFID **Camas Ranch** 60.49 57 P P 04 22 37.1 +0.3
baz=60,SNR=32
NDI **New Delhi** 60.51 281 eP P 04 22 37.0 -0.2
NDI eP 04 22 37.4
NDI AMb AMB 04 22 40.5
comp=Z,168nm,0.9s,mb6.2
WENL **Wente Brothers** 60.53 65 ⇓P P 04 22 37.6 +0.4
baz=60,SNR=8.8
BNLO **Ben Lomond (Sa** 60.58 66 ⇓P P 04 22 37.1 -0.4
baz=60
R04C **Big Horse Ranc** 60.64 64 ⇑P P 04 22 37.8 -0.2
baz=60,SNR=13
HRY **Holter Researc** 60.66 52 eP P 04 22 38.1 +0.1
H13A **Challis** 60.66 55 ⇑P P 04 22 38.2 +0.2
baz=60,SNR=76
G14A **Jackson** 60.69 54 P P 04 22 37.8 -0.4
baz=60,SNR=9.9
WCN **Washoe City** 60.72 63 ⇓P P 04 22 38.9 +0.4
baz=60,SNR=27
K11A **Parker Ranch,** 60.77 58 P P 04 22 39.1 +0.4
baz=60,SNR=60
N08A **GE Springer Mi** 60.77 60 P P 04 22 39.1 +0.3
baz=61,SNR=40
M09A **Marrel Ranch,** 60.78 60 P P 04 22 39.5 +0.7
baz=61,SNR=33
F15A **Butte** 60.84 53 P P 04 22 39.4 +0.2
baz=61,SNR=58
S04C **Ingram Canyon,** 60.87 65 ⇑P P 04 22 39.6 0.0
baz=61,SNR=5.7
R05C **Kirkwood Meado** 60.89 63 ⇓P P 04 22 39.7 0.0
baz=61,SNR=27
FCC **Fort Churchill** 60.92 33⇑iP P 04 22 39.0 -0.6
comp=Z,138nm,1.2s,mb6.0
FCC **Fort Churchill** 60.92 33⇑iP P 04 22 39.0 -0.5
FCC pmax pmax
comp=Z,138nm,1.2s,mb6.0
EGMT **Eagleton** 60.94 50⇑iP P 04 22 39.7 -0.1
comp=Z,105nm,1.3s,mb5.8
EGMT LR LR
comp=Z,1µm,21.0s,MS5.1
EGMT **Eagleton** 60.94 50 ⇓P P 04 22 39.7 -0.1
baz=61,SNR=33
L10A **Juniper Basin** 60.94 58 ⇓P P 04 22 40.4 +0.4
baz=61,SNR=52
OUL **Oulu** 61.01 337 P P 04 22 39.5 -0.5
J12A **Stokes Ranch,** 61.01 57 P P 04 22 40.9 +0.5
baz=61,SNR=29
DLMT **Dillon** 61.09 53⇑iP P 04 22 40.7 -0.2
comp=Z,68nm,1.3s,mb5.6
N09A **Rock Creek Ran** 61.09 60 P P 04 22 41.2 +0.3
baz=61,SNR=61
P07A **Fallon** 61.09 62 ⇓P P 04 22 41.7 +0.7
baz=61
CMB **Columbia Colle** 61.12 64⇑iP P 04 22 40.9 -0.4
comp=Z,136nm,1.4s,mb5.9
CMB LR LR
comp=Z,834nm,21.0s,MS4.9
CMB **Columbia Colle** 61.12 64⇑iP P 04 22 40.9 -0.3
CMB pmax pmax
comp=Z,136nm,1.4s,mb5.9
CMB MLR MLR
comp=Z,834nm,21.0s,MS4.9
CMB **Columbia Colle** 61.12 64 P P 04 22 41.2 0.0
baz=61,SNR=49
JOF **Joensuu** 61.14 334 ep P 04 22 39.0 -2.0
comp=Z,2.9nm,0.3s,mb4.9
I13A **Wildhorse Cree** 61.15 56 ⇓P P 04 22 41.8 +0.5
baz=61,SNR=73
HLID **Hailey** 61.20 56⇑iP P 04 22 41.9 +0.2
comp=Z,67nm,1.2s,mb5.7
HLID LR LR
comp=Z,1µm,22.0s,MS5.0
HLID **Hailey** 61.20 56 ⇑P P 04 22 41.7 0.0
baz=61,SNR=65
PACP **Pacheco Peak** 61.20 66 ⇑P P 04 22 42.0 +0.2
baz=61,SNR=17
M10A **I.L. Ranch, Tu** 61.25 59 P P 04 22 42.9 +0.8
baz=61,SNR=71
SAO **San Andreas Ge** 61.26 66 eP P 04 22 40.5 -1.7
comp=Z,111nm,1.3s,mb5.8
SAO **San Andreas Ge** 61.26 66 P P 04 22 41.3 -0.9
SAO pmax pmax
comp=Z,110nm,1.3s,mb5.8

LOF Lofoten 61.27 344 *eP* **P 04 22 44.1 +2.4**
LOF Lofoten 61.27 344 *eP* **P 04 22 43.6 +1.9**
LOF AMb AMB 04 22 47.4
comp=Z,246nm,1.5s,mb6.1
G15A Dillon 61.27 54 P **P 04 22 42.2 0.0**
baz=61,SNR=53
MCMT McKenzie Canyo 61.28 54 *eP* **P 04 22 42.0 -0.2**
L11A Cat Creek Ranc 61.30 58 ⇑P **P 04 22 42.8 +0.4**
baz=61,SNR=95
KULM Kulim 61.36 245 *eP* **P 04 22 43.7 +0.6**
KULM Kulim 61.36 245 ⇑P **P 04 22 44.9 +1.8**
R06C Coleville 61.39 63 ⇓P **P 04 22 43.9 +0.8**
baz=61,SNR=23
HAST Hastings Reser 61.43 66 ⇓P **P 04 22 43.2 -0.2**
baz=61,SNR=12
BOZ Bozeman (W) 61.44 53⇑*iP* **P 04 22 43.8 +0.5**
comp=Z,165nm,1.5s,mb5.9
BOZ LR LR
comp=Z,637nm,22.0s,MS4.7
BOZ Bozeman (W) 61.44 53⇑*iP* **P 04 22 43.8 +0.5**
BOZ pmax pmax
comp=Z,165nm,1.5s,mb5.9
BOZ MLR MLR
comp=Z,637nm,22.0s,MS4.7
BOZ Bozeman (W) 61.44 53 ⇑P **P 04 22 43.6 +0.4**
baz=61
J13A Cove Ranch, Pi 61.44 56 P **P 04 22 43.8 +0.4**
baz=61,SNR=86
P08A Dixie Valley 61.48 61 ⇓P **P 04 22 44.5 +0.9**
baz=61,SNR=18
BLSP Bilaspur 61.49 273 *eP* **P 04 22 43.9 -0.1**
BLSP AMb AMB 04 22 46.5
comp=Z,93nm,1.2s,mb5.8
K12A Draper Farm, C 61.50 57 ⇑P **P 04 22 44.0 +0.2**
baz=61,SNR=62
Q07A Schurz 61.52 62 ⇓P **P 04 22 44.3 +0.4**
baz=61,SNR=6.8
JMIC Jan Mayen 61.55 353 LR LR 04 47 02.7
comp=Z,515nm,21.3s,MS4.7,baz=34,slow=34
S05C Merced 61.59 65 ⇓P **P 04 22 44.0 -0.4**
baz=61,SNR=30
T05C Eagle Field, D 61.66 65 ⇓P **P 04 22 45.1 +0.2**
baz=62,SNR=9.3
O09A Fish Creek Ran 61.72 60 P **P 04 22 46.1 +0.9**
baz=62,SNR=7.2
L12A House Creek Ra 61.74 58 P **P 04 22 45.7 +0.3**
baz=62,SNR=82
M11A Holland Ranch, 61.74 59 P **P 04 22 46.4 +1.0**
baz=62,SNR=66
IPM Ipoh 61.76 244 ⇓P **P 04 22 48.5 +2.7**
N10A Dunphy 61.77 60 ⇓P **P 04 22 46.2 +0.6**
baz=62,SNR=21
V03C Hunter Liggett 61.86 66 P **P 04 22 46.5 +0.2**
baz=62,SNR=7.5
R07C Lee Vining 61.91 63 ⇓P **P 04 22 47.1 +0.6**
baz=62,SNR=15
U04C Hernandez Rese 61.93 66 ⇑P **P 04 22 47.2 +0.5**
baz=62
K13A Stover Farm, H 61.96 57 ⇓P **P 04 22 47.5 +0.6**
baz=62,SNR=13
O10A Cortez Mining, 62.05 60 ⇓P **P 04 22 48.2 +0.8**
baz=62,SNR=35
QLMT Earthquake Lak 62.06 53 *eP* **P 04 22 47.6 +0.1**
Q08A Gabbs 62.10 62 ⇓P **P 04 22 48.1 +0.3**
baz=62,SNR=72
KBL Kabul 62.12 292 *eP* **P 04 22 47.0 -1.1**
comp=Z,71nm,0.9s,mb5.8
P09A Austin 62.13 61 ⇑P **P 04 22 48.7 +0.7**
baz=62,SNR=35
NVAR Mina Array Bea 62.14 63 P **P 04 22 48.1 -0.1**
comp=Z,35nm,0.8s,mb5.5,baz=301,slow=5.4,SNR=194
NVAR S **S 04 31 20.3 +10**
comp=Z,0.2nm,0.5s,baz=292,slow=7.8,SNR=3.1
N11A Elko Archery C 62.17 59 P **P 04 22 49.0 +0.7**
baz=62,SNR=22
T06C Millerton Lake 62.19 65 P **P 04 22 47.8 -0.7**
baz=62,SNR=34
MYKOM Kota Tinggi 62.20 239 ⇓P **P 04 22 51.0 +2.3**
KCC Kaiser Creek 62.23 64 P **P 04 22 48.7 +0.1**
baz=62,SNR=33
M12A Wells 62.27 58 ⇑P **P 04 22 49.7 +0.8**
baz=62,SNR=78
R08A Mina 62.31 63 ⇓P **P 04 22 50.0 +0.8**
baz=62,SNR=5.6
MLAC Mammoth Lakes 62.33 64 P **P 04 22 50.8 +1.4**
baz=62,SNR=11
KGM Kluang 62.33 240 ⇑P **P 04 22 51.9 +2.2**
V04C Ramage Ranch, 62.33 67 ⇓P **P 04 22 50.1 +0.6**
baz=62,SNR=8.6
PKD Parkfield 62.34 66 P **P 04 22 49.4 0.0**
baz=62,SNR=11
U05C Westside ANR, 62.36 65 P **P 04 22 50.2 +0.6**
baz=62,SNR=10
KAKA Kakadu 62.37 203 *eP* **P 04 22 48.3 -1.5**
comp=Z,16nm,0.6s,mb5.3
L13A Double Diamond 62.40 57 P **P 04 22 50.6 +0.8**
baz=62,SNR=57
GCMT Greycliff 62.41 52 *eP* **P 04 22 50.4 +0.7**
YMR Madison River 62.42 53⇑*iP* **P 04 22 50.1 +0.2**
comp=Z,166nm,1.5s,mb5.9
P10A Eureka 62.49 61 ⇓P **P 04 22 51.1 +0.6**
baz=62,SNR=34
K14A Jones Ranch, D 62.55 56 P **P 04 22 51.6 +0.8**
baz=62,SNR=54
YNR Norris Junctio 62.55 53⇑*iP* **P 04 22 51.5 +0.8**
N12A Clover Valley, 62.55 59 P **P 04 22 51.4 +0.6**
baz=62,SNR=50
Q09A Carvers 62.57 62 ⇑P **P 04 22 51.4 +0.4**
baz=62,SNR=10
YFT Old Faithful 62.63 53⇑*iP* **P 04 22 52.8 +1.5**
O11A Cowboy Ranch, 62.65 60 ⇑P **P 04 22 52.1 +0.6**
baz=62,SNR=47
MTUM Tungsten Hills 62.67 64 *eP* **P 04 22 51.5 -0.1**
PTRM Twissleman Ran 62.73 66 *eP* **P 04 22 52.3 +0.2**
M13A Montello 62.73 58 P **P 04 22 52.5 +0.5**
baz=62,SNR=71
MOR8 Moi Rana 62.79 343 *eP* **P 04 22 50.0 -2.0**
comp=Z,128nm,0.9s,mb6.0
MOR8 Moi Rana 62.79 343 *eP* **P 04 22 50.0 -2.0**
MOR8 AMb AMB 04 22 52.7
comp=Z,128nm,0.9s,mb6.0
V05C Boulder Hill, 62.79 66 P **P 04 22 53.1 +0.6**
baz=63,SNR=12
LKWY Lake 62.80 53⇑*iP* **P 04 22 54.1 +1.7**
comp=Z,21nm,0.9s,mb5.3
LKWY LR LR
comp=Z,902nm,20.0s,MS4.9
LKWY Lake 62.80 53⇑*iP* **P 04 22 54.1 +1.7**
LKWY pmax pmax
comp=Z,21nm,0.9s,mb5.3
LKWY MLR MLR
comp=Z,902nm,20.0s,MS4.9
HELL Mitchell Peak 62.82 65 ⇓P **P 04 22 52.3 -0.3**
baz=63,SNR=89
S08C White Mtn Res 62.82 63 P **P 04 22 53.2 +0.6**
baz=63,SNR=41
IMW Indian Meadow 62.93 54⇑*iP* **P 04 22 54.1 +0.8**
comp=Z,107nm,1.3s,mb5.8
FLWY Flagg Ranch 62.94 54⇑*iP* **P 04 22 54.4 +1.0**
comp=Z,130nm,1.5s,mb5.8
DCID1 Drake Creek 62.99 54⇑*iP* **P 04 22 54.4 +0.7**
R09A Tonopah 63.01 62 ⇓P **P 04 22 54.0 +0.1**
baz=63,SNR=60
N13A Wendover, West 63.04 58 P **P 04 22 55.1 +1.0**
baz=63,SNR=15
Q10A Clear Creek Ra 63.04 61 P **P 04 22 54.5 +0.3**
baz=63,SNR=39
RLMT Red Lodge 63.05 52⇑*iP* **P 04 22 54.3 +0.2**
comp=Z,90nm,1.3s,mb5.7
RLMT LR LR
comp=Z,662nm,19.0s,MS4.8
TIN Tinemaha 63.07 64 P **P 04 22 54.8 +0.5**
baz=63,SNR=18
SMMC Simmler 63.09 66 P **P 04 22 54.7 +0.2**
baz=63,SNR=12
O12A Currie 63.10 59 ⇓P **P 04 22 55.0 +0.6**
baz=63,SNR=88
M14A Sheep Mountain 63.12 57 P **P 04 22 55.0 +0.4**
baz=63,SNR=43
MOOW Moose Ponds 63.13 54⇑*iP* **P 04 22 55.2 +0.6**
comp=Z,84nm,1.3s,mb5.7
TPAW Teton Pass 63.19 54⇑*iP* **P 04 22 55.5 +0.5**
comp=Z,243nm,1.4s,mb6.1
KAF Kangasniemi 63.24 335 *ep* **P 04 22 54.0 -1.1**
comp=Z,3.5nm,0.3s,mb5.0,baz=37,slow=6.2
KAF Kangasniemi 63.24 335 *eP* **P 04 22 54.0 -1.1**
KAF pmax pmax
comp=Z,4.0nm,0.3s,mb5.0
S09A Goldfield 63.25 63 P **P 04 22 55.6 +0.1**
baz=63,SNR=66
HVU Hansel Valley 63.27 57⇑*iP* **P 04 22 55.8 +0.3**
comp=Z,55nm,1.1s,mb5.6
HVU Hansel Valley 63.27 57⇑*iP* **P 04 22 55.8 +0.3**
HVU pmax pmax
comp=Z,55nm,1.1s,mb5.6
LOHW Long Hollow 63.30 54⇑*iP* **P 04 22 56.4 +0.7**
comp=Z,201nm,1.5s,mb6.0
SNOW Snow King Moun 63.31 54⇑*iP* **P 04 22 56.8 +0.9**
comp=Z,129nm,1.2s,mb5.9
VES Vestal, Richgr 63.32 65 P **P 04 22 55.2 -0.8**
baz=63,SNR=37
REDW Red Top Meadow 63.33 54⇑*iP* **P 04 22 56.6 +0.7**
comp=Z,258nm,1.4s,mb6.2
R10A Warm Springs 63.44 62 P **P 04 22 57.0 +0.2**
baz=63,SNR=32
PKM Peak Mountain 63.47 67 ⇓P **P 04 22 57.4 +0.4**
baz=63,SNR=17
Q11A Duckwater 63.47 61 ⇓P **P 04 22 56.5 -0.5**
baz=63,SNR=26
DGMT Dagmar 63.48 47⇑*iP* **P 04 22 56.5 -0.3**
comp=Z,125nm,1.2s,mb5.9
DGMT LR LR
comp=Z,1μm,21.0s,MS5.1
S10A Tonopah Range, 63.50 62 P **P 04 22 57.3 +0.1**
baz=63,SNR=43
P12A McGill 63.51 60 P **P 04 22 57.5 +0.2**
baz=63,SNR=42
AHID Auburn Hatcher 63.58 55⇑*iP* **P 04 22 57.8 +0.2**
comp=Z,133nm,1.6s,mb5.7
AHID LR LR
comp=Z,843nm,21.0s,MS4.9
GRAC Grapevine Rang 63.63 63 ⇑P **P 04 22 58.4 +0.4**
baz=63,SNR=15
N14A Grayback Hills 63.63 58 ⇑P **P 04 22 58.2 +0.2**
baz=63,SNR=35
LAO LASA Array 63.63 49⇑*iP* **P 04 22 58.1 +0.3**
comp=Z,134nm,1.3s,mb5.8
LAO LR LR
comp=Z,1μm,20.0s,MS5.0
O13A Hicks Ranch, I 63.63 59 ⇑P **P 04 22 58.5 +0.5**
baz=63,SNR=35
M15A Larsen Ranch, 63.66 57 P **P 04 22 58.6 +0.4**
baz=63,SNR=120
BGU Big Grassy Mou 63.67 58⇑*iP* **P 04 22 58.2 0.0**
AJM Ajmer 63.67 281 *eP* **P 04 22 58.5 +0.1**
AJM AMb AMB 04 23 01.4
comp=Z,162nm,1.2s,mb5.9
VIS Vishakhapatnam 63.69 268 *eP* **P 04 22 59.3 +0.6**
VIS AMb AMB 04 23 02.3
comp=Z,120nm,1.4s,mb5.7
VIS *i* S **S 04 31 30.8 +1.0**
SPUT South Promonto 63.76 57⇑*iP* **P 04 22 59.1 +0.3**
ISA Isabella 63.81 65⇑*iP* **P 04 22 57.6 -1.6**
comp=Z,64nm,1.0s,mb5.6
ISA LR LR
comp=Z,691nm,22.0s,MS4.8
ISA Isabella 63.81 65⇑*iP* **P 04 22 57.6 -1.6**
ISA pmax pmax
comp=Z,64nm,1.0s,mb5.6
ISA MLR MLR
comp=Z,691nm,22.0s,MS4.8
ISA Isabella 63.81 65 ⇓P **P 04 22 58.1 -1.2**
baz=64,SNR=30
R11A Troy Canyon, C 63.84 61 ⇑P **P 04 22 59.5 +0.2**
baz=64,SNR=115
Q12A Willow Creek R 63.84 60 P **P 04 22 59.8 +0.5**
baz=64,SNR=54
FIA1 FINESS Array S 63.84 335 *eP* **P 04 22 57.9 -1.1**
FINES FINESS Array B 63.84 335 P **P 04 22 57.5 -1.5**
FINES 04 32 46.7
FINES FINESS Array B 63.84 335 P **P 04 22 57.5 -1.5**
comp=Z,15nm,0.7s,mb5.2,baz=43,slow=8.4,SNR=5.5
FINES ScS ScS 04 32 46.6 -1.9
comp=Z,1.9nm,1.1s,baz=289,slow=12,SNR=2.5
FINES PKPPKP 04 51 41.2
comp=Z,1.6nm,0.9s,baz=332,slow=11,SNR=5.2
FINES LR LR 04 54 40.6
comp=Z,1μm,20.3s,MS5.2,baz=208,slow=40
ARVC Arvin 63.94 66 P **P 04 22 59.6 -0.5**
baz=64,SNR=23
BHPL Bhopal 63.95 277 *eP* **P 04 23 00.6 +0.2**
BHPL AMb AMB 04 23 03.3
comp=Z,299nm,1.3s,mb6.2
N15A Stansbury Isla 63.99 57 P **P 04 23 00.8 +0.5**
baz=64,SNR=28
P13A Bates Ranch, G 64.05 59 ⇑P **P 04 23 01.0 +0.2**
baz=64,SNR=47
HWUT Hardware Ranch 64.07 56⇑*iP* **P 04 23 01.0 +0.2**
comp=Z,92nm,1.2s,mb5.7
HWUT LR LR
comp=Z,741nm,22.0s,MS4.8
MPMC Manual Prospec 64.16 64 ⇑P **P 04 23 01.7 +0.2**
baz=64,SNR=123
S11A Rachel 64.19 62 P **P 04 23 02.2 +0.5**
baz=64,SNR=38
NGP Nagpur 64.26 274 *eP* **P 04 23 01.6 -0.8**
NGP *ex* x 04 23 04.4
comp=Z,177nm,1.5s
NGP *eS* **S 04 31 34.7 -2.2**
DUG Dugway 64.27 58⇑*iP* **P 04 23 01.9 -0.3**
comp=Z,171nm,1.2s,mb6.0
DUG LR LR
comp=Z,731nm,19.0s,MS4.9
DUG Dugway 64.27 58⇑*iP* **P 04 23 01.9 -0.3**
DUG pmax pmax
comp=Z,171nm,1.2s,mb6.0
DUG MLR MLR
comp=Z,731nm,19.0s,MS4.9
DUG Dugway 64.27 58 ⇓P **P 04 23 02.7 +0.6**
baz=64
FURC Furnace Creek, 64.28 63 P **P 04 23 02.5 +0.2**
baz=64,SNR=61
MOS Moscow 64.29 326 *eP* **P 04 23 03.3 +1.2**
MOS *e* 04 31 31.6
MOS *e* 04 32 50.4
MOS pmax pmax
comp=Z,103nm,1.4s,mb5.7
MOS MLR MLR
comp=Z,1μm,22.0s,MS5.0
OSI Osito Adit 64.33 66 P **P 04 23 02.9 +0.2**
baz=64,SNR=9.3
TPNV Topopah Spring 64.34 63⇑*iP* **P 04 23 02.2 -0.5**
comp=Z,202nm,1.3s,mb6.0
TPNV LR LR
comp=Z,770nm,21.0s,MS4.9
TPNV Topopah Spring 64.34 63⇑*iP* **P 04 23 02.2 -0.5**
TPNV pmax pmax
comp=Z,202nm,1.3s,mb6.0
TPNV MLR MLR
comp=Z,770nm,21.0s,MS4.9
TPNV Topopah Spring 64.34 63 ⇑P **P 04 23 02.8 +0.1**
baz=64
PSI Prapat 64.36 244 P **P 04 23 02.9 -0.2**
PSI S **S 04 31 37.9 -0.4**
PSI Prapat 64.36 244 P **P 04 23 02.9 -0.2**
comp=Z,13nm,0.9s,mb5.0,baz=37,slow=2.9,SNR=10
PSI S **S 04 31 37.9 -0.4**
comp=Z,1.3nm,0.6s,baz=358,slow=21,SNR=2.5
NOQ North Oquirrh 64.37 57⇑*iP* **P 04 23 02.9 0.0**
comp=Z,152nm,1.1s,mb5.9
LRMC Laurel Mountai 64.42 65 P **P 04 23 03.1 -0.2**
baz=64,SNR=19
BW06 Boulder Array 64.43 54⇑*iP* **P 04 23 03.0 -0.2**
comp=Z,209nm,2.1s,mb5.8
BW06 LR LR
comp=Z,703nm,22.0s,MS4.8
PDAR Pinedale Array 64.43 54 P **P 04 23 03.2 0.0**
comp=Z,43nm,0.9s,mb5.5,baz=292,slow=2.3,SNR=233
PDAR S **S 04 31 40.1 +1.6**
comp=Z,0.3nm,0.6s,baz=113,slow=3.9,SNR=3.0
PDAR LR LR 04 49 07.7
comp=Z,573nm,21.3s,MS4.7,baz=331,slow=34
PDAR PKPPKP 04 51 46.1
comp=Z,1.1nm,0.9s,baz=142,slow=5.1,SNR=5.6
R12A Pony Springs, 64.43 61 P **P 04 23 03.4 +0.1**
baz=64,SNR=58
BLG Laguna Peak 64.45 67 ⇓P **P 04 23 03.2 -0.3**
baz=64,SNR=5.3
CTU Camp Tracy 64.56 57⇑*iP* **P 04 23 04.0 0.0**
comp=Z,62nm,1.2s,mb5.5
EDW2 Edwards Air Fo 64.62 65 P **P 04 23 04.5 0.0**
baz=64,SNR=81
U10A Ash Meadows, A 64.64 63 P **P 04 23 05.1 +0.4**
baz=64,SNR=34
SNCC San Nicolas Is 64.72 68 ⇑P **P 04 23 05.3 +0.1**
baz=64
NSS Namsos 64.73 343 *eP* **P 04 23 03.2 -1.6**
comp=Z,89nm,1.4s,mb5.6
NSS Namsos 64.73 343 *eP* **P 04 23 03.2 -1.6**
NSS AMb AMB 04 23 12.8
comp=Z,89nm,1.4s,mb5.6
S12A Delamar Landin 64.76 61 P **P 04 23 06.1 +0.7**
baz=64,SNR=57
T11A Corn Creek, Al 64.78 62 P **P 04 23 05.8 +0.2**
baz=65,SNR=93
JLU Jordanelle 64.79 57⇑*eP* **P 04 23 05.8 +0.2**
DECC Green Verdugo 64.82 66 ⇑P **P 04 23 05.6 -0.3**
baz=65,SNR=12
NLU North Lily Min 64.86 58⇑*iP* **P 04 23 06.1 +0.1**
SHOC Shoshone 65.01 64 ⇑P **P 04 23 06.9 -0.1**
baz=65,SNR=17
DAU Daniels Canyon 65.03 57 *eP* **P 04 23 07.7 +0.6**
MPU Maple Canyon 65.07 58⇑*iP* **P 04 23 07.5 0.0**
comp=Z,105nm,1.0s,mb5.8
MPU LR LR
comp=Z,2μm,21.0s,MS5.2
GSC Goldstone 65.08 64⇓*iP* **P 04 23 06.8 -0.7**
comp=Z,95nm,1.0s,mb5.8
GSC Goldstone 65.08 64⇓*iP* **P 04 23 06.8 -0.7**
GSC pmax pmax
comp=Z,95nm,1.0s,mb5.8
GSC Goldstone 65.08 64 P **P 04 23 07.4 -0.1**
baz=65,SNR=45
OBN Obninsk 65.16 326 *eP* **P 04 23 07.2 -0.5**
comp=Z,62nm,0.9s,mb5.6
OBN LR LR
comp=Z,2μm,22.0s,MS5.2
OBN Obninsk 65.16 326⇓*eP* **P 04 23 07.3 -0.4**
OBN *e* pP 04 23 19.3 -1.1
OBN 04 23 41.0
OBN 04 25 41.0
OBN *e*S S 04 31 50.5 +3.4
OBN pmax pmax
comp=Z,31nm,1.0s,mb5.3
OBN MLR MLR
comp=Z,1μm,22.0s,MS5.1
FMP Fort Macarthur 65.19 67 ⇑P **P 04 23 08.3 0.0**
baz=65
U11A Corn Creek 65.21 63 ⇓P **P 04 23 09.1 +0.8**
baz=65,SNR=26
RRX Edison Barstow 65.23 65 ⇑P **P 04 23 08.8 +0.2**
baz=65
BFSC Mount Baldy St 65.25 66 ⇓P **P 04 23 08.8 +0.1**
baz=65,SNR=32
MEF Metsahovi 65.32 335 P **P 04 23 07.5 -1.2**
CIS Catalina Islan 65.33 67 ⇑P **P 04 23 08.7 -0.4**
baz=65,SNR=5.8
S13A Holt Ranch, En 65.37 61 ⇑P **P 04 23 09.9 +0.5**
baz=65,SNR=60
R14A James Farms, M 65.39 60 ⇑P **P 04 23 09.9 +0.3**
baz=65,SNR=23
T12A Moapa 65.42 62 ⇑P **P 04 23 10.1 +0.3**
baz=65,SNR=9.1
ARUT Antelope Range 65.48 60 *eP* **P 04 23 10.1 0.0**
TUQ Turquoise Mtn. 65.53 64 P **P 04 23 10.6 +0.2**
baz=65,SNR=40
V11A Goodsprings 65.57 63 P **P 04 23 11.0 +0.3**
baz=65,SNR=12
S14A Cedar City 65.66 60 P **P 04 23 11.6 +0.4**
baz=65,SNR=18
HEC Hector,Ludlow 65.68 65 P **P 04 23 11.5 +0.1**
baz=66,SNR=52
CCUT Cedar City 65.69 61⇑*iP* **P 04 23 11.7 +0.2**
T13A Saint George 65.71 61 ⇑P **P 04 23 12.3 +0.7**
baz=66,SNR=63
U12A Valley of Fire 65.72 62 ⇑P **P 04 23 12.0 +0.4**
baz=66
MSU Marysvale 65.75 59 *eP* **P 04 23 12.2 +0.4**
TMUT Trail Mountain 65.79 58⇑*iP* **P 04 23 12.3 +0.2**
AKL Akola 65.95 275 *eP* **P 04 23 13.8 +0.5**
AKL AMb AMB 04 23 17.5
comp=Z,172nm,1.4s,mb5.9
MURC Murrieta 65.95 66 P **P 04 23 12.9 -0.3**
baz=66,SNR=39
VSU Vasula 66.03 333⇑*eP* **P 04 23 12.9 -0.4**
U13A Pakoon Wash 66.08 62 ⇓P **P 04 23 14.6 +0.6**
baz=66,SNR=105
GMRC Granite Mounta 66.13 64 P **P 04 23 14.3 0.0**
baz=66,SNR=88
T14A Hurricane 66.17 61 P **P 04 23 15.2 +0.6**
baz=66,SNR=56
ULM Lac du Bonnet 66.18 41⇑*iP* **P 04 23 13.2 -1.2**
comp=Z,24nm,0.8s,mb5.3
ULM LR LR
comp=Z,1μm,21.0s,MS5.1
ULM Lac du Bonnet 66.18 41 P **P 04 23 13.6 -0.8**
comp=Z,14nm,0.6s,mb5.2,baz=314,slow=6.9,SNR=54
ULM S S 04 31 58.5 -1.2
comp=Z,0.6nm,0.4s,baz=1.8,slow=21,SNR=1.7
ULM PKPPKP 04 51 44.0
comp=Z,2.9nm,0.9s,baz=197,slow=2.8,SNR=4.7
W12A Cal Nev Ari 66.27 63 P **P 04 23 15.4 +0.2**
baz=66,SNR=45
SRU San Rafael 66.31 58⇑*iP* **P 04 23 15.1 -0.3**
comp=Z,90nm,0.9s,mb5.8
SRU San Rafael 66.31 58⇑*iP* **P 04 23 15.1 -0.3**
SRU pmax pmax
comp=Z,90nm,0.9s,mb5.8
GSI Gunungsitoli 66.37 244 P **P 04 23 18.5 +2.4**
PFO Pinyon Flat Ob 66.41 66 P **P 04 23 15.0 -1.1**
comp=Z,277nm,1.3s,mb6.1,SNR=11
PFO Pinyon Flat Ob 66.41 66⇑*iP* **P 04 23 15.2 -0.9**
comp=Z,96nm,1.5s,mb5.6
PFO LR LR
comp=Z,836nm,21.0s,MS4.9
PFO Pinyon Flat Ob 66.41 66⇑*iP* **P 04 23 15.2 -0.9**
PFO pmax pmax
comp=Z,96nm,1.5s,mb5.6
PFO MLR MLR
comp=Z,836nm,21.0s,MS4.9
PFO Pinyon Flat Ob 66.41 66 P **P 04 23 15.6 -0.5**
baz=66,SNR=11
BELC Belle Mtn. 66.44 65 P **P 04 23 15.7 -0.6**
baz=66,SNR=25
RWWY Rawlins 66.45 54⇑*iP* **P 04 23 15.9 -0.3**
comp=Z,64nm,1.1s,mb5.6
109C Camp Elliot, M 66.48 67 P **P 04 23 16.3 -0.3**
baz=66,SNR=22
RSSD Black Hills 66.50 50 *eP* **P 04 23 15.7 -0.9**
comp=Z,58nm,0.9s,mb5.6
RSSD LR LR
comp=Z,11μm,22.0s,MS6.0
RSSD Black Hills 66.50 50 *eP* **P 04 23 15.7 -0.8**
RSSD pmax pmax
comp=Z,58nm,0.9s,mb5.6
RSSD MLR MLR
comp=Z,11μm,22.0s,MS6.0
U14A Mt Trumbull 66.55 61 P **P 04 23 17.5 +0.5**
baz=66,SNR=93
T15A Red Dirt Ranch 66.62 60 P **P 04 23 17.8 +0.4**
baz=66,SNR=91
NEE2 Needles Airpor 66.77 64 ⇓P **P 04 23 18.1 -0.3**
baz=67,SNR=9.1
IRM Iron Mountain 66.85 64 P **P 04 23 19.0 0.0**
baz=67,SNR=36
MONP Monument Peak 66.91 66 ⇓P **P 04 23 19.2 -0.1**
baz=67
VRSR Storozhevoye 66.98 321 *eP* **P 04 23 20.8 +1.4**
VRSR pmax pmax
comp=N,10.0nm,0.9s
VRSR pmax pmax
comp=E,9.0nm,0.9s
VRSR pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
VRSR MLR MLR
comp=N,250nm,19.0s,MS4.5
VRSR MLR MLR
comp=E,180nm,18.0s,MS4.5
VRSR MLR MLR
comp=Z,330nm,18.0s,MS4.6
W13A Hualapai Mount 67.00 63 P **P 04 23 20.0 +0.1**
baz=67,SNR=26
BC3 Big Chuckw Mtn 67.00 65 ⇓P **P 04 23 19.6 -0.4**
baz=67,SNR=15
V14A Boquillas Ranc 67.11 62 ⇑P **P 04 23 21.2 +0.6**
baz=67,SNR=133
VORD Divnogorie 67.11 321 *eP* **P 04 23 20.2 -0.1**
VORD *eS* S 04 32 03.3 -7.6
VORD pmax pmax
comp=Z,70nm,0.9s,mb5.7
VORD pmax pmax

comp=N,70nm,1.0s
VORD pmax pmax
comp=E,50nm,1.2s
VORD MLR MLR
comp=N,2µm,19.0s,MS5.3
VORD MLR MLR
comp=Z,2µm,19.0s,MS5.3
VORD MLR MLR
comp=E,1µm,17.0s,MS5.3
CTA Charters Tower 67.13 187 *e*P **P 04 23 19.0 -1.6**
comp=E,12nm,1.1s,mb4.8
CTA Charters Tower 67.13 187 P **P 04 23 18.8 -1.9**
comp=E,16nm,1.0s,mb5.0,baz=26,slow=2.1,SNR=4.2
CTA LR LR 04 49 20.8
comp=E,239nm,21.9s,MS4.4,baz=30,slow=33
CTAO Charters Tower 67.13 187 *e*P **P 04 23 18.7 -2.0**
comp=E,26nm,1.4s,mb5.1
CTAO LR LR
comp=Z,344nm,20.0s,MS4.6
CTAO Charters Tower 67.13 187 *e*P **P 04 23 18.7 -1.9**
CTAO pmax pmax
comp=Z,26nm,1.4s,mb5.1
CTAO MLR MLR
comp=Z,344nm,20.0s,MS4.6
HYB Hyderabad 67.16 271 *e*P **P 04 23 21.5 +0.4**
comp=Z,60nm,1.0s,mb5.6
HYB Hyderabad 67.16 271 *e*P **P 04 23 21.5 +0.4**
HYB pmax pmax
comp=Z,60nm,1.0s,mb5.6
HYB Hyderabad 67.16 271 *i* P **P 04 23 21.5 +0.4**
comp=Z,60nm,1.0s,mb5.6
HYB *e*pP pP 04 23 33.0 -0.8
T16A Glen Canyon Da 67.17 60 ⇓P **P 04 23 20.5 -0.4**
baz=67,SNR=20
LEM Lembang 67.19 230 P **P 04 23 20.8 -0.4**
DVTC Desert V Tower 67.27 66 ⇑P **P 04 23 19.6 -2.0**
baz=67,SNR=15
SWSC Sam W. Stewart 67.27 66 ⇓P **P 04 23 20.7 -0.9**
baz=67,SNR=7.4
X13A Yucca 67.37 63 P **P 04 23 22.2 0.0**
baz=67,SNR=106
PDMCI Parker Dam,Lak 67.38 64 P **P 04 23 21.8 -0.5**
baz=67,SNR=62
W14A Seligman 67.41 62 ⇓P **P 04 23 23.0 +0.5**
baz=67,SNR=75
Y12C Blythe 67.51 64 ⇑P **P 04 23 23.0 -0.2**
baz=67,SNR=40
DOMB Dombas 67.55 343 *e*P **P 04 23 21.0 -1.9**
comp=Z,84nm,1.2s,mb5.6
DOMB Dombas 67.55 343 *e*P **P 04 23 21.0 -1.9**
DOMB AMb AMB 04 23 26.0
comp=Z,84nm,1.2s,mb5.7
AGMN Agassiz Refuge 67.59 42 ⇑*i*P **P 04 23 22.3 -1.1**
comp=Z,29nm,0.8s,mb5.4
AGMN LR LR
comp=Z,976nm,19.0s,MS5.0
PHWY Pilot Hill 67.68 53 *e*P **P 04 23 23.4 -0.7**
GLA Glamis 67.80 65 ⇑*i*P **P 04 23 24.3 -0.6**
comp=Z,146nm,1.0s,mb6.0
GLA Glamis 67.80 65 ⇑*i*P **P 04 23 24.3 -0.6**
GLA pmax pmax
comp=Z,146nm,1.0s,mb6.0
GLA Glamis 67.80 65 ⇓P **P 04 23 24.9 0.0**
baz=68,SNR=85
LATR Latur 67.83 274 *e*P **P 04 23 25.8 +0.4**
LATR AMb AMB 04 23 29.0
comp=Z,63nm,1.1s,mb5.6
Y13A Salome 67.90 64 P **P 04 23 25.7 +0.1**
baz=68,SNR=20
W15A Williams 67.93 62 P **P 04 23 26.5 +0.8**
baz=68,SNR=37
NB2 NORSAR Subarra 68.00 341 P **P 04 23 25.2 -0.5**
comp=Z,97nm,0.9s,mb5.8,baz=29,slow=6.5
NB2 NORSAR Subarra 68.00 341 P **P 04 23 26.1 +0.4**
NOA NORSAR Array B 68.00 341 P **P 04 23 24.7 -1.0**
comp=Z,57nm,0.8s,mb5.6,baz=26,slow=6.2,SNR=111
NOA PKPPKP 04 51 42.4
comp=Z,4.0nm,1.0s,baz=205,slow=3.1,SNR=5.4
NOA LR LR 04 59 23.2
comp=Z,787nm,18.1s,MS5.0,baz=10.0,slow=41
X14A Yava 68.03 63 ⇑P **P 04 23 26.8 +0.5**
baz=68,SNR=65
HFA0 Hagfors New Ar 68.23 340 P **P 04 23 25.9 -1.3**
WUAZ Wupatki 68.23 61 ⇑*i*P **P 04 23 27.8 +0.2**
comp=Z,97nm,1.1s,mb5.8
WUAZ LR LR
comp=Z,658nm,20.0s,MS4.9
WUAZ Wupatki 68.23 61 ⇑P **P 04 23 28.2 +0.5**
baz=68
NAO01 NORSAR Array S 68.25 341 *e*P **P 04 23 26.6 -0.7**
comp=Z,52nm,1.0s,mb5.5
SMCO Snowmass 68.29 56 ⇑*i*P **P 04 23 27.9 0.0**
comp=Z,69nm,0.9s,mb5.7
Y14A Wickenburg 68.32 63 P **P 04 23 28.3 +0.1**
baz=68,SNR=49
X15A Humboldt 68.41 62 ⇓P **P 04 23 29.2 +0.4**
baz=68,SNR=131
BORG Borgarnes 68.47 358 *e*P **P 04 23 28.1 -0.5**
comp=Z,88nm,1.0s,mb5.7
BORG Borgarnes 68.47 358 LR LR 04 56 47.0
comp=Z,407nm,20.9s,MS4.6,baz=44,slow=39
ISCO Idaho Springs 68.63 54 ⇑*i*P **P 04 23 30.3 +0.2**
comp=Z,72nm,1.0s,mb5.5
ISCO LR LR
comp=Z,846nm,22.0s,MS4.9
ISCO Idaho Springs 68.63 54 ⇑*i*P **P 04 23 30.3 +0.3**
ISCO pmax pmax
comp=Z,72nm,1.0s,mb5.6
ISCO MLR MLR
comp=Z,846nm,22.0s,MS4.9
Y15A Casa Rosa Ranc 68.72 63 P **P 04 23 30.7 0.0**
baz=68,SNR=118
Z14A Wintersburg 68.75 64 P **P 04 23 30.7 -0.2**
baz=68,SNR=15
MVCO Mesa Verde 68.77 58 ⇑*i*P **P 04 23 30.9 -0.1**
comp=Z,103nm,1.0s,mb5.7
MVCO LR LR
comp=Z,776nm,21.0s,MS4.9
MVCO Mesa Verde 68.77 58 P **P 04 23 31.1 +0.1**
baz=68
WRAB Tennant Creek 68.84 199 P **P 04 23 30.0 -1.4**
comp=Z,141nm,1.0s,mb5.8,SNR=6.9
WRAB Tennant Creek 68.84 199 *e*P **P 04 23 30.6 -0.7**
comp=Z,45nm,1.1s,mb5.3
WRAB LR LR
comp=Z,921nm,20.0s,MS5.0
WRAB Tennant Creek 68.84 199 ⇑*e*P **P 04 23 29.1 -2.3**
WB2 Warramunga Arr 68.85 199 *e*P **P 04 23 29.9 -1.5**
WRA Warramunga Arr 68.85 199 P **P 04 23 30.1 -1.3**
comp=Z,23nm,1.1s,mb5.0,baz=17,slow=6.7,SNR=45
WRA LR LR 04 51 02.1
comp=Z,233nm,20.7s,MS4.4,baz=15,slow=34
WRA PKPPKP 04 51 43.0
comp=Z,2.3nm,0.9s,baz=198,slow=3.5,SNR=5.7
X16A Lo Mia Camp, P 68.94 62 P **P 04 23 32.4 +0.3**
baz=69,SNR=121
MAK Makhachkala 69.01 311 *e*P **P 04 23 27.2 -5.1**
MAK *e*S S 04 32 35.2 +1.4
MAK pmax pmax
comp=Z,149nm,1.4s,mb5.7
MAK MLR MLR
comp=Z,4µm,17.0s,MS5.7
OSL Oslo 69.10 341 *e*P **P 04 23 34.2 +1.6**
comp=Z,109nm,1.3s,mb5.6
OSL Oslo 69.10 341 *e*P **P 04 23 34.2 +1.6**
OSL AMb AMB 04 23 35.9
comp=Z,109nm,1.3s,mb5.6
BHJ Bhuj 69.19 282 *e*P **P 04 23 33.8 +0.1**
BHJ AMb AMB 04 23 37.5
comp=Z,223nm,1.3s,mb5.9
Y16A Circle Bar Ran 69.29 62 ⇓P **P 04 23 34.6 +0.3**
baz=69,SNR=75
FITZ Fitzroy Crossi 69.49 208 *e*P **P 04 23 35.1 -0.3**
comp=Z,46nm,1.1s,mb5.3
FITZ Fitzroy Crossi 69.49 208 P **P 04 23 35.2 -0.2**
comp=Z,35nm,1.1s,mb5.2,baz=25,slow=5.9,SNR=21
POO Poona 69.60 276 *e*P **P 04 23 36.4 +0.1**
POO AMb AMB 04 23 39.8
comp=Z,156nm,1.2s,mb5.8
KONO Kongsberg 69.61 341 *e*P **P 04 23 35.7 0.0**
comp=Z,67nm,1.0s,mb5.5
KONO LR LR
comp=Z,1µm,20.0s,MS5.1
KONO Kongsberg 69.61 341 *e*S S 04 32 37.3 -3.0
KONO AMS AMS 05 00 18.4
comp=Z,885nm,17.0s,MS5.1
KONO Kongsberg 69.61 341 *e*P **P 04 23 35.7 -0.1**
KONO pmax pmax
comp=Z,67nm,1.0s,mb5.5
KONO MLR MLR
comp=Z,1µm,20.0s,MS5.1
115A Sonoran Desert 69.64 64 P **P 04 23 36.8 +0.4**
baz=69,SNR=73
Z16A Peralta Trail, 69.69 63 P **P 04 23 36.6 -0.1**
baz=70,SNR=43
RUND Rundenannen 69.78 344 *e*P **P 04 23 38.9 +2.1**
comp=Z,143nm,1.3s,mb5.7
RUND Rundenannen 69.78 344 *e*P **P 04 23 38.9 +2.1**
RUND AMb AMB 04 23 42.7
comp=Z,143nm,1.2s,mb5.8
EYMN Ely 69.83 40 ⇑*i*P **P 04 23 36.1 -1.2**
comp=Z,90nm,1.3s,mb5.5
EYMN LR LR
comp=Z,825nm,20.0s,MS5.0
116A Eloy 70.05 64 P **P 04 23 39.1 +0.1**
baz=70,SNR=40
SDCO Great Sand Dun 70.12 56 ⇑*i*P **P 04 23 39.4 +0.1**
comp=Z,60nm,1.4s,mb5.3
SDCO LR LR
comp=Z,687nm,21.0s,MS4.9
KAD Karad 70.22 274 *e*P **P 04 23 40.5 +0.3**
KAD AMb AMB 04 23 43.4
comp=Z,108nm,0.9s,mb5.8
BLS5 Blasjo 70.48 343 *e*P **P 04 23 41.0 -0.1**
comp=Z,31nm,1.0s,mb5.2
BLS5 Blasjo 70.48 343 *e*P **P 04 23 41.0 -0.1**
BLS5 AMb AMB 04 23 45.0
comp=Z,31nm,1.1s,mb5.2
ECSD EROS,Sioux Fal 70.56 46 ⇑*i*P **P 04 23 40.8 -1.0**
comp=Z,101nm,1.1s,mb5.7
ECSD LR LR
comp=Z,995nm,20.0s,MS5.1
216A Three Points, 70.59 64 P **P 04 23 42.5 +0.2**
baz=70,SNR=28
Z18A Geronimo 70.71 62 ⇓P **P 04 23 43.6 +0.7**
baz=70,SNR=8.2
KIV Kislovodsk 70.71 314 P **P 04 23 45.1 +2.3**
comp=Z,384nm,0.9s,mb6.3,SNR=7.7
KIV Kislovodsk 70.71 314 *e*P **P 04 23 42.5 -0.3**
comp=Z,73nm,1.0s,mb5.6
KIV LR LR
comp=Z,2µm,19.0s,MS5.4
KIV Kislovodsk 70.71 314 *e*P **P 04 23 42.8 0.0**
KIV *e*S S 04 32 58.6 +4.8
KIV pmax pmax
comp=Z,75nm,1.1s,mb5.5
KIV pmax pmax
comp=Z,148nm,5.3s
KIV MLR MLR
comp=Z,2µm,18.0s,MS5.4
KIV Kislovodsk 70.71 314 P **P 04 23 46.0 +3.1**
SNR=15
KIV Kislovodsk 70.71 314 P **P 04 23 46.0 +3.1**
SNR=15
KIV Kislovodsk 70.71 314 ⇓*i*P **P 04 23 45.4 +2.6**
TUC Tucson 70.79 63 ⇑*i*P **P 04 23 43.2 -0.3**
comp=Z,62nm,1.1s,mb5.5
TUC LR LR
comp=Z,474nm,22.0s,MS4.7
TUC Tucson 70.79 63 ⇑*i*P **P 04 23 43.2 -0.3**
TUC pmax pmax
comp=Z,62nm,1.1s,mb5.5
TUC MLR MLR
comp=Z,474nm,22.0s,MS4.7
SUW Suwalki 70.82 331 *e*P **P 04 23 42.3 -1.0**
SUW *e*PP PP 04 26 16.1 -3.7
SUW *e*S S 04 32 53.1 -1.5
SUW *e*SKS 04 33 44.3
SUW LMZ 04 56 29.8
comp=Z,1µm,23.5s
SUW Suwalki 70.82 331 *e*P **P 04 23 42.3 -0.9**
SUW *e* 04 26 16.1
SUW *e*S S 04 32 53.1 -1.5
SUW *e* 04 33 44.3
STAV Stavanger 71.08 343 *e*P **P 04 23 44.8 +0.1**
comp=Z,66nm,1.3s,mb5.4
STAV Stavanger 71.08 343 *e*P **P 04 23 44.8 +0.1**
STAV AMb AMB 04 23 48.5
comp=Z,66nm,1.3s,mb5.4
217A Green Valley 71.14 64 P **P 04 23 45.7 +0.1**
baz=71,SNR=46
DGRG David-gareji 71.19 311 P **P 04 23 47.3 +1.6**
MTA Mtatsminda 71.31 311 P **P 04 23 47.0 +0.5**
TBLG Delisi 71.31 312 *e*P **P 04 23 47.8 +1.3**
TBLG Delisi 71.31 312 P **P 04 23 47.8 +1.3**
SNART Snartemo 71.32 342 *e*P **P 04 23 46.2 0.0**
SNART AMb AMB 04 23 51.1
comp=Z,118nm,1.4s,mb5.6
ONI Oni 71.35 313 P **P 04 23 48.8 +2.2**
119A Ashpeak Ranch, 71.37 62 P **P 04 23 47.2 +0.3**
baz=71,SNR=25
AKASG Malin Array Be 71.39 326 *i* P **P 04 23 45.7 -1.1**
AKASG pmax pmax
comp=Z,94nm,0.7s
AKASG Malin Array Be 71.39 326 P **P 04 23 45.6 -1.2**
comp=Z,94nm,0.7s,mb5.8,baz=33,slow=6.2,SNR=132
AKASG S S 04 32 57.0 -4.4
comp=Z,0.1nm,0.2s,baz=33,slow=13,SNR=2.3
AKASG PKPPKP 04 51 37.2
comp=Z,0.1nm,0.2s,baz=230,slow=2.4,SNR=5.8
AKASG LR LR 04 57 06.6
comp=Z,2µm,20.6s,MS5.3,baz=35,slow=38
AKBB Malin Array Si 71.39 326 ⇑*e*P **P 04 23 45.7 -1.1**
KIEV Kiev 71.41 326 *e*P **P 04 23 45.5 -1.4**
comp=Z,101nm,0.8s,mb5.8
KIEV LR LR
comp=Z,2µm,21.0s,MS5.3
KIEV Kiev 71.41 326 *e*P **P 04 23 45.5 -1.4**
KIEV pmax pmax
comp=Z,101nm,0.8s,mb5.8
KIEV MLR MLR
comp=Z,2µm,21.0s,MS5.3
218A Dragoon 71.47 63 ⇓P **P 04 23 48.1 +0.5**
baz=71,SNR=82
LAZ Ladron 71.52 59 *e*P **P 04 23 48.2 +0.3**
ANMO Albuquerque 71.53 58 ⇑*i*P **P 04 23 47.6 -0.3**
comp=Z,54nm,1.1s,mb5.4
ANMO LR LR
comp=Z,761nm,21.0s,MS4.9
ANMO Albuquerque 71.53 58 ⇑*i*P **P 04 23 47.6 -0.3**
ANMO pmax pmax
comp=Z,55nm,1.1s
ANMO MLR MLR
comp=Z,761nm,21.0s
ANMO Albuquerque 71.53 58 LR LR 04 51 26.2
comp=Z,608nm,21.3s,MS4.8,baz=114,slow=33
LENM Lemitar 71.78 59 *e*P **P 04 23 49.7 +0.3**
Y22C iRIS PASSCAL I 71.87 59 ⇑P **P 04 23 51.0 +1.1**
baz=72
318A Bisbee 71.88 63 ⇓P **P 04 23 50.2 +0.1**
baz=72,SNR=115
LPM Los Pinos Moun 71.88 59 *e*P **P 04 23 50.1 +0.1**
219A White Tail Can 71.93 62 ⇑P **P 04 23 50.4 +0.1**
baz=72
BNM Barren Site 71.99 59 *e*P **P 04 23 50.2 -0.5**
COWI Conover 72.28 40 ⇑*i*P **P 04 23 50.9 -1.3**
comp=Z,29nm,0.7s,mb5.3
COWI LR LR
comp=Z,703nm,20.0s,MS4.9
BSD Bornholm Skovb 72.35 336 ⇓*i*P **P 04 23 52.0 -0.5**
BSD *i* 04 33 08.9
BSD pmax pmax
comp=Z,70nm,0.9s,mb5.6
BSD MLR MLR
comp=Z,870nm,20.0s,MS5.0
BSD Bornholm Skovb 72.35 336 ⇓*i*P **P 04 23 52.0 -0.5**
comp=Z,70nm,0.9s,mb5.6
BSD *i* 04 33 08.9
BSD
comp=Z,860nm,20.0s
319A Douglas 72.35 63 ⇓P **P 04 23 53.3 +0.4**
baz=72,SNR=185
SOC Sochi 72.43 316 *i* P **P 04 23 53.7 +0.6**
SOC *e* pP 04 24 08.3 +2.3
SOC *e*PPP 04 28 14.2
SOC *e*S S 04 33 16.0 +2.5
SOC *e* 04 33 45.1
SOC pmax pmax
comp=Z,69nm,0.8s,mb5.6
COP Copenhagen 72.50 338 ⇓*i*P **P 04 23 54.9 +1.6**
COP *i* S S 04 33 16.7 +2.7
COP pmax pmax
comp=Z,42nm,0.9s,mb5.4
COP MLR MLR
comp=Z,350nm,22.0s,MS4.6
COP Copenhagen 72.50 338 ⇓*i*P **P 04 23 54.9 +1.6**
comp=Z,42nm,0.9s,mb5.4
COP *i* S S 04 33 16.7 +2.7
COP
comp=Z,340nm,22.0s
CBKS Cedar Bluff 72.53 52 ⇑*i*P **P 04 23 52.0 -1.9**
comp=Z,131nm,1.4s,mb5.7
CBKS LR LR
comp=Z,519nm,19.0s,MS4.8
CBKS Cedar Bluff 72.53 52 ⇑*i*P **P 04 23 52.0 -1.8**
CBKS pmax pmax
comp=Z,131nm,1.4s,mb5.7
CBKS MLR MLR
comp=Z,519nm,19.0s,MS4.8
ASAR Alice Springs 72.55 199 P **P 04 23 53.4 -0.5**
comp=Z,20nm,0.6s,mb5.2,baz=10,slow=5.8,SNR=323
ANN Anapa 72.57 318 *e*P **P 04 23 54.2 +0.2**
ANN *e* 04 24 10.3
ANN *e* 04 26 35.7
ANN *e*S S 04 33 21.9 +6.8
ANN *e*SS SS 04 38 05.2 +12
ANN pmax pmax
comp=Z,49nm,0.8s,mb5.5
MUD Monsted U'grnd 72.60 340 *i* P **P 04 23 54.0 +0.1**
MUD *i* 04 33 22.7
MUD pmax pmax
comp=Z,56nm,1.0s,mb5.5
MUD MLR MLR
comp=Z,780nm,18.0s,MS5.0
MUD Monsted U'grnd 72.60 340 *i* P **P 04 23 54.0 +0.1**
comp=Z,56nm,1.0s,mb5.4
MUD *i* 04 33 22.7
MUD
comp=Z,780nm,18.0s
PALK Pallekele 72.91 262 *e*P **P 04 23 56.8 +0.4**
comp=Z,24nm,0.8s,mb5.2
PALK LR LR
comp=Z,574nm,21.0s,MS4.8
SCHQ Schefferville 72.97 23 *e*P **P 04 23 55.6 -0.5**
comp=Z,135nm,1.4s,mb5.7
SCHQ LR LR
comp=Z,979nm,20.0s,MS5.1
SCHQ Schefferville 72.97 23 P **P 04 23 55.6 -0.5**
comp=Z,35nm,0.9s,mb5.3,baz=354,slow=6.1,SNR=39
SCHQ LR LR 05 00 30.9
comp=Z,720nm,19.5s,MS5.0,baz=351,slow=40
KOD Kodaikanal 72.97 267 *e*P **P 04 23 58.8 +2.0**
KOD AMb AMB 04 24 00.9
comp=Z,65nm,1.3s,mb5.4
WAR Warsaw 73.01 332 *e*P **P 04 23 58.2 +1.8**
WAR *e*PcP PcP 04 24 09.0 -4.1
WAR *e*S S 04 33 19.3 -0.5
WAR LMZ 04 58 20.2
comp=Z,1µm,21.8s
GKP Gorka Klasztor 73.31 334 *e*P **P 04 23 56.3 -1.9**
GKP *e*PcP PcP 04 24 10.9 -3.5
GKP *e*S S 04 33 22.7 -0.4
GKP *e*SKS 04 33 59.4
GKP LMZ 05 00 29.3
comp=Z,2µm,20.0s
GKP Gorka Klasztor 73.31 334 *e*P **P 04 23 56.3 -1.8**
GKP *e* pP 04 24 10.9 -0.1
GKP *e*S S 04 33 22.7 -0.5
GKP *e* 04 33 59.3
GKP MLR MLR
comp=Z,2µm,20.0s,MS5.4
MVH1 Achvaich 73.75 348 *e*P **P 04 23 59.7 -1.0**
MVH1 *e*P 04 23 59.7
MCD Coleburn Disti 73.94 347 *e*P **P 04 24 00.5 -1.3**
SIM Simferopol' 73.95 320 *c i*P **P 04 24 04.3 +2.2**
SIM *e*S S 04 33 32.3 +1.6
SIM pmax pmax
comp=Z,64nm,0.9s,mb5.5
SIM MLR MLR
comp=Z,2µm,17.3s,MS5.3
KSU1 Kansas State U 73.97 50 ⇑*i*P **P 04 24 00.1 -2.2**
comp=Z,63nm,1.1s,mb5.5
KSU1 LR LR
comp=Z,1µm,20.0s,MS5.2
LVV L'vov 74.03 329 *e*P **P 04 24 02.0 -0.5**
LVV L'vov 74.03 329 *e*P **P 04 24 02.2 -0.3**
LVV *i* pP 04 24 15.4 +0.1
LVV MLR MLR
comp=N,400nm,19.0s,MS4.8
LVV MLR MLR
comp=Z,600nm,19.0s,MS4.9
LVV MLR MLR
comp=E,300nm,18.0s,MS4.8
MME1 Meikle Cairn 74.15 347 *e*P **P 04 24 01.8 -1.2**
MME1 *e*P 04 24 01.8
KMPD K-Podol'skiy 74.18 326 P **P 04 24 03.0 -0.4**
JFWS Jewell Farm 74.23 43 ⇑*i*P **P 04 24 02.1 -1.7**
comp=E,24nm,0.8s,mb5.2
JFWS LR LR
comp=Z,987nm,20.0s,MS5.1
JFWS Jewell Farm 74.23 43 ⇑*i*P **P 04 24 02.1 -1.7**
JFWS pmax pmax
comp=Z,24nm,0.8s,mb5.2
JFWS MLR MLR
comp=Z,987nm,20.0s,MS5.1
MDO Dochfour 74.24 348 *e*P **P 04 24 02.6 -1.0**
AMTX Amarillo 74.32 56 ⇑*i*P **P 04 24 03.8 -0.6**
comp=Z,134nm,1.0s,mb5.8
AMTX LR LR
comp=Z,685nm,21.0s,MS4.9
MBWA Marble Bar 74.36 212 ⇑*e*P **P 04 24 03.9 -0.7**
comp=Z,31nm,1.2s,mb5.1
TVAN Van 74.36 310 *i* P **P 04 24 06.8 +2.2**
ERZM Erzurum 74.38 312 *i* P **P 04 24 05.0 +0.3**
MNTX Cornudas Mount 74.47 60 ⇑*i*P **P 04 24 04.9 -0.5**
comp=Z,80nm,1.2s,mb5.5
MNTX LR LR
comp=Z,456nm,21.0s,MS4.7
KPL Plockton 74.52 348 P **P 04 24 04.9 -0.3**
KPL AMb AMB 04 24 11.6
comp=Z,104nm,1.1s,mb5.7
KPL Plockton 74.52 348 *e*P **P 04 24 04.9 -0.3**
KPL AMb AMB 04 24 11.6
comp=Z,104nm,1.1s,mb5.7
KPL AMS AMS 05 03 49.6
comp=Z,426nm,19.8s,MS4.7
KIS Kishinev 74.54 324 ⇓*i*P **P 04 24 05.0 -0.5**
KIS *i* pP 04 24 15.0 -3.4
KIS *e* 04 27 02.0
KIS *e* 04 28 44.0
KIS *e* 04 33 42.0
KIS *e*PS 04 34 10.0
KIS pmax pmax
comp=Z,400nm,1.0s,mb6.3
KIS MLR MLR
comp=Z,2µm,16.0s,MS5.4
KIS MLR MLR
comp=N,1µm,14.0s,MS5.3
KIS MLR MLR
comp=E,700nm,15.0s,MS5.3
KIS MLR MLR
comp=Z,1µm,16.0s
KIS Kishinev 74.54 324 ⇓*i*P **P 04 24 05.0 -0.5**
comp=Z,400nm,1.0s,mb6.3
KIS Kishinev 74.54 324 *i* PcP PcP 04 24 15.0 -4.8
TRD Trivandrum 74.56 266 *e*P **P 04 24 06.6 +0.5**
TRD AMb AMB 04 24 09.6
comp=Z,76nm,1.0s,mb5.6
BSEG Bad Segeberg 74.61 338 *e*P **P 04 24 05.7 -0.1**
comp=Z,94nm,1.2s,mb5.6
KWP Kalwaria 74.66 329 *e*P **P 04 24 04.7 -1.4**
KWP *e*PcP PcP 04 24 19.1 -1.2
KWP *e*PP PP 04 26 49.4 -3.3
KWP *e*S S 04 33 37.5 -1.0
KWP *e*SKS 04 34 12.2
KWP *e*ScS ScS 04 34 37.6 +24
KWP LMZ 04 58 37.8
comp=Z,2µm,21.6s
KWP Kalwaria 74.66 329 *e*P **P 04 24 04.7 -1.4**
KWP *e*PcP PcP 04 24 19.1 -1.1
KWP *e*PP PP 04 26 49.4 -3.3
KWP *e*S S 04 33 37.5 -1.0
KWP *e*SKS 04 34 12.2
KWP *e*ScS ScS 04 34 37.6 +24
KWP Kalwaria 74.66 329 P **P 04 24 06.3 +0.2**
KWP pmax pmax
comp=Z,220nm,1.1s,mb6.0
KWP Kalwaria 74.66 329 ⇓*i*P **P 04 24 06.9 +0.8**

KOPT Kop Dagi 74.74 313 *i* P **P 04 24 09.1 +2.3**
HAKT HAKKARI 74.92 309 *i* P **P 04 24 09.1 +1.2**
KAR1 Arisaig 74.96 348 *eP* **P 04 24 07.2 -0.5**
RUE Ruedersdorf 75.00 336 *eP* **P 04 24 07.8 -0.2**
comp=Z,65nm,0.9s,mb5.6
RUE *e* pP 04 24 20.4 -0.5
ELO Logie Almond 75.08 347 *eP* **P 04 24 07.6 -0.9**
OJC Ojcow 75.14 331 *eP* **P 04 24 08.8 -0.1**
GRSN GIRESUNGRSN 75.15 315 *i* P **P 04 24 08.6 -0.5**
BNGL BINGOL 75.21 312 *i* P **P 04 24 11.4 +1.9**
GLMI Grayling 75.25 39 *eP* **P 04 24 08.9 -0.8**
comp=Z,186nm,1.3s,mb5.9
GLMI *ep*P pP 04 24 18.0 -4.6
EBH Black Hill 75.26 347 *eP* **P 04 24 08.6 -0.9**
STHS Stebnicka Huta 75.34 330 *i* P **P 04 24 11.0 +0.9**
comp=Z,47nm,0.9s,mb5.4
STHS Stebnicka Huta 75.34 330 *i* P **P 04 24 11.0 +0.9**
STHS pmax pmax
comp=Z,47nm,0.9s,mb5.4
STHS Stebnicka Huta 75.34 330 *i* P **P 04 24 10.9 +0.8**
KOLS Kolonicke sedl 75.40 329 *eP* **P 04 24 10.2 -0.2**
ESY Stoneypath 75.44 346 *eP* **P 04 24 10.4 -0.1**
EAB Aberfoyle 75.45 347 *eP* **P 04 24 10.5 0.0**
EDI Edinburgh 75.53 347 AMS AMS 05 03 23.5
comp=Z,502nm,19.5s
EDI Edinburgh 75.53 347 AMS AMS 05 03 23.5
comp=Z,502nm,19.5s,MS4.8
EAU Auchinoon 75.64 347 *eP* **P 04 24 11.8 +0.1**
UZH Uzhgorod 75.65 329 *i* P **P 04 24 12.0 +0.2**
EBL Broad Law 75.65 346 *eP* **P 04 24 11.0 -0.7**
NIE Niedzica 75.66 330 *eP* **P 04 24 12.4 +0.5**
CRVS Cervenica-Dubn 75.71 330 *eP* **P 04 24 12.0 -0.2**
KSP Ksiaz 75.71 334 *eP* **P 04 24 10.7 -1.4**
KSP *e*PcP PcP 04 24 23.6 -1.1
KSP *e*PP PP 04 26 58.3 -3.3
KSP *e*S S 04 33 52.3 +2.2
KSP LMZ 05 01 11.1
comp=Z,4µm,19.9s
KSP Ksiaz 75.71 334 *eP* **P 04 24 12.8 +0.6**
KSP *e* pP 04 24 24.6 -0.5
KSP *e*S S 04 33 48.0 -2.1
KSP MLR MLR
comp=Z,4µm,19.9s,MS5.8
RAC Raciborz 75.78 332 *eP* **P 04 24 15.1 +2.5**
RAC LR LR
comp=Z,1µm,18.3s,MS5.3
XSO Sourhope Farm 75.79 346 *eP* **P 04 24 11.4 -1.1**
PGBU Glenifferbraes 75.83 347 *eP* **P 04 24 12.2 -0.6**
PGBU AMb AMB 04 24 18.9
comp=Z,120nm,1.2s,mb5.7
OKC Ostrava-Krasne 76.01 332 *eP* **P 04 24 13.9 0.0**
OKC AMS AMS 05 02 00.0
comp=Z,1µm,15.4s,MS5.3
BANOM Banah 76.02 293 P **P 04 24 15.4 +1.0**
SNR=21
BANOM Banah 76.02 293 P **P 04 24 15.4 +1.0**
SNR=21
WMOK Wichita Mounta 76.04 54⇑ *iP* **P 04 24 13.3 -1.1**
comp=Z,69nm,1.0s,mb5.5
WMOK LR LR
comp=Z,491nm,20.0s,MS4.8
WMOK Wichita Mounta 76.04 54⇑ *iP* **P 04 24 13.3 -1.0**
WMOK pmax pmax
comp=Z,69nm,1.0s,mb5.5
WMOK MLR MLR
comp=Z,491nm,20.0s,MS4.8
UPC Upice 76.09 334 *eP* **P 04 24 14.4 +0.1**
UPC *ep*P pP 04 24 27.5 +0.3
ESK Eskdalemuir 76.11 346 P **P 04 24 14.2 -0.1**
ESK AMb AMB 04 24 23.1
comp=Z,34nm,1.6s,mb5.0
ESK Eskdalemuir 76.11 346 *eP* **P 04 24 14.2 -0.1**
ESK AMb AMB 04 24 23.1
comp=Z,34nm,1.6s,mb5.0
ESK AMS AMS 05 03 39.5
comp=Z,568nm,19.6s,MS4.9
ESK Eskdalemuir 76.11 346 *eP* **P 04 24 13.8 -0.6**
comp=Z,30nm,0.6s,mb5.4
ESK LR LR
comp=Z,734nm,21.0s,MS5.0
DPC Dobruska-Polom 76.14 333 *eP* **P 04 24 14.7 +0.1**
DPC *ep*P pP 04 24 27.7 +0.2
DPC AMS AMS 05 02 10.0
comp=Z,2µm,17.1s,MS5.4
ECK Cauldkaine Hil 76.23 346 *eP* **P 04 24 14.3 -0.7**
MORC Moravsky Berou 76.25 332 *eP* **P 04 24 15.1 -0.2**
comp=Z,58nm,0.9s,mb5.5
MORC Moravsky Berou 76.25 332 *eP* **P 04 24 15.1 -0.2**
MORC pmax pmax
comp=Z,57nm,0.9s,mb5.5
MORC Moravsky Berou 76.25 332⇑ *iP* **P 04 24 15.4 +0.1**
CLL Collm 76.27 336 *i* P **P 04 24 14.7 -0.6**
comp=Z,91nm,1.0s,mb5.7
CLL *i* 04 24 16.9
CLL *i* pP 04 24 27.6 -0.6
CLL *e*S S 04 33 54.0 -2.2
CLL LR LR
comp=Z,1µm,22.8s,MS5.1
CLL Collm 76.27 336 *i* P **P 04 24 14.7 -0.6**
CLL *i* pP 04 24 27.6 -0.6
CLL *e*S S 04 33 54.0 -2.2
CLL pmax pmax
comp=Z,91nm,1.0s,mb5.7
CLL MLR MLR
comp=Z,1µm,22.8s,MS5.1
CLL Collm 76.27 336 *eP* **P 04 24 14.5 -0.8**
comp=Z,105nm,1.2s,mb5.6
CLL Collm 76.27 336 *i* P **P 04 24 14.7 -0.6**
comp=Z,29nm,0.7s,mb5.3
CLL *i* Pmax 04 24 16.9
comp=Z,91nm,1.0s
CLL *i* PcP PcP 04 24 27.6 +0.5
CLL *i* (sP) sP 04 24 32.9 -0.3
CLL *e*PP 04 29 12.0
CLL *e*S S 04 33 54.0 -2.2
CLL *e*(SS) 04 39 36.0
CLL *ex* x 04 43 18.0
CLL Lm 04 58 00.0
comp=N,1µm,21.6s
CLL Lm 04 58 00.0
comp=E,600nm,20.6s
VRI Vrincioaia 76.30 325 P **P 04 24 16.2 +0.6**
VRI Vrincioaia 76.30 325⇑ *iP* **P 04 24 16.1 +0.5**
CFR Carcaliu 76.30 324 P **P 04 24 19.2 +3.6**
KEMA Kemaliye 76.31 314 *i* P **P 04 24 16.7 +1.0**
PLOR Plostina 76.34 325 P **P 04 24 16.3 +0.5**
BOYT Boyabat 76.36 317 *i* P **P 04 24 16.9 +0.9**
BRG Berggiesshubel 76.38 335⇓ *iP* **P 04 24 15.6 -0.4**
comp=E,39nm,1.5s,mb5.1
BRG *i* pP 04 24 28.7 -0.2
BRG S S 04 33 57.0 -0.5
BRG *e* 04 43 28.3
BRG *e* 04 51 32.8
BRG LR LR
comp=Z,580nm,22.0s,MS4.8
BRG Berggiesshubel 76.38 335⇓ *iP* **P 04 24 15.6 -0.4**
BRG *i* pP 04 24 28.7 -0.2
BRG S S 04 33 57.0 -0.5
BRG pmax pmax
comp=Z,39nm,1.5s,mb5.1
BRG MLR MLR
comp=Z,580nm,22.0s,MS4.8
BRG Berggiesshubel 76.38 335 *eP* **P 04 24 15.5 -0.5**
comp=Z,56nm,1.5s,mb5.3
BRG Berggiesshubel 76.38 335⇓ *iP* **P 04 24 15.6 -0.4**
comp=Z,65nm,1.5s,mb5.3
BRG *i* pP 04 24 28.7 -0.2
comp=Z,56nm,1.5s
BRG S S 04 33 57.0 -0.5
BRG *e* 04 43 28.3
comp=Z,29nm,2.5s
BRG *e* 04 51 32.8
comp=Z,21nm,2.0s
BRG
comp=N,584nm,20.3s
BRG
comp=E,853nm,16.2s
BRG
comp=Z,962nm,22.0s
XAL Allendale 76.39 346 *eP* **P 04 24 15.1 -0.8**
KECS Kecovo 76.40 330 *eP* **P 04 24 15.9 -0.2**
comp=Z,22nm,0.9s,mb5.1
KECS *e* pP 04 24 28.9 -0.1
KECS Kecovo 76.40 330 *eP* **P 04 24 15.9 -0.2**
KECS *e* pP 04 24 28.9 -0.1
KECS pmax pmax
comp=Z,22nm,0.9s,mb5.1
CLZ Clausthal 76.50 337 *eP* **P 04 24 16.9 +0.3**
CLZ pmax pmax
comp=Z,179nm,1.3s,mb5.8
CLZ Clausthal 76.50 337 *eP* **P 04 24 16.9 +0.3**
comp=Z,179nm,1.3s,mb5.8
PVCC Panska Ves 76.51 334 *eP* **P 04 24 16.8 +0.1**
PVCC *e*S S 04 33 57.8 -1.1
PVCC AMS AMS 05 00 30.0
comp=Z,2µm,19.4s,MS5.4
HDIL Hopedale 76.51 44⇑ *iP* **P 04 24 15.7 -1.2**
comp=Z,151nm,0.9s,mb5.9
HDIL LR LR
comp=Z,902nm,20.0s,MS5.1
BIDO Bidbid 76.57 290 P **P 04 24 19.3 +1.8**
SNR=6.8
BIDO Bidbid 76.57 290 P **P 04 24 19.3 +1.8**
SNR=6.8
MARD Mardin 76.64 311 *i* P **P 04 24 17.7 0.0**
ELZG Elazig 76.65 313 *i* P **P 04 24 19.6 +1.9**
WBK Wadi Bani Khal 76.67 289 P **P 04 24 20.1 +2.0**
SNR=14
WBK Wadi Bani Khal 76.67 289 P **P 04 24 20.1 +2.0**
SNR=14
IBBN Ibbenburen 76.74 339 *eP* **P 04 24 17.6 -0.3**
comp=Z,123nm,0.9s,mb5.8
TIRR Tirgusor 76.78 323 P **P 04 24 19.8 +1.5**
TIRR Tirgusor 76.78 323⇑ *iP* **P 04 24 19.6 +1.3**
GAL1 Galloway 76.78 347 P **P 04 24 16.9 -1.3**
GAL1 AMb AMB 04 24 23.4
comp=Z,75nm,1.4s,mb5.4
GAL1 Galloway 76.78 347 *eP* **P 04 24 16.9 -1.3**
GAL1 AMb AMB 04 24 23.4
comp=Z,75nm,1.4s,mb5.4
GAL1 AMS AMS 05 03 09.0
comp=Z,375nm,20.9s,MS4.7
HARR Harsova 76.78 323 P **P 04 24 19.0 +0.6**
HARR Harsova 76.78 323⇓ *iP* **P 04 24 18.7 +0.3**
GCL Cushendall 76.79 348 *eP* **P 04 24 17.4 -0.8**
LPIG La Paz 76.86 69 *i* P **P 04 24 19.1 -0.1**
HATD Hatta, Dubai 76.91 292 P **P 04 24 20.5 +1.0**
SNR=23
HATD Hatta, Dubai 76.91 292 P **P 04 24 20.5 +1.0**
SNR=23
MLR Muntele Rosu 76.92 325 P **P 04 24 19.9 +0.8**
MLR Muntele Rosu 76.92 325 P **P 04 24 18.9 -0.2**
MLR S S 04 34 03.6 0.0
MLR pmax pmax
comp=Z,68nm,0.8s
MLR smax
comp=N,2.0nm,0.9s
MLR Muntele Rosu 76.92 325 P **P 04 24 18.9 -0.2**
comp=N,68nm,0.8s,mb5.6,baz=173,slow=7.6,SNR=66
MLR S S 04 34 03.6 0.0
comp=N,2.3nm,0.9s,baz=241,slow=21,SNR=9.8
MLR Muntele Rosu 76.92 325⇑ *iP* **P 04 24 20.2 +1.1**
SMDO Samad 76.95 290 P **P 04 24 20.9 +1.2**
SNR=15
SMDO Samad 76.95 290 P **P 04 24 20.9 +1.2**
SNR=15
VYHS Vyhne 76.95 331 *eP* **P 04 24 19.0 -0.2**
comp=N,28nm,1.0s,mb5.2
VYHS *e* pP 04 24 30.5 -1.6
VYHS Vyhne 76.95 331 *eP* **P 04 24 19.0 -0.2**
VYHS *e* pP 04 24 30.5 -1.6
VYHS pmax pmax
comp=Z,28nm,1.0s,mb5.2
PRA Prague 76.95 334 P **P 04 24 20.0 +0.8**
PRA pP pP 04 24 32.0 -0.1
VRAC Vranov 76.97 333 P **P 04 24 19.9 +0.6**
VRAC Vranov 76.97 333 P **P 04 24 19.1 -0.2**
VRAC pmax pmax
comp=Z,34nm,0.8s
VRAC Vranov 76.97 333 P **P 04 24 19.1 -0.2**
comp=Z,34nm,0.8s,mb5.3,baz=29,slow=5.4,SNR=38
VRAC Vranov 76.97 333⇑ *iP* **P 04 24 19.4 +0.1**
BALT Daday 76.97 318 *i* P **P 04 24 20.8 +1.3**
PRU Pruhonice 76.99 334 *eP* **P 04 24 19.4 0.0**
PRU *ep*P pP 04 24 31.7 -0.7
PRU *e*S S 04 34 01.4 -2.8
PRU AMS AMS 05 00 50.0
comp=Z,1µm,19.4s,MS5.3
JAVC Velka Javorina 77.02 332 P **P 04 24 20.8 +1.2**
KOLL Kolacno 77.02 331 *eP* **P 04 24 19.6 0.0**
KOLL *ep*P pP 04 24 32.3 -0.2
CTKT Corum 77.04 317 *i* P **P 04 24 20.9 +1.1**
HOQ Hoqain 77.05 291 P **P 04 24 20.7 +0.5**
SNR=26
HOQ Hoqain 77.05 291 P **P 04 24 20.7 +0.5**
SNR=26
DRGR 77.05 328 P **P 04 24 20.2 +0.4**
DRGR 77.05 328⇓ *iP* **P 04 24 19.9 +0.1**
ASHO Ashiyiah 77.06 292 P **P 04 24 20.7 +0.4**
SNR=22
ASHO Ashiyiah 77.06 292 P **P 04 24 20.7 +0.4**
SNR=22
MALT Malatya 77.08 313 *eP* **P 04 24 21.1 +1.0**
comp=Z,77nm,1.0s,mb5.6
MALT Malatya 77.08 313 *eP* **P 04 24 21.1 +1.0**
MALT pmax pmax
comp=Z,77nm,1.0s,mb5.6
MALT Malatya 77.08 313⇑ *iP* **P 04 24 22.5 +2.4**
PSZ Piszkesteto 77.09 330 *eP* **P 04 24 20.3 +0.3**
comp=Z,99nm,1.3s,mb5.6
PSZ Piszkesteto 77.09 330 P **P 04 24 20.5 +0.5**
PSZ pmax pmax
comp=Z,99nm,1.3s,mb5.6
PSZ Piszkesteto 77.09 330⇑ *iP* **P 04 24 20.3 +0.3**
PSZ Piszkesteto 77.09 330⇓ *eP* **P 04 24 20.5 +0.5**
ARMA Armidale 77.12 182 *eP* **P 04 24 20.2 0.0**
HPK Haverah Park 77.15 345 P **P 04 24 19.7 -0.5**
HPK AMb AMB 04 24 26.6
comp=Z,149nm,1.0s,mb5.9
HPK Haverah Park 77.15 345 *eP* **P 04 24 19.7 -0.5**
HPK AMb AMB 04 24 26.6
comp=Z,149nm,1.0s,mb5.9
HPK AMS AMS 05 02 04.2
comp=Z,376nm,21.9s,MS4.7
TXAR Lajitas Array 77.20 61 P **P 04 24 20.4 -0.6**
comp=Z,92nm,0.8s,mb5.8,baz=297,slow=4.1,SNR=727
TXAR PKKPbc PKKPbc 04 43 24.9 +0.2
comp=Z,1.1nm,1.0s,baz=62,slow=2.1,SNR=5.9
TANN Tannenbergstha 77.22 336 *eP* **P 04 24 20.8 +0.1**
KRUC Moravsky 77.24 333 P **P 04 24 20.9 0.0**
MOX Moxa 77.25 336 *eP* **P 04 24 20.5 -0.3**
comp=Z,71nm,1.5s,mb5.4
MOX *e* pP 04 24 33.5 -0.3
comp=Z,93nm,1.3s
MOX
comp=Z,500nm,20.0s
MOX Moxa 77.25 336 *eP* **P 04 24 20.5 -0.3**
MOX *e* pP 04 24 33.5 -0.3
MOX pmax pmax
comp=Z,71nm,1.5s,mb5.4
MOX MLR MLR
comp=Z,500nm,20.0s,MS4.8
MOX Moxa 77.25 336 *eP* **P 04 24 20.6 -0.2**
comp=Z,76nm,1.2s,mb5.5
WTSB Winterswijk 77.28 340⇑ *iP* **P 04 24 20.6 -0.4**
comp=Z,49nm,1.1s,mb5.3
WTSB Winterswijk 77.28 340 *i* x x 04 24 33.6
comp=Z,120nm,0.9s
VOIR 77.31 326 P **P 04 24 21.8 +0.5**
VOIR 77.31 326⇓ *iP* **P 04 24 22.1 +0.8**
TREC Trest 77.32 333 *eP* **P 04 24 21.2 -0.1**
TREC *e* pP 04 24 34.2 0.0
TREC MLR MLR
comp=Z,2µm,16.3s,MS5.4
TREC Trest 77.32 333 *eP* **P 04 24 21.2 -0.1**
TREC *ep*P pP 04 24 34.2 0.0
TREC *e*S S 04 33 27.6 -40
TREC AMS AMS 05 02 40.0
comp=Z,2µm,16.3s,MS5.4
NKC Novy Kostel 77.39 335 *eP* **P 04 24 21.3 -0.3**
NKC *e* pP 04 24 34.5 -0.1
NKC *e*S S 04 34 06.5 -2.0
NKC Novy Kostel 77.39 335 *eP* **P 04 24 21.3 -0.3**
NKC *ep*P pP 04 24 34.5 -0.1
NKC *e*S S 04 34 06.5 -2.0
NKC AMS AMS 05 04 20.0
comp=Z,1µm,16.0s,MS5.3
JMDO Jabal Madar 77.40 289 P **P 04 24 23.5 +1.3**
SNR=20
JMDO Jabal Madar 77.40 289 P **P 04 24 23.5 +1.3**
SNR=20
CCM Cathedral Cave 77.50 47⇑ *iP* **P 04 24 21.2 -1.3**
comp=Z,78nm,1.1s,mb5.5
CCM LR LR
comp=Z,854nm,20.0s,MS5.1
CCM Cathedral Cave 77.50 47⇑ *iP* **P 04 24 21.2 -1.3**
CCM pmax pmax
comp=Z,78nm,1.1s,mb5.5
CCM MLR MLR
comp=Z,854nm,20.0s,MS5.1
PSN Preselentsi 77.51 323 P **P 04 24 24.5 +2.1**
PSN Preselentsi 77.51 323 *eP* **P 04 24 23.6 +1.2**
UBBA Unterbreizbach 77.53 337 *eP* **P 04 24 21.9 -0.5**
SLM Saint Louis 77.55 46⇑ *iP* **P 04 24 21.5 -1.2**
comp=Z,150nm,1.3s,mb5.8
SLM Saint Louis 77.55 46⇑ *iP* **P 04 24 21.5 -1.3**
SLM pmax pmax
comp=Z,150nm,1.3s,mb5.8
MODS Modra-Piesok 77.57 332 *eP* **P 04 24 23.1 +0.4**
comp=Z,19nm,1.0s,mb5.0
MODS *e* pP 04 24 36.2 +0.6
MODS Modra-Piesok 77.57 332 *eP* **P 04 24 23.1 +0.4**
MODS *e* pP 04 24 36.2 +0.6
MODS pmax pmax
comp=Z,19nm,1.0s,mb5.0
GMM Mts of Mourne 77.57 348 *eP* **P 04 24 22.0 -0.6**
LHO Holmfirth 77.59 345 *eP* **P 04 24 21.8 -0.9**
AAM Ann Arbor 77.70 40 *eP* **P 04 24 22.9 -0.6**
comp=Z,52nm,0.9s,mb5.5
AAM *e*PcP PcP 04 24 32.0 -1.5
AAM Ann Arbor 77.70 40 *eP* **P 04 24 22.9 -0.6**
AAM *e* 04 24 32.0
AAM pmax pmax
comp=Z,52nm,0.9s,mb5.5
MANZ Manzenberg 77.70 336 *eP* **P 04 24 23.2 -0.2**
BSY Bisya 77.72 290 P **P 04 24 24.8 +0.9**
SNR=25
BSY Bisya 77.72 290 P **P 04 24 24.8 +0.9**
SNR=25
BUD Budapest 77.76 330⇓ *eP* **P 04 24 24.5 +0.7**
ZST Bratislava 77.78 332 *eP* **P 04 24 24.5 +0.6**
comp=Z,42nm,1.1s,mb5.3
ZST *e* pP 04 24 36.9 +0.1
ZST LR LR
comp=Z,900nm,20.8s,MS5.1
ZST Bratislava 77.78 332 *eP* **P 04 24 24.5 +0.6**
ZST *e* pP 04 24 36.9 +0.1
ZST pmax pmax
comp=Z,42nm,1.1s,mb5.3
ZST MLR MLR
comp=Z,900nm,20.8s,MS5.1
ZST Bratislava 77.78 332 *eP* **P 04 24 24.5 +0.6**
ZST *ep*P pP 04 24 36.9 +0.1
ELDT Eldivan 77.78 317 *i* P **P 04 24 25.8 +1.8**
KBI1 Birley Grange 77.81 345 *eP* **P 04 24 23.4 -0.5**
BUC1 Bucharest 77.84 324 P **P 04 24 25.3 +1.1**
ROTZ Rotzenmuhle 77.87 335 *eP* **P 04 24 24.3 0.0**
FVM French Village 77.97 46⇑ *iP* **P 04 24 23.8 -1.3**
comp=Z,32nm,0.9s,mb5.3
FVM French Village 77.97 46⇑ *iP* **P 04 24 23.8 -1.3**
FVM pmax pmax
comp=Z,32nm,0.9s,mb5.2
CDAG Cicekdag 78.03 316 *i* P **P 04 24 23.4 -2.0**
DMUB Kingscourt 78.04 348 *eP* **P 04 24 25.8 +0.6**
DMUB Kingscourt 78.04 348 *eP* pP 04 24 37.8 -0.3
KHC Kasperske Hory 78.04 334 *eP* **P 04 24 25.5 +0.2**
KHC *ep*P pP 04 24 37.6 -0.7
KHC *e*S S 04 34 12.2 -3.4
KHC AMS AMS 05 01 30.0
comp=Z,1µm,18.8s,MS5.3
KWE Weaver Farm 78.09 345 *eP* **P 04 24 25.2 -0.3**
GZR Gura Zlata 78.22 327 P **P 04 24 26.4 +0.1**
GZR Gura Zlata 78.22 327⇑ *iP* **P 04 24 26.4 +0.1**
GRA1 Grafenberg Arr 78.22 336 *eP* **P 04 24 26.7 +0.4**
comp=Z,109nm,1.0s,mb5.7
GRA1 LR LR
comp=Z,900nm,19.7s,MS5.1
GRF Grafenberg Arr 78.22 336 *eP* **P 04 24 26.7 +0.4**
GRF pmax pmax
comp=Z,109nm,1.0s,mb5.7
GRF MLR MLR
comp=Z,900nm,19.7s,MS5.1
GRF Grafenberg Arr 78.22 336 *eP* **P 04 24 26.7 +0.4**
GRF pmax pmax
comp=Z,109nm,1.0s,mb5.7
GRF MLR MLR
comp=Z,900nm,19.7s,MS5.1
GRF Grafenberg Arr 78.22 336 *eP* **P 04 24 26.7 +0.4**
comp=Z,109nm,1.0s,mb5.7
GRF *e*L 05 02 22.9
comp=Z,942nm,19.7s
GRFO Grafenberg 78.22 336 *eP* **P 04 24 26.2 -0.1**
comp=Z,73nm,0.8s,mb5.7
GRFO LR LR
comp=Z,952nm,19.0s,MS5.1
GRFO Grafenberg 78.22 336 P **P 04 24 26.6 +0.3**
GRFO pmax pmax
comp=Z,72nm,0.9s,mb5.6
WET Wettzell 78.24 335 *eP* **P 04 24 26.6 +0.2**
WET pmax pmax
comp=Z,103nm,1.3s,mb5.6
WET Wettzell 78.24 335 *eP* **P 04 24 26.6 +0.2**
comp=Z,103nm,1.3s,mb5.6
GZT Gaziantep 78.25 313 *i* P **P 04 24 27.6 +0.9**
CWF Charnwood Fore 78.26 345 *eP* **P 04 24 25.6 -0.9**
CWF AMb AMB 04 24 32.6
comp=Z,58nm,1.3s,mb5.3
GEC2 GERESS Array S 78.26 334 *eP* **P 04 24 26.3 -0.2**
GEC2 pmax pmax
comp=Z,62nm,1.6s,mb5.3
GEC2 GERESS Array S 78.26 334 *eP* **P 04 24 26.3 -0.2**
comp=Z,62nm,1.6s,mb5.3
GERES GERESS Array B 78.26 334 P **P 04 24 26.0 -0.5**
comp=Z,9.5nm,0.6s,mb4.9,baz=36,slow=5.4,SNR=54
GERES LR LR 05 02 46.8
comp=Z,1µm,18.4s,MS5.2,baz=25,slow=39
SOP Sopron 78.40 332⇓ *e*sP sP 04 24 48.2 +3.0
CONA Conrad Observa 78.41 332 *i* P **P 04 24 27.9 +0.5**
SNR=35
SBD1 Bryn Du 78.44 346 *eP* **P 04 24 26.7 -0.7**
BZS Buzias 78.45 328 P **P 04 24 27.6 -0.1**
BZS Buzias 78.45 328⇓ *iP* **P 04 24 27.4 -0.2**
AVNT Avonos 78.46 315 *i* P **P 04 24 28.9 +1.0**
ANTO Ankara 78.57 317 *eP* **P 04 24 29.2 +0.8**
comp=Z,63nm,0.8s,mb5.6
ANTO LR LR
comp=Z,930nm,20.0s,MS5.1
ANTO Ankara 78.57 317 *eP* **P 04 24 29.2 +0.8**
ANTO pmax pmax
comp=Z,63nm,0.8s,mb5.6
ANTO MLR MLR
comp=Z,930nm,20.0s,MS5.1
ANTO Ankara 78.57 317 P **P 04 24 30.0 +1.6**
SNR=21
ANTO Ankara 78.57 317 P **P 04 24 30.0 +1.6**
SNR=21
ANTO Ankara 78.57 317⇓ *iP* **P 04 24 29.4 +1.0**
DLF Lyons Farm 78.58 348 *eP* pP 04 24 40.5 -0.6
DSB Dublin 78.60 348 *eP* **P 04 24 28.4 0.0**
comp=Z,50nm,0.9s,mb5.5
HGN Heimansgroeve 78.60 340⇑ *iP* **P 04 24 28.1 -0.3**
comp=Z,66nm,1.4s,mb5.4
HGN Heimansgroeve 78.60 340 *ex* x 04 24 41.0
comp=Z,133nm,1.7s
HGN Heimansgroeve 78.60 340 *eS* S 04 34 23.5 +2.0
UMR Umm Al-Rimmam 78.62 301 *eP* **P 04 24 29.0 +0.2**
UMR AMb AMB 04 24 32.3
comp=Z,265nm,1.0s,mb6.1
JCT Junction City 78.62 57⇑ *iP* **P 04 24 27.9 -1.0**
comp=Z,207nm,1.3s,mb5.9
JCT LR LR
comp=Z,644nm,19.0s,MS5.0
JCT Junction City 78.62 57⇑ *iP* **P 04 24 27.9 -1.0**
JCT pmax pmax
comp=Z,207nm,1.3s,mb5.9
JCT MLR MLR
comp=Z,644nm,19.0s,MS5.0
BEBN Eben Emael 78.63 340 P **P 04 24 28.4 -0.2**
comp=Z,41nm,1.2s,mb5.2
DCN Croghan 78.63 348 *eP* **P 04 24 29.0 +0.5**
DCN Croghan 78.63 348 *eP* pP 04 24 40.9 -0.5
MIB Mutribah 78.65 302 *eP* **P 04 24 28.9 -0.1**
MIB AMb AMB 04 24 32.5
comp=Z,333nm,1.0s,mb6.2

ZIMR 78.67 324 P P 04 24 28.7 -0.2
ANDN Andirin 78.68 314 *i* P P 04 24 30.5 +1.4
MEM Membach 78.73 339 P P 04 24 29.0 0.0
comp=Z,96nm,1.2s,mb5.6
HLM1 Long Mynd 78.75 345 *eP* P 04 24 28.8 -0.4
SIUC Southern Illin 78.77 46 *eP* P 04 24 28.7 -0.8
comp=Z,208nm,1.3s,mb5.9
SZH Strazhica 78.77 324 *i* P P 04 24 28.9 -0.6
KBD Kabd 78.91 301 *eP* P 04 24 30.4 -0.1
KBD AMb AMB 04 24 34.1
comp=Z,627nm,1.0s,mb6.5
BLO Bloomington 78.91 43 *eP* P 04 24 29.4 -0.9
comp=Z,17nm,0.6s,mb5.2
BLO Bloomington 78.91 43 *eP* P 04 24 29.4 -0.9
BLO pmax pmax
comp=Z,17nm,0.6s,mb5.2
UCC Uccle 78.94 341 P P 04 24 29.7 -0.5
comp=Z,52nm,1.4s,mb5.3
TOD Tromm 78.95 337 P P 04 24 31.1 +0.8
SIND Sindeldorf 78.97 337 P P 04 24 30.4 0.0
MOA Molln 78.98 333⇓ *iP* P 04 24 30.4 -0.1
SNR=23
MOA Molln 78.98 333⇓ *iP* P 04 24 30.4 -0.1
MSNY Massena 78.99 33 *eP* P 04 24 28.9 -1.7
PKSM Moragy 79.00 330 P P 04 24 30.4 -0.3
PKSM Moragy 79.00 330⇓ *iP* P 04 24 30.0 -0.6
MIAR Mount Ida 79.00 51 *eP* P 04 24 29.8 -1.1
comp=Z,221nm,1.6s,mb5.8
MIAR Mount Ida 79.00 51 *eP* P 04 24 29.8 -1.1
MIAR pmax pmax
comp=Z,221nm,1.6s,mb5.8
ABH Alteburg 79.02 338 P P 04 24 31.0 +0.3
PVL Pavlikeni 79.06 324 *i* P P 04 24 32.8 +1.8
BCLA Clavier 79.07 340 P P 04 24 30.8 -0.1
comp=Z,58nm,1.3s,mb5.3
RST Umm Al-Ruwaisa 79.08 302 *eP* P 04 24 31.1 -0.3
RST AMb AMB 04 24 34.6
comp=Z,368nm,1.1s,mb6.2
QRN Al-Qurain 79.10 300 *eP* P 04 24 31.8 +0.3
QRN AMb AMB 04 24 35.1
comp=Z,218nm,1.2s,mb6.0
SSW Stow on the Wo 79.10 345 *eP* P 04 24 31.6 +0.5
ARSA Arzberg 79.12 332⇑ *iP* P 04 24 31.4 +0.2
SNR=26
NAY Al-Naaiem 79.12 301 *eP* P 04 24 31.7 +0.1
NAY AMb AMB 04 24 35.6
comp=Z,165nm,1.1s,mb5.9
SKP1 Kophill 79.14 344 *eP* P 04 24 31.9 +0.6
SKP1 *eP* 04 24 31.9
JMB Yambol 79.17 323 P P 04 24 32.4 +0.7
RDF Al-Radifah 79.18 301 *eP* P 04 24 32.2 +0.2
RDF AMb AMB 04 24 35.2
comp=Z,403nm,1.0s,mb6.3
SNF Seneffe 79.22 340 P P 04 24 31.6 -0.2
comp=Z,43nm,1.7s,mb5.1
HTR Trewern Hill 79.24 346 *eP* P 04 24 31.3 -0.5
MCH1 Michaelchurch 79.27 345 *eP* P 04 24 31.8 -0.3
MCH1 *eP* 04 24 31.8
MCH1 AMb AMB 04 24 37.7
comp=Z,57nm,1.4s,mb5.3
STKA Stephens Creek 79.27 190 *eP* P 04 24 31.2 -0.8
comp=Z,13nm,1.0s,mb4.8
STKA Stephens Creek 79.27 190 P P 04 24 31.4 -0.7
comp=Z,13nm,0.9s,mb4.9,baz=349,slow=6.9,SNR=25
STKA LR LR 04 55 18.0
comp=Z,470nm,21.6s,MS4.8,baz=18,slow=32
RUP Ruppelstein 79.31 338 *eP* P 04 24 32.5 +0.2
USIN University of 79.33 45⇑ *iP* P 04 24 31.7 -0.9
comp=Z,377nm,1.5s,mb6.1
PARMO Parma 79.33 47⇑ *iP* P 04 24 32.1 -0.5
LONY Lake Ozonia 79.42 33 *eP* P 04 24 31.0 -2.0
comp=Z,37nm,1.5s,mb5.1
LONY *e* 04 24 40.3
LONY LR LR
comp=Z,745nm,19.0s,MS5.0
UALR University of 79.47 50 *eP* P 04 24 32.6 -0.8
comp=Z,26nm,1.0s,mb5.1
GIVF Givet 79.48 340 *eP* P 04 24 32.8 -0.4
comp=Z,214nm,1.3s,mb5.6
GIVF Givet 79.48 340 *eP* P 04 24 32.8 -0.4
comp=Z,107nm,1.3s,mb5.6
GIVF Givet 79.48 340 *eP* P 04 24 32.8 -0.4
GIVF pmax pmax
comp=Z,107nm,1.3s,mb5.6
ELBA Catalca 79.48 321 *i* P P 04 24 33.4 0.0
HDH Heidenheim-Cha 79.50 336 P P 04 24 33.7 +0.4
SWN1 Swindon 79.52 345 *eP* P 04 24 33.7 +0.3
SWN1 AMb AMB 04 24 39.3
comp=Z,192nm,1.4s,mb5.8
DOU Dourbes 79.54 340 P P 04 24 33.3 -0.2
comp=Z,32nm,1.7s,mb5.0
COBT Iskenderun 79.55 313 *i* P P 04 24 35.2 +1.4
WLF Walferdange 79.57 339 *eP* P 04 24 35.5 +1.8
comp=Z,24nm,0.8s,mb5.2
WLF Walferdange 79.57 339 *eP* P 04 24 35.5 +1.8
WLF pmax pmax
comp=Z,24nm,0.8s,mb5.2
WLF Walferdange 79.57 339 P P 04 24 32.9 -0.8
FUR Furstenfeldbru 79.58 335 *eP* P 04 24 33.8 0.0
FUR pmax pmax
comp=Z,140nm,1.2s,mb5.8
FUR Furstenfeldbru 79.58 335 *eP* P 04 24 33.8 0.0
comp=Z,140nm,1.2s,mb5.8
HGH Gray Hill 79.58 345 *eP* P 04 24 33.1 -0.6
KOGS Kog 79.59 331 P P 04 24 35.2 +1.3
STU Stuttgart 79.61 337 *eP* P 04 24 33.8 -0.1
comp=Z,88nm,1.1s,mb5.6
WOL Wolverton 79.61 344 *eP* P 04 24 33.2 -0.6
BAIF Baives 79.66 340 *eP* P 04 24 33.6 -0.6
comp=Z,188nm,1.3s,mb5.5
BAIF Baives 79.66 340 *eP* P 04 24 33.6 -0.6
comp=Z,94nm,1.3s,mb5.6
BAIF Baives 79.66 340 *eP* P 04 24 33.6 -0.6
BAIF pmax pmax
comp=Z,94nm,1.3s,mb5.6
ACSO Alum Creek Sta 79.67 40⇑ *iP* P 04 24 33.3 -1.1
comp=Z,185nm,1.6s,mb5.8
ACSO LR LR
comp=Z,683nm,20.0s,MS5.0
ALLY Alegheny Colle 79.73 38⇑ *eP* P 04 24 33.7 -1.0
comp=Z,79nm,0.8s,mb5.7
ESKT Eskisehir 79.74 318 *i* P P 04 24 34.7 -0.1
HBAR Harrisburg 79.74 48⇑ *iP* P 04 24 34.2 -0.6
GNAR Gosnell 79.74 47⇑ *iP* P 04 24 34.5 -0.4
comp=Z,4μm,1.3s
WCI Wyandotte Cave 79.77 44⇑ *iP* P 04 24 34.0 -1.0
comp=Z,94nm,0.9s,mb5.7
WCI LR LR
comp=Z,918nm,20.0s,MS5.1
WCI Wyandotte Cave 79.77 44⇑ *iP* P 04 24 34.0 -1.0
WCI pmax pmax
comp=Z,94nm,0.9s,mb5.7
WCI MLR MLR
comp=Z,918nm,20.0s,MS5.1
LANF Langenberg 79.78 338 *eP* P 04 24 34.6 -0.3
LANF Langenberg 79.78 338 P P 04 24 35.2 +0.3
PERS Pernice 79.79 332 *eP* P 04 24 34.6 -0.4
BUCH Bad Urach 79.86 337 P P 04 24 35.8 +0.5
DIM Dimitrovgrad 79.95 323 P P 04 24 36.8 +0.9
KBA Koelnbreinsper 79.95 334⇓ *iP* P 04 24 36.4 +0.6
SNR=83
SWK Warminster 79.95 345 *eP* P 04 24 36.3 +0.5
KDHN Kadinhani 79.96 317 *i* P P 04 24 36.0 0.0
UTMT University of 80.03 46⇑ *iP* P 04 24 35.5 -0.9
comp=Z,171nm,0.9s,mb6.0
OBKA Obir 80.08 333⇑ *iP* P 04 24 36.1 -0.4
SNR=15
NCB Newcomb 80.11 33 *eP* P 04 24 35.2 -1.5
comp=Z,24nm,0.9s,mb5.1
NCB LR LR
comp=Z,868nm,19.0s,MS5.1
STR Strasbourg 80.16 338 *eP* P 04 24 37.9 +1.0
PLD Plovdiv 80.24 324 P P 04 24 37.4 -0.1
BFO Black Forest 80.25 337 P P 04 24 37.2 -0.2
comp=Z,212nm,0.9s,mb6.1,SNR=23
BFO Black Forest 80.25 337 *eP* P 04 24 36.9 -0.5
BFO pmax pmax
comp=Z,96nm,1.2s,mb5.6
BFO Black Forest 80.25 337 *eP* P 04 24 36.9 -0.5
comp=Z,96nm,1.2s,mb5.6
WATA Walderalm 80.25 335⇑ *iP* P 04 24 37.7 +0.3
SNR=44
GUT Gutenstein 80.27 337 P P 04 24 38.1 +0.6
WTTA Wattenberg 80.29 335 *i* P P 04 24 38.1 +0.5
SNR=65

HEX Exmoor 80.31 346 *eP* P 04 24 37.2 -0.5
KDZ Kurdzhali 80.33 323 *eP* P 04 24 40.0 +2.0
SPAK Spaichingen-Ko 80.33 337 *eP* P 04 24 38.0 +0.2
RETA Reutte 80.34 335⇑ *iP* P 04 24 38.0 0.0
SNR=29
DIVS Divibare 80.35 328 *eP* P 04 24 37.3 -0.7
UBR Ueberruh 80.35 336 P P 04 24 38.3 +0.3
MOTA Moosalm 80.38 335⇑ *iP* P 04 24 38.2 +0.2
SNR=81
MOTA Moosalm 80.38 335⇑ *iP* P 04 24 38.3 +0.2
CRES Cresnjev 80.40 332 *eP* P 04 24 37.5 -0.7
VTS Vitosha 80.42 325 P P 04 24 38.9 +0.5
VTS Vitosha 80.42 325 *eP* P 04 24 38.6 +0.2
VTS Vitosha 80.42 325⇓ *iP* P 04 24 38.8 +0.4
VTS Vitosha 80.42 325 *i* P P 04 24 38.9 +0.5
WLS Welschbruch 80.42 338 P P 04 24 38.6 +0.3
CDF Champ du Feu 80.44 338 *eP* P 04 24 38.2 -0.2
comp=Z,268nm,1.1s,mb5.8
CDF Champ du Feu 80.44 338 *eP* P 04 24 38.2 -0.2
comp=Z,134nm,1.1s,mb5.8
CDF Champ du Feu 80.44 338 *eP* P 04 24 38.2 -0.2
CDF pmax pmax
comp=Z,134nm,1.1s,mb5.8
MET Memphis–Engin 80.45 48 *eP* P 04 24 38.1 -0.5
SQTA Sankt Quirin 80.46 335⇑ *iP* P 04 24 39.0 +0.5
SNR=43
HTL Hartland 80.49 346 P P 04 24 37.8 -0.8
HTL AMb AMB 04 24 44.3
comp=Z,73nm,1.6s,mb5.4
HTL Hartland 80.49 346 *eP* P 04 24 37.8 -0.8
HTL AMb AMB 04 24 44.3
comp=Z,73nm,1.6s,mb5.4
HTL AMS AMS 05 04 02.7
comp=Z,445nm,19.3s,MS4.8
ABTA Abfaltersbach 80.50 334⇓ *iP* P 04 24 39.2 +0.4
SNR=21
LJU Ljubljana 80.50 332 *eP* P 04 24 37.9 -0.9
NATX Nacogdoches 80.55 53⇑ *iP* P 04 24 39.2 -0.1
comp=Z,400nm,1.1s,mb6.3
PTCC Patocco-Chiusa 80.55 333 P P 04 24 38.1 -0.9
FVI Forni Avoltri 80.55 334 P P 04 24 40.1 +1.1
RZN Rozhen 80.59 324 P P 04 24 39.6 +0.3
ECH Echery 80.66 338 *eP* P 04 24 39.3 -0.3
ECH Echery 80.66 338 P P 04 24 39.5 -0.1
SISB Singen-Schiene 80.67 337 P P 04 24 39.9 +0.3
KIZ Kirchzarten 80.70 337 P P 04 24 39.6 -0.2
ALN Alexandroupoli 80.70 322 *eP* P 04 24 39.8 -0.2
GMNA Gemona 80.70 333 P P 04 24 39.5 -0.3
WVT Waverly 80.70 46⇑ *iP* P 04 24 39.2 -0.8
comp=Z,56nm,0.9s,mb5.5
WVT LR LR
comp=Z,831nm,22.0s,MS5.0
WVT Waverly 80.70 46 P P 04 24 39.4 -0.6
WVT pmax pmax
comp=Z,56nm,0.9s,mb5.5
RDO Rodhopi 80.70 323 *eP* P 04 24 39.2 -0.8
GDZ Gediz 80.71 319 *i* P P 04 24 39.6 -0.4
LBNH Lisbon 80.71 31 PFAKE 04 24 50.0 +10
LBNH LR LR
comp=Z,867nm,20.0s,MS5.1
VOY Vojsko 80.72 333 *eP* P 04 24 39.0 -0.9
VOY *e* pP 04 24 51.7 -1.2
FELD Feldberg im Sc 80.75 337 P P 04 24 40.0 -0.1
BOJS Bojanci 80.75 332 *eP* P 04 24 39.3 -0.8
FORT Forrest 80.76 202 *eP* P 04 24 39.9 -0.2
comp=Z,66nm,0.8s,mb5.6
DAVA Damuels 80.78 336⇑ *iP* P 04 24 40.3 +0.1
SNR=12
FETA Feichten 80.78 335⇑ *iP* P 04 24 40.5 +0.3
SNR=26
BTOK Tokmak 80.79 320 *i* P P 04 24 40.5 +0.1
TAOE Nuku Hiva Isla 80.91 113 *e*LR LR 04 49 35.6
comp=Z,44μm,21.6s,baz=322
MEZF Maizieres J'vi 80.92 339 *eP* P 04 24 41.0 0.0
comp=Z,169nm,0.8s,mb5.7
MEZF Maizieres J'vi 80.92 339 *eP* P 04 24 41.0 0.0
comp=Z,169nm,0.8s,mb6.0
DYA Yadsworthy 80.94 346 P P 04 24 40.3 -0.7
DYA AMb AMB 04 24 47.3
comp=Z,129nm,1.2s,mb5.7
DYA Yadsworthy 80.94 346 *eP* P 04 24 40.3 -0.7
DYA AMb AMB 04 24 47.3
comp=Z,129nm,1.2s,mb5.7
DYA AMS AMS 05 07 26.6
comp=Z,387nm,17.6s,MS4.8
THEF They Montfort 80.94 339 *eP* P 04 24 41.0 -0.1
THEF They Montfort 80.94 339 P P 04 24 41.4 +0.3
BINY Binghamton 80.95 35 PFAKE 04 24 50.0 +8.7
BINY LR LR
comp=Z,799nm,20.0s,MS5.1
MOF Molkenrain 81.00 338 *eP* P 04 24 41.2 -0.2
MOF Molkenrain 81.00 338 P P 04 24 41.7 +0.3
HAU Haudompre 81.06 338 *eP* P 04 24 41.6 -0.1
comp=Z,97nm,0.9s,mb5.4
HAU *e*MLR MLR
comp=Z,862nm,17.5s,MS4.9
HAU Haudompre 81.06 338 *eP* P 04 24 41.6 -0.1
comp=Z,49nm,0.9s,mb5.4
HAU LR LR
comp=Z,860nm,17.5s,MS5.2
HAU Haudompre 81.06 338 *eP* P 04 24 41.6 -0.1
HAU pmax pmax
comp=Z,49nm,0.9s,mb5.4
HAU MLR MLR
comp=Z,860nm,17.5s,MS5.2
ZUR Degenried 81.06 337 ⇓P P 04 24 42.1 +0.4
MMB Musomiste 81.07 324 P P 04 24 43.4 +1.5
MMB Musomiste 81.07 324 *i* P P 04 24 42.0 +0.1
PMOR Pomariorio Ree 81.07 123 *eP* P 04 24 41.6 -0.5
comp=Z,278nm,1.1s,mb6.1
KKB Krupnik 81.09 325 P P 04 24 42.1 +0.1
HINF Hinteralfeld 81.10 338 *eP* P 04 24 41.6 -0.4
comp=Z,94nm,1.2s,mb5.3
HINF Hinteralfeld 81.10 338 *eP* P 04 24 41.6 -0.4
comp=Z,47nm,1.2s,mb5.3
HINF Hinteralfeld 81.10 338 *eP* P 04 24 41.6 -0.4
HINF pmax pmax
comp=Z,47nm,1.2s,mb5.3
CSA1 St Austell 81.18 346 *eP* P 04 24 42.2 -0.1
NVR Nevrokopi 81.22 324 *eP* P 04 24 41.0 -1.7
PLE Pljevlja 81.23 328⇑ *iP* P 04 24 42.8 +0.1
BBS Basel-Blauen 81.26 337 *eP* P 04 24 43.1 +0.3
HKT Hockley 81.28 55 *eP* P 04 24 42.0 -1.2
comp=Z,61nm,1.4s,mb5.3
HKT LR LR
comp=Z,625nm,19.0s,MS5.0
HKT Hockley 81.28 55 *eP* P 04 24 42.0 -1.2
HKT pmax pmax
comp=Z,61nm,1.4s,mb5.3
HKT MLR MLR
comp=Z,625nm,19.0s,MS5.0
BRMO Bormio 81.37 335 P P 04 24 44.2 +0.8
CTI Castel Tesino 81.39 334 P P 04 24 42.9 -0.6
CCA1 Carnmenellis 81.39 346 *eP* P 04 24 43.4 -0.1
VAH Vaihoa 81.41 123 *eP* P 04 24 43.2 -0.7
comp=Z,192nm,1.1s,mb6.0
MUO Muotathal 81.41 336 ⇑P P 04 24 44.7 +1.1
LLS Linth-Limmern 81.42 336 ⇓P P 04 24 44.1 +0.4
IVA Berane 81.44 327⇑ *iP* P 04 24 43.5 -0.4
PLAL Pickwick Lake 81.49 47 *eP* P 04 24 42.8 -1.4
comp=Z,70nm,1.1s,mb5.5
MCWV Mont Chateau 81.51 39⇑ *iP* P 04 24 43.8 -0.5
comp=Z,102nm,1.2s,mb5.6
MCWV LR LR
comp=Z,2μm,20.0s,MS5.4
SSPA Standing Stone 81.51 37⇑ *iP* P 04 24 43.3 -0.9
comp=Z,24nm,0.8s,mb5.2
SSPA LR LR
comp=Z,570nm,19.0s,MS5.0
UPM Unac-Piva 81.52 328⇑ *iP* P 04 24 42.7 -1.5
LOMF Lomont 81.54 338 *eP* P 04 24 44.0 -0.3
LOMF Lomont 81.54 338 *eP* P 04 24 44.7 +0.4
BOZC Bozcaada 81.58 322 *i* P P 04 24 43.8 -0.8
STIP Stip 81.59 325 *eP* P 04 24 47.5 +2.8
AKHS Akhisar 81.62 320 *i* P P 04 24 44.1 -0.7
VDL Val di Lei 81.63 336 ⇓P P 04 24 45.5 +0.7
SKO Skopje 81.64 326 *eP* P 04 24 45.5 +0.6
PVY Plav 81.66 327 *eP* P 04 24 43.3 -1.7
TUE Stuetta 81.67 336 P P 04 24 46.4 +1.4
NVLJ Novalja 81.71 331 P P 04 24 44.0 -1.3
MABI Malga Bissina 81.72 335 P P 04 24 46.5 +1.3
AYVA Ayvalik 81.75 321 *i* P P 04 24 44.9 -0.6
VAY Valandovo 81.75 325 *eP* P 04 24 44.7 -0.8
VAY Valandovo 81.75 325 P P 04 24 45.1 -0.4

VAY Valandovo 81.75 325 *eP* P 04 24 44.3 -1.2
KNT Kendrikon 81.76 325 *eP* P 04 24 45.4 -0.2
NKY Niksic 81.82 328⇑ *iP* P 04 24 45.0 -0.9
SOH Sokhos 81.87 324 *eP* P 04 24 45.5 -0.6
LIA Limnos Island 81.90 322 *eP* P 04 24 41.3 -5.0
FLN La Foliniere 81.90 343 *eP* P 04 24 45.6 -0.5
comp=Z,87nm,1.0s,mb5.3
FLN *e*MLR MLR
comp=Z,1μm,19.2s,MS4.9
FLN La Foliniere 81.90 343 *eP* P 04 24 45.6 -0.5
comp=Z,43nm,1.0s,mb5.3
FLN LR LR
comp=Z,1μm,19.3s,MS5.2
FLN La Foliniere 81.90 343 *eP* P 04 24 45.6 -0.5
FLN pmax pmax
comp=Z,43nm,1.0s,mb5.3
FLN MLR MLR
comp=Z,1μm,19.3s,MS5.2
BRY Bratogost 81.91 328⇑ *iP* P 04 24 45.2 -1.1
PRK Paraskevi 81.98 321 *eP* P 04 24 45.9 -0.9
LDF La Druitiere 81.99 343 *eP* P 04 24 46.0 -0.6
comp=Z,93nm,1.2s,mb5.3
LDF La Druitiere 81.99 343 *eP* P 04 24 46.0 -0.6
comp=Z,46nm,1.2s,mb5.3
LDF La Druitiere 81.99 343 *eP* P 04 24 46.0 -0.6
LDF pmax pmax
comp=Z,47nm,1.2s,mb5.3
TTG Podgorica 82.06 328⇑ *iP* P 04 24 46.2 -0.9
GOLH Golhisar 82.18 318 *i* P P 04 24 47.7 -0.2
PPT Papeete 82.19 126 *eP* P 04 24 47.3 -0.7
comp=Z,156nm,1.3s,mb5.8
PPT Papeete 82.19 126 *eS* S 04 34 58.6 -1.2
comp=Z,1μm,33.5s
PPT Papeete 82.19 126 *e*LR LR 04 50 14.9
comp=Z,2μm,21.8s,baz=327
PPT Papeete 82.19 126 P P 04 24 47.0 -1.0
comp=Z,100nm,1.0s,mb5.7,baz=9.4,slow=3.7,SNR=5.8
PPT LR LR 04 53 10.6
comp=Z,1μm,21.0s,MS5.2,baz=274,slow=30
PLG Polygyros 82.21 324 *eP* P 04 24 47.0 -0.9
PLG Polygyros 82.21 324 *eP* P 04 24 45.6 -2.3
LKBD Leukerbad 82.22 337 ⇓P P 04 24 48.4 +0.5
LKBD ⇑P 04 24 48.7
KRUS Krusevo 82.23 326 *eP* P 04 24 48.3 +0.2
CSS Prodhromos 82.23 314 *eP* P 04 24 47.3 -0.8
comp=Z,141nm,1.3s,mb5.7
CSS Prodhromos 82.23 314 *eP* P 04 24 48.2 0.0
STON Ston 82.24 329 P P 04 24 46.7 -1.3
PAE Paea 82.27 126 *eP* P 04 24 47.5 -0.9
comp=Z,231nm,1.3s,mb6.0
PAE Paea 82.27 126 *eP* P 04 24 47.5 -0.9
PAE pmax pmax
comp=Z,231nm,1.3s,mb6.0
SALA Sala 82.30 310 ⇑P P 04 24 52.2 +3.7
BUM Brajici-Budva 82.31 328⇑ *iP* P 04 24 47.1 -1.3
HCY Herceg Novi 82.32 328⇑ *iP* P 04 24 46.9 -1.6
GRR Gorron 82.33 343 *eP* P 04 24 47.8 -0.6
comp=Z,113nm,0.9s,mb5.5
GRR Gorron 82.33 343 *eP* P 04 24 47.8 -0.6
comp=Z,56nm,0.9s,mb5.5
GRR Gorron 82.33 343 *eP* P 04 24 47.8 -0.6
GRR pmax pmax
comp=Z,56nm,0.9s,mb5.5
HRV Adam Dziewonsk 82.35 32 PFAKE 04 25 00.0 +11
HRV LR LR
comp=Z,911nm,21.0s,MS5.1
LOR Lormes 82.36 340 *eP* P 04 24 47.7 -0.9
comp=Z,142nm,0.8s,mb5.6
LOR *e*MLR MLR
comp=Z,994nm,18.5s,MS4.9
LOR Lormes 82.36 340 *eP* P 04 24 47.7 -0.9
comp=Z,71nm,0.8s,mb5.7
LOR LR LR
comp=Z,990nm,18.5s,MS5.2
LOR Lormes 82.36 340 *eP* P 04 24 47.7 -0.9
LOR pmax pmax
comp=Z,71nm,0.8s,mb5.7
LOR MLR MLR
comp=Z,990nm,18.5s,MS5.2
SWET Sewanee 82.36 45⇑ *iP* P 04 24 47.5 -1.3
BLCB Balcova 82.36 320 *eP* P 04 24 48.2 -0.6
VAI Varese 82.39 336 P P 04 24 48.6 -0.1
CABF La Chapelle 82.42 338 *eP* P 04 24 49.0 +0.1
comp=Z,144nm,1.2s,mb5.5
CABF La Chapelle 82.42 338 *eP* P 04 24 49.0 +0.1
comp=Z,72nm,1.2s,mb5.5
CABF La Chapelle 82.42 338 *eP* P 04 24 49.0 +0.1
CABF pmax pmax
comp=Z,72nm,1.2s,mb5.5
TZTN Tazewell 82.42 43⇑ *iP* P 04 24 48.3 -0.8
comp=Z,29nm,0.9s,mb5.2
TZTN LR LR
comp=Z,843nm,21.0s,MS5.1
MMK Mattmark 82.44 336 ⇓P P 04 24 51.1 +2.1
ULC Ulcinj 82.47 327⇑ *iP* P 04 24 48.9 -0.4
PAIG Paliouri 82.49 323 *eP* P 04 24 48.3 -1.1
WES Weston 82.54 32 PFAKE 04 25 00.0 +10
WES LR LR
comp=Z,2μm,20.0s,MS5.4
TVO Taravao 82.55 126 *eP* P 04 24 49.4 -0.4
comp=Z,249nm,1.2s,mb6.1
TVO Taravao 82.55 126 *eP* P 04 24 49.4 -0.4
TVO pmax pmax
comp=Z,249nm,1.2s,mb6.1
DIX Grande Dixence 82.56 337 ⇓P P 04 24 50.6 +0.9
URLA Izmir 82.58 321 *i* P P 04 24 49.6 -0.3
AYDN Tasoluk 82.59 319 *i* P P 04 24 50.6 +0.6
SSF Saint Saulge 82.64 340 *eP* P 04 24 49.7 -0.3
comp=Z,69nm,0.8s,mb5.5
SSF Saint Saulge 82.64 340 *eP* P 04 24 49.7 -0.3
comp=Z,34nm,0.8s,mb5.4
SSF Saint Saulge 82.64 340 *eP* P 04 24 49.7 -0.3
SSF pmax pmax
comp=Z,34nm,0.8s,mb5.4
ASF Jabal al Asfar 82.64 310 P P 04 24 51.0 +0.7
comp=Z,34nm,1.0s,mb5.3,baz=55,slow=0.4,SNR=29
HYF Humbligny 82.64 340 *eP* P 04 24 49.4 -0.7
MVL Millersville 82.68 36⇑ *eP* P 04 24 49.3 -1.1
comp=Z,25nm,0.9s,mb5.2
FNA Florina 82.68 325 *eP* P 04 24 49.6 -0.8
EMV Vieux Emosson 82.71 337 ⇓P P 04 24 51.0 +0.5
PAL Palisades 82.78 34 *eP* P 04 24 49.3 -1.6
comp=Z,25nm,0.8s,mb5.3
PAL Palisades 82.78 34 *eP* P 04 24 49.3 -1.6
PAL pmax pmax
comp=Z,25nm,0.8s,mb5.3
SGMF Saint Gilles 82.79 344 *eP* P 04 24 50.3 -0.5
comp=Z,68nm,0.7s,mb5.5
SGMF Saint Gilles 82.79 344 *eP* P 04 24 50.3 -0.5
comp=Z,34nm,0.7s,mb5.5
SGMF Saint Gilles 82.79 344 *eP* P 04 24 50.3 -0.5
SGMF pmax pmax
comp=Z,34nm,0.7s,mb5.5
CHOS Chios island 82.79 321 *eP* P 04 24 48.0 -3.0
ORO Oropa 82.82 336 P P 04 24 52.2 +1.2
LIT Litokhoron 82.83 324 *eP* P 04 24 50.4 -0.8
ROSF Rostrenen 82.84 345 *eP* P 04 24 51.0 -0.1
comp=Z,131nm,0.9s,mb5.7
ROSF Rostrenen 82.84 345 *eP* P 04 24 51.0 -0.1
comp=Z,65nm,0.9s,mb5.7
ROSF Rostrenen 82.84 345 *eP* P 04 24 51.0 -0.1
ROSF pmax pmax
comp=Z,65nm,0.9s,mb5.7
CPCT Cooper Cave 82.85 44⇑ *iP* P 04 24 50.2 -1.1
BRYW Bryant College 82.87 32 *eP* P 04 24 50.3 -1.1
comp=Z,166nm,1.3s,mb5.9
AVF Avril sur Loir 82.93 340 *eP* P 04 24 51.2 -0.3
comp=Z,161nm,1.0s,mb5.7
AVF Avril sur Loir 82.93 340 *eP* P 04 24 51.2 -0.3
comp=Z,81nm,1.0s,mb5.7
AVF Avril sur Loir 82.93 340 *eP* P 04 24 51.2 -0.3
AVF pmax pmax
comp=Z,81nm,1.0s,mb5.7
CPNY Central Park 82.94 34⇑ *eP* P 04 24 50.5 -1.2
comp=Z,160nm,1.6s,mb5.8
SMF Signal de Mont 82.95 339 *eP* P 04 24 51.2 -0.4
comp=Z,436nm,1.2s,mb6.0
SMF Signal de Mont 82.95 339 *eP* P 04 24 51.2 -0.4
comp=Z,218nm,1.2s,mb6.1
SMF Signal de Mont 82.95 339 *eP* P 04 24 51.2 -0.4
SMF pmax pmax
comp=Z,218nm,1.2s,mb6.1
SDMD Soldier's Deli 82.98 37 *eP* P 04 24 50.5 -1.5
comp=Z,84nm,1.4s,mb5.6
AKAS Kas 82.98 317 *i* P P 04 24 52.7 +0.7

RSM Repubblica di 83.05 333 P **P 04 24 53.0 +0.7**
OG05 Jujurieux 83.11 338 *e*P **P 04 24 55.0 +2.5**
ELN Prospectdale 83.13 41 *e*P **P 04 24 51.2 -1.6**
RSL Roselend 83.13 337 *e*P **P 04 24 52.8 +0.2**
FSSB Fossombrone 83.17 332 P **P 04 24 52.7 -0.1**
BOB Bobbio (Coli) 83.20 335 P **P 04 24 55.2 +2.2**
QUIF Quistinic 83.23 344 *e*P **P 04 24 52.6 -0.5**
comp=Z,107nm,1.3s,mb5.4
QUIF Quistinic 83.23 344 *e*P **P 04 24 52.6 -0.5**
comp=Z,54nm,1.3s,mb5.4
QUIF Quistinic 83.23 344 *e*P **P 04 24 52.6 -0.5**
QUIF pmax pmax
comp=Z,54nm,1.3s,mb5.4
ERBM Eremo 83.23 334 P **P 04 24 55.5 +2.3**
BGF Bois d'Agland 83.26 340 *e*P **P 04 24 52.8 -0.5**
comp=Z,43nm,0.6s,mb5.4
BGF Bois d'Agland 83.26 340 *e*P **P 04 24 52.8 -0.5**
comp=Z,21nm,0.6s,mb5.3
BGF Bois d'Agland 83.26 340 *e*P **P 04 24 52.8 -0.5**
BGF pmax pmax
comp=Z,21nm,0.6s,mb5.3
LPL La Plagne 83.26 337 *e*P **P 04 24 52.8 -0.5**
comp=Z,104nm,0.9s,mb5.5
LPL La Plagne 83.26 337 *e*P **P 04 24 52.8 -0.5**
comp=Z,52nm,0.9s,mb5.6
LPL La Plagne 83.26 337 *e*P **P 04 24 52.8 -0.5**
LPL pmax pmax
comp=Z,52nm,0.9s,mb5.6
SFI Santa Sofia 83.27 333 P **P 04 24 54.2 +0.9**
LPG La Plagne 83.28 337 *e*P **P 04 24 53.5 +0.1**
comp=Z,281nm,1.2s,mb5.8
LPG La Plagne 83.28 337 *e*P **P 04 24 53.5 +0.1**
comp=Z,141nm,1.2s,mb5.9
LPG La Plagne 83.28 337 *e*P **P 04 24 53.5 +0.1**
LPG pmax pmax
comp=Z,141nm,1.2s,mb5.9
SEI Scarperia 83.28 333 P **P 04 24 55.3 +1.9**
BDRM Kayabasi 83.28 319 *i*P **P 04 24 53.0 -0.5**
MEH Mehetia 83.28 125 *e*P **P 04 24 53.0 -0.6**
comp=Z,81nm,1.0s,mb5.7
BLA Blacksburg 83.29 40⇑*i*P **P 04 24 52.7 -0.9**
comp=Z,60nm,1.1s,mb5.5
BLA LR LR
comp=Z,632nm,20.0s,MS5.0
BLA Blacksburg 83.29 40 P **P 04 24 52.9 -0.7**
BLA pmax pmax
comp=Z,60nm,1.0s,mb5.6
VMG Vicchio 83.31 333 P **P 04 24 54.8 +1.2**
CING Cingoli 83.32 332 P **P 04 24 55.0 +1.4**
WHFO Wadi Hawf 83.42 289 P **P 04 24 54.8 +0.3**
SNR=11
WHFO Wadi Hawf 83.42 289 P **P 04 24 54.8 +0.3**
SNR=11
VLC Villacollemand 83.48 334 *e*P **P 04 24 55.2 +0.8**
comp=Z,46nm,1.0s,mb5.5
CRE Caprese Michel 83.49 333 P **P 04 24 55.6 +1.1**
BDI Bagni Di Lucca 83.50 334 P **P 04 24 57.2 +2.6**
SNTG Esanatoglia 83.51 332 P **P 04 24 54.7 +0.1**
OFFI Offida 83.55 331 P **P 04 24 56.9 +2.1**
LRAL Lakeview Retre 83.58 47⇑*i*P **P 04 24 53.9 -1.3**
comp=Z,23nm,0.8s,mb5.4
LRAL LR LR
comp=Z,984nm,22.0s,MS5.1
MURB Monte Urbino 83.63 332 P **P 04 24 56.6 +1.4**
PLDF La Plantade 83.63 339 *e*P **P 04 24 55.2 0.0**
PLDF La Plantade 83.63 339 *e*P **P 04 24 55.5 +0.3**
TCF Toulx Ste Croi 83.67 340 *e*P **P 04 24 55.2 -0.2**
comp=Z,128nm,1.2s,mb5.6
TCF Toulx Ste Croi 83.67 340 *e*P **P 04 24 55.2 -0.2**
comp=Z,64nm,1.2s,mb5.6
TCF Toulx Ste Croi 83.67 340 *e*P **P 04 24 55.2 -0.2**
TCF pmax pmax
comp=Z,64nm,1.2s,mb5.6
AGO Saint Agoulin 83.67 340 *e*P **P 04 24 55.2 -0.2**
AGO Saint Agoulin 83.67 340 *e*P **P 04 24 55.7 +0.3**
ARG Arkhangelos 83.68 318 *e*P **P 04 24 54.8 -0.8**
BNI Bardonecchia 83.71 337 *e*P **P 04 24 56.1 +0.5**
comp=Z,46nm,1.0s,mb5.6
ASS Assisi 83.77 332 P **P 04 24 56.8 +0.8**
CBN Corbin 83.78 38 *e*P **P 04 24 55.1 -1.0**
comp=Z,35nm,0.9s,mb5.5
CBN LR LR
comp=Z,912nm,20.0s,MS5.2
NRCA Norcia 83.83 332 P **P 04 24 56.4 +0.1**
LKR Lokris 83.85 323 *e*P **P 04 24 53.5 -3.0**
JAN Janina 83.86 325 *e*P **P 04 24 55.6 -0.9**
TERO Teramo 83.86 331 P **P 04 24 57.9 +1.5**
FGMS Monte Sant'Ang 83.88 329 P **P 04 24 55.9 -0.6**
MFF Saint Martin d 83.89 342 *e*P **P 04 24 55.8 -0.7**
comp=Z,73nm,0.9s,mb5.5
MFF Saint Martin d 83.89 342 *e*P **P 04 24 55.8 -0.7**
comp=Z,37nm,0.9s,mb5.5
MSAG Monte S. Angel 83.89 329 P **P 04 24 56.6 0.0**
SGRT San Giovanni R 83.91 330 P **P 04 24 56.8 +0.1**
MBDF Montbardon 83.98 337 *e*P **P 04 24 56.3 -0.7**
comp=Z,47nm,0.7s,mb5.4
MBDF Montbardon 83.98 337 *e*P **P 04 24 56.3 -0.7**
comp=Z,23nm,0.7s,mb5.4
PYM Petit Puy Mans 83.98 340 *e*P **P 04 24 57.6 +0.6**
COLF Collangettes 84.04 339 *e*P **P 04 25 00.6 +3.3**
ORIF Oris-en-Rattie 84.04 337 *e*P **P 04 24 56.8 -0.5**
comp=Z,91nm,0.8s,mb5.7
ORIF *e*MLR MLR
comp=Z,937nm,19.8s,MS4.9
ORIF Oris-en-Rattie 84.04 337 *e*P **P 04 24 56.8 -0.5**
comp=Z,46nm,0.8s,mb5.7
SFJM Santa Fe 84.08 66 *i*P **P 04 24 57.0 -0.9**
ATH Athens Observa 84.13 322 *e*P **P 04 24 55.6 -2.3**
ABTO Aybut 84.14 289 P **P 04 25 00.4 +2.2**
SNR=8.5
ABTO Aybut 84.14 289 P **P 04 25 00.4 +2.2**
SNR=8.5
IGT Igoumenitsa 84.16 325 *e*P **P 04 24 58.0 0.0**
AQU L'Aquila 84.17 331 *e*P **P 04 24 58.2 +0.2**
comp=Z,70nm,0.9s,mb5.8
AQU L'Aquila 84.17 331⇓*i*P **P 04 24 58.5 +0.5**
KEK Kerkira 84.21 326 *e*P **P 04 24 56.9 -1.4**
URVA University of 84.24 38 *e*P **P 04 24 57.2 -1.3**
FIAM Fiamignano 84.33 332 P **P 04 25 00.1 +1.3**
LTK Loutraki 84.40 323 *e*P **P 04 24 56.5 -2.7**
VIVF Saint-Julien-I 84.41 338 *e*P **P 04 24 58.9 -0.3**
comp=Z,131nm,1.0s,mb5.7
VIVF Saint-Julien-I 84.41 338 *e*P **P 04 24 58.9 -0.3**
comp=Z,65nm,1.0s,mb5.7
FRNF Fournols 84.43 340 *e*P **P 04 25 03.6 +4.3**
SAOF Saorge 84.45 336 *e*P **P 04 25 00.7 +1.3**
AUTN L'Aution 84.48 336 *e*P **P 04 25 01.3 +1.8**
FG5 Orsara di Pugl 84.49 330 P **P 04 25 00.1 +0.4**
OG25 Le Caire 84.50 337 *e*P **P 04 25 05.5 +5.8**
OG26 St.-Nazaire-De 84.51 338 *e*P **P 04 25 03.1 +3.4**
TOUF Mont Tournerai 84.51 336 *e*P **P 04 25 01.5 +1.8**
MIDA Miranda 84.52 330 P **P 04 25 02.1 +2.3**
FG4 Candela 84.54 329 P **P 04 24 59.9 0.0**
LUCF Luceram 84.60 336 *e*P **P 04 25 02.0 +1.9**
KLBR Kellerberrin 84.60 210 *e*P **P 04 24 59.4 -0.6**
comp=Z,42nm,0.7s,mb5.7
SBF Sospel 84.60 336 *e*P **P 04 24 59.4 -0.8**
comp=Z,250nm,1.3s,mb5.9
SBF Sospel 84.60 336 *e*P **P 04 24 59.4 -0.8**
comp=Z,125nm,1.3s,mb5.9
SELA Sela 84.63 324 *e*P **P 04 24 59.4 -1.0**
CERT Cerreto 84.67 331 P **P 04 25 01.8 +1.3**
KARP Karpathos 84.67 319 *e*P **P 04 24 57.6 -3.1**
DID Didima 84.73 322 *e*P **P 04 24 57.6 -3.3**
REVF Revere 84.73 336 *e*P **P 04 25 02.3 +1.5**
LKD Levkas 84.75 325 *e*P **P 04 24 59.8 -1.3**
RJF Les Rejaudoux 84.75 340 *e*P **P 04 25 00.2 -0.7**
RJF *e*MLR MLR
comp=Z,1μm,21.2s,MS5.0
RJF Les Rejaudoux 84.75 340 *e*P **P 04 25 00.2 -0.7**
RJF LR LR
comp=Z,1μm,21.3s,MS5.3
MRLC Muro Lucano 84.88 329 P **P 04 25 03.0 +1.4**
RFI Roccamonfina 84.91 330 P **P 04 25 04.3 +2.5**
MA9 Marino 84.93 332 P **P 04 25 04.0 +2.1**
RLS Riolos of Patr 84.98 324 *e*P **P 04 25 01.5 -0.7**
CAF Calviac 84.98 340 *e*P **P 04 25 01.2 -0.9**
comp=Z,48nm,0.7s,mb5.4
CAF Calviac 84.98 340 *e*P **P 04 25 01.2 -0.9**
comp=Z,24nm,0.7s,mb5.4
SMRF Simiane la Rot 85.00 337 *e*P **P 04 25 01.7 -0.5**
comp=Z,69nm,1.2s,mb5.4
SMRF Simiane la Rot 85.00 337 *e*P **P 04 25 01.7 -0.5**
comp=Z,69nm,1.2s,mb5.7

GOGA Godfrey 85.01 45⇑*i*P **P 04 25 01.5 -0.9**
comp=Z,96nm,1.5s,mb5.7
GOGA LR LR
comp=Z,645nm,20.0s,MS5.0
GOGA Godfrey 85.01 45⇑*i*P **P 04 25 01.5 -0.9**
GOGA pmax pmax
comp=Z,96nm,1.5s,mb5.7
GOGA MLR MLR
comp=Z,645nm,20.0s,MS5.0
FRF La Foret Royal 85.10 336 *e*P **P 04 25 02.0 -0.7**
comp=Z,117nm,1.4s,mb5.5
FRF La Foret Royal 85.10 336 *e*P **P 04 25 02.0 -0.7**
comp=Z,58nm,1.4s,mb5.5
BRAL Brewton 85.17 49 PFAKE 04 25 10.0 +6.8
BRAL LR LR
comp=Z,785nm,22.0s,MS5.1
VLX Vlachokerasia 85.20 323 *e*P **P 04 25 01.6 -1.7**
TAVF Tavernes 85.20 337 *e*P **P 04 25 05.7 +2.5**
KFL Anninata 85.21 324 *e*P **P 04 25 04.0 +0.7**
VLS Valsamata 85.23 325 *e*P **P 04 25 03.0 -0.4**
PRAF Pradon 85.27 337 *e*P **P 04 25 07.6 +4.1**
LFF La Frestale 85.28 341 *e*P **P 04 25 02.7 -0.8**
comp=Z,35nm,0.7s,mb5.3
LFF La Frestale 85.28 341 *e*P **P 04 25 02.7 -0.8**
comp=Z,18nm,0.7s,mb5.3
JSC Jenkinsville 85.34 43 *e*P **P 04 25 02.9 -1.1**
LMR La Mourre 85.35 336 *e*P **P 04 25 03.3 -0.6**
comp=Z,234nm,1.2s,mb5.9
LMR La Mourre 85.35 336 *e*P **P 04 25 03.3 -0.6**
comp=Z,117nm,1.2s,mb5.9
LASF Ste Croix 85.35 338 *e*P **P 04 25 03.3 -0.6**
comp=Z,123nm,1.4s,mb5.5
TREF Trevaresse 85.38 337 *e*P **P 04 25 08.5 +4.4**
ZKR Zakros 85.45 319 *e*P **P 04 25 03.6 -1.0**
MUN Mundaring 85.49 211 *e*P **P 04 25 04.0 -0.5**
VLI Veliai 85.52 322 *e*P **P 04 25 01.5 -3.4**
ITM Ithomi 85.55 323 *e*P **P 04 25 03.0 -2.0**
NPS Neapolis 85.60 320 *e*P **P 04 25 04.5 -0.8**
LAST Lasithi 85.74 320 *e*P **P 04 25 05.3 -0.7**
TIP Timpagrande 85.82 328 *e*P **P 04 25 07.4 +1.0**
comp=Z,67nm,1.1s,mb5.8
NWAO Narrogin (SRO) 86.00 210⇑*i*P **P 04 25 06.5 -0.5**
comp=Z,98nm,1.1s,mb6.0
NWAO *e* pP 04 25 20.4 +0.3
NWAO Narrogin (SRO) 86.00 210⇑*i*P **P 04 25 06.5 -0.5**
NWAO *e* pP 04 25 20.4 +0.3
NWAO pmax pmax
comp=Z,98nm,1.1s
NWAO Narrogin (SRO) 86.00 210 P **P 04 25 06.8 -0.2**
comp=Z,73nm,1.0s,mb5.9,baz=34,slow=3.8,SNR=16
CNNC Cliffs of the 86.06 40 PFAKE 04 25 20.0 +12
CNNC LR LR
comp=Z,2μm,20.0s,MS5.5
VAM Vamos 86.10 321 *e*P **P 04 25 06.3 -1.5**
SIVA Sivas 86.16 320 *e*P **P 04 25 07.4 -0.7**
KARN Karanos 86.22 321 *e*P **P 04 25 07.0 -1.4**
GRI Girifalco 86.26 328 P **P 04 25 09.5 +1.0**
COW Cow Castle Cre 86.34 43 *e*P **P 04 25 09.0 0.0**
MTLF Montolieu 86.44 339 *e*P **P 04 25 08.2 -1.1**
comp=Z,24nm,0.7s,mb5.2
MTLF Montolieu 86.44 339 *e*P **P 04 25 08.2 -1.1**
comp=Z,12nm,0.7s,mb5.2
MTLF Montolieu 86.44 339 *e*P **P 04 25 08.2 -1.1**
MTLF pmax pmax
comp=Z,12nm,0.7s,mb5.2
GVD Gavdhos 86.63 320 *e*P **P 04 25 11.8 +1.4**
comp=Z,66nm,0.9s,mb5.9
NHSC New Hope 86.81 43 PFAKE 04 25 20.0 +8.7
NHSC LR LR
comp=Z,878nm,20.0s,MS5.2
TBI Tubuai 86.95 129 *e*S S 04 35 45.8 -1.2
comp=Z,407nm,31.5s
TBI Tubuai 86.95 129 *e*LR LR 04 52 20.0
comp=Z,1μm,29.0s,baz=322
TBI Tubuai 86.95 129 *e*P **P 04 25 10.8 -1.1**
comp=Z,258nm,1.2s,mb6.3
TBI *e*S S 04 35 45.8 -1.2
EPF Esparros 87.18 341 *e*P **P 04 25 12.3 -0.6**
comp=Z,18nm,0.7s,mb5.1
EPF Esparros 87.18 341 *e*P **P 04 25 12.3 -0.6**
comp=Z,9.1nm,0.7s,mb5.1
EPF Esparros 87.18 341 *e*P **P 04 25 12.3 -0.6**
EPF pmax pmax
comp=Z,9.0nm,0.7s,mb5.1
RESF Ens 87.39 340 *e*P **P 04 25 13.5 -0.5**
SJPF Ste Jean 87.45 342 *e*P **P 04 25 13.4 -0.8**
TAU Tasmania Unive 89.73 184 PFAKE 04 25 40.0 +15
TAU LR LR
comp=Z,659nm,21.0s,MS5.0
PBRG Braganca 89.78 345 *e*P **P 04 25 26.5 +1.2**
comp=Z,25nm,2.2s,mb5.2
SNZO South Karori 90.00 164 PFAKE 04 25 40.0 +14
SNZO LR LR
comp=Z,695nm,21.0s,MS5.1
DWPF Disney 90.36 46 PFAKE 04 25 40.0 +12
DWPF LR LR
comp=Z,135nm,21.0s,MS4.4
MVO Moncorvo 90.45 345 *e*P **P 04 25 28.9 +0.5**
comp=Z,34nm,1.5s,mb5.5
MVO Moncorvo 90.45 345 *e*LR LR 04 57 33.1
comp=Z,395nm,19.7s
PVRL Vila Real 90.46 346 *e*P **P 04 25 27.2 -1.3**
comp=Z,38nm,2.0s,mb5.4
VHO Vista Hermosa 90.56 64 *i*P **P 04 25 28.9 -0.4**
PVIS Viseu 91.04 346 *e*P **P 04 25 31.8 +0.7**
comp=Z,20nm,1.2s,mb5.3
CMAH Djebel Manchou 91.28 333 P **P 04 25 33.0 +0.7**
MTE Manteigas 91.29 346 *e*P **P 04 25 31.8 -0.5**
comp=Z,35nm,0.9s,mb5.7
MTE Manteigas 91.29 346 *e*LR LR 04 58 38.7
comp=Z,620nm,14.3s
MTE Manteigas 91.29 346 *e*P **P 04 25 31.1 -1.2**
comp=Z,29nm,1.1s,mb5.5
ESDC Sonseca Array 91.32 343 P **P 04 25 30.7 -1.8**
comp=Z,1.7nm,0.8s,mb4.4,baz=11,slow=3.5,SNR=12
ESDC PKKPbc PKKPbc 04 42 51.5 -0.7
comp=Z,0.1nm,0.3s,baz=259,slow=2.3,SNR=5.0
ESDC LR LR 05 11 04.6
comp=Z,520nm,20.4s,MS5.0,baz=5.0,slow=38
ESLA Sonseca Array 91.32 343 *e*P **P 04 25 31.9 -0.6**
comp=Z,6.1nm,1.3s,mb4.8
ESLA LR LR
comp=Z,4μm,20.0s,MS5.8
KEST Kesra 91.49 331 P **P 04 25 33.2 -0.2**
comp=Z,5.3nm,1.0s,mb4.8,baz=170,slow=3.4,SNR=14
KEST LR LR 05 11 57.5
comp=Z,348nm,18.7s,MS4.8,baz=181,slow=39
PAB San Pablo 91.52 343 *e*P **P 04 25 32.2 -1.2**
comp=Z,7.2nm,0.8s,mb5.0
PAB LR LR
comp=Z,906nm,20.0s,MS5.2
PAB San Pablo 91.52 343 *e*P **P 04 25 32.2 -1.2**
PAB pmax pmax
comp=Z,7.0nm,0.8s,mb5.0
PAB MLR MLR
comp=Z,906nm,20.0s,MS5.2
ABSA Djebel Ababsia 91.59 333 P **P 04 25 36.0 +2.2**
CMIG Matias Romero 91.68 63 *i*P **P 04 25 33.6 -0.9**
PCBR Castelo Branco 91.82 345 *e*P **P 04 25 35.1 +0.3**
comp=Z,12nm,1.5s,mb5.0
DFRA Djebel Bou Aff 91.82 334 P **P 04 25 38.0 +3.1**
SET Setif 92.28 335 P **P 04 25 39.0 +2.0**
CKHR Kef el Ahmar 92.42 334 P **P 04 25 38.0 +0.4**
PESTR Estremoz 92.79 345 *e*P **P 04 25 38.7 -0.6**
comp=Z,33nm,1.5s,mb5.5
PESTR Estremoz 92.79 345 *e*LR LR 04 59 13.7
comp=Z,748nm,27.6s
PMAFR Mafra 92.98 347 *e*LR LR 05 00 10.9
comp=Z,345nm,29.2s
EVO Evora 93.19 345 *e*P **P 04 25 40.3 -0.8**
comp=Z,7.7nm,0.9s,mb4.8
EVO *e*MLR MLR
comp=Z,974nm,19.5s,MS5.0
EVO Evora 93.19 345 *e*P **P 04 25 41.1 0.0**
PBAR Barrancos 93.36 345 *e*P **P 04 25 42.2 +0.3**
comp=Z,20nm,1.2s,mb5.4
PBAR Barrancos 93.36 345 *e*LR LR 04 59 03.6
comp=Z,572nm,11.6s
PBEJ Beja 93.65 345 *e*pP pP 04 25 54.5 -2.0
BBSR BB Station 93.83 32 PFAKE 04 26 00.0 +16
BBSR LR LR
comp=Z,379nm,19.0s,MS4.9
PVAQ Vaqueiros 94.23 345 *e*pP pP 04 25 58.1 -1.0
PVAQ Vaqueiros 94.23 345 *e*LR LR 04 59 23.5
comp=Z,536nm,29.4s
PBDV Barranco-do-Ve 94.43 345 *e*LR LR 04 59 34.1
comp=Z,682nm,17.5s
MORF Marmelete 94.49 346 *e*P **P 04 25 45.8 -1.3**
MORF Marmelete 94.49 346 A 05 19 12.1
comp=Z,483nm,5.5s
MORF Marmelete 94.49 346 *e*P **P 04 25 45.7 -1.4**
PFVI Vila Bisbo 94.69 346 *e*LR LR 05 00 07.9
comp=Z,531nm,13.0s
RKT Rikitea 94.98 119 *e*PS PS 04 38 22.7 +0.1
comp=Z,343nm,28.5s
RKT Rikitea 94.98 119 *e*LR LR 04 55 34.8
comp=Z,1μm,34.0s,baz=321
PDA Ponta Delgada 95.58 359 *e*S S 04 37 11.6 +6.1
TGUH Tegucigalpa,Un 98.59 59 PFAKE 04 26 20.0 +14
TGUH LR LR
comp=Z,575nm,22.0s,MS5.0
SDDR Presa de Saban 102.97 43 PFAKE 04 26 40.0 +15
SDDR LR LR
comp=Z,534nm,21.0s,MS5.0
SJG San Juan 106.04 39 PFAKE 04 31 00.0 +8.9
SJG LR LR
comp=Z,331nm,20.0s,MS4.9
KMBO Kilima Mbogo 108.37 289 PFAKE 04 31 10.0 +15
KMBO LR LR
comp=Z,930nm,19.0s,MS5.4
SDV Santo Domingo 111.97 48 *e*PKP PKiKP 04 31 00.7 -1.6
SDV LR LR
comp=Z,185nm,21.0s,MS4.7
TOA0 Torodi Ar. Sit 114.92 329 *e*PKPdf PKiKP 04 31 06.1 -1.8
TORD Torodi Ar. Bea 114.92 329 PKP PKiKP 04 31 06.2 -1.7
TORD PP PP 04 31 56.5 -10
TORD PKKPbc PKKPbc 04 41 41.4 -1.1
TORD PKKPab PKKPab 04 41 47.7 -4.9
TORD Torodi Ar. Bea 114.92 329 PKP PKiKP 04 31 06.2 -1.7
comp=Z,3.1nm,0.8s,baz=15,slow=1.8,SNR=46
TORD PP PP 04 31 56.5 -10
comp=Z,2.2nm,0.8s,baz=16,slow=8.6,SNR=5.0
TORD PKKPbc PKKPbc 04 41 41.4 -1.1
comp=Z,1.6nm,0.7s,baz=206,slow=1.9,SNR=24
TORD PKKPab PKKPab 04 41 47.7 -4.9
comp=Z,4.3nm,0.9s,baz=215,slow=2.1,SNR=13
CASY Casey 117.67 198 *e*P PKPdf 04 31 10.7 -0.8
MIR Mirnyy 122.23 204⇓*i*PKIKP PKPdf 04 31 19.5 -0.7
MIR pmax pmax
comp=Z,200nm,1.5s
DBIC Dimbokro 123.13 334 *e*PKPdf PKPdf 04 31 22.2 -1.5
DBIC Dimbokro 123.13 334 PKP PKPdf 04 31 22.4 -1.3
comp=Z,18nm,0.9s,baz=13,slow=1.1,SNR=14
DBIC PP PP 04 32 57.6 -5.1
comp=Z,5.8nm,0.8s,baz=6.4,slow=7.4,SNR=3.4
LIC Lamto 123.61 334⇑*i*PKIKP PKPdf 04 31 23.2 -1.5
comp=Z,39nm,1.0s
LIC *e*MLR MLR
comp=Z,556nm,19.0s,MS4.9
LIC Lamto 123.61 334⇑*i*PKPdf PKPdf 04 31 23.2 -1.5
LIC LR LR
comp=Z,280nm,19.0s,MS4.9
VNDA Vanda 124.41 178 *e*PKPdf PKPdf 04 31 22.9 -1.3
VNDA Vanda 124.41 178 PKP PKPdf 04 31 22.9 -1.4
comp=Z,6.1nm,0.8s,baz=328,slow=4.3,SNR=25
NNA Nana 125.37 67 *e*PKPdf PKPdf 04 31 26.8 -1.1
MAW Mawson 132.55 211 *e*P PKPdf 04 31 38.9 -1.0
comp=Z,11nm,0.8s
MAW Mawson 132.55 211 PKIKP PKPdf 04 31 38.6 -1.3
MAW pmax pmax
comp=Z,16nm,0.8s
MAW pmax pmax
comp=N,12nm,1.1s
MAW Mawson 132.55 211 PKP PKPdf 04 31 38.6 -1.3
comp=N,16nm,0.8s,baz=320,slow=2.1,SNR=19
MAW SKPab 04 35 03.1
comp=N,12nm,1.1s,baz=49,slow=6.0,SNR=7.3
LPAZ La Paz 134.05 62 *e*PKPdf PKPdf 04 31 43.8 -0.5
LPAZ La Paz 134.05 62 PKIKP PKPdf 04 31 42.7 -1.6
LPAZ pmax pmax
comp=Z,3.0nm,0.6s
LPAZ La Paz 134.05 62 PKP PKPdf 04 31 42.7 -1.6
comp=Z,3.3nm,0.6s,baz=355,slow=5.8,SNR=14
BOSA Boshof 135.94 276 PKP PKPdf 04 31 44.1 -3.4
comp=Z,3.5nm,0.9s,baz=161,slow=4.8,SNR=4.0
QSPA South Pole Qui 136.78 180 *e*PKPpre 04 31 34.8
QSPA *e*PKPdf PKPdf 04 31 46.2 -1.3
SIV San Ignacio 137.92 54 PKhKP 04 31 38.8
comp=Z,1.8nm,0.9s,baz=331,slow=1.9,SNR=8.1
SIV PKP PKPdf 04 31 48.1 -3.4
comp=Z,8.6nm,0.9s,baz=323,slow=2.1,SNR=20
SIV PP PP 04 34 28.8 -10
comp=Z,1.8nm,0.9s,baz=13,slow=4.7,SNR=3.1
BDFB Brasilia 144.00 37 PKP PKPdf 04 31 59.4 -3.1
comp=Z,19nm,0.9s,baz=310,slow=7.4,SNR=39
FCH Farellones 144.41 83 *e*P PKPdf 04 32 00.6 -2.1
CFAA Coronel Fontan 144.77 79 PKP PKPdf 04 32 01.0 -2.4
CFAA PP PP 04 35 19.2 -2.1
CFAA Coronel Fontan 144.77 79 PKP PKPdf 04 32 01.0 -2.3
comp=Z,14nm,0.9s,baz=286,slow=3.0,SNR=10
CFAA PP PP 04 35 19.2 -2.1
comp=Z,0.8nm,1.1s,baz=345,slow=6.2,SNR=4.6
LMEL Las Melosas 144.77 84 *e*P PKPdf 04 32 01.5 -1.8
PLCA Paso Flores 148.06 95 *e*PKPdf PKPdf 04 32 08.0 -0.7
PLCA *e*PKPbc PKPbc 04 32 11.2 -0.6
PLCA Paso Flores 148.06 95 PKP2 PKPab 04 32 11.7 -3.1
PLCA 04 35 39.4
PLCA pmax pmax
comp=Z,49nm,1.0s
PLCA pmax pmax
comp=Z,8.0nm,1.2s
PLCA Paso Flores 148.06 95 PKP PKPdf 04 32 08.1 -0.6
comp=Z,44nm,0.9s,baz=277,slow=3.2,SNR=48
PLCA PKPbc PKPbc 04 32 11.7 -0.2
comp=Z,49nm,1.0s,baz=268,slow=3.3,SNR=57
PLCA PP PP 04 35 39.4 -1.4
comp=Z,7.7nm,1.2s,baz=257,slow=3.8,SNR=3.2
MAIT Maitri 150.00 204 *e*PKPdf PKPdf 04 32 13.4 +2.6
CAM4 Nova Friburgo 152.21 33⇓*i*P PKPdf 04 32 21.5 +5.8
CAM4 *i* 04 32 30.9
CAM4 *i* 04 32 43.3
CAM4 *i* 04 32 52.4
TRQA Tornquist 152.65 84 *e*PKPbc PKPbc 04 32 21.5 -1.4
TRQA *e*PKPab PKPab 04 32 32.0 -1.8
SNAA Sanae 152.89 196 PKP PKPdf 04 32 13.8 -1.4
comp=Z,2.0nm,1.2s,baz=211,slow=3.1,SNR=5.0
SNAA PKPbc PKPbc 04 32 21.3 -1.2
comp=Z,18nm,0.9s,baz=180,slow=2.5,SNR=102
SNAA PP PP 04 36 09.2 +1.7
comp=Z,3.1nm,1.1s,baz=222,slow=9.6,SNR=3.7
PMSA Palmer Station 153.13 145 *e*PKPbc PKPbc 04 32 21.9 -1.2
VNA2 Neumayer--Watz 154.34 194 *e*PKPdf PKPdf 04 32 16.0 -1.3
VNA2 *e* 04 32 24.8
VNA2 *e* 04 32 39.0
VNA2 *e* 04 32 53.5
VNA2 *e* 04 33 02.7
VNA3 Neumayer Olymp 154.42 193 *e*PKPdf PKPdf 04 32 16.2 -1.2
VNA3 *e* 04 32 24.6
VNA3 *e* 04 32 39.0
VNA3 *e* 04 32 53.4
VNA3 *e* 04 33 02.4
VNA1 Neumayer--Stat 154.72 194 *e*PKPdf PKPdf 04 32 17.5 -0.3
VNA1 *e* 04 32 25.8
VNA1 *e* 04 32 41.4
VNA1 *e* 04 32 55.4
VNA1 *e* 04 33 04.1

IDC 15 04:35:45.7±2.0, 714S×12887E, h0km, mb3.5/1, mb1 3.8/4, mb1mx3.5/14, mbtmp3.6/4, ML3.5/3, Error ellipse: s-maj=79.0km s-min=27.6km az=75.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Kupang**	**5.98**	**239**	Sn	Sn	04 38 27.9	+3.2
	3.0nm,0.3s,baz=92,slow=17,SNR=5.3						
FITZ	**Fitzroy Crossi**	**11.34**	**196**	Pn	Pn	04 38 29.6	+0.5
	0.2nm,0.3s,baz=25,slow=13,SNR=8.7						
FITZ				Sn	Sn	04 40 25.4	-11
	0.3nm,0.3s,baz=327,slow=23,SNR=8.2						
WRA	**Warramunga Arr**	**13.79**	**158**	Pn	Pn	04 39 02.6	0.0
	0.3nm,0.3s,baz=336,slow=13,SNR=5.7						
WRA				Sn	Sn	04 41 23.3	-13
	0.4nm,0.3s,baz=335,slow=22,SNR=7.8						
ASAR	**Alice Springs**	**17.13**	**164**	P	Pn	04 39 46.2	-0.4
	0.2nm,0.3s,baz=338,slow=11,SNR=12						
MKAR	**Makanchi Array**	**67.73**	**327**	P	P	04 46 45.1	+0.1
	0.2nm,0.4s,baz=112,slow=6.7,SNR=3.2						

ISCJB ***15*** *05:06:40.2±1.1, 3834N±004×204E±0.1, h6km±7km, Error*

ellipse: s-maj=14.7km s-min=5.1km az=159.4
*CSEM **15** 05:06:40.2±0.2, 3833N×2038E, h2km, MD3.3, Error ellipse: s-maj=5.0km s-min=1.9km az=60.0*
*THE **15** 05:06:40.8, 3833N×2049E, h9km, ML2.5*
*NEIC **15** 05:06:40.0, 3834N×2043E, h11km, MD3.3(ATH), After ATH.*
*ATH **15** 05:06:40.0, 3834N×2043E, h11km±3km, MD3.3/6*

ISC 15 05:06:40.6±1.1, 3833N±004×205E±01, h11km±6km, n11, σ0§77/16, 1C, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.19**	**144**	↑iPG	**Pg**	**05 06 45.1**	**+0.4**
VLS				eSG	**Sg**	**05 06 48.0**	**+0.5**
KFL	**Anninata**	**0.34**	**129**	ePg	**Pg**	**05 06 47.5**	**0.0**
LKD	**Levkas**	**0.41**	**23**	ePg	**Pg**	**05 06 48.2**	**-0.4**
LKD				eSg	**Sg**	**05 06 54.5**	**+0.3**
LKD	**Levkas**	**0.41**	**23**	ePg	**Pg**	**05 06 48.2**	**-0.5**
LKD				eSg	**Sg**	**05 06 54.5**	**+0.3**
RLS	**Riolos of Patr**	**0.84**	**108**	ePB	**Pb**	**05 06 56.8**	**-0.4**
RLS				eSB	**Sb**	**05 07 08.2**	**-0.4**
SELA	**Sela**	**1.14**	**92**	ePg	**Pg**	**05 07 01.2**	**-1.2**
IGT	**Igoumenitsa**	**1.21**	**356**	ePg	**Pg**	**05 07 02.5**	**-1.3**
IGT				eSg	**Sg**	**05 07 20.4**	**+0.9**
EVR	**Evrytania**	**1.22**	**61**	ePB	**Pb**	**05 07 03.9**	**+0.3**
KEK	**Kerkira**	**1.47**	**340**	ePB	**Pb**	**05 07 07.3**	**-0.7**
ITM	**Ithomi**	**1.64**	**134**	ePB	**Pb**	**05 07 11.1**	**+0.3**
THL	**Klokotos Trika**	**1.73**	**44**	ePN	**Pn**	**05 07 12.3**	**+1.7**

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*ISCJB **15** 05:09:15.2±0.8, 3748N±004×2272E±006, h3km±14km, Error ellipse: s-maj=8.8km s-min=6.4km az=26.7*
*CSEM **15** 05:09:15.2±0.1, 3744N×2273E, h20km, ML2.7, Error ellipse: s-maj=4.0km s-min=2.9km az=124.0*
*THE **15** 05:09:15.8, 3750N×2274E, h3km, ML2.7*
*ATH **15** 05:09:15.5, 3742N×2266E, h47km±15km, MD2.9/3*

ISC 15 05:09:15.6±0.7, 3749N±004×2272E±006, h10km±13km, n6, σ0§33/10, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLX	**Vlachokerasia**	**0.30**	**247**	ePg	**Pg**	**05 09 21.8**	**+0.3**
DID	**Didima**	**0.41**	**87**	ePg	**Pg**	**05 09 23.1**	**-0.5**
DID				eSg	**Sg**	**05 09 29.3**	**+0.2**
LTK	**Loutraki**	**0.57**	**20**	ePg	**Pg**	**05 09 26.4**	**-0.3**
LTK				eSg	**Sg**	**05 09 34.4**	**+0.3**
ITM	**Ithomi**	**0.70**	**244**	ePg	**Pg**	**05 09 29.0**	**-0.2**
VLI	**Veliai**	**0.79**	**167**	ePg	**Pg**	**05 09 30.6**	**-0.2**
VLI				eS	**Sg**	**05 09 41.4**	**+0.4**
LKR	**Lokris**	**1.18**	**11**	eP	**Pb**	**05 09 37.7**	**-0.4**
LKR				eS	**Sb**	**05 09 53.9**	**+0.4**

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*NEIC **15** 05:17:48.3±0.7, 4705N×15320E, h10km, mb3.8/2, Error ellipse: s-maj=21.7km s-min=15.8km az=138.0*
*MOS **15** 05:17:53.2±1.4, 4704N×15343E, h61km, mb4.0/4, Error ellipse: s-maj=17.5km s-min=10.9km az=77.6*
*ISCJB **15** 05:17:54.8±1.9, 470N±0.1×1534E±02, h76km±17km, mb3.7/13, Error ellipse: s-maj=21.9km s-min=12.8km az=136.1*
*IDC **15** 05:17:58.5±4.2, 4708N×15325E, h94km±39km, mb3.4/8, mb1 3.6/9, mb1mx3.4/23, mbtmp3.4/9, Error ellipse: s-maj=26.5km s-min=20.6km az=135.0*

ISC 15 05:17:57.0±1.6, 470N±01×1534E±02, h79km±14km, n24, σ0§66/25, mb3.7/13, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**4.09**	**25**	ePN	**Pn**	**05 18 51.5**	**-5.6**
SKR				eS	**Sn**	**05 19 36.0**	**-7.7**
SKR	comp=N,30nm,0.5s			pmax	pmax		
SKR	comp=Z,40nm,0.5s			pmax	pmax		
SKR	comp=N,40nm,0.5s			smax			
SKR	comp=E,40nm,0.5s			smax			
YSS	**Yuzh-Sakhalins**	**7.25**	**273**	ePN	**Pn**	**05 19 41.1**	**+1.0**
ASAJ	**Asahikawa**	**8.09**	**253**	PN	**Pn**	**05 19 52.2**	**+0.7**
ASAJ	comp=Z,1.0nm,0.3s			pmax	pmax		
ASAJ	**Asahikawa**	**8.09**	**253**	P	**Pn**	**05 19 52.1**	**+0.6**
ERM	**Erimo**	**8.84**	**239**	*i* PN	**Pn**	**05 20 00.6**	**-1.2**
MA2	**Magadan**	**12.67**	**354**	ePN	**Pn**	**05 20 53.1**	**-0.8**
MA2	comp=Z,4.0nm,1.0s			pmax	pmax		
BILL	**Bilibino**	**22.09**	**13**	*i* P	**P**	**05 22 46.2**	**+1.0**
BILL	comp=Z,6.0nm,1.7s,mb3.6			pmax	pmax		
TIXI	**Tiksi**	**27.26**	**343**	*i* P	**P**	**05 23 34.1**	**+0.9**
TIXI	comp=Z,1.0nm,0.6s,mb3.5			pmax	pmax		
ULN	**Ulaanbaatar**	**30.97**	**289**	*i* P	**P**	**05 24 05.4**	**-0.9**
TLY	**Talaya**	**32.20**	**297**	eP	**P**	**05 24 17.7**	**+0.6**
TLY	comp=Z,1.0nm,0.8s,mb3.6			pmax	pmax		
COLA	**College**	**35.82**	**39**	eP	**P**	**05 24 48.2**	**-0.1**
COLA	**College**	**35.82**	**39**	*i* P	**P**	**05 24 48.8**	**+0.5**
EGAK	**Eagle**	**38.69**	**39**	eP	**P**	**05 25 12.0**	**-0.5**
INK	**Inuvik**	**41.34**	**33**	P	**P**	**05 25 34.7**	**+0.3**
YKA	**Yellowknife Ar**	**50.61**	**37**	P	**P**	**05 26 47.1**	**-0.1**
YKA				PcP	PcP	05 28 03.2	-0.5
YKA	**Yellowknife Ar**	**50.61**	**37**	P	**P**	**05 26 47.1**	**-0.1**
YKA	comp=Z,0.5nm,0.5s,mb3.8,baz=296,slow=7.0,SNR=14			PcP	PcP	05 28 03.2	-0.5
ARU	**Arti**	**54.93**	**317**	*i* P	**P**	**05 27 19.3**	**+0.2**
FINES	**FINESS Array B**	**63.87**	**335**	P	**P**	**05 28 19.9**	**-0.7**
PDAR	**Pinedale Array**	**64.45**	**54**	P	**P**	**05 28 24.9**	**+0.1**
NOA	**NORSAR Array B**	**68.03**	**341**	P	**P**	**05 28 47.0**	**-0.3**
AKASG	**Malin Array Be**	**71.42**	**326**	P	**P**	**05 29 07.4**	**-0.9**
AKASG	comp=Z,1.0nm,0.4s			pmax	pmax		
AKASG	**Malin Array Be**	**71.42**	**326**	P	**P**	**05 29 07.5**	**-0.8**
ASAR	**Alice Springs**	**72.52**	**199**	P	**P**	**05 29 15.5**	**+0.5**
TXAR	**Lajitas Array**	**77.22**	**61**	P	**P**	**05 29 42.4**	**+0.1**

JMA 15 05:21:25.5±0.1, 3680N×13555E, h14km±2km, M3.6, Sea of Japan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKG	**Kaga**	**0.82**	**129**	P	Pg	05 21 40.9	-0.5
JKG				S	Sg	05 21 51.7	-0.4
JJH	**Hakui**	**1.00**	**82**	P	Pb	05 21 44.2	-0.3
JJH				S	Sb	05 21 57.7	+0.2
JTT	**Ttatey**	**1.45**	**97**	S	Sn	05 22 11.0	+1.0
JGM	**Miyama**	**1.45**	**139**	P	Pn	05 21 51.3	0.0
JGM				S	Sn	05 22 09.6	-0.4
JWT	**Wachi**	**1.52**	**185**	P	Pn	05 21 52.0	-0.2
JWT				S	Sn	05 22 12.4	+0.6
JSZ	**Suzu**	**1.59**	**65**	P	Pn	05 21 54.9	+1.7
JSZ				S	Sn	05 22 15.5	+2.0
JKS	**Kasai**	**1.90**	**198**	P	Pn	05 21 58.5	+1.0
MAT	**Matsushiro**	**2.15**	**96**	P	Pn	05 22 01.2	+0.3
MAT				eS	Sn	05 22 30.4	+3.0

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*IDC **15** 05:48:42.9±0.6, 303N×12670E, h0km, mb4.3/14, mb1 4.5/14, mb1mx4.3/21, mbtmp4.4/14, Error ellipse: s-maj=41.5km s-min=12.3km az=77.0*
*NEIC **15** 05:48:44.3±0.3, 308N×12689E, h10km, mb4.6/15, Error ellipse: s-maj=17.5km s-min=5.5km az=74.0*
*MOS **15** 05:48:46.1±1.1, 304N×12670E, h33km, mb4.7/11, Error ellipse: s-maj=31.2km s-min=10.0km az=110.4*
*ISCJB **15** 05:48:49.4±1.2, 302N±006×1267E±0.1, h64km±11km, mb4.5/29, Error ellipse: s-maj=21.6km s-min=7.3km az=160.5*
*BJI **15** 05:48:53.4, 358N×12694E, h54km, mB5.0, mb4.7, Ms4.3, Msz3.9*

ISC 15 05:48:50.2±1.3, 302N±006×1268E±01, h54km±12km, n55, σ0§93/53, mb4.5/29, 1D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.42**	**298**	P	**Pn**	**05 49 13.4**	**-0.2**
TNE	**Ternate**	**2.30**	**165**	‖eP	**Pn**	**05 49 25.5**	**-0.1**
KDI	**Kendari**	**8.08**	**211**	P	**Pn**	**05 50 52.8**	**+7.8**
KAKA	**Kakadu**	**16.61**	**160**	eP	**Pn**	**05 52 41.0**	**+1.5**
FITZ	**Fitzroy Crossi**	**21.02**	**183**	eP	**P**	**05 53 29.6**	**+0.1**
FITZ	**Fitzroy Crossi**	**21.02**	**183**	P	**P**	**05 53 29.6**	**+0.1**
WRAB	**Tennant Creek**	**23.99**	**162**	eP	**P**	**05 53 58.9**	**-1.1**
WRAB	**Tennant Creek**	**23.99**	**162**	eP	**P**	**05 53 58.9**	**-1.0**
WRAB	comp=Z,26nm,0.9s,mb4.7			pmax	pmax		
WRA	**Warramunga Arr**	**24.00**	**162**	P	**P**	**05 53 58.8**	**-1.2**
WB2	**Warramunga Arr**	**24.00**	**162**	eP	**P**	**05 53 59.0**	**-1.0**
MBWA	**Marble Bar**	**25.00**	**196**	eP	**P**	**05 54 10.2**	**+1.0**
ASAR	**Alice Springs**	**27.42**	**166**	P	**P**	**05 54 30.6**	**-0.4**
ASAR	comp=Z,1.7nm,0.5s,mb3.8,baz=346,slow=7.0,SNR=26			PcP	PcP	05 57 49.9	+1.1
CHTO	**Chiang Mai**	**31.43**	**302**	eP	**P**	**05 55 07.4**	**+0.8**
CHTO	**Chiang Mai**	**31.43**	**302**	eP	**P**	**05 55 07.4**	**+0.7**
CHTO	comp=Z,2.0nm,0.8s,mb4.0			pmax	pmax		
FORT	**Forrest**	**33.63**	**178**	eP	**P**	**05 55 25.6**	**-0.1**
KSRS	**Korea Array**	**34.28**	**2**	P	**P**	**05 55 31.9**	**+0.7**
NWAO	**Narrogin (SRO)**	**36.88**	**193**	P	**P**	**05 55 53.2**	**-0.3**
STKA	**Stephens Creek**	**37.45**	**159**	eP	**P**	**05 55 58.2**	**-0.3**
STKA	**Stephens Creek**	**37.45**	**159**	P	**P**	**05 55 58.2**	**-0.3**
HHC	**Hu-ho-hao-te**	**40.08**	**342**	eP	**P**	**05 56 23.0**	**+2.6**
HHC				AP	pP	05 56 37.9	+3.6
HHC				XP	sP	05 56 45.3	+4.7
HHC				PP	PP	05 58 00.1	+6.6
HHC				PCP	PcP	05 58 25.4	+1.1
HHC				PCS	PcS	06 02 16.9	+2.3
HHC				SCS	ScS	06 06 21.3	-1.2
HHC	comp=Z,9.0nm,0.3s,mb5.0			AMB	AMB		
HHC	comp=Z,94nm,4.9s			AMB	AMB		
HHC	comp=N,84nm,5.8s			LR	LR		
HHC	comp=E,139nm,5.5s			LR	LR		
HHC	comp=Z,127nm,14.2s			LR	LR		
ASAJ	**Asahikawa**	**43.25**	**17**	P	**P**	**05 56 45.7**	**-0.6**
ULN	**Ulaanbaatar**	**47.80**	**342**	eP	**P**	**05 57 23.4**	**+1.2**
ULN	**Ulaanbaatar**	**47.80**	**342**	eP	**P**	**05 57 23.4**	**+1.2**
ULN	comp=Z,4.0nm,0.8s,mb4.5			pmax	pmax		
SONM	**Songino Array**	**47.98**	**342**	P	**P**	**05 57 23.2**	**-0.4**
BOD	**Bodaibo**	**55.57**	**352**	eP	**P**	**05 58 18.8**	**-1.1**
BOD	comp=Z,4.0nm,1.0s,mb4.4			pmax	pmax		
MK31	**Makanchi Array**	**58.16**	**325**	eP	**P**	**05 58 38.3**	**-0.3**
MKAR	**Makanchi Array**	**58.16**	**325**	P	**P**	**05 58 38.5**	**-0.1**
YAK	**Yakutsk**	**58.91**	**2**	eP	**P**	**05 58 44.8**	**+1.4**
YAK	comp=Z,12nm,1.0s,mb4.9			pmax	pmax		
MA2	**Magadan**	**59.38**	**14**	eP	**P**	**05 58 50.4**	**+3.7**
MA2	comp=Z,10.0nm,0.8s,mb4.9			pmax	pmax		
ZAA0	**Zalesovo Array**	**61.24**	**333**	eP	**P**	**05 58 59.1**	**-0.5**
ZALV	**Zalesovo Beam**	**61.24**	**333**	P	**P**	**05 58 58.4**	**-1.1**
ZAL	**Zalesovo**	**61.24**	**333**	P	**P**	**05 58 58.4**	**-1.2**
EKS2	**Erkin-Say**	**61.41**	**318**	eP	**P**	**05 59 00.8**	**-0.1**
KURK	**Kurchatov**	**62.36**	**328**	eP	**P**	**05 59 06.4**	**-0.7**
KURK	**Kurchatov**	**62.36**	**328**	eP	**P**	**05 59 06.4**	**-0.8**
KURK	comp=Z,5.0nm,0.7s,mb4.8			pmax	pmax		
NVS	**Novosibirsk**	**62.52**	**333**	eP	**P**	**05 59 08.2**	**0.0**
BVAR	**Borovoye Array**	**67.94**	**327**	P	**P**	**05 59 42.9**	**-0.3**
BRVK	**Borovoye**	**68.01**	**327**	eP	**P**	**05 59 42.9**	**-0.8**
BRVK	comp=Z,3.3nm,0.9s,mb4.4			pmax	pmax		
BRVK	**Borovoye**	**68.01**	**327**	eP	**P**	**05 59 42.9**	**-0.8**
TIXI	**Tiksi**	**68.55**	**1**	eP	**P**	**05 59 46.2**	**-0.5**
TIXI	**Tiksi**	**68.55**	**1**	eP	**P**	**05 59 46.3**	**-0.4**
TIXI	comp=Z,2.0nm,0.6s,mb4.2			pmax	pmax		
AKTK	**Aktyubinsk**	**74.24**	**322**	P	**P**	**06 00 20.8**	**-0.7**
AKTO	**Aktyubinsk**	**74.24**	**322**	P	**P**	**06 00 20.8**	**-0.7**
VNDA	**Vanda**	**82.72**	**173**	eP	**P**	**06 01 08.4**	**+0.7**
VNDA	**Vanda**	**82.72**	**173**	eP	**P**	**06 01 08.4**	**+0.7**
VNDA	comp=Z,3.0nm,0.9s			pmax	pmax		
VNDA	**Vanda**	**82.72**	**173**	P	**P**	**06 01 08.1**	**+0.4**
IMA2	**Indian Mountai**	**83.00**	**24**	eP	**P**	**06 01 10.0**	**+0.6**
MCK	**McKinley**	**84.77**	**26**	eP	**P**	**06 01 18.1**	**-0.3**
MCK	**McKinley**	**84.77**	**26**	eP	**P**	**06 01 18.1**	**-0.3**
MCK	comp=Z,6.0nm,1.1s,mb4.6			pmax	pmax		
MALT	**Malatya**	**86.85**	**308**	eP	**P**	**06 01 30.6**	**+1.3**
MALT	**Malatya**	**86.85**	**308**	eP	**P**	**06 01 30.7**	**+1.4**
MALT	comp=Z,4.0nm,0.9s,mb4.7			pmax	pmax		
ARCES	**ARCESS Array B**	**91.13**	**340**	P	**P**	**06 01 50.1**	**+1.3**
QSPA	**South Pole Qui**	**92.93**	**180**	eP	**P**	**06 01 59.6**	**+2.7**
TXAR	**Lajitas Array**	**121.99**	**53**	PKP	PKPdf	06 07 40.3	+0.9
TORD	**Torodi Ar. Bea**	**123.19**	**288**	PKP	PKPdf	06 07 42.7	+0.7

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*IDC **15** 05:50:43.4±1.9, 293N×12666E, h0km, mb4.0/5, mb1 4.2/5, mb1mx3.8/17, mbtmp4.0/5, MS3.7/1, Ms1 3.7/1, ms1mx2.9/29, Error ellipse: s-maj=114.7km s-min=26.6km az=68.0*
*NEIC **15** 05:50:44.0±0.9, 314N×127.13E, h10km, mb4.2/7, Error ellipse: s-maj=30.2km s-min=14.1km az=68.0*
*ISCJB **15** 05:50:55.0±5.8, 30N±02×1270E±03, h123km±53km, mb3.9/9, Error ellipse: s-maj=49.3km s-min=27.5km az=155.2*

ISC 15 05:50:56.1±5.7, 30N±02×1270E±03, h113km±52km, n14, σ0§81/13, mb3.9/8, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**16.50**	**161**	eP	**Pn**	**05 54 42.2**	**+1.2**
FITZ	**Fitzroy Crossi**	**20.99**	**184**	eP	**P**	**05 55 30.3**	**-0.2**
FITZ	**Fitzroy Crossi**	**20.99**	**184**	P	**P**	**05 55 29.3**	**-1.2**
WRA	**Warramunga Arr**	**23.90**	**163**	P	**P**	**05 55 59.0**	**-0.5**
WB2	**Warramunga Arr**	**23.90**	**163**	eP	**P**	**05 55 59.0**	**-0.5**
MBWA	**Marble Bar**	**25.02**	**196**	eP	**P**	**05 56 09.7**	**0.0**
ASAR	**Alice Springs**	**27.33**	**166**	P	**P**	**05 56 29.6**	**-0.9**
PSI	**Prapat**	**28.02**	**270**	LR	LR	06 06 58.3	
CTAO	**Charters Tower**	**29.72**	**141**	eP	**P**	**05 56 51.0**	**-0.8**
FORT	**Forrest**	**33.59**	**178**	eP	**P**	**05 57 25.8**	**+0.2**
STKA	**Stephens Creek**	**37.34**	**159**	eP	**P**	**05 57 58.2**	**+0.5**
STKA	**Stephens Creek**	**37.34**	**159**	P	**P**	**05 57 58.6**	**+1.0**
MKAR	**Makanchi Array**	**58.31**	**325**	P	**P**	**06 00 39.0**	**-0.2**
VNDA	**Vanda**	**82.66**	**173**	eP	**P**	**06 03 08.1**	**+1.6**

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*ATH **15** 05:51:28.6, 4097N×2085E, h25km, MD3.3/3*
*SKO **15** 05:51:28.5, 4087N×2074E, h8km, M1.6, ML2.0*
*ISCJB **15** 05:51:29.2±1.3, 409N±0.1×2081E±008, h10km±17km, Error ellipse: s-maj=18.1km s-min=9.8km az=2.1*
*CSEM **15** 05:51:29.0±0.1, 4090N×2081E, h3km, ML2.0, Error ellipse: s-maj=3.3km s-min=2.3km az=108.0*

ISC 15 05:51:29.4±1.6, 409N±01×2080E±008, h11km±20km, n9, σ0§77/16, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHR	**Ohrid**	**0.25**	**359**	ePg	**Pg**	**05 51 33.2**	**-1.3**
OHR				eSg	**Sg**	**05 51 37.9**	**0.0**
OHR				eLg		05 51 38.3	
OHR	comp=E,258nm,0.4s			eLg		05 51 38.5	
OHR	comp=N,267nm,0.4s			eLg		05 51 45.4	
OHR	**Ohrid**	**0.25**	**359**	ePg	**Pg**	**05 51 33.2**	**-1.3**
OHR				eSg	**Sg**	**05 51 37.9**	**0.0**
BIA	**Bitola**	**0.42**	**69**	ePg	**Pg**	**05 51 37.5**	**-0.2**
BIA				eSg	**Sg**	**05 51 44.0**	**+0.6**
BIA				eLg		05 51 45.0	
BIA	comp=E,125nm,0.5s			eLg		05 51 45.4	
BIA	**Bitola**	**0.42**	**69**	ePg	**Pg**	**05 51 37.4**	**-0.3**
BIA				eSg	**Sg**	**05 51 44.0**	**+0.6**
KRUS	**Krusevo**	**0.60**	**34**	ePg	**Pg**	**05 51 41.0**	**-0.2**
KRUS				eSg	**Sg**	**05 51 50.0**	**+0.8**
KRUS	**Krusevo**	**0.60**	**34**	ePg	**Pg**	**05 51 41.0**	**-0.2**
KRUS				eSg	**Sg**	**05 51 49.9**	**+0.8**
KZN	**Kozani**	**0.93**	**127**	ePN	**Pn**	**05 51 47.3**	**-1.0**
KZN				eSN	**Sn**	**05 52 01.0**	**-0.6**
KEK	**Kerkira**	**1.38**	**214**	ePN	**Pn**	**05 51 55.8**	**+1.1**
THL	**Klokotos Trika**	**1.60**	**144**	ePN	**Pn**	**05 51 58.3**	**+0.7**

IDC 15 06:03:34.5±0.8, 1594S×17883W, h0km, mb3.8/7, mb1 4.1/7, mb1mx3.9/16, mbtmp3.8/7, MS3.8/7, Ms1 3.8/7, ms1mx3.5/22, Error ellipse: s-maj=46.2km s-min=20.6km az=147.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**13.27**	**177**	LR	LR	06 10 27.9	
HNR	**Honiara**	**21.68**	**285**	LR	LR	06 15 29.2	
URZ	**Urewera**	**22.52**	**188**	LR	LR	06 16 31.1	
CTA	**Charters Tower**	**33.42**	**258**	LR	LR	06 19 30.2	
STKA	**Stephens Creek**	**39.26**	**239**	P	P	06 11 05.8	+0.9
STKA				LR	LR	06 25 07.4	
WRA	**Warramunga Arr**	**44.62**	**258**	P	P	06 11 48.2	-0.8
ASAR	**Alice Springs**	**44.97**	**252**	P	P	06 11 51.8	+0.1
KSRS	**Korea Array**	**72.97**	**318**	LR	LR	06 42 38.1	
QSPA	**South Pole Qui**	**74.10**	**180**	P	P	06 15 12.2	+0.2
NVAR	**Mina Array Bea**	**78.30**	**44**	P	P	06 15 37.2	+0.6
TXAR	**Lajitas Array**	**85.29**	**58**	P	P	06 16 14.8	+1.1
PDAR	**Pinedale Array**	**86.21**	**44**	P	P	06 16 17.2	-0.7
PDAR				LR	LR	06 52 12.8	
GERES	**GERESS Array B**	**145.62**	**345**	PKPbc	PKPbc	06 23 14.6	-0.4

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*CSEM **15** 06:18:28.1±0.5, 3870N×2907W, h0km±5km, ML2.6, Error ellipse: s-maj=6.8km s-min=2.1km az=70.0, After PDA*
*PDA **15** 06:18:28.1±0.5, 3870N×2907W, h0km±5km, MD3.5, ML2.6, Error ellipse: s-maj=6.8km s-min=2.1km az=70.0*

SVSA 15 06:18:28.1±0.5, 3870N×2907W, h0km±5km, MD3.5, ML2.6, Error ellipse: s-maj=6.8km s-min=2.1km az=70.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CALA	**Caldeira**	**0.31**	**112**	*i* P	Pg	06 18 34.0	0.0
CALA				eS	Sg	06 18 38.5	+0.5
CALA	**Caldeira**	**0.31**	**112**	eS	Sg	06 18 38.5	+0.5
HOR	**Horta**	**0.38**	**117**	*i* P	Pg	06 18 35.0	-0.4
HOR				*i* S	Sg	06 18 40.3	-0.1
HOR	**Horta**	**0.38**	**117**	*i* S	Sg	06 18 40.3	-0.1
PICO	**Pico**	**0.54**	**111**	eP	Pg	06 18 37.9	-0.5
PICO				eS	Sg	06 18 45.3	-0.1
ROSA	**Rosais**	**0.65**	**88**	*i* P	Pg	06 18 39.5	-1.0
ROSA				eS	Sg	06 18 47.9	-0.9
ROSA	**Rosais**	**0.65**	**88**	eS	Sg	06 18 47.9	-0.9
PMAN	**Manadas**	**0.77**	**95**	eP	Pg	06 18 41.0	-1.8
PMAN				eS	Sg	06 18 50.9	-1.8
PMAN				A		06 18 51.2	
PMAN	**Manadas**	**0.77**	**95**	eP	Pg	06 18 41.0	-1.8
PMAN				eS	Sg	06 18 50.9	-1.8
PID	**Ribeirinha**	**0.79**	**109**	eP	Pg	06 18 41.5	-1.6
PID				eS	Sg	06 18 51.7	-1.6
SRBC	**Serra Branca**	**0.87**	**67**	eP	Pg	06 18 42.8	-1.9
SRBC				eS	Sg	06 18 53.3	-2.7

MEX 15 06:27:30.6±0.7, 1744N×10028W, h25km±236km, MD3.7, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.39**	**178**	*i* P	Pb	06 27 37.8	-1.2
CAIG				*i* S	Sb	06 27 42.5	-2.2
ACX	**Acapulco**	**0.67**	**148**	*i* P	Pb	06 27 41.5	-2.2
ACX				*i* S	Sb	06 27 50.5	-2.0
PPM	**Popocatepetl**	**2.26**	**44**	eP	Pn	06 28 05.3	-1.1
PPM				*i* S	Sn	06 28 32.5	-0.9
UTMO	**Huajuapan**	**2.40**	**80**	*i* P	Pn	06 28 05.5	-2.8
UTMO				*i* S	Sn	06 28 33.2	-3.6

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*IDC **15** 06:40:46.1±1.1, 1647S×17871W, h0km, mb3.9/10, mb1 4.2/10, mb1mx4.1/15, mbtmp3.9/10, MS3.9/18, Ms1 3.9/18, ms1mx3.8/27, Error ellipse: s-maj=46.5km s-min=19.6km az=152.0*
*NEIC **15** 06:40:48.5±0.5, 1633S×17886W, h10km, mb4.5/2, Error ellipse: s-maj=21.2km s-min=15.1km az=116.0*
*ISCJB **15** 06:40:50.3±0.6, 164S±0.1×1789W±0.1, h33km, mb3.9/12, MS4.0/16, Error ellipse: s-maj=18.6km s-min=14.0km az=25.4*

ISC 15 06:40:52.3±0.6, 164S±01×1789W±01, h35km, n44, σ1§06/15, mb4.0/12, MS4.0/16, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**12.82**	**176**	ePn	**Pn**	**06 43 51.6**	**-0.5**
RAO	**Raoul Island**	**12.82**	**176**	LR	LR	06 47 12.9	
RAR	**Rarotonga**	**18.68**	**108**	LR	LR	06 50 00.3	
HNR	**Honiara**	**21.79**	**286**	LR	LR	06 52 40.0	
URZ	**Urewera**	**22.06**	**188**	LR	LR	06 52 19.9	

PPT	**Papeete**	**28.01**	**97**	*e*LQ			06 52 31.8
	430nm,27.0s						
PPT				*e*LR	LR		06 53 41.8
	199nm,25.8s						
PPT	**Papeete**	**28.01**	**97**	LR	LR		06 54 10.2
	comp=Z,173nm,21.3s,MS3.6,baz=249,slow=29						
TBI	**Tubuai**	**28.45**	**109**	*e*LR	LR		06 53 51.1
	416nm,27.8s,baz=272						
RPZ	**Rata Peaks**	**28.55**	**195**	LR	LR		06 56 42.3
	comp=Z,222nm,19.5s,MS3.8,baz=12,slow=34						
STKA	**Stephens Creek**	**39.01**	**239**	P	**P**		**06 48 16.0**	**+0.4**
	5.3nm,1.1s,mb4.2,baz=70,slow=12,SNR=5.8						
STKA				LR	LR		07 03 14.2
	comp=Z,212nm,18.9s,MS4.0,baz=28,slow=34						
RKT	**Rikitea**	**41.71**	**106**	*e*LR	LR		06 59 55.5
	242nm,28.2s						
WRA	**Warramunga Arr**	**44.51**	**258**	P	**P**		**06 48 59.0**	**-1.8**
	0.3nm,0.3s,mb3.6,baz=91,slow=7.6,SNR=8.7						
ASAR	**Alice Springs**	**44.81**	**253**	P	**P**		**06 49 03.0**	**-0.1**
	3.5nm,0.9s,mb4.2,baz=87,slow=7.9,SNR=20						
GUMO	**Guam**	**46.62**	**308**	LR	LR		07 04 32.7
	comp=Z,72nm,19.4s,MS3.6,baz=113,slow=30						
CBIJ	**Chichi jima**	**57.44**	**318**	LR	LR		07 11 45.7
	comp=Z,97nm,20.9s,MS3.9,baz=126,slow=32						
MJAR	**Matsushiro Arr**	**66.45**	**323**	P	**P**		**06 51 39.2**	**+1.0**
	1.7nm,1.1s,mb4.0,baz=148,slow=7.1,SNR=4.8						
JNU	**Nakatsue**	**68.77**	**316**	LR	LR		07 18 39.7
	comp=Z,23nm,19.1s,MS3.4,baz=59,slow=33						
ASAJ	**Asahikawa**	**69.76**	**331**	LR	LR		07 17 54.8
	comp=Z,98nm,19.5s,MS4.1,baz=181,slow=32						
KSRS	**Korea Array**	**73.30**	**318**	P	**P**		**06 52 20.9**	**+0.6**
	1.4nm,0.9s,mb3.9,baz=269,slow=31,SNR=2.9						
KSRS				LR	LR		07 22 22.6
	comp=Z,51nm,18.5s,MS3.8,baz=24,slow=34						
QSPA	**South Pole Qui**	**73.64**	**180**	*e*P	**P**		**06 52 23.3**	**+1.6**
	9.2nm,1.0s,mb4.7						
NVAR	**Mina Array Bea**	**78.64**	**44**	P	**P**		**06 52 49.8**	**-0.9**
	0.4nm,0.6s,mb3.5,baz=272,slow=6.1,SNR=3.5						
SRU	**San Rafael**	**84.29**	**47**	*e*P	**P**		**06 53 22.5**	**+1.9**
	1.7nm,1.0s,mb4.1						
MAW	**Mawson**	**85.13**	**200**	LR	LR		07 24 43.6
	comp=Z,110nm,21.8s,MS4.2,baz=238,slow=31						
TXAR	**Lajitas Array**	**85.55**	**58**	P	**P**		**06 53 27.3**	**+0.2**
	0.5nm,0.8s,mb3.8,baz=224,slow=3.8,SNR=3.7						
TXAR				LR	LR		07 24 04.7
	comp=Z,128nm,18.5s,MS4.3,baz=180,slow=30						
PDAR	**Pinedale Array**	**86.55**	**44**	P	**P**		**06 53 30.4**	**-1.4**
	0.6nm,0.9s,mb3.8,baz=178,slow=2.7,SNR=2.3						
PDAR				LR	LR		07 25 29.4
	comp=Z,89nm,20.0s,MS4.2,baz=247,slow=31						
SONM	**Songino Array**	**92.14**	**319**	P	**P**		**06 53 58.2**	**+0.2**
	0.3nm,0.7s,mb3.8,baz=106,slow=4.7,SNR=2.5						
VNA3	**Neumayer Olymp**	**92.26**	**177**	*e*	**P**		**06 54 03.8**	**+5.5**
VNA3				*e*			06 54 07.4
VNA3				*e*			06 54 09.9
PLCA	**Paso Flores**	**92.67**	**134**	LR	LR		07 27 33.8
	comp=Z,86nm,18.3s,MS4.2,baz=193,slow=30						
VNA2	**Neumayer--Watz**	**92.70**	**177**	*e*	**P**		**06 54 06.2**	**+5.9**
	baz=166,slow=5.2						
VNA2				*e*			06 54 09.8
VNA2				*e*			06 54 12.5
YKA	**Yellowknife Ar**	**93.15**	**25**	P	**P**		**06 54 01.0**	**-1.3**
	0.4nm,0.9s,mb3.8,baz=248,slow=4.0,SNR=3.2						
YKA				LR	LR		07 31 31.4
	comp=Z,63nm,18.5s,MS4.1,baz=155,slow=33						
ULM	**Lac du Bonnet**	**98.03**	**40**	LR	LR		07 37 18.9
	comp=Z,64nm,18.2s,MS4.2,baz=340,slow=35						
GRA1	**Grafenberg Arr**	**145.81**	**348**	*e*PKP	PKPdf		07 00 31.2	+4.1
GRF	**Grafenberg Arr**	**145.81**	**348**	*e*PKP	PKPdf		07 00 31.2	+4.1
KHC	**Kasperske Hory**	**145.82**	**345**	*e*PKP	PKPdf		07 00 30.0	+2.8
GERES	**GERESS Array B**	**146.06**	**345**	PKPbc	PKPbc		07 00 26.9	-1.5
	1.1nm,0.8s,baz=35,slow=3.6,SNR=2.0						
BFO	**Black Forest**	**147.62**	**351**	*e*PKPab	PKPab		07 00 35.6	+0.5
CDF	**Champ du Feu**	**147.69**	**352**	*e*PKP1	PKPbc		07 00 35.8	+2.7
	11nm,1.1s						
FLN	**La Foliniere**	**147.70**	**2**	*e*PKP1	PKPbc		07 00 35.2	+2.1
	25nm,1.3s						
LDF	**La Druitiere**	**147.88**	**2**	*e*PKP1	PKPbc		07 00 35.8	+2.2
	13nm,1.1s						
SGMF	**Saint Gilles**	**148.09**	**5**	*e*PKP1	PKPbc		07 00 38.1	+3.9
CABF	**La Chapelle**	**149.60**	**353**	*e*PKP1	PKPbc		07 00 41.6	+3.5
AVF	**Avril sur Loir**	**149.65**	**357**	*e*PKP1	PKPbc		07 00 41.5	+3.3
SMF	**Signal de Mont**	**149.76**	**356**	*e*PKP1	PKPbc		07 00 41.2	+2.7
TORD	**Torodi Ar. Bea**	**176.72**	**189**	PKP	PKPdf		07 01 00.2	+0.4
	0.7nm,0.9s,baz=187,slow=2.5,SNR=3.2						

WEL 15 06:46:10.0±0.6,3856S×17538E,h256km±5km,ML3.5/9, Error ellipse: s-maj=6.5km s-min=6.0km az=90.0,North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WPVZ	**Whakapapa**	**0.65**	**169**	PN	Pn	06 46 44.2	+0.2
MTVZ	**Mangateitei**	**0.82**	**175**	PN	Pn	06 46 44.7	-0.1
MTVZ				SN	S	06 47 12.0	-0.1
MOVZ	**Moawhango**	**0.89**	**161**	PN	Pn	06 46 44.8	-0.2
BKZ	**Black Stump Fm**	**1.05**	**125**	PN	Pn	06 46 46.1	+0.1
BKZ				SN	S	06 47 13.7	-0.5
URZ	**Urewera**	**1.39**	**78**	PN	Pn	06 46 48.0	-0.1
TSZ	**Takapari Road**	**1.56**	**163**	PN	Pn	06 46 47.5	-1.8
MWZ	**Matawai**	**1.70**	**83**	PN	Pn	06 46 50.8	+0.4
WPHZ	**Waipukurau**	**1.71**	**152**	PN	Pn	06 46 50.6	+0.2
KIW	**Kapiti Island**	**2.32**	**189**	PN	Pn	06 46 54.1	-1.8
CAW	**Cannon Point**	**2.55**	**185**	PN	Pn	06 46 56.2	-1.9
TCW	**Tory Channel**	**2.78**	**197**	PN	Pn	06 46 58.3	-2.1
NNZ	**Nelson**	**3.07**	**210**	PN	Pn	06 47 00.6	-2.9
TUWZ	**Tuamarina**	**3.07**	**201**	PN	Pn	06 47 01.3	-2.2
QRZ	**Quartz Range**	**3.15**	**223**	PN	Pn	06 47 00.9	-3.6
THZ	**Tophouse**	**3.72**	**210**	PN	Pn	06 47 07.5	-3.2
KHZ	**Kahutara**	**4.10**	**199**	PN	Pn	06 47 12.2	-2.9
LTZ	**Lake Taylor**	**4.83**	**208**	PN	Pn	06 47 19.7	-4.1

JMA 15 06:52:08.1,3731N×13677E,h9km,M2.5,Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JJH	**Hakui**	**0.38**	**179**	P	Pg	06 52 15.9	+0.3
JJH				*e*S	Sg	06 52 21.4	+0.7
JSZ	**Suzu**	**0.49**	**74**	P	Pg	06 52 17.6	-0.1
JSZ				*e*S	Sg	06 52 24.6	+0.5
JHG	**Hegura jima**	**0.55**	**12**	*e*S	Sg	06 52 26.4	+0.4
MAT	**Matsushiro**	**1.38**	**123**	P	Pn	06 52 33.1	-0.5
MAT				*e*S	Sb	06 52 52.2	+0.3

NIED ***15*** *07:06:00,2760N×127.40E,h119km,Mw4.3 Best double couple: M0:2.70000×10^15 NP1:φ0=347.00000°,δ68.00000°, λ-61.00000°. NP2:φ0=111.00000°,δ36.00000°, λ-140.00000°.*
ISCJB ***15*** *07:06:28.9±0.3,2753N±005×12735E±005,h134km±4km, mb3.8/15,Error ellipse: s-maj=9.4km s-min=4.1km az=137.2*
BJI ***15*** *07:06:29.1,2760N×12730E,h96km,mB4.5,mb4.5*
IDC ***15*** *07:06:29.2±0.9,2763N×12729E,h120km±9km,mb3.7/14, mb1 3.8/15,mb1mx3.8/23,mbtmp3.7/15,Error ellipse: s-maj=24.6km s-min=11.6km az=68.0*
NEIC ***15*** *07:06:30.1±1.0,2759N×12727E,h128km±10km,mb4.0/1, Error ellipse: s-maj=16.8km s-min=9.8km az=79.0*
JMA ***15*** *07:06:31.0±0.2,2760N×12738E,h117km±4km,M4.5*

ISC 15 07:06:30.0±0.3,2755N±004×12734E±005,h127km±4km, n46,σ1§18/61,mb3.9/15,1D,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIH	**Iheya**	**0.76**	**133**	P	**Pn**	**07 06 51.1**	**+0.6**
JIH				S	**Sn**	**07 07 05.7**	**-0.3**
JAGN	**Aguni-jima**	**0.96**	**185**	P	**Pn**	**07 06 53.1**	**+0.8**
JAGN				S	**Sn**	**07 07 09.5**	**+7.6**
JOW	**Kunigami**	**1.10**	**131**	P	**Pn**	**07 06 53.9**	**+0.3**
JOW				S	**Sn**	**07 07 10.9**	**+5.8**
JOW	**Kunigami**	**1.10**	**131**	P	**Pn**	**07 06 54.0**	**+0.4**
	2μm,0.3s,baz=127,slow=22,SNR=2248						
JOW				S	**Sn**	**07 07 10.8**	**+5.7**
	662nm,0.3s,baz=137,slow=28,SNR=5.1						
JKE	**Kume jima 2**	**1.32**	**202**	P	**Pn**	**07 06 56.8**	**+0.9**
JKE				S	**Sn**	**07 07 15.7**	**+5.2**
NAH1	**Naha**	**1.38**	**167**	P	**Pn**	**07 06 57.6**	**+1.1**
NAH1				S	**Sn**	**07 07 16.5**	**+4.5**
JTK	**Tokunoshima**	**1.45**	**80**	P	**Pn**	**07 06 57.2**	**-0.1**
JTK				S	**Sn**	**07 07 16.5**	**+2.9**
JJT2	**Tamagusuku 2**	**1.45**	**165**	P	**Pn**	**07 06 58.8**	**+1.4**
JJT2				S	**Sn**	**07 07 18.8**	**+5.0**
JAM	**Amami Oshima**	**2.18**	**66**	P	**Pn**	**07 07 05.9**	**-0.1**
JAM				S	**Sn**	**07 07 32.3**	**+1.0**
JZK	**Kikaishima**	**2.45**	**71**	P	**Pn**	**07 07 10.0**	**+0.6**
JZK				S	**Sn**	**07 07 39.8**	**+1.9**
JNN	**Nakanoshima**	**3.19**	**44**	P	**Pn**	**07 07 19.6**	**+0.7**
JOGS	**Gusukube**	**3.28**	**212**	P	**Pn**	**07 07 20.9**	**+0.7**
JMJ	**Miyako jima 2**	**3.29**	**214**	P	**Pn**	**07 07 20.6**	**+0.3**
JMJ				S	**Sn**	**07 08 00.4**	**+2.2**
JTJ	**Tarama**	**3.75**	**220**	P	**Pn**	**07 07 26.2**	**-0.1**
JTJ				S	**Sn**	**07 08 08.8**	**-0.5**
JMZ	**Minamidaito 2**	**3.88**	**116**	P	**Pn**	**07 07 27.0**	**-1.0**
JMZ				S	**Sn**	**07 08 07.9**	**-4.6**
JIJ	**Ishigaki jima**	**4.29**	**223**	P	**Pn**	**07 07 32.6**	**-0.9**
JIJ				S	**Sn**	**07 08 20.1**	**-2.3**
JKRS	**Kuro-shima**	**4.46**	**223**	P	**Pn**	**07 07 35.1**	**-0.7**
JKRS				S	**Sn**	**07 08 25.3**	**-1.3**
IRIF	**Iriomote-Funau**	**4.56**	**226**	P	**Pn**	**07 07 36.5**	**-0.7**
HATJ	**Hateruma jima**	**4.72**	**223**	P	**Pn**	**07 07 38.3**	**-1.0**
YOJ	**Yonaguni jima**	**4.96**	**233**	P	**Pn**	**07 07 43.2**	**+0.6**
JNU	**Nakatsue**	**6.34**	**28**	P	**Pn**	**07 08 03.0**	**+2.0**
	12nm,0.3s,baz=195,slow=8.9,SNR=87						
KSRS	**Korea Array**	**9.89**	**3**	P	**Pn**	**07 08 50.5**	**+1.8**
	0.3nm,0.3s,baz=183,slow=14,SNR=18						
MAT	**Matsushiro**	**12.85**	**43**	P	**Pn**	**07 09 25.4**	**-2.5**
MJAR	**Matsushiro Arr**	**12.85**	**43**	P	**Pn**	**07 09 26.5**	**-1.4**
	0.7nm,0.3s,baz=236,slow=14,SNR=12						
BJI	**Beijing**	**15.52**	**326**	P	**Pn**	**07 10 05.9**	**+4.2**
BJI				AMB	AMB		
	comp=Z,12nm,1.1s						
XAN	**Xi'an**	**17.09**	**297**	P	**Pn**	**07 10 22.9**	**+1.9**
XAN				AMB	AMB		
	comp=Z,24nm,0.6s						
GTA	**Gaotai**	**25.72**	**304**	↓P	**P**	**07 11 48.8**	**+0.4**
GTA				AP	pP	07 12 11.1	-4.4
GTA				XP	sP	07 12 22.4	-7.9
SONM	**Songino Array**	**26.02**	**327**	P	**P**	**07 11 51.6**	**+0.7**
	comp=Z,3.3nm,0.4s,mb4.1,baz=141,slow=9.9,SNR=31						
SONM				PcP	PcP	07 15 16.2	+0.5
	comp=Z,0.5nm,0.7s,baz=122,slow=1.9,SNR=3.5						
MK31	**Makanchi Array**	**40.07**	**311**	*e*P	**P**	**07 13 52.4**	**-0.2**
MKAR	**Makanchi Array**	**40.07**	**311**	P	**P**	**07 13 52.7**	**0.0**
MKAR				PcP	PcP	07 15 55.0	0.0
MKAR				ScP	ScP	07 19 31.6	-0.7
MKAR	**Makanchi Array**	**40.07**	**311**	P	**P**	**07 13 52.7**	**0.0**
	comp=Z,1.5nm,0.6s,mb4.0,baz=97,slow=11,SNR=16						
MKAR				PcP	PcP	07 15 55.0	0.0
	comp=Z,2.8nm,0.6s,baz=75,slow=3.3,SNR=17						
MKAR				ScP	ScP	07 19 31.6	-0.7
	comp=Z,0.7nm,0.7s,baz=89,slow=5.3,SNR=7.0						
ZALV	**Zalesovo Beam**	**40.72**	**322**	P	**P**	**07 13 56.8**	**-1.1**
	comp=Z,0.9nm,0.3s,mb4.0,baz=106,slow=8.7,SNR=4.5						
ZALV				PcP	PcP	07 15 55.5	-1.4
	comp=Z,1.8nm,0.7s,baz=145,slow=3.6,SNR=6.1						
ZALV				ScP	ScP	07 19 33.6	-1.1
	comp=Z,1.1nm,0.6s,baz=124,slow=4.0,SNR=4.3						
UCH	**Uchtor**	**45.05**	**303**	*e*P	**P**	**07 14 33.8**	**+0.8**
	comp=Z,3.1nm,0.9s,mb4.0						
FITZ	**Fitzroy Crossi**	**45.41**	**182**	P	**P**	**07 14 36.9**	**+0.9**
	comp=Z,2.2nm,0.7s,mb4.0,baz=348,slow=9.3,SNR=4.3						
WRA	**Warramunga Arr**	**47.70**	**171**	P	**P**	**07 14 54.3**	**+0.5**
	comp=Z,1.7nm,0.7s,mb4.0,baz=352,slow=8.5,SNR=8.7						
BVAR	**Borovoye Array**	**48.76**	**318**	P	**P**	**07 15 00.6**	**-1.1**
	comp=Z,0.9nm,0.5s,mb3.9,baz=85,slow=9.1,SNR=7.2						
BVAR				PcP	PcP	07 16 24.9	+0.3
	comp=Z,3.3nm,0.4s,baz=105,slow=3.9,SNR=21						
ASAR	**Alice Springs**	**51.31**	**172**	P	**P**	**07 15 22.3**	**+1.1**
	comp=Z,0.8nm,0.5s,mb4.0,baz=359,slow=14,SNR=16						
STKA	**Stephens Creek**	**60.64**	**166**	P	**P**	**07 16 27.5**	**+0.1**
	comp=Z,1.8nm,0.5s,mb4.3,baz=335,slow=8.4,SNR=5.3						
FINES	**FINESS Array B**	**71.33**	**330**	P	**P**	**07 17 33.9**	**-1.6**
	comp=Z,0.6nm,0.6s,mb3.6,baz=59,slow=7.4,SNR=6.0						
AKASG	**Malin Array Be**	**74.02**	**319**	P	**P**	**07 17 50.2**	**-1.4**
	comp=Z,0.2nm,0.3s,mb3.4,baz=183,slow=27,SNR=4.0						
YKA	**Yellowknife Ar**	**77.67**	**25**	P	**P**	**07 18 12.4**	**+0.4**
YKA	**Yellowknife Ar**	**77.67**	**25**	P	**P**	**07 18 12.4**	**+0.4**
	comp=Z,1.0nm,0.7s,mb3.6,baz=303,slow=5.8,SNR=25						
NB2	**NORSAR Subarra**	**77.78**	**333**	P	**P**	**07 18 11.4**	**-1.3**
	comp=Z,0.3nm,0.5s,mb3.3,baz=54,slow=5.6						
NOA	**NORSAR Array B**	**77.78**	**333**	P	**P**	**07 18 11.1**	**-1.6**
	comp=Z,0.3nm,0.5s,mb3.2,baz=51,slow=5.6,SNR=3.5						
PDAR	**Pinedale Array**	**92.62**	**38**	P	**P**	**07 19 29.1**	**+1.8**
	comp=Z,0.5nm,0.8s,mb3.9,baz=141,slow=0.9,SNR=4.2						
ULM	**Lac du Bonnet**	**93.59**	**26**	P	**P**	**07 19 31.7**	**+0.1**
	comp=Z,1.6nm,0.9s,mb4.4,baz=353,slow=8.1,SNR=3.1						

IDC 15 07:18:32.4±2.1,328N×12786E,h0km,mb3.4/3,mb1 3.7/3, mb1mx3.4/17,mbtmp3.5/3,MS3.2/1,Ms1 3.2/1, ms1mx2.7/19,Error ellipse: s-maj=141.9km s-min=26.4km az=67.0,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.94**	**165**	P	P	07 23 49.0	+0.7
	0.8nm,0.4s,baz=345,slow=11,SNR=8.4						
ASAR	**Alice Springs**	**27.42**	**168**	P	P	07 24 19.6	-0.3
	0.3nm,0.7s,baz=354,slow=8.7,SNR=4.9						
JNU	**Nakatsue**	**29.82**	**5**	LR	LR	07 34 24.6	
	comp=Z,49nm,19.9s,baz=238,slow=32						
MKAR	**Makanchi Array**	**58.57**	**325**	P	P	07 28 30.8	-0.1
	0.1nm,0.3s,baz=109,slow=7.6,SNR=5.1						

ATH ***15*** *07:22:06.7,3880N×2289E,h41km±4km,MD3.2/4*
ISCJB ***15*** *07:22:08.9±0.5,3884N±003×2279E±004,h20km±9km, Error ellipse: s-maj=5.5km s-min=4.9km az=42.9*
CSEM ***15*** *07:22:08.0±0.1,3884N×2277E,h12km,MD3.2,Error ellipse: s-maj=3.0km s-min=2.6km az=93.0*
THE ***15*** *07:22:08.2,3883N×2278E,h2km,ML2.9*

ISC 15 07:22:08.4±0.5,3884N±003×2279E±004,h14km±7km,n14, σ1§10/24,Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKR	**Lokris**	**0.25**	**139**	*e*P	**Pg**	**07 22 13.6**	**-0.2**
LKR				*e*S	**Sg**	**07 22 20.0**	**+2.5**
AGG	**Agios Georgios**	**0.40**	**297**	*e*Pg	**Pg**	**07 22 15.8**	**-0.7**
AGG				*e*Sg	**Sg**	**07 22 21.9**	**+0.1**
NEO	**Neokhori**	**0.58**	**36**	*e*P	**Pg**	**07 22 19.6**	**-0.1**
NEO				*e*S	**Sg**	**07 22 27.5**	**+0.1**
XOR	**Xorichti**	**0.61**	**31**	*e*Pg	**Pg**	**07 22 19.7**	**-0.7**
EVR	**Evrytania**	**0.77**	**276**	*e*P	**Pb**	**07 22 23.5**	**0.0**
EVR				*e*S	**Sb**	**07 22 36.5**	**+1.8**
LTK	**Loutraki**	**0.83**	**170**	*e*Pg	**Pg**	**07 22 23.1**	**-1.3**
LTK				*e*Sg	**Sg**	**07 22 36.3**	**+1.0**
LTK	**Loutraki**	**0.83**	**170**	*e*Pg	**Pg**	**07 22 23.1**	**-1.4**
LTK				*e*Sg	**Sg**	**07 22 36.3**	**+1.0**
SELA	**Sela**	**0.90**	**232**	*e*Pg	**Pg**	**07 22 25.1**	**-0.7**
AOS	**Alonnisos**	**0.91**	**68**	*e*Pg	**Pg**	**07 22 25.7**	**-0.4**
AOS				*e*Sg	**Sg**	**07 22 39.4**	**+1.3**
AOS	**Alonnisos**	**0.91**	**68**	*e*Pg	**Pg**	**07 22 25.7**	**-0.4**
AOS				*e*Sg	**Sg**	**07 22 39.3**	**+1.3**
THL	**Klokotos Trika**	**0.94**	**321**	*e*P	**Pb**	**07 22 25.5**	**-1.0**
THL				*e*S	**Sb**	**07 22 40.3**	**+1.5**
LIT	**Litokhoron**	**1.28**	**350**	*e*Pg	**Pg**	**07 22 31.7**	**-1.4**
LIT				*e*Sg	**Sg**	**07 22 51.2**	**+1.5**
PAIG	**Paliouri**	**1.29**	**32**	*e*Pg	**Pg**	**07 22 31.8**	**-1.4**
DID	**Didima**	**1.38**	**165**	*e*Pg	**Pg**	**07 22 33.8**	**-1.1**

IDC 15 07:40:40.3±2.5,2013S×6887W,h0km,mb3.3/1, mb1 3.6/3,mb1mx3.4/18,mbtmp3.4/3,ML3.4/2,MS2.7/1, Ms1 2.9/1,ms1mx2.4/14,Error ellipse: s-maj=58.4km s-min=47.0km az=14.0,Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**3.89**	**11**	Pn	Pn	07 41 42.5	+1.1
	1.0nm,0.3s,baz=190,slow=12,SNR=28						
LPAZ				LR	LR	07 43 15.7	
	comp=Z,99nm,18.1s,baz=241,slow=40						
SIV	**San Ignacio**	**8.48**	**62**	Pn	Pn	07 42 43.7	-0.8
	0.4nm,0.3s,baz=261,slow=15,SNR=10						
TORD	**Torodi Ar. Bea**	**76.87**	**71**	P	P	07 52 35.2	+0.4
	0.5nm,0.8s,baz=264,slow=4.8,SNR=3.6						
YKA	**Yellowknife Ar**	**89.92**	**341**	P	P	07 53 40.5	-0.3
	0.2nm,0.8s,baz=133,slow=4.7,SNR=7.5						

IDC 15 07:49:32.2±1.7,1762S×17704W,h0km,mb4.2/4, mb1 4.5/4,mb1mx3.9/15,mbtmp4.2/4,Error ellipse: s-maj=155.8km s-min=29.5km az=156.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**39.91**	**241**	P	P	07 57 09.1	+0.9
	2.2nm,0.7s,baz=88,slow=7.5,SNR=6.7						
WRA	**Warramunga Arr**	**45.97**	**259**	P	P	07 57 56.7	-0.7
	1.0nm,0.5s,baz=98,slow=6.9,SNR=22						
ASAR	**Alice Springs**	**46.12**	**254**	P	P	07 57 58.3	-0.3
	11nm,0.6s,baz=89,slow=8.4,SNR=228						
TXAR	**Lajitas Array**	**84.74**	**57**	P	P	08 02 08.8	+0.2
	0.7nm,0.9s,baz=217,slow=8.8,SNR=6.3						

IDC 15 07:55:31.7±1.3,2359N×14373E,h0km,mb3.5/4, mb1 3.6/5,mb1mx3.4/19,mbtmp3.5/5,ML3.1/1,Error ellipse: s-maj=52.7km s-min=26.1km az=86.0,Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**3.76**	**338**	Pn	Pn	07 56 31.6	+0.6
	2.2nm,0.3s,baz=125,slow=20,SNR=5.2						
CBIJ				Sn	Sn	07 57 13.5	-2.5
	13nm,0.3s,baz=302,slow=24,SNR=13						
WRA	**Warramunga Arr**	**44.22**	**193**	P	P	08 03 42.9	+0.1
	0.3nm,0.4s,baz=17,slow=9.0,SNR=11						
MKAR	**Makanchi Array**	**53.81**	**312**	P	P	08 04 56.0	-0.1
	0.2nm,0.2s,baz=96,slow=9.0,SNR=2.9						
YKA	**Yellowknife Ar**	**74.56**	**28**	P	P	08 07 12.6	+0.5
	0.1nm,0.6s,baz=292,slow=5.9,SNR=4.9						
FINES	**FINESS Array B**	**81.70**	**335**	P	P	08 07 51.2	-0.6
	0.3nm,0.5s,baz=46,slow=5.5,SNR=5.3						

MEX 15 08:11:58.8±0.3,1697N×10055W,h36km±4km,MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.28**	**75**	*i* P	Pn	08 12 05.2	-1.3
CAIG				*i* S	Sn	08 12 09.8	-2.0
ACX	**Acapulco**	**0.61**	**100**	*i* P	Pn	08 12 09.1	-1.9
ACX				*i* S	Sn	08 12 17.4	-2.3
MZVM		**2.54**	**29**	*i* P	Pn	08 12 35.4	-2.1
MZVM				*i* S	Sn	08 13 05.5	-1.6
UTMO	**Huajuapan**	**2.75**	**72**	*i* P	Pn	08 12 39.9	-0.5
UTMO				*i* S	Sn	08 13 11.2	-1.4
IIO	**Organos**	**3.13**	**33**	*i* P	Pn	08 12 44.5	-1.2
IIO				*i* S	Sn	08 13 20.2	-1.6

IDC 15 08:25:57.1±46.0,1652S×17534W,h0km,mb4.2/3, mb1 4.4/3,mb1mx3.8/15,mbtmp4.2/3,Error ellipse: s-maj=877.9km s-min=163.3km az=79.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**41.87**	**241**	P	P	08 33 49.7	+0.5
	0.9nm,0.6s,baz=80,slow=11,SNR=4.5						
WRA	**Warramunga Arr**	**47.78**	**258**	P	P	08 34 36.4	-0.2
	1.6nm,0.7s,baz=95,slow=7.0,SNR=26						
ASAR	**Alice Springs**	**48.00**	**253**	P	P	08 34 37.9	-0.3
	8.5nm,0.7s,baz=87,slow=8.6,SNR=130						

NEIC ***15*** *08:30:25.1±0.8,6995S×15530E,h10km,Error ellipse: s-maj=21.1km s-min=16.0km az=204.0*

IDC 15 08:30:23.6±1.3,6975S×15530E,h0km,mb3.9/6,mb1 4.0/7, mb1mx3.8/16,mbtmp4.0/7,ML4.1/1,Error ellipse: s-maj=32.2km s-min=25.8km az=106.0,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.21**	**118**	Pn	Pn	08 31 43.2	+0.5
	6.9nm,0.3s,baz=268,slow=7.1,SNR=2.5						
HNR				Sn	Sn	08 32 35.1	-8.4
	9.1nm,0.3s,baz=260,slow=23,SNR=7.8						
WRA	**Warramunga Arr**	**24.08**	**236**	P	P	08 35 41.9	+1.1
	0.8nm,0.5s,baz=61,slow=9.5,SNR=18						
STKA	**Stephens Creek**	**27.88**	**206**	P	P	08 36 14.4	-0.8
	1.0nm,0.6s,baz=350,slow=17,SNR=4.1						
FITZ	**Fitzroy Crossi**	**30.94**	**246**	P	P	08 36 42.2	-0.4
	1.3nm,0.6s,baz=105,slow=8.0,SNR=2.8						
SONM	**Songino Array**	**69.48**	**327**	P	P	08 41 34.9	+1.1
	0.4nm,0.4s,baz=136,slow=6.6,SNR=4.7						
MKAR	**Makanchi Array**	**83.59**	**319**	P	P	08 42 54.3	+0.5
	0.9nm,0.6s,baz=95,slow=5.9,SNR=11						
ZALV	**Zalesovo Beam**	**84.33**	**326**	P	P	08 42 55.9	-1.5
	0.8nm,0

comp=Z,95nm,19.3s,baz=228,slow=38
MK31 Makanchi Array 70.64 322 *e*P **P 09 03 00.1 -0.3**
MKAR Makanchi Array 70.64 322 P **P 09 02 59.9 -0.5**
2.0nm,0.9s,mb4.0,baz=108,slow=7.7,SNR=13
ZALV Zalesovo Beam 72.66 329 P **P 09 03 10.3 -2.0**
0.7nm,0.6s,mb3.7,baz=123,slow=5.5,SNR=3.8
BVAR Borovoye Array 80.12 325 P **P 09 03 54.8 +0.2**
1.1nm,0.7s,mb3.8,baz=120,slow=5.8,SNR=10
YKA Yellowknife Ar 99.55 27 LR LR 09 47 47.8
comp=Z,38nm,21.2s,baz=340,slow=34

IDC ***15*** *09:04:14.6±0.9, 372N×12828E, h0km, mb3.8/7, mb1 4.0/7, mb1mx3.8/17, mbtmp3.8/7, MS4.1/1, Ms1 4.1/1, ms1mx2.8/33, Error ellipse: s-maj=64.1km s-min=17.3km az=77.0*
NEIC ***15*** *09:04:16.0±0.6, 374N×12834E, h10km, mb4.4/1, Error ellipse: s-maj=46.3km s-min=12.1km az=79.0*
ISCJB ***15*** *09:04:17.5±0.8, 37N±01×1283E±04, h33km, mb3.8/8, Error ellipse: s-maj=53.3km s-min=13.7km az=169.1*
ISC 15 09:04:19.8±0.8, 37N±01×1284E±04, h35km, n10, σ0§65/9, mb3.8/8, North of Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.24**	**166**	P	**P**	**09 09 33.3**	**-0.2**
0.8nm,0.3s,mb3.6,baz=343,slow=10,SNR=31							
ASAR	**Alice Springs**	**27.75**	**169**	P	**P**	**09 10 05.8**	**+0.5**
1.0nm,0.5s,mb3.7,baz=354,slow=7.5,SNR=34							
MJAR	**Matsushiro Arr**	**33.90**	**14**	P	**P**	**09 11 00.0**	**+0.7**
0.8nm,0.5s,mb4.0,baz=184,slow=10,SNR=6.8							
HNR	**Honiara**	**34.09**	**113**	LR	LR	09 23 13.4	
comp=Z,350nm,21.5s,baz=39,slow=33							
STKA	**Stephens Creek**	**37.58**	**161**	P	**P**	**09 11 31.0**	**+0.1**
0.6nm,0.3s,mb3.8,baz=355,slow=8.3,SNR=6.5							
SONM	**Songino Array**	**47.84**	**340**	P	**P**	**09 12 54.6**	**+0.6**
0.6nm,0.6s,mb3.8,baz=157,slow=8.9,SNR=5.0							
MKAR	**Makanchi Array**	**58.49**	**325**	P	**P**	**09 14 11.9**	**-0.5**
0.4nm,0.4s,mb3.8,baz=101,slow=9.0,SNR=2.4							
TIXI	**Tiksi**	**67.84**	**0**	*e*P	**P**	**09 15 14.1**	**+0.2**
1.2nm,0.4s,mb4.3							
YKA	**Yellowknife Ar**	**98.83**	**25**	P	**P**	**09 17 54.4**	**-1.4**
YKA	**Yellowknife Ar**	**98.83**	**25**	P	**P**	**09 17 54.4**	**-1.4**
0.1nm,0.5s,mb3.6,baz=299,slow=4.3,SNR=5.6							

IDC ***15*** *09:11:07.2±1.1, 169N×9762E, h0km, mb4.1/8, mb1 4.2/8, mb1mx3.9/19, mbtmp4.1/8, Error ellipse: s-maj=35.6km s-min=18.9km az=52.0*
NEIC ***15*** *09:11:12.2±0.6, 178N×9768E, h30km, mb4.5/3, Error ellipse: s-maj=14.3km s-min=10.2km az=51.0*
ISCJB ***15*** *09:11:18.3±3.0, 2.1N±02×982E±03, h88km±21km, mb4.2/11, Error ellipse: s-maj=52.8km s-min=14.5km az=147.9*
ISC 15 09:11:18.3±3.9, 20N±02×981E±03, h75km±28km, n19, σ0§89/18, mb4.2/11, 1C, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**1.13**	**48**	Pn	**Pn**	**09 11 37.8**	**-0.9**
32nm,0.3s,baz=247,slow=5.8,SNR=87							
TSI	**Tuntungan**	**1.53**	**18**	⇑*e*P	**Pn**	**09 11 45.0**	**+1.1**
TSI				*e*S	**Sn**	**09 11 59.8**	**-2.6**
KULM	**Kulim**	**4.12**	**38**	*e*Pn	**Pn**	**09 12 19.8**	**+0.9**
WRA	**Warramunga Arr**	**41.73**	**123**	P	**P**	**09 18 59.6**	**-0.8**
1.0nm,0.5s,mb3.8,baz=302,slow=9.1,SNR=11							
WRA				PcP	PcP	09 20 56.3	+0.5
0.2nm,0.4s,baz=313,slow=2.7,SNR=5.6							
ASAR	**Alice Springs**	**43.20**	**128**	P	**P**	**09 19 11.6**	**-0.7**
0.2nm,0.5s,mb3.1,baz=292,slow=7.1,SNR=6.1							
AML	**Almayashu**	**45.52**	**334**	*e*P	**P**	**09 19 30.2**	**-0.3**
1.8nm,0.4s,mb4.2							
SONM	**Songino Array**	**46.18**	**8**	P	**P**	**09 19 36.0**	**+0.5**
1.2nm,0.5s,mb3.9,baz=188,slow=9.3,SNR=10.0							
MK31	**Makanchi Array**	**46.66**	**345**	*e*P	**P**	**09 19 39.7**	**+0.4**
MKAR	**Makanchi Array**	**46.66**	**345**	P	**P**	**09 19 39.8**	**+0.5**
5.1nm,0.6s,mb4.4,baz=157,slow=8.2,SNR=36							
KURK	**Kurchatov**	**51.23**	**344**	*e*P	**P**	**09 20 13.5**	**-0.6**
4.9nm,0.8s,mb4.6							
ZAA0	**Zalesovo Array**	**52.88**	**350**	*e*P	**P**	**09 20 26.6**	**+0.2**
ZALV	**Zalesovo Beam**	**52.88**	**350**	P	**P**	**09 20 26.6**	**+0.2**
5.4nm,0.4s,mb5.0,baz=178,slow=6.9,SNR=39							
STKA	**Stephens Creek**	**53.26**	**133**	*e*P	**P**	**09 20 31.2**	**+1.6**
4.6nm,0.3s,mb5.0							
STKA				*e*sP	sP	09 20 42.8	-14
FINES	**FINESS Array B**	**79.67**	**332**	P	**P**	**09 23 17.4**	**-0.2**
0.8nm,0.4s,mb3.9,baz=102,slow=5.5,SNR=10							
ARCES	**ARCESS Array B**	**82.05**	**340**	P	**P**	**09 23 29.9**	**-0.2**
2.3nm,0.9s,mb4.0,baz=79,slow=6.3,SNR=5.7							
NB2	**NORSAR Subarra**	**86.71**	**331**	P	**P**	**09 23 53.7**	**-0.1**
comp=Z,1.3nm,0.8s,mb3.9,baz=91,slow=5.1							
NOA	**NORSAR Array B**	**86.71**	**331**	P	**P**	**09 23 52.2**	**-1.6**
comp=Z,1.0nm,0.8s,mb3.8,baz=94,slow=4.9,SNR=5.7							
TXAR	**Lajitas Array**	**142.49**	**32**	PKP	PKPdf	09 30 44.0	+0.6
TXAR	**Lajitas Array**	**142.49**	**32**	PKP	PKPdf	09 30 44.0	+0.6
comp=Z,0.1nm,0.6s,baz=132,slow=1.9,SNR=3.6							

ISCJB ***15*** *09:20:47.4±0.7, 142N±02×1205E±04, h100km, mb3.8/10, Error ellipse: s-maj=67.4km s-min=15.1km az=156.1*
MAN ***15*** *09:20:53, 1431N×12040E, h115km, mb4.2, ML3.1, MS2.8*
IDC ***15*** *09:20:56.8±7.3, 1417N×12044E, h175km±71km, mb3.4/10, mb1 3.6/10, mb1mx3.4/20, mbtmp3.4/10, Error ellipse: s-maj=67.7km s-min=13.0km az=65.0*
ISC 15 09:20:49.0±0.7, 143N±02×1206E±04, h100km, n11, σ0§66/10, mb3.8/10, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**35.49**	**343**	P	**P**	**09 27 36.9**	**+1.1**
3.2nm,0.5s,mb4.4,baz=163,slow=10,SNR=21							
WRA	**Warramunga Arr**	**36.58**	**158**	P	**P**	**09 27 45.5**	**0.0**
0.4nm,0.5s,mb3.6,baz=332,slow=10,SNR=8.3							
ASAR	**Alice Springs**	**39.88**	**161**	P	**P**	**09 28 13.5**	**+0.4**
0.4nm,0.4s,mb3.6,baz=336,slow=7.5,SNR=22							
MKAR	**Makanchi Array**	**45.52**	**323**	P	**P**	**09 28 58.9**	**+0.5**
0.2nm,0.4s,mb3.2,baz=126,slow=11,SNR=3.5							
ZALV	**Zalesovo Beam**	**48.51**	**333**	P	**P**	**09 29 21.7**	**+0.2**
0.5nm,0.3s,mb3.9,baz=141,slow=4.8,SNR=3.0							
BVAR	**Borovoye Array**	**55.25**	**326**	P	**P**	**09 30 12.1**	**+0.4**
0.9nm,0.5s,mb4.1,baz=111,slow=8.1,SNR=6.5							
ARCES	**ARCESS Array B**	**78.53**	**339**	P	**P**	**09 32 38.4**	**-0.5**
4.0nm,1.0s,mb4.2,baz=58,slow=4.6,SNR=6.2							
FINES	**FINESS Array B**	**79.75**	**331**	P	**P**	**09 32 44.9**	**-0.8**
1.7nm,1.0s,mb3.8,baz=86,slow=5.9,SNR=3.7							
NOA	**NORSAR Array B**	**86.72**	**333**	P	**P**	**09 33 20.2**	**-1.3**
0.8nm,0.6s,mb3.8,baz=68,slow=4.6,SNR=5.7							
YKA	**Yellowknife Ar**	**92.30**	**22**	P	**P**	**09 33 47.7**	**0.0**
0.1nm,0.5s,mb3.3,baz=306,slow=4.4,SNR=7.8							
TXAR	**Lajitas Array**	**119.15**	**44**	PKP	PKPdf	09 39 26.4	-0.5
0.3nm,0.9s,baz=229,slow=1.8,SNR=4.5							

IDC ***15*** *09:23:03.1±7.5, 3581N×7040E, h70km±66km, mb3.3/7, mb1 3.5/10, mb1mx3.3/23, mbtmp3.4/10, ML4.0/2, Error ellipse: s-maj=39.8km s-min=22.2km az=29.0*
ISCJB ***15*** *09:23:05.6±0.7, 3593N±004×7056E±008, h107km±9km, mb3.4/7, Error ellipse: s-maj=11.2km s-min=5.8km az=154.9*
NEIC ***15*** *09:23:07.9±1.0, 3595N×7043E, h113km±11km, Error ellipse: s-maj=15.5km s-min=10.6km az=92.0*
NNC ***15*** *09:23:18.5±6.5, 3689N×7041E, h188km±110km, mb3.4, mpv4.2, Error ellipse: s-maj=94.8km s-min=50.2km az=54.0*
ISC 15 09:23:06.9±0.6, 3592N±004×7053E±008, h104km±8km, n34, σ0§77/41, mb3.4/7, 3C-1D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**1.83**	**222**	*e*Pn	**Pn**	**09 23 39.0**	**+1.5**
THN	**Thein Dam**	**5.53**	**127**	*e*P	**Pn**	**09 24 27.1**	**+0.3**
THN				*e*S	**Sn**	**09 25 28.6**	**-0.5**
DLH	**Dalhousie**	**5.63**	**125**	*e*P	**Pn**	**09 24 29.0**	**+0.9**
DLH				*e*S	**Sn**	**09 25 32.0**	**+0.6**
AML	**Almayashu**	**6.67**	**21**	P	**Pn**	**09 24 42.2**	**0.0**
SNR=84							
SDNR	**Sundarnagar**	**6.95**	**128**	*e*x	x	09 24 52.0	
SDNR				*e*S	**Sn**	**09 25 58.0**	**-5.5**
UCH	**Uchtor**	**7.02**	**25**	P	**Pn**	**09 24 47.1**	**+0.2**
SNR=33							
KZA	**Kyzart**	**7.16**	**29**	P	**Pn**	**09 24 49.9**	**+1.0**
SNR=29							
KK31	**Karatay Array**	**7.17**	**360**	⇑P	**Pn**	**09 24 48.0**	**-1.0**
9.0nm,0.4s,baz=179,slow=13,SNR=212							
KK31				S	**Sn**	**09 26 02.2**	**-6.6**
6.4nm,0.4s,baz=188,slow=29,SNR=7.0							
EKS2	**Erkin-Say**	**7.19**	**20**	P	**Pn**	**09 24 49.3**	**+0.1**
SNR=21							
AAK	**Ala-Archa**	**7.38**	**23**	P	**Pn**	**09 24 52.0**	**+0.2**
SNR=14							
KLP	**Kalpa**	**7.78**	**122**	*e*P	**Pn**	**09 24 56.5**	**-0.9**
KLP				*e*S	**Sn**	**09 26 18.2**	**-5.6**
KLP				AML	AML	09 26 32.0	
comp=E,61nm,0.1s							
KLP				AML	AML	09 26 33.7	
comp=N,48nm,0.4s							
CHMS	**Chumysh**	**7.79**	**24**	P	**Pn**	**09 24 58.0**	**+0.7**
SNR=14							
USP	**Ospenovka**	**7.95**	**21**	P	**Pn**	**09 24 59.7**	**+0.1**
SNR=8.6							
TKM2	**Tokmak 2**	**8.02**	**28**	⇑P	**Pn**	**09 25 00.1**	**-0.3**
comp=N,8.5nm,0.5s,baz=188,slow=29							
TKM2				⇓S	**Sn**	**09 26 25.2**	**-4.1**
comp=N,7.3nm,0.8s,baz=188,slow=29							
TKM2	**Tokmak 2**	**8.02**	**28**	P	**Pn**	**09 25 00.9**	**+0.5**
SNR=14							
KUDL	**Kundal**	**9.26**	**145**	*e*P	**Pn**	**09 25 16.2**	**-1.2**
KUDL				*e*S	**Sn**	**09 26 51.1**	**-8.6**
KUDL				AML	AML	09 26 53.8	
comp=E,29nm,0.2s							
KUDL				AML	AML	09 26 53.9	
comp=N,14nm,0.2s							
JOSI	**Joshimath**	**9.26**	**123**	*e*P	**Pn**	**09 25 16.0**	**-1.5**
JOSI				*e*S	**Sn**	**09 26 54.4**	**-5.5**
JOSI				AML	AML	09 27 05.3	
comp=N,89nm,0.3s							
JOSI				AML	AML	09 27 06.3	
comp=E,44nm,0.2s							
SONA	**Sohna**	**9.45**	**142**	*e*S	**Sn**	**09 26 56.8**	**-7.7**
SONA				AML	AML	09 27 00.7	
comp=N,16nm,0.2s							
SONA				AML	AML	09 27 01.9	
comp=E,33nm,0.3s							
MKAR	**Makanchi Array**	**13.98**	**35**	P	**Pn**	**09 26 19.6**	**-0.6**
baz=227,slow=9.7,SNR=1.7							
AB31	**Akbulak array**	**15.41**	**333**	⇑P	**Pn**	**09 26 36.6**	**-1.8**
comp=E,4.5nm,0.3s,baz=155,slow=11,SNR=159							
AB31				S	S	09 29 15.8	-22
comp=E,0.9nm,0.3s,baz=150,slow=24,SNR=7.6							
AKTK	**Aktyubinsk**	**17.10**	**332**	P	**Pn**	**09 26 59.1**	**-0.1**
AKTO	**Aktyubinsk**	**17.10**	**332**	P	**Pn**	**09 26 59.1**	**-0.1**
comp=E,0.6nm,0.3s,baz=137,slow=13,SNR=14							
BVAR	**Borovoye Array**	**17.10**	**360**	P	**Pn**	**09 26 58.9**	**-0.3**
comp=E,0.6nm,0.3s,baz=166,slow=9.2,SNR=6.9							
ZAA0	**Zalesovo Array**	**20.60**	**25**	*e*P	**P**	**09 27 38.1**	**+0.7**
ZALV	**Zalesovo Beam**	**20.60**	**25**	P	**P**	**09 27 37.3**	**-0.1**
comp=E,8.1nm,0.5s,baz=218,slow=10,SNR=36							
FINES	**FINESS Array B**	**37.75**	**327**	P	**P**	**09 30 12.6**	**+0.3**
FINES	**FINESS Array B**	**37.75**	**327**	P	**P**	**09 30 12.6**	**+0.3**
comp=E,0.5nm,0.5s,mb3.6,baz=95,slow=8.8,SNR=5.5							
ARCES	**ARCESS Array B**	**41.53**	**338**	P	**P**	**09 30 43.5**	**0.0**
comp=E,2.3nm,0.8s,mb4.0,baz=104,slow=5.1,SNR=6.5							
NB2	**NORSAR Subarra**	**44.61**	**323**	P	**P**	**09 31 08.6**	**+0.2**
comp=Z,0.3nm,0.4s,mb3.4,baz=98,slow=7.9							
NOA	**NORSAR Array B**	**44.61**	**323**	P	**P**	**09 31 08.2**	**-0.2**
comp=Z,0.3nm,0.4s,mb3.4,baz=98,slow=8.0,SNR=4.5							
TORD	**Torodi Ar. Bea**	**65.32**	**269**	P	**P**	**09 33 37.0**	**-1.1**
comp=Z,0.4nm,0.9s,mb3.2,baz=52,slow=5.7,SNR=4.6							
YKA	**Yellowknife Ar**	**81.84**	**2**	P	**P**	**09 35 14.9**	**+0.9**
comp=Z,0.1nm,0.5s,mb3.0,baz=350,slow=5.4,SNR=3.8							
WRA	**Warramunga Arr**	**82.01**	**122**	P	**P**	**09 35 15.7**	**+0.2**
comp=Z,0.2nm,0.4s,mb3.3,baz=325,slow=4.9,SNR=9.9							
ASAR	**Alice Springs**	**84.24**	**125**	P	**P**	**09 35 27.9**	**+1.0**
comp=Z,0.2nm,0.8s,mb3.0,baz=315,slow=4.2,SNR=3.7							

NIED ***15*** *09:34:00, 3480N×13640E, h11km, Mw4.3 Best double couple: M0:3.11000×10^15 NP1:φs164.00000°, δ57.00000°, λ74.00000°. NP2:φs12.00000°, δ36.00000°, λ113.00000°.*
JMA ***15*** *09:34:45.5, 3479N×13642E, h17km, M4.6 Broadband fault plane solution: P waves. NP1:φs334.00000°, δ36.00000°, λ69.00000°. NP2:φs179.00000°, δ56.00000°, λ105.00000°. Principal axes: T Plg74.0000°, Azm130.0000°; N Plg12.0000°, Azm351.0000°; P Plg10.0000°, Azm259.0000°;*
JMA Felt IV J1.
BJI ***15*** *09:34:45.9, 3493N×13699E, h32km, mB4.8, mb4.6, Ms4.1, Msz3.9*
ISCJB ***15*** *09:34:45.4±0.3, 3478N±002×13639E±002, h18km±2km, mb4.4/70, MS3.9/14, Error ellipse: s-maj=3.6km s-min=3.3km az=174.6*
NEIC ***15*** *09:34:46.7±0.2, 3478N×13632E, mb4.6/44, MW4.3(NIED), Error ellipse: s-maj=6.3km s-min=4.9km az=156.0*
NEIC Recorded [4 JMA] in Mie; [3 JMA] in Shiga; [2 JMA] in Aichi, Kyoto, Nara, Shizuoka and Wakayama; [1 JMA] in Fukui, Gifu, Hyogo, Nagano and Osaka Prefectures.
IDC ***15*** *09:34:48.3±3.2, 3477N×13636E, h31km±24km, mb4.0/20, mb1 4.2/25, mb1mx4.1/30, mbtmp4.1/25, ML4.0/5, MS3.4/9, Ms1 3.4/9, ms1mx3.2/41, Error ellipse: s-maj=13.2km s-min=12.5km az=161.0*
MOS ***15*** *09:34:49.5±0.9, 3515N×13623E, h33km, mb4.8/21, Error ellipse: s-maj=10.7km s-min=6.6km az=83.9*
ISC 15 09:34:45.8±0.3, 3479N±002×13639E±002, h9km±2km, h25km±4.5km: pP-P, n162, σ1§05/176, mb4.4/70, MS3.9/14, 6C-10D, Western Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TSUJ	**Tsu 2**	**0.08**	**163**	⇑P	**Pg**	**09 34 48.8**	**+0.8**
TSUJ				S	**Sg**	**09 34 50.7**	**+2.3**
JEG	**Eigenji**	**0.35**	**360**	⇑P	**Pg**	**09 34 52.5**	**-0.2**
JEG				S	**Sg**	**09 34 57.4**	**+0.3**
JIE	**Ise**	**0.47**	**146**	⇓P	**Pg**	**09 34 54.5**	**-0.4**
JIE				S	**Sg**	**09 35 01.1**	**+0.1**
JKN2	**Miekihoku**	**0.55**	**190**	⇓P	**Pg**	**09 34 56.5**	**0.0**
JKN2				S	**Sg**	**09 35 04.2**	**+0.6**
JHE	**Heguri**	**0.60**	**257**	⇓P	**Pg**	**09 34 57.3**	**0.0**
JHE				S	**Sg**	**09 35 05.7**	**+0.7**
JAA	**Atsumi**	**0.64**	**104**	⇓P	**Pg**	**09 34 56.9**	**-1.2**
JAA				S	**Sg**	**09 35 05.1**	**-1.3**
JWY	**Kouya**	**0.87**	**230**	⇓P	**Pg**	**09 35 02.0**	**-0.5**
JWY				S	**Sg**	**09 35 13.8**	**+0.1**
JGM	**Miyama**	**0.95**	**16**	⇓P	**Pg**	**09 35 03.4**	**-0.7**
JGM				S	**Sg**	**09 35 15.9**	**-0.5**
JWT	**Wachi**	**0.95**	**302**	⇓P	**Pg**	**09 35 03.7**	**-0.4**
JWT				S	**Sg**	**09 35 15.9**	**-0.5**
MAJO	**Matsushiro**	**2.29**	**40**	*e*Pn	**Pn**	**09 35 24.1**	**+0.3**
MAT	**Matsushiro**	**2.29**	**40**	P	**Pn**	**09 35 23.9**	**+0.1**
MAT				S	**Sn**	**09 35 53.4**	**+1.3**
MJAR	**Matsushiro Arr**	**2.29**	**40**	P	**Pn**	**09 35 24.1**	**+0.3**
MJAR						09 35 52.8	
MJAR	**Matsushiro Arr**	**2.29**	**40**	Pn	**Pn**	**09 35 24.1**	**+0.4**
42nm,0.3s,baz=227,slow=15,SNR=226							
MJAR				Sn	**Sn**	**09 35 52.8**	**+0.7**
95nm,0.3s,baz=1.5,slow=16,SNR=8.2							
MJAR				LR	LR	09 36 33.0	
comp=Z,1μm,19.0s,baz=220,slow=45							
JHJ	**Hachijo jima 2**	**3.27**	**120**	Pn	**Pn**	**09 35 36.9**	**-0.3**
45nm,0.3s,baz=54,slow=16,SNR=21							
JHJ				Sn	**Sn**	**09 36 13.2**	**-3.0**
37nm,0.3s,baz=86,slow=23,SNR=2.6							
JHJ				LR	LR	09 36 48.5	
comp=Z,304nm,21.1s,baz=44,slow=36							
JNU	**Nakatsue**	**4.87**	**252**	Pn	**Pn**	**09 36 00.0**	**+0.8**
28nm,0.3s,baz=64,slow=15,SNR=142							
JNU				Lg		09 37 21.8	
3.2nm,0.3s,baz=192,slow=18,SNR=2.1							
JNU				LR	LR	09 37 32.3	
comp=Z,140nm,18.1s,baz=69,slow=34							
KSRS	**Korea Array**	**7.35**	**294**	Pn	**Pn**	**09 36 34.5**	**+1.3**
0.6nm,0.3s,baz=113,slow=14,SNR=9.3							
KSRS				Sn	**Sn**	**09 37 57.8**	**+1.0**
0.3nm,0.3s,baz=110,slow=25,SNR=4.7							
KSRS				LR	LR	09 39 24.3	
comp=Z,259nm,19.6s,baz=339,slow=38							
INCN	**Inchon**	**8.34**	**292**	*e*Pn	**Pn**	**09 36 46.2**	**-0.6**
CBIJ	**Chichi jima**	**9.13**	**145**	LR	LR	09 40 07.7	
comp=Z,107nm,20.5s,baz=27,slow=35							
ASAJ	**Asahikawa**	**10.48**	**25**	P	**Pn**	**09 37 17.5**	**+1.4**
ASAJ				pmax	pmax		
comp=Z,1.0nm,0.3s							
ASAJ				MLR	MLR		
comp=Z,269nm,18.4s							
ASAJ	**Asahikawa**	**10.48**	**25**	Pn	**Pn**	**09 37 17.5**	**+1.4**
comp=Z,0.8nm,0.3s,baz=201,slow=7.7,SNR=9.9							
ASAJ				LR	LR	09 41 29.9	
comp=Z,269nm,18.4s,baz=259,slow=38							
MDJ	**Mudanjiang**	**11.12**	**334**	P	**Pn**	**09 37 24.4**	**-0.5**
MDJ				XP		09 37 35.1	
MDJ				S	**Sn**	**09 39 32.3**	**+3.0**
MDJ				SCP	ScP	09 46 52.4	-1.9
MDJ				SCS	ScS	09 50 28.1	-1.4
MDJ				AMB	AMB		
comp=Z,6.0nm,2.1s							
MDJ				AMB	AMB		
comp=Z,74nm,4.6s							
MDJ				LR	LR		
comp=N,72nm,22.9s							
MDJ				LR	LR		
comp=E,126nm,22.5s							
MDJ				LR	LR		
comp=Z,104nm,18.8s							
CN2	**Changchun**	**12.36**	**320**	*e*P	**Pn**	**09 37 43.6**	**+1.8**
CN2				*e*S	**Sn**	**09 39 56.8**	**-2.7**
CN2				AMB	AMB		
comp=Z,10.0nm,0.6s							
CN2				AMB	AMB		
comp=Z,200nm,4.0s							
CN2				LR	LR		
comp=N,300nm,11.0s							
CN2				LR	LR		
comp=E,400nm,11.0s							
CN2				LR	LR		
comp=Z,300nm,13.0s							
YSS	**Yuzh-Sakhalins**	**13.07**	**20**	*e*Pn	**Pn**	**09 37 50.3**	**-1.2**
YSS	**Yuzh-Sakhalins**	**13.07**	**20**	*i* P	**Pn**	**09 37 52.5**	**+1.0**
YSS				pmax	pmax		
comp=Z,12nm,1.1s							
KLR	**Kul'dur**	**14.84**	**348**	*e*P	**Pn**	**09 38 12.8**	**-2.8**
KLR				MLR	MLR		
comp=Z,1μm,14.0s							
BJI	**Beijing**	**16.89**	**294**	P	**Pn**	**09 38 44.8**	**+2.5**
BJI				S	**Sn**	**09 41 47.6**	**-2.3**
BJI				AMB	AMB		
comp=Z,6.0nm,1.1s							
BJI				LR	LR		
comp=N,269nm,14.0s							
BJI				LR	LR		
comp=E,401nm,12.4s							
BJI				LR	LR		
comp=Z,132nm,19.7s							
HIA	**Hailar**	**18.97**	**325**	*e*P	**Pn**	**09 39 08.2**	**+0.3**
comp=Z,14nm,0.8s							
HIA	**Hailar**	**18.97**	**325**	*e*P	**Pn**	**09 39 08.2**	**+0.3**
HIA				pmax	pmax		
comp=Z,14nm,0.8s							
HHC	**Hu-ho-hao-te**	**20.49**	**295**	*e*P	**P**	**09 39 27.3**	**+3.4**
HHC				AP		09 39 38.4	
HHC				XP	sP	09 39 44.4	+17
HHC				PP		09 39 49.9	
HHC				S	**S**	**09 43 14.3**	**+1.0**
HHC				PCP	PcP	09 43 40.1	+4.6
HHC				AMB	AMB		
comp=Z,21nm,0.4s							
HHC				AMB	AMB		
comp=Z,120nm,5.1s							
HHC				LR	LR		
comp=N,296nm,13.8s							
HHC				LR	LR		
comp=E,285nm,9.8s							
HHC				LR	LR		
comp=Z,375nm,10.0s,MS4.0							
GUMO	**Guam**	**22.45**	**158**	LR	LR	09 47 22.5	
comp=Z,70nm,18.3s,MS3.1,baz=84,slow=34							
PET	**Petropavlovsk**	**24.11**	**34**	*e*P	**P**	**09 40 01.1**	**-0.5**
comp=Z,12nm,1.1s,mb4.2							
PET	**Petropavlovsk**	**24.11**	**34**	*e*P	**P**	**09 40 01.1**	**-0.5**
PET				pmax	pmax		
comp=Z,12nm,1.1s,mb4.2							
ULN	**Ulaanbaatar**	**25.44**	**310**	*e*P	**P**	**09 40 14.8**	**+1.0**
ULN	**Ulaanbaatar**	**25.44**	**310**	⇑*e*P	**P**	**09 40 13.7**	**0.0**
SONM	**Songino Array**	**25.85**	**309**	P	**P**	**09 40 16.6**	**-0.8**
comp=Z,1.4nm,0.5s,mb3.8,baz=113,slow=9.7,SNR=15							
LZH	**Lanzhou**	**26.49**	**282**	*e*P	**P**	**09 40 27.5**	**+4.2**
LZH				AP	pP	09 40 39.0	+13
LZH				XP	sP	09 40 44.8	+18
LZH				*e*PP		09 41 12.3	
LZH				*e*S	**S**	**09 44 54.6**	**-2.8**
LZH				XS	sS	09 45 14.5	+13
LZH				AMB	AMB		
comp=Z,23nm,1.0s,mb4.7							
LZH				AMB	AMB		
comp=Z,99nm,4.1s							
LZH				LR	LR		
comp=N,702nm,11.5s							
LZH				LR	LR		
comp=Z,997nm,15.4s,MS4.5							
MA2	**Magadan**	**26.54**	**16**	*e*P	**P**	**09 40 22.9**	**-0.6**
comp=Z,0.5nm,0.8s							
MA2	**Magadan**	**26.54**	**16**	⇑*e*P	**P**	**09 40 22.5**	**-1.0**
MA2				pmax	pmax		
comp=Z,23nm,1.7s,mb4.4							
MA2				MLR	MLR		
comp=Z,100nm,16.0s,MS3.5							
GYA	**Guiyang**	**26.82**	**260**	P	**P**	**09 40 30.4**	**+4.0**
GYA				AP	pP	09 40 42.8	+14
GYA				XP	sP	09 40 47.0	+17
GYA				PP		09 41 17.4	
GYA				S	**S**	**09 45 02.8**	**0.0**
GYA				XS	sS	09 45 22.5	+15
GYA				SCP	ScP	09 47 28.8	-0.6
GYA				AMB	AMB		
comp=Z,10.0nm,0.8s,mb4.4							
GYA				AMB	AMB		
comp=Z,80nm,6.8s							
GYA				LR	LR		
comp=N,460nm,13.0s,MS4.3							
GYA				LR	LR		
comp=E,410nm,12.9s,MS4.3

KMI Kunming 30.58 261 P **P** **09 41 05.3 +5.3**
KMI AP pP 09 41 16.1 +13
KMI XP sP 09 41 21.0 +17
KMI PP PP 09 42 07.6 -1.3
KMI S **S** **09 46 03.4 +1.4**
KMI XS sS 09 46 22.8 +16
KMI SS SS 09 47 46.3 -26
KMI SSS 09 48 05.6
KMI AMB AMB
comp=Z,11nm,0.6s,mb4.9
KMI AMB AMB
comp=Z,71nm,3.9s
KMI LR LR
comp=N,184nm,12.1s
KMI LR LR
comp=E,157nm,9.8s
KMI LR LR
comp=Z,152nm,14.0s,MS3.8
CHTO Chiang Mai 36.77 254 *eP* **P** **09 41 58.2 +4.4**
CM31 Chiang Mai Arr 36.97 254 *eP* **P** **09 41 59.2 +3.7**
comp=Z,4.5nm,0.8s,mb4.3
TIXI Tiksi 37.14 356 *eP* **P** **09 41 54.8 -1.5**
comp=Z,5.5nm,0.7s,mb4.5
TIXI Tiksi 37.14 356⇓ *e*P **P** **09 41 54.6 -1.8**
TIXI pmax pmax
comp=Z,5.0nm,0.6s,mb4.5
TIXI MLR MLR
comp=Z,100nm,21.0s,MS3.6
BILL Bilibino 37.38 18 *eP* **P** **09 41 57.9 -0.5**
comp=Z,2.0nm,0.3s,mb4.4
BILL Bilibino 37.38 18 ⇓P **P** **09 41 58.0 -0.4**
BILL *e* 09 42 08.8
BILL SS SS 09 50 08.0 -22
BILL pmax pmax
comp=Z,5.0nm,1.2s,mb4.2
BILL MLR MLR
comp=Z,100nm,16.0s,MS3.7
WMQ Urumqi 38.27 299 *eP* **P** **09 42 08.5 +2.2**
WMQ XP sP 09 42 18.0 +7.8
WMQ AMB AMB
comp=Z,7.0nm,0.8s,mb4.4
WMQ AMB AMB
comp=Z,98nm,4.4s
WMQ LR LR
comp=Z,282nm,27.0s,MS4.0
ZALV Zalesovo Beam 40.49 315 P **P** **09 42 22.6 -2.1**
comp=Z,0.7nm,0.6s,mb3.6,baz=116,slow=9.8,SNR=3.5
ZALV PcP PcP 09 44 26.1 -1.0
comp=Z,2.1nm,0.6s,baz=96,slow=3.0,SNR=9.8
ZAL Zalesovo 40.51 314 P **P** **09 42 22.6 -2.2**
ZAL 09 44 26.1
NVS Novosibirsk 41.52 316 *eP* **P** **09 42 32.1 -1.0**
MKAR Makanchi Array 41.91 304 P **P** **09 42 35.8 -0.6**
MKAR 09 44 31.6
MKAR Makanchi Array 41.91 304 P **P** **09 42 35.8 -0.6**
comp=Z,0.7nm,0.4s,mb3.6,baz=88,slow=11,SNR=8.9
MKAR PcP PcP 09 44 31.6 -0.3
comp=Z,0.2nm,0.3s,baz=60,slow=3.5,SNR=2.7
MKAR LR LR 09 59 46.0
comp=Z,44nm,20.3s,MS3.3,baz=156,slow=36
GAMB Gambell 42.75 31 *eP* **P** **09 42 43.5 +0.5**
KURK Kurchatov 44.16 309 *eP* **P** **09 42 54.9 +0.3**
comp=Z,0.3nm,0.6s
KURK Kurchatov 44.16 309⇑ *eP* **P** **09 42 54.6 0.0**
TNA Tin City 44.81 29 *eP* **P** **09 42 59.9 +0.4**
comp=Z,23nm,1.4s,mb4.8
BATI Kupang 46.34 197 LR LR 10 01 41.0
comp=Z,151nm,19.0s,MS4.0,baz=130,slow=35
TKM2 Tokmak 2 47.13 299 *eP* **P** **09 43 18.2 +0.1**
comp=Z,1.2nm,0.5s,mb4.1
TKM2 Tokmak 2 47.13 299 *eP* **P** **09 43 18.3 +0.1**
TKM2 pmax pmax
comp=Z,1.0nm,0.5s,mb4.0
AML Almayashu 48.67 298 *eP* **P** **09 43 30.1 0.0**
comp=Z,3.8nm,0.7s,mb4.5
AML *ep*P pP 09 43 34.9 +1.9
BVAR Borovoye Array 49.10 313 P **P** **09 43 32.9 -0.3**
comp=Z,1.4nm,0.6s,mb4.2,baz=99,slow=8.9,SNR=5.1
BVAR PcP PcP 09 44 56.1 -0.6
comp=Z,1.4nm,0.6s,baz=84,slow=4.6,SNR=6.1
IMA2 Indian Mountai 50.67 30 *eP* **P** **09 43 45.3 +0.3**
KDAK Kodiak Island 51.47 40 P **P** **09 43 50.4 -0.7**
comp=Z,5.2nm,0.6s,mb4.7,baz=243,slow=11,SNR=3.8
MCK McKinley 52.74 33 *eP* **P** **09 44 01.1 +0.6**
comp=Z,14nm,0.8s,mb5.0
MCK McKinley 52.74 33 *eP* **P** **09 44 01.1 +0.6**
MCK pmax pmax
comp=Z,14nm,0.8s,mb4.9
PMR Palmer 52.84 35 *eP* **P** **09 44 00.9 -0.4**
comp=Z,5.5nm,0.8s,mb4.5
PMR Palmer 52.84 35 *eP* **P** **09 44 00.9 -0.3**
PMR pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
COLA College 53.13 31 *eP* **P** **09 44 03.2 -0.1**
comp=Z,16nm,0.8s,mb5.0
COLA College 53.13 31 *d iP* **P** **09 44 04.0 +0.6**
SML Sawmill 53.19 35 *eP* **P** **09 44 04.6 +0.7**
FITZ Fitzroy Crossi 53.58 193 *eP* **P** **09 44 06.5 -0.6**
comp=Z,5.3nm,0.6s,mb4.7
WRAB Tennant Creek 54.45 182 *eP* **P** **09 44 19.1 +5.6**
comp=Z,2.9nm,0.7s,mb4.3
WRAB Tennant Creek 54.45 182 *i* P **P** **09 44 19.3 +5.8**
WB2 Warramunga Arr 54.46 182 *eP* **P** **09 44 12.3 -1.2**
WRA Warramunga Arr 54.46 182 *i* P **P** **09 44 12.1 -1.4**
WRA pmax pmax
comp=Z,2.0nm,0.5s
WRA Warramunga Arr 54.46 182 P **P** **09 44 12.2 -1.3**
comp=Z,1.7nm,0.5s,mb4.2,baz=359,slow=7.7,SNR=40
ARU Arti 55.35 319 *eP* **P** **09 44 18.4 -1.2**
comp=Z,4.2nm,0.6s,mb4.7
ARU Arti 55.35 319 *eP* **P** **09 44 18.4 -1.2**
ARU pmax pmax
comp=Z,4.0nm,0.6s,mb4.6
CTAO Charters Tower 55.37 169 *eP* **P** **09 44 25.3 +5.2**
comp=Z,16nm,1.1s,mb5.0
CTAO Charters Tower 55.37 169 *eP* **P** **09 44 25.3 +5.2**
CTAO pmax pmax
comp=Z,16nm,1.1s,mb5.0
EGAK Eagle 55.98 31 *eP* **P** **09 44 24.3 +0.2**
comp=Z,4.2nm,0.5s,mb4.7
EGAK *ep*P pP 09 44 29.3 +2.3
DAWY Dawson 56.87 31 *eP* **P** **09 44 31.1 +0.7**
AKTK Aktyubinsk 57.13 312 P **P** **09 44 32.2 -0.3**
AKTO Aktyubinsk 57.13 312 P **P** **09 44 32.2 -0.3**
comp=Z,3.8nm,0.7s,mb4.6,baz=88,slow=9.2,SNR=18
MBWA Marble Bar 57.84 198 *eP* **P** **09 44 41.8 +4.1**
comp=Z,17nm,1.7s,mb5.8
ASAR Alice Springs 58.18 183 P **P** **09 44 39.4 -0.6**
comp=Z,0.8nm,0.6s,mb4.0,baz=11,slow=13,SNR=25
INK Inuvik 58.22 26 *eP* **P** **09 44 40.2 +0.4**
INK Inuvik 58.22 26 P **P** **09 44 39.9 0.0**
comp=Z,5.0nm,0.6s,mb4.7,baz=299,slow=6.3,SNR=72
POHA Pohakuloa 61.30 85 *eP* **P** **09 45 04.3 +2.5**
comp=Z,76nm,1.0s
DLBC Dease Lake 62.87 36 *eP* **P** **09 45 12.2 +0.5**
ARCES ARCESS Array B 64.63 339 P **P** **09 45 22.1 -1.1**
comp=Z,4.0nm,0.7s,mb4.6,baz=47,slow=7.1,SNR=12
ARE0 ARCESS Array S 64.63 339 *eP* **P** **09 45 22.3 -0.9**
FORT Forrest 65.69 188 *eP* **P** **09 45 29.9 -0.5**
comp=Z,4.8nm,0.6s,mb4.7
STKA Stephens Creek 66.49 175 P **P** **09 45 34.4 -1.1**
comp=Z,3.7nm,0.7s,mb4.5
STKA Stephens Creek 66.49 175 P **P** **09 45 34.4 -1.1**
comp=Z,1.6nm,0.8s,mb4.1,baz=34,slow=7.3,SNR=4.1
OBN Obninsk 67.41 322 *eP* **P** **09 45 41.6 +0.3**
comp=Z,9.5nm,0.5s,mb5.1
OBN Obninsk 67.41 322 P **P** **09 45 46.0 +4.7**
OBN pmax pmax
comp=Z,8.0nm,1.2s,mb4.6
YKA Yellowknife Ar 67.76 28 P **P** **09 45 42.7 -0.7**
YKA Yellowknife Ar 67.76 28 P **P** **09 45 42.7 -0.7**
comp=Z,2.2nm,1.0s,mb4.1,baz=296,slow=6.6,SNR=18
FINES FINESS Array B 68.85 331 P **P** **09 45 48.7 -1.6**
FINES FINESS Array B 68.85 331 P **P** **09 45 48.7 -1.6**
comp=Z,2.7nm,0.7s,mb4.3,baz=94,slow=7.6,SNR=17
KIV Kislovodsk 69.24 310 *eP* **P** **09 45 53.5 +0.5**
comp=Z,11nm,0.7s,mb4.9
KIV Kislovodsk 69.24 310 *eP* **P** **09 45 53.3 +0.3**
KIV pmax pmax
comp=Z,10.0nm,0.6s,mb4.9
AKASG Malin Array Be 73.51 321 P **P** **09 46 17.2 -1.5**
AKASG Malin Array Be 73.51 321 P **P** **09 46 17.2 -1.5**
comp=Z,2.2nm,0.7s,mb4.2,baz=50,slow=6.1,SNR=13
NB2 NORSAR Subarra 74.61 336 P **P** **09 46 23.7 -1.2**
comp=Z,1.6nm,0.6s,mb4.1,baz=44,slow=5.6
NOA NORSAR Array B 74.61 336 P **P** **09 46 23.8 -1.1**
comp=Z,2.4nm,0.7s,mb4.2,baz=44,slow=5.7,SNR=14
MALT Malatya 74.88 306 *eP* **P** **09 46 27.8 +1.0**
comp=Z,3.3nm,0.7s,mb4.4
MALT Malatya 74.88 306 *eP* **P** **09 46 27.8 +1.0**
MALT pmax pmax
comp=Z,3.0nm,0.7s,mb4.3
WALA Waterton Lakes 75.80 40 *eP* **P** **09 46 32.9 +0.9**
comp=Z,2.1nm,0.7s,mb4.2
BMO Blue Mountains 76.42 45 *eP* **P** **09 46 36.5 +0.9**
FCC Fort Churchill 77.78 24 *eP* **P** **09 46 42.7 -0.2**
comp=Z,2.7nm,0.8s,mb4.2
FCC Fort Churchill 77.78 24 *eP* **P** **09 46 42.7 -0.2**
FCC pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
TAU Tasmania Unive 77.97 172 *eP* **P** **09 46 39.1 -4.9**
comp=Z,22nm,1.1s,mb5.0
TAU Tasmania Unive 77.97 172 *eP* **P** **09 46 39.1 -4.8**
TAU pmax pmax
comp=Z,22nm,1.1s,mb5.0
CMB Columbia Colle 78.48 52 *eP* **P** **09 46 47.5 +0.3**
comp=Z,2.4nm,0.5s,mb4.4
CMB Columbia Colle 78.48 52 *eP* **P** **09 46 47.5 +0.3**
CMB pmax pmax
comp=Z,2.0nm,0.5s,mb4.3
EGMT Eagleton 78.61 39 *eP* **P** **09 46 48.6 +0.9**
comp=Z,8.5nm,0.8s,mb4.7
DLMT Dillon 78.77 42 *eP* **P** **09 46 49.4 +0.7**
comp=Z,9.4nm,1.3s,mb4.6
HLID Hailey 78.86 44 *eP* **P** **09 46 49.8 +0.6**
comp=Z,1.2nm,0.6s,mb4.0
BOZ Bozeman (W) 79.13 41 *eP* **P** **09 46 51.6 +1.0**
comp=Z,52nm,3.0s
BOZ Bozeman (W) 79.13 41 *eP* **P** **09 46 51.6 +1.0**
BOZ pmax pmax
comp=Z,51nm,3.0s
BORG Borgarnes 79.26 350 *eP* **P** **09 46 50.3 -0.7**
comp=Z,726nm,2.3s
NVAR Mina Array Bea 79.58 50 P **P** **09 46 52.7 -0.6**
NVAR Mina Array Bea 79.58 50 P **P** **09 46 52.7 -0.6**
comp=Z,1.5nm,0.7s,mb4.1,baz=316,slow=4.1,SNR=7.3
PSZ Piszkesteto 80.03 322 *eP* **P** **09 46 55.5 0.0**
comp=Z,2.8nm,0.9s,mb4.2
PSZ Piszkesteto 80.03 322 *eP* **P** **09 46 55.5 0.0**
PSZ pmax pmax
comp=Z,3.0nm,0.9s,mb4.2
MOOW Moose Ponds 80.82 43 *eP* **P** **09 47 01.6 +1.8**
comp=Z,13nm,1.8s,mb4.6
CLL Collm 80.92 328 *i* P **P** **09 46 59.2 -1.0**
CLL pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
CLL Collm 80.92 328 *i* P **P** **09 46 59.2 -1.0**
comp=Z,5.0nm,0.8s,mb4.5
ISA Isabella 81.11 53 *eP* **P** **09 47 00.8 -0.8**
comp=Z,2.0nm,0.6s,mb4.2
ISA Isabella 81.11 53 *eP* **P** **09 47 00.8 -0.7**
ISA pmax pmax
comp=Z,2.0nm,0.6s,mb4.2
HWUT Hardware Ranch 81.72 45 *eP* **P** **09 47 05.4 +0.7**
comp=Z,8.1nm,1.5s,mb4.4
HWUT *ep*P pP 09 47 10.7 +2.9
TPNV Topopah Spring 81.77 51 *eP* **P** **09 47 05.0 -0.1**
comp=Z,41nm,2.0s,mb5.0
TPNV *ep*P pP 09 47 10.2 +2.2
TPNV Topopah Spring 81.77 51 *eP* **P** **09 47 05.0 0.0**
TPNV *e**PP pP 09 47 10.2 +2.1
TPNV pmax pmax
comp=Z,41nm,2.0s,mb5.0
DUG Dugway 81.88 46 *eP* **P** **09 47 06.2 +0.6**
comp=Z,13nm,1.6s,mb4.6
DUG *ep*P pP 09 47 11.5 +2.9
DUG Dugway 81.88 46 *eP* **P** **09 47 06.2 +0.7**
DUG *e**PP pP 09 47 11.5 +2.9
DUG pmax pmax
comp=Z,13nm,1.6s,mb4.6
BW06 Boulder Array 82.11 43 *eP* **P** **09 47 06.9 +0.2**
comp=Z,1.2nm,0.8s,mb3.9
PDAR Pinedale Array 82.11 43 P **P** **09 47 06.1 -0.6**
comp=Z,1.1nm,0.8s,mb3.8,baz=298,slow=2.3,SNR=9.0
GERES GERESS Array B 82.38 326 P **P** **09 47 07.3 -0.7**
comp=Z,0.2nm,0.3s,mb3.5,baz=30,slow=8.3,SNR=4.0
ULM Lac du Bonnet 83.57 31 P **P** **09 47 12.8 -1.4**
comp=Z,3.6nm,1.1s,mb4.4,baz=331,slow=8.3,SNR=4.2
SRU San Rafael 83.93 46 *eP* **P** **09 47 17.3 +1.1**
RSSD Black Hills 84.18 39 *eP* **P** **09 47 18.2 +0.8**
comp=Z,7.1nm,0.5s,mb5.0
RSSD *e*PcP PcP 09 47 21.8 +0.6
RSSD Black Hills 84.18 39 *eP* **P** **09 47 18.2 +0.8**
RSSD pmax pmax
comp=Z,7.0nm,0.5s,mb5.0
SMCO Snowmass 85.96 44 *eP* **P** **09 47 27.8 +1.4**
comp=Z,39nm,2.3s,mb5.2
ISCO Idaho Springs 86.31 43 *eP* **P** **09 47 29.0 +0.9**
comp=Z,1.1nm,0.6s,mb4.3
ISCO Idaho Springs 86.31 43 *eP* **P** **09 47 29.0 +0.9**
ISCO pmax pmax
comp=Z,1.0nm,0.6s,mb4.2
SDCO Great Sand Dun 87.78 44 *eP* **P** **09 47 36.2 +0.9**
comp=Z,1.1nm,0.6s,mb4.3
SCHQ Schefferville 88.53 13 *eP* **P** **09 47 39.3 +0.8**
comp=Z,28nm,2.1s,mb5.2
ANMO Albuquerque 89.12 47 *eP* **P** **09 47 42.4 +0.7**
comp=Z,0.7nm,0.8s,mb4.0
ANMO Albuquerque 89.12 47 *eP* **P** **09 47 42.4 +0.7**
ANMO pmax pmax
comp=Z,1.0nm,0.8s
TXAR Lajitas Array 94.70 49 P **P** **09 48 07.9 +0.3**
comp=Z,2.3nm,0.7s,mb4.7,baz=292,slow=3.1,SNR=32
TORD Torodi Ar. Bea 115.82 310 PKP PKPdf 09 53 27.0 -2.3
TORD Torodi Ar. Bea 115.82 310 PKP PKPdf 09 53 27.0 -2.3
comp=Z,0.3nm,0.5s,baz=36,slow=1.7,SNR=4.9
QSPA South Pole Qui 124.53 180 *e*PKPdf PKPdf 09 53 47.4 +3.3
NNA Nana 142.26 61 *e*PKPdf PKPdf 09 54 17.9 -1.3
LPAZ La Paz 151.34 56 *e*PKPbc PKPbc 09 54 41.0 +0.7

NEIC ***15*** *09:39:58.5±2.3,2332S×17966W,h439km±24km,mb4.0/5, Error ellipse: s-maj=32.2km s-min=17.4km az=197.0*
IDC ***15*** *09:40:17.5±3.5,2452S×17974E,h651km±161km,mb3.5/3, mb1 3.7/4,mb1mx3.2/14,mbtmp3.6/4,Error ellipse: s-maj=149.2km s-min=45.6km az=78.0*
ISC 15 09:40:04.2±4.3,242S∧02×1798W±06,h500km,n16,
σ0§57/16,mb4.2/8,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**5.31**	**162**	*e*Pn	**P**	**P**	**09 41 32.9**	**-1.0**
URZ	**Urewera**	**14.29**	**190**	P	**P**	**P**	**09 43 12.5**	**+5.7**
	1.6nm,0.3s,baz=356,slow=6.8,SNR=12							
URZ				S		**S**	**09 45 37.2**	**0.0**
	0.5nm,0.3s,baz=67,slow=22,SNR=5.8							
SNZO	**South Karori**	**17.70**	**194**	*eP*	**P**	**P**	**09 43 46.9**	**+5.4**
	70nm,1.3s							
CTA	**Charters Tower**	**31.70**	**271**	*eP*	**P**	**P**	**09 45 47.0**	**+0.6**
	9.5nm,0.3s,mb4.7							
CTAO	**Charters Tower**	**31.70**	**271**	*eP*	**P**	**P**	**09 45 45.2**	**-1.1**
STKA	**Stephens Creek**	**34.83**	**249**	*eP*	**P**	**P**	**09 46 13.0**	**+0.3**
	2.0nm,0.4s,mb3.9							
STKA	**Stephens Creek**	**34.83**	**249**	P	**P**	**P**	**09 46 12.7**	**0.0**
	2.7nm,0.5s,mb3.9,baz=96,slow=9.9,SNR=16							
ASAR	**Alice Springs**	**42.21**	**261**	P	**P**	**P**	**09 47 13.0**	**+0.1**
	5.9nm,0.6s,mb4.2,baz=90,slow=7.4,SNR=96							
ASAR				S		**S**	**09 52 45.2**	**-11**
	0.6nm,0.9s,baz=104,slow=16,SNR=4.5							
WB2	**Warramunga Arr**	**42.60**	**266**	*eP*	**P**	**P**	**09 47 15.7**	**-0.3**
WRAB	**Tennant Creek**	**42.61**	**266**	*eP*	**P**	**P**	**09 47 15.8**	**-0.3**
	3.3nm,0.4s,mb4.1							
WRA	**Warramunga Arr**	**42.62**	**266**	P	**P**	**P**	**09 47 15.8**	**-0.3**
	8.4nm,0.4s,mb4.5,baz=96,slow=8.3,SNR=282							
FORT	**Forrest**	**46.43**	**250**	*eP*	**P**	**P**	**09 47 44.8**	**-0.6**
	16nm,0.6s,mb4.6							
FITZ	**Fitzroy Crossi**	**51.03**	**266**	*eP*	**P**	**P**	**09 48 20.9**	**+1.1**
	5.7nm,0.6s,mb4.1							
MBWA	**Marble Bar**	**55.55**	**260**	*eP*	**P**	**P**	**09 48 52.3**	**+0.3**
	1.1nm,0.4s,mb3.5							
URVA	**University of**	**113.63**	**58**	*e*PKP	PKiKP	PKiKP	09 57 45.6	+0.1
ARU	**Arti**	**127.24**	**324**	*e*PKPdf	PKPdf	PKPdf	09 58 10.0	-1.0

ISCJB ***15*** *09:46:58.1±0.6, 1288N∧007×8881W∧005, h73km±7km, mb3.9/8, Error ellipse: s-maj=13.7km s-min=5.0km az=28.9*
CASC ***15*** *09:46:58.7±2.8, 1282N×8884W, h35km±22km, MD4.1, mb4.6(NEIC)*
IDC ***15*** *09:47:02.3±2.9, 1307N×8865W, h86km±26km, mb3.6/8, mb1 3.8/11,mb1mx3.6/24,mbtmp3.6/11,MS2.9/4, Ms1 2.9/4,ms1mx2.7/36,Error ellipse: s-maj=31.3km s-min=16.8km az=53.0*
NEIC ***15*** *09:47:02.1±1.4, 1302N×8869W, h86km±11km, MD3.7(SNET),Error ellipse: s-maj=19.0km s-min=10.9km az=213.0*
NEIC Felt [II] at San Salvador.
ISC 15 09:46:59.6±0.5,1291N∧007×8878W∧005,h67km±7km,n47,
σ1§06/52,mb3.9/8,4C-1D,Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
SNVI	**San Vicente**	**0.70**	**355**	*eP*		x	09 47 46.0	
SNVI				*eS*		x	09 47 57.5	
BLLM	**Bellamira**	**0.75**	**45**	*eP*		x	09 47 47.8	
BLLM				*eS*		x	09 48 00.8	
SNET	**Serv Nac Est T**	**0.89**	**330**	*eP*		x	09 47 14.2	
SNET				*eS*		x	09 47 27.2	
CNCH	**Conchagua**	**0.99**	**68**	*eP*		x	09 47 50.8	
CNCH				*eS*		x	09 48 07.6	
CAHU	**Cacacuatique**	**1.02**	**33**	*eP*		x	09 47 52.1	
CAHU				*eS*		x	09 48 07.8	
TGUH	**Tegucigalpa,Un**	**1.85**	**52**	*e*Pn		**Pn**	**09 47 31.0**	**+1.8**
TEL3	**Telica 3**	**1.92**	**100**⇑	*eP*		**Pn**	**09 47 29.6**	**-0.4**
TEL3				*eS*		**Sn**	**09 47 54.5**	**+1.4**
TELN	**Telica**	**1.92**	**99**	*eP*		**Pn**	**09 47 30.0**	**-0.1**
TELN				*eS*		**Sn**	**09 47 53.0**	**-0.4**
MOMJ	**Momotombo**	**2.24**	**103**	*eP*		**Pn**	**09 47 33.6**	**-0.7**
COPN	**Copaltepe**	**2.25**	**109**⇓	*eP*		**Pn**	**09 47 33.6**	**-1.0**
COPN				*eS*		**Sn**	**09 48 00.9**	**-0.4**
CSAN		**2.41**	**107**	*eP*		**Pn**	**09 47 36.5**	**-0.2**
CSAN				*eS*		**Sn**	**09 48 06.3**	**+1.1**
XAVN	**Gruta Xavier**	**2.51**	**107**	*eP*		**Pn**	**09 47 37.5**	**-0.5**
XAVN				*eS*		**Sn**	**09 48 04.9**	**-2.7**
FUG	**Fuego 3**	**2.52**	**308**	*eP*		**Pn**	**09 47 37.6**	**-0.6**
TISN	**Laguna Tiscapa**	**2.56**	**107**⇑	*eP*		**Pn**	**09 47 38.4**	**-0.4**
TISN				*eS*		**Sn**	**09 48 07.3**	**-1.7**
MGAN	**Managua**	**2.58**	**107**	*eP*		**Pn**	**09 47 38.5**	**-0.5**
MGAN				*eS*		**Sn**	**09 48 09.0**	**-0.4**
CRUN	**El Crucero**	**2.59**	**111**	*eP*		**Pn**	**09 47 39.0**	**-0.2**
CRUN				*eS*		**Sn**	**09 48 11.2**	**+1.7**
HUEN		**2.61**	**102**⇑	*eP*		**Pn**	**09 47 39.2**	**-0.1**
HUEN				*eS*		**Sn**	**09 48 10.6**	**+0.6**
TICN	**Ticuantepe**	**2.63**	**109**	*eP*		**Pn**	**09 47 39.3**	**-0.5**
TICN				*eS*		**Sn**	**09 48 09.9**	**-0.7**
APON	**Apoyo**	**2.83**	**110**	*eP*		**Pn**	**09 47 41.7**	**-0.7**
JAT	**Jato**	**3.11**	**297**	*eP*		**Pn**	**09 47 45.5**	**-0.8**
SSNN	**San Juan del S**	**3.29**	**119**	*eP*		**Pn**	**09 47 48.2**	**-0.4**
CONN	**Concepcion**	**3.36**	**113**	*eP*		**Pn**	**09 47 49.2**	**-0.5**
MADN	**Villa Maderas**	**3.51**	**115**	*eP*		**Pn**	**09 47 51.8**	**+0.1**
VCR	**Vista de Mar**	**4.14**	**132**	*eP*		**Pn**	**09 48 00.4**	**+0.1**
JCR	**Jicaral**	**4.71**	**130**	*eP*		**Pn**	**09 48 08.5**	**+0.4**
CGA2	**Cerro Gallo 2**	**5.11**	**124**	*eP*		**Pn**	**09 48 15.6**	**+2.0**
PRS1	**Puriscal**	**5.26**	**123**	*eP*		**Pn**	**09 48 16.9**	**+1.3**
LAJ	**Bijagual**	**5.48**	**123**	*eP*		**Pn**	**09 48 15.8**	**-2.8**
LCR2	**La Lucha 2**	**5.64**	**123**	*eP*		**Pn**	**09 48 22.6**	**+1.8**
BAR1		**6.49**	**124**⇑	*eP*		**Pn**	**09 48 34.1**	**+1.7**
CMIG	**Matias Romero**	**7.22**	**306**	P		**Pn**	**09 48 43.8**	**+1.4**
	0.7nm,0.3s,baz=112,slow=10,SNR=6.3							
CMIG				S		**Sn**	**09 50 01.5**	**-1.5**
	0.8nm,0.3s,baz=65,slow=20,SNR=3.3							
CMIG				LR		LR	09 51 33.9	
	comp=Z,64nm,20.7s,baz=188,slow=38							
TEIG	**Tepich**	**7.29**	**4**	P		**Pn**	**09 48 45.6**	**+2.2**
TEIG				LR		LR	09 52 13.2	
TEIG	**Tepich**	**7.29**	**4**	P		**Pn**	**09 48 45.6**	**+2.2**
	2.3nm,0.3s,baz=170,slow=19,SNR=14							
TEIG				LR		LR	09 52 13.2	
	comp=Z,166nm,18.6s,baz=281,slow=44							
SDV	**Santo Domingo**	**18.26**	**101**	P		**Pn**	**09 51 07.3**	**-1.1**
	0.7nm,0.3s,baz=305,slow=8.9,SNR=9.5							
SDV				LR		LR	09 58 29.1	
	comp=Z,50nm,20.9s,baz=180,slow=38							
TXAR	**Lajitas Array**	**21.41**	**322**	P		**P**	**09 51 43.8**	**+1.9**
	0.8nm,0.5s,mb3.4,baz=146,slow=11,SNR=23							
TKL	**Tuckaleechee C**	**23.09**	**10**	P		**P**	**09 52 00.2**	**+0.5**
	7.5nm,0.9s,mb4.0,baz=173,slow=8.2,SNR=4.9							
TKL				LR		LR	10 02 00.4	
	comp=Z,26nm,20.1s,baz=265,slow=39							
SADO	**Sadowa**	**32.80**	**13**	P		**P**	**09 53 25.7**	**-0.7**
	baz=191,slow=10							
PDAR	**Pinedale Array**	**34.76**	**333**	P		**P**	**09 53 43.9**	**+0.4**
	0.2nm,0.6s,mb3.1,baz=78,slow=41,SNR=3.1							
PDAR				PcP		PcP	09 56 16.6	+0.9
	0.4nm,0.6s,baz=133,slow=5.0,SNR=7.3							
ULM	**Lac du Bonnet**	**37.69**	**353**	P		**P**	**09 54 07.0**	**-1.3**
	2.0nm,0.7s,mb4.1,baz=167,slow=8.9,SNR=5.0							
SIV	**San Ignacio**	**39.69**	**136**	P		**P**	**09 54 26.8**	**+1.3**
	3.7nm,1.0s,mb4.2,baz=316,slow=9.7,SNR=12							
EDM	**Edmonton**	**44.72**	**339**	*eP*		**P**	**09 55 06.0**	**+0.1**
SCHQ	**Schefferville**	**45.23**	**18**	P		**P**	**09 55 09.1**	**-0.8**
	1.6nm,0.6s,mb3.9,baz=223,slow=7.3,SNR=11							
YKA	**Yellowknife Ar**	**52.84**	**345**	P		**P**	**09 56 07.4**	**-0.6**
YKA	**Yellowknife Ar**	**52.84**	**345**	P		**P**	**09 56 07.4**	**-0.6**
	0.9nm,0.4s,mb4.2,baz=146,slow=6.7,SNR=42							
INK	**Inuvik**	**62.38**	**343**	P		**P**	**09 57 14.8**	**-0.1**
INK	**Inuvik**	**62.38**	**343**	P		**P**	**09 57 14.8**	**-0.1**
	2.3nm,1.0s,mb4.1,baz=126,slow=6.5,SNR=12							
WRA	**Warramunga Arr**	**138.15**	**255**	PKP		PKPdf	10 06 20.2	+2.4
	0.4nm,0.5s,baz=88,slow=2.7,SNR=9.9							

ISCJB ***15*** *09:52:45.8±0.8, 778S∧005×7459W∧007, h156km±10km, mb3.9/16, Error ellipse: s-maj=11.8km s-min=7.9km az=157.9*
IDC ***15*** *09:52:46.7±0.4, 776S×7456W, h147km±3km, mb3.6/14, mb1 3.8/20,mb1mx3.8/26,mbtmp3.7/20,Error ellipse: s-maj=9.6km s-min=8.2km az=76.0*
NEIC ***15*** *09:52:47.2±0.4, 780S×7451W, mb4.2/1, Error ellipse: s-maj=12.5km s-min=6.6km az=82.0*
ISC 15 09:52:46.8±0.8,779S∧005×7457W∧007,h146km±9km,
h149km±1.7km:pP-P,n36,σ0§82/30,mb3.9/16,Peru-Brazil border region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
ATAH	**Atahualpa**	**3.87**	**281**	P		**Pn**	**09 53 45.2**	**0.0**
	59nm,0.3s,baz=196,slow=19,SNR=592							
ATAH				S		**Sn**	**09 54 29.9**	**-0.8**
	79nm,0.3s,baz=3.3,slow=18,SNR=8.7							
NNA	**Nana**	**4.74**	**208**	P		**Pn**	**09 53 57.4**	**+0.7**
	21nm,0.3s,baz=8.8,slow=7.4,SNR=44							
NNA				S		**Sn**	**09 54 50.5**	**-0.7**
	60nm,0.3s,baz=169,slow=19,SNR=9.0							
LPAZ	**La Paz**	**10.54**	**144**	P		**Pn**	**09 55 13.5**	**-0.5**
	1.4nm,0.3s,baz=339,slow=16,SNR=22							
ROSC	**El Rosal**	**12.56**	**1**	P		**Pn**	**09 55 42.2**	**+1.7**
	1.5nm,0.3s,baz=103,slow=16,SNR=3.1							
SIV	**San Ignacio**	**15.51**	**123**	P		**Pn**	**09 56 17.6**	**-0.2**
	2.9nm,0.3s,baz=311,slow=11,SNR=35							
SDV	**Santo Domingo**	**17.02**	**13**	P		**Pn**	**09 56 36.7**	**+0.5**
	1.3nm,0.3s,baz=231,slow=11,SNR=14							
PCRV	**Puerto La Cruz**	**20.40**	**29**	P		**P**	**09 57 13.6**	**+1.2**
	8.7nm,0.7s,baz=250,slow=3.0,SNR=6.1							
CFAA	**Coronel Fontan**	**24.42**	**167**	P		**P**	**09 57 52.7**	**+0.9**
	0.5nm,0.6s,mb3.2,baz=338,slow=9.8,SNR=10							
SJG	**San Juan**	**27.04**	**18**	P		**P**	**09 58 15.5**	**0.0**
	30nm,0.6s,mb5.1,baz=208,slow=4.6,SNR=15							
SJG				pP		pP	09 58 46.9	+0.6
	10

baz=146,slow=7.3
SADO pP pP 10 02 17.8 -0.4
baz=226,slow=8.4
PDAR Pinedale Array 59.55 331 P **P 10 02 34.4 -0.4**
0.5nm,0.6s,mb3.5,baz=118,slow=9.1,SNR=5.0
PDAR pP pP 10 03 09.0 -0.4
0.7nm,0.9s,baz=141,slow=9.6,SNR=3.2
ULM Lac du Bonnet 60.69 344 P **P 10 02 41.8 -0.6**
0.8nm,0.4s,mb3.9,baz=176,slow=10,SNR=4.5
ULM pP pP 10 03 16.4 -0.7
11nm,0.8s,baz=153,slow=7.2,SNR=18
NVAR Mina Array Bea 61.38 322 P **P 10 02 47.4 0.0**
0.8nm,0.7s,mb3.7,baz=79,slow=34,SNR=2.9
SCHQ Schefferville 62.72 5 P **P 10 02 55.2 -0.7**
1.6nm,0.7s,mb4.0,baz=340,slow=10,SNR=3.6
SCHQ pP pP 10 03 31.1 +0.3
5.4nm,0.9s,baz=187,slow=6.9,SNR=4.9
DBIC Dimbokro 70.99 80 P **P 10 03 48.0 -1.2**
8.7nm,0.6s,mb4.7,baz=243,slow=5.4,SNR=21
VNA2 Neumayer--Watz 75.32 162 *e* **P 10 04 14.6 +1.1**
baz=278,slow=6.5
YKA Yellowknife Ar 76.52 342 P **P 10 04 20.1 -0.2**
0.5nm,0.3s,mb3.6,baz=140,slow=6.2,SNR=50
YKA pP pP 10 04 55.7 -0.7
1.3nm,0.5s,baz=142,slow=5.7,SNR=12
TORD Torodi Ar. Bea 78.53 75 P **P 10 04 30.7 -1.8**
1.5nm,0.3s,mb4.1,baz=268,slow=5.2,SNR=33
TORD pP pP 10 05 07.6 -1.2
0.4nm,0.5s,baz=270,slow=6.0,SNR=2.0
ESDC Sonseca Array 80.31 48 P **P 10 04 41.0 -0.6**
0.2nm,0.4s,mb3.1,baz=252,slow=6.5,SNR=4.6
VNDA Vanda 89.30 190 P **P 10 05 27.1 +1.1**
0.8nm,0.7s,mb3.7,baz=112,slow=6.8,SNR=6.2
STKA Stephens Creek 127.58 219 PKP PKPdf 10 11 34.7 -0.4
2.7nm,0.8s,baz=331,slow=3.0,SNR=6.8
STKA pPKP pPKPdf 10 12 14.3 +0.3
1.3nm,0.7s,baz=132,slow=8.6,SNR=2.4
ZALV Zalesovo Beam 131.06 16 PKP PKPdf 10 11 40.5 -0.6
1.1nm,0.4s,baz=325,slow=2.3,SNR=9.3
ZALV pPKP pPKPdf 10 12 20.1 +0.2
1.8nm,0.5s,baz=299,slow=3.1,SNR=5.7
MKAR Makanchi Array 136.37 23 PKP PKPdf 10 11 50.5 -0.7
0.5nm,0.6s,baz=310,slow=2.7,SNR=4.6
MKAR pPKP pPKPdf 10 12 30.6 +0.5
0.5nm,0.4s,baz=321,slow=1.7,SNR=1.9
ASAR Alice Springs 138.15 221 PKhKP 10 11 46.2
0.6nm,0.5s,baz=137,slow=2.4,SNR=16
ASAR PKP PKPdf 10 11 55.5 +0.2
0.9nm,0.5s,baz=127,slow=1.7,SNR=11
ASAR pPKP pPKPdf 10 12 35.8 +1.6
1.0nm,0.6s,baz=122,slow=1.8,SNR=4.6
SONM Songino Array 140.08 359 PKP PKPdf 10 11 57.9 -0.1
0.3nm,0.6s,baz=48,slow=2.1,SNR=3.0
WRA Warramunga Arr 140.39 226 PKhKP 10 11 52.0
0.6nm,0.3s,baz=131,slow=2.6,SNR=32
WRA PKP PKPdf 10 11 59.7 +0.3
2.0nm,0.8s,baz=117,slow=2.1,SNR=15
WRA pPKP pPKPdf 10 12 38.4 +0.1
0.9nm,0.4s,baz=138,slow=1.7,SNR=4.3
KSRS Korea Array 144.10 329 PKP PKPdf 10 12 04.7 -0.9
1.8nm,0.7s,baz=0.2,slow=1.4,SNR=7.2
KSRS pPKP pPKPdf 10 12 42.0 -2.4
1.6nm,1.0s,baz=132,slow=39,SNR=3.0
FITZ Fitzroy Crossi 147.45 218 PKPbc PKPbc 10 12 15.3 +0.9
2.8nm,0.3s,baz=188,slow=2.5,SNR=8.9
FITZ pPKPbc pPKPbc 10 12 53.7 +0.8
2.7nm,0.5s,baz=182,slow=4.7,SNR=3.1

ISCJB ***15*** *10:10:04.2±1.3,3829N∧009×724E±02,h172km±38km, Error ellipse: s-maj=32.8km s-min=9.2km az=157.8*
NNC ***15*** *10:10:16.5±4.7,3937N×7299E,h242km±36km,mb1.9, mpv3.1,Error ellipse: s-maj=63.3km s-min=26.5km az=17.0*
ISC 15 10:10:06.6±1.2,3830N±009×725E±02,h115km±49km,n10, σ0:95/12,1C-3D,Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu** SNR=36	**3.94**	**13**	P		**Pn**	**10 11 05.5**	**+0.3**
UCH	**Uchtor** SNR=13	**4.22**	**21**	P		**Pn**	**10 11 09.0**	**0.0**
KZA	**Kyzart** SNR=7.0	**4.33**	**29**	P		**Pn**	**10 11 09.8**	**-0.6**
EKS2	**Erkin-Say** SNR=9.3	**4.47**	**12**	P		**Pn**	**10 11 13.3**	**+1.1**
AAK	**Ala-Archa** SNR=5.4	**4.60**	**19**	P		**Pn**	**10 11 14.3**	**+0.3**
ULHL	**Ulahol** SNR=5.5	**4.88**	**35**	P		**Pn**	**10 11 18.4**	**+0.5**
KK31	**Karatay Array** 1.2nm,0.2s,baz=149,slow=12,SNR=81	**5.02**	**343**	P		**Pn**	**10 11 21.8**	**+2.0**
KK31	10nm,0.5s,baz=148,slow=24,SNR=15			⇓S		**Sn**	**10 12 14.9**	**-1.7**
TKM2	**Tokmak 2** 2.1nm,0.6s	**5.19**	**26**	⇓P		**Pn**	**10 11 20.9**	**-1.1**
DLH	**Dalhousie**	**6.42**	**153**	*e*P		**Sn**	**10 12 50.0**	**-0.4**
AB31	**Akbulak array** 0.3nm,0.4s,baz=129,slow=14,SNR=7.6	**14.18**	**325**	⇑P		**Pn**	**10 13 21.9**	**-0.2**
AB31	0.7nm,0.5s,baz=134,slow=26,SNR=7.6			⇓S		**Sn**	**10 15 50.1**	**-8.2**

IDC 15 10:20:46.4±2.3,2003N×12232E,h0km,mb3.8/4, mb1 4.0/4,mb1mx3.7/18,mbtmp3.8/4,Error ellipse: s-maj=215.4km s-min=20.9km az=64.0,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr** 2.1nm,0.7s,baz=343,slow=9.1,SNR=20	**41.44**	**163**	P		P	10 28 34.4	-0.6
MKAR	**Makanchi Array** 0.5nm,0.5s,baz=98,slow=9.8,SNR=4.7	**42.09**	**319**	P		P	10 28 40.5	+0.4
ZALV	**Zalesovo Beam** 0.7nm,0.5s,baz=116,slow=6.6,SNR=3.3	**44.31**	**329**	P		P	10 28 57.4	-0.5
ASAR	**Alice Springs** 1.3nm,0.7s,baz=344,slow=7.4,SNR=23	**44.88**	**165**	P		P	10 29 03.3	+0.5

ISCJB ***15*** *10:25:53.9±0.4,534N∧0.1×3533W∧006,h10km,mb4.1/41, MS3.4/12,Error ellipse: s-maj=15.5km s-min=5.2km az=5.8*
IDC ***15*** *10:25:53.7±0.8,5332N×3540W,h0km,mb3.8/13, mb1 4.0/15,mb1mx3.9/27,mbtmp3.8/15,ML3.0/2,MS3.5/9, Ms1 3.5/9,ms1mx3.2/38,Error ellipse: s-maj=27.3km s-min=13.4km az=7.0*
NEIC ***15*** *10:25:55.6±0.3,5337N×3533W,h10km,mb4.4/28,Error ellipse: s-maj=11.9km s-min=4.0km az=186.0*
CSEM ***15*** *10:25:56.7±0.1,5337N×3534W,h33km,mb4.4/26,Ms3.0, Error ellipse: s-maj=5.8km s-min=1.8km az=10.0*
ISC 15 10:25:55.7±0.4,534N±01×3532W±006,h10km,n90, σ0:78/83,mb4.1/41,MS3.4/12,Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SCHQ	**Schefferville** 3.5nm,0.7s	**18.46**	**287**	*e*P		**Pn**	**10 30 10.5**	**-0.8**
SCHQ	**Schefferville** 0.2nm,0.3s,baz=111,slow=7.3,SNR=7.8	**18.46**	**287**	P		**Pn**	**10 30 10.3**	**-0.9**
SCHQ	comp=Z,143nm,18.1s,baz=4.2,slow=32			LR		LR	10 35 39.1	
SCHQ	**Schefferville** 3.5nm,0.7s	**18.46**	**287**	*e*P		**Pn**	**10 30 10.5**	**-0.8**
EKA	**Eskdalemuir Ar** 0.1nm,0.3s,baz=280,slow=9.3,SNR=6.7	**18.76**	**71**	P		**Pn**	**10 30 15.1**	**+0.1**
ROSF	**Rostrenen** 33nm,1.4s	**20.74**	**91**	*e*P		**P**	**10 30 36.7**	**+0.6**
ROSF	**Rostrenen** 16nm,1.4s	**20.74**	**91**	*e*P		**P**	**10 30 36.7**	**+0.6**
QUIF	**Quistinic** 16nm,0.9s	**20.99**	**92**	*e*P		**P**	**10 30 39.6**	**+0.7**
QUIF	**Quistinic** 8.1nm,0.9s	**20.99**	**92**	*e*P		**P**	**10 30 39.6**	**+0.7**
SGMF	**Saint Gilles** 20nm,1.1s,mb4.1	**21.20**	**91**	*e*P		**P**	**10 30 42.0**	**+0.9**
SGMF	**Saint Gilles** 9.9nm,1.1s,mb4.1	**21.20**	**91**	*e*P		**P**	**10 30 42.0**	**+0.9**
JMIC	**Jan Mayen** comp=Z,93nm,19.4s,MS3.2,baz=249,slow=29	**21.31**	**24**	LR		LR	10 36 21.0	
GRR	**Gorron** 19nm,1.2s,mb4.1	**22.16**	**89**	*e*P		**P**	**10 30 51.3**	**-0.1**
GRR	**Gorron** 9.6nm,1.2s,mb4.1	**22.16**	**89**	*e*P		**P**	**10 30 51.3**	**-0.1**
FLN	**La Foliniere** 40nm,1.4s,mb4.4	**22.23**	**88**	*e*P		**P**	**10 30 52.1**	**0.0**
FLN	comp=Z,108nm,18.5s,MS3.0			*e*MLR		MLR		
FLN	**La Foliniere** comp=Z,20nm,1.4s,mb4.4	**22.23**	**88**	*e*P		**P**	**10 30 52.1**	**0.0**
FLN	comp=Z,110nm,18.5s,MS3.3			LR		LR		
LDF	**La Druitiere** comp=Z,20nm,1.0s,mb4.2	**22.51**	**88**	*e*P		**P**	**10 30 55.0**	**-0.2**
LDF	**La Druitiere** comp=Z,9.9nm,1.0s,mb4.2	**22.51**	**88**	*e*P		**P**	**10 30 55.0**	**-0.2**
MFF	**Saint Martin d** comp=Z,13nm,1.1s,mb4.0	**23.43**	**92**	*e*P		**P**	**10 31 04.4**	**-0.4**
MFF	**Saint Martin d** comp=Z,6.6nm,1.1s,mb4.0	**23.43**	**92**	*e*P		**P**	**10 31 04.4**	**-0.4**
BAIF	**Baives** comp=Z,7.0nm,0.9s,mb3.8	**24.49**	**82**	*e*P		**P**	**10 31 13.5**	**-1.2**
BAIF	**Baives** comp=Z,3.5nm,0.9s,mb3.8	**24.49**	**82**	*e*P		**P**	**10 31 13.5**	**-1.2**
TCF	**Toulx Ste Croi** comp=Z,32nm,1.4s,mb4.4	**24.99**	**91**	*e*P		**P**	**10 31 19.2**	**-0.1**
TCF	**Toulx Ste Croi** comp=Z,16nm,1.4s,mb4.4	**24.99**	**91**	*e*P		**P**	**10 31 19.2**	**-0.1**
RJF	**Les Rejaudoux**	**25.09**	**94**	*e*P		**P**	**10 31 20.5**	**+0.4**
RJF	comp=Z,128nm,20.8s,MS3.1			*e*MLR		MLR		
RJF	**Les Rejaudoux**	**25.09**	**94**	*e*P		**P**	**10 31 20.5**	**+0.4**
RJF	comp=Z,130nm,20.8s,MS3.4			LR		LR		
BGF	**Bois d'Agland** comp=Z,17nm,0.9s,mb4.3	**25.24**	**90**	*e*P		**P**	**10 31 21.6**	**+0.1**
BGF	**Bois d'Agland** comp=Z,8.5nm,0.9s,mb4.3	**25.24**	**90**	*e*P		**P**	**10 31 21.6**	**+0.1**
ESDC	**Sonseca Array** comp=Z,1.2nm,0.5s,mb3.7,baz=300,slow=30,SNR=15	**25.31**	**110**	P		**P**	**10 31 21.6**	**-0.6**
SSF	**Saint Saulge** comp=Z,21nm,1.1s,mb4.3	**25.39**	**89**	*e*P		**P**	**10 31 22.0**	**-0.8**
SSF	**Saint Saulge** comp=Z,11nm,1.1s,mb4.3	**25.39**	**89**	*e*P		**P**	**10 31 22.0**	**-0.8**
AVF	**Avril sur Loir** comp=Z,23nm,1.3s,mb4.2	**25.43**	**89**	*e*P		**P**	**10 31 23.2**	**0.0**
AVF	**Avril sur Loir** comp=Z,11nm,1.3s,mb4.3	**25.43**	**89**	*e*P		**P**	**10 31 23.2**	**0.0**
LOR	**Lormes** comp=Z,15nm,0.9s,mb4.2	**25.50**	**88**	*e*P		**P**	**10 31 24.0**	**+0.1**
LOR	comp=Z,83nm,21.8s,MS2.9			*e*MLR		MLR		
LOR	**Lormes** comp=Z,7.6nm,0.9s,mb4.2	**25.50**	**88**	*e*P		**P**	**10 31 24.0**	**+0.1**
LOR	comp=Z,80nm,21.8s,MS3.2			LR		LR		
MEZF	**Maizieres J'vi** comp=Z,27nm,0.9s,mb4.5	**25.65**	**84**	*e*P		**P**	**10 31 24.8**	**-0.4**
MEZF	**Maizieres J'vi** comp=Z,13nm,0.9s,mb4.5	**25.65**	**84**	*e*P		**P**	**10 31 24.8**	**-0.4**
SMF	**Signal de Mont** comp=Z,12nm,0.9s,mb4.1	**25.79**	**89**	*e*P		**P**	**10 31 26.2**	**-0.3**
SMF	**Signal de Mont** comp=Z,5.8nm,0.9s,mb4.1	**25.79**	**89**	*e*P		**P**	**10 31 26.2**	**-0.3**
NOA	**NORSAR Array B** comp=Z,0.6nm,0.7s,mb3.3,baz=276,slow=9.8,SNR=3.3	**25.84**	**54**	P		**P**	**10 31 26.9**	**+0.1**
NOA	comp=Z,47nm,19.6s,MS3.0,baz=270,slow=32			LR		LR	10 39 47.0	
HAU	**Haudompre**	**26.64**	**85**	*e*P		**P**	**10 31 33.8**	**-0.4**
HAU	comp=Z,76nm,17.2s,MS3.0			*e*MLR		MLR		
HAU	**Haudompre**	**26.64**	**85**	*e*P		**P**	**10 31 33.8**	**-0.4**
HAU	comp=Z,80nm,17.3s,MS3.3			LR		LR		
HFS	**Hagfors** comp=Z,81nm,19.9s,MS3.3,baz=321,slow=34	**27.15**	**56**	LR		LR	10 41 17.3	
CLL	**Collm** comp=Z,4.0nm,0.8s,mb4.2	**29.15**	**74**	*i* P		**P**	**10 31 56.4**	**-0.2**
CLL				*e*(sP)		sP	10 32 03.0	+2.1
DAVOX	**Davos/Dischmat** comp=Z,90nm,21.8s,MS3.4,baz=265,slow=33	**29.34**	**84**	LR		LR	10 41 58.2	
GERES	**GERESS Array B** comp=Z,0.6nm,0.8s,mb3.5,baz=234,slow=9.1,SNR=4.5	**30.61**	**78**	P		**P**	**10 32 09.8**	**+0.2**
GERES	comp=Z,59nm,18.9s,MS3.3,baz=276,slow=36			LR		LR	10 44 12.0	
FCC	**Fort Churchill** comp=Z,5.2nm,0.9s,mb4.4	**32.31**	**304**	*e*P		**P**	**10 32 24.6**	**+0.2**
FCC	**Fort Churchill** comp=Z,5.2nm,0.9s,mb4.4	**32.31**	**304**	*e*P		**P**	**10 32 24.6**	**+0.3**
FINES	**FINESS Array B** comp=Z,1.5nm,0.9s,mb3.9,baz=294,slow=1.9,SNR=4.8	**32.87**	**51**	P		**P**	**10 32 28.6**	**-0.5**
FINES	**FINESS Array B**	**32.87**	**51**	P		**P**	**10 32 28.6**	**-0.6**
EYMN	**Ely** comp=Z,7.1nm,0.9s,mb4.6	**35.22**	**284**	*e*P		**P**	**10 32 49.8**	**0.0**
EYMN	**Ely** comp=Z,7.1nm,0.9s,mb4.6	**35.22**	**284**	*e*P		**P**	**10 32 49.8**	**0.0**
ULM	**Lac du Bonnet** comp=Z,2.2nm,0.8s,mb4.0,baz=63,slow=5.7,SNR=3.6	**36.59**	**290**	P		**P**	**10 33 00.1**	**-1.3**
ULM	comp=Z,88nm,19.3s,MS3.6,baz=46,slow=34			LR		LR	10 46 38.0	
VAE	**Valguarnera** comp=Z,7.0nm,0.4s,mb4.8,baz=23,slow=7.7,SNR=3.0	**37.52**	**95**	P		**P**	**10 33 09.6**	**+0.2**
AKASG	**Malin Array Be** comp=Z,0.2nm,0.2s,mb3.4,baz=308,slow=8.5,SNR=4.2	**38.59**	**67**	P		**P**	**10 33 18.3**	**-0.1**
SIUC	**Southern Illin** comp=Z,16nm,0.8s,mb4.8	**39.85**	**269**	*e*P		**P**	**10 33 29.6**	**+0.5**
SIUC	**Southern Illin** comp=Z,16nm,0.8s,mb4.8	**39.85**	**269**	*e*P		**P**	**10 33 29.6**	**+0.5**
YKA	**Yellowknife Ar** comp=Z,0.9nm,0.9s,mb3.5,baz=61,slow=8.9,SNR=13	**40.47**	**315**	P		**P**	**10 33 32.8**	**-1.0**
YKA	**Yellowknife Ar**	**40.47**	**315**	P		**P**	**10 33 32.8**	**-1.1**
WALA	**Waterton Lakes** comp=Z,3.1nm,0.8s,mb4.3	**47.08**	**298**	*e*P		**P**	**10 34 27.5**	**+0.3**
WALA	**Waterton Lakes** comp=Z,3.1nm,0.8s,mb4.3	**47.08**	**298**	*e*P		**P**	**10 34 27.5**	**+0.3**
WMOK	**Wichita Mounta** comp=Z,2.9nm,0.9s,mb4.3	**47.58**	**274**	*e*P		**P**	**10 34 29.2**	**-2.0**
WMOK	**Wichita Mounta** comp=Z,2.9nm,0.9s,mb4.3	**47.58**	**274**	*e*P		**P**	**10 34 29.2**	**-2.1**
PDAR	**Pinedale Array** comp=Z,1.1nm,0.7s,mb4.0,baz=63,slow=7.5,SNR=6.9	**48.59**	**289**	P		**P**	**10 34 38.3**	**-0.7**
AMTX	**Amarillo** comp=Z,9.8nm,1.0s,mb4.8	**49.21**	**276**	*e*P		**P**	**10 34 45.1**	**+1.3**
TORD	**Torodi Ar. Bea** comp=Z,1.5nm,0.8s,mb4.1,baz=329,slow=7.8,SNR=8.6	**49.68**	**130**	P		**P**	**10 34 46.7**	**-0.9**
HWUT	**Hardware Ranch** comp=Z,5.6nm,0.8s,mb4.7	**50.47**	**289**	*e*P		**P**	**10 34 53.8**	**+0.4**
HWUT	**Hardware Ranch** comp=Z,5.6nm,0.8s,mb4.7	**50.47**	**289**	*e*P		**P**	**10 34 53.8**	**+0.4**
HLID	**Hailey** comp=Z,1.2nm,0.8s,mb3.9	**50.79**	**293**	P		**P**	**10 34 56.8**	**+1.1**
HLID	**Hailey** comp=Z,1.2nm,0.8s,mb3.9	**50.79**	**293**	P		**P**	**10 34 56.8**	**+1.1**
MCK	**McKinley** comp=Z,3.6nm,0.7s,mb4.4	**52.40**	**329**	*e*P		**P**	**10 35 08.0**	**+0.5**
MCK	**McKinley** comp=Z,3.6nm,0.7s,mb4.4	**52.40**	**329**	*e*P		**P**	**10 35 08.0**	**+0.5**
DBIC	**Dimbokro** comp=Z,48nm,18.2s,MS3.6,baz=76,slow=33	**52.74**	**141**	LR		LR	10 54 50.5	
AKTK	**Aktyubinsk**	**53.62**	**52**	P		**P**	**10 35 16.1**	**-0.6**
AKTK	**Aktyubinsk**	**53.62**	**52**	P		**P**	**10 35 16.0**	**-0.6**
AKTO	**Aktyubinsk** comp=Z,1.1nm,0.6s,mb3.9,baz=327,slow=5.3,SNR=4.3	**53.62**	**52**	P		**P**	**10 35 16.1**	**-0.6**
TXAR	**Lajitas Array** comp=Z,0.6nm,0.8s,mb3.6,baz=56,slow=9.2,SNR=6.6	**54.32**	**272**	P		**P**	**10 35 21.9**	**-0.2**
ROSC	**El Rosal**	**57.91**	**228**	*e*P		**P**	**10 35 50.5**	**+2.6**
ROSC	**El Rosal**	**57.91**	**228**	*e*P		**P**	**10 35 50.5**	**+2.7**
ZALV	**Zalesovo Beam** comp=Z,0.4nm,0.4s,mb4.0,baz=312,slow=8.9,SNR=2.3	**62.10**	**35**	P		**P**	**10 36 17.0**	**+0.9**
EKS2	**Erkin-Say** comp=Z,4.0nm,0.9s,mb4.5	**66.67**	**49**	*e*P		**P**	**10 36 46.2**	**0.0**
EKS2	**Erkin-Say** comp=Z,4.0nm,0.9s,mb4.5	**66.67**	**49**	*e*P		**P**	**10 36 46.2**	**-0.1**
MKAR	**Makanchi Array** comp=Z,0.3nm,0.3s,mb3.8,baz=328,slow=4.3,SNR=5.4	**66.99**	**41**	P		**P**	**10 36 48.3**	**+0.1**
TKM2	**Tokmak 2** comp=Z,3.7nm,1.0s,mb4.4	**67.29**	**48**	*e*P		**P**	**10 36 51.5**	**+1.3**
TKM2	**Tokmak 2** comp=Z,3.7nm,1.0s,mb4.4	**67.29**	**48**	*e*P		**P**	**10 36 51.5**	**+1.3**
UCH	**Uchtor** comp=Z,4.4nm,1.0s,mb4.4	**67.35**	**49**	*e*P		**P**	**10 36 53.1**	**+2.5**
UCH	**Uchtor** comp=Z,4.4nm,1.0s,mb4.4	**67.35**	**49**	*e*P		**P**	**10 36 53.1**	**+2.5**
SONM	**Songino Array** comp=Z,0.3nm,0.6s,mb3.4,baz=321,slow=13,SNR=3.2	**74.06**	**26**	P		**P**	**10 37 31.1**	**-0.2**
ASAJ	**Asahikawa** comp=Z,223nm,18.0s,MS4.6,baz=202,slow=34	**82.87**	**2**	LR		LR	11 13 10.6	
WRA	**Warramunga Arr** comp=Z,1.2nm,0.9s,baz=347,slow=3.4,SNR=3.8	**145.69**	**17**	PKPbc		PKPbc	10 45 35.4	+0.9
ASAR	**Alice Springs** comp=Z,1.8nm,0.6s,baz=355,slow=2.3,SNR=2.4	**149.24**	**20**	PKPbc		PKPbc	10 45 44.5	+0.3

ISCJB ***15*** *10:27:03.7±0.7,3761N∧003×2675E±006,h9km±4km, Error ellipse: s-maj=7.8km s-min=4.4km az=157.6*
ISK ***15*** *10:27:03.5,3764N×2679E,h5km,ML2.6*
CSEM ***15*** *10:27:03.6±0.1,3766N×2683E,h15km,MD3.2,Error ellipse: s-maj=3.1km s-min=2.0km az=69.0*
ATH ***15*** *10:27:04.4,3768N×2668E,h2km,MD3.2/3*
DDA ***15*** *10:27:05.1,3764N×2682E,h8km±2km,Md3.1*
ISC 15 10:27:04.2±0.7,3763N±003×2676E±006,h12km±5km,n13, σ0:69/22,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SMG	**Samos**	**0.10**	**37**	⇑*i*PG		**Pg**	**10 27 07.2**	**+0.2**
SMG				*e*SG		**Sg**	**10 27 09.2**	**+0.1**
BODT	**Bodrum**	**0.71**	**142**	*e*PG		**Pg**	**10 27 18.2**	**+0.2**
BODT				*e*SG		**Sg**	**10 27 28.1**	**+0.8**
URLA	**Izmir**	**0.74**	**350**	*i* P		**Pg**	**10 27 18.4**	**-0.2**
URLA				*i* S		**Sg**	**10 27 29.7**	**+1.3**
BDRM	**Kayabasi**	**0.78**	**136**	*i* P		**Pg**	**10 27 18.9**	**-0.4**
BDRM				*i* S		**Sg**	**10 27 30.4**	**+0.8**
BLCB	**Balcova**	**0.79**	**16**	*e*PG		**Pg**	**10 27 18.7**	**-0.7**
KDAG	**Bornova**	**0.87**	**27**	*i* P		**Pg**	**10 27 20.1**	**-0.8**
KDAG				*i* S		**Sg**	**10 27 32.5**	**+0.1**
MLSB	**Milas**	**0.87**	**112**	*e*PG		**Pg**	**10 27 20.0**	**-1.0**
MLSB				*e*SG		**Sg**	**10 27 33.1**	**+0.7**
AYDN	**Tasoluk**	**0.89**	**88**	*i* P		**Pg**	**10 27 20.8**	**-0.5**
AYDN				*i* S		**Sg**	**10 27 32.0**	**-0.9**
AYDN	**Tasoluk**	**0.89**	**88**	*i* P		**Pg**	**10 27 20.8**	**-0.5**
AYDN				*i* S		**Sg**	**10 27 32.0**	**-0.9**
DAT	**Datca**	**1.11**	**144**	*e*PN		**Pn**	**10 27 25.2**	**-0.3**
DAT				*e*SN		**Sn**	**10 27 40.4**	**-0.3**
APE	**Apeiranthos**	**1.13**	**241**	*e*PG		**Pg**	**10 27 25.4**	**-0.5**
PRK	**Paraskevi**	**1.66**	**347**	*e*PB		**Pb**	**10 27 34.6**	**-0.1**
KULA	**Kula-Manisa**	**1.74**	**59**	*e*PN		**Pn**	**10 27 35.6**	**+1.4**

IDC 15 10:29:25.7±2.3,1498S×17733W,h0km,mb3.6/4, mb1 3.9/4,mb1mx3.7/15,mbtmp3.6/4,Error ellipse: s-maj=171.2km s-min=27.9km az=153.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr** 0.2nm,0.3s,baz=91,slow=6.2,SNR=14	**46.24**	**257**	P		P	10 37 53.2	+0.1
ASAR	**Alice Springs** 0.9nm,0.4s,baz=85,slow=8.5,SNR=31	**46.64**	**252**	P		P	10 37 56.0	-0.2
TXAR	**Lajitas Array** 0.4nm,0.8s,baz=243,slow=4.0,SNR=4.0	**83.56**	**57**	P		P	10 41 56.8	+0.6
YKA	**Yellowknife Ar** 0.1nm,0.6s,baz=234,slow=4.6,SNR=5.6	**91.25**	**24**	P		P	10 42 32.2	-0.4

ISCJB ***15*** *10:31:36.1±0.6,3886N∧003×2281E±004,h0km±8km, Error ellipse: s-maj=5.5km s-min=4.3km az=145.7*
CSEM ***15*** *10:31:36.5±0.1,3884N×2277E,h12km,MD3.2,Error ellipse: s-maj=2.4km s-min=1.8km az=70.0*
THE ***15*** *10:31:36.4,3885N×2280E,h3km,ML2.9*
NEIC ***15*** *10:31:36.8,3886N×2281E,h5km,MD3.2(ATH),After ATH.*
ATH ***15*** *10:31:36.8,3886N×2281E,h5km±4km,MD3.2/5*
ISC 15 10:31:36.6±0.5,3884N±003×2280E±004,h9km±7km,n12, σ0:73/19,1D,Greece

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
LKR	**Lokris**	**0.25**	**140**	⇓*i*PG		**Pg**	**10 31 41.9**	**+0.3**
LKR				*e*SG		**Sg**	**10 31 45.7**	**+0.8**
AGG	**Agios Georgios**	**0.41**	**296**	*e*Pg		**Pg**	**10 31 44.0**	**-0.6**
AGG				*e*Sg		**Sg**	**10 31 50.3**	**+0.4**
NEO	**Neokhori**	**0.57**	**35**	*e*PB		**Pb**	**10 31 48.1**	**-0.7**
NEO				*e*SB		**Sg**	**10 31 55.7**	**+0.6**
XOR	**Xorichti**	**0.61**	**30**	*e*Pg		**Pg**	**10 31 47.9**	**-0.4**
XOR				*e*Sg		**Sg**	**10 31 56.2**	**-0.1**
EVR	**Evrytania**	**0.78**	**276**	*e*PG		**Pg**	**10 31 51.7**	**+0.1**
EVR				*e*SB		**Sb**	**10 32 03.6**	**+0.7**
LTK	**Loutraki**	**0.83**	**171**	*e*Pg		**Pg**	**10 31 51.9**	**-0.6**
AOS	**Alonnisos**	**0.90**	**68**	*e*Pg		**Pg**	**10 31 54.0**	**0.0**
THL	**Klokotos Trika**	**0.94**	**320**	*e*PB		**Pb**	**10 31 53.8**	**-1.3**
THL				*e*SB		**Sb**	**10 32 08.2**	**+0.4**
PTL	**Penteli**	**1.15**	**133**	*e*PB		**Pb**	**10 31 59.0**	**+0.3**
NAIG	**Nisos Aigina**	**1.21**	**153**	*e*PB		**Pb**	**10 32 00.5**	**+0.9**
LIT	**Litokhoron**	**1.28**	**349**	*e*Pg		**Pg**	**10 32 00.0**	**-1.2**
LIT				*e*Sg		**Sg**	**10 32 19.2**	**+1.4**
DID	**Didima**	**1.38**	**165**	*e*Pg		**Pg**	**10 32 02.1**	**-1.0**

SZGRF ***15*** *10:35:46.2,1605S×17481W,h33km,Tonga Islands*
IDC ***15*** *10:36:15.4±6.1,1617S×17520W,h288km±58km,mb3.9/12, mb1 4.1/12,mb1mx4.0/16,mbtmp3.9/12,Error ellipse: s-maj=19.3km s-min=15.9km az=133.0*
BJI ***15*** *10:36:16.5,1610S×17530W,h325km,mb4.4,mB4.7*
ISCJB ***15*** *10:36:17.2±5.2,1616S∧008×17536W±009,h315km±52km, mb4.4/61,Error ellipse: s-maj=16.0km s-min=10.3km az=39.6*
NEIC ***15*** *10:36:17.5±0.2,1615S×17527W,mb4.4/47,Error ellipse: s-maj=11.7km s-min=4.9km az=138.0*
ISC 15 10:36:28.0±4.4,1616S±008×17546W±009,h412km±48km, h307km±4.1km:pP-P,n344,σ0:45/280,mb4.3/61,88C-90D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera** 10nm,0.7s,mb4.3,baz=286,slow=22,SNR=6.5	**22.97**	**195**	P		**P**	**10 40 54.5**	**-4.0**
ARMA	**Armidale**	**33.26**	**239**	*e*P		**P**	**10 42 29.6**	**+0.6**
TAU	**Tasmania Unive**	**41.42**	**222**	P		**P**	**10 43 34.5**	**-1.9**
STKA	**Stephens Creek** 3.1nm,0.8s,mb3.7	**41.94**	**240**	*e*P		**P**	**10 43 41.6**	**+0.8**
STKA	**Stephens Creek** 3.0nm,0.7s,mb3.8,baz=80,slow=8.7,SNR=11	**41.94**	**240**	P		**P**	**10 43 40.9**	**+0.1**
STKA	1.3nm,0.9s,baz=34,slow=3.6,

ORV	Oroville	74.83	40	⇑P		P	10 47 23.9 -0.8
	baz=75						
LAVA	Lava Cap Winer	74.84	41	⇓P		P	10 47 24.2 -0.7
	baz=75						
PFO	Pinyon Flat Ob	74.89	48	eP		P	10 47 24.9 -0.4
	12nm,1.5s,mb4.3						
KCC	Kaiser Creek	74.94	43	⇑P		P	10 47 25.4 0.0
	baz=75						
LRMC	Laurel Mountai	75.02	46	⇑P		P	10 47 25.0 -0.9
	baz=75						
RRX	Edison Barstow	75.18	46	⇓P		P	10 47 26.7 -0.2
	baz=75						
R05C	Kirkwood Meado	75.23	42	⇑P		P	10 47 27.0 -0.1
	baz=75						
P05C	Yuba Gap, Truc	75.24	41	⇑P		P	10 47 27.1 0.0
	baz=75						
CWC	Cottonwood Cre	75.27	45	⇓P		P	10 47 27.5 +0.1
	baz=75						
YBH	Yreka Blue Hor	75.41	38	⇓P		P	10 47 28.5 +0.5
	baz=76						
BELC	Belle Mtn.	75.42	48	⇓P		P	10 47 28.3 0.0
	baz=76						
O05C	Quincy	75.43	40	⇓P		P	10 47 28.4 +0.2
	baz=76						
MPMC	Manual Prospec	75.47	45	⇓P		P	10 47 27.9 -0.5
	baz=76,SNR=5.4						
M03C	McCloud	75.48	39	⇑P		P	10 47 28.3 -0.1
	baz=76						
R06C	Coleville	75.53	42	⇑P		P	10 47 28.7 0.0
	baz=76						
GSC	Goldstone	75.53	46	eP		P	10 47 28.3 -0.6
	15nm,1.3s,mb4.5						
GSC	Goldstone	75.53	46	⇓P		P	10 47 28.7 -0.2
	baz=76						
HEC	Hector,Ludlow	75.62	47	⇑P		P	10 47 29.2 -0.1
	baz=76						
BC3	Big Chuckw Mtn	75.63	48	⇑P		P	10 47 29.7 +0.2
	baz=76						
BEKR	Beckwourth	75.72	41	⇑P		P	10 47 29.9 +0.1
	baz=76						
S08C	White Mtn Res	75.80	44	⇑P		P	10 47 30.9 +0.7
	baz=76						
GRAC	Grapevine Rang	76.06	44	⇑P		P	10 47 32.0 +0.3
	baz=76						
M05C	Lookout	76.12	39	⇑P		P	10 47 32.2 +0.3
	baz=76						
TUQ	Turquoise Mtn.	76.22	46	⇓P		P	10 47 32.7 0.0
	baz=76						
NVAR	Mina Array Bea	76.22	43	P		P	10 47 32.2 -0.4
	3.5nm,0.7s,mb4.1,baz=217,slow=7.1,SNR=17						
O06A	Flanigan	76.23	41	⇓P		P	10 47 32.7 +0.1
	baz=76						
R08A	Mina	76.31	43	⇑P		P	10 47 33.6 +0.6
	baz=76						
Y12C	Blythe	76.35	49	⇓P		P	10 47 33.4 0.0
	baz=76						
M06C	Likely Place G	76.43	39	⇑P		P	10 47 34.1 +0.4
	baz=76						
J04A	Umpqua Nationa	76.68	37	⇓P		P	10 47 36.0 +1.0
	baz=77						
Q08A	Gabbs	76.70	43	⇓P		P	10 47 34.9 -0.4
	baz=77						
V11A	Goodsprings	76.77	46	P		P	10 47 35.6 -0.1
	baz=77,SNR=5.3						
TPNV	Topopah Spring	76.79	45	eP		P	10 47 35.3 -0.4
	8.3nm,1.0s,mb4.3						
TPNV	Topopah Spring	76.79	45	⇓P		P	10 47 35.6 -0.2
	baz=77						
NEE2	Needles Airpor	76.79	48	⇓P		P	10 47 36.0 +0.2
	baz=77						
I04A	Tendick Farm,	76.84	36	⇑P		P	10 47 35.8 -0.1
	baz=77						
Y13A	Salome	76.88	49	⇑P		P	10 47 36.7 +0.4
	baz=77						
PDMCI	Parker Dam,Lak	76.90	48	⇑P		P	10 47 36.5 0.0
	baz=77,SNR=6.6						
R09A	Tonopah	76.93	44	⇑P		P	10 47 36.5 0.0
	baz=77						
S10A	Tonopah Range,	77.07	44	P		P	10 47 37.5 +0.2
	baz=77,SNR=7.1						
K05A	Summer Lake	77.08	38	⇓P		P	10 47 37.5 +0.3
	baz=77						
U11A	Corn Creek	77.11	46	⇑P		P	10 47 37.6 +0.1
	baz=77						
N07B	Gerlach	77.12	41	⇓P		P	10 47 37.6 +0.1
	baz=77						
J05A	Fort Rock	77.21	37	P		P	10 47 38.7 +0.7
	baz=77,SNR=8.7						
X13A	Yucca	77.27	48	P		P	10 47 38.5 0.0
	baz=77,SNR=7.4						
Z14A	Wintersburg	77.30	50	⇓P		P	10 47 38.9 +0.2
	baz=77						
M07A	Soldier Meadow	77.34	40	⇑P		P	10 47 38.8 +0.1
	baz=77						
R10A	Warm Springs	77.46	44	⇓P		P	10 47 39.7 +0.2
	baz=78,SNR=8.1						
W13A	Hualapai Mount	77.48	48	⇑P		P	10 47 39.9 +0.3
	baz=78						
S11A	Rachel	77.50	45	⇓P		P	10 47 39.7 0.0
	baz=78						
115A	Sonoran Desert	77.51	50	⇓P		P	10 47 39.4 -0.4
	baz=78						
H04A	Detroit Lake	77.52	36	⇓P		P	10 47 39.4 -0.2
	baz=78						
Y14A	Wickenburg	77.54	49	⇓P		P	10 47 39.9 -0.1
	baz=78,SNR=7.8						
P09A	Austin	77.60	42	⇑P		P	10 47 40.3 +0.1
	baz=78						
L07A	Adell	77.60	39	⇓P		P	10 47 40.8 +0.7
	baz=78						
T11A	Corn Creek, Al	77.64	45	P		P	10 47 40.5 +0.1
	baz=78,SNR=10						
N08A	GE Springer Mi	77.64	41	⇑P		P	10 47 40.2 -0.1
	baz=78						
Q10A	Clear Creek Ra	77.69	43	⇑P		P	10 47 40.7 0.0
	baz=78						
U12A	Valley of Fire	77.69	46	⇑P		P	10 47 40.8 0.0
	baz=78						
216A	Three Points,	77.76	51	⇑P		P	10 47 41.4 +0.2
	baz=78						
116A	Eloy	77.83	51	⇑P		P	10 47 41.6 0.0
	baz=78						
M08A	Happy Creek Ra	77.86	40	⇑P		P	10 47 41.9 +0.3
	baz=78						
X14A	Yava	77.88	49	⇑P		P	10 47 41.9 +0.1
	baz=78,SNR=13						
O09A	Fish Creek Ran	77.90	42	⇓P		P	10 47 41.9 +0.1
	baz=78						
R11A	Troy Canyon, C	77.97	44	⇑P		P	10 47 42.1 -0.1
	baz=78,SNR=5.8						
Y15A	Casa Rosa Ranc	78.03	49	⇑P		P	10 47 43.1 +0.4
	baz=78,SNR=16						
H05A	Madras	78.04	36	⇓P		P	10 47 42.5 +0.1
	baz=78						
K07A	Rock Creek Ran	78.04	39	⇑P		P	10 47 42.9 +0.4
	baz=78						
N09A	Rock Creek Ran	78.06	41	⇓P		P	10 47 42.7 +0.1
	baz=78						
P10A	Eureka	78.07	43	⇑P		P	10 47 42.8 +0.1
	baz=78						
U13A	Pakoon Wash	78.08	46	P		P	10 47 43.3 +0.4
	baz=78,SNR=12						
S12A	Delamar Landin	78.08	45	⇑P		P	10 47 43.1 +0.3
	baz=78						
W14A	Seligman	78.11	48	P		P	10 47 43.5 +0.5
	baz=78,SNR=14						
217A	Green Valley	78.14	52	⇓P		P	10 47 43.3 0.0
	baz=78,SNR=9.6						
D03A	Wishkah Elem.	78.18	33	⇓P		P	10 47 43.4 +0.3
	baz=78						
Q11A	Duckwater	78.19	44	⇓P		P	10 47 43.5 +0.1
	baz=78,SNR=9.0						
I06A	Prineville	78.20	37	⇑P		P	10 47 43.6 +0.3
	baz=78,SNR=5.3						
V14A	Boquillas Ranc	78.30	47	P		P	10 47 44.5 +0.4
	baz=78,SNR=13						
L08A	Fields	78.30	40	P		P	10 47 44.1 +0.2
	baz=78,SNR=10						
X15A	Humboldt	78.36	49	⇓P		P	10 47 44.5 +0.1
	baz=78,SNR=13						
J07A	Hines	78.40	38	⇓P		P	10 47 44.8 +0.3
	baz=78						
TUC	Tucson	78.41	51	eP		P	10 47 44.9 +0.2
	6.2nm,0.8s,mb4.3						
T13A	Saint George	78.43	46	⇓P		P	10 47 44.8 +0.1
	baz=78						
M09A	Marrel Ranch,	78.43	41	⇑P		P	10 47 45.1 +0.5
	baz=78						
MDJ	Mudanjiang	78.43	323	P		P	10 47 45.8 +1.2
MDJ				AP		pP	10 48 58.9 -18
MDJ				XP		sP	10 49 33.0 -27
MDJ				AMB		AMB	
	comp=Z,6.0nm,2.2s,mb3.8						
MDJ				AMB		AMB	
	comp=Z,87nm,4.9s						
H06A	Lindquist Farm	78.60	37	⇓P		P	10 47 45.5 0.0
	baz=79,SNR=7.1						
318A	Bisbee	78.61	52	⇑P		P	10 47 45.9 +0.1
	baz=79,SNR=8.4						
R12A	Pony Springs,	78.62	44	P		P	10 47 45.8 +0.1
	baz=79,SNR=7.8						
Y16A	Circle Bar Ran	78.62	50	⇓P		P	10 47 46.3 +0.4
	baz=79,SNR=6.9						
U14A	Mt Trumbull	78.63	47	⇓P		P	10 47 46.2 +0.4
	baz=79,SNR=13						
N10A	Dunphy	78.64	42	⇓P		P	10 47 46.1 +0.3
	baz=79						
I07A	Izee	78.70	38	⇑P		P	10 47 46.0 0.0
	baz=79						
S13A	Holt Ranch, En	78.74	45	⇓P		P	10 47 46.5 +0.1
	baz=79,SNR=5.2						
218A	Dragoon	78.81	52	⇑P		P	10 47 47.2 +0.3
	baz=79,SNR=9.0						
O11A	Cowboy Ranch,	78.87	42	⇓P		P	10 47 47.4 +0.4
	baz=79,SNR=7.6						
J08A	Circle Bar Ran	78.89	39	⇓P		P	10 47 47.2 +0.2
	baz=79,SNR=8.9						
X16A	Lo Mia Camp, P	78.91	49	⇓P		P	10 47 47.6 +0.2
	baz=79,SNR=13						
E05A	Randle	78.91	35	⇑P		P	10 47 47.1 0.0
	baz=79						
K09A	Rome	78.97	39	⇑P		P	10 47 47.5 0.0
	baz=79,SNR=12						
T14A	Hurricane	79.02	46	⇓P		P	10 47 48.2 +0.3
	baz=79						
M10A	I.L. Ranch, Tu	79.05	41	P		P	10 47 48.5 +0.5
	baz=79,SNR=10						
319A	Douglas	79.12	53	P		P	10 47 49.0 +0.4
	baz=79,SNR=15						
ARUT	Antelope Range	79.14	45	eP		P	10 47 48.8 +0.3
I08A	Drewsey	79.15	38	⇓P		P	10 47 48.5 +0.1
	baz=79						
N11A	Elko Archery C	79.18	42	P		P	10 47 48.6 -0.1
	baz=79,SNR=5.4						
G07A	Ruggs Ranch, H	79.30	36	⇓P		P	10 47 49.0 -0.2
	baz=79						
S14A	Cedar City	79.31	46	⇓P		P	10 47 49.6 +0.1
	baz=79						
J09A	Fry Pan Ranch,	79.32	39	P		P	10 47 49.4 +0.1
	baz=79,SNR=10						
E06A	Yakima	79.32	35	⇓P		P	10 47 48.8 -0.5
	baz=79						
L10A	Juniper Basin	79.40	40	⇓P		P	10 47 49.6 -0.2
	baz=80,SNR=9.5						
219A	White Tail Can	79.42	52	⇑P		P	10 47 50.5 +0.4
	baz=80						
H08A	Prairie City	79.44	38	⇓P		P	10 47 49.9 0.0
	baz=80						
WUAZ	Wupatki	79.47	48	eP		P	10 47 50.4 +0.1
	comp=Z,3.5nm,0.9s,mb4.0						
T15A	Red Dirt Ranch	79.49	47	⇓P		P	10 47 51.0 +0.6
	baz=80,SNR=8.1						
O12A	Currie	79.53	43	⇑P		P	10 47 50.6 +0.1
	baz=80						
K10A	MacKenzie Ranc	79.54	40	⇓P		P	10 47 50.8 +0.3
	baz=80,SNR=10						
P13A	Bates Ranch, G	79.59	44	⇓P		P	10 47 51.1 +0.2
	baz=80,SNR=5.8						
C05A	Tolt Reservoir	79.64	34	⇓P		P	10 47 51.1 +0.1
	baz=80,SNR=5.9						
N12A	Clover Valley,	79.65	42	⇑P		P	10 47 51.4 +0.3
	baz=80,SNR=12						
I09A	Lost Marbles R	79.68	38	⇓P		P	10 47 50.9 -0.3
	baz=80						
G08A	Pilot Rock	79.72	37	⇓P		P	10 47 51.8 +0.3
	baz=80,SNR=9.0						
119A	Ashpeak Ranch,	79.73	52	⇑P		P	10 47 52.2 +0.4
	baz=80						
B05A	Bryant	79.78	33	⇑P		P	10 47 52.0 +0.3
	baz=80						
D06A	Cle Elum	79.79	34	⇓P		P	10 47 51.9 +0.1
	baz=80						
L11A	Cat Creek Ranc	79.90	41	⇑P		P	10 47 52.4 -0.1
	baz=80,SNR=9.8						
E07A	Sunnyside	79.95	35	⇓P		P	10 47 52.9 +0.2
	baz=80						
J10A	Berg Farm, Mel	79.96	39	⇑P		P	10 47 53.2 +0.5
	baz=80						
O13A	Hicks Ranch, I	79.96	43	⇑P		P	10 47 53.0 +0.2
	baz=80						
M12A	Wells	80.03	42	⇑P		P	10 47 53.1 -0.1
	baz=80,SNR=6.1						
HAWA	Hanford	80.04	36	eP		P	10 47 52.7 -0.3
	comp=Z,11nm,0.9s,mb4.5						
K11A	Parker Ranch,	80.05	40	⇓P		P	10 47 53.4 +0.1
	baz=80						
T16A	Glen Canyon Da	80.08	47	⇓P		P	10 47 54.0 +0.4
	baz=80						
H09A	Durkee	80.11	38	P		P	10 47 53.5 0.0
	baz=80,SNR=6.3						
F08A	Pendleton	80.11	36	⇓P		P	10 47 53.3 -0.3
	baz=80						
N13A	Wendover, West	80.19	42	⇓P		P	10 47 54.0 0.0
	baz=80						
B06A	Marblemount	80.26	33	⇓P		P	10 47 53.6 -0.6
	baz=80						
D07A	Quincy	80.27	35	⇓P		P	10 47 54.2 -0.1
	baz=80						
PMR	Palmer	80.27	12	eP		P	10 47 53.9 -0.1
	comp=Z,13nm,1.3s,mb4.4						
L12A	House Creek Ra	80.35	41	⇓P		P	10 47 55.2 +0.4
	baz=80						
MSU	Marysvale	80.36	45	eP		P	10 47 55.0 0.0
G09A	Cove	80.39	37	⇑P		P	10 47 54.9 -0.1
	baz=80						
BMO	Blue Mountains	80.43	38	eP		P	10 47 54.9 -0.2
	comp=Z,9.8nm,1.2s,mb4.3						
M13A	Montello	80.48	42	⇑P		P	10 47 55.6 +0.1
	baz=81						
C07A	Waterville	80.52	34	⇑P		P	10 47 55.4 -0.2
	baz=81						
MFID	Camas Ranch	80.53	40	⇑P		P	10 47 55.7 0.0
	baz=81,SNR=8.3						
F09A	S2 Ranch, Elgi	80.56	37	⇓P		P	10 47 56.0 +0.2
	baz=81						
H10A	Noah's Angus R	80.61	38	⇑P		P	10 47 55.8 -0.4
	baz=81						
K12A	Draper Farm, C	80.68	41	⇑P		P	10 47 56.4 -0.2
	baz=81						
I11A	Placerville	80.72	39	⇑P		P	10 47 56.6 -0.1
	baz=81,SNR=9.2						
D08A	Wollman Farm,	80.77	35	⇓P		P	10 47 57.1 +0.2
	baz=81,SNR=5.4						
DUG	Dugway	80.77	44	eP		P	10 47 56.9 -0.2
	comp=Z,3.4nm,1.1s,mb4.0						
DUG	Dugway	80.77	44	⇑P		P	10 47 57.2 +0.1
	baz=81						
G10A	Bishop Farm, J	80.78	37	⇓P		P	10 47 56.8 -0.2
	baz=81,SNR=9.9						
N14A	Grayback Hills	80.85	43	⇑P		P	10 47 57.5 -0.1
	baz=81						
J12A	Stokes Ranch,	80.89	40	⇓P		P	10 47 57.6 0.0
	baz=81,SNR=8.3						
E09A	Wood Farm, Sta	80.89	36	⇑P		P	10 47 57.4 -0.2
	baz=81						
B07A	Winthrop	80.94	34	⇓P		P	10 47 57.8 0.0
	baz=81,SNR=6.7						
L13A	Double Diamond	81.00	41	⇑P		P	10 47 58.5 +0.3
	baz=81,SNR=5.1						
M14A	Sheep Mountain	81.08	42	⇓P		P	10 47 58.2 -0.5
	baz=81,SNR=10						
F10A	Beach Ranch, E	81.10	37	P		P	10 47 58.3 -0.3
	baz=81,SNR=9.6						
D09A	Jones Farm, Ri	81.11	36	⇓P		P	10 47 58.6 -0.1
	baz=81,SNR=6.9						
H11A	Donnelly	81.11	38	⇑P		P	10 47 58.9 +0.1
	baz=81,SNR=8.4						
C08A	Higginbotham F	81.12	35	⇑P		P	10 47 58.4 -0.4
	baz=81						
A07A	Ashnola River,	81.16	33	⇑P		P	10 47 58.8 -0.1
	baz=81						
K13A	Stover Farm, H	81.20	41	P		P	10 47 59.8 +0.5
	baz=81,SNR=7.6						
B08A	Colville Reser	81.31	34	⇓P		P	10 47 59.3 -0.4
	baz=81,SNR=5.1						
G11A	Walters Elk Ra	81.34	38	⇑P		P	10 47 59.7 -0.3
	baz=81,SNR=17						
MPU	Maple Canyon	81.47	44	eP		P	10 48 00.6 -0.1
	comp=Z,4.9nm,1.1s,mb4.2						
HLID	Hailey	81.47	40	eP		P	10 48 00.7 +0.1
	comp=Z,8.2nm,0.9s,mb4.5						
HLID	Hailey	81.47	40	⇓P		P	10 48 00.9 +0.3
	baz=82,SNR=13						
J13A	Cove Ranch, Pi	81.53	40	⇓P		P	10 48 01.1 +0.1
	baz=82,SNR=16						
M15A	Larsen Ranch,	81.64	43	⇑P		P	10 48 01.7 +0.1
	baz=82						
F11A	Grangeville	81.68	37	⇑P		P	10 48 00.6 -1.1
	baz=82,SNR=5.5						
A08A	Turner Farm, O	81.69	34	⇓P		P	10 48 01.8 +0.2
	baz=82,SNR=8.8						
K14A	Jones Ranch, D	81.72	41	⇑P		P	10 48 02.4 +0.4
	baz=82						
H12A	Diamond D Ranc	81.73	39	⇓P		P	10 48 01.8 -0.2
	baz=82,SNR=11						
SRU	San Rafael	81.78	45	eP		P	10 48 02.2 -0.1
	comp=Z,12nm,1.4s,mb4.4						
I13A	Wildhorse Cree	81.84	40	⇓P		P	10 48 02.8 +0.3
	baz=82,SNR=5.9						
JLU	Jordanelle	81.87	44	eP		P	10 48 02.4 -0.4
E11A	Bogner Ranch,	81.91	37	⇓P		P	10 48 01.8 -1.0
	baz=82						
B09A	Rice	81.98	34	⇑P		P	10 48 02.3 -0.9
	baz=82						
LAZ	Ladron	82.07	51	eP		P	10 48 04.8 +0.8
A09A	Danville	82.07	34	⇑P		P	10 48 03.5 -0.1
	baz=82,SNR=5.8						
H13A	Challis	82.10	39	⇑P		P	10 48 04.1 +0.2
	baz=82,SNR=9.7						
F12A	Elk City	82.14	38	⇓P		P	10 48 03.9 -0.1
	baz=82						
D11A	Klaveano Farm,	82.22	36	⇓P		P	10 48 03.4 -1.0
	baz=82						
MCK	McKinley	82.25	12	eP		P	10 48 03.9 -0.3
	comp=Z,4.1nm,0.9s,mb4.2						
MNTX	Cornudas Mount	82.27	54	eP		P	10 48 04.9 -0.2
	comp=Z,8.9nm,1.0s,mb4.5						
HWUT	Hardware Ranch	82.29	43	eP		P	10 48 04.2 -0.7
	comp=Z,5.1nm,0.9s,mb4.2						
BNM	Barren Site	82.34	51	eP		P	10 48 05.4 +0.1
G13A	Cobalt	82.39	39	P		P	10 48 05.4 0.0
	baz=82,SNR=11						
LPM	Los Pinos Moun	82.41	51	eP		P	10 48 06.0 +0.3
NEW	Newport	82.45	35	eP		P	10 48 04.9 -0.7
	comp=Z,3.7nm,0.8s,mb4.2						
A10A	Northport	82.62	34	⇑P		P	10 48 06.4 0.0
	baz=83						
TXAR	Lajitas Array	82.68	57	P		P	10 48 06.8 -0.4
	comp=Z,3.8nm,1.0s,mb4.1,baz=216,slow=6.2,SNR=26						
F13A	Darby	82.70	38	⇓P		P	10 48 06.5 -0.4
	baz=83						
D12A	Red Ives Fores	82.78	37	⇓P		P	10 48 06.7 -0.5
	baz=83						
ANMO	Albuquerque	82.81	51	eP		P	10 48 07.9 +0.1
	comp=Z,7.0nm,0.9s,mb4.4						
G14A	Jackson	82.93	39	P		P	10 48 08.6 +0.4
	baz=83,SNR=10						
MCMT	McKenzie Canyo	83.09	40	eP		P	10 48 09.6 +0.7
E13A	Victor	83.13	38	P		P	10 48 08.6 -0.5
	baz=83,SNR=11						
A11A	Hall Mountain,	83.26	35	⇑P		P	10 48 10.2 +0.5
	baz=83						
F14A	Wisdom	83.28	38	⇓P		P	10 48 10.1 +0.2
	baz=83						
D13A	Huson	83.32	37	⇑P		P	10 48 09.4 -0.6
	baz=83,SNR=8.9						
B12A	Libby	83.42	35	⇑P		P	10 48 10.1 -0.3
	baz=84						
MSO	Missoula	83.48	37	eP		P	10 48 08.9 -1.9
	comp=Z,2.0nm,0.6s,mb4.0						
COLA	College	83.48	11	eP		P	10 48 10.2 -0.2
	comp=Z,11nm,0.8s,mb4.6						
G15A	Dillon	83.48	39	⇓P		P	10 48 11.2 +0.4
	baz=84,SNR=17						
DCID1	Drake Creek	83.51	41	eP		P	10 48 11.1 +0.1
DLMT	Dillon	83.52	39	eP		P	10 48 11.4 +0.4
	comp=Z,10nm,0.8s,mb4.6						
E14A	Clinton	83.53	38	⇓P		P	10 48 11.0 -0.1
	baz=84,SNR=11						
TPAW	Teton Pass	83.61	41	eP		P	10 48 11.9 +0.4
	comp=Z,12nm,0.8s,mb4.7						
REDW	Red Top Meadow	83.61	42	eP		P	10 48 11.7 +0.1
	comp=Z,15nm,0.9s,mb4.7						
SNOW	Snow King Moun	83.72	41	eP		P	10 48 12.6 +0.5
	comp=Z,20nm,0.9s,mb4.8						
IMW	Indian Meadow	83.81	41	eP		P	10 48 13.1 +0.5
	comp=Z,13nm,0.8s,mb4.7						
F15A	Butte	83.82	39	⇑P		P	10 48 12.8 +0.2
	baz=84,SNR=5.8						
LRM	Limekiln Ridge	83.84	39	eP		P	10 48 12.4 -0.3
D14A	Greenough	83.86	37	⇑P		P	10 48 12.2 -0.6
	baz=84,SNR=5.4						
MOOW	Moose Ponds	83.86	41	eP		P	10 48 12.6 -0.2
	comp=Z,7.3nm,1.4s,mb4.2						
CHMT	Chamberlain Mo	83.92	38	eP		P	10 48 12.5 -0.5
QLMT	Earthquake Lak	83.97	40	eP		P	10 48 13.9 +0.6
B13A	Whitefish	84.00	36	⇑P		P	10 48 12.8 -0.5
	baz=84						
E15A	Deer Lodge	84.03	38	⇑P		P	10 48 13.5 -0.1
	baz=84,SNR=6.5						
FLWY	Flagg Ranch	84.06	41	eP		P	10 48 14.4 +0.6
	comp=Z,19nm,1.0s,mb4.8						
BW06	Boulder Array	84.16	43	eP		P	10 48 13.7 -0.6
	comp=Z,7.3nm,0.9s,mb4.4						
PDAR	Pinedale Array	84.16	43	P		P	10 48 13.9 -0.4
	comp=Z,6.8nm,0.8s,mb4.4,baz=214,slow=3.4,SNR=48						
YMR	Madison River	84.17	40	eP		P	10 48 15.1 +0.7
	comp=Z,38nm,1.7s,mb4.8						
BOZ	Bozeman (W)	84.25	39	eP		P	10 48 14.4 -0.3
	comp=Z,13nm,1.4s,mb4.5						
BOZ	Bozeman (W)	84.25	39	⇑P		P	10 48 15.1 +0.4
	baz=84						
SMCO	Snowmass	84.27	47	eP		P	10 48 15.1 +0.2
	comp=Z,3.3nm,0.7s,mb4.2						
A13A	Flathead Natio	84.33	35	⇑P		P	10 48 15.3 +0.3
	baz=84						
D15A	Lincoln	84.42	38	⇓P		P	10 48 15.4 -0.1
	baz=84,SNR=9.8						
LKWY	Lake	84.48	41	eP		P	10 48 17.4 +1.6
	comp=Z,6.6nm,0.9s,mb4.4						
DAWY	Dawson	84.65	15	eP		P	10 48 16.4 +0.2
HRY	Holter Researc	84.66	38	eP		P	10 48 16.7 0.0
WALA	Waterton Lakes	84.67	36	eP		P	10 48 16.3 -0.4
	comp=Z,2.9nm,0.7s,mb4.1						
SDCO	Great Sand Dun	84.69	48	eP		P	10 48 16.6 -0.5
	comp=Z,1.8nm,0.8s,mb3.9						
EGAK	Eagle	84.82	14	eP		P	10 48 16.5 -0.5
	comp=Z,4.9nm,1.0s,mb4.2						
BILL	Bilibino	85.01	353	eP		P	10 48 17.7 -0.2
	comp=Z,3.5nm,0.9s,mb4.1						
RLMT	Red Lodge	85.45

VNA3				*e*			10 49 00.9
VNA2	**Neumayer--Watz**	**92.75**	**176**	*e*P	**P**		**10 48 54.1 -0.2**
VNA2				*e*			10 48 57.0
VNA2				*e*			10 49 00.2
VNA2				*e*			10 49 02.6
VNA1	**Neumayer--Stat**	**92.96**	**176**	*e*P	**P**		**10 48 55.8 +0.5**
VNA1				*e*			10 48 58.6
VNA1				*e*			10 49 01.7
VNA1				*e*			10 49 04.4
VNA1				*e*			14 18 29.4
VNA1				*e*			14 18 32.6
VNA1				*e*			14 18 40.9
ULM	**Lac du Bonnet**	**95.77**	**39**	P	**P**		**10 49 07.3 -1.1**
comp=Z,2.3nm,0.9s,mb4.3,baz=227,slow=2.0,SNR=4.2							
ARCES	**ARCESS Array B**	**125.07**	**351**	PKP	PKPdf		10 54 40.8 +1.2
comp=Z,7.2nm,0.9s,baz=8.7,slow=1.6,SNR=7.8							
IBBN	**Ibbenburen**	**143.85**	**357**	*e*PKPbc	PKPdf		10 55 14.9 0.0
CLZ	**Clausthal**	**144.10**	**354**	*e*PKPbc	PKPdf		10 55 16.0 +0.6
STHS	**Stebnicka Huta**	**144.15**	**341**	*e*PKP	PKPdf		10 55 16.3 +0.8
CLL	**Collm**	**144.29**	**351**	*e*PKPbc	PKPdf		10 55 16.2 +0.5
CLL	**Collm**	**144.29**	**351**	*i* PKPdf	PKPdf		10 55 15.2 -0.5
comp=Z,8.0nm,1.1s							
CLL				*e*(pPKPdf)			10 55 21.0
BRG	**Berggiesshubel**	**144.56**	**350**	*e*PKPbc	PKPdf		10 55 17.5 +1.3
BRG	**Berggiesshubel**	**144.56**	**350**	*i* P	PKPdf		10 55 17.1 +0.9
comp=Z,3.7nm,0.8s							
DPC	**Dobruska-Polom**	**144.59**	**347**	*e*PKP	PKPdf		10 55 17.8 +1.5
PVCC	**Panska Ves**	**144.78**	**349**	*e*PKP	PKPdf		10 55 18.3 +1.7
MOX	**Moxa**	**145.13**	**352**	*e*PKP	PKPbc		10 55 19.0 +1.3
comp=Z,13nm,1.4s							
MOX	**Moxa**	**145.13**	**352**	*e*PKPbc	PKPbc		10 55 18.9 +1.2
UBBA	**Unterbreizbach**	**145.15**	**354**	*e*PKPbc	PKPbc		10 55 18.5 +0.8
KECS	**Kecovo**	**145.21**	**341**	*e*PKP	PKPbc		10 55 19.8 +1.8
TANN	**Tannenbergstha**	**145.24**	**351**	*e*PKPbc	PKPbc		10 55 19.0 +1.0
PRU	**Pruhonice**	**145.30**	**349**	*e*PKP	PKPbc		10 55 19.5 +1.3
MEM	**Membach**	**145.62**	**358**	PKP	PKPbc		10 55 20.6 +1.4
VYHS	**Vyhne**	**145.69**	**343**	*e*PKP	PKPbc		10 55 21.4 +2.0
MANZ	**Manzenberg**	**145.71**	**351**	*e*PKPbc	PKPbc		10 55 21.1 +1.7
SNF	**Seneffe**	**145.74**	**0**	PKP	PKPbc		10 55 20.8 +1.3
BCLA	**Clavier**	**145.82**	**359**	PKP	PKPbc		10 55 21.5 +1.7
ROTZ	**Rotzenmuhle**	**145.91**	**351**	*e*PKPbc	PKPbc		10 55 21.5 +1.5
GRA1	**Grafenberg Arr**	**146.12**	**352**	*e*PKPbc	PKPbc		10 55 22.0 +1.4
GRF	**Grafenberg Arr**	**146.12**	**352**	*e*PKPbc	PKPbc		10 55 22.0 +1.4
GIVF	**Givet**	**146.14**	**360**	*e*PKP1	PKPbc		10 55 21.5 +0.8
DOU	**Dourbes**	**146.15**	**360**	PKP	PKPbc		10 55 22.3 +1.6
BAIF	**Baives**	**146.19**	**0**	*e*PKP1	PKPbc		10 55 21.7 +0.9
comp=Z,20nm,1.0s							
MODS	**Modra-Piesok**	**146.22**	**345**	*e*PKP	PKPbc		10 55 23.4 +2.5
KHC	**Kasperske Hory**	**146.30**	**349**	*e*PKP	PKPbc		10 55 22.6 +1.4
GEC2	**GERESS Array S**	**146.55**	**349**	*e*PKPbc	PKPbc		10 55 23.6 +1.7
GERES	**GERESS Array B**	**146.55**	**349**	PKPbc	PKPbc		10 55 22.4 +0.6
comp=Z,1.2nm,0.7s,baz=329,slow=2.3,SNR=7.2							
WLF	**Walferdange**	**146.56**	**358**	PKP	PKPbc		10 55 23.9 +2.0
WLF	**Walferdange**	**146.56**	**358**	*e*PKPbc	PKPbc		10 55 24.1 +2.2
FLN	**La Foiniere**	**147.23**	**6**	*e*PKP1	PKPbc		10 55 24.2 +0.5
comp=Z,47nm,1.2s							
STU	**Stuttgart**	**147.25**	**354**	*e*PKPbc	PKPbc		10 55 25.4 +1.6
ROSF	**Rostrenen**	**147.28**	**10**	*e*PKP1	PKPbc		10 55 24.3 +0.4
comp=Z,11nm,0.7s							
LDF	**La Druitiere**	**147.43**	**6**	*e*PKP1	PKPbc		10 55 24.8 +0.5
comp=Z,10nm,0.8s							
SGMF	**Saint Gilles**	**147.47**	**9**	*e*PKP1	PKPbc		10 55 24.8 +0.4
comp=Z,33nm,0.9s							
GRR	**Gorron**	**147.56**	**7**	*e*PKP1	PKPbc		10 55 25.3 +0.7
comp=Z,14nm,0.7s							
QUIF	**Quistinic**	**147.70**	**10**	*e*PKP1	PKPbc		10 55 25.3 +0.3
comp=Z,25nm,1.1s							
MEZF	**Maizieres J'vi**	**147.74**	**359**	*e*PKP1	PKPbc		10 55 26.0 +0.9
CDF	**Champ du Feu**	**147.76**	**357**	*e*PKP1	PKPbc		10 55 26.2 +1.1
comp=Z,8.8nm,0.6s							
BFO	**Black Forest**	**147.77**	**355**	*e*PKPbc	PKPbc		10 55 27.0 +1.9
HAU	**Haudompre**	**148.21**	**358**	*e*PKP1	PKPbc		10 55 27.2 +0.9
comp=Z,7.6nm,0.7s							
HINF	**Hinteralfeld**	**148.38**	**357**	*e*PKP1	PKPbc		10 55 27.5 +0.8
LOR	**Lormes**	**148.98**	**1**	*e*PKP1	PKPbc		10 55 29.5 +1.3
comp=Z,43nm,1.4s							
DAVOX	**Davos/Dischmat**	**149.15**	**353**	PKPbc	PKPbc		10 55 29.8 +1.1
comp=Z,7.2nm,0.7s,baz=42,slow=0.5,SNR=11							
SSF	**Saint Saulge**	**149.18**	**1**	*e*PKP1	PKPbc		10 55 29.9 +1.2
comp=Z,37nm,1.2s							
MFF	**Saint Martin d**	**149.40**	**6**	*e*PKP1	PKPbc		10 55 30.2 +0.9
comp=Z,17nm,0.9s							
AVF	**Avril sur Loir**	**149.44**	**2**	*e*PKP1	PKPbc		10 55 30.2 +0.8
comp=Z,14nm,1.2s							
SMF	**Signal de Mont**	**149.60**	**1**	*e*PKP1	PKPbc		10 55 30.5 +0.7
comp=Z,40nm,1.5s							
CABF	**La Chapelle**	**149.61**	**358**	*e*PKP1	PKPbc		10 55 31.2 +1.4
comp=Z,34nm,0.9s							
BGF	**Bois d'Agland**	**149.66**	**2**	*e*PKP1	PKPbc		10 55 31.2 +1.3
comp=Z,33nm,1.0s							
TCF	**Toulx Ste Croi**	**149.90**	**3**	*e*PKP1	PKPbc		10 55 31.5 +1.0
comp=Z,22nm,1.1s							
LPL	**La Plagne**	**150.68**	**357**	*e*PKP1	PKPbc		10 55 34.4 +2.1
LPG	**La Plagne**	**150.69**	**357**	*e*PKP1	PKPbc		10 55 34.5 +2.1
RJF	**Les Rejaudoux**	**150.83**	**4**	*e*PKP1	PKPbc		10 55 33.6 +0.9
comp=Z,6.2nm,0.7s							
LFF	**La Frestale**	**151.13**	**6**	*e*PKP1	PKPbc		10 55 34.3 +0.9
comp=Z,25nm,1.0s							
CAF	**Calviac**	**151.25**	**4**	*e*PKP1	PKPbc		10 55 34.9 +1.2
comp=Z,14nm,0.8s							
ORIF	**Oris-en-Rattie**	**151.31**	**358**	*e*PKP1	PKPbc		10 55 35.8 +2.0
comp=Z,9.9nm,0.9s							
VIVF	**Saint-Julien-l**	**151.39**	**360**	*e*PKP1	PKPbc		10 55 35.0 +1.0
comp=Z,20nm,1.0s							
MBDF	**Montbardon**	**151.46**	**357**	*e*PKP1	PKPbc		10 55 35.8 +1.7
comp=Z,8.4nm,0.7s							
ESDC	**Sonseca Array**	**155.42**	**16**	PKPab	PKPab		10 56 00.9 -0.3
comp=Z,0.8nm,0.6s,baz=326,slow=4.6,SNR=7.0							
TORD	**Torodi Ar. Bea**	**175.93**	**137**	PKP	PKPdf		10 55 49.8 -0.7
comp=Z,1.3nm,0.8s,baz=254,slow=0.9,SNR=6.9							
TORD				PKPab	PKPab		10 57 31.6 -0.6
comp=Z,2.5nm,0.9s,baz=248,slow=4.1,SNR=10							

BJI ***15*** *10:42:06.2, 0.99N×12639E, h5km, mB5.0, mb5.0, Ms4.6, Msz4.4*
IDC ***15*** *10:42:08.9±0.4, 1.14N×12629E, h0km, mb4.9/23, mb1 4.9/24, mb1mx4.9/25, mbtmp4.9/24, ML4.9/1, MS4.1/11, Ms1 4.1/11, ms1mx4.0/23, Error ellipse: s-maj=17.1km s-min=7.9km az=73.0*
ISCJB ***15*** *10:42:10.3±0.2, 124N±003×12631E±003, h15km, mb5.1/107, MS4.3/29, Error ellipse: s-maj=4.6km s-min=3.3km az=146.4*
GCMT ***15*** *10:42:11.1±0.2, 132N×12626E, h31km, MW5.3/86, Moment Tensor Solution. s54,c79; s86,c140; Duration: 1s1 Moment tensor: Scale 10^17Nm; Mrr0.80±.03; Mθθ0.40±.02; Mφφ-1.20±.02; Mrθ-0.09±.03; Mφθ-0.46±.02; Mφr0.09±.03; Best double couple: M0 1.08000×10^17 NP1:φs213.00000°, δ46.00000°, λ116.00000°. NP2: φs357.00000°, δ49.00000°, λ65.00000°. Principal axes: T 0.8370, Plg71.0000°, Azm200.0000°; N 0.4880, Plg19.0000°, Azm14.0000°; P -1.3240, Plg2.0000°, Azm105.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***15*** *10:42:11.1±0.2, 122N×12630E, h10km, mb5.2/50 Error ellipse: s-maj=6.8km s-min=4.5km az=69.0*
NEIC Felt [III] on Ternate, Indoesia.
MOS ***15*** *10:42:12.9±1.4, 125N×12623E, h33km, mb5.3/36, Error ellipse: s-maj=11.4km s-min=6.1km az=108.2*

ISC 15 10:42:12.1±0.2, 123N±003×12636E±003, h16km, h16km±1.0km:pP-P, n247, σ1§23/249, mb5.1/107, MS4.3/29, 21C-12D, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNE	**Ternate**	**1.10**	**113**	⇓*e*P	**Pb**	**10 42 32.0**	**-0.8**
TNE				*e*S	**Sb**	**10 42 47.0**	**0.0**
AAI	**Ambon**	**5.21**	**159**	P	**Pn**	**10 43 34.1**	**+4.6**
324nm,0.8s							
PCI	**Palu**	**6.85**	**252**	P	**Pn**	**10 43 54.8**	**+2.8**
508nm,1.1s							
MYLDM	**Lahad Datu**	**8.77**	**297**	⇑P	**Pn**	**10 44 21.3**	**+3.0**
TSM	**Tawau**	**9.00**	**290**	⇑P	**Pn**	**10 44 22.1**	**+0.6**
KAPI	**Kappang**	**9.05**	**227**	Pn	**Pn**	**10 44 24.2**	**+2.0**
756nm,0.4s,SNR=51							
TLE	**Tual**	**9.33**	**137**	⇑*e*P	**Pn**	**10 44 29.0**	**+3.0**
BAKI	**Biak**	**10.04**	**104**	P	**Pn**	**10 44 41.5**	**+5.7**
635nm,2.0s							
SDKM	**Sandakan**	**10.14**	**296**	⇑P	**Pn**	**10 44 39.2**	**+2.1**
KDM	**Kudat**	**11.05**	**301**	⇓P	**Pn**	**10 44 55.3**	**+5.7**
KKM	**Kota Kinabalu**	**11.19**	**296**	*e*Pn	**Pn**	**10 44 54.9**	**+3.4**
KKM	**Kota Kinabalu**	**11.19**	**296**	⇑P	**Pn**	**10 44 56.9**	**+5.3**
BATI	**Kupang**	**11.67**	**193**	Pn	**Pn**	**10 45 03.2**	**+5.2**
5.9nm,0.3s,baz=263,slow=3.0,SNR=10							
SBUM	**Sibu**	**14.18**	**275**	⇑P	**Pn**	**10 45 34.4**	**+2.0**
KMMI	**Kalianget**	**14.85**	**236**	P	**Pn**	**10 45 47.5**	**+6.0**
384nm,1.2s							
KAKA	**Kakadu**	**15.11**	**157**	*e*P	**Pn**	**10 45 52.2**	**+7.2**
179nm,0.6s							
KAKA	**Kakadu**	**15.11**	**157**	*e*P	**Pn**	**10 45 43.9**	**-1.1**
418nm,0.8s							
KSM	**Kuching**	**16.04**	**271**	*e*P	**Pn**	**10 45 58.2**	**+0.9**
KSM	**Kuching**	**16.04**	**271**	⇓P	**Pn**	**10 45 58.4**	**+1.2**
KRKI	**Karangkates**	**16.70**	**236**	P	**Pn**	**10 46 09.0**	**+3.4**
500nm,1.1s							
BJII	**Banjamegara**	**18.66**	**243**	P	**Pn**	**10 46 31.6**	**+1.8**
109nm,1.4s							
FITZ	**Fitzroy Crossi**	**19.22**	**182**	⇑*i*P	**Pn**	**10 46 35.4**	**-1.2**
66nm,1.0s							
FITZ				*e*S	**Sn**	**10 50 02.9**	**-8.9**
FITZ	**Fitzroy Crossi**	**19.22**	**182**	P	**Pn**	**10 46 34.2**	**-2.4**
2.8nm,0.3s,baz=18,slow=9.1,SNR=31							
GUMO	**Guam**	**22.06**	**55**	*e*P	**P**	**10 47 06.0**	**-0.4**
55nm,0.7s,mb5.1							
GUMO	**Guam**	**22.06**	**55**	*e*P	**P**	**10 47 06.0**	**-0.4**
GUMO				pmax	pmax		
comp=Z,55nm,0.7s,mb5.1							
GUMO	**Guam**	**22.06**	**55**	P	**P**	**10 47 06.5**	**+0.1**
comp=Z,53nm,0.7s,mb5.1,baz=197,slow=20,SNR=3.1							
GUMO				LR	LR		10 54 35.1
comp=Z,284nm,22.0s,MS3.6,baz=35,slow=34							
WRAB	**Tennant Creek**	**22.44**	**160**	P	**P**	**10 47 10.9**	**+0.5**
comp=Z,917nm,0.5s,SNR=70							
WRAB	**Tennant Creek**	**22.44**	**160**	⇑*e*P	**P**	**10 47 09.2**	**-1.2**
WRA	**Warramunga Arr**	**22.45**	**160**	P	**P**	**10 47 10.1**	**-0.4**
comp=Z,44nm,0.4s,mb5.3,baz=336,slow=11,SNR=166							
WRA				S	**S**		**10 51 13.0**	**-3.8**
comp=Z,16nm,0.9s,baz=343,slow=18,SNR=15							
WB2	**Warramunga Arr**	**22.45**	**160**	⇑*i*P	**P**	**10 47 10.2**	**-0.3**
WB2				*e*S	**S**	**10 51 11.3**	**-5.5**
MYKOM	**Kota Tinggi**	**22.50**	**272**	⇓P	**P**	**10 47 11.5**	**+0.2**
KGM	**Kluang**	**23.04**	**272**	⇑P	**P**	**10 47 17.0**	**+0.2**
MBWA	**Marble Bar**	**23.17**	**196**	*e*P	**P**	**10 47 17.4**	**-0.8**
comp=Z,31nm,0.7s,mb4.8							
KTGM	**Kuala Trenggan**	**23.53**	**281**	⇓P	**P**	**10 47 22.0**	**0.0**
XMIS	**Christmas Isla**	**23.66**	**240**	*e*P	**P**	**10 47 20.8**	**-2.4**
YHNB	**Yeheng**	**23.80**	**349**	*e*P	**P**	**10 47 25.4**	**+1.1**
QIZ	**Qiongzhong**	**23.98**	**319**	P	**P**	**10 47 26.4**	**+0.4**
QIZ				XP	sP	10 47 31.8	-1.2
QIZ				S	**S**	**10 51 43.6**	**+1.2**
QIZ				XS	sS	10 51 51.0	+0.5
QIZ				AMB	AMB		
comp=Z,18nm,1.0s,mb4.5							
QIZ				AMB	AMB		
comp=Z,104nm,3.2s							
QIZ				LR	LR		
comp=N,575nm,16.2s							
QIZ				LR	LR		
comp=Z,848nm,21.6s							
QIZ	**Qiongzhong**	**23.98**	**319**	*e*P	**P**	**10 47 24.8**	**-1.3**
comp=Z,15nm,0.9s,mb4.4							
KSI	**Kapahiang**	**24.24**	**258**	P	**P**	**10 47 34.7**	**+6.2**
comp=Z,83nm,1.0s,mb5.1							
QZH	**Quanzhou**	**24.74**	**343**	P	**P**	**10 47 32.3**	**-0.6**
QZH				S	**S**	**10 51 50.1**	**-4.5**
QZH				LR	LR		
comp=N,430nm,10.8s							
QZH				LR	LR		
comp=E,700nm,16.7s							
QZH				LR	LR		
comp=Z,1μm,11.5s,MS4.6							
IPM	**Ipoh**	**25.50**	**278**	⇑P	**P**	**10 47 39.8**	**-0.2**
JOW	**Kunigami**	**25.53**	**4**	P	**P**	**10 47 41.6**	**+1.6**
comp=Z,76nm,0.8s,mb5.2,baz=195,slow=7.8,SNR=8.7							
ASAR	**Alice Springs**	**25.81**	**164**	P	**P**	**10 47 42.8**	**+0.1**
comp=Z,13nm,0.6s,mb4.6,baz=346,slow=6.7,SNR=121							
ASAR				PcP	PcP	10 51 12.1	-0.1
comp=Z,3.4nm,0.7s,baz=349,slow=2.1,SNR=4.9							
ASAR				S	**S**	**10 52 12.4**	**+0.9**
comp=Z,4.9nm,1.0s,baz=356,slow=22,SNR=5.2							
KULM	**Kulim**	**25.97**	**280**	*e*P	**P**	**10 47 42.8**	**-1.5**
KULM	**Kulim**	**25.97**	**280**	⇓P	**P**	**10 47 43.3**	**-1.0**
PSI	**Prapat**	**27.46**	**274**	P	**P**	**10 47 55.5**	**-2.2**
comp=Z,28nm,0.8s,mb4.9,baz=81,slow=4.9,SNR=29							
KKTK	**Khon Kaen**	**27.62**	**304**	P	**P**	**10 48 02.0**	**+2.9**
CTA	**Charters Tower**	**28.80**	**138**	*e*P	**P**	**10 48 11.1**	**+1.6**
comp=Z,7.9nm,0.9s,mb4.4							
CTA				*e*S	**S**	**10 52 57.6**	**-1.2**
CTA	**Charters Tower**	**28.80**	**138**	*e*P	**P**	**10 48 11.1**	**+1.6**
CTA				*e*S	**S**	**10 52 57.6**	**-1.2**
CTA				pmax	pmax		
comp=Z,8.0nm,0.9s							
CTA	**Charters Tower**	**28.80**	**138**	P	**P**	**10 48 10.2**	**+0.6**
comp=Z,4.8nm,0.6s,mb4.4,baz=290,slow=7.8,SNR=6.3							
CTAO	**Charters Tower**	**28.80**	**138**	*e*P	**P**	**10 48 10.5**	**+1.0**
comp=Z,17nm,1.1s,mb4.7							
CTAO	**Charters Tower**	**28.80**	**138**	*e*P	**P**	**10 48 10.5**	**+1.0**
CTAO				pmax	pmax		
comp=Z,17nm,1.1s,mb4.7							
CBIJ	**Chichi jima**	**29.88**	**29**	P	**P**	**10 48 19.1**	**+0.1**
comp=Z,78nm,0.6s,mb5.6,baz=297,slow=8.5,SNR=11							
CBIJ				LR	LR	11 00 00.7	
comp=Z,204nm,20.6s,MS3.8,baz=177,slow=36							
SSE	**Sheshan**	**30.11**	**351**	*e*P	**P**	**10 48 20.8**	**-0.2**
SSE				XP	sP	10 48 25.0	-3.0
SSE				S	**S**	**10 53 20.4**	**+1.2**
SSE				AMB	AMB		
comp=Z,30nm,0.6s,mb5.2							
SSE				AMB	AMB		
comp=Z,41nm,3.5s							
SSE				LR	LR		
comp=N,183nm,32.4s,MS3.9							
SSE				LR	LR		
comp=E,365nm,32.3s,MS3.9							
SSE				LR	LR		
comp=Z,375nm,21.1s							
GYA	**Guiyang**	**31.43**	**325**	*e*P	**P**	**10 48 26.5**	**-6.3**
GYA				AMB	AMB		
comp=Z,10.0nm,0.6s,mb4.8							
GYA				AMB	AMB		
comp=Z,120nm,4.8s							
GYA				LR	LR		
comp=N,830nm,17.7s,MS4.6							
GYA				LR	LR		
comp=E,780nm,16.9s,MS4.6							
GYA				LR	LR		
comp=Z,610nm,17.6s,MS4.3							
GYA	**Guiyang**	**31.43**	**325**	⇑*i*P	**P**	**10 48 34.8**	**+2.0**
GYA				AP	pP	10 48 38.9	+1.1
GYA				XP	sP	10 48 41.3	+1.5
GYA				PP	PP	10 49 39.6	-4.3
GYA				PCP	PcP	10 51 28.3	+2.1
GYA				S	**S**	**10 53 43.1**	**+3.0**
GYA				XS	sS	10 53 48.0	-0.3
GYA				SCP	ScP	10 55 10.4	+1.5
GYA				SS	SS	10 55 31.3	-24
GYA				SCS	ScS	10 59 06.8	+0.2
GYA				AMB	AMB		
comp=Z,30nm,0.8s,mb5.2							
GYA				AMB	AMB		
comp=Z,120nm,4.8s							
GYA				LR	LR		
comp=N,830nm,17.7s,MS4.6							
GYA				LR	LR		
comp=E,780nm,16.9s,MS4.6							
GYA				LR	LR		
comp=Z,610nm,17.6s,MS4.3							
NJ2	**Nanjing**	**31.47**	**348**	*e*P	**P**	**10 48 35.8**	**+2.8**
NJ2				AP	pP	10 48 40.3	+2.3
NJ2				XP	sP	10 48 43.0	+3.0
NJ2				PP	PP	10 49 41.3	-3.0
NJ2				S	**S**	**10 53 41.0**	**+0.6**
NJ2				XS	sS	10 53 49.0	+0.3
NJ2				AMB	AMB		
comp=Z,10.0nm,0.7s,mb4.8							
NJ2				AMB	AMB		
comp=Z,1μm,4.2s							
NJ2				LR	LR		
comp=N,1μm,15.2s,MS4.8							
NJ2				LR	LR		
comp=E,1μm,15.3s,MS4.8							
NJ2				LR	LR		
comp=Z,4μm,16.2s,MS5.2							
FORT	**Forrest**	**31.87**	**177**	⇑*i*P	**P**	**10 48 36.5**	**0.0**
comp=Z,60nm,0.5s,mb5.7							
CM31	**Chiang Mai Arr**	**31.88**	**304**	*e*P	**P**	**10 48 37.2**	**+0.3**
comp=Z,2.2nm,0.6s,mb4.2							
JNU	**Nakatsue**	**32.01**	**7**	LR	LR		11 00 36.3
comp=Z,217nm,19.8s,MS3.8,baz=340,slow=34							
CHG	**Chiang Mai**	**32.06**	**305**	⇓P	**P**	**10 48 39.9**	**+1.5**
comp=Z,10nm,0.7s,mb4.8							
CHTO	**Chiang Mai**	**32.06**	**305**	*e*P	**P**	**10 48 38.8**	**+0.4**
comp=Z,8.5nm,1.0s,mb4.5							
CHTO	**Chiang Mai**	**32.06**	**305**	*e*P	**P**	**10 48 38.8**	**+0.4**
CHTO				pmax	pmax		
comp=Z,9.0nm,1.0s,mb4.5							
KMI	**Kunming**	**32.93**	**318**	P	**P**	**10 48 47.4**	**+1.5**
KMI				AP	pP	10 48 52.3	+1.4
KMI				XP	sP	10 48 54.5	+1.5
KMI				PP	PP	10 50 00.1	-0.4
KMI				S	**S**	**10 54 06.3**	**+2.9**
KMI				XS	sS	10 54 11.3	-0.3
KMI				SS	SS	10 56 06.0	-20
KMI				SSS		10 56 30.9	
KMI				AMB	AMB		
comp=Z,17nm,1.3s,mb4.8							
KMI				AMB	AMB		
comp=Z,117nm,4.3s							
KMI				LR	LR		
comp=N,469nm,21.5s,MS4.3							
KMI				LR	LR		
comp=E,390nm,20.6s,MS4.3							
KMI				LR	LR		
comp=Z,737nm,22.4s,MS4.3							
KLBR	**Kellerberrin**	**33.64**	**193**	*e*P	**P**	**10 48 51.9**	**-0.2**
comp=Z,28nm,0.5s,mb5.5							
MUN	**Mundaring**	**34.39**	**195**	*e*P	**P**	**10 48 59.3**	**+0.7**
NWAO	**Narrogin (SRO)**	**35.04**	**193**	*e*P	**P**	**10 49 04.2**	**0.0**
comp=Z,17nm,0.6s,mb5.1							
NWAO	**Narrogin (SRO)**	**35.04**	**193**	*e*P	**P**	**10 49 04.2**	**0.0**
NWAO				pmax	pmax		
comp=Z,17nm,0.6s							
HNR	**Honiara**	**35.09**	**108**	*e*P	**P**	**10 49 04.6**	**-0.3**
comp=Z,58nm,0.8s,mb5.6							
HNR	**Honiara**	**35.09**	**108**	*e*P	**P**	**10 49 04.6**	**-0.3**
HNR				pmax	pmax		
comp=Z,58nm,0.8s,mb5.6							
HNR	**Honiara**	**35.09**	**108**	P	**P**	**10 49 04.1**	**-0.8**
comp=Z,65nm,0.7s,mb5.7,baz=251,slow=3.0,SNR=7.6							
EIDS	**Eidsvold**	**35.66**	**140**	*e*P	**P**	**10 49 10.7**	**+1.1**
comp=Z,20nm,1.5s,mb4.8							
STKA	**Stephens Creek**	**35.95**	**158**	⇑*i*P	**P**	**10 49 12.2**	**+0.2**
comp=Z,15nm,0.4s,mb5.3							
STKA	**Stephens Creek**	**35.95**	**158**	P	**P**	**10 49 12.4**	**+0.4**
comp=Z,17nm,0.5s,mb5.2,baz=333,slow=8.2,SNR=125							
KS15	**Wonju Array Si**	**36.07**	**2**	*e*P	**P**	**10 49 14.7**	**+1.8**
KSRS	**Korea Array**	**36.08**	**2**	P	**P**	**10 49 13.5**	**+0.5**
comp=Z,4.5nm,0.7s,mb4.5,baz=176,slow=8.7,SNR=14							
KSRS				LR	LR		11 05 27.6
comp=Z,190nm,18.6s,MS3.9,baz=183,slow=39							
CD2	**Chengdu**	**36.47**	**326**	⇓*i*P	**P**	**10 49 15.8**	**-0.7**
CD2				AP	pP	10 49 20.3	-1.2
CD2				XP	sP	10 49 22.9	-0.6
CD2				PP	PP	10 50 40.3	+0.7
CD2				PCP	PcP	10 51 39.1	-1.3
CD2				S	**S**	**10 54 56.5**	**-1.4**
CD2				PCS	PcS	10 55 25.8	-2.4
CD2				SCS	ScS	10 59 29.8	-3.1
CD2				AMB	AMB		
comp=Z,40nm,0.8s,mb5.4							
CD2				AMB	AMB		
comp=Z,140nm,6.0s							
CD2				LR	LR		
comp=N,2μm,22.8s,MS4.8							
CD2				LR	LR		
comp=E,750nm,20.4s,MS4.8							
CD2				LR	LR		
comp=Z,590nm,19.2s,MS4.4							
XAN	**Xi'an**	**36.49**	**335**	P	**P**	**10 49 16.8**	**+0.1**
XAN				AP	pP	10 49 23.3	+1.6
XAN				AMB	AMB		
comp=Z,14nm,0.7s,mb5.0							
XAN				AMB	AMB		
comp=Z,244nm,5.8s							
XAN				LR	LR		
comp=N,137nm,10.8s							
XAN				LR	LR		
comp=E,319nm,18.0s							
XAN				LR	LR		
comp=Z,358nm,15.9s							
MJAR	**Matsushiro Arr**	**36.81**	**16**	P	**P**	**10 49 18.3**	**-1.1**
comp=Z,6.8nm,0.7s,mb4.6,baz=186,slow=9.3,SNR=18							
MJAR				LR	LR	11 03 30.7	
comp=Z,240nm,21.5s,MS4.0,baz=205,slow=35							
MAJO	**Matsushiro**	**36.81**	**16**	*e*P	**P**	**10 49 18.6**	**-0.8**
comp=Z,191nm,2.3s,mb5.5							
MAJO	**Matsushiro**	**36.81**	**16**	*e*P	**P**	**10 49 18.6**	**-0.8**
MAJO				p

comp=N,236nm,40.7s,MS3.8
MDJ LR LR
comp=E,127nm,40.7s,MS3.8
MDJ LR LR
comp=Z,288nm,40.7s,MS3.9
MDJ Mudanjiang 43.30 3 *e*P **P 10 50 13.3 +0.2**
comp=Z,26nm,0.9s,mb5.0
LSA Lhasa 43.84 314 P **P 10 50 18.0 +0.3**
LSA Lhasa 43.84 314 *e*P **P 10 50 18.7 +0.9**
comp=Z,17nm,0.6s,mb5.0
LSA Lhasa 43.84 314 *e*P **P 10 50 18.7 +1.0**
LSA pmax pmax
comp=Z,17nm,0.6s,mb5.0
GTA Gaotai 45.06 331 *e*P **P 10 50 28.0 +0.7**
GTA AP pP 10 50 32.0 -0.4
GTA XP sP 10 50 34.8 +0.4
GTA PCP PcP 10 52 09.6 +1.6
GTA PP PP 10 52 14.6 +1.8
GTA SCP ScP 10 56 00.3 +0.2
GTA S **S 10 57 08.5 +2.8**
GTA XS sS 10 57 15.8 +1.7
GTA SCS ScS 11 00 21.8 -2.3
GTA SS SS 11 00 22.8 -5.3
GTA AMB AMB
comp=Z,12nm,1.3s,mb4.6
GTA AMB AMB
comp=Z,57nm,3.8s
GTA LR LR
comp=N,353nm,15.2s,MS4.6
GTA LR LR
comp=E,439nm,18.3s,MS4.6
GTA LR LR
comp=Z,628nm,17.1s,MS4.6
ASAJ Asahikawa 45.08 17 P **P 10 50 27.6 +0.2**
baz=252,slow=7.1
JIRN Jiri 46.57 308 *e*P **P 10 50 38.7 -0.7**
comp=Z,12nm,0.2s,mb5.4
GUN Gumba 46.93 308 *e*P **P 10 50 40.8 -1.4**
comp=Z,34nm,0.4s,mb5.6
PKI Pulchoki 47.15 307 *e*P **P 10 50 44.3 +0.4**
comp=Z,11nm,0.3s,mb5.3
KKN Kakani 47.34 308 *e*P **P 10 50 44.7 -0.8**
comp=Z,16nm,0.4s,mb5.3
DMN Daman 47.40 307 *e*P **P 10 50 46.4 +0.5**
comp=Z,13nm,0.5s,mb5.1
HABR Khabarovsk 47.66 8 *e*P **P 10 50 46.4 -1.1**
HABR *e*S **S 10 57 43.6 +1.0**
HABR *e* 11 00 40.1
YSS Yuzh-Sakhalins 47.74 15 *e*P **P 10 50 48.9 +0.7**
comp=Z,42nm,1.4s,mb5.3
YSS Yuzh-Sakhalins 47.74 15⇑ *e*P **P 10 50 48.4 +0.2**
YSS pmax pmax
comp=Z,18nm,1.5s,mb4.9
YSS MLR MLR
comp=Z,100nm,18.0s,MS3.8
GKN Gorkha 47.95 308 *e*P **P 10 50 49.9 -0.3**
comp=Z,14nm,0.5s,mb5.3
KLR Kul'dur 48.05 5 *e*P **P 10 50 46.9 -3.6**
KLR pmax pmax
comp=Z,43nm,1.4s,mb5.3
HIA Hailar 48.19 354 *e*P **P 10 50 52.5 +0.9**
comp=Z,21nm,1.0s,mb5.1
HIA Hailar 48.19 354 *e*P **P 10 50 52.6 +0.9**
HIA pmax pmax
comp=Z,21nm,1.0s
ULN Ulaanbaatar 49.38 343 *e*P **P 10 51 01.2 +0.4**
comp=Z,6.7nm,0.7s,mb4.8
ULN Ulaanbaatar 49.38 343⇑ *e*P **P 10 51 02.9 +2.1**
KOD Kodaikanal 49.40 282 *e*P **P 10 51 00.2 -1.3**
KOD AMb AMB 10 51 01.6
comp=Z,18nm,1.1s,mb5.0
SONM Songino Array 49.55 342 P **P 10 51 01.5 -0.6**
SONM 10 52 24.7
SONM Songino Array 49.55 342 P **P 10 51 01.5 -0.6**
comp=Z,3.7nm,0.6s,mb4.6,baz=159,slow=7.8,SNR=25
SONM PcP PcP 10 52 24.7 +1.0
comp=Z,3.4nm,0.8s,baz=168,slow=3.8,SNR=3.0
SONM LR LR 11 14 40.1
comp=Z,218nm,21.6s,MS4.1,baz=151,slow=39
HYB Hyderabad 49.65 292 *e*P **P 10 51 02.5 -0.9**
comp=Z,60nm,1.0s,mb5.6
HYB Hyderabad 49.65 292 *e*P **P 10 51 02.5 -0.9**
HYB pmax pmax
comp=Z,60nm,1.0s,mb5.6
HYB Hyderabad 49.65 292⇓ *i*P **P 10 51 02.5 -0.9**
comp=Z,60nm,1.0s,mb5.6
NGP Nagpur 50.17 297 *e*P **P 10 51 06.6 -0.7**
NGP AMb AMB 10 51 11.4
comp=Z,18nm,1.6s,mb4.8
LATR Latur 51.73 293 *e*P **P 10 51 18.0 -1.1**
LATR AMb AMB 10 51 22.0
comp=Z,54nm,1.1s,mb5.4
AKL Akola 51.88 295 *e*P **P 10 51 19.5 -0.6**
AKL AMb AMB 10 51 23.3
comp=Z,42nm,0.9s,mb5.4
BHPL Bhopal 52.23 299 *e*P **P 10 51 21.8 -0.9**
BHPL AMb AMB 10 51 25.7
comp=Z,23nm,0.8s,mb5.2
ZAK Zakamensk 52.76 342 *e*P **P 10 51 29.4 +3.2**
ZAK *e* 10 52 36.0
ZAK pmax pmax
comp=Z,4.0nm,1.3s,mb4.2
ZAK pmax pmax
comp=Z,5.0nm,1.0s,mb4.4
KAD Karad 53.70 291 *e*P **P 10 51 32.2 -1.5**
KAD AMb AMB 10 51 33.2
comp=Z,35nm,0.4s,mb5.7
TLY Talaya 53.78 343 *e*P **P 10 51 36.9 +3.2**
comp=Z,5.1nm,0.6s,mb4.6
TLY Talaya 53.78 343 *e*P **P 10 51 36.3 +2.6**
TLY *e*S **S 10 59 16.6 +9.1**
TLY pmax pmax
comp=Z,6.0nm,0.7s,mb4.6
TLY MLR MLR
comp=Z,212nm,23.0s,MS4.1
IRK Irkutsk 54.10 343 *e*P **P 10 51 36.7 +0.7**
IRK *e* 10 53 41.9
IRK *e* 10 59 13.9
IRK pmax pmax
comp=Z,40nm,1.8s,mb5.0
POO Poona 54.26 292 *e*P **P 10 51 35.6 -2.2**
POO AMb AMB 10 51 39.9
comp=Z,27nm,0.8s,mb5.2
WMQ Urumqi 54.57 326 *e*P **P 10 51 40.3 +0.7**
WMQ AP pP 10 51 45.0 +0.2
WMQ XP sP 10 51 47.0 +0.2
WMQ PCP PcP 10 52 44.0 +1.3
WMQ PP PP 10 53 43.0 +0.9
WMQ S **S 10 59 18.0 -0.4**
WMQ XS sS 10 59 29.0 +2.0
WMQ SCS ScS 11 01 26.0 -2.4
WMQ AMB AMB
comp=Z,31nm,0.8s,mb5.4
WMQ AMB AMB
comp=Z,106nm,4.5s
WMQ LR LR
comp=N,727nm,17.0s,MS4.9
WMQ LR LR
comp=E,450nm,18.2s,MS4.9
WMQ LR LR
comp=Z,427nm,22.0s,MS4.5
MOY Mondy 54.60 341 *e*P **P 10 51 42.1 +2.5**
SMLA Simla 55.16 308 *e*P **P 10 51 44.0 -0.1**
SMLA AMb AMB 10 51 49.8
comp=Z,104nm,0.8s,mb5.9
CLNS Chul'man 55.45 359 *e*P **P 10 51 42.0 -3.7**
CLNS pmax pmax
comp=Z,26nm,0.9s,mb5.3
CLNS pmax pmax
comp=N,11nm,1.0s
CLNS pmax pmax
comp=E,10.0nm,0.9s
AJM Ajmer 55.62 302 *e*x x 10 51 56.0
AJM AMb AMB 10 52 01.1
comp=Z,13nm,0.7s,mb5.1
DLH Dalhousie 56.65 309 *e*P **P 10 51 54.0 -0.8**
THN Thein Dam 56.80 309 *e*P **P 10 51 54.1 -1.8**
BOD Bodaibo 57.27 352 *e*P **P 10 51 58.4 -0.3**
BOD pmax pmax
comp=Z,18nm,0.7s,mb5.2
MK31 Makanchi Array 59.40 326 *e*P **P 10 52 12.4 -1.4**
MK31 Makanchi Array 59.40 326 *i*P **P 10 52 12.1 -1.7**
MK31 pmax pmax
comp=Z,4.0nm,0.3s,mb4.9
MKAR Makanchi Array 59.40 326 P **P 10 52 12.5 -1.3**
comp=Z,10nm,0.5s,mb5.1,baz=120,slow=7.6,SNR=77
MKAR LR LR 11 20 41.6
comp=Z,498nm,18.2s,MS4.7,baz=119,slow=39
RPZ Rata Peaks 59.96 144 P **P 10 52 18.1 +0.4**
RPZ Rata Peaks 59.96 144 P **P 10 52 18.1 +0.4**
comp=Z,6.2nm,0.4s,mb5.0,baz=17,slow=22,SNR=3.7
YAK Yakutsk 60.70 2 *e*P **P 10 52 23.0 +0.6**
comp=Z,53nm,0.8s,mb5.7
YAK Yakutsk 60.70 2 *e*P **P 10 52 22.2 -0.2**
YAK *e**PP pP 10 52 36.0 +8.3
YAK *e* 10 53 05.9
YAK *e*S **S 11 00 36.9 -1.4**
YAK *e**SS sS 11 01 03.3 +16
YAK pmax pmax
comp=Z,29nm,0.8s,mb5.5
YAK pmax pmax
comp=N,19nm,1.1s
YAK pmax pmax
comp=E,10.0nm,1.1s
YAK smax
comp=E,111nm,3.8s
YAK smax
comp=N,146nm,3.5s
URZ Urewera 61.00 136 P **P 10 52 24.2 -0.7**
comp=N,5.4nm,0.5s,mb4.9,baz=256,slow=9.6,SNR=4.7
MA2 Magadan 61.21 14 *e*P **P 10 52 26.9 +1.0**
comp=N,18nm,0.8s,mb5.2
MA2 Magadan 61.21 14⇑ *e*P **P 10 52 27.0 +1.1**
MA2 pmax pmax
comp=Z,14nm,0.8s,mb5.1
MA2 MLR MLR
comp=Z,100nm,16.0s,MS4.1
TKM2 Tokmak 2 61.38 320 *e*P **P 10 52 27.3 -0.1**
comp=Z,8.3nm,0.5s,mb5.1
TKM2 Tokmak 2 61.38 320 *e*P **P 10 52 27.3 -0.1**
TKM2 pmax pmax
comp=Z,8.0nm,0.5s,mb5.1
UCH Uchtor 61.77 318 *e*P **P 10 52 31.1 +1.1**
comp=Z,10nm,0.6s,mb5.1
AML Almayashu 62.27 318 *e*P **P 10 52 33.6 +0.1**
comp=Z,14nm,0.7s,mb5.2
EKS2 Erkin-Say 62.45 319 *e*P **P 10 52 35.6 +0.9**
comp=Z,9.4nm,0.6s,mb5.1
ZAA0 Zalesovo Array 62.65 334 *e*P **P 10 52 34.6 -1.1**
ZALV Zalesovo Beam 62.65 334 P **P 10 52 34.2 -1.4**
comp=Z,3.0nm,0.3s,mb4.9,baz=126,slow=6.2,SNR=21
ZALV LR LR 11 23 59.2
comp=Z,99nm,18.2s,MS4.0,baz=127,slow=40
ZAL Zalesovo 62.65 334 P **P 10 52 34.3 -1.4**
KBL Kabul 62.76 309 *e*P **P 10 52 36.8 -0.1**
comp=Z,11nm,0.5s,mb5.2
KURK Kurchatov 63.65 328 P **P 10 52 41.1 -1.3**
comp=Z,388nm,0.4s,SNR=46
KURK Kurchatov 63.65 328 *e*P **P 10 52 40.9 -1.5**
comp=Z,38nm,0.6s,mb5.6
KURK Kurchatov 63.65 328 *d i*P **P 10 52 40.8 -1.6**
KURK pmax pmax
comp=Z,16μm,0.5s
NVS Novosibirsk 63.93 334 *e*P **P 10 52 42.7 -1.5**
NVS *e* 10 52 54.9
NVS *e*S **S 11 01 15.9 -3.3**
NVS pmax pmax
comp=Z,27nm,1.5s,mb5.1
NVS pmax pmax
comp=N,21nm,1.7s
NVS pmax pmax
comp=E,18nm,1.3s
NVS smax
comp=E,18nm,2.0s
NVS smax
comp=N,11nm,1.9s
SEY Seymchan 64.54 13⇑ *e*P **P 10 52 48.7 +0.7**
KK31 Karatay Array 64.81 318 *i*P **P 10 52 48.5 -1.7**
KK31 pmax pmax
comp=Z,5.0nm,0.5s,mb4.8
BVAR Borovoye Array 69.21 328 P **P 10 53 17.9 0.0**
baz=139,slow=9.8
BRVK Borovoye 69.28 328 *e*P **P 10 53 18.0 -0.4**
comp=Z,20nm,0.8s,mb5.1
BRVK Borovoye 69.28 328 *e*P **P 10 53 18.0 -0.4**
BRVK pmax pmax
comp=Z,20nm,0.8s,mb5.1
CHKZ Chkalovo 69.39 328 *i*P **P 10 53 17.9 -1.2**
CHKZ pmax pmax
comp=Z,12nm,1.1s,mb4.7
TIXI Tiksi 70.33 1 *e*P **P 10 53 23.9 -0.6**
comp=Z,16nm,1.0s,mb4.9
TIXI Tiksi 70.33 1 *d i*P **P 10 53 24.3 -0.2**
TIXI pmax pmax
comp=Z,14nm,1.1s,mb4.8
BILL Bilibino 72.05 15 *e*P **P 10 53 37.3 +2.2**
comp=Z,2.7nm,0.4s,mb4.5
BILL Bilibino 72.05 15 P **P 10 53 38.0 +3.0**
BILL *e* 10 53 48.4
BILL pmax pmax
comp=Z,6.0nm,1.6s,mb4.3
SVE Sverdlovsk 75.89 329 *e*P **P 10 53 57.4 -0.3**
SVE pmax pmax
comp=Z,46nm,0.8s,mb5.5
GAMB Gambell 76.82 24 *e*P **P 10 54 03.9 +1.0**
comp=Z,20nm,1.1s,mb5.0
ARU Arti 76.84 328 *e*P **P 10 54 02.4 -0.7**
comp=Z,29nm,1.0s,mb5.2
ARU Arti 76.84 328 *d i*P **P 10 54 03.1 0.0**
ARU *e* 10 54 13.6
ARU *e* 10 56 51.8
ARU *e*S S 11 03 49.5 -0.5
ARU *e*SS SS 11 08 38.3 -8.0
ARU pmax pmax
comp=Z,48nm,1.7s,mb5.2
TNA Tin City 79.03 23 *e*P **P 10 54 15.0 0.0**
comp=Z,11nm,1.4s,mb4.6
QRN Al-Qurain 79.27 299 *e*P **P 10 54 14.8 -2.4**
QRN AMb AMB 10 54 22.1
comp=Z,47nm,0.5s,mb5.7
MIB Mutribah 79.86 300 *e*P **P 10 54 17.6 -2.7**
MIB AMb AMB 10 54 28.8
comp=Z,62nm,0.7s,mb5.7
NAY Al-Naaiem 79.90 299 *e*P **P 10 54 18.0 -2.6**
NAY AMb AMB 10 54 25.9
comp=Z,25nm,0.9s,mb5.2
RST Umm Al-Ruwaisa 80.13 300 *e*P **P 10 54 19.4 -2.4**
RST AMb AMB 10 54 26.1
comp=Z,53nm,0.5s,mb5.7
VNDA Vanda 81.01 173 *e*P **P 10 54 25.5 -0.1**
comp=Z,9.1nm,0.9s,mb4.7
VNDA Vanda 81.01 173 *e*P **P 10 54 25.5 -0.1**
VNDA pmax pmax
comp=Z,9.0nm,0.9s
VNDA Vanda 81.01 173 P **P 10 54 25.3 -0.3**
comp=Z,6.4nm,0.8s,mb4.6,baz=313,slow=5.6,SNR=22
MAW Mawson 81.29 200 *e*P **P 10 54 27.6 +0.4**
comp=Z,5.6nm,0.7s,mb4.6
MAW Mawson 81.29 200 *e*P **P 10 54 27.6 +0.4**
MAW pmax pmax
comp=Z,6.0nm,0.7s
MAW Mawson 81.29 200 P **P 10 54 28.0 +0.8**
comp=Z,9.1nm,0.9s,mb4.7,baz=73,slow=6.5,SNR=8.7
SBA Scott Base 81.92 172 *e*P **P 10 54 32.3 +1.8**
comp=Z,15nm,1.1s,mb4.8
SBA Scott Base 81.92 172 *e*P **P 10 54 32.3 +1.9**
SBA pmax pmax
comp=Z,15nm,1.1s,mb4.8
DGRG David-gareji 82.42 311 P **P 10 54 34.3 +0.5**
BHD Baghdad 82.61 303 *e*x x 10 54 32.0
MTA Mtatsminda 82.88 312 P **P 10 54 32.9 -3.3**
TBLG Delisi 82.92 312 *e*P **P 10 54 32.5 -3.9**
TBLG Delisi 82.92 312 P **P 10 54 32.6 -3.8**
SVW2 Sparrevohn 83.16 29 *e*P **P 10 54 39.0 +1.8**
TTA Tatalina 83.29 27 *e*P **P 10 54 39.2 +1.4**
comp=Z,31nm,0.9s,mb5.3
TTA Tatalina 83.29 27 *e*P **P 10 54 39.2 +1.4**
TTA pmax pmax
comp=Z,31nm,0.9s,mb5.3
MSL Mosul 83.84 306 *e*x x 10 54 40.5
ONI Oni 83.94 313 P **P 10 54 43.4 +1.8**
KIV Kislovodsk 84.59 314 *e*P **P 10 54 43.2 -1.7**
comp=Z,93nm,2.1s,mb5.5
KIV Kislovodsk 84.59 314⇑ *e*P **P 10 54 43.6 -1.2**
KIV pmax pmax
comp=Z,7.0nm,1.0s,mb4.8
PPT Papeete 84.71 108 LR LR 11 28 49.6
comp=Z,161nm,21.5s,MS4.4,baz=122,slow=33
IMA2 Indian Mountai 84.81 24 *e*P **P 10 54 46.7 +1.2**
SLKM Skilak Lake 85.69 30 *e*P **P 10 54 50.6 +0.7**
PMR Palmer 86.31 28 *e*P **P 10 54 52.4 -0.6**
comp=Z,34nm,1.4s,mb5.4
PMR Palmer 86.31 28 *e*P **P 10 54 52.4 -0.6**
PMR pmax pmax
comp=Z,34nm,1.4s,mb5.4
MCK McKinley 86.56 26 *e*P **P 10 54 53.7 -0.5**
SML Sawmill 86.70 28 *e*P **P 10 54 55.3 +0.4**
SOC Sochi 86.72 313 *e*P **P 10 54 50.5 -5.0**
SOC *e**SP sP 10 54 56.6 -6.2
SOC *e*PPP 11 00 12.9
SOC *e*S S 11 05 15.7 -17
SOC *e*SSS 11 14 40.9
SOC pmax pmax
comp=Z,14nm,0.7s,mb5.3
VORD Divnogorie 87.20 321 *e*P **P 10 54 56.9 -0.7**
VORD pmax pmax
comp=Z,10.0nm,0.6s,mb5.2
VORD pmax pmax
comp=N,8.0nm,0.9s
VORD pmax pmax
comp=E,10.0nm,0.9s
VRSR Storozhevoye 87.27 321 *e*P **P 10 54 57.5 -0.5**
VRSR pmax pmax
comp=Z,1.0nm,0.7s,mb4.2
VRSR pmax pmax
comp=N,2.0nm,1.6s
VRSR pmax pmax
comp=E,2.0nm,0.9s
MALT Malatya 87.62 308 *e*P **P 10 55 00.2 +0.3**
comp=E,11nm,0.9s,mb5.1
MALT Malatya 87.62 308 *e*P **P 10 55 00.2 +0.3**
MALT pmax pmax
comp=Z,11nm,0.9s,mb5.1
ANN Anapa 88.38 315 *e* **P 10 55 03.3 -0.1**
ANN *i* 10 55 11.0
ANN *e*S S 11 05 19.3 -29
OBN Obninsk 88.88 325 *e*P **P 10 55 04.5 -1.1**
comp=Z,36nm,1.2s,mb5.6
OBN Obninsk 88.88 325⇑ *e*P **P 10 55 05.1 -0.4**
OBN *e* 10 55 14.4
OBN pmax pmax
comp=Z,13nm,0.6s,mb5.4
OBN MLR MLR
comp=Z,100nm,16.0s,MS4.3
ASF Jabal al Asfar 88.89 302 P **P 10 55 06.1 0.0**
comp=Z,7.7nm,0.8s,mb5.1,baz=315,slow=1.4,SNR=4.2
KMBO Kilima Mbogo 89.13 269 *e*P **P 10 55 07.0 -0.6**
comp=Z,22nm,1.4s,mb5.3
KMBO Kilima Mbogo 89.13 269 *e*P **P 10 55 07.0 -0.6**
KMBO pmax pmax
comp=Z,23nm,1.4s
KMBO Kilima Mbogo 89.13 269 P **P 10 55 07.8 +0.2**
comp=Z,2.9nm,0.5s,mb4.9,baz=29,slow=22,SNR=9.6
KMBO LR LR 11 33 10.2
comp=Z,188nm,18.0s,MS4.6,baz=98,slow=34
SYO Syowa Base 89.97 201⇑ *e*P **P 10 55 11.0 +0.7**
DAWY Dawson 90.78 26 *e*P **P 10 55 14.2 0.0**
QSPA South Pole Qui 91.15 180 *e*P **P 10 55 16.6 +1.0**
comp=Z,2.8nm,0.5s,mb4.8
JOF Joensuu 91.22 333 *e*pkp **P 10 55 09.5 -6.8**
CSS Prodhromos 91.79 305 *e*P **P 10 55 21.1 +1.5**
comp=Z,18nm,0.9s,mb5.4
INK Inuvik 92.61 21 *e*P **P 10 55 22.5 -0.2**
comp=Z,373nm,1.2s
ARCES ARCESS Array B 92.65 340 P **P 10 55 21.3 -1.5**
comp=Z,3.6nm,0.7s,mb4.9,baz=85,slow=6.9,SNR=8.8
AKASG Malin Array Be 93.58 321 P **P 10 55 25.3 -2.2**
comp=Z,0.4nm,0.3s,mb4.3,baz=75,slow=4.2,SNR=5.9
KAF Kangasniemi 93.63 332 *e*pkp **P 10 55 25.6 -1.8**
FINES FINESS Array B 93.85 332 *i*P **P 10 55 30.2 +1.8**
FINES pmax pmax
comp=Z,4.0nm,0.5s
FINES FINESS Array B 93.85 332 P **P 10 55 28.1 -0.3**
comp=Z,3.7nm,0.5s,mb5.0,baz=63,slow=5.2,SNR=22
FINES LR LR 11 39 43.9
comp=Z,176nm,18.6s,MS4.5,baz=23,slow=37
CRVS Cervenica-Dubn 98.83 320 *e*P **P 10 55 55.0 +3.6**
CRVS Cervenica-Dubn 98.83 320 *e* **P 10 55 55.0 +3.6**
NB2 NORSAR Subarra 100.84 333 Pdif Pdif 10 55 59.5 -0.7
comp=Z,1.0nm,0.7s,baz=67,slow=4.4
NOA NORSAR Array B 100.84 333 P Pdif 10 55 59.8 -0.4
comp=Z,0.7nm,0.6s,baz=262,slow=3.5,SNR=6.7
YKA Yellowknife Ar 101.92 25 P Pdif 10 56 04.5 -0.5
YKA PKKPbc PKKPbc 11 12 08.7 -3.4
YKA Yellowknife Ar 101.92 25 P Pdif 10 56 04.4 -0.5
comp=Z,0.5nm,0.6s,baz=297,slow=4.3,SNR=11
YKA PKKPbc PKKPbc 11 12 08.7 -3.4
comp=Z,0.1nm,0.5s,baz=112,slow=2.5,SNR=4.5
PDAR Pinedale Array 113.47 42 PKKPbc PKKPbc 11 11 33.5 -1.7
comp=Z,0.5nm,0.7s,baz=106,slow=2.0,SNR=3.5
ULM Lac du Bonnet 117.32 29 PKP PKPdf 11 00 55.6 -1.3
comp=Z,1.3nm,0.6s,baz=315,slow=1.2,SNR=6.6
ANMO Albuquerque 118.96 48 *e*PKPdf PKPdf 11 01 01.6 +1.1
ECSD EROS,Sioux Fal 121.04 35 *e*PKPdf PKPdf 11 01 03.4 -0.8
SCHQ Schefferville 123.08 9 PKP PKPdf 11 01 08.0 +0.1
comp=Z,2.6nm,0.6s,baz=217,slow=2.2,SNR=15
TOA0 Torodi Ar. Sit 123.30 287 *e*PKPdf PKPdf 11 01 09.8 +0.5
TORD Torodi Ar. Bea 123.30 287 PKP PKPdf 11 01 08.8 -0.5
TORD PKKPbc PKKPbc 11 10 58.9 -0.1
TORD Torodi Ar. Bea 123.30 287 PKP PKPdf 11 01 08.8 -0.5
comp=Z,4.0nm,0.7s,baz=47,slow=2.1,SNR=23
TORD PKKPbc PKKPbc 11 10 58.9 -0.1
comp=Z,1.3nm,0.9s,baz=244,slow=2.8,SNR=5.2
TXAR Lajitas Array 123.40 53 PKP PKPdf 11 01 09.1 -0.1
comp=Z,0.6nm,0.7s,baz=250,slow=2.5,SNR=7.9
JFWS Jewell Farm 125.12 32 *e*PKPdf PKPdf 11 01 11.6 -0.5
JCT Junction City 125.95 50 *e*PKPdf PKPdf 11 01 14.8 +0.7
DBIC Dimbokro 130.68 280 *e*PKPdf PKPdf 11 01 24.2 +0.7
DBIC Dimbokro 130.68 280 PKP PKPdf 11 01 23.9 +0.3
comp=Z,3.0nm,0.6s,baz=49,slow=5.0,SNR=7.9
PLCA Paso Flores 137.79 161 PKP PKPdf 11 01 37.0 +0.8
comp=Z,5.3nm,1.2s,baz=272,slow=3.1,SNR=6.8
MGV Manicaragua 145.38 46 *e*P PKPbc 11 01 52.2 +2.1
LPAZ La Paz 159.32 137 PKP PKPdf 11 02 10.9 +0.1
comp=Z,0.8nm,0.8s,baz=256,slow=4.2,SNR=3.0

MAN 15 11:43:45,938N×12661E,h67km,mb4.6,ML3.5,MS3.4, Mindanao

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MAN 15 11:46:32,932N×12654E,h55km,mb4.4,ML3.2,MS3.0, Mindanao

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*ISCJB **15** 11:53:40.2±0.6,3838N±004×2199E±005,h13km±5km, Error ellipse: s-maj=7.3km s-min=5.1km az=43.3*
*ATH **15** 11:53:40.1,3843N×2182E,h38km±7km,MD2.8/3*
*CSEM **15** 11:53:41.0±0.1,3841N×2194E,h12km,ML2.6,Error ellipse: s-maj=2.7km s-min=2.2km az=131.0*
*THE **15** 11:53:41.2,3840N×2197E,h7km,ML2.6*
ISC 15 11:53:40.5±0.6,3837N±004×2199E±005,h17km±5km,n9, σ0§90/15,Greece

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SELA	**Sela**	**0.12**	**220**	*e*Pg		**Pg**	**11 53 44.0**	**-0.3**
SELA				*e*Sg		**Sg**	**11 53 46.4**	**-0.4**
RLS	**Riolos of Patr**	**0.52**	**233**	*e*PB		**Pb**	**11 53 50.9**	**-0.1**
RLS				*e*SB		**Sb**	**11 53 58.5**	**+0.3**
EVR	**Evrytania**	**0.57**	**345**	*e*PB		**Pb**	**11 53 50.8**	**-1.1**
EVR				*e*SB		**Sb**	**11 53 59.1**	**-0.6**
AGG	**Agios Georgios**	**0.70**	**22**	*e*Pg		**Pg**	**11 53 53.9**	**-0.4**
AGG				*e*Sg		**Sg**	**11 54 04.5**	**+0.8**
LKR	**Lokris**	**0.84**	**70**	*e*PN		**Pn**	**11 53 58.4**	**+1.0**
LTK	**Loutraki**	**0.84**	**114**	*e*Pg		**Pg**	**11 53 57.9**	**+1.0**
KFL	**Anninata**	**0.98**	**255**	*e*Pg		**Pg**	**11 53 59.0**	**-0.6**
KFL				*e*Sg		**Sg**	**11 54 14.1**	**+1.7**
LKD	**Levkas**	**1.10**	**288**	*e*Pg		**Pg**	**11 54 00.5**	**-1.4**
LKD				*e*Sg		**Sg**	**11 54 17.6**	**+1.3**
PYL	**PYLOS**	**1.48**	**188**	*e*Pg		**Pg**	**11 54 07.9**	**-1.1**

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*DDA **15** 11:58:40.0,39.11N×2387E,h14km,Md3.3*
*ATH **15** 11:58:41.9,39.17N×2425E,h16km±1km,MD3.7/17,ML3.7*
*NEIC **15** 11:58:41.9,39.17N×2425E,h16km,ML3.9(THE), ML3.7(ATH),After ATH.*
*ISCJB **15** 11:58:42.1±0.5,39.14N±002×24.17E±002,h5km±3km, Error ellipse: s-maj=3.2km s-min=2.8km az=21.8*
*CSEM **15** 11:58:43.1±0.1,39.11N×24.18E,h12km,ML3.7,Error ellipse: s-maj=2.1km s-min=1.8km az=104.0*
*THE **15** 11:58:43.5,39.14N×24.18E,h7km*

*ISK **15** 11:58:56.8, 3948N×2557E, h4km, MD3.5*
ISC 15 11:58:42.9±0.5, 3914N±002×2418E±002, h9km±3km, n69, σ1§26/91, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AOS	Alonnisos	0.23	278	ePg	Pg	11 58 48.1	+0.4
NEO	Neokhori	0.76	283	ePN	Pn	11 58 57.8	-2.1
NEO				eSN	Sg	11 59 09.3	+1.8
XOR	Xorichti	0.80	287	ePg	Pg	11 58 58.5	+0.2
PAIG	Paliouri	0.88	334	ePg	Pg	11 59 00.2	+0.4
PAIG				eSg	Sg	11 59 13.1	+1.8
LKR	Lokris	1.04	243	ePN	Pn	11 59 02.9	-0.8
LKR				eSN	Sn	11 59 17.4	-1.0
LOS	Limnos	1.06	41	ePg	Pg	11 59 03.7	+0.5
LOS				eSg	Sg	11 59 18.6	+1.5
LOS	Limnos	1.06	41	ePg	Pg	11 59 03.7	+0.4
LOS				eSg	Sg	11 59 18.5	+1.5
LIA	Limnos Island	1.09	45	ePB	Pb	11 59 00.7	-3.2
LIA				eSN	Sn	11 59 15.6	-4.0
PTL	Penteli	1.11	193	ePN	Pn	11 59 04.0	-0.7
OUR	Ouranopolis	1.21	353	ePg	Pg	11 59 05.7	-0.3
ATH	Athens Observa	1.22	197	ePN	Pn	11 59 05.9	-0.2
ATH				eSN	Sn	11 59 23.2	+0.4
KVR	Kavouri	1.35	194	ePN	Pn	11 59 07.5	-0.4
PLG	Polygyros	1.36	336	ePg	Pg	11 59 07.5	-1.5
PLG				eSg	Sg	11 59 26.5	-0.1
PLG	Polygyros	1.36	336	ePN	Pn	11 59 07.6	-0.5
PLG				eSN	Sn	11 59 24.7	-1.5
AGG	Agios Georgios	1.44	266	ePg	Pg	11 59 09.0	-1.6
AGG				eSg	Sg	11 59 29.5	+0.2
LTK	Loutraki	1.46	221	ePg	Pg	11 59 09.1	-1.9
NAIG	Nisos Aigina	1.48	202	ePB	Pb	11 59 09.5	-1.1
BOZC	Bozcaada	1.61	64	iP	Pn	11 59 11.1	-0.5
BOZC				iS	Sn	11 59 31.8	-0.7
LIT	Litokhoron	1.62	307	ePb	Pb	11 59 11.4	-1.6
LIT				eSb	Sb	11 59 33.6	+0.1
PRK	Paraskevi	1.63	86	ePN	Pn	11 59 12.0	+0.2
CHOS	Chios island	1.65	116	ePb	Pb	11 59 12.2	-1.3
CHOS				eSb	Sb	11 59 34.7	+0.3
HORT	Hortiatis	1.68	331	ePb	Pb	11 59 12.9	-1.1
HORT				eSb	Sb	11 59 34.9	-0.4
GADA	Gvkgeada	1.69	51	ePN	Pn	11 59 11.9	-0.8
GADA	Gvkgeada	1.69	51	ePg	Pg	11 59 11.9	-3.5
THL	Klokotos Trika	1.73	285	ePN	Pn	11 59 13.4	+0.2
DID	Didima	1.79	205	ePb	Pb	11 59 13.1	-2.7
SOH	Sokhos	1.80	340	ePb	Pb	11 59 14.4	-1.6
EVR	Evrytania	1.86	264	ePN	Pn	11 59 15.9	+0.9
AYVA	Ayvalik	1.96	84	iP	Pn	11 59 16.2	-0.1
AYVA				iS	Sn	11 59 45.7	+4.6
SELA	Sela	1.98	245	ePn	Pn	11 59 17.2	+0.5
URLA	Izmir	2.04	112	iP	Pn	11 59 17.0	-0.5
URLA				iS	Sn	11 59 45.8	+2.7
KZN	Kozani	2.19	303	ePB	Pb	11 59 20.0	-2.8
ENEZ	Enez	2.20	43	ePN	Pn	11 59 24.0	+4.3
NVR	Nevrokopi	2.22	354	ePN	Pn	11 59 20.0	0.0
KNT	Kendrikon	2.25	335	ePn	Pn	11 59 20.8	+0.5
RDO	Rodhopi	2.26	27	ePN	Pn	11 59 20.2	-0.3
VLX	Vlachokerasia	2.26	219	ePn	Pn	11 59 20.8	+0.3
ALN	Alexandroupoli	2.27	39	ePn	Pn	11 59 20.8	+0.1
GRG	Griva	2.27	324	ePn	Pn	11 59 21.4	+0.7
GRG				eSn	Sn	11 59 49.2	+0.4
APE	Apeiranthos	2.32	152	ePn	Pn	11 59 21.0	-0.3
APE	Apeiranthos	2.32	152	ePb	Pb	11 59 21.4	-3.6
BLCB	Balcova	2.36	108	ePN	Pn	11 59 25.2	+3.3
BLCB	Balcova	2.36	108	eSn	Sn	11 59 48.1	-2.9
RLS	Riolos of Patr	2.38	244	ePN	Pn	11 59 24.7	+2.5
MMB	Musomiste	2.47	352	iP	Pn	11 59 23.6	+0.2
VAY	Valandovo	2.50	331	ePn	Pn	11 59 24.4	+0.6
VAY				eSn	Sn	11 59 51.4	-3.1
VAY	Valandovo	2.50	331	ePn	Pn	11 59 24.4	+0.6
VAY				eSn	Sn	11 59 51.3	-3.2
SMG	Samos	2.53	123	ePB	Pb	11 59 24.4	-4.1
RZN	Rozhen	2.58	9	iP	Pn	11 59 26.3	+1.4
VLI	Veliai	2.61	202	P	Pn	11 59 05.7	+0.3
JAN	Janina	2.63	282	P	Pn	11 59 30.9	+5.3
ITM	Ithomi	2.64	223	ePN	Pn	11 59 27.3	+1.6
KDZ	Kurdzhali	2.68	20	iP	Pn	11 59 26.0	-0.3
FNA	Florina	2.71	308	ePn	Pn	11 59 27.5	+0.8
FNA				eSn	Sn	12 00 00.7	+1.2
SART	Tekirdag	2.78	55	iP	Pn	11 59 27.3	-0.3
SART				iS	Sn	12 00 07.1	+5.8
AKS	Akhisar	2.84	94	ePN	Pn	11 59 30.8	+2.3
AKS	Akhisar	2.84	94	ePn	Pn	11 59 30.8	+2.3
KKB	Krupnik	2.85	343	iP	Pn	11 59 28.4	-0.2
BNT	Bandirma	3.13	66	ePN	Pn	11 59 32.0	-0.4
KRUS	Krusevo	3.16	316	ePn	Pn	11 59 34.6	+1.7
KRUS				eSn	Sn	12 00 07.8	-2.9
KEK	Kerkira	3.44	281	ePN	Pn	11 59 39.3	+2.6
VTS	Vitosha	3.53	348	iP	Pn	11 59 39.0	+1.1
VTS	Vitosha	3.53	348	P	Pn	11 59 39.4	+1.5
KULA	Kula-Manisa	3.56	99	ePN	Sg	12 00 40.9	+3.8
KULA	Kula-Manisa	3.56	99	ePn	Pn	11 59 40.9	+2.6
PVL	Pavlikeni	4.17	12	iP	Pn	11 59 46.0	-0.7
GVD	Gavdhos	4.29	181	ePn	Pn	11 59 50.2	+1.8
GVD	Gavdhos	4.29	181	ePn	Pn	11 59 50.2	+1.8
TIP	Timpagrande	5.77	273	P	Pn	12 00 10.5	+1.8

*ISCJB **15** 11:58:54.0±1.2, 133S±04×1704E±03, h600km, mb4.0/7, Error ellipse: s-maj=62.8km s-min=17.9km az=151.7*
*IDC **15** 11:58:56.9±3.0, 1322S×17024E, h622km±34km, mb3.2/5, mb1 3.5/5, mb1mx3.1/15, mbtmp3.2/5, Error ellipse: s-maj=78.8km s-min=23.5km az=148.0*
ISC 15 11:58:55.1±1.2, 133S±04×1704E±03, h600km, n9, σ0§32/9, mb4.0/7, 1D, Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	32.23	230	eP	P	12 04 36.1	+0.3
	1.4nm,1.0s,mb3.5						
STKA	Stephens Creek	32.23	230	P	P	12 04 35.9	0.0
	0.7nm,0.3s,mb3.7,baz=45,slow=9.4,SNR=6.4						
WB2	Warramunga Arr	35.09	254	⇓iP		12 04 59.4	-0.5
WRA	Warramunga Arr	35.10	254	P	P	12 04 59.7	-0.3
	3.1nm,0.3s,mb4.4,baz=82,slow=7.1,SNR=138						
ASAR	Alice Springs	36.00	248	P	P	12 05 07.2	-0.2
	5.2nm,0.3s,mb4.5,baz=76,slow=9.4,SNR=184						
ASAR				ScP	ScP	12 10 04.2	-2.9
	0.5nm,0.6s,baz=82,slow=3.1,SNR=10						
KAKA	Kakadu	36.93	266	eP	P	12 05 15.5	+0.4
	9.8nm,0.4s,mb4.7						
FITZ	Fitzroy Crossi	43.24	258	eP	P	12 06 05.7	+0.4
	4.2nm,0.9s,mb4.0						
TXAR	Lajitas Array	92.95	61	P	P	12 11 05.8	+0.1
	0.1nm,0.5s,mb3.1,baz=222,slow=4.9,SNR=2.7						
YKA	Yellowknife Ar	94.88	27	P	P	12 11 13.4	-0.2
	0.4nm,0.6s,mb3.7,baz=256,slow=4.9,SNR=7.9						

*ISCJB **15** 12:30:13.1±1.2, 795S±008×12290E±007, h216km±8km, mb4.0/5, Error ellipse: s-maj=14.3km s-min=10.7km az=24.3*
*IDC **15** 12:30:14.2±1.5, 794S×12301E, h208km±12km, mb3.7/4, mb1 3.6/8, mb1mx3.4/17, mbtmp3.5/8, Error ellipse: s-maj=41.9km s-min=15.9km az=64.0*
*NEIC **15** 12:30:15.2±2.3, 794S×12299E, h218km±21km, mb4.1/4, Error ellipse: s-maj=18.9km s-min=17.8km az=185.0*
ISC 15 12:30:19.7±1.4, 84S±01×12307E±007, h223km±6km, n19, σ0§91/27, mb4.0/5, Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	Kupang	1.88	162	P	Pn	12 30 57.8	-1.1
	37nm,0.3s,baz=340,slow=3.5,SNR=66						
BATI				S	S	12 31 30.8	+1.2
	45nm,0.3s,baz=36,slow=5.4,SNR=6.0						
FITZ	Fitzroy Crossi	9.96	166	eP	Pn	12 32 37.7	-0.3
	2.5nm,0.2s						
FITZ				eS	S	12 34 26.7	-3.1
FITZ	Fitzroy Crossi	9.96	166	P	Pn	12 32 37.3	-0.7
	0.4nm,0.3s,baz=11,slow=12,SNR=12						
FITZ				S	S	12 34 30.0	+0.3
	1.4nm,0.3s,baz=176,slow=11,SNR=7.8						
KAKA	Kakadu	10.15	116	eP	Pn	12 32 41.1	+0.5
	9.0nm,0.5s						
KAKA				eS	S	12 34 33.9	-0.7
KAKA	Kakadu	10.15	116	ePn	Pn	12 32 41.1	+0.5
KAKA				eSn	S	12 34 34.2	-0.4
MBWA	Marble Bar	13.08	194	ePn	Pn	12 33 19.7	+2.3
MBWA				eS	S	12 35 41.9	-1.1
WRA	Warramunga Arr	15.83	138	P	Pn	12 33 50.4	-0.5
	0.7nm,0.3s,baz=322,slow=13,SNR=39						
WRA				S	S	12 36 45.6	+0.4
	0.5nm,0.3s,baz=316,slow=24,SNR=8.9						
WRAB	Tennant Creek	15.83	138	eP	Pn	12 33 50.0	-1.0
	5.1nm,1.0s						
WRAB				eS	S	12 36 45.1	-0.1
WB2	Warramunga Arr	15.83	138	eP	Pn	12 33 50.5	-0.5
WB2				eS	S	12 36 46.3	+0.9
ASAR	Alice Springs	18.38	147	P	P	12 34 19.1	+1.0
	1.2nm,0.3s,baz=323,slow=10,SNR=117						
FORT	Forrest	22.74	169	eP	P	12 35 03.1	+0.5
	6.5nm,0.7s,mb4.3						
NWAO	Narrogin (SRO)	24.99	192	P	P	12 35 23.4	+0.4
NWAO	Narrogin (SRO)	24.99	192	P	P	12 35 23.4	+0.4
	12nm,1.1s,mb4.5,baz=41,slow=11,SNR=4.0						
STKA	Stephens Creek	29.02	146	eP	P	12 35 59.1	+0.2
	1.4nm,0.4s,mb3.9						
STKA	Stephens Creek	29.02	146	eP	P	12 35 58.8	-0.1
	1.9nm,0.5s,mb4.0						
STKA	Stephens Creek	29.02	146	P	P	12 35 58.6	-0.3
	2.4nm,0.5s,mb4.1,baz=331,slow=8.5,SNR=9.9						
MKAR	Makanchi Array	65.84	331	P	P	12 40 34.1	-7.0
	0.9nm,0.6s,mb3.6,baz=131,slow=7.9,SNR=13						
VNDA	Vanda	71.97	172	P	P	12 41 17.5	-0.9
	0.6nm,0.6s,mb3.4,baz=328,slow=8.3,SNR=4.3						
TORD	Torodi Ar. Bea	122.32	280	PKP	PKPdf	12 48 45.2	-3.9
	0.3nm,0.5s,baz=58,slow=2.5,SNR=4.2						

IDC 15 12:53:14.6±1.2, 757S×15603E, h0km, mb3.7/5, mb1 3.8/6, mb1mx3.6/15, mbtmp3.8/6, ML4.0/1, Error ellipse: s-maj=30.2km s-min=27.6km az=21.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	4.29	116	Pn	Pn	12 54 20.3	-0.9
	8.1nm,0.3s,baz=276,slow=12,SNR=4.9						
HNR				Sn	Sn	12 55 14.9	+2.9
	17nm,0.3s,baz=89,slow=20,SNR=4.1						
WRA	Warramunga Arr	24.36	237	P	P	12 58 35.3	+0.9
	1.8nm,0.6s,baz=62,slow=9.3,SNR=29						
ASAR	Alice Springs	26.59	231	P	P	12 58 53.9	-0.8
	0.2nm,0.8s,baz=66,slow=8.5,SNR=4.1						
SONM	Songino Array	70.37	327	P	P	13 04 31.9	+1.6
	0.5nm,0.5s,baz=124,slow=6.6,SNR=4.3						
MKAR	Makanchi Array	84.51	318	P	P	13 05 49.7	+0.2
	0.4nm,0.5s,baz=101,slow=6.6,SNR=5.8						
ZALV	Zalesovo Beam	85.22	326	P	P	13 05 51.6	-1.3
	0.4nm,0.3s,baz=97,slow=7.4,SNR=2.8						

*THE **15** 12:58:37.3, 3724N×1942E, h3km, ML3.5*
*NEIC **15** 12:58:43.5, 3771N×1964E, h21km, MD3.6(ATH), After ATH.*
*ATH **15** 12:58:43.5, 3771N×1964E, h21km±1km, MD3.6/6*
*CSEM **15** 12:58:46.0±0.4, 3777N×1971E, h20km, MD3.6, Error ellipse: s-maj=8.6km s-min=5.3km az=65.0*
ISC 15 12:58:38.8±1.6, 3730N±008×195E±01, h10km, n11, σ1§28/14, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	Valsamata	1.24	45	ePN	Pn	12 59 01.1	-1.1
VLS				eSN	Sn	12 59 13.2	-5.8
KFL	Anninata	1.31	52	ePg	Pg	12 59 02.1	-1.9
LKD	Levkas	1.68	33	ePb	Pb	12 59 07.9	-1.9
LKD				eSb	Sb	12 59 32.4	+1.4
RLS	Riolos of Patr	1.75	64	ePN	Pn	12 59 11.2	+2.0
RLS				eSN	Sn	12 59 31.3	-0.2
SELA	Sela	2.15	62	ePn	Pn	12 59 15.5	+0.9
IGT	Igoumenitsa	2.33	16	ePn	Pn	12 59 17.6	+0.5
KEK	Kerkira	2.42	6	ePN	Pn	12 59 18.2	-0.2
EVR	Evrytania	2.44	48	ePB	Pb	12 59 19.3	-3.5
THL	Klokotos Trika	3.01	41	ePN	Pn	12 59 27.6	+1.1
VAM	Vamos	4.25	115	ePN	Pn	12 59 51.0	+7.4
GVD	Gavdhos	4.47	122	ePn	Pn	12 59 46.5	-0.1

*ISCJB **15** 13:15:24.6±0.6, 4511N±003×1027E±004, h10km, Error ellipse: s-maj=5.2km s-min=3.0km az=137.4*
*NEIC **15** 13:15:25.7, 4510N×1027E, h6km, ML2.5(LDG), ML1.9(ROM), After ROM.*
*ROM **15** 13:15:25.7±0.4, 4510N×1027E, h6km, Md2.8/7, Ml1.9/2, Error ellipse: s-maj=3.9km s-min=1.9km az=174.0*
*CSEM **15** 13:15:28.7±0.1, 4518N×1034E, h40km, ML2.6/12, Error ellipse: s-maj=2.5km s-min=1.5km az=140.0*
*LDG **15** 13:15:29.1±0.4, 4522N×1017E, h10km, Ml2.5/11, Error ellipse: s-maj=8.0km s-min=3.3km az=99.0*
ISC 15 13:15:26.0±0.6, 4512N±003×1026E±004, h10km, n31, σ0§94/58, 1C, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MDI	Monti di Nese	0.77	330	Pg	Pg	13 15 40.9	+0.2
MDI				Sg	Sg	13 15 52.2	+1.5
	27nm,0.4s						
MABI	Malga Bissina	0.96	11	Pg	Pg	13 15 44.9	+0.5
MABI				Sg	Sg	13 15 58.0	+1.2
MUGIO	Muggio	1.17	314	Pg	Pg	13 15 47.8	-0.7
MUGIO				Sg	Sg	13 16 04.1	+0.3
VAI	Varese	1.29	306	Pg	Pg	13 15 49.9	-0.8
VAI				Sg	Sg	13 16 08.8	+1.4
	25nm,0.2s						
CGRP	Cima Grappa	1.33	54	⇑iPg	Pg	13 15 50.7	-0.7
CGRP				iSg	Sg	13 16 08.9	+0.2
CTI	Castel Tesino	1.35	46	Pg	Pg	13 15 50.7	-1.2
CTI				Sg	Sg	13 16 09.4	-0.1
BRMO	Bormio	1.36	3	Pg	Pg	13 15 51.8	-0.3
BRMO				Sg	Sg	13 16 09.8	0.0
	5.0nm,0.3s						
TUE	Stuetta	1.50	335	Pg	Pg	13 15 53.8	-0.9
	20nm,0.2s						
SBF	Sospel	2.38	239	ePn	Pn	13 16 06.9	+2.0
SBF				eSn	Sn	13 16 34.1	0.0
	14nm,0.3s						
SBF	Sospel	2.38	239	ePn	Pn	13 16 06.9	+2.0
SBF				eSn	Sn	13 16 34.1	0.0
	7.1nm,0.3s						
MBDF	Montbardon	2.50	262	ePn	Pn	13 16 07.0	+0.3
MBDF				eSn	Sn	13 16 35.9	-1.4
	2.5nm,0.2s						
MBDF	Montbardon	2.50	262	ePn	Pn	13 16 07.0	+0.3
MBDF				eSn	Sn	13 16 35.9	-1.4
	1.2nm,0.2s						
FRF	La Foret Royal	3.02	240	ePn	Pn	13 16 15.1	+1.3
FRF				eSn	Sn	13 16 50.0	0.0
	2.8nm,0.4s						
FRF	La Foret Royal	3.02	240	ePn	Pn	13 16 15.1	+1.3
FRF				eSn	Sn	13 16 50.0	0.0
	1.4nm,0.4s						
ORIF	Oris-en-Rattie	3.11	268	ePn	Pn	13 16 16.4	+1.4
LMR	La Mourre	3.23	238	ePn	Pn	13 16 17.3	+0.7
LMR				eSn	Sn	13 16 54.6	-0.5
	3.1nm,0.4s						
LMR	La Mourre	3.23	238	ePn	Pn	13 16 17.3	+0.7
LMR				eSn	Sn	13 16 54.6	-0.5
	1.5nm,0.4s						
CABF	La Chapelle	3.27	299	ePn	Pn	13 16 17.4	+0.1
CABF				eSn	Sn	13 16 53.4	-2.8
	0.9nm,0.3s						
CABF	La Chapelle	3.27	299	ePn	Pn	13 16 17.4	+0.1
CABF				eSn	Sn	13 16 53.4	-2.8
	0.4nm,0.3s						
HINF	Hinteralfeld	3.58	320	ePn	Pn	13 16 20.8	-0.7
HINF				eSn	Sn	13 16 59.8	-4.0
	4.5nm,0.3s						
HINF	Hinteralfeld	3.58	320	ePn	Pn	13 16 20.8	-0.7
HINF				eSn	Sn	13 16 59.8	-4.0
	2.2nm,0.3s						
CDF	Champ du Feu	3.88	329	ePn	Pn	13 16 25.5	-0.1
CDF				eSn	Sn	13 17 05.5	-5.7
	1.4nm,0.3s						
CDF	Champ du Feu	3.88	329	ePn	Pn	13 16 25.5	-0.1
CDF				eSn	Sn	13 17 05.5	-5.7
	0.7nm,0.3s						
HAU	Haudompre	3.95	318	ePn	Pn	13 16 26.4	-0.2
HAU				eSn	Sn	13 17 08.6	-4.4
	7.8nm,0.3s						
HAU	Haudompre	3.95	318	ePn	Pn	13 16 26.4	-0.2
HAU				eSn	Sn	13 17 08.6	-4.4
	3.9nm,0.3s						
VIVF	Saint-Julien-l	3.97	268	ePn	Pn	13 16 27.1	+0.3
VIVF				eSn	Sn	13 17 10.2	-3.2
	1.1nm,0.3s						
VIVF	Saint-Julien-l	3.97	268	ePn	Pn	13 16 27.1	+0.3
VIVF				eSn	Sn	13 17 10.2	-3.2
	0.6nm,0.3s						
LASF	Ste Croix	4.69	259	ePn	Pn	13 16 37.1	+0.4
LOR	Lormes	4.94	298	ePn	Pn	13 16 39.8	-0.3
LOR				eSn	Sn	13 17 32.7	-4.5
	3.2nm,0.3s						
LOR	Lormes	4.94	298	ePn	Pn	13 16 39.8	-0.3
LOR				eSn	Sn	13 17 32.7	-4.5
	1.6nm,0.3s						
AVF	Avril sur Loir	5.10	292	ePn	Pn	13 16 42.3	0.0

*ISCJB **15** 13:18:41.1±1.9, 483N±01×1548E±02, h47km±18km, mb3.5/6, Error ellipse: s-maj=34.0km s-min=7.7km az=41.8*
*MOS **15** 13:18:41.7±1.2, 4835N×15467E, h54km, mb3.8/4, Error ellipse: s-maj=41.3km s-min=16.3km az=57.0*
*IDC **15** 13:18:46.7±4.8, 4828N×15457E, h82km±44km, mb3.2/6, mb1 3.5/8, mb1mx3.3/23, mbtmp3.3/8, ML3.6/2, Error ellipse: s-maj=37.2km s-min=21.3km az=128.0*
ISC 15 13:18:43.1±1.7, 483N±01×1548E±02, h50km±16km, n15, σ1§00/17, mb3.5/6, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	2.53	20	ePN	Pn	13 19 20.5	-1.1
SKR				eS	Sn	13 19 51.5	+0.3
SKR				pmax	pmax		
	comp=Z,20nm,0.5s						
SKR				smax			
	comp=N,80nm,0.5s						
SKR				smax			
	comp=E,150nm,0.5s						
KUR	Kuril'sk	5.66	240	ePN	Pn	13 20 03.7	-0.9
KUR				S	Sn	13 21 08.7	+0.5
KUR				pmax	pmax		
	comp=Z,110nm,0.8s						
KUR				smax			
	comp=N,110nm,0.8s						
ASAJ	Asahikawa	9.43	248	PN	Pn	13 20 58.5	+2.3
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ	Asahikawa	9.43	248	P	Pn	13 20 58.5	+2.3
	comp=Z,0.9nm,0.3s,baz=73,slow=13,SNR=13						
MJAR	Matsushiro Arr	16.93	232	P	Pn	13 22 36.3	-0.1
	comp=Z,0.1nm,0.3s,baz=33,slow=10,SNR=3.2						
KSRS	Korea Array	22.36	251	P	P	13 23 35.4	-1.4
	comp=Z,0.9nm,0.6s,mb3.4,baz=47,slow=10,SNR=4.2						
MKAR	Makanchi Array	47.24	297	P	P	13 27 10.7	-0.2
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
MKAR	Makanchi Array	47.24	297	P	P	13 27 10.7	-0.2
	comp=Z,0.6nm,0.7s,mb3.6,baz=69,slow=7.7,SNR=5.9						
YKA	Yellowknife Ar	49.00	38	P	P	13 27 25.3	+1.1
YKA	Yellowknife Ar	49.00	38	P	P	13 27 25.3	+1.1
	comp=Z,0.2nm,0.6s,mb3.4,baz=297,slow=7.1,SNR=5.1						
WRA	Warramunga Arr	70.36	200	P	P	13 29 50.3	-1.2
WRA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
WRA	Warramunga Arr	70.36	200	P	P	13 29 50.3	-1.2
	comp=Z,0.6nm,0.7s,mb3.6,baz=15,slow=6.5,SNR=5.9						
ASAR	Alice Springs	74.05	200	P	P	13 30 14.0	+0.5
	comp=Z,0.3nm,0.5s,mb3.5,baz=14,slow=5.4,SNR=17						
TXAR	Lajitas Array	75.75	62	P	P	13 30 24.1	+0.6
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
TXAR	Lajitas Array	75.75	62	P	P	13 30 24.1	+0.6
	comp=Z,0.5nm,0.7s,mb3.6,baz=289,slow=4.1,SNR=6.8						

*ISCJB **15** 13:23:37.3±1.1, 1078N×008×6235W×004, h110km±8km, Error ellipse: s-maj=12.7km s-min=6.0km az=7.0*
*FUNV **15** 13:23:37.9, 1102N×6224W, h98km, MW2.4*
*TRN **15** 13:23:39.2, 1094N×6221W, h108km, MD2.7*
*NEIC **15** 13:23:39.2, 1094N×6221W, h108km, MD2.7(TRN), After TRN.*
ISC 15 13:23:38.0±1.0, 1084N±007×6236W±004, h105km±8km, n13, σ1§13/26, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIV	Guiria	0.23	145	eP	Pn	13 23 53.2	+0.3
GUIV				eS	Sn	13 24 03.4	-0.7
TCE	Chacachacare	0.61	103	eP	Pn	13 23 56.1	+1.0
TCE				eS	Sn	13 24 08.2	+0.2
CRUV	Carupano	0.88	260	eP	Pn	13 23 58.0	+0.5
CRUV				eS	Sn	13 24 12.9	+0.6
GUNV	Guanoco	0.88	221	eP	Pn	13 23 58.6	+1.0
GUNV				eS	Sn	13 24 14.2	+1.9
ITEV	Isla Los Testi	0.92	304	eP	Pn	13 23 56.7	-1.3
ITEV				eS	Sn	13 24 10.7	-2.3
TRN	Trinidad (W)	0.96	101	eP	Pn	13 23 58.8	+0.4
TRN				eS	Sn	13 24 13.3	-0.3
TPP	Pointe-a-Pierr	1.03	120	eP	Pn	13 24 00.5	+1.4
TPP				eS	Sn	13 24 13.0	-2.0
TPP				eS	Sn	13 24 15.1	0.0
TBH	Brigand Hill	1.32	105	eP	Pn	13 24 02.1	-0.2
TBH				eS	Sn	13 24 20.1	-0.7
PCRV	Puerto La Cruz	2.33	254	eP	Pn	13 24 16.1	+0.9
CUPV	Cœpira	3.46	257	eP	Pn	13 24 31.1	+1.0
CUPV				eS	Sn	13 25 10.5	+0.2
LUEV	Luepa	5.04	170	eP	Pn	13 24 51.4	0.0
LUEV				eS	Sn	13 25 46.4	-2.1
CAOV	Caicara del Or	5.24	229	eP	Pn	13 24 55.4	+1.2
CAOV				eS	Sn	13 25 51.6	-1.8
BAUV	El Baul	5.91	252	eP	Pn	13 25 03.2	0.0
BAUV				eS	Sn	13 26 06.9	-2.7

*NNC **15** 13:27:34.4±3.8, 4120N×7079E, h0km, mb3.9, mpv3.7, Error ellipse: s-maj=39.8km s-min=13.9km az=6.0*
ISC 15 13:27:26.2±2.3, 403N±01×707E±01, h35km, n10, σ1§80/13, 3C-1D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	Karatay Array	2.86	357	Pn	Pn	13 28 10.3

VLS				*e*SB	**Sg**	**13 43 09.7**	**+0.9**
KFL	**Anninata**	**0.37**	**130**	*e*Pg	**Pg**	**13 43 08.4**	**-0.6**
KFL				*e*Sg	**Sg**	**13 43 14.5**	**+0.6**
LKD	**Levkas**	**0.40**	**26**	*e*Pg	**Pg**	**13 43 08.3**	**-1.1**
LKD				*e*Sg	**Sg**	**13 43 14.4**	**-0.2**
RLS	**Riolos of Patr**	**0.87**	**109**	*e*PB	**Pg**	**13 43 17.5**	**-1.0**
RLS				*e*SN	**Sg**	**13 43 31.6**	**+1.8**
SELA	**Sela**	**1.16**	**93**	*e*Pg	**Pn**	**13 43 21.8**	**-2.9**
IGT	**Igoumenitsa**	**1.18**	**356**	*e*Pg	**Pn**	**13 43 22.1**	**-3.1**
IGT				*e*Sg	**Sg**	**13 43 40.4**	**+0.6**
IGT	**Igoumenitsa**	**1.18**	**356**	*e*Pg	**Pn**	**13 43 22.0**	**-3.1**
IGT				*e*Sg	**Sg**	**13 43 40.4**	**+0.6**
EVR	**Evrytania**	**1.22**	**62**	*e*PN	**Pn**	**13 43 26.4**	**+0.8**
JAN	**Janina**	**1.34**	**14**	*e*PN	**Pn**	**13 43 28.2**	**+0.8**
KEK	**Kerkira**	**1.45**	**340**	*e*PN	**Pn**	**13 43 28.8**	**+0.1**
KEK				*e*SN	**Sn**	**13 43 50.1**	**+2.0**
AGG	**Agios Georgios**	**1.63**	**65**	*e*Pb	**Pn**	**13 43 30.4**	**-1.0**
AGG				*e*Sb	**Sb**	**13 43 53.2**	**-0.2**
ITM	**Ithomi**	**1.67**	**134**	*e*PN	**Pn**	**13 43 31.4**	**-0.4**
THL	**Klokotos Trika**	**1.73**	**45**	*e*PB	**Pb**	**13 43 33.2**	**-1.0**
LTK	**Loutraki**	**2.03**	**99**	*e*Pn	**Pn**	**13 43 36.2**	**-0.6**
LKR	**Lokris**	**2.04**	**81**	*e*PN	**Pn**	**13 43 38.1**	**+1.2**
FNA	**Florina**	**2.54**	**17**	*e*Pn	**Pn**	**13 43 42.8**	**-0.9**
OHR	**Ohrid**	**2.77**	**6**	*e*Pn	**Pg**	**13 43 55.2**	**+0.3**
OHR				*e*Sn	**Sn**	**13 44 21.1**	**+0.3**
KRUS	**Krusevo**	**3.08**	**12**	*e*Pn	**Pn**	**13 43 52.5**	**+1.3**
KRUS				*e*Sn	**Sn**	**13 44 18.1**	**-10**
SG1	**Sgolgore (BA)**	**3.81**	**312**	*e*Pn	**Pn**	**13 44 00.9**	**-0.4**

NEIC ***15*** *13:45:37.8, 3824N×2023E, h9km, MD3.7(ATH), After ATH.*
ATH ***15*** *13:45:37.8, 3824N×2023E, h9km±3km, MD3.7/5*
ISCJB ***15*** *13:45:38.5±1.3, 3828N±004×2027E±008, h0km±7km, Error ellipse: s-maj=11.6km s-min=5.3km az=151.5*
CSEM ***15*** *13:45:39.3±0.5, 3833N×2028E, h8km, MD3.7, Error ellipse: s-maj=10.1km s-min=5.0km az=65.0*
THE ***15*** *13:45:41.6, 3836N×2044E, h3km, ML3.5*
ISC 15 13:45:39.2±1.3**, 3828N**±004×**2029E**±008**, h2**km±7km**, n14,** σ1**08/22, Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.26**	**113**	*e*PG	**Pg**	**13 45 44.0**	**-0.1**
VLS				*e*SG	**Sg**	**13 45 48.0**	**+0.6**
KFL	**Anninata**	**0.43**	**113**	*e*Pg	**Pg**	**13 45 48.6**	**+1.2**
LKD	**Levkas**	**0.51**	**33**	*e*Pg	**Pg**	**13 45 48.5**	**-0.5**
LKD				*e*Sg	**Sg**	**13 45 54.6**	**-1.0**
RLS	**Riolos of Patr**	**0.95**	**103**	*e*PB	**Pb**	**13 45 55.7**	**-2.7**
RLS				*e*SB	**Sb**	**13 46 10.9**	**-0.5**
IGT	**Igoumenitsa**	**1.25**	**2**	*e*Pg	**Pg**	**13 46 03.8**	**+0.7**
IGT				*e*Sg	**Sg**	**13 46 21.5**	**+2.1**
EVR	**Evrytania**	**1.35**	**61**	*e*PG	**Pg**	**13 46 03.9**	**-1.1**
EVR				*e*SB	**Sb**	**13 46 24.0**	**+1.2**
JAN	**Janina**	**1.44**	**17**	*e*PB	**Pb**	**13 46 05.8**	**-0.9**
JAN				*e*SB	**Sb**	**13 46 26.2**	**+0.7**
KEK	**Kerkira**	**1.48**	**345**	*e*PB	**Pb**	**13 46 06.2**	**-1.2**
ITM	**Ithomi**	**1.70**	**130**	*e*PN	**Pn**	**13 46 10.7**	**+0.9**
AGG	**Agios Georgios**	**1.76**	**64**	*e*Pb	**Pb**	**13 46 11.0**	**-1.2**
THL	**Klokotos Trika**	**1.86**	**46**	*e*PN	**Pn**	**13 46 11.9**	**-0.1**
NEO	**Neokhori**	**2.51**	**65**	*e*PN	**Pn**	**13 46 22.8**	**+1.8**
KRUS	**Krusevo**	**3.17**	**13**	*e*Pn	**Pn**	**13 46 30.0**	**-0.1**
KRUS				*e*Sn	**Sn**	**13 47 08.1**	**-0.3**
KRUS	**Krusevo**	**3.17**	**13**	*e*Pn	**Pn**	**13 46 29.9**	**-0.1**
KRUS				*e*Sn	**Sn**	**13 47 08.1**	**-0.3**

IDC ***15*** *13:52:20.8±1.4, 3146S×6933W, h0km, mb3.8/3, mb1 4.1/5, mb1mx3.9/16, mbtmp4.0/5, ML3.9/2, Error ellipse: s-maj=42.1km s-min=35.2km az=160.0*
ISCJB ***15*** *13:52:36.3±0.7, 3082S±003×692W±0.1, h116km±11km, mb3.5/4, Error ellipse: s-maj=18.4km s-min=4.1km az=175.9*
GUC ***15*** *13:52:36.2±0.9, 3083S×6949W, h146km±19km, MD4.0, ML4.0*
NEIC ***15*** *13:52:36.2, 3083S×6949W, h146km, MD4.0(GUC), After GUC.*
ISC 15 13:52:37.2±0.6**, 3081S**±003×**692W**±01**, h107**km±10km**, n40,** σ0**70/57, mb3.5/4, 14C-6D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TLL	**Tololo Astrono**	**1.52**	**295**	⇑*i*P	**Pn**	**13 53 04.6**	**+0.6**
TLL				*i* S	**Sn**	**13 53 25.3**	**+1.0**
TLL	**Tololo Astrono**	**1.52**	**295**	⇑*i*P	**Pn**	**13 53 04.6**	**+0.6**
TLL				*i* S	**Sn**	**13 53 25.3**	**+1.0**
TLL				AML	AML	13 53 35.3	
	comp=E,1μm,0.7s						
CMCH	**Combarbala**	**1.58**	**256**	⇓*i*P	**Pn**	**13 53 04.1**	**-0.7**
CMCH				*i* S	**Sn**	**13 53 25.4**	**-0.3**
CMCH	**Combarbala**	**1.58**	**256**	⇓*i*P	**Pn**	**13 53 04.1**	**-0.7**
CMCH				*i* S	**Sn**	**13 53 25.4**	**-0.3**
CMCH				AML	AML	13 53 26.3	
	comp=E,7μm,0.5s						
OVCH	**Ovalle**	**1.72**	**276**	⇑*i*P	**Pn**	**13 53 05.8**	**-0.8**
OVCH				*i* S	**Sn**	**13 53 27.6**	**-1.3**
OVCH	**Ovalle**	**1.72**	**276**	⇑*i*P	**Pn**	**13 53 05.8**	**-0.8**
OVCH				*i* S	**Sn**	**13 53 27.6**	**-1.3**
OVCH				AML	AML	13 53 29.4	
	comp=N,4μm,0.2s						
LSCH	**La Serena**	**1.97**	**297**	*e*P	Px	13 54 28.2	
LSCH				*i* S	Sx	13 54 52.2	
LSCH				AML	AML	13 54 52.7	
	comp=E,438nm,0.3s						
PTCH	**Petorca**	**2.06**	**225**	⇑*i*P	**Pn**	**13 53 10.6**	**-0.2**
PTCH				AML	AML	13 53 49.2	
	comp=N,216nm,0.3s						
JACH	**Jahuel**	**2.21**	**212**	⇓*i*P	**Pn**	**13 53 12.7**	**0.0**
LCO	**Las Campanas**	**2.21**	**324**	*e*Pn	**Pn**	**13 53 13.2**	**+0.5**
LCO				*e*Sn	**Sn**	**13 53 40.9**	**+1.0**
CHNG	**Los Chungos**	**2.23**	**241**	*i* P	Px	13 52 52.8	
CHNG				*i* S	Sx	13 53 19.3	
CHNG				AML	AML	13 53 25.1	
	comp=E,518nm,0.5s						
PACH	**Papudo**	**2.56**	**227**	*e*P	**Pn**	**13 53 16.1**	**-1.2**
VACH	**Vallenar**	**2.60**	**328**	⇑*i*P	**Pn**	**13 53 18.0**	**+0.2**
VACH				*i* S	**Sn**	**13 53 48.9**	**-0.1**
VACH	**Vallenar**	**2.60**	**328**	⇑*i*P	**Pn**	**13 53 18.0**	**+0.2**
VACH				*i* S	**Sn**	**13 53 48.9**	**-0.1**
VACH				AML	AML	13 53 50.4	
	comp=E,3μm,0.1s						
PEL	**Peldehue**	**2.64**	**208**	⇓*i*P	**Pn**	**13 53 17.7**	**-0.7**
PEL				AML	AML	13 53 57.3	
	comp=E,587nm,0.4s						
ROCH	**El Roble**	**2.64**	**215**	⇑*i*P	**Pn**	**13 53 17.6**	**-0.8**
FCH	**Farellones**	**2.67**	**200**	⇑*i*P	**Pn**	**13 53 19.4**	**+0.7**
FCH				*i* S	**Sn**	**13 53 52.0**	**+1.3**
FCH				AML	AML	13 53 56.6	
	comp=N,462nm,0.3s						
CLCH	**Cerro Calan**	**2.81**	**203**	⇑*i*P	**Pn**	**13 53 20.4**	**-0.3**
CLCH				*i* S	**Sn**	**13 53 54.5**	**+0.4**
CLCH				AML	AML	13 53 56.3	
	comp=E,843nm,0.6s						
DSCH	**Colegio Aleman**	**2.83**	**204**	*i* P	**Pn**	**13 53 20.2**	**-0.6**
DSCH				*i* S	**Sn**	**13 53 54.7**	**+0.4**
DSCH	**Colegio Aleman**	**2.83**	**204**	*i* P	**Pn**	**13 53 20.2**	**-0.6**
DSCH				*i* S	**Sn**	**13 53 54.7**	**+0.4**
DSCH				AML	AML	13 53 58.5	
	comp=N,128nm,0.2s						
FSR	**Penalolen**	**2.89**	**202**	⇑*i*P	**Pn**	**13 53 22.0**	**+0.4**
FSR				*i* S	**Sn**	**13 53 56.4**	**+0.7**
FSR	**Penalolen**	**2.89**	**202**	⇑*i*P	**Pn**	**13 53 22.0**	**+0.4**
FSR				*i* S	**Sn**	**13 53 56.4**	**+0.7**
FSR				AML	AML	13 53 57.8	
	comp=N,572nm,0.4s						
STL	**Santa Lucia**	**2.89**	**204**	*e*P	**Pn**	**13 53 21.0**	**-0.6**
STL				*i* S	**Sn**	**13 53 55.5**	**-0.2**
STL				AML	AML	13 53 56.0	
	comp=N,106nm,0.4s						
ANTU	**Antumapu**	**3.00**	**203**	⇓*i*P	**Pn**	**13 53 22.6**	**-0.6**
ANTU				*i* S	**Sn**	**13 53 58.9**	**+0.3**
ANTU	**Antumapu**	**3.00**	**203**	⇓*i*P	**Pn**	**13 53 22.6**	**-0.6**
ANTU				*i* S	**Sn**	**13 53 58.9**	**+0.3**
ANTU				AML	AML	13 53 59.1	
	comp=N,1μm,0.5s						
PCH	**Pirque**	**3.01**	**201**	⇑*i*P	**Pn**	**13 53 23.3**	**0.0**
PCH				*i* S	**Sn**	**13 53 59.8**	**+1.1**
LMEL	**Las Melosas**	**3.14**	**195**	⇑*i*P	**Pn**	**13 53 25.4**	**+0.4**
LMEL				AML	AML	13 54 11.5	
	comp=N,235nm,0.1s						
CHCH	**Chadas Angostu**	**3.34**	**201**	*e*P	**Pn**	**13 53 26.9**	**-0.8**
CHCH				*i* S	**Sn**	**13 54 06.3**	**-0.3**
CACH	**El Canelo**	**3.50**	**199**	*i* P	**Pn**	**13 53 29.8**	**+0.1**
CICH	**Cipreses**	**3.65**	**196**	*e*P	**Pn**	**13 53 31.3**	**-0.4**
LPAZ	**La Paz**	**14.49**	**4**	Pn	**Pn**	**13 55 58.4**	**+1.3**
LPAZ	**La Paz**	**14.49**	**4**	Pn	**Pn**	**13 55 58.4**	**+1.3**
	comp=N,0.2nm,0.3s,baz=175,slow=9.0,SNR=14						
SIV	**San Ignacio**	**16.52**	**29**	P	**Pn**	**13 56 21.9**	**-0.7**
	comp=N,0.2nm,0.3s,baz=233,slow=15,SNR=40						
BDFB	**Brasilia**	**24.58**	**57**	P	**P**	**13 57 45.9**	**-1.4**
	comp=N,1.5nm,0.8s,mb3.5,baz=211,slow=17						
VNA3	**Neumayer Olymp**	**51.44**	**159**	*e*	**P**	**14 01 31.5**	**+0.6**
VNA3				*e*		14 01 32.9	
VNA3				*e*		14 01 36.0	
VNA3				*e*		14 18 30.2	
VNA3				*e*		14 18 33.7	
VNA3				*e*		14 18 41.8	
VNA2	**Neumayer--Watz**	**52.06**	**158**	*e*	**P**	**14 01 36.1**	**+0.7**
	baz=292,slow=9.5						
VNA2				*e*		14 01 37.5	
VNA2				*e*		14 01 40.5	
TXAR	**Lajitas Array**	**68.22**	**328**	P	**P**	**14 03 27.0**	**+0.9**
	comp=N,0.3nm,0.7s,mb3.2,baz=141,slow=8.1,SNR=4.5						
TORD	**Torodi Ar. Bea**	**80.85**	**69**	P	**P**	**14 04 39.7**	**+0.1**
	comp=N,0.5nm,0.5s,mb3.6,baz=256,slow=5.5,SNR=10						
ULM	**Lac du Bonnet**	**84.09**	**343**	P	**P**	**14 04 54.9**	**-0.7**
	comp=N,0.6nm,0.5s,mb3.7,baz=156,slow=10.0,SNR=3.4						
WRA	**Warramunga Arr**	**124.70**	**207**	PKP	PKPdf	14 11 21.5	-3.3
	comp=N,0.6nm,0.6s,baz=154,slow=1.9,SNR=9.3						

BGS ***15*** *13:58:50.3±2.0, 3510N×7660E, h10km, mb5.1*
NNC ***15*** *13:59:24.0±8.9, 3906N×7193E, h0km, mb5.4, mpv5.4, Error ellipse: s-maj=74.0km s-min=42.7km az=9.0*
ISCJB ***15*** *13:59:27.4±0.1, 3937N±002×7276E±002, h10km, mb5.0/237, MS4.3/67, Error ellipse: s-maj=2.6km s-min=1.8km az=34.6*
IDC ***15*** *13:59:27.1±0.5, 3929N×7274E, h0km, mb4.8/26, mb1 5.0/30, mb1mx5.0/30, mbtmp4.9/30, ML4.8/4, MS4.1/27, Ms1 4.1/27, ms1mx4.0/43, Error ellipse: s-maj=11.1km s-min=10.1km az=10.0*
NEIC ***15*** *13:59:28.6±1.6, 3928N×7277E, h9km±10km, mb5.2/168, Error ellipse: s-maj=4.3km s-min=2.8km az=201.0*
GCMT ***15*** *13:59:28.5±0.3, 3950N×7262E, h18km, MW5.0/69, Moment Tensor Solution. s32,c38; s69,c113; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.59±.16; $M_{\theta\theta}$-3.14±.11; $M_{\phi\phi}$0.55±.11; $M_{r\theta}$0.60±.25; $M_{\theta\phi}$-1.76±.08; $M_{\phi r}$-0.82±.33; Best double couple: $M_0$3.48800×10^{16} NP1:ϕ_s223.00000°, δ49.00000°, λ52.00000°. NP2: ϕ_s93.00000°, δ53.00000°, λ126.00000°. Principal axes: T 3.1200, Plg62.0000°, Azm64.0000°; N 0.7350, Plg28.0000°, Azm250.0000°; P -3.8550, Plg2.0000°, Azm159.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
SZGRF ***15*** *13:59:29.0, 3850N×7298E, h33km, mb5.1, MS4.3, Tajikistan*
BJI ***15*** *13:59:30.7, 3948N×7274E, h31km, mB5.0, mb5.1, ML5.1, Ms4.8, Msz4.6*
MOS ***15*** *13:59:31.0±0.9, 3945N×7275E, h33km, mb5.3/107, MS4.2/27, Error ellipse: s-maj=5.7km s-min=3.3km az=128.5*
ISC 15 13:59:29.3±0.1**, 3937N**±002×**7274E**±002**, h10**km**, (h36**km±3.7km**: pP-P), n721,** σ1**06/762, mb5.0/237, MS4.3/67, 159C-52D, Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**2.51**	**86**	⇑*i*PG	**Pg**	**14 00 14.6**	**-2.8**
KSH				SG	**Sg**	**14 00 50.3**	**+0.5**
KSH				Smax			
	comp=N,57μm,1.0s						
KSH				Smax			
	comp=E,41μm,0.5s						
AML	**Almayashu**	**2.85**	**14**	*e*Pn	**Pn**	**14 00 18.0**	**+3.1**
AML				*e*Sn	**Sg**	**14 00 55.6**	**-5.4**
AML	**Almayashu**	**2.85**	**14**	P	**Pn**	**14 00 17.9**	**+3.1**
	SNR=1822						
UCH	**Uchtor**	**3.16**	**25**	*e*Pn	**Pn**	**14 00 22.4**	**+3.3**
UCH				*e*Sn	**Sn**	**14 01 02.5**	**+5.7**
UCH	**Uchtor**	**3.16**	**25**	P	**Pn**	**14 00 22.4**	**+3.3**
	SNR=464						
KZA	**Kyzart**	**3.31**	**34**	P	**Pn**	**14 00 24.4**	**+3.3**
	SNR=1042						
EKS2	**Erkin-Say**	**3.38**	**13**	*e*Pn	**Pn**	**14 00 25.2**	**+3.1**
EKS2				*e*Sn	**Sn**	**14 01 03.0**	**+0.7**
EKS2	**Erkin-Say**	**3.38**	**13**	P	**Pn**	**14 00 25.2**	**+3.0**
	SNR=326						
AAK	**Ala-Archa**	**3.52**	**22**	Pn	**Pn**	**14 00 26.8**	**+2.8**
	comp=E,14μm,0.4s						
AAK	**Ala-Archa**	**3.52**	**22**	P	**Pn**	**14 00 27.9**	**+3.9**
	SNR=1171						
KBK	**Karagaybulak**	**3.69**	**26**	P	**Pn**	**14 00 30.0**	**+3.7**
	SNR=584						
FRU	**Bishkek**	**3.74**	**22**	*i* PN	**Pn**	**14 00 30.5**	**+3.4**
FRU				*e*S	**Sn**	**14 01 17.0**	**+5.9**
FRU				*i*		14 01 28.0	
FRU				pmax	pmax		
	comp=Z,1μm,2.2s						
FRU				pmax	pmax		
	comp=Z,2μm,3.0s						
FRU				smax			
	comp=N,10μm,3.0s						
ULHL	**Ulahol**	**3.92**	**42**	P	**Pn**	**14 00 32.7**	**+3.3**
	SNR=526						
CHMS	**Chumysh**	**3.93**	**22**	P	**Pn**	**14 00 33.1**	**+3.5**
	SNR=147						
KK31	**Karatay Array**	**4.09**	**336**	⇓Pn	**Pn**	**14 00 33.8**	**+1.9**
	comp=N,91nm,0.3s,baz=148,slow=12						
KK31				⇓Sn	**Sn**	**14 01 22.5**	**+2.7**
	comp=N,1μm,0.5s,baz=150,slow=26						
KK31	**Karatay Array**	**4.09**	**336**	*i* PN	**Pn**	**14 00 33.8**	**+1.9**
KK31				pmax	pmax		
	comp=Z,322nm,0.3s						
USP	**Ospenovka**	**4.12**	**18**	P	**Pn**	**14 00 35.6**	**+3.4**
	SNR=77						
TKM2	**Tokmak 2**	**4.15**	**30**	⇑Pn	**Pn**	**14 00 36.1**	**+3.3**
	comp=Z,415nm,0.5s						
TKM2				⇑Sn	**Sg**	**14 01 38.9**	**-3.7**
	comp=Z,3μm,0.9s						
TKM2	**Tokmak 2**	**4.15**	**30**	*e*Pn	**Pn**	**14 00 35.9**	**+3.2**
TKM2	**Tokmak 2**	**4.15**	**30**	*i* PN	**Pn**	**14 00 36.2**	**+3.5**
TKM2				pmax	pmax		
	comp=Z,592nm,0.8s						
TKM2	**Tokmak 2**	**4.15**	**30**	P	**Pn**	**14 00 36.1**	**+3.4**
	SNR=296						
KNDC	**Almaty**	**4.99**	**38**	⇑Pn	**Pn**	**14 00 48.4**	**+4.2**
	comp=Z,693nm,0.6s						
KNDC				⇑Sn	**Sg**	**14 02 02.0**	**-7.5**
	comp=Z,11μm,1.1s						
AAA	**Alma-Ata**	**5.02**	**38**	*e*PN	**Pb**	**14 01 00.0**	**+2.7**
AAA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
SRNI	**Srinagar**	**5.52**	**162**	*e*P	**Pb**	**14 01 06.0**	**+0.2**
SRNI				*e*S	**Sn**	**14 02 05.0**	**+10**
CEP	**Cherat**	**5.57**	**187**	⇓P	**Pn**	**14 00 57.2**	**+4.9**
KBL	**Kabul**	**5.65**	**213**	*e*Pn	**Pn**	**14 00 58.0**	**+4.6**
	comp=Z,504nm,0.9s						
KBL				*e*Sn	**Sn**	**14 02 11.0**	**+13**
CHCP	**Chirah Chowk**	**5.71**	**176**	⇓P	**Pn**	**14 01 00.0**	**+5.8**
THW	**Thamme Wali**	**6.61**	**187**	P	**Pn**	**14 01 11.0**	**+4.5**
JMU	**Jammu**	**6.86**	**165**	*e*P	**Pn**	**14 01 15.5**	**+5.5**
JMU				*e*S	**Sn**	**14 02 31.5**	**+3.4**
DLH	**Dalhousie**	**7.29**	**158**	*e*x	**Pn**	**14 01 20.0**	**+4.1**
THN	**Thein Dam**	**7.33**	**160**	*e*P	**Pn**	**14 01 18.0**	**+1.6**
THN				*e*x	**Sn**	**14 02 40.5**	**+0.9**
DRP	**Derazinda**	**7.88**	**196**	P	**Pn**	**14 01 28.4**	**+4.4**
BHK	**Bhakra**	**8.48**	**158**	*e*P	**Pn**	**14 01 33.8**	**+1.6**
BHK				*e*S	**Sn**	**14 03 05.0**	**-2.9**
SDNR	**Sundarnagar**	**8.57**	**155**	*e*P	**Pn**	**14 01 35.0**	**+1.6**
SDNR				*e*x	**Sn**	**14 03 10.0**	**-0.2**
SMLA	**Simla**	**8.98**	**155**	*e*P	**Pn**	**14 01 40.2**	**+1.2**
SMLA				AMb	AMB	14 01 43.7	
	comp=Z,154nm,0.4s						
SMLA				*e*S	**Sn**	**14 03 16.9**	**-3.3**
DDI	**Dehra Dun**	**10.02**	**153**	*e*P	**Pn**	**14 01 54.5**	**+1.2**
DDI				*e*x	**Sn**	**14 03 47.8**	**+2.0**
MK31	**Makanchi Array**	**10.19**	**40**	⇓Pn	**Pn**	**14 01 58.1**	**+2.6**
	comp=Z,43nm,0.7s,baz=220,slow=13,SNR=526						
MK31	**Makanchi Array**	**10.19**	**40**	*e*Pn	**Pn**	**14 01 57.5**	**+2.0**
MK31				*e*		14 04 51.2	
MKAR	**Makanchi Array**	**10.19**	**40**	*i* P	**Pn**	**14 01 57.2**	**+1.7**
MKAR				pmax	pmax		
	comp=Z,62nm,0.8s						
MKAR	**Makanchi Array**	**10.19**	**40**	Pn	**Pn**	**14 01 57.3**	**+1.9**
	comp=Z,4.9nm,0.3s,baz=220,slow=14,SNR=169						
MKAR				Lg		14 04 49.3	
	comp=Z,2.5nm,0.3s,baz=234,slow=24,SNR=4.2						
NDI	**New Delhi**	**11.28**	**159**	*e*P	**Pn**	**14 02 11.8**	**+1.2**
NDI				AMb	AMB	14 02 15.6	
	comp=Z,184nm,0.8s						
NDI				*e*S	**Sn**	**14 04 09.3**	**-7.4**
ABKT	**Ailbek**	**11.53**	**267**	Pn	**Pn**	**14 02 12.5**	**-1.4**
	comp=Z,818nm,0.6s,SNR=6.4						
PTH	**Pithoragarh**	**11.57**	**146**	*e*P	**Pn**	**14 02 14.6**	**+0.1**
PTH				*e*S	**Sn**	**14 04 16.0**	**-7.7**
LGTI	**Lohaghat**	**11.67**	**146**	*e*P	**Pn**	**14 02 17.4**	**+1.6**
LGTI				*e*x	**Sn**	**14 04 20.2**	**-5.9**
KURK	**Kurchatov**	**12.08**	**18**	Pn	**Pn**	**14 02 21.0**	**-0.4**
	comp=Z,315nm,0.9s,SNR=19						
KURK	**Kurchatov**	**12.08**	**18**	⇓Pn	**Pn**	**14 02 20.8**	**-0.5**
	comp=Z,40nm,1.2s						
KURK	**Kurchatov**	**12.08**	**18**	*e*Pn	**Pn**	**14 02 21.3**	**0.0**
	comp=Z,71nm,1.1s						
KURK	**Kurchatov**	**12.08**	**18**	*c i*P	**Pn**	**14 02 21.5**	**+0.1**
KURK				pmax	pmax		
	comp=Z,40nm,1.2s						
KURK	**Kurchatov**	**12.08**	**18**	Pn	**Pn**	**14 02 21.3**	**0.0**
	SNR=27						
KURK	**Kurchatov**	**12.08**	**18**	P	**Pn**	**14 02 21.3**	**0.0**
	SNR=27						
AJM	**Ajmer**	**12.95**	**172**	*i* P	**Pn**	**14 02 32.0**	**-1.4**
AJM				*e*S	**Sn**	**14 04 45.4**	**-12**
VOSK	**Vostochnaya**	**13.41**	**355**	⇓Pn	**Pn**	**14 02 36.6**	**-3.0**
	comp=Z,40nm,1.2s						
VOSK				⇑Lg		14 06 35.7	
	comp=Z,592nm,1.3s						
AB31	**Akbulak array**	**13.46**	**321**	⇓Pn	**Pn**	**14 02 37.4**	**-2.8**
	comp=Z,43nm,0.5s,baz=124,slow=12,SNR=772						
AB31				⇑Sn	**Sn**	**14 05 00.4**	**-9.3**
	comp=Z,158nm,0.8s,baz=136,slow=23,SNR=8.9						
BVA0	**Borovoye Array**	**13.76**	**354**	⇑Pn	**Pn**	**14 02 42.0**	**-2.3**
	comp=Z,10nm,0.5s						
BVAR	**Borovoye Array**	**13.76**	**354**	Pn	**Pn**	**14 02 42.6**	**-1.6**
BVAR				Sn	**Sn**	**14 05 12.6**	**-4.3**
BVAR				LR	LR	14 07 50.4	
BVAR	**Borovoye Array**	**13.76**	**354**	P	**Pn**	**14 02 42.6**	**-1.6**
BVAR						14 05 12.6	
BVAR	**Borovoye Array**	**13.76**	**354**	Pn	**Pn**	**14 02 42.6**	**-1.6**
	comp=Z,3.0nm,0.3s,baz=165,slow=12,SNR=160						
BVAR				Sn	**Sn**	**14 05 12.6**	**-4.3**
	comp=Z,4.2nm,0.3s,baz=158,slow=23,SNR=4.6						
BVAR				LR	LR	14 07 50.4	
	comp=Z,443nm,18.6s,baz=173,slow=36						
BRVK	**Borovoye**	**13.80**	**354**	Pn	**Pn**	**14 02 43.0**	**-1.8**
	comp=Z,331nm,1.1s,SNR=28						
BRVK	**Borovoye**	**13.80**	**354**	*e*Pn	**Pn**	**14 02 43.0**	**-1.9**
	comp=Z,98nm,0.6s						
BRVK				*e*		14 02 55.1	
BRVK				*e*Sn	**Sn**	**14 05 12.7**	**-5.3**
BRVK	**Borovoye**	**13.80**	**354**	*e*P	**Pn**	**14 02 43.0**	**-1.8**
BRVK				*e*		14 05 12.7	
BRVK				pmax	pmax		
	comp=Z,98nm,0.6s						
BRVK	**Borovoye**	**13.80**	**354**	Pn	**Pn**	**14 02 43.3**	**-1.5**
	SNR=36						
BRVK	**Borovoye**	**13.80**	**354**	P	**Pn**	**14 02 43.3**	**-1.5**
	SNR=36						
CHKZ	**Chkalovo**	**14.39**	**355**	⇓Pn	**Pn**	**14 02 49.9**	**-2.9**
	comp=Z,31nm,0.8s						
CHKZ				⇓Sn	**Sn**	**14 05 37.8**	**+5.5**
	comp=Z,95nm,1.1s						
CHKZ				⇑Lg		14 07 06.7	
	comp=Z,158nm,1.1s						
CHKZ	**Chkalovo**	**14.39**	**355**	*i* P	**Pn**	**14 02 49.9**	**-2.9**
CHKZ				pmax	pmax		
	comp=Z,15nm,0.5s						
GKN	**Gorkha**	**15.03**	**135**	*e*P	**Pn**	**14 02 57.7**	**-4.1**
	comp=Z,212nm,0.5s						
GKN				*e*S	**Sn**	**14 05 40.9**	**-7.5**
AKTK	**Aktyubinsk**	**15.18**	**322**	Pn	**Pn**	**14 03 01.3**	**-2.2**
AKTK				Sn	**Sn**	**14 05 43.5**	**-8.1**
AKTK				LR	LR	14 09 24.0	
AKTO	**Aktyubinsk**	**15.18**	**322**	P	**Pn**	**14 03 01.3**	**-2.2**
AKTO						14 05 43.5	
AKTO	**Aktyubinsk**	**15.18**	**322**	Pn	**Pn**	**14 03 01.3**	**-2.2**
	comp=Z,2.7nm,0.3s,baz=132,slow=14,SNR=96						
AKTO				Sn	**Sn**	**14 05 43.5**	**-8.1**
	comp=Z,3.2nm,0.3s,baz=3.7,slow=19,SNR=5.7						
AKTO				LR	LR	14 09 24.0	

ARU			*e*S		**Sn**	**14 07 33.9 -1.6**
ARU			pmax		pmax	
	comp=Z,73nm,1.0s					
ARU			MLR		MLR	
	comp=Z,885nm,19.0s					
ASHO	**Ashiyiah**	**20.31 229**	P		**P**	**14 04 06.6 +1.2**
	SNR=14					
ASHO	**Ashiyiah**	**20.31 229**	P		**P**	**14 04 06.6 +1.2**
	SNR=14					
HOQ	**Hoqain**	**20.47 224**	P		**P**	**14 04 08.0 +0.9**
	SNR=7.8					
HOQ	**Hoqain**	**20.47 224**	P		**P**	**14 04 08.0 +0.9**
	SNR=7.8					
SMDO	**Samad**	**20.50 222**	P		**P**	**14 04 08.0 +0.5**
	SNR=15					
SMDO	**Samad**	**20.50 222**	P		**P**	**14 04 08.0 +0.5**
	SNR=15					
POO	**Poona**	**20.79 177**	*e*P		**P**	**14 04 10.7 +0.1**
POO			AMb		AMB	14 04 18.8
	comp=Z,147nm,1.6s					
GTA	**Gaotai**	**20.90 81**	⇑P		**P**	**14 04 14.0 +2.3**
GTA			S		**S**	**14 08 05.3 +0.6**
GTA			AMB		AMB	
	comp=Z,376nm,0.8s					
GTA			AMB		AMB	
	comp=Z,988nm,5.3s					
GTA			LR		LR	
	comp=N,1μm,14.8s,MS4.5					
GTA			LR		LR	
	comp=E,992nm,12.5s,MS4.5					
GTA			LR		LR	
	comp=Z,1μm,12.9s,MS4.5					
DGRG	**David-gareji**	**20.91 285**	P		**P**	**14 04 13.2 +1.4**
LATR	**Latur**	**21.14 170**	*e*P		**P**	**14 04 12.6 -1.8**
LATR			*e*P			14 04 13.7
LATR			AMb		AMB	14 04 15.2
	comp=Z,46nm,1.2s,mb4.7					
SHL	**Shillong**	**21.16 125**	⇑*i*P		**P**	**14 04 16.0 +1.4**
SHL			*ex*		x	14 08 02.0
MTA	**Mtatsminda**	**21.34 285**	P		**P**	**14 04 16.4 0.0**
TBLG	**Delisi**	**21.37 285**	*e*P		**P**	**14 04 19.3 +2.5**
TBLG	**Delisi**	**21.37 285**	P		**P**	**14 04 19.4 +2.6**
AGT	**Agartala**	**22.00 129**	*i* x		**P**	**14 04 21.0 -2.6**
KAD	**Karad**	**22.02 176**	*e*P		**P**	**14 04 23.8 0.0**
KAD			AMb		AMB	14 04 30.6
	comp=Z,83nm,1.1s,mb5.1					
ONI	**Oni**	**22.30 288**	P		**P**	**14 04 27.8 +1.1**
HYB	**Hyderabad**	**22.45 165**	*e*P		**P**	**14 04 28.0 -0.4**
	comp=Z,90nm,1.0s,mb5.2					
HYB			*e*S		**S**	**14 08 34.0 -1.1**
HYB	**Hyderabad**	**22.45 165**	*e*P		**P**	**14 04 28.0 -0.4**
HYB			*e*S		**S**	**14 08 34.0 -1.1**
HYB			pmax		pmax	
	comp=Z,90nm,1.0s,mb5.2					
HYB	**Hyderabad**	**22.45 165**	⇑*i*P		**P**	**14 04 28.0 -0.4**
	comp=Z,90nm,1.0s,mb5.2					
HYB			*e*S		**S**	**14 08 29.0 -6.1**
SOKR	**Solikamsk**	**22.61 339**	*d i*P		**P**	**14 04 30.5 +0.7**
SOKR			pmax		pmax	
	comp=Z,100nm,1.0s,mb5.2					
SOKR			MLR		MLR	
	comp=Z,500nm,16.0s,MS4.0					
KARS	**Kars**	**22.70 283**	*e*P		**P**	**14 04 33.6 +2.6**
KIV	**Kislovodsk**	**22.85 291**	P		**P**	**14 04 33.1 +0.6**
	comp=Z,404nm,0.8s,SNR=6.3					
KIV	**Kislovodsk**	**22.85 291**	*e*P		**P**	**14 04 33.6 +1.1**
	comp=Z,164nm,0.9s,mb5.5					
KIV	**Kislovodsk**	**22.85 291**	*e*P		**P**	**14 04 32.5 0.0**
KIV			*e*S		**S**	**14 08 36.5 -5.6**
KIV			pmax		pmax	
	comp=Z,73nm,1.0s,mb5.1					
KIV			MLR		MLR	
	comp=Z,397nm,15.0s,MS4.0					
KIV	**Kislovodsk**	**22.85 291**	P		**P**	**14 04 33.5 +1.0**
	SNR=33					
KIV	**Kislovodsk**	**22.85 291**	P		**P**	**14 04 33.5 +1.0**
	SNR=33					
MIB	**Mutribah**	**22.92 253**	*e*P		**P**	**14 04 34.1 +0.7**
MIB			AMb		AMB	14 04 45.8
	comp=Z,330nm,0.8s					
IMP	**Imphal**	**23.03 123**	*i* x		**P**	**14 04 33.0 -1.6**
MOY	**Mondy**	**23.14 49**	*e*P		**P**	**14 04 36.5 +1.0**
MOY			pmax		pmax	
	comp=Z,118nm,2.6s,mb4.9					
RDF	**Al-Radifah**	**23.23 251**	*e*P		**P**	**14 04 37.4 +0.6**
RDF			AMb		AMB	14 04 46.8
	comp=Z,170nm,1.4s,mb5.3					
NAY	**Al-Naaiem**	**23.29 252**	*e*P		**P**	**14 04 37.5 +0.2**
NAY			AMb		AMB	14 04 48.8
	comp=Z,75nm,1.3s,mb5.0					
RST	**Umm Al-Ruwaisa**	**23.34 253**	*e*P		**P**	**14 04 37.4 -0.4**
RST			AMb		AMB	14 04 48.1
	comp=Z,95nm,0.7s,mb5.3					
VIS	**Vishakhapatnam**	**23.45 154**	*e*P		**P**	**14 04 38.8 -0.3**
VIS			AMb		AMB	14 04 43.4
	comp=Z,129nm,1.1s,mb5.3					
BCA	**Borcka**	**23.73 285**	*e*P		**P**	**14 04 41.9 +0.4**
ZAK	**Zakamensk**	**24.11 53**	⇓*i*P		**P**	**14 04 45.8 +0.8**
ZAK			pmax		pmax	
	comp=Z,45nm,0.8s,mb5.0					
VRHR	**Novokhopersk**	**24.66 309**	*e*P		**P**	**14 04 50.2 +0.2**
VRHR			pmax		pmax	
	comp=Z,9.0nm,0.5s,mb4.6					
VRHR			pmax		pmax	
	comp=N,10.0nm,0.7s					
VRHR			pmax		pmax	
	comp=E,10.0nm,0.7s					
VRHR			MLR		MLR	
	comp=Z,810nm,13.0s,MS4.4					
VRHR			MLR		MLR	
	comp=N,530nm,16.0s,MS4.3					
VRHR			MLR		MLR	
	comp=E,610nm,15.0s,MS4.3					
TLY	**Talaya**	**24.70 50**	P		**P**	**14 04 52.9 +2.6**
	comp=E,206nm,0.7s,SNR=5.2					
TLY	**Talaya**	**24.70 50**	*e*P		**P**	**14 04 51.6 +1.3**
	comp=E,31nm,1.1s,mb4.8					
TLY	**Talaya**	**24.70 50**	*c i*P		**P**	**14 04 51.6 +1.3**
TLY			*e*			14 05 22.0
TLY			*e*SS			14 10 09.3
TLY			pmax		pmax	
	comp=Z,22nm,0.7s,mb4.8					
TLY			MLR		MLR	
	comp=Z,450nm,11.0s,MS4.2					
TLY	**Talaya**	**24.70 50**	P		**P**	**14 04 52.3 +2.0**
	SNR=6.7					
TLY	**Talaya**	**24.70 50**	P		**P**	**14 04 52.3 +2.0**
	SNR=6.7					
LZH	**Lanzhou**	**24.76 88**	⇑P		**P**	**14 04 52.5 +1.5**
LZH			AP			14 05 05.0
LZH			PP			14 05 30.5
LZH			S		**S**	**14 09 08.6 -4.5**
LZH			XS		sS	14 09 29.4 +11
LZH			SS			14 10 08.8
LZH			AMB		AMB	
	comp=Z,59nm,1.0s,mb5.1					
LZH			AMB		AMB	
	comp=Z,467nm,8.1s					
LZH			LR		LR	
	comp=E,1μm,9.8s					
LZH			LR		LR	
	comp=Z,2μm,11.2s,MS4.8					
SOC	**Sochi**	**25.00 290**	*e*P		**P**	**14 04 50.4 -2.8**
SOC			*e*			14 05 24.7
SOC			*e*S		**S**	**14 09 11.1 -5.8**
SOC			*e*SS			14 10 03.3
SOC			pmax		pmax	
	comp=Z,39nm,1.2s,mb4.8					
SOC			MLR		MLR	
	comp=Z,340nm,13.0s,MS4.0					
IRK	**Irkutsk**	**25.25 49**	*e*P		**P**	**14 04 55.7 +0.4**
IRK			pmax		pmax	
	comp=Z,76nm,1.3s,mb5.1					
SONM	**Songino Array**	**25.64 60**	P		**P**	**14 04 59.9 +1.1**
	comp=Z,46nm,0.6s,mb5.2,baz=268,slow=9.0,SNR=242					
SONM			LR		LR	14 16 01.4
	comp=Z,1μm,19.4s,MS4.5,baz=269,slow=39					
VRSR	**Storozhevoye**	**26.17 308**	*e*P		**P**	**14 05 03.6 -0.1**
VRSR			*e**PP		pP	14 05 13.6 +6.9
VRSR			*e**SP		sP	14 05 20.1 +12
VRSR			*e*S		**S**	**14 09 32.9 -2.4**
VRSR			pmax		pmax	
	comp=Z,7.0nm,1.0s,mb4.2					
VRSR			pmax		pmax	
	comp=N,4.0nm,1.1s					
VRSR			pmax		pmax	
	comp=E,10.0nm,1.0s					
VRSR			smax			
	comp=N,10.0nm,1.5s					
VRSR			smax			
	comp=Z,1.0nm,1.3s					
VRSR			smax			
	comp=E,10.0nm,1.5s					
VRSR			MLR		MLR	
	comp=Z,90nm,16.0s,MS3.4					
VRSR			MLR		MLR	
	comp=N,30nm,14.0s,MS3.5					
VRSR			MLR		MLR	
	comp=E,110nm,16.0s,MS3.5					
VOR	**Voronezh**	**26.30 309**	*e*P		**P**	**14 05 12.0 +7.2**
VOR			pmax		pmax	
	comp=Z,200nm,2.0s,mb5.3					
CD2	**Chengdu**	**26.63 99**	P		**P**	**14 05 09.8 +1.8**
CD2			AP		pP	14 05 21.3 +10
CD2			XP		sP	14 05 27.0 +15
CD2			PP			14 05 54.0
CD2			PCP		PcP	14 08 34.8 +2.9
CD2			S		**S**	**14 09 38.3 -4.7**
CD2			XS		sS	14 09 57.5 +10
CD2			SS			14 10 51.5
CD2			PCS		PcS	14 12 13.0 -0.2
CD2			AMB		AMB	
	comp=Z,150nm,0.9s,mb5.5					
CD2			AMB		AMB	
	comp=Z,290nm,6.3s					
CD2			LR		LR	
	comp=N,1μm,13.2s,MS4.8					
CD2			LR		LR	
	comp=E,1μm,10.8s,MS4.8					
CD2			LR		LR	
	comp=Z,890nm,13.8s,MS4.5					
MALT	**Malatya**	**26.66 279**	*e*P		**P**	**14 05 10.5 +2.3**
	comp=Z,30nm,1.0s,mb4.8					
MALT	**Malatya**	**26.66 279**	*e*P		**P**	**14 05 10.5 +2.3**
MALT			pmax		pmax	
	comp=Z,29nm,1.0s,mb4.8					
MALT	**Malatya**	**26.66 279**	⇓*i*P		**P**	**14 05 10.9 +2.7**
MOS	**Moscow**	**28.40 317**	*e*P		**P**	**14 05 25.2 +1.5**
MOS			*e**PP		pP	14 05 42.0 +15
MOS			*e*			14 06 12.9
MOS			*e*PPP			14 06 23.4
MOS			*e*S		**S**	**14 10 09.7 -0.7**
MOS			pmax		pmax	
	comp=Z,100nm,1.2s,mb5.3					
MOS			pmax		pmax	
	comp=Z,89nm,1.1s,mb5.3					
DIKM	**Dikmen**	**28.45 287**	*e*P		**P**	**14 05 21.4 -2.7**
BTO	**Baotou**	**28.46 75**	*e*P		**P**	**14 05 24.8 +0.5**
OBN	**Obninsk**	**28.77 315**	*e*P		**P**	**14 05 26.8 -0.1**
	comp=Z,72nm,1.0s,mb5.4					
OBN	**Obninsk**	**28.77 315**	⇓*i*P		**P**	**14 05 26.8 -0.1**
OBN			*e*			14 05 37.0
OBN						14 06 15.0
OBN			S		**S**	**14 10 15.0 -1.1**
OBN			pmax		pmax	
	comp=Z,26nm,1.0s,mb4.9					
OBN			MLR		MLR	
	comp=Z,300nm,15.0s,MS4.0					
KMI	**Kunming**	**28.92 110**	P		**P**	**14 05 27.4 -1.1**
KMI			AP		pP	14 05 43.8 +12
KMI			PP		PP	14 06 24.1 -10
KMI			PPP			14 06 37.8
KMI			S		**S**	**14 10 17.8 -1.3**
KMI			SS		SS	14 11 46.5 -35
KMI			AMB		AMB	
	comp=Z,14nm,1.0s,mb4.7					
KMI			AMB		AMB	
	comp=Z,180nm,6.6s					
KMI			LR		LR	
	comp=N,414nm,12.9s,MS4.3					
KMI			LR		LR	
	comp=E,492nm,17.4s,MS4.3					
KMI			LR		LR	
	comp=Z,603nm,15.4s,MS4.3					
SIM	**Simferopol'**	**28.97 294**	*c i*P		**P**	**14 05 29.3 +0.5**
SIM			*e*S		**S**	**14 10 17.6 -2.0**
SIM			pmax		pmax	
	comp=Z,72nm,0.9s,mb5.4					
KOD	**Kodaikanal**	**29.32 170**	*ex*		x	14 05 22.3
KOD			AMb		AMB	14 05 38.6
	comp=Z,32nm,0.8s,mb5.1					
XAN	**Xi'an**	**29.36 89**	P		**P**	**14 05 32.9 +0.5**
XAN			AMB		AMB	
	comp=Z,19nm,1.0s,mb4.8					
XAN			AMB		AMB	
	comp=Z,72nm,5.5s					
XAN			LR		LR	
	comp=N,542nm,13.6s,MS4.7					
XAN			LR		LR	
	comp=E,1μm,13.4s,MS4.7					
XAN			LR		LR	
	comp=Z,1μm,13.4s,MS4.6					
HHC	**Hu-ho-hao-te**	**29.57 75**	*e*P		**P**	**14 05 36.3 +2.1**
HHC			AP		pP	14 05 47.3 +10
HHC			XP		sP	14 05 53.9 +15
HHC			PP		PP	14 06 32.6 -8.2
HHC			PCP		PcP	14 08 41.8 +2.9
HHC			S		**S**	**14 10 29.3 +0.2**
HHC			XS		sS	14 10 45.1 +11
HHC			SS		SS	14 12 00.4 -34
HHC			PCS		PcS	14 12 24.3 +2.4
HHC			SCS		ScS	14 16 10.5 -4.9
HHC			AMB		AMB	
	comp=Z,21nm,0.4s,mb5.2					
HHC			AMB		AMB	
	comp=Z,210nm,5.5s					
HHC			LR		LR	
	comp=N,550nm,17.7s					
HHC			LR		LR	
	comp=E,545nm,11.8s					
HHC			LR		LR	
	comp=Z,729nm,10.6s					
ASF	**Jabal al Asfar**	**29.81 267**	P		**P**	**14 05 36.9 +0.4**
	comp=Z,2.2nm,0.6s,mb4.0,baz=289,slow=8.0,SNR=3.7					
ASF			LR		LR	14 19 54.7
	comp=Z,296nm,18.1s,MS4.0,baz=304,slow=41					
CHRT	**Chiangrai**	**30.31 122**	⇑P		**P**	**14 05 41.0 +0.1**
	comp=Z,513nm,1.1s					
CHG	**Chiang Mai**	**30.53 125**	⇑P		**P**	**14 05 41.4 -1.5**
	comp=Z,20nm,0.6s,mb5.1					
CHTO	**Chiang Mai**	**30.53 125**	*e*P		**P**	**14 05 41.2 -1.7**
	comp=Z,20nm,1.0s,mb4.9					
CHTO	**Chiang Mai**	**30.53 125**	*e*P		**P**	**14 05 41.2 -1.7**
CHTO			pmax		pmax	
	comp=Z,20nm,1.0s,mb4.9					
CHTO	**Chiang Mai**	**30.53 125**	P		**P**	**14 05 42.2 -0.6**
	SNR=8.0					
CHTO	**Chiang Mai**	**30.53 125**	P		**P**	**14 05 42.2 -0.6**
	SNR=8.0					
ANTO	**Ankara**	**30.60 284**	*e*P		**P**	**14 05 46.5 +3.1**
	comp=Z,33nm,1.2s,mb5.0					
ANTO	**Ankara**	**30.60 284**	*e*P		**P**	**14 05 46.5 +3.2**
ANTO			pmax		pmax	
	comp=Z,33nm,1.2s,mb5.0					
ANTO	**Ankara**	**30.60 284**	P		**P**	**14 05 47.4 +4.1**
	SNR=7.6					
ANTO	**Ankara**	**30.60 284**	P		**P**	**14 05 47.4 +4.1**
	SNR=7.6					
MMAI	**Mount Meron Ar**	**30.64 270**	P		**P**	**14 05 46.3 +2.6**
	comp=Z,1.0nm,0.3s,mb4.1,baz=79,slow=9.0,SNR=2.2					
MMAI			LR		LR	14 18 32.0
	comp=Z,84nm,20.3s,MS3.4,baz=20,slow=37					
CM31	**Chiang Mai Arr**	**30.80 125**	*e*P		**P**	**14 05 44.1 -1.1**
	comp=Z,12nm,0.7s,mb4.8					
TIY	**Taiyuan**	**30.92 80**	⇑*i*P		**P**	**14 05 46.9 +0.7**
TIY			XP		sP	14 06 01.0 +11
TIY			PPP			14 08 03.3
TIY			S		**S**	**14 10 52.3 +2.0**
TIY			LR		LR	
	comp=N,772nm,10.2s					
TIY			LR		LR	
	comp=E,445nm,9.3s					
TIY			LR		LR	
	comp=Z,550nm,10.6s,MS4.5					
GYA	**Guiyang**	**31.07 104**	⇑*i*P		**P**	**14 05 48.8 +1.3**
GYA			AP		pP	14 06 03.3 +13
GYA			PP		PP	14 06 53.4 -4.2
GYA			PCP		PcP	14 08 44.9 +1.8
GYA			S		**S**	**14 10 49.8 -2.9**
GYA			SCP		ScP	14 12 22.0 -3.9
GYA			SS		SS	14 12 36.8 -29
GYA			SCS		ScS	14 16 17.8 -5.3
GYA			AMB		AMB	
	comp=Z,30nm,0.8s,mb5.2					
GYA			AMB		AMB	
	comp=Z,120nm,4.8s					
GYA			LR		LR	
	comp=N,840nm,17.5s,MS4.6					
GYA			LR		LR	
	comp=E,760nm,16.8s,MS4.6					
GYA			LR		LR	
	comp=Z,670nm,17.3s,MS4.4					
BDT	**Bhumibol Dam**	**31.74 127**	P		**P**	**14 05 51.5 -2.0**
TMCR	**Tamitsa**	**32.10 332**	⇓*i*P		**P**	**14 05 56.7 +0.5**
TMCR			*e**PP		pP	14 06 06.3 +7.0
TMCR			*e*			14 06 59.8
BOD	**Bodaibo**	**32.27 41**	⇓*i*P		**P**	**14 05 57.5 -0.3**
BOD			pmax		pmax	
	comp=Z,62nm,0.9s,mb5.4					
AKASG	**Malin Array Be**	**32.33 305**	P		**P**	**14 05 57.6 -0.8**
AKASG						14 08 45.1
AKASG	**Malin Array Be**	**32.33 305**	P		**P**	**14 05 57.6 -0.8**
	comp=Z,2.5nm,0.3s,mb4.5,baz=83,slow=7.8,SNR=9.3					
AKASG			PcP		PcP	14 08 45.1 -0.9
	comp=Z,5.2nm,0.6s,baz=75,slow=3.5,SNR=6.4					
AKASG			LR		LR	14 21 40.1
	comp=Z,273nm,19.1s,MS4.0,baz=85,slow=41					
AKBB	**Malin Array Si**	**32.33 305**	*e*P		**P**	**14 05 57.3 -1.1**
KIEV	**Kiev**	**32.34 305**	*e*P		**P**	**14 05 57.1 -1.3**
	comp=Z,12nm,0.6s,mb4.9					
KIEV	**Kiev**	**32.34 305**	*e*P		**P**	**14 05 57.2 -1.2**
KIEV			pmax		pmax	
	comp=Z,11nm,0.6s,mb4.9					
KIS	**Kishinev**	**32.57 298**	*e*P		**P**	**14 06 03.0 +2.4**
KIS			LRM			14 23 56.0
	comp=Z,400nm,12.0s					
BJI	**Beijing**	**33.18 75**	P		**P**	**14 06 05.5 -0.5**
BJI			AP		pP	14 06 18.5 +9.5
BJI			XP		sP	14 06 25.3 +15
BJI			S		**S**	**14 11 15.8 -10**
BJI			AMB		AMB	
	comp=Z,34nm,0.8s,mb5.3					
BJI			AMB		AMB	
	comp=Z,81nm,4.0s					
BJI			LR		LR	
	comp=N,666nm,14.0s,MS4.6					
BJI			LR		LR	
	comp=E,633nm,16.8s,MS4.6					
BJI			LR		LR	
	comp=Z,585nm,18.1s,MS4.3					
BJT	**Baijiatuau**	**33.18 75**	*e*P		**P**	**14 06 06.7 +0.8**
	comp=Z,24nm,0.8s,mb5.2					
BJT	**Baijiatuau**	**33.18 75**	*e*P		**P**	**14 06 06.7 +0.7**
BJT			pmax		pmax	
	comp=Z,24nm,0.8s					
MNK	**Minsk**	**33.55 312**	*e*P		**P**	**14 06 08.0 -1.0**
NST	**Nakhon Sawan**	**33.63 127**	⇓P		**P**	**14 06 10.8 +0.7**
	comp=Z,52nm,1.0s,mb5.4					
VRI	**Vrincioaia**	**34.10 296**	⇑P		**P**	**14 06 15.6 +1.7**
VRI	**Vrincioaia**	**34.10 296**	⇑*i*P		**P**	**14 06 15.6 +1.7**
JOF	**Joensuu**	**34.14 327**	*ep*		**P**	**14 06 13.3 -0.7**
	comp=Z,36nm,0.7s,mb5.4					
PLOR	**Plostina**	**34.15 296**	⇑*i*P		**P**	**14 06 16.1 +1.7**
HIA	**Hailar**	**34.55 58**	*e*P		**P**	**14 06 18.3 +0.5**
	comp=Z,10nm,0.7s,mb4.9					
HIA			*e*			14 06 34.1
HIA	**Hailar**	**34.55 58**	*e*P		**P**	**14 06 18.3 +0.5**
HIA			*e*			14 06 34.1
HIA			pmax		pmax	
	comp=Z,10.0nm,0.7s					
MLR	**Muntele Rosu**	**34.68 296**	⇓P		**P**	**14 06 21.1 +2.1**
MLR	**Muntele Rosu**	**34.68 296**	P		**P**	**14 06 20.0 +1.0**
	comp=Z,31nm,0.8s,mb5.3,baz=358,slow=1.0,SNR=29					
MLR			LR		LR	14 23 35.3
	comp=Z,246nm,18.8s,MS4.0,baz=265,slow=42					
MLR	**Muntele Rosu**	**34.68 296**	⇓*i*P		**P**	**14 06 21.1 +2.1**
VSU	**Vasula**	**34.87 319**	⇓*e*P		**P**	**14 06 19.6 -0.8**
TIA	**Tai'an**	**34.95 81**	⇑P		**P**	**14 06 22.5 +1.1**
TIA			AMB		AMB	
	comp=Z,42nm,1.0s,mb5.3					
WHN	**Wuhan**	**34.97 92**	⇓P		**P**	**14 06 23.0 +1.4**
WHN			*e*S		**S**	**14 11 50.3 -3.0**
WHN			AMB		AMB	
	comp=Z,84nm,1.0s					
WHN			LR		LR	
	comp=Z,1μm,17.8s,MS4.7					
VOIR		**35.31 296**	⇑*i*P		**P**	**14 06 25.5 +1.1**
APA	**Apatity**	**35.56 335**	⇑*e*P		**P**	**14 06 25.6 -0.7**
APA			*e*			14 12 05.0
APA			pmax		pmax	
	comp=Z,13nm,1.0s,mb4.8					
APA			MLR		MLR	
	comp=Z,1μm,11.0s,MS5.0					
LVV	**L'vov**	**35.65 303**	*e*P		**P**	**14 06 27.0 -0.2**
LVV			*e*			14 08 14.4
LVV			MLR		MLR	
	comp=Z,400nm,18.0s,MS4.2					
LVV			MLR		MLR	
	comp=N,400nm,16.0s,MS4.3					
LVV			MLR		MLR	
	comp=E,200nm,16.0s,MS4.3					
FIA1	**FINESS Array S**	**35.94 323**	*e*P		**P**	**14 06 29.3 -0.3**
FINES	**FINESS Array B**	**35.94 323**	*i* P		**P**	**14 06 29.7 +0.1**
FINES			pmax		pmax	
	comp=Z,16nm,0.5s					
FINES	**FINESS Array B**	**35.94 323**	P		**P**	**14 06 29.1 -0.4**
	comp=Z,16nm,0.5s,mb5.2,baz=110,slow=9.4,SNR=174					
FINES			LR		LR	14 21 40.8
	comp=Z,354nm,18.8s,MS4.2,baz=1.1,slow=37					
KAF	**Kangasniemi**	**36.03 325**	*ep*		**P**	**14 06 29.5 -0.8**
	comp=Z,10nm,0.6s,mb4.9,baz=107,slow=8.7					
KAF	**Kangasniemi**	**36.03 325**	*e*P		**P**	**14 06 29.5 -0.8**
KAF			pmax		pmax	
	comp=Z,10.0nm,0.6s,mb4.9					
SUW	**Suwalki**	**36.22 311**	*e*P		**P**	**14 06 31.5 -0.6**
KWP	**Kalwaria**	**36.51 303**	*e*P		**P**	**14 06 35.5 +0.9**
KWP	**Kalwaria**	**36.51 303**	*e*P		**P**	**14 06 35.5 +0.9**
KWP	**Kalwaria**	**36.51 303**	⇑*i*P		**P**	**14 06 35.8 +1.2**
DRGR		**36.76 298**	⇓P		**P**	**14 06 37.9 +1.1**
DRGR		**36.76 298**	⇓*i*P		**P**	**14 06 37.9 +1.1**
APE	**Apeiranthos**	**36.84 282**	⇓*i*P		**P**	**14 06 37.9 +0.4**
KOLS	**Kolonicke sedl**	**36.84 302**	*e*P		**P**	**14 06 37.3 -0.1**
KOLS			*e*PP		PP	14 08 01.2 0.0
VTS	**Vitosha**	**37.11 291**	⇓P		**P**	**14 06 41.1 +1.3**
VTS	**Vitosha**	**37.11 291**	⇓*i*P		**P**	**14 06 41.1 +1.3**
CRVS	**Cervenica-Dubn**	**37.38 302**	*e*P		**P**	**14 06 45.1 +3.1**
CRVS			*e*PP		PP	14 08 12.6 +5.5
STHS	**Stebnicka Huta**	**37.48 303**	*i* P		**P**	**14 06 42.6 -0.2**
	comp=Z,5.9nm,0.6s,mb4.6					
STHS			*e*PP		PP	14 08 12.5 +4.3
STHS			*e*PcP		PcP	14 09 00.6 -0.4
STHS	**Stebnicka Huta**	**37.48 303**	*i* P		**P**	**14 06 42.6 -0.2**
STHS			*e*			14 08 12.5
STHS			*e*			14 09 00.6
STHS			pmax		pmax	
	comp=Z,6.0nm,0.6s,mb4.6					
STHS	**Stebnicka Huta**	**37.48 303**	*i* P		**P**	**14 06 42.6 -0.2**
STHS			*e*PP		PP	14 08 12.5 +4.3
STHS			*e*PCP		PcP	14 09 00.5 -0.5
DL2	**Dalian**	**37.55 75**	P		**P**	**14 06 44.3 +0.7**
DL2			S		**S**	**14 12 30.4 -2.2**
DL2			AMB		AMB	
	comp=Z,20nm,0.9s,mb4.8					
DL2			LR		LR	
	comp=N,290nm,15.2s,MS4.4					
DL2			LR		LR	
	comp=E,360nm,15.8s,MS4.4					
DL2			LR		LR	
	comp=Z,320nm,16.6s,MS4.2					
KNT	**Kendrikon**	**37.66 289**	*e*P		**P**	**14 06 45.2 +0.7**
BZS	**Buzias**	**37.68 297**	⇓P		**P**	**14 06 45.8 +1.3**
BZS	**Buzias**	**37.68 297**	⇓*i*P		**P**	**14 06 45.8 +1.2**
NJ2	**Nanjing**	**37.82 86**	*e*P		**P**	**14 06 48.3 +2.4**
NJ2			AP		pP	14 06 59.9 +11
NJ2			XP		sP	14 07 04.8 +15
NJ2			PP		PP	14 08 19.6 +7.4
NJ2			S		**S**	**14 12 25.0 -12**
NJ2			XS		sS	14 12 47.0 +5.0
NJ2			AMB		AMB	
	comp=Z,10.0nm,0.6s,mb4.7					
NJ2			AMB		AMB	
	comp=Z,1μm,4.2s					
NJ2			LR		LR	
	comp=N,850nm,9.3s					

NJ2 LR LR
comp=E,600nm,11.1s
QIZ Qiongzhong 37.85 112 P **P** **14 06 46.8 +0.5**
QIZ S **S** **14 12 36.8 -0.7**
QIZ XS sS 14 12 55.9 +13
QIZ AMB AMB
comp=Z,28nm,1.2s,mb4.9
QIZ AMB AMB
comp=Z,155nm,5.5s
QIZ LR LR
comp=N,271nm,18.8s,MS4.3
QIZ LR LR
comp=E,342nm,18.4s,MS4.3
QIZ LR LR
comp=Z,448nm,14.4s,MS4.4
QIZ Qiongzhong 37.85 112 *e*P **P** **14 06 46.5 +0.2**
comp=Z,15nm,0.7s,mb4.8
VAY Valandovo 37.86 290 *e*P **P** **14 06 46.0 -0.2**
CLNS Chul'man 37.89 45 *e*P **P** **14 06 46.0 -0.2**
CLNS *e**PP pP 14 06 52.3 +3.0
CLNS *e*PPP 14 08 20.9
CLNS *e* 14 09 06.4
CLNS *e*S **S** **14 12 29.1 -8.3**
CLNS *e*SS SS 14 15 11.8 -12
CLNS *e* 14 16 56.1
CLNS pmax pmax
comp=Z,31nm,0.7s,mb5.2
CLNS pmax pmax
comp=N,9.0nm,0.8s
CLNS pmax pmax
comp=E,15nm,0.6s
CLNS pmax pmax
comp=Z,6.0nm,1.0s,mb4.3
CLNS pmax pmax
comp=N,6.0nm,0.7s
CLNS pmax pmax
comp=E,6.0nm,0.8s
CLNS smax
comp=N,89nm,13.0s
CLNS smax
comp=Z,31nm,12.5s
CLNS smax
comp=E,101nm,11.3s
CLNS MLR MLR
comp=Z,2µm,13.0s,MS5.2
CLNS MLR MLR
comp=N,600nm,12.0s,MS5.0
CLNS MLR MLR
comp=E,1µm,11.0s,MS5.0
XOR Xorichti 37.91 286 *e*P **P** **14 06 47.3 +0.6**
KECS Kecovo 38.06 301 *e*P **P** **14 06 48.1 +0.3**
comp=E,3.2nm,0.7s,mb4.2
KECS *e*PP PP 14 08 15.3 +0.7
KECS Kecovo 38.06 301 *e*P **P** **14 06 48.1 +0.3**
KECS *e* 14 08 15.3
KECS pmax pmax
comp=Z,3.0nm,0.7s,mb4.1
NIE Niedzica 38.08 303 *e*P **P** **14 06 49.3 +1.3**
SNY Shenyang 38.22 69 ⇑P **P** **14 06 49.3 +0.1**
SNY S **S** **14 12 49.1 +6.3**
SNY AMB AMB
comp=Z,17nm,1.4s,mb4.6
SNY AMB AMB
comp=Z,179nm,3.5s
SNY LR LR
comp=N,853nm,20.0s
SNY LR LR
comp=Z,560nm,11.6s
OJC Ojcow 38.35 304 *e*P **P** **14 06 50.1 -0.1**
PSZ Piszkesteto 38.52 301 *e*P **P** **14 06 51.8 +0.1**
comp=Z,14nm,1.3s,mb4.5
PSZ *e*PP PP 14 08 18.3 -1.3
PSZ Piszkesteto 38.52 301 *e*P **P** **14 06 51.8 +0.1**
PSZ *e* 14 08 18.3
PSZ pmax pmax
comp=Z,14nm,1.3s,mb4.5
PSZ Piszkesteto 38.52 301⇓*i*P **P** **14 06 52.6 +0.9**
PSZ Piszkesteto 38.52 301⇓*e*P **P** **14 06 52.7 +1.0**
PSZ *e*PP PP 14 08 18.3 -1.3
AGG Agios Georgios 38.65 286 *e*P **P** **14 06 51.9 -1.0**
KEV Kevo 38.69 336 *e*p **P** **14 06 52.4 -0.4**
GVD Gavdhos 38.70 279 *e*P **P** **14 06 52.3 -1.0**
comp=Z,17nm,0.6s,mb5.0
KRUS Krusevo 38.81 290 *e*P **P** **14 06 55.0 +0.8**
FNA Florina 38.87 289 *e*P **P** **14 06 54.8 +0.1**
ARCES ARCESS Array B 39.06 336 P **P** **14 06 55.7 -0.2**
ARCES LR LR 14 23 57.9
ARCES ARCESS Array B 39.06 336 P **P** **14 06 55.7 -0.2**
comp=Z,16nm,0.6s,mb5.0,baz=110,slow=8.6,SNR=129
ARCES LR LR 14 23 57.9
comp=Z,593nm,20.2s,MS4.4,baz=121,slow=38
ARE0 ARCESS Array S 39.06 336 *e*P **P** **14 06 56.0 +0.1**
DIVS Divibare 39.09 295 *e*P **P** **14 06 57.3 +0.8**
CN2 Changchun 39.12 66 ⇑P **P** **14 06 56.6 -0.1**
CN2 *e*AP pP 14 07 08.8 +8.9
CN2 *e*S **S** **14 12 51.6 -4.7**
CN2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.6
CN2 AMB AMB
comp=Z,170nm,4.0s
CN2 LR LR
comp=N,400nm,15.0s,MS4.8
CN2 LR LR
comp=E,900nm,15.0s,MS4.8
CN2 LR LR
comp=Z,800nm,13.0s,MS4.7
VYHS Vyhne 39.15 302 *i* P **P** **14 06 57.5 +0.6**
comp=Z,9.5nm,1.3s,mb4.4
VYHS *e*PP PP 14 08 31.6 +5.1
VYHS Vyhne 39.15 302 *i* P **P** **14 06 57.5 +0.6**
VYHS *e* 14 08 31.6
VYHS pmax pmax
comp=Z,10.0nm,1.3s,mb4.4
BUD Budapest 39.16 300⇑*e*pP pP 14 07 00.8 +0.7
SELA Sela 39.20 285 *e*P **P** **14 06 56.9 -0.6**
OKC Ostrava-Krasne 39.45 304⇑*e*P **P** **14 06 59.8 +0.4**
OKC *e*PP PP 14 08 29.6 -0.1
PKSM Moragy 39.63 298 ⇓P **P** **14 07 01.5 +0.6**
PKSM Moragy 39.63 298⇓*i*P **P** **14 07 01.5 +0.6**
GKP Gorka Klasztor 39.76 309 *e*P **P** **14 07 01.9 0.0**
MORC Moravsky Berou 39.84 304 *e*P **P** **14 07 03.0 +0.3**
comp=Z,10nm,0.8s,mb4.6
MORC Moravsky Berou 39.84 304⇓*i*P **P** **14 07 03.2 +0.5**
IGT Igoumenitsa 39.99 288 *e*P **P** **14 07 02.6 -1.4**
LKD Levkas 40.00 286 *e*P **P** **14 07 02.6 -1.5**
MODS Modra-Piesok 40.20 302 *e*P **P** **14 07 03.0 -2.6**
MODS *e*PP PP 14 08 39.6 +1.7
ZST Bratislava 40.34 301 *e*P **P** **14 07 05.8 -1.0**
comp=Z,7.3nm,0.6s,mb4.6
ZST *e*PP PP 14 08 45.0 +5.5
ZST LR LR
comp=Z,300nm,13.3s,MS4.3
ZST Bratislava 40.34 301 *e*P **P** **14 07 05.8 -1.0**
ZST *e* 14 08 45.0
ZST pmax pmax
comp=Z,7.0nm,0.6s,mb4.6
ZST MLR MLR
comp=Z,300nm,13.3s,MS4.3
ZST Bratislava 40.34 301 *e*P **P** **14 07 05.8 -1.0**
ZST *e*PP PP 14 08 45.0 +5.5
VRAC Vranov 40.51 303 ⇓P **P** **14 07 09.6 +1.3**
VRAC Vranov 40.51 303 P **P** **14 07 08.6 +0.4**
comp=Z,16nm,1.1s,mb4.6,baz=76,slow=9.8,SNR=18
VRAC LR LR 14 26 05.1
comp=Z,130nm,18.1s,MS3.8,baz=82,slow=39
VRAC Vranov 40.51 303⇓*i*P **P** **14 07 09.6 +1.4**
KSP Ksiaz 40.52 306 *e*P **P** **14 07 10.7 +2.4**
KSP Ksiaz 40.52 306 *e*P **P** **14 07 08.7 +0.4**
KSP *e* 14 08 39.6
DPC Dobruska-Polom 40.56 305⇑*i*P **P** **14 07 09.2 +0.6**
DPC *e*pP pP 14 07 12.2 +0.5
DPC *e*x x 14 08 33.3
DPC AMS AMS 14 24 50.0
comp=Z,400nm,13.9s,MS4.4
UPC Upice 40.74 305⇑*i*P **P** **14 07 10.5 +0.4**
UPC *e*PP PP 14 08 45.6 +1.9
SOP Sopron 40.78 301⇓*e*P **P** **14 07 11.4 +0.9**
SOP *e*PP PP 14 08 54.5 +10
YAK Yakutsk 40.84 37 *e*P **P** **14 07 09.7 -1.1**
comp=Z,72nm,0.7s,mb5.4
YAK Yakutsk 40.84 37*c i*P **P** **14 07 09.9 -0.9**
YAK *e**PP pP 14 07 19.8 +5.9
YAK *e* 14 08 45.6
YAK *e*S **S** **14 13 20.9 -0.7**
YAK *e**SS sS 14 13 34.9 +8.1
YAK *e*SSS 14 16 51.6
YAK *e* 14 17 11.9
YAK pmax pmax
comp=Z,70nm,1.0s,mb5.2
YAK pmax pmax
comp=N,9.0nm,1.2s
YAK pmax pmax
comp=E,27nm,1.3s
YAK pmax pmax
comp=Z,111nm,4.3s
YAK smax
comp=N,100nm,2.0s
YAK smax
comp=E,108nm,1.8s
YAK MLR MLR
comp=Z,500nm,10.0s,MS4.7
YAK MLR MLR
comp=N,200nm,13.0s,MS4.6
YAK MLR MLR
comp=E,500nm,15.0s,MS4.6
QZH Quanzhou 40.97 97 P **P** **14 07 12.8 +0.5**
QZH S **S** **14 13 26.0 +1.7**
QZH AMB AMB
comp=Z,50nm,1.0s,mb5.1
QZH LR LR
comp=N,850nm,14.0s,MS4.9
QZH LR LR
comp=E,670nm,13.4s,MS4.9
QZH LR LR
comp=Z,730nm,15.4s,MS4.7
BSD Bornholm Skovb 41.04 312 *i* P **P** **14 07 11.5 -1.0**
BSD *i* 14 08 49.2
BSD pmax pmax
comp=Z,19nm,0.8s,mb4.8
BSD MLR MLR
comp=Z,340nm,16.0s,MS4.3
BSD Bornholm Skovb 41.04 312 *i* P **P** **14 07 11.5 -1.0**
comp=Z,19nm,0.8s,mb4.8
BSD *i* 14 08 49.2
BSD
comp=Z,340nm,16.0s
CONA Conrad Observa 41.20 301 *i* pP **P** **14 07 14.6 +0.6**
SNR=25
TRO Tromso 41.24 335 *e*P **P** **14 07 12.8 -1.2**
ARSA Arzberg 41.55 300⇑*i*P **P** **14 07 17.1 +0.3**
PVCC Panska Ves 41.65 305⇑*i*P **P** **14 07 18.1 +0.5**
PVCC *e*pP pP 14 07 20.5 -0.2
HFS Hagfors 41.72 320 P **P** **14 07 17.0 -0.9**
comp=Z,25nm,0.5s,mb5.1,baz=98,slow=11,SNR=83
HFS LR LR 14 24 43.9
comp=Z,306nm,18.2s,MS4.2,baz=192,slow=36
GOLS Golise 41.72 298 *e*P **P** **14 07 18.7 +0.5**
INCN Inchon 41.74 75 *e*P **P** **14 07 17.7 -0.8**
comp=Z,24nm,0.8s,mb4.9
PRU Pruhonice 41.74 305 *e*P **P** **14 07 18.8 +0.5**
PRU *e* pP 14 07 21.5 +0.1
PRU *e* 14 08 53.4
PRU LR LR
comp=Z,300nm,15.9s,MS4.3
PRU Pruhonice 41.74 305⇑*e*P **P** **14 07 18.8 +0.5**
PRU *e*pP pP 14 07 21.5 +0.1
PRU *e*PP PP 14 08 53.4 -1.2
PRU AMS AMS 14 25 30.0
comp=Z,300nm,15.9s,MS4.3
MDJ Mudanjiang 41.85 64 P **P** **14 07 19.1 -0.2**
MDJ AP pP 14 07 32.4 +10
MDJ XP sP 14 07 38.4 +15
MDJ PCP PcP 14 09 14.4 -0.6
MDJ S **S** **14 13 32.3 -4.7**
MDJ AMB AMB
comp=Z,17nm,0.7s,mb4.8
MDJ AMB AMB
comp=Z,95nm,4.5s
MDJ LR LR
comp=N,599nm,24.7s,MS4.4
MDJ LR LR
comp=E,176nm,23.9s,MS4.4
MDJ LR LR
comp=Z,396nm,18.9s,MS4.3
MDJ Mudanjiang 41.85 64 *e*P **P** **14 07 19.0 -0.3**
comp=Z,14nm,0.6s,mb4.8
MDJ *e* 14 07 32.1
PERS Pernice 41.94 299 *e*P **P** **14 07 20.2 +0.2**
RGN Rugen 41.99 311 *e*P **P** **14 07 20.3 0.0**
comp=Z,47nm,0.6s,mb5.3
BRG Berggiesshubel 42.00 306 *i* P **P** **14 07 20.9 +0.5**
comp=Z,13nm,0.9s,mb4.6
BRG *i* pP 14 07 24.8 +1.3
BRG *i* PP PP 14 09 04.7 +7.3
BRG *e* 14 13 01.3
BRG *e* 14 16 23.3
BRG LR LR
comp=Z,290nm,25.5s,MS4.0
BRG Berggiesshubel 42.00 306 *i* P **P** **14 07 20.9 +0.5**
BRG *i* 14 09 04.7
BRG pmax pmax
comp=Z,13nm,0.9s,mb4.6
BRG MLR MLR
comp=Z,290nm,25.5s,MS4.0
BRG Berggiesshubel 42.00 306 *e*P **P** **14 07 20.6 +0.2**
comp=Z,43nm,1.3s,mb4.9
BRG Berggiesshubel 42.00 306 *i* P **P** **14 07 20.9 +0.5**
comp=Z,22nm,0.9s,mb4.8
BRG *i* pP 14 07 24.8 +1.3
BRG comp=Z,43nm,1.3s
BRG *i* PP PP 14 09 04.7 +7.3
BRG comp=Z,14nm,1.1s
BRG *e* 14 13 01.3
BRG comp=Z,3.5nm,1.1s
BRG *e* 14 16 23.3
BRG comp=Z,1.7nm,0.9s
BRG comp=N,716nm,16.7s
BRG comp=E,367nm,21.7s
BRG comp=Z,481nm,25.5s
MOR8 Moi Rana 42.03 329 *e*P **P** **14 07 19.7 -0.8**
comp=Z,75nm,1.2s,mb5.2
MOR8 Moi Rana 42.03 329 *e*P **P** **14 07 19.7 -0.8**
MOR8 *e*sP sP 14 07 23.4 -1.4
MOR8 AMb AMB 14 07 26.3
comp=Z,75nm,1.2s,mb5.2
BOJS Bojanci 42.09 298 *e*P **P** **14 07 21.4 +0.2**
KULM Kulim 42.27 136 *e*P **P** **14 07 22.4 -0.6**
KULM Kulim 42.27 136 ⇓P **P** **14 07 23.2 +0.2**
MOA Molln 42.27 301⇑*i*P **P** **14 07 20.4 -2.3**
SNR=11
OBKA Obir 42.35 299⇑*i*P **P** **14 07 23.9 +0.5**
SNR=12
OBKA Obir 42.35 299⇑*i*pP **P** **14 07 23.9 +0.5**
SNR=12
KLR Kul'dur 42.38 56⇓*i*P **P** **14 07 20.0 -3.5**
KLR pmax pmax
comp=E,52nm,1.0s
KLR pmax pmax
comp=Z,60nm,1.0s,mb5.2
KLR MLR MLR
comp=E,500nm,12.5s
KLR MLR MLR
comp=Z,3µm,12.5s,MS5.3
COP Copenhagen 42.43 313 *e*P **P** **14 07 23.7 -0.2**
COP MLR MLR
comp=Z,140nm,16.0s,MS3.9
COP Copenhagen 42.43 313 *i* P **P** **14 07 23.7 -0.2**
COP *e* 14 07 54.3
COP
comp=Z,140nm,16.0s
GEC2 GERESS Array S 42.46 303 *e*P **P** **14 07 24.8 +0.6**
GEC2 pmax pmax
comp=Z,31nm,1.1s,mb4.8
GEC2 GERESS Array S 42.46 303 *e*P **P** **14 07 24.8 +0.6**
comp=Z,31nm,1.1s,mb4.8
GERES GERESS Array B 42.46 303 P **P** **14 07 24.4 +0.2**
GERES 14 09 06.1
GERES GERESS Array B 42.46 303 P **P** **14 07 24.4 +0.1**
comp=Z,17nm,0.9s,mb4.7,baz=67,slow=7.4,SNR=67
GERES PP PP 14 09 06.1 +3.6
comp=Z,6.0nm,0.9s,baz=81,slow=8.2,SNR=4.7
GERES LR LR 14 25 32.9
comp=Z,210nm,21.4s,MS4.0,baz=250,slow=37
LJU Ljubljana 42.46 299 *e*P **P** **14 07 24.8 +0.5**
KHC Kasperske Hory 42.49 303⇑*i*P **P** **14 07 25.0 +0.5**
KHC Kasperske Hory 42.49 303⇑*i*P **P** **14 07 25.0 +0.5**
KHC *e*pP pP 14 07 28.1 +0.5
KHC *e*PP PP 14 09 03.3 +0.5
CLL Collm 42.52 307⇑*i*P **P** **14 07 24.5 -0.2**
comp=Z,19nm,0.9s,mb4.8
CLL *i* pP pP 14 07 35.4 +7.6
CLL LR LR
comp=Z,400nm,23.5s,MS4.2
CLL Collm 42.52 307⇑*i*P **P** **14 07 24.5 -0.2**
CLL *i* *PP pP 14 07 35.4 +7.6
CLL pmax pmax
comp=Z,19nm,0.9s,mb4.8
CLL MLR MLR
comp=Z,400nm,23.5s,MS4.2
CLL Collm 42.52 307 *e*P **P** **14 07 24.4 -0.3**
comp=Z,36nm,1.4s,mb4.9
CLL Collm 42.52 307⇑*i*P **P** **14 07 24.5 -0.2**
comp=Z,19nm,0.9s,mb4.8
CLL *i* pP pP 14 07 27.6 -0.2
CLL *i* x x 14 07 35.4
CLL *e*PP PP 14 09 07.0 +3.9
CLL *i* PcP PcP 14 09 18.3 +1.2
CLL *e*(S) **S** **14 13 42.0 -4.8**
CLL *e*x x 14 14 36.0
CLL *e*SS SS 14 16 54.0 -2.0
CEY Cerknica 42.60 298 *i* P **P** **14 07 25.8 +0.4**
TIXI Tiksi 42.60 23*c i*P **P** **14 07 24.8 -0.3**
TIXI pmax pmax
comp=Z,157nm,0.9s
STOK Stokkvaagen 42.63 329 *e*P **P** **14 07 25.5 +0.1**
KSRS Korea Array 42.71 74 P **P** **14 07 26.0 -0.4**
comp=Z,8.6nm,1.0s,mb4.5,baz=279,slow=7.0,SNR=20
KSRS PcP PcP 14 09 16.5 -1.5
comp=Z,5.9nm,1.0s,baz=302,slow=3.0,SNR=6.1
KSRS LR LR 14 26 54.3
comp=Z,369nm,19.8s,MS4.3,baz=292,slow=39
TIP Timpagrande 42.73 288 *e*P **P** **14 07 28.6 +2.0**
comp=Z,19nm,1.0s,mb4.8
VOY Vojsko 42.90 299 *e*P **P** **14 07 27.7 -0.1**
WET Wettzell 42.95 304 *e*P **P** **14 07 28.5 +0.4**
WET pmax pmax
comp=Z,29nm,1.0s,mb5.0
WET Wettzell 42.95 304 *e*P **P** **14 07 28.5 +0.4**
comp=Z,29nm,1.0s,mb5.0
NB2 NORSAR Subarra 42.97 321 P **P** **14 07 27.5 -0.7**
comp=Z,11nm,0.5s,mb4.8,baz=91,slow=8.6
NOA NORSAR Array B 42.97 321 P **P** **14 07 27.4 -0.8**
NOA PP PP 14 09 05.5 -2.2
NOA LR LR 14 26 00.7
NOA NORSAR Array B 42.97 321 P **P** **14 07 27.4 -0.8**
NOA 14 09 05.5
NOA NORSAR Array B 42.97 321 P **P** **14 07 27.4 -0.8**
comp=Z,11nm,0.5s,mb4.9,baz=91,slow=8.0,SNR=88
NOA PP PP 14 09 05.5 -2.2
comp=Z,6.5nm,0.9s,baz=95,slow=9.6,SNR=4.0
NOA LR LR 14 26 00.7
comp=Z,331nm,19.6s,MS4.2,baz=60,slow=37
TANN Tannenbergstha 43.00 305 *e*P **P** **14 07 28.8 +0.3**
comp=Z,18nm,1.2s,mb4.7
NKC Novy Kostel 43.03 305⇑*e*P **P** **14 07 28.9 0.0**
NKC AMS AMS 14 26 00.0
comp=Z,600nm,23.1s,MS4.4
KBA Koelnbreinsper 43.04 300 *i* P **P** **14 07 29.0 +0.1**
SNR=9.5
ROBS Robic 43.11 299 *e*P **P** **14 07 29.2 -0.3**
NAO01 NORSAR Array S 43.12 321 *e*P **P** **14 07 28.4 -1.1**
comp=Z,13nm,0.8s,mb4.7
IPM Ipoh 43.15 136 ⇓P **P** **14 07 29.9 -0.3**
FG5 Orsara di Pugl 43.17 292 P **P** **14 07 31.5 +1.4**
comp=Z,80nm,1.1s,mb5.4
FG5 Orsara di Pugl 43.17 292 P **P** **14 07 31.5 +1.4**
FG5 pmax pmax
comp=Z,81nm,1.1s,mb5.4
ROTZ Rotzenmuhle 43.27 305 *e*P **P** **14 07 31.4 +0.7**
comp=Z,37nm,1.6s,mb4.9
MANZ Manzenberg 43.29 305 *e*P **P** **14 07 31.3 +0.4**
comp=Z,25nm,1.5s,mb4.7
MOX Moxa 43.49 306 *e*P **P** **14 07 32.7 +0.2**
comp=Z,33nm,1.6s,mb4.8
MOX *e* 14 09 20.2
MOX
comp=Z,300nm,23.0s
MOX Moxa 43.49 306 *e*P **P** **14 07 32.7 +0.2**
MOX *e* 14 09 20.2
MOX pmax pmax
comp=Z,33nm,1.6s,mb4.8
MOX MLR MLR
comp=Z,300nm,23.0s,MS4.1
KTGM Kuala Trenggan 43.61 133 ⇓P **P** **14 07 34.8 +0.9**
ABTA Abfaltersbach 43.67 300⇑*i*P **P** **14 07 33.3 -0.8**
SNR=7.9
KONO Kongsberg 43.78 319 *e*P **P** **14 07 33.6 -1.1**
comp=Z,10nm,0.7s,mb4.7
KONO *e*PP PP 14 09 14.3 -2.0
KONO Kongsberg 43.78 319 *e*P **P** **14 07 33.6 -1.1**
KONO *e* 14 09 14.3
KONO pmax pmax
comp=Z,10.0nm,0.7s,mb4.7
KONO Kongsberg 43.78 319⇓*e*P **P** **14 07 34.4 -0.3**
BSEG Bad Segeberg 43.81 311 *e*P **P** **14 07 35.4 +0.3**
comp=Z,48nm,1.4s,mb5.0
GRA1 Grafenberg Arr 43.91 305 *e*P **P** **14 07 36.9 +1.0**
comp=Z,44nm,0.9s,mb5.2
GRA1 *e*PP PP 14 09 25.0 +7.0
GRA1 LR LR
comp=Z,400nm,19.0s,MS4.3
GRF Grafenberg Arr 43.91 305 *e*P **P** **14 07 36.9 +1.0**
GRF *e* 14 09 25.0
GRF pmax pmax
comp=Z,44nm,0.9s,mb5.2
GRF MLR MLR
comp=Z,400nm,19.0s,MS4.3
GRF Grafenberg Arr 43.91 305 *e*P **P** **14 07 36.9 +1.0**
GRF *e* 14 09 25.0
GRF pmax pmax
comp=Z,44nm,0.9s,mb5.2
GRF MLR MLR
comp=Z,400nm,19.0s,MS4.3
GRF Grafenberg Arr 43.91 305 *e*P **P** **14 07 36.9 +1.0**
comp=Z,44nm,0.9s,mb5.2
GRF *e*PP PP 14 09 25.0 +7.0
GRF *e*L 14 27 02.9
comp=Z,379nm,19.0s
GRFO Grafenberg 43.91 305 *e*P **P** **14 07 36.5 +0.6**
comp=Z,29nm,0.8s,mb5.1
GRFO *e* 14 09 24.6
GRFO Grafenberg 43.91 305 *e*P **P** **14 07 36.5 +0.6**
GRFO *e* 14 09 24.6
GRFO pmax pmax
comp=Z,29nm,0.8s,mb5.1
TERO Teramo 43.97 294 P **P** **14 07 36.8 +0.3**
DOMB Dombas 44.01 323 *e*P **P** **14 07 36.3 -0.3**
comp=Z,44nm,1.5s,mb5.0
DOMB Dombas 44.01 323 *e*P **P** **14 07 36.3 -0.3**
DOMB *e*pP pP 14 07 39.3 -0.4
DOMB AMb AMB 14 07 40.9
comp=Z,44nm,1.5s,mb5.0
CING Cingoli 44.04 295 P **P** **14 07 37.5 +0.4**
CLZ Clausthal 44.07 308 *e*P **P** **14 07 37.3 +0.1**
CLZ pmax pmax
comp=Z,26nm,1.4s,mb4.8
CLZ Clausthal 44.07 308 *e*P **P** **14 07 37.3 +0.1**
comp=Z,26nm,1.4s,mb4.8
WTTA Wattenberg 44.14 301⇑*i*P **P** **14 07 37.4 -0.4**
SNR=11
FUR Furstenfeldbru 44.18 302 *e*P **P** **14 07 38.7 +0.6**
FUR pmax pmax
comp=Z,52nm,0.8s,mb5.3
FUR Furstenfeldbru 44.18 302 *e*P **P** **14 07 38.7 +0.6**
comp=Z,52nm,0.8s,mb5.3
AQU L'Aquila 44.19 294 *e*P **P** **14 07 41.6 +3.4**
comp=Z,32nm,1.0s,mb5.0
AQU L'Aquila 44.19 294 *e*P **P** **14 07 41.6 +3.3**
AQU pmax pmax
comp=Z,32nm,1.0s,mb5.0
MUD Monsted U'grnd 44.19 315 *e*P **P** **14 07 41.0 +2.9**
MUD pmax pmax
comp=Z,27nm,1.4s,mb4.8
MUD Monsted U'grnd 44.19 315 *i* P **P** **14 07 41.0 +2.9**
comp=Z,27nm,1.4s,mb4.8
FSSB Fossombrone 44.25 296 P **P** **14 07 39.2 +0.5**
comp=Z,14nm,0.6s,mb4.9
NRCA Norcia 44.25 295 P **P** **14 07 39.5 +0.7**
comp=Z,27nm,0.9s,mb5.0
SNTG Esanatoglia 44.26 295 P **P** **14 07 39.5 +0.7**
comp=Z,27nm,0.8s,mb5.0
CTI Castel Tesino 44.41 299 P **P** **14 07 39.7 -0.3**
comp=Z,18nm,1.0s,mb4.8

CTI Castel Tesino 44.41 299 P P 14 07 39.7 -0.3
CTI pmax pmax
comp=Z,19nm,1.0s,mb4.8
MOTA Moosalm 44.47 301⇑ *i*P P 14 07 39.9 -0.6
SNR=14
UBBA Unterbreizbach 44.47 306 *e*P P 14 07 40.6 +0.2
MURB Monte Urbino 44.55 295 P P 14 07 43.1 +2.0
HABR Khabarovsk 44.66 57⇑ *i*P P 14 07 41.4 -0.6
HABR *e* 14 07 53.2
HABR *e* 14 07 59.2
HABR *e* 14 09 26.9
HABR *e*S S 14 14 15.1 -3.0
HABR *e* 14 17 30.3
HABR pmax pmax
comp=Z,81nm,1.6s,mb5.3
RETA Reutte 44.66 302 D 14 07 42.8
SNR=9.0
FETA Feichten 44.80 301⇑ *i*P P 14 07 42.3 -0.7
SNR=13
SFI Santa Sofia 44.84 296 P **P 14 07 44.4 +1.0**
comp=Z,30nm,0.8s,mb5.2
SFI Santa Sofia 44.84 296 P **P 14 07 44.4 +1.0**
SFI pmax pmax
comp=Z,30nm,0.8s,mb5.2
VMG Vicchio 45.03 297 P **P 14 07 46.8 +1.8**
comp=Z,92nm,0.9s
SPB4 Spitsbergen Ar 45.04 346 *e*P P 14 07 45.0 +0.4
BRMO Bormio 45.17 300 P **P 14 07 45.4 -0.6**
comp=Z,14nm,1.2s,mb4.7
DAVA Damuels 45.30 302 *i*P P 14 07 46.9 -0.1
SNR=18
STU Stuttgart 45.40 304 *e*P P 14 07 48.0 +0.2
comp=Z,34nm,1.1s,mb5.1
DAVOX Davos/Dischmat 45.42 301 P **P 14 07 47.7 -0.3**
DAVOX LR LR 14 29 22.0
DAVOX Davos/Dischmat 45.42 301 P **P 14 07 47.7 -0.3**
comp=Z,15nm,0.6s,mb5.0,baz=102,slow=6.4,SNR=45
DAVOX LR LR 14 29 22.0
comp=Z,287nm,19.9s,MS4.2,baz=82,slow=40
IBBN Ibbenburen 45.58 309 *e*P P 14 07 49.3 +0.1
GRFL Gerfalco 45.66 296 P **P 14 07 50.3 +0.3**
comp=Z,28nm,0.9s,mb5.2
ERBM Eremo 45.69 298 P **P 14 07 52.1 +1.9**
comp=Z,77nm,1.0s
VLC Villacollemand 45.78 297 *e*P P 14 07 52.3 +1.4
comp=Z,20nm,0.6s,mb5.2
BFO Black Forest 46.06 303 P **P 14 07 51.8 -1.2**
comp=Z,114nm,0.9s,SNR=12
BFO Black Forest 46.06 303 *e*P P 14 07 52.8 -0.2
BFO pmax pmax
comp=Z,22nm,1.0s,mb5.0
BFO Black Forest 46.06 303 *e*P P 14 07 52.8 -0.2
comp=Z,22nm,1.0s,mb5.0
KBS Kingsbay 46.14 346 *e*P P 14 07 53.2 -0.1
comp=Z,48nm,0.8s,mb5.5
KBS Kingsbay 46.14 346 *c*P P 14 07 53.9 +0.6
WTSB Winterswijk 46.23 309⇑ *i*P P 14 07 54.4 +0.1
comp=Z,15nm,0.5s,mb5.2
LANF Langenberg 46.24 304 *e*P P 14 07 54.6 +0.1
BOB Bobbio (Coli) 46.25 298 P **P 14 07 55.6 +1.0**
VAI Varese 46.40 300 P **P 14 07 54.7 -1.1**
comp=Z,22nm,0.8s,mb5.1
VAI Varese 46.40 300 P **P 14 07 54.7 -1.1**
VAI pmax pmax
comp=Z,22nm,0.8s,mb5.1
KGM Kluang 46.45 135⇓ P P 14 07 56.5 +0.1
CDF Champ du Feu 46.72 304⇑ *i*P P 14 07 57.8 -0.4
comp=Z,36nm,1.0s,mb5.0
CDF Champ du Feu 46.72 304⇑ *i*P P 14 07 57.8 -0.4
comp=Z,18nm,1.0s,mb5.0
CDF Champ du Feu 46.72 304⇑ *i*P P 14 07 57.8 -0.4
CDF pmax pmax
comp=Z,18nm,1.0s,mb5.0
ECH Echery 46.85 303 *e*P P 14 07 58.6 -0.6
MYKOM Kota Tinggi 46.92 135⇓ P P 14 08 00.7 +0.5
MOF Molkenrain 46.95 303 *e*P P 14 07 59.1 -1.0
MEM Membach 47.00 307 P **P 14 08 00.4 0.0**
comp=Z,11nm,1.2s,mb4.7
WLF Walferdange 47.13 306 *e*P P 14 08 01.7 +0.3
comp=Z,19nm,0.8s,mb5.1
WLF Walferdange 47.13 306 *e*P P 14 08 01.7 +0.3
WLF pmax pmax
comp=Z,19nm,0.8s,mb5.1
WLF Walferdange 47.13 306 P **P 14 08 02.1 +0.7**
comp=Z,22nm,1.4s,mb4.9
WLF Walferdange 47.13 306 *e*P P 14 08 01.9 +0.5
comp=Z,35nm,1.1s,mb5.2
HINF Hinteralfeld 47.15 303⇑ *i*P P 14 08 01.3 -0.3
comp=Z,42nm,1.1s,mb5.0
HINF Hinteralfeld 47.15 303⇑ *i*P P 14 08 01.3 -0.3
comp=Z,21nm,1.1s,mb5.0
HINF Hinteralfeld 47.15 303⇑ *i*P P 14 08 01.3 -0.3
HINF pmax pmax
comp=Z,21nm,1.1s,mb5.0
HAU Haudompre 47.42 303⇑ *i*P P 14 08 03.4 -0.3
comp=Z,41nm,0.9s,mb5.0
HAU *e*MLR MLR
comp=Z,234nm,18.0s,MS3.9
HAU Haudompre 47.42 303⇑ *i*P P 14 08 03.4 -0.3
comp=Z,21nm,0.9s,mb5.1
HAU LR LR
comp=Z,230nm,18.0s,MS4.2
HAU Haudompre 47.42 303⇑ *i*P P 14 08 03.4 -0.3
HAU pmax pmax
comp=Z,21nm,0.9s,mb5.1
HAU MLR MLR
comp=Z,230nm,18.0s,MS4.2
BCLA Clavier 47.48 307 P **P 14 08 04.0 -0.1**
IMI Imperia 47.57 298 P **P 14 08 05.4 +0.5**
SAOF Saorge 47.78 298 *e*P P 14 08 07.1 +0.6
DOI San Damiano 47.83 299 P **P 14 08 05.9 -1.0**
comp=Z,39nm,1.2s,mb5.3
DOI San Damiano 47.83 299 P **P 14 08 05.9 -1.0**
DOI pmax pmax
comp=Z,39nm,1.2s,mb5.3
GIVF Givet 47.86 306⇑ *i*P P 14 08 07.3 +0.2
comp=Z,49nm,1.1s,mb5.2
GIVF Givet 47.86 306⇑ *i*P P 14 08 07.3 +0.2
comp=Z,25nm,1.1s,mb5.2
GIVF Givet 47.86 306⇑ *i*P P 14 08 07.3 +0.2
GIVF pmax pmax
comp=Z,25nm,1.1s,mb5.2
AUTN L'Aution 47.86 298 *e*P P 14 08 07.8 +0.6
LPG La Plagne 47.86 300⇑ *i*P P 14 08 07.5 +0.3
comp=Z,73nm,1.0s,mb5.4
LPG La Plagne 47.86 300⇑ *i*P P 14 08 07.5 +0.3
comp=Z,36nm,1.0s,mb5.4
LPG La Plagne 47.86 300⇑ *i*P P 14 08 07.5 +0.3
LPG pmax pmax
comp=Z,37nm,1.0s,mb5.4
LPL La Plagne 47.87 300⇑ *i*P P 14 08 07.4 +0.2
comp=Z,32nm,0.6s,mb5.2
LPL La Plagne 47.87 300⇑ *i*P P 14 08 07.4 +0.2
comp=Z,16nm,0.6s,mb5.2
LPL La Plagne 47.87 300⇑ *i*P P 14 08 07.4 +0.2
LPL pmax pmax
comp=Z,16nm,0.6s,mb5.2
RSL Roselend 47.89 300 *e*P P 14 08 07.5 +0.1
SBF Sospel 47.90 298⇑ *i*P P 14 08 07.2 -0.3
comp=Z,143nm,0.9s
SBF Sospel 47.90 298⇑ *i*P P 14 08 07.2 -0.3
comp=Z,71nm,0.9s
SBF Sospel 47.90 298⇑ *i*P P 14 08 07.2 -0.3
SBF pmax pmax
comp=Z,71nm,0.9s
CABF La Chapelle 47.98 302⇑ *i*P P 14 08 07.8 -0.3
comp=Z,32nm,1.0s,mb5.0
CABF La Chapelle 47.98 302⇑ *i*P P 14 08 07.8 -0.3
comp=Z,16nm,1.0s,mb5.0
CABF La Chapelle 47.98 302⇑ *i*P P 14 08 07.8 -0.3
CABF pmax pmax
comp=Z,16nm,1.0s,mb5.0
DOU Dourbes 48.00 306 P **P 14 08 08.2 +0.1**
comp=Z,7.6nm,1.2s,mb4.6
BNI Bardonecchia 48.05 299 *e*P P 14 08 08.1 -0.5
comp=Z,33nm,1.0s,mb5.3
BNI Bardonecchia 48.05 299 *e*P P 14 08 08.1 -0.5
BNI pmax pmax
comp=Z,33nm,1.0s,mb5.3
MBDF Montbardon 48.08 299⇑ *i*P P 14 08 08.5 -0.4
comp=Z,64nm,0.8s,mb5.4
MBDF Montbardon 48.08 299⇑ *i*P P 14 08 08.5 -0.4
comp=Z,32nm,0.8s,mb5.4
MBDF Montbardon 48.08 299⇑ *i*P P 14 08 08.5 -0.4
MBDF pmax pmax
comp=Z,32nm,0.8s,mb5.4

SNF Seneffe 48.09 307 P **P 14 08 08.9 0.0**
comp=Z,12nm,1.5s,mb4.7
MEZF Maizieres J'vi 48.13 304⇑ *i*P P 14 08 09.4 +0.2
comp=Z,81nm,0.9s,mb5.4
MEZF Maizieres J'vi 48.13 304⇑ *i*P P 14 08 09.4 +0.2
comp=Z,81nm,0.9s
BAIF Baives 48.25 306⇑ *i*P P 14 08 10.4 +0.3
comp=Z,89nm,1.2s,mb5.4
BAIF Baives 48.25 306⇑ *i*P P 14 08 10.4 +0.3
comp=Z,45nm,1.2s,mb5.4
BAIF Baives 48.25 306⇑ *i*P P 14 08 10.4 +0.3
BAIF pmax pmax
comp=Z,45nm,1.2s,mb5.4
FRF La Foret Royal 48.53 298⇑ *i*P P 14 08 11.9 -0.5
comp=Z,50nm,0.9s,mb5.3
FRF La Foret Royal 48.53 298⇑ *i*P P 14 08 11.9 -0.5
comp=Z,25nm,0.9s,mb5.2
FRF La Foret Royal 48.53 298⇑ *i*P P 14 08 11.9 -0.5
FRF pmax pmax
comp=Z,25nm,0.9s,mb5.2
ORIF Oris-en-Rattie 48.62 299⇑ *i*P P 14 08 12.8 -0.3
comp=Z,31nm,0.9s,mb5.0
ORIF *e*MLR MLR
comp=Z,275nm,20.8s,MS3.9
ORIF Oris-en-Rattie 48.62 299⇑ *i*P P 14 08 12.8 -0.3
comp=Z,16nm,0.9s,mb5.0
ORIF Oris-en-Rattie 48.62 299⇑ *i*P P 14 08 12.8 -0.3
ORIF pmax pmax
comp=Z,16nm,0.9s,mb5.0
LMR La Mourre 48.70 297 *e*P P 14 08 13.2 -0.5
comp=Z,68nm,1.4s,mb5.2
LMR La Mourre 48.70 297 *e*P P 14 08 13.2 -0.5
comp=Z,34nm,1.4s,mb5.2
LMR La Mourre 48.70 297 *e*P P 14 08 13.2 -0.5
LMR pmax pmax
comp=Z,34nm,1.4s,mb5.2
SMRF Simiane la Rot 49.13 298 *e*P P 14 08 17.0 0.0
comp=Z,41nm,1.0s,mb5.1
SMRF Simiane la Rot 49.13 298 *e*P P 14 08 17.0 0.0
comp=Z,41nm,1.0s,mb5.4
LOR Lormes 49.25 303⇑ *i*P P 14 08 17.0 -0.8
comp=Z,26nm,0.9s,mb4.9
LOR *e*MLR MLR
comp=Z,234nm,18.2s,MS3.9
LOR Lormes 49.25 303⇑ *i*P P 14 08 17.0 -0.8
comp=Z,13nm,0.9s,mb5.0
LOR LR LR
comp=Z,230nm,18.3s,MS4.2
LOR Lormes 49.25 303⇑ *i*P P 14 08 17.0 -0.8
LOR pmax pmax
comp=Z,13nm,0.9s,mb5.0
LOR MLR MLR
comp=Z,230nm,18.3s,MS4.2
SMF Signal de Mont 49.45 302⇑ *i*P P 14 08 18.6 -0.8
comp=Z,22nm,0.8s,mb5.0
SMF Signal de Mont 49.45 302⇑ *i*P P 14 08 18.6 -0.8
comp=Z,11nm,0.8s,mb4.9
SMF Signal de Mont 49.45 302⇑ *i*P P 14 08 18.6 -0.8
SMF pmax pmax
comp=Z,11nm,0.8s,mb4.9
VIVF Saint-Julien-l 49.46 300⇑ *i*P P 14 08 19.4 -0.1
comp=Z,68nm,1.2s,mb5.2
VIVF Saint-Julien-l 49.46 300⇑ *i*P P 14 08 19.4 -0.1
comp=Z,34nm,1.2s,mb5.2
VIVF Saint-Julien-l 49.46 300⇑ *i*P P 14 08 19.4 -0.1
VIVF pmax pmax
comp=Z,34nm,1.2s,mb5.2
KEST Kesra 49.48 287 P **P 14 08 19.6 -0.2**
comp=Z,5.7nm,1.1s,mb4.5,baz=0.2,slow=3.3,SNR=8.3
KEST LR LR 14 33 32.1
comp=Z,36nm,19.9s,MS3.4,baz=201,slow=41
SSF Saint Saulge 49.54 303⇑ *i*P P 14 08 19.4 -0.7
comp=Z,18nm,0.8s,mb4.9
SSF Saint Saulge 49.54 303⇑ *i*P P 14 08 19.4 -0.7
comp=Z,9.2nm,0.8s,mb4.9
SSF Saint Saulge 49.54 303⇑ *i*P P 14 08 19.4 -0.7
SSF pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
AVF Avril sur Loir 49.72 303⇑ *i*P P 14 08 21.0 -0.5
comp=Z,95nm,1.0s,mb5.5
AVF Avril sur Loir 49.72 303⇑ *i*P P 14 08 21.0 -0.5
comp=Z,48nm,1.0s,mb5.5
AVF Avril sur Loir 49.72 303⇑ *i*P P 14 08 21.0 -0.5
AVF pmax pmax
comp=Z,47nm,1.0s,mb5.5
PLDF La Plantade 49.80 301 *e*P P 14 08 22.0 -0.1
COLF Collangettes 49.90 301 *e*P P 14 08 22.8 0.0
HYF Humbligny 50.04 303 *e*P P 14 08 23.8 0.0
YSS Yuzh-Sakhalins 50.08 57 *e*P P 14 08 24.0 -0.2
comp=Z,60nm,1.2s,mb5.5
YSS Yuzh-Sakhalins 50.08 57⇑ *e*P P 14 08 23.8 -0.4
YSS pmax pmax
comp=Z,64nm,1.5s,mb5.4
AGO Saint Agoulin 50.10 302 *e*P P 14 08 23.8 -0.5
BGF Bois d'Agland 50.13 302⇑ *i*P P 14 08 24.0 -0.5
LASF Ste Croix 50.27 299⇑ *i*P P 14 08 25.8 +0.2
comp=Z,74nm,1.1s,mb5.3
PYM Petit Puy Mans 50.28 301 *e*P P 14 08 25.7 0.0
LBL Lubilhac 50.29 301 *e*P P 14 08 25.7 -0.1
JMIC Jan Mayen 50.55 335 LR LR 14 29 51.2
comp=Z,269nm,22.0s,MS4.2,baz=78,slow=36
VERF Verneugheol 50.63 302 *e*P P 14 08 28.5 +0.2
TCF Toulx Ste Croi 50.63 302⇑ *i*P P 14 08 28.3 0.0
comp=Z,46nm,0.9s,mb5.1
TCF Toulx Ste Croi 50.63 302⇑ *i*P P 14 08 28.3 0.0
comp=Z,23nm,0.9s,mb5.1
TCF Toulx Ste Croi 50.63 302⇑ *i*P P 14 08 28.3 0.0
TCF pmax pmax
comp=Z,23nm,0.9s,mb5.1
MAJO Matsushiro 50.67 71 *e*P P 14 08 28.0 -0.9
comp=Z,20nm,0.8s,mb5.1
MAJO Matsushiro 50.67 71 *e*P P 14 08 28.0 -0.8
MAJO pmax pmax
comp=Z,20nm,0.8s,mb5.1
MAT Matsushiro 50.67 71 P **P 14 08 27.8 -1.0**
MJAR Matsushiro Arr 50.68 71 P **P 14 08 28.4 -0.5**
comp=Z,21nm,0.8s,mb5.2,baz=291,slow=9.7,SNR=83
MCD Coleburn Disti 50.71 318 *e*P P 14 08 28.3 -0.5
ORE Reay 50.74 319 *e*P P 14 08 28.6 -0.4
CWF Charnwood Fore 50.87 311 *e*P P 14 08 28.7 -1.4
CWF AMb AMB 14 08 36.5
comp=Z,15nm,1.3s,mb4.8
KSM Kuching 50.92 128 *e*P P 14 08 31.3 +0.4
KSM Kuching 50.92 128⇓ P P 14 08 31.7 +0.8
LHO Holmfirth 50.97 312 *e*P P 14 08 29.8 -1.0
KDM Kudat 51.07 117⇑ P P 14 08 33.9 +1.9
CAF Calviac 51.18 301⇑ *i*P P 14 08 32.7 +0.2
comp=Z,46nm,1.0s,mb5.0
CAF Calviac 51.18 301⇑ *i*P P 14 08 32.7 +0.2
comp=Z,23nm,1.0s,mb5.1
CAF Calviac 51.18 301⇑ *i*P P 14 08 32.7 +0.2
CAF pmax pmax
comp=Z,23nm,1.0s,mb5.1
EKA Eskdalemuir Ar 51.22 315 P **P 14 08 31.9 -0.7**
comp=Z,8.7nm,0.8s,mb4.7,baz=80,slow=7.9,SNR=29
EKA PcP PcP 14 09 48.2 +0.5
comp=Z,3.7nm,0.7s,baz=87,slow=5.4,SNR=4.5
ESK Eskdalemuir 51.25 315 *e*P P 14 08 31.6 -1.2
ESK AMb AMB 14 08 32.0
comp=Z,40nm,1.7s,mb5.1
ESK Eskdalemuir 51.25 315 *e*P P 14 08 31.8 -1.0
comp=Z,7.1nm,0.8s,mb4.7
ESK *e* 14 08 43.0
ESK Eskdalemuir 51.25 315 *e*P P 14 08 31.8 -1.0
ESK *e* 14 08 43.1
ESK pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
MA2 Magadan 51.27 40 *e*P P 14 08 32.5 -0.5
comp=Z,20nm,1.0s,mb5.0
MA2 *e*PcP PcP 14 09 47.3 -0.6
MA2 Magadan 51.27 40 *e*P P 14 08 32.5 -0.5
MA2 *e* 14 09 47.3
MA2 pmax pmax
comp=Z,19nm,1.0s,mb5.0
KKM Kota Kinabalu 51.28 119 *e*P P 14 08 34.5 +0.9
KKM Kota Kinabalu 51.28 119⇑ P P 14 08 34.6 +1.0
SEY Seymchan 51.28 35⇓ *e*P P 14 08 32.4 -0.6
BTM Bintulu 51.32 124⇑ P P 14 08 34.7 +0.8
MDO Dochfour 51.32 318 *e*P P 14 08 32.3 -1.0
SBUM Sibu 51.35 126⇑ P P 14 08 35.4 +1.4
LDF La Druitiere 51.39 306⇑ *i*P P 14 08 33.4 -0.6
comp=Z,31nm,0.6s,mb5.1
LDF La Druitiere 51.39 306⇑ *i*P P 14 08 33.4 -0.6
comp=Z,15nm,0.6s,mb5.1
LDF La Druitiere 51.39 306⇑ *i*P P 14 08 33.4 -0.6
LDF pmax pmax
comp=Z,15nm,0.6s,mb5.1

CKE Keswick 51.39 314 *e*P P 14 08 32.8 -1.1
RJF Les Rejaudoux 51.42 301⇑ *i*P P 14 08 34.1 -0.2
comp=Z,55nm,1.1s,mb5.1
RJF *e*MLR MLR
comp=Z,252nm,23.0s,MS3.9
RJF Les Rejaudoux 51.42 301⇑ *i*P P 14 08 34.1 -0.2
comp=Z,28nm,1.1s,mb5.1
RJF LR LR
comp=Z,250nm,23.0s,MS4.2
RJF Les Rejaudoux 51.42 301⇑ *i*P P 14 08 34.1 -0.2
RJF pmax pmax
comp=Z,28nm,1.1s,mb5.1
RJF MLR MLR
comp=Z,250nm,23.0s,MS4.2
FLN La Foliniere 51.56 306⇑ *i*P P 14 08 34.5 -0.8
comp=Z,51nm,1.1s,mb5.0
FLN *e*MLR MLR
comp=Z,443nm,22.5s,MS4.1
FLN La Foliniere 51.56 306⇑ *i*P P 14 08 34.5 -0.8
comp=Z,25nm,1.1s,mb5.1
FLN LR LR
comp=Z,440nm,22.5s,MS4.4
FLN La Foliniere 51.56 306⇑ *i*P P 14 08 34.5 -0.8
FLN pmax pmax
comp=Z,25nm,1.1s,mb5.1
FLN MLR MLR
comp=Z,440nm,22.5s,MS4.4
MTLF Montolieu 51.64 299⇑ *i*P P 14 08 35.9 -0.1
comp=Z,38nm,1.0s,mb5.0
MTLF Montolieu 51.64 299⇑ *i*P P 14 08 35.9 -0.1
comp=Z,19nm,1.0s,mb5.0
MTLF Montolieu 51.64 299⇑ *i*P P 14 08 35.9 -0.1
MTLF pmax pmax
comp=Z,19nm,1.0s,mb5.0
KMBO Kilima Mbogo 51.78 228 *e*P P 14 08 38.5 +1.2
comp=Z,61nm,1.5s,mb5.3
KMBO Kilima Mbogo 51.78 228 *e*P P 14 08 38.5 +1.2
KMBO pmax pmax
comp=Z,61nm,1.5s
KMBO Kilima Mbogo 51.78 228 P **P 14 08 39.2 +1.9**
SNR=8.2
KMBO Kilima Mbogo 51.78 228 P **P 14 08 39.2 +1.9**
SNR=8.2
KMBO Kilima Mbogo 51.78 228 P **P 14 08 38.4 +1.1**
comp=Z,9.8nm,0.7s,mb4.9,baz=37,slow=12,SNR=31
GRR Gorron 51.92 306⇑ *i*P P 14 08 36.9 -1.1
comp=Z,94nm,1.0s,mb5.4
GRR Gorron 51.92 306⇑ *i*P P 14 08 36.9 -1.1
comp=Z,47nm,1.0s,mb5.4
GRR Gorron 51.92 306⇑ *i*P P 14 08 36.9 -1.1
GRR pmax pmax
comp=Z,47nm,1.0s,mb5.4
KPL Plockton 52.02 318 *e*P P 14 08 37.6 -1.0
KPL AMb AMB 14 08 41.0
comp=Z,63nm,2.0s,mb5.2
ERM Erimo 52.06 63 P **P 14 08 39.6 +0.5**
comp=Z,170nm,0.6s,SNR=5.6
LFF La Frestale 52.06 301⇑ *i*P P 14 08 38.9 -0.2
comp=Z,45nm,0.7s,mb5.2
LFF La Frestale 52.06 301⇑ *i*P P 14 08 38.9 -0.2
comp=Z,23nm,0.7s,mb5.2
LFF La Frestale 52.06 301⇑ *i*P P 14 08 38.9 -0.2
LFF pmax pmax
comp=Z,23nm,0.7s,mb5.2
MFF Saint Martin d 52.06 303⇑ *i*P P 14 08 38.3 -0.8
comp=Z,44nm,1.0s,mb5.0
MFF Saint Martin d 52.06 303⇑ *i*P P 14 08 38.3 -0.8
comp=Z,22nm,1.0s,mb5.0
MFF Saint Martin d 52.06 303⇑ *i*P P 14 08 38.3 -0.8
MFF pmax pmax
comp=Z,22nm,1.0s,mb5.0
MCH1 Michaelchurch 52.08 311 *e*P P 14 08 37.8 -1.3
MCH1 AMb AMB 14 08 43.1
comp=Z,59nm,1.3s,mb5.4
GAL1 Galloway 52.20 314 *e*P P 14 08 38.6 -1.4
GAL1 AMb AMB 14 08 38.7
comp=Z,36nm,1.3s,mb5.1
SDKM Sandakan 52.24 118⇑ P P 14 08 41.2 +0.4
DAG Danmarks Havn 52.38 343⇓ *i*P P 14 08 41.3 +0.3
DAG pmax pmax
comp=Z,30nm,0.7s,mb5.3
DAG Danmarks Havn 52.38 343⇓ *i*P P 14 08 41.3 +0.3
comp=Z,30nm,0.7s,mb5.3
MLS Moulis 52.55 299 *e*P P 14 08 41.9 -0.8
SGMF Saint Gilles 53.03 306⇑ *i*P P 14 08 45.7 -0.5
comp=Z,37nm,0.7s,mb5.1
SGMF Saint Gilles 53.03 306⇑ *i*P P 14 08 45.7 -0.5
comp=Z,18nm,0.7s,mb5.1
SGMF Saint Gilles 53.03 306⇑ *i*P P 14 08 45.7 -0.5
SGMF pmax pmax
comp=Z,18nm,0.7s,mb5.1
EPF Esparros 53.03 299⇑ *i*P P 14 08 46.2 -0.1
comp=Z,24nm,0.9s,mb4.8
EPF Esparros 53.03 299⇑ *i*P P 14 08 46.2 -0.1
comp=Z,12nm,0.9s,mb4.8
EPF Esparros 53.03 299⇑ *i*P P 14 08 46.2 -0.1
EPF pmax pmax
comp=Z,12nm,0.9s,mb4.8
RESF Ens 53.12 299 *e*P P 14 08 47.1 +0.2
EBIE Bielsa 53.30 299 P **P 14 08 48.7 +0.5**
comp=Z,75nm,2.3s,mb5.2
ROSF Rostrenen 53.45 306⇑ *i*P P 14 08 48.8 -0.5
comp=Z,23nm,0.6s,mb5.0
ROSF Rostrenen 53.45 306⇑ *i*P P 14 08 48.8 -0.5
comp=Z,11nm,0.6s,mb5.0
ROSF Rostrenen 53.45 306⇑ *i*P P 14 08 48.8 -0.5
ROSF pmax pmax
comp=Z,11nm,0.6s,mb5.0
MYLDM Lahad Datu 53.47 117⇓ P P 14 08 53.1 +3.3
QUIF Quistinic 53.53 306⇑ *i*P P 14 08 49.2 -0.7
comp=Z,20nm,0.6s,mb4.9
QUIF Quistinic 53.53 306⇑ *i*P P 14 08 49.2 -0.7
comp=Z,9.9nm,0.6s,mb4.9
QUIF Quistinic 53.53 306⇑ *i*P P 14 08 49.2 -0.7
QUIF pmax pmax
comp=Z,10.0nm,0.6s,mb4.9
TSM Tawau 53.68 119⇑ P P 14 08 51.7 +0.3
DMUB Kingscourt 53.73 314 *e*P P 14 08 53.6 +2.4
ERTA Horta de San J 53.85 297 P **P 14 08 55.2 +2.9**
comp=Z,103nm,1.5s,mb5.5
CRQ2 Rosemanowes 2 53.97 309 *e*P P 14 08 50.4 -2.7
SJPF Ste Jean 54.06 300⇑ *i*P P 14 08 53.5 -0.3
EALK Alkurruntz 54.20 300 P **P 14 08 54.9 0.0**
comp=Z,64nm,1.5s,mb5.3
ELIZ Elizondo 54.24 300 P **P 14 08 55.0 -0.2**
comp=Z,12nm,1.0s,mb4.8
ELIZ Elizondo 54.24 300 P **P 14 08 55.0 -0.2**
ELIZ pmax pmax
comp=Z,12nm,1.0s,mb4.8
EMOS Mosqueruela 54.65 296 P **P 14 08 58.5 +0.4**
comp=Z,90nm,1.5s
ECRI Cripan 55.12 300 P **P 14 09 01.9 +0.4**
comp=Z,19nm,0.9s,mb5.1
ECRI Cripan 55.12 300 P **P 14 09 01.9 +0.3**
ECRI pmax pmax
comp=Z,19nm,0.9s,mb5.1
ECHE Chera 55.32 296 P **P 14 09 03.7 +0.7**
comp=Z,22nm,1.2s,mb5.1
ECHE Chera 55.32 296 P **P 14 09 03.7 +0.7**
ECHE pmax pmax
comp=Z,22nm,1.2s,mb5.1
BILL Bilibino 55.43 27 *e*P P 14 09 03.5 +0.1
comp=Z,28nm,0.9s,mb5.3
BILL Bilibino 55.43 27α *i*P P 14 09 03.7 +0.3
BILL *i* 14 09 12.8
BILL pmax pmax
comp=Z,32nm,0.9s,mb5.3
BILL MLR MLR
comp=Z,300nm,17.0s,MS4.4
ELAN Lanestosa 55.49 301 P **P 14 09 04.1 -0.1**
comp=Z,67nm,1.0s
ETOR Torete 55.55 297 P **P 14 09 04.3 -0.4**
comp=Z,7.7nm,0.8s,mb4.8
ETOR Torete 55.55 297 P **P 14 09 04.3 -0.4**
ETOR pmax pmax
comp=Z,8.0nm,0.8s,mb4.8
ETOB Tobarra 56.13 295 P **P 14 09 08.7 -0.2**
comp=Z,526nm,2.8s
CART Cartagena 56.21 293 *e*P P 14 09 09.5 0.0
comp=Z,26nm,0.7s,mb5.4
EMUR La Murta 56.27 294 P **P 14 09 12.7 +2.8**
comp=Z,135nm,2.5s,mb5.5
ALE Alert 56.35 354 P **P 14 09 10.0 +0.1**
comp=Z,63nm,0.8s,SNR=7.9
EARI Arriondas 56.64 301 P **P 14 09 12.3 -0.1**
comp=Z,38nm,1.3s,mb5.3

EVIA Vianos 56.81 295 P **P 14 09 14.4 +0.7**
comp=Z,13nm,1.0s,mb4.9
EVIA Vianos 56.81 295 P **P 14 09 14.4 +0.7**
EVIA pmax pmax
comp=Z,13nm,1.0s,mb4.9
GUD Guadarrama 57.07 298 P **P 14 09 15.8 +0.3**
comp=Z,13nm,1.2s,mb4.8
GUD Guadarrama 57.07 298 P **P 14 09 15.8 +0.3**
GUD pmax pmax
comp=Z,13nm,1.2s,mb4.8
ENIJ Nijar 57.35 293 P **P 14 09 21.1 +3.6**
comp=Z,7.0nm,0.7s,mb4.8
ENIJ Nijar 57.35 293 P **P 14 09 21.1 +3.5**
ENIJ pmax pmax
comp=Z,7.0nm,0.7s,mb4.8
ESDC Sonseca Array 57.36 297 P **P 14 09 17.1 -0.5**
comp=Z,2.9nm,0.5s,mb4.6
ESDC Sonseca Array 57.36 297 P **P 14 09 16.7 -1.0**
comp=Z,4.8nm,0.6s,mb4.7,baz=54,slow=7.2,SNR=24
ESDC LR LR 14 35 10.8
comp=Z,69nm,18.1s,MS3.8,baz=15,slow=37
ESLA Sonseca Array 57.36 297 *e*P **P 14 09 16.8 -0.9**
comp=Z,7.0nm,1.3s,mb4.5
PET Petropavlovsk 57.53 46 *e*P **P 14 09 16.5 -2.1**
PET pmax pmax
comp=Z,18nm,0.9s,mb5.1
EQES Quesada 57.58 295 P **P 14 09 20.1 +0.9**
comp=Z,42nm,1.2s,mb5.3
EBER Berja 57.87 294 P **P 14 09 21.6 +0.4**
comp=Z,27nm,0.8s,mb5.3
EPON Pontenova 57.91 302 P **P 14 09 20.6 -0.8**
comp=Z,37nm,0.9s,mb5.4
EBAN Banos Encina 57.92 295 P **P 14 09 23.8 +2.3**
comp=Z,16nm,0.8s,mb5.1
EBAN Banos Encina 57.92 295 P **P 14 09 23.8 +2.2**
EBAN pmax pmax
comp=Z,16nm,0.8s,mb5.1
ECAL Calabor 58.25 300 P **P 14 09 21.8 -2.0**
comp=Z,64nm,1.7s,mb5.4
PBRG Braganca 58.31 300 *e*P **P 14 09 27.1 +2.9**
comp=Z,22nm,1.9s,mb4.9
EADA Adamuz 58.47 296 P **P 14 09 25.2 -0.2**
comp=Z,25nm,1.5s,mb5.0
ELUQ Luque 58.54 295 P **P 14 09 25.6 -0.3**
comp=Z,16nm,0.5s,mb5.3
ELUQ Luque 58.54 295 P **P 14 09 25.6 -0.3**
ELUQ pmax pmax
comp=Z,16nm,0.5s,mb5.3
ELOJ Sierra Loja 58.65 294 P **P 14 09 27.1 +0.4**
comp=Z,5.4nm,0.6s,mb4.8
ELOJ Sierra Loja 58.65 294 P **P 14 09 27.1 +0.4**
ELOJ pmax pmax
comp=Z,5.0nm,0.6s,mb4.7
MVO Moncorvo 58.79 300 *e*P **P 14 09 30.7 +3.1**
comp=Z,26nm,1.4s,mb5.1
ELOB Lobios 59.16 301 P **P 14 09 30.8 +0.6**
comp=Z,73nm,1.2s
PCAB Cabril 59.21 301 *e*P **P 14 09 30.9 +0.4**
comp=Z,39nm,1.0s,mb5.4
EMIJ Mijas 59.36 294 P **P 14 09 30.4 -1.2**
comp=Z,15nm,0.7s,mb5.1
MTE Manteigas 59.49 299 *e*P **P 14 09 33.8 +1.4**
comp=Z,43nm,1.9s,mb5.2
MTE Manteigas 59.49 299 *e*P **P 14 09 32.9 +0.5**
comp=Z,42nm,1.4s,mb5.3
PVIS Viseu 59.58 300 *e*P **P 14 09 33.2 +0.1**
comp=Z,22nm,1.2s,mb5.1
EBAD Badajoz 59.89 297 P **P 14 09 32.8 -2.4**
comp=Z,64nm,1.3s,mb5.5
ESPR Espera 59.98 295 P **P 14 09 34.5 -1.4**
comp=Z,50nm,1.5s,mb5.3
EMIN Mina Concepcio 60.12 296 P **P 14 09 36.8 -0.1**
comp=Z,63nm,2.0s,mb5.3
PBAR Barrancos 60.18 297 *e*P **P 14 09 37.3 0.0**
comp=Z,31nm,1.5s,mb5.1
PESTR Estremoz 60.23 298 *e*P **P 14 09 40.8 +3.2**
comp=Z,16nm,1.2s,mb4.9
EGRO El Granado 60.80 296 P **P 14 09 40.9 -0.6**
comp=Z,35nm,1.5s,mb5.3
PBEJ Beja 60.83 297 *e*P **P 14 09 41.6 -0.1**
comp=Z,22nm,1.4s,mb5.1
PVAQ Vaqueiros 61.02 296 *e*P **P 14 09 45.9 +2.9**
comp=Z,34nm,1.7s,mb5.2
PBDV Barranco-do-Ve 61.25 296 *e*P **P 14 09 48.0 +3.4**
GAMB Gambell 65.33 26 *e*P **P 14 10 10.6 -0.5**
comp=Z,17nm,1.2s,mb5.0
GAMB *e*PP PP 14 12 33.8 -0.6
TNA Tin City 65.39 24 *e*P **P 14 10 11.3 -0.2**
comp=Z,33nm,1.2s,mb5.2
TNA *e*PP PP 14 12 31.8 -3.0
RES Resolute Bay 65.94 356 *e*P **P 14 10 14.6 -0.3**
comp=Z,346nm,1.0s
TOA0 Torodi Ar. Sit 67.17 268 *e*P **P 14 10 22.3 -1.3**
TORD Torodi Ar. Bea 67.17 268 P **P 14 10 22.5 -1.2**
comp=Z,18nm,0.6s,mb5.3,baz=50,slow=5.7,SNR=146
TORD PKPPKP 14 38 46.2
comp=Z,0.8nm,1.0s,baz=235,slow=4.7,SNR=3.6
GUMO Guam 67.74 90 LR LR 14 39 20.0
comp=Z,248nm,20.8s,MS4.4,baz=244,slow=35
BATI Kupang 68.30 125 LR LR 14 47 02.5
comp=Z,412nm,20.7s,MS4.6,baz=311,slow=42
IMA2 Indian Mountai 68.97 18 *e*P **P 14 10 33.3 -0.9**
INK Inuvik 70.85 10 *e*P **P 14 10 45.6 -0.1**
comp=Z,844nm,0.6s
TTA Tatalina 70.86 21 *e*P **P 14 10 45.7 -0.2**
COLA College 71.34 17 *e*P **P 14 10 48.4 -0.4**
comp=Z,34nm,0.8s,mb5.3
COLA College 71.34 17 *e*P **P 14 10 48.4 -0.4**
COLA pmax pmax
comp=Z,34nm,0.8s,mb5.3
MCK McKinley 72.06 18 *e*P **P 14 10 52.7 -0.4**
comp=Z,9.9nm,0.5s,mb5.0
MCK McKinley 72.06 18 *e*P **P 14 10 52.7 -0.4**
MCK pmax pmax
comp=Z,10.0nm,0.5s,mb5.0
SVW2 Sparrevohn 72.44 22 *e*P **P 14 10 55.5 +0.1**
EGAK Eagle 72.84 14 *e*P **P 14 10 57.3 -0.4**
comp=Z,18nm,1.0s,mb4.9
PMR Palmer 73.81 19 *e*P **P 14 11 02.8 -0.7**
comp=Z,22nm,0.7s,mb5.2
PMR Palmer 73.81 19 *e*P **P 14 11 02.8 -0.7**
PMR pmax pmax
comp=Z,23nm,0.7s,mb5.2
DAWY Dawson 73.82 14 *e*P **P 14 11 03.1 -0.4**
SML Sawmill 73.83 19 *e*P **P 14 11 03.1 -0.6**
SLKM Skilak Lake 74.44 20 *e*P **P 14 11 06.0 -1.2**
MBWA Marble Bar 74.52 135 *e*P **P 14 11 08.0 -0.2**
comp=Z,22nm,1.0s,mb5.0
FITZ Fitzroy Crossi 75.54 128 *e*P **P 14 11 13.8 -0.3**
comp=Z,31nm,0.9s,mb5.2
EYAK Cordova Ski Ar 75.56 19 *e*P **P 14 11 13.5 -0.2**
comp=Z,25nm,0.8s,mb5.2
KAKA Kakadu 75.90 120 *e*P **P 14 11 14.6 -1.7**
comp=Z,16nm,0.6s,mb5.1
KDAK Kodiak Island 76.03 23 P **P 14 11 16.0 -0.4**
comp=Z,279nm,0.6s,SNR=9.5
DBIC Dimbokro 76.22 267 *e*P **P 14 11 17.2 -1.0**
comp=Z,17nm,1.3s,mb4.8
DBIC Dimbokro 76.22 267 *e*P **P 14 11 17.2 -1.0**
DBIC pmax pmax
comp=Z,17nm,1.3s
DBIC Dimbokro 76.22 267 P **P 14 11 16.9 -1.3**
comp=Z,4.3nm,0.7s,mb4.5,baz=46,slow=8.6,SNR=4.8
DBIC LR LR 14 49 23.3
comp=Z,138nm,19.4s,MS4.3,baz=209,slow=39
MID Middleton Isla 76.39 19 *e*P **P 14 11 17.6 -0.8**
LIC Lamto 76.63 267 *e*P **P 14 11 19.2 -1.3**
comp=Z,13nm,0.7s,mb4.7
LIC *e*MLR MLR
comp=Z,239nm,21.8s,MS4.2
LIC Lamto 76.63 267 *e*P **P 14 11 19.2 -1.3**
comp=Z,6.3nm,0.7s,mb4.7
LIC LR LR
comp=Z,120nm,21.8s,MS4.2
LBTB Lobatse 77.72 223 *e*P **P 14 11 26.5 +0.2**
comp=Z,52nm,0.7s
LBTB Lobatse 77.72 223 *e*P **P 14 11 26.5 +0.2**
LBTB pmax pmax
comp=Z,52nm,0.7s
TSUM Tsumeb 77.76 233 *e*P **P 14 11 26.7 +0.1**
comp=Z,12nm,0.9s,mb4.8
YKA Yellowknife Ar 78.31 3 P **P 14 11 28.8 -0.3**
YKA PKKPbc PKKPbc 14 30 24.1 -2.4
YKA LR LR 14 49 21.1
YKA Yellowknife Ar 78.31 3 P **P 14 11 28.8 -0.3**
comp=Z,21nm,0.7s,mb5.2,baz=350,slow=5.7,SNR=511
YKA PKKPbc PKKPbc 14 30 24.1 -2.4
comp=Z,0.3nm,0.6s,baz=168,slow=2.1,SNR=8.3
YKA LR LR 14 49 21.1
comp=Z,52nm,20.3s,MS3.9,baz=75,slow=38
SCHQ Schefferville 79.99 338 *e*P **P 14 11 37.0 -1.4**
comp=Z,15nm,0.8s,mb5.0
SCHQ Schefferville 79.99 338 P **P 14 11 37.4 -1.1**
comp=Z,5.8nm,0.7s,mb4.6,baz=44,slow=5.7,SNR=16
SCHQ LR LR 14 46 17.2
comp=Z,209nm,18.6s,MS4.5,baz=182,slow=35
DLBC Dease Lake 80.72 12 *e*P **P 14 11 42.5 +0.2**
BOSA Boshof 80.81 221 P **P 14 11 43.1 0.0**
comp=Z,20nm,0.8s,mb5.1,baz=38,slow=8.2,SNR=25
BOSA LR LR 14 52 46.7
comp=Z,92nm,18.4s,MS4.2,baz=145,slow=40
FCC Fort Churchill 81.62 353 *e*P **P 14 11 46.4 -0.7**
comp=Z,29nm,1.0s,mb5.2
FCC Fort Churchill 81.62 353 *e*P **P 14 11 46.4 -0.7**
FCC pmax pmax
comp=Z,29nm,1.0s,mb5.2
WRA Warramunga Arr 82.38 123 P **P 14 11 50.8 -0.8**
comp=Z,8.5nm,0.6s,mb4.9,baz=324,slow=4.9,SNR=169
WRA PKKPbc PKKPbc 14 30 18.6 +0.8
comp=Z,1.0nm,0.9s,baz=134,slow=2.3,SNR=10.0
WRAB Tennant Creek 82.38 123 P **P 14 11 50.3 -1.3**
comp=Z,137nm,0.5s,SNR=13
WRAB Tennant Creek 82.38 123 *e*P **P 14 11 50.9 -0.6**
comp=Z,13nm,0.6s,mb5.0
WRAB Tennant Creek 82.38 123⇑*e*P **P 14 11 50.8 -0.8**
WB2 Warramunga Arr 82.38 123 *e*P **P 14 11 50.9 -0.7**
ASAR Alice Springs 84.80 126 P **P 14 12 03.0 -0.9**
comp=Z,6.2nm,0.9s,mb4.8,baz=323,slow=5.6,SNR=52
ASAR PKKPbc PKKPbc 14 30 12.7 +0.3
comp=Z,0.5nm,0.7s,baz=114,slow=2.6,SNR=7.1
FFC Flin Flon 86.17 357 P **P 14 12 10.5 +0.1**
comp=Z,126nm,0.9s,SNR=11
FFC Flin Flon 86.17 357 *e*P **P 14 12 09.9 -0.5**
comp=Z,15nm,0.9s,mb5.2
FFC Flin Flon 86.17 357 *e*P **P 14 12 09.9 -0.5**
FFC pmax pmax
comp=Z,15nm,0.9s,mb5.2
FORT Forrest 86.68 135 *e*P **P 14 12 12.6 -0.5**
comp=Z,36nm,0.7s
EDM Edmonton 87.64 4 *e*P **P 14 12 17.3 -0.2**
ULM Lac du Bonnet 90.20 353 P **P 14 12 28.0 -1.7**
ULM LR LR 14 56 32.1
ULM Lac du Bonnet 90.20 353 P **P 14 12 28.0 -1.7**
comp=Z,5.7nm,0.9s,mb4.9,baz=15,slow=4.7,SNR=12
ULM LR LR 14 56 32.1
comp=Z,156nm,18.5s,MS4.5,baz=22,slow=38
LONY Lake Ozonia 91.36 337 *e*P **P 14 12 35.1 -0.1**
comp=Z,7.7nm,0.8s,mb5.1
WALA Waterton Lakes 91.76 4 *e*P **P 14 12 36.4 -0.6**
comp=Z,9.0nm,0.8s,mb5.2
EYMN Ely 91.94 349 *e*P **P 14 12 37.3 -0.6**
comp=Z,12nm,1.0s,mb5.2
AGMN Agassiz Refuge 92.13 352 *e*P **P 14 12 38.3 -0.4**
comp=Z,7.1nm,0.8s,mb5.0
NEW Newport 92.31 7 *e*P **P 14 12 39.3 -0.2**
comp=Z,8.7nm,0.9s,mb5.1
NEW Newport 92.31 7 *e*P **P 14 12 39.3 -0.3**
NEW pmax pmax
comp=Z,9.0nm,0.9s
EGMT Eagleton 92.96 2 *e*P **P 14 12 43.0 +0.5**
comp=Z,16nm,1.2s,mb5.3
CHMT Chamberlain Mo 93.93 4 *e*P **P 14 12 46.9 -0.2**
HRY Holter Researc 94.21 3 *e*P **P 14 12 48.4 0.0**
LAO LASA Array 94.32 359 *e*P **P 14 12 49.8 +0.9**
comp=Z,15nm,0.8s,mb5.5
GCMT Greycliff 95.20 2 *e*P **P 14 12 53.5 +0.6**
BOZ Bozeman (W) 95.28 3 *e*P **P 14 12 53.6 +0.4**
comp=Z,4.2nm,0.9s,mb4.9
BOZ Bozeman (W) 95.28 3 *e*P **P 14 12 53.6 +0.4**
BOZ pmax pmax
comp=Z,4.0nm,0.9s,mb4.8
STKA Stephens Creek 95.40 127 P **P 14 12 52.6 -1.2**
comp=Z,1.1nm,0.7s,mb4.4,baz=309,slow=14,SNR=3.4
RLMT Red Lodge 95.87 1 *e*P **P 14 12 55.9 0.0**
comp=Z,19nm,1.5s,mb5.3
MCMT McKenzie Canyo 96.04 4 *e*P **P 14 12 56.9 +0.2**
LKWY Lake 96.40 2 *e*P **P 14 13 00.5 +2.1**
comp=Z,11nm,1.2s,mb5.2
LKWY Lake 96.40 2 *e*P **P 14 13 00.5 +2.1**
LKWY pmax pmax
comp=Z,11nm,1.2s,mb5.2
ECSD EROS,Sioux Fal 96.72 352 *e*P **P 14 12 59.1 -0.8**
comp=Z,4.9nm,0.8s,mb5.0
FLWY Flagg Ranch 96.87 2 *e*P **P 14 13 01.1 +0.5**
comp=Z,8.6nm,1.1s,mb5.1
HLID Hailey 97.20 5 *e*P **P 14 13 02.1 +0.1**
comp=Z,8.0nm,1.6s,mb4.9
PDAR Pinedale Array 98.22 2 P **P 14 13 05.5 -1.1**
comp=Z,0.7nm,0.8s,mb4.3,baz=50,slow=3.8,SNR=5.8
PDAR PKKPbc PKKPbc 14 29 35.8 -2.0
comp=Z,0.3nm,0.7s,baz=143,slow=5.2,SNR=4.1
PDAR LR LR 15 01 08.5
comp=Z,87nm,19.5s,MS4.3,baz=119,slow=38
TXAR Lajitas Array 111.57 357 P Pdif 14 14 08.9 +2.8
TXAR 14 18 02.7
TXAR 14 18 40.8
TXAR Lajitas Array 111.57 357 Pdiff Pdif 14 14 08.8 +2.7
comp=Z,0.1nm,0.5s,baz=72,slow=2.9,SNR=4.1
TXAR PKiKP PKiKP 14 18 02.7 -1.4
comp=Z,0.4nm,0.7s,baz=122,slow=1.6,SNR=4.5
TXAR PP PP 14 18 40.8 -3.2
comp=Z,0.5nm,0.8s,baz=345,slow=3.2,SNR=3.6
TXAR PKKPbc PKKPbc 14 28 57.6 +0.2
comp=Z,0.8nm,0.7s,baz=183,slow=6.2,SNR=9.6
TXAR PKKPab PKKPab 14 29 06.8 -4.1
comp=Z,1.6nm,0.8s,baz=187,slow=9.5,SNR=13
SDV Santo Domingo 121.19 316 *e*PKPdf PKPdf 14 18 21.8 -1.2
SDV Santo Domingo 121.19 316 PKP PKPdf 14 18 21.7 -1.2
comp=Z,3.7nm,0.6s,baz=16,slow=4.0,SNR=7.8
VNA2 Neumayer--Watz 123.57 203 *e*Pdiff Pdif 14 14 57.6 -1.9
VNA2 *e* 14 15 13.4
VNA2 *e* 14 18 26.0
VNA2 *e* 14 18 30.1
VNA2 *e* 14 18 33.7
VNA2 *e* 14 18 41.4
ROSC El Rosal 126.53 318 *e*PKPdf PKPdf 14 18 33.7 +0.5
ROSC El Rosal 126.53 318 PKP PKPdf 14 18 34.2 +1.0
comp=Z,12nm,0.7s,baz=120,slow=7.1,SNR=8.1
VNDA Vanda 127.88 164 PKP PKPdf 14 18 33.3 -0.5
comp=Z,1.2nm,0.8s,baz=252,slow=7.2,SNR=3.6
QSPA South Pole Qui 129.16 180 *e*PKPdf PKPdf 14 18 35.9 -0.3
LPAZ La Paz 138.90 293 PKP PKPdf 14 18 56.4 +0.1
comp=Z,1.7nm,0.9s,baz=304,slow=3.2,SNR=9.6
TRQA Tornquist 144.92 257 *e*PKPdf PKPdf 14 19 05.0 -1.4
TLL Tololo Astrono 148.85 276 *e*P PKPbc 14 19 17.4 +0.2
PLCA Paso Flores 151.99 255 *e*PKPbc PKPbc 14 19 24.2 -0.1
PLCA Paso Flores 151.99 255 PKIKP PKPbc 14 19 23.8 -0.5
PLCA pmax pmax
comp=Z,11nm,0.9s
PLCA Paso Flores 151.99 255 PKPbc PKPbc 14 19 23.8 -0.5
comp=Z,10nm,0.9s,baz=88,slow=2.9,SNR=14

ISCJB ***15*** *14:24:24.2±0.6,3896N±003×21.94E±005,h10km±6km, Error ellipse: s-maj=6.5km s-min=5.0km az=11.8*
CSEM ***15*** *14:24:24.5±0.1,3897N×2190E,h12km,MD3.0,Error ellipse: s-maj=3.3km s-min=2.2km az=120.0*
THE ***15*** *14:24:24.7,3893N×2194E,h12km,ML2.3*
ATH ***15*** *14:24:24.7,3896N×2187E,h13km±3km,MD3.0/4*
ISC 15 14:24:24.3±0.6,3896N±003×2191E±006,h14km±6km,n10, σ0°75/17,Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EVR	**Evrytania**	**0.09**	**243**	*e*PG	**Pg**	**14 24 27.0**	**-0.2**
EVR				*e*SG	**Sg**	**14 24 29.5**	**+0.1**
AGG	**Agios Georgios**	**0.34**	**79**	*e*Pg	**Pg**	**14 24 30.9**	**-0.2**
AGG				*e*Sg	**Sg**	**14 24 36.3**	**+0.6**
THL	**Klokotos Trika**	**0.61**	**8**	*e*PB	**Pb**	**14 24 35.9**	**-0.9**
THL				*e*SB	**Sb**	**14 24 45.7**	**+0.4**
SELA	**Sela**	**0.68**	**181**	*e*Pg	**Pg**	**14 24 36.6**	**-0.9**
SELA				*e*Sg	**Sg**	**14 24 47.1**	**+0.6**
LKR	**Lokris**	**0.91**	**109**	*e*PB	**Pb**	**14 24 42.5**	**+0.7**
RLS	**Riolos of Patr**	**0.96**	**201**	*e*PB	**Pb**	**14 24 43.0**	**+0.3**
MEV	**Metsovon**	**0.98**	**328**	*e*Pg	**Pg**	**14 24 42.5**	**-0.7**
MEV				*e*Sg	**Sg**	**14 24 59.2**	**+3.1**
MEV	**Metsovon**	**0.98**	**328**	*e*Pg	**Pg**	**14 24 42.5**	**-0.7**
MEV				*e*Sg	**Sg**	**14 24 59.2**	**+3.1**
XOR	**Xorichti**	**1.08**	**67**	*e*Pg	**Pg**	**14 24 44.3**	**-0.8**
LIT	**Litokhoron**	**1.23**	**21**	*e*Pg	**Pg**	**14 24 47.5**	**-0.5**
LIT				*e*Sg	**Sg**	**14 25 04.3**	**+0.3**

BJI ***15*** *14:25:51.8,265N×12703E,h10km,mB5.0,mb4.8,Ms4.4, Msz4.3*
MAN ***15*** *14:25:55,265N×12702E,h55km,mb5.4,ML4.4,MS4.7*
IDC ***15*** *14:25:55.7±0.4,3.11N×12697E,h0km,mb4.7/22, mb1 4.8/22,mb1mx4.8/23,mbtmp4.7/22,MS4.3/6, Ms1 4.3/6,ms1mx3.8/30,Error ellipse: s-maj=21.6km s-min=8.8km az=80.0*
ISCJB ***15*** *14:25:57.0±1.2,3.15N±003×12709E±005,h19km±9km, mb4.8/79,MS4.2/27,Error ellipse: s-maj=7.8km s-min=5.6km az=165.1*
MOS ***15*** *14:25:59.3±1.2,3.16N×12689E,h33km,mb5.1/27, MS4.1/4,Error ellipse: s-maj=12.7km s-min=6.7km az=102.8*
NEIC ***15*** *14:26:01.8±1.6,3.13N×12696E,h43km±15km,mb5.0/31, Error ellipse: s-maj=8.5km s-min=5.3km az=74.0*
GCMT ***15*** *14:26:01.8±0.4,3.16N×12702E,h26km±1km,MW5.0/43, Moment Tensor Solution. s31,c34; s43,c67; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr3.16±.20; Mθθ0.28±.12; Mφφ-3.44±.16; Mrθ-0.58±.32; Mφθ-1.01±.12; Mφr0.96±.32; Best double couple: M0 3.62400×10^16 NP1:φ=209.00000°,δ41.00000°,λ113.00000°. NP2: φ=360.00000°,δ53.00000°,λ71.00000°. Principal axes: T 3.4620, Plg74.0000°, Azm216.0000°; N 0.3260, Plg15.0000°, Azm11.0000°; P -3.7870, Plg7.0000°, Azm103.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 15 14:25:59.8±1.3,312N±003×12702E±005,h26km±9km, h20km±2.0km:pP-P,n167,σ1°02/174,mb4.8/78,MS4.2/27, 22C-13D,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNE	**Ternate**	**2.34**	**171**	⇓*e*P	**Pn**	**14 26 37.0**	**+0.3**
DAV	**Davao City (W)**	**4.18**	**340**	Pn	**Pn**	**14 26 58.3**	**-3.8**
PCI	**Palu**	**8.21**	**241**	P	**Pn**	**14 28 03.5**	**+6.1**
108nm,1.0s							
MYLDM	**Lahad Datu**	**8.74**	**284**	⇓P	**Pn**	**14 28 10.7**	**+6.0**
TSM	**Tawau**	**9.20**	**278**	⇑P	**Pn**	**14 28 16.0**	**+5.0**
SDKM	**Sandakan**	**10.11**	**285**	⇑P	**Pn**	**14 28 29.2**	**+5.8**
TLE	**Tual**	**10.40**	**147**	⇑*e*P	**Pn**	**14 28 34.0**	**+6.5**
KDM	**Kudat**	**10.82**	**291**	⇑P	**Pn**	**14 28 39.0**	**+5.8**
KKM	**Kota Kinabalu**	**11.15**	**286**	*e*Pn	**Pn**	**14 28 43.0**	**+5.2**
KKM	**Kota Kinabalu**	**11.15**	**286**	⇑P	**Pn**	**14 28 43.4**	**+5.6**
BATI	**Kupang**	**13.65**	**194**	Pn	**Pn**	**14 29 17.0**	**+5.1**
2.4nm,0.3s,baz=65,slow=5.8,SNR=3.0							
BTM	**Bintulu**	**13.91**	**271**	⇓P	**Pn**	**14 29 20.8**	**+5.3**
SBUM	**Sibu**	**14.79**	**268**	⇓P	**Pn**	**14 29 31.5**	**+3.9**
KAKA	**Kakadu**	**16.62**	**161**	*e*P	**Pn**	**14 29 53.9**	**+2.7**
90nm,0.6s							
KSM	**Kuching**	**16.77**	**265**	*e*P	**Pn**	**14 29 56.0**	**+2.8**
KSM	**Kuching**	**16.77**	**265**	⇑P	**Pn**	**14 29 56.0**	**+2.8**
GUMO	**Guam**	**20.48**	**58**	P	**P**	**14 30 36.4**	**+0.5**
47nm,0.7s,baz=177,slow=7.1,SNR=3.6							
FITZ	**Fitzroy Crossi**	**21.13**	**184**	*e*P	**P**	**14 30 42.2**	**-0.7**
29nm,0.6s,mb4.8							
FITZ	**Fitzroy Crossi**	**21.13**	**184**	P	**P**	**14 30 42.8**	**0.0**
14nm,0.5s,mb4.6,baz=16,slow=10,SNR=52							
LEM	**Lembang**	**21.74**	**243**	P	**P**	**14 30 53.7**	**+4.2**
84nm,0.8s,mb5.2							
QIZ	**Qiongzhong**	**23.07**	**315**	P	**P**	**14 31 02.5**	**-1.1**
QIZ				S	**S**	**14 35 08.8**	**-4.4**
QIZ				XS	sS	14 35 18.5	-7.0
QIZ				AMB	AMB		
comp=Z,7.0nm,1.1s,mb4.0							
QIZ				AMB	AMB		
comp=Z,200nm,8.5s							
QIZ				LR	LR		
comp=N,299nm,20.8s							
QIZ				LR	LR		
comp=Z,641nm,17.3s,MS4.1							
MYKOM	**Kota Tinggi**	**23.18**	**267**	⇓P	**P**	**14 31 05.6**	**+0.7**
KGM	**Kluang**	**23.70**	**268**	⇑P	**P**	**14 31 10.1**	**+0.1**
KTGM	**Kuala Trenggan**	**23.92**	**276**	⇓P	**P**	**14 31 12.6**	**+0.5**
WRAB	**Tennant Creek**	**24.01**	**163**	P	**P**	**14 31 12.0**	**-0.7**
comp=Z,516nm,0.5s,mb6.2,SNR=86							
WRAB	**Tennant Creek**	**24.01**	**163**	*e*P	**P**	**14 31 11.7**	**-1.0**
comp=Z,46nm,0.6s,mb5.1							
WRAB	**Tennant Creek**	**24.01**	**163**	*c i*P	**P**	**14 31 11.8**	**-0.9**
WRA	**Warramunga Arr**	**24.02**	**163**	P	**P**	**14 31 11.6**	**-1.1**
WRA				S	**S**	**14 35 29.5**	**+1.1**
WRA	**Warramunga Arr**	**24.02**	**163**	P	**P**	**14 31 11.6**	**-1.1**
comp=Z,43nm,0.5s,mb5.2,baz=340,slow=10,SNR=270							
WRA				S	**S**	**14 35 29.5**	**+1.1**
comp=Z,4.2nm,1.0s,baz=334,slow=19,SNR=5.1							
WB2	**Warramunga Arr**	**24.02**	**163**	⇑*i*P	**P**	**14 31 11.7**	**-1.1**
MBWA	**Marble Bar**	**25.16**	**196**	*e*P	**P**	**14 31 23.2**	**+0.1**
comp=Z,70nm,1.3s,mb5.0							
IPM	**Ipoh**	**25.97**	**274**	⇓P	**P**	**14 31 32.2**	**+1.5**
KULM	**Kulim**	**26.38**	**276**	P	**P**	**14 31 33.8**	**-0.7**
KKTK	**Khon Kaen**	**27.18**	**301**	P	**P**	**14 31 41.5**	**0.0**
ASAR	**Alice Springs**	**27.45**	**166**	P	**P**	**14 31 43.0**	**-0.8**
comp=Z,4.5nm,0.6s,mb4.2,baz=347,slow=7.5,SNR=135							
ASAR				PcP	PcP	14 35 02.9	+0.6
comp=Z,3.1nm,0.8s,baz=359,slow=2.7,SNR=5.9							
ASAR				S	**S**	**14 36 28.1**	**+5.1**
comp=Z,0.7nm,0.9s,baz=344,slow=16,SNR=3.3							
PSI	**Prapat**	**28.06**	**270**	P	**P**	**14 31 49.6**	**+0.1**
comp=Z,2.2nm,0.5s,mb4.1,baz=111,slow=8.6,SNR=3.5							
SSE	**Sheshan**	**28.37**	**349**	*e*P	**P**	**14 31 51.6**	**-0.4**
SSE				AP	pP	14 32 00.5	+0.9
SSE				XP	sP	14 32 03.9	+1.2
SSE				S	**S**	**14 36 36.6**	**-0.8**
SSE				XS	sS	14 36 51.3	+1.4
SSE				SCS	ScS	14 42 35.8	-1.2
SSE				AMB	AMB		
comp=Z,24nm,0.7s,mb4.9							
SSE				AMB	AMB		
comp=Z,65nm,3.5s							
SSE				LR	LR		
comp=N,18nm,27.0s,MS3.5							
SSE				LR	LR		
comp=E,168nm,27.2s,MS3.5							
SSE				LR	LR		
comp=Z,134nm,22.4s,MS3.5							
NJ2	**Nanjing**	**29.79**	**346**	*e*P	**P**	**14 32 05.6**	**+1.0**
NJ2				AP	pP	14 32 10.3	-1.9
NJ2				XP	sP	14 32 13.5	-1.9
NJ2				PP	PP	14 33 02.0	-10
NJ2				S	**S**	**14 37 01.0**	**+1.3**
NJ2				AMB	AMB		
comp=Z,20nm,0.6s,mb5.0							
NJ2				AMB	AMB		
comp=Z,520nm,4.0s							
NJ2				LR	LR		
comp=N,160nm,14.0s,MS4.1							
NJ2				LR	LR		
comp=E,280nm,14.4s,MS4.1							
NJ2				LR	LR		
comp=Z,2μm,13.6s,MS4.9							
WHN	**Wuhan**	**29.80**	**338**	P	**P**	**14 32 02.6**	**-2.1**
WHN				*e*S	**S**	**14 36 58.6**	**-1.3**
WHN				LR	LR		
comp=Z,510nm,21.0s,MS4.1							
JNU	**Nakatsue**	**30.07**	**6**	P	**P**	**14 32 06.5**	**-0.6**
comp=Z,17nm,1.0s,mb4.7,baz=63,slow=2.3,SNR=2.0							
GYA	**Guiyang**	**30.32**	**322**	⇑*i*P	**P**	**14 32 10.8**	**+1.4**
GYA				AP	pP	14 32 15.4	-1.6
GYA				XP	sP	14 32 17.9	-2.3
GYA				PP	PP	14 33 10.6	-7.6
GYA				PCP	PcP	14 35 11.3	+1.8
GYA				S	**S**	**14 37 10.5**	**+2.2**
GYA				AMB	AMB		
comp=Z,20nm,0.8s,mb4.9							
GYA				AMB	AMB		
comp=Z,120nm,5.4s							
GYA				LR	LR		
comp=N,640nm,17.5s,MS4.5							
GYA				LR	LR		
comp=E,560nm,16.8s,MS4.5							
GYA				LR	LR		
comp=Z,570nm,17.3s,MS4.3							
CHG	**Chiang Mai**	**31.58**	**302**	⇑P	**P**	**14 32 20.7**	**+0.1**
CHTO	**Chiang Mai**	**31.58**	**302**	*e*P	**P**	**14 32 18.2**	**-2.4**
comp=Z,4.3nm,0.7s,mb4.4							
CHTO	**Chiang Mai**	**31.58**	**302**	*e*P	**P**	**14 32 18.2**	**-2.5**
CHTO				pmax	pmax		
comp=Z,4.0nm,0.7s,mb4.4							
KMI	**Kunming**	**32.01**	**315**	P	**P**	**14 32 25.8**	**+1.4**
KMI				AP	pP	14 32 29.8	-2.2
KMI				PP	PP	14 33 29.4	-7.6

KMI PPP 14 33 45.4
KMI S **S** **14 37 36.8 +2.0**
KMI XS sS 14 37 44.9 -2.4
KMI SS SS 14 39 27.6 -25
KMI SSS 14 39 55.0
KMI AMB AMB
comp=Z,8.0nm,1.0s,mb4.5
KMI AMB AMB
comp=Z,74nm,4.2s
KMI LR LR
comp=N,202nm,15.7s,MS4.1
KMI LR LR
comp=E,327nm,19.9s,MS4.1
KMI LR LR
comp=Z,326nm,22.9s,MS4.0
FORT Forrest 33.72 178⇑ *i*P **P** **14 32 38.7 -0.4**
comp=Z,41nm,0.7s,mb5.5
KSRS Korea Array 34.18 1 P **P** **14 32 43.8 +0.7**
comp=Z,4.1nm,0.7s,mb4.5,baz=177,slow=9.6,SNR=15
MJAR Matsushiro Arr 34.83 16 P **P** **14 32 47.6 -1.1**
comp=Z,3.2nm,0.7s,mb4.4,baz=184,slow=9.4,SNR=13
MJAR LR LR 14 45 50.3
comp=Z,362nm,20.0s,MS4.1,baz=190,slow=34
MAT Matsushiro 34.83 16 P **P** **14 32 48.8 +0.1**
MAT *e*S **S** **14 38 16.8 -1.3**
XAN Xi'an 35.09 333 P **P** **14 32 51.3 +0.3**
XAN AMB AMB
comp=Z,8.0nm,0.8s,mb4.7
XAN AMB AMB
comp=Z,64nm,5.3s
XAN LR LR
comp=N,130nm,13.8s,MS4.1
XAN LR LR
comp=E,223nm,15.2s,MS4.1
XAN LR LR
comp=Z,299nm,14.1s,MS4.2
CD2 Chengdu 35.30 324 *e*P **P** **14 32 52.4 -0.5**
CD2 AP pP 14 32 57.0 -3.6
CD2 XP sP 14 32 59.9 -3.8
CD2 PP PP 14 34 11.6 -1.8
CD2 S **S** **14 38 24.6 -1.0**
CD2 AMB AMB
comp=Z,20nm,0.8s,mb5.1
CD2 AMB AMB
comp=Z,30nm,5.2s
CD2 LR LR
comp=N,320nm,18.0s,MS4.3
CD2 LR LR
comp=E,300nm,18.0s,MS4.3
CD2 LR LR
comp=Z,430nm,13.2s,MS4.4
KLBR Kellerberrin 35.62 194 *e*P **P** **14 32 55.2 -0.4**
comp=Z,192nm,1.6s,mb5.8
DL2 Dalian 35.96 353 P **P** **14 33 00.0 +1.6**
DL2 S **S** **14 38 40.8 +5.4**
DL2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.8
DL2 LR LR
comp=N,150nm,15.4s,MS4.0
DL2 LR LR
comp=E,150nm,14.3s,MS4.0
DL2 LR LR
comp=Z,210nm,16.0s,MS4.0
MUN Mundaring 36.38 196 *e*P **P** **14 33 02.2 +0.1**
EIDS Eidsvold 36.69 142 *e*P **P** **14 33 03.9 -0.9**
comp=Z,6.9nm,0.8s,mb4.5
NWAO Narrogin (SRO) 37.02 194 P **P** **14 33 07.3 -0.2**
NWAO Narrogin (SRO) 37.02 194 P **P** **14 33 07.3 -0.2**
comp=Z,14nm,0.8s,mb4.8,baz=322,slow=2.9,SNR=12
STKA Stephens Creek 37.46 159⇑ *i*P **P** **14 33 11.0 -0.3**
comp=Z,17nm,0.5s,mb5.1
STKA Stephens Creek 37.46 159 P **P** **14 33 11.1 -0.2**
comp=Z,25nm,0.6s,mb5.2,baz=332,slow=8.3,SNR=78
BJT Baijiatuau 38.03 346 *e*P **P** **14 33 16.1 +0.1**
comp=Z,21nm,0.8s,mb4.9
BJT Baijiatuau 38.03 346 *e*P **P** **14 33 16.1 +0.1**
BJT pmax pmax
comp=Z,21nm,0.8s
BJI Beijing 38.05 346 P **P** **14 33 14.9 -1.2**
BJI S **S** **14 39 09.6 +2.4**
BJI AMB AMB
comp=Z,21nm,1.1s,mb4.8
BJI LR LR
comp=N,286nm,16.9s,MS4.2
BJI LR LR
comp=E,193nm,18.7s,MS4.2
BJI LR LR
comp=Z,222nm,20.6s,MS4.0
SNY Shenyang 38.66 356 ⇓P **P** **14 33 22.4 +1.1**
SNY AMB AMB
comp=Z,19nm,1.4s,mb4.6
LZH Lanzhou 39.17 330 ⇑P **P** **14 33 27.0 +1.3**
LZH AP pP 14 33 31.8 -1.6
LZH XP sP 14 33 37.3 +0.8
LZH PP PP 14 35 01.5 +5.7
LZH *e*S **S** **14 39 27.3 +2.9**
LZH XS sS 14 39 34.1 -2.9
LZH *e*SS SS 14 42 13.0 -4.9
LZH AMB AMB
comp=Z,39nm,1.2s,mb5.0
LZH AMB AMB
comp=Z,135nm,5.5s
LZH LR LR
comp=E,1μm,15.0s
LZH LR LR
comp=Z,2μm,17.8s,MS4.9
HHC Hu-ho-hao-te 40.07 342 *e*P **P** **14 33 33.3 +0.2**
HHC AP pP 14 33 37.9 -2.9
HHC XP sP 14 33 40.9 -3.0
HHC PP PP 14 35 09.5 +4.0
HHC PCP PcP 14 35 37.6 0.0
HHC PCS PcS 14 39 27.8 0.0
HHC S **S** **14 39 43.6 +6.0**
HHC XS sS 14 39 50.6 +0.3
HHC SS SS 14 42 33.0 -2.6
HHC SCS ScS 14 43 37.6 -0.8
HHC AMB AMB
comp=Z,11nm,0.4s,mb4.9
HHC AMB AMB
comp=Z,118nm,4.3s
HHC LR LR
comp=N,319nm,19.6s,MS4.3
HHC LR LR
comp=E,211nm,18.2s,MS4.3
HHC LR LR
comp=Z,321nm,21.0s,MS4.1
SHL Shillong 40.47 307 *e*P **P** **14 33 36.0 -0.6**
CN2 Changchun 40.54 358 *e*P **P** **14 33 36.5 -0.4**
CN2 *e*XP sP 14 33 43.8 -3.9
CN2 *e*S **S** **14 39 45.9 +1.4**
CN2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.5
CN2 AMB AMB
comp=Z,130nm,3.0s
CN2 LR LR
comp=N,200nm,15.0s,MS4.2
CN2 LR LR
comp=E,200nm,15.0s,MS4.2
CN2 LR LR
comp=Z,200nm,17.0s,MS4.0
ARMA Armidale 40.80 147 *e*P **P** **14 33 39.9 +0.7**
MDJ Mudanjiang 41.39 3 P **P** **14 33 44.8 +0.9**
MDJ AP pP 14 33 48.3 -3.4
MDJ PP PP 14 35 20.9 +1.1
MDJ S **S** **14 40 02.0 +4.8**
MDJ SS SS 14 43 07.4 +5.6
MDJ AMB AMB
comp=Z,10.0nm,1.2s,mb4.3
MDJ AMB AMB
comp=Z,71nm,5.1s
MDJ LR LR
comp=N,137nm,21.1s
MDJ LR LR
comp=E,94nm,30.8s
MDJ LR LR
comp=Z,151nm,22.7s,MS3.8
MDJ Mudanjiang 41.39 3 *e*P **P** **14 33 44.7 +0.8**
comp=Z,27nm,1.1s,mb4.8
LSA Lhasa 43.06 312 P **P** **14 33 58.0 +0.2**
LSA Lhasa 43.06 312 *e*P **P** **14 33 58.1 +0.3**
comp=Z,7.5nm,0.6s,mb4.6
LSA Lhasa 43.06 312 *e*P **P** **14 33 58.1 +0.3**
LSA pmax pmax
comp=Z,8.0nm,0.6s,mb4.6
ASAJ Asahikawa 43.09 16 P **P** **14 33 59.0 +1.1**
comp=Z,15nm,0.7s,mb4.9,baz=219,slow=11,SNR=15
ASAJ LR LR 14 51 11.3
comp=Z,308nm,20.5s,MS4.2,baz=206,slow=35
GTA Gaotai 43.77 329 *e*P **P** **14 34 03.6 +0.3**
GTA AP pP 14 34 11.1 0.0
GTA XP sP 14 34 15.5 +1.3
GTA PP PP 14 35 48.3 +2.8
GTA S **S** **14 40 35.4 +3.0**
GTA XS sS 14 40 41.8 -3.4
GTA SS SS 14 43 44.3 -4.5
GTA AMB AMB
comp=Z,6.0nm,1.3s,mb4.2
GTA AMB AMB
comp=Z,113nm,5.3s
GTA LR LR
comp=N,267nm,20.5s,MS4.4
GTA LR LR
comp=E,388nm,21.7s,MS4.4
GTA LR LR
comp=Z,649nm,20.5s,MS4.5
HABR Khabarovsk 45.71 7⇑ *i*P **P** **14 34 17.2 -1.5**
HABR *e* 14 34 26.9
HABR *e* 14 36 04.6
HABR S **S** **14 41 00.6 +0.3**
HABR *e* 14 41 17.7
HABR pmax pmax
comp=Z,36nm,1.5s,mb5.1
YSS Yuzh-Sakhalins 45.76 15⇓ *e*P **P** **14 34 19.5 +0.5**
YSS pmax pmax
comp=Z,26nm,1.3s,mb5.0
KLR Kul'dur 46.12 4 *e*P **P** **14 34 18.2 -3.7**
KLR pmax pmax
comp=Z,50nm,1.6s,mb5.2
HIA Hailar 46.40 353 *e*P **P** **14 34 24.3 +0.2**
comp=Z,11nm,0.9s,mb4.8
HIA Hailar 46.40 353 *e*P **P** **14 34 24.3 +0.2**
HIA pmax pmax
comp=Z,11nm,0.9s
ULN Ulaanbaatar 47.79 342 *e*P **P** **14 34 35.1 +0.2**
comp=Z,21nm,1.0s,mb5.1
ULN Ulaanbaatar 47.79 342⇓ *e*P **P** **14 34 35.7 +0.8**
SONM Songino Array 47.97 341 P **P** **14 34 36.3 0.0**
SONM 14 36 05.0
SONM Songino Array 47.97 341 P **P** **14 34 36.3 0.0**
comp=Z,2.5nm,0.5s,mb4.5,baz=158,slow=8.4,SNR=18
SONM PcP PcP 14 36 05.0 +0.7
comp=Z,2.5nm,1.0s,baz=152,slow=3.5,SNR=3.7
SONM LR LR 14 57 43.2
comp=Z,176nm,20.4s,MS4.0,baz=158,slow=40
HYB Hyderabad 49.59 290 *e*P **P** **14 34 48.5 -0.8**
HYB Hyderabad 49.59 290 *i*P **P** **14 34 50.0 +0.7**
ZAK Zakamensk 51.20 341 *e*P **P** **14 35 00.6 -0.3**
ZAK *e* 14 36 16.7
ZAK pmax pmax
comp=Z,3.0nm,1.1s,mb4.1
ZAK pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
TLY Talaya 52.20 342 P **P** **14 35 06.4 -2.0**
comp=Z,5.0nm,0.7s,mb4.5
TLY Talaya 52.20 342 *e*P **P** **14 35 08.8 +0.4**
TLY *e*S **S** **14 42 40.2 +8.8**
TLY pmax pmax
comp=Z,14nm,1.7s,mb4.6
TLY MLR MLR
comp=Z,213nm,21.0s,MS4.2
IRK Irkutsk 52.50 343 *e*P **P** **14 35 10.3 -0.3**
IRK *e* 14 48 01.0
IRK pmax pmax
comp=Z,32nm,1.6s,mb5.0
MOY Mondy 53.05 340 *e*P **P** **14 35 16.0 +1.3**
MOY pmax pmax
comp=Z,24nm,2.6s,mb4.7
WMQ Urumqi 53.39 325 *e*P **P** **14 35 17.5 +0.2**
WMQ AP pP 14 35 22.0 -3.2
WMQ XP sP 14 35 24.0 -4.3
WMQ PCP PcP 14 36 25.0 +0.6
WMQ PP PP 14 37 20.0 +2.1
WMQ *e*S **S** **14 42 47.0 -0.9**
WMQ XS sS 14 43 00.0 -1.0
WMQ AMB AMB
comp=Z,12nm,1.0s,mb4.8
WMQ AMB AMB
comp=Z,169nm,5.9s
WMQ LR LR
comp=N,368nm,18.3s,MS4.6
WMQ LR LR
comp=E,347nm,21.2s,MS4.6
WMQ LR LR
comp=Z,369nm,24.0s,MS4.3
BOD Bodaibo 55.51 352⇓ *i*P **P** **14 35 32.8 +0.3**
BOD pmax pmax
comp=Z,17nm,1.1s,mb5.0
PET Petropavlovsk 56.18 22 *e*P **P** **14 35 38.8 +1.4**
PET *e* pP 14 35 46.8 +1.5
PET pmax pmax
comp=Z,25nm,1.0s,mb5.2
PET pmax pmax
comp=Z,32nm,1.0s,mb5.3
MK31 Makanchi Array 58.22 325 *e*P **P** **14 35 50.7 -1.2**
MKAR Makanchi Array 58.22 325⇑ *e*P **P** **14 35 51.0 -0.9**
MKAR Makanchi Array 58.22 325 P **P** **14 35 51.1 -0.8**
comp=Z,7.0nm,0.5s,mb4.9,baz=120,slow=8.4,SNR=40
MKAR LR LR 15 02 58.3
comp=Z,308nm,20.6s,MS4.4,baz=261,slow=38
YAK Yakutsk 58.81 1 *e*P **P** **14 35 56.0 +0.2**
comp=Z,33nm,0.8s,mb5.4
YAK Yakutsk 58.81 1 *c i*P **P** **14 35 55.9 +0.2**
YAK pmax pmax
comp=Z,42nm,0.9s,mb5.5
YAK pmax pmax
comp=N,14nm,1.0s
YAK pmax pmax
comp=E,5.0nm,0.9s
MA2 Magadan 59.23 14 *e*P **P** **14 35 59.3 +0.6**
comp=E,13nm,0.8s,mb5.0
MA2 Magadan 59.23 14⇑ *e*P **P** **14 36 00.1 +1.4**
MA2 pmax pmax
comp=Z,22nm,1.2s,mb5.1
TKM2 Tokmak 2 60.39 319 P **P** **14 36 06.6 -0.4**
comp=Z,4.9nm,0.8s,mb4.6
TKM2 Tokmak 2 60.39 319 P **P** **14 36 06.6 -0.4**
TKM2 pmax pmax
comp=Z,5.0nm,0.8s,mb4.6
UCH Uchtor 60.82 318 *e*P **P** **14 36 09.7 -0.3**
comp=Z,7.9nm,1.0s,mb4.8
ZAA0 Zalesovo Array 61.26 333 *e*P **P** **14 36 10.5 -2.2**
ZALV Zalesovo Beam 61.26 333 P **P** **14 36 11.6 -1.1**
comp=Z,3.7nm,0.6s,mb4.7,baz=130,slow=6.3,SNR=13
ZAL Zalesovo 61.26 333 P **P** **14 36 11.6 -1.1**
AML Almayashu 61.33 317 *e*P **P** **14 36 13.2 -0.2**
comp=Z,5.0nm,0.7s,mb4.8
EKS2 Erkin-Say 61.49 318 *e*P **P** **14 36 13.7 -0.8**
comp=Z,4.4nm,0.7s,mb4.7
RAO Raoul Island 61.74 126 LR LR 14 59 49.9
comp=Z,596nm,21.8s,MS4.7,baz=94,slow=33
KBL Kabul 62.12 308 *e*P **P** **14 36 18.1 -0.8**
KURK Kurchatov 62.41 328 P **P** **14 36 19.5 -1.0**
comp=Z,108nm,0.6s,mb6.2,SNR=16
KURK Kurchatov 62.41 328 *e*P **P** **14 36 19.2 -1.3**
comp=Z,19nm,0.9s,mb5.2
KURK Kurchatov 62.41 328⇓ *e*P **P** **14 36 19.1 -1.4**
NVS Novosibirsk 62.55 333 *e*P **P** **14 36 19.9 -1.4**
NVS *e*S **S** **14 44 45.8 -1.6**
NVS pmax pmax
comp=Z,22nm,1.6s,mb5.0
NVS pmax pmax
comp=N,14nm,1.8s
NVS smax
comp=N,17nm,2.0s
NVS smax
comp=E,12nm,1.9s
SEY Seymchan 62.56 13⇓ *e*P **P** **14 36 22.5 +1.2**
BRVK Borovoye 68.06 327 P **P** **14 36 56.6 -0.5**
comp=E,75nm,0.6s,mb5.9,SNR=6.8
BRVK Borovoye 68.06 327 *e*P **P** **14 36 56.1 -1.0**
comp=E,13nm,0.9s,mb5.0
BRVK Borovoye 68.06 327 *e*P **P** **14 36 56.2 -0.9**
BRVK pmax pmax
comp=Z,13nm,0.9s,mb5.0
TIXI Tiksi 68.45 1 *e*P **P** **14 36 58.5 -0.7**
comp=Z,16nm,1.0s,mb5.0
TIXI Tiksi 68.45 1 *c i*P **P** **14 36 58.7 -0.5**
TIXI pmax pmax
comp=Z,18nm,1.4s,mb4.9
TIXI MLR MLR
comp=Z,200nm,17.0s,MS4.4
BILL Bilibino 70.07 15 *e*P **P** **14 37 09.7 +0.4**
comp=Z,3.0nm,0.8s,mb4.3
BILL Bilibino 70.07 15⇑ *e*P **P** **14 37 11.4 +2.1**
BILL MLR MLR
comp=Z,100nm,24.0s,MS4.0
SVE Sverdlovsk 74.63 329 *e*P **P** **14 37 36.0 -0.7**
SVE pmax pmax
comp=Z,19nm,1.1s,mb4.9
GAMB Gambell 74.84 24 *e*P **P** **14 37 38.6 +0.8**
comp=Z,10.0nm,0.9s,mb4.8
ARU Arti 75.61 328 P **P** **14 37 41.7 -0.7**
comp=Z,99nm,0.5s,mb6.0,SNR=6.5
ARU Arti 75.61 328 *e*P **P** **14 37 41.1 -1.2**
comp=Z,8.4nm,0.6s,mb4.8
ARU Arti 75.61 328 *c i*P **P** **14 37 41.4 -1.0**
ARU *e* 14 37 53.3
ARU *e* 14 40 28.2
ARU *e*PPP 14 42 12.1
ARU *e*S S 14 47 20.3 -1.4
ARU *e*SS SS 14 52 14.2 +1.1
ARU pmax pmax
comp=Z,20nm,1.2s,mb4.9
VNDA Vanda 82.78 173 P **P** **14 38 21.7 +0.5**
VNDA Vanda 82.78 173 P **P** **14 38 21.7 +0.5**
comp=Z,7.9nm,0.9s,mb4.8,baz=315,slow=7.0,SNR=25
IMA2 Indian Mountai 82.82 24 *e*P **P** **14 38 22.8 +1.2**
MAW Mawson 83.28 200 P **P** **14 38 24.3 +0.4**
comp=Z,2.9nm,0.8s,mb4.4,baz=55,slow=8.8,SNR=4.3
SLKM Skilak Lake 83.73 30 *e*P **P** **14 38 27.6 +1.2**
KIV Kislovodsk 83.77 314 *e*P **P** **14 38 21.6 -5.4**
KIV *e*S S 14 48 40.1 -8.5
KIV pmax pmax
comp=Z,3.0nm,0.7s,mb4.5
KIV MLR MLR
comp=Z,86nm,20.0s,MS4.1
PMR Palmer 84.34 29 *e*P **P** **14 38 29.6 +0.1**
comp=Z,16nm,1.1s,mb5.1
PMR Palmer 84.34 29 *e*P **P** **14 38 29.6 +0.1**
PMR pmax pmax
comp=Z,16nm,1.1s,mb5.1
MCK McKinley 84.58 26 *e*P **P** **14 38 30.6 -0.1**
comp=Z,25nm,1.3s,mb5.2
MCK McKinley 84.58 26 *e*P **P** **14 38 30.6 -0.1**
MCK pmax pmax
comp=Z,25nm,1.3s,mb5.2
SML Sawmill 84.74 28 *e*P **P** **14 38 32.4 +0.9**
VRSR Storozhevoye 86.23 321 *e*P **P** **14 38 38.9 -0.2**
VRSR pmax pmax
comp=Z,2.0nm,0.8s,mb4.4
VRSR pmax pmax
comp=N,1.0nm,1.1s
VRSR pmax pmax
comp=E,3.0nm,0.9s
MALT Malatya 86.98 308 *e*P **P** **14 38 43.5 +0.3**
comp=E,16nm,1.3s,mb5.1
MALT Malatya 86.98 308 *e*P **P** **14 38 43.5 +0.4**
MALT pmax pmax
comp=Z,15nm,1.3s,mb5.1
ANN Anapa 87.53 315 *e*P **P** **14 38 36.0 -10**
ANN *e**PP pP 14 38 45.9 -8.1
ANN pmax pmax
comp=Z,48nm,1.1s,mb5.6
OBN Obninsk 87.72 325⇑ *e*P **P** **14 38 45.9 -0.4**
OBN *e* pP 14 38 53.3 -1.4
OBN *e* 14 38 58.9
OBN pmax pmax
comp=Z,11nm,0.7s,mb5.2
OBN MLR MLR
comp=Z,100nm,18.0s,MS4.3
KMBO Kilima Mbogo 89.83 269 *i*P **P** **14 38 58.5 +1.3**
KMBO pmax pmax
comp=Z,2.0nm,0.7s
KMBO Kilima Mbogo 89.83 269 P **P** **14 38 57.4 +0.2**
comp=Z,1.6nm,0.7s,mb4.5,baz=57,slow=11,SNR=4.6
ARCES ARCESS Array B 91.12 340 P **P** **14 39 00.8 -1.1**
comp=Z,5.3nm,0.9s,mb4.8,baz=32,slow=7.1,SNR=5.6
FINES FINESS Array B 92.51 332 *i*P **P** **14 39 10.1 +1.6**
FINES pmax pmax
comp=Z,1.0nm,0.6s
FINES FINESS Array B 92.51 332 P **P** **14 39 07.5 -1.1**
comp=Z,0.9nm,0.6s,mb4.4,baz=38,slow=4.7,SNR=8.7
FINES LR LR 15 25 30.0
comp=Z,104nm,18.6s,MS4.3,baz=106,slow=39
AKASG Malin Array Be 92.55 321 *i*P **P** **14 39 07.3 -1.7**
AKASG pmax pmax
comp=Z,1.0nm,0.4s
AKASG Malin Array Be 92.55 321 P **P** **14 39 07.0 -2.0**
comp=Z,0.6nm,0.4s,mb4.3,baz=78,slow=3.8,SNR=9.1
QSPA South Pole Qui 93.03 180 *e*P **P** **14 39 12.0 +1.4**
comp=Z,13nm,1.2s,mb5.2
NOA NORSAR Array B 99.46 334 P **P** **14 39 38.8 -1.4**
comp=Z,0.9nm,0.8s,mb4.3,baz=66,slow=4.5,SNR=3.1
YKA Yellowknife Ar 99.94 25 P Pdif 14 39 41.7 -0.7
YKA Yellowknife Ar 99.94 25 *i*P Pdif 14 39 45.2 +2.8
YKA Yellowknife Ar 99.94 25 P Pdif 14 39 41.7 -0.7
comp=Z,0.4nm,0.7s,baz=305,slow=5.0,SNR=7.8
YKA PKiKP PKiKP 14 44 10.4 +0.2
comp=Z,0.1nm,0.6s,baz=305,slow=2.4,SNR=4.3
ULM Lac du Bonnet 115.36 29 PKP PKPdf 14 44 38.3 -1.1
comp=Z,0.7nm,0.5s,baz=325,slow=3.3,SNR=4.1
ISCO Idaho Springs 115.63 43 *e*PKPdf PKPdf 14 44 39.2 -1.0
SCHQ Schefferville 121.12 9 PKP PKPdf 14 44 51.6 +1.3
comp=Z,2.2nm,0.8s,baz=288,slow=3.2,SNR=3.4
TXAR Lajitas Array 121.75 53 PKP PKPdf 14 44 53.2 +1.0
TXAR Lajitas Array 121.75 53 PKP PKPdf 14 44 53.2 +1.0
comp=Z,0.8nm,0.6s,baz=9.4,slow=1.0,SNR=11
TOA0 Torodi Ar. Sit 123.38 288 *e*PKPdf PKPdf 14 44 55.3 -0.4
TORD Torodi Ar. Bea 123.38 288 PKP PKPdf 14 44 55.5 -0.2
comp=Z,3.1nm,0.7s,baz=60,slow=1.5,SNR=20
DBIC Dimbokro 130.98 282 PKP PKPdf 14 45 10.8 +0.5
comp=Z,3.9nm,0.9s,baz=148,slow=1.7,SNR=5.0
PLCA Paso Flores 139.33 159 PKP PKPdf 14 45 26.4 +1.2
comp=Z,2.9nm,0.8s,baz=230,slow=3.0,SNR=4.6
LPAZ La Paz 160.17 132 PKP PKPdf 14 46 00.4 +2.4
comp=Z,1.7nm,0.9s,baz=52,slow=6.1,SNR=7.4
BDFB Brasilia 166.62 201 PKPab PKPab 14 47 07.8 +1.6
comp=Z,1.5nm,0.9s,baz=148,slow=18,SNR=3.3

IDC 15 14:34:38.2±1.7, 299N×12656E, h0km, mb3.4/4, mb1 3.6/4, mb1mx3.4/16, mbtmp3.4/4, Error ellipse: s-maj=157.3km s-min=21.5km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.03**	**162**	P	P	14 39 54.6	-0.5
	0.4nm,0.4s,baz=341,slow=10.0,SNR=11						
ASAR	**Alice Springs**	**27.44**	**165**	P	P	14 40 26.1	+0.1
	0.2nm,0.6s,baz=346,slow=7.8,SNR=4.4						
STKA	**Stephens Creek**	**37.50**	**159**	P	P	14 41 54.0	+0.1
	0.7nm,0.6s,baz=337,slow=13,SNR=2.0						
MKAR	**Makanchi Array**	**58.07**	**326**	P	P	14 44 33.6	+0.3
	0.1nm,0.3s,baz=132,slow=7.4,SNR=2.9						

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*ISCJB **15** 14:38:53.8±0.6, 4268N±003×1796E±004, h10km, Error ellipse: s-maj=5.2km s-min=3.1km az=30.2*
*CSEM **15** 14:38:53.7±0.3, 4273N×1796E, h5km, ML2.5/10, Error ellipse: s-maj=5.6km s-min=3.9km az=48.0*
*BEO **15** 14:38:53.4±0.8, 4252N×1813E, ML2.6/4*
*PDG **15** 14:38:54.0±0.1, 4268N×1800E, h5km±11km, ML2.5/10, Error ellipse: s-maj=0.3km s-min=0.8km az=0.0*
*NEIC **15** 14:38:54.0, 4268N×1800E, h5km, ML2.5(PDG), After PDG.*

ISC 15 14:38:54.7±0.6, 4269N±003×1798E±004, h10km, n22, σ1§42/40, 6C-7D, Adriatic Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STON	**Ston**	**0.27**	**311**	⇓*i*P*g*	**Pg**	**14 38 59.1**	**-1.1**
STON				Sg	**Sg**	**14 39 03.4**	**-0.5**
HCY	**Herceg Novi**	**0.46**	**122**	⇓*i*P*g*	**Pg**	**14 39 02.5**	**-1.1**
HCY				*e*Sg	**Sg**	**14 39 09.6**	**0.0**
BRY	**Bratogost**	**0.47**	**63**	⇓*i*P*g*	**Pg**	**14 39 02.7**	**-1.1**
BRY				*e*Sg	**Sg**	**14 39 10.4**	**+0.4**
NKY	**Niksic**	**0.76**	**80**	⇓*i*P*g*	**Pg**	**14 39 08.5**	**-0.9**
NKY				*e*Sg	**Sg**	**14 39 20.3**	**+1.0**
BUM	**Brajici-Budva**	**0.79**	**120**	⇓*i*P*g*	**Pg**	**14 39 08.3**	**-1.5**
BUM				*e*Sg	**Sg**	**14 39 21.0**	**+0.9**
UPM	**Unac-Piva**	**0.85**	**53**	⇑*i*P*g*	**Pg**	**14 39 09.8**	**-1.4**
UPM				*e*Sg	**Sg**	**14 39 23.9**	**+1.6**
PDG	**Podgorica**	**0.98**	**105**	⇑*i*P*g*	**Pg**	**14 39 12.2**	**-1.4**
PDG				*e*Sg	**Sg**	**14 39 27.7**	**+1.3**

TTG	**Podgorica**	**0.98**	**105**	⇑*i*Pg	**Pg**		**14 39 12.2**	**-1.4**
TTG				*e*Sg	**Sg**		**14 39 27.7**	**+1.3**
ULC	**Ulcinj**	**1.19**	**127**	⇓*i*Pg	**Pg**		**14 39 16.1**	**-1.5**
ULC				*e*Sg	**Sg**		**14 39 34.6**	**+1.6**
PLE	**Pljevlja**	**1.22**	**58**	⇑*i*Pg	**Pg**		**14 39 16.9**	**-1.2**
PLE				*e*Sg	**Sg**		**14 39 36.6**	**+2.6**
BEY	**Berane**	**1.43**	**82**	⇑*i*Pg	**Pg**		**14 39 20.9**	**-1.2**
IVA	**Berane**	**1.43**	**82**	⇓*i*Pg	**Pg**		**14 39 20.9**	**-1.2**
IVA				*e*Sg	**Sg**		**14 39 43.2**	**+2.7**
PVY	**Plav**	**1.48**	**93**	⇓*i*Pg	**Pg**		**14 39 21.0**	**-2.0**
PVY				*e*Sg	**Sg**		**14 39 45.1**	**+2.9**
SJES	**Sjenica**	**1.55**	**68**	*e*Pn	**Pn**		**14 39 22.0**	**-0.4**
SJES				*e*Sg	**Sg**		**14 39 42.8**	**-1.8**
DIVS	**Divibare**	**2.03**	**46**	*e*Pn	**Pn**		**14 39 29.6**	**+0.6**
DIVS				*e*Sg	**Sg**		**14 39 59.3**	**-0.7**
GRUS	**Gruza**	**2.33**	**58**	*i* Pn	**Pn**		**14 39 33.4**	**+0.3**
GRUS				*e*Sg	**Sg**		**14 40 07.2**	**-2.3**
KRUS	**Krusevo**	**2.77**	**117**	*e*Pn	**Pn**		**14 39 41.6**	**+2.5**
KRUS				*e*Sn	**Sn**		**14 40 16.4**	**+3.8**
FGSL	**Fruska Gora**	**2.80**	**28**	*e*Pn	**Pn**		**14 39 40.8**	**+1.3**
BARS	**Barje**	**2.84**	**86**	*e*Pn	**Pn**		**14 39 38.7**	**-1.3**
BARS				*e*Sg	**Sg**		**14 40 19.9**	**-5.9**
NVLJ	**Novalja**	**2.93**	**311**	*e*Pn	**Pn**		**14 39 42.9**	**+1.6**
NVLJ				Sn	**Sn**		**14 40 18.3**	**+1.8**
PKSM	**Moragy**	**3.55**	**7**	*e*Pn	**Pn**		**14 39 51.6**	**+1.7**
BZS	**Buzias**	**3.92**	**41**	*e*Pn	**Pn**		**14 39 54.8**	**-0.2**

*NEIC **15** 14:41:17.5±1.8, 2162S×17672W, Error ellipse: s-maj=46.6km s-min=29.9km az=202.0*
*IDC **15** 14:41:17.2±3.1, 2128S×17679W, h85km±10km, mb3.8/4, mb1 3.9/4, mb1mx3.5/15, mbtmp3.8/4, MS3.8/1, Ms1 3.8/1, ms1mx2.9/18, Error ellipse: s-maj=122.7km s-min=51.4km az=154.0*
ISC 15 14:41:17.3±7.4, 222S±09×1773W±08, h35km, n12, σ0°75/10, mb4.1/4, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**34.01**	**267**	P	**P**	**14 47 59.7**	**+1.7**
CTA				LR	LR	14 58 29.4	
CTA	**Charters Tower**	**34.01**	**267**	P	**P**	**14 47 59.7**	**+1.7**
	2.2nm,0.3s,mb4.5,baz=92,slow=12,SNR=6.8						
CTA				LR	LR	14 58 29.4	
	comp=Z,152nm,20.4s,baz=350,slow=30						
CTAO	**Charters Tower**	**34.01**	**267**	*e*P	**P**	**14 48 00.1**	**+2.1**
STKA	**Stephens Creek**	**37.66**	**246**	*e*P	**P**	**14 48 29.1**	**-0.1**
STKA	**Stephens Creek**	**37.66**	**246**	P	**P**	**14 48 29.1**	**0.0**
	1.4nm,0.5s,mb3.9,baz=86,slow=6.0,SNR=5.6						
ASAR	**Alice Springs**	**44.78**	**258**	P	**P**	**14 49 27.5**	**-0.3**
	1.3nm,0.5s,mb4.0,baz=91,slow=7.5,SNR=40						
ASAR				pP	pP	14 49 49.0	+11
	0.3nm,0.5s,baz=97,slow=7.7,SNR=1.4						
WB2	**Warramunga Arr**	**45.02**	**264**	*e*P	**P**	**14 49 29.2**	**-0.6**
WRAB	**Tennant Creek**	**45.03**	**264**	*e*P	**P**	**14 49 29.3**	**-0.5**
WRA	**Warramunga Arr**	**45.03**	**264**	P	**P**	**14 49 29.5**	**-0.3**
	0.5nm,0.3s,mb3.9,baz=96,slow=8.1,SNR=52						
WRA				pP	pP	14 49 49.7	+9.4
	0.2nm,0.3s,baz=92,slow=7.9,SNR=2.2						
SBA	**Scott Base**	**56.19**	**184**	P	**P**	**14 50 53.4**	**+0.2**
AKASG	**Malin Array Be**	**144.84**	**330**	PKP	PKPdf	15 00 43.4	-6.9
AKASG				pPKP	pPKPdf	15 01 05.7	+3.9
AKASG	**Malin Array Be**	**144.84**	**330**	PKP	PKPdf	15 00 43.4	-6.9
	0.8nm,0.5s,baz=42,slow=4.1,SNR=6.2						
AKASG				pPKP	pPKPdf	15 01 05.7	+3.9
	0.6nm,0.5s,baz=40,slow=4.1,SNR=2.9						

IDC 15 14:45:19.3±2.8, 4826N×15007E, h0km, mb3.7/5, mb1 3.7/6, mb1mx3.5/21, mbtmp3.6/6, ML3.3/1, Error ellipse: s-maj=70.2km s-min=31.0km az=147.0, Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAJ	**Asahikawa**	**6.63**	**234**	Pn	Pn	14 46 57.5	-0.4
	0.6nm,0.3s,baz=76,slow=17,SNR=7.3						
MKAR	**Makanchi Array**	**44.42**	**295**	P	P	14 53 32.5	+1.0
	0.3nm,0.3s,baz=74,slow=9.2,SNR=4.2						
YKA	**Yellowknife Ar**	**50.95**	**37**	P	P	14 54 22.2	+0.3
	0.2nm,0.8s,baz=301,slow=7.2,SNR=3.2						
FINES	**FINESS Array B**	**61.78**	**333**	P	P	14 55 38.9	-0.3
	0.4nm,0.3s,baz=42,slow=5.0,SNR=7.3						
NOA	**NORSAR Array B**	**66.11**	**339**	P	P	14 56 07.1	-0.6
	0.4nm,0.4s,baz=27,slow=6.3,SNR=3.4						
AKASG	**Malin Array Be**	**69.13**	**324**	P	P	14 56 26.8	-0.1
	0.9nm,0.4s,baz=34,slow=6.3,SNR=4.7						

*NNC **15** 14:46:56.0±7.5, 3970N×7242E, h0km, mb3.6, mpv3.3, Error ellipse: s-maj=83.5km s-min=33.5km az=6.0*
ISC 15 14:46:55.1±2.4, 393N±02×726E±01, h137km±39km, n13, σ0°51/16, 3C, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**3.01**	**16**	P	**Pn**	**14 47 40.9**	**-1.1**
	SNR=99						
UCH	**Uchtor**	**3.33**	**26**	P	**Pn**	**14 47 45.7**	**-0.4**
	SNR=30						
KZA	**Kyzart**	**3.49**	**35**	P	**Pn**	**14 47 48.1**	**-0.1**
	SNR=11						
EKS2	**Erkin-Say**	**3.53**	**15**	P	**Pn**	**14 47 48.6**	**-0.2**
	SNR=7.4						
AAK	**Ala-Archa**	**3.69**	**23**	P	**Pn**	**14 47 51.1**	**+0.3**
	SNR=22						
KBK	**Karagaybulak**	**3.86**	**27**	P	**Pn**	**14 47 53.8**	**+0.8**
	SNR=15						
CHMS	**Chumysh**	**4.10**	**23**	P	**Pn**	**14 47 56.2**	**0.0**
	SNR=10						
ULHL	**Ulahol**	**4.10**	**42**	P	**Pn**	**14 47 56.3**	**+0.1**
	SNR=13						
KK31	**Karatay Array**	**4.15**	**339**	Pn	**Pn**	**14 47 57.1**	**+0.2**
	1.7nm,0.2s,baz=135,slow=13,SNR=73						
KK31				Sn	**Sn**	**14 48 45.7**	**+0.7**
	8.8nm,0.4s,baz=144,slow=29,SNR=7.0						
USP	**Ospenovka**	**4.27**	**19**	P	**Pn**	**14 47 58.6**	**+0.1**
	SNR=5.4						
TKM2	**Tokmak 2**	**4.33**	**31**	⇑Pn	**Pn**	**14 47 58.9**	**-0.3**
	4.9nm,0.6s						
TKM2				⇑Sn	**Sn**	**14 48 49.2**	**0.0**
	17nm,0.8s						
TKM2	**Tokmak 2**	**4.33**	**31**	P	**Pn**	**14 47 59.2**	**-0.1**
	SNR=6.3						
AB31	**Akbulak array**	**13.47**	**322**	Pn	**Pn**	**14 50 01.1**	**+0.6**
	0.5nm,0.5s,baz=3.4,slow=27,SNR=8.8						
AB31				⇑Sn	**Sn**	**14 52 28.3**	**-0.9**
	1.4nm,0.7s,baz=152,slow=21,SNR=2.6						

*IDC **15** 15:05:58.4±9.0, 3145S×17938W, h310km±99km, mb2.5/2, mb1 2.9/3, mb1mx2.8/14, mbtmp2.7/3, Error ellipse: s-maj=102.2km s-min=45.6km az=179.0*
ISC 15 15:06:02.7±1.6, 321S±01×1792W±04, h400km±13km, n19, σ1°26/26, mb2.7/2, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUZ	**Puketiti**	**6.34**	**199**	PN	**Pn**	**15 07 38.6**	**-0.3**
PUZ				SN	**S**	**15 08 57.7**	**+0.2**
MWZ	**Matawai**	**6.80**	**203**	PN	**Pn**	**15 07 46.1**	**+2.1**
URZ	**Urewera**	**6.88**	**205**	P	**Pn**	**15 07 45.5**	**+0.7**
	1.3nm,0.3s,baz=45,slow=2.9,SNR=24						
URZ				S	**S**	**15 09 08.7**	**+0.3**
	1.5nm,0.3s,baz=131,slow=17,SNR=12						
URZ	**Urewera**	**6.88**	**205**	PN	**Pn**	**15 07 45.0**	**+0.1**
URZ				SN	**S**	**15 09 07.7**	**-0.6**
BKZ	**Black Stump Fm**	**7.91**	**205**	PN	**Pn**	**15 07 57.2**	**+0.7**
BKZ				SN	**S**	**15 09 30.4**	**+0.8**
BFZ	**Birch Farm**	**9.35**	**202**	PN	**Pn**	**15 08 13.8**	**+0.8**
BFZ				SN	**S**	**15 10 01.1**	**+1.0**
TIWZ	**Tintock**	**9.55**	**203**	PN	**Pn**	**15 08 17.4**	**+2.0**
MRZ	**Mangatainoka R**	**9.55**	**205**	PN	**Pn**	**15 08 13.7**	**-1.7**
MRZ				SN	**S**	**15 10 02.4**	**-1.9**
KIW	**Kapiti Island**	**9.98**	**207**	PN	**Pn**	**15 08 19.8**	**-0.4**
CAW	**Cannon Point**	**10.13**	**206**	PN	**Pn**	**15 08 21.5**	**-0.6**
TCW	**Tory Channel**	**10.53**	**208**	PN	**Pn**	**15 08 26.5**	**-0.1**
TCW				SN	**S**	**15 10 23.3**	**-0.8**
TUWZ	**Tuamarina**	**10.84**	**209**	PN	**Pn**	**15 08 28.8**	**-1.5**
NNZ	**Nelson**	**10.91**	**211**	PN	**Pn**	**15 08 30.2**	**-0.8**
NNZ				SN	**S**	**15 10 33.6**	**+1.8**
QRZ	**Quartz Range**	**10.99**	**215**	PN	**Pn**	**15 08 30.2**	**-1.9**
THZ	**Tophouse**	**11.56**	**211**	PN	**Pn**	**15 08 36.4**	**-2.2**
LTZ	**Lake Taylor**	**12.66**	**210**	PN	**P**	**15 08 50.7**	**+1.2**

ASAR	**Alice Springs**	**42.06**	**269**	P	**P**		**15 13 20.4**	**+3.0**
	0.3nm,1.0s,mb2.6,baz=104,slow=7.7,SNR=3.3							
WRA	**Warramunga Arr**	**43.21**	**275**	P	**P**		**15 13 26.3**	**-0.2**
	0.5nm,0.9s,mb2.9,baz=113,slow=8.0,SNR=4.9							
FINES	**FINESS Array B**	**146.36**	**338**	PKPbc	PKPbc		15 24 59.2	+2.7
	0.6nm,0.6s,baz=62,slow=3.6,SNR=6.5							

IDC 15 15:28:57.8±3.0, 4892S×10931E, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.7/13, mbtmp3.8/3, MS3.6/3, Ms1 3.5/3, ms1mx3.2/22, Error ellipse: s-maj=112.6km s-min=28.7km az=104.0, Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**29.61**	**67**	LR	LR	15 44 58.4	
	comp=Z,96nm,19.9s,baz=32,slow=32						
MAW	**Mawson**	**29.73**	**214**	LR	LR	15 44 55.4	
	comp=Z,120nm,22.0s,baz=229,slow=32						
ASAR	**Alice Springs**	**31.79**	**46**	P	P	15 35 23.7	-0.1
	0.9nm,0.7s,baz=210,slow=7.7,SNR=9.1						
VNDA	**Vanda**	**34.83**	**162**	P	P	15 35 49.8	0.0
	0.9nm,0.6s,baz=293,slow=8.5,SNR=9.3						
WRA	**Warramunga Arr**	**35.20**	**44**	P	P	15 35 53.8	+0.3
	0.4nm,0.7s,baz=204,slow=10,SNR=5.6						
BOSA	**Boshof**	**65.28**	**254**	LR	LR	16 01 34.0	
	comp=Z,74nm,19.7s,baz=304,slow=30						
YKA	**Yellowknife Ar**	**152.41**	**44**	PKPbc	PKPbc	15 48 54.1	-0.2
	0.1nm,0.7s,baz=273,slow=1.9,SNR=3.3						

GUC 15 15:36:18.0±0.8, 3167S×7208W, h30km±5km, MD3.8, ML3.0, 1D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHNG	**Los Chungos**	**0.54**	**113**	⇓*i*P	Pb	15 36 09.8	-19
CHNG				*i* S	Sb	15 36 17.4	-19
CMCH	**Combarbala**	**1.04**	**62**	*e*P	Pn	15 36 36.5	-0.1
CMCH				*i* S	Sn	15 36 51.0	+0.9
CMCH				AML	AML	15 36 52.8	
	comp=N,1μm,0.8s						
JACH	**Jahuel**	**1.61**	**129**	*e*P	Pn	15 36 46.1	+1.8
JACH				*i* S	Sn	15 37 07.0	+2.9
TLL	**Tololo Astrono**	**1.85**	**36**	*e*P	Pn	15 36 50.0	+2.2
TLL				*i* S	Sn	15 37 13.7	+3.5
TLL				AML	AML	15 37 20.3	
	comp=N,108nm,0.5s						
PEL	**Peldehue**	**1.88**	**142**	*e*P	Pn	15 36 49.5	+1.4
PEL				*e*S	Sn	15 37 13.6	+2.7
PEL				AML	AML	15 37 20.0	
	comp=E,363nm,0.4s						
FCH	**Farellones**	**2.24**	**138**	*e*P	Pn	15 36 55.1	+2.1
FCH				AML	AML	15 37 27.8	
	comp=E,53nm,0.3s						

*NEIC **15** 15:38:26.1, 1694N×9425W, h140km, MD4.1(MEX), After MEX.*
MEX 15 15:38:26.1±1.6, 1694N×9425W, h140km±15km, MD4.1, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.62**	**284**	*i* P	Pn	15 38 46.0	-1.0
CMIG				*i* S	Sn	15 39 01.1	-1.8
TUIG	**Tuzandepetl**	**1.10**	**351**	*i* P	Pn	15 38 49.5	-1.4
TUIG				*i* S	Sn	15 39 07.0	-2.7
SCX	**San Cristobal**	**1.56**	**97**	*i* P	Pn	15 38 54.0	-1.6
SCX				*i* S	Sn	15 39 15.2	-2.9
CCIG	**Comitan**	**2.13**	**108**	*i* P	Pn	15 39 02.3	+0.1
CCIG				*i* S	Sn	15 39 28.2	-1.6
HUIG	**Huatulco**	**2.13**	**237**	*i* P	Pn	15 38 59.4	-2.8
HUIG				*i* S	Sn	15 39 28.0	-1.9
OXX	**Oaxaca**	**2.37**	**274**	*e*P	Pn	15 39 04.0	-1.1
OXX				*i* S	Sn	15 39 34.5	-0.6
VHO	**Vista Hermosa**	**2.38**	**274**	*i* P	Pn	15 39 04.9	-0.3
VHO				*i* S	Sn	15 39 35.0	-0.4
TPIG	**Tehuac#an**	**3.31**	**297**	*i* P	Pn	15 39 14.9	-2.2
TPIG				*i* S	Sn	15 39 54.1	-2.5
UTMO	**Huajuapan**	**3.51**	**285**	*i* P	Pn	15 39 19.3	-0.3
PPM	**Popocatepetl**	**4.67**	**298**	*i* P	Pn	15 39 36.4	+1.4
TEIG	**Tepich**	**6.54**	**59**	*e*Pn	Pn	15 39 57.0	-3.0

*ISCJB **15** 15:38:22.0±1.8, 3917N±005×7235E±006, h7km±12km, mb3.7/11, Error ellipse: s-maj=8.8km s-min=7.6km az=171.2*
*IDC **15** 15:38:22.5±0.9, 3917N×7263E, h0km, mb3.8/7, mb1 3.9/11, mb1mx3.7/24, mbtmp3.8/11, ML3.5/4, Error ellipse: s-maj=19.1km s-min=17.5km az=23.0*
*MOS **15** 15:38:25.2±1.1, 3925N×7241E, h29km, mb4.3/3, Error ellipse: s-maj=19.6km s-min=9.5km az=70.5*
*NNC **15** 15:38:26.9±6.2, 3948N×7203E, h0km, mb4.1, mpv3.7, Error ellipse: s-maj=52.8km s-min=31.0km az=9.0*
*BJI **15** 15:38:28.9, 3955N×7270E, h50km, ML3.6*
*NEIC **15** 15:38:31.9±0.9, 3950N×7262E, h67km±8km, mb3.9/2, Error ellipse: s-maj=12.0km s-min=8.5km az=132.0*
ISC 15 15:38:28.3±1.3, 3922N±008×7249E±007, h42km±11km, n51, σ0°93/57, mb3.7/11, 5C-4D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**2.72**	**83**	P	**Pn**	**15 39 10.3**	**+0.9**
KSH				S	**Sn**	**15 39 45.5**	**+4.5**
KSH				Smax			
	comp=N,1μm,0.8s						
KSH				Smax			
	comp=E,1μm,0.6s						
AML	**Almayashu**	**3.05**	**17**	*e*Pn	**Pn**	**15 39 13.1**	**-0.8**
AML				*e*Sn	**Sn**	**15 39 49.7**	**+0.6**
AML	**Almayashu**	**3.05**	**17**	P	**Pn**	**15 39 13.4**	**-0.4**
	SNR=137						
UCH	**Uchtor**	**3.37**	**27**	*e*Pn	**Pn**	**15 39 17.9**	**-0.5**
UCH				*e*Sn	**Sn**	**15 39 59.9**	**+2.7**
UCH	**Uchtor**	**3.37**	**27**	P	**Pn**	**15 39 18.3**	**-0.1**
	SNR=61						
KZA	**Kyzart**	**3.54**	**36**	P	**Pn**	**15 39 20.7**	**0.0**
	SNR=61						
EKS2	**Erkin-Say**	**3.57**	**15**	*e*Pn	**Pn**	**15 39 21.1**	**0.0**
EKS2	**Erkin-Say**	**3.57**	**15**	P	**Pn**	**15 39 21.4**	**+0.3**
	SNR=16						
AAK	**Ala-Archa**	**3.73**	**23**	P	**Pn**	**15 39 23.6**	**+0.3**
	SNR=68						
KBK	**Karagaybulak**	**3.91**	**28**	P	**Pn**	**15 39 26.0**	**+0.3**
	SNR=22						
CHMS	**Chumysh**	**4.14**	**24**	P	**Pn**	**15 39 28.8**	**-0.1**
	SNR=25						
KK31	**Karatay Array**	**4.15**	**340**	⇑Pn	**Pn**	**15 39 30.3**	**+1.2**
	comp=E,7.4nm,0.3s,baz=142,slow=12,SNR=233						
KK31				⇓Sn	**Sn**	**15 40 18.0**	**+1.7**
	comp=E,41nm,0.5s,baz=144,slow=25,SNR=11						
ULHL	**Ulahol**	**4.16**	**42**	P	**Pn**	**15 39 29.0**	**-0.1**
	SNR=16						
USP	**Ospenovka**	**4.32**	**20**	P	**Pn**	**15 39 31.3**	**0.0**
	SNR=9.6						
TKM2	**Tokmak 2**	**4.38**	**31**	⇓Pn	**Pn**	**15 39 31.8**	**-0.4**
	comp=E,6.6nm,0.4s						
TKM2				⇑Sn	**Sn**	**15 40 29.0**	**+7.1**
	comp=E,64nm,0.9s						
TKM2	**Tokmak 2**	**4.38**	**31**	*e*PN	**Pn**	**15 39 32.0**	**-0.2**
TKM2	**Tokmak 2**	**4.38**	**31**	P	**Pn**	**15 39 31.9**	**-0.2**
	SNR=8.7						
KBL	**Kabul**	**5.43**	**212**	Pg	**Pn**	**15 39 55.7**	**+9.1**
	comp=E,7.2nm,0.4s						
MK31	**Makanchi Array**	**10.43**	**40**	*e*Pn	**Pn**	**15 40 55.2**	**+0.2**
MKAR	**Makanchi Array**	**10.43**	**40**	Pn	**Pn**	**15 40 54.2**	**-0.9**
MKAR				Lg		15 43 44.0	
MKAR	**Makanchi Array**	**10.43**	**40**	*i* P	**Pn**	**15 40 55.9**	**+0.9**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
MKAR	**Makanchi Array**	**10.43**	**40**	Pn	**Pn**	**15 40 54.2**	**-0.8**
	comp=Z,0.2nm,0.3s,baz=219,slow=14,SNR=12						
MKAR				Lg		15 43 44.0	
	comp=Z,0.1nm,0.3s,baz=228,slow=27,SNR=4.1						
AB31	**Akbulak array**	**13.45**	**322**	⇑Pn	**Pn**	**15 41 34.2**	**-2.2**
	comp=Z,1.5nm,0.4s,baz=129,slow=13,SNR=34						
AB31				⇑Sn	**Sn**	**15 43 58.8**	**-5.5**
	comp=Z,1.6nm,0.6s,baz=167,slow=20,SNR=4.0						
BVAR	**Borovoye Array**	**13.88**	**355**	Pn	**Pn**	**15 41 37.8**	**-4.4**
	comp=Z,0.2nm,0.3s,baz=164,slow=7.5,SNR=4.1						
AKTK	**Aktyubinsk**	**15.17**	**322**	Pn	**Pn**	**15 41 58.2**	**-1.2**
AKTO	**Aktyubinsk**	**15.17**	**322**	Pn	**Pn**	**15 41 58.2**	**-1.2**
	comp=Z,0.2nm,0.3s,baz=125,slow=11,SNR=6.9						

ZAL	**Zalesovo**	**16.94**	**26**	P	**Pn**		**15 42 21.5**	**-0.4**
ZAA0	**Zalesovo Array**	**16.95**	**26**	*e*P	**Pn**		**15 42 21.9**	**-0.2**
ZALV	**Zalesovo Beam**	**16.95**	**26**	Pn	**Pn**		**15 42 21.5**	**-0.6**
ZALV	**Zalesovo Beam**	**16.95**	**26**	Pn	**Pn**		**15 42 21.5**	**-0.6**
	comp=Z,0.7nm,0.3s,baz=219,slow=11,SNR=21							
NVS	**Novosibirsk**	**17.22**	**21**	*e*P	**Pn**		**15 42 23.7**	**-1.8**
NVS				pmax	pmax			
	comp=Z,9.0nm,1.4s							
NVS				pmax	pmax			
	comp=N,9.0nm,1.5s							
ZAK	**Zakamensk**	**24.36**	**53**	*e*P	**P**		**15 43 41.5**	**-0.6**
SONM	**Songino Array**	**25.88**	**59**	P	**P**		**15 43 55.6**	**-0.3**
	comp=N,0.9nm,0.6s,mb3.5,baz=273,slow=9.4,SNR=10							
ULN	**Ulaanbaatar**	**26.32**	**59**	P	**P**		**15 43 59.3**	**-0.6**
	comp=N,1.4nm,0.7s,mb3.6							
ULN	**Ulaanbaatar**	**26.32**	**59**	⇑*e*P	**P**		**15 44 02.2**	**+2.3**
FINES	**FINESS Array B**	**35.94**	**324**	P	**P**		**15 45 24.8**	**+0.5**
	comp=N,0.7nm,0.4s,mb3.9,baz=112,slow=9.1,SNR=6.3							
ARCES	**ARCESS Array B**	**39.11**	**336**	P	**P**		**15 45 52.0**	**+0.9**
	comp=N,5.4nm,0.9s,mb4.2,baz=108,slow=8.0,SNR=9.0							
YAK	**Yakutsk**	**41.08**	**37**	⇓*e*P	**P**		**15 46 06.2**	**-1.2**
YAK				pmax	pmax			
	comp=Z,3.0nm,0.8s,mb4.0							
TIXI	**Tiksi**	**42.81**	**23**	*e*P	**P**		**15 46 20.1**	**-1.3**
	comp=Z,3.5nm,0.8s,mb4.1							
TIXI	**Tiksi**	**42.81**	**23**	⇓*e*P	**P**		**15 46 20.8**	**-0.7**
TIXI				pmax	pmax			
	comp=Z,3.0nm,0.7s,mb4.1							
NB2	**NORSAR Subarra**	**42.96**	**321**	P	**P**		**15 46 23.3**	**+0.5**
	comp=Z,0.3nm,0.5s,mb3.3,baz=92,slow=8.6							
NOA	**NORSAR Array B**	**42.96**	**321**	P	**P**		**15 46 22.9**	**+0.2**
NOA	**NORSAR Array B**	**42.96**	**321**	P	**P**		**15 46 22.9**	**+0.2**
	comp=Z,0.6nm,0.8s,mb3.4,baz=93,slow=7.8,SNR=3.4							
TOA0	**Torodi Ar. Sit**	**66.97**	**268**	*e*P	**P**		**15 49 17.8**	**+1.0**
TORD	**Torodi Ar. Bea**	**66.97**	**268**	P	**P**		**15 49 18.3**	**+1.4**
TORD	**Torodi Ar. Bea**	**66.97**	**268**	P	**P**		**15 49 18.3**	**+1.4**
	comp=Z,0.3nm,0.4s,mb3.7,baz=48,slow=5.7,SNR=9.5							
YKA	**Yellowknife Ar**	**78.47**	**3**	P	**P**		**15 50 24.7**	**+0.3**
YKA	**Yellowknife Ar**	**78.47**	**3**	P	**P**		**15 50 24.7**	**+0.3**
	comp=Z,0.5nm,0.5s,mb3.7,baz=352,slow=5.5,SNR=13							
WRA	**Warramunga Arr**	**82.46**	**123**	*i* P	**P**		**15 50 47.2**	**+0.9**
WRA	**Warramunga Arr**	**82.46**	**123**	P	**P**		**15 50 46.4**	**+0.1**
	comp=Z,0.2nm,0.4s,mb3.4,baz=325,slow=5.0,SNR=6.7							
ASAR	**Alice Springs**	**84.87**	**126**	P	**P**		**15 50 58.5**	**-0.1**
	comp=Z,0.4nm,1.0s,mb3.5,baz=321,slow=4.9,SNR=3.4							

*ISCJB **15** 15:55:55.7±0.8, 3346N±008×490E±0.1, h10km, Error ellipse: s-maj=19.3km s-min=3.9km az=33.4*
*THR **15** 15:55:55.8±0.8, 3351N×4909E, h14km±6km, ML3.1*
*CSEM **15** 15:55:57.0±0.3, 3347N×4914E, h25km, ML3.1, Error ellipse: s-maj=14.5km s-min=3.5km az=125.0*
*KISR **15** 15:55:58.9±1.1, 3316N×4940E, h31km±999km, ML2.4*
ISC 15 15:55:59.4±2.6, 3354N±009×490E±02, h34km±25km, n17, σ0°90/28, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAO	**Ashtian**	**1.33**	**41**	*e*Pg	**Pn**	**15 56 19.8**	**-1.8**
ASAO				*e*Sg	**Sn**	**15 56 37.5**	**-0.7**
ASAO				AML	AML	15 56 41.5	
	comp=E,207nm,0.3s						
ASAO				AML	AML	15 56 43.7	
	comp=N,162nm,0.7s						
ASAO	**Ashtian**	**1.33**	**41**	*e*Pg	**Pn**	**15 56 19.8**	**-1.8**
	SNR=90						
ASAO				*e*Sg	**Sn**	**15 56 37.5**	**-0.7**
	SNR=90						
SHGR	**Shooshtar-Gavs**	**1.44**	**186**	*e*Pg	**Pn**	**15 56 21.8**	**-1.3**
SHGR				AML	AML	15 56 49.9	
	comp=E,155nm,0.4s						
SHGR				AML	AML	15 56 50.1	
	comp=N,113nm,0.4s						
GHVR	**GHOM**	**2.15**	**64**	*e*Pg	**Pn**	**15 56 33.1**	**+0.3**
GHVR				*e*Sg	**Sn**	**15 56 60.0**	**+1.7**
GHVR				AML	AML	15 57 07.8	
	comp=E,2μm,0.6s						
GHVR				AML	AML	15 57 08.7	
	comp=N,1μm,0.3s						
GHVR	**GHOM**	**2.15**	**64**	*e*Pg	**Pn**	**15 56 33.1**	**+0.3**
	SNR=90						
GHVR				*e*Sg	**Sn**	**15 57 00.0**	**+1.7**
	SNR=90						
THKV	**Tehran--Karaj**	**2.84**	**33**	*e*Pn	**Pn**	**15 56 42.5**	**+0.2**
THKV				AML	AML	15 57 29.4	
	comp=N,31nm,0.4s						
THKV				AML	AML	15 57 31.4	
	comp=E,28nm,0.4s						
THKV	**Tehran--Karaj**	**2.84**	**33**

3.2nm,0.9s,mb4.2
SONM Songino Array 41.04 340 P **P 16 05 07.3 +0.5**
0.8nm,0.6s,mb3.8,baz=158,slow=9.4,SNR=9.0
SONM PcP PcP 16 07 06.0 +1.2
0.3nm,0.6s,baz=178,slow=3.9,SNR=3.5
NWAO Narrogin (SRO) 43.70 191 P **P 16 05 30.0 +1.4**
9.5nm,0.8s,mb4.5,baz=34,slow=11,SNR=4.0
STKA Stephens Creek 44.37 161 *eP* **P 16 05 34.4 +0.5**
1.4nm,0.6s,mb3.7
STKA Stephens Creek 44.37 161 P **P 16 05 34.5 +0.5**
0.7nm,0.3s,mb3.8,baz=2.0,slow=14,SNR=6.6
MK31 Makanchi Array 52.00 323 *eP* **P 16 06 32.1 -0.4**
MKAR Makanchi Array 52.00 323 P **P 16 06 31.9 -0.6**
1.9nm,0.8s,mb4.2,baz=119,slow=8.3,SNR=18
MKAR PcP PcP 16 07 44.0 +0.6
0.5nm,0.5s,baz=112,slow=2.9,SNR=2.9
ZALV Zalesovo Beam 54.63 331 P **P 16 06 49.7 -1.8**
ZALV Zalesovo Beam 54.63 331 P **P 16 06 49.7 -1.8**
0.9nm,0.5s,mb4.1,baz=130,slow=6.0,SNR=4.1
KURK Kurchatov 56.05 326 *eP* **P 16 07 01.1 -0.7**
1.9nm,0.6s,mb4.3
TIXI Tiksi 61.43 1 *eP* **P 16 07 39.0 +0.3**
3.5nm,1.0s,mb4.3
ARCES ARCESS Array B 84.22 340 P **P 16 09 53.4 +0.1**
3.5nm,0.8s,mb4.2,baz=30,slow=5.6,SNR=4.2
FINES FINESS Array B 85.89 332 P **P 16 10 01.7 -0.1**
1.1nm,0.9s,mb3.8,baz=66,slow=4.6,SNR=5.6
YKA Yellowknife Ar 93.89 24 P **P 16 10 41.1 +1.7**
0.4nm,0.8s,mb3.8,baz=302,slow=4.8,SNR=8.6
TORD Torodi Ar. Bea 120.16 292 PKP PKPdf 16 16 13.2 -0.2
0.4nm,0.7s,baz=66,slow=1.5,SNR=7.2

MAN 15 15:59:46, 1023N×12470E, h143km, mb4.1, ML2.9, MS2.6, Leyte

NNC 15 16:02:02.4±1.9, 3961N×7194E, h0km, mb3.6, mpv3.1, 3C-1D, Error ellipse: s-maj=20.0km s-min=10.6km az=167.0, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**3.66**	**343**	Pn	Pn	16 03 02.5	+2.4
	1.7nm,0.3s,baz=146,slow=13,SNR=6.5						
KK31				Sn	Sn	16 03 50.8	+6.8
	3.8nm,0.3s,baz=148,slow=26,SNR=6.3						
TKM2	**Tokmak 2**	**4.31**	**39**	⇑Pn	Pn	16 03 09.2	+0.1
	3.2nm,0.6s						
TKM2				⇓Sn	Sn	16 04 02.2	+2.2
	23nm,1.2s						
AB31	**Akbulak array**	**12.89**	**322**	⇑Pn	Pn	16 05 06.9	+0.1
	0.7nm,0.5s,baz=130,slow=13,SNR=15						
AB31				⇑Sn	Sn	16 07 32.2	+1.4
	0.7nm,0.6s						

*IDC **15** 16:03:49.5±1.6, 102N×9679E, h0km, mb3.5/5, mb1 3.5/6, mb1mx3.4/19, mbtmp3.4/6, ML2.9/1, Error ellipse: s-maj=33.8km s-min=22.8km az=60.0*
*ISCJB **15** 16:03:53.6±1.2, 12N±01×97.1E±01, h33km, mb3.4/5, Error ellipse: s-maj=22.1km s-min=17.1km az=153.3*
*NEIC **15** 16:03:55.0±0.9, 1.18N×9706E, h30km, Error ellipse: s-maj=16.9km s-min=12.9km az=61.0*
ISC 15 16:03:56.0±1.2, 12N±01×971E±02, h35km, n10, σ0§19/12, mb3.4/5, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.39**	**49**	Pn	**Pn**	**16 04 32.9**	**+0.2**
PSI				Pg	**Pn**	**16 04 40.7**	**+8.0**
PSI	**Prapat**	**2.39**	**49**	Pn	**Pn**	**16 04 32.9**	**+0.2**
	1.8nm,0.3s,baz=264,slow=5.4,SNR=8.0						
PSI				Pg	**Pn**	**16 04 40.7**	**+8.0**
	1.1nm,0.3s,baz=247,slow=7.7,SNR=7.1						
KULM	**Kulim**	**5.37**	**41**	*eP*	**Pn**	**16 05 13.5**	**-0.1**
WRA	**Warramunga Arr**	**42.11**	**122**	P	**P**	**16 11 45.0**	**-0.1**
	0.2nm,0.5s,mb3.0,baz=305,slow=8.7,SNR=2.5						
ASAR	**Alice Springs**	**43.47**	**127**	P	**P**	**16 11 56.1**	**+0.1**
	0.3nm,0.7s,mb3.1,baz=294,slow=7.0,SNR=4.2						
SONM	**Songino Array**	**47.13**	**9**	P	**P**	**16 12 25.0**	**+0.3**
	0.2nm,0.4s,mb3.4,baz=189,slow=9.2,SNR=4.0						
MK31	**Makanchi Array**	**47.21**	**346**	*eP*	**P**	**16 12 25.4**	**+0.1**
MKAR	**Makanchi Array**	**47.21**	**346**	P	**P**	**16 12 25.4**	**+0.1**
MKAR	**Makanchi Array**	**47.21**	**346**	P	**P**	**16 12 25.4**	**+0.1**
	0.3nm,0.5s,mb3.5,baz=162,slow=7.9,SNR=6.5						
ZALV	**Zalesovo Beam**	**53.53**	**351**	P	**P**	**16 13 12.7**	**-0.4**
	1.0nm,0.4s,mb4.1,baz=170,slow=7.4,SNR=6.5						

MAN 15 16:05:35, 1028N×12611E, h4km, mb4.7, ML3.6, MS3.6, Philippine Islands region

IDC 15 16:06:39.1±5.3, 689S×12783E, h303km±57km, mb2.5/1, mb1 2.7/4, mb1mx2.5/13, mbtmp2.5/4, Error ellipse: s-maj=65.5km s-min=20.3km az=54.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Kupang**	**5.27**	**231**	P	Pn	16 08 00.2	+0.3
	44nm,0.3s,baz=88,slow=1.5,SNR=111						
BATI				S	S	16 09 05.3	+0.4
	2.0nm,0.3s,baz=84,slow=19,SNR=3.4						
FITZ	**Fitzroy Crossi**	**11.35**	**191**	P	Pn	16 09 15.3	+1.7
	0.1nm,0.3s,baz=28,slow=7.0,SNR=6.0						
FITZ				S	S	16 11 19.6	-0.8
	0.2nm,0.3s,baz=82,slow=14,SNR=2.3						
WRA	**Warramunga Arr**	**14.43**	**155**	P	P	16 09 48.3	-1.4
	0.1nm,0.3s,baz=332,slow=12,SNR=4.5						
WRA				S	S	16 12 29.2	+1.3
	0.1nm,0.3s,baz=329,slow=22,SNR=3.7						
ASAR	**Alice Springs**	**17.67**	**161**	P	P	16 10 25.2	+0.2
	0.0nm,0.3s,baz=339,slow=12,SNR=4.6						
MKAR	**Makanchi Array**	**66.97**	**328**	P	P	16 16 59.5	0.0
	0.1nm,0.3s,baz=132,slow=8.0,SNR=2.1						

*ISCJB **15** 16:10:53.2±1.2, 3756N×006×2099E±009, h4km±9km, Error ellipse: s-maj=15.3km s-min=5.1km az=139.5*
*CSEM **15** 16:10:53.9±0.4, 3755N×2099E, h12km, ML3.0, Error ellipse: s-maj=9.0km s-min=3.6km az=45.0*
*THE **15** 16:10:53.9, 3756N×2102E, h9km, ML3.0*
*NEIC **15** 16:10:54.5, 3757N×2096E, h5km, MD3.4(ATH), After ATH.*
*ATH **15** 16:10:54.5, 3757N×2096E, h5km, MD3.4/4*
ISC 15 16:10:54.0±1.2, 3756N±006×2099E±009, h16km±9km, n9, σ0§92/15, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KFL	**Anninata**	**0.57**	**344**	*eP*g	**Pg**	**16 11 04.8**	**-0.4**
KFL				*eS*g	**Sg**	**16 11 13.8**	**+0.9**
KFL	**Anninata**	**0.57**	**344**	*eP*g	**Pg**	**16 11 04.8**	**-0.4**
KFL				*eS*g	**Sg**	**16 11 13.8**	**+1.0**
RLS	**Riolos of Patr**	**0.62**	**37**	*eP*B	**Pb**	**16 11 06.1**	**-0.4**
RLS				*eS*B	**Sb**	**16 11 15.3**	**+0.3**
VLS	**Valsamata**	**0.69**	**333**	*eP*B	**Pb**	**16 11 07.3**	**-0.4**
VLS				*eS*B	**Sb**	**16 11 17.6**	**+0.6**
ITM	**Ithomi**	**0.84**	**117**	*eP*B	**Pb**	**16 11 10.1**	**-0.1**
SELA	**Sela**	**1.01**	**45**	*eP*g	**Pg**	**16 11 12.4**	**-1.2**
VLX	**Vlachokerasia**	**1.12**	**99**	*eP*g	**Pg**	**16 11 14.7**	**-1.1**
LKD	**Levkas**	**1.17**	**347**	*eP*g	**Pg**	**16 11 15.6**	**-1.1**
LKD				*eS*g	**Sg**	**16 11 32.8**	**+0.8**
VLI	**Veliai**	**1.77**	**118**	*eP*N	**Pg**	**16 11 28.5**	**+0.5**
VLI				*eS*B	**Sg**	**16 11 53.6**	**+2.6**

MAN 15 16:15:26, 1008N×12630E, h42km, mb3.8, ML2.6, MS2.1, Philippine Islands region

*NNC **15** 16:31:24.3±2.9, 4047N×7139E, h0km, mb4.0, mpv3.8, Error ellipse: s-maj=34.7km s-min=10.0km az=18.0*
*ISCJB **15** 16:31:25.5±1.6, 4073N±006×7138E±006, h1km±9km, mb3.5/4, Error ellipse: s-maj=10.0km s-min=7.9km az=174.6*
*IDC **15** 16:31:25.0±2.0, 4050N×7167E, h0km, mb3.4/4, mb1 3.5/6, mb1mx3.3/22, mbtmp3.4/6, ML3.3/2, Error ellipse: s-maj=58.8km s-min=18.4km az=155.0*
*NEIC **15** 16:31:28.9±0.8, 4087N×7151E, h10km, Error ellipse: s-maj=21.3km s-min=10.1km az=137.0*
ISC 15 16:31:27.2±2.1, 4061N±007×7148E±007, h8km±11km, n23, σ0§92/29, mb3.4/4, 1C-3D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**2.25**	**47**	*eP*	**Pn**	**16 32 04.2**	**-0.5**
AML				*eS*	**Sn**	**16 32 32.1**	**-0.6**
AML	**Almayashu**	**2.25**	**47**	P	**Pn**	**16 32 04.6**	**-0.2**
	SNR=68						
KK31	**Karatay Array**	**2.59**	**344**	Pn	**Pg**	**16 32 12.2**	**-4.7**
	24nm,0.6s,baz=152,slow=12,SNR=351						
KK31				Sn	**Sg**	**16 32 50.1**	**-0.4**
	68nm,0.4s,baz=147,slow=29,SNR=13						
EKS2	**Erkin-Say**	**2.67**	**39**	*eP*	**Pn**	**16 32 10.6**	**+0.1**
EKS2				*eS*	**Sn**	**16 32 43.9**	**+0.7**
EKS2	**Erkin-Say**	**2.67**	**39**	P	**Pn**	**16 32 14.2**	**+3.7**
	SNR=23						
UCH	**Uchtor**	**2.79**	**54**	*eP*	**Pn**	**16 32 11.8**	**-0.3**
UCH	**Uchtor**	**2.79**	**54**	P	**Pn**	**16 32 12.2**	**0.0**
	SNR=18						
AAK	**Ala-Archa**	**3.03**	**47**	P	**Pn**	**16 32 16.2**	**+0.7**
	SNR=5.5						
KZA	**Kyzart**	**3.19**	**61**	P	**Pn**	**16 32 17.7**	**0.0**
	SNR=15						
KBK	**Karagaybulak**	**3.30**	**51**	P	**Pn**	**16 32 20.2**	**+1.0**
	SNR=19						
TKM2	**Tokmak 2**	**3.85**	**52**	⇓Pn	**Pn**	**16 32 26.8**	**+0.1**
	12nm,0.4s						
TKM2				⇓Sn	**Sn**	**16 33 17.4**	**+5.3**
	42nm,0.9s						
TKM2	**Tokmak 2**	**3.85**	**52**	*eP*	**Pn**	**16 32 26.2**	**-0.5**
TKM2	**Tokmak 2**	**3.85**	**52**	P	**Pn**	**16 32 27.0**	**+0.3**
	SNR=21						
ULHL	**Ulahol**	**3.93**	**64**	P	**Pb**	**16 32 39.3**	**+2.5**
	SNR=6.5						
KBL	**Kabul**	**6.36**	**198**	*eP*	**Pn**	**16 33 07.6**	**+6.3**
	4.6nm,0.4s						
KBL				*eS*	**Sn**	**16 34 22.2**	**+8.1**
MKAR	**Makanchi Array**	**9.97**	**48**	Pn	**Pn**	**16 33 49.2**	**-1.4**
	0.1nm,0.3s,baz=230,slow=12,SNR=5.7						
MKAR				Lg		16 36 43.1	
	0.1nm,0.3s,baz=262,slow=20,SNR=3.2						
AB31	**Akbulak array**	**11.88**	**320**	⇓Pn	**Pn**	**16 34 16.6**	**-0.3**
	0.5nm,0.5s,baz=138,slow=14,SNR=10						
AB31				⇑Sn	**Sn**	**16 36 30.3**	**+0.7**
	1.0nm,0.7s						
ZALV	**Zalesovo Beam**	**16.08**	**29**	Pn	**Pn**	**16 35 12.4**	**-1.0**
	0.2nm,0.3s,baz=215,slow=12,SNR=5.4						
SONM	**Songino Array**	**25.87**	**62**	P	**P**	**16 36 58.3**	**-0.9**
	0.2nm,0.7s,mb2.8,baz=262,slow=8.6,SNR=3.1						
FINES	**FINESS Array B**	**34.36**	**323**	P	**P**	**16 38 15.5**	**+1.3**
	0.8nm,0.8s,mb3.7,baz=96,slow=8.8,SNR=3.1						
TORD	**Torodi Ar. Bea**	**66.25**	**267**	P	**P**	**16 42 16.1**	**+0.1**
	0.5nm,0.6s,mb3.8,baz=58,slow=5.2,SNR=8.4						
YKA	**Yellowknife Ar**	**77.13**	**3**	P	**P**	**16 43 19.6**	**-1.2**
YKA	**Yellowknife Ar**	**77.13**	**3**	P	**P**	**16 43 19.6**	**-1.2**
	0.2nm,0.5s,mb3.3,baz=352,slow=6.0,SNR=5.3						

KRSC 15 16:38:11.0±0.4, 5267N×15961E, h30km±19km, ML4.0, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.50**	**30**	*i* P	Pb	16 38 22.1	+0.8
SPN				*i* S	Sb	16 38 29.6	+1.2
NLC	**Nalytchevo**	**0.53**	**342**	*i* P	Pb	16 38 22.4	+0.6
NLC				*i* S	Sb	16 38 30.1	+0.9
PET	**Petropavlovsk**	**0.68**	**302**	*i* P	Pb	16 38 24.3	-0.1
PET				*i* S	Sb	16 38 33.4	-0.1
RUS	**Russkaya**	**0.71**	**251**	*i* P	Pb	16 38 24.4	-0.5
RUS				*i* S	Sb	16 38 33.7	-0.6
AVH	**Avacha**	**0.80**	**319**	*i* P	Pn	16 38 26.8	+0.7
AVH				*i* S	Sb	16 38 37.7	+1.0
GRL	**Gorelyy**	**0.94**	**263**	*i* P	Pn	16 38 28.8	+0.6
GRL				*i* S	Sn	16 38 40.7	+0.1
KII	**Karymskiy**	**1.37**	**356**	P	Pn	16 38 34.7	+0.6
KII				*i* S	Sn	16 38 51.5	+0.3
GNL	**Ganaly**	**1.44**	**316**	*i* P	Pn	16 38 36.5	+1.6
GNL				*i* S	Sn	16 38 54.5	+1.7
MIPR	**Malaya Ipel'ka**	**1.79**	**258**	*i* P	Pn	16 38 41.2	+1.4
MKZ	**Mys Kozlova**	**2.27**	**33**	*i* P	Pn	16 38 46.0	-0.4
MKZ				*i* S	Sn	16 39 10.7	-2.7
TUMR	**Tumrok**	**2.64**	**7**	P	Pn	16 38 52.6	+1.2
TUMR				*i* S	Sn	16 39 24.0	+1.6
ALID	**Alaid**	**3.10**	**236**	*eP*	Pn	16 38 58.9	+1.1
KMNR	**Kamenistaya**	**3.11**	**7**	P	Pn	16 39 00.4	+2.4
SRDR	**Sredinnyy**	**3.66**	**1**	P	Pn	16 39 08.0	+2.6
KBTR	**Krutoberegovo**	**4.01**	**27**	P	Pn	16 39 12.4	+2.1
KBTR				*i* S	Sn	16 39 57.3	+1.1

*NEIC **15** 16:51:26.4, 17.17N×100.44W, h42km, MD3.9(MEX), After MEX.*
MEX 15 16:51:26.8±0.6, 1718N×10043W, h39km±6km, MD4.0, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.20**	**132**	*i* P	Pn	16 51 32.5	-1.5
CAIG				*i* S	Sn	16 51 37.4	-1.6
CAIG	**El Cayaco**	**0.20**	**132**	*i* P	Pn	16 51 32.5	-1.5
CAIG				*i* S	Sn	16 51 37.4	-1.6
ACX	**Acapulco**	**0.58**	**123**	*i* P	Pn	16 51 36.9	-1.7
ACX				*i* S	Sn	16 51 44.9	-2.1
MEIG	**Mezcala**	**1.07**	**46**	*i* P	Pn	16 51 43.5	-1.8
MEIG				*i* S	Sn	16 51 56.9	-2.0
PLIG	**Platanillo**	**1.49**	**36**	*i* P	Pn	16 51 50.3	-0.8
PLIG				*i* S	Sn	16 52 11.5	+2.2
PLIG	**Platanillo**	**1.49**	**36**	*i* P	Pn	16 51 50.3	-0.8
PLIG				*i* S	Sn	16 52 07.5	-1.8
YAIG	**Yautepec**	**2.11**	**38**	*i* P	Pn	16 51 57.4	-2.2
YAIG				*i* S	Sn	16 52 23.5	-1.1
MZVM		**2.30**	**30**	*i* P	Pn	16 52 00.4	-1.8
MZVM				*i* S	Sn	16 52 27.0	-2.2
SZVM	**Salazar**	**2.35**	**25**	*i* P	Pn	16 52 02.1	-0.8
SZVM				*i* S	Sn	16 52 27.3	-3.2
PPM	**Popocatepetl**	**2.54**	**42**	*i* P	Pn	16 52 05.9	+0.4
PPM				*i* S	Sn	16 52 40.0	+4.8
PPM	**Popocatepetl**	**2.54**	**42**	*i* P	Pn	16 52 04.6	-0.9
PPM				*i* S	Sn	16 52 34.9	-0.2
PBVM	**Pinon**	**2.58**	**29**	*eP*	Pn	16 52 05.3	-0.8
PBVM				*i* S	Sn	16 52 34.9	-1.3
MOIG	**Morelia**	**2.58**	**344**	*i* P	Pn	16 52 05.0	-1.2
MOIG				*i* S	Sn	16 52 36.0	-0.3
UTMO	**Huajuapan**	**2.58**	**75**	*i* P	Pn	16 52 04.8	-1.3
UTMO				*i* S	Sn	16 52 34.7	-1.6
PTVM	**Pico Tres Padr**	**2.70**	**27**	*i* P	Pn	16 52 07.4	-0.3
PTVM				*i* S	Sn	16 52 36.2	-3.0
IIO	**Organos**	**2.89**	**34**	*eP*	Pn	16 52 09.3	-1.0
IIO				*i* S	Sn	16 52 40.7	-3.2
VHO	**Vista Hermosa**	**3.53**	**91**	*i* P	Pn	16 52 26.5	+7.4
VHO				*i* S	Sn	16 53 01.4	+1.7
VHO	**Vista Hermosa**	**3.53**	**91**	*i* P	Pn	16 52 18.5	-0.6
VHO				*i* S	Sn	16 52 59.3	-0.4

IDC 15 17:03:55.0±4.6, 2970S×17829W, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.8/13, mbtmp3.9/3, Error ellipse: s-maj=190.4km s-min=70.7km az=160.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**34.40**	**256**	P	P	17 10 44.5	+0.4
	1.1nm,0.6s,baz=72,slow=9.6,SNR=3.1						
ASAR	**Alice Springs**	**42.90**	**266**	P	P	17 11 55.1	-0.4
	0.5nm,0.4s,baz=105,slow=7.2,SNR=20						
WRA	**Warramunga Arr**	**43.83**	**272**	P	P	17 12 03.1	0.0
	1.3nm,0.3s,baz=110,slow=8.1,SNR=59						
FINES	**FINESS Array B**	**144.41**	**340**	PKP	PKPdf	17 23 32.0	-0.4
	0.5nm,0.4s,baz=57,slow=5.1,SNR=9.0						

*ISCJB **15** 17:21:10.8±0.5, 3830N±003×22.13E±004, h9km±4km, Error ellipse: s-maj=5.5km s-min=4.5km az=150.8*
*CSEM **15** 17:21:11.8±0.1, 3832N×2206E, h10km, ML3.5, Error ellipse: s-maj=3.1km s-min=2.7km az=154.0*
*THE **15** 17:21:11.9, 3832N×2210E, h2km, ML3.5*
*NEIC **15** 17:21:11.6, 3829N×2207E, h18km±3km, MD3.6(ATH), After ATH.*
*ATH **15** 17:21:11.6, 3829N×2207E, h18km±3km, MD3.6/8*
ISC 15 17:21:11.5±0.5, 3830N±003×2212E±003, h9km±4km, n20, σ1§22/30, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SELA	**Sela**	**0.18**	**264**	*eP*g	**Pg**	**17 21 14.7**	**-0.5**
SELA				*eS*g	**Sg**	**17 21 17.5**	**-0.2**
RLS	**Riolos of Patr**	**0.56**	**245**	*eP*N	**Pg**	**17 21 22.3**	**-0.1**
RLS				*eS*N	**Sg**	**17 21 30.5**	**+0.7**
EVR	**Evrytania**	**0.67**	**339**	*eP*B	**Pb**	**17 21 23.8**	**-1.5**
EVR				*eS*N	**Sg**	**17 21 33.4**	**+0.3**
LTK	**Loutraki**	**0.72**	**112**	*eP*g	**Pg**	**17 21 26.6**	**+1.1**
AGG	**Agios Georgios**	**0.75**	**13**	*eP*g	**Pg**	**17 21 24.5**	**-1.4**
AGG				*eS*g	**Sg**	**17 21 36.5**	**+0.9**
LKR	**Lokris**	**0.78**	**63**	*eP*N	**Pn**	**17 21 26.3**	**-2.4**
LKR				*eS*N	**Sg**	**17 21 39.1**	**+2.4**
VLX	**Vlachokerasia**	**0.95**	**167**	*eP*g	**Pg**	**17 21 29.4**	**-0.3**
KFL	**Anninata**	**1.06**	**260**	*eP*g	**Pg**	**17 21 30.9**	**-1.0**
KFL				*eS*g	**Sg**	**17 21 48.4**	**+2.7**
ITM	**Ithomi**	**1.12**	**188**	*eP*N	**Pn**	**17 21 32.7**	**-0.7**
DID	**Didima**	**1.19**	**131**	*eP*g	**Pg**	**17 21 34.9**	**+0.6**
VLS	**Valsamata**	**1.21**	**265**	*eP*B	**Pb**	**17 21 33.0**	**-1.5**
VLS				*eS*N	**Sn**	**17 21 50.9**	**-0.1**
THL	**Klokotos Trika**	**1.27**	**357**	*eP*N	**Pn**	**17 21 35.4**	**0.0**
THL				*eS*N	**Sn**	**17 21 53.7**	**+1.1**
XOR	**Xorichti**	**1.36**	**38**	*eP*g	**Pg**	**17 21 36.8**	**-0.8**
AOS	**Alonnisos**	**1.63**	**57**	*eP*b	**Pb**	**17 21 40.2**	**-1.6**
VLI	**Veliai**	**1.70**	**157**	*eP*N	**Pn**	**17 21 42.8**	**+1.4**
LIT	**Litokhoron**	**1.83**	**9**	*eP*b	**Pb**	**17 21 43.2**	**-1.8**
LIT	**Litokhoron**	**1.83**	**9**	*eP*b	**Pb**	**17 21 43.2**	**-1.9**
KEK	**Kerkira**	**2.29**	**309**	*eP*N	**Pn**	**17 21 51.2**	**+1.7**
KRUS	**Krusevo**	**3.14**	**348**	*eP*n	**Pn**	**17 22 01.4**	**+0.3**
KRUS				*eS*n	**Sn**	**17 22 40.3**	**+1.6**
KRUS	**Krusevo**	**3.14**	**348**	*eP*n	**Pn**	**17 22 01.4**	**+0.3**
KRUS				*eS*n	**Sn**	**17 22 40.3**	**+1.5**

*CSEM **15** 17:32:54.7±0.4, 3868N×2907W, h0km±6km, MD3.5, Error ellipse: s-maj=7.8km s-min=1.7km az=67.0, After PDA*
*PDA **15** 17:32:54.7±0.4, 3868N×2907W, h0km±6km, MD3.5, Error ellipse: s-maj=7.8km s-min=1.7km az=67.0*
SVSA 15 17:32:54.7±0.4, 3868N×2907W, h0km±6km, MD3.5, Error ellipse: s-maj=7.8km s-min=1.7km az=67.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CALA	**Caldeira**	**0.31**	**109**	*i* P	Pg	17 33 00.6	0.0
CALA				*i* S	Sg	17 33 05.2	+0.6
CALA	**Caldeira**	**0.31**	**109**	*i* S	Sg	17 33 05.2	+0.6
HOR	**Horta**	**0.38**	**114**	*i* P	Pg	17 33 01.6	-0.4
HOR				*i* S	Sg	17 33 06.9	0.0
HOR	**Horta**	**0.38**	**114**	*i* S	Sg	17 33 06.9	0.0
PICO	**Pico**	**0.54**	**110**	*eP*	Pg	17 33 04.6	-0.4
PICO				*i* S	Sg	17 33 11.9	-0.1
ROSA	**Rosais**	**0.65**	**87**	*i* P	Pg	17 33 06.1	-1.1
ROSA				*i* S	Sg	17 33 14.5	-1.2
ROSA	**Rosais**	**0.65**	**87**	*i* S	Sg	17 33 14.5	-1.2
SRBC	**Serra Branca**	**0.88**	**66**	*eP*	Pg	17 33 09.4	-2.2
SRBC				*eS*	Sg	17 33 20.4	-2.6

WEL 15 17:33:50.0±0.3, 3840S×17596E, h161km±2km, ML3.5/18, Error ellipse: s-maj=3.0km s-min=2.7km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WTVZ	**West Tongariro**	**0.77**	**202**	PN	Pn	17 34 14.5	+0.5
WTVZ				SN	Sn	17 34 33.4	+0.9
TWVZ	**Taurewa**	**0.79**	**211**	PN	Pn	17 34 14.3	+0.2
WPVZ	**Whakapapa**	**0.87**	**202**	PN	Pn	17 34 15.1	+0.4
BKZ	**Black Stump Fm**	**0.87**	**152**	PN	Pn	17 34 15.2	+0.5
BKZ				SN	Sn	17 34 33.7	-0.1
TUVZ	**Tukino**	**0.90**	**196**	PN	Pn	17 34 15.4	+0.5
TUVZ				SN	Sn	17 34 34.8	+0.6
FWVZ	**Far West T-bar**	**0.91**	**201**	PN	Pn	17 34 15.6	+0.5
URZ	**Urewera**	**0.91**	**81**	PN	Pn	17 34 14.9	-0.2
URZ				SN	Sn	17 34 34.0	-0.2
WNVZ	**Wahianoa**	**0.97**	**197**	PN	Pn	17 34 15.9	+0.4
PKVZ	**Pokaka**	**1.01**	**208**	PN	Pn	17 34 15.9	+0.1
PKVZ				SN	Sn	17 34 35.9	+0.2
MOVZ	**Moawhango**	**1.02**	**189**	PN	Pn	17 34 15.9	0.0
MOVZ				SN	Sn	17 34 34.7	-1.1
MTVZ	**Mangateitei**	**1.06**	**201**	PN	Pn	17 34 16.3	+0.1
VRZ	**Vera Road**	**1.19**	**232**	PN	Pn	17 34 17.1	-0.2
MWZ	**Matawai**	**1.23**	**87**	PN	Pn	17 34 18.0	+0.3
MWZ				SN	Sn	17 34 39.4	+0.4
WAZ	**Wanganui**	**1.55**	**209**	PN	Pn	17 34 20.5	-0.4
TSZ	**Takapari Road**	**1.66**	**180**	PN	Pn	17 34 21.7	-0.2
NEZ	**North Egmont**	**1.70**	**239**	PN	Pn	17 34 22.0	-0.4
WPHZ	**Waipukurau**	**1.70**	**168**	PN	Pn	17 34 22.4	0.0
PUZ	**Puketiti**	**1.83**	**80**	PN	Pn	17 34 23.7	-0.2
MXZ	**Matakaoa Point**	**2.03**	**66**	PN	Pn	17 34 26.1	-0.1
MRZ	**Mangatainoka R**	**2.28**	**187**	PN	Pn	17 34 27.5	-1.5
BFZ	**Birch Farm**	**2.29**	**175**	PN	Pn	17 34 28.0	-1.0
TIWZ	**Tintock**	**2.37**	**181**	PN	Pn	17 34 28.8	-1.3
KIW	**Kapiti Island**	**2.59**	**198**	PN	Pn	17 34 30.5	-2.1
MTW	**Mount Morrison**	**2.78**	**187**	PN	Pn	17 34 32.7	-2.3
CAW	**Cannon Point**	**2.79**	**194**	PN	Pn	17 34 33.0	-2.1
DUWZ	**D'Urville Isla**	**2.87**	**213**	PN	Pn	17 34 33.5	-2.6
MRW	**Makara Radio**	**2.99**	**199**	PN	Pn	17 34 35.0	-2.6
WEL	**Wellington**	**3.02**	**197**	PN	Pn	17 34 35.3	-2.7
MSWZ	**Moikau Station**	**3.06**	**190**	PN	Pn	17 34 35.9	-2.6
TCW	**Tory Channel**	**3.09**	**204**	PN	Pn	17 34 36.3	-2.6
TUWZ	**Tuamarina**	**3.40**	**207**	PN	Pn	17 34 39.4	-3.3
NNZ	**Nelson**	**3.45**	**214**	PN	Pn	17 34 40.0	-3.3
QRZ	**Quartz Range**	**3.59**	**227**	PN	Pn	17

0.7nm,0.5s,baz=329,slow=2.1,SNR=9.1
IPM Ipoh 22.61 300 ⇓P **P 18 11 40.3 -7.0**
KULM Kulim 23.35 302 ⇑P **P 18 11 47.4 -6.5**
NWAO Narrogin (SRO) 25.75 186 P **P 18 12 13.7 -1.1**
16nm,1.0s,mb4.6,baz=354,slow=9.2,SNR=4.6
STKA Stephens Creek 31.47 144 *e*P **P 18 13 05.3 +0.8**
1.5nm,1.1s,mb3.4
STKA Stephens Creek 31.47 144 P **P 18 13 05.1 +0.5**
0.9nm,0.4s,mb3.7,baz=323,slow=18,SNR=7.9
STKA PcP PcP 18 15 39.5 -1.2
0.8nm,0.4s,baz=94,slow=20,SNR=4.3
KMI Kunming 36.49 332 P **P 18 13 48.3 +1.6**
KMI AMB AMB
comp=Z,7.0nm,0.8s,mb4.2
XAN Xi'an 42.47 346 P **P 18 14 33.9 -0.7**
XAN AMB AMB
comp=Z,6.0nm,0.4s,mb4.5
KSRS Korea Array 44.99 8 P **P 18 14 53.8 -0.2**
comp=Z,1.6nm,0.6s,mb3.7,baz=186,slow=8.7,SNR=8.3
LSA Lhasa 46.27 324 *e*P **P 18 15 03.9 -0.1**
comp=Z,5.3nm,0.7s,mb4.2
MJAR Matsushiro Arr 46.61 20 P **P 18 15 05.0 -1.4**
comp=Z,2.7nm,0.7s,mb3.9,baz=196,slow=8.2,SNR=10
ULN Ulaanbaatar 56.11 349 *e*P **P 18 16 14.2 -0.6**
SONM Songino Array 56.21 349 P **P 18 16 15.8 +0.3**
comp=Z,3.0nm,0.6s,mb3.7,baz=165,slow=8.4,SNR=28
RPZ Rata Peaks 57.13 138 P **P 18 16 22.8 +0.8**
comp=Z,8.9nm,1.0s,mb4.0,baz=210,slow=6.4,SNR=5.4
MK31 Makanchi Array 63.56 332 *e*P **P 18 17 04.2 -0.1**
MKAR Makanchi Array 63.56 332 P **P 18 17 04.5 +0.2**
comp=Z,3.1nm,0.5s,mb4.0,baz=143,slow=7.9,SNR=38
ZAA0 Zalesovo Array 67.92 338 *e*P **P 18 17 30.2 -1.1**
ZALV Zalesovo Beam 67.92 338 P **P 18 17 30.4 -0.9**
comp=Z,2.9nm,0.3s,mb4.2,baz=136,slow=4.6,SNR=16
VNDA Vanda 73.51 171 *e*P **P 18 18 04.3 +0.4**
VNDA Vanda 73.51 171 P **P 18 18 04.5 +0.6**
comp=Z,1.2nm,0.5s,mb3.6,baz=321,slow=6.3,SNR=19
SBA Scott Base 74.50 171 *e*P **P 18 18 10.6 +1.2**
QSPA South Pole Qui 82.76 180 *e*P **P 18 18 53.6 +0.2**
comp=Z,2.8nm,0.5s,mb4.0
QSPA South Pole Qui 82.76 180 P **P 18 18 54.0 +0.6**
comp=Z,1.9nm,0.5s,mb3.9,baz=258,slow=0.9,SNR=25
BOSA Boshof 91.12 241 P **P 18 19 33.8 -0.4**
comp=Z,1.3nm,0.5s,mb4.1,baz=284,slow=22,SNR=5.7
SNAA Sanae 93.08 195 P **P 18 19 42.5 +0.3**
comp=Z,0.5nm,0.4s,mb3.9,baz=18,slow=12,SNR=16
YKA Yellowknife Ar 111.99 24 PKPdf PKiKP 18 24 59.5 -0.4
YKA Yellowknife Ar 111.99 24 PKiKP PKiKP 18 24 59.5 -0.4
comp=Z,0.1nm,0.3s,baz=292,slow=2.0,SNR=4.2
TORD Torodi Ar. Bea 119.56 261 PKP PKPdf 18 25 15.1 -0.8
comp=Z,0.4nm,0.5s,baz=27,slow=2.2,SNR=4.7

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*ISCJB **15** 18:19:57.9±1.0, 73S×01×1204E±02, h541km±11km, mb3.1/3, Error ellipse: s-maj=36.7km s-min=14.0km az=157.8*
*NEIC **15** 18:19:58.2±1.2, 726S×1240E, h536km±20km, mb4.0/2, Error ellipse: s-maj=37.5km s-min=12.0km az=67.0*
*IDC **15** 18:19:59.6±2.2, 7.11S×10270E, h555km±23km, mb2.9/4, mb1 3.2/7, mb1mx2.9/17, mbtmp3.0/7, Error ellipse: s-maj=68.6km s-min=19.4km az=68.0*
ISC 15 18:19:58.3±1.0, 73S±01×1204E±02, h533km±11km, n17, σ1°03/18, mb3.1/3, Flores Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
BATI	**Kupang**	**4.34**	**133**	P		**P**	**18 21 23.9**	**+2.2**
	15nm,0.3s,baz=331,slow=2.5,SNR=75							
BATI				S		**S**	**18 22 28.1**	**-1.6**
	11nm,0.3s,baz=272,slow=1.9,SNR=9.7							
FITZ	**Fitzroy Crossi**	**11.92**	**155**	*e*P		**P**	**18 22 36.8**	**+0.8**
	7.3nm,0.6s							
FITZ	**Fitzroy Crossi**	**11.92**	**155**	*e*P		**P**	**18 22 36.8**	**+0.7**
FITZ	**Fitzroy Crossi**	**11.92**	**155**	P		**P**	**18 22 37.0**	**+1.0**
	0.5nm,0.3s,baz=356,slow=8.0,SNR=15							
MBWA	**Marble Bar**	**13.84**	**183**	*e*P		**P**	**18 22 55.4**	**-0.6**
KKM	**Kota Kinabalu**	**13.86**	**342**	*e*P		**P**	**18 22 56.3**	**0.0**
WRA	**Warramunga Arr**	**18.48**	**134**	P		**P**	**18 23 38.9**	**-2.5**
	0.7nm,0.3s,baz=313,slow=11,SNR=43							
WRAB	**Tennant Creek**	**18.48**	**134**	*e*P		**P**	**18 23 41.8**	**+0.4**
	6.5nm,0.8s							
WB2	**Warramunga Arr**	**18.48**	**134**	*e*P		**P**	**18 23 41.8**	**+0.3**
WB2	**Warramunga Arr**	**18.48**	**134**	*e*P		**P**	**18 23 41.8**	**+0.2**
ASAR	**Alice Springs**	**20.83**	**143**	P		**P**	**18 24 03.1**	**+0.3**
	1.0nm,0.4s,baz=319,slow=8.5,SNR=61							
ASAR				PcP		PcP	18 27 46.6	-1.6
	0.3nm,0.6s,baz=334,slow=1.8,SNR=5.4							
STKA	**Stephens Creek**	**31.46**	**144**	*e*P		**P**	**18 25 36.8**	**+0.5**
	0.6nm,0.3s,mb3.6							
STKA	**Stephens Creek**	**31.46**	**144**	P		**P**	**18 25 37.0**	**+0.7**
	0.5nm,0.4s,mb3.4,baz=347,slow=9.6,SNR=6.7							
SONM	**Songino Array**	**56.23**	**349**	P		**P**	**18 28 47.0**	**-0.8**
	0.2nm,0.6s,mb2.5,baz=160,slow=8.5,SNR=5.0							
VNDA	**Vanda**	**73.49**	**171**	*e*P		**P**	**18 30 35.9**	**-0.2**
VNDA	**Vanda**	**73.49**	**171**	P		**P**	**18 30 35.9**	**-0.2**
	0.4nm,0.4s,mb3.2,baz=314,slow=7.2,SNR=3.5							
GAMB	**Gambell**	**86.93**	**24**	*e*P		**P**	**18 31 46.7**	**+0.4**

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*CSEM **15** 18:25:33.1±0.6, 3871N×2904W, h0km±9km, ML1.9, Error ellipse: s-maj=12.8km s-min=3.8km az=72.0, After PDA*
*PDA **15** 18:25:33.1±0.6, 3871N×2904W, h0km±9km, MD3.5, ML1.9, Error ellipse: s-maj=12.8km s-min=3.8km az=72.0*
SVSA 15 18:25:33.1±0.6, 3871N×2904W, h0km±9km, MD3.5, ML1.9, Error ellipse: s-maj=12.8km s-min=3.8km az=72.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CALA	**Caldeira**	**0.29**	**116**	*e*P		Pg	18 25 38.5	-0.2
CALA				*e*S		Sg	18 25 43.0	+0.5
HOR	**Horta**	**0.37**	**120**	*e*P		Pg	18 25 40.0	-0.1
HOR				*i* S		Sg	18 25 44.9	0.0
PICO	**Pico**	**0.52**	**113**	*e*P		Pg	18 25 42.9	-0.2
PICO				*i* S		Sg	18 25 50.1	+0.2
ROSA	**Rosais**	**0.62**	**89**	*e*P		Pg	18 25 44.0	-1.0
ROSA				*e*S		Sg	18 25 52.4	-0.7
PMAN	**Manadas**	**0.75**	**96**	*e*S		Sg	18 25 55.4	-1.7
PMAN				A			18 25 55.6	
	40nm,0.2s							

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*LDG **15** 18:26:51.4±0.5, 1380S×16709E, h10km, Mb3.8/1, Error ellipse: s-maj=76.1km s-min=12.5km az=87.0*
IDC 15 18:26:51.7±5.2, 1432S×16684E, h0km, mb3.9/4, mb1 4.0/4, mb1mx3.7/15, mbtmp3.8/4, Error ellipse: s-maj=137.0km s-min=52.1km az=118.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**28.95**	**229**	P		P	18 32 52.6	-0.2
	1.7nm,0.8s,baz=60,slow=11,SNR=4.4							
WRA	**Warramunga Arr**	**31.53**	**255**	P		P	18 33 16.1	+0.3
	0.4nm,0.9s,baz=86,slow=9.9,SNR=5.5							
ASAR	**Alice Springs**	**32.44**	**248**	P		P	18 33 23.8	+0.1
	0.8nm,0.6s,baz=77,slow=9.3,SNR=21							
MKAR	**Makanchi Array**	**96.62**	**316**	P		P	18 40 23.4	-0.2
	0.3nm,0.6s,baz=108,slow=5.0,SNR=3.9							
CABF	**La Chapelle**	**143.99**	**337**	*e*PKP1		PKPdf	18 46 26.2	-3.1
	12nm,1.1s							
FLN	**La Foliniere**	**144.10**	**346**	*e*PKP1		PKPdf	18 46 24.3	-5.1
	6.6nm,0.8s							
LDF	**La Druitiere**	**144.17**	**345**	*e*PKP1		PKPdf	18 46 24.6	-4.9
LOR	**Lormes**	**144.21**	**340**	*e*PKP1		PKPdf	18 46 25.6	-4.1
	6.9nm,1.0s							
SSF	**Saint Saulge**	**144.51**	**340**	*e*PKP1		PKPdf	18 46 26.7	-3.5
	11nm,0.8s							
GRR	**Gorron**	**144.54**	**346**	*e*PKP1		PKPdf	18 46 26.3	-3.9
	8.7nm,0.7s							
LPL	**La Plagne**	**144.65**	**336**	*e*PKP1		PKPdf	18 46 27.7	-2.8
	10nm,1.0s							
LPG	**La Plagne**	**144.66**	**336**	*e*PKP1		PKPdf	18 46 27.8	-2.7
	12nm,1.0s							
SMF	**Signal de Mont**	**144.76**	**340**	*e*PKP1		PKPdf	18 46 27.4	-3.2
AVF	**Avril sur Loir**	**144.80**	**340**	*e*PKP1		PKPdf	18 46 27.4	-3.3
SGMF	**Saint Gilles**	**145.04**	**348**	*e*PKP1		PKPbc	18 46 27.8	-2.6
	29nm,1.2s							
ORIF	**Oris-en-Rattie**	**145.48**	**336**	*e*PKP1		PKPbc	18 46 29.8	-2.1
	12nm,0.9s							
QUIF	**Quistinic**	**145.49**	**348**	*e*PKP1		PKPbc	18 46 28.8	-3.0
	44nm,1.5s							
TCF	**Toulx Ste Croi**	**145.61**	**341**	*e*PKP1		PKPbc	18 46 29.9	-2.4
	9.1nm,1.1s							
MFF	**Saint Martin d**	**146.01**	**344**	*e*PKP1		PKPbc	18 46 30.9	-2.6
	11nm,0.8s							
RJF	**Les Rejaudoux**	**146.71**	**341**	*e*PKP1		PKPbc	18 46 32.4	-3.2

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*ISCJB **15** 18:43:30.9±1.6, 4008N±009×7841E±010, h10km, Error ellipse: s-maj=15.3km s-min=7.2km az=143.7*
*BJI **15** 18:43:35.5, 4057N×7802E, h19km, ML3.1*
*NEIC **15** 18:43:42.8±2.7, 4094N×7799E, h35km, Error ellipse: s-maj=47.4km s-min=13.4km az=175.0*
*NNC **15** 18:43:43.9±6.3, 4146N×7909E, h0km, mb3.8, mpv3.4, Error ellipse: s-maj=59.1km s-min=24.3km az=143.0*
*IDC **15** 18:44:05.6±36.0, 4221N×8097E, h0km, mb1 2.8/3, mb1mx2.8/22, mbtmp2.8/3, ML2.7/3, Error ellipse: s-maj=485.5km s-min=58.5km az=47.0*
ISC 15 18:43:32.6±1.5, 4010N±009×7840E±010, h10km, n23, σ1°37/26, 5C-2D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**1.96**	**253**	PG		**Pg**	**18 44 09.8**	**-0.3**
KSH				SG		**Sg**	**18 44 36.6**	**+1.2**
ULHL	**Ulahol**	**2.69**	**324**	P		**Pn**	**18 44 15.0**	**-0.9**
	SNR=116							
KZA	**Kyzart**	**3.09**	**311**	P		**Pn**	**18 44 20.6**	**-0.8**
	SNR=22							
KNDC	**Almaty**	**3.30**	**341**	⇑Pn		**Pn**	**18 44 24.9**	**+0.7**
	17nm,0.4s							
KNDC				⇑Lg			18 45 00.8	
	182nm,0.5s							
TKM2	**Tokmak 2**	**3.52**	**324**	⇓Pn		**Pn**	**18 44 29.4**	**+2.2**
	12nm,0.4s							
TKM2				⇑Sn		**Sn**	**18 45 08.6**	**-0.3**
	55nm,0.7s							
TKM2	**Tokmak 2**	**3.52**	**324**	*e*P		**Pn**	**18 44 21.6**	**-5.6**
TKM2	**Tokmak 2**	**3.52**	**324**	P		**Pn**	**18 44 30.1**	**+2.9**
	SNR=8.6							
UCH	**Uchtor**	**3.62**	**307**	*e*P		**Pn**	**18 44 27.3**	**-1.4**
UCH	**Uchtor**	**3.62**	**307**	P		**Pn**	**18 44 27.8**	**-0.8**
	SNR=21							
KBK	**Karagaybulak**	**3.64**	**316**	P		**Pn**	**18 44 32.3**	**+3.3**
	SNR=21							
AAK	**Ala-Archa**	**3.88**	**312**	P		**Pn**	**18 44 36.5**	**+4.3**
	SNR=27							
CHMS	**Chumysh**	**3.98**	**318**	P		**Pn**	**18 44 38.4**	**+4.7**
	SNR=12							
AML	**Almayashu**	**4.09**	**301**	*e*P		**Pn**	**18 44 34.3**	**-0.8**
AML	**Almayashu**	**4.09**	**301**	P		**Pn**	**18 44 34.4**	**-0.7**
	SNR=5.9							
USP	**Ospenovka**	**4.31**	**319**	P		**Pn**	**18 44 43.5**	**+5.4**
	SNR=53							
EKS2	**Erkin-Say**	**4.32**	**308**	*e*P		**Pn**	**18 44 37.2**	**-1.1**
EKS2	**Erkin-Say**	**4.32**	**308**	P		**Pb**	**18 44 45.8**	**-2.7**
	SNR=6.5							
KK31	**Karatay Array**	**6.63**	**299**	Pn		**Pb**	**18 45 27.2**	**-0.7**
	3.4nm,0.7s,baz=111,slow=15,SNR=23							
KK31				⇑Sn		**Sb**	**18 46 49.7**	**+2.6**
	2.7nm,0.5s,baz=122,slow=32,SNR=4.1							
MK31	**Makanchi Array**	**7.27**	**22**	⇑Pn		**Pn**	**18 45 10.6**	**-8.1**
	0.5nm,0.4s,baz=197,slow=12,SNR=5.7							
MK31				⇓Lg			18 46 45.6	
	2.3nm,0.7s,baz=204,slow=28,SNR=3.8							
MKAR	**Makanchi Array**	**7.27**	**22**	Pn		**Pn**	**18 45 18.8**	**+0.1**
MKAR	**Makanchi Array**	**7.27**	**22**	Pn		**Pn**	**18 45 18.8**	**+0.1**
	0.2nm,0.3s,baz=197,slow=14,SNR=6.3							
ZALV	**Zalesovo Beam**	**14.52**	**15**	Pn		**Pn**	**18 47 00.3**	**+2.4**
	0.1nm,0.3s,baz=190,slow=16,SNR=3.1							
SONM	**Songino Array**	**21.50**	**60**	P		**P**	**18 48 26.5**	**+5.1**
	0.1nm,0.3s,baz=258,slow=13,SNR=2.6							

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*NNC **15** 18:53:21.5±2.9, 3965N×7164E, h0km, mb3.6, mpv3.3, Error ellipse: s-maj=25.6km s-min=18.6km az=0.0*
ISC 15 18:53:01.2±3.3, 381N±02×724E±02, h10km, n9, σ0°69/10, 4C-1D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**4.14**	**13**	P		**Pn**	**18 54 03.8**	**-0.7**
	SNR=40							
UCH	**Uchtor**	**4.42**	**20**	P		**Pn**	**18 54 08.0**	**-0.3**
	SNR=8.0							
KZA	**Kyzart**	**4.52**	**28**	P		**Pn**	**18 54 09.5**	**-0.1**
	SNR=6.1							
EKS2	**Erkin-Say**	**4.67**	**12**	P		**Pn**	**18 54 12.1**	**+0.4**
	SNR=7.9							
AAK	**Ala-Archa**	**4.79**	**18**	P		**Pn**	**18 54 12.1**	**-1.3**
	SNR=6.2							
ULHL	**Ulahol**	**5.06**	**34**	P		**Pn**	**18 54 18.2**	**+1.2**
	SNR=6.3							
KK31	**Karatay Array**	**5.21**	**344**	Pn		**Pn**	**18 54 19.9**	**+0.8**
	2.2nm,0.3s,baz=134,slow=12,SNR=70							
KK31				⇓Sn		Sx	18 55 07.6	
	14nm,0.2s,baz=144,slow=22,SNR=5.3							
TKM2	**Tokmak 2**	**5.38**	**26**	⇑Pn		**Pb**	**18 54 29.7**	**-5.6**
	3.2nm,0.5s							
TKM2				⇑Sn		**Sn**	**18 55 23.6**	**+0.2**
	10nm,0.6s							
AB31	**Akbulak array**	**14.34**	**325**	⇑Pn		**Pn**	**18 56 23.9**	**-0.1**
	0.4nm,0.5s,baz=129,slow=12,SNR=10							
AB31				⇑Sn		Sx	18 58 45.1	
	0.6nm,0.6s							

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*CSEM **15** 19:10:14.3±1.1, 3717N×2458W, h5km, ML3.0, Error ellipse: s-maj=7.8km s-min=4.5km az=90.0, After PDA*
*PDA **15** 19:10:14.3±1.1, 3717N×2458W, h5km, MD3.9, ML3.0, Error ellipse: s-maj=7.8km s-min=4.5km az=90.0*
SVSA 15 19:10:14.3±1.1, 3717N×2458W, h5km, MD3.9, ML3.0, Error ellipse: s-maj=7.8km s-min=4.5km az=90.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PSMN	**Pico do Norte,**	**0.42**	**247**	*i* P		Pg	19 10 21.6	-0.8
PSMN				*e*S		Sg	19 10 27.5	-0.3
PSMN	**Pico do Norte,**	**0.42**	**247**	*e*S		Sg	19 10 27.5	-0.3
PDA	**Ponta Delgada**	**1.04**	**304**	*e*P		Pg	19 10 30.9	-3.3
PDA				*e*S		Sg	19 10 42.0	-5.7
PSET	**Sete Cidades**	**1.12**	**306**	*e*P		Pg	19 10 31.3	-4.5
PSET				*e*S		Sg	19 10 44.6	-5.7
PSET				A			19 10 47.8	
	143nm,0.2s							
PSET	**Sete Cidades**	**1.12**	**306**	*e*P		Pg	19 10 31.3	-4.5
PSET				*e*S		Sg	19 10 44.6	-5.7
PSCM	**Serra do Cume**	**2.52**	**308**	*e*P		Pn	19 10 51.6	-4.3
PSCM				*e*S		Sn	19 11 19.3	-7.7
PSCM				A			19 11 20.7	
	22nm,0.2s							
PMAN	**Manadas**	**3.14**	**299**	*e*P		Pn	19 10 59.7	-4.7
PMAN				*e*S		Sn	19 11 33.4	-8.8
PMAN				A			19 11 35.5	
	14nm,0.1s							
PMAN	**Manadas**	**3.14**	**299**	*e*P		Pn	19 10 59.7	-4.7
PMAN				*e*S		Sn	19 11 33.4	-8.8
ROSA	**Rosais**	**3.28**	**299**	*e*P		Pn	19 11 02.1	-4.3
ROSA				*e*S		Sn	19 11 37.8	-8.0
SRBC	**Serra Branca**	**3.31**	**305**	*e*P		Pn	19 11 00.4	-6.3
PICO	**Pico**	**3.32**	**295**	*e*P		Pn	19 11 02.3	-4.6
PICO				*e*S		Sn	19 11 38.7	-8.0
CALA	**Caldeira**	**3.55**	**295**	*e*P		Pn	19 11 05.2	-4.9
CALA				*e*S		Sn	19 11 44.3	-8.1

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*IDC **15** 19:18:22.2±4.3, 2164S×16979E, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.8/13, mbtmp3.7/4, Error ellipse: s-maj=124.3km s-min=40.0km az=138.0*
*ISCJB **15** 19:18:23.1±4.4, 223S±02×1703E±02, h42km±34km, mb3.7/4, Error ellipse: s-maj=38.5km s-min=30.2km az=26.4*
ISC 15 19:18:22.5±7.2, 224S±02×1703E±01, h26km±49km, n8, σ0°71/8, mb3.7/4, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.62**	**274**	*e*P		**Pn**	**19 19 17.2**	**+0.2**
DZM				*e*S		**Sn**	**19 19 59.1**	**+0.1**
ASAR	**Alice Springs**	**33.51**	**261**	P		**P**	**19 25 00.3**	**+0.2**
	0.6nm,0.8s,mb3.6,baz=73,slow=9.6,SNR=9.5							
WRA	**Warramunga Arr**	**33.62**	**267**	P		**P**	**19 25 00.2**	**-0.9**
	0.4nm,0.6s,mb3.5,baz=95,slow=8.5,SNR=6.3							
MJAR	**Matsushiro Arr**	**65.98**	**332**	P		**P**	**19 29 06.1**	**-0.5**
	1.4nm,0.9s,mb4.0,baz=159,slow=7.3,SNR=4.2							
VNA3	**Neumayer Olymp**	**86.64**	**180**	*e*		**P**	**19 31 03.2**	**-0.2**
VNA3				*e*			19 31 07.4	
VNA2	**Neumayer--Watz**	**86.95**	**181**	*e*		**P**	**19 31 05.2**	**+0.3**
VNA2				*e*			19 31 09.4	
SONM	**Songino Array**	**90.33**	**323**	P		**P**	**19 31 21.9**	**+0.8**
	0.4nm,0.9s,mb3.8,baz=131,slow=5.4,SNR=3.6							
GERES	**GERESS Array B**	**147.72**	**331**	PKPbc		PKPbc	19 38 03.8	-0.9
	0.5nm,0.6s,baz=43,slow=5.9,SNR=3.1							

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*MOS **15** 19:22:58.2±1.9, 4545N×15022E, h104km, mb3.9/3, Error ellipse: s-maj=14.2km s-min=13.3km az=64.3*
*NEIC **15** 19:23:00.2±0.7, 4551N×15028E, mb4.2/1, Error ellipse: s-maj=17.1km s-min=12.6km az=148.0*
*ISCJB **15** 19:23:01.2±1.1, 4535N±008×1500E±01, h126km±9km, mb3.6/12, Error ellipse: s-maj=17.4km s-min=9.6km az=42.4*
*JMA **15** 19:23:01.2±0.6, 4551N×14999E, h30km, M4.2*
*IDC **15** 19:23:03.1±3.7, 4553N×15007E, h126km±33km, mb3.4/11, mb1 3.6/12, mb1mx3.4/22, mbtmp3.4/12, Error ellipse: s-maj=21.4km s-min=18.0km az=114.0*
ISC 15 19:23:02.5±1.1, 4537N±008×1500E±01, h123km±9km, n46, σ1°35/49, mb3.6/12, 3D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.48**	**265**	*i* PN		**Pn**	**19 23 26.2**	**-3.6**
KUR				*i* S		**Sn**	**19 23 48.4**	**-2.1**
KUR				pmax		pmax		
	comp=N,150nm,0.5s							
KUR				pmax		pmax		
	comp=E,170nm,0.5s							
KUR				pmax		pmax		
	comp=Z,410nm,0.5s							
KUR				smax				
	comp=N,2μm,0.5s							
KUR				smax				
	comp=E,2μm,0.5s							
KUR				smax				
	comp=N,2μm,1.0s							
KUR				smax				
	comp=E,5μm,1.0s							
YUK	**Yuzh-Kuril'sk**	**3.21**	**247**	*e*PN		**Pn**	**19 23 46.9**	**-4.6**
YUK				*e*S		**Sn**	**19 24 30.5**	**+1.1**
YUK				smax				
	comp=N,250nm,0.5s							
YUK				smax				
	comp=E,250nm,0.5s							
YUK				smax				
	comp=N,1μm,0.4s							
YUK				smax				
	comp=E,1μm,0.4s							
NEM2	**Nemuro 2**	**3.62**	**238**	P		**Pn**	**19 23 55.5**	**-1.5**
NEM2				*e*S		**Sn**	**19 24 35.9**	**-3.3**
JRA	**Rausu**	**3.73**	**249**	P		**Pn**	**19 23 59.4**	**+0.9**
JRA				*e*S		**Sn**	**19 24 42.9**	**+1.1**
JNK	**Nakash**	**4.15**	**246**	P		**Pn**	**19 24 04.3**	**+0.3**
JNK				*e*S		**Sn**	**19 24 50.8**	**-0.9**
JAK	**Akkeshi**	**4.46**	**240**	P		**Pn**	**19 24 07.0**	**-1.2**
JAK				*e*S		**Sn**	**19 24 55.2**	**-4.0**
JTKR	**Abashiri--Toko**	**4.53**	**254**	P		**Pn**	**19 24 10.6**	**+1.5**
JAR	**Ashorobuto**	**4.89**	**247**	P		**Pn**	**19 24 15.4**	**+1.4**
JAR				*e*S		**Sn**	**19 25 11.0**	**+1.4**
JOB	**Onbets**	**5.04**	**243**	*e*S		**Sn**	**19 25 11.3**	**-1.9**
YSS	**Yuzh-Sakhalins**	**5.24**	**290**	*e*P		**Pn**	**19 24 20.6**	**+1.9**
	comp=E,9.8nm,0.6s							
YSS	**Yuzh-Sakhalins**	**5.24**	**290**	*e*PN		**Pn**	**19 24 20.6**	**+2.0**
YSS				pmax		pmax		
	comp=Z,10.0nm,0.6s							
JKK2	**Kamakawa 2**	**5.35**	**256**	P		**Pn**	**19 24 21.8**	**+1.6**
ASAJ	**Asahikawa**	**5.38**	**259**	PN		**Pn**	**19 24 22.6**	**+2.0**
ASAJ				pmax		pmax		
	comp=Z,1.0nm,0.3s							
ASAJ	**Asahikawa**	**5.38**	**259**	P		**Pn**	**19 24 22.6**	**+1.9**
	comp=Z,0.6nm,0.3s,baz=311,slow=11,SNR=7.5							
JCH	**Churui**	**5.49**	**242**	P		**Pn**	**19 24 21.6**	**-0.5**
JCH				*e*S		**Sn**	**19 25 21.8**	**-2.2**
ERM	**Erimo**	**5.96**	**238**	*e*P		**Pn**	**19 24 29.9**	**+1.6**
ERM	**Erimo**	**5.96**	**238**	*i* PN		**Pn**	**19 24 29.4**	**+1.1**
JEM	**Erimo**	**5.96**	**238**	P		**Pn**	**19 24 29.2**	**+0.9**
JEM				*e*S		**Sn**	**19 25 34.1**	**-1.1**
JBT2	**Biratori 2**	**6.05**	**247**	P		**Pn**	**19 24 31.2**	**+1.7**
JBT2				*e*S		**Sn**	**19 25 37.0**	**-0.4**
JNBK	**Urakawa-nobuka**	**6.05**	**242**	*e*S		**Sn**	**19 25 34.6**	**-2.9**
JNB	**Noboribetsu**	**7.06**	**249**	*e*S		Sx	19 26 01.7	
JKB	**Kayabe**	**7.34**	**245**	*e*S		Sx	19 26 05.4	
JANG	**Nango**	**7.95**	**234**	*e*S		Sx	19 26 16.2	
JTH	**Tanohata**	**8.06**	**230**	*e*S		Sx	19 26 18.4	
OFUJ	**Ofunato**	**8.79**	**227**	*e*S		Sx	19 26 36.1	
JRG	**Rokugo**	**9.11**	**232**	*e*S		Sx	19 26 47.0	
JIO	**Ouri**	**9.42**	**226**	*e*S		Sx	19 26 51.3	
YAK	**Yakutsk**	**20.40**	**332**	⇓*e*P		**P**	**19 27 29.3**	**-0.1**
YAK				pmax		pmax		
	comp=Z,7.0nm,0.4s							
TIXI	**Tiksi**	**28.22**	**346**	⇓*e*P		**P**	**19 28 40.0**	**-3.3**
TIXI				pmax		pmax		
	comp=Z,1.0nm,0.5s,mb3.6							
SONM	**Songino Array**	**29.73**	**291**	P		**P**	**19 28 58.8**	**+1.8**
	comp=Z,0.2nm,0.5s,mb3.0,baz=90,slow=8.6,SNR=2.7							
INK	**Inuvik**	**43.99**	**31**	P		**P**	**19 30 55.2**	**-1.8**
INK	**Inuvik**	**43.99**	**31**	P		**P**	**19 30 55.2**	**-1.8**
	comp=Z,0.6nm,0.4s,mb3.7,baz=328,slow=5.2,SNR=8.5							
MK31	**Makanchi Array**	**45.61**	**297**	*e*P		**P**	**19 31 10.3**	**+0.1**
MKAR	**Makanchi Array**	**45.61**	**297**	P		**P**	**19 31 10.4**	**+0.2**
	comp=Z,0.8nm,0.5s,mb3.7,baz=68,slow=7.2,SNR=10							
YKA	**Yellowknife Ar**	**53.34**	**35**	P		**P**	**19 32 08.0

*BJI **15** 19:43:24.2, 1090N×12521E, h25km, mB4.6, mb4.5, Ms3.9, Msz3.8*
*NEIC **15** 19:43:28.8±0.5, 1160N×12532E, h10km, mb4.6/8, Error ellipse: s-maj=14.3km s-min=7.0km az=70.0*
NEIC Felt [III PIVS] at Palo, Leyte.
*ISCJB **15** 19:43:30.0±4.6, 1156N±006×12523E±0.10, h28km±34km, mb4.2/22, MS3.7/7, Error ellipse: s-maj=17.2km s-min=8.2km az=160.0*
*MAN **15** 19:43:31, 1154N×12487E, h17km, mb4.8, ML3.7, MS3.8*
MAN INTENSITY III - PALO, LEYTE.
*IDC **15** 19:43:35.6±5.8, 1150N×12499E, h66km±57km, mb3.7/12, mb1 3.9/13, mb1mx3.8/20, mbtmp3.8/13, ML3.7/1, MS3.6/7, Ms1 3.6/7, ms1mx3.2/35, Error ellipse: s-maj=47.8km s-min=12.8km az=78.0*

ISC 15 19:43:34.3±1.9, 1156N±005×12520E±010, h48km±18km, n46, σ1§08/42, mb4.2/22, MS3.7/7, 1C, Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	Davao City (W)	4.48	175	Pn	Pn	19 44 34.0	-5.6
KKM	Kota Kinabalu	10.43	239	Pn	Pn	19 46 00.2	-1.1
JOW	Kunigami	15.47	10	P	Pn	19 47 10.3	+1.1
	0.5nm,0.3s,baz=132,slow=17,SNR=4.4						
KSM	Kuching	17.85	237	eP	Pn	19 47 38.7	-0.6
GUMO	Guam	19.31	82	LR	LR	19 53 45.3	
	comp=Z,116nm,19.1s,baz=274,slow=31						
WHN	Wuhan	21.40	334	↑P	P	19 48 22.1	+4.0
BATI	Kupang	21.68	184	P	P	19 48 21.9	+0.9
	12nm,0.4s,mb4.7,baz=189,slow=1.8,SNR=8.5						
KAKA	Kakadu	25.16	163	eP	P	19 48 54.9	-0.3
	19nm,0.6s,mb4.8						
KAKA	Kakadu	25.16	163	eP	P	19 48 54.8	-0.4
KMI	Kunming	25.17	306	P	P	19 48 54.3	-1.0
KMI				AP	pP	19 49 06.9	-0.8
KMI				AMB	AMB		
	comp=Z,5.0nm,1.3s,mb3.9						
KMI				AMB	AMB		
	comp=Z,85nm,5.6s						
KMI				LR	LR		
	comp=N,109nm,14.9s,MS3.7						
KMI				LR	LR		
	comp=E,171nm,18.1s,MS3.7						
KMI				LR	LR		
	comp=Z,144nm,16.5s,MS3.6						
KSRS	Korea Array	25.90	5	P	P	19 49 02.5	+0.7
	comp=Z,1.3nm,0.8s,mb3.5,baz=184,slow=9.2,SNR=4.7						
XAN	Xi'an	26.86	329	P	P	19 49 08.4	-2.1
XAN				AP	pP	19 49 16.4	-6.6
XAN				AMB	AMB		
	comp=Z,5.0nm,1.0s,mb4.0						
XAN				AMB	AMB		
	comp=Z,29nm,4.6s						
XAN				LR	LR		
	comp=N,80nm,6.5s						
XAN				LR	LR		
	comp=E,125nm,10.1s						
XAN				LR	LR		
	comp=Z,122nm,6.0s						
FITZ	Fitzroy Crossi	29.48	179	eP	P	19 49 32.7	-1.2
	comp=Z,6.0nm,0.8s,mb4.4						
FITZ	Fitzroy Crossi	29.48	179	P	P	19 49 32.3	-1.6
	comp=Z,1.1nm,0.4s,mb3.9,baz=343,slow=16,SNR=7.6						
WRAB	Tennant Creek	32.56	164	P	P	19 50 02.3	+1.2
WRA	Warramunga Arr	32.57	164	P	P	19 49 59.2	-1.9
	comp=Z,0.6nm,0.5s,mb3.8,baz=343,slow=9.0,SNR=13						
WB2	Warramunga Arr	32.57	164	eP	P	19 50 02.3	+1.1
WB2	Warramunga Arr	32.57	164	eP	P	19 50 01.7	+0.5
MBWA	Marble Bar	32.95	189	P	P	19 50 05.3	+0.8
ASAR	Alice Springs	36.03	166	P	P	19 50 30.8	-0.2
	comp=Z,1.0nm,0.4s,mb4.1,baz=344,slow=7.1,SNR=45						
LSA	Lhasa	36.43	305	eP	P	19 50 36.2	+1.8
	comp=Z,4.0nm,1.0s,mb4.3						
ULN	Ulaanbaatar	39.26	341	eP	P	19 50 57.4	-0.8
	comp=Z,1.5nm,0.8s,mb3.8						
SONM	Songino Array	39.45	340	P	P	19 50 59.2	-0.5
	comp=Z,0.4nm,0.6s,mb3.3,baz=160,slow=9.5,SNR=5.3						
SONM				LR	LR	20 07 36.5	
	comp=Z,41nm,18.7s,MS3.3,baz=153,slow=36						
JIRN	Jiri	39.88	299	eP	P	19 51 04.6	+1.0
GUN	Gumba	40.21	300	eP	P	19 51 06.5	+0.2
	comp=Z,22nm,0.8s,mb4.9						
HNR	Honiara	40.35	120	LR	LR	20 04 29.1	
	comp=Z,114nm,21.7s,MS3.7,baz=359,slow=31						
PKI	Pulchoki	40.52	299	eP	P	19 51 10.8	+1.9
KKN	Kakani	40.69	299	eP	P	19 51 11.8	+1.5
	comp=Z,15nm,1.0s,mb4.6						
DMN	Daman	40.79	299	eP	P	19 51 12.5	+1.4
GKN	Gorkha	41.30	299	eP	P	19 51 16.4	+1.1
FORT	Forrest	42.18	176	eP	P	19 51 22.5	+0.1
	comp=Z,12nm,0.8s,mb4.6						
STKA	Stephens Creek	45.96	160	eP	P	19 51 53.4	+0.8
	comp=Z,1.9nm,0.5s,mb4.3						
STKA	Stephens Creek	45.96	160	eP	P	19 51 53.4	+0.8
STKA	Stephens Creek	45.96	160	P	P	19 51 53.1	+0.6
	comp=Z,2.4nm,0.5s,mb4.4,baz=344,slow=9.9,SNR=9.8						
MK31	Makanchi Array	50.37	323	eP	P	19 52 25.8	-0.7
MKAR	Makanchi Array	50.37	323	P	P	19 52 26.1	-0.5
	comp=Z,0.7nm,0.6s,mb3.8,baz=115,slow=8.2,SNR=6.8						
ZALV	Zalesovo Beam	53.00	331	P	P	19 52 44.9	-1.1
	comp=Z,0.5nm,0.3s,mb3.9,baz=126,slow=7.7,SNR=4.5						
ZALV				LR	LR	20 16 07.6	
	comp=Z,30nm,18.6s,MS3.4,baz=83,slow=37						
KURK	Kurchatov	54.41	325	eP	P	19 52 55.6	-0.9
	comp=Z,7.2nm,1.0s,mb4.6						
TIXI	Tiksi	60.09	1	eP	P	19 53 35.9	-0.2
	comp=Z,3.0nm,0.9s,mb4.3						
ARCES	ARCESS Array B	82.63	340	P	P	19 55 51.0	-1.1
ARCES				LR	LR	20 35 32.3	
ARCES	ARCESS Array B	82.63	340	P	P	19 55 51.0	-1.1
	comp=Z,8.6nm,1.1s,mb4.7,baz=84,slow=5.9,SNR=6.1						
ARCES				LR	LR	20 35 32.3	
	comp=Z,57nm,18.9s,MS4.0,baz=43,slow=38						
AKASG	Malin Array Be	84.91	321	P	P	19 56 02.4	-1.7
	comp=Z,0.6nm,0.6s,mb3.9,baz=69,slow=4.7,SNR=6.3						
NOA	NORSAR Array B	91.14	334	LR	LR	20 40 14.8	
	comp=Z,33nm,18.1s,MS3.8,baz=0.0,slow=37						
YKA	Yellowknife Ar	93.01	24	P	P	19 56 42.8	+0.4
YKA	Yellowknife Ar	93.01	24	P	P	19 56 42.8	+0.4
	comp=Z,0.2nm,0.6s,mb3.8,baz=298,slow=4.5,SNR=6.0						
GERES	GERESS Array B	95.03	322	LR	LR	20 39 52.7	
	comp=Z,44nm,18.7s,MS4.0,baz=74,slow=36						

*ISCJB **15** 19:47:53.1±1.1, 2187N±006×1434E±0.1, h208km±9km, mb4.0/21, Error ellipse: s-maj=16.6km s-min=9.2km az=175.5*
*IDC **15** 19:47:53.4±1.6, 2190N×14344E, h197km±13km, mb3.6/14, mb1 3.7/16, mb1mx3.6/24, mbtmp3.6/16, Error ellipse: s-maj=20.0km s-min=9.8km az=85.0*
*MOS **15** 19:47:54.5±0.8, 2189N×14335E, h220km, mb4.4/4, Error ellipse: s-maj=21.3km s-min=9.3km az=110.9*
*BJI **15** 19:47:54.4, 2167N×143.16E, h215km, mB4.9, mb4.4*
*NEIC **15** 19:47:55.9±1.6, 2190N×14347E, h223km±15km, mb4.3/7, Error ellipse: s-maj=10.2km s-min=5.6km az=80.0*

ISC 15 19:47:54.1±1.1, 2187N±006×1435E±01, h202km±10km, n66, σ0§91/65, mb4.0/21, 3C-2D, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHHJ	Haha-jima-NKT	4.89	346	P	Pn	19 49 07.4	+0.3
JHHJ				eS	Sn	19 50 01.3	-3.5
CBIJ	Chichi jima	5.34	347	P	Pn	19 49 12.1	-0.8
CBIJ				eS	Sn	19 50 12.3	-2.9
CBIJ	Chichi jima	5.34	347	P	Pn	19 49 12.1	-0.8
	16nm,0.3s,baz=264,slow=19,SNR=11						
CBIJ				S	Sn	19 50 12.6	-2.6
	30nm,0.3s,baz=318,slow=22,SNR=10						
JNY	Yasuok	14.31	341	P	Pn	19 51 07.7	-0.1
JHU	Hanno	14.41	346	P	Pn	19 51 09.2	+0.3
JMN	Monobe	14.54	326	P	Pn	19 51 14.1	+3.5
JRY	Ryogami san	14.65	345	P	Pn	19 51 12.7	+0.8
JOW	Kunigami	14.71	293	P	Pn	19 51 14.6	+1.8
	2.2nm,0.3s,baz=124,slow=19,SNR=7.0						
JNA	Nagahama	15.17	322	P	Pn	19 51 22.2	+3.9
MJAR	Matsushiro Arr	15.33	344	P	Pn	19 51 19.6	-0.6
	0.6nm,0.3s,baz=347,slow=1.0,SNR=12						
MAJO	Matsushiro	15.33	344	eP	Pn	19 51 20.0	-0.1
	6.5nm,0.8s						
MAJO	Matsushiro	15.33	344	eP	Pn	19 51 20.0	-0.1
MAJO				pmax	pmax		
	comp=Z,6.0nm,0.8s						
MAT	Matsushiro	15.33	344	P	Pn	19 51 20.1	0.0
MAT	Matsushiro	15.33	344	P	Pn	19 51 20.4	+0.3
JRG	Rokugo	17.64	353	P	P	19 51 47.6	+1.8
JIW	Iwasaki	18.90	352	P	P	19 52 01.3	+1.9
KSRS	Korea Array	20.55	323	P	P	19 52 18.4	+1.2
	comp=Z,4.7nm,0.6s,baz=150,slow=8.8,SNR=20						
ASAJ	Asahikawa	22.20	358	P	P	19 52 35.1	+1.3
	comp=Z,7.8nm,0.8s,mb4.3,baz=246,slow=10.0,SNR=6.1						
NJ2	Nanjing	24.13	300	eP	P	19 52 47.4	-4.2
ULN	Ulaanbaatar	39.01	321	P	P	19 55 00.7	-0.2
ULN	Ulaanbaatar	39.01	321	↑eP	P	19 55 01.6	+0.7
SONM	Songino Array	39.39	320	P	P	19 55 04.1	+0.1
SONM						19 57 07.9	
SONM	Songino Array	39.39	320	P	P	19 55 04.1	+0.1
	comp=Z,0.7nm,0.4s,mb3.6,baz=121,slow=7.0,SNR=14						
SONM				PcP	PcP	19 57 07.9	-0.1
	comp=Z,0.7nm,0.8s,baz=115,slow=2.2,SNR=4.5						
SONM				ScP	ScP	20 00 35.6	-1.8
	comp=Z,0.3nm,0.6s,baz=116,slow=3.4,SNR=3.5						
SEY	Seymchan	41.49	6	eP	P	19 55 21.9	+0.9
CTAO	Charters Tower	41.78	176	eP	P	19 55 24.4	+0.5
	comp=Z,5.6nm,0.8s,mb4.0						
CTAO	Charters Tower	41.78	176	eP	P	19 55 24.4	+0.5
CTAO				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.1						
ZAK	Zakamensk	42.38	322	eP	P	19 55 28.0	-0.4
WRAB	Tennant Creek	42.49	193	eP	P	19 55 29.6	0.0
WB2	Warramunga Arr	42.50	193	eP	P	19 55 29.6	-0.1
WB2	Warramunga Arr	42.50	193	eP	P	19 55 29.5	-0.2
WRA	Warramunga Arr	42.50	193	P	P	19 55 29.8	+0.1
WRA						19 57 18.4	
WRA	Warramunga Arr	42.50	193	P	P	19 55 29.8	+0.1
	comp=Z,0.8nm,0.3s,mb3.7,baz=10,slow=8.2,SNR=62						
WRA				PcP	PcP	19 57 18.4	-0.2
	comp=Z,2.1nm,0.8s,baz=359,slow=3.4,SNR=12						
WRA				ScP	ScP	20 00 49.7	-0.3
	comp=Z,0.9nm,0.9s,baz=20,slow=4.3,SNR=5.1						
FITZ	Fitzroy Crossi	43.39	205	P	P	19 55 37.0	+0.1
	comp=Z,1.6nm,0.4s,mb3.8,baz=14,slow=12,SNR=4.0						
ASAR	Alice Springs	46.21	192	P	P	19 55 58.6	-0.3
	comp=Z,0.7nm,0.6s,mb3.1,baz=15,slow=9.3,SNR=13						
ASAR				PcP	PcP	19 57 31.1	-0.1
	comp=Z,1.0nm,0.8s,baz=27,slow=3.6,SNR=7.1						
JIRN	Jiri	51.96	289	eP	P	19 56 43.3	+0.6
	comp=Z,2.3nm,0.3s,mb4.2						
GUN	Gumba	52.20	289	eP	P	19 56 44.6	+0.1
PKI	Pulchoki	52.66	289	eP	P	19 56 47.6	-0.3
KKN	Kakani	52.75	289	eP	P	19 56 48.0	-0.5
DMN	Daman	52.92	289	eP	P	19 56 49.8	0.0
GKN	Gorkha	53.28	289	eP	P	19 56 52.2	-0.2
	comp=Z,17nm,1.1s,mb4.4						
STKA	Stephens Creek	53.47	182	P	P	19 56 52.9	-0.6
STKA	Stephens Creek	53.47	182	P	P	19 56 52.9	-0.6
	comp=Z,1.5nm,0.8s,mb3.5,baz=54,slow=8.7,SNR=3.5						
ZALV	Zalesovo Beam	54.25	322	P	P	19 56 58.0	-0.9
ZALV				PcP	PcP	19 57 59.4	-1.1
ZALV	Zalesovo Beam	54.25	322	P	P	19 56 58.0	-0.9
	comp=Z,1.3nm,0.5s,mb3.7,baz=102,slow=6.5,SNR=7.7						
ZALV				PcP	PcP	19 57 59.4	-1.1
	comp=Z,1.0nm,0.6s,baz=108,slow=4.8,SNR=4.5						
ZAL	Zalesovo	54.26	322	P	P	19 56 58.1	-0.9
ZAL						19 57 59.4	
MK31	Makanchi Array	54.79	313	eP	P	19 57 03.0	0.0
MKAR	Makanchi Array	54.79	313	P	P	19 57 03.0	0.0
	comp=Z,1.7nm,0.6s,mb3.8,baz=93,slow=9.2,SNR=19						
MKAR				PcP	PcP	19 58 02.4	-0.4
	comp=Z,1.7nm,0.7s,baz=82,slow=5.2,SNR=8.1						
KURK	Kurchatov	57.54	317	eP	P	19 57 21.7	-0.7
	comp=Z,8.0nm,0.8s,mb4.4						
KURK	Kurchatov	57.54	317	c iP	P	19 57 21.8	-0.6
AML	Almayashu	60.91	307	eP	P	19 57 46.4	+0.8
	comp=Z,3.6nm,0.9s,mb4.0						
BRVK	Borovoye	62.79	319	eP	P	19 57 57.4	-0.5
	comp=Z,9.5nm,1.1s,mb4.3						
BRVK	Borovoye	62.79	319	eP	P	19 57 57.4	-0.5
BRVK				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.4						
INK	Inuvik	67.30	24	eP	P	19 58 26.3	-0.4
ARU	Arti	69.29	324	d iP	P	19 58 38.4	-0.9
ARU				e		19 58 58.0	
ARU				eS	S	20 07 50.7	+22
ARU				pmax	pmax		
	comp=Z,11nm,1.7s,mb4.2						
YKA	Yellowknife Ar	76.18	28	P	P	19 59 19.4	-0.2
YKA	Yellowknife Ar	76.18	28	P	P	19 59 19.4	-0.2
	comp=Z,1.1nm,0.5s,mb3.8,baz=292,slow=5.8,SNR=23						
ARCES	ARCESS Array B	78.85	342	P	P	19 59 33.5	-0.8
	comp=Z,3.9nm,0.8s,mb4.1,baz=46,slow=8.7,SNR=8.4						
KIV	Kislovodsk	82.50	314	↓eP	P	19 59 54.7	+0.5
KIV				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.5						
NVAR	Mina Array Bea	82.82	52	P	P	19 59 56.8	+0.9
	comp=Z,1.0nm,0.7s,mb3.7,baz=278,slow=7.1,SNR=3.2						
FINES	FINESS Array B	83.15	335	eP	P	19 59 55.4	-1.7
FINES	FINESS Array B	83.15	335	P	P	19 59 55.6	-1.6
	comp=Z,1.4nm,0.4s,mb4.1,baz=65,slow=5.0,SNR=34						
AKASG	Malin Array Be	87.53	325	P	P	20 00 17.2	-1.8
	comp=Z,1.0nm,0.5s,mb3.9,baz=52,slow=4.6,SNR=13						
PLCA	Paso Flores	145.66	131	ePKPbc	PKPbc	20 07 09.1	0.0
PLCA	Paso Flores	145.66	131	PKPbc	PKPbc	20 07 09.4	+0.3
	comp=Z,3.3nm,0.7s,baz=222,slow=6.7,SNR=6.5						
LPAZ	La Paz	149.65	85	ePKPbc	PKPbc	20 07 21.5	+0.9
LPAZ				ePKPab	PKPab	20 07 27.9	+1.5
LPAZ	La Paz	149.65	85	PKPbc	PKPbc	20 07 21.6	+1.0
	comp=Z,3.3nm,0.7s,baz=268,slow=3.4,SNR=15						

*CSEM **15** 19:48:59.8±0.2, 4036N×4218E, h15km, MD2.9, Error ellipse: s-maj=5.0km s-min=4.4km az=163.0*
*ISCJB **15** 19:49:00.9±0.7, 4038N±004×4223E±004, h8km±8km, Error ellipse: s-maj=7.4km s-min=4.4km az=155.8*
*ISK **15** 19:49:00.2, 4040N×4218E, h6km, MD2.9*
*DDA **15** 19:49:00.9, 4038N×4228E, h7km±3km, Md2.9*

ISC 15 19:49:01.3±0.5, 4038N±004×4222E±004, h17km±8km, n9, σ0§94/17, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOMI	Horasan	0.41	217	i P	Pg	19 49 08.2	-1.6
HOMI				i S	Sg	19 49 16.9	+1.5
KARS	Kars	0.70	70	ePG	Pg	19 49 14.6	-0.5
KARS				eSG	Sg	19 49 24.8	+0.3
ERZM	Erzurum	0.81	235	i P	Pg	19 49 16.4	-0.7
ERZM				i S	Sg	19 49 27.8	0.0
EZM	Erzurum	0.81	235	ePG	Pg	19 49 16.6	-0.5
EZM				eSG	Sg	19 49 27.0	-0.9
ARTV	Artvin	0.84	345	i P	Pb	19 49 17.7	+0.3
ARTV				i S	Sg	19 49 29.6	+0.8
DIGO	Kars	0.88	87	i P	Pb	19 49 17.6	-0.6
DIGO				i S	Sb	19 49 28.9	-0.6
AGRB	Hanur-Agry	0.99	143	ePG	Pg	19 49 20.1	-0.5
AGRB				eSG	Sg	19 49 35.4	+1.8
BCA	Borcka	1.16	337	ePN	Pn	19 49 22.4	-0.4
KOPT	Kop Dagi	1.37	255	i P	Pn	19 49 27.4	+1.8
KOPT				i S	Sn	19 49 48.6	+5.3

IDC 15 20:02:47.5±52.0, 1684S×17717W, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.6/15, mbtmp3.7/3, Error ellipse: s-maj=968.9km s-min=165.7km az=78.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	40.18	240	P	P	20 10 26.4	+0.6
	0.5nm,0.5s,baz=92,slow=12,SNR=3.7						
WRA	Warramunga Arr	46.00	258	P	P	20 11 12.6	-0.4
	0.5nm,0.8s,baz=95,slow=7.7,SNR=34						
ASAR	Alice Springs	46.23	253	P	P	20 11 14.6	-0.2
	1.8nm,0.6s,baz=89,slow=8.1,SNR=16						

*ISCJB **15** 20:10:18.9±0.4, 3737N±004×2468W±003, h10km, mb3.7/7, MS3.2/4, Error ellipse: s-maj=6.3km s-min=3.2km az=4.9*
*CSEM **15** 20:10:18.1±0.1, 3721N×2465W, h12km, mb3.9/5, Ms2.7, Error ellipse: s-maj=4.3km s-min=1.2km az=6.0*
*IDC **15** 20:10:19.2±1.4, 3732N×2442W, h0km, mb3.6/2, mb1 3.7/4, mb1mx3.4/24, mbtmp3.5/4, ML4.1/2, MS3.2/5, Ms1 3.2/5, ms1mx2.8/28, Error ellipse: s-maj=38.5km s-min=26.6km az=17.0*
*SVSA **15** 20:10:21.7±1.0, 3717N×2456W, h5km, MD4.1, ML3.7, Error ellipse: s-maj=5.8km s-min=3.6km az=81.0*
*PDA **15** 20:10:21.7±1.0, 3717N×2456W, h5km, MD4.1, ML3.7, Error ellipse: s-maj=5.8km s-min=3.6km az=81.0*

ISC 15 20:10:21.7±0.8, 3720N±01×2474W±004, h30km±11km, n69, σ0§66/56, mb3.8/8, MS3.2/4, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSMN	Pico do Norte,	0.34	230	i P	Pb	20 10 29.1	-0.5
PSMN				eS	Sb	20 10 35.2	+0.2
PDA	Ponta Delgada	0.90	306	eP	Pn	20 10 38.0	-0.3
PDA				eS	Sn	20 10 50.2	-0.2
PSET	Sete Cidades	0.98	308	i P	Pn	20 10 38.9	-0.6
PSET				eS	Sn	20 10 52.8	+0.4
PSET				A		20 10 55.2	
	631nm,0.5s						
PSCM	Serra do Cume	2.39	309	eP	Pn	20 10 58.9	+0.1
PSCM				eS	Sn	20 11 26.6	-0.5
PSCM				A		20 11 31.5	
	166nm,0.2s						
ADH	Angra Heroismo	2.44	307	eP	Pn	20 10 59.5	+0.1
ADH				eS	Sn	20 11 27.9	-0.3
PID	Ribeirinha	2.94	296	eP	Pn	20 11 06.8	+0.5
PMAN	Manadas	3.00	299	eP	Pn	20 11 07.4	+0.2
PMAN				eS	Sn	20 11 41.5	-0.6
PMAN				A		20 11 44.0	
	58nm,0.3s						
ROSA	Rosais	3.15	300	eP	Pn	20 11 09.8	+0.6
ROSA				eS	Sn	20 11 45.4	-0.3
SRBC	Serra Branca	3.17	306	eP	Pn	20 11 10.0	+0.5
SRBC				eS	Sn	20 11 46.0	-0.4
PICO	Pico	3.18	295	eP	Pn	20 11 10.5	+0.8
PICO				eS	Sn	20 11 46.1	-0.5
HOR	Horta	3.34	294	eP	Pn	20 11 12.4	+0.5
HOR				eS	Sn	20 11 50.4	-0.1
CALA	Caldeira	3.42	295	eP	Pn	20 11 13.6	+0.7
CALA				eS	Sn	20 11 52.2	-0.1
PMAR	Madeira	7.83	123	ePn	Pn	20 12 10.5	-3.1
PMAR				eT		20 19 39.3	
PMPS	Porto Santo	8.04	119	ePn	Pn	20 12 12.2	-4.2
PMPS				eT		20 20 02.4	
PMAFR	Mafra	12.31	77	eS	Sx	20 15 14.4	
MORF	Marmelete	12.82	85	eS	Sx	20 15 20.4	
MOE	Montemor	13.02	79	eS	Sx	20 15 29.8	
EVOP	Sao Brissos	13.20	79	ePn	Pn	20 13 20.7	-6.3
EVO	Evora	13.29	79	ePn	Pn	20 13 20.7	-7.5
EVO				eSn	Sn	20 15 34.0	-21
	6.5nm,0.4s						
EVO				eMLR	MLR		
	comp=Z,61nm,22.4s						
EVO	Evora	13.29	79	eS	Sx	20 15 36.3	
PBDV	Barranco-do-Ve	13.40	85	eS	Sx	20 15 40.2	
PBDV				eT		20 25 37.2	
PBEJ	Beja	13.41	81	eS	Sx	20 15 39.7	
PVAQ	Vaqueiros	13.56	84	eS	Sx	20 15 43.7	
PVAQ	Vaqueiros	13.56	84	eT		20 25 46.1	
PVIS	Viseu	13.57	70	eS	Sx	20 15 42.5	
PESTR	Estremoz	13.62	78	eS	Sx	20 15 45.4	
PESTR				eT		20 25 35.6	
PCAB	Cabril	13.67	66	eS	Sx	20 15 45.1	
PCAB	Cabril	13.67	66	eT		20 26 08.5	
PCBR	Castelo Branco	13.77	74	eS	Sx	20 15 48.3	
MTE	Manteigas	13.78	71	eS	Sx	20 15 48.5	
PVRL	Vila Real	13.80	68	eS	Sx	20 15 48.3	
PBAR	Barrancos	14.05	81	eS	Sx	20 15 55.0	
PBAR	Barrancos	14.05	81	eT		20 26 02.5	
MVO	Moncorvo	14.29	69	eS	Sx	20 15 59.3	
MVO	Moncorvo	14.29	69	eT		20 26 02.8	
PBRG	Braganca	14.63	66	eS	Sx	20 16 07.6	
ESDC	Sonseca Array	16.46	75	Pn	Pn	20 14 06.1	-4.3
	comp=Z,0.3nm,0.3s,baz=268,slow=13,SNR=4.6						
MDT	Midelt	17.06	99	Pn	Pn	20 14 16.5	-1.5
	comp=Z,0.2nm,0.3s,baz=290,slow=11,SNR=5.4						
MDT				LR	LR	20 19 27.5	
	comp=Z,29nm,18.4s,baz=120,slow=33						
QUIF	Quistinic	19.09	49	eP	Pn	20 14 42.4	-0.3
ROSF	Rostrenen	19.22	48	eP	Pn	20 14 44.0	-0.2
SGMF	Saint Gilles	19.61	49	eP	Pn	20 14 48.4	-0.5
MFF	Saint Martin d	20.50	55	eP	P	20 14 57.8	+0.7
	comp=Z,13nm,1.0s						
MFF	Saint Martin d	20.50	55	eP	P	20 14 57.8	+0.7
	comp=Z,6.7nm,1.0s						
LFF	La Frestale	20.64	60	eP	P	20 14 59.5	+0.8
	comp=Z,14nm,0.8s						
LFF	La Frestale	20.64	60	eP	P	20 14 59.5	+0.8
	comp=Z,6.8nm,0.8s						
GRR	Gorron	20.69	50	eP	P	20 14 59.9	+0.7
	comp=Z,27nm,1.0s						
GRR	Gorron	20.69	50	eP	P	20 14 59.9	+0.7
	comp=Z,14nm,1.0s						
FLN	La Foliniere	21.07	49	eP	P	20 15 04.0	+0.7
	comp=Z,5.5nm,0.6s,mb3.8						
FLN	La Foliniere	21.07	49	eP	P	20 15 04.0	+0.7
	comp=Z,2.8nm,0.6s,mb3.8						
LDF	La Druitiere	21.22	50	eP	P	20 15 05.9	+1.0
CAF	Calviac	21.56	61	eP	P	20 15 08.6	0.0
	comp=Z,12nm,1.1s,mb4.0						
CAF	Calviac	21.56	61	eP	P	20 15 08.6	0.0
	comp=Z,6.1nm,1.1s,mb4.0						
TCF	Toulx Ste Croi	21.97	57	eP	P	20 15 13.5	+0.6
	comp=Z,7.8nm,1.0s,mb3.8						
TCF	Toulx Ste Croi	21.97	57	eP	P	20 15 13.5	+0.6
	comp=Z,3.9nm,1.0s,mb3.8						
BGF	Bois d'Agland	22.46	57	eP	P	20 15 18.4	+0.2
SSF	Saint Saulge	23.03	56	eP

GZT	**Gaziantep**	**2.42**	**236**	*i* P	**Pn**	**20 11 34.9**	**+6.4**
GZT				*i* S	**Sn**	**20 12 06.5**	**+8.1**

IDC 15 20:19:07.3±1.8, 257N×12589E, h0km, mb3.6/4, mb1 3.7/4, mb1mx3.5/15, mbtmp3.6/4, Error ellipse: s-maj=175.3km s-min=23.5km az=64.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.86**	**160**	P	P	20 24 22.2	-0.3
	1.1nm,0.4s,baz=339,slow=11,SNR=21						
ASAR	**Alice Springs**	**27.22**	**164**	P	P	20 24 54.2	+1.2
	0.2nm,0.3s,baz=345,slow=11,SNR=5.8						
STKA	**Stephens Creek**	**37.37**	**158**	P	P	20 26 21.4	-0.4
	0.6nm,0.3s,baz=356,slow=9.1,SNR=5.1						
MKAR	**Makanchi Array**	**58.03**	**326**	P	P	20 29 01.8	-0.2
	0.2nm,0.4s,baz=117,slow=8.6,SNR=7.0						

*PDA **15** 20:23:08.5±1.1, 3707N×2462W, h5km, ML3.0, Error ellipse: s-maj=11.0km s-min=5.3km az=103.0*
*CSEM **15** 20:23:08.5±1.1, 3707N×2462W, h5km, ML3.0, Error ellipse: s-maj=11.0km s-min=5.3km az=103.0, After PDA*

SVSA 15 20:23:08.5±1.1, 3707N×2462W, h5km, ML3.0, Error ellipse: s-maj=11.0km s-min=5.3km az=103.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSMN	**Pico do Norte,**	**0.36**	**259**	*e*P	Pg	20 23 14.4	-1.1
PSMN				*e*S	Sg	20 23 20.3	0.0
PDA	**Ponta Delgada**	**1.07**	**309**	*e*S	Sg	20 23 37.1	-5.8
PSET	**Sete Cidades**	**1.15**	**311**	*e*P	Pg	20 23 26.6	-4.0
PSET				*e*S	Sg	20 23 39.7	-5.9
PSET				A		20 23 41.6	
	106nm,0.4s						
PSET	**Sete Cidades**	**1.15**	**311**	*e*P	Pg	20 23 26.6	-4.0
PSET				*e*S	Sg	20 23 39.7	-5.9
PSCM	**Serra do Cume**	**2.56**	**310**	*e*P	Pn	20 23 46.1	-4.5
PSCM				*e*S	Sn	20 24 14.2	-7.9
PSCM				A		20 24 18.5	
	29nm,0.2s						
PSCM	**Serra do Cume**	**2.56**	**310**	*e*P	Pn	20 23 46.1	-4.5
PSCM				*e*S	Sn	20 24 14.2	-7.9
PMAR	**Madeira**	**7.67**	**122**	*e*Pn	Pn	20 24 55.9	-5.0
PMAR				*e*Sn	Sn	20 26 07.4	-21
PMPS	**Porto Santo**	**7.88**	**118**	*e*Pn	Pn	20 24 58.3	-5.5

MAN 15 20:35:13, 946N×12579E, h21km, mb3.7, ML2.5, MS2.0, Mindanao

*CSEM **15** 20:49:41.7±0.2, 3646N×772W, h10km, ML4.2/8, Error ellipse: s-maj=3.4km s-min=2.4km az=56.0*
*ISCJB **15** 20:49:45.2±0.4, 3660N±002×774W±002, h75km±4km, Error ellipse: s-maj=4.3km s-min=2.4km az=40.2*
*NEIC **15** 20:49:45.3, 3659N×772W, h0km, MN3.1(MDD), After MDD.*
*CNRM **15** 20:49:45.3, 3643N×793W, h30km, MD3.6*
*SFS **15** 20:49:45.0, 3659N×772W, h0km, ML3.1*
*MDD **15** 20:49:46.1±0.5, 3647N×788W, h42km±21km, mb4.5/24, Error ellipse: s-maj=5.3km s-min=3.3km az=50.0, PRXIMO MDD EMS: II HUELVA.*
*INMG **15** 20:49:46.8±1.0, 3648N×786W, h31km, MD3.3, ML3.1, Error ellipse: s-maj=3.5km s-min=1.9km az=41.0*
*IGIL **15** 20:49:46.8, 3650N×790W, h25km, ML3.2*
*LDG **15** 20:49:47.1±0.3, 3656N×785W, h20km, Md3.7/1, Ml3.8/5, Error ellipse: s-maj=6.7km s-min=3.0km az=25.0*

ISC 15 20:49:46.5±0.4, 3659N±002×775W±002, h56km±8km, n157, σ1§23/276, 2C-12D, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBDV	**Barranco-do-Ve**	**0.67**	**347**	*i* P	**Pn**	**20 50 00.1**	**-0.1**
PBDV				*e*S	**Sn**	**20 50 09.9**	**-0.2**
PBDV				A		20 50 10.3	
	314nm,0.1s						
PBDV	**Barranco-do-Ve**	**0.67**	**347**	⇓P	**Pn**	**20 50 00.1**	**-0.1**
PBDV				S	**Sn**	**20 50 09.9**	**-0.2**
	157nm,0.1s						
PBDV	**Barranco-do-Ve**	**0.67**	**347**	*e*S	**Sn**	**20 50 09.9**	**-0.2**
	314nm,0.1s						
PVAQ	**Vaqueiros**	**0.81**	**2**	*i* P	**Pn**	**20 50 02.3**	**+0.3**
PVAQ				*e*S	**Sn**	**20 50 13.7**	**+0.4**
PVAQ				A		20 50 14.2	
	607nm,0.2s						
PVAQ	**Vaqueiros**	**0.81**	**2**	⇓P	**Pn**	**20 50 02.3**	**+0.3**
PVAQ				S	**Sn**	**20 50 13.7**	**+0.4**
	303nm,0.2s						
EGRO	**El Granado**	**0.96**	**13**	⇓P	**Pn**	**20 50 04.6**	**+0.7**
	36nm,0.1s,SNR=18						
EGRO				S	**Sn**	**20 50 17.4**	**+0.6**
	221nm,0.1s,SNR=18						
EGRO	**El Granado**	**0.96**	**13**	⇓P	**Pn**	**20 50 04.7**	**+0.7**
EGRO				S	**Sn**	**20 50 17.4**	**+0.6**
	221nm,0.1s,SNR=18						
MORF	**Marmelete**	**1.01**	**315**	*i* P	**Pn**	**20 50 03.8**	**-0.8**
MORF				*e*S	**Sn**	**20 50 16.6**	**-1.4**
MORF				A		20 50 21.8	
	299nm,0.2s						
MORF	**Marmelete**	**1.01**	**315**	P	**Pn**	**20 50 03.7**	**-0.9**
MORF				S	**Sn**	**20 50 16.1**	**-1.9**
PFVI	**Vila Bisbo**	**1.02**	**302**	*i* P	**Pn**	**20 50 03.5**	**-1.2**
PFVI				*e*S	**Sn**	**20 50 16.0**	**-2.1**
PFVI				A		20 50 19.9	
	157nm,0.1s						
PFVI	**Vila Bisbo**	**1.02**	**302**	P	**Pn**	**20 50 03.4**	**-1.3**
PFVI				S	**Sn**	**20 50 16.0**	**-2.1**
PTEO	**Sao Teotonio**	**1.23**	**321**	*i* P	**Pn**	**20 50 07.2**	**-0.3**
PTEO				*e*S	**Sn**	**20 50 22.5**	**-0.6**
PTEO				A		20 50 26.5	
	96nm,0.3s						
PTEO	**Sao Teotonio**	**1.23**	**321**	⇓P	**Pn**	**20 50 07.2**	**-0.3**
PTEO				S	**Sn**	**20 50 22.5**	**-0.6**
	48nm,0.3s						
CNIL	**Conil**	**1.38**	**99**	P	**Pn**	**20 50 10.2**	**+0.7**
CNIL				S	**Sn**	**20 50 23.0**	**-3.8**
CNIL	**Conil**	**1.38**	**99**	*i* P	**Pn**	**20 50 10.2**	**+0.6**
PBEJ	**Beja**	**1.43**	**356**	*e*P	**Pn**	**20 50 10.7**	**+0.5**
PBEJ				*e*S	**Sn**	**20 50 28.8**	**+0.8**
PBEJ				A		20 50 31.0	
	116nm,0.1s						
PBEJ	**Beja**	**1.43**	**356**	⇓P	**Pn**	**20 50 10.7**	**+0.5**
PBEJ				S	**Sn**	**20 50 28.8**	**+0.8**
	58nm,0.1s						
GIBL	**Gibalbin**	**1.45**	**80**	*e*P	**Pn**	**20 50 14.0**	**+3.5**
GIBL				*e*S	**Sn**	**20 50 27.0**	**-1.5**
EMIN	**Mina Concepcio**	**1.46**	**36**	⇓P	**Pn**	**20 50 11.1**	**+0.6**
	2.9nm,0.1s,SNR=18						
EMIN				S	**Sn**	**20 50 28.7**	**+0.1**
	39nm,0.1s,SNR=11						
EMIN	**Mina Concepcio**	**1.46**	**36**	P	**Pn**	**20 50 11.1**	**+0.6**
	2.9nm,0.1s,SNR=18						
EMIN				S	**Sn**	**20 50 28.6**	**+0.1**
ESPR	**Espera**	**1.55**	**79**	P	**Pn**	**20 50 12.4**	**+0.7**
	18nm,0.2s,SNR=62						
ESPR				S	**Sn**	**20 50 31.5**	**+0.7**
	211nm,0.2s,SNR=4.9						
ESPR	**Espera**	**1.55**	**79**	P	**Pn**	**20 50 12.4**	**+0.7**
	18nm,0.2s,SNR=62						
ESPR				S	**Sn**	**20 50 31.5**	**+0.8**
	211nm,0.2s,SNR=4.9						
PBAR	**Barrancos**	**1.68**	**20**	*i* Pn	**Pn**	**20 50 14.3**	**+0.8**
PBAR				*e*Sn	**Sn**	**20 50 34.6**	**+0.6**
PBAR				A		20 50 39.9	
	70nm,0.1s						
PBAR	**Barrancos**	**1.68**	**20**	⇓P	**Pn**	**20 50 14.3**	**+0.8**
PBAR				S	**Sn**	**20 50 34.6**	**+0.6**
	35nm,0.1s						
LIJA	**Lijar**	**1.91**	**80**	S	**Sn**	**20 50 39.8**	**+0.1**
LIJA	**Lijar**	**1.91**	**80**	*i* S	**Sn**	**20 50 39.8**	**+0.2**
EVO	**Evora**	**1.95**	**354**	*e*Pn	**Pn**	**20 50 17.7**	**+0.5**
EVO				*e*Sn	**Sn**	**20 50 40.5**	**0.0**
	199nm,0.2s						
EVO	**Evora**	**1.95**	**354**	*i* Pn	**Pn**	**20 50 17.8**	**+0.6**
EVO				*e*Sn	**Sn**	**20 50 40.7**	**+0.2**
EVO				A		20 50 43.3	
	110nm,0.1s						
EVO	**Evora**	**1.95**	**354**	⇓P	**Pn**	**20 50 17.8**	**+0.6**
EVO				S	**Sn**	**20 50 40.7**	**+0.2**
	55nm,0.1s						
EVOP	**Sao Brissos**	**1.96**	**351**	*e*Pn	**Pn**	**20 50 17.7**	**+0.4**
EVOP				*e*Sn	**Sn**	**20 50 40.5**	**-0.2**
	100nm,0.2s						
MDAL	**Dalia**	**1.96**	**110**	*i* P	**Pn**	**20 50 17.7**	**+0.3**
MDAL				*i* S	**Sn**	**20 50 40.0**	**-0.8**
MOE	**Montemor**	**1.98**	**346**	*e*Pn	**Pn**	**20 50 18.4**	**+0.7**
MOE				*e*Sn	**Sn**	**20 50 41.6**	**+0.2**
REAL	**Reales**	**2.05**	**92**	*e*S	**Sn**	**20 50 43.0**	**0.0**
DKH	**Dar Kharkhour**	**2.23**	**119**	*i* P	**Pn**	**20 50 20.0**	**-1.0**
DKH				*i* S	**Sn**	**20 50 45.0**	**-2.4**
EBAD	**Badajoz**	**2.24**	**15**	⇓P	**Pn**	**20 50 21.7**	**+0.6**
	2.0nm,0.1s,SNR=18						
EBAD				S	**Sn**	**20 50 47.6**	**0.0**
	42nm,0.1s,SNR=11						
EBAD	**Badajoz**	**2.24**	**15**	P	**Pn**	**20 50 21.7**	**+0.5**
	2.0nm,0.1s,SNR=18						
EBAD				S	**Sn**	**20 50 47.6**	**0.0**
	42nm,0.1s,SNR=11						
PESTR	**Estremoz**	**2.27**	**3**	*e*Pn	**Pn**	**20 50 22.2**	**+0.5**
PESTR				*e*Sn	**Sn**	**20 50 48.6**	**+0.1**
PESTR				A		20 50 51.0	
	31nm,0.1s						
PESTR	**Estremoz**	**2.27**	**3**	*e*Pn	**Pn**	**20 50 22.2**	**+0.5**
PESTR				*e*Sn	**Sn**	**20 50 48.6**	**+0.1**
	31nm,0.1s						
ECAB	**El Cabril**	**2.38**	**51**	P	**Pn**	**20 50 24.3**	**+1.2**
	2.3nm,0.1s,SNR=48						
ECAB				S	**Sn**	**20 50 50.1**	**-0.9**
	8.8nm,0.1s,SNR=6.0						
ECAB	**El Cabril**	**2.38**	**51**	P	**Pn**	**20 50 24.3**	**+1.3**
	2.3nm,0.1s,SNR=48						
ECAB				S	**Sn**	**20 50 50.1**	**-0.9**
	8.8nm,0.1s,SNR=6.0						
EMIJ	**Mijas**	**2.40**	**90**	P	**Pn**	**20 50 23.4**	**+0.1**
	0.9nm,0.1s,SNR=18						
EMIJ				S	**Sn**	**20 50 51.3**	**-0.2**
	11nm,0.2s,SNR=8.4						
INMG	**Instituto de M**	**2.44**	**334**	*e*Pn	**Pn**	**20 50 24.8**	**+0.9**
ALMR	**Almeirim**	**2.64**	**346**	*e*P	**Pn**	**20 50 27.3**	**+0.6**
ALMR				*e*S	**Sn**	**20 50 56.8**	**-0.7**
ALMR				*e*S	**Sn**	**20 50 56.8**	**-0.6**
ALMR				AML	AML	20 50 60.0	
	comp=N,145nm,0.2s						
ALMR	**Almeirim**	**2.64**	**346**	*e*P	**Pn**	**20 50 27.3**	**+0.6**
ALMR				*e*S	**Sn**	**20 50 56.8**	**-0.7**
ALMR	**Almeirim**	**2.64**	**346**	P	**Pn**	**20 50 27.3**	**+0.6**
ALMR				S	**Sn**	**20 50 56.8**	**-0.7**
PMAFR	**Mafra**	**2.65**	**333**	*i* Pn	**Pn**	**20 50 27.3**	**+0.5**
PMAFR				*e*Sn	**Sn**	**20 50 58.1**	**+0.3**
PMAFR				A		20 50 59.0	
	comp=N,180nm,0.2s						
PMAFR	**Mafra**	**2.65**	**333**	⇓P	**Pn**	**20 50 27.3**	**+0.5**
PMAFR				S	**Sn**	**20 50 58.1**	**+0.3**
	comp=N,90nm,0.2s						
EMAL	**Malaga-Limoner**	**2.67**	**85**	*i* P	**Pn**	**20 50 29.7**	**+2.6**
EMAL				*i* S	**Sn**	**20 50 58.4**	**+0.1**
ELOJ	**Sierra Loja**	**2.94**	**78**	P	**Pn**	**20 50 33.8**	**+3.0**
ELOJ				S	**Sn**	**20 51 07.4**	**+2.6**
ELOJ	**Sierra Loja**	**2.94**	**78**	P	**Pn**	**20 50 33.8**	**+3.0**
	comp=N,1.3nm,0.2s,SNR=8.3						
ELOJ				S	**Sn**	**20 51 04.0**	**-0.8**
	comp=N,3.1nm,0.2s,SNR=8.0						
ELOJ	**Sierra Loja**	**2.94**	**78**	P	**Pn**	**20 50 33.8**	**+3.1**
	comp=N,1.3nm,0.2s,SNR=8.3						
ELOJ				S	**Sn**	**20 51 07.4**	**+2.6**
	comp=N,3.1nm,0.2s,SNR=8.0						
ELUQ	**Luque**	**2.95**	**70**	P	**Pn**	**20 50 31.4**	**+0.5**
ELUQ				S	**Sn**	**20 51 08.1**	**+3.0**
ELUQ	**Luque**	**2.95**	**70**	P	**Pn**	**20 50 31.4**	**+0.5**
	comp=N,1.0nm,0.2s,SNR=12						
ELUQ				S	**Sn**	**20 51 05.9**	**+0.9**
	comp=N,7.4nm,0.2s,SNR=13						
ELUQ	**Luque**	**2.95**	**70**	P	**Pn**	**20 50 31.4**	**+0.5**
	comp=N,1.0nm,0.2s,SNR=12						
ELUQ				S	**Sn**	**20 51 08.1**	**+3.1**
	comp=N,7.4nm,0.2s,SNR=13						
EADA	**Adamuz**	**2.98**	**57**	⇑P	**Pn**	**20 50 32.2**	**+1.0**
	comp=N,3.4nm,0.1s,SNR=18						
EADA				S	**Sn**	**20 51 05.4**	**-0.3**
	comp=N,29nm,0.1s,SNR=5.8						
EADA	**Adamuz**	**2.98**	**57**	P	**Pn**	**20 50 32.2**	**+0.9**
	comp=N,3.4nm,0.1s,SNR=18						
EADA				S	**Sn**	**20 51 05.4**	**-0.3**
	comp=N,29nm,0.1s,SNR=5.8						
ERON	**Agron**	**3.19**	**81**	P	**Pn**	**20 50 37.5**	**+3.2**
ERON				S	**Sn**	**20 51 10.2**	**-0.9**
ERON	**Agron**	**3.19**	**81**	P	**Pn**	**20 50 35.9**	**+1.7**
	comp=N,2.1nm,0.2s,SNR=7.9						
ERON				S	**Sn**	**20 51 10.2**	**-0.9**
	comp=N,2.9nm,0.2s,SNR=8.0						
ERON	**Agron**	**3.19**	**81**	P	**Pn**	**20 50 37.5**	**+3.3**
	comp=N,2.1nm,0.2s,SNR=7.9						
ERON				S	**Sn**	**20 51 10.2**	**-0.9**
	comp=N,2.9nm,0.2s,SNR=8.0						
PCBR	**Castelo Branco**	**3.25**	**4**	*e*Pn	**Pn**	**20 50 35.8**	**+0.8**
PCBR				*e*Sn	**Sn**	**20 51 12.4**	**0.0**
PCBR				A		20 51 14.0	
	comp=N,29nm,0.1s						
PCBR	**Castelo Branco**	**3.25**	**4**	⇓P	**Pn**	**20 50 35.8**	**+0.8**
PCBR				S	**Sn**	**20 51 12.4**	**0.0**
	comp=N,15nm,0.1s						
AVE	**Averroes**	**3.30**	**175**	P	**Pn**	**20 50 33.0**	**-2.7**
AVE				S	**Sn**	**20 51 08.0**	**-5.7**
TGT	**Taghat**	**3.34**	**138**	*e*P	**Pn**	**20 50 35.0**	**-1.3**
TGT				*i* S	**Sn**	**20 51 12.0**	**-2.8**
EGUA	**Guajares**	**3.37**	**85**	P	**Pn**	**20 50 37.5**	**+0.9**
EGUA				S	**Sn**	**20 51 17.0**	**+1.5**
EGUA	**Guajares**	**3.37**	**85**	P	**Pn**	**20 50 37.5**	**+0.8**
	comp=N,1.2nm,0.2s,SNR=7.9						
EGUA				S	**Sn**	**20 51 15.5**	**+0.1**
	comp=N,2.7nm,0.1s,SNR=7.9						
EGUA	**Guajares**	**3.37**	**85**	P	**Pn**	**20 50 37.5**	**+0.8**
	comp=N,1.2nm,0.2s,SNR=7.9						
EGUA				S	**Sn**	**20 51 17.0**	**+1.6**
	comp=N,2.7nm,0.1s,SNR=7.9						
ECOG	**Cogollos-Vega**	**3.42**	**77**	P	**Pn**	**20 50 39.6**	**+2.2**
	comp=N,4.2nm,0.2s,SNR=7.7						
ECOG				S	**Sn**	**20 51 18.1**	**+1.5**
	comp=N,4.7nm,0.2s,SNR=11						
EQUE	**Quentar**	**3.51**	**79**	P	**Pn**	**20 50 40.5**	**+1.9**
	comp=N,1.5nm,0.1s,SNR=22						
EQUE				S	**Sn**	**20 51 18.9**	**+0.1**
	comp=N,12nm,0.2s,SNR=6.7						
EQUE	**Quentar**	**3.51**	**79**	P	**Pn**	**20 50 40.5**	**+2.0**
	comp=N,1.5nm,0.1s,SNR=22						
EQUE				S	**Sn**	**20 51 19.8**	**+1.0**
	comp=N,12nm,0.2s,SNR=6.7						
EBAN	**Banos Encina**	**3.53**	**62**	P	**Pn**	**20 50 39.2**	**+0.4**
	comp=N,2.3nm,0.1s,SNR=24						
EBAN				S	**Sn**	**20 51 18.7**	**-0.5**
	comp=N,9.3nm,0.1s,SNR=8.1						
IFR	**Ifrane**	**3.75**	**144**	P	**Pn**	**20 50 38.0**	**-3.8**
MIF	**Mishlifen**	**3.79**	**146**	*i* P	**Pn**	**20 50 40.5**	**-1.9**
MIF				*i* S	**Sn**	**20 51 21.0**	**-4.7**
MTE	**Manteigas**	**3.81**	**2**	*i* Pn	**Pn**	**20 50 43.4**	**+0.8**
MTE				*e*Sn	**Sn**	**20 51 25.7**	**-0.3**
MTE				A		20 51 29.5	
	comp=N,41nm,0.4s						
MTE	**Manteigas**	**3.81**	**2**	P	**Pn**	**20 50 43.3**	**+0.7**
MTE				*e*Sn	**Sn**	**20 51 25.7**	**-0.3**
	comp=N,41nm,0.4s						
TZK	**Tazeka**	**3.84**	**130**	*i* P	**Pn**	**20 50 41.0**	**-2.1**
TZK				*i* S	**Sn**	**20 51 23.0**	**-3.9**
EALB	**Alboran**	**3.87**	**98**	S	**Sn**	**20 51 25.6**	**-1.9**
	comp=N,8.5nm,0.2s,SNR=7.9						
EALB	**Alboran**	**3.87**	**98**	S	**Sn**	**20 51 25.6**	**-2.0**
	comp=N,8.5nm,0.2s,SNR=7.9						
EBER	**Berja**	**3.92**	**84**	P	**Pn**	**20 50 45.2**	**+1.1**
EBER				S	**Sn**	**20 51 30.1**	**+1.3**
EBER	**Berja**	**3.92**	**84**	P	**Pn**	**20 50 45.2**	**+1.1**
	comp=N,0.4nm,0.2s,SNR=8.2						
EBER				S	**Sn**	**20 51 29.2**	**+0.4**
	comp=N,4.3nm,0.2s						
EBER	**Berja**	**3.92**	**84**	P	**Pn**	**20 50 45.2**	**+1.1**
	comp=N,0.4nm,0.2s,SNR=8.2						
EBER				S	**Sn**	**20 51 30.1**	**+1.3**
	comp=N,4.3nm,0.2s						
EQES	**Quesada**	**3.93**	**71**	P	**Pn**	**20 50 45.9**	**+1.6**
EQES				S	**Sn**	**20 51 30.4**	**+1.4**
EQES	**Quesada**	**3.93**	**71**	P	**Pn**	**20 50 45.9**	**+1.6**
	comp=N,2.8nm,0.1s,SNR=46						
EQES				S	**Sn**	**20 51 29.2**	**+0.2**
	comp=N,5.5nm,0.1s,SNR=6.0						
EQES	**Quesada**	**3.93**	**71**	P	**Pn**	**20 50 45.9**	**+1.6**
	comp=N,2.8nm,0.1s,SNR=46						
EQES				S	**Sn**	**20 51 30.4**	**+1.4**
	comp=N,5.5nm,0.1s,SNR=6.0						
PVIS	**Viseu**	**4.12**	**358**	*e*Pn	**Pn**	**20 50 47.6**	**+0.7**
PVIS				*e*Sn	**Sn**	**20 51 33.0**	**-0.7**
CZD	**Col de Zad**	**4.19**	**147**	*i* P	**Pn**	**20 50 46.0**	**-1.9**
CZD				*i* S	**Sn**	**20 51 30.0**	**-5.6**
ESDC	**Sonseca Array**	**4.29**	**43**	P	**Pn**	**20 50 50.2**	**+1.0**
	comp=N,3.7nm,0.1s,baz=228,slow=13,SNR=26						
ESDC				S	**Sn**	**20 51 35.5**	**-2.4**
	comp=N,11nm,0.2s,baz=228,slow=23,SNR=15						
ESDC	**Sonseca Array**	**4.29**	**43**	P	**Pn**	**20 50 50.2**	**+1.0**
	comp=N,3.7nm,0.1s,SNR=26						
ENIJ	**Nijar**	**4.47**	**83**	S	**Sn**	**20 51 41.9**	**-0.4**
	comp=N,2.3nm,0.3s,SNR=7.9						
ENIJ	**Nijar**	**4.47**	**83**	S	**Sn**	**20 51 43.1**	**+0.8**
	comp=N,2.3nm,0.3s,SNR=7.9						
PTO	**Porto**	**4.59**	**352**	*e*Pn	**Pn**	**20 50 54.1**	**+0.8**
PTO				*e*Sn	**Sn**	**20 51 43.2**	**-2.1**
MVO	**Moncorvo**	**4.60**	**7**	*e*Pn	**Pn**	**20 50 54.2**	**+0.7**
MVO				*e*Sn	**Sn**	**20 51 44.1**	**-1.5**
MVO				A		20 51 46.8	
	comp=N,40nm,0.2s						
MVO	**Moncorvo**	**4.60**	**7**	P	**Pn**	**20 50 54.1**	**+0.6**
MVO				S	**Sn**	**20 51 44.1**	**-1.5**
EVIA	**Vianos**	**4.64**	**62**	P	**Pn**	**20 50 54.4**	**+0.4**
	comp=N,1.9nm,0.1s,SNR=12						
EVIA				S	**Sn**	**20 51 45.7**	**-0.8**
	comp=N,4.1nm,0.1s,SNR=6.1						
PVRL	**Vila Real**	**4.68**	**0**	*e*Pn	**Pn**	**20 50 55.1**	**+0.6**
PVRL				*e*Sn	**Sn**	**20 51 45.7**	**-1.7**
PVRL				A		20 51 49.0	
	comp=N,39nm,0.1s						
PVRL	**Vila Real**	**4.68**	**0**	P	**Pn**	**20 50 55.1**	**+0.6**
PVRL				S	**Sn**	**20 51 45.7**	**-1.7**
	comp=N,20nm,0.1s						
GUD	**Guadarrama**	**4.93**	**34**	P	**Pn**	**20 50 59.0**	**+1.0**
	comp=N,4.2nm,0.2s,SNR=7.9						
GUD				S	**Sn**	**20 51 53.2**	**-0.5**
	comp=N,13nm,0.3s,SNR=7.9						
CIA	**Chichaoua**	**5.08**	**190**	*i* P	**Pn**	**20 50 55.5**	**-4.7**
CIA				*i* S	**Sn**	**20 51 49.5**	**-8.1**
PCAB	**Cabril**	**5.12**	**358**	*e*Pn	**Pn**	**20 51 01.3**	**+0.8**
PCAB				*e*Sn	**Sn**	**20 51 56.3**	**-1.9**
PCAB				A		20 51 59.8	
	comp=N,12nm,0.2s						
PCAB	**Cabril**	**5.12**	**358**	P	**Pn**	**20 51 01.3**	**+0.8**
PCAB				S	**Sn**	**20 51 56.3**	**-1.9**
	comp=N,5.8nm,0.2s						
PBRG	**Braganca**	**5.26**	**8**	*e*Pn	**Pn**	**20 51 03.4**	**+0.8**
PBRG				*e*Sn	**Sn**	**20 52 00.1**	**-1.8**
PBRG				A		20 52 02.9	
	comp=N,14nm,0.2s						
PBRG	**Braganca**	**5.26**	**8**	P	**Pn**	**20 51 03.4**	**+0.8**
PBRG				S	**Sn**	**20 52 00.1**	**-1.8**
	comp=N,7.2nm,0.2s						
ELOB	**Lobios**	**5.27**	**357**	P	**Pn**	**20 51 03.3**	**+0.6**
	comp=N,3.4nm,0.1s,SNR=77						
ELOB				S	**Sn**	**20 52 00.5**	**-1.6**
	comp=N,5.9nm,0.1s,SNR=7.6						
ELOB	**Lobios**	**5.27**	**357**	P	**Pn**	**20 51 03.3**	**+0.6**
	comp=N,3.4nm,0.1s,SNR=77						
ELOB				S	**Sn**	**20 52 00.5**	**-1.6**
	comp=N,5.9nm,0.1s,SNR=7.6						
ETOB	**Tobarra**	**5.33**	**66**	P	**Pn**	**20 51 03.6**	**+0.1**
	comp=N,1.3nm,0.1s,SNR=39						
ETOB				S	**Sn**	**20 52 02.0**	**-1.6**
	comp=N,2.5nm,0.1s,SNR=5.1						
ETOB	**Tobarra**	**5.33**	**66**	P	**Pn**	**20 51 03.6**	**+0.1**
	comp=N,1.3nm,0.1s,SNR=39						
EMUR	**La Murta**	**5.34**	**75**	P	**Pn**	**20 51 05.4**	**+1.8**
EMUR				S	**Sn**	**20 52 03.0**	**-0.9**
EMUR	**La Murta**	**5.34**	**75**	P	**Pn**	**20 51 05.4**	**+1.8**
	comp=N,3.5nm,0.3s,SNR=8.3						
EMUR				S	**Sn**	**20 52 03.0**	**-0.9**
	comp=N,3.2nm,0.2s,SNR=7.3						
EMUR	**La Murta**	**5.34**	**75**	P	**Pn**	**20 51 05.4**	**+1.7**
	comp=N,3.5nm,0.3s,SNR=8.3						
EMUR				S	**Sn**	**20 52 03.0**	**-0.9**
	comp=N,3.2nm,0.2s,SNR=7.3						
ZFT	**Errachidia**	**5.35**	**147**	*i* P	**Pn**	**20 51 02.0**	**-1.8**
ZFT				*i* S	**Sn**	**20 51 59.0**	**-5.0**
ECAL	**Calabor**	**5.40**	**8**	⇑P	**Pn**	**20 51 05.3**	**+0.9**
	comp=N,5.8nm,0.1s,SNR=18						
ECAL				S	**Sn**	**20 52 03.4**	**-1.8**
	comp=N,18nm,0.2s,SNR=15						
ECAL	**Calabor**	**5.40**	**8**	P	**Pn**	**20 51 05.3**	**+0.9**
	comp=N,5.8nm,0.1s,SNR=18						
ECHE	**Chera**	**6.13**	**59**	S	**Sn**	**20 52 20.9**	**-2.2**
	comp=N,0.8nm,0.2s,SNR=7.9						
ECHE	**Chera**	**6.13**	**59**	S	**Sn**	**20 52 23.1**	**-0.1**
	comp=N,0.8nm,0.2s,SNR=7.9						
ETOR	**Torete**	**6.13**	**45**	P	**Pn**	**20 51 15.9**	**+1.4**
	comp=N,4.0nm,0.2s,SNR=12						
ETOR				S	**Sn**	**20 52 20.5**	**-2.7**
	comp=N,36nm,0.3s,SNR=7.9						
STS	**Santiago**	**6.32**	**355**	P	**Pn**	**20 51 17.8**	**+0.8**
	comp=N,11nm,0.1s,SNR=6.4						

comp=N,7.2nm,0.4s
SJPF Ste Jean 8.22 36 P **Pn 20 51 44.5 +1.5**
SJPF S **Sn 20 53 10.9 -3.5**
comp=N,3.6nm,0.4s
EBIE Bielsa 8.61 43 P **Pn 20 51 50.2 +1.9**
comp=N,0.5nm,0.1s,SNR=5.9
EBIE S **Sn 20 53 20.6 -3.3**
comp=N,1.9nm,0.4s,SNR=7.9
EBIE Bielsa 8.61 43 P **Pn 20 51 50.2 +1.9**
EPF Esparros 8.95 42 *e*Pn **Pn 20 51 55.3 +2.3**
EPF *e*Sn **Sn 20 53 28.9 -3.3**
comp=N,3.8nm,0.2s
EPF Esparros 8.95 42 P **Pn 20 51 55.3 +2.3**
EPF S **Sn 20 53 28.9 -3.3**
comp=N,1.9nm,0.2s
MTLF Montolieu 10.19 46 *e*Pn **Pn 20 52 11.0 +1.0**
LFF La Frestale 10.53 35 *e*Pn **Pn 20 52 14.7 +0.1**
CAF Calviac 11.16 39 *e*Pn **Pn 20 52 23.6 +0.4**
CAF *e*Sn **Sn 20 54 19.3 -7.0**
comp=N,1.6nm,0.3s
CAF Calviac 11.16 39 *e*Pn **Pn 20 52 23.6 +0.4**
CAF *e*Sn **Sn 20 54 19.3 -7.0**
comp=N,0.8nm,0.3s
MFF Saint Martin d 11.50 27 *e*Pn **Pn 20 52 28.7 +0.8**
LASF Ste Croix 11.58 46 *e*Pn **Pn 20 52 29.8 +0.8**
QUIF Quistinic 11.81 15 *e*Pn **Pn 20 52 31.4 -0.7**
ROSF Rostrenen 12.19 14 *e*Pn **Pn 20 52 37.6 +0.4**
TCF Toulx Ste Croi 12.22 35 *e*Pn **Pn 20 52 38.4 +0.7**
SGMF Saint Gilles 12.27 17 *e*Pn **Pn 20 52 37.2 -1.1**
BGF Bois d'Agland 12.72 35 *e*Pn **Pn 20 52 44.8 +0.3**
LDF La Druitiere 13.23 23 *e*Pn **Pn 20 52 51.2 -0.3**
FLN La Foliniere 13.28 21 *e*Pn **Pn 20 52 52.4 +0.3**

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*ISCJB **15** 21:11:24.9±0.5, 3827N±002×2159E±003, h0km±5km, Error ellipse: s-maj=4.1km s-min=3.8km az=177.1*
*NEIC **15** 21:11:25.9, 3828N×2166E, h21km, MD3.7(ATH), After ATH.*
*ATH **15** 21:11:25.9, 3828N×2166E, h21km±2km, MD3.7/9*
*CSEM **15** 21:11:26.1±0.1, 3830N×2160E, h2km, ML3.6, Error ellipse: s-maj=1.7km s-min=1.2km az=20.0*
*THE **15** 21:11:26.3, 3825N×2160E, h3km, ML3.6*
ISC 15 21:11:26.1±0.4,**3827N**±002×**2160E**±003,**h8**km±4km,**n25,** σ1⇧**30**/37,**2C, Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SELA	**Sela**	**0.23**	**89**	*e*Pg	**Pg**	**21 11 31.2**	**+0.4**
SELA				*e*Sg	**Sg**	**21 11 34.9**	**+1.0**
RLS	**Riolos of Patr**	**0.24**	**206**	⇑*i*PB	**Pg**	**21 11 32.1**	**+1.3**
RLS				*e*SB	**Sg**	**21 11 37.0**	**+3.0**
KFL	**Anninata**	**0.66**	**256**	*e*Pg	**Pg**	**21 11 38.6**	**-0.1**
KFL				*e*Sg	**Sg**	**21 11 48.8**	**+1.4**
EVR	**Evrytania**	**0.67**	**14**	*e*PN	**Pg**	**21 11 39.1**	**+0.2**
VLS	**Valsamata**	**0.80**	**264**	*e*PN	**Pn**	**21 11 41.2**	**-2.4**
VLS				*e*SN	**Sn**	**21 11 55.0**	**-0.6**
LKD	**Levkas**	**0.86**	**301**	*e*Pg	**Pg**	**21 11 41.8**	**-0.8**
AGG	**Agios Georgios**	**0.94**	**37**	*e*Pg	**Pg**	**21 11 43.2**	**-1.0**
AGG				*e*Sg	**Sg**	**21 11 57.8**	**+1.3**
VLX	**Vlachokerasia**	**1.09**	**145**	*e*Pg	**Pg**	**21 11 45.5**	**-1.5**
VLX				*e*Sg	**Sg**	**21 12 01.5**	**+0.3**
LTK	**Loutraki**	**1.11**	**102**	*e*Pg	**Pg**	**21 11 46.8**	**-0.6**
LTK				*e*Sg	**Sg**	**21 12 01.9**	**+0.2**
ITM	**Ithomi**	**1.12**	**166**	*e*PB	**Pb**	**21 11 46.5**	**-1.1**
ITM				*e*SN	**Sn**	**21 12 03.2**	**-0.3**
LKR	**Lokris**	**1.16**	**71**	*e*PN	**Pn**	**21 11 46.9**	**-1.7**
THL	**Klokotos Trika**	**1.33**	**14**	*e*PN	**Pn**	**21 11 51.3**	**+0.4**
THL				*e*SN	**Sn**	**21 12 09.7**	**+0.9**
PYL	**PYLOS**	**1.38**	**175**	*e*Pg	**Pg**	**21 11 50.9**	**-1.6**
JAN	**Janina**	**1.50**	**337**	*e*PN	**Pn**	**21 11 53.8**	**+0.6**
DID	**Didima**	**1.50**	**120**	*e*Pg	**Pg**	**21 11 52.4**	**-2.5**
DID				*e*Sg	**Sg**	**21 12 15.1**	**+0.7**
IGT	**Igoumenitsa**	**1.60**	**322**	*e*Pg	**Pg**	**21 11 54.7**	**-2.1**
VLI	**Veliai**	**1.88**	**145**	*e*PN	**Pn**	**21 11 59.5**	**+1.1**
LIT	**Litokhoron**	**1.95**	**20**	*e*Pb	**Pb**	**21 12 00.5**	**-1.3**
KEK	**Kerkira**	**2.01**	**316**	⇑*i*PN	**Pn**	**21 12 01.3**	**+1.1**
KZN	**Kozani**	**2.04**	**4**	*e*PB	**Pb**	**21 12 01.0**	**-2.3**
FNA	**Florina**	**2.52**	**356**	*e*Pn	**Pn**	**21 12 08.9**	**+1.8**
PLG	**Polygyros**	**2.54**	**34**	*e*PN	**Pn**	**21 12 07.3**	**-0.2**
KRUS	**Krusevo**	**3.11**	**355**	*e*Pn	**Pn**	**21 12 16.6**	**+1.4**
KRUS				*e*Sn	**Sn**	**21 12 56.1**	**+3.6**
KRUS	**Krusevo**	**3.11**	**355**	*e*Pn	**Pn**	**21 12 16.6**	**+1.3**
KRUS				*e*Sn	**Sn**	**21 12 56.1**	**+3.6**
KARN	**Karanos**	**3.42**	**146**	*e*Pn	**Pn**	**21 12 22.0**	**+2.4**

IDC 15 21:22:15.7±7.2,**1925S×6867W, h159**km±46km,**mb3.1**/1, **mb1 3.1**/3,**mb1mx2.9**/19,**mbtmp2.9**/3,**Error ellipse: s-maj=81.8km s-min=33.2km az=35.0, Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**2.99**	**10**	P	Pn	21 23 04.7	+1.4
	0.5nm,0.3s,baz=196,slow=7.0,SNR=13						
LPAZ				S	Sn	21 23 41.6	+1.5
	0.4nm,0.3s,baz=182,slow=9.3,SNR=4.0						
SIV	**San Ignacio**	**7.93**	**67**	P	Pn	21 24 07.0	-1.2
	0.6nm,0.3s,baz=262,slow=9.7,SNR=10						
TORD	**Torodi Ar. Bea**	**76.39**	**71**	P	P	21 33 48.6	+0.6
	0.2nm,0.3s,baz=252,slow=5.0,SNR=8.7						
YKA	**Yellowknife Ar**	**89.15**	**341**	P	P	21 34 51.9	-0.7
	0.3nm,0.7s,baz=126,slow=4.2,SNR=6.0						

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*NEIC **15** 21:36:38.3, 1782N×10003W, h68km, MD3.6(MEX), After MEX.*
MEX 15 21:36:38.6±0.8,**1785N×10012W, h57**km±10km,**MD3.8, Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MEIG	**Mezcala**	**0.48**	**80**	*i* P	Pn	21 36 48.6	-1.5
MEIG				*i* S	Sn	21 36 56.5	-1.9
PLIG	**Platanillo**	**0.80**	**47**	*i* P	Pn	21 36 53.0	-0.8
PLIG				*i* S	Sn	21 37 04.4	-0.7
CAIG	**El Cayaco**	**0.81**	**190**	*i* P	Pn	21 36 52.4	-1.6
CAIG				*i* S	Sn	21 37 03.8	-1.6
ACX	**Acapulco**	**0.99**	**169**	*i* P	Pn	21 36 54.8	-1.7
ACX				*i* S	Sn	21 37 08.2	-1.4
MZVM		**1.58**	**32**	*e*P	Pn	21 37 02.6	-1.6
MZVM				*i* S	Sn	21 37 21.9	-1.8
PPM	**Popocatepetl**	**1.86**	**49**	*i* P	Pn	21 36 59.4	-8.7
PPM				*i* S	Sn	21 37 27.6	-3.0
PPM	**Popocatepetl**	**1.86**	**49**	*i* P	Pn	21 37 06.6	-1.5
PPM				*i* S	Sn	21 37 29.2	-1.4
PTVM	**Pico Tres Padr**	**1.98**	**29**	*e*P	Pn	21 37 08.9	-0.8
PTVM				*i* S	Sn	21 37 32.4	-1.1
IIO	**Organos**	**2.18**	**37**	*e*P	Pn	21 37 10.3	-2.2
IIO				*i* S	Sn	21 37 37.9	-0.5
UTMO	**Huajuapan**	**2.20**	**90**	*e*P	Pn	21 37 13.0	+0.3
UTMO				*i* S	Sn	21 37 37.8	-1.1
VHO	**Vista Hermosa**	**3.32**	**103**	*i* S	Sn	21 38 01.3	-5.0
VHO	**Vista Hermosa**	**3.32**	**103**	*e*P	Pn	21 37 29.2	+1.1
VHO				*i* S	Sn	21 38 03.3	-3.0

IDC 15 21:44:12.6±1.6,**5014S×11226E, h0**km,**mb3.8**/5, **mb1 4.0**/5,**mb1mx3.9**/14,**mbtmp3.8**/5,**Error ellipse: s-maj=80.2km s-min=19.4km az=109.0, Southeast Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**31.36**	**41**	P	P	21 50 35.0	+0.1
	0.8nm,0.8s,baz=207,slow=7.9,SNR=6.6						
VNDA	**Vanda**	**33.08**	**162**	P	P	21 50 49.3	-0.2
	1.7nm,0.7s,baz=291,slow=12,SNR=2.5						
WRA	**Warramunga Arr**	**34.87**	**38**	P	P	21 51 06.3	+0.8
	0.6nm,0.6s,baz=202,slow=8.7,SNR=8.5						
QSPA	**South Pole Qui**	**39.98**	**180**	P	P	21 51 48.4	+0.2
	1.6nm,0.7s,baz=223,slow=0.8,SNR=12						
SNAA	**Sanae**	**50.22**	**202**	P	P	21 53 09.8	+0.1
	0.9nm,0.8s,baz=191,slow=2.3,SNR=4.9						
TXAR	**Lajitas Array**	**145.90**	**114**	PKPbc	PKPbc	22 03 54.2	+0.6
	0.3nm,0.6s,baz=198,slow=6.4,SNR=4.8						
YKA	**Yellowknife Ar**	**151.92**	**46**	PKPbc	PKPbc	22 04 08.4	+0.3
	0.5nm,0.6s,baz=275,slow=1.9,SNR=14						
YKA				PKPab	PKPab	22 04 14.8	-2.7
	0.6nm,0.7s,baz=283,slow=2.0,SNR=12						

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*ISCJB **15** 21:47:37.5±1.1, 504S±02×1130E±06, h10km, mb4.1/6, MS3.7/8, Error ellipse: s-maj=56.3km s-min=13.5km az=19.9*
*IDC **15** 21:47:37.5±1.4, 5032S×11272E, h0km, mb4.1/6, mb1 4.3/6, mb1mx4.0/14, mbtmp4.1/6, MS3.8/9, Ms1 3.8/9, ms1mx3.6/24, Error ellipse: s-maj=73.1km s-min=17.9km az=108.0*
ISC 15 21:47:39.6±1.1,**504S**±02×**1130E**±06,**h10**km,**n18,** σ0⇧**46**/8, **mb4.1**/6,**MS3.7**/8,**Southeast Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NWAO	**Narrogin (SRO)**	**17.70**	**12**	LR	LR	21 56 50.1	
	comp=Z,383nm,21.6s,baz=3.5,slow=31						
STKA	**Stephens Creek**	**28.11**	**60**	LR	LR	22 02 42.3	
	comp=Z,90nm,20.7s,MS3.3,baz=207,slow=32						
MAW	**Mawson**	**29.92**	**216**	LR	LR	22 02 09.5	
	comp=Z,179nm,20.4s,MS3.7,baz=165,slow=29						
ASAR	**Alice Springs**	**31.23**	**39**	P	**P**	**21 53 58.9**	**-0.3**
	1.1nm,0.8s,mb3.8,baz=211,slow=7.9,SNR=7.5						
VNDA	**Vanda**	**32.73**	**162**	P	**P**	**21 54 11.8**	**0.0**
	2.3nm,0.8s,mb4.2,baz=289,slow=8.0,SNR=11						
VNDA				LR	LR	22 06 41.6	
	comp=Z,221nm,19.4s,MS3.9,baz=334,slow=35						
FITZ	**Fitzroy Crossi**	**33.74**	**22**	P	**P**	**21 54 21.4**	**+0.3**
	6.9nm,1.0s,mb4.6,baz=181,slow=12,SNR=4.6						
FITZ				LR	LR	22 06 12.5	
	comp=Z,150nm,18.4s,MS3.8,baz=230,slow=33						
WRA	**Warramunga Arr**	**34.75**	**37**	P	**P**	**21 54 29.9**	**-0.1**
	2.6nm,1.1s,mb4.1,baz=204,slow=11,SNR=6.7						
QSPA	**South Pole Qui**	**39.77**	**180**	P	**P**	**21 55 12.2**	**+0.3**
	2.8nm,0.8s,mb4.1,baz=327,slow=3.4,SNR=11						
QSPA				LR	LR	22 10 56.0	
	comp=Z,162nm,18.6s,MS3.9,baz=156,slow=35						
CTA	**Charters Tower**	**40.04**	**53**	LR	LR	22 10 51.5	
	comp=Z,140nm,20.5s,MS3.8,baz=223,slow=35						
SNAA	**Sanae**	**50.19**	**202**	P	**P**	**21 56 33.9**	**-0.9**
	1.5nm,0.8s,mb4.1,baz=146,slow=7.2,SNR=8.0						
VNA2	**Neumayer--Watz**	**51.78**	**201**	*e*	**P**	**21 56 52.4**	**+5.7**
	baz=99,slow=7.0						
VNA2				*e*		21 56 58.6	
VNA3	**Neumayer Olymp**	**52.06**	**200**	*e*	**P**	**21 56 49.5**	**+0.6**
VNA3				*e*		21 56 55.2	
PSI	**Prapat**	**54.32**	**343**	LR	LR	22 16 18.3	
	comp=Z,126nm,18.4s,MS4.0,baz=204,slow=32						
GUMO	**Guam**	**69.54**	**33**	LR	LR	22 29 13.0	
	comp=Z,28nm,18.4s,MS3.5,baz=219,slow=36						
TXAR	**Lajitas Array**	**145.38**	**113**	PKPbc	PKPbc	22 07 16.6	-0.7
	1.5nm,1.0s,baz=193,slow=4.9,SNR=6.8						
ANMO	**Albuquerque**	**147.59**	**103**	PKPbc	PKPbc	22 07 24.5	+0.9
	1.4nm,0.9s,baz=180,slow=6.1,SNR=3.1						
PDAR	**Pinedale Array**	**150.12**	**88**	PKPbc	PKPbc	22 07 30.1	+0.4
	0.9nm,0.8s,baz=250,slow=3.0,SNR=6.4						
YKA	**Yellowknife Ar**	**151.73**	**46**	PKPbc	PKPbc	22 07 32.1	-0.8
	0.9nm,0.7s,baz=284,slow=2.1,SNR=13						

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*MAN **15** 21:52:39, 688N×12647E, h19km, mb4.4, ML3.2, MS3.1*
IDC 15 21:52:39.2±13.0,**538N×12667E, h0**km,**mb3.8**/5, **mb1 3.9**/5,**mb1mx3.6**/18,**mbtmp3.8**/5,**Error ellipse: s-maj=220.2km s-min=77.0km az=172.0, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**23.35**	**182**	P	P	21 57 50.2	+0.7
	1.2nm,0.4s,baz=360,slow=3.5,SNR=2.9						
WRA	**Warramunga Arr**	**26.27**	**164**	P	P	21 58 16.3	0.0
	0.5nm,0.6s,baz=343,slow=11,SNR=14						
ASAR	**Alice Springs**	**29.72**	**167**	P	P	21 58 47.1	-0.1
	0.3nm,0.4s,baz=338,slow=6.6,SNR=8.3						
NWAO	**Narrogin (SRO)**	**39.13**	**193**	P	P	22 00 08.4	-0.2
	8.9nm,1.0s,baz=32,slow=15,SNR=3.7						
STKA	**Stephens Creek**	**39.68**	**160**	P	P	22 00 12.8	-0.4
	0.4nm,0.3s,baz=336,slow=12,SNR=3.6						

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*ISCJB **15** 21:53:47.0±1.1, 503S±02×1126E±06, h10km, mb3.9/6, Error ellipse: s-maj=57.3km s-min=13.7km az=20.3*
*IDC **15** 21:53:47.6±1.4, 5028S×11276E, h0km, mb3.9/6, mb1 4.1/6, mb1mx3.9/14, mbtmp3.9/6, Error ellipse: s-maj=72.1km s-min=17.8km az=108.0*
ISC 15 21:53:49.1±1.1,**503S**±02×**1126E**±06,**h10**km,**n11,** σ0⇧**25**/8, **mb3.9**/6,**Southeast Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**31.30**	**40**	P	**P**	**22 00 09.0**	**-0.2**
	1.2nm,0.9s,mb3.7,baz=205,slow=9.6,SNR=6.8						
VNDA	**Vanda**	**32.90**	**162**	P	**P**	**22 00 22.9**	**+0.1**
	1.9nm,1.0s,mb4.0,baz=283,slow=10,SNR=7.5						
FITZ	**Fitzroy Crossi**	**33.73**	**23**	P	**P**	**22 00 31.0**	**+0.5**
	4.9nm,0.9s,mb4.4,baz=184,slow=9.4,SNR=6.1						
WRA	**Warramunga Arr**	**34.81**	**38**	P	**P**	**22 00 39.7**	**-0.3**
	2.2nm,0.9s,mb4.1,baz=203,slow=8.3,SNR=6.6						
QSPA	**South Pole Qui**	**39.88**	**180**	P	**P**	**22 01 22.4**	**+0.2**
	1.3nm,0.7s,mb3.8,baz=309,slow=2.7,SNR=15						
SNAA	**Sanae**	**50.20**	**202**	P	**P**	**22 02 44.4**	**0.0**
	0.4nm,0.7s,mb3.6,baz=139,slow=20,SNR=4.8						
VNA2	**Neumayer--Watz**	**51.79**	**201**	*e*	**P**	**22 03 02.7**	**+6.4**
	baz=184,slow=3.6						
VNA2				*e*	pP	22 03 07.1	+7.6
VNA2				*e*		22 03 12.2	
VNA3	**Neumayer Olymp**	**52.08**	**200**	*e*	**P**	**22 02 58.2**	**-0.3**
VNA3				*e*	pP	22 03 02.3	+0.7
VNA3				*e*		22 03 07.0	
TXAR	**Lajitas Array**	**145.64**	**114**	PKPbc	PKPbc	22 13 26.5	-1.1
	0.8nm,0.9s,baz=213,slow=3.6,SNR=4.7						
ANMO	**Albuquerque**	**147.84**	**103**	PKPbc	PKPbc	22 13 32.9	-0.9
	1.0nm,0.8s,baz=243,slow=6.8,SNR=2.3						
YKA	**Yellowknife Ar**	**151.82**	**46**	PKPbc	PKPbc	22 13 42.3	-0.3
	0.4nm,0.6s,baz=282,slow=1.9,SNR=8.1						

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*TIF **15** 22:07:08.6, 4284N×4545E, h12km±1km*
*MOS **15** 22:07:09.5±1.1, 4289N×4546E, h22km, mb3.7/1, Error ellipse: s-maj=14.4km s-min=7.8km az=20.5*
*CSEM **15** 22:07:09.5, 4289N×4546E, h22km, mb3.7, After OBN*
*ISCJB **15** 22:07:10.2±0.4, 4287N±003×4548E±003, h20km±7km, Error ellipse: s-maj=5.1km s-min=3.6km az=11.2*
ISC 15 22:07:09.2±0.4,**4284N**±003×**4547E**±002,**h1**km±8km,**n24,** σ1⇧**08**/46,**Eastern Caucasus**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNJR	**Sundja**	**0.54**	**296**	*i* Pg	**Pg**	**22 07 19.1**	**-0.4**
SNJR				*e*Sg	**Sg**	**22 07 27.4**	**+0.9**
VLKR	**Vladikavkaz**	**0.62**	**290**	*e*Pg	**Pg**	**22 07 20.6**	**-0.5**
VLKR				*e*Sg	**Sg**	**22 07 30.0**	**+0.9**
BTKR	**Batakoyurt**	**0.87**	**308**	*e*Pg	**Pg**	**22 07 25.8**	**0.0**
BTKR				*e*Sg	**Sg**	**22 07 38.6**	**+1.6**
LACR	**Lac**	**0.87**	**270**	*i* Pg	**Pg**	**22 07 25.0**	**-0.8**
LACR				*e*Sg	**Sg**	**22 07 37.3**	**+0.3**
ARNR	**Ardon**	**0.94**	**292**	*e*Pg	**Pg**	**22 07 26.7**	**-0.6**
ARNR				*e*Sg	**Sg**	**22 07 40.3**	**+0.8**
DBC	**Dubki**	**1.01**	**79**	*e*PG	**Pg**	**22 07 27.0**	**-1.6**
KMSR	**Komsomolskaya**	**1.01**	**302**	*e*Pg	**Pg**	**22 07 28.2**	**-0.5**
KMSR				*e*Sg	**Sg**	**22 07 43.0**	**+1.2**
TRKR	**Terskaya**	**1.04**	**329**	*i* Pg	**Pg**	**22 07 29.0**	**-0.1**
TRKR				*e*Sg	**Sg**	**22 07 44.4**	**+1.9**
KRNR	**Karanay**	**1.05**	**90**	*e*PG	**Pg**	**22 07 28.2**	**-1.2**
KRNR				*e*S	**Sg**	**22 07 44.0**	**+0.9**
KRNR				pmax	pmax		
	comp=Z,57nm,0.2s						
KRNR	**Karanay**	**1.05**	**90**	*e*Pg	**Pg**	**22 07 28.2**	**-1.2**
	comp=Z,57nm,0.2s						
KRNR				*e*Sg	**Sg**	**22 07 44.0**	**+0.9**
KORR	**Kora**	**1.06**	**284**	*e*Pg	**Pg**	**22 07 28.6**	**-0.9**
KORR				*e*Sg	**Sg**	**22 07 43.6**	**+0.3**
ZEI	**Tsey**	**1.16**	**267**	*i* Pg	**Pg**	**22 07 30.0**	**-1.4**
ZEI				*e*Sg	**Sg**	**22 07 46.0**	**-0.5**
BUJR	**Buynaksk**	**1.20**	**90**	*e*Pg	**Pg**	**22 07 30.5**	**-1.7**
BUJR				*e*Sg	**Sg**	**22 07 49.5**	**+1.7**
TBLG	**Delisi**	**1.23**	**206**	*e*Pg	**Pg**	**22 07 33.4**	**+0.6**
TBLG				*e*Sg	**Sg**	**22 07 50.5**	**+1.7**
TBLG	**Delisi**	**1.23**	**206**	P	**Pg**	**22 07 33.4**	**+0.6**
TBLG				S	**Sg**	**22 07 50.6**	**+1.8**
MTA	**Mtatsminda**	**1.25**	**204**	P	**Pg**	**22 07 32.3**	**-0.8**
MTA				S	**Sg**	**22 07 50.1**	**+0.7**
PRTR	**Priterechnaya**	**1.26**	**317**	*e*Pg	**Pg**	**22 07 32.1**	**-1.3**
PRTR				*e*Sg	**Sg**	**22 07 50.2**	**+0.5**
LSNR	**Lesken**	**1.29**	**290**	*i* Pg	**Pg**	**22 07 32.7**	**-1.2**
LSNR				*e*Sg	**Sg**	**22 07 50.8**	**+0.1**
GOR	**Gori**	**1.32**	**230**	P	**Pg**	**22 07 33.5**	**-1.0**
GOR				S	**Sg**	**22 07 52.8**	**+1.1**
DGRG	**David-gareji**	**1.39**	**183**	P	**Pn**	**22 07 35.9**	**+0.2**
DGRG				S	**Sg**	**22 07 57.4**	**+3.6**
DIGR	**Digorskoe uzhe**	**1.39**	**273**	*i* Pg	**Pg**	**22 07 33.9**	**-2.0**
DIGR				*i* Sg	**Sg**	**22 07 53.0**	**-0.9**
MAK	**Makhachkala**	**1.50**	**85**	*e*PG	**Pg**	**22 07 37.7**	**-0.2**
MAK				*i*		22 07 59.4	
MAK				pmax	pmax		
	comp=Z,51nm,0.4s						
MAK				smax			
	comp=N,192nm,0.4s						
MAK				smax			
	comp=E,252nm,0.5s						
MAK	**Makhachkala**	**1.50**	**85**	*e*Pg	**Pg**	**22 07 37.7**	**-0.2**
	comp=E,51nm,0.4s						
MAK				*i* Sg	**Sg**	**22 07 59.4**	**+2.1**
	comp=E,192nm,0.4s						
ONI	**Oni**	**1.51**	**261**	P	**Pn**	**22 07 36.1**	**-1.4**
ONI				S	**Sn**	**22 07 58.7**	**+0.9**

MAN 15 22:17:03, 1779N×12215E, h6km,**Luzon**

*LDG **15** 22:20:05.7±0.2, 3931N×7463E, h10km, Mb4.7/30, Ms4.0/8, Error ellipse: s-maj=9.2km s-min=3.0km az=151.0*
*IDC **15** 22:20:06.6±0.5, 3917N×7473E, h0km, mb4.5/21, mb1 4.6/25, mb1mx4.6/27, mbtmp4.5/25, ML4.2/4, MS4.0/18, Ms1 4.0/18, ms1mx3.9/27, Error ellipse: s-maj=14.7km s-min=10.4km az=27.0*
*NEIC **15** 22:20:09.6±2.1, 3926N×7477E, h16km±13km, mb4.8/66, MS4.4/9, Error ellipse: s-maj=5.9km s-min=3.7km az=219.0*
*NNC **15** 22:20:09.6±3.6, 3943N×7455E, h0km, mb5.1, mpv5.1, Error ellipse: s-maj=37.3km s-min=17.8km az=167.0*
*GCMT **15** 22:20:09.6±0.4, 3960N×7481E, h26km±1km, MW4.9/65, Moment Tensor Solution. s11,c12; s65,c101; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.06±.15; $M_{\theta\theta}$-2.52±.11; $M_{\phi\phi}$2.45±.11; $M_{r\theta}$-0.65±.23; $M_{\theta\phi}$-0.35±.09; $M_{\phi r}$-0.58±.21; Best double couple: $M_0$2.65500×10^{16} NP1:ϕ_s131.00000°, δ71.00000°, λ-179.00000°. NP2: ϕ_s41.00000°, δ89.00000°, λ-19.00000°. Principal axes: T 2.5910, Plg12.0000°, Azm88.0000°; N 0.1200, Plg71.0000°, Azm217.0000°; P -2.7190, Plg14.0000°, Azm355.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*ISCJB **15** 22:20:10.4±0.7, 3932N±002×7477E±002, h33km±5km, mb4.6/125, MS4.2/55 Error ellipse: s-maj=3.2km s-min=2.5km az=147.2*
*BJI **15** 22:20:10.8, 3954N×7477E, h32km, mB4.9, mb4.7, ML4.8, Ms4.5, Msz4.3*
*MOS **15** 22:20:11.6±1.2, 3945N×7475E, h39km, mb4.9/63, MS4.2/26, Error ellipse: s-maj=6.8km s-min=3.7km az=128.1*
*SZGRF **15** 22:20:29.3, 3991N×7225E, h33km, mb4.5, MS4.5, Kyrgyzstan*
ISC 15 22:20:12.7±0.7,**3936N**±002×**7479E**±002,**h34**km±5km, **h41**km±2.2km:**pP-P, n440,** σ1⇧**18**/469,**mb4.6**/125,**MS4.2**/55, **40C-28D, Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**0.93**	**80**	PG	**Pn**	**22 20 27.1**	**-2.2**
KSH				SG	**Sn**	**22 20 41.9**	**+0.5**
KSH				Smax			
	comp=N,107μm,0.7s						
KSH				Smax			
	comp=E,113μm,0.7s						
KZA	**Kyzart**	**2.74**	**7**	P	**Pn**	**22 20 56.3**	**+2.2**
	SNR=95						
UCH	**Uchtor**	**2.87**	**356**	⇓*i*Pn	**Pn**	**22 20 58.3**	**+2.4**
UCH				*e*Sn	**Sn**	**22 21 29.9**	**+0.7**
UCH	**Uchtor**	**2.87**	**356**	P	**Pn**	**22 20 58.5**	**+2.5**
	SNR=6118						
AML	**Almayashu**	**2.89**	**344**	⇓*i*Pn	**Pn**	**22 20 57.8**	**+1.6**
AML				*e*Sn	**Sn**	**22 21 30.4**	**+0.7**
AML	**Almayashu**	**2.89**	**344**	P	**Pn**	**22 20 58.2**	**+2.0**
	SNR=520						
ULHL	**Ulahol**	**3.08**	**20**	P	**Pn**	**22 21 01.0**	**+2.1**
	SNR=264						
AAK	**Ala-Archa**	**3.28**	**356**	P	**Pn**	**22 21 04.3**	**+2.7**
	SNR=1773						
KBK	**Karagaybulak**	**3.29**	**2**	P	**Pn**	**22 21 04.3**	**+2.6**
	SNR=1430						
EKS2	**Erkin-Say**	**3.38**	**347**	⇓*e*Pn	**Pn**	**22 21 04.5**	**+1.5**
EKS2				*e*Sn	**Sn**	**22 21 46.5**	**+4.6**
EKS2	**Erkin-Say**	**3.38**	**347**	P	**Pn**	**22 21 05.3**	**+2.3**
	SNR=657						
FRU	**Bishkek**	**3.47**	**358**	⇓*i*PN	**Pn**	**22 21 06.5**	**+2.3**
FRU				pmax	pmax		
	comp=Z,1μm,1.2s						
FRU				pmax	pmax		
	comp=Z,2μm,1.0s						
TKM2	**Tokmak 2**	**3.61**	**9**	⇓*i*Pn	**Pn**	**22 21 08.8**	**+2.7**
TKM2				*e*Sn	**Sn**	**22 21 47.0**	**-0.4**
TKM2	**Tokmak 2**	**3.61**	**9**	P	**Pn**	**22 21 08.8**	**+2.7**
	SNR=546						
CHMS	**Chumysh**	**3.63**	**360**	P	**Pn**	**22 21 08.9**	**+2.5**
	SNR=1171						
KNDC	**Almaty**	**4.19**	**22**	⇑Pn	**Pn**	**22 21 18.6**	**+4.6**
	comp=Z,139nm,0.5s						
KNDC				⇑Pg	**Pb**	**22 21

PTH			*ex*	x	22 24 41.2	
NDI	**New Delhi**	**10.84 169**	*e*P	**Pn**	**22 22 44.8**	**-0.6**
NDI			*ex*	x	22 24 43.0	
LGTI	**Lohaghat**	**10.86 154**	*e*P	**Pn**	**22 22 44.8**	**-0.9**
LGTI			*ex*	x	22 24 48.0	
AYAN	**Aya Nagar**	**11.02 169**	*e*P	**Pn**	**22 22 46.8**	**-1.1**
AYAN			AMb	AMB	22 22 49.4	
comp=Z,43nm,0.5s						
SONA	**Sohna**	**11.25 170**	*e*P	**Pn**	**22 22 50.1**	**-0.9**
SONA			AMb	AMB	22 22 51.1	
comp=Z,55nm,0.3s						
KUDL	**Kundal**	**11.28 172**	*e*P	**Pn**	**22 22 49.8**	**-1.5**
KUDL			AMb	AMB	22 22 58.1	
comp=Z,108nm,0.9s						
KURK	**Kurchatov**	**11.67 12**	⇑Pn	**Pn**	**22 22 56.3**	**-0.3**
comp=Z,18nm,1.1s						
KURK			⇑Lg		22 26 19.7	
comp=Z,607nm,1.7s						
KURK	**Kurchatov**	**11.67 12**	*e*Pn	**Pn**	**22 22 55.9**	**-0.7**
KURK	**Kurchatov**	**11.67 12**	⇑*e*P	**Pn**	**22 22 55.6**	**-1.0**
JASL	**Jaisalmer**	**12.82 196**	*e*P	**Pn**	**22 23 11.6**	**-0.9**
AJM	**Ajmer**	**12.85 181**	*e*P	**Pn**	**22 23 11.5**	**-1.3**
AJM			AMb	AMB	22 23 14.3	
comp=Z,54nm,0.5s						
AJM			*ex*	x	22 25 26.1	
VOSK	**Vostochnaya**	**13.62 350**	⇑Pn	**Pn**	**22 23 20.7**	**-2.5**
comp=Z,25nm,1.1s						
VOSK			⇑Lg		22 27 19.9	
comp=Z,155nm,1.3s						
GKN	**Gorkha**	**13.97 141**	*e*P	**Pn**	**22 23 25.0**	**-3.2**
comp=Z,90nm,0.6s						
GKN			*e*S	**Sn**	**22 25 55.1**	**-6.9**
BVA0	**Borovoye Array**	**14.00 349**	Pn	**Pn**	**22 23 26.5**	**-1.8**
comp=Z,6.8nm,0.8s,baz=163,slow=14,SNR=110						
BVA0			⇑Lg		22 27 31.9	
comp=Z,18nm,1.4s,baz=167,slow=26,SNR=3.6						
BVAR	**Borovoye Array**	**14.00 349**	Pn	**Pn**	**22 23 26.4**	**-1.9**
comp=Z,0.8nm,0.3s,baz=164,slow=14,SNR=29						
BVAR			Lg		22 27 27.3	
comp=Z,0.9nm,0.3s,baz=162,slow=24,SNR=5.5						
BVAR			LR	LR	22 29 27.3	
comp=Z,186nm,19.0s,baz=11,slow=40						
BRVK	**Borovoye**	**14.04 349**	*e*Pn	**Pn**	**22 23 27.4**	**-1.6**
ZRNK	**Zerenda**	**14.16 346**	⇓Pn	**Pn**	**22 23 27.9**	**-2.7**
comp=Z,20nm,0.8s						
ZRNK			⇑Lg		22 27 36.8	
comp=Z,175nm,1.4s						
KKN	**Kakani**	**14.47 140**	*e*P	**Pn**	**22 23 31.2**	**-3.7**
comp=Z,71nm,0.7s						
KKN	**Kakani**	**14.47 140**	*e*P	**Pn**	**22 23 31.2**	**-3.7**
KKN			pmax	pmax		
comp=Z,71nm,0.7s						
AB31	**Akbulak array**	**14.49 318**	⇑Pn	**Pn**	**22 23 32.4**	**-2.7**
comp=Z,36nm,0.6s,baz=125,slow=11,SNR=387						
DMN	**Daman**	**14.53 141**	*e*P	**Pn**	**22 23 32.1**	**-3.7**
comp=Z,24nm,0.4s						
DMN			*e*S	**Sn**	**22 26 09.4**	**-6.2**
CHKZ	**Chkalovo**	**14.60 350**	⇑Pn	**Pn**	**22 23 35.0**	**-1.5**
comp=Z,18nm,1.2s						
CHKZ			⇑Lg		22 27 47.8	
comp=Z,109nm,1.6s						
GUN	**Gumba**	**14.67 138**	*e*P	**Pn**	**22 23 34.3**	**-3.4**
comp=Z,94nm,0.7s						
PKI	**Pulchoki**	**14.71 140**	*e*P	**Pn**	**22 23 35.0**	**-3.2**
comp=Z,94nm,0.9s						
PKI	**Pulchoki**	**14.71 140**	*e*P	**Pn**	**22 23 35.0**	**-3.2**
PKI			pmax	pmax		
comp=Z,94nm,0.9s						
JIRN	**Jiri**	**15.04 137**	*e*P	**Pn**	**22 23 39.2**	**-3.4**
comp=Z,92nm,0.4s						
ZAL	**Zalesovo**	**16.09 22**	P	**Pn**	**22 23 54.8**	**-1.3**
ZAA0	**Zalesovo Array**	**16.11 22**	*e*Pn	**Pn**	**22 23 54.7**	**-1.6**
ZALV	**Zalesovo Beam**	**16.11 22**	Pn	**Pn**	**22 23 54.8**	**-1.5**
comp=Z,0.8nm,0.3s,baz=202,slow=13,SNR=47						
ZALV			Lg		22 28 34.8	
comp=Z,0.1nm,0.3s,baz=204,slow=33,SNR=3.2						
AKTK	**Aktyubinsk**	**16.20 319**	Pn	**Pn**	**22 23 55.4**	**-2.0**
AKTK			Sn	**Sn**	**22 26 51.1**	**-4.8**
AKTK			Lg		22 28 45.4	
AKTK			LR	LR	22 31 02.7	
AKTO	**Aktyubinsk**	**16.20 319**	P	**Pn**	**22 23 55.4**	**-2.1**
AKTO					22 26 51.1	
AKTO	**Aktyubinsk**	**16.20 319**	Pn	**Pn**	**22 23 55.4**	**-2.0**
comp=Z,2.1nm,0.3s,baz=132,slow=13,SNR=56						
AKTO			Sn	**Sn**	**22 26 51.1**	**-4.8**
comp=Z,0.3nm,0.3s,baz=148,slow=19,SNR=2.9						
AKTO			Lg		22 28 45.4	
comp=Z,0.1nm,0.3s,baz=240,slow=20,SNR=2.6						
AKTO			LR	LR	22 31 02.7	
comp=Z,403nm,18.7s,baz=134,slow=40						
BHPL	**Bhopal**	**16.23 171**	*ex*	**Pn**	**22 23 52.4**	**-5.6**
BHPL			AMb	AMB	22 24 02.4	
comp=Z,40nm,0.5s						
BHPL			*i* S	**Sn**	**22 26 56.8**	**-0.1**
NVS	**Novosibirsk**	**16.50 17**	⇑*i*P	**Pn**	**22 23 59.5**	**-1.7**
NVS			pmax	pmax		
comp=Z,59nm,1.7s						
NVS			pmax	pmax		
comp=N,125nm,2.4s						
LSA	**Lhasa**	**16.55 121**	P	**Pn**	**22 24 03.0**	**+0.9**
LSA	**Lhasa**	**16.55 121**	*e*P	**Pn**	**22 24 03.0**	**+0.9**
BHJ	**Bhuj**	**16.64 197**	*ex*	x	22 23 59.8	
JBP	**Jabalpur**	**16.74 163**	⇑*i*P	**Pn**	**22 24 02.7**	**-1.8**
JBP			*ex*	x	22 24 06.3	
comp=Z,36nm,0.9s						
JBP			*i* x	x	22 26 49.4	
BOK	**Bokaro**	**18.15 146**	*e*P	**Pn**	**22 24 19.3**	**-2.6**
BOK			AMb	AMB	22 24 26.0	
comp=Z,25nm,1.2s						
NGP	**Nagpur**	**18.52 167**	*ex*	**Pn**	**22 24 23.1**	**-3.3**
NGP			*ex*	x	22 24 37.0	
comp=Z,34nm,1.1s						
NGP			*ex*	x	22 27 41.9	
AKL	**Akola**	**18.70 173**	*e*P	**Pn**	**22 24 28.4**	**-0.2**
AKL			*ex*	x	22 24 29.3	
comp=Z,27nm,1.8s						
AKL			*i* x	x	22 27 43.3	
GTA	**Gaotai**	**19.33 82**	*e*P	**Pn**	**22 24 36.3**	**+0.1**
GTA			AP	pP	22 24 49.5	+5.6
GTA			XP	sP	22 24 54.3	+6.0
GTA			PP		22 24 57.3	
GTA			S	**Sn**	**22 28 10.1**	**-1.8**
GTA			SS		22 28 38.3	
GTA			AMB	AMB		
comp=Z,75nm,1.0s						
GTA			AMB	AMB		
comp=Z,186nm,4.9s						
GTA			LR	LR		
comp=N,961nm,11.8s						
GTA			LR	LR		
comp=E,430nm,10.7s						
GTA			LR	LR		
comp=Z,663nm,12.5s						
SVE	**Sverdlovsk**	**19.80 337**	⇓*e*P	**Pn**	**22 24 39.9**	**-1.6**
SVE			*e*S	**Sn**	**22 28 19.8**	**-2.9**
SVE			pmax	pmax		
comp=Z,42nm,1.1s						
SVE			MLR	MLR		
comp=Z,378nm,11.0s						
SHL	**Shillong**	**19.89 129**	*e*P	**Pn**	**22 24 41.0**	**-1.8**
SHL			*ex*	x	22 28 06.0	
ARU	**Arti**	**20.16 333**	*e*P	**P**	**22 24 43.4**	**-0.3**
comp=Z,59nm,0.7s						
ARU	**Arti**	**20.16 333**	*d i*P	**P**	**22 24 43.3**	**-0.4**
ARU			*e*		22 25 01.1	
ARU			*e*PPP		22 25 12.9	
ARU			*e*S	**S**	**22 28 23.0**	**-5.0**
ARU			pmax	pmax		
comp=Z,66nm,0.8s						
LATR	**Latur**	**20.93 175**	*e*P	**P**	**22 24 52.0**	**-0.3**
LATR			AMb	AMB	22 24 58.0	
comp=Z,22nm,1.1s						
LATR			*ex*	x	22 28 35.3	
IMP	**Imphal**	**21.72 126**	*e*P	**P**	**22 25 00.0**	**-0.8**
MOY	**Mondy**	**21.97 47**	*e*P	**P**	**22 25 04.7**	**+1.4**
KAD	**Karad**	**21.98 182**	*e*P	**P**	**22 25 04.2**	**+0.5**
KAD			*e*S	**S**	**22 29 06.1**	**+1.7**
HYB	**Hyderabad**	**22.11 170**	*e*P	**P**	**22 25 05.5**	**+0.5**
comp=Z,50nm,1.0s,mb4.9						
HYB			*e*S	**S**	**22 29 09.0**	**+2.1**
HYB	**Hyderabad**	**22.11 170**	*e*P	**P**	**22 25 05.5**	**+0.5**
HYB			*e*S	**S**	**22 29 09.0**	**+2.1**
comp=Z,50nm,1.0s,mb4.9						
HYB	**Hyderabad**	**22.11 170**	⇑*i*P	**P**	**22 25 05.5**	**+0.5**
comp=Z,50nm,1.0s,mb4.9						
HYB			*e*S	**S**	**22 29 09.0**	**+2.1**
DGRG	**David-gareji**	**22.45 285**	P	**P**	**22 25 09.4**	**+0.9**
VIS	**Vishakhapatnam**	**22.81 159**	*i* P	**P**	**22 25 12.7**	**+0.3**
VIS			*ex*	x	22 25 28.2	
comp=Z,31nm,1.6s						
VIS			*i* x	x	22 29 35.9	
ZAK	**Zakamensk**	**22.86 52**	*e*P	**P**	**22 25 13.9**	**+1.1**
ZAK			pmax	pmax		
comp=Z,6.0nm,1.1s,mb3.9						
MTA	**Mtatsminda**	**22.87 286**	P	**P**	**22 25 14.7**	**+1.7**
TBLG	**Delisi**	**22.91 286**	*e*P	**P**	**22 25 14.9**	**+1.6**
TBLG	**Delisi**	**22.91 286**	P	**P**	**22 25 14.9**	**+1.6**
LZH	**Lanzhou**	**23.17 89**	⇑P	**P**	**22 25 17.1**	**+0.9**
LZH			AP		22 25 29.3	
LZH			PP		22 25 47.5	
LZH			*e*S	**S**	**22 29 17.5**	**-7.7**
LZH			XS	sS	22 29 39.0	-2.3
LZH			*e*SS		22 30 05.6	
LZH			AMB	AMB		
comp=Z,67nm,1.0s,mb5.0						
LZH			AMB	AMB		
comp=Z,226nm,6.1s						
LZH			LR	LR		
comp=E,768nm,10.5s						
LZH			LR	LR		
comp=Z,986nm,12.9s,MS4.5						
SOKR	**Solikamsk**	**23.22 336**	*e*P	**P**	**22 25 22.6**	**+6.2**
SOKR			S	**S**	**22 29 20.4**	**-5.2**
SOKR			pmax	pmax		
comp=Z,20nm,1.0s,mb4.5						
SOKR			MLR	MLR		
comp=Z,230nm,12.0s,MS3.9						
GOR	**Gori**	**23.36 286**	P	**P**	**22 25 19.6**	**+1.6**
TLY	**Talaya**	**23.50 49**	P	**P**	**22 25 21.3**	**+1.9**
TLY	**Talaya**	**23.50 49**	*e*P	**P**	**22 25 21.3**	**+1.9**
TLY			*e*		22 25 46.7	
TLY			*e*S	**S**	**22 29 18.2**	**-12**
TLY			pmax	pmax		
comp=Z,6.0nm,1.1s,mb3.9						
TLY			MLR	MLR		
comp=Z,244nm,15.0s,MS3.8						
ONI	**Oni**	**23.81 288**	P	**P**	**22 25 24.2**	**+2.0**
SONM	**Songino Array**	**24.27 59**	P	**P**	**22 25 27.1**	**+0.7**
comp=Z,6.3nm,1.0s,mb4.0,baz=265,slow=9.9,SNR=35						
SONM			LR	LR	22 35 26.3	
comp=Z,758nm,21.1s,MS4.2,baz=267,slow=38						
KIV	**Kislovodsk**	**24.33 291**	*e*P	**P**	**22 25 29.1**	**+2.1**
comp=Z,50nm,0.7s,mb5.1						
KIV	**Kislovodsk**	**24.33 291**	*e*P	**P**	**22 25 28.8**	**+1.8**
KIV			*e*		22 26 00.7	
KIV			*e*S	**S**	**22 29 46.7**	**+2.8**
KIV			pmax	pmax		
comp=Z,13nm,0.7s,mb4.5						
KIV			MLR	MLR		
comp=Z,252nm,13.0s,MS3.9						
KIV	**Kislovodsk**	**24.33 291**	⇓*i*P	**P**	**22 25 28.6**	**+1.6**
MIB	**Mutribah**	**24.45 255**	*e*P	**P**	**22 25 29.4**	**+1.1**
MIB			AMb	AMB	22 25 38.0	
comp=Z,88nm,0.8s,mb5.2						
KBD	**Kabd**	**24.51 254**	*e*P	**P**	**22 25 29.4**	**+0.6**
KBD			AMb	AMB	22 25 35.2	
comp=Z,131nm,0.6s,mb5.6						
QRN	**Al-Qurain**	**24.57 253**	*e*P	**P**	**22 25 29.6**	**+0.3**
QRN			AMb	AMB	22 25 41.6	
comp=Z,58nm,0.8s,mb5.1						
ULN	**Ulaanbaatar**	**24.71 59**	*e*P	**P**	**22 25 31.2**	**+0.8**
comp=Z,14nm,0.8s,mb4.5						
ULN	**Ulaanbaatar**	**24.71 59**	*e*P	**P**	**22 25 31.2**	**+0.8**
ULN			pmax	pmax		
comp=Z,14nm,0.8s,mb4.5						
RDF	**Al-Radifah**	**24.75 253**	*e*P	**P**	**22 25 32.0**	**+1.0**
RDF			AMb	AMB	22 25 42.8	
comp=Z,77nm,0.9s,mb5.2						
NAY	**Al-Naaiem**	**24.80 254**	*e*P	**P**	**22 25 32.2**	**+0.7**
NAY			AMb	AMB	22 25 43.0	
comp=Z,42nm,0.8s,mb5.0						
CD2	**Chengdu**	**25.07 101**	P	**P**	**22 25 35.0**	**+1.2**
CD2			AP	pP	22 25 46.5	+2.9
CD2			XP	sP	22 25 51.8	+4.0
CD2			PP		22 26 13.3	
CD2			S	**S**	**22 29 53.0**	**-2.9**
CD2			XS	sS	22 30 12.4	+0.3
CD2			SS		22 30 54.0	
CD2			AMB	AMB		
comp=Z,50nm,0.8s,mb5.1						
CD2			AMB	AMB		
comp=Z,230nm,5.1s						
CD2			LR	LR		
comp=N,680nm,13.2s,MS4.5						
CD2			LR	LR		
comp=E,680nm,12.4s,MS4.5						
CD2			LR	LR		
comp=Z,540nm,9.6s						
SOC	**Sochi**	**26.49 291**	*e*P	**P**	**22 25 52.7**	**+6.1**
SOC			*e*		22 26 31.6	
SOC			*e*S	**S**	**22 30 24.1**	**+5.9**
SOC			pmax	pmax		
comp=Z,12nm,0.8s,mb4.5						
SOC			MLR	MLR		
comp=Z,297nm,15.0s,MS4.0						
BTO	**Baotou**	**26.92 76**	*e*P	**P**	**22 25 50.9**	**+0.4**
VORD	**Divnogorie**	**27.32 307**	*e*P	**P**	**22 25 54.0**	**0.0**
VORD			pmax	pmax		
comp=Z,20nm,1.1s,mb4.6						
VORD			pmax	pmax		
comp=N,30nm,0.9s						
VORD			pmax	pmax		
comp=E,40nm,1.1s						
VORD			MLR	MLR		
comp=Z,440nm,19.0s,MS4.0						
VORD			MLR	MLR		
comp=N,920nm,22.0s						
VORD			MLR	MLR		
comp=E,360nm,16.0s						
VRSR	**Storozhevoye**	**27.43 307**	*e*P	**P**	**22 25 54.6**	**-0.4**
VRSR			*e*S	**S**	**22 30 26.8**	**-6.1**
VRSR			pmax	pmax		
comp=Z,2.0nm,0.9s,mb3.6						
VRSR			pmax	pmax		
comp=N,1.0nm,0.7s						
VRSR			pmax	pmax		
comp=E,5.0nm,1.0s						
VRSR			smax			
comp=N,4.0nm,0.9s						
VRSR			smax			
comp=Z,1.0nm,1.1s						
VRSR			smax			
comp=E,1.0nm,0.7s						
VRSR			MLR	MLR		
comp=Z,60nm,22.0s,MS3.1						
VRSR			MLR	MLR		
comp=N,180nm,21.0s,MS3.7						
VRSR			MLR	MLR		
comp=E,90nm,20.0s,MS3.7						
KMI	**Kunming**	**27.44 113**	P	**P**	**22 25 57.0**	**+1.7**
KMI			AP	pP	22 26 06.5	+1.3
KMI			XP	sP	22 26 10.1	+0.8
KMI			PP		22 26 45.1	
KMI			S	**S**	**22 30 33.3**	**-0.3**
KMI			XS	sS	22 30 55.3	+5.4
KMI			SS		22 31 51.9	
KMI			SSS		22 32 09.3	
KMI			AMB	AMB		
comp=Z,9.0nm,0.8s,mb4.3						
KMI			AMB	AMB		
comp=Z,110nm,4.6s						
KMI			LR	LR		
comp=N,528nm,14.9s,MS4.3						
KMI			LR	LR		
comp=E,399nm,14.4s,MS4.3						
KMI			LR	LR		
comp=Z,500nm,13.4s,MS4.3						
XAN	**Xi'an**	**27.77 90**	P	**P**	**22 25 58.8**	**+0.6**
XAN			S	**S**	**22 30 41.8**	**+3.2**
XAN			AMB	AMB		
comp=Z,14nm,0.7s,mb4.7						
XAN			AMB	AMB		
comp=Z,56nm,6.0s						
XAN			LR	LR		
comp=N,312nm,11.2s,MS4.3						
XAN			LR	LR		
comp=E,397nm,14.0s,MS4.3						
XAN			LR	LR		
comp=Z,479nm,14.6s,MS4.2						
HHC	**Hu-ho-hao-te**	**28.04 75**	*e*P	**P**	**22 26 02.4**	**+1.9**
HHC			PP	PP	22 26 52.6	-11
HHC			SS		22 32 05.3	
HHC			PCS	PcS	22 32 59.3	+2.7
HHC			SCS	ScS	22 36 42.6	-2.6
HHC			AMB	AMB		
comp=Z,22nm,0.3s,mb5.3						
HHC			AMB	AMB		
comp=Z,114nm,4.4s						
HHC			LR	LR		
comp=N,454nm,12.9s						
HHC			LR	LR		
comp=E,320nm,9.6s						
HHC			LR	LR		
comp=Z,565nm,13.5s,MS4.3						
MALT	**Malatya**	**28.23 280**	*e*P	**P**	**22 26 04.8**	**+2.6**
MALT	**Malatya**	**28.23 280**	⇓*i*P	**P**	**22 26 10.2**	**+8.0**
KOD	**Kodaikanal**	**29.11 175**	*ex*	x	22 25 15.3	
KOD			AMb	AMB	22 25 26.1	
comp=Z,18nm,2.2s,mb4.4						
CM31	**Chiang Mai Arr**	**29.52 128**	*e*P	**P**	**22 26 14.9**	**+1.1**
GYA	**Guiyang**	**29.53 106**	P	**P**	**22 26 15.9**	**+2.0**
GYA			AP	pP	22 26 29.6	+5.8
GYA			PP	PP	22 27 13.5	-7.3
GYA			PCP	PcP	22 29 21.0	+2.5
GYA			S	**S**	**22 31 05.9**	**-0.5**
GYA			XS	sS	22 31 28.8	+6.1
GYA			SCP	ScP	22 32 57.3	-0.4
GYA			SCS	ScS	22 36 50.4	-2.1
GYA			AMB	AMB		
comp=Z,10.0nm,0.8s,mb4.6						
GYA			AMB	AMB		
comp=Z,100nm,4.8s						
GYA			LR	LR		
comp=N,430nm,17.7s,MS4.3						
GYA			LR	LR		
comp=E,480nm,16.9s,MS4.3						
GYA			LR	LR		
comp=Z,410nm,17.6s,MS4.1						
OBN	**Obninsk**	**29.90 315**	P	**P**	**22 26 17.0**	**+0.2**
OBN			*e*		22 26 35.4	
OBN					22 29 25.0	
OBN			pmax	pmax		
comp=Z,8.0nm,0.8s,mb4.5						
OBN			MLR	MLR		
comp=Z,200nm,17.0s,MS3.8						
BOD	**Bodaibo**	**31.24 41**	*e*P	**P**	**22 26 27.6**	**-1.0**
BOD			pmax	pmax		
comp=Z,8.0nm,1.0s,mb4.5						
BJT	**Baijiatuau**	**31.65 75**	*e*P	**P**	**22 26 31.9**	**-0.6**
comp=Z,7.8nm,0.7s,mb4.7						
BJT	**Baijiatuau**	**31.65 75**	*e*P	**P**	**22 26 31.9**	**-0.6**
BJT			pmax	pmax		
comp=Z,8.0nm,0.7s						
BJI	**Beijing**	**31.65 75**	P	**P**	**22 26 33.6**	**+1.1**
BJI			AP	pP	22 26 44.8	+2.4
BJI			XP	sP	22 26 51.1	+4.6
BJI			S	**S**	**22 31 34.3**	**-5.0**
BJI			XS	sS	22 32 00.1	+4.4
BJI			AMB	AMB		
comp=Z,12nm,0.8s,mb4.8						
BJI			LR	LR		
comp=N,955nm,15.1s,MS4.6						
BJI			LR	LR		
comp=E,558nm,16.6s,MS4.6						
BJI			LR	LR		
comp=Z,276nm,21.7s						
ANTO	**Ankara**	**32.14 285**	*e*P	**P**	**22 26 37.5**	**+0.7**
comp=Z,17nm,1.1s,mb4.8						
ANTO	**Ankara**	**32.14 285**	*e*P	**P**	**22 26 37.5**	**+0.7**
ANTO			pmax	pmax		
comp=Z,17nm,1.1s,mb4.8						
ANTO	**Ankara**	**32.14 285**	⇓*i*P	**P**	**22 26 36.9**	**+0.1**
TMCR	**Tamitsa**	**32.86 331**	*e*P	**P**	**22 26 42.0**	**-0.8**
TMCR			*e**PP	pP	22 26 52.0	-0.8
TMCR			*e*		22 27 50.2	
HIA	**Hailar**	**33.21 58**	P	**P**	**22 26 47.0**	**+0.9**
WHN	**Wuhan**	**33.38 93**	⇓P	**P**	**22 26 49.6**	**+1.8**
WHN			LR	LR		
comp=Z,996nm,15.0s,MS4.7						
AKASG	**Malin Array Be**	**33.63 305**	*i* P	**P**	**22 26 49.0**	**-0.7**
AKASG			pmax	pmax		
comp=Z,1.0nm,0.4s						
AKASG	**Malin Array Be**	**33.63 305**	P	**P**	**22 26 48.6**	**-1.1**
comp=Z,1.4nm,0.4s,mb4.2,baz=82,slow=7.0,SNR=16						
AKBB	**Malin Array Si**	**33.63 305**	*e*P	**P**	**22 26 49.2**	**-0.4**
KIEV	**Kiev**	**33.64 305**	*e*P	**P**	**22 26 49.2**	**-0.6**
comp=Z,6.8nm,0.6s,mb4.8						
KIEV	**Kiev**	**33.64 305**	*e*P	**P**	**22 26 49.2**	**-0.6**
KIEV			pmax	pmax		
comp=Z,7.0nm,0.6s,mb4.8						
ISP	**Isparta**	**34.38 282**	⇑*e*P	**P**	**22 27 01.5**	**+5.1**
HARR	**Harsova**	**34.83 294**	⇓*i*P	**P**	**22 27 00.6**	**+0.4**
JOF	**Joensuu**	**35.01 327**	*ep*	**P**	**22 27 00.9**	**-0.5**
comp=Z,7.4nm,0.7s,mb4.7						
VRI	**Vrincioaia**	**35.52 297**	⇑P	**P**	**22 27 08.0**	**+1.9**
VRI	**Vrincioaia**	**35.52 297**	⇑*i*P	**P**	**22 27 07.8**	**+1.7**
PLOR	**Plostina**	**35.58 297**	⇓P	**P**	**22 27 11.7**	**+5.1**
PLOR	**Plostina**	**35.58 297**	⇓*i*P	**P**	**22 27 08.6**	**+2.0**
VSU	**Vasula**	**35.93 318**	⇓*e*P	**P**	**22 27 09.8**	**+0.4**
MLR	**Muntele Rosu**	**36.11 296**	⇑P	**P**	**22 27 13.6**	**+2.4**
MLR	**Muntele Rosu**	**36.11 296**	⇓*i*P	**P**	**22 27 12.7**	**+1.5**
NJ2	**Nanjing**	**36.23 88**	*e*P	**P**	**22 27 15.3**	**+2.9**
NJ2			AP	pP	22 27 26.5	+4.2
NJ2			S	**S**	**22 32 52.0**	**+1.6**
NJ2			XS	sS	22 33 12.0	+5.1
NJ2			AMB	AMB		
comp=Z,10.0nm,0.5s,mb5.0						
NJ2			AMB	AMB		
comp=Z,160nm,10.0s						
NJ2			LR	LR		
comp=N,1μm,14.0s,MS4.8						
NJ2			LR	LR		
comp=E,680nm,15.4s,MS4.8						
APA	**Apatity**	**36.24 335**	⇓*i*P	**P**	**22 27 12.2**	**+0.2**
APA			pmax	pmax		
comp=Z,8.0nm,1.0s,mb4.6						
QIZ	**Qiongzhong**	**36.38 114**	P	**P**	**22 27 14.9**	**+1.2**
QIZ			S	**S**	**22 32 53.3**	**+0.5**
QIZ			AMB	AMB		
comp=Z,76nm,4.8s						
QIZ			LR	LR		
comp=N,253nm,14.3s,MS4.4						
QIZ			LR	LR		
comp=E,377nm,16.0s,MS4.4						
QIZ			LR	LR		
comp=Z,325nm,20.1s,MS4.1						
FIA1	**FINESS Array S**	**36.89 323**	*e*P	**P**	**22 27 17.5**	**-0.1**
FINES	**FINESS Array B**	**36.89 323**	P	**P**	**22 27 17.4**	**-0.2**
FINES			LR	LR	22 42 53.7	
FINES	**FINESS Array B**	**36.89 323**	*i* P	**P**	**22 27 17.3**	**-0.3**
FINES			pmax	pmax		
comp=Z,3.0nm,0.4s						
FINES	**FINESS Array B**	**36.89 323**	P	**P**	**22 27 17.4**	**-0.2**
comp=Z,3.4nm,0.4s,mb4.5,baz=110,slow=10,SNR=57						
FINES			LR	LR	22 42 53.7	
comp=Z,273nm,18.4s,MS4.1,baz=102,slow=37						
KAF	**Kangasniemi**	**36.96 324**	*ep*	**P**	**22 27 17.6**	**-0.5**
comp=Z,2.3nm,0.6s,mb4.2,baz=104,slow=8.6						
KAF	**Kangasniemi**	**36.96 324**	*e*P	**P**	**22 27 17.6**	**-0.5**
KAF			pmax	pmax		
comp=Z,2.0nm,0.6s,mb4.1						
LVV	**L'vov**	**36.97 303**	*e*P	**P**	**22 27 17.6**	**-0.8**
LVV			MLR	MLR		
comp=Z,300nm,18.0s,MS4.1						
LVV			MLR	MLR		
comp=N,900nm,17.0s,MS4.6						
LVV			MLR	MLR		
comp=E,200nm,17.0s,MS4.6						
CN2	**Changchun**	**37.67 66**	*e*P	**P**	**22 27 21.3**	**-3.2**
CN2			*e*S	**S**	**22 33 08.6**	**-3.5**
CN2			AMB	AMB		
comp=Z,10.0nm,0.7s,mb4.7						
CN2			AMB	AMB		
comp=Z,200nm,3.0s						
CN2			LR	LR		
comp=N,500nm,12.0s,MS4.6						
CN2			LR	LR		
comp=E,400nm,12.0s,MS4.6						
CN2			LR	LR		
comp=Z,500nm,16.0s,MS4.4						
KWP	**Kalwaria**	**37.84 303**	*e*P	**P**	**22 27 26.4**	**+0.6**
KOLS	**Kolonicke sedl**	**38.19 302**	*e*P	**P**

CRVS Cervenica-Dubn 38.73 302 *e*P **P 22 27 34.2 +1.0**
CRVS *e*PP PP 22 28 59.7 -2.4
STHS Stebnicka Huta 38.81 303 *e*P **P 22 27 33.8 -0.2**
comp=Z,3.0nm,0.6s,mb4.2
STHS *e*PcP PcP 22 29 43.5 -1.2
STHS Stebnicka Huta 38.81 303 *e*P **P 22 27 33.8 -0.2**
STHS *e* 22 29 43.5
STHS pmax pmax
comp=Z,3.0nm,0.6s,mb4.2
BZS Buzias 39.10 297 ⇓P **P 22 27 37.7 +1.3**
BZS Buzias 39.10 297 ⇓*i*P **P 22 27 37.3 +0.9**
KEV Kevo 39.33 336 *e*p **P 22 27 36.6 -1.4**
comp=Z,1.1nm,0.4s,mb3.9
KEV Kevo 39.33 336 *e*P **P 22 27 36.6 -1.4**
KEV pmax pmax
comp=Z,1.0nm,0.4s,mb3.9
QZH Quanzhou 39.39 98 *e*P **P 22 27 40.1 +1.0**
QZH S **S 22 33 44.3 +5.9**
QZH LR LR
comp=N,660nm,14.1s,MS4.7
QZH LR LR
comp=E,430nm,11.6s,MS4.7
QZH LR LR
comp=Z,580nm,14.4s,MS4.5
NIE Niedzica 39.42 303 *e*P **P 22 27 39.9 +0.9**
KECS Kecovo 39.42 302 *e*P **P 22 27 39.4 +0.4**
comp=Z,3.3nm,1.0s,mb4.0
KECS *e*PcP PcP 22 29 40.3 -6.3
KECS Kecovo 39.42 302 *e*P **P 22 27 39.4 +0.4**
KECS *e* 22 29 40.3
KECS pmax pmax
comp=Z,3.0nm,1.0s,mb4.0
ATD Arta Tunnel 39.63 234 LR LR 22 46 17.4
comp=Z,132nm,20.4s,MS3.8,baz=9.5,slow=40
OJC Ojcow 39.66 304 *e*P **P 22 27 41.1 0.0**
ARCES ARCESS Array B 39.72 335 P **P 22 27 41.4 +0.1**
comp=Z,14nm,0.6s,mb4.8,baz=109,slow=8.7,SNR=90
ARCES LR LR 22 45 09.4
comp=Z,216nm,18.2s,MS4.0,baz=115,slow=38
ARE0 ARCESS Array S 39.72 335 *e*P **P 22 27 41.5 +0.2**
PSZ Piszkesteto 39.89 301 *e*P **P 22 27 44.2 +1.2**
comp=Z,3.1nm,0.9s,mb4.0
PSZ Piszkesteto 39.89 301 *e*P **P 22 27 44.2 +1.2**
PSZ pmax pmax
comp=Z,3.0nm,0.9s,mb4.0
YAK Yakutsk 39.89 37 *i*P **P 22 27 43.0 +0.2**
MDJ Mudanjiang 40.42 64 P **P 22 27 46.4 -1.1**
MDJ AP pP 22 27 59.5 +2.0
MDJ XP sP 22 28 05.5 +3.9
MDJ PCP PcP 22 29 49.8 -0.1
MDJ S **S 22 33 49.0 -4.4**
MDJ SS SS 22 36 48.3 -4.8
MDJ AMB AMB
comp=Z,5.0nm,1.2s,mb4.1
MDJ AMB AMB
comp=Z,95nm,4.4s
MDJ LR LR
comp=N,495nm,23.9s,MS4.3
MDJ LR LR
comp=E,197nm,22.9s,MS4.3
MDJ LR LR
comp=Z,297nm,18.7s,MS4.2
MDJ Mudanjiang 40.42 64 *e*P **P 22 27 47.5 +0.1**
VYHS Vyhne 40.50 302 *i*P **P 22 27 48.7 +0.7**
comp=Z,3.1nm,1.1s,mb3.9
VYHS Vyhne 40.50 302 *i*P **P 22 27 48.7 +0.7**
VYHS pmax pmax
comp=Z,3.0nm,1.1s,mb3.8
OKC Ostrava-Krasne 40.77 304 AMS AMS 22 45 10.0
comp=Z,400nm,19.6s,MS4.3
KOLL Kolacno 40.78 302 *e*P **P 22 27 50.8 +0.5**
GKP Gorka Klasztor 40.99 309 *e*P **P 22 27 52.1 +0.1**
PKSM Moragy 41.02 299 ⇓P **P 22 27 53.1 +0.7**
PKSM Moragy 41.02 299 ⇓*i*P **P 22 27 52.7 +0.3**
KLR Kul'dur 41.06 57 *e*P **P 22 27 48.7 -3.9**
MORC Moravsky Berou 41.16 304 *e*P **P 22 27 53.8 +0.3**
MORC Moravsky Berou 41.16 304 ⇑P **P 22 27 53.9 +0.5**
MORC Moravsky Berou 41.16 304 ⇓*i*P **P 22 27 53.7 +0.3**
KSRS Korea Array 41.18 75 P **P 22 27 52.9 -0.9**
comp=Z,5.1nm,0.8s,mb4.2,baz=278,slow=7.9,SNR=15
KSRS LR LR 22 46 29.0
comp=Z,214nm,19.7s,MS4.0,baz=302,slow=38
ZST Bratislava 41.69 302 *e*P **P 22 27 58.7 +0.9**
comp=Z,6.3nm,0.5s,mb4.5
ZST LR LR
comp=Z,200nm,19.1s,MS4.0
ZST Bratislava 41.69 302 *e*P **P 22 27 58.7 +0.9**
ZST pmax pmax
comp=Z,6.0nm,0.5s,mb4.5
ZST MLR MLR
comp=Z,200nm,19.1s,MS4.0
VRAC Vranov 41.84 304 ⇑P **P 22 27 59.8 +0.8**
VRAC Vranov 41.84 304 ⇑*i*P **P 22 27 59.6 +0.6**
DPC Dobruska-Polom 41.86 305 *e*P **P 22 27 59.8 +0.6**
DPC AMS AMS 22 45 50.0
comp=Z,500nm,16.9s,MS4.5
TIXI Tiksi 41.99 23 *e*P **P 22 27 58.8 -1.2**
comp=Z,12nm,0.8s,mb4.6
TIXI Tiksi 41.99 23 ⇓*e*P **P 22 27 59.6 -0.4**
TIXI pmax pmax
comp=Z,7.0nm,1.3s,mb4.1
TIXI MLR MLR
comp=Z,400nm,17.0s,MS4.4
UPC Upice 42.03 305 *e*P **P 22 28 00.8 +0.2**
UPC *e*pP pP 22 28 04.3 -6.4
BSD Bornholm Skovb 42.22 312 *e*P **P 22 28 00.7 -1.3**
BSD pmax pmax
comp=Z,11nm,0.9s,mb4.5
BSD Bornholm Skovb 42.22 312 *i*P **P 22 28 00.7 -1.3**
comp=Z,11nm,0.9s,mb4.5
PSI Prapat 42.50 143 P **P 22 28 01.9 -2.8**
comp=Z,1.6nm,0.4s,mb4.0,baz=354,slow=19,SNR=3.3
TREC Trest 42.56 304 *e*P **P 22 28 05.5 +0.6**
TREC AMS AMS 22 46 30.0
comp=Z,500nm,14.6s,MS4.5
CONA Conrad Observa 42.56 302 *i*P **P 22 28 05.5 +0.6**
SNR=11
PVCC Panska Ves 42.94 306 *e*P **P 22 28 08.7 +0.7**
PVCC AMS AMS 22 46 40.0
comp=Z,600nm,17.5s,MS4.5
PRU Pruhonice 43.05 305 *e*P **P 22 28 09.3 +0.5**
PRU AMS AMS 22 46 40.0
comp=Z,500nm,18.8s,MS4.4
GOLS Golise 43.12 299 *e*P **P 22 28 09.9 +0.5**
BRG Berggiesshubel 43.28 306 *e*P **P 22 28 10.8 +0.1**
comp=Z,12nm,1.1s,mb4.5
BRG Berggiesshubel 43.28 306 *e*P **P 22 28 11.1 +0.3**
comp=Z,12nm,1.2s,mb4.5
BRG
comp=N,2μm,18.9s
BRG
comp=E,349nm,16.0s
BRG
comp=Z,533nm,18.3s
PERS Pernice 43.32 300 *e*P **P 22 28 11.2 +0.1**
MOA Molln 43.63 302 ⇑*i*P **P 22 28 13.8 +0.2**
SNR=8.0
GEC2 GERESS Array S 43.80 303 *e*P **P 22 28 15.2 +0.3**
GEC2 pmax pmax
comp=Z,19nm,1.2s,mb4.7
GEC2 GERESS Array S 43.80 303 *e*P **P 22 28 15.2 +0.3**
comp=Z,19nm,1.2s,mb4.7
GERES GERESS Array B 43.80 303 P **P 22 28 14.7 -0.2**
comp=Z,5.7nm,0.6s,mb4.5,baz=69,slow=7.3,SNR=39
GERES LR LR 22 47 57.0
comp=Z,334nm,21.1s,MS4.2,baz=75,slow=38
CLL Collm 43.80 307 ⇑*i*P **P 22 28 14.9 0.0**
comp=Z,14nm,1.2s,mb4.6
CLL LR LR
comp=Z,500nm,16.4s,MS4.5
CLL Collm 43.80 307 ⇑*i*P **P 22 28 14.9 0.0**
CLL pmax pmax
comp=Z,14nm,1.2s,mb4.6
CLL MLR MLR
comp=Z,500nm,16.4s,MS4.5
CLL Collm 43.80 307 *e*P **P 22 28 14.6 -0.3**
comp=Z,14nm,1.2s,mb4.6
CLL Collm 43.80 307 ⇑*i*P **P 22 28 14.9 0.0**
comp=Z,14nm,1.2s,mb4.6
CLL *e*PP PP 22 29 56.0 -1.0
CLL *e*pPcP 22 30 07.0
KHC Kasperske Hory 43.82 304 *e*P **P 22 28 15.7 +0.6**
KHC *e*pP pP 22 28 19.0 -6.2
KHC AMS AMS 22 46 40.0
comp=Z,400nm,10.5s,MS4.6

LJU Ljubljana 43.85 299 *e*P **P 22 28 16.2 +0.8**
NB2 NORSAR Subarra 43.97 321 P **P 22 28 15.5 -0.6**
comp=Z,5.4nm,0.5s,mb4.5,baz=89,slow=8.6
NOA NORSAR Array B 43.97 321 P **P 22 28 15.5 -0.6**
NOA PP PP 22 30 04.8 +6.2
NOA LR LR 22 46 51.8
NOA NORSAR Array B 43.97 321 P **P 22 28 15.5 -0.6**
NOA 22 30 04.8
NOA NORSAR Array B 43.97 321 P **P 22 28 15.5 -0.6**
comp=Z,7.1nm,0.7s,mb4.5,baz=90,slow=8.0,SNR=27
NOA PP PP 22 30 04.8 +6.2
comp=Z,3.1nm,0.9s,baz=83,slow=8.5,SNR=3.6
NOA LR LR 22 46 51.8
comp=Z,169nm,21.9s,MS3.9,baz=55,slow=36
CEY Cerknica 44.00 299 *e*P **P 22 28 17.2 +0.7**
NAO01 NORSAR Array S 44.13 321 *e*P **P 22 28 16.9 -0.5**
TIP Timpagrande 44.24 289 *e*P **P 22 28 19.1 +0.5**
WET Wettzell 44.27 304 *e*P **P 22 28 18.9 +0.3**
WET pmax pmax
comp=Z,11nm,1.0s,mb4.5
WET Wettzell 44.27 304 *e*P **P 22 28 18.9 +0.3**
comp=Z,11nm,1.0s,mb4.5
TANN Tannenbergstha 44.29 306 *e*P **P 22 28 19.0 +0.2**
NKC Novy Kostel 44.33 306 *e*P **P 22 28 19.9 +0.8**
NKC AMS AMS 22 47 30.0
comp=Z,800nm,22.1s,MS4.6
KBA Koelnbreinsper 44.41 301 ⇓*i*P **P 22 28 19.3 -0.5**
ROTZ Rotzenmuhle 44.57 305 *e*P **P 22 28 22.0 +0.9**
comp=Z,10.0nm,1.4s,mb4.5
MRLC Muro Lucano 44.65 292 P **P 22 28 23.0 +1.2**
MOX Moxa 44.78 306 *e*P **P 22 28 22.8 +0.1**
comp=Z,10.0nm,1.2s,mb4.5
MOX
comp=Z,500nm,19.0s
MOX Moxa 44.78 306 *e*P **P 22 28 22.8 +0.1**
MOX pmax pmax
comp=Z,10.0nm,1.2s,mb4.5
MOX MLR MLR
comp=Z,500nm,19.0s,MS4.5
MOX Moxa 44.78 306 *e*P **P 22 28 22.6 -0.1**
comp=Z,8.0nm,1.2s,mb4.4
SGO Sicignano 44.84 291 P **P 22 28 24.8 +1.5**
comp=Z,19nm,0.9s,mb4.9
SGO Sicignano 44.84 291 P **P 22 28 24.8 +1.5**
SGO pmax pmax
comp=Z,19nm,0.9s,mb4.9
BSEG Bad Segeberg 45.01 311 *e*P **P 22 28 24.9 +0.4**
comp=Z,14nm,1.2s,mb4.7
JNU Nakatsue 45.05 80 P **P 22 28 25.8 +0.6**
comp=Z,24nm,1.0s,mb5.0,baz=283,slow=3.9,SNR=8.2
GRA1 Grafenberg Arr 45.22 305 *e*P **P 22 28 27.0 +0.8**
comp=Z,21nm,1.1s,mb4.9
GRA1 LR LR
comp=Z,600nm,19.4s,MS4.5
GRF Grafenberg Arr 45.22 305 *e*P **P 22 28 27.0 +0.8**
GRF pmax pmax
comp=Z,21nm,1.1s,mb4.9
GRF MLR MLR
comp=Z,600nm,19.4s,MS4.5
GRF Grafenberg Arr 45.22 305 *e*P **P 22 28 27.0 +0.8**
GRF pmax pmax
comp=Z,21nm,1.1s,mb4.9
GRF MLR MLR
comp=Z,600nm,19.4s,MS4.5
GRF Grafenberg Arr 45.22 305 *e*P **P 22 28 27.0 +0.8**
comp=Z,21nm,1.1s,mb4.9
GRF *e*L 22 48 14.7
comp=Z,581nm,19.4s
GRFO Grafenberg 45.22 305 *e*P **P 22 28 27.5 +1.3**
comp=Z,19nm,1.0s,mb4.9
GRFO Grafenberg 45.22 305 *e*P **P 22 28 27.5 +1.3**
GRFO pmax pmax
comp=Z,19nm,1.0s,mb4.9
CLZ Clausthal 45.32 308 *e*P **P 22 28 27.3 +0.3**
CLZ pmax pmax
comp=Z,7.0nm,1.1s,mb4.4
CLZ Clausthal 45.32 308 *e*P **P 22 28 27.3 +0.3**
comp=Z,7.0nm,1.1s,mb4.4
MUD Monsted U'grnd 45.33 315 *e*P **P 22 28 25.4 -1.6**
MUD pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
MUD MLR MLR
comp=Z,240nm,18.0s,MS4.2
MUD Monsted U'grnd 45.33 315 *i*P **P 22 28 25.4 -1.6**
comp=Z,5.4nm,0.7s,mb4.5
MUD
comp=Z,230nm,18.0s
CING Cingoli 45.48 296 P **P 22 28 28.5 +0.1**
WTTA Wattenberg 45.49 302 ⇑*i*P **P 22 28 28.4 -0.1**
FUR Furstenfeldbru 45.52 303 *e*P **P 22 28 29.3 +0.7**
FUR pmax pmax
comp=Z,23nm,0.9s,mb5.1
FUR Furstenfeldbru 45.52 303 *e*P **P 22 28 29.3 +0.7**
comp=Z,23nm,0.9s,mb5.1
AQU L'Aquila 45.64 294 *e*P **P 22 28 32.9 +3.2**
comp=Z,14nm,0.9s,mb4.9
AQU L'Aquila 45.64 294 *e*P **P 22 28 32.9 +3.3**
AQU pmax pmax
comp=Z,14nm,0.9s,mb4.9
FSSB Fossombrone 45.68 296 P **P 22 28 30.3 +0.4**
comp=Z,10nm,0.7s,mb4.9
SNTG Esanatoglia 45.69 296 P **P 22 28 30.5 +0.5**
comp=Z,11nm,0.6s,mb5.0
NRCA Norcia 45.70 295 P **P 22 28 30.6 +0.5**
comp=Z,7.4nm,0.7s,mb4.7
SQTA Sankt Quirin 45.79 302 ⇑*i*P **P 22 28 30.5 -0.3**
SNR=7.2
MOTA Moosalm 45.83 302 ⇑*i*P **P 22 28 30.4 -0.6**
SNR=7.2
MOTA Moosalm 45.83 302 ⇑*i*P **P 22 28 30.4 -0.7**
JOW Kunigami 45.91 89 P **P 22 28 32.0 0.0**
comp=Z,13nm,0.6s,mb5.0,baz=317,slow=5.9,SNR=6.1
ASS Assisi 45.95 296 P **P 22 28 34.1 +2.0**
comp=Z,2.4nm,0.6s,mb4.3
ASS Assisi 45.95 296 P **P 22 28 34.1 +2.0**
ASS pmax pmax
comp=Z,2.0nm,0.6s,mb4.2
SFI Santa Sofia 46.26 297 P **P 22 28 35.6 +1.1**
comp=Z,16nm,0.7s,mb5.0
SFI Santa Sofia 46.26 297 P **P 22 28 35.6 +1.1**
SFI pmax pmax
comp=Z,16nm,0.7s,mb5.1
BRMO Bormio 46.53 301 P **P 22 28 36.2 -0.4**
comp=Z,4.6nm,0.6s,mb4.6
DAVA Damuels 46.65 302 ⇑*i*P **P 22 28 37.6 +0.1**
SNR=14
VLC Villacollemand 47.19 298 *e*P **P 22 28 43.4 +1.6**
BFO Black Forest 47.38 304 *e*P **P 22 28 42.8 -0.4**
comp=Z,5.8nm,0.8s,mb4.6
BFO Black Forest 47.38 304 *e*P **P 22 28 43.5 +0.2**
BFO pmax pmax
comp=Z,7.0nm,1.1s,mb4.5
BFO Black Forest 47.38 304 *e*P **P 22 28 43.5 +0.2**
comp=Z,7.0nm,1.1s,mb4.5
CDF Champ du Feu 48.04 304 *e*P **P 22 28 46.7 -1.6**
comp=Z,14nm,1.0s,mb4.7
CDF Champ du Feu 48.04 304 *e*P **P 22 28 46.7 -1.6**
comp=Z,7.2nm,1.0s,mb4.7
CDF Champ du Feu 48.04 304 *e*P **P 22 28 46.7 -1.6**
CDF pmax pmax
comp=Z,7.0nm,1.0s,mb4.7
ECH Echery 48.17 304 *e*P **P 22 28 49.7 +0.4**
MEM Membach 48.27 307 P **P 22 28 50.6 +0.5**
comp=Z,3.3nm,1.0s,mb4.3
WLF Walferdange 48.42 306 *e*P **P 22 28 52.0 +0.8**
comp=Z,15nm,1.2s,mb4.9
WLF Walferdange 48.42 306 *e*P **P 22 28 52.1 +0.8**
WLF pmax pmax
comp=Z,15nm,1.2s,mb4.9
WLF Walferdange 48.42 306 P **P 22 28 51.9 +0.7**
comp=Z,8.4nm,1.7s,mb4.5
HINF Hinteralfeld 48.48 303 *e*P **P 22 28 50.0 -1.7**
comp=Z,20nm,1.0s,mb4.8
HINF Hinteralfeld 48.48 303 *e*P **P 22 28 50.0 -1.7**
comp=Z,9.9nm,1.0s,mb4.8
HINF Hinteralfeld 48.48 303 *e*P **P 22 28 50.0 -1.7**
HINF pmax pmax
comp=Z,10.0nm,1.0s,mb4.8
LOMF Lomont 48.63 303 *e*P **P 22 28 52.7 -0.2**
YSS Yuzh-Sakhalins 48.75 58 ⇑*e*P **P 22 28 55.2 +1.4**
YSS pmax pmax
comp=Z,4.0nm,0.4s,mb4.8
YSS MLR MLR
comp=Z,200nm,14.0s,MS4.3
HAU Haudompre 48.75 304 *e*P **P 22 28 52.2 -1.6**
HAU *e*MLR MLR
comp=Z,239nm,19.8s,MS3.9
HAU Haudompre 48.75 304 *e*P **P 22 28 52.2 -1.6**
HAU MLR MLR
comp=Z,240nm,19.8s,MS4.2
THEF They Montfort 48.92 304 *e*P **P 22 28 54.9 -0.2**
GIVF Givet 49.13 307 *e*P **P 22 28 55.1 -1.6**
MAJO Matsushiro 49.17 72 *e*P **P 22 28 56.5 -0.7**
MAT Matsushiro 49.17 72 P **P 22 28 56.5 -0.7**
MJAR Matsushiro Arr 49.17 72 P **P 22 28 57.3 +0.1**
comp=Z,15nm,0.8s,mb5.1,baz=290,slow=9.3,SNR=43
MJAR LR LR 22 50 53.1
comp=Z,172nm,21.5s,MS4.0,baz=295,slow=37
SAOF Saorge 49.18 298 *e*P **P 22 28 57.4 +0.3**
LPG La Plagne 49.23 301 *e*P **P 22 28 56.4 -1.2**
comp=Z,19nm,0.7s,mb4.9
LPG La Plagne 49.23 301 *e*P **P 22 28 56.4 -1.2**
comp=Z,9.4nm,0.7s,mb4.9
LPG La Plagne 49.23 301 *e*P **P 22 28 56.4 -1.2**
LPG pmax pmax
comp=Z,9.0nm,0.7s,mb4.9
LPL La Plagne 49.24 301 *e*P **P 22 28 56.4 -1.2**
comp=Z,22nm,0.8s,mb5.0
LPL La Plagne 49.24 301 *e*P **P 22 28 56.4 -1.2**
comp=Z,11nm,0.8s,mb4.9
LPL La Plagne 49.24 301 *e*P **P 22 28 56.4 -1.2**
LPL pmax pmax
comp=Z,11nm,0.8s,mb4.9
RSL Roselend 49.26 301 *e*P **P 22 28 58.0 +0.3**
DOU Dourbes 49.28 307 P **P 22 28 58.2 +0.4**
SBF Sospel 49.30 298 *e*P **P 22 28 56.9 -1.2**
comp=Z,49nm,0.8s,mb5.3
SBF Sospel 49.30 298 *e*P **P 22 28 56.9 -1.2**
comp=Z,24nm,0.8s,mb5.3
SBF Sospel 49.30 298 *e*P **P 22 28 56.9 -1.2**
SBF pmax pmax
comp=Z,25nm,0.8s,mb5.3
CABF La Chapelle 49.33 302 *e*P **P 22 28 56.6 -1.7**
comp=Z,14nm,0.9s,mb4.7
CABF La Chapelle 49.33 302 *e*P **P 22 28 56.6 -1.7**
comp=Z,7.1nm,0.9s,mb4.7
CABF La Chapelle 49.33 302 *e*P **P 22 28 56.6 -1.7**
CABF pmax pmax
comp=Z,7.0nm,0.9s,mb4.7
SNF Seneffe 49.36 308 P **P 22 28 58.2 -0.2**
BNI Bardonecchia 49.43 300 *e*P **P 22 28 59.1 +0.1**
comp=Z,20nm,1.1s,mb5.1
BNI Bardonecchia 49.43 300 *e*P **P 22 28 59.1 +0.1**
BNI pmax pmax
comp=Z,20nm,1.1s,mb5.1
MEZF Maizieres J'vi 49.44 305 *e*P **P 22 28 57.7 -1.4**
comp=Z,21nm,0.9s,mb4.8
MEZF Maizieres J'vi 49.44 305 *e*P **P 22 28 57.7 -1.4**
comp=Z,21nm,0.9s,mb5.2
MBDF Montbardon 49.47 300 *e*P **P 22 28 57.8 -1.6**
comp=Z,13nm,0.6s,mb4.8
MBDF Montbardon 49.47 300 *e*P **P 22 28 57.8 -1.6**
comp=Z,6.6nm,0.6s,mb4.8
MBDF Montbardon 49.47 300 *e*P **P 22 28 57.8 -1.6**
MBDF pmax pmax
comp=Z,7.0nm,0.6s,mb4.9
MVIF Mont Vial 49.48 298 *e*P **P 22 28 58.5 -1.0**
BAIF Baives 49.53 307 *e*P **P 22 28 58.4 -1.3**
comp=Z,5.4nm,0.5s,mb4.5
BAIF Baives 49.53 307 *e*P **P 22 28 58.4 -1.3**
comp=Z,2.7nm,0.5s,mb4.5
BAIF Baives 49.53 307 *e*P **P 22 28 58.4 -1.3**
BAIF pmax pmax
comp=Z,3.0nm,0.5s,mb4.6
KKM Kota Kinabalu 49.90 121 *e*P **P 22 29 03.9 +1.0**
OG05 Jujurieux 49.92 302 *e*P **P 22 29 04.3 +1.5**
FRF La Foret Royal 49.94 298 *e*P **P 22 29 01.1 -1.9**
comp=Z,18nm,0.8s,mb4.8
FRF La Foret Royal 49.94 298 *e*P **P 22 29 01.1 -1.9**
comp=Z,8.8nm,0.8s,mb4.8
FRF La Foret Royal 49.94 298 *e*P **P 22 29 01.1 -1.9**
FRF pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
ORIF Oris-en-Rattie 50.01 300 *e*P **P 22 29 01.7 -1.7**
comp=Z,13nm,0.7s,mb4.8
ORIF *e*MLR MLR
comp=Z,504nm,19.2s,MS4.2
ORIF Oris-en-Rattie 50.01 300 *e*P **P 22 29 01.7 -1.7**
comp=Z,6.7nm,0.7s,mb4.8
ORIF Oris-en-Rattie 50.01 300 *e*P **P 22 29 01.7 -1.7**
ORIF pmax pmax
comp=Z,7.0nm,0.7s,mb4.8
LMR La Mourre 50.11 298 *e*P **P 22 29 02.6 -1.7**
comp=Z,10nm,0.8s,mb4.6
LMR La Mourre 50.11 298 *e*P **P 22 29 02.6 -1.7**
comp=Z,5.3nm,0.8s,mb4.6
LMR La Mourre 50.11 298 *e*P **P 22 29 02.6 -1.7**
LMR pmax pmax
comp=Z,5.0nm,0.8s,mb4.6
SMRF Simiane la Rot 50.53 299 *e*P **P 22 29 05.6 -1.8**
comp=Z,18nm,0.9s,mb4.7
SMRF Simiane la Rot 50.53 299 *e*P **P 22 29 05.6 -1.8**
comp=Z,18nm,0.9s,mb5.0
LOR Lormes 50.58 304 *e*P **P 22 29 06.3 -1.4**
comp=Z,7.0nm,0.7s,mb4.4
LOR *e*MLR MLR
comp=Z,408nm,22.5s,MS4.1
LOR Lormes 50.58 304 *e*P **P 22 29 06.3 -1.4**
comp=Z,3.5nm,0.7s,mb4.4
LOR LR LR
comp=Z,410nm,22.5s,MS4.4
LOR Lormes 50.58 304 *e*P **P 22 29 06.3 -1.4**
LOR pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
LOR MLR MLR
comp=Z,410nm,22.5s,MS4.4
SMF Signal de Mont 50.79 303 *e*P **P 22 29 07.8 -1.5**
comp=Z,6.6nm,0.6s,mb4.5
SMF Signal de Mont 50.79 303 *e*P **P 22 29 07.8 -1.5**
comp=Z,3.3nm,0.6s,mb4.4
SMF Signal de Mont 50.79 303 *e*P **P 22 29 07.8 -1.5**
SMF pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
VIVF Saint-Julien-l 50.84 300 *e*P **P 22 29 08.2 -1.5**
comp=Z,12nm,1.0s,mb4.5
VIVF Saint-Julien-l 50.84 300 *e*P **P 22 29 08.2 -1.5**
comp=Z,6.3nm,1.0s,mb4.5
VIVF Saint-Julien-l 50.84 300 *e*P **P 22 29 08.2 -1.5**
VIVF pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
SSF Saint Saulge 50.87 303 *e*P **P 22 29 08.5 -1.4**
comp=Z,14nm,1.1s,mb4.5
SSF Saint Saulge 50.87 303 *e*P **P 22 29 08.5 -1.4**
comp=Z,6.9nm,1.1s,mb4.5
SSF Saint Saulge 50.87 303 *e*P **P 22 29 08.5 -1.4**
SSF pmax pmax
comp=Z,7.0nm,1.1s,mb4.5
KEST Kesra 50.99 288 P **P 22 29 11.2 +0.2**
comp=Z,1.3nm,0.7s,mb4.0,baz=274,slow=9.3,SNR=4.5
AVF Avril sur Loir 51.06 303 *e*P **P 22 29 09.9 -1.5**
comp=Z,29nm,0.9s,mb4.9
AVF Avril sur Loir 51.06 303 *e*P **P 22 29 09.9 -1.5**
comp=Z,15nm,0.9s,mb4.9
AVF Avril sur Loir 51.06 303 *e*P **P 22 29 09.9 -1.5**
AVF pmax pmax
comp=Z,15nm,0.9s,mb4.9
BGF Bois d'Agland 51.47 303 *e*P **P 22 29 12.9 -1.5**
PYM Petit Puy Mans 51.63 302 *e*P **P 22 29 15.6 -0.1**
LASF Ste Croix 51.65 300 *e*P **P 22 29 14.3 -1.6**
comp=Z,52nm,1.3s,mb5.0
LBL Lubilhac 51.65 301 *e*P **P 22 29 16.3 +0.5**
TCF Toulx Ste Croi 51.97 303 *e*P **P 22 29 16.6 -1.6**
comp=Z,15nm,0.9s,mb4.6
TCF Toulx Ste Croi 51.97 303 *e*P **P 22 29 16.6 -1.6**
comp=Z,7.3nm,0.9s,mb4.6
TCF Toulx Ste Croi 51.97 303 *e*P **P 22 29 16.6 -1.6**
TCF pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
ESK Eskdalemuir 52.38 315 *e*P **P 22 29 20.5 -0.5**
CAF Calviac 52.55 301 *e*P **P 22 29 21.0 -1.5**
comp=Z,14nm,0.9s,mb4.6
CAF Calviac 52.55 301 *e*P **P 22 29 21.0 -1.5**
comp=Z,7.1nm,0.9s,mb4.6
CAF Calviac 52.55 301 *e*P **P 22 29 21.0 -1.5**
CAF pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
LDF La Druitiere 52.67 306 *e*P **P 22 29 22.1 -1.3**
comp=Z,18nm,0.8s,mb4.7
LDF La Druitiere 52.67 306 *e*P **P 22 29 22.1 -1.3**
comp=Z,9.1nm,0.8s,mb4.8
LDF La Druitiere 52.67 306 *e*P **P 22 29 22.1 -1.3**
LDF pmax pmax
comp=Z,9.0nm,0.8s,mb4.8

RJF	**Les Rejaudoux**	**52.77 302**	*e*P	**P**	**22 29 22.8**	**-1.3**
RJF			*e*MLR	MLR		
comp=Z,193nm,18.5s,MS3.9						
RJF	**Les Rejaudoux**	**52.77 302**	*e*P	**P**	**22 29 22.8**	**-1.3**
RJF			MLR	MLR		
comp=Z,190nm,18.5s,MS4.2						
FLN	**La Foliniere**	**52.84 307**	*e*P	**P**	**22 29 23.3**	**-1.3**
comp=Z,11nm,0.8s,mb4.5						
FLN			*e*MLR	MLR		
comp=Z,686nm,21.0s,MS4.4						
FLN	**La Foliniere**	**52.84 307**	*e*P	**P**	**22 29 23.3**	**-1.3**
comp=Z,5.7nm,0.8s,mb4.5						
FLN			LR	LR		
comp=Z,690nm,21.0s,MS4.7						
FLN	**La Foliniere**	**52.84 307**	*e*P	**P**	**22 29 23.3**	**-1.3**
FLN			pmax	pmax		
comp=Z,6.0nm,0.8s,mb4.6						
FLN			MLR	MLR		
comp=Z,690nm,21.0s,MS4.7						
DAG	**Danmarks Havn**	**52.85 343**	⇑*i*P	**P**	**22 29 24.0**	**-0.3**
DAG			pmax	pmax		
comp=Z,3.0nm,0.6s,mb4.4						
DAG	**Danmarks Havn**	**52.85 343**	⇑*i*P	**P**	**22 29 24.0**	**-0.3**
comp=Z,2.7nm,0.6s,mb4.3						
KMBO	**Kilima Mbogo**	**52.97 230**	P	**P**	**22 29 26.8**	**+0.8**
MTLF	**Montolieu**	**53.03 299**	*e*P	**P**	**22 29 24.2**	**-1.9**
GRR	**Gorron**	**53.20 306**	*e*P	**P**	**22 29 25.8**	**-1.5**
comp=Z,23nm,0.8s,mb4.8						
GRR	**Gorron**	**53.20 306**	*e*P	**P**	**22 29 25.8**	**-1.5**
comp=Z,12nm,0.8s,mb4.9						
GRR	**Gorron**	**53.20 306**	*e*P	**P**	**22 29 25.8**	**-1.5**
GRR			pmax	pmax		
comp=Z,12nm,0.8s,mb4.9						
MFF	**Saint Martin d**	**53.38 304**	*e*P	**P**	**22 29 27.3**	**-1.3**
comp=Z,12nm,0.9s,mb4.5						
MFF	**Saint Martin d**	**53.38 304**	*e*P	**P**	**22 29 27.3**	**-1.3**
comp=Z,6.1nm,0.9s,mb4.5						
MFF	**Saint Martin d**	**53.38 304**	*e*P	**P**	**22 29 27.3**	**-1.3**
MFF			pmax	pmax		
comp=Z,6.0nm,0.9s,mb4.5						
LFF	**La Frestale**	**53.42 302**	*e*P	**P**	**22 29 27.4**	**-1.5**
SGMF	**Saint Gilles**	**54.31 307**	*e*P	**P**	**22 29 34.2**	**-1.2**
comp=Z,49nm,1.2s,mb5.0						
SGMF	**Saint Gilles**	**54.31 307**	*e*P	**P**	**22 29 34.2**	**-1.2**
comp=Z,24nm,1.2s,mb5.0						
SGMF	**Saint Gilles**	**54.31 307**	*e*P	**P**	**22 29 34.2**	**-1.2**
SGMF			pmax	pmax		
comp=Z,24nm,1.2s,mb5.0						
EPF	**Esparros**	**54.42 300**	*e*P	**P**	**22 29 34.7**	**-1.5**
ROSF	**Rostrenen**	**54.73 307**	*e*P	**P**	**22 29 37.0**	**-1.4**
comp=Z,20nm,0.8s,mb4.9						
ROSF	**Rostrenen**	**54.73 307**	*e*P	**P**	**22 29 37.0**	**-1.4**
comp=Z,9.9nm,0.8s,mb4.9						
ROSF	**Rostrenen**	**54.73 307**	*e*P	**P**	**22 29 37.0**	**-1.4**
ROSF			pmax	pmax		
comp=Z,10.0nm,0.8s,mb4.9						
DSB	**Dublin**	**54.80 313**	P	**P**	**22 29 38.1**	**-0.8**
QUIF	**Quistinic**	**54.81 306**	*e*P	**P**	**22 29 37.6**	**-1.4**
DCN	**Croghan**	**55.27 314**	*e*P	**P**	**22 29 42.9**	**+0.7**
ESDC	**Sonseca Array**	**58.78 298**	P	**P**	**22 30 06.8**	**-0.4**
comp=Z,1.1nm,0.5s,mb4.2,baz=58,slow=7.2,SNR=18						
ESDC			LR	LR	22 57 17.8	
comp=Z,106nm,19.4s,MS4.0,baz=20,slow=38						
ESLA	**Sonseca Array**	**58.78 298**	*e*P	**P**	**22 30 07.6**	**+0.3**
PCAB	**Cabril**	**60.57 301**	*e*P	**P**	**22 30 23.2**	**+3.6**
PVIS	**Viseu**	**60.95 300**	*e*P	**P**	**22 30 22.9**	**+0.7**
PBAR	**Barrancos**	**61.60 298**	*e*P	**P**	**22 30 27.1**	**+0.5**
comp=Z,15nm,1.5s,mb4.9						
PBAR			A		23 00 23.8	
comp=Z,133nm,18.0s						
PESTR	**Estremoz**	**61.64 298**	*e*P	**P**	**22 30 30.1**	**+3.2**
comp=Z,8.9nm,1.5s,mb4.7						
PESTR			A		23 00 57.8	
comp=Z,80nm,16.0s						
PBEJ	**Beja**	**62.24 298**	*e*P	**P**	**22 30 31.6**	**+0.7**
comp=Z,14nm,1.1s,mb5.0						
PVAQ	**Vaqueiros**	**62.45 297**	*e*P	**P**	**22 30 34.9**	**+2.6**
comp=Z,18nm,1.2s,mb5.1						
PVAQ			A		22 59 11.5	
comp=Z,155nm,18.0s						
PBDV	**Barranco-do-Ve**	**62.67 297**	*e*P	**P**	**22 30 37.0**	**+3.2**
comp=Z,38nm,1.9s,mb5.2						
PBDV			A		23 01 17.1	
comp=Z,144nm,18.0s						
PFVI	**Vila Bisbo**	**63.35 297**	*e*P	**P**	**22 30 38.8**	**+0.5**
PFVI			A		23 01 28.0	
comp=Z,154nm,18.0s						
TNA	**Tin City**	**64.75 24**	*e*P	**P**	**22 30 48.4**	**+1.4**
RES	**Resolute Bay**	**66.03 357**	*e*P	**P**	**22 30 55.2**	**0.0**
comp=Z,52nm,0.7s,mb5.7						
IMA2	**Indian Mountai**	**68.47 19**	*e*P	**P**	**22 31 09.6**	**-1.1**
TOA0	**Torodi Ar. Sit**	**68.75 270**	*e*P	**P**	**22 31 13.3**	**0.0**
TORD	**Torodi Ar. Bea**	**68.75 270**	P	**P**	**22 31 12.6**	**-0.7**
comp=Z,3.9nm,0.6s,mb4.5,baz=47,slow=5.6,SNR=31						
TORD			LR	LR	23 05 41.2	
comp=Z,97nm,20.3s,MS4.0,baz=65,slow=40						
INK	**Inuvik**	**70.57 11**	*e*P	**P**	**22 31 23.6**	**-0.1**
INK	**Inuvik**	**70.57 11**	P	**P**	**22 31 23.8**	**+0.1**
comp=Z,3.5nm,0.5s,mb4.6,baz=353,slow=6.5,SNR=34						
COLA	**College**	**70.87 18**	P	**P**	**22 31 24.3**	**-1.3**
MBWA	**Marble Bar**	**73.41 137**	*e*P	**P**	**22 31 41.0**	**-0.3**
DAWY	**Dawson**	**73.42 15**	*e*P	**P**	**22 31 41.1**	**+0.3**
KAKA	**Kakadu**	**74.53 121**	*e*P	**P**	**22 31 47.7**	**-0.3**
comp=Z,10nm,0.7s,mb4.9						
DBIC	**Dimbokro**	**77.80 269**	P	**P**	**22 32 05.5**	**-1.3**
DBIC			LR	LR	23 08 19.1	
DBIC	**Dimbokro**	**77.80 269**	P	**P**	**22 32 05.5**	**-1.3**
comp=Z,3.0nm,0.7s,mb4.3,baz=3.1,slow=4.9,SNR=5.8						
DBIC			LR	LR	23 08 19.1	
comp=Z,84nm,19.2s,MS4.1,baz=222,slow=37						
YKW3	**Yellowknife Ar**	**78.14 4**	*e*P	**P**	**22 32 07.7**	**-0.1**
YKA	**Yellowknife Ar**	**78.21 4**	P	**P**	**22 32 08.0**	**-0.1**
comp=Z,3.5nm,0.7s,mb4.4,baz=348,slow=5.6,SNR=89						
LBTB	**Lobatse**	**78.81 224**	*e*P	**P**	**22 32 12.9**	**+0.9**
comp=Z,16nm,1.0s,mb4.9						
LBTB	**Lobatse**	**78.81 224**	*e*P	**P**	**22 32 12.9**	**+1.0**
LBTB			pmax	pmax		
comp=Z,16nm,1.0s,mb4.9						
TSUM	**Tsumeb**	**79.03 234**	P	**P**	**22 32 13.3**	**+0.1**
SCHQ	**Schefferville**	**80.58 339**	P	**P**	**22 32 20.2**	**-1.1**
comp=Z,2.6nm,1.1s,mb4.1,baz=19,slow=6.9,SNR=3.6						
SCHQ			LR	LR	23 08 06.4	
comp=Z,116nm,21.7s,MS4.2,baz=204,slow=36						
WRA	**Warramunga Arr**	**81.06 125**	P	**P**	**22 32 23.7**	**-0.5**
comp=Z,2.6nm,0.5s,mb4.4,baz=327,slow=5.2,SNR=50						
WRAB	**Tennant Creek**	**81.06 125**	*e*P	**P**	**22 32 24.7**	**+0.5**
comp=Z,8.3nm,1.0s,mb4.6						
WRAB	**Tennant Creek**	**81.06 125**	*e*P	**P**	**22 32 24.7**	**+0.5**
WRAB			pmax	pmax		
comp=Z,8.0nm,1.0s,mb4.6						
WB2	**Warramunga Arr**	**81.07 125**	*e*P	**P**	**22 32 23.7**	**-0.6**
WB2	**Warramunga Arr**	**81.07 125**	*e*P	**P**	**22 32 23.9**	**-0.3**
FCC	**Fort Churchill**	**81.80 354**	*e*P	**P**	**22 32 27.7**	**+0.1**
BOSA	**Boshof**	**81.87 223**	P	**P**	**22 32 27.9**	**-0.4**
comp=Z,3.0nm,0.8s,mb4.3,baz=13,slow=6.9,SNR=7.1						
ASAR	**Alice Springs**	**83.53 128**	P	**P**	**22 32 36.4**	**-0.7**
comp=Z,2.2nm,0.7s,mb4.4,baz=315,slow=5.1,SNR=26						
FFC	**Flin Flon**	**86.24 358**	*e*P	**P**	**22 32 50.5**	**+0.2**
comp=Z,10nm,1.2s,mb4.9						
FFC	**Flin Flon**	**86.24 358**	*e*P	**P**	**22 32 50.5**	**+0.1**
FFC			pmax	pmax		
comp=Z,11nm,1.2s,mb5.0						
ULM	**Lac du Bonnet**	**90.39 354**	P	**P**	**22 33 10.0**	**-0.2**
comp=Z,2.4nm,0.8s,mb4.6,baz=358,slow=3.3,SNR=6.1						
ULM			LR	LR	23 22 07.0	
comp=Z,74nm,18.4s,MS4.2,baz=2.3,slow=41						
WALA	**Waterton Lakes**	**91.62 6**	P	**P**	**22 33 16.3**	**+0.4**
NEW	**Newport**	**92.12 8**	*e*P	**P**	**22 33 18.5**	**+0.3**
NEW	**Newport**	**92.12 8**	LR	LR	23 20 02.9	
comp=Z,112nm,19.6s,MS4.3,baz=108,slow=39						
CHMT	**Chamberlain Mo**	**93.81 6**	*e*P	**P**	**22 33 25.8**	**-0.2**
PDAR	**Pinedale Array**	**98.16 3**	LR	LR	23 23 02.2	
comp=Z,84nm,18.7s,MS4.3,baz=230,slow=38						

*IDC **15** 22:41:52.6±1.0, 3919N×7264E, h0km, mb3.7/8, mb1 3.9/12, mb1mx3.8/23, mbtmp3.8/12, ML3.7/4, Error ellipse: s-maj=16.9km s-min=14.9km az=165.0*
*MOS **15** 22:41:57.3±1.3, 3946N×7264E, h32km, mb4.1/5, Error ellipse: s-maj=12.6km s-min=7.2km az=81.4*
*BJI **15** 22:41:59.9, 3969N×7272E, h63km, mB4.9, mb4.4, ML3.8*
*NEIC **15** 22:42:00.9±0.9, 3945N×7277E, h55km±8km, mb4.1/6, Error ellipse: s-maj=11.4km s-min=7.9km az=145.0*
*ISCJB **15** 22:42:01.4±0.9, 3961N±006×7269E±006, h74km±8km, mb3.9/17, Error ellipse: s-maj=9.2km s-min=7.3km az=5.9*
*NNC **15** 22:42:03.9±2.6, 4015N×7228E, h0km, mb4.4, mpv4.0, Error ellipse: s-maj=26.4km s-min=17.2km az=171.0*

ISC 15 22:42:02.0±0.8, 3956N±005×7269E±005, h62km±7km, n67, σ1§34/78, mb3.9/17, 4C-4D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**2.54**	**90**	P	**Pn**	**22 42 40.4**	**-0.4**
KSH				S	**Sn**	**22 43 08.3**	**-2.3**
KSH				Smax			
comp=N,3μm,1.1s							
KSH				Smax			
comp=E,2μm,0.8s							
AML	**Almayashu**	**2.68**	**16**	*e*Pn	**Pn**	**22 42 43.4**	**+0.7**
AML				*e*Sn	**Sn**	**22 43 19.7**	**+5.7**
AML	**Almayashu**	**2.68**	**16**	P	**Pn**	**22 42 44.4**	**+1.6**
SNR=134							
UCH	**Uchtor**	**3.00**	**27**	*e*Pn	**Pn**	**22 42 48.1**	**+1.0**
UCH				*e*Sn	**Sn**	**22 43 27.3**	**+5.4**
UCH	**Uchtor**	**3.00**	**27**	P	**Pn**	**22 42 48.3**	**+1.2**
SNR=36							
KZA	**Kyzart**	**3.18**	**37**	P	**Pn**	**22 42 50.6**	**+1.1**
SNR=21							
EKS2	**Erkin-Say**	**3.21**	**15**	*e*Pn	**Pn**	**22 42 51.1**	**+1.2**
EKS2				*e*Sn	**Sn**	**22 43 26.0**	**-0.9**
EKS2	**Erkin-Say**	**3.21**	**15**	P	**Pn**	**22 42 52.4**	**+2.5**
SNR=20							
AAK	**Ala-Archa**	**3.36**	**23**	P	**Pn**	**22 42 53.7**	**+1.7**
SNR=115							
KBK	**Karagaybulak**	**3.53**	**28**	P	**Pn**	**22 42 55.8**	**+1.4**
SNR=37							
CHMS	**Chumysh**	**3.77**	**24**	P	**Pn**	**22 42 59.1**	**+1.5**
SNR=9.4							
ULHL	**Ulahol**	**3.80**	**44**	P	**Pn**	**22 42 59.2**	**+1.2**
SNR=44							
KK31	**Karatay Array**	**3.90**	**336**	Pn	**Pn**	**22 43 00.3**	**+1.0**
comp=E,9.5nm,0.3s,baz=147,slow=11,SNR=584							
KK31				⇓Lg		22 43 45.1	
comp=E,44nm,0.5s,baz=145,slow=23,SNR=8.7							
TKM2	**Tokmak 2**	**4.01**	**32**	*e*Pn	**Pn**	**22 43 01.3**	**+0.5**
TKM2				Sn	**Sn**	**22 43 44.3**	**-2.3**
TKM2	**Tokmak 2**	**4.01**	**32**	P	**Pn**	**22 43 02.1**	**+1.2**
SNR=6.4							
KNDC	**Almaty**	**4.87**	**40**	⇑Pn	**Pn**	**22 43 13.9**	**+1.3**
comp=E,35nm,0.6s							
KNDC				⇑Lg		22 44 31.7	
comp=E,177nm,0.8s							
KBL	**Kabul**	**5.79**	**211**	*e*Pn	**Pn**	**22 43 23.1**	**-2.3**
comp=E,10nm,0.4s							
KBL				*e*Sn	**Sn**	**22 44 24.9**	**-5.5**
MK31	**Makanchi Array**	**10.07**	**41**	*e*Pn	**Pn**	**22 44 24.8**	**+1.1**
MK31				*e*Sn	**Sn**	**22 46 14.5**	**-0.4**
MKAR	**Makanchi Array**	**10.07**	**41**	Pn	**Pn**	**22 44 24.4**	**+0.7**
MKAR				Lg		22 47 18.6	
MKAR	**Makanchi Array**	**10.07**	**41**	Pn	**Pn**	**22 44 24.4**	**+0.8**
comp=E,0.2nm,0.3s,baz=220,slow=14,SNR=14							
MKAR				Lg		22 47 18.6	
comp=E,0.1nm,0.3s,baz=231,slow=27,SNR=4.3							
KURK	**Kurchatov**	**11.91**	**19**	Pn	**Pn**	**22 44 47.8**	**-1.0**
AB31	**Akbulak array**	**13.29**	**321**	⇓Pn	**Pn**	**22 45 04.4**	**-3.1**
comp=E,4.1nm,0.4s,baz=127,slow=11,SNR=47							
AB31				⇑Sn	**Sn**	**22 47 26.5**	**-6.9**
comp=E,2.8nm,0.6s,baz=140,slow=23,SNR=4.4							
BVAR	**Borovoye Array**	**13.56**	**354**	P	**Pn**	**22 45 09.0**	**-2.3**
BVAR						22 47 38.0	
BVAR	**Borovoye Array**	**13.56**	**354**	Pn	**Pn**	**22 45 09.0**	**-2.2**
comp=E,0.3nm,0.3s,baz=160,slow=12,SNR=5.1							
BVAR				Sn	**Sn**	**22 47 38.0**	**-2.1**
comp=E,0.2nm,0.3s,baz=166,slow=18,SNR=2.3							
BVAR				Lg		22 49 09.5	
comp=E,0.2nm,0.3s,baz=152,slow=25,SNR=2.6							
BRVK	**Borovoye**	**13.60**	**354**	*e*Pn	**Pn**	**22 45 12.8**	**+1.0**
AKTK	**Aktyubinsk**	**15.00**	**321**	Pn	**Pn**	**22 45 27.3**	**-2.8**
AKTK				Sn	**Sn**	**22 48 09.1**	**-6.0**
AKTO	**Aktyubinsk**	**15.00**	**321**	⇓Pn	**Pn**	**22 45 27.9**	**-2.2**
comp=E,2.9nm,0.7s							
AKTO				⇓Sn	**Sn**	**22 48 08.0**	**-7.1**
comp=E,1.9nm,2.1s							
AKTO	**Aktyubinsk**	**15.00**	**321**	Pn	**Pn**	**22 45 27.3**	**-2.8**
comp=E,0.3nm,0.3s,baz=128,slow=15,SNR=10							
AKTO				Sn	**Sn**	**22 48 09.1**	**-6.0**
comp=E,0.2nm,0.3s,baz=74,slow=23,SNR=3.5							
ZAL	**Zalesovo**	**16.57**	**26**	P	**Pn**	**22 45 48.8**	**-1.2**
ZAA0	**Zalesovo Array**	**16.58**	**26**	*e*Pn	**Pn**	**22 45 49.2**	**-0.9**
ZALV	**Zalesovo Beam**	**16.58**	**26**	Pn	**Pn**	**22 45 48.8**	**-1.4**
comp=E,0.8nm,0.3s,baz=219,slow=11,SNR=36							
NVS	**Novosibirsk**	**16.85**	**21**	*e*P	**Pn**	**22 45 52.7**	**-0.8**
NVS				pmax	pmax		
comp=Z,9.0nm,1.3s							
NVS				pmax	pmax		
comp=N,19nm,1.7s							
ARU	**Arti**	**19.28**	**336**	*e*P	**Pn**	**22 46 21.8**	**-1.1**
comp=N,3.0nm,0.5s							
ARU	**Arti**	**19.28**	**336**	*e*P	**Pn**	**22 46 21.8**	**-1.1**
ARU				pmax	pmax		
comp=Z,3.0nm,0.5s							
GTA	**Gaotai**	**20.91**	**82**	⇑P	**P**	**22 46 39.8**	**+0.6**
GTA				AMB	AMB		
comp=Z,7.0nm,0.7s							
KIV	**Kislovodsk**	**22.74**	**291**	*e*P	**P**	**22 47 01.4**	**+2.7**
comp=Z,7.8nm,0.8s,mb4.2							
ZAK	**Zakamensk**	**24.03**	**53**	*e*P	**P**	**22 47 11.6**	**+0.7**
ZAK				pmax	pmax		
comp=Z,2.0nm,0.9s,mb3.5							
TLY	**Talaya**	**24.61**	**50**	P	**P**	**22 47 15.5**	**-0.7**
SONM	**Songino Array**	**25.57**	**60**	P	**P**	**22 47 25.1**	**+0.2**
comp=Z,1.4nm,0.6s,mb3.6,baz=268,slow=9.0,SNR=15							
ULN	**Ulaanbaatar**	**26.02**	**60**	*e*P	**P**	**22 47 29.7**	**+0.7**
comp=Z,1.6nm,0.5s,mb3.8							
ULN	**Ulaanbaatar**	**26.02**	**60**	*e*P	**P**	**22 47 29.7**	**+0.7**
ULN				pmax	pmax		
comp=Z,2.0nm,0.5s,mb3.9							
MALT	**Malatya**	**26.59**	**278**	P	**P**	**22 47 33.8**	**-0.4**
HHC	**Hu-ho-hao-te**	**29.56**	**75**	*e*P	**P**	**22 48 00.8**	**+0.1**
HHC				AP	pP	22 48 15.0	-0.9
HHC				XP	sP	22 48 23.9	+0.7
HHC				PP	PP	22 48 59.5	-8.7
HHC				AMB	AMB		
comp=Z,8.0nm,0.3s,mb4.9							
HHC				AMB	AMB		
comp=Z,134nm,5.5s							
BOD	**Bodaibo**	**32.16**	**42**	*e*P	**P**	**22 48 21.0**	**-2.4**
FINES	**FINESS Array B**	**35.76**	**323**	P	**P**	**22 48 55.5**	**+0.9**
FINES	**FINESS Array B**	**35.76**	**323**	P	**P**	**22 48 55.5**	**+0.9**
comp=Z,1.8nm,0.6s,mb4.2,baz=109,slow=9.0,SNR=13							
KWP	**Kalwaria**	**36.38**	**303**	*e*P	**P**	**22 49 01.4**	**+1.4**
comp=Z,1.4nm,0.6s,mb4.1							
KWP	**Kalwaria**	**36.38**	**303**	*e*P	**P**	**22 49 01.4**	**+1.5**
KWP				pmax	pmax		
comp=Z,1.0nm,0.6s,mb3.9							
PSZ	**Piszkesteto**	**38.39**	**300**	*e*P	**P**	**22 49 19.5**	**+2.5**
ARCES	**ARCESS Array B**	**38.87**	**336**	P	**P**	**22 49 21.9**	**+1.1**
comp=Z,3.0nm,0.8s,mb4.1,baz=99,slow=7.5,SNR=11							
MORC	**Moravsky Berou**	**39.70**	**304**	P	**P**	**22 49 29.1**	**+1.2**
MDJ	**Mudanjiang**	**41.80**	**64**	P	**P**	**22 49 44.1**	**-1.2**
MDJ				PP	PP	22 51 20.5	-2.3
MDJ				AMB	AMB		
comp=Z,5.0nm,0.8s,mb4.2							
MDJ				AMB	AMB		
comp=Z,88nm,5.5s							
GERES	**GERESS Array B**	**42.33**	**303**	P	**P**	**22 49 51.2**	**+1.7**
comp=Z,0.3nm,0.5s,mb3.2,baz=67,slow=7.4,SNR=4.9							
TIXI	**Tiksi**	**42.44**	**23**	*e*P	**P**	**22 49 50.5**	**+0.3**
comp=Z,5.1nm,0.6s,mb4.3							
TIXI	**Tiksi**	**42.44**	**23**	*e*P	**P**	**22 49 50.5**	**+0.3**
TIXI				pmax	pmax		
comp=Z,5.0nm,0.6s,mb4.3							
NB2	**NORSAR Subarra**	**42.79**	**321**	P	**P**	**22 49 53.3**	**+0.2**
comp=Z,0.4nm,0.5s,mb3.4,baz=92,slow=8.6							
NOA	**NORSAR Array B**	**42.79**	**321**	P	**P**	**22 49 52.7**	**-0.4**
comp=Z,0.7nm,0.6s,mb3.6,baz=92,slow=7.9,SNR=4.7							
BNI	**Bardonecchia**	**47.92**	**299**	*e*P	**P**	**22 50 35.0**	**+1.2**
comp=Z,1.8nm,0.8s,mb4.2							
BNI	**Bardonecchia**	**47.92**	**299**	*e*P	**P**	**22 50 35.0**	**+1.1**
BNI				pmax	pmax		
comp=Z,2.0nm,0.8s,mb4.2							
KMBO	**Kilima Mbogo**	**51.88**	**227**	P	**P**	**22 51 04.1**	**-0.1**
CART	**Cartagena**	**56.10**	**293**	P	**P**	**22 51 35.4**	**+0.6**
ESDC	**Sonseca Array**	**57.24**	**297**	P	**P**	**22 51 41.9**	**-1.0**
comp=Z,0.1nm,0.4s,mb3.2,baz=52,slow=6.9,SNR=2.9							
TORD	**Torodi Ar. Bea**	**67.13**	**268**	P	**P**	**22 52 48.1**	**-1.3**
comp=Z,0.7nm,0.4s,mb4.0,baz=52,slow=5.6,SNR=27							
YKA	**Yellowknife Ar**	**78.13**	**3**	P	**P**	**22 53 54.7**	**+0.9**
YKA	**Yellowknife Ar**	**78.13**	**3**	P	**P**	**22 53 54.7**	**+0.9**
comp=Z,0.6nm,0.5s,mb3.8,baz=348,slow=5.7,SNR=15							
WRA	**Warramunga Arr**	**82.51 123**	P	**P**	**22 54 16.5**	**-1.5**
comp=Z,0.3nm,0.6s,mb3.5,baz=326,slow=5.0,SNR=5.5							
LENM	**Lemitar**	**106.64 360**	PKiKP	PKiKP	23 00 20.3	+0.2

*ATH **15** 22:44:12.8, 3653N×2862E, h58km±4km, MD3.6/5*
*NEIC **15** 22:44:12.8, 3653N×2862E, h58km, MD3.6(ATH), After ATH.*
*ISCJB **15** 22:44:13.4±0.7, 3652N±005×2860E±004, h65km±10km, Error ellipse: s-maj=7.6km s-min=5.5km az=0.0*
*DDA **15** 22:44:13.7, 3652N×2856E, h7km±3km, Md3.1*
*ISK **15** 22:44:13.6, 3656N×2865E, h28km, MD3.1*
*CSEM **15** 22:44:13.4±0.1, 3655N×2862E, h40km, MD3.6, Error ellipse: s-maj=2.2km s-min=1.8km az=1.0*

ISC 15 22:44:14.2±0.7, 3652N±005×2860E±004, h59km±11km, n21, σ0§49/30, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARG	**Arkhangelos**	**0.49**	**231**	*e*P	**Pn**	**22 44 25.6**	**-0.4**
ARG				S	**Sn**	**22 44 34.5**	**-0.1**
YER	**Yerkesik**	**0.66**	**337**	*e*PG	**Pn**	**22 44 27.5**	**-0.4**
YER				*e*SG	**Sn**	**22 44 37.0**	**-1.0**
DAT	**Datca**	**0.85**	**284**	*e*PG	**Pn**	**22 44 30.4**	**+0.1**
DAT				*e*SG	**Sn**	**22 44 42.5**	**+0.5**
AKAS	**Kas**	**0.86**	**109**	*i* P	**Pn**	**22 44 29.8**	**-0.6**
AKAS				*i* S	**Sn**	**22 44 42.8**	**+0.5**
MLSB	**Milas**	**1.01**	**320**	*e*PG	**Pn**	**22 44 33.0**	**+0.7**
GOLH	**Golhisar**	**1.05**	**47**	*i* P	**Pn**	**22 44 33.0**	**+0.2**
GOLH				*i* S	**Sn**	**22 44 48.1**	**+1.5**
GOLH	**Golhisar**	**1.05**	**47**	*i* P	**Pn**	**22 44 33.0**	**+0.2**
GOLH				*i* S	**Sn**	**22 44 48.1**	**+1.4**
BDRM	**Kayabasi**	**1.07**	**301**	*i* P	**Pn**	**22 44 33.3**	**+0.1**
BDRM				*i* S	**Sn**	**22 44 47.2**	**0.0**
ELL	**Elmali**	**1.08**	**78**	*e*PG	**Pn**	**22 44 33.1**	**0.0**
BODT	**Bodrum**	**1.17**	**298**	*e*PN	**Pn**	**22 44 34.7**	**+0.3**
AYDN	**Tasoluk**	**1.27**	**333**	*i* P	**Pn**	**22 44 35.6**	**-0.2**
AYDN				*i* S	**Sn**	**22 44 44.3**	**-7.6**
DENT	**Denizli**	**1.27**	**16**	*e*PN	**Pn**	**22 44 35.4**	**-0.5**
KARP	**Karpathos**	**1.52**	**231**	*e*P	**Pn**	**22 44 39.4**	**+0.3**
SMG	**Samos**	**1.84**	**311**	*e*P	**Pn**	**22 44 43.3**	**-0.1**
SMG				S	**Sn**	**22 45 06.0**	**+0.4**
BCK	**Bucak**	**1.85**	**59**	*e*PN	**Pn**	**22 44 42.5**	**-1.0**
KHL	**Karahalli**	**1.94**	**22**	*e*PN	**Pn**	**22 44 44.9**	**+0.1**
KULA	**Kula-Manisa**	**1.99**	**1**	*e*PN	**Pn**	**22 44 45.5**	**+0.1**
BLCB	**Balcova**	**2.23**	**327**	*e*PN	**Pn**	**22 44 48.8**	**-0.1**
AKS	**Akhisar**	**2.43**	**345**	*e*PN	**Pn**	**22 44 51.3**	**-0.2**
NPS	**Neapolis**	**2.73**	**243**	*e*P	**Pn**	**22 44 55.5**	**-0.1**
VAM	**Vamos**	**3.74**	**254**	*e*P	**Pn**	**22 45 09.6**	**+0.2**

IDC 15 22:49:38.4±2.9, 2611S×6753W, h0km, mb3.8/2, mb1 3.8/3, mb1mx3.6/16, mbtmp3.6/3, ML3.5/1, Error ellipse: s-maj=71.2km s-min=44.7km az=28.0, Catamarca Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**9.79**	**357**	Pn	Pn	22 52 01.0	+0.5
0.2nm,0.3s,baz=184,slow=8.1,SNR=5.1							
BDFB	**Brasilia**	**20.98**	**64**	P	P	22 54 23.5	+0.3
2.0nm,0.6s,baz=230,slow=16,SNR=8.7							
TORD	**Torodi Ar. Bea**	**77.78**	**69**	P	P	23 01 37.9	0.0
0.4nm,0.5s,baz=256,slow=5.8,SNR=19							
YKA	**Yellowknife Ar**	**95.93**	**340**	P	P	23 03 06.5	-0.1
YKA	**Yellowknife Ar**	**95.93**	**340**	P	P	23 03 06.5	0.0
0.1nm,0.5s,baz=133,slow=4.4,SNR=5.2							

*IDC **15** 22:57:23.5±2.4, 3257N×11631W, h0km, mb1 3.8/5, mb1mx3.5/25, mbtmp3.4/5, ML3.3/5, Error ellipse: s-maj=30.9km s-min=11.2km az=55.0*
*ISCJB **15** 22:57:25.5±0.3, 3274N±002×11601W±002, h14km±

	baz=2.1							
HEC	Hector,Ludlow	2.10	354	⇑Pn		Pn	22 58 01.1	-0.4
	baz=2.1							
HEC				⇓Pg		Pg	22 58 06.2	0.0
	baz=2.1							
SCI	San Clemente I	2.11	277	⇑Pn		Pn	22 58 00.5	-1.0
	baz=2.1							
FMP	Fort Macarthur	2.11	298	⇑Pb		Pb	22 58 04.4	0.0
	baz=2.1							
Y13A	Salome	2.16	59	⇑Pn		Pn	22 58 01.0	-1.2
	baz=2.2,SNR=32							
MWC	Mount Wilson	2.24	312	*e*Pn		Pn	22 58 06.7	+3.4
RRX	Edison Barstow	2.28	340	⇓Pn		Pn	22 58 03.0	-0.9
	baz=2.3							
RRX				⇑Pg		Pg	22 58 09.2	-0.3
	baz=2.3							
DECC	Green Verdugo	2.43	309	⇓Pb		Pb	22 58 10.0	+0.2
	baz=2.5							
LDFC	Landfair	2.47	18	*e*Pn		Pn	22 58 10.7	+4.2
X13A	Yucca	2.63	44	⇓Pn		Pn	22 58 07.9	-0.7
	baz=2.7,SNR=28							
GSC	Goldstone	2.64	347	*e*Pn		Pn	22 58 08.6	-0.2
GSC	Goldstone	2.64	347	⇑Pn		Pn	22 58 08.5	-0.3
	baz=2.7							
EDW2	Edwards Air Fo	2.68	324	⇑Pn		Pn	22 58 08.7	-0.6
	baz=2.7							
EDW2				⇑Pb		Pb	22 58 15.0	+0.9
	baz=2.7							
Z14A	Wintersburg	2.69	76	⇓Pn		Pn	22 58 08.0	-1.5
	baz=2.7							
TUQ	Turquoise Mtn.	2.70	2	⇑Pn		Pn	22 58 09.3	-0.3
	baz=2.7,SNR=13							
Y14A	Wickenburg	2.83	64	⇓Pn		Pn	22 58 10.3	-1.1
	baz=2.8,SNR=7.9							
Y14A				⇑Pg		Pg	22 58 20.8	+0.8
	baz=2.8							
OSI	Osito Adit	2.91	311	⇓Pb		Pb	22 58 17.6	-0.4
	baz=2.9							
SNCC	San Nicolas Is	2.96	281	*e*Pn		Pn	22 58 13.4	+0.2
SNCC				*e*Sn		Sn	22 58 49.0	+0.1
W13A	Hualapai Mount	2.97	37	⇓Pn		Pn	22 58 13.1	-0.4
	baz=3.0,SNR=19							
X14A	Yava	3.16	56	⇓Pn		Pn	22 58 14.7	-1.3
	baz=3.2,SNR=60							
X14A				⇓Pg		Pg	22 58 27.2	+0.8
	baz=3.2							
115A	Sonoran Desert	3.23	90	⇓Pn		Pn	22 58 15.7	-1.2
	baz=3.2							
115A				⇓Pb		Pb	22 58 21.4	-2.1
	baz=3.2							
Y15A	Casa Rosa Ranc	3.35	68	⇓Pn		Pn	22 58 17.1	-1.5
	baz=3.4							
W14A	Seligman	3.50	44	⇓Pn		Pn	22 58 20.6	0.0
	baz=3.5,SNR=25							
MPMC	Manual Prospec	3.52	341	⇓Pn		Pn	22 58 21.0	+0.1
	baz=3.6							
MPMC				⇓Pb		Pb	22 58 27.4	-1.1
	baz=3.6							
MPMC				⇑Pg		Pg	22 58 31.8	-1.5
	baz=3.6							
ISA	Isabella	3.54	326	*e*Pn		Pn	22 58 21.6	+0.4
ISA	Isabella	3.54	326	⇓Pn		Pn	22 58 21.3	+0.1
	baz=3.6							
ISA				⇑Pb		Pb	22 58 27.7	-1.1
	baz=3.6							
X15A	Humboldt	3.64	60	⇓Pn		Pn	22 58 22.4	-0.1
	baz=3.7,SNR=48							
116A	Eloy	3.68	91	⇑Pn		Pn	22 58 21.8	-1.3
	baz=3.7							
U10A	Ash Meadows, A	3.69	357	⇓Pn		Pn	22 58 23.8	+0.6
	baz=3.7							
U10A				⇓Pg		Pg	22 58 35.0	-1.4
	baz=3.7							
V14A	Boquillas Ranc	3.79	39	⇑Pn		Pn	22 58 25.0	+0.3
	baz=3.8,SNR=56							
PKM	Peak Mountain	3.80	306	⇓Pn		Pn	22 58 23.5	-1.3
	baz=3.8							
Z16A	Peralta Trail,	3.94	80	⇓Pn		Pn	22 58 24.7	-2.0
	baz=3.9							
W15A	Williams	3.99	51	⇑Pg		Pg	22 58 43.2	+1.0
	baz=4.0							
Y16A	Circle Bar Ran	4.00	72	⇑Pn		Pn	22 58 26.5	-1.1
	baz=4.0							
U13A	Pakoon Wash	4.06	25	⇑Pn		Pn	22 58 28.4	+0.1
	baz=4.1							
X16A	Lo Mia Camp, P	4.21	65	⇑Pn		Pn	22 58 30.3	0.0
	baz=4.2,SNR=6.9							
TPNV	Topopah Spring	4.21	358	*e*Pn		Pn	22 58 31.6	+1.2
TPNV	Topopah Spring	4.21	358	⇓Pn		Pn	22 58 30.9	+0.5
	baz=4.3,SNR=53							
U14A	Mt Trumbull	4.38	32	⇑Pn		Pn	22 58 33.3	+0.6
	baz=4.4							
TUC	Tucson	4.48	94	*e*Pn		Pn	22 58 32.2	-1.9
117A	Oracle	4.49	91	⇑Pn		Pn	22 58 33.6	-0.7
	baz=4.5							
T11A	Corn Creek, Al	4.55	8	⇑Pn		Pn	22 58 35.8	+0.7
	baz=4.6							
T11A				⇑Pg		Pg	22 58 53.4	+0.4
	baz=4.6							
T13A	Saint George	4.63	22	⇓Pn		Pn	22 58 37.4	+1.2
	baz=4.7							
HELL	Mitchell Peak	4.63	329	⇑Pn		Pn	22 58 37.1	+0.9
	baz=4.7							
WUAZ	Wupatki	4.78	53	*e*Pn		Pn	22 58 39.6	+1.4
WUAZ	Wupatki	4.78	53	⇓Pn		Pn	22 58 36.8	-1.4
	baz=4.8							
PKD	Parkfield	4.90	312	⇑Pn		Pn	22 58 41.9	+1.9
	baz=4.9							
V04C	Ramage Ranch,	4.93	307	⇑Pn		Pn	22 58 42.3	+2.0
	baz=5.0							
T14A	Hurricane	4.96	29	⇑Pn		Pn	22 58 42.1	+1.3
	baz=5.0							
MTUM	Tungsten Hills	5.05	337	*e*Pb		Pb	22 58 57.8	+3.4
S08C	White Mtn Res	5.06	341	⇑Pg		Pg	22 59 01.2	-1.6
	baz=5.1							
S09A	Goldfield	5.07	349	⇑Pn		Pn	22 58 43.4	+1.2
	baz=5.1							
S09A				⇓Pg		Pg	22 59 00.3	-2.6
	baz=5.1							
118A	Homack Ranch,	5.14	89	⇑Pn		Pn	22 58 41.8	-1.4
	baz=5.1							
S13A	Holt Ranch, En	5.16	20	⇑Pn		Pn	22 58 44.6	+1.1
	baz=5.2							
S10A	Tonopah Range,	5.20	355	⇓Pn		Pn	22 58 45.4	+1.4
	baz=5.2							
S10A				⇓Pg		Pg	22 59 03.5	-1.9
	baz=5.2							
T15A	Red Dirt Ranch	5.24	34	⇓Pn		Pn	22 58 45.5	+1.0
	baz=5.3							
CCUT	Cedar City	5.29	24	*e*Pn		Pn	22 58 46.7	+1.5
CCUT				*e*Sn		Sn	22 59 47.1	+0.6
ARUT	Antelope Range	5.48	22	Pn		Pn	22 58 47.9	+0.1
NVAR	Mina Array Bea	5.97	343	Pn		Pn	22 58 54.6	0.0
	comp=N,0.5nm,0.3s,baz=167,slow=16,SNR=4.1							
NVAR				Lg			23 00 35.8	
	baz=175,slow=32,SNR=2.1							
CMB	Columbia Colle	6.36	327	*e*Pn		Pn	22 59 00.1	+0.2
	comp=N,14nm,0.9s							
CMB				*e*Sn		Sn	23 00 16.4	+3.5
MSU	Marysvale	6.58	28	*e*Pn		Pn	22 59 02.3	-0.6
LAZ	Ladron	7.63	75	*e*Pn		Pn	22 59 17.7	+0.3
LAZ				*e*Sn		Sn	23 00 44.3	+0.1
TMUT	Trail Mountain	7.64	30	Pn		Pn	22 59 17.8	+0.4
TMUT				*e*Pg		Pg	22 59 52.2	+0.2
TMUT				*e*Sn		Sn	23 00 44.1	-0.2
TMUT				*e*Sg		Sg	23 01 30.4	-0.5
MVCO	Mesa Verde	7.64	52	*e*Pn		Pn	22 59 21.3	+3.7
	comp=N,27nm,0.8s							
MVCO				Sn		Sn	23 00 45.9	+1.4
SRU	San Rafael	7.79	34	*e*Pn		Pn	22 59 20.4	+0.9
	comp=N,6.6nm,0.6s							
SRU				*e*Pg		Pb	22 59 32.5	-8.6
SRU				*e*Sn		Sn	23 00 49.8	+1.8
OHCM	Honcut	7.92	328	*e*Pb		Pb	22 59 41.0	-2.4
BNM	Barren Site	8.01	77	*e*Pn		Pn	22 59 23.7	+1.1
BNM				*e*Sn		Sn	23 00 55.3	+1.9
BNM				Sg		Sg	23 01 46.9	+4.1
ANMO	Albuquerque	8.29	72	*e*Pn		Pn	22 59 27.4	+1.0
ANMO	Albuquerque	8.29	72	Pn		Pn	22 59 28.4	+1.9
	comp=N,0.1nm,0.3s,baz=260,slow=11,SNR=5.2							
ANMO				Lg			23 01 51.6	
	comp=N,0.1nm,0.3s,baz=162,slow=19,SNR=3.1							
MNTX	Cornudas Mount	9.11	94	*e*Pn		Pn	22 59 37.6	0.0
	comp=N,3.0nm,0.6s							
MNTX				*e*Sn		Sn	23 01 20.6	+0.2
SMCO	Snowmass	9.77	46	Pn		Pn	22 59 47.9	+1.1
	comp=N,5.0nm,0.7s							
TXAR	Lajitas Array	11.16	104	Pn		Pn	23 00 08.2	+2.4
	comp=N,0.2nm,0.3s,baz=283,slow=12,SNR=7.7							
TXAR				Lg			23 03 26.6	
	comp=N,0.0nm,0.3s,baz=287,slow=35,SNR=2.7							
PDAR	Pinedale Array	11.26	25	Pn		Pn	23 00 13.4	+6.3
	comp=N,0.0nm,0.3s,baz=202,slow=10,SNR=5.3							
PDAR				Lg			23 03 28.0	
	comp=N,0.1nm,0.3s,baz=187,slow=27,SNR=3.7							
NEW	Newport	15.54	357	Pn		Pn	23 01 08.6	+3.4
	comp=N,0.0nm,0.3s,baz=164,slow=9.2,SNR=4.1							

*NEIC **15** 23:13:30.6, 3694N×2140E, h10km, MD3.6(ATH), After ATH.*
*ATH **15** 23:13:30.6, 3694N×2140E, h10km±4km, MD3.6/5, ML3.6*
*ISCJB **15** 23:13:32.1±0.8, 3706N±004×2152E±006, h3km, Error ellipse: s-maj=8.0km s-min=4.1km az=144.9*
*CSEM **15** 23:13:32.7±0.2, 3705N×2149E, h0km±1km, ML3.5, Error ellipse: s-maj=4.2km s-min=2.0km az=50.0*
*THE **15** 23:13:32.9, 3708N×2153E, h3km, ML3.5*

ISC 15 23:13:32.5±1.1, 3704N±005×2151E±007, h2km±9km, n14, σ0§98/19, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYL	PYLOS	0.23	127	*e*Pg	Pg	23 13 37.6	+0.7
PYL				*e*Sg	Sg	23 13 41.5	+1.5
ITM	Ithomi	0.36	67	*e*PB	Pg	23 13 39.2	-0.2
VLX	Vlachokerasia	0.77	64	*e*Pg	Pg	23 13 46.5	-0.7
VLX				*e*Sg	Sg	23 13 57.4	+0.2
RLS	Riolos of Patr	1.02	358	*e*PB	Pg	23 13 51.7	-0.4
RLS				*e*SB	Sg	23 14 07.3	+2.0
VLI	Veliai	1.19	105	*e*PB	Pb	23 13 55.1	-0.6
KFL	Anninata	1.22	332	*e*Pg	Pg	23 13 54.7	-1.1
KFL				*e*Sg	Sg	23 14 12.8	+1.2
SELA	Sela	1.27	14	*e*Pg	Pg	23 13 56.4	-0.5
SELA				*e*Sg	Sg	23 14 14.2	+0.8
VLS	Valsamata	1.35	328	*e*PB	Pn	23 13 56.9	-1.5
DID	Didima	1.45	71	*e*Pg	Pg	23 13 59.3	-1.1
LTK	Loutraki	1.52	49	*e*Pg	Pg	23 14 00.2	-1.5
NAIG	Nisos Aigina	1.73	65	*e*PG	Pg	23 14 05.0	-0.7
ATH	Athens Observa	1.99	61	*e*PN	Pn	23 14 07.7	+0.6
LKR	Lokris	2.00	36	*e*PN	Pn	23 14 08.2	+1.0
KARN	Karanos	2.54	129	*e*Pn	Pn	23 14 15.2	+0.6

IDC 15 23:46:47.7±7.8, 2849S×17941E, h569km±96km, mb3.2/3, mb1 3.4/4, mb1mx3.1/14, mbtmp3.3/4, Error ellipse: s-maj=116.6km s-min=31.1km az=14.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	9.93	191	P	P	23 49 05.1	+0.1
	1.4nm,0.3s,baz=58,slow=2.0,SNR=12						
CTA	Charters Tower	31.27	278	P	P	23 52 22.1	-0.1
	3.7nm,0.3s,baz=104,slow=12,SNR=6.9						
ASAR	Alice Springs	40.97	266	P	P	23 53 42.0	+0.1
	0.8nm,0.6s,baz=100,slow=7.1,SNR=11						
WRA	Warramunga Arr	41.77	271	P	P	23 53 48.1	-0.2
	1.9nm,0.3s,baz=112,slow=8.4,SNR=92						
FINES	FINESS Array B	142.57	339	PKhKP		00 05 11.0	
	0.9nm,0.7s,baz=51,slow=4.2,SNR=7.6						
NB2	NORSAR Subarra	146.50	350	PKP	PKPdf	00 05 23.8	+1.3
	comp=Z,1.0nm,0.5s,baz=15,slow=2.9						
NOA	NORSAR Array B	146.50	350	PKPbc	PKPbc	00 05 24.0	-1.0
	comp=Z,1.9nm,0.7s,baz=16,slow=4.6,SNR=6.3						
AKASG	Malin Array Be	148.41	323	PKPbc	PKPbc	00 05 30.1	-0.2
	comp=Z,1.4nm,0.3s,baz=48,slow=3.3,SNR=14						

*ISCJB **15** 23:52:08.9±0.4, 077S±008×21.11W±007, h10km, mb4.0/28, MS3.6/7, Error ellipse: s-maj=12.7km s-min=8.0km az=147.4*
*IDC **15** 23:52:09.0±0.6, 071S×21.13W, h0km, mb3.8/13, mb1 4.0/15, mb1mx3.9/26, mbtmp3.9/15, ML4.7/2, MS3.5/6, Ms1 3.5/6, ms1mx3.2/27, Error ellipse: s-maj=20.7km s-min=16.3km az=143.0*
*NEIC **15** 23:52:10.5±0.3, 079S×21.13W, h10km, mb4.3/19, Error ellipse: s-maj=10.0km s-min=6.6km az=144.0*

ISC 15 23:52:10.8±0.4, 078S±008×2113W±007, h10km, n62, σ0§86/59, mb4.0/28, MS3.6/7, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RCBR	Riachuelo	15.57	251	*e*Pn	Pn	23 55 48.7	-1.9
	11nm,0.5s						
BBTS	Babate	16.00	16	Pn	Pn	23 55 53.8	-2.2
	4.4nm,0.3s,baz=226,slow=2.8,SNR=16						
BBTS				Sn	Sn	23 58 38.5	-15
	1.5nm,0.3s,baz=313,slow=18,SNR=4.9						
BBTS				LR	LR	00 00 27.8	
	comp=Z,92nm,19.2s,baz=245,slow=31						
LIC	Lamto	17.51	66	*e*P	Pn	23 56 14.9	-0.4
	90nm,1.2s						
LIC				*e*MLR	MLR		
	comp=Z,144nm,22.6s						
LIC	Lamto	17.51	66	*e*P	Pn	23 56 14.9	-0.4
	comp=Z,45nm,1.2s						
DBIC	Dimbokro	17.85	65	*e*Pn	Pn	23 56 18.8	-0.6
	comp=Z,6.7nm,0.5s						
DBIC	Dimbokro	17.85	65	P	Pn	23 56 19.2	-0.2
	comp=Z,1.5nm,0.3s,baz=244,slow=14,SNR=27						
DBIC				S	Sn	23 59 23.9	-15
	comp=Z,0.1nm,0.3s,baz=0.0,slow=20,SNR=2.8						
TOA0	Torodi Ar. Sit	26.53	58	*e*Pn	P	23 57 48.0	-0.9
TORD	Torodi Ar. Bea	26.53	58	P	P	23 57 48.0	-0.8
TORD				LR	LR	00 06 20.1	
TORD	Torodi Ar. Bea	26.53	58	P	P	23 57 48.0	-0.8
	comp=Z,7.8nm,0.9s,mb4.2,baz=243,slow=11,SNR=28						
TORD				LR	LR	00 06 20.1	
	comp=Z,105nm,19.1s,MS3.4,baz=250,slow=32						
BDFB	Brasilia	30.36	240	P	P	23 58 23.5	+0.4
	comp=Z,1.1nm,0.9s,mb3.6,baz=38,slow=15,SNR=3.9						
SIV	San Ignacio	42.18	247	P	P	00 00 04.7	+0.7
	comp=Z,0.2nm,0.4s,mb3.1,baz=119,slow=6.9,SNR=4.8						
ESDC	Sonseca Array	43.21	19	P	P	00 00 12.9	+0.8
	comp=Z,0.8nm,0.6s,mb3.7,baz=202,slow=8.4,SNR=11						
ESLA	Sonseca Array	43.21	19	*e*P	P	00 00 10.4	-1.7
	comp=Z,1.2nm,1.1s,mb3.5						
KEST	Kesra	46.10	35	LR	LR	00 20 41.4	
	comp=Z,50nm,18.3s,MS3.5,baz=236,slow=37						
SJPF	Ste Jean	47.21	20	*e*P	P	00 00 44.1	+0.3
	comp=Z,5.2nm,0.6s,mb4.3						
SJPF	Ste Jean	47.21	20	*e*P	P	00 00 44.1	+0.3
	comp=Z,2.6nm,0.6s,mb4.3						
LPAZ	La Paz	48.80	249	*e*P	P	00 00 56.3	-0.3
	comp=Z,1.4nm,0.7s,mb4.1						
LPAZ	La Paz	48.80	249	P	P	00 00 56.4	-0.2
	comp=Z,0.9nm,0.7s,mb3.9,baz=141,slow=0.9,SNR=3.6						
LMR	La Mourre	50.42	26	*e*P	P	00 01 08.5	0.0
MFF	Saint Martin d	50.66	19	*e*P	P	00 01 10.7	+0.5
	comp=Z,6.4nm,0.8s,mb4.3						
MFF	Saint Martin d	50.66	19	*e*P	P	00 01 10.7	+0.5
	comp=Z,3.2nm,0.8s,mb4.3						
LSZ	Lusaka	50.76	109	P	P	00 01 11.5	0.0
	comp=Z,1.3nm,0.8s,mb3.9,baz=356,slow=17,SNR=3.6						
VIVF	Saint-Julien-l	50.89	24	*e*P	P	00 01 12.5	+0.5
	comp=Z,8.1nm,1.0s,mb4.3						
VIVF	Saint-Julien-l	50.89	24	*e*P	P	00 01 12.5	+0.5
	comp=Z,4.1nm,1.0s,mb4.3						
LBTB	Lobatse	51.13	122	*e*P	P	00 01 15.0	+0.8
	comp=Z,4.5nm,1.0s,mb4.3						
LBTB	Lobatse	51.13	122	P	P	00 01 14.7	+0.5
	comp=Z,2.1nm,0.6s,mb4.2,baz=291,slow=11,SNR=10						
TCF	Toulx Ste Croi	51.17	21	*e*P	P	00 01 14.9	+0.8
SBF	Sospel	51.25	26	*e*P	P	00 01 15.1	+0.4
MBDF	Montbardon	51.65	25	*e*P	P	00 01 18.3	+0.6
	comp=Z,10nm,0.9s,mb4.5						
MBDF	Montbardon	51.65	25	*e*P	P	00 01 18.3	+0.6
	comp=Z,5.2nm,0.9s,mb4.5						
GRR	Gorron	52.03	17	*e*P	P	00 01 21.4	+0.9
	comp=Z,7.7nm,0.8s,mb4.4						
GRR	Gorron	52.03	17	*e*P	P	00 01 21.4	+0.9
	comp=Z,3.8nm,0.8s,mb4.4						
BOSA	Boshof	52.80	126	P	P	00 01 22.1	-0.1
	comp=Z,2.5nm,0.9s,mb4.1,baz=305,slow=10,SNR=4.1						
LPG	La Plagne	52.26	25	*e*P	P	00 01 23.0	+0.8
	comp=Z,18nm,1.2s,mb4.6						
LPG	La Plagne	52.26	25	*e*P	P	00 01 23.0	+0.8
	comp=Z,9.1nm,1.2s,mb4.6						
LPL	La Plagne	52.27	25	*e*P	P	00 01 22.9	+0.6
	comp=Z,12nm,1.1s,mb4.4						
LPL	La Plagne	52.27	25	*e*P	P	00 01 22.9	+0.6
	comp=Z,6.2nm,1.1s,mb4.5						
SSF	Saint Saulge	52.30	21	*e*P	P	00 01 23.3	+0.8
	comp=Z,2.8nm,0.6s,mb4.0						
SSF	Saint Saulge	52.30	21	*e*P	P	00 01 23.3	+0.8
	comp=Z,1.4nm,0.6s,mb4.1						
LOR	Lormes	52.60	21	*e*P	P	00 01 25.4	+0.7
	comp=Z,10nm,1.2s,mb4.3						
LOR				*e*MLR	MLR		
	comp=Z,76nm,22.2s,MS3.4						
LOR	Lormes	52.60	21	*e*P	P	00 01 25.4	+0.7
	comp=Z,5.1nm,1.2s,mb4.3						
LOR				LR	LR		
	comp=Z,80nm,22.3s,MS3.7						
MEZF	Maizieres J'vi	54.07	21	*e*P	P	00 01 36.3	+0.8
	comp=Z,8.8nm,0.6s,mb4.6						
MEZF	Maizieres J'vi	54.07	21	*e*P	P	00 01 36.3	+0.8
	comp=Z,8.8nm,0.6s,mb4.9						
HAU	Haudompre	54.14	22	*e*P	P	00 01 36.6	+0.6
	comp=Z,7.6nm,0.7s,mb4.4						
HAU				*e*MLR	MLR		
	comp=Z,53nm,19.8s,MS3.3						
HAU	Haudompre	54.14	22	*e*P	P	00 01 36.6	+0.6
	comp=Z,3.8nm,0.7s,mb4.4						
HAU				LR	LR		
	comp=Z,50nm,19.8s,MS3.6						
CDF	Champ du Feu	54.83	23	*e*P	P	00 01 41.5	+0.5
ESK	Eskdalemuir	57.80	12	P	P	00 02 01.1	-1.1
GERES	GERESS Array B	57.85	26	P	P	00 02 00.4	-2.1
	comp=Z,0.6nm,0.6s,mb3.8,baz=176,slow=5.4,SNR=5.5						
NOA	NORSAR Array B	66.46	17	P	P	00 02 59.4	-0.7
	comp=Z,0.4nm,0.7s,mb3.5,baz=200,slow=6.1,SNR=2.7						
AKASG	Malin Array Be	66.71	32	P	P	00 03 00.9	-1.1
	comp=Z,0.2nm,0.4s,mb3.5,baz=238,slow=6.6,SNR=4.1						
SCHQ	Schefferville	66.86	333	Pn	P	00 03 03.5	+0.7
TKL	Tuckaleechee C	68.51	309	LR	LR	00 28 44.0	
	comp=Z,24nm,18.4s,MS3.5,baz=337,slow=32						
FINES	FINESS Array B	71.66	22	P	P	00 03 33.0	+0.6
	comp=Z,0.9nm,0.8s,mb3.8,baz=116,slow=4.4,SNR=4.0						
FINES				LR	LR	00 33 29.9	
	comp=Z,42nm,20.0s,MS3.7,baz=346,slow=35						
FCC	Fort Churchill	81.88	330	*e*P	P	00 04 28.9	-1.3
TXAR	Lajitas Array	83.87	299	P	P	00 04 40.7	-0.5
	comp=Z,0.5nm,0.9s,mb3.6,baz=113,slow=6.9,SNR=3.9						
RES	Resolute Bay	86.48	345	*e*P	P	00 04 53.7	+0.3
	comp=Z,2μm,3.0s						
ANMO	Albuquerque	86.61	305	*e*P	P	00 04 55.0	+0.2
	comp=Z,0.7nm,0.7s,mb4.0						
PDAR	Pinedale Array	89.36	313	LR	LR	00 37 07.0	
	comp=Z,49nm,20.9s,MS3.9,baz=67,slow=30						
HWUT	Hardware Ranch	90.84	311	*e*P	P	00 05 15.8	+1.1
	comp=Z,0.7nm,0.5s,mb4.2						
YKA	Yellowknife Ar	92.30	332	P	P	00 05 20.9	-0.1
	comp=Z,0.3nm,0.9s,mb3.6,baz=93,slow=4.9,SNR=4.1						
ASAR	Alice Springs	145.67	137	PKPbc	PKPbc	00 11 50.1	-0.5
	comp=Z,0.4nm,0.7s,baz=220,slow=2.8,SNR=4.6						
WRA	Warramunga Arr	148.34	132	PKPbc	PKPbc	00 11 57.9	-0.5
	comp=Z,0.6nm,0.9s,baz=251,slow=2.5,SNR=2.6						

JMA 16 00:01:58.5±0.4, 4393N×14787E, h0km, M3.5, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	Nemuro 2	1.64	251	P	Pn	00 02 29.0	+0.4
NEM2				*e*S	Sn	00 02 50.8	+0.4
JRA	Rausu	1.98	271	P	Pn	00 02 34.1	+0.8
JRA				*e*S	Sn	00 02 59.7	+0.8
JNK	Nakash	2.31	263	P	Pn	00 02 38.5	+0.7
JNK				*e*S	Sn	00 03 07.7	+0.9
JAK	Akkeshi	2.49	249	P	Pn	00 02 41.2	+0.9
JTKR	Abashiri--Toko	2.86	272	P	Pn	00 02 47.4	+2.0
JAR	Ashorobuto	3.04	259	P	Pn	00 02 49.8	+1.9
JAR				*e*S	Sn	00 03 27.1	+2.1
JOB	Onbets	3.11	252	*e*S	Sn	00 03 28.7	+2.0
JCH	Churui	3.54	250	*e*S	Sn	00 03 39.1	+1.8
JNBK	Urakawa-nobuka	4.09	248	P	Pn	00 03 04.3	+2.0

*DDA **16** 00:05:45.8, 3840N×3940E, h7km±7km, Md2.9*
*ISCJB **16** 00:05:46.6±0.7, 3841N±005×3934E±004, h10km, Error ellipse: s-maj=7.3km s-min=3.7km az=17.2*
*CSEM **16** 00:05:46.8±0.2, 3835N×3928E, h23km±2km, MD2.8, Error ellipse: s-maj=5.6km s-min=3.2km az=15.0*
*ISK **16** 00:05:46.8, 3837N×3931E, h20km, MD2.8*

ISC 16 00:05:46.7±0.9, 3845N±005×3938E±005, h5km±8km, n9, σ1§27/16, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ELZG	Elazig	0.31	278	*i* P	Pg	00 05 52.7	0.0
ELZG				*i* S	Sg	00 05 57.2	+0.4
MYA	Malataya	0.76	261	*e*PG	Pg	00 06 00.5	-0.7
MYA				*e*SG	Sg	00 06 11.5	+0.4
MALT	Malatya	0.76	260	*e*PG	Pg	00 06 00.4	-0.9
MALT				*e*SG	Sg	00 06 11.7	+0.6
DIY	Diyarbakir	0.87	129	*e*

LKD	**Levkas**	**0.43**	**36**	*e*Pg	**Pg**	**00 42 06.0 -0.9**
LKD				*e*Sg	**Sg**	**00 42 11.9 -0.7**
KFL	**Anninata**	**0.44**	**124**	*e*Pg	**Pg**	**00 42 06.5 -0.4**
KFL				*e*Sg	**Sg**	**00 42 13.8 +1.1**
RLS	**Riolos of Patr**	**0.94**	**108**	⇓*i*PB	**Pb**	**00 42 15.0 -1.9**
RLS				*e*SN	**Sn**	**00 42 29.5 -1.8**
IGT	**Igoumenitsa**	**1.18**	**0**	*e*Pg	**Pg**	**00 42 20.2 -0.8**
IGT				*e*Sg	**Sg**	**00 42 38.2 +1.9**
EVR	**Evrytania**	**1.29**	**64**	*e*PN	**Pn**	**00 42 22.7 +0.2**
SRN	**Sarande**	**1.54**	**351**	*i* Sn	**Sn**	**00 42 52.4 +6.3**
MEV	**Metsovon**	**1.59**	**26**	*e*Pg	**Pg**	**00 42 27.8 -1.2**
MEV				*e*Sg	**Sg**	**00 42 49.9 +0.3**
AGG	**Agios Georgios**	**1.70**	**66**	*e*Pb	**Pb**	**00 42 29.0 -0.8**
AGG				*e*Sb	**Sb**	**00 42 52.5 +1.2**
THL	**Klokotos Trika**	**1.79**	**47**	⇑*i*PN	**Pn**	**00 42 30.2 +0.9**
DID	**Didima**	**2.45**	**109**	*e*Pn	**Pn**	**00 42 40.4 +1.9**
FNA	**Florina**	**2.56**	**18**	*e*Pn	**Pn**	**00 42 40.2 +0.3**

BJI ***16*** *00:54:59.3, 27.20N×142.14E, h52km, mB4.8, mb4.7, Ms4.3, Msz4.0*

NIED ***16*** *00:55:00, 27.50N×142.10E, h53km, Mw5.0 Best double couple: M0:4.10000×10^16 NP1:φs=172.00000°, δ72.00000°, λ83.00000°. NP2:φs=13.00000°, δ19.00000°, λ110.00000°.*

MOS ***16*** *00:55:00.8±0.9, 27.43N×147.53E, h32km, mb5.2/63, MS4.1/9, Error ellipse: s-maj=10.2km s-min=4.5km az=105.5*

ISCJB ***16*** *00:55:03.0±0.1, 27.46N±0.02×147.59E±0.02, h47km, mb5.0/117, MS4.2/23, Error ellipse: s-maj=3.3km s-min=2.9km az=140.2*

IDC ***16*** *00:55:03.5±0.9, 27.36N×147.59E, h44km±7km, mb4.6/20, mb1 4.7/23, mb1mx4.7/25, mbtmp4.6/23, ML4.5/3, MS4.1/8, Ms1 4.1/8, ms1mx3.8/23, Error ellipse: s-maj=14.8km s-min=7.7km az=82.0*

GCMT ***16*** *00:55:04.8±0.3, 27.54N×142.03E, h56km±2km, MW5.1/75, Moment Tensor Solution. s41,c54; s75,c121; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr3.00±.20; Mθθ1.20±.15; Mφφ-4.20±.14; Mrθ-2.49±.10; Mrφ1.13±.13; Mθφ2.22±.13; Best double couple: M0:5.12900×10^16 NP1:φs=198.00000°, δ35.00000°, λ140.00000°. NP2: φs=323.00000°, δ69.00000°, λ62.00000°. Principal axes: T 4.9130, Plg57.0000°, Azm195.0000°; N 0.4310, Plg26.0000°, Azm333.0000°; P -5.3440, Plg19.0000°, Azm73.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***16*** *00:55:04.8±0.4, 27.46N×147.51E, h52km±3km, mb5.0/57, MW5.0(NIED) Error ellipse: s-maj=5.2km s-min=4.4km az=110.0*

NEIC Recorded [3 JMA] in the Chichijima-retto.

SZGRF ***16*** *00:55:05.8, 27.08N×140.82E, h49km, mb5.0, Bonin Islands, Japan, region*

JMA ***16*** *00:55:05.1±0.1, 27.47N×142.14E, h47km±1km, M5.1*

JMA Felt III J1.

ISC 16 00:55:04.7±0.1,2744N±002×14158E±002,h49km, h49km±1.7km:pP-P,n525,σ0988/540,mb5.0/117,MS4.2/23, 91C-82D,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**0.63**	**122**	P	**Pn**	**00 55 14.7**	**-2.8**
CBIJ				*e*S	**Sn**	**00 55 21.5**	**-5.2**
CBIJ	**Chichi jima**	**0.63**	**122**	P	**Pn**	**00 55 14.8**	**-2.7**
	3μm,0.3s,baz=332,slow=4.6,SNR=761						
CBIJ				S	**Sn**	**00 55 21.7**	**-5.0**
	25μm,0.3s,baz=292,slow=22,SNR=180						
JHHJ	**Haha-jima-NKT**	**0.96**	**146**	P	**Pn**	**00 55 20.6**	**-1.3**
JHHJ				*e*S	**Sn**	**00 55 32.5**	**-2.0**
JHJ2	**Mitsune**	**5.86**	**345**	P	**Pn**	**00 56 30.2**	**+1.3**
JHJ2				S	**Sn**	**00 57 32.3**	**-2.5**
JHJ	**Hachijo jima 2**	**5.87**	**345**	P	**Pn**	**00 56 28.6**	**-0.5**
	20nm,0.3s,baz=48,slow=16,SNR=5.2						
JHJ				S	**Sn**	**00 57 31.7**	**-3.4**
	80nm,0.3s,baz=54,slow=22,SNR=4.3						
BSO1	**Boso 1**	**7.21**	**356**	P	**Pn**	**00 56 48.1**	**+0.6**
BSO2	**Boso 2**	**7.33**	**355**	S	**Sn**	**00 58 13.2**	**+2.4**
BSO3	**Boso 3**	**7.40**	**353**	P	**Pn**	**00 56 49.4**	**-0.6**
BSO4	**Boso 4**	**7.61**	**352**	P	**Pn**	**00 56 53.6**	**+0.7**
BSO4				*e*S	**Sn**	**00 58 20.0**	**+2.3**
JOD2	**Odawara 2**	**8.09**	**345**	P	**Pn**	**00 57 01.3**	**+1.8**
JIE	**Ise**	**8.10**	**330**	P	**Pn**	**00 57 05.6**	**+6.0**
JKN2	**Miekihoku**	**8.17**	**327**	P	**Pn**	**00 57 06.0**	**+5.4**
JKN2				*e*S	**Sn**	**00 58 41.0**	**+9.4**
JNY	**Yasuok**	**8.51**	**339**	P	**Pn**	**00 57 10.5**	**+5.2**
JHU	**Hanno**	**8.62**	**347**	P	**Pn**	**00 57 06.6**	**-0.1**
JHU				*e*S	**Sn**	**00 58 42.0**	**-0.5**
JYT	**Yasato**	**8.84**	**353**	P	**Pn**	**00 57 09.4**	**-0.4**
JRY	**Ryogami san**	**8.85**	**346**	P	**Pn**	**00 57 10.9**	**+0.9**
JRY				S	**Sn**	**00 58 49.2**	**+0.9**
JAG	**Ashikaga**	**9.14**	**349**	P	**Pn**	**00 57 12.8**	**-1.1**
JHO	**Hitachi**	**9.19**	**355**	P	**Pn**	**00 57 12.5**	**-2.0**
JHO				S	**Sn**	**00 58 51.7**	**-4.8**
JMZ	**Minamidaito 2**	**9.41**	**262**	P	**Pn**	**00 57 23.3**	**+5.6**
MJAR	**Matsushiro Arr**	**9.52**	**343**	P	**Pn**	**00 57 18.7**	**-0.4**
MJAR				S	**Sn**	**00 59 03.3**	**-1.3**
MJAR				pmax	pmax		
	comp=Z,5.0nm,0.3s						
MJAR				smax			
	comp=N,3.0nm,0.3s						
MJAR	**Matsushiro Arr**	**9.52**	**343**	P	**Pn**	**00 57 18.7**	**-0.3**
	comp=N,5.4nm,0.3s,baz=170,slow=6.3,SNR=25						
MJAR				S	**Sn**	**00 59 03.3**	**-1.3**
	comp=N,2.6nm,0.3s,baz=158,slow=17,SNR=3.2						
MAJO	**Matsushiro**	**9.52**	**343**	*e*Pn	**Pn**	**00 57 20.4**	**+1.3**
MAT	**Matsushiro**	**9.52**	**343**	P	**Pn**	**00 57 19.7**	**+0.6**
MAT				S	**Sn**	**00 59 03.0**	**-1.6**
MAT	**Matsushiro**	**9.52**	**343**	P	**Pn**	**00 57 21.4**	**+2.3**
MAT				S	**Sn**	**00 59 06.9**	**+2.3**
JFK	**Kawauchi**	**9.92**	**357**	P	**Pn**	**00 57 22.2**	**-2.3**
JAM	**Amami Oshima**	**10.64**	**278**	P	**Pn**	**00 57 41.9**	**+7.5**
JNU	**Nakatsue**	**10.85**	**304**	P	**Pn**	**00 57 42.1**	**+4.8**
	comp=N,0.7nm,0.3s,baz=100,slow=11,SNR=3.6						
JNU				S	**Sn**	**00 59 42.6**	**+5.5**
	comp=N,0.8nm,0.3s,baz=181,slow=19,SNR=2.4						
JMK	**Ichinoseki**	**11.49**	**359**	P	**Pn**	**00 57 44.1**	**-1.9**
JMK				S	**Sn**	**00 59 45.5**	**-7.3**
JOW	**Kunigami**	**11.87**	**270**	P	**Pn**	**00 57 55.9**	**+4.6**
	comp=N,2.8nm,0.3s,baz=114,slow=20,SNR=6.2						
JOW				LR	LR	01 01 47.2	
	comp=N,2μm,21.9s,baz=290,slow=34						
ERM	**Erimo**	**14.60**	**5**	Pn	**Pn**	**00 58 25.6**	**-2.6**
	comp=N,614nm,1.2s,SNR=8.5						
ERM	**Erimo**	**14.60**	**5**	*e*Pn	**Pn**	**00 58 25.0**	**-3.2**
	comp=N,121nm,1.0s						
ERM	**Erimo**	**14.60**	**5**	*e*P	**Pn**	**00 58 25.0**	**-3.2**
ERM				pmax	pmax		
	comp=Z,121nm,1.0s						
KSRS	**Korea Array**	**15.24**	**314**	P	**Pn**	**00 58 39.5**	**+2.9**
	comp=Z,0.4nm,0.3s,baz=123,slow=14,SNR=5.2						
ASAJ	**Asahikawa**	**16.66**	**3**	P	**Pn**	**00 58 54.4**	**-0.3**
ASAJ				pmax	pmax		
	comp=Z,4.0nm,0.3s						
ASAJ	**Asahikawa**	**16.66**	**3**	P	**Pn**	**00 58 54.4**	**-0.3**
	comp=Z,3.6nm,0.3s,baz=223,slow=12,SNR=11						
NACB	**Ninganchiao**	**18.29**	**264**	*e*P	**Pn**	**00 59 18.2**	**+3.3**
YHNB	**Yeheng**	**18.36**	**266**	*e*P	**Pn**	**00 59 19.8**	**+3.9**
YSS	**Yuzh-Sakhalins**	**19.50**	**2**	*e*Pn	**Pn**	**00 59 30.4**	**+1.1**
YSS	**Yuzh-Sakhalins**	**19.50**	**2**	⇑*e*P	**Pn**	**00 59 28.8**	**-0.5**
YSS				pmax	pmax		
	comp=Z,85nm,1.3s						
YSS				MLR	MLR		
	comp=Z,200nm,18.0s						
MDJ	**Mudanjiang**	**19.66**	**334**	P	**Pn**	**00 59 29.3**	**-1.8**
MDJ				AP	pP	00 59 39.3	-1.3
MDJ				XP	sP	00 59 44.5	-2.3
MDJ				S	**S**	**01 03 08.8**	**+0.4**
MDJ				XS	sS	01 03 25.3	-1.3
MDJ				SCP	ScP	01 07 19.9	+0.8
MDJ				PCS	PcS	01 07 25.0	+0.9
MDJ				AMB	AMB		
	comp=Z,46nm,5.7s						
MDJ				LR	LR		
	comp=N,303nm,21.0s						
MDJ				LR	LR		
	comp=E,227nm,17.9s						
MDJ				LR	LR		
	comp=Z,547nm,21.7s						
NJ2	**Nanjing**	**20.25**	**289**	*e*P	**P**	**00 59 38.6**	**+2.6**
NJ2				AP		00 59 48.8	
NJ2				XP	sP	00 59 55.6	+2.2
NJ2				PP		00 59 58.4	
NJ2				S	**S**	**01 03 19.0**	**-1.5**
NJ2				AMB	AMB		
	comp=Z,30nm,0.8s						
NJ2				AMB	AMB		
	comp=Z,46nm,3.8s						
NJ2				LR	LR		
	comp=N,2μm,14.4s,MS5.1						
NJ2				LR	LR		
	comp=E,5μm,13.0s,MS5.1						
SNY	**Shenyang**	**20.57**	**319**	⇑P	**P**	**00 59 43.4**	**+4.1**
SNY				AP		00 59 53.8	
SNY				XP	sP	01 00 00.4	+3.6
SNY				S	**S**	**01 03 35.3**	**+8.7**
SNY				XS	sS	01 03 50.0	+5.0
SNY				SS		01 04 06.0	
SNY				AMB	AMB		
	comp=Z,27nm,0.5s						
SNY				LR	LR		
	comp=N,427nm,15.7s						
SNY				LR	LR		
	comp=Z,479nm,16.7s,MS3.9						
QZH	**Quanzhou**	**20.78**	**268**	P	**P**	**00 59 43.8**	**+2.1**
QZH				S	**S**	**01 03 28.3**	**-2.7**
QZH				LR	LR		
	comp=N,800nm,16.9s						
QZH				LR	LR		
	comp=E,350nm,10.0s						
QZH				LR	LR		
	comp=Z,640nm,21.1s,MS4.0						
CN2	**Changchun**	**20.88**	**326**	*e*P	**P**	**00 59 45.8**	**+3.1**
CN2				*e*S	**S**	**01 03 32.3**	**-0.4**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.8s						
CN2				AMB	AMB		
	comp=Z,200nm,5.0s						
CN2				LR	LR		
	comp=N,440nm,15.0s,MS4.1						
CN2				LR	LR		
	comp=E,350nm,15.0s,MS4.1						
CN2				LR	LR		
	comp=Z,540nm,19.0s,MS3.9						
HABR	**Khabarovsk**	**21.61**	**348**	*e*P	**P**	**00 59 52.2**	**+1.8**
HABR				*e*		01 00 06.8	
HABR				*e*		01 00 14.7	
HABR				*e*S	**S**	**01 03 50.7**	**+3.9**
HABR				*e*		01 03 51.0	
HABR				*e*		01 04 22.8	
HABR				*e*		01 11 05.7	
HABR				pmax	pmax		
	comp=Z,82nm,1.0s,mb5.1						
TIA	**Tai'an**	**22.50**	**299**	*e*P	**P**	**01 00 00.0**	**-0.1**
KLR	**Kul'dur**	**23.05**	**343**	*e*P	**P**	**01 00 02.8**	**-2.8**
KLR				*e*S	**S**	**01 04 11.0**	**-1.7**
KLR				pmax	pmax		
	comp=E,64nm,1.2s						
KLR				pmax	pmax		
	comp=Z,80nm,1.2s,mb5.0						
WHN	**Wuhan**	**24.00**	**284**	*e*P	**P**	**01 00 16.8**	**+1.9**
HHC	**Hu-ho-hao-te**	**28.07**	**306**	*e*P	**P**	**01 00 53.8**	**+2.3**
HHC				AP	pP	01 01 08.0	+3.9
HHC				XP	sP	01 01 16.1	+6.2
HHC				S	**S**	**01 05 33.6**	**+0.8**
HHC				XS	sS	01 05 58.0	+3.9
HHC				SS		01 07 00.6	
HHC				SCS	ScS	01 11 31.0	-3.5
HHC				AMB	AMB		
	comp=Z,20nm,0.4s,mb5.1						
HHC				AMB	AMB		
	comp=Z,119nm,4.7s						
HHC				LR	LR		
	comp=N,246nm,13.7s,MS4.2						
HHC				LR	LR		
	comp=E,403nm,15.9s,MS4.2						
HHC				LR	LR		
	comp=Z,564nm,19.0s,MS4.2						
PET	**Petropavlovsk**	**28.54**	**22**	*e*P	**P**	**01 00 55.6**	**+0.1**
PET				*e*S	**S**	**01 05 38.4**	**-1.5**
PET				pmax	pmax		
	comp=Z,27nm,1.5s,mb4.8						
PET				MLR	MLR		
	comp=Z,400nm,19.0s,MS4.0						
PET				MLR	MLR		
	comp=Z,600nm,14.0s						
XAN	**Xi'an**	**28.75**	**291**	P	**P**	**01 00 57.6**	**-0.1**
XAN				AP	pP	01 01 08.8	-1.5
XAN				AMB	AMB		
	comp=Z,6.0nm,0.6s,mb4.5						
XAN				AMB	AMB		
	comp=Z,24nm,4.1s						
XAN				LR	LR		
	comp=N,102nm,14.9s,MS3.9						
XAN				LR	LR		
	comp=E,200nm,14.9s,MS3.9						
XAN				LR	LR		
	comp=Z,240nm,16.4s,MS3.9						
QIZ	**Qiongzhong**	**30.28**	**261**	P	**P**	**01 01 13.9**	**+2.6**
QIZ				XP	sP	01 01 31.3	+1.5
QIZ				S	**S**	**01 06 09.4**	**+1.5**
QIZ				XS	sS	01 06 31.3	+2.0
QIZ				SS	SS	01 07 49.3	-29
QIZ				AMB	AMB		
	comp=Z,16nm,1.4s,mb4.6						
QIZ				LR	LR		
	comp=E,285nm,24.2s						
QIZ				LR	LR		
	comp=Z,484nm,27.3s,MS4.0						
QIZ	**Qiongzhong**	**30.28**	**261**	*e*P	**P**	**01 01 14.7**	**+3.4**
GYA	**Guiyang**	**31.09**	**276**	⇓*i*P	**P**	**01 01 19.9**	**+1.5**
GYA				AP	pP	01 01 32.8	+1.7
GYA				XP	sP	01 01 37.9	+1.0
GYA				PP	PP	01 02 24.3	-4.9
GYA				PCP	PcP	01 04 15.8	+2.7
GYA				S	**S**	**01 06 19.3**	**-1.2**
GYA				XS	sS	01 06 42.3	+0.4
GYA				PCS	PcS	01 07 58.8	+1.5
GYA				SCS	ScS	01 11 49.5	+0.3
GYA				AMB	AMB		
	comp=Z,20nm,1.0s,mb4.9						
GYA				AMB	AMB		
	comp=Z,130nm,7.2s						
GYA				LR	LR		
	comp=N,630nm,16.8s,MS4.5						
GYA				LR	LR		
	comp=E,530nm,17.6s,MS4.5						
GYA				LR	LR		
	comp=Z,810nm,20.3s,MS4.4						
NRGR	**Nerungri**	**31.59**	**342**	*e*P	**P**	**01 01 20.7**	**-1.7**
NRGR				S	**S**	**01 06 21.1**	**-6.6**
NRGR				smax			
	comp=E,38nm,0.5s						
KKM	**Kota Kinabalu**	**32.16**	**233**	*e*P	**P**	**01 01 30.0**	**+2.1**
MA2	**Magadan**	**32.75**	**9**	*e*P	**P**	**01 01 33.0**	**+0.4**
	comp=E,39nm,1.3s,mb5.2						
MA2	**Magadan**	**32.75**	**9**	*e*P	**P**	**01 01 33.0**	**+0.4**
MA2				pmax	pmax		
	comp=Z,39nm,1.3s,mb5.2						
LZH	**Lanzhou**	**33.06**	**295**	*e*P	**P**	**01 01 35.9**	**+0.3**
LZH				AP	pP	01 01 50.5	+2.1
LZH				XP	sP	01 01 56.0	+1.9
LZH				PP	PP	01 02 46.1	-4.9
LZH				PCP	PcP	01 04 19.1	+0.8
LZH				*e*S	**S**	**01 06 45.3**	**-5.8**
LZH				AMB	AMB		
	comp=Z,28nm,1.0s,mb5.2						
LZH				AMB	AMB		
	comp=Z,96nm,4.3s						
LZH				LR	LR		
	comp=E,1μm,15.6s						
LZH				LR	LR		
	comp=Z,1μm,16.3s,MS4.8						
CD2	**Chengdu**	**33.11**	**285**	⇓*i*P	**P**	**01 01 36.6**	**+0.5**
CD2				AP	pP	01 01 48.3	-0.5
CD2				XP	sP	01 01 53.0	-1.6
CD2				PP	PP	01 02 47.8	-3.8
CD2				PCP	PcP	01 04 20.6	+2.1
CD2				S	**S**	**01 06 51.4**	**-0.5**
CD2				SCS	ScS	01 11 57.6	-1.7
CD2				AMB	AMB		
	comp=Z,90nm,0.7s,mb5.8						
CD2				AMB	AMB		
	comp=Z,300nm,4.2s						
CD2				LR	LR		
	comp=N,400nm,16.8s,MS4.3						
CD2				LR	LR		
	comp=E,350nm,16.8s,MS4.3						
CD2				LR	LR		
	comp=Z,370nm,21.6s,MS4.1						
ULN	**Ulaanbaatar**	**33.71**	**317**	⇑*e*P	**P**	**01 01 41.5**	**+0.4**
SONM	**Songino Array**	**34.10**	**316**	P	**P**	**01 01 43.3**	**-1.2**
SONM						01 04 21.5	
SONM				pmax	pmax		
	comp=Z,1.0nm,0.4s						
SONM				pmax	pmax		
	comp=Z,3.0nm,0.5s						
SONM				pmax	pmax		
	comp=N,3.0nm,0.6s						
SONM	**Songino Array**	**34.10**	**316**	P	**P**	**01 01 43.3**	**-1.2**
	comp=N,0.9nm,0.4s,mb4.1,baz=127,slow=8.5,SNR=16						
SONM				PcP	PcP	01 04 21.5	+0.5
	comp=N,2.5nm,0.5s,baz=145,slow=3.4,SNR=12						
SONM				ScP	ScP	01 07 59.4	-2.5
	comp=N,3.4nm,0.6s,baz=140,slow=3.4,SNR=19						
KMI	**Kunming**	**34.81**	**275**	P	**P**	**01 01 53.8**	**+2.8**
KMI				AP	pP	01 02 07.3	+3.6
KMI				XP	sP	01 02 13.3	+3.8
KMI				PP	PP	01 03 08.8	-1.7
KMI				S	**S**	**01 07 13.5**	**-4.9**
KMI				SS	SS	01 09 40.5	-10
KMI				AMB	AMB		
	comp=Z,24nm,1.1s,mb5.0						
KMI				AMB	AMB		
	comp=Z,62nm,4.4s						
KMI				LR	LR		
	comp=N,255nm,18.1s,MS4.0						
KMI				LR	LR		
	comp=E,115nm,20.7s,MS4.0						
KMI				LR	LR		
	comp=Z,261nm,24.8s,MS3.9						
YAK	**Yakutsk**	**35.49**	**350**	*e*P	**P**	**01 02 03.3**	**+7.0**
YAK				*e*		01 03 22.8	
YAK				*e*		01 04 31.9	
YAK				*e*S	**S**	**01 07 31.5**	**+3.5**
YAK				*e*SS	SS	01 09 43.1	-21
YAK				*e*		01 12 06.7	
YAK				pmax	pmax		
	comp=Z,53nm,0.8s,mb5.5						
YAK				pmax	pmax		
	comp=N,27nm,1.2s						
YAK				pmax	pmax		
	comp=E,12nm,1.0s						
YAK				pmax	pmax		
	comp=Z,31nm,0.6s,mb5.4						
YAK				pmax	pmax		
	comp=N,8.0nm,0.4s						
YAK				pmax	pmax		
	comp=E,5.0nm,0.5s						
YAK				smax			
	comp=N,52nm,1.7s						
YAK				smax			
	comp=Z,36nm,1.5s						
YAK				smax			
	comp=E,40nm,1.9s						
YAK				MLR	MLR		
	comp=N,367nm,28.0s,MS4.1						
YAK				MLR	MLR		
	comp=Z,530nm,28.0s,MS4.2						
YAK				MLR	MLR		
	comp=E,264nm,24.0s,MS4.1						
BOD	**Bodaibo**	**36.02**	**335**	*e*P	**P**	**01 02 00.7**	**-0.2**
BOD				pmax	pmax		
	comp=Z,12nm,0.9s,mb4.8						
BOD				pmax	pmax		
	comp=Z,23nm,1.1s,mb5.0						
BOD				pmax	pmax		
	comp=Z,14nm,1.0s,mb4.8						
SEY	**Seymchan**	**36.20**	**8**	⇑*e*P	**P**	**01 02 03.2**	**+0.8**
GTA	**Gaotai**	**36.55**	**300**	*e*P	**P**	**01 02 06.5**	**+0.8**
GTA				AP	pP	01 02 17.0	-1.5
GTA				XP	sP	01 02 22.3	-2.0
GTA				PP	PP	01 03 31.9	+2.4
GTA				PCP	PcP	01 04 28.6	+0.3
GTA				S	**S**	**01 07 46.6**	**+1.9**
GTA				XS	sS	01 08 06.8	+0.5
GTA				SCP	ScP	01 08 11.1	+0.1
GTA				PCS	PcS	01 08 17.3	+1.1
GTA				SS	SS	01 10 17.3	-8.5
GTA				AMB	AMB		
	comp=Z,3.0nm,0.8s,mb4.2						
GTA				AMB	AMB		
	comp=Z,54nm,7.6s						
GTA				LR	LR		
	comp=N,245nm,15.2s						
GTA				LR	LR		
	comp=E,202nm,20.9s						
GTA				LR	LR		
	comp=Z,323nm,22.1s						
ZAK	**Zakamensk**	**37.00**	**319**	*e*P	**P**	**01 02 09.3**	**-0.1**
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.1						
TLY	**Talaya**	**37.34**	**321**	*e*P	**P**	**01 02 13.3**	**+1.1**
TLY				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.5						
TLY				MLR	MLR		
	comp=Z,323nm,20.0s,MS4.1						
KAPI	**Kappang**	**38.54**	**216**	P	**P**	**01 02 23.5**	**+0.8**
	comp=Z,194nm,1.3s,mb5.7,SNR=6.8						
MOY	**Mondy**	**38.84**	**320**	*e*P	**P**	**01 02 24.9**	**+0.1**
KSM	**Kuching**	**39.55**	**235**	*e*P	**P**	**01 02 32.9**	**+1.7**
CHG	**Chiang Mai**	**39.98**	**267**	⇑P	**P**	**01 02 35.7**	**+0.9**
	comp=Z,19nm,0.7s,mb4.9						
CHTO	**Chiang Mai**	**39.98**	**267**	*e*P	**P**	**01 02 35.7**	**+0.9**
KAKA	**Kakadu**	**40.88**	**194**	*e*P	**P**	**01 02 41.3**	**-0.8**
	comp=Z,62nm,1.5s,mb5.0						
KAKA	**Kakadu**	**40.88**	**194**	*e*P	**P**	**01 02 40.8**	**-1.3**
	comp=Z,24nm,0.6s,mb5.0						
BATI	**Kupang**	**41.26**	**207**	P	**P**	**01 02 45.6**	**+0.4**
	comp=Z,156nm,0.4s,mb6.0,baz=60,slow=1.4,SNR=28						
BATI				S	**S**	**01 08 54.4**	**-1.5**
	comp=Z,15nm,0.6s,baz=322,slow=19,SNR=4.1						
BILL	**Bilibino**	**43.25**	**13**	*e*P	**P**	**01 03 00.4**	**-0.4**
	comp=Z,12nm,0.6s,mb4.8						
BILL	**Bilibino**	**43.25**	**13**	*d i*P	**P**	**01 03 01.0**	**+0.2**
BILL				*e*	pP	01 03 12.5	-1.4
BILL				*e*		01 04 49.8	
BILL				pmax	pmax		
	comp=Z,60nm,2.3s,mb4.9						
SNG	**Songkhla**	**43.71**	**250**	P	**P**	**01 03 07.0**	**+1.7**
LSA	**Lhasa**	**44.07**	**285**	P	**P**	**01 03 10.4**	**+2.4**
LSA	**Lhasa**	**44.07**	**285**	*e*P	**P**	**01 03 10.6**	**+2.6**
SHL	**Shillong**	**44.28**	**279**	*e*P	**P**	**01 03 12.0**	**+2.2**
SHL				*e*S	**S**	**01 09 35.0**	**-5.3**
TIXI	**Tiksi**	**44.82**	**354**	*e*P	**P**	**01 03 13.1**	**-0.3**
TIXI	**Tiksi**	**44.82**	**354**	⇓*e*P	**P**	**01 03 12.9**	**-0.5**
TIXI				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.2						
WMQ	**Urumqi**	**45.94**	**306**	*e*P	**P**	**01 03 24.0**	**+1.3**
WMQ				AMB	AMB		
	comp=Z,6.0nm,0.7s,mb4.6						
WMQ				AMB	AMB		
	comp=Z,79nm,4.0s						
GAMB	**Gambell**	**47.05**	**26**	*e*P	**P**	**01 03 31.1**	**0.0**
CTA	**Charters Tower**	**47.46**	**174**	*e*P	**P**	**01 03 34.3**	**-0.4**
	comp=Z,23nm,0.7s,mb5.2						
CTA	**Charters Tower**	**47.46**	**174**	*e*P	**P**	**01 03 34.3**	**-0.4**
CTA				pmax	pmax		
	comp=Z,23nm,0.7s						
CTA	**Charters Tower**	**47.46**	**174**	P	**P**	**01 03 34.5**	**-0.2**
CTA				pmax	pmax		
	comp=Z,26nm,0.6s						
CTA	**Charters Tower**	**47.46**	**174**	P	**P**	**01 03 34.5**	**-0.2**
	comp=Z,26nm,0.6s,mb5.3,baz=6.9,slow=7.7,SNR=17						
CTAO	**Charters Tower**	**47.46**	**174**	*e*P	**P**	**01 03 34.4**	**-0.2**
PSI	**Prapat**	**47.54**	**247**	P	**P**	**01 03 37.7**	**+2.2**
PSI				ScP	ScP	01 08 53.7	-1.5
PSI	**Prapat**	**47.54**	**247**	P	**P**	**01 03 37.7**	**+2.2**
PSI				pmax	pmax		
	comp=Z,24nm,0.5s,mb5.5						
PSI				pmax	pmax		
	comp=N,10.0nm,0.8s						
PSI	**Prapat**	**47.54**	**247**	P	**P**

WB2 e 01 08 52.9
WB2 eS S 01 10 22.9 -5.2
WRA Warramunga Arr 47.62 189 P P 01 03 35.5 -0.4
WRA ScP ScP 01 08 52.9 -2.3
WRA S S 01 10 23.6 -4.5
WRA LR LR 01 21 17.0
WRA Warramunga Arr 47.62 189 P P 01 03 35.5 -0.4
WRA S S 01 10 23.6 -4.5
WRA pmax pmax
comp=Z,80nm,0.4s
WRA pmax pmax
comp=N,4.0nm,0.8s
WRA smax
comp=N,7.0nm,1.1s
WRA Warramunga Arr 47.62 189 P P 01 03 35.5 -0.4
comp=N,80nm,0.4s,mb6.1,baz=9.3,slow=8.2,SNR=939
WRA ScP ScP 01 08 52.9 -2.3
comp=N,3.5nm,0.8s,baz=6.2,slow=4.4,SNR=7.2
WRA S S 01 10 23.6 -4.5
comp=N,6.5nm,1.1s,baz=9.0,slow=14,SNR=6.6
WRA LR LR 01 21 17.0
comp=N,245nm,21.2s,MS4.2,baz=10.0,slow=33
FITZ Fitzroy Crossi 47.83 201 eP P 01 03 37.8 +0.2
comp=N,23nm,0.8s,mb5.2
ZAA0 Zalesovo Array 48.88 319 eP P 01 03 43.8 -1.5
ZALV Zalesovo Beam 48.88 319 P P 01 03 44.5 -0.8
comp=N,3.6nm,0.4s,mb4.8,baz=94,slow=7.9,SNR=15
ZALV PcP PcP 01 05 08.7 -0.5
comp=N,7.9nm,0.5s,baz=115,slow=3.4,SNR=11
ZALV ScP ScP 01 08 57.5 -2.7
comp=N,4.5nm,0.7s,baz=111,slow=4.5,SNR=11
ZAL Zalesovo 48.89 319 P P 01 03 44.6 -0.8
ZAL 01 05 08.7
TNA Tin City 49.31 25 eP P 01 03 49.4 +1.0
comp=N,26nm,1.0s,mb5.2
MK31 Makanchi Array 49.85 309 eP P 01 03 52.5 -0.3
MKAR Makanchi Array 49.85 309 P P 01 03 52.2 -0.6
MKAR pmax pmax
comp=Z,1.0nm,0.4s
MKAR pmax pmax
comp=N,5.0nm,0.7s
MKAR Makanchi Array 49.85 309 P P 01 03 52.2 -0.6
comp=N,0.8nm,0.4s,mb4.1,baz=88,slow=9.4,SNR=8.4
MKAR ScP ScP 01 09 02.5 -2.0
comp=N,4.9nm,0.7s,baz=81,slow=5.1,SNR=16
NVS Novosibirsk 49.94 320 eP P 01 03 51.6 -1.8
NVS e*PP pP 01 04 06.4 -0.3
NVS eS S 01 10 55.9 -4.2
NVS e 01 13 36.6
NVS pmax pmax
comp=Z,10.0nm,1.1s,mb4.8
NVS pmax pmax
comp=E,4.0nm,0.9s
NVS smax
comp=N,22nm,2.7s
NVS smax
comp=E,15nm,2.7s
CHGN Chignik 51.08 38 eP P 01 04 00.9 -1.1
ASAR Alice Springs 51.34 189 P P 01 04 03.7 -0.6
ASAR 01 05 18.2
ASAR S S 01 11 21.4 +1.3
ASAR pmax pmax
comp=Z,5.0nm,0.4s
ASAR pmax pmax
comp=Z,3.0nm,0.5s
ASAR pmax pmax
comp=N,1.0nm,0.7s
ASAR smax
comp=N,1.0nm,1.0s
ASAR Alice Springs 51.34 189 P P 01 04 03.7 -0.6
comp=N,5.3nm,0.4s,mb4.8,baz=6.5,slow=6.1,SNR=89
ASAR PcP PcP 01 05 18.2 -0.3
comp=N,3.0nm,0.5s,baz=0.8,slow=3.4,SNR=4.3
ASAR ScP ScP 01 09 09.7 -1.3
comp=N,1.3nm,0.7s,baz=9.3,slow=4.7,SNR=4.5
ASAR S S 01 11 21.4 +1.3
comp=N,1.3nm,0.9s,baz=18,slow=18,SNR=5.0
KURK Kurchatov 52.37 314 P P 01 04 10.1 -1.6
comp=N,81nm,0.5s,mb5.9,SNR=9.3
KURK Kurchatov 52.37 314 eP P 01 04 10.2 -1.5
KURK Kurchatov 52.37 314 d iP P 01 04 10.7 -1.0
MBWA Marble Bar 52.73 206 eP P 01 04 15.0 +0.3
comp=N,25nm,0.8s,mb5.2
EIDS Eidsvold 53.29 169 eP P 01 04 17.9 -0.8
comp=N,3.3nm,0.6s,mb4.4
SVW2 Sparrevohn 53.29 33 eP P 01 04 18.9 +0.6
TTA Tatalina 53.42 30 eP P 01 04 20.3 +1.0
KDAK Kodiak Island 54.41 37 eP P 01 04 25.6 -1.0
KDAK Kodiak Island 54.41 37 P P 01 04 25.8 -0.8
comp=N,15nm,0.5s,mb5.2,baz=269,slow=4.8,SNR=28
IMA2 Indian Mountai 55.02 27 eP P 01 04 31.5 +0.6
UCH Uchtor 55.66 304 eP P 01 04 35.9 +0.1
comp=N,6.0nm,1.0s,mb4.6
UCH PcP PcP 01 05 36.2 +1.4
AML Almayashu 56.28 304 eP P 01 04 40.3 0.0
comp=N,3.6nm,0.5s,mb4.7
PMR Palmer 56.44 32 eP P 01 04 40.4 -0.7
comp=N,27nm,1.0s,mb5.2
PMR Palmer 56.44 32 eP P 01 04 40.4 -0.7
PMR pmax pmax
comp=Z,27nm,1.0s,mb5.2
MCK McKinley 56.70 30 eP P 01 04 42.8 -0.1
comp=Z,40nm,1.3s,mb5.3
MCK McKinley 56.70 30 eP P 01 04 42.8 -0.1
MCK pmax pmax
comp=Z,40nm,1.3s,mb5.3
COLA College 57.27 29 eP P 01 04 47.2 +0.3
comp=Z,4.1nm,0.6s,mb4.6
COLA College 57.27 29‖eP P 01 04 47.9 +1.0
BVAR Borovoye Array 57.43 317 P P 01 04 47.2 -1.0
BVAR pmax pmax
comp=Z,6.0nm,0.4s
BVAR pmax pmax
comp=N,2.0nm,0.5s
BVAR Borovoye Array 57.43 317 P P 01 04 47.2 -1.0
comp=N,6.4nm,0.4s,mb5.0,baz=90,slow=7.3,SNR=64
BVAR ScP ScP 01 09 35.3 -2.1
comp=N,1.7nm,0.5s,baz=94,slow=4.7,SNR=7.1
BRVK Borovoye 57.49 317 P P 01 04 48.2 -0.5
comp=N,45nm,0.8s,mb5.5,SNR=6.1
BRVK Borovoye 57.49 317 eP P 01 04 47.8 -0.9
ARMA Armidale 58.33 170 eP P 01 04 55.1 +0.4
KK31 Karatay Array 58.45 306 i P P 01 04 54.4 -1.2
KK31 pmax pmax
comp=Z,5.0nm,0.4s,mb4.9
HYB Hyderabad 58.59 274 eP P 01 04 58.0 +1.1
HYB Hyderabad 58.59 274 i P P 01 04 58.0 +1.1
STKA Stephens Creek 58.98 180 eP P 01 04 58.5 -0.7
comp=Z,13nm,0.8s,mb5.0
STKA Stephens Creek 58.98 180 P P 01 04 57.1 -2.1
comp=Z,14nm,0.7s,mb5.1,baz=354,slow=6.9,SNR=24
STKA S S 01 12 59.8 -2.2
comp=Z,6.5nm,1.1s,baz=139,slow=14,SNR=4.8
FORT Forrest 59.31 194 eP P 01 05 00.8 -0.7
comp=Z,30nm,0.4s,mb5.7
EGAK Eagle 60.12 29 eP P 01 05 06.6 -0.1
DAWY Dawson 60.92 30 eP P 01 05 12.9 +0.7
SVE Sverdlovsk 62.63 322 eP P 01 05 23.9 +0.1
SVE pmax pmax
comp=Z,10.0nm,0.6s,mb5.1
KLBR Kellerberrin 62.94 203 eP P 01 05 26.3 +0.2
comp=Z,33nm,0.7s,mb5.6
INK Inuvik 62.94 25 P P 01 05 25.5 -0.2
INK pmax pmax
comp=Z,7.0nm,0.5s
INK Inuvik 62.94 25 P P 01 05 25.5 -0.2
comp=Z,7.2nm,0.5s,mb5.1,baz=293,slow=5.4,SNR=135
ARU Arti 63.83 322 P P 01 05 30.9 -0.8
comp=Z,124nm,0.4s,SNR=6.8
ARU Arti 63.83 322 eP P 01 05 30.6 -1.1
ARU Arti 63.83 322 c iP P 01 05 30.6 -1.1
ARU e 01 06 03.7
ARU ePPP 01 09 27.3
ARU eS S 01 14 01.4 -1.7
ARU pmax pmax
comp=Z,12nm,1.0s,mb4.9
AKTK Aktyubinsk 65.42 316 P P 01 05 41.5 -0.6
AKTO Aktyubinsk 65.42 316 i P P 01 05 41.3 -0.9
AKTO Aktyubinsk 65.42 316 P P 01 05 41.5 -0.6
comp=Z,3.7nm,0.6s,mb4.6,baz=69,slow=6.0,SNR=10
TMCR Tamitsa 71.29 333 eP P 01 06 18.7 0.0
APA Apatity 71.53 337⇑iP P 01 06 21.0 +0.9
APA i pP 01 06 38.6 +4.6
APA pmax pmax
comp=Z,31nm,1.0s,mb5.2

YKW3 Yellowknife Ar 72.06 28 eP P 01 06 22.7 -0.7
YKA Yellowknife Ar 72.10 28 P P 01 06 22.6 -1.0
YKA LR LR 01 38 17.2
YKA Yellowknife Ar 72.10 28 P P 01 06 22.6 -0.9
YKA pmax pmax
comp=Z,6.0nm,0.5s
YKA MLR MLR
comp=Z,44nm,18.6s
YKA Yellowknife Ar 72.10 28 P P 01 06 22.6 -0.9
comp=Z,6.0nm,0.5s,mb4.8,baz=296,slow=6.3,SNR=164
YKA LR LR 01 38 17.2
comp=Z,44nm,18.6s,MS3.8,baz=180,slow=36
KEV Kevo 72.48 341 ep P 01 06 24.5 -1.2
comp=Z,16nm,0.7s,mb5.1
KEV Kevo 72.48 341 eP P 01 06 24.5 -1.2
KEV pmax pmax
comp=Z,16nm,0.7s,mb5.1
ARCES ARCESS Array B 73.05 341 P P 01 06 30.6 +1.5
ARCES pmax pmax
comp=Z,11nm,0.7s
ARCES MLR MLR
comp=Z,157nm,19.1s
ARCES ARCESS Array B 73.05 341 P P 01 06 30.6 +1.5
comp=Z,11nm,0.7s,mb4.9,baz=63,slow=7.3,SNR=46
ARCES LR LR 01 39 42.9
comp=Z,157nm,19.1s,MS4.3,baz=262,slow=37
ARE0 ARCESS Array S 73.05 341 eP P 01 06 29.0 -0.1
GNW Green Mountain 73.83 45 eP P 01 06 35.0 +0.9
GNW epP pP 01 06 47.6 -0.5
B05A Bryant 74.00 44⇑P P 01 06 34.8 -0.2
baz=74
JOF Joensuu 74.54 334 ep P 01 06 37.6 -0.3
comp=Z,11nm,0.4s,mb5.1
A07A Ashnola River, 74.73 42⇓P P 01 06 39.3 0.0
baz=74
F04A Amboy 74.73 46⇓P P 01 06 39.7 +0.4
baz=74
E05A Randle 74.89 45⇓P P 01 06 40.6 +0.4
baz=75
I03A Eugene 74.95 48⇓P P 01 06 40.6 0.0
baz=75
MOS Moscow 75.12 325 eP pP 01 06 53.9 -1.6
MOS e 01 11 15.8
B07A Winthrop 75.13 43⇑P P 01 06 41.6 0.0
baz=75
D06A Cle Elum 75.21 44⇑P P 01 06 42.3 +0.2
baz=75
H04A Detroit Lake 75.38 47⇓P P 01 06 42.9 -0.3
baz=75
E06A Yakima 75.39 45⇑P P 01 06 43.4 +0.2
baz=75
A08A Turner Farm, O 75.43 42⇑P P 01 06 43.6 +0.2
baz=75
C07A Waterville 75.48 44⇑P P 01 06 43.4 -0.3
baz=75
I04A Tendick Farm, 75.60 48⇓P P 01 06 44.6 +0.2
baz=75
B08A Colville Reser 75.65 43 P P 01 06 44.9 +0.3
baz=75,SNR=5.5
D07A Quincy 75.75 44⇓P P 01 06 45.0 -0.1
baz=76
A09A Danville 75.83 42⇑P P 01 06 46.0 +0.4
baz=76
OBN Obninsk 75.95 325⇑eP P 01 06 46.9 +0.7
OBN e pP 01 06 58.1 -2.1
OBN eSS SS 01 21 20.1 +2.5
OBN pmax pmax
comp=Z,22nm,1.3s,mb4.9
OBN MLR MLR
comp=Z,200nm,18.0s,MS4.5
H05A Madras 76.02 47⇑P P 01 06 46.9 +0.1
baz=76
J04A Umpqua Nationa 76.03 48⇓P P 01 06 47.1 +0.2
baz=76
C08A Higginbotham F 76.06 43⇑P P 01 06 47.0 0.0
baz=76
E07A Sunnyside 76.09 45⇓P P 01 06 47.5 +0.3
baz=76
G06A Carlson Farm, 76.16 46⇓P P 01 06 47.6 +0.1
baz=76
YBH Yreka Blue Hor 76.24 50 epP pP 01 07 03.7 +1.6
YBH Yreka Blue Hor 76.24 50⇓P P 01 06 48.3 +0.2
baz=76
M02C Callahan 76.29 50⇓P P 01 06 48.7 +0.3
baz=76
VRSR Storozhevoye 76.33 321 eP P 01 06 48.5 +0.1
VRSR pmax pmax
comp=Z,2.0nm,1.1s,mb4.0
VRSR pmax pmax
comp=N,1.0nm,1.4s
VRSR pmax pmax
comp=E,2.0nm,0.8s
B09A Rice 76.33 42⇓P P 01 06 48.6 +0.1
baz=76
HAWA Hanford 76.36 45 eP P 01 06 49.2 +0.5
A10A Northport 76.44 42⇑P P 01 06 49.4 +0.4
baz=76
D08A Wollman Farm, 76.45 44⇓P P 01 06 49.4 +0.2
baz=76
C09A Chrisman Ranch 76.53 43⇓P P 01 06 49.5 -0.1
baz=76
H06A Lindquist Farm 76.56 47⇓P P 01 06 49.6 -0.3
baz=76
J05A Fort Rock 76.59 48⇑P P 01 06 50.4 +0.3
baz=76,SNR=5.3
E08A Dider Farm, El 76.61 44⇑P P 01 06 50.0 -0.2
baz=76
G07A Ruggs Ranch, H 76.76 46⇑P P 01 06 50.8 -0.2
baz=76
M04C Macdoel 76.81 50⇓P P 01 06 51.5 +0.2
baz=77
M03C McCloud 76.84 50⇓P P 01 06 51.5 +0.1
baz=77
EDM Edmonton 76.86 37 eP P 01 06 51.6 +0.2
EDM epP pP 01 07 04.3 -1.2
KAF Kangasniemi 76.94 334 ep P 01 06 51.0 -0.6
comp=E,19nm,0.4s,mb5.4,baz=54,slow=5.2
KAF Kangasniemi 76.94 334 eP P 01 06 51.0 -0.6
KAF pmax pmax
comp=Z,19nm,0.4s,mb5.4
I06A Prineville 76.98 47⇑P P 01 06 52.8 +0.6
baz=77
NEW Newport 77.02 42 eP P 01 06 52.5 +0.1
K05A Summer Lake 77.05 49 P P 01 06 53.6 +1.0
baz=77,SNR=5.8
F08A Pendleton 77.09 45⇓P P 01 06 53.4 +0.6
baz=77
A11A Hall Mountain, 77.15 41⇑P P 01 06 53.3 +0.2
baz=77,SNR=6.0
E09A Wood Farm, Sta 77.17 44⇓P P 01 06 53.5 +0.2
baz=77
G08A Pilot Rock 77.20 46 P P 01 06 54.0 +0.5
baz=77,SNR=5.7
J06A Christmas Vall 77.31 48⇑P P 01 06 54.6 +0.4
baz=77
I07A Izee 77.38 47⇓P P 01 06 54.7 +0.2
baz=77
B11A Sandpoint 77.39 42⇑P P 01 06 54.8 +0.3
baz=77
FIA1 FINESS Array S 77.41 334 eP P 01 06 54.0 -0.2
FINES FINESS Array B 77.41 334 i P P 01 06 54.0 -0.3
FINES pmax pmax
comp=Z,17nm,0.6s
FINES FINESS Array B 77.41 334 P P 01 06 54.1 -0.1
comp=Z,17nm,0.6s,mb5.2,baz=66,slow=5.8,SNR=261
KIV Kislovodsk 77.42 313 eP P 01 06 55.3 +0.6
comp=Z,17nm,1.2s,mb4.8
KIV Kislovodsk 77.42 313 eP P 01 06 56.4 +1.7
KIV pmax pmax
comp=Z,10.0nm,1.1s,mb4.7
KIV MLR MLR
comp=Z,124nm,18.0s,MS4.3
KIV Kislovodsk 77.42 313⇑iP P 01 06 57.0 +2.3
D10A Wagner Farm, O 77.47 43⇓P P 01 06 55.2 +0.3
baz=77
A12A Yaak River Ran 77.58 41⇓P P 01 06 56.2 +0.7
baz=77
H08A Prairie City 77.72 46⇓P P 01 06 56.8 +0.4
baz=78
E10A Myers Farm, Un 77.83 44⇑P P 01 06 56.9 0.0
baz=78
O04C Chester 77.95 51⇑P P 01 06 57.7 -0.1
baz=78
F10A Beach Ranch, E 77.98 44⇑P P 01 06 58.0 +0.2
baz=78
M06C Likely Place G 77.99 50⇓P P 01 06 58.1 +0.2
baz=78

ORV Oroville 78.00 52⇑P P 01 06 57.4 -0.6
baz=78
D11A Klaveano Farm, 78.04 43 P P 01 06 58.0 -0.1
baz=78,SNR=8.6
K07A Rock Creek Ran 78.16 48⇓P P 01 06 58.9 +0.1
baz=78
H09A Durkee 78.30 46⇑P P 01 06 59.7 +0.1
baz=78
A13A Flathead Natio 78.30 41⇑P P 01 06 59.7 +0.2
baz=78
G10A Bishop Farm, J 78.36 45 P P 01 07 00.3 +0.5
baz=78,SNR=13
J08A Circle Bar Ran 78.37 47 P P 01 07 00.7 +0.8
baz=78,SNR=5.2
L07A Adell 78.39 49⇓P P 01 07 00.8 +0.7
baz=78,SNR=6.7
E11A Bogner Ranch, 78.44 44 P P 01 07 00.4 +0.1
baz=78,SNR=6.0
BMO Blue Mountains 78.44 45 eP P 01 07 00.1 -0.2
comp=Z,27nm,1.4s,mb5.0
BMO Blue Mountains 78.44 45 eP P 01 07 00.2 -0.2
BMO pmax pmax
comp=Z,27nm,1.4s,mb5.0
WALA Waterton Lakes 78.53 41 eP P 01 07 01.4 +0.6
comp=Z,29nm,1.4s,mb5.0
B13A Whitefish 78.54 41⇓P P 01 07 01.0 +0.2
baz=78,SNR=9.3
BSMT Bassoo Peak 78.60 42 eP P 01 07 02.0 +0.8
D12A Red Ives Fores 78.64 43⇑P P 01 07 01.5 +0.1
baz=78
K08A Mann Creek Ran 78.64 48⇓P P 01 07 01.7 +0.2
baz=78
BEKR Beckwourth 78.65 51⇓P P 01 07 01.7 0.0
baz=78
F11A Grangeville 78.69 44 P P 01 07 01.6 -0.1
baz=78,SNR=7.3
P05C Yuba Gap, Truc 78.73 52⇑P P 01 07 01.6 -0.5
baz=78
M07A Soldier Meadow 78.79 49⇓P P 01 07 02.8 +0.4
baz=79
C13A Hot Springs 78.81 42 P P 01 07 02.8 +0.5
baz=79,SNR=10
VSU Vasula 78.84 331 i P P 01 07 02.9 +0.6
J09A Fry Pan Ranch, 78.84 47⇑P P 01 07 02.6 +0.1
baz=79
G11A Walters Elk Ra 78.84 45 P P 01 07 02.5 -0.1
baz=79,SNR=19
H10A Noah's Angus R 78.92 45 P P 01 07 02.9 -0.1
baz=79,SNR=6.1
L08A Fields 78.98 48 P P 01 07 04.1 +0.7
baz=79,SNR=6.2
D13A Huson 79.15 42⇑P P 01 07 04.0 -0.2
baz=79
K09A Rome 79.16 48⇓P P 01 07 04.2 -0.1
baz=79
N07B Gerlach 79.20 50⇑P P 01 07 04.3 -0.3
baz=79
C14A Swan Lake 79.25 42⇓P P 01 07 04.7 -0.1
baz=79
M08A Happy Creek Ra 79.29 49⇓P P 01 07 05.4 +0.3
baz=79
F12A Elk City 79.31 44 P P 01 07 05.3 +0.3
baz=79,SNR=5.9
H11A Donnelly 79.33 45⇑P P 01 07 05.0 -0.2
baz=79
CMB Columbia Colle 79.45 53 eP P 01 07 05.2 -0.8
comp=Z,10nm,0.9s,mb4.8
CMB Columbia Colle 79.45 53 eP P 01 07 05.2 -0.8
CMB pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
CMB Columbia Colle 79.45 53⇑P P 01 07 05.9 -0.1
baz=79
L09A Wilkinson Ranc 79.51 48⇑P P 01 07 06.4 +0.2
baz=79
E13A Victor 79.63 43⇓P P 01 07 06.3 -0.6
baz=79
K10A MacKenzie Ranc 79.68 47⇓P P 01 07 07.1 -0.1
baz=79,SNR=7.0
D14A Greenough 79.73 42⇓P P 01 07 06.9 -0.4
baz=80
N08A GE Springer Mi 79.76 49 P P 01 07 08.2 +0.5
baz=80,SNR=5.8
CHMT Chamberlain Mo 79.96 42 eP P 01 07 07.9 -0.7
MFID Camas Ranch 80.05 46⇑P P 01 07 09.5 +0.3
baz=80
H12A Diamond D Ranc 80.13 45⇓P P 01 07 09.2 -0.3
baz=80
N09A Rock Creek Ran 80.14 49⇓P P 01 07 09.6 -0.1
baz=80
K11A Parker Ranch, 80.23 47⇓P P 01 07 10.4 +0.3
baz=80
G13A Cobalt 80.25 44 P P 01 07 09.8 -0.4
baz=80,SNR=7.5
L10A Juniper Basin 80.27 48⇑P P 01 07 10.6 +0.3
baz=80
PPT Papeete 80.30 116 eLR LR 01 32 00.5
comp=Z,344nm,25.5s
PMOR Pomariorio Ree 80.30 112 eT 02 34 44.6
comp=Z,23nm,0.2s
D15A Lincoln 80.33 42⇑P P 01 07 10.7 +0.1
baz=80
ANN Anapa 80.38 316 eP P 01 07 09.6 -1.3
ANN e*PP pP 01 07 22.5 -2.5
ANN eS S 01 17 13.0 -0.2
ANN pmax pmax
comp=Z,24nm,1.1s,mb5.0
T06C Millerton Lake 80.39 53⇑P P 01 07 10.6 -0.5
baz=80
M10A I.L. Ranch, Tu 80.48 48⇓P P 01 07 11.7 +0.1
baz=80
H13A Challis 80.50 45 P P 01 07 12.1 +0.5
baz=80,SNR=7.2
E15A Deer Lodge 80.57 42 P P 01 07 12.0 +0.1
baz=80,SNR=6.9
J12A Stokes Ranch, 80.60 46⇓P P 01 07 12.0 -0.1
baz=80
O09A Fish Creek Ran 80.68 50⇓P P 01 07 12.9 +0.3
baz=80
L11A Cat Creek Ranc 80.69 47⇑P P 01 07 12.6 -0.1
baz=80
NVAR Mina Array Bea 80.73 52 P P 01 07 13.3 +0.4
comp=Z,2.3nm,0.7s,mb4.2,baz=285,slow=3.5,SNR=10
Q08A Gabbs 80.79 51⇓P P 01 07 13.3 +0.1
baz=81
HLID Hailey 80.89 46 eP P 01 07 14.3 +0.6
HLID Hailey 80.89 46⇑P P 01 07 13.9 +0.3
baz=81
I13A Wildhorse Cree 80.90 45⇑P P 01 07 14.0 +0.3
baz=81,SNR=7.0
HRY Holter Researc 80.91 42 eP P 01 07 14.2 +0.4
F15A Butte 80.95 43 P P 01 07 14.3 +0.4
baz=81,SNR=14
LRM Limekiln Ridge 80.99 43 eP P 01 07 14.7 +0.6
M11A Holland Ranch, 81.02 48⇑P P 01 07 14.6 +0.1
baz=81
K12A Draper Farm, C 81.02 47⇓P P 01 07 14.7 +0.3
baz=81
J13A Cove Ranch, Pi 81.12 46⇑P P 01 07 15.0 +0.1
baz=81
DLMT Dillon 81.13 43 eP P 01 07 15.8 +0.9
comp=Z,29nm,1.5s,mb5.0
L12A House Creek Ra 81.19 47⇓P P 01 07 15.8 +0.5
baz=81,SNR=6.4
G15A Dillon 81.29 43⇓P P 01 07 16.1 +0.3
baz=81
VES Vestal, Richgr 81.37 54⇓P P 01 07 16.1 -0.3
baz=81
EGMT Eagleton 81.44 40⇑P P 01 07 16.7 +0.2
baz=81
K13A Stover Farm, H 81.54 46⇑P P 01 07 17.5 +0.4
baz=81
BOZ Bozeman (W) 81.57 43 eP P 01 07 17.8 +0.5
BOZ Bozeman (W) 81.57 43⇓P P 01 07 17.3 0.0
baz=81
M12A Wells 81.61 48⇓P P 01 07 18.3 +0.8
baz=81,SNR=6.5
R09A Tonopah 81.67 51 P P 01 07 18.2 +0.3
baz=82,SNR=6.1
FFC Flin Flon 81.73 32 P P 01 07 17.8 -0.1
comp=Z,62nm,1.3s,mb5.4,SNR=7.6
FFC Flin Flon 81.73 32 eP P 01 07 16.8 -1.1
comp=Z,18nm,1.0s,mb5.0
FFC Flin Flon 81.73 32 eP P 01 07 16.8 -1.1
FFC pmax pmax
comp=Z,18nm,1.0s,mb5.0
O11A Cowboy Ranch, 81.74 49⇓P P 01 07 18.0 -0.2
baz=82
N12A Clover Valley, 81.80 48⇓P P 01 07 18.2 -0.4

baz=82
S09A Goldfield 81.81 52 ⇓P P 01 07 18.7 0.0
baz=82
Q10A Clear Creek Ra 81.86 51 ⇓P P 01 07 18.9 0.0
baz=82
L13A Double Diamond 81.91 47 ⇑P P 01 07 19.3 +0.3
baz=82
AKASG Malin Array Be 82.03 324 P P 01 07 18.7 -0.8
AKASG pmax pmax
comp=Z,6.0nm,0.5s
AKASG Malin Array Be 82.03 324 P P 01 07 18.7 -0.8
comp=Z,5.7nm,0.5s,mb4.8,baz=53,slow=5.4,SNR=56
AKBB Malin Array Si 82.03 324 eP P 01 07 18.2 -1.3
KIEV Kiev 82.04 324 eP P 01 07 18.1 -1.5
comp=Z,9.4nm,0.6s,mb4.9
KIEV Kiev 82.04 324 eP P 01 07 18.1 -1.5
KIEV pmax pmax
comp=Z,9.0nm,0.6s,mb4.9
QLMT Earthquake Lak 82.11 43 eP P 01 07 20.5 +0.4
QLMT epP pP 01 07 33.5 -0.8
M13A Montello 82.13 47 ⇑P P 01 07 20.2 0.0
baz=82
S10A Tonopah Range, 82.15 51 P P 01 07 20.9 +0.4
baz=82,SNR=5.8
K14A Jones Ranch, D 82.18 46 ⇑P P 01 07 20.6 +0.1
baz=82
R10A Warm Springs 82.18 51 ⇑P P 01 07 20.2 -0.4
baz=82
O12A Currie 82.28 49 P P 01 07 21.4 +0.3
baz=82,SNR=6.6
YMR Madison River 82.48 43 eP P 01 07 22.9 +0.9
comp=Z,15nm,1.0s,mb4.9
P12A McGill 82.56 49 ⇓P P 01 07 22.5 0.0
baz=82
M14A Sheep Mountain 82.59 47 ⇑P P 01 07 22.9 +0.2
baz=82
R11A Troy Canyon, C 82.65 51 ⇓P P 01 07 22.5 -0.5
baz=82
YFT Old Faithful 82.67 44 eP P 01 07 28.6 +5.6
Q12A Willow Creek R 82.83 50 ⇓P P 01 07 24.2 +0.2
baz=83
TPNV Topopah Spring 82.86 52 ⇓P P 01 07 24.3 +0.1
baz=83
LKWY Lake 82.88 43 epP pP 01 07 39.1 +0.8
MALT Malatya 82.89 309 ⇑iP P 01 07 25.3 +1.0
IMW Indian Meadow 82.89 44 eP P 01 07 25.6 +1.4
FLWY Flagg Ranch 82.94 44 eP P 01 07 26.1 +1.6
comp=Z,29nm,1.4s,mb5.1
SUW Suwalki 83.08 328 eP P 01 07 24.5 -0.4
MOOW Moose Ponds 83.09 44 eP P 01 07 27.5 +2.2
comp=Z,37nm,1.9s,mb5.1
NB2 NORSAR Subarra 83.10 338 P P 01 07 24.2 -0.7
comp=Z,14nm,1.0s,mb5.0,baz=44,slow=5.3
NOA NORSAR Array B 83.10 338 P P 01 07 24.4 -0.5
NOA pmax pmax
comp=Z,7.0nm,0.7s
NOA MLR MLR
comp=Z,111nm,20.3s
NOA NORSAR Array B 83.10 338 P P 01 07 24.4 -0.5
comp=Z,6.5nm,0.7s,mb4.8,baz=45,slow=5.0,SNR=23
NOA LR LR 01 47 00.6
comp=Z,111nm,20.3s,MS4.2,baz=20,slow=38
TPAW Teton Pass 83.10 44 eP P 01 07 26.5 +1.2
P13A Bates Ranch, G 83.17 49 P P 01 07 26.1 +0.4
baz=83,SNR=6.0
LOHW Long Hollow 83.25 44 eP P 01 07 27.3 +1.3
RLMT Red Lodge 83.27 42 eP P 01 07 27.0 +0.9
R12A Pony Springs, 83.33 50 ⇑P P 01 07 26.3 -0.3
baz=83
T11A Corn Creek, Al 83.44 51 ⇓P P 01 07 26.2 -0.9
baz=83
TBI Tubuai 83.53 120 eLR LR 01 33 31.9
comp=Z,374nm,25.8s
DUG Dugway 83.60 48 eP P 01 07 28.2 +0.3
comp=Z,28nm,1.6s,mb5.1
DUG Dugway 83.60 48 eP P 01 07 28.3 +0.4
DUG pmax pmax
comp=Z,28nm,1.6s,mb5.1
DUG Dugway 83.60 48 P P 01 07 28.4 +0.5
baz=83,SNR=5.5
HWUT Hardware Ranch 83.69 46 eP P 01 07 28.9 +0.6
comp=Z,21nm,1.1s,mb5.2
TAOE Nuku Hiva Isla 83.77 103 eLR LR 01 33 30.7
comp=Z,7μm,30.3s
TUQ Turquoise Mtn. 83.83 53 ⇑P P 01 07 29.0 -0.2
baz=84
S13A Holt Ranch, En 84.21 51 ⇑P P 01 07 31.0 0.0
baz=84
JLU Jordanelle 84.28 47 eP P 01 07 32.3 +0.9
JLU epP pP 01 07 38.6 -7.0
GMRC Granite Mounta 84.33 54 ⇓P P 01 07 31.6 -0.2
baz=84
PDAR Pinedale Array 84.35 44 P P 01 07 32.0 +0.4
comp=Z,3.7nm,0.9s,mb4.5,baz=256,slow=1.7,SNR=16
PDAR LR LR 01 39 23.1
comp=Z,141nm,21.2s,MS4.3,baz=231,slow=32
T13A Saint George 84.46 51 ⇓P P 01 07 32.6 +0.2
baz=84
BELC Belle Mtn. 84.47 55 ⇓P P 01 07 31.8 -0.7
baz=84
DAU Daniels Canyon 84.51 47 eP P 01 07 33.0 +0.5
U13A Pakoon Wash 84.72 52 ⇑P P 01 07 33.9 +0.2
baz=84
MSU Marysvale 84.88 49 eP P 01 07 35.3 +0.8
T14A Hurricane 85.01 51 ⇑P P 01 07 35.1 -0.1
baz=85
BC3 Big Chuckw Mtn 85.04 55 ⇓P P 01 07 35.0 -0.3
baz=85
U14A Mt Trumbull 85.27 51 ⇑P P 01 07 36.7 +0.3
baz=85
W13A Hualapai Mount 85.44 53 ⇓P P 01 07 37.3 -0.1
baz=85
T15A Red Dirt Ranch 85.51 50 ⇑P P 01 07 37.9 +0.3
baz=85
Y12C Blythe 85.66 54 ⇓P P 01 07 39.0 +0.6
baz=85
SRU San Rafael 85.67 48 eP P 01 07 38.5 +0.1
V14A Boquillas Ranc 85.72 52 ⇑P P 01 07 39.1 +0.4
baz=86
X13A Yucca 85.73 53 ⇓P P 01 07 38.6 -0.2
baz=86
W14A Seligman 85.95 52 ⇑P P 01 07 39.4 -0.4
baz=86
BSD Bornholm Skovb 85.98 332 ⇓iP P 01 07 38.9 -0.6
BSD pmax pmax
comp=Z,11nm,0.8s,mb5.1
BSD Bornholm Skovb 85.98 332 ⇓iP P 01 07 38.9 -0.6
comp=Z,11nm,0.8s,mb5.2
BSD e 01 07 58.4
KWP Kalwaria 86.04 325 eP P 01 07 40.2 +0.2
KWP Kalwaria 86.04 325 ⇓iP P 01 07 40.2 +0.2
Y13A Salome 86.13 54 ⇑P P 01 07 40.6 -0.2
baz=86
VRI Vrincioaia 86.17 321 ⇑iP P 01 07 43.5 +2.8
GKP Gorka Klasztor 86.26 330 eP P 01 07 38.6 -2.4
X14A Yava 86.47 53 ⇓P P 01 07 42.6 +0.2
baz=86
Y14A Wickenburg 86.66 53 ⇑P P 01 07 43.1 -0.2
baz=86
STHS Stebnicka Huta 86.91 326 eP P 01 07 44.8 +0.5
comp=Z,4.7nm,0.9s,mb4.7
STHS e 01 08 05.6
STHS Stebnicka Huta 86.91 326 eP P 01 07 44.8 +0.5
STHS pmax pmax
comp=Z,5.0nm,0.9s,mb4.7
X15A Humboldt 86.92 53 ⇑P P 01 07 44.5 -0.1
baz=87
OJC Ojcow 87.11 327 eP P 01 07 44.8 -0.4
Y15A Casa Rosa Ranc 87.13 53 ⇓P P 01 07 45.3 -0.3
baz=87
CRVS Cervenica-Dubn 87.13 325 eP P 01 07 43.9 -1.4
MUD Monsted U'grnd 87.22 336 eP P 01 07 45.6 0.0
MUD pmax pmax
comp=Z,24nm,1.0s,mb5.4
MUD Monsted U'grnd 87.22 336 iP P 01 07 45.6 0.0
comp=Z,24nm,1.0s,mb5.4
NIE Niedzica 87.37 326 eP P 01 07 47.3 +0.8
ULM Lac du Bonnet 87.45 33 P P 01 07 45.9 -1.0
comp=Z,1.5nm,0.6s,mb4.4,baz=330,slow=3.9,SNR=3.6
ULM LR LR 01 43 48.6
comp=Z,134nm,21.8s,MS4.3,baz=280,slow=33
PHWY Pilot Hill 87.70 44 eP P 01 07 49.2 +0.9
Y16A Circle Bar Ran 87.77 53 ⇑P P 01 07 48.1 -0.6
baz=88
KECS Kecovo 87.89 325 eP P 01 07 46.2 -2.8
SMCO Snowmass 87.95 46 eP P 01 07 50.2 +0.7
comp=Z,8.9nm,1.1s,mb4.9

SMCO epP pP 01 08 03.2 -0.6
OKC Ostrava-Krasne 88.16 327 eP P 01 07 59.6 +9.4
KSP Ksiaz 88.34 329 eP P 01 07 50.7 -0.4
KSP Ksiaz 88.34 329 eP P 01 07 50.8 -0.3
KSP e*PP pP 01 08 04.2 -1.2
MORC Moravsky Berou 88.49 327 eP P 01 07 51.4 -0.4
comp=Z,8.4nm,1.4s,mb4.8
MORC Moravsky Berou 88.49 327 eP P 01 07 51.4 -0.4
MORC pmax pmax
comp=Z,8.0nm,1.4s,mb4.8
MORC Moravsky Berou 88.49 327 ⇓iP P 01 07 51.0 -0.8
PSZ Piszkesteto 88.56 325 eP P 01 07 52.1 -0.1
comp=Z,10nm,1.2s,mb5.0
PSZ epP pP 01 08 12.3 +5.8
PSZ Piszkesteto 88.56 325 eP P 01 07 52.1 -0.1
PSZ pmax pmax
comp=Z,10.0nm,1.2s,mb5.0
DPC Dobruska-Polom 88.67 328 eP P 01 07 52.5 -0.1
DPC epP pP 01 08 10.8 +3.8
BSEG Bad Segeberg 88.68 334 eP P 01 07 51.6 -1.0
comp=Z,16nm,1.1s,mb5.3
UPC Upice 88.71 329 eP P 01 07 52.0 -0.8
UPC epP pP 01 08 03.3 -3.8
VYHS Vyhne 88.72 326 eP P 01 07 52.2 -0.7
comp=Z,4.5nm,1.2s,mb4.7
VYHS e 01 08 13.0
VYHS Vyhne 88.72 326 eP P 01 07 52.2 -0.7
VYHS pmax pmax
comp=Z,5.0nm,1.2s,mb4.7
AGMN Agassiz Refuge 88.75 34 epP pP 01 08 04.8 -2.5
KOLL Kolacno 88.88 326 eP P 01 07 53.8 +0.2
VRAC Vranov 89.26 328 ⇑iP P 01 07 55.5 +0.1
PVCC Panska Ves 89.35 329 eP P 01 07 56.1 +0.3
217A Green Valley 89.35 54 ⇓P P 01 07 56.9 +0.6
baz=89
BRG Berggiesshubel 89.39 330 eP P 01 07 55.7 -0.3
BRG pmax pmax
comp=Z,2.0nm,0.8s,mb4.5
BRG Berggiesshubel 89.39 330 eP P 01 07 54.7 -1.3
comp=Z,4.0nm,0.8s,mb4.8
BRG Berggiesshubel 89.39 330 eP P 01 07 55.7 -0.3
comp=Z,4.0nm,0.8s,mb4.8
CLL Collm 89.49 331 ⇑iP P 01 07 56.3 -0.2
comp=Z,11nm,1.3s,mb5.0
CLL iSP sP 01 08 16.9 +0.7
CLL Collm 89.49 331 ⇑iP P 01 07 56.3 -0.2
CLL pmax pmax
comp=Z,11nm,1.3s,mb5.0
CLL Collm 89.49 331 eP P 01 07 55.3 -1.2
comp=Z,6.0nm,0.8s,mb5.0
CLL Collm 89.49 331 ⇑iP P 01 07 56.3 -0.2
comp=Z,11nm,1.3s,mb5.0
CLL iPcP PcP 01 07 58.6 +0.8
CLL epP pP 01 08 10.0 -0.8
CLL iSP sP 01 08 16.9 +0.7
CLL epPP 01 11 40.0
MODS Modra-Piesok 89.57 327 eP P 01 07 53.1 -3.8
PRU Pruhonice 89.74 329 eP P 01 07 57.8 +0.1
PRU esP sP 01 08 18.2 +0.8
EIL Elat 89.75 303 LR LR 01 52 47.1
comp=Z,42nm,21.5s,MS3.8,baz=95,slow=39
TREC Trest 89.79 328 eP P 01 07 57.4 -0.5
TREC epP pP 01 08 15.4 +3.1
318A Bisbee 90.13 54 ⇓P P 01 08 00.6 +0.7
baz=90
CLZ Clausthal 90.22 332 eP P 01 07 59.3 -0.6
CLZ pmax pmax
comp=Z,7.0nm,0.9s,mb5.0
CLZ Clausthal 90.22 332 eP P 01 07 59.3 -0.6
comp=Z,7.0nm,0.9s,mb5.0
PKSM Moragy 90.33 324 ⇑iP P 01 08 00.0 -0.5
TANN Tannenbergstha 90.37 330 eP P 01 08 00.0 -0.6
comp=Z,4.0nm,1.1s,mb4.7
NKC Novy Kostel 90.51 330 eP P 01 08 00.2 -1.1
NKC epP pP 01 08 13.5 -2.1
CONA Conrad Observa 90.56 327 ⇑iPcP PcP 01 08 02.3 -0.3
comp=Z,13nm,1.6s
MOX Moxa 90.58 331 eP P 01 08 01.6 +0.1
comp=Z,18nm,1.8s,mb5.1
MOX Moxa 90.58 331 eP P 01 08 01.6 +0.1
MOX pmax pmax
comp=Z,18nm,1.8s,mb5.1
MOX Moxa 90.58 331 eP P 01 08 00.8 -0.8
comp=Z,287nm,4.7s
ANMO Albuquerque 90.67 50 eP P 01 08 02.5 +0.2
comp=Z,11nm,1.4s,mb5.0
ANMO Albuquerque 90.67 50 ⇑eP P 01 08 02.6 +0.3
KHC Kasperske Hory 90.80 329 eP P 01 08 02.3 -0.3
KHC ex x 01 08 23.6
IBBN Ibbenburen 90.92 334 eP P 01 08 02.4 -0.7
comp=Z,27nm,1.2s,mb5.5
GEC2 GERESS Array S 90.94 329 eP P 01 08 02.2 -1.1
GEC2 pmax pmax
comp=Z,4.0nm,0.8s,mb4.8
GEC2 GERESS Array S 90.94 329 eP P 01 08 02.2 -1.1
comp=Z,4.0nm,0.8s,mb4.8
GERES GERESS Array B 90.94 329 P P 01 08 02.6 -0.7
GERES pmax pmax
comp=Z,3.0nm,0.6s
GERES GERESS Array B 90.94 329 P P 01 08 02.6 -0.7
comp=Z,3.3nm,0.6s,mb4.8,baz=39,slow=5.2,SNR=29
ROTZ Rotzenmuhle 90.96 330 eP P 01 08 02.9 -0.4
comp=Z,8.0nm,1.1s,mb5.0
ROTZ epP pP 01 08 16.1 -1.6
WET Wettzell 91.11 329 eP P 01 08 03.6 -0.4
WET pmax pmax
comp=Z,4.0nm,1.1s,mb4.7
WET Wettzell 91.11 329 eP P 01 08 03.6 -0.4
comp=Z,4.0nm,1.1s,mb4.7
ARSA Arzberg 91.20 327 ⇓iP P 01 08 04.4 -0.1
comp=Z,6.4nm,1.2s,mb4.8
ARSA Arzberg 91.20 327 ⇓iPcP P 01 08 04.4 -0.1
comp=Z,6.4nm,1.2s,mb4.8
ECSD EROS,Sioux Fal 91.36 38 epP pP 01 08 17.3 -2.4
MOA Molln 91.39 328 ⇑iP P 01 08 05.7 +0.3
comp=Z,8.2nm,1.3s,mb4.9
MOA Molln 91.39 328 ⇑iPcP P 01 08 05.7 +0.3
comp=Z,8.2nm,1.3s,mb4.9
GRA1 Grafenberg Arr 91.45 330 eP P 01 08 05.2 -0.4
comp=Z,16nm,1.0s,mb5.3
GRA1 epP pP 01 08 18.7 -1.3
GRF Grafenberg Arr 91.45 330 eP P 01 08 05.2 -0.4
GRF e*PP pP 01 08 18.7 -1.3
GRF pmax pmax
comp=Z,16nm,1.0s,mb5.3
GRF Grafenberg Arr 91.45 330 eP P 01 08 05.2 -0.4
GRF e*PP pP 01 08 18.7 -1.3
GRF pmax pmax
comp=Z,16nm,1.0s,mb5.3
GRA1 Grafenberg Arr 91.45 330 eP P 01 08 05.2 -0.4
comp=Z,16nm,1.0s,mb5.3
GRF epP pP 01 08 18.7 -1.3
ESK Eskdalemuir 92.24 341 epP pP 01 08 30.2 +6.7
KBA Koelnbreinsper 92.37 328 ⇑iP P 01 08 08.6 -1.4
comp=Z,6.2nm,1.2s,mb4.8
KBA Koelnbreinsper 92.37 328 ⇑iPcP P 01 08 08.6 -1.4
comp=Z,6.2nm,1.2s,mb4.8
KBA Koelnbreinsper 92.37 328 ⇑iP P 01 08 08.6 -1.4
KBA pmax pmax
comp=Z,6.0nm,1.2s,mb4.8
FUR Furstenfeldbru 92.55 329 eP P 01 08 10.1 -0.6
FUR pmax pmax
comp=Z,19nm,0.9s,mb5.5
FUR Furstenfeldbru 92.55 329 eP P 01 08 10.1 -0.6
comp=Z,19nm,0.9s,mb5.5
STU Stuttgart 93.02 331 eP P 01 08 12.3 -0.6
comp=Z,10.0nm,0.8s,mb5.3
MNTX Cornudas Mount 93.25 52 epP pP 01 08 27.2 -1.5
SQTA Sankt Quirin 93.27 329 ⇑iP P 01 08 13.8 -0.3
comp=Z,4.0nm,1.1s,mb4.8
SQTA Sankt Quirin 93.27 329 ⇑iPcP PcP 01 08 13.8 -0.8
comp=Z,4.0nm,1.1s
SQTA Sankt Quirin 93.27 329 ⇑iP P 01 08 13.8 -0.3
SQTA pmax pmax
comp=Z,4.0nm,1.1s,mb4.8
WLF Walferdange 93.61 333 eP P 01 08 16.2 +0.5
WLF Walferdange 93.61 333 P P 01 08 16.5 +0.9
comp=Z,7.9nm,1.5s,mb4.9
WLF Walferdange 93.61 333 eP P 01 08 15.3 -0.3
comp=Z,12nm,1.1s,mb5.2
WLF epP pP 01 08 31.5 +1.5
BFO Black Forest 93.73 331 P P 01 08 16.6 +0.4
comp=Z,47nm,0.6s,mb6.1,SNR=5.9
BFO Black Forest 93.73 331 eP P 01 08 15.1 -1.1
BFO pmax pmax
comp=Z,13nm,1.1s,mb5.3
BFO Black Forest 93.73 331 eP P 01 08 15.1 -1.1
comp=Z,13nm,1.1s,mb5.3
DAVA Damuels 93.83 329 ⇑iP P 01 08 14.6 -2.1
comp=Z,14nm,1.4s,mb5.2
DOU Dourbes 93.90 334 P P 01 08 16.6 -0.3
BAIF Baives 94.08 334 eP P 01 08 16.4 -1.3
comp=Z,9.1nm,1.0s,mb4.9
BAIF Baives 94.08 334 eP P 01 08 16.4 -1.3
comp=Z,4.6nm,1.0s,mb4.9
BAIF Baives 94.08 334 eP P 01 08 16.4 -1.3
BAIF pmax pmax
comp=Z,5.0nm,1.0s,mb4.9
CDF Champ du Feu 94.12 331 eP P 01 08 16.7 -1.3
comp=Z,21nm,1.0s,mb5.2
CDF Champ du Feu 94.12 331 eP P 01 08 16.7 -1.3
comp=Z,10nm,1.0s,mb5.2
CDF Champ du Feu 94.12 331 eP P 01 08 16.7 -1.3
CDF pmax pmax
comp=Z,10.0nm,1.0s,mb5.2
DAVOX Davos/Dischmat 94.21 329 P P 01 08 18.6 +0.2
comp=Z,3.6nm,0.7s,mb4.9,baz=312,slow=5.4
HINF Hinteralfeld 94.76 331 eP P 01 08 19.3 -1.6
comp=Z,9.3nm,0.9s,mb4.9
HINF Hinteralfeld 94.76 331 eP P 01 08 19.3 -1.6
comp=Z,4.7nm,0.9s,mb4.9
HINF Hinteralfeld 94.76 331 eP P 01 08 19.3 -1.6
HINF pmax pmax
comp=Z,5.0nm,0.9s,mb4.9
HAU Haudompre 94.83 332 eP P 01 08 19.8 -1.4
MEZF Maizieres J'vi 94.98 333 eP P 01 08 20.9 -1.0
comp=Z,8.2nm,0.8s,mb4.9
MEZF Maizieres J'vi 94.98 333 eP P 01 08 20.9 -1.0
comp=Z,8.2nm,0.8s,mb5.2
TXAR Lajitas Array 95.83 53 P P 01 08 26.4 +0.2
TXAR pmax pmax
comp=Z,2.0nm,0.7s
TXAR Lajitas Array 95.83 53 P P 01 08 26.4 +0.2
comp=Z,1.5nm,0.7s,mb4.5,baz=304,slow=2.4,SNR=12
CABF La Chapelle 96.03 331 eP P 01 08 25.3 -1.4
LOR Lormes 96.45 333 eP P 01 08 27.2 -1.4
comp=Z,14nm,1.1s,mb5.0
LOR Lormes 96.45 333 eP P 01 08 27.2 -1.4
comp=Z,7.1nm,1.1s,mb5.0
LOR Lormes 96.45 333 eP P 01 08 27.2 -1.4
LOR pmax pmax
comp=Z,7.0nm,1.1s,mb5.0
LPL La Plagne 96.59 330 eP P 01 08 27.9 -1.4
comp=Z,6.2nm,0.6s,mb4.9
LPL La Plagne 96.59 330 eP P 01 08 27.9 -1.4
comp=Z,3.1nm,0.6s,mb4.9
LPL La Plagne 96.59 330 eP P 01 08 27.9 -1.4
LPL pmax pmax
comp=Z,3.0nm,0.6s,mb4.9
LPG La Plagne 96.60 330 eP P 01 08 28.3 -1.0
comp=Z,9.1nm,0.6s,mb5.0
LPG La Plagne 96.60 330 eP P 01 08 28.3 -1.0
comp=Z,4.6nm,0.6s,mb5.1
LPG La Plagne 96.60 330 eP P 01 08 28.3 -1.0
LPG pmax pmax
comp=Z,5.0nm,0.6s,mb5.1
SSF Saint Saulge 96.76 333 eP P 01 08 28.6 -1.4
SMF Signal de Mont 96.95 332 eP P 01 08 29.5 -1.4
AVF Avril sur Loir 97.04 333 eP P 01 08 29.9 -1.4
comp=Z,32nm,1.4s,mb5.2
AVF Avril sur Loir 97.04 333 eP P 01 08 29.9 -1.4
comp=Z,16nm,1.4s,mb5.3
AVF Avril sur Loir 97.04 333 eP P 01 08 29.9 -1.4
AVF pmax pmax
comp=Z,16nm,1.4s,mb5.3
QSPA South Pole Qui 117.21 180 PKP PKPdf 01 13 42.9 -0.4
QSPA South Pole Qui 117.21 180 PKP PKPdf 01 13 42.9 -0.4
comp=Z,4.6nm,0.5s,baz=305,slow=0.5,SNR=64
SYO Syowa Base 119.61 204 ⇑eX PKPdf 01 13 46.6 -1.6
SYO Syowa Base 119.61 204 ⇑ePKiKP PKiKP 01 13 52.2 +3.9
TOA0 Torodi Ar. Sit 123.96 311 ePKPdf PKPdf 01 13 57.1 -1.1
TORD Torodi Ar. Bea 123.96 311 PKP PKPdf 01 13 57.5 -0.7
comp=Z,2.6nm,0.6s,baz=20,slow=1.8,SNR=50
BOSA Boshof 124.40 253 PKIKP PKPdf 01 13 58.6 0.0
BOSA pmax pmax
comp=Z,2.0nm,0.4s
BOSA Boshof 124.40 253 PKP PKPdf 01 13 58.6 -0.1
comp=Z,1.5nm,0.4s,baz=268,slow=5.3,SNR=13
SDV Santo Domingo 132.28 45 PKPdf PKPdf 01 14 14.5 +0.4
DBIC Dimbokro 133.06 311 PKIKP PKPdf 01 14 13.9 -1.7
DBIC pmax pmax
comp=Z,4.0nm,0.6s
DBIC pmax pmax
comp=N,10.0nm,0.6s
DBIC Dimbokro 133.06 311 PKP PKPdf 01 14 13.9 -1.7
comp=N,4.0nm,0.6s,baz=357,slow=3.2,SNR=8.8
DBIC SKPbc SKPbc 01 17 38.8 -0.8
comp=N,10nm,0.6s,baz=19,slow=3.6,SNR=22
LIC Lamto 133.50 311 ePKIKP PKPdf 01 14 14.5 -2.0
comp=N,18nm,1.1s
LPAZ La Paz 150.35 74 ePKPdf PKPdf 01 14 47.4 +1.3
LPAZ ePKPbc PKPbc 01 14 51.9 +0.6
LPAZ La Paz 150.35 74 ePKPbc PKPbc 01 14 52.0 +0.7
comp=N,4.0nm,0.4s,baz=354,slow=4.5,SNR=18
PLCA Paso Flores 150.44 125 PKPbc PKPbc 01 14 51.1 +0.3
comp=N,4.7nm,0.8s,baz=275,slow=4.7,SNR=8.9

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*TEH **16** 01:21:51.7,3394N×5668E,h10km,ML3.6*
*ISCJB **16** 01:22:58.1±0.4,3396N±004×5665E±004,h10km,Error ellipse: s-maj=5.9km s-min=4.6km az=151.0*
*CSEM **16** 01:22:58.0±0.1,3395N×5667E,h18km,ML3.6,Error ellipse: s-maj=1.9km s-min=1.4km az=167.0*
*THR **16** 01:22:59.7±0.8,3387N×5648E,h18km±15km,ML3.6*

ISC 16 01:23:00.1±3.1,3394N±004×5669E±004,h17km±25km, n28,σ0973/32,Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
ITEG	**Tejag**	**2.01**	**120**	*e*Pn		**Pn**	**01 23 34.5**	**+1.3**
IKOO	**Kooshah**	**2.46**	**127**	*e*Pn		**Pn**	**01 23 39.2**	**-0.2**
IBAF	**Bafgh**	**2.52**	**202**	*e*Pn		**Pn**	**01 23 40.1**	**-0.2**
IBAF				*e*			01 24 33.0	
comp=Z,2μm,0.2s								
ICHK	**Chekchek**	**2.55**	**229**	*e*Pn		**Pn**	**01 23 40.4**	**-0.3**
ICHK				*e*			01 24 23.2	
comp=Z,5μm,0.1s								
IMON	**Monand**	**2.59**	**106**	*e*Pn		**Pn**	**01 23 41.3**	**+0.1**
IANJ	**Anjilo**	**2.75**	**305**	*e*Pn		**Pn**	**01 23 43.5**	**+0.1**
IANJ				*e*			01 23 50.3	
comp=Z,2μm,0.1s								
IDAH	**Dahanechah**	**2.92**	**113**	*e*Pn		**Pn**	**01 23 45.9**	**+0.2**
IMEH	**Mehriz**	**3.08**	**215**	*e*Pn		**Pn**	**01 23 48.0**	**0.0**
IMEH				*e*			01 24 42.8	
comp=Z,1μm,0.4s								
IAKL	**Akhelmad**	**3.12**	**32**	*e*Pn		**Pn**	**01 23 47.9**	**-0.5**
IAKL				*e*			01 24 47.9	
comp=Z,715nm,0.2s								
IPAY	**Payeh**	**3.14**	**36**	*e*Pn		**Pn**	**01 23 48.9**	**+0.1**
IPAY				*e*Sn		**Sn**	**01 24 25.3**	**-0.6**
IPAY				*e*			01 24 27.9	
comp=Z,2μm,0.2s								
IPAY	**Payeh**	**3.14**	**36**	*e*Pn		**Pn**	**01 23 48.9**	**+0.1**
IPAY				*e*Sn		**Sn**	**01 24 25.3**	**-0.6**
IKRD	**Kardeh**	**3.20**	**27**	*e*Pn		**Pb**	**01 23 55.9**	**-0.6**
IKRD				*e*			01 24 54.6	
comp=Z,558nm,0.3s								
ISFR	**Sfrayin**	**3.28**	**19**	*e*Pn		**Pn**	**01 23 50.2**	**-0.5**
ILAS	**Lasjerd**	**3.40**	**296**	*e*Pn		**Pn**	**01 23 52.1**	**-0.2**
ILAS				*e*			01 24 57.9	
comp=Z,1μm,0.2s								
NASN	**Na'in**	**3.44**	**252**	*e*Pn		**Pn**	**01 23 52.3**	**-0.6**
IFIR	**Firoozkooh**	**3.66**	**299**	*e*Pn		**Pn**	**01 23 55.6**	**-0.3**
IFIR				*e*			01 24 56.7	
comp=Z,1μm,0.2s								
IMYA	**Miami**	**3.69**	**48**	*e*Pn		**Pn**	**01 23 56.3**	**+0.1**
IMYA				*e*			01 24 12.7	
comp=Z,557nm,0.4s								
ISFB	**Sefidab**	**3.72**	**278**	*e*Pn		**Pn**	**01 23 56.5**	**-0.2**
ISFB				*e*			01 25 06.0	
comp=Z,692nm,0.2s								
MRVT	**Maraveh tapeh**	**3.75**	**353**	*e*Pn		**Pn**	**01 23 59.5**	**+2.4**
MRVT				AML		AML	01 25 00.3	
comp=E,339nm,0.4s								
MRVT				AML		AML	01 25 05.1	
comp=N,237nm,0.8s								
IZEF	**Zefreh**	**3.79**	**255**	*e*Pn		**Pn**	**01 23 57.2**	**-0.5**
IZEF				*e*			01 25 03.6	
comp=Z,607nm,0.2s								
KRBR	**Kerman**	**3.94**	**179**	*e*Pn		**Pn**	**01 24 01.0**	**+1.2**

KRBR AML AML 01 25 21.1
comp=N,108nm,0.6s
IGAR Gharneh 4.13 247 *e*Pn **Pn 01 24 02.5 +0.1**
IGAR *e* 01 25 15.4
comp=Z,561nm,0.1s
DAMV Damavand 4.24 295 *e*Pn **Pn 01 24 03.4 -0.4**
DAMV *e*Sg **Sb 01 25 07.3 +2.4**
DAMV AML AML 01 25 12.4
comp=E,36nm,0.5s
DAMV AML AML 01 25 22.3
comp=N,31nm,0.6s
DAMV Damavand 4.24 295 *e*Pn **Pn 01 24 03.4 -0.4**
SNR=52
DAMV *e*Sg **Sb 01 25 07.3 +2.3**
SNR=91
IKLH Kolahrood 4.31 263 *e*Pn **Pn 01 24 04.3 -0.5**
IKLH *e* 01 25 30.0
comp=Z,1μm,0.0s
THKV Tehran--Karaj 5.17 294 *e*Pn **Pn 01 24 16.9 +0.3**
THKV AML AML 01 25 50.6
comp=E,42nm,0.6s
THKV AML AML 01 26 01.7
comp=N,33nm,0.6s
ISRV Sarvestan 5.47 215 *e*Pn **Pn 01 24 20.2 -0.6**
IRAZ Razeghan 5.76 287 *e*Pn **Pn 01 24 24.1 -0.7**
IRAZ *e* 01 26 31.1
comp=Z,262nm,0.3s

ISCJB ***16*** *01:24:05.8±3.7, 6331S±004×1698E±02, h8km±24km, mb5.2/30, MS5.5/187, Error ellipse: s-maj=12.5km s-min=6.6km az=176.7*
IDC ***16*** *01:24:05.8±0.5, 6334S×16983E, h0km, mb4.9/12, mb1 5.0/14, mb1mx5.0/17, mbtmp4.9/14, ML4.7/2, MS5.4/22, Ms1 5.4/22, ms1mx5.4/26, Error ellipse: s-maj=21.7km s-min=13.7km az=62.0*
BJI ***16*** *01:24:06.3, 6301S×17049E, h7km, mB5.9, mb5.7, Ms5.6, Msz5.3*
GCMT ***16*** *01:24:07.1±0.1, 6315S×16993E, h12km, MW5.8/99, Moment Tensor Solution. s97,c189; s99,c286; Duration: 28 Moment tensor: Scale 10^{17}Nm; M_{rr}-1.20±.05; $M_{\theta\theta}$6.89±.05; $M_{\phi\phi}$-5.69±.05; $M_{r\theta}$-1.64±.13; $M_{\theta\phi}$-0.96±.05; $M_{r\phi}$0.39±.13; Best double couple: M_o6.53400×10^{17} NP1:ϕ_s229.00000°, δ80.00000°, λ175.00000°. NP2:ϕ_s320.00000°, δ85.00000°, λ10.00000°. Principal axes: T 7.2890, Plg11.0000°, Azm185.0000°; N -1.5100, Plg78.0000°, Azm347.0000°; P -5.7790, Plg3.0000°, Azm94.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
NEIC ***16*** *01:24:07.1±0.3, 6334S×16992E, h10km, mb5.2/20, MS5.6/159, MW5.8 Error ellipse: s-maj=11.5km s-min=7.4km az=75.0, Moment Tensor Solution. s5 Moment tensor: Scale 10^{17}Nm; M_{rr}1.64; $M_{\theta\theta}$5.41; $M_{\phi\phi}$-7.02; $M_{r\theta}$0.87; $M_{\theta\phi}$2.16; $M_{r\phi}$-2.08; Best double couple: M_o6.90000×10^{17} NP1:ϕ_s36.00000°, δ75.00000°, λ-176.00000°. NP2:ϕ_s305.00000°, δ86.00000°, λ-15.00000°. Principal axes: T 5.8400, Plg8.0000°, Azm352.0000°; N 2.0500, Plg75.0000°, Azm111.0000°; P -7.8900, Plg13.0000°, Azm260.0000°;*
MOS ***16*** *01:24:10.8±2.6, 6324S×16970E, h33km, mb5.2/8, MS5.6/20 Error ellipse: s-maj=29.8km s-min=9.3km az=93.1*

ISC 16 01:24:09.1±3.6, 6332S±004×1698E±01, h19km±23km, h20km±3.6km: pP-P, n484, σ0=96/89, mb5.2/30, MS5.5/187, 13C-9D, Balleny Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time (h m s)	Res (ISC)
DRV	**Dumont d'Urvil**	**12.95**	**242**	S	**Sn**	**01 29 34.0**	**-1.0**
DRV				R		01 30 00.0	
DRV				R		07 47 00.0	
VNDA	**Vanda**	**14.48**	**187⇑**	*e*Pn	**Pn**	**01 27 33.1**	**+0.5**
	1μm,1.6s						
VNDA	**Vanda**	**14.48**	**187⇑**	*e*P	**P**	**01 27 33.1**	**+0.5**
VNDA				pmax	pmax		
	comp=Z,1μm,1.6s						
VNDA	**Vanda**	**14.48**	**187**	Pn	**Pn**	**01 27 33.3**	**+0.7**
	comp=Z,2.1nm,0.3s,baz=18,slow=14,SNR=91						
VNDA				LR	LR	01 31 56.3	
	comp=Z,43μm,21.2s,baz=17,slow=32						
SBA	**Scott Base**	**14.63**	**183**	*e*Pn	**Pn**	**01 27 34.0**	**-0.6**
	comp=Z,586nm,1.4s						
SBA	**Scott Base**	**14.63**	**183**	*e*P	**Pn**	**01 27 34.0**	**-0.6**
SBA				pmax	pmax		
	comp=Z,586nm,1.4s						
SYZ	**Scrubby Hill**	**16.82**	**359**	PN	**Pn**	**01 27 59.3**	**-4.0**
TUZ	**Tuapeka**	**17.40**	**360**	PN	**Pn**	**01 28 09.5**	**-1.1**
MLZ	**Mavora Lakes**	**18.04**	**356**	P*	**Pn**	**01 28 17.8**	**-0.5**
MLZ	**Mavora Lakes**	**18.04**	**356**	PN	**Pn**	**01 28 21.4**	**+3.1**
LBZ	**Lake Benmore**	**18.97**	**1**	P*	**Pn**	**01 28 29.4**	**-0.4**
LBZ	**Lake Benmore**	**18.97**	**1**	PN	**Pn**	**01 28 33.2**	**+3.4**
JCZ	**Jackson Bay**	**19.29**	**358**	P*	**Pn**	**01 28 33.9**	**+0.3**
JCZ	**Jackson Bay**	**19.29**	**358**	PN	**Pn**	**01 28 38.9**	**+5.3**
RPZ	**Rata Peaks**	**19.66**	**3**	P	**Pn**	**01 28 37.9**	**-0.1**
RPZ	**Rata Peaks**	**19.66**	**3**	P	**Pn**	**01 28 37.9**	**-0.1**
	comp=Z,4.3nm,0.3s,baz=162,slow=10,SNR=14						
FOZ	**Fox Glacier**	**19.80**	**360**	P*	**Pn**	**01 28 39.5**	**-0.1**
FOZ	**Fox Glacier**	**19.80**	**360**	*e*PN	**Pn**	**01 28 45.5**	**+5.9**
WVZ	**Waitaha Valley**	**20.29**	**2**	P*	**P**	**01 28 45.2**	**+1.9**
WVZ	**Waitaha Valley**	**20.29**	**2**	PN	**P**	**01 28 52.5**	**+9.2**
SNZO	**South Karori**	**22.24**	**10⇑**	*i*P	**P**	**01 29 03.4**	**-0.9**
	comp=Z,654nm,1.5s,mb5.8						
SNZO				LR	LR		
	comp=Z,26μm,19.0s,MS5.7						
BFZ	**Birch Farm**	**23.00**	**13**	P*	**P**	**01 29 11.7**	**-0.7**
TAU	**Tasmania Unive**	**24.24**	**317**	*e*P	**P**	**01 29 23.5**	**-0.8**
	comp=Z,34nm,1.1s,mb4.7						
TAU				LR	LR		
	comp=Z,6μm,19.0s,MS5.1						
TAU	**Tasmania Unive**	**24.24**	**317**	*e*P	**P**	**01 29 23.5**	**-0.9**
TAU				pmax	pmax		
	comp=Z,34nm,1.1s,mb4.7						
TAU				MLR	MLR		
	comp=Z,6μm,19.0s,MS5.1						
CASY	**Casey**	**24.57**	**237**	*e*P	**P**	**01 29 29.1**	**+1.9**
CASY				LR	LR		
	comp=Z,6μm,19.0s,MS5.1						
HIZ	**Hauiti**	**25.03**	**9**	P*	**P**	**01 29 30.8**	**-0.9**
URZ	**Urewera**	**25.49**	**14**	P	**P**	**01 29 36.2**	**+0.4**
	comp=Z,95nm,1.0s,mb5.3,baz=191,slow=5.1,SNR=30						
URZ				LR	LR	01 37 59.7	
	comp=Z,16μm,21.8s,MS5.5,baz=338,slow=33						
QSPA	**South Pole Qui**	**26.77**	**180**	*e*P	**P**	**01 29 47.2**	**+0.2**
	comp=Z,32nm,0.9s,mb4.8						
QSPA				LR	LR		
	comp=Z,14μm,20.0s,MS5.5						
QSPA	**South Pole Qui**	**26.77**	**180**	P	**P**	**01 29 47.4**	**+0.4**
	comp=Z,28nm,0.9s,mb4.8,baz=32,slow=2.7,SNR=40						
QSPA				LR	LR	01 38 53.6	
	comp=Z,14μm,20.2s,MS5.5,baz=208,slow=33						
MIR	**Mirnyy**	**30.78**	**230**	*e*P	**P**	**01 30 26.0**	**+3.3**
MIR				*i*	pP	01 30 32.0	+3.4
MIR				pmax	pmax		
	comp=Z,200nm,1.5s,mb5.7						
MIR				MLR	MLR		
	comp=Z,17μm,17.0s,MS5.8						
ARMA	**Armidale**	**34.91**	**332**	*e*P	**P**	**01 31 01.7**	**+2.6**
RAO	**Raoul Island**	**35.00**	**19**	*e*P	**P**	**01 31 00.0**	**+0.1**
	comp=Z,137nm,0.5s,mb6.1						
RAO				LR	LR		
	comp=Z,9μm,20.0s,MS5.5						
RAO	**Raoul Island**	**35.00**	**19**	*e*P	**P**	**01 30 59.9**	**0.0**
RAO	**Raoul Island**	**35.00**	**19**	LR	LR	01 42 51.6	
	comp=Z,4μm,21.4s,MS5.1,baz=177,slow=32						
STKA	**Stephens Creek**	**36.15**	**317**	*e*P	**P**	**01 31 10.9**	**+1.1**
	comp=Z,22nm,0.9s,mb5.1						
STKA	**Stephens Creek**	**36.15**	**317**	P	**P**	**01 31 11.2**	**+1.4**
	comp=Z,33nm,1.0s,mb5.2,baz=154,slow=8.6,SNR=19						
STKA				LR	LR	01 43 56.6	
	comp=Z,8μm,18.4s,MS5.5,baz=151,slow=33						
MAW	**Mawson**	**39.29**	**215**	*e*P	**P**	**01 31 36.8**	**+0.8**
	comp=Z,44nm,1.0s,mb5.2						
MAW				LR	LR		
	comp=Z,3μm,20.0s,MS5.1						
MAW	**Mawson**	**39.29**	**215**	*e*P	**P**	**01 31 36.8**	**+0.8**
MAW				pmax	pmax		
	comp=Z,44nm,1.0s						
MAW				MLR	MLR		
	comp=Z,3μm,20.0s						
MAW	**Mawson**	**39.29**	**215**	LR	LR	01 47 46.0	
	comp=Z,18μm,19.3s,MS5.9,baz=135,slow=36						
EIDS	**Eidsvold**	**39.91**	**333**	*e*P	**P**	**01 31 41.0**	**-0.6**
	comp=Z,30nm,1.2s,mb4.9						
FORT	**Forrest**	**41.89**	**301**	*e*P	**P**	**01 32 01.0**	**+3.1**
	comp=Z,64nm,1.1s,mb5.2						
NWAO	**Narrogin (SRO)**	**44.46**	**288**	P	**P**	**01 32 17.7**	**-0.9**
	comp=Z,18nm,0.9s,mb4.8						
NWAO				LR	LR		
	comp=Z,8μm,19.0s,MS5.7						
NWAO	**Narrogin (SRO)**	**44.46**	**288**	*e*P	**P**	**01 32 19.3**	**+0.7**
NWAO	**Narrogin (SRO)**	**44.46**	**288**	LR	LR	01 46 23.3	
	comp=Z,12μm,20.8s,MS5.8,baz=142,slow=30						
MAIT	**Maitri**	**45.31**	**190**	*e*P	**P**	**01 32 23.8**	**-1.1**
NVL	**N'lazarevskaya**	**45.31**	**190**	*e*P	**P**	**01 32 28.9**	**+4.0**
NVL				*e*		01 34 15.1	
NVL				*e*S	**S**	**01 39 08.8**	**+4.9**
NVL				pmax	pmax		
	comp=Z,173nm,1.5s,mb5.7						
NVL				MLR	MLR		
	comp=N,7μm,14.0s,MS5.8						
NVL				MLR	MLR		
	comp=E,2μm,14.0s,MS5.8						
NVL				MLR	MLR		
	comp=Z,11μm,14.0s,MS6.0						
KLBR	**Kellerberrin**	**45.39**	**289**	*e*P	**P**	**01 32 26.8**	**+0.8**
	comp=Z,52nm,1.1s,mb5.3						
VNA3	**Neumayer Olymp**	**45.71**	**180**	*e*P	**P**	**01 32 27.5**	**-0.5**
VNA3				*e*	pP	01 32 31.5	-2.6
VNA3				*e*	pP	01 32 34.8	+0.7
VNA3				*e*		01 32 44.0	
VNA3				*e*		01 32 47.7	
VNA2	**Neumayer--Watz**	**46.01**	**181**	*e*P	**P**	**01 32 29.8**	**-0.7**
	baz=174,slow=7.2						
VNA2				*e*	pP	01 32 33.5	-3.0
VNA2				*e*	pP	01 32 36.1	-0.4
VNA2				*e*		01 32 44.7	
VNA2				*e*		01 32 49.0	
CTA	**Charters Tower**	**46.07**	**329**	*e*P	**P**	**01 32 32.5**	**+1.0**
	comp=Z,22nm,1.1s,mb5.0						
CTA	**Charters Tower**	**46.07**	**329**	*e*P	**P**	**01 32 32.5**	**+1.0**
CTA				pmax	pmax		
	comp=Z,23nm,1.1s						
CTA	**Charters Tower**	**46.07**	**329**	LR	LR	01 49 14.6	
	comp=Z,7μm,18.3s,MS5.7,baz=191,slow=33						
CTAO	**Charters Tower**	**46.07**	**329**	*e*P	**P**	**01 32 31.8**	**+0.3**
	comp=Z,50nm,1.3s,mb5.3						
CTAO				LR	LR		
	comp=Z,7μm,19.0s,MS5.6						
CTAO	**Charters Tower**	**46.07**	**329**	*e*P	**P**	**01 32 31.8**	**+0.3**
CTAO				pmax	pmax		
	comp=Z,50nm,1.3s,mb5.3						
CTAO				MLR	MLR		
	comp=Z,7μm,19.0s,MS5.6						
PMSA	**Palmer Station**	**46.21**	**151**	PFAKE		01 32 40.0	+7.9
PMSA				LR	LR		
	comp=Z,5μm,20.0s,MS5.5						
PMSA	**Palmer Station**	**46.21**	**151**	LR	LR	01 48 42.3	
	comp=Z,5μm,18.9s,MS5.5,baz=332,slow=32						
ASAR	**Alice Springs**	**46.24**	**312**	P	**P**	**01 32 32.7**	**-0.1**
	comp=Z,24nm,0.9s,mb5.1,baz=158,slow=8.0,SNR=48						
ASAR				PcP	PcP	01 34 05.8	-2.3
	comp=Z,5.8nm,1.0s,baz=143,slow=3.6,SNR=4.6						
VNA1	**Neumayer--Stat**	**46.30**	**181**	*e*P	**P**	**01 32 32.7**	**0.0**
VNA1				*e*	pP	01 32 36.7	-2.0
VNA1				*e*	pP	01 32 39.9	+1.2
VNA1				*e*		01 32 49.0	
VNA1				*e*		01 32 52.9	
RAR	**Rarotonga**	**46.84**	**40**	*e*P	**P**	**01 32 37.5**	**0.0**
RAR	**Rarotonga**	**46.84**	**40**	LR	LR	01 46 39.9	
	comp=Z,4μm,19.7s,MS5.4,baz=198,slow=29						
TBI	**Tubuai**	**48.26**	**54**	*e*S	**S**	**01 39 35.3**	**-12**
	comp=Z,3μm,28.2s						
TBI				*e*LQ		01 43 56.3	
	comp=Z,14μm,26.8s						
TBI				*e*LR	LR	01 46 06.7	
	comp=Z,7μm,28.2s,baz=202						
WB2	**Warramunga Arr**	**49.56**	**314**	*e*P	**P**	**01 32 57.2**	**-1.3**
WRA	**Warramunga Arr**	**49.56**	**314**	P	**P**	**01 32 57.5**	**-1.0**
WRA						01 34 18.4	
WRA	**Warramunga Arr**	**49.56**	**314**	P	**P**	**01 32 57.5**	**-1.0**
	comp=Z,20nm,1.1s,mb5.1,baz=163,slow=6.7,SNR=26						
WRA				PcP	PcP	01 34 18.4	-1.6
	comp=Z,8.5nm,1.1s,baz=158,slow=3.3,SNR=8.3						
WRA				LR	LR	01 52 54.9	
	comp=Z,2μm,20.9s,MS5.0,baz=140,slow=35						
WRAB	**Tennant Creek**	**49.57**	**314**	*e*P	**P**	**01 32 57.8**	**-0.8**
	comp=Z,64nm,1.4s,mb5.5						
WRAB	**Tennant Creek**	**49.57**	**314**	*i* P	**P**	**01 32 58.0**	**-0.6**
AFI	**Afiamalu**	**51.03**	**23**	PFAKE		01 33 20.0	+10
AFI				LR	LR		
	comp=Z,3μm,19.0s,MS5.3						
PPT	**Papeete**	**53.53**	**51**	*e*S	**S**	**01 40 49.4**	**-11**
	comp=Z,4μm,26.0s						
PPT				*e*LQ		01 46 06.9	
	comp=Z,10μm,24.2s						
PPT				*e*LR	LR	01 48 40.1	
	comp=Z,7μm,26.5s,baz=202						
PPT	**Papeete**	**53.53**	**51**	LR	LR	01 49 07.2	
	comp=Z,3μm,21.9s,MS5.3,baz=205,slow=28						
MBWA	**Marble Bar**	**53.78**	**298**	*e*P	**P**	**01 33 29.4**	**-0.6**
	comp=Z,40nm,1.1s,mb5.3						
MBWA				LR	LR		
	comp=Z,3μm,19.0s,MS5.4						
USHA	**Ushuaia**	**53.83**	**142**	LR	LR	01 51 34.2	
	comp=Z,3μm,20.4s,MS5.3,baz=264,slow=31						
RKT	**Rikitea**	**54.19**	**69**	*e*S	**S**	**01 40 56.6**	**-12**
	comp=Z,1μm,30.2s						
RKT				*e*LQ		01 46 38.3	
	comp=Z,2μm,26.5s						
RKT				*e*LR	LR	01 49 05.9	
	comp=Z,3μm,27.2s,baz=206						
HNR	**Honiara**	**54.26**	**348**	*e*P	**P**	**01 33 35.5**	**+1.9**
	comp=Z,197nm,1.2s,mb5.9						
HNR				LR	LR		
	comp=Z,5μm,22.0s,MS5.5						
HNR	**Honiara**	**54.26**	**348**	*e*P	**P**	**01 33 33.8**	**+0.2**
HNR	**Honiara**	**54.26**	**348**	LR	LR	01 51 34.6	
	comp=Z,4μm,21.7s,MS5.5,baz=173,slow=30						
FITZ	**Fitzroy Crossi**	**54.28**	**305**	*e*P	**P**	**01 33 32.9**	**-0.8**
	comp=Z,50nm,1.8s,mb5.1						
FITZ	**Fitzroy Crossi**	**54.28**	**305**	LR	LR	01 53 45.6	
	comp=Z,2μm,18.9s,MS5.3,baz=252,slow=33						
PTCN	**Pitcairn Islan**	**54.56**	**75**	PFAKE		01 33 50.0	+14
PTCN				LR	LR		
	comp=Z,4μm,19.0s,MS5.5						
KAKA	**Kakadu**	**56.95**	**315**	*e*P	**P**	**01 33 52.3**	**-0.6**
	comp=Z,92nm,1.0s,mb5.8						
EFI	**East Falkland**	**59.37**	**148**	PFAKE		01 34 20.0	+11
EFI				LR	LR		
	comp=Z,3μm,20.0s,MS5.4						
RPN	**Rapa Nui**	**62.08**	**95**	PFAKE		01 34 40.0	+12
RPN				LR	LR		
	comp=Z,3μm,20.0s,MS5.4						
BATI	**Kupang**	**62.28**	**307**	LR	LR	02 02 44.6	
	comp=Z,3μm,18.7s,MS5.5,baz=12,slow=37						
TAOE	**Nuku Hiva Isla**	**65.00**	**57**	*e*S	**S**	**01 43 16.4**	**-12**
	comp=Z,33μm,23.9s						
TAOE				*e*SS	SS	01 47 30.1	-10
	comp=Z,36μm,27.8s						
TAOE				*e*LQ		01 51 10.8	
	comp=Z,201μm,27.9s						
TAOE				*e*LR	LR	01 53 50.8	
	comp=Z,99μm,25.5s,baz=214						
PLCA	**Paso Flores**	**65.79**	**134**	*e*P	**P**	**01 34 52.9**	**+0.5**
	comp=Z,9.4nm,0.9s,mb4.8						
PLCA				LR	LR		
	comp=Z,3μm,19.0s,MS5.5						
PLCA	**Paso Flores**	**65.79**	**134**	*e*P	**P**	**01 34 52.9**	**+0.5**
PLCA				pmax	pmax		
	comp=Z,9.0nm,0.9s						
PLCA				MLR	MLR		
	comp=Z,3μm,19.0s						
PLCA	**Paso Flores**	**65.79**	**134**	P	**P**	**01 34 52.0**	**-0.4**
	comp=Z,8.5nm,0.9s,mb4.8,baz=228,slow=7.1,SNR=10						
TRQA	**Tornquist**	**70.91**	**139**	*e*P	**P**	**01 35 23.9**	**-0.5**
	comp=Z,26nm,1.1s,mb5.1						
TRQA				LR	LR		
	comp=Z,2μm,21.0s,MS5.4						
CFAA	**Coronel Fontan**	**74.86**	**131**	P	**P**	**01 35 47.7**	**-0.3**
CFAA				LR	LR	02 03 10.6	
CFAA	**Coronel Fontan**	**74.86**	**131**	P	**P**	**01 35 47.7**	**-0.3**
	comp=Z,2.8nm,1.0s,mb4.2,baz=223,slow=5.1,SNR=25						
CFAA				LR	LR	02 03 10.6	
	comp=Z,161nm,19.3s,MS4.3,baz=200,slow=31						
LCO	**Las Campanas**	**76.37**	**128**	PFAKE		01 36 10.0	+13
LCO				LR	LR		
	comp=Z,2μm,19.0s,MS5.4						
KSM	**Kuching**	**78.08**	**298**	*e*P	**P**	**01 36 07.4**	**+1.0**
GUMO	**Guam**	**79.06**	**335**	PFAKE		01 36 20.0	+8.4
GUMO				LR	LR		
	comp=Z,2μm,22.0s,MS5.3						
GUMO	**Guam**	**79.06**	**335**	*e*P	**P**	**01 36 12.0**	**+0.4**
TRIS	**Tristan da Cun**	**79.94**	**178**	PFAKE		01 36 30.0	+14
TRIS				LR	LR		
	comp=Z,3μm,20.0s,MS5.6						
KKM	**Kota Kinabalu**	**80.02**	**306**	*e*P	**P**	**01 36 16.8**	**-0.1**
SUR	**Sutherland**	**81.47**	**206**	PFAKE		01 36 40.0	+15
SUR				LR	LR		
	comp=Z,11μm,20.0s,MS6.2						
PSI	**Prapat**	**83.99**	**288**	P	**P**	**01 36 37.2**	**-0.7**
PSI				LR	LR	02 07 36.4	
PSI	**Prapat**	**83.99**	**288**	P	**P**	**01 36 37.2**	**-0.7**
	comp=Z,8.8nm,0.7s,mb5.0,baz=198,slow=12,SNR=5.2						
PSI				LR	LR	02 07 36.4	
	comp=Z,2μm,21.9s,MS5.5,baz=143,slow=31						
BOSA	**Boshof**	**84.15**	**211**	P	**P**	**01 36 37.8**	**-0.8**
	comp=Z,16nm,1.0s,mb5.1,baz=174,slow=6.7,SNR=13						
BOSA				LR	LR	02 11 25.0	
	comp=Z,3μm,19.7s,MS5.6,baz=169,slow=34						
POHA	**Pohakuloa**	**87.15**	**32**	PFAKE		01 37 00.0	+6.6
POHA				LR	LR		
	comp=Z,3μm,19.0s,MS5.8						
LBTB	**Lobatse**	**87.52**	**212**	P	**P**	**01 36 54.6**	**-0.8**
LBTB				LR	LR		
	comp=Z,3μm,21.0s,MS5.7						
LBTB	**Lobatse**	**87.52**	**212**	P	**P**	**01 36 54.6**	**-0.8**
	comp=Z,7.5nm,1.0s,mb4.9,baz=108,slow=3.2						
KIP	**Kipapa**	**88.18**	**30**	PFAKE		01 37 10.0	+12
KIP				LR	LR		
	comp=Z,3μm,19.0s,MS5.7						
LPAZ	**La Paz**	**88.95**	**126**	P	**P**	**01 37 03.7**	**+1.5**
LPAZ				LR	LR		
	comp=Z,942nm,22.0s,MS5.2						
LPAZ	**La Paz**	**88.95**	**126**	P	**P**	**01 37 03.5**	**+1.3**
LPAZ				pmax	pmax		
	comp=Z,15nm,1.2s						
LPAZ	**La Paz**	**88.95**	**126**	P	**P**	**01 37 03.7**	**+1.5**
	comp=Z,9.4nm,1.1s,mb5.0,baz=122,slow=4.6,SNR=12						
LPAZ				LR	LR	02 08 44.9	
	comp=Z,581nm,18.3s,MS5.0,baz=27,slow=30						
NNA	**Nana**	**89.50**	**116**	PFAKE		01 37 20.0	+15
NNA				LR	LR		
	comp=Z,1μm,19.0s,MS5.4						
NNA	**Nana**	**89.50**	**116**	LR	LR	02 09 15.3	
	comp=Z,1μm,18.0s,MS5.4,baz=207,slow=30						
SIV	**San Ignacio**	**91.71**	**132**	P	**P**	**01 37 15.4**	**+0.3**
	comp=Z,2.1nm,0.9s,mb4.5,baz=230,slow=8.0,SNR=6.9						
MIDW	**Midway**	**91.80**	**11**	PFAKE		01 37 30.0	+15
MIDW				LR	LR		
	comp=Z,2μm,22.0s,MS5.5						
ATAH	**Atahualpa**	**93.36**	**113**	LR	LR	02 09 58.2	
	comp=Z,3μm,19.3s,MS5.7,baz=196,slow=30						
QIZ	**Qiongzhong**	**94.31**	**305**	P	**P**	**01 37 28.0**	**+1.2**
QIZ				S	S	01 48 37.0	-0.1
QIZ				XS	sS	01 48 44.4	-3.4
QIZ				SS	SS	01 55 01.0	+1.7
QIZ				AMB	AMB		
	comp=Z,159nm,6.2s						
QIZ				LR	LR		
	comp=N,564nm,24.9s,MS5.3						
QIZ				LR	LR		
	comp=E,1μm,23.8s,MS5.3						
QIZ				LR	LR		
	comp=Z,858nm,20.6s,MS5.2						
QIZ	**Qiongzhong**	**94.31**	**305**	PFAKE		01 37 40.0	+13
QIZ				LR	LR		
	comp=Z,899nm,20.0s,MS5.2						
TSUM	**Tsumeb**	**94.91**	**206**	PFAKE		01 37 40.0	+10
TSUM				LR	LR		
	comp=Z,11μm,21.0s,MS6.3						
TATO	**Taipei**	**95.86**	**317**	PFAKE		01 37 40.0	+6.3
TATO				LR	LR		
	comp=Z,1μm,20.0s,MS5.4						
BDFB	**Brasilia**	**96.01**	**144**	LR	LR	02 18 40.2	
	comp=Z,820nm,18.1s,MS5.2,baz=177,slow=34						
PALK	**Pallekele**	**96.02**	**274**	PFAKE		01 37 50.0	+15
PALK				LR	LR		
	comp=Z,2μm,20.0s,MS5.5						
LSZ	**Lusaka**	**96.18**	**217**	PFAKE		01 37 50.0	+14
LSZ				LR	LR		
	comp=Z,3μm,20.0s,MS5.8						
CM31	**Chiang Mai Arr**	**98.05**	**295**	PFAKE		01 37 50.0	+6.2
CM31				LR	LR		
	comp=Z,1μm,19.0s,MS5.4						
CHTO	**Chiang Mai**	**98.37**	**295**	*e*P	**P**	**01 37 45.7**	**+0.4**
	comp=Z,9.2nm,1.3s,mb5.2						
CHTO				LR	LR		
	comp=Z,1μm,22.0s,MS5.3						
CHTO	**Chiang Mai**	**98.37**	**295**	*e*P	**P**	**01 37 45.7**	**+0.4**
CHTO				pmax	pmax		
	comp=Z,9.0nm,1.3s,mb5.1						
CHTO				MLR	MLR		
	comp=Z,1μm,22.0s,MS5.3						
SSE	**Sheshan**	**101.68**	**319**	*e*P	Pdif	01 38 02.0	+1.6
SSE				PP	PP	01 42 14.1	+3.4
SSE				S	Sdif	01 49 41.6	+1.0
SSE				XS		01 49 49.8	
SSE				AMB	AMB		
	comp=Z,46nm,3.5s						
SSE				LR	LR		
	comp=N,151nm,29.5s,MS4.9						
SSE				LR	LR		
	comp=E,567nm,29.5s,MS4.9						
SSE				LR	LR		
	comp=Z,764nm,25.5s,MS5.1						
GYA	**Guiyang**	**102.26**	**305⇑**	*i*P	Pdif	01 38 05.3	+2.3
GYA				PP	PP	01 42 21.6	+6.5
GYA				SKS		01 48 44.6	
GYA				S	Sdif	01 49 46.6	+1.1
GYA				SS	SS	01 56 57.3	+6.4
GYA				LR	LR		
	comp=N,830nm,21.8s,MS5.3						
GYA				LR	LR		
	comp=E,730nm,20.6s,MS5.3						
GYA				LR	LR		
	comp=Z,910nm,22.3s,MS5.2						
KMI	**Kunming**	**102.53**	**301**	P	Pdif	01 38 06.9	+2.7
KMI				PP	PP	01 42 25.5	+8.3
KMI				S	Sdif	01 49 50.0	+2.2
KMI				XS		01 50 00.4	
KMI				SS	SS	01 56 59.8	+5.1
KMI				AMB	AMB		
	comp=Z,5.0nm,0.9s						
KMI				AMB	AMB		
	comp=Z,101nm,6.8s						
KMI				LR	LR		
	comp=N,523nm,21.5s,MS5.3						
KMI			

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TGUH Tegucigalpa,Un 108.28 95 PFAKE                01 42 50.0 +14
TGUH                          LR      LR
     comp=Z,764nm,22.0s,MS5.2
RCBR Riachuelo      108.35 153 PFAKE                01 42 50.0 +14
RCBR                          LR      LR
     comp=Z,1µm,19.0s,MS5.6
ASCN Ascension      108.88 176 PFAKE                01 42 50.0 +13
ASCN                          LR      LR
     comp=Z,1µm,20.0s,MS5.4
SDV  Santo Domingo  110.93 113 PFAKE                01 42 50.0 +9.3
SDV                           LR      LR
     comp=Z,851nm,20.0s,MS5.3
LSA  Lhasa          111.24 294 PFAKE                01 42 50.0 +9.2
LSA                           LR      LR
     comp=Z,695nm,20.0s,MS5.2
LSA  Lhasa          111.24 294 ePKIKP   PKiKP       01 42 41.9 +1.1
BJT  Baijiatuau     111.45 318 PFAKE                01 42 50.0 +9.2
BJT                           LR      LR
     comp=Z,903nm,21.0s,MS5.3
BJT  Baijiatuau     111.45 318 ePKIKP   PKiKP       01 42 41.4 +0.6
BJI  Beijing        111.47 318 PDIF     Pdif        01 38 45.3 +1.3
BJI                           PP      PP          01 43 24.9 +2.2
BJI                           SKS     SKSdf       01 49 55.0 +3.7
BJI                           SS      SS          01 59 01.8 +5.9
BJI                           PP      PP
     comp=Z,299nm,6.5s
BJI                           LR      LR
     comp=N,579nm,22.4s,MS5.1
BJI                           LR      LR
     comp=E,254nm,24.6s,MS5.1
BJI                           LR      LR
     comp=Z,1µm,24.9s,MS5.4
LZH  Lanzhou        111.97 307 ePKP     PKiKP       01 42 42.0 +0.1
LZH                           PP      PP          01 43 29.5 +3.2
LZH                           PKS                 01 46 17.4
LZH                           SKS     SKSdf       01 49 49.0 -3.5
LZH                           SKKS    SKKSac      01 50 24.0 -2.6
LZH                           SS      SS          01 59 08.3 +5.8
LZH                           PP      PP
     comp=Z,101nm,4.3s
LZH                           LR      LR
     comp=E,610nm,15.9s
LZH                           LR      LR
     comp=Z,1µm,19.6s,MS5.4
YSS  Yuzh-Sakhalins 112.00 340 PFAKE                01 42 50.0 +8.4
YSS                           LR      LR
     comp=Z,2µm,21.0s,MS5.8
MDJ  Mudanjiang     112.22 330 PDIF     Pdif        01 38 48.3 +1.0
MDJ                           PP      PP          01 43 26.9 -1.1
MDJ                           PP      PP
     comp=Z,148nm,7.9s
MDJ                           LR      LR
     comp=Z,807nm,39.9s,MS5.0
MDJ  Mudanjiang     112.22 330 PFAKE                01 42 50.0 +7.9
MDJ                           LR      LR
     comp=Z,744nm,20.0s,MS5.3
CN2  Changchun      112.43 327 ePDIF    Pdif        01 38 52.9 +4.7
CN2                           eS      Sdif        01 51 14.4 +4.1
CN2                           LR      LR
     comp=N,600nm,20.0s,MS5.3
CN2                           LR      LR
     comp=E,530nm,20.0s,MS5.3
CN2                           LR      LR
     comp=Z,820nm,21.0s,MS5.3
PFO  Pinyon Flat Ob 112.73 60 PFAKE                01 42 50.0 +6.5
PFO                           LR      LR
     comp=Z,2µm,19.0s,MS5.6
GLA  Glamis         112.89 62 PFAKE                01 42 50.0 +6.2
GLA                           LR      LR
     comp=Z,1µm,21.0s,MS5.5
SAO  San Andreas Ge 113.62 55 PFAKE                01 43 00.0 +15
SAO                           LR      LR
     comp=Z,2µm,19.0s,MS5.7
ISA  Isabella       113.76 58 PFAKE                01 43 00.0 +15
ISA                           LR      LR
     comp=Z,1µm,19.0s,MS5.6
TUC  Tucson         113.87 66 PFAKE                01 43 00.0 +14
TUC                           LR      LR
     comp=Z,1µm,20.0s,MS5.4
GSC  Goldstone      114.08 59 PFAKE                01 43 00.0 +14
GSC                           LR      LR
     comp=Z,2µm,19.0s,MS5.6
TXAR Lajitas Array  114.29 73 PKKPbc    PKKPbc      01 53 31.9 +7.5
     comp=Z,1.3nm,1.0s,baz=32,slow=4.9,SNR=6.6
MCCM Marconi Confer 114.32 53 PFAKE                01 43 00.0 +14
MCCM                          LR      LR
     comp=Z,2µm,19.0s,MS5.7
HOPS Hopland        115.00 52 PFAKE                01 43 00.0 +12
HOPS                          LR      LR
     comp=Z,3µm,20.0s,MS5.9
CMB  Columbia Colle 115.13 55 PFAKE                01 43 00.0 +12
CMB                           LR      LR
     comp=Z,1µm,20.0s,MS5.5
KVTX Kingsville     115.27 79 PFAKE                01 43 00.0 +11
KVTX                          LR      LR
     comp=Z,2µm,20.0s,MS5.8
ADK  Adak           115.36 9  PFAKE                01 43 00.0 +12
ADK                           LR      LR
     comp=Z,2µm,19.0s,MS5.7
MNTX Cornudas Mount 115.60 70 PFAKE                01 43 00.0 +11
MNTX                          LR      LR
     comp=Z,860nm,20.0s,MS5.4
TPNV Topopah Spring 115.74 59 PFAKE                01 43 00.0 +11
TPNV                          LR      LR
     comp=Z,1µm,20.0s,MS5.5
SMY  Shemya         115.76 3  PFAKE                01 43 00.0 +11
SMY                           LR      LR
     comp=Z,2µm,21.0s,MS5.6
KLR  Kul'dur        116.15 333 ePKIKP   PKPdf       01 42 45.7 -3.8
NVAR Mina Array Bea 116.26 56 PKP       PKPdf       01 42 51.0 +1.0
     comp=Z,0.3nm,0.4s,baz=182,slow=6.3,SNR=2.6
PET  Petropavlovsk  116.33 353 PFAKE                01 43 00.0 +10
PET                           LR      LR
     comp=Z,4µm,22.0s,MS6.0
GTA  Gaotai         116.38 306 ePKP     PKPdf       01 42 52.0 +1.7
GTA                           PP      PP          01 44 03.6 +6.1
GTA                           PKS                 01 46 25.0
GTA                           SKS     SKSdf       01 50 03.6 +2.8
GTA                           SKKS    SKKSac      01 50 55.8 -0.4
GTA                           SS      SS          02 00 05.3 +4.6
GTA                           PP      PP
     comp=Z,268nm,8.8s
GTA                           LR      LR
     comp=N,544nm,20.9s,MS5.2
GTA                           LR      LR
     comp=E,242nm,19.8s,MS5.2
GTA                           LR      LR
     comp=Z,855nm,20.9s,MS5.3
WUAZ Wupatki        116.42 63 PFAKE                01 43 00.0 +10
WUAZ                          LR      LR
     comp=Z,1µm,20.0s,MS5.5
WDC  Whiskeytown Da 116.60 52 PFAKE                01 43 00.0 +9.3
WDC                           LR      LR
     comp=Z,2µm,21.0s,MS5.7
JCT  Junction City  116.96 76 PFAKE                01 43 00.0 +8.3
JCT                           LR      LR
     comp=Z,697nm,19.0s,MS5.3
YBH  Yreka Blue Hor 117.56 51 PFAKE                01 43 00.0 +7.5
YBH                           LR      LR
     comp=Z,1µm,20.0s,MS5.5
ANMO Albuquerque    117.95 68 PFAKE                01 43 00.0 +6.5
ANMO                          LR      LR
     comp=Z,2µm,19.0s,MS5.7
HUMO Hull Mountain  118.24 51 PFAKE                01 43 00.0 +6.2
HUMO                          LR      LR
     comp=Z,1µm,20.0s,MS5.6
HKT  Hockley        118.25 79 PFAKE                01 43 10.0 +16
HKT                           LR      LR
     comp=Z,1µm,19.0s,MS5.6
UNV  Unalaska Valle 118.29 16 PFAKE                01 43 00.0 +6.5
UNV                           LR      LR
     comp=Z,7µm,19.0s,MS6.3
MOD  Modoc          118.56 53 PFAKE                01 43 10.0 +16
MOD                           LR      LR
     comp=Z,2µm,20.0s,MS5.7
MSU  Marysvale      118.69 61 ePKPdf    PKPdf       01 42 55.2 +0.5
HIA  Hailar         118.96 325 PFAKE               01 43 10.0 +15
HIA                           LR      LR
     comp=Z,615nm,20.0s,MS5.2
HIA  Hailar         118.96 325 ePKIKP   PKPdf       01 42 55.5 +0.6
BBGH Gun Hill       119.22 122 PFAKE               01 43 10.0 +13
BBGH                          LR      LR
     comp=Z,1µm,19.0s,MS5.5
WVOR Wild Horse Val 119.63 54 ePKPdf    PKPdf       01 42 56.2 -0.3
WVOR                          LR      LR
     comp=Z,2µm,20.0s,MS5.7
SDDR Presa de Saban 119.69 108 PFAKE               01 43 10.0 +13
SDDR                          LR      LR
     comp=Z,567nm,19.0s,MS5.2
COR  Corvallis      119.86 49 PFAKE                01 43 10.0 +13
COR                           LR      LR
     comp=Z,2µm,20.0s,MS5.7
DUG  Dugway         119.89 60 PFAKE                01 43 10.0 +13
DUG                           LR      LR
     comp=Z,1µm,19.0s,MS5.5
AMTX Amarillo       119.91 71 PFAKE                01 43 10.0 +13
AMTX                          LR      LR
     comp=Z,1µm,19.0s,MS5.6
MPU  Maple Canyon   120.20 61 PFAKE                01 43 10.0 +12
MPU                           LR      LR
     comp=Z,2µm,21.0s,MS5.8
NATX Nacogdoches    120.32 79 PFAKE                01 43 10.0 +12
NATX                          LR      LR
     comp=Z,906nm,21.0s,MS5.4
SDCO Great Sand Dun 120.74 67 PFAKE                01 43 10.0 +11
SDCO                          LR      LR
     comp=Z,1µm,21.0s,MS5.4
WMOK Wichita Mounta 121.04 74 PFAKE                01 43 10.0 +11
WMOK                          LR      LR
     comp=Z,1µm,19.0s,MS5.6
SJG  San Juan       121.09 113 PFAKE               01 43 10.0 +10
SJG                           LR      LR
     comp=Z,638nm,20.0s,MS5.3
ULN  Ulaanbaatar    121.36 316 PFAKE               01 43 10.0 +10
ULN                           LR      LR
     comp=Z,816nm,22.0s,MS5.3
ULN  Ulaanbaatar    121.36 316 i PKIKP  PKPdf       01 42 58.9 -0.7
SONM Songino Array  121.54 315 PKP      PKPdf       01 42 59.4 -0.5
     comp=Z,1.1nm,1.1s,baz=190,slow=2.9,SNR=3.6
HWUT Hardware Ranch 121.59 60 PFAKE                01 43 10.0 +10
HWUT                          LR      LR
     comp=Z,1µm,19.0s,MS5.7
NLWA Neilton Lookou 122.13 47 PFAKE                01 43 10.0 +8.9
NLWA                          LR      LR
     comp=Z,2µm,20.0s,MS5.7
HLID Hailey         122.17 56 PFAKE                01 43 10.0 +8.7
HLID                          LR      LR
     comp=Z,1µm,19.0s,MS5.6
BMO  Blue Mountains 122.21 53 PFAKE                01 43 10.0 +8.7
BMO                           LR      LR
     comp=Z,1µm,19.0s,MS5.5
ISCO Idaho Springs  122.43 65 PFAKE                01 43 10.0 +8.1
ISCO                          LR      LR
     comp=Z,1µm,20.0s,MS5.5
HAWA Hanford        122.74 51 PFAKE                01 43 10.0 +7.7
HAWA                          LR      LR
     comp=Z,2µm,19.0s,MS5.7
AHID Auburn Hatcher 122.75 59 PFAKE                01 43 10.0 +7.6
AHID                          LR      LR
     comp=Z,894nm,20.0s,MS5.4
MIAR Mount Ida      123.16 78 PFAKE                01 43 10.0 +6.5
MIAR                          LR      LR
     comp=Z,861nm,21.0s,MS5.4
DBIC Dimbokro       123.32 186 PFAKE               01 43 20.0 +15
DBIC                          LR      LR
     comp=Z,2µm,21.0s,MS5.8
BW06 Boulder Array  123.36 60 PFAKE                01 43 10.0 +6.4
BW06                          LR      LR
     comp=Z,1µm,20.0s,MS5.6
PDAR Pinedale Array 123.36 60 PKP       PKPdf       01 43 02.1 -1.5
     comp=Z,2.3nm,1.1s,baz=151,slow=3.4,SNR=7.0
MA2  Magadan        123.43 349 PFAKE               01 43 10.0 +6.8
MA2                           LR      LR
     comp=Z,2µm,21.0s,MS5.7
MA2  Magadan        123.43 349 ePKIKP   PKPdf       01 43 03.7 +0.5
FLWY Flagg Ranch    124.03 59 ePKPdf    PKPdf       01 43 04.5 -0.3
CBKS Cedar Bluff    124.06 71 PFAKE                01 43 20.0 +15
CBKS                          LR      LR
     comp=Z,1µm,20.0s,MS5.5
KDAK Kodiak Island  124.20 23 PFAKE                01 43 20.0 +15
KDAK                          LR      LR
     comp=Z,732nm,21.0s,MS5.3
DLMT Dillon         124.38 57 ePKPdf    PKPdf       01 43 04.3 -1.1
YMR  Madison River  124.42 58 PFAKE                01 43 20.0 +14
YMR                           LR      LR
     comp=Z,2µm,20.0s,MS5.8
LKWY Lake           124.55 59 PFAKE                01 43 20.0 +14
LKWY                          LR      LR
     comp=Z,2µm,22.0s,MS5.7
DIB  Dawson Inlet,  124.61 38 T                    04 00 05.1
     SNR=6.0
VIB  Van Inlet      124.63 38 T                    03 59 56.6
ZAK  Zakamensk      124.76 314 ePKIKP   PKPdf       01 43 05.4 -0.6
ZAK                           pmax    pmax
     comp=Z,3.0nm,1.9s
WMQ  Urumqi         124.79 299 ePKP     PKPdf       01 43 09.3 +3.0
WMQ                           PP      PP          01 45 01.0 +6.0
WMQ                           PKS                 01 46 45.0
WMQ                           SKS     SKSdf       01 50 20.0 +3.5
WMQ                           SKKS    SKKSac      01 51 53.0 +2.0
WMQ                           SS      SS          02 01 54.0 +5.5
WMQ                           PP      PP
     comp=Z,210nm,6.1s
WMQ                           LR      LR
     comp=N,598nm,21.3s,MS5.3
WMQ                           LR      LR
     comp=E,337nm,22.0s,MS5.3
WMQ                           LR      LR
     comp=Z,791nm,30.8s
LRAL Lakeview Retre 124.82 85 PFAKE                01 43 20.0 +13
LRAL                          LR      LR
     comp=Z,1µm,21.0s,MS5.5
BOZ  Bozeman (W)    124.99 57 PFAKE                01 43 20.0 +13
BOZ                           LR      LR
     comp=Z,1µm,19.0s,MS5.6
MSO  Missoula       125.12 55 ePKPdf    PKPdf       01 43 05.8 -1.0
MSO                           LR      LR
     comp=Z,849nm,19.0s,MS5.4
NEW  Newport        125.19 51 PFAKE                01 43 20.0 +13
NEW                           LR      LR
     comp=Z,2µm,20.0s,MS5.7
CHMT Chamberlain Mo 125.45 55 ePKPdf    PKPdf       01 43 07.3 -0.2
RLMT Red Lodge      125.45 59 PFAKE                01 43 20.0 +12
RLMT                          LR      LR
     comp=Z,1µm,20.0s,MS5.6
KSU1 Kansas State U 125.64 73 PFAKE                01 43 20.0 +12
KSU1                          LR      LR
     comp=Z,1µm,19.0s,MS5.6
TLY  Talaya         125.77 315 PFAKE               01 43 20.0 +12
TLY                           LR      LR
     comp=Z,925nm,21.0s,MS5.4
PLAL Pickwick Lake  125.97 83 PFAKE                01 43 20.0 +11
PLAL                          LR      LR
     comp=Z,812nm,19.0s,MS5.4
SEY  Seymchan       126.61 350 ⇓ iPKIKP PKPdf       01 43 09.2 0.0
RSSD Black Hills    126.69 64 PFAKE                01 43 20.0 +10
RSSD                          LR      LR
     comp=Z,2µm,21.0s,MS5.7
WVT  Waverly        127.04 82 PFAKE                01 43 20.0 +9.1
WVT                           LR      LR
     comp=Z,878nm,19.0s,MS5.5
CCM  Cathedral Cave 127.12 78 PFAKE                01 43 20.0 +9.0
CCM                           LR      LR
     comp=Z,1µm,19.0s,MS5.6
SIT  Sitka          127.27 34 PFAKE                01 43 20.0 +9.4
SIT                           LR      LR
     comp=Z,5µm,19.0s,MS6.2
WRAK Wrangell Islan 127.48 36 PFAKE                01 43 20.0 +9.0
WRAK                          LR      LR
     comp=Z,3µm,19.0s,MS6.0
EGMT Eagleton       127.68 57 PFAKE                01 43 20.0 +8.3
EGMT                          LR      LR
     comp=Z,1µm,19.0s,MS5.6
LAO  LASA Array     127.94 60 PFAKE                01 43 20.0 +7.8
LAO                           LR      LR
     comp=Z,1µm,19.0s,MS5.6
BOD  Bodaibo        128.16 326 ePKIKP   PKPdf       01 43 11.2 -1.1
BOD                           pmax    pmax
     comp=Z,6.0nm,2.0s
PMR  Palmer         128.39 24 PFAKE                01 43 20.0 +7.4
PMR                           LR      LR
     comp=Z,2µm,20.0s,MS5.8
YAK  Yakutsk        128.62 337 PFAKE               01 43 20.0 +7.0
YAK                           LR      LR
     comp=Z,1µm,20.0s,MS5.5
YAK  Yakutsk        128.62 337 ePKHKP               01 43 00.0
UCH  Uchtor         128.91 288 ePKPdf   PKPdf       01 43 14.1 -0.2
UCH                           LR      LR
     comp=Z,621nm,22.0s,MS5.2
TKM2 Tokmak 2       129.02 289 PFAKE               01 43 30.0 +16
TKM2                          LR      LR
     comp=Z,597nm,20.0s,MS5.3
AML  Almayashu      129.19 287 ePKPdf   PKPdf       01 43 15.1 +0.3
AML                           LR      LR
     comp=Z,601nm,20.0s,MS5.3
TORD Torodi Ar. Bea 129.19 195 PKP      PKPdf       01 43 14.3 -1.4
TORD Torodi Ar. Bea 129.19 195 PKP      PKPdf       01 43 14.3 -1.3
     comp=Z,12nm,1.1s,baz=135,slow=0.6,SNR=8.7
TZTN Tazewell       129.30 85 PFAKE                01 43 30.0 +15
TZTN                          LR      LR
     comp=Z,727nm,19.0s,MS5.4
MKAR Makanchi Array 129.40 297 PKhKP                01 43 11.8
     comp=Z,0.5nm,0.8s,baz=63,slow=0.3,SNR=3.0
ECSD EROS,Sioux Fal 129.45 70 ePKPdf    PKPdf       01 43 12.6 -2.6
ECSD                          LR      LR
     comp=Z,957nm,19.0s,MS5.5
WCI  Wyandotte Cave 129.46 82 PFAKE                01 43 30.0 +15
WCI                           LR      LR
     comp=Z,580nm,21.0s,MS5.2
EKS2 Erkin-Say      129.58 288 PFAKE               01 43 30.0 +15
EKS2                          LR      LR
     comp=Z,750nm,20.0s,MS5.4
TNA  Tin City       129.62 12 PFAKE                01 43 30.0 +15
TNA                           LR      LR
     comp=Z,739nm,20.0s,MS5.4
HDIL Hopedale       130.03 78 PFAKE                01 43 30.0 +14
HDIL                          LR      LR
     comp=Z,1µm,19.0s,MS5.6
DGMT Dagmar         130.19 60 PFAKE                01 43 30.0 +14
DGMT                          LR      LR
     comp=Z,1µm,21.0s,MS5.5
MCK  McKinley       130.41 23 ePKPdf    PKPdf       01 43 15.2 -1.1
MCK                           LR      LR
     comp=Z,2µm,21.0s,MS5.7
EDM  Edmonton       130.65 51 ePKPdf    PKPdf       01 43 15.2 -1.9
CNNC Cliffs of the  130.77 91 PFAKE                01 43 30.0 +12
CNNC                          LR      LR
     comp=Z,3µm,19.0s,MS6.0
BILL Bilibino       131.09 358 PFAKE               01 43 30.0 +12
BILL                          LR      LR
     comp=Z,1µm,21.0s,MS5.6
BILL Bilibino       131.09 358 ePKIKP   PKPdf       01 43 13.5 -4.1
BILL                          i                   01 43 28.4
BILL                          e                   01 50 21.5
BILL                          pmax    pmax
     comp=Z,2.0nm,1.1s
BILL                          pmax    pmax
     comp=Z,2.0nm,0.9s
BILL                          MLR     MLR
     comp=Z,900nm,20.0s,MS5.5
JFWS Jewell Farm    131.52 75 PFAKE                01 43 30.0 +11
JFWS                          LR      LR
     comp=Z,911nm,20.0s,MS5.5
COLA College        131.65 23 PFAKE                01 43 30.0 +11
COLA                          LR      LR
     comp=Z,2µm,19.0s,MS5.9
COLA College        131.65 23 i PKIKP   PKPdf       01 43 14.9 -3.8
IMA2 Indian Mountai 131.82 19 ePKPdf    PKPdf       01 43 19.4 +0.4
ACSO Alum Creek Sta 132.58 83 PFAKE                01 43 30.0 +8.7
ACSO                          LR      LR
     comp=Z,1µm,20.0s,MS5.6
EGAK Eagle          132.81 26 PFAKE                01 43 30.0 +9.1
EGAK                          LR      LR
     comp=Z,3µm,20.0s,MS6.0
AGMN Agassiz Refuge 133.41 66 PFAKE                01 43 30.0 +7.5
AGMN                          LR      LR
     comp=Z,997nm,20.0s,MS5.5
CBN  Corbin         133.45 90 PFAKE                01 43 30.0 +7.0
CBN                           LR      LR
     comp=Z,3µm,19.0s,MS6.0
MCWV Mont Chateau   133.52 86 PFAKE                01 43 30.0 +6.9
MCWV                          LR      LR
     comp=Z,883nm,19.0s,MS5.5
AAM  Ann Arbor      133.94 81 PFAKE                01 43 30.0 +6.3
AAM                           LR      LR
     comp=Z,1µm,22.0s,MS5.5
KURK Kurchatov      133.99 298 PFAKE               01 43 30.0 +6.5
KURK                          LR      LR
     comp=Z,725nm,22.0s,MS5.3
ZAL  Zalesovo       134.12 305 PKIKP    PKPdf       01 43 23.5 -0.2
ZALV Zalesovo Beam  134.12 305 PKP      PKPdf       01 43 23.5 -0.2
ZALV                          PP      PP          01 45 51.9 -3.9
ZALV Zalesovo Beam  134.12 305 PKP      PKPdf       01 43 23.5 -0.2
     comp=Z,0.6nm,0.5s,baz=99,slow=8.9,SNR=3.4
ZALV                          PP      PP          01 45 51.9 -3.9
     comp=Z,0.3nm,0.3s,baz=151,slow=3.4,SNR=3.6
BBSR BB Station     134.23 106 PFAKE               01 43 40.0 +15
BBSR                          LR      LR
     comp=Z,684nm,20.0s,MS5.4
COWI Conover        134.54 73 PFAKE                01 43 40.0 +15
COWI                          LR      LR
     comp=Z,1µm,20.0s,MS5.7
ULM  Lac du Bonnet  134.93 65 PKP       PKPdf       01 43 24.9 -0.4
ULM                           LR      LR
     comp=Z,1µm,20.0s,MS5.7
ULM  Lac du Bonnet  134.93 65 PKP       PKPdf       01 43 24.9 -0.4
     comp=Z,3.7nm,1.0s,baz=59,slow=2.8,SNR=4.7
EYMN Ely            134.97 70 ePKPdf    PKPdf       01 43 22.3 -3.2
EYMN                          LR      LR
     comp=Z,2µm,19.0s,MS5.7
SSPA Standing Stone 135.19 87 PFAKE                01 43 40.0 +14
SSPA                          LR      LR
     comp=Z,793nm,19.0s,MS5.5
NVS  Novosibirsk    135.40 305 ePKIKP   PKPdf       01 43 29.0 +3.0
GLMI Grayling       135.51 78 PFAKE                01 43 40.0 +13
GLMI                          LR      LR
     comp=Z,730nm,22.0s,MS5.4
FFC  Flin Flon      135.96 57 PFAKE                01 43 40.0 +13
FFC                           LR      LR
     comp=Z,1µm,20.0s,MS5.6
BINY Binghamton     137.30 87 PFAKE                01 43 40.0 +10
BINY                          LR      LR
     comp=Z,1µm,19.0s,MS5.6
TIXI Tiksi          137.59 342 ePKPdf   PKPdf       01 43 28.8 -0.9
TIXI                          LR      LR
     comp=Z,813nm,20.0s,MS5.5
YKA  Yellowknife Ar 137.59 42 PKP                  01 43 15.6
YKA                           PKP     PKPdf       01 43 30.3 +0.4
YKA                           PP      PP          01 46 26.1 +8.7
YKA  Yellowknife Ar 137.59 42 PKhKP                01 43 15.6
     comp=Z,0.3nm,0.8s,baz=219,slow=3.0,SNR=7.3
YKA                           PKP     PKPdf       01 43 30.3 +0.4
     comp=Z,3.9nm,1.0s,baz=209,slow=3.4,SNR=18
YKA                           PP      PP          01 46 26.1 +8.7
     comp=Z,1.3nm,1.1s,baz=224,slow=4.7,SNR=5.2
BVAR Borovoye Array 139.07 295 PKhKP               01 43 27.6
     comp=Z,1.5nm,0.9s,baz=134,slow=4.3,SNR=6.0
BRVK Borovoye       139.14 294 PFAKE               01 43 40.0 +7.0
BRVK                          LR      LR
     comp=Z,567nm,22.0s,MS5.3
NCB  Newcomb        139.49 87 PFAKE                01 43 50.0 +16
NCB                           LR      LR
     comp=Z,907nm,19.0s,MS5.5
HRV  Adam Dziewonsk 139.54 91 PFAKE                01 43 50.0 +16
HRV                           LR      LR
     comp=Z,1µm,21.0s,MS5.7
WES  Weston         139.55 91 PFAKE                01 43 50.0 +16
WES                           LR      LR
     comp=Z,2µm,20.0s,MS5.8
LONY Lake Ozonia    139.84 86 PFAKE                01 43 50.0 +15
LONY                          LR      LR
     comp=Z,1µm,21.0s,MS5.6
LBNH Lisbon         140.74 89 PFAKE                01 43 50.0 +14
LBNH                          LR      LR
     comp=Z,1µm,22.0s,MS5.6
ANDN Andirin        142.03 250 i P      PKPdf       01 43 34.0 -4.8
KOPT Kop Dagi       142.27 256 i P      PKPdf       01 43 46.0 +6.9
AKTK Aktyubinsk     142.46 283 PKP      PKPdf       01 43 36.9 -2.2
AKTO Aktyubinsk     142.46 283 PKP      PKPdf       01 43 36.9 -2.2
     comp=Z,5.0nm,1.1s,baz=119,slow=2.2,SNR=8.3
KEMA Kemaliye       142.53 254 i P      PKPdf       01 43 36.6 -3.0
ONI  Oni            143.03 262 P        PKPdf       01 43 40.9 +0.5
MACK Trabzon        143.35 256 i P      PKPdf       01 43 37.7 -3.3
AVNT Avonos         143.68 249 i P      PKPdf       01 43 33.7 -8.0
KARP Karpathos      143.99 237 eP       PKPdf       01 43 41.0 -1.3
ARG  Arkhangelos    144.21 239 eP       PKPdf       01 43 43.1 +0.4
NPS  Neapolis       144.32 235 eP       PKPdf       01 43 42.0 -0.9
KIV  Kislovodsk     144.46 262 ePKPdf   PKPdf       01 43 40.8 -2.0
KIV                           LR      LR
     comp=Z,913nm,19.0s,MS5.6
KIV  Kislovodsk     144.46 262 ePKIKP   PKPdf       01 43 41.8 -1.0
KIV                           pmax    pmax
     comp=Z,206nm,1.1s
KIV  Kislovodsk     144.46 262 ⇑ iP     PKPdf       01 43 43.5 +0.7
GVD  Gavdhos        144.50 233 ePKPdf   PKPdf       01 43 40.8 -2.4
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GOLH	Golhisar	144.53	242	*i* P	PKPdf	01 43 38.0	-5.2
CDAG	Cicekdag	144.59	249	*i* P	PKPdf	01 43 38.7	-4.5
ISP	Isparta	144.67	243	*e*PKPdf	PKPdf	01 43 39.3	-4.1
ISP	Isparta	144.67	243	PKIKP	PKPdf	01 43 41.7	-1.7
ISP	Isparta	144.67	243	⇑*i*P	PKPdf	01 43 41.5	-1.9
VAM	Vamos	144.96	234	*e*P	PKPdf	01 43 45.7	+1.7
CTKT	Corum	145.24	251	*i* P	PKPbc	01 43 43.1	-1.0
ANTO	Ankara	145.46	248	*e*PKPdf	PKPdf	01 43 43.5	-1.2
ANTO				LR	LR		
	comp=Z,1μm,20.0s,MS5.8						
ANTO	Ankara	145.46	248	⇑*i*P	PKPdf	01 43 45.8	+1.1
SOC	Sochi	145.49	259	*e*PKHKP	PKPdf	01 43 42.0	-2.6
SOC				pmax	pmax		
	comp=Z,68nm,1.2s						
AYDN	Tasoluk	145.56	240	*i* P	PKPdf	01 43 40.1	-4.8
SVE	Sverdlovsk	145.76	293	*e*PKP2	PKPab	01 43 45.1	-0.5
SVE				pmax	pmax		
	comp=Z,134nm,1.9s						
BOYT	Boyabat	145.85	252	*i* P	PKPdf	01 43 44.6	-0.8
APE	Apeiranthos	145.95	237	*i* PKP2	PKiKP	01 43 51.2	+1.4
APE	Apeiranthos	145.95	237	*e*P	PKPdf	01 43 47.4	+1.8
APE	Apeiranthos	145.95	237	⇓*i*P	PKiKP	01 43 50.4	+0.6
ESKT	Eskisehir	145.97	245	*i* P	PKPdf	01 43 45.5	0.0
SMG	Samos	146.01	239	*e*P	PKPdf	01 43 47.0	+1.3
ARU	Arti	146.37	291	*e*PKPdf	PKPdf	01 43 47.1	+1.4
ARU				LR	LR		
	comp=Z,834nm,21.0s,MS5.5						
ARU	Arti	146.37	291	*c i*PKP2	PKPab	01 43 49.3	+1.3
ARU				pmax	pmax		
	comp=Z,41nm,0.8s						
BORA	Eskisehir	146.43	245	*i* P	PKPdf	01 43 45.1	-1.3
KDAG	Bornova	146.44	240	*i* P	PKPdf	01 43 47.2	+0.8
AKHS	Akhisar	146.64	241	*i* P	PKPdf	01 43 44.6	-2.2
URLA	Izmir	146.67	239	*i* P	PKPdf	01 43 44.7	-2.1
HENT	Hendek	147.04	247	*i* P	PKPdf	01 43 44.6	-2.8
BTOK	Tokmak	147.31	242	*i* P	PKPbc	01 43 50.8	+0.5
ITM	Ithomi	147.37	232	*e*P	PKPbc	01 43 52.1	+1.6
ATH	Athens Observa	147.42	235	*e*P	PKPbc	01 43 53.9	+3.3
AYVA	Ayvalik	147.45	240	*i* P	PKPdf	01 43 49.0	+0.9
ANN	Anapa	147.46	258	*i* PKP2	PKPbc	01 43 50.3	-0.2
ANN				pmax	pmax		
	comp=Z,67nm,1.2s						
PRK	Paraskevi	147.56	239	*e*P	PKPbc	01 43 53.1	+2.1
BOZC	Bozcaada	148.16	240	*i* P	PKPbc	01 43 52.2	-0.3
RLS	Riolos of Patr	148.31	232	*e*P	PKPbc	01 43 55.6	+2.6
SART	Tekirdag	148.44	242	*i* P	PKPdf	01 43 49.6	0.0
VLS	Valsamata	148.73	231	*e*P	PKPbc	01 43 57.9	+3.8
EVR	Evrytania	148.95	233	*e*P	PKPbc	01 43 57.2	+2.6
SIM	Simferopol'	149.03	255	*e*PKP2	PKPbc	01 43 55.0	+0.4
SIM				*e*		01 47 31.0	
SIM				*e*SS	SS	02 06 32.0	-4.7
SIM				pmax	pmax		
	comp=Z,50nm,6.5s						
SOKR	Solikamsk	149.06	294	*c i*PKP2	PKPab	01 43 56.7	-1.9
SOKR				pmax	pmax		
	comp=Z,40nm,1.0s						
RDO	Rodhopi	149.48	240	*e*P	PKPbc	01 43 57.7	+1.8
PLG	Polygyros	149.62	237	*e*P	PKPbc	01 43 58.9	+2.7
KEST	Kesra	149.86	213	PKPbc	PKPbc	01 43 57.6	+0.6
	comp=Z,9.7nm,1.1s,baz=182,slow=4.3,SNR=7.7						
JAN	Janina	149.95	233	*e*P	PKPbc	01 43 59.7	+2.6
KDZ	Kurdzhali	149.96	241	*i* P	PKPbc	01 43 57.0	0.0
KZN	Kozani	150.19	235	*e*P	PKPbc	01 43 57.5	-0.1
RZN	Rozhen	150.27	240	*i* P	PKPbc	01 43 58.4	+0.7
NVR	Nevrokopi	150.31	238	*e*P	PKPbc	01 43 59.3	+1.4
KEK	Kerkira	150.38	231	*e*P	PKPbc	01 43 59.9	+1.8
MMB	Musomiste	150.56	239	*i* P	PKPbc	01 43 58.0	-0.5
RES	Resolute Bay	150.62	33	*e*PKPdf	PKPdf	01 43 54.3	+2.1
PLD	Plovdiv	150.62	240	*e*P	PKPbc	01 44 00.0	+1.4
SCHQ	Schefferville	150.64	80	PKPbc	PKPbc	01 43 56.9	-1.3
SCHQ				LR	LR		
	comp=Z,2μm,20.0s,MS5.8						
SCHQ	Schefferville	150.64	80	PKPbc	PKPbc	01 43 56.9	-1.3
	comp=Z,13nm,1.0s,baz=238,slow=1.5,SNR=12						
VAY	Valandovo	150.78	237	*i* PKP	PKPbc	01 43 59.6	+0.6
TIP	Timpagrande	150.93	227	*e*PKPbc	PKPbc	01 43 59.1	-0.3
BIA	Bitola	150.98	235	*e*PKP	PKPbc	01 43 58.4	-1.1
TIRR	Tirgusor	151.08	248	⇑*i*P	PKPbc	01 43 59.9	+0.3
PGB	Panagyurishte	151.21	240	*e*P	PKPbc	01 44 00.0	+0.1
STIP	Stip	151.24	237	*i* PKP	PKPbc	01 43 59.6	-0.4
OHR	Ohrid	151.25	234	*i* PKP	PKPbc	01 44 02.4	+2.3
KRUS	Krusevo	151.31	235	*i* PKP	PKPbc	01 44 00.8	+0.6
PVL	Pavlikeni	151.31	242	*e*P	PKPbc	01 44 01.0	+0.8
VRSR	Storozhevoye	151.45	268	*e*PKIKP	PKPbc	01 43 59.8	-0.4
VRSR				pmax	pmax		
	comp=Z,2.0nm,0.9s						
VRSR				pmax	pmax		
	comp=N,1.0nm,1.0s						
VRSR				pmax	pmax		
	comp=E,1.0nm,0.9s						
HARR	Harsova	151.47	247	P	PKPbc	01 44 00.8	+0.3
HARR	Harsova	151.47	247	⇓*i*P	PKPbc	01 44 00.7	+0.2
VTS	Vitosha	151.62	239	P	PKPbc	01 44 01.9	+1.0
VTS	Vitosha	151.62	239	⇓*i*P	PKPbc	01 44 00.8	-0.1
VTS	Vitosha	151.62	239	⇓*i*P	PKPbc	01 44 01.8	+0.1
ZIMR		151.67	243	P	PKPbc	01 44 01.9	+0.9
ZIMR		151.67	243	⇓*i*P	PKPbc	01 44 01.9	+0.9
SKO	Skopje	151.76	236	*i* PKP	PKPbc	01 44 03.7	+2.5
VOR	Voronezh	151.80	269	*e*PKIKP	PKPbc	01 44 03.0	+2.0
VOR				pmax	pmax		
	comp=Z,200nm,2.0s						
VRI	Vrincioaia	152.92	247	P	PKPbc	01 44 03.1	-0.6
KIS	Kishinev	152.93	251	*i* PKIKP	PKPbc	01 44 05.0	+1.3
KIS	Kishinev	152.93	251	*e*PKP	PKPbc	01 44 05.0	+1.3
KIS				LRM		02 50 20.0	
	comp=Z,800nm,20.0s						
PLOR	Plostina	152.94	247	⇑*i*P	PKPbc	01 44 04.4	+0.7
MLR	Muntele Rosu	152.94	246	P	PKPbc	01 44 06.9	+3.1
MLR	Muntele Rosu	152.94	246	⇓*i*P	PKPbc	01 44 03.0	-0.7
IAS	Iasi	153.62	250	P	PKPbc	01 44 05.9	+0.8
IAS	Iasi	153.62	250	⇓*i*P	PKPbc	01 44 05.9	+0.7
PFVI	Vila Bisbo	153.77	183	*e*LR	LR	02 37 17.6	
	comp=Z,3μm,22.0s						
PBDV	Barranco-do-Ve	153.85	184	*e*LR	LR	02 37 39.9	
	comp=Z,1μm,20.0s						
MORF	Marmelete	153.94	183	*e*PKPbc	PKPbc	01 44 11.9	+5.7
MORF	Marmelete	153.94	183	*e*LR	LR	02 37 38.5	
	comp=Z,2μm,20.0s						
PVAQ	Vaqueiros	154.00	185	*e*PKPab	PKPab	01 44 22.3	+2.5
PVAQ	Vaqueiros	154.00	185	*e*LR	LR	02 37 43.2	
	comp=Z,1μm,18.0s						
PTEO	Sao Teotonio	154.18	183	*e*PKPab	PKPab	01 44 20.2	-0.3
PBEJ	Beja	154.63	184	*e*PKPbc	PKPbc	01 44 11.6	+3.9
PBAR	Barrancos	154.75	186	*e*PKPab	PKPab	01 44 25.4	+2.5
PBAR	Barrancos	154.75	186	*e*LR	LR	02 38 50.4	
	comp=Z,1μm,18.0s						
BZS	Buzias	154.78	240	⇑*i*P	PKPbc	01 44 07.9	+0.2
MOS	Moscow	155.12	275	*e*PKP2	PKPab	01 44 29.0	+4.9
MOS				pmax	pmax		
	comp=Z,63nm,1.2s						
EVO	Evora	155.14	184	*e*PKIKP	PKPdf	01 43 58.2	-1.6
EVO				*e*MLR	MLR		
	comp=Z,2μm,21.8s,MS5.7						
EVO	Evora	155.14	184	*e*PKPbc	PKPdf	01 44 11.5	+12
OBN	Obninsk	155.21	273	PFAKE		01 44 10.0	+11
OBN				LR	LR		
	comp=Z,1μm,22.0s,MS5.6						
OBN	Obninsk	155.21	273	*e*PKIKP	PKPdf	01 44 00.2	+0.9
OBN				*e*		01 44 20.9	
OBN				*e*		01 51 03.7	
OBN				pmax	pmax		
	comp=Z,4.0nm,0.7s						
PESTR	Estremoz	155.46	185	*e*LR	LR	02 38 39.4	
	comp=Z,1μm,20.0s						
AKASG	Malin Array Be	155.54	257	PKPbc	PKPdf	01 44 09.4	+9.4
	comp=Z,0.8nm,0.7s,baz=86,slow=1.3,SNR=5.4						
AKASG				PKPab	PKPab	01 44 26.4	+0.4
	comp=Z,12nm,1.0s,baz=131,slow=3.0,SNR=12						
AKBB	Malin Array Si	155.54	257	*e*PKPdif	PKPdf	01 44 10.9	+11
AKBB				*e*PKPab	PKPab	01 44 27.0	+0.9
KIEV	Kiev	155.54	257	PFAKE		01 44 10.0	+10
KIEV				LR	LR		
	comp=Z,991nm,20.0s,MS5.6						
PMAFR	Mafra	155.59	182	*e*LR	LR	02 37 58.9	
	comp=Z,2μm,20.0s						
PAB	San Pablo	155.93	191	PFAKE		01 44 10.0	+9.1
PAB				LR	LR		
	comp=Z,2μm,19.0s,MS5.8						
ESDC	Sonseca Array	156.02	192	PKP	PKPdf	01 43 58.4	-2.6
	comp=Z,0.1nm,0.3s,baz=282,slow=22,SNR=3.1						
ESDC				PKPab	PKPab	01 44 29.6	+1.2
	comp=Z,9.2nm,1.0s,baz=176,slow=3.7,SNR=18						
PCBR	Castelo Branco	156.43	185	*e*PKPab	PKPab	01 44 31.3	+1.2
MTE	Manteigas	156.99	185	*e*LQ		02 30 00.1	
MTE				*e*LR	LR	02 39 07.2	
	comp=Z,1μm,20.0s						
LVV	L'vov	157.14	250	*e*PKP2	PKPab	01 44 34.8	+1.9
KOLS	Kolonicke sedl	157.19	246	*e*PKP	PKPab	01 44 36.7	+3.5
KOLS				*e*		01 44 49.6	
CRVS	Cervenica-Dubn	157.50	245	*e*PKP	PKPab	01 44 35.5	+1.0
KWP	Kalwaria	157.55	248	⇑*i*P	PKPdf	01 44 09.6	+7.0
KECS	Kecovo	157.57	243	*e*PKP2	PKPab	01 44 36.3	+1.5
KECS				pmax	pmax		
	comp=Z,5.0nm,1.1s						
KECS	Kecovo	157.57	243	*e*PKP	PKPab	01 44 36.2	+1.4
KECS				*e*		01 44 47.4	
MVO	Moncorvo	157.72	186	*e*LR	LR	02 39 41.4	
	comp=Z,978nm,24.0s						
LMR	La Mourre	157.75	214	*e*PKP2	PKPab	01 44 35.2	-0.5
	comp=Z,97nm,1.4s						
FRF	La Foret Royal	157.93	214	*e*PKP2	PKPab	01 44 36.3	-0.2
	comp=Z,88nm,1.6s						
STHS	Stebnicka Huta	158.00	246	*e*PKP2	PKPab	01 44 38.2	+1.5
STHS				pmax	pmax		
	comp=Z,4.0nm,1.2s						
SBF	Sospel	158.01	216	*e*PKP2	PKPab	01 44 36.8	0.0
VYHS	Vyhne	158.23	241	*e*PKP2	PKPab	01 44 38.5	+0.8
VYHS				pmax	pmax		
	comp=Z,13nm,1.3s						
PBRG	Braganca	158.35	187	*e*PKPab	PKPab	01 44 41.2	+2.9
NIE	Niedzica	158.38	244	*e*PKP	PKPab	01 44 41.4	+3.1
KOLL	Kolacno	158.47	240	*e*PKP	PKPab	01 44 40.0	+1.3
KOLL				*e*		01 44 49.6	
SMRF	Simiane la Rot	158.59	213	*e*PKP2	PKPab	01 44 39.3	0.0
ZST	Bratislava	158.66	238	*e*PKP2	PKPab	01 44 40.1	+0.5
ZST				pmax	pmax		
	comp=Z,12nm,1.1s						
ZST	Bratislava	158.66	238	*e*PKP	PKPab	01 44 40.1	+0.5
ZST				*e*		01 44 51.7	
MTLF	Montolieu	158.72	206	*e*PKP2	PKPab	01 44 39.4	-0.5
MODS	Modra-Piesok	158.74	238	*e*PKP	PKPab	01 44 40.7	+0.8
EPF	Esparros	158.76	202	*e*PKP2	PKPab	01 44 40.1	0.0
	comp=Z,63nm,1.6s						
MBDF	Montbardon	158.99	216	*e*PKP2	PKPab	01 44 41.1	0.0
	comp=Z,67nm,1.5s						
SJPF	Ste Jean	159.09	199	*e*PKP2	PKPab	01 44 41.6	+0.1
	comp=Z,46nm,1.4s						
OJC	Ojcow	159.21	245	*e*PKP	PKPab	01 44 43.0	+1.1
ORIF	Oris-en-Rattie	159.40	214	*e*PKP2	PKPab	01 44 42.7	-0.1
	comp=Z,54nm,1.5s						
ORIF				*e*MLR	MLR		
	comp=Z,3μm,21.8s,MS5.8						
OKC	Ostrava-Krasne	159.58	242	*e*PKPab	PKPab	01 44 44.7	+1.2
OKC				*ex*	x	01 44 57.7	
OKC				AMS	AMS	03 06 10.0	
	comp=Z,1μm,17.9s,MS5.7						
VIVF	Saint-Julien-l	159.63	212	*e*PKP2	PKPab	01 44 43.6	-0.3
	comp=Z,52nm,1.5s						
LPG	La Plagne	159.71	216	*e*PKP2	PKPab	01 44 44.5	+0.3
LPL	La Plagne	159.73	216	*e*PKP2	PKPab	01 44 44.3	0.0
	comp=Z,13nm,1.0s						
TREC	Trest	160.18	237	*e*PKPab	PKPab	01 44 47.5	+1.4
TREC				AMS	AMS	03 02 00.0	
	comp=Z,2μm,21.4s						
GERES	GERESS Array B	160.47	233	PKPab	PKPab	01 44 47.1	-0.3
	comp=Z,2.0nm,1.0s,baz=106,slow=1.9,SNR=5.3						
SUW	Suwalki	160.51	257	*e*PKP	PKPab	01 44 49.7	+2.3
DPC	Dobruska-Polom	160.70	240	*e*PKPab	PKPab	01 44 51.2	+2.8
DPC				*ex*	x	02 15 13.0	
DPC				AMS	AMS	03 03 00.0	
	comp=Z,1μm,20.3s						
RJF	Les Rejaudoux	160.75	206	*e*PKP2	PKPab	01 44 48.1	-0.6
	comp=Z,57nm,1.9s						
RJF				*e*MLR	MLR		
	comp=Z,2μm,22.0s						
KHC	Kasperske Hory	160.75	234	*e*PKPab	PKPab	01 44 49.6	+1.0
KHC				*ex*	x	01 45 06.4	
KHC				*ex*	x	02 15 07.9	
KHC				AMS	AMS	03 06 50.0	
	comp=Z,2μm,22.8s						
CABF	La Chapelle	160.91	216	*e*PKP2	PKPab	01 44 49.4	0.0
	comp=Z,58nm,1.6s						
UPC	Upice	160.95	240	*e*PKPab	PKPab	01 44 51.3	+1.8
PRU	Pruhonice	161.10	237	*e*PKPab	PKPab	01 44 52.3	+2.2
PRU				*ex*	x	02 15 28.3	
PRU				AMS	AMS	03 05 50.0	
	comp=Z,2μm,20.5s						
KSP	Ksiaz	161.10	241	*e*PKP	PKPab	01 44 53.4	+3.2
KSP	Ksiaz	161.10	241	*e*PKP2	PKPab	01 44 52.3	+2.2
KSP				*e*SS	SS	02 08 53.0	+5.8
SMF	Signal de Mont	161.51	212	*e*PKP2	PKPab	01 44 52.3	+0.3
	comp=Z,62nm,1.4s						
PVCC	Panska Ves	161.52	238	*e*PKPab	PKPab	01 44 54.2	+2.2
PVCC				*ex*	x	01 45 09.6	
PVCC				AMS	AMS	03 04 00.0	
	comp=Z,2μm,18.4s						
VSU	Vasula	161.56	272	*i* PKP2	PKPab	01 44 54.4	+2.4
BGF	Bois d'Agland	161.66	210	*e*PKP2	PKPab	01 44 52.4	-0.3
AVF	Avril sur Loir	161.77	211	*e*PKP2	PKPab	01 44 52.6	-0.5
	comp=Z,52nm,1.3s						
HINF	Hinteralfeld	161.81	219	*e*PKP2	PKPab	01 44 53.1	-0.2
	comp=Z,55nm,1.4s						
BFO	Black Forest	161.83	223	PFAKE		01 44 20.0	+12
BFO				LR	LR		
	comp=Z,2μm,20.0s						
SSF	Saint Saulge	161.99	212	*e*PKP2	PKPab	01 44 54.1	0.0
	comp=Z,20nm,1.2s						
BRG	Berggiesshubel	162.04	237	*e*PKP	PKPab	01 44 57.6	+3.4
	comp=Z,26nm,1.4s						
BRG				*e*		02 09 01.0	
BRG							
	comp=N,1μm,22.9s						
BRG							
	comp=E,922nm,21.9s						
BRG							
	comp=Z,1μm,20.9s						
GRA1	Grafenberg Arr	162.06	230	*e*PKPdf	PKPdf	01 44 07.1	-0.6
GRA1				*e*PKPab	PKPab	01 44 55.3	+1.0
GRA1				LR	LR		
	comp=Z,2μm,20.9s						
GRF	Grafenberg Arr	162.06	230	*e*PKPdf	PKPdf	01 44 07.1	-0.6
GRF				*e*PKPab	PKPab	01 44 55.3	+1.0
GRF				*e*L		03 00 47.7	
	comp=Z,2μm,20.9s						
GRFO	Grafenberg	162.06	230	PFAKE		01 44 20.0	+12
GRFO				LR	LR		
	comp=Z,2μm,21.0s						
NKC	Novy Kostel	162.07	234	AMS	AMS	02 59 30.0	
	comp=Z,5μm,27.1s						
LOR	Lormes	162.09	213	*e*PKP2	PKPab	01 44 54.1	-0.4
	comp=Z,61nm,1.4s						
LOR				*e*MLR	MLR		
	comp=Z,3μm,21.2s						
HAU	Haudompre	162.12	219	*e*PKP2	PKPab	01 44 54.6	0.0
	comp=Z,54nm,1.3s						
HAU				*e*MLR	MLR		
	comp=Z,2μm,20.0s						
CDF	Champ du Feu	162.22	221	*e*PKP2	PKPab	01 44 55.0	-0.1
	comp=Z,44nm,1.5s						
MFF	Saint Martin d	162.31	203	*e*PKP2	PKPab	01 44 55.2	-0.3
MOX	Moxa	162.72	233	*e*PKP	PKPab	01 44 58.3	+1.1
	comp=Z,18nm,1.6s						
MOX							
	comp=Z,1μm,19.0s						
MOX	Moxa	162.72	233	*e*PKP2	PKPab	01 44 58.3	+1.1
MOX				pmax	pmax		
	comp=Z,18nm,1.6s						
MOX				MLR	MLR		
	comp=Z,1μm,19.0s						
CLL	Collm	162.74	237	⇓*e*PKIKP	PKPdf	01 44 12.0	+3.7
CLL				*i*		01 44 59.3	
CLL				pmax	pmax		
	comp=Z,25nm,1.5s						
CLL				MLR	MLR		
	comp=Z,2μm,22.4s						
CLL	Collm	162.74	237	*e*(PKPdf)	PKPdf	01 44 12.0	+3.7
CLL				*e*(pPKPdf)		01 44 15.0	
CLL				⇓*i*PKPab	PKPab	01 44 59.3	+2.0
	comp=Z,25nm,1.5s						
CLL				*i* pPKPab	pPKPab	01 45 02.8	-0.9
	comp=Z,25nm,1.4s						
CLL				*e*PP	PP	01 48 46.0	+3.5
CLL				*e*PPS		02 02 28.0	
CLL				*e*SS	SS	02 08 56.0	-8.2
CLL				*ex*	x	02 10 28.0	
CLL				*e*SSrev		02 14 38.0	
CLL				*e*SSS		02 15 48.0	
CLL				*e*SSSS		02 19 49.0	
CLL				*e*SSSrev		02 22 56.0	
MEZF	Maizieres J'vi	162.93	217	*e*PKP2	PKPab	01 44 58.1	-0.1
KBS	Kingsbay	163.00	346	PFAKE		01 44 20.0	+12
KBS				LR	LR		
	comp=Z,1μm,20.0s						
FINES	FINESS Array B	163.20	280	PKPab	PKPab	01 44 59.8	+0.7
	comp=Z,1.8nm,1.1s,baz=202,slow=35,SNR=3.0						
WLF	Walferdange	163.67	221	PKP	PKPab	01 45 04.9	+3.5
QUIF	Quistinic	164.07	198	*e*PKP2	PKPab	01 45 02.4	-0.8
	comp=Z,52nm,1.3s						
KEV	Kevo	164.07	310	PFAKE		01 44 20.0	+11
KEV				LR	LR		
	comp=Z,1μm,20.0s						
SGMF	Saint Gilles	164.31	199	*e*PKP2	PKPab	01 45 03.9	-0.3
	comp=Z,37nm,1.3s						
GIVF	Givet	164.44	219	*e*PKP2	PKPab	01 45 04.4	-0.4
FLN	La Foliniere	164.45	205	*e*PKP2	PKPab	01 45 04.6	-0.2
FLN				*e*MLR	MLR		
	comp=Z,3μm,20.8s						
DOU	Dourbes	164.50	218	PKP	PKPab	01 45 08.1	+3.1
BAIF	Baives	164.58	217	*e*PKP2	PKPab	01 45 05.3	-0.1
	comp=Z,58nm,1.5s						
BCLA	Clavier	164.59	220	PKP	PKPab	01 45 08.8	+3.4
ARCES	ARCESS Array B	164.62	309	PKPab	PKPab	01 45 05.6	+0.5
	comp=Z,5.2nm,0.8s,baz=73,slow=4.1,SNR=5.0						
NOA	NORSAR Array B	169.73	267	PKPab	PKPab	01 45 29.1	+1.1
	comp=Z,2.2nm,1.0s,baz=104,slow=4.8,SNR=2.9						
NAO01	NORSAR Array S	169.80	265	PFAKE		01 44 20.0	+6.5
NAO01				LR	LR		
	comp=Z,2μm,19.0s						
KONO	Kongsberg	169.84	258	PFAKE		01 44 20.0	+6.4
KONO				LR	LR		
	comp=Z,2μm,20.0s						
ESK	Eskdalemuir	171.21	207	PFAKE		01 44 20.0	+5.5
ESK				LR	LR		
	comp=Z,2μm,20.0s						

IDC 16 01:27:18.8±9.1, 1781S×7193W, h76km±49km, mb3.3/2, mb1 3.7/5, mb1mx3.4/20, mbtmp3.6/5, ML3.9/3, Error ellipse: s-maj=149.2km s-min=19.8km az=25.0, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	La Paz	3.94	68	P	Pn	01 28 17.9	+1.2
	4.3nm,0.3s,baz=257,slow=9.4,SNR=102						
NNA	Nana	7.49	320	P	Pn	01 29 04.7	-0.6
	0.8nm,0.3s,baz=177,slow=8.4,SNR=2.3						
NNA				S	Sn	01 30 30.4	+1.7
	0.8nm,0.3s,baz=243,slow=18,SNR=2.6						
SIV	San Ignacio	10.55	82	P	Pn	01 29 46.3	-0.8
	2.1nm,0.3s,baz=271,slow=11,SNR=42						
TORD	Torodi Ar. Bea	78.87	72	P	P	01 39 14.5	+0.2
	0.4nm,0.5s,baz=255,slow=5.8,SNR=10						
TORD				pP	pP	01 39 26.4	-8.3
	0.6nm,0.4s,baz=263,slow=5.3,SNR=20						
YKA	Yellowknife Ar	86.79	342	P	P	01 39 54.0	-0.2
	0.3nm,0.7s,baz=137,slow=5.1,SNR=9.1						
YKA				pP	pP	01 40 06.5	-8.3
	0.1nm,0.4s,baz=129,slow=4.5,SNR=5.6						

MEX 16 01:29:06.4±0.7, 1704N×10043W, h46km±7km, MD3.7, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	El Cayaco	0.16	87	*i* P	Pn	01 29 12.9	-1.1
CAIG				*i* S	Sn	01 29 17.3	-2.0
ACX	Acapulco	0.52	109	*i* P	Pn	01 29 15.7	-1.9
ACX				*i* S	Sn	01 29 24.3	-1.5
UTMO	Huajuapan	2.63	72	*i* P	Pn	01 29 45.2	-1.1
UTMO				*i* S	Sn	01 30 13.9	-3.2
PPM	Popocatepetl	2.65	40	*i* P	Pn	01 29 46.9	+0.3
PPM				*i* S	Sn	01 30 16.6	-0.9

NIED ***16*** *01:31:00, 2440N×122.40E, h23km, Mw4.0 Best double couple: M0 1.23000×10^15 NP1:φs285.00000°, δ81.00000°, λ-82.00000°. NP2:φs62.00000°, δ12.00000°, λ-132.00000°.*
IDC ***16*** *01:31:45.5±1.0, 2414N×122.39E, h0km, mb3.9/6, mb1 4.0/7, mb1mx3.8/19, mbtmp4.0/7, ML3.6/1, MS3.1/4, Ms1 3.1/4, ms1mx3.0/44, Error ellipse: s-maj=42.5km s-min=18.3km az=65.0*
ISCJB ***16*** *01:31:49.5±1.6, 2397N±008×122.38E±004, h31km±11km, mb3.8/6, Error ellipse: s-maj=13.4km s-min=5.5km az=5.6*
JMA ***16*** *01:31:50.7±0.2, 2436N×122.39E, h62km±3km, M3.7*
NEIC ***16*** *01:31:50.5±0.7, 2412N×122.47E, h35km, MG3.7(JMA), Error ellipse: s-maj=15.6km s-min=10.8km az=207.0*

ISC 16 01:31:50.0±1.2, 2401N±007×12239E±003, h26km±8km, n19, σ1°08/24, mb3.8/6, 1D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	Yonaguni jima	0.72	51	P	Pb	01 32 03.7	-0.2
YOJ				S	Sb	01 32 13.0	-0.4
NACB	Ninganchiao	0.75	283	⇓*i*P	Pb	01 32 04.6	+0.2

comp=Z,475nm,19.8s,baz=164,slow=38
ASAR Alice Springs 46.05 313 P P 01 53 45.2 +0.3
2.2nm,1.1s,baz=158,slow=7.4,SNR=9.4
WRA Warramunga Arr 49.38 315 P P 01 54 09.9 -0.8
2.2nm,1.1s,baz=156,slow=5.7,SNR=3.0
YKA Yellowknife Ar 137.84 42 PKP PKPdf 02 04 45.2 +1.0
0.3nm,0.9s,baz=194,slow=2.2,SNR=4.6
SCHQ Schefferville 150.97 81 PKPbc PKPbc 02 05 12.6 -0.3
3.3nm,1.0s,baz=288,slow=9.6,SNR=4.0
AKASG Malin Array Be 155.22 258 PKPab PKPab 02 05 38.8 +0.2
1.1nm,0.8s,baz=127,slow=3.3,SNR=5.3

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*IDC **16** 01:49:18.8±1.6, 730S×156.15E, h0km, mb4.1/7, mb1 4.2/7, mb1mx4.0/16, mbtmp4.1/7, Error ellipse: s-maj=50.1km s-min=25.8km az=103.0*
*ISCJB **16** 01:49:21.5±6.6, 72S±02×15574E±009, h15km±47km, mb4.0/7, Error ellipse: s-maj=29.2km s-min=13.3km az=16.1*
ISC 16 01:49:26.8±3.8, 72S±02×1557E±02, h42km±40km, n9, σ1°04/9, mb4.0/7, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.72**	**118**	Pn	**Pn**	**01 50 33.7**	**-1.8**
	12nm,0.3s,baz=259,slow=7.7,SNR=2.8						
HNR				Sn	**Sn**	**01 51 30.1**	**+1.2**
	17nm,0.3s,baz=262,slow=19,SNR=4.9						
WRA	**Warramunga Arr**	**24.32**	**236**	P	**P**	**01 54 40.8**	**+0.2**
	0.9nm,0.4s,mb3.5,baz=61,slow=9.7,SNR=30						
ASAR	**Alice Springs**	**26.60**	**230**	P	**P**	**01 55 02.4**	**+1.0**
	0.2nm,0.4s,mb3.0,baz=57,slow=9.3,SNR=3.1						
FITZ	**Fitzroy Crossi**	**31.26**	**247**	P	**P**	**01 55 42.6**	**-0.2**
	1.1nm,0.7s,mb3.8,baz=101,slow=10,SNR=2.8						
SONM	**Songino Array**	**69.91**	**327**	P	**P**	**02 00 34.5**	**+1.1**
	1.4nm,0.4s,mb4.2,baz=144,slow=6.0,SNR=18						
QSPA	**South Pole Qui**	**82.78**	**180**	P	**P**	**02 01 44.5**	**-1.5**
	2.4nm,1.0s,mb4.2,baz=3.2,slow=2.1,SNR=7.1						
MKAR	**Makanchi Array**	**84.04**	**319**	P	**P**	**02 01 53.4**	**+0.4**
	3.9nm,0.7s,mb4.7,baz=102,slow=6.0,SNR=29						
ZALV	**Zalesovo Beam**	**84.76**	**326**	P	**P**	**02 01 55.5**	**-0.9**
	2.1nm,0.4s,mb4.6,baz=114,slow=5.4,SNR=10.0						
TORD	**Torodi Ar. Bea**	**153.79**	**285**	PKPbc	PKPbc	02 09 21.0	-1.4
	0.3nm,0.7s,baz=26,slow=1.9,SNR=4.8						

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*IDC **16** 01:58:35.0±1.0, 1553S×6839W, h0km, mb3.9/3, mb1 4.1/4, mb1mx3.7/18, mbtmp3.9/4, ML4.0/1, Error ellipse: s-maj=29.5km s-min=9.9km az=72.0*
*ISCJB **16** 01:58:37.6±2.9, 155S±02×6823W±009, h29km±22km, mb3.8/3, Error ellipse: s-maj=31.5km s-min=14.6km az=1.7*
ISC 16 01:58:37.7±3.2, 156S±02×6831W±010, h17km±21km, n7, σ1°66/6, mb3.8/3, Central Bolivia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**0.73**	**167**	Pg	**Pg**	**01 58 51.5**	**-0.5**
LPAZ				Lg		01 59 00.3	
	791nm,0.3s,baz=118,slow=19,SNR=166						
SIV	**San Ignacio**	**6.98**	**94**	Pn	**Pn**	**02 00 21.1**	**+2.0**
	1.4nm,0.3s,baz=283,slow=12,SNR=66						
SIV				Sn	**Sn**	**02 01 37.2**	**-0.9**
	4.8nm,0.3s,baz=295,slow=12,SNR=4.4						
SIV				Lg		02 02 17.0	
	10nm,0.3s,baz=11,slow=22,SNR=6.0						
PLCA	**Paso Flores**	**25.15**	**184**	P	**P**	**02 04 02.4**	**+0.5**
	2.6nm,0.9s,mb3.7,baz=348,slow=9.3,SNR=3.1						
ULM	**Lac du Bonnet**	**69.88**	**342**	P	**P**	**02 09 46.7**	**-0.7**
	0.8nm,0.4s,mb4.0,baz=142,slow=4.7,SNR=8.9						
YKA	**Yellowknife Ar**	**85.82**	**340**	P	**P**	**02 11 15.7**	**-0.1**
	0.2nm,0.5s,mb3.6,baz=133,slow=5.1,SNR=16						
WRA	**Warramunga Arr**	**138.28**	**213**	PKP	PKPdf	02 18 02.0	-0.9
	0.4nm,0.5s,baz=145,slow=1.7,SNR=6.5						
SONM	**Songino Array**	**147.53**	**7**	PKPbc	PKPbc	02 18 21.0	+0.1
	0.6nm,0.5s,baz=316,slow=1.9,SNR=7.2						

IDC 16 02:39:15.2±3.6, 572S×15288E, h0km, mb3.5/4, mb1 3.8/4, mb1mx3.6/14, mbtmp3.6/4, Error ellipse: s-maj=118.9km s-min=29.8km az=110.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.91**	**230**	P	P	02 44 21.4	+0.5
	1.5nm,0.9s,baz=53,slow=10,SNR=6.1						
ASAR	**Alice Springs**	**25.53**	**224**	P	P	02 44 45.9	+0.1
	1.9nm,0.8s,baz=58,slow=8.9,SNR=15						
SONM	**Songino Array**	**67.14**	**328**	P	P	02 50 11.6	+0.8
	0.2nm,0.4s,baz=124,slow=7.2,SNR=3.6						
MKAR	**Makanchi Array**	**81.06**	**319**	P	P	02 51 33.0	+0.8
	0.2nm,0.4s,baz=90,slow=7.2,SNR=2.3						
TORD	**Torodi Ar. Bea**	**150.65**	**287**	PKPbc	PKPbc	02 59 08.9	-1.5
	0.2nm,0.3s,baz=91,slow=2.2,SNR=6.9						

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*NEIC **16** 02:45:14.6, 1893N×6767W, h8km, MD3.3(RSPR), After RSPR.*
RSPR 16 02:45:14.6, 1893N×6767W, h8km±1km, MD3.3/18, MD3.3/18, 18C, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGPR	**Aguadilla, PR**	**0.70**	**131**	↑*e*P	Pg	02 45 26.6	-1.5
AGPR				*e*S	Sg	02 45 37.4	+0.2
IMO	**Isla Mona**	**0.84**	**196**	↑*e*P	Pg	02 45 29.2	-1.6
IMO				*e*S	Sg	02 45 40.6	-1.1
MPR	**Mayaguez**	**0.87**	**145**	↑*e*P	Pg	02 45 29.7	-1.6
MPR				*e*S	Sg	02 45 41.9	-0.8
LSP	**Las Mesas**	**0.93**	**143**	↑*e*P	Pg	02 45 30.7	-1.8
LSP				*e*S	Sg	02 45 43.4	-1.2
LRS	**Lares**	**1.01**	**129**	↑*e*P	Pg	02 45 31.3	-2.6
LRS				*e*S	Sg	02 45 45.1	-1.8
AOPR	**Arecibo Observ**	**1.04**	**123**	↑*e*P	Pg	02 45 32.1	-2.5
AOPR				*e*S	Sg	02 45 45.5	-2.7
CRPR	**Cabo Rojo, PR**	**1.06**	**150**	↑*e*P	Pg	02 45 32.2	-2.7
CRPR				*e*S	Sg	02 45 46.9	-1.8
CELP	**Cerrillos**	**1.34**	**129**	↑*e*P	Pn	02 45 36.9	-2.7
CELP				*e*S	Sb	02 45 53.2	-4.0
OBIP	**Obispado Ponce**	**1.34**	**131**	↑*e*P	Pn	02 45 36.6	-3.0
OBIP				*e*S	Sb	02 45 53.8	-3.5
ICM	**Isla Caja Muer**	**1.50**	**133**	↑*e*P	Pn	02 45 39.1	-2.7
ICM				*e*S	Sn	02 45 57.2	-4.3
SMN1	**Samana, DR**	**1.54**	**280**	↑*e*P	Pn	02 45 38.4	-3.9
SMN1	**Samana, DR**	**1.54**	**280**	*e*S	Sn	02 45 58.6	-3.9
SJG	**San Juan**	**1.66**	**119**	↑*e*P	Pn	02 45 41.0	-3.0
SJG				*e*S	Sn	02 46 01.9	-3.5
SJG	**San Juan**	**1.66**	**119**	↑*e*P	Pn	02 45 40.7	-3.2
SJG				*e*S	Sn	02 46 00.6	-4.8
CBYP	**Canovanas**	**1.84**	**110**	↑*e*P	Pn	02 45 41.1	-5.4
CBYP	**Canovanas**	**1.84**	**110**	*e*S	Sn	02 46 04.6	-5.3
CPD	**Cerro la Pandu**	**1.89**	**118**	↑*e*P	Pn	02 45 44.4	-2.7
CPD				*e*S	Sn	02 46 07.7	-3.4
HUMP	**Col San Antoni**	**1.90**	**114**	↑*e*P	Pn	02 45 45.1	-2.2
HUMP				*e*S	Sn	02 46 07.1	-4.2
MTP	**Monte Pirata**	**2.17**	**112**	↑*e*P	Pn	02 45 45.2	-5.9
MTP	**Monte Pirata**	**2.17**	**112**	*e*S	Sn	02 46 11.0	-7.2
STVI	**Saint Thomas**	**2.64**	**102**	↑*e*P	Pn	02 45 55.0	-2.5
STVI				*e*S	Sn	02 46 25.7	-4.0
SDDR	**Presa de Saban**	**3.42**	**272**	*e*Pn	Pn	02 46 09.3	+1.0
SDDR				*e*Sn	Sn	02 46 55.8	+6.7

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*MOS **16** 02:58:32.9±1.4, 6088N×16661E, h10km, mb4.0/4, Error ellipse: s-maj=99.9km s-min=31.6km az=83.2*
*IDC **16** 02:58:33.4±1.2, 6091N×16661E, h0km, mb3.9/7, mb1 4.1/7, mb1mx3.7/24, mbtmp3.9/7, Error ellipse: s-maj=40.2km s-min=27.3km az=140.0*
*NEIC **16** 02:58:34.9±0.9, 6080N×16676E, h10km, Error ellipse: s-maj=21.8km s-min=17.9km az=99.0*
*ISCJB **16** 02:58:38.3±4.3, 610N±02×1667E±04, h44km±35km, mb3.8/7, Error ellipse: s-maj=29.7km s-min=26.3km az=179.2*
ISC 16 02:58:40.2±3.8, 609N±02×1667E±04, h46km±31km, n16, σ0°34/16, mb3.8/7, Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BILL	**Bilibino**	**7.16**	**359**	Pn	**Pn**	**03 00 21.9**	**-0.1**
BILL	11nm,0.6s						
				*e*Sn	**Sn**	**03 01 41.9**	**+0.1**
BILL	**Bilibino**	**7.16**	**359**	*e*PN	**Pn**	**03 00 21.9**	**-0.1**
BILL				pmax	pmax		
	comp=Z,5.0nm,0.9s						
INK	**Inuvik**	**25.65**	**48**	P	**P**	**03 04 05.0**	**0.0**
INK	**Inuvik**	**25.65**	**48**	P	**P**	**03 04 05.0**	**+0.1**
INK				pmax	pmax		
	comp=Z,1.0nm,0.5s						
INK	**Inuvik**	**25.65**	**48**	P	**P**	**03 04 05.0**	**0.0**
	comp=Z,1.3nm,0.5s,mb3.7,baz=290,slow=8.3,SNR=13						
YKA	**Yellowknife Ar**	**35.18**	**52**	P	**P**	**03 05 28.6**	**-0.4**
YKA				PcP	PcP	03 07 59.2	+0.1
YKA	**Yellowknife Ar**	**35.18**	**52**	P	**P**	**03 05 28.6**	**-0.5**
YKA						03 07 59.2	
YKA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
YKA	**Yellowknife Ar**	**35.18**	**52**	P	**P**	**03 05 28.6**	**-0.4**
	comp=Z,0.7nm,0.7s,mb3.7,baz=303,slow=8.3,SNR=20						
YKA				PcP	PcP	03 07 59.2	+0.1
	comp=Z,0.2nm,0.6s,baz=316,slow=3.7,SNR=5.1						
SONM	**Songino Array**	**36.13**	**277**	PcP	PcP	03 08 03.1	+1.0
	comp=Z,0.3nm,0.6s,baz=7.5,slow=0.9,SNR=4.6						
PDAR	**Pinedale Array**	**50.98**	**70**	P	**P**	**03 07 37.4**	**+0.7**
	comp=Z,0.8nm,0.7s,mb3.7,baz=329,slow=2.6,SNR=5.8						
NOA	**NORSAR Array B**	**56.92**	**346**	P	**P**	**03 08 19.8**	**0.0**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
NOA	**NORSAR Array B**	**56.92**	**346**	P	**P**	**03 08 19.8**	**0.0**
	comp=Z,0.9nm,0.8s,mb3.9,baz=14,slow=7.4,SNR=2.9						
SCHQ	**Schefferville**	**57.06**	**34**	P	**P**	**03 08 20.3**	**-0.6**
	comp=Z,2.3nm,0.9s,mb4.2,baz=326,slow=7.3,SNR=6.8						
ESDC	**Sonseca Array**	**79.47**	**353**	P	**P**	**03 10 41.5**	**+0.2**
	comp=Z,0.1nm,0.3s,mb3.2,baz=0.5,slow=4.4,SNR=4.3						
WRA	**Warramunga Arr**	**84.70**	**210**	P	**P**	**03 11 08.6**	**-0.1**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
WRA	**Warramunga Arr**	**84.70**	**210**	P	**P**	**03 11 08.6**	**0.0**
	comp=Z,0.7nm,0.7s,mb3.9,baz=16,slow=5.5,SNR=3.5						

MAN 16 03:10:50, 1824N×12103E, h24km, mb4.2, ML3.1, MS2.8, Luzon

*IDC **16** 03:16:57.1±0.7, 2128S×17454W, h0km, mb4.2/11, mb1 4.4/12, mb1mx4.3/18, mbtmp4.2/12, ML4.2/1, MS3.7/2, Ms1 3.7/2, ms1mx2.9/26, Error ellipse: s-maj=28.3km s-min=18.0km az=119.0*
*ISCJB **16** 03:17:00.7±0.6, 213S±01×1746W±02, h33km, mb4.2/12, Error ellipse: s-maj=23.6km s-min=12.5km az=25.9*
*NEIC **16** 03:17:02.5±0.5, 2132S×17458W, h35km, mb4.7/1, Error ellipse: s-maj=20.6km s-min=10.5km az=118.0*
ISC 16 03:17:02.6±0.6, 213S±01×1746W±02, h35km, n27, σ0°75/16, mb4.2/12, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAR	**Rarotonga**	**13.82**	**92**	Pn	**Pn**	**03 20 02.7**	**-13**
	12nm,0.3s,baz=245,slow=5.3,SNR=10						
RAR				LR	LR	03 24 14.8	
	comp=Z,231nm,19.2s,baz=242,slow=32						
URZ	**Urewera**	**18.33**	**201**	P	**Pn**	**03 21 14.2**	**+0.1**
	0.7nm,0.3s,baz=38,slow=5.5,SNR=4.0						
RPZ	**Rata Peaks**	**25.32**	**205**	P	**P**	**03 22 24.5**	**-1.5**
	4.8nm,0.6s,mb4.2,baz=126,slow=24,SNR=2.4						
STKA	**Stephens Creek**	**40.33**	**246**	P	**P**	**03 24 36.2**	**-0.6**
STKA	**Stephens Creek**	**40.33**	**246**	P	**P**	**03 24 36.2**	**-0.6**
	0.8nm,0.3s,mb3.9,baz=114,slow=15,SNR=3.9						
ASAR	**Alice Springs**	**47.44**	**257**	P	**P**	**03 25 34.3**	**+0.3**
	2.8nm,0.8s,mb4.2,baz=93,slow=7.8,SNR=18						
WRA	**Warramunga Arr**	**47.64**	**262**	P	**P**	**03 25 35.8**	**+0.1**
	2.0nm,0.7s,mb4.3,baz=96,slow=8.0,SNR=34						
VNDA	**Vanda**	**57.40**	**186**	P	**P**	**03 26 48.1**	**+1.1**
	1.9nm,0.8s,mb4.2,baz=22,slow=7.5,SNR=11						
MJAR	**Matsushiro Arr**	**72.79**	**322**	P	**P**	**03 28 28.0**	**+0.5**
	1.8nm,0.8s,mb4.0,baz=165,slow=5.1,SNR=3.8						
NVAR	**Mina Array Bea**	**79.48**	**42**	P	**P**	**03 29 05.7**	**+0.2**
	3.4nm,1.0s,mb4.2,baz=218,slow=5.9,SNR=7.3						
KSRS	**Korea Array**	**79.64**	**317**	P	**P**	**03 29 06.2**	**-0.2**
	3.2nm,1.1s,mb4.2,baz=156,slow=6.6,SNR=5.6						
MAW	**Mawson**	**81.85**	**199**	P	**P**	**03 29 18.8**	**+1.0**
	3.3nm,0.9s,mb4.3,baz=128,slow=14,SNR=3.7						
TTA	**Tatalina**	**85.25**	**8**	*e*P	**P**	**03 29 36.2**	**+1.2**
MCK	**McKinley**	**87.12**	**11**	*e*P	**P**	**03 29 43.8**	**-0.5**
	3.9nm,0.8s,mb4.7						
PDAR	**Pinedale Array**	**87.41**	**42**	P	**P**	**03 29 45.1**	**-1.1**
	0.8nm,0.8s,mb4.0,baz=232,slow=2.2,SNR=5.2						
YKA	**Yellowknife Ar**	**95.95**	**24**	P	**P**	**03 30 24.9**	**-0.5**
	0.2nm,0.8s,mb3.6,baz=237,slow=4.5,SNR=5.2						
BVAR	**Borovoye Array**	**121.76**	**320**	PKP	PKPdf	03 35 52.8	+0.2
	0.3nm,0.4s,baz=84,slow=4.6,SNR=4.1						
AKASG	**Malin Array Be**	**145.23**	**333**	PKPbc	PKPbc	03 36 35.8	-0.2
	0.9nm,0.5s,baz=37,slow=3.5,SNR=12						
CLL	**Collm**	**149.49**	**351**	*e*PKPbc	PKPbc	03 36 47.0	-0.9
	comp=Z,5.0nm,0.9s						
CLL				*e*PKPab	PKPab	03 36 53.0	+0.2
	comp=Z,4.0nm,0.6s						
CLL				*ep*PKPab	pPKPab	03 37 03.0	-1.0
BRG	**Berggiesshubel**	**149.76**	**349**	*e*P	PKPbc	03 36 48.9	+0.4
	comp=Z,4.0nm,1.0s						
DPC	**Dobruska-Polom**	**149.78**	**346**	*e*PKPbc	PKPbc	03 36 50.2	+1.6
OKC	**Ostrava-Krasne**	**149.81**	**344**	*e*PKPbc	PKPbc	03 36 49.0	+0.3
PVCC	**Panska Ves**	**149.97**	**348**	*e*PKPbc	PKPbc	03 36 50.0	+0.9
PRU	**Pruhonice**	**150.50**	**348**	*e*PKPbc	PKPbc	03 36 50.1	-0.3
KHC	**Kasperske Hory**	**151.50**	**349**	*e*P	PKPbc	03 36 53.3	+0.5
KHC				*e*		03 37 02.0	
KHC	**Kasperske Hory**	**151.50**	**349**	*e*PKPbc	PKPbc	03 36 53.3	+0.5
KHC				PKPab	PKPab	03 37 02.0	+0.9
GERES	**GERESS Array B**	**151.75**	**348**	PKPbc	PKPbc	03 36 53.9	+0.5
	comp=Z,1.0nm,0.9s,baz=357,slow=2.7,SNR=6.1						

IDC 16 03:33:45.7±1.1, 1729S×17272W, h0km, mb4.1/5, mb1 4.3/5, mb1mx3.9/19, mbtmp4.1/5, Error ellipse: s-maj=43.9km s-min=27.4km az=153.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**22.72**	**201**	P	P	03 38 49.7	+0.6
	7.0nm,0.8s,baz=243,slow=3.1,SNR=3.8						
WRA	**Warramunga Arr**	**50.08**	**258**	P	P	03 42 41.7	-1.1
	0.5nm,0.4s,baz=97,slow=6.0,SNR=7.7						
ASAR	**Alice Springs**	**50.18**	**253**	P	P	03 42 42.8	-0.8
	5.1nm,0.7s,baz=87,slow=8.4,SNR=36						
FITZ	**Fitzroy Crossi**	**58.48**	**259**	P	P	03 43 45.7	+1.6
	1.6nm,0.6s,baz=107,slow=3.6,SNR=5.3						
PDAR	**Pinedale Array**	**83.23**	**41**	P	P	03 46 14.7	+0.6
	0.3nm,0.5s,baz=251,slow=2.8,SNR=3.5						
GERES	**GERESS Array B**	**148.09**	**352**	PKPbc	PKPbc	03 53 32.9	-0.4
	0.4nm,0.6s,baz=352,slow=2.2,SNR=3.8						
TORD	**Torodi Ar. Bea**	**173.21**	**127**	PKPab	PKPab	03 55 24.9	-0.7
	0.4nm,0.6s,baz=261,slow=3.3,SNR=6.7						

GUC 16 03:42:18.0±0.4, 3157S×7215W, h30km, MD3.7, ML2.9, 2D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMCH	**Combarbala**	**1.06**	**68**	↓*i*P	Pn	03 42 37.0	+0.2
CMCH				*i* S	Sn	03 42 51.4	+0.9
CMCH				AML	AML	03 42 53.1	
	comp=N,818nm,0.6s						
PEL	**Peldehue**	**2.00**	**142**	↓*i*P	Pn	03 42 51.1	+1.4
PEL				*i* S	Sn	03 43 16.7	+3.0
PEL				AML	AML	03 43 19.8	
	comp=E,238nm,0.3s						
CLCH	**Cerro Calan**	**2.27**	**144**	*e*P	Pn	03 42 55.1	+1.6
CLCH				*i* S	Sn	03 43 23.3	+2.8
CLCH				AML	AML	03 43 29.0	
	comp=N,78nm,0.5s						
FCH	**Farellones**	**2.35**	**139**	*e*P	Pn	03 42 56.7	+2.1
FCH				*i* S	Sn	03 43 25.7	+3.3
FCH				AML	AML	03 43 27.6	
	comp=E,36nm,0.4s						
LMEL	**Las Melosas**	**2.80**	**145**	*e*P	Pn	03 43 01.3	+0.6

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*ISCJB **16** 03:45:24.1±0.3, 3271N±002×11603W±003, h12km±2km, Error ellipse: s-maj=3.7km s-min=2.9km az=22.3*
*ECX **16** 03:45:25.1±0.8, 3271N×11605W, h7km±3km, MD2.5, ML2.7*
ISC 16 03:45:24.0±0.3, 3271N±002×11604W±002, h13km±2km, n27, σ0°98/43, 17C-13D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DVTC	**Desert V Tower**	**0.07**	**227**	P	**Pg**	**03 45 26.9**	**+0.3**
	baz=0.1,SNR=143						
DVTC				⇑S	**Sg**	**03 45 28.7**	**+0.2**
	baz=0.1						
RMX	**La Rumorosa**	**0.11**	**198**	↓*e*P	**Pg**	**03 45 27.5**	**+0.4**
RMX				*e*S	**Sg**	**03 45 29.4**	**+0.2**
YUH	**Yuha Desert**	**0.11**	**123**	↑*i*P	**Pg**	**03 45 27.1**	**0.0**
CRR	**Carrizo Plain**	**0.18**	**18**	↓*i*P	**Pg**	**03 45 28.5**	**+0.4**
SGL	**Mount Signal**	**0.27**	**103**	↑*i*P	**Pg**	**03 45 29.8**	**+0.3**
COK	**Cook Ranch**	**0.29**	**62**	↑*i*P	**Pg**	**03 45 30.8**	**+0.7**
SWSC	**Sam W. Stewart**	**0.31**	**41**	P	**Pg**	**03 45 30.6**	**+0.3**
	baz=0.4,SNR=40						
SWSC				↓S	**Sg**	**03 45 35.1**	**+0.6**
	baz=0.4						
MONP	**Monument Peak**	**0.37**	**299**	↑P	**Pg**	**03 45 31.5**	**+0.1**
	baz=0.3,SNR=296						
MONP				↑S	**Sg**	**03 45 36.6**	**+0.3**
	baz=0.3						
CBX	**Cerro Bola**	**0.66**	**233**	*e*P	**Pg**	**03 45 36.7**	**-0.1**
CBX				*e*S	**Sg**	**03 45 45.4**	**-0.2**
CPBX	**Cerro Prieto**	**0.68**	**115**	*e*P	**Pg**	**03 45 37.9**	**+0.6**
RDX	**Rancho Dowling**	**0.78**	**174**	↓*e*P	**Pg**	**03 45 38.5**	**-0.6**
RDX				*e*S	**Sg**	**03 45 48.7**	**-0.6**
RDX				↓*e*		03 45 50.5	
	comp=E,163nm,0.4s						
109C	**Camp Elliot, M**	**0.92**	**282**	P	**Pg**	**03 45 40.9**	**-0.8**
	baz=0.8,SNR=46						
109C				↓S	**Sg**	**03 45 52.7**	**-0.9**
	baz=0.8						
PFO	**Pinyon Flat Ob**	**0.96**	**339**	↑P	**Pg**	**03 45 41.7**	**-0.9**
	baz=0.9,SNR=64						
PFO				↑S	**Sg**	**03 45 54.8**	**-0.4**
	baz=0.9						
ENX	**Ensenada**	**0.98**	**213**	↑*e*P	**Pb**	**03 45 42.3**	**-0.5**
ENX				*e*S	**Sg**	**03 45 55.6**	**-0.1**
ENX				↑*e*		03 45 56.4	
	comp=E,283nm,0.3s						
BC3	**Big Chuckw Mtn**	**1.06**	**27**	↑P	**Pb**	**03 45 43.2**	**-1.1**
	baz=1.1,SNR=13						
BC3				↓S	**Sb**	**03 45 58.1**	**+0.1**
	baz=1.1						
GLA	**Glamis**	**1.07**	**71**	↑P	**Pb**	**03 45 42.8**	**-1.6**
	baz=1.1,SNR=25						
GLA				↓S	**Sb**	**03 45 56.2**	**-2.1**
	baz=1.1						
PBX	**Punta Banda**	**1.13**	**211**	*e*P	**Pb**	**03 45 44.6**	**-0.7**
PBX				*e*S	**Sb**	**03 45 60.0**	**0.0**
ECNX	**Esteban Cantu**	**1.15**	**205**	↑*e*P	**Pb**	**03 45 45.1**	**-0.6**
ECNX				*e*S	**Sb**	**03 45 55.8**	**-4.8**
ECNX				*e*S	**Sb**	**03 46 00.9**	**+0.3**
BELC	**Belle Mtn.**	**1.29**	**1**	↓P	**Pn**	**03 45 46.2**	**-1.5**
	baz=1.3						
BELC				↓S	**Sb**	**03 46 02.0**	**-2.6**
	baz=1.3						
MURC	**Murrieta**	**1.32**	**313**	↓Sb	**Sb**	**03 46 05.3**	**-0.2**
	baz=1.2						
IRM	**Iron Mountain**	**1.62**	**27**	↓Sb	**Sb**	**03 46 16.0**	**+1.7**
	baz=1.6						
Y12C	**Blythe**	**1.64**	**50**	↓S	**Sn**	**03 46 12.6**	**-0.8**
	baz=1.7						
BBRC	**Big Bear Sol-O**	**1.72**	**335**	↑Sb	**Sb**	**03 46 18.2**	**+1.4**
	baz=1.7						
SPX	**San Pedro Mart**	**1.73**	**164**	*e*PN	**Pn**	**03 45 55.6**	**+1.8**
SPX				*e*S	**Sn**	**03 46 18.0**	**+2.3**
BFSC	**Mount Baldy St**	**2.04**	**319**	↑Sb	**Sb**	**03 46 26.8**	**+0.6**
	baz=2.0						
GMRC	**Granite Mounta**	**2.09**	**9**	↑Sb	**Sb**	**03 46 30.5**	**+2.9**
	baz=2.1						
CIS	**Catalina Islan**	**2.11**	**290**	↑Sb	**Sb**	**03 46 29.3**	**+1.2**
	baz=2.0						

GUC 16 03:45:24.3±0.6, 3166S×7203W, h4km±6km, MD3.6, ML3.0, 3C-2D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHNG	**Los Chungos**	**0.51**	**116**	↓*i*P	Pg	03 45 15.8	-18
CHNG				*i* S	Sg	03 45 23.6	-17
CHNG				AML	AML	03 45 24.4	
	comp=E,422nm,0.4s						
CMCH	**Combarbala**	**1.01**	**61**	↓*i*P	Pg	03 45 43.5	-0.1
CMCH				*i* S	Sg	03 45 58.0	+1.4
CMCH				AML	AML	03 45 59.7	
	comp=N,2μm,0.6s						
OVCH	**Ovalle**	**1.27**	**34**	*i* P	Pg	03 45 49.0	+0.4
OVCH				*i* S	Sg	03 46 05.0	-0.1
OVCH				AML	AML	03 46 08.1	
	comp=N,358nm,0.5s						
JACH	**Jahuel**	**1.59**	**130**	*e*P	Pn	03 45 52.4	-0.8
TLL	**Tololo Astrono**	**1.82**	**36**	AML	AML	03 46 26.0	
	comp=E,165nm,0.3s						
PEL	**Peldehue**	**1.87**	**143**	↑*i*P	Pn	03 45 57.3	+0.3
PEL				*i* S	Sn	03 46 21.9	+0.9
PEL				AML	AML	03 46 26.3	
	comp=E,574nm,0.3s						
CLCH	**Cerro Calan**	**2.14**	**144**	↑*i*P	Pn	03 46 01.8	+1.0
CLCH				*i* S	Sn	03 46 29.8	+2.0
CLCH				AML	AML	03 46 40.0	
	comp=E,228nm,0.7s						
FCH	**Farellones**	**2.22**	**139**	↑*i*P	Pn	03 46 02.9	+1.1
FCH		

LMN				SN	Sn	04 23 33.2	-7.4
LMN				Trac		04 23 39.6	
	comp=Z,11nm,0.1s						
GGN	**Saint George**	**9.55**	**299**	PN	Pn	04 22 14.8	-3.1
GGN				SN	Sn	04 23 53.9	-11
GGN				Trac		04 24 02.0	
	comp=Z,41nm,0.8s						
EMMW	**East Machias**	**9.83**	**296**	PN	Pn	04 22 16.7	-5.0
EMMW				SN	Sn	04 24 00.1	-11
BATG	**Bathurst New B**	**10.06**	**312**	PN	Pn	04 22 23.0	-1.9
BATG				SN	Sn	04 24 09.3	-7.9
BATG				Trac		04 24 15.5	
	comp=Z,3.1nm,0.1s						
NATG	**Natashquan Que**	**10.69**	**332**	PN	Pn	04 22 32.3	-1.2
NATG				SN	Sn	04 24 24.4	-8.3
GASG	**Gaspe, Quebec**	**11.11**	**319**	SN	Sn	04 24 35.1	-7.7
GSQ	**Grosses Roches**	**11.59**	**317**	PN	Pn	04 22 43.0	-2.9
GSQ				SN	Sn	04 24 44.6	-10
ICQ	**Pointe Anglais**	**12.06**	**319**	SN	Sn	04 24 56.3	-10
CNQ	**Baie Comeau**	**12.33**	**316**	PN	Pn	04 22 52.6	-3.4
CNQ				SN	Sn	04 25 03.5	-9.3
A21	**Saint Andre**	**12.40**	**307**	SN	Sn	04 25 05.8	-8.7
LMQ	**La Malbaie**	**12.72**	**306**	SN	Sn	04 25 12.6	-10

*MOS **16** 04:30:50.5±1.1, 5096N×15643E, h132km, mb3.7/5, Error ellipse: s-maj=20.9km s-min=7.7km az=72.8*
*ISCJB **16** 04:30:51.1±0.5, 5091N±006×1567E±01, h138km±3km, mb3.4/7, Error ellipse: s-maj=15.7km s-min=5.7km az=38.3*
*KRSC **16** 04:30:52.7±0.4, 5082N×15738E, h90km±90km, ML4.1*
*NEIC **16** 04:30:54.9±5.7, 5097N×15646E, h155km±54km, Error ellipse: s-maj=32.6km s-min=15.5km az=120.0*
*IDC **16** 04:30:55.1±8.3, 5097N×15644E, h157km±79km, mb3.2/6, mb1 3.5/7, mb1mx3.2/23, mbtmp3.2/7, Error ellipse: s-maj=38.9km s-min=18.7km az=120.0*
ISC 16 04:30:52.3±0.5, 5089N±006×1567E±01, h133km±3km, n34, σ0§97/48, mb3.4/7, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**0.43**	**242**	PN	**Pn**	**04 31 10.0**	**-1.3**
SKR				*e*S	**Sn**	**04 31 24.5**	**-1.1**
SKR				pmax	pmax		
	comp=Z,190nm,0.5s						
SKR				pmax	pmax		
	comp=N,110nm,0.3s						
SKR				pmax	pmax		
	comp=E,100nm,0.3s						
SKR				smax			
	comp=N,3μm,0.3s						
SKR				smax			
	comp=E,3μm,0.3s						
SKR				smax			
	comp=N,3μm,1.0s						
SKR				smax			
	comp=E,3μm,1.0s						
ALID	**Alaid**	**0.74**	**269**	*e*P	**Pn**	**04 31 14.6**	**+1.4**
ALID				*e*S	**Sn**	**04 31 29.7**	**+0.7**
MIPR	**Malaya Ipel'ka**	**1.39**	**1**	*i* P	**Pn**	**04 31 20.6**	**+1.3**
MIPR				*i* S	**Sn**	**04 31 40.4**	**+0.4**
GRL	**Gorelyy**	**1.87**	**26**	*i* P	**Pn**	**04 31 26.1**	**+1.3**
GRL				*i* S	**Sn**	**04 31 50.3**	**+0.6**
RUS	**Russkaya**	**1.91**	**35**	*i* P	**Pn**	**04 31 25.2**	**-0.1**
RUS				*i* S	**Sn**	**04 31 49.0**	**-1.6**
PET	**Petropavlovsk**	**2.45**	**29**	*e*PN	**Pn**	**04 31 32.5**	**+0.6**
PET				*e*S	**Sn**	**04 32 02.4**	**0.0**
PET				pmax	pmax		
	comp=Z,31nm,0.5s						
PET				smax			
	comp=N,175nm,0.4s						
PET				smax			
	comp=E,110nm,0.6s						
PET	**Petropavlovsk**	**2.45**	**29**	*e*P	**Pn**	**04 31 32.3**	**+0.4**
PET				*i* S	**Sn**	**04 32 01.1**	**-1.3**
SDLR	**Sedlovina**	**2.74**	**28**	*i* P	**Pn**	**04 31 36.6**	**+1.0**
SDLR				*i* S	**Sn**	**04 32 07.6**	**-1.4**
NLC	**Nalytchevo**	**2.81**	**34**	*e*P	**Pn**	**04 31 35.7**	**-0.7**
NLC				*i* S	**Sn**	**04 32 06.5**	**-3.9**
GNL	**Ganaly**	**2.91**	**15**	*e*P	**Pn**	**04 31 39.3**	**+1.6**
GNL				*i* S	**Sn**	**04 32 12.9**	**0.0**
SPN	**Mys Shipunski**	**3.01**	**41**	*e*P	**Pn**	**04 31 38.7**	**-0.4**
SPN				*i* S	**Sn**	**04 32 11.7**	**-3.5**
KII	**Karymskiy**	**3.57**	**27**	P	**Pn**	**04 31 47.6**	**+1.3**
KII				*i* S	**Sn**	**04 32 29.1**	**+0.9**
MKZ	**Mys Kozlova**	**4.77**	**38**	*e*P	**Pn**	**04 32 01.2**	**-1.1**
MKZ				*i* S	**Sn**	**04 32 51.6**	**-5.1**
TUMR	**Tumrok**	**4.86**	**24**	P	**Pn**	**04 32 03.9**	**+0.4**
KBTR	**Krutoberegovo**	**6.45**	**32**	P	**Pn**	**04 32 24.1**	**-0.6**
YSS	**Yuzh-Sakhalins**	**9.99**	**252**	*e*PN	**Pn**	**04 33 07.7**	**-4.6**
SEY	**Seymchan**	**12.30**	**351**	*e*PN	**Pn**	**04 33 41.8**	**-0.8**
ERM	**Erimo**	**12.87**	**232**	*e*PN	**Pn**	**04 33 50.2**	**0.0**
BILL	**Bilibino**	**17.83**	**12**	*e*P	**Pn**	**04 34 51.8**	**+0.2**
BILL				*e*S	**S**	**04 38 09.3**	**+1.1**
BILL				pmax	pmax		
	comp=Z,2.0nm,1.2s						
YAK	**Yakutsk**	**18.48**	**317**	*e*P	**P**	**04 34 56.3**	**-1.3**
YAK				pmax	pmax		
	comp=Z,13nm,0.8s						
MJAR	**Matsushiro Arr**	**19.53**	**230**	P	**P**	**04 35 09.6**	**+0.4**
	comp=Z,0.4nm,0.3s,baz=23,slow=12,SNR=6.2						
TIXI	**Tiksi**	**24.30**	**339**	*e*P	**P**	**04 35 55.4**	**-1.4**
TIXI				pmax	pmax		
	comp=Z,3.0nm,1.3s,mb3.7						
YKA	**Yellowknife Ar**	**46.20**	**40**	P	**P**	**04 39 03.7**	**+0.5**
YKA	**Yellowknife Ar**	**46.20**	**40**	P	**P**	**04 39 03.7**	**+0.5**
	comp=Z,0.2nm,0.7s,mb2.9,baz=302,slow=7.7,SNR=5.3						
PDAR	**Pinedale Array**	**60.45**	**58**	P	**P**	**04 40 49.0**	**+1.4**
	comp=Z,0.5nm,0.7s,mb3.5,baz=316,slow=4.1,SNR=5.2						
NOA	**NORSAR Array B**	**65.04**	**342**	P	**P**	**04 41 17.1**	**-0.5**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
NOA	**NORSAR Array B**	**65.04**	**342**	P	**P**	**04 41 17.1**	**-0.5**
	comp=Z,0.6nm,0.6s,mb3.6,baz=25,slow=6.7,SNR=2.6						
AKASG	**Malin Array Be**	**69.39**	**327**	*i* P	**P**	**04 41 44.4**	**-0.8**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.5s						
SOC	**Sochi**	**71.17**	**317**	*e*P	**P**	**04 41 55.7**	**-0.5**
SOC				*e*		04 42 13.7	
SOC				*e*		04 44 35.1	
SOC				*e*S	S	04 51 01.6	-0.5
SOC				*e*		04 51 48.9	
SOC				*e*SS	SS	04 55 41.6	+4.3
SOC				*e*SSS		04 58 52.1	
SOC				pmax	pmax		
	comp=Z,18nm,1.0s						
EKA	**Eskdalemuir Ar**	**72.83**	**348**	P	**P**	**04 42 05.5**	**-0.3**
EKA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
EKA	**Eskdalemuir Ar**	**72.83**	**348**	P	**P**	**04 42 05.5**	**-0.4**
	comp=Z,0.6nm,0.5s,mb3.6,baz=20,slow=5.5,SNR=5.8						
WRA	**Warramunga Arr**	**73.22**	**202**	P	**P**	**04 42 08.1**	**-0.4**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
WRA	**Warramunga Arr**	**73.22**	**202**	P	**P**	**04 42 08.1**	**-0.4**
	comp=Z,0.6nm,0.7s,mb3.4,baz=20,slow=6.1,SNR=4.6						
ASAR	**Alice Springs**	**76.91**	**201**	P	**P**	**04 42 30.5**	**+0.9**
	comp=Z,0.3nm,0.5s,mb3.2,baz=15,slow=4.8,SNR=4.3						

*IDC **16** 04:40:13.1±1.1, 3784N×2140E, h0km, mb3.8/12, mb1 3.8/16, mb1mx3.7/26, mbtmp3.7/16, ML3.5/4, MS2.8/1, Ms1 2.9/1, ms1mx2.2/42, Error ellipse: s-maj=25.3km s-min=16.5km az=141.0*
*ISCJB **16** 04:40:16.9±0.4, 3774N±003×21.14E±003, h24km±4km, mb3.7/13, Error ellipse: s-maj=4.4km s-min=3.2km az=27.9*
*NEIC **16** 04:40:16.6, 3779N×2122E, h19km, ML3.6(ATH), After ATH.*
*ATH **16** 04:40:16.6, 3779N×2122E, h19km±1km, MD3.9/17, ML3.6*
*CSEM **16** 04:40:17.4±0.1, 3777N×2122E, h8km, ML3.6, Error ellipse: s-maj=1.9km s-min=1.2km az=47.0*
*THE **16** 04:40:17.6, 3780N×2122E, h6km, ML4.0*
*HLW **16** 04:40:19.5, 3763N×2121E, h26km, Mb3.9*
ISC 16 04:40:16.6±0.5, 3775N±002×2119E±003, h12km±3km, n78, σ1§41/94, mb3.7/13, 3C-2D, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RLS	**Riolos of Patr**	**0.38**	**35**	‖ *i*PB	**Pg**	**04 40 23.9**	**-0.2**
RLS				*e*SB	**Sg**	**04 40 29.1**	**-0.1**
KFL	**Anninata**	**0.48**	**319**	*e*Pg	**Pg**	**04 40 26.7**	**+0.6**
VLS	**Valsamata**	**0.64**	**312**	*e*PN	**Pg**	**04 40 29.1**	**+0.1**
VLS				*e*SN	**Sg**	**04 40 38.7**	**+1.3**
SELA	**Sela**	**0.77**	**46**	*e*Pg	**Pg**	**04 40 30.4**	**-1.0**
SELA				*e*Sg	**Sg**	**04 40 42.0**	**+0.6**
ITM	**Ithomi**	**0.82**	**134**	*e*PN	**Pn**	**04 40 32.7**	**-1.3**
PYL	**PYLOS**	**0.96**	**152**	*e*Pg	**Pg**	**04 40 35.2**	**+0.1**
PYL				*e*Sg	**Sg**	**04 40 51.5**	**+3.9**
VLX	**Vlachokerasia**	**1.02**	**111**	*e*Pg	**Pg**	**04 40 36.2**	**0.0**
VLX				*e*Sg	**Sg**	**04 40 52.1**	**+2.7**
LKD	**Levkas**	**1.05**	**336**	*e*Pg	**Pg**	**04 40 35.7**	**-1.1**
LKD				*e*Sg	**Sg**	**04 40 51.8**	**+1.4**
EVR	**Evrytania**	**1.26**	**22**	*e*PB	**Pb**	**04 40 38.8**	**-1.6**
LTK	**Loutraki**	**1.43**	**78**	*e*Pg	**Pg**	**04 40 42.4**	**-1.7**
LTK				*e*Sg	**Sg**	**04 41 02.3**	**-0.4**
AGG	**Agios Georgios**	**1.56**	**35**	*e*Pg	**Pg**	**04 40 44.3**	**-2.2**
AGG				*e*Sg	**Sg**	**04 41 04.3**	**-2.3**
AGG	**Agios Georgios**	**1.56**	**35**	*e*Pg	**Pg**	**04 40 44.3**	**-2.2**
AGG				*e*Sg	**Sg**	**04 41 04.3**	**-2.4**
DID	**Didima**	**1.64**	**98**	*e*Pb	**Pb**	**04 40 45.9**	**-1.0**
DID				*e*Sb	**Sb**	**04 41 08.4**	**+0.9**
DID	**Didima**	**1.64**	**98**	*e*Pb	**Pb**	**04 40 45.8**	**-1.0**
DID				*e*Sb	**Sb**	**04 41 08.4**	**+0.9**
LKR	**Lokris**	**1.69**	**57**	*e*PN	**Pn**	**04 40 46.6**	**+0.7**
VLI	**Veliai**	**1.73**	**126**	*e*PN	**Pn**	**04 40 48.1**	**+1.5**
NAIG	**Nisos Aigina**	**1.82**	**89**	*e*PN	**Pn**	**04 40 48.5**	**+0.7**
IGT	**Igoumenitsa**	**1.90**	**340**	*e*Pb	**Pb**	**04 40 49.3**	**-2.0**
JAN	**Janina**	**1.92**	**352**	*e*PN	**Pn**	**04 40 50.3**	**+1.1**
THL	**Klokotos Trika**	**1.93**	**19**	*e*PN	**Pn**	**04 40 50.6**	**+1.4**
ATH	**Athens Observa**	**2.01**	**83**	*e*PN	**Pn**	**04 40 52.1**	**+1.7**
MEV	**Metsovon**	**2.03**	**1**	*e*Pn	**Pb**	**04 40 52.7**	**-0.8**
KVR	**Kavouri**	**2.04**	**87**	*e*PB	**Pb**	**04 40 51.5**	**+0.6**
KYTH	**Kithira**	**2.08**	**134**	*e*PN	**Pb**	**04 40 53.6**	**-0.7**
PTL	**Penteli**	**2.14**	**81**	*e*PB	**Pn**	**04 40 52.5**	**+0.4**
NEO	**Neokhori**	**2.23**	**45**	*e*PN	**Pn**	**04 40 54.5**	**+1.1**
KEK	**Kerkira**	**2.24**	**331**	*e*PB	**Pn**	**04 40 54.0**	**+0.4**
XOR	**Xorichti**	**2.25**	**44**	*e*Pn	**Pn**	**04 40 54.8**	**+1.1**
AOS	**Alonnisos**	**2.54**	**55**	*e*Pn	**Pn**	**04 40 58.2**	**+0.5**
LIT	**Litokhoron**	**2.56**	**23**	*e*Pn	**Pn**	**04 40 59.1**	**+1.2**
KZN	**Kozani**	**2.59**	**10**	*e*PB	**Pn**	**04 41 00.1**	**+1.7**
PAIG	**Paliouri**	**2.92**	**41**	*e*Pn	**Pn**	**04 41 02.8**	**-0.1**
FNA	**Florina**	**3.04**	**3**	*e*Pn	**Pn**	**04 41 05.1**	**+0.6**
PLG	**Polygyros**	**3.16**	**33**	*e*Pn	**Pn**	**04 41 06.4**	**+0.2**
PLG	**Polygyros**	**3.16**	**33**	*e*PN	**Pn**	**04 41 06.2**	**+0.1**
HORT	**Hortiatis**	**3.21**	**27**	*e*Pn	**Pn**	**04 41 07.4**	**+0.5**
HORT				*e*Sn	**Sn**	**04 41 45.8**	**+0.8**
VAM	**Vamos**	**3.37**	**133**	*e*PN	**Pn**	**04 41 10.5**	**+1.5**
OUR	**Ouranopolis**	**3.38**	**39**	*e*Pn	**Pn**	**04 41 09.8**	**+0.7**
SOH	**Sokhos**	**3.50**	**28**	*e*Pn	**Pn**	**04 41 12.2**	**+1.4**
SOH				*e*Sn	**Sn**	**04 41 54.1**	**+1.9**
SOH	**Sokhos**	**3.50**	**28**	*e*Pn	**Pn**	**04 41 12.2**	**+1.3**
APE	**Apeiranthos**	**3.52**	**100**	*e*Pn	**Pn**	**04 41 11.9**	**+0.7**
KNT	**Kendrikon**	**3.66**	**21**	*e*Pn	**Pn**	**04 41 13.7**	**+0.7**
GVD	**Gavdhos**	**3.73**	**140**	*e*PN	**Pn**	**04 41 15.5**	**+1.5**
TIP	**Timpagrande**	**3.76**	**294**	P	**Pn**	**04 41 16.4**	**+1.9**
CHOS	**Chios island**	**3.89**	**79**	*e*Pn	**Pn**	**04 41 17.9**	**+1.6**
TA1	**Taranto**	**4.04**	**312**	*e*Pn	**Pn**	**04 41 20.1**	**+1.8**
TA1				*e*Sn	**Sn**	**04 42 05.0**	**-0.5**
PE1	**Pezze di Greco**	**4.23**	**317**	*e*Pn	**Pn**	**04 41 21.3**	**+0.4**
LAST	**Lasithi**	**4.31**	**125**	*e*Pn	**Pn**	**04 41 23.3**	**+1.2**
SG1	**Sgolgore (BA)**	**4.67**	**313**	*e*Pn	**Pn**	**04 41 27.9**	**+1.0**
RDO	**Rodhopi**	**4.78**	**43**	P	**Pn**	**04 41 29.8**	**+1.4**
PZI	**Palazzolo**	**5.02**	**264**	Pn	**Pn**	**04 41 30.7**	**-1.0**
BARS	**Barje**	**5.09**	**5**	‖ *i*Pn	**Pn**	**04 41 31.7**	**-1.0**
KARP	**Karpathos**	**5.28**	**113**	*e*PN	**Pn**	**04 41 37.3**	**+2.0**
SGO	**Sicignano**	**5.37**	**303**	Pn	**Pn**	**04 41 39.1**	**+2.6**
VAE	**Valguarnera**	**5.39**	**269**	Sn	**Sn**	**04 42 40.7**	**+1.9**
	3.2nm,0.3s,baz=114,slow=18,SNR=2.2						
HMAT	**Matruh**	**8.24**	**142**	‖ *e*P	**Pn**	**04 42 14.5**	**-1.5**
MLR	**Muntele Rosu**	**8.51**	**23**	Pn	**Pn**	**04 42 16.7**	**-3.0**
	0.1nm,0.3s,baz=150,slow=16,SNR=2.2						
SWA1		**9.26**	**155**	P	**Pn**	**04 42 28.3**	**-1.7**
KEST	**Kesra**	**9.72**	**262**	Pn	**Pn**	**04 42 37.7**	**+1.5**
	0.1nm,0.3s,baz=218,slow=18,SNR=3.5						
HFRF	**Wahat Farafira**	**12.15**	**148**	‖ *e*P	**Pn**	**04 43 07.4**	**-2.2**
HFRF				S	**Sn**	**04 45 12.9**	**-12**
HFRF	**Wahat Farafira**	**12.15**	**148**	P	**Pn**	**04 43 07.4**	**-2.2**
HFRF				S	**Sn**	**04 45 12.9**	**-12**
HDK1	**Dakhla**	**14.03**	**148**	‖ *e*P	**Pn**	**04 43 34.0**	**-1.2**
AKASG	**Malin Array Be**	**14.16**	**21**	Pn	**Pn**	**04 43 33.2**	**-3.7**
	0.1nm,0.3s,baz=213,slow=12,SNR=2.3						
ESDC	**Sonseca Array**	**19.71**	**283**	P	**Pn**	**04 44 47.0**	**-0.3**
	0.2nm,0.3s,baz=76,slow=12,SNR=3.7						
HFS	**Hagfors**	**22.91**	**350**	P	**P**	**04 45 17.9**	**-2.2**
	2.1nm,0.6s,mb3.7,baz=157,slow=13,SNR=6.0						
FINES	**FINESS Array B**	**23.92**	**6**	P	**P**	**04 45 27.3**	**-2.9**
	1.0nm,0.4s,mb3.6,baz=192,slow=7.5,SNR=8.4						
EKA	**Eskdalemuir Ar**	**24.08**	**325**	P	**P**	**04 45 30.4**	**-1.3**
	1.4nm,0.6s,mb3.5,baz=129,slow=8.9,SNR=11						
NB2	**NORSAR Subarra**	**24.14**	**348**	P	**P**	**04 45 29.6**	**-2.6**
	comp=Z,0.9nm,0.6s,mb3.4,baz=154,slow=10						
NOA	**NORSAR Array B**	**24.14**	**348**	P	**P**	**04 45 29.9**	**-2.4**
	comp=Z,1.0nm,0.7s,mb3.4,baz=171,slow=8.1,SNR=6.8						
KAF	**Kangasniemi**	**24.60**	**6**	*e*p	**P**	**04 45 33.4**	**-2.9**
	comp=Z,0.8nm,0.4s,mb3.6						
TORD	**Torodi Ar. Bea**	**30.04**	**221**	P	**P**	**04 46 25.2**	**-0.4**
	comp=Z,1.0nm,0.7s,mb3.7,baz=26,slow=7.0,SNR=13						
ARCES	**ARCESS Array B**	**31.93**	**3**	P	**P**	**04 46 39.2**	**-2.6**
	comp=Z,2.0nm,0.8s,mb4.0,baz=190,slow=10.0,SNR=8.9						
MKAR	**Makanchi Array**	**45.08**	**58**	P	**P**	**04 48 29.9**	**-2.5**
	comp=Z,1.0nm,0.5s,mb3.9,baz=270,slow=7.6,SNR=11						
ZALV	**Zalesovo Beam**	**45.59**	**48**	P	**P**	**04 48 33.3**	**-3.0**
	comp=Z,2.5nm,0.5s,mb4.4,baz=279,slow=8.8,SNR=13						
SCHQ	**Schefferville**	**59.13**	**318**	P	**P**	**04 50 15.0**	**-1.8**
	comp=Z,1.4nm,0.7s,mb4.1,baz=106,slow=4.6,SNR=3.6						
SONM	**Songino Array**	**60.32**	**51**	P	**P**	**04 50 21.8**	**-3.3**
	comp=Z,0.3nm,0.7s,mb3.4,baz=297,slow=9.4,SNR=3.4						
YKA	**Yellowknife Ar**	**73.97**	**340**	P	**P**	**04 51 49.5**	**-2.0**
	comp=Z,0.3nm,0.6s,mb3.4,baz=34,slow=5.5,SNR=12						
ULM	**Lac du Bonnet**	**76.36**	**324**	P	**P**	**04 52 03.5**	**-2.0**
	comp=Z,1.0nm,0.6s,mb3.9,baz=27,slow=2.3,SNR=3.2						

IDC 16 04:49:11.2±3.3, 255S×15176E, h0km, mb4.2/3, mb1 4.4/3, mb1mx3.8/15, mbtmp4.2/3, MS2.8/1, Ms1 2.8/1, ms1mx2.5/27, Error ellipse: s-maj=119.0km s-min=45.6km az=116.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**17.43**	**337**	LR	LR	04 57 59.0	
	comp=Z,33nm,19.7s,baz=250,slow=30						
WRA	**Warramunga Arr**	**24.25**	**223**	P	P	04 54 30.5	+0.4
	9.1nm,0.3s,baz=47,slow=9.5,SNR=191						
ASAR	**Alice Springs**	**27.19**	**218**	P	P	04 54 55.6	-1.0
	0.4nm,0.4s,baz=49,slow=8.4,SNR=9.7						
FITZ	**Fitzroy Crossi**	**29.91**	**237**	P	P	04 55 22.6	+1.5
	0.7nm,0.3s,baz=59,slow=9.4,SNR=6.2						
TORD	**Torodi Ar. Bea**	**148.57**	**291**	PKPbc	PKPbc	05 09 00.1	-1.2
	0.3nm,0.3s,baz=80,slow=2.3,SNR=9.1						

*ISCJB **16** 05:27:51.0±2.1, 394N±0.1×725E±0.1, h47km±16km, mb3.6/5, Error ellipse: s-maj=22.8km s-min=17.0km az=27.5*
*IDC **16** 05:27:51.8±6.4, 3912N×7281E, h51km±48km, mb3.2/4, mb1 3.4/7, mb1mx3.2/24, mbtmp3.4/7, ML3.6/3, Error ellipse: s-maj=68.1km s-min=29.5km az=162.0*
*NNC **16** 05:27:53.1±3.4, 3994N×7226E, h0km, mb3.3, mpv2.8, Error ellipse: s-maj=32.8km s-min=18.6km az=171.0*
*NEIC **16** 05:27:55.1±1.4, 3956N×7294E, h35km, mb4.6/2, Error ellipse: s-maj=18.6km s-min=15.2km az=216.0*
*MOS **16** 05:27:56.7±0.9, 3961N×7297E, h77km, mb4.2/2, Error ellipse: s-maj=24.7km s-min=15.5km az=77.5*
ISC 16 05:27:57.4±1.9, 396N±01×729E±01, h70km±15km, n33, σ0§73/35, mb3.5/5, 4C-1D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**2.60**	**13**	*e*Pn	**Pn**	**05 28 33.5**	**-3.6**
AML				*e*Sn	**Sn**	**05 29 13.5**	**+5.8**
AML	**Almayashu**	**2.60**	**13**	P	**Pn**	**05 28 33.8**	**-3.4**
	SNR=14						
UCH	**Uchtor**	**2.90**	**24**	*e*Pn	**Pn**	**05 28 37.6**	**-3.5**
UCH				*e*Sn	**Sn**	**05 29 22.1**	**+7.3**
UCH	**Uchtor**	**2.90**	**24**	P	**Pn**	**05 28 41.0**	**-0.1**
	SNR=11						
KZA	**Kyzart**	**3.04**	**34**	P	**Pn**	**05 28 43.3**	**+0.1**
	SNR=12						
EKS2	**Erkin-Say**	**3.13**	**11**	*e*Pn	**Pn**	**05 28 43.8**	**-0.6**
EKS2				*e*Sn	**Sn**	**05 29 27.5**	**+6.9**
EKS2	**Erkin-Say**	**3.13**	**11**	P	**Pn**	**05 28 43.6**	**-0.8**
	SNR=6.0						
AAK	**Ala-Archa**	**3.26**	**21**	P	**Pn**	**05 28 46.5**	**+0.4**
	SNR=15						
ULHL	**Ulahol**	**3.65**	**42**	P	**Pn**	**05 28 51.8**	**+0.4**
	SNR=11						
CHMS	**Chumysh**	**3.67**	**21**	P	**Pn**	**05 28 51.7**	**0.0**
	SNR=6.1						
TKM2	**Tokmak 2**	**3.89**	**30**	‖ Pn	**Pn**	**05 28 54.4**	**-0.2**
	4.1nm,0.8s						
TKM2				⇑Lg		05 29 57.8	
	12nm,0.7s						
TKM2	**Tokmak 2**	**3.89**	**30**	*e*PN	**Pn**	**05 28 53.6**	**-1.0**
KK31	**Karatay Array**	**3.96**	**333**	⇑Pn	**Pn**	**05 28 49.3**	**-6.3**
	0.4nm,0.3s,baz=140,slow=12,SNR=51						
KK31				⇑Lg		05 29 40.5	
	9.2nm,0.3s,baz=133,slow=21,SNR=8.2						
MKAR	**Makanchi Array**	**9.92**	**40**	P	**Pn**	**05 30 16.8**	**-0.2**
	0.3nm,0.3s,baz=218,slow=11,SNR=3.5						
AB31	**Akbulak array**	**13.38**	**320**	Pn	**Pn**	**05 30 57.5**	**-6.6**
	0.6nm,0.5s,baz=132,slow=13,SNR=19						
AB31				⇑Sn	**Sn**	**05 33 20.8**	**-10**
	0.7nm,0.4s						
BVAR	**Borovoye Array**	**13.55**	**353**	P		05 31 13.4	
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
BVAR	**Borovoye Array**	**13.55**	**353**	P		05 31 13.4	
	comp=Z,0.7nm,0.3s,baz=165,slow=9.0,SNR=8.7						
AKTK	**Aktyubinsk**	**15.10**	**321**	P	**Pn**	**05 31 26.9**	**+0.4**
AKTO	**Aktyubinsk**	**15.10**	**321**	P	**Pn**	**05 31 26.9**	**+0.4**
	comp=Z,0.3nm,0.3s,baz=119,slow=14,SNR=8.9						
ZAL	**Zalesovo**	**16.46**	**25**	P	**Pn**	**05 31 44.8**	**+1.2**
ZAA0	**Zalesovo Array**	**16.48**	**25**	*e*Pn	**Pn**	**05 31 43.8**	**0.0**
ZALV	**Zalesovo Beam**	**16.48**	**25**	P	**Pn**	**05 31 44.8**	**+0.9**
	comp=Z,0.4nm,0.3s,baz=199,slow=12,SNR=10						
LSA	**Lhasa**	**17.91**	**118**	P	**Pn**	**05 32 02.2**	**+0.5**
	comp=Z,16nm,0.4s						
LSA	**Lhasa**	**17.91**	**118**	P	**Pn**	**05 32 02.2**	**+0.5**
LSA				pmax	pmax		
	comp=Z,16nm,0.4s						
SONM	**Songino Array**	**25.39**	**60**	P	**P**	**05 33 17.9**	**-0.1**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.6s						
SONM	**Songino Array**	**25.39**	**60**	P	**P**	**05 33 17.9**	**-0.1**
	comp=Z,0.5nm,0.6s,mb3.1,baz=264,slow=10,SNR=4.8						
KWP	**Kalwaria**	**36.52**	**303**	P	**P**	**05 34 56.7**	**+0.9**
	comp=Z,3.5nm,0.3s,mb4.8						
KWP	**Kalwaria**	**36.52**	**303**	P	**P**	**05 34 56.7**	**+0.9**
KWP				pmax	pmax		
	comp=Z,4.0nm,0.3s,mb4.8						
KLR	**Kul'dur**	**42.13**	**57**	*e*P	**P**	**05 35 48.0**	**+5.5**
TORD	**Torodi Ar. Bea**	**67.32**	**268**	P	**P**	**05 38 40.9**	**-4.2**
	comp=Z,0.2nm,0.5s,mb3.2,baz=58,slow=5.6,SNR=5.2						
INK	**Inuvik**	**70.61**	**10**	P	**P**	**05 39 03.8**	**-0.9**
	comp=Z,0.2nm,0.4s,mb3.3,baz=328,slow=9.5,SNR=4.7						
YKA	**Yellowknife Ar**	**78.08**	**4**	P	**P**	**05 39 47.5**	**-0.6**
YKA	**Yellowknife Ar**	**78.08**	**4**	P	**P**	**05 39 47.5**	**-0.6**
	comp=Z,0.2nm,0.5s,mb3.1,baz=351,slow=5.6,SNR=8.6						

*NIED **16** 05:30:00, 3840N×14220E, h53km, Mw3.7 Best double couple: M0:4.37000×10^14 NP1:φ0:275.00000°, δ85.00000°, λ124.00000°. NP2:φ0:12.00000°, δ35.00000°, λ9.00000°.*
JMA 16 05:30:56.5±0.1, 3842N×14218E, h36km±1km, M3.7, 3C-4D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**0.65**	**273**	‖ P	Pn	05 31 09.3	+0.1
JIO				S	Sn	05 31 18.0	-0.3
OFUJ	**Ofunato**	**0.77**	**329**	‖ P	Pn	05 31 11.0	+0.1
OFUJ				*e*S	Sn	05 31 21.5	+0.3
**J

*ISCJB **16** 05:39:59.6±1.0, 305N±0.1×9870E±007, h10km, mb3.7/3, Error ellipse: s-maj=17.7km s-min=8.7km az=6.8*
*IDC **16** 05:39:59.7±1.4, 3044N×9852E, h0km, mb3.6/4, mb1 3.7/5, mb1mx3.4/21, mbtmp3.5/5, ML2.9/1, Error ellipse: s-maj=80.6km s-min=21.4km az=65.0*
*BJI **16** 05:40:01.7, 3061N×9852E, h14km, ML3.3*
ISC 16 05:40:01.6±1.0, 304N±01×9859E±007, h10km, n6, σ1º04/9, mb3.7/3, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CD2	**Chengdu**	**4.48**	**83**	*eP*	**Pn**	**05 41 09.3**	**-0.2**
CD2				PG	**Pg**	**05 41 26.5**	**-0.8**
CD2				S	**Sn**	**05 42 03.8**	**+2.2**
CD2				SG	**Sg**	**05 42 24.6**	**-0.8**
CD2	comp=N,40nm,1.1s			Smax			
CD2	comp=E,30nm,1.4s			Smax			
SONM	**Songino Array**	**18.38**	**17**	P	**Pn**	**05 44 16.8**	**+0.4**
	comp=E,0.0nm,0.3s,baz=204,slow=14,SNR=4.8						
MKAR	**Makanchi Array**	**20.64**	**327**	P	**P**	**05 44 42.2**	**+1.1**
	comp=E,0.9nm,0.5s,baz=126,slow=12,SNR=4.0						
ZALV	**Zalesovo Beam**	**25.52**	**341**	P	**P**	**05 45 28.2**	**-1.8**
	comp=E,0.9nm,0.5s,mb3.6,baz=156,slow=11,SNR=7.5						
WRA	**Warramunga Arr**	**60.76**	**141**	P	**P**	**05 50 13.9**	**+0.2**
	comp=E,0.5nm,0.5s,mb3.9,baz=332,slow=7.1,SNR=11						
ASAR	**Alice Springs**	**63.58**	**144**	P	**P**	**05 50 32.5**	**-0.1**
	comp=E,0.2nm,0.4s,mb3.5,baz=323,slow=7.1,SNR=4.6						

IDC 16 06:17:43.2±3.9, 697S×15521E, h0km, mb3.8/4, mb1 3.9/4, mb1mx3.7/14, mbtmp3.8/4, Error ellipse: s-maj=111.7km s-min=35.0km az=119.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.00**	**235**	P	P	06 23 00.2	+0.4
	0.4nm,0.5s,baz=61,slow=9.7,SNR=9.8						
SONM	**Songino Array**	**69.42**	**327**	P	P	06 28 54.7	+1.6
	0.5nm,0.4s,baz=145,slow=6.1,SNR=5.7						
MKAR	**Makanchi Array**	**83.52**	**319**	P	P	06 30 13.3	+0.2
	1.1nm,0.6s,baz=102,slow=5.7,SNR=7.3						
ZALV	**Zalesovo Beam**	**84.27**	**326**	P	P	06 30 15.0	-1.7
	0.5nm,0.4s,baz=108,slow=4.7,SNR=3.2						

*NIED **16** 06:29:00, 37.20N×13650E, h5km, Mw3.9 Best double couple: M0 7.95000×10^14 NP1:φ=207.00000°, δ=89.00000°, λ=142.00000°. NP2:φ=297.00000°, δ=52.00000°, λ=1.00000°.*
*ISCJB **16** 06:29:09.7±1.0, 37.19N±005×13649E±005, h6km±8km, mb3.4/3, Error ellipse: s-maj=8.3km s-min=7.0km az=29.0*
*IDC **16** 06:29:11.7±1.1, 3701N×13654E, h0km, mb3.4/3, mb1 3.6/5, mb1mx3.4/22, mbtmp3.4/5, ML3.2/2, MS3.0/1, Ms1 3.0/1, ms1mx2.4/23, Error ellipse: s-maj=20.1km s-min=13.5km az=17.0*
*NEIC **16** 06:29:11.1, 37.18N×13656E, h0km, MG4.0(JMA), After JMA.*
NEIC Recorded [2 JMA] in Ishikawa Prefecture.
*JMA **16** 06:29:11.1±0.1, 37.18N×13656E, h0km±1km, M4.0*
JMA Felt II J1.
ISC 16 06:29:11.4±0.8, 3717N±004×13656E±005, h6km±7km, n14, σ0º92/19, mb3.5/3, 2C-1D, Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JJH	**Hakui**	**0.30**	**144**	↑P	**Pg**	**06 29 17.8**	**+0.5**
JJH				S	**Sg**	**06 29 22.5**	**+1.2**
JSZ	**Suzu**	**0.70**	**66**	↓P	**Pg**	**06 29 24.6**	**-0.3**
JSZ				S	**Sg**	**06 29 34.8**	**+0.8**
JHG	**Hegura jima**	**0.73**	**23**	P	**Pg**	**06 29 25.3**	**-0.3**
JTT	**Ttatey**	**0.84**	**132**	P	**Pg**	**06 29 27.7**	**+0.2**
JKG	**Kaga**	**0.91**	**192**	↑P	**Pg**	**06 29 28.9**	**0.0**
MAJO	**Matsushiro**	**1.46**	**115**	*e*Pg	**Pg**	**06 29 38.4**	**-1.1**
MAJO				*e*Sg	**Sg**	**06 29 57.7**	**-0.8**
MAT	**Matsushiro**	**1.46**	**115**	P	**Pn**	**06 29 37.3**	**-1.1**
MAT				S	**Sn**	**06 29 58.1**	**+0.2**
MJAR	**Matsushiro Arr**	**1.47**	**115**	Pg	**Pg**	**06 29 38.8**	**-0.7**
	36nm,0.3s,baz=293,slow=17,SNR=154						
MJAR				Lg		06 29 58.4	
	50nm,0.3s,baz=288,slow=31,SNR=28						
JNU	**Nakatsue**	**6.16**	**231**	Pn	**Pn**	**06 30 44.2**	**+1.3**
	0.6nm,0.3s,baz=108,slow=3.2,SNR=2.7						
JNU				LR	LR	06 33 04.5	
	comp=Z,126nm,19.2s,baz=259,slow=38						
KSRS	**Korea Array**	**6.89**	**275**	Pn	**Pn**	**06 30 52.4**	**-0.6**
	0.5nm,0.3s,baz=87,slow=15,SNR=3.8						
KSRS				Sn	**Sn**	**06 32 10.8**	**-0.9**
	0.4nm,0.3s,baz=88,slow=24,SNR=4.6						
SONM	**Songino Array**	**24.51**	**305**	P	**P**	**06 34 34.7**	**+3.3**
	1.1nm,0.7s,mb3.5,baz=107,slow=8.9,SNR=8.6						
WRA	**Warramunga Arr**	**56.84**	**182**	P	**P**	**06 38 56.0**	**-0.8**
	0.3nm,0.4s,mb3.6,baz=0.2,slow=7.3,SNR=5.5						
YKA	**Yellowknife Ar**	**65.60**	**29**	P	**P**	**06 39 57.4**	**+1.6**
YKA	**Yellowknife Ar**	**65.60**	**29**	P	**P**	**06 39 57.4**	**+1.7**
	0.2nm,0.7s,mb3.3,baz=310,slow=7.1,SNR=6.6						

*ISCJB **16** 06:29:30.0±0.7, 103N×02×1254E±04, h33km, mb4.0/10, Error ellipse: s-maj=67.5km s-min=14.1km az=159.8*
*IDC **16** 06:29:37.5±8.9, 1031N×12545E, h85km±80km, mb3.6/9, mb1 3.7/9, mb1mx3.6/17, mbtmp3.6/9, Error ellipse: s-maj=80.7km s-min=16.8km az=68.0*
*MAN **16** 06:29:38, 1037N×12572E, h59km, mb4.6, ML3.5, MS3.4*
ISC 16 06:29:31.9±0.7, 104N±02×1255E±04, h35km, n11, σ0º96/10, mb4.0/10, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**31.36**	**164**	P	**P**	**06 35 48.9**	**-0.5**
	0.5nm,0.6s,mb3.5,baz=346,slow=9.3,SNR=4.1						
ASAR	**Alice Springs**	**34.81**	**166**	P	**P**	**06 36 19.7**	**+0.2**
	0.5nm,0.4s,mb3.8,baz=347,slow=7.2,SNR=9.3						
ASAR				PcP	PcP	06 38 51.7	-0.7
	0.3nm,0.4s,baz=338,slow=3.3,SNR=4.0						
SONM	**Songino Array**	**40.66**	**340**	P	**P**	**06 37 10.4**	**+1.7**
	0.5nm,0.6s,mb3.4,baz=156,slow=9.4,SNR=4.2						
STKA	**Stephens Creek**	**44.74**	**160**	P	**P**	**06 37 42.9**	**+0.9**
	1.7nm,0.5s,mb4.1,baz=2.2,slow=20,SNR=4.3						
MKAR	**Makanchi Array**	**51.50**	**323**	P	**P**	**06 38 35.4**	**+1.3**
	1.1nm,0.4s,mb4.2,baz=116,slow=11,SNR=5.7						
JOF	**Joensuu**	**82.76**	**333**	*ep*	**P**	**06 41 50.5**	**-1.5**
	1.0nm,0.5s,mb4.1						
ARCES	**ARCESS Array B**	**83.84**	**340**	P	**P**	**06 41 56.9**	**-0.5**
	3.2nm,0.8s,mb4.5,baz=82,slow=7.4,SNR=7.2						
FINES	**FINESS Array B**	**85.45**	**332**	P	**P**	**06 42 05.0**	**-0.7**
	0.8nm,0.4s,mb4.2,baz=72,slow=4.9,SNR=9.1						
AKASG	**Malin Array Be**	**86.02**	**321**	P	**P**	**06 42 08.0**	**-0.8**
	0.6nm,0.4s,mb4.1,baz=55,slow=4.6,SNR=5.0						
YKA	**Yellowknife Ar**	**93.95**	**24**	P	**P**	**06 42 45.9**	**0.0**
	0.2nm,0.7s,mb3.7,baz=306,slow=5.2,SNR=4.3						
PLCA	**Paso Flores**	**146.59**	**158**	PKPbc	PKPbc	06 49 10.2	+0.2
	1.5nm,0.8s,baz=280,slow=6.1,SNR=4.1						

*CSEM **16** 06:31:48.5±0.7, 3737N×2476W, h0km, MD3.8, Error ellipse: s-maj=9.7km s-min=2.0km az=84.0, After PDA*
*PDA **16** 06:31:48.5±0.7, 3737N×2476W, h0km, MD3.8, Error ellipse: s-maj=9.7km s-min=2.0km az=84.0*
SVSA 16 06:31:48.5±0.7, 3737N×2476W, h0km, MD3.8, Error ellipse: s-maj=9.7km s-min=2.0km az=84.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSMN	**Pico do Norte,**	**0.44**	**214**	*eP*	Pg	06 31 56.5	-0.4
PSMN				*e*S	Sg	06 32 02.7	+0.1
PDA	**Ponta Delgada**	**0.81**	**298**	*eP*	Pg	06 32 02.5	-1.6
PDA				*e*S	Sg	06 32 12.8	-1.8
ADH	**Angra Heroismo**	**2.34**	**304**	*e*S	Sn	06 32 49.4	-8.2

*BJI **16** 06:42:34.3, 089N×12587E, h6km, mB4.9, mb4.7*
*IDC **16** 06:42:35.0±0.6, 080N×12573E, h0km, mb4.5/11, mb1 4.6/12, mb1mx4.5/18, mbtmp4.5/12, ML4.3/1, Error ellipse: s-maj=30.6km s-min=13.0km az=76.0*
*NEIC **16** 06:42:36.7±0.3, 085N×12590E, h10km, mb4.7/16, Error ellipse: s-maj=15.1km s-min=5.6km az=75.0*

*MOS **16** 06:42:37.9±1.1, 092N×12587E, h33km, mb4.8/9, Error ellipse: s-maj=23.4km s-min=9.3km az=105.8*
*ISCJB **16** 06:42:42.8±0.6, 091N±004×12603E±005, h79km±5km, mb4.6/32, Error ellipse: s-maj=7.8km s-min=6.2km az=162.2*
ISC 16 06:42:44.5±0.6, 085N±004×12610E±005, h79km±5km, n78, σ1º20/77, mb4.6/32, 6C-1D, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNE	**Ternate**	**1.27**	**93**	↑*eP*	**Pn**	**06 43 05.0**	**-1.8**
TNE				*e*S	**Sn**	**06 43 24.5**	**+0.8**
MNI	**Manado**	**1.39**	**295**	P	**Pn**	**06 43 04.5**	**-3.8**
	0.0nm,0.0s						
LBMI	**Labuha**	**2.04**	**136**	P	**Pn**	**06 43 17.2**	**+0.4**
	0.0nm,0.0s						
SGSI	**Sangihe**	**2.88**	**349**	P	**Pn**	**06 43 26.9**	**-1.2**
	0.0nm,0.0s						
AAI	**Ambon**	**4.97**	**155**	P	**Pn**	**06 44 00.2**	**+3.6**
	0.0nm,0.0s						
KDI	**Kendari**	**5.90**	**216**	P	**Pn**	**06 44 09.3**	**-0.1**
	0.0nm,0.0s						
PCI	**Palu**	**6.50**	**254**	P	**Pn**	**06 44 18.3**	**+0.8**
	0.0nm,0.0s						
BATI	**Kupang**	**11.24**	**192**	P	**Pn**	**06 45 28.8**	**+6.5**
	0.0nm,0.0s						
BATI	**Kupang**	**11.24**	**192**	Pn	**Pn**	**06 45 24.6**	**+2.3**
	1.9nm,0.3s,baz=246,slow=5.9,SNR=7.4						
MTNI	**Mataram**	**13.66**	**226**	P	Px	06 46 07.0	
	0.0nm,0.0s						
KMMI	**Kalianget**	**14.42**	**237**	P	**Pn**	**06 46 10.8**	**+6.0**
	0.0nm,0.0s						
STKI	**Sintang**	**14.64**	**267**	P	**Pn**	**06 46 11.3**	**+3.7**
	0.0nm,0.0s						
KAKA	**Kakadu**	**14.87**	**155**	*e*P	**Pn**	**06 46 07.5**	**-3.0**
	22nm,0.6s						
KSM	**Kuching**	**15.80**	**272**	*e*P	**Pn**	**06 46 22.9**	**+0.5**
KRKI	**Karangkates**	**16.28**	**236**	P	**Pn**	**06 46 31.9**	**+3.5**
	291nm,1.0s						
BJII	**Banjamegara**	**18.25**	**243**	P	**Pn**	**06 46 53.6**	**+1.0**
	59nm,1.3s						
TPI	**Tanjungpandan**	**18.78**	**259**	P	**Pn**	**06 46 56.6**	**-2.3**
	15nm,1.2s						
FITZ	**Fitzroy Crossi**	**18.84**	**181**	*e*P	**Pn**	**06 46 57.4**	**-2.1**
	17nm,0.9s						
FITZ	**Fitzroy Crossi**	**18.84**	**181**	P	**Pn**	**06 46 55.5**	**-4.0**
	0.8nm,0.3s,baz=21,slow=11,SNR=11						
PPBI	**Pangkal Pinang**	**20.18**	**261**	P	**P**	**06 47 12.5**	**-0.3**
	30nm,1.0s						
WRAB	**Tennant Creek**	**22.18**	**159**	*e*P	**P**	**06 47 33.7**	**-0.5**
	24nm,0.8s,mb4.6						
WRAB	**Tennant Creek**	**22.18**	**159**	*e*P	**P**	**06 47 33.7**	**-0.5**
WRAB				pmax	pmax		
	comp=Z,24nm,0.8s,mb4.6						
WRA	**Warramunga Arr**	**22.18**	**159**	P	**P**	**06 47 33.7**	**-0.6**
	comp=Z,16nm,0.6s,mb4.6,baz=336,slow=11,SNR=104						
WRA				S	**S**	**06 51 32.7**	**-1.2**
	comp=Z,5.1nm,0.9s,baz=332,slow=21,SNR=9.3						
WB2	**Warramunga Arr**	**22.19**	**159**	↓P	**P**	**06 47 33.7**	**-0.6**
WB2				*e*S	**S**	**06 51 32.9**	**-1.1**
MBWA	**Marble Bar**	**22.74**	**196**	*e*P	**P**	**06 47 38.8**	**-1.2**
	comp=Z,10.0nm,0.8s,mb4.2						
ASAR	**Alice Springs**	**25.52**	**163**	P	**P**	**06 48 06.5**	**+0.8**
	comp=Z,12nm,0.7s,mb4.4,baz=354,slow=15,SNR=71						
ASAR				PcP	PcP	06 51 37.2	+1.7
	comp=Z,0.9nm,0.8s,baz=352,slow=2.5,SNR=4.2						
ASAR				S	**S**	**06 52 27.4**	**-0.2**
	comp=Z,1.6nm,0.9s,baz=354,slow=28,SNR=4.2						
JOW	**Kunigami**	**25.92**	**4**	P	**P**	**06 48 10.7**	**+1.4**
	comp=Z,45nm,0.8s,mb5.0,baz=153,slow=9.4,SNR=7.3						
PSI	**Prapat**	**27.23**	**274**	P	**P**	**06 48 18.9**	**-2.4**
	comp=Z,12nm,0.8s,mb4.5,baz=115,slow=4.5,SNR=9.8						
FORT	**Forrest**	**31.51**	**177**	*e*P	**P**	**06 48 59.3**	**+0.4**
	comp=Z,18nm,0.6s,mb5.0						
NJ2	**Nanjing**	**31.78**	**348**	*e*P	**P**	**06 49 00.3**	**-1.1**
NJ2				AMB	AMB		
	comp=Z,40nm,0.6s,mb5.3						
KLBR	**Kellerberrin**	**33.22**	**193**	*e*P	**P**	**06 49 14.9**	**+1.0**
	comp=Z,90nm,1.4s,mb5.4						
STKA	**Stephens Creek**	**35.70**	**157**	*e*P	**P**	**06 49 36.2**	**+0.8**
	comp=Z,7.8nm,0.8s,mb4.7						
STKA	**Stephens Creek**	**35.70**	**157**	*e*P	**P**	**06 49 36.4**	**+1.0**
	comp=Z,11nm,0.8s,mb4.8						
STKA	**Stephens Creek**	**35.70**	**157**	P	**P**	**06 49 35.9**	**+0.5**
	comp=Z,3.9nm,0.3s,mb4.8,baz=327,slow=9.4,SNR=9.3						
KSRS	**Korea Array**	**36.47**	**2**	P	**P**	**06 49 43.1**	**+1.3**
	comp=Z,2.4nm,0.6s,mb4.3,baz=180,slow=9.3,SNR=7.9						
XAN	**Xi'an**	**36.73**	**336**	P	**P**	**06 49 43.0**	**-1.1**
XAN				AMB	AMB		
	comp=Z,4.0nm,0.8s,mb4.4						
MJAR	**Matsushiro Arr**	**37.25**	**16**	P	**P**	**06 49 49.7**	**+1.2**
	comp=Z,1.4nm,0.6s,mb4.1,baz=202,slow=8.2,SNR=4.3						
MDJ	**Mudanjiang**	**43.69**	**4**	*e*P	**P**	**06 50 42.6**	**+1.1**
	comp=Z,16nm,1.0s,mb4.7						
GTA	**Gaotai**	**45.26**	**331**	*e*P	**P**	**06 50 54.8**	**+0.7**
GTA				AP	pP	06 50 59.3	-14
GTA				XP	sP	06 51 02.3	-20
GTA				AMB	AMB		
	comp=Z,4.0nm,0.6s,mb4.3						
KLR	**Kul'dur**	**48.44**	**5**	*e*P	**P**	**06 51 15.4**	**-3.3**
HIA	**Hailar**	**48.54**	**354**	*e*P	**P**	**06 51 18.9**	**-0.6**
ULN	**Ulaanbaatar**	**49.66**	**343**	*e*P	**P**	**06 51 28.6**	**+0.6**
	comp=Z,1.6nm,0.5s,mb4.2						
ULN	**Ulaanbaatar**	**49.66**	**343**	↑*e*P	**P**	**06 51 28.2**	**+0.1**
SONM	**Songino Array**	**49.83**	**343**	P	**P**	**06 51 29.0**	**-0.4**
	comp=Z,2.1nm,0.8s,mb4.1,baz=158,slow=7.9,SNR=16						
ZAK	**Zakamensk**	**53.03**	**342**	*e*P	**P**	**06 51 53.8**	**+0.6**
ZAK				*e*		06 53 02.2	
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.0s,mb3.8						
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.2s,mb3.7						
BOD	**Bodaibo**	**57.61**	**352**	*e*P	**P**	**06 52 25.3**	**-0.7**
BOD				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.8						
MK31	**Makanchi Array**	**59.57**	**327**	*e*P	**P**	**06 52 38.7**	**-1.1**
MKAR	**Makanchi Array**	**59.57**	**327**	*i* P	**P**	**06 52 38.5**	**-1.3**
MKAR				pmax	pmax		
	comp=Z,5.0nm,0.4s						
MKAR	**Makanchi Array**	**59.57**	**327**	P	**P**	**06 52 38.6**	**-1.2**
	comp=Z,4.8nm,0.4s,mb4.8,baz=122,slow=8.0,SNR=48						
YAK	**Yakutsk**	**61.09**	**2**	↑*e*P	**P**	**06 52 49.4**	**-0.5**
YAK				pmax	pmax		
	comp=Z,12nm,0.9s,mb4.9						
TKM2	**Tokmak 2**	**61.50**	**320**	*e*P	**P**	**06 52 54.3**	**+1.3**
	comp=Z,3.8nm,0.9s,mb4.4						
TKM2	**Tokmak 2**	**61.50**	**320**	*e*P	**P**	**06 52 54.3**	**+1.2**
TKM2				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.5						
MA2	**Magadan**	**61.64**	**14**	*e*P	**P**	**06 52 55.5**	**+1.9**
	comp=Z,11nm,0.8s,mb4.9						
MA2	**Magadan**	**61.64**	**14**	*e*P	**P**	**06 52 54.4**	**+0.8**
MA2				*e*	pP	06 53 13.3	-0.6
MA2				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.9						
UCH	**Uchtor**	**61.88**	**319**	*e*P	**P**	**06 52 58.0**	**+2.3**
	comp=Z,8.2nm,1.2s,mb4.6						
AML	**Almayashu**	**62.38**	**318**	*e*P	**P**	**06 53 00.7**	**+1.7**
	comp=Z,7.9nm,1.0s,mb4.7						
EKS2	**Erkin-Say**	**62.56**	**319**	*e*P	**P**	**06 52 60.0**	**-0.2**
ZALV	**Zalesovo Beam**	**62.87**	**334**	P	**P**	**06 53 01.0**	**-1.0**
ZALV	**Zalesovo Beam**	**62.87**	**334**	P	**P**	**06 53 01.0**	**-0.9**
	comp=Z,1.0nm,0.4s,mb4.1,baz=120,slow=6.0,SNR=8.1						
ZAL	**Zalesovo**	**62.87**	**334**	P	**P**	**06 53 01.0**	**-1.0**
KURK	**Kurchatov**	**63.83**	**329**	*e*P	**P**	**06 53 07.2**	**-1.2**
	comp=Z,10nm,0.6s,mb4.8						
KURK	**Kurchatov**	**63.83**	**329**	↑*e*P	**P**	**06 53 07.9**	**-0.5**
SEY	**Seymchan**	**64.97**	**13**	↑*e*P	**P**	**06 53 15.8**	**+0.2**
BRVK	**Borovoye**	**69.46**	**328**	*e*P	**P**	**06 53 45.6**	**+1.4**
	comp=Z,7.0nm,1.0s,mb4.5						
BRVK	**Borovoye**	**69.46**	**328**	*e*P	**P**	**06 53 45.6**	**+1.4**
BRVK				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.5						
TIXI	**Tiksi**	**70.72**	**1**	*e*P	**P**	**06 53 51.6**	**0.0**
	comp=Z,6.8nm,0.9s,mb4.5						
TIXI	**Tiksi**	**70.72**	**1**	↑*e*P	**P**	**06 53 49.9**	**-1.6**
TIXI				pmax	pmax		
	comp=Z,6.0nm,1.4s,mb4.2						
BILL	**Bilibino**	**72.48**	**15**	*e*P	**P**	**06 54 02.7**	**+0.5**
BILL				*e*		06 54 18.2	
BILL				*e*		06 56 43.1	
ARU	**Arti**	**77.03**	**328**	*e*P	**P**	**06 54 27.4**	**-1.3**
ARU				*e*		06 54 34.9	
ARU				*e*S	S	07 04 07.4	-3.5
VNDA	**Vanda**	**80.67**	**173**	*e*P	**P**	**06 54 50.2**	**+1.9**
	comp=Z,4.6nm,1.2s,mb4.2						
VNDA	**Vanda**	**80.67**	**173**	*e*P	**P**	**06 54 50.2**	**+2.0**
VNDA				pmax	pmax		
	comp=Z,5.0nm,1.2s						
VNDA	**Vanda**	**80.67**	**173**	P	**P**	**06 54 50.0**	**+1.7**
	comp=Z,1.1nm,0.6s,mb3.9,baz=323,slow=7.6,SNR=9.3						
ANN	**Anapa**	**88.46**	**315**	*e*P	**P**	**06 55 24.1**	**-4.0**
ANN				pmax	pmax		
	comp=Z,19nm,1.1s,mb5.0						
OBN	**Obninsk**	**89.04**	**325**	*e*P	**P**	**06 55 30.9**	**+0.3**
OBN				*e*		06 58 59.8	
OBN				*e*PS	PS	07 07 27.0	-0.2
OBN				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.5						
YKA	**Yellowknife Ar**	**102.37**	**24**	P	Pdif	06 56 32.4	+1.2
YKA	**Yellowknife Ar**	**102.37**	**24**	P	Pdif	06 56 32.4	+1.2
	comp=Z,0.2nm,0.7s,baz=299,slow=4.3,SNR=6.7						
TORD	**Torodi Ar. Bea**	**123.16**	**286**	PKP	PKPdf	07 01 33.2	+0.1
	comp=Z,0.7nm,0.8s,baz=101,slow=2.0,SNR=4.2						
TXAR	**Lajitas Array**	**123.84**	**53**	PKP	PKPdf	07 01 35.4	+1.4
	comp=Z,0.2nm,0.6s,baz=63,slow=4.2,SNR=3.2						

*IDC **16** 06:50:32.6±4.6, 4053N×10104W, h19km±23km, mb2.7/1, mb1 3.4/3, mb1mx3.2/23, mbtmp3.1/3, ML3.1/2, Error ellipse: s-maj=36.1km s-min=13.0km az=156.0*
NEIC 16 06:50:31.1±0.5, 4061N×10075W, h5km, MN3.0, MD2.6(TUL), Error ellipse: s-maj=9.5km s-min=6.1km az=204.0, Nebraska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBKS	**Cedar Bluff**	**1.95**	**156**	*e*P	Pn	06 51 06.5	+1.7
CBKS				*e*Sg	Sg	06 51 32.2	-1.6
KSU1	**Kansas State U**	**3.52**	**114**	*e*Pn	Pn	06 51 23.7	-2.7
KSU1				*e*Pg	Pg	06 51 33.8	-4.7
KSU1				*e*Sn	Sn	06 52 09.7	+1.3
PHWY	**Pilot Hill**	**3.64**	**283**	*e*Pn	Pn	06 51 27.9	-0.1
PHWY				*e*Pg	Pg	06 51 38.7	-2.1
PHWY				*e*Sn	Sn	06 52 10.0	-1.2
PHWY				*e*Sg	Sg	06 52 21.4	-6.5
ISCO	**Idaho Springs**	**3.81**	**259**	*e*Pn	Pn	06 51 30.8	+0.4
ISCO				*e*Pg	Pg	06 51 40.8	-3.4
ISCO				*e*Sn	Sn	06 52 12.6	-3.1
ISCO				*e*Sg	Sg	06 52 27.2	-6.4
ECSD	**EROS,Sioux Fal**	**4.38**	**43**	*e*Pn	Pn	06 51 40.0	+1.7
ECSD				*e*Pg	Pg	06 51 49.8	-5.2
ECSD				*e*Sn	Sn	06 52 21.1	-8.5
ECSD				*e*Sg	Sg	06 52 46.5	-5.2
SDCO	**Great Sand Dun**	**4.67**	**234**	*e*Pn	Pn	06 51 43.2	+0.9
SDCO				*e*Pg	Pg	06 51 56.5	-4.1
SDCO				Sn	Sn	06 52 38.4	+1.6
SDCO				*e*Sg	Sg	06 52 55.1	-6.0
SMCO	**Snowmass**	**5.00**	**255**	*e*Pn	Pn	06 51 47.9	+1.2
SMCO				*e*Pg	Pg	06 52 03.3	-3.6
SMCO				*e*Sg	Sg	06 53 07.8	-3.8
RWWY	**Rawlins**	**5.00**	**285**	*e*Pn	Pn	06 51 47.4	+0.6
RWWY				*e*Pg	Pg	06 52 06.3	-0.6
RWWY				*e*Sn	Sn	06 52 44.8	-0.1
RWWY				*e*Sg	Sg	06 53 08.3	-3.3
AMTX	**Amarillo**	**5.76**	**188**	Pn	Pn	06 51 55.7	-1.6
AMTX				*e*Pg	Pg	06 52 17.3	-4.1
AMTX				*e*Sn	Sn	06 52 49.4	-14
AMTX				*e*Sg	Sg	06 53 29.1	-7.0
SIO	**Slick**	**5.98**	**143**	Pn	Pn	06 52 00.7	+0.4
WMOK	**Wichita Mounta**	**6.06**	**164**	*e*Pn	Pn	06 52 00.9	-0.4
WMOK				*e*Pg	Pg	06 52 21.6	-5.6
WMOK				*e*Sn	Sn	06 53 08.9	-2.1
WMOK				*e*Sg	Sg	06 53 42.3	-3.5
TUL	**Tulsa**	**6.09**	**139**	Pn	Pn	06 52 02.5	+0.7
RLO	**Rose Lookout**	**6.31**	**133**	Pn	Pn	06 52 05.4	+0.6
VVO	**Vivian**	**6.58**	**141**	Pn	Pn	06 52 09.3	+0.8
PDAR	**Pinedale Array**	**6.94**	**291**	Pn	Pn	06 52 13.2	-0.2
PDAR				Sn	Sn	06 53 29.4	-3.3
PDAR				Lg		06 54 05.5	
PDAR	**Pinedale Array**	**6.94**	**291**	Pn	Pn	06 52 13.2	-0.2
	0.4nm,0.3s,baz=112,slow=14,SNR=12						
PDAR				Sn	Sn	06 53 29.4	-3.3
	0.3nm,0.3s,baz=121,slow=33,SNR=4.1						
PDAR				Lg		06 54 05.5	
	0.4nm,0.3s,baz=95,slow=34,SNR=6.4						
ANMO	**Albuquerque**	**7.23**	**221**	Pn	Pn	06 52 17.5	+0.1
ANMO				*e*Pg	Pg	06 52 43.1	-6.6
ANMO				Sn	Sn	06 53 43.2	+3.2
ANMO				*e*Sg	Sg	06 54 13.2	-10
CCM	**Cathedral Cave**	**7.79**	**106**	*e*Pn	Pn	06 52 24.7	-0.4
CCM				*e*Sn	Sn	06 53 49.0	-4.7
CCM				*e*Sg	Sg	06 54 36.6	-4.6
LOHW	**Long Hollow**	**7.92**	**296**	*e*Pn	Pn	06 52 28.0	+1.1
LOHW				*e*Pg	Pg	06 52 57.9	-4.8

ISC 16 07:20:57.1±0.6, 3888N±002×2598E±004, h8km±4km, n31, σ0°90/47, 1C-1D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRK	Paraskevi	0.43	32	⇑iPB	Pg	07 21 05.4	-0.1
PRK				eSB	Sg	07 21 11.3	+0.1
CHOS	Chios island	0.49	173	ePg	Pg	07 21 07.7	+1.0
AYVA	Ayvalik	0.70	52	iP	Pg	07 21 10.0	-0.6
AYVA				iS	Sg	07 21 18.7	-1.0
URLA	Izmir	0.71	137	iP	Pg	07 21 10.8	+0.1
URLA				iS	Sg	07 21 19.8	-0.1
URLA	Izmir	0.71	137	iP	Pg	07 21 10.8	+0.1
BOZC	Bozcaada	0.96	3	iP	Pg	07 21 15.4	-0.2
BOZC				iS	Sg	07 21 28.3	+0.2
BLCB	Balcova	0.97	120	ePG	Pg	07 21 15.3	-0.3
BLCB				eSG	Sg	07 21 29.1	+0.9
BLCB	Balcova	0.97	120	ePg	Pg	07 21 15.0	-0.7
BLCB				eSg	Sg	07 21 27.9	-0.3
BLCB	Balcova	0.97	120	ePg	Pg	07 21 15.0	-0.7
BLCB				eSg	Sg	07 21 29.1	+0.9
EZN	Ezine	0.98	16	ePN	Pn	07 21 15.8	-1.4
EZN				eSN	Sn	07 21 30.0	-1.2
KDAG	Bornova	1.11	115	iP	Pg	07 21 18.2	-0.3
KDAG				iS	Sg	07 21 32.2	-0.8
LIA	Limnos Island	1.19	329	⇓iPN	Pn	07 21 16.8	-3.2
LIA				eSN	Sn	07 21 31.4	-4.9
LOS	Limnos	1.26	327	ePg	Pg	07 21 21.7	+0.4
LOS				eSg	Sg	07 21 39.3	+1.6
GADA	Gvkgeada	1.31	357	ePN	Pn	07 21 20.2	-1.5
GADA				eSN	Sn	07 21 37.9	-1.5
SMG	Samos	1.35	150	ePN	Pn	07 21 21.7	-0.5
SMG				eSN	Sn	07 21 40.7	+0.5
AKS	Akhisar	1.43	89	ePN	Pn	07 21 24.0	+0.7
AKS				eSN	Sn	07 21 42.2	0.0
APE	Apeiranthos	1.84	191	ePb	Pb	07 21 28.6	-2.4
APE	Apeiranthos	1.84	191	ePn	Pn	07 21 28.5	-0.4
ENEZ	Enez	1.86	4	ePN	Pn	07 21 29.2	0.0
ALN	Alexandroupoli	2.02	1	ePn	Pn	07 21 31.1	-0.2
ALN				eSn	Sn	07 21 57.9	+1.1
ALN	Alexandroupoli	2.02	1	ePn	Pn	07 21 31.1	-0.2
ALN				eSn	Sn	07 21 57.8	+1.1
EDC	Edincik	2.06	44	ePN	Pn	07 21 32.4	+0.4
BNT	Bandirma	2.10	45	ePN	Pn	07 21 33.3	+0.8
OUR	Ouranopolis	2.12	314	ePn	Pn	07 21 33.5	+0.7
KULA	Kula-Manisa	2.13	99	ePN	Pn	07 21 33.6	+0.7
DST	Dursunbey	2.18	70	ePN	Pn	07 21 34.7	+1.1
RDO	Rodhopi	2.29	352	ePB	Pb	07 21 33.3	-5.3
KCT	Karacabey	2.30	52	ePN	Pn	07 21 35.6	+0.4
GEMT	Gemlik	2.92	57	ePN	Pn	07 21 45.3	+1.5
IZI	Iznik	3.06	61	ePN	Pn	07 21 46.9	+1.2
YLV	Yalova	3.11	56	ePN	Pn	07 21 46.7	+0.3

*ISCJB **16** 07:28:56.3±1.1, 418S±02×848E±03, h10km, mb4.0/7, MS4.3/14, Error ellipse: s-maj=28.6km s-min=21.2km az=19.5*
*IDC **16** 07:28:56.2±1.4, 4174S×8476E, h0km, mb4.0/7, mb1 4.1/7, mb1mx4.0/15, mbtmp4.0/7, MS4.2/14, Ms1 4.2/14, ms1mx4.0/28, Error ellipse: s-maj=39.1km s-min=29.1km az=108.0*
*NEIC **16** 07:28:57.6±0.9, 4174S×8476E, h10km, mb4.1/1, Error ellipse: s-maj=25.6km s-min=18.6km az=109.0*
*GCMT **16** 07:29:04.0±0.3, 4173S×8485E, h18km±1km, MW5.0/76, Moment Tensor Solution. s29,c33; s76,c107; Duration: 0 Moment tensor: Scale 10^16Nm; M_{rr}-0.37±.15; $M_{\theta\theta}$4.28±.16; $M_{\phi\phi}$-3.91±.15; $M_{r\theta}$0.05±.35; $M_{r\phi}$-0.18±.12; $M_{\theta\phi}$0.56±.32; Best double couple: M_0=4.14200×10^16 NP1:ϕ_s=136.00000°, δ84.00000°, λ-6.00000°. NP2: ϕ_s=227.00000°, δ84.00000°, λ-173.00000°. Principal axes: T 4.2840, Plg0.0000°, Azm1.0000°; N -0.2810, Plg81.0000°, Azm268.0000°; P -3.9990, Plg9.0000°, Azm91.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 16 07:28:57.8±1.1, 417S±02×848E±03, h10km, n22, σ0°55/10, mb4.0/7, MS4.3/14, Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NWAO	Narrogin (SRO)	27.13	82	LR	LR	07 42 53.1	
	comp=Z,498nm,21.1s,MS4.0,baz=225,slow=31						
MAW	Mawson	28.52	197	LR	LR	07 43 47.6	
	comp=Z,351nm,19.4s,MS4.0,baz=48,slow=31						
ASAR	Alice Springs	44.45	82	P	P	07 37 08.9	-0.1
	2.0nm,0.8s,mb3.9,baz=224,slow=6.0,SNR=12						
STKA	Stephens Creek	45.80	97	eP	P	07 37 19.9	+0.2
	2.7nm,1.3s,mb4.0						
STKA	Stephens Creek	45.80	97	P	P	07 37 19.6	-0.2
	2.9nm,1.1s,mb4.1,baz=234,slow=9.4,SNR=4.2						
STKA				LR	LR	07 52 31.2	
	comp=Z,406nm,20.9s,MS4.3,baz=211,slow=31						
VNDA	Vanda	46.86	163	P	P	07 37 28.6	+1.1
	0.7nm,0.8s,mb3.6,baz=281,slow=4.9,SNR=3.4						
VNDA				LR	LR	07 54 12.5	
	comp=Z,349nm,21.7s,MS4.3,baz=274,slow=32						
WRA	Warramunga Arr	47.02	78	P	P	07 37 29.3	-0.2
	4.5nm,0.8s,mb4.4,baz=232,slow=7.5,SNR=16						
WRA				LR	LR	07 54 14.3	
	comp=Z,247nm,22.0s,MS4.1,baz=235,slow=32						
WB2	Warramunga Arr	47.03	78	eP	P	07 37 29.5	0.0
QSPA	South Pole Qui	48.42	180	P	P	07 37 38.5	-1.0
QSPA	South Pole Qui	48.42	180	P	P	07 37 38.5	-1.0
	4.3nm,1.2s,mb4.4,baz=253,slow=4.5,SNR=4.2						
BOSA	Boshof	49.49	265	LR	LR	07 54 40.1	
	comp=Z,361nm,18.9s,MS4.4,baz=148,slow=31						
LSZ	Lusaka	55.16	281	LR	LR	07 57 55.9	
	comp=Z,136nm,18.1s,MS4.1,baz=177,slow=32						
CTA	Charters Tower	55.77	87	LR	LR	08 01 19.8	
	comp=Z,99nm,21.5s,MS3.9,baz=242,slow=35						
RPZ	Rata Peaks	60.52	124	LR	LR	07 59 41.7	
	comp=Z,234nm,18.4s,MS4.4,baz=155,slow=30						
POO	Poona	60.81	348	ex	x	07 38 59.0	
HNR	Honiara	72.71	87	LR	LR	08 12 20.8	
	comp=Z,112nm,18.7s,MS4.2,baz=357,slow=36						
MKAR	Makanchi Array	88.17	358	P	P	07 41 48.7	+0.4
	0.5nm,0.7s,mb3.8,baz=142,slow=6.1,SNR=4.5						
SONM	Songino Array	91.22	14	P	P	07 42 02.4	-0.2
	0.6nm,1.0s,mb3.9,baz=194,slow=5.2,SNR=3.6						
SONM				LR	LR	08 18 25.2	
	comp=Z,193nm,19.2s,MS4.6,baz=77,slow=32						
AKTO	Aktyubinsk	94.73	343	LR	LR	08 17 45.0	
	comp=Z,120nm,20.3s,MS4.3,baz=87,slow=31						
PLCA	Paso Flores	94.92	199	LR	LR	08 23 10.2	
	comp=Z,211nm,18.8s,MS4.6,baz=166,slow=34						
BVAR	Borovoye Array	95.20	351	LR	LR	08 21 51.1	
	comp=Z,166nm,19.9s,MS4.5,baz=248,slow=33						
PDAR	Pinedale Array	169.31	80	PKPab	PKPab	07 50 18.9	+1.4
	0.7nm,1.0s,baz=273,slow=2.8,SNR=3.7						

*ROM **16** 07:38:47.5±0.5, 4115N×2067E, h10km, Ml4.9/48, Error ellipse: s-maj=8.3km s-min=2.2km az=90.0*
*ATH **16** 07:38:48.0, 4145N×1968E, h8km, MD4.7/21, ML5.0*
*PRU **16** 07:38:48.2, 4072N×2015E, h0km, M4.5*
*BJI **16** 07:38:49.7, 4119N×2000E, h10km, mB5.0, mb4.9, Ms5.0, Msz4.6*
*ISCJB **16** 07:38:53.3±0.2, 4138N±0010×1999E±001, h15km±1km, mb4.8/70, MS4.4/32, Error ellipse: s-maj=1.7km s-min=1.2km az=26.0*
*PDG **16** 07:38:53.8±0.7, 4117N×1990E, h14km±1km, MD4.7/10, ML4.6/10, Error ellipse: s-maj=1.1km s-min=1.5km az=0.0*
*NEIC **16** 07:38:53.8, 4117N×1990E, h14km, mb4.5/35, ML5.2(THE), ML4.7(PDG), ML5.0(ATH), ML4.9(ROM), ML4.3(BUC), After PDG.*
NEIC Minor damage to some buildings. Felt [III] at Tirana. Felt at Berat. Also felt at Skopje, Macedonia.
*THE **16** 07:38:54.9, 4124N×2013E, h3km, ML5.2*
*CSEM **16** 07:38:54.4±0.0, 4134N×2000E, h21km, mb4.8/24, ML4.6/10, Error ellipse: s-maj=1.1km s-min=0.6km az=31.0*
*SKO **16** 07:38:54.7, 4123N×2009E, h11km, M4.2, ML4.5*
*CRAAG **16** 07:38:54.7, 4124N×2001E, MW4.9*
*LDG **16** 07:38:54.5±0.1, 4122N×2001E, h26km, Ml4.6/13, ms4.2/1, Error ellipse: s-maj=4.2km s-min=2.9km az=19.0*
*TIR **16** 07:38:54.2±3.5, 4121N×2009E, h20km±28km*
*MOS **16** 07:38:55.2±0.9, 4122N×1997E, h33km, mb4.8/25, MS4.3/22, Error ellipse: s-maj=3.2km s-min=2.3km az=106.8*
*BEO **16** 07:38:56.2±0.3, 4134N×2019E, ML4.4/10*
*IDC **16** 07:38:57.4±1.5, 4125N×1998E, h38km±12km, mb4.2/22, mb1 4.4/31, mb1mx4.3/33, mbtmp4.3/31, ML4.2/8, MS4.3/22, Ms1 4.3/22, ms1mx4.1/36, Error ellipse: s-maj=13.2km s-min=8.7km az=152.0*
*SZGRF **16** 07:38:58.7, 4128N×1941E, h10km, mb4.3, Albania*
*HLW **16** 07:39:06.0, 4046N×2138E, h33km, Mb4.8*

ISC 16 07:38:54.7±0.2, 41189N±0009×2002E±001, h12km±1km, h22km±1.6km: pP-P, n864, σ1°32/1002, mb4.8/71, MS4.4/32, 68C-45D, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIR	Tirane	0.20	323	ePg	Pg	07 38 59.2	+0.2
TIR				eSg	Sg	07 39 03.5	+1.6
TIR	Tirane	0.20	323	iPg	Pg	07 38 59.3	+0.3
TIR				eSg	Sg	07 39 03.7	+1.8
TIR	Tirane	0.20	323	iPG	Pg	07 38 59.2	+0.2
PHP	Peshkopia	0.59	32	iPG	Pg	07 39 04.9	-1.2
PHP				iSG	Sg	07 39 14.6	+0.7
OHR	Ohrid	0.59	97	iPg	Pg	07 39 04.6	-1.6
OHR				eSg	Sg	07 39 13.4	-0.6
OHR	Ohrid	0.59	97	⇓iPg	Pg	07 39 04.3	-1.9
OHR				eSg	Sg	07 39 13.9	-0.1
OHR				eLg		07 39 15.8	
	comp=N,25µm,0.8s						
OHR				eLg		07 39 16.8	
	comp=E,44µm,0.5s						
OHR	Ohrid	0.59	97	iPG	Pg	07 39 04.1	-2.1
OHR				iSG	Sg	07 39 12.2	-1.8
OHR	Ohrid	0.59	97	ePg	Pg	07 39 04.1	-2.1
OHR				eSg	Sg	07 39 12.2	-1.8
KBN	Korca	0.81	134	iPG	Pg	07 39 09.5	-0.8
KBN				iSG	Sg	07 39 22.4	+1.5
VLO	Vlora	0.82	209	iPG	Pg	07 39 11.1	+0.5
VLO				iSG	Sg	07 39 25.7	+4.4
PUK	Puka	0.86	354	iPG	Pg	07 39 10.5	-0.8
PUK				iSG	Sg	07 39 26.1	+3.6
KRUS	Krusevo	0.94	79	iPg	Pg	07 39 11.2	-1.6
SDA	Shkodra	0.95	336	iPG	Pg	07 39 12.3	-0.6
SDA				iSG	Sg	07 39 28.5	+3.2
ULC	Ulcinj	0.97	323	⇑iPg	Pg	07 39 11.7	-1.6
ULC				eSg	Sg	07 39 26.2	+0.3
ULC	Ulcinj	0.97	323	P	Pg	07 39 11.7	-1.6
ULC				eSg	Sg	07 39 26.2	+0.3
ULC				S	Sg	07 39 27.0	+1.1
ULC	Ulcinj	0.97	323	iPG	Pg	07 39 11.7	-1.6
ULC				iSG	Sg	07 39 26.2	+0.3
BIA	Bitola	1.00	99	ePg	Pg	07 39 11.9	-2.0
BIA				eSg	Sg	07 39 26.0	-0.9
BIA	Bitola	1.00	99	ePg	Pg	07 39 11.8	-2.1
BIA				eSg	Sg	07 39 25.9	-1.0
BIA				eLg		07 39 26.9	
	comp=E,6µm,0.3s						
BIA				eLg		07 39 27.4	
	comp=N,7µm,0.4s						
BIA	Bitola	1.00	99	ePg	Pg	07 39 11.8	-2.1
BIA				eSg	Sg	07 39 25.9	-1.0
FNA	Florina	1.10	111	ePg	Pg	07 39 14.4	-1.5
FNA				eSg	Sg	07 39 30.6	+0.4
FNA	Florina	1.10	111	iPg	Pg	07 39 14.4	-1.5
FNA				iSg	Sg	07 39 30.6	+0.4
SRN	Sarande	1.31	181	iPN	Pn	07 39 20.6	+1.9
SKO	Skopje	1.32	53	ePg	Pg	07 39 19.0	-1.0
SKO				eSg	Sg	07 39 38.0	+0.8
SKO	Skopje	1.32	53	iPg	Pg	07 39 18.1	-1.9
SKO				eSg	Sg	07 39 37.9	+0.7
SKO				eLg		07 39 38.9	
	comp=E,18µm,0.8s						
SKO				eLg		07 39 38.9	
	comp=N,16µm,0.8s						
SKO	Skopje	1.32	53	iPG	Pg	07 39 19.0	-1.0
SKO	Skopje	1.32	53	ePn	Pn	07 39 18.6	-0.3
SKO				eSg	Sg	07 39 32.2	-5.0
PDG	Podgorica	1.36	336	iPG	Pg	07 39 18.9	-2.0
PDG				iSG	Sg	07 39 40.4	+1.8
TTG	Podgorica	1.36	336	⇓iPg	Pg	07 39 18.9	-2.0
TTG				eSg	Sg	07 39 40.4	+1.8
TTG	Podgorica	1.36	336	P	Pg	07 39 18.8	-0.7
TTG				eSg	Sg	07 39 40.4	+1.8
BUM	Brajici-Budva	1.39	323	⇓iPg	Pg	07 39 19.7	-1.7
BUM				eSg	Sg	07 39 40.3	+0.8
BUM	Brajici-Budva	1.39	323	⇓iPg	Pg	07 39 19.7	-1.7
BUM				P		07 39 20.1	
BUM				eSg	Sg	07 39 40.3	+0.8
BUM	Brajici-Budva	1.39	323	iPG	Pg	07 39 19.7	-1.7
BUM				iSG	Sg	07 39 40.3	+0.8
PVY	Plav	1.41	359	⇑iPg	Pg	07 39 19.3	-2.4
PVY				eSg	Sg	07 39 41.9	+2.0
PVY	Plav	1.41	359	P	Pn	07 39 19.0	-1.1
PVY				⇑iPg	Pg	07 39 19.3	-2.4
PVY				eSg	Sg	07 39 41.9	+2.0
KEK	Kerkira	1.48	187	ePN	Pn	07 39 21.1	-0.1
KEK				eSN	Sn	07 39 44.2	+3.7
KZN	Kozani	1.59	123	ePN	Pn	07 39 23.3	+0.6
SCTE	Santa Cesarea	1.63	227	Pn	Pn	07 39 22.2	-0.9
SCTE				Sn	Sn	07 39 47.1	+3.1
	comp=N,12µm,0.6s						
JAN	Janina	1.66	157	ePG	Pg	07 39 24.6	-1.9
JAN				eSN	Sn	07 39 50.5	+5.8
IGT	Igoumenitsa	1.67	172	ePb	Pb	07 39 25.2	-0.1
IGT				eSb	Sb	07 39 49.1	+2.7
IGT	Igoumenitsa	1.67	172	iPG	Pg	07 39 25.2	-1.5
IGT				iSG	Sg	07 39 49.1	+0.7
MEV	Metsovon	1.68	146	ePb	Pb	07 39 24.6	-0.9
MEV	Metsovon	1.68	146	iPG	Pb	07 39 24.6	-0.9
LCI	Lecce	1.68	240	Pn	Pn	07 39 23.2	-0.7
BEY	Berane	1.68	357	iPG	Pn	07 39 24.5	+0.6
BEY				iSG	Sg	07 39 48.6	-0.2
IVA	Berane	1.68	357	⇑iPn	Pn	07 39 24.5	+0.6
IVA				eSn	Sg	07 39 48.2	-0.2
HCY	Herceg Novi	1.70	318	⇑iPn	Pn	07 39 24.4	+0.3
HCY				eSn	Sg	07 39 47.5	-1.7
HCY	Herceg Novi	1.70	318	P	Pn	07 39 24.3	+0.2
HCY				eSn	Sg	07 39 47.5	-1.7
HCY	Herceg Novi	1.70	318	iPG	Pn	07 39 24.4	+0.3
HCY				iSG	Sg	07 39 47.5	-1.7
STIP	Stip	1.70	72	ePg	Pg	07 39 23.8	-3.6
STIP				eSg	Sg	07 39 46.1	-3.4
STIP	Stip	1.70	72	iPg	Pg	07 39 24.0	-3.4
STIP				eSg	Sg	07 39 49.5	0.0
STIP				eLg		07 39 51.1	
	comp=E,4µm,1.3s						
STIP				eLg		07 39 51.3	
	comp=N,3µm,0.9s						
STIP	Stip	1.70	72	⇑iPn	Pn	07 39 24.4	+0.2
STIP				eSg	Sg	07 39 45.2	-4.3
NKY	Niksic	1.79	335	⇓iPn	Pn	07 39 26.0	+0.6
NKY				eSn	Sg	07 39 50.7	-1.6
NKY	Niksic	1.79	335	⇓iPn	Pn	07 39 26.0	+0.6
NKY				P		07 39 26.4	
NKY				eSn	Sg	07 39 50.7	-1.6
NKY	Niksic	1.79	335	iPG	Pn	07 39 26.0	+0.6
NKY				iSG	Sg	07 39 50.7	-1.6
GRG	Griva	1.81	97	ePb	Pb	07 39 25.5	-2.3
GRG				eSb	Sb	07 39 50.0	-0.4
VAY	Valandovo	1.93	85	ePb	Pb	07 39 26.1	-3.6
VAY				eSb	Sb	07 39 52.2	-1.5
VAY	Valandovo	1.93	85	iPg	Pg	07 39 27.1	-4.5
VAY				eSg	Sg	07 39 52.5	-4.0
VAY				eLg		07 39 53.0	
	comp=N,6µm,0.8s						
VAY				eLg		07 39 54.7	
	comp=E,4µm,0.8s						
VAY	Valandovo	1.93	85	iPg	Pg	07 39 27.0	-4.6
VAY				eSg	Sg	07 39 52.5	-4.1
PE1	Pezze di Greco	2.00	260	ePn	Pn	07 39 27.6	-0.7
BRY	Bratogost	2.03	328	⇓iPn	Pn	07 39 29.3	+0.6
BRY				eSn	Sn	07 39 55.6	+1.6
SJES	Sjenica	2.07	359	⇑iPn	Pn	07 39 31.2	+2.0
SJES				eSg	Sg	07 39 58.4	-2.8
BARS	Barje	2.10	39	ePn	Pn	07 39 30.0	+0.3
BARS				eSg	Sg	07 39 57.3	-5.0
BARS	Barje	2.10	39	P	Pn	07 39 29.2	-0.5
BARS				eSg	Sg	07 39 57.3	-5.0
LIT	Litokhoron	2.17	119	ePn	Pn	07 39 31.1	+0.5
LIT				eSn	Sn	07 39 58.8	+1.4
KNT	Kendrikon	2.17	90	ePn	Pn	07 39 30.2	-0.4
UPM	Unac-Piva	2.17	338	⇑iPn	Pn	07 39 31.4	+0.7
UPM				eSn	Sn	07 39 59.8	+2.3
UPM	Unac-Piva	2.17	338	⇑iPn	Pn	07 39 31.4	+0.7
UPM				P		07 39 32.1	
UPM				eSn	Sn	07 39 59.8	+2.3
PLE	Pljevlja	2.19	348	⇓iPn	Pn	07 39 31.7	+0.8
PLE				eSn	Sn	07 39 59.9	+2.0
PLE	Pljevlja	2.19	348	⇓iPn	Pn	07 39 31.7	+0.8
PLE				P		07 39 32.9	
PLE				eSn	Sn	07 39 59.9	+2.0
TA1	Taranto	2.22	250	ePn	Pn	07 39 29.6	-1.7
THL	Klokotos Trika	2.23	136	ePN	Pn	07 39 32.8	+1.5
NOCI	Noci	2.27	261	Pn	Pn	07 39 31.1	-0.9
	comp=E,5µm,0.4s						
THE	Thessaloniki	2.30	103	ePn	Pn	07 39 32.5	+0.1
THE				eSn	Sn	07 40 02.2	+1.7
BAI	Bari	2.38	269	ePn	Pn	07 39 32.7	-0.7
KKB	Krupnik	2.40	73	P	Pn	07 39 34.1	+0.4
HORT	Hortiatis	2.41	103	ePn	Pn	07 39 34.7	+0.9
HORT				eSn	Sn	07 40 05.3	+2.1
HORT	Hortiatis	2.41	103	ePn	Pn	07 39 34.7	+0.9
HORT				S	Sn	07 40 05.3	+2.1
STON	Ston	2.41	315	ePn	Pn	07 39 32.8	-1.2
STON				Sn	Sn	07 40 03.2	-0.2
STON	Ston	2.41	315	ePn	Pn	07 39 32.7	-1.2
LKD	Levkas	2.52	169	ePn	Pn	07 39 35.8	+0.3
SOH	Sokhos	2.55	97	ePn	Pn	07 39 36.0	+0.2
SOH				eSn	Sn	07 40 07.6	+0.9
SG1	Sgolgore (BA)	2.55	263	ePn	Pn	07 39 35.9	0.0
AMUR	Altamura	2.60	265	Pn	Pn	07 39 35.9	-0.6
	comp=E,2µm,0.5s						
EVR	Evrytania	2.65	148	ePB	Pb	07 39 39.7	-2.4
PLG	Polygyros	2.72	106	ePn	Pn	07 39 39.2	+1.0
PLG				eSn	Sn	07 40 12.9	+1.8
GRUS	Gruza	2.75	11	⇑iPn	Pn	07 39 39.7	+1.2
GRUS				eSg	Sg	07 40 18.2	-4.7
VTS	Vitosha	2.76	58	ePn	Pn	07 39 39.0	+0.3
VTS				eSn	Sn	07 40 12.6	+0.6
VTS	Vitosha	2.76	58	⇑iPn	Pn	07 39 39.4	+0.7
VTS				eSg	Sg	07 40 17.0	-6.4
VTS	Vitosha	2.76	58	⇓iP	Pn	07 39 39.8	+1.1
VTS	Vitosha	2.76	58	ePn	Pn	07 39 39.0	+0.3
VTS				eSg	Sg	07 40 17.0	-6.4
MIGL	Miglionico	2.78	259	Pn	Pn	07 39 38.8	-0.1
	comp=E,17µm,0.8s						
AGG	Ágios Georgios	2.80	140	ePn	Pn	07 39 40.8	+1.6
AGG				eSn	Sn	07 40 15.5	+2.6
MMB	Musomiste	2.82	81	P	Pn	07 39 40.1	+0.6
CDT	Castel del Mon	2.83	269	ePn	Pn	07 39 39.5	-0.2
CRAC	Craco	2.84	254	Pn	Pn	07 39 40.5	+0.6
	comp=E,3µm,0.3s						
NVR	Nevrokopi	2.90	86	ePN	Pn	07 39 40.5	-0.1
DIVS	Divibare	2.91	360	ePn	Pn	07 39 41.6	+0.8
DIVS	Divibare	2.91	360	⇑iPn	Pn	07 39 42.2	+1.5
DIVS				eSg	Sg	07 40 23.2	-4.9
DIVS	Divibare	2.91	360	eSg	Sg	07 40 23.2	-4.9
ORI	Oriolo Calabro	2.94	249	Pn	Pn	07 39 41.4	+0.2
ORI				P		07 39 41.6	
ORI	Oriolo Calabro	2.94	249	Pn	Pn	07 39 41.4	+0.2
	comp=E,6µm,0.5s						
XOR	Xorichti	3.03	126	ePn	Pn	07 39 42.9	+0.5
VLS	Valsamata	3.04	172	ePN	Pn	07 39 41.9	-0.7
PAIG	Paliouri	3.06	113	ePn	Pn	07 39 42.6	-0.2
PAIG				eSn	Sn	07 40 21.5	+2.2
PALZ	Palazzo San Ge	3.08	267	Pn	Pn	07 39 43.9	+0.8
	comp=E,7µm,0.8s						
NEO	Neokhori	3.09	126	ePN	Pn	07 39 43.9	+0.7
FGMS	Monte Sant'Ang	3.10	281	P	Pn	07 39 42.7	-0.7
FGMS	Monte Sant'Ang	3.10	281	Pn	Pn	07 39 42.8	-0.6
	comp=E,824nm,0.5s						
MS1	Monte Sant'Ang	3.11	281	ePn	Pn	07 39 42.9	-0.6
OUR	Ouranopolis	3.13	105	ePn	Pn	07 39 43.8	0.0
MSAG	Monte S. Angel	3.13	281	P	Pn	07 39 43.2	-0.7
MSAG	Monte S. Angel	3.13	281	Pn	Pn	07 39 43.1	-0.8
	comp=E,3µm,0.8s						
SCHR	S. Chirico Rap	3.16	253	Pn	Pn	07 39 43.8	-0.4
	comp=E,2µm,0.8s						
SVIS	Svilajnac	3.20	16	⇑iPn	Pn	07 39 45.4	+0.7
TDS	Terranova Siba	3.20	243	Pn	Pn	07 39 43.9	-0.9
TDS				P		07 39 44.2	
TIP	Timpagrande	3.21	232	ePn	Pn	07 39 43.8	-1.0
TIP	Timpagrande	3.21	232	Pn	Pn	07 39 43.8	-1.0
	comp=E,1µm,1.0s						
SELA	Sela	3.25	153	ePn	Pn	07 39 48.0	+2.6
SGRT	San Giovanni R	3.26	281	P	Pn	07 39 44.8	-0.8
SGRT	San Giovanni R	3.26	281	Pn	Pn	07 39 44.7	-0.9
	comp=E,1µm,0.7s						
SIRI	Monte Sirino -	3.31	254	Pn	Pn	07 39 46.4	+0.1
	comp=E,2µm,0.6s						
MCEL	Monticello	3.32	256	Pn	Pn	07 39 46.8	+0.4
	comp=E,3µm,0.8s						
RLS	Riolos of Patr	3.32	160	ePN	Pn	07 39 47.7	+1.3
VULT	Monte Vulture	3.34	267	Pn	Pn	07 39 47.3	+0.6
	comp=E,5µm,1.0s						
SERS	Sersale	3.34	231	Pn	Pn	07 39 45.5	-1.2
	comp=E,1µm,0.9s						
MTSN	Montesano sull	3.37	256	Pn	Pn	07 39 47.1	0.0
	comp=E,2µm,0.6s						
PGB	Panagyurishte	3.38	65	P	Pn	07 39 48.3	+1.1
FG4	Candela	3.40	271	Pn	Pn	07 39 48.7	+1.2
FG4				P		07 39 49.0	
LKR	Lokris	3.42	137	ePN	Pn	07 39 48.6	+0.9
MRLC	Muro Lucano	3.46	264	P	Pn	07 39 46.7	-1.6
MRLC				Pn	Pn	07 39 49.4	+1.1
MRLC	Muro

comp=E,3µm,1.9s
LOS Limnos 4.05 106 *e*Pn **Pn 07 39 57.0 +0.6**
KDZ Kurdzhali 4.08 82 P **Pn 07 39 57.9 +1.0**
FRES Fresagrandinar 4.09 283 Pn **Pn 07 39 58.1 +1.1**
comp=E,2µm,0.6s
JOPP Joppolo 4.09 232 Pn **Pn 07 39 56.3 -0.8**
comp=E,671nm,0.6s
BSSO Busso 4.10 277 Pn **Pn 07 39 58.6 +1.5**
comp=E,1µm,0.9s
PTRJ Pietraroja 4.14 274 Pn **Pn 07 39 58.8 +1.1**
comp=E,1µm,0.7s
RDO Rodhopi 4.16 89 *e*PN **Pn 07 39 57.7 -0.3**
DIM Dimitrovgrad 4.22 76 P **Pn 07 40 01.0 +2.2**
VLX Vlachokerasia 4.23 154 *e*Pn **Pn 07 40 01.0 +2.1**
SGG Gregorio Mates 4.26 275 P **Pn 07 39 59.7 +0.4**
SGG Pn **Pn 07 40 00.2 +0.9**
SGG Gregorio Mates 4.26 275 Pn **Pn 07 40 00.2 +0.9**
comp=E,980nm,0.6s
ITM Ithomi 4.27 159 *e*PN **Pn 07 40 00.4 +1.0**
ATH Athens Observa 4.30 137 *e*PN **Pn 07 40 01.4 +1.6**
PTL Penteli 4.32 135 *e*PN **Pn 07 40 01.5 +1.4**
NAIG Nisos Aigina 4.35 141 *e*PN **Pn 07 40 01.5 +0.9**
MIDA Miranda 4.36 278 P **Pn 07 40 01.0 +0.3**
MIDA Miranda 4.36 278 Pn **Pn 07 40 01.1 +0.4**
comp=E,694nm,0.7s
SOI Samo 4.37 226 Pn **Pn 07 39 59.6 -1.2**
VAGA Valle Agricola 4.37 275 Pn **Pn 07 40 01.4 +0.6**
comp=E,901nm,0.6s
CAFR Castel Frentan 4.37 286 Pn **Pn 07 40 03.2 +2.3**
MOCO Biccari - m.te 4.42 274 Pn **Pn 07 39 51.9 -10**
comp=E,7µm,2.0s
SCLL Scilla 4.43 230 P **Pn 07 40 00.5 -1.1**
SCLL Scilla 4.43 230 Pn **Pn 07 40 00.6 -1.0**
comp=E,41nm,0.3s
KVR Kavouri 4.43 138 *e*PN **Pn 07 40 03.5 +1.8**
RNI2 Rionero Sannit 4.44 279 P **Pn 07 40 02.5 +0.7**
RNI2 Rionero Sannit 4.44 279 Pn **Pn 07 40 02.4 +0.6**
comp=E,761nm,0.7s
DID Didima 4.44 145 *e*Pn **Pn 07 40 02.9 +1.0**
MPAZ Palizzi 4.48 225 Pn **Pn 07 40 00.9 -1.4**
comp=E,648nm,0.5s
CERA Filignano 4.54 277 Pn **Pn 07 40 04.1 +1.0**
comp=E,982nm,0.5s
MSRU Castanea 4.54 231 Pn **Pn 07 40 01.8 -1.4**
comp=E,902nm,0.4s
RFI Roccamonfina 4.55 273 Pn **Pn 07 40 04.1 +0.8**
comp=E,27nm,0.4s
ALN Alexandroupoli 4.56 92 *e*Pn **Pn 07 40 03.7 +0.2**
BZS Buzias 4.58 14 P **Pn 07 40 04.3 +0.7**
BZS Buzias 4.58 14 ⇓*i*P **Pn 07 40 04.3 +0.7**
GADA Gvkgeada 4.58 101 *e*P **Pn 07 40 06.0 +2.3**
MTTG Motta San Giov 4.62 228 Pn **Pn 07 40 03.1 -1.1**
comp=E,552nm,0.5s
GZR Gura Zlata 4.66 25 P **Pn 07 40 05.9 +1.1**
GZR Gura Zlata 4.66 25 ⇓*i*P **Pn 07 40 05.9 +1.1**
INTR Introdacqua 4.66 282 Pn **Pn 07 40 04.5 -0.3**
INTR P 07 40 04.9
INTR Introdacqua 4.66 282 Pn **Pn 07 40 04.5 -0.3**
comp=E,1µm,0.7s
ENEZ Enez 4.66 94 *e*P **Pn 07 40 02.9 -2.0**
SDI San Donato 4.70 278 P **Pn 07 40 05.7 +0.4**
SDI Pn **Pn 07 40 06.6 +1.3**
SDI San Donato 4.70 278 Pn **Pn 07 40 06.6 +1.3**
comp=E,307nm,0.6s
SDI San Donato 4.70 278 Pn **Pn 07 40 06.6 +1.3**
comp=E,307nm,0.6s
POFI Posta Fibreno 4.77 278 Pn **Pn 07 40 07.2 +0.9**
comp=E,519nm,1.0s
LLI Lipari 4.77 237 Pn **Pn 07 40 05.4 -1.0**
comp=E,3µm,0.5s
VCEL Villa Celiera 4.78 287 Pn **Pn 07 40 06.6 +0.2**
comp=E,604nm,0.5s
SLNA Salina 4.78 238 Pn **Pn 07 40 04.6 -1.8**
SLNA P 07 40 05.1
SLNA Salina 4.78 238 Pn **Pn 07 40 04.6 -1.8**
comp=E,339nm,0.3s
VPL Vulcano Piano 4.79 236 Pn **Pn 07 40 05.4 -1.2**
comp=E,1µm,0.5s
BOZC Bozoaada 4.79 104 *i* P **Pn 07 40 07.8 +1.1**
VVLD Villa Vallelon 4.85 280 P **Pn 07 40 07.8 +0.3**
VVLD Villa Vallelon 4.85 280 Pn **Pn 07 40 07.9 +0.4**
comp=E,854nm,0.6s
MMME Mongiuffi-Meli 4.91 230 Pn **Pn 07 40 07.3 -1.0**
comp=E,822nm,0.9s
FAGN Fagnano 4.94 285 Pn **Pn 07 40 08.7 +0.1**
comp=E,1µm,0.5s
EZN Ezine 4.99 104 *e*P **Pn 07 40 11.2 +1.8**
TERO Teramo 5.00 289 Pn **Pn 07 40 09.2 -0.3**
comp=E,350nm,0.5s
VLI Veliai 5.01 152 *e*PN **Pn 07 40 10.2 +0.6**
VENT Ventotene 5.01 268 P **Pn 07 40 09.6 0.0**
OFFI Offida 5.03 292 Pn **Pn 07 40 11.2 +1.3**
comp=E,1µm,0.8s
OFFI Offida 5.03 292 P **Pn 07 40 11.4 +1.5**
SISC Sisak 5.04 329 *e*Pn **Pn 07 40 08.4 -1.7**
SISC Sisak 5.04 329 *e*Pn **Pn 07 40 08.3 -1.7**
JMB Yambol 5.07 73 *e*Pn **Pn 07 40 10.5 +0.1**
NVLJ Novalja 5.07 313 *e*Pn **Pn 07 40 09.7 -0.8**
NVLJ Sn **Sn 07 41 06.7 -2.2**
NVLJ Novalja 5.07 313 *e*Pn **Pn 07 40 09.6 -0.8**
GUAR Guarcino 5.08 279 Pn **Pn 07 40 11.2 +0.7**
GUAR P 07 40 11.3
GUAR Guarcino 5.08 279 Pn **Pn 07 40 11.2 +0.7**
comp=E,1µm,0.5s
AQU L'Aquila 5.08 285 *e*Pn **Pn 07 40 10.9 +0.2**
AQU Pn **Pn 07 40 11.9 +1.2**
AQU L'Aquila 5.08 285 Pn **Pn 07 40 11.9 +1.2**
comp=E,420nm,0.8s
AQU L'Aquila 5.08 285 ⇓*i*P **Pn 07 40 11.0 +0.3**
GIUL Giuliano Di Ro 5.11 276 Pn **Pn 07 40 11.2 +0.3**
comp=E,266nm,0.9s
CAMP Campotosto 5.12 287 Pn **Pn 07 40 10.9 -0.2**
comp=E,77nm,1.0s
PKSM Moragy 5.12 349 ⇓*i*P **Pn 07 40 11.3 +0.2**
PRK Paraskevi 5.16 110 *e*PN **Pn 07 40 13.3 +1.6**
FIAM Fiamignano 5.28 284 P **Pn 07 40 14.2 +0.9**
FIAM Fiamignano 5.28 284 Pn **Pn 07 40 14.1 +0.8**
comp=E,408nm,0.8s
AOI Ancona 5.31 299 Pn **Pn 07 40 13.0 -0.7**
comp=E,278nm,0.7s
CERT Cerreto 5.33 280 Pn **Pn 07 40 14.7 +0.6**
comp=E,261nm,0.6s
CERT P 07 40 15.2
LNSS Leonessa 5.40 287 Pn **Pn 07 40 15.4 +0.4**
comp=E,659nm,0.5s
NRCA Norcia 5.40 290 Pn **Pn 07 40 14.9 -0.1**
AGST Augusta-Monte 5.41 225 Pn **Pn 07 40 12.3 -2.8**
comp=E,240nm,0.3s
AGST P 07 40 13.8
CHOS Chios island 5.42 119 *e*Pn **Pn 07 40 17.6 +2.3**
AYVA Ayvalik 5.44 108 ⇑*i*P **Pn 07 40 17.3 +1.8**
KYTH Kíthira 5.44 153 *e*PN **Pn 07 40 17.5 +2.0**
SART Tekirdag 5.44 93 ⇓*i*P **Pn 07 40 17.6 +2.0**
CING Cingoli 5.51 296 Pn **Pn 07 40 15.8 -0.8**
comp=E,112nm,0.6s
RDP Rocca di Papa 5.52 278 P **Pn 07 40 17.5 +0.9**
MTCE Montecelio 5.52 281 Pn **Pn 07 40 17.5 +0.9**
comp=E,199nm,0.7s
MTCE P 07 40 17.7
MTCE Montecelio 5.52 281 P **Pn 07 40 17.7 +1.1**
BOJS Bojanci 5.54 323 *i* Pn **Pn 07 40 17.3 +0.4**
BOJS *i* Sn **Sn 07 41 22.4 +1.9**
SSY Sortino 5.57 225 P **Pn 07 40 18.8 +1.5**
VOIR 5.61 39 P **Pn 07 40 19.2 +1.4**
VOIR 5.61 39 ⇓*i*P **Pn 07 40 19.4 +1.5**
VOIR 5.61 39 P **Pn 07 40 19.2 +1.3**
MNS Montasola 5.62 285 Pn **Pn 07 40 18.7 +0.7**
comp=E,156nm,0.4s
GIB Gibilmanna 5.63 237 Pn **Pn 07 40 17.1 -1.0**
comp=E,212nm,0.9s
CSLB Castelbuono 5.64 237 Pn **Pn 07 40 16.9 -1.3**
comp=E,74nm,0.6s
CSLB P 07 40 17.3
SNTG Esanatoglia 5.65 294 Pn **Pn 07 40 17.6 -0.8**
comp=E,140nm,0.5s
HAVL Avola 5.69 224 Pn **Pn 07 40 15.5 -3.4**
comp=E,202nm,0.3s
HAVL P 07 40 17.3
CRES Cresnjev 5.70 326 P **Pn 07 40 19.3 +0.2**
VAE Valguarnera 5.71 231 Pn **Pn 07 40 19.3 0.0**
comp=E,3.0nm,0.3s,baz=149,slow=5.9,SNR=2.2
VAE Sn **Sn 07 41 21.9 -2.8**
comp=E,12nm,0.3s,baz=22,slow=6.4,SNR=5.1
ARVD Arcevia 5.73 296 Pn **Pn 07 40 18.7 -0.8**
comp=E,660nm,2.3s
ASS Assisi 5.79 291 Pn **Pn 07 40 20.6 +0.2**
comp=E,12nm,0.5s
URLA Izmir 5.80 117 ⇓*i*P **Pn 07 40 23.7 +3.2**
USI Ustica 5.81 247 Pn **Pn 07 40 19.9 -0.8**
comp=E,49nm,0.4s
USI P 07 40 20.7
USI Ustica 5.81 247 P **Pn 07 40 20.7 0.0**
FSSB Fossombrone 5.92 297 Pn **Pn 07 40 21.3 -0.7**
comp=E,561nm,0.5s
FSSB Fossombrone 5.92 297 P **Pn 07 40 21.2 -0.8**
KOGS Kog 5.92 334 P **Pn 07 40 22.6 +0.5**
DRGR 5.93 18 P **Pn 07 40 22.7 +0.5**
DRGR 5.93 18 ⇓*i*P **Pn 07 40 22.9 +0.7**
DRGR 5.93 18 P **Pn 07 40 22.7 +0.5**
APE Apeiranthos 5.94 132 *e*PN **Pn 07 40 24.5 +2.1**
APE Apeiranthos 5.94 132 ⇓*i*P **Pn 07 40 24.5 +2.1**
MURB Monte Urbino 5.94 293 Pn **Pn 07 40 22.5 +0.1**
comp=E,467nm,0.3s
MURB Monte Urbino 5.94 293 P **Pn 07 40 22.6 +0.2**
PESA Pesaro 5.97 300 Pn **Pn 07 40 22.6 -0.2**
comp=E,195nm,0.4s
PESA Pesaro 5.97 300 P **Pn 07 40 22.7 -0.1**
KNDS Knezji Dol 5.97 318 *i* Pn **Pn 07 40 19.5 -3.4**
KNDS *i* 07 40 23.2
KNDS *i* Sn **Sn 07 41 33.0 +1.9**
PIEI Pieia 6.02 295 Pn **Pn 07 40 22.6 -0.9**
comp=E,174nm,0.5s
PIEI Pieia 6.02 295 P **Pn 07 40 22.7 -0.8**
BNT Bandirma 6.05 95 *e*P **Pn 07 40 25.1 +1.2**
TOLF Tolfa 6.08 281 Pn **Pn 07 40 24.9 +0.7**
comp=E,207nm,1.1s
TOLF P 07 40 25.4
TOLF Tolfa 6.08 281 P **Pn 07 40 25.4 +1.2**
BLCB Balcova 6.09 115 *e*P **Pn 07 40 15.8 -8.6**
MLR Muntele Rosu 6.09 43 P **Pn 07 40 25.6 +1.1**
MLR 07 41 35.0
MLR pmax pmax
comp=Z,3.0nm,0.3s
MLR smax
comp=N,3.0nm,0.3s
MLR Muntele Rosu 6.09 43 Pn **Pn 07 40 25.6 +1.1**
comp=N,3.4nm,0.3s,baz=167,slow=7.1,SNR=22
MLR Sn **Sn 07 41 35.0 +0.9**
comp=N,3.4nm,0.3s,baz=156,slow=20,SNR=3.3
CEY Cerknica 6.10 320 P **Pn 07 40 24.9 +0.3**
CORL Corleone 6.15 240 Pn **Pn 07 40 24.7 -0.5**
comp=N,239nm,0.6s
CDCA Citt' di Caste 6.20 294 Pn **Pn 07 40 27.0 +1.0**
comp=N,90nm,0.7s
BADI Badiali 6.21 294 Pn **Pn 07 40 27.0 +0.9**
comp=N,62µm,15.0s
BADI Badiali 6.21 294 P **Pn 07 40 26.9 +0.8**
RSM Repubblica di 6.23 299 P **Pn 07 40 26.2 -0.1**
RSM Pn **Pn 07 40 26.8 +0.5**
RSM Repubblica di 6.23 299 Pn **Pn 07 40 26.8 +0.5**
comp=N,408nm,1.0s
KDAG Bornova 6.23 114 ⇓*i*P **Pn 07 40 28.8 +2.4**
SACS San Casciano d 6.26 288 Pn **Pn 07 40 26.5 -0.4**
comp=N,181nm,0.8s
BTOK Tokmak 6.27 101 *i* P **Pn 07 40 28.9 +1.9**
LJU Ljubljana 6.28 322 *e*Pn **Pn 07 40 26.8 -0.3**
LJU *i* Sn **Sn 07 41 38.2 -0.5**
SMG Samos 6.32 121 P **Pn 07 40 32.6 +5.0**
BUD Budapest 6.33 354 P **Pn 07 40 31.3 +3.5**
BUD Budapest 6.33 354 ⇑*e*Pn **Pn 07 40 29.6 +1.8**
BUD *e*Sn **Sn 07 41 47.7 +7.7**
ELBA Catalca 6.35 88 *i* P **Pn 07 40 32.2 +4.2**
JAVS Javornik 6.39 319 *i* Pn **Pn 07 40 28.1 -0.5**
JAVS *e*Sn **Sn 07 41 40.8 -0.6**
AKHS Akhisar 6.41 109 ⇑*i*P **Pn 07 40 31.0 +2.2**
AKS Akhisar 6.41 109 *e*P **Pn 07 40 30.0 +1.2**
CRE Caprese Michel 6.45 295 Pn **Pn 07 40 29.4 0.0**
comp=N,57nm,0.8s
VOY Vojsko 6.57 319 *e*Pn **Pn 07 40 30.2 -0.9**
VOY *e*Sn **Sn 07 41 44.2 -1.7**
ARCI Arcidosso 6.58 287 Pn **Pn 07 40 33.1 +1.9**
comp=N,91nm,1.2s
SFI Santa Sofia 6.62 297 Pn **Pn 07 40 31.9 +0.2**
comp=N,64nm,0.4s
OBKA Obir 6.63 325 ⇑*i*Pn **Pn 07 40 32.1 +0.3**
comp=N,16nm,0.2s,SNR=35
OBKA ⇑*i*Sn **Sn 07 41 48.2 +1.0**
comp=N,127nm,0.5s
VAM Vamos 6.64 149 *e*PN **Pn 07 40 30.0 -2.0**
PLOR Plostina 6.70 44 ⇓*i*P **Pn 07 40 34.2 +1.4**
PSZ Piszkesteto 6.73 359 *e*Pn **Pn 07 40 34.1 +0.9**
PSZ Piszkesteto 6.73 359 ⇓*i*P **Pn 07 40 34.6 +1.4**
PSZ Piszkesteto 6.73 359 ⇓*e*Pn **Pn 07 40 36.2 +3.0**
PSZ *e*Sn **Sn 07 41 54.8 +5.1**
VRI Vrincioaia 6.75 44 P **Pn 07 40 35.5 +2.0**
VRI Vrincioaia 6.75 44 ⇓*i*P **Pn 07 40 35.3 +1.8**
VRI Vrincioaia 6.75 44 P **Pn 07 40 35.5 +2.0**
DST Dursunbey 6.76 101 *e*P **Pn 07 40 34.5 +0.9**
MAON Monte Argentar 6.76 283 P **Pn 07 40 34.5 +0.9**
HARR Harsova 6.78 56 ⇓*i*P **Pn 07 40 35.1 +1.2**
HARR Harsova 6.78 56 P **Pn 07 40 35.4 +1.5**
DRE Drenchia 6.80 319 ⇓*i*P **Pn 07 40 33.0 -1.1**
KLYT Kilyos 6.80 86 *e*P **Pn 07 40 40.3 +6.1**
WDD Wield Dalam 6.84 221 P **Pn 07 40 37.2 +2.4**
VMG Vicchio 6.84 297 Pn **Pn 07 40 35.3 +0.5**
comp=N,111nm,0.7s
VMG P 07 40 35.5
VMG Vicchio 6.84 297 P **Pn 07 40 35.5 +0.7**
CSNT Castellina Chi 6.86 292 Pn **Pn 07 40 35.9 +0.9**
comp=N,130nm,0.9s
ARSA Arzberg 6.87 333 *i* Pn **Pn 07 40 35.5 +0.5**
comp=N,36nm,0.4s,SNR=24
ARSA ⇓*i*Sn **Sn 07 41 56.0 +2.9**
comp=N,19nm,0.5s
ARSA Arzberg 6.87 333 *i* Pn **Pn 07 40 35.5 +0.4**
comp=N,36nm,0.4s
ARSA *i* Sn **Sn 07 41 56.0 +2.9**
COLI Coloredo 6.90 318 ⇑*i*P **Pn 07 40 35.0 -0.6**
TLI Talmassons 6.90 316 ⇑*e*P **Pn 07 40 35.0 -0.6**
SOP Sopron 6.95 340 ⇓*e*Pn **Pn 07 40 36.9 +0.7**
SOP Sopron 6.95 340 P **Pn 07 40 37.6 +1.4**
TIRR Tirgusor 6.98 59 ⇑P **Pn 07 40 38.1 +1.4**
TIRR Tirgusor 6.98 59 ⇑*i*P **Pn 07 40 38.1 +1.4**
SEI Scarperia 7.00 297 Pn **Pn 07 40 38.5 +1.5**
comp=N,181nm,0.3s
SEI P 07 40 38.7
SEI Scarperia 7.00 297 P **Pn 07 40 38.7 +1.7**
BODT Bodrum 7.00 124 *e*P **Pn 07 40 34.5 -2.5**
BAD Bernadia 7.04 318 ⇑*e*P **Pn 07 40 37.0 -0.5**
LSR Lussari 7.07 321 ⇑*e*P **Pn 07 40 38.0 +0.1**
GMNA Gemona 7.07 318 Pn **Pn 07 40 37.6 -0.3**
comp=N,400nm,0.9s
BDRM Kayabasi 7.09 123 ⇑*i*P **Pn 07 40 35.3 -2.9**
PTCC Patocco-Chiusa 7.10 319 Pn **Pn 07 40 37.8 -0.5**
comp=N,32nm,0.3s
GVD Gavdhos 7.10 152 *e*Pn **Pn 07 40 38.7 +0.3**
comp=N,69nm,0.4s
GVD Gavdhos 7.10 152 *e*Pn **Pn 07 40 38.7 +0.3**
comp=N,69nm,0.4s
YLV Yalova 7.11 92 *e*P **Pn 07 40 35.4 -3.1**
MYKA Terra Mystica 7.13 322 ⇓*i*Pn **Pn 07 40 38.4 -0.3**
comp=N,17nm,0.4s
MYKA ⇑*i*Sn **Sn 07 42 00.3 +0.8**
comp=N,27nm,0.5s
KULA Kula-Manisa 7.16 109 *e*P **Pn 07 40 42.4 +3.2**
MLSB Milas 7.16 120 *e*P **Pn 07 40 41.5 +2.3**
MPRI Monte Prat 7.17 317 ⇓*e*P **Pn 07 40 38.0 -1.3**
FNVD Fontana Vidola 7.20 297 P **Pn 07 40 42.4 +2.7**
IZI Iznik 7.23 94 *e*P **Pn 07 40 35.0 -5.0**
KECS Kecovo 7.30 2 *e*Pn **Pn 07 40 43.2 +2.1**
KECS *e* 07 40 55.5
KECS *e*Sn **Sn 07 42 04.4 +0.6**
KECS Kecovo 7.30 2 *e*PN **Pn 07 40 43.2 +2.1**
KECS *e* 07 40 55.5
KECS Kecovo 7.30 2 *e*SN **Sn 07 42 04.4 +0.6**
PLRO Paularo 7.30 319 ⇑*i*P **Pn 07 40 41.0 -0.1**
HRT Hereke 7.31 90 *e*P **Pn 07 40 38.0 -3.2**
ZST Bratislava 7.31 344 *e*PN **Pn 07 40 43.2 +2.1**
CAE Caneva 7.31 314 ⇓*i*P **Pn 07 40 40.0 -1.2**
VYHS Vyhne 7.35 354 *e*PN **Pn 07 40 42.8 +1.0**
VYHS *e*SN **Sn 07 42 05.3 +0.2**
VYHS Vyhne 7.35 354 *e*S **Sn 07 42 05.3 +0.2**
CONA Conrad Observa 7.36 338 ⇑*i*Pn **Pn 07 40 43.6 +1.7**
comp=N,14nm,0.7s,SNR=12
CONA ⇓*i*Sn **Sn 07 42 07.4 +2.0**
comp=N,42nm,0.8s
PZZT Monte Pizzetto 7.36 297 Pn **Pn 07 40 41.6 -0.3**
comp=N,80nm,0.5s
DAT Datca 7.38 125 *e*P **Pn 07 40 46.2 +4.0**
ADVT Abdulvahap 7.41 93 *e*P **Pn 07 40 45.3 +2.7**
MODS Modra-Piesok 7.44 346 *e*PN **Pn 07 40 45.5 +2.5**
MODS *e*SN **Sn 07 42 14.8 +7.5**
KOLL Kolacno 7.48 352 *e*Pn **Pn 07 40 45.3 +1.8**
KOLL *e* 07 41 00.3
KOLL *e*Sn **Sn 07 42 12.5 +4.4**
KOLL Kolacno 7.48 352 *e*PN **Pn 07 40 45.3 +1.8**
KOLL *e* 07 41 00.3
KOLL Kolacno 7.48 352 *e*SN **Sn 07 42 12.5 +4.4**
FVI Forni Avoltri 7.52 318 Pn **Pn 07 40 44.7 +0.6**
comp=N,73nm,0.6s
BDI Bagni Di Lucca 7.52 296 P **Pn 07 40 45.1 +1.0**
GDZ Gediz 7.54 103 ⇑*i*P **Pn 07 40 47.1 +2.7**
MAIM 7.54 294 Pn **Pn 07 40 44.8 +0.4**
comp=N,46nm,0.7s
CGRP Cima Grappa 7.59 311 ⇓*i*P **Pn 07 40 43.0 -2.1**
KBA Koelnbreinsper 7.60 323 ⇓*i*Pn **Pn 07 40 45.1 0.0**
comp=N,7.4nm,0.3s,SNR=20
KBA ⇑*e*Sn **Sn 07 42 11.5 +0.4**
comp=N,37nm,0.7s
KBA Koelnbreinsper 7.60 323 ⇓*i*P **Pn 07 40 45.1 0.0**
KBA *e* 07 42 11.5
KBA pmax pmax
comp=Z,7.0nm,0.3s
UZH Uzhgorod 7.61 11 *e*P **Pn 07 40 46.0 +0.7**
FAU Forcella Aurin 7.70 314 ⇑*i*P **Pn 07 40 46.0 -0.5**
XRY Khrisi 7.73 143 *e*PN **Pn 07 40 45.7 -1.3**
ABTA Abfaltersbach 7.76 318 *i* Pn **Pn 07 40 48.0 +0.7**
comp=Z,27nm,0.3s,SNR=26
ERBM Eremo 7.77 298 P **Pn 07 40 48.8 +1.3**
CTI Castel Tesino 7.78 311 Pn **Pn 07 40 46.2 -1.4**
comp=Z,138nm,0.5s
CRVS Cervenica-Dubn 7.78 7 *e*PN **Pn 07 40 49.9 +2.3**
MOA Molln 7.83 330 *i* Pn **Pn 07 40 49.2 +1.0**
comp=Z,14nm,0.3s,SNR=17
MOA ⇑*i*Sn **Sn 07 42 19.1 +2.4**
comp=Z,24nm,0.5s
JAVC Velka Javorina 7.85 349 P **Pn 07 40 51.3 +2.7**
GPA Golpazari 7.86 93 *e*P **Pn 07 40 46.2 -2.6**
KOLS Kolonicke sedl 7.91 11 *e*PN **Pn 07 40 51.4 +2.1**
SEST Monte Rota 7.91 317 Pn **Pn 07 40 49.5 +0.1**
comp=Z,114nm,1.1s
SEST Monte Rota 7.91 317 P **Pn 07 40 49.6 +0.2**
GULT Gulveren 8.00 92 *e*P **Pn 07 40 50.2 -0.4**
ALT Altintas 8.02 102 *e*P **Pn 07 40 54.5 +3.5**
ARG Arkhangelos 8.05 125 P **Pn 07 40 54.4 +3.1**
BORA Eskisehir 8.05 96 ⇓*i*P **Pn 07 40 54.2 +2.8**
SALO Salr 8.21 306 Pn **Pn 07 40 52.3 -1.2**
comp=Z,210nm,0.8s
MAGA Magasa 8.22 307 Pn **Pn 07 40 52.1 -1.6**
comp=Z,276nm,0.5s
MAGA Magasa 8.22 307 P **Pn 07 40 52.2 -1.5**
NIE Niedzica 8.23 1 *e*P **Pn 07 40 57.0 +3.2**
APPI Appiano 8.27 313 P **Pn 07 40 53.6 -0.7**
APPI Pn **Pn 07 40 54.2 -0.1**
APPI Appiano 8.27 313 Pn **Pn 07 40 54.2 -0.1**
STHS Stebnicka Huta 8.27 6 *e*PN **Pn 07 40 57.6 +3.2**
STHS *e*SN **Sn 07 42 32.6 +4.9**
KRUC Moravsky 8.28 343 P **Pn 07 40 55.2 +0.7**
VSL Villasalto 8.30 262 *e*Pn **Pn 07 40 54.6 -0.2**
VSL Villasalto 8.30 262 *e*Pn **Pn 07 40 54.6 -0.2**
GOLH Golhisar 8.39 115 ⇓*i*P **Pn 07 41 02.8 +6.8**
ESKT Eskisehir 8.44 98 *e*P **Pn 07 40 57.8 +1.1**
ESKT Eskisehir 8.44 98 ⇑*i*P **Pn 07 40 58.2 +1.5**
MABI Malga Bissina 8.44 308 Pn **Pn 07 40 55.3 -1.3**
comp=Z,49nm,0.7s
MABI P 07 40 55.5
MABI Malga Bissina 8.44 308 P **Pn 07 40 55.5 -1.1**
VRAC Vranov 8.47 345 P **Pn 07 40 58.8 +1.7**
VRAC Vranov 8.47 345 Pn **Pn 07 40 57.5 +0.4**
comp=Z,0.9nm,0.3s,baz=178,slow=15,SNR=8.9
VRAC LR LR 07 44 28.3
comp=Z,3µm,20.9s,baz=169,slow=39
VRAC Vranov 8.47 345 ⇑*i*P **Pn 07 40 58.8 +1.7**
SHUT Suhut-Afyon 8.51 105 *e*P **Pn 07 40 59.1 +1.3**
BOB Bobbio (Coli) 8.54 298 Pn **Pn 07 40 58.3 +0.3**
comp=Z,95nm,0.7s
BOB P 07 40 58.7
BOB Bobbio (Coli) 8.54 298 P **Pn 07 40 58.3 +0.3**
BOB pmax pmax
comp=Z,95nm,0.7s
BOB Bobbio (Coli) 8.54 298 P **Pn 07 40 58.7 +0.7**
WTTA Wattenberg 8.55 318 ⇑*i*Pn **Pn 07 40 58.6 +0.4**
comp=Z,9.5nm,0.2s,SNR=23
WTTA ⇓*i*Sn **Sn 07 42 34.2 -0.3**
comp=Z,28nm,0.4s
WTTA Wattenberg 8.55 318 ⇑*i*P **Pn 07 40 58.6 +0.4**
WTTA *i* 07 42 34.2
WTTA pmax pmax
comp=Z,10.0nm,0.2s
KIS Kishinev 8.59 45 *e*P **Pn 07 41 00.0 +1.3**
KIS *e*S **Sn 07 42 40.0 +4.6**
KIS MLR MLR
comp=Z,6µm,11.0s
KIS MLR MLR
comp=N,3µm,12.0s
KIS MLR MLR
comp=E,4µm,10.0s
KIS MLR MLR
comp=Z,6µm,12.0s
KIS Kishinev 8.59 45 *e*P **Pn 07 41 00.0 +1.3**
KIS *e*S **Sn 07 42 40.0 +4.6**
KIS *e*Li 07 43 04.0
KIS *e*Lg 07 43 21.0
KIS *e*Lg2 07 43 33.0
KIS *e*Rg 07 43 58.0
KIS LRM 07 45 15.0
comp=Z,3µm,12.0s
WATA Walderalm 8.63 318 ⇑*i*Pn **Pn 07 40 59.4 +0.2**
comp=Z,131nm,0.6s,SNR=23
WATA Walderalm 8.63 318 ⇑*i*P **Pn 07 40 59.4 +0.2**
WATA pmax pmax
comp=Z,131nm,0.6s
KWP Kalwaria 8.65 12 *e*P **Pn 07 41 03.2 +3.7**
KWP *e*PP 07 41 09.1
KWP Kalwaria 8.65 12 *e*Pn **Pn 07 40 59.9 +0.3**
KWP *e*P 07 41 03.2
KWP *e*PP 07 41 09.1
KWP Kalwaria 8.65 12 ⇑*i*P **Pn 07 41 03.4 +3.8**
KMPD K-Podol'skiy 8.67 30 P **Pn 07 41 02.0 +2.2**
TREC Trest 8.71 340 AMS AMS 07 44 40.0
comp=Z,7µm,12.1s
SQTA Sankt Quirin 8.74 317 *i* Pn **Pn 07 41 02.2 +1.4**
comp=Z,42nm,0.5s,SNR=20
SQTA Sankt Quirin 8.74 317 *i* P **Pn 07 41 02.2 +1.4**
SQTA pmax pmax
comp=Z,43nm,0.5s
BRMO Bormio 8.75 310 Pn **Pn 07 41 01.2 +0.3**
comp=Z,32nm,0.6s
BRMO Bormio 8.75 310 P **Pn 07 41 01.3 +0.4**
OKC Ostrava-Krasne 8.75 352 *e*P **Pn 07 40 59.9 -1.0**
OKC P 07 41 04.4
OKC *e*S **Sn 07 42 50.3 +11**
OKC Ostrava-Krasne 8.75 352 *e*P **Pn 07 40 59.9 -1.0**
OKC *e*S **Sn 07 42 50.3 +11**
OKC AMS AMS 07 45 40.0
comp=Z,4µm,10.2s
MORC Moravsky Berou 8.76 349 *e*Pn **Pn 07 41 00.9 -0.2**
MORC *e*Sn **Sn 07 42 39.5 -0.2**
MORC Moravsky Berou 8.76 349 ⇑*i*P **Pn 07 41 05.4 +4.3**
MORC Moravsky Berou 8.76 349 *e*S **Sn 07 42 39.6 -0.1**
ISP Isparta 8.77 109 *e*P **Pn 07 40 58.2 -3.0**
ISP Isparta 8.77 109 *e*P **Pn 07 41 00.4 -0.8**
MDI Monti di Nese 8.79 305 Pn **Pn 07 41 00.0 -1.4**
comp=Z,64nm,0.6s
GEC2 GERESS Array S 8.86 332 *e*P **Pn 07 41 02.1 -0.4**
GERES GERESS Array B 8.86 332 P **Pn 07 41 02.7 +0.2**
GERES pmax pmax
comp=Z,3.0nm,0.3s
GERES MLR MLR
comp=Z,4µm,19.5s
GERES GERESS Array B 8.86 332 Pn **Pn 07 41 02.7 +0.2**
comp=Z,3.3nm,0.3s,baz=154,slow=14,SNR=33
GERES LR LR 07 45 08.2
comp=Z,4µm,19.5s,baz=143,slow=42
FETA Feichten 8.87 314 ⇓*i*Pn **Pn 07 41 02.2 -0.3**
comp=Z,42nm,0.9s,SNR=26
MOTA Moosalm 8.87 317 ⇑*i*Pn **Pn 07 41 03.6 +1.0**
comp=Z,14nm,0.3s,SNR=32
MOTA ⇑*i*Sn **Sn 07 42 44.5 +2.1**
comp=Z,17nm,0.3s
MOTA Moosalm 8.87 317 ⇑*i*P **Pn 07 41 03.6 +1.0**

MOTA *i* 07 42 44.5
MOTA pmax pmax
comp=Z,14nm,0.3s
ELL Elmali 8.88 117 *e*P **Pn 07 41 06.6 +3.8**
FUORN Ofenpass-Fuorn 8.89 311 Pn **Pn 07 41 03.9 +1.0**
AKAS Kas 8.97 120⇓*i*P **Pn 07 41 07.5 +3.5**
BCK Bucak 8.99 111 *e*P **Pn 07 41 00.2 -4.1**
OJC Ojcow 9.03 359 *e*P **Pn 07 41 08.5 +3.7**
LVV L'vov 9.08 17 *e*P **Pn 07 41 09.8 +4.4**
LVV L'vov 9.08 17 *e*P **Pn 07 41 10.0 +4.6**
LVV *e*S **Sn 07 42 55.2 +7.8**
LVV MLR MLR
comp=N,2μm,10.0s
LVV MLR MLR
comp=E,300nm,10.0s
LVV MLR MLR
comp=Z,2μm,10.0s
RETA Reutte 9.14 317⇑*i*Pn **Pn 07 41 07.2 +0.9**
comp=Z,2.8nm,0.2s
RETA ⇑*i*Sn **Sn 07 42 47.8 -1.2**
comp=Z,15nm,0.3s
QLNO Quiliano 9.14 294 P **Pn 07 41 06.6 +0.3**
KHC Kasperske Hory 9.15 332 *e*P **Pn 07 41 06.5 +0.1**
KHC *e* 07 41 18.0
KHC *e*S **Sn 07 43 01.7 +12**
KHC Kasperske Hory 9.15 332 *e*P **Pn 07 41 06.5 +0.1**
KHC x x 07 41 18.0
KHC *e*S **Sn 07 43 01.7 +12**
KHC AMS AMS 07 45 00.0
comp=Z,4μm,17.4s
DAVOX Davos/Dischmat 9.20 311 Pn **Pn 07 41 07.4 +0.3**
comp=Z,5.7nm,0.3s,baz=132,slow=14,SNR=32
DAVOX Sn **Sn 07 42 47.1 -3.3**
comp=Z,0.8nm,0.3s,baz=151,slow=23,SNR=2.7
DAVOX LR LR 07 45 14.1
comp=Z,1μm,20.0s,baz=132,slow=41
DAVOX Davos/Dischmat 9.20 311 Pn **Pn 07 41 07.7 +0.6**
FIN Finale Ligure 9.21 293 Pn **Pn 07 41 07.1 -0.1**
FIN P 07 41 07.6
FIN Finale Ligure 9.21 293 P **Pn 07 41 07.6 +0.4**
MUGIO Muggio 9.27 304 Pn **Pn 07 41 06.7 -1.3**
VDL Val di Lei 9.29 308⇑P **Pn 07 41 09.0 +0.7**
TUE Stuetta 9.35 308 P **Pn 07 41 08.0 -1.1**
TUE Pn **Pn 07 41 10.5 +1.4**
TUE Stuetta 9.35 308 Pn **Pn 07 41 10.5 +1.4**
KIZT Kizilcal 9.38 100 *e*P **Pn 07 41 08.0 -1.7**
VAI Varese 9.41 304 Pn **Pn 07 41 08.5 -1.5**
VAI Varese 9.41 304 P **Pn 07 41 08.6 -1.4**
WET Wettzell 9.41 330 *e*P **Pn 07 41 09.1 -0.9**
DAVA Damuels 9.49 313⇑*i*Pn **Pn 07 41 12.1 +1.1**
SNR=18
DAVA ⇑*i*Sn **Sn 07 42 59.7 +2.1**
comp=Z,61nm,0.6s
DPC Dobruska-Polom 9.52 346 *e*P **Pn 07 41 11.7 +0.3**
DPC AMS AMS 07 45 30.0
comp=Z,7μm,16.0s
PRU Pruhonice 9.60 338 *e*P **Pn 07 41 13.5 +1.0**
PRU *e*S **Sn 07 43 12.8 +13**
PRU Pruhonice 9.60 338 *e*P **Pn 07 41 13.5 +1.0**
PRU *e*S **Sn 07 43 12.8 +13**
PRU AMS AMS 07 45 20.0
comp=Z,6μm,12.8s
UBR Ueberruh 9.61 316 P **Pn 07 41 13.1 +0.4**
SAOF Saorge 9.61 291 Pn **Pn 07 41 14.0 +1.3**
LTBQ Tobruq 9.64 160 *i* P **Pn 07 41 14.0 +0.8**
SNR=128
SBF Sospel 9.67 290 *e*P **Pn 07 41 14.2 +0.7**
SNR=1.0
SBF *e*Sn **Sn 07 42 50.0 -12**
comp=Z,50nm,0.7s
KDHN Kadinhani 9.68 102⇑*i*P **Pn 07 41 16.7 +3.0**
AUTN L'Aution 9.70 291 Pn **Pn 07 41 16.9 +2.9**
PRA Prague 9.70 338 P **Pn 07 41 17.0 +3.0**
UPC Upice 9.73 345 *e*P **Pn 07 41 15.8 +1.5**
UPC *ex* x 07 41 20.2
LLS Linth-Limmern 9.74 309⇑P **Pn 07 41 14.7 +0.2**
ORO Oropa 9.82 301 P **Pn 07 41 12.8 -2.8**
STV Sta Anna Valdi 9.83 292 P **Pn 07 41 17.1 +1.3**
TOUF Mont Tournerai 9.83 291 Pn **Pn 07 41 18.3 +2.5**
DOI San Damiano 9.95 294 Pn **Pn 07 41 17.1 -0.3**
DOI P 07 41 18.2
DOI San Damiano 9.95 294 P **Pn 07 41 18.2 +0.8**
KEST Kesra 9.98 240 Pn **Pn 07 41 19.1 +1.2**
comp=Z,0.2nm,0.3s,baz=16,slow=2.9,SNR=8.0
KSP Ksiaz 10.00 346 *e*P **Pn 07 41 23.1 +5.2**
KSP Ksiaz 10.00 346 *e*P **Pn 07 41 22.2 +4.2**
MMK Mattmark 10.00 303⇑P **Pn 07 41 16.7 -1.4**
MUO Muotathal 10.02 309⇑P **Pn 07 41 20.3 +2.0**
CALN Calern 10.04 289 Pn **Pn 07 41 20.3 +1.7**
PZZ Prazzo 10.05 294 Pn **Pn 07 41 18.7 -0.1**
BALT Daday 10.06 84 *i* P **Pn 07 41 25.2 +6.4**
PVCC Panska Ves 10.08 340 AMS AMS 07 45 30.0
comp=Z,5μm,12.5s
PVCC Panska Ves 10.08 340 P **Pn 07 41 19.3 +0.1**
HDH Heidenheim-Cha 10.15 320 P **Pn 07 41 20.8 +0.7**
ROTZ Rotzenmuhle 10.18 330 *e*P **Pn 07 41 18.9 -1.6**
FRF La Foret Royal 10.18 288 *e*P **Pn 07 41 22.2 +1.7**
SNR=1.0
FRF *e*Sn **Sn 07 43 02.2 -12**
comp=Z,13nm,0.5s
LMR La Mourre 10.24 287 *e*P **Pn 07 41 22.5 +1.1**
MBDF Montbardon 10.34 294 *e*Pn **Pn 07 41 20.9 -1.8**
SNR=1.0
MBDF *e*Sn **Sn 07 43 05.9 -12**
comp=Z,42nm,0.8s,SNR=1.0
LKBD Leukerbad 10.36 304⇑P **Pn 07 41 21.9 -1.0**
LKBD ⇑P 07 41 23.2
LKBD Leukerbad 10.36 304⇑P **Pn 07 41 23.2 +0.3**
DIX Grande Dixence 10.37 302⇓P **Pn 07 41 24.3 +1.2**
GUT Gutenstein 10.37 315 P **Pn 07 41 24.7 +1.5**
BUCH Bad Urach 10.49 317 P **Pn 07 41 24.1 -0.6**
BNI Bardonecchia 10.49 296 *e*Pn **Pn 07 41 25.1 +0.3**
BNI Bardonecchia 10.49 296 *e*Pn **Pn 07 41 25.1 +0.3**
GRA1 Grafenberg Arr 10.51 327 *e*P **Pn 07 41 24.8 -0.2**
comp=Z,12nm,0.9s
GRF Grafenberg Arr 10.51 327 *e*P **Pn 07 41 24.8 -0.2**
comp=Z,12nm,0.9s
GRF *e*L 07 46 01.0
comp=Z,4μm,18.8s
GRFO Grafenberg 10.51 327 *e*Pn **Pn 07 41 25.2 +0.2**
comp=Z,18nm,0.7s
GRFO Grafenberg 10.51 327 *e*P **Pn 07 41 25.2 +0.2**
GRFO pmax pmax
comp=Z,18nm,0.7s
SLE Schleitheim 10.53 312⇓P **Pn 07 41 24.2 -1.1**
BRG Berggiesshubel 10.56 339 *e*P **Pn 07 41 25.7 -0.1**
comp=Z,5.5nm,1.3s
BRG P 07 41 28.8
BRG *i* 07 41 38.3
BRG S Sn 07 44 20.0 +56
BRG Berggiesshubel 10.56 339 *e*P **Pn 07 41 25.3 -0.4**
BRG Berggiesshubel 10.56 339 *e*P **Pn 07 41 25.7 -0.1**
comp=Z,9.2nm,1.3s
BRG *i* 07 41 38.3
comp=Z,14nm,0.9s
BRG S Sn 07 44 20.0 +56
BRG
comp=N,3μm,13.7s
BRG
comp=E,2μm,11.8s
BRG
comp=Z,5μm,12.1s
SPAK Spaichingen-Ko 10.57 315 Pn **Pn 07 41 23.8 -2.0**
LPG La Plagne 10.58 298 *e*Pn **Pn 07 41 23.7 -2.3**
LPL La Plagne 10.60 299 *e*Pn **Pn 07 41 24.2 -2.1**
SNR=1.0
LPL *e*Sn **Sn 07 43 12.7 -12**
comp=Z,31nm,0.4s,SNR=1.0
TANN Tannenbergstha 10.62 333 *e*P **Pn 07 41 27.0 +0.4**
comp=Z,11nm,0.9s
EMV Vieux Emosson 10.69 301⇓P **Pn 07 41 28.2 +0.8**
STU Stuttgart 10.78 318 *e*P **Pn 07 41 27.4 -1.3**
STU Stuttgart 10.78 318 P **Pn 07 41 26.9 -1.8**
FELD Feldberg im Sc 10.87 312 Pn **Pn 07 41 26.6 -3.3**
FELD Feldberg im Sc 10.87 312 P **Pn 07 41 29.6 -0.3**
VILF Villemus 10.89 289 Pn **Pn 07 41 34.8 +4.5**
BFO Black Forest 10.95 315 *e*Pn **Pn 07 41 28.4 -2.6**
BFO *e*Sn **Sn 07 43 29.9 -3.5**
BFO Black Forest 10.95 315 *e*P **Pn 07 41 29.0 -2.0**
KIZ Kirchzarten 10.96 312 P **Pn 07 41 32.4 +1.2**
SIND Sindeldorf 10.97 322 P **Pn 07 41 31.4 +0.1**
ORIF Oris-en-Rattie 11.00 295 *e*P **Pn 07 41 32.2 +0.5**
SNR=1.0
ORIF *e*Sn **Sn 07 43 22.1 -13**
comp=Z,29nm,0.6s
ORIF *e*MLR MLR
comp=Z,3μm,18.8s
SMRF Simiane la Rot 11.01 289 *e*P **Pn 07 41 33.2 +1.3**
MOX Moxa 11.11 331 *e*P **Pn 07 41 32.5 -0.8**
MOX
comp=Z,3μm,18.0s
MOX Moxa 11.11 331 *e*P **Pn 07 41 32.3 -1.0**
CORM Corum 11.14 90 *e*P **Pn 07 41 35.4 +1.6**
CLL Collm 11.22 337 *e*P **Pn 07 41 35.0 +0.3**
comp=Z,10.0nm,0.7s
CLL *e* 07 41 47.0
CLL *e*S 07 44 55.0
CLL Collm 11.22 337 *e*P **Pn 07 41 35.0 +0.3**
CLL pmax pmax
comp=Z,10.0nm,0.7s
CLL MLR MLR
comp=Z,5μm,15.5s
CLL Collm 11.22 337 *e*P **Pn 07 41 34.4 -0.3**
CLL Collm 11.22 337 *e*P **Pn 07 41 35.0 +0.3**
comp=Z,10.0nm,0.7s
CLL *e*(sPP) 07 41 47.0
CLL *ex* x 07 44 14.0
CLL *e*(SS) 07 44 55.0
LOMF Lomont 11.28 307 Pn **Pn 07 41 33.6 -2.0**
MOF Molkenrain 11.35 310 Pn **Pn 07 41 34.1 -2.4**
MOF Molkenrain 11.35 310 P **Pn 07 41 37.3 +0.8**
CABF La Chapelle 11.42 303 *e*Pn **Pn 07 41 35.2 -2.2**
SNR=1.0
CABF *e*Sn **Sn 07 43 33.2 -12**
comp=Z,40nm,0.7s
KIEV Kiev 11.45 31 *e*Pn **Pn 07 41 39.4 +1.6**
comp=Z,36nm,1.4s
KIEV Kiev 11.45 31 *e*P **Pn 07 41 39.4 +1.6**
KIEV pmax pmax
comp=Z,36nm,1.4s
AKASG Malin Array Be 11.46 31 Pn **Pn 07 41 38.5 +0.5**
AKASG Malin Array Be 11.46 31 P **Pn 07 41 38.5 +0.5**
AKASG pmax pmax
comp=Z,1.0nm,0.3s
AKASG Malin Array Be 11.46 31 Pn **Pn 07 41 38.5 +0.5**
comp=Z,0.8nm,0.3s,baz=220,slow=13,SNR=14
AKBB Malin Array Si 11.46 31 *e*Pn **Pn 07 41 38.6 +0.6**
HINF Hinteralfeld 11.49 310 *e*Pn **Pn 07 41 36.2 -2.3**
SNR=1.0
HINF *e*Sn **Sn 07 43 33.8 -13**
comp=Z,35nm,0.8s
TOD Tromm 11.52 321 P **Pn 07 41 43.3 +4.4**
ECH Echery 11.53 312 Pn **Pn 07 41 37.4 -1.6**
CDF Champ du Feu 11.57 313 *e*Pn **Pn 07 41 36.8 -2.8**
SNR=1.0
HMAT Matruh 11.58 148 P **Pn 07 41 34.6 -5.1**
AVNT Avonos 11.63 97 *i* P **Pn 07 41 43.0 +2.6**
VIVF Saint-Julien-I 11.82 293 *e*P **Pn 07 41 44.3 +1.4**
SNR=1.0
VIVF Saint-Julien-I 11.82 293 *e*Pn **Pn 07 41 39.0 -3.9**
VIVF *e*P 07 41 44.3
VIVF Saint-Julien-I 11.82 293 *e*P **Pn 07 41 44.3 +1.4**
SNR=1.0
UBBA Unterbreizbach 11.88 328 *e*P **Pn 07 41 43.1 -0.6**
HAU Haudompre 11.88 310 *e*Pn **Pn 07 41 40.8 -3.0**
SNR=1.0
HAU *e*Sn **Sn 07 43 42.4 -14**
comp=Z,54nm,0.7s
HAU *e*MLR MLR
comp=Z,2μm,17.5s
THEF They Montfort 12.20 310 Pn **Pn 07 41 47.8 -0.4**
ABH Alteburg 12.32 319 P **Pn 07 41 50.3 +0.6**
RUP Ruppelstein 12.45 317 Pn **Pn 07 41 50.7 -0.8**
CLZ Clausthal 12.54 331 *e*P **Pn 07 41 53.3 +0.5**
SFTF Sexfontaines 12.75 308 *e*Pn **Pn 07 41 51.0 -4.6**
SFTF *e*Sn **Sn 07 44 04.0 -13**
comp=Z,16nm,0.5s
SFTF Sexfontaines 12.75 308 *e*Pn **Pn 07 41 51.0 -4.6**
SFTF *e*Sn **Sn 07 44 04.0 -13**
comp=Z,7.8nm,0.5s
SWA1 12.77 157 P **Pn 07 41 52.1 -3.9**
EJON La Jonquera 12.85 281 P **Pn 07 42 03.6 +6.6**
comp=Z,3.2nm,0.3s
SMF Signal de Mont 12.87 300 *e*Pn **Pn 07 41 53.3 -4.0**
SMF *e*Sn **Sn 07 44 07.9 -13**
comp=Z,36nm,0.7s
SMF Signal de Mont 12.87 300 *e*Pn **Pn 07 41 53.3 -4.0**
SMF *e*Sn **Sn 07 44 07.9 -13**
comp=Z,18nm,0.7s
MEZF Maizieres J'vi 12.88 310 *e*Pn **Pn 07 41 52.6 -4.9**
SUW Suwalki 13.00 8 *e*P **Pn 07 42 01.6 +2.5**
LOR Lormes 13.08 303 *e*Pn **Pn 07 41 57.3 -2.8**
baz=115,SNR=1.0
LOR *e*Sn **Sn 07 44 11.2 -14**
comp=Z,19nm,0.4s,SNR=1.0
LOR *e*MLR MLR
comp=Z,1μm,19.5s
LOR Lormes 13.08 303 *e*Pn **Pn 07 41 57.3 -2.8**
SNR=1.0
LOR *e*Sn **Sn 07 44 11.2 -14**
comp=Z,9.4nm,0.4s,SNR=1.0
AGO Saint Agoulin 13.16 297 Pn **Pn 07 42 02.3 +1.0**
ETOS Mallorca 13.18 269 P **Pn 07 42 07.5 +5.9**
comp=Z,11nm,0.6s
AVF Avril sur Loir 13.24 301 *e*Pn **Pn 07 41 59.1 -3.2**
SNR=1.0
AVF *e*Sn **Sn 07 44 15.6 -14**
comp=Z,19nm,0.8s
AVF Avril sur Loir 13.24 301 *e*Pn **Pn 07 41 59.1 -3.2**
SNR=1.0
AVF *e*Sn **Sn 07 44 15.6 -14**
comp=Z,9.6nm,0.8s
ANN Anapa 13.25 68 *e*P **Pn 07 41 55.4 -7.0**
ANN *e*S **Sn 07 44 20.5 -9.1**
ANN pmax pmax
comp=Z,38nm,1.3s
BGF Bois d'Agland 13.49 299 *e*Pn **Pn 07 42 01.9 -3.9**
SNR=1.0
BGF *e*Sn **Sn 07 44 21.2 -14**
comp=Z,21nm,0.5s
BGF Bois d'Agland 13.49 299 *e*Pn **Pn 07 42 01.9 -3.9**
SNR=1.0
BGF *e*Sn **Sn 07 44 21.2 -14**
comp=Z,11nm,0.5s
EPOB Poblet 14.25 277 P **Pn 07 42 22.5 +6.3**
comp=Z,2.3nm,0.6s
MNK Minsk 14.30 19 *e*P **Pn 07 42 11.0 -5.8**
MNK MLR MLR
comp=Z,8μm,10.0s
MNK MLR MLR
comp=N,6μm,10.0s
BSEG Bad Segeberg 14.32 336 *e*P **Pn 07 42 16.3 -0.7**
MALT Malatya 14.45 95 *e*Pn **Pn 07 42 18.2 -0.6**
MALT Malatya 14.45 95⇓*i*P **Pn 07 42 26.8 +7.9**
MALT Malatya 14.45 95 *e*P **Pn 07 42 18.3 -0.6**
EIBI Ibiza 14.46 268 P **Pn 07 42 24.7 +5.6**
comp=N,12nm,0.6s
MMAI Mount Meron Ar 14.72 119 Pn **Pn 07 42 21.0 -1.6**
comp=N,4.0nm,0.3s,baz=303,slow=14,SNR=12
MMAI LR LR 07 49 12.3
comp=N,712nm,18.5s,baz=300,slow=42
SOC Sochi 14.75 74 *e*P **Pn 07 42 22.0 -1.0**
SOC *e* 07 45 13.7
SOC pmax pmax
comp=Z,38nm,1.1s
SOC Sochi 14.75 74 *e*P **Pn 07 42 22.0 -1.0**
comp=Z,38nm,1.1s
ERTA Horta de San J 14.86 276 P **Pn 07 42 29.7 +5.2**
comp=Z,2.4nm,0.5s
EBIE Bielsa 14.87 282 P **Pn 07 42 30.4 +5.7**
comp=Z,2.8nm,0.6s
GLL Jalalah 14.98 137⇑*e*P **Pn 07 42 20.1 -6.1**
GLL Jalalah 14.98 137 P **Pn 07 42 20.1 -6.1**
SUZ 15.38 133⇑*e*P **Pn 07 42 26.0 -5.4**
ESAC San Caprasio 15.38 279 P **Pn 07 42 36.9 +5.5**
comp=Z,9.3nm,0.4s
EMOS Mosqueruela 15.55 274 P **Pn 07 42 38.9 +5.2**
comp=Z,3.9nm,0.5s
EANR 'Ain N'Sour 15.69 257 P **Pn 07 42 42.0 +6.5**
EBEN Beniarda 15.72 268 P **Pn 07 42 40.8 +4.9**
comp=Z,14nm,0.7s
ETRT Tiaret 15.79 255 P **Pn 07 42 37.5 +0.7**
ECHE Chera 16.07 271 P **Pn 07 42 46.1 +5.7**
comp=Z,0.1nm,0.2s
ASF Jabal al Asfar 16.23 118 Pn **Pn 07 42 38.9 -3.6**
comp=Z,0.3nm,0.3s,baz=347,slow=20,SNR=2.0
ASF LR LR 07 50 00.3
comp=Z,489nm,20.2s,baz=173,slow=41
FLN La Foliniere 16.33 304 *e*P **Pn 07 42 43.2 -0.5**
baz=110
FLN *e*MLR MLR
comp=Z,1μm,19.5s
GRR Gorron 16.45 303 *e*P **Pn 07 42 45.2 +0.1**
VORD Divnogorie 16.52 47 *e*P **Pn 07 42 45.7 -0.3**
VORD pmax pmax
comp=Z,30nm,1.2s
VORD pmax pmax
comp=N,50nm,1.0s
VORD pmax pmax
comp=E,70nm,0.8s
VORD MLR MLR
comp=Z,2μm,12.0s
VORD MLR MLR
comp=N,640nm,11.0s
VORD MLR MLR
comp=E,2μm,12.0s
VORD Divnogorie 16.52 47 *e*P **Pn 07 42 45.7 -0.3**
comp=E,640nm,11.0s
VRSR Storozhevoye 16.58 46 *e*P **Pn 07 42 46.1 -0.8**
VRSR *e*S **Sn 07 45 44.3 -6.4**
VRSR pmax pmax
comp=Z,1.0nm,0.8s
VRSR pmax pmax
comp=N,1.0nm,0.7s
VRSR pmax pmax
comp=E,3.0nm,0.8s
VRSR smax
comp=N,3.0nm,1.3s
VRSR smax
comp=E,1.0nm,1.1s
VRSR MLR MLR
comp=Z,130nm,15.0s
VRSR MLR MLR
comp=N,40nm,12.0s
VRSR MLR MLR
comp=E,150nm,15.0s
VRSR Storozhevoye 16.58 46 *e*P **Pn 07 42 46.1 -0.8**
comp=E,1.0nm,0.7s
ETOR Torete 16.67 276 P **Pn 07 42 53.9 +5.9**
comp=E,4.4nm,0.5s
ETOR Torete 16.67 276 P **Pn 07 42 53.9 +5.9**
ETOR pmax pmax
comp=Z,4.0nm,0.5s
EIL Elat 16.71 129 Pn **Pn 07 42 45.0 -3.6**
comp=Z,1.3nm,0.3s,baz=326,slow=14,SNR=10
EIL Sn **Sn 07 45 44.2 -10**
comp=Z,1.3nm,0.3s,baz=34,slow=18,SNR=4.6
EMUR La Murta 16.74 265 P **Pn 07 42 54.3 +5.4**
comp=Z,5.8nm,0.4s
KIV Kislovodsk 16.91 73 *e*P **Pn 07 42 54.9 +3.8**
KIV Kislovodsk 16.91 73 *e*P **Pn 07 42 50.5 -0.6**
KIV *e*S **Sn 07 46 00.5 +1.7**
KIV pmax pmax
comp=Z,21nm,1.1s
KIV MLR MLR
comp=Z,216nm,15.0s
KIV Kislovodsk 16.91 73 *e*P **Pn 07 42 50.5 -0.6**
comp=Z,21nm,1.1s
EVIA Vianos 17.46 269 P **Pn 07 43 03.6 +5.6**
comp=Z,5.6nm,0.7s
EVIA Vianos 17.46 269 P **Pn 07 43 03.6 +5.7**
EVIA pmax pmax
comp=Z,6.0nm,0.7s
SGMF Saint Gilles 17.49 301 *e*P **Pn 07 42 58.1 -0.2**
OBN Obninsk 17.71 33 *e*Pn **Pn 07 43 00.5 -0.4**
OBN Obninsk 17.71 33‖*e*P **Pn 07 42 59.9 -1.0**
OBN pmax pmax
comp=Z,107nm,1.3s
OBN MLR MLR
comp=Z,800nm,17.0s
OBN Obninsk 17.71 33 *e*P **Pn 07 42 59.9 -1.0**
comp=Z,800nm,17.0s
VSU Vasula 17.81 12 *d i*P **Pn 07 43 01.9 -0.2**
VSU Vasula 17.81 12 *i* P **Pn 07 43 01.9 -0.2**
EQES Quesada 18.13 267 P **Pn 07 43 08.4 +2.2**
comp=Z,9.5nm,0.6s
EQES Quesada 18.13 267 P **Pn 07 43 08.4 +2.2**
comp=Z,9.5nm,0.6s
GUD Guadarrama 18.27 276 P **Pn 07 43 13.4 +5.4**
comp=Z,0.4nm,0.4s
EBER Berja 18.29 264 P **Pn 07 43 09.9 +1.7**
comp=Z,16nm,0.8s
EBER Berja 18.29 264 P **Pn 07 43 09.9 +1.7**
comp=Z,16nm,0.8s
ESDC Sonseca Array 18.31 273 P **Pn 07 43 06.2 -2.3**
ESDC P 07 43 12.1
ESDC Sonseca Array 18.31 273 P **Pn 07 43 06.2 -2.3**
baz=77,slow=11,SNR=5.2
EBAN Banos Encina 18.56 268 P **Pn 07 43 14.6 +3.1**
comp=Z,3.9nm,0.4s
EBAN Banos Encina 18.56 268 P **Pn 07 43 14.6 +3.1**
EBAN pmax pmax
comp=Z,4.0nm,0.4s
MOS Moscow 18.58 32 *e*P **Pn 07 43 10.4 -1.1**
MOS pmax pmax
comp=Z,203nm,1.2s
MOS MLR MLR
comp=Z,1μm,12.0s
MOS Moscow 18.58 32 *e*P **Pn 07 43 10.4 -1.1**
comp=Z,1μm,12.0s
MSL Mosul 18.63 98 *ex* x 07 43 13.5
MSL *ex* x 07 46 53.0
ECOG Cogollos-Vega 18.67 266 P **Pn 07 43 16.8 +4.0**
comp=Z,5.2nm,0.6s
ECOG Cogollos-Vega 18.67 266 P **Pn 07 43 16.8 +4.0**
ECOG pmax pmax
comp=Z,5.0nm,0.6s
EARI Arriondas 18.78 285 P **Pn 07 43 16.8 +2.7**
comp=Z,10nm,0.9s
EGUA Guajares 18.82 264 P **Pn 07 43 18.3 +3.6**
comp=Z,0.4nm,0.3s
ERON Agron 18.94 265 P **Pn 07 43 19.4 +3.4**
comp=Z,1.7nm,0.2s
ELUQ Luque 19.11 267 P **Pn 07 43 21.7 +3.6**
comp=Z,1.7nm,0.2s
ELUQ Luque 19.11 267 P **Pn 07 43 21.7 +3.6**
ELUQ pmax pmax
comp=Z,2.0nm,0.2s
ELOJ Sierra Loja 19.16 266 P **Pn 07 43 22.7 +4.0**
comp=Z,2.8nm,0.3s
ELOJ Sierra Loja 19.16 266 P **Pn 07 43 22.7 +4.0**
ELOJ pmax pmax
comp=Z,3.0nm,0.3s
EADA Adamuz 19.16 269 P **Pn 07 43 21.0 +2.3**
comp=Z,6.7nm,0.9s
EADA Adamuz 19.16 269 P **Pn 07 43 21.0 +2.3**
comp=Z,6.7nm,0.9s
HFS Hagfors 19.37 350 P **Pn 07 43 18.3 -2.8**
HFS pmax pmax
comp=Z,2.0nm,0.3s
HFS Hagfors 19.37 350 P **Pn 07 43 18.3 -2.8**
comp=Z,3.3nm,0.3s,baz=163,slow=11,SNR=44
HFA0 Hagfors New Ar 19.38 350 Pn **Pn 07 43 18.3 -2.9**
HFA0 P 07 43 21.1
HFA0 Hagfors New Ar 19.38 350 P **Pn 07 43 21.1 -0.1**
KONO Kongsberg 19.59 344 *e*P **Pn 07 43 22.4 -1.4**
KONO Kongsberg 19.59 344 *e*P **Pn 07 43 22.4 -1.3**
ECAB El Cabril 19.82 269 P **Pn 07 43 29.6 +3.0**
comp=Z,14nm,0.8s
EMIJ Mijas 19.82 265 P **Pn 07 43 26.8 +0.1**
comp=Z,12nm,0.6s
EMIJ Mijas 19.82 265 P **Pn 07 43 26.8 +0.1**
comp=Z,12nm,0.6s
ECAL Calabor 20.01 281 P **P 07 43 32.6 +5.4**
comp=Z,5.8nm,0.8s
EPON Pontenova 20.20 285 P **P 07 43 34.7 +5.6**
comp=Z,7.2nm,0.7s
MAK Makhachkala 20.45 76 *e*P **P 07 43 31.7 -0.1**
MAK *e* 07 43 44.7
MAK *i* S **S 07 47 22.4 +1.9**
MAK *e*SS 07 47 35.8
MAK *e*SSS 07 47 54.5
MAK pmax pmax
comp=Z,198nm,1.5s
MAK MLR MLR
comp=Z,743nm,12.0s,MS4.3
MAK Makhachkala 20.45 76 *e*P **P 07 43 31.7 -0.1**
comp=Z,198nm,1.5s
NAO01 NORSAR Array S 20.46 347 *e*P **P 07 43 31.6 -0.3**
NAO01 NORSAR Array S 20.46 347 *e*P **P 07 43 31.6 -0.3**
ESPR Espera 20.53 266 P **P 07 43 35.7 +2.9**
comp=Z,5.1nm,0.4s
ESPR Espera 20.53 266 P **P 07 43 35.7 +2.9**
comp=Z,5.1nm,0.4s

NB2	**NORSAR Subarra**	20.60	348	P	P	07 43 31.6	-1.7
	comp=Z,1.4nm,0.5s,baz=150,slow=11						
NOA	**NORSAR Array B**	20.60	348	P	P	07 43 31.4	-1.9
NOA				pmax	pmax		
	comp=Z,8.0nm,0.5s						
NOA				MLR	MLR		
	comp=Z,586nm,21.1s						
NOA	**NORSAR Array B**	20.60	348	P	P	07 43 31.4	-1.9
	comp=Z,8.0nm,0.5s,baz=163,slow=10,SNR=25						
NOA				LR	LR	07 52 14.8	
	comp=Z,586nm,21.1s,MS3.9,baz=170,slow=39						
FINES	**FINESS Array B**	20.61	8⇑	eP	P	07 43 31.7	-1.8
FINES	**FINESS Array B**	20.61	8	P	P	07 43 31.8	-1.7
	comp=Z,19nm,0.6s,baz=159,slow=11,SNR=44						
FINES				LR	LR	07 52 16.3	
	comp=Z,1μm,18.1s,MS4.4,baz=184,slow=39						
FIA1	**FINESS Array S**	20.62	8	eP	P	07 43 31.8	-1.7
FIA1	**FINESS Array S**	20.62	8	eP	P	07 43 31.8	-1.7
EKA	**Eskdalemuir Ar**	20.80	321	P	P	07 43 34.4	-1.2
EKA				pmax	pmax		
	comp=Z,4.0nm,0.6s						
EKA	**Eskdalemuir Ar**	20.80	321	P	P	07 43 34.4	-1.2
	comp=Z,4.4nm,0.6s,baz=118,slow=10,SNR=29						
ESK	**Eskdalemuir**	20.81	321	eP	P	07 43 35.1	-0.6
ESK	**Eskdalemuir**	20.81	321	eP	P	07 43 35.1	-0.6
EBAD	**Badajoz**	20.83	272	P	P	07 43 37.9	+1.8
	comp=Z,9.5nm,0.6s						
EBAD	**Badajoz**	20.83	272	P	P	07 43 37.8	+1.7
	comp=Z,9.5nm,0.6s						
EMIN	**Mina Concepcio**	20.86	269	P	P	07 43 40.1	+3.8
	comp=Z,15nm,0.9s						
BHD	**Baghdad**	20.90	104	ex	x	07 43 34.0	
BHD				ex	x	07 47 26.0	
ELOB	**Lobios**	21.00	281	P	P	07 43 41.2	+3.3
	comp=Z,2.9nm,0.7s,mb3.7						
TGT	**Taghat**	21.05	258	i P	P	07 43 39.0	+0.5
KAF	**Kangasniemi**	21.29	8	ep	P	07 43 38.0	-2.8
	comp=Z,32nm,0.6s,mb4.8,baz=191,slow=10						
KAF	**Kangasniemi**	21.29	8	eP	P	07 43 38.0	-2.8
KAF				pmax	pmax		
	comp=Z,32nm,0.6s,mb4.8						
MDT	**Midelt**	21.32	255	P	P	07 43 40.7	-0.7
	comp=Z,2.6nm,0.8s,baz=36,slow=11,SNR=6.7						
EGRO	**El Granado**	21.54	269	P	P	07 43 47.8	+4.1
	comp=Z,5.3nm,0.7s,mb4.1						
EMAZ	**Mazaricos**	21.56	284	P	P	07 43 48.3	+4.5
	comp=Z,7.2nm,0.7s,mb4.2						
DCN	**Croghan**	22.00	313	eP	P	07 43 49.0	+0.5
JOF	**Joensuu**	22.77	13	ep	P	07 43 53.7	-2.9
	comp=Z,6.4nm,0.6s,mb4.2						
MIB	**Mutribah**	24.87	108	eP	P	07 44 14.6	-2.5
MIB				AMb	AMB	07 44 22.8	
	comp=Z,97nm,0.7s,mb5.5						
NAY	**Al-Naaiem**	25.12	110	eP	P	07 44 16.7	-2.7
NAY				AMb	AMB	07 44 20.7	
	comp=Z,25nm,1.1s,mb4.7						
UMR	**Umm Al-Rimmam**	25.28	109	eP	P	07 44 18.3	-2.6
UMR				AMb	AMB	07 44 20.9	
	comp=Z,76nm,1.1s,mb5.2						
TMCR	**Tamitsa**	25.29	18	eP	P	07 44 17.8	-2.8
KBD	**Kabd**	25.48	109	eP	P	07 44 20.9	-1.8
KBD				AMb	AMB	07 44 31.4	
	comp=Z,91nm,0.7s,mb5.4						
KBD	**Kabd**	25.48	109	eP	P	07 44 20.9	-1.8
	comp=Z,91nm,0.7s,mb5.4						
RDF	**Al-Radifah**	25.53	110	eP	P	07 44 21.0	-2.1
RDF				AMb	AMB	07 44 24.3	
	comp=Z,47nm,1.1s,mb5.0						
RDF	**Al-Radifah**	25.53	110	eP	P	07 44 21.0	-2.1
	comp=Z,47nm,1.1s,mb5.0						
APA	**Apatity**	27.43	11⇑	iP	P	07 44 41.4	+1.5
APA				pmax	pmax		
	comp=Z,34nm,1.3s,mb4.7						
APA				MLR	MLR		
	comp=Z,2μm,10.0s,MS4.9						
APA	**Apatity**	27.43	11	i P	P	07 44 41.4	+1.5
	comp=Z,2μm,10.0s						
AKTK	**Aktyubinsk**	27.78	58	P	P	07 44 41.6	-1.7
AKTK				LR	LR	07 56 46.5	
AKTK	**Aktyubinsk**	27.78	58	P	P	07 44 41.6	-1.6
AKTO	**Aktyubinsk**	27.78	58	P	P	07 44 41.6	-1.6
AKTO				pmax	pmax		
	comp=Z,5.0nm,0.5s,mb4.4						
AKTO				MLR	MLR		
	comp=Z,469nm,21.2s,MS4.0						
AKTO	**Aktyubinsk**	27.78	58	P	P	07 44 41.6	-1.7
	comp=Z,5.1nm,0.5s,mb4.4,baz=265,slow=9.5,SNR=25						
AKTO				LR	LR	07 56 46.5	
	comp=Z,469nm,21.2s,MS4.0,baz=103,slow=38						
ARCES	**ARCESS Array B**	28.56	4	P	P	07 44 47.6	-2.3
ARCES				pmax	pmax		
	comp=Z,4.0nm,0.5s						
ARCES				MLR	MLR		
	comp=Z,1μm,19.8s						
ARCES	**ARCESS Array B**	28.56	4	P	P	07 44 47.6	-2.3
	comp=Z,3.6nm,0.5s,mb4.4,baz=184,slow=11,SNR=25						
ARCES				LR	LR	07 57 13.2	
	comp=Z,1μm,19.8s,MS4.5,baz=189,slow=38						
KEV	**Kevo**	28.86	5	ep	P	07 44 49.1	-3.6
	comp=Z,3.7nm,0.4s,mb4.5						
KEV	**Kevo**	28.86	5	eP	P	07 44 49.1	-3.6
KEV				pmax	pmax		
	comp=Z,4.0nm,0.4s,mb4.5						
ARU	**Arti**	29.14	45	eP	P	07 44 52.6	-2.6
ARU				ePPP		07 45 51.0	
ARU				e		07 48 01.2	
ARU				eS	S	07 49 45.1	-1.7
ARU				eSS	SS	07 51 07.3	-43
ARU				MLR	MLR		
	comp=Z,771nm,19.0s,MS4.3						
TOA0	**Torodi Ar. Sit**	32.20	215	eP	P	07 45 22.5	-0.1
TOA0	**Torodi Ar. Sit**	32.20	215	eP	P	07 45 22.5	-0.1
TORD	**Torodi Ar. Bea**	32.20	215	P	P	07 45 22.6	0.0
	comp=Z,5.1nm,0.9s,mb4.3,baz=38,slow=7.3,SNR=17						
TORD				LR	LR	08 00 12.6	
	comp=Z,372nm,18.9s,MS4.1,baz=20,slow=40						
BRVK	**Borovoye**	35.48	53	eP	P	07 45 50.1	-0.7
BRVK	**Borovoye**	35.48	53	eP	P	07 45 50.1	-0.7
BVAR	**Borovoye Array**	35.55	53	P	P	07 45 50.7	-0.7
BVAR				pmax	pmax		
	comp=Z,6.0nm,0.7s						
BVAR				MLR	MLR		
	comp=Z,169nm,19.0s						
BVAR	**Borovoye Array**	35.55	53	P	P	07 45 50.7	-0.6
	comp=Z,6.4nm,0.7s,mb4.7,baz=256,slow=4.4,SNR=29						
BVAR				LR	LR	08 02 54.0	
	comp=Z,169nm,19.0s,MS3.8,baz=94,slow=40						
EKS2	**Erkin-Say**	39.46	69	eP	P	07 46 23.8	-0.8
	comp=Z,5.1nm,0.6s,mb4.4						
EKS2	**Erkin-Say**	39.46	69	eP	P	07 46 23.8	-0.8
	comp=Z,5.1nm,0.6s,mb4.4						
AML	**Almayashu**	39.55	70	eP	P	07 46 24.7	-0.7
	comp=Z,2.7nm,0.5s,mb4.2						
AML	**Almayashu**	39.55	70	eP	P	07 46 24.7	-0.7
	comp=Z,2.7nm,0.5s,mb4.2						
UCH	**Uchtor**	40.11	70	eP	P	07 46 29.2	-0.8
	comp=Z,5.1nm,1.2s,mb4.1						
UCH	**Uchtor**	40.11	70	eP	P	07 46 29.2	-0.8
	comp=Z,5.1nm,1.2s,mb4.1						
KURK	**Kurchatov**	40.85	56	eP	P	07 46 34.5	-1.6
	comp=Z,16nm,0.9s,mb4.7						
KURK	**Kurchatov**	40.85	56⇑	eP	P	07 46 34.1	-2.0
KURK	**Kurchatov**	40.85	56	eP	P	07 46 34.5	-1.6
	comp=Z,16nm,0.9s,mb4.7						
DBIC	**Dimbokro**	40.90	220	eP	P	07 46 36.3	-0.6
	comp=Z,9.1nm,0.7s,mb4.5						
DBIC	**Dimbokro**	40.90	220	eP	P	07 46 36.3	-0.5
DBIC				pmax	pmax		
	comp=Z,9.0nm,0.7s						
DBIC	**Dimbokro**	40.90	220	P	P	07 46 37.0	+0.2
	comp=Z,4.9nm,0.5s,mb4.4,baz=5.1,slow=9.2,SNR=15						
DBIC				LR	LR	08 05 45.4	
	comp=Z,446nm,18.5s,MS4.4,baz=26,slow=39						
DBIC	**Dimbokro**	40.90	220	eP	P	07 46 36.3	-0.5
	comp=Z,9.1nm,0.7s,mb4.5						
LIC	**Lamto**	41.37	220	eP	P	07 46 39.4	-1.3
	comp=Z,24nm,0.7s,mb4.7,baz=50						
LIC				epP	pP	07 46 46.9	+2.5
LIC				eMLR	MLR		
	comp=Z,592nm,20.0s,MS4.2						
LIC	**Lamto**	41.37	220	eP	P	07 46 39.4	-1.3
	comp=Z,12nm,0.7s,mb4.6						
LIC				epP	pP	07 46 46.9	+2.5
LIC				LR	LR		
	comp=Z,300nm,20.0s,MS4.2						
LIC	**Lamto**	41.37	220	eP	P	07 46 39.4	-1.3
	comp=Z,12nm,0.7s,mb4.7						
LIC				epP	pP	07 46 46.9	+2.5
NVS	**Novosibirsk**	42.95	49	eP	P	07 46 52.9	-0.3
NVS				eS	S	07 53 13.2	-4.6
NVS				pmax	pmax		
	comp=Z,61nm,1.4s,mb5.1						
NVS				pmax	pmax		
	comp=Z,30nm,2.1s,mb4.7						
NVS				pmax	pmax		
	comp=E,14nm,1.6s						
NVS				smax			
	comp=N,46nm,3.2s						
NVS	**Novosibirsk**	42.95	49	eP	P	07 46 52.9	-0.3
	comp=N,46nm,3.2s						
ZAL	**Zalesovo**	44.01	50	P	P	07 47 00.4	-1.3
ZAA0	**Zalesovo Array**	44.02	50	eP	P	07 47 00.3	-1.4
ZAA0				epP	pP	07 47 06.1	+0.6
ZAA0	**Zalesovo Array**	44.02	50	eP	P	07 47 00.3	-1.5
ZAA0				epP	pP	07 47 06.1	+0.6
ZALV	**Zalesovo Beam**	44.02	50	P	P	07 47 00.4	-1.4
	comp=N,9.7nm,0.5s,mb4.8,baz=282,slow=9.6,SNR=27						
ZALV				LR	LR	08 08 06.5	
	comp=N,319nm,18.1s,MS4.3,baz=267,slow=40						
MK31	**Makanchi Array**	44.11	61	eP	P	07 47 01.2	-1.4
MK31				ePcP	PcP	07 48 46.0	-1.6
MK31	**Makanchi Array**	44.11	61	eP	P	07 47 01.2	-1.4
MK31	**Makanchi Array**	44.11	61	ePcP	PcP	07 48 46.0	-1.6
MKAR	**Makanchi Array**	44.11	61	P	P	07 47 01.1	-1.5
MKAR						07 48 46.1	
MKAR				pmax	pmax		
	comp=Z,4.0nm,0.4s						
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.6s						
MKAR	**Makanchi Array**	44.11	61	P	P	07 47 01.1	-1.5
	comp=Z,3.9nm,0.4s,mb4.5,baz=284,slow=7.6,SNR=107						
MKAR				PcP	PcP	07 48 46.1	-1.5
	comp=Z,2.6nm,0.6s,baz=291,slow=3.5,SNR=4.0						
NDI	**New Delhi**	47.74	86	eP	P	07 47 27.5	-4.0
WMQ	**Urumqi**	48.69	63	eP	P	07 47 37.8	-0.8
WMQ				AP	pP	07 47 44.0	+1.6
WMQ				XP	sP	07 47 47.0	+3.1
WMQ				PCP	PcP	07 49 03.0	-0.7
WMQ				eS	S	07 54 39.0	-1.6
WMQ				XS	sS	07 54 49.0	+2.2
WMQ				AMB	AMB		
	comp=Z,11nm,1.2s,mb4.8						
WMQ				AMB	AMB		
	comp=Z,116nm,4.5s						
WMQ				LR	LR		
	comp=N,463nm,13.7s,MS4.7						
WMQ				LR	LR		
	comp=E,316nm,15.3s,MS4.7						
WMQ				LR	LR		
	comp=Z,450nm,19.4s,MS4.5						
KOLN	**Koldanda**	53.01	83	eP	P	07 48 08.9	-2.5
	comp=Z,24nm,0.6s,mb5.3						
GKN	**Gorkha**	53.67	83	eP	P	07 48 13.5	-2.7
	comp=Z,68nm,0.7s,mb5.7						
DMN	**Daman**	54.23	83	eP	P	07 48 18.0	-2.3
	comp=Z,81nm,1.1s,mb5.6						
KKN	**Kakani**	54.26	82	eP	P	07 48 17.8	-2.8
	comp=Z,45nm,0.6s,mb5.5						
KKN	**Kakani**	54.26	82	eP	P	07 48 17.8	-2.8
KKN				pmax	pmax		
	comp=Z,45nm,0.6s,mb5.6						
PKI	**Pulchoki**	54.47	83	eP	P	07 48 19.6	-2.5
	comp=Z,28nm,0.6s,mb5.4						
PKI	**Pulchoki**	54.47	83	eP	P	07 48 19.6	-2.5
PKI				pmax	pmax		
	comp=Z,29nm,0.6s,mb5.4						
GUN	**Gumba**	54.64	82	eP	P	07 48 21.2	-2.2
	comp=Z,99nm,0.9s,mb5.8						
JIRN	**Jiri**	55.01	82	eP	P	07 48 23.8	-2.2
	comp=Z,33nm,0.5s,mb5.6						
TLY	**Talaya**	55.56	49	eP	P	07 48 28.9	-0.7
	comp=Z,10nm,0.8s,mb4.9						
TLY				epP	pP	07 48 34.7	+1.2
TLY	**Talaya**	55.56	49	eP	P	07 48 29.2	-0.4
TLY				pmax	pmax		
	comp=Z,21nm,1.2s,mb5.0						
TLY				MLR	MLR		
	comp=Z,547nm,14.0s,MS4.8						
TLY	**Talaya**	55.56	49	eP	P	07 48 28.9	-0.7
	comp=Z,10nm,0.8s,mb4.9						
TLY				epP	pP	07 48 34.7	+1.3
ZAK	**Zakamensk**	55.90	50	eP	P	07 48 31.3	-0.8
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.5						
SCHQ	**Schefferville**	56.01	316	eP	P	07 48 31.0	-1.8
	comp=Z,3.3nm,0.7s,mb4.5						
SCHQ				epP	pP	07 48 37.3	+0.6
SCHQ	**Schefferville**	56.01	316	P	P	07 48 31.7	-1.1
	comp=Z,3.2nm,0.7s,mb4.5,baz=57,slow=7.7,SNR=16						
SCHQ				LR	LR	08 12 01.1	
	comp=Z,232nm,20.1s,MS4.3,baz=183,slow=36						
SCHQ	**Schefferville**	56.01	316	eP	P	07 48 31.0	-1.8
	comp=Z,3.3nm,0.7s,mb4.5						
SCHQ				epP	pP	07 48 37.3	+0.7
RES	**Resolute Bay**	56.78	343	eP	P	07 48 37.2	-0.7
	comp=Z,78nm,0.7s,mb5.8						
RES	**Resolute Bay**	56.78	343	eP	P	07 48 37.2	-0.8
	comp=Z,78nm,0.7s,mb5.8						
TIXI	**Tiksi**	56.97	21	eP	P	07 48 38.3	-1.2
	comp=Z,25nm,1.8s,mb4.9						
TIXI	**Tiksi**	56.97	21⇑	eP	P	07 48 36.6	-2.8
TIXI				pmax	pmax		
	comp=Z,6.0nm,1.5s,mb4.4						
TIXI	**Tiksi**	56.97	21	eP	P	07 48 38.3	-1.1
	comp=Z,25nm,1.8s,mb4.9						
BOD	**Bodaibo**	58.26	39	eP	P	07 48 45.8	-2.8
BOD				pmax	pmax		
	comp=Z,10.0nm,0.7s,mb5.0						
GTA	**Gaotai**	58.77	63	eP	P	07 48 51.0	-1.5
GTA				AP	pP	07 48 57.3	+0.9
GTA				XP	sP	07 49 00.1	+2.3
GTA				PCP	PcP	07 49 38.8	-3.4
GTA				PP	PP	07 51 02.1	-0.1
GTA				SCP	ScP	07 53 39.3	-3.1
GTA				S	S	07 56 56.1	-1.3
GTA				XS	sS	07 57 06.3	+2.6
GTA				SS	SS	08 00 52.9	+2.8
GTA				AMB	AMB		
	comp=Z,11nm,0.7s,mb5.0						
GTA				AMB	AMB		
	comp=Z,55nm,8.0s						
GTA				LR	LR		
	comp=N,174nm,19.0s,MS4.4						
GTA				LR	LR		
	comp=E,195nm,19.8s,MS4.4						
GTA				LR	LR		
	comp=Z,322nm,19.4s,MS4.5						
SONM	**Songino Array**	58.87	52	P	P	07 48 52.2	-0.9
SONM				pmax	pmax		
	comp=Z,10.0nm,0.7s						
SONM	**Songino Array**	58.87	52	P	P	07 48 52.2	-0.9
	comp=Z,10.0nm,0.7s,mb5.0,baz=285,slow=8.2,SNR=107						
ULN	**Ulaanbaatar**	59.25	51	eP	P	07 48 54.9	-0.8
	comp=Z,8.0nm,0.8s,mb4.8						
ULN	**Ulaanbaatar**	59.25	51⇑	eP	P	07 48 54.5	-1.2
ULN	**Ulaanbaatar**	59.25	51	eP	P	07 48 54.9	-0.8
	comp=Z,8.0nm,0.8s,mb4.8						
SHL	**Shillong**	60.41	81	eP	P	07 49 01.0	-3.0
LZH	**Lanzhou**	63.23	64	eP	P	07 49 21.5	-1.3
LZH				AP	pP	07 49 23.5	-3.2
LZH				AMB	AMB		
	comp=Z,25nm,1.1s,mb5.3						
LZH				AMB	AMB		
	comp=Z,68nm,4.3s						
HHC	**Hu-ho-hao-te**	65.67	56	eP	P	07 49 37.5	-1.2
HHC				AP	pP	07 49 45.0	+2.4
HHC				XP	sP	07 49 48.9	+4.8
HHC				PP	PP	07 52 04.1	+1.2
HHC				SCP		07 54 11.1	
HHC				PCS		07 54 14.0	
HHC				S	S	07 58 19.3	-5.0
HHC				XS	sS	07 58 33.1	+2.4
HHC				SCS	ScS	07 59 27.8	-6.5
HHC				SS	SS	08 02 31.9	-5.9
HHC				AMB	AMB		
	comp=Z,12nm,0.5s,mb5.2						
HHC				AMB	AMB		
	comp=Z,73nm,4.1s						
HHC				LR	LR		
	comp=N,293nm,19.6s,MS4.6						
HHC				LR	LR		
	comp=E,219nm,19.6s,MS4.6						
HHC				LR	LR		
	comp=Z,227nm,17.8s,MS4.4						
CD2	**Chengdu**	66.04	69	P	P	07 49 39.4	-1.9
CD2				AP	pP	07 49 45.5	+0.3
CD2				XP	sP	07 49 48.3	+1.7
CD2				PP	PP	07 52 06.4	0.0
CD2				S	S	07 58 23.8	-5.3
CD2				XS	sS	07 58 34.1	-1.4
CD2				SS	SS	08 02 39.5	-4.5
CD2				AMB	AMB		
	comp=Z,20nm,0.8s,mb5.2						
CD2				AMB	AMB		
	comp=Z,80nm,6.8s						
CD2				LR	LR		
	comp=N,210nm,21.4s,MS4.4						
CD2				LR	LR		
	comp=E,130nm,16.4s,MS4.4						
CD2				LR	LR		
	comp=Z,180nm,14.4s,MS4.4						
FCC	**Fort Churchill**	66.47	329	eP	P	07 49 42.2	-1.4
FCC	**Fort Churchill**	66.47	329	eP	P	07 49 42.2	-1.4
XAN	**Xi'an**	67.82	64	P	P	07 49 51.0	-1.6
XAN				AP	pP	07 49 56.6	+0.1
XAN				AMB	AMB		
	comp=Z,10.0nm,1.3s,mb4.7						
BILL	**Bilibino**	68.17	13	eP	P	07 49 52.6	-1.6
BILL				e		07 49 59.3	
BILL				e		07 50 18.9	
BILL				pmax	pmax		
	comp=Z,3.0nm,1.2s,mb4.2						
BILL				MLR	MLR		
	comp=Z,200nm,22.0s,MS4.3						
KMI	**Kunming**	68.67	75	P	P	07 49 55.6	-2.5
KMI				AP	pP	07 50 04.1	+2.1
KMI				XP	sP	07 50 06.5	+3.1
KMI				AMB	AMB		
	comp=Z,11nm,0.9s,mb4.8						
KMI				LR	LR		
	comp=N,136nm,16.2s,MS4.5						
KMI				LR	LR		
	comp=E,150nm,16.2s,MS4.5						
KMI				LR	LR		
	comp=Z,127nm,24.4s						
BJI	**Beijing**	69.01	55	P	P	07 49 55.6	-4.3
BJI				PP	PP	07 52 30.8	-1.1
BJI				SS	SS	08 03 25.8	-3.7
BJI				AMB	AMB		
	comp=Z,6.0nm,0.8s,mb4.6						
BJI				LR	LR		
	comp=N,376nm,16.3s,MS4.8						
BJI				LR	LR		
	comp=E,313nm,15.3s,MS4.8						
BJI				LR	LR		
	comp=Z,296nm,22.3s						
INK	**Inuvik**	69.04	350	eP	P	07 49 57.6	-2.0
SEY	**Seymchan**	69.47	21⇑	eP	P	07 50 00.3	-2.1
BOSA	**Boshof**	69.62	175	P	P	07 50 02.4	-1.2
BOSA				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.4						
BOSA				MLR	MLR		
	comp=Z,356nm,19.3s,MS4.6						
BOSA	**Boshof**	69.62	175	P	P	07 50 02.4	-1.2
	comp=Z,2.4nm,0.4s,mb4.5,baz=350,slow=6.8,SNR=8.0						
BOSA				LR	LR	08 23 04.7	
	comp=Z,356nm,19.3s,MS4.6,baz=360,slow=38						
CHTO	**Chiang Mai**	69.66	82	eP	P	07 50 00.6	-3.6
	comp=Z,16nm,1.1s,mb4.8						
CHTO	**Chiang Mai**	69.66	82	eP	P	07 50 00.6	-3.6
CHTO				pmax	pmax		
	comp=Z,16nm,1.1s,mb4.9						
YKW3	**Yellowknife Ar**	70.38	340	eP	P	07 50 07.3	-0.7
YKW3	**Yellowknife Ar**	70.38	340	eP	P	07 50 07.3	-0.7
YKA	**Yellowknife Ar**	70.44	339	P	P	07 50 06.7	-1.6
YKA				LR	LR	08 22 44.8	
YKA	**Yellowknife Ar**	70.44	339⇑	eP	P	07 50 06.6	-1.7
YKA	**Yellowknife Ar**	70.44	339	P	P	07 50 06.7	-1.6
	comp=Z,1.7nm,0.6s,mb4.2,baz=34,slow=5.6,SNR=78						
YKA				LR	LR	08 22 44.8	
	comp=Z,104nm,18.6s,MS4.1,baz=75,slow=37						
YKA	**Yellowknife Ar**	70.44	339	P	P	07 50 06.7	-1.6
GYA	**Guiyang**	70.71	71	P	P	07 50 09.3	-1.3
GYA				AP	pP	07 50 17.3	+2.8
GYA				XP	sP	07 50 20.8	+4.8
GYA				PCP	PcP	07 50 31.9	+0.4
GYA				PP	PP	07 52 48.9	+1.9
GYA				S	S	07 59 21.8	-3.1
GYA				SKS		08 00 06.9	
GYA				SS	SS	08 03 55.3	-1.1
GYA				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.7						
GYA				AMB	AMB		
	comp=Z,80nm,5.7s						
GYA				LR	LR		
	comp=N,430nm,20.8s,MS4.9						
GYA				LR	LR		
	comp=E,530nm,22.6s,MS4.9						
GYA				LR	LR		
	comp=Z,410nm,20.3s,MS4.7						
MA2	**Magadan**	71.70	24	eP	P	07 50 15.1	-0.9
	comp=Z,9.9nm,0.7s,mb4.8						
MA2	**Magadan**	71.70	24	eP	P	07 50 13.9	-2.1
MA2				e		07 52 50.3	
MA2				eS	S	07 59 30.3	-5.0
MA2				eSS	SS	08 04 02.7	-7.1
MA2				pmax	pmax		
	comp=Z,10.0nm,0.7s,mb4.8						
MA2				MLR	MLR		
	comp=Z,500nm,24.7s,MS4.7						
MA2	**Magadan**	71.70	24	eP	P	07 50 15.1	-0.9
	comp=Z,9.9nm,0.7s,mb4.8						
KLR	**Kul'dur**	71.81	40	eP	P	07 50 11.8	-5.1
CN2	**Changchun**	72.11	47	eP	P	07 50 17.8	-1.0
CN2				eXP	sP	07 50 26.9	+2.7
CN2				eS	S	07 59 36.4	-4.2
CN2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.8						
CN2				AMB	AMB		
	comp=Z,210nm,4.0s						
CN2				LR	LR		
	comp=N,260nm,14.0s,MS4.8						
CN2				LR	LR		
	comp=E,280nm,14.0s,MS4.8						
CN2				LR	LR		
	comp=Z,490nm,13.0s,MS5.0						
IMA2	**Indian Mountai**	72.97	357	eP	P	07 50 23.1	-0.4
IMA2	**Indian Mountai**	72.97	357	eP	P	07 50 23.1	-0.4
ULM	**Lac du Bonnet**	73.06	323	P	P	07 50 22.7	-1.6
	comp=Z,5.5nm,0.7s,mb4.6,baz=46,slow=5.3,SNR=14						
ULM				LR	LR	08 23 44.2	
	comp=Z,215nm,19.3s,MS4.4,baz=64,slow=37						
SUR	**Sutherland**	73.21	179	LR	LR	08 26 48.2	
	comp=Z,282nm,19.1s,MS4.6,baz=0.0,slow=39						
MDJ	**Mudanjiang**	73.82	44	P	P	07 50 26.9	-2.0
MDJ				AMB	AMB		
	comp=Z,4.0nm,0.7s,mb4.5						
MDJ				AMB	AMB		
	comp=Z,40nm,3.

comp=Z,2.4nm,0.6s,mb4.3
WALA Waterton Lakes 81.39 331 *e*P **P 07 51 10.6 -0.5**
comp=Z,2.3nm,0.6s,mb4.3
HRY Holter Researc 82.56 329 *e*P **P 07 51 16.9 -0.3**
HRY Holter Researc 82.56 329 *e*P **P 07 51 17.0 -0.3**
BOZ Bozeman (W) 83.36 328 *e*P **P 07 51 21.9 +0.4**
comp=Z,2.6nm,1.1s,mb4.2
BOZ Bozeman (W) 83.36 328 *e*P **P 07 51 21.9 +0.5**
BOZ pmax pmax
comp=Z,3.0nm,1.1s,mb4.2
BOZ Bozeman (W) 83.36 328 *e*P **P 07 51 21.9 +0.5**
comp=Z,2.6nm,1.1s,mb4.2
MAJO Matsushiro 84.16 46 *e*P **P 07 51 23.3 -2.4**
MAJO pmax pmax
comp=Z,8.0nm,1.0s,mb4.8
MAJO Matsushiro 84.16 46 *e*P **P 07 51 23.3 -2.4**
comp=Z,8.1nm,1.0s,mb4.8
MJAR Matsushiro Arr 84.16 46 P **P 07 51 24.0 -1.7**
MJAR pmax pmax
comp=Z,5.0nm,0.8s
MJAR MLR MLR
comp=Z,187nm,18.6s
MJAR Matsushiro Arr 84.16 46 P **P 07 51 24.0 -1.7**
comp=Z,4.6nm,0.8s,mb4.6,baz=318,slow=4.1,SNR=8.3
MJAR LR LR 08 31 54.6
comp=Z,187nm,18.6s,MS4.5,baz=260,slow=38
BDFB Brasilia 84.48 244 P **P 07 51 27.5 0.0**
BDFB pmax pmax
comp=Z,2.0nm,0.6s
BDFB Brasilia 84.48 244 P **P 07 51 27.5 0.0**
comp=Z,1.5nm,0.6s,mb4.3,baz=83,slow=13,SNR=6.6
IMW Indian Meadow 84.51 327 *e*P **P 07 51 26.7 -0.7**
IMW Indian Meadow 84.51 327 *e*P **P 07 51 26.7 -0.7**
MOOW Moose Ponds 84.56 327 *e*P **P 07 51 27.8 +0.3**
comp=Z,84nm,3.0s
MOOW Moose Ponds 84.56 327 *e*P **P 07 51 27.8 +0.2**
comp=Z,84nm,3.0s
LOHW Long Hollow 84.61 326 *e*P **P 07 51 27.1 -0.8**
PDAR Pinedale Array 84.85 325 P **P 07 51 28.4 -0.8**
comp=Z,1.5nm,0.6s,mb4.3,baz=46,slow=4.4,SNR=13
PDAR LR LR 08 28 57.6
comp=Z,220nm,21.7s,MS4.5,baz=31,slow=35
TPAW Teton Pass 84.85 327 *e*P **P 07 51 29.0 -0.1**
TPAW Teton Pass 84.85 327 *e*P **P 07 51 29.0 -0.1**
ISCO Idaho Springs 85.44 321 *e*P **P 07 51 32.4 +0.3**
ISCO Idaho Springs 85.44 321 *e*P **P 07 51 32.4 +0.3**
BMO Blue Mountains 86.19 331 *e*P **P 07 51 34.6 -1.1**
BMO Blue Mountains 86.19 331 *e*P **P 07 51 34.6 -1.1**
HWUT Hardware Ranch 86.66 326 *e*P **P 07 51 37.3 -0.8**
comp=Z,2.5nm,0.6s,mb4.6
HWUT Hardware Ranch 86.66 326 *e*P **P 07 51 37.3 -0.8**
comp=Z,2.5nm,0.6s,mb4.6
SRU San Rafael 88.25 324 *e*P **P 07 51 45.1 -0.7**
SRU San Rafael 88.25 324 *e*P **P 07 51 45.2 -0.6**
NVAR Mina Array Bea 92.10 328 P **P 07 52 03.0 -0.8**
comp=Z,0.4nm,0.5s,mb4.0,baz=62,slow=34,SNR=3.8
TXAR Lajitas Array 92.63 313 P **P 07 52 06.3 -0.1**
TXAR Lajitas Array 92.63 313 P **P 07 52 06.3 -0.1**
TXAR pmax pmax
comp=Z,1.0nm,0.8s
TXAR Lajitas Array 92.63 313 P **P 07 52 06.3 -0.1**
comp=Z,1.2nm,0.8s,mb4.4,baz=78,slow=4.4,SNR=12
LPAZ La Paz 99.18 256 LR LR 08 39 45.2
comp=Z,79nm,19.5s,MS4.2,baz=69,slow=37
WRA Warramunga Arr 120.98 90 PKIKP PKPdf 07 57 44.6 -2.6
WRA pmax pmax
comp=Z,1.0nm,0.7s
WRA Warramunga Arr 120.98 90 PKP PKPdf 07 57 44.6 -2.6
comp=Z,0.6nm,0.7s,baz=314,slow=1.7,SNR=6.0
ASAR Alice Springs 122.82 94 PKIKP PKPdf 07 57 48.5 -2.2
ASAR pmax pmax
comp=Z,1.0nm,0.6s
ASAR Alice Springs 122.82 94 PKP PKPdf 07 57 48.5 -2.2
comp=Z,1.2nm,0.6s,baz=305,slow=1.6,SNR=21
STKA Stephens Creek 132.92 98 PKP PKPdf 07 58 09.0 -0.7
comp=Z,1.9nm,0.9s,baz=196,slow=7.4,SNR=2.4

MEX 16 07:45:36.4±0.3, 1716N×10042W, h43km±3km, MD3.5, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.18**	**127**	*i* P	Pn	07 45 42.6	-1.3
CAIG				*i* S	Sn	07 45 47.3	-1.8
ACX	**Acapulco**	**0.56**	**121**	*i* P	Pn	07 45 46.5	-1.6
ACX				*i* S	Sn	07 45 54.6	-1.8
MEIG	**Mezcala**	**1.08**	**45**	*i* P	Pn	07 45 53.7	-1.4
MEIG				*i* S	Sn	07 46 06.7	-2.2
UTMO	**Huajuapan**	**2.59**	**75**	*i* P	Pn	07 46 14.2	-1.5
UTMO				*i* S	Sn	07 46 44.5	-1.5

TIR 16 07:50:30.1±3.7, 4104N×2035E, h5km±999km, ML4.5, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIR	**Tirane**	**0.48**	**310**	*i* PG	Pg	07 50 38.0	-1.3
QSH	**Qafa e Shtames**	**0.58**	**325**	*i* PG	Pg	07 50 45.0	+3.7
QSH				*i* SG	Sg	07 50 52.0	+3.0
PHP	**Peshkopia**	**0.65**	**6**	*i* PG	Pg	07 50 44.1	+1.6
PHP				*i* SG	Sg	07 50 53.1	+2.2
KRUS	**Krusevo**	**0.75**	**64**	*e*Pg	Pg	07 50 50.4	+5.8
KRUS				*i* Sg	Sg	07 51 03.9	+10

*ISCJB **16** 07:54:20.1±0.5, 2666N±005×12777E±005, h55km±5km, mb3.3/4, Error ellipse: s-maj=10.5km s-min=5.2km az=137.7*
*JMA **16** 07:54:20.8±0.2, 2669N×12776E, h52km±3km, M3.4*
JMA Felt I J1.
*IDC **16** 07:54:21.3±1.5, 2670N×128.10E, h51km±16km, mb3.2/4, mb1 3.4/4, mb1mx3.2/18, mbtmp3.2/4, MS3.7/1, Ms1 3.7/1, ms1mx2.6/15, Error ellipse: s-maj=38.4km s-min=26.0km az=76.0*
ISC 16 07:54:21.0±0.5, 2666N±005×12776E±005, h49km±5km, n15, σ0$86/25, mb3.3/4, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIH	**Iheya**	**0.41**	**26**	P	**Pn**	**07 54 31.1**	**0.0**
JIH				S	**Sn**	**07 54 38.3**	**-0.1**
NAH1	**Naha**	**0.46**	**188**	P	**Pn**	**07 54 31.8**	**+0.1**
NAH1				S	**Sn**	**07 54 39.8**	**+0.5**
JAGN	**Aguni-jima**	**0.47**	**261**	P	**Pn**	**07 54 31.8**	**0.0**
JAGN				S	**Sn**	**07 54 39.3**	**-0.2**
JOW	**Kunigami**	**0.49**	**70**	P	**Pn**	**07 54 31.8**	**-0.2**
JOW				S	**Sn**	**07 54 39.4**	**-0.4**
JOW	**Kunigami**	**0.49**	**70**	P	**Pn**	**07 54 31.9**	**-0.1**
	196nm,0.3s,baz=163,slow=15,SNR=333						
JOW				S	**Sn**	**07 54 38.3**	**-1.5**
	1μm,0.3s,baz=104,slow=24,SNR=90						
JJT2	**Tamagusuku 2**	**0.52**	**181**	P	**Pn**	**07 54 32.9**	**+0.5**
JJT2				*e*S	**Sn**	**07 54 41.8**	**+1.3**
JKE	**Kume jima 2**	**0.94**	**249**	P	**Pn**	**07 54 37.5**	**-0.3**
JKE				S	**Sn**	**07 54 49.0**	**-1.1**
JTK	**Tokunoshima**	**1.54**	**43**	P	**Pn**	**07 54 45.9**	**-0.1**
JTK				*e*S	**Sn**	**07 55 04.4**	**-0.4**
JAM	**Amami Oshima**	**2.39**	**43**	P	**Pn**	**07 54 58.6**	**+1.0**
JAM				S	**Sn**	**07 55 25.8**	**+0.1**
JZK	**Kikaishima**	**2.56**	**49**	*e*S	**Sn**	**07 55 31.1**	**+1.2**
JMZ	**Minamidaito 2**	**3.22**	**104**	P	**Pn**	**07 55 06.6**	**-2.4**
JMZ				*e*S	**Sn**	**07 55 41.1**	**-4.9**
SONM	**Songino Array**	**26.96**	**327**	P	**P**	**07 59 59.9**	**+2.1**
	0.4nm,0.3s,mb3.4,baz=140,slow=10,SNR=2.3						
MKAR	**Makanchi Array**	**40.94**	**312**	P	**P**	**08 01 58.6**	**0.0**
	0.7nm,0.5s,mb3.5,baz=92,slow=9.8,SNR=7.8						
WRA	**Warramunga Arr**	**46.76**	**171**	P	**P**	**08 02 45.0**	**-0.6**
	0.3nm,0.6s,mb3.4,baz=355,slow=8.3,SNR=4.8						
YKA	**Yellowknife Ar**	**78.31**	**25**	P	**P**	**08 06 14.9**	**-0.7**
	0.1nm,0.5s,mb3.0,baz=305,slow=5.7,SNR=5.8						

*TIR **16** 07:54:30.9±3.5, 4107N×2015E, h3km±999km*
*ISCJB **16** 07:54:33.1±1.5, 4113N±008×2012E±006, h10km, Error ellipse: s-maj=12.3km s-min=4.9km az=24.3*
*CSEM **16** 07:54:33.4±0.2, 4120N×2013E, h5km, ML2.5, Error ellipse: s-maj=4.9km s-min=2.2km az=20.0*
*SKO **16** 07:54:33.8, 4113N×2007E, h6km, M2.0, ML2.5*
ISC 16 07:54:33.4±1.7, 4111N±009×2010E±007, h10km, n6, σ1$21/12, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIR	**Tirane**	**0.29**	**323**	*i* PG	**Pg**	**07 54 38.2**	**-1.1**
TIR				*i* SG	**Sg**	**07 54 42.9**	**-0.3**
QSH	**Qafa e Shtames**	**0.43**	**341**	*i* PG	**Pg**	**07 54 44.0**	**+2.1**
QSH				*i* SG	**Sg**	**07 54 50.5**	**+2.9**
OHR	**Ohrid**	**0.53**	**90**	*i* Pg	**Pg**	**07 54 43.6**	**-0.1**
OHR				*i* Sg	**Sg**	**07 54 51.4**	**+0.7**
	comp=N,144nm,0.3s						
OHR				*e*Lg		07 54 52.7	
	comp=N,160nm,0.3s						
OHR				*e*Lg		07 54 53.3	
	comp=E,156nm,0.5s						
OHR	**Ohrid**	**0.53**	**90**	*i* Pg	**Pg**	**07 54 43.6**	**-0.1**
OHR				*i* Sg	**Sg**	**07 54 51.3**	**+0.6**
	comp=E,144nm,0.3s						
PHP	**Peshkopia**	**0.63**	**24**	*i* Pg	**Pg**	**07 54 44.0**	**-1.6**
PHP				*i* Sg	**Sg**	**07 54 52.9**	**-0.9**
KRUS	**Krusevo**	**0.91**	**73**	*i* Pg	**Pg**	**07 54 50.2**	**-0.6**
KRUS				*i* Sg	**Sg**	**07 55 03.4**	**+0.8**

*IDC **16** 08:09:45.8±2.3, 4660N×15321E, h0km, mb3.6/3, mb1 3.8/4, mb1mx3.5/22, mbtmp3.6/4, ML3.2/1, Error ellipse: s-maj=76.6km s-min=32.9km az=166.0*
*MOS **16** 08:09:46.7±1.9, 4653N×15292E, h29km, mb4.0/3, Error ellipse: s-maj=21.2km s-min=14.7km az=52.5*
*ISCJB **16** 08:09:48.8±1.4, 468N±02×1529E±02, h33km, mb3.6/5, Error ellipse: s-maj=34.7km s-min=7.9km az=146.7*
ISC 16 08:09:51.0±1.4, 468N±02×1529E±02, h35km, n14, σ1$10/16, mb3.6/5, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.81**	**248**	*e*PN	**Pn**	**08 10 45.5**	**-1.6**
KUR				S	**Sn**	**08 11 31.5**	**+0.8**
KUR				pmax	pmax		
	comp=N,80nm,0.5s						
KUR				pmax	pmax		
	comp=E,60nm,0.5s						
KUR				pmax	pmax		
	comp=Z,150nm,0.5s						
KUR				smax			
	comp=N,60nm,0.8s						
KUR				smax			
	comp=E,110nm,0.8s						
PET	**Petropavlovsk**	**7.30**	**29**	*e*PN	**Pn**	**08 11 34.9**	**-0.1**
ASAJ	**Asahikawa**	**7.70**	**254**	Pn	**Pn**	**08 11 42.2**	**+1.7**
	comp=E,0.4nm,0.3s,baz=73,slow=14,SNR=3.4						
ERM	**Erimo**	**8.42**	**239**	*e*PN	**Pn**	**08 11 45.0**	**-5.4**
HIA	**Hailar**	**22.21**	**289**	*e*P	**P**	**08 14 42.9**	**-1.2**
BILL	**Bilibino**	**22.43**	**13**	*e*P	**P**	**08 14 46.8**	**+0.6**
BILL				*e*S	**S**	**08 18 55.8**	**+5.4**
BILL				pmax	pmax		
	comp=Z,1.0nm,0.9s,mb3.2						
ULN	**Ulaanbaatar**	**30.75**	**289**	*e*P	**P**	**08 15 59.8**	**-2.8**
KURK	**Kurchatov**	**47.23**	**304**	*e*P	**P**	**08 18 20.3**	**+0.1**
YKA	**Yellowknife Ar**	**51.02**	**37**	P	**P**	**08 18 49.6**	**+0.6**
YKA	**Yellowknife Ar**	**51.02**	**37**	P	**P**	**08 18 49.6**	**+0.7**
	comp=Z,0.2nm,0.6s,mb3.2,baz=297,slow=7.3,SNR=5.4						
FINES	**FINESS Array B**	**63.97**	**335**	*i* P	**P**	**08 20 21.0**	**+0.8**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
FINES	**FINESS Array B**	**63.97**	**335**	P	**P**	**08 20 21.4**	**+1.2**
	comp=Z,0.7nm,0.6s,mb3.9,baz=23,slow=6.8,SNR=4.6						
OBN	**Obninsk**	**65.22**	**325**	*e*P	**P**	**08 20 28.5**	**+0.1**
OBN				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.3						
TXAR	**Lajitas Array**	**77.63**	**60**	P	**P**	**08 21 43.1**	**-0.6**
	comp=Z,0.4nm,0.5s,mb3.6,baz=292,slow=4.0,SNR=8.1						

*NNC **16** 08:11:08.1±3.0, 4048N×7149E, h0km, mb3.6, mpv3.2, Error ellipse: s-maj=29.6km s-min=15.2km az=39.0*
ISC 16 08:11:08.4±4.8, 401N±04×713E±02, h35km, n11, σ0$50/10, 3C-3D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**2.71**	**41**	P	**Pn**	**08 11 48.5**	**-0.8**
	SNR=44						
KK31	**Karatay Array**	**3.06**	**349**	Pn	**Pn**	**08 11 55.2**	**+1.0**
	3.1nm,0.3s,baz=147,slow=12,SNR=125						
KK31				Lg		08 12 34.4	
	61nm,0.3s,baz=154,slow=29,SNR=14						
EKS2	**Erkin-Say**	**3.15**	**35**	P	**Pn**	**08 11 55.8**	**+0.2**
	SNR=23						
UCH	**Uchtor**	**3.21**	**48**	P	**Pn**	**08 11 56.2**	**-0.1**
	SNR=9.3						
AAK	**Ala-Archa**	**3.48**	**42**	P	**Pn**	**08 11 59.8**	**-0.1**
	SNR=13						
KZA	**Kyzart**	**3.56**	**55**	P	**Pn**	**08 12 01.7**	**+0.5**
	SNR=8.9						
TKM2	**Tokmak 2**	**4.27**	**47**	⇓Pn	**Pn**	**08 12 10.4**	**-0.4**
	3.7nm,0.4s						
TKM2				⇑Lg		08 13 13.2	
	24nm,0.8s						
TKM2	**Tokmak 2**	**4.27**	**47**	P	**Pn**	**08 12 10.8**	**0.0**
	SNR=12						
KURBB	**Kurchatov Arra**	**11.67**	**23**	⇑Lg		08 17 05.4	
	1.8nm,0.7s						
KURK	**Kurchatov**	**11.78**	**23**	⇓Lg		08 17 07.6	
	3.9nm,0.7s						
AB31	**Akbulak array**	**12.21**	**322**	⇓Pn	**Pn**	**08 13 59.3**	**-0.3**
	0.6nm,0.6s,baz=132,slow=15,SNR=7.0						
AB31				⇑Sn	**Sn**	**08 16 14.2**	**-0.2**
	1.1nm,0.6s						

*CSEM **16** 08:20:00.1±1.1, 3712N×2461W, h5km, ML2.9, Error ellipse: s-maj=10.5km s-min=4.9km az=98.0, After PDA*
*PDA **16** 08:20:00.1±1.1, 3712N×2461W, h5km, MD3.8, ML2.9, Error ellipse: s-maj=10.5km s-min=4.9km az=98.0*
SVSA 16 08:20:00.1±1.1, 3712N×2461W, h5km, MD3.8, ML2.9, Error ellipse: s-maj=10.5km s-min=4.9km az=98.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSMN	**Pico do Norte,**	**0.38**	**253**	*e*P	Pg	08 20 06.5	-1.0
PSMN				*e*S	Sg	08 20 12.3	-0.2
PDA	**Ponta Delgada**	**1.05**	**307**	*e*P	Pg	08 20 16.3	-3.9
PDA				*e*S	Sg	08 20 28.4	-5.4
PSET	**Sete Cidades**	**1.13**	**309**	*e*P	Pg	08 20 18.1	-3.7
PSET				*e*S	Sg	08 20 31.1	-5.4
PSET				A		08 20 32.2	
	56nm,0.3s						
PSET	**Sete Cidades**	**1.13**	**309**	*e*P	Pg	08 20 18.1	-3.7
PSET				*e*S	Sg	08 20 31.1	-5.4
PSCM	**Serra do Cume**	**2.54**	**309**	*e*P	Pn	08 20 37.0	-4.9
PSCM				*e*S	Sn	08 21 05.3	-7.9
PSCM				A		08 21 09.4	
	26nm,0.3s						
PSCM	**Serra do Cume**	**2.54**	**309**	*e*P	Pn	08 20 37.0	-4.9
PSCM				*e*S	Sn	08 21 05.3	-7.9

*ISCJB **16** 08:20:51.3±0.9, 1319N±004×6022W±005, h10km, Error ellipse: s-maj=7.5km s-min=5.2km az=166.6*
*TRN **16** 08:20:53.0, 1323N×6039W, h11km, MD3.4, M3.2(FDF)*
*NEIC **16** 08:20:54.8, 1329N×6033W, h42km, MD3.4(TRN), After TRN.*
*FUNV **16** 08:20:59.3, 1277N×6002W, h74km, MW3.6*
ISC 16 08:20:52.3±0.9, 1323N±004×6021W±005, h10km, n17, σ1$07/29, Windward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SSV	**Crater Summit**	**0.96**	**276**	*e*P	**Pg**	**08 21 11.6**	**+0.8**
SSV				*e*S	**Sg**	**08 21 23.7**	**+0.3**
SVV	**Soufriere Volc**	**0.98**	**275**	*e*P	**Pg**	**08 21 12.2**	**+0.9**
SVV				*e*S	**Sg**	**08 21 23.3**	**-0.8**
SVB	**Belmont**	**1.01**	**272**	*e*P	**Pg**	**08 21 12.3**	**+0.4**
SVB				*e*S	**Sg**	**08 21 25.7**	**+0.6**
BIM	**Bigot**	**1.53**	**327**	*e*P	**Pn**	**08 21 19.4**	**-0.3**
BIM				*e*S	**Sn**	**08 21 38.4**	**-1.2**
FDF	**Fort de France**	**1.75**	**329**	*e*P	**Pn**	**08 21 22.7**	**0.0**
FDF				*e*S	**Sn**	**08 21 44.4**	**-0.7**
GRW	**Mount Saint Ca**	**1.77**	**233**	*e*P	**Pn**	**08 21 23.1**	**+0.1**
GRW				*e*S	**Sn**	**08 21 45.1**	**-0.6**
GRW	**Mount Saint Ca**	**1.77**	**233**	*e*P	**Pn**	**08 21 23.1**	**+0.1**
GRW				*e*S	**Sn**	**08 21 45.1**	**-0.6**
GUIV	**Guiria**	**3.24**	**218**	*e*P	**Pn**	**08 21 43.8**	**+0.6**
GUIV				*e*S	**Sn**	**08 22 17.7**	**-4.1**
ITEV	**Isla Los Testi**	**3.41**	**237**	*e*P	**Pn**	**08 21 48.5**	**+2.9**
ITEV				*e*S	**Sn**	**08 22 23.9**	**-2.2**
CRUV	**Carupano**	**3.90**	**230**	*e*P	**Pn**	**08 21 53.8**	**+1.5**
CRUV				*e*S	**Sn**	**08 22 34.2**	**-4.1**
GUNV	**Guanoco**	**4.06**	**222**	*e*P	**Pn**	**08 21 54.7**	**+0.2**
GUNV				*e*S	**Sn**	**08 22 36.9**	**-5.2**
RIOV	**Rio Grande**	**5.37**	**197**	*e*P	**Pn**	**08 22 11.3**	**-1.2**
PRGV	**PARIAGUAN**	**6.22**	**225**	*e*P	**Pn**	**08 22 25.1**	**+0.8**
CUPV	**Cœpira**	**6.31**	**241**	*e*P	**Pn**	**08 22 27.3**	**+1.9**
LUEV	**Luepa**	**7.44**	**190**	*e*P	**Pn**	**08 22 37.0**	**-4.1**
LUEV				*e*S	**Sn**	**08 23 50.1**	**-16**
CAOV	**Caicara del Or**	**8.40**	**226**	*e*P	**Pn**	**08 22 53.1**	**-1.1**
BAUV	**El Baul**	**8.79**	**242**	*e*P	**Pn**	**08 23 00.5**	**+0.9**

*ISCJB **16** 08:21:50.6±1.7, 3169S±004×7215W±007, h15km±13km, mb3.6/2, Error ellipse: s-maj=10.4km s-min=6.7km az=173.7*
*GUC **16** 08:21:52.3±1.0, 3168S×7203W, h36km±6km, MD4.1, ML3.9*
*NEIC **16** 08:21:52.3, 3168S×7203W, h36km, MD4.1(GUC), After GUC.*
*IDC **16** 08:21:54.3±1.3, 3167S×7204W, h30km±5km, mb3.4/2, mb1 3.6/4, mb1mx3.4/17, mbtmp3.3/4, ML3.5/2, Error ellipse: s-maj=55.1km s-min=35.6km az=74.0*
ISC 16 08:21:51.0±1.3, 3171S±004×7206W±008, h5km±7km, n29, σ0$89/32, mb3.5/2, 3C-9D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHNG	**Los Chungos**	**0.51**	**110**	⇓*i*P	**Pg**	**08 21 43.0**	**-18**
CHNG				*i* S	**Sg**	**08 21 50.7**	**-17**
CHNG				AML	AML	08 21 51.9	
	comp=E,6μm,0.5s						
PACH	**Papudo**	**0.99**	**148**	⇓*i*P	**Pg**	**08 22 09.8**	**-0.1**
PACH				*i* S	**Sg**	**08 22 23.5**	**+0.8**
CMCH	**Combarbala**	**1.05**	**60**	⇓*i*P	**Pg**	**08 22 10.0**	**-1.1**
CMCH				*i* S	**Sg**	**08 22 24.8**	**0.0**
CMCH	**Combarbala**	**1.05**	**60**	⇓*i*P	**Pg**	**08 22 10.0**	**-1.1**
CMCH				*i* S	**Sg**	**08 22 24.8**	**0.0**
CMCH				AML	AML	08 22 26.6	
	comp=N,26μm,0.7s						
PTCH	**Petorca**	**1.11**	**120**	⇓*i*P	**Pg**	**08 22 12.0**	**-0.3**
PTCH				*i* S	**Sg**	**08 22 27.0**	**+0.2**
PTCH	**Petorca**	**1.11**	**120**	⇓*i*P	**Pg**	**08 22 12.0**	**-0.3**
PTCH				*i* S	**Sg**	**08 22 27.0**	**+0.2**
PTCH				AML	AML	08 22 27.3	
	comp=N,2μm,0.3s						
OVCH	**Ovalle**	**1.32**	**34**	AML	AML	08 22 44.4	
	comp=N,3μm,0.4s						
IHA	**Instituto Hidr**	**1.36**	**165**	⇑*i*P	**Pn**	**08 22 15.2**	**-1.5**
JACH	**Jahuel**	**1.58**	**128**	*e*P	**Pn**	**08 22 19.3**	**-0.4**
PEL	**Peldehue**	**1.85**	**141**	⇓*i*P	**Pn**	**08 22 23.1**	**-0.2**
PEL				*i* S	**Sn**	**08 22 46.1**	**-1.1**
PEL				AML	AML	08 22 53.6	
	comp=E,5μm,0.2s						
TLL	**Tololo Astrono**	**1.88**	**36**	AML	AML	08 22 59.7	
	comp=N,2μm,0.7s						
STL	**Santa Lucia**	**2.10**	**146**	AML	AML	08 23 03.7	
	comp=E,228nm,0.6s						
DSCH	**Colegio Aleman**	**2.11**	**144**	*e*P	**Pn**	**08 22 26.1**	**-0.8**
DSCH				AML	AML	08 23 00.2	
	comp=E,281nm,0.5s						
CLCH	**Cerro Calan**	**2.12**	**143**	⇑*i*P	**Pn**	**08 22 26.8**	**-0.3**
CLCH				*i* S	**Sn**	**08 22 55.6**	**+1.7**
CLCH				AML	AML	08 23 00.5	
	comp=E,2μm,0.7s						
CLCH				AML	AML	08 23 00.8	
	comp=E,2μm,0.7s						
FSR	**Penalolen**	**2.19**	**144**	*e*P	**Pn**	**08 22 28.2**	**+0.1**
FSR				AML	AML	08 23 06.8	
	comp=E,2μm,0.8s						
FCH	**Farellones**	**2.21**	**138**	*e*P	**Pn**	**08 22 28.2**	**-0.1**
FCH				*e*S	**Sn**	**08 22 55.7**	**-0.2**
FCH				AML	AML	08 23 01.5	
	comp=E,772nm,0.6s						
ANTU	**Antumapu**	**2.22**	**147**	⇑*i*P	**Pn**	**08 22 28.1**	**-0.3**
ANTU				AML	AML	08 23 10.5	
	comp=N,1μm,0.6s						
SJCH	**San Jose de Ma**	**2.41**	**144**	AML	AML	08 23 10.3	
	comp=N,534nm,0.9s						
CHCH	**Chadas Angostu**	**2.52**	**152**	⇓*i*P	**Pn**	**08 22 32.6**	**0.0**
LMEL	**Las Melosas**	**2.65**	**144**	*e*P	**Pn**	**08 22 34.7**	**+0.3**
LMEL				AML	AML	08 23 27.9	
	comp=N,475nm,0.3s						
CACH	**El Canelo**	**2.70**	**153**	*e*P	**Pn**	**08 22 36.0**	**+0.9**
LCO	**Las Campanas**	**2.93**	**24**	*e*P	**Pn**	**08 22 40.9**	**+2.6**
CICH	**Cipreses**	**2.95**	**153**	⇓*i*P	**Pn**	**08 22 38.9**	**+0.3**
PLCA	**Paso Flores**	**9.09**	**173**	Pn	**Pn**	**08 24 04.1**	**+1.2**
	comp=N,0.2nm,0.3s,baz=355,slow=11,SNR=3.2						
LPAZ	**La Paz**	**15.76**	**14**	Pn	**Pn**	**08 25 35.3**	**+1.5**
	comp=N,0.0nm,0.3s,baz=143,slow=10,SNR=3.5						
TXAR	**Lajitas Array**	**67.73**	**330**	P	**P**	**08 32 48.3**	**-1.2**
	comp=N,0.4nm,0.9s,mb3.5,baz=138,slow=5.6,SNR=2.5						
TORD	**Torodi Ar. Bea**	**83.45**	**70**	P	**P**	**08 34 19.2**	**-0.8**
	comp=N,0.5nm,0.8s,mb3.6,baz=265,slow=6.0,SNR=2.8						
TORD				pP	pP	08 34 27.6	+6.1
	comp=N,1.2nm,0.8s,baz=257,slow=4.1,SNR=6.6						
BVAR	**Borovoye Array**	**145.59**	**41**	PKPbc	PKPbc	08 41 28.9	-1.2
	comp=N,0.3nm,0.4s,baz=290,slow=4.2,SNR=4.0						
BVAR				pPKPbc	pPKPbc	08 41 38.7	+7.0
	comp=N,1.8nm,0.5s,baz=298,slow=3.1,SNR=8.3						
ZALV	**Zalesovo Beam**	**152.28**	**30**	PKPbc	PKPbc	08 41 46.2	-1.2
	comp=N,0.5nm,0.5s,baz=316,slow=4.0,SNR=2.4						
ZALV				pPKPbc	pPKPbc	08 41 56.4	+7.4
	comp=N,1.0nm,0.6s,baz=310,slow=5.1,SNR=3.7						

*NEIC **16** 08:33:02.0, 3172S×7212W, h23km, ML3.8(GUC), After GUC.*
GUC 16 08:33:02.0±0.9, 3172S×7212W, h23km±5km, MD4.2, ML3.8, 11C-8D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHNG	**Los Chungos**	**0.55**	**107**	⇓*i*P	Pb	08 32 53.4	-20
CHNG				*i* S	Sb	08 33 01.1	-19
CHNG				AML	AML	08 33 03.6	
	comp=N,3μm,0.5s						
PACH	**Papudo**	**1.00**	**145**	⇑*i*P	Pb	08 33 20.1	-0.5
PACH				*i* S	Sb	08 33 33.3	0.0
CMCH	**Combarbala**	**1.10**	**61**	⇓*i*P	Pn	08 33 20.5	-1.5
CMCH				*i* S	Sb	08 33 35.2	-0.9
CMCH	**Combarbala**	**1.10**	**61**	⇓*i*P	Pn	08 33 20.5	-1.5
CMCH				*i* S	Sb	08 33 35.2	-0.9
CMCH				AML	AML	08 33 37.3	
	comp=N,19μm,0.6s						
PTCH	**Petorca**	**1.14**	**119**	⇑*i*P	Pn	08 33 22.0	-0.6
PTCH				*i* S	Sb	08 33 37.2	-0.3
PTCH	**Petorca**	**1.14**	**119**

TACH	**Talagante**	**2.17 153**	*i* P	Pn	08 33 37.9	+1.2
FSR	**Penalolen**	**2.21 143**	⇑*i*P	Pn	08 33 38.5	+1.3
FSR			*i* S	Sn	08 34 06.9	+3.1
FSR	**Penalolen**	**2.21 143**	⇑*i*P	Pn	08 33 38.5	+1.3
FSR			*i* S	Sn	08 34 06.9	+3.1
FSR			AML	AML	08 34 19.9	
	comp=N,2μm,0.5s					
FCH	**Farellones**	**2.22 137**	⇑*i*P	Pn	08 33 38.6	+1.1
FCH			*e*S	Sn	08 34 06.7	+2.4
FCH			AML	AML	08 34 11.7	
	comp=E,585nm,0.7s					
ANTU	**Antumapu**	**2.23 146**	AML	AML	08 34 19.5	
	comp=E,1μm,0.7s					
LNV	**Longovilo**	**2.31 165**	⇓*i*P	Pn	08 33 39.3	+0.7
PCH	**Pirque**	**2.33 145**	*e*P	Pn	08 33 39.9	+1.0
CHCH	**Chadas Angostu**	**2.53 151**	*i* P	Pn	08 33 43.1	+1.5
LMEL	**Las Melosas**	**2.66 143**	⇑*i*P	Pn	08 33 44.8	+1.2
LMEL			*i* S	Sn	08 34 18.2	+3.1
LMEL	**Las Melosas**	**2.66 143**	⇑*i*P	Pn	08 33 44.8	+1.2
LMEL			*i* S	Sn	08 34 18.2	+3.1
LMEL			AML	AML	08 34 25.8	
	comp=N,539nm,0.5s					
CACH	**El Canelo**	**2.71 152**	⇓*i*P	Pn	08 33 46.3	+2.1
CICH	**Cipreses**	**2.96 152**	*i* P	Pn	08 33 49.2	+1.6
LCO	**Las Campanas**	**2.96 25**	*e*Pn	Pn	08 33 48.0	+0.3
SFDO	**San Fernando**	**3.03 163**	⇓*i*P	Pn	08 33 49.6	+1.0

WEL 16 08:33:46.0±0.1, 4032S×17577E, h44km±1km, ML3.5/16, Error ellipse: s-maj=1.3km s-min=0.6km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TSZ	**Takapari Road**	**0.29**	**29**	P*	Pn	08 33 53.2	-1.3
TSZ				S*	Sn	08 33 59.0	-1.4
MRZ	**Mangatainoka R**	**0.38**	**203**	P*	Pn	08 33 54.9	-0.5
MRZ				S*	Sn	08 34 01.7	-0.3
TIWZ	**Tintock**	**0.47**	**170**	P*	Pn	08 33 56.8	+0.3
TIWZ				S*	Sn	08 34 04.4	+0.5
BFZ	**Birch Farm**	**0.51**	**136**	P*	Pn	08 33 57.1	0.0
BFZ				S*	Sn	08 34 06.4	+1.5
WPHZ	**Waipukurau**	**0.57**	**64**	P*	Pn	08 33 57.7	0.0
WPHZ				S*	Sn	08 34 07.9	+1.8
WAZ	**Wanganui**	**0.82**	**312**	PN	Pn	08 34 01.1	0.0
WAZ				SN	Sn	08 34 13.1	+0.9
KIW	**Kapiti Island**	**0.85**	**230**	PN	Pn	08 34 01.7	+0.1
KIW				S*	Sn	08 34 13.9	+0.9
MTW	**Mount Morrison**	**0.87**	**194**	PN	Pn	08 34 01.4	-0.4
PXZ	**Pawanui**	**0.88**	**72**	PN	Pn	08 34 01.5	-0.4
MOVZ	**Moawhango**	**0.91**	**359**	PN	Pn	08 34 01.6	-0.7
MOVZ				SN	Sn	08 34 13.5	-0.7
CAW	**Cannon Point**	**0.96**	**214**	PN	Pn	08 34 02.7	-0.3
MTVZ	**Mangateitei**	**0.96**	**346**	PN	Pn	08 34 02.7	-0.3
MTVZ				SN	Sn	08 34 16.4	+1.0
WNVZ	**Wahianoa**	**0.99**	**352**	PN	Pn	08 34 03.1	-0.4
TRVZ	**Turoa**	**1.03**	**350**	PN	Pn	08 34 03.8	-0.2
TUVZ	**Tukino**	**1.05**	**355**	PN	Pn	08 34 04.0	-0.2
DRZ	**Dome Shelter**	**1.05**	**351**	PN	Pn	08 34 04.2	-0.1
FWVZ	**Far West T-bar**	**1.07**	**351**	PN	Pn	08 34 04.4	-0.2
PKVZ	**Pokaka**	**1.07**	**342**	PN	Pn	08 34 04.3	-0.3
TRWZ	**Traveller**	**1.08**	**183**	PN	Pn	08 34 04.4	-0.3
PAWZ	**Paruwai Farm**	**1.10**	**194**	PN	Pn	08 34 04.4	-0.6
WPVZ	**Whakapapa**	**1.12**	**351**	PN	Pn	08 34 05.2	0.0
NGZ	**Ngauruhoe**	**1.15**	**353**	PN	Pn	08 34 05.5	0.0
OTVZ	**Oturere**	**1.15**	**356**	PN	Pn	08 34 05.6	0.0
MSWZ	**Moikau Station**	**1.17**	**200**	PN	Pn	08 34 05.1	-0.8
WTVZ	**West Tongariro**	**1.21**	**353**	PN	Pn	08 34 06.5	+0.1
KRVZ	**Karewarewa**	**1.22**	**355**	PN	Pn	08 34 06.7	+0.1
MRW	**Makara Radio**	**1.22**	**221**	PN	Pn	08 34 06.0	-0.7
WEL	**Wellington**	**1.23**	**218**	PN	Pn	08 34 06.3	-0.5
TWVZ	**Taurewa**	**1.27**	**348**	PN	Pn	08 34 07.3	0.0
BKZ	**Black Stump Fm**	**1.27**	**26**	PN	Pn	08 34 06.8	-0.5
SNZO	**South Karori**	**1.28**	**219**	PN	Pn	08 34 06.7	-0.7
BHW	**Baring Head**	**1.29**	**212**	PN	Pn	08 34 06.7	-0.9

NIED ***16*** *09:04:00, 2750N×12930E, h11km, Mw4.9 Best double couple: M₀2.35000×10¹⁶ NP1:ϕ₀32.00000°, δ78.00000°, λ83.00000°. NP2:ϕ₀243.00000°, δ14.00000°, λ120.00000°.*
BJI ***16*** *09:04:48.3, 27.17N×12973E, h30km, mB4.8, mb4.7, Ms4.7, Msz4.6*
ISCJB ***16*** *09:04:52.9±0.2, 2742N±002×12933E±003, h30km, mb4.9/106, MS4.6/50, Error ellipse: s-maj=3.6km s-min=2.6km az=41.6*
MOS ***16*** *09:04:53.6±1.2, 2749N×12934E, h33km, mb5.1/53, MS4.8/21, Error ellipse: s-maj=8.5km s-min=4.9km az=107.4*
NEIC ***16*** *09:04:54.8±0.2, 2745N×12926E, mb5.0/65, MS4.9/5, MW4.9(NIED), Error ellipse: s-maj=4.6km s-min=4.1km az=135.0*
NEIC Recorded [1 JMA] on Amami-oshima, Okino-erabu-shima and Tokuno-shima.
GCMT ***16*** *09:04:54.8±0.4, 2727N×12945E, h34km±1km, MW5.0/63, Moment Tensor Solution. s29,c34; s63,c92; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr3.03±.22; Mθθ-1.10±.13; Mϕϕ-1.93±.15; Mrθ1.52±.14; Mrϕ-1.62±.08; Mθϕ1.48±.14; Best double couple: M₀3.76400×10¹⁶ NP1:ϕ₀213.00000°, δ28.00000°, λ82.00000°. NP2: ϕ₀42.00000°, δ62.00000°, λ94.00000°. Principal axes: T 3.6960, Plg72.0000°, Azm323.0000°; N 0.1370, Plg4.0000°, Azm220.0000°; P -3.8330, Plg17.0000°, Azm129.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
JMA ***16*** *09:04:54.7±0.1, 2750N×12926E, h40km±3km, M5.0*
JMA Felt I J1.
IDC ***16*** *09:04:56.2±1.2, 2746N×12923E, h47km±12km, mb4.3/21, mb1 4.3/25, mb1mx4.3/27, mbtmp4.2/25, ML4.0/4, MS4.2/24, Ms1 4.2/24, ms1mx4.1/30, Error ellipse: s-maj=13.8km s-min=10.0km az=99.0*
SZGRF ***16*** *09:04:59.4, 2842N×12997E, h35km, mb5.4, MS5.1, Ryukyu Islands, Japan*

ISC 16 09:04:55.0±0.2, 2747N±002×12929E±003, h32km, h32km±.6km: pP-P, n327, σ1902/343, mb4.9/106, MS4.6/51, 25C-9D, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTK	**Tokunoshima**	**0.44**	**317**	P	**Pb**	**09 05 03.9**	**-0.7**
JTK				*e*S	**Sb**	**09 05 10.6**	**-0.6**
JAM	**Amami Oshima**	**0.98**	**16**	P	**Pn**	**09 05 12.0**	**-0.6**
JAM				*e*S	**Sn**	**09 05 24.4**	**-1.0**
JZK	**Kikaishima**	**1.04**	**35**	P	**Pn**	**09 05 13.2**	**-0.1**
JOW	**Kunigami**	**1.10**	**235**	P	**Pn**	**09 05 14.0**	**-0.2**
JOW				*e*S	**Sn**	**09 05 28.4**	**+0.1**
JOW	**Kunigami**	**1.10**	**235**	P	**Pn**	**09 05 14.1**	**-0.2**
	774nm,0.3s,baz=80,slow=8.6,SNR=483						
JOW				S	**Sn**	**09 05 28.5**	**+0.2**
JOW				LR	LR	09 05 47.3	
	comp=Z,8μm,21.2s,baz=309,slow=49						
JIH	**Iheya**	**1.25**	**250**	P	**Pn**	**09 05 16.6**	**+0.3**
JIH				*e*S	**Sn**	**09 05 32.6**	**+0.6**
NAH1	**Naha**	**1.90**	**229**	P	**Pn**	**09 05 25.1**	**-0.1**
JJT2	**Tamagusuku 2**	**1.91**	**226**	P	**Pn**	**09 05 25.5**	**+0.2**
JJT2				*e*S	**Sn**	**09 05 49.1**	**+0.9**
JAGN	**Aguni-jima**	**2.02**	**245**	P	**Pn**	**09 05 26.8**	**-0.1**
JMZ	**Minamidaito 2**	**2.38**	**133**	P	**Pn**	**09 05 28.4**	**-3.4**
JMZ				*e*S	**Sn**	**09 05 53.8**	**-6.1**
JNN	**Nakanoshima**	**2.42**	**12**	P	**Pn**	**09 05 31.8**	**-0.6**
JKE	**Kume jima 2**	**2.51**	**244**	P	**Pn**	**09 05 32.9**	**-0.6**
JKC	**Kuchinoerabu**	**3.09**	**15**	P	**Pn**	**09 05 41.7**	**+0.2**
JTN	**Tanegashima 3**	**3.50**	**25**	P	**Pn**	**09 05 46.8**	**-0.5**
JTN				*e*S	**Sn**	**09 06 26.9**	**-0.7**
JTJ	**Tarama**	**4.99**	**237**	P	**Pn**	**09 06 05.8**	**-1.9**
JIJ	**Ishigaki jima**	**5.57**	**237**	P	**Pn**	**09 06 12.9**	**-2.8**
JNU	**Nakatsue**	**5.80**	**13**	P	**Pn**	**09 06 20.1**	**+1.2**
	19nm,0.3s,baz=344,slow=2.2,SNR=105						
JNU				S	**Sn**	**09 07 36.2**	**+12**
	baz=223,slow=15,SNR=1.8						
TATO	**Taipei**	**7.43**	**252**	*e*Pn	**Pn**	**09 06 41.4**	**+0.1**
YHNB	**Yeheng**	**7.64**	**250**	*e*Pn	**Pn**	**09 06 44.3**	**+0.1**
KSRS	**Korea Array**	**10.03**	**354**	P	**Pn**	**09 07 18.9**	**+2.1**
	0.3nm,0.3s,baz=173,slow=14,SNR=8.4						
KSRS				LR	LR	09 11 26.8	
	comp=Z,1μm,19.1s,baz=169,slow=39						
NJ2	**Nanjing**	**10.15**	**299**	*e*P	**Pn**	**09 07 21.3**	**+2.8**
NJ2				AP		09 07 28.3	
NJ2				XP		09 07 34.3	
NJ2				S	**Sn**	**09 09 13.9**	**+2.6**
NJ2				AMB	AMB		
	comp=Z,60nm,1.0s						
NJ2				AMB	AMB		
	comp=Z,520nm,3.9s						
NJ2				LR	LR		
	comp=N,3μm,14.4s						
NJ2				LR	LR		
	comp=E,4μm,13.0s						
NJ2				LR	LR		
	comp=Z,16μm,14.5s						
JHJ	**Hachijo jima 2**	**10.67**	**56**	LR	LR	09 11 16.7	
	comp=Z,1μm,19.8s,baz=266,slow=35						
CBIJ	**Chichi jima**	**11.48**	**89**	LR	LR	09 11 25.2	
	comp=Z,743nm,19.1s,baz=319,slow=34						
MAJO	**Matsushiro**	**11.79**	**38**	*e*Pn	**Pn**	**09 07 41.9**	**+0.9**
MAT	**Matsushiro**	**11.79**	**38**	P	**Pn**	**09 07 39.9**	**-1.0**
MAT				S	**Sn**	**09 09 49.0**	**-2.3**
MJAR	**Matsushiro Arr**	**11.79**	**38**	P	**Pn**	**09 07 41.2**	**+0.3**
MJAR	**Matsushiro Arr**	**11.79**	**38**	P	**Pn**	**09 07 41.2**	**+0.3**
	comp=Z,0.3nm,0.3s,baz=234,slow=14,SNR=4.9						
DL2	**Dalian**	**13.08**	**333**	⇑P	**Pn**	**09 08 01.0**	**+2.5**
DL2				S	**Sn**	**09 10 28.5**	**+5.6**
DL2				AMB	AMB		
	comp=Z,20nm,0.8s						
DL2				AMB	AMB		
	comp=Z,150nm,5.6s						
DL2				LR	LR		
	comp=N,1μm,14.4s						
DL2				LR	LR		
	comp=E,730nm,14.3s						
DL2				LR	LR		
	comp=Z,1μm,14.7s						
WHN	**Wuhan**	**13.43**	**287**	P	**Pn**	**09 08 06.1**	**+2.7**
WHN				LR	LR		
	comp=Z,4μm,14.1s						
TIA	**Tai'an**	**13.52**	**313**	*e*P	**Pn**	**09 08 08.6**	**+4.1**
TIA				LR	LR		
	comp=N,814nm,11.0s						
TIA				LR	LR		
	comp=E,565nm,11.0s						
GZH	**Guangzhou**	**15.07**	**257**	P	**Pn**	**09 08 27.5**	**+1.9**
GZH				S	**Sn**	**09 11 09.9**	**-1.6**
GZH				LR	LR		
	comp=N,1μm,16.3s						
GZH				LR	LR		
	comp=E,1μm,18.2s						
GZH				LR	LR		
	comp=Z,2μm,14.8s						
SNY	**Shenyang**	**15.07**	**343**	⇑P	**Pn**	**09 08 27.6**	**+2.1**
SNY				AP	pP	09 08 35.6	-3.4
SNY				XP	sP	09 08 39.9	-3.2
SNY				S	**Sn**	**09 11 15.4**	**+4.0**
SNY				XS	sS	09 11 27.6	-14
SNY				SS		09 11 36.3	
SNY				AMB	AMB		
	comp=Z,16nm,0.9s						
SNY				LR	LR		
	comp=N,2μm,13.7s						
SNY				LR	LR		
	comp=Z,3μm,16.7s						
BJT	**Baijiatuau**	**16.58**	**322**	*e*P	**Pn**	**09 08 49.2**	**+4.2**
	comp=Z,36nm,0.8s						
BJT	**Baijiatuau**	**16.58**	**322**	*e*P	**Pn**	**09 08 49.2**	**+4.2**
BJT				pmax	pmax		
	comp=Z,36nm,0.8s						
CN2	**Changchun**	**16.59**	**350**	*e*P	**Pn**	**09 08 45.6**	**+0.5**
CN2				*e*S	**Sn**	**09 11 49.4**	**+1.1**
CN2				AMB	AMB		
	comp=Z,20nm,0.9s						
CN2				AMB	AMB		
	comp=Z,280nm,6.0s						
CN2				LR	LR		
	comp=N,2μm,15.0s						
CN2				LR	LR		
	comp=E,1μm,15.0s						
CN2				LR	LR		
	comp=Z,2μm,16.0s						
BJI	**Beijing**	**16.59**	**322**	P	**Pn**	**09 08 43.8**	**-1.4**
BJI				AMB	AMB		
	comp=Z,22nm,1.0s						
BJI				AMB	AMB		
	comp=Z,707nm,12.9s						
BJI				LR	LR		
	comp=N,1μm,13.9s						
BJI				LR	LR		
	comp=E,963nm,13.9s						
BJI				LR	LR		
	comp=Z,1μm,23.9s						
MDJ	**Mudanjiang**	**17.12**	**1**	P	**Pn**	**09 08 50.3**	**-1.4**
MDJ				AP	pP	09 08 59.8	-1.8
MDJ				XP	sP	09 09 03.9	-1.9
MDJ				S	**Sn**	**09 12 00.3**	**-0.7**
MDJ				SCP	ScP	09 17 06.6	-1.1
MDJ				PCS	PcS	09 17 10.3	-0.8
MDJ				AMB	AMB		
	comp=Z,70nm,5.4s						
MDJ				LR	LR		
	comp=N,592nm,16.0s						
MDJ				LR	LR		
	comp=E,556nm,17.3s						
MDJ				LR	LR		
	comp=Z,737nm,16.0s						
ERM	**Erimo**	**18.42**	**34**	*e*P	**Pn**	**09 09 06.4**	**-1.3**
XAN	**Xi'an**	**18.68**	**296**	P	**Pn**	**09 09 10.0**	**-1.0**
XAN				AP	pP	09 09 18.9	-0.1
XAN				S	**Sn**	**09 12 46.3**	**+7.4**
XAN				AMB	AMB		
	comp=Z,21nm,0.8s						
XAN				AMB	AMB		
	comp=Z,227nm,6.7s						
XAN				LR	LR		
	comp=N,767nm,13.6s						
XAN				LR	LR		
	comp=E,2μm,14.7s						
XAN				LR	LR		
	comp=Z,3μm,15.4s						
QIZ	**Qiongzhong**	**19.73**	**249**	P	**Pn**	**09 09 20.4**	**-3.2**
QIZ				XP	sP	09 09 32.8	-1.9
QIZ				S	**Sn**	**09 12 57.6**	**-6.8**
QIZ				XS	sS	09 13 10.3	-6.1
QIZ				SS		09 13 23.8	
QIZ				LR	LR		
	comp=N,801nm,17.4s						
QIZ				LR	LR		
	comp=Z,1μm,19.6s						
ASAJ	**Asahikawa**	**19.77**	**29**	P	**Pn**	**09 09 22.4**	**-1.6**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,251nm,18.8s						
ASAJ	**Asahikawa**	**19.77**	**29**	P	**Pn**	**09 09 22.4**	**-1.6**
	comp=Z,0.8nm,0.3s,baz=243,slow=17,SNR=10						
ASAJ				LR	LR	09 17 49.0	
	comp=Z,251nm,18.8s,baz=232,slow=39						
HHC	**Hu-ho-hao-te**	**19.78**	**317**	*e*P	**Pn**	**09 09 25.0**	**+0.8**
HHC				AP	pP	09 09 33.3	+2.2
HHC				XP	sP	09 09 38.3	+3.1
HHC				PP		09 09 43.9	
HHC				S	**Sn**	**09 13 05.8**	**+0.3**
HHC				SS		09 13 34.5	
HHC				PCS	PcS	09 17 18.4	+1.4
HHC				AMB	AMB		
	comp=Z,13nm,0.3s						
HHC				AMB	AMB		
	comp=Z,384nm,5.7s						
HHC				LR	LR		
	comp=N,2μm,14.9s						
HHC				LR	LR		
	comp=E,1μm,14.3s						
HHC				LR	LR		
	comp=Z,2μm,15.1s						
GUMO	**Guam**	**20.06**	**130**	*e*P	**P**	**09 09 25.6**	**0.0**
	comp=Z,52nm,0.8s						
GUMO	**Guam**	**20.06**	**130**	*e*P	**P**	**09 09 25.7**	**+0.1**
GUMO				pmax	pmax		
	comp=Z,52nm,0.8s						
GUMO	**Guam**	**20.06**	**130**	P	**P**	**09 09 25.8**	**+0.1**
	comp=Z,23nm,0.5s,baz=231,slow=0.8,SNR=4.6						
GUMO				LR	LR	09 15 54.7	
	comp=Z,786nm,18.9s,MS4.1,baz=269,slow=33						
GYA	**Guiyang**	**20.19**	**272**	⇓*i*P	**P**	**09 09 27.3**	**+0.2**
GYA				AP		09 09 36.8	
GYA				XP	sP	09 09 41.3	+1.5
GYA				PP		09 09 49.0	
GYA				S	**S**	**09 13 08.6**	**-3.4**
GYA				XS	sS	09 13 20.9	-4.8
GYA				SS		09 13 37.3	
GYA				PCP	PcP	09 13 42.3	+1.5
GYA				SCP	ScP	09 17 15.3	+0.5
GYA				AMB	AMB		
	comp=Z,20nm,1.0s						
GYA				AMB	AMB		
	comp=Z,310nm,12.2s						
GYA				LR	LR		
	comp=N,1μm,14.9s,MS4.5						
GYA				LR	LR		
	comp=E,1μm,14.7s,MS4.5						
GYA				LR	LR		
	comp=Z,2μm,14.4s,MS4.5						
BTO	**Baotou**	**20.60**	**314**	*e*P	**P**	**09 09 30.9**	**-0.5**
HABR	**Khabarovsk**	**21.45**	**11**	P	**P**	**09 09 38.1**	**-2.3**
HABR				*e*		09 09 51.1	
HABR				*e*		09 09 58.7	
HABR				*e*S	**S**	**09 13 34.8**	**-1.6**
HABR				*e*		09 13 40.3	
HABR				*e*		09 13 49.4	
HABR				*e*		09 14 01.0	
KLR	**Kul'dur**	**21.81**	**4**	*e*P	**P**	**09 09 37.0**	**-7.3**
YSS	**Yuzh-Sakhalins**	**22.15**	**25**	*e*P	**P**	**09 09 48.2**	**+0.2**
	comp=Z,98nm,1.4s,mb5.0						
YSS	**Yuzh-Sakhalins**	**22.15**	**25**	*αe*P	**P**	**09 09 47.3**	**-0.7**
YSS				*e**PP		09 09 57.8	
YSS				*e*		09 10 10.0	
YSS				*e*S	**S**	**09 13 46.0**	**-4.2**
YSS				pmax	pmax		
	comp=Z,50nm,1.0s,mb4.9						
YSS				pmax	pmax		
	comp=N,40nm,1.1s						
YSS				MLR	MLR		
	comp=Z,400nm,20.0s,MS3.8						
YSS				MLR	MLR		
	comp=N,400nm,16.0s,MS4.0						
YSS				MLR	MLR		
	comp=E,400nm,19.0s,MS4.0						
CD2	**Chengdu**	**22.54**	**285**	⇓*i*P	**P**	**09 09 51.1**	**-1.1**
CD2				AP		09 09 59.5	
CD2				XP	sP	09 10 03.1	-1.9
CD2				PP		09 10 20.5	
CD2				S	**S**	**09 13 50.6**	**-7.4**
CD2				AMB	AMB		
	comp=Z,60nm,1.1s,mb4.9						
CD2				AMB	AMB		
	comp=Z,120nm,5.2s						
CD2				LR	LR		
	comp=N,2μm,14.4s						
CD2				LR	LR		
	comp=N,2μm,13.2s						
CD2				LR	LR		
	comp=Z,2μm,15.0s,MS4.8						
LZH	**Lanzhou**	**23.23**	**298**	*e*P	**P**	**09 09 59.4**	**-0.1**
LZH				AP		09 10 08.0	
LZH				XP	sP	09 10 10.0	-2.3
LZH				PP		09 10 36.4	
LZH				*e*S	**S**	**09 14 04.3**	**-4.8**
LZH				SS		09 14 53.0	
LZH				AMB	AMB		
	comp=Z,39nm,1.1s,mb4.8						
LZH				AMB	AMB		
	comp=Z,275nm,4.2s						
LZH				LR	LR		
	comp=E,2μm,13.4s						
LZH				LR	LR		
	comp=Z,3μm,14.8s,MS4.8						
KMI	**Kunming**	**23.90**	**270**	P	**P**	**09 10 06.1**	**+0.1**
KMI				AP		09 10 15.3	
KMI				XP	sP	09 10 20.6	+1.4
KMI				PP		09 10 43.3	
KMI				S	**S**	**09 14 19.3**	**-1.0**
KMI				XS	sS	09 14 35.5	-0.1
KMI				SS		09 15 17.0	
KMI				AMB	AMB		
	comp=Z,47nm,0.8s,mb5.0						
KMI				AMB	AMB		
	comp=Z,81nm,3.1s						
KMI				LR	LR		
	comp=N,755nm,14.1s,MS4.5						
KMI				LR	LR		
	comp=E,712nm,13.7s,MS4.5						
KMI				LR	LR		
	comp=Z,912nm,14.3s,MS4.4						
KKM	**Kota Kinabalu**	**24.67**	**213**	*e*P	**P**	**09 10 12.5**	**-0.5**
ULN	**Ulaanbaatar**	**26.75**	**326**	*e*P	**P**	**09 10 32.4**	**+0.8**
SONM	**Songino Array**	**27.06**	**325**	P	**P**	**09 10 34.7**	**+0.3**
SONM				pmax	pmax		
	comp=Z,3.0nm,0.7s						
SONM				MLR	MLR		
	comp=Z,539nm,20.7s						
SONM	**Songino Array**	**27.06**	**325**	P	**P**	**09 10 34.7**	**+0.3**
	comp=Z,3.2nm,0.7s,mb3.9,baz=134,slow=8.2,SNR=14						
SONM				LR	LR	09 22 17.9	
	comp=Z,539nm,20.7s,MS4.1,baz=128,slow=38						
GTA	**Gaotai**	**27.21**	**304**	*e*P	**P**	**09 10 34.8**	**-1.0**
GTA				AP	pP	09 10 44.3	-0.8
GTA				XP	sP	09 10 48.1	-1.0
GTA				PCP	PcP	09 13 56.0	+0.6
GTA				S	**S**	**09 15 11.9**	**-0.7**
GTA				XS	sS	09 15 27.8	-0.2
GTA				SS		09 16 32.1	
GTA				SCP	ScP	09 17 31.5	-2.0
GTA				PCS	PcS	09 17 36.4	-0.6
GTA				SCS	ScS	09 21 21.3	-3.4
GTA				AMB	AMB		
	comp=Z,8.0nm,0.9s,mb4.2						
GTA				AMB	AMB		
	comp=Z,149nm,6.9s						
GTA				LR	LR		
	comp=N,1μm,16.7s,MS4.7						
GTA				LR	LR		
	comp=E,1μm,17.1s,MS4.7						
GTA				LR	LR		
	comp=Z,2μm,16.0s,MS4.7						
CHTO	**Chiang Mai**	**29.14**	**259**	*e*P	**P**	**09 10 53.2**	**0.0**
CHTO				*ep*P	pP	09 11 02.0	-0.6
CM31	**Chiang Mai Arr**	**29.28**	**259**	*e*P	**P**	**09 10 54.2**	**-0.3**
CM31				*ep*P	pP	09 11 03.5	-0.4
BOD	**Bodaibo**	**32.19**	**345**	*e*P	**P**	**09 11 18.6**	**-1.2**
BOD				pmax	pmax		
	comp=Z,3.0nm,1.1s,mb4.0						
SHL	**Shillong**	**33.45**	**275**	*e*P	**P**	**09 11 30.0**	**-1.1**
SHL				*e*S	**S**	**09 16 49.0**	**-1.6**
LSA	**Lhasa**	**33.47**	**283**	P	**P**	**09 11 32.4**	**+1.1**
LSA	**Lhasa**	**33.47**	**283**	*e*P	**P**	**09 11 32.3**	**+1.0**
	comp=Z,10nm,0.6s,mb4.9						
LSA				*ep*P	pP	09 11 39.6	-1.0
LSA	**Lhasa**	**33.47**	**283**	*e*P	**P**	**09 11 32.3**	**+1.0**
LSA				*e**PP	pP	09 11 39.6	-1.1
LSA				pmax	pmax		
	comp=Z,10.0nm,0.6s,mb4.9						
PET	**Petropavlovsk**	**33.55**	**32**	*e*P	**P**	**09 11 33.6**	**+1.9**
PET				*e*S	**S**	**09 16 55.6**	**+4.0**
PET				MLR	MLR		
	comp=Z,200nm,20.0s,MS3.8						
YAK	**Yakutsk**	**34.56**	**0**	⇑*e*P	**P**	**09 11 39.4**	**-1.0**
YAK				pmax	pmax		
	comp=Z,37nm,1.0s,mb5.3						
MA2	**Magadan**	**35.34**	**19**	*e*P	**P**	**09 11 46.3**	**-0.8**
	comp=Z,11nm,1.0s,mb4.7						
MA2				*e*P		09 11 46.9	
MA2	**Magadan**	**35.34**	**19**	⇑*e*P	**P**	**09 11 46.1**	**-1.0**
MA2				pmax	pmax		
	comp=Z,10.0nm,1.2s,mb4.6						
WMQ	**Urumqi**	**37.10**	**307**	*e*P	**P**	**09 12 00.3**	**-2.1**
WMQ				AP	pP	09 12 10.0	-1.9
WMQ				XP	sP	09 12 14.0	-1.8
WMQ				PP	PP	09 13 28.0	+0.8
WMQ				*e*S	**S**	**09 17 44.5**	**-1.9**
WMQ				XS	sS	09 18 01.0	-1.0
WMQ				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.8						
WMQ				AMB	AMB		
	comp=Z,113nm,5.0s						
WMQ				LR	LR		
	comp=N,416nm,14.4s,MS4.6						
WMQ				LR	LR		
	comp=E,661nm,17.2s,MS4.6						
WMQ				LR	LR		
	comp=Z,564nm,22.0s,MS4.3						
**

comp=Z,21nm,0.5s,mb5.1
GUN Gumba 38.29 281 *e*P **P 09 12 12.3 -0.3**
comp=Z,76nm,0.7s,mb5.5
SEY Seymchan 38.57 17⇑ *e*P **P 09 12 14.8 +0.3**
PKI Pulchoki 38.76 281 *e*P **P 09 12 16.5 -0.1**
comp=Z,104nm,0.9s,mb5.6
PKI Pulchoki 38.76 281 *e*P **P 09 12 16.5 -0.1**
PKI pmax pmax
comp=Z,104nm,0.9s,mb5.6
KKN Kakani 38.84 281 *e*P **P 09 12 17.2 0.0**
comp=Z,107nm,0.8s,mb5.6
KKN Kakani 38.84 281 *e*P **P 09 12 17.2 0.0**
KKN pmax pmax
comp=Z,107nm,0.8s,mb5.6
DMN Daman 39.02 281 *e*P **P 09 12 18.5 -0.2**
comp=Z,102nm,1.0s,mb5.5
GKN Gorkha 39.36 281 *e*P **P 09 12 21.3 -0.3**
comp=Z,147nm,0.7s,mb5.8
KOLN Koldanda 40.30 281 *e*P **P 09 12 29.5 +0.1**
comp=Z,94nm,1.0s,mb5.5
MK31 Makanchi Array 41.43 311 *e*P **P 09 12 37.7 -0.8**
MKAR Makanchi Array 41.43 311 *i* P **P 09 12 37.5 -1.0**
MKAR pmax pmax
comp=Z,4.0nm,0.5s
MKAR Makanchi Array 41.43 311 P **P 09 12 37.6 -0.9**
comp=Z,3.8nm,0.5s,mb4.3,baz=96,slow=11,SNR=23
MKAR LR LR 09 32 17.3
comp=Z,441nm,18.3s,MS4.4,baz=158,slow=40
ZAA0 Zalesovo Array 41.85 322 *e*P **P 09 12 39.8 -2.1**
ZALV Zalesovo Beam 41.85 322 P **P 09 12 39.4 -2.4**
ZALV PcP PcP 09 14 35.9 -1.3
ZALV LR LR 09 32 02.4
ZALV Zalesovo Beam 41.85 322 P **P 09 12 39.4 -2.4**
comp=Z,2.9nm,0.6s,mb4.1,baz=111,slow=8.8,SNR=12
ZALV PcP PcP 09 14 35.9 -1.3
comp=Z,1.3nm,0.5s,baz=113,slow=3.4,SNR=3.8
ZALV LR LR 09 32 02.4
comp=Z,348nm,18.5s,MS4.3,baz=243,slow=39
ZAL Zalesovo 41.86 322 P **P 09 12 39.4 -2.5**
ZAL 09 14 35.9
TIXI Tiksi 44.23 360⇑ *e*P **P 09 12 59.4 -1.4**
TIXI pmax pmax
comp=Z,9.0nm,1.4s,mb4.3
KURK Kurchatov 44.59 316 *e*P **P 09 13 02.4 -1.5**
comp=Z,85nm,2.5s,mb5.1
KURK Kurchatov 44.59 316⇑ *e*P **P 09 13 02.5 -1.5**
FITZ Fitzroy Crossi 45.44 185 *e*P **P 09 13 10.5 -0.5**
comp=Z,5.5nm,0.7s,mb4.5
FITZ *e* pP 09 13 19.1 -1.5
FITZ Fitzroy Crossi 45.44 185 P **P 09 13 10.0 -1.0**
comp=Z,2.8nm,0.7s,mb4.2,baz=7.9,slow=10.0,SNR=7.2
FITZ LR LR 09 32 15.9
comp=Z,88nm,18.6s,MS3.7,baz=1.8,slow=36
NDI New Delhi 45.66 284 *e*P **P 09 13 11.5 -1.3**
TKM2 Tokmak 2 45.75 304 *e*P **P 09 13 12.7 -0.6**
comp=Z,12nm,0.7s,mb4.9
TKM2 *e*pP pP 09 13 22.3 -0.6
TKM2 Tokmak 2 45.75 304 *e*P **P 09 13 12.7 -0.6**
TKM2 *e**PP pP 09 13 22.3 -0.7
TKM2 pmax pmax
comp=Z,12nm,0.7s,mb4.9
BILL Bilibino 46.20 18 *e*P **P 09 13 16.3 -0.2**
comp=Z,23nm,1.2s,mb5.0
BILL *e*pP pP 09 13 26.2 +0.1
BILL Bilibino 46.20 18 *e*P **P 09 13 15.9 -0.6**
BILL *e* 09 13 28.1
BILL *e* 09 14 51.7
BILL *e* 09 15 05.2
BILL pmax pmax
comp=Z,15nm,1.7s,mb4.7
BILL MLR MLR
comp=Z,200nm,15.0s,MS4.2
UCH Uchtor 46.54 303 *e*P **P 09 13 20.2 +0.6**
comp=Z,13nm,0.8s,mb4.9
UCH *e*pP pP 09 13 29.1 -0.1
EKS2 Erkin-Say 47.09 304 *e*P **P 09 13 23.3 -0.5**
comp=Z,6.3nm,1.1s,mb4.5
EKS2 *e*pP pP 09 13 32.9 -0.6
AML Almayashu 47.15 303 *e*P **P 09 13 25.4 +1.1**
AML *e*pP pP 09 13 33.8 -0.2
WRAB Tennant Creek 47.37 174 *e*P **P 09 13 25.9 -0.2**
comp=Z,20nm,0.9s,mb5.0
WRAB Tennant Creek 47.37 174 *e*P **P 09 13 25.2 -0.9**
WRA Warramunga Arr 47.38 174 P **P 09 13 25.5 -0.7**
comp=Z,9.0nm,0.6s,mb4.8,baz=354,slow=8.4,SNR=136
WRA LR LR 09 32 13.7
comp=Z,107nm,19.8s,MS3.8,baz=350,slow=35
WB2 Warramunga Arr 47.38 174⇓ *i P* **P 09 13 25.5 -0.7**
WB2 *e* 09 13 32.4
BVAR Borovoye Array 49.99 318 P **P 09 13 44.4 -1.6**
BVAR 09 15 04.7
BVAR pmax pmax
comp=Z,3.0nm,0.6s
BVAR pmax pmax
comp=Z,5.0nm,0.8s
BVAR Borovoye Array 49.99 318 P **P 09 13 44.4 -1.6**
comp=Z,3.3nm,0.6s,mb4.6,baz=86,slow=9.6,SNR=9.9
BVAR PcP PcP 09 15 04.7 -0.9
comp=Z,4.6nm,0.8s,baz=103,slow=4.6,SNR=2.8
CTA Charters Tower 50.05 159⇓ *i P* **P 09 13 46.7 0.0**
comp=Z,15nm,0.6s,mb5.2
CTA *e*pP pP 09 13 56.1 -0.3
CTA Charters Tower 50.05 159⇓ *i P* **P 09 13 46.7 0.0**
CTA *e**PP pP 09 13 56.1 -0.3
CTA pmax pmax
comp=Z,15nm,0.6s
CTA Charters Tower 50.05 159 LR LR 09 30 52.2
comp=Z,148nm,21.4s,MS4.0,baz=44,slow=31
CTAO Charters Tower 50.05 159 *e*P **P 09 13 46.8 +0.1**
BRVK Borovoye 50.06 318 *e*P **P 09 13 45.8 -0.7**
ASAR Alice Springs 51.03 175 P **P 09 13 53.8 -0.3**
ASAR pmax pmax
comp=Z,6.0nm,0.5s
ASAR Alice Springs 51.03 175 P **P 09 13 53.8 -0.3**
comp=Z,6.2nm,0.5s,mb4.8,baz=6.5,slow=13,SNR=117
KBL Kabul 51.47 294 *e*P **P 09 13 58.0 +0.6**
GAMB Gambell 52.10 29 *e*P **P 09 14 02.1 +0.4**
TNA Tin City 54.11 27 *e*P **P 09 14 17.1 +0.6**
EIDS Eidsvold 56.57 156 *e*P **P 09 14 34.9 +0.3**
comp=Z,4.0nm,0.8s,mb4.5
EIDS *e*pP pP 09 14 43.9 -0.5
ARU Arti 57.02 321 *e*P **P 09 14 36.0 -1.5**
comp=Z,8.4nm,0.8s,mb4.8
ARU Arti 57.02 321 *d i*P **P 09 14 36.3 -1.1**
ARU *e* 09 15 28.3
ARU *e* 09 16 40.5
ARU *e*S **S 09 22 29.8 +0.2**
ARU *e*SS SS 09 26 22.2 +4.2
ARU pmax pmax
comp=Z,15nm,1.7s,mb4.8
ARU MLR MLR
comp=Z,763nm,19.0s,MS4.8
AKTK Aktyubinsk 57.65 314 P **P 09 14 41.0 -1.0**
AKTO Aktyubinsk 57.65 314 P **P 09 14 41.0 -1.0**
AKTO pmax pmax
comp=Z,2.0nm,0.7s,mb4.3
AKTO Aktyubinsk 57.65 314 P **P 09 14 41.0 -1.0**
comp=Z,2.2nm,0.7s,mb4.3,baz=83,slow=9.8,SNR=7.5
STKA Stephens Creek 60.17 168 *e*P **P 09 14 59.2 -0.4**
comp=Z,3.3nm,0.6s,mb4.5
STKA *e* pP 09 15 08.3 -1.2
STKA Stephens Creek 60.17 168 P **P 09 14 58.6 -1.0**
comp=Z,3.2nm,0.6s,mb4.5,baz=0.4,slow=12,SNR=13
STKA LR LR 09 40 40.8
comp=Z,170nm,18.9s,MS4.2,baz=24,slow=36
KDAK Kodiak Island 60.97 37 P **P 09 15 04.7 -0.1**
KDAK Kodiak Island 60.97 37 P **P 09 15 04.7 -0.1**
comp=Z,6.4nm,0.9s,mb4.7,baz=326,slow=5.9,SNR=6.4
NWAO Narrogin (SRO) 61.14 192 *e*P **P 09 15 06.1 -0.1**
comp=Z,70nm,1.6s,mb5.5
NWAO Narrogin (SRO) 61.14 192 *e*P **P 09 15 06.1 -0.1**
NWAO pmax pmax
comp=Z,70nm,1.6s
NWAO Narrogin (SRO) 61.14 192 LR LR 09 43 57.5
comp=Z,78nm,18.2s,MS3.9,baz=19,slow=38
ARMA Armidale 61.39 158 *e*P **P 09 15 08.0 +0.1**
MCK McKinley 62.13 30 *e*P **P 09 15 13.0 +0.4**
comp=Z,13nm,0.9s,mb5.1
MCK McKinley 62.13 30 *e*P **P 09 15 13.0 +0.4**
MCK pmax pmax
comp=Z,13nm,0.9s,mb5.1
COLA College 62.48 29 *e*P **P 09 15 15.6 +0.7**
comp=Z,4.2nm,0.6s,mb4.8
COLA College 62.48 29 *e*P **P 09 15 15.6 +0.7**
COLA pmax pmax
comp=Z,4.0nm,0.6s,mb4.7
MENT Mentasta 64.58 30 *e*P **P 09 15 29.6 +0.8**
TMCR Tamitsa 66.18 331 *e*P **P 09 15 37.5 -1.6**
DAWY Dawson 66.23 29 *e*P **P 09 15 40.2 +0.7**
APA Apatity 67.13 336⇑ *i*P **P 09 15 44.4 -0.7**
APA pmax pmax
comp=Z,27nm,0.7s,mb5.4
INK Inuvik 67.38 24 *e*P **P 09 15 47.2 +0.4**
comp=Z,148nm,0.7s,mb6.1
KEV Kevo 68.64 339 *ep* **P 09 15 52.9 -1.7**
comp=Z,8.3nm,0.6s,mb4.8
KEV Kevo 68.64 339 *e*P **P 09 15 52.9 -1.7**
KEV pmax pmax
comp=Z,8.0nm,0.6s,mb4.8
KIV Kislovodsk 69.19 310 *e*P **P 09 15 59.0 +0.6**
comp=Z,53nm,0.9s,mb5.5
KIV Kislovodsk 69.19 310 *c i*P **P 09 15 58.8 +0.4**
KIV pmax pmax
comp=Z,48nm,0.9s,mb5.4
KIV MLR MLR
comp=Z,248nm,18.0s,MS4.5
ARCES ARCESS Array B 69.21 339 P **P 09 15 57.1 -1.0**
ARCES pmax pmax
comp=Z,7.0nm,0.9s
ARCES MLR MLR
comp=Z,255nm,19.1s
ARCES ARCESS Array B 69.21 339 P **P 09 15 57.0 -1.1**
comp=Z,6.6nm,0.9s,mb4.6,baz=70,slow=7.9,SNR=14
ARCES LR LR 09 51 25.1
comp=Z,255nm,19.1s,MS4.5,baz=243,slow=40
JOF Joensuu 69.42 331 *ep* **P 09 15 57.2 -2.4**
comp=Z,6.7nm,0.6s,mb4.8
OBN Obninsk 69.44 322 *e*P **P 09 15 59.2 -0.6**
OBN *e* pP 09 16 08.7 -1.1
OBN *e* 09 16 19.7
OBN *e*S S 09 25 04.6 -0.1
OBN pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
OBN MLR MLR
comp=Z,800nm,17.0s,MS5.0
MIB Mutribah 70.43 294 *e*P **P 09 16 05.6 -0.7**
MIB AMb AMB 09 16 07.2
comp=Z,20nm,0.6s,mb5.2
RDF Al-Radifah 70.57 293 *e*P **P 09 16 06.5 -0.8**
RDF AMb AMB 09 16 07.8
comp=Z,28nm,0.5s,mb5.5
NAY Al-Naaiem 70.70 294 *e*P **P 09 16 07.3 -0.8**
NAY AMb AMB 09 16 17.5
comp=Z,18nm,0.9s,mb5.0
RST Umm Al-Ruwaisa 70.81 294 *e*P **P 09 16 07.6 -1.1**
RST AMb AMB 09 16 09.4
comp=Z,21nm,0.6s,mb5.3
SOC Sochi 71.34 310 *e*P **P 09 16 11.1 -0.5**
SOC *e*S S 09 25 29.8 +2.5
SOC *e* 09 26 06.9
SOC pmax pmax
comp=Z,34nm,0.7s,mb5.4
SOC MLR MLR
comp=Z,384nm,13.0s,MS4.8
KAF Kangasniemi 71.88 331 *ep* **P 09 16 13.1 -1.4**
comp=Z,11nm,0.5s,mb5.0,baz=64,slow=5.6
KAF Kangasniemi 71.88 331 *e*P **P 09 16 13.1 -1.4**
KAF pmax pmax
comp=Z,11nm,0.5s,mb5.0
FIA1 FINESS Array S 72.25 331 *e*P **P 09 16 16.2 -0.6**
FINES FINESS Array B 72.26 331 P **P 09 16 16.1 -0.7**
FINES pmax pmax
comp=Z,15nm,0.6s
FINES MLR MLR
comp=Z,515nm,18.6s
FINES FINESS Array B 72.26 331 P **P 09 16 16.1 -0.7**
comp=Z,15nm,0.6s,mb5.1,baz=70,slow=6.7,SNR=51
FINES LR LR 09 51 42.0
comp=Z,515nm,18.6s,MS4.8,baz=179,slow=39
ANN Anapa 72.44 312 *e*P **P 09 16 17.4 -0.8**
ANN *e**PP pP 09 16 26.8 -1.5
ANN *e* 09 18 55.1
ANN *e*S S 09 25 38.9 -1.1
ANN pmax pmax
comp=Z,44nm,1.0s,mb5.3
VSU Vasula 73.22 328 *e*P **P 09 16 22.6 0.0**
RES Resolute Bay 74.16 11 *e*P **P 09 16 28.1 +0.2**
comp=Z,351nm,0.9s
MALT Malatya 74.17 305⇑ P **P 09 16 29.4 +0.9**
MALT Malatya 74.17 305⇑ *i*P **P 09 16 29.5 +0.9**
SIM Simferopol' 74.57 313 *e*P **P 09 16 32.0 +1.3**
SIM pmax pmax
comp=Z,20nm,0.8s,mb5.1
SIM MLR MLR
comp=Z,380nm,19.5s,MS4.7
AKASG Malin Array Be 75.21 320 P **P 09 16 33.7 -0.6**
AKASG pmax pmax
comp=Z,8.0nm,0.6s
AKASG MLR MLR
comp=Z,815nm,19.5s
AKASG Malin Array Be 75.21 320 P **P 09 16 33.6 -0.7**
comp=Z,7.9nm,0.6s,mb4.8,baz=55,slow=6.1,SNR=35
AKASG LR LR 09 52 13.3
comp=Z,815nm,19.5s,MS5.0,baz=65,slow=38
AKBB Malin Array Si 75.21 320 *e*P **P 09 16 33.7 -0.6**
KIEV Kiev 75.22 320 *e*P **P 09 16 33.8 -0.6**
comp=Z,6.8nm,0.6s,mb4.8
KIEV Kiev 75.22 320 *e*P **P 09 16 33.8 -0.6**
KIEV pmax pmax
comp=Z,7.0nm,0.6s,mb4.8
SUW Suwalki 77.01 324 *e*P **P 09 16 42.1 -2.3**
YKA Yellowknife Ar 77.01 25 P **P 09 16 43.9 -0.4**
YKA LR LR 09 50 08.6
YKA Yellowknife Ar 77.01 25 *i* P **P 09 16 44.5 +0.2**
YKA pmax pmax
comp=Z,1.0nm,0.6s
YKA Yellowknife Ar 77.01 25 P **P 09 16 43.9 -0.4**
comp=Z,0.8nm,0.6s,mb3.9,baz=301,slow=5.8,SNR=28
YKA LR LR 09 50 08.6
comp=Z,41nm,21.1s,MS3.7,baz=60,slow=35
KIS Kishinev 77.06 316 *e*P **P 09 16 44.0 -0.9**
KIS *e* pP 09 16 53.0 -2.1
KIS MLR MLR
comp=Z,500nm,16.0s,MS4.9
KIS MLR MLR
comp=Z,500nm,17.0s
LVV L'vov 78.58 320 *e*P **P 09 16 52.8 -0.5**
NB2 NORSAR Subarra 78.62 334 P **P 09 16 52.4 -0.9**
comp=Z,16nm,0.7s,mb5.1,baz=51,slow=5.6
NOA NORSAR Array B 78.62 334 P **P 09 16 52.5 -0.8**
NOA pmax pmax
comp=Z,19nm,0.8s
NOA MLR MLR
comp=Z,194nm,20.6s
NOA NORSAR Array B 78.62 334 P **P 09 16 52.5 -0.9**
comp=Z,19nm,0.8s,mb5.1,baz=51,slow=5.6,SNR=56
NOA LR LR 09 54 43.2
comp=Z,194nm,20.6s,MS4.4,baz=95,slow=38
VRI Vrincioaia 78.86 316 ⇑P **P 09 16 56.4 +1.5**
VRI Vrincioaia 78.86 316 ⇑*i*P **P 09 16 56.4 +1.4**
URZ Urewera 79.24 144 LR LR 09 45 25.1
comp=Z,107nm,20.8s,MS4.2,baz=21,slow=31
KWP Kalwaria 79.42 321 *e*P **P 09 16 58.2 +0.3**
KWP Kalwaria 79.42 321 *e*P **P 09 16 58.2 +0.3**
KWP Kalwaria 79.42 321 ⇓*i*P **P 09 16 58.3 +0.4**
MLR Muntele Rosu 79.52 316 ⇓P **P 09 16 59.5 +0.9**
MLR Muntele Rosu 79.52 316 ⇓*i*P **P 09 16 59.5 +0.9**
KOLS Kolonicke sedl 80.01 320 *e*P **P 09 17 02.0 +0.8**
UZH Uzhgorod 80.16 320 *e*P **P 09 17 02.0 +0.1**
UZH *e*S S 09 27 00.0 -4.5
UZH MLR MLR
comp=Z,500nm,16.0s,MS5.0
STHS Stebnicka Huta 80.35 321 *e*P **P 09 17 06.6 +3.6**
comp=Z,7.4nm,1.2s,mb4.5
STHS Stebnicka Huta 80.35 321 *e*P **P 09 17 06.6 +3.6**
STHS pmax pmax
comp=Z,7.0nm,1.2s,mb4.5
CRVS Cervenica-Dubn 80.49 320 *e*P **P 09 17 07.0 +3.3**
BSD Bornholm Skovb 80.51 328 *i* P **P 09 17 03.2 -0.5**
BSD pmax pmax
comp=Z,28nm,0.9s,mb5.2
BSD MLR MLR
comp=Z,330nm,17.0s,MS4.8
BSD Bornholm Skovb 80.51 328 *i* P **P 09 17 03.2 -0.5**
comp=Z,28nm,0.9s,mb5.2
BSD
comp=Z,330nm,17.0s
OJC Ojcow 80.73 322 *e*P **P 09 17 04.4 -0.6**
KECS Kecovo 81.26 320 *e*P **P 09 17 08.1 +0.2**
comp=Z,4.0nm,0.9s,mb4.3
KECS Kecovo 81.26 320 *e*P **P 09 17 08.1 +0.2**
KECS pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
OKC Ostrava-Krasne 81.83 322 AMS AMS 09 56 40.0
comp=Z,600nm,13.0s,MS5.1
PSZ Piszkesteto 81.89 320 *e*P **P 09 17 11.5 +0.3**
comp=Z,5.1nm,0.7s,mb4.6
PSZ Piszkesteto 81.89 320 *e*P **P 09 17 11.5 +0.3**
PSZ pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
PSZ Piszkesteto 81.89 320 *e*P **P 09 17 13.1 +1.9**
VYHS Vyhne 82.18 321 *i* P **P 09 17 13.2 +0.5**
comp=Z,13nm,1.3s,mb4.7
VYHS *e* pP 09 17 22.8 -0.2
VYHS Vyhne 82.18 321 *i* P **P 09 17 13.2 +0.5**
VYHS *e* pP 09 17 22.8 -0.2
VYHS pmax pmax
comp=Z,13nm,1.3s,mb4.7
MORC Moravsky Berou 82.19 323 *e*P **P 09 17 13.0 +0.3**
MORC Moravsky Berou 82.19 323 ⇑*i*P **P 09 17 13.5 +0.8**
KSP Ksiaz 82.26 324 *e*P **P 09 17 13.4 +0.3**
KSP LR LR
comp=Z,2μm,16.4s,MS5.4
KOLL Kolacno 82.38 321 *e*P **P 09 17 17.7 +4.0**
DPC Dobruska-Polom 82.52 323 *e*P **P 09 17 15.5 +1.0**
DPC *e*x x 09 17 29.5
DPC AMS AMS 09 57 20.0
comp=Z,600nm,15.4s,MS5.1
UPC Upice 82.60 324 *e*P **P 09 17 16.8 +2.0**
VTS Vitosha 82.67 314 ⇑P **P 09 17 16.1 +0.8**
VTS Vitosha 82.67 314 ⇑*i*P **P 09 17 16.1 +0.7**
VRAC Vranov 82.97 323 ⇑P **P 09 17 17.9 +1.1**
VRAC Vranov 82.97 323 ⇑*i*P **P 09 17 17.9 +1.1**
EDM Edmonton 83.05 33 *e*P **P 09 17 17.8 +0.7**
MODS Modra-Piesok 83.12 321 *e*P **P 09 17 19.7 +2.1**
ZST Bratislava 83.31 321 *e*P **P 09 17 19.2 +0.6**
comp=Z,8.2nm,0.9s,mb4.8
ZST LR LR
comp=Z,700nm,16.5s,MS5.1
ZST Bratislava 83.31 321 *e*P **P 09 17 19.2 +0.6**
ZST pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
ZST MLR MLR
comp=Z,700nm,16.5s,MS5.1
PVCC Panska Ves 83.34 324 AMS AMS 09 57 50.0
comp=Z,700nm,12.9s,MS5.2
BSEG Bad Segeberg 83.37 329 *e*P **P 09 17 19.2 +0.4**
comp=Z,42nm,1.5s,mb5.2
BSEG *e*pP pP 09 17 30.0 +1.0
BRG Berggiesshubel 83.46 325 *e*P **P 09 17 19.2 -0.1**
comp=Z,15nm,1.3s,mb4.9
BRG *e*pP pP 09 17 29.5 -0.1
BRG Berggiesshubel 83.46 325 *e*P **P 09 17 19.4 +0.1**
comp=Z,8.5nm,1.1s,mb4.7
BRG
comp=N,456nm,17.5s
BRG
comp=E,459nm,17.0s
BRG
comp=Z,858nm,18.5s
PKSM Moragy 83.54 319 ⇑P **P 09 17 20.7 +0.9**
PKSM Moragy 83.54 319 ⇑*i*P **P 09 17 20.7 +0.9**
TREC Trest 83.57 323 AMS AMS 09 57 50.0
comp=Z,600nm,16.5s,MS5.0
PRU Pruhonice 83.67 324 *e*P **P 09 17 20.5 +0.1**
PRU *e*pP pP 09 17 31.3 +0.7
PRU AMS AMS 09 58 00.0
comp=Z,600nm,15.4s,MS5.1
CLL Collm 83.68 326 ⇑*i*P **P 09 17 20.7 +0.3**
comp=Z,12nm,0.8s,mb5.1
CLL *i* sP sP 09 17 31.4 -3.0
CLL *e*S S 09 27 48.0 +7.4
CLL LR LR
comp=Z,1μm,16.7s,MS5.3
CLL Collm 83.68 326 ⇑*i*P **P 09 17 20.7 +0.3**
CLL *i* *SP sP 09 17 31.4 -3.0
CLL *e*S S 09 27 48.0 +7.4
CLL pmax pmax
comp=Z,12nm,0.8s,mb5.1
CLL MLR MLR
comp=Z,1μm,16.7s,MS5.3
CLL Collm 83.68 326 *e*P **P 09 17 20.5 +0.1**
comp=Z,21nm,1.1s,mb5.2
CLL Collm 83.68 326 ⇑*i*P **P 09 17 20.7 +0.3**
comp=Z,12nm,0.8s,mb5.1
CLL *i* pP pP 09 17 29.5 -1.2
CLL *i* (sP) sP 09 17 31.4 -3.0
CLL *e*PP PP 09 20 30.0 -2.8
CLL *e*(PPP) 09 22 12.0
CLL *e*S S 09 27 48.0 +7.4
CLL *e*PPS 09 28 53.0
CLL *e*SS SS 09 33 42.0 +35
CLL *e*x x 09 35 23.0
CLL *e*SSS 09 36 48.0
CLL *e*x x 09 38 18.0
VAY Valandovo 83.73 313 *i* P **P 09 17 20.2 -0.7**
NEW Newport 84.05 38 *e*P **P 09 17 23.0 +0.6**
comp=Z,1.7nm,0.7s,mb4.3
NEW Newport 84.05 38 *e*P **P 09 17 23.0 +0.6**
NEW pmax pmax
comp=Z,2.0nm,0.7s
SKO Skopje 84.11 314 *i* P **P 09 17 23.0 +0.2**
CONA Conrad Observa 84.15 322 *i* PcP PcP 09 17 24.4 -2.3
comp=Z,22nm,0.8s,SNR=12
NRDL Niedersach Rie 84.37 328 *e*P **P 09 17 24.1 +0.2**
comp=Z,42nm,1.5s,mb5.3
NRDL *e*pP pP 09 17 34.6 +0.4
TANN Tannenbergstha 84.49 325 *e*P **P 09 17 25.1 +0.5**
comp=Z,21nm,1.4s,mb5.1
TANN *e*pP pP 09 17 34.9 +0.1
KRUS Krusevo 84.55 314 *i* P **P 09 17 24.3 -0.8**
CLZ Clausthal 84.65 327 *e*P **P 09 17 26.2 +0.9**
CLZ pmax pmax
comp=Z,74nm,1.2s,mb5.7
CLZ Clausthal 84.65 327 *e*P **P 09 17 26.2 +0.9**
comp=Z,74nm,1.2s,mb5.7
KHC Kasperske Hory 84.68 324 *e*P **P 09 17 25.6 +0.1**
KHC *e*pP pP 09 17 37.4 +1.6
KHC AMS AMS 09 58 40.0
comp=Z,700nm,15.7s,MS5.2
MOX Moxa 84.78 326 *e*P **P 09 17 26.8 +0.8**
comp=Z,45nm,1.8s,mb5.3
MOX
comp=Z,700nm,17.0s
MOX Moxa 84.78 326 *e*P **P 09 17 26.8 +0.8**
MOX pmax pmax
comp=Z,45nm,1.8s,mb5.3
MOX MLR MLR
comp=Z,700nm,17.0s,MS5.1
MOX Moxa 84.78 326 *e*P **P 09 17 26.4 +0.4**
comp=Z,19nm,1.3s,mb5.1
GEC2 GERESS Array S 84.78 323 *e*P **P 09 17 26.1 0.0**
GEC2 *e**PP pP 09 17 37.0 +0.6
GEC2 pmax pmax
comp=Z,25nm,1.4s,mb5.2
GEC2 GERESS Array S 84.78 323 *e*P **P 09 17 26.1 0.0**
comp=Z,25nm,1.4s,mb5.2
GEC2 *e*pP pP 09 17 37.0 +0.6
GERES GERESS Array B 84.78 323 P **P 09 17 26.8 +0.8**
comp=Z,4.1nm,0.8s,mb4.6,baz=66,slow=4.5,SNR=15
GERES LR LR 10 02 35.7
comp=Z,307nm,18.1s,MS4.7,baz=267,slow=41
ROTZ Rotzenmuhle 85.01 325 *e*P **P 09 17 28.0 +0.8**
comp=Z,43nm,1.4s,mb5.4
WET Wettzell 85.04 324 *e*P **P 09 17 28.3 +0.9**
WET *e**PP pP 09 17 37.9 +0.3
WET pmax pmax
comp=Z,19nm,1.3s,mb5.1
WET Wettzell 85.04 324 *e*P **P 09 17 28.3 +0.9**
comp=Z,19nm,1.3s,mb5.1
WET *e*pP pP 09 17 37.9 +0.3
PERS Pernice 85.31 321 *i* P **P 09 17 32.2 +3.4**
UBBA Unterbreizbach 85.47 326 *e*P **P 09 17 30.6 +1.1**
comp=Z,55nm,1.7s,mb5.4
GRA1 Grafenberg Arr 85.56 325 *e*P **P 09 17 30.9 +0.9**
comp=Z,56nm,1.2s,mb5.7
GRA1 LR LR
comp=Z,700nm,18.5s,MS5.1
GRF Grafenberg Arr 85.56 325 *e*P **P 09 17 30.9 +0.9**
GRF pmax pmax
comp=Z,56nm,1.2s,mb5.7
GRF MLR MLR
comp=Z,700nm,18.5s,MS5.1
GRF Grafenberg Arr 85.56 325 *e*P **P 09 17 30.9 +0.9**
GRF pmax pmax

comp=Z,56nm,1.2s,mb5.7
GRF MLR MLR
GRF Grafenberg Arr 85.56 325 *e*P **P 09 17 30.9 +0.9**
comp=Z,700nm,18.5s,MS5.1
GRF *e*L 10 00 04.0
comp=Z,56nm,1.2s,mb5.7
GRF *e*L 10 00 04.0
comp=Z,742nm,18.5s
GRFO Grafenberg 85.56 325 *e*P **P 09 17 31.3 +1.4**
IBBN Ibbenburen 85.60 328 *e*P **P 09 17 31.3 +1.2**
comp=Z,83nm,1.4s,mb5.8
VNDS Vrh nad Dolski 85.86 321 *i* P **P 09 17 32.6 +1.1**
JAVS Javornik 86.34 321 *i* P **P 09 17 35.0 +1.1**
FCC Fort Churchill 86.85 21 *e*P **P 09 17 36.6 +0.4**
comp=Z,13nm,1.2s,mb5.0
FCC Fort Churchill 86.85 21 *e*P **P 09 17 36.6 +0.5**
FCC pmax pmax
comp=Z,13nm,1.2s,mb5.0
FFC Flin Flon 87.07 27 *e*P **P 09 17 37.7 +0.4**
comp=Z,5.7nm,1.2s,mb4.7
FFC Flin Flon 87.07 27 *e*P **P 09 17 37.7 +0.5**
FFC pmax pmax
comp=Z,6.0nm,1.2s,mb4.7
DAVA Damuels 87.77 324⇑ *i*P **P 09 17 41.2 +0.4**
comp=Z,16nm,0.7s,mb5.4,SNR=7.6
DAVA Damuels 87.77 324⇑ *i*PcP **P 09 17 41.2 +0.4**
comp=Z,16nm,0.7s,mb5.4,SNR=7.6
HRY Holter Researc 87.85 37 *e*P **P 09 17 42.0 +0.8**
BFO Black Forest 87.90 325 *e*pP pP 09 17 52.4 +0.7
WLF Walferdange 88.10 327 *e*P **P 09 17 44.1 +1.8**
comp=Z,12nm,0.6s,mb5.3
HLID Hailey 88.34 41 *e*P **P 09 17 45.2 +1.6**
comp=Z,0.9nm,0.7s,mb4.1
HLID *e*pP pP 09 17 52.7 -1.3
CDF Champ du Feu 88.38 326 *e*P **P 09 17 44.9 +1.2**
comp=Z,16nm,1.0s,mb4.9
CDF Champ du Feu 88.38 326 *e*P **P 09 17 44.9 +1.2**
comp=Z,7.8nm,1.0s,mb4.9
CDF Champ du Feu 88.38 326 *e*P **P 09 17 44.9 +1.2**
CDF pmax pmax
comp=Z,8.0nm,1.0s,mb4.9
NVAR Mina Array Bea 88.97 47 P **P 09 17 47.9 +1.3**
comp=Z,0.3nm,0.4s,mb4.0,baz=277,slow=7.2,SNR=2.8
HINF Hinteralfeld 88.98 325 *e*P **P 09 17 46.8 +0.3**
HAU Haudompre 89.11 326 *e*P **P 09 17 48.0 +0.9**
HAU *e*MLR MLR
comp=Z,228nm,19.0s,MS4.3
HAU Haudompre 89.11 326 *e*P **P 09 17 48.0 +0.9**
HAU MLR MLR
comp=Z,230nm,19.0s,MS4.6
CABF La Chapelle 90.18 325 *e*P **P 09 17 52.9 +0.8**
PPT Papeete 90.40 110 LR LR 09 54 14.0
comp=Z,242nm,20.9s,MS4.6,baz=306,slow=33
ISA Isabella 90.43 49 *e*P **P 09 17 52.5 -1.0**
comp=Z,4.1nm,1.0s,mb4.7
ISA Isabella 90.43 49 *e*P **P 09 17 52.5 -1.1**
ISA pmax pmax
comp=Z,4.0nm,1.0s,mb4.7
LPL La Plagne 90.57 324 *e*P **P 09 17 55.0 +1.0**
comp=Z,9.2nm,0.6s,mb5.0
LPL La Plagne 90.57 324 *e*P **P 09 17 55.0 +1.0**
comp=Z,4.6nm,0.6s,mb5.0
LPL La Plagne 90.57 324 *e*P **P 09 17 55.0 +1.0**
LPL pmax pmax
comp=Z,5.0nm,0.6s,mb5.0
LPG La Plagne 90.57 324 *e*P **P 09 17 55.2 +1.2**
comp=Z,11nm,0.7s,mb5.0
LPG La Plagne 90.57 324 *e*P **P 09 17 55.2 +1.2**
comp=Z,5.6nm,0.7s,mb5.0
LPG La Plagne 90.57 324 *e*P **P 09 17 55.2 +1.2**
LPG pmax pmax
comp=Z,6.0nm,0.7s,mb5.0
LOR Lormes 90.85 326 *e*P **P 09 17 56.1 +0.8**
comp=Z,10nm,0.9s,mb4.8
LOR *e*MLR MLR
comp=Z,344nm,17.0s,MS4.6
LOR Lormes 90.85 326 *e*P **P 09 17 56.1 +0.8**
comp=Z,5.2nm,0.9s,mb4.9
LOR LR LR
comp=Z,340nm,17.0s,MS4.8
LOR Lormes 90.85 326 *e*P **P 09 17 56.1 +0.8**
LOR pmax pmax
comp=Z,5.0nm,0.9s,mb4.8
LOR MLR MLR
comp=Z,340nm,17.0s,MS4.8
BNI Bardonecchia 90.91 323 *e*P **P 09 17 55.6 0.0**
comp=Z,5.3nm,0.9s,mb4.9
BNI Bardonecchia 90.91 323 *e*P **P 09 17 55.6 0.0**
BNI pmax pmax
comp=Z,5.0nm,0.9s,mb4.8
MBDF Montbardon 91.07 323 *e*P **P 09 17 57.3 +0.9**
comp=Z,9.8nm,0.7s,mb4.9
MBDF Montbardon 91.07 323 *e*P **P 09 17 57.3 +0.9**
comp=Z,4.9nm,0.7s,mb5.0
MBDF Montbardon 91.07 323 *e*P **P 09 17 57.3 +0.9**
MBDF pmax pmax
comp=Z,5.0nm,0.7s,mb5.0
TPNV Topopah Spring 91.16 47 *e*P **P 09 17 56.7 -0.2**
comp=Z,3.8nm,1.1s,mb4.6
TPNV *e*pP pP 09 18 05.7 -1.5
TPNV Topopah Spring 91.16 47 *e*P **P 09 17 56.7 -0.2**
TPNV *e**PP pP 09 18 05.7 -1.5
TPNV pmax pmax
comp=Z,4.0nm,1.1s,mb4.7
HWUT Hardware Ranch 91.21 41 *e*P **P 09 17 58.1 +1.0**
comp=Z,2.7nm,0.8s,mb4.6
SBF Sospel 91.28 322 *e*P **P 09 17 58.5 +1.2**
comp=Z,6.1nm,0.4s,mb5.0
SBF Sospel 91.28 322 *e*P **P 09 17 58.5 +1.2**
comp=Z,3.0nm,0.4s,mb5.0
SBF Sospel 91.28 322 *e*P **P 09 17 58.5 +1.2**
SBF pmax pmax
comp=Z,3.0nm,0.4s,mb5.0
DUG Dugway 91.35 43 *e*P **P 09 17 56.0 -1.7**
comp=Z,4.3nm,0.9s,mb4.8
DUG *e*pP pP 09 18 06.1 -2.0
DUG Dugway 91.35 43 *e*P **P 09 17 56.0 -1.7**
DUG *e**PP pP 09 18 06.1 -2.0
DUG pmax pmax
comp=Z,4.0nm,0.9s,mb4.8
AVF Avril sur Loir 91.43 326 *e*P **P 09 17 58.6 +0.6**
comp=Z,6.1nm,0.8s,mb4.7
AVF Avril sur Loir 91.43 326 *e*P **P 09 17 58.6 +0.6**
comp=Z,3.0nm,0.8s,mb4.7
AVF Avril sur Loir 91.43 326 *e*P **P 09 17 58.6 +0.6**
AVF pmax pmax
comp=Z,3.0nm,0.8s,mb4.7
BW06 Boulder Array 91.61 39 *e*P **P 09 17 58.4 -0.5**
comp=Z,1.3nm,0.9s,mb4.3
BW06 *e*pP pP 09 18 07.7 -1.6
PDAR Pinedale Array 91.61 39 P **P 09 17 59.6 +0.7**
comp=Z,1.0nm,0.8s,mb4.2,baz=230,slow=3.7,SNR=5.3
LDF La Druitiere 91.80 329 *e*P **P 09 18 00.6 +1.0**
comp=Z,19nm,0.9s,mb5.1
LDF La Druitiere 91.80 329 *e*P **P 09 18 00.6 +1.0**
comp=Z,9.6nm,0.9s,mb5.1
LDF La Druitiere 91.80 329 *e*P **P 09 18 00.6 +1.0**
LDF pmax pmax
comp=Z,10.0nm,0.9s,mb5.2
FLN La Foliniere 91.84 329 *e*P **P 09 18 00.9 +1.1**
FLN *e*MLR MLR
comp=Z,253nm,18.8s,MS4.4
FLN La Foliniere 91.84 329 *e*P **P 09 18 00.9 +1.1**
FLN MLR MLR
comp=Z,250nm,18.8s,MS4.7
GRR Gorron 92.29 329 *e*P **P 09 18 02.9 +1.0**
ULM Lac du Bonnet 92.89 27 P **P 09 18 04.2 -0.5**
comp=Z,2.1nm,0.9s,mb4.6,baz=309,slow=7.2,SNR=5.0
ULM LR LR 10 02 14.2
comp=Z,84nm,18.1s,MS4.2,baz=5.2,slow=37
SGMF Saint Gilles 93.15 330 *e*P **P 09 18 06.7 +0.8**
comp=Z,28nm,0.9s,mb5.4
SGMF Saint Gilles 93.15 330 *e*P **P 09 18 06.7 +0.8**
comp=Z,14nm,0.9s,mb5.4
SGMF Saint Gilles 93.15 330 *e*P **P 09 18 06.7 +0.8**
SGMF pmax pmax
comp=Z,14nm,0.9s,mb5.4
CAF Calviac 93.38 325 *e*P **P 09 18 07.2 +0.2**
ROSF Rostrenen 93.40 331 *e*P **P 09 18 07.8 +0.8**
comp=Z,32nm,0.9s,mb5.4
ROSF Rostrenen 93.40 331 *e*P **P 09 18 07.8 +0.8**
comp=Z,16nm,0.9s,mb5.4
ROSF Rostrenen 93.40 331 *e*P **P 09 18 07.8 +0.8**
ROSF pmax pmax
comp=Z,16nm,0.9s,mb5.5
KEST Kesra 95.40 315 P **P 09 18 17.2 +0.8**
comp=Z,1.1nm,0.8s,mb4.3,baz=9.4,slow=6.3,SNR=3.7
KEST LR LR 10 08 39.8
comp=Z,82nm,18.6s,MS4.2,baz=349,slow=40
SCHQ Schefferville 96.87 9 LR LR 09 59 39.8
comp=Z,165nm,21.9s,MS4.5,baz=191,slow=34
ANMO Albuquerque 98.58 43 *e*P **P 09 18 31.0 +0.1**
comp=Z,14nm,2.2s,mb5.1
ANMO Albuquerque 98.58 43 *e*P **P 09 18 31.0 +0.1**
ANMO pmax pmax
comp=Z,14nm,2.2s
ESDC Sonseca Array 100.26 325 P Pdif 09 18 38.9 +0.9
comp=Z,0.2nm,0.3s,baz=56,slow=2.8,SNR=4.2
WVT Waverly 107.71 31 *e*Pdif Pdif 09 19 11.3 +0.1

ISCJB ***16*** *09:11:59.5±0.3,3971N±003×3880E±003, h5km, Error ellipse: s-maj=4.3km s-min=3.1km az=40.8*
CSEM ***16*** *09:11:59.2±0.1,3973N×3881E, h5km, MD3.5, Error ellipse: s-maj=2.0km s-min=1.3km az=146.0*
ISK ***16*** *09:11:59.0,3971N×3880E, h5km, MD3.5, ML3.4*
DDA ***16*** *09:12:00.1,3972N×3865E, h5km±4km, Md3.3*
ISC 16 09:11:59.7±0.7,**3971N**±003×**3882E**±004,**h1**km±6km,**n40,**
σ0°93/45,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEMA	**Kemaliye**	**0.51**	**210**	*i* P	**Pg**	**09 12 08.9**	**-0.5**
KEMA				*i* S	**Sg**	**09 12 15.5**	**-0.4**
EZC	**Erzincan**	**0.77**	**86**	*e*PG	Px	09 12 08.1	
GUMT	**Gumushane**	**0.91**	**34**	*e*PG	**Pg**	**09 12 16.9**	**-0.2**
GUMT				*e*SG	**Sg**	**09 12 29.4**	**+0.5**
ELZG	**Elazig**	**1.21**	**174**	*i* P	**Pn**	**09 12 22.3**	**-1.5**
ELZG				*i* S	**Sn**	**09 12 37.1**	**-3.7**
ESPY	**Espiye-Giresun**	**1.21**	**357**	*e*PN	**Pn**	**09 12 22.4**	**-1.4**
GRSN	**GIRESUNGRSN**	**1.29**	**341**	*i* P	**Pn**	**09 12 23.5**	**-1.3**
GRSN				*i* S	**Sn**	**09 12 39.6**	**-3.1**
KOPT	**Kop Dagi**	**1.33**	**76**	*i* P	**Pg**	**09 12 25.6**	**+0.4**
KOPT				*i* S	**Sg**	**09 12 46.9**	**+4.6**
MYA	**Malataya**	**1.41**	**193**	*e*PN	**Pn**	**09 12 25.0**	**-1.5**
MYA				*e*SN	**Sn**	**09 12 44.9**	**-0.8**
SVSK	**Karacayir**	**1.42**	**279**	*e*PN	**Pn**	**09 12 25.9**	**-0.7**
MALT	**Malatya**	**1.42**	**193**	*e*PN	**Pn**	**09 12 25.6**	**-1.0**
MACK	**Trabzon**	**1.43**	**30**	*i* P	**Pn**	**09 12 26.2**	**-0.6**
MACK	**Trabzon**	**1.43**	**30**	*i* P	**Pn**	**09 12 26.2**	**-0.6**
KTUT	**Trabzon**	**1.47**	**29**	*e*PN	**Pn**	**09 12 27.1**	**-0.2**
TOKT	**Tokat**	**1.85**	**290**	*e*PN	**Pn**	**09 12 32.3**	**-0.3**
BNGL	**BINGOL**	**1.96**	**112**	*i* P	**Pg**	**09 12 36.2**	**-1.0**
EZM	**Erzurum**	**1.97**	**83**	*e*PN	**Pn**	**09 12 34.5**	**+0.4**
ERZM	**Erzurum**	**1.97**	**83**	*i* P	**Pg**	**09 12 37.5**	**0.0**
PZAR	**Pazar-Rize**	**2.16**	**46**	*e*PN	**Pn**	**09 12 37.6**	**+0.8**
URFA	**Urfa**	**2.26**	**180**	*e*PN	**Pn**	**09 12 38.5**	**+0.4**
BNN	**Bunyan**	**2.46**	**251**	*e*PN	**Pn**	**09 12 41.4**	**+0.5**
KVT	**Kavak**	**2.53**	**304**	*e*PN	**Pn**	**09 12 41.6**	**-0.3**
KMRS	**Kahramanmaras**	**2.66**	**215**	*e*PN	**Pn**	**09 12 44.3**	**+0.6**
YOZ	**Yozgat**	**2.70**	**270**	*e*PN	**Pn**	**09 12 44.3**	**0.0**
BCA	**Borcka**	**2.75**	**50**	*e*PN	**Pn**	**09 12 45.3**	**+0.3**
ARTV	**Artvin**	**2.79**	**57**	*i* P	**Pn**	**09 12 49.6**	**+4.0**
GAZ	**Gaziantep**	**2.83**	**207**	*e*PN	**Pn**	**09 12 46.7**	**+0.8**
MARD	**Mardin**	**2.84**	**147**	*i* P	**Pn**	**09 12 49.4**	**+3.2**
ANDN	**Andirin**	**2.87**	**223**	*i* P	**Pn**	**09 12 47.3**	**+0.7**
AVNT	**Avonos**	**3.22**	**255**	*i* P	**Pn**	**09 12 51.9**	**+0.6**
AGRB	**Hanur-Agry**	**3.22**	**91**	*e*PN	**Pn**	**09 12 52.3**	**+0.9**
CTKT	**Corum**	**3.22**	**288**	*i* P	**Pn**	**09 12 52.3**	**+0.9**
KOZT	**Kozan**	**3.23**	**228**	*e*PN	**Pn**	**09 12 52.0**	**+0.5**
CORM	**Corum**	**3.26**	**280**	*e*PN	**Pn**	**09 12 52.0**	**+0.2**
DIKM	**Dikmen**	**3.33**	**307**	*e*PN	**Pn**	**09 12 53.4**	**+0.4**
CDAG	**Cicekdag**	**3.44**	**270**	*i* P	**Pn**	**09 12 53.0**	**-1.3**
BOYT	**Boyabat**	**3.44**	**301**	*i* P	**Pn**	**09 12 55.5**	**+1.1**
KARA	**Karaisali**	**3.83**	**232**	*e*PN	**Pn**	**09 13 01.0**	**+1.2**
TOS	**Tosya**	**3.90**	**291**	*e*PN	**Pn**	**09 13 00.2**	**-0.5**
KAMT	**Kaman**	**3.96**	**267**	*e*PN	**Pn**	**09 13 02.6**	**+1.0**
IKL	**Isikli**	**5.33**	**231**	*e*PN	**Pn**	**09 13 21.9**	**+1.5**

CSEM ***16*** *09:14:09.0±0.6,3728N×2461W, h5km, ML3.3, Error ellipse: s-maj=5.7km s-min=2.1km az=87.0, After PDA*
PDA ***16*** *09:14:09.0±0.6,3728N×2461W, h5km, MD3.7, ML3.3, Error ellipse: s-maj=5.7km s-min=2.1km az=87.0*
SVSA 16 09:14:09.0±0.6,**3728N×2461W, h5**km,**MD3.7, ML3.3, Error ellipse: s-maj=5.7km s-min=2.1km az=87.0, Azores Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSMN	**Pico do Norte,**	**0.46**	**232**	*e*P	Pg	09 14 16.9	-0.9
PSMN				*e*S	Sg	09 14 23.0	-0.7
PDA	**Ponta Delgada**	**0.95**	**299**	*e*P	Pg	09 14 24.1	-3.2
PDA				*e*S	Sg	09 14 35.5	-4.2
PSET	**Sete Cidades**	**1.03**	**302**	*e*P	Pg	09 14 25.4	-3.4
PSET				*e*S	Sg	09 14 37.6	-4.6
PSET				A		09 14 43.8	
	233nm,0.3s						
PSET	**Sete Cidades**	**1.03**	**302**	*e*P	Pg	09 14 25.4	-3.4
PSET				*e*S	Sg	09 14 37.6	-4.6
PSCM	**Serra do Cume**	**2.43**	**306**	*e*P	Pn	09 14 45.0	-4.4
PSCM				*e*S	Sn	09 15 11.6	-7.9
PSCM				A		09 15 14.2	
	82nm,0.3s						
PSCM	**Serra do Cume**	**2.43**	**306**	*e*P	Pn	09 14 45.0	-4.4
PSCM				*e*S	Sn	09 15 11.6	-7.9
ADH	**Angra Heroismo**	**2.48**	**304**	*e*S	Sn	09 15 12.3	-8.4

ISCJB ***16*** *09:19:07.8±1.3,2400N±008×12160E±005, h13km±8km, mb3.4/5, Error ellipse: s-maj=12.8km s-min=8.3km az=176.9*
NEIC ***16*** *09:19:08.8±1.4,2406N×12170E, h8km±9km, Error ellipse: s-maj=15.1km s-min=12.5km az=69.0*
JMA ***16*** *09:19:09.5±0.2,2464N×12161E, h93km, M2.8*
IDC ***16*** *09:19:14.6±5.7,2414N×12194E, h52km±54km, mb3.3/5, mb1 3.5/6, mb1mx3.4/19, mbtmp3.4/6, ML3.3/1, MS3.5/1, Ms1 3.5/1, ms1mx2.7/18, Error ellipse: s-maj=51.5km s-min=19.6km az=72.0*
ISC 16 09:19:08.7±1.6,**2401N**±008×**12166E**±006,**h7**km±10km,
n16,σ0°68/21,mb3.4/5,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NACB	**Ninganchiao**	**0.17**	**340**	*e*Pg	**Pg**	**09 19 12.0**	**-0.2**
NACB				*e*Sg	**Sg**	**09 19 14.1**	**-0.4**
YHNB	**Yeheng**	**0.70**	**338**	*e*Pg	**Pg**	**09 19 21.9**	**-0.3**
TATO	**Taipei**	**0.97**	**351**	*e*Pg	**Pg**	**09 19 27.2**	**-0.1**
TATO				*e*Sg	**Sg**	**09 19 41.2**	**+1.3**
YOJ	**Yonaguni jima**	**1.31**	**70**	P	**Pn**	**09 19 32.9**	**-0.5**
YOJ				S	**Sb**	**09 19 50.8**	**+0.1**
HATJ	**Hateruma jima**	**1.96**	**88**	P	**Pn**	**09 19 43.4**	**+1.0**
HATJ				S	**Sn**	**09 20 08.2**	**+1.0**
JKRS	**Kuro-shima**	**2.16**	**84**	P	**Pn**	**09 19 45.3**	**+0.2**
JKRS				S	**Sn**	**09 20 12.5**	**+0.4**
JIJ	**Ishigaki jima**	**2.29**	**81**	P	**Pn**	**09 19 46.5**	**-0.4**
JIJ				S	**Sn**	**09 20 14.0**	**-1.4**
JOW	**Kunigami**	**6.61**	**63**	P	**Pn**	**09 20 45.6**	**-0.6**
	1.4nm,0.3s,baz=216,slow=19,SNR=4.1						
KSRS	**Korea Array**	**14.43**	**20**	P	**Pn**	**09 22 40.7**	**+7.3**
	0.3nm,0.3s,baz=200,slow=11,SNR=5.5						
CBIJ	**Chichi jima**	**18.77**	**76**	LR	LR	09 29 39.9	
	comp=Z,132nm,18.2s,baz=141,slow=34						
SONM	**Songino Array**	**26.69**	**337**	P	**P**	**09 24 48.8**	**+0.4**
	0.2nm,0.3s,mb3.1,baz=164,slow=12,SNR=2.6						
ZALV	**Zalesovo Beam**	**40.62**	**327**	P	**P**	**09 26 48.9**	**-0.1**
	0.5nm,0.4s,mb3.5,baz=111,slow=7.9,SNR=2.3						
WRA	**Warramunga Arr**	**45.40**	**163**	P	**P**	**09 27 28.2**	**+0.1**
	0.5nm,0.6s,mb3.5,baz=352,slow=8.0,SNR=10.0						
ASAR	**Alice Springs**	**48.86**	**165**	P	**P**	**09 27 55.8**	**+0.7**
	0.5nm,0.9s,mb3.5,baz=342,slow=6.9,SNR=7.2						
YKA	**Yellowknife Ar**	**82.96**	**23**	P	**P**	**09 31 33.0**	**-1.1**
YKA	**Yellowknife Ar**	**82.96**	**23**	P	**P**	**09 31 33.0**	**-1.1**
	0.4nm,0.8s,mb3.5,baz=314,slow=4.7,SNR=10.0						

IDC ***16*** *09:31:47.6±1.0,3169S×7240W, h0km, mb3.8/4, mb1 3.8/8, mb1mx3.7/20, mbtmp3.6/8, ML3.5/4, Error ellipse: s-maj=28.2km s-min=23.3km az=86.0*
ISCJB ***16*** *09:31:48.0±0.6,3167S±003×7222W±006, h10km, mb3.6/4, Error ellipse: s-maj=7.5km s-min=4.4km az=162.6*
GUC ***16*** *09:31:51.6±0.9,3179S×7214W, h21km±5km, MD4.1, ML3.8*
NEIC ***16*** *09:31:51.6, 31.79S×72.14W, h21km, ML3.8(GUC), After GUC.*
ISC 16 09:31:48.8±1.0,**3171S**±003×**7214W**±006,**h0**km±5km,**n37,**
σ0°96/44,mb3.8/3,1C-1D,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHNG	**Los Chungos**	**0.57**	**108**	⇓ *i*P	Px	09 31 42.3	
CHNG				*i* S	Sx	09 31 50.1	
CHNG				AML	AML	09 31 50.9	
	comp=E,3μm,0.3s						
PACH	**Papudo**	**1.02**	**144**	*e*P	**Pg**	**09 32 08.6**	**+0.3**
PACH				*i* S	**Sg**	**09 32 22.2**	**+0.6**
CMCH	**Combarbala**	**1.11**	**62**	*e*P	**Pg**	**09 32 09.3**	**-0.8**
CMCH				*i* S	**Sg**	**09 32 24.2**	**-0.3**
CMCH	**Combarbala**	**1.11**	**62**	*e*P	**Pg**	**09 32 09.3**	**-0.8**
CMCH				*i* S	**Sg**	**09 32 24.2**	**-0.3**
CMCH				AML	AML	09 32 26.4	
	comp=N,11μm,0.6s						
PTCH	**Petorca**	**1.17**	**119**	*e*P	**Pg**	**09 32 11.2**	**-0.1**
PTCH				*i* S	**Sg**	**09 32 26.2**	**-0.2**
PTCH	**Petorca**	**1.17**	**119**	*e*P	**Pg**	**09 32 11.2**	**-0.1**
PTCH				*i* S	**Sg**	**09 32 26.2**	**-0.2**
PTCH				AML	AML	09 32 28.3	
	comp=N,1μm,0.2s						
OVCH	**Ovalle**	**1.36**	**36**	AML	AML	09 32 38.8	
	comp=N,2μm,0.2s						
IHA	**Instituto Hidr**	**1.38**	**162**	*e*P	**Pg**	**09 32 14.2**	**-1.1**
JACH	**Jahuel**	**1.63**	**127**	*e*P	**Pn**	**09 32 18.7**	**0.0**
JACH				*i* S	**Sn**	**09 32 39.9**	**-0.5**
PEL	**Peldehue**	**1.89**	**140**	*e*P	**Pn**	**09 32 22.0**	**-0.3**
PEL				*i* S	**Sn**	**09 32 46.0**	**-0.8**
PEL				AML	AML	09 32 53.6	
	comp=N,2μm,0.3s						
TLL	**Tololo Astrono**	**1.92**	**37**	AML	AML	09 32 54.2	
	comp=E,1μm,0.2s						
STL	**Santa Lucia**	**2.14**	**144**	AML	AML	09 33 03.8	
	comp=E,206nm,0.5s						
DSCH	**Colegio Aleman**	**2.14**	**142**	AML	AML	09 33 02.0	
	comp=E,262nm,0.8s						
CLCH	**Cerro Calan**	**2.16**	**142**	*e*P	**Pn**	**09 32 25.8**	**-0.2**
CLCH				*e*S	**Sn**	**09 32 52.2**	**-1.3**
CLCH				AML	AML	09 33 04.4	
	comp=E,1μm,0.4s						
CLCH				AML	AML	09 33 05.0	
	comp=E,2μm,0.6s						
TACH	**Talagante**	**2.19**	**153**	*e*P	**Pn**	**09 32 26.9**	**+0.4**
TACH				*i* S	**Sn**	**09 32 53.0**	**-1.3**
FSR	**Penalolen**	**2.23**	**143**	*e*P	**Pn**	**09 32 19.0**	**-8.0**
FSR				AML	AML	09 33 06.8	
	comp=E,1μm,0.6s						
FCH	**Farellones**	**2.25**	**136**	⇑ *i*P	**Pn**	**09 32 27.5**	**+0.2**
FCH				*i* S	**Sn**	**09 32 56.0**	**+0.4**
FCH				AML	AML	09 33 04.4	
	comp=E,598nm,0.3s						
ANTU	**Antumapu**	**2.25**	**146**	AML	AML	09 33 06.8	
	comp=N,732nm,1.0s						
PCH	**Pirque**	**2.35**	**145**	*e*P	**Pn**	**09 32 29.0**	**+0.4**
PCH				*i* S	**Sn**	**09 32 57.9**	**-0.3**
LMEL	**Las Melosas**	**2.69**	**143**	*e*P	**Pn**	**09 32 33.6**	**+0.4**
LMEL				S	**Sn**	**09 33 08.0**	**+1.5**
LMEL	**Las Melosas**	**2.69**	**143**	*e*P	**Pn**	**09 32 33.6**	**+0.4**
LMEL				*i* S	**Sn**	**09 33 08.0**	**+1.5**
LMEL				AML	AML	09 33 21.4	
	comp=N,510nm,0.2s						
CACH	**El Canelo**	**2.73**	**152**	*e*P	**Pn**	**09 32 35.3**	**+1.4**
CACH				*i* S	**Sn**	**09 33 08.9**	**+1.4**
LCO	**Las Campanas**	**2.96**	**25**	*e*P	**Pn**	**09 32 39.2**	**+2.1**
CICH	**Cipreses**	**2.98**	**151**	*e*P	**Pn**	**09 32 38.1**	**+0.9**
SFDO	**San Fernando**	**3.05**	**162**	*e*P	**Pn**	**09 32 38.8**	**+0.5**
CFAA	**Coronel Fontan**	**3.33**	**89**	Pn	**Pn**	**09 32 46.0**	**+3.9**
	comp=N,0.7nm,0.3s,baz=249,slow=9.7,SNR=56						
CFAA				Sn	**Sn**	**09 33 27.9**	**+5.6**
	comp=N,3.4nm,0.3s,baz=126,slow=18,SNR=6.6						
VACH	**Vallenar**	**3.34**	**21**	*e*P	**Pn**	**09 32 45.2**	**+2.9**
VACH				AML	AML	09 33 37.6	
	comp=E,866nm,0.4s						
PLCA	**Paso Flores**	**9.10**	**172**	Pn	**Pn**	**09 34 00.3**	**-1.0**
PLCA	**Paso Flores**	**9.10**	**172**	Pn	**Pn**	**09 34 00.3**	**-1.0**
	comp=E,0.3nm,0.3s,baz=346,slow=13,SNR=8.1						
LPAZ	**La Paz**	**15.78**	**14**	Pn	**Pn**	**09 35 30.8**	**-1.7**
LPAZ	**La Paz**	**15.78**	**14**	Pn	**Pn**	**09 35 30.8**	**-1.7**
	comp=E,0.0nm,0.3s,baz=123,slow=9.1,SNR=2.0						
SIV	**San Ignacio**	**18.61**	**35**	P	**Pn**	**09 36 08.5**	**+0.4**
	comp=E,0.1nm,0.3s,baz=225,slow=14,SNR=3.8						
QSPA	**South Pole Qui**	**58.52**	**180**	P	**P**	**09 41 46.0**	**-0.4**
	comp=E,1.3nm,1.0s,mb3.9,baz=111,slow=8.6,SNR=8.5						
TXAR	**Lajitas Array**	**67.70**	**330**	P	**P**	**09 42 47.0**	**-0.9**
	comp=E,0.2nm,0.6s,mb3.5,baz=159,slow=7.7,SNR=3.3						
TORD	**Torodi Ar. Bea**	**83.52**	**70**	P	**P**	**09 44 17.5**	**-1.4**
	comp=E,0.4nm,0.6s,mb3.9,baz=212,slow=4.4,SNR=4.3						
TORD				pP		09 44 26.9	
	comp=E,1.3nm,0.7s,baz=271,slow=4.2,SNR=7.7						
YKA	**Yellowknife Ar**	**99.86**	**341**	P	Pdif	09 45 31.6	-3.6
	comp=E,0.1nm,0.6s,baz=143,slow=4.4,SNR=3.8						
ZALV	**Zalesovo Beam**	**152.31**	**30**	PKPbc	PKPbc	09 51 44.4	-1.7
	comp=E,0.8nm,0.5s,baz=292,slow=4.7,SNR=3.9						
ZALV				pPKPbc	pPKPbc	09 51 54.6	+8.5
	comp=E,0.8nm,0.5s,baz=298,slow=3.2,SNR=4.0						

IDC ***16*** *09:37:27.5±1.9,3166S×7262W, h0km, mb3.7/1, mb1 3.5/5, mb1mx3.5/19, mbtmp3.4/5, ML3.4/4, Error ellipse: s-maj=39.6km s-min=33.5km az=98.0*
ISCJB ***16*** *09:37:32.7±0.9,3169S±003×7216W±008, h35km±14km, Error ellipse: s-maj=11.9km s-min=5.3km az=177.6*
GUC ***16*** *09:37:32.8±0.9,3169S×7203W, h36km±3km, MD3.9, ML3.6*
ISC 16 09:37:31.3±1.2,**3169S**±003×**7208W**±007,**h8**km±5km,**n23,**
σ0°62/32,6C-2D,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHNG	**Los Chungos**	**0.53**	**111**	⇓ *i*P	Px	09 37 23.6	
CHNG				*i* S	Sx	09 37 31.4	
CHNG				AML	AML	09 37 34.0	
	comp=E,2μm,0.6s						
PACH	**Papudo**	**1.00**	**147**	⇑ *i*P	**Pg**	**09 37 50.4**	**-0.1**
PACH				*i* S	**Sg**	**09 38 04.2**	**+0.6**
CMCH	**Combarbala**	**1.05**	**61**	⇑ *i*P	**Pg**	**09 37 50.8**	**-0.7**
CMCH				*i* S	**Sg**	**09 38 05.2**	**+0.1**
CMCH				AML	AML	09 38 07.3	
	comp=N,19μm,0.7s						
PTCH	**Petorca**	**1.13**	**121**	⇓ *i*P	**Pg**	**09 37 52.6**	**-0.3**
PTCH				*i* S	**Sg**	**09 38 07.4**	**-0.1**
PTCH				AML	AML	09 38 10.5	
	comp=N,902nm,0.2s						
OVCH	**Ovalle**	**1.31**	**35**	*i* P	**Pn**	**09 37 55.5**	**-0.4**
OVCH				AML	AML	09 38 30.4	
	comp=N,1μm,0.7s						
IHA	**Instituto Hidr**	**1.38**	**165**	⇑ *i*P	**Pn**	**09 37 55.7**	**-1.1**
ROCH	**El Roble**	**1.56**

PLCA	**Paso Flores**	**9.11**	**173**	Pn	**Pn**	**09 39 42.0**	**-0.9**
	comp=N,0.2nm,0.3s,baz=334,slow=14,SNR=4.0						
LPAZ	**La Paz**	**15.75**	**14**	Pn	**Pn**	**09 41 14.5**	**+1.0**
	comp=N,0.0nm,0.3s,baz=192,slow=2.1,SNR=4.9						
SIV	**San Ignacio**	**18.57**	**35**	P	**Pn**	**09 41 48.3**	**-0.6**
	comp=N,0.1nm,0.3s,baz=208,slow=15,SNR=4.6						
TORD	**Torodi Ar. Bea**	**83.46**	**70**	P	**P**	**09 49 59.1**	**-0.7**
	comp=N,0.5nm,0.8s,baz=237,slow=5.0,SNR=3.1						
TORD				pP	pP	09 50 08.1	+5.7
	comp=N,1.5nm,0.7s,baz=258,slow=4.7,SNR=7.7						
ZALV	**Zalesovo Beam**	**152.27**	**30**	PKPbc	PKPbc	09 57 25.2	-1.9
	comp=N,0.4nm,0.4s,baz=273,slow=2.7,SNR=2.1						
ZALV				pPKPbc	pPKPbc	09 57 35.4	+5.7
	comp=N,1.5nm,0.6s,baz=308,slow=3.6,SNR=6.4						

*ISCJB **16** 09:53:51.9±0.7, 2335S±005×6896W±008, h82km±8km, mb4.2/13, Error ellipse: s-maj=11.9km s-min=8.2km az=4.9*
*GUC **16** 09:53:53.4±0.8, 2364S×6902W, h70km, ML4.4*
*NEIC **16** 09:53:53.4, 2364S×6902W, h70km, mb4.4/4, After GUC.*
*IDC **16** 09:53:54.1±0.6, 2328S×6912W, h91km±5km, mb4.1/8, mb1 4.2/11, mb1mx4.0/17, mbtmp4.1/11, MS2.9/1, Ms1 3.0/1, ms1mx2.4/22, Error ellipse: s-maj=20.2km s-min=14.3km az=80.0*

ISC 16 09:53:52.7±0.6, 2331S±004×6900W±007, h73km±7km, h91km±1.5km: pP-P, n42, σ1º08/48, mb4.2/13, 4C-1D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEN1	**Los Morros**	**1.11**	**266**	*e*P	**Pn**	**09 54 15.0**	**+2.4**
CEN1				*i* S	**Sn**	**09 54 31.1**	**+3.5**
CEN1				AML	AML	09 54 32.7	
	comp=E,7μm,0.4s						
ANCH	**Antofagasta**	**1.35**	**254**	⇑*i*P	**Pn**	**09 54 16.4**	**+0.6**
ANCH				*i* S	**Sn**	**09 54 32.8**	**-0.3**
ANCH	**Antofagasta**	**1.35**	**254**	⇑*i*P	**Pn**	**09 54 16.4**	**+0.6**
ANCH				*i* S	**Sn**	**09 54 32.8**	**-0.3**
ANCH				AML	AML	09 54 34.4	
	comp=N,18μm,0.8s						
CPN1	**Cerro Paranal**	**1.84**	**224**	⇑*i*P	**Pn**	**09 54 23.0**	**+0.8**
CPN1				*i* S	**Sn**	**09 54 44.5**	**-0.1**
CPN1				AML	AML	09 54 47.2	
	comp=N,5μm,0.5s						
CDCH	**Caldera**	**4.10**	**203**	⇓*i*P	**Pn**	**09 54 50.8**	**-2.1**
CDCH				*i* S	**Sn**	**09 55 34.5**	**-5.1**
VACH	**Vallenar**	**5.48**	**196**	*e*P	**Pn**	**09 55 10.3**	**-1.4**
VACH				*i* S	**Sn**	**09 56 08.4**	**-5.0**
LCO	**Las Campanas**	**5.88**	**195**	*e*P	**Pn**	**09 55 16.0**	**-1.2**
	comp=N,97nm,0.8s						
LCO				*e*S	**Sn**	**09 56 18.4**	**-4.8**
LPAZ	**La Paz**	**7.03**	**7**	*e*P	**Pn**	**09 55 34.9**	**+1.9**
LPAZ				P		09 55 35.0	
LPAZ				S	**Sn**	**09 56 49.1**	**-2.4**
LPAZ				LR	LR	09 58 01.3	
LPAZ	**La Paz**	**7.03**	**7**	P	**Pn**	**09 55 35.0**	**+2.0**
	comp=N,6.6nm,0.3s,baz=188,slow=4.6,SNR=138						
LPAZ				S	**Sn**	**09 56 49.1**	**-2.4**
	comp=N,0.6nm,0.3s,baz=192,slow=2.8,SNR=1.3						
LPAZ				LR	LR	09 58 01.3	
	comp=N,87nm,20.5s,baz=276,slow=35						
ARE	**Arequipa**	**7.20**	**341**	*e*P	**Pn**	**09 55 32.0**	**-3.3**
ARE				*e*S	**Sn**	**09 56 51.0**	**-4.7**
CFAA	**Coronel Fontan**	**8.29**	**175**	P	**Pn**	**09 55 50.4**	**+0.3**
CFAA				S	**Sn**	**09 57 16.3**	**-5.9**
CFAA	**Coronel Fontan**	**8.29**	**175**	P	**Pn**	**09 55 50.4**	**+0.3**
	comp=N,2.9nm,0.3s,baz=352,slow=13,SNR=200						
CFAA				S	**Sn**	**09 57 16.3**	**-5.9**
	comp=N,0.2nm,0.3s,baz=286,slow=7.7,SNR=2.3						
SIV	**San Ignacio**	**10.42**	**47**	P	**Pn**	**09 56 19.0**	**-0.3**
	comp=N,6.9nm,0.3s,baz=241,slow=11,SNR=74						
SIV				S	**Sn**	**09 58 07.7**	**-6.8**
	comp=N,6.7nm,0.3s,baz=141,slow=23,SNR=15						
NNA	**Nana**	**13.51**	**325**	S	**Sn**	**09 59 23.4**	**-6.3**
	comp=N,1.0nm,0.3s,baz=309,slow=6.3,SNR=3.6						
TRQA	**Tornquist**	**15.88**	**159**	*e*P	**Pn**	**09 57 32.3**	**+0.5**
	comp=N,72nm,1.1s						
PLCA	**Paso Flores**	**17.42**	**184**	P	**Pn**	**09 57 50.3**	**-0.5**
PLCA				*e*P		09 57 53.1	
PLCA	**Paso Flores**	**17.42**	**184**	P	**Pn**	**09 57 50.3**	**-0.5**
	comp=N,0.3nm,0.3s,baz=8.4,slow=14,SNR=11						
BDFB	**Brasilia**	**21.19**	**73**	P	**P**	**09 58 33.7**	**+1.4**
	comp=N,12nm,0.4s,mb4.6,baz=241,slow=18,SNR=40						
VNA3	**Neumayer Olymp**	**58.40**	**161**	*e*	**P**	**10 03 41.1**	**+0.9**
VNA3				*e*		10 03 45.8	
VNA3				*e*		10 03 48.8	
VNA3				*e*		10 03 51.0	
VNA1	**Neumayer--Stat**	**58.62**	**160**	*e*	**P**	**10 03 42.7**	**+1.0**
VNA1				*e*		10 03 47.6	
VNA2	**Neumayer--Watz**	**58.98**	**160**	*e*	**P**	**10 03 44.9**	**+0.6**
	baz=291,slow=7.3						
VNA2				*e*		10 03 49.7	
VNA2				*e*		10 03 52.5	
SNAA	**Sanae**	**60.61**	**161**	P	**P**	**10 03 55.4**	**0.0**
	comp=N,3.2nm,0.7s,mb4.4,baz=280,slow=7.3,SNR=31						
TXAR	**Lajitas Array**	**62.06**	**326**	P	**P**	**10 04 05.1**	**-0.6**
	comp=N,0.4nm,0.9s,mb3.5,baz=125,slow=11,SNR=3.9						
TXAR				pP	pP	10 04 27.1	+2.4
	comp=N,0.7nm,0.8s,baz=149,slow=10.0,SNR=5.1						
QSPA	**South Pole Qui**	**66.89**	**180**	*e*P	**P**	**10 04 37.7**	**+1.1**
	comp=N,19nm,0.6s,mb5.1						
ANMO	**Albuquerque**	**67.97**	**327**	*e*P	**P**	**10 04 44.3**	**+0.3**
	comp=N,2.0nm,0.9s,mb4.0						
DBIC	**Dimbokro**	**69.33**	**73**	P	**P**	**10 04 52.4**	**-0.5**
	comp=N,5.0nm,0.9s,mb4.3,baz=232,slow=4.4,SNR=6.3						
SYO	**Syowa Base**	**74.85**	**159**	⇑*e*P	**P**	**10 05 23.7**	**-1.2**
VNDA	**Vanda**	**75.06**	**190**	P	**P**	**10 05 26.1**	**0.0**
	comp=N,2.1nm,1.0s,mb3.8,baz=108,slow=1.9,SNR=6.6						
ULM	**Lac du Bonnet**	**77.01**	**343**	P	**P**	**10 05 36.4**	**-0.9**
	comp=N,0.8nm,0.4s,mb3.8,baz=177,slow=5.1,SNR=6.3						
ULM				pP	pP	10 05 59.3	+2.5
	comp=N,2.2nm,0.6s,baz=148,slow=5.0,SNR=4.9						
SCHQ	**Schefferville**	**77.84**	**1**	pP	pP	10 06 02.2	+0.8
	comp=N,2.1nm,0.8s,baz=207,slow=6.7,SNR=2.3						
TOA0	**Torodi Ar. Sit**	**78.04**	**70**	*e*P	**P**	**10 05 43.9**	**0.0**
TORD	**Torodi Ar. Bea**	**78.04**	**70**	P	**P**	**10 05 43.8**	**-0.1**
	comp=N,4.9nm,0.7s,mb4.4,baz=256,slow=5.3,SNR=24						
TORD				pP	pP	10 06 07.7	+4.2
	comp=N,5.1nm,0.7s,baz=254,slow=5.1,SNR=4.2						
TORD				sP	sP	10 06 18.7	+7.3
	comp=N,8.9nm,0.7s,baz=254,slow=5.1,SNR=7.0						
HLID	**Hailey**	**78.52**	**328**	*e*P	**P**	**10 05 46.8**	**+0.8**
	comp=N,2.1nm,1.0s,mb3.9						
MAW	**Mawson**	**82.63**	**163**	P	**P**	**10 06 08.0**	**+0.4**
	comp=N,4.9nm,0.6s,mb4.5,baz=220,slow=6.7,SNR=17						
BOSA	**Boshof**	**82.68**	**118**	P	**P**	**10 06 08.8**	**+0.1**
	comp=N,5.5nm,0.9s,mb4.4,baz=267,slow=1.9,SNR=7.1						
YKA	**Yellowknife Ar**	**92.86**	**341**	P	**P**	**10 06 55.3**	**-1.5**
	comp=N,0.9nm,0.7s,mb4.2,baz=138,slow=4.2,SNR=30						
YKA				pP	pP	10 07 20.5	+3.7
	comp=N,0.8nm,0.5s,baz=139,slow=4.4,SNR=9.5						
YKA				PP	PP	10 10 40.6	+0.2
	comp=N,0.6nm,1.1s,baz=186,slow=5.7,SNR=3.6						
ASAR	**Alice Springs**	**128.28**	**207**	PKP	PKPdf	10 12 50.5	-1.0
	comp=N,1.4nm,0.8s,baz=134,slow=2.0,SNR=16						
WRA	**Warramunga Arr**	**131.36**	**210**	PKP	PKPdf	10 12 56.8	-0.6
	comp=N,0.9nm,0.6s,baz=156,slow=1.7,SNR=13						
ZALV	**Zalesovo Beam**	**143.61**	**26**	PKP	PKPdf	10 13 17.6	-1.2
	comp=N,0.7nm,0.5s,baz=303,slow=4.3,SNR=4.8						
POO	**Poona**	**145.03**	**91**	*e*P	PKPbc	10 13 20.0	-1.9
POO				*e*P		10 37 50.0	
MKAR	**Makanchi Array**	**147.12**	**37**	PKPbc	PKPbc	10 13 25.0	-2.3
	comp=N,2.0nm,0.7s,baz=329,slow=3.0,SNR=11						
SONM	**Songino Array**	**155.25**	**7**	PKPab	PKPab	10 14 02.8	+0.2
	comp=N,0.2nm,0.4s,baz=354,slow=1.4,SNR=2.3						
SONM				pPKPbc	pPKPbc	10 14 14.7	+7.6
	comp=N,0.6nm,0.6s,baz=306,slow=1.8,SNR=4.8						

IDC 16 09:53:53.5±9.4, 203S×12793E, h0km, mb4.1/2, mb1 4.4/3, mb1mx3.7/14, mbtmp4.2/3, ML4.4/1, 1C, Error ellipse: s-maj=144.5km s-min=126.4km az=111.0, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNE	**Ternate**	**2.86**	**349**	⇑*e*P	Pn	09 54 34.8	-5.6
TNE				*e*S	Sn	09 54 45.8	-30
WRA	**Warramunga Arr**	**18.87**	**161**	P	Pn	09 58 14.7	-1.3
	1.3nm,0.3s,baz=340,slow=12,SNR=169						
ASAR	**Alice Springs**	**22.27**	**165**	P	P	09 58 52.0	-0.3
	2.2nm,0.3s,baz=346,slow=12,SNR=57						
STKA	**Stephens Creek**	**32.36**	**158**	P	P	10 00 25.6	+0.9
	2.5nm,0.9s,baz=336,slow=12,SNR=4.9						

MEX 16 09:54:02.9±1.1, 1708N×9328W, h120km±28km, MD3.8, Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCX	**San Cristobal**	**0.71**	**119**	*i* P	Pn	09 54 15.0	-7.3
SCX				*i* S	Sn	09 54 25.0	-12
CCIG	**Comitan**	**1.35**	**126**	*i* P	Pn	09 54 27.2	-1.5
CCIG				*i* S	Sn	09 54 47.2	-1.0
CMIG	**Matias Romero**	**1.53**	**271**	*i* P	Pn	09 54 31.0	+0.3
CMIG				*i* S	Sn	09 54 49.5	-2.4
HUIG	**Huatulco**	**3.01**	**245**	*e*P	Pn	09 54 50.0	+0.7
HUIG				*i* S	Sn	09 55 23.3	-1.8
VHO	**Vista Hermosa**	**3.30**	**270**	*i* P	Pn	09 54 52.2	-0.9
VHO				*i* S	Sn	09 55 28.8	-3.2

*TIR **16** 10:01:28.9±3.0, 4113N×1992E, h14km±17km, ML2.3*
*ISCJB **16** 10:01:28.8±0.5, 4116N±003×1999E±004, h10km, Error ellipse: s-maj=5.6km s-min=2.4km az=44.5*
*CSEM **16** 10:01:29.8±0.1, 4120N×2011E, h10km, ML2.7, Error ellipse: s-maj=2.2km s-min=0.9km az=41.0*
*SKO **16** 10:01:30.1, 4109N×2005E, h6km, M1.6, ML2.1*
*THE **16** 10:01:30.4, 4117N×2011E, h3km, ML2.7*
*NEIC **16** 10:01:34.2, 4126N×1969E, h2km, ML2.5(PDG), After PDG.*
*PDG **16** 10:01:34.2±0.2, 4126N×1969E, h2km, ML2.5/9, Error ellipse: s-maj=1.1km s-min=1.5km az=0.0*

ISC 16 10:01:29.8±0.6, 4118N±004×2004E±004, h16km±6km, n31, σ1º06/59, 7C-3D, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIR	**Tirane**	**0.21**	**323**	*e*Pg	**Pg**	**10 01 35.0**	**+0.2**
TIR				*e*Sg	**Sg**	**10 01 40.0**	**+1.8**
TIR	**Tirane**	**0.21**	**323**	*i* PG	**Pg**	**10 01 35.0**	**+0.1**
TIR				*i* SG	**Sg**	**10 01 40.7**	**+2.4**
TIR	**Tirane**	**0.21**	**323**	*e*Pg	**Pg**	**10 01 35.0**	**+0.1**
TIR				*e*Sg	**Sg**	**10 01 40.0**	**+1.7**
QSH	**Qafa e Shtames**	**0.36**	**344**	*i* PG	**Pg**	**10 01 37.2**	**-0.1**
QSH				*i* SG	**Sg**	**10 01 43.2**	**+0.9**
OHR	**Ohrid**	**0.58**	**96**	*e*Pg	**Pg**	**10 01 39.8**	**-1.5**
OHR				*e*Sg	**Sg**	**10 01 48.4**	**-0.7**
OHR	**Ohrid**	**0.58**	**96**	*e*Pg	**Pg**	**10 01 40.3**	**-1.0**
OHR				*i* Sg	**Sg**	**10 01 48.5**	**-0.6**
OHR				*e*Lg		10 01 48.7	
	comp=E,79nm,0.4s						
OHR				*e*Lg		10 01 48.7	
	comp=N,58nm,0.6s						
OHR	**Ohrid**	**0.58**	**96**	*e*Pg	**Pg**	**10 01 40.3**	**-1.0**
OHR				*i* Sg	**Sg**	**10 01 48.4**	**-0.7**
PHP	**Peshkopia**	**0.59**	**31**	*i* PG	**Pg**	**10 01 40.6**	**-1.0**
PHP				*i* SG	**Sg**	**10 01 50.0**	**+0.5**
KBN	**Korca**	**0.79**	**134**	*i* PG	**Pg**	**10 01 44.8**	**-0.5**
KBN				*i* SG	**Sg**	**10 01 57.6**	**+1.9**
PUK	**Puka**	**0.87**	**353**	*i* PG	**Pg**	**10 01 46.3**	**-0.5**
PUK				*i* SG	**Sg**	**10 02 00.0**	**+1.6**
KRUS	**Krusevo**	**0.94**	**78**	*i* Pg	**Pg**	**10 01 46.8**	**-1.1**
KRUS				*i* Sg	**Sg**	**10 02 00.7**	**+0.5**
ULC	**Ulcinj**	**0.98**	**323**	⇑*i*Pg	**Pg**	**10 01 48.6**	**-0.3**
ULC				*e*Sg	**Sg**	**10 02 00.7**	**-1.1**
ULC	**Ulcinj**	**0.98**	**323**	*i* PG	**Pg**	**10 01 48.6**	**-0.3**
ULC				*i* SG	**Sg**	**10 02 00.7**	**-1.1**
FNA	**Florina**	**1.09**	**111**	*e*Pg	**Pn**	**10 01 49.5**	**-0.8**
FNA				*e*Sg	**Sg**	**10 02 05.1**	**0.0**
PDG	**Podgorica**	**1.38**	**335**	*i* PG	**Pn**	**10 01 55.6**	**+1.2**
PDG				*i* SG	**Sg**	**10 02 15.7**	**+1.2**
PDG	**Podgorica**	**1.38**	**335**	⇑*i*Pg	**Pn**	**10 01 55.6**	**+1.2**
PDG				*e*Sg	**Sg**	**10 02 15.7**	**+1.2**
TTG	**Podgorica**	**1.38**	**335**	⇑*i*Pg	**Pn**	**10 01 55.6**	**+1.2**
TTG				*e*Sg	**Sg**	**10 02 15.7**	**+1.2**
BUM	**Brajici-Budva**	**1.41**	**323**	⇓*i*Pg	**Pn**	**10 01 56.1**	**+1.3**
BUM				*e*Sg	**Sg**	**10 02 15.3**	**-0.1**
BUM	**Brajici-Budva**	**1.41**	**323**	*i* PG	**Pn**	**10 01 56.1**	**+1.3**
BUM				*i* SG	**Sg**	**10 02 15.3**	**-0.1**
PVY	**Plav**	**1.42**	**358**	⇓*i*Pg	**Pg**	**10 01 58.9**	**+1.7**
PVY				*e*Sg	**Sg**	**10 02 20.3**	**+4.6**
MEV	**Metsovon**	**1.66**	**146**	*e*Pb	**Pb**	**10 02 00.5**	**+0.5**
BEY	**Berane**	**1.70**	**357**	*i* PG	**Pg**	**10 02 03.1**	**+0.6**
BEY				*i* SG	**Sg**	**10 02 28.8**	**+4.2**
IVA	**Berane**	**1.70**	**357**	⇑*i*Pn	**Pg**	**10 02 03.1**	**+0.6**
IVA				*e*Sn	**Sg**	**10 02 28.8**	**+4.2**
HCY	**Herceg Novi**	**1.71**	**318**	⇑*i*Pg	**Pg**	**10 02 01.1**	**-1.7**
HCY				*e*Sg	**Sg**	**10 02 24.4**	**-0.7**
HCY	**Herceg Novi**	**1.71**	**318**	*i* PG	**Pg**	**10 02 01.1**	**-1.7**
HCY				*i* SG	**Sg**	**10 02 24.4**	**-0.7**
GRG	**Griva**	**1.80**	**96**	*e*Pb	**Pb**	**10 02 01.6**	**-0.8**
NKY	**Niksic**	**1.81**	**335**	⇑*i*Pn	**Pg**	**10 02 04.5**	**-0.1**
NKY				*e*Sn	**Sg**	**10 02 29.2**	**+1.1**
NKY	**Niksic**	**1.81**	**335**	*i* PG	**Pg**	**10 02 04.5**	**-0.1**
NKY				*i* SG	**Sg**	**10 02 29.2**	**+1.1**
BRY	**Bratogost**	**2.05**	**328**	⇑*i*Pn	**Pg**	**10 02 07.9**	**-1.3**
BRY				*e*Sn	**Sg**	**10 02 34.8**	**-1.0**
UPM	**Unac-Piva**	**2.19**	**338**	⇓*i*Pn	**Pg**	**10 02 10.5**	**-1.4**
UPM				*e*Sn	**Sg**	**10 02 38.8**	**-1.6**
LKD	**Levkas**	**2.51**	**169**	*e*Pn	**Pn**	**10 02 11.2**	**+1.3**

*CSEM **16** 10:03:52.2±1.1, 3708N×2439W, h5km, ML3.6, Error ellipse: s-maj=6.6km s-min=5.4km az=63.0, After PDA*
*PDA **16** 10:03:52.2±1.1, 3708N×2439W, h5km, MD4.1, ML3.6, Error ellipse: s-maj=6.6km s-min=5.4km az=63.0*

SVSA 16 10:03:52.2±1.1, 3708N×2439W, h5km, MD4.1, ML3.6, Error ellipse: s-maj=6.6km s-min=5.4km az=63.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSMN	**Pico do Norte,**	**0.55**	**262**	*i* P	Pg	10 04 01.1	-1.7
PSMN				*e*S	Sg	10 04 09.0	-0.9
PSMN	**Pico do Norte,**	**0.55**	**262**	*e*S	Sg	10 04 09.0	-0.9
PDA	**Ponta Delgada**	**1.22**	**304**	*e*P	Pg	10 04 10.9	-4.6
PDA				*e*S	Sg	10 04 25.4	-5.9
PSET	**Sete Cidades**	**1.30**	**305**	*i* P	Pn	10 04 11.7	-5.3
PSET				*e*S	Sg	10 04 27.1	-6.8
PSET				A		10 04 32.8	
	1μm,0.4s						
ADH	**Angra Heroismo**	**2.75**	**306**	*e*P	Pn	10 04 32.5	-4.4
ADH				*e*S	Sn	10 05 03.0	-7.5
PID	**Ribeirinha**	**3.26**	**296**	*i* P	Pn	10 04 39.8	-4.1
PID				*e*S	Sn	10 05 15.0	-8.1
PMAN	**Manadas**	**3.32**	**299**	*e*P	Pn	10 04 40.4	-4.3
PMAN				*e*S	Sn	10 05 16.0	-8.5
PMAN				A		10 05 18.0	
	51nm,0.2s						
PMAN	**Manadas**	**3.32**	**299**	*e*P	Pn	10 04 40.4	-4.3
PMAN				*e*S	Sn	10 05 16.0	-8.5
ROSA	**Rosais**	**3.46**	**299**	*e*P	Pn	10 04 42.5	-4.2
ROSA				*e*S	Sn	10 05 19.7	-8.4
SRBC	**Serra Branca**	**3.49**	**305**	*e*P	Pn	10 04 43.0	-4.0
PICO	**Pico**	**3.50**	**295**	*e*P	Pn	10 04 43.1	-4.2
PICO				*e*S	Sn	10 05 20.5	-8.6
HOR	**Horta**	**3.66**	**295**	*e*P	Pn	10 04 44.9	-4.5
HOR				*e*S	Sn	10 05 24.6	-8.4
CALA	**Caldeira**	**3.73**	**295**	*e*P	Pn	10 04 46.4	-4.0
CALA				*e*S	Sn	10 05 26.2	-8.6

MEX 16 10:06:58.2±0.4, 1713N×10042W, h43km±5km, MD3.8, 1D, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.17**	**119**	⇓*i*P	Pn	10 07 04.3	-1.3
CAIG				*i* S	Sn	10 07 08.9	-1.8
ACX	**Acapulco**	**0.55**	**118**	*i* P	Pn	10 07 08.0	-1.7
ACX				*i* S	Sn	10 07 15.9	-2.0
MEIG	**Mezcala**	**1.10**	**44**	*i* P	Pn	10 07 15.5	-1.7
MEIG				*i* S	Sn	10 07 29.2	-2.0
UTMO	**Huajuapan**	**2.59**	**74**	*i* P	Pn	10 07 37.7	0.0
UTMO				*i* S	Sn	10 08 07.4	-0.6
MMIG	**Aquila**	**3.01**	**293**	*e*P	Pn	10 07 41.5	-1.9
MMIG				*i* S	Sn	10 08 16.9	-1.4
VHO	**Vista Hermosa**	**3.53**	**90**	*e*P	Pn	10 07 50.8	+0.3
VHO				*i* S	Sn	10 08 29.4	-1.7

*NEIC **16** 10:10:38.2, 3170S×7212W, h20km, ML3.7(GUC), After GUC.*

GUC 16 10:10:38.2±0.4, 3170S×7212W, h20km±1km, MD3.8, ML3.7, 1C-2D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PACH	**Papudo**	**1.02**	**145**	*i* P	Pb	10 10 56.4	-0.7
PACH				*i* S	Sb	10 11 10.2	+0.1
CMCH	**Combarbala**	**1.09**	**62**	⇓*i*P	Pn	10 10 57.7	-0.6
CMCH				*i* S	Sb	10 11 12.2	0.0
CMCH	**Combarbala**	**1.09**	**62**	⇓*i*P	Pn	10 10 57.7	-0.6
CMCH				*i* S	Sb	10 11 12.2	0.0
CMCH				AML	AML	10 11 14.0	
	comp=N,8μm,0.7s						
OVCH	**Ovalle**	**1.34**	**36**	*i* P	Pn	10 11 01.3	-0.4
OVCH				*i* S	Sn	10 11 18.8	-0.2
ROCH	**El Roble**	**1.58**	**144**	*e*P	Pn	10 11 05.6	+0.5
ROCH				⇑*i*P		10 11 05.6	
ROCH				*i* S	Sn	10 11 26.3	+1.4
JACH	**Jahuel**	**1.63**	**128**	*i* P	Pn	10 11 06.1	+0.4
JACH				*i* S	Sn	10 11 27.2	+1.2
PEL	**Peldehue**	**1.89**	**140**	*e*P	Pn	10 11 09.9	+0.6
PEL				*i* S	Sn	10 11 34.2	+1.7
PEL				AML	AML	10 11 41.3	
	comp=N,1μm,0.3s						
TLL	**Tololo Astrono**	**1.90**	**37**	AML	AML	10 11 47.2	
	comp=N,601nm,0.6s						
CLCH	**Cerro Calan**	**2.16**	**142**	*i* P	Pn	10 11 14.4	+1.4
CLCH				*i* S	Sn	10 11 42.0	+2.7
CLCH				AML	AML	10 11 47.7	
	comp=N,578nm,0.5s						
FCH	**Farellones**	**2.25**	**137**	*e*P	Pn	10 11 16.2	+2.0
FCH				*e*S	Sn	10 11 44.8	+3.5
LMEL	**Las Melosas**	**2.69**	**144**	*e*P	Pn	10 11 21.6	+1.3
LMEL				*i* S	Sn	10 11 55.0	+2.8
LMEL	**Las Melosas**	**2.69**	**144**	*e*P	Pn	10 11 21.6	+1.3
LMEL				*i* S	Sn	10 11 55.0	+2.8
LMEL				AML	AML	10 12 06.6	
	comp=N,216nm,0.7s						
LCO	**Las Campanas**	**2.94**	**25**	*e*Pn	Pn	10 11 23.8	0.0
LCO				*e*pPn		10 11 29.1	

GUC 16 10:29:29.9±0.9, 3168S×7198W, h40km±3km, MD4.0, ML3.0, 3C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PACH	**Papudo**	**0.97**	**152**	*i* S	Sn	10 30 01.1	+1.4
CMCH	**Combarbala**	**0.98**	**59**	⇓*i*P	Pn	10 29 47.3	+0.2
CMCH				*i* S	Sn	10 30 01.7	+1.9
CMCH				AML	AML	10 30 04.1	
	comp=N,2μm,0.5s						
PTCH	**Petorca**	**1.07**	**123**	⇑*i*P	Pn	10 29 48.9	+0.5
PTCH				*i* S	Sn	10 30 04.1	+2.0
PTCH				AML	AML	10 30 05.2	
	comp=N,353nm,0.3s						
JACH	**Jahuel**	**1.55**	**131**	⇓*i*P	Pn	10 29 56.4	+1.5
JACH				*i* S	Sn	10 30 16.2	+2.4
TLL	**Tololo Astrono**	**1.82**	**34**	*e*P	Pn	10 30 01.9	+3.2
TLL				*i* S	Sn	10 30 23.7	+3.3
TLL				AML	AML	10 30 32.0	
	comp=E,169nm,0.6s						
PEL	**Peldehue**	**1.83**	**143**	*e*P	Pn	10 29 59.9	+1.1
PEL				*i* S	Sn	10 30 22.8	+2.1
PEL				AML	AML	10 30 30.7	
	comp=E,489nm,0.3s						
CLCH	**Cerro Calan**	**2.10**	**145**	⇓*i*P	Pn	10 30 04.0	+1.4
CLCH				*i* S	Sn	10 30 29.5	+2.0
CLCH				AML	AML	10 30 40.5	
	comp=N,164nm,0.7s						
FCH	**Farellones**	**2.18**	**139**	⇑*e*P	Pn	10 30 05.5	+1.8
FCH				*i* S	Sn	10 30 32.3	+2.9
FCH				AML	AML	10 30 39.3	
	comp=N,74nm,0.3s						
LNV	**Longovilo**	**2.32**	**168**	⇑*e*P	Pn	10 30 06.6	+1.0
CHCH	**Chadas Angostu**	**2.51**	**154**	*i* P	Pn	10 30 09.7	+1.5
LMEL	**Las Melosas**	**2.63**	**146**	*e*P	Pn	10 30 12.1	+2.2
LMEL				*i* S	Sn	10 30 43.1	+2.6
LMEL				AML	AML	10 30 56.7	
	comp=N,79nm,0.4s						
CICH	**Cipreses**	**2.94**	**154**	*e*P	Pn	10 30 15.8	+1.6
SFDO	**San Fernando**	**3.04**	**165**	*e*P	Pn	10 30 14.8	-0.7

*ISCJB **16** 10:36:37.9±5.7, 76S±02×15660E±008, h13km±35km, mb4.0/6, Error ellipse: s-maj=28.1km s-min=11.1km az=17.9*
*IDC **16** 10:36:37.1±1.2, 759S×15663E, h0km, mb4.1/5, mb1 4.2/6, mb1mx3.9/16, mbtmp4.1/6, ML4.0/1, MS3.0/1, Ms1 3.0/1, ms1

Msz4.3
*ISCJB **16** 10:51:56.5±0.3, 696S×005×15571E±007, h10km, mb4.6/44, MS3.9/14, Error ellipse: s-maj=9.5km s-min=6.7km az=12.8*
*NEIC **16** 10:51:58.1±0.2, 697S×15568E, h10km, mb4.9/16, Error ellipse: s-maj=7.5km s-min=5.5km az=113.0*
*MOS **16** 10:52:00.3±1.3, 687S×15570E, h33km, mb4.9/9, Error ellipse: s-maj=12.2km s-min=9.3km az=92.0*
*IDC **16** 10:52:05.9±2.7, 691S×15551E, h68km±24km, mb4.1/13, mb1 4.2/15, mb1mx4.2/17, mbtmp4.1/15, MS3.7/11, Ms1 3.7/11, ms1mx3.5/25, Error ellipse: s-maj=16.9km s-min=14.7km az=82.0*

ISC 16 10:51:59.0±2.3, 698S±006×15571E±007, h15km±15km, h15km±.4km: pP-P, n130, σ1°02/90, mb4.6/44, MS3.9/14, 5C-3D, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.85**	**121**	*e*Pn	**Pn**	**10 53 11.0**	**-0.4**
HNR	**Honiara**	**4.85**	**121**	P	**Pn**	**10 53 18.6**	**+7.2**
	37nm,0.3s,baz=252,slow=3.4,SNR=14						
HNR				S	**Sn**	**10 54 17.6**	**+10**
	49nm,0.3s,baz=90,slow=18,SNR=3.7						
HNR				LR	LR	10 54 58.0	
	comp=Z,503nm,18.6s,baz=353,slow=34						
CTA	**Charters Tower**	**15.94**	**214**	P	**Pn**	**10 55 46.1**	**+3.2**
	0.4nm,0.3s,baz=32,slow=12,SNR=7.9						
CTA				LR	LR	11 00 58.3	
	comp=Z,318nm,21.0s,baz=50,slow=34						
CTAO	**Charters Tower**	**15.94**	**214**	*e*Pn	**Pn**	**10 55 42.2**	**-0.7**
	24nm,1.4s						
CTAO	**Charters Tower**	**15.94**	**214**	*e*P	**Pn**	**10 55 42.2**	**-0.7**
CTAO				pmax	pmax		
	comp=Z,24nm,1.4s						
EIDS	**Eidsvold**	**18.82**	**193**	*e*P	**Pn**	**10 56 17.6**	**-1.1**
GUMO	**Guam**	**23.09**	**332**	LR	LR	11 04 16.6	
	comp=Z,106nm,22.0s,MS3.2,baz=267,slow=32						
KAKA	**Kakadu**	**23.62**	**254**	*e*P	**P**	**10 57 09.2**	**-0.7**
	comp=Z,9.5nm,0.6s,mb4.4						
WRAB	**Tennant Creek**	**24.40**	**236**	*e*P	**P**	**10 57 17.6**	**+0.6**
	comp=Z,12nm,0.6s,mb4.5						
WRAB	**Tennant Creek**	**24.40**	**236**	*e*P	**P**	**10 57 17.6**	**+0.6**
WRAB				pmax	pmax		
	comp=Z,11nm,0.6s,mb4.5						
WB2	**Warramunga Arr**	**24.41**	**236**	*e*P	**P**	**10 57 17.6**	**+0.5**
WRA	**Warramunga Arr**	**24.42**	**236**	P	**P**	**10 57 17.4**	**+0.3**
WRA						11 00 56.2	
WRA	**Warramunga Arr**	**24.42**	**236**	P	**P**	**10 57 17.4**	**+0.3**
	comp=Z,3.1nm,0.5s,mb4.0,baz=59,slow=9.2,SNR=51						
WRA				PcP	PcP	11 00 56.2	-0.1
	comp=Z,1.0nm,0.5s,baz=57,slow=2.4,SNR=7.7						
WRA				LR	LR	11 06 30.0	
	comp=Z,151nm,19.0s,MS3.5,baz=75,slow=36						
ASAR	**Alice Springs**	**26.72**	**229**	P	**P**	**10 57 37.6**	**-0.4**
	comp=Z,0.8nm,0.4s,mb3.6,baz=59,slow=9.5,SNR=26						
ASAR				PcP	PcP	11 01 01.5	0.0
	comp=Z,1.3nm,0.7s,baz=66,slow=2.8,SNR=5.9						
STKA	**Stephens Creek**	**28.06**	**206**	*e*P	**P**	**10 57 50.7**	**+0.8**
	comp=Z,6.7nm,0.8s,mb4.3						
STKA	**Stephens Creek**	**28.06**	**206**	P	**P**	**10 57 50.4**	**+0.5**
	comp=Z,4.1nm,1.0s,mb4.0,baz=26,slow=10.0,SNR=4.8						
STKA				PcP	PcP	11 01 03.6	-0.9
	comp=Z,3.8nm,0.8s,baz=346,slow=3.7,SNR=5.5						
STKA				LR	LR	11 09 10.7	
	comp=Z,263nm,20.0s,MS3.8,baz=24,slow=37						
FITZ	**Fitzroy Crossi**	**31.32**	**246**	*e*P	**P**	**10 58 19.2**	**+0.2**
	comp=Z,15nm,0.7s,mb4.9						
FORT	**Forrest**	**35.09**	**224**	*e*P	**P**	**10 58 51.8**	**0.0**
MBWA	**Marble Bar**	**37.53**	**244**	*e*P	**P**	**10 59 12.8**	**+0.1**
RPZ	**Rata Peaks**	**38.99**	**162**	P	**P**	**10 59 25.8**	**+1.1**
	comp=Z,9.4nm,0.8s,mb4.5,baz=307,slow=2.0,SNR=4.0						
KKM	**Kota Kinabalu**	**41.48**	**287**	*e*P	**P**	**10 59 44.9**	**-0.9**
JOW	**Kunigami**	**42.86**	**323**	LR	LR	11 16 07.4	
	comp=Z,166nm,18.6s,MS4.0,baz=308,slow=34						
KLBR	**Kellerberrin**	**43.05**	**230**	*e*P	**P**	**10 59 56.5**	**-1.9**
	comp=Z,386um,25.6s						
NWAO	**Narrogin (SRO)**	**44.04**	**229**	LR	LR	11 18 03.5	
	comp=Z,152nm,20.8s,MS3.9,baz=356,slow=36						
MJAR	**Matsushiro Arr**	**46.30**	**340**	P	**P**	**11 00 23.6**	**-0.6**
	comp=Z,1.8nm,0.8s,mb4.1,baz=166,slow=8.1,SNR=4.2						
MJAR				PcP	PcP	11 01 59.1	-0.3
	comp=Z,4.6nm,0.8s,baz=158,slow=3.7,SNR=6.9						
KSRS	**Korea Array**	**51.26**	**332**	P	**P**	**11 01 02.4**	**+0.1**
	comp=Z,1.9nm,0.7s,mb4.1,baz=149,slow=8.8,SNR=7.1						
KSRS				PcP	PcP	11 02 17.9	+0.6
	comp=Z,2.4nm,0.7s,baz=164,slow=3.6,SNR=6.3						
KSRS				LR	LR	11 19 32.9	
	comp=Z,48nm,18.8s,MS3.5,baz=154,slow=32						
QIZ	**Qiongzhong**	**52.06**	**301**	P	**P**	**11 01 09.3**	**+0.7**
QIZ				*e*S	**S**	**11 08 31.5**	**-0.8**
QIZ				AMB	AMB		
	comp=Z,11nm,1.1s,mb4.7						
ASAJ	**Asahikawa**	**52.22**	**348**	LR	LR	11 20 31.9	
	comp=Z,68nm,20.4s,MS3.7,baz=278,slow=33						
NJ2	**Nanjing**	**52.36**	**320**	*e*P	**P**	**11 01 11.5**	**+0.9**
NJ2				AMB	AMB		
	comp=Z,20nm,0.6s,mb5.2						
PPT	**Papeete**	**54.32**	**107**	LR	LR	11 22 22.4	
	comp=Z,69nm,18.1s,MS3.8,baz=342,slow=33						
YSS	**Yuzh-Sakhalins**	**54.91**	**349**	*e*P	**P**	**11 01 30.9**	**+1.9**
YSS	**Yuzh-Sakhalins**	**54.91**	**349**	⇑*e*P	**P**	**11 01 26.9**	**-2.1**
YSS				pmax	pmax		
	comp=Z,22nm,1.2s,mb5.1						
MDJ	**Mudanjiang**	**56.49**	**338**	P	**P**	**11 01 41.0**	**+0.6**
MDJ				AMB	AMB		
	comp=Z,4.0nm,1.2s,mb4.3						
MDJ				AMB	AMB		
	comp=Z,120nm,4.7s						
KKTK	**Khon Kaen**	**57.23**	**294**	P	**P**	**11 01 46.0**	**-0.2**
CN2	**Changchun**	**57.48**	**334**	*e*P	**P**	**11 01 51.5**	**+4.0**
GYA	**Guiyang**	**58.01**	**307**	P	**P**	**11 01 53.3**	**+1.7**
GYA				AP	pP	11 01 57.8	+1.5
GYA				XP	sP	11 02 01.4	+3.3
GYA				PCP	PcP	11 02 45.8	+2.3
GYA				SCP	ScP	11 06 44.3	+0.9
GYA				S	**S**	**11 09 54.6**	**+2.7**
GYA				SCS	ScS	11 11 40.6	-0.6
GYA				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.8						
GYA				AMB	AMB		
	comp=Z,80nm,4.9s						
GYA				LR	LR		
	comp=N,480nm,24.8s,MS4.6						
GYA				LR	LR		
	comp=E,330nm,21.6s,MS4.6						
GYA				LR	LR		
	comp=Z,460nm,23.3s,MS4.5						
KLR	**Kul'dur**	**59.76**	**342**	*e*P	**P**	**11 02 03.3**	**0.0**
XAN	**Xi'an**	**60.19**	**316**	P	**P**	**11 02 09.3**	**+2.8**
XAN				AMB	AMB		
	comp=Z,3.0nm,0.5s,mb4.6						
KMI	**Kunming**	**60.60**	**304**	P	**P**	**11 02 10.6**	**+1.1**
KMI				AP	pP	11 02 14.8	+0.5
KMI				XP	sP	11 02 16.8	+0.7
KMI				PP	PP	11 04 25.8	+2.6
KMI				S	**S**	**11 10 24.3**	**-1.2**
KMI				AMB	AMB		
	comp=Z,13nm,0.6s,mb5.2						
KMI				LR	LR		
	comp=Z,39nm,27.1s,MS3.4						
CHG	**Chiang Mai**	**61.54**	**296**	⇑P	**P**	**11 02 15.9**	**-0.1**
	comp=Z,12nm,1.2s,mb4.9						
CHTO	**Chiang Mai**	**61.54**	**296**	*e*P	**P**	**11 02 16.0**	**+0.1**
CD2	**Chengdu**	**62.34**	**310**	*e*P	**P**	**11 02 21.3**	**+0.1**
CD2				AP	pP	11 02 25.9	-0.1
CD2				PP	PP	11 04 40.9	+2.3
CD2				S	**S**	**11 10 47.5**	**0.0**
CD2				SS	SS	11 14 53.3	+1.9
CD2				AMB	AMB		
	comp=Z,20nm,0.8s,mb5.3						
CD2				AMB	AMB		
	comp=Z,40nm,6.8s						
CD2				LR	LR		
	comp=N,190nm,13.2s						
CD2				LR	LR		
	comp=Z,130nm,12.0s,MS4.3						
HHC	**Hu-ho-hao-te**	**62.50**	**323**	*e*P	**P**	**11 02 24.3**	**+2.3**
HHC				AP	pP	11 02 28.9	+2.1
HHC				XP	sP	11 02 31.8	+3.2
HHC				PP	PP	11 04 39.6	-0.2
HHC				PCS	PcS	11 07 06.4	+2.0
HHC				S	**S**	**11 10 57.4**	**+8.4**
HHC				XS	sS	11 10 58.8	+1.8
HHC				SCS	ScS	11 12 12.8	-1.3
HHC				SS	SS	11 14 57.3	+3.9
HHC				AMB	AMB		
	comp=Z,30nm,0.4s,mb5.8						
HHC				AMB	AMB		
	comp=Z,75nm,4.0s						
HHC				LR	LR		
	comp=N,118nm,4.4s						
HHC				LR	LR		
	comp=E,97nm,4.2s						
HHC				LR	LR		
	comp=Z,113nm,4.5s						
MA2	**Magadan**	**66.45**	**357**	*e*P	**P**	**11 02 44.4**	**-3.1**
MA2				pmax	pmax		
	comp=Z,20nm,1.3s,mb5.0						
GTA	**Gaotai**	**69.21**	**317**	*e*P	**P**	**11 03 05.9**	**+0.6**
GTA				AP	pP	11 03 09.8	-0.4
GTA				XP	sP	11 03 13.0	+1.0
GTA				S	S	11 12 15.6	+4.6
GTA				SCS	ScS	11 13 03.4	-2.6
GTA				SS	SS	11 16 45.9	+8.0
GTA				AMB	AMB		
	comp=Z,3.0nm,0.8s,mb4.3						
GTA				AMB	AMB		
	comp=Z,109nm,6.1s						
GTA				LR	LR		
	comp=N,548nm,27.7s,MS4.9						
GTA				LR	LR		
	comp=E,681nm,27.4s,MS4.9						
GTA				LR	LR		
	comp=Z,70nm,17.5s						
ULN	**Ulaanbaatar**	**69.37**	**327**	*e*P	**P**	**11 03 06.7**	**+0.6**
	comp=Z,3.2nm,0.8s,mb4.3						
ULN	**Ulaanbaatar**	**69.37**	**327**	⇑*e*P	**P**	**11 03 06.0**	**-0.1**
SONM	**Songino Array**	**69.71**	**327**	P	**P**	**11 03 08.2**	**0.0**
	comp=Z,5.7nm,0.9s,mb4.5,baz=136,slow=5.6,SNR=34						
SEY	**Seymchan**	**69.75**	**358**	⇑*e*P	**P**	**11 03 05.7**	**-2.4**
SHL	**Shillong**	**69.90**	**300**	*e*P	**P**	**11 03 10.5**	**+0.6**
VNDA	**Vanda**	**70.58**	**179**	P	**P**	**11 03 14.1**	**+0.9**
	comp=Z,2.2nm,0.8s,mb4.1,baz=332,slow=5.4,SNR=10						
YAK	**Yakutsk**	**71.69**	**347**	⇑*e*P	**P**	**11 03 19.6**	**-0.4**
YAK				pmax	pmax		
	comp=Z,14nm,1.2s,mb4.8						
ZAK	**Zakamensk**	**72.86**	**328**	*e*P	**P**	**11 03 26.8**	**-0.4**
ZAK				*e*		11 03 37.1	
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.2						
ZAK				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.0						
BOD	**Bodaibo**	**72.86**	**338**	*e*P	**P**	**11 03 26.2**	**-0.9**
BOD				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.2						
TLY	**Talaya**	**73.41**	**329**	*e*P	**P**	**11 03 31.2**	**+0.7**
GAMB	**Gambell**	**74.72**	**14**	*e*P	**P**	**11 03 38.8**	**+1.0**
BILL	**Bilibino**	**75.21**	**4**	*e*P	**P**	**11 03 41.3**	**+0.7**
	comp=Z,12nm,1.0s,mb4.8						
BILL	**Bilibino**	**75.21**	**4**	*e*P	**P**	**11 03 39.8**	**-0.8**
BILL				*e*		11 03 52.1	
BILL				pmax	pmax		
	comp=Z,16nm,1.2s,mb4.8						
JIRN	**Jiri**	**75.39**	**301**	*e*P	**P**	**11 03 42.5**	**0.0**
	comp=Z,13nm,0.7s,mb5.0						
GUN	**Gumba**	**75.72**	**301**	*e*P	**P**	**11 03 44.4**	**0.0**
	comp=Z,23nm,0.7s,mb5.2						
KKN	**Kakani**	**76.20**	**301**	*e*P	**P**	**11 03 47.2**	**+0.1**
DMN	**Daman**	**76.30**	**301**	*e*P	**P**	**11 03 47.9**	**+0.2**
	comp=Z,18nm,0.8s,mb5.0						
GKN	**Gorkha**	**76.80**	**301**	*e*P	**P**	**11 03 50.0**	**-0.6**
	comp=Z,7.4nm,0.5s,mb4.9						
TNA	**Tin City**	**77.12**	**15**	*e*P	**P**	**11 03 52.6**	**+1.1**
KOLN	**Koldanda**	**77.63**	**300**	*e*P	**P**	**11 03 54.2**	**-1.0**
	comp=Z,10nm,0.7s,mb4.9						
TTA	**Tatalina**	**78.75**	**20**	*e*P	**P**	**11 04 01.2**	**+0.5**
	comp=Z,9.1nm,1.3s,mb4.5						
TTA	**Tatalina**	**78.75**	**20**	*e*P	**P**	**11 04 01.2**	**+0.6**
TTA				pmax	pmax		
	comp=Z,9.0nm,1.3s,mb4.5						
WMQ	**Urumqi**	**79.30**	**317**	*e*P	**P**	**11 04 04.6**	**+0.5**
WMQ				AMB	AMB		
	comp=Z,8.0nm,0.6s,mb4.8						
WMQ				AMB	AMB		
	comp=Z,123nm,5.2s						
WMQ				LR	LR		
	comp=Z,107nm,19.5s,MS4.2						
TIXI	**Tiksi**	**80.44**	**352**	*e*P	**P**	**11 04 07.2**	**-2.5**
TIXI				pmax	pmax		
	comp=Z,2.0nm,1.2s,mb3.9						
IMA2	**Indian Mountai**	**81.55**	**19**	*e*P	**P**	**11 04 16.2**	**+0.5**
MCK	**McKinley**	**81.77**	**22**	*e*P	**P**	**11 04 17.4**	**+0.5**
	comp=Z,21nm,0.9s,mb5.1						
MCK	**McKinley**	**81.77**	**22**	*e*P	**P**	**11 04 17.4**	**+0.5**
MCK				pmax	pmax		
	comp=Z,21nm,0.9s,mb5.1						
COLA	**College**	**82.81**	**21**	*e*P	**P**	**11 04 20.9**	**-1.4**
	comp=Z,7.8nm,0.8s,mb4.8						
COLA	**College**	**82.81**	**21**	*e*P	**P**	**11 04 20.9**	**-1.4**
COLA				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.8						
QSPA	**South Pole Qui**	**83.00**	**180**	*e*P	**P**	**11 04 23.0**	**-0.1**
	comp=Z,12nm,1.0s,mb4.9						
MK31	**Makanchi Array**	**83.86**	**319**	*e*P	**P**	**11 04 28.2**	**+0.1**
MKAR	**Makanchi Array**	**83.86**	**319**	P	**P**	**11 04 26.8**	**-1.4**
MKAR	**Makanchi Array**	**83.86**	**319**	P	**P**	**11 04 26.8**	**-1.4**
	comp=Z,2.9nm,0.6s,mb4.6,baz=104,slow=5.1,SNR=16						
POO	**Poona**	**84.54**	**289**	*e*P	**P**	**11 04 26.5**	**-5.7**
ZAA0	**Zalesovo Array**	**84.56**	**326**	*e*P	**P**	**11 04 31.7**	**+0.2**
ZALV	**Zalesovo Beam**	**84.56**	**326**	P	**P**	**11 04 29.2**	**-2.3**
	comp=Z,1.8nm,0.6s,mb4.4,baz=114,slow=5.0,SNR=7.0						
ZAL	**Zalesovo**	**84.57**	**326**	P	**P**	**11 04 29.2**	**-2.4**
MAW	**Mawson**	**84.69**	**203**	P	**P**	**11 04 32.5**	**+0.5**
	comp=Z,8.0nm,0.9s,mb4.9,baz=87,slow=8.0,SNR=11						
EGAK	**Eagle**	**85.22**	**23**	*e*P	**P**	**11 04 35.6**	**+0.9**
KURK	**Kurchatov**	**87.26**	**322**	*e*P	**P**	**11 04 43.4**	**-1.6**
AML	**Almayashu**	**88.75**	**313**	*e*P	**P**	**11 04 53.1**	**+0.8**
SYO	**Syowa Base**	**92.58**	**199**	⇓*e*PcP	PcP	11 05 11.2	+0.9
YKA	**Yellowknife Ar**	**95.99**	**28**	P	**P**	**11 05 25.2**	**-0.1**
YKA				LR	LR	11 48 59.6	
YKA	**Yellowknife Ar**	**95.99**	**28**	P	**P**	**11 05 25.2**	**-0.1**
	comp=Z,2.4nm,0.7s,mb4.7,baz=269,slow=4.6,SNR=49						
YKA				LR	LR	11 48 59.6	
	comp=Z,22nm,18.1s,MS3.7,baz=345,slow=36						
PDAR	**Pinedale Array**	**98.16**	**48**	P	**P**	**11 05 35.5**	**0.0**
	comp=Z,0.6nm,0.9s,mb4.1,baz=274,slow=2.4,SNR=4.3						
ARCES	**ARCESS Array B**	**109.78**	**343**	PKiKP	PKiKP	11 10 27.9	-1.1
	comp=Z,1.2nm,0.5s,baz=78,slow=2.2,SNR=11						
OBN	**Obninsk**	**112.12**	**327**	*e*P	Pdif	11 06 32.6	-4.8
OBN				*e*		11 11 16.9	
OBN				*e*		11 17 10.8	
OBN				*e*PS	PS	11 20 50.2	-1.3
OBN				*e*SS	SS	11 26 51.3	-4.2
OBN				pmax	pmax		
	comp=Z,4.0nm,0.7s						
FINES	**FINESS Array B**	**114.21**	**336**	PKP	PKiKP	11 10 37.0	-0.7
	comp=Z,0.6nm,0.4s,baz=96,slow=2.8,SNR=5.9						
ANN	**Anapa**	**114.81**	**316**	*i* PKIKP	PKiKP	11 10 37.5	-1.8
ANN				*e*SS	SS	11 27 29.1	-2.7
ANN				pmax	pmax		
	comp=Z,127nm,7.9s						
PLCA	**Paso Flores**	**116.30**	**142**	PKP	PKPdf	11 10 42.0	-0.4
	comp=Z,1.2nm,0.5s,baz=307,slow=14,SNR=3.3						
AKASG	**Malin Array Be**	**117.94**	**325**	PKP	PKPdf	11 10 44.2	-1.0
AKASG	**Malin Array Be**	**117.94**	**325**	*i* PKIKP	PKPdf	11 10 45.0	-0.1
AKASG	**Malin Array Be**	**117.94**	**325**	PKP	PKPdf	11 10 44.2	-0.9
	comp=Z,0.4nm,0.3s,baz=66,slow=2.4,SNR=4.8						
NB2	**NORSAR Subarra**	**119.92**	**341**	PKPdf	PKPdf	11 10 47.8	-0.8
	comp=Z,1.3nm,0.6s,baz=42,slow=2.0						
NOA	**NORSAR Array B**	**119.92**	**341**	PKP	PKPdf	11 10 47.8	-0.8
	comp=Z,1.2nm,0.6s,baz=44,slow=1.8,SNR=5.4						
NOA				pPKP	pPKPdf	11 11 03.1	+9.4
	comp=Z,0.8nm,0.6s,baz=43,slow=1.8,SNR=2.7						
BOSA	**Boshof**	**120.59**	**231**	PKP	PKPdf	11 10 53.2	+2.3
BOSA	**Boshof**	**120.59**	**231**	PKP	PKPdf	11 10 53.2	+2.3
	comp=Z,2.0nm,0.7s,baz=96,slow=11,SNR=3.7						
BOSA				pPKP	pPKPdf	11 11 07.6	+12
	comp=Z,2.3nm,0.6s,baz=336,slow=0.4,SNR=2.7						
LBTB	**Lobatse**	**121.98**	**235**	*e*Pdif	Pdif	11 07 23.1	+1.9
BRG	**Berggiesshubel**	**125.97**	**331**	*e*P	PKPdf	11 11 00.6	+0.1
	comp=Z,4.7nm,0.8s						
CLL	**Collm**	**126.13**	**332**	⇓*i* PKP	PKPdf	11 11 00.8	0.0
CLL	**Collm**	**126.13**	**332**	⇓*i* PKPdf	PKPdf	11 11 00.8	0.0
	comp=Z,7.0nm,0.8s						
KHC	**Kasperske Hory**	**127.28**	**330**	*e*PKP	PKPdf	11 11 03.0	-0.1
GERES	**GERESS Array B**	**127.40**	**329**	PKP	PKPdf	11 11 03.1	-0.2
	comp=Z,2.6nm,0.8s,baz=42,slow=2.2,SNR=14						
GERES				pPKP	pPKPdf	11 11 18.4	+10
	comp=Z,1.3nm,0.6s,baz=17,slow=1.4,SNR=3.8						
GRA1	**Grafenberg Arr**	**128.06**	**331**	*e*PKP	PKPdf	11 11 05.0	+0.4
GRF	**Grafenberg Arr**	**128.06**	**331**	*e*PKPdf	PKPdf	11 11 05.0	+0.4
LPAZ	**La Paz**	**130.84**	**118**	PKP	PKPdf	11 11 11.2	+0.3
	comp=Z,1.1nm,0.5s,baz=57,slow=4.1,SNR=5.4						
HAU	**Haudompre**	**131.53**	**333**	*e*PKIKP	PKPdf	11 11 10.7	-0.5
	comp=Z,3.6nm,0.6s						
LPG	**La Plagne**	**133.16**	**330**	*e*PKIKP	PKPdf	11 11 14.5	+0.1
	comp=Z,3.2nm,0.5s						
SSF	**Saint Saulge**	**133.51**	**334**	*e*PKIKP	PKPdf	11 11 15.1	+0.1
	comp=Z,4.7nm,0.7s						
BNI	**Bardonecchia**	**133.51**	**330**	*e*PKPdf	PKPdf	11 11 15.4	+0.3
AVF	**Avril sur Loir**	**133.78**	**334**	*e*PKIKP	PKPdf	11 11 16.0	+0.5
	comp=Z,1.2nm,0.5s						
ESDC	**Sonseca Array**	**142.67**	**334**	PKP	PKPdf	11 11 29.1	-3.0
	comp=Z,0.3nm,0.3s,baz=42,slow=3.0,SNR=5.2						
MTE	**Manteigas**	**143.50**	**338**	*e*PKP	PKPdf	11 11 31.2	-2.3
PCBR	**Castelo Branco**	**143.97**	**338**	*e*PKP	PKPdf	11 11 32.3	-2.0
PESTR	**Estremoz**	**144.85**	**337**	*e*PKP	PKPdf	11 11 34.8	-1.1
PBAR	**Barrancos**	**145.23**	**336**	*e*PKP	PKPdf	11 11 36.1	-0.5
EVO	**Evora**	**145.31**	**337**	*e*PKP	PKPdf	11 11 36.5	-0.2
PMAFR	**Mafra**	**145.40**	**339**	*e*PKP	PKPdf	11 11 37.6	+0.7
PBEJ	**Beja**	**145.69**	**337**	*e*PKP	PKPdf	11 11 38.0	+0.6
PVAQ	**Vaqueiros**	**146.17**	**336**	*e*PKP	PKPdf	11 11 39.3	+1.1
PTEO	**Sao Teotonio**	**146.44**	**337**	*e*PKP	PKPdf	11 11 40.6	+1.9
MORF	**Marmelete**	**146.62**	**337**	*e*PKP	PKPdf	11 11 41.1	+2.1
BDFB	**Brasilia**	**147.48**	**134**	PKPbc	PKPbc	11 11 43.2	-0.3
	comp=Z,4.3nm,0.5s,baz=222,slow=3.8,SNR=15						
TORD	**Torodi Ar. Bea**	**153.71**	**286**	PKP	PKPdf	11 11 48.4	-2.3
	comp=Z,0.6nm,0.8s,baz=24,slow=1.9,SNR=4.2						
TORD				PKPbc	PKPbc	11 11 57.2	-1.3
	comp=Z,2.6nm,0.7s,baz=68,slow=2.4,SNR=14						
TORD				PKPab	PKPab	11 12 09.3	-1.9
	comp=Z,3.3nm,0.8s,baz=70,slow=4.0,SNR=8.6						
DBIC	**Dimbokro**	**160.71**	**270**	PKPab	PKPab	11 12 41.0	-0.5
	comp=Z,2.7nm,0.7s,baz=147,slow=6.5,SNR=4.0						

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*NEIC **16** 11:00:18.5±0.6, 753S×15638E, h10km, mb4.2/1, Error ellipse: s-maj=16.5km s-min=13.2km az=26.0*
*ISCJB **16** 11:00:21.6±3.8, 76S±02×1565E±02, h49km±44km, mb3.8/5, Error ellipse: s-maj=27.9km s-min=23.0km az=44.7*
*IDC **16** 11:00:22.9±5.3, 764S×15649E, h46km±60km, mb3.6/4, mb1 3.8/5, mb1mx3.5/15, mbtmp3.7/5, ML4.1/1, Error ellipse: s-maj=43.7km s-min=27.3km az=148.0*

ISC 16 11:00:22.2±4.1, 76S±02×1565E±02, h37km±49km, n9, σ0°28/10, mb3.8/5, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**3.91**	**118**	P	**Pn**	**11 01 20.2**	**+0.3**
HNR				S	**Sn**	**11 02 04.3**	**-0.3**
HNR	**Honiara**	**3.91**	**118**	P	**Pn**	**11 01 20.2**	**+0.3**
	13nm,0.3s,baz=92,slow=3.0,SNR=8.7						
HNR				S	**Sn**	**11 02 04.3**	**-0.2**
	33nm,0.3s,baz=273,slow=16,SNR=5.7						
GUMO	**Guam**	**23.98**	**331**	*e*P	**P**	**11 05 32.9**	**-0.5**
	3.1nm,0.4s,mb4.1						
WB2	**Warramunga Arr**	**24.69**	**238**	*e*P	**P**	**11 05 40.0**	**+0.1**
WRA	**Warramunga Arr**	**24.70**	**238**	P	**P**	**11 05 39.9**	**-0.1**
	5.0nm,0.7s,mb4.2,baz=64,slow=9.4,SNR=26						
WRA				PcP	PcP	11 09 16.3	-0.4
	0.3nm,0.9s,baz=71,slow=2.6,SNR=4.9						
ASAR	**Alice Springs**	**26.90**	**231**	P	**P**	**11 05 59.7**	**-0.1**
	0.4nm,0.8s,mb3.0,baz=60,slow=9.4,SNR=3.8						
SONM	**Songino Array**	**70.61**	**327**	P	**P**	**11 11 34.1**	**+0.4**
	0.5nm,0.6s,mb3.6,baz=127,slow=6.4,SNR=5.5						
MKAR	**Makanchi Array**	**84.80**	**318**	P	**P**	**11 12 52.9**	**+0.1**
	1.0nm,0.7s,mb4.1,baz=117,slow=4.6,SNR=5.4						
KMBO	**Kilima Mbogo**	**118.75**	**265**	*e*PKPdf	PKPdf	11 19 06.9	-0.6

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*CSEM **16** 11:26:11.7±1.1, 3709N×2435W, h5km, ML3.6, Error ellipse: s-maj=7.1km s-min=5.3km az=68.0, After PDA*
*PDA **16** 11:26:11.7±1.1, 3709N×2435W, h5km, MD4.1, ML3.6, Error ellipse: s-maj=7.1km s-min=5.3km az=68.0*

SVSA 16 11:26:11.7±1.1, 3709N×2435W, h5km, MD4.1, ML3.6, Error ellipse: s-maj=7.1km s-min=5.3km az=68.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSMN	**Pico do Norte,**	**0.58**	**262**	*e*P	Pg	11 26 21.3	-1

ML3.4/10, Error ellipse: s-maj=3.4km s-min=7.7km az=0.0
*NEIC **16** 12:09:24.3, 41.10N×1986E, h11km, ML3.4(PDG), ML3.1(ATH), After PDG.*
*BEO **16** 12:09:25.0±0.4, 41.27N×2025E, h1km±3km, ML3.2/7*

ISC 16 12:09:23.1±0.3, 4111N±001×2006E±002, h2km±2km, n134, σ1§18/201, 21C-13D, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIR	**Tirane**	**0.28**	**328**	*e*Pg	**Pg**	**12 09 29.2**	**+0.8**
TIR				*e*Sg	**Sg**	**12 09 34.3**	**+2.3**
TIR	**Tirane**	**0.28**	**328**	Pg	**Pg**	**12 09 29.3**	**+0.9**
	5μm,0.5s						
TIR	**Tirane**	**0.28**	**328**	*i* Pg	**Pg**	**12 09 29.5**	**+1.1**
TIR				*e*Sg	**Sg**	**12 09 34.6**	**+2.6**
TIR	**Tirane**	**0.28**	**328**	*i* PG	**Pg**	**12 09 29.3**	**+0.9**
TIR				*i* SG	**Sg**	**12 09 34.5**	**+2.5**
TIR	**Tirane**	**0.28**	**328**	P	**Pg**	**12 09 28.7**	**+0.3**
TIR	**Tirane**	**0.28**	**328**	*e*Pg	**Pg**	**12 09 29.2**	**+0.8**
TIR				*e*Sg	**Sg**	**12 09 34.3**	**+2.3**
QSH	**Qafa e Shtames**	**0.42**	**344**	*i* PG	**Pg**	**12 09 32.0**	**+0.8**
QSH				*i* SG	**Sg**	**12 09 39.0**	**+2.2**
OHR	**Ohrid**	**0.56**	**90**	*e*Pg	**Pg**	**12 09 32.5**	**-1.3**
OHR				*e*Sg	**Sg**	**12 09 41.0**	**0.0**
OHR	**Ohrid**	**0.56**	**90**	⇑*i*Pg	**Pg**	**12 09 32.8**	**-1.0**
OHR	**Ohrid**	**0.56**	**90**	⇓*i*Pg	**Pg**	**12 09 33.1**	**-0.7**
OHR				*e*Sg	**Sg**	**12 09 41.0**	**0.0**
KBN	**Korca**	**0.74**	**131**	*i* PG	**Pg**	**12 09 36.2**	**-1.0**
KBN				*i* SG	**Sg**	**12 09 49.7**	**+3.0**
KRUS	**Krusevo**	**0.93**	**74**	*i* Pg	**Pg**	**12 09 40.4**	**-0.5**
KRUS				*i* Sg	**Sg**	**12 09 54.0**	**+1.0**
KRUS	**Krusevo**	**0.93**	**74**	*i* Pg	**Pg**	**12 09 40.3**	**-0.6**
KRUS				*i* Sg	**Sg**	**12 09 54.0**	**+1.0**
PUK	**Puka**	**0.94**	**352**	*i* PG	**Pg**	**12 09 40.8**	**-0.3**
PUK				*i* SG	**Sg**	**12 09 56.2**	**+3.0**
BIA	**Bitola**	**0.96**	**95**	*e*Pg	**Pg**	**12 09 40.3**	**-1.2**
BIA				*e*Sg	**Sg**	**12 09 53.7**	**-0.2**
BIA	**Bitola**	**0.96**	**95**	*i* Pg	**Pg**	**12 09 40.3**	**-1.2**
ULC	**Ulcinj**	**1.04**	**325**	⇑*i*Pg	**Pg**	**12 09 42.8**	**-0.3**
ULC				*e*Sg	**Sg**	**12 09 58.4**	**+1.7**
ULC	**Ulcinj**	**1.04**	**325**	*i* PG	**Pg**	**12 09 42.6**	**-0.5**
ULC				*i* SG	**Sg**	**12 09 58.4**	**+1.7**
FNA	**Florina**	**1.05**	**108**	*e*Pg	**Pg**	**12 09 42.1**	**-1.1**
FNA				*e*Sg	**Sg**	**12 09 57.5**	**+0.8**
SRN	**Sarande**	**1.23**	**182**	*i* SN	**Sn**	**12 10 06.9**	**+2.4**
SRN				*i* PN	**Pn**	**12 09 47.6**	**+0.3**
SRN	**Sarande**	**1.23**	**182**	*i* Pn	**Pn**	**12 09 47.6**	**+0.3**
SRN				*i* Sn	**Sn**	**12 10 06.9**	**+2.4**
SKO	**Skopje**	**1.34**	**50**	*e*Pg	**Pg**	**12 09 48.7**	**-0.1**
SKO				*e*Sg	**Sg**	**12 10 07.1**	**+0.9**
SKO	**Skopje**	**1.34**	**50**	⇑*i*Pg	**Pg**	**12 09 45.8**	**-3.1**
SKO				*e*Sg	**Sg**	**12 10 03.1**	**-3.2**
SKO	**Skopje**	**1.34**	**50**	*i* Pg	**Pg**	**12 09 49.1**	**+0.2**
SKO				*i* Sg	**Sg**	**12 10 07.1**	**+0.8**
KEK	**Kerkira**	**1.41**	**188**	*e*PN	**Pn**	**12 09 49.7**	**-0.1**
KEK				*e*SN	**Sn**	**12 10 12.7**	**+3.8**
KEK	**Kerkira**	**1.41**	**188**	Pg	**Pg**	**12 09 49.9**	**-0.3**
	637nm,0.5s						
KEK	**Kerkira**	**1.41**	**188**	Pg	**Pg**	**12 09 49.9**	**-0.3**
	637nm,0.5s						
PDG	**Podgorica**	**1.45**	**336**	⇑*i*Pg	**Pg**	**12 09 50.0**	**-0.8**
PDG				*e*Sg	**Sg**	**12 10 12.3**	**+2.8**
TTG	**Podgorica**	**1.45**	**336**	⇑*i*Pg	**Pg**	**12 09 50.0**	**-0.8**
TTG				*e*Sg	**Sg**	**12 10 12.3**	**+2.8**
BUM	**Brajici-Budva**	**1.47**	**324**	⇓*i*Pg	**Pg**	**12 09 50.6**	**-0.7**
BUM				*e*Sg	**Sg**	**12 10 12.8**	**+2.4**
PVY	**Plav**	**1.48**	**358**	⇓*i*Pg	**Pg**	**12 09 51.5**	**0.0**
PVY				*e*Sg	**Sg**	**12 10 14.4**	**+3.7**
PVY	**Plav**	**1.48**	**358**	*i* SG	**Sg**	**12 10 14.4**	**+3.7**
PVY				*i* PG	**Pg**	**12 09 51.5**	**0.0**
KZN	**Kozani**	**1.53**	**121**	*e*PN	**Pn**	**12 09 51.7**	**+0.3**
JAN	**Janina**	**1.57**	**157**	*e*PN	**Pn**	**12 09 53.2**	**+1.2**
IGT	**Igoumenitsa**	**1.59**	**172**	*e*Pb	**Pb**	**12 09 53.4**	**+0.2**
IGT				*e*Sb	**Sb**	**12 10 16.3**	**+2.5**
SCTE	**Santa Cesarea**	**1.60**	**230**	Pn	**Pn**	**12 09 53.1**	**+0.8**
	264nm,0.5s						
MEV	**Metsovon**	**1.60**	**146**	*e*Pg	**Pg**	**12 09 53.1**	**-0.6**
MEV				*e*Sg	**Sg**	**12 10 15.7**	**+1.3**
LCI	**Lecce**	**1.67**	**243**	Pn	**Pn**	**12 09 53.9**	**+0.5**
	73nm,0.3s						
STIP	**Stip**	**1.70**	**69**	*e*Pb	**Pb**	**12 09 53.2**	**-1.8**
STIP	**Stip**	**1.70**	**69**	*e*Pg	**Pg**	**12 09 52.7**	**-3.0**
STIP				*e*Sg	**Sg**	**12 10 14.4**	**-3.3**
STIP	**Stip**	**1.70**	**69**	*i* Pg	**Pg**	**12 09 54.1**	**-1.6**
STIP				*i* Sg	**Sg**	**12 10 18.8**	**+1.1**
STIP	**Stip**	**1.70**	**69**	*e*Pg	**Pg**	**12 09 52.7**	**-3.0**
STIP				*i* Sg	**Sg**	**12 10 18.8**	**+1.1**
BEY	**Berane**	**1.76**	**356**	*i* SG	**Sg**	**12 10 21.6**	**+1.9**
BEY				*i* PG	**Pg**	**12 09 56.0**	**-0.8**
BEY	**Berane**	**1.76**	**356**	⇓*i*Pn	**Pg**	**12 09 56.0**	**-0.8**
IVA	**Berane**	**1.76**	**356**	⇓*i*Pn	**Pg**	**12 09 56.0**	**-0.8**
IVA				*e*Sn	**Sg**	**12 10 21.6**	**+1.9**
HCY	**Herceg Novi**	**1.77**	**319**	⇑*i*Pn	**Pn**	**12 09 54.8**	**+0.1**
HCY				*e*Sn	**Sg**	**12 10 19.8**	**-0.2**
HCY	**Herceg Novi**	**1.77**	**319**	*i* SG	**Sg**	**12 10 19.8**	**-0.2**
HCY				*i* PG	**Pn**	**12 09 54.8**	**+0.1**
GRG	**Griva**	**1.78**	**94**	*e*Pb	**Pb**	**12 09 54.0**	**-2.3**
GRG				*e*Sb	**Sb**	**12 10 18.5**	**-0.6**
NKY	**Niksic**	**1.87**	**335**	⇑*i*Pn	**Pn**	**12 09 57.1**	**+1.0**
NKY				*e*Sn	**Sg**	**12 10 23.3**	**0.0**
NKY	**Niksic**	**1.87**	**335**	*i* SG	**Sg**	**12 10 23.3**	**0.0**
NKY				*i* PG	**Pn**	**12 09 57.1**	**+1.0**
VAY	**Valandovo**	**1.90**	**83**	*e*Pb	**Pb**	**12 09 55.3**	**-3.2**
VAY				*e*Sb	**Sb**	**12 10 21.2**	**-1.5**
VAY	**Valandovo**	**1.90**	**83**	*i* Pg	**Pg**	**12 09 55.3**	**-4.3**
PE1	**Pezze di Greco**	**2.02**	**262**	*e*Pn	**Pn**	**12 09 56.5**	**-1.6**
LIT	**Litokhoron**	**2.11**	**118**	*e*Pn	**Pn**	**12 09 59.1**	**-0.2**
LIT				*e*Sn	**Sn**	**12 10 26.6**	**+0.5**
BRY	**Bratogost**	**2.11**	**328**	⇓*i*Pn	**Pn**	**12 09 59.8**	**+0.4**
BRY				*e*Sn	**Sn**	**12 10 28.3**	**+2.1**
KNT	**Kendrikon**	**2.14**	**88**	*e*Pn	**Pn**	**12 09 59.2**	**-0.6**
THL	**Klokotos Trika**	**2.15**	**135**	*e*PN	**Pn**	**12 10 00.5**	**+0.6**
THL				*e*SN	**Sn**	**12 10 32.1**	**+5.0**
BARS	**Barje**	**2.15**	**37**	*i* Pn	**Pn**	**12 09 58.8**	**-1.2**
BARS				*e*Sg	**Sg**	**12 10 28.1**	**-4.2**
SJES	**Sjenica**	**2.15**	**358**	⇓*i*Pn	**Pn**	**12 10 00.5**	**+0.5**
SJES				*e*Sg	**Sg**	**12 10 30.9**	**-1.4**
THE	**Thessaloniki**	**2.25**	**101**	*e*Pn	**Pn**	**12 10 01.6**	**+0.2**
THE				*e*Sn	**Sn**	**12 10 30.4**	**+0.7**
UPM	**Unac-Piva**	**2.26**	**338**	⇑*i*Pn	**Pn**	**12 10 03.1**	**+1.7**
UPM				*e*Sn	**Sn**	**12 10 32.5**	**+2.7**
PLE	**Pljevlja**	**2.27**	**348**	⇓*i*Pn	**Pn**	**12 10 03.1**	**+1.5**
PLE				*e*Sn	**Sn**	**12 10 33.0**	**+2.9**
NOCI	**Noci**	**2.29**	**263**	Pn	**Pn**	**12 10 00.2**	**-1.7**
	179nm,0.4s						
HORT	**Hortiatis**	**2.36**	**102**	*e*Pn	**Pn**	**12 10 01.7**	**-1.1**
HORT				*e*Sn	**Sn**	**12 10 33.3**	**+0.9**
LKD	**Levkas**	**2.45**	**169**	*e*Pn	**Pn**	**12 10 03.7**	**-0.3**
LKD				*e*Sn	**Sn**	**12 10 35.1**	**+0.6**
STON	**Ston**	**2.49**	**316**	*e*Pn	**Pn**	**12 10 03.6**	**-1.0**
STON				Sn	**Sn**	**12 10 36.4**	**+0.9**
STON	**Ston**	**2.49**	**316**	*e*Pn	**Pn**	**12 10 03.5**	**-1.0**
STON				Sn	**Sn**	**12 10 36.3**	**+0.9**
SOH	**Sokhos**	**2.51**	**96**	*e*Pn	**Pn**	**12 10 04.2**	**-0.7**
EVR	**Evrytania**	**2.57**	**148**	*e*PN	**Pn**	**12 10 07.6**	**+1.9**
SG1	**Sgolgore (BA)**	**2.58**	**265**	*e*Pn	**Pn**	**12 10 06.0**	**+0.2**
AMUR	**Altamura**	**2.62**	**267**	Pn	**Pn**	**12 10 05.3**	**-1.1**
	68nm,0.4s						
PLG	**Polygyros**	**2.68**	**105**	P	**Pn**	**12 10 10.5**	**+3.4**
PLG	**Polygyros**	**2.68**	**105**	*e*Pn	**Pn**	**12 10 07.5**	**+0.4**
PLG				*e*Sn	**Sn**	**12 10 40.8**	**+0.7**
PLG	**Polygyros**	**2.68**	**105**	*e*Pn	**Pn**	**12 10 07.0**	**-0.1**
AGG	**Agios Georgios**	**2.72**	**139**	*e*Pn	**Pn**	**12 10 08.5**	**+0.7**
AGG				*e*Sn	**Sn**	**12 10 42.2**	**+1.0**
VTS	**Vitosha**	**2.78**	**57**	⇑P	**Pn**	**12 10 08.8**	**+0.3**
VTS				S	**Sn**	**12 10 43.6**	**+1.0**
VTS	**Vitosha**	**2.78**	**57**	*e*Pn	**Pn**	**12 10 08.6**	**0.0**
VTS				*e*Sn	**Sn**	**12 10 41.7**	**-0.9**
VTS				S	**Sn**	**12 10 43.6**	**+1.0**
GRUS	**Gruza**	**2.81**	**10**	⇑*i*Pn	**Pn**	**12 10 09.7**	**+0.6**
CDT	**Castel del Mon**	**2.86**	**271**	*e*Pn	**Pn**	**12 10 08.2**	**-1.5**
NVR	**Nevrokopi**	**2.88**	**84**	P	**Pn**	**12 10 11.8**	**+1.9**
XOR	**Xorichti**	**2.96**	**125**	*e*Pn	**Pn**	**12 10 11.1**	**0.0**
DIVS	**Divibare**	**2.98**	**359**	*e*Pn	**Pn**	**12 10 11.9**	**+0.5**
DIVS				*e*Sn	**Sn**	**12 10 48.3**	**+0.6**
DIVS	**Divibare**	**2.98**	**359**	⇑*i*Pn	**Pn**	**12 10 11.8**	**+0.4**
DIVS				*e*Sg	**Sg**	**12 10 53.3**	**-5.6**
DIVS	**Divibare**	**2.98**	**359**	*e*Pn	**Pn**	**12 10 11.9**	**+0.5**
DIVS				*e*Sn	**Sn**	**12 10 48.3**	**+0.6**
DIVS				*e*Sg	**Sg**	**12 10 53.3**	**-5.6**
PAIG	**Paliouri**	**3.00**	**112**	*e*Pn	**Pn**	**12 10 10.8**	**-0.8**
KFL	**Anninata**	**3.05**	**169**	*e*Pn	**Pn**	**12 10 12.7**	**+0.4**
OUR	**Ouranopolis**	**3.08**	**103**	*e*Pn	**Pn**	**12 10 12.4**	**-0.3**
FGMS	**Monte Sant'Ang**	**3.15**	**282**	Pn	**Pn**	**12 10 12.1**	**-1.5**
	33nm,0.4s						
MSAG	**Monte S. Angel**	**3.18**	**282**	Pn	**Pn**	**12 10 12.5**	**-1.6**
	89nm,0.5s						
TIP	**Timpagrande**	**3.18**	**234**	P	**Pn**	**12 10 14.0**	**-0.2**
TIP	**Timpagrande**	**3.18**	**234**	P	**Pn**	**12 10 14.0**	**-0.1**
SIRI	**Monte Sirino -**	**3.32**	**255**	Pn	**Pn**	**12 10 15.4**	**-0.6**
	43nm,0.5s						
LKR	**Lokris**	**3.34**	**136**	P	**Pn**	**12 10 17.5**	**+1.2**
SGTA	**Sant Agata di**	**3.55**	**272**	Pn	**Pn**	**12 10 18.5**	**-0.6**
	52nm,0.6s						
MGR	**Morigerati**	**3.57**	**256**	Pn	**Pn**	**12 10 18.3**	**-1.1**
	73nm,0.6s						
CAFE	**Carife**	**3.65**	**270**	Pn	**Pn**	**12 10 19.6**	**-0.9**
	12nm,1.4s						
SGO	**Sicignano**	**3.65**	**263**	Pn	**Pn**	**12 10 19.5**	**-1.0**
	20nm,0.3s						
CDRU	**Civita di Ruta**	**3.66**	**262**	Pn	**Pn**	**12 10 21.3**	**+0.6**
	21nm,0.5s						
CMPR	**Campora**	**3.70**	**259**	Pn	**Pn**	**12 10 20.9**	**-0.4**
	20nm,0.5s						
MCRV	**Calabrutti - M**	**3.72**	**267**	Pn	**Pn**	**12 10 20.6**	**-0.9**
	33nm,0.6s						
FGSL	**Fruska Gora**	**4.05**	**357**	*e*Pn	**Pn**	**12 10 25.7**	**-0.3**
SACR	**S. Croce Del S**	**4.05**	**276**	Pn	**Pn**	**12 10 25.5**	**-0.5**
	30nm,0.6s						
PTRJ	**Pietraroja**	**4.18**	**275**	Pn	**Pn**	**12 10 27.3**	**-0.5**
	72nm,0.5s						
SGG	**Gregorio Mates**	**4.29**	**276**	Pn	**Pn**	**12 10 29.2**	**-0.2**
	92nm,0.6s						
VAGA	**Valle Agricola**	**4.40**	**276**	Pn	**Pn**	**12 10 30.5**	**-0.4**
	72nm,0.4s						
MOCO	**Biccari - m.te**	**4.46**	**275**	Pn	**Pn**	**12 10 20.8**	**-11**
	57nm,1.0s						
ALN	**Alexandroupoli**	**4.53**	**91**	*e*Pn	**Pn**	**12 10 33.2**	**+0.6**
CERA	**Filignano**	**4.57**	**278**	Pn	**Pn**	**12 10 33.7**	**+0.5**
	119nm,0.6s						
BZS	**Buzias**	**4.64**	**14**	⇓P	**Pn**	**12 10 34.1**	**0.0**
BZS				S	**Sn**	**12 11 27.0**	**-1.5**
BZS	**Buzias**	**4.64**	**14**	⇓*i*P	**Pn**	**12 10 34.1**	**-0.1**
BZS	**Buzias**	**4.64**	**14**	⇓P	**Pn**	**12 10 34.1**	**-0.1**
BZS				S	**Sn**	**12 11 27.0**	**-1.6**
GZR	**Gura Zlata**	**4.71**	**24**	⇑P	**Pn**	**12 10 35.6**	**+0.5**
GZR				S	**Sn**	**12 11 31.0**	**+0.6**
GZR	**Gura Zlata**	**4.71**	**24**	⇑*i*P	**Pn**	**12 10 35.7**	**+0.5**
GZR	**Gura Zlata**	**4.71**	**24**	⇑P	**Pn**	**12 10 35.7**	**+0.5**
GZR				S	**Sn**	**12 11 31.0**	**+0.6**
SDI	**San Donato**	**4.74**	**279**	Pn	**Pn**	**12 10 35.3**	**-0.2**
	17nm,0.3s						
PKSM	**Moragy**	**5.20**	**349**	⇑P	**Pn**	**12 10 42.1**	**+0.3**
PKSM	**Moragy**	**5.20**	**349**	⇑*i*P	**Pn**	**12 10 42.1**	**+0.3**
NRCA	**Norcia**	**5.46**	**291**	Pn	**Pn**	**12 10 44.2**	**-1.1**
FSSB	**Fossombrone**	**5.98**	**298**	Pn	**Pn**	**12 10 50.7**	**-1.8**
	13nm,0.6s						
DRGR		**5.99**	**18**	S	**Sn**	**12 11 59.2**	**-2.6**
MLR	**Muntele Rosu**	**6.13**	**42**	⇑P	**Pn**	**12 10 55.1**	**+0.5**
MLR	**Muntele Rosu**	**6.13**	**42**	⇑*i*P	**Pn**	**12 10 55.1**	**+0.5**
PSZ	**Piszkesteto**	**6.80**	**359**	⇑P	**Pn**	**12 11 05.2**	**+1.4**
PSZ	**Piszkesteto**	**6.80**	**359**	⇑*i*P	**Pn**	**12 11 05.2**	**+1.3**
PSZ	**Piszkesteto**	**6.80**	**359**	⇓*e*P	**Pn**	**12 11 05.2**	**+1.3**
KECS	**Kecovo**	**7.38**	**2**	*e*PN	**Pn**	**12 11 10.4**	**-1.3**
VYHS	**Vyhne**	**7.43**	**354**	*e*PN	**Pn**	**12 11 15.9**	**+3.5**
VYHS				*e*SN	**Sn**	**12 12 35.3**	**-1.9**
MODS	**Modra-Piesok**	**7.52**	**346**	*e*PN	**Pn**	**12 11 11.5**	**-2.2**
CRVS	**Cervenica-Dubn**	**7.85**	**7**	*e*PN	**Pn**	**12 11 17.9**	**-0.3**
KOLS	**Kolonicke sedl**	**7.97**	**11**	*e*SN	**Sn**	**12 12 47.9**	**-2.7**
STHS	**Stebnicka Huta**	**8.35**	**5**	*e*SN	**Sn**	**12 12 59.5**	**-0.2**

*NEIC **16** 12:12:24.9, 2728S×7053W, h29km, ML3.4(GUC), After GUC.*

GUC 16 12:12:24.9±0.8, 2728S×7053W, h29km±6km, MD3.5, ML3.4, 4C-1D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CDCH	**Caldera**	**0.33**	**308**	⇑*i*P	Pb	12 12 32.9	+0.2
CDCH				*i* S	Sb	12 12 38.1	+0.1
CDCH	**Caldera**	**0.33**	**308**	⇑*i*P	Pb	12 12 32.9	+0.2
CDCH				*i* S	Sb	12 12 38.1	+0.1
CDCH				AML	AML	12 12 39.2	
	comp=N,2μm,0.3s						
VACH	**Vallenar**	**1.31**	**189**	⇑*i*P	Pn	12 12 47.7	+0.6
VACH				*i* S	Sn	12 13 04.5	+0.8
VACH	**Vallenar**	**1.31**	**189**	⇑*i*P	Pn	12 12 47.7	+0.6
VACH				*i* S	Sn	12 13 04.5	+0.8
VACH				AML	AML	12 13 08.2	
	comp=E,3μm,0.4s						
LCO	**Las Campanas**	**1.73**	**185**	*e*Pn	Pn	12 12 54.8	+1.8
CPN1	**Cerro Paranal**	**2.65**	**3**	⇓*i*P	Pn	12 13 07.7	+2.1
CPN1				*i* S	Sn	12 13 40.0	+3.3
CPN1				AML	AML	12 13 52.4	
	comp=E,274nm,0.6s						
TLL	**Tololo Astrono**	**2.89**	**185**	*i* P	Pn	12 13 10.8	+1.9
TLL				*i* S	Sn	12 13 46.0	+3.4
TLL	**Tololo Astrono**	**2.89**	**185**	*i* P	Pn	12 13 10.8	+1.9
TLL				*i* S	Sn	12 13 46.0	+3.4
TLL				AML	AML	12 13 55.7	
	comp=N,146nm,0.8s						

IDC 16 12:38:14.3±7.6, 731S×15615E, h0km, mb3.9/4, mb1 4.0/4, mb1mx3.7/14, mbtmp3.9/4, Error ellipse: s-maj=228.5km s-min=37.9km az=114.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.31**	**120**	Sn	Sn	12 40 33.0	+21
	5.6nm,0.3s,baz=96,slow=21,SNR=6.4						
WRA	**Warramunga Arr**	**24.60**	**237**	P	P	12 43 36.6	+0.2
	1.1nm,0.7s,baz=62,slow=9.4,SNR=20						
SONM	**Songino Array**	**70.22**	**327**	P	P	12 49 30.0	+1.0
	0.3nm,0.4s,baz=140,slow=5.2,SNR=6.5						
MKAR	**Makanchi Array**	**84.40**	**318**	P	P	12 50 48.9	+0.3
	1.4nm,0.7s,baz=106,slow=5.8,SNR=9.2						
ZALV	**Zalesovo Beam**	**85.08**	**326**	P	P	12 50 50.4	-1.5
	0.6nm,0.4s,baz=121,slow=5.6,SNR=3.1						

*IDC **16** 12:44:49.9±0.9, 4599N×154.14E, h0km, mb3.6/7, mb1 3.8/8, mb1mx3.6/22, mbtmp3.6/8, ML3.3/1, MS2.6/1, Ms1 2.6/1, ms1mx2.1/35, Error ellipse: s-maj=28.0km s-min=24.3km az=132.0*
*ISCJB **16** 12:44:53.1±0.8, 46.1N±0.1×1539E±0.1, h33km, mb3.6/9, Error ellipse: s-maj=19.2km s-min=9.8km az=138.1*
*MOS **16** 12:44:53.7±1.6, 46.17N×15384E, h37km, mb3.9/7, Error ellipse: s-maj=21.5km s-min=13.9km az=65.6*

ISC 16 12:44:51.5±6.2, 461N±01×1541E±02, h8km±38km, n20, σ1§11/20, mb3.6/9, 1C, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**4.42**	**261**	⇑*i*PN	**Pn**	**12 45 57.1**	**-1.7**
KUR				pmax	pmax		
	comp=N,30nm,0.4s						
KUR				pmax	pmax		
	comp=Z,70nm,0.4s						
SKR	**Severo-Kuril's**	**4.79**	**16**	*e*PN	**Pn**	**12 46 03.6**	**-0.3**
ASAJ	**Asahikawa**	**8.35**	**260**	Pn	**Pn**	**12 46 54.0**	**+1.3**
	comp=Z,0.4nm,0.3s,baz=75,slow=16,SNR=6.0						
ASAJ				LR	LR	12 50 18.0	
	comp=Z,33nm,18.2s,baz=356,slow=39						
ERM	**Erimo**	**8.84**	**246**	*e*PN	**Pn**	**12 47 00.0**	**+0.5**
BILL	**Bilibino**	**22.89**	**12**	*e*P	**P**	**12 49 56.2**	**+1.0**
BILL				*e*		12 50 07.6	
BILL				pmax	pmax		
	comp=Z,2.0nm,1.2s,mb3.4						
TIXI	**Tiksi**	**28.29**	**343**	*e*P	**P**	**12 50 43.1**	**-1.7**
TIXI				pmax	pmax		
	comp=Z,1.0nm,1.2s,mb3.3						
ZALV	**Zalesovo Beam**	**43.53**	**307**	P	**P**	**12 52 54.6**	**-0.6**
	comp=Z,0.5nm,0.5s,mb3.5,baz=85,slow=6.2,SNR=3.3						
MKAR	**Makanchi Array**	**47.83**	**298**	*i* P	**P**	**12 53 31.1**	**+1.8**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
MKAR	**Makanchi Array**	**47.83**	**298**	P	**P**	**12 53 29.6**	**+0.4**
	comp=Z,0.6nm,0.6s,mb3.8,baz=68,slow=8.4,SNR=5.5						
YKA	**Yellowknife Ar**	**51.06**	**37**	P	**P**	**12 53 54.1**	**+0.4**
YKA	**Yellowknife Ar**	**51.06**	**37**	P	**P**	**12 53 54.1**	**+0.4**
	comp=Z,0.2nm,0.4s,mb3.4,baz=295,slow=7.0,SNR=4.2						
FINES	**FINESS Array B**	**64.91**	**335**	*i* P	**P**	**12 55 32.0**	**+1.1**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.8s						
FINES	**FINESS Array B**	**64.91**	**335**	P	**P**	**12 55 31.6**	**+0.7**
	comp=Z,1.1nm,0.8s,mb4.0,baz=46,slow=11,SNR=5.9						
WRA	**Warramunga Arr**	**68.11**	**200**	P	**P**	**12 55 50.6**	**-1.1**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
WRA	**Warramunga Arr**	**68.11**	**200**	P	**P**	**12 55 50.5**	**-1.1**
	comp=Z,0.6nm,0.8s,mb3.7,baz=18,slow=6.6,SNR=4.0						
ASAR	**Alice Springs**	**71.80**	**199**	P	**P**	**12 56 16.0**	**+1.7**
ASAR	**Alice Springs**	**71.80**	**199**	P	**P**	**12 56 13.9**	**-0.4**
	comp=Z,0.3nm,0.7s,mb3.4,baz=11,slow=5.2,SNR=6.2						
AKASG	**Malin Array Be**	**72.46**	**327**	*i* P	**P**	**12 56 14.3**	**-3.8**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
TXAR	**Lajitas Array**	**77.24**	**61**	P	**P**	**12 56 45.9**	**-0.3**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
TXAR	**Lajitas Array**	**77.24**	**61**	P	**P**	**12 56 45.9**	**-0.2**
	comp=Z,0.5nm,0.6s,mb3.6,baz=312,slow=3.8,SNR=7.8						

IDC 16 12:52:14.1±60.0, 2010S×17715E, h0km, mb3.8/3, mb1 3.9/3, mb1mx3.7/14, mbtmp3.8/3, Error ellipse: s-maj=1050.0km s-min=144.6km az=80.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**33.89**	**243**	P	P	12 58 59.2	+0.4
	0.9nm,0.4s,baz=100,slow=12,SNR=4.6						
WRA	**Warramunga Arr**	**40.14**	**263**	P	P	12 59 51.8	-0.2
	0.4nm,0.4s,baz=99,slow=8.4,SNR=12						
ASAR	**Alice Springs**	**40.17**	**257**	P	P	12 59 52.0	-0.2
	0.9nm,0.8s,baz=88,slow=9.3,SNR=12						

*IDC **16** 13:08:37.1±3.4, 3567N×2263E, h0km, mb3.6/7, mb1 3.8/7, mb1mx3.6/23, mbtmp3.7/7, Error ellipse: s-maj=68.1km s-min=32.5km az=179.0*
*ISCJB **16** 13:08:43.6±1.2, 357N±0.1×226E±0.1, h66km±10km, mb3.4/7, Error ellipse: s-maj=24.2km s-min=11.1km az=43.7*
*NEIC **16** 13:08:43.8, 3570N×2273E, h33km, MD3.7(ATH), After ATH.*
*ATH **16** 13:08:43.8, 3570N×2273E, h33km±7km, MD3.7/9*
*CSEM **16** 13:08:43.8, 3570N×2273E, h33km, MD3.7/9, After ATH*

ISC 16 13:08:44.5±1.2, 357N±01×226E±01, h56km±11km, n16, σ0§76/16, mb3.5/7, Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KYTH	**Kithira**	**0.69**	**32**	*e*PN	**Pn**	**13 08 57.0**	**-1.5**
VLI	**Veliai**	**1.06**	**15**	*e*PN	**Pn**	**13 09 02.9**	**-0.4**
VAM	**Vamos**	**1.34**	**102**	*e*PN	**Pn**	**13 09 07.3**	**+0.3**
GVD	**Gavdhos**	**1.49**	**124**	*e*PB	**Pn**	**13 09 08.7**	**-0.3**
ITM	**Ithomi**	**1.58**	**340**	*e*PN	**Pn**	**13 09 12.1**	**+1.9**
NPS	**Neapolis**	**2.50**	**99**	*e*PN	**Pn**	**13 09 22.0**	**-0.8**
XRY	**Khrisi**	**2.67**	**107**	*e*PN	**Pn**	**13 09 25.5**	**+0.5

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MCQ	**Macquarie Isla**	**6.97**	**64**	*e*Pn			**Pn**	**13 22 20.8**	**+1.0**
DRV	**Dumont d'Urvil**	**9.42**	**200**	P			**Pn**	**13 22 56.0**	**+2.8**
DRV				S			**Sn**	**13 24 46.0**	**+7.6**
DRV				R				13 25 00.0	
TAU	**Tasmania Unive**	**15.19**	**358**	*e*Pn			**Pn**	**13 24 11.6**	**-0.5**
	845nm,1.3s								
TAU	**Tasmania Unive**	**15.19**	**358**	*e*P			**Pn**	**13 24 11.6**	**-0.4**
TAU				pmax			pmax		
	comp=Z,845nm,1.3s								
CASY	**Casey**	**19.11**	**229**	*e*P			**Pn**	**13 25 00.5**	**-0.5**
CASY				*e*S			**Sn**	**13 28 35.5**	**+1.1**
CASY	**Casey**	**19.11**	**229**	*e*P			**Pn**	**13 24 59.2**	**-1.8**
	comp=Z,258nm,1.1s								
CASY				*e*S			**Sn**	**13 28 35.5**	**+1.1**
VNDA	**Vanda**	**20.09**	**171**	⇑*e*P			**P**	**13 25 08.5**	**-2.2**
VNDA				*e*S			**S**	**13 29 07.5**	**+12**
VNDA				LR			LR		
	comp=Z,32μm,19.0s,MS5.7								
VNDA	**Vanda**	**20.09**	**171**	P			**P**	**13 25 08.9**	**-1.8**
	comp=Z,56nm,0.9s,baz=340,slow=12,SNR=129								
VNDA				LR			LR	13 32 22.8	
	comp=Z,30μm,18.4s,MS5.7,baz=340,slow=35								
RPZ	**Rata Peaks**	**20.21**	**55**	P			**P**	**13 25 11.2**	**-1.1**
RPZ				LR			LR	13 31 36.3	
RPZ	**Rata Peaks**	**20.21**	**55**	P			**P**	**13 25 11.2**	**-1.1**
	comp=Z,146nm,1.2s,baz=219,slow=11,SNR=12								
RPZ				LR			LR	13 31 36.3	
	comp=Z,129μm,18.4s,MS6.3,baz=211,slow=33								
SBA	**Scott Base**	**20.84**	**169**	*e*P			**P**	**13 25 16.6**	**-2.3**
	comp=Z,458nm,1.4s								
SBA				LR			LR		
	comp=Z,19μm,22.0s,MS5.4								
SBA	**Scott Base**	**20.84**	**169**	*e*P			**P**	**13 25 16.5**	**-2.3**
SBA				pmax			pmax		
	comp=Z,490nm,1.4s								
CNB	**Canberra Magne**	**22.78**	**2**	*e*P			**P**	**13 25 38.8**	**-1.1**
	comp=Z,321nm,1.1s,mb5.7								
CNB				*e*S			**S**	**13 29 57.6**	**+9.5**
SNZO	**South Karori**	**23.75**	**57**	*e*P			**P**	**13 25 51.7**	**+2.0**
	comp=Z,568nm,1.7s,mb5.7								
SNZO				LR			LR		
	comp=Z,167μm,20.0s,MS6.5								
ADE	**Adelaide**	**23.97**	**341**	P			**P**	**13 25 53.3**	**+1.5**
RIV	**Riverview**	**24.33**	**6**	*e*P			**P**	**13 25 57.4**	**+2.3**
MIR	**Mirnyy**	**26.14**	**228**	*de*P			**P**	**13 26 15.0**	**+3.8**
MIR				*i*			pP	13 26 20.0	+3.5
MIR				*i*				13 27 10.0	
MIR				*i* SS				13 32 14.0	
MIR				pmax			pmax		
	comp=Z,100nm,1.5s,mb5.1								
MIR				pmax			pmax		
	comp=Z,6000μm,12.0s								
MIR				MLR			MLR		
	comp=Z,53μm,17.0s,MS6.2								
STKA	**Stephens Creek**	**26.58**	**347**	*e*P			**P**	**13 26 15.1**	**-0.4**
	comp=Z,74nm,1.1s,mb5.1								
STKA				*e*S			**S**	**13 30 56.5**	**+7.4**
STKA	**Stephens Creek**	**26.58**	**347**	P			**P**	**13 26 15.2**	**-0.3**
	comp=Z,16nm,1.0s,mb4.5,baz=172,slow=9.4,SNR=13								
STKA				LR			LR	13 35 28.7	
	comp=Z,22μm,19.1s,MS5.7,baz=346,slow=34								
URZ	**Urewera**	**27.30**	**56**	P			**P**	**13 26 19.1**	**-2.9**
	comp=Z,40nm,1.0s,mb4.9,baz=257,slow=4.1,SNR=11								
URZ				LR			LR	13 36 46.1	
	comp=Z,136μm,18.4s,MS6.5,baz=214,slow=36								
ARMA	**Armidale**	**27.75**	**6**	*e*P			**P**	**13 26 29.8**	**+3.8**
ARMA				*e*PP				13 27 11.4	
ARMA	**Armidale**	**27.75**	**6**	*e*P			**P**	**13 26 25.8**	**-0.2**
	comp=Z,4.5nm,1.6s								
ARMA				*e*PP				13 27 11.4	
FORT	**Forrest**	**30.60**	**324**	*e*P			**P**	**13 26 50.6**	**-0.7**
	comp=Z,328nm,1.1s,mb6.1								
FORT				*e*S			**S**	**13 32 00.7**	**+8.3**
QSPA	**South Pole Qui**	**32.03**	**180**	P			**P**	**13 27 02.7**	**-0.7**
QSPA				LR			LR		
	comp=Z,17μm,20.0s,MS5.7								
QSPA	**South Pole Qui**	**32.03**	**180**	P			**P**	**13 27 02.7**	**-0.7**
	comp=Z,40nm,1.0s,mb5.2,baz=352,slow=4.1,SNR=50								
NWAO	**Narrogin (SRO)**	**32.70**	**307**	P			**P**	**13 27 11.8**	**+2.0**
NWAO				LR			LR		
	comp=Z,38μm,19.0s,MS6.1								
NWAO	**Narrogin (SRO)**	**32.70**	**307**	P			**P**	**13 27 11.8**	**+2.0**
	comp=Z,19nm,0.8s,mb5.0,baz=146,slow=9.3,SNR=6.2								
EIDS	**Eidsvold**	**32.74**	**5**	*e*P			**P**	**13 27 09.5**	**-0.7**
	comp=Z,105nm,1.4s,mb5.6								
KLBR	**Kellerberrin**	**33.63**	**309**	*e*P			**P**	**13 27 17.7**	**-0.2**
	comp=Z,163nm,1.2s,mb5.8								
MUN	**Mundaring**	**33.95**	**306**	*e*P			**P**	**13 27 25.4**	**+4.7**
MUN				*e*S			**S**	**13 32 46.2**	**+1.6**
ASAR	**Alice Springs**	**35.88**	**337**	P			**P**	**13 27 36.1**	**-1.2**
	comp=Z,23nm,1.0s,mb5.0,baz=164,slow=9.3,SNR=71								
ASAR				PcP			PcP	13 30 04.9	+0.6
	comp=Z,5.0nm,1.0s,baz=141,slow=3.1,SNR=2.8								
MAW	**Mawson**	**36.96**	**219**	*e*P			**P**	**13 27 46.0**	**-0.2**
	comp=Z,39nm,1.0s,mb5.2								
MAW				*e*PP			PP	13 29 15.9	+5.7
MAW	**Mawson**	**36.96**	**219**	*e*P			**P**	**13 27 46.0**	**-0.2**
	comp=Z,39nm,1.0s,mb5.2								
MAW				*e*PP			PP	13 29 15.9	+5.7
MAW				LR			LR		
	comp=Z,104μm,20.0s,MS6.6								
MAW	**Mawson**	**36.96**	**219**	*e*P			**P**	**13 27 46.0**	**-0.2**
MAW				*e*				13 29 15.9	
MAW				pmax			pmax		
	comp=Z,39nm,1.0s								
MAW				MLR			MLR		
	comp=Z,104μm,20.0s								
MAW	**Mawson**	**36.96**	**219**	P			**P**	**13 27 45.4**	**-0.7**
	comp=Z,7.9nm,0.9s,mb4.5,baz=105,slow=12,SNR=8.7								
MAW				PP			PP	13 29 17.7	+7.5
	comp=Z,71nm,1.3s,baz=102,slow=12,SNR=4.0								
MAW				LR			LR	13 42 34.2	
	comp=Z,67μm,19.9s,MS6.4,baz=99,slow=36								
RAO	**Raoul Island**	**37.12**	**54**	PFAKE				13 28 00.0	+12
RAO				LR			LR		
	comp=Z,47μm,20.0s,MS6.3								
CTA	**Charters Tower**	**37.96**	**357**	*e*P			**P**	**13 27 54.9**	**-0.2**
	comp=Z,81nm,1.1s,mb5.4								
CTA				*e*				13 28 41.6	
CTA				*e*PP			PP	13 29 27.5	+5.6
CTA				*e*S			**S**	**13 33 51.4**	**+5.4**
CTA	**Charters Tower**	**37.96**	**357**	*e*P			**P**	**13 27 54.9**	**-0.2**
CTA				*e*				13 29 27.5	
CTA				*e*S			**S**	**13 33 51.4**	**+5.4**
CTA				pmax			pmax		
	comp=Z,81nm,1.1s								
CTA	**Charters Tower**	**37.96**	**357**	LR			LR	13 42 04.7	
	comp=Z,124μm,18.8s,MS6.7,baz=181,slow=34								
CTAO	**Charters Tower**	**37.96**	**357**	*e*P			**P**	**13 27 54.7**	**-0.3**
	comp=Z,183nm,1.2s,mb5.7								
CTAO				LR			LR		
	comp=Z,120μm,19.0s,MS6.7								
CTAO	**Charters Tower**	**37.96**	**357**	*e*P			**P**	**13 27 54.7**	**-0.4**
CTAO				pmax			pmax		
	comp=Z,183nm,1.2s,mb5.7								
CTAO				MLR			MLR		
	comp=Z,120μm,19.0s,MS6.7								
WB2	**Warramunga Arr**	**39.41**	**339**	⇓*i*P			**P**	**13 28 05.2**	**-2.0**
WB2				*e*				13 28 15.3	
WB2				*e*S			**S**	**13 34 08.2**	**+0.3**
WRA	**Warramunga Arr**	**39.41**	**339**	P			**P**	**13 28 05.3**	**-2.0**
	comp=Z,48nm,1.1s,mb5.2,baz=165,slow=7.2,SNR=109								
WRA				LR			LR	13 42 24.4	
	comp=Z,38μm,20.0s,MS6.2,baz=165,slow=33								
WRAB	**Tennant Creek**	**39.42**	**339**	*e*P			**P**	**13 28 06.5**	**-0.8**
	comp=Z,253nm,1.1s,mb5.9								
WRAB				LR			LR		
	comp=Z,44μm,20.0s,MS6.3								
WRAB	**Tennant Creek**	**39.42**	**339**	*d i*P			**P**	**13 28 05.7**	**-1.6**
MBWA	**Marble Bar**	**42.27**	**319**	*e*P			**P**	**13 28 29.3**	**-1.5**
	comp=Z,202nm,1.0s,mb5.7								
MBWA				LR			LR		
	comp=Z,108μm,19.0s,MS6.8								
SYO	**Syowa Base**	**43.19**	**210**	⇑*e*P			**P**	**13 28 31.3**	**-6.5**
SYO	**Syowa Base**	**43.19**	**210**	⇓*e*P			**P**	**13 28 38.6**	**+0.8**
SYO	**Syowa Base**	**43.19**	**210**	⇓*i*P			**P**	**13 28 41.0**	**+3.2**
FITZ	**Fitzroy Crossi**	**43.25**	**328**	*e*P			**P**	**13 28 37.6**	**-1.2**
	comp=Z,52nm,0.9s,mb5.3								
FITZ				*e*				13 28 47.6	
FITZ				*e*PCP			PcP	13 30 30.0	+2.3
FITZ				*e*S			**S**	**13 35 02.3**	**-2.6**
KAKA	**Kakadu**	**46.82**	**339**	⇓*i*P			**P**	**13 29 05.4**	**-1.8**
	comp=Z,28nm,0.6s,mb5.4								
KAKA				*e*				13 29 15.7	
NVL	**N'lazarevskaya**	**47.80**	**198**	*c i*P			**P**	**13 29 14.6**	**+0.4**
NVL				*e*				13 31 07.9	
NVL				*e*S			**S**	**13 36 15.6**	**+6.1**
NVL				pmax			pmax		
	comp=Z,158nm,1.1s,mb6.0								
NVL				MLR			MLR		
	comp=N,64μm,25.0s,MS6.6								
NVL				MLR			MLR		
	comp=E,39μm,25.0s,MS6.6								
NVL				MLR			MLR		
	comp=Z,104μm,25.0s,MS6.7								
MAIT	**Maitri**	**47.80**	**198**	*e*P			**P**	**13 29 13.3**	**-1.0**
SNAA	**Sanae**	**48.97**	**192**	LR			LR	13 51 05.4	
	comp=Z,6μm,18.8s,MS5.6,baz=151,slow=37								
HNR	**Honiara**	**49.36**	**15**	*e*P			**P**	**13 29 27.2**	**+0.4**
	comp=Z,331nm,1.4s,mb6.2								
HNR				LR			LR		
	comp=Z,33μm,22.0s,MS6.3								
HNR	**Honiara**	**49.36**	**15**	*e*P			**P**	**13 29 27.3**	**+0.5**
HNR				pmax			pmax		
	comp=Z,331nm,1.4s,mb6.2								
HNR				MLR			MLR		
	comp=Z,33μm,22.0s,MS6.3								
HNR	**Honiara**	**49.36**	**15**	LR			LR	13 45 44.9	
	comp=Z,31μm,21.7s,MS6.3,baz=173,slow=31								
VNA3	**Neumayer Olymp**	**50.04**	**189**	*e*P			**P**	**13 29 30.0**	**-1.4**
VNA3				*e*			pP	13 29 33.4	-3.5
VNA3				*e*			pP	13 29 35.7	-1.2
VNA3				*e*				13 29 38.7	
VNA3				*e*				13 30 56.6	
VNA3				*e*				13 31 04.3	
VNA3				*e*				13 31 26.2	
VNA3				*e*				13 31 32.1	
VNA2	**Neumayer--Watz**	**50.14**	**190**	*e*P			**P**	**13 29 30.9**	**-1.3**
VNA2				*e*			pP	13 29 34.0	-3.7
VNA2				*e*			pP	13 29 36.8	-0.9
VNA2				*e*				13 29 39.6	
VNA2				*e*				13 30 57.0	
VNA2				*e*				13 31 05.0	
VNA2				*e*				13 31 26.8	
VNA2				*e*				13 31 32.8	
VNA1	**Neumayer--Stat**	**50.49**	**190**	*e*P			**P**	**13 29 34.6**	**-0.2**
VNA1				*e*			pP	13 29 38.3	-2.0
VNA1				*e*			pP	13 29 40.0	-0.3
VNA1				*e*				13 29 43.8	
VNA1				*e*				13 31 07.7	
VNA1				*e*				13 31 30.7	
VNA1				*e*				13 31 37.0	
AFI	**Afiamalu**	**53.31**	**51**	PFAKE				13 30 10.0	+14
AFI				LR			LR		
	comp=Z,14μm,22.0s,MS6.0								
FUNA	**Funafuti**	**54.88**	**39**	PFAKE				13 30 20.0	+12
FUNA				LR			LR		
	comp=Z,19μm,19.0s,MS6.2								
PMSA	**Palmer Station**	**55.06**	**164**	PFAKE				13 30 20.0	+11
PMSA				LR			LR		
	comp=Z,11μm,19.0s,MS5.9								
TBI	**Tubuai**	**55.91**	**79**	*e*S			**S**	**13 38 07.6**	**+5.6**
	comp=Z,13μm,27.5s								
TBI				*e*SS			SS	13 41 49.2	+1.7
	comp=Z,7μm,29.2s								
TBI				*e*LQ				13 44 22.3	
	comp=Z,23μm,31.0s								
TBI				*e*LR			LR	13 46 32.3	
	comp=Z,21μm,27.2s,baz=213								
PPT	**Papeete**	**60.63**	**76**	*e*S			**S**	**13 39 06.0**	**+2.2**
	comp=Z,14μm,27.8s								
PPT				*e*SS			SS	13 43 11.0	+9.0
	comp=Z,9μm,26.2s								
PPT				*e*LQ				13 46 07.5	
	comp=Z,38μm,26.8s								
PPT				*e*LR			LR	13 48 44.9	
	comp=Z,25μm,23.0s,baz=218								
TNE	**Ternate**	**60.98**	**336**	⇓*e*P			**P**	**13 30 58.0**	**+7.3**
RKT	**Rikitea**	**63.76**	**92**	*e*PP			PP	13 33 35.0	+5.8
	comp=Z,2μm,37.0s								
RKT				*e*S			**S**	**13 39 48.8**	**+5.8**
	comp=Z,15μm,31.8s								
RKT				*e*SS			SS	13 43 56.7	+6.1
	comp=Z,3μm,27.5s								
RKT				*e*LQ				13 47 20.6	
	comp=Z,33μm,32.5s								
RKT				*e*LR			LR	13 49 54.0	
	comp=Z,25μm,28.5s,baz=210								
PTCN	**Pitcairn Islan**	**64.75**	**97**	PFAKE				13 31 30.0	+14
PTCN				LR			LR		
	comp=Z,13μm,19.0s,MS6.1								
KSM	**Kuching**	**66.57**	**318**	*e*P			**P**	**13 31 26.5**	**-1.1**
TSM	**Tawau**	**66.77**	**327**	⇑P			**P**	**13 31 28.9**	**+0.1**
SBUM	**Sibu**	**66.81**	**320**	⇑P			**P**	**13 31 28.9**	**-0.2**
BTM	**Bintulu**	**67.23**	**321**	⇑P			**P**	**13 31 32.3**	**+0.6**
MYLDM	**Lahad Datu**	**67.43**	**328**	⇑P			**P**	**13 31 34.9**	**+2.0**
DAV	**Davao City (W)**	**67.46**	**336**	PFAKE				13 31 50.0	+17
DAV				LR			LR		
	comp=Z,5μm,21.0s,MS5.7								
SDKM	**Sandakan**	**68.25**	**326**	⇑P			**P**	**13 31 39.3**	**+1.3**
EFI	**East Falkland**	**68.53**	**163**	PFAKE				13 31 50.0	+11
EFI				LR			LR		
	comp=Z,6μm,21.0s,MS5.8								
EFI	**East Falkland**	**68.53**	**163**	*e*P			**P**	**13 31 41.5**	**+2.1**
KKM	**Kota Kinabalu**	**68.92**	**326**	*e*P			**P**	**13 31 42.2**	**-0.1**
KKM	**Kota Kinabalu**	**68.92**	**326**	⇑P			**P**	**13 31 43.2**	**+0.9**
MYKOM	**Kota Tinggi**	**69.29**	**312**	⇓P			**P**	**13 31 44.6**	**-0.1**
KGM	**Kluang**	**69.71**	**311**	⇓P			**P**	**13 31 47.3**	**+0.1**
GUMO	**Guam**	**71.45**	**357**	*e*P			**P**	**13 31 57.9**	**+0.2**
GUMO				LR			LR		
	comp=Z,9μm,19.0s,MS6.0								
GUMO	**Guam**	**71.45**	**357**	P			**P**	**13 31 57.6**	**-0.1**
	comp=Z,81nm,1.1s,mb5.6,baz=180,slow=14,SNR=3.2								
GUMO				LR			LR	14 04 17.0	
	comp=Z,9μm,19.9s,MS6.1,baz=181,slow=37								
FRIM	**Kepong**	**71.50**	**310**	⇓P			**P**	**13 31 59.5**	**+1.3**
KTGM	**Kuala Trenggan**	**72.81**	**312**	⇓P			**P**	**13 32 05.1**	**-0.9**
TAOE	**Nuku Hiva Isla**	**72.85**	**79**	*e*S			S	13 41 34.4	+2.8
	comp=Z,157μm,26.2s								
TAOE				*e*SS			SS	13 46 00.3	-11
	comp=Z,113μm,27.6s								
TAOE				*e*LQ				13 50 40.5	
	comp=Z,590μm,30.2s								
TAOE				*e*LR			LR	13 54 21.5	
	comp=Z,430μm,24.4s								
IPM	**Ipoh**	**72.88**	**310**	⇑P			**P**	**13 32 05.8**	**-0.5**
RPN	**Rapa Nui**	**73.62**	**115**	PFAKE				13 32 20.0	+9.3
RPN				LR			LR		
	comp=Z,6μm,20.0s,MS5.9								
KULM	**Kulim**	**73.76**	**310**	*e*P			**P**	**13 32 10.9**	**-0.7**
KULM	**Kulim**	**73.76**	**310**	⇓P			**P**	**13 32 11.3**	**-0.3**
SNG	**Songkhla**	**75.49**	**311**	P			**P**	**13 32 23.0**	**+1.4**
	comp=Z,136nm,0.8s,mb5.9								
PLCA	**Paso Flores**	**76.37**	**151**	P			**P**	**13 32 26.1**	**-0.3**
PLCA				LR			LR		
	comp=Z,10μm,20.0s,MS6.1								
PLCA	**Paso Flores**	**76.37**	**151**	P			**P**	**13 32 26.1**	**-0.3**
	comp=Z,12nm,1.1s,mb4.8,baz=189,slow=9.7,SNR=3.7								
SUR	**Sutherland**	**79.72**	**223**	*e*P			**P**	**13 32 44.4**	**-0.7**
	comp=Z,111nm,1.4s,mb5.6								
SUR				LR			LR		
	comp=Z,11μm,20.0s,MS6.2								
NNT	**Nongplab**	**80.76**	**312**	P			**P**	**13 32 51.5**	**+0.8**
TRQA	**Tornquist**	**80.95**	**156**	*e*P			**P**	**13 32 54.8**	**+3.2**
TRQA				LR			LR		
	comp=Z,6μm,22.0s,MS5.9								
BOSA	**Boshof**	**81.40**	**228**	*e*P			**P**	**13 32 53.8**	**-0.4**
	comp=Z,50nm,1.3s,mb5.3								
BOSA				LR			LR		
	comp=Z,13μm,20.0s,MS6.3								
BOSA	**Boshof**	**81.40**	**228**	*e*P			**P**	**13 32 53.8**	**-0.4**
BOSA				pmax			pmax		
	comp=Z,50nm,1.3s,mb5.3								
BOSA				MLR			MLR		
	comp=Z,13μm,20.0s,MS6.3								
BOSA	**Boshof**	**81.40**	**228**	P			**P**	**13 32 54.1**	**-0.1**
	comp=Z,9.8nm,0.9s,mb4.8,baz=174,slow=7.9,SNR=6.7								
BOSA				LR			LR	14 04 00.0	
	comp=Z,12μm,20.5s,MS6.2,baz=154,slow=32								
PBA	**Port Blair**	**82.81**	**306**	*ex*			x	13 34 38.5	
PBA				*ex*			x	13 34 44.4	
	comp=Z,105nm,1.6s								
PBA				*ex*			x	13 42 59.0	
QIZ	**Qiongzhong**	**83.12**	**324**	P			**P**	**13 33 03.3**	**+0.2**
QIZ				PP			PP	13 36 14.9	+0.3
QIZ				S			S	13 43 20.3	-1.5
QIZ				SS			SS	13 48 45.5	-1.2
QIZ				AMB			AMB		
	comp=Z,530nm,10.9s								
QIZ				LR			LR		
	comp=E,8μm,25.8s								
QIZ				LR			LR		
	comp=Z,9μm,22.6s,MS6.1								
QIZ	**Qiongzhong**	**83.12**	**324**	*e*P			**P**	**13 33 03.2**	**+0.1**
	comp=Z,84nm,1.4s,mb5.6								
NST	**Nakhon Sawan**	**83.41**	**314**	P			**P**	**13 33 05.0**	**+0.4**
TRIS	**Tristan da Cun**	**83.82**	**196**	PFAKE				13 33 20.0	+13
TRIS				LR			LR		
	comp=Z,20μm,21.0s,MS6.5								
LBTB	**Lobatse**	**84.47**	**230**	*e*P			**P**	**13 33 10.1**	**0.0**
	comp=Z,58nm,1.4s,mb5.5								
LBTB				LR			LR		
	comp=Z,8μm,20.0s,MS6.1								
LBTB	**Lobatse**	**84.47**	**230**	*e*P			**P**	**13 33 10.1**	**0.0**
LBTB				pmax			pmax		
	comp=Z,58nm,1.4s,mb5.5								
LBTB				MLR			MLR		
	comp=Z,8μm,20.0s,MS6.1								
PALK	**Pallekele**	**84.53**	**293**	*e*P			**P**	**13 33 09.9**	**-0.6**
	comp=Z,114nm,1.4s,mb5.8								
PALK				LR			LR		
	comp=Z,8μm,19.0s,MS6.1								
CBIJ	**Chichi jima**	**84.99**	**355**	LR			LR	14 08 11.4	
	comp=Z,6μm,21.8s,MS6.0,baz=173,slow=34								
TATO	**Taipei**	**85.69**	**336**	PFAKE				13 33 30.0	+14
TATO				LR			LR		
	comp=Z,10μm,20.0s,MS6.2								
GZH	**Guangzhou**	**85.91**	**328**	P			**P**	**13 33 21.6**	**+4.5**
GZH				S			S	13 43 55.4	+5.9
GZH				LR			LR		
	comp=N,7μm,23.7s								
GZH				LR			LR		
	comp=E,2μm,15.7s								
GZH				LR			LR		
	comp=Z,10μm,28.4s,MS6.1								
QZH	**Quanzhou**	**86.32**	**333**	P			**P**	**13 33 22.0**	**+3.0**
QZH				SKS				13 43 44.0	
QZH				S			S	13 43 53.3	-0.1
QZH				LR			LR		
	comp=N,5μm,16.5s,MS6.2								
QZH				LR			LR		
	comp=E,5μm,18.1s,MS6.2								
QZH				LR			LR		
	comp=Z,8μm,20.8s,MS6.1								
CM31	**Chiang Mai Arr**	**86.41**	**314**	PFAKE				13 33 30.0	+10
CM31				LR			LR		
	comp=Z,14μm,20.0s,MS6.4								
CHG	**Chiang Mai**	**86.73**	**314**	⇑P			**P**	**13 33 20.8**	**-0.4**
	comp=Z,53nm,1.2s,mb5.7								
CHTO	**Chiang Mai**	**86.73**	**314**	*e*P			**P**	**13 33 20.5**	**-0.7**
CHTO				LR			LR		
	comp=Z,21μm,21.0s,MS6.5								
LCO	**Las Campanas**	**87.34**	**147**	PFAKE				13 33 40.0	+16
LCO				LR			LR		
	comp=Z,4μm,21.0s,MS5.8								
TRD	**Trivandrum**	**87.45**	**290**	*e*P			**P**	**13 33 23.6**	**-1.3**
TRD				AMb			AMB	13 33 35.5	
	comp=Z,52nm,1.1s,mb5.7								
KOD	**Kodaikanal**	**88.68**	**292**	*e*P			**P**	**13 33 31.2**	**+0.5**
KOD				AMb			AMB	13 33 41.7	
	comp=Z,55nm,1.9s,mb5.6								
MDRS	**Chennai**	**89.77**	**295**	*e*P			**P**	**13 33 36.6**	**+0.8**
MDRS				AMb			AMB	13 33 44.8	
	comp=Z,45nm,0.2s,mb6.4								
POHA	**Pohakuloa**	**90.38**	**52**	PFAKE				13 33 50.0	+11
POHA				LR			LR		
	comp=Z,7μm,19.0s,MS6.1								
MIDW	**Midway**	**90.66**	**30**	PFAKE				13 33 50.0	+10
MIDW				LR			LR		
	comp=Z,21μm,22.0s,MS6.5								
KIP	**Kipapa**	**90.86**	**49**	PFAKE				13 33 50.0	+9.3
KIP				LR			LR		
	comp=Z,11μm,20.0s,MS6.3								
HKL	**Haleakala**	**90.94**	**51**	*e*P			**P**	**13 33 48.1**	**+7.0**
GYA	**Guiyang**	**91.08**	**324**	P			**P**	**13 33 42.0**	**+0.4**
GYA				AP			pP	13 33 46.8	-0.6
GYA				PP			PP	13 37 22.9	+4.2
GYA				SKS				13 44 14.4	
GYA				S			S	13 44 39.5	+1.3
GYA				SS			SS	13 50 46.9	+3.9
GYA				AMB			AMB		
	comp=Z,60nm,1.1s,mb5.8								
GYA				AMB			AMB		
	comp=Z,530nm,10.5s								
GYA				LR			LR		
	comp=N,4μm,24.9s,MS6.0								
GYA				LR			LR		
	comp=E,6μm,23.1s,MS6.0								
GYA				LR			LR		
	comp=Z,5μm,23.7s,MS5.9								
JHJ	**Hachijo jima 2**	**91.11**	**353**	LR			LR	14 10 15.6	
	comp=Z,16μm,21.3s,MS6.4,baz=325,slow=33								
KMI	**Kunming**	**91.13**	**320**	P			**P**	**13 33 47.4**	**+5.5**
KMI				AP			pP	13 33 52.9	+5.2
KMI				XP			sP	13 33 57.3	+7.5
KMI				PP			PP	13 37 24.3	+5.2
KMI

comp=Z,4μm,20.7s,MS5.9,baz=170,slow=36
MAJO Matsushiro 94.63 352 *e*P **P 13 33 58.8 +1.1**
comp=Z,26nm,1.3s,mb5.5
MAJO Matsushiro 94.63 352 *e*P **P 13 33 58.8 +1.1**
MAJO pmax pmax
comp=Z,26nm,1.3s,mb5.5
MAT Matsushiro 94.63 352 P **P 13 33 56.8 -0.9**
MAT S S 13 45 18.0 +8.7
SHL Shillong 95.59 311 *e*P **P 13 34 03.5 +1.1**
SHL *e*x x 13 37 20.0
SHL *e*S SKSac 13 44 40.0 +2.7
CD2 Chengdu 96.13 323 P **P 13 34 05.9 +1.1**
CD2 AP pP 13 34 10.9 +0.3
CD2 XP sP 13 34 12.9 +0.2
CD2 PP PP 13 38 02.3 +4.1
CD2 SKS 13 44 40.9
CD2 S S 13 45 20.4 -2.2
CD2 SS SS 13 51 56.8 +1.5
CD2 AMB AMB
comp=Z,40nm,1.6s,mb5.6
CD2 AMB AMB
comp=Z,400nm,5.9s
CD2 LR LR
comp=N,4μm,16.8s,MS6.0
CD2 LR LR
comp=E,2μm,18.4s,MS6.0
CD2 LR LR
comp=Z,3μm,24.0s
BOK Bokaro 96.53 305 *e*P **P 13 34 06.0 -0.7**
BOK AMb AMB 13 34 15.6
comp=Z,14nm,1.1s,mb5.3
KSRS Korea Array 96.67 344 P **P 13 34 08.5 +1.5**
comp=Z,0.5nm,0.7s,baz=180,slow=4.3,SNR=3.0
KSRS PP PP 13 38 06.7 +4.4
comp=Z,2.4nm,0.8s,baz=174,slow=8.2,SNR=5.1
KSRS LR LR 14 18 11.1
comp=Z,7μm,20.5s,MS6.1,baz=263,slow=36
INCN Inchon 96.90 343 PFAKE 13 34 20.0 +12
INCN LR LR
comp=Z,8μm,20.0s,MS6.2
XAN Xi'an 97.49 328 P **P 13 34 11.6 +0.8**
XAN PP PP 13 38 08.6 -0.1
XAN SKS 13 44 47.8
XAN S S 13 45 30.0 -4.2
XAN SS SS 13 52 12.6 -1.8
XAN AMB AMB
comp=Z,3.0nm,1.3s,mb4.6
XAN AMB AMB
comp=Z,28nm,4.0s
XAN LR LR
comp=N,6μm,26.8s,MS6.1
XAN LR LR
comp=E,5μm,26.4s,MS6.1
XAN LR LR
comp=Z,12μm,26.8s,MS6.3
POO Poona 97.56 293 *e*P **P 13 34 13.3 +1.8**
POO AMb AMB 13 34 24.6
comp=Z,21nm,0.9s,mb5.7
DL2 Dalian 99.15 339 P **P 13 34 24.9 +6.8**
DL2 PP PP 13 38 26.1 +4.8
DL2 SKS 13 44 57.3
DL2 S S 13 45 51.4 +3.4
DL2 AMB AMB
comp=Z,10.0nm,1.0s,mb5.3
DL2 AMB AMB
comp=Z,100nm,4.5s
DL2 LR LR
comp=N,2μm,20.9s,MS5.7
DL2 LR LR
comp=E,2μm,20.7s,MS5.7
DL2 LR LR
comp=Z,4μm,20.3s,MS5.9
LSA Lhasa 99.56 312 P **P 13 34 27.6 +7.4**
LSA XS sS 13 46 06.9 +5.3
LSA Lhasa 99.56 312 PFAKE 13 34 30.0 +10
LSA LR LR
comp=Z,5μm,20.0s,MS6.0
ERM Erimo 99.81 356 PFAKE 13 34 30.0 +8.1
ERM LR LR
comp=Z,9μm,20.0s,MS6.3
BHPL Bhopal 99.87 298 *e*P Pdif 13 34 21.6 -0.6
BHPL AMb AMB 13 34 30.1
comp=Z,9.7nm,1.0s,mb5.2
KMBO Kilima Mbogo 99.99 251 PFAKE 13 34 30.0 +7.3
KMBO LR LR
comp=Z,4μm,21.0s,MS5.9
LPAZ La Paz 100.08 145 P Pdif 13 34 22.5 -0.6
comp=Z,1.4nm,1.1s,baz=234,slow=14,SNR=2.9
LPAZ LR LR 14 12 46.2
comp=Z,2μm,20.1s,MS5.7,baz=166,slow=31
LZH Lanzhou 100.89 325 *e*P Pdif 13 34 33.1 +6.4
LZH AP 13 34 38.6
LZH XP 13 34 40.5
LZH PP PP 13 38 41.4 +6.8
LZH SKS 13 45 09.0
LZH *e*S Sdif 13 46 07.0 +3.0
LZH XS 13 46 12.3
LZH SS SS 13 53 05.1 +3.1
LZH AMB AMB
comp=Z,45nm,1.5s
LZH AMB AMB
comp=Z,116nm,4.5s
LZH LR LR
comp=N,5μm,18.3s
LZH LR LR
comp=Z,8μm,19.6s,MS6.2
NNA Nana 101.11 135 PFAKE 13 34 40.0 +12
NNA LR LR
comp=Z,4μm,20.0s,MS5.9
BJT Baijiatuau 101.33 335 PFAKE 13 34 40.0 +11
BJT LR LR
comp=Z,15μm,19.0s,MS6.5
BJI Beijing 101.36 335 P Pdif 13 34 29.3 +0.6
BJI PP PP 13 38 39.6 +1.6
BJI S Sdif 13 46 09.8 +1.9
BJI AMB AMB
comp=Z,4.0nm,1.0s
BJI LR LR
comp=N,10μm,19.3s,MS6.4
BJI LR LR
comp=E,6μm,18.5s,MS6.4
BJI LR LR
comp=Z,11μm,18.3s,MS6.4
SNY Shenyang 101.64 341 ⇑P Pdif 13 34 33.3 +3.3
SNY PP PP 13 38 42.3 +2.1
SNY SKS 13 45 10.9
SNY S Sdif 13 45 59.9 -10
SNY AMB AMB
comp=Z,199nm,4.7s
SNY LR LR
comp=N,6μm,19.6s
SNY LR LR
comp=Z,8μm,22.5s,MS6.2
MDJ Mudanjiang 103.49 346 PFAKE 13 34 50.0 +12
MDJ LR LR
comp=Z,5μm,19.0s,MS6.1
YSS Yuzh-Sakhalins 104.75 356 PFAKE 13 34 50.0 +6.1
YSS LR LR
comp=Z,9μm,20.0s,MS6.3
HABR Khabarovsk 106.73 351 *e*P Pdif 13 34 53.9 +1.3
HABR *e* 13 54 24.8
HIA Hailar 109.51 341 PFAKE 13 39 20.0 +13
HIA LR LR
comp=Z,9μm,21.9s,MS6.3
ULN Ulaanbaatar 110.90 332 *e*PKPdf PKiKP 13 39 10.6 +1.2
ULN Ulaanbaatar 110.90 332 *e*PKIKP PKiKP 13 39 08.3 -1.1
SONM Songino Array 111.04 331 PKiKP PKiKP 13 39 09.5 -0.2
comp=Z,0.3nm,0.7s,baz=150,slow=3.2,SNR=2.8
SONM PKKP PKKPbc 13 50 21.5 +16
comp=Z,0.7nm,0.8s,baz=337,slow=5.0,SNR=4.2
PET Petropavlovsk 111.06 7 PFAKE 13 39 20.0 +10
PET LR LR
comp=Z,8μm,21.0s,MS6.2
PET Petropavlovsk 111.06 7 *e*P Pdif 13 35 17.2 +5.3
PET *e* 13 45 52.4
PET *e*PS PS 13 49 23.1 +3.6
PET *e*SSS 13 59 32.0
PET pmax pmax
comp=Z,100nm,15.6s
PET pmax pmax
comp=Z,600nm,15.7s
PET pmax pmax
comp=Z,600nm,12.8s
SMY Shemya 112.44 17 PFAKE 13 39 20.0 +7.8
SMY LR LR
comp=Z,11μm,20.0s,MS6.4
ASCN Ascension 112.71 199 PFAKE 13 39 30.0 +16
ASCN LR LR
comp=Z,19μm,22.0s,MS6.7
WMQ Urumqi 113.27 317 *e*PKP PKiKP 13 39 18.3 +4.2
WMQ PP PP 13 40 12.0 +6.6
WMQ PKS 13 42 54.0
WMQ SKS SKSdf 13 46 29.0 +4.2
WMQ SKKS SKKSac 13 47 05.0 -0.2
WMQ SS SS 13 55 53.0 +3.2
WMQ PP PP
comp=Z,303nm,5.8s
WMQ LR LR
comp=N,6μm,20.6s,MS6.2
WMQ LR LR
comp=E,4μm,21.2s,MS6.2
WMQ LR LR
comp=Z,8μm,27.2s
KBL Kabul 113.30 298 *e*PKPdf PKiKP 13 39 15.8 +1.4
TLY Talaya 115.28 331 PFAKE 13 39 30.0 +12
TLY LR LR
comp=Z,7μm,20.0s,MS6.3
TLY Talaya 115.28 331 *i* PKIKP PKiKP 13 39 22.2 +4.5
TLY *e* 13 40 25.1
TLY *e*PPP 13 43 02.0
TLY *e*PS PS 13 50 14.3 +16
TLY *e*PPS 13 51 28.4
TLY pmax pmax
comp=Z,6.0nm,1.1s
TLY MLR MLR
comp=Z,7μm,20.0s,MS6.3
IRK Irkutsk 115.64 332 *e*PKIKP PKPdf 13 39 19.4 +1.1
IRK *e* 13 40 30.0
IRK pmax pmax
comp=Z,25nm,0.8s
MOY Mondy 115.97 329 *e*PKIKP PKPdf 13 39 24.7 +5.7
RCBR Riachuelo 116.23 175 PFAKE 13 39 30.0 +9.2
RCBR LR LR
comp=Z,5μm,19.0s,MS6.2
UCH Uchtor 117.15 307 PFAKE 13 39 30.0 +8.4
UCH LR LR
comp=Z,6μm,22.0s,MS6.2
TKM2 Tokmak 2 117.26 308 PFAKE 13 39 30.0 +8.2
TKM2 LR LR
comp=Z,9μm,20.0s,MS6.4
MA2 Magadan 117.32 1 PFAKE 13 39 30.0 +8.7
MA2 LR LR
comp=Z,5μm,20.0s,MS6.1
AML Almayashu 117.42 306 *e*PKPdf PKPdf 13 39 24.0 +1.9
UNV Unalaska Valle 117.44 28 PFAKE 13 39 30.0 +8.2
UNV LR LR
comp=Z,38μm,22.0s,MS7.0
FRU Bishkek 117.60 307 *e*PKIKP PKPdf 13 39 28.0 +5.6
FRU *e* 13 40 40.0
MKAR Makanchi Array 117.80 315 PKP PKPdf 13 39 22.4 -0.3
comp=Z,2.2nm,1.0s,baz=186,slow=2.4,SNR=4.9
MKAR PKKPbc PKKPbc 13 49 45.1 +2.5
comp=Z,0.9nm,0.4s,baz=285,slow=28,SNR=9.9
EKS2 Erkin-Say 117.82 307 *e*PKPdf PKPdf 13 39 25.0 +2.1
BOD Bodaibo 118.71 340 *e*PKIKP PKPdf 13 39 24.8 +0.7
BOD pmax pmax
comp=Z,6.0nm,1.9s
BCIP Isla Barro Col 119.01 123 PFAKE 13 39 40.0 +14
BCIP LR LR
comp=Z,4μm,21.0s,MS6.0
TGUH Tegucigalpa,Un 119.79 113 PFAKE 13 39 40.0 +12
TGUH LR LR
comp=Z,2μm,22.0s,MS5.8
SAO San Andreas Ge 120.49 69 PFAKE 13 39 40.0 +12
SAO LR LR
comp=Z,5μm,20.0s,MS6.2
PFO Pinyon Flat Ob 120.53 75 PFAKE 13 39 40.0 +12
PFO LR LR
comp=Z,8μm,20.0s,MS6.3
YAK Yakutsk 120.63 350 *e*PKP PKPdf 13 39 27.6 0.0
MCCM Marconi Confer 120.87 67 PFAKE 13 39 40.0 +11
MCCM LR LR
comp=Z,9μm,19.0s,MS6.4
GLA Glamis 120.93 76 PFAKE 13 39 40.0 +11
GLA LR LR
comp=Z,10μm,20.0s,MS6.5
ISA Isabella 121.12 72 PFAKE 13 39 40.0 +11
ISA LR LR
comp=Z,8μm,20.0s,MS6.3
HOPS Hopland 121.44 66 PFAKE 13 39 40.0 +10
HOPS LR LR
comp=Z,10μm,20.0s,MS6.5
GSC Goldstone 121.68 73 PFAKE 13 39 40.0 +9.4
GSC LR LR
comp=Z,10μm,19.0s,MS6.5
CMB Columbia Colle 122.01 69 PFAKE 13 39 40.0 +8.9
CMB LR LR
comp=Z,5μm,22.0s,MS6.1
KURK Kurchatov 122.41 315 *e*PKP PKPdf 13 39 29.7 -1.7
KURK *e*PKPdf PKPdf 13 39 33.2 +1.7
TUC Tucson 122.45 80 PFAKE 13 39 40.0 +7.9
TUC LR LR
comp=Z,5μm,20.0s,MS6.1
SDV Santo Domingo 122.62 133 PFAKE 13 39 50.0 +17
SDV LR LR
comp=Z,2μm,21.0s,MS5.8
ZAL Zalesovo 122.85 321 PKIKP PKPdf 13 39 32.4 +0.2
ZAL 13 41 20.1
ZAA0 Zalesovo Array 122.85 321 *e*PKPdf PKPdf 13 39 34.1 +1.9
ZALV Zalesovo Beam 122.85 321 PKP PKPdf 13 39 32.4 +0.2
comp=Z,0.8nm,0.7s,baz=153,slow=2.3,SNR=5.1
ZALV PP PP 13 41 20.1 +8.3
comp=Z,2.5nm,0.9s,baz=158,slow=4.3,SNR=3.6
WDC Whiskeytown Da 122.93 65 PFAKE 13 39 50.0 +17
WDC LR LR
comp=Z,7μm,22.0s,MS6.3
NVAR Mina Array Bea 123.35 70 PKP PKPdf 13 39 34.4 +0.7
comp=Z,0.2nm,0.3s,baz=215,slow=2.2,SNR=3.2
YBH Yreka Blue Hor 123.74 64 PFAKE 13 39 50.0 +16
YBH LR LR
comp=Z,7μm,21.0s,MS6.3
TXAR Lajitas Array 123.87 88 PKP PKPdf 13 39 32.9 -2.1
comp=Z,0.9nm,0.9s,baz=229,slow=1.6,SNR=6.0
TXAR PKKPbc PKKPbc 13 49 27.4 +7.9
comp=Z,0.9nm,0.9s,baz=41,slow=3.5,SNR=5.2
NVS Novosibirsk 124.12 321 *e*PKIKP PKPdf 13 39 36.4 +1.8
NVS *e* 13 41 26.8
NVS pmax pmax
comp=N,7.0nm,1.2s
NVS pmax pmax
comp=E,7.0nm,1.2s
NVS pmax pmax
comp=Z,15nm,1.2s
LIC Lamto 124.26 213 *e*PKIKP PKPdf 13 39 38.4 +2.2
comp=Z,100nm,1.7s
LIC *e*MLR MLR
comp=Z,11μm,21.8s,MS6.2
LIC Lamto 124.26 213 *e*PKPdf PKPdf 13 39 38.4 +2.2
LIC LR LR
comp=Z,6μm,21.8s,MS6.2
HUMO Hull Mountain 124.30 63 *e*PKPdf PKPdf 13 39 37.6 +2.2
DBIC Dimbokro 124.63 213 PKP PKPdf 13 39 38.9 +2.0
DBIC LR LR
comp=Z,8μm,22.0s,MS6.3
DBIC Dimbokro 124.63 213 PKP PKPdf 13 39 38.9 +2.0
comp=Z,5.8nm,0.9s,baz=172,slow=7.0,SNR=6.5
WUAZ Wupatki 124.64 77 PFAKE 13 39 50.0 +14
WUAZ LR LR
comp=Z,8μm,21.0s,MS6.4
BHD Baghdad 124.67 278 *e*x x 13 39 34.0
BHD *e*x x 13 41 30.0
BHD *e*x x 13 46 23.0
KDAK Kodiak Island 124.72 34 PFAKE 13 39 50.0 +14
KDAK LR LR
comp=Z,3μm,20.0s,MS6.0
MNTX Cornudas Mount 124.82 85 *e*PKPdf PKPdf 13 39 39.2 +2.5
MNTX LR LR
comp=Z,8μm,20.0s,MS6.4
MOD Modoc 125.03 66 *e*PKPdf PKPdf 13 39 39.2 +2.5
MOD LR LR
comp=Z,9μm,22.0s,MS6.4
GAMB Gambell 125.33 21 *e*PKPdf PKPdf 13 39 38.6 +2.0
KVTX Kingsville 125.52 94 PFAKE 13 39 50.0 +12
KVTX LR LR
comp=Z,7μm,20.0s,MS6.3
COR Corvallis 125.64 62 PFAKE 13 39 50.0 +12
COR LR LR
comp=Z,4μm,21.0s,MS6.0
BNM Barren Site 126.06 82 *e*PKPdf PKPdf 13 39 41.3 +2.3
WVOR Wild Horse Val 126.24 66 *e*PKPdf PKPdf 13 39 41.5 +2.4
WVOR LR LR
comp=Z,6μm,19.0s,MS6.3
BILL Bilibino 126.50 8 *e*PKPdf PKPdf 13 39 40.4 +1.7
BILL Bilibino 126.50 8 *i* PKIKP PKPdf 13 39 37.5 -1.2
BILL *e* 13 39 50.4
BILL pmax pmax
comp=Z,8.0nm,1.3s
MSU Marysvale 126.51 74 *e*PKPdf PKPdf 13 39 41.4 +1.7
SVW2 Sparrevohn 126.64 30 *e*P PKPdf 13 39 43.8 +4.6
ANMO Albuquerque 126.77 81 PFAKE 13 39 50.0 +10
ANMO LR LR
comp=Z,4μm,21.0s,MS6.1
JCT Junction City 126.83 90 PFAKE 13 39 50.0 +9.4
JCT LR LR
comp=Z,6μm,21.0s,MS6.2
BVAR Borovoye Array 127.39 312 PKP PKPdf 13 39 41.0 +0.1
comp=Z,1.5nm,0.8s,baz=113,slow=3.9,SNR=6.2
BVAR PP PP 13 41 46.8 +4.7
comp=Z,5.5nm,1.1s,baz=123,slow=5.5,SNR=4.0
MVCO Mesa Verde 127.42 78 PFAKE 13 39 50.0 +8.5
MVCO LR LR
comp=Z,7μm,20.0s,MS6.3
DUG Dugway 127.46 72 *e*PKPdf PKPdf 13 39 44.0 +2.6
DUG LR LR
comp=Z,7μm,21.0s,MS6.3
BRVK Borovoye 127.46 312 *e*PKPdf PKPdf 13 39 42.5 +1.4
BRVK LR LR
comp=Z,10μm,21.0s,MS6.5
NLWA Neilton Lookou 127.48 59 PFAKE 13 39 50.0 +8.7
NLWA LR LR
comp=Z,7μm,19.0s,MS6.3
TNA Tin City 127.66 21 *e*PKPdf PKPdf 13 39 41.0 0.0
TNA LR LR
comp=Z,6μm,22.0s,MS6.2
MSL Mosul 127.67 280 *e*x x 13 39 47.0
MSL *e*x x 13 41 49.0
ASF Jabal al Asfar 127.78 271 PKP PKPdf 13 39 43.7 +1.3
comp=Z,0.8nm,0.4s,baz=135,slow=2.0,SNR=2.1
MPU Maple Canyon 127.92 73 PFAKE 13 40 00.0 +18
MPU LR LR
comp=Z,9μm,21.0s,MS6.4
TOA0 Torodi Ar. Sit 128.55 223 *e*PKPdf PKPdf 13 39 46.5 +2.2
TORD Torodi Ar. Bea 128.55 223 PKP PKPdf 13 39 43.1 -1.2
comp=Z,5.2nm,0.9s,baz=203,slow=0.8,SNR=12
BMO Blue Mountains 128.69 65 PFAKE 13 40 00.0 +16
BMO LR LR
comp=Z,9μm,20.0s,MS6.5
HAWA Hanford 128.75 62 PFAKE 13 40 00.0 +16
HAWA LR LR
comp=Z,9μm,20.0s,MS6.5
PMR Palmer 128.85 33 PFAKE 13 40 00.0 +17
PMR LR LR
comp=Z,17μm,22.0s,MS6.7
GRGR Grenville 128.88 141 PFAKE 13 40 00.0 +15
GRGR LR LR
comp=Z,5μm,21.0s,MS6.1
HWUT Hardware Ranch 129.14 72 *e*PKPdf PKPdf 13 39 47.0 +2.3
HWUT LR LR
comp=Z,7μm,19.0s,MS6.4
HLID Hailey 129.15 68 PFAKE 13 40 00.0 +15
HLID LR LR
comp=Z,7μm,19.0s,MS6.3
AMTX Amarillo 129.24 85 PFAKE 13 40 00.0 +15
AMTX LR LR
comp=Z,9μm,20.0s,MS6.4
SDCO Great Sand Dun 129.39 80 PFAKE 13 40 00.0 +15
SDCO LR LR
comp=Z,5μm,19.0s,MS6.2
SIT Sitka 129.91 44 PFAKE 13 40 00.0 +14
SIT LR LR
comp=Z,12μm,20.0s,MS6.6
TIXI Tiksi 130.14 352 *e*PKPdf PKPdf 13 39 47.2 +1.6
TIXI Tiksi 130.14 352 ⇑*i*PKIKP PKPdf 13 39 44.3 -1.3
AHID Auburn Hatcher 130.22 71 PFAKE 13 40 00.0 +13
AHID LR LR
comp=Z,4μm,19.0s,MS6.2
BBGH Gun Hill 130.50 143 PFAKE 13 40 00.0 +12
BBGH LR LR
comp=Z,5μm,22.0s,MS6.1
WRAK Wrangell Islan 130.56 46 PFAKE 13 40 00.0 +13
WRAK LR LR
comp=Z,13μm,20.0s,MS6.6
NATX Nacogdoches 130.56 94 PFAKE 13 40 00.0 +12
NATX LR LR
comp=Z,4μm,19.0s,MS6.1
MCK McKinley 130.60 31 PFAKE 13 40 00.0 +13
MCK LR LR
comp=Z,7μm,20.0s,MS6.3
WMOK Wichita Mounta 130.67 88 *e*PKPdf PKPdf 13 39 48.9 +1.2
WMOK LR LR
comp=Z,8μm,21.0s,MS6.4
AKTK Aktyubinsk 130.72 302 PKP PKPdf 13 39 48.0 +0.7
AKTO Aktyubinsk 130.72 302 PKP PKPdf 13 39 48.0 +0.7
comp=Z,0.6nm,0.4s,baz=137,slow=2.1,SNR=2.7
ISCO Idaho Springs 130.86 78 PFAKE 13 40 00.0 +12
ISCO LR LR
comp=Z,10μm,21.0s,MS6.5
BW06 Boulder Array 131.00 72 PFAKE 13 40 00.0 +12
BW06 LR LR
comp=Z,6μm,21.0s,MS6.2
PDAR Pinedale Array 131.00 72 PKP PKPdf 13 39 47.6 -0.5
comp=Z,1.1nm,1.1s,baz=207,slow=6.2,SNR=3.9
IMA2 Indian Mountai 131.22 27 *e*PKPdf PKPdf 13 39 49.7 +1.9
NEW Newport 131.24 62 PFAKE 13 40 00.0 +12
NEW LR LR
comp=Z,11μm,22.0s,MS6.5
FLWY Flagg Ranch 131.38 70 *e*PKPdf PKPdf 13 39 51.6 +2.9
SDDR Presa de Saban 131.45 127 PFAKE 13 40 00.0 +10
SDDR LR LR
comp=Z,2μm,20.0s,MS5.8
MALT Malatya 131.64 278 *e*PKPdf PKPdf 13 39 51.0 +1.5
MALT Malatya 131.64 278 ⇑*i*P PKPdf 13 39 55.8 +6.3
YMR Madison River 131.66 70 PFAKE 13 40 00.0 +11
YMR LR LR
comp=Z,6μm,19.0s,MS6.3
MSO Missoula 131.74 66 PFAKE 13 40 00.0 +11
MSO LR LR
comp=Z,6μm,20.0s,MS6.3
COLA College 131.79 31 PFAKE 13 40 00.0 +11
COLA LR LR
comp=Z,9μm,20.0s,MS6.5
LKWY Lake 131.87 70 PFAKE 13 40 00.0 +10
LKWY LR LR
comp=Z,11μm,19.0s,MS6.6
BOZ Bozeman (W) 132.03 68 PFAKE 13 40 00.0 +10
BOZ LR LR
comp=Z,4μm,22.0s,MS6.1
CHMT Chamberlain Mo 132.13 66 *e*PKPdf PKPdf 13 39 51.3 +1.2
SJG San Juan 132.77 133 PFAKE 13 40 10.0 +18
SJG LR LR
comp=Z,3μm,19.0s,MS6.0
RLMT Red Lodge 132.84 70 PFAKE 13 40 00.0 +8.5
RLMT LR LR
comp=Z,6μm,19.0s,MS6.3
CBKS Cedar Bluff 133.22 83 PFAKE 13 40 10.0 +18
CBKS LR LR
comp=Z,5μm,22.0s,MS6.2
MIAR Mount Ida 133.29 92 PFAKE 13 40 10.0 +17
MIAR LR LR
comp=Z,3μm,20.0s,MS6.1
KIV Kislovodsk 133.52 286 *e*PKPdf PKPdf 13 39 54.5 +1.7
KIV LR LR
comp=Z,4μm,20.0s,MS6.1
KIV Kislovodsk 133.52 286 *i* PKIKP PKPdf 13 39 56.7 +3.9
KIV *e*PS PS 13 52 39.3 -0.2
KIV pmax pmax
comp=Z,15nm,0.9s
KIV MLR MLR
comp=Z,3μm,20.0s,MS6.1
EGAK Eagle 133.62 34 PFAKE 13 40 10.0 +18
EGAK LR LR
comp=Z,9μm,21.0s,MS6.5
DAWY Dawson 133.64 35 *e*PKPdf PKPdf 13 39 52.0 -0.4
BRAL Brewton 133.97 101 PFAKE 13 40 10.0 +16
BRAL LR LR
comp=Z,4μm,22.0s,MS6.0
SVE Sverdlovsk 134.04 310 *i* PKIKP PKPdf 13 39 51.8 -1.6
SVE *e* 13 42 40.3
SVE *e*SSS 14 05 17.3
SVE pmax pmax
comp=Z,18nm,1.4s
SVE MLR MLR
comp=Z,7μm,23.0s,MS6.3
DWPF Disney 134.52 109 PFAKE 13 40 10.0 +15
DWPF LR LR

comp=Z,1µm,22.0s,MS5.5
EGMT Eagleton 134.61 67 PFAKE 13 40 10.0 +15
EGMT LR LR
comp=Z,6µm,20.0s,MS6.3
ARU Arti 134.63 309 *e*PKPdf PKPdf 13 39 55.8 +1.3
ARU Arti 134.63 309 *i* PKIKP PKPdf 13 39 53.4 -1.1
ARU MLR MLR
comp=Z,7µm,22.0s,MS6.3
SOC Sochi 134.78 284 *i* PKIKP PKPdf 13 39 53.5 -1.7
RSSD Black Hills 134.79 75 PFAKE 13 40 10.0 +15
RSSD LR LR
comp=Z,701nm,20.0s,MS5.4
KSU1 Kansas State U 135.08 86 PFAKE 13 40 10.0 +14
KSU1 LR LR
comp=Z,6µm,21.0s,MS6.3
LAO LASA Array 135.45 71 PFAKE 13 40 10.0 +14
LAO LR LR
comp=Z,6µm,22.0s,MS6.3
LRAL Lakeview Retre 135.59 100 PFAKE 13 40 10.0 +13
LRAL LR LR
comp=Z,3µm,20.0s,MS6.0
ANTO Ankara 135.75 275 PFAKE 13 40 10.0 +13
ANTO LR LR
comp=Z,4µm,21.8s,MS6.1
PLAL Pickwick Lake 136.53 97 *e*PKPdf PKPdf 13 40 00.1 +1.3
PLAL LR LR
comp=Z,3µm,21.0s,MS6.0
ANN Anapa 136.80 283 *i* PKIKP 13 40 11.6
ANN *e*PPP 13 45 55.1
ANN pmax pmax
comp=Z,104nm,1.4s
ANN MLR MLR
comp=Z,2µm,17.0s,MS5.9
CCM Cathedral Cave 137.16 91 PFAKE 13 40 10.0 +10
CCM LR LR
comp=Z,1µm,20.0s,MS5.7
SOKR Solikamsk 137.37 311 *i* PKIKP PKPdf 13 40 06.5 +7.0
SOKR pmax pmax
comp=Z,20nm,1.0s
SOKR MLR MLR
comp=Z,5µm,21.0s,MS6.2
WVT Waverly 137.53 96 PFAKE 13 40 10.0 +9.4
WVT LR LR
comp=Z,3µm,20.0s,MS6.0
DGMT Dagmar 137.67 70 PFAKE 13 40 10.0 +10
DGMT LR LR
comp=Z,5µm,20.0s,MS6.3
GOGA Godfrey 137.73 103 PFAKE 13 40 10.0 +9.0
GOGA LR LR
comp=Z,3µm,21.0s,MS6.0
INK Inuvik 138.27 33 PKP PKPdf 13 40 00.4 -0.5
INK Inuvik 138.27 33 PKhKP 13 39 52.5
comp=Z,1.2nm,0.7s,baz=319,slow=3.4,SNR=3.2
INK PKP PKPdf 13 40 00.4 -0.5
comp=Z,3.1nm,0.9s,baz=222,slow=1.8,SNR=6.7
ECSD EROS,Sioux Fal 138.37 81 PFAKE 13 40 10.0 +8.1
ECSD LR LR
comp=Z,6µm,21.0s,MS6.3
SIM Simferopol' 138.63 281 *i* PKIKP PKPdf 13 40 11.0 +8.7
SIM *e* 13 43 07.0
SIM *e*PS PS 13 53 35.0 +12
SIM *e*SS SS 14 01 10.0 +2.6
SIM *e*SSS 14 06 32.0
SIM pmax pmax
comp=Z,200nm,10.4s
NHSC New Hope 139.18 106 PFAKE 13 40 20.0 +16
NHSC LR LR
comp=Z,3µm,20.0s,MS6.0
WCI Wyandotte Cave 139.92 95 PFAKE 13 40 20.0 +15
WCI LR LR
comp=Z,821nm,19.0s,MS5.5
HDIL Hopedale 140.02 90 PFAKE 13 40 20.0 +15
HDIL LR LR
comp=Z,5µm,20.0s,MS6.3
TZTN Tazewell 140.10 100 PFAKE 13 40 20.0 +15
TZTN LR LR
comp=Z,4µm,20.0s,MS6.1
VRSR Storozhevoye 140.12 292 *i* PKIKP PKPdf 13 40 08.5 +3.7
VRSR *e* 13 43 18.6
VRSR *e*SS SS 14 01 37.2 +12
VRSR *e*SSS 14 06 45.7
VRSR pmax pmax
comp=Z,2.0nm,1.1s
VRSR pmax pmax
comp=N,2.0nm,0.9s
VRSR pmax pmax
comp=E,2.0nm,1.4s
JMB Yambol 140.89 273 *i* P PKPdf 13 40 11.9 +5.4
KDZ Kurdzhali 140.94 271 *i* P PKPdf 13 40 11.6 +5.0
JFWS Jewell Farm 141.17 87 PFAKE 13 40 20.0 +13
JFWS LR LR
comp=Z,8µm,21.0s,MS6.4
RZN Rozhen 141.34 270 *i* P PKPdf 13 40 14.2 +6.9
YKA Yellowknife Ar 141.37 48 PKP PKPdf 13 39 59.6 -7.1
YKA PKP PKPdf 13 40 03.1 -3.5
YKA PP PP 13 43 12.9 +2.3
YKA Yellowknife Ar 141.37 48 PKhKP 13 39 59.6
comp=Z,0.9nm,0.8s,baz=234,slow=3.0,SNR=11
YKA PKP PKPdf 13 40 03.1 -3.5
comp=Z,0.9nm,0.8s,baz=238,slow=2.7,SNR=13
YKA PP PP 13 43 12.9 +2.3
comp=Z,5.7nm,1.3s,baz=242,slow=6.3,SNR=6.6
SZH Strazhica 141.79 273 *i* P PKPdf 13 40 09.1 +1.0
AGMN Agassiz Refuge 141.79 76 PFAKE 13 40 20.0 +12
AGMN LR LR
comp=Z,7µm,22.0s,MS6.4
MMB Musomiste 141.79 269 *i* P PKPdf 13 40 12.1 +4.0
PGB Panagyurishte 142.23 271 *i* P pPKPdf 13 40 18.4 +3.5
BLA Blacksburg 142.24 102 PFAKE 13 40 20.0 +11
BLA LR LR
comp=Z,4µm,21.0s,MS6.2
KKB Krupnik 142.33 269 *i* P pPKPdf 13 40 19.6 +4.5
FFC Flin Flon 142.61 64 PFAKE 13 40 20.0 +11
FFC LR LR
comp=Z,10µm,21.0s,MS6.6
KIS Kishinev 142.75 280 *e*PKIKP PKPdf 13 40 10.0 +0.3
KIS *e* 13 40 16.0
KIS *e* 13 40 24.0
KIS *e* 13 43 34.0
KIS *e*SS SS 14 01 58.0 +2.4
KIS Kishinev 142.75 280 *e*PP PP 13 43 11.0 -8.3
KIS *e*SKP 13 43 34.0
VTS Vitosha 142.77 270 P PKPdf 13 40 15.3 +5.4
VTS Vitosha 142.77 270 ⇓*i*P PKPdf 13 40 14.2 +4.3
VTS Vitosha 142.77 270 *i* P PKPdf 13 40 13.7 +3.8
ULM Lac du Bonnet 143.00 74 PKP PKPdf 13 40 04.4 -5.6
ULM *e*PKPdf PKPdf 13 40 11.7 +1.7
ULM LR LR
comp=Z,7µm,21.0s,MS6.4
ULM Lac du Bonnet 143.00 74 PKhKP 13 40 04.4
comp=Z,4.6nm,0.9s,baz=220,slow=2.3,SNR=4.9
OHR Ohrid 143.01 266 *i* PKP PKPdf 13 40 15.2 +4.9
VRI Vrincioaia 143.12 277 P PKPdf 13 40 14.1 +3.8
VRI Vrincioaia 143.12 277 ⇑*i*P PKPdf 13 40 08.9 -1.4
ACSO Alum Creek Sta 143.13 96 PFAKE 13 40 20.0 +9.4
ACSO LR LR
comp=Z,5µm,22.0s,MS6.3
PLOR Plostina 143.15 277 PKIKP PKPdf 13 40 13.9 +3.5
SKO Skopje 143.28 268 *e*PKP PKPdf 13 40 16.9 +6.2
MLR Muntele Rosu 143.28 276 P PKPdf 13 40 08.5 -2.2
MLR Muntele Rosu 143.28 276 PKP PKPdf 13 40 07.9 -2.7
comp=Z,10nm,1.0s,baz=149,slow=1.2,SNR=9.5
MLR Muntele Rosu 143.28 276 ⇑*i*P PKPdf 13 40 08.3 -2.4
MOS Moscow 143.53 297 *e*PKIKP PKPdf 13 40 15.3 +4.6
MOS *i* 13 40 27.1
MOS pmax pmax
comp=Z,117nm,1.4s
MOS MLR MLR
comp=N,6µm,21.0s
SCLL Scilla 143.60 258 PKP PKPdf 13 40 17.5 +6.0
OBN Obninsk 143.69 296 ⇑*e*PKP PKPdf 13 40 08.0 -3.0
OBN *e*PKPdf PKPdf 13 40 11.8 +0.8
OBN Obninsk 143.69 296 ⇑*i*PKHKP 13 40 07.9
OBN *e* 13 47 13.3
OBN pmax pmax
comp=Z,93nm,1.4s
VOIR 143.72 275 P PKPdf 13 40 12.2 +0.8
VOIR 143.72 275 ⇑*i*P PKPdf 13 40 14.9 +3.5
TIP Timpagrande 143.74 260 *e*PKPdf PKPdf 13 40 12.9 +1.2
EYMN Ely 143.84 80 *e*PKPdf PKPdf 13 40 13.3 +1.7
EYMN LR LR
comp=Z,6µm,22.0s,MS6.3
COWI Conover 143.90 84 *e*PKPdf PKPdf 13 40 14.0 +2.3
COWI LR LR
comp=Z,6µm,20.0s,MS6.3
CSLB Castelbuono 144.22 256 PKP PKPdf 13 40 20.2 +7.6
AAM Ann Arbor 144.25 93 PFAKE 13 40 30.0 +18
AAM LR LR
comp=Z,6µm,22.0s,MS6.3
MCWV Mont Chateau 144.37 100 PFAKE 13 40 30.0 +17
MCWV LR LR
comp=Z,5µm,20.0s,MS6.3
ULC Ulcinj 144.44 266 ⇓*i*PKP PKPdf 13 40 13.1 +0.3
PVY Plav 144.49 267 ⇓*i*PKP PKPdf 13 40 10.9 -2.0
CBN Corbin 144.57 104 PFAKE 13 40 30.0 +17
CBN LR LR
comp=Z,5µm,22.0s,MS6.2
IVA Berane 144.72 267 ⇓*i*PKP PKPdf 13 40 12.1 -1.2
TTG Podgorica 144.76 266 ⇓*i*PKP PKPdf 13 40 12.6 -0.7
AKASG Malin Array Be 144.83 285 PKPbc PKPdf 13 40 11.2 -2.0
comp=Z,17nm,1.0s,baz=108,slow=2.5,SNR=44
AKBB Malin Array Si 144.83 285 *e*PKPdf PKPdf 13 40 11.5 -1.7
KIEV Kiev 144.84 285 *e*PKPdf PKPdf 13 40 11.6 -1.6
KIEV LR LR
comp=Z,4µm,21.0s,MS6.2
BUM Brajici-Budva 144.86 266 ⇓*i*PKP PKPdf 13 40 13.0 -0.5
KEST Kesra 144.90 249 PKPbc PKPdf 13 40 14.4 +0.6
comp=Z,12nm,0.9s,baz=167,slow=1.9,SNR=14
GZR Gura Zlata 144.90 273 P PKPdf 13 40 13.1 -0.4
GZR Gura Zlata 144.90 273 ⇓*i*P PKPdf 13 40 13.0 -0.5
MGR Morigerati 145.08 260 PKP PKPdf 13 40 15.5 +1.5
NKY Niksic 145.16 267 ⇓*i*PKP PKPdf 13 40 13.9 -0.1
HCY Herceg Novi 145.17 266 ⇓*i*PKP PKPdf 13 40 11.3 -2.8
PLE Pljevlja 145.31 268 ⇓*i*PKP PKPdf 13 40 16.2 +1.9
BRY Bratogost 145.46 266 ⇓*i*PKP PKPdf 13 40 11.6 -2.9
UPM Unac-Piva 145.48 267 ⇓*i*PKP PKPdf 13 40 14.2 -0.4
BZS Buzias 145.66 272 P PKPdf 13 40 17.2 +2.4
BZS Buzias 145.66 272 ⇑*i*P PKPdf 13 40 16.0 +1.2
DRGR 145.84 275 P PKPdf 13 40 16.4 +1.3
DRGR 145.84 275 ⇓*i*P PKPdf 13 40 15.2 +0.2
STON Ston 145.89 265 P PKPdf 13 40 17.1 +1.9
BBSR BB Station 145.99 125 PFAKE 13 40 30.0 +14
BBSR LR LR
comp=Z,4µm,22.0s,MS6.1
FGMS Monte Sant'Ang 146.00 262 PKP PKPbc 13 40 18.8 +2.5
ABSA Djebel Ababsia 146.24 247 P PKPdf 13 40 22.0 +5.9
CMER Merouana 146.49 244 P PKPdf 13 40 29.0 +12
CMAH Djebel Manchou 146.55 247 P PKPbc 13 40 21.0 +2.9
CTEI Djebel Teioual 146.60 246 P PKPdf 13 40 30.0 +13
CASM Ain Smara 146.71 246 P PKPdf 13 40 25.0 +8.1
CKFL Kef-Lekhel 146.71 246 P PKPdf 13 40 23.0 +6.1
RFI Roccamonfina 146.74 260 PKP pPKPab 13 40 27.5 +1.8
MIDA Miranda 146.84 261 PKP PKPab 13 40 24.5 +4.3
CAEH 'Ain El Ouahch 146.95 247 P PKPdf 13 40 30.0 +13
CKHR Kef el Ahmar 146.99 244 P PKPdf 13 40 33.0 +16
LVV L'vov 147.00 280 *e*PKHKP 13 40 18.4
LVV *e* 13 40 25.0
SET Setif 147.19 245 P PKPdf 13 40 33.0 +15
UZH Uzhgorod 147.20 277 *i* PKIKP PKPdf 13 40 20.8 +3.5
UZH *e* 13 40 26.2
UZH *i* 13 40 31.8
UZH *e* 13 47 08.0
UZH *e*SS SS 14 03 32.0 +46
UZH *e*SSS 14 08 22.0
DFRA Djebel Bou Aff 147.24 245 P PKPdf 13 40 29.5 +12
TMCR Tamitsa 147.32 310 *i* PKIKP PKPdf 13 40 20.1 +3.1
KOLS Kolonicke sedl 147.40 278 *e*PKP PKPdf 13 40 20.5 +2.9
KOLS *e* 13 40 29.0
ATAF Djebel Tarf 147.46 243 P PKPdf 13 40 37.1 +19
KWP Kalwaria 147.59 279 *e*PKP PKPdf 13 40 20.4 +2.5
KWP *e*PKiKP PKiKP 13 40 29.0 +6.4
KWP LMZ 14 37 54.0
comp=Z,4µm,30.2s
KWP Kalwaria 147.59 279 *e*PKIKP PKPdf 13 40 20.4 +2.5
KWP *e* 13 40 29.0
KWP Kalwaria 147.59 279 ⇑*i*P PKPdf 13 40 20.6 +2.7
PKSM Moragy 147.63 271 P PKPbc 13 40 21.4 +0.5
PKSM Moragy 147.63 271 ⇓*i*P PKPdf 13 40 20.2 +2.1
MNK Minsk 147.65 290 *e*PKHKP 13 40 19.0
MNK *e* 13 40 19.0
MNK *e*SS SS 14 03 00.0 +8.7
CERT Cerreto 147.73 260 PKP PKPab 13 40 25.2 +1.5
AKET Djebel Ketaf 147.79 242 P PKPdf 13 40 36.5 +18
VSL Villasalto 147.79 253 *e*PKPdf PKPdf 13 40 18.7 +0.1
AQU L'Aquila 147.80 261 PKP2 PKPab 13 40 32.7 +8.8
CRVS Cervenica-Dubn 147.81 277 *e*PKP PKPbc 13 40 22.2 +1.0
CFTV Fuerteventura 147.88 210 PKP PKPab 13 40 26.0 +1.4
EOSO Osorio 147.93 208 PKP PKPab 13 40 25.0 +0.2
PSZ Piszkesteto 148.04 274 ⇑P PKPbc 13 40 23.6 +1.8
PSZ P PKPab 13 40 27.5 +2.8
PSZ Piszkesteto 148.04 274 ⇑*i*P PKPbc 13 40 23.6 +1.7
PSZ Piszkesteto 148.04 274 ⇓*e*PKP PKPab 13 40 26.6 +1.9
KECS Kecovo 148.07 276 *e*PKP PKPbc 13 40 22.2 +0.3
KECS *e* PKPab 13 40 28.9 +4.1
ADJB Djebel Djouab 148.09 242 P PKPdf 13 40 37.3 +18
BINY Binghamton 148.22 100 *e*PKPdf PKPdf 13 40 20.9 +1.7
BINY LR LR
comp=Z,7µm,20.0s,MS6.4
BUD Budapest 148.23 273 ⇓*es*PKP/F 13 40 30.4
DGI Dorgali Grotta 148.29 254 PKP PKPab 13 40 27.6 +1.6
TOLF Tolfa 148.32 259 PKP PKPab 13 40 27.3 +1.3
EMHD Djebel Mahouad 148.35 241 P PKPab 13 40 27.9 +1.6
FCC Fort Churchill 148.41 62 *e*PKPdf PKPdf 13 40 20.3 +1.4
FCC *e*PKPab PKPab 13 40 28.1 +2.2
EGOM La Gomera 148.41 205 PKP PKPbc 13 40 24.5 +1.0
CING Cingoli 148.62 262 PKP PKPab 13 40 27.9 +0.7
NIE Niedzica 148.72 277 *e*PKPdf PKPbc 13 40 24.1 +0.5
MURB Monte Urbino 148.89 261 PKP PKPab 13 40 32.4 +4.1
VYHS Vyhne 148.95 274 *e*PKP PKPbc 13 40 24.3 +0.1
VYHS *e* PKPab 13 40 30.6 +2.2
BOJS Bojanci 148.97 267 *e*PKPdf PKPdf 13 40 23.4 +3.1
BOJS *i* 13 40 29.6
EANR 'Ain N'Sour 149.00 239 P PKPdf 13 40 30.0 +9.3
MAON Monte Argentar 149.03 259 PKP PKPbc 13 40 27.8 +3.2
ECHA Ech Chlef 149.04 239 P PKPdf 13 40 32.5 +12
EBNR Beni Rached 149.08 240 P PKPdf 13 40 35.5 +15
KOLL Kolacno 149.23 274 *e*PKP PKPbc 13 40 25.1 +0.2
OJC Ojcow 149.46 278 *e*PKPdf PKPbc 13 40 25.4 0.0
OJC *e*PKPab PKPab 13 40 30.7 +0.3
OJC *e*PP PP 13 43 58.5 -0.4
OJC *e*SS SS 14 03 12.5 +0.7
OJC L 15 00 23.7
comp=Z,3.9nm,23.3s
OJC Ojcow 149.46 278 *e*PKHKP PKPbc 13 40 25.4 0.0
OJC *e* 13 40 30.7
OJC *e*SS SS 14 03 12.5 +0.7
OJC MLR MLR
comp=Z,4µm,23.3s,MS6.1
SOP Sopron 149.66 271 ⇓*e*pPKP pPKPdf 13 40 27.4 +0.1
JOF Joensuu 149.67 306 *e*pkp PKPdf 13 40 23.3 +2.5
CSNT Castellina Chi 149.69 260 PKP pPKPab 13 40 41.3 +3.9
ZST Bratislava 149.69 273 *e*PKP PKPab 13 40 31.3 -0.1
ZST LR LR
comp=Z,2µm,22.6s,MS5.8
MODS Modra-Piesok 149.70 273 *e*PKP PKPbc 13 40 26.8 +0.7
SUW Suwalki 149.75 286 *e*PKP PKPdf 13 40 24.9 +3.7
SUW *e*PKiKP PKiKP 13 40 30.8 +3.8
SUW LMZ 14 37 33.0
comp=Z,4µm,30.7s
SUW Suwalki 149.75 286 *e*PKIKP PKPdf 13 40 24.9 +3.7
SUW *e* 13 40 30.8
PERS Pernice 149.77 268 *i* PKPdf PKPbc 13 40 26.6 +0.3
PERS *i* 13 40 33.2
JAVS Javornik 149.85 266 *e*PKPdf PKPdf 13 40 24.9 +3.2
JAVS *i* 13 40 33.2
WAR Warsaw 149.94 282 *e*PKP PKPbc 13 40 26.8 +0.2
WAR *e*PKiKP PKiKP 13 40 31.9 +4.4
WAR LMZ 14 40 11.1
comp=Z,5µm,27.4s
ARSA Arzberg 149.94 270 ⇑*i*P PKPdf 13 40 26.2 +4.4
comp=Z,198nm,1.3s,SNR=15
ARSA Arzberg 149.94 270 ⇑*i*pPKPdf pPKPdf 13 40 26.2 -1.6
comp=Z,198nm,1.3s,SNR=15
VOY Vojsko 150.03 266 *e* PKPbc 13 40 30.5 +3.5
VOY *e* 13 40 34.8
VOY *e* 13 40 39.4
VSU Vasula 150.05 296 *i* PKIKP PKPdf 13 40 26.2 +4.6
OKC Ostrava-Krasne 150.11 276 *e*PKP PKPbc 13 40 28.2 +1.2
OKC *e* 13 40 34.4
OKC *e*SS SS 14 03 25.5 +6.5
OKC *e* 14 10 11.6
OKC Ostrava-Krasne 150.11 276 *e*PKIKP PKPbc 13 40 28.2 +1.2
OKC *e* 13 40 34.4
OKC *e*SS SS 14 03 25.5 +6.5
OKC MLR MLR
comp=Z,3µm,21.8s,MS6.0
OKC Ostrava-Krasne 150.11 276 *e*PKPbc PKPbc 13 40 28.2 +1.2
OKC *e*PKPab PKPab 13 40 34.4 +1.3
OKC *e*SS SS 14 03 25.5 +6.5
OKC *e*SKSSKS 14 10 11.6
OKC AMS AMS 14 55 00.0
comp=Z,3µm,21.8s,MS6.0
CONA Conrad Observa 150.18 271 ⇑*i*pPKPdf pPKPdf 13 40 25.6 -2.6
comp=Z,61nm,1.1s,SNR=8.1
APA Apatity 150.20 315 ⇑*i*PKIKP PKPbc 13 40 30.0 +3.3
APA *e*SPP 13 57 06.0
APA pmax pmax
comp=Z,200nm,1.5s
RAC Raciborz 150.22 276 *e*PKPdf PKPbc 13 40 27.7 +0.4
RAC LR LR
comp=Z,5µm,19.2s,MS6.3
PGF Pioggiola 150.23 257 *e*PKIKP PKPbc 13 40 27.9 +0.4
comp=Z,31nm,0.9s
FNVD Fontana Vidola 150.25 261 PKP PKPab 13 40 34.6 +0.7
NCB Newcomb 150.38 100 PFAKE 13 40 40.0 +17
NCB LR LR
comp=Z,8µm,20.0s,MS6.5
MORC Moravsky Berou 150.39 275 P PKPbc 13 40 27.8 +0.1
MORC Moravsky Berou 150.39 275 *e*PKIKP PKPdf 13 40 23.1 +0.7
MORC Moravsky Berou 150.39 275 ⇑*i*P PKPdf 13 40 25.0 +2.6
GMNA Gemona 150.54 266 PKP PKPbc 13 40 31.1 +2.9
PTCC Patocco-Chiusa 150.56 267 PKP PKPdf 13 40 26.2 +3.4
VRAC Vranov 150.62 274 P PKPbc 13 40 28.6 +0.4
VRAC Vranov 150.62 274 ⇑*i*P PKPbc 13 40 28.2 -0.1
VLC Villacollemand 150.63 260 PKP PKPbc 13 40 33.7 +5.2
LONY Lake Ozonia 150.63 98 PFAKE 13 40 40.0 +17
LONY LR LR
comp=Z,6µm,21.0s,MS6.3
MSNY Massena 150.74 98 *e*PKPbc PKPbc 13 40 30.7 +2.0
MSNY *e*PKPab PKPab 13 40 37.4 +1.5
WES Weston 150.77 105 PFAKE 13 40 40.0 +17
WES LR LR
comp=Z,5µm,20.0s,MS6.3
MOA Molln 150.98 270 ⇑*i*P pPKPdf 13 40 27.9 -1.5
comp=Z,94nm,1.2s,SNR=8.8
MOA Molln 150.98 270 ⇑*i*pPKPdf pPKPdf 13 40 27.9 -1.5
comp=Z,94nm,1.2s,SNR=8.8
KBA Koelnbreinsper 150.99 268 ⇑*i*P PKPdf 13 40 23.5 +0.1
comp=Z,127nm,1.2s,SNR=8.9
TREC Trest 151.20 273 *e*PKIKP PKPbc 13 40 29.5 -0.1
TREC *e* 13 40 38.2
TREC *e*SS SS 14 03 38.4 +7.2
TREC MLR MLR
comp=Z,5µm,22.4s,MS6.2
TREC Trest 151.20 273 *e*PKPbc PKPbc 13 40 29.5 -0.1
TREC *e*PKPab PKPab 13 40 38.2 +0.6
TREC *e*SS SS 14 03 38.4 +7.2
TREC *ex* x 14 10 23.1
TREC AMS AMS 14 59 10.0
comp=Z,5µm,22.4s,MS6.2
ABTA Abfaltersbach 151.22 266 ⇑*i*pPKPdf pPKPdf 13 40 27.0 -2.8
comp=Z,54nm,0.9s,SNR=6.9
CTI Castel Tesino 151.23 264 PKP PKPbc 13 40 30.1 +0.3
ETOS Mallorca 151.26 246 PKP PKPab 13 40 37.4 -0.8
CART Cartagena 151.30 238 *e*PKPbc PKPbc 13 40 32.8 +2.5
DPC Dobruska-Polom 151.37 275 *e*PKIKP PKPbc 13 40 30.4 +0.4
DPC *e* 13 40 38.9
DPC *e*SS SS 14 03 42.6 +10
DPC MLR MLR
comp=Z,4µm,23.0s,MS6.2
DPC Dobruska-Polom 151.37 275 *e*PKPbc PKPbc 13 40 30.4 +0.4
DPC *e*PKPab PKPab 13 40 38.9 +0.6
DPC *e*SS SS 14 03 42.6 +10
DPC *e*SKSSKS 14 10 01.5
DPC AMS AMS 14 58 20.0
comp=Z,4µm,23.0s,MS6.2
EIBI Ibiza 151.38 243 PKP PKPbc 13 40 35.6 +5.2
FIA1 FINESS Array S 151.48 302 *e*PKPdf PKPdf 13 40 24.5 +0.8
FIA1 *e*PKPab PKPab 13 40 38.1 -0.4
FINES FINESS Array B 151.48 302 PKPbc PKPbc 13 40 29.6 -0.2
comp=Z,15nm,1.0s,baz=104,slow=6.1,SNR=21
BOB Bobbio (Coli) 151.54 260 PKP PKPbc 13 40 30.2 -0.4
EBER Berja 151.56 234 PKP PKPbc 13 40 31.2 +0.3
KAF Kangasniemi 151.60 303 *e*pkp PKPdf 13 40 27.9 +4.0
EMUR La Murta 151.62 238 PKP PKPbc 13 40 36.4 +5.4
UPC Upice 151.62 276 *e*PKPbc PKPbc 13 40 31.2 +0.7
KSP Ksiaz 151.66 276 *e*PKP PKPbc 13 40 34.7 +4.1
KSP *e*PKiKP PKiKP 13 40 39.2 +8.1
KSP *e*PKPab PKPab 13 40 42.0 +2.5
KSP LMZ 14 42 09.2
comp=Z,7µm,29.1s
KSP Ksiaz 151.66 276 *e*PKP PKPbc 13 40 34.6 +4.0
KSP *e* 13 40 39.3
KSP *e*SKKS SKKSac 13 50 48.0 -12
KSP *e* 13 54 14.0
KSP *e*PPS 13 57 04.0
KSP *e*SS SS 14 03 40.0 +3.8
KSP LR LR
comp=Z,12µm,23.8s,MS6.6
KSP Ksiaz 151.66 276 *e*PKIKP PKPbc 13 40 34.6 +4.0
KSP *e* 13 40 39.3
KSP *e*SS SS 14 03 40.0 +3.8
KSP MLR MLR
comp=Z,12µm,23.8s,MS6.6
RES Resolute Bay 151.71 30 *e*PKPdf PKPdf 13 40 24.9 +1.2
APPI Appiano 151.73 265 PKP PKPab 13 40 42.5 +2.6
LBNH Lisbon 151.77 102 PFAKE 13 40 40.0 +15
LBNH LR LR
comp=Z,5µm,20.0s,MS6.4
EGUA Guajares 151.80 233 PKP PKPbc 13 40 35.6 +4.1
FIN Finale Ligure 151.80 258 PKP PKPdf 13 40 28.8 +4.0
QLNO Quiliano 151.81 258 PKP PKPbc 13 40 32.1 +0.9
MABI Malga Bissina 151.84 263 PKP pPKPbc 13 40 38.2 +1.0
EBEN Beniarda 151.86 240 PKP PKPbc 13 40 35.4 +3.9
GEC2 GERESS Array S 151.88 271 *e*PKPbc PKPbc 13 40 31.2 0.0
GEC2 *e*PKPab PKPab 13 40 39.9 -0.6
GERES GERESS Array B 151.88 271 PKPbc PKPbc 13 40 30.1 -1.1
comp=Z,7.0nm,0.6s,baz=132,slow=2.0,SNR=14
SBF Sospel 151.97 257 *e*PKIKP PKPbc 13 40 30.1 -1.5
comp=Z,48nm,0.9s
LUCF Luceram 152.03 257 PKP PKPbc 13 40 34.4 +2.7
ERON Agron 152.06 233 PKP PKPbc 13 40 36.3 +4.3
AUTN L'Aution 152.06 257 PKP PKPbc 13 40 34.9 +3.1
LMR La Mourre 152.07 255 *e*PKIKP PKPbc 13 40 30.6 -1.2
EMIJ Mijas 152.08 231 PKP PKPbc 13 40 34.8 +2.8
PRU Pruhonice 152.10 273 *e*PKIKP PKPbc 13 40 34.2 +2.5
PRU *e* 13 40 39.6
PRU *e*SS SS 14 03 51.0 +10
PRU MLR MLR
comp=Z,4µm,23.3s,MS6.2
PRU Pruhonice 152.10 273 *e*PKPbc PKPbc 13 40 34.2 +2.5
PRU *e*PKPab PKPab 13 40 39.6 -1.8
PRU *e*SS SS 14 03 51.8 +11
PRU *ex* x 14 10 36.7
PRU AMS AMS 14 58 30.0
comp=Z,4µm,23.3s,MS6.2
KHC Kasperske Hory 152.12 271 *e*PKIKP PKPdf 13 40 30.0 +4.9
KHC *e* 13 40 34.4
KHC *e* 13 40 43.4
KHC *e*SS SS 14 03 51.8 +11
KHC MLR MLR
comp=Z,5µm,19.8s,MS6.3
KHC Kasperske Hory 152.12 271 *e*PKPdf PKPdf 13 40 30.0 +4.9
KHC *e*PKPbc PKPbc 13 40 34.4 +2.7
KHC *e*PKPab PKPab 13 40 43.4 +1.9
KHC *e*SS SS 14 03 51.8 +11
KHC *ex* x 14 10 35.3
KHC AMS AMS 14 56 50.0
comp=Z,5µm,19.8s,MS6.3
MVIF Mont Vial 152.13 257 PKP PKPbc 13 40 37.6 +5.7
FRF La Foret Royal 152.16 255 *e*PKIKP PKPdf 13 40 30.7 +5.4
TOUF Mont Tournerai 152.17 257 PKP PKPbc 13 40 34.7 +2.7
CALN Calern 152.17 256 PKP PKPbc 13 40 37.8 +5.8
ECOG Cogollos-Vega 152.17 234 PKP PKPbc 13 40 37.0 +4.8
PRA Prague 152.21 274 PKPab PKPab 13 40 40.0 -1.8
ELOJ Sierra Loja 152.31 233 PKP PKPbc 13 40 34.9 +2.3
FETA Feichten 152.34 265 ⇑*i*PKPdf PKPdf 13 40 25.8 +0.3
comp=Z,180nm,1.3s,SNR=16
PVCC Panska Ves 152.39 274 *e*PKIKP PKPdf 13 40 31.1 +5.7
PVCC *e* 13 40 41.0
PVCC *e*SS SS 14 03 45.6 +1.3
PVCC MLR MLR
comp=Z,5µm,23.5s,MS6.2
PVCC Panska Ves 152.39 274 *e*PKPbc PKPbc 13 40 31.1 -1.2
PVCC *e*PKPab PKPab 13 40 41.0 -1.6
PVCC *e*SS SS 14 03 45.6 +1.3
PVCC *ex* x 14 10 37.5

PVCC AMS AMS 14 58 00.0
comp=Z,5μm,23.5s,MS6.2
EQES Quesada 152.40 235 PKP PKPbc 13 40 35.6 +2.9
ETOB Tobarra 152.41 238 PKP PKPbc 13 40 36.8 +4.0
GKP Gorka Klasztor 152.44 281 *e*PKP PKPbc 13 40 32.9 +0.6
GKP *e*PKiKP PKiKP 13 40 37.7 +5.1
GKP LMZ 14 43 06.8
comp=Z,5μm,25.5s
BERF Bertagne 152.47 254 PKP PKPbc 13 40 37.9 +5.2
TAVF Tavernes 152.50 255 PKP PKPbc 13 40 38.1 +5.3
DOI San Damiano 152.51 258 PKP PKPbc 13 40 34.9 +2.1
PUYF Puyloubier 152.62 254 PKP PKPbc 13 40 38.1 +5.1
GELF Grande-Etoile 152.66 254 PKP PKPbc 13 40 38.4 +5.3
ELUQ Luque 152.71 233 PKP PKPbc 13 40 36.8 +3.4
SURF Saint Ours 152.72 257 PKP PKPbc 13 40 33.1 -0.1
TUE Stuetta 152.72 263 PKP PKPbc 13 40 32.8 -0.4
ESPR Espera 152.78 230 PKP PKPbc 13 40 37.9 +4.3
EVIA Vianos 152.84 237 PKP PKPbc 13 40 35.5 +1.9
VILF Villemus 152.84 255 PKP PKPbc 13 40 40.3 +6.8
STOF St-Etienne Org 152.85 255 PKP PKPbc 13 40 38.1 +4.6
TREF Trevaresse 152.85 254 PKP PKPab 13 40 42.6 -2.1
KEV Kevo 152.86 319 *e*PKP PKPbc 13 40 34.5 +1.7
KEV LR LR
comp=Z,7μm,20.0s,MS6.5
MBDF Montbardon 152.91 257 *e*PKIKP PKPdf 13 40 31.6 +5.2
comp=Z,24nm,0.9s
ECHE Chera 152.91 240 PKP PKPbc 13 40 36.4 +2.6
BRG Berggiesshubel 152.92 275 *e*PKP PKPbc 13 40 38.1 +4.6
BRG *i* 13 40 52.3
BRG SS SS 14 03 51.0 +1.0
BRG LR LR
comp=Z,3μm,20.6s,MS6.2
BRG Berggiesshubel 152.92 275 *e*PKP PKPbc 13 40 38.1 +4.6
comp=Z,17nm,1.2s
BRG *i* 13 40 52.3
comp=Z,126nm,1.5s
BRG SS SS 14 03 51.0 +1.0
BRG
comp=N,3μm,23.8s
BRG
comp=E,2μm,18.6s
BRG
comp=Z,6μm,20.6s
SMRF Simiane la Rot 153.00 255 *e*PKIKP PKPdf 13 40 31.4 +4.8
comp=Z,20nm,1.2s
EBAN Banos Encina 153.01 235 PKP PKPbc 13 40 36.9 +2.8
PRAF Pradon 153.09 254 PKP PKPbc 13 40 39.5 +5.4
BNI Bardonecchia 153.18 258 *e*PKPdf PKPdf 13 40 27.6 +0.8
BNI PKP pPKPbc 13 40 42.4 +2.2
EMOS Mosqueruela 153.29 242 PKP pPKPbc 13 40 43.1 +2.5
EPOB Poblet 153.32 246 PKP pPKPbc 13 40 41.6 +0.9
EADA Adamuz 153.35 234 PKP PKPbc 13 40 34.2 -0.7
ARCES ARCESS Array B 153.37 319 PKPbc PKPbc 13 40 33.4 -0.5
comp=Z,2.6nm,0.8s,baz=29,slow=2.8,SNR=4.7
ARE0 ARCESS Array S 153.37 319 *e*PKPdf PKPdf 13 40 28.2 +1.9
ERTA Horta de San J 153.38 244 PKP PKPbc 13 40 38.3 +3.5
LPG La Plagne 153.44 259 *e*PKIKP PKPdf 13 40 32.6 +5.5
LPL La Plagne 153.46 259 *e*PKIKP PKPdf 13 40 32.9 +5.7
ORIF Oris-en-Rattie 153.50 257 *e*PKIKP PKPdf 13 40 32.5 +5.3
ORIF *e*MLR MLR
comp=Z,14μm,20.8s,MS6.5
OG26 St.-Nazaire-De 153.56 256 PKP PKPbc 13 40 39.7 +4.6
ECAB El Cabril 153.63 232 PKP PKPbc 13 40 37.8 +2.4
CLL Collm 153.65 275 *e*PKP 13 40 35.0
CLL *i* PKP 13 40 42.4
CLL Collm 153.65 275 *e*PKIKP 13 40 35.0
CLL *i* 13 40 42.4
CLL *i* 13 40 55.2
CLL pmax pmax
comp=Z,47nm,1.3s
CLL pmax pmax
comp=Z,114nm,1.3s
CLL MLR MLR
comp=Z,6μm,19.9s,MS6.4
CLL Collm 153.65 275 *e*PKPdf 13 40 35.2
CLL *e*PKPbc 13 40 42.3
CLL *e*PKPab 13 40 54.9
CLL *e*PP PP 13 44 31.0 +8.1
CLL *e*PPP 13 47 52.8
CLL *e*SKKSac SKKSac 13 51 19.1 +8.2
CLL *e*PSKS 13 54 44.3
CLL *e*PPS 13 57 34.3
CLL *e*SS SS 14 04 01.7 +3.6
CLL *e*SSS 14 09 55.0
CLL *e*LR LR 14 34 43.0
CLL Collm 153.65 275 *e*(sPKPdf) 13 40 35.0
CLL *e*PKPbc PKPbc 13 40 38.0 +3.0
CLL *i* (sPKPbc) 13 40 42.4
comp=Z,47nm,1.3s
CLL *i* (sPKPab) 13 40 55.2
comp=Z,114nm,1.3s
CLL *i* x x 13 40 59.6
CLL *e*PP PP 13 44 32.0 +9.1
CLL *e*PPP 13 47 56.0
CLL *e*SKKSac SKKSac 13 51 19.0 +8.1
CLL *e*x x 13 52 07.0
CLL *e*x x 13 53 45.0
CLL *e*PSKS 13 54 50.0
CLL *e*PPS 13 57 36.0
CLL *e*x x 13 59 30.0
CLL *e*SS SS 14 03 56.0 -2.1
CLL *e*PSPS 14 05 26.0
CLL *e*(SSS) 14 09 30.0
CLL *e*x x 14 10 49.0
CLL LmV 15 06 00.0
comp=Z,6μm,19.9s
VALF Valcebollere 153.66 248 PKP 13 40 44.4
GRA1 Grafenberg Arr 153.70 270 *e*PKP PKPdf 13 40 32.8 +5.4
GRA1 *e*PP PP 13 44 27.8 +4.6
GRA1 *e*SS SS 14 04 00.2 +1.6
GRA1 LR LR
comp=Z,5μm,19.7s,MS6.3
GRF Grafenberg Arr 153.70 270 *e*PKP PKPdf 13 40 32.8 +5.4
GRF *e*PP PP 13 44 27.8 +4.6
GRF *e*SS SS 14 04 00.2 +1.6
GRF *e*L 15 06 53.7
comp=Z,5μm,19.7s
GRFO Grafenberg 153.70 270 *e*PKPdf PKPdf 13 40 28.6 +1.2
PKME Peaks-Kenny Pk 153.84 103 PFAKE 13 40 40.0 +12
PKME LR LR
comp=Z,10μm,21.0s,MS6.6
RUE Ruedersdorf 153.85 278 *e*PKPbc PKPbc 13 40 37.2 +1.8
EMIN Mina Concepcio 153.89 230 PKP PKPbc 13 40 38.4 +2.4
PBDV Barranco-do-Ve 153.94 227 *e*LQ 14 21 56.3
PBDV Barranco-do-Ve 153.94 227 *e*LR LR 14 33 04.9
comp=Z,8μm,22.0s
LASF Ste Croix 153.95 253 *e*PKIKP PKPdf 13 40 33.2 +5.3
comp=Z,22nm,1.2s
PVAQ Vaqueiros 153.99 228 *e*LQ 14 21 56.7
PVAQ Vaqueiros 153.99 228 *e*LR LR 14 32 53.5
comp=Z,7μm,20.2s
EGRO El Granado 154.01 228 PKP PKPbc 13 40 40.5 +4.3
MOX Moxa 154.03 272 *e*PKP PKPbc 13 40 39.7 +3.8
comp=Z,100nm,1.8s
MOX
comp=Z,4μm,23.0s
MOX Moxa 154.03 272 *e*PKIKP PKPbc 13 40 39.7 +3.8
MOX pmax pmax
comp=Z,100nm,1.8s
MOX MLR MLR
comp=Z,4μm,23.0s,MS6.2
VIVF Saint-Julien-l 154.08 255 *e*PKIKP PKPdf 13 40 33.3 +5.2
PFVI Vila Bisbo 154.19 226 *e*LQ 14 21 56.1
PFVI Vila Bisbo 154.19 226 *e*LR LR 14 33 17.9
comp=Z,6μm,30.9s
MTLF Montolieu 154.25 250 *e*PKIKP PKPdf 13 40 33.4 +5.0
comp=Z,14nm,1.0s
MORF Marmelete 154.27 226 *e*LR LR 14 34 02.0
comp=Z,7μm,14.6s
ESDC Sonseca Array 154.33 236 PKP PKPbc 13 40 38.8 +1.9
ESDC Sonseca Array 154.33 236 PKPbc PKPbc 13 40 38.8 +1.9
comp=Z,4.5nm,0.8s,baz=117,slow=0.7,SNR=5.4
ESLA Sonseca Array 154.33 236 *e*PKPdf PKPdf 13 40 29.9 +1.3
ESLA LR LR
comp=Z,39μm,22.0s,MS7.2
ESAC San Caprasio 154.35 244 PKP PKPbc 13 40 38.0 +1.1
PBAR Barrancos 154.38 230 *e*PKPab PKPab 13 40 54.3 +3.0
PBAR Barrancos 154.38 230 *e*LQ 14 27 04.8
PBAR *e*LR LR 14 32 55.4
comp=Z,6μm,18.7s
ETOR Torete 154.39 241 PKP PKPbc 13 40 36.6 -0.4
PAB San Pablo 154.40 236 *e*PKPdf PKPdf 13 40 29.6 +0.9
PAB *e*PKPab PKPab 13 40 51.5 +0.1
PAB LR LR
comp=Z,5μm,22.0s,MS6.3
SPB4 Spitsbergen Ar 154.42 339 *e*PKPdf PKPdf 13 40 28.6 +1.0
BFO Black Forest 154.43 265 *e*PKPdf PKPdf 13 40 29.3 +0.9
BFO *e*PKPab PKPab 13 40 50.2 -1.1
BFO LR LR
comp=Z,6μm,22.0s,MS6.3
BSD Bornholm Skovb 154.51 284 *e*PKIKP pPKPdf 13 40 35.4 +1.1
BSD *i* 14 04 11.8
BSD pmax pmax
comp=Z,77nm,1.3s
BSD MLR MLR
comp=Z,3μm,21.0s,MS6.1
BSD Bornholm Skovb 154.51 284 *i* P pPKPdf 13 40 35.4 +1.1
comp=Z,77nm,1.3s
BSD *i* 14 04 11.8
BSD
comp=Z,3μm,21.0s
CABF La Chapelle 154.52 260 *e*PKIKP PKPdf 13 40 34.3 +5.7
comp=Z,8.3nm,0.7s
LOMF Lomont 154.61 262 PKP PKPbc 13 40 41.7 +4.5
EBIE Bielsa 154.79 246 PKP PKPbc 13 40 41.2 +3.4
KBS Kingsbay 154.87 342 *e*P PKPbc 13 40 36.4 -0.5
KBS *e*SS SS 14 04 14.2 +4.0
KBS AMS AMS 14 56 16.9
comp=Z,3μm,19.1s,MS6.1
EBAD Badajoz 154.87 231 PKP PKPdf 13 40 35.0 +5.7
ECH Echery 154.98 264 PKP PKPdf 13 40 33.0 +3.8
CDF Champ du Feu 155.03 264 *e*PKIKP PKPdf 13 40 34.5 +5.2
EVO Evora 155.08 229 *e*PKIKP PKPdf 13 40 34.6 +4.9
comp=Z,7.4nm,0.7s
EVO *e*MLR MLR
comp=Z,8μm,22.5s,MS6.2
LANF Langenberg 155.10 266 PKP PKPdf 13 40 37.7 +8.4
PESTR Estremoz 155.20 230 *e*LQ 14 26 03.8
PESTR *e*LR LR 14 33 24.6
comp=Z,7μm,22.6s
GUD Guadarrama 155.21 237 PKP PKPdf 13 40 33.2 +3.4
CAF Calviac 155.46 252 *e*PKIKP PKPdf 13 40 34.9 +4.9
TRO Tromso 155.68 319 *e*SS SS 14 04 24.0 +4.6
TRO AMS AMS 14 55 38.1
comp=Z,5μm,21.2s,MS6.3
SJPF Ste Jean 155.77 245 *e*PKIKP PKPdf 13 40 35.2 +4.8
comp=Z,15nm,1.0s
PMAFR Mafra 155.95 227 *e*LQ 14 24 49.6
PMAFR *e*LR LR 14 33 52.5
comp=Z,8μm,25.8s
RJF Les Rejaudoux 156.00 252 *e*PKIKP PKPdf 13 40 36.0 +5.3
RJF *e*MLR MLR
comp=Z,9μm,19.8s,MS6.3
RJF Les Rejaudoux 156.00 252 *e*PKIKP PKPdf 13 40 36.0 +5.3
RJF MLR MLR
comp=Z,9μm,19.8s,MS6.6
AVF Avril sur Loir 156.07 257 *e*PKIKP PKPdf 13 40 35.7 +5.0
LOR Lormes 156.11 259 *e*PKIKP PKPdf 13 40 35.9 +5.1
comp=Z,14nm,0.8s
LOR *e*MLR MLR
comp=Z,7μm,21.8s,MS6.2
LOR Lormes 156.11 259 *e*PKIKP PKPdf 13 40 35.9 +5.1
LOR MLR MLR
comp=Z,7μm,21.8s,MS6.5
SSF Saint Saulge 156.16 258 *e*PKIKP PKPdf 13 40 36.0 +5.2
comp=Z,7.3nm,0.8s
MEZF Maizieres J'vi 156.26 262 *e*PKIKP PKPdf 13 40 36.2 +5.3
TCF Toulx Ste Croi 156.32 255 *e*PKIKP PKPdf 13 40 36.4 +5.3
comp=Z,18nm,1.2s
MTE Manteigas 156.48 232 *e*LQ 14 24 37.0
MTE Manteigas 156.48 232 *e*LR LR 14 34 54.4
comp=Z,10μm,23.6s
MVO Moncorvo 156.89 234 *e*LQ 14 24 42.0
MVO Moncorvo 156.89 234 *e*LR LR 14 35 02.1
comp=Z,7μm,23.6s
ELAN Lanestosa 156.91 242 PKP PKPdf 13 40 35.4 +3.5
GIVF Givet 157.33 265 *e*PKIKP PKPdf 13 40 37.5 +5.3
BAIF Baives 157.63 265 *e*PKIKP PKPdf 13 40 37.7 +5.1
MFF Saint Martin d 157.74 253 *e*PKIKP PKPdf 13 40 38.0 +5.1
MUD Monsted U'grnd 158.02 283 *e*PKIKP PKPdf 13 40 40.4 +7.5
MUD MLR MLR
comp=Z,5μm,20.0s,MS6.3
MUD Monsted U'grnd 158.02 283 *i* P PKPdf 13 40 40.4 +7.5
MUD
comp=Z,5μm,20.0s
NB2 NORSAR Subarra158.30 296 PKP PKPab 13 41 13.5 +5.9
comp=Z,34nm,1.4s,baz=101,slow=4.4
NB2 NORSAR Subarra158.30 296 PKP PKPab 13 41 13.5 +5.9
baz=101,slow=4.4
NAO01 NORSAR Array S 158.41 296 PFAKE 13 40 50.0 +17
NAO01 LR LR
comp=Z,6μm,20.0s,MS6.4
KONO Kongsberg 158.78 292 *e* PKPdf 13 40 39.7 +6.0
KONO *e*SS SS 14 04 54.8 +1.8
KONO AMS AMS 14 52 06.5
comp=Z,5μm,20.8s,MS6.3
MENF Mencas 159.00 264 PKP 13 40 50.0
LDF La Druitiere 159.02 257 *e*PKIKP PKPdf 13 40 39.0 +4.7
GRR Gorron 159.27 256 *e*PKIKP PKPdf 13 40 39.3 +4.7
SCHQ Schefferville 160.51 84 PFAKE 13 40 50.0 +14
SCHQ LR LR
comp=Z,14μm,22.0s
DAG Danmarks Havn 160.65 351 *e*PKIKP PKPdf 13 40 37.0 +1.6
DAG MLR MLR
comp=E,4μm,23.0s
DAG MLR MLR
comp=Z,8μm,23.0s
DAG Danmarks Havn 160.65 351 *i* P PKPdf 13 40 37.0 +1.6
DAG
comp=Z,8μm,23.0s
JMIC Jan Mayen 163.80 332 *e* PKPdf 13 40 46.0 +7.4
JMIC AMS AMS 14 57 42.9
comp=Z,3μm,20.3s
ESK Eskdalemuir 164.11 272 PFAKE 13 40 50.0 +11
ESK LR LR
comp=Z,6μm,20.0s

DDA ***16*** *14:04:42.7, 3848N×3450E, h9km±3km, Md3.4*
CSEM ***16*** *14:04:44.3±0.1, 3875N×3519E, h2km, MD3.4, Error ellipse: s-maj=1.9km s-min=1.5km az=70.0*
ISK ***16*** *14:04:44.0, 3874N×3520E, h5km, MD3.4*
ISCJB ***16*** *14:04:45.0±0.7, 3875N±003×35.18E±004, h2km±6km, Error ellipse: s-maj=5.5km s-min=4.2km az=135.3*
ISC 16 14:04:45.6±0.7, 3874N±003×3517E±004, h2km±6km, n22, σ0§71/27, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AVNT	**Avonos**	**0.25**	**279**	*i* P	**Pg**	**14 04 50.4**	**0.0**
AVNT				*i* S	**Sg**	**14 04 54.3**	**+0.7**
BNN	**Bunyan**	**0.54**	**78**	*e*PG	**Pg**	**14 04 54.9**	**-1.1**
BNN				*e*SG	**Sg**	**14 05 03.6**	**+0.6**
NIG	**Nigde**	**0.77**	**215**	*e*PG	**Pg**	**14 04 59.7**	**-0.7**
YOZ	**Yozgat**	**0.90**	**7**	*e*PG	**Pg**	**14 05 02.4**	**-0.6**
CDAG	**Cicekdag**	**1.08**	**325**	*i* P	**Pg**	**14 05 02.4**	**-3.8**
CDAG				*i* S	**Sg**	**14 05 19.1**	**-1.1**
KAMT	**Kaman**	**1.29**	**299**	*e*PN	**Pn**	**14 05 10.3**	**-0.4**
KOZT	**Kozan**	**1.36**	**157**	*e*PN	**Pn**	**14 05 11.3**	**-0.3**
KARA	**Karaisali**	**1.48**	**184**	*e*PN	**Pn**	**14 05 12.5**	**-0.8**
ANDN	**Andirin**	**1.49**	**141**	*i* P	**Pn**	**14 05 12.1**	**-1.2**
ANDN				*i* S	**Sg**	**14 05 34.8**	**+1.5**
CORM	**Corum**	**1.49**	**344**	*e*PN	**Pn**	**14 05 13.5**	**+0.1**
CEYT	**Ceyhan**	**1.79**	**165**	*e*PN	**Pn**	**14 05 17.1**	**-0.4**
KMRS	**Kahramanmaras**	**1.84**	**132**	*e*PN	**Pn**	**14 05 18.0**	**-0.2**
SVSK	**Karacayir**	**1.84**	**50**	*e*PN	**Pn**	**14 05 17.8**	**-0.4**
CTKT	**Corum**	**1.90**	**351**	*i* P	**Pn**	**14 05 19.7**	**+0.7**
CTKT				*i* S	**Sg**	**14 05 47.8**	**+1.1**
MERS	**Mersin**	**1.94**	**195**	*e*PN	**Pn**	**14 05 19.9**	**+0.3**
ANTO	**Ankara**	**2.16**	**302**	*e*PN	**Pn**	**14 05 23.4**	**+0.8**
LOD	**Lodumlu**	**2.19**	**302**	*e*PN	**Pn**	**14 05 23.2**	**+0.2**
GAZ	**Gaziantep**	**2.25**	**134**	*e*PN	**Pn**	**14 05 23.7**	**-0.1**
KONT	**Konya--Tatoy**	**2.35**	**251**	*e*PN	**Pn**	**14 05 25.3**	**+0.1**
MALT	**Malatya**	**2.59**	**99**	*e*PN	**Pn**	**14 05 29.1**	**+0.6**
IKL	**Isikli**	**2.76**	**206**	*e*PN	**Pn**	**14 05 31.6**	**+0.8**
DIKM	**Dikmen**	**2.91**	**1**	*e*PN	**Pn**	**14 05 32.9**	**+0.1**

MAN 16 14:07:13, 1697N×12258E, h6km, mb3.7, ML2.5, MS2.0, Luzon

ISCJB ***16*** *14:39:16.7±0.5, 4744N±009×1483E±02, h387km±7km, mb3.4/10, Error ellipse: s-maj=20.3km s-min=9.5km az=38.7*

MOS ***16*** *14:39:16.6±1.2, 4764N×14809E, h386km, mb3.7/6, Error ellipse: s-maj=42.0km s-min=14.1km az=63.1*
NEIC ***16*** *14:39:18.2±1.0, 4778N×14767E, h392km±13km, MG3.5(JMA), Error ellipse: s-maj=27.0km s-min=12.6km az=120.0*
IDC ***16*** *14:39:18.9±1.6, 4783N×14756E, h398km±18km, mb2.9/7, mb1 3.2/10, mb1mx3.0/23, mbtmp2.9/10, Error ellipse: s-maj=31.3km s-min=13.8km az=123.0*
ISC 16 14:39:17.5±0.5, 4744N±010×1483E±02, h379km±7km, n41, σ1§16/48, mb3.5/10, 1C-1D, Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YSS	**Yuzh-Sakhalins**	**3.81**	**265**	*e*P	**Pn**	**14 40 25.7**	**-0.7**
YSS	**Yuzh-Sakhalins**	**3.81**	**265**	‖ *i*PN	**Pn**	**14 40 25.8**	**-0.6**
YSS				pmax	pmax		
comp=Z,80nm,0.9s							
YSS				pmax	pmax		
comp=N,50nm,0.8s							
YSS				pmax	pmax		
comp=E,50nm,0.9s							
JRA	**Rausu**	**4.15**	**214**	P	**Pn**	**14 40 32.6**	**+2.8**
NEM2	**Nemuro 2**	**4.45**	**205**	P	**Pn**	**14 40 32.7**	**-0.1**
NEM2				*e*S	**S**	**14 41 32.2**	**-1.6**
JTKR	**Abashiri--Toko**	**4.64**	**223**	P	**Pn**	**14 40 35.9**	**+1.2**
JSE	**Soyaes**	**4.68**	**240**	P	**Pn**	**14 40 35.6**	**+0.5**
JWK2	**Keihoku**	**4.92**	**247**	P	**Pn**	**14 40 38.4**	**+0.8**
JAK	**Akkeshi**	**5.12**	**211**	P	**Pn**	**14 40 39.5**	**-0.3**
JAK				*e*S	**S**	**14 41 43.4**	**-3.1**
ASAJ	**Asahikawa**	**5.19**	**232**	PN	**Pn**	**14 40 41.6**	**+1.1**
ASAJ				S	**S**	**14 41 49.1**	**+1.2**
ASAJ				pmax	pmax		
comp=Z,2.0nm,0.3s							
ASAJ	**Asahikawa**	**5.19**	**232**	P	**Pn**	**14 40 41.6**	**+1.1**
comp=Z,2.3nm,0.3s,baz=57,slow=7.3,SNR=43							
ASAJ				S	**S**	**14 41 49.1**	**+1.2**
baz=18,slow=20,SNR=4.0							
JAR	**Ashorobuto**	**5.23**	**219**	P	**Pn**	**14 40 41.4**	**+0.5**
JKK2	**Kamakawa 2**	**5.28**	**230**	P	**Pn**	**14 40 42.6**	**+1.1**
JFR	**Furan**	**5.87**	**225**	P	**Pn**	**14 40 49.0**	**+1.1**
JCH	**Churui**	**5.96**	**218**	P	**Pn**	**14 40 48.1**	**-0.8**
JCH				*e*S	**S**	**14 41 58.3**	**-4.9**
SKR	**Severo-Kuril's**	**6.08**	**55**	*e*PN	**Pn**	**14 40 50.6**	**+0.6**
SKR				pmax	pmax		
comp=Z,100nm,0.9s							
SKR				pmax	pmax		
comp=N,40nm,0.4s							
SKR				pmax	pmax		
comp=E,80nm,0.9s							
JNBK	**Urakawa-nobuka**	**6.49**	**219**	P	**Pn**	**14 40 53.0**	**-1.8**
ERM	**Erimo**	**6.54**	**216**	*e*P	**Pn**	**14 40 55.5**	**+0.1**
comp=E,19nm,0.4s							
ERM	**Erimo**	**6.54**	**216**	*e*PN	**Pn**	**14 40 55.5**	**+0.1**
ERM				pmax	pmax		
comp=Z,19nm,0.4s							
JEW	**Eniwo**	**6.68**	**229**	P	**Pn**	**14 40 57.6**	**+0.7**
JKB	**Kayabe**	**7.59**	**226**	P	**Pn**	**14 41 05.7**	**-1.7**
JKB				*e*S	**S**	**14 42 28.9**	**-8.2**
JOT	**Ohata**	**7.97**	**223**	P	**Pn**	**14 41 11.0**	**-0.8**
JANG	**Nango**	**8.59**	**217**	P	**Pn**	**14 41 17.9**	**-1.1**
JOM	**Ohasama**	**9.45**	**215**	P	**Pn**	**14 41 29.2**	**+0.2**
MJAR	**Matsushiro Arr**	**13.21**	**218**	P	**P**	**14 42 12.3**	**+1.0**
comp=Z,0.4nm,0.3s,baz=17,slow=12,SNR=4.9							
KSRS	**Korea Array**	**18.00**	**244**	P	**P**	**14 43 01.3**	**-1.7**
comp=Z,0.2nm,0.3s,baz=50,slow=9.6,SNR=7.2							
BILL	**Bilibino**	**22.60**	**18**	*e*P	**P**	**14 43 43.0**	**-3.5**
BILL				pmax	pmax		
comp=Z,2.0nm,1.1s,mb3.3							
IMA2	**Indian Mountai**	**35.20**	**37**	*e*P	**P**	**14 45 36.4**	**-0.5**
INK	**Inuvik**	**42.83**	**32**	*e*P	**P**	**14 46 38.0**	**-1.3**
MKAR	**Makanchi Array**	**43.69**	**295**	P	**P**	**14 46 41.2**	**-5.2**
comp=Z,0.2nm,0.6s,mb2.4,baz=81,slow=7.2,SNR=3.3							
ARU	**Arti**	**52.25**	**315**	*d i*P	**P**	**14 47 57.1**	**+6.2**
ARU				*e*		14 49 01.2	
ARU				*e**PP	pP	14 49 12.2	+3.6
ARU				*e*		14 49 59.6	
ARU				*e*S	**S**	**14 54 54.4**	**+8.7**
ARU				*e*SS	SS	14 58 31.5	+3.0
ARU				pmax	pmax		
comp=Z,8.0nm,1.0s,mb4.0							
YKA	**Yellowknife Ar**	**52.31**	**36**	P	**P**	**14 47 50.3**	**-1.0**
YKA				pmax	pmax		
comp=Z,1.0nm,0.4s							
YKA	**Yellowknife Ar**	**52.31**	**36**	P	**P**	**14 47 50.3**	**-0.9**
comp=Z,0.8nm,0.4s,mb3.4,baz=303,slow=7.2,SNR=21							
OBN	**Obninsk**	**62.84**	**323**	*e*P	**P**	**14 49 03.7**	**-0.2**
OBN				pmax	pmax		
comp=Z,4.0nm,0.8s,mb4.0							
PDAR	**Pinedale Array**	**66.94**	**51**	P	**P**	**14 49 31.5**	**+1.2**
comp=Z,0.9nm,0.5s,mb3.7,baz=339,slow=1.0,SNR=8.3							
ULM	**Lac du Bonnet**	**68.09**	**39**	P	**P**	**14 49 36.0**	**-1.2**
comp=Z,0.4nm,0.4s,mb3.5,baz=324,slow=8.7,SNR=2.1							
WRA	**Warramunga Arr**	**68.23**	**194**	P	**P**	**14 49 38.9**	**+0.5**
WRA				pmax	pmax		
comp=Z,1.0nm,0.5s							
WRA	**Warramunga Arr**	**68.23**	**194**	P	**P**	**14 49 38.9**	**+0.5**
comp=Z,0.6nm,0.5s,mb3.5,baz=8.4,slow=6.5,SNR=15							
ASAR	**Alice Springs**	**71.95**	**194**	P	**P**	**14 50 02.4**	**+1.8**
comp=Z,0.3nm,0.7s,mb3.2,baz=10,slow=5.4,SNR=8.3							
TXAR	**Lajitas Array**	**79.96**	**57**	P	**P**	**14 50 46.9**	**+1.4**
TXAR	**Lajitas Array**	**79.96**	**57**	P	**P**	**14 50 46.9**	**+1.4**
TXAR				pmax	pmax		
comp=Z,1.0nm,0.6s							
TXAR	**Lajitas Array**	**79.96**	**57**	P	**P**	**14 50 46.9**	**+1.4**
comp=Z,0.5nm,0.6s,mb3.4,baz=295,slow=3.3,SNR=4.7							

BJI ***16*** *14:45:13.1, 19.10N×6470W, h10km, mB4.5*
NEIC ***16*** *14:45:13.2±0.4, 1909N×6466W, h10km, mb4.4/6, MD4.2(RSPR), MD4.1(TRN), Error ellipse: s-maj=10.6km s-min=8.6km az=40.0*
NEIC Felt [III] on Tortola, British Virgin Islands and at Yabucoa, Puerto Rico.
ISCJB ***16*** *14:45:16.5±0.8, 1908N±005×6468W±003, h46km±9km, mb4.3/16, Error ellipse: s-maj=8.7km s-min=5.2km az=9.5*
TRN ***16*** *14:45:18.0, 1969N×6353W, h35km, MD4.1*
IDC ***16*** *14:45:17.4±1.8, 1911N×6454W, h42km±18km, mb4.1/12, mb1 4.3/14, mb1mx4.1/24, mbtmp4.2/14, ML4.7/2, Error ellipse: s-maj=13.7km s-min=10.6km az=10.0*
ISC 16 14:45:16.8±1.8, 1915N±004×6466W±003, h29km±14km, n126, σ0§90/132, mb4.3/16, 22C-36D, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTP	**Monte Pirata**	**1.35**	**219**	*e*Pn	**Pn**	**14 45 34.7**	**-4.9**
MTP				*e*Sn	**Sn**	**14 45 51.0**	**-5.5**
CPD	**Cerro la Pandu**	**1.63**	**227**	*e*Pn	**Pn**	**14 45 41.1**	**-2.4**
CPD				*e*Sn	**Sn**	**14 45 59.9**	**-3.6**
SJG	**San Juan**	**1.75**	**234**	*e*Pn	**Pn**	**14 45 44.2**	**-0.9**
SJG				Sn	**Sn**	**14 46 04.5**	**-2.0**
SJG	**San Juan**	**1.75**	**234**	P	**Pn**	**14 45 44.3**	**-0.9**
240nm,0.3s,baz=52,slow=10,SNR=82							
SJG				S	**Sn**	**14 46 08.7**	**+2.2**
842nm,0.3s,baz=290,slow=18,SNR=22							
STMA	**St. Maarten, A**	**1.83**	**127**	*e*P	**Pn**	**14 45 45.7**	**-0.6**
STMA				*e*S	**Sn**	**14 46 07.3**	**-1.2**
SKI	**Saint Kitts**	**2.56**	**134**	*e*P	**Pn**	**14 45 58.1**	**+1.7**
SKI				*e*S	**Sn**	**14 46 26.5**	**-0.1**
SKTB	**Turtle Beach**	**2.73**	**135**	*e*P	**Pn**	**14 46 00.1**	**+1.4**
NVRH	**Round Hill, Ne**	**2.76**	**135**	*e*P	**Pn**	**14 46 00.1**	**+1.0**
NVRH				*e*S	**Sn**	**14 46 32.8**	**+1.4**
LZG	**Guadaloupe-1**	**4.06**	**137**	‖ *e*P	**Pn**	**14 46 16.6**	**-0.3**
SCG	**Saint Claude**	**4.20**	**137**	*e*P	**Pn**	**14 46 19.8**	**+0.9**
SCG				*e*S	**Sn**	**14 47 13.6**	**+6.6**
TBG	**Guadaloupe-3**	**4.36**	**138**	*e*P	**Pn**	**14 46 22.1**	**+1.1**
MGG	**Marie-Galante**	**4.52**	**135**	*e*P	**Pn**	**14 46 22.8**	**-0.5**
FDF	**Fort de France**	**5.52**	**142**	*e*P	**Pn**	**14 46 41.2**	**+4.2**
BIM	**Bigot**	**5.74**	**143**	*e*P	**Pn**	**14 46 39.2**	**-0.9**
SDDR	**Presa de Saban**	**6.28**	**270**	*e*Pn	**Pn**	**14 46 47.8**	**+0.4**
231nm,0.7s							
GRGR	**Grenville**	**7.55**	**157**	Pn	**Pn**	**14 47 05.5**	**+0.6**
PCRV	**Puerto La Cruz**	**8.92**	**180**	P	**Pn**	**14 47 23.1**	**-0.6**
8.2nm,0.3s,baz=7.4,slow=6.0,SNR=20							
PCRV				S	**Sn**	**14 49 01.3**	**-1.9**
4.8nm,0.3s,baz=302,slow=13,SNR=7.7							
MASC	**Masc**	**9.08**	**278**	*e*P	**Pn**	**14 47 23.2**	**-2.7**
MASC				*e*S	**Sn**	**14 49 02.4**	**-4.8**
comp=N,0.9nm,0.4s							
MASC				*e*			
comp=E,1.2nm,0.4s							
RCC	**Rio Carpintero**	**10.44**	**276**	*e*P	**Pn**	**14 47 40.8**	**-3.8**
RCC				*e*S	**Sn**	**14 49 27.5**	**-13**

comp=N,8.5nm,0.5s
RCC e
comp=E,13nm,0.3s
LMGC Las Mercedes 11.68 277 *e*P **Pn 14 47 58.3 -3.2**
LMGC *e*S **Sn 14 49 56.2 -15**
comp=N,38nm,1.2s
LMGC e
comp=E,60nm,1.4s
SDV Santo Domingo 11.73 210 *e*Pn **Pn 14 48 03.5 +1.3**
comp=E,60nm,0.8s
SDV Santo Domingo 11.73 210 P **Pn 14 48 04.0 +1.8**
comp=E,5.4nm,0.3s,baz=70,slow=10.0,SNR=27
SDV S **Sn 14 50 14.1 +1.8**
comp=E,4.9nm,0.3s,baz=344,slow=20,SNR=6.1
BBSR BB Station 13.17 360 *e*Pn **Pn 14 48 16.9 -4.9**
BBSR *e*Sn Sn 14 50 23.0 -24
ROSC El Rosal 17.05 215 P **Pn 14 49 13.8 +0.6**
ROSC El Rosal 17.05 215 P **Pn 14 49 16.3 +3.0**
comp=E,5.7nm,0.3s,baz=39,slow=3.7,SNR=11
NHSC New Hope 19.65 318 *e*P **Pn 14 49 50.5 +5.7**
COW Cow Castle Cre 20.16 318 *e*P **P 14 49 57.4 +8.6**
TEIG Tepich 22.27 277 P **P 14 50 12.3 +0.7**
comp=E,15nm,0.8s,mb4.5,baz=85,slow=11,SNR=3.9
TKL Tuckaleechee C 23.56 318 P Px 14 50 43.8
TKL S **S 14 54 47.4 +10**
comp=E,53nm,0.6s,baz=124,slow=13,SNR=63
comp=E,5.3nm,0.3s,baz=60,slow=20,SNR=4.5
SADO Sadowa 28.26 338 P **P 14 51 07.0 -0.4**
baz=162,slow=10
WMOK Wichita Mounta 33.96 304 *e*P **P 14 51 57.0 -0.7**
comp=E,2.3nm,0.6s,mb4.3
SIV San Ignacio 35.09 174 P **P 14 52 04.8 -2.8**
comp=E,11nm,0.8s,mb4.9,baz=7.3,slow=9.7,SNR=41
LPAZ La Paz 35.38 186 *e*P **P 14 52 09.7 -0.3**
comp=E,4.4nm,0.9s,mb4.4
LPAZ La Paz 35.38 186 P **P 14 52 10.1 +0.1**
comp=E,1.1nm,0.5s,mb4.0,baz=17,slow=5.7,SNR=4.2
SCHQ Schefferville 35.66 358 *e*P **P 14 52 11.5 -0.6**
comp=E,17nm,1.1s,mb4.9
SCHQ Schefferville 35.66 358 P **P 14 52 11.6 -0.5**
comp=E,6.6nm,0.8s,mb4.6,baz=182,slow=9.2,SNR=7.3
TXAR Lajitas Array 36.84 294 P **P 14 52 23.3 +0.8**
comp=E,1.6nm,0.7s,mb3.9,baz=110,slow=10,SNR=17
MNTX Cornudas Mount 38.63 297 *e*P **P 14 52 37.1 -0.5**
comp=E,2.4nm,0.8s,mb4.0
ULM Lac du Bonnet 39.74 329 P **P 14 52 45.4 -1.3**
comp=E,2.7nm,0.4s,mb4.3,baz=139,slow=8.8,SNR=7.9
SDCO Great Sand Dun 40.04 306 *e*P **P 14 52 49.4 +0.1**
comp=E,8.6nm,0.8s,mb4.5
BNM Barren Site 40.09 301 *e*P **P 14 52 50.4 +0.7**
PDAR Pinedale Array 44.47 312 P **P 14 53 25.6 +0.3**
comp=E,6.1nm,0.8s,mb4.4,baz=113,slow=9.1,SNR=46
PDAR PcP PcP 14 55 08.1 -0.4
comp=E,1.8nm,0.9s,baz=105,slow=6.8,SNR=3.9
X15A Humboldt 44.72 300 ⇓P **P 14 53 28.0 +0.5**
baz=45
X14A Yava 45.26 300 ⇓P **P 14 53 32.3 +0.5**
baz=45
TPAW Teton Pass 45.66 313 *e*P **P 14 53 35.4 +0.6**
comp=E,6.3nm,0.8s,mb4.6
X13A Yucca 46.04 300 ⇓P **P 14 53 38.9 +0.9**
baz=46
U13A Pakoon Wash 46.38 302 ⇓P **P 14 53 40.7 +0.1**
baz=46
QLMT Earthquake Lak 46.39 314 *e*P **P 14 53 40.8 +0.3**
EGMT Eagleton 46.40 319 ⇑P **P 14 53 40.5 0.0**
baz=46
S13A Holt Ranch, En 46.47 304 ⇑P **P 14 53 42.5 +1.2**
baz=47
N14A Grayback Hills 46.58 309 ⇑P **P 14 53 42.5 +0.4**
baz=47
M14A Sheep Mountain 46.85 309 ⇓P **P 14 53 44.3 +0.1**
baz=47
P13A Bates Ranch, G 46.92 306 ⇓P **P 14 53 45.1 +0.3**
baz=47
K14A Jones Ranch, D 46.97 311 ⇑P **P 14 53 44.7 -0.4**
baz=47,SNR=6.3
IRM Iron Mountain 47.09 299 ⇑P **P 14 53 47.4 +1.3**
baz=47
R12A Pony Springs, 47.18 305 ⇑P **P 14 53 47.1 +0.3**
baz=47
G15A Dillon 47.21 314 ⇑P **P 14 53 47.8 +0.9**
baz=47
MCMT McKenzie Canyo 47.35 314 *e*P **P 14 53 49.2 +1.1**
M13A Montello 47.41 309 ⇓P **P 14 53 48.7 +0.1**
baz=48
L13A Double Diamond 47.41 310 ⇓P **P 14 53 48.7 +0.1**
baz=48
Q12A Willow Creek R 47.47 306 ⇓P **P 14 53 49.9 +0.9**
baz=48
P12A McGill 47.60 306 ⇓P **P 14 53 50.7 +0.6**
baz=48
O12A Currie 47.62 307 ⇓P **P 14 53 50.9 +0.6**
baz=48
K13A Stover Farm, H 47.65 311 ⇓P **P 14 53 50.8 +0.4**
baz=48
D15A Lincoln 47.81 317 ⇓P **P 14 53 51.0 -0.6**
baz=48
G14A Jackson 47.88 314 ⇓P **P 14 53 52.1 -0.1**
baz=48
J13A Cove Ranch, Pi 47.89 312 ⇑P **P 14 53 52.4 +0.2**
baz=48
R11A Troy Canyon, C 47.94 305 ⇑P **P 14 53 52.7 0.0**
baz=48
M12A Wells 47.98 309 P **P 14 53 53.8 +0.8**
baz=48,SNR=6.2
I13A Wildhorse Cree 47.98 312 P **P 14 53 54.2 +1.2**
baz=48,SNR=6.3
HLID Hailey 48.10 312 ⇑P **P 14 53 54.0 +0.2**
baz=48
K12A Draper Farm, C 48.23 310 ⇓P **P 14 53 54.7 -0.2**
baz=48
H13A Challis 48.24 313 ⇓P **P 14 53 54.6 -0.4**
baz=48
O11A Cowboy Ranch, 48.28 307 P **P 14 53 56.6 +1.3**
baz=48,SNR=7.6
J12A Stokes Ranch, 48.51 311 P **P 14 53 57.7 +0.7**
baz=49,SNR=6.1
M11A Holland Ranch, 48.63 309 ⇑P **P 14 53 58.0 +0.1**
baz=49
F13A Darby 48.63 315 ⇓P **P 14 53 57.8 -0.1**
baz=49
Q10A Clear Creek Ra 48.64 305 ⇓P **P 14 53 58.7 +0.6**
baz=49
H12A Diamond D Ranc 48.65 313 ⇑P **P 14 53 58.0 -0.1**
baz=49
S10A Tonopah Range, 48.67 304 ⇑P **P 14 53 58.6 +0.2**
baz=49
L11A Cat Creek Ranc 48.75 310 P **P 14 53 59.4 +0.5**
baz=49,SNR=6.3
MFID Camas Ranch 49.07 311 ⇑P **P 14 54 01.4 +0.1**
baz=49
K11A Parker Ranch, 49.07 310 ⇑P **P 14 54 00.3 -1.1**
baz=49
D13A Huson 49.09 316 ⇓P **P 14 54 00.8 -0.6**
baz=49
M10A I.L. Ranch, Tu 49.20 309 ⇓P **P 14 54 01.8 -0.5**
baz=49
F12A Elk City 49.24 314 ⇑P **P 14 54 02.5 -0.1**
baz=49
L10A Juniper Basin 49.25 309 ⇓P **P 14 54 02.8 +0.1**
baz=49,SNR=8.7
K10A MacKenzie Ranc 49.68 310 ⇑P **P 14 54 05.8 -0.2**
baz=50,SNR=6.6
G11A Walters Elk Ra 49.84 314 ⇑P **P 14 54 06.7 -0.4**
baz=50
F11A Grangeville 49.88 314 ⇓P **P 14 54 07.7 +0.2**
baz=50
E11A Bogner Ranch, 50.04 315 ⇓P **P 14 54 08.6 -0.1**
baz=50
NVAR Mina Array Bea 50.07 304 P **P 14 54 09.4 +0.4**
comp=E,1.9nm,0.9s,mb4.1,baz=98,slow=8.4,SNR=6.6
L09A Wilkinson Ranc 50.12 309 ⇓P **P 14 54 09.7 +0.3**
baz=50
N08A GE Springer Mi 50.26 307 P **P 14 54 10.9 +0.5**
baz=50,SNR=9.6
K09A Rome 50.28 310 P **P 14 54 11.4 +0.9**
baz=50,SNR=8.8
M08A Happy Creek Ra 50.54 308 ⇓P **P 14 54 12.9 +0.3**
baz=51
B11A Sandpoint 50.71 318 ⇓P **P 14 54 13.0 -0.6**
baz=51
N07B Gerlach 50.88 307 ⇓P **P 14 54 14.5 -0.6**
baz=51
M07A Soldier Meadow 51.12 308 ⇓P **P 14 54 16.9 0.0**
baz=51
H08A Prairie City 51.30 312 P **P 14 54 18.8 +0.6**
baz=51,SNR=5.5
L07A Adell 51.34 309 ⇑P **P 14 54 18.3 -0.3**
baz=51
R05C Kirkwood Meado 51.48 305 ⇑P **P 14 54 20.7 +1.1**
baz=52
N06A Buffalo Meadow 51.53 307 ⇓P **P 14 54 19.7 -0.4**
baz=52
I07A Izee 51.81 311 ⇓P **P 14 54 21.2 -0.8**
baz=52
J06A Christmas Vall 52.13 310 ⇑P **P 14 54 23.3 -1.2**
baz=52
I06A Prineville 52.29 311 ⇓P **P 14 54 26.2 +0.6**
baz=52
L05A Lakeview 52.45 309 ⇓P **P 14 54 26.2 -0.6**
baz=52
J05A Fort Rock 52.92 310 ⇓P **P 14 54 30.3 0.0**
baz=53
J04A Umpqua Nationa 53.54 310 ⇓P **P 14 54 34.5 -0.3**
baz=54
YBH Yreka Blue Hor 53.80 308 ⇓P **P 14 54 35.5 -1.3**
baz=54
HUMO Hull Mountain 54.08 309 ⇑P **P 14 54 38.2 -0.7**
baz=54
YKA Yellowknife Ar 55.17 334 P **P 14 54 44.6 -1.7**
comp=E,2.2nm,0.6s,mb4.4,baz=110,slow=7.5,SNR=45
ESDC Sonseca Array 55.63 55 P **P 14 54 50.0 -0.2**
comp=E,0.2nm,0.3s,mb3.7,baz=263,slow=6.8,SNR=8.1
DBIC Dimbokro 59.34 94 P **P 14 55 15.4 -1.2**
DBIC Dimbokro 59.34 94 P **P 14 55 15.7 -1.0**
comp=E,3.1nm,0.9s,mb4.3,baz=290,slow=12,SNR=2.4
TOA0 Torodi Ar. Sit 63.70 84 P **P 14 55 44.5 -1.5**
TORD Torodi Ar. Bea 63.70 84 P **P 14 55 44.4 -1.6**
TORD Torodi Ar. Bea 63.70 84 P **P 14 55 44.4 -1.6**
comp=E,1.9nm,1.0s,mb4.1,baz=287,slow=6.2,SNR=7.0
IMA2 Indian Mountai 72.29 335 *e*P **P 14 56 38.4 -0.7**
WMQ Urumqi 112.41 21 *e*PKP PKiKP 15 03 50.0 -0.1
HHC Hu-ho-hao-te 120.21 3 *e*PKP PKPdf 15 04 05.9 +0.7
HHC SKKS SKKSac 15 12 26.9 -1.7
HHC PP PP
comp=Z,960nm,17.1s
LZH Lanzhou 124.00 11 *e*PKP PKPdf 15 04 10.0 -2.7
CD2 Chengdu 129.00 13 *e*PKP PKPdf 15 04 19.6 -2.8
STKA Stephens Creek 153.21 237 PKPbc PKPbc 15 05 11.2 -1.1
comp=Z,2.8nm,0.8s,baz=12,slow=2.1,SNR=3.2
WRA Warramunga Arr 162.08 264 PKP PKPdf 15 05 14.7 -1.4
comp=Z,1.3nm,0.9s,baz=100,slow=1.3,SNR=8.7
WRA PKPab PKPab 15 06 02.1 -0.7
comp=Z,0.6nm,0.7s,baz=86,slow=4.1,SNR=5.9
ASAR Alice Springs 162.15 252 PKP PKPdf 15 05 14.1 -2.0
comp=Z,0.8nm,0.9s,baz=101,slow=1.2,SNR=5.2
ASAR PKPab PKPab 15 06 01.4 -1.5
comp=Z,1.6nm,0.8s,baz=109,slow=4.2,SNR=12

*NEIC **16** 14:49:24.1, 1905N×6451W, h39km, MD3.5(RSPR), After RSPR,*
RSPR 16 14:49:24.1, 1905N×6451W, h39km±14km, MD3.5/8, MD3.5/8, 16C, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABV	**Anegada**	**0.36**	**151**⇑	*e*P	Pn	14 49 32.2	-0.8
TBVI	**Tortola**	**0.64**	**189**⇑	*e*P	Pn	14 49 35.5	-1.2
TBVI				*e*S	Sn	14 49 44.8	-0.8
STVI	**Saint Thomas**	**0.81**	**211**⇑	*e*P	Pn	14 49 37.5	-1.5
STVI				*e*S	Sn	14 49 49.0	-0.9
MTP	**Monte Pirata**	**1.37**	**226**⇑	*e*P	Pn	14 49 41.4	-5.3
MTP				*e*S	Sn	14 49 58.6	-5.0
CBYP	**Canovanas**	**1.49**	**239**⇑	*e*P	Pn	14 49 43.2	-5.1
CBYP				*e*S	Sn	14 50 02.9	-3.8
SJG	**San Juan**	**1.81**	**239**⇑	*e*P	Pn	14 49 51.2	-1.6
SJG				*e*S	Sn	14 50 13.5	-1.0
SJG	**San Juan**	**1.81**	**239**⇑	*e*P	Pn	14 49 51.0	-1.8
SJG				*e*S	Sn	14 50 12.7	-1.9
CELP	**Cerrillos**	**2.19**	**244**⇑	*e*P	Pn	14 49 57.0	-0.9
CELP				*e*S	Sn	14 50 22.0	-1.8
OBIP	**Obispado Ponce**	**2.22**	**244**⇑	*e*P	Pn	14 49 57.5	-1.0
ICM	**Isla Caja Muer**	**2.22**	**239**⇑	*e*P	Pn	14 49 58.1	-0.4
ICM				*e*S	Sn	14 50 25.5	+0.7
AOPR	**Arecibo Observ**	**2.23**	**252**⇑	*e*P	Pn	14 49 58.2	-0.4
AOPR				*e*S	Sn	14 50 23.6	-1.4
LRS	**Lares**	**2.33**	**252**⇑	*e*P	Pn	14 49 58.9	-1.1
LRS				*e*S	Sn	14 50 26.3	-1.2
GBPR	**Guanica, Bosqu**	**2.48**	**245**⇑	*e*P	Pn	14 50 02.8	+0.7
GBPR	**Guanica, Bosqu**	**2.48**	**245**	*e*S	Sn	14 50 29.1	-2.1
AGPR	**Aguadilla, PR**	**2.53**	**257**	*e*S	Sn	14 50 31.8	-0.5
LSP	**Las Mesas**	**2.59**	**251**⇑	*e*P	Pn	14 50 03.1	-0.4
LSP				*e*S	Sn	14 50 33.9	+0.1
CRPR	**Cabo Rojo, PR**	**2.67**	**248**⇑	*e*P	Pn	14 50 03.4	-1.2
CRPR				*e*S	Sn	14 50 35.7	-0.2
SMN1	**Samana, DR**	**4.50**	**273**⇑	*e*P	Pn	14 50 29.4	-0.5

*IDC **16** 15:02:19.1±1.2, 1924N×6459W, h0km, mb3.6/3, mb1 4.2/6, mb1mx3.8/23, mbtmp4.1/6, ML3.8/3, Error ellipse: s-maj=27.9km s-min=17.2km az=59.0*
*NEIC **16** 15:02:20.2±1.1, 1912N×6476W, h10km, MD4.0(TRN), Error ellipse: s-maj=17.0km s-min=14.1km az=201.0*
*ISCJB **16** 15:02:23.0±2.3, 1904N±007×6472W±004, h30km±21km, mb3.5/3, Error ellipse: s-maj=11.8km s-min=5.6km az=6.7*
*TRN **16** 15:02:23.2, 1933N×6437W, h35km, MD4.0, M4.9(FDF)*
ISC 16 15:02:24.8±2.2, 1897N±007×6473W±004, h27km±17km, n19, σ1§34/28, mb3.6/3, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTP	**Monte Pirata**	**1.17**	**222**	*e*Pn	**Pn**	**15 02 41.5**	**-3.9**
MTP				*e*S	**Sn**	**15 02 59.3**	**-1.1**
CPD	**Cerro la Pandu**	**1.46**	**231**	*e*Pn	**Pn**	**15 02 48.1**	**-1.3**
CPD				*e*Sn	**Sn**	**15 03 06.0**	**-1.6**
SJG	**San Juan**	**1.59**	**238**	Pn	**Pn**	**15 02 51.3**	**0.0**
61nm,0.3s,baz=68,slow=11,SNR=58							
SJG				Sn	**Sn**	**15 03 12.5**	**+1.5**
318nm,0.3s,baz=341,slow=6.5,SNR=13							
STMA	**St. Maarten, A**	**1.79**	**121**	*e*P	**Pn**	**15 02 52.5**	**-1.4**
STMA				*e*S	**Sn**	**15 03 14.1**	**-1.7**
SKI	**Saint Kitts**	**2.49**	**130**	*e*P	**Pn**	**15 03 03.2**	**-0.4**
SKI				*e*S	**Sn**	**15 03 33.1**	**-0.1**
NVRH	**Round Hill, Ne**	**2.69**	**131**	*e*P	**Pn**	**15 03 06.5**	**+0.1**
NVRH				*e*S	**Sn**	**15 03 40.2**	**+2.1**
LZG	**Guadaloupe-1**	**3.98**	**134**	*e*P	**Pn**	**15 03 23.3**	**-0.8**
SCG	**Saint Claude**	**4.12**	**135**	*e*P	**Pn**	**15 03 26.6**	**+0.6**
SCG				*e*S	**Sn**	**15 04 19.8**	**+6.4**
MGG	**Marie-Galante**	**4.45**	**132**	*e*P	**Pn**	**15 03 31.7**	**+1.1**
SDDR	**Presa de Saban**	**6.21**	**271**	*e*Pn	**Pn**	**15 03 55.3**	**+0.5**
50nm,0.6s							
GRGR	**Grenville**	**7.41**	**156**	*e*Pn	**Pn**	**15 04 14.2**	**+2.9**
PCRV	**Puerto La Cruz**	**8.74**	**179**	Pn	**Pn**	**15 04 29.1**	**-0.4**
3.6nm,0.3s,baz=320,slow=6.3,SNR=8.1							
PCRV				Sn	**Sn**	**15 06 02.3**	**-4.9**
0.3nm,0.3s,baz=310,slow=9.4,SNR=2.3							
SDV	**Santo Domingo**	**11.54**	**211**	Pn	**Pn**	**15 05 09.6**	**+1.6**
0.7nm,0.3s,baz=67,slow=10.0,SNR=6.5							
SDV				Sn	**Sn**	**15 07 07.9**	**-8.2**
0.5nm,0.3s,baz=41,slow=16,SNR=3.5							
ROSC	**El Rosal**	**16.87**	**215**	P	**Pn**	**15 06 22.0**	**+2.8**
3.1nm,0.3s,baz=97,slow=21,SNR=5.8							
TKL	**Tuckaleechee C**	**23.65**	**319**	P	Px	15 07 50.5	
18nm,0.6s,baz=129,slow=17,SNR=33							
TKL				S	**S**	**15 11 49.1**	**+2.0**
3.9nm,0.8s,baz=170,slow=8.3,SNR=3.6							
TXAR	**Lajitas Array**	**36.85**	**294**	P	**P**	**15 09 31.4**	**+0.4**
0.4nm,0.8s,mb3.3,baz=104,slow=10,SNR=3.6							
PDAR	**Pinedale Array**	**44.53**	**312**	P	**P**	**15 10 32.3**	**-1.9**
0.9nm,0.8s,mb3.6,baz=116,slow=10,SNR=6.9							
YKA	**Yellowknife Ar**	**55.30**	**334**	P	**P**	**15 11 51.5**	**-4.2**
YKA	**Yellowknife Ar**	**55.30**	**334**	P	**P**	**15 11 51.5**	**-4.2**
0.6nm,0.6s,mb3.8,baz=111,slow=7.5,SNR=11							

*NEIC **16** 15:43:17.0, 1891N×10246W, h14km, MD4.2(MEX), After MEX.*
MEX 16 15:43:15.9±1.4, 1890N×10245W, h7km±15km, MD4.2, Michoacan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMIG	**Aquila**	**1.05**	**235**	*i*P	Pg	15 43 32.2	-3.8
MMIG				*i*S	Sg	15 43 47.0	-2.6
MOIG	**Morelia**	**1.42**	**57**	*i*P	Pn	15 43 38.8	-3.3
MOIG				*i*S	Sb	15 43 56.7	-4.4
ZIIG	**Zihuatanejo**	**1.58**	**144**	*i*P	Pn	15 43 40.9	-3.6
ZIIG				*i*S	Sn	15 44 00.5	-4.8
SFJM	**Santa Fe**	**1.68**	**341**	*i*P	Pn	15 43 43.5	-2.2
SFJM				*i*S	Sn	15 44 01.0	-6.5
SFJM	**Santa Fe**	**1.68**	**341**	*i*P	Pn	15 43 42.3	-3.5
SFJM				*i*S	Sn	15 44 01.0	-6.5
CJM	**Chamela**	**2.53**	**284**	*i*P	Pn	15 43 55.8	-1.6
CJM				*i*S	Sn	15 44 24.8	-3.7
CJM	**Chamela**	**2.53**	**284**	*i*P	Pn	15 43 56.6	-0.8
CJM				*i*S	Sn	15 44 25.1	-3.4
CAIG	**El Cayaco**	**2.77**	**131**	*i*P	Pn	15 44 00.5	-0.3
CAIG				*i*S	Sn	15 44 31.6	-2.9
CAIG	**El Cayaco**	**2.77**	**131**	*i*P	Pn	15 43 58.1	-2.7
CAIG				*i*S	Sn	15 44 30.7	-3.8
PLIG	**Platanillo**	**2.83**	**100**	*i*P	Pn	15 44 00.6	-1.1
PLIG				*i*S	Sn	15 44 32.7	-3.3
PLIG	**Platanillo**	**2.83**	**100**	*i*P	Pn	15 43 58.6	-3.0
PLIG				*i*S	Sn	15 44 32.7	-3.3
MEIG	**Mezcala**	**2.85**	**109**	*i*P	Pn	15 43 59.7	-2.1
MEIG				*i*S	Sn	15 44 32.8	-3.7
ANIG	**Ahuacatlan**	**2.90**	**318**	*i*P	Pn	15 43 59.4	-3.2
SZVM	**Salazar**	**2.93**	**81**	*e*P	Pn	15 44 11.7	+8.8
SZVM				*i*S	Sn	15 44 41.6	+3.3
MZVM		**3.06**	**84**	*e*P	Pn	15 44 03.2	-1.4
ACX	**Acapulco**	**3.14**	**130**	*i*P	Pn	15 44 06.5	+0.6
ACX				*i*S	Sn	15 44 40.0	-3.7
ACX	**Acapulco**	**3.14**	**130**	*i*P	Pn	15 44 02.7	-3.1
ACX				*i*S	Sn	15 44 39.4	-4.2
YAIG	**Yautepec**	**3.20**	**90**	*i*P	Pn	15 44 04.9	-1.8
YAIG				*i*S	Sn	15 44 41.2	-3.9
IIO	**Organos**	**3.58**	**78**	*i*P	Pn	15 44 10.7	-1.3
PPM	**Popocatepetl**	**3.62**	**87**	*i*P	Pn	15 44 12.1	-0.3
PPM				*i*S	Sn	15 44 56.0	+0.6
PPM	**Popocatepetl**	**3.62**	**87**	*i*P	Pn	15 44 11.2	-1.2
PPM				*i*S	Sn	15 44 52.5	-2.9
UTMO	**Huajuapan**	**4.53**	**103**	*i*P	Pn	15 44 21.9	-3.2
UTMO				*i*S	Sn	15 45 11.2	-6.9
VHO	**Vista Hermosa**	**5.73**	**108**	*i*P	Pn	15 44 39.1	-2.4
LNIG	**Linares**	**6.58**	**24**	*i*P	Pn	15 44 52.0	-1.2

IDC 16 15:47:17.1±5.6, 3074S×17874W, h0km, mb3.9/2, mb1 4.2/2, mb1mx3.7/13, mbtmp3.9/2, Error ellipse: s-maj=224.0km s-min=52.8km az=155.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**42.45**	**268**	P	P	15 55 12.5	-1.5
0.8nm,0.6s,baz=106,slow=7.0,SNR=32							
WRA	**Warramunga Arr**	**43.47**	**273**	P	P	15 55 23.7	+1.4
1.4nm,0.6s,baz=113,slow=7.9,SNR=26							
FINES	**FINESS Array B**	**145.24**	**339**	PKPbc	PKPbc	16 06 54.8	-0.9
1.1nm,0.5s,baz=53,slow=4.7,SNR=14							

*SZGRF **16** 15:50:02.7, 2337S×17474W, h33km, Tonga Islands region*
*IDC **16** 15:50:05.9±0.5, 2133S×17449W, h0km, mb4.6/18, mb1 4.8/19, mb1mx4.7/23, mbtmp4.6/19, ML5.0/2, MS4.7/4, Ms1 4.7/4, ms1mx4.1/23, Error ellipse: s-maj=19.8km s-min=13.0km az=128.0*
*ISCJB **16** 15:50:07.0±0.2, 2136S±006×17454W±006, h16km, mb5.0/63, MS4.9/23, Error ellipse: s-maj=9.5km s-min=5.9km az=137.8*
*NEIC **16** 15:50:07.4±0.2, 2132S×17451W, h10km, mb5.2/38, Error ellipse: s-maj=9.7km s-min=5.3km az=139.0*
*BJI **16** 15:50:08.2, 2085S×17421W, h17km, mB5.7, mb5.1, Ms5.0, Msz4.8*
*MOS **16** 15:50:10.4±0.9, 2113S×17466W, h33km, mb5.1/28, MS5.0/5, Error ellipse: s-maj=13.4km s-min=11.0km az=74.6*
*ORF **16** 15:50:25.9, 1716S×17649W, h30km, mb5.7*
ISC 16 15:50:08.7±0.2, 2139S±005×17450W±006, h17km, h17km±1.6km: pP-P, n281, σ1§10/140, mb5.0/63, MS4.9/23, 21C-11D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**8.42**	**201**	P	**Pn**	**15 52 10.6**	**+0.7**
RAO				pmax	pmax		
comp=Z,82nm,0.3s							
RAO	**Raoul Island**	**8.42**	**201**	Pn	**Pn**	**15 52 10.6**	**+0.7**
comp=Z,82nm,0.3s,baz=127,slow=23,SNR=4.0							
RAO				Sn	**Sn**	**15 53 41.9**	**-2.6**
baz=256,slow=22,SNR=4.2							
RAR	**Rarotonga**	**13.73**	**92**	P	**Pn**	**15 53 11.4**	**-11**
RAR				pmax	pmax		
comp=Z,39nm,0.3s							
RAR	**Rarotonga**	**13.73**	**92**	Pn	**Pn**	**15 53 11.4**	**-11**
comp=Z,39nm,0.3s,baz=253,slow=6.5,SNR=20							
RAR				Sn	Sx	15 55 23.5	
comp=Z,1.7nm,0.3s,baz=272,slow=20,SNR=1.4							
URZ	**Urewera**	**18.31**	**201**	P	**Pn**	**15 54 21.1**	**-0.7**
comp=Z,1.1nm,0.3s,baz=45,slow=7.0,SNR=7.9							
URZ				S	**Sn**	**15 57 28.6**	**-17**
comp=Z,0.4nm,0.3s,baz=35,slow=6.3,SNR=3.5							
TBI	**Tubuai**	**23.23**	**100**	*e*P	**P**	**15 55 12.6**	**-2.7**
comp=Z,265nm,1.2s,mb5.5							
TBI				*e*LQ		15 59 26.1	
comp=Z,1μm,26.0s							
TBI				*e*LR	LR	16 00 40.9	
comp=Z,2μm,27.0s							
TBI	**Tubuai**	**23.23**	**100**	*e*P	**P**	**15 55 12.6**	**-2.7**
comp=Z,265nm,1.2s,mb5.5							
TBI				*e*LQ		15 59 26.1	
PAE	**Paea**	**23.77**	**85**	*e*P	**P**	**15 55 15.9**	**-4.7**
comp=Z,82nm,1.1s,mb5.1							
PAE	**Paea**	**23.77**	**85**	*e*P	**P**	**15 55 15.9**	**-4.7**
PAE				pmax	pmax		
comp=Z,82nm,1.1s,mb5.1							
PPT	**Papeete**	**23.80**	**85**	*e*LQ		15 59 35.8	
comp=Z,1μm,25.5s							
PPT				*e*LR	LR	16 00 54.4	
comp=Z,2μm,21.2s							
RPZ	**Rata Peaks**	**25.30**	**205**	P	**P**	**15 55 34.3**	**+0.1**
comp=Z,20nm,0.8s,mb4.7,baz=176,slow=5.8,SNR=3.6							
PMOR	**Pomariorio Ree**	**26.04**	**80**	*e*P	**P**	**15 55 36.7**	**-4.6**
comp=Z,130nm,1.2s,mb5.3							
ARMA	**Armidale**	**31.67**	**246**	*e*P	**P**	**15 56 32.4**	**+1.1**
EIDS	**Eidsvold**	**31.79**	**256**	P	**P**	**15 56 32.0**	**-0.3**
TAOE	**Nuku Hiva Isla**	**35.34**	**75**	*e*LR	LR	16 06 09.4	
comp=Z,21μm,21.7s							
RKT	**Rikitea**	**36.55**	**100**	*e*LR	LR	16 06 49.2	
comp=Z,2μm,27.8s							
CTA	**Charters Tower**	**36.66**	**265**	*e*P	**P**	**15 57 11.4**	**-3.3**
comp=Z,7.9nm,0.7s,mb4.7							
CTA	**Charters Tower**	**36.66**	**265**	P	**P**	**15 57 15.8**	**+1.1**
CTA				pmax	pmax		
comp=Z,7.0nm,0.7s							
CTA	**Charters Tower**	**36.66**	**265**	P	**P**	**15 57 15.8**	**+1.1**
comp=Z,7.2nm,0.7s,mb4.6,baz=100,slow=8.7,SNR=7.9							
CTAO	**Charters Tower**	**36.66**	**265**	*e*P	**P**	**15 57 14.6**	**-0.1**
comp=Z,9.2nm,0.7s,mb4.7							
CTAO				LR	LR		
comp=Z,2μm,19.0s,MS4.8							
CTAO	**Charters Tower**	**36.66**	**265**	*e*P	**P**	**15 57 14.6**	**-0.1**
CTAO				pmax	pmax		
comp=Z,9.0nm,0.7s,mb4.7							
CTAO				MLR	MLR		
comp=Z,2μm,19.0s,MS4.8							
STKA	**Stephens Creek**	**40.37**	**246**	*e*P	**P**	**15 57 45.5**	**-0.3**
comp=Z,11nm,1.1s,mb4.5							
STKA	**Stephens Creek**	**40.37**	**246**	P	**P**	**15 57 45.3**	**-0.5**
comp=Z,8.7nm,0.9s,mb4.5,baz=93,slow=9.7,SNR=12							
ASAR	**Alice Springs**	**47.50**	**257**	P	**P**	**15 58 42.1**	**-1.0**
ASAR				S	**S**	**16 05 35.4**	**-2.0**
ASAR				pmax	pmax		
comp=Z,14nm,0.8s							
ASAR				smax			
comp=N,1.0nm,1.0s							
ASAR	**Alice Springs**	**47.50**	**257**	P	**P**	**15 58 42.1**	**-1.0**
comp=N,14nm,0.8s,mb5.0,baz=93,slow=7.9,SNR=94							
ASAR				S	**S**	**16 05 35.4**	**-2.1**
comp=N,1.0nm,1.0s,baz=94,slow=15,SNR=5.5							
WB2	**Warramunga Arr**	**47.70**	**262**	*e*P	**P**	**15 58

comp=Z,9.5nm,0.7s,mb4.9,baz=94,slow=8.0,SNR=82
KAKA Kakadu 51.26 271 *e*P **P 15 59 10.8 -1.1**
comp=Z,19nm,1.2s,mb4.9
FORT Forrest 51.95 247 *e*P **P 15 59 17.3 +0.3**
comp=Z,28nm,0.7s,mb5.3
FITZ Fitzroy Crossi 56.15 262 *e*P **P 15 59 47.3 -0.4**
comp=Z,23nm,1.4s,mb5.0
FITZ Fitzroy Crossi 56.15 262 P **P 15 59 47.7 -0.1**
SBA Scott Base 57.23 185 *e*P **P 15 59 57.5 +3.0**
comp=Z,32nm,1.2s,mb5.2
SBA Scott Base 57.23 185 *e*P **P 15 59 57.5 +2.9**
SBA pmax pmax
comp=Z,32nm,1.2s,mb5.2
VNDA Vanda 57.35 186 *e*P **P 15 59 57.3 +2.0**
comp=Z,12nm,1.0s,mb4.9
VNDA Vanda 57.35 186 *e*P **P 15 59 57.3 +1.9**
VNDA pmax pmax
comp=Z,12nm,1.0s
VNDA Vanda 57.35 186 P **P 15 59 57.5 +2.2**
comp=Z,7.9nm,0.9s,mb4.8,baz=13,slow=7.7,SNR=15
KLBR Kellerberrin 60.64 245 *e*P **P 16 00 18.9 -0.1**
MBWA Marble Bar 60.85 257 *e*P **P 16 00 19.6 -1.0**
comp=Z,47nm,1.3s,mb5.5
MIR Mirnyy 71.57 205⇓ *i*P **P 16 01 33.0 +4.4**
MIR pmax pmax
comp=Z,100nm,1.5s,mb5.5
MJAR Matsushiro Arr 72.89 322 P **P 16 01 37.0 +0.2**
MJAR pmax pmax
comp=Z,7.0nm,0.7s
MJAR Matsushiro Arr 72.89 322 P **P 16 01 37.0 +0.2**
comp=Z,7.2nm,0.7s,mb4.7,baz=161,slow=6.1,SNR=19
MAJO Matsushiro 72.89 322 *e*P **P 16 01 36.8 0.0**
comp=Z,14nm,0.9s,mb4.9
MAJO Matsushiro 72.89 322 *e*P **P 16 01 36.8 0.0**
MAJO pmax pmax
comp=Z,14nm,0.9s,mb4.9
MAT Matsushiro 72.89 322 P **P 16 01 36.6 -0.2**
MAT *e*S S 16 11 02.0 -0.5
ASAJ Asahikawa 76.10 330 P **P 16 01 55.8 +0.5**
ASAJ pmax pmax
comp=Z,3.0nm,0.7s
ASAJ Asahikawa 76.10 330 P **P 16 01 55.8 +0.5**
comp=Z,3.3nm,0.7s,mb4.4,baz=223,slow=8.5,SNR=7.5
SKR Severo-Kuril's 76.29 341 *e*P **P 16 01 47.1 -9.1**
KSM Kuching 76.77 277 *e*P **P 16 02 00.6 +0.8**
ISA Isabella 77.66 44 *e*P **P 16 02 06.0 +1.7**
comp=Z,71nm,1.8s,mb5.3
ISA Isabella 77.66 44 *e*P **P 16 02 06.1 +1.8**
ISA pmax pmax
comp=Z,71nm,1.8s,mb5.3
OHCM Honcut 78.12 39 *e*P **P 16 02 06.2 -0.6**
YSS Yuzh-Sakhalins 78.18 332 *e*P **P 16 02 07.4 +0.5**
comp=Z,31nm,1.1s,mb5.2
YSS Yuzh-Sakhalins 78.18 332⇑ *e*P **P 16 02 07.9 +1.0**
YSS *e* pP 16 02 13.5 +0.9
YSS *e* 16 02 19.2
WDC Whiskeytown Da 78.32 38 *e*P **P 16 02 07.4 -0.4**
comp=Z,33nm,1.4s,mb5.1
WDC Whiskeytown Da 78.32 38 *e*P **P 16 02 07.4 -0.4**
WDC pmax pmax
comp=Z,33nm,1.4s,mb5.1
MTUM Tungsten Hills 78.64 42 *e*P **P 16 02 10.1 +0.4**
YBH Yreka Blue Hor 78.99 37 *e*P **P 16 02 12.3 +0.9**
comp=Z,53nm,1.5s,mb5.2
YBH Yreka Blue Hor 78.99 37 *e*P **P 16 02 12.4 +0.9**
YBH pmax pmax
comp=Z,53nm,1.5s
HUMO Hull Mountain 79.43 36 *e*P **P 16 02 14.8 +0.8**
comp=Z,23nm,1.3s,mb4.9
NVAR Mina Array Bea 79.47 42 P **P 16 02 14.8 +0.6**
comp=Z,9.8nm,1.0s,mb4.7,baz=215,slow=6.3,SNR=21
KSRS Korea Array 79.74 317 P **P 16 02 17.4 +1.7**
comp=Z,3.6nm,0.8s,mb4.3,baz=130,slow=6.4,SNR=12
TPNV Topopah Spring 79.87 44 *e*P **P 16 02 15.9 -0.6**
comp=Z,12nm,1.1s,mb4.8
TPNV Topopah Spring 79.87 44 *e*P **P 16 02 15.9 -0.5**
TPNV pmax pmax
comp=Z,12nm,1.1s,mb4.7
MOD Modoc 80.46 38 *e*P **P 16 02 19.0 -0.5**
comp=Z,19nm,1.0s,mb5.0
KDAK Kodiak Island 80.96 12 P **P 16 02 22.0 +0.2**
comp=Z,18nm,1.1s,mb4.9,baz=234,slow=8.7,SNR=4.1
WVOR Wild Horse Val 81.75 38 *e*P **P 16 02 26.4 0.0**
comp=Z,28nm,1.4s,mb5.0
WVOR Wild Horse Val 81.75 38 *e*P **P 16 02 26.4 0.0**
WVOR pmax pmax
comp=Z,27nm,1.4s,mb5.0
MAW Mawson 81.82 199 *e*P **P 16 02 28.1 +1.7**
comp=Z,31nm,1.2s,mb5.1
MAW Mawson 81.82 199 *e*P **P 16 02 28.1 +1.7**
MAW pmax pmax
comp=Z,31nm,1.2s
MAW Mawson 81.82 199 P **P 16 02 27.5 +1.1**
comp=Z,4.3nm,0.6s,mb4.5,baz=144,slow=5.7,SNR=15
ARUT Antelope Range 82.18 44 P **P 16 02 28.5 -0.2**
HABR Khabarovsk 82.86 329⇑ *e*P **P 16 02 30.1 -1.9**
HABR *e* 16 02 40.1
HABR *e* 16 05 40.3
HABR *e*S S 16 12 45.4 -4.2
HABR *e* 16 18 07.9
HABR *e* 16 21 37.0
HABR pmax pmax
comp=Z,3.0nm,0.8s,mb4.4
NJ2 Nanjing 82.97 308 *e*P **P 16 02 33.1 +0.1**
NJ2 AP pP 16 02 37.9 -0.9
NJ2 XP sP 16 02 40.9 +0.1
NJ2 S S 16 12 50.0 -1.5
NJ2 AMB AMB
comp=Z,20nm,0.8s,mb5.2
NJ2 AMB AMB
comp=Z,610nm,10.0s
NJ2 LR LR
comp=N,270nm,21.4s,MS4.8
NJ2 LR LR
comp=E,310nm,18.5s,MS4.8
MDJ Mudanjiang 83.14 323 P **P 16 02 34.3 +0.7**
MDJ AP pP 16 02 37.5 -1.8
MDJ PP PP 16 05 44.8 -0.4
MDJ S S 16 12 54.5 +1.8
MDJ XS sS 16 13 00.4 -1.8
MDJ AMB AMB
comp=Z,18nm,1.9s,mb4.8
MDJ AMB AMB
comp=Z,406nm,6.7s
MDJ LR LR
comp=N,182nm,21.3s,MS4.6
MDJ LR LR
comp=E,187nm,21.7s,MS4.6
MDJ LR LR
comp=Z,429nm,18.2s,MS4.9
MSU Marysvale 83.41 44 *e*P **P 16 02 35.3 +0.2**
HAWA Hanford 83.76 35 P **P 16 02 35.7 -1.0**
comp=Z,44nm,1.3s,mb5.4
SLKM Skilak Lake 83.95 12 P **P 16 02 33.5 -3.8**
BMO Blue Mountains 84.01 37 *e*P **P 16 02 36.8 -1.3**
comp=Z,7.2nm,0.9s,mb4.8
BMO Blue Mountains 84.01 37 *e*P **P 16 02 36.8 -1.2**
BMO pmax pmax
comp=Z,7.0nm,0.9s,mb4.8
LAZ Ladron 84.68 50 P **P 16 02 42.4 +0.7**
TXAR Lajitas Array 84.81 56 P **P 16 02 42.3 -0.2**
TXAR pmax pmax
comp=Z,2.0nm,0.9s
TXAR Lajitas Array 84.81 56 P **P 16 02 42.3 -0.1**
comp=Z,1.8nm,0.9s,mb4.2,baz=218,slow=7.9,SNR=9.7
SRU San Rafael 84.82 45 *e*P **P 16 02 42.6 +0.4**
comp=Z,19nm,1.3s,mb5.1
SRU San Rafael 84.82 45 *e*P **P 16 02 42.6 +0.3**
SRU pmax pmax
comp=Z,19nm,1.3s,mb5.1
HLID Hailey 84.90 39 *e*P **P 16 02 41.5 -1.0**
comp=Z,12nm,1.1s,mb4.9
GAMB Gambell 84.91 1 *e*P **P 16 02 42.5 +0.4**
comp=Z,78nm,1.4s,mb5.7
BNM Barren Site 84.92 50 P **P 16 02 43.5 +0.6**
KLR Kul'dur 84.98 328 *e*P **P 16 02 40.2 -2.6**
LPM Los Pinos Moun 85.00 50 *e*P **P 16 02 41.5 -1.8**
CN2 Changchun 85.02 321 *e*P **P 16 02 44.1 +1.0**
CN2 *e*XP sP 16 02 51.1 +0.1
CN2 *e*S S 16 13 11.3 -0.2
CN2 SS SS 16 18 43.5 -1.9
CN2 AMB AMB
comp=Z,30nm,1.2s,mb5.3
CN2 AMB AMB
comp=Z,680nm,5.0s
CN2 LR LR
comp=N,200nm,17.0s,MS4.8
CN2 LR LR
comp=E,290nm,17.0s,MS4.8
CN2 LR LR
comp=Z,370nm,21.0s,MS4.8
TTA Tatalina 85.30 8 *e*P **P 16 02 44.9 +0.8**
ANMO Albuquerque 85.44 50 *e*P **P 16 02 45.4 -0.1**
comp=Z,23nm,1.3s,mb5.2
ANMO Albuquerque 85.44 50⇑ *e*P **P 16 02 45.5 0.0**
ANMO Albuquerque 85.44 50 P **P 16 02 46.0 +0.6**
comp=Z,7.2nm,0.9s,mb4.8,baz=225,slow=3.9,SNR=8.3
MA2 Magadan 85.54 343 P **P 16 02 44.4 -0.9**
comp=Z,31nm,1.5s,mb5.3
MA2 Magadan 85.54 343 *e*P **P 16 02 43.9 -1.5**
MA2 *e* 16 06 09.0
MA2 *e*PPP 16 07 58.8
MA2 *e*S S 16 13 09.2 -6.8
MA2 pmax pmax
comp=Z,30nm,1.8s,mb5.2
MA2 MLR MLR
comp=Z,500nm,19.6s,MS4.9
WHN Wuhan 85.61 305 P **P 16 02 47.5 +1.1**
PLCA Paso Flores 86.28 132 LR LR 16 33 48.6
comp=Z,430nm,19.1s,MS4.9,baz=83,slow=30
SKAG Skagway 86.72 19 *e*P **P 16 02 48.1 -3.0**
comp=Z,35nm,1.1s,mb5.5
TNA Tin City 86.82 3 *e*P **P 16 02 51.8 +0.2**
comp=Z,15nm,0.9s,mb5.2
VNA3 Neumayer Olymp 87.02 175 *e*P **P 16 02 54.2 +1.5**
VNA3 *e* 16 02 55.9
VNA3 *e* 16 03 05.3
MCK McKinley 87.17 11 *e*P **P 16 02 52.4 -0.8**
comp=Z,47nm,1.0s,mb5.7
MCK McKinley 87.17 11 *e*P **P 16 02 52.4 -0.9**
MCK pmax pmax
comp=Z,47nm,1.0s,mb5.7
PDAR Pinedale Array 87.40 42 P **P 16 02 53.9 -1.1**
comp=Z,2.0nm,0.9s,mb4.4,baz=212,slow=5.3,SNR=11
MENT Mentasta 87.49 14 *e*P **P 16 02 55.9 +1.1**
VNA2 Neumayer--Watz 87.50 176 *e*P **P 16 02 55.9 +0.9**
baz=192,slow=5.3
VNA2 *e* 16 02 58.5
VNA2 *e* 16 03 08.3
CHMT Chamberlain Mo 87.51 37 P **P 16 02 56.3 +1.0**
DLBC Dease Lake 87.62 22 P **P 16 02 55.8 +0.2**
VNA1 Neumayer--Stat 87.70 175 *e*P **P 16 02 57.3 +1.3**
VNA1 *e* 16 02 59.6
VNA1 *e* 16 03 08.4
SNG Songkhla 87.85 279 P **P 16 03 04.0 +6.2**
SEY Seymchan 88.01 346⇑ *e*P **P 16 02 55.9 -1.4**
COLA College 88.41 11 *e*P **P 16 02 58.9 -0.2**
comp=Z,56nm,1.5s,mb5.6
COLA College 88.41 11 *e*P **P 16 02 58.9 -0.3**
COLA pmax pmax
comp=Z,56nm,1.5s,mb5.6
IMA2 Indian Mountai 88.60 8 *e*P **P 16 03 03.3 +3.2**
comp=Z,0.2nm,1.9s
BJI Beijing 88.83 314 P **P 16 03 03.3 +1.5**
BJI SS SS 16 19 42.1 +0.6
BJI AMB AMB
comp=Z,19nm,1.4s,mb5.2
BJI AMB AMB
comp=Z,401nm,4.3s
BJI LR LR
comp=N,114nm,20.1s,MS4.7
BJI LR LR
comp=E,284nm,18.0s,MS4.7
BJI LR LR
comp=Z,240nm,18.8s,MS4.6
DAWY Dawson 89.45 15 *e*P **P 16 03 02.8 -1.2**
EGAK Eagle 89.65 14 *e*P **P 16 03 04.7 -0.3**
comp=Z,11nm,1.0s,mb5.2
GYA Guiyang 89.93 298⇑ *i*P **P 16 03 08.6 +1.3**
GYA AP pP 16 03 12.8 -0.3
GYA XP sP 16 03 15.8 +0.7
GYA PP PP 16 06 43.3 +2.8
GYA SKS 16 13 37.1
GYA S S 16 13 58.6 -0.9
GYA SS SS 16 19 59.4 +1.4
GYA AMB AMB
comp=Z,20nm,1.0s,mb5.4
GYA AMB AMB
comp=Z,120nm,6.8s
GYA LR LR
comp=N,600nm,20.9s,MS5.1
GYA LR LR
comp=E,540nm,21.1s,MS5.1
GYA LR LR
comp=Z,610nm,22.7s,MS5.0
BILL Bilibino 90.28 353 *e*P **P 16 03 07.0 -0.9**
comp=Z,12nm,1.1s,mb5.1
BILL Bilibino 90.28 353 *e*P **P 16 03 06.4 -1.5**
BILL *e*PP pP 16 03 15.0 +1.3
BILL *e* 16 13 33.7
BILL *e*PS PS 16 15 08.3 -1.6
BILL pmax pmax
comp=Z,12nm,1.7s,mb5.0
XAN Xi'an 91.28 306 P **P 16 03 14.8 +1.4**
XAN AP pP 16 03 20.9 +1.7
XAN AMB AMB
comp=Z,16nm,1.2s,mb5.2
HHC Hu-ho-hao-te 92.32 313 *e*P **P 16 03 18.4 +0.4**
HHC AP pP 16 03 23.0 -0.8
HHC XP sP 16 03 26.5 +0.6
HHC PP PP 16 07 00.8 +1.7
HHC S S 16 14 22.3 +1.7
HHC XS sS 16 14 28.0 -2.2
HHC SS SS 16 20 31.0 -0.9
HHC AMB AMB
comp=Z,17nm,0.4s,mb5.7
HHC AMB AMB
comp=Z,386nm,5.7s
HHC LR LR
comp=N,171nm,19.6s,MS4.7
HHC LR LR
comp=E,192nm,15.2s,MS4.7
HHC LR LR
comp=Z,132nm,21.8s
KMI Kunming 92.67 296 P **P 16 03 22.0 +2.0**
KMI AP pP 16 03 27.9 +2.1
KMI XP sP 16 03 30.3 +2.4
KMI PP PP 16 07 03.1 +0.9
KMI S S 16 14 23.3 -1.1
KMI SS SS 16 20 38.8 +1.3
KMI AMB AMB
comp=Z,17nm,1.5s,mb5.2
KMI AMB AMB
comp=Z,176nm,5.0s
KMI LR LR
comp=N,233nm,18.7s,MS4.8
KMI LR LR
comp=E,237nm,20.9s,MS4.8
KMI LR LR
comp=Z,411nm,19.8s,MS4.9
CHG Chiang Mai 93.62 289⇑P **P 16 03 26.1 +1.6**
CHTO Chiang Mai 93.62 289 *e*P **P 16 03 25.6 +1.0**
comp=Z,11nm,0.9s,mb5.3
CHTO Chiang Mai 93.62 289 *e*P **P 16 03 25.6 +1.1**
CHTO pmax pmax
comp=Z,11nm,0.9s,mb5.3
CD2 Chengdu 94.03 301 *e*P **P 16 03 26.3 +0.1**
CD2 AP pP 16 03 31.0 -1.0
CD2 XP sP 16 03 34.0 0.0
CD2 PP PP 16 07 15.3 +2.6
CD2 SKS 16 13 59.0
CD2 S S 16 14 33.3 -2.8
CD2 SS SS 16 20 56.9 +0.2
CD2 AMB AMB
comp=Z,20nm,0.9s,mb5.5
CD2 AMB AMB
comp=Z,40nm,9.2s
CD2 LR LR
comp=N,260nm,16.8s
CD2 LR LR
comp=Z,180nm,16.8s,MS4.6
YAK Yakutsk 94.18 337⇑ *e*P **P 16 03 24.9 -1.2**
YAK pmax pmax
comp=Z,5.0nm,1.4s,mb4.8
INK Inuvik 94.30 14 *e*P **P 16 03 25.2 -1.3**
comp=Z,576nm,1.5s
INK Inuvik 94.30 14 P **P 16 03 24.6 -1.8**
comp=Z,3.5nm,0.9s,mb4.8,baz=192,slow=9.1,SNR=4.3
LZH Lanzhou 95.91 306 *e*P **P 16 03 36.5 +1.8**
LZH AMB AMB
comp=Z,23nm,1.1s,mb5.5
LZH AMB AMB
comp=Z,105nm,5.0s
YKA Yellowknife Ar 95.97 24 P **P 16 03 33.8 -0.5**
YKA pmax pmax
comp=Z,1.0nm,1.0s
YKA MLR MLR
comp=Z,108nm,19.3s
YKA Yellowknife Ar 95.97 24 P **P 16 03 33.8 -0.4**
comp=Z,1.1nm,1.0s,mb4.2,baz=240,slow=4.2,SNR=9.8
YKA LR LR 16 40 23.6
comp=Z,108nm,19.3s,MS4.3,baz=270,slow=32
ECSD EROS,Sioux Fal 96.20 45 P **P 16 03 35.9 +0.1**
comp=Z,89nm,2.2s,mb5.8
ULN Ulaanbaatar 98.18 318⇑ *e*P **P 16 03 43.1 -1.5**
SONM Songino Array 98.58 318 P **P 16 03 46.0 -0.4**
comp=Z,0.3nm,0.7s,mb4.0,baz=132,slow=6.6,SNR=3.7
LPAZ La Paz 98.70 111 LR LR 16 40 52.6
comp=Z,406nm,18.7s,MS5.0,baz=60,slow=31
ULM Lac du Bonnet 99.20 40 LR LR 16 43 25.9
comp=Z,618nm,18.0s,MS5.2,baz=248,slow=32
GTA Gaotai 100.07 308 *e*P Pdif 16 03 54.6 +1.4
GTA AP 16 03 59.0
GTA XP 16 04 02.8
GTA PP PP 16 07 59.0 -0.1
GTA SKS 16 14 31.5
GTA S Sdif 16 15 15.9 -11
GTA AMB AMB
comp=Z,3.0nm,2.2s
GTA AMB AMB
comp=Z,285nm,7.6s
GTA LR LR
comp=N,149nm,14.9s,MS4.8
GTA LR LR
comp=E,157nm,17.6s,MS4.8
GTA LR LR
comp=Z,290nm,17.6s,MS4.8
TIXI Tiksi 100.45 344⇑ *e*P Pdif 16 03 53.9 -1.0
TIXI pmax pmax
comp=Z,2.0nm,1.4s
ZAK Zakamensk 101.40 320 *e*P Pdif 16 03 59.0 -0.1
ZAK pmax pmax
comp=Z,1.0nm,1.7s
SSPA Standing Stone 108.47 53 *e*Pdif Pdif 16 04 32.4 +1.8
comp=Z,29nm,1.0s
WMQ Urumqi 109.98 310 *e*PKP PKiKP 16 08 40.6 +1.4
WMQ PP PP 16 09 18.0 +5.5
WMQ PKS 16 12 16.0
WMQ PP PP
comp=Z,205nm,8.8s
WMQ LR LR
comp=N,328nm,21.7s,MS4.9
WMQ LR LR
comp=E,236nm,23.6s,MS4.9
WMQ LR LR
comp=Z,324nm,25.6s,MS4.8
ZALV Zalesovo Beam 113.23 321 PKPdf PKiKP 16 08 43.9 -1.1
ZALV Zalesovo Beam 113.23 321 PKIKP PKiKP 16 08 43.9 -1.1
comp=Z,1.4nm,0.6s,baz=133,slow=0.8,SNR=7.3
ZAL Zalesovo 113.24 321 PKIKP PKiKP 16 08 43.9 -1.1
MKAR Makanchi Array 114.19 313 PKP PKiKP 16 08 45.9 -1.2
comp=Z,0.1nm,0.3s,baz=289,slow=18,SNR=5.1
KURK Kurchatov 116.86 317 *e*PKPdf PKPdf 16 08 50.6 -1.5
KURK Kurchatov 116.86 317⇑ *i*PKIKP PKPdf 16 08 51.6 -0.5
UCH Uchtor 119.38 307 *e*PKPdf PKPdf 16 08 58.4 +1.2
BVAR Borovoye Array 121.86 320 PKIKP PKPdf 16 09 00.8 -0.8
BVAR pmax pmax
comp=Z,3.0nm,0.7s
BVAR Borovoye Array 121.86 320 PKP PKPdf 16 09 00.8 -0.8
comp=Z,2.8nm,0.7s,baz=47,slow=0.6,SNR=7.1
BOSA Boshof 126.76 202 PKIKP PKPdf 16 09 11.4 -0.5
BOSA pmax pmax
comp=Z,4.0nm,1.0s
BOSA Boshof 126.76 202 PKP PKPdf 16 09 11.4 -0.5
comp=Z,4.0nm,1.0s,baz=164,slow=7.4,SNR=3.8
ARU Arti 127.77 326 *i* PKIKP PKPdf 16 09 11.5 -1.3
ARU 16 11 09.8
ARU SS SS 16 28 17.3 -8.7
ARCES ARCESS Array B 130.34 351 PKIKP PKPdf 16 09 17.6 +0.2
ARCES pmax pmax
comp=Z,1.0nm,0.6s
ARCES ARCESS Array B 130.34 351 PKP PKPdf 16 09 17.6 +0.3
comp=Z,1.3nm,0.6s,baz=70,slow=1.4,SNR=6.2
FINES FINESS Array B 137.49 346 PKIKP PKPdf 16 09 31.9 +0.9
FINES pmax pmax
comp=Z,2.0nm,0.9s
FINES FINESS Array B 137.49 346 PKP PKPdf 16 09 31.9 +0.9
comp=Z,1.9nm,0.8s,baz=57,slow=7.0,SNR=3.8
OBN Obninsk 139.06 333⇑ *i*PKIKP PKPdf 16 09 34.4 +0.3
OBN *e* 16 09 40.5
OBN pmax pmax
comp=Z,4.0nm,0.9s
BHD Baghdad 143.68 297 *e*x x 16 09 44.0
MSL Mosul 144.12 303 *e*x x 16 09 42.5
SUW Suwalki 144.76 342 *e*PKP PKPdf 16 09 43.7 -0.6
SUW *e* 16 09 48.1
ANN Anapa 144.85 319 *i* PKIKP PKPdf 16 09 44.7 0.0
ANN *e*SSS 16 37 06.8
ANN pmax pmax
comp=Z,101nm,1.5s
MUD Monsted U'grnd 144.87 356 *e*PKIKP PKPdf 16 09 44.4 0.0
MUD pmax pmax
comp=Z,71nm,1.2s
MUD Monsted U'grnd 144.87 356 *i* P PKPdf 16 09 44.4 0.0
comp=Z,71nm,1.2s
AKASG Malin Array Be 145.32 333 PKIKP PKPdf 16 09 44.5 -0.8
AKASG pmax pmax
comp=Z,6.0nm,0.6s
AKASG Malin Array Be 145.32 333 PKPbc PKPbc 16 09 44.5 -0.7
comp=Z,5.6nm,0.6s,baz=37,slow=3.3,SNR=52
AKBB Malin Array Si 145.32 333 *e*PKP PKPdf 16 09 43.8 -1.6
KIEV Kiev 145.33 333 *e*PKP PKPdf 16 09 44.0 -1.4
BSD Bornholm Skovb 145.58 350⇑ *i*PKIKP PKPdf 16 09 45.2 -0.5
BSD pmax pmax
comp=Z,50nm,1.0s
BSD Bornholm Skovb 145.58 350⇑ *i*P PKPdf 16 09 45.2 -0.5
comp=Z,50nm,1.0s
BSD *i* S 16 17 20.1
BSD *i* 16 25 54.7
MALT Malatya 147.05 308 *e*PKPdf PKPdf 16 09 49.1 +0.4
MALT *e*PKPab PKPab 16 09 52.5 +0.2
MALT ⇑P 16 09 52.9
MALT Malatya 147.05 308⇑ *i*P PKPab 16 09 52.9 +0.6
BSEG Bad Segeberg 147.30 355 *e*PKPbc PKPbc 16 09 51.0 +0.1
LVV L'vov 148.06 337 *e*PKP2 PKPbc 16 09 52.2 -0.9
KIS Kishinev 148.22 329 *e*PKP2 PKPbc 16 09 53.0 -0.7
KIS MLR MLR
comp=Z,300nm,20.0s,MS5.1
KIS MLR MLR
comp=Z,300nm,20.0s
KIS Kishinev 148.22 329 *e*PKP PKPbc 16 09 53.0 -0.7
KIS *e*L 17 10 12.0
KIS LRM 17 18 04.0
comp=Z,300nm,20.0s
KWP Kalwaria 148.68 338 *e*PKPbc PKPbc 16 09 54.8 +0.1
KWP *e* 16 10 00.9
KWP Kalwaria 148.68 338 *e*PKPdf PKPdf 16 09 50.7 -0.3
KWP *e*PKP PKPdf 16 09 54.8 +3.8
KWP ⇓P 16 09 57.9
KWP *e* 16 10 00.9
KWP Kalwaria 148.68 338 *e*PKIKP PKPdf 16 09 50.7 -0.3
KWP *e* 16 09 54.8
KWP *e* 16 09 57.9
KWP *e* 16 10 00.9
KWP Kalwaria 148.68 338⇓ *i*P PKPab 16 09 57.9 -0.5
NRDL Niedersach Rie 148.74 355 *e*PKPbc PKPbc 16 09 54.9 +0.1
IBBN Ibbenburen 149.09 357 *e*PKPbc PKPbc 16 09 56.0 +0.3
OJC Ojcow 149.09 342 *e*PKP PKPbc 16 09 55.9 +0.1
STHS Stebnicka Huta 149.35 340 *e*PKP PKPbc 16 09 56.9 +0.4
STHS *e* 16 10 02.2
STHS Stebnicka Huta 149.35 340 *e*PKP PKPbc 16 09 56.8 +0.3
STHS *e* 16 10 02.2
CLZ Clausthal 149.37 354 *e*PKPbc PKPbc 16 09 56.7 +0.3
KSP Ksiaz 149.40 347 *e*PKP PKPbc 16 09 56.3 -0.3
KSP *e* 16 10 02.0
KSP Ksiaz 149.40 347 *e*PKP2 PKPbc 16 09 55.8 -0.7
KOLS Kolonicke sedl 149.42 338 *e*PKP PKPbc 16 09 57.3 +0.6
KOLS *e* 16 10 02.7
WTSB Winterswijk 149.46 358 *e*PKP PKPdf 16 09 56.5 +4.3
comp=Z,43nm,2.0s
CLL Collm 149.56 351⇑ *i*PKP PKPbc 16 09 56.9 0.0
CLL *i* 16 10 01.5
CLL Collm 149.56 351 *e*PKPbc PKPbc 16 09 56.9 0.0
CLL Collm 149.56 351⇑ *i*PKPbc PKPbc 16 09 56.9 0.0

comp=Z,28nm,1.3s
CLL *i* PKPab PKPab 16 10 01.5 -0.4
comp=Z,24nm,1.0s
CLL L 17 19 00.0
comp=Z,200nm,19.7s
NIE Niedzica 149.65 341 *e*PKP PKPbc 16 09 58.2 +1.0
UZH Uzhgorod 149.67 338 *e*PKP2 PKPbc 16 09 57.8 +0.5
CRVS Cervenica-Dubn 149.73 339 *e*PKP PKPbc 16 09 57.6 +0.2
CRVS *e* 16 10 03.7
UPC Upice 149.78 347 *e*PKPbc PKPbc 16 09 58.2 +0.7
BRG Berggiesshubel 149.83 349 *e*PKPbc PKPbc 16 09 58.0 +0.4
BRG Berggiesshubel 149.83 349 *e*PKP PKPbc 16 09 57.6 0.0
comp=Z,35nm,1.7s
BRG *i* 16 10 02.6
comp=Z,103nm,1.9s
DPC Dobruska-Polom 149.86 346 *e*PKPbc PKPbc 16 09 58.4 +0.7
DPC AMS AMS 17 24 20.0
OKC Ostrava-Krasne 149.89 344 *e*PKPbc PKPbc 16 09 58.4 +0.6
OKC AMS AMS 17 23 50.0
VRI Vrincioaia 150.04 330 ⇓P PKPab 16 10 04.5 +0.5
VRI Vrincioaia 150.04 330 ⇓*i*P PKPab 16 10 04.5 +0.5
PVCC Panska Ves 150.05 348 *e*PKP PKPbc 16 09 59.1 +1.0
PVCC LR LR
comp=Z,300nm,16.0s,MS5.2
ASF Jabal al Asfar 150.08 298 PKPbc PKPbc 16 09 59.1 +0.3
comp=Z,2.7nm,0.7s,baz=38,slow=8.7,SNR=4.7
MORC Moravsky Berou 150.10 344 *e*PKPbc PKPbc 16 09 58.5 +0.3
MORC Moravsky Berou 150.10 344 ⇓*i*P PKPbc 16 10 00.4 +2.1
ANTO Ankara 150.33 315 *e*PKPbc PKPbc 16 09 59.7 +0.5
ANTO Ankara 150.33 315 ⇓*i*P PKPbc 16 10 00.1 +0.9
MOX Moxa 150.41 352 *e*PKP PKPbc 16 09 58.4 -0.6
comp=Z,47nm,1.7s
MOX Moxa 150.41 352 *e*PKPbc PKPbc 16 09 59.1 +0.1
UBBA Unterbreizbach 150.41 354 *e*PKPbc PKPbc 16 10 00.0 +1.0
KECS Kecovo 150.41 340 *e*PKP PKPbc 16 09 59.2 +0.1
TANN Tannenbergstha 150.51 351 *e*PKPbc PKPbc 16 09 59.6 +0.3
PRU Pruhonice 150.57 348 *e*PKP PKPbc 16 09 59.4 0.0
PRU LR LR
comp=Z,300nm,15.9s,MS5.2
HGN Heimansgroeve 150.68 359 *e*PKP PKPbc 16 10 01.6 +2.0
MLR Muntele Rosu 150.68 330 P PKPbc 16 09 59.4 -0.4
MLR Muntele Rosu 150.68 330 ⇑*i*P PKPbc 16 09 58.6 -1.2
NKC Novy Kostel 150.69 351 *e*PKP PKPbc 16 10 00.0 +0.3
NKC Novy Kostel 150.69 351 *e*PKPbc PKPbc 16 10 00.0 +0.3
NKC AMS AMS 17 22 00.0
MEM Membach 150.83 359 PKP PKPbc 16 10 01.9 +1.9
VYHS Vyhne 150.91 342 *e*PKP PKPbc 16 10 00.3 0.0
KOLL Kolacno 150.97 342 *e*PKP PKPbc 16 10 00.3 -0.1
TREC Trest 151.04 346 *e*PKPbc PKPbc 16 10 00.5 0.0
TREC AMS AMS 17 23 50.0
comp=Z,400nm,18.1s,MS5.3
DRGR 151.05 335 P PKPbc 16 10 00.9 +0.2
PSZ Piszkesteto 151.10 340 PKPbc PKPbc 16 10 01.3 +0.6
PSZ Piszkesteto 151.10 340 ⇓*i*P PKPbc 16 09 59.2 -1.5
PSZ Piszkesteto 151.10 340 ⇓*e*PKP pPKPdf 16 09 59.0 -1.9
ROTZ Rotzenmuhle 151.18 351 *e*PKPbc PKPbc 16 10 00.5 -0.3
GIVF Givet 151.34 1 *e*PKIKP PKPbc 16 10 00.2 -1.0
comp=Z,76nm,1.3s
DOU Dourbes 151.34 1 PKP PKPdf 16 10 01.6 +6.4
BAIF Baives 151.37 2 *e*PKIKP PKPbc 16 10 00.2 -1.1
comp=Z,68nm,1.3s
GRA1 Grafenberg Arr 151.39 352 *e*PKPbc PKPbc 16 10 01.0 -0.3
GRF Grafenberg Arr 151.39 352 *e*PKP PKPbc 16 10 01.0 -0.3
GRF Grafenberg Arr 151.39 352 *e*PKPbc PKPbc 16 10 00.9 -0.4
GRFO Grafenberg 151.39 352 *e*PKPbc PKPbc 16 10 02.1 +0.8
MODS Modra-Piesok 151.46 343 *e*PKP PKPbc 16 10 02.1 +0.6
KHC Kasperske Hory 151.57 349 *e*PKP PKPbc 16 10 01.2 -0.6
KHC *e* 16 10 05.5
KHC LR LR
comp=Z,200nm,18.7s,MS5.0
KHC Kasperske Hory 151.57 349 *e*PKPbc PKPbc 16 10 01.2 -0.6
KHC pPKP pPKPdf 16 10 05.5 +4.0
KHC AMS AMS 17 29 50.0
comp=Z,200nm,18.7s,MS5.0
ZST Bratislava 151.67 344 *e*PKP PKPab 16 10 13.3 +2.6
WET Wettzell 151.68 350 *e*PKPbc PKPbc 16 10 01.4 -0.6
WLF Walferdange 151.78 359 *e*PKPbc PKPbc 16 10 02.4 +0.1
WLF Walferdange 151.78 359 PKP PKPbc 16 10 02.4 +0.2
WLF Walferdange 151.78 359 *e*PKPbc PKPbc 16 10 02.0 -0.2
GEC2 GERESS Array S 151.83 348 *e*PKPdf PKPdf 16 09 55.3 -0.7
GEC2 *e*PKPbc PKPbc 16 10 01.5 -0.9
GEC2 *e*PKPbc PKPbc 16 10 02.6 +0.2
GEC2 GERESS Array S 151.83 348 *e*PKPbc PKPbc 16 10 01.5 -0.9
GERES GERESS Array B 151.83 348 PKP PKPdf 16 09 54.8 -1.2
comp=Z,0.3nm,0.5s,baz=328,slow=4.9,SNR=4.7
GERES PKPbc PKPbc 16 10 02.2 -0.2
comp=Z,2.0nm,0.7s,baz=331,slow=1.7,SNR=9.0
CONA Conrad Observa 152.23 345 ⇑*i*pPKPdf PKPdf 16 09 57.7 +1.1
comp=Z,24nm,1.6s
FLN La Foliniere 152.27 9 *e*PKIKP PKPbc 16 10 01.9 -1.5
comp=Z,11nm,0.7s
FLN *e*MLR MLR
comp=Z,294nm,19.5s,MS4.8
FLN La Foliniere 152.27 9 *e*PKPdf PKPbc 16 10 01.9 -1.5
FLN LR LR
comp=Z,290nm,19.5s,MS5.1
BZS Buzias 152.45 335 ⇑P PKPbc 16 10 03.2 -0.6
BZS Buzias 152.45 335 ⇑*i*P PKPbc 16 10 03.3 -0.6
LDF La Druitiere 152.48 8 *e*PKIKP PKPbc 16 10 02.2 -1.6
STU Stuttgart 152.51 355 *e*PKPbc PKPbc 16 10 02.5 -1.4
GRR Gorron 152.58 9 *e*PKIKP PKPbc 16 10 02.3 -1.8
comp=Z,22nm,0.9s
QUIF Quistinic 152.62 13 *e*PKIKP PKPbc 16 10 02.1 -2.1
comp=Z,6.6nm,0.6s
CDF Champ du Feu 153.00 357 *e*PKIKP PKPbc 16 10 03.7 -1.3
comp=Z,29nm,1.3s
PKSM Moragy 153.01 340 ⇓P PKPdf 16 09 59.8 +1.9
PKSM Moragy 153.01 340 ⇓*i*P PKPdf 16 09 59.8 +2.0
BFO Black Forest 153.02 356 *e*PKPbc PKPbc 16 10 04.7 -0.4
LOR Lormes 154.15 3 *e*PKIKP PKPbc 16 10 03.6 -3.9
comp=Z,25nm,1.2s
LOR *e*MLR MLR
comp=Z,405nm,18.0s,MS5.0
LOR Lormes 154.15 3 *e*PKIKP PKPbc 16 10 03.6 -3.9
LOR MLR MLR
comp=Z,410nm,18.0s,MS5.3
SSF Saint Saulge 154.34 3 *e*PKIKP PKPbc 16 10 04.4 -3.5
CABF La Chapelle 154.83 359 *e*PKIKP PKPbc 16 10 05.4 -3.6
comp=Z,11nm,0.9s
TCF Toulx Ste Croi 155.01 5 *e*PKIKP PKPdf 16 10 05.6 +5.0
LPL La Plagne 155.91 358 *e*PKIKP PKPdf 16 10 06.7 +4.8
LPG La Plagne 155.93 358 *e*PKIKP PKPdf 16 10 07.1 +5.2
VIVF Saint-Julien-l 156.58 1 *e*PKIKP PKPdf 16 10 07.4 +4.6
MBDF Montbardon 156.70 358 *e*PKIKP PKPdf 16 10 07.8 +4.9
LASF Ste Croix 157.33 3 *e*PKIKP PKPdf 16 10 08.4 +4.6
SMRF Simiane la Rot 157.47 360 *e*PKIKP PKPdf 16 10 08.8 +4.9
comp=Z,44nm,1.5s
SJPF Ste Jean 157.62 13 *e*PKIKP PKPdf 16 10 09.0 +4.9
FRF La Foret Royal 157.87 358 *e*PKIKP PKPdf 16 10 09.3 +4.9
PGF Pioggiola 158.69 353 *e*PKIKP PKPdf 16 10 10.5 +5.0
comp=Z,16nm,1.0s
TORD Torodi Ar. Bea 171.04 155 PKP PKPdf 16 10 16.2 -0.7
comp=Z,6.5nm,1.3s,baz=259,slow=0.8,SNR=4.2
TORD PKPab PKPab 16 11 34.7 -1.0
comp=Z,3.3nm,1.2s,baz=212,slow=3.7,SNR=3.2

IDC 16 16:07:35.3±4.0,1357N∝8909W,h0km,mb3.4/4, mb1 3.8/5,mb1mx3.6/20,mbtmp3.5/5,ML3.4/1,MS3.7/1, Ms1 3.7/1,ms1mx2.9/20,Error ellipse: s-maj=84.3km s-min=37.8km az=9.0,El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**6.59**	**303**	Pn	Pn	16 09 13.9	+0.4
	0.8nm,0.3s,baz=104,slow=12,SNR=8.0						
CMIG				Sn	Sn	16 10 27.9	-1.5
	0.8nm,0.3s,baz=264,slow=16,SNR=4.2						
TXAR	**Lajitas Array**	**20.70**	**322**	P	P	16 12 18.6	+1.4
	0.4nm,0.5s,baz=153,slow=11,SNR=6.8						
LPIG	**La Paz**	**22.62**	**301**	LR	LR	16 21 53.8	
	comp=Z,194nm,19.6s,baz=38,slow=38						
NVAR	**Mina Array Bea**	**35.81**	**319**	P	P	16 14 37.1	+0.7
	0.6nm,0.7s,baz=126,slow=10,SNR=4.3						
SCHQ	**Schefferville**	**44.69**	**18**	P	P	16 15 50.1	+0.4
	1.7nm,0.7s,baz=238,slow=9.5,SNR=4.1						
YKA	**Yellowknife Ar**	**52.12**	**345**	P	P	16 16 45.5	-1.5
	0.1nm,0.3s,baz=143,slow=8.5,SNR=4.1						
WRA	**Warramunga Arr**	**138.03**	**255**	PKP	PKPdf	16 27 02.4	-0.5
	0.2nm,0.6s,baz=89,slow=2.4,SNR=5.1						

*ROM **16** 16:18:38.9±1.0,3812N∝2075E,h10km,Ml4.2/32,Error ellipse: s-maj=16.5km s-min=4.2km az=69.0*
*LDG **16** 16:18:40.0±0.1,3869N∝2014E,h10km,Mb4.4/9,Ms3.0/2, Error ellipse: s-maj=5.8km s-min=2.8km az=27.0*
*PRU **16** 16:18:41.0,3856N∝2047E,h0km,M3.8*
*PDG **16** 16:18:41.9±0.4,3821N∝2002E,h106km±5km,ML4.2/10, Error ellipse: s-maj=1.8km s-min=2.6km az=0.0*
*MOS **16** 16:18:41.8±2.0,3834N∝2015E,h21km,mb3.9/6,Error ellipse: s-maj=5.3km s-min=3.6km az=91.9*
*NEIC **16** 16:18:42.0,3830N∝2037E,h14km,mb3.8/3,MD4.1(ATH), ML4.5(THE),ML4.2(PDG),ML4.2(ROM),After ATH.*
*CSEM **16** 16:18:42.8±0.1,3832N∝2037E,h0km,Ms3.0,Error ellipse: s-maj=1.3km s-min=1.0km az=2.0*
*ATH **16** 16:18:42.0,3830N∝2037E,h14km,MD4.1/19,ML4.1*
*ISCJB **16** 16:18:43.2±0.3,3837N∝002∝2036E±002,h20km±3km, mb3.9/17,MS3.1/2,Error ellipse: s-maj=3.0km s-min=2.2km az=7.0*
*IDC **16** 16:18:44.6±5.2,3842N∝2038E,h24km±36km,mb3.8/12, mb1 3.8/20,mb1mx3.7/32,mbtmp3.7/20,ML3.9/8,MS3.0/1, Ms1 3.1/1,ms1mx2.6/39,Error ellipse: s-maj=15.2km s-min=12.8km az=158.0*
*THE **16** 16:18:44.1,3838N∝2049E,h1km,ML4.5*
*NAO **16** 16:18:58.0,3970N∝2184E,h33km,mb3.4*

ISC 16 16:18:43.0±0.4,3836N∝001∝2041E∝002,h7km±2km,n250, σ1§26/306,mb3.9/17,MS3.1/2,7C-21D,Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.23**	**142**	*e*PG	**Pg**	**16 18 47.2**	**-0.3**
VLS				*e*SG	**Sg**	**16 18 50.6**	**+0.1**
KFL	**Anninata**	**0.39**	**130**	*e*Pg	**Pg**	**16 18 49.9**	**-0.6**
LKD	**Levkas**	**0.40**	**28**	*e*Pg	**Pg**	**16 18 49.8**	**-0.9**
LKD				*e*Sg	**Sg**	**16 18 55.5**	**-0.4**
RLS	**Riolos of Patr**	**0.88**	**109**	*e*PB	**Pb**	**16 18 59.0**	**-1.6**
SELA	**Sela**	**1.17**	**94**	*e*Pg	**Pg**	**16 19 03.8**	**-1.6**
SELA				*e*Sg	**Sg**	**16 19 21.4**	**+0.9**
IGT	**Igoumenitsa**	**1.18**	**357**	*e*Pg	**Pg**	**16 19 04.9**	**-0.7**
IGT				*e*Sg	**Sg**	**16 19 22.6**	**+1.7**
EVR	**Evrytania**	**1.23**	**62**	*e*PB	**Pb**	**16 19 06.4**	**-0.1**
JAN	**Janina**	**1.34**	**15**	*e*PB	**Pb**	**16 19 08.7**	**+0.2**
JAN				*e*SB	**Sb**	**16 19 27.3**	**+1.4**
KEK	**Kerkira**	**1.44**	**341**	*e*Pg	**Pg**	**16 19 09.6**	**-0.9**
SRN	**Sarande**	**1.55**	**348**	*i* PG	**Pg**	**16 19 12.5**	**-0.3**
SRN				*i* SG	**Sg**	**16 19 35.2**	**+2.2**
MEV	**Metsovon**	**1.56**	**24**	*e*Pg	**Pg**	**16 19 11.9**	**-1.0**
MEV				*e*Sg	**Sg**	**16 19 33.4**	**+0.2**
MEV	**Metsovon**	**1.56**	**24**	*e*Pg	**Pg**	**16 19 11.9**	**-1.0**
MEV				*e*Sg	**Sg**	**16 19 33.4**	**+0.2**
AGG	**Agios Georgios**	**1.64**	**66**	*e*Pg	**Pg**	**16 19 11.9**	**-2.6**
AGG				*e*Sg	**Sg**	**16 19 34.2**	**-1.6**
ITM	**Ithomi**	**1.68**	**134**	*e*PB	**Pb**	**16 19 12.8**	**-1.4**
ITM				*e*SB	**Sb**	**16 19 35.7**	**+0.2**
THL	**Klokotos Trika**	**1.74**	**45**	*e*PN	**Pn**	**16 19 14.4**	**+0.8**
PYL	**PYLOS**	**1.80**	**144**	*e*Pb	**Pb**	**16 19 14.8**	**-1.5**
PYL				*e*Sb	**Sb**	**16 19 39.3**	**+0.2**
VLX	**Vlachokerasia**	**1.84**	**122**	*e*Pb	**Pb**	**16 19 16.7**	**-0.3**
VLX				*e*Sb	**Sb**	**16 19 39.3**	**-1.0**
LTK	**Loutraki**	**2.04**	**99**	*e*Pn	**Pn**	**16 19 18.9**	**+1.2**
LTK				*e*Sn	**Sn**	**16 19 43.8**	**+0.3**
LKR	**Lokris**	**2.05**	**81**	*e*PN	**Pn**	**16 19 18.9**	**+1.0**
KZN	**Kozani**	**2.21**	**28**	*e*PN	**Pn**	**16 19 21.4**	**+1.3**
KBN	**Korca**	**2.28**	**7**	*i* PN	**Pn**	**16 19 24.0**	**+2.9**
KBN				*i* SN	**Sn**	**16 19 55.9**	**+6.5**
LIT	**Litokhoron**	**2.37**	**42**	*e*Pn	**Pn**	**16 19 23.3**	**+1.0**
LIT				*e*Sn	**Sn**	**16 19 52.7**	**+1.0**
DID	**Didima**	**2.39**	**110**	*e*Pn	**Pn**	**16 19 23.7**	**+1.2**
DID				*e*Sn	**Sn**	**16 19 53.5**	**+1.4**
NEO	**Neokhori**	**2.39**	**66**	*e*PN	**Pn**	**16 19 23.8**	**+1.2**
XOR	**Xorichti**	**2.39**	**64**	*e*Pn	**Pn**	**16 19 23.7**	**+1.1**
NAIG	**Nisos Aigina**	**2.50**	**103**	*e*PB	**Pb**	**16 19 24.5**	**-3.7**
FNA	**Florina**	**2.54**	**17**	*e*Pn	**Pn**	**16 19 25.5**	**+0.9**
FNA				*e*Sn	**Sn**	**16 19 57.6**	**+2.0**
VLI	**Veliai**	**2.59**	**128**	*e*PB	**Pb**	**16 19 25.7**	**-4.0**
ATH	**Athens Observa**	**2.63**	**97**	*e*PB	**Pb**	**16 19 27.0**	**-3.5**
KVR	**Kavouri**	**2.70**	**100**	*e*PN	**Pn**	**16 19 27.0**	**+0.2**
PTL	**Penteli**	**2.74**	**95**	*e*PN	**Pn**	**16 19 27.5**	**+0.2**
OHR	**Ohrid**	**2.77**	**6**	*e*Pn	**Pn**	**16 19 28.3**	**+0.6**
OHR				*e*Sn	**Sn**	**16 20 03.1**	**+1.7**
OHR	**Ohrid**	**2.77**	**6**	*i* Pn	**Pn**	**16 19 28.3**	**+0.6**
OHR				*i* Sn	**Sn**	**16 20 02.4**	**+1.0**
AOS	**Alonnisos**	**2.83**	**72**	*e*Pn	**Pn**	**16 19 29.5**	**+0.9**
KYTH	**Kithira**	**2.94**	**134**	*e*PB	**Pb**	**16 19 31.3**	**-4.5**
TIP	**Timpagrande**	**2.97**	**287**	Pn	**Pn**	**16 19 30.8**	**+0.2**
154nm,0.7s							
PAIG	**Paliouri**	**2.98**	**57**	*e*Pn	**Pn**	**16 19 30.9**	**+0.1**
PAIG				*e*Sn	**Sn**	**16 20 07.9**	**+1.1**
SERS	**Sersale**	**2.99**	**284**	Pn	**Pn**	**16 19 31.4**	**+0.6**
185nm,0.7s							
THE	**Thessaloniki**	**3.01**	**40**	*e*Pn	**Pn**	**16 19 32.4**	**+1.3**
THE				*e*Sn	**Sn**	**16 20 08.6**	**+1.2**
GRG	**Griva**	**3.02**	**30**	*e*Pn	**Pn**	**16 19 32.1**	**+1.0**
GRG				*e*Sn	**Sn**	**16 20 08.3**	**+0.8**
TIR	**Tirane**	**3.02**	**352**	*e*Pn	**Pn**	**16 19 31.9**	**+0.7**
TIR				*e*Sn	**Sn**	**16 20 10.2**	**+2.6**
TIR	**Tirane**	**3.02**	**352**	*i* PN	**Pn**	**16 19 31.8**	**+0.6**
TIR	**Tirane**	**3.02**	**352**	Pn	**Pn**	**16 19 31.9**	**+0.7**
367nm,0.7s							
TIR				*e*Sn	**Sn**	**16 20 10.2**	**+2.7**
HORT	**Hortiatis**	**3.05**	**42**	*e*Pn	**Pn**	**16 19 31.8**	**+0.1**
PLG	**Polygyros**	**3.10**	**48**	*e*Pn	**Pn**	**16 19 32.8**	**+0.6**
PLG				*e*Sn	**Sn**	**16 20 10.3**	**+0.9**
PLG	**Polygyros**	**3.10**	**48**	*e*PN	**Pn**	**16 19 33.3**	**+1.1**
PLAC	**Placanica**	**3.12**	**273**	Pn	**Pn**	**16 19 32.6**	**0.0**
110nm,1.1s							
GRI	**Girifalco**	**3.16**	**280**	Pn	**Pn**	**16 19 33.5**	**+0.3**
104nm,0.6s							
TA1	**Taranto**	**3.17**	**311**	*e*Pn	**Pn**	**16 19 35.1**	**+1.8**
QSH	**Qafa e Shtames**	**3.19**	**353**	*i* PN	**Pn**	**16 19 33.0**	**-0.5**
QSH				*i* SN	**Sn**	**16 20 12.4**	**+0.7**
SOH	**Sokhos**	**3.35**	**42**	*e*Pn	**Pn**	**16 19 36.8**	**+1.0**
SOH				*e*Sn	**Sn**	**16 20 17.3**	**+1.5**
PE1	**Pezze di Greco**	**3.36**	**318**	*e*Pn	**Pn**	**16 19 35.2**	**-0.7**
KNT	**Kendrikon**	**3.39**	**34**	*e*Pn	**Pn**	**16 19 36.8**	**+0.4**
VAY	**Valandovo**	**3.39**	**29**	*e*Pn	**Pn**	**16 19 37.7**	**+1.4**
VAY	**Valandovo**	**3.39**	**29**	*i* Pn	**Pn**	**16 19 37.7**	**+1.3**
CARO	**Carolei**	**3.40**	**287**	Pn	**Pn**	**16 19 37.9**	**+1.5**
396nm,0.7s							
OUR	**Ouranopolis**	**3.40**	**53**	*e*Pn	**Pn**	**16 19 37.5**	**+1.1**
SOI	**Samo**	**3.44**	**267**	Pn	**Pn**	**16 19 36.6**	**-0.4**
109nm,0.6s							
MPAZ	**Palizzi**	**3.50**	**265**	Pn	**Pn**	**16 19 37.1**	**-0.7**
242nm,0.5s							
ORI	**Oriolo Calabro**	**3.52**	**300**	Pn	**Pn**	**16 19 38.9**	**+0.8**
725nm,0.6s							
NOCI	**Noci**	**3.55**	**314**	Pn	**Pn**	**16 19 38.0**	**-0.5**
737nm,0.6s							
JOPP	**Joppolo**	**3.56**	**275**	Pn	**Pn**	**16 19 38.9**	**+0.2**
243nm,0.9s							
STIP	**Stip**	**3.60**	**22**	*i* Pn	**Pn**	**16 19 40.6**	**+1.4**
CRAC	**Craco**	**3.68**	**304**	Pn	**Pn**	**16 19 40.9**	**+0.6**
873nm,0.7s							
SCLL	**Scilla**	**3.70**	**270**	Pn	**Pn**	**16 19 40.3**	**-0.2**
23nm,0.4s							
PUK	**Puka**	**3.70**	**354**	*i* PN	**Pn**	**16 19 40.1**	**-0.5**
PUK				*i* SN	**Sn**	**16 20 23.3**	**-1.2**
ULC	**Ulcinj**	**3.71**	**346**	⇓*i*Pn	**Pn**	**16 19 39.4**	**-1.3**
ULC				*e*Sn	**Sn**	**16 20 22.1**	**-2.6**
MTTG	**Motta San Giov**	**3.74**	**266**	Pn	**Pn**	**16 19 40.7**	**-0.3**
380nm,0.8s							
SG1	**Sgolgore (BA)**	**3.80**	**312**	*e*Pn	**Pn**	**16 19 42.0**	**0.0**
MIGL	**Miglionico**	**3.81**	**307**	Pn	**Pn**	**16 19 42.3**	**+0.3**
2km,0.9s							
SCHR	**S. Chirico Rap**	**3.84**	**300**	Pn	**Pn**	**16 19 43.7**	**+1.3**
229nm,0.9s							
MSRU	**Castanea**	**3.86**	**270**	Pn	**Pn**	**16 19 42.9**	**+0.2**
193nm,0.5s							
BAI	**Bari**	**3.87**	**316**	*e*Pn	**Pn**	**16 19 43.1**	**+0.2**
AMUR	**Altamura**	**3.89**	**312**	Pn	**Pn**	**16 19 42.6**	**-0.6**
468nm,0.8s							
SIRI	**Monte Sirino -**	**3.97**	**299**	Pn	**Pn**	**16 19 45.6**	**+1.3**
191nm,0.7s							
MCEL	**Monticello**	**4.08**	**300**	Pn	**Pn**	**16 19 46.8**	**+1.0**
227nm,0.7s							
MTSN	**Montesano sull**	**4.09**	**299**	Pn	**Pn**	**16 19 46.9**	**+1.0**
MMME	**Mongiuffi-Meli**	**4.09**	**266**	Pn	**Pn**	**16 19 45.5**	**-0.4**
191nm,0.6s							
BUM	**Brajici-Budva**	**4.11**	**344**	⇓*i*Pn	**Pn**	**16 19 44.7**	**-1.4**
BUM				*e*Sn	**Sn**	**16 20 30.8**	**-3.6**
PDG	**Podgorica**	**4.16**	**348**	⇓*i*Pn	**Pn**	**16 19 45.9**	**-1.0**
PDG				*e*Sn	**Sn**	**16 20 32.9**	**-2.9**
TTG	**Podgorica**	**4.16**	**348**	⇓*i*Pn	**Pn**	**16 19 45.9**	**-1.0**
TTG				*e*Sn	**Sn**	**16 20 32.9**	**-2.9**
MGR	**Morigerati**	**4.17**	**297**	Pn	**Pn**	**16 19 48.1**	**+1.1**
360nm,0.8s							
CDT	**Castel del Mon**	**4.19**	**312**	*e*Pn	**Pn**	**16 19 47.7**	**+0.4**
PVY	**Plav**	**4.25**	**356**	⇓*i*Pn	**Pn**	**16 19 47.5**	**-0.6**
PVY				*e*Sn	**Sn**	**16 20 36.7**	**-1.2**
APE	**Apeiranthos**	**4.26**	**106**	*e*Pn	**Pn**	**16 19 50.3**	**+2.1**
APE	**Apeiranthos**	**4.26**	**106**	*e*P	**Pn**	**16 19 50.6**	**+2.4**
APE	**Apeiranthos**	**4.26**	**106**	*e*Pn	**Pn**	**16 19 50.1**	**+1.9**
HCY	**Herceg Novi**	**4.34**	**341**	⇓*i*Pn	**Pn**	**16 19 46.9**	**-2.4**
HCY				*e*Sn	**Sn**	**16 20 36.2**	**-4.0**
CMPR	**Campora**	**4.42**	**298**	Pn	**Pn**	**16 19 51.5**	**+1.1**
166nm,1.0s							
HAVL	**Avola**	**4.42**	**253**	Pn	**Pn**	**16 19 48.2**	**-2.3**
580nm,0.3s							
CHOS	**Chios island**	**4.43**	**88**	*e*Pn	**Pn**	**16 19 51.9**	**+1.3**
CDRU	**Civita di Ruta**	**4.49**	**300**	Pn	**Pn**	**16 19 52.3**	**+0.9**
106nm,0.7s							
MRLC	**Muro Lucano**	**4.50**	**304**	Pn	**Pn**	**16 19 53.6**	**+2.1**
25nm,0.4s							
SGO	**Sicignano**	**4.52**	**301**	Pn	**Pn**	**16 19 53.4**	**+1.5**
62nm,0.4s							
BEY	**Berane**	**4.53**	**355**	⇓*i*Pn	**Pn**	**16 19 51.5**	**-0.4**
BEY				*e*Sn	**Sn**	**16 20 43.3**	**-1.5**
IVA	**Berane**	**4.53**	**355**	⇓*i*Pn	**Pn**	**16 19 51.5**	**-0.4**
IVA				*e*Sn	**Sn**	**16 20 43.3**	**-1.5**
NKY	**Niksic**	**4.58**	**347**	⇓*i*Pn	**Pn**	**16 19 50.9**	**-1.7**
NKY				*e*Sn	**Sn**	**16 20 43.1**	**-3.0**
BARS	**Barje**	**4.59**	**13**	*e*Pn	**Pn**	**16 19 52.0**	**-0.7**
HVZN	**Vizzini**	**4.67**	**257**	Pn	**Pn**	**16 19 51.8**	**-2.0**
541nm,0.4s							
MCRV	**Calabrutti - M**	**4.72**	**303**	Pn	**Pn**	**16 19 55.1**	**+0.5**
112nm,0.3s							
VTS	**Vitosha**	**4.74**	**26**	*e*Pn	**Pn**	**16 19 55.9**	**+1.1**
VTS	**Vitosha**	**4.74**	**26**	*e*Pn	**Pn**	**16 19 55.8**	**+1.0**
BRY	**Bratogost**	**4.76**	**343**	⇓*i*P	**Pn**	**16 19 53.4**	**-1.7**
BRY				*e*Sn	**Sn**	**16 20 45.8**	**-4.6**
SNAL	**S. Angelo Dei**	**4.77**	**304**	Pn	**Pn**	**16 19 56.4**	**+1.2**
466nm,1.1s							
SGTA	**Sant Agata di**	**4.78**	**307**	Pn	**Pn**	**16 19 55.5**	**+0.1**
302nm,1.0s							
FGMS	**Monte Sant'Ang**	**4.79**	**316**	Pn	**Pn**	**16 19 54.9**	**-0.6**
173nm,0.7s							
MS1	**Monte Sant'Ang**	**4.79**	**316**	*e*Pn	**Pn**	**16 19 56.1**	**+0.6**
CAFE	**Carife**	**4.80**	**305**	Pn	**Pn**	**16 19 57.0**	**+1.3**
184nm,0.7s							
MSAG	**Monte S. Angel**	**4.81**	**316**	Pn	**Pn**	**16 19 55.2**	**-0.7**
319nm,0.6s							
VAE	**Valguarnera**	**4.83**	**261**	Pn	**Pn**	**16 19 57.3**	**+1.2**
1.9nm,0.3s,baz=122,slow=12,SNR=2.1							
VAE				Sn	**Sn**	**16 20 50.8**	**-1.3**
5.9nm,0.3s,baz=97,slow=3.4,SNR=5.1							
CSSN	**Cassano Irpino**	**4.86**	**303**	Pn	**Pn**	**16 19 58.6**	**+2.2**
44nm,0.4s							
FG5	**Orsara di Pugl**	**4.92**	**308**	Pn	**Pn**	**16 19 58.7**	**+1.4**
99nm,0.5s							
SGRT	**San Giovanni R**	**4.93**	**315**	Pn	**Pn**	**16 19 57.7**	**+0.2**
205nm,0.7s							
STON	**Ston**	**4.96**	**336**	*e*Pn	**Pn**	**16 19 55.4**	**-2.4**
STON				Sn	**Sn**	**16 20 50.8**	**-4.6**
STON	**Ston**	**4.96**	**336**	*e*Pn	**Pn**	**16 19 55.4**	**-2.5**
STON				Sn	**Sn**	**16 20 50.7**	**-4.7**
UPM	**Unac-Piva**	**4.97**	**347**	⇓*i*Pn	**Pn**	**16 19 56.8**	**-1.2**
UPM				*e*Sn	**Sn**	**16 20 52.1**	**-3.7**
MRB1	**Monte Rocchett**	**5.02**	**305**	Pn	**Pn**	**16 20 00.3**	**+1.6**
293nm,0.9s							
CSLB	**Castelbuono**	**5.03**	**267**	Pn	**Pn**	**16 19 59.2**	**+0.4**
31nm,0.6s							
PLE	**Pljevlja**	**5.03**	**351**	⇓*i*Pn	**Pn**	**16 19 58.2**	**-0.6**
PLE				*e*Sn	**Sn**	**16 20 54.6**	**-2.5**
ALN	**Alexandroupoli**	**5.03**	**58**	*e*Pn	**Pn**	**16 19 59.6**	**+0.7**
GIB	**Gibilmanna**	**5.05**	**268**	Pn	**Pn**	**16 19 59.3**	**+0.2**
WDD	**Wield Dalam**	**5.32**	**244**	Pn	**Pn**	**16 20 02.4**	**-0.5**
123nm,0.6s							
SACR	**S. Croce Del S**	**5.34**	**306**	Pn	**Pn**	**16 20 05.6**	**+2.5**
59nm,1.1s							
CIGN	**Sant'Elia a Pi**	**5.36**	**310**	Pn	**Pn**	**16 20 04.4**	**+1.0**
82nm,0.8s						

KOLL	Kolacno	10.32	353	eSN	Sn	16 23 00.2	-7.1
SBF	Sospel	11.22	303	eP	Pn	16 21 18.8	-5.0
MOTA	Moosalm	11.28	326	⇑iPn	Pn	16 21 24.0	-0.5
MOTA				iSn	Sn	16 23 26.5	-4.2
DAVOX	Davos/Dischmat	11.44	321	Pn	Pn	16 21 26.5	-0.2
	comp=Z,0.6nm,0.3s,baz=80,slow=9.2,SNR=5.0						
DAVOX				Sn	Sn	16 23 27.6	-7.1
	comp=Z,0.6nm,0.3s,baz=157,slow=20,SNR=3.1						
GERES	GERESS Array B	11.55	337	Pn	Pn	16 21 26.5	-1.7
	comp=Z,0.4nm,0.3s,baz=159,slow=13,SNR=9.9						
GERES				Sn	Sn	16 23 31.3	-6.1
	comp=Z,0.4nm,0.3s,baz=221,slow=42,SNR=3.5						
KHC	Kasperske Hory	11.84	338	ePn	Pn	16 21 30.5	-1.7
KHC				e		16 21 41.0	
KHC				eSn	Sn	16 23 35.4	-9.1
KHC	Kasperske Hory	11.84	338	eP	Pn	16 21 30.5	-1.7
KHC				x	x	16 21 41.0	
KHC				eS	Sn	16 23 35.4	-9.1
MBDF	Montbardon	12.03	306	eP	Pn	16 21 30.0	-4.8
	comp=Z,14nm,1.0s						
MBDF	Montbardon	12.03	306	eP	Pn	16 21 30.0	-4.8
MBDF				pmax	pmax		
	comp=Z,7.0nm,1.0s						
MBDF	Montbardon	12.03	306	eP	Pn	16 21 30.0	-4.8
	comp=Z,7.1nm,1.0s						
LPG	La Plagne	12.42	309	eP	Pn	16 21 35.5	-4.6
	comp=Z,5.7nm,0.7s						
LPG	La Plagne	12.42	309	eP	Pn	16 21 35.5	-4.6
LPG				pmax	pmax		
	comp=Z,3.0nm,0.7s						
LPG	La Plagne	12.42	309	eP	Pn	16 21 35.5	-4.6
	comp=Z,2.8nm,0.7s						
LPL	La Plagne	12.44	309	eP	Pn	16 21 35.4	-4.9
	comp=Z,3.8nm,0.6s						
LPL	La Plagne	12.44	309	eP	Pn	16 21 35.4	-4.9
LPL				pmax	pmax		
	comp=Z,2.0nm,0.6s						
LPL	La Plagne	12.44	309	eP	Pn	16 21 35.4	-4.9
	comp=Z,1.9nm,0.6s						
ORIF	Oris-en-Rattie	12.69	306	eP	Pn	16 21 38.7	-5.0
	comp=Z,7.9nm,0.8s						
ORIF				eMLR	MLR		
	comp=Z,258nm,19.5s						
ORIF	Oris-en-Rattie	12.69	306	eP	Pn	16 21 38.7	-5.0
ORIF				pmax	pmax		
	comp=Z,4.0nm,0.8s						
ORIF	Oris-en-Rattie	12.69	306	eP	Pn	16 21 38.7	-5.0
	comp=Z,4.0nm,0.8s						
PVCC	Panska Ves	12.86	343	eS	Sn	16 23 59.5	-10
MMAI	Mount Meron Ar	13.29	109	Pn	Pn	16 21 50.3	-1.8
	comp=Z,0.7nm,0.3s,baz=326,slow=13,SNR=3.0						
HINF	Hinteralfeld	13.68	318	eP	Pn	16 21 51.8	-5.5
AKASG	Malin Array Be	13.84	24	Pn	Pn	16 21 59.0	-0.4
	comp=Z,0.2nm,0.3s,baz=211,slow=12,SNR=3.9						
CDF	Champ du Feu	13.85	321	eP	Pn	16 21 53.9	-5.7
	comp=Z,1.9nm,0.3s						
CDF	Champ du Feu	13.85	321	eP	Pn	16 21 53.9	-5.7
CDF				pmax	pmax		
	comp=Z,1.0nm,0.3s						
CDF	Champ du Feu	13.85	321	eP	Pn	16 21 53.9	-5.7
	comp=Z,0.9nm,0.3s						
MALT	Malatya	14.14	85	⇑P	Pn	16 22 11.8	+8.1
MALT	Malatya	14.14	85	⇑iP	Pn	16 22 11.8	+8.1
EIL	Elat	14.83	121	Pn	Pn	16 22 12.4	-0.7
	comp=Z,0.3nm,0.3s,baz=326,slow=18,SNR=3.3						
EIL				Sn	Sn	16 24 48.4	-9.4
	comp=Z,0.5nm,0.3s,baz=312,slow=22,SNR=4.7						
LOR	Lormes	15.04	312	eP	Pn	16 22 09.6	-6.2
SSF	Saint Saulge	15.15	310	eP	Pn	16 22 10.5	-6.7
BAIF	Baives	16.45	321	eP	Pn	16 22 27.3	-6.8
	comp=Z,11nm,0.8s						
BAIF	Baives	16.45	321	eP	Pn	16 22 27.3	-6.8
BAIF				pmax	pmax		
	comp=Z,6.0nm,0.8s						
BAIF	Baives	16.45	321	eP	Pn	16 22 27.3	-6.8
	comp=Z,5.6nm,0.8s						
GRR	Gorron	18.37	310	eP	Pn	16 22 51.9	-6.2
ESDC	Sonseca Array	18.98	282	P	Pn	16 23 03.8	-1.8
	comp=Z,0.6nm,0.3s,baz=82,slow=11,SNR=4.1						
QUIF	Quistinic	19.61	307	eP	Pn	16 23 06.4	-6.7
OBN	Obninsk	20.00	28	eP	P	16 23 15.0	-1.0
OBN				e		16 23 29.8	
OBN				pmax	pmax		
	comp=Z,4.0nm,0.8s						
OBN				MLR	MLR		
	comp=Z,100nm,16.0s,MS3.3						
OBN	Obninsk	20.00	28	eP	P	16 23 15.0	-1.0
	comp=Z,4.0nm,0.8s						
VSU	Vasula	20.54	9	eP	P	16 23 21.1	-0.6
MDT	Midelt	21.06	262	P	P	16 23 26.3	-1.3
	comp=Z,10nm,0.8s,mb4.2,baz=243,slow=9.8,SNR=8.2						
HFS	Hagfors	22.21	351	P	P	16 23 38.9	-0.8
	comp=Z,3.5nm,0.5s,mb4.1,baz=152,slow=16,SNR=19						
KONO	Kongsberg	22.40	346	eP	P	16 23 43.2	+1.4
EKA	Eskdalemuir Ar	23.23	325	P	P	16 23 50.4	-0.2
	comp=Z,2.4nm,0.7s,mb3.7,baz=125,slow=9.2,SNR=6.8						
EKA	Eskdalemuir Ar	23.23	325	P	P	16 23 50.3	-0.3
FINES	FINESS Array B	23.38	7	iP	P	16 23 50.5	-1.6
FINES				pmax	pmax		
	comp=Z,2.0nm,0.5s						
FINES	FINESS Array B	23.38	7	P	P	16 23 48.6	-3.5
	comp=Z,1.8nm,0.5s,mb3.8,baz=175,slow=9.8,SNR=8.8						
FINES	FINESS Array B	23.38	7	iP	P	16 23 50.5	-1.6
	comp=Z,2.0nm,0.5s,mb3.8						
NB2	NORSAR Subarra	23.43	349	P	P	16 23 52.4	-0.2
	comp=Z,1.0nm,0.5s,mb3.5,baz=158,slow=10						
NOA	NORSAR Array B	23.43	349	P	P	16 23 50.1	-2.5
	comp=Z,1.0nm,0.6s,mb3.4,baz=157,slow=10,SNR=6.4						
NOA				LR	LR	16 32 54.3	
	comp=Z,43nm,21.5s,MS2.9,baz=320,slow=36						
KAF	Kangasniemi	24.06	7	ep	P	16 23 54.6	-3.9
	comp=Z,0.6nm,0.4s,mb3.4,baz=187,slow=10						
KAF	Kangasniemi	24.06	7	eP	P	16 23 54.6	-3.9
KAF				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb3.6						
JOF	Joensuu	25.47	12	ep	P	16 24 08.7	-2.7
	comp=Z,0.8nm,0.3s,mb3.7						
AKTK	Aktyubinsk	29.14	53	P	P	16 24 43.8	-0.6
AKTO	Aktyubinsk	29.14	53	P	P	16 24 43.8	-0.6
	comp=Z,0.6nm,0.4s,mb3.6,baz=228,slow=7.5,SNR=4.4						
TORD	Torodi Ar. Bea	30.12	219	P	P	16 24 52.7	-0.7
	comp=Z,1.4nm,0.9s,mb3.7,baz=30,slow=8.7,SNR=7.1						
ARU	Arti	30.98	42	eP	P	16 24 59.9	-0.8
ARU				pmax	pmax		
	comp=Z,2.0nm,1.3s,mb3.8						
ARU	Arti	30.98	42	eP	P	16 24 59.9	-0.8
	comp=Z,2.0nm,1.3s,mb3.8						
ARCES	ARCESS Array B	31.36	3	P	P	16 25 03.6	-0.2
	comp=Z,1.7nm,0.8s,mb3.9,baz=183,slow=6.3,SNR=3.0						
EKS2	Erkin-Say	40.24	66	eP	P	16 26 21.0	+0.8
	comp=Z,3.0nm,0.7s,mb4.1						
MK31	Makanchi Array	45.28	59	eP	P	16 26 59.8	-1.3
MK31	Makanchi Array	45.28	59	eP	P	16 26 59.8	-1.3
MKAR	Makanchi Array	45.28	59	iP	P	16 26 59.5	-1.6
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
MKAR	Makanchi Array	45.28	59	P	P	16 26 59.3	-1.8
	comp=Z,1.0nm,0.4s,mb4.0,baz=279,slow=7.4,SNR=21						
ZAL	Zalesovo	45.62	48	P	P	16 27 02.2	-1.5
ZAA0	Zalesovo Array	45.64	48	eP	P	16 27 02.1	-1.7
ZAA0	Zalesovo Array	45.64	48	eP	P	16 27 02.1	-1.7
ZALV	Zalesovo Beam	45.64	48	P	P	16 27 02.2	-1.6
ZALV	Zalesovo Beam	45.64	48	P	P	16 27 02.2	-1.6
	comp=Z,2.7nm,0.5s,mb4.5,baz=280,slow=8.5,SNR=15						
SCHQ	Schefferville	58.27	317	P	P	16 28 37.2	-0.7
SCHQ	Schefferville	58.27	317	P	P	16 28 37.2	-0.7
	comp=Z,2.1nm,0.7s,mb4.3,baz=53,slow=7.5,SNR=5.2						
SONM	Songino Array	60.41	51	P	P	16 28 52.6	-0.2
	comp=Z,0.6nm,0.8s,mb3.6,baz=282,slow=7.0,SNR=4.5						
BILL	Bilibino	70.86	13	eP	P	16 29 59.7	-0.3
BILL				eSS	SS	16 43 41.7	-4.7
BILL				pmax	pmax		
	comp=Z,1.0nm,1.1s,mb3.7						
BILL	Bilibino	70.86	13	eP	P	16 29 59.7	-0.3
	comp=Z,1.0nm,1.1s,mb3.7						
SKR	Severo-Kuril's	83.17	27	eP	P	16 31 03.0	-6.6
WRA	Warramunga Arr	120.63	92	PKP	PKPdf	16 37 33.9	-2.0
	comp=Z,0.6nm,1.1s,baz=315,slow=1.5,SNR=4.7						
ASAR	Alice Springs	122.28	96	PKP	PKPdf	16 37 37.5	-1.5
	comp=Z,0.2nm,0.5s,baz=302,slow=1.7,SNR=6.4						

*NNC **16** 16:27:24.1±3.6, 4169N×7186E, h140km±18km, mb2.3, mpv3.3, Error ellipse: s-maj=65.1km s-min=13.5km az=16.0*

ISC 16 16:27:22.1±4.3, 412N±04×713E±02, h35km, n10, σ1§17/11, 4C-1D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	Karatay Array	1.94	344	⇑Pn	Pn	16 27 56.3	+3.6
	25nm,0.5s,baz=137,slow=11,SNR=284						
KK31				⇑Lg		16 28 28.4	
	33nm,0.3s,baz=155,slow=28,SNR=15						
AML	Almayashu	2.04	63	P	Pn	16 27 51.5	-2.4
	SNR=50						
EKS2	Erkin-Say	2.36	52	P	Pn	16 27 58.5	+0.1
	SNR=63						
UCH	Uchtor	2.64	67	P	Pn	16 28 01.4	-0.7
	SNR=13						
AAK	Ala-Archa	2.79	59	P	Pn	16 28 03.9	-0.4
	SNR=9.3						
KBK	Karagaybulak	3.10	62	P	Pn	16 28 09.9	+1.4
	SNR=13						
KZA	Kyzart	3.11	73	P	Pn	16 28 09.1	+0.5
	SNR=6.2						
USP	Ospenovka	3.15	49	P	Pn	16 28 12.7	+3.5
	SNR=12						
TKM2	Tokmak 2	3.65	61	⇓Pn	Pn	16 28 11.4	-4.6
	3.0nm,0.4s						
TKM2				⇑Lg		16 29 09.6	
	16nm,0.4s						
AB31	Akbulak array	11.30	319	Pn	Pn	16 30 01.1	+0.2
	0.7nm,0.8s,baz=131,slow=14,SNR=4.2						
AB31				⇑Sn	Sn	16 32 05.2	-0.5
	1.9nm,0.9s,baz=128,slow=22,SNR=2.5						

*ISCJB **16** 16:40:30.6±1.0, 3167S±002×7221W±006, h15km±7km, mb3.5/3, Error ellipse: s-maj=8.6km s-min=3.8km az=176.2*
*GUC **16** 16:40:32.5±0.5, 3168S×7208W, h28km±1km, MD4.1, ML4.1*
*NEIC **16** 16:40:33.5±4.7, 3165S×72.15W, h31km±35km, Error ellipse: s-maj=28.2km s-min=14.8km az=94.0*
*IDC **16** 16:40:34.5±6.3, 3171S×7189W, h34km±50km, mb3.5/3, mb1 3.7/6, mb1mx3.6/18, mbtmp3.5/6, ML3.8/3, Error ellipse: s-maj=38.6km s-min=32.2km az=97.0*

ISC 16 16:40:30.7±1.0, 3167S±002×7211W±006, h4km±5km, n30, σ0§71/45, mb3.5/3, 4C-5D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHNG	Los Chungos	0.56	112	⇓iP	Px	16 40 23.9	
CHNG				iS	Sx	16 40 31.8	
PACH	Papudo	1.04	147	⇓iP	Pg	16 40 50.9	+0.2
PACH				iS	Sg	16 41 04.1	0.0
CMCH	Combarbala	1.07	63	⇑iP	Pg	16 40 51.1	-0.1
CMCH				iS	Sg	16 41 05.4	+0.3
CMCH				AML	AML	16 41 07.6	
	comp=E,26μm,0.8s						
PTCH	Petorca	1.17	121	⇑iP	Pg	16 40 52.7	-0.4
PTCH				iS	Sg	16 41 07.5	-0.7
OVCH	Ovalle	1.32	37	iP	Pn	16 40 55.1	-0.7
OVCH				iS	Sg	16 41 12.5	-0.4
OVCH				AML	AML	16 41 30.5	
	comp=N,3μm,0.6s						
ROCH	El Roble	1.60	145	eP	Pn	16 40 59.7	-0.1
ROCH				iS	Sn	16 41 20.6	-0.3
JACH	Jahuel	1.64	128	iP	Pn	16 41 00.3	0.0
JACH				iS	Sn	16 41 21.1	-0.7
TLL	Tololo Astrono	1.87	37	eP	Pn	16 41 04.1	+0.6
TLL				eS	Sn	16 41 28.4	+0.8
TLL				AML	AML	16 41 40.6	
	comp=N,2μm,0.5s						
PEL	Peldehue	1.90	141	⇑iP	Pn	16 41 03.9	0.0
PEL				iS	Sn	16 41 28.3	-0.1
PEL				AML	AML	16 41 34.3	
	comp=E,5μm,0.5s						
CLCH	Cerro Calan	2.18	143	eP	Pn	16 41 08.0	+0.3
CLCH				eS	Sn	16 41 35.0	-0.2
CLCH				AML	AML	16 41 45.3	
	comp=E,2μm,0.5s						
TACH	Talagante	2.21	154	⇓iP	Pn	16 41 08.4	+0.2
TACH				iS	Sn	16 41 35.7	-0.3
FCH	Farellones	2.26	138	⇓iP	Pn	16 41 09.7	+0.8
FCH				iS	Sn	16 41 37.8	+0.6
FCH				AML	AML	16 41 52.4	
	comp=E,728nm,0.5s						
ANTU	Antumapu	2.27	147	AML	AML	16 41 48.8	
	comp=N,1μm,0.6s						
PCH	Pirque	2.37	146	eP	Pn	16 41 10.8	+0.5
PCH				iS	Sn	16 41 39.5	-0.3
LMEL	Las Melosas	2.70	144	⇓iP	Pn	16 41 15.7	+0.7
LMEL				iS	Sn	16 41 48.0	-0.2
LMEL				AML	AML	16 42 00.1	
	comp=N,649nm,0.9s						
CACH	El Canelo	2.75	153	eP	Pn	16 41 16.6	+1.0
LCO	Las Campanas	2.92	25	ePn	Pn	16 41 16.4	-1.5
LCO				eSn	Sn	16 41 53.1	-0.3
CICH	Cipreses	3.00	152	eP	Pn	16 41 19.5	+0.4
CICH				iS	Sn	16 41 55.3	-0.2
SFDO	San Fernando	3.08	163	⇑iP	Pn	16 41 20.1	0.0
SFDO				iS	Sn	16 41 56.5	-0.9
CFAA	Coronel Fontan	3.31	90	Pn	Pn	16 41 25.6	+2.4
CFAA				Sn	Sn	16 42 04.0	+1.0
CFAA				Lg		16 42 13.8	
CFAA	Coronel Fontan	3.31	90	Pn	Pn	16 41 25.6	+2.4
	comp=N,1.4nm,0.3s,baz=259,slow=17,SNR=72						
CFAA				Sn	Sn	16 42 04.0	+1.0
	comp=N,1.3nm,0.3s,baz=251,slow=14,SNR=4.4						
CFAA				Lg		16 42 13.8	
	comp=N,4.2nm,0.3s,baz=22,slow=11,SNR=8.1						
PLCA	Paso Flores	9.13	172	Pn	Pn	16 42 43.0	-0.3
PLCA	Paso Flores	9.13	172	Pn	Pn	16 42 43.0	-0.2
	comp=N,0.5nm,0.3s,baz=340,slow=9.5,SNR=9.4						
LPAZ	La Paz	15.74	14	Pn	Pn	16 44 14.2	+0.9
	comp=N,0.1nm,0.3s,baz=186,slow=10,SNR=5.7						
SIV	San Ignacio	18.57	35	P	Pn	16 44 48.1	-0.7
	comp=N,0.1nm,0.3s,baz=221,slow=17,SNR=5.9						
BDFB	Brasilia	27.14	60	P	P	16 46 12.9	-2.3
	comp=N,0.7nm,0.5s,mb3.5,baz=207,slow=16,SNR=4.4						
VNA2	Neumayer-Watz	52.19	158	e	P	16 49 42.5	+0.4
	baz=290,slow=9.2						
VNA2				e		16 49 48.0	
VNA2				e		16 49 53.0	
TXAR	Lajitas Array	67.68	330	P	P	16 51 29.4	+0.4
	comp=N,0.2nm,0.7s,mb3.3,baz=150,slow=7.3,SNR=2.7						
TORD	Torodi Ar. Bea	83.48	70	P	P	16 52 59.1	-0.9
	comp=N,0.5nm,0.7s,mb3.6,baz=265,slow=4.7						
TORD				pP	pP	16 53 09.1	+7.8
	comp=N,1.7nm,0.8s,baz=260,slow=4.7,SNR=5.0						
ZALV	Zalesovo Beam	152.27	30	PKPbc	PKPbc	17 00 25.1	-2.0
	comp=N,0.9nm,0.5s,baz=303,slow=2.8,SNR=6.2						
ZALV				pPKPbc	pPKPbc	17 00 36.0	+7.5
	comp=N,3.5nm,0.9s,baz=270,slow=1.5,SNR=3.8						

*ISCJB **16** 16:45:01.1±0.9, 3836N±003×2035E±007, h5km, Error ellipse: s-maj=8.7km s-min=3.3km az=159.0*
*ATH **16** 16:45:01.9, 3837N×2050E, h5km, MD3.4/5*
*NEIC **16** 16:45:02.0, 3829N×2036E, h5km, MD3.4(ATH), After ATH.*
*THE **16** 16:45:02.4, 3837N×2041E, h3km, ML3.3*
*CSEM **16** 16:45:02.2, 3836N×2051E, h7km, MD3.4/5, After ATH*

ISC 16 16:45:02.1±0.8, 3835N±003×2041E±007, h5km, n26, σ1§12/41, 2C, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	Valsamata	0.22	139	ePG	Pg	16 45 06.0	-0.5
VLS				eSG	Sg	16 45 10.0	+0.6
VLS	Valsamata	0.22	139	⇑iPG	Pg	16 45 06.3	-0.2
VLS				eSG	Sg	16 45 09.9	+0.5
VLS	Valsamata	0.22	139	⇑iPg	Pg	16 45 06.3	-0.2
VLS				eSg	Sg	16 45 09.9	+0.5
KFL	Anninata	0.38	128	ePg	Pg	16 45 09.1	-0.4
KFL				eSg	Sg	16 45 15.7	+1.2
LKD	Levkas	0.41	28	ePg	Pg	16 45 09.0	-1.1
LKD				eSg	Sg	16 45 15.1	-0.2
RLS	Riolos of Patr	0.89	109	ePB	Pb	16 45 17.8	-2.1
IGT	Igoumenitsa	1.19	357	ePg	Pg	16 45 24.6	-0.2
IGT				eSg	Sg	16 45 40.3	0.0
EVR	Evrytania	1.24	62	ePG	Pg	16 45 23.2	-2.7
JAN	Janina	1.35	15	ePN	Pn	16 45 29.0	+1.3
JAN				eSB	Sb	16 45 48.5	+2.9
JAN	Janina	1.35	15	ePB	Pb	16 45 27.6	-0.4
JAN	Janina	1.35	15	ePb	Pb	16 45 28.6	+0.6
KEK	Kerkira	1.44	341	ePg	Pg	16 45 29.5	-0.3
KEK				eSb	Sb	16 45 49.8	+1.6
KEK	Kerkira	1.44	341	ePG	Pg	16 45 29.5	-0.3
KEK				eSB	Sb	16 45 50.5	+2.3
KEK	Kerkira	1.44	341	ePG	Pg	16 45 29.1	-0.7
KEK				eSB	Sb	16 45 49.8	+1.6
KEK	Kerkira	1.44	341	ePg	Pg	16 45 29.1	-0.7
KEK				eSb	Sb	16 45 49.8	+1.6
MEV	Metsovon	1.57	24	ePg	Pg	16 45 31.7	-0.5
MEV				eSg	Sg	16 45 52.8	+0.1
AGG	Agios Georgios	1.65	65	ePb	Pb	16 45 31.0	-2.0
AGG				eSb	Sb	16 45 55.0	+0.9
ITM	Ithomi	1.68	134	ePB	Pb	16 45 34.0	+0.6
ITM	Ithomi	1.68	134	ePB	Pb	16 45 33.2	-0.2
ITM	Ithomi	1.68	134	ePb	Pb	16 45 33.2	-0.2
THL	Klokotos Trika	1.75	45	ePB	Pb	16 45 33.8	-0.9
VLX	Vlachokerasia	1.84	121	ePb	Pb	16 45 34.8	-1.4
VLX				eSb	Sb	16 46 00.2	+0.6
LTK	Loutraki	2.04	98	ePn	Pn	16 45 37.5	+0.4
DID	Didima	2.39	110	ePn	Pn	16 45 42.9	+0.9
DID				eSn	Sn	16 46 13.8	+2.2
FNA	Florina	2.55	17	ePn	Pn	16 45 44.1	0.0
VLI	Veliai	2.59	128	ePg	Pg	16 45 51.5	-0.2

*NEIC **16** 16:53:02.3, 3166S×72.17W, h18km±6km, ML3.7(GUC), After GUC.*

GUC 16 16:53:02.3±1.0, 3166S×7217W, h18km±6km, MD4.0, ML3.7, 1C-6D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PACH	Papudo	1.08	145	eP	Pb	16 53 21.9	-0.5
PACH				iS	Sb	16 53 36.1	-0.1
CMCH	Combarbala	1.11	65	eP	Pb	16 53 22.1	-0.9
CMCH				iS	Sb	16 53 36.7	-0.4
CMCH	Combarbala	1.11	65	eP	Pb	16 53 22.1	-0.9
CMCH				iS	Sb	16 53 36.7	-0.4
CMCH				AML	AML	16 53 43.2	
	comp=E,9μm,0.7s						
PTCH	Petorca	1.22	120	eP	Pn	16 53 23.8	-0.6
PTCH				iS	Sb	16 53 38.8	-1.4
PTCH	Petorca	1.22	120	eP	Pn	16 53 23.8	-0.6
PTCH				iS	Sb	16 53 38.8	-1.4
PTCH				AML	AML	16 53 39.5	
	comp=N,2μm,0.2s						
OVCH	Ovalle	1.33	39	AML	AML	16 53 48.2	
	comp=N,1μm,0.8s						
ROCH	El Roble	1.64	144	iS	Sn	16 53 52.6	+1.7
JACH	Jahuel	1.68	128	⇓iP	Pn	16 53 31.5	+0.6
JACH				iS	Sn	16 53 52.7	+0.6
LCCH	Las Cruces	1.89	165	⇓iP	Pn	16 53 33.6	-0.1
TLL	Tololo Astrono	1.89	39	AML	AML	16 54 06.1	
	comp=N,741nm,0.4s						
PEL	Peldehue	1.94	140	⇑iP	Pn	16 53 34.9	+0.4
PEL				iS	Sn	16 54 01.1	+2.7
PEL				AML	AML	16 54 05.5	
	comp=E,2μm,0.3s						
CLCH	Cerro Calan	2.22	142	eP	Pn	16 53 39.2	+1.0
CLCH				iS	Sn	16 54 08.8	+3.6
CLCH				AML	AML	16 54 18.0	
	comp=E,782nm,0.6s						
CLCH				AML	AML	16 54 18.5	
	comp=E,959nm,0.4s						
TACH	Talagante	2.25	153	⇓iP	Pn	16 53 39.5	+0.8
FCH	Farellones	2.30	137	⇓iP	Pn	16 53 40.6	+1.2
FCH				iS	Sn	16 54 09.9	+2.6
FCH				AML	AML	16 54 13.1	
	comp=E,326nm,0.5s						
ANTU	Antumapu	2.31	146	AML	AML	16 54 19.6	
	comp=N,478nm,0.6s						
PCH	Pirque	2.41	145	eP	Pn	16 53 42.5	+1.6
PCH				iS	Sn	16 54 12.5	+2.6
LMEL	Las Melosas	2.74	143	iP	Pn	16 53 46.7	+1.2
LMEL				iS	Sn	16 54 20.9	+2.8
LMEL	Las Melosas	2.74	143	iP	Pn	16 53 46.7	+1.2
LMEL				iS	Sn	16 54 20.9	+2.8
LMEL				AML	AML	16 54 33.3	
	comp=N,277nm,0.1s						
LCO	Las Campanas	2.92	26	eP	Pn	16 53 52.1	+4.1
LCO				eS	Sn	16 54 30.4	+7.8
CICH	Cipreses	3.04	152	⇓iP	Pn	16 53 51.0	+1.5
SFDO	San Fernando	3.11	162	⇓iP	Pn	16 53 51.4	+0.9

IDC 16 16:53:56.5±8.4, 3263S×17994E, h248km±89km, mb3.5/2, mb1 3.7/3, mb1mx3.3/14, mbtmp3.5/3, Error ellipse: s-maj=93.4km s-min=40.9km az=3.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	6.07	202	P	Pn	16 55 26.9	+1.6
	2.2nm,0.3s,baz=216,slow=7.9,SNR=38						
URZ				S	S	16 56 35.2	-1.3
	2.8nm,0.3s,baz=60,slow=22,SNR=14						
ASAR	Alice Springs	41.30	270	P	P	17 01 18.2	+0.2
	1.1nm,0.5s,baz=108,slow=7.6,SNR=43						
WRA	Warramunga Arr	42.50	276	P	P	17 01 27.5	-0.2
	2.3nm,0.4s,baz=114,slow=8.0,SNR=107						
FINES	FINESS Array B	146.58	337	PKPbc	PKPbc	17 13 06.9	-1.0
	1.3nm,0.8s,baz=54,slow=7.1,SNR=3.5						

GUC 16 16:57:03.3±0.8, 3171S×7190W, h0km±5km, MD3.6, ML3.2, 2C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHNG	Los Chungos	0.38	117	⇓iP		16 59 09.3	
CHNG				iS		16 59 15.5	
CMCH	Combarbala	0.94	55	⇑iP	Pg	16 57 21.4	+0.1
CMCH				iS	Sg	16 57 36.1	+2.7
CMCH				AML	AML	16 57 38.3	
	comp=N,3μm,0.7s						
OVCH

CHRT			SG	Sn	17 04 21.0	-10
BDT	**Bhumibol Dam**	**4.23 137**	P	Pn	17 03 59.0	+1.7
269nm,0.7s						
IMP	**Imphal**	**4.77 337**	*e*P	Pn	17 04 07.0	+2.2
NST	**Nakhon Sawan**	**6.12 139**	PN	Pn	17 04 25.0	+1.6
NST			PG	Pg	17 04 50.0	-0.1
NST			SG	Sg	17 06 09.0	-0.5
SHL	**Shillong**	**6.40 325**	*e*P	Pn	17 04 34.0	+6.9
SHL			*e*S	Sn	17 05 35.5	-4.7
LSA	**Lhasa**	**10.26 336**	P	Pn	17 05 21.3	+1.2
LSA	**Lhasa**	**10.26 336**	*e*Pn	Pn	17 05 20.9	+0.8
8.2nm,0.5s						
CD2	**Chengdu**	**12.61 32**	*e*P	Pn	17 05 53.3	+1.1
CD2			AP		17 06 00.5	
CD2			PP		17 06 03.8	
CD2			S	Sn	17 08 12.3	-0.5
CD2			AMB	AMB		
comp=Z,10.0nm,0.6s						
CD2			AMB	AMB		
comp=Z,20nm,4.2s						
CD2			LR	LR		
comp=N,590nm,9.0s						
CD2			LR	LR		
comp=E,1μm,7.8s						
CD2			LR	LR		
comp=Z,1μm,8.4s						
QIZ	**Qiongzhong**	**13.12 94**	P	Pn	17 06 01.8	+2.5
QIZ			*e*S	Sn	17 08 26.0	+0.5
QIZ			LR	LR		
comp=E,332nm,8.7s						
QIZ			LR	LR		
comp=Z,441nm,8.7s						
HYB	**Hyderabad**	**16.75 263**	*e*P	Pn	17 06 56.0	+8.3
HYB	**Hyderabad**	**16.75 263**	*i* P	Pn	17 06 56.0	+8.3
LZH	**Lanzhou**	**17.10 22**	*e*P	Pn	17 06 56.0	+4.1
LZH			AP	pP	17 06 59.0	+2.5
LZH			XP	sP	17 07 01.5	+3.7
LZH			AMB	AMB		
comp=Z,19nm,1.0s						
LZH			AMB	AMB		
comp=Z,86nm,4.5s						
XAN	**Xi'an**	**17.80 37**	P	Pn	17 07 01.9	+1.3
XAN			AP	pP	17 07 05.0	+0.8
XAN			AMB	AMB		
comp=Z,15nm,0.7s						
GTA	**Gaotai**	**19.25 9**	*e*P	Pn	17 07 18.0	-0.3
GTA			AP	pP	17 07 22.3	+2.2
GTA			XP	sP	17 07 24.8	+3.3
GTA			AMB	AMB		
comp=Z,3.0nm,1.4s						
WHN	**Wuhan**	**19.40 55**	⇓P	Pn	17 07 21.3	+1.1
NJ2	**Nanjing**	**23.53 56**	*e*P	P	17 08 03.3	-0.1
NJ2			AMB	AMB		
comp=Z,30nm,0.7s,mb4.8						
HHC	**Hu-ho-hao-te**	**24.34 30**	*e*P	P	17 08 11.0	+0.3
HHC			AP		17 08 20.6	
HHC			XP	sP	17 08 24.3	+9.3
HHC			PP		17 08 46.5	
HHC			S	S	17 12 30.8	+0.8
HHC			XS	sS	17 12 39.9	+4.9
HHC			PCS	PcS	17 15 28.8	-1.2
HHC			SCS	ScS	17 19 16.8	+0.3
HHC			AMB	AMB		
comp=Z,10.0nm,0.4s,mb4.6						
HHC			AMB	AMB		
comp=Z,127nm,5.5s						
HHC			LR	LR		
comp=N,112nm,8.4s						
HHC			LR	LR		
comp=E,139nm,5.9s						
HHC			LR	LR		
comp=Z,141nm,13.3s,MS3.6						
WMQ	**Urumqi**	**24.38 345**	*e*P	P	17 08 11.6	+0.6
WMQ			AMB	AMB		
comp=Z,6.0nm,0.9s,mb4.0						
WMQ			AMB	AMB		
comp=Z,103nm,6.0s						
WMQ			LR	LR		
comp=Z,127nm,17.0s,MS3.5						
BJI	**Beijing**	**26.13 37**	P	P	17 08 28.8	+1.8
BJI			AMB	AMB		
comp=Z,8.0nm,0.6s,mb4.4						
KBL	**Kabul**	**27.65 306**	*e*P	P	17 08 41.7	+1.0
comp=Z,8.2nm,0.8s,mb4.4						
TKM2	**Tokmak 2**	**28.25 327**	P	P	17 08 46.3	+0.3
MK31	**Makanchi Array**	**28.62 340**	*e*P	P	17 08 48.8	-0.5
MKAR	**Makanchi Array**	**28.62 340**	P	P	17 08 49.2	0.0
comp=Z,0.7nm,0.4s,mb3.7,baz=146,slow=10.0,SNR=9.8						
MKAR			PcP	PcP	17 12 01.4	+1.3
comp=Z,0.2nm,0.3s,baz=123,slow=5.3,SNR=3.4						
SONM	**Songino Array**	**28.66 15**	P	P	17 08 50.1	+0.5
comp=Z,2.2nm,0.6s,mb4.1,baz=204,slow=7.6,SNR=11						
SONM			PcP	PcP	17 12 00.6	+0.4
comp=Z,0.4nm,0.8s,baz=191,slow=2.9,SNR=3.4						
ULN	**Ulaanbaatar**	**28.85 16**	*e*P	P	17 08 51.9	+0.6
EKS2	**Erkin-Say**	**29.02 325**	*e*P	P	17 08 53.1	+0.2
KSRS	**Korea Array**	**32.52 52**	P	P	17 09 22.9	-0.9
comp=Z,0.9nm,0.7s,mb3.8,baz=236,slow=8.7,SNR=4.4						
KURK	**Kurchatov**	**33.23 340**	P	P	17 09 28.7	-1.2
comp=Z,1.6nm,0.8s,mb4.0						
ZAA0	**Zalesovo Array**	**34.58 348**	*e*P	P	17 09 40.2	-1.4
ZALV	**Zalesovo Beam**	**34.58 348**	P	P	17 09 41.5	-0.1
comp=Z,4.1nm,0.6s,mb4.6,baz=166,slow=9.7,SNR=26						
ZALV			PcP	PcP	17 12 15.5	-0.6
comp=Z,0.4nm,0.3s,baz=183,slow=6.1,SNR=2.9						
MDJ	**Mudanjiang**	**36.84 41**	P	P	17 10 00.4	-0.7
MDJ			AP	pP	17 10 06.0	+1.8
MDJ			XP	sP	17 10 09.3	+3.9
MDJ			PP	PP	17 11 23.8	-1.2
MDJ			S	S	17 15 42.6	-2.8
MDJ			SCP	ScP	17 16 08.6	-1.4
MDJ			PCS	PcS	17 16 11.3	+0.5
MDJ			AMB	AMB		
comp=Z,4.0nm,1.3s,mb4.1						
MDJ			AMB	AMB		
comp=Z,108nm,5.7s						
MDJ			LR	LR		
comp=N,38nm,22.3s,MS3.4						
MDJ			LR	LR		
comp=E,51nm,20.8s,MS3.4						
MDJ			LR	LR		
comp=Z,75nm,23.5s,MS3.4						
BVAR	**Borovoye Array**	**38.10 335**	P	P	17 10 11.0	-0.6
comp=Z,0.4nm,0.4s,mb3.5,baz=141,slow=10,SNR=5.0						
BVAR			PcP	PcP	17 12 26.9	+0.3
comp=Z,0.9nm,0.7s,baz=159,slow=4.5,SNR=5.1						
MJAR	**Matsushiro Arr**	**40.12 57**	P	P	17 10 29.3	+0.4
comp=Z,0.9nm,0.6s,mb3.7,baz=290,slow=7.0,SNR=3.4						
AKTK	**Aktyubinsk**	**42.34 324**	P	P	17 10 45.0	-1.9
AKTO	**Aktyubinsk**	**42.34 324**	P	P	17 10 45.0	-1.9
comp=Z,1.4nm,0.6s,mb3.7,baz=110,slow=7.6,SNR=7.8						
TIXI	**Tiksi**	**54.70 12**	*e*P	P	17 12 20.4	-1.3
comp=Z,5.6nm,0.4s,mb5.0						
WRA	**Warramunga Arr**	**54.92 134**	P	P	17 12 25.3	+1.3
comp=Z,2.1nm,0.9s,mb4.2,baz=318,slow=7.8,SNR=30						
WB2	**Warramunga Arr**	**54.93 134**	*e*P	P	17 12 25.0	+1.0
ASAR	**Alice Springs**	**57.29 138**	P	P	17 12 42.5	+1.5
comp=Z,1.3nm,0.7s,mb4.1,baz=322,slow=7.4,SNR=33						
AKASG	**Malin Array Be**	**59.83 317**	P	P	17 12 56.1	-2.2
comp=Z,0.5nm,0.4s,mb3.9,baz=81,slow=6.7,SNR=4.4						
ARCES	**ARCESS Array B**	**64.26 338**	P	P	17 13 27.2	-0.5
comp=Z,1.8nm,0.7s,mb4.2,baz=81,slow=7.6,SNR=7.0						
NOA	**NORSAR Array B**	**69.88 329**	P	P	17 14 01.9	-1.7
comp=Z,0.6nm,0.5s,mb3.8,baz=86,slow=6.4,SNR=3.1						
GERES	**GERESS Array B**	**69.93 316**	P	P	17 14 03.9	-0.3
comp=Z,0.9nm,0.6s,mb3.9,baz=92,slow=3.3,SNR=6.9						
BOSA	**Boshof**	**83.84 237**	P	P	17 15 23.4	+0.5
comp=Z,2.9nm,0.9s,mb4.4,baz=44,slow=13,SNR=4.4						
YKA	**Yellowknife Ar**	**93.92 14**	P	P	17 16 09.8	-0.7
comp=Z,0.2nm,0.7s,mb3.7,baz=332,slow=3.6,SNR=4.0						
SDV	**Santo Domingo**	**148.08 334**	*e*PKPbc	PKPbc	17 22 39.2	-0.4
SDV	**Santo Domingo**	**148.08 334**	PKPbc	PKPbc	17 22 39.5	-0.1
comp=Z,4.6nm,0.7s,baz=360,slow=3.1,SNR=8.3						

*IDC **16** 17:33:09.0±1.4, 5297N×16855W, h0km, mb3.6/4, mb1 3.9/5, mb1mx3.6/24, mbtmp3.7/5, ML3.3/1, Error ellipse: s-maj=49.1km s-min=28.2km az=154.0*
*ISCJB **16** 17:33:15.8±2.5, 529N±02×1683W±04, h64km±19km, mb3.6/4, Error ellipse: s-maj=47.5km s-min=27.0km az=142.7*
*NEIC **16** 17:33:15.9±2.6, 5287N×16847W, h50km±20km, ML3.2(AEIC), Error ellipse: s-maj=34.3km s-min=26.2km az=160.0*

ISC 16 17:33:15.6±2.5, 528N±02×1685W±04, h46km±21km, n11, σ0.9 85/13, mb3.6/4, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UNV	**Unalaska Valle**	**1.56**	**49**	P	**Pn**	**17 33 40.5**	**-0.3**
UNV				S	**Sn**	**17 33 58.3**	**-1.5**
AKLV	**Akutan Long Va**	**2.01**	**48**	P	**Pn**	**17 33 47.6**	**+0.6**
AKGG	**Akutan Green G**	**2.02**	**46**	P	**Pn**	**17 33 47.7**	**+0.6**
AKGG				S	**Sn**	**17 34 12.8**	**+1.7**
AKUT	**Akutan**	**2.08**	**50**	P	**Pn**	**17 33 47.5**	**-0.4**
KDAK	**Kodiak Island**	**10.32**	**55**	Pn	**Pn**	**17 35 39.5**	**-1.3**
KDAK	**Kodiak Island**	**10.32**	**55**	Pn	**Pn**	**17 35 39.5**	**-1.3**
0.2nm,0.3s,baz=347,slow=21,SNR=5.0							
SLKM	**Skilak Lake**	**12.61**	**45**	*e*Pn	**Pn**	**17 36 12.6**	**+0.6**
YKA	**Yellowknife Ar**	**29.53**	**50**	P	**P**	**17 39 15.4**	**+0.2**
0.4nm,0.5s,mb3.4,baz=276,slow=7.5,SNR=9.9							
TXAR	**Lajitas Array**	**52.20**	**90**	P	**P**	**17 42 21.8**	**+0.2**
0.2nm,0.4s,mb3.4,baz=298,slow=4.6,SNR=3.7							
AKASG	**Malin Array Be**	**75.76**	**348**	P	**P**	**17 44 55.2**	**-0.8**
0.4nm,0.5s,mb3.6,baz=20,slow=6.5,SNR=3.9							
ASAR	**Alice Springs**	**91.11**	**231**	P	**P**	**17 46 15.3**	**+0.4**
0.4nm,0.8s,mb3.8,baz=22,slow=4.0,SNR=5.8							

MAN 16 17:39:47, 1330N×12016E, h7km, mb4.2, ML3.0, MS2.7, Mindoro

*BJI **16** 17:41:16.8, 1880N×3930E, h10km, mB5.1, mb4.5, Ms4.4, Msz4.2*
*MOS **16** 17:41:17.1±1.6, 1873N×3933E, h13km, mb4.7/9, Error ellipse: s-maj=17.7km s-min=7.9km az=91.0*
*ISCJB **16** 17:41:18.3±0.6, 1901N±008×3936E±006, h10km, mb4.3/26, MS3.9/15, Error ellipse: s-maj=12.8km s-min=5.3km az=148.6*
*NEIC **16** 17:41:18.9±1.4, 1877N×3931E, h10km, mb4.4/6, Error ellipse: s-maj=27.5km s-min=15.1km az=179.0*
*IDC **16** 17:41:18.4±1.9, 1902N×3923E, h0km, mb3.9/9, mb1 4.0/10, mb1mx3.8/22, mbtmp3.9/10, ML3.4/1, MS3.8/17, Ms1 3.8/17, ms1mx3.7/36, Error ellipse: s-maj=44.5km s-min=21.2km az=164.0*
*SGS **16** 17:41:24.7, 1929N×3946E, h28km*

ISC 16 17:41:19.8±2.7, 1906N±008×3938E±007, h5km±16km, h24km±4.6km: pP-P, n68, σ1.9 40/61, mb4.3/26, MS3.9/15, 6C, Red Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FRAS	**Faraa**	**2.26**	**28**	P	**Pn**	**17 41 55.6**	**-2.2**
FRAS	**Faraa**	**2.26**	**28**	P	**Pn**	**17 41 55.6**	**-2.2**
FRAS				S	**Sn**	**17 42 18.6**	**-7.4**
SHMS		**2.39**	**7**	P	**Pn**	**17 41 57.4**	**-2.2**
FDAS		**2.91**	**18**	P	**Pn**	**17 42 04.3**	**-2.4**
YOBS		**5.30**	**354**	P	**Pn**	**17 42 36.0**	**-3.6**
YOBS		**5.30**	**354**	P	**Pn**	**17 42 36.0**	**-3.7**
YOBS				S	**Sn**	**17 43 32.7**	**-8.4**
SLAT	**Slait**	**7.14**	**244**	*i* P	**Pb**	**17 43 26.8**	**+2.4**
SLAT				*i* S	**Sb**	**17 44 49.1**	**-0.8**
SLAT				AML	AML	17 45 45.8	
comp=Z,43μm,5.0s							
MRKH	**Merkhyat**	**7.48**	**245**	*i* S	**Sb**	**17 44 55.9**	**-3.8**
JAWL	**J.Aulia**	**7.61**	**241**	AML	AML	17 45 08.0	
comp=Z,9.0nm,0.3s							
ATD	**Arta Tunnel**	**8.20**	**155**	LR	LR	17 46 04.0	
comp=Z,426nm,20.6s,baz=264,slow=35							
EIL	**Elat**	**11.30**	**340**	LR	LR	17 47 35.9	
comp=Z,346nm,19.1s,baz=358,slow=33							
ASF	**Jabal al Asfar**	**13.24**	**351**	Pn	**Pn**	**17 44 30.0**	**+1.5**
comp=Z,0.2nm,0.3s,baz=171,slow=1.8,SNR=9.7							
ASF				LR	LR	17 49 06.2	
comp=Z,299nm,19.9s,baz=142,slow=35							
MMAI	**Mount Meron Ar**	**14.34**	**346**	LR	LR	17 49 39.0	
comp=Z,309nm,20.4s,baz=160,slow=35							
MALT	**Malatya**	**19.20**	**358**	*e*P	**Pn**	**17 45 47.4**	**+2.0**
comp=Z,47nm,1.6s							
MALT	**Malatya**	**19.20**	**358**	*e*P	**Pn**	**17 45 47.4**	**+2.0**
MALT				pmax	pmax		
comp=Z,47nm,1.6s							
KMBO	**Kilima Mbogo**	**20.17**	**186**	LR	LR	17 53 36.4	
comp=Z,408nm,19.1s,MS3.8,slow=37							
DGRG	**David-gareji**	**22.89**	**12**	P	**P**	**17 46 24.8**	**+0.5**
MTA	**Mtatsminda**	**23.03**	**10**	P	**P**	**17 46 30.6**	**+4.9**
ONI	**Oni**	**23.70**	**8**	P	**P**	**17 46 34.6**	**+2.0**
MAK	**Makhachkala**	**24.80**	**14**	*e*P	**P**	**17 46 48.7**	**+6.1**
MAK				pmax	pmax		
comp=Z,10.0nm,0.3s,mb4.8							
MAK				MLR	MLR		
comp=Z,388nm,16.0s,MS4.0							
KIV	**Kislovodsk**	**24.97**	**6**	*e*P	**P**	**17 46 47.7**	**+3.5**
comp=Z,14nm,1.1s,mb4.4							
KIV	**Kislovodsk**	**24.97**	**6**	*e*P	**P**	**17 46 47.7**	**+3.5**
KIV				pmax	pmax		
comp=Z,14nm,1.1s,mb4.4							
MLR	**Muntele Rosu**	**28.61**	**340**	LR	LR	17 58 37.9	
comp=Z,115nm,18.7s,MS3.5,baz=296,slow=36							
KEST	**Kesra**	**31.24**	**308**	LR	LR	18 00 26.4	
comp=Z,77nm,18.4s,MS3.4,baz=250,slow=37							
AKASG	**Malin Array Be**	**32.58**	**348**	P	**P**	**17 47 50.7**	**-1.3**
AKASG	**Malin Array Be**	**32.58**	**348**	P	**P**	**17 47 50.7**	**-1.3**
comp=Z,0.5nm,0.5s,mb3.7,baz=169,slow=7.9,SNR=7.8							
OKC	**Ostrava-Krasne**	**35.09**	**336**	*e*P	**P**	**17 48 17.4**	**+3.6**
TREC	**Trest**	**35.75**	**333**	*e*P	**P**	**17 48 19.3**	**-0.2**
OBN	**Obninsk**	**36.05**	**357**⇑	*e*P	**P**	**17 48 22.3**	**+0.3**
OBN				*e*		17 49 49.4	
OBN				*e*		17 50 44.4	
OBN				*e*S	**S**	**17 54 08.1**	**+6.7**
OBN				pmax	pmax		
comp=Z,9.0nm,0.9s,mb4.7							
OBN				MLR	MLR		
comp=Z,100nm,14.0s,MS3.7							
GERES	**GERESS Array B**	**36.21**	**331**	P	**P**	**17 48 22.8**	**-0.6**
comp=Z,0.9nm,0.7s,mb3.8,baz=132,slow=9.2,SNR=7.7							
DPC	**Dobruska-Polom**	**36.21**	**335**	*e*P	**P**	**17 48 23.4**	**0.0**
KHC	**Kasperske Hory**	**36.47**	**331**⇑	*e*P	**P**	**17 48 27.3**	**+1.6**
KHC	**Kasperske Hory**	**36.47**	**331**	*e*P	**P**	**17 48 27.8**	**+2.1**
TORD	**Torodi Ar. Bea**	**36.63**	**266**	P	**P**	**17 48 26.2**	**-1.3**
comp=Z,6.5nm,1.0s,mb4.4,baz=76,slow=7.3,SNR=20							
TORD				LR	LR	18 04 14.1	
comp=Z,284nm,18.5s,MS4.1,baz=65,slow=38							
AML	**Almayashu**	**37.05**	**44**	*e*P	**P**	**17 48 31.3**	**+0.6**
comp=Z,3.7nm,0.8s,mb4.3							
PVCC	**Panska Ves**	**37.07**	**334**	*e*P	**P**	**17 48 30.1**	**-0.6**
BRG	**Berggiesshubel**	**37.59**	**334**	*e*P	**P**	**17 48 37.3**	**+2.1**
comp=Z,3.0nm,1.0s,mb4.0							
BRG	**Berggiesshubel**	**37.59**	**334**	*e*P	**P**	**17 48 37.3**	**+2.1**
BRG				pmax	pmax		
comp=Z,3.0nm,1.0s,mb4.0							
UCH	**Uchtor**	**37.64**	**44**	*e*P	**P**	**17 48 35.2**	**-0.5**
comp=Z,9.2nm,1.3s,mb4.3							
NKC	**Novy Kostel**	**37.78**	**332**	*e*P	**P**	**17 48 35.7**	**-1.0**
CLL	**Collm**	**38.31**	**333**	*e*(P)	**P**	**17 48 44.0**	**+2.8**
ARU	**Arti**	**39.99**	**17**	*c i*P	**P**	**17 48 56.1**	**+0.9**
ARU				*e*		17 50 28.2	
ARU				*e*PPP		17 50 53.0	
ARU				*e*S	**S**	**17 55 02.1**	**+1.2**
ARU				*e*SS	SS	17 58 01.2	+3.6
ARU				pmax	pmax		
comp=Z,14nm,1.7s,mb4.4							
BVAR	**Borovoye Array**	**41.55**	**28**	P	**P**	**17 49 09.5**	**+1.4**
comp=Z,0.5nm,0.4s,mb3.5,baz=236,slow=10,SNR=4.9							
ESDC	**Sonseca Array**	**42.49**	**308**	P	**P**	**17 49 14.1**	**-2.0**
comp=Z,0.2nm,0.4s,mb3.1,baz=95,slow=7.9,SNR=3.3							
FINES	**FINESS Array B**	**43.36**	**351**	LR	LR	18 08 42.9	
comp=Z,87nm,19.5s,MS3.7,baz=40,slow=38							
KURK	**Kurchatov**	**44.25**	**35**	P	**P**	**17 49 30.6**	**+0.5**
comp=Z,12nm,1.4s,mb4.4							
KURK	**Kurchatov**	**44.25**	**35**⇑	*e*P	**P**	**17 49 31.4**	**+1.3**
MK31	**Makanchi Array**	**44.62**	**42**	*e*P	**P**	**17 49 35.2**	**+2.2**
MKAR	**Makanchi Array**	**44.62**	**42**	P	**P**	**17 49 33.5**	**+0.5**
comp=Z,2.5nm,0.8s,mb4.1,baz=243,slow=6.7,SNR=13							
MKAR				LR	LR	18 10 29.4	
comp=Z,215nm,18.2s,MS4.1,baz=235,slow=39							
DBIC	**Dimbokro**	**44.71**	**260**	LR	LR	18 08 33.5	
comp=Z,182nm,19.6s,MS4.0,baz=44,slow=37							
NOA	**NORSAR Array B**	**46.41**	**342**	P	**P**	**17 49 46.6**	**-0.5**
comp=Z,2.8nm,1.0s,mb4.1,baz=138,slow=8.4,SNR=3.3							
NOA				LR	LR	18 10 20.7	
comp=Z,35nm,21.1s,MS3.3,baz=85,slow=38							
WMQ	**Urumqi**	**47.21**	**47**	P	**P**	**17 49 53.8**	**+0.2**
WMQ				AP	pP	17 50 03.5	+8.2
WMQ				XP	sP	17 50 08.0	+12
WMQ				AMB	AMB		
comp=Z,10.0nm,1.3s,mb4.6							
WMQ				AMB	AMB		
comp=Z,179nm,5.1s							
WMQ				LR	LR		
comp=N,291nm,29.2s							
WMQ				LR	LR		
comp=E,225nm,22.2s							
WMQ				LR	LR		
comp=Z,294nm,20.6s							
NVS	**Novosibirsk**	**48.75**	**32**	*e*P	**P**	**17 50 03.2**	**-2.1**
NVS				pmax	pmax		
comp=Z,39nm,2.6s,mb5.0							
NVS				pmax	pmax		
comp=N,11nm,2.1s							
NVS				pmax	pmax		
comp=E,13nm,2.1s							
ZAL	**Zalesovo**	**49.13**	**34**	P	**P**	**17 50 08.5**	**+0.2**
ZAA0	**Zalesovo Array**	**49.15**	**34**	*e*P	**P**	**17 50 08.4**	**+0.1**
ZALV	**Zalesovo Beam**	**49.15**	**34**	P	**P**	**17 50 08.5**	**+0.1**
comp=E,2.9nm,0.8s,mb4.3,baz=247,slow=7.9,SNR=8.8							
ZALV				LR	LR	18 15 04.6	
comp=E,124nm,18.1s,MS3.9,baz=35,slow=41							
BOSA	**Boshof**	**49.32**	**196**	LR	LR	18 11 23.6	
comp=E,271nm,20.5s,MS4.2,baz=235,slow=37							
ARCES	**ARCESS Array B**	**51.18**	**354**	LR	LR	18 13 48.9	
comp=E,95nm,19.7s,MS3.8,baz=162,slow=38							
GTA	**Gaotai**	**55.47**	**55**	*e*P	**P**	**17 50 56.9**	**+1.2**
GTA				AP	pP	17 51 01.4	+4.1
GTA				XP	sP	17 51 04.5	+6.5
GTA				AMB	AMB		
comp=Z,5.0nm,2.6s,mb4.1							
LZH	**Lanzhou**	**58.63**	**59**	*e*P	**P**	**17 51 20.0**	**+1.9**
LZH				AP	pP	17 51 27.0	+7.2
LZH				XP	sP	17 51 31.0	+11
LZH				AMB	AMB		
comp=Z,26nm,1.1s,mb5.2							
LZH				AMB	AMB		
comp=Z,105nm,4.3s							
SONM	**Songino Array**	**60.74**	**45**	P	**P**	**17 51 32.2**	**-0.2**
comp=Z,0.7nm,0.8s,mb3.9,baz=264,slow=9.5,SNR=6.1							
SONM				LR	LR	18 19 59.6	
comp=Z,118nm,20.7s,MS4.0,baz=148,slow=38							
BOD	**Bodaibo**	**65.89**	**34**	*e*P	**P**	**17 52 04.9**	**-1.5**
BOD				pmax	pmax		
comp=Z,5.0nm,1.4s,mb4.3							
HIA	**Hailar**	**69.57**	**44**	*e*P	**P**	**17 52 28.1**	**-1.7**
NJ2	**Nanjing**	**71.45**	**62**	*e*P	**P**	**17 52 39.6**	**-2.0**
NJ2				AMB	AMB		
comp=Z,10.0nm,0.8s,mb4.8							
TIXI	**Tiksi**	**71.91**	**19**⇑	*e*P	**P**	**17 52 42.2**	**-1.4**
TIXI				pmax	pmax		
comp=Z,1.0nm,1.0s,mb3.7							
YAK	**Yakutsk**	**73.50**	**29**⇑	*e*P	**P**	**17 52 52.8**	**-0.4**
YAK				pmax	pmax		
comp=Z,8.0nm,1.1s,mb4.6							
KSRS	**Korea Array**	**77.54**	**55**	LR	LR	18 32 18.6	
comp=Z,90nm,18.8s,MS4.1,baz=155,slow=39							
BILL	**Bilibino**	**85.00**	**18**	*e*P	**P**	**17 53 55.6**	**-0.3**
BILL				*e*		17 54 00.5	
BILL				*e*		17 57 14.6	
BILL				*e*S	S	18 04 16.5	-8.7
BILL				*e*SS	SS	18 10 05.1	+8.0
BILL				pmax	pmax		
comp=Z,2.0nm,0.9s,mb4.2							

*NEIC **16** 17:53:21.0±1.4, 4614N×15297E, h10km, mb4.0/1, Error ellipse: s-maj=41.9km s-min=11.7km az=180.0*
*ISCJB **16** 17:53:23.9±0.8, 464N±0.1×1530E±0.1, h33km, mb3.8/10, Error ellipse: s-maj=23.0km s-min=6.9km az=151.8*
*MOS **16** 17:53:24.1±1.1, 4634N×15308E, h40km, mb4.0/5, Error ellipse: s-maj=17.5km s-min=14.6km az=48.5*
*IDC **16** 17:53:29.4±5.2, 4631N×15299E, h69km±57km, mb3.4/10, mb1 3.6/11, mb1mx3.5/22, mbtmp3.4/11, ML3.1/1, Error ellipse: s-maj=52.9km s-min=21.7km az=5.0*

ISC 16 17:53:26.5±1.4, 464N±02×1530E±01, h36km±12km, n24, σ0.9 91/25, mb3.8/10, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.80**	**254**	*e*PN	**Pn**	**17 54 20.8**	**-1.6**
KUR				*e*S	**Sn**	**17 55 05.0**	**-0.8**
KUR				pmax	pmax		
comp=N,40nm,0.5s							
KUR				pmax	pmax		
comp=E,30nm,0.5s							
KUR				pmax	pmax		
comp=Z,60nm,0.5s							
KUR				smax			
comp=N,280nm,0.9s							
KUR				smax			
comp=E,280nm,0.9s							
SKR	**Severo-Kuril's**	**4.74**	**25**	*e*PN	**Pn**	**17 54 34.5**	**-0.8**
SKR				pmax	pmax		
comp=E,40nm,0.5s							
SKR				pmax	pmax		
comp=Z,50nm,0.5s							
SKR				pmax	pmax		
comp=N,40nm,0.4s							
YSS	**Yuzh-Sakhalins**	**7.09**	**278**	*e*PN	**Pn**	**17 55 10.7**	**+3.1**
YSS				pmax	pmax		
comp=Z,5.0nm,1.0s							
ASAJ	**Asahikawa**	**7.71**	**256**	P	**Pn**	**17 55 17.7**	**+1.5**
comp=Z,0.3nm,0.3s,baz=168,slow=18,SNR=4.0							
ERM	**Erimo**	**8.34**	**242**	*e*PN	**Pn**	**17 55 24.7**	**-0.1**
KSRS	**Korea Array**	**20.64**	**253**	P	**P**	**17 58 03.8**	**+1.0**
comp=Z,1.0nm,0.7s,baz=52,slow=11,SNR=3.6							
INK	**Inuvik**	**41.96**	**32**	*e*P	**P**	**18 01 13.7**	**+0.4**
MK31	**Makanchi Array**	**47.04**	**298**	*e*P	**P**	**18 01 52.9**	**-1.2**
MKAR	**Makanchi Array**	**47.04**	**298**	P	**P**	**18 01 53.3**	**-0.8**
comp=Z,0.6nm,0.8s,mb3.6,baz=70,slow=10,SNR=4.5							
KURK	**Kurchatov**	**47.50**	**304**	*e*P	**P**	**18 01 57.5**	**-0.1**
comp=Z,0.6nm,0.5s,mb3.9							
KURK	**Kurchatov**	**47.50**	**304**	*e*P	**P**	**18 01 57.5**	**-0.1**
KURK				pmax	pmax		
comp=Z,1.0nm,0.5s,mb4.1							
YKA

CTA	Charters Tower	10.70	203	*e*P		Pn	18 00 26.7 -1.0
	4.1nm,0.9s						
CTA	Charters Tower	10.70	203	Pn		Pn	18 00 25.2 -2.5
	0.3nm,0.3s,baz=30,slow=14,SNR=3.4						
CTA				Sn		Sn	18 02 20.2 -5.9
	0.3nm,0.3s,baz=133,slow=18,SNR=2.0						
CTA				LR		LR	18 03 53.2
	comp=Z,218nm,20.1s,baz=27,slow=33						
CTAO	Charters Tower	10.70	203	*e*P		Pn	18 00 26.2 -1.4
EIDS	Eidsvold	15.08	179	*e*P		Pn	18 01 26.3 -0.7
WRAB	Tennant Creek	18.46	237	*e*P		Pn	18 02 09.2 -0.1
WB2	Warramunga Arr	18.46	237	*e*P		Pn	18 02 09.7 +0.4
WB2	Warramunga Arr	18.46	237	*e*P		Pn	18 02 09.5 +0.2
WRA	Warramunga Arr	18.48	237	P		Pn	18 02 09.9 +0.5
	0.2nm,0.3s,baz=59,slow=11,SNR=19						
ARMA	Armidale	20.13	178	*e*P		P	18 02 27.8 +1.0
ASAR	Alice Springs	20.85	228	P		P	18 02 36.5 +1.8
	5.0nm,0.9s,baz=59,slow=10,SNR=21						
STKA	Stephens Creek	23.14	200	*e*P		P	18 02 58.4 -0.6
	4.1nm,1.0s,mb3.8						
STKA	Stephens Creek	23.14	200	*e*P		P	18 02 58.6 -0.3
STKA	Stephens Creek	23.14	200	P		P	18 02 58.7 -0.3
	7.1nm,1.0s,mb4.1,baz=24,slow=10,SNR=9.6						
STKA				LR		LR	18 12 56.5
	comp=Z,83nm,19.9s,MS3.2,baz=214,slow=39						
FITZ	Fitzroy Crossi	25.47	249	*e*P		P	18 03 20.1 -0.5
	4.1nm,0.9s,mb4.0						
FITZ	Fitzroy Crossi	25.47	249	P		P	18 03 21.5 +0.9
	1.0nm,0.5s,mb3.6,baz=95,slow=9.5,SNR=5.0						
RAR	Rarotonga	48.78	109	LR		LR	18 23 56.6
	comp=Z,378nm,18.7s,MS4.4,baz=324,slow=32						
PPT	Papeete	58.29	104	LR		LR	18 29 38.5
	comp=Z,208nm,18.4s,MS4.3,baz=280,slow=33						
VNDA	Vanda	67.55	177	P		P	18 08 47.1 -0.4
	1.0nm,0.7s,mb4.0,baz=329,slow=6.6,SNR=7.3						
SONM	Songino Array	69.83	330	P		P	18 09 02.4 +0.2
	0.9nm,0.9s,mb3.7,baz=137,slow=6.9,SNR=3.2						
QSPA	South Pole Qui	79.78	180	*e*P		P	18 09 59.4 +0.2
	3.0nm,0.5s,mb4.5						
ZALV	Zalesovo Beam	84.48	327	P		P	18 10 22.5 -1.7
	0.3nm,0.4s,mb3.8,baz=119,slow=7.5,SNR=2.2						
TORD	Torodi Ar. Bea	149.48	279	PKPbc		PKPbc	18 17 41.0 -0.6
	0.9nm,0.7s,baz=87,slow=3.0,SNR=3.6						

*IDC **16** 18:00:47.4±0.6, 1651S×173.15W, h0km, mb4.3/13, mb1 4.5/13, mb1mx4.3/21, mbtmp4.3/13, MS4.3/18, Ms1 4.3/18, ms1mx4.1/29, Error ellipse: s-maj=28.1km s-min=15.7km az=132.0*

*GCMT **16** 18:00:49.2±0.4, 1659S×172.57W, h25km±1km, MW5.1/68, Moment Tensor Solution. s16,c22; s68,c87; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.84±.25; $M_{\theta\theta}$-4.00±.19; $M_{\phi\phi}$3.16±.18; $M_{r\theta}$0.34±.38; $M_{r\phi}$1.40±.20; $M_{\theta\phi}$3.41±.60; Best double couple: $M_0$5.03600×10^{16} NP1:ϕ_S62.00000°,δ63.00000°,λ23.00000°. NP2: ϕ_S321.00000°,δ70.00000°,λ151.00000°. Principal axes: T 5.7840, Plg35.0000°, Azm280.0000°; N -1.4980, Plg55.0000°, Azm110.0000°; P -4.2890, Plg5.0000°, Azm13.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **16** 18:00:49.2±0.3, 1646S×173.23W, h10km, mb4.8/6 Error ellipse: s-maj=15.8km s-min=8.4km az=128.0*

*ISCJB **16** 18:00:50.9±0.4, 1648S±009×1732W±01, h33km, mb4.5/22, MS4.3/18, Error ellipse: s-maj=17.2km s-min=10.4km az=36.6*

*BJI **16** 18:00:53.2, 1650S×173.20W, h10km, mb4.8, Msz4.4*

ISC 16 18:00:52.8±0.4, 1649S±009×1732W±01, h35km, n91, σ0=80/29, mb4.5/22, MS4.3/18, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAR	Rarotonga	13.56	112	LR	LR	18 07 33.0	
	comp=Z,1μm,18.9s,baz=287,slow=30						
PPT	Papeete	22.62	96	*e*LQ		18 10 06.0	
	970nm,24.5s						
PPT				*e*LR	LR	18 10 36.5	
	1μm,27.5s						
PPT	Papeete	22.62	96	LR	LR	18 11 30.8	
	comp=Z,574nm,20.1s,MS4.0,baz=286,slow=28						
URZ	Urewera	23.30	200	P		P	18 05 56.4 -1.3
	32nm,0.7s,mb4.9,baz=56,slow=4.1,SNR=25						
URZ				LR	LR	18 14 09.9	
	comp=Z,380nm,20.7s,MS3.8,baz=246,slow=34						
TBI	Tubuai	23.33	111	*e*LQ		18 10 20.2	
	1μm,28.5s						
TBI				*e*LR	LR	18 11 03.9	
	1μm,27.0s,baz=284						
HNR	Honiara	27.06	282	LR	LR	18 16 02.0	
	comp=Z,2μm,19.6s,MS4.7,baz=174,slow=34						
RPZ	Rata Peaks	30.25	203	P		P	18 07 00.6 +0.3
	11nm,0.9s,mb4.6,baz=350,slow=7.4,SNR=2.9						
TAOE	Nuku Hiva Isla	33.10	81	*e*LR		LR	18 15 38.9
	11μm,26.7s						
RKT	Rikitea	36.50	107	*e*LR		LR	18 17 14.0
	932nm,26.5s						
CTA	Charters Tower	38.59	258	P		P	18 08 12.8 +0.1
CTA				LR	LR	18 21 57.5	
CTA	Charters Tower	38.59	258	P		P	18 08 12.8 +0.1
	4.7nm,0.8s,mb4.3,baz=195,slow=3.8,SNR=3.1						
CTA				LR	LR	18 21 57.5	
	comp=Z,338nm,20.7s,MS4.2,baz=88,slow=33						
STKA	Stephens Creek	43.66	241	*e*P		P	18 08 54.6 +0.3
	3.5nm,0.6s,mb4.3						
STKA	Stephens Creek	43.66	241	*e*P		P	18 08 54.1 -0.2
STKA	Stephens Creek	43.66	241	P		P	18 08 54.1 -0.3
	5.4nm,0.8s,mb4.3,baz=86,slow=6.8,SNR=6.8						
STKA				LR	LR	18 23 50.0	
	comp=Z,296nm,18.8s,MS4.2,baz=226,slow=32						
WB2	Warramunga Arr	49.77	258	*e*P		P	18 09 41.7 -0.6
WRAB	Tennant Creek	49.77	258	*e*P		P	18 09 42.1 -0.2
	2.2nm,0.6s,mb4.4						
WRA	Warramunga Arr	49.78	258	P		P	18 09 42.1 -0.4
	1.5nm,0.5s,mb4.2,baz=96,slow=7.1,SNR=22						
WRA				LR	LR	18 30 32.5	
	comp=Z,313nm,18.0s,MS4.4,baz=80,slow=36						
ASAR	Alice Springs	49.96	253	P		P	18 09 43.3 -0.4
	17nm,0.6s,mb5.2,baz=88,slow=8.6,SNR=313						
GUMO	Guam	51.08	303	LR		LR	18 29 52.1
	comp=Z,175nm,19.0s,MS4.1,baz=269,slow=34						
KAKA	Kakadu	52.61	266	*e*P		P	18 10 04.6 +0.9
	7.6nm,0.8s,mb4.7						
FITZ	Fitzroy Crossi	58.17	259	LR		LR	18 33 55.1
	comp=Z,237nm,19.9s,MS4.3,baz=100,slow=34						
CBIJ	Chichi jima	61.24	314	LR		LR	18 32 25.0
	comp=Z,256nm,19.4s,MS4.4,baz=2.5,slow=31						
SBA	Scott Base	62.19	185	*e*P		P	18 11 11.2 +0.9
	5.0nm,0.6s,mb4.8						
VNDA	Vanda	62.32	186	P		P	18 11 11.7 +0.5
	2.7nm,0.7s,mb4.5,baz=6.1,slow=6.7,SNR=14						
MJAR	Matsushiro Arr	69.88	320	LR		LR	18 37 59.5
	comp=Z,127nm,19.3s,MS4.2,baz=120,slow=32						
JOW	Kunigami	71.27	306	LR		LR	18 37 41.2
	comp=Z,201nm,20.6s,MS4.4,baz=245,slow=31						
NVAR	Mina Array Bea	75.01	42	P		P	18 12 30.7 -0.1
	1.5nm,0.7s,mb4.0,baz=233,slow=11,SNR=9.4						
KSRS	Korea Array	77.06	316	LR		LR	18 42 27.0
	comp=Z,79nm,20.4s,MS4.0,baz=105,slow=32						
TXAR	Lajitas Array	81.06	56	P		P	18 13 04.2 -0.4
	0.5nm,0.7s,mb3.5,baz=216,slow=5.7,SNR=3.9						
TNA	Tin City	81.89	2	*e*P		P	18 13 08.8 +0.7
	3.4nm,0.9s,mb4.3						
MCK	McKinley	82.15	11	*e*P		P	18 13 09.0 -0.5
	16nm,1.0s,mb4.9						
PDAR	Pinedale Array	82.95	42	P		P	18 13 15.7 +1.5
	1.0nm,0.8s,mb3.9,baz=204,slow=2.0,SNR=4.7						
COLA	College	83.39	11	*e*P		P	18 13 15.3 -0.6
	16nm,0.9s,mb5.0						
DAWY	Dawson	84.42	14	*e*P		P	18 13 19.4 -1.9
BJI	Beijing	86.34	313	P		P	18 13 33.5 +2.1
BJI				AMB		AMB	
	comp=Z,6.0nm,0.8s,mb4.9						
BJI				LR		LR	
	comp=Z,142nm,18.4s,MS4.4						
MAW	Mawson	86.83	199	P		P	18 13 33.7 +0.4
	comp=Z,1.6nm,0.6s,mb4.4,baz=123,slow=6.8,SNR=9.8						
MAW				LR		LR	18 51 26.4
	comp=Z,294nm,18.6s,MS4.7,baz=79,slow=35						
PLCA	Paso Flores	88.65	132	LR		LR	18 44 21.4
	comp=Z,251nm,21.5s,MS4.6,baz=356,slow=30						
GYA	Guiyang	88.71	298	P		P	18 13 49.8 +6.7
GYA				AMB		AMB	
	comp=Z,10.0nm,1.0s,mb5.1						
INK	Inuvik	89.27	14	P		P	18 13 44.4 -0.4
	comp=Z,0.5nm,0.6s,mb4.1,baz=246,slow=6.1,SNR=2.8						
XAN	Xi'an	89.41	306	P		P	18 13 54.3 +8.1
XAN				AMB		AMB	
	comp=Z,3.0nm,1.3s,mb4.5						
YKA	Yellowknife Ar	91.02	23	P		P	18 13 52.9 -0.1
	comp=Z,0.3nm,0.8s,mb3.7,baz=241,slow=3.9,SNR=4.1						
VNA3	Neumayer Olymp	91.77	175	*e*		P	18 13 56.1 -0.4
VNA3				*e*			18 14 02.4
VNA2	Neumayer--Watz	92.26	175	*e*		P	18 13 59.0 +0.2
VNA2				*e*			18 14 05.0
ULM	Lac du Bonnet	94.66	39	LR		LR	18 49 09.5
	comp=Z,250nm,19.6s,MS4.7,baz=245,slow=31						
LPAZ	La Paz	99.27	110	LR		LR	18 49 06.5
	comp=Z,127nm,19.6s,MS4.4,baz=47,slow=29						
ROSC	El Rosal	99.86	88	LR		LR	18 49 19.1
	comp=Z,70nm,18.9s,MS4.2,baz=20,slow=29						
OJC	Ojcow	144.75	345	*e*PX			18 20 22.6
MALT	Malatya	144.75	314	*e*PKPdf		PKPdf	18 20 27.4 +1.1
CLL	Collm	144.91	353	*e*(pPKPdf)			18 20 37.0
	comp=Z,4.0nm,1.1s						
CLL				*ex*		x	18 20 46.0
STHS	Stebnicka Huta	145.12	343	*e*PKP		PKPdf	18 20 28.3 +1.8
STHS				*e*			18 20 34.6
STHS				*e*			18 20 39.3
KOLS	Kolonicke sedl	145.26	342	*e*PKP		PKPdf	18 20 28.0 +1.2
UPC	Upice	145.26	350	*e*PKP		PKPdf	18 20 28.2 +1.5
UPC				*ep*PKP		pPKPdf	18 20 34.1 -4.1
DPC	Dobruska-Polom	145.36	349	*e*PKP		PKPdf	18 20 28.5 +1.6
DPC				*ep*PKP		pPKPdf	18 20 34.2 -4.2
PVCC	Panska Ves	145.47	351	*e*PKP		PKPdf	18 20 29.5 +2.4
PVCC				*ep*PKP		pPKPdf	18 20 35.0 -3.6
OKC	Ostrava-Krasne	145.49	347	*e*PKP		PKPdf	18 20 26.8 -0.3
OKC				*ep*PKP		pPKPdf	18 20 32.3 -6.3
CRVS	Cervenica-Dubn	145.52	343	*e*PKP		PKPdf	18 20 29.4 +2.2
MORC	Moravsky Berou	145.67	348	*e*PKPdf		PKPdf	18 20 27.6 +0.1
MOX	Moxa	145.71	355	*e*PKP		PKPdf	18 20 29.4 +1.9
	comp=Z,27nm,1.7s						
PRU	Pruhonice	146.00	351	*e*PKP		PKPdf	18 20 29.8 +1.8
PRU				*ep*PKP		pPKPdf	18 20 36.7 -2.8
NKC	Novy Kostel	146.03	353	*e*PKP		PKPdf	18 20 29.9 +1.8
NKC				*ep*PKP		pPKPdf	18 20 36.1 -3.4
KECS	Kecovo	146.17	344	*e*		PKPdf	18 20 29.2 +0.8
KECS				*e*			18 20 37.2
KECS	Kecovo	146.17	344	*e*PKP		PKPdf	18 20 29.2 +0.8
KECS				*e*			18 20 37.2
TREC	Trest	146.52	350	*e*PKP		PKPdf	18 20 30.9 +2.0
TREC				*ep*PKP		pPKPdf	18 20 38.2 -2.2
VYHS	Vyhne	146.59	345	*e*PKP		PKPbc	18 20 32.2 +1.6
VYHS				*e*			18 20 38.3
VYHS				*e*			18 20 43.2
GRA1	Grafenberg Arr	146.69	355	*e*PKP		PKPbc	18 20 32.8 +2.0
GRF	Grafenberg Arr	146.69	355	*e*PKP		PKPbc	18 20 32.8 +2.0
MLR	Muntele Rosu	146.93	335	PKPbc		PKPbc	18 20 32.9 +1.3
	comp=Z,1.1nm,0.6s,baz=7.6,slow=15,SNR=2.9						
KHC	Kasperske Hory	146.97	352	*e*PKP		PKPbc	18 20 33.7 +2.0
KHC				*ex*		x	18 20 40.1
MODS	Modra-Piesok	147.06	347	*e*PKP		PKPbc	18 20 34.2 +2.3
MODS				*e*			18 20 40.6
ROSF	Rostrenen	147.18	12	*e*PKIKP		PKPbc	18 20 34.6 +2.3
GERES	GERESS Array B	147.24	352	PKPbc		PKPbc	18 20 33.0 +0.5
	comp=Z,0.7nm,0.7s,baz=52,slow=2.2,SNR=6.2						
FLN	La Foliniere	147.26	9	*e*PKIKP		PKPbc	18 20 34.6 +2.1
SGMF	Saint Gilles	147.40	12	*e*PKIKP		PKPbc	18 20 35.0 +2.1
LDF	La Druitiere	147.48	9	*e*PKIKP		PKPbc	18 20 35.0 +1.9
GRR	Gorron	147.57	10	*e*PKIKP		PKPbc	18 20 35.2 +1.8
QUIF	Quistinic	147.60	13	*e*PKIKP		PKPbc	18 20 35.1 +1.6
CDF	Champ du Feu	148.16	359	*e*PKIKP		PKPbc	18 20 36.1 +1.2
HINF	Hinteralfeld	148.76	360	*e*PKIKP		PKPbc	18 20 37.1 +0.6
LOR	Lormes	149.21	4	*e*PKIKP		PKPbc	18 20 37.7 0.0
	comp=Z,3.3nm,0.5s						
SSF	Saint Saulge	149.39	4	*e*PKIKP		PKPbc	18 20 38.1 0.0
	comp=Z,4.9nm,0.8s						
AVF	Avril sur Loir	149.65	5	*e*PKIKP		PKPbc	18 20 38.5 -0.3
CABF	La Chapelle	149.96	1	*e*PKIKP		PKPbc	18 20 39.3 -0.2
	comp=Z,13nm,1.2s						
TCF	Toulx Ste Croi	150.04	6	*e*PKIKP		PKPbc	18 20 39.0 -0.8
LPL	La Plagne	151.06	0	*e*PKIKP		PKPbc	18 20 41.0 -1.2
LPG	La Plagne	151.08	0	*e*PKIKP		PKPbc	18 20 40.9 -1.3
ORIF	Oris-en-Rattie	151.65	1	*e*PKIKP		PKPbc	18 20 41.5 -2.1
VIVF	Saint-Julien-l	151.66	3	*e*PKIKP		PKPbc	18 20 41.6 -2.0
FRF	La Foret Royal	153.01	0	*e*PKIKP		PKPbc	18 20 43.4 -3.3
LMR	La Mourre	153.24	0	*e*PKIKP		PKPbc	18 20 43.8 -3.4
	comp=Z,6.8nm,0.9s						
PGF	Pioggiola	153.96	356	*e*PKIKP		PKPdf	18 20 44.7 +3.9
TORD	Torodi Ar. Bea	174.06	123	PKPab		PKPab	18 22 28.9 -2.1
	comp=Z,0.7nm,0.8s,baz=251,slow=4.4,SNR=3.1						

*IDC **16** 18:07:29.6±2.1, 4361N×10538W, h0km, mb1 3.7/3, mb1mx3.4/23, mbtmp3.5/3, ML3.4/3, Error ellipse: s-maj=47.9km s-min=8.8km az=151.0*

*ISCJB **16** 18:07:30.3±0.6, 4372N±005×10527W±006, h0km, Error ellipse: s-maj=7.6km s-min=6.2km az=142.1*

*NEIC **16** 18:07:31.0±0.4, 4370N×10520W, h0km, ML3.3, Error ellipse: s-maj=6.3km s-min=4.9km az=138.0, Suspected Mining explosion.*

NEIC 70 km [45 miles] SSE of Gillette.

ISC 16 18:07:31.3±0.6, 4371N±005×10520W±006, h0km, n30, σ0=98/33, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	Black Hills	0.94	64	*e*Pg		Pg	18 07 49.7 +0.5
PHWY	Pilot Hill	2.42	185	*e*Pn		Pn	18 08 12.1 +0.1
RWWY	Rawlins	2.51	217	*e*Pn		Pn	18 08 12.1 -1.2
RWWY				*e*Sg		Sg	18 08 43.5 -8.2
LAO	LASA Array	3.06	347	*e*Pn		Pn	18 08 21.8 +1.0
RLMT	Red Lodge	3.23	297	*e*Pn		Pn	18 08 22.2 -1.0
BW06	Boulder Array	3.32	255	*e*Pn		Pn	18 08 23.7 -0.8
BW06				Sn		Sn	18 09 05.9 +1.3
PDAR	Pinedale Array	3.32	255	Pn		Pn	18 08 23.8 -0.7
	2.8nm,0.3s,baz=77,slow=17,SNR=53						
PDAR				Lg			18 09 09.1
	baz=73,slow=31						
GCMT	Greycliff	3.80	305	*e*Pn		Pn	18 08 31.3 +0.3
LKWY	Lake	3.84	285	*e*Pn		Pn	18 08 32.3 +0.8
LOHW	Long Hollow	3.92	270	*e*Pn		Pn	18 08 33.6 +0.9
ISCO	Idaho Springs	3.92	185	*e*P		Pn	18 08 33.0 +0.3
ISCO				*e*Sg		Sg	18 09 27.6 -10
FLWY	Flagg Ranch	3.99	277	*e*Pn		Pn	18 08 32.2 -1.5
FLWY				*e*Sg		Sg	18 09 38.6 -0.8
MOOW	Moose Ponds	4.02	272	*e*Pn		Pn	18 08 34.1 +0.1
SNOW	Snow King Moun	4.04	268	Pn		Pn	18 08 37.6 +3.2
REDW	Red Top Meadow	4.12	267	P		Pn	18 08 35.7 +0.3
YFT	Old Faithful	4.12	282	*e*Pg		Pg	18 08 46.9 -3.5
IMW	Indian Meadow	4.16	275	*e*Pn		Pn	18 08 36.0 +0.1
TPAW	Teton Pass	4.18	269	*e*Pn		Pn	18 08 37.0 +0.7
YMR	Madison River	4.25	285	*e*Pg		Pg	18 08 46.5 -6.2
DCID1	Drake Creek	4.34	270	*e*Pn		Pn	18 08 39.7 +1.2
SMCO	Snowmass	4.72	197	Pg		Pg	18 08 55.7 -6.1
DGMT	Dagmar	4.81	8	*e*Pn		Pn	18 08 46.4 +1.6
HWUT	Hardware Ranch	5.14	248	*e*Pn		Pn	18 08 49.7 +0.3
	8.6nm,0.6s						
EGMT	Eagleton	5.36	325	*e*Pn		Pn	18 08 52.6 +0.2
	8.3nm,0.5s						
DAU	Daniels Canyon	5.58	236	*e*Pn		Pn	18 08 55.4 -0.1
HVU	Hansel Valley	5.90	253	*e*Pn		Pn	18 08 59.4 -0.5
CHMT	Chamberlain Mo	6.51	302	*e*Pn		Pn	18 09 08.2 -0.1
ULM	Lac du Bonnet	9.13	41	Pn		Pn	18 09 42.5 -1.7
	2.1nm,0.3s,baz=230,slow=13,SNR=24						
ULM				Lg			18 12 16.6
	0.5nm,0.3s,baz=156,slow=20,SNR=2.9						
TXAR	Lajitas Array	14.40	175	Lg			18 15 03.1
	0.0nm,0.3s,baz=334,slow=17,SNR=2.6						
YKA	Yellowknife Ar	19.60	347	P		Pn	18 12 00.2 -1.8
	0.1nm,0.3s,baz=158,slow=12,SNR=7.4						

*IDC **16** 18:16:22.6±1.2, 1922N×6447W, h0km, mb3.7/3, mb1 4.2/5, mb1mx3.7/22, mbtmp3.9/5, ML3.9/2, Error ellipse: s-maj=29.7km s-min=17.1km az=56.0*

*ISCJB **16** 18:16:27.4±0.7, 1909N±007×6462W±003, h45km±10km, mb3.8/3, Error ellipse: s-maj=10.9km s-min=4.0km az=0.2*

*RSPR **16** 18:16:28.2, 1907N×6456W, h46km±1km, MD3.7/21, MD3.7/21*

*NEIC **16** 18:16:28.2, 1907N×6456W, h46km, MD3.7(RSPR), After RSPR.*

ISC 16 18:16:28.6±0.8, 1902N±005×6464W±003, h29km±5km, n40, σ0=80/61, mb3.8/3, 19C-1D, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABV	Anegada	0.41	135⇑	*e*P		Pb	18 16 37.1 -0.6
ABV	Anegada	0.41	135	*e*S		Sb	18 16 44.3 +0.4
TBVI	Tortola	0.60	178⇑	*i*P		Pb	18 16 40.2 -0.5
STVI	Saint Thomas	0.73	204⇓	*e*P		Pb	18 16 42.2 -0.6
STVI				*e*S		Sb	18 16 53.3 +0.8
MTP	Monte Pirata	1.26	223⇑	*e*P		Pn	18 16 49.6 -0.6
MTP				*e*S		Sn	18 17 06.2 0.0
CBYP	Canovanas	1.37	237⇑	*e*P		Pn	18 16 50.9 -0.9
CBYP				*e*S		Sn	18 17 08.8 -0.1
HUMP	Col San Antoni	1.44	233⇑	*e*P		Pn	18 16 52.6 -0.1
HUMP				*e*S		Sn	18 17 10.7 +0.1
CPD	Cerro la Pandu	1.55	231⇑	*e*P		Pn	18 16 53.6 -0.7
CPD				*e*S		Sn	18 17 13.9 +0.5
SJG	San Juan	1.69	238⇑	*e*P		Pn	18 16 56.0 -0.2
SJG				*e*S		Sn	18 17 17.1 +0.3
SJG	San Juan	1.69	238⇑	*e*P		Pn	18 16 55.8 -0.3
SJG				*e*S		Sn	18 17 17.2 +0.4
SJG	San Juan	1.69	238	Pn		Pn	18 16 56.0 -0.1
	42nm,0.3s,baz=64,slow=10,SNR=25						
SJG				Sn		Sn	18 17 16.3 -0.5
	130nm,0.3s,baz=289,slow=18,SNR=14						
STMA	St. Maarten, A	1.75	124	*e*P		Pn	18 16 57.5 +0.6
STMA				*e*S		Sn	18 17 19.1 +0.8
CELP	Cerrillos	2.06	243⇑	*e*P		Pn	18 17 00.8 -0.5
CELP				*e*S		Sn	18 17 26.7 +0.7
OBIP	Obispado Ponce	2.10	243⇑	*e*P		Pn	18 17 01.7 -0.1
OBIP				*e*S		Sn	18 17 27.4 +0.4
ICM	Isla Caja Muer	2.11	238⇑	*e*P		Pn	18 17 01.8 -0.1
ICM				*e*S		Sn	18 17 27.1 0.0
AOPR	Arecibo Observ	2.11	252⇑	*e*P		Pn	18 17 01.3 -0.6
AOPR				*e*S		Sn	18 17 27.7 +0.5
LRS	Lares	2.21	251⇑	*e*P		Pn	18 17 03.1 -0.2
LRS				*e*S		Sn	18 17 29.7 +0.1
GBPR	Guanica, Bosqu	2.36	244	*e*S		Sn	18 17 33.3 -0.1
GBPR	Guanica, Bosqu	2.36	244⇑	*e*P		Pn	18 17 05.4 0.0
AGPR	Aguadilla, PR	2.40	257⇑	*e*P		Pn	18 17 05.3 -0.6
AGPR				*e*S		Sn	18 17 35.1 +0.7
LSP	Las Mesas	2.46	250⇑	*e*P		Pn	18 17 06.7 -0.1
LSP				*e*S		Sn	18 17 36.3 +0.4
SKI	Saint Kitts	2.47	133	*e*P		Pn	18 17 09.7 +2.9
SKI				*e*S		Sn	18 17 31.8 -4.2
CRPR	Cabo Rojo, PR	2.55	247⇑	*e*P		Pn	18 17 08.0 +0.1
CRPR				*e*S		Sn	18 17 38.2 +0.2
IMO	Isla Mona	3.23	254⇑	*e*P		Pn	18 17 17.2 -0.1
LZG	Guadaloupe-1	3.96	136	*e*P		Pn	18 17 27.8 +0.3
SCG	Saint Claude	4.11	136	*e*P		Pn	18 17 30.2 +0.9
SCG				*e*S		Sn	18 18 23.1 +6.7
TBG	Guadaloupe-3	4.26	137	*e*P		Pn	18 17 33.1 +1.6
DEG	La Desirade	4.35	128	*e*P		Pn	18 17 30.9 -1.9
SMN1	Samana, DR	4.38	273⇑	*e*P		Pn	18 17 33.3 +0.2
SMN1	Samana, DR	4.38	273	*e*S		Sn	18 18 24.1 +0.9
MGG	Marie-Galante	4.43	134	*e*P		Pn	18 17 33.9 +0.1
SDDR	Presa de Saban	6.29	271⇑	*e*P		Pn	18 18 00.1 +0.8
PCRV	Puerto La Cruz	8.79	180	Pn		Pn	18 18 33.7 -0.1
	3.1nm,0.3s,baz=43,slow=5.0,SNR=6.9						
PCRV				Sn		Sn	18 20 09.9 -2.1
	1.1nm,0.3s,baz=354,slow=5.9,SNR=3.7						
SDV	Santo Domingo	11.63	211	Pn		Pn	18 19 13.7 +1.1
SDV				Sn		Sn	18 21 18.9 -2.7
SDV	Santo Domingo	11.63	211	Pn		Pn	18 19 13.7 +1.1
	0.4nm,0.3s,baz=6.0,slow=19,SNR=2.0						
SDV				Sn		Sn	18 21 18.9 -2.7
	0.3nm,0.3s,baz=5.8,slow=18,SNR=2.8						
TKL	Tuckaleechee C	23.66	318	P		Px	18 21 55.1
	14nm,0.6s,baz=128,slow=15,SNR=28						
TXAR	Lajitas Array	36.90	294	P		P	18 23 34.4 -0.5
	0.4nm,0.7s,mb3.4,baz=121,slow=9.7,SNR=5.1						
PDAR	Pinedale Array	44.56	312	P		P	18 24 37.1 -0.7
	1.4nm,0.6s,mb4.0,baz=108,slow=8.8,SNR=13						
YKA	Yellowknife Ar	55.28	334	P		P	18 25 55.7 -3.3
YKA	Yellowknife Ar	55

6.2nm,1.0s,baz=254,slow=2.5,SNR=4.0
YKA Yellowknife Ar 139.90 314 PKP PKPdf 18 49 56.2 +0.7
YKA Yellowknife Ar 139.90 314 PKP PKPdf 18 49 56.2 +0.7
0.8nm,0.6s,baz=129,slow=2.3,SNR=14
ZALV Zalesovo Beam 144.03 70 PKP PKPdf 18 50 04.9 +1.7
0.6nm,0.4s,baz=236,slow=10.0,SNR=4.2
INK Inuvik 149.64 315 *e*PKPbc PKPbc 18 50 16.8 0.0
DAWY Dawson 150.10 306 *e*PKPbc PKPbc 18 50 18.8 +0.7
SONM Songino Array 150.37 95 PKPbc PKPbc 18 50 21.9 +2.7
1.9nm,0.9s,baz=203,slow=2.7,SNR=13

*BJI **16** 18:52:27.9, 4520N×7936E, h15km, ML3.1*
*NNC **16** 18:52:30.3±0.7, 4496N×7983E, h0km, mb3.6, mpv3.2, Error ellipse: s-maj=7.7km s-min=4.4km az=144.0*
*ISCJB **16** 18:52:31.4±0.7, 4506N±006×7974E±007, h10km, Error ellipse: s-maj=9.1km s-min=6.6km az=29.4*
ISC 16 18:52:32.7±3.3, 4499N±007×7973E±007, h3km±24km, n10, σ0§88/10, 10C-3D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MK31	**Makanchi Array**	**2.54**	**44**	Pn	**Pn**	**18 53 15.6**	**+0.8**
	1.7nm,0.3s,baz=214,slow=13,SNR=235						
MK31				Lg		18 53 48.7	
	15nm,0.3s,baz=217,slow=28,SNR=22						
KNDC	**Almaty**	**2.67**	**229**	⇑Pn	**Pn**	**18 53 15.9**	**-0.6**
	30nm,0.5s						
KNDC				⇑Lg		18 53 53.3	
	119nm,0.4s						
TKM2	**Tokmak 2**	**3.63**	**237**	⇑Pn	**Pn**	**18 53 29.5**	**-0.3**
	6.2nm,0.5s						
TKM2				⇑Lg		18 54 28.0	
	19nm,0.3s						
KURK	**Kurchatov**	**5.78**	**353**	⇓Pn	**Pn**	**18 53 59.0**	**-0.2**
	1.9nm,1.0s						
KURK				⇓Lg		18 55 35.3	
	5.6nm,0.5s						
WMQ	**Urumqi**	**5.82**	**99**	*e*P	**Pn**	**18 54 00.5**	**+0.6**
WMQ				S	**Sn**	**18 55 06.6**	**-0.5**
WMQ				Smax			
	comp=N,12nm,0.4s						
WMQ				Smax			
	comp=E,18nm,0.3s						
KK31	**Karatay Array**	**6.91**	**257**	Pn	**Pn**	**18 54 16.3**	**+1.5**
	comp=E,0.3nm,0.4s,baz=56,slow=20,SNR=5.6						
KK31				Lg		18 56 09.3	
	comp=E,14nm,1.0s,baz=74,slow=29,SNR=13						
VOSK	**Vostochnaya**	**9.64**	**326**	⇑Lg		18 57 37.1	
	comp=E,5.7nm,1.1s						
BVA0	**Borovoye Array**	**10.11**	**326**	⇑Lg		18 57 52.4	
	comp=E,0.5nm,0.6s,baz=140,slow=36,SNR=4.9						
CHKZ	**Chkalovo**	**10.52**	**329**	⇓Pn	**Pn**	**18 55 02.3**	**-2.0**
	comp=E,2.1nm,1.1s						
CHKZ				⇑Sn	**Sn**	**18 57 03.1**	**+0.5**
	comp=E,2.5nm,1.6s						
CHKZ				⇑Lg		18 58 05.9	
	comp=E,5.8nm,0.9s						
ZRNK	**Zerenda**	**10.63**	**322**	⇑Sn	**Sn**	**18 57 05.2**	**+0.1**
	comp=E,1.6nm,1.2s						
ZRNK				⇑Lg		18 58 10.1	
	comp=E,6.8nm,1.4s						

*IDC **16** 19:18:05.6±0.8, 4235S×15282E, h0km, mb4.1/9, mb1 4.2/9, mb1mx4.1/15, mbtmp4.0/9, MS3.7/4, Ms1 3.6/4, ms1mx3.2/24, Error ellipse: s-maj=33.5km s-min=20.2km az=111.0*
*ISCJB **16** 19:18:10.9±4.0, 4335±01×15281E±009, h47km±38km, mb4.0/14, MS3.9/3, Error ellipse: s-maj=23.0km s-min=13.6km az=159.2*
*NEIC **16** 19:18:12.8±2.1, 4255S×15274E, h50km±19km, mb4.3/4, Error ellipse: s-maj=16.8km s-min=10.5km az=145.0*
ISC 16 19:18:13.9±3.1, 43S±01×15277E±010, h59km±31km, n31, σ0§72/25, mb4.0/14, MS3.9/3, 1C, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**8.77**	**126**	Pn	**Pn**	**19 20 17.6**	**-0.5**
HNR				Sn	**Sn**	**19 21 56.1**	**+0.5**
HNR	**Honiara**	**8.77**	**126**	Pn	**Pn**	**19 20 17.6**	**-0.5**
	4.2nm,0.3s,baz=261,slow=10,SNR=3.8						
HNR				Sn	**Sn**	**19 21 56.1**	**+0.5**
	3.5nm,0.3s,baz=90,slow=19,SNR=4.0						
GUMO	**Guam**	**19.41**	**336**	LR	LR	19 28 31.2	
	comp=Z,42nm,21.3s,baz=138,slow=32						
KAKA	**Kakadu**	**21.76**	**246**	*e*P	**P**	**19 23 00.9**	**+0.1**
	9.1nm,0.6s,mb4.4						
KAKA	**Kakadu**	**21.76**	**246**	*e*P	**P**	**19 23 00.3**	**-0.5**
WRAB	**Tennant Creek**	**23.75**	**228**	*e*P	**P**	**19 23 20.8**	**-0.2**
	3.7nm,0.8s,mb3.9						
WB2	**Warramunga Arr**	**23.75**	**228**	⇑*i*P	**P**	**19 23 21.3**	**+0.3**
WRA	**Warramunga Arr**	**23.76**	**228**	P	**P**	**19 23 21.4**	**+0.3**
	5.5nm,0.5s,mb4.3,baz=52,slow=10,SNR=82						
ASAR	**Alice Springs**	**26.51**	**222**	P	**P**	**19 23 46.4**	**+0.4**
	1.4nm,0.6s,mb3.7,baz=56,slow=9.2,SNR=22						
ASAR				PcP	PcP	19 27 09.1	-0.7
	0.6nm,1.0s,baz=52,slow=3.0,SNR=4.7						
STKA	**Stephens Creek**	**29.38**	**200**	*e*P	**P**	**19 24 04.3**	**-7.3**
	2.0nm,0.8s,mb3.9						
STKA	**Stephens Creek**	**29.38**	**200**	*e*P	**P**	**19 24 11.7**	**+0.2**
STKA				LR	LR	19 36 26.1	
STKA	**Stephens Creek**	**29.38**	**200**	P	**P**	**19 24 11.9**	**+0.4**
	1.9nm,0.9s,mb3.8,baz=338,slow=13,SNR=4.7						
STKA				LR	LR	19 36 26.1	
	comp=Z,110nm,18.9s,MS3.5,baz=27,slow=37						
FITZ	**Fitzroy Crossi**	**29.88**	**241**	*e*P	**P**	**19 24 15.4**	**-0.7**
	7.3nm,1.6s,mb4.2						
FITZ	**Fitzroy Crossi**	**29.88**	**241**	*e*P	**P**	**19 24 15.0**	**-1.1**
FITZ	**Fitzroy Crossi**	**29.88**	**241**	P	**P**	**19 24 15.3**	**-0.9**
	1.3nm,0.5s,mb3.9,baz=72,slow=11,SNR=7.9						
RAO	**Raoul Island**	**37.26**	**135**	LR	LR	19 36 37.0	
	comp=Z,712nm,18.7s,MS4.5,baz=35,slow=30						
MJAR	**Matsushiro Arr**	**42.83**	**343**	LR	LR	19 43 43.6	
	comp=Z,68nm,18.1s,MS3.6,baz=190,slow=36						
SONM	**Songino Array**	**65.87**	**328**	P	**P**	**19 28 54.2**	**+0.8**
	1.1nm,1.0s,mb3.8,baz=135,slow=4.9,SNR=7.2						
MKAR	**Makanchi Array**	**79.92**	**319**	P	**P**	**19 30 17.2**	**+0.7**
	0.2nm,0.2s,mb3.6,baz=66,slow=21,SNR=3.7						
MCK	**McKinley**	**80.40**	**23**	*e*P	**P**	**19 30 18.0**	**-0.7**
	4.6nm,1.0s,mb4.4						
ZALV	**Zalesovo Beam**	**80.71**	**326**	P	**P**	**19 30 20.1**	**-0.4**
	0.5nm,0.4s,mb3.8,baz=110,slow=8.4,SNR=2.8						
AML	**Almayashu**	**84.78**	**313**	*e*P	**P**	**19 30 43.9**	**+1.9**
	3.1nm,0.9s,mb4.4						
MAW	**Mawson**	**86.03**	**203**	P	**P**	**19 30 47.1**	**-0.6**
	3.0nm,0.8s,mb4.6,baz=92,slow=7.3,SNR=8.1						
BRVK	**Borovoye**	**88.88**	**323**	*e*P	**P**	**19 31 00.6**	**-1.0**
	0.8nm,0.6s,mb4.2						
YKA	**Yellowknife Ar**	**94.99**	**28**	P	**P**	**19 31 29.4**	**-0.3**
YKA	**Yellowknife Ar**	**94.99**	**28**	P	**P**	**19 31 29.5**	**-0.3**
	0.2nm,0.7s,mb3.7,baz=272,slow=4.2,SNR=5.7						
GERES	**GERESS Array B**	**123.60**	**329**	PKP	PKPdf	19 37 03.8	-1.0
	0.8nm,0.7s,baz=112,slow=1.4,SNR=8.2						
LPAZ	**La Paz**	**134.69**	**118**	PKP	PKPdf	19 37 29.3	+2.4
	1.5nm,0.8s,baz=316,slow=3.2,SNR=8.0						
LPAZ				SKPbc	SKPbc	19 40 59.4	+7.2
	0.5nm,0.5s,baz=234,slow=5.1,SNR=4.0						
SIV	**San Ignacio**	**140.93**	**122**	PKhKP		19 37 35.1	
	0.6nm,0.6s,baz=273,slow=17,SNR=2.2						
SIV				SKPbc	SKPbc	19 41 17.0	+6.8
	0.8nm,0.5s,baz=256,slow=4.2,SNR=4.8						
TORD	**Torodi Ar. Bea**	**150.11**	**289**	PKPbc	PKPbc	19 37 58.5	-0.6
	4.7nm,1.0s,baz=90,slow=2.5,SNR=20						
BDFB	**Brasilia**	**151.45**	**134**	PKPbc	PKPbc	19 38 03.0	+0.8
	2.7nm,0.7s,baz=202,slow=6.6,SNR=8.8						

*IDC **16** 19:19:48.9±2.0, 2621N×9528E, h0km, mb3.4/4, mb1 3.6/4, mb1mx3.4/21, mbtmp3.4/4, Error ellipse: s-maj=88.0km s-min=24.3km az=70.0*
*ISCJB **16** 19:20:04.3±2.0, 2633N±02×9532E±02, h157km±26km, mb3.3/4, Error ellipse: s-maj=34.6km s-min=21.7km az=153.0*
ISC 16 19:20:04.2±2.3, 264N±02×953E±02, h136km±29km, n6, σ1§33/8, mb3.3/4, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IMP	**Imphal**	**2.02**	**218**	*e*P	**Pn**	**19 20 39.0**	**+0.2**
IMP				*e*S	**Sn**	**19 21 13.0**	**+7.7**
SHL	**Shillong**	**3.18**	**256**	*e*PN	**Pn**	**19 20 50.5**	**-2.8**
SHL				*e*SN	**Sn**	**19 21 32.0**	**+0.8**
MKAR	**Makanchi Array**	**22.81**	**337**	P	**P**	**19 24 54.8**	**-0.5**
	0.2nm,0.3s,mb3.0,baz=145,slow=12,SNR=3.9						
SONM	**Songino Array**	**23.11**	**19**	P	**P**	**19 24 58.7**	**+0.8**
	0.2nm,0.6s,mb2.7,baz=206,slow=9.5,SNR=2.1						
WRA	**Warramunga Arr**	**59.65**	**137**	P	**P**	**19 29 53.9**	**-0.3**
	0.8nm,0.5s,mb3.8,baz=327,slow=7.4,SNR=15						
ASAR	**Alice Springs**	**62.22**	**140**	P	**P**	**19 30 11.8**	**+0.3**
	0.6nm,0.6s,mb3.6,baz=323,slow=6.5,SNR=10						

*PGC **16** 19:36:17.9±15.0, 6961N×14428W, h1km, ML3.6/1, 170km east of Prudhoe Bay, Ak Alaska*
NEIC 16 19:36:15.9, 6974N×14478W, h24km, ML3.7(AEIC), **ML3.6**(PGC), **After AEIC., Northern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BM3	**Burnt Mountain**	**2.33**	**178**	P	Pn	19 36 53.1	+0.3
BM3				S	Sn	19 37 22.2	+1.6
COLD	**Coldfoot**	**3.22**	**221**	P	Pn	19 37 05.5	+0.6
INK	**Inuvik**	**4.30**	**104**	*e*P	Pn	19 37 21.8	+2.1
INK	**Inuvik**	**4.30**	**104**	Pn	Pn	19 37 22.3	+2.6
INK				Sn	Sn	19 38 08.1	-0.8
IMA2	**Indian Mountai**	**4.99**	**227**	*e*Pn	Pn	19 37 29.4	+0.2
IMA2				*e*		19 37 43.0	
COLA	**College**	**5.03**	**195**	P	Pn	19 37 31.0	+1.2
COLA				S	Sn	19 38 30.0	+2.9
IL1	**Eielson Array**	**5.06**	**190**	P	Pn	19 37 31.9	+1.7
IL1				S	Sn	19 38 29.8	+2.1
IM3	**Indian Mountai**	**5.07**	**226**	P	Pn	19 37 31.5	+1.2
EGAK	**Eagle**	**5.18**	**163**	*e*P	Pn	19 37 31.9	+0.1
	52nm,0.8s						
DAWY	**Dawson**	**6.08**	**157**	P	Pn	19 37 44.7	+0.5
DAWY	**Dawson**	**6.08**	**157**	Pn	Pn	19 37 44.6	+0.5
DAWY				Sn	Sn	19 38 49.5	-3.4
DOT	**Dot Lake**	**6.13**	**177**	P	Pn	19 37 45.5	+0.7
MCK	**McKinley**	**6.25**	**197**	*e*P	Pn	19 37 46.2	-0.3
KTH	**Kantishna Hill**	**6.67**	**204**	P	Pn	19 37 53.1	+0.8
KTH				S	Sn	19 39 07.9	+0.5
TRF	**Thorofare Moun**	**6.69**	**202**	P	Pn	19 37 53.5	+1.1
BCA3	**Beaver Creek A**	**6.81**	**168**	P	Pn	19 37 54.8	+0.6
MENT	**Mentasta**	**6.85**	**176**	P	Pn	19 37 55.3	+0.7
HYT	**Haines Junctio**	**9.45**	**158**	Pn	Pn	19 38 32.9	+2.6
TNA	**Tin City**	**9.72**	**256**	*e*P	Pn	19 38 34.7	+0.7
	2.5nm,0.7s						
SVW2	**Sparrevohn**	**9.75**	**212**	*e*Pn	Pn	19 38 33.5	-1.0
SVW2				*e*Sn	Sn	19 40 21.3	-1.7
WHY	**Whitehorse**	**10.00**	**151**	Pn	Pn	19 38 38.4	+0.5
DLBC	**Dease Lake**	**12.99**	**143**	Pn	Pn	19 39 19.3	+0.5
YKW3	**Yellowknife Ar**	**14.02**	**106**	Pn	Pn	19 39 30.3	-2.3
YKW3				Sn	Sn	19 41 54.8	-12
RES	**Resolute Bay**	**15.57**	**49**	*e*Pn	Pn	19 39 53.0	-0.4
	96nm,0.6s						
RES	**Resolute Bay**	**15.57**	**49**	Pn	Pn	19 39 53.0	-0.4
RES				Sn	Sn	19 42 37.2	-7.6

*ISCJB **16** 19:46:53.0±0.8, 178S±02×1782W±02, h500km, mb3.7/8, Error ellipse: s-maj=22.1km s-min=18.2km az=44.5*
*NEIC **16** 19:46:58.0±0.6, 1783S×17824W, h550km, mb4.2/1, Error ellipse: s-maj=19.9km s-min=15.4km az=128.0*
*IDC **16** 19:46:59.6±2.9, 1785S×17836W, h563km±33km, mb3.3/9, mb1 3.5/9, mb1mx3.3/18, mbtmp3.3/9, Error ellipse: s-maj=21.8km s-min=16.3km az=162.0*
ISC 16 19:46:54.0±0.8, 177S±02×1782W±02, h500km, n13, σ0§57/13, mb3.7/8, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**20.85**	**190**	P	**P**	**19 51 00.2**	**0.0**
	6.9nm,0.7s,baz=338,slow=5.4,SNR=4.5						
RPZ	**Rata Peaks**	**27.45**	**197**	P	**P**	**19 51 57.7**	**-1.1**
	8.8nm,0.9s,mb4.2,baz=356,slow=22,SNR=3.5						
STKA	**Stephens Creek**	**38.90**	**241**	P	**P**	**19 53 36.0**	**-0.1**
	3.1nm,0.6s,mb3.9,baz=72,slow=7.1,SNR=9.3						
WB2	**Warramunga Arr**	**44.87**	**259**	*e*P	**P**	**19 54 23.6**	**+0.2**
WRAB	**Tennant Creek**	**44.87**	**259**	*e*P	**P**	**19 54 23.2**	**-0.2**
WRA	**Warramunga Arr**	**44.88**	**259**	P	**P**	**19 54 23.5**	**0.0**
	0.6nm,0.4s,mb3.4,baz=94,slow=7.5,SNR=34						
WRA				PcP	PcP	19 55 53.6	-1.1
	0.3nm,0.4s,baz=90,slow=3.8,SNR=8.9						
ASAR	**Alice Springs**	**45.05**	**254**	P	**P**	**19 54 25.2**	**+0.5**
	4.9nm,0.5s,mb4.2,baz=88,slow=8.2,SNR=143						
ASAR				PcP	PcP	19 55 54.0	-1.2
	0.9nm,0.5s,baz=105,slow=4.2,SNR=8.5						
ASAR				S	**S**	**20 00 20.2**	**-6.6**
	0.8nm,1.0s,baz=90,slow=16,SNR=5.4						
QSPA	**South Pole Qui**	**72.31**	**180**	*e*P	**P**	**19 57 29.1**	**+1.3**
	5.9nm,0.8s,mb4.2						
QSPA	**South Pole Qui**	**72.31**	**180**	P	**P**	**19 57 29.0**	**+1.2**
	4.4nm,0.8s,mb4.0,baz=83,slow=1.3,SNR=22						
MAW	**Mawson**	**84.09**	**200**	P	**P**	**19 58 31.1**	**-0.2**
	0.9nm,0.4s,mb3.6,baz=115,slow=7.5,SNR=4.6						
PDAR	**Pinedale Array**	**87.08**	**43**	P	**P**	**19 58 46.3**	**+0.3**
	0.3nm,0.7s,mb3.2,baz=260,slow=5.0,SNR=2.9						
YKA	**Yellowknife Ar**	**94.09**	**25**	P	**P**	**19 59 17.3**	**-0.6**
	0.2nm,0.6s,mb3.3,baz=254,slow=4.4,SNR=4.5						
GERES	**GERESS Array B**	**147.51**	**345**	PKPbc	PKPbc	20 05 40.6	-0.8
	1.3nm,0.6s,baz=22,slow=2.6,SNR=14						

KRSC 16 19:48:50.8±2.3, 5162N×15347E, h453km±83km, ML3.8, Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MIPR	**Malaya Ipel'ka**	**2.14**	**71**	*i*P	P	19 49 53.4	+1.2
RUS	**Russkaya**	**3.22**	**73**	*e*P	P	19 50 01.6	+2.1
RUS				*i*S	S	19 50 53.6	-2.0
GNL	**Ganaly**	**3.43**	**51**	P	P	19 50 03.3	+2.2
SDLR	**Sedlovina**	**3.71**	**61**	P	P	19 50 04.5	+1.1
SPN	**Mys Shipunski**	**4.28**	**67**	*e*P	P	19 50 10.4	+2.0
SPN				*e*S	S	19 51 07.7	-4.1
TUMR	**Tumrok**	**5.42**	**45**	P	P	19 50 21.3	+2.2
MKZ	**Mys Kozlova**	**5.78**	**56**	*e*P	P	19 50 24.6	+1.8
MKZ				*e*S	S	19 51 33.5	-4.5
KBTR	**Krutoberegovo**	**7.18**	**47**	P	P	19 50 39.5	+2.3

*IDC **16** 19:55:52.1±5.3, 4801S×10131E, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.7/13, mbtmp3.8/4, MS3.9/1, Ms1 4.0/1, ms1mx3.1/20, Error ellipse: s-maj=168.1km s-min=27.7km az=121.0*
*ISCJB **16** 19:55:55.6±2.6, 4835S±04×10231E±08, h10km, mb3.8/4, Error ellipse: s-maj=98.0km s-min=19.5km az=37.6*
ISC 16 19:55:57.6±2.6, 483S±04×1023E±08, h10km, n5, σ1§40/5, mb3.8/4, Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**33.80**	**75**	P	**P**	**20 02 40.7**	**+1.1**
	2.0nm,0.7s,mb4.2,baz=247,slow=7.7,SNR=5.0						
ASAR	**Alice Springs**	**35.05**	**57**	P	**P**	**20 02 50.6**	**+0.2**
	0.7nm,0.8s,mb3.7,baz=214,slow=7.9,SNR=7.6						
WRA	**Warramunga Arr**	**38.28**	**54**	P	**P**	**20 03 16.9**	**-1.2**
	0.8nm,0.8s,mb3.5,baz=220,slow=9.1,SNR=7.5						
QSPA	**South Pole Qui**	**41.83**	**180**	P	**P**	**20 03 45.7**	**-1.1**
	1.9nm,1.0s,mb3.7,baz=311,slow=4.4,SNR=3.7						
VNA2	**Neumayer--Watz**	**51.02**	**203**	*e*	**P**	**20 05 00.0**	**+1.0**
	baz=57,slow=1.3						
VNA2				*e*		20 05 05.0	

*IDC **16** 20:03:22.6±1.1, 7825S×15609E, h0km, mb4.0/9, mb1 4.1/10, mb1mx4.0/15, mbtmp4.0/10, ML4.0/1, MS3.6/3, Ms1 3.6/3, ms1mx3.0/27, Error ellipse: s-maj=31.0km s-min=20.9km az=106.0*
*NEIC **16** 20:03:23.9±0.6, 7815S×15609E, h10km, mb4.5/2, Error ellipse: s-maj=14.7km s-min=14.3km az=125.0*
*ISCJB **16** 20:03:25.6±0.6, 79S±01×1561E±01, h33km, mb4.0/11, MS3.5/3, Error ellipse: s-maj=15.6km s-min=14.3km az=21.1*
ISC 16 20:03:27.5±0.6, 79S±01×1561E±01, h35km, n16, σ0§94/15, mb4.0/11, MS3.5/3, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.08**	**113**	Pn	**Pn**	**20 04 27.1**	**-0.3**
	9.9nm,0.3s,baz=265,slow=6.0,SNR=3.2						
HNR				Sn	**Sn**	**20 05 24.7**	**+11**
	26nm,0.3s,baz=91,slow=14,SNR=4.9						
GUMO	**Guam**	**24.08**	**332**	LR	LR	20 16 01.8	
	comp=Z,72nm,18.4s,MS3.2,baz=32,slow=32						
WRAB	**Tennant Creek**	**24.27**	**238**	*e*P	**P**	**20 08 40.8**	**-0.8**
	19nm,1.4s,mb4.3						
WRA	**Warramunga Arr**	**24.28**	**238**	P	**P**	**20 08 41.7**	**0.0**
	2.4nm,0.6s,mb3.8,baz=60,slow=9.3,SNR=46						
ASAR	**Alice Springs**	**26.47**	**231**	P	**P**	**20 09 00.5**	**-1.1**
	0.5nm,0.8s,mb3.1,baz=62,slow=10,SNR=6.7						
STKA	**Stephens Creek**	**27.45**	**208**	P	**P**	**20 09 12.2**	**+1.9**
	2.3nm,0.9s,mb3.7,baz=311,slow=11,SNR=3.3						
RPZ	**Rata Peaks**	**38.02**	**162**	LR	LR	20 23 16.7	
	comp=Z,107nm,18.4s,MS3.7,baz=176,slow=31						
MJAR	**Matsushiro Arr**	**47.28**	**340**	P	**P**	**20 11 56.6**	**-0.8**
	0.9nm,0.5s,mb4.0,baz=158,slow=6.6,SNR=5.5						
KSRS	**Korea Array**	**52.24**	**332**	P	**P**	**20 12 35.5**	**+0.3**
	1.6nm,0.6s,mb4.2,baz=149,slow=7.7,SNR=8.9						
ULN	**Ulaanbaatar**	**70.34**	**327**	*e*P	**P**	**20 14 38.9**	**+1.3**
	4.4nm,1.4s,mb4.2						
SONM	**Songino Array**	**70.68**	**327**	P	**P**	**20 14 41.3**	**+1.7**
	1.2nm,0.4s,mb4.2,baz=143,slow=6.1,SNR=22						
MK31	**Makanchi Array**	**84.80**	**318**	*e*P	**P**	**20 15 57.7**	**-0.7**
MKAR	**Makanchi Array**	**84.80**	**318**	P	**P**	**20 15 58.3**	**-0.1**
	1.6nm,0.5s,mb4.4,baz=90,slow=9.3,SNR=21						
ZALV	**Zalesovo Beam**	**85.53**	**326**	P	**P**	**20 16 00.9**	**-0.9**
ZALV				LR	LR	20 52 55.0	
ZALV	**Zalesovo Beam**	**85.53**	**326**	P	**P**	**20 16 00.9**	**-0.9**
	0.7nm,0.4s,mb4.2,baz=118,slow=5.7,SNR=4.5						
ZALV				LR	LR	20 52 55.0	
	comp=Z,29nm,18.4s,MS3.7,baz=26,slow=35						
YKA	**Yellowknife Ar**	**96.58**	**28**	P	**P**	**20 16 53.2**	**-0.1**
	0.2nm,0.6s,mb3.7,baz=264,slow=4.8,SNR=2.9						

NEIC 16 20:37:00.0, 3803S×17623E, h179km, MG4.4(WEL), **After WEL., North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**0.73**	**109**	P	Pn	20 37 25.7	-0.1
MWZ	**Matawai**	**1.07**	**107**	P	Pn	20 37 28.4	+0.3
MWZ				S	Sn	20 37 49.4	-0.3
BKZ	**Black Stump Fm**	**1.15**	**170**	P	Pn	20 37 29.1	+0.4
TWVZ	**Taurewa**	**1.21**	**211**	P	Pn	20 37 29.5	+0.3
NGZ	**Ngauruhoe**	**1.25**	**203**	P	Pn	20 37 30.2	+0.7
WPVZ	**Whakapapa**	**1.29**	**204**	P	Pn	20 37 30.3	+0.4
TUVZ	**Tukino**	**1.32**	**200**	P	Pn	20 37 30.5	+0.4
TUVZ				S	Sn	20 37 53.7	+0.2
FWVZ	**Far West T-bar**	**1.33**	**203**	P	Pn	20 37 30.6	+0.3
WNVZ	**Wahianoa**	**1.39**	**201**	P	Pn	20 37 31.1	+0.3
MOVZ	**Moawhango**	**1.43**	**195**	P	Pn	20 37 30.9	-0.2
KNZ	**Kokohu**	**1.50**	**132**	P	Pn	20 37 32.4	+0.6
VRZ	**Vera Road**	**1.59**	**226**	P	Pn	20 37 33.0	+0.3
PUZ	**Puketiti**	**1.60**	**92**	P	Pn	20 37 32.6	-0.2
MXZ	**Matakaoa Point**	**1.71**	**75**	P	Pn	20 37 33.7	-0.2
RAEZ	**Rainy Point**	**1.91**	**228**	P	Pn	20 37 36.7	+0.8
WAZ	**Wanganui**	**1.98**	**209**	P	Pn	20 37 36.4	-0.3
TSZ	**Takapari Road**	**2.04**	**186**	P	Pn	20 37 37.0	-0.3
NEZ	**North Egmont**	**2.08**	**233**	P	Pn	20 37 36.0	-1.8
PKE	**Pukeiti**	**2.11**	**236**	P	Pn	20 37 38.3	+0.2
MRZ	**Mangatainoka R**	**2.68**	**191**	P	Pn	20 37 43.2	-1.4
KIW	**Kapiti Island**	**3.01**	**199**	P	Pn	20 37 46.5	-2.1
MTW	**Mount Morrison**	**3.18**	**190**	P	Pn	20 37 48.4	-2.2
CAW	**Cannon Point**	**3.20**	**196**	P	Pn	20 37 48.9	-2.1
PAWZ	**Paruwai Farm**	**3.41**	**190**	P	Pn	20 37 51.1	-2.4
MRW	**Makara Radio**	**3.41**	**200**	P	Pn	20 37 51.0	-2.5
WEL	**Wellington**	**3.44**	**199**	P	Pn	20 37 51.4	-2.5
MSWZ	**Moikau Station**	**3.46**	**192**	P	Pn	20 37 51.8	-2.4
SNZO	**South Karori**	**3.48**	**199**	P	Pn	20 37 51.6	-2.8
TCW	**Tory Channel**	**3.52**	**205**	P	Pn	20 37 52.2	-2.7
BHW	**Baring Head**	**3.53**	**197**	P	Pn	20 37 52.3	-2.8
NNZ	**Nelson**	**3.87**	**214**	P	Pn	20 37 56.1	-3.2
QRZ	**Quartz Range**	**4.00**	**225**	*e*P	Pn	20 37 57.2	-3.8
BSWZ	**Blackbirch Sta**	**4.10**	**205**	P	Pn	20 37 59.5	-2.8
BSWZ				S	Sn	20 38 47.0	-4.0
THZ	**Tophouse**	**4.52**	**213**	*e*P	Pn	20 38 04.3	-3.3
KHZ	**Kahutara**	**4.84**	**204**	P	Pn	20 38 08.5	-3.3
KHZ				S	Sn	20 38 52.9	-15
DSZ	**Denniston Nort**	**5.04**	**221**	*e*P	Pn	20 38 10.8	-3.5
LTZ	**Lake Taylor**	**5.63**	**211**	*e*P	Pn	20 38 17.8	-4.2
MQZ	**McQueen's Vall**	**6.29**	**204**	*e*P	Pn	20 38 25.1	-5.5
MQZ				S	Sn	20 39 32.6	-9.4
WVZ	**Waitaha Valley**	**6.55**	**218**	P	Pn	20 38 30.1	-4.0
RPZ	**Rata Peaks**	**6.90**	**213**	*e*P	Pn	20 38 34.6	-4.1
FOZ	**Fox Glacier**	**7.43**	**220**	P	Pn	20 38 40.1	-5.5
LBZ	**Lake Benmore**	**7.81**	**214**	P	Pn	20 38 45.8	-4.9
JCZ	**

AGG	**Agios Georgios**	**2.68**	**140**	*e*Pn	**Pn**	**20 55 37.8**	**0.0**
AGG				*e*Sn	**Sn**	**20 56 11.5**	**+0.9**

*MAN **16** 21:16:12, 561N×12584E, h123km, mb4.9, ML3.8, MS3.9*
*IDC **16** 21:16:14.5±7.3, 566N×12562E, h161km±77km, mb3.6/9, mb1 3.7/10, mb1mx3.5/22, mbtmp3.6/10, Error ellipse: s-maj=44.4km s-min=11.7km az=81.0*
*ISCJB **16** 21:16:15.7±3.9, 566N±008×1258E±02, h193km±41km, mb4.0/10, Error ellipse: s-maj=38.8km s-min=12.0km az=173.5*
*NEIC **16** 21:16:16.7±5.1, 567N×12573E, h185km±57km, mb4.3/5, Error ellipse: s-maj=34.4km s-min=7.7km az=80.0*
ISC 16 21:16:15.9±3.6, 566N±007×1257E±02, h176km±39km, n18, σ0§43/18, mb4.0/10, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Kupang**	**15.90**	**187**	P	**Pn**	**21 19 50.2**	**0.0**
	3.9nm,0.3s,baz=50,slow=2.9,SNR=7.9						
KAKA	**Kakadu**	**19.44**	**160**	*e*P	**P**	**21 20 28.9**	**-0.2**
	6.5nm,0.4s						
JOW	**Kunigami**	**21.19**	**6**	P	**P**	**21 20 47.9**	**+0.2**
	25nm,0.8s,mb4.6,baz=194,slow=12,SNR=2.5						
FITZ	**Fitzroy Crossi**	**23.61**	**180**	*e*P	**P**	**21 21 11.6**	**+0.6**
	5.9nm,0.6s,mb4.3						
FITZ	**Fitzroy Crossi**	**23.61**	**180**	P	**P**	**21 21 11.0**	**0.0**
	2.3nm,0.3s,mb4.2,baz=8.6,slow=7.7,SNR=27						
WRAB	**Tennant Creek**	**26.82**	**162**	*e*P	**P**	**21 21 39.8**	**-0.1**
	1.1nm,0.6s,mb3.7						
WRA	**Warramunga Arr**	**26.82**	**162**	P	**P**	**21 21 39.2**	**-0.8**
	0.7nm,0.5s,mb3.5,baz=333,slow=11,SNR=15						
WB2	**Warramunga Arr**	**26.83**	**162**	*e*P	**P**	**21 21 39.6**	**-0.4**
ASAR	**Alice Springs**	**30.23**	**165**	P	**P**	**21 22 09.9**	**-0.2**
	0.9nm,0.5s,mb3.8,baz=342,slow=7.3,SNR=21						
KSRS	**Korea Array**	**31.71**	**3**	P	**P**	**21 22 22.9**	**-0.1**
	1.2nm,0.5s,mb3.9,baz=188,slow=11,SNR=5.5						
FORT	**Forrest**	**36.30**	**177**	*e*P	**P**	**21 23 03.1**	**+0.4**
	20nm,0.9s,mb4.8						
KLBR	**Kellerberrin**	**37.82**	**191**	*e*P	**P**	**21 23 15.1**	**-0.3**
	22nm,1.9s						
MUN	**Mundaring**	**38.51**	**193**	*e*P	**P**	**21 23 21.5**	**+0.3**
NWAO	**Narrogin (SRO)**	**39.21**	**191**	P	**P**	**21 23 27.1**	**+0.1**
	2.7nm,0.3s,mb4.3,baz=25,slow=9.5,SNR=9.2						
STKA	**Stephens Creek**	**40.28**	**159**	*e*P	**P**	**21 23 36.8**	**+0.9**
	3.0nm,0.6s,mb4.1						
STKA	**Stephens Creek**	**40.28**	**159**	P	**P**	**21 23 37.0**	**+1.1**
	3.4nm,0.5s,mb4.2,baz=333,slow=10,SNR=11						
SONM	**Songino Array**	**45.16**	**342**	P	**P**	**21 24 15.3**	**+0.4**
	0.1nm,0.4s,baz=160,slow=8.0,SNR=3.2						
MKAR	**Makanchi Array**	**55.40**	**325**	P	**P**	**21 25 31.2**	**-0.6**
	0.4nm,0.5s,mb3.4,baz=119,slow=7.3,SNR=8.8						

*ISCJB **16** 21:39:08.2±4.6, 197S±03×1779W±0.1, h524km±63km, mb3.8/10, Error ellipse: s-maj=53.5km s-min=14.6km az=167.1*
*IDC **16** 21:39:12.7±4.5, 1991S×17777W, h576km±56km, mb3.2/8, mb1 3.5/10, mb1mx3.3/18, mbtmp3.3/10, Error ellipse: s-maj=45.8km s-min=17.4km az=173.0*
*NEIC **16** 21:39:13.1±3.2, 1992S×17772W, h587km±41km, mb4.1/3, Error ellipse: s-maj=40.2km s-min=13.3km az=172.0*
ISC 16 21:39:07.1±3.5, 197S±03×1778W±01, h498km±47km, n20, σ0§46/14, mb3.8/10, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAR	**Rarotonga**	**16.95**	**98**	P	**P**	**21 42 37.4**	**-0.2**
	1.6nm,0.3s,baz=235,slow=18,SNR=3.6						
URZ	**Urewera**	**19.04**	**192**	P	**P**	**21 42 56.9**	**0.0**
	1.9nm,0.3s,baz=311,slow=4.3,SNR=8.3						
CTA	**Charters Tower**	**33.78**	**263**	P	**P**	**21 45 07.4**	**+0.4**
	4.4nm,0.6s,mb4.1,baz=103,slow=11,SNR=7.3						
CTAO	**Charters Tower**	**33.78**	**263**	*e*P	**P**	**21 45 07.8**	**+0.8**
	4.5nm,0.6s,mb4.1						
STKA	**Stephens Creek**	**38.33**	**243**	*e*P	**P**	**21 45 45.8**	**+1.2**
STKA	**Stephens Creek**	**38.33**	**243**	P	**P**	**21 45 44.7**	**+0.1**
	4.5nm,0.9s,mb3.9,baz=97,slow=9.0,SNR=5.3						
ASAR	**Alice Springs**	**44.91**	**256**	P	**P**	**21 46 37.0**	**+0.1**
	9.7nm,0.7s,mb4.3,baz=88,slow=8.3,SNR=97						
WRAB	**Tennant Creek**	**44.91**	**261**	*e*P	**P**	**21 46 36.5**	**-0.4**
	5.7nm,0.8s,mb4.0						
WRA	**Warramunga Arr**	**44.92**	**261**	P	**P**	**21 46 36.8**	**-0.2**
	3.4nm,0.6s,mb3.9,baz=97,slow=8.5,SNR=29						
FITZ	**Fitzroy Crossi**	**53.34**	**262**	P	**P**	**21 47 39.1**	**-0.4**
	1.0nm,0.5s,mb3.4,baz=121,slow=5.9,SNR=3.5						
MBWA	**Marble Bar**	**58.23**	**257**	*e*P	**P**	**21 48 13.1**	**-0.4**
	5.9nm,0.9s,mb3.9						
NVAR	**Mina Array Bea**	**80.29**	**43**	P	**P**	**21 50 26.4**	**+0.7**
	0.2nm,0.3s,mb3.2,baz=233,slow=8.6,SNR=5.8						
TXAR	**Lajitas Array**	**86.45**	**57**	P	**P**	**21 50 56.9**	**+0.2**
	0.7nm,0.7s,mb3.4,baz=218,slow=7.1,SNR=7.7						
PDAR	**Pinedale Array**	**88.23**	**43**	P	**P**	**21 51 04.2**	**-0.5**
	0.4nm,0.5s,mb3.4,baz=178,slow=3.2,SNR=4.2						
ARCES	**ARCESS Array B**	**128.16**	**350**	PKP	PKPdf	21 57 12.8	-2.7
	11nm,1.1s,baz=331,slow=9.7,SNR=3.8						
EKA	**Eskdalemuir Ar**	**144.18**	**5**	PKP	PKPdf	21 57 40.6	-4.8
	1.5nm,0.8s,baz=347,slow=2.6,SNR=3.9						
CLL	**Collm**	**147.31**	**347**	*i* PKPbc	PKPbc	21 57 52.7	-1.3
	comp=Z,6.0nm,1.0s						
MMAI	**Mount Meron Ar**	**147.58**	**301**	PKPbc	PKPbc	21 57 54.8	-0.5
	comp=Z,0.4nm,0.4s,baz=92,slow=4.8,SNR=3.7						
GERES	**GERESS Array B**	**149.47**	**345**	PKPbc	PKPbc	21 57 57.6	-1.9
	comp=Z,0.8nm,0.7s,baz=330,slow=1.9,SNR=7.5						
DAVOX	**Davos/Dischmat**	**152.25**	**349**	PKPbc	PKPbc	21 58 02.6	-3.3
	comp=Z,1.2nm,0.6s,baz=156,slow=22,SNR=4.1						

IDC 16 21:41:32.0±4.3, 249S×13965E, h0km, mb3.2/3, mb1 3.5/4, mb1mx3.4/12, mbtmp3.3/4, ML3.7/1, Error ellipse: s-maj=180.6km s-min=25.9km az=89.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.11**	**196**	P	Pn	21 45 43.6	-1.5
	0.2nm,0.3s,baz=18,slow=12,SNR=14						
ASAR	**Alice Springs**	**21.77**	**194**	P	P	21 46 26.4	+0.8
	0.8nm,0.6s,baz=21,slow=9.4,SNR=12						
SONM	**Songino Array**	**57.92**	**334**	P	P	21 51 26.1	+0.1
	0.1nm,0.5s,baz=111,slow=8.0,SNR=2.4						
MKAR	**Makanchi Array**	**70.19**	**322**	P	P	21 52 47.0	+0.3
	0.2nm,0.7s,baz=99,slow=7.9,SNR=2.6						

*IDC **16** 21:42:11.4±1.0, 3835N×22.11E, h0km, mb3.7/10, mb1 3.8/12, mb1mx3.7/25, mbtmp3.7/12, ML3.0/1, Error ellipse: s-maj=26.1km s-min=15.7km az=135.0*
*THE **16** 21:42:12.4, 3834N×2209E, h3km, ML4.0*
*NEIC **16** 21:42:12.1, 3832N×2206E, h18km, mb3.4/4, ML3.4(ATH), ML3.2(ROM), After ATH.*
*ATH **16** 21:42:12.1, 3832N×2206E, h18km±1km, MD3.7/20, ML3.4*
*ISCJB **16** 21:42:12.0±0.4, 3832N±002×22.12E±002, h2km±3km, mb3.7/9, Error ellipse: s-maj=2.7km s-min=2.2km az=30.7*
*CSEM **16** 21:42:13.0±0.0, 3835N×2217E, h2km, ML4.0, Error ellipse: s-maj=1.3km s-min=0.9km az=23.0*
*ROM **16** 21:42:25.8±0.2, 3868N×2106E, h10km, Md3.0/16, Ml3.2/12, Error ellipse: s-maj=6.9km s-min=0.0km az=11.0*
ISC 16 21:42:12.9±0.4, 3833N±002×2214E±002, h0km±3km, n149, σ1§38/174, mb3.7/9, 7C-5D, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SELA	**Sela**	**0.20**	**256**	*e*Pg	**Pg**	**21 42 15.7**	**-1.0**
SELA				*e*Sg	**Sg**	**21 42 17.9**	**-1.4**
SELA	**Sela**	**0.20**	**256**	*e*Pg	**Pg**	**21 42 15.6**	**-1.1**
RLS	**Riolos of Patr**	**0.59**	**243**	*e*PN	**Pg**	**21 42 22.9**	**-1.3**
RLS				*e*SN	**Sg**	**21 42 30.9**	**-1.0**
EVR	**Evrytania**	**0.65**	**337**	*e*PB	**Pg**	**21 42 24.2**	**-1.1**
EVR				*e*SN	**Sg**	**21 42 33.7**	**+0.1**
AGG	**Agios Georgios**	**0.71**	**12**	*e*Pg	**Pg**	**21 42 25.4**	**-1.2**
AGG				*e*Sg	**Sg**	**21 42 37.1**	**+1.3**
LTK	**Loutraki**	**0.72**	**114**	*e*Pg	**Pg**	**21 42 27.3**	**+0.6**
LTK				*e*Sg	**Sg**	**21 42 39.0**	**+2.9**
LKR	**Lokris**	**0.75**	**64**	*e*PN	**Pg**	**21 42 26.9**	**-0.4**
LKR				*e*SN	**Sg**	**21 42 39.5**	**+2.5**
VLX	**Vlachokerasia**	**0.97**	**169**	*e*Pg	**Pg**	**21 42 30.7**	**-0.8**
VLX				*e*Sg	**Sg**	**21 42 45.4**	**+1.3**
KFL	**Anninata**	**1.08**	**259**	*e*Pg	**Pg**	**21 42 31.6**	**-2.0**
KFL				*e*Sg	**Sg**	**21 42 48.2**	**+0.4**
ITM	**Ithomi**	**1.16**	**188**	*e*PN	**Pn**	**21 42 33.7**	**-2.6**
ITM				*e*SN	**Sn**	**21 42 48.9**	**-3.8**
DID	**Didima**	**1.19**	**133**	*e*Pg	**Pg**	**21 42 36.0**	**+0.2**
DID				*e*Sg	**Sg**	**21 42 52.7**	**+1.4**
NAIG	**Nisos Aigina**	**1.21**	**118**	*e*PN	**Pn**	**21 42 36.5**	**-0.5**
LKD	**Levkas**	**1.23**	**289**	*e*Pg	**Pg**	**21 42 33.9**	**-2.5**
LKD				*e*Sg	**Sg**	**21 42 52.6**	**+0.2**
VLS	**Valsamata**	**1.23**	**264**	*e*PB	**Pn**	**21 42 33.2**	**-4.1**
THL	**Klokotos Trika**	**1.24**	**356**	*e*PN	**Pn**	**21 42 35.5**	**-2.0**
THL				*e*SN	**Sn**	**21 42 52.9**	**-2.0**
ATH	**Athens Observa**	**1.29**	**105**	*e*PN	**Pn**	**21 42 37.5**	**-0.7**
ATH				*e*SN	**Sn**	**21 42 56.6**	**+0.4**
NEO	**Neokhori**	**1.30**	**41**	*e*PN	**Pn**	**21 42 37.2**	**-1.0**
XOR	**Xorichti**	**1.33**	**38**	*e*Pg	**Pn**	**21 42 37.5**	**-1.2**
KVR	**Kavouri**	**1.38**	**111**	*e*PN	**Pn**	**21 42 38.7**	**-0.7**
PTL	**Penteli**	**1.39**	**101**	*e*PN	**Pn**	**21 42 39.0**	**-0.5**
PYL	**PYLOS**	**1.46**	**193**	*e*Pg	**Pn**	**21 42 39.2**	**-1.2**
PYL				*e*Sg	**Sg**	**21 43 00.5**	**+0.7**
AOS	**Alonnisos**	**1.60**	**58**	*e*Pb	**Pn**	**21 42 41.0**	**-1.4**
MEV	**Metsovon**	**1.62**	**334**	*e*Pg	**Pn**	**21 42 42.6**	**-0.1**
MEV				*e*Sg	**Sg**	**21 43 04.2**	**-0.7**
JAN	**Janina**	**1.67**	**323**	*e*PN	**Pn**	**21 42 42.4**	**-0.9**
VLI	**Veliai**	**1.73**	**158**	*e*PN	**Pn**	**21 42 43.3**	**-0.8**
LIT	**Litokhoron**	**1.79**	**9**	*e*Pb	**Pn**	**21 42 43.9**	**-1.2**
LIT				*e*Sb	**Sn**	**21 43 08.2**	**-0.4**
IGT	**Igoumenitsa**	**1.85**	**311**	*e*Pb	**Pn**	**21 42 44.8**	**-1.1**
IGT				*e*Sb	**Sn**	**21 43 08.8**	**-1.3**
KZN	**Kozani**	**2.00**	**352**	*e*PN	**Pn**	**21 42 47.3**	**-0.6**
PAIG	**Paliouri**	**2.00**	**36**	*e*Pn	**Pn**	**21 42 46.1**	**-1.8**
PAIG				*e*Sn	**Sn**	**21 43 13.1**	**-0.6**
KYTH	**Kithira**	**2.16**	**160**	*e*PN	**Pn**	**21 42 50.5**	**+0.4**
SRN	**Sarande**	**2.27**	**314**	*i* PN	**Pn**	**21 42 52.5**	**+0.8**
SRN				*i* SN	**Sn**	**21 43 22.6**	**+2.2**
PLG	**Polygyros**	**2.28**	**26**	*e*Pn	**Pn**	**21 42 50.1**	**-1.7**
PLG	**Polygyros**	**2.28**	**26**	*e*Pn	**Pn**	**21 42 50.8**	**-1.0**
KEK	**Kerkira**	**2.29**	**308**	*e*PN	**Pn**	**21 42 51.3**	**-0.6**
KEK	**Kerkira**	**2.29**	**308**	Pn	**Pn**	**21 42 51.5**	**-0.4**
HORT	**Hortiatis**	**2.39**	**18**	*e*Pn	**Pn**	**21 42 51.5**	**-1.7**
THE	**Thessaloniki**	**2.39**	**15**	*e*Pn	**Pn**	**21 42 51.7**	**-1.6**
OUR	**Ouranopolis**	**2.46**	**35**	*e*Pn	**Pn**	**21 42 53.0**	**-1.3**
KBN	**Korca**	**2.52**	**336**	*i* PN	**Pn**	**21 42 59.2**	**+4.1**
KBN				*i* SN	**Sn**	**21 43 32.8**	**+6.3**
FNA	**Florina**	**2.52**	**347**	*e*Pn	**Pn**	**21 42 54.5**	**-0.6**
FNA				*e*Sn	**Sn**	**21 43 26.8**	**+0.2**
SOH	**Sokhos**	**2.67**	**20**	*e*Pn	**Pn**	**21 42 56.2**	**-0.8**
SOH				*e*Sn	**Sn**	**21 43 30.2**	**+0.1**
BIA	**Bitola**	**2.76**	**347**	*e*Pn	**Pn**	**21 42 57.3**	**-1.1**
LOS	**Limnos**	**2.80**	**54**	*e*Pn	**Pn**	**21 42 57.6**	**-1.3**
KNT	**Kendrikon**	**2.89**	**11**	*e*Pn	**Pn**	**21 42 59.4**	**-0.8**
OHR	**Ohrid**	**2.97**	**340**	*e*Pn	**Pn**	**21 42 59.9**	**-1.3**
OHR				*e*Sn	**Sn**	**21 43 36.4**	**-1.1**
OHR	**Ohrid**	**2.97**	**340**	*e*Pn	**Pn**	**21 43 05.9**	**+4.7**
APE	**Apeiranthos**	**2.97**	**114**	*e*Pn	**Pn**	**21 43 01.0**	**-0.2**
APE	**Apeiranthos**	**2.97**	**114**	*e*PN	**Pn**	**21 43 01.5**	**+0.3**
VAY	**Valandovo**	**3.01**	**6**	*e*Pn	**Pn**	**21 43 00.8**	**-1.1**
VAY	**Valandovo**	**3.01**	**6**	*e*Pn	**Pn**	**21 42 59.5**	**-2.3**
CHOS	**Chios island**	**3.08**	**88**	*e*Pn	**Pn**	**21 43 02.8**	**+0.1**
KRUS	**Krusevo**	**3.12**	**348**	*i* Pn	**Pn**	**21 43 05.1**	**+1.9**
KARN	**Karanos**	**3.25**	**153**	*e*Pn	**Pn**	**21 43 04.8**	**-0.3**
NVR	**Nevrokopi**	**3.30**	**23**	P	**Pn**	**21 43 07.7**	**+1.9**
VAM	**Vamos**	**3.35**	**150**	*e*PN	**Pn**	**21 43 06.0**	**-0.5**
STIP	**Stip**	**3.37**	**1**	*e*Pn	**Pn**	**21 43 06.6**	**-0.1**
TIR	**Tirane**	**3.49**	**331**	*e*Pn	**Pn**	**21 43 07.8**	**-0.6**
TIR	**Tirane**	**3.49**	**331**	*i* PN	**Pn**	**21 43 16.8**	**+8.4**
QSH	**Qafa e Shtames**	**3.62**	**332**	*i* PN	**Pn**	**21 43 12.0**	**+1.8**
SMG	**Samos**	**3.76**	**98**	*e*PN	**Pn**	**21 43 12.5**	**+0.4**
BLCB	**Balcova**	**3.86**	**88**	*e*Pn	**Pn**	**21 43 13.9**	**+0.4**
ALN	**Alexandroupoli**	**3.96**	**48**	*e*Pn	**Pn**	**21 43 14.6**	**-0.3**
PUK	**Puka**	**4.09**	**336**	*i* PN	**Pn**	**21 43 19.1**	**+2.4**
PUK				*i* SN	**Sn**	**21 44 08.5**	**+3.3**
NPS	**Neapolis**	**4.14**	**137**	P	**Pn**	**21 43 18.8**	**+1.5**
LAST	**Lasithi**	**4.14**	**139**	*e*Pn	**Pn**	**21 43 17.7**	**+0.3**
TIP	**Timpagrande**	**4.29**	**283**	Pn	**Pn**	**21 43 18.8**	**-0.6**
TIP				P		21 43 18.9	
TIP	**Timpagrande**	**4.29**	**283**	Pn	**Pn**	**21 43 18.8**	**-0.6**
	13nm,0.5s						
TA1	**Taranto**	**4.30**	**300**	*e*Pn	**Pn**	**21 43 19.5**	**0.0**
SERS	**Sersale**	**4.32**	**281**	Pn	**Pn**	**21 43 19.0**	**-0.8**
	27nm,0.4s						
PE1	**Pezze di Greco**	**4.41**	**306**	*e*Pn	**Pn**	**21 43 20.5**	**-0.5**
GRI	**Girifalco**	**4.51**	**278**	Pn	**Pn**	**21 43 21.7**	**-0.7**
	5.0nm,0.2s						
ZKR	**Zakros**	**4.58**	**133**	*e*Pn	**Pn**	**21 43 24.4**	**+1.0**
CARO	**Carolei**	**4.72**	**283**	Pn	**Pn**	**21 43 25.8**	**+0.6**
CRAC	**Craco**	**4.87**	**297**	Pn	**Pn**	**21 43 27.3**	**0.0**
	98nm,1.3s						
KARP	**Karpathos**	**4.89**	**123**	*e*PN	**Pn**	**21 43 29.4**	**+1.8**
SG1	**Sgolgore (BA)**	**4.91**	**302**	*e*Pn	**Pn**	**21 43 27.1**	**-0.8**
JOPP	**Joppolo**	**4.92**	**275**	Pn	**Pn**	**21 43 28.3**	**+0.3**
	16nm,0.5s						
SCHR	**S. Chirico Rap**	**5.06**	**294**	Pn	**Pn**	**21 43 30.3**	**+0.3**
	18nm,1.0s						
SIRI	**Monte Sirino -**	**5.21**	**293**	Pn	**Pn**	**21 43 32.1**	**+0.1**
	26nm,0.3s						
MCEL	**Monticello**	**5.30**	**294**	Pn	**Pn**	**21 43 33.8**	**+0.5**
	28nm,0.7s						
MTSN	**Montesano sull**	**5.32**	**293**	Pn	**Pn**	**21 43 33.9**	**+0.4**
	29nm,0.4s						
MGR	**Morigerati**	**5.42**	**292**	Pn	**Pn**	**21 43 34.7**	**-0.2**
	43nm,0.9s						
BULG	**Bulgheria - Ca**	**5.54**	**291**	Pn	**Pn**	**21 43 36.1**	**-0.4**
CMPR	**Campora**	**5.66**	**293**	Pn	**Pn**	**21 43 38.3**	**+0.1**
	17nm,0.5s						
CDRU	**Civita di Ruta**	**5.72**	**294**	Pn	**Pn**	**21 43 39.3**	**+0.3**
	14nm,0.5s						
SGO	**Sicignano**	**5.74**	**295**	Pn	**Pn**	**21 43 39.6**	**+0.3**
	18nm,0.4s						
FGMS	**Monte Sant'Ang**	**5.83**	**307**	Pn	**Pn**	**21 43 39.9**	**-0.6**
MS1	**Monte Sant'Ang**	**5.83**	**307**	*e*Pn	**Pn**	**21 43 39.6**	**-1.0**
MCRV	**Calabrutti - M**	**5.92**	**297**	Pn	**Pn**	**21 43 41.9**	**+0.2**
	24nm,0.5s						
VAE	**Valguarnera**	**6.17**	**265**	Pn	**Pn**	**21 43 42.7**	**-2.5**
	0.4nm,0.3s,baz=27,slow=9.0,SNR=2.4						
VAE				Sn	**Sn**	**21 44 54.3**	**-2.1**
	0.4nm,0.3s,baz=97,slow=8.1,SNR=1.8						
VAE	**Valguarnera**	**6.17**	**265**	Sn	**Sn**	**21 44 54.3**	**-2.1**
GZR	**Gura Zlata**	**7.08**	**4**	⇓P	**Pn**	**21 43 59.2**	**+1.5**
GZR	**Gura Zlata**	**7.08**	**4**	⇓*i*P	**Pn**	**21 43 59.2**	**+1.5**
BZS	**Buzias**	**7.30**	**357**	⇓*i*P	**Pn**	**21 44 01.7**	**+1.0**
MLR	**Muntele Rosu**	**7.70**	**20**	Pn	**Pn**	**21 44 05.7**	**-0.6**
MLR				⇑P		21 44 09.0	
MLR	**Muntele Rosu**	**7.70**	**20**	Pn	**Pn**	**21 44 05.7**	**-0.6**
	baz=261,slow=14						
MLR	**Muntele Rosu**	**7.70**	**20**	⇑*i*P	**Pn**	**21 44 09.0**	**+2.8**
AQU	**L'Aquila**	**7.79**	**304**	⇑P	**Pn**	**21 44 10.4**	**+3.0**
AQU	**L'Aquila**	**7.79**	**304**	⇑*i*P	**Pn**	**21 44 10.4**	**+3.0**
PLOR	**Plostina**	**8.23**	**23**	⇑*i*P	**Pn**	**21 44 16.4**	**+2.9**
VRI	**Vrincioaia**	**8.27**	**23**	⇑P	**Pn**	**21 44 16.3**	**+2.3**
VRI	**Vrincioaia**	**8.27**	**23**	⇑*i*P	**Pn**	**21 44 16.3**	**+2.3**
PKSM	**Moragy**	**8.30**	**343**	⇓P	**Pn**	**21 44 13.3**	**-1.0**
PKSM	**Moragy**	**8.30**	**343**	⇓*i*P	**Pn**	**21 44 13.3**	**-1.1**
PGF	**Pioggiola**	**10.86**	**297**	*e*P	**Pn**	**21 44 53.1**	**+3.5**
	4.4nm,0.7s						
PGF	**Pioggiola**	**10.86**	**297**	*e*P	**Pn**	**21 44 53.1**	**+3.5**
	2.2nm,0.7s						
FRF	**La Foret Royal**	**12.82**	**299**	*e*P	**Pn**	**21 45 19.2**	**+2.9**
LMR	**La Mourre**	**12.85**	**298**	*e*P	**Pn**	**21 45 19.5**	**+2.8**
MBDF	**Montbardon**	**13.16**	**304**	*e*P	**Pn**	**21 45 24.2**	**+3.2**
	8.0nm,0.8s						
MBDF	**Montbardon**	**13.16**	**304**	*e*P	**Pn**	**21 45 24.2**	**+3.2**
	4.0nm,0.8s						
LPG	**La Plagne**	**13.50**	**307**	*e*P	**Pn**	**21 45 29.3**	**+3.7**
	3.3nm,0.6s						
LPG	**La Plagne**	**13.50**	**307**	*e*P	**Pn**	**21 45 29.3**	**+3.7**
	1.6nm,0.6s						
LPL	**La Plagne**	**13.52**	**307**	*e*P	**Pn**	**21 45 29.5**	**+3.6**
	2.4nm,0.6s						
LPL	**La Plagne**	**13.52**	**307**	*e*P	**Pn**	**21 45 29.5**	**+3.6**
	1.2nm,0.6s						
ORIF	**Oris-en-Rattie**	**13.82**	**304**	*e*P	**Pn**	**21 45 33.0**	**+3.1**
VIVF	**Saint-Julien-l**	**14.60**	**302**	*e*P	**Pn**	**21 45 43.2**	**+2.7**
CDF	**Champ du Feu**	**14.76**	**318**	*e*P	**Pn**	**21 45 46.0**	**+3.3**
	1.6nm,0.6s						
CDF	**Champ du Feu**	**14.76**	**318**	*e*P	**Pn**	**21 45 46.0**	**+3.3**
	0.8nm,0.6s						
SMF	**Signal de Mont**	**15.83**	**308**	*e*P	**Pn**	**21 45 59.3**	**+2.4**
LOR	**Lormes**	**16.09**	**310**	*e*P	**Pn**	**21 46 02.8**	**+2.5**
	5.2nm,0.7s						
LOR	**Lormes**	**16.09**	**310**	*e*P	**Pn**	**21 46 02.8**	**+2.5**
	2.6nm,0.7s						
AVF	**Avril sur Loir**	**16.19**	**307**	*e*P	**Pn**	**21 46 03.9**	**+2.3**
	5.2nm,0.8s						
AVF	**Avril sur Loir**	**16.19**	**307**	*e*P	**Pn**	**21 46 03.9**	**+2.3**
	2.6nm,0.8s						
SSF	**Saint Saulge**	**16.21**	**309**	*e*P	**Pn**	**21 46 04.5**	**+2.6**
	20nm,1.1s						
SSF	**Saint Saulge**	**16.21**	**309**	*e*P	**Pn**	**21 46 04.5**	**+2.6**
	9.8nm,1.1s						
CAF	**Calviac**	**16.37**	**300**	*e*P	**Pn**	**21 46 05.8**	**+1.8**
BGF	**Bois d'Agland**	**16.42**	**306**	*e*P	**Pn**	**21 46 06.3**	**+1.8**
	14nm,0.8s						
BGF	**Bois d'Agland**	**16.42**	**306**	*e*P	**Pn**	**21 46 06.3**	**+1.8**
	6.8nm,0.8s						
TCF	**Toulx Ste Croi**	**16.72**	**305**	*e*P	**Pn**	**21 46 10.6**	**+2.2**
RJF	**Les Rejaudoux**	**16.86**	**301**	*e*P	**Pn**	**21 46 12.1**	**+2.0**
	6.9nm,1.1s						
RJF	**Les Rejaudoux**	**16.86**	**301**	*e*P	**Pn**	**21 46 12.1**	**+2.0**
	3.5nm,1.1s						
LFF	**La Frestale**	**17.28**	**299**	*e*P	**Pn**	**21 46 17.2**	**+1.7**
BAIF	**Baives**	**17.35**	**318**	*e*P	**Pn**	**21 46 19.2**	**+2.9**
MFF	**Saint Martin d**	**18.36**	**304**	*e*P	**Pn**	**21 46 30.9**	**+2.1**
	46nm,1.6s						
MFF	**Saint Martin d**	**18.36**	**304**	*e*P	**Pn**	**21 46 30.9**	**+2.1**
	23nm,1.6s						
GRR	**Gorron**	**19.44**	**309**	*e*P	**Pn**	**21 46 43.7**	**+1.8**
ESDC	**Sonseca Array**	**20.31**	**282**	P	**P**	**21 46 49.2**	**-1.1**
	1.7nm,0.6s,baz=77,slow=11,SNR=12						
SGMF	**Saint Gilles**	**20.45**	**307**	*e*P	**P**	**21 46 54.8**	**+3.0**
QUIF	**Quistinic**	**20.73**	**306**	*e*P	**P**	**21 46 57.7**	**+2.9**
ROSF	**Rostrenen**	**20.93**	**307**	*e*P	**P**	**21 47 00.0**	**+3.0**
HFS	**Hagfors**	**22.48**	**349**	P	**P**	**21 47 12.6**	**-0.9**
	1.1nm,0.5s,mb3.5,baz=152,slow=13,SNR=4.4						
NOA	**NORSAR Array B**	**23.75**	**347**	P	**P**	**21 47 25.5**	**-1.1**
	0.7nm,0.6s,mb3.4,baz=156,slow=8.2,SNR=2.9						
EKA	**Eskdalemuir Ar**	**24.06**	**323**	P	**P**	**21 47 27.5**	**-2.0**
	2.5nm,0.8s,mb3.8,baz=129,slow=10,SNR=4.5						
TORD	**Torodi Ar. Bea**	**30.96**	**221**	P	**P**	**21 48 30.4**	**-1.4**
	2.4nm,0.8s,mb4.2,baz=31,slow=9.2,SNR=40						
DBIC	**Dimbokro**	**39.88**	**225**	P	**P**	**21 49 47.2**	**-1.2**
	4.1nm,1.0s,mb4.0,baz=5.5,slow=20,SNR=3.6						
MKAR	**Makanchi Array**	**44.14**	**59**	P	**P**	**21 50 21.4**	**-1.5**
	1.7nm,0.5s,mb4.0,baz=281,slow=6.8,SNR=17						
ZALV	**Zalesovo Beam**	**44.65**	**48**	P	**P**	**21 50 24.8**	**-2.1**
	0.7nm,0.4s,mb3.9,baz=268,slow=8.7,SNR=2.8						
SONM	**Songino Array**	**59.38**	**51**	P	**P**	**21 52 16.2**	**-0.6**
	0.2nm,0.5

TBVI				*e*S	Sn	22 47 33.3	-0.3
STVI	**Saint Thomas**	**0.56**	**258**⇑	*e*P	Pn	22 47 25.9	-0.5
STVI				*e*S	Sn	22 47 37.2	-0.3
MTP	**Monte Pirata**	**1.17**	**252**⇑	*e*P	Pn	22 47 29.7	-3.3
MTP				*e*S	Sn	22 47 45.4	-3.8
CBYP	**Canovanas**	**1.41**	**262**⇑	*e*P	Pn	22 47 31.5	-4.5
CBYP				*e*S	Sn	22 47 52.4	-2.1
HUMP	**Col San Antoni**	**1.43**	**257**⇑	*e*P	Pn	22 47 36.3	+0.1
HUMP				*e*S	Sn	22 47 54.6	-0.4
CPD	**Cerro la Pandu**	**1.52**	**254**⇑	*e*P	Pn	22 47 37.1	-0.2
CPD				*e*S	Sn	22 47 56.0	-0.9
CELP	**Cerrillos**	**2.12**	**260**⇑	*e*P	Pn	22 47 45.5	+0.3

MOS 16 23:15:39.2±1.4, 5171N×9826E, h10km, mb4.2/1, Error ellipse: s-maj=41.4km s-min=19.2km az=161.3, Tuva-Buryatia-Mongolia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ORL	**Orlik**	**1.27**	**48**	*e*PG	Pg	23 16 02.2	-1.3
ORL				*e*		23 16 18.8	
ORL				pmax	pmax		
	comp=Z,40nm,0.3s						
ORL				smax			
	comp=N,253nm,0.9s						
MOY	**Mondy**	**1.70**	**90**	*e*PN	Pn	23 16 10.4	+1.5
MOY				*e*		23 16 32.6	
MOY				pmax	pmax		
	comp=Z,59nm,0.4s						
MOY				smax			
	comp=N,428nm,0.9s						
ARS	**Arshan**	**2.59**	**84**	*e*PN	Pn	23 16 25.2	+4.1
ARS				*e*		23 17 00.3	
ARS				pmax	pmax		
	comp=Z,64nm,0.4s						
ARS				smax			
	comp=E,606nm,0.5s						
TLY	**Talaya**	**3.35**	**88**	*e*PN	Pn	23 16 32.2	+0.7
TLY				*e*		23 16 39.3	
TLY				*e*		23 17 23.3	
TLY				pmax	pmax		
	comp=Z,17nm,0.7s						
TLY				smax			
	comp=N,109nm,1.6s						
ZAK	**Zakamensk**	**3.44**	**111**	*e*PN	Pn	23 16 41.2	+8.5
ZAK				*e*		23 17 25.4	
ZAK				pmax	pmax		
	comp=Z,37nm,0.5s						
ZAK				smax			
	comp=N,178nm,0.5s						
IRK	**Irkutsk**	**3.75**	**79**	*e*PN	Pn	23 16 46.4	+9.3
IRK				*e*		23 17 33.9	
IRK				pmax	pmax		
	comp=Z,119nm,0.1s						
IRK				smax			
	comp=N,343nm,0.4s						
TRG	**Tyrgan**	**5.08**	**75**	*e*PN	Pn	23 16 56.0	+0.7
TRG				*e*		23 17 10.8	
TRG				*e*		23 18 17.1	
TRG				pmax	pmax		
	comp=Z,24nm,0.6s						
TRG				smax			
	comp=N,53nm,0.8s						
OGRR	**Ongureny**	**6.00**	**68**	*e*PN	Pn	23 17 08.8	+0.9
OGRR				*e*		23 17 26.4	

*FUNV **16** 23:20:38.6, 674N×7326W, h168km, MW3.2*
*ISCJB **16** 23:20:39.3±0.7, 683N±007×7294W±007, h177km±7km, mb3.6/2, Error ellipse: s-maj=13.5km s-min=6.7km az=135.4*
*IDC **16** 23:20:39.8±0.9, 676N×7288W, h168km±15km, mb3.4/2, mb1 3.4/4, mb1mx3.0/21, mbtmp3.3/4, Error ellipse: s-maj=66.5km s-min=8.4km az=132.0*
ISC 16 23:20:40.3±0.7, 680N±007×7291W±007, h171km±7km, n14, σ0§89/22, mb3.6/2, 2C, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**1.21**	**29**⇑	*e*P	**Pn**	**23 21 08.9**	**0.0**
CAPV				*e*S	**Sn**	**23 21 30.8**	**-0.1**
ROSC	**El Rosal**	**2.40**	**216**	P	**Pn**	**23 21 20.6**	**-0.7**
	22nm,0.3s,baz=327,slow=3.5,SNR=48						
ROSC				S	**Sn**	**23 21 53.0**	**-0.1**
	9.6nm,0.3s,baz=101,slow=21,SNR=4.7						
SOCV	**Socops**	**2.51**	**54**	*e*P	**Pn**	**23 21 23.9**	**+1.2**
SOCV				*e*S	**Sn**	**23 21 56.8**	**+1.4**
VIGV	**El Vigia**	**2.54**	**37**	*e*P	**Pn**	**23 21 23.5**	**+0.5**
VIGV				*e*S	**Sn**	**23 21 56.3**	**+0.2**
SDV	**Santo Domingo**	**3.06**	**47**	P	**Pn**	**23 21 30.4**	**+1.1**
	2.2nm,0.3s,baz=179,slow=2.5,SNR=9.8						
SDV				S	**Sn**	**23 22 07.3**	**-0.1**
	4.6nm,0.3s,baz=298,slow=16,SNR=23						
VIRV	**Villa del Rosa**	**3.71**	**8**⇑	*i*P	**Pn**	**23 21 35.8**	**-1.8**
VIRV				*e*S	**Sn**	**23 22 18.2**	**-4.0**
QARV	**Quebrada Arrib**	**4.12**	**35**	*e*P	**Pn**	**23 21 42.7**	**-0.1**
QARV				*e*S	**Sn**	**23 22 30.0**	**-1.6**
SANV	**Sanarito**	**4.28**	**51**	*e*P	**Pn**	**23 21 46.2**	**+1.4**
CURV	**Curarigua**	**4.32**	**42**	*e*P	**Pn**	**23 21 45.9**	**+0.6**
CURV				*e*S	**Sn**	**23 22 35.8**	**-0.4**
BAUV	**El Baul**	**5.27**	**66**	*e*S	**Sn**	**23 22 58.0**	**-0.2**
CAOV	**Caicara del Or**	**6.55**	**85**	*e*P	**Pn**	**23 22 14.6**	**0.0**
CAOV				*e*S	**Sn**	**23 23 26.9**	**-1.8**
SCHQ	**Schefferville**	**48.14**	**5**	P	**P**	**23 29 03.3**	**+0.4**
	3.6nm,1.0s,mb4.0,baz=204,slow=10.0,SNR=2.7						
YKA	**Yellowknife Ar**	**63.36**	**340**	P	**P**	**23 30 51.0**	**0.0**
	0.3nm,0.6s,mb3.3,baz=133,slow=6.6,SNR=9.6						
WRA	**Warramunga Arr**	**150.51**	**241**	PKPbc	PKPbc	23 40 12.1	-0.6
	0.2nm,0.6s,baz=107,slow=2.7,SNR=5.0						

*IDC **16** 23:30:35.9±6.2, 3380S×17933E, h158km±45km, mb3.8/4, mb1 4.0/5, mb1mx3.6/15, mbtmp3.9/5, Error ellipse: s-maj=58.6km s-min=20.6km az=50.0*
*NEIC **16** 23:30:45.4±2.2, 3477S×17924E, h270km±21km, Error ellipse: s-maj=55.0km s-min=21.7km az=99.0*
ISC 16 23:30:46.0±1.1, 3443S±006×1783E±02, h200km, n31, σ1§10/38, mb3.9/4, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**3.13**	**180**	P	**Pn**	**23 31 36.7**	**-0.4**
MXZ				S	**Sn**	**23 32 20.1**	**+2.8**
PUZ	**Puketiti**	**3.64**	**181**	P	**Pn**	**23 31 42.4**	**-0.9**
PUZ				S	**Sn**	**23 32 27.5**	**-0.8**
URZ	**Urewera**	**3.94**	**194**	*e*P	**Pn**	**23 31 49.2**	**+2.2**
URZ	**Urewera**	**3.94**	**194**	P	**Pn**	**23 31 48.3**	**+1.2**
	31nm,0.3s,baz=312,slow=1.9,SNR=162						
URZ				S	**Sn**	**23 32 41.3**	**+6.2**
	56nm,0.3s,baz=208,slow=22,SNR=14						
MWZ	**Matawai**	**3.95**	**189**	P	**Pn**	**23 31 48.0**	**+0.9**
MWZ				S	**Sn**	**23 32 40.3**	**+5.1**
KNZ	**Kokohu**	**4.61**	**186**	P	**Pn**	**23 31 56.3**	**+0.9**
KNZ				S	**Sn**	**23 32 48.3**	**-1.9**
HIZ	**Hauiti**	**4.94**	**213**	P	**Pn**	**23 32 07.0**	**+7.5**
BKZ	**Black Stump Fm**	**4.95**	**197**	*e*P	**Pn**	**23 32 01.2**	**+1.5**
BKZ				S	**Sn**	**23 32 59.4**	**+1.5**
FWVZ	**Far West T-bar**	**5.30**	**204**	P	**Pn**	**23 32 07.8**	**+3.6**
TSZ	**Takapari Road**	**5.92**	**198**	P	**Pn**	**23 32 12.7**	**+0.5**
WAZ	**Wanganui**	**5.94**	**206**	P	**Pn**	**23 32 15.6**	**+3.2**
BFZ	**Birch Farm**	**6.45**	**194**	P	**Pn**	**23 32 18.6**	**-0.4**
MRZ	**Mangatainoka R**	**6.59**	**198**	P	**Pn**	**23 32 20.8**	**0.0**
MTW	**Mount Morrison**	**7.08**	**197**	P	**Pn**	**23 32 26.3**	**-0.8**
CAW	**Cannon Point**	**7.14**	**200**	P	**Pn**	**23 32 27.5**	**-0.5**
PAWZ	**Paruwai Farm**	**7.31**	**197**	P	**Pn**	**23 32 29.0**	**-1.1**
MSWZ	**Moikau Station**	**7.38**	**198**	P	**Pn**	**23 32 30.0**	**-1.1**
NNZ	**Nelson**	**7.82**	**208**	P	**Pn**	**23 32 37.3**	**+0.5**
QRZ	**Quartz Range**	**7.86**	**214**	*e*P	**Pn**	**23 32 38.5**	**+1.2**
THZ	**Tophouse**	**8.47**	**209**	*e*P	**Pn**	**23 32 45.5**	**+0.2**
LTZ	**Lake Taylor**	**9.58**	**208**	*e*P	**Pn**	**23 32 58.8**	**-0.9**
RPZ	**Rata Peaks**	**10.85**	**209**	P	**Pn**	**23 33 15.9**	**-0.2**
RPZ				S	**Sn**	**23 35 16.0**	**-0.9**
RPZ	**Rata Peaks**	**10.85**	**209**	P	**Pn**	**23 33 15.9**	**-0.2**
	1.5nm,0.3s,baz=220,slow=24,SNR=6.0						
RPZ				S	**Sn**	**23 35 16.0**	**-0.9**
	1.7nm,0.3s,baz=3.1,slow=16,SNR=6.4						
ODZ	**Otahua Downs**	**12.12**	**207**	*e*P	**Pn**	**23 33 32.3**	**0.0**
JCZ	**Jackson Bay**	**12.14**	**215**	*e*P	**Pn**	**23 33 30.4**	**-2.1**
CTA	**Charters Tower**	**31.71**	**288**	P	**P**	**23 36 50.8**	**-0.3**
	2.1nm,0.4s,mb4.0,baz=115,slow=8.5,SNR=5.6						
ASAR	**Alice Springs**	**39.99**	**273**	P	**P**	**23 38 02.1**	**+0.7**
	1.5nm,0.6s,mb3.6,baz=113,slow=7.7,SNR=24						
WRA	**Warramunga Arr**	**41.36**	**279**	P	**P**	**23 38 12.4**	**-0.2**
	1.7nm,0.4s,mb3.8,baz=118,slow=7.8,SNR=54						
QSPA	**South Pole Qui**	**55.69**	**180**	P	**P**	**23 39 60.0**	**-1.0**
QSPA	**South Pole Qui**	**55.69**	**180**	P	**P**	**23 40 00.3**	**-0.7**
	3.6nm,0.7s,mb4.0,baz=4.5,slow=1.0,SNR=18						
FINES	**FINESS Array B**	**147.67**	**335**	PKPbc	PKPbc	23 49 58.4	-7.6
	1.4nm,0.9s,baz=34,slow=10,SNR=3.9						

IDC 16 23:47:46.0±1.9, 2488N×12140E, h0km, mb3.5/5, mb1 3.6/5, mb1mx3.5/19, mbtmp3.5/5, MS3.4/9, Ms1 3.4/9, ms1mx3.0/33, Error ellipse: s-maj=158.6km s-min=21.1km az=64.0, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNU	**Nakatsue**	**11.67**	**43**	LR	LR	23 55 54.2	
	comp=Z,73nm,19.1s,baz=50,slow=42						
KSRS	**Korea Array**	**13.72**	**22**	LR	LR	23 56 37.6	
	comp=Z,142nm,18.2s,baz=150,slow=39						
SONM	**Songino Array**	**25.81**	**336**	P	P	23 53 19.4	+0.7
	0.5nm,0.8s,baz=153,slow=10,SNR=3.9						
SONM				LR	LR	00 04 46.9	
	comp=Z,92nm,18.0s,baz=238,slow=40						
ASAJ	**Asahikawa**	**25.82**	**37**	LR	LR	00 03 30.4	
	comp=Z,86nm,18.6s,baz=39,slow=37						
PSI	**Prapat**	**30.84**	**228**	LR	LR	00 06 23.0	
	comp=Z,65nm,19.5s,baz=14,slow=36						
MKAR	**Makanchi Array**	**37.98**	**315**	P	P	23 55 05.9	+0.5
	0.2nm,0.3s,baz=111,slow=9.6,SNR=5.2						
ZALV	**Zalesovo Beam**	**39.77**	**327**	LR	LR	00 12 08.6	
	comp=Z,28nm,19.1s,baz=94,slow=37						
WRA	**Warramunga Arr**	**46.30**	**163**	P	P	23 56 13.1	-0.4
	0.4nm,0.7s,baz=345,slow=8.4,SNR=4.1						
BVAR	**Borovoye Array**	**47.26**	**320**	P	P	23 56 19.7	-1.1
	0.6nm,0.5s,baz=54,slow=5.9,SNR=4.2						
ASAR	**Alice Springs**	**49.76**	**165**	P	P	23 56 40.8	+0.5
	0.4nm,0.6s,baz=358,slow=6.5,SNR=3.6						
FINES	**FINESS Array B**	**70.95**	**330**	LR	LR	00 33 58.7	
	comp=Z,35nm,18.3s,baz=21,slow=39						
MLR	**Muntele Rosu**	**76.31**	**314**	LR	LR	00 34 40.9	
	comp=Z,30nm,18.1s,baz=1.5,slow=37						
HFS	**Hagfors**	**77.06**	**331**	LR	LR	00 39 22.9	
	comp=Z,38nm,18.9s,baz=146,slow=40						

*ISCJB **16** 23:53:36.9±0.4, 4194N±003×1543E±003, h4km±4km, Error ellipse: s-maj=5.0km s-min=2.5km az=30.6*
*CSEM **16** 23:53:37.0±0.1, 4194N×1545E, h12km, MD3.1/50, Error ellipse: s-maj=1.8km s-min=1.1km az=36.0*
*NEIC **16** 23:53:38.0, 4191N×1549E, h10km, ML2.9(ROM), After ROM.*
*ROM **16** 23:53:38.0±0.2, 4191N×1549E, h10km, Md3.1/50, Ml2.9/43, Error ellipse: s-maj=3.3km s-min=1.4km az=25.0*
ISC 16 23:53:38.0±0.4, 4191N±003×1543E±002, h7km±3km, n64, σ0§79/75, 2C, Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FG2	**Serracapriola**	**0.23**	**241**⇑	*i*Pg	**Pg**	**23 53 43.2**	**+0.8**
SGRT	**San Giovanni R**	**0.29**	**124**	Pg	**Pg**	**23 53 43.2**	**-0.4**
SGRT				Sg	**Sg**	**23 53 47.4**	**0.0**
	1μm,0.4s						
MSAG	**Monte S. Angel**	**0.41**	**119**	Pg	**Pg**	**23 53 45.8**	**-0.2**
MSAG				Sg	**Sg**	**23 53 51.6**	**+0.2**
	4μm,0.7s						
MS1	**Monte Sant'Ang**	**0.44**	**118**	*e*Pg	**Pg**	**23 53 46.2**	**-0.3**
MS1				*e*Sg	**Sg**	**23 53 52.8**	**+0.6**
FGMS	**Monte Sant'Ang**	**0.45**	**117**⇑	*i*Pg	**Pg**	**23 53 46.4**	**-0.2**
FGMS				Sg	**Sg**	**23 53 53.0**	**+0.6**
	353nm,0.3s						
FRES	**Fresagrandinar**	**0.57**	**276**	Pg	**Pg**	**23 53 51.3**	**+2.4**
	495nm,0.7s						
FG5	**Orsara di Pugl**	**0.64**	**191**	Pg	**Pg**	**23 53 51.0**	**+0.7**
TRIV	**Trivento**	**0.67**	**258**	Pg	**Pg**	**23 53 51.3**	**+0.5**
	215nm,0.4s						
BSSO	**Busso**	**0.72**	**240**	Pg	**Pg**	**23 53 51.8**	**-0.1**
	136nm,0.3s						
SACR	**S. Croce Del S**	**0.75**	**226**	Pg	**Pg**	**23 53 52.2**	**-0.1**
	268nm,0.6s						
SGTA	**Sant Agata di**	**0.78**	**183**	Pg	**Pg**	**23 53 53.0**	**+0.1**
	532nm,0.3s						
FG4	**Candela**	**0.79**	**175**	Pg	**Pg**	**23 53 54.1**	**+1.1**
	330nm,0.2s						
PSB1	**Pescosannita**	**0.83**	**214**	Pg	**Pg**	**23 53 54.5**	**+0.6**
	426nm,0.7s						
MRB1	**Monte Rocchett**	**0.86**	**203**	Pg	**Pg**	**23 53 54.8**	**+0.4**
	857nm,0.5s						
CAFR	**Castel Frentan**	**0.86**	**292**	Pg	**Pg**	**23 53 55.2**	**+0.7**
	1μm,0.3s						
PTRJ	**Pietraroja**	**0.87**	**231**	Pg	**Pg**	**23 53 54.1**	**-0.5**
	171nm,0.4s						
CAFE	**Carife**	**0.90**	**189**	Pg	**Pg**	**23 53 56.0**	**+0.8**
	321nm,0.3s						
MIDA	**Miranda**	**0.92**	**253**	Pg	**Pg**	**23 53 54.4**	**-1.2**
	167nm,0.4s						
SGG	**Gregorio Mates**	**0.94**	**236**	Pg	**Pg**	**23 53 56.0**	**-0.1**
	198nm,0.4s						
VULT	**Monte Vulture**	**0.97**	**171**	Pg	**Pg**	**23 53 57.3**	**+0.7**
	744nm,0.3s						
RNI2	**Rionero Sannit**	**0.97**	**258**	Pg	**Pg**	**23 53 57.3**	**+0.6**
	177nm,0.3s						
SNAL	**S. Angelo Dei**	**1.00**	**189**	Pg	**Pg**	**23 53 57.0**	**-0.2**
	437nm,0.6s						
VAGA	**Valle Agricola**	**1.02**	**241**	Pg	**Pg**	**23 53 57.6**	**0.0**
	203nm,0.3s						
CDT	**Castel del Mon**	**1.05**	**142**	*e*Pg	**Pg**	**23 53 57.2**	**-0.9**
CDT				*e*Sg	**Sg**	**23 54 11.9**	**+0.3**
PALZ	**Palazzo San Ge**	**1.05**	**157**	Pg	**Pg**	**23 53 57.9**	**-0.2**
	492nm,0.4s						
MOCO	**Biccari - m.te**	**1.09**	**241**	Pg	**Pg**	**23 53 49.3**	**-10**
	246nm,0.3s						
CSSN	**Cassano Irpino**	**1.09**	**196**	Pg	**Pg**	**23 53 59.1**	**+0.1**
	83nm,0.3s						
CERA	**Filignano**	**1.10**	**254**	Pg	**Pg**	**23 54 00.5**	**+1.5**
	256nm,0.6s						
INTR	**Introdacqua**	**1.14**	**275**	Pg	**Pg**	**23 53 58.8**	**-1.0**
	395nm,0.8s						
MCRV	**Calabrutti - M**	**1.15**	**190**	Pg	**Pg**	**23 53 59.7**	**-0.3**
	301nm,0.3s						
SDI	**San Donato**	**1.23**	**261**	Pg	**Pn**	**23 54 00.1**	**-1.4**
	71nm,0.4s						
RFI	**Roccamonfina**	**1.24**	**241**	Pg	**Pg**	**23 54 02.8**	**+1.0**
	5.0nm,0.3s						
VCEL	**Villa Celiera**	**1.27**	**293**	Pg	**Pg**	**23 54 02.0**	**-0.4**
	250nm,0.5s						
POFI	**Posta Fibreno**	**1.30**	**262**	Pg	**Pg**	**23 54 01.8**	**-1.0**
	80nm,0.5s						
AMUR	**Altamura**	**1.34**	**138**	Pg	**Pg**	**23 54 02.5**	**-1.2**
	351nm,0.6s						
VVLD	**Villa Vallelon**	**1.35**	**269**	Pg	**Pg**	**23 54 02.9**	**-0.9**
	249nm,0.7s						
SGO	**Sicignano**	**1.36**	**184**	Pg	**Pg**	**23 54 03.1**	**-0.8**
	50nm,0.3s						
BAI	**Bari**	**1.36**	**126**	*e*Pg	**Pg**	**23 54 03.3**	**-0.7**
BAI				*e*Sg	**Sg**	**23 54 22.0**	**+0.4**
FAGN	**Fagnano**	**1.42**	**285**	Pg	**Pg**	**23 54 04.9**	**-0.2**
	453nm,0.5s						
CDRU	**Civita di Ruta**	**1.43**	**184**	Pg	**Pn**	**23 54 03.9**	**-0.3**
	65nm,0.5s						
SG1	**Sgolgore (BA)**	**1.43**	**138**	*e*Pg	**Pn**	**23 54 04.0**	**-0.3**
SG1				*e*Sg	**Sg**	**23 54 23.6**	**-0.3**
MIGL	**Miglionico**	**1.52**	**149**	Pg	**Pg**	**23 54 06.0**	**-1.0**
	791nm,0.7s						
TERO	**Teramo**	**1.53**	**298**	Pg	**Pg**	**23 54 06.8**	**-0.4**
	115nm,0.5s						
AQU	**L'Aquila**	**1.57**	**287**	Pg	**Pg**	**23 54 08.0**	**0.0**
	85nm,0.8s						
GUAR	**Guarcino**	**1.58**	**266**	Pg	**Pg**	**23 54 07.1**	**-1.2**
	280nm,0.5s						
CMPR	**Campora**	**1.60**	**183**	Pg	**Pn**	**23 54 06.6**	**0.0**
	68nm,0.7s						
MCEL	**Monticello**	**1.61**	**170**	Pg	**Pn**	**23 54 05.8**	**-1.0**
	63nm,0.6s						
CAMP	**Campotosto**	**1.62**	**293**	Pg	**Pg**	**23 54 08.4**	**-0.6**
	16nm,0.6s						
MTSN	**Montesano sull**	**1.67**	**171**	Pg	**Pn**	**23 54 07.1**	**-0.4**
	74nm,0.6s						
NOCI	**Noci**	**1.67**	**132**	Pg	**Pn**	**23 54 06.7**	**-0.9**
	293nm,0.4s						
CRAC	**Craco**	**1.73**	**153**	Pg	**Pn**	**23 54 09.6**	**+1.2**
	323nm,0.3s						
FIAM	**Fiamignano**	**1.75**	**282**	Pg	**Pg**	**23 54 10.8**	**-0.8**
	66nm,0.6s						
SIRI	**Monte Sirino -**	**1.76**	**169**	Pg	**Pn**	**23 54 08.0**	**-0.9**
	53nm,0.3s						
MGR	**Morigerati**	**1.78**	**177**	Pg	**Pn**	**23 54 08.2**	**-0.9**
	55nm,0.4s						
SCHR	**S. Chirico Rap**	**1.78**	**164**	Pg	**Pn**	**23 54 09.1**	**-0.1**
	48nm,0.7s						
CERT	**Cerreto**	**1.82**	**272**	Pg	**Pn**	**23 54 11.6**	**+1.9**
	54nm,0.8s						
BULG	**Bulgheria - Ca**	**1.83**	**181**	Pg	**Pn**	**23 54 09.9**	**0.0**
PE1	**Pezze di Greco**	**1.87**	**126**	*e*Pn	**Pn**	**23 54 11.9**	**+1.6**
NRCA	**Norcia**	**1.94**	**299**	Pg	**Pn**	**23 54 12.7**	**+1.3**
	15nm,0.4s						
TA1	**Taranto**	**2.06**	**136**	*e*Pn	**Pn**	**23 54 13.8**	**+0.9**
NVLJ	**Novalja**	**2.68**	**351**	*e*Pn	**Pn**	**23 54 21.0**	**-0.4**
NVLJ				Sn	**Sn**	**23 54 54.5**	**+0.3**
NVLJ	**Novalja**	**2.68**	**351**	*e*Pn	**Pn**	**23 54 21.0**	**-0.5**
NVLJ				Sn	**Sn**	**23 54 54.4**	**+0.2**
BOJS	**Bojanci**	**3.59**	**358**	*i*Pn	**Pn**	**23 54 34.7**	**+0.7**
BOJS				*i*Sn	**Sn**	**23 55 15.7**	**-0.9**
SKDS	**Skadanscina**	**3.77**	**345**	*i*Pn	**Pn**	**23 54 38.0**	**+1.5**
SKDS				*i*Sn	**Sn**	**23 55 21.0**	**-0.1**

IDC 16 23:56:00.0±2.2, 087N×12711E, h0km, mb3.2/3, mb1 3.4/3, mb1mx3.3/15, mbtmp3.3/3, MS4.1/1, Ms1 4.1/1, ms1mx2.7/14, Error ellipse: s-maj=169.9km s-min=27.2km az=66.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.86**	**161**	P	P	00 00 53.2	-1.3
	0.2nm,0.4s,baz=340,slow=12,SNR=5.5						
ASAR	**Alice Springs**	**25.26**	**165**	P	P	00 01 29.1	+1.0
	0.5nm,0.3s,baz=343,slow=11,SNR=8.5						
JNU	**Nakatsue**	**32.28**	**6**	LR	LR	00 12 52.0	
	comp=Z,316nm,21.5s,baz=6.3,slow=31						
MKAR	**Makanchi Array**	**60.12**	**326**	P	P	00 06 09.3	0.0
	0.6nm,0.9s,baz=123,slow=6.2,SNR=4.2						

*ISCJB **17** 00:12:16.9±0.9, 3880N±005×33.13E±005, h2km±8km, Error ellipse: s-maj=9.0km s-min=5.1km az=154.3*
*CSEM **17** 00:12:17.0±0.1, 3880N×3312E, h10km, MD3.0, Error ellipse: s-maj=3.3km s-min=2.2km az=152.0*
*ISK **17** 00:12:17.0, 3878N×3315E, h6km, MD3.0*
*DDA **17** 00:12:17.2, 3893N×3306E, h7km±4km, Md3.3*
ISC 17 00:12:17.7±0.7, 3880N±005×3313E±005, h10km±7km, n12, σ0§96/18, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAMT	**Kaman**	**0.72**	**38**	*e*PG	**Pg**	**00 12 31.7**	**-0.1**
KAMT				*e*SG	**Sg**	**00 12 41.8**	**+0.7**
KDHN	**Kadinhani**	**0.84**	**251**	*i*P	**Pg**	**00 12 32.9**	**-1.1**
KDHN				*i*S	**Sg**	**00 12 46.3**	**+1.3**
KIZT	**Kizilcal**	**0.98**	**275**	*e*PG	**Pg**	**00 12 36.5**	**-0.1**
KONT	**Konya--Tatoy**	**1.05**	**216**	*e*PG	**Pg**	**00 12 37.1**	**-0.7**
ANTO	**Ankara**	**1.10**	**346**	*e*PN	**Pn**	**00 12 39.1**	**-0.2**
ANTO				*e*SN	**Sn**	**00 12 54.8**	**+0.3**
LOD	**Lodumlu**	**1.12**	**345**	*e*PN	**Pn**	**00 12 40.1**	**+0.6**
CDAG	**Cicekdag**	**1.26**	**49**	*i*P	**Pn**	**00 12 39.2**	**-2.3**
CDAG				*i*S	**Sb**	**00 12 56.2**	**-1.8**
CDAG	**Cicekdag**	**1.26**	**49**	*i*P	**Pn**	**00 12 39.2**	**-2.3**
CDAG				*i*S	**Sb**	**00 12 56.2**	**-1.8**
AVNT	**Avonos**	**1.34**	**90**	*i*P	**Pn**	**00 12 42.2**	**-0.4**
AVNT				*i*S	**Sb**	**00 13 01.6**	**+1.3**
CORM	**Corum**	**1.80**	**40**	*e*PN	**Pn**	**00 12 49.6**	**+0.8**
YOZ	**Yozgat**	**1.89**	**63**	*e*PN	**Pn**	**00 12 50.6**	**+0.5**
BNN	**Bunyan**	**2.12**	**88**	*e*PN	**Pn**	**00 12 53.8**	**+0.6**

*NEIC **17** 00:17:33.3, 3863S×17543E, h203km, MG3.8(WEL), After WEL.*
WEL 17 00:17:33.5±0.5, 3863S×17545E, h201km±4km, ML3.6/6, Error ellipse: s-maj=5.2km s-min=5.0km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FWVZ	**Far West T-bar**	**0.63**	**173**	P	Pn	00 17 58.8	-2.4
PKVZ	**Pokaka**	**0.66**	**187**	PN	Pn	00 18 01.4	+0.1
TRVZ	**Turoa**	**0.67**	**173**	PN	Pn	00 18 01.9	+0.5
MOVZ	**Moawhango**	**0.81**	**163**	P	Pn	00 18 02.1	0.0
MOVZ				S	Sn	00 18 24.0	-0.5
MOVZ	**Moawhango**	**0.81**	**163**	PN	Pn	00 18 02.1	0.0
MOVZ				SN	Sn	00 18 23.8	-0.8
BKZ	**Black Stump Fm**	**0.97**	**123**	P	Pn	00 18 03.6	+0.4
BKZ				S	Sn	00 18 26.5	+0.3
BKZ	**Black Stump Fm**	**0.97**	**123**	PN	Pn	00 18 03.6	+0.4
BKZ				SN	Sn	00 18 26.7	+0.5
WAZ	**Wanganui**	**1.18**	**198**	P	Pn	00 18 04.2	-0.4
WAZ	**Wanganui**	**1.18**	**198**	PN	Pn	00 18 04.2	-0.4
URZ	**Urewera**	**1.36**	**75**	P	Pn	00 18 06.0	-0.1
URZ	**Urewera**	**1.36**	**75**	PN	Pn	00 18 06.0	-0.1
URZ				SN	Sn	00 18 31.0	-0.2
WPHZ	**Waipukurau**	**1.62**	**152**	PN	Pn	00 18 08.2	-0.1
MWZ	**Matawai**	**1.66**	**80**	P	Pn	00 18 08.9	+0.2
MWZ	**Matawai**	**1.66**	**80**	PN	Pn	00 18 08.9	+0.2
MWZ				SN	Sn	00 18 35.9	-0.1
KNZ	**Kokohu**	**1.78**	**103**	*e*P	Pn	00

KSH	**Kashi**	2.83	56	*e*P		**Pn**	**00 31 54.1 +4.6**
KSH				S		**Sn**	**00 32 22.1 -1.3**
KSH				Smax			
	comp=N,3µm,0.4s						
KSH				Smax			
	comp=E,4µm,0.4s						
AML	**Almayashu**	4.20	8	*e*Pn		**Pn**	**00 32 08.1 +0.5**
AML				Sn		**Sn**	**00 32 47.6 -8.2**
AML	**Almayashu**	4.20	8	P		**Pn**	**00 32 07.8 +0.2**
	SNR=308						
CEP	**Cherat**	4.22	192	P		**Pn**	**00 32 10.7 +2.7**
CHCP	**Chirah Chowk**	4.31	176	P		**Pn**	**00 32 13.8 +4.6**
CHCP				S		**Sn**	**00 32 52.0 -6.6**
UCH	**Uchtor**	4.42	15	*e*Pn		**Pn**	**00 32 11.9 +1.3**
UCH				*e*Sn		**Sn**	**00 33 00.1 -1.1**
UCH	**Uchtor**	4.42	15	P		**Pn**	**00 32 11.9 +1.3**
	SNR=183						
KZA	**Kyzart**	4.47	23	P		**Pn**	**00 32 12.4 +1.1**
	SNR=94						
KBL	**Kabul**	4.65	224	*e*Pn		**Pn**	**00 32 14.9 +1.1**
KBL				*e*Sn		**Sn**	**00 33 06.6 -0.2**
EKS2	**Erkin-Say**	4.73	8	*e*Pn		**Pn**	**00 32 15.1 +0.4**
EKS2				*e*Sn		**Sn**	**00 33 05.1 -3.4**
EKS2	**Erkin-Say**	4.73	8	P		**Pn**	**00 32 15.4 +0.7**
	SNR=76						
AAK	**Ala-Archa**	4.81	14	P		**Pn**	**00 32 17.2 +1.5**
	SNR=79						
KBK	**Karagaybulak**	4.92	18	P		**Pn**	**00 32 19.7 +2.4**
	SNR=18						
ULHL	**Ulahol**	4.96	30	P		**Pn**	**00 32 19.2 +1.3**
	SNR=38						
FRU	**Bishkek**	5.02	14	⇑*i*PN		**Pn**	**00 32 19.8 +1.1**
FRU				*i*			00 33 20.0
FRU				pmax		pmax	
	comp=Z,70nm,1.9s						
FRU				pmax		pmax	
	comp=E,530nm,1.9s						
CHMS	**Chumysh**	5.21	15	P		**Pn**	**00 32 22.2 +1.1**
	SNR=39						
THW	**Thamme Wali**	5.26	191	P		**Pn**	**00 32 23.6 +1.7**
TKM2	**Tokmak 2**	5.34	21	⇑P		**Pn**	**00 32 24.1 +1.2**
	comp=E,39nm,0.7s						
TKM2				⇓S		**Sn**	**00 33 25.0 +1.7**
	comp=E,44nm,0.5s						
TKM2	**Tokmak 2**	5.34	21	*e*Pn		**Pn**	**00 32 24.1 +1.1**
	comp=E,32nm,0.5s						
TKM2				*e*Sn		**Sn**	**00 33 13.2 -10**
TKM2	**Tokmak 2**	5.34	21	*e*PN		**Pn**	**00 32 24.1 +1.1**
TKM2				pmax		pmax	
	comp=Z,32nm,0.5s						
TKM2	**Tokmak 2**	5.34	21	P		**Pn**	**00 32 24.2 +1.2**
	SNR=25						
USP	**Ospenovka**	5.42	12	P		**Pn**	**00 32 24.5 +0.5**
	SNR=21						
KK31	**Karatay Array**	5.45	341	⇓P		**Pn**	**00 32 23.0 -1.4**
	comp=Z,19nm,0.2s,baz=20,slow=18,SNR=1795						
KK31				⇑S		**Sn**	**00 33 19.6 -6.3**
	comp=Z,320nm,0.3s,baz=20,slow=18						
DLH	**Dalhousie**	5.96	155	*e*P		**Pn**	**00 32 35.0 +3.7**
DLH				*e*x		x	00 33 41.0
THN	**Thein Dam**	5.97	157	*e*P		**Pn**	**00 32 33.6 +2.0**
THN				*e*x		x	00 33 40.4
BHK	**Bhakra**	7.14	155	*e*S		**Sn**	**00 34 05.4 -1.5**
SDNR	**Sundarnagar**	7.26	152	*e*P		**Pn**	**00 32 50.5 +1.6**
SDNR				*e*S		**Sn**	**00 34 06.5 -3.3**
SMLA	**Simla**	7.66	152	*e*P		**Pn**	**00 32 55.5 +1.1**
SMLA				AMb		AMB	00 32 57.0
	comp=Z,20nm,0.2s						
SMLA				*e*S		**Sn**	**00 34 14.8 -4.9**
DDI	**Dehra Dun**	8.73	149	*e*P		**Pn**	**00 33 10.0 +1.2**
DDI				*e*x		x	00 34 48.0
JOSI	**Joshimath**	9.20	142	*e*P		**Pn**	**00 33 16.3 +1.0**
JOSI				AMb		AMB	00 33 17.2
	comp=Z,103nm,0.7s						
JOSI				*e*S		**Sn**	**00 34 54.4 -2.5**
NDI	**New Delhi**	9.93	158	*e*P		**Pn**	**00 33 25.9 +0.9**
NDI				AMb		AMB	00 33 29.3
	comp=Z,20nm,0.4s						
NDI				*e*S		**Sn**	**00 35 06.7 -7.9**
AYAN	**Aya Nagar**	10.09	158	*e*P		**Pn**	**00 33 27.4 +0.2**
AYAN				AMb		AMB	00 33 29.4
	comp=Z,12nm,0.4s						
AYAN				*e*S		**Sn**	**00 35 11.4 -7.1**
BISR	**Bishrakh**	10.10	157	*e*P		**Pn**	**00 33 28.2 +0.9**
BISR				AMb		AMB	00 33 28.5
	comp=Z,1.0nm,0.4s						
BISR				*e*S		**Sn**	**00 35 11.8 -7.0**
KUDL	**Kundal**	10.24	162	*e*P		**Pn**	**00 33 28.7 -0.6**
KUDL				AMb		AMB	00 33 29.7
	comp=Z,6.9nm,0.4s						
KUDL				*e*S		**Sn**	**00 35 12.8 -9.3**
SONA	**Sohna**	10.30	159	*e*P		**Pn**	**00 33 30.2 +0.2**
SONA				AMb		AMB	00 33 33.5
	comp=Z,30nm,0.8s						
SONA				*e*S		**Sn**	**00 35 14.9 -8.6**
JASL	**Jaisalmer**	11.15	189	*e*P		**Pn**	**00 33 38.4 -3.0**
JASL				AMb		AMB	00 33 41.0
	comp=Z,86nm,0.5s						
MK31	**Makanchi Array**	11.20	35	⇑P		**Pn**	**00 33 43.1 +1.3**
	comp=Z,4.3nm,0.7s,baz=202,slow=10,SNR=30						
MK31	**Makanchi Array**	11.20	35	*e*P		**Pn**	**00 33 43.0 +1.2**
MKAR	**Makanchi Array**	11.20	35	P		**Pn**	**00 33 42.7 +0.9**
MKAR	**Makanchi Array**	11.20	35	P		**Pn**	**00 33 42.7 +0.9**
	comp=Z,0.4nm,0.3s,baz=225,slow=14,SNR=33						
AJM	**Ajmer**	11.55	172	*e*P		**Pn**	**00 33 45.4 -1.2**
AJM				AMb		AMB	00 33 46.4
	comp=Z,8.5nm,0.8s						
AJM				*e*S		**Sn**	**00 35 42.1 -12**
WMQ	**Urumqi**	12.60	58	*e*P		**Pn**	**00 34 02.5 +2.2**
WMQ				AMB		AMB	
	comp=Z,7.0nm,0.6s						
WMQ				AMB		AMB	
	comp=Z,88nm,4.4s						
KURBB	**Kurchatov Arra**	13.26	16	P		**Pn**	**00 34 05.1 -3.8**
	comp=Z,0.7nm,0.8s						
KURK	**Kurchatov**	13.37	16	⇑P		**Pn**	**00 34 05.4 -4.9**
	comp=Z,2.0nm,0.9s						
KURK				⇑S		**Sn**	**00 36 35.5 -1.9**
	comp=Z,9.2nm,1.0s						
KURK	**Kurchatov**	13.37	16	*e*Pn		**Pn**	**00 34 07.5 -2.7**
	comp=Z,4.1nm,0.9s						
KURK				*e*Sn		**Sn**	**00 36 35.5 -2.0**
KURK	**Kurchatov**	13.37	16	*e*P		**Pn**	**00 34 07.5 -2.8**
KURK				*e*			00 36 35.5
KURK				pmax		pmax	
	comp=Z,4.0nm,0.9s						
KOLN	**Koldanda**	13.54	136	*e*P		**Pn**	**00 34 11.2 -1.5**
	comp=Z,41nm,0.3s						
KOLN				*e*S		**Sn**	**00 36 34.4 -7.7**
GKN	**Gorkha**	13.96	132	*e*P		**Pn**	**00 34 15.9 -2.2**
	comp=Z,32nm,0.3s						
GKN				*e*S		**Sn**	**00 36 43.5 -8.6**
KKN	**Kakani**	14.50	131	*e*P		**Pn**	**00 34 22.6 -2.3**
	comp=Z,34nm,0.4s						
KKN	**Kakani**	14.50	131	*e*P		**Pn**	**00 34 22.6 -2.3**
KKN				pmax		pmax	
	comp=Z,34nm,0.4s						
DMN	**Daman**	14.53	132	*e*P		**Pn**	**00 34 23.2 -2.1**
	comp=Z,24nm,0.4s						
AB31	**Akbulak array**	14.67	324	⇑P		**Pn**	**00 34 22.0 -4.9**
	comp=Z,20nm,0.4s,baz=130,slow=13,SNR=514						
AB31				⇓S		**Sn**	**00 36 51.6 -17**
	comp=Z,18nm,0.6s						
PKI	**Pulchoki**	14.73	131	*e*P		**Pn**	**00 34 26.4 -1.5**
	comp=Z,30nm,0.5s						
PKI	**Pulchoki**	14.73	131	*e*P		**Pn**	**00 34 26.4 -1.5**
PKI				pmax		pmax	
	comp=Z,30nm,0.5s						
GUN	**Gumba**	14.77	129	*e*P		**Pn**	**00 34 27.0 -1.4**
	comp=Z,33nm,0.4s						
VOSK	**Vostochnaya**	14.82	355	⇑P		**Pn**	**00 34 25.2 -3.5**
	comp=Z,5.9nm,1.1s						
VOSK				⇓S		**Sn**	**00 37 04.9 -7.4**
	comp=Z,14nm,1.2s						
JIRN	**Jiri**	15.14	129	*e*P		**Pn**	**00 34 32.4 -0.7**
	comp=Z,25nm,0.2s						
BVA0	**Borovoye Array**	15.16	354	⇑P		**Pn**	**00 34 30.5 -2.6**
	comp=Z,1.2nm,0.5s,baz=166,slow=12,SNR=55						
BVA0				⇓S		S	00 37 06.9 -22
	comp=Z,1.6nm,1.2s						
BVAR	**Borovoye Array**	15.16	354	P		**Pn**	**00 34 30.8 -2.2**
	comp=Z,0.6nm,0.3s,baz=159,slow=13,SNR=16						
BVAR				S		**S**	**00 37 10.8 -18**
	comp=Z,0.6nm,0.3s,baz=167,slow=21,SNR=6.7						
BHPL	**Bhopal**	15.18	164	*e*P		**Pn**	**00 34 35.3 +1.8**
BHPL				AMb		AMB	00 34 40.1
	comp=Z,7.6nm,1.9s						
BHPL				*e*x		x	00 37 14.2
BHPL				*e*x		x	00 37 17.8
BRVK	**Borovoye**	15.20	354	*e*Pn		**Pn**	**00 34 31.4 -2.2**
	comp=Z,20nm,0.9s						
BRVK				*e*Sn		**Sn**	**00 37 10.4 -11**
BRVK	**Borovoye**	15.20	354	*e*P		**Pn**	**00 34 31.4 -2.2**
BRVK				*e*			00 37 10.5
BRVK				pmax		pmax	
	comp=Z,20nm,0.9s						
CHKZ	**Chkalovo**	15.79	355	⇑P		**Pn**	**00 34 38.1 -2.7**
	comp=Z,4.2nm,0.7s						
CHKZ				⇓S		**S**	**00 37 24.0 -18**
	comp=Z,13nm,1.4s						
AKTK	**Aktyubinsk**	16.38	324	P		**Pn**	**00 34 45.4 -2.8**
AKTK				S		**S**	**00 37 35.8 -15**
AKTO	**Aktyubinsk**	16.38	324	P		**Pn**	**00 34 45.4 -2.8**
	comp=Z,6.3nm,0.3s,baz=128,slow=13,SNR=40						
AKTO				S		**S**	**00 37 35.8 -15**
	comp=Z,1.1nm,0.3s,baz=331,slow=21,SNR=6.1						
LSA	**Lhasa**	17.21	113	*e*P		**Pn**	**00 35 02.2 +3.7**
	comp=Z,7.1nm,1.0s						
LSA	**Lhasa**	17.21	113	*e*P		**Pn**	**00 35 02.3 +3.8**
LSA				pmax		pmax	
	comp=Z,7.0nm,1.0s						
ZAL	**Zalesovo**	17.93	23	P		**Pn**	**00 35 06.7 -0.2**
ZAA0	**Zalesovo Array**	17.95	23	*e*P		**Pn**	**00 35 06.5 -0.6**
ZALV	**Zalesovo Beam**	17.95	23	P		**Pn**	**00 35 06.7 -0.4**
	comp=Z,1.7nm,0.3s,baz=211,slow=11,SNR=31						
ZALV				S		**S**	**00 38 36.4 +11**
	comp=Z,0.1nm,0.3s,baz=215,slow=18,SNR=5.4						
NVS	**Novosibirsk**	18.27	19	*e*P		**P**	**00 35 09.6 0.0**
SVE	**Sverdlovsk**	20.56	341	*e*P		**P**	**00 35 34.0 -0.4**
SVE				pmax		pmax	
	comp=Z,17nm,0.9s						
ARU	**Arti**	20.81	337	*e*P		**P**	**00 35 36.6 -0.5**
	comp=Z,28nm,0.9s						
ARU				S		**S**	**00 39 19.6 -2.8**
ARU	**Arti**	20.81	337	*d i*P		**P**	**00 35 36.3 -0.8**
ARU				*e*SS			00 39 50.6
ARU				pmax		pmax	
	comp=Z,38nm,1.2s						
DGRG	**David-gareji**	21.45	288	P		**P**	**00 35 44.8 +0.8**
MTA	**Mtatsminda**	21.89	289	P		**P**	**00 35 49.3 +0.6**
TBLG	**Delisi**	21.93	289	*e*P		**P**	**00 35 49.8 +0.7**
TBLG	**Delisi**	21.93	289	P		**P**	**00 35 49.9 +0.7**
ONI	**Oni**	22.91	291	P		**P**	**00 36 00.5 +1.6**
KIV	**Kislovodsk**	23.53	294	*e*P		**P**	**00 36 04.0 -0.6**
	comp=Z,9.5nm,0.6s,mb4.3						
KIV	**Kislovodsk**	23.53	294	*e*P		**P**	**00 36 03.9 -0.7**
KIV				*e*S		**S**	**00 40 12.5 +3.0**
KIV				pmax		pmax	
	comp=Z,10.0nm,1.2s,mb4.0						
KIV				MLR		MLR	
	comp=Z,17nm,12.0s						
ZAK	**Zakamensk**	24.86	50	*e*P		**P**	**00 36 19.2 +2.6**
ZAK				*e*			00 36 46.4
ZAK				*e*			00 37 02.6
ZAK				pmax		pmax	
	comp=Z,1.0nm,0.9s,mb3.2						
ZAK				pmax		pmax	
	comp=Z,1.0nm,1.0s,mb3.2						
ZAK				pmax		pmax	
	comp=Z,1.0nm,1.0s,mb3.2						
TLY	**Talaya**	25.51	48	*e*P		**P**	**00 36 24.1 +1.6**
	comp=Z,2.9nm,0.6s,mb3.9						
TLY	**Talaya**	25.51	48	*e*P		**P**	**00 36 24.1 +1.6**
TLY				pmax		pmax	
	comp=Z,3.0nm,0.6s,mb3.9						
SONM	**Songino Array**	26.23	57	P		**P**	**00 36 33.5 +4.4**
	comp=Z,0.2nm,0.4s,mb2.9,baz=278,slow=13,SNR=3.7						
CD2	**Chengdu**	26.29	96	*e*P		**P**	**00 36 32.3 +2.5**
CD2				XP		sP	00 37 13.9 +4.4
CD2				PP			00 37 21.9
CD2				S		**S**	**00 40 54.4 +0.7**
CD2				AMB		AMB	
	comp=Z,10.0nm,0.8s,mb4.3						
CD2				AMB		AMB	
	comp=Z,20nm,4.2s						
ULN	**Ulaanbaatar**	26.68	57	P		**P**	**00 36 35.8 +2.8**
KMI	**Kunming**	28.31	108	P		**P**	**00 36 53.8 +5.9**
KMI				AMB		AMB	
	comp=Z,5.0nm,0.8s,mb4.1						
HHC	**Hu-ho-hao-te**	29.82	72	*e*P		**P**	**00 37 05.3 +4.2**
HHC				AP		pP	00 37 26.5 -0.7
HHC				PP		PP	00 38 05.5 -5.0
HHC				PCP		PcP	00 40 06.3 +4.9
HHC				S		**S**	**00 41 53.8 +4.9**
HHC				XS		sS	00 42 35.8 +1.3
HHC				SS		SS	00 43 36.9 -24
HHC				PCS		PcS	00 43 48.8 +4.1
HHC				SCS		ScS	00 47 27.9 +0.3
HHC				AMB		AMB	
	comp=Z,8.0nm,0.3s,mb4.8						
HHC				AMB		AMB	
	comp=Z,98nm,4.3s						
HHC				LR		LR	
	comp=N,86nm,5.2s						
HHC				LR		LR	
	comp=E,117nm,4.5s						
HHC				LR		LR	
	comp=Z,98nm,5.8s						
OBN	**Obninsk**	29.88	317	P		**P**	**00 37 01.3 -0.1**
CSS	**Prodhromos**	31.83	277	P		**P**	**00 37 17.1 -1.7**
AKASG	**Malin Array Be**	33.27	307	P		**P**	**00 37 30.6 -0.6**
	comp=Z,2.1nm,0.5s,mb4.2,baz=85,slow=7.1,SNR=12						
JOF	**Joensuu**	35.40	328	*e*p		**P**	**00 37 48.9 -0.5**
	comp=Z,2.4nm,0.3s,mb4.5						
MLR	**Muntele Rosu**	35.45	298	P		**P**	**00 37 51.6 +1.6**
	comp=Z,5.7nm,0.9s,mb4.4,baz=125,slow=3.8,SNR=12						
FINES	**FINESS Array B**	37.16	325	P		**P**	**00 38 04.4 +0.1**
	comp=Z,3.7nm,0.4s,mb4.7,baz=108,slow=9.3,SNR=50						
KAF	**Kangasniemi**	37.26	326	*e*p		**P**	**00 38 04.3 -0.9**
	comp=Z,0.9nm,0.3s,mb4.2,baz=107,slow=9.1						
KAF	**Kangasniemi**	37.26	326	*e*P		**P**	**00 38 04.3 -0.9**
KAF				pmax		pmax	
	comp=Z,1.0nm,0.3s,mb4.2						
KWP	**Kalwaria**	37.42	305	*e*P		**P**	**00 38 07.7 +1.0**
	comp=Z,4.6nm,0.4s,mb4.8						
KWP	**Kalwaria**	37.42	305	*e*P		**P**	**00 38 07.7 +1.0**
KWP				pmax		pmax	
	comp=Z,5.0nm,0.4s,mb4.8						
PSZ	**Piszkesteto**	39.38	302	P		**P**	**00 38 21.8 -1.4**
ARCES	**ARCESS Array B**	40.40	336	P		**P**	**00 38 31.6 +0.4**
	comp=Z,2.0nm,0.5s,mb4.2,baz=113,slow=9.1,SNR=15						
MORC	**Moravsky Berou**	40.76	305	*e*P		**P**	**00 38 33.9 -0.6**
	comp=Z,1.7nm,0.8s,mb3.9						
MORC	**Moravsky Berou**	40.76	305	*e*P		**P**	**00 38 33.9 -0.6**
MORC				pmax		pmax	
	comp=Z,2.0nm,0.8s,mb4.0						
VRAC	**Vranar**	41.42	305	P		**P**	**00 38 41.0 +1.1**
	comp=Z,3.4nm,0.7s,mb4.3,baz=82,slow=8.9,SNR=4.6						
DPC	**Dobruska-Polom**	41.49	306	*e*P		**P**	**00 38 41.4 +0.9**
PRU	**Pruhonice**	42.67	306	*e*P		**P**	**00 38 50.3 +0.3**
HFS	**Hagfors**	42.89	321	P		**P**	**00 38 51.6 0.0**
	comp=Z,7.4nm,0.5s,mb4.7,baz=98,slow=11,SNR=41						
BRG	**Berggiesshubel**	42.95	307	*e*P		**P**	**00 38 53.1 +0.8**
BRG				pmax		pmax	
	comp=Z,6.0nm,1.4s,mb4.1						
BRG	**Berggiesshubel**	42.95	307	*e*P		**P**	**00 38 53.1 +0.8**
	comp=Z,10nm,1.4s,mb4.4						
GERES	**GERESS Array B**	43.36	304	P		**P**	**00 38 56.4 +0.8**
	comp=Z,0.3nm,0.5s,mb3.3,baz=69,slow=7.3,SNR=4.3						
KHC	**Kasperske Hory**	43.40	305	*e*P		**P**	**00 38 56.6 +0.7**
TIXI	**Tiksi**	43.83	22	*e*P		**P**	**00 39 00.3 +1.3**
	comp=Z,2.9nm,0.8s,mb4.1						
TIXI	**Tiksi**	43.83	22	*e*P		**P**	**00 38 59.5 +0.4**
TIXI				pmax		pmax	
	comp=Z,2.0nm,1.0s,mb3.8						
NB2	**NORSAR Subarra**	44.16	322	P		**P**	**00 39 01.3 -0.5**
	comp=Z,4.2nm,0.5s,mb4.4,baz=92,slow=7.9						
NOA	**NORSAR Array B**	44.16	322	P		**P**	**00 39 01.6 -0.2**
	comp=Z,4.4nm,0.5s,mb4.4,baz=92,slow=7.7,SNR=18						
NAO01	**NORSAR Array S**	44.31	322	*e*P		**P**	**00 39 03.1 +0.1**
KONO	**Kongsberg**	44.94	320	*e*P		**P**	**00 39 07.5 -0.5**
	comp=Z,3.6nm,0.7s,mb4.2						
KONO	**Kongsberg**	44.94	320	*e*P		**P**	**00 39 07.5 -0.5**
KONO				pmax		pmax	
	comp=Z,4.0nm,0.7s,mb4.3						
DAVOX	**Davos/Dischmat**	46.28	302	P		**P**	**00 39 18.7 -0.1**
	comp=Z,4.5nm,0.7s,mb4.3,baz=110,slow=6.7,SNR=11						
PGF	**Pioggiola**	47.98	297	*e*P		**P**	**00 39 31.4 -0.6**
HAU	**Haudompre**	48.33	304	*e*P		**P**	**00 39 34.6 0.0**
HAU				*e*MLR		MLR	
	comp=Z,66nm,17.2s						
HAU	**Haudompre**	48.33	304	*e*P		**P**	**00 39 34.6 0.0**
HAU				MLR		MLR	
	comp=Z,70nm,17.3s						
VSL	**Villasalto**	48.67	293	P		**P**	**00 39 37.1 -0.3**
SBF	**Sospel**	48.69	299	*e*P		**P**	**00 39 37.3 -0.2**
	comp=Z,16nm,0.8s,mb4.7						
SBF	**Sospel**	48.69	299	*e*P		**P**	**00 39 37.3 -0.2**
	comp=Z,8.3nm,0.8s,mb4.7						
SBF	**Sospel**	48.69	299	*e*P		**P**	**00 39 37.3 -0.2**
SBF				pmax		pmax	
	comp=Z,8.0nm,0.8s,mb4.7						
LPG	**La Plagne**	48.70	301	*e*P		**P**	**00 39 37.5 0.0**
	comp=Z,4.4nm,0.6s,mb4.3						
LPG	**La Plagne**	48.70	301	*e*P		**P**	**00 39 37.5 0.0**
	comp=Z,2.2nm,0.6s,mb4.3						
LPG	**La Plagne**	48.70	301	*e*P		**P**	**00 39 37.5 0.0**
LPG				pmax		pmax	
	comp=Z,2.0nm,0.6s,mb4.2						
LPL	**La Plagne**	48.71	301	*e*P		**P**	**00 39 37.6 0.0**
	comp=Z,4.4nm,0.7s,mb4.2						
LPL	**La Plagne**	48.71	301	*e*P		**P**	**00 39 37.6 0.0**
	comp=Z,2.2nm,0.6s,mb4.3						
LPL	**La Plagne**	48.71	301	*e*P		**P**	**00 39 37.6 0.0**
LPL				pmax		pmax	
	comp=Z,2.0nm,0.6s,mb4.2						
CABF	**La Chapelle**	48.85	303	*e*P		**P**	**00 39 38.7 +0.1**
BNI	**Bardonecchia**	48.88	301	*e*P		**P**	**00 39 38.3 -0.6**
MBDF	**Montbardon**	48.90	300	*e*P		**P**	**00 39 38.9 -0.2**
	comp=Z,3.6nm,0.6s,mb4.2						
MBDF	**Montbardon**	48.90	300	*e*P		**P**	**00 39 38.9 -0.2**
	comp=Z,1.8nm,0.6s,mb4.2						
MBDF	**Montbardon**	48.90	300	*e*P		**P**	**00 39 38.9 -0.2**
MBDF				pmax		pmax	
	comp=Z,2.0nm,0.6s,mb4.2						
BAIF	**Baives**	49.22	308	*e*P		**P**	**00 39 41.9 +0.6**
FRF	**La Foret Royal**	49.33	299	*e*P		**P**	**00 39 42.1 -0.2**
	comp=Z,8.2nm,0.8s,mb4.4						
FRF	**La Foret Royal**	49.33	299	*e*P		**P**	**00 39 42.1 -0.2**
	comp=Z,4.1nm,0.8s,mb4.4						
FRF	**La Foret Royal**	49.33	299	*e*P		**P**	**00 39 42.1 -0.2**
FRF				pmax		pmax	
	comp=Z,4.0nm,0.8s,mb4.4						
ORIF	**Oris-en-Rattie**	49.46	301	*e*P		**P**	**00 39 43.1 -0.2**
ORIF				*e*MLR		MLR	
	comp=Z,58nm,17.2s						
LMR	**La Mourre**	49.49	298	*e*P		**P**	**00 39 42.9 -0.7**
SMRF	**Simiane la Rot**	49.94	299	*e*P		**P**	**00 39 46.5 -0.5**
	comp=Z,11nm,1.0s,mb4.4						
SMRF	**Simiane la Rot**	49.94	299	*e*P		**P**	**00 39 46.5 -0.5**
	comp=Z,11nm,1.0s,mb4.7						
KEST	**Kesra**	50.04	288	P		**P**	**00 39 47.2 -0.6**
	comp=Z,0.3nm,0.5s,mb3.5,baz=359,slow=5.1,SNR=5.9						
LOR	**Lormes**	50.15	304	*e*P		**P**	**00 39 48.5 +0.1**
VIVF	**Saint-Julien-l**	50.30	301	*e*P		**P**	**00 39 49.3 -0.3**
	comp=Z,2.1nm,0.6s,mb3.9						
VIVF	**Saint-Julien-l**	50.30	301	*e*P		**P**	**00 39 49.3 -0.3**
	comp=Z,1.0nm,0.6s,mb3.9						
VIVF	**Saint-Julien-l**	50.30	301	*e*P		**P**	**00 39 49.3 -0.3**
VIVF				pmax		pmax	
	comp=Z,1.0nm,0.6s,mb3.9						
SMF	**Signal de Mont**	50.33	303	*e*P		**P**	**00 39 49.7 -0.1**
	comp=Z,3.9nm,0.5s,mb4.3						
SMF	**Signal de Mont**	50.33	303	*e*P		**P**	**00 39 49.7 -0.1**
	comp=Z,2.0nm,0.5s,mb4.3						
SMF	**Signal de Mont**	50.33	303	*e*P		**P**	**00 39 49.7 -0.1**
SMF				pmax		pmax	
	comp=Z,2.0nm,0.5s,mb4.3						
SSF	**Saint Saulge**	50.44	304	*e*P		**P**	**00 39 50.3 -0.3**
	comp=Z,3.4nm,0.7s,mb4.1						
SSF	**Saint Saulge**	50.44	304	*e*P		**P**	**00 39 50.3 -0.3**
	comp=Z,1.7nm,0.7s,mb4.1						
SSF	**Saint Saulge**	50.44	304	*e*P		**P**	**00 39 50.3 -0.3**
SSF				pmax		pmax	
	comp=Z,2.0nm,0.7s,mb4.2						
AVF	**Avril sur Loir**	50.61	304	*e*P		**P**	**00 39 51.9 -0.1**
	comp=Z,6.7nm,0.5s,mb4.6						
AVF	**Avril sur Loir**	50.61	304	*e*P		**P**	**00 39 51.9 -0.1**
	comp=Z,3.3nm,0.5s,mb4.6						
AVF	**Avril sur Loir**	50.61	304	*e*P		**P**	**00 39 51.9 -0.1**
AVF				pmax		pmax	
	comp=Z,3.0nm,0.5s,mb4.6						
KMBO	**Kilima Mbogo**	50.96	229	P		**P**	**00 39 56.2 +1.2**
LASF	**Ste Croix**	51.09	300	*e*P		**P**	**00 39 56.0 +0.4**
	comp=Z,7.9nm,1.0s,mb4.4						
TCF	**Toulx Ste Croi**	51.51	303	*e*P		**P**	**00 39 58.6 -0.1**
	comp=Z,4.0nm,0.7s,mb4.2			

YKA	Yellowknife Ar	96.90	27	P	P	00 45 51.8	-0.1
	0.1nm,0.7s,baz=248,slow=4.3,SNR=3.4						
MKAR	Makanchi Array	96.94	316	P	P	00 45 52.1	-0.3
	0.2nm,0.6s,baz=97,slow=4.5,SNR=2.8						
ARCES	ARCESS Array B	119.73	346	PKP	PKPdf	00 51 09.3	-1.3
	4.9nm,1.0s,baz=97,slow=1.9,SNR=11						
GRR	Gorron	144.51	347	*e*PKP1	PKPdf	00 51 55.3	-2.3
	6.2nm,0.7s						
SSF	Saint Saulge	144.55	341	*e*PKP1	PKPdf	00 51 55.1	-2.6
	9.0nm,1.0s						
LPL	La Plagne	144.75	336	*e*PKP1	PKPdf	00 51 56.2	-1.9
	7.8nm,1.0s						
LPG	La Plagne	144.76	336	*e*PKP1	PKPdf	00 51 56.4	-1.7
	3.2nm,0.6s						
SMF	Signal de Mont	144.81	340	*e*PKP1	PKPdf	00 51 55.8	-2.3
	20nm,1.2s						
AVF	Avril sur Loir	144.84	341	*e*PKP1	PKPdf	00 51 55.8	-2.4
	4.3nm,0.7s						
BGF	Bois d'Agland	145.21	341	*e*PKP1	PKPbc	00 51 57.1	-1.3
	14nm,1.0s						
ORIF	Oris-en-Rattie	145.58	337	*e*PKP1	PKPbc	00 51 58.6	-1.0
	6.6nm,0.6s						
MFF	Saint Martin d	146.01	345	*e*PKP1	PKPbc	00 51 58.4	-2.5
	8.9nm,0.9s						
PGF	Pioggiola	146.16	331	*e*PKP1	PKPbc	00 51 59.8	-1.7
FRF	La Foret Royal	146.40	335	*e*PKP1	PKPbc	00 52 00.6	-1.6
	5.3nm,0.6s						
SMRF	Simiane la Rot	146.49	336	*e*PKP1	PKPbc	00 52 01.4	-1.0
LMR	La Mourre	146.64	334	*e*PKP1	PKPbc	00 52 01.3	-1.6
	5.2nm,0.6s						
KEST	Kesra	150.90	322	PKPbc	PKPbc	00 52 13.6	-0.6
	0.7nm,0.7s,baz=121,slow=1.6,SNR=7.2						

*ISCJB **17** 01:11:17.1±1.2,2323S±008×667W±02,h207km±16km, mb3.4/3,Error ellipse: s-maj=25.0km s-min=12.7km az=0.7*
*NEIC **17** 01:11:18.1±1.2,2326S×6663W,h203km±15km,mb3.9/1, Error ellipse: s-maj=25.1km s-min=13.4km az=105.0*
*IDC **17** 01:11:18.2±2.0,2329S×6672W,h212km±20km,mb3.0/1, mb1 3.4/4,mb1mx3.1/17,mbtmp3.2/4,Error ellipse: s-maj=27.8km s-min=22.9km az=112.0*

ISC 17 01:11:17.8±1.2,2321S±008×667W±02,h198km±15km,n10, σ1º08/13,mb3.4/3,Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	La Paz	7.01	349	P	Pn	01 13 00.8	+2.5
LPAZ				S	Sn	01 14 17.2	-0.9
LPAZ	La Paz	7.01	349	P	Pn	01 13 00.8	+2.5
	1.2nm,0.3s,baz=169,slow=8.5,SNR=37						
LPAZ				S	Sn	01 14 17.2	-0.8
	baz=35,slow=18,SNR=1.0						
CFAA	Coronel Fontan	8.47	189	P	Pn	01 13 16.5	-0.7
	0.1nm,0.3s,baz=17,slow=13,SNR=7.2						
CFAA				S	Sn	01 14 44.0	-8.3
	0.1nm,0.3s,baz=184,slow=16,SNR=7.5						
SIV	San Ignacio	8.93	37	P	Pn	01 13 22.7	-0.5
	0.8nm,0.3s,baz=235,slow=12,SNR=16						
BDFB	Brasilia	19.15	70	P	P	01 15 27.2	+0.9
	0.3nm,0.3s,baz=237,slow=16,SNR=17						
QSPA	South Pole Qui	66.99	180	P	P	01 21 49.6	+0.9
	1.1nm,0.5s,mb3.7						
TORD	Torodi Ar. Bea	76.03	69	P	P	01 22 42.4	-1.3
TORD	Torodi Ar. Bea	76.03	69	P	P	01 22 42.4	-1.2
	0.4nm,0.4s,mb3.4,baz=256,slow=5.6,SNR=18						
YKA	Yellowknife Ar	93.48	340	P	P	01 24 09.9	-0.3
YKA	Yellowknife Ar	93.48	340	P	P	01 24 09.9	-0.3
	0.1nm,0.5s,mb3.1,baz=133,slow=4.2,SNR=4.8						

IDC 17 01:16:14.8±1.3,2194N×14301E,h0km,mb3.9/4, mb1 4.1/4,mb1mx3.6/20,mbtmp3.9/4,Error ellipse: s-maj=82.5km s-min=28.2km az=96.0,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	42.48	192	P	P	01 24 11.8	0.0
	0.6nm,1.0s,baz=15,slow=8.5,SNR=12						
YKA	Yellowknife Ar	76.32	28	P	P	01 28 05.5	+0.2
	0.1nm,0.5s,baz=292,slow=6.0,SNR=4.5						
ARCES	ARCESS Array B	78.65	341	P	P	01 28 19.2	+0.9
	6.1nm,1.0s,baz=78,slow=8.4,SNR=3.4						
FINES	FINESS Array B	82.90	334	P	P	01 28 40.2	-1.0
	3.2nm,1.2s,baz=45,slow=6.3,SNR=3.0						

IDC 17 01:39:03.5±3.5,1008S×16112E,h85km±27km,mb3.3/5, mb1 3.6/5,mb1mx3.4/15,mbtmp3.3/5,Error ellipse: s-maj=39.5km s-min=27.5km az=109.0,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	1.32	299	P	Pn	01 39 25.7	-1.1
	42nm,0.3s,baz=118,slow=3.0,SNR=11						
HNR				S	Sn	01 39 44.5	+0.2
	61nm,0.3s,baz=260,slow=9.1,SNR=5.6						
WRA	Warramunga Arr	27.63	246	P	P	01 44 43.4	+0.2
	0.6nm,0.5s,baz=74,slow=9.1,SNR=9.7						
ASAR	Alice Springs	29.27	239	P	P	01 44 57.2	-0.5
	0.2nm,0.4s,baz=65,slow=9.7,SNR=4.3						
VNDA	Vanda	67.42	180	P	P	01 49 49.8	+0.3
	0.5nm,0.7s,baz=332,slow=3.2,SNR=3.9						
SONM	Songino Array	75.24	325	P	P	01 50 37.1	+0.2
	0.4nm,0.5s,baz=106,slow=4.2,SNR=4.2						
YKA	Yellowknife Ar	96.22	28	P	P	01 52 21.9	+0.1
	0.1nm,0.7s,baz=259,slow=4.2,SNR=3.5						

*NEIC **17** 01:50:16.0,1855N×6918W,h126km,MD3.6(RSPR), After RSPR.*

RSPR 17 01:50:16.0,1855N×6918W,h126km±1km,MD3.6/10, MD3.6/10,9C,Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DR12	Loma Pena Alta	0.30	321	⇑*i*P	Pn	01 50 33.2	-0.5
DR12				*e*S	Sn	01 50 46.8	-0.4
SMN1	Samana, DR	0.64	352	⇑*e*P	Pn	01 50 35.2	-0.4
SMN1	Samana, DR	0.64	352	*e*S	Sn	01 50 50.7	+0.3
STDO	Santo Domingo	0.71	262	*e*S	Sn	01 50 51.5	+0.2
DR08	Loma La Naviza	0.89	297	⇑*e*P	Pn	01 50 37.5	-0.2
DR08				*e*S	Sn	01 50 53.7	-0.3
AGPR	Aguadilla, PR	1.97	92	⇑*e*P	Pn	01 50 49.4	+0.1
LSP	Las Mesas	2.02	100	⇑*e*P	Pn	01 50 50.3	+0.2
LSP				*e*S	Sn	01 51 16.0	-0.2
CRPR	Cabo Rojo, PR	2.04	105	⇑*e*P	Pn	01 50 50.0	-0.3
CRPR				*e*S	Sn	01 51 17.2	+0.6
AOPR	Arecibo Observ	2.31	95	⇑*e*P	Pn	01 50 53.5	-0.2
AOPR				*e*S	Sn	01 51 20.1	-2.5
CBYP	Canovanas	3.17	95	⇑*e*P	Pn	01 51 05.1	+0.4
HUMP	Col San Antoni	3.19	97	⇑*e*P	Pn	01 51 05.0	0.0
MTP	Monte Pirata	3.48	97	⇑*e*P	Pn	01 51 03.6	-5.1

*ISCJB **17** 02:01:25.8±5.7,209S±05×1686E±04,h13km±36km, mb3.8/3,Error ellipse: s-maj=102.6km s-min=15.1km az=143.1*
*IDC **17** 02:01:31.2±2.6,2087S×16853E,h36km±7km,mb3.6/3, mb1 3.9/3,mb1mx3.6/12,mbtmp3.6/3,Error ellipse: s-maj=109.7km s-min=29.8km az=151.0*

ISC 17 02:01:26.5±7.0,210S±06×1687E±04,h10km±45km,n6, σ0º12/5,mb3.8/3,Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	2.34	242	*e*P	Pn	02 02 05.0	0.0
DZM				*e*S	Sn	02 02 33.8	0.0
WRA	Warramunga Arr	32.15	266	pP	pP	02 08 03.7	+6.1
	1.1nm,0.9s,baz=97,slow=9.0,SNR=5.6						
ASAR	Alice Springs	32.22	259	P	P	02 07 55.2	+0.1
	0.9nm,0.7s,mb3.7,baz=85,slow=9.4,SNR=13						
ASAR				pP	pP	02 08 05.3	+7.1
	5.0nm,0.8s,baz=82,slow=9.1,SNR=30						
SONM	Songino Array	88.29	323	P	P	02 14 18.0	-0.1
	0.4nm,0.8s,mb3.7,baz=116,slow=3.4,SNR=2.6						
SONM				pP	pP	02 14 29.3	+7.9
	0.7nm,0.7s,baz=142,slow=4.6,SNR=4.4						
NVAR	Mina Array Bea	90.35	49	P	P	02 14 28.0	0.0
	0.5nm,0.8s,mb3.9,baz=234,slow=11,SNR=3.6						
GERES	GERESS Array B	145.75	330	PKPbc	PKPbc	02 21 06.4	+0.7
	0.7nm,0.6s,baz=46,slow=2.8,SNR=6.9						
GERES				pPKPbc	pPKPbc	02 21 17.1	+8.0
	1.8nm,0.8s,baz=32,slow=3.5,SNR=6.4						

*ISCJB **17** 02:01:56.8±1.2,4552N×006×2642E±006,h123km±9km, Error ellipse: s-maj=9.5km s-min=6.7km az=5.7*
*CSEM **17** 02:01:56.6±1.0,4554N×2643E,h128km±8km,MD3.5/2, Error ellipse: s-maj=7.2km s-min=4.5km az=7.0,After BUC*
*BUC **17** 02:01:56.7±0.6,4555N×2644E,h125km±5km,MD3.3/2, Error ellipse: s-maj=3.4km s-min=2.9km az=337.0*
*NEIC **17** 02:01:57.7,4545N×2639E,h114km,MG2.6(BUC),After BUC.*

ISC 17 02:01:57.1±1.4,4553N±006×2642E±006,h123km±10km, n17,σ0º85/32,10C-5D,Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLR	Muntele Rosu	0.34	264	⇑P	Pn	02 02 14.9	+0.4
MLR				S	Sn	02 02 27.8	0.0
MLR	Muntele Rosu	0.34	264	⇑*i*P	Pn	02 02 14.9	+0.3
MLR				*i* S	Sn	02 02 27.8	+0.1
VRI	Vrincioaia	0.40	32	⇑P	Pn	02 02 15.1	+0.2
VRI				S	Sn	02 02 28.2	-0.1
VRI	Vrincioaia	0.40	32	⇑*i*P	Pn	02 02 15.1	+0.2
VRI				*i* S	Sn	02 02 28.1	-0.2
VRI	Vrincioaia	0.40	32	⇑*i*P	Pn	02 02 15.1	+0.2
VRI				*i* S	Sn	02 02 28.2	-0.1
BRD	Bordesti	0.43	86	⇑*i*P	Pn	02 02 16.5	+1.5
BRD				*i* S	Sn	02 02 31.0	+2.5
VOIR		0.97	265	⇑P	Pn	02 02 19.1	0.0
VOIR				S	Sn	02 02 34.5	-1.2
VOIR		0.97	265	⇑*i*P	Pn	02 02 19.1	0.0
VOIR				*i* S	Sn	02 02 34.6	-1.2
ONCR	Oncesti	1.11	32	⇑*i*P	Pn	02 02 20.3	-0.1
ONCR				*i* S	Sn	02 02 37.3	-0.9
BUC1	Bucharest	1.21	193	⇓*i*P	Pn	02 02 22.1	+0.5
BUC1				*i* S	Sn	02 02 40.3	+0.2
CFR	Carcaliu	1.26	106	P	Pn	02 02 23.4	+1.4
CFR	Carcaliu	1.26	106	⇑*i*P	Pn	02 02 21.9	-0.1
CFR				*i* S	Sn	02 02 39.5	-1.5
HARR	Harsova	1.36	128	⇓P	Pn	02 02 23.4	+0.2
HARR				S	Sn	02 02 42.3	-0.6
HARR	Harsova	1.36	128	⇓*i*P	Pn	02 02 23.4	+0.3
HARR				*i* S	Sn	02 02 42.3	-0.6
TIRR	Tirgusor	1.77	126	⇓P	Pn	02 02 28.1	+0.2
TIRR				S	Sn	02 02 50.3	-1.1
TIRR	Tirgusor	1.77	126	⇓*i*P	Pn	02 02 28.1	+0.2
TIRR				*i* S	Sn	02 02 50.8	-0.6
GZR	Gura Zlata	2.57	268	*i* S	Sn	02 03 08.8	-0.4

*NEIC **17** 02:15:04.1,3165S×7204W,h26km,ML3.1(GUC),After GUC.*

GUC 17 02:15:04.1±0.6,3165S×7204W,h26km±3km,MD3.6, ML3.1,2C-3D,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHNG	Los Chungos	0.52	117	⇓*i*P	Pb	02 14 54.9	-20
CHNG				*i* S	Sb	02 15 02.3	-20
CMCH	Combarbala	1.01	62	⇓*i*P	Pn	02 15 22.2	-0.3
CMCH				*i* S	Sb	02 15 36.0	+0.2
CMCH	Combarbala	1.01	62	⇓*i*P	Pn	02 15 22.2	-0.3
CMCH				*i* S	Sb	02 15 36.0	+0.2
CMCH				AML	AML	02 15 38.8	
	comp=N,2μm,0.7s						
PACH	Papudo	1.03	150	*i* S	Sb	02 15 36.5	+0.2
PTCH	Petorca	1.13	123	⇑*i*P	Pn	02 15 23.8	-0.4
PTCH				*i* S	Sn	02 15 38.5	-0.4
PTCH	Petorca	1.13	123	⇑*i*P	Pn	02 15 23.8	-0.4
PTCH				*i* S	Sn	02 15 38.5	-0.4
PTCH				AML	AML	02 15 39.5	
	comp=N,402nm,0.2s						
ROCH	El Roble	1.59	147	*i* P	Pn	02 15 31.7	+1.2
ROCH				*i* S	Sn	02 15 52.5	+2.4
JACH	Jahuel	1.61	130	*e*P	Pn	02 15 31.5	+0.7
JACH				*i* S	Sn	02 15 52.8	+2.1
PEL	Peldehue	1.89	143	*i* P	Pn	02 15 37.0	+2.4
PEL				*i* S	Sn	02 16 01.3	+3.8
PEL				AML	AML	02 16 05.2	
	comp=E,549nm,0.4s						
RCDM	Rinconada Maip	2.12	151	*i* P	Pn	02 15 38.2	+0.5
RCDM				*i* S	Sn	02 16 04.7	+1.5
RCDM	Rinconada Maip	2.12	151	*i* P	Pn	02 15 38.2	+0.5
RCDM				*i* S	Sn	02 16 04.7	+1.5
RCDM				AML	AML	02 16 06.4	
	comp=E,93nm,0.1s						
CLCH	Cerro Calan	2.16	144	AML	AML	02 16 14.4	
	comp=N,190nm,0.7s						
PCH	Pirque	2.35	147	*i* P	Pn	02 15 42.6	+1.6
PCH				*i* S	Sn	02 16 12.0	+2.9
CHCH	Chadas Angostu	2.56	153	*i* P	Pn	02 15 45.4	+1.4
CHCH				*i* S	Sn	02 16 16.6	+2.3
LMEL	Las Melosas	2.69	145	*e*P	Pn	02 15 47.0	+1.4
LMEL				*e*S	Sn	02 16 20.0	+2.6
LMEL	Las Melosas	2.69	145	*e*P	Pn	02 15 47.0	+1.4
LMEL				*e*S	Sn	02 16 20.0	+2.6
LMEL				AML	AML	02 16 27.3	
	comp=N,63nm,0.1s						

*CSEM **17** 02:24:46.1±0.1,3794N×3100E,h2km,MD2.9,Error ellipse: s-maj=3.1km s-min=2.3km az=149.0*
*DDA **17** 02:24:47.0,3850N×3073E,h5km±11km,Md2.8*
*ISCJB **17** 02:24:47.6±0.6,3795N±004×3099E±004,h4km±9km, Error ellipse: s-maj=6.6km s-min=4.9km az=175.4*
*ISK **17** 02:24:47.1,3794N×3100E,h8km,MD2.9*

ISC 17 02:24:48.2±0.6,3795N±004×3097E±004,h11km±8km,n10, σ1º09/17,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ISP	Isparta	0.38	254	PG	Pg	02 24 55.0	-0.8
ISP				*e*SG	Sg	02 25 01.4	+0.5
TKTP	Tekketepe	0.52	280	*i* P	Pg	02 24 57.4	-1.0
TKTP				*i* S	Sg	02 25 05.7	+0.3
BCK	Bucak	0.58	212	*e*PG	Pg	02 24 58.0	-1.4
BCK				*e*SG	Sg	02 25 08.0	+0.9
SHUT	Suhut-Afyon	0.69	331	*e*PG	Pg	02 25 01.2	-0.3
SHUT				*e*SG	Sg	02 25 12.0	+1.5
KDHN	Kadinhani	1.06	57	*i* P	Pb	02 25 07.1	-1.5
KDHN				*i* S	Sb	02 25 23.8	+1.2
KONT	Konya--Tatoy	1.10	90	*e*PG	Pg	02 25 07.6	-1.7
KONT				*e*SG	Sg	02 25 23.9	+0.4
KIZT	Kizilcal	1.17	37	*e*PN	Pn	02 25 10.1	-0.4
ALT	Altintas	1.29	329	*e*PN	Pn	02 25 11.9	-0.2
ELL	Elmali	1.47	216	*e*PN	Pn	02 25 15.1	+0.5
ERMK	Ermenek	2.02	130	*i* P	Pg	02 25 29.6	+2.5
ERMK				*i* S	Sg	02 26 00.5	+7.2

*CSEM **17** 02:29:05.5±0.1,4121N×2013E,h0km,ML3.1,Error ellipse: s-maj=2.5km s-min=1.4km az=18.0*
*PDG **17** 02:29:05.0±0.2,4109N×1994E,h12km,ML2.8/10,Error ellipse: s-maj=1.1km s-min=1.1km az=90.0*
*NEIC **17** 02:29:05.0,4109N×1994E,h12km,ML2.8(PDG),After PDG.*
*ISCJB **17** 02:29:06.5±0.3,4120N±002×2012E±003,h10km,Error ellipse: s-maj=3.9km s-min=2.0km az=137.6*
*THE **17** 02:29:06.2,4122N×2013E,h3km,ML3.1*

ISC 17 02:29:07.0±0.3,4118N±002×2010E±003,h10km,n46, σ1º20/78,6C-3D,Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIR	Tirane	0.24	313	*e*Pg	Pg	02 29 10.3	-1.7
TIR				*e*Sg	Sg	02 29 14.4	-1.0
TIR	Tirane	0.24	313	*i* PG	Pg	02 29 10.3	-1.7
TIR				*i* SG	Sg	02 29 14.8	-0.5
QSH	Qafa e Shtames	0.37	336	*i* PG	Pg	02 29 14.0	-0.3
OHR	Ohrid	0.53	97	*e*Pg	Pg	02 29 15.5	-1.7
OHR				*e*Sg	Sg	02 29 24.3	+0.1
OHR	Ohrid	0.53	97	*i* Pg	Pg	02 29 15.6	-1.7
OHR				*i* Sg	Sg	02 29 24.8	+0.6
KBN	Korca	0.76	137	*i* PG	Pg	02 29 21.9	+0.3
PUK	Puka	0.88	350	*i* Pg	Pg	02 29 21.6	-2.2
PUK				*i* Sg	Sg	02 29 34.6	-0.6
KRUS	Krusevo	0.88	77	*i* Pg	Pg	02 29 22.0	-1.9
KRUS				*i* Sg	Sg	02 29 36.4	+0.9
KRUS	Krusevo	0.88	77	*i* Pg	Pg	02 29 22.0	-2.0
KRUS				*i* Sg	Sg	02 29 36.3	+0.8
BIA	Bitola	0.94	100	*e*Pg	Pg	02 29 22.7	-2.3
BIA				*e*Sg	Sg	02 29 36.4	-0.8
BIA	Bitola	0.94	100	*i* Pg	Pg	02 29 22.6	-2.4
ULC	Ulcinj	1.01	321	⇓*i*Pg	Pg	02 29 24.1	-2.3
ULC				*e*Sg	Sg	02 29 40.4	+0.8
ULC	Ulcinj	1.01	321	*i* PG	Pg	02 29 24.1	-2.3
ULC				*i* SG	Sg	02 29 40.4	+0.8
FNA	Florina	1.04	112	*e*Pg	Pg	02 29 25.2	-1.8
FNA				*e*Sg	Sg	02 29 40.4	-0.1
SKO	Skopje	1.28	51	*e*Pg	Pg	02 29 30.6	-0.8
SKO				*e*Sg	Sg	02 29 49.1	+1.1
SKO	Skopje	1.28	51	*e*Pg	Pg	02 29 30.6	-0.9
SKO				*i* Sg	Sg	02 29 48.9	+0.9
SRN	Sarande	1.30	184	*i* PN	Pn	02 29 30.5	-0.7
SRN				*i* SN	Sn	02 29 50.2	+1.6
PDG	Podgorica	1.40	333	*i* PN	Pn	02 29 31.3	-1.2
PDG				*i* SN	Sg	02 29 52.4	+0.5
TTG	Podgorica	1.40	333	⇑*i*Pg	Pn	02 29 31.3	-1.2
TTG				*i* Sg	Sg	02 29 52.4	+0.5
PVY	Plav	1.42	356	*e*Pg	Pn	02 29 32.9	+0.1
PVY				*i* Sg	Sg	02 29 54.8	+2.3
PVY	Plav	1.42	356	*i* PN	Pn	02 29 32.9	+0.1
BUM	Brajici-Budva	1.44	322	⇑*i*Pg	Pn	02 29 31.8	-1.2
BUM				*e*Sg	Sg	02 29 53.3	+0.1
BUM	Brajici-Budva	1.44	322	*i* PN	Pn	02 29 31.7	-1.3
BUM				*i* SN	Sg	02 29 53.3	+0.1
MEV	Metsovon	1.64	148	*e*Pb	Pb	02 29 36.3	-0.9
MEV				*e*Sb	Sb	02 29 59.6	+1.8
STIP	Stip	1.65	71	*e*Pg	Pn	02 29 35.2	-0.8
IGT	Igoumenitsa	1.66	174	*e*Pb	Pn	02 29 35.9	-0.2
IGT				*e*Sb	Sb	02 29 59.9	+1.5
BEY	Berane	1.70	355	*i* PN	Pn	02 29 37.0	+0.4
IVA	Berane	1.70	355	⇓*i*Pn	Pn	02 29 37.0	+0.4
IVA				*i* Sn	Sn	02 30 01.3	+2.9
HCY	Herceg Novi	1.74	317	⇑*i*Pn	Pn	02 29 36.0	-1.3
HCY				*e*Sn	Sn	02 30 00.1	+0.6
HCY	Herceg Novi	1.74	317	*i* PN	Pn	02 29 36.0	-1.3
HCY				*i* SN	Sn	02 30 00.1	+0.6
GRG	Griva	1.75	97	*e*Pb	Pn	02 29 37.5	+0.2
NKY	Niksic	1.83	334	⇓*i*Pn	Pn	02 29 37.9	-0.5
NKY				*e*Sn	Sn	02 30 03.5	+1.9
NKY	Niksic	1.83	334	*i* PN	Pn	02 29 37.9	-0.5
NKY				*i* SN	Sn	02 30 03.5	+1.9
VAY	Valandovo	1.86	85	*e*Pb	Pn	02 29 39.2	+0.3
VAY	Valandovo	1.86	85	*e*Pn	Pn	02 29 39.9	+1.0
BRY	Bratogost	2.07	326	⇑*i*Pn	Pn	02 29 40.9	-0.9
BRY				*e*Sn	Sn	02 30 08.9	+1.2
BRY	Bratogost	2.07	326	*i* PN	Pn	02 29 40.9	-0.9
BRY				*i* SN	Sn	02 30 08.9	+1.2
KNT	Kendrikon	2.11	90	*e*Pn	Pn	02 29 42.8	+0.5
LIT	Litokhoron	2.11	120	*e*Pn	Pn	02 29 42.1	-0.2
LIT				*e*Sn	Sn	02 30 10.2	+1.6
UPM	Unac-Piva	2.21	337	⇑*i*Pn	Pn	02 29 43.2	-0.4
UPM				*e*Sn	Sn	02 30 12.8	+1.9
PLE	Pljevlja	2.21	346	⇑*i*Pn	Pn	02 29 43.3	-0.4
PLE				*e*Sn	Sn	02 30 13.3	+2.2
HORT	Hortiatis	2.34	103	*e*Pn	Pn	02 29 46.0	+0.5
LKD	Levkas	2.51	170	*e*Pn	Pn	02 29 46.5	-1.2
PLG	Polygyros	2.66	107	*e*Pn	Pn	02 29 49.5	-0.3
AGG	Agios Georgios	2.75	141	*e*Pn	Pn	02 29 51.9	+0.8
AGG				*e*Sn	Sn	02 30 26.7	+2.3
DIVS	Divibare	2.92	358	*e*Pn	Pn	02 29 53.8	+0.4

*IDC **17** 03:12:16.9±1.3,1139S×16635E,h54km±9km,mb3.8/5, mb1 4.0/6,mb1mx3.7/17,mbtmp3.9/6,MS3.9/2,Ms1 3.9/2, ms1mx3.3/32,Error ellipse: s-maj=29.1km s-min=22.0km az=7.0*
*ISCJB **17** 03:12:18.3±4.9,114S±02×1662E±02,h80km±40km, mb3.8/7,Error ellipse: s-maj=33.7km s-min=30.3km az=24.4*
*NEIC **17** 03:12:23.5±2.2,1256S×16524E,h10km,mb3.4/2,Error ellipse: s-maj=42.4km s-min=15.5km az=51.0*

ISC 17 03:12:19.7±4.3,113S±02×1662E±02,h81km±35km, h55km±.3km:pP-P,n12,σ0º81/11,mb3.8/7,Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	6.48	286	P	Pn	03 13 52.9	+0.5
HNR				S	Sn	03 15 04.5	-0.4
HNR	Honiara	6.48	286	P	Pn	03 13 52.9	+0.5
	15nm,0.3s,baz=130,slow=0.7,SNR=8.5						
HNR				S	Sn	03 15 04.5	-0.4
	15nm,0.3s,baz=260,slow=19,SNR=2.3						
ARMA	Armidale	23.34	213	*e*P	P	03 17 15.4	-5.4
	0.5nm,1.2s,mb2.7						
WRA	Warramunga Arr	31.84	250	P	P	03 18 37.6	+0.5
	2.1nm,0.8s,mb3.9,baz=80,slow=9.2,SNR=12						
WRA				pP	pP	03 18 51.3	-4.8
	2.3nm,0.9s,baz=82,slow=9.0,SNR=8.9						
ASAR	Alice Springs	33.10	244	P	P	03 18 48.4	+0.3
	1.9nm,0.8s,mb4.0,baz=73,slow=9.6,SNR=20						
ASAR				pP	pP	03 19 02.2	-4.8
	2.5nm,0.8s,baz=76,slow=9.7,SNR=9.0						
ASAR				PcP	PcP	03 21 31.3	+1.5
	0.4nm,0.5s,baz=87,slow=2.2,SNR=5.1						
FORT	Forrest	40.28	235	P	P	03 19 47.7	-1.3
	2.9nm,1.0s,mb4.1						
ASAJ	Asahikawa	59.23	340	LR	LR	03 42 33.9	
	comp=Z,80nm,21.3s,baz=183,slow=31						
QSPA	South Pole Qui	78.67	180	P	P	03 24 12.7	+0.3
	2.6nm,1.0s,mb4.0,baz=101,slow=5.2,SNR=4.0						
MKAR	Makanchi Array	94.07	317	P	P	03 25 30.3	+1.3
	0.6nm,0.5s,mb4.2,baz=98,slow=4.9,SNR=4.9						
MKAR				pP	pP	03 25 45.8	-5.2
	0.6nm,0.6s,baz=97,slow=6.3,SNR=2.4						
YKA	Yellowknife Ar	95.01	27	P	P	03 25 31.8	-1.1
	0.1nm,0.6s,mb3.5,baz=258,slow=4.6,SNR=5.0

MXZ Matakaoa Point 5.81 191 PN **P** 03 17 36.9 +0.5
MXZ SN **S** 03 18 49.2 -1.4
WCZ Waipu Caves 6.03 226 *e*PN **P** 03 17 44.7 +5.9
OUZ Omahuta 6.09 235 P **P** 03 17 45.3 +5.8
OUZ Omahuta 6.09 235 PN **P** 03 17 45.3 +5.8
PUZ Puketiti 6.31 190 *e*P **P** 03 17 42.0 +0.2
PUZ S **S** 03 19 00.4 -0.1
PUZ Puketiti 6.31 190 *e*PN **P** 03 17 42.0 +0.2
PUZ *e*SN **S** 03 19 00.3 -0.2
TGRZ Tauranga 6.50 205 *e*P **P** 03 17 47.6 +3.7
TGRZ Tauranga 6.50 205 *e*PN **P** 03 17 47.6 +3.7
OPRZ Ohinepanea 6.51 202 PN **P** 03 17 45.7 +1.8
OPRZ SN **S** 03 19 06.8 +2.4
WTAZ Waiatarua 6.60 218 PN **P** 03 17 50.8 +5.9
MWZ Matawai 6.70 195 P **P** 03 17 46.3 +0.3
MWZ Matawai 6.70 195 PN **P** 03 17 46.3 +0.3
URZ Urewera 6.73 198 P **P** 03 17 46.2 -0.1
URZ Urewera 6.73 198 P **P** 03 17 46.4 +0.1
137nm,0.3s,baz=352,slow=3.1,SNR=216
URZ S **S** 03 19 08.3 -0.5
535nm,0.3s,baz=133,slow=21,SNR=18
URZ Urewera 6.73 198 PN **P** 03 17 46.2 -0.1
URZ *e*SN **S** 03 19 07.2 -1.7
TOZ Tahuroa Road 6.80 209 PN **P** 03 17 51.2 +4.1
KNZ Kokohu 7.33 192 *e*SN **S** 03 19 17.1 -4.0
WATZ Wairara 7.56 204 P **P** 03 17 58.2 +2.7
WATZ Wairara 7.56 204 *e*PN **P** 03 17 57.2 +1.6
BKZ Black Stump Fm 7.75 199 *e*P **P** 03 17 58.0 +0.4
BKZ Black Stump Fm 7.75 199 *e*PN **P** 03 17 56.5 -1.1
TRVZ Turoa 8.16 203 *e*PN **P** 03 18 02.2 +0.1
WNVZ Wahianoa 8.16 203 P **P** 03 18 04.1 +1.9
MOVZ Moawhango 8.19 202 P **P** 03 18 01.4 -1.1
MOVZ Moawhango 8.19 202 *e*PN **P** 03 18 01.2 -1.3
VRZ Vera Road 8.29 208 P **P** 03 18 05.8 +2.2
PXZ Pawanui 8.47 195 *e*SN **S** 03 19 40.5 -3.8
WPHZ Waipukurau 8.60 197 *e*PN **P** 03 18 07.3 +0.3
NEZ North Egmont 8.69 210 P **P** 03 18 13.0 +5.0
TSZ Takapari Road 8.72 199 P **P** 03 18 07.2 -1.2
WAZ Wanganui 8.76 205 P **P** 03 18 10.1 +1.3
WAZ Wanganui 8.76 205 *e*PN **P** 03 18 08.4 -0.4
BFZ Birch Farm 9.23 197 P **P** 03 18 14.1 +0.1
BFZ Birch Farm 9.23 197 *e*PN **P** 03 18 14.1 0.0
BFZ *e*SN **S** 03 19 57.7 -2.1
MRZ Mangatainoka R 9.39 200 P **P** 03 18 14.8 -1.0
MRZ Mangatainoka R 9.39 200 *e*PN **P** 03 18 14.4 -1.4
MRZ *e*SN **S** 03 19 58.5 -4.5
TIWZ Tintock 9.42 198 *e*PN **P** 03 18 16.9 +0.8
KIW Kapiti Island 9.78 202 P **P** 03 18 18.9 -1.2
KIW Kapiti Island 9.78 202 *e*PN **P** 03 18 18.5 -1.6
MTW Mount Morrison 9.88 199 P **P** 03 18 20.9 -0.2
CAW Cannon Point 9.95 201 P **P** 03 18 21.3 -0.7
CAW Cannon Point 9.95 201 *e*PN **P** 03 18 20.8 -1.2
TRWZ Traveller 10.05 198 *e*PN **P** 03 18 22.5 -0.6
DUWZ D'Urville Isla 10.06 206 *e*PN **P** 03 18 21.4 -1.9
PAWZ Paruwai Farm 10.10 199 P **P** 03 18 23.6 -0.1
MSWZ Moikau Station 10.18 199 P **P** 03 18 24.6 +0.1
SNZO South Karori 10.25 202 *e*P **P** 03 18 24.4 -0.9
SNZO *e*P 03 18 24.8
BHW Baring Head 10.29 201 P **P** 03 18 26.6 +0.9
TCW Tory Channel 10.30 203 P **P** 03 18 24.5 -1.4
TCW Tory Channel 10.30 203 *e*PN **P** 03 18 24.2 -1.6
TUWZ Tuamarina 10.61 204 *e*PN **P** 03 18 27.9 -1.4
NNZ Nelson 10.63 207 *e*P **P** 03 18 28.1 -1.4
NNZ Nelson 10.63 207 PN **P** 03 18 26.9 -2.6
QRZ Quartz Range 10.65 211 *e*P **P** 03 18 28.7 -1.0
BSWZ Blackbirch Sta 10.88 204 P **P** 03 18 31.8 -0.5
THZ Tophouse 11.28 207 P **P** 03 18 36.5 -0.2
THZ Tophouse 11.28 207 *e*PN **P** 03 18 36.0 -0.6
KHZ Kahutara 11.62 203 *e*P **P** 03 18 39.9 -0.5
KHZ Kahutara 11.62 203 *e*PN **P** 03 18 39.9 -0.6
DSZ Denniston Nort 11.71 210 P **P** 03 18 36.0 -5.4
LTZ Lake Taylor 12.39 206 *e*P **P** 03 18 49.0 +0.1
MQZ McQueen's Vall 13.07 203 *e*P **P** 03 18 56.5 +0.2
MQZ McQueen's Vall 13.07 203 *e*PN **P** 03 18 56.6 +0.4
WVZ Waitaha Valley 13.26 210 *e*P **P** 03 18 58.5 +0.2
WVZ Waitaha Valley 13.26 210 *e*PN **P** 03 18 58.5 +0.2
RPZ Rata Peaks 13.66 207 P **P** 03 19 03.4 +0.7
7.3nm,0.3s,baz=357,slow=2.0,SNR=25
RPZ S **S** 03 21 27.6 -1.6
8.4nm,0.3s,baz=195,slow=17,SNR=9.0
RPZ Rata Peaks 13.66 207 *e*PN **P** 03 19 03.0 +0.3
FOZ Fox Glacier 14.10 211 *e*P **P** 03 19 07.0 -0.5
FOZ Fox Glacier 14.10 211 *e*PN **P** 03 19 06.9 -0.6
LBZ Lake Benmore 14.56 208 *e*P **P** 03 19 12.7 +0.2
JCZ Jackson Bay 14.92 212 *e*PN **P** 03 19 15.4 -1.0
WKZ Wanaka 15.40 210 *e*P **P** 03 19 20.5 -1.1
WKZ Wanaka 15.40 210 *e*PN **P** 03 19 20.5 -1.1
RAR Rarotonga 21.18 65 P **P** 03 20 18.0 -1.9
163nm,1.0s,mb5.4,baz=226,slow=6.9,SNR=13
FUNA Funafuti 23.22 359 *e*P **P** 03 20 36.2 -2.2
465nm,1.1s,mb5.8
ARMA Armidale 24.04 266 *e*P **P** 03 20 49.4 +3.8
ARMA *e* 03 24 39.2
CNB Canberra Magne 25.45 254 *e*P **P** 03 21 01.4 +3.3
16nm,0.8s,mb4.5
CNB *e*S **S** 03 25 01.1 +6.8
CNB *e*SCP ScP 03 27 15.0 -1.4
EIDS Eidsvold 25.89 277 *e*P **P** 03 21 03.6 +1.5
61nm,1.2s,mb4.9
TAU Tasmania Unive 27.83 237 *e*P **P** 03 21 20.2 +1.1
13nm,0.8s,mb4.3
TAU Tasmania Unive 27.83 237 *e*P **P** 03 21 20.2 +1.2
TAU pmax pmax
comp=Z,13nm,0.8s,mb4.3
TBI Tubuai 28.55 80⇑ *i*P **P** 03 21 24.9 -0.7
comp=Z,462nm,0.8s,mb5.9
TBI *e*pP 03 22 38.7
comp=Z,502nm,1.2s
TBI *e*S **S** 03 25 35.8 -7.3
comp=Z,482nm,26.2s
HNR Honiara 28.86 316 *e*P **P** 03 21 27.1 -1.4
comp=Z,770nm,1.2s,mb5.9
HNR Honiara 28.86 316 *e*P **P** 03 21 27.1 -1.4
HNR pmax pmax
comp=Z,770nm,1.2s,mb5.9
HNR Honiara 28.86 316 P **P** 03 21 26.5 -2.0
comp=Z,278nm,0.9s,mb5.6,baz=222,slow=1.7,SNR=30
PAE Paea 31.15 70⇑ *i*P **P** 03 21 47.1 -1.3
comp=Z,236nm,1.0s,mb5.5
PAE Paea 31.15 70⇑ *i*P **P** 03 21 47.1 -1.3
PAE pmax pmax
comp=Z,236nm,1.0s,mb5.5
PPT Papeete 31.20 70⇑ *i*P **P** 03 21 47.8 -1.0
comp=Z,182nm,1.3s,mb5.3
PPT *e*S **S** 03 26 16.1 -8.4
comp=Z,451nm,27.2s
PPT Papeete 31.20 70 P **P** 03 21 47.7 -1.2
comp=Z,124nm,0.9s,mb5.2,baz=177,slow=3.1,SNR=7.1
TVO Taravao 31.35 71⇑ *i*P **P** 03 21 49.0 -1.1
comp=Z,121nm,0.8s,mb5.3
TVO Taravao 31.35 71⇑ *i*P **P** 03 21 49.0 -1.1
TVO pmax pmax
comp=Z,121nm,0.8s,mb5.3
CTA Charters Tower 32.14 283⇑ *i*P **P** 03 21 58.5 +1.6
comp=Z,208nm,1.2s,mb5.3
CTA *e*S **S** 03 26 40.7 +1.9
CTA Charters Tower 32.14 283⇑ *i*P **P** 03 21 58.5 +1.6
CTA *e*S **S** 03 26 40.7 +1.9
CTA pmax pmax
comp=Z,208nm,1.2s
CTA Charters Tower 32.14 283 P **P** 03 21 58.0 +1.2
comp=Z,276nm,1.1s,mb5.5,baz=107,slow=9.8,SNR=109
CTA S **S** 03 26 40.5 +1.7
comp=Z,31nm,1.1s,baz=345,slow=21,SNR=18
CTAO Charters Tower 32.14 283 *e*P **P** 03 21 58.2 +1.4
comp=Z,466nm,1.2s,mb5.7
CTAO Charters Tower 32.14 283 *e*P **P** 03 21 58.2 +1.3
CTAO pmax pmax
comp=Z,466nm,1.2s,mb5.7
STKA Stephens Creek 32.24 260 *e*P **P** 03 22 00.0 +2.4
comp=Z,59nm,0.9s,mb4.9
STKA *e*S **S** 03 26 43.2 +3.0
STKA Stephens Creek 32.24 260 *e*P **P** 03 21 59.9 +2.2
STKA Stephens Creek 32.24 260 P **P** 03 22 00.0 +2.4
comp=Z,69nm,0.8s,mb5.0,baz=96,slow=9.2,SNR=72
STKA pP pP 03 23 16.3 +3.2
comp=Z,11nm,0.8s,baz=85,slow=12,SNR=1.9
STKA PP PP 03 23 23.8 +2.2
comp=Z,25nm,1.0s,baz=93,slow=9.0,SNR=7.3
STKA S **S** 03 26 43.6 +3.4
comp=Z,7.0nm,1.0s,baz=306,slow=17,SNR=3.7
PMOR Pomariorio Ree 33.97 68⇑ *i*P **P** 03 22 11.6 -1.0
comp=Z,200nm,1.2s,mb5.3

VAH Vaihoa 34.05 69⇑ *i*P **P** 03 22 12.1 -1.1
comp=Z,294nm,1.0s,mb5.6
RKT Rikitea 40.91 89⇑ *i*P **P** 03 23 09.7 -0.2
comp=Z,64nm,1.0s,mb4.9
RKT *e*S **S** 03 28 44.5 -5.8
comp=Z,570nm,28.0s
RKT Rikitea 40.91 89⇑ *i*P **P** 03 23 09.7 -0.2
RKT *e*S **S** 03 28 44.5 -5.8
RKT pmax pmax
comp=Z,64nm,1.0s,mb4.9
ASAR Alice Springs 41.09 270 P **P** 03 23 11.7 +0.4
ASAR *PP pP 03 24 33.3 +3.0
ASAR 03 24 54.8
ASAR S **S** 03 28 51.3 -1.6
ASAR Alice Springs 41.09 270 P **P** 03 23 11.7 +0.4
comp=Z,80nm,0.8s,mb5.1,baz=105,slow=7.3,SNR=506
ASAR pP pP 03 24 33.3 +3.0
comp=Z,14nm,0.8s,baz=110,slow=7.9,SNR=3.4
ASAR PP PP 03 24 54.8 -2.0
comp=Z,44nm,0.8s,baz=111,slow=7.8,SNR=8.8
ASAR ScP ScP 03 28 10.1 -1.2
comp=Z,6.2nm,0.9s,baz=113,slow=3.7,SNR=3.9
ASAR S **S** 03 28 51.2 -1.6
comp=Z,5.9nm,0.9s,baz=109,slow=14,SNR=5.3
WB2 Warramunga Arr 42.20 275 *e*P **P** 03 23 20.4 +0.2
WB2 *e*S **S** 03 29 05.9 -3.2
WB2 Warramunga Arr 42.20 275 *e*P **P** 03 23 20.2 0.0
WRAB Tennant Creek 42.20 275 P **P** 03 23 20.0 -0.3
comp=Z,1μm,0.9s,mb6.2,SNR=90
WRAB Tennant Creek 42.20 275 *e*P **P** 03 23 19.7 -0.5
comp=Z,321nm,1.3s,mb5.5
WRAB Tennant Creek 42.20 275 *c i*P **P** 03 23 20.2 -0.1
WRA Warramunga Arr 42.21 275 P **P** 03 23 20.4 +0.1
WRA *PP pP 03 24 41.7 +1.9
WRA 03 25 03.9
WRA S **S** 03 29 07.3 -2.0
WRA Warramunga Arr 42.21 275 P **P** 03 23 20.4 +0.1
comp=Z,165nm,0.9s,mb5.3,baz=112,slow=8.0,SNR=467
WRA pP pP 03 24 41.7 +1.9
comp=Z,25nm,0.8s,baz=114,slow=8.0,SNR=3.2
WRA PP PP 03 25 03.9 -4.8
comp=Z,32nm,0.6s,baz=113,slow=8.1,SNR=7.1
WRA ScP ScP 03 28 14.4 -1.5
comp=Z,8.0nm,1.0s,baz=111,slow=3.8,SNR=6.0
WRA S **S** 03 29 07.3 -2.0
comp=Z,4.3nm,0.9s,baz=122,slow=15,SNR=6.5
TAOE Nuku Hiva Isla 43.70 67 *e*P **P** 03 23 31.9 -0.2
comp=Z,11μm,1.0s
TAOE *e*S **S** 03 29 23.9 -6.9
comp=Z,42μm,27.1s
FORT Forrest 43.78 257 *e*P **P** 03 23 32.8 +0.3
comp=Z,84nm,0.7s,mb5.2
FORT *e*S **S** 03 29 31.2 -0.4
SBA Scott Base 46.45 184 *e*P **P** 03 23 56.0 +3.5
VNDA Vanda 46.46 185 P **P** 03 23 55.3 +2.7
comp=Z,0.8nm,0.6s,baz=330,slow=5.4,SNR=5.2
VNDA ScP ScP 03 28 32.0 -0.3
comp=Z,4.8nm,1.0s,baz=339,slow=3.0,SNR=4.3
KAKA Kakadu 47.27 283 *e*P **P** 03 23 58.6 -1.1
comp=Z,83nm,1.1s,mb5.0
KAKA *e*S **S** 03 30 19.4 -2.0
FITZ Fitzroy Crossi 50.41 272⇑ *i*P **P** 03 24 23.3 +0.2
comp=Z,87nm,0.6s,mb5.3
FITZ *e*S **S** 03 31 02.6 -1.9
FITZ Fitzroy Crossi 50.41 272 P **P** 03 24 23.5 +0.4
comp=Z,70nm,0.8s,mb5.1,baz=144,slow=7.1,SNR=100
FITZ PcP PcP 03 25 33.9 -0.7
comp=Z,18nm,1.0s,baz=180,slow=6.1,SNR=4.3
FITZ pP pP 03 25 48.0 +1.9
comp=Z,31nm,0.9s,baz=137,slow=8.5,SNR=6.4
FITZ S **S** 03 31 03.2 -1.3
comp=Z,6.5nm,1.1s,baz=260,slow=22,SNR=9.0
KLBR Kellerberrin 52.02 253 *e*P **P** 03 24 34.7 -0.1
comp=Z,72nm,1.1s,mb4.8
NWAO Narrogin (SRO) 52.04 251 *e*P **P** 03 24 32.3 -2.6
CASY Casey 52.93 208 *e*P **P** 03 24 41.4 +0.7
MBWA Marble Bar 54.12 266 *e*P **P** 03 24 49.8 -0.3
GUMO Guam 56.17 318 *e*P **P** 03 25 03.4 -1.1
GUMO Guam 56.17 318 P **P** 03 25 03.1 -1.4
comp=Z,146nm,0.9s,mb5.3,baz=187,slow=4.3,SNR=14
QSPA South Pole Qui 58.26 180 P **P** 03 25 20.8 +2.9
QSPA South Pole Qui 58.26 180 P **P** 03 25 20.8 +2.9
comp=Z,76nm,0.9s,mb5.0,baz=32,slow=1.8,SNR=136
MIR Mirnyy 59.93 207⇓ *i*P **P** 03 25 31.0 +1.6
MIR pmax pmax
comp=Z,100nm,1.0s,mb5.2
KAPI Kappang 61.95 282 P **P** 03 25 43.2 -0.5
comp=Z,466nm,1.3s,mb5.8,SNR=20
TSM Tawau 68.79 289 ⇓P **P** 03 26 27.8 +0.8
MYLDM Lahad Datu 68.82 291 ⇓P **P** 03 26 28.4 +1.3
SDKM Sandakan 70.13 290 ⇓P **P** 03 26 34.8 -0.3
MAW Mawson 70.24 201 *e*P **P** 03 26 35.5 +0.7
comp=Z,6.8nm,0.9s,mb4.2
MAW Mawson 70.24 201 *e*P **P** 03 26 35.5 +0.7
MAW pmax pmax
comp=Z,7.0nm,0.9s
MAW Mawson 70.24 201 P **P** 03 26 35.6 +0.8
comp=Z,12nm,1.0s,mb4.3,baz=119,slow=6.3,SNR=12
KKM Kota Kinabalu 71.16 290 *e*P **P** 03 26 41.0 -0.2
KKM Kota Kinabalu 71.16 290 ⇓P **P** 03 26 41.3 +0.2
KDM Kudat 71.18 291 ⇓P **P** 03 26 41.7 +0.4
PMSA Palmer Station 71.75 156 P **P** 03 26 46.0 +2.3
comp=Z,37nm,1.0s,mb4.9,baz=290,slow=4.9,SNR=3.5
BTM Bintulu 72.05 286 ⇓P **P** 03 26 47.0 +0.5
SBUM Sibu 72.33 284 ⇓P **P** 03 26 49.0 +0.9
KSM Kuching 73.37 282 *e*P **P** 03 26 53.3 -0.8
KSM Kuching 73.37 282 ⇑P **P** 03 26 54.4 +0.3
SYO Syowa Base 75.24 194 ⇓*i*P **P** 03 27 02.6 -1.2
SYO Syowa Base 75.24 194 ⇓*e*PcP PcP 03 27 15.4 +0.4
JOW Kunigami 76.21 314 P **P** 03 27 09.5 -0.3
comp=Z,92nm,1.0s,mb5.4,baz=145,slow=8.2,SNR=7.9
SNAA Sanae 76.75 179 P **P** 03 27 13.2 +1.1
comp=Z,9.6nm,0.6s,mb4.6,baz=205,slow=5.5,SNR=36
SNAA pP pP 03 28 46.7 +2.8
comp=Z,20nm,1.1s,baz=166,slow=5.6,SNR=8.8
VNA3 Neumayer Olymp 76.98 177 *e*P **P** 03 27 14.2 +0.8
VNA3 *e* 03 27 19.5
VNA3 *e* 03 27 28.6
VNA3 *e* pP 03 28 41.8 -3.4
VNA3 *e* pP 03 28 47.4 +2.2
VNA3 *e* 03 28 52.8
VNA3 *e* 03 28 58.7
VNA3 *e* 03 29 04.2
VNA3 *e* 03 29 09.3
VNA3 *e* 03 29 20.8
VNA3 *e* 03 29 25.9
NVL N'lazarevskaya 77.30 184 *d i*P **P** 03 27 16.5 +1.3
NVL pmax pmax
comp=Z,47nm,1.1s,mb5.0
VNA2 Neumayer--Watz 77.39 178 *e*P **P** 03 27 16.9 +1.2
VNA2 *e* 03 27 22.7
VNA2 *e* 03 27 31.6
VNA2 *e* 03 28 43.9
VNA2 *e* pP 03 28 49.1 +1.5
VNA2 *e* pP 03 28 53.9 +6.3
VNA2 *e* 03 29 01.5
VNA2 *e* 03 29 06.2
VNA2 *e* 03 29 11.3
VNA2 *e* 03 29 18.8
VNA2 *e* 03 29 22.0
VNA2 *e* 03 29 28.7
VNA1 Neumayer--Stat 77.63 177 *e*P **P** 03 27 18.6 +1.6
VNA1 *e* 03 27 24.6
VNA1 *e* 03 27 32.3
VNA1 *e* 03 28 45.8
VNA1 *e* pP 03 28 51.3 +2.3
VNA1 *e* 03 28 56.7
VNA1 *e* 03 29 05.7
VNA1 *e* 03 29 13.5
VNA1 *e* 03 29 20.7
VNA1 *e* 03 29 26.5
VNA1 *e* 03 29 30.5
MJAR Matsushiro Arr 78.34 327 P **P** 03 27 19.7 -1.6
comp=Z,29nm,0.9s,mb4.9,baz=163,slow=5.0,SNR=41
MAJO Matsushiro 78.34 327 *e*P **P** 03 27 20.4 -0.9
comp=Z,71nm,1.1s,mb5.2
MAJO Matsushiro 78.34 327 *e*P **P** 03 27 20.4 -0.9
MAJO pmax pmax
comp=Z,71nm,1.1s,mb5.2
MAT Matsushiro 78.34 327 P **P** 03 27 18.7 -2.6
NACB Ninganchiao 78.64 308 *e*P **P** 03 27 21.7 -1.5
MYKOM Kota Tinggi 78.94 279 ⇑P **P** 03 27 25.7 +0.6
JNU Nakatsue 79.36 320 P **P** 03 27 26.4 -0.4
comp=Z,74nm,1.0s,mb5.2,baz=83,slow=5.3,SNR=15

KGM Kluang 79.51 279 ⇓P **P** 03 27 28.5 +0.3
ERM Erimo 80.83 333 P **P** 03 27 35.6 +1.2
comp=Z,459nm,1.1s,mb6.1,SNR=5.7
KTGM Kuala Trenggan 81.46 282 ⇓P **P** 03 27 38.9 +0.6
FRIM Kepong 81.59 279 ⇓P **P** 03 27 38.6 -0.4
IPM Ipoh 82.76 280 ⇓P **P** 03 27 44.8 -0.2
ASAJ Asahikawa 82.84 334 P **P** 03 27 45.1 +0.5
comp=Z,54nm,1.0s,mb5.2,baz=211,slow=9.2,SNR=36
PLCA Paso Flores 82.95 134 P **P** 03 27 46.7 +1.1
comp=Z,5.5nm,0.9s,mb4.3,baz=225,slow=7.7,SNR=10
PLCA pP pP 03 29 20.4 +1.5
comp=Z,33nm,1.2s,baz=220,slow=4.1,SNR=3.7
ADK Adak 83.44 2 *e*P **P** 03 27 46.0 -1.5
comp=Z,156nm,1.1s,mb5.7
ADK Adak 83.44 2 *e*P **P** 03 27 46.0 -1.5
ADK pmax pmax
comp=Z,155nm,1.1s,mb5.7
KULM Kulim 83.51 280 *e*P **P** 03 27 48.1 -0.7
KULM Kulim 83.51 280 ⇑P **P** 03 27 48.7 -0.1
QIZ Qiongzhong 83.85 297 P **P** 03 27 50.6 +0.3
QIZ XP sP 03 29 57.4 -10
QIZ S S 03 37 40.1 +1.6
QIZ XS sS 03 40 14.6 -11
QIZ SS SS 03 43 21.1 +3.3
QIZ AMB AMB
comp=Z,24nm,1.2s,mb4.8
QIZ AMB AMB
comp=Z,151nm,12.2s
KSRS Korea Array 84.20 321 P **P** 03 27 52.0 +0.3
comp=Z,24nm,0.8s,mb5.0,baz=142,slow=5.6,SNR=71
KSRS pP pP 03 29 26.4 +1.0
comp=Z,1.5nm,0.8s,baz=136,slow=5.8,SNR=1.9
KSRS PP PP 03 31 04.8 -8.7
comp=Z,3.1nm,1.0s,baz=121,slow=12,SNR=3.7
SNG Songkhla 84.56 282 P **P** 03 27 54.0 0.0
SKR Severo-Kuril's 84.78 345 *e*P **P** 03 27 45.5 -8.7
SKR pmax pmax
comp=E,110nm,1.0s
SKR pmax pmax
comp=Z,130nm,1.0s,mb5.6
YSS Yuzh-Sakhalins 85.22 336⇑ *e*P **P** 03 27 56.0 -0.4
YSS Yuzh-Sakhalins 85.22 336 *k i*P **P** 03 27 57.0 +0.6
YSS pmax pmax
comp=Z,220nm,1.0s,mb5.8
NJ2 Nanjing 85.71 312 *e*P **P** 03 27 59.9 +0.7
NJ2 PP PP 03 31 24.9 -0.9
NJ2 AMB AMB
comp=Z,110nm,1.0s,mb5.5
PET Petropavlovsk 86.49 347⇑ *e*P **P** 03 28 01.6 -0.8
PET Petropavlovsk 86.49 347 *i*P **P** 03 28 00.3 -2.1
PET *e**PP pP 03 29 35.7 -1.1
PET *e**SP sP 03 30 16.5 -3.1
PET *e* 03 31 29.9
PET *e* 03 37 40.5
PET *e*S S 03 38 00.6 -2.0
PET *e*SS SS 03 43 55.8 +0.5
PET pmax pmax
comp=Z,300nm,4.2s
PET pmax pmax
comp=Z,80nm,1.4s,mb5.3
PET pmax pmax
comp=Z,700nm,4.7s
PET pmax pmax
comp=Z,100nm,17.2s
PET pmax pmax
comp=Z,200nm,13.6s
PET pmax pmax
comp=Z,100nm,16.4s
PET MLR MLR
comp=Z,200nm,21.0s
PET MLR MLR
comp=Z,100nm,20.0s
VLA Vladivostok 86.51 327 *e*P **P** 03 28 02.0 -0.8
BLG Laguna Peak 87.34 47 ⇓P **P** 03 28 06.6 -0.3
baz=87
HAST Hastings Reser 87.37 44 ⇓P **P** 03 28 07.4 +0.4
baz=88
PKM Peak Mountain 87.40 46 ⇓P **P** 03 28 07.9 +0.7
baz=88
WHN Wuhan 87.67 308 P **P** 03 28 09.4 +0.9
109C Camp Elliot, M 87.77 49 ⇑P **P** 03 28 09.5 +0.6
baz=88
U04C Hernandez Rese 87.81 44 ⇑P **P** 03 28 09.7 +0.6
baz=88,SNR=5.3
PACP Pacheco Peak 87.95 43 ⇓P **P** 03 28 10.3 +0.6
baz=88
ARVC Arvin 88.16 46 ⇓P **P** 03 28 11.0 +0.3
baz=88
MONP Monument Peak 88.21 49 ⇓P **P** 03 28 11.5 +0.5
baz=88,SNR=7.9
T05C Eagle Field, D 88.23 44 ⇓P **P** 03 28 11.6 +0.6
baz=88
S04C Ingram Canyon, 88.26 43 ⇑P **P** 03 28 11.5 +0.3
baz=88
DVTC Desert V Tower 88.27 49 ⇓P **P** 03 28 11.8 +0.5
baz=88,SNR=6.0
BFSC Mount Baldy St 88.30 47 ⇑P **P** 03 28 11.6 +0.2
baz=88,SNR=9.5
HOPS Hopland 88.30 41 ⇑P **P** 03 28 11.6 +0.3
baz=88
VES Vestal, Richgr 88.48 45 ⇑P **P** 03 28 11.9 -0.3
baz=88,SNR=8.9
P01C Double 8 Ranch 88.48 40 ⇓P **P** 03 28 12.3 +0.2
baz=89
SDPT Sand Point 88.50 11 *e*P **P** 03 28 11.6 -0.2
EDW2 Edwards Air Fo 88.51 47 ⇑P **P** 03 28 12.6 +0.2
baz=89,SNR=14
MNRC McLaughlin Nat 88.57 41 ⇑P **P** 03 28 13.0 +0.4
baz=89,SNR=5.2
Q03C Winters 88.64 42 ⇑P **P** 03 28 13.7 +0.8
baz=89
SWSC Sam W. Stewart 88.64 49 ⇓P **P** 03 28 13.4 +0.3
baz=89,SNR=7.6
PFO Pinyon Flat Ob 88.65 49 P **P** 03 28 13.2 +0.2
PFO pP pP 03 29 48.2 +0.2
PFO Pinyon Flat Ob 88.65 49 P **P** 03 28 13.2 +0.2
comp=Z,9.2nm,0.8s,mb4.6,baz=238,slow=3.4,SNR=11
PFO pP pP 03 29 48.2 +0.2
comp=Z,5.9nm,0.9s,baz=292,slow=11,SNR=4.0
PFO Pinyon Flat Ob 88.65 49 ⇓P **P** 03 28 13.6 +0.6
baz=89,SNR=6.7
O01C Eel River Cons 88.69 40 ⇓P **P** 03 28 13.7 +0.6
baz=89
DL2 Dalian 88.70 319 P **P** 03 28 13.3 +0.1
DL2 XP sP 03 30 18.3 -12
DL2 S S 03 38 26.9 +2.9
DL2 AMB AMB
comp=Z,40nm,1.1s,mb5.1
DL2 AMB AMB
comp=Z,160nm,6.8s
MDJ Mudanjiang 88.73 327 P **P** 03 28 13.4 +0.3
MDJ AP pP 03 29 41.3 -6.8
MDJ XP sP 03 30 20.9 -10
MDJ PP PP 03 31 47.4 -2.1
MDJ S S 03 38 27.3 +3.4
MDJ XS sS 03 41 03.8 -9.1
MDJ AMB AMB
comp=Z,55nm,1.1s,mb5.2
MDJ AMB AMB
comp=Z,231nm,3.7s
MDJ Mudanjiang 88.73 327 *e*P **P** 03 28 13.2 0.0
comp=Z,88nm,1.3s,mb5.3
ISA Isabella 88.73 46 ⇑P **P** 03 28 13.5 +0.2
baz=89,SNR=11
S05C Merced 88.74 44 ⇑P **P** 03 28 13.0 -0.4
baz=89,SNR=5.2
T06C Millerton Lake 88.88 44 ⇓P **P** 03 28 13.6 -0.5
baz=89,SNR=14
GASB Alder Springs 88.96 41 ⇑P **P** 03 28 15.0 +0.7
baz=89,SNR=13
HELL Mitchell Peak 89.07 45 ⇓P **P** 03 28 14.3 -0.6
baz=89,SNR=8.9
LRMC Laurel Mountai 89.09 46 ⇓P **P** 03 28 15.5 +0.4
baz=89,SNR=6.6
CMB Columbia Colle 89.17 43 *e*P **P** 03 28 13.8 -1.5
comp=Z,30nm,1.2s,mb4.9
CMB Columbia Colle 89.17 43 *e*P **P** 03 28 13.9 -1.5
CMB pmax pmax
comp=Z,30nm,1.2s,mb4.9
CMB Columbia Colle 89.17 43 ⇓P **P** 03 28 15.0 -0.4
baz=89,SNR=16
SUTB Sutter Butte 89.18 41 ⇑P **P** 03 28 14.7 -0.7
baz=89
BELC Belle Mtn. 89.19 48 ⇓P **P** 03 28 16.3 +0.7
baz=89,SNR=16
O02C Red Bluff 89.28 40 ⇑P **P** 03 28 16.4 +0.5

baz=89,SNR=22
KCC Kaiser Creek 89.32 44 ⇓P P 03 28 16.6 +0.5
baz=89
BC3 Big Chuckw Mtn 89.32 49 P P 03 28 17.0 +0.8
baz=89,SNR=14
GLA Glamis 89.34 50 ⇑P P 03 28 17.0 +0.7
baz=89,SNR=21
HABR Khabarovsk 89.38 332⇓eP P 03 28 16.1 +0.1
HABR e 03 31 52.3
HABR S SKSac 03 38 09.1 +3.7
HABR e 03 40 15.3
HABR pmax pmax
comp=Z,225nm,1.6s,mb5.7
N02C Big Bar 89.45 40 ⇑P P 03 28 16.9 +0.3
baz=90,SNR=5.5
LAVA Lava Cap Winer 89.45 42 ⇑P P 03 28 16.4 -0.2
baz=90,SNR=5.1
CWC Cottonwood Cre 89.48 46 ⇑P P 03 28 17.1 +0.2
baz=90
HEC Hector,Ludlow 89.51 48 P P 03 28 17.2 +0.2
baz=90,SNR=14
GSC Goldstone 89.52 47 P P 03 28 17.2 +0.1
baz=90,SNR=7.1
NST Nakhon Sawan 89.56 289 P P 03 28 19.0 +1.3
ORV Oroville 89.57 41 P P 03 28 17.2 0.0
baz=90,SNR=6.5
O03C Acorn Hollow, 89.57 41 ⇑P P 03 28 17.1 -0.1
baz=90
MPMC Manual Prospec 89.59 46 ⇑P P 03 28 17.4 0.0
baz=90,SNR=7.5
WDC Whiskeytown Da 89.69 40 eP P 03 28 16.9 -0.8
comp=Z,44nm,1.3s,mb5.1
WDC Whiskeytown Da 89.69 40 eP P 03 28 16.9 -0.8
WDC pmax pmax
comp=Z,44nm,1.3s,mb5.1
WDC Whiskeytown Da 89.69 40 ⇓P P 03 28 17.9 +0.1
baz=90,SNR=13
M01C Crescent City 89.73 38 ⇓P P 03 28 18.6 +0.7
baz=90
CHGN Chignik 89.77 12 eP P 03 28 16.6 -1.1
TIN Tinemaha 89.79 45 ⇑P P 03 28 18.8 +0.5
baz=90
R05C Kirkwood Meado 89.80 43 ⇓P P 03 28 18.3 0.0
baz=90,SNR=9.9
MLAC Mammoth Lakes 89.81 44 ⇑P P 03 28 18.7 +0.3
baz=90
IRM Iron Mountain 89.84 49 ⇑P P 03 28 19.5 +0.9
baz=90,SNR=10
P05C Yuba Gap, Truc 89.90 42 ⇑P P 03 28 18.6 -0.1
baz=90,SNR=12
GMRC Granite Mounta 89.91 48 ⇑P P 03 28 19.4 +0.5
baz=90,SNR=6.3
Y12C Blythe 89.98 49 ⇑P P 03 28 19.7 +0.5
baz=90,SNR=6.9
R07C Lee Vining 89.99 44 ⇑P P 03 28 19.2 0.0
baz=90,SNR=14
R06C Coleville 90.04 43 ⇑P P 03 28 19.4 -0.1
baz=90,SNR=6.9
M02C Callahan 90.09 39 P P 03 28 20.1 +0.6
baz=90,SNR=11
S08C White Mtn Res 90.12 45 P P 03 28 19.9 +0.1
baz=90,SNR=12
CN2 Changchun 90.13 324 ⇓P P 03 28 19.3 -0.4
CN2 eXP sP 03 30 26.5 -11
CN2 eS S 03 38 38.0 +1.2
CN2 AMB AMB
comp=Z,10.0nm,1.1s,mb4.6
CN2 AMB AMB
comp=Z,200nm,4.0s
TUQ Turquoise Mtn. 90.16 47 ⇑P P 03 28 20.2 +0.2
baz=90,SNR=5.5
L02A Cave Junction 90.22 38 ⇓P P 03 28 20.4 +0.3
baz=90
SHOC Shoshone 90.23 47 ⇓P P 03 28 20.0 -0.4
baz=90
GRAC Grapevine Rang 90.28 45 ⇑P P 03 28 20.6 +0.1
baz=90,SNR=7.0
O04C Chester 90.32 41 ⇓P P 03 28 20.1 -0.5
baz=90,SNR=7.9
WCN Washoe City 90.39 43 ⇓P P 03 28 21.1 +0.1
baz=90,SNR=7.1
YBH Yreka Blue Hor 90.40 39 eP P 03 28 21.8 +0.8
YBH Yreka Blue Hor 90.40 39 ⇓P P 03 28 21.1 +0.1
baz=90,SNR=8.2
M03C McCloud 90.40 40 ⇑P P 03 28 20.8 -0.2
baz=90,SNR=9.4
BEKR Beckwourth 90.42 42 P P 03 28 21.1 -0.1
baz=90,SNR=7.0
HATC Hat Creek Radi 90.45 41 ⇑P P 03 28 21.3 0.0
baz=90
Y13A Salome 90.47 50 ⇓P P 03 28 22.2 +0.7
baz=90
U10A Ash Meadows, A 90.54 46 ⇑P P 03 28 22.1 +0.3
baz=91,SNR=5.5
P06A Stead Airport, 90.56 42 ⇑P P 03 28 21.0 -0.8
baz=91
PDMCI Parker Dam,Lak 90.57 49 ⇑P P 03 28 22.3 +0.3
baz=91
GYA Guiyang 90.58 301⇓iP P 03 28 22.6 +0.4
GYA AP pP 03 29 51.5 -5.8
GYA XP sP 03 30 29.5 -10
GYA PP PP 03 32 07.4 +3.0
GYA SKS 03 38 18.3
GYA S S 03 38 45.0 +3.4
GYA XS sS 03 41 19.6 -12
GYA SS SS 03 44 59.8 +4.7
GYA AMB AMB
comp=Z,50nm,1.0s,mb5.3
GYA AMB AMB
comp=Z,140nm,5.8s
GYA LR LR
comp=N,620nm,23.9s
GYA LR LR
comp=E,560nm,22.1s
GYA LR LR
comp=Z,630nm,22.7s
NVAR Mina Array Bea 90.65 44 P P 03 28 22.2 -0.1
comp=Z,6.3nm,0.8s,mb4.5,baz=208,slow=6.3,SNR=43
NVAR pP pP 03 29 57.6 +0.2
comp=Z,3.1nm,0.9s,baz=214,slow=5.6,SNR=4.2
K02A Glendale 90.71 38 ⇑P P 03 28 22.8 +0.4
baz=91,SNR=6.1
ELFS Eagle Lake Fie 90.72 41 ⇓P P 03 28 22.4 -0.1
baz=91
V11A Goodsprings 90.72 47 ⇓P P 03 28 22.9 +0.3
baz=91
Z14A Wintersburg 90.77 51 ⇓P P 03 28 23.4 +0.5
baz=91
S09A Goldfield 90.83 45 P P 03 28 23.3 +0.2
baz=91,SNR=5.1
115A Sonoran Desert 90.84 51 ⇓P P 03 28 23.9 +0.7
baz=91,SNR=5.5
HUMO Hull Mountain 90.88 38 eP P 03 28 23.4 +0.2
comp=Z,82nm,1.6s,mb5.3
HUMO Hull Mountain 90.88 38 ⇓P P 03 28 23.4 +0.3
baz=91,SNR=11
M04C Macdoel 90.91 40 P P 03 28 23.6 +0.3
baz=91,SNR=8.7
O06A Flanigan 90.92 42 P P 03 28 22.9 -0.5
baz=91,SNR=11
216A Three Points, 90.93 52 ⇓P P 03 28 24.7 +1.0
baz=91
TPNV Topopah Spring 90.93 46 eP P 03 28 22.9 -0.7
comp=Z,11nm,1.0s,mb4.7
TPNV Topopah Spring 90.93 46 eP P 03 28 22.9 -0.7
TPNV pmax pmax
comp=Z,11nm,1.0s,mb4.6
TPNV Topopah Spring 90.93 46 P P 03 28 23.8 +0.2
baz=91,SNR=12
X13A Yucca 90.96 49 P P 03 28 24.8 +1.0
baz=91,SNR=9.3
M05C Lookout 91.00 40 ⇑P P 03 28 23.5 -0.3
baz=91,SNR=10
Y14A Wickenburg 91.08 50 ⇑P P 03 28 24.8 +0.5
baz=91,SNR=8.0
J02A Umpqua 91.09 38 ⇑P P 03 28 24.2 +0.1
baz=91
116A Eloy 91.10 52 ⇑P P 03 28 25.2 +0.8
baz=91,SNR=5.3
L04A Klamath Falls 91.15 39 P P 03 28 24.4 -0.1
baz=91,SNR=8.0
Q08A Gabbs 91.16 44 ⇓P P 03 28 24.3 -0.3
baz=91,SNR=8.0
217A Green Valley 91.22 53 ⇓P P 03 28 25.8 +0.8
baz=91,SNR=8.1
W13A Hualapai Mount 91.24 49 ⇓P P 03 28 25.1 0.0
baz=91,SNR=6.0
M06C Likely Place G 91.26 41 ⇓P P 03 28 24.6 -0.4
baz=91
R09A Tonopah 91.26 45 ⇑P P 03 28 24.9 -0.2
baz=91
N06A Buffalo Meadow 91.31 41 P P 03 28 24.9 -0.3
baz=91,SNR=12
S10A Tonopah Range, 91.34 45 P P 03 28 25.3 -0.1
baz=91,SNR=13
J03A Ideyld Park 91.41 38 ⇓P P 03 28 26.2 +0.6
baz=92
X14A Yava 91.49 50 P P 03 28 26.8 +0.5
baz=92,SNR=9.0
Y15A Casa Rosa Ranc 91.53 50 ⇓P P 03 28 27.0 +0.6
baz=92,SNR=6.2
K04A Chilquin 91.54 39 ⇑P P 03 28 26.1 -0.2
baz=92
TUC Tucson 91.57 53 eP P 03 28 27.1 +0.5
comp=Z,20nm,1.4s,mb4.9
TUC Tucson 91.57 53 eP P 03 28 27.1 +0.5
TUC pmax pmax
comp=Z,21nm,1.4s,mb4.9
318A Bisbee 91.58 54 ⇓P P 03 28 27.5 +0.8
baz=92,SNR=6.6
L05A Lakeview 91.64 40 ⇑P P 03 28 27.0 +0.3
baz=92,SNR=11
U12A Valley of Fire 91.66 47 ⇓P P 03 28 27.2 +0.2
baz=92
I03A Eugene 91.67 37 ⇓P P 03 28 27.6 +0.9
baz=92
S11A Rachel 91.68 46 ⇓P P 03 28 26.9 -0.2
baz=92
T11A Corn Creek, Al 91.75 46 P P 03 28 27.8 +0.4
baz=92,SNR=14
R10A Warm Springs 91.75 45 ⇑P P 03 28 27.5 +0.1
baz=92
Z16A Peralta Trail, 91.76 51 ⇑P P 03 28 28.2 +0.7
baz=92
J04A Umpqua Nationa 91.77 38 ⇑P P 03 28 27.3 0.0
baz=92
W14A Seligman 91.82 49 P P 03 28 28.5 +0.8
baz=92,SNR=6.5
N07B Gerlach 91.82 42 ⇓P P 03 28 27.2 -0.4
baz=92
MOD Modoc 91.83 40 eP P 03 28 26.4 -1.2
comp=Z,30nm,1.1s,mb5.1
MOD sP sP 03 30 49.7 +4.3
MOD Modoc 91.83 40 ⇑P P 03 28 27.9 +0.3
baz=92,SNR=18
X15A Humboldt 91.92 50 ⇓P P 03 28 29.1 +0.9
baz=92,SNR=6.1
I04A Tendick Farm, 91.99 38 ⇑P P 03 28 28.1 -0.2
baz=92
U13A Pakoon Wash 92.01 48 ⇓P P 03 28 28.7 +0.1
baz=92,SNR=7.6
319A Douglas 92.03 54 ⇑P P 03 28 29.3 +0.5
baz=92
Q10A Clear Creek Ra 92.04 45 ⇑P P 03 28 28.9 +0.2
baz=92
Y16A Circle Bar Ran 92.05 51 P P 03 28 29.7 +0.8
baz=92,SNR=9.9
K05A Summer Lake 92.06 39 P P 03 28 29.2 +0.5
baz=92,SNR=14
V14A Boquillas Ranc 92.07 49 P P 03 28 29.4 +0.6
baz=92,SNR=9.2
M07A Soldier Meadow 92.11 41 ⇓P P 03 28 28.9 0.0
baz=92,SNR=7.1
H03A Soap Creek Ran 92.15 37 ⇑P P 03 28 29.4 +0.4
baz=92
S12A Delamar Landin 92.21 46 ⇑P P 03 28 30.1 +0.7
baz=92
R11A Troy Canyon, C 92.23 45 ⇓P P 03 28 29.7 +0.2
baz=92
J05A Fort Rock 92.26 39 ⇑P P 03 28 29.7 +0.2
baz=92,SNR=8.8
N08A GE Springer Mi 92.30 42 P P 03 28 29.6 -0.2
baz=92,SNR=14
X16A Lo Mia Camp, P 92.40 51 ⇑P P 03 28 31.0 +0.6
baz=92,SNR=5.5
T13A Saint George 92.42 47 ⇓P P 03 28 30.6 +0.2
baz=92
L07A Adell 92.44 41 ⇑P P 03 28 30.6 +0.2
baz=92,SNR=13
O09A Fish Creek Ran 92.44 43 ⇑P P 03 28 30.3 -0.2
baz=92
K06A Valley Falls 92.46 40 P P 03 28 30.3 -0.2
baz=93,SNR=12
Q11A Duckwater 92.50 45 P P 03 28 30.4 -0.3
baz=93,SNR=6.2
U14A Mt Trumbull 92.50 48 ⇑P P 03 28 31.0 +0.2
baz=93,SNR=10
P10A Eureka 92.52 44 ⇑P P 03 28 30.6 -0.2
baz=93
BJI Beijing 92.59 317 P P 03 28 30.1 -1.1
BJI AP pP 03 30 02.8 -3.6
BJI XP sP 03 30 44.9 -4.0
BJI S S 03 39 01.8 +3.0
BJI AMB AMB
comp=Z,25nm,1.7s,mb4.9
BJI AMB AMB
comp=Z,329nm,4.4s
M08A Happy Creek Ra 92.60 42 ⇑P P 03 28 31.4 +0.2
baz=93,SNR=7.8
N09A Rock Creek Ran 92.69 42 ⇑P P 03 28 31.4 -0.2
baz=93
H04A Detroit Lake 92.72 37 ⇑P P 03 28 31.5 -0.2
baz=93
KMI Kunming 92.73 298 P P 03 28 33.4 +1.2
KMI AP pP 03 30 03.3 -4.1
KMI XP sP 03 30 42.3 -7.7
KMI PP PP 03 32 25.3 +4.1
KMI SKS 03 38 28.4
KMI S S 03 39 02.8 +2.1
KMI XS sS 03 41 41.9 -9.4
KMI SS SS 03 45 32.9 +7.1
KMI AMB AMB
comp=Z,26nm,1.2s,mb5.0
KMI AMB AMB
comp=Z,142nm,3.1s
KMI LR LR
comp=N,130nm,18.1s
KMI LR LR
comp=E,140nm,16.8s
KMI LR LR
comp=Z,140nm,19.4s
S13A Holt Ranch, En 92.80 47 ⇓P P 03 28 32.4 +0.2
baz=93,SNR=8.8
R12A Pony Springs, 92.81 46 ⇓P P 03 28 32.4 +0.2
baz=93
J06A Christmas Vall 92.82 39 ⇓P P 03 28 31.6 -0.5
baz=93,SNR=10
I05A Bend 92.84 38 ⇑P P 03 28 32.1 -0.1
baz=93,SNR=5.2
O10A Cortez Mining, 92.93 43 ⇓P P 03 28 32.7 0.0
baz=93
G04A Mulino 92.93 37 ⇓P P 03 28 32.7 +0.1
baz=93
K07A Rock Creek Ran 92.94 40 P P 03 28 32.9 +0.2
baz=93,SNR=13
WVOR Wild Horse Val 93.11 41 eP P 03 28 32.7 -0.7
comp=Z,29nm,1.5s,mb5.0
WVOR sP sP 03 30 55.4 +4.2
WVOR Wild Horse Val 93.11 41 eP P 03 28 32.7 -0.8
WVOR pmax pmax
comp=Z,29nm,1.5s,mb5.0
L08A Fields 93.11 41 P P 03 28 33.3 -0.2
baz=93,SNR=8.8
M09A Marrel Ranch, 93.11 42 ⇑P P 03 28 33.4 -0.1
baz=93
WUAZ Wupatki 93.11 50 ⇑P P 03 28 34.1 +0.4
baz=93
Q12A Willow Creek R 93.12 45 ⇓P P 03 28 33.3 -0.3
baz=93,SNR=5.7
H05A Madras 93.20 38 ⇓P P 03 28 33.5 -0.3
baz=93
I06A Prineville 93.25 39 ⇓P P 03 28 34.2 +0.1
baz=93,SNR=14
O11A Cowboy Ranch, 93.32 44 P P 03 28 34.4 -0.1
baz=93,SNR=8.6
P12A McGill 93.35 45 ⇓P P 03 28 34.7 +0.1
baz=93
J07A Hines 93.36 40 ⇑P P 03 28 34.1 -0.4
baz=93,SNR=7.2
L09A Wilkinson Ranc 93.38 42 ⇑P P 03 28 34.4 -0.3
baz=94,SNR=7.5
K08A Mann Creek Ran 93.39 41 ⇓P P 03 28 34.4 -0.3
baz=94,SNR=8.0
XAN Xi'an 93.43 308 P P 03 28 35.8 +0.6
XAN AMB AMB
comp=Z,17nm,1.8s,mb4.7
F04A Amboy 93.47 36 ⇓P P 03 28 34.6 -0.4
baz=94
M10A I.L. Ranch, Tu 93.69 42 ⇓P P 03 28 36.2 0.0
baz=94,SNR=12
H06A Lindquist Farm 93.72 38 ⇓P P 03 28 35.6 -0.6
baz=94,SNR=6.8
I07A Izee 93.73 39 ⇑P P 03 28 36.1 -0.1
baz=94,SNR=6.9
NLWA Neilton Lookou 93.77 35 ⇑P P 03 28 36.8 +0.4
baz=94
K09A Rome 93.79 41 P P 03 28 36.3 -0.3
baz=94,SNR=14
J08A Circle Bar Ran 93.81 40 P P 03 28 36.8 +0.2
baz=94,SNR=8.9
P13A Bates Ranch, G 93.87 45 ⇑P P 03 28 36.8 -0.3
baz=94,SNR=7.7
H07A Lands Inn, Kim 94.03 39 ⇓P P 03 28 37.1 -0.5
baz=94
M11A Holland Ranch, 94.07 43 ⇓P P 03 28 38.0 +0.1
baz=94,SNR=6.4
L10A Juniper Basin 94.09 42 P P 03 28 37.8 -0.2
baz=94,SNR=15
N12A Clover Valley, 94.14 44 ⇓P P 03 28 38.0 -0.3
baz=94
MA2 Magadan 94.19 346⇑eP P 03 28 36.4 -1.6
MA2 Magadan 94.19 346 eP P 03 28 36.2 -1.8
MA2 pmax pmax
comp=Z,20nm,1.1s,mb5.1
J09A Fry Pan Ranch, 94.19 40 ⇓P P 03 28 37.9 -0.5
baz=94,SNR=6.9
K10A MacKenzie Ranc 94.32 41 P P 03 28 38.7 -0.3
baz=94,SNR=9.7
G07A Ruggs Ranch, H 94.43 38 ⇓P P 03 28 38.8 -0.7
baz=94
L11A Cat Creek Ranc 94.56 42 ⇓P P 03 28 40.0 -0.1
baz=95,SNR=6.2
M12A Wells 94.57 43 ⇑P P 03 28 39.3 -0.9
baz=95,SNR=7.1
I09A Lost Marbles R 94.61 40 ⇑P P 03 28 39.7 -0.6
baz=95
E06A Yakima 94.61 37 ⇓P P 03 28 40.0 -0.2
baz=95
N13A Wendover, West 94.64 44 ⇓P P 03 28 40.2 -0.3
baz=95
K11A Parker Ranch, 94.78 42 ⇓P P 03 28 41.0 -0.1
baz=95,SNR=7.3
G08A Pilot Rock 94.82 38 ⇓P P 03 28 40.8 -0.4
baz=95,SNR=6.2
TXAR Lajitas Array 94.84 58 P P 03 28 42.1 +0.4
comp=Z,0.2nm,0.5s,baz=213,slow=4.3,SNR=4.3
TXAR pP pP 03 30 18.1 +1.0
comp=Z,1.4nm,1.0s,baz=216,slow=6.2,SNR=3.8
L12A House Creek Ra 94.97 43 ⇓P P 03 28 41.9 0.0
baz=95,SNR=6.5
M13A Montello 94.97 44 P P 03 28 42.1 +0.1
baz=95,SNR=9.0
C05A Tolt Reservoir 95.04 35 ⇑P P 03 28 42.3 +0.1
baz=95
DUG Dugway 95.06 45 ⇓P P 03 28 41.9 -0.5
baz=95
H09A Durkee 95.10 40 ⇓P P 03 28 42.0 -0.5
baz=95
E07A Sunnyside 95.20 37 ⇓P P 03 28 43.0 +0.1
baz=95
CD2 Chengdu 95.20 303 P P 03 28 44.1 +0.8
CD2 AP pP 03 30 13.4 -5.3
CD2 XP sP 03 30 53.0 -8.2
CD2 PP PP 03 32 42.0 +1.8
CD2 SKS 03 38 41.3
CD2 S S 03 39 22.1 +0.2
CD2 XS sS 03 42 01.3 -12
CD2 SS SS 03 46 04.3 +3.6
CD2 AMB AMB
comp=Z,20nm,0.9s,mb5.2
CD2 AMB AMB
comp=Z,230nm,4.1s
CD2 LR LR
comp=Z,170nm,4.8s
MFID Camas Ranch 95.31 41 P P 03 28 43.0 -0.5
baz=95,SNR=7.1
K12A Draper Farm, C 95.34 42 ⇑P P 03 28 43.2 -0.5
baz=95
M14A Sheep Mountain 95.54 44 P P 03 28 44.3 -0.3
baz=96,SNR=9.5
I11A Placerville 95.56 41 ⇓P P 03 28 43.9 -0.7
baz=96
J12A Stokes Ranch, 95.62 42 P P 03 28 44.6 -0.3
baz=96,SNR=7.5
N15A Stansbury Isla 95.66 45 ⇓P P 03 28 44.8 -0.4
baz=96
G10A Bishop Farm, J 95.80 39 ⇑P P 03 28 44.4 -1.3
baz=96
K13A Stover Farm, H 95.82 43 P P 03 28 45.9 0.0
baz=96,SNR=6.4
HHC Hu-ho-hao-te 95.84 315 eP P 03 28 47.4 +1.5
HHC AP pP 03 30 17.6 -3.8
HHC XP sP 03 30 54.5 -9.4
HHC PP PP 03 32 49.5 +4.6
HHC SKS 03 38 47.0
HHC S S 03 39 35.1 +8.2
HHC XS sS 03 42 10.8 -7.5
HHC SS SS 03 46 15.4 +6.1
HHC AMB AMB
comp=Z,22nm,0.3s,mb5.8
HHC AMB AMB
comp=Z,78nm,3.8s
HHC LR LR
comp=N,142nm,17.7s
HHC LR LR
comp=E,225nm,20.1s
HHC LR LR
comp=Z,97nm,10.4s
D08A Wollman Farm, 96.01 37 ⇑P P 03 28 46.0 -0.5
baz=96
H11A Donnelly 96.03 40 P P 03 28 46.7 0.0
baz=96,SNR=9.5
M15A Larsen Ranch, 96.05 44 ⇑P P 03 28 46.5 -0.4
baz=96
F10A Beach Ranch, E 96.19 39 ⇑P P 03 28 47.2 -0.1
baz=96
HLID Hailey 96.20 42 ⇑P P 03 28 47.5 0.0
baz=96,SNR=5.2
J13A Cove Ranch, Pi 96.24 42 P P 03 28 48.0 +0.4
baz=96,SNR=7.8
K14A Jones Ranch, D 96.29 43 ⇑P P 03 28 48.1 +0.2
baz=96
D09A Jones Farm, Ri 96.33 37 ⇓P P 03 28 47.7 -0.3
baz=96
G11A Walters Elk Ra 96.33 40 P P 03 28 48.2 +0.2
baz=96,SNR=5.4
B07A Winthrop 96.34 36 ⇓P P 03 28 47.8 -0.2
baz=96
H12A Diamond D Ranc 96.57 41 P P 03 28 48.9 -0.3
baz=97,SNR=6.0
I13A Wildhorse Cree 96.59 42 ⇑P P 03 28 49.2 0.0
baz=97
A07A Ashnola River, 96.60 35 ⇑P P 03 28 49.6 +0.5
baz=97
F11A Grangeville 96.71 39 ⇑P P 03 28 49.6 -0.1
baz=97
H13A Challis 96.92 41 ⇑P P 03 28 50.5 -0.3
baz=97
SEY Seymchan 96.96 348⇑eP P 03 28 48.9 -1.5
A08A Turner Farm, O 97.08 36 ⇓P P 03 28 51.3 0.0
baz=97
F12A Elk City 97.11 40 ⇓P P 03 28 50.8 -0.8
baz=97
G13A Cobalt 97.26 41 ⇑P P 03 28 50.9 -1.3
baz=97
B09A Rice 97.30 36 ⇓P P 03 28 52.0 -0.3
baz=97
F13A Darby 97.64 40 ⇑P P 03 28 52.6 -1.3
baz=98
LZH Lanzhou 98.02 308 eP P 03 28 57.3 +1.4
LZH AP pP 03 30 27.5 -3.9
LZH XP sP 03 31 04.0 -10
LZH PP PP 03 33 03.6 +2.0
LZH SKS 03 38 57.1
LZH eS S 03 39 47.1 +1.5
LZH XS sS 03 42 30.0 -7.5
LZH SS SS 03 46 40.0 +0.1
LZH AMB AMB
comp=Z,42nm,1.5s,mb5.5
LZH AMB AMB
comp=Z,113nm,5.1s

B11A **Sandpoint** 98.22 37 ⇑P P 03 28 55.8 -0.6
baz=98
G15A **Dillon** 98.28 41 ⇑P Pdif 03 28 56.2 -0.8
baz=98
PDAR **Pinedale Array** 98.56 45 P Pdif 03 28 57.0 -1.3
comp=Z,1.2nm,0.7s,baz=205,slow=3.1,SNR=9.4
BOZ **Bozeman (W)** 99.05 41 ⇓P Pdif 03 28 59.4 -1.1
baz=99
LPAZ **La Paz** 99.33 116 P Pdif 03 29 03.5 +1.7
comp=Z,0.6nm,0.6s,baz=235,slow=8.7,SNR=3.8
BILL **Bilibino** 100.10 355⇑*e*P Pdif 03 29 03.4 -1.7
BILL *i* 03 33 12.1
BILL *e*S SKSac 03 38 59.4 -2.0
BILL *e*SS SS 03 47 01.3 -6.2
BILL pmax pmax
comp=Z,7.0nm,0.9s
GTA **Gaotai** 102.49 309 *e*P Pdif 03 29 15.8 0.0
GTA AP 03 30 44.4
GTA XP 03 31 24.5
GTA PP PP 03 33 35.5 +0.5
GTA SKS 03 39 14.5
GTA S Sdif 03 40 22.0 -1.0
GTA XS 03 43 00.1
GTA SS SS 03 47 42.5 +1.0
GTA AMB AMB
comp=Z,2.0nm,0.9s
GTA AMB AMB
comp=Z,117nm,10.7s
GTA LR LR
comp=N,114nm,19.1s
GTA LR LR
comp=E,115nm,18.3s
GTA LR LR
comp=Z,91nm,16.4s
SONM **Songino Array** 102.90 319 P Pdif 03 29 16.4 -1.2
comp=Z,1.2nm,0.8s,baz=117,slow=5.2,SNR=6.1
SONM PKiKP PKiKP 03 33 34.7 -0.3
comp=Z,3.5nm,0.9s,baz=118,slow=3.7,SNR=6.8
INK **Inuvik** 105.72 16 PKiKP PKiKP 03 33 38.5 -1.0
comp=Z,4.5nm,1.1s,baz=210,slow=4.0,SNR=6.2
INK PP PP 03 33 52.2 -6.0
comp=Z,3.9nm,0.9s,baz=183,slow=7.5,SNR=5.5
ZAK **Zakamensk** 105.99 320 *e*P Pdif 03 29 30.2 -1.1
ZAK pmax pmax
comp=Z,1.0nm,1.1s
ZAK pmax pmax
comp=Z,1.0nm,1.0s
ZAK pmax pmax
comp=Z,5.0nm,1.7s
YKA **Yellowknife Ar** 107.61 26 Pdif Pdif 03 29 36.2 -2.4
YKA PKPdf PKiKP 03 33 41.9 -1.4
YKA PP PP 03 34 08.1 -3.9
YKA PKKPbc PKKPbc 03 44 58.4 -1.8
YKA PKKPab PKKPab 03 45 13.4 +1.5
YKA P'P' 03 53 22.6
YKA **Yellowknife Ar** 107.61 26 P Pdif 03 29 36.2 -2.4
YKA 03 34 08.1
YKA **Yellowknife Ar** 107.61 26 Pdiff Pdif 03 29 36.2 -2.4
comp=Z,0.4nm,0.9s,baz=237,slow=4.7,SNR=4.2
YKA PKiKP PKiKP 03 33 41.8 -1.4
comp=Z,2.9nm,0.9s,baz=256,slow=1.6,SNR=17
YKA PP PP 03 34 08.1 -3.9
comp=Z,1.0nm,1.0s,baz=240,slow=6.4,SNR=4.1
YKA pPKiKP 03 35 26.2
comp=Z,0.3nm,0.5s,baz=260,slow=1.4,SNR=4.3
YKA PKKPbc PKKPbc 03 44 58.4 -1.8
comp=Z,0.7nm,0.8s,baz=44,slow=3.2,SNR=12
YKA PKKPab PKKPab 03 45 13.4 +1.5
comp=Z,1.1nm,1.0s,baz=45,slow=4.9,SNR=8.2
YKA PKPPKP 03 53 22.6
comp=Z,0.4nm,0.9s,baz=43,slow=1.7,SNR=4.5
ULM **Lac du Bonnet** 110.47 43 PKiKP PKiKP 03 33 46.9 -2.1
comp=Z,2.3nm,0.8s,baz=292,slow=0.8,SNR=4.7
ULM PKKPab PKKPab 03 45 00.9 +1.0
comp=Z,3.1nm,1.0s,baz=83,slow=5.0,SNR=5.0
WMQ **Urumqi** 112.57 308 *e*PKP PKiKP 03 33 55.8 +2.6
WMQ PP PP 03 34 54.0 +6.1
WMQ PP PP
comp=Z,130nm,4.0s
BDFB **Brasilia** 114.27 129 PKKPbc PKKPbc 03 44 38.6 +0.9
comp=Z,1.2nm,0.9s,baz=144,slow=19,SNR=4.1
BDFB PKKPab PKKPab 03 44 46.3 -1.5
comp=Z,2.4nm,1.0s,baz=298,slow=23,SNR=4.9
BOSA **Boshof** 115.13 205 PKP PKPdf 03 33 56.9 -1.9
BOSA PKKPab PKKPab 03 44 39.9 -5.1
BOSA **Boshof** 115.13 205 PKP PKPdf 03 33 56.9 -1.9
comp=Z,3.7nm,1.0s,baz=224,slow=6.4,SNR=3.2
BOSA PKKPab PKKPab 03 44 39.9 -5.1
comp=Z,3.0nm,0.9s,baz=89,slow=3.3,SNR=5.1
MK31 **Makanchi Array** 117.19 310 *e*PKPdf PKPdf 03 34 00.3 -1.7
MKAR **Makanchi Array** 117.19 310⇑*i*PKIKP PKPdf 03 34 00.7 -1.3
MKAR **Makanchi Array** 117.19 310 PKhKP 03 33 52.8
comp=Z,0.2nm,0.4s,baz=102,slow=5.1,SNR=3.8
MKAR PKP PKPdf 03 34 00.7 -1.3
comp=Z,12nm,0.9s,baz=74,slow=4.3,SNR=39
MKAR PP PP 03 35 12.6 -7.4
comp=Z,3.6nm,0.9s,baz=97,slow=9.9,SNR=5.0
MKAR PKKPbc PKKPbc 03 44 27.9 -0.1
comp=Z,0.9nm,0.6s,baz=331,slow=1.9,SNR=6.9
ZAA0 **Zalesovo Array** 117.80 318 *e*P PKPdf 03 34 00.4 -2.5
ZALV **Zalesovo Beam** 117.80 318 PKP PKPdf 03 34 01.1 -1.9
comp=Z,3.9nm,0.3s,baz=172,slow=1.8,SNR=16
ZALV PP PP 03 35 12.7 -11
comp=Z,0.7nm,0.4s,baz=108,slow=4.8,SNR=3.7
ZAL **Zalesovo** 117.81 318 PKIKP PKPdf 03 34 01.1 -1.8
NVS **Novosibirsk** 118.93 319 *e*PKIKP PKPdf 03 34 02.5 -2.6
NVS *e*S SKSac 03 40 14.5 -5.9
NVS pmax pmax
comp=Z,29nm,1.3s
NVS pmax pmax
comp=N,6.0nm,1.1s
NVS pmax pmax
comp=E,8.0nm,1.3s
NVS smax
comp=N,10.0nm,1.9s
NVS smax
comp=E,25nm,1.9s
RES **Resolute Bay** 119.22 18 *e*PKPdf PKPdf 03 34 03.0 -2.1
RES *ep*PKPdf pPKPdf 03 35 46.5 +0.8
ULHL **Ulahol** 119.92 304 P PKPdf 03 34 07.3 -0.1
SNR=5.7
TKM2 **Tokmak 2** 120.57 304 *e*PKPdf PKPdf 03 34 07.7 -0.9
TKM2 **Tokmak 2** 120.57 304 P PKPdf 03 34 07.9 -0.7
SNR=22
KZA **Kyzart** 120.57 303 P PKPdf 03 34 08.6 -0.1
SNR=15
KURK **Kurchatov** 120.62 314⇑*e*PKP PKPdf 03 34 06.6 -1.8
UCH **Uchtor** 121.14 303 *e*PKPdf PKPdf 03 34 09.8 0.0
UCH **Uchtor** 121.14 303 P PKPdf 03 34 10.3 +0.5
SNR=36
CHMS **Chumysh** 121.19 304 P PKPdf 03 34 08.7 -1.1
SNR=11
FRU **Bishkek** 121.24 304⇑*i*PKIKP PKPdf 03 34 09.0 -0.9
FRU pmax pmax
comp=Z,60nm,1.4s
AAK **Ala-Archa** 121.27 304 P PKPdf 03 34 09.5 -0.4
SNR=12
USP **Ospenovka** 121.44 304 P PKPdf 03 34 09.2 -1.1
SNR=18
AML **Almayashu** 121.70 303 *e*PKPdf PKPdf 03 34 10.9 +0.1
AML **Almayashu** 121.70 303 P PKPdf 03 34 11.1 +0.3
SNR=29
EKS2 **Erkin-Say** 121.78 303 *e*PKPdf PKPdf 03 34 09.7 -1.3
EKS2 **Erkin-Say** 121.78 303 P PKPdf 03 34 10.8 -0.1
SNR=11
KBL **Kabul** 122.97 293 *e*PKPdf PKPdf 03 34 13.1 -0.4
KBL *e*P 03 35 56.6
BRVK **Borovoye** 126.12 315⇑*e*PKP PKPdf 03 34 17.6 -1.3
TSUM **Tsumeb** 126.41 201 *e*PKPdf PKPdf 03 34 19.4 -1.2
SCHQ **Schefferville** 128.65 43 PKP PKPdf 03 34 22.3 -1.4
SCHQ pPKP pPKPdf 03 36 05.2 +0.8
SCHQ **Schefferville** 128.65 43 PKP PKPdf 03 34 22.3 -1.4
comp=Z,18nm,1.1s,baz=324,slow=3.6,SNR=7.4
SCHQ pPKP pPKPdf 03 36 05.2 +0.8
comp=Z,3.5nm,0.7s,baz=245,slow=5.2,SNR=4.7
KMBO **Kilima Mbogo** 131.62 235 PKP PKPdf 03 34 32.5 +1.8
comp=Z,5.0nm,1.0s,baz=44,slow=4.8,SNR=7.4
KMBO SKPbc SKPbc 03 37 15.9 -0.9
comp=Z,5.5nm,0.8s,baz=75,slow=2.7,SNR=11
AB31 **Akbulak array** 132.33 310⇑*e*PKP PKPdf 03 34 29.7 -1.2
ARU **Arti** 132.93 319⇑*e*PKP PKPdf 03 34 31.1 -0.6
ARU **Arti** 132.93 319 *i* PKIKP PKPdf 03 34 30.8 -0.9
ARU 03 36 58.2
SPB4 **Spitsbergen Ar** 133.00 355 *e*PKPdf PKPdf 03 34 30.2 -1.2
SOKR **Solikamsk** 133.42 324 *e*PKIKP PKPdf 03 34 32.1 -0.5
SOKR pmax pmax
comp=Z,30nm,1.0s
AKTK **Aktyubinsk** 133.59 311 PKP PKPdf 03 34 32.6 -0.5
AKTK pPKP pPKPdf 03 36 16.3 +2.4
AKTO **Aktyubinsk** 133.59 311 PKP PKPdf 03 34 32.6 -0.5
comp=Z,13nm,0.9s,baz=103,slow=1.8,SNR=27
AKTO pPKP pPKPdf 03 36 16.3 +2.4
comp=Z,3.1nm,0.7s,baz=56,slow=3.6,SNR=3.1
ARCES **ARCESS Array B** 139.56 346 PKP PKPdf 03 34 35.2 -8.5
ARCES PKP PKPdf 03 34 43.5 -0.2
ARCES pPKP pPKPdf 03 36 24.9 +0.5
ARCES SKPbc SKPbc 03 37 38.5 -0.9
ARCES **ARCESS Array B** 139.56 346 PKhKP 03 34 35.2
comp=Z,2.3nm,0.3s,baz=58,slow=1.9,SNR=65
ARCES PKP PKPdf 03 34 43.5 -0.2
comp=Z,15nm,0.8s,baz=31,slow=2.8,SNR=9.8
ARCES pPKP pPKPdf 03 36 24.9 +0.5
comp=Z,4.6nm,0.8s,baz=48,slow=1.3,SNR=3.6
ARCES SKPbc SKPbc 03 37 38.5 -0.9
comp=Z,15nm,1.0s,baz=15,slow=3.7,SNR=5.1
TMCR **Tamitsa** 139.87 335 *e*PKHKP 03 34 34.0
TMCR *e* 03 34 45.1
KTK1 **Kautokeino** 140.44 347 *e*P PKPdf 03 34 38.9 -6.4
KTK1 **Kautokeino** 140.44 347 *e* PKPdf 03 34 38.9 -6.4
KTK1 AMb AMB 03 34 42.5
comp=Z,109nm,1.9s
TRO **Tromso** 140.65 350 *e* PKPdf 03 34 37.6 -8.1
DGRG **David-gareji** 142.49 298 P PKPdf 03 34 47.6 -2.2
MTA **Mtatsminda** 142.93 298 P PKPdf 03 34 47.7 -2.9
TBLG **Delisi** 142.97 298 *e*PKIKP PKPdf 03 34 48.1 -2.5
TBLG **Delisi** 142.97 298 P PKPdf 03 34 48.2 -2.5
JOF **Joensuu** 143.00 336 *e*pkp PKPdf 03 34 44.7 -5.3
comp=Z,4.8nm,0.3s
GOR **Gori** 143.43 299 P PKPdf 03 34 49.7 -1.7
VRHR **Novokhopersk** 143.79 314 *e*PKHKP 03 34 48.3
VRHR pmax pmax
comp=Z,110nm,1.2s
VRHR pmax pmax
comp=N,20nm,0.8s
VRHR pmax pmax
comp=E,20nm,0.7s
ONI **Oni** 143.90 300 P PKPdf 03 34 51.1 -1.1
MSL **Mosul** 144.00 289 *i* x x 03 34 51.0
MOS **Moscow** 144.36 323*d*PKIKP PKPdf 03 34 51.7 -0.9
MOS *e* 03 38 09.4
MOS pmax pmax
comp=Z,1μm,1.6s
MOS pmax pmax
comp=Z,668nm,1.3s
KIV **Kislovodsk** 144.37 302 ⇓P PKPdf 03 34 51.8 -1.2
KIV **Kislovodsk** 144.37 302⇓*i*P PKPdf 03 34 51.8 -1.2
MOR8 **Moi Rana** 144.51 350 *e*P PKPdf 03 34 49.8 -2.7
MOR8 AMb AMB 03 34 53.0
comp=Z,275nm,1.6s
STOK **Stokkvaagen** 144.57 351 *e*P PKPdf 03 34 51.3 -1.3
STOK AMb AMB 03 34 52.7
comp=Z,650nm,1.0s
BORG **Borgarnes** 144.61 15 PKP PKPdf 03 34 52.6 -0.1
comp=Z,78nm,0.9s,baz=286,slow=0.5,SNR=22
VOR **Voronezh** 145.04 316 *e*PKIKP PKPdf 03 34 53.5 -0.4
VOR pmax pmax
comp=Z,750nm,1.8s
OBN **Obninsk** 145.18 323⇑*e*PKP PKPdf 03 34 52.7 -1.3
OBN **Obninsk** 145.18 323⇑*i*PKIKP PKPdf 03 34 52.6 -1.4
OBN *e* 03 38 12.8
OBN *e* 03 41 24.6
OBN *e*SS SS 03 56 27.9 -6.4
OBN pmax pmax
comp=Z,549nm,1.6s
KAF **Kangasniemi** 145.21 338 *e*pkp PKPdf 03 34 51.6 -2.2
comp=Z,12nm,0.3s,baz=62,slow=3.0
VRSR **Storozhevoye** 145.22 315 *i* PKIKP PKPdf 03 34 53.9 -0.3
VRSR pmax pmax
comp=Z,50nm,1.0s
VRSR pmax pmax
comp=N,9.0nm,0.7s
VRSR pmax pmax
comp=E,30nm,1.0s
VORD **Divnogorie** 145.23 315 *e*PKP2 PKPab 03 34 54.2 -1.5
VORD pmax pmax
comp=Z,130nm,0.6s
VORD pmax pmax
comp=N,50nm,0.4s
VORD pmax pmax
comp=E,70nm,0.5s
PUL **Pulkovo** 145.44 333⇑*e*PKIKP PKPdf 03 34 53.6 -0.7
FIA1 **FINESS Array S** 145.78 338 *e*PKPdf PKPdf 03 34 54.2 -0.6
FIA1 *ep*PKPdf pPKPdf 03 36 38.4 +2.6
FINES **FINESS Array B** 145.78 338 PKPbc PKPbc 03 34 54.2 -2.0
comp=E,122nm,0.7s,baz=51,slow=4.9,SNR=307
FINES pPKPbc 03 36 35.6
comp=E,33nm,0.8s,baz=49,slow=5.8,SNR=4.1
NSS **Namsos** 146.42 350 *e*P PKPdf 03 34 55.3 -0.6
NSS AMb AMB 03 34 58.5
comp=Z,260nm,1.3s
SOC **Sochi** 146.55 302*d*PKP2 PKPab 03 34 57.9 -3.2
SOC *e* 03 38 24.2
SOC *i* SSS 04 02 24.4
SOC pmax pmax
comp=Z,81nm,0.9s
MALT **Malatya** 147.82 292 *e*PKPdf PKPdf 03 34 58.5 -0.5
MALT *e*PKPbc PKPbc 03 35 02.8 +0.2
MALT **Malatya** 147.82 292 ⇓*i*P PKPdf 03 35 02.6 +3.6
ANN **Anapa** 147.98 305 *i* PKIKP PKPdf 03 35 01.2 +2.2
ANN *e* 03 35 05.6
ANN *e* 03 36 38.2
ANN pmax pmax
comp=Z,162nm,1.0s
ASF **Jabal al Asfar** 148.55 281 PKP PKPdf 03 35 00.6 +0.2
comp=Z,50nm,1.2s,baz=24,slow=2.9,SNR=4.9
ASF PKPbc PKPbc 03 35 05.0 +0.4
comp=Z,14nm,0.5s,baz=351,slow=1.5,SNR=38
MOL **Molde** 148.86 353 *e*P PKPdf 03 35 03.5 +3.7
DOMB **Dombas** 149.20 351 *e*P PKPdf 03 35 04.1 +3.7
DOMB AMb AMB 03 35 07.0
comp=Z,109nm,1.5s
HWQ **Hawqa** 149.62 284 *e*P PKPdf 03 35 06.9 +4.9
EIL **Elat** 149.70 275 PKP PKPdf 03 35 01.8 -0.5
comp=Z,6.1nm,1.0s,baz=22,slow=6.4,SNR=6.4
EIL PKPbc PKPbc 03 35 07.2 -0.3
comp=Z,86nm,1.1s,baz=62,slow=1.5,SNR=53
IZAR **Zarasai** 149.72 330 *e*P PKPdf 03 35 06.4 +4.9
IZAR AMb AMB 03 35 08.6
comp=Z,52nm,1.3s
IDID **Didziasalis** 149.79 329 *e*P PKPdf 03 35 06.3 +4.8
IDID AMb AMB 03 35 08.6
comp=Z,54nm,1.2s
MNK **Minsk** 149.80 327⇑*i*PKHKP 03 35 05.0
MNK pmax pmax
comp=Z,620nm,1.0s
BHL **Bhannes** 149.82 284 *e*P PKPbc 03 35 07.7 +0.1
NB2 **NORSAR Subarra** 149.84 349 PKP PKPbc 03 35 05.2 -1.6
comp=Z,145nm,1.1s,baz=19,slow=2.6
NB2 **NORSAR Subarra** 149.84 349 PKP PKPbc 03 35 05.2 -1.6
baz=19,slow=2.6
NOA **NORSAR Array B** 149.84 349 PKP PKPdf 03 35 00.3 -1.2
NOA PKPbc PKPbc 03 35 05.9 -0.8
NOA *ep*PKPbc pPKPbc 03 36 46.6 -0.2
NOA **NORSAR Array B** 149.84 349 PKP PKPdf 03 35 00.3 -1.2
comp=Z,46nm,1.3s,baz=15,slow=4.1,SNR=16
NOA PKPbc PKPbc 03 35 05.9 -0.8
comp=Z,41nm,0.8s,baz=16,slow=4.1,SNR=73
NOA *ep*PKPbc pPKPbc 03 36 46.6 -0.2
comp=Z,11nm,0.9s,baz=15,slow=4.2,SNR=4.3
MMAI **Mount Meron Ar** 149.92 282 PKPbc PKPbc 03 35 07.8 -0.1
comp=Z,17nm,0.4s,baz=69,slow=4.6,SNR=103
MMAI PKPab PKPab 03 35 15.8 +0.5
comp=Z,75nm,1.1s,baz=46,slow=6.0,SNR=14
MMAI *ep*PKPbc pPKPbc 03 36 49.1 +1.3
comp=Z,10nm,0.8s,baz=69,slow=4.8,SNR=2.8
IIGN **Ignalina** 149.99 329 *e*P PKPdf 03 35 06.9 +5.0
IIGN AMb AMB 03 35 09.2
comp=Z,60nm,1.2s
NAO01 **NORSAR Array S** 150.08 349 *e*PKPdf PKPdf 03 35 01.3 -0.5
NAO01 *e*PKPbc PKPbc 03 35 06.5 -0.9
NAO01 *e*PKPab PKPab 03 35 13.8 -1.1
HFS **Hagfors** 150.22 346 PKHKP PKPbc 03 35 06.0 -1.7
HFS 03 35 13.8
HFS **Hagfors** 150.22 346 PKPbc PKPbc 03 35 06.0 -1.7
comp=Z,24nm,0.3s,baz=220,slow=3.9,SNR=35
HFS PKPab PKPab 03 35 13.8 -1.8
comp=Z,9.4nm,0.6s,baz=66,slow=3.7,SNR=5.8
HFS *ep*PKPbc pPKPbc 03 36 48.2 +0.4
comp=Z,6.5nm,0.6s,baz=90,slow=4.3,SNR=2.5
SIM **Simferopol'** 150.25 306 *e*PKIKP PKPbc 03 35 08.5 +0.2
SIM *i* 03 35 16.6
SIM pmax pmax
comp=Z,57nm,1.0s
SIM pmax pmax
comp=Z,80nm,0.9s
HYA **Hoyanger** 150.37 354⇑*i*P PKPbc 03 35 08.2 +0.2
HYA AMb AMB 03 35 11.1
comp=Z,161nm,2.0s
ASK **Askoy** 151.13 354 *e*P PKPbc 03 35 09.0 -0.8
ASK AMb AMB 03 35 10.4
comp=Z,173nm,1.4s
AKASG **Malin Array Be** 151.18 319 PKIKP PKPdf 03 35 01.8 -2.1
AKASG 03 35 18.3
AKASG **Malin Array Be** 151.18 319 PKP PKPdf 03 35 01.8 -2.1
comp=Z,5.3nm,1.0s,baz=56,slow=1.6,SNR=17
AKASG PKPbc PKPbc 03 35 08.8 -1.5
comp=Z,10nm,0.4s,baz=48,slow=3.0,SNR=104
AKASG PKPab PKPab 03 35 18.3 -1.7
comp=Z,18nm,0.8s,baz=59,slow=3.3,SNR=14
AKASG pPKPbc pPKPbc 03 36 52.5 +2.1
comp=Z,18nm,1.0s,baz=58,slow=2.1,SNR=3.6
AKBB **Malin Array Si** 151.18 319 *e*PKPbc PKPbc 03 35 09.1 -1.1
AKBB *e*PKPab PKPab 03 35 18.6 -1.3
KIEV **Kiev** 151.20 319 *e*PKPbc PKPbc 03 35 09.1 -1.2
BER **Bergen** 151.22 354 *e*P PKPbc 03 35 10.1 +0.1
BER AMb AMB 03 35 11.0
comp=Z,141nm,1.3s
KONO **Kongsberg** 151.42 349⇓*i*P PKPbc 03 35 08.9 -1.6
KONO **Kongsberg** 151.42 349 *e*PKIKP PKPbc 03 35 09.7 -0.8
KONO *e* 03 35 19.4
ODD1 **Odda** 151.56 353 *e*P PKPbc 03 35 09.2 -1.6
ODD1 AMb AMB 03 35 10.5
comp=Z,116nm,1.3s
CSS **Prodhromos** 151.82 286 *e*PKPbc PKPbc 03 35 11.2 -0.9
CSS *e*PKPab PKPab 03 35 22.8 -0.4
BLS5 **Blasjo** 152.06 353⇓*i*P PKPbc 03 35 11.8 -0.1
BLS5 AMb AMB 03 35 13.2
comp=Z,41nm,1.4s
ANTO **Ankara** 152.12 296 ⇑P PKPdf 03 35 05.4 -0.3
ANTO **Ankara** 152.12 296⇑*i*P PKPdf 03 35 05.4 -0.3
SUW **Suwalki** 152.20 330 *e*PKPdfd PKPbc 03 35 04.1 -8.3
SUW *e*PKPbc PKPbc 03 35 11.5 -0.9
SUW *e*PKPab PKPab 03 35 22.8 -1.3
SUW **Suwalki** 152.20 330⇓*e*PKPdf PKPdf 03 35 04.1 -1.2
SUW *e*PKPbc PKPbc 03 35 11.5 -0.9
SUW *e*PKPab PKPab 03 35 22.8 -1.3
KMY **Karmoy** 152.39 354 *e*P PKPbc 03 35 11.8 -0.8
KMY AMb AMB 03 35 13.0
comp=Z,73nm,1.5s
KIS **Kishinev** 153.09 313 *i* PKIKP PKPbc 03 35 13.0 -1.6
KIS *i* 03 35 27.0
KIS pmax pmax
comp=Z,140nm,1.4s
KIS **Kishinev** 153.09 313 *i* UNK PKPbc 03 35 13.0 -1.6
KIS XM 03 35 14.0
comp=Z,100nm,1.4s
BSD **Bornholm Skovb** 154.37 340⇓*i*PKIKP PKPbc 03 35 15.9 -1.1
BSD *i* 03 35 31.3
BSD pmax pmax
comp=Z,29nm,1.0s
BSD **Bornholm Skovb** 154.37 340⇓*i*P PKPbc 03 35 15.9 -1.1
comp=Z,29nm,1.0s
BSD *i* 03 35 31.3
LVV **L'vov** 154.47 322 *e*PKIKP PKPbc 03 35 16.7 -0.7
LVV *e* 03 35 32.5
MUD **Monsted U'grnd** 154.53 348 *e*PKIKP PKPdf 03 35 07.2 -1.3
MUD *i* 03 35 33.8
MUD pmax pmax
comp=Z,30nm,1.6s
MUD **Monsted U'grnd** 154.53 348 *i* P PKPdf 03 35 07.2 -1.3
comp=Z,30nm,1.6s
MUD *i* 03 35 33.8
MUD *i* 03 39 49.0
DBIC **Dimbokro** 154.59 169 PKP PKPdf 03 35 07.9 -2.1
DBIC PKPbc PKPbc 03 35 18.8 0.0
DBIC PKPab PKPab 03 35 35.9 +0.7
DBIC pPKPab pPKPab 03 37 12.3 +0.9
DBIC **Dimbokro** 154.59 169 PKIKP PKPdf 03 35 07.9 -2.1
DBIC 03 35 18.8
DBIC 03 35 35.9
DBIC **Dimbokro** 154.59 169 PKP PKPdf 03 35 07.9 -2.1
comp=Z,15nm,1.1s,baz=205,slow=1.4,SNR=6.7
DBIC PKPbc PKPbc 03 35 18.8 0.0
comp=Z,5.5nm,0.9s,baz=330,slow=15,SNR=9.2
DBIC PKPab PKPab 03 35 35.9 +0.7
comp=Z,14nm,0.9s,baz=169,slow=3.7,SNR=8.5
DBIC pPKPab pPKPab 03 37 12.3 +0.9
comp=Z,22nm,0.9s,baz=157,slow=3.3,SNR=7.3
VRI **Vrincioaia** 154.87 312 PKP2 PKPab 03 35 36.1 +0.3
VRI **Vrincioaia** 154.87 312⇑*i*P PKPab 03 35 32.9 -2.9
PLOR **Plostina** 154.93 312 PKP2 PKPab 03 35 36.4 +0.4
PLOR **Plostina** 154.93 312⇓*i*P PKPdf 03 35 18.0 +8.6
GKP **Gorka Klasztor** 155.13 334 *e*PKP PKPab 03 35 35.6 -1.0
KWP **Kalwaria** 155.27 323 *e*PKPc PKPab 03 35 37.2 -0.2
KWP **Kalwaria** 155.27 323 ⇑P PKPdf 03 35 19.1 +9.4
KWP **Kalwaria** 155.27 323⇑*i*P PKPdf 03 35 19.1 +9.3
MLR **Muntele Rosu** 155.53 311 ⇑P PKPdf 03 35 08.1 -2.1
MLR **Muntele Rosu** 155.53 311 PKP PKPdf 03 35 08.6 -1.7
comp=Z,6.9nm,1.1s,baz=121,slow=5.5,SNR=4.7
MLR PKPab PKPab 03 35 38.6 0.0
comp=Z,18nm,0.9s,baz=354,slow=3.9,SNR=11
MLR **Muntele Rosu** 155.53 311⇑*i*P PKPdf 03 35 08.1 -2.1
KOLS **Kolonicke sedl** 155.92 322 *e*PKP PKPdf 03 35 09.8 -0.8
KOLS *e* 03 35 39.6
UZH **Uzhgorod** 156.09 321*d*PKIKP PKPdf 03 35 20.6 +10
UZH *i* 03 35 40.6
STHS **Stebnicka Huta** 156.15 324 *i* PKP PKPab 03 35 40.6 -0.6
OJC **Ojcow** 156.33 327 *e*PKP PKPab 03 35 41.2 -0.7
CRVS **Cervenica-Dubn** 156.36 322 *i* PKP PKPab 03 35 41.9 -0.2
EKA **Eskdalemuir Ar** 156.44 4 PKPab PKPab 03 35 40.0 -2.2
comp=Z,8.1nm,0.9s,baz=349,slow=2.9,SNR=14
NIE **Niedzica** 156.62 325 *e*PKP PKPab 03 35 43.1 -0.1
BSEG **Bad Segeberg** 156.65 344 *e*PKPdf PKPdf 03 35 10.4 -1.0
BSEG *e*PKPab PKPab 03 35 42.1 -1.0
BSEG *ep*PKPab pPKPab 03 37 24.3 +5.0
DRGR 156.89 317⇑*i*P PKPab 03 35 44.3 -0.1
KECS **Kecovo** 157.13 323 *i* PKP PKPab 03 35 45.0 -0.4
KECS *e* 03 37 29.8
OKC **Ostrava-Krasne** 157.35 328 *e*PKPDF PKPdf 03 35 11.4 -1.0
OKC *e*PKPAB PKPab 03 35 45.6 -0.7
OKC *ep*PKP pPKPab 03 37 31.4 +9.0
KSP **Ksiaz** 157.40 332 *e*PKPc 03 35 46.0
MORC **Moravsky Berou** 157.67 328 ⇓P PKPdf 03 35 12.4 -0.4
MORC **Moravsky Berou** 157.67 328⇓*i*P PKPdf 03 35 12.4 -0.4
DPC **Dobruska-Polom** 157.76 331 *e*PKPDF PKPdf 03 35 11.8 -1.1
DPC *e*PKPAB PKPab 03 35 47.8 -0.3
DPC *ep*PKP pPKPab 03 37 31.4 +7.2
UPC **Upice** 157.77 332 *e*PKPDF PKPdf 03 35 11.1 -1.8
UPC *e*PKPAB PKPab 03 35 47.5 -0.6
PSZ **Piszkesteto** 157.79 322⇑*i*P PKPab 03 35 48.2 -0.1
VYHS **Vyhne** 157.96 324 *i* PKP PKPab 03 35 48.7 -0.3
VYHS *e* 03 37 31.9
NRDL **Niedersach Rie** 158.02 343 *e*PKPab PKPab 03 35 47.6 -1.5
KOLL **Kolacno** 158.12 325 *e*PKP PKPab 03 35 49.5 -0.2
KOLL *e* 03 33.4
CLL **Collm** 158.23 337⇑*e*PKIKP PKPdf 03 35 12.0 -1.4
CLL *i* 03 35 49.1
CLL *e* 03 37 30.0
CLL pmax pmax
comp=Z,103nm,1.2s
CLL **Collm** 158.23 337 *e*PKPdf PKPdf 03 35 11.9 -1.5
CLL *e*PKPab PKPab 03 35 49.0 -1.0
CLL *ep*PKPab pPKPab 03 37 30.8 +4.7
CLL **Collm** 158.23 337 *e*PKPdf PKPdf 03 35 12.0 -1.4
CLL *ex* x 03 35 25.0
CLL ⇑*i*PKPab PKPab 03 35 49.1 -0.9
comp=Z,103nm,1.2s
CLL *ex* x 03 35 56.0
CLL *ep*PKPab pPKPab 03 37 30.0 +3.9
CLL *es*PKPab 03 38 07.0
CLL *e*PP PP 03 39 29.0 -2.4
CLL *es*PP 03 41 49.0
CLL *e*SKKSac SKKSac 03 45 42.0 +3.6
CLL *e*SKSP 03 49 20.0
CLL *e*SPP 03 52 32.0
CLL *es*PP 03 55 06.0
CLL *es*PSKSrev 03 56 14.0
CLL *ex* x 03 57 56.0
CLL *es*SSP 04 02 39.0
CLL *ex* x 04 03 36.0
CLL *es*SSS 04 07 22.0
BRG **Berggiesshubel** 158.27 335 *e*PKIKP PKPdf 03 35 12.5 -1.0

BRG *i* 03 35 49.5
BRG *e* 03 37 31.1
BRG pmax pmax
comp=Z,44nm,2.2s
BRG pmax pmax
comp=Z,48nm,1.2s
BRG pmax pmax
comp=Z,10.0nm,1.1s
BRG pmax pmax
comp=Z,5.0nm,0.9s
BRG pmax pmax
comp=N,5.0nm,1.2s
BRG pmax pmax
comp=N,3.0nm,1.1s
BRG Berggiesshubel 158.27 335 *e*PKPdf PKPdf 03 35 12.2 -1.3
BRG *e*PKPab PKPab 03 35 49.4 -0.8
BRG *ep*PKPab pPKPab 03 37 31.5 +5.2
BRG Berggiesshubel 158.27 335 *e*PKP PKPdf 03 35 12.5 -1.0
comp=N,74nm,2.2s
BRG *i* 03 35 49.5
comp=N,80nm,1.2s
BRG Berggiesshubel 158.27 335 *ep*PKP pPKPab 03 37 31.1 +4.8
comp=N,8.7nm,0.9s
BRG *es*PKP 03 38 01.9
comp=N,8.2nm,1.2s
BRG *e*SKKS SKKSac 03 45 04.0 -35
comp=N,4.8nm,1.1s
PVCC Panska Ves 158.32 334 *e*PKPDF PKPdf 03 35 12.2 -1.4
PVCC *e*PKPAB PKPab 03 35 50.1 -0.4
PVCC *ep*PKP pPKPab 03 37 32.3 +5.8
VRAC Vranov 158.44 329 PKP PKPdf 03 35 12.8 -1.0
comp=N,1.4nm,0.3s,baz=192,slow=2.2,SNR=5.9
VRAC PKPab PKPab 03 35 50.6 -0.4
comp=N,26nm,1.1s,baz=49,slow=4.5,SNR=25
VRAC Vranov 158.44 329 ⇓*i*P PKPab 03 35 50.8 -0.2
VTS Vitosha 158.49 307 P PKPab 03 35 52.0 +0.4
VTS Vitosha 158.49 307 ⇑*i*P PKPab 03 35 51.8 +0.2
CLZ Clausthal 158.55 342 *e*PKPdf PKPdf 03 35 12.9 -0.9
CLZ *e*PKPab PKPab 03 35 50.2 -1.2
CLZ *ep*PKPab pPKPab 03 37 32.5 +5.0
IBBN Ibbenburen 158.73 346 *e*PKPab PKPab 03 35 51.1 -1.1
PRU Pruhonice 158.76 333 *e*PKPDF PKPdf 03 35 12.9 -1.2
PRU *e*PKPAB PKPab 03 35 51.6 -0.8
PRU *ep*PKP pPKPab 03 37 35.4 +6.9
MODS Modra-Piesok 158.80 326 *i* PKP PKPab 03 35 52.6 0.0
MODS *e* 03 37 34.8
TREC Trest 158.92 330 *e*PKPDF PKPdf 03 35 13.0 -1.3
TREC *e*PKPAB PKPab 03 35 52.4 -0.7
TREC *ep*PKP pPKPab 03 37 34.5 +5.3
ZST Bratislava 159.00 326 *e*PKP PKPdf 03 35 13.4 -1.1
ZST *e* 03 35 52.5
ZST *e* 03 37 35.8
TANN Tannenbergstha 159.17 337 *e*PKPdf PKPdf 03 35 13.2 -1.4
TANN *e*PKPab PKPab 03 35 53.5 -0.7
WTSB Winterswijk 159.24 348 *e*P PKPab 03 35 53.0 -1.4
comp=N,52nm,2.0s
MOX Moxa 159.25 338 *e*PKP PKPdf 03 35 13.3 -1.4
MOX *e* 03 35 53.6
comp=N,83nm,1.6s
MOX *e* 03 37 36.9
MOX Moxa 159.25 338 *e*PKIKP PKPdf 03 35 13.3 -1.4
MOX *e* 03 35 53.6
MOX *e* 03 37 36.9
MOX pmax pmax
comp=Z,83nm,1.6s
MOX Moxa 159.25 338 *e*PKPdf PKPdf 03 35 13.1 -1.6
MOX *e*PKPab PKPab 03 35 53.7 -0.8
MOX *ep*PKPab pPKPab 03 37 4.8nm +6.3
VAY Valandovo 159.39 304 ⇑*i*PKP PKPab 03 35 54.1 -1.4
PKSM Moragy 159.53 320 ⇑P PKPdf 03 35 12.7 -2.4
PKSM Moragy 159.53 320 ⇑*i*P PKPdf 03 35 12.7 -2.4
STIP Stip 159.53 305 *e*PKP PKPab 03 35 54.9 -1.2
UBBA Unterbreizbach 159.57 341 *e*PKPab PKPab 03 35 54.6 -1.3
UBBA *ep*PKPab pPKPab 03 37 37.9 +6.0
MANZ Manzenberg 159.65 336 *e*PKPdf PKPdf 03 35 13.8 -1.3
MANZ *e*PKPab PKPab 03 35 55.8 -0.5
MANZ *ep*PKPab pPKPab 03 37 39.3 +7.0
CONA Conrad Observa 159.78 327 ⇑*i*PKPdf PKPdf 03 35 14.3 -1.1
comp=Z,9.3nm,1.4s
CONA ⇓*i*PKPab PKPab 03 35 56.3 -0.7
comp=Z,48nm,1.1s
ROTZ Rotzenmuhle 159.80 336 *e*PKPab PKPab 03 35 56.5 -0.5
ROTZ *ep*PKPab pPKPab 03 37 39.4 +6.4
ROTZ *e*PP PP 03 39 33.0 -6.9
KHC Kasperske Hory 159.82 333 *e*PKP PKPdf 03 35 14.2 -1.2
KHC *e* 03 35 56.5
KHC *e* 03 37 37.2
KHC Kasperske Hory 159.82 333 *e*PKPDF PKPdf 03 35 14.2 -1.2
KHC *e*PKPAB PKPab 03 35 56.5 -0.6
KHC *ep*PKP pPKPab 03 37 37.2 +4.1
SKO Skopje 159.94 306 ⇑*i*PKP PKPab 03 35 58.1 +0.2
GEC2 GERESS Array S 160.01 332 *e*PKPdf PKPdf 03 35 13.6 -2.0
GEC2 *e*PKPab PKPab 03 35 56.9 -1.0
GERES GERESS Array B 160.01 332 PKP PKPdf 03 35 14.1 -1.5
comp=Z,2.7nm,1.0s,baz=119,slow=1.7,SNR=21
GERES PKPab PKPab 03 35 57.0 -0.8
comp=Z,11nm,0.9s,baz=45,slow=4.3,SNR=38
WET Wettzell 160.08 334 *e*PKPdf PKPdf 03 35 13.5 -2.2
WET *e*PKPab PKPab 03 35 57.5 -0.7
WET *ep*PKPab pPKPab 03 37 39.0 +4.8
GRA1 Grafenberg Arr 160.20 337 *e*PKPdf PKPdf 03 35 14.3 -1.5
GRA1 *e*PKPab PKPab 03 35 58.4 -0.3
GRA1 *ep*PKPab pPKPab 03 37 41.1 +6.4
GRF Grafenberg Arr 160.20 337 *e*PKPdf PKPdf 03 35 14.3 -1.5
GRF *e*PKPab PKPab 03 35 58.4 -0.3
GRF *ep*PKPab pPKPab 03 37 41.1 +6.4
KRUS Krusevo 160.30 305 ⇑*i*PKP PKPab 03 35 58.6 -0.9
ARSA Arzberg 160.43 326 *i* PKPab 03 35 59.2 -0.6
comp=Z,27nm,1.2s,SNR=11
ARSA Arzberg 160.43 326 ⇑*i*PKPdf PKPdf 03 35 11.9 -4.2
comp=Z,6.4nm,1.7s
ARSA *i* PKPab PKPab 03 35 59.2 -0.6
comp=Z,27nm,1.2s,SNR=11
HGN Heimansgroeve 160.55 348 *e*P PKPab 03 35 58.8 -1.4
comp=Z,60nm,1.3s
KOGS Kog 160.63 324 *e*PKPdf PKPdf 03 35 14.4 -1.9
KOGS *e*PKPab PKPab 03 35 59.0 -1.7
MEM Membach 160.69 348 PKPdf PKPdf 03 35 15.1 -1.2
MEM PKPab PKPab 03 35 59.4 -1.3
BCLA Clavier 160.99 349 PKPdf PKPdf 03 35 18.6 +2.0
BCLA PKPab PKPab 03 36 01.0 -1.1
SNF Seneffe 161.05 351 PKPdf PKPdf 03 35 16.0 -0.7
SNF PKPab PKPab 03 36 01.2 -1.1
PERS Pernice 161.06 326 *e*PKPdf PKPdf 03 35 14.8 -1.9
PERS *i* PKPab PKPab 03 36 01.6 -1.0
TORD Torodi Ar. Bea 161.29 186 PKP PKPdf 03 35 17.1 -0.9
TORD PKPab PKPab 03 36 04.3 +0.1
TORD *pp*PKPab pPKPab 03 37 41.5 +1.4
TORD PP PP 03 39 44.4 -3.0
TORD Torodi Ar. Bea 161.29 186 PKP PKPdf 03 35 17.1 -0.9
comp=Z,10.0nm,1.0s,baz=9.9,slow=0.3,SNR=32
TORD PKPab PKPab 03 36 04.3 +0.1
comp=Z,8.3nm,0.7s,baz=162,slow=4.7,SNR=20
TORD *pp*PKPab pPKPab 03 37 41.5 +1.4
comp=Z,6.1nm,0.9s,baz=180,slow=3.5,SNR=4.4
TORD PP PP 03 39 44.4 -3.0
comp=Z,4.7nm,1.1s,baz=173,slow=3.6,SNR=3.6
GIVF Givet 161.37 350 *e*PKIKP PKPdf 03 35 15.1 -1.9
FUR Furstenfeldbru 161.49 335 *e*PKPab PKPab 03 36 04.0 -0.4
BAIF Baives 161.50 351 *e*PKIKP PKPdf 03 35 15.2 -1.9
KBA Koelnbreinsper 161.54 329 ⇑*i* PKPab 03 36 03.7 -1.0
comp=Z,22nm,1.2s
KBA Koelnbreinsper 161.54 329 ⇑*i*PKPdf PKPdf 03 35 14.7 -2.6
comp=Z,10nm,1.4s
KBA ⇑*i*PKPab PKPab 03 36 03.7 -1.0
comp=Z,22nm,1.2s
WLF Walferdange 161.56 347 PKPdf PKPdf 03 35 16.8 -0.4
WLF PKPab PKPab 03 36 03.9 -0.8
WLF Walferdange 161.56 347 *e*PKPdf PKPdf 03 35 15.4 -1.8
WLF *e*PKPab PKPab 03 36 03.4 -1.2
STU Stuttgart 161.64 340 *e*PKPdf PKPdf 03 35 16.2 -1.1
STU *e*PKPab PKPab 03 36 04.3 -0.7
LJU Ljubljana 161.77 325 *e*PKPdf PKPdf 03 35 15.9 -1.6
LJU *e*PKPab PKPab 03 36 04.4 -1.3
LANF Langenberg 161.83 343 PKP PKPab 03 36 05.0 -0.8
WTTA Wattenberg 162.10 333 ⇑*i* PKPab 03 36 06.5 -0.6
comp=Z,38nm,1.4s
WTTA Wattenberg 162.10 333 ⇑*i*PKPdf PKPdf 03 35 16.6 -1.2
comp=Z,29nm,1.7s
WTTA ⇑*i*PKPab PKPab 03 36 06.5 -0.6
comp=Z,38nm,1.4s
MOTA Moosalm 162.24 334 ⇑*i* PKPab 03 36 06.9 -0.8
comp=Z,41nm,1.1s,SNR=17
MOTA Moosalm 162.24 334 ⇑*i*PKPdf PKPdf 03 35 16.7 -1.3
comp=Z,14nm,1.3s
MOTA ⇑*i*PKPab PKPab 03 36 06.9 -0.8
comp=Z,41nm,1.1s,SNR=17
RETA Reutte 162.24 335 ⇑*i*PKPdf PKPdf 03 35 15.7 -2.3
comp=Z,7.1nm,1.2s
RETA *i* PKPab PKPab 03 36 07.2 -0.5
comp=Z,64nm,1.1s,SNR=21
BFO Black Forest 162.29 341 *e*PKPdf PKPdf 03 35 16.1 -1.9
BFO *e*PKPab PKPab 03 36 06.7 -1.2
BFO *ep*PKPab pPKPab 03 37 48.7 +4.9
SQTA Sankt Quirin 162.30 333 ⇓*i* PKPab 03 36 07.3 -0.7
comp=Z,34nm,1.1s,SNR=11
SQTA Sankt Quirin 162.30 333 ⇓*i*PKPdf PKPdf 03 35 16.9 -1.2
comp=Z,18nm,1.5s
SQTA ⇓*i*PKPab PKPab 03 36 07.3 -0.7
comp=Z,34nm,1.1s,SNR=11
CDF Champ du Feu 162.49 343 *e*PKIKP PKPdf 03 35 16.2 -2.0
FETA Feichten 162.65 334 ⇑*i*PKPdf PKPdf 03 35 16.3 -2.0
comp=Z,16nm,1.2s
FETA *i* PKPab PKPab 03 36 08.9 -0.6
comp=Z,47nm,1.0s,SNR=20
ECH Echery 162.70 343 PKP PKPab 03 36 08.5 -1.2
STEIN Stein am Rhein 162.72 339 ⇑*i*P PKPab 03 36 08.9 -0.9
comp=Z,265nm,1.6s
DAVA Damuels 162.73 336 *i* PKPab 03 36 09.4 -0.5
comp=Z,65nm,1.1s,SNR=19
DAVA Damuels 162.73 336 ⇑*i*PKPdf PKPdf 03 35 15.7 -2.8
comp=Z,8.7nm,1.1s
DAVA *i* PKPab PKPab 03 36 09.4 -0.5
comp=Z,65nm,1.1s,SNR=19
SLE Schleitheim 162.75 340 ⇑*i*P PKPab 03 36 08.9 -1.0
comp=Z,151nm,1.9s
TRULL Truellikon 162.80 339 ⇑*i*P PKPab 03 36 09.2 -0.9
comp=Z,256nm,1.5s
LIENZ Kamor/St.Gall 162.85 337 ⇑*i*P PKPab 03 36 09.6 -0.8
comp=Z,169nm,1.5s
MEZF Maizieres J'vi 162.88 348 *e*PKIKP PKPdf 03 35 16.4 -2.2
FLACH Flaach 162.90 339 ⇑*i*P PKPab 03 36 09.6 -1.0
FLACH Flaach 162.90 339 ⇑*i*P PKPab 03 36 09.8 -0.8
comp=Z,213nm,1.8s
WILA Wila 162.94 338 ⇑*i*P PKPab 03 36 09.9 -0.8
comp=Z,244nm,2.0s
THEF They Montfort 162.96 346 PKP PKPab 03 36 09.6 -1.2
MOF Molkenrain 163.05 343 PKP PKPab 03 36 10.2 -1.0
ZUR Degenried 163.08 339 ⇑*i*P PKPab 03 36 10.5 -0.9
comp=Z,188nm,1.8s
HAU Haudompre 163.09 344 *e*PKIKP PKPdf 03 35 16.9 -1.9
HAU *e*MLR MLR
comp=Z,70nm,21.0s
HAU Haudompre 163.09 344 *e*PKIKP PKPdf 03 35 16.9 -1.9
HAU MLR MLR
comp=Z,70nm,21.0s
FLN La Foliniere 163.11 0 *e*PKIKP PKPdf 03 35 16.8 -2.0
comp=Z,66nm,1.3s
FLN *e*MLR MLR
comp=Z,79nm,18.2s
FLN La Foliniere 163.11 0 *e*PKIKP PKPdf 03 35 16.8 -2.0
FLN MLR MLR
comp=Z,80nm,18.3s
HINF Hinteralfeld 163.15 343 *e*PKIKP PKPdf 03 35 16.8 -2.0
comp=Z,12nm,1.1s
FUORN Ofenpass-Fuorn 163.16 334 ⇑*i*P PKPab 03 36 11.7 -0.1
comp=Z,191nm,1.1s
DAVOX Davos/Dischmat 163.16 335 PKP PKPdf 03 35 17.8 -1.1
DAVOX PKPab PKPab 03 36 11.2 -0.6
DAVOX ⇑*i*P 03 36 11.4
DAVOX Davos/Dischmat 163.16 335 PKP PKPdf 03 35 17.8 -1.1
comp=Z,4.8nm,1.1s,baz=16,slow=1.3,SNR=6.5
DAVOX PKPab PKPab 03 36 11.2 -0.6
comp=Z,28nm,0.9s,baz=356,slow=1.9,SNR=20
DAVOX Davos/Dischmat 163.16 335 ⇑*i*P PKPab 03 36 11.4 -0.4
comp=Z,161nm,1.8s
LDF La Druitiere 163.28 360 *e*PKIKP PKPdf 03 35 17.0 -1.9
comp=Z,28nm,1.1s
BALST Balsthal 163.37 341 ⇑*i*P PKPab 03 36 11.7 -0.9
BALST Balsthal 163.37 341 ⇑*i*P PKPab 03 36 11.8 -0.8
comp=Z,204nm,1.8s
LLS Linth-Limmern 163.41 337 ⇑*i*P PKPab 03 36 12.3 -0.5
LLS Linth-Limmern 163.41 337 ⇑*i*P PKPab 03 36 12.1 -0.7
comp=Z,364nm,3.6s
MUO Muotathal 163.42 338 ⇑*i*P PKPab 03 36 12.4 -0.5
MUO Muotathal 163.42 338 ⇑*i*P PKPab 03 36 12.3 -0.6
comp=Z,683nm,4.4s
BERNI Berninapass 163.42 334 ⇑*i*P PKPab 03 36 12.7 -0.2
comp=Z,135nm,1.6s
BOURR Bourrignon 163.44 342 ⇑*i*P PKPab 03 36 12.1 -0.9
BOURR Bourrignon 163.44 342 ⇑*i*P PKPab 03 36 12.4 -0.6
comp=Z,269nm,3.5s
GRR Gorron 163.48 1 *e*PKIKP PKPdf 03 35 17.1 -2.0
comp=Z,23nm,1.1s
VDL Val di Lei 163.57 336 ⇑*i*P PKPab 03 36 13.2 -0.4
comp=Z,301nm,2.8s
BNALP Bannalp 163.57 338 ⇑*i*P PKPab 03 36 13.0 -0.6
comp=Z,414nm,3.1s
LOMF Lomont 163.59 343 PKP PKPab 03 36 12.8 -0.8
FUSIO Fusio 163.86 337 ⇑*i*P PKPab 03 36 14.3 -0.6
comp=Z,120nm,1.6s
WIMIS Wimmis 164.00 340 ⇑*i*P PKPab 03 36 14.6 -0.8
comp=Z,81nm,1.4s
TORNY Torny/Romont 164.09 342 ⇑*i*P PKPab 03 36 15.1 -0.7
TORNY Torny/Romont 164.09 342 ⇑*i*P PKPab 03 36 15.0 -0.8
comp=Z,194nm,2.1s
MUGIO Muggio 164.20 335 ⇑*i*P PKPab 03 36 15.1 -1.3
comp=Z,168nm,1.4s
LOR Lormes 164.28 349 *e*PKIKP PKPdf 03 35 18.1 -1.8
comp=Z,40nm,1.4s
LOR *e*MLR MLR
comp=Z,58nm,20.0s
LOR Lormes 164.28 349 *e*PKIKP PKPdf 03 35 18.1 -1.8
LOR MLR MLR
comp=Z,60nm,20.0s
TIP Timpagrande 164.31 302 *e*PKPdf PKPdf 03 35 18.6 -1.6
SENIN Lac Senin/Sane 164.37 340 ⇑*i*P PKPab 03 36 16.6 -0.5
comp=Z,115nm,1.6s
HYF Humbligny 164.44 352 *e*PKIKP PKPdf 03 35 18.1 -1.9
MMK Mattmark 164.45 338 ⇑*i*P PKPab 03 36 17.1 -0.3
MMK Mattmark 164.45 338 ⇑*i*P PKPab 03 36 16.8 -0.6
comp=Z,113nm,2.0s
CABF La Chapelle 164.46 343 *e*PKIKP PKPdf 03 35 18.7 -1.4
comp=Z,48nm,1.5s
AIGLE Aigle 164.49 341 ⇑*i*P PKPab 03 36 16.8 -0.8
AIGLE Aigle 164.49 341 ⇑*i*P PKPab 03 36 17.1 -0.5
comp=Z,171nm,1.7s
GRYON Gryon 164.53 340 ⇑*i*P PKPab 03 36 17.2 -0.6
comp=Z,174nm,2.1s
SSF Saint Saulge 164.53 350 *e*PKIKP PKPdf 03 35 18.2 -1.9
comp=Z,45nm,1.6s
DIX Grande Dixence 164.59 339 ⇑*i*P PKPab 03 36 17.9 -0.2
DIX Grande Dixence 164.59 339 ⇑*i*P PKPab 03 36 17.8 -0.3
comp=Z,106nm,1.5s
SALAN Lac Salanfe 164.66 341 ⇑*i*P PKPab 03 36 17.8 -0.6
SALAN Lac Salanfe 164.66 341 ⇑*i*P PKPab 03 36 17.9 -0.5
comp=Z,160nm,2.3s
EMV Vieux Emosson 164.76 341 ⇑*i*P PKPab 03 36 18.3 -0.5
comp=Z,185nm,1.8s
AVF Avril sur Loir 164.82 350 *e*PKIKP PKPdf 03 35 18.2 -2.2
SMF Signal de Mont 164.89 349 *e*PKIKP PKPdf 03 35 18.3 -2.1
comp=Z,28nm,1.4s
BGF Bois d'Agland 165.12 351 *e*PKIKP PKPdf 03 35 18.8 -1.8
comp=Z,15nm,0.9s
MFF Saint Martin d 165.27 360 *e*PKIKP PKPdf 03 35 18.8 -2.0
comp=Z,37nm,1.3s
LPL La Plagne 165.30 340 *e*PKIKP PKPdf 03 35 19.2 -1.6
LPG La Plagne 165.31 340 *e*PKIKP PKPdf 03 35 19.2 -1.6
TCF Toulx Ste Croi 165.46 353 *e*PKIKP PKPdf 03 35 19.1 -1.8
comp=Z,18nm,1.1s
AGO Saint Agoulin 165.58 350 PKP PKPab 03 36 21.2 -1.2
PLDF La Plantade 165.58 349 PKP PKPab 03 36 21.7 -0.7
BNI Bardonecchia 165.74 340 *e*PKPdf PKPdf 03 35 20.2 -1.0
PYM Petit Puy Mans 165.89 350 PKP PKPab 03 36 22.7 -1.1
MBDF Montbardon 166.01 339 *e*PKIKP PKPdf 03 35 19.7 -1.7
COLF Collangettes 166.01 348 PKP PKPab 03 36 23.1 -1.2
ORIF Oris-en-Rattie 166.09 341 *e*PKIKP PKPdf 03 35 19.5 -2.0
ORIF *e*MLR MLR
comp=Z,72nm,20.0s
FRNF Fournols 166.31 351 PKP PKPab 03 36 24.7 -0.9
LBL Lubilhac 166.36 349 PKP PKPab 03 36 25.3 -0.6
SAOF Saorge 166.40 335 PKP PKPab 03 36 24.9 -1.2
VIVF Saint-Julien-l 166.45 345 *e*PKIKP PKPdf 03 35 19.9 -1.9
TOUF Mont Tournerai 166.49 336 PKP PKPab 03 36 25.7 -0.8
RJF Les Rejaudoux 166.50 354 *e*PKIKP PKPdf 03 35 20.1 -1.7
comp=Z,24nm,1.2s
RJF *e*MLR MLR
comp=Z,86nm,20.0s
RJF Les Rejaudoux 166.50 354 *e*PKIKP PKPdf 03 35 20.1 -1.7
RJF MLR MLR
comp=Z,90nm,20.0s
SBF Sospel 166.55 335 *e*PKIKP PKPdf 03 35 20.0 -1.9
LUCF Luceram 166.56 336 PKP PKPab 03 36 25.7 -1.1
OG26 St.-Nazaire-De 166.56 342 PKP PKPab 03 36 26.4 -0.4
MVIF Mont Vial 166.62 336 PKP PKPab 03 36 26.1 -1.0
REVF Revere 166.68 335 PKP PKPab 03 36 25.5 -1.9
CAF Calviac 166.82 353 *e*PKIKP PKPdf 03 35 20.2 -1.8
comp=Z,40nm,1.5s
CALN Calern 166.84 336 PKP PKPab 03 36 27.1 -1.0
LFF La Frestale 166.91 357 *e*PKIKP PKPdf 03 35 20.6 -1.5
STOF St-Etienne Org 166.93 340 PKP PKPab 03 36 27.8 -0.6
PGF Pioggiola 167.01 328 *e*PKIKP PKPdf 03 35 20.5 -1.8
comp=Z,54nm,1.6s
SMRF Simiane la Rot 167.04 341 *e*PKIKP PKPdf 03 35 20.4 -1.8
comp=Z,16nm,1.1s
FRF La Foret Royal 167.09 337 *e*PKIKP PKPdf 03 35 20.2 -2.1
VILF Villemus 167.12 340 PKP PKPab 03 36 29.1 -0.2
TAVF Tavernes 167.23 339 PKP PKPab 03 36 29.4 -0.4
PRAF Pradon 167.31 342 PKP PKPab 03 36 30.0 -0.1
LMR La Mourre 167.34 337 *e*PKIKP PKPdf 03 35 20.2 -2.3
LASF Ste Croix 167.37 346 *e*PKIKP PKPdf 03 35 20.5 -2.0
comp=Z,32nm,1.5s
PUYF Puyloubier 167.42 340 PKP PKPab 03 36 30.1 -0.5
TREF Trevaresse 167.42 341 PKP PKPab 03 36 30.6 0.0
BERF Bertagne 167.62 339 PKP PKPab 03 36 31.1 -0.4
GELF Grande-Etoile 167.63 340 PKP PKPab 03 36 31.2 -0.4
MTLF Montolieu 168.36 351 *e*PKIKP PKPdf 03 35 21.2 -2.0
SJPF Ste Jean 168.74 3 *e*PKIKP PKPdf 03 35 21.4 -2.0
EPF Esparros 168.83 358 *e*PKIKP PKPdf 03 35 21.7 -1.8
MLS Moulis 168.86 355 PKP PKPab 03 36 34.8 -2.2
PVRL Vila Real 168.88 30 *e*PKPab PKPab 03 36 36.5 -0.7
ETSF Etsaut 168.98 1 *e*PKIKP PKPdf 03 35 21.6 -2.0
PVIS Viseu 169.25 33 *e*PKPab PKPab 03 36 37.9 -1.0
MVO Moncorvo 169.26 28 *e*PKPdf PKPdf 03 35 24.4 +0.6
MVO Moncorvo 169.26 28 *e*PKPab PKPab 03 36 37.7 -1.2
PCBR Castelo Branco 170.14 34 *e*PKPdf PKPdf 03 35 24.8 +0.4
PCBR Castelo Branco 170.14 34 *e*PKPab PKPab 03 36 41.4 -1.5
EPOB Poblet 170.46 354 PKP PKPdf 03 35 22.6 -1.9
GUD Guadarrama 170.70 18 PKP PKPdf 03 35 24.7 0.0
PESTR Estremoz 170.82 38 *e*PKPdf PKPdf 03 35 25.5 +0.7
PESTR Estremoz 170.82 38 *e*PKPab PKPab 03 36 44.6 -1.3
EVO Evora 170.83 41 *e*PKIKP PKPdf 03 35 24.5 -0.3
comp=Z,34nm,1.1s
EVO *e*MLR MLR
comp=Z,72nm,22.0s
EVO Evora 170.83 41 *e*PKPdf PKPdf 03 35 25.8 +1.0
ERTA Horta de San J 170.90 357 PKP PKPdf 03 35 23.6 -1.1
ETOR Torete 170.95 8 PKP PKPdf 03 35 24.4 -0.3
KEST Kesra 171.08 298 PKP PKPdf 03 35 24.8 -0.2
comp=Z,2.3nm,0.9s,baz=258,slow=3.4,SNR=7.8
KEST PKPab PKPab 03 36 47.1 -0.2
comp=Z,7.2nm,1.1s,baz=206,slow=1.0,SNR=10
MORF Marmelete 171.24 49 *e*PKPdf PKPdf 03 35 25.9 +0.9
PBEJ Beja 171.26 43 *e*PKPdf PKPdf 03 35 25.6 +0.6
PBAR Barrancos 171.62 39 *e*PKPdf PKPdf 03 35 25.3 +0.1
ESDC Sonseca Array 171.66 20 PKP PKPdf 03 35 25.0 -0.1
ESDC Sonseca Array 171.66 20 PKP PKPdf 03 35 25.5 +0.3
comp=Z,6.1nm,1.1s,baz=346,slow=2.3,SNR=24
ESDC PKPab PKPab 03 36 48.1 -1.4
comp=Z,6.1nm,1.0s,baz=342,slow=4.0,SNR=15
PAB San Pablo 171.66 22 *e*PKPdf PKPdf 03 35 25.1 -0.1
PBDV Barranco-do-Ve 171.73 47 *e*PKPdf PKPdf 03 35 26.8 +1.5
CMAH Djebel Manchou 172.03 309 P PKPab 03 36 51.0 -0.4
EMIN Mina Concepcio 172.12 40 PKP PKPdf 03 35 25.5 0.0
CAEH Ain El Ouahch 172.31 312 P PKPab 03 36 54.0 +1.4
CKFL Kef-Lekhel 172.62 310 P PKPab 03 36 54.0 0.0
EADA Adamuz 172.80 28 PKP PKPdf 03 35 24.6 -1.1
EVIA Vianos 173.00 14 PKP PKPdf 03 35 25.7 -0.1
CTEI Djebel Teioual 173.02 309 P PKPab 03 36 55.0 -0.8
DFRA Djebel Bou Aff 173.06 314 P PKPab 03 36 56.5 +0.5
ETOB Tobarra 173.15 8 PKP PKPdf 03 35 25.6 -0.2
ESPR Espera 173.22 41 PKP PKPdf 03 35 25.9 0.0
CKHR Kef el Ahmar 173.63 312 P PKPab 03 36 58.5 0.0
EQES Quesada 173.65 20 PKP PKPdf 03 35 24.5 -1.5
MDT Midelt 176.23 74 PKP PKPdf 03 35 28.2 +1.3
comp=Z,14nm,1.0s,baz=169,slow=0.9,SNR=15
MDT PKPab PKPab 03 37 10.6 +0.3
comp=Z,4.0nm,1.0s,baz=262,slow=0.9,SNR=3.7

IDC ***17*** *03:27:16.8±1.2,4091N×1957E,h0km,mb3.7/7,*
mb1 3.8/11,mb1mx3.7/27,mbtmp3.7/11,ML3.3/4,Error
ellipse: s-maj=16.5km s-min=14.6km az=7.0
ATH ***17*** *03:27:18.9,4100N×1979E,h13km±2km,MD3.8/5*
CSEM ***17*** *03:27:19.9±0.0,4102N×1974E,h8km,ML4.0,Error*
ellipse: s-maj=1.2km s-min=0.8km az=19.0
TIR ***17*** *03:27:19.2±5.5,4098N×1987E,h43km±28km,ML3.5*
NEIC ***17*** *03:27:20.0,4098N×1969E,h14km,ML3.5(PDG),After*
PDG.
ISCJB ***17*** *03:27:20.4±0.3,4100N±001×1972E±001,h28km±3km,*
mb3.8/5,Error ellipse: s-maj=2.3km s-min=1.7km az=18.8
LDG ***17*** *03:27:20.4±0.1,4099N×1966E,h20km,Ml3.9/8,Error*
ellipse: s-maj=2.9km s-min=2.1km az=14.0
PDG ***17*** *03:27:20.0±1.0,4098N×1969E,h14km±2km,MD3.7/5,*
ML3.5/10,Error ellipse: s-maj=1.5km s-min=1.8km az=0.0
THE ***17*** *03:27:20.4,4091N×1987E,h1km,ML4.0*
ROM ***17*** *03:27:21.5±0.3,4089N×1952E,h10km,Ml3.7/51,Error*
ellipse: s-maj=6.0km s-min=1.9km az=120.0
PRU ***17*** *03:27:21.2,4101N×1945E,h0km*
ISC 17 03:27:19.6±0.3,4095N±001×1974E±001,h8km±2km,n236,
σ1§16/328,mb3.8/5,39C-13D,Albania

Code	Station Name	Δ°	AZ°	Phase Op	ID	ISC	Time h m s	Res ISC
TIR	**Tirane**	**0.41**	**14**	*e*Pg		**Pg**	**03 27 28.3**	**+0.7**
TIR				*e*Sg		**Sg**	**03 27 35.7**	**+2.7**
TIR	**Tirane**	**0.41**	**14**	*i* PG		**Pg**	**03 27 28.5**	**+0.9**
TIR				*i* SG		**Sg**	**03 27 35.6**	**+2.6**
VLO	**Vlora**	**0.51**	**201**	*i* PG		**Pg**	**03 27 30.7**	**+1.2**
VLO				*i* SG		**Sg**	**03 27 41.0**	**+4.8**
QSH	**Qafa e Shtames**	**0.59**	**12**	*i* PG		**Pg**	**03 27 31.6**	**+0.7**
QSH				*i* SG		**Sg**	**03 27 39.2**	**+0.6**
TPE	**Tepelena**	**0.69**	**162**	*i* PG		**Pg**	**03 27 31.7**	**-1.1**
TPE				*i* SG		**Sg**	**03 27 41.4**	**-0.3**
OHR	**Ohrid**	**0.82**	**78**	*e*Pg		**Pg**	**03 27 33.3**	**-2.0**
OHR				*e*Sg		**Sg**	**03 27 45.0**	**-1.0**
OHR	**Ohrid**	**0.82**	**78**	*i* Pg		**Pg**	**03 27 33.5**	**-1.8**
OHR				*i* Sg		**Sg**	**03 27 46.0**	**0.0**
OHR	**Ohrid**	**0.82**	**78**	*e*Pg		**Pg**	**03 27 33.3**	**-2.0**
OHR				*i* Sg		**Sg**	**03 27 46.0**	**0.0**
KBN	**Korca**	**0.86**	**112**	*i* PG		**Pg**	**03 27 34.6**	**-1.5**
KBN				*i* SG		**Sg**	**03 27 45.9**	**-1.4**
ULC	**Ulcinj**	**1.08**	**340**	⇑*i*Pg		**Pg**	**03 27 40.1**	**-0.2**
ULC				*e*Sg		**Sg**	**03 27 55.5**	**+1.2**
ULC	**Ulcinj**	**1.08**	**340**	*i* PG		**Pg**	**03 27 40.1**	**-0.2**
ULC				*i* SG		**Sg**	**03 27 55.4**	**+1.1**
SRN	**Sarande**	**1.09**	**169**	*i* PG		**Pg**	**03 27 41.1**	**+0.7**
SRN				*i* SG		**Sg**	**03 27 56.3**	**+1.8**
PUK	**Puka**	**1.10**	**6**	*i* PG		**Pg**	**03 27 41.5**	**+0.8**
SDA	**Shkodra**	**1.12**	**351**	*i* Pg		**Pg**	**03 27 42.1**	**+1.1**
SDA				*i* Sg		**Sg**	**03 27 59.7**	**+4.2**
BIA	**Bitola**	**1.20**	**86**	*e*Pg		**Pg**	**03 27 40.3**	**-2.3**
BIA				*e*Sg		**Sg**	**03 27 57.2**	**-1.0**
BIA	**Bitola**	**1.20**	**86**	*i* Pg		**Pg**	**03 27 40.4**	**-2.3**
KRUS	**Krusevo**	**1.22**	**69**	⇑*i*Pg		**Pg**	**03 27 41.6**	**-1.3**
KRUS				*i* Sg		**Sg**	**03 27 59.6**	**+0.9**
KRUS	**Krusevo**	**1.22**	**69**	⇑*i*Pg		**Pg**	**03 27 41.5**	**-1.4**
KRUS				*i* Sg		**Sg**	**03 27 59.6**	**+0.9**
KEK	**Kerkira**	**1.23**	**178**	P		**Pn**	**03 27 43.3**	**+0.2**
KEK	**Kerkira**	**1.23**	**178**	*e*PG		**Pg**	**03 27 42.8**	**-0.5**
KEK				*e*SB		**Sn**	**03 28 00.7**	**+0.8**
KEK	**Kerkira**	**1.23**	**178**	Pn		**Pn**	**03 27 42.7**	**-0.4**
KEK				Sn		**Sn**	**03 28 00.7**	**+0.8**
	957nm,0.6s							
FNA	**Florina**	**1.25**	**97**	*e*Pg		**Pg**	**03 27 41.2**	**-2.4**
FNA				*e*Sg		**Sg**	**03 27 59.5**	**-0.4**
FNA	**Florina**	**1.25**	**97**	*e*Pg		**Pg**	**03 27 41.2**	**-2.4**
FNA				*e*Sg		**Sg**	**03 27 59.5**	**

PDG	Podgorica	1.52 347	*i* PG	Pg	Pg	03 27 47.3 -1.5
PDG			*i* SG	Sg	Sg	03 28 09.4 +0.9
PDG	Podgorica	1.52 347	⇑*i*Pg	Pg	Pg	03 27 47.3 -1.5
PDG			*e*Sg	Sg	Sg	03 28 09.3 +0.8
TTG	Podgorica	1.52 347	⇑*i*Pg	Pg	Pg	03 27 47.3 -1.5
TTG			*e*Sg	Sg	Sg	03 28 09.3 +0.8
JAN	Janina	1.55 146	*e*PB	Pb	Pb	03 27 48.3 -0.1
JAN			*e*SB	Sb	Sb	03 28 09.5 +1.4
JAN	Janina	1.55 146	P	Pn	Pn	03 27 49.4 +2.0
JAN			*e*Sb	Sb	Sb	03 28 09.5 +1.4
SKO	Skopje	1.64 51	*e*Pb	Pb	Pb	03 27 49.7 -0.3
SKO			*e*Sb	Sb	Sb	03 28 12.1 +1.3
SKO	Skopje	1.64 51	⇑*i*Pg	Pg	Pg	03 27 49.8 -1.2
SKO			*i* Sg	Sg	Sg	03 28 11.9 -0.3
SKO	Skopje	1.64 51	⇑*i*Pg	Pb	Pb	03 27 49.7 -0.3
SKO			*i* Sg	Sg	Sg	03 28 11.8 -0.4
PVY	Plav	1.65 6	⇓*i*Pn	Pn	Pn	03 27 49.9 +1.0
PVY			*e*Sn	Sg	Sg	03 28 13.4 +0.7
PVY	Plav	1.65 6	*i* PG	Pn	Pn	03 27 49.9 +1.0
PVY			*i* SG	Sg	Sg	03 28 13.4 +0.7
KZN	Kozani	1.68 112	*e*PB	Pb	Pb	03 27 49.9 -0.7
KZN			*e*SB	Sb	Sb	03 28 12.3 +0.5
KZN	Kozani	1.68 112	P	Pn	Pn	03 27 50.5 +1.4
KZN			*e*Sb	Sb	Sb	03 28 12.3 +0.5
PE1	Pezze di Greco	1.76 266	*e*Pn	Pn	Pn	03 27 49.9 -0.4
PE1			*e*Sn	Sn	Sn	03 28 13.3 +0.4
HCY	Herceg Novi	1.76 329	⇑*i*Pn	Pn	Pn	03 27 49.8 -0.5
HCY			*e*Sn	Sn	Sn	03 28 14.4 +1.5
HCY	Herceg Novi	1.76 329	*i* PG	Pn	Pn	03 27 49.8 -0.5
HCY			*i* SG	Sn	Sn	03 28 14.4 +1.5
BEY	Berane	1.93 4	*i* PG	Pn	Pn	03 27 54.0 +1.4
BEY			*i* SG	Sn	Sn	03 28 09.1 -7.8
BEY	Berane	1.93 4	⇑*i*Pn	Pn	Pn	03 27 54.1 +1.5
IVA	Berane	1.93 4	⇑*i*Pn	Pn	Pn	03 27 54.1 +1.5
IVA			*e*Sn	Sn	Sn	03 28 19.1 +2.2
NKY	Niksic	1.94 344	⇓*i*Pn	Pn	Pn	03 27 53.3 +0.5
NKY			*e*Sn	Sn	Sn	03 28 19.1 +1.7
NKY	Niksic	1.94 344	*i* PG	Pn	Pn	03 27 53.3 +0.5
NKY			*i* SG	Sn	Sn	03 28 19.1 +1.7
TA1	Taranto	1.94 255	*e*Pn	Pn	Pn	03 27 51.2 -1.6
STIP	Stip	1.99 67	*e*Pb	Pb	Pb	03 27 53.1 -2.9
STIP			*e*Sb	Sb	Sb	03 28 19.7 -1.2
STIP	Stip	1.99 67	*i* Pn	Pn	Pn	03 27 53.4 -0.1
STIP	Stip	1.99 67	*i* Pn	Pn	Pn	03 27 53.3 -0.2
GRG	Griva	2.02 89	*e*Pb	Pb	Pb	03 27 53.9 -2.6
GRG			*e*Sb	Sb	Sb	03 28 19.5 -2.2
NOCI	Noci	2.03 266	Pn	Pn	Pn	03 27 53.1 -1.0
	848nm,0.3s					
BRY	Bratogost	2.14 336	⇓*i*Pn	Pn	Pn	03 27 55.4 -0.2
BRY			*e*Sn	Sn	Sn	03 28 24.1 +1.8
BRY	Bratogost	2.14 336	*i* PG	Pn	Pn	03 27 55.4 -0.2
BRY			*i* SG	Sn	Sn	03 28 24.1 +1.8
BAI	Bari	2.17 275	*e*Pn	Pn	Pn	03 27 55.4 -0.5
BAI			*e*Sn	Sn	Sn	03 28 20.6 -2.3
VAY	Valandovo	2.17 79	*e*Pn	Pn	Pn	03 27 55.2 -0.8
VAY			*e*Sn	Sn	Sn	03 28 22.7 -0.3
VAY	Valandovo	2.17 79	*i* Pn	Pn	Pn	03 27 54.6 -1.4
THL	Klokotos Trika	2.22 128	*e*PN	Pn	Pn	03 27 58.0 +1.3
LIT	Litokhoron	2.26 111	*e*Pn	Pn	Pn	03 27 57.2 0.0
LIT			*e*Sn	Sn	Sn	03 28 24.8 -0.4
SG1	Sgolgore (BA)	2.32 268	*e*Pn	Pn	Pn	03 27 57.9 -0.1
SG1			*e*Sn	Sn	Sn	03 28 27.3 +0.6
SJES	Sjenica	2.32 4	⇑*i*Pn	Pn	Pn	03 27 59.3 +1.3
UPM	Unac-Piva	2.33 345	⇑*i*Pn	Pn	Pn	03 27 58.8 +0.6
UPM			*e*Sn	Sn	Sn	03 28 28.7 +1.6
LKD	Levkas	2.35 162	*e*Pn	Pn	Pn	03 27 58.2 -0.4
LKD			*e*Sn	Sn	Sn	03 28 27.8 +0.4
AMUR	Altamura	2.38 270	Pn	Pn	Pn	03 27 58.3 -0.5
AMUR			Sn	Sn	Sn	03 28 25.6 -2.4
	350nm,0.4s					
PLE	Pljevlja	2.39 354	⇑*i*Pn	Pn	Pn	03 28 00.3 +1.3
PLE			*i* Sn	Sn	Sn	03 28 30.5 +2.0
KNT	Kendrikon	2.40 84	*e*Pn	Pn	Pn	03 27 59.2 +0.1
BARS	Barje	2.43 39	⇓*i*Pn	Pn	Pn	03 28 00.5 +0.9
THE	Thessaloniki	2.47 96	*e*Pn	Pn	Pn	03 28 00.0 -0.1
MIGL	Miglionico	2.53 263	Pn	Pn	Pn	03 28 01.0 +0.2
HORT	Hortiatis	2.58 97	*e*Pn	Pn	Pn	03 28 01.5 -0.1
HORT			*e*Sn	Sn	Sn	03 28 32.8 -0.2
CRAC	Craco	2.58 258	Pn	Pn	Pn	03 28 00.9 -0.7
	1µm,1.1s					
EVR	Evrytania	2.58 141	*e*PN	Pn	Pn	03 28 03.2 +1.6
EVR	Evrytania	2.58 141	P	Pn	Pn	03 28 04.3 +2.7
CDT	Castel del Mon	2.62 274	*e*Pn	Pn	Pn	03 28 01.8 -0.4
CDT			*e*Sn	Sn	Sn	03 28 34.5 +0.3
ORI	Oriolo Calabro	2.66 252	Pn	Pn	Pn	03 28 02.1 -0.6
	528nm,0.4s					
SOH	Sokhos	2.75 91	*e*Pn	Pn	Pn	03 28 04.1 +0.3
SOH			*e*Sn	Sn	Sn	03 28 36.8 -0.3
AGG	Agios Georgios	2.77 133	*e*Pn	Pn	Pn	03 28 05.1 +0.9
AGG			*e*Sn	Sn	Sn	03 28 37.6 -0.1
PALZ	Palazzo San Ge	2.86 271	Pn	Pn	Pn	03 28 06.3 +0.9
PLG	Polygyros	2.88 100	*e*Pn	Pn	Pn	03 28 06.0 +0.3
PLG	Polygyros	2.88 100	*e*PN	Pn	Pn	03 28 06.1 +0.4
PLG	Polygyros	2.88 100	P	Pn	Pn	03 28 07.2 +1.5
SCHR	S. Chirico Rap	2.89 256	Pn	Pn	Pn	03 28 05.6 -0.2
	84nm,0.3s					
TIP	Timpagrande	2.89 233	Pn	Pn	Pn	03 28 04.6 -1.2
TIP			P			03 28 05.1
TIP	Timpagrande	2.89 233	Pn	Pn	Pn	03 28 04.6 -1.2
	63nm,1.0s					
FGMS	Monte Sant'Ang	2.95 286	Pn	Pn	Pn	03 28 05.9 -0.7
	128nm,0.3s					
MS1	Monte Sant'Ang	2.96 286	*e*Pn	Pn	Pn	03 28 06.7 -0.1
MS1			*e*Sn	Sn	Sn	03 28 40.5 -1.9
MSAG	Monte S. Angel	2.98 286	Pn	Pn	Pn	03 28 06.5 -0.6
	315nm,0.4s					
SERS	Sersale	3.02 232	⇓*i*Pn	Pn	Pn	03 28 06.2 -1.5
	58nm,0.5s					
GRUS	Gruza	3.03 14	⇓*i*Pn	Pn	Pn	03 28 08.2 +0.5
SIRI	Monte Sirino -	3.05 257	Pn	Pn	Pn	03 28 07.2 -0.8
	138nm,0.4s					
MCEL	Monticello	3.06 260	Pn	Pn	Pn	03 28 07.8 -0.4
	193nm,0.7s					
VTS	Vitosha	3.07 57	⇑P	Pn	Pn	03 28 09.2 +0.9
VTS			S	Sn	Sn	03 28 46.5 +1.3
VTS	Vitosha	3.07 57	*e*Pn	Pn	Pn	03 28 09.2 +0.9
VTS			*e*Sn	Sn	Sn	03 28 46.5 +1.3
VTS	Vitosha	3.07 57	⇑*i*P	Pn	Pn	03 28 09.3 +1.0
VTS	Vitosha	3.07 57	S	Sn	Sn	03 28 46.5 +1.3
XOR	Xorichti	3.08 120	*e*Pn	Pn	Pn	03 28 08.4 0.0
XOR			*e*Sn	Sn	Sn	03 28 46.0 +0.5
XOR	Xorichti	3.08 120	*e*Pn	Pn	Pn	03 28 08.4 -0.1
MTSN	Montesano sull	3.11 259	Pn	Pn	Pn	03 28 08.3 -0.6
	163nm,0.5s					
SGRT	San Giovanni R	3.11 286	Pn	Pn	Pn	03 28 08.2 -0.7
	189nm,0.6s					
VULT	Monte Vulture	3.12 271	Pn	Pn	Pn	03 28 10.7 +1.7
	801nm,0.9s					
NVR	Nevrokopi	3.14 81	*e*PN	Pn	Pn	03 28 09.7 +0.4
NVR	Nevrokopi	3.14 81	P	Pn	Pn	03 28 10.8 +1.5
DIVS	Divibare	3.15 3	*e*Pn	Pn	Pn	03 28 11.0 +1.5
PAIG	Paliouri	3.18 107	*e*Pn	Pn	Pn	03 28 08.9 -0.8
PAIG			*e*Sn	Sn	Sn	03 28 47.7 -0.1
PAIG	Paliouri	3.18 107	*e*Pn	Pn	Pn	03 28 08.9 -0.9
PAIG			*e*Sn	Sn	Sn	03 28 47.7 -0.1
CARO	Carolei	3.19 239	Pn	Pn	Pn	03 28 09.4 -0.5
	138nm,0.5s					
FG4	Candela	3.20 275	Pn	Pn	Pn	03 28 11.2 +1.1
OUR	Ouranopolis	3.29 99	*e*Pn	Pn	Pn	03 28 11.5 +0.2
MGR	Morigerati	3.29 257	Pn	Pn	Pn	03 28 11.3 0.0
	285nm,0.6s					
SGTA	San Agata di	3.31 275	Pn	Pn	Pn	03 28 11.8 +0.2
	216nm,0.4s					
SGO	Sicignano	3.39 265	Pn	Pn	Pn	03 28 12.6 -0.1
	38nm,0.2s					
FG5	Orsara di Pugl	3.39 277	Pn	Pn	Pn	03 28 13.3 +0.5
	125nm,0.5s					
CDRU	Civita di Ruta	3.40 264	Pn	Pn	Pn	03 28 12.2 -0.7
	80nm,0.5s					
LKR	Lokris	3.40 131	P	Pn	Pn	03 28 15.4 +2.5
CAFE	Carife	3.41 273	Pn	Pn	Pn	03 28 12.9 -0.1
	185nm,0.5s					
CMPR	Campora	3.43 261	Pn	Pn	Pn	03 28 12.9 -0.4
	88nm,0.7s					
MCRV	Calabrutti - M	3.47 269	Pn	Pn	Pn	03 28 13.6 -0.2
	130nm,0.4s					
FG2	Serracapriola	3.55 285	Pn	Pn	Pn	03 28 14.8 -0.1
	123nm,0.2s					
PLAC	Placanica	3.56 227	Pn	Pn	Pn	03 28 13.8 -1.3
	42nm,1.1s					
CSSN	Cassano Irpino	3.57 270	Pn	Pn	Pn	03 28 16.3 +1.1
	26nm,0.3s					
MRB1	Monte Rocchett	3.61 274	Pn	Pn	Pn	03 28 15.9 +0.2
	253nm,0.6s					
PSB1	Pescosannita	3.73 276	Pn	Pn	Pn	03 28 18.6 +1.2
	79nm,0.6s					
JOPP	Joppolo	3.78 233	Pn	Pn	Pn	03 28 16.6 -1.5
	49nm,0.4s					
SACR	S. Croce Del S	3.82 278	Pn	Pn	Pn	03 28 19.2 +0.5
	99nm,0.8s					
LTK	Loutraki	3.84 138	*e*Pn	Pn	Pn	03 28 20.0 +1.0
PLD	Plovdiv	3.90 71	*e*Pn	Pn	Pn	03 28 20.9 +1.1
BEO	Beograd	3.91 8	⇑*i*Pn	Pn	Pn	03 28 18.9 -0.9
BSSO	Busso	3.92 280	Pn	Pn	Pn	03 28 20.5 +0.5
	90nm,0.6s					
FRES	Fresagrandinar	3.94 287	Pn	Pn	Pn	03 28 21.9 +1.6
	284nm,0.6s					
PTRJ	Pietraroja	3.95 278	Pn	Pn	Pn	03 28 20.9 +0.4
	123nm,0.8s					
SOI	Samo	4.04 226	Pn	Pn	Pn	03 28 20.0 -1.7
	59nm,0.6s					
SGG	Gregorio Mates	4.07 278	Pn	Pn	Pn	03 28 23.2 +1.2
	91nm,0.5s					
VLX	Vlachokerasia	4.12 149	*e*Pn	Pn	Pn	03 28 24.3 +1.5
VAGA	Valle Agricola	4.18 278	Pn	Pn	Pn	03 28 24.9 +1.3
	155nm,0.6s					
MIDA	Miranda	4.19 281	Pn	Pn	Pn	03 28 24.0 +0.3
	94nm,0.4s					
FGSL	Fruska Gora	4.21 1	⇑*i*Pn	Pn	Pn	03 28 23.5 -0.4
MOCO	Biccari - m.te	4.23 278	Pn	Pn	Pn	03 28 14.8 -10
	131nm,0.7s					
RNI2	Rionero Sannit	4.27 282	Pn	Pn	Pn	03 28 25.5 +0.7
	117nm,0.4s					
PYL	PYLOS	4.34 158	*e*Pn	Pn	Pn	03 28 25.8 +0.1
CERA	Filignano	4.36 280	Pn	Pn	Pn	03 28 27.2 +1.2
	171nm,0.8s					
RFI	Roccamonfina	4.36 277	Pn	Pn	Pn	03 28 27.6 +1.6
	4.0nm,0.6s					
DID	Didima	4.38 141	*e*Pn	Pn	Pn	03 28 25.6 -0.7
DID			*e*Sn	Sn	Sn	03 29 18.1 +0.5
RDO	Rodhopi	4.39 86	P	Pn	Pn	03 28 27.7 +1.2
LLI	Lipari	4.46 237	Pn	Pn	Pn	03 28 26.8 -0.6
	263nm,0.7s					
VPL	Vulcano Piano	4.48 237	Pn	Pn	Pn	03 28 29.1 +1.4
	99nm,0.5s					
INTR	Introdacqua	4.51 286	Pn	Pn	Pn	03 28 27.9 -0.2
	120nm,0.7s					
SDI	San Donato	4.53 282	Pn	Pn	Pn	03 28 29.0 +0.7
	28nm,0.3s					
POFI	Posta Fibreno	4.60 282	Pn	Pn	Pn	03 28 30.3 +0.9
	38nm,0.5s					
VCEL	Villa Celiera	4.65 290	Pn	Pn	Pn	03 28 30.8 +0.8
VVLD	Villa Vallelon	4.69 283	Pn	Pn	Pn	03 28 31.2 +0.6
	90nm,0.6s					
ALN	Alexandroupoli	4.78 89	*e*Pn	Pn	Pn	03 28 31.9 +0.1
FAGN	Fagnano	4.80 288	Pn	Pn	Pn	03 28 33.6 +1.5
	134nm,0.6s					
BZS	Buzias	4.86 16	⇑P	Pn	Pn	03 28 33.1 +0.2
BZS	Buzias	4.86 16	⇑*i*P	Pn	Pn	03 28 33.1 +0.2
TERO	Teramo	4.88 292	Pn	Pn	Pn	03 28 33.6 +0.4
	110nm,0.6s					
VLI	Veliai	4.91 148	P	Pn	Pn	03 28 36.8 +3.2
GUAR	Guarcino	4.91 282	Pn	Pn	Pn	03 28 33.9 +0.3
	129nm,0.4s					
AQU	L'Aquila	4.95 289	⇓P	Pn	Pn	03 28 35.6 +1.5
AQU	L'Aquila	4.95 289	⇓*i*P	Pn	Pn	03 28 35.6 +1.5
GZR	Gura Zlata	4.97 26	⇑P	Pn	Pn	03 28 35.7 +1.4
GZR	Gura Zlata	4.97 26	⇑*i*P	Pn	Pn	03 28 35.7 +1.3
CAMP	Campotosto	4.99 291	Pn	Pn	Pn	03 28 35.6 +0.9
	17nm,0.7s					
NVLJ	Novalja	5.09 317	*e*Pn	Pn	Pn	03 28 29.3 -6.7
NVLJ			Sn	Sn	Sn	03 29 31.3 -3.6
FIAM	Fiamignano	5.13 287	Pn	Pn	Pn	03 28 38.0 +1.3
	48nm,0.5s					
CERT	Cerreto	5.17 283	Pn	Pn	Pn	03 28 38.1 +0.9
	33nm,0.5s					
LNSS	Leonessa	5.27 290	Pn	Pn	Pn	03 28 39.4 +0.8
	151nm,0.6s					
NRCA	Norcia	5.29 293	Pn	Pn	Pn	03 28 39.1 +0.3
	32nm,0.4s					
PKSM	Moragy	5.32 352	⇑*i*P	Pn	Pn	03 28 38.2 -1.0
MNS	Montasola	5.48 288	Pn	Pn	Pn	03 28 42.3 +0.9
	18nm,0.4s					
CESI	CESI - Serrava	5.49 294	Pn	Pn	Pn	03 28 41.7 +0.1
	30nm,0.5s					
SNTG	Esanatoglia	5.56 297	Pn	Pn	Pn	03 28 42.2 -0.3
	18nm,0.2s					
BOJS	Bojanci	5.61 326	*i* Pn	Pn	Pn	03 28 42.6 -0.5
BOJS			*e*Sn	Sn	Sn	03 29 41.5 -6.3
BOJS	Bojanci	5.61 326	*i* Pn	Pn	Pn	03 28 42.6 -0.5
BOJS			*e*Sn	Sn	Sn	03 29 41.5 -6.3
BOJS						
	comp=Z,24nm,0.3s					
FSSB	Fossombrone	5.84 300	Pn	Pn	Pn	03 28 45.8 -0.6
MURB	Monte Urbino	5.84 296	Pn	Pn	Pn	03 28 47.8 +1.4
	comp=Z,51nm,0.3s					
BADI	Badiali	6.12 297	Pn	Pn	Pn	03 28 52.2 +2.0
	comp=Z,6µm,13.0s					
PDKS	Podkum	6.16 328	*i* Pn	Pn	Pn	03 28 49.9 -0.9
SKDS	Skadanscina	6.21 320	*i* Pn	Pn	Pn	03 28 50.4 -1.1
SKDS			*i* Sn	Sn	Sn	03 29 57.5 -5.1
LJU	Ljubljana	6.35 325	*i* Pn	Pn	Pn	03 28 53.0 -0.4
CRE	Caprese Michel	6.36 297	Pn	Pn	Pn	03 28 55.6 +2.1
	comp=Z,15nm,0.6s					
MLR	Muntele Rosu	6.42 43	Pn	Pn	Pn	03 28 56.4 +2.1
	comp=Z,0.2nm,0.3s,baz=280,slow=18,SNR=6.3					
MLR			Sn	Sn	Sn	03 30 12.4 +4.8
	comp=Z,0.3nm,0.3s,baz=286,slow=19,SNR=2.5					
MLR	Muntele Rosu	6.42 43	⇑*i*P	Pn	Pn	03 28 56.5 +2.2
SFI	Santa Sofia	6.54 299	Pn	Pn	Pn	03 28 57.7 +1.7
VOY	Vojsko	6.62 322	*e*Pn	Pn	Pn	03 28 56.3 -0.8
VOY			*e*Sn	Sn	Sn	03 30 08.5 -4.2
OBKA	Obir	6.71 328	⇑*i*Pn	Pn	Pn	03 28 57.5 -0.8
OBKA			⇑*i*Sn	Sn	Sn	03 30 13.2 -1.6
PSZ	Piszkesteto	6.97 1	⇑P	Pn	Pn	03 29 01.8 0.0
PSZ	Piszkesteto	6.97 1	⇑*i*P	Pn	Pn	03 29 01.8 -0.1
PSZ	Piszkesteto	6.97 1	⇑*i*Pn	Pn	Pn	03 29 01.8 -0.1
VRI	Vrincioaia	7.07 44	⇑P	Pn	Pn	03 29 05.3 +2.0
VRI	Vrincioaia	7.07 44	⇑P	Pn	Pn	03 29 05.3 +2.0
KECS	Kecovo	7.55 4	*e*PN	Pn	Pn	03 29 10.3 +0.5
KECS			*e*SN	Sn	Sn	03 30 33.8 -1.8
VYHS	Vyhne	7.57 355	*e*PN	Pn	Pn	03 29 16.6 +6.5
KBA	Koelnbreinsper	7.66 325	⇑*i*Pn	Pn	Pn	03 29 10.0 -1.4
KBA			⇓*i*Sn	Sn	Sn	03 30 36.3 -2.0
ABTA	Abfaltersbach	7.80 320	⇓*i*Pn	Pn	Pn	03 29 12.8 -0.5
	SNR=8.3					
MOA	Molln	7.93 332	⇓*i*Pn	Pn	Pn	03 29 14.3 -0.8
	SNR=5.7					
MOA			⇑*i*Sn	Sn	Sn	03 30 43.4 -1.5
CRVS	Cervenica-Dubn	8.05 8	*e*Pn	Pn	Pn	03 29 17.5 +0.9
CRVS	Cervenica-Dubn	8.05 8	*e*PN	Pn	Pn	03 29 17.4 +0.8
PGF	Pioggiola	8.19 285	*e*P	Pn	Pn	03 29 20.5 +1.9
PGF	Pioggiola	8.19 285	*e*Pn	Pn	Pn	03 29 14.6 -4.0
PGF			*e*P			03 29 20.5
PGF	Pioggiola	8.19 285	*e*P	Pn	Pn	03 29 20.5 +1.9
STHS	Stebnicka Huta	8.53 7	*e*PN	Pn	Pn	03 29 28.2 +4.9
WTTA	Wattenberg	8.59 320	⇑*i*Pn	Pn	Pn	03 29 22.8 -1.2
	SNR=12					
WTTA			⇑*i*Sn	Sn	Sn	03 30 59.0 -2.0
WATA	Walderalm	8.67 320	⇑*i*Pn	Pn	Pn	03 29 24.1 -1.0
SQTA	Sankt Quirin	8.77 318	⇑*i*Pn	Pn	Pn	03 29 25.6 -1.0
	SNR=8.1					
SQTA			⇑*i*Sn	Sn	Sn	03 31 03.0 -2.6
MOTA	Moosalm	8.91 319	⇑*i*Pn	Pn	Pn	03 29 27.2 -1.3
	SNR=8.2					
MOTA			⇓*i*Sn	Sn	Sn	03 31 06.2 -2.7
GERES	GERESS Array B	8.98 334	Pn	Pn	Pn	03 29 28.0 -1.4
	comp=Z,0.2nm,0.3s,baz=157,slow=13,SNR=6.6					
GERES			Sn	Sn	Sn	03 31 09.5 -1.2
	comp=Z,1.1nm,0.3s,baz=155,slow=24,SNR=21					
DAVOX	Davos/Dischmat	9.20 313	Pn	Pn	Pn	03 29 31.7 -0.7
	comp=Z,0.6nm,0.3s,baz=155,slow=17,SNR=6.3					
DAVOX			Sn	Sn	Sn	03 31 14.7 -1.3
	comp=Z,1.0nm,0.3s,baz=306,slow=19,SNR=4.6					
KHC	Kasperske Hory	9.27 334	*e*PN	Pn	Pn	03 29 32.4 -1.0
KHC			*ex*	x		03 29 41.2
KHC			*e*SN	Sn	Sn	03 31 14.4 -3.3
KEST	Kesra	9.68 241	Pn	Pn	Pn	03 29 42.5 +3.4
	comp=Z,0.0nm,0.3s,baz=59,slow=5.9,SNR=3.3					
FRF	La Foret Royal	10.05 289	*e*P	Pn	Pn	03 29 45.9 +1.8
FRF			*e*Sn	Sn	Sn	03 31 24.7 -12
	comp=Z,0.8nm,0.3s					
FRF	La Foret Royal	10.05 289	*e*Pn	Pn	Pn	03 29 39.9 -4.2
FRF			*e*P			03 29 45.9
FRF			*e*Sn	Sn	Sn	03 31 24.7 -12
FRF	La Foret Royal	10.05 289	*e*P	Pn	Pn	03 29 45.9 +1.8
MBDF	Montbardon	10.24 296	*e*P	Pn	Pn	03 29 48.3 +1.6
MBDF			*e*Sn	Sn	Sn	03 31 29.8 -12
	comp=Z,3.4nm,0.5s					
LPG	La Plagne	10.51 300	*e*P	Pn	Pn	03 29 52.2 +1.8
LPG			*e*Sn	Sn	Sn	03 31 36.0 -12
	comp=Z,8.0nm,0.5s					
LPG	La Plagne	10.51 300	*e*Pn	Pn	Pn	03 29 46.4 -4.0
LPG			*e*P			03 29 52.2
LPG			*e*Sn	Sn	Sn	03 31 36.0 -12
LPG	La Plagne	10.51 300	*e*P	Pn	Pn	03 29 52.2 +1.8
LPL	La Plagne	10.53 300	*e*P	Pn	Pn	03 29 52.4 +1.8
LPL			*e*Sn	Sn	Sn	03 31 36.6 -12
	comp=Z,5.9nm,0.3s					
LPL	La Plagne	10.53 300	*e*Pn	Pn	Pn	03 29 46.7 -3.9
LPL			*e*P			03 29 52.4
LPL			*e*Sn	Sn	Sn	03 31 36.6 -12
LPL	La Plagne	10.53 300	*e*P	Pn	Pn	03 29 52.4 +1.8
CABF	La Chapelle	11.37 304	*e*Pn	Pn	Pn	03 29 58.5 -3.7
HINF	Hinteralfeld	11.49 311	*e*Pn	Pn	Pn	03 29 59.8 -3.9
HINF			*e*Sn	Sn	Sn	03 31 59.4 -13
	comp=Z,4.0nm,0.3s					
CDF	Champ du Feu	11.58 314	*e*Pn	Pn	Pn	03 30 01.4 -3.6
HAU	Haudompre	11.88 311	*e*Pn	Pn	Pn	03 30 07.0 -2.0
HAU			*e*Sn	Sn	Sn	03 32 09.3 -12
	comp=Z,7.1nm,0.4s					
SMF	Signal de Mont	12.81 302	*e*Pn	Pn	Pn	03 30 18.0 -3.8
SMF			*e*Sn	Sn	Sn	03 32 30.9 -14
	comp=Z,4.4nm,0.4s					
LOR	Lormes	13.03 304	*e*Pn	Pn	Pn	03 30 20.2 -4.7
LOR			*e*Sn	Sn	Sn	03 32 35.9 -14
	comp=Z,3.0nm,0.3s					
BGF	Bois d'Agland	13.43 300	*e*Pn	Pn	Pn	03 30 25.8 -4.5
HFS	Hagfors	19.57 351	P	Pn	Pn	03 31 45.1 -3.7
	comp=Z,0.2nm,0.3s,baz=173,slow=15,SNR=6.0					
EKA	Eskdalemuir Ar	20.85 321	P	P	P	03 32 00.8 -0.8
	comp=Z,2.0nm,0.7s,baz=111,slow=11,SNR=5.8					
FINES	FINESS Array B	20.88 9	P	P	P	03 31 59.6 -2.2
	comp=Z,1.8nm,0.9s,baz=179,slow=9.0,SNR=5.7					
TORD	Torodi Ar. Bea	31.88 215	P	P	P	03 33 44.8 -0.5
	comp=Z,1.0nm,1.2s,mb3.5,baz=25,slow=9.7,SNR=4.3					
ZALV	Zalesovo Beam	44.34 50	P	P	P	03 35 28.1 -1.7
	comp=Z,2.4nm,0.4s,mb4.3,baz=288,slow=8.0,SNR=5.4					
SONM	Songino Array	59.19 52	P	P	P	03 37 19.7 -1.1
	comp=Z,0.5nm,0.5s,mb3.9,baz=295,slow=11,SNR=3.2					
INK	Inuvik	69.23 350	P	P	P	03 38 24.5 -1.8
	comp=Z,0.7nm,0.6s,mb3.8,baz=3.0,slow=5.8,SNR=3.8					
YKA	Yellowknife Ar	70.59 339	P	P	P	03 38 33.2 -1.5
	comp=Z,0.4nm,0.5s,mb3.6,baz=38,slow=5.6,SNR=15					

NEIC ***17*** *03:45:04.2±0.8, 1088N×6302W, h35km, MD3.5(TRN), Error ellipse: s-maj=11.0km s-min=8.2km az=205.0*
NEIC Felt at Chaguaramas and Tacarigua, Trinidad.
ISCJB ***17*** *03:45:08.1±0.5, 1102N±003×6231W±003, h105km±6km, Error ellipse: s-maj=5.2km s-min=3.3km az=40.8*
FUNV ***17*** *03:45:08.8, 1109N×6219W, h99km, MW3.8*
TRN ***17*** *03:45:10.4, 1106N×6227W, h91km, MD3.5*

ISC 17 03:45:09.0±0.5, 1102N±003×6231W±003, h100km±6km, n34, σ0=88/61, 2C-4D, Windward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIV	Guiria	0.38 168		⇓*e*P	Pn	03 45 24.1	0.0
GUIV				*e*S	Sn	03 45 34.8	-0.4
TCE	Chacachacare	0.63 121		*e*P	Pn	03 45 26.7	+0.9
TCE				*e*S	Sn	03 45 37.6	-0.8
ITEV	Isla Los Testi	0.88 292		⇓*e*P	Pn	03 45 28.3	+0.2
TRN	Trinidad (W)	0.96 113		⇑*i*P	Pn	03 45

ASAR			S	S	04 03 12.2	+6.2
	0.7nm,0.7s,baz=313,slow=23,SNR=2.8					
ASAR			ScP	ScP	04 06 52.0	+2.6
	0.9nm,0.7s,baz=330,slow=1.8,SNR=6.7					
SONM	**Songino Array**	**57.37 350**	P	**P**	**04 04 28.9**	**-0.1**
	1.0nm,0.6s,mb3.8,baz=165,slow=8.0,SNR=5.8					
MK31	**Makanchi Array**	**64.18 333**	*e*P	**P**	**04 05 15.0**	**0.0**
MKAR	**Makanchi Array**	**64.18 333**	P	**P**	**04 05 15.3**	**+0.3**
MKAR	**Makanchi Array**	**64.18 333**	P	**P**	**04 05 15.3**	**+0.3**
	3.2nm,0.7s,mb4.3,baz=140,slow=7.8,SNR=21					
ZALV	**Zalesovo Beam**	**68.75 339**	P	**P**	**04 05 43.1**	**-0.8**
	2.4nm,0.4s,mb4.2,baz=138,slow=3.3,SNR=11					
TORD	**Torodi Ar. Bea**	**118.42 280**	PKP	PKPdf	04 13 27.5	+0.5
	0.4nm,0.6s,baz=49,slow=1.9,SNR=23					

IDC 17 04:05:45.9±56.0, 1899S×17782W, h0km, mb4.1/3, mb1 4.3/3, mb1mx3.8/15, mbtmp4.1/3, Error ellipse: s-maj=1020.0km s-min=162.5km az=81.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**38.62**	**242**	P	P	04 13 11.1	+0.1
	0.6nm,0.4s,baz=107,slow=14,SNR=3.0						
WRA	**Warramunga Arr**	**45.00**	**261**	P	P	04 14 03.3	-0.1
	1.1nm,0.3s,baz=96,slow=7.5,SNR=46						
ASAR	**Alice Springs**	**45.05**	**255**	P	P	04 14 03.6	-0.1
	2.4nm,0.6s,baz=95,slow=7.6,SNR=11						

IDC 17 04:06:29.6±3.9, 2044S×16835E, h0km, mb4.1/3, mb1 4.3/3, mb1mx4.0/13, mbtmp4.1/3, Error ellipse: s-maj=129.2km s-min=46.8km az=140.0, Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**2.40**	**227**	*e*P	Pn	04 06 08.2	-62
DZM				*e*S	Sn	04 06 34.7	-66
STKA	**Stephens Creek**	**26.50**	**239**	P	P	04 12 08.9	0.0
	0.9nm,0.5s,baz=63,slow=11,SNR=2.9						
WRA	**Warramunga Arr**	**31.89**	**265**	P	P	04 12 56.8	-0.1
	1.2nm,0.9s,baz=96,slow=8.5,SNR=10						
ASAR	**Alice Springs**	**32.04**	**258**	P	P	04 12 58.3	+0.1
	5.2nm,0.6s,baz=84,slow=8.9,SNR=79						
GERES	**GERESS Array B**	**145.13**	**330**	PKPbc	PKPbc	04 26 07.9	-0.6
	1.9nm,0.8s,baz=64,slow=3.1,SNR=12						

*IDC **17** 04:46:50.3±2.7, 1543S×16805E, h0km, mb4.0/5, mb1 4.2/5, mb1mx3.9/15, mbtmp4.0/5, Error ellipse: s-maj=80.5km s-min=29.4km az=123.0*
*NEIC **17** 04:47:00.6±4.5, 1511S×16725E, h35km, mb3.5/1, Error ellipse: s-maj=113.0km s-min=23.6km az=112.0*

ISC 17 04:46:59.4±4.6, 152S±04×1674E±08, h35km, n8, σ0s46/7, mb4.0/5, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EIDS	**Eidsvold**	**18.38**	**234**	*e*P	**Pn**	**04 51 12.2**	**+0.6**
	3.6nm,1.0s						
STKA	**Stephens Creek**	**28.84**	**230**	*e*P	**P**	**04 52 54.4**	**-0.1**
STKA	**Stephens Creek**	**28.84**	**230**	P	**P**	**04 52 54.4**	**-0.1**
	3.2nm,0.4s,mb4.4,baz=52,slow=8.0,SNR=14						
WRA	**Warramunga Arr**	**31.88**	**257**	P	**P**	**04 53 21.1**	**-0.5**
	0.2nm,0.3s,mb3.4,baz=78,slow=6.2,SNR=8.5						
ASAR	**Alice Springs**	**32.67**	**250**	P	**P**	**04 53 28.2**	**-0.3**
	0.7nm,0.4s,mb3.9,baz=77,slow=9.0,SNR=15						
MJAR	**Matsushiro Arr**	**58.37**	**332**	P	**P**	**04 56 51.8**	**+0.6**
	2.1nm,0.7s,mb4.3,baz=163,slow=9.0,SNR=4.6						
SONM	**Songino Array**	**82.94**	**324**	P	**P**	**04 59 20.2**	**-0.4**
	0.7nm,0.5s,mb4.0,baz=148,slow=8.7,SNR=4.5						
ARCES	**ARCESS Array B**	**120.72**	**345**	PKP	PKPdf	05 05 43.5	-3.6
	2.4nm,0.9s,baz=50,slow=1.7,SNR=7.1						

MAN 17 05:09:26, 1830N×12066E, h44km, mb3.7, ML2.5, MS2.0, Luzon

JMA 17 05:49:39.0±0.2, 3820N×14468E, h57km, M3.8, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**2.52**	**291**	P	Pn	05 50 18.6	+1.2
OFUJ				*e*S	Sn	05 50 48.4	+1.5
MIYJ	**Miyakonagasawa**	**2.62**	**303**	P	Pn	05 50 19.8	+0.9
MIYJ				*e*S	Sn	05 50 50.5	+1.0
JIO	**Ouri**	**2.63**	**277**	P	Pn	05 50 20.3	+1.3
JIO				*e*S	Sn	05 50 51.0	+1.3
JMK	**Ichinoseki**	**2.81**	**287**	P	Pn	05 50 23.2	+1.7
JMK				*e*S	Sn	05 50 56.2	+2.0
JOM	**Ohasama**	**2.94**	**297**	P	Pn	05 50 24.6	+1.5
JOM				S	Sn	05 50 59.3	+2.1
JMM	**Marumori**	**3.09**	**265**	P	Pn	05 50 26.4	+1.2
JMM				S	Sn	05 51 01.0	+0.1
JANG	**Nango**	**3.28**	**312**	P	Pn	05 50 29.0	+1.2
JANG				S	Sn	05 51 06.2	+0.6
JYK	**Kaneyama**	**3.46**	**283**	P	Pn	05 50 31.5	+1.1
JYK				S	Sn	05 51 13.0	+2.9
JRY	**Ryogami san**	**5.11**	**247**	P	Pn	05 50 53.8	+0.9
JRY				*e*S	Sn	05 51 49.3	-1.2
JOD2	**Odawara 2**	**5.36**	**239**	*e*S	Sn	05 51 56.0	-0.8
JTKR	**Abashiri--Toko**	**5.79**	**354**	P	Pn	05 51 01.7	-0.6
JTKR				*e*S	Sn	05 52 04.0	-3.3
JHR	**Hokuryu**	**5.97**	**339**	P	Pn	05 51 06.6	+1.9

MEX 17 06:06:05.1±0.4, 1725N×10052W, h34km±6km, MD3.5, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.31**	**130**	*i* P	Pb	06 06 11.8	-1.3
CAIG				*i* S	Sb	06 06 16.6	-1.9
ACX	**Acapulco**	**0.69**	**123**	*i* P	Pn	06 06 16.5	-1.9
ACX				*i* S	Sn	06 06 25.5	-2.4
MEIG	**Mezcala**	**1.09**	**52**	*i* P	Pn	06 06 21.5	-2.4
MEIG				*i* S	Sn	06 06 35.7	-2.1

IDC 17 06:15:31.3±1.2, 696S×15519E, h0km, mb3.7/5, mb1 3.8/6, mb1mx3.7/14, mbtmp3.7/6, ML4.2/1, MS3.7/5, Ms1 3.7/5, ms1mx3.3/28, Error ellipse: s-maj=31.2km s-min=26.6km az=170.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.31**	**118**	Pn	Pn	06 16 52.5	+0.6
	8.7nm,0.3s,baz=267,slow=17,SNR=3.1						
HNR				Sn	Sn	06 17 55.0	+1.1
	baz=270,slow=19,SNR=2.4						
HNR				LR	LR	06 18 46.2	
	comp=Z,141nm,18.8s,baz=194,slow=37						
WRA	**Warramunga Arr**	**23.99**	**235**	P	P	06 20 48.0	+0.2
	1.8nm,0.9s,baz=60,slow=9.5,SNR=6.9						
ASAR	**Alice Springs**	**26.34**	**229**	P	P	06 21 08.8	-0.3
	0.2nm,0.5s,baz=57,slow=10,SNR=3.2						
KSRS	**Korea Array**	**51.00**	**332**	LR	LR	06 41 23.4	
	comp=Z,72nm,21.9s,baz=318,slow=30						
SONM	**Songino Array**	**69.41**	**327**	LR	LR	06 54 35.9	
	comp=Z,164nm,20.1s,baz=156,slow=34						
VNDA	**Vanda**	**70.61**	**178**	LR	LR	06 54 31.8	
	comp=Z,71nm,18.3s,baz=167,slow=33						
MKAR	**Makanchi Array**	**83.50**	**319**	P	P	06 28 01.2	+0.1
	0.8nm,0.7s,baz=106,slow=5.5,SNR=7.0						
MKAR				LR	LR	07 01 33.9	
	comp=Z,57nm,21.8s,baz=284,slow=33						
ZALV	**Zalesovo Beam**	**84.26**	**326**	P	P	06 28 05.8	+1.1
	0.6nm,0.4s,baz=134,slow=6.2,SNR=3.0						
YKA	**Yellowknife Ar**	**96.22**	**28**	P	P	06 28 59.9	-1.1
	0.1nm,0.7s,baz=262,slow=4.3,SNR=3.9						

*BJI **17** 06:20:10.0, 436S×15267E, h146km, mB5.1, mb4.9*
*MOS **17** 06:20:11.2±1.0, 438S×15224E, h134km, mb5.3/14, MS4.1/4, Error ellipse: s-maj=9.5km s-min=7.0km az=90.0*
*ISCJB **17** 06:20:11.2±0.1, 451S±003×15216E±002, h138km, mb5.0/92, Error ellipse: s-maj=4.5km s-min=3.2km az=170.9*

*GCMT **17** 06:20:12.1±0.2, 450S×15228E, h140km±1km, MW5.2/86, Moment Tensor Solution. s51,c62; s86,c127; Duration: 1s0 Moment tensor: Scale 10¹⁶Nm; Mrr1.40±.17; Mθθ-4.27±.20; Mφφ2.86±.20; Mrθ-0.82±.14; Mrφ5.91±.18; Mθφ2.74±.14; Best double couple: M₀7.50700×10¹⁶ NP1:φs75.00000°,δ66.00000°,λ6.00000°. NP2: φs343.00000°,δ85.00000°,λ156.00000°. Principal axes: T 6.9470, Plg21.0000°, Azm296.0000°; N 1.1110, Plg65.0000°, Azm151.0000°; P -8.0680, Plg13.0000°, Azm31.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **17** 06:20:12.1±0.1, 448S×15223E, mb5.2/42 Error ellipse: s-maj=3.9km s-min=3.0km az=127.0*
*IDC **17** 06:20:16.0±2.2, 447S×15208E, h172km±19km, mb4.4/18, mb1 4.6/20, mb1mx4.6/22, mbtmp4.5/20, MS3.9/11, Ms1 3.9/11, ms1mx3.6/24, Error ellipse: s-maj=13.4km s-min=9.1km az=103.0*

ISC 17 06:20:12.7±0.1, 454S±003×15220E±002, h140km, h140km±1.1km: pP-P, n557, σ0s72/475, mb5.0/92, 105C-99D, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**9.10**	**123**	*e*Pn	**Pn**	**06 22 19.5**	**-1.3**
	331nm,0.8s						
HNR				*e*Sn	**Sn**	**06 24 02.0**	**+0.3**
HNR	**Honiara**	**9.10**	**123**	*e*P	**Pn**	**06 22 19.5**	**-1.4**
HNR				*e*		06 24 02.0	
HNR				pmax	pmax		
	comp=Z,331nm,0.8s						
HNR	**Honiara**	**9.10**	**123**	P	**Pn**	**06 22 19.0**	**-1.9**
	comp=Z,17nm,0.3s,baz=229,slow=1.7,SNR=13						
HNR				S	**Sn**	**06 24 00.8**	**-1.0**
	comp=Z,16nm,0.3s,baz=93,slow=12,SNR=2.3						
CTA	**Charters Tower**	**16.51**	**200**	*e*P	**Pn**	**06 23 58.3**	**+2.1**
	comp=Z,52nm,0.9s						
CTA				*e*S	**S**	**06 27 04.8**	**+4.7**
CTA	**Charters Tower**	**16.51**	**200**	*e*P	**Pn**	**06 23 58.3**	**+2.1**
CTA				*e*S	**S**	**06 27 04.8**	**+4.7**
CTA				pmax	pmax		
	comp=Z,53nm,0.9s						
CTA	**Charters Tower**	**16.51**	**200**	P	**Pn**	**06 23 58.4**	**+2.2**
	comp=Z,4.0nm,0.3s,baz=27,slow=13,SNR=58						
CTA				LR	LR	06 29 39.8	
	comp=Z,385nm,18.4s,baz=40,slow=34						
CTAO	**Charters Tower**	**16.51**	**200**	*e*Pn	**Pn**	**06 23 56.5**	**+0.4**
	comp=Z,100nm,1.0s						
CTAO	**Charters Tower**	**16.51**	**200**	*e*P	**Pn**	**06 23 56.5**	**+0.3**
CTAO				pmax	pmax		
	comp=Z,100nm,1.0s						
GUMO	**Guam**	**19.42**	**338**	P	**P**	**06 24 29.0**	**+0.8**
	comp=Z,6.5nm,0.3s,baz=178,slow=8.8,SNR=7.0						
EIDS	**Eidsvold**	**20.74**	**183**	*e*P	**P**	**06 24 42.5**	**+0.2**
	comp=Z,16nm,0.8s						
EIDS				*e*sP	sP	06 25 24.8	-0.3
KAKA	**Kakadu**	**21.14**	**246**	*e*P	**P**	**06 24 46.6**	**-0.2**
	comp=Z,227nm,0.6s,mb5.7						
KAKA				*e*S	**S**	**06 28 32.2**	**-2.0**
WRAB	**Tennant Creek**	**23.16**	**227**	P	**P**	**06 25 07.0**	**+0.1**
	comp=Z,200nm,0.2s,mb6.2						
WRAB	**Tennant Creek**	**23.16**	**227**	*e*P	**P**	**06 25 05.4**	**-1.5**
	comp=Z,133nm,1.0s,mb5.3						
WRAB	**Tennant Creek**	**23.16**	**227**	*c i*P	**P**	**06 25 07.7**	**+0.8**
WB2	**Warramunga Arr**	**23.17**	**227**	*e*P	**P**	**06 25 07.5**	**+0.5**
WB2				*e*pP		06 25 35.0	
WB2				*e*S	**S**	**06 29 06.7**	**-1.4**
WRA	**Warramunga Arr**	**23.18**	**227**	P	**P**	**06 25 07.4**	**+0.3**
WRA				S	**S**	**06 29 07.2**	**-1.0**
WRA	**Warramunga Arr**	**23.18**	**227**	P	**P**	**06 25 07.4**	**+0.4**
	comp=Z,56nm,0.7s,mb5.1,baz=51,slow=9.9,SNR=216						
WRA				S	**S**	**06 29 07.2**	**-1.0**
	comp=Z,70nm,0.9s,baz=44,slow=15,SNR=24						
WRA				LR	LR	06 33 59.9	
	comp=Z,188nm,21.2s,baz=45,slow=36						
ARMA	**Armidale**	**25.75**	**181**	*e*P	**P**	**06 25 33.2**	**+2.9**
ASAR	**Alice Springs**	**25.95**	**221**	P	**P**	**06 25 32.4**	**+0.2**
	comp=Z,10nm,0.7s,mb4.6,baz=51,slow=8.8,SNR=60						
ASAR				S	**S**	**06 29 49.8**	**-2.5**
	comp=Z,5.7nm,0.7s,baz=48,slow=14,SNR=6.1						
BATI	**Kupang**	**28.84**	**257**	P	**P**	**06 25 58.3**	**+0.2**
	comp=Z,52nm,0.8s,mb5.3,baz=123,slow=8.5,SNR=5.4						
BATI				LR	LR	06 37 49.6	
	comp=Z,240nm,21.2s,baz=292,slow=37						
STKA	**Stephens Creek**	**28.96**	**199**	*e*P	**P**	**06 25 59.3**	**+0.3**
	comp=Z,3.3nm,0.6s,mb4.2						
STKA	**Stephens Creek**	**28.96**	**199**	P	**P**	**06 25 58.2**	**-0.7**
	comp=Z,2.0nm,0.5s,mb4.1,baz=32,slow=12,SNR=5.2						
STKA				LR	LR	06 37 20.5	
	comp=Z,240nm,19.6s,baz=21,slow=35						
FITZ	**Fitzroy Crossi**	**29.27**	**240**	*e*P	**P**	**06 26 01.5**	**-0.3**
	comp=Z,93nm,1.0s,mb5.5						
FITZ				*e*pP	pP	06 26 29.7	-2.0
FITZ				*e*S	**S**	**06 30 42.1**	**-2.6**
FITZ	**Fitzroy Crossi**	**29.27**	**240**	P	**P**	**06 26 01.4**	**-0.4**
	comp=Z,50nm,0.9s,mb5.2,baz=66,slow=7.5,SNR=64						
FITZ				LR	LR	06 38 02.1	
	comp=Z,229nm,20.8s,baz=58,slow=36						
FORT	**Forrest**	**34.62**	**218**	*e*P	**P**	**06 26 48.5**	**0.0**
	comp=Z,28nm,0.7s,mb5.0						
FORT				*e*pP	pP	06 27 16.7	-2.1
FORT				*e*S	**S**	**06 32 06.5**	**-1.1**
MYLDM	**Lahad Datu**	**35.02**	**286**	⇓P	**P**	**06 26 55.5**	**+3.3**
TSM	**Tawau**	**35.40**	**284**	⇑P	**P**	**06 26 56.7**	**+1.2**
MBWA	**Marble Bar**	**35.59**	**239**	*e*P	**P**	**06 26 56.4**	**-0.6**
SDKM	**Sandakan**	**36.39**	**286**	⇓P	**P**	**06 27 05.0**	**+1.1**
KDM	**Kudat**	**37.09**	**288**	⇑P	**P**	**06 27 10.9**	**+1.1**
KKM	**Kota Kinabalu**	**37.44**	**286**	*e*P	**P**	**06 27 13.2**	**+0.4**
KKM				*e*pP	pP	06 27 44.2	+0.8
KKM	**Kota Kinabalu**	**37.44**	**286**	⇑P	**P**	**06 27 10.9**	**-1.8**
BTM	**Bintulu**	**39.83**	**280**	⇓P	**P**	**06 27 35.4**	**+2.7**
URZ	**Urewera**	**40.51**	**149**	P	**P**	**06 27 39.4**	**+1.5**
	comp=Z,4.5nm,0.4s,mb4.5,baz=24,slow=3.9,SNR=9.6						
URZ				LR	LR	06 41 32.1	
	comp=Z,231nm,18.2s,baz=28,slow=31						
SBUM	**Sibu**	**40.55**	**279**	⇓P	**P**	**06 27 35.4**	**-3.2**
SNZO	**South Karori**	**41.80**	**154**	*e*P	**P**	**06 27 48.2**	**-0.2**
SNZO				*e*pP	pP	06 28 20.2	+0.6
KLBR	**Kellerberrin**	**42.05**	**226**	*e*P	**P**	**06 27 49.9**	**-0.8**
	comp=Z,15nm,0.4s,mb5.0						
KLBR				*e*pP	pP	06 28 19.1	-2.8
KLBR				*e*S	**S**	**06 33 53.3**	**-6.2**
KSM	**Kuching**	**42.28**	**277**	*e*P	**P**	**06 27 53.5**	**+0.7**
RPZ	**Rata Peaks**	**42.42**	**160**	P	**P**	**06 27 54.6**	**+1.1**
	comp=Z,40nm,0.8s,mb5.1,baz=58,slow=18,SNR=9.5						
RPZ				LR	LR	06 41 20.8	
	comp=Z,117nm,21.9s,baz=107,slow=30						
MUN	**Mundaring**	**43.37**	**227**	*e*P	**P**	**06 28 00.0**	**-1.3**
MUN				*e*pP	pP	06 28 30.4	-2.3
MUN				*e*S	**S**	**06 34 17.9**	**-0.9**
SSE	**Sheshan**	**46.17**	**322**	P	**P**	**06 28 23.5**	**+0.1**
SSE				XP	sP	06 29 10.5	-0.4
SSE				PP	PP	06 30 13.5	-0.8
SSE				S	**S**	**06 34 59.1**	**0.0**
SSE				XS	sS	06 35 54.8	+0.7
SSE				AMB	AMB		
	comp=Z,22nm,0.7s,mb4.9						
SSE				AMB	AMB		
	comp=Z,35nm,4.6s						
SSE				LR	LR		
	comp=N,152nm,17.6s						
SSE				LR	LR		
	comp=E,205nm,17.6s						
SSE				LR	LR		
	comp=Z,67nm,14.7s						
KSRS	**Korea Array**	**47.50**	**334**	P	**P**	**06 28 32.2**	**-1.4**
	comp=Z,4.8nm,0.8s,mb4.2,baz=148,slow=8.1,SNR=20						
QIZ	**Qiongzhong**	**47.82**	**301**	P	**P**	**06 28 38.5**	**+2.0**
QIZ				S	**S**	**06 35 21.9**	**-1.0**
QIZ				XS	sS	06 36 18.4	+0.1
QIZ				AMB	AMB		
	comp=Z,12nm,0.8s,mb4.6						
NJ2	**Nanjing**	**48.27**	**321**	*e*P	**P**	**06 28 40.6**	**+0.9**
NJ2				AP	pP	06 29 11.6	-0.1
NJ2				XP	sP	06 29 28.4	+1.1
NJ2				PP	PP	06 30 35.1	+1.6
NJ2				S	**S**	**06 35 29.0**	**+0.2**
NJ2				XS	sS	06 36 27.0	+2.8
NJ2				AMB	AMB		
	comp=Z,30nm,0.6s,mb5.1						
NJ2				AMB	AMB		
	comp=Z,260nm,3.8s						
NJ2				LR	LR		
	comp=N,400nm,16.2s						
NJ2				LR	LR		
	comp=E,340nm,17.1s						
NJ2				LR	LR		
	comp=Z,5μm,15.4s						
ASAJ	**Asahikawa**	**49.20**	**351**	LR	LR	06 46 20.9	
	comp=Z,133nm,21.4s,baz=301,slow=32						
FRIM	**Kepong**	**51.12**	**278**	⇓P	**P**	**06 29 02.3**	**+0.7**
IPM	**Ipoh**	**51.90**	**279**	⇑P	**P**	**06 29 08.0**	**+0.5**
YSS	**Yuzh-Sakhalins**	**51.95**	**352**	⇑*e*P	**P**	**06 29 05.9**	**-1.2**
YSS				pmax	pmax		
	comp=Z,10.0nm,1.5s,mb4.2						
KULM	**Kulim**	**52.40**	**280**	*e*P	**P**	**06 29 11.0**	**-0.1**
KULM	**Kulim**	**52.40**	**280**	⇑P	**P**	**06 29 11.8**	**+0.6**
SNG	**Songkhla**	**52.78**	**282**	P	**P**	**06 29 14.5**	**+0.6**
MDJ	**Mudanjiang**	**52.97**	**340**	P	**P**	**06 29 14.3**	**-0.4**
MDJ				AP	pP	06 29 46.8	-0.4
MDJ				XP	sP	06 30 02.5	-0.2
MDJ				PP	PP	06 31 15.6	-0.3
MDJ				SCP	ScP	06 34 04.8	-1.3
MDJ				PCS	PcS	06 34 19.9	-0.5
MDJ				S	**S**	**06 36 33.9**	**+0.6**
MDJ				AMB	AMB		
	comp=Z,7.0nm,0.8s,mb4.4						
MDJ				AMB	AMB		
	comp=Z,66nm,4.8s						
KKTK	**Khon Kaen**	**53.04**	**294**	P	**P**	**06 29 16.6**	**+0.9**
	comp=Z,370nm,0.7s,mb6.2						
GYA	**Guiyang**	**53.76**	**308**	P	**P**	**06 29 21.9**	**+1.1**
GYA				AP	pP	06 29 55.8	+2.3
GYA				XP	sP	06 30 12.0	+3.1
GYA				PCP	PcP	06 30 26.6	+1.5
GYA				PP	PP	06 31 26.8	+3.4
GYA				SCP	ScP	06 34 09.6	-0.5
GYA				PCS	PcS	06 34 24.3	-0.3
GYA				S	**S**	**06 36 44.8**	**+0.1**
GYA				XS	sS	06 37 42.8	+1.7
GYA				SCS	ScS	06 38 54.3	-2.3
GYA				SS	SS	06 40 27.6	-0.1
GYA				AMB	AMB		
	comp=Z,20nm,1.0s,mb4.8						
GYA				AMB	AMB		
	comp=Z,120nm,5.7s						
GYA				LR	LR		
	comp=N,490nm,22.9s						
GYA				LR	LR		
	comp=E,470nm,20.1s						
GYA				LR	LR		
	comp=Z,450nm,20.7s						
CN2	**Changchun**	**53.82**	**336**	*e*P	**P**	**06 29 24.0**	**+3.1**
CN2				*e*AP	pP	06 29 56.5	+3.0
CN2				*e*S	**S**	**06 36 47.0**	**+2.2**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.6						
NST	**Nakhon Sawan**	**55.30**	**292**	⇓P	**P**	**06 29 33.5**	**+1.4**
	comp=Z,67nm,0.8s,mb5.4						
BJI	**Beijing**	**55.34**	**327**	P	**P**	**06 29 31.8**	**-0.2**
BJI				AP	pP	06 30 05.3	+0.5
BJI				XP	sP	06 30 20.8	+0.6
BJI				S	**S**	**06 37 05.0**	**-0.4**
BJI				XS	sS	06 38 06.8	+4.7
BJI				AMB	AMB		
	comp=Z,7.0nm,1.1s,mb4.3						
BJI				LR	LR		
	comp=N,278nm,16.0s						
BJI				LR	LR		
	comp=E,175nm,16.4s						
BJI				LR	LR		
	comp=Z,332nm,26.3s						
XAN	**Xi'an**	**56.02**	**317**	P	**P**	**06 29 36.9**	**-0.1**
XAN				AMB	AMB		
	comp=Z,14nm,0.9s,mb4.8						
KMI	**Kunming**	**56.34**	**304**	P	**P**	**06 29 41.3**	**+1.9**
KMI				AP	pP	06 30 15.1	+2.8
KMI				XP	sP	06 30 30.9	+3.2
KMI				PP	PP	06 31 50.4	+3.9
KMI				S	**S**	**06 37 17.8**	**-1.4**
KMI				XS	sS	06 38 17.8	+1.8
KMI				SS	SS	06 41 10.9	+2.4
KMI				AMB	AMB		
	comp=Z,23nm,0.9s,mb5.0						
KMI				AMB	AMB		
	comp=Z,145nm,3.8s						
KMI				LR	LR		
	comp=N,172nm,16.1s						
KMI				LR	LR		
	comp=E,127nm,14.2s						
KMI				LR	LR		
	comp=Z,102nm,15.4s						
HKL	**Haleakala**	**56.44**	**62**	*e*P	**P**	**06 29 39.7**	**-0.5**
CHG	**Chiang Mai**	**57.34**	**296**	⇑P	**P**	**06 29 47.4**	**+0.9**
	comp=Z,40nm,1.2s,mb5.1						
CHTO	**Chiang Mai**	**57.34**	**296**	*e*P	**P**	**06 29 47.8**	**+1.3**
PET	**Petropavlovsk**	**57.60**	**5**	*e*P	**P**	**06 29 47.1**	**-0.6**
PET				*e*S	**S**	**06 37 40.5**	**+5.8**
PET				pmax	pmax		
	comp=Z,25nm,0.9s,mb5.0						
PET				MLR	MLR		
	comp=Z,100nm,19.0s						
CD2	**Chengdu**	**58.11**	**311**	P	**P**	**06 29 52.3**	**+0.5**
CD2				AP	pP	06 30 25.5	+0.7
CD2				XP	sP	06 30 42.0	+1.8
CD2				PP	PP	06 32 05.0	+2.9
CD2				PCS	PcS	06 34 42.3	-1.3
CD2				S	**S**	**06 37 41.3**	**-0.9**
CD2				XS	sS	06 38 38.5	-0.8
CD2				SCS	ScS	06 39 24.1	-3.8
CD2				SS	SS	06 41 36.4	+0.3
CD2				AMB	AMB		
	comp=Z,50nm,0.7s,mb5.5						
CD2				LR	LR		
	comp=N,210nm,16.8s						
CD2				LR	LR		
	comp=Z,130nm,14.4s						
HHC	**Hu-ho-hao-te**	**58.49**	**325**	*e*P	**P**	**06 29 55.1**	**+1.0**
HHC				AP	pP	06 30 28.8	+1.5
HHC				XP	sP	06 30 44.3	+1.7
HHC				PP	PP	06 32 10.6	+5.4
HHC				PCS	PcS	06 34 45.0	+0.2
HHC				S	**S**	**06 37 52.8**	**+6.1**
HHC				XS	sS	06 38 45.3	+1.4
HHC				SCS	ScS	06 39 28.3	-1.9
HHC				SS	SS	06 41 40.5	-1.1
HHC				AMB	AMB		
	comp=Z,17nm,0.3s,mb5.3						
HHC				AMB	AMB		
	comp=Z,103nm,4.7s						
HHC				LR	LR		
	comp=N,134nm,4.7s						
HHC				LR	LR		
	comp=E,231nm,4.6s						
HHC				LR	LR		
	comp=Z,186nm,14.5s						
LZH	**Lanzhou**	**60.63**	**316**	*e*P	**P**	**06 30 09.9**	**+1.0**
LZH				AP	pP	06 30 41.5	-0.8
LZH				XP	sP	06 30 56.9	-0.7
LZH				PP	PP	06 32 24.0	-0.3
LZH				*e*S	**S**	**06 38 16.3**	**+2.0**
LZH				XS	sS	06 39 14.0	+2.1
LZH				SS	SS	06 42 19.0	+3.6

SHL Shillong 65.66 301 eP P 06 30 43.0 +0.7
SONM Songino Array 65.79 328 P P 06 30 42.9 +0.2
comp=Z,1.4nm,0.6s,mb4.0,baz=149,slow=6.9,SNR=5.6
SEY Seymchan 67.28 0⇑ eP P 06 30 50.3 -1.6
LSA Lhasa 67.60 305 P P 06 30 56.1 +1.5
LSA S S 06 39 42.9 +2.4
LSA AMB AMB
comp=Z,20nm,0.7s,mb5.0
LSA Lhasa 67.60 305 eP P 06 30 54.7 +0.1
comp=Z,22nm,0.9s,mb4.9
LSA Lhasa 67.60 305 eP P 06 30 54.7 +0.1
LSA pmax pmax
comp=Z,23nm,0.9s,mb4.9
YAK Yakutsk 68.60 349⇑ eP P 06 31 00.9 +0.8
YAK pmax pmax
comp=Z,16nm,0.6s,mb4.9
ZAK Zakamensk 68.96 329 eP P 06 31 01.9 -0.7
ZAK e pP 06 31 35.6 -1.1
ZAK pmax pmax
comp=Z,3.0nm,0.9s,mb4.0
ZAK pmax pmax
comp=Z,6.0nm,1.0s,mb4.3
BOD Bodaibo 69.33 339 eP P 06 31 02.9 -1.8
TLY Talaya 69.55 330⇑ eP P 06 31 06.2 0.0
MOY Mondy 70.88 329 eP P 06 31 15.1 +0.8
VIS Vishakhapatnam 71.41 290 eP P 06 31 18.1 -0.1
VIS AMb AMB 06 31 20.1
comp=Z,51nm,2.2s,mb4.9
GUN Gumba 71.47 301 eP P 06 31 19.1 +0.7
comp=Z,108nm,0.8s,mb5.7
PKI Pulchoki 71.79 301 eP P 06 31 20.4 +0.1
comp=Z,101nm,1.2s,mb5.4
PKI Pulchoki 71.79 301 eP P 06 31 20.4 +0.1
PKI pmax pmax
comp=Z,101nm,1.2s,mb5.4
KKN Kakani 71.95 301 eP P 06 31 21.3 0.0
comp=Z,65nm,0.8s,mb5.4
KKN Kakani 71.95 301 eP P 06 31 21.3 0.0
KKN pmax pmax
comp=Z,65nm,0.8s,mb5.4
DMN Daman 72.06 301 eP P 06 31 22.4 +0.5
comp=Z,110nm,0.8s,mb5.6
PALK Pallekele 72.31 279 eP P 06 31 22.6 -1.0
GKN Gorkha 72.56 301 eP P 06 31 24.8 -0.1
comp=Z,96nm,0.9s,mb5.5
CHGN Chignik 72.75 26 eP P 06 31 24.1 -1.3
BILL Bilibino 73.09 5⇑ eP P 06 31 26.9 -0.2
BILL i *PP pP 06 32 00.3 -1.3
BILL e 06 34 08.6
BILL i S S 06 40 34.6 -8.2
BILL pmax pmax
comp=Z,8.0nm,1.2s,mb4.3
VNDA Vanda 73.11 178 P P 06 31 27.0 -0.2
comp=Z,1.9nm,0.8s,mb3.9,baz=316,slow=7.4,SNR=7.2
GAMB Gambell 73.29 16 eP P 06 31 28.4 0.0
GAMB epP pP 06 32 02.7 -0.2
KOLN Koldanda 73.39 301 eP P 06 31 29.8 0.0
comp=Z,95nm,0.8s,mb5.6
BLSP Bilaspur 73.40 295 eP P 06 31 29.6 -0.3
BLSP AMb AMB 06 31 31.2
comp=Z,58nm,0.7s,mb5.4
SBA Scott Base 73.67 177 eP P 06 31 30.8 +0.3
comp=Z,164nm,2.6s,mb5.3
SBA Scott Base 73.67 177 eP P 06 31 30.8 +0.3
SBA pmax pmax
comp=Z,164nm,2.6s,mb5.3
WMQ Urumqi 75.14 317⇓ iP P 06 31 40.5 +0.9
WMQ PCP PcP 06 31 54.0 +1.5
WMQ AP pP 06 32 15.0 +0.8
WMQ XP sP 06 32 31.0 +1.8
WMQ PP PP 06 34 32.0 +2.2
WMQ S S 06 41 06.0 -0.8
WMQ AMB AMB
comp=Z,13nm,1.1s,mb4.5
WMQ AMB AMB
comp=Z,204nm,4.6s
WMQ LR LR
comp=N,292nm,26.5s
WMQ LR LR
comp=E,258nm,29.0s
WMQ LR LR
comp=Z,174nm,25.2s
TNA Tin City 75.71 16 eP P 06 31 42.2 -0.1
HYB Hyderabad 75.84 289 eP P 06 31 43.5 -0.6
comp=Z,50nm,1.0s,mb5.1
HYB Hyderabad 75.84 289 eP P 06 31 43.5 -0.6
HYB pmax pmax
comp=Z,50nm,1.0s,mb5.1
HYB Hyderabad 75.84 289 i P P 06 31 44.0 -0.1
comp=Z,50nm,1.0s,mb5.1
KOD Kodaikanal 75.85 282 eP P 06 31 43.9 -0.3
KOD AMb AMB 06 31 46.2
comp=Z,34nm,1.2s,mb4.9
NGP Nagpur 76.02 293 eP P 06 31 44.0 -1.1
NGP AMb AMB 06 31 45.0
comp=Z,44nm,1.3s,mb4.9
SVW2 Sparrevohn 76.82 23 eP P 06 31 49.2 +0.5
TIXI Tiksi 77.56 353⇓ iP P 06 31 51.7 -0.9
TIXI pmax pmax
comp=Z,7.0nm,2.5s,mb3.9
TTA Tatalina 77.75 22 eP P 06 31 54.0 +0.2
AKL Akola 77.82 292 eP P 06 31 54.5 -0.7
AKL AMb AMB 06 31 54.9
comp=Z,292nm,0.7s,mb6.0
BHPL Bhopal 77.88 295 eP P 06 31 54.5 -1.0
BHPL AMb AMB 06 31 56.4
comp=Z,31nm,1.1s,mb4.8
NDI New Delhi 79.08 300 eP P 06 32 01.0 -0.9
NDI AMb AMB 06 32 03.5
comp=Z,27nm,1.0s,mb4.8
SMLA Simla 79.61 303 eP P 06 32 04.7 -0.1
SMLA AMb AMB 06 32 05.6
comp=Z,27nm,1.0s,mb4.8
PMR Palmer 79.69 25 eP P 06 32 03.8 -0.7
MK31 Makanchi Array 79.74 319 eP P 06 32 04.9 -0.1
MKAR Makanchi Array 79.74 319 P P 06 32 03.7 -1.3
MKAR PKKPbc PKKPbc 06 50 49.9 -3.3
MKAR Makanchi Array 79.74 319 P P 06 32 03.7 -1.3
comp=Z,8.6nm,0.9s,mb4.4,baz=101,slow=6.3,SNR=50
MKAR PKKPbc PKKPbc 06 50 49.9 -3.3
comp=Z,0.3nm,0.7s,baz=324,slow=3.5,SNR=3.9
KAD Karad 79.95 288 eP P 06 32 05.6 -1.3
KAD AMb AMB 06 32 07.9
comp=Z,32nm,0.7s,mb5.0
IMA2 Indian Mountai 80.41 20 eP P 06 32 08.3 +0.1
POO Poona 80.44 290⇓ iP P 06 32 08.0 -1.4
comp=Z,40nm,1.0s,mb5.0
ZAA0 Zalesovo Array 80.60 326 eP P 06 32 08.1 -1.5
ZAA0 esP sP 06 32 57.7 -1.8
ZALV Zalesovo Beam 80.60 326 P P 06 32 08.3 -1.3
ZALV Zalesovo Beam 80.60 326 P P 06 32 08.3 -1.3
comp=Z,6.3nm,0.6s,mb4.5,baz=111,slow=6.0,SNR=29
ZAL Zalesovo 80.61 326 P P 06 32 08.3 -1.3
EYAK Cordova Ski Ar 80.64 26 eP P 06 32 09.4 -0.2
comp=Z,91nm,0.8s,mb5.5
MCK McKinley 80.85 23 eP P 06 32 09.7 -1.0
comp=Z,58nm,1.0s,mb5.2
MCK McKinley 80.85 23 eP P 06 32 09.7 -0.9
MCK pmax pmax
comp=Z,58nm,1.0s,mb5.2
COLA College 81.83 22 eP P 06 32 14.1 -1.7
comp=Z,26nm,0.9s,mb4.9
COLA College 81.83 22 d iP P 06 32 14.0 -1.8
MENT Mentasta 82.56 25 eP P 06 32 19.6 0.0
KURK Kurchatov 83.19 322 P P 06 32 22.9 -0.3
comp=Z,67nm,0.9s,mb5.4,SNR=6.8
KURK Kurchatov 83.19 322 eP P 06 32 22.4 -0.7
KURK Kurchatov 83.19 322⇑ eP P 06 32 22.2 -1.0
TKM2 Tokmak 2 83.32 314 eP P 06 32 24.3 +0.3
comp=Z,4.7nm,0.6s,mb4.4
TKM2 Tokmak 2 83.32 314 eP P 06 32 24.3 +0.3
TKM2 pmax pmax
comp=Z,5.0nm,0.6s,mb4.4
TKM2 Tokmak 2 83.32 314 P P 06 32 24.4 +0.4
SNR=8.1
KZA Kyzart 83.39 313 P P 06 32 26.0 +1.6
SNR=15
CHMS Chumysh 83.94 314 P P 06 32 27.7 +0.5
SNR=5.0
UCH Uchtor 83.96 313 eP P 06 32 28.5 +1.2
comp=Z,16nm,1.0s,mb4.7
UCH Uchtor 83.96 313 P P 06 32 28.6 +1.3
SNR=21
FRU Bishkek 84.00 314 eP P 06 32 27.0 -0.5
AAK Ala-Archa 84.05 314 P P 06 32 27.3 -0.4
comp=Z,72nm,0.9s,mb5.4,SNR=10
AAK Ala-Archa 84.05 314 P P 06 32 26.0 -1.7
SNR=5.6
USP Ospenovka 84.18 314 P P 06 32 28.4 0.0
SNR=16
EGAK Eagle 84.36 23 eP P 06 32 28.4 -0.3
AML Almayashu 84.53 313 eP P 06 32 31.1 +0.9
comp=Z,42nm,0.9s,mb5.2
AML Almayashu 84.53 313 P P 06 32 31.2 +1.0
SNR=44
EKS2 Erkin-Say 84.58 313 eP P 06 32 30.8 +0.4
comp=Z,14nm,0.8s,mb4.7
EKS2 Erkin-Say 84.58 313 P P 06 32 31.5 +1.1
SNR=9.3
DAWY Dawson 84.79 24 eP P 06 32 31.1 +0.1
SKAG Skagway 85.08 29 eP P 06 32 32.9 +0.4
comp=Z,30nm,1.4s,mb4.8
SKAG LR LR
comp=Z,500nm,18.0s
QSPA South Pole Qui 85.42 180 eP P 06 32 34.5 +0.7
comp=Z,24nm,0.9s,mb4.9
MAW Mawson 85.58 203 eP P 06 32 34.9 0.0
comp=Z,4.7nm,0.6s,mb4.4
MAW Mawson 85.58 203 eP P 06 32 34.9 0.0
MAW pmax pmax
comp=Z,5.0nm,0.6s
MAW Mawson 85.58 203 P P 06 32 34.3 -0.6
comp=Z,7.7nm,0.9s,mb4.5,baz=91,slow=5.6,SNR=20
MAW LR LR 07 06 20.7
comp=Z,63nm,18.6s,baz=250,slow=32
DLBC Dease Lake 87.47 31 eP P 06 32 43.9 -0.3
O01C Eel River Cons 88.30 50 ⇑P P 06 32 49.0 +0.4
baz=88
INK Inuvik 88.42 21 eP P 06 32 48.0 -0.6
comp=Z,764nm,1.0s
INK epP pP 06 33 23.5 -0.7
KHMM Horse Mountain 88.46 49 eP P 06 32 48.8 -0.5
P01C Double 8 Ranch 88.58 50 ⇓P P 06 32 49.5 -0.5
baz=89
BVAR Borovoye Array 88.67 323 P P 06 32 47.8 -2.2
comp=Z,6.6nm,0.7s,mb4.7,baz=102,slow=6.2,SNR=47
L02A Cave Junction 88.72 48 ⇑P P 06 32 50.8 +0.3
baz=89
BRVK Borovoye 88.74 323 P P 06 32 48.0 -2.3
comp=Z,52nm,0.9s,mb5.5,SNR=5.7
BRVK Borovoye 88.74 323 eP P 06 32 48.9 -1.5
comp=Z,5.7nm,0.7s,mb4.6
BRVK Borovoye 88.74 323 eP P 06 32 48.9 -1.4
BRVK pmax pmax
comp=Z,6.0nm,0.7s,mb4.6
N02C Big Bar 88.77 49 ⇑P P 06 32 51.5 +0.7
baz=89
K02A Glendale 88.88 47 ⇑P P 06 32 51.2 0.0
baz=89
J02A Umpqua 88.89 47 ⇑P P 06 32 51.3 0.0
baz=89
GASB Alder Springs 89.08 50 ⇑P P 06 32 52.8 +0.5
baz=89
O02C Red Bluff 89.09 50 P P 06 32 53.2 +0.9
baz=89,SNR=7.3
M02C Callahan 89.18 49 ⇓P P 06 32 52.7 +0.1
baz=89,SNR=9.5
HUMO Hull Mountain 89.25 47 eP P 06 32 52.6 -0.4
comp=Z,14nm,0.8s,mb5.0
HUMO Hull Mountain 89.25 47 ⇓P P 06 32 52.9 0.0
baz=89,SNR=9.2
H03A Soap Creek Ran 89.25 45 ⇑P P 06 32 53.4 +0.4
baz=89
E03A Lebam 89.30 43 ⇓P P 06 32 53.4 +0.3
baz=89
WDC Whiskeytown Da 89.32 49 ⇓P P 06 32 53.6 +0.3
baz=89
YBH Yreka Blue Hor 89.33 48 eP P 06 32 54.0 +0.6
comp=Z,32nm,1.4s,mb5.1
YBH Yreka Blue Hor 89.33 48 eP P 06 32 54.0 +0.6
YBH pmax pmax
comp=Z,32nm,1.4s
YBH Yreka Blue Hor 89.33 48 P P 06 32 54.1 +0.7
baz=89,SNR=15
J03A Ideyld Park 89.33 47 ⇑P P 06 32 53.8 +0.5
baz=89
M03C McCloud 89.71 49 P P 06 32 55.5 +0.3
baz=90,SNR=11
I04A Tendick Farm, 89.78 46 ⇑P P 06 32 55.4 0.0
baz=90
C04A Brinnon 89.84 42 ⇓P P 06 32 55.4 -0.3
baz=90
G04A Mulino 89.89 45 ⇓P P 06 32 56.2 +0.3
baz=90
J04A Umpqua Nationa 89.94 47 ⇑P P 06 32 56.4 +0.2
baz=90
M04C Macdoel 89.98 48 P P 06 32 56.6 +0.2
baz=90,SNR=8.8
L04A Klamath Falls 89.98 48 ⇓P P 06 32 56.3 -0.1
baz=90
ORV Oroville 90.00 50 ⇑P P 06 32 56.2 -0.4
baz=90
F04A Amboy 90.01 44 ⇑P P 06 32 56.3 -0.2
baz=90
H04A Detroit Lake 90.04 45 ⇑P P 06 32 56.0 -0.6
baz=90
K04A Chilquin 90.15 47 ⇓P P 06 32 56.9 -0.3
baz=90
HATC Hat Creek Radi 90.16 49 ⇓P P 06 32 56.8 -0.5
baz=90
U04C Hernandez Rese 90.26 54 ⇑P P 06 32 57.2 -0.6
baz=90
O04C Chester 90.40 50 ⇑P P 06 32 58.1 -0.3
baz=90
PKD Parkfield 90.41 54 ⇓P P 06 32 58.2 -0.4
baz=90
D05A Enumclaw 90.45 43 ⇑P P 06 32 58.4 -0.1
baz=90
M05C Lookout 90.45 49 ⇓P P 06 32 58.3 -0.3
baz=90
B05A Bryant 90.49 42 ⇑P P 06 32 58.1 -0.5
baz=90
LAVA Lava Cap Winer 90.52 51 ⇓P P 06 32 58.8 -0.2
baz=90
E05A Randle 90.54 44 ⇑P P 06 32 58.4 -0.4
baz=90
J05A Fort Rock 90.58 47 ⇓P P 06 32 59.1 0.0
baz=91,SNR=17
I05A Bend 90.64 46 ⇓P P 06 32 59.5 +0.1
baz=91
P05C Yuba Gap, Truc 90.67 51 ⇑P P 06 32 59.8 +0.1
baz=91
C05A Tolt Reservoir 90.70 42 ⇓P P 06 32 58.8 -0.8
baz=91
S05C Merced 90.71 53 ⇑P P 06 32 59.9 0.0
baz=91
G05A Wamic 90.71 45 ⇑P P 06 32 59.2 -0.5
baz=91
H05A Madras 90.72 45 ⇓P P 06 32 59.8 0.0
baz=91
CMB Columbia Colle 90.73 52 ⇓P P 06 32 59.7 -0.3
baz=91
L05A Lakeview 90.75 48 P P 06 33 00.8 +0.8
baz=91,SNR=7.3
K05A Summer Lake 90.77 47 P P 06 33 00.7 +0.6
baz=91,SNR=11
SMMC Simmler 90.80 55 ⇓P P 06 33 00.7 +0.4
baz=91
PKM Peak Mountain 90.91 55 ⇑P P 06 33 01.1 +0.2
baz=91
BEKR Beckwourth 90.91 50 ⇓P P 06 33 01.1 +0.3
baz=91
M06C Likely Place G 90.94 49 ⇓P P 06 33 00.8 -0.1
baz=91
BSC Santa Cruz Isl 90.99 56 ⇓P P 06 33 01.1 -0.2
baz=91
SNCC San Nicolas Is 91.02 57 ⇓P P 06 33 01.0 -0.5
baz=91
R05C Kirkwood Meado 91.03 51 ⇓P P 06 33 01.7 +0.3
baz=91
E06A Yakima 91.07 44 ⇓P P 06 33 00.9 -0.5
baz=91
MOD Modoc 91.13 48 eP P 06 33 02.1 +0.4
comp=Z,33nm,1.2s,mb5.2
MOD Modoc 91.13 48 P P 06 33 02.2 +0.5
baz=91,SNR=21
T06C Milleton Lake 91.17 53 ⇑P P 06 33 02.2 +0.1
baz=91
G06A Carlson Farm, 91.19 45 ⇑P P 06 33 01.7 -0.3
baz=91
D06A Cle Elum 91.22 43 ⇓P P 06 33 02.0 -0.1
baz=91
K06A Valley Falls 91.25 47 ⇑P P 06 33 02.3 0.0
baz=91
WCN Washoe City 91.33 51 P P 06 33 03.5 +0.8
baz=91,SNR=7.0
O06A Flanigan 91.34 50 P P 06 33 03.2 +0.5
baz=91,SNR=8.6
H06A Lindquist Farm 91.36 45 P P 06 33 02.8 +0.1
baz=91,SNR=10
J06A Christmas Vall 91.36 47 P P 06 33 02.6 -0.2
baz=91,SNR=13
I06A Prineville 91.38 46 P P 06 33 03.5 +0.6
baz=91,SNR=13
N06A Buffalo Meadow 91.39 49 P P 06 33 03.1 +0.2
baz=91,SNR=10
R06C Coleville 91.50 52 P P 06 33 04.5 +1.0
baz=92,SNR=5.8
KCC Kaiser Creek 91.51 53 P P 06 33 04.2 +0.6
baz=92,SNR=6.2
VES Vestal, Richgr 91.59 54 ⇓P P 06 33 03.7 -0.3
baz=92
A07A Ashnola River, 91.70 41 ⇓P P 06 33 03.4 -0.8
baz=92
HELL Mitchell Peak 91.70 54 P P 06 33 04.8 +0.3
baz=92,SNR=8.3
ARVC Arvin 91.74 55 ⇑P P 06 33 04.8 +0.1
baz=92
R07C Lee Vining 91.78 52 ⇑P P 06 33 05.3 +0.4
baz=92
C07A Waterville 91.80 42 ⇑P P 06 33 04.0 -0.7
baz=92
D07A Quincy 91.82 43 P P 06 33 04.5 -0.3
baz=92,SNR=5.5
B07A Winthrop 91.82 42 ⇓P P 06 33 04.5 -0.3
baz=92
E07A Sunnyside 91.84 44 ⇑P P 06 33 04.7 -0.2
baz=92
L07A Adell 91.86 48 P P 06 33 05.7 +0.6
baz=92,SNR=21
G07A Ruggs Ranch, H 91.87 45 P P 06 33 04.6 -0.5
baz=92,SNR=5.4
H07A Lands Inn, Kim 91.89 46 ⇓P P 06 33 05.3 +0.1
baz=92
I07A Izee 91.90 46 P P 06 33 05.4 +0.2
baz=92,SNR=13
M07A Soldier Meadow 91.94 49 P P 06 33 05.8 +0.3
baz=92,SNR=14
K07A Rock Creek Ran 91.98 48 P P 06 33 05.8 +0.1
baz=92,SNR=13
J07A Hines 91.98 47 P P 06 33 06.0 +0.3
baz=92,SNR=10
HAWA Hanford 92.05 44 eP P 06 33 06.0 +0.1
comp=Z,16nm,1.3s,mb4.9
ISA Isabella 92.07 55 eP P 06 33 05.8 -0.5
ISA Isabella 92.07 55 ⇓P P 06 33 05.6 -0.7
baz=92
MTUM Tungsten Hills 92.11 53 eP P 06 33 06.0 -0.4
MWC Mount Wilson 92.31 56 eP P 06 33 06.8 -0.6
B08A Colville Reser 92.33 42 ⇓P P 06 33 06.8 -0.3
baz=92
G08A Pilot Rock 92.37 45 P P 06 33 07.7 +0.3
baz=92,SNR=10
E08A Dider Farm, El 92.39 44 ⇓P P 06 33 07.5 0.0
baz=92
NVAR Mina Array Bea 92.39 52 P P 06 33 08.3 +0.6
NVAR Mina Array Bea 92.39 52 P P 06 33 08.3 +0.6
comp=Z,8.8nm,0.9s,mb4.8,baz=251,slow=4.7,SNR=53
EDW2 Edwards Air Fo 92.41 55 ⇑P P 06 33 08.2 +0.4
baz=92,SNR=8.5
WVOR Wild Horse Val 92.41 48 eP P 06 33 07.5 -0.2
comp=Z,35nm,1.4s,mb5.2
WVOR Wild Horse Val 92.41 48 eP P 06 33 07.5 -0.2
WVOR pmax pmax
comp=Z,35nm,1.4s,mb5.2
A08A Turner Farm, O 92.42 41 ⇑P P 06 33 07.0 -0.6
baz=92
S08C White Mtn Res 92.44 53 P P 06 33 08.6 +0.7
baz=92,SNR=13
CWC Cottonwood Cre 92.44 54 ⇑P P 06 33 07.9 0.0
baz=92,SNR=5.5
C08A Higginbotham F 92.49 42 ⇑P P 06 33 07.0 -0.8
baz=92
D08A Wollman Farm, 92.52 43 ⇓P P 06 33 07.3 -0.7
baz=92
H08A Prairie City 92.53 46 P P 06 33 08.4 +0.2
baz=92,SNR=5.9
M08A Happy Creek Ra 92.53 49 ⇓P P 06 33 09.0 +0.7
baz=92,SNR=10
F08A Pendleton 92.54 44 ⇓P P 06 33 07.9 -0.3
baz=92
K08A Mann Creek Ran 92.54 48 P P 06 33 08.4 +0.1
baz=92,SNR=5.5
R08A Mina 92.54 52 P P 06 33 09.2 +0.8
baz=92,SNR=7.7
I08A Drewsey 92.56 46 P P 06 33 08.6 +0.3
baz=93,SNR=6.0
J08A Circle Bar Ran 92.59 47 P P 06 33 08.6 +0.1
baz=93,SNR=13
L08A Fields 92.61 48 P P 06 33 09.2 +0.6
baz=93,SNR=13
BFSC Mount Baldy St 92.64 56 ⇓P P 06 33 09.1 +0.1
baz=93
LRMC Laurel Mountai 92.69 55 P P 06 33 10.1 +1.0
baz=93,SNR=5.7
Q08A Gabbs 92.71 51 P P 06 33 09.7 +0.5
baz=93,SNR=11
A09A Danville 92.87 41 ⇓P P 06 33 09.4 -0.2
baz=93
MPMC Manual Prospec 92.89 54 P P 06 33 10.9 +0.9
baz=93,SNR=11
D09A Jones Farm, Ri 92.94 43 ⇓P P 06 33 09.5 -0.5
baz=93
MURC Murrieta 92.98 57 ⇑P P 06 33 10.8 +0.3
baz=93
C09A Chrisman Ranch 93.01 42 ⇓P P 06 33 09.7 -0.6
baz=93
109C Camp Elliot, M 93.02 57 ⇑P P 06 33 11.2 +0.5
baz=93
E09A Wood Farm, Sta 93.02 44 P P 06 33 10.2 -0.2
baz=93,SNR=5.1
GRAC Grapevine Rang 93.04 53 ⇓P P 06 33 10.4 -0.3
baz=93
K09A Rome 93.10 48 P P 06 33 11.1 +0.2
baz=93,SNR=8.2
L09A Wilkinson Ranc 93.10 48 ⇑P P 06 33 11.3 +0.5
baz=93,SNR=6.4
J09A Fry Pan Ranch, 93.11 47 P P 06 33 11.0 +0.1
baz=93,SNR=12
B09A Rice 93.13 42 P P 06 33 10.5 -0.3
baz=93,SNR=5.4
I09A Lost Marbles R 93.16 46 P P 06 33 11.2 +0.1
baz=93,SNR=7.4
S09A Goldfield 93.20 53 P P 06 33 11.7 +0.3
baz=93,SNR=30
G09A Cove 93.20 45 ⇓P P 06 33 10.6 -0.7
baz=93
M09A Marrel Ranch, 93.23 49 ⇑P P 06 33 11.3 -0.1
baz=93,SNR=7.3
BBRC Big Bear Sol-O 93.25 56 ⇓P P 06 33 11.6 -0.1
baz=93
H09A Durkee 93.25 46 ⇓P P 06 33 11.5 0.0
baz=93
Q09A Carvers 93.29 51 ⇓P P 06 33 12.1 +0.2
baz=93
R09A Tonopah 93.35 52 ⇓P P 06 33 11.9 -0.2
baz=93,SNR=11
O09A Fish Creek Ran 93.36 50 ⇓P P 06 33 11.8 -0.3
baz=93,SNR=6.3
P09A Austin 93.37 51 ⇑P P 06 33 12.4 +0.3
baz=93
GSC Goldstone 93.40 55 eP P 06 33 12.1 -0.4
GSC Goldstone 93.40 55 ⇑P P 06 33 12.3 -0.1
baz=93
FURC Furnace Creek, 93.42 54 P P 06 33 12.8 +0.4
baz=93,SNR=17
BMO Blue Mountains 93.52 45 eP P 06 33 12.1 -0.6
comp=Z,53nm,1.8s,mb5.4
BMO Blue Mountains 93.52 45 eP P 06 33 12.1 -0.6
BMO pmax pmax
comp=Z,53nm,1.8s,mb5.4
A10A Northport 93.55 41 ⇓P P 06 33 12.4 -0.4
baz=94
MONP Monument Peak 93.59 57 ⇑P P 06 33 14.0 +0.7
baz=94,SNR=7.4
PFO Pinyon Flat Ob 93.60 57 eP P 06 33 12.7 -0.6
comp=Z,11nm,1.0s,mb5.0
PFO Pinyon Flat Ob 93.60 57 eP P 06 33 12.7 -0.7
PFO pmax pmax
comp=Z,11nm,1.0s,mb4.9
PFO Pinyon Flat Ob 93.60 57 ⇑P P 06 33 13.5 +0.1

baz=94,SNR=6.7
F10A **Beach Ranch, E** 93.63 44 P P 06 33 12.5 -0.7
baz=94,SNR=11
D10A **Wagner Farm, O** 93.64 43 P P 06 33 13.1 -0.1
baz=94,SNR=11
G10A **Bishop Farm, J** 93.67 45 P P 06 33 13.1 -0.3
baz=94,SNR=17
S10A **Tonopah Range,** 93.71 52 P P 06 33 14.2 +0.5
baz=94,SNR=22
K10A **MacKenzie Ranc** 93.73 48 P P 06 33 14.1 +0.3
baz=94,SNR=8.8
HEC **Hector,Ludlow** 93.77 56 ⇑P P 06 33 14.0 -0.1
baz=94,SNR=8.7
NEW **Newport** 93.80 42 *e*P P 06 33 13.4 -0.5
J10A **Berg Farm, Mel** 93.84 47 ⇑P P 06 33 14.2 0.0
baz=94
I10A **Payette** 93.84 46 ⇓P P 06 33 14.1 -0.1
baz=94
U10A **Ash Meadows, A** 93.85 54 ⇓P P 06 33 15.0 +0.5
baz=94
SHOC **Shoshone** 93.86 54 ⇑P P 06 33 14.9 +0.4
baz=94
P10A **Eureka** 93.89 51 ⇓P P 06 33 14.1 -0.5
baz=94
O10A **Cortez Mining,** 93.89 50 ⇓P P 06 33 14.8 +0.3
baz=94
H10A **Noah's Angus R** 93.90 46 ⇑P P 06 33 13.5 -1.0
baz=94
Q10A **Clear Creek Ra** 93.90 52 ⇓P P 06 33 14.4 -0.2
baz=94
N10A **Dunphy** 93.91 50 ⇓P P 06 33 15.2 +0.6
baz=94
M10A **I.L. Ranch, Tu** 93.92 49 ⇑P P 06 33 15.1 +0.4
baz=94
TPNV **Topopah Spring** 93.94 53 *e*P P 06 33 14.3 -0.5
comp=Z,17nm,0.9s,mb5.2
TPNV **Topopah Spring** 93.94 53 *e*P P 06 33 14.3 -0.5
TPNV pmax pmax
comp=Z,17nm,0.9s,mb5.2
TPNV **Topopah Spring** 93.94 53 ⇑P P 06 33 15.0 +0.2
baz=94
L10A **Juniper Basin** 94.00 48 ⇓P P 06 33 15.3 +0.3
baz=94,SNR=10
BELC **Belle Mtn.** 94.00 56 P P 06 33 15.8 +0.6
baz=94,SNR=9.4
SWSC **Sam W. Stewart** 94.12 57 ⇓P P 06 33 16.2 +0.4
baz=94
TUQ **Turquoise Mtn.** 94.13 55 ⇑P P 06 33 15.9 +0.2
baz=94,SNR=8.2
G11A **Walters Elk Ra** 94.27 45 P P 06 33 15.6 -0.6
baz=94,SNR=11
D11A **Klaveano Farm,** 94.29 43 P P 06 33 15.9 -0.3
baz=94,SNR=5.9
B11A **Sandpoint** 94.31 42 ⇓P P 06 33 16.1 -0.2
baz=94
GMRC **Granite Mounta** 94.32 56 ⇑P P 06 33 16.7 0.0
baz=94,SNR=11
A11A **Hall Mountain,** 94.33 41 ⇑P P 06 33 16.3 -0.1
baz=94,SNR=7.8
K11A **Parker Ranch,** 94.35 48 ⇓P P 06 33 16.3 -0.3
baz=94,SNR=12
E11A **Bogner Ranch,** 94.35 44 P P 06 33 15.4 -1.0
baz=94,SNR=7.4
S11A **Rachel** 94.37 53 ⇑P P 06 33 16.5 -0.3
baz=94
F11A **Grangeville** 94.37 44 ⇑P P 06 33 15.1 -1.5
baz=94
H11A **Donnelly** 94.43 46 ⇑P P 06 33 15.8 -1.1
baz=94
BC3 **Big Chuckw Mtn** 94.44 57 ⇑P P 06 33 17.3 +0.1
baz=94,SNR=8.2
I11A **Placerville** 94.44 46 ⇓P P 06 33 15.8 -1.2
baz=94,SNR=9.5
M11A **Holland Ranch,** 94.48 49 ⇓P P 06 33 16.5 -0.7
baz=94
Q11A **Duckwater** 94.49 52 P P 06 33 17.2 -0.1
baz=94,SNR=9.1
MFID **Camas Ranch** 94.52 47 ⇓P P 06 33 17.3 0.0
baz=94,SNR=7.4
R11A **Troy Canyon, C** 94.52 52 ⇑P P 06 33 17.6 +0.1
baz=94,SNR=14
L11A **Cat Creek Ranc** 94.53 48 ⇓P P 06 33 17.5 +0.1
baz=94,SNR=7.4
O11A **Cowboy Ranch,** 94.53 50 ⇑P P 06 33 17.4 -0.1
baz=94
V11A **Goodsprings** 94.55 55 ⇑P P 06 33 17.6 -0.1
baz=94,SNR=5.2
IRM **Iron Mountain** 94.71 56 P P 06 33 19.1 +0.6
baz=95,SNR=15
T11A **Corn Creek, Al** 94.77 53 P P 06 33 19.1 +0.4
baz=95,SNR=14
B12A **Libby** 94.83 42 ⇑P P 06 33 18.6 -0.1
baz=95
GLA **Glamis** 94.94 57 *e*P P 06 33 19.0 -0.6
GLA **Glamis** 94.94 57 ⇓P P 06 33 20.7 +1.1
baz=95,SNR=5.6
D12A **Red Ives Fores** 94.96 43 ⇓P P 06 33 18.8 -0.5
baz=95
F12A **Elk City** 95.00 45 ⇑P P 06 33 18.5 -1.0
baz=95
N12A **Clover Valley,** 95.03 50 ⇓P P 06 33 19.6 -0.1
baz=95
J12A **Stokes Ranch,** 95.05 47 ⇑P P 06 33 19.4 -0.3
baz=95
S12A **Delamar Landin** 95.08 53 P P 06 33 20.9 +0.9
baz=95,SNR=7.3
L12A **House Creek Ra** 95.08 48 ⇑P P 06 33 19.9 0.0
baz=95
P12A **McGill** 95.09 51 ⇑P P 06 33 20.4 +0.3
baz=95
M12A **Wells** 95.14 49 P P 06 33 20.7 +0.5
baz=95,SNR=5.4
K12A **Draper Farm, C** 95.17 48 ⇑P P 06 33 20.1 -0.2
baz=95
Y12C **Blythe** 95.22 57 ⇑P P 06 33 20.7 -0.1
baz=95
O12A **Currie** 95.23 50 P P 06 33 21.1 +0.5
baz=95,SNR=6.7
H12A **Diamond D Ranc** 95.25 46 ⇑P P 06 33 20.6 -0.1
baz=95
U12A **Valley of Fire** 95.29 54 ⇑P P 06 33 20.8 -0.3
baz=95
YKW3 **Yellowknife Ar** 95.47 28 *e*P P 06 33 21.3 +0.1
YKA **Yellowknife Ar** 95.47 28 P P 06 33 20.6 -0.7
YKA **Yellowknife Ar** 95.47 28 P P 06 33 20.6 -0.6
comp=Z,5.1nm,0.7s,mb4.9,baz=270,slow=4.7,SNR=170
YKA PKiKP PKiKP 06 38 00.0 -0.7
comp=Z,0.1nm,0.5s,baz=267,slow=1.4,SNR=5.0
YKA PKKPbc PKKPbc 06 50 10.6 -4.7
comp=Z,0.5nm,0.8s,baz=84,slow=2.7,SNR=10
YKA LR LR 07 11 05.0
comp=Z,45nm,19.8s,baz=190,slow=32
C13A **Hot Springs** 95.50 43 ⇓P P 06 33 20.9 -0.9
baz=96
HLID **Hailey** 95.55 47 *e*P P 06 33 21.5 -0.6
comp=Z,8.9nm,1.4s,mb4.9
HLID **Hailey** 95.55 47 P P 06 33 22.1 0.0
baz=96,SNR=8.5
PDMCI **Parker Dam,Lak** 95.55 56 ⇓P P 06 33 22.8 +0.5
baz=96
B13A **Whitefish** 95.58 42 P P 06 33 22.0 -0.1
baz=96,SNR=14
A13A **Flathead Natio** 95.62 41 ⇓P P 06 33 22.0 -0.2
baz=96
F13A **Darby** 95.64 45 P P 06 33 22.0 -0.4
baz=96,SNR=12
N13A **Wendover, West** 95.66 50 ⇓P P 06 33 22.6 0.0
baz=96
H13A **Challis** 95.68 46 P P 06 33 22.6 0.0
baz=96,SNR=7.9
M13A **Montello** 95.70 49 ⇑P P 06 33 22.5 -0.3
baz=96
G13A **Cobalt** 95.70 45 P P 06 33 22.6 -0.2
baz=96,SNR=5.4
J13A **Cove Ranch, Pi** 95.72 47 ⇑P P 06 33 23.1 +0.3
baz=96
E13A **Victor** 95.75 44 ⇑P P 06 33 22.6 -0.3
baz=96
U13A **Pakoon Wash** 95.75 54 P P 06 33 24.2 +1.1
baz=96,SNR=5.2
ARU **Arti** 95.77 326*d* *i*P P 06 33 20.1 -2.6
ARU *e* PP 06 37 13.6 -2.6
ARU *e*S SKSac 06 43 42.7 -2.9
ARU pmax pmax
comp=Z,7.0nm,1.2s,mb4.9
I13A **Wildhorse Cree** 95.77 46 ⇓P P 06 33 23.1 0.0
baz=96
P13A **Bates Ranch, G** 95.78 51 P P 06 33 23.1 -0.1
baz=96,SNR=5.0
K13A **Stover Farm, H** 95.78 48 ⇓P P 06 33 22.9 -0.3
baz=96
W13A **Hualapai Mount** 95.78 55 P P 06 33 24.5 +1.2
baz=96,SNR=6.0
Y13A **Salome** 95.80 57 ⇑P P 06 33 24.0 +0.6
baz=96
T13A **Saint George** 95.81 53 P P 06 33 24.1 +0.7
baz=96,SNR=18
O13A **Hicks Ranch, I** 95.82 50 ⇑P P 06 33 23.6 +0.3
baz=96
X13A **Yucca** 95.82 56 P P 06 33 24.6 +1.1
baz=96,SNR=7.0
S13A **Holt Ranch, En** 95.86 53 P P 06 33 24.4 +0.8
baz=96,SNR=17
L13A **Double Diamond** 95.88 48 ⇓P P 06 33 23.4 -0.1
baz=96
WALA **Waterton Lakes** 95.95 41 *e*P P 06 33 23.5 -0.3
comp=Z,12nm,0.8s,mb5.3
C14A **Swan Lake** 96.06 43 ⇓P P 06 33 23.7 -0.5
baz=96
AKTK **Aktyubinsk** 96.14 320 P P 06 33 25.1 +0.6
AKTO **Aktyubinsk** 96.14 320 P P 06 33 25.1 +0.6
comp=Z,1.6nm,1.0s,mb4.3,baz=111,slow=8.6,SNR=3.0
ARUT **Antelope Range** 96.20 53 *e*P P 06 33 25.2 +0.1
ARUT *e*pP pP 06 34 01.9 +0.9
G14A **Jackson** 96.25 45 ⇑P P 06 33 24.7 -0.5
baz=96
CCUT **Cedar City** 96.26 53 *e*P P 06 33 25.2 -0.2
EDM **Edmonton** 96.27 37 *e*P P 06 33 25.0 -0.1
M14A **Sheep Mountain** 96.32 49 ⇓P P 06 33 25.6 +0.1
baz=96
U14A **Mt Trumbull** 96.39 54 P P 06 33 26.9 +0.9
baz=96,SNR=18
S14A **Cedar City** 96.41 53 ⇓P P 06 33 26.2 +0.1
baz=96
N14A **Grayback Hills** 96.43 50 ⇑P P 06 33 26.3 +0.2
baz=96
V14A **Boquillas Ranc** 96.43 55 P P 06 33 27.4 +1.1
baz=96,SNR=13
W14A **Seligman** 96.44 55 P P 06 33 27.4 +1.1
baz=96,SNR=6.4
K14A **Jones Ranch, D** 96.45 48 P P 06 33 26.6 +0.5
baz=96,SNR=8.2
T14A **Hurricane** 96.47 53 P P 06 33 27.1 +0.7
baz=96,SNR=10
Y14A **Wickenburg** 96.48 56 ⇑P P 06 33 27.0 +0.5
baz=96
R14A **James Farms, M** 96.54 52 ⇑P P 06 33 27.5 +0.8
baz=96
X14A **Yava** 96.59 56 ⇓P P 06 33 28.0 +1.0
baz=97
MCMT **McKenzie Canyo** 96.69 46 *e*P P 06 33 26.4 -0.8
DUG **Dugway** 96.71 50 *e*P P 06 33 27.0 -0.4
DUG **Dugway** 96.71 50 ⇓P P 06 33 27.0 -0.4
baz=97
HVU **Hansel Valley** 96.75 49 *e*P P 06 33 27.1 -0.4
E15A **Deer Lodge** 96.82 44 P P 06 33 27.7 -0.1
baz=97,SNR=6.4
D15A **Lincoln** 96.89 43 ⇑P P 06 33 27.4 -0.7
baz=97
F15A **Butte** 96.93 45 ⇑P P 06 33 27.5 -0.7
baz=97
G15A **Dillon** 96.94 45 ⇑P P 06 33 27.9 -0.4
baz=97
M15A **Larsen Ranch,** 96.99 49 ⇓P P 06 33 27.9 -0.7
baz=97
T15A **Red Dirt Ranch** 97.03 53 P P 06 33 29.9 +1.0
baz=97,SNR=6.4
Y15A **Casa Rosa Ranc** 97.04 56 ⇑P P 06 33 29.9 +0.8
baz=97
W15A **Williams** 97.11 55 ⇑P P 06 33 30.4 +1.1
baz=97
X15A **Humboldt** 97.13 56 ⇑P P 06 33 30.8 +1.3
baz=97
MSU **Marysvale** 97.20 52 *e*P P 06 33 29.3 -0.4
BOZ **Bozeman (W)** 97.54 45 *e*P P 06 33 30.4 -0.6
BOZ **Bozeman (W)** 97.54 45 ⇑P P 06 33 30.6 -0.4
baz=98
HWUT **Hardware Ranch** 97.65 49 *e*P P 06 33 31.3 -0.3
JLU **Jordanelle** 97.75 50 *e*P P 06 33 32.3 +0.2
Y16A **Circle Bar Ran** 97.75 57 ⇑P P 06 33 33.8 +1.5
baz=98
216A **Three Points,** 97.76 58 ⇓P P 06 33 33.8 +1.5
baz=98
X16A **Lo Mia Camp, P** 97.79 56 ⇓P P 06 33 33.4 +1.0
baz=98
Z16A **Peralta Trail,** 97.79 57 ⇓P P 06 33 33.6 +1.1
baz=98
WUAZ **Wupatki** 97.84 55 *e*P P 06 33 32.1 -0.5
comp=Z,7.7nm,0.8s,mb5.2
WUAZ **Wupatki** 97.84 55 ⇓P P 06 33 33.9 +1.3
baz=98
TMUT **Trail Mountain** 97.95 51 *e*P P 06 33 32.6 -0.4
IMW **Indian Meadow** 98.07 46 *e*P P 06 33 33.0 -0.4
comp=Z,8.3nm,1.3s,mb5.0
TPAW **Teton Pass** 98.07 47 *e*P P 06 33 32.8 -0.6
comp=Z,25nm,1.8s,mb5.3
YFT **Old Faithful** 98.13 46 *e*P P 06 33 33.0 -0.7
MOOW **Moose Ponds** 98.21 47 *e*P P 06 33 33.5 -0.5
217A **Green Valley** 98.30 59 ⇓P P 06 33 35.8 +1.1
baz=98
LOHW **Long Hollow** 98.32 47 *e*P P 06 33 33.8 -0.7
SRU **San Rafael** 98.49 51 *e*P P 06 33 34.6 -0.8
EGMT **Eagleton** 98.74 42 ⇓P P 06 33 35.9 -0.4
baz=99
BW06 **Boulder Array** 99.11 48 *e*P P 06 33 37.6 -0.5
comp=Z,6.2nm,0.9s,mb5.0
PDAR **Pinedale Array** 99.11 48 P P 06 33 36.6 -1.5
comp=Z,4.7nm,0.8s,mb5.0,baz=236,slow=2.2,SNR=39
PDAR LR LR 07 12 56.2
comp=Z,84nm,19.6s,baz=117,slow=32
MVCO **Mesa Verde** 100.13 53 *e*Pdif Pdif 06 33 43.0 +0.6
MVCO **Mesa Verde** 100.13 53 ⇓P Pdif 06 33 42.8 +0.4
baz=100
SMCO **Snowmass** 101.24 51 *e*Pdif Pdif 06 33 47.2 -0.2
RSSD **Black Hills** 103.02 46 *e*Pdif Pdif 06 33 55.5 +0.2
TXAR **Lajitas Array** 104.53 61 PKKPbc PKKPbc 06 49 47.2 -1.1
comp=Z,0.6nm,0.8s,baz=104,slow=5.3,SNR=5.1
ARCES **ARCESS Array B** 106.44 343 PKPdf PKiKP 06 38 19.9 -0.4
ARCES **ARCESS Array B** 106.44 343 PKiKP PKiKP 06 38 19.9 -0.4
comp=Z,3.6nm,0.8s,baz=80,slow=0.6,SNR=20
FINES **FINESS Array B** 110.57 336 Pdiff Pdif 06 34 26.9 -1.9
comp=Z,0.2nm,0.3s,baz=355,slow=40,SNR=2.4
AKASG **Malin Array Be** 113.94 324 PKiKP PKiKP 06 38 34.0 -1.0
comp=Z,2.7nm,0.6s,baz=58,slow=2.6,SNR=12
NB2 **NORSAR Subarra** 116.46 340 PKPdf PKPdf 06 38 38.7 -0.9
comp=Z,3.7nm,0.7s,baz=45,slow=2.0
NB2 **NORSAR Subarra** 116.46 340 PKPdf PKPdf 06 38 38.7 -0.9
baz=45,slow=2.0
NOA **NORSAR Array B** 116.46 340 PKP PKPdf 06 38 38.5 -1.1
NOA **NORSAR Array B** 116.46 340 PKP PKPdf 06 38 38.5 -1.1
comp=Z,2.9nm,0.7s,baz=45,slow=1.9,SNR=13
BOSA **Boshof** 119.30 234 PKP PKPdf 06 38 45.6 -0.5
comp=Z,3.9nm,0.9s,baz=70,slow=10,SNR=4.0
PLCA **Paso Flores** 120.35 143 PKP PKPdf 06 38 47.0 -0.7
comp=Z,1.2nm,0.8s,baz=309,slow=9.7,SNR=3.3
DPC **Dobruska-Polom** 121.25 329 *e*PKPdf PKPdf 06 38 49.0 -0.1
BSEG **Bad Segeberg** 121.81 335 *e*PKPdf PKPdf 06 38 50.1 0.0
BRG **Berggiesshubel** 122.15 330 *i*PKIKP PKPdf 06 38 51.0 +0.2
BRG pmax pmax
comp=Z,5.0nm,0.7s
BRG **Berggiesshubel** 122.15 330 *e*PKPdf PKPdf 06 38 50.7 -0.1
BRG **Berggiesshubel** 122.15 330 *i*PKP PKPdf 06 38 51.0 +0.2
comp=Z,8.5nm,0.7s
TREC **Trest** 122.31 328 *e*PKPdf PKPdf 06 38 51.0 -0.2
CLL **Collm** 122.33 331 ⇓*i*PKIKP PKPdf 06 38 51.2 0.0
CLL pmax pmax
comp=Z,9.0nm,0.8s
CLL **Collm** 122.33 331 *e*PKPdf PKPdf 06 38 51.0 -0.2
CLL **Collm** 122.33 331 ⇓*i*PKPdf PKPdf 06 38 51.2 0.0
comp=Z,9.0nm,0.8s
PRU **Pruhonice** 122.39 329 *e*PKPdf PKPdf 06 38 51.0 -0.3
NRDL **Niedersach Rie** 122.90 333 *e*PKPdf PKPdf 06 38 52.2 0.0
CONA **Conrad Observa** 122.90 326 ⇑*i*PKiKP PKiKP 06 38 52.2 -0.4
comp=Z,6.2nm,0.7s
KRUS **Krusevo** 122.92 317 ⇓*i*PKP PKPdf 06 38 52.4 -0.2
TANN **Tannenbergstha** 123.17 330 *e*PKPdf PKPdf 06 38 52.7 -0.1
CLZ **Clausthal** 123.22 333 *e*PKPdf PKPdf 06 38 53.0 +0.2
KHC **Kasperske Hory** 123.41 329 *e*PKPdf PKPdf 06 38 53.4 +0.1
MOX **Moxa** 123.43 331 *e*PKPdf PKPdf 06 38 52.7 -0.6
GEC2 **GERESS Array S** 123.52 328 *e*PKPdf PKPdf 06 38 53.3 -0.2
GERES **GERESS Array B** 123.52 328 PKP PKPdf 06 38 53.0 -0.5
comp=Z,6.8nm,0.6s,baz=70,slow=1.6,SNR=56
MANZ **Manzenberg** 123.62 330 *e*PKPdf PKPdf 06 38 53.7 0.0
WET **Wettzell** 123.76 329 *e*PKPdf PKPdf 06 38 54.2 +0.2
GCIS **Gornji Cirnik** 124.20 324 *i*PKPdf PKPdf 06 38 55.0 +0.1
GRA1 **Grafenberg Arr** 124.25 330 *e*PKPdf PKPdf 06 38 54.5 -0.4
GRF **Grafenberg Arr** 124.25 330 *e*PKPdf PKPdf 06 38 54.5 -0.4
CRES **Cresnjev** 124.32 325 *e*PKPdf PKPdf 06 38 55.0 -0.1
BOJS **Bojanci** 124.62 324 *e*PKPdf PKPdf 06 38 55.9 +0.2
WTTA **Wattenberg** 125.59 328 ⇑*i*P PKPdf 06 38 57.3 -0.2
comp=Z,20nm,0.9s
MOTA **Moosalm** 125.82 328 ⇑*i*P PKPdf 06 38 57.5 -0.5
comp=Z,7.2nm,0.8s
SQTA **Sankt Quirin** 125.84 328 ⇑*i*P PKPdf 06 38 57.6 -0.4
comp=Z,7.6nm,0.8s
STU **Stuttgart** 125.85 331 *e*PKPdf PKPdf 06 38 57.8 -0.2
MEM **Membach** 126.04 334 PKP PKPdf 06 38 58.5 +0.3
FETA **Feichten** 126.22 328 ⇑*i*PKiKP PKiKP 06 38 58.4 -0.8
comp=Z,15nm,0.9s
DAVA **Damuels** 126.49 329 ⇑*i*P PKPdf 06 38 58.9 -0.3
comp=Z,11nm,0.7s
WLF **Walferdange** 126.66 333 PKP PKPdf 06 39 00.4 +0.9
WLF **Walferdange** 126.66 333 *e*PKPdf PKPdf 06 39 00.3 +0.8
GIVF **Givet** 126.93 334 *e*PKIKP PKPdf 06 39 00.1 +0.1
CDF **Champ du Feu** 127.03 331 *e*PKIKP PKPdf 06 38 59.9 -0.3
DOU **Dourbes** 127.03 334 PKP PKPdf 06 39 00.6 +0.4
BAIF **Baives** 127.22 335 *e*PKIKP PKPdf 06 39 00.5 -0.1
comp=Z,22nm,1.0s
HINF **Hinteralfeld** 127.64 331 *e*PKIKP PKPdf 06 39 01.3 -0.1
comp=Z,29nm,1.0s
HAU **Haudompre** 127.75 332 *e*PKIKP PKPdf 06 39 01.6 0.0
comp=Z,19nm,0.8s
HAU *e*MLR MLR
comp=Z,56nm,22.3s
HAU **Haudompre** 127.75 332 *e*PKIKP PKPdf 06 39 01.6 0.0
HAU MLR MLR
comp=Z,60nm,22.3s
MEZF **Maizieres J'vi** 128.00 333 *e*PKIKP PKPdf 06 39 02.1 0.0
CABF **La Chapelle** 128.86 330 *e*PKIKP PKPdf 06 39 04.0 +0.2
comp=Z,42nm,1.2s
LPL **La Plagne** 129.29 329 *e*PKIKP PKPdf 06 39 04.8 +0.1
comp=Z,5.8nm,0.7s
LPG **La Plagne** 129.30 329 *e*PKIKP PKPdf 06 39 05.1 +0.4
comp=Z,8.7nm,0.7s
LOR **Lormes** 129.45 332 *e*PKIKP PKPdf 06 39 04.9 0.0
comp=Z,16nm,0.8s
LOR *e*MLR MLR
comp=Z,62nm,21.8s
LOR **Lormes** 129.45 332 *e*PKIKP PKPdf 06 39 04.9 0.0
LOR MLR MLR
comp=Z,60nm,21.8s
BNI **Bardonecchia** 129.64 329 *e*PKPdf PKPdf 06 39 05.3 0.0
SSF **Saint Saulge** 129.77 332 *e*PKIKP PKPdf 06 39 05.5 0.0
comp=Z,15nm,0.9s
MBDF **Montbardon** 129.81 328 *e*PKIKP PKPdf 06 39 05.5 -0.2
comp=Z,4.6nm,0.7s
SMF **Signal de Mont** 129.92 332 *e*PKIKP PKPdf 06 39 05.9 +0.1
PGF **Pioggiola** 130.00 325 *e*PKIKP PKPdf 06 39 05.7 -0.4
comp=Z,47nm,1.0s
SBF **Sospel** 130.03 327 *e*PKIKP PKPdf 06 39 06.0 -0.1
AVF **Avril sur Loir** 130.04 332 *e*PKIKP PKPdf 06 39 06.1 +0.1
ORIF **Oris-en-Rattie** 130.14 329 *e*PKIKP PKPdf 06 39 06.4 +0.1
ORIF *e*MLR MLR
comp=Z,65nm,21.5s
LDF **La Druitiere** 130.16 336 *e*PKIKP PKPdf 06 39 06.0 -0.2
FLN **La Foliniere** 130.17 337 *e*PKIKP PKPdf 06 39 05.9 -0.3
comp=Z,17nm,0.7s
FLN *e*MLR MLR
comp=Z,56nm,19.5s
FLN **La Foliniere** 130.17 337 *e*PKIKP PKPdf 06 39 05.9 -0.3
FLN MLR MLR
comp=Z,60nm,19.5s
BGF **Bois d'Agland** 130.44 332 *e*PKIKP PKPdf 06 39 07.0 +0.2
comp=Z,16nm,0.9s
GRR **Gorron** 130.62 337 *e*PKIKP PKPdf 06 39 07.1 0.0
FRF **La Foret Royal** 130.66 327 *e*PKIKP PKPdf 06 39 07.4 +0.1
comp=Z,12nm,0.7s
VIVF **Saint-Julien-l** 130.80 330 *e*PKIKP PKPdf 06 39 07.6 +0.1
LMR **La Mourre** 130.89 327 *e*PKIKP PKPdf 06 39 07.8 0.0
TCF **Toulx Ste Croi** 130.94 333 *e*PKIKP PKPdf 06 39 08.1 +0.3
comp=Z,25nm,1.0s
SMRF **Simiane la Rot** 130.95 328 *e*PKIKP PKPdf 06 39 07.9 0.0
comp=Z,25nm,1.0s
SGMF **Saint Gilles** 131.38 338 *e*PKIKP PKPdf 06 39 08.7 +0.2
comp=Z,15nm,0.6s
ROSF **Rostrenen** 131.58 338 *e*PKIKP PKPdf 06 39 09.0 +0.1
MFF **Saint Martin d** 131.74 335 *e*PKIKP PKPdf 06 39 09.6 +0.3
LASF **Ste Croix** 131.77 330 *e*PKIKP PKPdf 06 39 09.5 +0.1
comp=Z,8.3nm,0.6s
QUIF **Quistinic** 131.89 338 *e*PKIKP PKPdf 06 39 09.4 -0.1
CAF **Calviac** 132.03 332 *e*PKIKP PKPdf 06 39 09.7 -0.2
MTLF **Montolieu** 133.12 330 *e*PKIKP PKPdf 06 39 11.5 -0.5
KEST **Kesra** 133.81 317 PKP PKPdf 06 39 14.8 +1.3
comp=Z,2.2nm,1.0s,baz=321,slow=4.5,SNR=5.7
ETSF **Etsaut** 134.80 332 *e*PKIKP PKPdf 06 39 16.4 +1.3
comp=Z,11nm,0.7s
SJPF **Ste Jean** 134.94 332 *e*PKIKP PKPdf 06 39 16.5 +1.1
comp=Z,17nm,0.8s
LPAZ **La Paz** 135.07 118 PKP PKPdf 06 39 17.3 +0.9
LPAZ **La Paz** 135.07 118 PKP PKPdf 06 39 17.3 +0.9
comp=Z,3.6nm,0.8s,baz=315,slow=2.5,SNR=16
SDV **Santo Domingo** 137.26 82 *e*PKPdf PKPdf 06 39 20.8 +0.3
SDV *e*pPKPdf pPKPdf 06 39 56.8 -1.1
MVO **Moncorvo** 139.05 336 *e*PKPdf PKPdf 06 39 24.6 +1.5
PVIS **Viseu** 139.78 336 *e*PKPdf PKPdf 06 39 25.2 +0.8
MTE **Manteigas** 139.91 336 *e*PKPdf PKPdf 06 39 24.9 +0.3
MTE **Manteigas** 139.91 336 *e*PKPdf PKPdf 06 39 24.6 -0.1
PCBR **Castelo Branco** 140.35 335 *e*PKPdf PKPdf 06 39 26.3 +0.8
EVO **Evora** 141.67 335 ⇑*i*PKIKP PKPdf 06 39 28.0 +0.1
comp=Z,25nm,1.1s
EVO *e*MLR MLR
comp=Z,69nm,22.8s
EVO **Evora** 141.67 335 *e*PKPdf PKPdf 06 39 29.1 +1.2
PBEJ **Beja** 142.03 334 *e*PKPdf PKPdf 06 39 28.9 +0.4
TOA0 **Torodi Ar. Sit** 149.66 288 *e*PKPbc PKPbc 06 39 46.7 -0.1
TOA0 *e*PKPab PKPab 06 39 52.7 +0.3
TORD **Torodi Ar. Bea** 149.66 288 PKPbc PKPbc 06 39 45.9 -1.0
comp=Z,61nm,0.7s,baz=53,slow=1.7,SNR=47
BDFB **Brasilia** 151.67 135 PKP PKPdf 06 39 46.1 +0.9
comp=Z,1.5nm,0.9s,baz=173,slow=26,SNR=5.9
BDFB PKPbc PKPbc 06 39 51.2 -0.4
comp=Z,6.4nm,0.6s,baz=192,slow=4.1,SNR=28
DBIC **Dimbokro** 157.07 276 PKPab PKPab 06 40 23.0 -0.9
comp=Z,19nm,0.7s,baz=78,slow=5.1,SNR=23

ISCJB ***17*** *06:28:41.6±0.5,5222N±003×785E±004,h0km, Error ellipse: s-maj=4.4km s-min=3.2km az=2.0*
CSEM ***17*** *06:28:42.6±0.3,5229N×776E,h1km,ML2.4, Error ellipse: s-maj=8.4km s-min=5.1km az=154.0*
BGR ***17*** *06:28:42.3±0.5,5226N×768E,h1km,ML2.6/5, Error ellipse: s-maj=6.7km s-min=4.4km az=124.0*
BNS ***17*** *06:28:43.3±1.1,5233N×778E,h2km±6km,ML2.4*
ISC 17 06:28:42.7±0.5,5225N±003×778E±004,h0km,n17,
σ1§29/28,Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBBN	**Ibbenburen** SNR=1083	**0.06**	**344**	*e*Pg	**Pg**	**06 28 43.5**	**-0.3**
IBBN				*e*Sg	**Sg**	**06 28 44.4**	**-0.1**
WTSB	**Winterswijk**	**0.67**	**245**	*e*Pg	**Pg**	**06 28 56.7**	**+1.2**
WTSB				*e*Sg	**Sg**	**06 29 06.4**	**+2.2**
HOBG	**Hohbusch**	**1.30**	**193**	*e*Pg	**Pg**	**06 29 07.8**	**+0.2**
BNS	**Bensberg**	**1.34**	**197**	*e*Pg	**Pg**	**06 29 08.7**	**+0.3**
BNS				*e*Sg	**Sg**	**06 29 27.8**	**+2.0**
NRDL	**Niedersach Rie** SNR=3.8	**1.45**	**79**	*e*Pn	**Pn**	**06 29 09.0**	**-1.1**
NRDL				*e*Sg	**Sg**	**06 29 28.8**	**-0.3**
STB	**Steinbach**	**1.76**	**200**	*e*Pg	**Pg**	**06 29 14.4**	**-2.0**
KLL	**Kalltalsperre**	**1.85**	**210**	*e*Pg	**Pg**	**06 29 16.1**	**-2.1**
DREG	**Dreilaegerbach**	**1.86**	**212**	*e*Sg	**Sg**	**06 29 40.2**	**-2.3**
HGN	**Heimansgroeve** 3.8nm,0.2s	**1.89**	**219**	*e*Pg	**Pg**	**06 29 18.1**	**-0.7**
HGN				*e*Sg	**Sg**	**06 29 43.2**	**-0.1**
MEM	**Membach**	**1.99**	**215**	P	**Pn**	**06 29 19.0**	**+1.5**
MEM				S	**Sn**	**06 29 45.6**	**+2.6**
MEM	**Membach** comp=N,21nm,0.0s	**1.99**	**215**	P	**Pn**	**06 29 19.0**	**+1.5**
MEM				S	**Sn**	**06 29 45.6**	**+2.6**
UBBA	**Unterbreizbach** SNR=2.2	**2.00**	**135**	*e*Pg	**Pg**	**06 29 19.9**	**-1.0**
UBBA				*e*Sg	**Sg**	**06 29 46.6**	**-0.2**
BGG	**Burgeitz**	**2.07**	**188**	*e*Pg	**Pg**	**06 29 23.3**	**+1.0**
WLF	**Walferdange** SNR=1.6	**2.79**	**202**	*e*Pg	**Pg**	**06 29 34.3**	**-1.8**
WLF				*e*Sg	**Sg**	**06 30 10.1**	**-2.2**
MOX	**Moxa**	**2.89**	**122**	*e*Sg	**Sg**	**06 30 16.0**	**+0.6**

WERD	**Werda**	**3.36**	**121**	*e*Pg	**Pg**	**06**	**29**	**48.6**	**+1.5**
	SNR=2.0								
WERD				*e*Sg	**Sg**	**06**	**30**	**31.5**	**+0.9**
TANN	**Tannenbergstha**	**3.46**	**120**	*e*Pn	**Pn**	**06**	**29**	**38.2**	**+0.4**
	SNR=1.5								
TANN				*e*Sg	**Sg**	**06**	**30**	**33.9**	**0.0**

MEX 17 06:52:42.7±0.3, 1717N×10038W, h46km±4km, MD3.5, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.16**	**137**	*i* P	Pn	06 52 49.0	-1.3
CAIG				*i* S	Sn	06 52 53.9	-1.9
ACX	**Acapulco**	**0.53**	**124**	*i* P	Pn	06 52 52.5	-1.7
ACX				*i* S	Sn	06 53 00.5	-1.8
MEIG	**Mezcala**	**1.05**	**44**	*i* P	Pn	06 52 59.5	-1.5
MEIG				*i* S	Sn	06 53 12.5	-2.0

*IDC **17** 07:04:28.6±0.8, 2820N×8780E, h0km, mb3.8/13, mb1 4.0/14, mb1mx3.9/23, mbtmp3.8/14, ML3.9/1, Error ellipse: s-maj=27.5km s-min=15.9km az=48.0*
*ISCJB **17** 07:04:35.4±1.1, 2822N±005×8771E±008, h68km±13km, mb3.7/14, Error ellipse: s-maj=12.9km s-min=8.0km az=26.2*
*BJI **17** 07:04:35.4, 2833N×8774E, h76km, mb4.3*
*NEIC **17** 07:04:38.0±2.3, 2826N×8776E, h72km±20km, mb4.1/1, Error ellipse: s-maj=22.1km s-min=9.8km az=50.0*

ISC 17 07:04:36.9±0.9, 2823N±006×8772E±008, h63km±12km, n25, σ0§98/29, mb3.8/14, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSA	**Lhasa**	**3.34**	**63**	P	**Pn**	**07 05 27.8**	**+1.1**
LSA				S	**Sn**	**07 06 05.4**	**+0.2**
LSA				Smax			
	comp=N,30nm,0.9s						
LSA				Smax			
	comp=E,50nm,0.9s						
LSA	**Lhasa**	**3.34**	**63**	*e*Pn	**Pn**	**07 05 27.9**	**+1.2**
TURI	**Tura**	**3.54**	**138**	*ex*	**Pn**	**07 05 30.0**	**+0.6**
TURI				*ex*	x	07 06 36.0	
SHL	**Shillong**	**4.56**	**125**	*e*P	**Pn**	**07 05 42.5**	**-0.9**
SHL				*e*S	**Sn**	**07 06 29.5**	**-5.7**
BOK	**Bokaro**	**4.71**	**201**	*i* x	**Pn**	**07 05 47.3**	**+1.8**
BOK				*i* x	**Sn**	**07 06 37.3**	**-1.5**
MK31	**Makanchi Array**	**19.02**	**348**	*e*P	**Pn**	**07 08 53.7**	**-1.1**
MKAR	**Makanchi Array**	**19.02**	**348**	P	**Pn**	**07 08 52.9**	**-1.9**
MKAR	**Makanchi Array**	**19.02**	**348**	P	**Pn**	**07 08 52.9**	**-1.9**
	comp=E,0.4nm,0.3s,baz=144,slow=11,SNR=18						
MKAR				S	**S**	**07 12 18.8**	**-7.1**
	comp=E,0.0nm,0.3s,baz=63,slow=5.6,SNR=2.1						
KURK	**Kurchatov**	**23.50**	**345**	*e*P	**P**	**07 09 41.3**	**+0.5**
	comp=E,7.2nm,0.9s,mb4.1						
SONM	**Songino Array**	**24.37**	**32**	P	**P**	**07 09 49.0**	**+0.1**
	comp=E,0.9nm,0.6s,mb3.4,baz=214,slow=8.0,SNR=3.5						
ZALV	**Zalesovo Beam**	**25.79**	**356**	P	**P**	**07 10 02.0**	**+0.3**
	comp=E,0.7nm,0.4s,mb3.6,baz=187,slow=8.4,SNR=5.8						
BVAR	**Borovoye Array**	**27.90**	**337**	P	**P**	**07 10 20.3**	**-0.4**
	comp=E,0.6nm,0.6s,mb3.4,baz=146,slow=11,SNR=5.0						
KSRS	**Korea Array**	**34.79**	**64**	P	**P**	**07 11 19.1**	**-2.3**
	comp=E,0.7nm,0.4s,mb4.0,baz=22,slow=33,SNR=3.9						
AKASG	**Malin Array Be**	**48.98**	**314**	P	**P**	**07 13 16.4**	**-0.4**
AKASG	**Malin Array Be**	**48.98**	**314**	P	**P**	**07 13 16.4**	**-0.4**
	comp=E,0.3nm,0.4s,mb3.7,baz=82,slow=6.8,SNR=4.3						
FINES	**FINESS Array B**	**52.12**	**328**	P	**P**	**07 13 40.9**	**+0.5**
	comp=E,1.4nm,0.5s,mb4.2,baz=91,slow=9.8,SNR=8.3						
ARCES	**ARCESS Array B**	**54.19**	**337**	P	**P**	**07 13 56.7**	**+1.2**
ARCES	**ARCESS Array B**	**54.19**	**337**	P	**P**	**07 13 56.7**	**+1.2**
	comp=E,3.6nm,0.9s,mb4.3,baz=106,slow=7.3,SNR=12						
GERES	**GERESS Array B**	**59.09**	**312**	P	**P**	**07 14 31.8**	**+1.3**
	comp=E,0.2nm,0.3s,mb3.6,baz=80,slow=7.3,SNR=5.5						
NB2	**NORSAR Subarra**	**59.26**	**327**	P	**P**	**07 14 31.5**	**0.0**
	comp=Z,0.2nm,0.7s,mb3.3,baz=87,slow=7.9						
NOA	**NORSAR Array B**	**59.26**	**327**	P	**P**	**07 14 31.4**	**-0.1**
	comp=Z,1.9nm,0.7s,mb4.2,baz=87,slow=7.1,SNR=5.8						
WRA	**Warramunga Arr**	**65.75**	**131**	P	**P**	**07 15 15.2**	**-0.1**
	comp=Z,0.9nm,0.6s,mb4.0,baz=326,slow=6.6,SNR=24						
ASAR	**Alice Springs**	**68.14**	**135**	P	**P**	**07 15 30.9**	**+0.5**
	comp=Z,0.5nm,0.5s,mb3.8,baz=319,slow=6.4,SNR=12						
TORD	**Torodi Ar. Bea**	**80.45**	**280**	P	**P**	**07 16 42.8**	**+0.5**
	comp=Z,0.4nm,0.6s,mb3.5,baz=40,slow=2.8,SNR=4.3						
YKA	**Yellowknife Ar**	**87.84**	**10**	P	**P**	**07 17 18.4**	**-0.6**
	comp=Z,0.2nm,0.7s,mb3.5,baz=333,slow=4.6,SNR=5.7						

IDC 17 07:10:23.1±5.0, 2308N×12238E, h0km, mb3.4/2, mb1 3.7/3, mb1mx3.4/20, mbtmp3.5/3, ML3.6/1, Error ellipse: s-maj=113.8km s-min=57.7km az=177.0, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSRS	**Korea Array**	**15.10**	**17**	Pn	Pn	07 13 57.6	-0.1
	0.2nm,0.3s,baz=192,slow=12,SNR=8.2						
MKAR	**Makanchi Array**	**39.89**	**316**	P	P	07 17 58.6	-0.1
	0.9nm,0.9s,baz=107,slow=8.1,SNR=6.9						
YKA	**Yellowknife Ar**	**83.56**	**23**	P	P	07 22 52.9	+0.1
	0.1nm,0.7s,baz=308,slow=5.5,SNR=5.4						

*KISR **17** 07:24:58.9±0.9, 3248N×4751E, h1km±999km, ML2.2*
*ISCJB **17** 07:24:59.8±1.3, 3208N±004×468E±0.1, h10km, Error ellipse: s-maj=14.5km s-min=6.0km az=9.6*
*THR **17** 07:24:59.7±0.4, 3207N×4684E, h14km±11km, ML3.2*
*CSEM **17** 07:25:02.9±0.1, 3238N×4711E, h2km, ML2.2, Error ellipse: s-maj=3.5km s-min=2.8km az=47.0*

ISC 17 07:25:01.2±1.2, 3209N±005×468E±01, h10km, n11, σ1§02/14, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHGR	**Shooshtar-Gavs**	**1.68**	**89**	*e*Pg	**Pn**	**07 25 30.2**	**-0.5**
SHGR				*e*Sg	**Sn**	**07 25 52.4**	**+0.2**
SHGR				AML	AML	07 25 54.8	
	comp=N,243nm,0.3s						
SHGR	**Shooshtar-Gavs**	**1.68**	**89**	*e*Pg	**Pn**	**07 25 30.2**	**-0.5**
	SNR=90						
SHGR				*e*Sg	**Sn**	**07 25 52.4**	**+0.2**
	SNR=90						
MIB	**Mutribah**	**2.32**	**169**	*e*P	**Pg**	**07 25 47.0**	**+1.4**
MIB				*e*S	**Sg**	**07 26 22.2**	**+6.5**
MIB				AML	AML	07 26 24.9	
	comp=Z,12nm,0.5s						
BHD	**Baghdad**	**2.37**	**300**	*ex*	x	07 25 42.0	
BHD				*ex*	x	07 26 12.0	
NAY	**Al-Naaiem**	**2.85**	**173**	*e*P	**Pg**	**07 25 54.0**	**-1.8**
NAY				*e*S	**Sg**	**07 26 36.4**	**+3.6**
NAY				AML	AML	07 26 39.7	
	comp=Z,3.7nm,0.6s						
NAY	**Al-Naaiem**	**2.85**	**173**	*e*P	**Pg**	**07 25 54.0**	**-1.9**
SNGE	**Sanandaj**	**3.03**	**8**	*e*Pn	**Pn**	**07 25 49.4**	**+0.2**
RDF	**Al-Radifah**	**3.21**	**169**	*e*P	**Pg**	**07 25 58.9**	**-3.8**
RDF				*e*S	**Sg**	**07 26 44.0**	**-0.4**
RDF				AML	AML	07 26 45.4	
	comp=Z,5.9nm,0.3s						
ASAO	**Ashtian**	**3.64**	**47**	*e*Pn	**Pn**	**07 25 58.0**	**+0.4**
ASAO				AML	AML	07 26 51.2	
	comp=E,42nm,0.6s						
ASAO				AML	AML	07 26 53.2	
	comp=N,40nm,0.6s						
GHVR	**GHOM**	**4.44**	**56**	*e*Pn	**Pn**	**07 26 08.3**	**-0.3**
MSL	**Mosul**	**5.21**	**325**	*ex*	x	07 26 18.0	
MSL				*ex*	x	07 27 16.0	

*ISCJB **17** 07:29:45.4±0.3, 3673N±002×12138W±003, h23km±3km, Error ellipse: s-maj=3.6km s-min=2.4km az=152.4*
*NEIC **17** 07:29:45.3, 3674N×12134W, h9km, ML3.0(NCEDC), After NCEDC.*

ISC 17 07:29:45.2±0.3, 3674N±002×12137W±003, h15km±2km, n43, σ0§70/73, 31C-28D, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAO	**San Andreas Ge**	**0.07**	**293**	*e*Pg	**Pg**	**07 29 47.9**	**-0.3**
PACP	**Pacheco Peak**	**0.28**	**14**	⇑P	**Pg**	**07 29 51.3**	**+0.1**
PACP				⇓S	**Sg**	**07 29 55.2**	**0.0**
	baz=0.3						
HAST	**Hastings Reser**	**0.38**	**203**	⇓P	**Pg**	**07 29 53.1**	**+0.2**
	baz=0.4,SNR=1000						
HAST				⇓S	**Sg**	**07 29 58.6**	**+0.6**
	baz=0.4						
T05C	**Eagle Field, D**	**0.58**	**74**	⇓P	**Pg**	**07 29 57.6**	**+0.9**
	baz=0.6,SNR=250						
U04C	**Hernandez Rese**	**0.60**	**128**	⇑P	**Pg**	**07 29 57.0**	**-0.1**
	baz=0.6,SNR=638						
U04C				⇓S	**Sg**	**07 30 06.7**	**+1.5**
	baz=0.6						
V03C	**Hunter Liggett**	**0.72**	**171**	P	**Pg**	**07 29 59.2**	**-0.1**
	baz=0.7,SNR=483						
V03C				⇑S	**Sg**	**07 30 09.2**	**+0.3**
	baz=0.7						
BNLO	**Ben Lomond (Sa**	**0.75**	**302**	⇑P	**Pg**	**07 29 59.6**	**-0.2**
	baz=0.8,SNR=334						
BNLO				⇓S	**Sg**	**07 30 09.9**	**+0.1**
	baz=0.8						
S04C	**Ingram Canyon,**	**0.77**	**3**	P	**Pg**	**07 30 00.6**	**+0.4**
	baz=0.8,SNR=774						
S04C				⇑S	**Sg**	**07 30 09.8**	**-0.4**
	baz=0.8						
WENL	**Wente Brothers**	**0.94**	**341**	⇑P	**Pb**	**07 30 03.1**	**0.0**
	baz=0.9,SNR=20						
WENL				⇑S	**Sb**	**07 30 13.9**	**-1.4**
	baz=0.9						
JRSC	**Jasper Ridge**	**0.96**	**314**	⇓P	**Pb**	**07 30 03.0**	**-0.6**
	baz=1.0,SNR=320						
JRSC				⇓S	**Sb**	**07 30 16.7**	**+0.7**
	baz=1.0						
S05C	**Merced**	**1.03**	**54**	P	**Pb**	**07 30 04.0**	**-0.8**
	baz=1.0,SNR=169						
S05C				⇑S	**Sb**	**07 30 17.6**	**-0.5**
	baz=1.0						
PKD	**Parkfield**	**1.04**	**139**	P	**Pb**	**07 30 04.5**	**-0.3**
	baz=1.0,SNR=874						
PKD				⇓S	**Sb**	**07 30 17.9**	**-0.3**
	baz=1.0						
U05C	**Westside ANR,**	**1.08**	**111**	⇓P	**Pb**	**07 30 05.2**	**-0.5**
	baz=1.1,SNR=59						
U05C				⇑S	**Sb**	**07 30 20.3**	**+0.7**
	baz=1.1						
V04C	**Ramage Ranch,**	**1.17**	**160**	⇑P	**Pn**	**07 30 06.5**	**-0.5**
	baz=1.2,SNR=208						
V04C				⇓S	**Sb**	**07 30 23.2**	**+1.1**
	baz=1.2						
T06C	**Millerton Lake**	**1.36**	**78**	⇑P	**Pn**	**07 30 08.7**	**-0.9**
	baz=1.3,SNR=54						
T06C				⇓S	**Sn**	**07 30 26.3**	**-1.0**
	baz=1.3						
V05C	**Boulder Hill,**	**1.47**	**126**	⇓Pb	**Pb**	**07 30 12.1**	**-0.1**
	baz=1.5						
CMB	**Columbia Colle**	**1.51**	**31**	*e*Pn	**Pn**	**07 30 11.3**	**-0.4**
CMB	**Columbia Colle**	**1.51**	**31**	⇑P	**Pn**	**07 30 11.4**	**-0.3**
	baz=1.5,SNR=70						
CMB				⇑S	**Sn**	**07 30 30.4**	**-0.7**
	baz=1.5						
R04C	**Big Horse Ranc**	**1.56**	**13**	⇓P	**Pn**	**07 30 11.7**	**-0.6**
	baz=1.5						
R04C				⇑S	**Sn**	**07 30 31.8**	**-0.4**
	baz=1.5						
FARB	**Farallon Islan**	**1.61**	**307**	⇑S	**Sn**	**07 30 33.9**	**+0.3**
	baz=1.6						
KCC	**Kaiser Creek**	**1.74**	**70**	⇓P	**Pn**	**07 30 15.0**	**+0.1**
	baz=1.7,SNR=98						
KCC				⇑S	**Sn**	**07 30 37.0**	**+0.2**
	baz=1.7						
SMMC	**Simmler**	**1.81**	**142**	⇑P	**Pn**	**07 30 15.4**	**-0.3**
	baz=1.8,SNR=43						
SMMC				⇑S	**Sn**	**07 30 37.9**	**-0.5**
	baz=1.8						
CVS	**Carmenet Viney**	**1.82**	**332**	⇑P	**Pn**	**07 30 15.9**	**-0.1**
	baz=1.8,SNR=25						
CVS				⇑S	**Sn**	**07 30 39.2**	**+0.4**
	baz=1.8						
MCCM	**Marconi Confer**	**1.85**	**320**	⇑S	**Sn**	**07 30 40.0**	**+0.6**
	baz=1.9						
HELL	**Mitchell Peak**	**1.89**	**91**	P	**Pn**	**07 30 16.5**	**-0.3**
	baz=1.9,SNR=125						
HELL				⇓S	**Sn**	**07 30 40.7**	**+0.3**
	baz=1.9						
VES	**Vestal, Richgr**	**2.06**	**115**	⇑P	**Pn**	**07 30 18.6**	**-0.6**
	baz=2.0,SNR=10						
VES				⇑S	**Sn**	**07 30 44.3**	**-0.2**
	baz=2.0						
LAVA	**Lava Cap Winer**	**2.08**	**14**	⇑Pb	**Pb**	**07 30 22.0**	**-0.5**
	baz=2.1						
Q04C	**Lincoln**	**2.10**	**360**	P	**Pn**	**07 30 19.4**	**-0.4**
	baz=2.1,SNR=14						
Q04C				⇓S	**Sn**	**07 30 45.2**	**-0.3**
	baz=2.1						
MLAC	**Mammoth Lakes**	**2.21**	**66**	⇓P	**Pn**	**07 30 21.0**	**-0.3**
	baz=2.2						
MLAC				⇓Sb	**Sb**	**07 30 53.8**	**+1.8**
	baz=2.2						
R05C	**Kirkwood Meado**	**2.21**	**27**	⇑P	**Pn**	**07 30 22.2**	**+0.8**
	baz=2.2,SNR=66						
R05C				⇑S	**Sn**	**07 30 49.6**	**+1.1**
	baz=2.2						
PKM	**Peak Mountain**	**2.23**	**145**	⇓P	**Pn**	**07 30 21.4**	**-0.1**
	baz=2.2,SNR=100						
PKM				⇓S	**Sn**	**07 30 49.7**	**+0.8**
	baz=2.2						
R07C	**Lee Vining**	**2.29**	**53**	⇑Pb	**Pb**	**07 30 25.0**	**-1.2**
	baz=2.3						
R07C				⇑Sb	**Sb**	**07 30 55.1**	**+0.8**
	baz=2.3						
R06C	**Coleville**	**2.34**	**40**	⇓P	**Pn**	**07 30 24.8**	**+1.6**
	baz=2.3						
R06C				⇓Sb	**Sb**	**07 30 56.6**	**+0.7**
	baz=2.3						
SUTB	**Sutter Butte**	**2.51**	**353**	⇑P	**Pn**	**07 30 24.9**	**-0.5**
	baz=2.5						
ISA	**Isabella**	**2.58**	**114**	*e*Pn	**Pn**	**07 30 27.2**	**+0.9**
ISA				*e*Pg	**Pg**	**07 30 33.9**	**-0.7**
ISA				*e*Sn	**Sn**	**07 30 56.1**	**-1.3**
ISA				*e*Sg	**Sg**	**07 31 06.4**	**-1.6**
ISA	**Isabella**	**2.58**	**114**	⇓P	**Pn**	**07 30 26.8**	**+0.4**
	baz=2.6,SNR=76						
ARVC	**Arvin**	**2.62**	**127**	⇓P	**Pn**	**07 30 27.0**	**+0.1**
	baz=2.6						
S08C	**White Mtn Res**	**2.67**	**73**	⇑Sb	**Sb**	**07 31 05.9**	**+0.7**
	baz=2.6						
ORV	**Oroville**	**2.81**	**358**	⇓P	**Pn**	**07 30 30.1**	**+0.5**
	baz=2.8,SNR=7.5						
ORV				⇑S	**Sn**	**07 31 04.1**	**+0.9**
	baz=2.8						
BLG	**Laguna Peak**	**3.23**	**144**	⇓P	**Pn**	**07 30 35.0**	**-0.3**
	baz=3.2,SNR=10						
GSC	**Goldstone**	**3.97**	**110**	*e*Pn	**Pn**	**07 30 46.0**	**+0.5**
TPNV	**Topopah Spring**	**4.11**	**86**	*e*Pn	**Pn**	**07 30 48.3**	**+0.8**
CIS	**Catalina Islan**	**4.12**	**143**	⇓P	**Pn**	**07 30 46.9**	**-0.6**
	baz=4.1,SNR=11						

*IDC **17** 07:43:06.4±1.2, 759S×15638E, h0km, mb4.4/11, mb1 4.4/11, mb1mx4.3/16, mbtmp4.4/11, Error ellipse: s-maj=43.5km s-min=19.7km az=109.0*
*NEIC **17** 07:43:08.4±0.6, 739S×15627E, h10km, mb4.5/5, Error ellipse: s-maj=15.1km s-min=12.4km az=132.0*
*ISCJB **17** 07:43:12.6±2.8, 76S±0.1×1564E±0.1, h57km±30km, mb4.4/14, Error ellipse: s-maj=30.0km s-min=14.3km az=138.5*

ISC 17 07:43:14.5±2.6, 76S±01×1564E±01, h61km±28km, n21, σ0§73/21, mb4.4/14, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**3.97**	**117**	Pn	**Pn**	**07 44 12.7**	**-0.3**
	24nm,0.3s,baz=234,slow=1.1,SNR=5.0						
HNR				Sn	**Sn**	**07 45 12.2**	**+14**
	55nm,0.3s,baz=268,slow=23,SNR=9.7						
CTA	**Charters Tower**	**15.82**	**217**	*e*P	**Pn**	**07 46 55.2**	**+1.7**
	6.3nm,0.9s						
CTA	**Charters Tower**	**15.82**	**217**	Pn	**Pn**	**07 46 54.3**	**+0.8**
	0.3nm,0.3s,baz=50,slow=13,SNR=4.4						
KAKA	**Kakadu**	**24.09**	**256**	*e*P	**P**	**07 48 24.4**	**-0.2**
	14nm,0.6s,mb4.6						
WRAB	**Tennant Creek**	**24.61**	**238**	*e*P	**P**	**07 48 29.4**	**+0.1**
	17nm,0.9s,mb4.6						
WB2	**Warramunga Arr**	**24.61**	**238**	*e*P	**P**	**07 48 29.5**	**+0.2**
WRA	**Warramunga Arr**	**24.62**	**238**	P	**P**	**07 48 29.6**	**+0.2**
	4.6nm,0.5s,mb4.3,baz=62,slow=9.8,SNR=50						
WRA				PcP	PcP	07 52 07.1	+1.2
	0.5nm,0.6s,baz=63,slow=2.7,SNR=4.7						
ASAR	**Alice Springs**	**26.82**	**231**	P	**P**	**07 48 48.6**	**-0.6**
	2.0nm,0.7s,mb3.8,baz=62,slow=8.9,SNR=28						
ASAR				PcP	PcP	07 52 12.2	+1.4
	0.5nm,0.8s,baz=66,slow=2.4,SNR=4.1						
STKA	**Stephens Creek**	**27.80**	**208**	*e*P	**P**	**07 48 58.3**	**+0.4**
	4.9nm,1.6s,mb3.9						
STKA	**Stephens Creek**	**27.80**	**208**	P	**P**	**07 48 56.5**	**-1.5**
	1.6nm,0.8s,mb3.7,baz=1.8,slow=12,SNR=3.0						
FITZ	**Fitzroy Crossi**	**31.68**	**248**	P	**P**	**07 49 31.6**	**-0.8**
	3.2nm,0.6s,mb4.3,baz=111,slow=6.7,SNR=5.3						
FORT	**Forrest**	**35.11**	**225**	*e*P	**P**	**07 50 01.5**	**-0.7**
	16nm,0.6s,mb5.1						
KSRS	**Korea Array**	**52.12**	**331**	P	**P**	**07 52 18.5**	**-0.1**
	2.3nm,0.9s,mb4.1,baz=148,slow=7.4,SNR=4.3						
SONM	**Songino Array**	**70.59**	**327**	P	**P**	**07 54 24.3**	**+1.1**
	2.1nm,0.7s,mb4.2,baz=108,slow=4.7,SNR=4.1						
MAW	**Mawson**	**84.36**	**203**	P	**P**	**07 55 40.9**	**+1.1**
	2.3nm,0.8s,mb4.3,baz=76,slow=3.4,SNR=10						
MKAR	**Makanchi Array**	**84.76**	**318**	P	**P**	**07 55 43.2**	**+1.0**
	15nm,0.8s,mb5.1,baz=101,slow=6.0,SNR=48						
ZAA0	**Zalesovo Array**	**85.45**	**326**	*e*P	**P**	**07 55 44.3**	**-1.1**
ZALV	**Zalesovo Beam**	**85.45**	**326**	P	**P**	**07 55 45.1**	**-0.3**
	2.9nm,0.4s,mb4.7,baz=118,slow=5.9,SNR=10						
BVAR	**Borovoye Array**	**93.60**	**323**	P	**P**	**07 56 23.5**	**-0.4**
	2.5nm,0.9s,mb4.7,baz=97,slow=6.0,SNR=11						
YKA	**Yellowknife Ar**	**96.23**	**28**	P	**P**	**07 56 36.1**	**+0.3**
	0.5nm,0.8s,mb4.0,baz=265,slow=4.7,SNR=9.3						
TORD	**Torodi Ar. Bea**	**154.50**	**285**	PKPbc	PKPbc	08 03 08.3	-1.0
	0.5nm,1.0s,baz=99,slow=1.5,SNR=3.2						

*ISCJB **17** 08:03:07.2±0.7, 4655N±009×1528E±01, h33km, mb3.7/12, Error ellipse: s-maj=16.9km s-min=6.1km az=140.5*
*MOS **17** 08:03:07.5±2.2, 4665N×15276E, h36km, mb4.0/3, Error ellipse: s-maj=17.5km s-min=12.1km az=58.0*
*IDC **17** 08:03:14.5±4.1, 4668N×15244E, h83km±37km, mb3.4/12, mb1 3.5/13, mb1mx3.4/25, mbtmp3.4/13, MS3.0/1, Ms1 3.0/1, ms1mx2.4/21, Error ellipse: s-maj=24.6km s-min=16.8km az=120.0*
*NEIC **17** 08:03:15.1±5.7, 4670N×15243E, h89km±53km, Error ellipse: s-maj=18.7km s-min=13.2km az=118.0*

ISC 17 08:03:09.2±0.7, 4668N±010×1529E±01, h35km, n38, σ1§48/44, mb3.7/12, 3C-1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.77**	**249**	PN	**Pn**	**08 04 02.2**	**-2.6**
KUR				*e*S	**Sn**	**08 04 52.0**	**+4.1**
KUR				pmax	pmax		
	comp=Z,80nm,0.6s						
KUR				smax			
	comp=N,170nm,0.7s						
KUR				smax			
	comp=E,90nm,0.7s						
SKR	**Severo-Kuril's**	**4.55**	**27**	*e*PN	**Pn**	**08 04 13.5**	**-1.9**
SKR				pmax	pmax		
	comp=Z,40nm,0.4s						
NEM2	**Nemuro 2**	**6.04**	**239**	P	**Pn**	**08 04 34.8**	**-1.1**
NEM2				*e*S	**Sn**	**08 05 39.2**	**-4.5**
JRA	**Rausu**	**6.11**	**246**	P	**Pn**	**08 04 38.9**	**+2.1**
JNK	**Nakash**	**6.54**	**245**	P	**Pn**	**08 04 43.5**	**+0.8**
JTKR	**Abashiri--Toko**	**6.87**	**250**	P	**Pn**	**08 04 48.8**	**+1.5**
JAK	**Akkeshi**	**6.87**	**241**	P	**Pn**	**08 04 46.2**	**-1.2**
JAK				*e*S	**Sn**	**08 05 59.1**	**-5.2**
YSS	**Yuzh-Sakhalins**	**6.94**	**276**	⇑*e*PN	**Pn**	**08 04 51.0**	**+2.8**
JMP	**Maruseppu**	**7.21**	**252**	P	**Pn**	**08 04 54.3**	**+2.4**
JAR	**Ashorobuto**	**7.28**	**246**	P	**Pn**	**08 04 53.8**	**+0.9**
JAR				*e*S	**Sn**	**08 06 13.5**	**-0.8**
JOB	**Onbets**	**7.45**	**243**	P	**Pn**	**08 04 55.3**	**+0.1**
ASAJ	**Asahikawa**	**7.67**	**254**	PN	**Pn**	**08 05 00.1**	**+1.9**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ	**Asahikawa**	**7.67**	**254**	P	**Pn**	**08 05 00.1**	**+1.9**
	comp=Z,1.3nm,0.3s,baz=68,slow=12,SNR=8.8						
JKK2	**Kamakawa 2**	**7.67**	**252**	P	**Pn**	**08 05 00.4**	**+2.2**
JCH	**Churui**	**7.90**	**242**	P	**Pn**	**08 05 00.6**	**-0.8**
JCH				*e*S	**Sn**	**08 06 23.9**	**-5.6**
ERM	**Erimo**	**8.37**	**240**	⇑*e*PN	**Pn**	**08 05 07.8**	**-0.1**
JNBK	**Urakawa-nobuka**	**8.46**	**242**	P	**Pn**	**08 05 08.4**	**-0.7**
JKB	**Kayabe**	**9.74**	**245**	P	**Pn**	**08 05 25.2**	**-1.4**
KSRS	**Korea Array**	**20.61**	**252**	P	**P**	**08 07 43.6**	**-1.5**
	comp=Z,0.5nm,0.3s,baz=50,slow=8.3,SNR=3.2						
JNU	**Nakatsue**	**21.54**	**239**	P	**P**	**08 07 54.8**	**-0.4**
	comp=Z,10.0nm,1.0s,mb4.2,baz=114,slow=13,SNR=3.1						
BILL	**Bilibino**	**22.50**	**13**	⇑*e*P	**P**	**08 08 09.1**	**+4.0**
BILL				*e*S	**S**	**08 12 08.0**	**-1.9**
BILL				pmax	pmax		
	comp=Z,4.0nm,1.4s,mb3.7						
ULN	**Ulaanbaatar**	**30.75**	**289**	⇓*e*P	**P**	**08 09 23.2**	**+2.3**
INK	**Inuvik**	**41.80**	**32**	P	**P**	**08 10 56.3**	**+1.5**
	comp=Z,0.4nm,0.5s,mb3.3,baz=258,slow=15,SNR=7.6						
MKAR	**Makanchi Array**	**46.82**	**297**	P	**P**	**08 11 33.4**	**-1.7**
MKAR				PcP	PcP	08 13 07.2	-0.6
MKAR				LR	LR	08 31 38.9	
MKAR	**Makanchi Array**	**46.82**	**297**	P	**P**	**08 11 33.4**	**-1.8**
MKAR						08 13 07.2	
MKAR	**Makanchi Array**	**46.82**	**297**	P	**P**	**08 11 33.4**	**-1.7**
	comp=Z,0.5nm,0.6s,mb3.6,baz=62,slow=7.8,SNR=5.7						
MKAR				PcP	PcP	08 13 07.2	-0.6
	comp=Z,0.1nm,0.4s,baz=74,slow=2.1,SNR=4.2						
MKAR				LR	LR	08 31 38.9	
	comp=Z,18nm,21.0s,baz=178,slow=37						
BVAR	**Borovoye Array**	**50.77**	**309**	P	**P**	**08 12 03.4**	**-1.9**
	comp=Z

CESS
comp=Z,360nm,0.1s
CESS Cesta pri Krsk 0.22 42⇓ *i*Pg **Pg 08 05 37.4 -0.4**
CESS *i* Sg **Sg 08 05 41.3 +0.5**
comp=Z,360nm,0.1s
GCIS Gornji Cirnik 0.27 78 *i* Pg **Pg 08 05 38.4 -0.3**
GCIS *i* Sg **Sg 08 05 42.6 +0.4**
GCIS Gornji Cirnik 0.27 78 *i* Pg **Pg 08 05 38.4 -0.3**
GCIS *i* Sg **Sg 08 05 42.6 +0.4**
GCIS
comp=Z,91nm,0.1s
PDKS Podkum 0.31 324⇓ *i*Pg **Pg 08 05 39.4 0.0**
PDKS *i* Sg **Sg 08 05 43.7 +0.1**
PDKS Podkum 0.31 324⇓ *i*Pg **Pg 08 05 39.4 0.0**
PDKS *i* Sg **Sg 08 05 43.7 +0.1**
PDKS
comp=Z,232nm,0.1s
BOJS Bojanci 0.31 180⇓ *i*Pg **Pg 08 05 38.7 -0.8**
BOJS *i* Sg **Sg 08 05 44.1 +0.5**
BOJS Bojanci 0.31 180⇓ *i*Pg **Pg 08 05 38.7 -0.8**
BOJS *i* Sg **Sg 08 05 44.1 +0.5**
BOJS
comp=Z,96nm,0.1s
BOJS Bojanci 0.31 180⇓ *i*Pg **Pg 08 05 38.7 -0.8**
BOJS *i* Sg **Sg 08 05 44.1 +0.5**
comp=Z,96nm,0.1s
GOLS Golise 0.33 52 *i* Pg **Pg 08 05 39.9 +0.1**
GOLS *i* Sg **Sg 08 05 44.7 +0.6**
GOLS Golise 0.33 52 *i* Pg **Pg 08 05 39.9 +0.1**
GOLS *i* Sg **Sg 08 05 44.7 +0.6**
GOLS
comp=Z,95nm,0.1s
GOLS Golise 0.33 52 *i* Pg **Pg 08 05 39.9 +0.1**
GOLS *i* Sg **Sg 08 05 44.7 +0.6**
comp=Z,95nm,0.1s
DOBS Dobrina 0.37 24⇓ *i*Pg **Pg 08 05 40.5 -0.1**
DOBS *i* Sg **Sg 08 05 45.8 +0.3**
DOBS Dobrina 0.37 24⇓ *i*Pg **Pg 08 05 40.5 -0.1**
DOBS *i* Sg **Sg 08 05 45.8 +0.3**
DOBS
comp=Z,57nm,0.1s
DOBS Dobrina 0.37 24⇓ *i*Pg **Pg 08 05 40.5 -0.1**
DOBS *i* Sg **Sg 08 05 45.8 +0.3**
comp=Z,57nm,0.1s
VNDS Vrh nad Dolski 0.48 307⇑ *i*Pg **Pg 08 05 42.7 -0.1**
VNDS *i* Sg **Sg 08 05 49.1 0.0**
LJU Ljubljana 0.56 295 *i* Pg **Pg 08 05 44.2 0.0**
LJU *i* Sg **Sg 08 05 51.5 0.0**
LJU Ljubljana 0.56 295 *i* Pg **Pg 08 05 44.2 0.0**
LJU *i* Sg **Sg 08 05 51.5 0.0**
LJU
comp=Z,28nm,0.1s
LJU Ljubljana 0.56 295 *i* Pg **Pg 08 05 44.2 0.0**
LJU *i* Sg **Sg 08 05 51.5 0.0**
comp=Z,28nm,0.1s
CEY Cerknica 0.58 263 *e*Pg **Pg 08 05 44.4 -0.3**
ZAVS Zavodnje 0.64 346⇓ *i*Pg **Pg 08 05 45.7 -0.1**
GROS Grobnik 0.67 15 *i* Pg **Pg 08 05 46.0 -0.3**
GROS
comp=Z,32nm,0.1s
GROS Grobnik 0.67 15 *i* Pg **Pg 08 05 46.0 -0.4**
comp=Z,32nm,0.1s
KNDS Knezji Dol 0.68 245 *i* Pg **Pg 08 05 46.5 +0.1**
KNDS *i* Sg **Sg 08 05 56.1 +0.9**
KNDS Knezji Dol 0.68 245 *i* Pg **Pg 08 05 46.5 +0.1**
KNDS *i* Sg **Sg 08 05 56.1 +0.9**
KNDS
comp=Z,34nm,0.2s
KNDS Knezji Dol 0.68 245 *i* Pg **Pg 08 05 46.5 +0.1**
KNDS *i* Sg **Sg 08 05 56.2 +0.9**
comp=Z,34nm,0.2s
MOZS Mozjanca 0.74 311 *i* Pg **Pg 08 05 47.8 0.0**
PERS Pernice 0.83 353 *i* Pg **Pg 08 05 49.0 -0.4**
PERS *i* Sg **Sg 08 06 03.2 +3.1**
PERS Pernice 0.83 353 *i* Pg **Pg 08 05 49.0 -0.4**
PERS
comp=Z,57nm,0.2s
PERS Pernice 0.83 353 *i* Pg **Pg 08 05 49.0 -0.4**
comp=Z,57nm,0.2s
JAVS Javornik 0.84 276 *i* Pg **Pg 08 05 48.9 -0.6**
JAVS *i* Sg **Sg 08 06 00.6 +0.2**
JAVS Javornik 0.84 276 *i* Pg **Pg 08 05 48.9 -0.6**
JAVS *i* Sg **Sg 08 06 00.6 +0.2**
JAVS
comp=Z,24nm,0.2s
JAVS Javornik 0.84 276 *i* Pg **Pg 08 05 48.9 -0.6**
JAVS *i* Sg **Sg 08 06 00.6 +0.2**
comp=Z,24nm,0.2s
BISS Bistriski jare 0.84 354 *i* Pg **Pg 08 05 49.2 -0.4**
OBKA Obir 0.85 325 *e*Pg **Pg 08 05 49.6 -0.2**
SNR=22
OBKA ⇓*i*Sg **Sg 08 06 01.6 +0.7**
comp=Z,55nm,0.2s
OBKA Obir 0.85 325 Pg **Pg 08 05 49.6 -0.2**
comp=Z,21nm,9.0s
OBKA Sg **Sg 08 06 01.6 +0.7**
comp=Z,55nm,0.2s
SKDS Skadanscina 0.91 253 *i* Pg **Pg 08 05 50.3 -0.6**
SKDS *i* Sg **Sg 08 06 03.0 +0.3**
KOGS Kog 0.94 47 *e*Sg **Sg 08 06 03.8 +0.1**
VOY Vojsko 0.97 283 *e*Pg **Pg 08 05 51.4 -0.8**
VOY *e*Sg **Sg 08 06 03.8 -1.0**
GORS Gorjuse 1.01 300 *i* Pg **Pg 08 05 52.5 -0.4**
GORS *i* Sg **Sg 08 06 06.1 +0.1**
GORS Gorjuse 1.01 300 *i* Pg **Pg 08 05 52.5 -0.4**
GORS *i* Sg **Sg 08 06 06.1 +0.1**
GORS
comp=Z,45nm,0.2s
GORS Gorjuse 1.01 300 *i* Pg **Pg 08 05 52.5 -0.4**
GORS *i* Sg **Sg 08 06 06.1 +0.1**
comp=Z,45nm,0.2s
DRE Drenchia 1.18 288⇑ *e*Pg **Pg 08 05 54.6 -1.5**
DRE *e*Sg **Sg 08 06 12.1 +0.7**
NVLJ Novalja 1.28 192 *e*Pg **Pg 08 05 58.9 +1.0**
NVLJ Sg **Sg 08 06 17.2 +2.7**
ROBS Robic 1.29 290 *e*Pg **Pg 08 05 56.9 -1.3**
LSR Lussari 1.37 300⇑ *i*Pg **Pg 08 05 59.7 -0.1**
LSR *i* Sg **Sg 08 06 18.5 +1.0**
ARSA Arzberg 1.45 7⇓ *i*Pg **Pg 08 06 00.9 -0.3**
ARSA ⇑*i*Sn **Sn 08 06 19.2 +0.1**
ARSA ⇑*i*Sg **Sg 08 06 21.2 +1.2**
comp=Z,5.1nm,0.3s
ARSA Arzberg 1.45 7 Pg **Pg 08 06 00.9 -0.3**
ARSA Sn **Sn 08 06 19.2 +0.1**
ARSA Sg **Sg 08 06 21.2 +1.2**
comp=Z,5.1nm,0.3s
BAD Bernadia 1.46 288⇑ *i*Pg **Pg 08 06 00.2 -1.3**
BAD *i* Sg **Sg 08 06 21.4 +0.9**
KBA Koelnbreinsper 1.83 314⇓ *i*Pn **Pn 08 06 05.0 -0.1**
KBA ⇓*e*Pg **Pg 08 06 07.8 -0.7**
SNR=6.4
KBA Koelnbreinsper 1.83 314⇓ *i*Pn **Pn 08 06 05.0 -0.1**
KBA ⇓*e*Pg **Pg 08 06 07.8 -0.7**
SNR=6.4
KBA ⇓*i*Sn **Sn 08 06 28.4 -0.1**
KBA ⇓*i*Sg **Sg 08 06 33.4 +1.2**
comp=Z,16nm,0.5s
KBA Koelnbreinsper 1.83 314 Pg **Pg 08 06 07.8 -0.7**
comp=Z,6.0nm,4.0s
KBA Sn **Sn 08 06 28.4 0.0**
KBA Sg **Sg 08 06 33.4 +1.2**
comp=Z,16nm,0.5s

IDC 17 08:05:54.4±3.0, 1173S×16600E, h0km, mb3.9/3, mb1 4.0/4, mb1mx3.7/16, mbtmp4.0/4, ML3.8/1, MS3.1/1, Ms1 3.1/1, ms1mx2.6/18, Error ellipse: s-maj=52.1km s-min=50.4km az=66.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.37**	**290**	Pn	Pn	08 07 30.1	+0.5
	2.3nm,0.3s,baz=274,slow=16,SNR=2.1						
HNR				Sn	Sn	08 08 43.2	0.0
	5.7nm,0.3s,baz=82,slow=15,SNR=1.8						
CTA	**Charters Tower**	**20.71**	**244**	LR	LR	08 17 30.7	
	comp=Z,50nm,19.2s,baz=60,slow=34						
WRA	**Warramunga Arr**	**31.49**	**251**	P	P	08 12 18.1	-0.1
	0.5nm,0.5s,baz=83,slow=9.1,SNR=11						
ASAR	**Alice Springs**	**32.72**	**244**	P	P	08 12 29.2	+0.3
	1.0nm,0.6s,baz=70,slow=9.6,SNR=22						
MKAR	**Makanchi Array**	**94.18**	**317**	P	P	08 19 15.1	-0.2
	0.6nm,0.7s,baz=103,slow=5.6,SNR=7.0						

SZGRF ***17*** *08:16:27.0, 2380S×176.10W, h33km, South of Fiji Islands*
ISCJB ***17*** *08:17:36.4±2.7, 209S±02×1786W±0.1, h592km±38km, mb3.8/8, Error ellipse: s-maj=38.9km s-min=15.6km az=160.9*
IDC ***17*** *08:17:38.2±2.3, 2085S×17854W, h601km±28km, mb3.2/8, mb1 3.5/9, mb1mx3.3/16, mbtmp3.3/9, Error ellipse: s-maj=32.2km s-min=11.7km az=159.0*
NEIC ***17*** *08:17:40.3±3.7, 21.11S×17851W, h631km±46km, mb4.0/2, Error ellipse: s-maj=35.4km s-min=17.7km az=183.0*
ISC 17 08:17:37.4±2.8, 209S±02×1785W±01, h590km±36km, n28, σ0°83/15, mb3.8/8, 1D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**17.70**	**191**	P	P	**08 21 09.4**	**-1.1**
	0.8nm,0.3s,baz=3.8,slow=2.0,SNR=6.7						
CTA	**Charters Tower**	**32.96**	**265**	*e*P	P	**08 23 24.9**	**-0.1**
	2.7nm,0.4s,mb4.2						
CTA	**Charters Tower**	**32.96**	**265**	P	P	**08 23 25.1**	**+0.1**
	3.2nm,0.4s,mb4.3,baz=96,slow=11,SNR=10						
STKA	**Stephens Creek**	**37.16**	**245**	*e*P	P	**08 24 01.0**	**+1.3**
	2.4nm,1.0s,mb3.7						
STKA	**Stephens Creek**	**37.16**	**245**	P	P	**08 24 00.5**	**+0.8**
	1.6nm,0.4s,mb3.9,baz=71,slow=10,SNR=5.2						
ASAR	**Alice Springs**	**43.94**	**257**	P	P	**08 24 54.1**	**+0.6**
	3.1nm,0.6s,mb4.0,baz=96,slow=7.7,SNR=58						
ASAR				PcP	PcP	08 26 26.9	+0.8
	0.7nm,0.6s,baz=105,slow=3.8,SNR=7.5						
ASAR				S	S	**08 30 43.8**	**+0.3**
	1.7nm,0.8s,baz=94,slow=15,SNR=15						
WB2	**Warramunga Arr**	**44.04**	**263**	*e*P	P	**08 24 54.5**	**+0.1**
WRA	**Warramunga Arr**	**44.05**	**263**	P	P	**08 24 54.6**	**+0.2**
	1.0nm,0.3s,mb3.9,baz=97,slow=7.6,SNR=74						
WRA				S	S	**08 30 44.3**	**-0.8**
	1.2nm,0.9s,baz=97,slow=13,SNR=6.1						
MJAR	**Matsushiro Arr**	**70.24**	**324**	P	P	**08 27 50.1**	**-2.1**
	1.1nm,0.5s,mb3.5,baz=155,slow=6.2,SNR=4.2						
NVAR	**Mina Array Bea**	**81.66**	**44**	P	P	**08 28 55.4**	**+0.4**
	0.9nm,0.7s,mb3.4,baz=214,slow=7.4,SNR=8.7						
TXAR	**Lajitas Array**	**87.69**	**58**	P	P	**08 29 24.9**	**+0.4**
TXAR	**Lajitas Array**	**87.69**	**58**	P	P	**08 29 24.9**	**+0.4**
	1.0nm,0.9s,mb3.5,baz=216,slow=6.3,SNR=8.8						
PDAR	**Pinedale Array**	**89.60**	**43**	P	P	**08 29 33.2**	**+0.2**
	1.1nm,0.7s,mb3.8,baz=212,slow=3.4,SNR=10						
MKAR	**Makanchi Array**	**111.11**	**313**	PKiKP	PKiKP	08 35 03.0	-1.6
	0.2nm,0.5s,baz=57,slow=4.5,SNR=3.7						
ARCES	**ARCESS Array B**	**129.23**	**349**	PKP	PKPdf	08 35 37.9	-0.8
ARCES	**ARCESS Array B**	**129.23**	**349**	PKP	PKPdf	08 35 37.9	-0.8
	3.5nm,0.9s,baz=346,slow=0.5,SNR=7.1						
AKASG	**Malin Array Be**	**143.12**	**330**	PKP	PKPdf	08 36 02.0	-2.8
	4.5nm,0.5s,baz=43,slow=4.2,SNR=35						
CLL	**Collm**	**148.34**	**346**	*e*PKPbc	PKPbc	08 36 18.0	+0.1
CLL	**Collm**	**148.34**	**346**	⇓*i*PKPbc	PKPbc	08 36 17.9	0.0
	comp=Z,7.0nm,1.0s						
BRG	**Berggiesshubel**	**148.53**	**345**	*e*PKPbc	PKPbc	08 36 18.3	-0.1
FBE	**Freiberg**	**148.62**	**346**	*e*PKPbc	PKPbc	08 36 19.5	+0.9
MOX	**Moxa**	**149.26**	**347**	*e*PKP	PKPbc	08 36 20.8	+0.6
MOX	**Moxa**	**149.26**	**347**	*e*PKPbc	PKPbc	08 36 20.2	0.0
TANN	**Tannenbergstha**	**149.30**	**346**	*e*PKPbc	PKPbc	08 36 20.1	-0.2
WERD	**Werda**	**149.30**	**346**	*e*PKPbc	PKPbc	08 36 20.4	+0.1
MANZ	**Manzenberg**	**149.78**	**346**	*e*PKPbc	PKPbc	08 36 21.6	+0.2
GEC2	**GERESS Array S**	**150.45**	**344**	*e*PKPbc	PKPbc	08 36 23.1	+0.1
GERES	**GERESS Array B**	**150.45**	**344**	PKPbc	PKPbc	08 36 22.9	-0.2
	comp=Z,0.7nm,0.4s,baz=36,slow=2.5,SNR=9.6						

WEL 17 08:18:39.8±0.2, 4516S×16731E, h95km±2km, ML3.9/11, 3C-4D, Error ellipse: s-maj=2.1km s-min=1.2km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.34**	**200**	⇑PN	Pn	08 18 53.6	-0.3
DCZ				SN	Sn	08 19 03.8	-0.7
MLZ	**Mavora Lakes**	**0.64**	**107**	⇓PN	Pn	08 18 55.9	-0.2
MLZ				SN	Sn	08 19 07.5	-0.8
MSZ	**Milford Sound**	**0.66**	**42**	⇑PN	Pn	08 18 56.4	+0.1
MSZ				SN	Sn	08 19 08.7	+0.1
WHZ	**Wether Hill Ro**	**0.86**	**149**	PN	Pn	08 18 58.3	0.0
WHZ				SN	Sn	08 19 11.9	-0.2
WKZ	**Wanaka**	**1.25**	**75**	⇓PN	Pn	08 19 02.8	+0.1
WKZ				SN	Sn	08 19 19.5	-0.5
EAZ	**Earnscleugh**	**1.41**	**94**	⇓PN	Pn	08 19 04.5	-0.1
EAZ				*e*SN	Sn	08 19 22.4	-1.0
JCZ	**Jackson Bay**	**1.50**	**44**	⇑PN	Pn	08 19 05.2	-0.6
APZ	**The Paps**	**1.74**	**165**	PN	Pn	08 19 08.6	-0.1
TUZ	**Tuapeka**	**1.81**	**117**	PN	Pn	08 19 09.4	-0.2
SYZ	**Scrubby Hill**	**1.88**	**138**	PN	Pn	08 19 10.3	-0.2
LBZ	**Lake Benmore**	**2.19**	**70**	PN	Pn	08 19 12.9	-1.6
FOZ	**Fox Glacier**	**2.33**	**48**	PN	Pn	08 19 15.8	-0.7
ODZ	**Otahua Downs**	**2.36**	**88**	⇓PN	Pn	08 19 15.6	-1.2
HHSZ	**Highcliff Hill**	**2.42**	**109**	PN	Pn	08 19 17.1	-0.5
RPZ	**Rata Peaks**	**3.04**	**63**	PN	Pn	08 19 23.5	-2.4
WVZ	**Waitaha Valley**	**3.23**	**51**	PN	Pn	08 19 25.8	-2.6
LTZ	**Lake Taylor**	**4.29**	**58**	PN	Pn	08 19 39.7	-3.1
DSZ	**Denniston Nort**	**4.72**	**45**	PN	Pn	08 19 45.7	-3.0

NEIC ***17*** *08:38:26.3, 1745N×10226W, h24km, MD4.0(MEX), After MEX.*
MEX 17 08:38:28.1±0.4, 1752N×10217W, h20km±18km, MD4.1, Near coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.68**	**83**	*i* P	Pb	08 38 38.6	-2.7
ZIIG				*i* S	Sb	08 38 48.5	-1.7
ZIIG	**Zihuatanejo**	**0.68**	**83**	*i* P	Pb	08 38 39.0	-2.3
ZIIG				*i* S	Sb	08 38 47.6	-2.6
CAIG	**El Cayaco**	**1.88**	**104**	*i* P	Pn	08 38 56.4	-2.7
CAIG				*i* S	Sn	08 39 18.5	-3.7
ACX	**Acapulco**	**2.25**	**106**	*e*P	Pn	08 39 03.5	-0.7
ACX	**Acapulco**	**2.25**	**106**	*e*P	Pn	08 39 01.5	-2.7
ACX				*i* S	Sn	08 39 27.0	-4.4
MEIG	**Mezcala**	**2.46**	**80**	*i* P	Pn	08 39 05.3	-1.8
MEIG				*i* S	Sn	08 39 34.5	-2.2
PLIG	**Platanillo**	**2.68**	**71**	*i* P	Pn	08 39 06.8	-3.4
PLIG				*i* S	Sn	08 39 39.4	-2.7
PLIG	**Platanillo**	**2.68**	**71**	*e*P	Pn	08 39 08.3	-1.8
PLIG				*i* S	Sn	08 39 39.2	-2.9
SFJM	**Santa Fe**	**3.06**	**345**	*i* P	Pn	08 39 13.0	-2.4
SZVM	**Salazar**	**3.20**	**55**	*e*P	Pn	08 39 16.0	-1.3
SZVM				*i* S	Sn	08 39 51.7	-3.1
VHO	**Vista Hermosa**	**5.21**	**94**	*i* P	Pn	08 39 41.8	-3.2
VHO	**Vista Hermosa**	**5.21**	**94**	*i* P	Pn	08 39 42.8	-2.2
VHO				*i* S	Sn	08 40 42.0	-2.5

IDC 17 08:39:25.9±3.3, 1070S×11794E, h0km, mb3.7/1, mb1 3.6/4, mb1mx3.5/14, mbtmp3.5/4, ML3.4/3, Error ellipse: s-maj=243.7km s-min=24.7km az=49.0, South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Kupang**	**5.65**	**86**	Sn	Sn	08 41 57.6	+0.8
	2.6nm,0.3s,baz=30,slow=18,SNR=1.8						
FITZ	**Fitzroy Crossi**	**10.47**	**136**	Pn	Pn	08 41 57.6	+0.2
	0.4nm,0.3s,baz=319,slow=7.2,SNR=6.4						
FITZ				Sn	Sn	08 43 51.5	-3.9
	0.1nm,0.3s,baz=163,slow=19,SNR=2.3						
WRA	**Warramunga Arr**	**18.27**	**122**	P	Pn	08 43 40.2	-0.8
	0.1nm,0.3s,baz=294,slow=12,SNR=5.0						
ASAR	**Alice Springs**	**19.94**	**132**	P	Pn	08 44 00.1	-1.0
	0.2nm,0.3s,baz=303,slow=10,SNR=11						
MKAR	**Makanchi Array**	**65.50**	**334**	P	P	08 50 11.0	+0.1
	0.6nm,0.6s,baz=147,slow=8.0,SNR=3.3						

NEIC ***17*** *08:47:26.3, 1847N×6442W, h84km, MD3.6(RSPR), After RSPR.*
RSPR 17 08:47:26.3, 1847N×6442W, h84km, MD3.5/6, MD3.5/6, 3C-3D, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TBVI	**Tortola**	**0.20**	**253⇓**	*e*P	Pn	08 47 38.1	-0.5
TBVI				*e*S	Sn	08 47 47.3	-0.3
STVI	**Saint Thomas**	**0.52**	**257⇑**	*e*P	Pn	08 47 40.1	-0.4
STVI				*e*S	Sn	08 47 50.9	-0.3
MTP	**Monte Pirata**	**1.14**	**251⇑**	*e*P	Pn	08 47 43.8	-3.4
CBYP	**Canovanas**	**1.38**	**262⇑**	*e*P	Pn	08 47 45.7	-4.5
HUMP	**Col San Antoni**	**1.40**	**257⇓**	*e*P	Pn	08 47 50.4	0.0
HUMP				*e*S	Sn	08 48 09.1	+0.4
CRPR	**Cabo Rojo, PR**	**2.60**	**260⇓**	*e*P	Pn	08 48 06.4	+0.2
CRPR				*e*S	Sn	08 48 36.6	-0.4

NEIC ***17*** *08:50:14.2±1.7, 1904N×3909E, h10km, mb4.1/1, Error ellipse: s-maj=36.3km s-min=19.9km az=161.0*
IDC ***17*** *08:50:14.6±2.1, 1934N×3896E, h0km, mb3.8/8, mb1 3.9/8, mb1mx3.8/20, mbtmp3.8/8, MS3.6/11, Ms1 3.6/11, ms1mx3.3/23, Error ellipse: s-maj=51.9km s-min=23.7km az=160.0*
CSEM ***17*** *08:50:16.9±0.1, 1943N×3904E, h30km, ML3.2, Error ellipse: s-maj=5.3km s-min=4.1km az=132.0*
ISCJB ***17*** *08:50:18.1±3.2, 1950N±008×390E±0.1, h31km±23km, mb3.8/8, MS3.6/10, Error ellipse: s-maj=17.6km s-min=13.3km az=18.8*
SGS ***17*** *08:50:18.4, 1931N×3925E, h28km*
ISC 17 08:50:19.2±3.4, 1949N±008×391E±01, h25km±25km, n27, σ1°18/23, mb3.8/8, MS3.6/10, Red Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LTHS	**Al Lith**	**1.47**	**58**	P	**Pn**	**08 50 36.1**	**-8.0**
SHMS		**2.03**	**16**	P	**Pn**	**08 50 51.5**	**-0.4**
SHMS		**2.03**	**16**	P	**Pn**	**08 50 51.5**	**-0.3**
SHMS				S	**Sn**	**08 51 15.6**	**-0.8**
FRAS	**Faraa**	**2.06**	**41**	P	**Pn**	**08 50 50.3**	**-2.0**
FDAS		**2.62**	**27**	P	**Pn**	**08 51 00.4**	**+0.5**
YOBS		**4.86**	**356**	P	**Pn**	**08 51 31.1**	**+0.4**
YOBS		**4.86**	**356**	P	**Pn**	**08 51 31.1**	**+0.4**
YOBS				S	**Sn**	**08 52 25.8**	**-0.3**
WJHS		**7.62**	**342**	P	**Pn**	**08 52 09.2**	**+0.6**
WJHS		**7.62**	**342**	P	**Pn**	**08 52 09.2**	**+0.5**
ATD	**Arta Tunnel**	**8.70**	**155**	LR	LR	08 54 58.2	
	comp=Z,271nm,20.2s,baz=334,slow=33						
MALT	**Malatya**	**18.77**	**358**	*e*P	**Pn**	**08 54 39.8**	**+2.8**
	18nm,1.4s						
KEST	**Kesra**	**30.76**	**308**	LR	LR	09 09 22.2	
	comp=Z,26nm,19.7s,MS2.9,baz=206,slow=37						
AKASG	**Malin Array Be**	**32.11**	**348**	P	**P**	**08 56 45.2**	**+0.9**
AKASG	**Malin Array Be**	**32.11**	**348**	P	**P**	**08 56 45.2**	**+0.9**
	0.1nm,0.3s,mb3.1,baz=176,slow=8.3,SNR=4.9						
GERES	**GERESS Array B**	**35.70**	**331**	P	**P**	**08 57 15.3**	**-0.3**
	0.4nm,0.3s,mb3.9,baz=132,slow=9.4,SNR=4.9						
TORD	**Torodi Ar. Bea**	**36.38**	**266**	P	**P**	**08 57 19.8**	**-2.0**
	2.6nm,0.8s,mb4.2,baz=76,slow=8.7,SNR=18						
TORD				LR	LR	09 13 00.0	
	comp=Z,118nm,20.5s,MS3.6,baz=80,slow=38						
BVAR	**Borovoye Array**	**41.30**	**28**	P	**P**	**08 58 04.8**	**+2.3**
	0.3nm,0.5s,mb3.2,baz=224,slow=8.1,SNR=3.6						
BVAR				LR	LR	09 18 59.3	
	comp=Z,54nm,18.5s,MS3.5,baz=154,slow=42						
MK31	**Makanchi Array**	**44.48**	**42**	*e*P	**P**	**08 58 28.0**	**-0.4**
MK31	**Makanchi Array**	**44.48**	**42**	*e*P	**P**	**08 58 28.0**	**-0.4**
MKAR	**Makanchi Array**	**44.48**	**42**	P	**P**	**08 58 27.8**	**-0.6**
	1.8nm,0.8s,mb3.9,baz=241,slow=6.7,SNR=8.2						
MKAR				LR	LR	09 20 42.4	
	comp=Z,36nm,19.3s,MS3.3,baz=186,slow=41						
DBIC	**Dimbokro**	**44.52**	**259**	LR	LR	09 16 58.1	
	comp=Z,120nm,18.6s,MS3.8,baz=56,slow=36						
NOA	**NORSAR Array B**	**45.92**	**342**	P	**P**	**08 58 39.2**	**-0.4**
	1.1nm,0.8s,mb3.8,baz=140,slow=7.6,SNR=2.5						
ZALV	**Zalesovo Beam**	**48.95**	**34**	P	**P**	**08 59 02.8**	**-0.5**
	1.7nm,0.8s,mb4.1,baz=253,slow=10,SNR=5.8						
ZALV				LR	LR	09 23 40.9	
	comp=Z,61nm,19.1s,MS3.6,baz=23,slow=41						
BOSA	**Boshof**	**49.65**	**196**	LR	LR	09 20 17.1	
	comp=Z,200nm,18.1s,MS4.2,baz=343,slow=36						
ARCES	**ARCESS Array B**	**50.73**	**354**	LR	LR	09 24 13.3	
	comp=Z,84nm,19.5s,MS3.8,baz=66,slow=40						
SONM	**Songino Array**	**60.64**	**45**	P	**P**	**09 00 30.2**	**+2.1**
	1.0nm,0.8s,mb4.0,baz=224,slow=6.0,SNR=3.9						
SONM				LR	LR	09 29 19.5	
	comp=Z,90nm,18.6s,MS3.9,baz=21,slow=38						
KSRS	**Korea Array**	**77.52**	**55**	LR	LR	09 42 29.3	
	comp=Z,57nm,19.0s,MS3.9,baz=280,slow=40						

MAN 17 08:53:12, 1790N×12051E, h43km, mb3.9, ML2.6, MS2.2, Luzon

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IDC 17 09:07:12.4±1.4, 910S×15810E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.6/14, mbtmp3.6/3, Error ellipse: s-maj=46.7km s-min=20.8km az=178.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.86**	**100**	Pn	Pn	09 07 44.6	-0.9
	19nm,0.3s,baz=264,slow=4.4,SNR=12						
HNR				Sn	Sn	09 08 12.4	+2.8
	44nm,0.3s,baz=85,slow=17,SNR=9.3						
WRA	**Warramunga Arr**	**25.36**	**242**	P	P	09 12 42.7	+1.3
	1.6nm,0.7s,baz=68,slow=9.8,SNR=10						
ASAR	**Alice Springs**	**27.29**	**235**	P	P	09 12 57.3	-1.6
	0.6nm,0.9s,baz=67,slow=7.5,SNR=2.8						
MKAR	**Makanchi Array**	**87.01**	**318**	P	P	09 20 00.2	+0.6
	0.3nm,0.6s,baz=91,slow=7.2,SNR=3.0						

IDC 17 09:28:58.7±1.6, 840S×15698E, h0km, mb3.7/4, mb1 3.8/5, mb1mx3.7/15, mbtmp3.8/5, ML3.8/1, MS4.0/1, Ms1 4.0/1, ms1mx2.7/21, Error ellipse: s-maj=38.7km s-min=31.3km az=171.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**3.11**	**109**	Pn	Pn	09 29 48.7	-0.3
	11nm,0.3s,baz=272,slow=6.3,SNR=8.2						
HNR				Sn	Sn	09 30 33.6	+6.8
	33nm,0.3s,baz=86,slow=22,SNR=12						
WRA	**Warramunga Arr**	**24.73**	**240**	P	P	09 34 22.1	+0.2
	0.6nm,0.8s,baz=66,slow=9.9,SNR=8.6						
ASAR	**Alice Springs**	**26.80**	**233**	P	P	09 34 40.7	0.0
	0.7nm,1.0s,baz=70,slow=8.0,SNR=4.0						
STKA	**Stephens Creek**	**27.39**	**209**	P	P	09 34 45.9	0.0
	2.6nm,0.8s,baz=34,slow=11,SNR=4.3						
RAO	**Raoul Island**	**31.41**	**135**	LR	LR	09 44 23.9	
	comp=Z,247nm,19.8s,baz=143,slow=30						
MKAR	**Makanchi Array**	**85.75**	**318**	P	P	09 41 39.9	+0.1
	0.2nm,0.3s,baz=99,slow=4.7,SNR=2.5						

IDC ***17*** *09:32:49.2±11.0, 1619S×17600W, h316km±109km, mb3.6/6, mb1 3.8/6, mb1mx3.4/16, mbtmp3.6/6, Error ellipse: s-maj=44.1km s-min=26.8km az=29.0*
ISCJB ***17*** *09:32:51.6±1.2, 163S±02×176.1W±02, h348km±21km

VNDA	**Vanda**	**62.23**	**185**	P	**P**	**09 42 39.2**	**+1.0**
	1.6nm,0.8s,mb3.6,baz=36,slow=6.1,SNR=5.3						
PDAR	**Pinedale Array**	**84.67**	**43**	P	**P**	**09 44 48.2**	**-0.2**
	0.4nm,0.6s,mb3.4,baz=206,slow=3.8,SNR=3.6						
ARCES	**ARCESS Array B**	**125.11**	**351**	PKP	PKPdf	09 51 09.8	-2.0
ARCES	**ARCESS Array B**	**125.11**	**351**	PKP	PKPdf	09 51 09.8	-2.0
	5.5nm,1.1s,baz=23,slow=2.9,SNR=5.4						

CASC 17 09:49:21.6±2.1, 993N×8427W, h64km±7km, MD3.6, ML2.6, 3C-5D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PRS1	**Puriscal**	**0.07**	**319**	⇓*i*	P	Pn	09 49 30.6	-0.4
PRS1					eS	Sn	09 49 39.9	+2.0
LAJ	**Bijagual**	**0.16**	**116**	*e*	P	Pn	09 49 32.3	+1.0
CGA2	**Cerro Gallo 2**	**0.21**	**293**	⇓*e*	P	Pn	09 49 31.1	-0.5
SJS	**Escuela Geolog**	**0.21**	**89**	*e*	P	Pn	09 49 31.4	-0.2
LCR2	**La Lucha 2**	**0.32**	**126**	⇑*i*	P	Pn	09 49 31.9	-0.4
LCR2					eS	Sn	09 49 42.3	+2.2
URSC	**Urasca**	**0.49**	**101**	⇓*i*	P	Pn	09 49 34.2	+0.4
URSC					eS	Sn	09 49 43.5	+0.8
BUS	**Buena Vista**	**0.63**	**127**	*e*	P	Pn	09 49 35.4	+0.1
BUS					eS	Sn	09 49 45.7	+0.5
FORC	**Fortuna**	**0.66**	**324**	⇑*e*	P	Pn	09 49 35.8	+0.1
FORC					eS	Sn	09 49 46.5	+0.5
JCR	**Jicaral**	**0.84**	**264**	*e*	P	Pn	09 49 37.3	-0.5
JCR					eS	Sn	09 49 49.9	+0.2
CUI		**1.15**	**309**	⇓*e*	P	Pn	09 49 41.8	0.0
CUI					eS	Sn	09 49 57.4	+0.6
BAR1		**1.17**	**126**	⇑*e*	P	Pn	09 49 42.1	+0.2
LIM1	**Limonal**	**1.23**	**308**	⇓*e*	P	Pn	09 49 42.9	+0.1
LIM1					eS	Sn	09 49 59.0	+0.3
VCR	**Vista de Mar**	**1.36**	**278**	*e*	P	Pn	09 49 44.1	-0.3
CNI	**Changuinola**	**1.80**	**106**	*i*	P	Pn	09 49 51.0	+0.6
DVD	**David**	**2.33**	**130**	*e*	P	Pn	09 49 54.9	-2.8
BOAB	**BOACO BROADBAN**	**2.85**	**331**	*e*	P	Pn	09 50 04.7	-0.1
BOAB					eS	Sn	09 50 39.1	+1.1
BOAB					*i*		09 50 40.2	
	comp=N,10nm,0.7s							
LAPE	**La Pedrera**	**12.77**	**100**	*e*	P		09 49 45.2	
LAPE					eS		09 50 03.2	
PTP	**Ponta Puerca**	**19.87**	**63**	*e*	P		09 49 59.3	

*IDC **17** 10:02:42.6±6.0, 1936S×6938W, h95km±43km, mb3.9/3, mb1 3.9/5, mb1mx3.5/20, mbtmp3.8/5, Error ellipse: s-maj=52.3km s-min=28.2km az=44.0*

ISC 17 10:02:42.5±5.0, 195S±03×693W±03, h94km±34km, n7, σ1°80/6, mb4.1/2, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**3.35**	**20**	P		**Pn**	**10 03 34.0**	**+1.2**
	1.2nm,0.3s,baz=211,slow=4.4,SNR=47							
LPAZ					S	**Sn**	**10 04 11.4**	**-0.2**
	1.1nm,0.3s,baz=274,slow=9.1,SNR=5.0							
SIV	**San Ignacio**	**8.59**	**68**	P		**Pn**	**10 04 42.3**	**-1.7**
	1.9nm,0.3s,baz=252,slow=13,SNR=88							
BDFB	**Brasilia**	**20.67**	**83**	P		**P**	**10 07 16.2**	**+1.2**
	3.2nm,0.5s,baz=264,slow=16,SNR=9.6							
TORD	**Torodi Ar. Bea**	**77.05**	**71**	P		**P**	**10 14 26.1**	**+0.3**
	2.1nm,0.5s,mb4.1,baz=256,slow=5.4,SNR=18							
YKA	**Yellowknife Ar**	**89.13**	**341**	P		**P**	**10 15 26.0**	**-0.9**
	1.3nm,0.7s,mb4.1,baz=133,slow=4.7,SNR=36							
WRA	**Warramunga Arr**	**134.50**	**212**	PKP		PKPdf	10 21 50.3	-0.3
	0.3nm,0.8s,baz=139,slow=2.1,SNR=3.2							
SONM	**Songino Array**	**151.47**	**6**	PKPbc		PKPbc	10 22 25.3	-0.1
	0.2nm,0.4s,baz=352,slow=2.9,SNR=4.2							

*IDC **17** 10:03:43.7±6.3, 3637N×7127E, h140km±56km, mb3.5/9, mb1 3.8/13, mb1mx3.6/23, mbtmp3.7/13, Error ellipse: s-maj=29.8km s-min=16.3km az=19.0*
*ISCJB **17** 10:03:47.9±0.3, 3667N±002×7147E±004, h186km±5km, mb4.0/15, Error ellipse: s-maj=5.2km s-min=3.1km az=173.1*
*MOS **17** 10:03:47.8±1.3, 3670N×7132E, h182km, mb3.7/1, Error ellipse: s-maj=14.5km s-min=8.4km az=91.3*
*NEIC **17** 10:03:48.8±0.6, 3664N×7139E, h182km±7km, mb4.6/1, Error ellipse: s-maj=8.9km s-min=5.6km az=55.0*
*BJI **17** 10:03:49.5, 3687N×7121E, h196km, mB4.7, mb4.3*
*NNC **17** 10:03:55.6±4.8, 3729N×7116E, h216km±39km, mb3.5, mpv5.2, Error ellipse: s-maj=43.3km s-min=24.4km az=17.0*

ISC 17 10:03:48.6±0.3, 3668N±002×7142E±004, h179km±5km, n87, σ1°09/113, mb4.0/15, 11C-6D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**2.88**	**223**	*e*	P	**Pn**	**10 04 36.3**	**+0.6**
KBL					eS	**Sn**	**10 05 12.1**	**-0.3**
CHCP	**Chirah Chowk**	**3.37**	**153**	P		**Pn**	**10 04 44.6**	**+2.8**
CHCP					S	**Sn**	**10 05 19.0**	**-4.2**
THW	**Thamme Wali**	**3.88**	**176**	⇓P		**Pn**	**10 04 49.9**	**+1.7**
KSH	**Kashi**	**4.58**	**50**	P		**Pn**	**10 05 00.3**	**+3.3**
KSH					S	**Sn**	**10 05 47.9**	**-2.7**
KSH					Smax			
	comp=N,2μm,0.4s							
KSH					Smax			
	comp=E,2μm,0.7s							
JMU	**Jammu**	**4.88**	**143**	*i*	S	**Sn**	**10 05 55.0**	**-2.8**
DRP	**Derazinda**	**5.02**	**192**	⇑P		**Pn**	**10 05 03.9**	**+1.0**
THN	**Thein Dam**	**5.52**	**139**	*e*	P	**Pn**	**10 05 10.5**	**+1.1**
THN					*e*x	x	10 06 12.6	
DLH	**Dalhousie**	**5.58**	**136**	*e*	P	**Pn**	**10 05 12.0**	**+2.0**
DLH					*e*x	x	10 06 15.0	
AML	**Almayashu**	**5.72**	**17**	*e*	P	**Pn**	**10 05 12.5**	**+0.7**
	comp=E,536nm,0.5s							
AML					eS	**Sn**	**10 06 15.5**	**-1.8**
AML	**Almayashu**	**5.72**	**17**	P		**Pn**	**10 05 12.6**	**+0.8**
	SNR=486							
UCH	**Uchtor**	**6.04**	**22**	*e*	P	**Pn**	**10 05 16.7**	**+0.8**
	comp=E,111nm,0.6s							
UCH					eS	**Sn**	**10 06 23.3**	**-1.5**
UCH	**Uchtor**	**6.04**	**22**	P		**Pn**	**10 05 16.8**	**+0.9**
	SNR=108							
KZA	**Kyzart**	**6.15**	**28**	P		**Pn**	**10 05 18.8**	**+1.3**
	SNR=38							
EKS2	**Erkin-Say**	**6.25**	**16**	P		**Pn**	**10 05 19.5**	**+0.9**
	SNR=34							
AAK	**Ala-Archa**	**6.40**	**21**	*c*	*i*PN	**Pn**	**10 05 20.6**	**-0.1**
AAK	**Ala-Archa**	**6.40**	**21**	P		**Pn**	**10 05 21.7**	**+0.9**
	SNR=143							
KK31	**Karatay Array**	**6.46**	**354**	⇑P		**Pn**	**10 05 21.3**	**-0.1**
	comp=E,56nm,0.2s,baz=177,slow=12,SNR=704							
KK31					⇑S	**Sn**	**10 06 29.5**	**-5.1**
	comp=E,136nm,0.5s,baz=328,slow=76,SNR=4.1							
KBK	**Karagaybulak**	**6.56**	**23**	P		**Pn**	**10 05 23.9**	**+1.1**
	SNR=35							
FRU	**Bishkek**	**6.62**	**21**	⇑*i*	PN	**Pn**	**10 05 25.0**	**+1.4**
FRU					*i* S	**Sn**	**10 06 40.0**	**+1.4**
FRU					pmax	pmax		
	comp=Z,128nm,1.0s							
FRU					smax			
	comp=E,126nm,1.5s							
BHK	**Bhakra**	**6.69**	**140**	*e*	P	**Pn**	**10 05 23.0**	**-1.6**
BHK					eS	**Sn**	**10 06 35.0**	**-5.3**
CHMS	**Chumysh**	**6.81**	**21**	P		**Pn**	**10 05 26.7**	**+0.6**
	SNR=26							
SDNR	**Sundarnagar**	**6.92**	**137**	*e*	P	**Pn**	**10 05 27.6**	**-0.1**
SDNR					eS	**Sn**	**10 06 41.0**	**-4.8**
USP	**Ospenovka**	**6.99**	**19**	P		**Pn**	**10 05 28.5**	**0.0**
	SNR=54							
TKM2	**Tokmak 2**	**7.01**	**26**	⇑P		**Pn**	**10 05 29.4**	**+0.6**
	comp=E,98nm,0.6s							
TKM2					⇓S	**Sn**	**10 06 47.1**	**-0.8**
	comp=E,31nm,0.6s							
TKM2	**Tokmak 2**	**7.01**	**26**	P		**Pn**	**10 05 30.6**	**+1.8**
	SNR=22							
SMLA	**Simla**	**7.31**	**138**	*e*	P	**Pn**	**10 05 33.4**	**+0.6**
SMLA					AMb	AMB	10 05 34.2	
	comp=Z,123nm,0.3s							
SMLA					eS	**Sn**	**10 06 50.6**	**-4.5**
DDI	**Dehra Dun**	**8.42**	**137**	*e*	P	**Pn**	**10 05 48.0**	**+0.6**
DDI					*e*x	x	10 07 20.0	
JOSI	**Joshimath**	**9.13**	**130**	*e*	P	**Pn**	**10 05 57.4**	**+0.7**
JOSI					AMb	AMB	10 05 59.9	
	comp=Z,818nm,0.9s							
KHET	**Khetri**	**9.35**	**155**	*e*	P	**Pn**	**10 05 57.9**	**-1.7**
KHET					AMb	AMB	10 05 59.1	
	comp=Z,37nm,0.3s							
KHET					eS	**Sn**	**10 07 34.5**	**-9.3**
NDI	**New Delhi**	**9.35**	**147**	*e*	P	**Pn**	**10 05 59.6**	**0.0**
NDI					AMb	AMB	10 06 00.4	
	comp=Z,30nm,0.3s							
NDI					eS	**Sn**	**10 07 36.0**	**-7.8**
AYAN	**Aya Nagar**	**9.48**	**148**	*e*	P	**Pn**	**10 06 01.0**	**-0.4**
AYAN					AMb	AMB	10 06 02.5	
	comp=Z,44nm,0.6s							
AYAN					eS	**Sn**	**10 07 39.7**	**-7.4**
KUDL	**Kundal**	**9.53**	**152**	*e*	P	**Pn**	**10 06 01.3**	**-0.6**
KUDL					AMb	AMB	10 06 02.0	
	comp=Z,23nm,0.3s							
KUDL					eS	**Sn**	**10 07 39.1**	**-9.0**
SONA	**Sohna**	**9.67**	**149**	*e*	P	**Pn**	**10 06 03.5**	**-0.3**
SONA					AMb	AMB	10 06 04.8	
	comp=Z,37nm,0.5s							
SONA					eS	**Sn**	**10 07 43.0**	**-8.5**
JASL	**Jaisalmer**	**9.73**	**183**	*e*	P	**Pn**	**10 06 02.9**	**-1.8**
JASL					AMb	AMB	10 06 05.5	
	comp=Z,41nm,0.6s							
JASL					eS	**Sn**	**10 07 44.7**	**-8.4**
PTH	**Pithoragarh**	**10.24**	**131**	*e*	P	**Pn**	**10 06 11.0**	**-0.3**
PTH					*e*x	x	10 08 01.0	
LGTI	**Lohaghat**	**10.33**	**132**	*e*	P	**Pn**	**10 06 11.5**	**-0.9**
LGTI					*e*x	x	10 08 04.3	
AJM	**Ajmer**	**10.53**	**164**	*e*	P	**Pn**	**10 06 14.3**	**-0.8**
AJM					eS	**Sn**	**10 08 02.7**	**-10**
AJM					*i* S	**Sn**	**10 08 05.0**	**-7.2**
MK31	**Makanchi Array**	**12.95**	**35**	P		**Pn**	**10 06 46.4**	**+0.4**
	comp=Z,9.5nm,0.6s,baz=222,slow=12,SNR=76							
MKAR	**Makanchi Array**	**12.95**	**35**	P		**Pn**	**10 06 46.1**	**+0.1**
	comp=Z,0.8nm,0.3s,baz=228,slow=13,SNR=46							
KOLN	**Koldanda**	**13.60**	**127**	*e*	P	**Pn**	**10 06 53.8**	**-0.5**
	comp=Z,55nm,0.3s							
GKN	**Gorkha**	**14.12**	**124**	*e*	P	**Pn**	**10 07 00.1**	**-0.7**
	comp=Z,128nm,0.4s							
GKN					eS	**Sn**	**10 09 28.8**	**-9.3**
BHPL	**Bhopal**	**14.36**	**157**	*e*	P	**Pn**	**10 07 03.5**	**-0.3**
BHPL					AMb	AMB	10 07 09.6	
	comp=Z,22nm,0.6s							
KKN	**Kakani**	**14.69**	**123**	*e*	P	**Pn**	**10 07 08.6**	**+0.7**
	comp=Z,166nm,0.6s							
KKN	**Kakani**	**14.69**	**123**	*e*	P	**Pn**	**10 07 08.6**	**+0.7**
KKN					pmax	pmax		
	comp=Z,166nm,0.6s							
DMN	**Daman**	**14.69**	**124**	*e*	P	**Pn**	**10 07 08.8**	**+0.9**
	comp=Z,145nm,0.4s							
DMN					eS	**Sn**	**10 09 41.9**	**-10**
KURBB	**Kurchatov Arra**	**14.85**	**18**	⇑P		**Pn**	**10 07 07.9**	**-1.6**
	comp=Z,2.6nm,0.6s							
PKI	**Pulchoki**	**14.92**	**124**	*e*	P	**Pn**	**10 07 11.6**	**+0.9**
	comp=Z,149nm,0.5s							
PKI	**Pulchoki**	**14.92**	**124**	*e*	P	**Pn**	**10 07 11.6**	**+0.9**
PKI					pmax	pmax		
	comp=Z,149nm,0.5s							
KURK	**Kurchatov**	**14.96**	**18**	⇑P		**Pn**	**10 07 09.3**	**-1.6**
	comp=Z,11nm,1.2s							
KURK	**Kurchatov**	**14.96**	**18**	*d*	*i*P	**Pn**	**10 07 09.3**	**-1.6**
GUN	**Gumba**	**15.02**	**121**	*e*	P	**Pn**	**10 07 12.7**	**+0.8**
	comp=Z,148nm,0.5s							
AB31	**Akbulak array**	**15.09**	**330**	⇑P		**Pn**	**10 07 11.3**	**-1.4**
	comp=Z,2.3nm,0.3s,baz=148,slow=13,SNR=114							
AB31					S	**S**	**10 09 46.5**	**-14**
	comp=Z,21nm,0.7s,baz=146,slow=22,SNR=17							
JIRN	**Jiri**	**15.39**	**122**	*e*	P	**Pn**	**10 07 17.5**	**+1.0**
	comp=Z,167nm,0.5s							
VOSK	**Vostochnaya**	**16.05**	**359**	⇑P		**Pn**	**10 07 22.4**	**-1.8**
	comp=Z,7.0nm,0.6s							
ZRNK	**Zerenda**	**16.36**	**355**	⇓P		**Pn**	**10 07 26.8**	**-1.1**
	comp=Z,8.3nm,0.5s							
BVA0	**Borovoye Array**	**16.36**	**358**	⇑P		**Pn**	**10 07 27.6**	**-0.4**
	comp=Z,0.7nm,0.5s,baz=166,slow=11,SNR=52							
BVAR	**Borovoye Array**	**16.36**	**358**	P		**Pn**	**10 07 27.3**	**-0.7**
	comp=Z,3.0nm,0.3s,baz=157,slow=9.3,SNR=49							
BVAR					S	**S**	**10 10 25.5**	**-3.8**
	comp=Z,0.4nm,0.3s,baz=164,slow=22,SNR=5.2							
AKTK	**Aktyubinsk**	**16.80**	**329**	P		**Pn**	**10 07 33.3**	**+0.1**
AKTK					S	**S**	**10 10 33.9**	**-4.4**
AKTO	**Aktyubinsk**	**16.80**	**329**	P		**Pn**	**10 07 33.3**	**+0.1**
	comp=Z,2.0nm,0.3s,baz=137,slow=11,SNR=27							
AKTO					S	**S**	**10 10 33.9**	**-4.4**
	comp=Z,1.7nm,0.3s,baz=349,slow=19,SNR=8.8							
CHKZ	**Chkalovo**	**17.01**	**358**	⇓P		**Pn**	**10 07 34.9**	**-0.8**
	comp=Z,5.1nm,0.6s							
LSA	**Lhasa**	**17.91**	**107**	P		**Pn**	**10 07 50.0**	**+3.4**
LSA					AMB	AMB		
	comp=Z,30nm,0.7s							
LSA	**Lhasa**	**17.91**	**107**	*e*	P	**Pn**	**10 07 50.1**	**+3.5**
	comp=Z,15nm,0.6s							
LSA	**Lhasa**	**17.91**	**107**	*e*	P	**Pn**	**10 07 50.1**	**+3.5**
LSA					pmax	pmax		
	comp=Z,15nm,0.6s							
ZAL	**Zalesovo**	**19.60**	**24**	P		**P**	**10 08 03.7**	**+0.9**
ZALV	**Zalesovo Beam**	**19.61**	**24**	P		**P**	**10 08 03.7**	**+0.7**
ZALV	**Zalesovo Beam**	**19.61**	**24**	P		**P**	**10 08 03.7**	**+0.7**
	comp=Z,4.7nm,0.3s,baz=224,slow=11,SNR=92							
NVS	**Novosibirsk**	**19.90**	**20**	*e*	P	**P**	**10 08 06.4**	**+0.4**
NVS					eS	**S**	**10 11 33.8**	**-6.1**
NVS					pmax	pmax		
	comp=N,30nm,1.2s							
NVS					pmax	pmax		
	comp=Z,33nm,1.2s							
NVS					pmax	pmax		
	comp=E,7.0nm,0.7s							
NVS					smax			
	comp=N,20nm,1.7s							
UMR	**Umm Al-Rimmam**	**21.06**	**257**	*e*	P	**P**	**10 08 19.7**	**+1.1**
UMR					AMb	AMB	10 08 20.6	
	comp=Z,17nm,0.4s,mb4.8							
MIB	**Mutribah**	**21.24**	**258**	*e*	P	**P**	**10 08 21.7**	**+1.1**
MIB					AMb	AMB	10 08 23.4	
	comp=Z,9.5nm,0.6s,mb4.3							
QRN	**Al-Qurain**	**21.26**	**255**	*e*	P	**P**	**10 08 20.1**	**-0.7**
QRN					AMb	AMB	10 08 24.9	
	comp=Z,11nm,0.3s,mb4.6							
RDF	**Al-Radifah**	**21.46**	**256**	*e*	P	**P**	**10 08 22.9**	**-0.1**
RDF					AMb	AMB	10 08 27.8	
	comp=Z,12nm,0.6s,mb4.4							
NAY	**Al-Naaiem**	**21.56**	**257**	*e*	P	**P**	**10 08 23.9**	**-0.1**
NAY					AMb	AMB	10 08 27.2	
	comp=Z,3.8nm,0.4s,mb4.2							
ARU	**Arti**	**21.58**	**340**	⇓*e*	P	**P**	**10 08 24.1**	**+0.3**
RST	**Umm Al-Ruwaisa**	**21.64**	**258**	*e*	P	**P**	**10 08 24.1**	**-0.7**
RST					AMb	AMB	10 08 25.1	
	comp=Z,9.3nm,0.4s,mb4.6							
ZAK	**Zakamensk**	**26.62**	**49**	*e*	P	**P**	**10 09 09.1**	**-1.1**
SONM	**Songino Array**	**27.96**	**55**	P		**P**	**10 09 24.2**	**+2.1**
	comp=Z,0.5nm,0.5s,mb3.5,baz=269,slow=9.6,SNR=4.5							
AKASG	**Malin Array Be**	**33.10**	**309**	P		**P**	**10 10 07.4**	**+0.2**
	comp=Z,0.6nm,0.4s,mb3.7,baz=78,slow=7.1,SNR=4.7							
FINES	**FINESS Array B**	**37.52**	**326**	P		**P**	**10 10 45.5**	**+0.7**
	comp=Z,1.0nm,0.4s,mb3.8,baz=112,slow=9.4,SNR=8.7							
ARCES	**ARCESS Array B**	**41.11**	**337**	P		**P**	**10 11 15.5**	**+1.1**
ARCES	**ARCESS Array B**	**41.11**	**337**	P		**P**	**10 11 15.5**	**+1.1**
	comp=Z,1.7nm,0.5s,mb4.0,baz=114,slow=8.2,SNR=23							
NB2	**NORSAR Subarra**	**44.44**	**323**	P		**P**	**10 11 41.5**	**+0.2**
	comp=Z,1.2nm,0.5s,mb3.8,baz=94,slow=7.9							
NOA	**NORSAR Array B**	**44.44**	**323**	P		**P**	**10 11 41.6**	**+0.3**
	comp=Z,1.2nm,0.5s,mb3.8,baz=96,slow=7.7,SNR=7.6							
TORD	**Torodi Ar. Bea**	**66.06**	**269**	P		**P**	**10 14 14.6**	**-1.9**
TORD	**Torodi Ar. Bea**	**66.06**	**269**	P		**P**	**10 14 14.6**	**-1.9**
	comp=Z,1.1nm,0.5s,mb3.9,baz=50,slow=6.2,SNR=22							
YKA	**Yellowknife Ar**	**81.05**	**3**	P		**P**	**10 15 43.6**	**+0.6**
	comp=Z,0.7nm,0.4s,mb3.6,baz=351,slow=5.4,SNR=26							
WRA	**Warramunga Arr**	**81.80**	**122**	P		**P**	**10 15 47.1**	**-0.5**
	comp=Z,0.6nm,0.7s,mb3.3,baz=324,slow=4.8,SNR=10							
ASAR	**Alice Springs**	**84.08**	**125**	P		**P**	**10 15 58.5**	**-0.8**
	comp=Z,0.6nm,0.8s,mb3.4,baz=311,slow=5.3,SNR=8.9							

*ISCJB **17** 10:38:43.8±0.8, 2263S±006×660W±0.1, h273km±17km, mb4.4/3, Error ellipse: s-maj=21.5km s-min=8.2km az=19.2*
*NEIC **17** 10:38:44.5±0.8, 2260S×6585W, h256km±12km, mb4.5/2, Error ellipse: s-maj=19.7km s-min=10.4km az=113.0*
*IDC **17** 10:38:44.3±1.6, 2254S×6588W, h254km±19km, mb3.8/2, mb1 3.6/7, mb1mx3.3/19, mbtmp3.5/7, Error ellipse: s-maj=26.3km s-min=15.2km az=106.0*

ISC 17 10:38:44.6±0.8, 2258S±007×660W±01, h267km±17km, n18, σ1°27/18, mb4.4/3, Jujuy Province

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

CEN1	**Los Morros**	**3.97**	**257**	*i*	P	**Pn**	**10 39 52.2**	**+3.3**
CEN1				*i*	S	**S**	**10 40 41.4**	**+1.3**
ANCH	**Antofagasta**	**4.22**	**254**	*e*	P	**Pn**	**10 39 53.0**	**+1.2**
ANCH				*i*	S	**S**	**10 40 43.0**	**-2.3**
CPN1	**Cerro Paranal**	**4.54**	**242**	*e*	P	**Pn**	**10 39 56.5**	**+1.1**
CPN1				*i*	S	**S**	**10 40 50.5**	**-1.5**
CDCH	**Caldera**	**6.28**	**224**	*i*	S	**S**	**10 41 26.2**	**-4.0**
LPAZ	**La Paz**	**6.58**	**342**	P		**Pn**	**10 40 21.2**	**+0.9**
	5.0nm,0.3s,baz=113,slow=4.0,SNR=127							
LPAZ					S	**S**	**10 41 36.6**	**-0.7**
	0.4nm,0.3s,baz=287,slow=17,SNR=17							
SIV	**San Ignacio**	**8.03**	**36**	P		**Pn**	**10 40 37.3**	**-1.0**
	2.7nm,0.3s,baz=232,slow=10.0,SNR=52							
CFAA	**Coronel Fontan**	**9.21**	**192**	P		**Pn**	**10 40 52.1**	**-0.9**
	0.5nm,0.3s,baz=22,slow=12,SNR=23							
TRQA	**Tornquist**	**15.80**	**168**	*e*	P	**Pn**	**10 42 13.6**	**0.0**
	2.3nm,0.6s							
BDFB	**Brasilia**	**18.32**	**71**	P		**P**	**10 42 40.4**	**+0.7**
	0.4nm,0.3s,baz=238,slow=19,SNR=12							
PLCA	**Paso Flores**	**18.51**	**191**	P		**P**	**10 42 43.4**	**+1.9**
PLCA	**Paso Flores**	**18.51**	**191**	P		**P**	**10 42 43.4**	**+1.9**
	0.5nm,0.3s,baz=12,slow=12,SNR=11							
PMSA	**Palmer Station**	**42.20**	**179**	*e*	P	**P**	**10 46 09.5**	**-1.7**
	61nm,0.6s,mb5.0							
DBIC	**Dimbokro**	**66.46**	**72**	P		**P**	**10 49 06.0**	**-0.1**
	1.8nm,0.6s,mb4.0,baz=230,slow=5.8,SNR=4.4							
TORD	**Torodi Ar. Bea**	**75.18**	**69**	P		**P**	**10 49 58.2**	**-0.1**
	1.9nm,0.4s,mb4.1,baz=256,slow=5.7,SNR=52							
ASAR	**Alice Springs**	**130.13**	**204**	PKP		PKPdf	10 57 24.8	+1.3
	0.4nm,0.8s,baz=150,slow=3.1,SNR=4.7							
WRA	**Warramunga Arr**	**133.31**	**207**	PKP		PKPdf	10 57 31.6	+2.0
	0.4nm,0.8s,baz=175,slow=1.7,SNR=7.3							
MKAR	**Makanchi Array**	**144.84**	**39**	PKP		PKPdf	10 57 51.4	+1.8
MKAR	**Makanchi Array**	**144.84**	**39**	PKP		PKPdf	10 57 51.4	+1.8
	0.8nm,0.5s,baz=327,slow=3.0,SNR=8.2							

*ISCJB **17** 11:21:11.9±1.1, 3973N±008×542E±0.1, h10km, Error ellipse: s-maj=14.7km s-min=10.2km az=30.0*
*CSEM **17** 11:21:16.3±0.8, 3973N×5402E, h15km, ML3.1, Error ellipse: s-maj=33.1km s-min=28.1km az=84.0*
*THR **17** 11:21:20.5±0.5, 3908N×5366E, h14km±8km, ML3.1*

ISC 17 11:21:14.4±1.1, 3971N±008×542E±01, h10km, n5, σ1°57/7, 2D, Turkmenistan

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MRVT	**Maraveh tapeh**	**2.52**	**144**	*e*Pg		**Pg**	**11 22 03.5**	**+0.9**
DAMV	**Damavand**	**4.44**	**204**	*e*PN5		**Pn**	**11 22 19.3**	**-2.4**
DAMV					AML	AML	11 23 17.8	
	comp=E,33nm,0.4s							
DAMV					AML	AML	11 23 18.2	
	comp=N,32nm,0.5s							
CHTH	**Charan**	**4.51**	**214**	*e*Pn		**Pn**	**11 22 20.4**	**-2.3**
CHTH				*e*Sg		**Sn**	**11 23 17.0**	**+1.8**
GRMI	**Germi**	**4.98**	**262**	*e*Pn		**Pn**	**11 22 30.3**	**+1.1**
GRMI					AML	AML	11 23 26.0	
	comp=E,22nm,0.4s							
GRMI					AML	AML	11 23 26.2	
	comp=N,19nm,0.3s							
AB31	**Akbulak array**	**10.38**	**21**	⇓Pn		**Pn**	**11 23 43.5**	**+0.2**
	comp=N,1.1nm,0.6s,baz=207,slow=14,SNR=14							
AB31					⇓Sn	**Sn**	**11 25 30.2**	**-9.4**
	comp=N,2.6nm,0.5s,baz=211,slow=25							

IDC 17 11:31:19.5±6.0, 2481N×12237E, h169km±59km, mb3.1/5, mb1 3.3/6, mb1mx3.1/20, mbtmp3.1/6, Error ellipse: s-maj=40.7km s-min=19.7km az=67.0, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KSRS	**Korea Array**	**13.47**	**19**	P		Pn	11 34 24.0	+0.2
	0.2nm,0.3s,baz=190,slow=13,SNR=9.5							
SONM	**Songino Array**	**26.24**	**335**	P		P	11 36 37.9	-0.8
	0.3nm,0.4s,baz=144,slow=6.9,SNR=3.6							
MKAR	**Makanchi Array**	**38.66**	**315**	P		P	11 38 27.2	+0.7
	0.4nm,0.5s,baz=112,slow=9.3,SNR=4.1							
ZALV	**Zalesovo Beam**	**40.32**	**326**	P		P	11 38 40.0	-0.1
	0.6nm,0.3s,baz=107,slow=7.7,SNR=2.2							
WRA	**Warramunga Arr**	**45.

ISCJB 17 11:56:04.3±2.2, 2505N±006×12289E±008, h30km±15km, mb4.1/19, MS3.9/11, Error ellipse: s-maj=13.1km s-min=9.9km az=23.6
MOS 17 11:56:05.3±1.6, 2504N×12262E, h33km, mb4.7/6, Error ellipse: s-maj=25.1km s-min=9.5km az=113.6
BJI 17 11:56:05.7, 25.13N×12257E, h12km, mB4.8, mb4.1, ML4.5, Ms4.4, Msz4.1
IDC 17 11:56:13.4±5.6, 2495N×12257E, h105km±53km, mb3.6/9, mb1 3.7/10, mb1mx3.6/21, mbtmp3.5/10, MS3.7/12, Ms1 3.7/12, ms1mx3.6/24, Error ellipse: s-maj=38.3km s-min=15.4km az=67.0

ISC 17 11:56:07.2±1.5, 2507N±006×12292E±009, h40km±12km, n42, σ1§02/40, mb4.1/19, MS3.9/11, 7C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOW	**Kunigami**	**5.13**	**69**	LR	LR	11 59 33.1	
	comp=Z,388nm,18.4s,baz=283,slow=36						
NJ2	**Nanjing**	**7.82**	**334**	*e*P	**Pn**	**11 57 58.8**	**+0.4**
NJ2				S	**Sn**	**11 59 24.3**	**-1.4**
NJ2				Smax			
	comp=N,1μm,1.0s						
NJ2				Smax			
	comp=E,1μm,1.0s						
NJ2				LR	LR		
	comp=N,1μm,13.6s						
NJ2				LR	LR		
	comp=E,1μm,10.8s						
NJ2				LR	LR		
	comp=Z,1μm,10.8s						
JNU	**Nakatsue**	**10.62**	**39**	LR	LR	12 03 25.5	
	comp=Z,140nm,20.1s,baz=120,slow=40						
KSRS	**Korea Array**	**13.07**	**18**	P	**Pn**	**11 59 17.8**	**+7.6**
	comp=Z,0.1nm,0.3s,baz=192,slow=12,SNR=3.2						
KSRS				LR	LR	12 04 49.1	
	comp=Z,463nm,19.6s,baz=174,slow=39						
QIZ	**Qiongzhong**	**13.52**	**246**	P	**Pn**	**11 59 17.5**	**+0.9**
QIZ				S	**Sn**	**12 01 46.0**	**+0.4**
QIZ				LR	LR		
	comp=N,393nm,16.4s						
QIZ				LR	LR		
	comp=E,288nm,17.7s						
QIZ				LR	LR		
	comp=Z,317nm,11.7s						
MJAR	**Matsushiro Arr**	**17.39**	**45**	LR	LR	12 06 39.0	
	comp=Z,264nm,19.3s,baz=285,slow=35						
LZH	**Lanzhou**	**19.72**	**308**	*e*P	**Pn**	**12 00 35.5**	**+0.5**
LZH				AMB	AMB		
	comp=Z,14nm,1.0s						
LZH				AMB	AMB		
	comp=Z,71nm,4.5s						
GTA	**Gaotai**	**24.12**	**312**	*e*P	**P**	**12 01 20.3**	**+1.0**
GTA				AP		12 01 24.8	
GTA				XP	sP	12 01 27.9	-7.1
GTA				AMB	AMB		
	comp=Z,8.0nm,1.2s,mb4.0						
ASAJ	**Asahikawa**	**24.86**	**35**	LR	LR	12 11 51.7	
	comp=Z,326nm,18.9s,MS3.9,baz=206,slow=37						
HABR	**Khabarovsk**	**25.24**	**19**	*e*P	**P**	**12 01 29.8**	**+0.5**
HABR				*e*	pP	12 01 39.2	-1.0
HABR				*e*		12 02 03.2	
HABR				*e*		12 05 02.3	
HABR				*e*		12 12 27.7	
ULN	**Ulaanbaatar**	**25.98**	**335**	⇑*e*P	**P**	**12 01 36.3**	**+0.2**
SONM	**Songino Array**	**26.21**	**334**	P	**P**	**12 01 37.9**	**-0.2**
	comp=Z,3.5nm,1.0s,mb3.8,baz=151,slow=8.3,SNR=19						
SONM				LR	LR	12 12 58.0	
	comp=Z,242nm,21.0s,MS3.7,baz=144,slow=38						
YSS	**Yuzh-Sakhalins**	**26.96**	**31**	*e*P	**P**	**12 01 49.5**	**+4.6**
YSS				pmax	pmax		
	comp=Z,40nm,1.2s,mb4.8						
YSS				MLR	MLR		
	comp=Z,400nm,15.0s,MS4.1						
ZAK	**Zakamensk**	**29.48**	**334**	*e*P	**P**	**12 02 08.0**	**+0.7**
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.4s,mb3.4						
TLY	**Talaya**	**30.38**	**336**	*e*P	**P**	**12 02 17.6**	**+2.4**
TLY				*e*S	**S**	**12 07 14.4**	**+1.5**
TLY				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.3						
TLY				MLR	MLR		
	comp=Z,231nm,15.0s,MS4.0						
YAK	**Yakutsk**	**37.23**	**5**	*e*P	**P**	**12 03 16.7**	**+2.1**
YAK				*e*PP	pP	12 03 25.1	-0.6
YAK				*e*S	**S**	**12 09 00.8**	**+2.1**
YAK				*e*SSS		12 12 10.5	
YAK				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.6						
YAK				pmax	pmax		
	comp=N,4.0nm,0.8s						
YAK				pmax	pmax		
	comp=E,2.0nm,1.3s						
YAK				smax			
	comp=E,130nm,4.6s						
YAK				MLR	MLR		
	comp=Z,165nm,16.0s,MS3.9						
YAK				MLR	MLR		
	comp=N,87nm,15.0s,MS3.8						
YAK				MLR	MLR		
	comp=E,81nm,18.0s,MS3.8						
MK31	**Makanchi Array**	**38.82**	**314**	*e*P	**P**	**12 03 28.2**	**0.0**
MKAR	**Makanchi Array**	**38.82**	**314**	P	**P**	**12 03 27.7**	**-0.5**
	comp=E,3.4nm,1.0s,mb4.0,baz=109,slow=9.5,SNR=15						
ZAA0	**Zalesovo Array**	**40.38**	**326**	*e*P	**P**	**12 03 40.7**	**-0.4**
ZALV	**Zalesovo Beam**	**40.38**	**326**	P	**P**	**12 03 39.6**	**-1.5**
ZALV				LR	LR	12 21 48.4	
ZALV	**Zalesovo Beam**	**40.38**	**326**	P	**P**	**12 03 39.6**	**-1.5**
	comp=E,1.5nm,0.7s,mb3.8,baz=110,slow=6.5,SNR=11						
ZALV				LR	LR	12 21 48.4	
	comp=E,94nm,21.0s,MS3.6,baz=98,slow=38						
ZAL	**Zalesovo**	**40.39**	**326**	P	**P**	**12 03 39.6**	**-1.5**
NVS	**Novosibirsk**	**41.63**	**326**	*e*P	**P**	**12 03 50.2**	**-1.1**
KURK	**Kurchatov**	**42.45**	**319**	⇑*e*P	**P**	**12 03 57.6**	**-0.5**
TKM2	**Tokmak 2**	**42.48**	**307**	*e*P	**P**	**12 03 59.2**	**+0.8**
	comp=E,5.3nm,1.1s,mb4.1						
TKM2	**Tokmak 2**	**42.48**	**307**	*e*P	**P**	**12 03 59.2**	**+0.8**
TKM2				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.1						
UCH	**Uchtor**	**43.17**	**306**	*e*P	**P**	**12 04 04.7**	**+0.6**
	comp=Z,8.5nm,1.2s,mb4.3						
AAK	**Ala-Archa**	**43.24**	**306**	⇑*e*P	**P**	**12 04 04.5**	**-0.1**
AAK				pmax	pmax		
	comp=Z,5.0nm,1.8s,mb3.9						
WRAB	**Tennant Creek**	**46.09**	**165**	⇑*e*P	**P**	**12 04 32.1**	**+4.6**
WRA	**Warramunga Arr**	**46.10**	**165**	P	**P**	**12 04 25.7**	**-1.8**
	comp=Z,1.0nm,0.8s,mb3.8,baz=345,slow=8.7,SNR=4.7						
TIXI	**Tiksi**	**46.73**	**3**	*e*P	**P**	**12 04 32.7**	**+0.7**
	comp=Z,13nm,1.1s,mb4.8						
TIXI	**Tiksi**	**46.73**	**3**	⇑*e*P	**P**	**12 04 31.5**	**-0.5**
TIXI				pmax	pmax		
	comp=Z,19nm,1.5s,mb4.8						
BVAR	**Borovoye Array**	**48.00**	**320**	P	**P**	**12 04 40.9**	**-1.2**
	comp=Z,0.5nm,0.6s,mb3.8,baz=90,slow=5.8,SNR=3.9						
ASAR	**Alice Springs**	**49.60**	**167**	P	**P**	**12 04 54.9**	**+0.2**
	comp=Z,0.2nm,0.5s,mb3.4,baz=342,slow=5.8,SNR=3.3						
ARU	**Arti**	**55.36**	**323**	*c iP*	**P**	**12 05 36.2**	**-0.7**
ARU				*e*PPP		12 08 54.8	
ARU				*e*S	**S**	**12 13 17.9**	**-0.4**
ARU				*e*SS	SS	12 16 59.5	-3.3
ARU				pmax	pmax		
	comp=Z,9.0nm,1.7s,mb4.5						
STKA	**Stephens Creek**	**59.37**	**162**	LR	LR	12 31 53.1	
	comp=Z,82nm,20.7s,MS3.8,baz=198,slow=36						
FINES	**FINESS Array B**	**71.48**	**330**	⇑*e*P	**P**	**12 07 23.7**	**+0.3**
FINES	**FINESS Array B**	**71.48**	**330**	P	**P**	**12 07 20.4**	**-3.0**
	comp=Z,4.8nm,1.2s,mb4.3,baz=45,slow=3.5,SNR=4.3						
FINES				LR	LR	12 42 18.7	
	comp=Z,90nm,21.6s,MS4.0,baz=263,slow=39						
AKASG	**Malin Array Be**	**73.26**	**318**	LR	LR	12 45 16.1	
	comp=Z,64nm,19.5s,MS3.9,baz=40,slow=40						
NOA	**NORSAR Array B**	**78.18**	**332**	P	**P**	**12 08 01.2**	**-1.0**
	comp=Z,1.6nm,1.1s,mb3.9,baz=27,slow=6.5,SNR=2.6						
NOA				LR	LR	12 45 22.3	
	comp=Z,52nm,18.4s,MS3.9,baz=85,slow=38						
YKA	**Yellowknife Ar**	**81.54**	**23**	P	**P**	**12 08 20.6**	**+0.3**
	comp=Z,1.4nm,1.0s,mb3.9,baz=314,slow=5.2,SNR=16						
GERES	**GERESS Array B**	**83.16**	**321**	LR	LR	12 48 18.5	
	comp=Z,49nm,19.9s,MS3.9,baz=356,slow=38						

MAN 17 12:02:35, 1634N×12229E, h18km, mb4.3, ML3.1, MS2.9, Luzon

ISCJB 17 12:20:38.4±0.7, 2925N±005×5207E±004, h10km, Error ellipse: s-maj=7.8km s-min=4.4km az=25.4
THR 17 12:20:39.4±0.3, 2946N×5221E, h18km±11km, ML3.0
KISR 17 12:20:40.8±0.8, 2949N×5182E, h15km±315km, ML2.9
CSEM 17 12:20:41.1±0.2, 2907N×5192E, h10km, ML2.9, Error ellipse: s-maj=6.1km s-min=2.3km az=30.0

ISC 17 12:20:39.9±0.7, 2927N±005×5209E±004, h10km, n23, σ1§03/37, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GHIR	**Ghir-Karzin**	**1.26**	**141**	*e*Pg	**Pg**	**12 21 04.5**	**+0.3**
GHIR				*e*Sg	**Sg**	**12 21 22.7**	**+2.2**
GHIR				AML	AML	12 21 30.6	
	comp=E,912nm,0.5s						
GHIR	**Ghir-Karzin**	**1.26**	**141**	*e*Pg	**Pg**	**12 21 04.5**	**+0.3**
	SNR=92						
GHIR				*e*Sg	**Sg**	**12 21 22.7**	**+2.2**
	SNR=92						
NASN	**Na'in**	**3.57**	**10**	*e*Pn	**Pn**	**12 21 33.7**	**-1.7**
NASN				AML	AML	12 22 36.9	
	comp=N,12nm,0.5s						
QRN	**Al-Qurain**	**3.69**	**263**	*e*P	**Pn**	**12 21 38.2**	**+1.2**
QRN				*e*S	**Sn**	**12 22 21.4**	**+0.8**
QRN				AML	AML	12 22 22.1	
	comp=Z,39nm,0.2s						
UMR	**Umm Al-Rimmam**	**3.82**	**275**	*e*P	**Pn**	**12 21 39.6**	**+0.8**
UMR				*e*S	**Sn**	**12 22 23.7**	**-0.1**
UMR				AML	AML	12 22 26.5	
	comp=Z,28nm,0.3s						
UMR	**Umm Al-Rimmam**	**3.82**	**275**	*e*P	**Pn**	**12 21 39.6**	**+0.8**
UMR				*e*S	**Sn**	**12 22 23.7**	**-0.1**
	comp=Z,28nm,0.3s						
KBD	**Kabd**	**3.84**	**270**	*e*P	**Pn**	**12 21 39.5**	**+0.5**
KBD				*e*S	**Sn**	**12 22 24.5**	**+0.2**
KBD				AML	AML	12 22 26.2	
	comp=Z,61nm,0.2s						
KBD	**Kabd**	**3.84**	**270**	*e*P	**Pn**	**12 21 39.5**	**+0.4**
KBD				*e*S	**Sn**	**12 22 24.5**	**+0.2**
RDF	**Al-Radifah**	**3.98**	**266**	*e*P	**Pn**	**12 21 42.2**	**+1.1**
RDF				*e*S	**Sn**	**12 22 28.0**	**+0.2**
RDF				AML	AML	12 22 29.2	
	comp=Z,14nm,0.3s						
RDF	**Al-Radifah**	**3.98**	**266**	*e*P	**Pn**	**12 21 42.2**	**+1.1**
RDF				*e*S	**Sn**	**12 22 28.0**	**+0.2**
	comp=Z,14nm,0.3s						
SHGR	**Shooshtar-Gavs**	**4.00**	**316**	*e*PN5		12 21 41.1	
KRBR	**Kerman**	**4.13**	**79**	*e*Pn	**Pn**	**12 21 42.1**	**-1.0**
KRBR				AML	AML	12 22 14.1	
	comp=N,12nm,0.3s						
MIB	**Mutribah**	**4.17**	**278**	*e*P	**Pn**	**12 21 44.2**	**+0.6**
MIB				*e*S	**Sn**	**12 22 31.4**	**-1.1**
MIB				AML	AML	12 22 32.7	
	comp=Z,10nm,0.5s						
MIB	**Mutribah**	**4.17**	**278**	*e*P	**Pn**	**12 21 44.2**	**+0.6**
MIB				*e*S	**Sn**	**12 22 31.4**	**-1.0**
NAY	**Al-Naaiem**	**4.23**	**271**	*e*P	**Pn**	**12 21 45.5**	**+1.0**
NAY				*e*S	**Sn**	**12 22 33.7**	**-0.3**
NAY				AML	AML	12 22 34.0	
	comp=Z,8.1nm,0.4s						
NAY	**Al-Naaiem**	**4.23**	**271**	*e*P	**Pn**	**12 21 45.5**	**+1.0**
NAY				*e*S	**Sn**	**12 22 33.7**	**-0.2**
BTHS		**5.32**	**192**	P	**Pn**	**12 22 00.0**	**+0.6**
BTHS		**5.32**	**192**	P	**Pn**	**12 22 00.0**	**+0.5**
BTHS				S	**Sn**	**12 22 59.3**	**-1.6**
HRDDS		**6.75**	**201**	*e*S	**Sn**	**12 23 33.8**	**-2.1**
HRDDS		**6.75**	**201**	P	**Pn**	**12 22 19.2**	**+0.2**
ASYS		**7.05**	**257**	P	**Pn**	**12 22 22.0**	**-1.1**
ASYS		**7.05**	**257**	P	**Pn**	**12 22 22.0**	**-1.1**
ASYS				S	**Sn**	**12 23 37.8**	**-5.5**
LYLS		**8.42**	**212**	P	**Pn**	**12 22 41.1**	**-0.9**

ISCJB 17 12:41:08.4±0.7, 3734N±005×2475W±005, h10km, mb3.8/7, Error ellipse: s-maj=7.0km s-min=6.0km az=17.9
IDC 17 12:41:08.1±1.3, 3720N×2451W, h0km, mb3.9/7, mb1 4.0/7, mb1mx3.7/24, mbtmp3.9/7, MS3.2/1, Ms1 3.2/1, ms1mx2.3/28, Error ellipse: s-maj=32.8km s-min=29.7km az=178.0
CSEM 17 12:41:10.8±0.9, 3715N×2464W, h0km, ML3.6, Error ellipse: s-maj=6.4km s-min=3.4km az=99.0, After PDA
PDA 17 12:41:10.8±0.9, 3715N×2464W, h0km, MD3.9, ML3.6, Error ellipse: s-maj=6.4km s-min=3.4km az=99.0
SVSA 17 12:41:10.8±0.9, 3715N×2464W, h0km, MD3.9, ML3.6, Error ellipse: s-maj=6.4km s-min=3.4km az=99.0

ISC 17 12:41:11.3±0.8, 3718N±007×2482W±007, h28km±6km, n17, σ0§63/23, mb3.8/7, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSMN	**Pico de Norte,**	**0.27**	**227**	*e*P	**Pb**	**12 41 18.0**	**-0.1**
PSMN				*e*S	**Sb**	**12 41 22.7**	**0.0**
CMLA	**Cha da Macela**	**0.81**	**316**	*e*P	**Pb**	**12 41 26.0**	**-0.7**
CMLA				*e*S	**Sb**	**12 41 38.0**	**+0.8**
PDA	**Ponta Delgada**	**0.87**	**310**	*e*P	**Pn**	**12 41 27.0**	**-0.7**
PDA				*e*S	**Sb**	**12 41 39.5**	**+0.3**
PSCM	**Serra do Cume**	**2.36**	**311**	*e*P	**Pn**	**12 41 48.3**	**+0.1**
PSCM				*e*S	**Sn**	**12 42 15.4**	**-0.8**
PSCM				A		12 42 22.8	
	158nm,0.2s						
PSCM	**Serra do Cume**	**2.36**	**311**	*e*P	**Pn**	**12 41 48.3**	**+0.1**
PSCM				*e*S	**Sn**	**12 42 15.4**	**-0.8**
PMAN	**Manadas**	**2.96**	**300**	*e*S	**Sn**	**12 42 31.1**	**+0.1**
PMAN				A		12 42 32.3	
	37nm,0.2s						
ROSA	**Rosais**	**3.11**	**301**	*e*P	**Pn**	**12 41 58.7**	**+0.3**
ROSA				*e*S	**Sn**	**12 42 34.3**	**-0.3**
PICO	**Pico**	**3.14**	**296**	*e*S	**Sn**	**12 42 35.6**	**+0.2**
CALA	**Caldeira**	**3.37**	**296**	*e*P	**Pn**	**12 42 01.9**	**-0.1**
CALA				*e*S	**Sn**	**12 42 40.8**	**-0.3**
MDT	**Midelt**	**17.11**	**99**	LR	LR	12 50 29.6	
	comp=Z,71nm,18.1s,baz=336,slow=33						
EKA	**Eskdalemuir Ar**	**23.36**	**32**	P	**P**	**12 46 16.5**	**-0.9**
	5.1nm,1.1s,mb3.9,baz=222,slow=8.3,SNR=3.7						
NOA	**NORSAR Array B**	**32.86**	**32**	P	**P**	**12 47 43.1**	**+0.8**
	2.2nm,1.1s,mb4.0,baz=238,slow=9.3,SNR=2.1						
TORD	**Torodi Ar. Bea**	**33.68**	**128**	P	**P**	**12 47 49.5**	**-0.4**
	1.6nm,0.8s,mb4.0,baz=318,slow=7.3,SNR=7.5						
TXAR	**Lajitas Array**	**64.65**	**289**	P	**P**	**12 51 49.5**	**+3.0**
	0.7nm,0.6s,mb3.9,baz=85,slow=6.3,SNR=8.3						
ZALV	**Zalesovo Beam**	**70.93**	**36**	P	**P**	**12 52 25.8**	**+0.2**
	0.4nm,0.5s,mb3.6,baz=310,slow=6.3,SNR=2.7						
MKAR	**Makanchi Array**	**73.99**	**43**	P	**P**	**12 52 43.8**	**-0.2**
	0.4nm,0.7s,mb3.4,baz=297,slow=5.3,SNR=4.7						
SONM	**Songino Array**	**84.83**	**31**	P	**P**	**12 53 43.3**	**+0.3**
	1.1nm,1.0s,mb3.9,baz=329,slow=5.2,SNR=5.2						

CSEM 17 12:49:09.6±0.7, 3872N×2898W, h0km±10km, ML2.8, Error ellipse: s-maj=13.9km s-min=2.5km az=75.0, After PDA
PDA 17 12:49:09.6±0.7, 3872N×2898W, h0km±10km, MD3.5, ML2.8, Error ellipse: s-maj=13.9km s-min=2.5km az=75.0

SVSA 17 12:49:09.6±0.7, 3872N×2898W, h0km±10km, MD3.5, ML2.8, Error ellipse: s-maj=13.9km s-min=2.5km az=75.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CALA	**Caldeira**	**0.26**	**122**	*i* P	Pg	12 49 14.4	-0.2
CALA				*e*S	Sg	12 49 18.4	+0.5
HOR	**Horta**	**0.34**	**125**	*e*P	Pg	12 49 15.5	-0.5
HOR				*e*S	Sg	12 49 20.6	+0.2
PICO	**Pico**	**0.49**	**117**	*e*P	Pg	12 49 18.9	0.0
PICO				*e*S	Sg	12 49 25.3	+0.1
ROSA	**Rosais**	**0.58**	**90**	*e*P	Pg	12 49 19.8	-0.9
ROSA				*e*S	Sg	12 49 27.6	-0.6
PMAN	**Manadas**	**0.70**	**97**	*e*P	Pg	12 49 21.9	-1.2
PMAN				*e*S	Sg	12 49 31.2	-1.0
PMAN				A		12 49 31.6	
	288nm,0.3s						
PMAN	**Manadas**	**0.70**	**97**	*e*P	Pg	12 49 21.9	-1.2
PMAN				*e*S	Sg	12 49 31.2	-1.0
SRBC	**Serra Branca**	**0.80**	**66**	*e*P	Pg	12 49 23.3	-1.6
SRBC				*e*S	Sg	12 49 33.0	-2.3

IDC 17 13:10:08.2±2.1, 101S×12714E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.5/16, mbtmp3.6/3, Error ellipse: s-maj=163.7km s-min=27.3km az=66.0, Halmahera

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

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**20.09**	**160**	P	P	13 14 44.6	+1.0
	1.1nm,0.7s,baz=339,slow=11,SNR=8.7						
ASAR	**Alice Springs**	**23.46**	**164**	P	P	13 15 19.0	-0.6
	2.0nm,0.6s,baz=342,slow=11,SNR=36						
MKAR	**Makanchi Array**	**61.68**	**327**	P	P	13 20 28.2	+0.1
	0.2nm,0.3s,baz=121,slow=8.7,SNR=3.7						

ISCJB 17 13:32:02.9±0.3, 3645N±002×7087E±004, h188km±4km, mb4.3/24, Error ellipse: s-maj=5.0km s-min=3.2km az=177.7
MOS 17 13:32:02.2±1.0, 3640N×7074E, h188km, mb4.5/8, Error ellipse: s-maj=10.8km s-min=5.9km az=86.4
NEIC 17 13:32:04.3±0.5, 3644N×7094E, h189km±5km, mb4.4/5, Error ellipse: s-maj=7.4km s-min=4.6km az=69.0
BJI 17 13:32:05.1, 3657N×7083E, h186km, mB4.8, mb4.4
IDC 17 13:32:06.2±3.0, 3642N×7094E, h212km±29km, mb3.9/12, mb1 4.0/15, mb1mx3.7/26, mbtmp3.9/15, MS2.8/1, Ms1 2.8/1, ms1mx2.2/33, Error ellipse: s-maj=12.4km s-min=12.1km az=58.0
NNC 17 13:32:12.1±3.8, 37.13N×7080E, h214km±28km, mb3.3, mpv4.7, Error ellipse: s-maj=32.3km s-min=25.0km az=28.0

ISC 17 13:32:03.9±0.3, 3646N±002×7090E±004, h185km±3km, n115, σ1§09/152, mb4.3/24, 20C-5D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**2.44**	**219**	*e*P	**Pn**	**13 32 47.9**	**+1.7**
KBL				*e*S	**Sn**	**13 33 19.5**	**+0.4**
CHCP	**Chirah Chowk**	**3.41**	**145**	⇑P	**Pn**	**13 33 00.0**	**+2.2**
THW	**Thamme Wali**	**3.73**	**169**	P	**Pn**	**13 33 03.6**	**+1.8**
DRP	**Derazinda**	**4.74**	**187**	⇑P	**Pn**	**13 33 16.1**	**+1.4**
DRP				S	**Sn**	**13 34 09.0**	**-1.2**
JMU	**Jammu**	**4.99**	**137**	*i* S	**Sn**	**13 34 12.5**	**-3.3**
KSH	**Kashi**	**5.04**	**51**	P	**Pn**	**13 33 21.1**	**+2.7**
KSH				S	**Sn**	**13 34 16.6**	**-0.3**
KSH				Smax			
	comp=N,815nm,0.4s						
KSH				Smax			
	comp=E,1μm,1.0s						
THN	**Thein Dam**	**5.66**	**134**	*e*P	**Pn**	**13 33 27.4**	**+0.9**
THN				*e*S	**Sn**	**13 34 29.9**	**-1.6**
DLH	**Dalhousie**	**5.73**	**132**	*e*P	**Pn**	**13 33 29.0**	**+1.6**
DLH				*ex*	x	13 34 36.0	
AML	**Almayashu**	**6.06**	**20**	*e*P	**Pn**	**13 33 32.2**	**+0.6**
	comp=E,159nm,0.4s						
AML				*e*S	**Sn**	**13 34 38.3**	**-2.6**
AML	**Almayashu**	**6.06**	**20**	P	**Pn**	**13 33 32.2**	**+0.6**
	SNR=247						
UCH	**Uchtor**	**6.40**	**25**	*e*P	**Pn**	**13 33 36.8**	**+0.7**
	comp=E,86nm,0.8s						
UCH				*e*S	**Sn**	**13 34 46.7**	**-2.3**
UCH	**Uchtor**	**6.40**	**25**	P	**Pn**	**13 33 36.9**	**+0.8**
	SNR=98						
KZA	**Kyzart**	**6.54**	**30**	P	**Pn**	**13 33 38.3**	**+0.3**
	SNR=9.7						
EKS2	**Erkin-Say**	**6.58**	**19**	*e*P	**Pn**	**13 33 38.8**	**+0.4**
	comp=E,46nm,0.4s						
EKS2				*e*S	**Sn**	**13 34 50.2**	**-2.9**
EKS2	**Erkin-Say**	**6.58**	**19**	P	**Pn**	**13 33 39.0**	**+0.6**
	SNR=57						
KK31	**Karatay Array**	**6.64**	**358**	⇑P	**Pn**	**13 33 39.0**	**-0.2**
	comp=E,30nm,0.5s,baz=187,slow=13,SNR=528						
KK31				S	**Sn**	**13 34 49.7**	**-4.8**
	comp=E,39nm,0.4s,baz=194,slow=23,SNR=19						
KK31	**Karatay Array**	**6.64**	**358**	*i* PN	**Pn**	**13 33 39.2**	**0.0**
KK31				pmax	pmax		
	comp=Z,16nm,0.2s						
AAK	**Ala-Archa**	**6.76**	**23**	*e*P	**Pn**	**13 33 40.4**	**-0.4**
	comp=Z,31nm,0.3s						
AAK				*e*S	**Sn**	**13 34 57.1**	**-0.3**
AAK	**Ala-Archa**	**6.76**	**23**	*e*PN	**Pn**	**13 33 40.4**	**-0.4**
AAK				pmax	pmax		
	comp=Z,31nm,0.3s						
AAK	**Ala-Archa**	**6.76**	**23**	P	**Pn**	**13 33 41.6**	**+0.8**
	SNR=48						
BHK	**Bhakra**	**6.81**	**136**	*e*P	**Pn**	**13 33 40.0**	**-1.6**
BHK				*e*S	**Sn**	**13 34 53.0**	**-5.7**
KBK	**Karagaybulak**	**6.93**	**26**	P	**Pn**	**13 33 44.0**	**+1.0**
	SNR=31						
FRU	**Bishkek**	**6.98**	**23**	*i* PN	**Pn**	**13 33 44.0**	**+0.4**
FRU				pmax	pmax		
	comp=Z,100nm,0.8s						
SDNR	**Sundarnagar**	**7.07**	**133**	*e*P	**Pn**	**13 33 44.5**	**-0.4**
SDNR				*e*S	**Sn**	**13 35 00.0**	**-4.8**
ULHL	**Ulahol**	**7.10**	**34**	P	**Pn**	**13 33 46.3**	**+1.0**
	SNR=11						
CHMS	**Chumysh**	**7.17**	**23**	P	**Pn**	**13 33 46.8**	**+0.6**
	SNR=19						
USP	**Ospenovka**	**7.34**	**21**	P	**Pn**	**13 33 48.0**	**-0.3**
	SNR=37						
TKM2	**Tokmak 2**	**7.40**	**28**	⇑P	**Pn**	**13 33 49.5**	**+0.4**
	comp=Z,52nm,0.6s						
TKM2				⇑S	**Sn**	**13 35 09.4**	**-3.1**
	comp=Z,34nm,0.9s						
TKM2	**Tokmak 2**	**7.40**	**28**	*e*P	**Pn**	**13 33 49.6**	**+0.5**
	comp=Z,73nm,0.6s						
TKM2	**Tokmak 2**	**7.40**	**28**	*e*PN	**Pn**	**13 33 49.7**	**+0.6**
TKM2				pmax	pmax		
	comp=Z,73nm,0.6s						
TKM2	**Tokmak 2**	**7.40**	**28**	P	**Pn**	**13 33 49.7**	**+0.6**
	SNR=76						
SMLA	**Simla**	**7.45**	**134**	*e*P	**Pn**	**13 33 50.1**	**+0.2**
SMLA				AMb	AMB	13 33 51.0	
	comp=Z,60nm,0.5s						
SMLA				*e*S	**Sn**	**13 35 08.5**	**-5.4**
JOSI	**Joshimath**	**9.32**	**127**	*e*P	**Pn**	**13 34 15.4**	**+0.9**
JOSI				AMb	AMB	13 34 16.6	
	comp=Z,388nm,0.8s						
JOSI				*e*S	**Sn**	**13 35 50.7**	**-7.9**
KHET	**Khetri**	**9.34**	**152**	*e*P	**Pn**	**13 34 13.6**	**-1.1**
KHET				AMb	AMB	13 34 14.8	
	comp=Z,25nm,0.2s						
KHET				*e*S	**Sn**	**13 35 51.4**	**-7.6**
NDI	**New Delhi**	**9.41**	**144**	*e*P	**Pn**	**13 34 15.0**	**-0.7**
NDI				AMb	AMB	13 34 16.3	
	comp=Z,44nm,0.

PKI pmax pmax
comp=Z,384nm,0.7s
KURBB Kurchatov Arra 15.18 19 ⇓P Pn 13 35 29.9 +1.1
comp=Z,1.0nm,0.6s
GUN Gumba 15.27 120 *eP* **Pn 13 35 30.0 -0.1**
comp=Z,138nm,1.0s
KURK Kurchatov 15.29 19⇑ *eP* **Pn 13 35 31.3 +1.2**
JBP Jabalpur 15.41 147 *⇓iP* **Pn 13 35 31.6 -0.2**
JBP *ex* x 13 35 35.9
comp=Z,45nm,1.4s
JBP *i* x x 13 38 10.8
VOSK Vostochnaya 16.26 0 ⇓P Pn 13 35 41.4 -0.4
comp=Z,6.5nm,1.2s
VOSK ⇓S **S 13 38 29.6 -12**
comp=Z,5.6nm,1.0s
ZRNK Zerenda 16.54 356 ⇑P **Pn 13 35 45.4 +0.3**
comp=Z,11nm,0.9s
BVA0 Borovoye Array 16.56 359 P **Pn 13 35 45.5 0.0**
comp=Z,1.8nm,1.1s,baz=185,slow=8.7,SNR=25
BVA0 ⇑S **S 13 38 42.0 -6.2**
comp=Z,3.9nm,1.7s,baz=162,slow=23,SNR=12
BVAR Borovoye Array 16.56 359 P **Pn 13 35 45.7 +0.3**
comp=Z,1.2nm,0.3s,baz=165,slow=12,SNR=25
BVAR S **S 13 38 45.9 -2.3**
comp=Z,0.3nm,0.3s,baz=164,slow=23,SNR=7.6
BRVK Borovoye 16.60 359 *eP* **Pn 13 35 46.2 +0.4**
comp=Z,9.1nm,0.7s
BRVK Borovoye 16.60 359 *eP* **Pn 13 35 46.2 +0.3**
BRVK pmax pmax
comp=Z,9.0nm,0.7s
AKTK Aktyubinsk 16.77 330 P **Pn 13 35 48.0 0.0**
AKTO Aktyubinsk 16.77 330 P **Pn 13 35 48.0 0.0**
comp=Z,1.6nm,0.3s,baz=140,slow=10,SNR=126
CHKZ Chkalovo 17.21 359 ⇑P **Pn 13 35 52.1 -1.1**
comp=Z,3.8nm,0.6s
LSA Lhasa 18.25 106 P **P 13 36 07.4 +4.0**
LSA AMB AMB
comp=Z,30nm,0.8s
LSA Lhasa 18.25 106 *eP* **P 13 36 08.0 +4.6**
comp=Z,19nm,0.8s
LSA Lhasa 18.25 106 *eP* **P 13 36 08.0 +4.6**
LSA pmax pmax
comp=Z,19nm,0.8s
ZAL Zalesovo 19.97 25 P **P 13 36 22.1 +0.4**
ZAL S **S 13 39 54.3 -1.5**
ZAA0 Zalesovo Array 19.98 25 *eP* **P 13 36 22.2 +0.3**
ZALV Zalesovo Beam 19.98 25 P **P 13 36 22.1 +0.2**
comp=Z,21nm,0.7s,baz=222,slow=11,SNR=103
ZALV S **S 13 39 54.3 -1.9**
comp=Z,1.2nm,0.6s,baz=219,slow=20,SNR=4.2
HYB Hyderabad 20.15 158 *eP* **P 13 36 25.5 +1.6**
HYB *e* 13 36 28.0
HYB *eS* **S 13 40 04.5 +4.6**
HYB Hyderabad 20.15 158 *i P* **P 13 36 26.0 +2.1**
HYB *eS* **S 13 39 57.0 -2.9**
NVS Novosibirsk 20.25 21⇑ *iP* **P 13 36 24.0 -0.6**
NVS *e* 13 36 54.2
NVS *eS* **S 13 39 58.2 -3.0**
NVS pmax pmax
comp=Z,23nm,1.2s
NVS pmax pmax
comp=N,22nm,1.3s
NVS smax
comp=N,14nm,1.3s
NVS smax
comp=E,16nm,1.4s
UMR Umm Al-Rimmam 20.60 257 *eP* **P 13 36 28.3 -0.4**
UMR AML AML 13 36 32.3
comp=Z,10nm,0.5s
KBD Kabd 20.78 256 *eP* **P 13 36 29.9 -0.7**
KBD AMb AMB 13 36 32.6
comp=Z,82nm,0.9s
MIB Mutribah 20.79 258 *eP* **P 13 36 30.1 -0.7**
MIB AMb AMB 13 36 34.5
comp=Z,27nm,1.1s
QRN Al-Qurain 20.80 255 *eP* **P 13 36 30.1 -0.7**
QRN AMb AMB 13 36 37.0
comp=Z,21nm,0.5s
SHL Shillong 20.97 115 *eP* **P 13 36 32.0 -0.6**
NAY Al-Naaiem 21.10 257 *eP* **P 13 36 32.7 -1.3**
NAY AMb AMB 13 36 37.3
comp=Z,18nm,1.0s,mb4.3
SVE Sverdlovsk 21.51 345 *eP* **P 13 36 38.9 +0.9**
SVE pmax pmax
comp=Z,22nm,0.9s,mb4.6
ARU Arti 21.64 341 *eP* **P 13 36 39.8 +0.4**
comp=Z,35nm,1.0s,mb4.8
ARU Arti 21.64 341 *c iP* **P 13 36 39.7 +0.3**
ARU *eS* **S 13 40 33.3 +7.1**
ARU pmax pmax
comp=Z,38nm,1.2s,mb4.7
KIV Kislovodsk 22.73 298 *eP* **P 13 36 45.5 -4.4**
KIV pmax pmax
comp=Z,5.0nm,0.7s,mb4.0
KIV MLR MLR
comp=Z,46nm,13.0s
GTA Gaotai 22.95 74 *eP* **P 13 36 54.6 +2.6**
GTA AMB AMB
comp=Z,5.0nm,0.6s,mb4.1
SOC Sochi 24.81 296 *eP* **P 13 37 05.1 -3.7**
SOC *e* 13 37 51.0
SOC *eS* **S 13 41 16.3 -1.2**
SOC pmax pmax
comp=Z,16nm,0.9s,mb4.5
ZAK Zakamensk 27.08 49 *eP* **P 13 37 30.5 +1.4**
ZAK pmax pmax
comp=Z,1.0nm,0.9s,mb3.5
ZAK pmax pmax
comp=Z,1.0nm,1.7s,mb3.2
TLY Talaya 27.73 46⇑ *eP* **P 13 37 36.9 +2.1**
TLY pmax pmax
comp=Z,1.0nm,0.6s,mb3.7
SONM Songino Array 28.43 55 P **P 13 37 42.4 +1.3**
comp=Z,1.8nm,0.8s,mb3.9,baz=274,slow=9.7,SNR=8.8
ULN Ulaanbaatar 28.87 55⇑ *eP* **P 13 37 46.4 +1.4**
ULN *i* *PP pP 13 38 26.7 +3.7
MMAI Mount Meron Ar 29.27 274 LR LR 13 50 53.6
comp=Z,16nm,19.2s,baz=125,slow=38
OBN Obninsk 29.91 319⇑ *eP* **P 13 37 54.3 +0.2**
OBN *e* 13 38 56.9
OBN *eS* **S 13 42 36.1 -1.3**
OBN pmax pmax
comp=Z,28nm,1.1s,mb4.9
AKASG Malin Array Be 32.90 309 P **P 13 38 20.7 +0.3**
AKASG Malin Array Be 32.90 309 P **P 13 38 20.7 +0.3**
comp=Z,3.9nm,0.6s,mb4.3,baz=84,slow=7.1,SNR=18
VSU Vasula 36.16 322 *⇓iP* **P 13 38 48.5 +0.3**
FINES FINESS Array B 37.47 326 P **P 13 38 59.9 +0.7**
comp=Z,5.6nm,0.7s,mb4.3,baz=101,slow=9.9,SNR=17
NJ2 Nanjing 39.56 82 *eP* **P 13 39 19.5 +2.5**
NJ2 PP PP 13 40 57.5 +5.8
NJ2 S **S 13 45 11.0 +5.3**
NJ2 AMB AMB
comp=Z,30nm,0.8s,mb5.0
NJ2 AMB AMB
comp=Z,190nm,6.8s
NJ2 LR LR
comp=N,170nm,18.4s
NJ2 LR LR
comp=E,330nm,15.9s
NJ2 LR LR
comp=Z,280nm,16.4s
ARCES ARCESS Array B 41.15 338 P **P 13 39 30.5 +1.0**
comp=Z,12nm,0.8s,mb4.5,baz=112,slow=7.5,SNR=23
PSI Prapat 42.31 136 P **P 13 39 38.9 -0.7**
comp=Z,5.3nm,0.7s,mb4.3,baz=350,slow=8.7,SNR=5.3
YAK Yakutsk 44.05 35⇑ *eP* **P 13 39 53.2 +0.3**
YAK pmax pmax
comp=Z,11nm,0.8s,mb4.5
NB2 NORSAR Subarra 44.36 323 P **P 13 39 55.1 -0.3**
comp=Z,9.4nm,0.7s,mb4.5,baz=94,slow=7.9
NOA NORSAR Array B 44.36 323 P **P 13 39 55.3 -0.1**
comp=Z,8.4nm,0.8s,mb4.5,baz=96,slow=7.8,SNR=25
TIXI Tiksi 45.84 22 *eP* **P 13 40 07.0 +0.1**
comp=Z,10nm,0.8s,mb4.5
TIXI Tiksi 45.84 22 *eP* **P 13 40 07.0 +0.1**
TIXI pmax pmax
comp=Z,10.0nm,0.8s,mb4.5
HABR Khabarovsk 47.50 54 P **P 13 40 20.0 -0.1**
HABR *e* 13 41 44.6
HABR *e* 13 42 12.3
HABR *eS* **S 13 47 05.4 +4.9**
HABR *e* 13 49 56.4
SEY Seymchan 54.49 34⇑ *eP* **P 13 41 12.6 +0.6**
BILL Bilibino 58.68 26 *eP* **P 13 41 42.8 +1.4**
comp=Z,1.8nm,0.3s,mb4.4
BILL Bilibino 58.68 26⇑ *eP* **P 13 41 42.1 +0.7**
BILL *e* 13 43 50.8
BILL *eS* **S 13 49 34.8 +4.0**
BILL pmax pmax
comp=Z,5.0nm,0.8s,mb4.4
TORD Torodi Ar. Bea 65.63 269 P **P 13 42 26.7 -1.7**
comp=Z,3.5nm,0.5s,mb4.5,baz=50,slow=6.0,SNR=96
INK Inuvik 73.95 9 P **P 13 43 18.9 +0.6**
comp=Z,3.0nm,0.6s,mb4.2,baz=360,slow=6.7,SNR=36
COLA College 74.54 16⇑ *eP* **P 13 43 22.0 +0.3**
YKA Yellowknife Ar 81.29 3 P **P 13 43 59.2 +0.3**
YKA Yellowknife Ar 81.29 3 P **P 13 43 59.2 +0.3**
comp=Z,1.2nm,0.5s,mb3.8,baz=350,slow=5.3,SNR=34
WRA Warramunga Arr 82.04 122 P **P 13 44 02.5 -1.0**
comp=Z,2.1nm,0.8s,mb3.8,baz=324,slow=5.0,SNR=32
ASAR Alice Springs 84.30 125 P **P 13 44 14.3 -0.7**
comp=Z,1.2nm,0.7s,mb3.8,baz=311,slow=4.9,SNR=34

IDC ***17*** *13:55:54.0±1.4, 37.14N×2453W, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.5/23, mbtmp3.9/3, MS3.5/2, Ms1 3.5/2, ms1mx2.7/27, Error ellipse: s-maj=67.6km s-min=31.9km az=30.0*
ISCJB ***17*** *13:55:55.6±1.2, 37.35N±005×2482W±009, h10km, mb3.9/3, MS3.5/2, Error ellipse: s-maj=10.6km s-min=7.4km az=169.2*
CSEM ***17*** *13:55:56.8±1.1, 37.14N×2459W, h5km, ML3.5, Error ellipse: s-maj=7.8km s-min=4.5km az=92.0, After PDA*
PDA ***17*** *13:55:56.8±1.1, 37.14N×2459W, h5km, MD3.9, ML3.5, Error ellipse: s-maj=7.8km s-min=4.5km az=92.0*
SVSA ***17*** *13:55:56.8±1.1, 37.14N×2459W, h5km, MD3.9, ML3.5, Error ellipse: s-maj=7.8km s-min=4.5km az=92.0*

ISC 17 13:55:55.3±0.9, 3729N±005×2470W±007, h10km, n12, σ1°42/16, mb3.9/3, MS3.5/2, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSMN	**Pico do Norte,**	**0.41**	**225**	*eP*	**Pg**	**13 56 03.4**	**+0.1**
PSMN				*eS*	**Sg**	**13 56 09.6**	**+0.8**
CMLA	**Cha da Macela**	**0.81**	**306**	*eP*	**Pg**	**13 56 12.0**	**+1.1**
CMLA				*eS*	**Sg**	**13 56 24.0**	**+2.6**
PDA	**Ponta Delgada**	**0.89**	**301**	*eP*	**Pg**	**13 56 13.3**	**+0.9**
PDA				*eS*	**Sg**	**13 56 25.5**	**+1.5**
PMAN	**Manadas**	**2.99**	**298**	*eS*	**Sn**	**13 57 16.3**	**-2.4**
PMAN				A		13 57 17.4	
	51nm,0.3s						
ROSA	**Rosais**	**3.14**	**298**	*eP*	**Pn**	**13 56 44.5**	**-0.3**
ROSA				*eS*	**Sn**	**13 57 19.6**	**-2.7**
PICO	**Pico**	**3.18**	**293**	*eP*	**Pn**	**13 56 45.5**	**+0.1**
PICO				*eS*	**Sn**	**13 57 21.6**	**-1.8**
CALA	**Caldeira**	**3.42**	**293**	*eP*	**Pn**	**13 56 48.5**	**-0.1**
CALA				*eS*	**Sn**	**13 57 27.3**	**-1.8**
TORD	**Torodi Ar. Bea**	**33.67**	**129**	P	**P**	**14 02 34.9**	**-1.6**
	1.5nm,0.8s,mb4.0,baz=314,slow=8.6,SNR=7.4						
ARCES	**ARCESS Array B**	**41.90**	**24**	LR	LR	14 19 07.9	
	comp=Z,37nm,19.3s,MS3.3,baz=3.4,slow=33						
TXAR	**Lajitas Array**	**64.70**	**289**	P	**P**	**14 06 35.3**	**+1.6**
	0.6nm,0.6s,mb3.8,baz=69,slow=7.2,SNR=5.6						
MKAR	**Makanchi Array**	**73.85**	**43**	LR	LR	14 39 37.1	
	comp=Z,41nm,18.1s,MS3.8,baz=176,slow=36						
SONM	**Songino Array**	**84.69**	**31**	P	**P**	**14 08 30.1**	**+0.9**
	0.7nm,0.8s,mb3.8,baz=325,slow=1.8,SNR=4.5						

ISCJB ***17*** *13:56:42.0±0.5, 971N±007×1262E±02, h10km, mb4.3/20, Error ellipse: s-maj=29.1km s-min=7.4km az=167.9*
IDC ***17*** *13:56:42.1±0.6, 967N×12612E, h0km, mb4.2/16, mb1 4.3/16, mb1mx4.2/22, mbtmp4.1/16, MS3.2/1, Ms1 3.2/1, ms1mx2.3/27, Error ellipse: s-maj=44.9km s-min=12.0km az=75.0*
NEIC ***17*** *13:56:43.7±0.3, 971N×12625E, h10km, mb4.6/6, Error ellipse: s-maj=24.4km s-min=5.9km az=75.0*
MAN ***17*** *13:56:49, 965N×12620E, h23km, mb5.1, ML4.0, MS4.1*

ISC 17 13:56:46.1±7.6, 969N±008×1262E±02, h25km±55km, n35, σ0°65/32, mb4.3/20, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**18.65**	**76**	LR	LR	14 06 32.1	
	comp=Z,72nm,20.4s,baz=284,slow=31						
BATI	**Kupang**	**19.93**	**187**	P	**Pn**	**14 01 17.9**	**0.0**
	2.6nm,0.3s,baz=296,slow=5.1,SNR=7.9						
KAKA	**Kakadu**	**23.09**	**164**	*eP*	**P**	**14 01 49.8**	**-0.4**
	12nm,0.9s,mb4.3						
FITZ	**Fitzroy Crossi**	**27.62**	**181**	*eP*	**P**	**14 02 32.2**	**+0.5**
	2.6nm,0.4s,mb4.2						
FITZ	**Fitzroy Crossi**	**27.62**	**181**	P	**P**	**14 02 32.0**	**+0.2**
	3.2nm,0.8s,mb4.0,baz=99,slow=18,SNR=9.9						
KSRS	**Korea Array**	**27.68**	**3**	P	**P**	**14 02 32.4**	**+0.3**
	2.0nm,0.9s,mb3.8,baz=184,slow=9.9,SNR=9.7						
WRA	**Warramunga Arr**	**30.51**	**165**	P	**P**	**14 02 56.2**	**-1.1**
	0.6nm,0.4s,mb3.8,baz=344,slow=8.2,SNR=14						
WRA				PcP	PcP	14 05 55.5	-0.8
	0.7nm,0.7s,baz=346,slow=3.2,SNR=4.7						
WB2	**Warramunga Arr**	**30.51**	**165**	*eP*	**P**	**14 02 56.4**	**-1.0**
ASAR	**Alice Springs**	**33.99**	**167**	P	**P**	**14 03 27.4**	**-0.4**
	0.7nm,0.4s,mb4.0,baz=349,slow=6.8,SNR=55						
ASAR				PcP	PcP	14 06 05.2	-0.6
	0.6nm,0.6s,baz=344,slow=2.4,SNR=6.3						
FORT	**Forrest**	**40.27**	**178**	*eP*	**P**	**14 04 21.7**	**+0.6**
	24nm,0.5s,mb5.2						
SONM	**Songino Array**	**41.55**	**340**	P	**P**	**14 04 31.9**	**+0.4**
	0.4nm,0.5s,mb3.3,baz=157,slow=7.8,SNR=2.7						
KLBR	**Kellerberrin**	**41.84**	**191**	*eP*	**P**	**14 04 35.4**	**+1.3**
	110nm,1.6s,mb5.2						
MUN	**Mundaring**	**42.53**	**193**	*eP*	**P**	**14 04 40.5**	**+0.9**
NWAO	**Narrogin (SRO)**	**43.24**	**191**	P	**P**	**14 04 45.8**	**+0.4**
	5.3nm,0.7s,mb4.4,baz=288,slow=2.4,SNR=5.8						
STKA	**Stephens Creek**	**43.87**	**161**	*eP*	**P**	**14 04 50.4**	**-0.1**
	2.0nm,0.7s,mb4.0						
STKA	**Stephens Creek**	**43.87**	**161**	P	**P**	**14 04 50.6**	**+0.2**
	1.9nm,0.6s,mb4.0,baz=338,slow=10.0,SNR=7.4						
MK31	**Makanchi Array**	**52.47**	**323**	*eP*	**P**	**14 05 57.2**	**+0.4**
MKAR	**Makanchi Array**	**52.47**	**323**	P	**P**	**14 05 56.6**	**-0.1**
	1.5nm,0.6s,mb4.1,baz=120,slow=8.6,SNR=12						
ZALV	**Zalesovo Beam**	**55.12**	**332**	P	**P**	**14 06 15.3**	**-0.7**
ZALV	**Zalesovo Beam**	**55.12**	**332**	P	**P**	**14 06 15.3**	**-0.7**
	1.1nm,0.7s,mb4.0,baz=111,slow=8.1,SNR=4.6						
TIXI	**Tiksi**	**61.93**	**1**	*eP*	**P**	**14 07 04.4**	**+1.2**
	5.2nm,0.8s,mb4.7						
BVAR	**Borovoye Array**	**62.12**	**326**	P	**P**	**14 07 04.7**	**-0.1**
	1.3nm,0.8s,mb4.1,baz=111,slow=8.4,SNR=9.0						
BRVK	**Borovoye**	**62.19**	**326**	*eP*	**P**	**14 07 05.6**	**+0.3**
AKTK	**Aktyubinsk**	**68.75**	**320**	P	**P**	**14 07 47.1**	**-0.7**
AKTO	**Aktyubinsk**	**68.75**	**320**	P	**P**	**14 07 47.1**	**-0.7**
	1.2nm,0.6s,mb4.0,baz=74,slow=12,SNR=4.4						
ARU	**Arti**	**69.69**	**327**	*eP*	**P**	**14 07 52.7**	**-0.8**
ARCES	**ARCESS Array B**	**84.72**	**340**	P	**P**	**14 09 17.7**	**+0.1**
ARCES	**ARCESS Array B**	**84.72**	**340**	P	**P**	**14 09 17.7**	**+0.1**
	5.3nm,0.9s,mb4.7,baz=76,slow=7.6,SNR=10						
FINES	**FINESS Array B**	**86.38**	**332**	P	**P**	**14 09 25.3**	**-0.7**
	1.0nm,0.5s,mb4.3,baz=66,slow=5.4,SNR=9.5						
MAW	**Mawson**	**89.14**	**200**	P	**P**	**14 09 39.2**	**+0.2**
	1.1nm,0.6s,mb4.3,baz=37,slow=10,SNR=2.9						
VNDA	**Vanda**	**89.36**	**173**	P	**P**	**14 09 39.3**	**-0.6**
	0.6nm,0.2s,mb4.5,baz=327,slow=3.3,SNR=7.3						
YKA	**Yellowknife Ar**	**94.30**	**24**	P	**P**	**14 10 04.1**	**+1.0**
YKA	**Yellowknife Ar**	**94.30**	**24**	P	**P**	**14 10 04.1**	**+1.0**
	1.5nm,0.8s,mb4.5,baz=301,slow=4.7,SNR=33						
TORD	**Torodi Ar. Bea**	**120.45**	**291**	PKP	PKPdf	14 15 35.6	-0.9
	0.4nm,0.6s,baz=90,slow=1.9,SNR=3.5						
PLCA	**Paso Flores**	**145.69**	**157**	PKPbc	PKPbc	14 16 23.7	+0.7
	2.9nm,0.7s,baz=222,slow=5.0,SNR=6.2						

IDC 17 13:57:39.1±1.2, 774S×15569E, h0km, mb3.9/5, mb1 3.8/6, mb1mx3.7/16, mbtmp3.9/6, ML3.8/1, Error ellipse: s-maj=38.2km s-min=27.8km az=30.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.53**	**112**	Pn	Pn	13 58 49.4	+0.4
	4.6nm,0.3s,baz=274,slow=18,SNR=2.2						
HNR				Sn	Sn	13 59 43.5	+1.0
	14nm,0.3s,baz=270,slow=20,SNR=4.7						
ASAR	**Alice Springs**	**26.21**	**230**	P	P	14 03 15.9	+0.1
	0.3nm,0.7s,baz=72,slow=7.7,SNR=5.5						
SONM	**Songino Array**	**70.33**	**327**	P	P	14 08 55.5	+0.9
	0.3nm,0.5s,baz=134,slow=6.2,SNR=2.6						
MKAR	**Makanchi Array**	**84.42**	**319**	P	P	14 10 14.3	+0.7
	1.9nm,0.6s,baz=99,slow=6.1,SNR=14						
ZALV	**Zalesovo Beam**	**85.18**	**326**	P	P	14 10 16.4	-0.8
	1.4nm,0.5s,baz=102,slow=5.7,SNR=6.5						
BVAR	**Borovoye Array**	**93.30**	**323**	P	P	14 10 54.6	-1.2
	0.4nm,0.5s,baz=104,slow=5.4,SNR=3.6						

MAN 17 14:04:50, 1136N×12588E, h10km, mb4.3, ML3.1, MS2.9, Samar

ISCJB ***17*** *14:27:34.1±2.2, 691S±008×15567E±008, h82km±22km, mb4.2/19, Error ellipse: s-maj=14.9km s-min=12.6km az=138.3*
NEIC ***17*** *14:27:35.1±1.4, 686S×15573E, h83km±13km, mb4.7/6, Error ellipse: s-maj=10.7km s-min=8.3km az=141.0*
IDC ***17*** *14:27:37.2±2.5, 697S×15571E, h98km±23km, mb3.9/13, mb1 4.0/14, mb1mx4.0/18, mbtmp3.9/14, MS3.5/4, Ms1 3.5/4, ms1mx3.1/23, Error ellipse: s-maj=16.7km s-min=13.6km az=89.0*

ISC 17 14:27:35.9±2.0, 693S±008×15566E±009, h84km±20km, n43, σ0°69/34, mb4.2/19, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.92**	**121**	*ePn*	**Pn**	**14 28 46.0**	**-1.4**
HNR				S	Sn	**14 29 44.0**	**+0.8**
HNR	**Honiara**	**4.92**	**121**	P	**Pn**	**14 28 46.8**	**-0.7**
	16nm,0.3s,baz=272,slow=4.7,SNR=9.8						
HNR				S	**Sn**	**14 29 44.0**	**+0.8**
	15nm,0.3s,baz=164,slow=1.8,SNR=3.7						
CTA	**Charters Tower**	**15.95**	**214**	LR	LR	14 35 55.7	
	comp=Z,96nm,18.7s,baz=46,slow=31						
KAKA	**Kakadu**	**23.58**	**254**	*eP*	**P**	**14 32 40.1**	**+0.9**
	9.4nm,0.6s,mb4.3						
KAKA	**Kakadu**	**23.58**	**254**	*eP*	**P**	**14 32 39.7**	**+0.5**
WRAB	**Tennant Creek**	**24.39**	**236**	*eP*	**P**	**14 32 46.8**	**+0.3**
	3.7nm,0.6s,mb3.9						
WB2	**Warramunga Arr**	**24.39**	**236**	*eP*	**P**	**14 32 47.0**	**+0.5**
WB2	**Warramunga Arr**	**24.39**	**236**	*eP*	**P**	**14 32 46.8**	**+0.3**
WRA	**Warramunga Arr**	**24.40**	**236**	P	**P**	**14 32 47.1**	**+0.5**
	3.0nm,0.4s,mb3.9,baz=60,slow=9.3,SNR=81						
WRA				PcP	PcP	14 36 24.1	+0.1
	0.5nm,0.4s,baz=65,slow=2.8,SNR=7.7						
ASAR	**Alice Springs**	**26.71**	**229**	P	**P**	**14 33 07.3**	**-0.3**
	1.1nm,0.4s,mb3.7,baz=57,slow=10.0,SNR=56						
ASAR				PcP	PcP	14 36 28.9	-0.4
	0.8nm,0.6s,baz=53,slow=2.4,SNR=7.4						
STKA	**Stephens Creek**	**28.08**	**206**	*eP*	**P**	**14 33 24.2**	**+4.5**
	2.2nm,0.9s,mb3.7						
STKA	**Stephens Creek**	**28.08**	**206**	*eP*	**P**	**14 33 22.0**	**+2.3**
STKA				PcP	PcP	14 36 30.6	-1.7
STKA				LR	LR	14 44 55.6	
STKA	**Stephens Creek**	**28.08**	**206**	P	**P**	**14 33 19.1**	**-0.6**
	1.0nm,0.6s,mb3.5,baz=27,slow=14,SNR=2.0						
STKA				PcP	PcP	14 36 30.6	-1.7
	1.2nm,0.7s,baz=304,slow=1.8,SNR=2.9						
STKA				LR	LR	14 44 55.6	
	comp=Z,54nm,18.2s,baz=27,slow=37						
FITZ	**Fitzroy Crossi**	**31.29**	**246**	*eP*	**P**	**14 33 47.7**	**-0.5**
	9.6nm,0.4s,mb4.9						
FITZ	**Fitzroy Crossi**	**31.29**	**246**	*eP*	**P**	**14 33 47.7**	**-0.5**
	9.3nm,0.5s,mb4.8						
FITZ	**Fitzroy Crossi**	**31.29**	**246**	P	**P**	**14 33 47.9**	**-0.3**
	4.6nm,0.4s,mb4.6,baz=91,slow=8.3,SNR=28						
FORT	**Forrest**	**35.09**	**224**	*eP*	**P**	**14 34 21.2**	**0.0**
	13nm,0.7s,mb4.9						
URZ	**Urewera**	**36.74**	**151**	P	**P**	**14 34 35.2**	**-0.1**
	4.8nm,0.8s,mb4.5,baz=299,slow=7.9,SNR=2.6						
MBWA	**Marble Bar**	**37.50**	**244**	*eP*	**P**	**14 34 41.0**	**-0.8**
	3.6nm,0.6s,mb4.5						
RPZ	**Rata Peaks**	**39.05**	**162**	P	**P**	**14 34 54.1**	**-0.4**
	18nm,0.9s,mb4.9,baz=17,slow=2.5,SNR=2.7						
KLBR	**Kellerberrin**	**43.03**	**230**	*eP*	**P**	**14 35 26.9**	**-0.6**
	15nm,0.4s,mb5.1						
MUN	**Mundaring**	**44.39**	**231**	*eP*	**P**	**14 35 38.3**	**0.0**
MJAR	**Matsushiro Arr**	**46.23**	**340**	P	**P**	**14 35 51.9**	**-0.8**
	1.3nm,0.7s,mb3.8,baz=168,slow=6.4,SNR=4.1						
KSRS	**Korea Array**	**51.19**	**332**	P	**P**	**14 36 31.5**	**+0.8**
	0.4nm,0.4s,mb3.8,baz=149,slow=7.6,SNR=4.1						
KSRS				LR	LR	14 54 08.9	
	comp=Z,30nm,20.8s,baz=154,slow=31						
ASAJ	**Asahikawa**	**52.16**	**348**	P	**P**	**14 36 39.2**	**+1.4**
	baz=221,slow=9.3						
SONM	**Songino Array**	**69.64**	**327**	P	**P**	**14 38 37.1**	**+0.8**
	1.3nm,0.5s,mb4.0,baz=144,slow=6.3,SNR=11						
KDAK	**Kodiak Island**	**76.82**	**26**	LR	LR	15 07 00.2	
	comp=Z,133nm,20.5s,baz=264,slow=31						
QSPA	**South Pole Qui**	**83.05**	**180**	*eP*	**P**	**14 39 52.0**	**+0.4**
	3.1nm,0.5s,mb4.4						
MK31	**Makanchi Array**	**83.79**	**319**	*eP*	**P**	**14 39 56.0**	**0.0**
MKAR	**Makanchi Array**	**83.79**	**319**	P	**P**	**14 39 55.7**	**-0.3**
	1.3nm,0.7s,mb3.9,baz=110,slow=6.5,SNR=12						
ZALV	**Zalesovo Beam**	**84.49**	**326**	P	**P**	**14 39 58.3**	**-1.1**
	1.2nm,0.5s,mb4.0,baz=122,slow=6.3,SNR=8.0						
MAW	**Mawson**	**84.71**	**203**	P	**P**	**14 40 00.6**	**+0.2**
	1.9nm,0.6s,mb4.2,baz=101,slow=9.1,SNR=5.5						
YKA	**Yellowknife Ar**	**95.97**	**28**	P	**P**	**14 40 52.5**	**-0.8**
YKA	**Yellowknife Ar**	**95.97**	**28**	P	**P**	**14 40 52.5**	**-0.7**
	0.4nm,0.6s,mb4.0,baz=268,slow=4.6,SNR=10						
ARCES	**ARCESS Array B**	**109.71**	**343**	PKPdf	PKiKP	14 45 55.7	-0.9
ARCES	**ARCESS Array B**	**109.71**	**343**	PKiKP	PKiKP	14 45 55.7	-0.9
	1.8nm,0.8s,baz=64,slow=2.1,SNR=7.4						
FINES	**FINESS Array B**	**114.14**	**336**	PKiKP	PKiKP	14 46 04.2	-1.1
	0.6nm,0.6s,baz=77,slow=3.0,SNR=6.4						
HFS	**Hagfors**	**119.68**	**339**	PKP	PKPdf	14 46 14.4	-1.5
	2.5nm,0.9s,baz=75,slow=17,SNR=4.5						
NOA	**NORSAR Array B**	**119.85**	**341**	PKP	PKPdf	14 46 14.7	-1.5
	0.4nm,0.6s,baz=37,slow=2.8,SNR=2.7						
BOSA	**Boshof**	**120.58**	**231**	PKP	PKPdf	14 46 17.7	-1.0
BOSA	**Boshof**	**120.58**	**231**	PKP	PKPdf	14 46 17.7	-1.0
	1.9nm,0.8s,baz=39,slow=6.5,SNR=2.9						
TORD	**Torodi Ar. Bea**	**153.64**	**286**	PKPbc	PKPbc	14 47 25.2	-0.9
	0.5nm,0.4s,baz=46,slow=2.2,SNR=16						
TORD				PKPab	PKPab	14 47 38.5	-0.5
	1.5nm,0.6s,baz=74,slow=3.7,SNR=12						
DBIC	**Dimbokro**	**160.65**	**270**	PKPab	PKPab	14 48 09.5	+0.2
	4.1nm,0.5s,baz=116,slow=0.8,SNR=12						

NEIC ***17*** *14:33:15.9, 1839N×6874W, h118km, MD3.8(RSPR), After RSPR.*

RSPR 17 14:33:15.9, 1839N×6874W, h118km±8km, MD3.8/13, MD3.8/13, 13C-2D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMN1	**Samana, DR**	**0.94**	**328⇓**	*eP*	Pn	14 33 36.2	-0.9
SMN1	**Samana, DR**	**0.94**	**328**	*eS*	Sn	14 33 52.2	-1.0
AGPR	**Aguadilla, PR**	**1.55**	**87⇑**	*eP*	Pn	14 33 44.6	+0.8
AGPR				*eS*	Sn	14 34 07.0	+2.0
LSP	**Las Mesas**	**1.59**	**98⇑**	*eP*	Pn	14 33 44.5	+0.2
LSP				*e

ASAR	**Alice Springs**	**42.60**	**268**	P	P	14 50 26.6	+0.1
	0.4nm,0.6s,baz=106,slow=7.3,SNR=12						
WRA	**Warramunga Arr**	**43.69**	**274**	P	P	14 50 35.6	+0.2
	0.8nm,0.4s,baz=115,slow=8.4,SNR=36						
FINES	**FINESS Array B**	**146.06**	**339**	PKPbc	PKPbc	15 02 08.4	-1.1
	0.9nm,0.8s,baz=17,slow=1.9,SNR=2.8						

*ISCJB **17** 15:02:26.4±1.3, 159S±0.1×1753W±0.1, h261km±17km, mb4.0/9, Error ellipse: s-maj=24.8km s-min=19.5km az=154.2*
*NEIC **17** 15:02:29.0±1.4, 1578S×17529W, h283km±16km, mb4.1/3, Error ellipse: s-maj=26.5km s-min=17.3km az=145.0*
*IDC **17** 15:02:34.2±3.2, 1609S×17525W, h332km±32km, mb3.5/5, mb1 3.7/5, mb1mx3.4/14, mbtmp3.5/5, Error ellipse: s-maj=31.2km s-min=15.3km az=140.0*
ISC 17 15:02:28.0±1.4, 160S±02×1753W±01, h260km±18km, n16, σ0§72/16, mb4.0/9, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**4.00**	**60**	*e*Pn	**Pn**	**15 03 32.9**	**+0.6**
AFI				*e*S	**S**	**15 04 19.5**	**-3.8**
URZ	**Urewera**	**23.20**	**195**	P	**P**	**15 07 11.1**	**-0.9**
	12nm,0.6s,mb4.4,baz=313,slow=2.0,SNR=7.6						
CTAO	**Charters Tower**	**36.70**	**258**	*e*P	**P**	**15 09 11.6**	**+1.0**
STKA	**Stephens Creek**	**42.15**	**240**	*e*P	**P**	**15 09 55.4**	**+0.1**
STKA				PcP	PcP	15 11 44.0	-0.6
STKA	**Stephens Creek**	**42.15**	**240**	P	**P**	**15 09 55.5**	**+0.2**
	2.8nm,0.8s,mb3.5,baz=77,slow=10.0,SNR=4.5						
STKA				PcP	PcP	15 11 44.0	-0.6
	1.2nm,0.6s,baz=27,slow=6.8,SNR=4.3						
WB2	**Warramunga Arr**	**47.89**	**257**	*e*P	**P**	**15 10 40.1**	**-0.4**
WRAB	**Tennant Creek**	**47.89**	**257**	*e*P	**P**	**15 10 40.0**	**-0.5**
	4.4nm,0.5s,mb4.0						
WRA	**Warramunga Arr**	**47.90**	**257**	P	**P**	**15 10 40.2**	**-0.4**
	4.4nm,0.5s,mb4.0,baz=92,slow=7.0,SNR=151						
WRA				PcP	PcP	15 12 03.7	-1.1
	0.6nm,0.5s,baz=85,slow=3.5,SNR=7.4						
ASAR	**Alice Springs**	**48.16**	**252**	P	**P**	**15 10 42.6**	**+0.1**
	39nm,0.7s,mb4.9,baz=85,slow=8.0,SNR=816						
ASAR				PcP	PcP	15 12 04.8	-0.9
	1.0nm,0.7s,baz=99,slow=3.6,SNR=4.0						
ASAR				S	**S**	**15 17 16.6**	**-4.9**
	0.8nm,0.9s,baz=83,slow=15,SNR=6.1						
SBA	**Scott Base**	**62.56**	**184**	*e*P	**P**	**15 12 25.6**	**+1.6**
	3.5nm,0.9s,mb4.0						
QSPA	**South Pole Qui**	**74.10**	**180**	*e*P	**P**	**15 13 35.3**	**+0.1**
	7.6nm,0.9s,mb4.3						
KSRS	**Korea Array**	**75.25**	**317**	P	**P**	**15 13 42.5**	**+0.1**
	0.5nm,0.6s,mb3.4,baz=124,slow=8.4,SNR=3.7						
NVAR	**Mina Array Bea**	**75.99**	**43**	P	**P**	**15 13 46.6**	**0.0**
	0.6nm,0.9s,mb3.2,baz=228,slow=13,SNR=3.4						
VNA2	**Neumayer--Watz**	**92.95**	**176**	*e*	**P**	**15 15 10.6**	**-0.7**
	baz=223,slow=4.6						
VNA2				*e*		15 15 14.6	
ARCES	**ARCESS Array B**	**124.88**	**351**	PKP	PKPdf	15 20 52.9	-3.5
	6.2nm,1.0s,baz=29,slow=2.8,SNR=5.8						
GERES	**GERESS Array B**	**146.37**	**349**	PKPbc	PKPbc	15 21 34.8	-3.4
	0.5nm,0.6s,baz=22,slow=6.3,SNR=4.9						

*NEIC **17** 15:21:00.8±0.8, 3722N×2472W, h10km, Error ellipse: s-maj=20.4km s-min=12.7km az=217.0*
*IDC **17** 15:21:00.3±1.1, 3725N×2447W, h0km, mb3.8/9, mb1 4.0/10, mb1mx3.8/24, mbtmp3.8/10, ML3.8/1, MS3.4/9, Ms1 3.4/9, ms1mx3.1/32, Error ellipse: s-maj=30.4km s-min=21.4km az=3.0*
*CSEM **17** 15:21:01.5±0.1, 3712N×2475W, h30km, ML3.8, Error ellipse: s-maj=4.2km s-min=2.5km az=21.0*
*ISCJB **17** 15:21:02.9±0.8, 3717N±008×2483W±0.10, h39km±10km, mb3.9/9, MS3.4/7, Error ellipse: s-maj=17.4km s-min=6.6km az=42.9*
*PDA **17** 15:21:03.6±1.0, 3716N×2459W, h10km, MD4.1, ML3.8, Error ellipse: s-maj=6.7km s-min=3.9km az=88.0*
*SVSA **17** 15:21:03.6±1.0, 3716N×2459W, h10km, MD4.1, ML3.8, Error ellipse: s-maj=6.7km s-min=3.9km az=88.0*
ISC 17 15:21:03.4±0.8, 3724N±006×2479W±006, h28km±6km, n31, σ0§82/37, mb3.9/9, MS3.4/7, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSMN	**Pico do Norte,**	**0.32**	**224**	*e*P	**Pb**	**15 21 10.1**	**-0.8**
PSMN				*e*S	**Sb**	**15 21 16.3**	**+0.3**
CMLA	**Cha da Macela**	**0.79**	**312**	*e*P	**Pb**	**15 21 18.0**	**-0.5**
CMLA				*e*S	**Sb**	**15 21 29.2**	**+0.4**
CMLA	**Cha da Macela**	**0.79**	**312**	*e*Pn	**Pn**	**15 21 17.4**	**-1.2**
CMLA	**Cha da Macela**	**0.79**	**312**	*e*P	**Pb**	**15 21 18.0**	**-0.5**
CMLA				*e*S	**Sb**	**15 21 29.2**	**+0.4**
PDA	**Ponta Delgada**	**0.86**	**307**	*e*P	**Pn**	**15 21 19.4**	**-0.3**
PDA				*e*S	**Sb**	**15 21 31.4**	**+0.5**
ADH	**Angra Heroismo**	**2.40**	**307**	*e*P	**Pn**	**15 21 41.5**	**+0.7**
ADH				*e*S	**Sn**	**15 22 08.7**	**-0.5**
PMAN	**Manadas**	**2.96**	**299**	*e*P	**Pn**	**15 21 49.0**	**+0.5**
PMAN				*e*S	**Sn**	**15 22 22.7**	**-0.4**
PMAN				A		15 22 25.9	
	92nm,0.2s						
PMAN	**Manadas**	**2.96**	**299**	*e*P	**Pn**	**15 21 49.0**	**+0.5**
PMAN				*e*S	**Sn**	**15 22 22.7**	**-0.4**
ROSA	**Rosais**	**3.10**	**300**	*e*P	**Pn**	**15 21 51.3**	**+0.8**
ROSA				*e*S	**Sn**	**15 22 26.1**	**-0.6**
PICO	**Pico**	**3.14**	**295**	*e*P	**Pn**	**15 21 51.2**	**+0.2**
PICO				*e*S	**Sn**	**15 22 27.0**	**-0.6**
HOR	**Horta**	**3.30**	**294**	*e*P	**Pn**	**15 21 53.3**	**+0.1**
HOR				*e*S	**Sn**	**15 22 30.8**	**-0.7**
CALA	**Caldeira**	**3.37**	**295**	*e*P	**Pn**	**15 21 54.8**	**+0.6**
ESDC	**Sonseca Array**	**16.49**	**75**	LR	LR	15 29 59.5	
	comp=Z,84nm,18.0s,baz=235,slow=33						
MDT	**Midelt**	**17.10**	**99**	Pn	**Pn**	**15 24 56.4**	**-4.0**
	0.3nm,0.3s,baz=274,slow=7.6,SNR=8.0						
MDT				LR	LR	15 30 01.5	
	comp=Z,114nm,19.1s,baz=164,slow=32						
EKA	**Eskdalemuir Ar**	**23.31**	**32**	P	**P**	**15 26 08.2**	**-0.7**
	9.9nm,1.1s,mb4.2,baz=237,slow=7.6,SNR=8.0						
EKA	**Eskdalemuir Ar**	**23.31**	**32**	P	**P**	**15 26 08.2**	**-0.8**
DAVOX	**Davos/Dischmat**	**27.28**	**59**	LR	LR	15 37 05.7	
	comp=Z,58nm,18.2s,MS3.2,baz=90,slow=36						
GERES	**GERESS Array B**	**30.12**	**55**	LR	LR	15 38 10.6	
	comp=Z,43nm,18.9s,MS3.1,baz=274,slow=34						
NOA	**NORSAR Array B**	**32.80**	**32**	P	**P**	**15 27 34.4**	**+0.5**
	3.1nm,1.1s,mb4.2,baz=242,slow=8.7,SNR=2.9						
NOA				LR	LR	15 39 18.0	
	comp=Z,32nm,19.8s,MS3.0,baz=205,slow=34						
TOA0	**Torodi Ar. Sit**	**33.69**	**128**	*e*P	**P**	**15 27 41.4**	**-0.7**
TOA0	**Torodi Ar. Sit**	**33.69**	**128**	*e*P	**P**	**15 27 41.4**	**-0.8**
TORD	**Torodi Ar. Bea**	**33.69**	**128**	P	**P**	**15 27 41.8**	**-0.4**
	1.7nm,0.7s,mb4.1,baz=321,slow=7.7,SNR=10.0						
TORD				LR	LR	15 42 13.2	
	comp=Z,52nm,18.9s,MS3.3,baz=90,slow=38						
FINES	**FINESS Array B**	**39.61**	**36**	LR	LR	15 42 49.5	
	comp=Z,28nm,19.2s,MS3.1,baz=292,slow=33						
AKASG	**Malin Array Be**	**40.25**	**53**	P	**P**	**15 28 36.2**	**-1.4**
AKASG	**Malin Array Be**	**40.25**	**53**	P	**P**	**15 28 36.2**	**-1.4**
	0.2nm,0.3s,mb3.4,baz=276,slow=8.3,SNR=3.7						
PDAR	**Pinedale Array**	**62.53**	**304**	P	**P**	**15 31 26.7**	**+2.2**
	0.4nm,0.8s,mb3.6,baz=58,slow=7.7,SNR=2.8						
TXAR	**Lajitas Array**	**64.65**	**289**	P	**P**	**15 31 42.1**	**+3.4**
	1.6nm,0.7s,mb4.1,baz=79,slow=6.9,SNR=8.3						
TXAR				LR	LR	15 58 48.3	
	comp=Z,83nm,18.0s,MS4.0,baz=180,slow=35						
ZALV	**Zalesovo Beam**	**70.87**	**36**	P	**P**	**15 32 18.0**	**+0.5**
ZALV	**Zalesovo Beam**	**70.87**	**36**	P	**P**	**15 32 18.0**	**+0.5**
	0.3nm,0.4s,mb3.6,baz=311,slow=7.7,SNR=4.0						
MKAR	**Makanchi Array**	**73.94**	**43**	P	**P**	**15 32 36.4**	**+0.4**
	0.2nm,0.3s,mb3.5,baz=314,slow=7.8,SNR=5.8						
MKAR				LR	LR	16 05 13.7	
	comp=Z,41nm,18.0s,MS3.8,baz=0.3,slow=36						
SONM	**Songino Array**	**84.77**	**31**	P	**P**	**15 33 35.9**	**+0.9**
	1.6nm,1.0s,mb4.1,baz=330,slow=4.4,SNR=8.9						

*ISCJB **17** 15:28:11.4±0.7, 1078N±004×6251W±003, h110km±6km, Error ellipse: s-maj=7.2km s-min=4.4km az=178.6*
*FUNV **17** 15:28:12.4, 1085N×6241W, h106km, MW3.2*
*TRN **17** 15:28:14.5, 1081N×6245W, h90km, MD3.1*
*NEIC **17** 15:28:14.5, 1081N×6245W, h90km, MD3.1(TRN), After TRN.*
ISC 17 15:28:12.4±0.7, 1078N±004×6251W±003, h105km±6km, n21, σ0§92/40, 3C-2D, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIV	**Guiria**	**0.31**	**115**	*e*P	**Pn**	**15 28 27.8**	**+0.3**
GUIV				*e*S	**Sn**	**15 28 38.2**	**-0.7**
CRUV	**Carupano**	**0.72**	**262**	⇓*e*P	**Pn**	**15 28 30.7**	**+0.3**
CRUV				*e*S	**Sn**	**15 28 44.2**	**+0.2**
TCE	**Chacachacare**	**0.75**	**96**	*e*P	**Pn**	**15 28 31.1**	**+0.5**
TCE				*e*S	**Sn**	**15 28 43.8**	**-0.6**
GUNV	**Guanoco**	**0.75**	**215**	⇑*i*P	**Pn**	**15 28 32.1**	**+1.4**
GUNV				*e*S	**Sn**	**15 28 45.9**	**+1.6**
ITEV	**Isla Los Testi**	**0.84**	**313**	⇓*i*P	**Pn**	**15 28 31.4**	**-0.2**
ITEV				*e*S	**Sn**	**15 28 44.9**	**-1.1**
TRN	**Trinidad (W)**	**1.09**	**97**	*e*P	**Pn**	**15 28 33.9**	**-0.3**
TRN				*e*S	**Sn**	**15 28 48.9**	**-1.7**
TPP	**Pointe-a-Pierr**	**1.14**	**114**	*e*P	**Pn**	**15 28 36.3**	**+1.7**
TBH	**Brigand Hill**	**1.45**	**102**	*e*P	**Pn**	**15 28 39.0**	**+0.8**
TBH				*e*S	**Sn**	**15 28 57.8**	**0.0**
TPR	**Prospect**	**1.75**	**76**	*e*P	**Pn**	**15 28 43.1**	**+1.1**
TPR				*e*S	**Sn**	**15 29 03.7**	**-0.7**
ORIV	**Oritupano**	**1.92**	**208**	*e*P	**Pn**	**15 28 45.0**	**+0.9**
ORIV				*e*S	**Sn**	**15 29 09.3**	**+1.0**
PCRV	**Puerto La Cruz**	**2.18**	**254**	*e*P	**Pn**	**15 28 48.6**	**+1.2**
PCRV				*e*S	**Sn**	**15 29 14.5**	**+0.2**
IBAV	**Isla La Blanqu**	**2.28**	**297**	*e*P	**Pn**	**15 28 48.4**	**-0.4**
RIOV	**Rio Grande**	**2.78**	**166**	*e*P	**Pn**	**15 28 56.1**	**+0.8**
RIOV				*e*S	**Sn**	**15 29 27.1**	**-1.2**
PRGV	**PARIAGUAN**	**2.91**	**227**	*e*P	**Pn**	**15 28 58.0**	**+0.9**
PRGV				*e*S	**Sn**	**15 29 31.1**	**-0.3**
GURV	**El Guri**	**3.05**	**191**	⇑*i*P	**Pn**	**15 28 59.3**	**+0.3**
GURV				*e*S	**Sn**	**15 29 33.3**	**-1.6**
CUPV	**Cœpira**	**3.31**	**258**	⇑*i*P	**Pn**	**15 29 02.9**	**+0.6**
CUPV				*e*S	**Sn**	**15 29 40.6**	**-0.3**
BIRV	**Birongo**	**3.71**	**266**	*e*P	**Pn**	**15 29 08.2**	**+0.5**
BIRV				*e*S	**Sn**	**15 29 50.0**	**-0.7**
MERV	**Las Mercedes**	**4.03**	**248**	*e*P	**Pn**	**15 29 11.8**	**-0.3**
MERV				*e*S	**Sn**	**15 29 56.8**	**-1.5**
LUEV	**Luepa**	**5.01**	**168**	*e*P	**Pn**	**15 29 24.3**	**-1.0**
LUEV				*e*S	**Sn**	**15 30 17.7**	**-4.4**
CAOV	**Caicara del Or**	**5.09**	**228**	*e*P	**Pn**	**15 29 26.0**	**-0.4**
CAOV				*e*S	**Sn**	**15 30 20.1**	**-4.0**
BAUV	**El Baul**	**5.75**	**252**	*e*P	**Pn**	**15 29 34.0**	**-1.3**
BAUV				*e*S	**Sn**	**15 30 35.8**	**-4.2**

*CSEM **17** 15:28:34.3±0.7, 3725N×2454W, h5km, ML3.6, Error ellipse: s-maj=7.6km s-min=2.9km az=91.0, After PDA*
*PDA **17** 15:28:34.3±0.7, 3725N×2454W, h5km, ML3.6, Error ellipse: s-maj=7.6km s-min=2.9km az=91.0*
SVSA 17 15:28:34.3±0.7, 3725N×2454W, h5km, ML3.6, Error ellipse: s-maj=7.6km s-min=2.9km az=91.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSMN	**Pico do Norte,**	**0.48**	**239**	*e*P	Pg	15 28 42.7	-0.9
PSMN				*e*S	Sg	15 28 49.0	-0.9
CMLA	**Cha da Macela**	**0.93**	**304**	*e*P	Pg	15 28 49.0	-3.2
CMLA				*e*S	Sg	15 29 00.0	-4.3
PDA	**Ponta Delgada**	**1.02**	**299**	*e*P	Pg	15 28 50.7	-3.1
PDA				*e*S	Sg	15 29 02.3	-4.7
PSCM	**Serra do Cume**	**2.50**	**306**	*e*S	Sn	15 29 38.6	-7.7
PSCM				A		15 29 39.8	
	62nm,0.2s						

*IDC **17** 15:46:57.7±1.9, 4148N×7910E, h0km, mb3.5/2, mb1 3.5/4, mb1mx3.3/23, mbtmp3.5/4, ML3.3/2, Error ellipse: s-maj=49.6km s-min=17.3km az=127.0*
*MOS **17** 15:47:01.4±0.9, 4139N×7945E, h36km, mb3.6/1, Error ellipse: s-maj=24.6km s-min=16.4km az=95.3*
*NEIC **17** 15:47:02.4±1.2, 4132N×7940E, h35km, Error ellipse: s-maj=21.9km s-min=8.7km az=159.0*
*BJI **17** 15:47:03.3, 4168N×7939E, h12km, ML3.3*
*NNC **17** 15:47:04.8±2.1, 4206N×7928E, h0km, mb3.8, mpv3.5, Error ellipse: s-maj=20.8km s-min=8.1km az=157.0*
*ISCJB **17** 15:47:05.3±0.9, 4185N±007×7941E±008, h33km, Error ellipse: s-maj=11.5km s-min=6.2km az=145.5*
ISC 17 15:47:00.1±1.5, 4133N±008×7940E±007, h18km±13km, n24, σ1§19/31, 7C-6D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KNDC	**Almaty**	**2.61**	**317**	⇑Pn	**Pn**	**15 47 42.1**	**+0.7**
	57nm,0.4s						
KNDC				⇑Lg		15 48 12.3	
	807nm,0.8s						
AAA	**Alma-Ata**	**2.66**	**318**	*i* PN	**Pn**	**15 47 43.0**	**+0.9**
AAA				*i* S	**Sn**	**15 48 13.9**	**0.0**
AAA				smax			
	comp=N,2.0nm,0.3s						
KSH	**Kashi**	**3.18**	**236**	*e*P	**Pg**	**15 48 00.6**	**-0.4**
KSH				S	**Sg**	**15 48 40.6**	**-1.6**
KSH				Smax			
	comp=N,227nm,0.6s						
KSH				Smax			
	comp=E,322nm,0.4s						
TKM2	**Tokmak 2**	**3.24**	**301**	⇑Pn	**Pn**	**15 47 51.0**	**+0.9**
	comp=E,17nm,0.3s						
TKM2				⇓Lg		15 48 32.9	
	comp=E,288nm,0.4s						
TKM2	**Tokmak 2**	**3.24**	**301**	*e*P	**Pn**	**15 47 50.8**	**+0.7**
TKM2				*e*S	**Sn**	**15 48 28.5**	**+0.2**
UCH	**Uchtor**	**3.76**	**285**	*e*P	**Pn**	**15 47 58.1**	**+0.9**
AAK	**Ala-Archa**	**3.88**	**291**	*e*P	**Pn**	**15 48 00.1**	**+1.2**
AAK				*e*S	**Sn**	**15 48 52.8**	**+8.8**
AML	**Almayashu**	**4.34**	**283**	*e*P	**Pn**	**15 48 08.3**	**+3.1**
EKS2	**Erkin-Say**	**4.39**	**290**	Pn	**Pn**	**15 48 06.1**	**+0.2**
MK31	**Makanchi Array**	**5.85**	**20**	Pn	**Pn**	**15 48 27.1**	**+1.3**
	comp=E,1.5nm,0.4s,baz=77,slow=67,SNR=25						
MK31				⇓Sn	**Sn**	**15 49 30.6**	**-1.8**
	comp=E,7.9nm,0.5s						
MK31	**Makanchi Array**	**5.85**	**20**	*e*PN	**Pn**	**15 48 26.3**	**+0.4**
MKAR	**Makanchi Array**	**5.85**	**20**	PN	**Pn**	**15 48 26.9**	**+1.0**
MKAR						15 49 31.4	
MKAR	**Makanchi Array**	**5.85**	**20**	Pn	**Pn**	**15 48 26.9**	**+1.0**
	comp=E,0.9nm,0.3s,baz=205,slow=14,SNR=14						
MKAR				Sn	**Sn**	**15 49 31.4**	**-1.1**
	comp=E,2.2nm,0.3s,baz=194,slow=20,SNR=5.3						
MKAR				Lg		15 50 01.3	
	comp=E,2.6nm,0.3s,baz=212,slow=24,SNR=3.5						
KK31	**Karatay Array**	**6.83**	**288**	Pg	**Pb**	**15 49 03.4**	**+5.1**
	comp=E,1.9nm,0.6s,baz=96,slow=16,SNR=18						
KK31				⇑Lg		15 50 25.3	
	comp=E,3.8nm,0.4s,baz=97,slow=29,SNR=8.6						
KURBB	**Kurchatov Arra**	**9.32**	**357**	⇓Pn	**Pn**	**15 49 09.2**	**-4.3**
	comp=E,0.6nm,1.4s						
KURBB				⇓Lg		15 51 38.9	
	comp=E,5.9nm,0.7s						
KURK	**Kurchatov**	**9.41**	**357**	⇑Pn	**Pn**	**15 49 11.4**	**-3.2**
	comp=E,1.9nm,1.2s						
KURK				⇓Lg		15 51 40.8	
VOSK	**Vostochnaya**	**12.75**	**336**	⇓Pn	**Pn**	**15 50 00.6**	**+0.1**
	comp=E,8.3nm,2.5s						
VOSK				⇑Lg		15 53 24.4	
	comp=E,5.4nm,1.2s						
ZAL	**Zalesovo**	**13.13**	**14**	P	**Pn**	**15 50 05.9**	**+0.4**
ZALV	**Zalesovo Beam**	**13.14**	**14**	Pn	**Pn**	**15 50 05.8**	**+0.1**
	comp=E,0.2nm,0.3s,baz=201,slow=14,SNR=2.6						
ZALV				Sn	**Sn**	**15 52 20.6**	**-11**
	comp=E,0.3nm,0.3s,baz=204,slow=20,SNR=6.6						
ZALV				Lg		15 53 53.1	
	baz=201,slow=23,SNR=3.4						
BVA0	**Borovoye Array**	**13.20**	**336**	Pn	**Pn**	**15 50 03.2**	**-3.2**
	comp=E,0.7nm,1.6s,baz=146,slow=6.6,SNR=4.7						
BVA0				⇑Lg		15 53 42.1	
	comp=E,1.3nm,1.1s						
AB31	**Akbulak array**	**15.79**	**307**	Pn	**Pn**	**15 50 39.2**	**-2.2**
	comp=E,0.9nm,0.8s,baz=111,slow=13,SNR=5.5						
SONM	**Songino Array**	**20.24**	**62**	P	**P**	**15 51 35.6**	**+1.4**
	comp=E,0.7nm,0.5s,baz=265,slow=9.7,SNR=7.3						
TOA0	**Torodi Ar. Sit**	**72.25**	**272**	*e*P	**P**	**15 58 23.7**	**-0.8**
TORD	**Torodi Ar. Bea**	**72.25**	**272**	P	**P**	**15 58 23.6**	**-0.9**
	comp=E,0.6nm,0.5s,baz=48,slow=4.8,SNR=12						

*IDC **17** 15:51:30.7±3.1, 524S×10260E, h0km, mb3.9/6, mb1 4.0/6, mb1mx3.7/17, mbtmp3.9/6, MS4.3/1, Ms1 4.3/1, ms1mx3.0/28, Error ellipse: s-maj=144.3km s-min=18.6km az=55.0*
*ISCJB **17** 15:51:32.9±2.5, 53S±05×1024E±07, h33km, mb4.0/6, Error ellipse: s-maj=115.5km s-min=13.7km az=143.6*
*NEIC **17** 15:51:34.8±2.0, 530S×10247E, h30km, Error ellipse: s-maj=92.5km s-min=10.9km az=53.0*
ISC 17 15:51:35.4±2.5, 53S±05×1024E±07, h35km, n11, σ0§66/10, mb4.0/6, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**34.25**	**118**	P	**P**	**15 58 17.1**	**-1.2**
	0.4nm,0.5s,mb3.6,baz=300,slow=9.1,SNR=9.0						
WB2	**Warramunga Arr**	**34.26**	**118**	*e*P	**P**	**15 58 19.5**	**+1.1**
ASAR	**Alice Springs**	**35.35**	**124**	P	**P**	**15 58 27.4**	**-0.4**
	0.7nm,0.9s,mb3.6,baz=288,slow=6.8,SNR=8.8						
STKA	**Stephens Creek**	**45.14**	**131**	P	**P**	**15 59 49.2**	**+0.5**
	1.7nm,0.5s,mb4.1,baz=328,slow=13,SNR=5.5						
SONM	**Songino Array**	**53.05**	**3**	P	**P**	**16 00 49.4**	**+0.4**
	1.3nm,0.8s,mb3.9,baz=180,slow=9.4,SNR=9.7						
MK31	**Makanchi Array**	**54.88**	**343**	*e*P	**P**	**16 01 02.6**	**+0.2**
MKAR	**Makanchi Array**	**54.88**	**343**	P	**P**	**16 01 02.7**	**+0.3**
MKAR	**Makanchi Array**	**54.88**	**343**	P	**P**	**16 01 02.7**	**+0.3**
	1.4nm,0.5s,mb4.2,baz=145,slow=8.0,SNR=19						
ZAA0	**Zalesovo Array**	**60.88**	**348**	P	**P**	**16 01 43.8**	**-0.6**
ZALV	**Zalesovo Beam**	**60.88**	**348**	P	**P**	**16 01 43.9**	**-0.4**
	1.7nm,0.5s,mb4.4,baz=163,slow=5.7,SNR=12						
TXAR	**Lajitas Array**	**145.66**	**43**	PKPbc	PKPbc	16 11 11.8	+0.7
	0.3nm,0.4s,baz=227,slow=3.2,SNR=4.0						

IDC 17 16:06:59.3±3.9, 239N×9730E, h0km, mb3.8/4, mb1 3.9/4, mb1mx3.5/19, mbtmp3.8/4, Error ellipse: s-maj=153.2km s-min=27.0km az=57.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**42.59**	**123**	P	P	16 14 57.3	-0.1
	0.4nm,0.5s,baz=303,slow=9.0,SNR=5.0						
SONM	**Songino Array**	**45.94**	**9**	P	P	16 15 24.4	+0.5
	0.8nm,0.7s,baz=192,slow=9.9,SNR=6.4						
MKAR	**Makanchi Array**	**46.12**	**346**	P	P	16 15 25.2	0.0
	1.2nm,0.6s,baz=159,slow=8.0,SNR=14						
ZALV	**Zalesovo Beam**	**52.40**	**351**	P	P	16 16 12.9	-0.3
	1.6nm,0.6s,baz=172,slow=6.9,SNR=13						

*NIED **17** 16:13:00, 2960N×13060E, h38km, Mw4.8 Best double couple: M0 1.87000×10^16 NP1:φs40.00000°, δ87.00000°, λ94.00000°. NP2:φs169.00000°, δ5.00000°, λ39.00000°.*
*MOS **17** 16:13:13.9±1.1, 2961N×13053E, h33km, mb5.0/17, MS4.2/9, Error ellipse: s-maj=10.8km s-min=6.3km az=102.2*
*IDC **17** 16:13:15.1±3.1, 2963N×13047E, h26km±20km, mb4.2/21, mb1 4.3/24, mb1mx4.3/29, mbtmp4.2/24, ML3.9/3, MS4.2/14, Ms1 4.2/14, ms1mx4.0/21, Error ellipse: s-maj=18.1km s-min=11.6km az=85.0*
*ISCJB **17** 16:13:16.3±0.4, 2957N±002×13058E±003, h52km±3km, mb4.6/59, MS4.3/26, Error ellipse: s-maj=5.3km s-min=3.6km az=30.7*
*JMA **17** 16:13:16.4±0.1, 2960N×13057E, h49km±4km, M4.8*
JMA Felt I J1.
*NEIC **17** 16:13:17.6±0.8, 2962N×13049E, h46km±7km, mb4.7/26, MW4.8(NIED), Error ellipse: s-maj=6.6km s-min=5.2km az=103.0*
NEIC Recorded [1 JMA] on Amami-oshima, Nakano-shima and Yaku-shima.
*BJI **17** 16:13:17.2, 2953N×13065E, h64km, mB4.7, mb4.6, Ms4.4, Msz4.2*
ISC 17 16:13:17.6±0.4, 2958N±003×13056E±003, h46km±3km, h61km±4.2km: pP-P, n142, σ1§17/163, mb4.6/59, MS4.3/26, 9C-1D, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNN	**Nakanoshima**	**0.65**	**294**	P	**Pn**	**16 13 29.4**	**-1.1**
JNN				*e*S	**Sn**	**16 13 39.7**	**-0.1**
JKC	**Kuchinoerabu**	**0.93**	**341**	P	**Pn**	**16 13 33.2**	**-1.1**
JKC				*e*S	**Sn**	**16 13 45.5**	**-1.1**
JTN	**Tanegashima 3**	**1.13**	**19**	P	**Pn**	**16 13 36.0**	**-1.0**
JTN				*e*S	**Sn**	**16 13 52.0**	**+0.6**
JZK	**Kikaishima**	**1.36**	**202**	P	**Pn**	**16 13 40.1**	**-0.1**
JAM	**Amami Oshima**	**1.43**	**216**	P	**Pn**	**16 13 40.7**	**-0.4**
JAM				*e*S	**Sn**	**16 13 59.7**	**+1.0**
JTSR	**Tashiro 2**	**1.61**	**11**	P	**Pn**	**16 13 42.8**	**-0.8**
JTSR				*e*S	**Sn**	**16 14 02.5**	**-0.7**
JSU	**Suzuyama**	**1.92**	**357**	P	**Pn**	**16 13 47.0**	**-0.8**
JSU				*e*S	**Sn**	**16 14 11.1**	**+0.3**
JOW	**Kunigami**	**3.40**	**217**	Pn	**Pn**	**16 14 07.3**	**-0.8**
	27nm,0.3s,baz=88,slow=16,SNR=103						
JOW				Sn	**Sn**	**16 14 47.4**	**+0.2**
	146nm,0.3s,baz=146,slow=27,SNR=12						
JNU	**Nakatsue**	**3.54**	**4**	Pn	**Pn**	**16 14 10.4**	**+0.4**
	26nm,0.3s,baz=156,slow=7.3,SNR=189						
JNU				Sn	**Sn**	**16 14 53.1**	**+2.5**
	24nm,0.3s,baz=88,slow=40,

MDJ AMB AMB
comp=Z,151nm,5.4s
MDJ LR LR
comp=N,487nm,12.6s
MDJ LR LR
comp=E,79nm,10.5s
MDJ LR LR
comp=Z,674nm,14.7s
BJI Beijing 15.74 315 P Pn 16 16 56.8 +0.7
BJI S **S** **16 19 49.8 -13**
BJI AMB AMB
comp=Z,25nm,0.9s
BJI LR LR
comp=N,1μm,13.4s
BJI LR LR
comp=E,995nm,13.8s
BJI LR LR
comp=Z,759nm,21.1s
ASAJ Asahikawa 17.39 30 P Pn 16 17 14.4 -2.3
ASAJ pmax pmax
comp=Z,1.0nm,0.3s
ASAJ MLR MLR
comp=Z,644nm,20.8s
ASAJ Asahikawa 17.39 30 P Pn 16 17 14.3 -2.4
comp=Z,0.6nm,0.3s,baz=216,slow=12,SNR=14
ASAJ LR LR 16 24 10.9
comp=Z,644nm,20.8s,baz=227,slow=38
XAN Xi'an 18.91 289 P Pn 16 17 34.0 -1.4
XAN AP pP 16 17 45.4 +0.2
XAN S **S** **16 21 10.1 +3.3**
XAN AMB AMB
comp=Z,4.0nm,1.0s
XAN AMB AMB
comp=Z,97nm,6.1s
XAN LR LR
comp=N,310nm,12.1s
XAN LR LR
comp=E,313nm,11.7s
XAN LR LR
comp=Z,388nm,11.3s
HHC Hu-ho-hao-te 19.12 311 eP Pn 16 17 40.4 +2.6
HHC AP pP 16 17 52.5 +5.0
HHC PP 16 17 58.4
HHC XP sP 16 18 00.4 +7.0
HHC S **S** **16 21 11.8 +0.9**
HHC XS sS 16 21 26.9 -1.5
HHC SS 16 21 34.3
HHC PCP PcP 16 22 04.5 +5.2
HHC PCS PcS 16 25 38.1 +1.8
HHC AMB AMB
comp=Z,25nm,0.4s
HHC AMB AMB
comp=Z,264nm,7.4s
HHC LR LR
comp=N,330nm,13.9s
HHC LR LR
comp=E,694nm,20.4s
HHC LR LR
comp=Z,733nm,15.5s
HABR Khabarovsk 19.18 9 eP Pn 16 17 34.9 -3.5
HABR eS **S** **16 21 08.8 -3.2**
YSS Yuzh-Sakhalins 19.77 25 eP Pn 16 17 42.9 -2.6
comp=Z,23nm,0.9s
YSS Yuzh-Sakhalins 19.77 25 eP Pn 16 17 45.0 -0.5
YSS eS **S** **16 21 26.0 +2.1**
YSS pmax pmax
comp=Z,20nm,0.9s
YSS MLR MLR
comp=Z,500nm,16.0s
BTO Baotou 20.04 309 eP P 16 17 52.3 +5.7
GUMO Guam 20.71 137 LR LR 16 24 35.5
comp=Z,297nm,18.3s,MS3.7,baz=100,slow=33
GYA Guiyang 21.31 267 P P 16 18 01.3 +0.8
GYA AP 16 18 16.4
GYA XP sP 16 18 24.3 +6.9
GYA PP 16 18 28.6
GYA S **S** **16 21 49.8 -4.9**
GYA PCP PcP 16 22 05.3 +1.7
GYA XS sS 16 22 13.8 +1.3
GYA SCP ScP 16 25 35.4 -1.4
GYA PCS PcS 16 25 42.3 +0.4
GYA AMB AMB
comp=Z,10.0nm,0.8s,mb4.2
GYA AMB AMB
comp=Z,70nm,4.2s
GYA LR LR
comp=N,450nm,15.8s,MS4.1
GYA LR LR
comp=E,380nm,16.6s,MS4.1
GYA LR LR
comp=Z,460nm,15.3s,MS4.0
QIZ Qiongzhong 21.57 246 eP P 16 18 05.3 +2.0
QIZ eS **S** **16 21 59.0 -0.8**
QIZ LR LR
comp=N,393nm,26.3s
QIZ LR LR
comp=Z,411nm,19.9s
CD2 Chengdu 23.17 280 P P 16 18 20.6 +0.3
CD2 AP 16 18 34.0
CD2 XP sP 16 18 41.8 +4.6
CD2 PP 16 18 53.0
CD2 S **S** **16 22 22.8 -5.6**
CD2 XS sS 16 22 49.1 +0.6
CD2 SS 16 23 11.9
CD2 AMB AMB
comp=Z,30nm,0.7s,mb4.8
CD2 AMB AMB
comp=Z,330nm,3.9s
CD2 LR LR
comp=N,640nm,12.6s,MS4.4
CD2 LR LR
comp=E,540nm,13.4s,MS4.4
CD2 LR LR
comp=Z,570nm,13.2s,MS4.2
LZH Lanzhou 23.32 293 eP P 16 18 20.8 -0.9
LZH AP 16 18 33.1
LZH XP sP 16 18 39.8 +1.1
LZH PP 16 18 54.5
LZH PCP PcP 16 22 06.4 -1.1
LZH eS **S** **16 22 25.0 -5.8**
LZH SS 16 23 20.0
LZH AMB AMB
comp=Z,14nm,1.0s,mb4.3
LZH AMB AMB
comp=Z,125nm,6.0s
LZH LR LR
comp=E,897nm,13.1s
LZH LR LR
comp=Z,1μm,16.8s,MS4.5
KMI Kunming 25.07 266 P P 16 18 36.8 -1.0
KMI AP pP 16 18 51.9 +2.0
KMI XP sP 16 18 59.8 +4.4
KMI PP 16 19 18.3
KMI S **S** **16 22 54.0 -5.2**
KMI XS sS 16 23 21.8 +2.3
KMI SS 16 23 57.5
KMI AMB AMB
comp=Z,4.0nm,1.2s,mb3.8
KMI AMB AMB
comp=Z,94nm,3.3s
KMI LR LR
comp=N,439nm,13.9s,MS4.3
KMI LR LR
comp=E,505nm,13.4s,MS4.3
KMI LR LR
comp=Z,619nm,12.9s,MS4.3
ULN Ulaanbaatar 25.71 322 eP P 16 18 42.0 -1.3
comp=Z,7.1nm,0.6s,mb4.4
ULN Ulaanbaatar 25.71 322⇑ eP P 16 18 42.9 -0.5
SONM Songino Array 26.05 321 P P 16 18 45.4 -1.0
comp=Z,5.4nm,0.5s,mb4.3,baz=137,slow=8.7,SNR=52
SONM LR LR 16 30 18.6
comp=Z,753nm,20.1s,MS4.2,baz=128,slow=39
GTA Gaotai 27.06 299 eP P 16 18 57.9 +2.3
GTA AP pP 16 19 12.4 +4.7
GTA XP sP 16 19 19.4 +6.1
GTA S **S** **16 23 33.3 +3.0**
GTA XS sS 16 23 58.5 +7.8
GTA SCP ScP 16 25 53.3 +0.9
GTA PCS PcS 16 26 00.9 +3.6
GTA AMB AMB
comp=Z,11nm,0.8s,mb4.4
GTA AMB AMB
comp=Z,71nm,7.3s
GTA LR LR
comp=N,428nm,19.9s,MS4.2
GTA LR LR
comp=E,549nm,19.1s,MS4.2
GTA LR LR
comp=Z,647nm,19.1s,MS4.2
ZAK Zakamensk 29.20 323 eP P 16 19 14.1 -0.4
ZAK pmax pmax
comp=Z,2.0nm,1.1s,mb3.8
TLY Talaya 29.78 325 P P 16 19 20.6 +0.9
TLY Talaya 29.78 325 eP P 16 19 23.3 +3.6
TLY eSS SS 16 25 49.9 -31
TLY pmax pmax
comp=Z,3.0nm,0.7s,mb4.1
TLY MLR MLR
comp=Z,438nm,16.0s,MS4.2
BOD Bodaibo 30.49 343 eP P 16 19 24.1 -1.8
MOY Mondy 31.11 324 eP P 16 19 31.6 +0.1
PET Petropavlovsk 31.18 33 eP P 16 19 34.9 +2.9
PET eS **S** **16 24 33.7 -0.9**
PET pmax pmax
comp=Z,24nm,1.2s,mb4.9
PET MLR MLR
comp=Z,300nm,15.0s,MS4.1
YAK Yakutsk 32.46 359 eP P 16 19 40.6 -2.6
comp=Z,7.2nm,0.6s,mb4.7
YAK Yakutsk 32.46 359⇑ eP P 16 19 40.9 -2.3
YAK pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
LSA Lhasa 34.14 280 P P 16 20 00.4 +2.2
SHL Shillong 34.41 273 eP P 16 20 01.0 +0.4
SEY Seymchan 36.23 17⇑ eP P 16 20 15.4 -0.4
WMQ Urumqi 36.77 305 eP P 16 20 21.0 +0.4
WMQ AP pP 16 20 36.0 +3.0
WMQ XP sP 16 20 43.0 +4.5
WMQ eS **S** **16 26 00.0 -1.3**
WMQ XS sS 16 26 30.0 +8.0
WMQ AMB AMB
comp=Z,17nm,0.9s,mb4.9
WMQ AMB AMB
comp=Z,192nm,4.1s
WMQ LR LR
comp=N,386nm,17.2s
WMQ LR LR
comp=E,247nm,11.8s
WMQ LR LR
comp=Z,310nm,21.0s,MS4.1
JIRN Jiri 38.82 278 eP P 16 20 39.0 +0.9
comp=Z,6.5nm,0.3s,mb4.8
GUN Gumba 39.03 279 eP P 16 20 41.1 +1.2
comp=Z,89nm,0.8s,mb5.6
PKI Pulchoki 39.51 278 eP P 16 20 44.4 +0.5
comp=Z,32nm,0.8s,mb5.1
PKI Pulchoki 39.51 278 eP P 16 20 44.4 +0.5
PKI pmax pmax
comp=Z,33nm,0.8s,mb5.1
KKN Kakani 39.57 279 eP P 16 20 44.7 +0.3
comp=Z,24nm,0.5s,mb5.2
KKN Kakani 39.57 279 eP P 16 20 44.7 +0.3
KKN pmax pmax
comp=Z,24nm,0.5s,mb5.2
DMN Daman 39.76 279 eP P 16 20 46.0 0.0
comp=Z,13nm,0.4s,mb5.0
GKN Gorkha 40.07 279 eP P 16 20 48.7 +0.1
comp=Z,19nm,0.5s,mb5.1
PSI Prapat 40.12 234 P P 16 20 49.9 +0.8
PSI Prapat 40.12 234 P P 16 20 49.9 +0.8
comp=Z,2.6nm,0.4s,mb4.3,baz=48,slow=4.3,SNR=3.0
ZAA0 Zalesovo Array 40.93 320 eP P 16 20 54.3 -1.0
ZALV Zalesovo Beam 40.93 320 P P 16 20 54.7 -0.6
ZALV PcP PcP 16 22 54.5 -0.4
ZALV ScP ScP 16 26 42.8 +1.9
ZALV Zalesovo Beam 40.93 320 P P 16 20 54.7 -0.6
comp=Z,3.5nm,0.5s,mb4.3,baz=105,slow=8.0,SNR=20
ZALV PcP PcP 16 22 54.5 -0.4
comp=Z,1.1nm,0.5s,baz=116,slow=4.8,SNR=4.2
ZALV ScP ScP 16 26 42.8 +1.9
comp=Z,0.3nm,0.4s,baz=90,slow=3.0,SNR=3.5
ZAL Zalesovo 40.94 320 P P 16 20 54.7 -0.7
ZAL 16 22 54.5
MK31 Makanchi Array 40.95 309 eP P 16 20 55.3 -0.3
MKAR Makanchi Array 40.95 309 P P 16 20 55.8 +0.2
MKAR PcP PcP 16 22 55.6 +0.4
MKAR ScP ScP 16 26 43.2 +2.1
MKAR LR LR 16 39 46.6
MKAR Makanchi Array 40.95 309 P P 16 20 55.8 +0.2
MKAR 16 22 55.6
MKAR Makanchi Array 40.95 309 P P 16 20 55.8 +0.2
comp=Z,4.9nm,0.6s,mb4.3,baz=93,slow=10,SNR=63
MKAR PcP PcP 16 22 55.6 +0.4
comp=Z,1.2nm,0.8s,baz=100,slow=5.3,SNR=4.3
MKAR ScP ScP 16 26 43.2 +2.1
comp=Z,0.2nm,0.4s,baz=99,slow=6.3,SNR=5.8
MKAR LR LR 16 39 46.7
comp=Z,160nm,18.9s,MS3.9,baz=107,slow=39
NVS Novosibirsk 42.08 321 eP P 16 21 03.4 -1.3
KAKA Kakadu 42.08 177 eP P 16 21 05.5 +0.4
comp=Z,14nm,1.2s,mb4.5
TIXI Tiksi 42.13 359 eP P 16 21 03.0 -1.9
comp=Z,5.0nm,0.8s,mb4.2
TIXI Tiksi 42.13 359⇑ eP P 16 21 02.9 -2.0
TIXI pmax pmax
comp=Z,4.0nm,0.6s,mb4.2
BILL Bilibino 43.85 18 eP P 16 21 18.7 -0.2
comp=Z,5.9nm,0.8s,mb4.4
BILL Bilibino 43.85 18⇑ eP P 16 21 19.2 +0.3
BILL eS **S** **16 27 49.7 +3.3**
BILL pmax pmax
comp=Z,6.0nm,0.8s,mb4.4
BILL MLR MLR
comp=Z,200nm,16.0s,MS4.1
KURK Kurchatov 43.90 314 eP P 16 21 18.9 -0.6
comp=Z,11nm,0.5s,mb4.8
KURK Kurchatov 43.90 314⇑ eP P 16 21 18.8 -0.7
TKM2 Tokmak 2 45.52 303 eP P 16 21 33.5 +0.9
comp=Z,5.5nm,1.0s,mb4.4
TKM2 Tokmak 2 45.52 303 eP P 16 21 33.5 +1.0
TKM2 pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
UCH Uchtor 46.35 302 eP P 16 21 40.6 +1.5
comp=Z,3.8nm,0.8s,mb4.4
FITZ Fitzroy Crossi 47.64 186 eP P 16 21 49.6 +0.3
comp=Z,9.3nm,0.7s,mb4.9
FITZ Fitzroy Crossi 47.64 186 P P 16 21 49.0 -0.2
comp=Z,5.7nm,0.8s,mb4.7,baz=6.8,slow=10.0,SNR=11
BVAR Borovoye Array 49.22 316 P P 16 22 01.1 0.0
comp=Z,12nm,0.5s,mb5.2,baz=96,slow=9.4,SNR=136
BRVK Borovoye 49.28 316 eP P 16 22 01.1 -0.5
comp=Z,22nm,0.6s,mb5.4
BRVK Borovoye 49.28 316 eP P 16 22 01.1 -0.5
BRVK pmax pmax
comp=Z,22nm,0.6s,mb5.4
WRAB Tennant Creek 49.36 175⇑ eP P 16 22 01.1 -1.4
WRA Warramunga Arr 49.37 175 P P 16 22 02.2 -0.3
comp=Z,3.9nm,0.9s,mb4.4,baz=354,slow=8.1,SNR=21
WB2 Warramunga Arr 49.37 175 eP P 16 22 02.3 -0.2
CTA Charters Tower 51.65 161 eP P 16 22 20.0 +0.3
comp=Z,5.3nm,1.0s,mb4.4
CTA Charters Tower 51.65 161 eP P 16 22 20.0 +0.3
CTA pmax pmax
comp=Z,5.0nm,1.0s
CTAO Charters Tower 51.65 161 eP P 16 22 20.2 +0.5
comp=Z,12nm,1.1s,mb4.7
CTAO Charters Tower 51.65 161 eP P 16 22 20.2 +0.5
CTAO pmax pmax
comp=Z,12nm,1.1s,mb4.7
TNA Tin City 51.73 28 eP P 16 22 21.0 +1.1
comp=Z,8.0nm,1.0s,mb4.6
ASAR Alice Springs 53.04 176 P P 16 22 30.2 +0.3
comp=Z,1.4nm,0.6s,mb4.1,baz=9,1,slow=13,SNR=43
SVE Sverdlovsk 54.92 321⇑ eP P 16 22 43.3 -0.1
SVE pmax pmax
comp=Z,17nm,0.7s,mb5.2
SVE MLR MLR
comp=Z,1μm,20.0s,MS5.0
ARU Arti 56.09 320 eP P 16 22 50.9 -0.9
comp=Z,24nm,0.8s,mb5.3
ARU Arti 56.09 320 eP P 16 22 51.0 -0.8
ARU e 16 23 50.2
ARU e 16 24 52.9
ARU eS **S** **16 30 37.8 +0.7**
ARU eSS SS 16 34 19.7 -3.6
ARU MLR MLR
comp=Z,689nm,18.0s,MS4.8
AKTK Aktyubinsk 56.99 313 P P 16 22 58.2 -0.1
AKTK LR LR 16 49 25.1
AKTO Aktyubinsk 56.99 313 P P 16 22 58.2 -0.1
comp=Z,4.8nm,1.0s,mb4.5,baz=68,slow=9.8,SNR=13
AKTO LR LR 16 49 25.1
comp=Z,707nm,19.5s,MS4.8,baz=87,slow=38
MCK McKinley 59.75 31 eP P 16 23 19.0 +1.6
comp=Z,11nm,1.0s,mb4.8
MCK McKinley 59.75 31 eP P 16 23 19.0 +1.6
MCK pmax pmax
comp=Z,11nm,1.0s,mb4.8
STKA Stephens Creek 62.01 169 eP P 16 23 33.3 +0.3
comp=Z,2.1nm,0.6s,mb4.4
STKA Stephens Creek 62.01 169 P P 16 23 33.0 0.0
comp=Z,3.2nm,0.7s,mb4.5,baz=9.0,slow=6.0,SNR=10
STKA LR LR 16 48 34.9
comp=Z,110nm,18.1s,MS4.1,baz=25,slow=34
DAWY Dawson 63.85 29 eP P 16 23 45.7 +0.8
TMCR Tamitsa 64.87 331 eP P 16 23 53.5 +1.9
INK Inuvik 65.01 24 eP P 16 23 52.6 +0.2
comp=Z,98nm,0.9s,mb5.8
ARCES ARCESS Array B 67.65 338 P P 16 24 08.1 -1.3
ARCES ARCESS Array B 67.65 338 P P 16 24 08.1 -1.2
comp=Z,4.5nm,0.9s,mb4.5,baz=32,slow=7.1,SNR=5.8
JOF Joensuu 68.12 331 ep P 16 24 10.6 -1.8
comp=Z,1.1nm,0.4s,mb4.2
OBN Obninsk 68.46 322⇑ eP P 16 24 12.5 -2.1
OBN eS S 16 33 13.9 +1.1
OBN pmax pmax
comp=Z,14nm,1.4s,mb4.8
OBN MLR MLR
comp=Z,300nm,18.0s,MS4.6
KIV Kislovodsk 68.71 309 eP P 16 24 16.5 +0.1
KIV pmax pmax
comp=Z,15nm,1.0s,mb4.9
KIV MLR MLR
comp=Z,106nm,17.0s,MS4.1
KAF Kangasniemi 70.57 331 ep P 16 24 23.8 -3.7
SOC Sochi 70.84 310 i P P 16 24 26.6 -2.9
SOC i *PP pP 16 24 36.0 -6.9
SOC e 16 27 12.6
SOC eS S 16 33 38.3 -3.0
SOC pmax pmax
comp=Z,11nm,0.8s,mb4.8
SOC MLR MLR
comp=Z,247nm,17.0s,MS4.5
FINES FINESS Array B 70.97 331 i P P 16 24 28.8 -1.1
FINES pmax pmax
comp=Z,2.0nm,0.5s
FINES FINESS Array B 70.97 331 P P 16 24 28.9 -1.0
comp=Z,1.8nm,0.5s,mb4.2,baz=55,slow=7.0,SNR=16
ANN Anapa 71.87 312 eP P 16 24 26.4 -9.3
ANN pmax pmax
comp=Z,48nm,1.3s,mb5.3
ANN MLR MLR
comp=Z,222nm,18.0s,MS4.5
RES Resolute Bay 71.88 11 eP P 16 24 35.4 +0.2
comp=Z,305nm,0.8s
AKASG Malin Array Be 74.33 320 P P 16 24 49.0 -1.1
comp=Z,0.6nm,0.3s,mb4.0,baz=54,slow=6.1,SNR=9.9
AKASG LR LR 17 00 11.7
comp=Z,253nm,18.2s,MS4.5,baz=70,slow=38
AKBB Malin Array Si 74.33 320 eP P 16 24 50.9 +0.8
KIEV Kiev 74.34 320 eP P 16 24 49.1 -1.1
comp=Z,4.6nm,0.8s,mb4.5
KIEV Kiev 74.34 320 eP P 16 24 49.1 -1.0
KIEV pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
YKA Yellowknife Ar 74.63 26 P P 16 24 52.0 +0.4
YKA LR LR 16 58 07.1
YKA Yellowknife Ar 74.63 26 P P 16 24 52.0 +0.4
comp=Z,1.6nm,0.8s,mb4.0,baz=303,slow=5.7,SNR=31
YKA LR LR 16 58 07.1
comp=Z,61nm,19.0s,MS3.9,baz=275,slow=36
HFS Hagfors 76.81 333 P P 16 25 02.4 -1.7
comp=Z,1.4nm,0.6s,mb4.1,baz=103,slow=6.4,SNR=7.2
NB2 NORSAR Subarra 77.22 334 P P 16 25 04.7 -1.7
comp=Z,2.6nm,0.8s,mb4.2,baz=48,slow=5.6
NOA NORSAR Array B 77.22 334 P P 16 25 04.8 -1.6
comp=Z,2.3nm,0.7s,mb4.2,baz=49,slow=5.3,SNR=6.7
MLR Muntele Rosu 78.78 316 P P 16 25 15.0 -0.4
comp=Z,1.2nm,0.4s,mb4.2,baz=164,slow=9.5,SNR=4.2
CLL Collm 82.56 326 i P P 16 25 42.6 +7.1
comp=Z,5.0nm,0.7s,mb4.7
CLL Collm 82.56 326 i P P 16 25 42.6 +7.1
CLL pmax pmax
comp=Z,5.0nm,0.7s,mb4.7
GERES GERESS Array B 83.76 324 LR LR 17 06 35.1
comp=Z,239nm,18.9s,MS4.6,baz=92,slow=38
HLID Hailey 86.02 41 eP P 16 25 54.4 +1.2
comp=Z,4.2nm,0.9s,mb4.7
EKA Eskdalemuir Ar 86.61 336 P P 16 25 54.9 -0.9
comp=Z,0.6nm,0.6s,mb4.0,baz=51,slow=4.0,SNR=3.8
NVAR Mina Array Bea 86.72 47 P P 16 25 58.3 +1.6
comp=Z,1.6nm,0.8s,mb4.3,baz=305,slow=3.7,SNR=10
PDAR Pinedale Array 89.28 40 P P 16 26 10.1 +1.2
comp=Z,1.8nm,0.9s,mb4.4,baz=326,slow=1.4,SNR=13
PPT Papeete 90.07 110 LR LR 17 03 46.8
comp=Z,151nm,18.3s,MS4.5,baz=208,slow=34
ULM Lac du Bonnet 90.51 28 P P 16 26 15.3 +0.9
ULM Lac du Bonnet 90.51 28 P P 16 26 15.3 +0.9
comp=Z,5.4nm,0.9s,mb4.9,baz=316,slow=4.8,SNR=6.8
KEST Kesra 94.69 316 LR LR 17 14 28.9
comp=Z,47nm,19.0s,MS4.0,baz=342,slow=39
ESDC Sonseca Array 99.15 326 LR LR 17 19 57.7
comp=Z,136nm,19.8s,MS4.5,baz=95,slow=40

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*ISCJB **17** 16:23:19.0±0.6,5147N±003×1609E±003,h0km,Error ellipse: s-maj=4.5km s-min=2.7km az=15.2*
*IPEC **17** 16:23:20.4±0.3,5151N×1621E,h0km,ML2.4/4,Error ellipse: s-maj=1.9km s-min=1.5km az=40.0*
*WAR **17** 16:23:21.6,5150N×1609E,ML2.6,Mining Induced*
*CSEM **17** 16:23:22.0±0.2,5143N×1608E,h0km,ML3.3/6,Error ellipse: s-maj=3.6km s-min=1.9km az=10.0*
*PRU **17** 16:23:22.3,5142N×1605E,h0km,Felt In Harrachov*
ISC 17 16:23:20.5±0.6,5149N±003×1608E±003,h0km,n23,
σ0=93/49,Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.66**	**168**	*e*Pg	**Pg**	**16 23 33.8**	**+0.7**
KSP				*e*Sg	**Sg**	**16 23 42.7**	**+1.1**
KSP	**Ksiaz**	**0.66**	**168**	*e*Pg	**Pg**	**16 23 33.5**	**+0.4**
KSP				*e*Sg	**Sg**	**16 23 41.6**	**-0.1**
UPC	**Upice**	**0.98**	**183**	*e*PG	**Pg**	**16 23 39.8**	**+0.5**
DPC	**Dobruska-Polom**	**1.15**	**172**	*e*PG	**Pg**	**16 23 42.7**	**+0.2**
DPC				*e*SG	**Sg**	**16 23 57.5**	**+0.1**
	66nm,0.5s						
DPC	**Dobruska-Polom**	**1.15**	**172**	*e*Pg	**Pg**	**16 23 42.6**	**+0.1**
DPC				*e*Sg	**Sg**	**16 23 57.0**	**-0.4**
PVCC	**Panska Ves**	**1.36**	**225**	*e*PG	**Pg**	**16 23 47.1**	**+0.7**
PVCC				*e*SG	**Sg**	**16 24 04.3**	**+0.3**
	222nm,0.2s						
PVCC	**Panska Ves**	**1.36**	**225**	*e*Pg	**Pg**	**16 23 46.8**	**+0.4**
PVCC				*e*Sg	**Sg**	**16 24 05.2**	**+1.2**
BRG	**Berggiesshubel**	**1.48**	**246**	PN	**Pn**	**16 23 48.4**	**0.0**
BRG				PG	**Pg**	**16 23 49.4**	**+0.5**
BRG				SG	**Sg**	**16 24 09.5**	**+1.5**
	95nm,0.4s						
PRU	**Pruhonice**	**1.79**	**214**	*e*PG	**Pg**	**16 23 54.1**	**-0.7**
PRU				*e*SG	**Sg**	**16 24 17.8**	**-0.2**
	43nm,0.5s						
CLL	**Collm**	**1.94**	**266**	*e*Pn	**Pn**	**16 23 54.0**	**-0.6**
CLL				*i* Pg	**Pg**	**16 23 57.2**	**-0.4**
CLL				*ex*	x	16 24 01.0	
CLL				*e*Sg	**Sg**	**16 24 23.0**	**+0.3**
	comp=Z,16nm,0.7s						
MORC	**Moravsky Berou**	**1.95**	**151**	*e*Pn	**Pn**	**16 23 54.4**	**-0.4**
OKC	**Ostrava-Krasne**	**2.11**	**141**	*e*PG	**Pg**	**16 24 00.4**	**-0.6**
VRAC	**Vranov**	**2.21**	**171**	*e*Pn	**Pn**	**16 23 58.7**	**+0.4**
VRAC				*e*Sg	**Sg**	**16 24 30.0**	**-1.4**
	comp=Z,16nm,0.3s						
KRUC	**Moravsky**	**2.44**	**175**	*e*Pn	**Pn**	**16 24 01.8**	**+0.3**
KRUC				*e*Sg	**Sg**	**16 24 37.3**	**-1.5**
	comp=Z,11nm,0.3s						
NKC	**Novy Kostel**	**2.62**	**243**	*e*PN	**Pn**	**16 24 04.5**	**+0.5**
NKC				*e*PG	**Pg**	**16 24 09.5**	**-1.2**
NKC				*e*SG	**Sg**	**16 24 44.3**	**-0.4**
	comp=Z,46nm,0.3s						
OJC	**Ojcow**	**2.68**	**117**	*e*Pg	**Pg**	**16 24 11.1**	**-0.7**
OJC				*e*Sg	**Sg**	**16 24 46.9**	**+0.5**
JAVC	**Velka Javorina**	**2.83**	**158**	*e*Pn	**Pn**	**16 24 07.6**	**+0.8**
JAVC				*e*Sg	**Sg**	**16 24 51.9**	**+0.7**
	comp=Z,20nm,1.1s						
KHC	**Kasperske Hory**	**2.85**	**215**	*e*PN	**Pn**	**16 24 08.1**	**+0.9**

KHC			*e*PG	**Pg**	**16 24 13.9**	**-1.3**
KHC			*e*SN	**Sn**	**16 24 40.9**	**-1.3**
KHC			*e*SG	**Sg**	**16 24 51.0**	**-1.1**
	comp=Z,11nm,0.3s					
MOX	**Moxa**	**2.94 255**	*e*PN	**Pn**	**16 24 08.3**	**-0.1**
MOX			*e*PG	**Pg**	**16 24 17.0**	**+0.2**
MOX			*e*SG	**Sg**	**16 24 56.3**	**+1.4**
MODS	**Modra-Piesok**	**3.21 166**	*e*Sg	**Sg**	**16 25 05.1**	**+1.4**
NIE	**Niedzica**	**3.41 126**	*e*P	**Pg**	**16 24 25.2**	**-0.6**
NIE			*e*S	**Sg**	**16 25 08.8**	**-1.1**
BSD	**Bornholm Skovb**	**3.70 350**	*i* P	**Pn**	**16 24 17.4**	**-1.4**
BSD			*i* S	**Sn**	**16 24 58.2**	**-4.8**
STHS	**Stebnicka Huta**	**3.90 120**	*e*PN	**Pn**	**16 24 24.3**	**+2.8**
STHS			*e*PG	**Pg**	**16 24 35.0**	**-0.1**
STHS			*e*SG	**Sg**	**16 25 28.5**	**+2.9**

*IDC **17** 16:35:05.0±1.4, 3421N×13827E, h0km, mb3.3/2, mb1 3.5/3, mb1mx3.2/21, mbtmp3.2/3, ML3.2/1, Error ellipse: s-maj=37.6km s-min=20.1km az=75.0*
*ISCJB **17** 16:35:06.3±0.7, 3484N±005×14034E±005, h67km±5km, mb3.5/2, Error ellipse: s-maj=8.8km s-min=5.8km az=35.1*
*JMA **17** 16:35:06.1±0.1, 3485N×14035E, h67km±2km, M3.0*

ISC 17 16:35:07.3±0.6, 3483N±005×14033E±005, h60km±5km, n15, σ0§78/27, mb3.5/2, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO3	**Boso 3**	**0.15**	**100**	P	**Pn**	**16 35 16.0**	**-0.5**
BSO3				*e*S	**Sn**	**16 35 23.5**	**+0.3**
BSO4	**Boso 4**	**0.16**	**4**	P	**Pn**	**16 35 16.3**	**-0.3**
BSO4				S	**Sn**	**16 35 24.2**	**+0.9**
KTR	**Katsuura**	**0.32**	**359**	P	**Pn**	**16 35 17.1**	**-0.5**
KTR				*e*S	**Sn**	**16 35 23.9**	**-1.1**
TATJ	**Tateyama 2**	**0.41**	**300**	P	**Pn**	**16 35 18.6**	**+0.2**
TATJ				S	**Sn**	**16 35 28.1**	**+1.7**
BSO1	**Boso 1**	**0.56**	**108**	P	**Pn**	**16 35 19.0**	**-1.0**
BSO1				*e*S	**Sn**	**16 35 29.7**	**+0.5**
JIM2	**Oshima 3**	**0.74**	**262**	P	**Pn**	**16 35 21.5**	**-0.6**
JIM2				S	**Sn**	**16 35 32.5**	**-0.4**
KTJJ	**Kamata 2**	**1.04**	**276**	P	**Pn**	**16 35 25.1**	**-0.8**
KTJJ				*e*S	**Sn**	**16 35 38.7**	**-0.9**
JOD2	**Odawara 2**	**1.10**	**293**	P	**Pn**	**16 35 25.9**	**-0.8**
JOD2				S	**Sn**	**16 35 40.5**	**-0.6**
JKO	**Kozu shima**	**1.17**	**237**	P	**Pn**	**16 35 27.8**	**+0.2**
JIZS	**Izushimoda**	**1.20**	**265**	P	**Pn**	**16 35 27.5**	**-0.4**
JIZS				S	**Sn**	**16 35 43.0**	**-0.3**
JHJ	**Hachijo jima 2**	**1.76**	**195**	Pn	**Pn**	**16 35 35.9**	**+0.3**
	72nm,0.3s,baz=67,slow=22,SNR=7.3						
JHJ				Sn	**Sn**	**16 35 58.3**	**+1.4**
	134nm,0.3s,baz=344,slow=15,SNR=5.1						
MJAR	**Matsushiro Arr**	**2.43**	**315**	Pn	**Pn**	**16 35 44.3**	**-0.2**
	6.4nm,0.3s,baz=277,slow=20,SNR=79						
MJAR				Sn	**Sn**	**16 36 14.2**	**+1.1**
	5.6nm,0.3s,baz=270,slow=29,SNR=8.3						
MAT	**Matsushiro**	**2.43**	**315**	P	**Pn**	**16 35 44.8**	**+0.2**
MAT				S	**Sn**	**16 36 14.9**	**+1.8**
WRA	**Warramunga Arr**	**54.76**	**187**	P	**P**	**16 44 30.5**	**-0.3**
	0.2nm,0.3s,mb3.6,baz=1.6,slow=7.8,SNR=14						
ASAR	**Alice Springs**	**58.49**	**187**	P	**P**	**16 44 57.6**	**+0.4**
	0.1nm,0.3s,mb3.3,baz=20,slow=9.4,SNR=5.3						

*MAN **17** 16:57:19, 8.11N×12740E, h83km, mb5.0, ML4.0, MS4.1*

IDC 17 16:57:18.3±2.0, 844N×12729E, h0km, mb3.7/5, mb1 3.8/5, mb1mx3.7/16, mbtmp3.7/5, Error ellipse: s-maj=199.9km s-min=24.3km az=71.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**32.56**	**169**	P	P	17 03 51.5	+0.2
	0.3nm,0.4s,baz=346,slow=7.3,SNR=12						
SONM	**Songino Array**	**43.08**	**339**	P	P	17 05 20.5	+0.5
	0.3nm,0.5s,baz=145,slow=5.3,SNR=3.9						
MKAR	**Makanchi Array**	**54.09**	**323**	P	P	17 06 45.2	+0.3
	0.7nm,0.4s,baz=110,slow=7.0,SNR=17						
ZALV	**Zalesovo Beam**	**56.71**	**331**	P	P	17 07 03.3	-0.3
	0.5nm,0.4s,baz=116,slow=6.8,SNR=4.2						
FINES	**FINESS Array B**	**87.97**	**332**	P	P	17 10 09.4	-0.6
	0.6nm,0.4s,baz=70,slow=5.5,SNR=8.7						

IDC 17 16:57:39.4±2.9, 348S×15166E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.3/13, mbtmp3.4/3, Error ellipse: s-maj=101.4km s-min=31.2km az=110.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.52**	**225**	P	P	17 02 52.7	+1.2
	0.5nm,0.4s,baz=54,slow=10,SNR=16						
ASAR	**Alice Springs**	**26.40**	**219**	P	P	17 03 17.9	+0.1
	0.2nm,0.4s,baz=56,slow=9.0,SNR=9.5						
MKAR	**Makanchi Array**	**78.59**	**319**	P	P	17 09 41.5	-1.4
	0.4nm,0.5s,baz=109,slow=5.2,SNR=4.7						
TORD	**Torodi Ar. Bea**	**148.81**	**290**	PKPbc	PKPbc	17 17 30.2	+0.2
	0.2nm,0.3s,baz=46,slow=1.8,SNR=5.1						

MAN 17 17:14:18, 1772N×12288E, h24km, mb4.3, ML3.1, MS2.9, Luzon

KRSC 17 17:33:04.6±1.3, 4900N×15677E, h5km±5km, ML3.7, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALID	**Alaid**	**2.03**	**338**	*e*P	Pn	17 33 39.7	+0.3
ALID				*e*S	Sn	17 34 05.5	+0.4
MIPR	**Malaya Ipel'ka**	**3.28**	**360**	*e*P	Pn	17 33 58.6	+2.0
MIPR				*e*S	Sn	17 34 37.4	+1.5
RUS	**Russkaya**	**3.61**	**17**	*e*P	Pn	17 34 03.0	+1.9
RUS				*e*S	Sn	17 34 44.9	+0.8
PET	**Petropavlovsk**	**4.20**	**16**	S	Sn	17 34 59.8	+1.2
AVH	**Avacha**	**4.45**	**15**	*e*P	Pn	17 34 16.4	+3.8
SPN	**Mys Shipunski**	**4.59**	**25**	P	Pn	17 34 17.4	+2.9
SPN				S	Sn	17 35 10.2	+2.0
GNL	**Ganaly**	**4.76**	**8**	*e*P	Pn	17 34 21.3	+4.4
MKZ	**Mys Kozlova**	**6.36**	**27**	P	Pn	17 34 40.6	+1.8
KBTR	**Krutoberegovo**	**8.10**	**25**	P	Pn	17 35 05.6	+2.9

*ISCJB **17** 17:39:55.1±1.1, 126S±02×1672E±02, h250km, mb3.9/9, Error ellipse: s-maj=31.2km s-min=20.4km az=145.4*
*IDC **17** 17:39:55.3±4.6, 1241S×16713E, h231km±33km, mb3.4/6, mb1 3.6/6, mb1mx3.3/15, mbtmp3.4/6, Error ellipse: s-maj=78.3km s-min=28.2km az=134.0*
*NEIC **17** 17:39:56.5±1.0, 1256S×16722E, h250km, mb4.2/2, Error ellipse: s-maj=27.9km s-min=18.4km az=144.0*

ISC 17 17:39:56.5±1.1, 126S±02×1672E±02, h250km, n16, σ0§81/16, mb3.9/9, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**21.46**	**247**	P	**P**	**17 44 26.2**	**+0.4**
CTA	**Charters Tower**	**21.46**	**247**	P	**P**	**17 44 26.2**	**+0.4**
	5.4nm,1.0s,mb4.0,baz=82,slow=14,SNR=4.3						
STKA	**Stephens Creek**	**30.40**	**227**	*e*P	**P**	**17 45 47.3**	**+1.6**
STKA	**Stephens Creek**	**30.40**	**227**	P	**P**	**17 45 47.5**	**+1.8**
	1.4nm,0.7s,mb3.7,baz=71,slow=7.0,SNR=3.7						
WRAB	**Tennant Creek**	**32.37**	**253**	*e*P	**P**	**17 46 02.1**	**-0.9**
WB2	**Warramunga Arr**	**32.37**	**253**	*e*P	**P**	**17 46 02.7**	**-0.3**
WB2	**Warramunga Arr**	**32.37**	**253**	*e*P	**P**	**17 46 02.3**	**-0.7**
WRA	**Warramunga Arr**	**32.38**	**253**	P	**P**	**17 46 02.6**	**-0.6**
	0.8nm,0.5s,mb3.5,baz=84,slow=9.0,SNR=13						
ASAR	**Alice Springs**	**33.46**	**246**	P	**P**	**17 46 12.1**	**-0.4**
	1.3nm,0.6s,mb3.6,baz=72,slow=9.3,SNR=32						
ASAR				ScP	ScP	17 52 10.3	+2.3
	0.9nm,1.0s,baz=84,slow=4.2,SNR=5.3						
KAKA	**Kakadu**	**33.94**	**266**	*e*P	**P**	**17 46 16.9**	**+0.2**
	4.1nm,0.8s,mb4.0						
KAKA	**Kakadu**	**33.94**	**266**	*e*P	**P**	**17 46 16.7**	**0.0**
FORT	**Forrest**	**40.40**	**237**	*e*P	**P**	**17 47 11.5**	**+0.8**
	9.5nm,0.4s,mb4.6						
FITZ	**Fitzroy Crossi**	**40.43**	**257**	*e*P	**P**	**17 47 10.4**	**-0.6**
	4.5nm,1.2s,mb3.8						
SBA	**Scott Base**	**65.28**	**180**	*e*P	**P**	**17 50 10.5**	**-0.7**
MKAR	**Makanchi Array**	**95.63**	**317**	P	**P**	**17 52 54.9**	**+1.3**
	0.4nm,0.6s,mb3.8,baz=91,slow=6.2,SNR=6.0						
YKA	**Yellowknife Ar**	**95.65**	**27**	P	**P**	**17 52 52.9**	**-0.4**
	0.2nm,0.6s,mb3.6,baz=256,slow=4.7,SNR=4.6						

MEX 17 17:45:24.9±0.7, 1726N×10046W, h25km±18km, MD3.5, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.28**	**138**	*i* P	Pb	17 45 30.1	-1.5
CAIG				*i* S	Sb	17 45 34.9	-1.2
ACX	**Acapulco**	**0.65**	**126**	*i* P	Pb	17 45 36.0	-1.6
ACX				*i* S	Sb	17 45 43.5	-2.8
MEIG	**Mezcala**	**1.04**	**50**	*i* P	Pn	17 45 40.9	-3.1
MEIG				*i* S	Sb	17 45 54.3	-3.3

MAN 17 17:48:47, 1837N×12066E, h24km, mb4.0, ML2.8, MS2.5, Luzon

IDC 17 18:03:48.5±2.1, 1360S×16721E, h0km, mb4.0/3, mb1 4.1/3, mb1mx3.7/15, mbtmp4.0/3, Error ellipse: s-maj=105.7km s-min=34.8km az=139.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**29.69**	**228**	P	P	18 09 56.0	-0.2
	3.1nm,0.4s,baz=56,slow=8.0,SNR=21						
WRA	**Warramunga Arr**	**32.06**	**254**	P	P	18 10 18.0	+0.7
	0.2nm,0.4s,baz=85,slow=8.6,SNR=6.4						
ASAR	**Alice Springs**	**33.03**	**247**	P	P	18 10 25.4	-0.3
	0.8nm,0.3s,baz=73,slow=9.6,SNR=42						
VNA2	**Neumayer--Watz**	**95.60**	**182**	*e*	P	18 17 10.9	-4.5
	baz=213,slow=2.4						
VNA2				*e*		18 17 13.8	
VNA2				*e*		18 17 17.3	
ARCES	**ARCESS Array B**	**119.15**	**346**	PKP	PKPdf	18 22 38.4	-0.4
	1.3nm,0.5s,baz=64,slow=1.9,SNR=24						
FINES	**FINESS Array B**	**124.66**	**338**	PKP	PKPdf	18 22 49.9	+0.2
	1.0nm,0.9s,baz=50,slow=3.0,SNR=4.1						

IDC 17 18:30:06.2±5.6, 1905S×16772E, h0km, mb3.5/2, mb1 3.8/2, mb1mx3.5/13, mbtmp3.5/2, Error ellipse: s-maj=236.8km s-min=82.8km az=156.0, Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**31.45**	**263**	P	P	18 36 30.4	+0.8
	0.4nm,1.0s,baz=91,slow=8.4,SNR=4.7						
ASAR	**Alice Springs**	**31.78**	**256**	P	P	18 36 31.9	-0.6
	0.9nm,0.6s,baz=83,slow=9.0,SNR=20						
VNA2	**Neumayer--Watz**	**90.20**	**182**	*e*	P	18 42 55.3	-13
	baz=170,slow=3.2						
VNA2				*e*		18 42 58.1	
VNA1	**Neumayer--Stat**	**90.49**	**181**	*e*	P	18 42 56.0	-14
VNA1				*e*		18 42 59.3	
GERES	**GERESS Array B**	**143.64**	**331**	PKP	PKPdf	18 49 42.8	-0.2
	1.1nm,0.8s,baz=40,slow=3.2,SNR=7.2						

*ISCJB **17** 18:42:18.1±0.6, 145N±0.1×900W±0.1, h241km±11km, mb4.1/3, Error ellipse: s-maj=22.2km s-min=7.0km az=41.9*
*NEIC **17** 18:42:20.2±1.4, 1457N×8998W, h244km±14km, mb4.5/2, Error ellipse: s-maj=20.8km s-min=16.9km az=69.0*
*IDC **17** 18:42:20.5±7.3, 1465N×9001W, h239km±26km, mb3.4/3, mb1 3.4/6, mb1mx3.1/21, mbtmp3.2/6, Error ellipse: s-maj=100.7km s-min=25.4km az=174.0*
*CASC **17** 18:42:23.7±2.1, 1191N×9082W, h10km±78km, mb4.5(NEIC)*

ISC 17 18:42:19.0±0.6, 145N±01×900W±01, h231km±11km, n20, σ1§09/17, mb4.1/3, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNJE	**San Jose**	**0.71**	**147**	*e*P	x	18 43 00.9	
SBLS	**San Blas**	**0.72**	**150**	*e*P	x	18 43 01.0	
BOQS	**Boqueron**	**1.01**	**136**	*e*P	x	18 43 02.6	
LFRS	**El Faro**	**1.24**	**133**	*e*P	x	18 43 03.4	
LCBS	**La Ceiba**	**1.28**	**129**	*e*P	x	18 43 04.5	
CMIG	**Matias Romero**	**5.38**	**300**	P	**Pn**	**18 43 39.6**	**+0.8**
	2.3nm,0.3s,baz=115,slow=10,SNR=36						
CMIG				S	**S**	**18 44 41.5**	**-1.0**
	0.3nm,0.3s,baz=277,slow=21,SNR=3.7						
TEIG	**Tepich**	**5.96**	**16**	P	**Pn**	**18 43 46.7**	**+0.5**
	0.9nm,0.3s,baz=331,slow=7.6,SNR=5.9						
JCR	**Jicaral**	**6.62**	**133**	*e*P	**Pn**	**18 43 54.5**	**-0.2**
CGA2	**Cerro Gallo 2**	**6.99**	**129**	*e*P	**Pn**	**18 44 00.3**	**+0.9**
PRS1	**Puriscal**	**7.12**	**128**	*e*P	**Pn**	**18 44 01.1**	**0.0**
PRS1				*e*S	**S**	**18 45 18.9**	**-3.9**
LAJ	**Bijagual**	**7.35**	**128**	*e*P	**Pn**	**18 44 01.7**	**-2.2**
LCR2	**La Lucha 2**	**7.51**	**128**	*e*P	**Pn**	**18 44 06.1**	**0.0**
URSC	**Urasca**	**7.63**	**126**	*e*P	**Pn**	**18 44 08.1**	**+0.6**
TXAR	**Lajitas Array**	**19.46**	**322**	P	**P**	**18 46 29.2**	**+0.7**
	0.3nm,0.3s,baz=148,slow=9.3,SNR=4.5						
MIAR	**Mount Ida**	**20.25**	**351**	P	**P**	**18 46 39.2**	**+2.4**
	4.5nm,0.8s						
NNA	**Nana**	**29.34**	**153**	*e*P	**P**	**18 48 01.5**	**+1.0**
	49nm,1.3s,mb5.0						
ULM	**Lac du Bonnet**	**36.00**	**354**	P	**P**	**18 48 56.2**	**-1.7**
ULM	**Lac du Bonnet**	**36.00**	**354**	P	**P**	**18 48 56.2**	**-1.7**
	1.1nm,0.5s,mb3.7,baz=160,slow=9.7,SNR=3.3						
SCHQ	**Schefferville**	**44.13**	**19**	P	**P**	**18 50 03.5**	**-1.0**
	1.3nm,0.3s,mb3.7,baz=237,slow=12,SNR=10						
YKA	**Yellowknife Ar**	**51.04**	**346**	P	**P**	**18 50 56.8**	**-0.5**
	0.3nm,0.4s,baz=144,slow=7.6,SNR=14						

*NEIC **17** 19:01:52.2, 4020S×17500E, h26km, ML4.1(WEL), After WEL.*

WEL 17 19:01:52.0±0.1, 4020S×17498E, h12km, ML4.1/50, Error ellipse: s-maj=1.8km s-min=0.8km az=90.0, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WAZ	**Wanganui**	**0.45**	**1**	P	Pg	19 02 01.8	+1.0
WAZ				S	Sg	19 02 08.3	+1.6
WAZ	**Wanganui**	**0.45**	**1**	P*	Pg	19 02 01.8	+1.0
WAZ				S*	Sg	19 02 08.3	+1.5
MRZ	**Mangatainoka R**	**0.65**	**135**	P	Pg	19 02 04.6	0.0
MRZ				S	Sg	19 02 12.9	-0.3
MRZ	**Mangatainoka R**	**0.65**	**135**	P*	Pb	19 02 04.6	-0.7
MRZ				S*	Sb	19 02 12.9	-1.3
KIW	**Kapiti Island**	**0.66**	**184**	P	Pg	19 02 04.3	-0.5
KIW				S	Sg	19 02 12.8	-0.7
KIW	**Kapiti Island**	**0.66**	**184**	P*	Pb	19 02 04.3	-1.2
KIW				S*	Sb	19 02 12.8	-1.8
TSZ	**Takapari Road**	**0.77**	**80**	P	Pg	19 02 06.3	-0.6
TSZ				S	Sg	19 02 16.2	-0.7
TSZ	**Takapari Road**	**0.77**	**80**	P*	Pb	19 02 06.3	-1.0
TSZ				S*	Sb	19 02 16.2	-1.4
TIWZ	**Tintock**	**0.90**	**130**	P*	Pb	19 02 09.1	-0.4
MTVZ	**Mangateitei**	**0.90**	**25**	P*	Pb	19 02 08.3	-1.2
CAW	**Cannon Point**	**0.91**	**176**	P	Pg	19 02 08.7	-0.8
CAW	**Cannon Point**	**0.91**	**176**	P*	Pb	19 02 08.7	-0.9
PKVZ	**Pokaka**	**0.95**	**17**	P*	Pb	19 02 09.3	-1.2
MOVZ	**Moawhango**	**0.99**	**37**	P	Pb	19 02 09.3	-1.8
MOVZ	**Moawhango**	**0.99**	**37**	P*	Pb	19 02 09.3	-1.8
WNVZ	**Wahianoa**	**1.00**	**29**	P	Pb	19 02 09.8	-1.4
WNVZ	**Wahianoa**	**1.00**	**29**	P*	Pb	19 02 09.8	-1.4
DUWZ	**D'Urville Isla**	**1.00**	**233**	P*	Pb	19 02 10.3	-1.0
DUWZ				S*	Sb	19 02 23.7	-0.8
TRVZ	**Turoa**	**1.00**	**26**	P*	Pb	19 02 10.0	-1.3
MTW	**Mount Morrison**	**1.03**	**158**	P	Pb	19 02 11.2	-0.6
MTW	**Mount Morrison**	**1.03**	**158**	P*	Pb	19 02 11.2	-0.7
FWVZ	**Far West T-bar**	**1.04**	**25**	P*	Pb	19 02 10.6	-1.4
MRW	**Makara Radio**	**1.05**	**192**	P*	Pb	19 02 10.9	-1.1
TUVZ	**Tukino**	**1.07**	**29**	P*	Pb	19 02 11.1	-1.3
VRZ	**Vera Road**	**1.09**	**351**	P*	Pb	19 02 12.3	-0.4
SNZO	**South Karori**	**1.12**	**191**	*e*Pn	Pn	19 02 11.8	-1.7
SNZO				*e*Sn	Sn	19 02 26.4	-2.6
WPHZ	**Waipukurau**	**1.13**	**83**	P*	Pb	19 02 13.1	-0.4
NGZ	**Ngauruhoe**	**1.13**	**25**	P*	Pb	19 02 12.1	-1.4
TCW	**Tory Channel**	**1.14**	**208**	P	Pb	19 02 12.0	-1.7
TCW				S	Sb	19 02 27.8	-0.6
TCW	**Tory Channel**	**1.14**	**208**	P*	Pb	19 02 12.0	-1.6

IDC 17 19:40:39.1±1.9, 819S×12938E, h0km, mb3.6/1, mb1 3.5/5, mb1mx3.4/14, mbtmp3.4/5, ML2.9/4, MS3.3/1, Ms1 3.3/1, ms1mx2.5/21, Error ellipse: s-maj=35.6km s-min=24.4km az=80.0, Timor Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Kupang**	**5.99**	**250**	Pn	Pn	19 42 07.4	-1.7
	1.9nm,0.3s,baz=93,slow=20,SNR=5.7						
BATI				Sn	Sn	19 43 18.6	+0.1
	0.9nm,0.3s,baz=133,slow=19,SNR=2.7						
FITZ	**Fitzroy Crossi**	**10.51**	**200**	Pn	Pn	19 43 13.0	+1.9
	0.1nm,0.3s,baz=67,slow=12,SNR=3.6						
FITZ				Sn	Sn	19 45 12.5	+2.9
	0.1nm,0.3s,baz=112,slow=19,SNR=4.9						
WRA	**Warramunga Arr**	**12.63**	**158**	Pn	Pn	19 43 39.8	-0.4
	0.0nm,0.3s,baz=341,slow=10,SNR=4.2						
WRA				Sn	Sn	19 46 03.5	+1.8
	0.0nm,0.3s,baz=333,slow=22,SNR=3.2						
ASAR	**Alice Springs**	**15.99**	**165**	Pn	Pn	19 44 24.1	-1.5
	0.1nm,0.3s,baz=341,slow=10,SNR=12						
NWAO	**Narrogin (SRO)**	**27.07**	**203**	LR	LR	19 56 51.5	
	comp=Z,54nm,18.3s,baz=34,slow=36						
MKAR	**Makanchi Array**	**68.88**	**327**	P	P	19 51 46.1	+0.4
	0.6nm,0.9s,baz=112,slow=5.4,SNR=5.9						

*NEIC **17** 19:50:24.4±0.6, 1511S×16607E, h10km, Error ellipse: s-maj=27.8km s-min=18.5km az=126.0*

IDC 17 19:50:20.7±2.1, 1484S×16622E, h0km, mb4.0/4, mb1 4.1/4, mb1mx3.8/15, mbtmp4.0/4, Error ellipse: s-maj=46.9km s-min=38.3km az=27.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**28.15**	**229**	P	P	19 56 14.8	0.0
	1.0nm,0.6s,baz=84,slow=10,SNR=3.6						
RPZ	**Rata Peaks**	**29.08**	**173**	P	P	19 56 22.9	+0.1
	10nm,0.8s,baz=11,slow=19,SNR=2.2						
WRA	**Warramunga Arr**	**30.81**	**256**	P	P	19 56 39.3	+0.8
	0.2nm,0.8s,baz=86,slow=9.4,SNR=5.5						
ASAR	**Alice Springs**	**31.68**	**249**	P	P	19 56 45.6	-0.5
	1.1nm,0.5s,baz=79,slow=8.9,SNR=27						
ARCES	**ARCESS Array B**	**120.10**	**345**	PKP	PKPdf	20 09 12.7	-0.1
	6.9nm,1.1s,baz=90,slow=2.7,SNR=5.9						
LDF	**La Druitiere**	**144.51**	**344**	*e*PKP1	PKPdf	20 09 59.8	+0.7
LPL	**La Plagne**	**144.86**	**335**	*e*PKP1	PKPdf	20 10 02.1	+2.2
	5.2nm,0.7s						
LPG	**La Plagne**	**144.87**	**335**	*e*PKP1	PKPdf	20 10 02.0	+2.1
	5.3nm,0.8s						
ORIF	**Oris-en-Rattie**	**145.70**	**335**	*e*PKP1	PKPbc	20 10 04.0	+2.4
	6.8nm,0.7s						
SBF	**Sospel**	**145.88**	**332**	*e*PKP1	PKPbc	20 10 04.8	+2.6
PGF	**Pioggiola**	**146.13**	**329**	*e*PKP1	PKPbc	20 10 05.0	+2.0
	10.0nm,0.9s						
MFF	**Saint Martin d**	**146.34**	**343**	*e*PKP1	PKPbc	20 10 05.5	+2.0
	4.5nm,0.8s						
FRF	**La Foret Royal**	**146.47**	**333**	*e*PKP1	PKPbc	20 10 05.7	+1.7
	4.9nm,0.9s						
SMRF	**Simiane la Rot**	**146.60**	**334**	*e*PKP1	PKPbc	20 10 06.0	+1.6
LMR	**La Mourre**	**146.71**	**333**	*e*PKP1	PKPbc	20 10 06.3	+1.6
	12nm,1.0s						
LASF	**Ste Croix**	**147.21**	**336**	*e*PKP1	PKPbc	20 10 08.2	+2.1

IDC 17 19:58:18.7±3.5, 462S×13969E, h0km, mb3.6/2, mb1 3.9/4, mb1mx3.7/11, mbtmp3.8/4, ML3.6/1, MS3.1/1, Ms1 3.1/1, ms1mx2.6/20, Error ellipse: s-maj=119.0km s-min=29.2km az=96.0, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**16.10**	**198**	Pn	Pn	20 02 01.9	-4.7
	0.3nm,0.3s,baz=23,slow=13,SNR=15						
WRA				Sn	Sn	20 04 53.5	-12
	0.3nm,0.3s,baz=11,slow=24,SNR=5.0						
CTA	**Charters Tower**	**16.65**	**158**	LR	LR	20 09 00.5	
	comp=Z,67nm,18.3s,baz=283,slow=39						
FITZ	**Fitzroy Crossi**	**19.19**	**225**	P	Pn	20 02 44.3	-0.8
	0.1nm,0.3s,baz=52,slow=17,SNR=4.7						
ASAR	**Alice Springs**	**19.74**	**196**	P	Pn	20 02 50.2	-1.4
	1.2nm,0.3s,baz=24,slow=9.1,SNR=95						
MKAR	**Makanchi Array**	**71.89**	**322**	P	P	20 09 44.2	+0.5
	0.3nm,0.6s,baz=114,slow=7.1,SNR=3.7						
ZALV	**Zalesovo Beam**	**74.07**	**330**	P	P	20 09 56.2	-0.3
	0.2nm,0.3s,baz=116,slow=3.4,SNR=3.6						

GUC 17 20:00:25.1±0.8, 3267S×7109W, h3km±4km, MD3.5, ML2.1, 1C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JACH	**Jahuel**	**0.42**	**92**	*e*P	Pg	20 00 33.4	+0.3
JACH				*i* S	Sg	20 00 40.7	+2.1
PEL	**Peldehue**	**0.59**	**145**	*e*P	Pg	20 00 37.0	+0.6
PEL				*i* S	Sg	20 00 46.2	+2.3
PEL				AML	AML	20 00 48.9	
	comp=N,274nm,0.5s						
FCH	**Farellones**	**0.94**	**135**	*i* P	Pg	20 00 43.3	+0.1
FCH				AML	AML	20 01 00.2	
	comp=E,45nm,0.4s						
TACH	**Talagante**	**0.99**	**173**	*i* P	Pg	20 00 44.6	+0.4
TACH				*i* S	Sg	20 00 58.0	+0.9
PCH	**Pirque**	**1.07**	**153**	⇑*i* P	Pg	20 00 45.5	-0.1
PCH				*i* S	Sg	20 01 00.7	+1.2
LMEL	**Las Melosas**	**1.39**	**148**	*e*P	Pn	20 00 50.9	-0.5
LMEL				*i* S	Sg	20 01 10.3	+0.4
LMEL				AML	AML	20 01 13.1	
	comp=N,111nm,0.4s						

*IDC **17** 20:32:48.7±0

SSE AMB AMB
comp=Z,88nm,3.3s
SSE LR LR
comp=N,46nm,14.5s
SSE LR LR
comp=E,87nm,14.5s
SSE LR LR
comp=Z,103nm,14.7s
NJ2 Nanjing 29.92 346 *e*P **P 20 38 59.4 +0.2**
NJ2 AP pP 20 39 19.1 -1.0
NJ2 XP sP 20 39 31.8 +1.0
NJ2 PP PP 20 39 59.0 -9.5
NJ2 S **S 20 43 49.0 -1.0**
NJ2 XS sS 20 44 27.0 +0.8
NJ2 AMB AMB
comp=Z,30nm,0.8s,mb5.0
NJ2 AMB AMB
comp=Z,580nm,4.0s
NJ2 LR LR
comp=N,510nm,17.2s
NJ2 LR LR
comp=E,470nm,15.8s
NJ2 LR LR
comp=Z,480nm,15.8s
KMI Kunming 32.09 316 P **P 20 39 22.8 +4.4**
KMI AMB AMB
comp=Z,5.0nm,1.1s,mb4.2
JHJ Hachijo jima 2 32.30 20 LR LR 20 49 52.6
comp=Z,5μm,21.5s,baz=262,slow=32
FORT Forrest 33.58 178 *e*P **P 20 39 30.7 -0.6**
comp=Z,18nm,0.8s,mb5.0
KSRS Korea Array 34.33 1 P **P 20 39 37.8 0.0**
comp=Z,3.1nm,0.8s,mb4.2,baz=177,slow=11,SNR=15
MAJO Matsushiro 34.98 16 *e*P **P 20 39 41.8 -1.6**
comp=Z,8.4nm,0.9s,mb4.6
MAJO Matsushiro 34.98 16 *e*P **P 20 39 41.8 -1.5**
MAJO pmax pmax
comp=Z,8.0nm,0.9s,mb4.5
MJAR Matsushiro Arr 34.98 16 P **P 20 39 41.6 -1.7**
comp=Z,2.4nm,0.6s,mb4.2,baz=183,slow=8.9,SNR=8.2
HNR Honiara 35.09 111 LR LR 20 51 54.0
comp=Z,606nm,19.6s,baz=359,slow=33
CD2 Chengdu 35.40 324 *e*P **P 20 39 48.8 +1.7**
CD2 AP pP 20 40 08.9 +0.7
CD2 XP sP 20 40 18.3 -0.5
CD2 PP PP 20 41 11.9 +2.7
CD2 S **S 20 45 20.0 +4.8**
CD2 XS sS 20 45 54.3 +2.6
CD2 SS SS 20 47 44.8 -8.1
CD2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.7
CD2 AMB AMB
comp=Z,20nm,6.4s
CD2 LR LR
comp=N,250nm,19.2s
CD2 LR LR
comp=Z,280nm,15.6s
KLBR Kellerberrin 35.47 194 *e*P **P 20 39 46.4 -1.3**
NWAO Narrogin (SRO) 36.88 194 *e*P **P 20 40 00.5 +0.9**
comp=Z,24nm,1.3s,mb5.0
NWAO Narrogin (SRO) 36.88 194 *e*P **P 20 40 00.5 +0.9**
NWAO pmax pmax
comp=Z,24nm,1.3s
NWAO Narrogin (SRO) 36.88 194 P **P 20 40 00.7 +1.1**
comp=Z,4.3nm,0.6s,mb4.5,baz=0.0,slow=15,SNR=4.3
STKA Stephens Creek 37.34 159⇓ *i*P **P 20 40 03.5 0.0**
comp=Z,11nm,0.7s,mb4.9
STKA Stephens Creek 37.34 159 P **P 20 40 03.6 +0.1**
comp=Z,9.0nm,0.7s,mb4.8,baz=339,slow=8.0,SNR=28
BJT Baijiatuau 38.16 347 *e*P **P 20 40 07.8 -2.5**
comp=Z,10.0nm,0.8s,mb4.7
BJT Baijiatuau 38.16 347 *e*P **P 20 40 07.8 -2.5**
BJT pmax pmax
comp=Z,10.0nm,0.8s
BJI Beijing 38.18 347 P **P 20 40 10.6 +0.1**
BJI AMB AMB
comp=Z,15nm,1.1s,mb4.7
BJI LR LR
comp=N,82nm,29.9s
BJI LR LR
comp=E,175nm,27.9s
BJI LR LR
comp=Z,164nm,30.9s
HHC Hu-ho-hao-te 40.19 342 *e*P **P 20 40 31.3 +4.0**
HHC AP pP 20 40 53.0 +4.2
HHC S **S 20 46 34.9 +7.5**
HHC XS sS 20 47 13.9 +10
HHC SS SS 20 49 32.0 +3.0
HHC AMB AMB
comp=Z,7.0nm,0.4s,mb4.8
HHC AMB AMB
comp=Z,91nm,5.3s
HHC LR LR
comp=N,179nm,17.9s
HHC LR LR
comp=E,158nm,6.1s
HHC LR LR
comp=Z,204nm,21.3s
ARMA Armidale 40.70 146 *e*P **P 20 40 33.3 +1.7**
MDJ Mudanjiang 41.54 3 P **P 20 40 39.1 +0.9**
MDJ AMB AMB
comp=Z,15nm,1.0s,mb4.7
MDJ AMB AMB
comp=Z,137nm,4.4s
MDJ LR LR
comp=N,77nm,22.6s
MDJ LR LR
comp=E,31nm,24.5s
MDJ LR LR
comp=Z,97nm,16.0s
MDJ Mudanjiang 41.54 3 *e*P **P 20 40 38.9 +0.7**
comp=Z,12nm,0.9s,mb4.6
LSA Lhasa 43.12 312 P **P 20 40 52.0 +0.6**
LSA AMB AMB
comp=Z,10.0nm,0.9s,mb4.5
LSA Lhasa 43.12 312 *e*P **P 20 40 52.0 +0.6**
comp=Z,7.1nm,0.8s,mb4.5
LSA Lhasa 43.12 312 *e*P **P 20 40 52.0 +0.6**
LSA pmax pmax
comp=Z,7.0nm,0.8s,mb4.4
HABR Khabarovsk 45.86 7 *e*P **P 20 41 13.7 +0.9**
HABR *e* 20 42 44.3
HABR *e* 20 43 02.0
HABR S **S 20 47 59.5 +9.4**
HABR *e* 20 51 05.8
HABR pmax pmax
comp=Z,23nm,1.1s,mb4.8
YSS Yuzh-Sakhalins 45.90 15 P **P 20 41 11.3 -1.9**
YSS Yuzh-Sakhalins 45.90 15⇑ *e*P **P 20 41 12.6 -0.6**
YSS pmax pmax
comp=Z,18nm,1.6s,mb4.5
GUN Gumba 46.37 307 *e*P **P 20 41 17.0 -0.2**
comp=Z,13nm,0.7s,mb4.8
HIA Hailar 46.54 353 *e*P **P 20 41 18.5 +0.3**
comp=Z,11nm,1.4s,mb4.4
HIA Hailar 46.54 353⇓ *e*P **P 20 41 19.2 +1.1**
PKI Pulchoki 46.61 306 *e*P **P 20 41 18.6 -0.5**
KKN Kakani 46.80 306 *e*P **P 20 41 19.9 -0.7**
comp=Z,5.7nm,0.6s,mb4.5
KKN Kakani 46.80 306 *e*P **P 20 41 19.9 -0.7**
KKN pmax pmax
comp=Z,6.0nm,0.6s,mb4.5
DMN Daman 46.87 306 *e*P **P 20 41 20.7 -0.5**
comp=Z,12nm,0.9s,mb4.6
GKN Gorkha 47.41 306 *e*P **P 20 41 24.7 -0.6**
comp=Z,5.0nm,0.6s,mb4.4
ULN Ulaanbaatar 47.91 342 P **P 20 41 28.0 -0.8**
comp=Z,5.7nm,0.8s,mb4.5
ULN Ulaanbaatar 47.91 342⇑ *e*P **P 20 41 30.5 +1.6**
SONM Songino Array 48.09 341 P **P 20 41 30.5 +0.3**
comp=Z,1.3nm,0.5s,mb4.0,baz=158,slow=8.5,SNR=19
SONM PcP PcP 20 42 58.7 +2.1
comp=Z,0.8nm,0.8s,baz=157,slow=5.6,SNR=2.3
KOLN Koldanda 48.16 305 *e*P **P 20 41 30.4 -0.7**
comp=Z,34nm,0.9s,mb5.2
ZAK Zakamensk 51.32 341 *e*P **P 20 41 55.4 +0.7**
ZAK *e* 20 43 12.4
ZAK pmax pmax
comp=Z,1.0nm,1.1s,mb3.8
ZAK pmax pmax
comp=Z,1.0nm,0.9s,mb3.9
TLY Talaya 52.32 342 P **P 20 42 03.6 +1.5**
comp=Z,5.9nm,0.9s,mb4.6
TLY Talaya 52.32 342 *e*P **P 20 42 02.5 +0.4**
TLY pmax pmax
comp=Z,5.0nm,1.2s,mb4.4
TLY MLR MLR
comp=Z,128nm,21.0s
MOY Mondy 53.17 340 *e*P **P 20 42 10.2 +1.8**
WMQ Urumqi 53.48 325 *e*P **P 20 42 11.8 +1.0**
WMQ AP pP 20 42 30.0 -3.3
WMQ *e*S **S 20 49 38.0 +1.4**
WMQ AMB AMB
comp=Z,6.0nm,0.8s,mb4.7
WMQ AMB AMB
comp=Z,138nm,4.8s
WMQ LR LR
comp=N,452nm,29.6s
WMQ LR LR
comp=E,433nm,23.5s
WMQ LR LR
comp=Z,426nm,23.4s
BOD Bodaibo 55.65 352 *e*P **P 20 42 26.6 +0.4**
BOD pmax pmax
comp=Z,8.0nm,1.0s,mb4.7
MKAR Makanchi Array 58.32 325⇑ *e*P **P 20 42 45.0 -0.3**
MKAR Makanchi Array 58.32 325 P **P 20 42 45.1 -0.2**
comp=Z,2.4nm,0.5s,mb4.5,baz=122,slow=8.2,SNR=60
MKAR LR LR 21 09 48.5
comp=Z,181nm,20.1s,baz=113,slow=38
YAK Yakutsk 58.95 1 P **P 20 42 49.3 -0.1**
comp=Z,17nm,0.8s,mb5.1
YAK Yakutsk 58.95 1 *e*P **P 20 42 49.9 +0.5**
YAK pmax pmax
comp=Z,16nm,0.8s,mb5.1
YAK pmax pmax
comp=N,5.0nm,1.0s
YAK pmax pmax
comp=E,2.0nm,1.1s
TKM2 Tokmak 2 60.48 319 *e*P **P 20 43 00.1 -0.1**
comp=E,1.7nm,0.5s,mb4.3
TKM2 Tokmak 2 60.48 319 *e*P **P 20 43 00.1 -0.1**
TKM2 pmax pmax
comp=Z,2.0nm,0.5s,mb4.4
UCH Uchtor 60.90 318 *e*P **P 20 43 03.7 +0.6**
comp=Z,2.2nm,0.8s,mb4.2
RPZ Rata Peaks 61.00 145 LR LR 21 06 36.9
comp=Z,90nm,20.5s,baz=192,slow=33
AAK Ala-Archa 61.08 318 P **P 20 43 02.5 -1.8**
comp=Z,2.4nm,1.0s,mb4.2
AAK Ala-Archa 61.08 318⇑ *e*P **P 20 43 03.6 -0.7**
AAK pmax pmax
comp=Z,6.0nm,2.5s,mb4.2
ZAA0 Zalesovo Array 61.37 333 *e*P **P 20 43 04.7 -1.3**
ZALV Zalesovo Beam 61.37 333 P **P 20 43 05.3 -0.8**
comp=Z,1.6nm,0.6s,mb4.2,baz=120,slow=5.8,SNR=9.0
ZALV LR LR 21 12 44.4
comp=Z,55nm,18.4s,baz=117,slow=39
ZAL Zalesovo 61.37 333 P **P 20 43 05.3 -0.8**
EKS2 Erkin-Say 61.57 318 *e*P **P 20 43 08.4 +0.8**
comp=Z,3.0nm,0.8s,mb4.4
KURK Kurchatov 62.51 328 *e*P **P 20 43 13.4 -0.4**
comp=Z,7.7nm,0.6s,mb4.8
KURK Kurchatov 62.51 328⇑ *e*P **P 20 43 13.0 -0.7**
NVS Novosibirsk 62.66 333 *e*P **P 20 43 14.6 0.0**
SEY Seymchan 62.71 13⇑ *e*P **P 20 43 16.6 +1.8**
BVAR Borovoye Array 68.09 327 LR LR 21 16 29.3
comp=Z,72nm,22.0s,baz=276,slow=38
BRVK Borovoye 68.16 327 *e*P **P 20 43 49.9 -0.2**
comp=Z,4.0nm,0.8s,mb4.3
BRVK Borovoye 68.16 327 *e*P **P 20 43 49.9 -0.3**
BRVK pmax pmax
comp=Z,4.0nm,0.8s,mb4.3
TIXI Tiksi 68.59 1 *e*P **P 20 43 52.6 0.0**
comp=Z,5.1nm,0.8s,mb4.4
TIXI Tiksi 68.59 1⇑ *e*P **P 20 43 52.5 0.0**
TIXI pmax pmax
comp=Z,8.0nm,1.4s,mb4.4
BILL Bilibino 70.22 15⇑ *e*P **P 20 44 03.3 +0.7**
BILL *e* 20 46 34.0
BILL *e*S S 20 53 16.4 +10
AKTK Aktyubinsk 74.40 322 P **P 20 44 28.3 +0.4**
AKTK LR LR 21 19 53.3
AKTO Aktyubinsk 74.40 322 P **P 20 44 28.3 +0.4**
comp=Z,2.2nm,0.6s,mb4.0,baz=101,slow=13
AKTO LR LR 21 19 53.3
comp=Z,154nm,20.4s,baz=308,slow=38
SVE Sverdlovsk 74.73 329 *e*P **P 20 44 29.9 +0.3**
ARU Arti 75.71 328 *e*P **P 20 44 35.1 -0.1**
comp=Z,6.8nm,0.6s,mb4.5
ARU Arti 75.71 328 *d i*P **P 20 44 34.9 -0.3**
ARU *e* 20 47 23.7
ARU *e*PPP 20 49 07.3
ARU *e*S S 20 54 15.9 +6.5
ARU *e*SS SS 20 59 02.2 -0.4
ARU pmax pmax
comp=Z,10.0nm,0.8s,mb4.6
QRN Al-Qurain 78.99 299 *e*P **P 20 44 53.2 -1.0**
QRN AMb AMB 20 44 54.8
comp=Z,11nm,0.6s,mb4.9
UMR Umm Al-Rimmam 79.20 299 *e*P **P 20 44 54.4 -0.9**
UMR AMb AMB 20 44 56.5
comp=Z,9.2nm,0.4s,mb4.9
RDF Al-Radifah 79.32 299 *e*P **P 20 44 55.7 -0.3**
RDF AMb AMB 20 44 57.7
comp=Z,5.3nm,0.6s,mb4.5
MIB Mutribah 79.54 300 *e*P **P 20 44 55.8 -1.4**
MIB AMb AMB 20 44 59.0
comp=Z,8.6nm,0.6s,mb4.8
NAY Al-Naaiem 79.60 299 *e*P **P 20 44 56.3 -1.2**
NAY AMb AMB 20 44 58.7
comp=Z,2.5nm,0.7s,mb4.2
RST Umm Al-Ruwaisa 79.82 299 *e*P **P 20 44 57.7 -1.0**
RST AMb AMB 20 45 01.1
comp=Z,6.8nm,0.6s,mb4.7
VNDA Vanda 82.65 173 P **P 20 45 15.1 +2.4**
comp=Z,1.3nm,0.7s,mb3.9,baz=326,slow=6.6,SNR=6.3
SBA Scott Base 83.55 172 *e*P **P 20 45 19.9 +2.6**
comp=Z,7.7nm,1.4s,mb4.3
SBA Scott Base 83.55 172 *e*P **P 20 45 20.0 +2.7**
SBA pmax pmax
comp=Z,8.0nm,1.4s,mb4.4
KIV Kislovodsk 83.84 314 *e*P **P 20 45 20.8 +1.3**
KIV pmax pmax
comp=Z,3.0nm,1.1s,mb4.0
MALT Malatya 87.04 308 *e*P **P 20 45 37.2 +1.7**
comp=Z,11nm,1.4s,mb4.6
MALT Malatya 87.04 308 *e*P **P 20 45 37.3 +1.8**
MALT pmax pmax
comp=Z,11nm,1.4s,mb4.6
OBN Obninsk 87.82 325⇓ *e*P **P 20 45 39.1 +0.2**
OBN *e* 20 49 00.2
OBN *e*S S 20 56 07.6 -6.4
OBN pmax pmax
comp=Z,29nm,1.7s,mb5.0
OBN MLR MLR
comp=Z,100nm,22.0s
ARCES ARCESS Array B 91.24 340 P **P 20 45 54.7 +0.1**
comp=Z,1.5nm,0.7s,mb4.2,baz=81,slow=8.7,SNR=6.1
FINES FINESS Array B 92.61 332 *i* P **P 20 46 05.1 +4.0**
FINES pmax pmax
comp=Z,1.0nm,0.8s
FINES FINESS Array B 92.61 332 P **P 20 46 02.2 +1.2**
comp=Z,0.6nm,0.8s,mb4.0,baz=23,slow=6.2,SNR=6.5
AKASG Malin Array Be 92.63 321 P **P 20 46 00.9 -0.5**
comp=Z,0.3nm,0.4s,mb3.9,baz=69,slow=4.9,SNR=3.4
MLR Muntele Rosu 95.62 316 P **P 20 46 15.0 -0.2**
comp=Z,1.3nm,0.8s,mb4.4,baz=1.1,slow=6.1,SNR=3.9
NOA NORSAR Array B 99.57 334 LR LR 21 36 48.7
comp=Z,78nm,20.4s,baz=35,slow=39
TORD Torodi Ar. Bea 123.39 288 PKP PKPdf 20 51 48.9 +1.5
comp=Z,1.2nm,1.0s,baz=52,slow=1.7,SNR=4.4

IDC ***17*** *20:43:26.4±1.7, 988S×1258 48E, h0km, mb3.4/1, mb1 3.6/4, mb1mx3.4/13, mbtmp3.4/4, ML3.4/3, MS3.0/1, Ms1 3.0/1, ms1mx2.8/16, Error ellipse: s-maj=39.3km s-min=26.3km az=56.0*
NEIC ***17*** *20:43:28.0±1.2, 989S×1256 56E, h10km, Error ellipse: s-maj=35.1km s-min=14.9km az=60.0*
ISCJB ***17*** *20:43:29.3±1.1, 1014S±009×1254 1E±007, h33km, Error ellipse: s-maj=15.0km s-min=7.7km az=33.6*
ISC 17 20:43:31.3±1.1, 1005S±009×12536E±007, h35km, n6, σ0 75/11, Timor Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Kupang**	**1.67**	**265**	Pn	**Pn**	**20 43 58.4**	**+0.3**
	13nm,0.3s,baz=96,slow=3.7,SNR=19						
BATI				Sn	**Sn**	**20 44 17.7**	**-0.7**
	21nm,0.3s,baz=100,slow=22,SNR=6.3						
FITZ	**Fitzroy Crossi**	**8.01**	**178**	Pn	**Pn**	**20 45 26.9**	**+1.7**
	0.1nm,0.3s,baz=45,slow=5.7,SNR=8.8						
FITZ				Sn	**Sn**	**20 46 54.5**	**-0.1**
	0.3nm,0.3s,baz=162,slow=19,SNR=4.4						
FITZ				LR	LR	20 49 13.3	
	comp=Z,121nm,21.0s,baz=12,slow=42						
WRA	**Warramunga Arr**	**13.11**	**140**	Pn	**Pn**	**20 46 35.0**	**-0.1**
	0.5nm,0.3s,baz=321,slow=13,SNR=30						
WRA				Sn	**Sn**	**20 48 51.9**	**-7.8**
	0.3nm,0.3s,baz=314,slow=23,SNR=8.5						
WB2	**Warramunga Arr**	**13.12**	**140**	*e*Pn	**Pn**	**20 46 34.5**	**-0.7**
WB2				*e*Sn	**Sn**	**20 48 51.6**	**-8.3**
ASAR	**Alice Springs**	**15.81**	**150**	Pn	**Pn**	**20 47 10.6**	**-0.7**
	0.1nm,0.3s,baz=325,slow=9.8,SNR=7.8						
ASAR				Sn	**Sn**	**20 49 59.8**	**-5.7**
	0.1nm,0.3s,baz=327,slow=22,SNR=6.3						
MKAR	**Makanchi Array**	**68.39**	**330**	P	**P**	**20 54 29.7**	**+0.4**
	0.1nm,0.3s,baz=125,slow=7.1,SNR=3.2						

BJI ***17*** *20:48:50.1, 7.10S×1558 0E, h10km, mB5.1, mb4.9, Ms4.8, Msz4.4*
NEIC ***17*** *20:48:50.1±0.3, 7.12S×1557 6E, h10km, mb4.6/21, Error ellipse: s-maj=9.4km s-min=7.5km az=101.0*
MOS ***17*** *20:48:53.2±1.1, 7.08S×1557 8E, h37km, mb4.7/8, Error ellipse: s-maj=12.0km s-min=10.2km az=97.5*
ISCJB ***17*** *20:48:55.6±2.5, 7.14S±008×1556 7E±0.10, h59km±24km, mb4.5/36, MS3.5/3, Error ellipse: s-maj=17.4km s-min=12.1km az=28.8*
IDC ***17*** *20:48:57.6±3.6, 7.17S×1556 9E, h64km±31km, mb4.0/11, mb1 4.1/13, mb1mx4.0/18, mbtmp4.0/13, ML3.9/2, MS3.6/3, Ms1 3.6/3, ms1mx3.3/16, Error ellipse: s-maj=23.2km s-min=19.1km az=118.0*
ISC 17 20:48:57.6±2.2, 718S±008×1557E±01, h63km±21km, n92, σ0 92/76, mb4.5/36, 4C-4D, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.78**	**118**	*e*Pn	**Pn**	**20 50 02.0**	**-5.1**
HNR				*e*Sn	**Sn**	**20 51 08.9**	**+7.7**
HNR	**Honiara**	**4.78**	**118**	P	**Pn**	**20 50 07.1**	**0.0**
	9.2nm,0.3s,baz=209,slow=2.1,SNR=5.0						
HNR				S	**Sn**	**20 51 13.9**	**+13**
	14nm,0.3s,baz=117,slow=9.0,SNR=3.1						
CTA	**Charters Tower**	**15.76**	**215**	*e*P	**Pn**	**20 52 37.1**	**+1.3**
	3.4nm,0.9s						
CTA	**Charters Tower**	**15.76**	**215**	*e*P	**Pn**	**20 52 37.1**	**+1.3**
CTA				pmax	pmax		
	comp=Z,3.0nm,0.9s						
CTA	**Charters Tower**	**15.76**	**215**	P	**Pn**	**20 52 36.0**	**+0.3**
	comp=Z,0.2nm,0.3s,baz=48,slow=16,SNR=3.1						
CTAO	**Charters Tower**	**15.76**	**215**	P	**Pn**	**20 52 35.8**	**0.0**
	comp=Z,12nm,1.2s						
CTAO	**Charters Tower**	**15.76**	**215**	P	**Pn**	**20 52 35.8**	**0.0**
CTAO				pmax	pmax		
	comp=Z,12nm,1.2s						
EIDS	**Eidsvold**	**18.62**	**193**	P	**Pn**	**20 53 12.8**	**+1.8**
	comp=Z,3.6nm,0.9s						
GUMO	**Guam**	**23.26**	**332**	LR	LR	21 01 01.4	
	comp=Z,99nm,18.3s,baz=115,slow=31						
KAKA	**Kakadu**	**23.54**	**255**	*e*P	**P**	**20 54 02.0**	**-0.5**
	comp=Z,7.4nm,0.6s,mb4.3						
KAKA	**Kakadu**	**23.54**	**255**	P	**P**	**20 53 53.2**	**-9.3**
	comp=Z,14nm,0.5s,mb4.6						
WRAB	**Tennant Creek**	**24.27**	**236**	*e*P	**P**	**20 54 08.3**	**-0.8**
	comp=Z,6.1nm,0.8s,mb4.1						
WRAB				*e*		20 54 17.9	
WRAB	**Tennant Creek**	**24.27**	**236**	*e*P	**P**	**20 54 08.3**	**-0.8**
WRAB				*e*		20 54 17.9	
WRAB				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.1						
WB2	**Warramunga Arr**	**24.27**	**236**	*e*P	**P**	**20 54 09.3**	**+0.2**
WRA	**Warramunga Arr**	**24.28**	**236**	P	**P**	**20 54 09.6**	**+0.4**
WRA						20 57 48.5	
WRA	**Warramunga Arr**	**24.28**	**236**	P	**P**	**20 54 09.6**	**+0.4**
	comp=Z,1.3nm,0.6s,mb3.5,baz=61,slow=9.6,SNR=16						
WRA				PcP	PcP	20 57 48.5	+0.5
	comp=Z,0.4nm,0.7s,baz=58,slow=2.3,SNR=5.2						
WRA				LR	LR	21 01 39.8	
	comp=Z,66nm,21.1s,baz=70,slow=31						
ASAR	**Alice Springs**	**26.57**	**230**	P	**P**	**20 54 29.5**	**-0.4**
	comp=Z,0.3nm,0.4s,baz=60,slow=9.9,SNR=7.9						
ASAR				PcP	PcP	20 57 53.5	+0.3
	comp=Z,0.5nm,0.7s,baz=62,slow=2.9,SNR=4.3						
STKA	**Stephens Creek**	**27.87**	**206**	*e*P	**P**	**20 54 40.0**	**-1.4**
	comp=Z,2.8nm,0.6s,mb4.1						
STKA	**Stephens Creek**	**27.87**	**206**	P	**P**	**20 54 41.4**	**0.0**
	comp=Z,2.1nm,0.8s,mb3.8,baz=8.9,slow=14,SNR=3.4						
FITZ	**Fitzroy Crossi**	**31.21**	**247**	*e*P	**P**	**20 55 10.9**	**-0.3**
	comp=Z,4.1nm,0.5s,mb4.5						
FITZ	**Fitzroy Crossi**	**31.21**	**247**	P	**P**	**20 55 10.9**	**-0.3**
	comp=Z,0.8nm,0.3s,mb4.0,baz=91,slow=8.7,SNR=8.4						
FORT	**Forrest**	**34.93**	**224**	*e*P	**P**	**20 55 42.5**	**-1.0**
	comp=Z,1.8nm,0.9s,mb4.0						
MBWA	**Marble Bar**	**37.41**	**244**	P	**P**	**20 56 01.8**	**-3.1**
	comp=Z,8.7nm,0.9s,mb4.6						
KKM	**Kota Kinabalu**	**41.51**	**287**	*e*P	**P**	**20 56 39.1**	**-0.1**
KSM	**Kuching**	**46.08**	**279**	*e*P	**P**	**20 57 13.7**	**-2.1**
NJ2	**Nanjing**	**52.49**	**320**	*e*P	**P**	**20 58 08.9**	**+4.5**
NJ2				AMB	AMB		
	comp=Z,20nm,0.6s,mb5.2						
YSS	**Yuzh-Sakhalins**	**55.10**	**349**	P	**P**	**20 58 23.3**	**+0.1**
YSS	**Yuzh-Sakhalins**	**55.10**	**349**⇑	*e*P	**P**	**20 58 23.2**	**0.0**
YSS				pmax	pmax		
	comp=Z,15nm,1.7s,mb4.8						
KULM	**Kulim**	**56.30**	**281**	*e*P	**P**	**20 58 31.1**	**-1.3**
KULM				*e*		20 58 41.2	
KMI	**Kunming**	**60.69**	**304**	P	**P**	**20 59 04.3**	**+1.6**
KMI				AP	pP	20 59 15.3	-4.2
KMI				AMB	AMB		
	comp=Z,5.0nm,1.0s,mb4.6						
CM31	**Chiang Mai Arr**	**61.48**	**295**	*e*P	**P**	**20 59 08.7**	**+0.4**
	comp=Z,8.0nm,0.8s,mb4.9						
SMY	**Shemya**	**61.70**	**13**	P	**P**	**20 59 14.7**	**+5.6**
	comp=Z,103nm,0.7s						
SMY	**Shemya**	**61.70**	**13**	P	**P**	**20 59 14.7**	**+5.6**
SMY				pmax	pmax		
	comp=Z,103nm,0.7s						
CD2	**Chengdu**	**62.45**	**310**	*e*P	**P**	**20 59 15.8**	**+1.2**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb5.0						
CD2				AMB	AMB		
	comp=Z,30nm,6.8s						
HHC	**Hu-ho-hao-te**	**62.65**	**324**	*e*P	**P**	**20 59 18.4**	**+2.8**
HHC				PCS	PcS	21 04 00.5	+3.2
HHC				S	**S**	**21 07 43.8**	**+4.6**
HHC				XS	sS	21 08 01.0	-6.7
HHC				SCS	ScS	21 09 03.6	+1.0
HHC				SS	SS	21 11 47.8	+2.9
HHC				AMB	AMB		
	comp=Z,17nm,0.3s,mb5.7						
HHC				AMB	AMB		
	comp=Z,139nm,5.4s						
HHC				LR	LR		
	comp=N,122nm,4.5s						
HHC				LR	LR		
	comp=E,148nm,4.3s						
HHC				LR	LR		
	comp=Z,91nm,6.3s						
HIA	**Hailar**	**64.38**	**335**	P	**P**	**20 59 26.4**	**-0.4**
	comp=Z,6.7nm,1.2s,mb4.5						
HIA	**Hailar**	**64.38**	**335**	P	**P**	**20 59 26.4**	**-0.5**
HIA				pmax	pmax		
	comp=Z,7.0nm,1.2s						
ULN	**Ulaanbaatar**	**69.52**	**327**	P	**P**	**20 59 59.3**	**-0.3**
SONM	**Songino Array**	**69.86**	**327**	P	**P**	**21 00 02.2**	**+0.5**
	comp=Z,3.3nm,0.8s,mb4.3,baz=141,slow=7.0,SNR=23						
VNDA	**Vanda**	**70.38**	**179**	P	**P**	**21 00 04.7**	**+0.3**
	comp=Z,1.3nm,0.7s,mb4.0,baz=34,slow=7.3,SNR=5.0						
VNDA				LR	LR	21 26 38.2	
	comp=Z,114nm,19.0s,baz=327,slow=32						
YAK	**Yakutsk**	**71.88**	**347**	P	**P**	**21 00 12.0**	**-1.6**
YAK	**Yakutsk**	**71.88**	**347**⇓	*e*P	**P**	**21 00 12.9**	**-0.7**
YAK				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.6						
LSA	**Lhasa**	**71.94**	**304**	*e*P	**P**	**21 00 15.5**	**+0.9**
	comp=Z,1.5nm,0.7s,mb4.0						
LSA				*e*		21 00 25.5	
LSA	**Lhasa**	**71.94**	**304**	*e*P	**P**	**21 00 15.5**	**+0.8**
LSA				*e*		21 00 25.5	
LSA				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb3.9						
ZAK	**Zakamensk**	**73.01**	**328**	*e*P	**P**	**21 00 20.2**	**-0.4**

ZAK pmax pmax
comp=Z,1.0nm,1.1s,mb3.7
BOD Bodaibo 73.04 338 *e*P **P 21 00 19.6 -1.0**
TLY Talaya 73.57 329 P **P 21 00 23.6 -0.2**
BILL Bilibino 75.41 4 *e*P **P 21 00 33.3 -0.9**
comp=Z,7.9nm,1.0s,mb4.6
BILL Bilibino 75.41 4⇓*e*P **P 21 00 34.2 0.0**
BILL *e* 21 03 18.3
BILL *e*S S 21 10 06.5 -2.5
BILL pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
JIRN Jiri 75.46 301 *e*P **P 21 00 36.4 +1.0**
comp=Z,2.3nm,0.3s,mb4.7
GUN Gumba 75.80 301 *e*P **P 21 00 37.9 +0.6**
comp=Z,19nm,0.8s,mb5.1
PKI Pulchoki 76.11 301 *e*P **P 21 00 39.3 +0.3**
KKN Kakani 76.28 301 *e*P **P 21 00 40.3 +0.3**
comp=Z,8.6nm,0.7s,mb4.8
KKN Kakani 76.28 301 *e*P **P 21 00 40.3 +0.3**
KKN pmax pmax
comp=Z,9.0nm,0.7s,mb4.8
DMN Daman 76.37 301 *e*P **P 21 00 41.1 +0.5**
comp=Z,33nm,1.0s,mb5.2
GKN Gorkha 76.88 301 *e*P **P 21 00 43.4 0.0**
comp=Z,22nm,0.9s,mb5.1
KOLN Koldanda 77.70 300 *e*P **P 21 00 47.9 -0.1**
comp=Z,17nm,0.9s,mb5.0
LATR Latur 82.02 290 *e*x x 21 00 48.6
LATR *e*x x 21 01 26.0
QSPA South Pole Qui 82.80 180 *e*P **P 21 01 14.8 +0.3**
comp=Z,4.7nm,0.8s,mb4.6
MK31 Makanchi Array 83.99 319 *e*P **P 21 01 21.3 +0.2**
MKAR Makanchi Array 83.99 319 P **P 21 01 21.7 +0.6**
MKAR Makanchi Array 83.99 319 P **P 21 01 21.6 +0.5**
comp=Z,6.6nm,0.7s,mb4.9,baz=102,slow=5.7,SNR=75
MAW Mawson 84.49 203 P **P 21 01 23.8 +0.5**
comp=Z,3.7nm,0.9s,mb4.5,baz=124,slow=8.2,SNR=8.7
ZALV Zalesovo Beam 84.71 326 P **P 21 01 24.6 0.0**
comp=Z,3.1nm,0.5s,mb4.7,baz=115,slow=6.2,SNR=16
ZAL Zalesovo 84.72 326 P **P 21 01 24.7 0.0**
KURK Kurchatov 87.40 322 *e*P **P 21 01 36.8 -1.1**
comp=Z,3.1nm,0.9s,mb4.5
KURK Kurchatov 87.40 322⇑*e*P **P 21 01 37.5 -0.4**
UCH Uchtor 88.28 313 *e*P **P 21 01 44.0 +1.6**
comp=Z,1.7nm,0.8s,mb4.3
AAK Ala-Archa 88.37 313 *e*P **P 21 01 42.7 -0.1**
comp=Z,1.5nm,0.7s,mb4.3
AAK Ala-Archa 88.37 313⇑*e*P **P 21 01 42.9 +0.1**
AAK pmax pmax
comp=Z,2.0nm,0.8s,mb4.4
EKS2 Erkin-Say 88.90 313 *e*P **P 21 01 46.1 +0.9**
comp=Z,1.9nm,0.7s,mb4.5
BVAR Borovoye Array 92.85 323 P **P 21 02 02.5 -0.9**
comp=Z,2.1nm,0.9s,mb4.5,baz=104,slow=6.3,SNR=9.9
BRVK Borovoye 92.92 323 *e*P **P 21 02 01.6 -2.0**
YKA Yellowknife Ar 96.18 28 P **P 21 02 17.7 -0.7**
YKA Yellowknife Ar 96.18 28 P **P 21 02 17.7 -0.7**
comp=Z,0.3nm,0.5s,mb4.0,baz=262,slow=4.5,SNR=8.0
FINES FINESS Array B 114.38 336 PKP PKiKP 21 07 29.4 -0.5
FINES FINESS Array B 114.38 336 *i* PKIKP PKiKP 21 07 30.2 +0.2
FINES FINESS Array B 114.38 336 PKP PKiKP 21 07 29.4 -0.5
comp=Z,0.4nm,0.7s,baz=56,slow=5.2,SNR=4.0
AKASG Malin Array Be 118.08 325 *i* PKIKP PKPdf 21 07 38.5 +1.1
AKASG Malin Array Be 118.08 325 PKP PKPdf 21 07 36.8 -0.6
comp=Z,0.1nm,0.2s,baz=52,slow=1.2,SNR=5.9
NB2 NORSAR Subarra120.10 341 PKPdf PKPdf 21 07 40.3 -0.7
comp=Z,1.3nm,0.6s,baz=42,slow=2.0
NOA NORSAR Array B120.10 341 PKP PKPdf 21 07 40.6 -0.3
comp=Z,2.0nm,0.9s,baz=46,slow=1.9,SNR=4.6
SUR Sutherland 121.75 225 P PKPdf 21 07 46.5 +1.4
BRG Berggiesshubel 126.14 331 *e*PKP PKPdf 21 07 51.7 -1.1
comp=Z,4.5nm,0.9s
CLL Collm 126.30 332⇓*e*PKP PKPdf 21 07 54.0 +0.8
CLL Collm 126.30 332⇓*i* PKPdf PKPdf 21 07 53.6 +0.4
comp=Z,5.0nm,0.9s
KHC Kasperske Hory 127.44 329⇑*e*PKP PKPdf 21 07 56.9 +1.5
GERES GERESS Array B 127.56 329 PKP PKPdf 21 07 56.1 +0.4
comp=Z,1.6nm,0.8s,baz=64,slow=3.1,SNR=14
EKA Eskdalemuir Ar 129.10 345 PKP PKPdf 21 07 58.4 0.0
comp=Z,1.1nm,0.7s,baz=9.2,slow=2.4,SNR=6.7
BDFB Brasilia 147.36 134 PKPbc PKPbc 21 08 33.8 -1.4
comp=Z,3.6nm,0.7s,baz=184,slow=9.2,SNR=13
TOA0 Torodi Ar. Sit 153.73 285 *e*PKP PKPdf 21 08 45.8 +3.1
TOA0 *e*PKPbc PKPbc 21 08 50.0 -0.6
TORD Torodi Ar. Bea 153.73 285 PKPbc PKPbc 21 08 49.3 -1.3
comp=Z,1.2nm,0.8s,baz=38,slow=2.1,SNR=9.5
TORD PKPab PKPab 21 09 02.0 -1.5
comp=Z,0.7nm,0.8s,baz=90,slow=3.0,SNR=7.7

*NNC **17** 21:07:49.4±3.6,5084N×9249E,h0km,mb3.7,mpv3.8, Error ellipse: s-maj=39.3km s-min=22.4km az=54.0*
*IDC **17** 21:07:50.9±1.8,5112N×9225E,h0km,mb3.4/1,mb1 3.4/5, mb1mx3.3/26,mbtmp3.4/5,ML3.3/4,Error ellipse: s-maj=24.5km s-min=17.6km az=22.0*
*ISCJB **17** 21:07:51.5±0.4,5111N±004×9213E±004,h10km,mb3.5/3, Error ellipse: s-maj=5.5km s-min=3.9km az=173.4*
*ASRS **17** 21:07:52.8±0.7,5104N×9213E,h15km,Ms3.4*
*MOS **17** 21:07:52.8±2.3,5104N×9213E,h15km,mb4.0/1,Error ellipse: s-maj=9.5km s-min=8.7km az=130.9*
*NEIC **17** 21:07:54.0±0.9,5111N×9192E,h10km,mb3.7/2,Error ellipse: s-maj=13.8km s-min=11.8km az=155.0*
*BJI **17** 21:07:53.9,5110N×9190E,h10km,ML4.3*
ISC 17 21:07:53.3±0.4,5111N±004×9219E±004,h10km,n45, σ1§14/59,mb3.6/3,9C-9D,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KZLR	**Kyzyl**	**1.54**	**66**	*e*Pg	**Pg**	**21 08 21.7**	**-1.1**
KZLR				*e*Sg	**Sg**	**21 08 43.0**	**+0.3**
CERR	**Cheremushki**	**1.81**	**345**	*e*PN	**Pg**	**21 08 27.7**	**-0.3**
CERR				*e*		21 08 51.9	
CERR	**Cheremushki**	**1.81**	**345**	*e*Pg	**Pg**	**21 08 27.7**	**-0.3**
CERR				*e*Sg	**Sg**	**21 08 51.9**	**+0.5**
ARTR	**Artybash**	**3.15**	**284**	*e*Pn	**Pn**	**21 08 44.7**	**+1.8**
ARTR				*e*Pg	**Pg**	**21 08 49.9**	**-3.7**
ARTR				*e*Sg	**Sg**	**21 09 29.5**	**-4.8**
ELT	**Yel'tsovka**	**4.25**	**303**	*e*PN	**Pb**	**21 09 08.8**	**+0.8**
ELT				*e*		21 10 05.2	
ELT	**Yel'tsovka**	**4.25**	**303**	*e*Pn	**Pn**	**21 08 59.2**	**+1.2**
ELT				*e*Pg	**Pb**	**21 09 08.8**	**+0.8**
ELT				*e*Sg	**Sg**	**21 10 05.2**	**-4.4**
UKR	**Ust'-Kan**	**4.69**	**271**	*e*PN	**Pb**	**21 09 15.8**	**+0.3**
UKR	**Ust'-Kan**	**4.69**	**271**	*e*Pn	**Pn**	**21 09 05.3**	**+1.3**
UKR				*e*Pg	**Pb**	**21 09 15.8**	**+0.3**
UKR				*e*Sg	**Sg**	**21 10 19.8**	**-3.9**
KRAR	**Krasnoyarsk**	**4.92**	**4**	P	**Pn**	**21 09 07.3**	**0.0**
ZAA0	**Zalesovo Array**	**5.32**	**305**	*e*Pn	**Pn**	**21 09 11.0**	**-1.7**
ZALV	**Zalesovo Beam**	**5.32**	**305**	Pn	**Pn**	**21 09 13.1**	**+0.4**
	0.7nm,0.3s,baz=124,slow=11,SNR=14						
ZALV				Pg	**Pg**	**21 09 28.4**	**-6.7**
	6.0nm,0.3s,baz=120,slow=16,SNR=37						
ZALV				Lg		21 10 38.1	
	13nm,0.3s,baz=113,slow=26,SNR=11						
ZAL	**Zalesovo**	**5.33**	**305**	PN	**Pn**	**21 09 13.1**	**+0.3**
ZAL						21 09 28.5	
ZAL						21 10 38.1	
MOY	**Mondy**	**5.54**	**81**	*e*PN	**Pb**	**21 09 30.7**	**+0.7**
MOY				*e*		21 10 43.5	
MOY				pmax	pmax		
	comp=Z,42nm,0.6s						
MOY				smax			
	comp=N,429nm,1.8s						
NVS	**Novosibirsk**	**6.57**	**308**	*e*PN	**Pn**	**21 09 30.4**	**+0.5**
NVS				*e*		21 09 50.2	
NVS				*e*		21 10 45.5	
NVS	**Novosibirsk**	**6.57**	**308**	*e*Pg	**Pg**	**21 09 50.2**	**-8.8**
NVS				*e*Sn	**Sn**	**21 10 45.0**	**+0.2**
NVS				*e*Sg	**Sg**	**21 11 17.7**	**-6.4**
ZAK	**Zakamensk**	**7.08**	**92**	*e*PN	**Pn**	**21 09 39.0**	**+2.2**
ZAK				*e*		21 11 29.9	
ZAK				smax			
	comp=Z,337nm,1.6s						
TLY	**Talaya**	**7.19**	**81**	*e*Pn	**Pn**	**21 09 42.5**	**+4.2**
	comp=Z,8.6nm,0.6s						
TLY	**Talaya**	**7.19**	**81**⇑	*e*P	**Pn**	**21 09 38.2**	**-0.2**
IRK	**Irkutsk**	**7.60**	**77**	*e*P	**Pb**	**21 10 06.1**	**+1.1**
IRK				pmax	pmax		
	comp=Z,22nm,1.6s						
MK31	**Makanchi Array**	**7.82**	**240**	⇓Pn	**Pn**	**21 09 47.2**	**+0.1**
	comp=Z,4.9nm,0.7s,baz=54,slow=13,SNR=9.0						
MK31				⇓Lg		21 11 55.8	
	comp=Z,32nm,0.7s,baz=51,slow=31,SNR=5.8						
MK31	**Makanchi Array**	**7.82**	**240**	*e*P	**Pn**	**21 09 47.1**	**+0.1**
MKAR	**Makanchi Array**	**7.82**	**240**	Pn	**Pn**	**21 09 47.3**	**+0.3**
	comp=Z,1.4nm,0.3s,baz=55,slow=15,SNR=24						
MKAR				Lg		21 11 57.7	
	comp=Z,2.1nm,0.3s,baz=40,slow=21,SNR=7.3						
WMQ	**Urumqi**	**7.90**	**204**	*e*P	**Pn**	**21 09 49.5**	**+1.3**
WMQ				Smax			
	comp=N,89nm,1.0s						
WMQ				Smax			
	comp=E,87nm,0.8s						
KURK	**Kurchatov**	**8.59**	**273**	⇑Pn	**Pn**	**21 09 57.4**	**-0.2**
	comp=E,4.5nm,1.1s						
KURK				⇓Lg		21 12 28.1	
	comp=E,50nm,1.1s						
KURK	**Kurchatov**	**8.59**	**273**	*e*Pn	**Pn**	**21 09 56.9**	**-0.7**
	comp=E,6.2nm,0.6s						
KURK	**Kurchatov**	**8.59**	**273**⇓	*e*P	**Pn**	**21 09 57.2**	**-0.3**
KURBB	**Kurchatov Arra**	**8.66**	**272**	⇓Pn	**Pn**	**21 09 58.4**	**-0.1**
	comp=E,1.6nm,0.7s						
KURBB				⇓Lg		21 12 30.2	
	comp=E,26nm,0.8s						
SONM	**Songino Array**	**9.81**	**104**	Pn	**Pn**	**21 10 12.5**	**-1.8**
	comp=E,0.1nm,0.3s,baz=298,slow=15,SNR=6.2						
SONM				Pg	Pn	21 10 46.2	+32
	comp=E,0.4nm,0.3s,baz=293,slow=16,SNR=27						
SONM				Lg		21 12 59.5	
	comp=E,1.2nm,0.3s,baz=286,slow=28,SNR=12						
ULN	**Ulaanbaatar**	**10.20**	**103**⇑	*i*P	**Pn**	**21 10 17.5**	**-2.1**
VOSK	**Vostochnaya**	**13.19**	**285**	⇑Pn	**Pn**	**21 10 58.0**	**-2.4**
	comp=E,2.5nm,1.1s						
VOSK				⇑Sn	**Sn**	**21 13 31.6**	**+4.6**
	comp=E,0.5nm,0.5s						
BVA0	**Borovoye Array**	**13.54**	**287**	⇑Pn	**Pn**	**21 11 11.1**	**+5.8**
	comp=E,0.1nm,0.6s,baz=79,slow=14,SNR=6.4						
BVA0				⇓Sn	**Sn**	**21 13 42.8**	**+7.2**
	comp=E,1.2nm,1.1s,baz=98,slow=12,SNR=5.7						
BVAR	**Borovoye Array**	**13.54**	**287**	Pn	**Pn**	**21 11 02.2**	**-3.0**
	comp=E,0.1nm,0.3s,baz=76,slow=14,SNR=7.7						
BVAR				Lg		21 15 01.7	
	comp=E,0.2nm,0.3s,baz=71,slow=23,SNR=3.7						
BRVK	**Borovoye**	**13.60**	**287**	*e*Pn	**Pn**	**21 11 14.5**	**+8.4**
	comp=E,2.9nm,0.8s						
BRVK	**Borovoye**	**13.60**	**287**	*e*P	**Pn**	**21 11 14.5**	**+8.4**
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.8s						
UCH	**Uchtor**	**15.01**	**241**	Pn	**Pn**	**21 11 26.8**	**+1.5**
EKS2	**Erkin-Say**	**15.13**	**243**	*e*Pn	**Pn**	**21 11 23.5**	**-3.4**
	comp=Z,4.1nm,0.8s						
KK31	**Karatay Array**	**16.75**	**250**	Pn	**Pn**	**21 11 48.4**	**+0.5**
	comp=Z,0.7nm,0.7s,baz=56,slow=13,SNR=4.9						
KK31				⇑Lg		21 16 40.6	
	comp=Z,17nm,1.7s,baz=53,slow=28,SNR=4.2						
HIA	**Hailar**	**17.70**	**85**⇓	*e*P	**Pn**	**21 11 59.2**	**-0.5**
ARU	**Arti**	**20.43**	**298**	*e*P	**P**	**21 12 29.1**	**-1.3**
	comp=Z,2.7nm,0.6s						
ARU	**Arti**	**20.43**	**298***c*	*i*P	**P**	**21 12 31.4**	**+1.0**
ARU				*e*PPP		21 12 55.2	
ARU				*e*S	**S**	**21 16 23.5**	**+4.5**
ARU				*e*SS		21 16 41.0	
LSA	**Lhasa**	**21.40**	**182**	P	**P**	**21 12 40.6**	**-0.5**
	comp=Z,2.4nm,0.7s,mb3.6						
AKTK	**Aktyubinsk**	**21.52**	**282**	P	**P**	**21 12 41.3**	**-0.9**
AKTO	**Aktyubinsk**	**21.52**	**282**	P	**P**	**21 12 41.3**	**-0.9**
	comp=Z,0.9nm,0.5s,mb3.4,baz=93,slow=14,SNR=4.3						
TIXI	**Tiksi**	**26.30**	**25**⇓	*e*P	**P**	**21 13 28.0**	**-0.6**
TIXI				pmax	pmax		
	comp=Z,3.0nm,1.3s,mb3.7						
SEY	**Seymchan**	**33.52**	**46**⇑	*e*P	**P**	**21 14 33.3**	**+0.7**

GUC 17 21:48:13.0±0.6,2812S×6927W,h127km±110km,ML3.6, 1C-2D,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VACH	**Vallenar**	**1.39**	**250**⇓	*i*P	Pn	21 48 39.6	0.0
VACH				*i* S	Sn	21 49 00.6	+0.7
VACH				AML	AML	21 49 02.7	
	comp=N,3μm,0.1s						
CDCH	**Caldera**	**1.73**	**307**⇓	*i*P	Pn	21 48 44.0	+0.4
CDCH				*i* S	Sn	21 49 07.0	+0.1
CDCH				AML	AML	21 49 08.0	
	comp=N,218nm,0.4s						
TLL	**Tololo Astrono**	**2.44**	**213**⇑	*i*P	Pn	21 48 51.8	-0.6
TLL				*i* S	Sn	21 49 22.4	-0.2
TLL				AML	AML	21 49 28.8	
	comp=N,170nm,0.5s						
CPN1	**Cerro Paranal**	**3.62**	**343**	*e*P	Pn	21 49 08.9	+1.2

GUC 17 21:59:12.0±0.5,3037S×7220W,h3km±12km,MD3.7, ML2.8,1C-1D,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OVCH	**Ovalle**	**0.90**	**106**	*e*P	Pg	21 59 28.9	-0.2
OVCH				*i* S	Sg	21 59 42.6	+1.9
OVCH				AML	AML	21 59 43.9	
	comp=N,537nm,0.3s						
LSCH	**La Serena**	**0.94**	**61**	*i* P	Pg	22 00 19.0	+49
LSCH				*i* S	Sg	22 00 32.6	+50
LSCH				AML	AML	22 00 36.2	
	comp=E,118nm,0.6s						
TLL	**Tololo Astrono**	**1.22**	**81**⇓	*i*P	Pg	21 59 35.3	-0.2
TLL				*i* S	Sg	21 59 52.6	+1.3
TLL				AML	AML	21 59 57.7	
	comp=E,279nm,0.4s						
CMCH	**Combarbala**	**1.31**	**128**⇑	*i*P	Pg	21 59 36.0	-1.1
CMCH				AML	AML	22 00 00.5	
	comp=E,1μm,0.8s						
FCH	**Farellones**	**3.37**	**152**	*e*P	Pn	22 00 07.4	+1.9
FCH				AML	AML	22 01 09.8	
	comp=E,35nm,0.5s						

*THE **17** 22:02:40.2,3437N×2372E,h3km*
*NEIC **17** 22:02:49.8,3490N×2403E,h2km,MD3.5(ATH),After ATH.*
*CSEM **17** 22:02:50.2±0.2,3487N×2412E,h2km,MD3.5,Error ellipse: s-maj=6.4km s-min=4.5km az=104.0*
ATH 17 22:02:49.8,3490N×2403E,h2km,MD3.5/4,Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GVD	**Gavdhos**	**0.08**	**142**	*e*Pg	Pg	22 02 51.0	-0.3
GVD				*e*Sg	Sg	22 02 59.8	+7.5
GVD	**Gavdhos**	**0.08**	**142**	*e*PG	Pg	22 02 51.5	+0.2
KARN	**Karanos**	**0.51**	**350**	*e*Pg	Pg	22 03 00.3	+0.8
VAM	**Vamos**	**0.53**	**15**	*e*PG	Pg	22 03 00.7	+0.8
VAM				*e*SG	Sg	22 03 07.4	+0.7
SIVA	**Sivas**	**0.65**	**79**	*e*Pg	Pg	22 03 01.0	-1.3
SIVA				*e*Sg	Sg	22 03 17.7	+7.0
NPS	**Neapolis**	**1.35**	**74**	*e*PB	Pb	22 03 15.1	-0.7
VLI	**Veliai**	**2.02**	**334**	*e*PN	Pn	22 03 26.9	+2.0

*PGC **17** 22:11:12.4±3.5,6969N×14499W,h10km,ML3.2/1,141km east of Prudhoe Bay, Ak Alaska*
NEIC 17 22:11:11.7,6967N×14471W,h22km,ML3.2(AEIC), ML3.2(PGC),After AEIC.,Northern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BM3	**Burnt Mountain**	**2.27**	**179**	P	Pn	22 11 48.0	+0.3
BM3				S	Sn	22 12 17.6	+2.7
COLD	**Coldfoot**	**3.19**	**222**	P	Pn	22 12 00.9	+0.5
INK	**Inuvik**	**4.25**	**104**	*e*Pn	Pn	22 12 17.7	+2.7
INK				Sn	Sn	22 13 02.4	-1.5
INK	**Inuvik**	**4.25**	**104**	Pn	Pn	22 12 17.8	+2.8
INK				Sn	Sn	22 13 06.3	+2.4
IMA2	**Indian Mountai**	**4.96**	**227**	*e*Pn	Pn	22 12 24.8	+0.1
IMA2				Pg	Pn	22 12 38.1	+13
IMA2				Sn	Sn	22 13 21.6	+0.3
COLA	**College**	**4.97**	**196**	P	Pn	22 12 26.4	+1.5
IL1	**Eielson Array**	**5.00**	**191**	P	Pn	22 12 26.2	+1.0
IM3	**Indian Mountai**	**5.04**	**227**	P	Pn	22 12 26.4	+0.6
EGAK	**Eagle**	**5.11**	**163**	P	Pn	22 12 27.2	+0.5
DAWY	**Dawson**	**6.01**	**157**	P	Pn	22 12 40.1	+1.0
DAWY				S	Sn	22 13 48.7	+1.7
DAWY	**Dawson**	**6.01**	**157**	Pn	Pn	22 12 40.2	+1.1
DAWY				Sn	Sn	22 13 46.8	-0.2
DOT	**Dot Lake**	**6.06**	**177**	P	Pn	22 12 41.3	+1.6
MCK	**McKinley**	**6.20**	**198**	P	Pn	22 12 42.7	+1.0
KTH	**Kantishna Hill**	**6.62**	**205**	P	Pn	22 12 48.3	+0.8
TRF	**Thorofare Moun**	**6.63**	**202**	P	Pn	22 12 47.9	+0.3
BCA3	**Beaver Creek A**	**6.74**	**169**	P	Pn	22 12 50.1	+1.0
MENT	**Mentasta**	**6.78**	**176**	P	Pn	22 12 50.6	+1.0
HYT	**Haines Junctio**	**9.37**	**158**	Pn	Pn	22 13 27.1	+1.9
WHY	**Whitehorse**	**9.93**	**151**	Pn	Pn	22 13 33.8	+1.0

*NEIC **17** 22:14:50.8,1615N×9489W,h41km,MD3.7(MEX),After MEX.*
MEX 17 22:14:50.8±0.8,1615N×9489W,h41km±999km,MD3.7, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMIG	**Matias Romero**	**0.94**	**1**	*i* P	Pn	22 15 05.6	-1.9
CMIG				*i* S	Sn	22 15 17.7	-2.0
OXX	**Oaxaca**	**1.98**	**298**	*i* P	Pn	22 15 21.0	-0.9
OXX				*i* S	Sn	22 15 43.5	-2.0
VHO	**Vista Hermosa**	**1.99**	**298**	*i* P	Pn	22 15 20.2	-1.7
VHO				*i* S	Sn	22 15 43.4	-2.3
CCIG	**Comitan**	**2.65**	**87**	*i* P	Pn	22 15 30.9	-0.2
CCIG				*i* S	Sn	22 15 58.8	-3.1

*IDC **17** 22:22:20.6±0.9,2994N×12676E,h0km,mb3.8/7,mb1 4.0/7, mb1mx3.9/16,mbtmp3.9/7,MS3.6/3,Ms1 3.7/3, ms1mx3.1/26,Error ellipse: s-maj=76.6km s-min=16.4km az=75.0*
*NEIC **17** 22:22:21.8±0.6,2986N×12691E,h10km,mb4.2/4,Error ellipse: s-maj=50.2km s-min=8.6km az=69.0*
*ISCJB **17** 22:22:23.5±0.7,3015N±01×1268E±03,h33km,mb4.0/9, MS3.6/3,Error ellipse: s-maj=51.4km s-min=10.7km az=163.1*
ISC 17 22:22:25.5±0.7,3015N±01×1269E±03,h35km,n16,σ0§58/12, mb4.0/9,MS3.6/3,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**20.68**	**58**	LR	LR	22 33 16.0	
	comp=Z,166nm,21.0s,MS3.4,baz=123,slow=32						
FITZ	**Fitzroy Crossi**	**20.95**	**183**	P	**P**	**22 27 05.5**	**-0.1**
	1.4nm,0.7s,baz=45,slow=5.7,SNR=3.5						
WRAB	**Tennant Creek**	**23.89**	**162**	*e*P	**P**	**22 27 36.1**	**0.0**
	6.1nm,0.8s,mb4.1						
WRA	**Warramunga Arr**	**23.90**	**162**	P	**P**	**22 27 35.9**	**-0.3**
	2.7nm,0.5s,mb4.0,baz=341,slow=9.2,SNR=50						
WB2	**Warramunga Arr**	**23.90**	**162**	*e*P	**P**	**22 27 35.7**	**-0.5**
ASAR	**Alice Springs**	**27.32**	**166**	P	**P**	**22 28 07.5**	**+0.3**
	0.7nm,0.7s,mb3.3,baz=353,slow=7.3,SNR=11						
KSRS	**Korea Array**	**34.35**	**1**	P	**P**	**22 29 09.0**	**-0.1**
	2.0nm,0.9s,mb4.0,baz=175,slow=9.0,SNR=5.9						
STKA	**Stephens Creek**	**37.35**	**159**	*e*P	**P**	**22 29 35.0**	**+0.2**
	4.9nm,0.9s,mb4.3						
STKA	**Stephens Creek**	**37.35**	**159**	P	**P**	**22 29 35.5**	**+0.7**
	5.6nm,0.8s,mb4.4,baz=330,slow=7.6,SNR=9.6						
SONM	**Songino Array**	**48.08**	**342**	P	**P**	**22 31 02.3**	**+0.6**
	0.3nm,0.5s,mb3.5,baz=167,slow=9.6,SNR=3.7						
MKAR	**Makanchi Array**	**58.28**	**325**	P	**P**	**22 32 16.1**	**-0.6**
	0.6nm,0.5s,mb3.9,baz=120,slow=8.8,SNR=7.4						
ZALV	**Zalesovo Beam**	**61.35**	**333**	LR	LR	23 00 36.0	
	comp=Z,32nm,18.6s,MS3.5,baz=43,slow=37						
KURK	**Kurchatov**	**62.48**	**328**	P	**P**	**22 32 44.4**	**-1.0**
	3.0nm,0.8s,mb4.5						
MALT	**Malatya**	**86.98**	**308**	P	**P**	**22 35 08.6**	**+1.1**
	1.1nm,0.7s,mb4.2						
NOA	**NORSAR Array B**	**99.55**	**334**	LR	LR	23 22 29.1	
	comp=Z,44nm,18.4s,MS4.0,baz=280,slow=36						
TORD	**Torodi Ar. Bea**	**123.31**	**288**	PKP	PKPdf	22 41 20.5	+0.6
	0.6nm,0.8s,baz=100,slow=1.9,SNR=3.6						

MEX 17 23:13:32.6±0.4,1728N×9900W,h25km±137km,MD3.5, Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MEIG	**Mezcala**	**0.87**	**318**	*i* P	Pb	23 13 46.4	-2.7
MEIG				*i* S	Sb	23 13 57.3	-3.0
ACX	**Acapulco**	**0.97**	**245**	*i* P	Pn	23 13 47.5	-3.1
ACX				*i* S	Sb	23 14 00.0	-3.1
PLIG	**Platanillo**	**1.21**	**337**	*i* P	Pn	23 13 51.5	-2.4
PLIG				*i* S	Sn	23 14 05.8	-3.7
PPM	**Popocatepetl**	**1.81**	**11**	*i* P	Pn	23 14 00.4	-1.8
PPM				*i* S	Sn	23 14 21.7	-2.7

*NEIC **17** 23:29:52.9,1720N×10033W,h25km,MD4.0(MEX),After MEX.*
MEX 17 23:29:52.9±0.6,1720N×10033W,h27km±6km,MD4.0, Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CAIG	**El Cayaco**	**0.16**	**159**	*i* P	Pb	23 29 56.7	-1.6
CAIG				*i* S	Sb	23 30 00.6	-1.4
ACX	**Acapulco**	**0.51**	**130**	*i* P	Pb	23 30 02.0	-1.4
ACX				*i* S	Sb	23 30 08.5	-2.0
MEIG	**Mezcala**	**0.99**	**43**	*i* P	Pn	23 30 08.1	-3.0
MEIG				*i* S	Sb	23 30 20.9	-3.2
ZIIG	**Zihuatanejo**	**1.16**	**291**	*i* P	Pn	23 30 10.8	-2.6
ZIIG				*e*S	Sn	23 30 25.2	-3.2
PLIG	**Platanillo**	**1.43**	**33**	*i* P	Pn	23 30 16.1	-1.0
PLIG				*e*S	Sn	23 30 36.0	+1.1
PLIG	**Platanillo**	**1.43**	**33**	*i* P	Pn	23 30 15.5	-1.6
PLIG				*i* S	Sn	23 30 31.7	-3.2
YAIG	**Yautepec**	**2.04**	**36**	*i* P	Pn	23 30 23.8	-1.8
YAIG				*e*S	Sn	23 30 50.5	+0.2
YAIG	**Yautepec**	**2.04**	**36**	*i* P	Pn	23 30 23.8	-1.8
YAIG				*i* S	Sn	23 30 48.8	-1.5
PNIG	**Pinotepa**	**2.25**	**110**	*i* P	Pn	23 30 29.3	+0.8
PNIG				*e*S	Sn	23 30 59.6	+4.2
PNIG	**Pinotepa**	**2.25**	**110**	*i* P	Pn	23 30 26.3	-2.2
PNIG				*i* S	Sn	23 30 51.8	-3.6
PPM	**Popocatepetl**	**2.46**	**41**	*e*P	Pn	23 30 28.0	-3.4
PPM				*i* P		23 30 32.5	
PPM				*e*S

LBZ	Lake Benmore	2.09 79	PN	Pn	23 35 07.9	-0.6
FOZ	Fox Glacier	2.11 54	PN	Pn	23 35 08.3	-0.6
SYZ	Scrubby Hill	2.14 144	PN	Pn	23 35 08.7	-0.6
ODZ	Otahua Downs	2.37 97	PN	Pn	23 35 11.5	-1.0
HHSZ	Highcliff Hill	2.54 116	PN	Pn	23 35 14.3	-0.5
RPZ	Rata Peaks	2.90 69	PN	Pn	23 35 18.6	-1.1
SNZO	South Karori	6.44 60	*e*Pn	Pn	23 36 07.7	-0.8
SNZO			*e*Sn	Sn	23 37 16.2	-5.0
TAU	Tasmania Unive	14.56 270	*e*Pn	Pn	23 38 00.1	+0.6
	2.5nm,0.5s					
CASY	Casey	36.86 214	P	P	23 41 40.5	-0.8
WRAB	Tennant Creek	36.89 301	P	P	23 41 41.6	-0.3
QSPA	South Pole Qui	45.31 180	P	P	23 42 52.5	+1.9
MBWA	Marble Bar	45.57 285	*e*P	P	23 42 53.2	-0.1
	8.9nm,1.0s					
TRQA	Tornquist	86.28 143	P	P	23 47 14.6	-0.4

*IDC **17** 23:52:23.0±3.9, 479S×1534.1E, h0km, mb3.9/6, mb1 4.0/6, mb1mx3.9/14, mbtmp3.9/6, MS3.8/2, Ms1 3.8/2, ms1mx2.8/24, Error ellipse: s-maj=127.9km s-min=26.3km az=111.0*

*NEIC **17** 23:52:28.8±1.6, 480S×1533.2E, h35km, mb4.5/3, Error ellipse: s-maj=50.6km s-min=13.5km az=114.0*

ISC 17 23:52:29.6±2.8, 48S±02×1532E±05, h35km, n13, σ0§36/10, mb4.0/8, MS3.7/2, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
GUMO	Guam	20.03	336	LR			LR	00 02 26.9	
	comp=Z,35nm,19.2s,MS2.7,baz=83,slow=30								
KAKA	Kakadu	21.97	248	*e*P			P	23 57 21.1	+0.4
	16nm,0.6s,mb4.6								
WRAB	Tennant Creek	23.75	229	*e*P			P	23 57 39.0	+0.1
	7.3nm,0.8s,mb4.2								
WB2	Warramunga Arr	23.76	229	*e*P			P	23 57 39.0	0.0
WRA	Warramunga Arr	23.77	229	P			P	23 57 38.8	-0.3
	3.7nm,0.5s,mb4.1,baz=51,slow=9.8,SNR=24								
ASAR	Alice Springs	26.44	223	P			P	23 58 03.9	+0.4
	0.6nm,0.6s,mb3.3,baz=51,slow=8.9,SNR=4.2								
FITZ	Fitzroy Crossi	30.03	242	*e*P			P	23 58 34.7	-0.8
	4.7nm,0.5s,mb4.5								
FITZ	Fitzroy Crossi	30.03	242	P			P	23 58 34.8	-0.7
	2.7nm,0.5s,mb4.2,baz=67,slow=9.1,SNR=6.9								
RAO	Raoul Island	36.61	135	LR			LR	00 11 45.6	
	comp=Z,1μm,18.7s,MS4.7,baz=241,slow=32								
SONM	Songino Array	66.51	328	P			P	00 03 15.7	-0.1
	0.5nm,0.6s,mb3.7,baz=147,slow=6.8,SNR=3.8								
MKAR	Makanchi Array	80.57	319	P			P	00 04 38.9	+0.4
	0.7nm,0.7s,mb3.7,baz=99,slow=7.5,SNR=7.7								
ZALV	Zalesovo Beam	81.35	326	P			P	00 04 42.3	-0.2
	0.3nm,0.3s,mb3.7,baz=88,slow=4.6,SNR=2.6								
TORD	Torodi Ar. Bea	150.68	288	PKPbc			PKPbc	00 12 18.0	-1.2
	0.7nm,0.6s,baz=64,slow=2.3,SNR=7.4								
TORD				PKPab			PKPab	00 12 24.7	-1.4
	0.6nm,0.7s,baz=86,slow=1.8,SNR=7.5								

*CSEM **17** 23:53:51.6±0.2, 3058N×4987E, h2km, mb4.6, Error ellipse: s-maj=5.7km s-min=3.4km az=145.0*

*KISR **17** 23:53:51.7±0.9, 3050N×4969E, h4km±81km, ML2.8*

*SGS **17** 23:53:54.4, 3089N×4939E, h25km*

ISC 17 23:53:54.7±2.6, 3050N±008×495E±01, h2km±15km, n17, σ1§45/27, Western Iran

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
UMR	Umm Al-Rimmam	1.80	239	*e*P			Pg	23 54 28.5	-0.6
UMR				*e*S			Sg	23 54 56.1	+3.8
UMR				AML			AML	23 54 57.8	
	comp=Z,132nm,0.3s								
UMR	Umm Al-Rimmam	1.80	239	*e*P			Pg	23 54 28.5	-0.6
UMR				*e*S			Sg	23 54 56.2	+3.8
MIB	Mutribah	1.98	250	*e*P			Pg	23 54 31.5	-1.1
MIB				*e*S			Sg	23 55 00.9	+2.7
MIB				AML			AML	23 55 02.1	
	comp=Z,101nm,0.5s								
MIB	Mutribah	1.98	250	*e*P			Pg	23 54 31.5	-1.1
MIB				*e*S			Sg	23 55 00.9	+2.6
KBD	Kabd	2.04	230	*e*P			Pb	23 54 31.8	-0.5
KBD				*e*S			Sg	23 55 02.1	+2.0
KBD				AML			AML	23 55 06.4	
	comp=Z,171nm,0.3s								
KBD	Kabd	2.04	230	*e*P			Pb	23 54 31.8	-0.5
KBD				*e*S			Sg	23 55 02.1	+2.0
QRN	Al-Qurain	2.21	218	*e*P			Pb	23 54 34.0	-1.3
QRN				*e*S			Sg	23 55 05.3	-0.5
QRN				AML			AML	23 55 06.2	
	comp=Z,19nm,0.2s								
RDF	Al-Radifah	2.30	227	*e*P			Pg	23 54 35.4	-3.2
RDF				AML			AML	23 55 07.0	
	comp=Z,16nm,0.3s								
RDF				*e*S			Sg	23 55 07.8	-0.7
RDF	Al-Radifah	2.30	227	*e*P			Pg	23 54 35.4	-3.3
RDF				*e*S			Sg	23 55 07.8	-0.6
	comp=Z,16nm,0.3s								
NAY	Al-Naaiem	2.31	238	*e*P			Pn	23 54 35.0	+1.4
NAY	Al-Naaiem	2.31	238	*e*P			Pn	23 54 35.0	+1.3
ASYS		5.40	239	P			Pn	23 55 14.2	-2.0
BTHS		6.54	169	P			Pn	23 55 33.3	+1.4
BTHS		6.54	169	P			Pn	23 55 33.3	+1.4
BTHS				S			Sn	23 56 47.3	+0.2
HRDDS		7.54	180	P			Pn	23 55 48.9	+3.3
LYLS		8.66	194	S			Sn	23 57 37.8	-1.4
LYLS		8.66	194	P			Pn	23 56 01.9	+0.9

*TEH **18** 00:12:58.4, 3096N×5034E, h10km, ML4.5*

*ISCJB **18** 00:14:43.7±0.1, 3089N±002×5027E±002, h10km, mb4.6/132, MS3.6/22, Error ellipse: s-maj=2.3km s-min=1.9km az=28.3*

*SZGRF **18** 00:14:43.5, 3003N×5030E, h33km, mb4.7, Northern and central Iran*

*IDC **18** 00:14:44.1±0.7, 3100N×5036E, h0km, mb4.4/21, mb1 4.5/24, mb1mx4.4/29, mbtmp4.4/24, ML3.9/3, MS3.6/14, Ms1 3.6/14, ms1mx3.5/34, Error ellipse: s-maj=16.6km s-min=13.0km az=150.0*

*CSEM **18** 00:14:44.1±0.0, 3093N×5022E, h15km, mb4.6/99, Ms3.9, Error ellipse: s-maj=1.6km s-min=1.0km az=11.0*

*NEIC **18** 00:14:45.2, 3088N×5027E, h15km, mb4.6/85, MS3.6/3, ML4.6(THR), MN4.5(TEH), After THR.*

*THR **18** 00:14:45.9±1.1, 3089N×5040E, h14km±9km, ML4.4*

*BJI **18** 00:14:45.9, 3172N×5008E, h10km, mB5.0, mb4.6*

*MOS **18** 00:14:47.8±0.8, 3104N×5026E, h38km, mb4.7/57, Error ellipse: s-maj=6.5km s-min=3.3km az=126.5*

ISC 18 00:14:45.7±0.1, 3090N±002×5026E±002, h10km, n555, σ1§15/605, mb4.6/132, MS3.6/22, 28C-10D, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SHGR	Shooshtar-Gavs	1.74	314	*e*Pg			Pg	00 15 18.9	-0.1
SHGR				*e*Sg			Sg	00 15 43.9	+2.4
SHGR				AML			AML	00 15 48.3	
	comp=E,8μm,0.8s								
SHGR	Shooshtar-Gavs	1.74	314	*e*Pg			Pg	00 15 18.9	-0.1
	SNR=90								
SHGR				*e*Sg			Sg	00 15 43.9	+2.4
	comp=E,8μm,0.8s,SNR=90								
IGAR	Gharneh	2.13	45	*e*Pn			Pn	00 15 18.6	-2.8
IGAR				*e*Sn			Sn	00 15 48.2	+0.3
IGAR				*e*				00 15 54.4	
	comp=Z,49μm,0.3s								
IGAR	Gharneh	2.13	45	*e*Sn			Sn	00 15 48.2	+0.3
SHI	Shiraz	2.31	122	Pn			Pn	00 15 26.3	+2.5
SHI				Sn			Sn	00 15 54.4	+2.1
SHI	Shiraz	2.31	122	*e*Pn			Pn	00 15 26.3	+2.5
SHI				*e*Sn			Sn	00 15 54.5	+2.2
SHI				*e*				00 16 06.4	
	comp=Z,28μm,0.2s								
SHI	Shiraz	2.31	122	*e*Pn			Pn	00 15 26.3	+2.5
SHI				*e*Sn			Sn	00 15 54.5	+2.2
UMR	Umm Al-Rimmam	2.58	239	*e*P			Pn	00 15 32.2	+4.8
UMR				AML			AML	00 16 10.0	
	comp=Z,842nm,0.4s								
UMR	Umm Al-Rimmam	2.58	239	*e*P			Pn	00 15 32.2	+4.7
IPAR	Pars	2.63	113	Pn			Pn	00 15 30.0	+1.9
IPAR				Sn			Sn	00 16 01.2	+1.1
IPAR	Pars	2.63	113	*e*Pn			Pn	00 15 30.1	+2.0
IPAR				*e*Sn			Sn	00 16 01.3	+1.2
IPAR				*e*				00 16 15.6	
	comp=Z,10μm,0.3s								
IPAR	Pars	2.63	113	*e*Pn			Pn	00 15 30.1	+2.0
IPAR				*e*Sn			Sn	00 16 01.3	+1.2
IZEF	Zefreh	2.66	41	Pn			Pn	00 15 26.0	-2.5
IZEF				Sn			Sn	00 16 00.1	-0.7
IZEF	Zefreh	2.66	41	*e*Pn			Pn	00 15 26.1	-2.4
IZEF				*e*				00 15 47.4	
	comp=Z,8μm,0.3s								
IZEF				*e*Sn			Sn	00 16 00.2	-0.6
IZEF	Zefreh	2.66	41	Pn			Pn	00 15 26.0	-2.5
IZEF				*e*Sn			Sn	00 16 00.2	-0.6
IKLH	Kolahrood	2.66	24	*e*Pn			Pn	00 15 25.7	-2.9
IKLH				*e*				00 16 22.4	
	comp=Z,33μm,0.5s								
MIB	Mutribah	2.75	247	*e*P			Pn	00 15 34.0	+4.2
MIB				AML			AML	00 16 11.2	
	comp=Z,1μm,0.6s								
KBD	Kabd	2.81	233	*e*P			Pn	00 15 35.6	+4.9
KBD				AML			AML	00 16 14.0	
	comp=Z,2μm,0.3s								
IMOK	Mouk	2.82	130	*e*Pn			Pn	00 15 32.4	+1.7
NASN	Na'in	2.88	48	*e*Pn			Pn	00 15 32.6	+1.0
NASN				*e*Sg			Sg	00 16 13.5	-4.7
NASN	Na'in	2.88	48	*e*Pn			Pn	00 15 32.0	+0.4
ISRV	Sarvestan	2.90	121	*e*Pn			Pn	00 15 33.6	+1.8
ISRV				*e*Sn			Sn	00 16 08.2	+1.5
ISRV				*e*				00 16 50.4	
	comp=Z,14μm,0.4s								
ISRV	Sarvestan	2.90	121	*e*Pn			Pn	00 15 33.6	+1.8
ISRV				*e*Sn			Sn	00 16 08.2	+1.5
QRN	Al-Qurain	2.96	224	*e*P			Pn	00 15 37.1	+4.4
QRN				AML			AML	00 16 15.4	
	comp=Z,616nm,0.3s								
RDF	Al-Radifah	3.07	231	*e*P			Pn	00 15 39.0	+4.8
RDF				AML			AML	00 16 18.9	
	comp=Z,437nm,0.4s								
NAY	Al-Naaiem	3.09	239	*e*P			Pn	00 15 39.4	+4.9
NAY				AML			AML	00 16 20.9	
	comp=Z,512nm,0.6s								
ISAD	Sadrabad	3.10	70	Pn			Pn	00 15 36.2	+1.6
ISAD				Sn			Sn	00 16 11.4	-0.3
ISAD	Sadrabad	3.10	70	*e*Pn			Pn	00 15 36.3	+1.7
ISAD				*e*Sn			Sn	00 16 11.5	-0.2
ISAD				*e*				00 16 25.8	
	comp=N,23μm,0.5s								
ISAD	Sadrabad	3.10	70	*e*Pn			Pn	00 15 36.3	+1.7
ISAD				*e*Sn			Sn	00 16 11.5	-0.2
KFJS		3.37	217	P			Pn	00 15 41.7	+3.3
GHIR	Ghir-Karzin	3.52	137	*e*Pn			Pn	00 15 41.0	+0.5
GHIR				AML			AML	00 16 47.5	
	comp=E,821nm,0.0s								
ASAO	Ashtian	3.65	357	*e*Pn			Pn	00 15 44.5	+2.4
ASAO				AML			AML	00 16 46.7	
	comp=E,522nm,0.7s								
ASAO	Ashtian	3.65	357	*e*Pn			Pn	00 15 44.5	+2.4
	SNR=52								
GHVR	GHOM	3.68	13	*e*Pn			Pn	00 15 44.8	+2.2
GHVR				AML			AML	00 17 01.4	
	comp=N,401nm,0.7s								
IMEH	Mehriz	3.76	81	Pn			Pn	00 15 45.0	+1.3
IMEH				Sn			Sn	00 16 27.1	-1.0
IMEH	Mehriz	3.76	81	*e*Pn			Pn	00 15 45.1	+1.4
IMEH				*e*Sn			Sn	00 16 27.2	-0.9
IMEH				*e*				00 16 51.4	
	comp=Z,4μm,0.3s								
IMEH	Mehriz	3.76	81	*e*Pn			Pn	00 15 45.1	+1.4
IMEH				*e*Sn			Sn	00 16 27.2	-0.9
ICHK	Chekchek	3.78	68	Pn			Pn	00 15 45.3	+1.3
ICHK				Sn			Sn	00 16 27.4	-1.2
ICHK	Chekchek	3.78	68	*e*Pn			Pn	00 15 45.3	+1.3
ICHK				*e*Sn			Sn	00 16 27.5	-1.1
ICHK				*e*				00 16 30.8	
	comp=Z,14μm,0.4s								
ICHK	Chekchek	3.78	68	*e*Pn			Pn	00 15 45.3	+1.3
ICHK				*e*Sn			Sn	00 16 27.5	-1.1
ISFB	Sefidab	3.83	25	Pn			Pg	00 15 57.9	-1.1
ISFB	Sefidab	3.83	25	*e*Pn			Pg	00 15 58.0	-1.0
ISFB				*e*				00 15 58.8	
	comp=Z,6μm,0.3s								
IKOM	Komasi	4.01	325	Pn			Pn	00 15 49.3	+2.2
IKOM				Sn			Sn	00 16 33.5	-0.7
IKOM	Komasi	4.01	325	*e*Pn			Pn	00 15 49.4	+2.3
IKOM				*e*Sn			Sn	00 16 33.6	-0.6
IKOM				*e*				00 17 07.0	
	comp=Z,16μm,0.4s								
IKOM	Komasi	4.01	325	*e*Pn			Pn	00 15 49.4	+2.3
IKOM				*e*Sn			Sn	00 16 33.6	-0.6
IRAZ	Razeghan	4.50	357	*e*Pn			Pn	00 15 54.4	+0.5
IRAZ				*e*				00 16 08.4	
	comp=Z,5μm,0.5s								
IRAZ				*e*Sn			Sn	00 16 45.6	-0.7
IBAF	Bafgh	4.59	80	*e*Pn			Pn	00 15 55.8	+0.6
IBAF				*e*Sn			Sn	00 16 46.4	-2.2
IBAF				*e*				00 17 07.9	
	comp=Z,2μm,0.3s								
IBAF	Bafgh	4.59	80	*e*Pn			Pn	00 15 55.8	+0.6
IBAF				*e*Sn			Sn	00 16 46.4	-2.2
IVIS	Veis	4.62	322	Pn			Pn	00 15 57.9	+2.4
IVIS				Sn			Sn	00 16 48.6	-0.7
IVIS	Veis	4.62	322	*e*Pn			Pn	00 15 57.9	+2.4
IVIS				*e*Sn			Sn	00 16 48.7	-0.6
IVIS				*e*				00 17 28.0	
	comp=Z,4μm,0.3s								
IVIS	Veis	4.62	322	*e*Pn			Pn	00 15 57.9	+2.4
IVIS				*e*Sn			Sn	00 16 48.7	-0.6
IGHG	Ghaleghazi	4.63	319	*e*Pn			Pn	00 15 59.3	+3.7
IGHG				*e*Sn			Sn	00 16 49.5	+0.1
IGHG				*e*				00 17 51.7	
	comp=Z,8μm,0.5s								
IGHG	Ghaleghazi	4.63	319	*e*Pn			Pn	00 15 59.3	+3.7
IGHG				*e*Sn			Sn	00 16 49.5	+0.1
SNGE	Sanandaj	4.85	330	*e*Pn			Pn	00 16 00.0	+1.4
ILIN	Lien	4.88	326	Pn			Pn	00 16 00.4	+1.4
ILIN				Sn			Sn	00 16 55.8	+0.3
ILIN	Lien	4.88	326	*e*Pn			Pn	00 16 00.5	+1.5
ILIN				*e*Sn			Sn	00 16 55.9	+0.4
ILIN				*e*				00 17 07.6	
	comp=Z,4μm,0.2s								
ILIN	Lien	4.88	326	*e*Pn			Pn	00 16 00.5	+1.5
ILIN				*e*Sn			Sn	00 16 55.9	+0.4
DAMV	Damavand	4.93	16	*e*Pn			Pn	00 16 01.0	+1.2
DAMV				AML			AML	00 17 28.1	
	comp=E,152nm,0.5s								
ILAS	Lasjerd	5.01	26	*e*Pn			Pn	00 16 01.7	+0.8
ILAS				*e*Sn			Sn	00 16 56.1	-2.8
ILAS				*e*				00 17 30.5	
	comp=Z,4μm,0.5s								
ILAS	Lasjerd	5.01	26	*e*Pn			Pn	00 16 01.7	+0.8
ILAS				*e*Sn			Sn	00 16 56.1	-2.8
THKV	Tehran--Karaj	5.03	6	*e*Pn			Pn	00 16 03.2	+2.0
THKV				AML			AML	00 17 38.7	
	comp=N,147nm,0.5s								
THKV	Tehran--Karaj	5.03	6	*e*Pn			Pn	00 16 03.0	+1.8
CHTH	Charan	5.05	8	*e*Pn			Pn	00 16 02.8	+1.4
CHTH	Charan	5.05	8	*e*Pn			Pn	00 16 02.0	+0.6
BOQSS		5.07	189	P			Pn	00 16 04.4	+2.6
IAFJ	Afjeh	5.09	13	*e*Pn			Px	00 16 15.3	
IAFJ				*e*				00 17 48.2	
	comp=Z,3μm,0.4s								
IFIR	Firoozkooh	5.17	23	*e*Pn			Pn	00 16 02.6	-0.5
IFIR				*e*				00 16 06.6	
	comp=Z,6μm,0.1s								
IANJ	Anjilo	5.49	33	Pn			Pn	00 16 07.6	+0.1
IANJ	Anjilo	5.49	33	*e*Pn			Pn	00 16 07.7	+0.2
IANJ				*e*				00 16 12.3	
	comp=Z,2μm,0.1s								
ISHM	Shahmirzad	5.51	27	*e*Pn			Pn	00 16 08.4	+0.6
ISHM				*e*				00 16 11.3	
	comp=Z,5μm,0.3s								
BHD	Baghdad	5.52	297	*e*x			x	00 16 10.0	
BHD				*e*x			x	00 17 14.5	
IPRN	Peran	5.61	17	*e*Pn			Pn	00 16 11.2	+2.2
IPRN				*e*				00 16 35.1	
	comp=Z,4μm,0.4s								
KRBR	Kerman	5.69	98	*e*Pn			Pn	00 16 11.3	+1.1
KRBR				AML			AML	00 17 17.9	
	comp=N,200nm,0.3s								
KRBR	Kerman	5.69	98	*e*Pn			Pn	00 16 11.0	+0.8
ASYS		6.18	238	P			Pn	00 16 18.4	+1.4
IGLO	Ghaloghah	6.33	27	*e*Pn			Pn	00 16 21.1	+2.1
IGLO				*e*				00 16 21.9	
	comp=Z,4μm,0.3s								
IBND	Bandar-abas	6.47	120	*e*Pn			Pn	00 16 22.4	+1.4
BTHS		6.84	176	S			Sn	00 17 41.2	-2.9
BTHS		6.84	176	P			Pn	00 16 27.8	+1.7
BANOM	Banah	7.27	132	P			Pn	00 16 31.7	-0.2
	SNR=35								
BANOM				S			Sn	00 17 46.0	-8.5
ITEG	Tejag	7.49	72	*e*Pn			Pn	00 16 35.2	+0.3
NAZ	Nazwa, Dubai	7.58	140	P			Pn	00 16 36.7	+0.5
IKOO	Kooshah	7.61	76	*e*Pn			Pn	00 16 36.6	+0.1
ASUD	Al Ashush, Dub	7.69	143	P			Pn	00 16 38.8	+1.1
	SNR=96								
HATD	Hatta, Dubai	7.97	138	P			Pn	00 16 41.3	-0.3
HRDDS		7.97	185	S			Sn	00 18 08.1	-3.7
HRDDS		7.97	185	P			Pn	00 16 42.6	+1.0
ASHO	Ashiyiah	8.04	139	P			Pn	00 16 42.2	-0.3
	SNR=31								
ASHO	Ashiyiah	8.04	139	P			Pn	00 16 42.1	-0.4
	SNR=31								
MSL	Mosul	8.04	314	*e*x			x	00 16 45.0	
MSL				*e*x			x	00 18 15.0	
ITBZ	Tabriz	8.06	336	*e*Pn			Pn	00 16 43.7	+0.9
ITBZ				*e*				00 18 01.7	
	comp=Z,203nm,0.4s								
GRMI	Germi	8.13	347	*e*Pn			Pn	00 16 45.9	+2.2
ISHB	Shabestar	8.30	334	Pn			Pn	00 16 47.9	+1.8
ISHB	Shabestar	8.30	334	*e*Pn			Pn	00 16 48.0	+1.9
ISHB				*e*				00 17 25.4	
	comp=Z,392nm,0.4s								
IMON	Monand	8.30	72	*e*Pn			Pn	00 16 46.1	0.0
IDAH	Dahanechah	8.38	75	*e*Pn			Pn	00 16 48.2	+1.1
IKRD	Kardeh	9.02	47	*e*Pn			Pn	00 17 05.6	+10
IKRD				*e*				00 28 47.0	
	comp=Z,150nm,0.0s								
IAKL	Akhelmad	9.07	49	*e*Pn			Pn	00 16 56.5	-0.2
IAKL				*e*				00 17 54.7	
	comp=Z,172nm,0.3s								
IPAY	Payeh	9.14	50	*e*Pn			Pn	00 16 57.6	0.0
IPAY				*e*				00 17 11.8	
	comp=Z,175nm,0.3s								
ZHSF	Zahedan	9.18	95	*e*P			Pn	00 16 59.0	+0.8
IMOG	Moghan	9.19	53	*e*Pn			Pn	00 16 58.8	+0.6
IMOG				*e*				00 16 59.8	
	comp=Z,239nm,0.2s								
IEMG	Emamgholi	9.51	45	*e*Pn			Pn	00 17 05.2	+2.5
MAKU	Maku	9.59	333	*e*Pn			Pn	00 17 07.0	+3.2
BRDA	Brd	9.68	346	P			Pn	00 17 08.6	+3.7
	SNR=8.4								
IMYA	Miami	9.84	54	*e*Pn			Pn	00 17 08.3	+1.2
IMYA				*e*				00 17 58.4	
	comp=Z,166nm,0.4s								
PQL	Pirkuli	9.96	353	P			Pn	00 17 12.1	+3.3
	SNR=8.7								
BSY	Bisya	10.21	141	⇓P			Pn	00 17 11.2	-1.1
	SNR=19								
SIZA	Siyzn	10.22	354	P			Pn	00 17 15.7	+3.4
	SNR=4.4								
GANJ	Ganja	10.24	343	P			Pn	00 17 15.7	+3.1
	SNR=7.9								
SMDO	Samad	10.45	137	⇓P			Pn	00 17 14.6	-1.0
	SNR=11								
SEKA	Sheki	10.58	347	P			Pn	00 17 19.8	+2.5
	SNR=7.3								
JMDO	Jabal Madar	11.01	139	P			Pn	00 17 25.2	+1.9
	SNR=6.4								
ASF	Jabal al Asfar	11.48	280	P			Pn	00 17 29.8	+0.2
ASF								00 19 35.7	
ASF	Jabal al Asfar	11.48	280	Pn			Pn	00 17 29.8	+0.2
	comp=Z,1.7nm,0.3s,baz=328,slow=12,SNR=13								
ASF				Sn			Sn	00 19 35.7	-2.1
	comp=Z,1.4nm,0.3s,baz=156,slow=18,SNR=5.3								
ASF				LR			LR	00 22 42.6	
	comp=Z,86nm,20.9s,baz=206,slow=42								
KOPT	Kop Dagi	12.08	322	*i* P			Pn	00 17 46.6	+8.8
MALT	Malatya	12.23	310	*e*Pn			Pn	00 17 41.1	+1.2
MALT	Malatya	12.23	310	*e*P			Pn	00 17 41.1	+1.2
MMAI	Mount Meron Ar	12.79	283	Pn			Pn	00 17 47.9	+0.2
	comp=Z,0.2nm,0.3s,baz=112,slow=16,SNR=2.4								
WJHS		12.85	255	P			Pn	00 17 47.7	-0.7
EIL	Elat	13.29	269	Pn			Pn	00 17 54.2	-0.2
EIL	Elat	13.29	269	Pn			Pn	00 17 54.2	-0.2
	comp=Z,0.7nm,0.3s,baz=92,slow=3.4,SNR=6.0								
WHFO	Wadi Hawf	13.31	165	P			Pn	00 17 54.1	-0.6
	SNR=30								
SHAO	Shalim	13.71	158	P			Pn	00 17 58.3	-1.9
	SNR=54								
ABTO	Aybut	13.76	168	P			Pn	00 17 60.0	-1.0
	SNR=21								
RBK	Rabkut	13.81	164	⇑P			Pn	00 17 59.6	-1.9
	SNR=18								
KIV	Kislovodsk	14.35	337	*e*Pn			Pn	00 18 11.8	+3.1
KIV	Kislovodsk	14.35	337	*c i*P			Pn	00 18 11.9	+3.2
KIV				*e*S			Sn	00 20 48.8	+0.9
KIV				pmax			pmax		
	comp=Z,54nm,1.2s								
KIV				MLR			MLR		
	comp=Z,246nm,11.0s								
KIV	Kislovodsk	14.35	337	*i* P			Pn	00 18 11.9	+3.2
	comp=Z,54nm,1.2s				

comp=Z,15nm,0.9s,baz=5.7,slow=9.2,SNR=7.3
ATD LR LR 00 27 58.2
comp=Z,184nm,18.5s,MS3.5,baz=0.5,slow=39
VRHR Novokhopersk 21.18 345 *e*P **P 00 19 29.8 -1.2**
VRHR pmax pmax
comp=N,120nm,0.7s
VRHR pmax pmax
comp=Z,300nm,0.7s,mb5.7
VRHR pmax pmax
comp=E,40nm,0.6s
VORD Divnogorie 21.65 341 *e*P **P 00 19 35.5 -0.6**
VORD pmax pmax
comp=Z,90nm,1.0s,mb5.2
VORD pmax pmax
comp=N,180nm,0.9s
VORD pmax pmax
comp=E,70nm,0.8s
VORD Divnogorie 21.65 341 *e*P **P 00 19 35.5 -0.6**
comp=E,180nm,0.9s,mb5.5
THN Thein Dam 21.71 79 *e*P **P 00 19 35.5 -1.4**
AML Almayashu 21.85 53 *e*P **P 00 19 38.6 +0.3**
comp=E,19nm,0.7s,mb4.6
AML Almayashu 21.85 53 *e*P **P 00 19 38.6 +0.3**
comp=E,19nm,0.7s,mb4.6
TIRR Tirgusor 21.88 314 ⇑P **P 00 19 40.5 +1.9**
TIRR Tirgusor 21.88 314 ⇑*i*P **P 00 19 40.5 +1.9**
VRSR Storozhevoye 21.90 341 *e*P **P 00 19 37.7 -1.1**
VRSR *e**PP 00 19 48.3
VRSR *e*S **S 00 23 37.6 -2.9**
VRSR pmax pmax
comp=Z,10.0nm,0.9s,mb4.2
VRSR pmax pmax
comp=N,20nm,1.0s
VRSR pmax pmax
comp=E,30nm,3.0s
VRSR smax
comp=N,7.0nm,0.9s
VRSR smax
comp=Z,1.0nm,0.9s
VRSR smax
comp=E,4.0nm,1.1s
VRSR Storozhevoye 21.90 341 *e*P **P 00 19 37.7 -1.1**
comp=E,20nm,1.0s,mb4.5
GVD Gavdhos 22.31 287 *e*P **P 00 19 43.9 +0.6**
comp=E,35nm,0.8s,mb4.8
GVD Gavdhos 22.31 287 *e*P **P 00 19 43.9 +0.6**
comp=E,35nm,0.8s,mb4.8
VOR Voronezh 22.36 342 *e*P **P 00 19 42.5 -1.2**
VOR pmax pmax
comp=Z,2µm,1.0s
VOR Voronezh 22.36 342 *e*P **P 00 19 42.5 -1.2**
comp=Z,2µm,1.0s
UCH Uchtor 22.45 53 *e*P **P 00 19 45.0 +0.3**
comp=Z,5.8nm,0.7s,mb4.1
UCH Uchtor 22.45 53 *e*P **P 00 19 45.0 +0.3**
comp=Z,5.8nm,0.7s,mb4.1
AAK Ala-Archa 22.59 52 *e*P **P 00 19 47.4 +1.2**
AAK Ala-Archa 22.59 52⇑*e*P **P 00 19 45.9 -0.3**
AAK pmax pmax
comp=Z,28nm,1.7s,mb4.4
AAK Ala-Archa 22.59 52 ⇓P **P 00 19 45.7 -0.5**
SNR=12
TKM2 Tokmak 2 23.45 52 *e*P **P 00 19 54.0 -1.2**
comp=Z,4.6nm,0.8s,mb4.0
TKM2 Tokmak 2 23.45 52 *e*P **P 00 19 54.1 -1.2**
TKM2 pmax pmax
comp=Z,5.0nm,0.8s,mb4.0
TKM2 Tokmak 2 23.45 52 *e*P **P 00 19 54.0 -1.3**
comp=Z,4.6nm,0.8s,mb4.0
NDI New Delhi 23.48 89 *e*P **P 00 19 55.5 -0.2**
PLOR Plostina 23.66 316⇑*i*P **P 00 19 58.3 +1.0**
IAS Iasi 23.86 319 P **P 00 20 00.5 +1.4**
MLR Muntele Rosu 23.91 314 ⇓P **P 00 20 02.7 +3.2**
MLR Muntele Rosu 23.91 314 P **P 00 20 01.5 +2.0**
comp=Z,12nm,1.1s,mb4.2,baz=86,slow=4.3,SNR=17
MLR Muntele Rosu 23.91 314 ⇓*i*P **P 00 20 02.7 +3.1**
VTS Vitosha 24.51 306 ⇓P **P 00 20 06.5 +1.4**
VTS Vitosha 24.51 306 ⇓*i*P **P 00 20 06.5 +1.4**
VAY Valandovo 24.58 303 *e*P **P 00 19 58.6 -7.1**
AKASG Malin Array Be 25.24 328 P **P 00 20 10.8 -0.9**
AKASG Malin Array Be 25.24 328 P **P 00 20 10.8 -0.9**
comp=Z,7.7nm,0.7s,mb4.4,baz=131,slow=8.5,SNR=58
AKBB Malin Array Si 25.24 328 *e*P **P 00 20 10.7 -0.9**
AKBB Malin Array Si 25.24 328 *e*P **P 00 20 10.7 -0.9**
KIEV Kiev 25.24 328 *e*P **P 00 20 10.7 -0.9**
comp=Z,11nm,0.5s,mb4.6
KIEV Kiev 25.24 328 *e*P **P 00 20 10.7 -1.0**
KIEV pmax pmax
comp=Z,11nm,0.5s,mb4.6
KIEV Kiev 25.24 328 *e*P **P 00 20 10.7 -1.0**
comp=Z,11nm,0.5s,mb4.6
KRUS Krusevo 25.55 302 *e*P **P 00 20 16.4 +1.8**
KRUS Krusevo 25.55 302 *e*P **P 00 20 16.3 +1.7**
BARS Barje 25.56 306 *e*P **P 00 20 15.8 +1.2**
OHR Ohrid 25.81 301 *e*P **P 00 20 15.4 -1.6**
OHR Ohrid 25.81 301 *e*P **P 00 20 15.3 -1.7**
GZR Gura Zlata 25.86 312 ⇑P **P 00 20 17.6 +0.3**
GZR Gura Zlata 25.86 312 P **P 00 20 19.5 +2.2**
GZR Gura Zlata 25.86 312⇑*i*P **P 00 20 17.6 +0.3**
OBN Obninsk 26.10 342 *e*P **P 00 20 18.2 -1.1**
OBN Obninsk 26.10 342 *c i*P **P 00 20 18.6 -0.8**
OBN *i* 00 20 26.6
OBN *e* 00 20 59.3
OBN pmax pmax
comp=Z,120nm,1.6s,mb5.2
OBN MLR MLR
comp=Z,100nm,21.0s,MS3.3
OBN Obninsk 26.10 342 *e*P **P 00 20 18.2 -1.2**
ARU Arti 26.18 10 *e*P **P 00 20 19.6 -0.4**
comp=Z,12nm,0.8s,mb4.5
ARU Arti 26.18 10 *c i*P **P 00 20 19.5 -0.6**
ARU *e* 00 20 56.2
ARU *e*S **S 00 24 46.3 -5.5**
ARU *e*SS 00 25 46.7
ARU pmax pmax
comp=Z,10.0nm,1.0s,mb4.3
ARU Arti 26.18 10 *i*P **P 00 20 19.5 -0.6**
comp=Z,10.0nm,1.0s,mb4.3
ARU *e*S **S 00 24 46.3 -5.5**
MOS Moscow 26.39 344 *e*P **P 00 20 21.5 -0.5**
MOS pmax pmax
comp=Z,95nm,1.1s,mb5.2
MOS Moscow 26.39 344 *e*P **P 00 20 21.5 -0.5**
comp=Z,95nm,1.1s,mb5.2
DRGR 26.50 315 ⇑P **P 00 20 24.3 +1.1**
DRGR 26.50 315⇑*i*P **P 00 20 24.3 +1.2**
BRVK Borovoye 26.51 28 *e*P **P 00 20 23.2 +0.1**
BRVK Borovoye 26.51 28 *e*P **P 00 20 23.2 +0.1**
BVAR Borovoye Array 26.52 28 P **P 00 20 22.8 -0.4**
comp=Z,6.9nm,0.6s,mb4.3,baz=228,slow=7.8,SNR=51
BVAR LR LR 00 32 32.9
comp=Z,88nm,19.9s,MS3.3,baz=293,slow=40
GRUS Gruza 26.66 307 *e*P **P 00 20 24.3 -0.3**
BZS Buzias 26.69 311 ⇑P **P 00 20 25.9 +1.1**
BZS Buzias 26.69 311 P **P 00 20 26.0 +1.2**
BZS Buzias 26.69 311⇑*i*P **P 00 20 25.9 +1.1**
SVE Sverdlovsk 26.92 13⇑*e*P **P 00 20 26.5 -0.2**
SVE *e* 00 23 48.7
SVE pmax pmax
comp=Z,11nm,0.9s,mb4.4
SVE MLR MLR
comp=Z,295nm,14.0s,MS4.0
SVE Sverdlovsk 26.92 13 *e*P **P 00 20 26.5 -0.2**
comp=Z,11nm,0.9s,mb4.4
CHKZ Chkalovo 27.10 27 *i*P **P 00 20 25.7 -2.8**
CHKZ pmax pmax
comp=Z,5.0nm,1.0s,mb4.0
CHKZ Chkalovo 27.10 27 *i*P **P 00 20 25.7 -2.8**
comp=Z,5.0nm,1.0s,mb4.0
DIVS Divibare 27.22 307 *e*P **P 00 20 30.6 +0.9**
UZH Uzhgorod 27.63 318 *e*P **P 00 20 34.5 +1.3**
KOLS Kolonicke sedl 27.79 318 *e*P **P 00 20 35.5 +0.8**
KOLS *e* 00 20 42.7
KOLS Kolonicke sedl 27.79 318 *e*P **P 00 20 35.5 +0.8**
KOLS *e*pP pP 00 20 42.7 +5.0
KOLS *e* 01 37 46.8
KWP Kalwaria 27.90 320 ⇑P **P 00 20 35.4 -0.2**
KWP Kalwaria 27.90 320⇑*i*P **P 00 20 35.4 -0.3**
CRVS Cervenica-Dubn 28.24 318 *e*P **P 00 20 39.0 +0.3**
CRVS *e* 01 37 48.9
TIP Timpagrande 28.52 296 *e*P **P 00 20 42.4 +1.0**
comp=Z,11nm,0.9s,mb4.6
TIP Timpagrande 28.52 296 *e*P **P 00 20 42.4 +1.1**
comp=Z,11nm,0.9s,mb4.6
KECS Kecovo 28.61 316 *e*P **P 00 20 42.7 +0.7**
comp=Z,3.6nm,0.9s,mb4.1
KECS *e* 00 20 59.2
KECS Kecovo 28.61 316 *e*P **P 00 20 42.7 +0.7**
KECS *e* 00 20 59.2
KECS pmax pmax
comp=Z,4.0nm,0.9s,mb4.2
KECS Kecovo 28.61 316 *e*P **P 00 20 42.7 +0.7**
KECS *e* 00 20 59.2
PSZ Piszkesteto 28.72 315 *e*P **P 00 20 41.9 -1.1**
comp=Z,1.8nm,0.5s,mb4.1
PSZ Piszkesteto 28.72 315 *e*P **P 00 20 41.9 -1.1**
PSZ pmax pmax
comp=Z,2.0nm,0.5s,mb4.1
PSZ Piszkesteto 28.72 315 *e*P **P 00 20 41.9 -1.1**
comp=Z,1.8nm,0.5s,mb4.1
PKSM Moragy 28.84 311 ⇓P **P 00 20 44.6 +0.5**
PKSM Moragy 28.84 311 ⇓*i*P **P 00 20 44.6 +0.5**
KURK Kurchatov 28.92 39 *e*P **P 00 20 44.7 0.0**
KURK Kurchatov 28.92 39 *e*P **P 00 20 44.5 -0.2**
MK31 Makanchi Array 29.31 48 *i*P **P 00 20 47.4 -0.8**
MK31 pmax pmax
comp=Z,1.0nm,0.2s,mb4.2
MK31 Makanchi Array 29.31 48 *i*P **P 00 20 47.4 -0.8**
comp=Z,1.0nm,0.2s,mb4.2
MKAR Makanchi Array 29.31 48⇑*e*P **P 00 20 48.2 0.0**
MKAR Makanchi Array 29.31 48 P **P 00 20 47.9 -0.4**
comp=Z,1.6nm,0.5s,mb4.0,baz=244,slow=7.8,SNR=17
MKAR LR LR 00 33 40.1
comp=Z,80nm,19.5s,MS3.4,baz=140,slow=39
VYHS Vyhne 29.61 315 *e*P **P 00 20 51.1 +0.3**
VYHS *e* 01 37 55.3
OJC Ojcow 29.82 319 *e*P **P 00 20 52.8 +0.1**
KOLL Kolacno 29.90 315 *e*P **P 00 20 53.9 +0.4**
KOLL Kolacno 29.90 315 *e*P **P 00 20 54.0 +0.5**
SUW Suwalki 30.21 328 *e*P **P 00 20 55.7 -0.4**
OKC Ostrava-Krasne 30.59 317 *e*P **P 00 20 58.9 -0.6**
MORC Moravsky Berou 30.92 317⇑*i*P **P 00 21 02.2 -0.2**
MORC Moravsky Berou 30.92 317 *e*P **P 00 21 02.8 +0.4**
comp=Z,31nm,2.1s,mb4.8
VRAC Vranov 31.29 316 ⇑P **P 00 21 06.1 +0.4**
VRAC Vranov 31.29 316⇑*i*P **P 00 21 06.1 +0.4**
AQU L'Aquila 31.48 302 P **P 00 21 07.7 +0.2**
AQU L'Aquila 31.48 302 P **P 00 21 07.7 +0.2**
DPC Dobruska-Polom 31.88 317 *e*P **P 00 21 10.5 -0.3**
VSU Vasula 31.90 337 *e*P **P 00 21 10.0 -1.0**
TREC Trest 31.95 315 *e*P **P 00 21 12.2 +0.7**
UPC Upice 32.12 317 *e*P **P 00 21 13.2 +0.2**
UPC *ex* x 00 21 42.7
FSSB Fossombrone 32.17 304 P **P 00 21 15.0 +1.5**
comp=Z,8.2nm,0.8s,mb4.6
MOA Molln 32.21 312 *i*P **P 00 21 14.5 +0.7**
SNR=7.5
MOA Molln 32.21 312 P **P 00 21 14.5 +0.7**
comp=Z,7.0nm,5.0s
PTCC Patocco-Chiusa 32.38 309 P **P 00 21 16.2 +0.9**
comp=Z,14nm,1.2s,mb4.7
KBA Koelnbreinsper 32.57 310 *i*P **P 00 21 17.8 +0.8**
SNR=15
KBA Koelnbreinsper 32.57 310 *i*pP **P 00 21 17.8 +0.8**
SNR=15
PRU Pruhonice 32.78 316 *e*P **P 00 21 19.2 +0.4**
SFI Santa Sofia 32.87 304 P **P 00 21 22.4 +2.8**
comp=Z,96nm,1.7s,mb5.5
SFI Santa Sofia 32.87 304 P **P 00 21 22.4 +2.8**
SFI pmax pmax
comp=Z,96nm,1.7s,mb5.5
GEC2 GERESS Array S 32.89 314 *e*P **P 00 21 19.4 -0.4**
GEC2 pmax pmax
comp=Z,7.0nm,1.5s,mb4.4
GEC2 GERESS Array S 32.89 314 *e*P **P 00 21 19.4 -0.4**
comp=Z,7.0nm,1.5s,mb4.4
GERES GERESS Array B 32.89 314 P **P 00 21 19.5 -0.3**
GERES 00 24 04.3
GERES GERESS Array B 32.89 314 P **P 00 21 19.5 -0.3**
comp=Z,0.4nm,0.4s,mb3.7,baz=119,slow=11,SNR=11
GERES PcP PcP 00 24 04.3 +0.1
comp=Z,0.6nm,0.7s,baz=54,slow=2.3,SNR=3.9
GERES LR LR 00 38 04.9
comp=Z,35nm,19.4s,MS3.1,baz=203,slow=43
ABTA Abfaltersbach 33.03 309 *i*pP **P 00 21 21.9 +0.9**
SNR=8.1
KHC Kasperske Hory 33.06 314 *e*P **P 00 21 21.3 0.0**
VMG Vicchio 33.09 304 P **P 00 21 24.4 +2.8**
comp=Z,25nm,0.9s,mb5.2
BRG Berggiesshubel 33.47 317 *e*P **P 00 21 30.0 +5.2**
BRG pmax pmax
comp=Z,3.0nm,1.3s,mb4.1
BRG Berggiesshubel 33.47 317 *e*P **P 00 21 30.0 +5.1**
comp=Z,4.7nm,1.3s,mb4.3
NVS Novosibirsk 33.49 35 *e*P **P 00 21 23.9 -1.0**
WET Wettzell 33.50 314 *e*P **P 00 21 24.2 -0.9**
WET pmax pmax
comp=Z,7.0nm,1.2s,mb4.5
WET Wettzell 33.50 314 *e*P **P 00 21 24.2 -0.9**
comp=Z,7.0nm,1.2s,mb4.5
WTTA Wattenberg 33.75 310 *i*P **P 00 21 27.4 +0.2**
SNR=8.2
WTTA Wattenberg 33.75 310 P **P 00 21 27.4 +0.2**
comp=Z,8.0nm,2.0s,mb4.3
WATA Walderalm 33.80 310 *i*P **P 00 21 27.9 +0.1**
SNR=7.3
WATA Walderalm 33.80 310 P **P 00 21 27.9 +0.2**
comp=Z,7.0nm,3.0s
ZAL Zalesovo 33.82 37 P **P 00 21 27.2 -0.6**
ZAA0 Zalesovo Array 33.84 37 *e*P **P 00 21 27.1 -0.9**
ZAA0 Zalesovo Array 33.84 37 *e*P **P 00 21 27.1 -0.9**
ZALV Zalesovo Beam 33.84 37 P **P 00 21 27.2 -0.8**
ZALV LR LR 00 37 07.6
ZALV Zalesovo Beam 33.84 37 P **P 00 21 27.2 -0.8**
comp=Z,3.6nm,0.6s,mb4.5,baz=248,slow=7.8,SNR=19
ZALV LR LR 00 37 07.6
comp=Z,110nm,19.9s,MS3.6,baz=270,slow=40
SQTA Sankt Quirin 34.02 310 *i*P **P 00 21 29.8 +0.2**
SNR=8.0
MOTA Moosalm 34.12 310 *i*P **P 00 21 30.6 +0.1**
SNR=7.3
MOTA Moosalm 34.12 310 P **P 00 21 30.6 +0.1**
comp=Z,7.0nm,3.0s
ROTZ Rotzenmuhle 34.12 315 *e*P **P 00 21 30.3 -0.1**
comp=Z,15nm,1.5s,mb4.7
TMCR Tamitsa 34.17 350 *i*P **P 00 21 30.2 -0.5**
CLL Collm 34.19 317 *e*P **P 00 21 30.0 -1.0**
CLL pmax pmax
comp=Z,6.0nm,1.2s,mb4.4
CLL Collm 34.19 317 *e*P **P 00 21 30.0 -1.0**
comp=Z,6.0nm,1.2s,mb4.4
FUR Furstenfeldbru 34.22 312 *e*P **P 00 21 31.2 -0.2**
FUR pmax pmax
comp=Z,36nm,1.1s,mb5.2
FUR Furstenfeldbru 34.22 312 *e*P **P 00 21 31.2 -0.2**
comp=Z,36nm,1.1s,mb5.2
VSL Villasalto 34.26 296 *e*P **P 00 21 33.3 +1.6**
comp=Z,19nm,1.1s,mb4.9
VSL Villasalto 34.26 296 *e*P **P 00 21 33.3 +1.5**
comp=Z,19nm,1.1s,mb4.9
JOF Joensuu 34.27 345 *e*p **P 00 21 29.7 -1.9**
comp=Z,19nm,0.6s,mb5.2
JOF Joensuu 34.27 345 *e*P **P 00 21 29.7 -1.9**
JOF pmax pmax
comp=Z,19nm,0.6s,mb5.2
FETA Feichten 34.28 309 *i*P **P 00 21 32.2 +0.2**
SNR=10
KEST Kesra 34.35 289 P **P 00 21 36.0 +3.3**
comp=Z,1.5nm,0.8s,mb4.0,baz=9.5,slow=12,SNR=6.8
RETA Reutte 34.38 310 *i*P **P 00 21 32.1 -0.6**
SNR=5.1
RETA Reutte 34.38 310 P **P 00 21 32.1 -0.6**
SNR=5.1
FINES FINESS Array B 34.42 340 *i*P **P 00 21 31.8 -1.1**
FINES pmax pmax
comp=Z,10.0nm,0.7s
FINES FINESS Array B 34.42 340 P **P 00 21 31.9 -1.0**
comp=Z,9.6nm,0.7s,mb4.9,baz=134,slow=8.5,SNR=68
FINES LR LR 00 37 12.7
comp=Z,100nm,19.3s,MS3.6,baz=105,slow=39
FINES FINESS Array B 34.42 340 *i*P **P 00 21 31.8 -1.1**
comp=Z,10.0nm,0.7s,mb4.8
GRA1 Grafenberg Arr 34.70 314 *e*P **P 00 21 35.5 0.0**
comp=Z,25nm,1.4s,mb5.0
GRF Grafenberg Arr 34.70 314 *e*P **P 00 21 35.5 0.0**
GRF pmax pmax
comp=Z,25nm,1.4s,mb5.0
GRF Grafenberg Arr 34.70 314 *e*P **P 00 21 35.5 0.0**
comp=Z,25nm,1.4s,mb5.0
PGF Pioggiola 34.74 301 *e*P **P 00 21 35.3 -0.6**
comp=Z,26nm,1.3s,mb4.7
PGF Pioggiola 34.74 301 *e*P **P 00 21 35.3 -0.6**
PGF pmax pmax
comp=Z,13nm,1.3s,mb4.7
PGF Pioggiola 34.74 301 *e*P **P 00 21 35.3 -0.6**
comp=Z,13nm,1.3s,mb4.7
MOX Moxa 34.77 316 *e*P **P 00 21 34.7 -1.4**
comp=Z,8.0nm,1.6s,mb4.4
BSD Bornholm Skovb 34.81 324 *i*P **P 00 21 34.6 -1.8**
BSD pmax pmax
comp=Z,27nm,0.9s,mb5.2
BSD Bornholm Skovb 34.81 324 *i*P **P 00 21 34.6 -1.8**
comp=Z,27nm,0.9s,mb5.2
KAF Kangasniemi 34.88 340 *ep* **P 00 21 34.8 -2.1**
comp=Z,6.3nm,0.5s,mb4.8,baz=140,slow=8.8
KAF Kangasniemi 34.88 340 *e*P **P 00 21 34.8 -2.1**
KAF pmax pmax
comp=Z,6.0nm,0.5s,mb4.8
DAVA Damuels 34.91 310 *i*P **P 00 21 37.2 -0.1**
SNR=13
DAVA Damuels 34.91 310 *i*P **P 00 21 37.2 -0.1**
DAVA Damuels 34.91 310 P **P 00 21 37.2 -0.1**
comp=Z,13nm,1.0s,mb4.8
LSA Lhasa 35.19 81 *e*P **P 00 21 39.9 0.0**
LSA pmax pmax
comp=Z,7.0nm,1.2s,mb4.5
LSA Lhasa 35.19 81 *e*P **P 00 21 39.9 0.0**
comp=Z,6.9nm,1.2s,mb4.5
RGN Rugen 35.36 323 *e*P **P 00 21 40.5 -0.6**
RGN Rugen 35.36 323 *e*P **P 00 21 40.5 -0.6**
UBBA Unterbreizbach 35.80 316 *e*P **P 00 21 44.8 -0.1**
comp=Z,14nm,1.8s,mb4.6
CLZ Clausthal 35.91 317 *e*P **P 00 21 46.1 +0.2**
CLZ pmax pmax
comp=Z,21nm,1.1s,mb5.0
CLZ Clausthal 35.91 317 *e*P **P 00 21 46.1 +0.2**
comp=Z,21nm,1.1s,mb5.0
SBF Sospel 36.02 303 *e*P **P 00 21 46.6 -0.3**
comp=Z,16nm,0.7s,mb4.8
SBF Sospel 36.02 303 *e*P **P 00 21 46.6 -0.3**
SBF pmax pmax
comp=Z,8.0nm,0.7s,mb4.8
SBF Sospel 36.02 303 *e*P **P 00 21 46.6 -0.3**
comp=Z,8.1nm,0.7s,mb4.8
NRDL Niedersach Rie 36.29 318 *e*P **P 00 21 49.6 +0.5**
comp=Z,17nm,1.2s,mb4.8
FRF La Foret Royal 36.56 303 *e*P **P 00 21 50.7 -0.8**
MBDF Montbardon 36.59 305 *e*P **P 00 21 51.1 -0.7**
comp=Z,11nm,0.6s,mb4.6
MBDF Montbardon 36.59 305 *e*P **P 00 21 51.1 -0.7**
MBDF pmax pmax
comp=Z,6.0nm,0.6s,mb4.6
MBDF Montbardon 36.59 305 *e*P **P 00 21 51.1 -0.7**
comp=Z,5.6nm,0.6s,mb4.6
LMR La Mourre 36.63 302 *e*P **P 00 21 51.5 -0.7**
BSEG Bad Segeberg 36.70 321 *e*P **P 00 21 52.4 -0.2**
BSEG pmax pmax
comp=Z,18nm,1.5s,mb4.7
BSEG Bad Segeberg 36.70 321 *e*P **P 00 21 52.4 -0.2**
comp=Z,18nm,1.5s,mb4.7
LPG La Plagne 36.71 306 *e*P **P 00 21 52.4 -0.4**
comp=Z,20nm,0.9s,mb4.6
LPG La Plagne 36.71 306 *e*P **P 00 21 52.4 -0.4**
LPG pmax pmax
comp=Z,10.0nm,0.9s,mb4.7
LPG La Plagne 36.71 306 *e*P **P 00 21 52.4 -0.4**
comp=Z,9.9nm,0.9s,mb4.6
LPL La Plagne 36.72 306 *e*P **P 00 21 52.3 -0.6**
comp=Z,34nm,1.1s,mb4.8
LPL La Plagne 36.72 306 *e*P **P 00 21 52.3 -0.6**
LPL pmax pmax
comp=Z,17nm,1.1s,mb4.8
LPL La Plagne 36.72 306 *e*P **P 00 21 52.3 -0.6**
comp=Z,17nm,1.1s,mb4.8
CDF Champ du Feu 36.87 311 *e*P **P 00 21 53.2 -0.9**
HINF Hinteralfeld 37.03 310 *e*P **P 00 21 54.5 -1.0**
comp=Z,9.2nm,1.0s,mb4.3
HINF Hinteralfeld 37.03 310 *e*P **P 00 21 54.5 -1.0**
HINF pmax pmax
comp=Z,5.0nm,1.0s,mb4.3
HINF Hinteralfeld 37.03 310 *e*P **P 00 21 54.5 -1.0**
comp=Z,4.6nm,1.0s,mb4.3
ORIF Oris-en-Rattie 37.24 305 *e*P **P 00 21 56.8 -0.6**
ORIF *e*MLR MLR
comp=Z,67nm,21.2s,MS3.1
CABF La Chapelle 37.33 308 *e*P **P 00 21 57.4 -0.7**
comp=Z,42nm,0.9s,mb5.0
CABF La Chapelle 37.33 308 *e*P **P 00 21 57.4 -0.7**
CABF pmax pmax
comp=Z,21nm,0.9s,mb5.0
CABF La Chapelle 37.33 308 *e*P **P 00 21 57.4 -0.7**
comp=Z,21nm,0.9s,mb5.0
SMRF Simiane la Rot 37.37 303 *e*P **P 00 21 57.8 -0.6**
comp=Z,23nm,1.4s,mb4.5
SMRF Simiane la Rot 37.37 303 *e*P **P 00 21 57.8 -0.6**
comp=Z,12nm,1.4s,mb4.5
HAU Haudompre 37.40 310 *e*P **P 00 21 57.7 -0.9**
HAU *e*MLR MLR
comp=Z,68nm,20.5s,MS3.1
HAU Haudompre 37.40 310 *e*P **P 00 21 57.7 -0.9**
HAU MLR MLR
comp=Z,70nm,20.5s,MS3.4
WLF Walferdange 37.87 313 *e*P **P 00 22 02.0 -0.5**
comp=Z,12nm,1.0s,mb4.6
WLF Walferdange 37.87 313 *e*P **P 00 22 02.0 -0.6**
WLF pmax pmax
comp=Z,12nm,1.0s,mb4.6
WLF Walferdange 37.87 313 *e*P **P 00 22 01.5 -1.1**
comp=Z,12nm,1.0s,mb4.6
WLF Walferdange 37.87 313 *e*P **P 00 22 02.0 -0.6**
comp=Z,12nm,1.0s,mb4.6
APA Apatity 38.04 350⇑*i*P **P 00 22 10.4 +6.6**
APA *i* 00 22 29.0
APA pmax pmax
comp=Z,25nm,1.2s,mb4.8
VIVF Saint-Julien-l 38.09 305 *e*P **P 00 22 03.6 -0.9**
comp=Z,16nm,1.2s,mb4.3
VIVF Saint-Julien-l 38.09 305 *e*P **P 00 22 03.6 -0.9**
VIVF pmax pmax
comp=Z,8.0nm,1.2s,mb4.3
VIVF Saint-Julien-l 38.09 305 *e*P **P 00 22 03.6 -0.9**
comp=Z,7.9nm,1.2s,mb4.3
MEZF Maizieres J'vi 38.34 310 *e*P **P 00 22 05.6 -1.0**
comp=Z,31nm,1.0s,mb4.7
MEZF Maizieres J'vi 38.34 310 *e*P **P 00 22 05.6 -1.0**
comp=Z,16nm,1.0s,mb4.7
LASF Ste Croix 38.61 303 *e*P **P 00 22 08.1 -0.8**
comp=Z,23nm,1.2s,mb4.5
LASF Ste Croix 38.61 303 *e*P **P 00 22 08.1 -0.8**
comp=Z,11nm,1.2s,mb4.5
GIVF Givet 38.80 313 *e*P **P 00 22 09.8 -0.6**
SMF Signal de Mont 38.87 307 *e*P **P 00 22 09.8 -1.2**
comp=Z,34nm,1.0s,mb4.7
SMF Signal de Mont 38.87 307 *e*P **P 00 22 09.8 -1.2**
SMF pmax pmax
comp=Z,17nm,1.0s,mb4.7
SMF Signal de Mont 38.87 307 *e*P **P 00 22 09.8 -1.2**
comp=Z,17nm,1.0s,mb4.7
LOR Lormes 38.94 308 *e*P **P 00 22 10.7 -0.9**
comp=Z,5.9nm,0.7s,mb4.1
LOR *e*MLR MLR
comp=Z,83nm,17.2s,MS3.3
LOR Lormes 38.94 308 *e*P **P 00 22 10.7 -0.9**
comp=Z,3.0nm,0.7s,mb4.1
LOR LR LR
comp=Z,80nm,17.3s,MS3.6
LOR Lormes 38.94 308 *e*P **P 00 22 10.7 -0.9**
LOR pmax pmax
comp=Z,3.0nm,0.7s,mb4.1
LOR MLR MLR
comp=Z,80nm,17.3s,MS3.6
SSF Saint Saulge 39.15 308 *e*P **P 00 22 12.7 -0.7**
comp=Z,23nm,1.1s,mb4.5
SSF Saint Saulge 39.15 308 *e*P **P 00 22 12.7 -0.7**
SSF pmax pmax
comp=Z,12nm,1.1s,mb4.5
SSF Saint Saulge 39.15 308 *e*P **P 00 22 12.7 -0.7**
comp=Z,12nm,1.1s,mb4.5
BAIF Baives 39.18 313 *e*P **P 00 22 12.3 -1.3**
comp=Z,16nm,1.0s,mb4.4
BAIF Baives 39.18 313 *e*P **P 00 22 12.3 -1.3**
BAIF pmax pmax
comp=Z,8.0nm,1.0s,mb4.4
BAIF Baives 39.18 313 *e*P **P 00 22 12.3 -1.3**
comp=Z,8.0nm,1.0s,mb4.4

AVF Avril sur Loir 39.22 307 *eP* **P 00 22 13.0 -1.0**
comp=Z,16nm,1.1s,mb4.4
AVF Avril sur Loir 39.22 307 *eP* **P 00 22 13.0 -1.0**
AVF pmax pmax
comp=Z,8.0nm,1.1s,mb4.4
AVF Avril sur Loir 39.22 307 *eP* **P 00 22 13.0 -1.0**
comp=Z,8.2nm,1.1s,mb4.4
ETOS Mallorca 39.32 296 P **P 00 22 16.1 +1.1**
comp=Z,3.7nm,0.7s,mb4.2
ETOS Mallorca 39.32 296 P **P 00 22 16.0 +1.1**
comp=Z,3.7nm,0.7s,mb4.2
KONO Kongsberg 39.53 329 P **P 00 22 15.3 -1.1**
KONO Kongsberg 39.53 329 P **P 00 22 15.3 -1.1**
NB2 NORSAR Subarra 39.53 331 P **P 00 22 14.7 -1.7**
comp=Z,3.3nm,0.6s,mb4.2,baz=123,slow=8.6
NOA NORSAR Array B 39.53 331 P **P 00 22 15.0 -1.4**
NOA 00 23 48.3
NOA NORSAR Array B 39.53 331 P **P 00 22 14.9 -1.4**
comp=Z,4.3nm,0.6s,mb4.3,baz=122,slow=8.3,SNR=17
NOA PP PP 00 23 48.3 +1.3
comp=Z,2.8nm,0.9s,baz=112,slow=9.7,SNR=4.2
NOA LR LR 00 40 08.2
comp=Z,118nm,19.0s,MS3.7,baz=115,slow=39
NOA NORSAR Array B 39.53 331 P **P 00 22 14.9 -1.5**
BGF Bois d'Agland 39.54 307 *eP* **P 00 22 15.7 -0.9**
comp=Z,8.1nm,0.8s,mb4.2
BGF Bois d'Agland 39.54 307 *eP* **P 00 22 15.7 -0.9**
BGF pmax pmax
comp=Z,4.0nm,0.8s,mb4.2
BGF Bois d'Agland 39.54 307 *eP* **P 00 22 15.7 -0.9**
comp=Z,4.1nm,0.8s,mb4.2
NAO01 NORSAR Array S 39.57 331 *eP* **P 00 22 15.1 -1.6**
comp=Z,3.0nm,0.6s,mb4.2
NAO01 NORSAR Array S 39.57 331 *eP* **P 00 22 15.1 -1.6**
comp=Z,3.0nm,0.6s,mb4.2
MTLF Montolieu 39.76 302 *eP* **P 00 22 17.6 -0.9**
CAF Calviac 39.95 304 *eP* **P 00 22 19.1 -0.9**
comp=Z,12nm,1.3s,mb4.2
CAF Calviac 39.95 304 *eP* **P 00 22 19.1 -0.9**
CAF pmax pmax
comp=Z,6.0nm,1.3s,mb4.2
CAF Calviac 39.95 304 *eP* **P 00 22 19.1 -0.9**
comp=Z,6.0nm,1.3s,mb4.2
TCF Toulx Ste Croi 39.95 307 *eP* **P 00 22 19.1 -1.0**
EMIR Miracle 40.25 300 P **P 00 22 23.4 +0.7**
comp=Z,6.9nm,0.5s,mb4.6
EMIR Miracle 40.25 300 P **P 00 22 23.4 +0.8**
comp=Z,6.9nm,0.5s,mb4.6
RJF Les Rejaudoux 40.36 305 *eP* **P 00 22 22.3 -1.1**
RJF *e*MLR MLR
comp=Z,75nm,19.8s,MS3.2
RJF Les Rejaudoux 40.36 305 *eP* **P 00 22 22.3 -1.1**
RJF MLR MLR
comp=Z,80nm,19.8s,MS3.6
EPOB Poblet 40.60 299 P **P 00 22 25.9 +0.4**
comp=Z,21nm,1.0s,mb4.7
EPOB Poblet 40.60 299 P **P 00 22 25.9 +0.4**
comp=Z,21nm,1.0s,mb4.7
LFF La Frestale 40.89 304 *eP* **P 00 22 26.6 -1.2**
GTA Gaotai 40.96 64 *eP* **P 00 22 29.0 +0.5**
GTA AP pP 00 22 37.4 +5.7
GTA XP sP 00 22 41.8 +8.9
GTA AMB AMB
comp=Z,7.0nm,1.1s,mb4.2
EPF Esparros 41.13 301 *eP* **P 00 22 28.6 -1.3**
ARE0 ARCESS Array S 41.16 347 P **P 00 22 28.0 -1.8**
ARE0 ARCESS Array S 41.16 347 P **P 00 22 28.0 -1.8**
ARCES ARCESS Array B 41.16 347 P **P 00 22 29.0 -0.8**
ARCES PP PP 00 24 00.2 -4.4
ARCES LR LR 00 42 39.8
ARCES ARCESS Array B 41.16 347 P **P 00 22 29.0 -0.8**
ARCES 00 24 00.2
ARCES ARCESS Array B 41.16 347 P **P 00 22 29.0 -0.8**
comp=Z,3.2nm,0.6s,mb4.1,baz=140,slow=9.3,SNR=19
ARCES PP PP 00 24 00.2 -4.4
comp=Z,4.9nm,0.7s,baz=141,slow=12,SNR=4.0
ARCES LR LR 00 42 39.8
comp=Z,70nm,18.2s,MS3.6,baz=331,slow=41
ERTA Horta de San J 41.17 298 P **P 00 22 30.8 +0.5**
comp=Z,9.8nm,0.9s,mb4.4
ERTA Horta de San J 41.17 298 P **P 00 22 30.8 +0.6**
comp=Z,9.8nm,0.9s,mb4.4
EBIE Bielsa 41.27 301 P **P 00 22 33.4 +2.3**
comp=Z,3.0nm,0.5s,mb4.2
MFF Saint Martin d 41.50 307 *eP* **P 00 22 32.1 -1.6**
ESAC San Caprasio 41.75 299 P **P 00 22 35.4 +0.4**
comp=Z,11nm,0.4s,mb4.8
ESAC San Caprasio 41.75 299 P **P 00 22 35.4 +0.4**
comp=Z,11nm,0.4s,mb4.8
LDF La Druitiere 41.76 310 *eP* **P 00 22 33.8 -1.1**
ETSF Etsaut 41.79 301 *eP* **P 00 22 34.4 -0.9**
EMOS Mosqueruela 41.81 297 P **P 00 22 36.9 +1.4**
comp=Z,27nm,0.9s,mb4.9
EMOS Mosqueruela 41.81 297 P **P 00 22 36.9 +1.4**
comp=Z,27nm,0.9s,mb4.9
FLN La Foliniere 42.01 310 *eP* **P 00 22 35.9 -1.1**
comp=Z,9.4nm,0.7s,mb4.2
FLN *e*MLR MLR
comp=Z,78nm,19.8s,MS3.3
FLN La Foliniere 42.01 310 *eP* **P 00 22 35.9 -1.1**
comp=Z,4.7nm,0.7s,mb4.2
FLN LR LR
comp=Z,80nm,19.8s,MS3.6
FLN La Foliniere 42.01 310 *eP* **P 00 22 35.9 -1.1**
FLN pmax pmax
comp=Z,5.0nm,0.7s,mb4.2
FLN MLR MLR
comp=Z,80nm,19.8s,MS3.6
GRR Gorron 42.22 309 *eP* **P 00 22 37.4 -1.3**
comp=Z,57nm,1.5s,mb4.7
GRR Gorron 42.22 309 *eP* **P 00 22 37.4 -1.3**
GRR pmax pmax
comp=Z,29nm,1.5s,mb4.7
GRR Gorron 42.22 309 *eP* **P 00 22 37.4 -1.3**
comp=Z,28nm,1.5s,mb4.7
ECHE Chera 42.25 296 P **P 00 22 39.6 +0.6**
comp=Z,2.4nm,0.4s,mb4.2
ECHE Chera 42.25 296 P **P 00 22 39.6 +0.5**
ECHE pmax pmax
comp=Z,2.0nm,0.4s,mb4.1
ECHE Chera 42.25 296 P **P 00 22 39.6 +0.5**
comp=Z,2.4nm,0.4s,mb4.2
SJPF Ste Jean 42.27 302 *eP* **P 00 22 38.2 -1.0**
comp=Z,16nm,1.0s,mb4.3
SJPF Ste Jean 42.27 302 *eP* **P 00 22 38.2 -1.0**
SJPF pmax pmax
comp=Z,8.0nm,1.0s,mb4.3
SJPF Ste Jean 42.27 302 *eP* **P 00 22 38.2 -1.0**
comp=Z,7.8nm,1.0s,mb4.3
ETOB Tobarra 42.78 295 P **P 00 22 44.1 +0.7**
comp=Z,15nm,0.9s,mb4.7
ETOR Torete 42.99 298 P **P 00 22 45.3 +0.3**
comp=Z,3.4nm,0.6s,mb4.2
ETOR Torete 42.99 298 P **P 00 22 45.3 +0.2**
ETOR pmax pmax
comp=Z,3.0nm,0.6s,mb4.2
ETOR Torete 42.99 298 P **P 00 22 45.3 +0.2**
comp=Z,3.4nm,0.6s,mb4.2
ECRI Cripan 43.23 301 P **P 00 22 47.1 +0.1**
comp=Z,3.5nm,0.4s,mb4.4
ECRI Cripan 43.23 301 P **P 00 22 47.1 +0.1**
ECRI pmax pmax
comp=Z,4.0nm,0.4s,mb4.5
ECRI Cripan 43.23 301 P **P 00 22 47.1 +0.1**
comp=Z,3.5nm,0.4s,mb4.4
SGMF Saint Gilles 43.34 309 *eP* **P 00 22 47.0 -0.8**
comp=Z,36nm,1.2s,mb4.7
SGMF Saint Gilles 43.34 309 *eP* **P 00 22 47.0 -0.8**
SGMF pmax pmax
comp=Z,18nm,1.2s,mb4.7
SGMF Saint Gilles 43.34 309 *eP* **P 00 22 47.0 -0.8**
comp=Z,18nm,1.2s,mb4.7
ZAK Zakamensk 43.65 48 *eP* **P 00 22 50.4 +0.1**
ZAK pmax pmax
comp=Z,2.0nm,1.1s,mb3.8
ZAK Zakamensk 43.65 48 *eP* **P 00 22 50.4 +0.1**
comp=Z,2.0nm,1.1s,mb3.8
QUIF Quistinic 43.73 309 *eP* **P 00 22 49.7 -1.3**
comp=Z,20nm,0.8s,mb4.6
QUIF Quistinic 43.73 309 *eP* **P 00 22 49.7 -1.3**
QUIF pmax pmax
comp=Z,10.0nm,0.8s,mb4.6
QUIF Quistinic 43.73 309 *eP* **P 00 22 49.7 -1.3**
comp=Z,9.9nm,0.8s,mb4.6
ROSF Rostrenen 43.83 309 *eP* **P 00 22 50.9 -0.8**
ELAN Lanestosa 43.89 302 P **P 00 22 51.9 -0.4**
comp=Z,8.0nm,0.7s,mb4.6
ELAN Lanestosa 43.89 302 P **P 00 22 51.9 -0.4**
comp=Z,8.0nm,0.7s,mb4.6
TLY Talaya 44.02 46 *eP* **P 00 22 54.9 +1.7**
TLY pmax pmax
comp=Z,2.0nm,0.7s,mb4.0
TLY MLR MLR
comp=Z,140nm,16.0s,MS4.0
TLY pmax pmax
comp=Z,18nm,0.6s,mb5.0
EBER Berja 44.05 293 P **P 00 22 54.5 +0.7**
comp=Z,7.9nm,0.6s,mb4.6
EBER Berja 44.05 293 P **P 00 22 54.5 +0.8**
comp=Z,7.9nm,0.6s,mb4.6
EQES Quesada 44.07 294 P **P 00 22 53.6 -0.2**
comp=Z,5.9nm,0.6s,mb4.5
ECOG Cogollos-Vega 44.53 293 P **P 00 22 57.2 -0.4**
comp=Z,3.0nm,0.6s,mb4.3
ECOG Cogollos-Vega 44.53 293 P **P 00 22 57.2 -0.4**
ECOG pmax pmax
comp=Z,3.0nm,0.6s,mb4.3
ECOG Cogollos-Vega 44.53 293 P **P 00 22 57.2 -0.4**
comp=Z,3.0nm,0.6s,mb4.3
ESDC Sonseca Array 44.54 297 P **P 00 22 58.0 +0.4**
comp=Z,3.9nm,0.8s,mb4.3
ESDC Sonseca Array 44.54 297 P **P 00 22 58.5 +0.9**
comp=Z,1.8nm,0.7s,mb4.0,baz=75,slow=8.3,SNR=8.6
ESDC Sonseca Array 44.54 297 P **P 00 22 58.0 +0.4**
comp=Z,3.9nm,0.8s,mb4.3
ESLA Sonseca Array 44.54 297 P **P 00 22 56.1 -1.5**
comp=Z,2.1nm,1.1s,mb3.9
ESLA Sonseca Array 44.54 297 P **P 00 22 56.1 -1.5**
comp=Z,2.0nm,1.1s,mb3.9
EBAN Banos Encina 44.58 295 P **P 00 22 58.2 +0.3**
comp=Z,4.4nm,0.5s,mb4.5
EBAN Banos Encina 44.58 295 P **P 00 22 58.2 +0.3**
EBAN pmax pmax
comp=Z,4.0nm,0.5s,mb4.5
EBAN Banos Encina 44.58 295 P **P 00 22 58.2 +0.3**
comp=Z,4.4nm,0.5s,mb4.5
GUD Guadarrama 44.59 298 P **P 00 22 57.8 -0.1**
comp=Z,3.9nm,0.6s,mb4.4
GUD Guadarrama 44.59 298 P **P 00 22 57.8 -0.2**
GUD pmax pmax
comp=Z,4.0nm,0.6s,mb4.4
GUD Guadarrama 44.59 298 P **P 00 22 57.8 -0.2**
comp=Z,3.9nm,0.6s,mb4.4
EGUA Guajares 44.60 293 P **P 00 22 58.1 0.0**
comp=Z,2.9nm,0.7s,mb4.2
EGUA Guajares 44.60 293 P **P 00 22 58.1 0.0**
EGUA pmax pmax
comp=Z,3.0nm,0.7s,mb4.2
EGUA Guajares 44.60 293 P **P 00 22 58.1 0.0**
comp=Z,2.9nm,0.7s,mb4.2
ESK Eskdalemuir 44.62 319 *eP* **P 00 22 56.2 -1.8**
comp=Z,7.0nm,0.8s,mb4.5
ESK Eskdalemuir 44.62 319 *eP* **P 00 22 56.2 -1.8**
ESK pmax pmax
comp=Z,7.0nm,0.8s,mb4.5
ESK Eskdalemuir 44.62 319 *eP* **P 00 22 56.2 -1.8**
comp=Z,7.0nm,0.8s,mb4.5
EADA Adamuz 45.20 295 P **P 00 23 02.1 -0.7**
comp=Z,4.6nm,0.5s,mb4.6
EADA Adamuz 45.20 295 P **P 00 23 02.1 -0.8**
comp=Z,4.6nm,0.5s,mb4.6
CHTO Chiang Mai 45.46 94 *eP* **P 00 23 04.2 -1.0**
comp=Z,6.7nm,0.8s,mb4.5
CHTO Chiang Mai 45.46 94 *eP* **P 00 23 04.2 -1.0**
CHTO pmax pmax
comp=Z,7.0nm,0.8s,mb4.5
CHTO Chiang Mai 45.46 94 *eP* **P 00 23 04.2 -1.0**
comp=Z,6.7nm,0.8s,mb4.5
SONM Songino Array 45.55 52 P **P 00 23 05.5 +0.1**
comp=Z,1.6nm,1.0s,mb3.9,baz=275,slow=8.6,SNR=9.8
SONM LR LR 00 41 45.5
comp=Z,54nm,18.9s,MS3.5,baz=259,slow=36
ECAB El Cabril 45.87 295 P **P 00 23 09.2 +1.0**
comp=Z,13nm,0.6s,mb5.0
ECAB El Cabril 45.87 295 P **P 00 23 09.2 +1.0**
comp=Z,13nm,0.6s,mb5.0
ULN Ulaanbaatar 45.99 52⇑ *eP* **P 00 23 08.9 -0.1**
ULN Ulaanbaatar 45.99 52 P **P 00 23 08.4 -0.6**
comp=Z,3.9nm,0.9s,mb4.3
DSB Dublin 46.17 316 *eP* **P 00 23 09.9 -0.5**
comp=Z,7.8nm,0.9s,mb4.6
DSB Dublin 46.17 316 *eP* **P 00 23 09.9 -0.4**
comp=Z,7.8nm,0.9s,mb4.6
ECAL Calabor 46.41 300 P **P 00 23 12.6 +0.2**
comp=Z,3.8nm,0.5s,mb4.6
ECAL Calabor 46.41 300 P **P 00 23 12.6 +0.3**
comp=Z,3.8nm,0.5s,mb4.6
PBRG Braganca 46.42 300 *eP* **P 00 23 13.2 +0.7**
comp=Z,14nm,1.6s,mb4.6
MVO Moncorvo 46.71 299 *eP* **P 00 23 15.6 +0.9**
comp=Z,15nm,1.1s,mb4.8
EMIN Mina Concepcio 46.90 295 P **P 00 23 16.4 +0.2**
comp=Z,39nm,1.3s,mb5.2
EMIN Mina Concepcio 46.90 295 P **P 00 23 16.4 +0.1**
comp=Z,39nm,1.3s,mb5.2
EBAD Badajoz 47.01 296 P **P 00 23 16.9 -0.2**
comp=Z,5.2nm,0.7s,mb4.6
EBAD Badajoz 47.01 296 P **P 00 23 16.9 -0.2**
comp=Z,5.2nm,0.7s,mb4.6
PBAR Barrancos 47.12 295 *eP* **P 00 23 18.5 +0.5**
comp=Z,35nm,1.5s,mb5.1
MTE Manteigas 47.19 298 P **P 00 23 17.3 -1.1**
MTE Manteigas 47.19 298 P **P 00 23 17.3 -1.2**
PVRL Vila Real 47.21 299 *eP* **P 00 23 19.9 +1.3**
comp=Z,22nm,1.2s,mb5.0
PCBR Castelo Branco 47.21 297 *eP* **P 00 23 20.1 +1.4**
comp=Z,20nm,0.8s,mb5.1
ELOB Lobios 47.40 300 P **P 00 23 20.9 +0.8**
comp=Z,4.1nm,0.6s,mb4.5
ELOB Lobios 47.40 300 P **P 00 23 20.9 +0.8**
comp=Z,4.1nm,0.6s,mb4.5
PVIS Viseu 47.41 299 *eP* **P 00 23 20.4 +0.2**
STS Santiago 47.65 302 P **P 00 23 22.8 +0.8**
comp=Z,0.6nm,0.4s,mb4.0
STS Santiago 47.65 302 P **P 00 23 22.8 +0.7**
STS pmax pmax
comp=Z,1.0nm,0.4s,mb4.2
STS Santiago 47.65 302 P **P 00 23 22.8 +0.7**
comp=Z,0.6nm,0.4s,mb4.0
TORD Torodi Ar. Bea 47.96 260 P **P 00 23 25.7 +0.9**
comp=Z,5.4nm,0.7s,mb4.7,baz=56,slow=8.1,SNR=34
SPB4 Spitsbergen Ar 49.68 351 *eP* **P 00 23 36.7 -0.4**
SPB4 Spitsbergen Ar 49.68 351 *eP* **P 00 23 36.7 -0.5**
BOD Bodaibo 50.57 38 *eP* **P 00 23 42.2 -1.9**
LSZ Lusaka 50.58 208 P **P 00 23 44.8 +0.2**
comp=Z,4.9nm,1.1s,mb4.3
LSZ Lusaka 50.58 208 P **P 00 23 44.8 +0.2**
LSZ pmax pmax
comp=Z,5.0nm,1.1s,mb4.4
LSZ Lusaka 50.58 208 P **P 00 23 44.8 +0.2**
comp=Z,4.9nm,1.1s,mb4.3
HIA Hailar 54.31 49 *i* P **P 00 24 12.0 0.0**
DBIC Dimbokro 56.82 257 P **P 00 24 31.5 +0.9**
comp=Z,5.3nm,1.0s,mb4.5,baz=25,slow=8.5,SNR=4.4
LIC Lamto 57.20 256 *eP* **P 00 24 33.6 +0.3**
comp=Z,21nm,1.0s,mb4.8
LIC *e*MLR MLR
comp=Z,199nm,17.2s,MS4.0
LIC Lamto 57.20 256 *eP* **P 00 24 33.6 +0.3**
comp=Z,11nm,1.0s,mb4.8
LIC LR LR
comp=Z,100nm,17.3s,MS4.0
LIC Lamto 57.20 256 *eP* **P 00 24 33.6 +0.3**
comp=Z,11nm,1.0s,mb4.8
TIXI Tiksi 57.42 22⇑ *eP* **P 00 24 32.1 -1.9**
TIXI pmax pmax
comp=Z,7.0nm,1.5s,mb4.5
TIXI Tiksi 57.42 22 *eP* **P 00 24 32.1 -1.9**
comp=Z,7.0nm,1.5s,mb4.5
NJ2 Nanjing 57.57 69 *eP* **P 00 24 36.8 +1.1**
NJ2 PCP PcP 00 25 27.5 -1.5
NJ2 S **S** **00 32 26.0 -7.7**
NJ2 XS sS 00 32 49.0 +10
NJ2 AMB AMB
comp=Z,20nm,0.6s,mb5.3
YAK Yakutsk 58.33 33 *eP* **P 00 24 39.0 -1.6**
YAK Yakutsk 58.33 33⇑ *eP* **P 00 24 39.5 -1.0**
YAK pmax pmax
comp=Z,19nm,0.8s,mb5.2
YAK Yakutsk 58.33 33 *eP* **P 00 24 39.0 -1.5**
LBTB Lobatse 60.40 206 LR LR 00 52 07.4
comp=Z,142nm,18.3s,MS4.1,baz=300,slow=37
KSRS Korea Array 62.90 61 P **P 00 25 10.7 -1.4**
comp=Z,2.1nm,0.6s,mb4.4,baz=279,slow=7.5,SNR=9.6
KSRS LR LR 00 54 18.2
comp=Z,43nm,18.3s,MS3.7,baz=116,slow=38
BOSA Boshof 63.80 204 *eP* **P 00 25 19.8 +1.8**
BOSA pmax pmax
comp=Z,8.0nm,0.8s,mb4.8
BOSA Boshof 63.80 204 P **P 00 25 19.6 +1.6**
comp=Z,8.0nm,1.0s,mb4.7,baz=8.4,slow=8.9,SNR=10
BOSA LR LR 00 55 04.2
comp=Z,112nm,20.8s,MS4.0,baz=129,slow=38
BOSA Boshof 63.80 204 *eP* **P 00 25 19.8 +1.8**
comp=Z,7.5nm,0.8s,mb4.8
SEY Seymchan 68.17 29⇑ *eP* **P 00 25 45.5 -0.3**
BILL Bilibino 70.63 21 *eP* **P 00 26 00.8 -0.1**
BILL pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
BILL Bilibino 70.63 21 *eP* **P 00 26 00.8 -0.1**
comp=Z,6.0nm,0.9s,mb4.5
ASAJ Asahikawa 70.78 50 LR LR 01 00 42.6
comp=Z,52nm,21.2s,MS3.8,baz=209,slow=39
SCHQ Schefferville 79.03 328 P **P 00 26 49.4 -0.4**
comp=Z,13nm,0.8s,mb4.9,baz=42,slow=5.1,SNR=21
INK Inuvik 81.06 1 P **P 00 26 59.6 -0.9**
comp=Z,6.0nm,0.9s,mb4.5,baz=21,slow=8.1,SNR=18
EGAK Eagle 84.22 5 *eP* **P 00 27 16.7 -0.3**
comp=Z,14nm,1.0s,mb5.1
EGAK Eagle 84.22 5 *eP* **P 00 27 16.7 -0.3**
comp=Z,14nm,1.0s,mb5.1
DAWY Dawson 85.05 4 *eP* **P 00 27 20.3 -0.9**
YKA Yellowknife Ar 86.14 353 P **P 00 27 25.9 -0.7**
comp=Z,3.7nm,0.9s,mb4.6,baz=9.3,slow=5.2,SNR=51
SML Sawmill 86.40 9 *eP* **P 00 27 27.8 -0.1**
SML Sawmill 86.40 9 *eP* **P 00 27 27.8 -0.1**
FITZ Fitzroy Crossi 87.21 113 P **P 00 27 31.0 -1.5**
comp=Z,2.4nm,0.9s,mb4.4,baz=355,slow=11,SNR=2.2

IDC 18 00:37:57.3±14.0, 1676S×6719E, h0^{km}, mb4.0/4, mb1 4.1/4, mb1mx3.7/19, mbtmp4.0/4, MS3.0/1, Ms1 3.0/1, ms1mx2.7/41, Error ellipse: s-maj=464.9km s-min=29.9km az=57.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATD	**Arta Tunnel**	**37.01**	**318**	LR	LR	00 56 59.7	
	comp=Z,20nm,19.3s,baz=197,slow=31						
ASAR	**Alice Springs**	**62.51**	**108**	P	P	00 48 23.1	-0.1
	1.6nm,0.9s,baz=259,slow=6.3,SNR=11						
WRA	**Warramunga Arr**	**63.44**	**104**	P	P	00 48 29.6	+0.2
	3.2nm,1.0s,baz=266,slow=6.6,SNR=17						
MKAR	**Makanchi Array**	**64.70**	**11**	P	P	00 48 37.7	+0.6
	0.2nm,0.2s,baz=206,slow=6.3,SNR=3.6						
ZALV	**Zalesovo Beam**	**72.03**	**11**	P	P	00 49 22.3	-0.4
	0.4nm,0.3s,baz=183,slow=7.2,SNR=5.3						

*IDC **18** 00:42:29.1±5.1, 1269N×8699W, h0^{km}, mb3.2/2, mb1 3.7/2, mb1mx3.4/19, mbtmp3.3/2, Error ellipse: s-maj=140.7km s-min=88.3km az=44.0*
*ISCJB **18** 00:42:37.8±1.1, 1255N±008×879W±0.1, h69^{km}±14^{km}, mb3.2/2, Error ellipse: s-maj=19.2km s-min=9.3km az=146.6*
*CASC **18** 00:42:38.7±2.6, 1264N×8780W, h74^{km}±28^{km}, MD4.2, ML4.1*

ISC 18 00:42:39.0±1.1, 1258N±007×8786W±010, h59^{km}±17^{km}, n39, σ0^{s}96/43, mb3.2/2, 7C-6D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNCH	**Conchagua**	**0.69**	**2**⇓	*eP*	x	00 43 06.2	
CNCH				*eS*	x	00 43 18.1	
BLLM	**Bellamira**	**0.94**	**337**⇓	*eP*	x	00 43 08.7	
BLLM				*eS*	x	00 43 23.0	
TEL3	**Telica 3**	**0.99**	**90**	*eP*	**Pn**	**00 42 56.9**	**+0.1**
TEL3				*eS*	**Sn**	**00 43 10.9**	**+1.0**
TELN	**Telica**	**1.00**	**88**⇑	*eP*	**Pn**	**00 42 57.2**	**+0.3**
TELN				*eS*	**Sn**	**00 43 09.7**	**-0.5**
CAHU	**Cacacuatique**	**1.23**	**344**	*eP*	x	00 43 13.5	
CAHU				*eS*	x	00 43 32.0	
MOMJ	**Momotombo**	**1.29**	**97**⇓	*eP*	**Pn**	**00 43 00.7**	**-0.1**
MOMJ				*eS*	**Sn**	**00 43 17.5**	**+0.2**
COPN	**Copaltepe**	**1.30**	**108**⇑	*eP*	**Pn**	**00 43 00.4**	**-0.5**
CSAN		**1.45**	**106**⇓	*eP*	**Pn**	**00 43 03.0**	**+0.1**
APYN	**Apoyeque**	**1.51**	**103**	*eP*	**Pn**	**00 43 03.8**	**0.0**
XAVN	**Gruta Xavier**	**1.55**	**106**	*eP*	**Pn**	**00 43 04.2**	**-0.2**
XAVN				*eS*	**Sn**	**00 43 23.3**	**-0.1**
LFRS	**El Faro**	**1.57**	**312**⇓	*iP*	x	00 43 16.8	
LFRS				*eS*	x	00 43 37.0	
TISN	**Laguna Tiscapa**	**1.61**	**105**	*eP*	**Pn**	**00 43 05.0**	**-0.1**
TISN				*eS*	**Sn**	**00 43 24.8**	**0.0**
MGAN	**Managua**	**1.63**	**105**	*eP*	**Pn**	**00 43 04.8**	**-0.6**
MGAN				*eS*	**Sn**	**00 43 25.1**	**-0.2**
MGAN				*i*		00 43 28.3	
	comp=N,3μm,0.3s						
CRUN	**El Crucero**	**1.63**	**111**	*eP*	**Pn**	**00 43 04.6**	**-0.8**
CRUN				*eS*	**Sn**	**00 43 25.3**	**-0.1**
LBRS	**Las Brisas**	**1.63**	**315**⇑	*iP*	x	00 43 18.3	
LBRS				*eS*	x	00 43 39.1	
HUEN		**1.66**	**98**⇓	*eP*	**Pn**	**00 43 05.7**	**-0.1**
TICN	**Ticuantepe**	**1.68**	**109**	*eP*	**Pn**	**00 43 05.9**	**-0.1**
TICN				*eS*	**Sn**	**00 43 27.2**	**+0.8**
SNET	**Serv Nac Est T**	**1.74**	**310**	*eP*	x	00 43 06.6	
SNET				*eS*	x	00 43 28.7	
BOQS	**Boqueron**	**1.80**	**310**⇑	*iP*	x	00 43 20.1	
BOQS				*eS*	x	00 43 44.2	
APON	**Apoyo**	**1.87**	**110**⇑	*eP*	**Pn**	**00 43 08.2**	**-0.5**
SNJE	**San Jose**	**2.13**	**307**	*eP*	x	00 43 24.8	
SNJE				*eS*	x	00 43 51.2	
SSNN	**San Juan del S**	**2.34**	**123**	*eP*	**Pn**	**00 43 13.8**	**-1.3**
SSNN				*eS*	**Sn**	**00 43 40.7**	**-2.1**
CONN	**Concepcion**	**2.40**	**115**	*eP*	**Pn**	**00 43 15.4**	**-0.5**
MADN	**Villa Maderas**	**2.55**	**117**⇑	*eP*	**Pn**	**00 43 16.7**	**-1.2**
MADN				*eS*	**Sn**	**00 43 49.2**	**+1.3**
LIM1	**Limonal**	**3.16**	**126**	*eP*	**Pn**	**00 43 26.0**	**-0.3**
LIM1				*eS*	**Sn**	**00 44 04.1**	**+1.4**
CUI		**3.24**	**126**	*eP*	**Pn**	**00 43 28.1**	**+0.8**
CUI				*eS*	**Sn**	**00 44 04.0**	**-0.8**
VCR	**Vista de Mar**	**3.27**	**138**	*eP*	**Pn**	**00 43 27.1**	**-0.7**
2RIO	**Dos Rios de Up**	**3.28**	**128**	*eP*	**Pn**	**00 43 24.4**	**-3.5**
2RIO				*eS*	**Sn**	**00 43 58.4**	**-7.3**
JCR	**Jicaral**	**3.82**	**135**	*eP*	**Pn**	**00 43 35.1**	**-0.2**
CGA2	**Cerro Gallo 2**	**4.19**	**127**	*eP*	**Pn**	**00 43 41.1**	**+0.7**
PRS1	**Puriscal**	**4.33**	**126**	*eP*	**Pn**	**00 43 43.7**	**+1.4**
LAJ	**Bijagual**	**4.55**	**126**	*eP*	**Pn**	**00 43 43.5**	**-1.8**
LCR2	**La Lucha 2**	**4.71**	**126**	*eP*	**Pn**	**00 43 50.1**	**+2.6**
URSC	**Urasca**	**4.84**	**124**	*eP*	**Pn**	**00 43 51.1**	**+1.8**
BAR1		**5.56**	**126**⇑	*eP*	**Pn**	**00 44 00.8**	**+1.7**
TXAR	**Lajitas Array**	**22.23**	**321**	P	**P**	**00 47 32.6**	**+1.8**
	comp=N,1.1nm,0.7s,mb3.4,baz=141,slow=12,SNR=6.3						
YKA	**Yellowknife Ar**	**53.38**	**345**	P	**P**	**00 51 51.3**	**-1.0**
	comp=N,0.1nm,0.5s,mb3.0,baz=143,slow=6.7,SNR=5.4						
DLBC	**Dease Lake**	**55.62**	**335**	P	**P**	**00 52 08.1**	**-0.5**
	baz=185,slow=11						
WRA	**Warramunga Arr**	**138.93**	**254**	PKP	PKPdf	01 02 00.1	+0.4
	comp=N,0.2nm,0.5s,baz=88,slow=2.2,SNR=5.1						

*ISCJB **18** 00:58:02.9±1.7, 469N±0.1×1527E±02, h78^{km}±14^{km}, mb3.4/8, Error ellipse: s-maj=29.7km s-min=12.6km az=137.9*
*MOS **18** 00:58:03.4±1.3, 4696N×1526.5E, h84^{km}, mb4.0/3, Error ellipse: s-maj=21.7km s-min=16.0km az=60.5*
*IDC **18** 00:58:06.6±4.6, 4684N×1525.7E, h96^{km}±41^{km}, mb3.3/9, mb1 3.4/11, mb1mx3.4/23, mbtmp3.3/11, Error ellipse: s-maj=31.5km s-min=24.4km az=114.0*

ISC 18 00:58:04.6±1.5, 469N±01×1528E±02, h77^{km}±12^{km}, n19, σ0^{s}85/19, mb3.4/8, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**4.37**	**29**	*e*PN	**Pn**	**00 59 08.0**	**-0.5**
SKR				*e*		00 59 58.9	
YSS	**Yuzh-Sakhalins**	**6.84**	**274**	*e*PN	**Pn**	**00 59 43.0**	**+0.8**
ASAJ	**Asahikawa**	**7.66**	**252**	PN	**Pn**	**00 59 52.2**	**-1.2**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ	**Asahikawa**	**7.66**	**252**	P	**Pn**	**00 59 52.2**	**-1.2**
	comp=Z,0.9nm,0.3s,baz=72,slow=9.6,SNR=6.7						
MJAR	**Matsushiro Arr**	**14.99**	**231**	P	**Pn**	**01 01 33.0**	**+1.0**
	comp=Z,0.2nm,0.3s,baz=34,slow=10,SNR=4.5						
KSRS	**Korea Array**	**20.61**	**252**	P	**P**	**01 02 38.0**	**+0.7**
	comp=Z,1.0nm,0.6s,baz=54,slow=12,SNR=4.8						

SONM Songino Array 31.04 289 P **P** **01 04 14.7 -0.1**
comp=Z,0.3nm,0.7s,mb3.1,baz=94,slow=10,SNR=2.6
MKAR Makanchi Array 46.64 297 P **P** **01 06 23.7 -1.1**
comp=Z,0.3nm,0.5s,mb3.3,baz=69,slow=8.2,SNR=3.8
YKA Yellowknife Ar 50.94 37 P **P** **01 06 58.8 +1.3**
YKA Yellowknife Ar 50.94 37 P **P** **01 06 58.8 +1.3**
comp=Z,0.2nm,0.6s,mb3.3,baz=290,slow=6.6,SNR=4.3
FINES FINESS Array B 63.78 335 P **P** **01 08 28.0 +0.2**
FINES pmax pmax
comp=Z,1.0nm,0.4s
FINES FINESS Array B 63.78 335 P **P** **01 08 27.9 +0.1**
comp=Z,0.6nm,0.4s,mb3.8,baz=34,slow=9.6,SNR=12
NB2 NORSAR Subarra 67.98 341 P **P** **01 08 53.1 -1.7**
comp=Z,0.6nm,0.5s,mb3.7,baz=26,slow=6.5
NOA NORSAR Array B 67.98 341 P **P** **01 08 55.3 +0.5**
NOA pmax pmax
comp=Z,1.0nm,0.5s
NOA NORSAR Array B 67.98 341 P **P** **01 08 55.3 +0.4**
comp=Z,0.7nm,0.5s,mb3.7,baz=28,slow=6.1,SNR=3.4
AKASG Malin Array Be 71.27 326 P **P** **01 09 14.7 -0.5**
AKASG pmax pmax
comp=Z,1.0nm,0.4s
AKASG Malin Array Be 71.27 326 P **P** **01 09 14.7 -0.5**
comp=Z,0.9nm,0.4s,mb3.9,baz=34,slow=6.9,SNR=3.7
ASAR Alice Springs 72.29 198 P **P** **01 09 20.4 -1.1**
comp=Z,0.3nm,0.6s,mb3.3,baz=14,slow=5.9,SNR=5.6
GERES GERESS Array B 78.19 334 P **P** **01 09 55.9 +0.7**
comp=Z,0.1nm,0.4s,mb2.9,baz=25,slow=7.6,SNR=4.1

*BJI **18** 01:08:06.4,2362S×6739W,h166km,mB5.4*
*MOS **18** 01:08:06.0±1.0,2397S×6671W,h162km,mb5.3/54, MS4.5/7,Error ellipse: s-maj=8.6km s-min=5.7km az=90.0*
*GCMT **18** 01:08:08.0±0.1,2420S×6690W,h218km±1km,MW5.6/95, Moment Tensor Solution. s84,c137; s95,c185; Duration: 1s5 Moment tensor: Scale 10^{17}Nm; M_{rr}-1.59±.04; $M_{\theta\theta}$-0.77±.04; $M_{\phi\phi}$2.36±.05; $M_{r\theta}$1.03±.03; $M_{\theta\phi}$1.18±.04; $M_{\phi r}$-1.76±.04; Best double couple: $M_0$3.14500×10^{17} NP1:ϕ_s232.00000°,δ41.00000°, λ-31.00000°. NP2:ϕ_s346.00000°,δ71.00000°, λ-126.00000°. Principal axes: T 3.1810, Plg18.0000°, Azm102.0000°; N -0.0720, Plg34.0000°, Azm360.0000°; P -3.1100, Plg51.0000°, Azm215.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **18** 01:08:08.0±0.4,2408S×6663W,h172km±4km,mb5.2/132 Error ellipse: s-maj=3.9km s-min=3.3km az=65.0*
NEIC Felt [II] at Antofagasta, Maria Elena, Mejillones and Tocopilla.
*ISCJB **18** 01:08:11.4±0.1,2412S±003×6667W±003,h214km, mb5.0/175,Error ellipse: s-maj=4.2km s-min=3.1km az=36.1*
*LDG **18** 01:08:11.9±0.3,2367S×6679W,h209km,Mb5.0/41, Ms4.3/10,Error ellipse: s-maj=23.2km s-min=16.2km az=113.0*
*IDC **18** 01:08:11.8±0.4,2402S×6659W,h207km±3km,mb4.9/30, mb1 5.0/35,mb1mx5.0/36,mbtmp5.0/35,Error ellipse: s-maj=9.0km s-min=7.2km az=78.0*
*GUC **18** 01:08:12.0±0.9,2425S×6726W,h220km,mb5.2(NEIC)*
ISC 18 01:08:13.1±0.1,**2410S**±003×**6660W**±003,**h216**km±1.2km;**pP-P,n958,**σ**0s77**/809,**mb5.0**/175, **115C-114D,Salta Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEN1	**Los Morros**	**3.37**	**281**	⇑*eP*	**Pn**	**01 09 03.4**	**-4.5**
CEN1				*i* S	**S**	**01 09 41.9**	**-9.0**
CEN1				AML	AML	01 09 47.5	
	comp=E,22μm,0.8s						
CPN1	**Cerro Paranal**	**3.50**	**261**	*eP*	**Pn**	**01 09 03.8**	**-5.7**
CPN1				*i* S	**S**	**01 09 43.8**	**-10**
ANCH	**Antofagasta**	**3.51**	**276**	⇑*iP*	**Pn**	**01 09 04.1**	**-5.4**
ANCH				*i* S	**S**	**01 09 43.8**	**-10**
ANCH	**Antofagasta**	**3.51**	**276**	⇑*iP*	**Pn**	**01 09 04.1**	**-5.4**
ANCH				*i* S	**S**	**01 09 43.3**	**-11**
CDCH	**Caldera**	**4.83**	**231**	⇑*iP*	**Pn**	**01 09 18.6**	**-7.1**
CDCH				*i* S	**S**	**01 10 11.1**	**-12**
VACH	**Vallenar**	**5.81**	**219**	*eP*	**Pn**	**01 09 31.3**	**-6.8**
VACH	**Vallenar**	**5.81**	**219**	*eP*	**Pn**	**01 09 31.3**	**-6.7**
VACH				*i* S	**S**	**01 10 34.0**	**-12**
LCO	**Las Campanas**	**6.11**	**216**	*e*Pn	**Pn**	**01 09 36.4**	**-5.6**
	comp=E,500nm,0.6s						
LCO				*e*Sn	**S**	**01 10 35.8**	**-17**
TLL	**Tololo Astrono**	**7.11**	**211**	*eP*	**Pn**	**01 09 49.1**	**-5.6**
TLL	**Tololo Astrono**	**7.11**	**211**	⇓*eP*	**Pn**	**01 09 49.1**	**-5.6**
TLL				*i* S	**S**	**01 11 06.1**	**-10**
CFAA	**Coronel Fontan**	**7.61**	**191**	P	**Pn**	**01 09 56.2**	**-5.0**
	comp=E,13nm,0.3s,baz=2.9,slow=13,SNR=452						
CFAA				S	**S**	**01 11 17.8**	**-10**
	comp=E,21nm,0.3s,baz=252,slow=20,SNR=12						
LPAZ	**La Paz**	**7.91**	**349**	P	**Pn**	**01 10 02.5**	**-2.7**
LPAZ				S	**S**	**01 11 29.0**	**-5.8**
LPAZ	**La Paz**	**7.91**	**349**	P	**Pn**	**01 10 02.5**	**-2.7**
	comp=E,59nm,0.3s,baz=158,slow=9.3,SNR=436						
LPAZ				S	**S**	**01 11 29.0**	**-5.8**
	comp=E,40nm,0.3s,baz=85,slow=24,SNR=7.1						
CMCH	**Combarbala**	**8.05**	**208**	⇓*iP*	**Pn**	**01 10 00.7**	**-6.2**
ARE	**Arequipa**	**8.88**	**328**	*eP*	**Pn**	**01 10 11.0**	**-6.7**
ARE				*e*S	**S**	**01 11 46.0**	**-12**
SIV	**San Ignacio**	**9.60**	**34**	P	**Pn**	**01 10 23.6**	**-3.4**
	comp=E,85nm,0.3s,baz=223,slow=14,SNR=2598						
PEL	**Peldehue**	**9.69**	**201**	*eP*	**Pn**	**01 10 22.8**	**-5.3**
FCH	**Farellones**	**9.74**	**199**	⇓*iP*	**Pn**	**01 10 25.0**	**-3.7**
CLCH	**Cerro Calan**	**9.88**	**200**	*eP*	**Pn**	**01 10 25.6**	**-4.9**
LMEL	**Las Melosas**	**10.21**	**197**	*eP*	**Pn**	**01 10 31.2**	**-3.5**
CICH	**Cipreses**	**10.71**	**197**	*eP*	**Pn**	**01 10 37.6**	**-3.5**
LPA	**La Plata**	**13.14**	**147**	*ce*P	**Pn**	**01 11 09.0**	**-2.7**
LPA				*e*S	**S**	**01 13 34.0**	**-4.1**
TRQA	**Tornquist**	**14.46**	**165**	*e*Pn	**Pn**	**01 11 23.9**	**-4.0**
NNA	**Nana**	**15.48**	**319**	*eP*	**Pn**	**01 11 37.9**	**-2.6**
NNA	**Nana**	**15.48**	**319**	P	**Pn**	**01 11 38.0**	**-2.5**
	comp=E,17nm,0.3s,baz=164,slow=13,SNR=104						
NNA				S	**S**	**01 14 23.1**	**-8.9**
	comp=E,7.2nm,0.3s,baz=234,slow=17,SNR=3.5						
NNA				ScP	ScP	01 19 43.9	+1.6
	comp=E,1.0nm,0.3s,baz=0.3,slow=5.5,SNR=4.0						
PLCA	**Paso Flores**	**16.91**	**190**	P	**P**	**01 11 54.4**	**-1.5**
	comp=E,15nm,0.3s,baz=13,slow=12,SNR=130						
PLCA				PcP	PcP	01 16 31.3	+0.9
	comp=E,0.7nm,0.3s,baz=11,slow=2.6,SNR=5.0						
PLCA				ScP	ScP	01 19 47.0	+2.3
	comp=E,0.2nm,0.3s,baz=70,slow=2.3,SNR=6.5						
BDFB	**Brasilia**	**19.39**	**68**	P	**P**	**01 12 22.4**	**-0.6**
	comp=E,32nm,0.3s,baz=232,slow=17,SNR=1069						
BDFB				ScP	ScP	01 19 53.0	+2.6
	comp=E,0.3nm,0.3s,baz=100,slow=23,SNR=3.5						
ATAH	**Atahualpa**	**20.42**	**324**	P	**P**	**01 12 33.1**	**-0.9**
	comp=E,28nm,0.8s,baz=168,slow=7.8,SNR=25						
CAM4	**Nova Friburgo**	**22.15**	**90**	⇑*iP*	**P**	**01 12 50.7**	**-0.7**
CAM4				*i*		01 12 52.2	
CAM4				*i*		01 12 59.8	
CAM3	**Guarapari**	**24.33**	**87**	⇑*iP*	**P**	**01 13 10.5**	**-0.8**
CAM3				*i*		01 13 11.1	
CAM3				*i*		13 13 12.8	
CAM3				*i*		13 13 28.6	
EFI	**East Falkland**	**28.30**	**169**	P	**P**	**01 13 45.7**	**-0.7**
	comp=E,797nm,1.2s,mb6.2,SNR=20						
EFI	**East Falkland**	**28.30**	**169**	*eP*	**P**	**01 13 46.0**	**-0.4**
	comp=E,99nm,0.8s,mb5.5						
EFI	**East Falkland**	**28.30**	**169**	⇓*eP*	**P**	**01 13 45.3**	**-1.1**
ROSC	**El Rosal**	**29.75**	**344**	P	**P**	**01 13 58.9**	**-0.7**
	comp=E,11nm,0.5s,mb4.7,baz=94,slow=5.3,SNR=8.5						
USHA	**Ushuaia**	**30.72**	**182**	P	**P**	**01 14 06.7**	**-1.0**
	comp=E,52nm,0.6s,mb5.3,baz=346,slow=7.9,SNR=78						
USHA				PcP	PcP	01 17 00.1	+0.4
	comp=E,13nm,0.8s,baz=329,slow=5.9,SNR=3.0						
SDV	**Santo Domingo**	**33.02**	**353**	*eP*	**P**	**01 14 25.5**	**-2.6**
	comp=E,78nm,1.2s,mb5.1						
SDV	**Santo Domingo**	**33.02**	**353**	P	**P**	**01 14 25.7**	**-2.5**
	comp=E,16nm,0.8s,mb4.6,baz=247,slow=9.8,SNR=20						
PCRV	**Puerto La Cruz**	**34.12**	**3**	P	**P**	**01 14 36.8**	**-0.9**
	comp=E,18nm,0.7s,mb4.8,baz=170,slow=2.6,SNR=11						
RCBR	**Riachuelo**	**34.64**	**63**	*eP*	**P**	**01 14 41.4**	**-0.8**
	comp=E,314nm,0.9s,mb5.8						
BCIP	**Isla Barro Col**	**35.50**	**337**	*eP*	**P**	**01 14 50.0**	**+0.5**
GRGR	**Grenville**	**36.34**	**8**	*eP*	**P**	**01 14 55.5**	**-1.0**
RPN	**Rapa Nui**	**38.52**	**256**	P	**P**	**01 15 14.5**	**-0.3**
	comp=E,33nm,0.5s,mb5.1,baz=89,slow=3.2,SNR=7.6						
RPN				pP	pP	01 15 57.8	-2.0
	comp=E,77nm,0.7s,baz=50,slow=3.9,SNR=3.3						
FDF	**Fort de France**	**38.96**	**8**	⇓*iP*	**P**	**01 15 16.4**	**-2.1**
PMSA	**Palmer Station**	**40.70**	**178**	P	**P**	**01 15 32.1**	**-0.1**
	comp=E,82nm,0.9s,mb5.1,baz=355,slow=5.4,SNR=19						
CPD	**Cerro la Pandu**	**41.89**	**1**	*eP*	**P**	**01 15 37.5**	**-4.9**
SJG	**San Juan**	**41.96**	**1**	*eP*	**P**	**01 15 39.4**	**-3.6**
	comp=E,99nm,1.0s,mb5.2						
SJG	**San Juan**	**41.96**	**1**	*eP*	**P**	**01 15 39.4**	**-3.6**
SJG				pmax	pmax		
	comp=Z,99nm,1.0s						
SJG	**San Juan**	**41.96**	**1**	P	**P**	**01 15 39.9**	**-3.0**
	comp=Z,52nm,0.6s,mb5.1,baz=149,slow=4.7,SNR=18						
SJG				pP	pP	01 16 24.9	-3.8
	comp=Z,73nm,0.9s,baz=204,slow=3.6,SNR=1.9						
HUMP	**Col San Antoni**	**41.99**	**1**	*eP*	**P**	**01 15 39.5**	**-3.8**
MPR	**Mayaguez**	**42.06**	**359**	*eP*	**P**	**01 15 40.8**	**-3.0**
CBYP	**Canovanas**	**42.12**	**1**	*eP*	**P**	**01 15 37.5**	**-6.8**
TGUH	**Tegucigalpa,Un**	**42.97**	**330**	*eP*	**P**	**01 15 50.7**	**-0.4**
SDDR	**Presa de Saban**	**43.07**	**354**	*eP*	**P**	**01 15 49.0**	**-2.9**
MGV	**Manicaragua**	**47.74**	**343**	*eP*	**P**	**01 16 28.2**	**-0.3**
TRIS	**Tristan da Cun**	**47.90**	**119**	P	**P**	**01 16 29.2**	**-0.5**
	comp=Z,64nm,0.3s,mb5.4						
SOR	**Soroa**	**49.26**	**340**	*eP*	**P**	**01 16 38.6**	**-1.5**
DWPF	**Disney**	**53.84**	**344**	*eP*	**P**	**01 17 12.9**	**-0.9**
	comp=Z,35nm,0.7s,mb5.0						
BBSR	**BB Station**	**56.19**	**2**	*eP*	**P**	**01 17 29.2**	**-1.3**
	comp=Z,44nm,0.9s,mb5.0						
VNA3	**Neumayer Olymp**	**56.94**	**161**	*eP*	**P**	**01 17 35.8**	**+0.4**
VNA3				*e*		01 17 41.3	
VNA3				*e*		01 17 45.6	
VNA3				*e*	pP	01 18 27.8	+4.0
VNA1	**Neumayer--Stat**	**57.13**	**160**	*eP*	**P**	**01 17 37.6**	**+0.9**
VNA1				*e*		01 17 43.0	
VNA1				*e*		01 17 47.5	
VNA1				*e*	pP	01 18 29.5	+4.3
VNA2	**Neumayer--Watz**	**57.50**	**160**	*eP*	**P**	**01 17 39.8**	**+0.5**
	baz=288,slow=7.1						
VNA2				*e*		01 17 45.4	
VNA2				*e*		01 17 49.8	
VNA2				*e*	pP	01 18 28.8	+0.9
BRAL	**Brewton**	**58.20**	**339**	*eP*	**P**	**01 17 44.6**	**-0.1**
NHSC	**New Hope**	**58.34**	**347**	*eP*	**P**	**01 17 45.5**	**-0.1**
NHSC				*e*pP	pP	01 18 34.1	-0.2
COW	**Cow Castle Cre**	**58.72**	**346**	*eP*	**P**	**01 17 47.6**	**-0.5**
GOGA	**Godfrey**	**59.41**	**344**	*eP*	**P**	**01 17 51.2**	**-1.7**
JSC	**Jenkinsville**	**59.71**	**346**	*eP*	**P**	**01 17 54.0**	**-0.9**
LHS	**Liberty Hill**	**59.80**	**346**	*eP*	**P**	**01 17 58.3**	**+2.7**
LRAL	**Lakeview Retre**	**60.05**	**340**	*eP*	**P**	**01 17 55.3**	**-2.0**
	comp=Z,48nm,0.6s,mb5.3						
HKT	**Hockley**	**60.63**	**331**	*eP*	**P**	**01 18 00.2**	**-1.1**
	comp=Z,105nm,1.7s,mb5.2						
HKT	**Hockley**	**60.63**	**331**	*eP*	**P**	**01 18 00.2**	**-1.1**
HKT				pmax	pmax		
	comp=Z,105nm,1.7s,mb5.2						
CPCT	**Cooper Cave**	**61.61**	**343**	*eP*	**P**	**01 18 06.5**	**-1.3**
TKL	**Tuckaleechee C**	**61.62**	**344**	P	**P**	**01 18 06.1**	**-1.7**
TKL				pP	pP	01 18 54.2	-2.9
TKL	**Tuckaleechee C**	**61.62**	**344**	P	**P**	**01 18 06.1**	**-1.7**
	comp=Z,33nm,0.8s,mb5.0,baz=166,slow=8.2,SNR=42						
TKL				pP	pP	01 18 54.2	-2.9
	comp=Z,36nm,1.0s,baz=156,slow=9.2,SNR=5.1						
NATX	**Nacogdoches**	**61.69**	**333**	*eP*	**P**	**01 18 08.1**	**-0.3**
SWET	**Sewanee**	**61.77**	**342**	*eP*	**P**	**01 18 07.2**	**-1.6**
RKT	**Rikitea**	**62.05**	**256**	*eP*	**P**	**01 18 11.9**	**+0.8**
	comp=Z,47nm,0.9s,mb5.1						
RKT	**Rikitea**	**62.05**	**256**	*eP*	**P**	**01 18 11.9**	**+0.8**
RKT				pmax	pmax		
	comp=Z,47nm,0.9s,mb5.1						
PLAL	**Pickwick Lake**	**62.19**	**340**	*eP*	**P**	**01 18 08.7**	**-3.0**
	comp=Z,64nm,0.8s,mb5.3						
BBTS	**Babate**	**62.25**	**57**	P	**P**	**01 18 11.9**	**-0.5**
	comp=Z,92nm,0.8s,mb5.4,baz=264,slow=2.7,SNR=13						
BLA	**Blacksburg**	**62.36**	**348**	*eP*	**P**	**01 18 12.2**	**-0.4**
	comp=Z,38nm,1.4s,mb4.8						
BLA	**Blacksburg**	**62.36**	**348**	*eP*	**P**	**01 18 12.3**	**-0.4**
BLA				pmax	pmax		
	comp=Z,38nm,1.4s,mb4.8						
TZTN	**Tazewell**	**62.40**	**345**	*eP*	**P**	**01 18 11.1**	**-1.9**
	comp=Z,92nm,1.5s,mb5.2						
TZTN				*e*pP	pP	01 19 03.4	+1.0
JCT	**Junction City**	**62.92**	**328**	*eP*	**P**	**01 18 15.5**	**-1.1**
	comp=Z,106nm,0.6s,mb5.7						
JCT				*e*PcP	PcP	01 18 52.5	-0.1
JCT	**Junction City**	**62.92**	**328**	*eP*	**P**	**01 18 15.5**	**-1.1**
JCT				*e*		01 18 52.5	
JCT				pmax	pmax		
	comp=Z,107nm,0.6s,mb5.7						
WVT	**Waverly**	**63.18**	**341**	*eP*	**P**	**01 18 15.9**	**-2.2**
HALT	**Halls**	**63.44**	**339**	*eP*	**P**	**01 18 17.8**	**-2.1**
HBAR	**Harrisburg**	**63.55**	**338**	*eP*	**P**	**01 18 19.2**	**-1.4**
MAIT	**Maitri**	**63.62**	**159**	⇓*iP*	**P**	**01 18 19.2**	**-1.4**
MAIT				*e*PP	PP	01 20 42.9	-0.1
MAIT				*e*S	**S**	**01 26 38.4**	**+1.7**
NVL	**N'lazarevskaya**	**63.65**	**159**	*eP*	**P**	**01 18 21.8**	**+1.0**
NVL				*e**PP	pP	01 18 56.6	-14
NVL				*e*S	**S**	**01 26 39.0**	**+2.0**
NVL				pmax	pmax		
	comp=Z,156nm,1.3s,mb5.5						
MIAR	**Mount Ida**	**63.70**	**335**	*eP*	**P**	**01 18 20.2**	**-1.3**
	comp=Z,48nm,0.8s,mb5.2						
MIAR	**Mount Ida**	**63.70**	**335**	*eP*	**P**	**01 18 20.2**	**-1.4**
MIAR				pmax	pmax		
	comp=Z,48nm,0.8s,mb5.2						
GNAR	**Gosnell**	**63.71**	**339**	*eP*	**P**	**01 18 20.7**	**-0.9**
GNAR				*e*pP	pP	01 19 13.0	+1.8
GLAT	**Glass**	**63.76**	**340**	*eP*	**P**	**01 18 20.7**	**-1.2**
GLAT				*e*pP	pP	01 19 17.0	+5.5
LTX	**Lajitas**	**63.97**	**324**	P	**P**	**01 18 24.6**	**+1.1**
TXAR	**Lajitas Array**	**63.97**	**324**	P	**P**	**01 18 22.6**	**-0.9**
	comp=Z,18nm,0.7s,mb4.8,baz=152,slow=8.3,SNR=186						
TXAR				PKPPKP		01 47 09.8	
	comp=Z,0.5nm,0.8s,baz=284,slow=3.6,SNR=2.8						
TXAR				PKP2ab		01 47 21.2	
	comp=Z,1.1nm,0.9s,baz=239,slow=1.0,SNR=6.2						
PARMO	**Parma**	**64.27**	**339**	*eP*	**P**	**01 18 23.9**	**-1.3**
MCWV	**Mont Chateau**	**64.62**	**349**	*eP*	**P**	**01 18 27.1**	**-0.4**
MCWV				*e*pP	pP	01 19 18.8	+1.6
WCI	**Wyandotte Cave**	**64.70**	**343**	*eP*	**P**	**01 18 25.7**	**-2.3**
BRNJ	**Basking Ridge**	**64.88**	**353**	P	**P**	**01 18 28.6**	**-0.5**
ACSO	**Alum Creek Sta**	**65.80**	**346**	*eP*	**P**	**01 18 33.6**	**-1.4**
	comp=Z,37nm,0.8s,mb5.1						
ACSO				*e*pP	pP	01 19 23.3	-1.5
BRYW	**Bryant College**	**65.84**	**356**	*eP*	**P**	**01 18 35.1**	**-0.1**
WMOK	**Wichita Mounta**	**66.00**	**331**	*eP*	**P**	**01 18 34.6**	**-1.8**
CCM	**Cathedral Cave**	**66.02**	**339**	*eP*	**P**	**01 18 34.8**	**-1.7**
QSPA	**South Pole Qui**	**66.10**	**180**	*eP*	**P**	**01 18 37.3**	**+0.8**
QSPA				P'P'		01 47 08.9	
QSPA	**South Pole Qui**	**66.10**	**180**	P	**P**	**01 18 37.2**	**+0.8**
	comp=Z,181nm,0.5s,mb6.0,baz=86,slow=0.1,SNR=1778						
QSPA				PKPPKP		01 47 08.9	
	comp=Z,4.7nm,0.9s,baz=261,slow=3.4,SNR=5.2						
BINY	**Binghamton**	**66.53**	**352**	*eP*	**P**	**01 18 39.6**	**0.0**
	comp=Z,84nm,1.1s,mb5.3						
BINY				*e*pP	pP	01 19 29.4	-0.3
GDL2	**Guadalupe Moun**	**66.60**	**326**	*eP*	**P**	**01 18 39.8**	**-0.4**
MNTX	**Cornudas Mount**	**66.74**	**324**	*eP*	**P**	**01 18 39.5**	**-1.6**
	comp=Z,40nm,0.8s,mb5.1						
LIC	**Lamto**	**67.12**	**72**	⇑*iP*	**P**	**01 18 42.6**	**-1.4**
	comp=Z,30nm,0.3s,mb5.1						
LIC				*e*MLR	MLR		
	comp=Z,622nm,19.0s						
AMTX	**Amarillo**	**67.44**	**329**	*eP*	**P**	**01 18 44.2**	**-1.2**
DBIC	**Dimbokro**	**67.49**	**71**	P	**P**	**01 18 45.2**	**-1.1**
DBIC				pP	pP	01 19 33.7	-2.7
DBIC				S	S	01 27 22.8	-2.4
DBIC				P'P'ab		01 47 13.6	
DBIC	**Dimbokro**	**67.49**	**71**	P	**P**	**01 18 45.2**	**-1.1**
DBIC				S	S	01 27 22.8	-2.5
DBIC	**Dimbokro**	**67.49**	**71**	P	**P**	**01 18 45.2**	**-1.1**
	comp=Z,43nm,0.5s,mb5.3,baz=215,slow=6.8,SNR=166						
DBIC				pP	pP	01 19 33.7	-2.7
	comp=Z,42nm,1.0s,baz=207,slow=6.8,SNR=2.4						
DBIC				S	S	01 27 22.8	-2.4
	comp=Z,3.5nm,0.9s,baz=299,slow=23,SNR=7.3						
DBIC				PKP2ab		01 47 13.6	
	comp=Z,4.5nm,1.0s,baz=349,slow=6.1,SNR=4.2						
HDIL	**Hopedale**	**67.70**	**341**	*eP*	**P**	**01 18 44.9**	**-2.1**
AAM	**Ann Arbor**	**67.92**	**346**	P	**P**	**01 18 47.2**	**-1.1**
	comp=Z,16nm,0.6s,mb4.8						
AAM				*e*PcP	PcP	01 19 11.8	-1.2
AAM	**Ann Arbor**	**67.92**	**346**	P	**P**	**01 18 47.2**	**-1.1**
AAM				*e*		01 19 11.8	
AAM				pmax	pmax		
	comp=Z,16nm,0.6s,mb4.8						
319A	**Douglas**	**68.64**	**321**	⇑P	**P**	**01 18 53.4**	**+0.4**
	baz=69,SNR=63						
KSU1	**Kansas State U**	**68.86**	**335**	*eP*	**P**	**01 18 52.0**	**-2.2**
	comp=Z,81nm,0.8s,mb5.4						
318A	**Bisbee**	**69.09**	**321**	P	**P**	**01 18 56.1**	**+0.3**
	baz=69,SNR=87						
MSNY	**Massena**	**69.18**	**354**	*eP*	**P**	**01 18 55.3**	**-0.7**
MSNY				*e*PcP	PcP	01 19 17.2	-1.0
BNM	**Barren Site**	**69.30**	**325**	*eP*	**P**	**01 18 57.2**	**-0.2**
BNM				*e*		01 19 37.6	
LPM	**Los Pinos Moun**	**69.43**	**325**	*eP*	**P**	**01 18 57.9**	**+0.1**
LPM				*e*pP	pP	01 19 50.1	+1.8
LENM	**Lemitar**	**69.50**	**325**	*eP*	**P**	**01 18 58.4**	**+0.2**
LENM				*e*pP	pP	01 19 50.7	+2.0
218A	**Dragoon**	**69.52**	**321**	P	**P**	**01 18 58.7**	**+0.3**
	baz=70,SNR=73						
119A	**Ashpeak Ranch,**	**69.69**	**322**	⇓P	**P**	**01 18 59.8**	**+0.4**
	baz=70,SNR=15						
LAZ	**Ladron**	**69.76**	**325**	*eP*	**P**	**01 19 00.1**	**+0.2**
217A	**Green Valley**	**69.81**	**321**	⇓P	**P**	**01 19 00.5**	**+0.2**
	baz=70,SNR=74						
ANMO	**Albuquerque**	**69.84**	**326**	*eP*	**P**	**01 19 00.3**	**0.0**
	comp=Z,40nm,0.8s,mb5.1						
ANMO	**Albuquerque**	**69.84**	**326**	⇑*eP*	**P**	**01 19 00.2**	**-0.1**
ANMO	**Albuquerque**	**69.84**	**326**	PKPPKP		01 47 01.6	
	baz=274,slow=3.3						
CBKS	**Cedar Bluff**	**69.86**	**333**	*eP*	**P**	**01 18 59.8**	**-0.5**
CBKS				*e*pP	pP	01 19 51.4	+0.5
JFWS	**Jewell Farm**	**70.15**	**342**	*eP*	**P**	**01 19 00.6**	**-1.5**
TUC	**Tucson**	**70.19**	**321**	*eP*	**P**	**01 19 02.0**	**-0.5**
TUC				*e*pP	pP	01 19 54.1	+1.1
Z18A	**Geronimo**	**70.34**	**322**	⇑P	**P**	**01 19 03.6**	**+0.2**
	baz=71,SNR=6.8						
216A	**Three Points,**	**70.35**	**320**	P	**P**	**01 19 03.7**	**+0.2**
	baz=71,SNR=24						
EGOM	**La Gomera**	**70.46**	**45**	P	**P**	**01 19 02.5**	**-1.7**
	comp=Z,92nm,0.9s,mb5.4						
GLMI	**Grayling**	**70.54**	**347**	*eP*	**P**	**01 19 02.5**	**-1.9**
	comp=Z,46nm,0.8s,mb5.2						
GLMI				*e*PcP	PcP	01 19 23.8	-0.3
CCAN	**Las Canadas**	**70.89**	**46**	P	**P**	**01 19 05.5**	**-1.4**
	comp=Z,5.7nm,0.5s,mb4.5						
116A	**Eloy**	**70.90**	**321**	⇓P	**P**	**01 19 07.0**	**+0.2**
	baz=71,SNR=18						
115A	**Sonoran Desert**	**71.31**	**320**	P	**P**	**01 19 09.7**	**+0.5**
	baz=72,SNR=11						
Z16A	**Peralta Trail,**	**71.31**	**321**	⇑P	**P**	**01 19 09.4**	**+0.2**
	baz=72,SNR=14						
EOSO	**Osorio**	**71.48**	**46**	P	**P**	**01 19 10.4**	**0.0**
	comp=Z,52nm,1.0s,mb5.1						
SDCO	**Great Sand Dun**	**71.56**	**328**	*eP*	**P**	**01 19 10.9**	**+0.3**
Y16A	**Circle Bar Ran**	**71.73**	**322**	P	**P**	**01 19 12.3**	**+0.6**
	baz=72,SNR=28						
X16A	**Lo Mia Camp, P**	**72.11**	**322**	P	**P**	**01 19 14.6**	**+0.7**
	baz=72,SNR=46						
Z14A	**Wintersburg**	**72.20**	**321**	⇓P	**P**	**01 19 14.6**	**+0.1**
	baz=72,SNR=7.3						
Y15A	**Casa Rosa Ranc**	**72.27**	**321**	⇓P	**P**	**01 19 15.2**	**+0.3**
	baz=72,SNR=33						
X15A	**Humboldt**	**72.61**	**322**	⇓P	**P**	**01 19 17.5**	**+0.7**
	baz=73,SNR=32						
MVCO	**Mesa Verde**	**72.63**	**326**	*eP*	**P**	**01 19 17.3**	**+0.3**
MVCO	**Mesa Verde**	**72.63**	**326**	⇓P	**P**	**01 19 17.3**	**+0.4**
	baz=73						
Y14A	**Wickenburg**	**72.65**	**321**	P	**P**	**01 19 17.3**	**+0.2**
	baz=73,SNR=28						
CFTV	**Fuerteventura**	**72.69**	**47**	P	**P**	**01 19 17.1**	**-0.4**
	comp=Z,22nm,0.8s,mb4.8						
COWI	**Conover**	**72.80**	**344**	*eP*	**P**	**01 19 16.4**	**-1.3**
WUAZ	**Wupatki**	**72.88**	**323**	*eP*	**P**	**01

S14A **Cedar City** 75.50 324 ⇑P P 01 19 34.4 +0.8
baz=76,SNR=6.6
CIS **Catalina Islan** 75.51 317 P P 01 19 33.8 +0.1
baz=76,SNR=5.3
MSU **Marysvale** 75.52 325 eP P 01 19 34.4 +0.7
TMUT **Trail Mountain** 75.60 326 eP P 01 19 34.4 +0.3
BFSC **Mount Baldy St** 75.61 318 ⇓P P 01 19 34.3 +0.1
baz=76,SNR=17
FMP **Fort Macarthur** 75.65 318 ⇑P P 01 19 34.7 +0.2
baz=76
RRX **Edison Barstow** 75.66 319 ⇓P P 01 19 34.9 +0.4
baz=76
ARUT **Antelope Range** 75.67 323 eP P 01 19 34.8 +0.3
S13A **Holt Ranch, En** 75.75 323 P P 01 19 36.0 +1.0
baz=76,SNR=39
U11A **Corn Creek** 75.78 321 ⇓P P 01 19 35.8 +0.6
baz=76
R14A **James Farms, M** 75.81 324 ⇓P P 01 19 36.1 +0.8
baz=76,SNR=8.9
GSC **Goldstone** 75.83 320 eP P 01 19 35.9 +0.4
GSC **Goldstone** 75.83 320 P P 01 19 36.0 +0.6
baz=76,SNR=17
MWC **Mount Wilson** 75.85 318 eP P 01 19 35.8 +0.2
VAH **Vaihoa** 75.90 259 ⇑iP P 01 19 37.2 +0.8
comp=Z,216nm,1.0s,mb5.8
DECC **Green Verdugo** 76.03 318 ⇓P P 01 19 36.9 +0.2
baz=76
SNCC **San Nicolas Is** 76.11 316 ⇓P P 01 19 37.0 0.0
baz=76
PMOR **Pomariorio Ree** 76.22 260 ⇑iP P 01 19 39.2 +1.0
comp=Z,162nm,0.8s,mb5.7
PMOR epP pP 01 20 29.2 -0.3
comp=Z,110nm,1.1s
EDW2 **Edwards Air Fo** 76.25 319 P P 01 19 37.8 -0.1
baz=76,SNR=9.2
T11A **Corn Creek, Al** 76.27 322 P P 01 19 38.8 +0.9
baz=76,SNR=47
TORD **Torodi Ar. Bea** 76.27 69 P P 01 19 37.5 -0.9
TORD pP pP 01 20 27.4 -2.3
TORD S S 01 29 01.9 -3.3
TORD PKKPbc PKKPbc 01 38 49.8 -0.2
TORD **Torodi Ar. Bea** 76.27 69 P P 01 19 37.5 -0.9
comp=Z,43nm,0.6s,mb5.3,baz=257,slow=5.7,SNR=23
TORD pP pP 01 20 27.4 -2.3
comp=Z,20nm,0.8s,baz=249,slow=5.6,SNR=2.4
TORD S S 01 29 01.9 -3.3
comp=Z,2.2nm,0.8s,baz=240,slow=10,SNR=5.9
TORD PKKPbc PKKPbc 01 38 49.8 -0.3
comp=Z,0.1nm,0.3s,baz=58,slow=2.7,SNR=5.1
S12A **Delamar Landin** 76.32 322 ⇓P P 01 19 39.1 +0.9
baz=77,SNR=7.8
U10A **Ash Meadows, A** 76.32 321 ⇑P P 01 19 39.0 +0.7
baz=77,SNR=10
MPU **Maple Canyon** 76.35 326 eP P 01 19 38.8 +0.5
MPU epP pP 01 20 30.6 +0.9
BLG **Laguna Peak** 76.39 317 ⇓P P 01 19 38.7 0.0
baz=77,SNR=5.2
DAU **Daniels Canyon** 76.46 326 eP P 01 19 39.6 +0.7
LRMC **Laurel Mountai** 76.47 319 P P 01 19 39.4 +0.3
baz=77,SNR=11
OSI **Osito Adit** 76.52 318 ⇓P P 01 19 39.4 +0.1
baz=77
NLU **North Lily Min** 76.53 326 eP P 01 19 39.9 +0.5
NLU epP pP 01 20 31.9 +1.2
TPNV **Topopah Spring** 76.64 321 eP P 01 19 38.0 -2.1
comp=Z,44nm,0.8s,mb5.1
TPNV **Topopah Spring** 76.64 321 eP P 01 19 38.0 -2.0
TPNV pmax pmax
comp=Z,44nm,0.8s,mb5.1
TPNV **Topopah Spring** 76.64 321 ⇓P P 01 19 40.9 +0.8
baz=77,SNR=19
FURC **Furnace Creek,** 76.67 320 ⇓P P 01 19 40.7 +0.5
baz=77,SNR=16
BSC **Santa Cruz Isl** 76.67 317 ⇓P P 01 19 40.3 +0.1
baz=77
R12A **Pony Springs,** 76.70 323 P P 01 19 41.4 +1.1
baz=77,SNR=21
JLU **Jordanelle** 76.70 327 eP P 01 19 40.8 +0.5
MPMC **Manual Prospec** 76.75 320 ⇑P P 01 19 40.9 +0.2
baz=77,SNR=9.2
PAE **Paea** 76.76 256 eP P 01 19 41.9 +0.7
comp=Z,98nm,0.9s,mb5.5
PAE **Paea** 76.76 256 eP P 01 19 41.9 +0.7
PAE pmax pmax
comp=Z,98nm,0.9s,mb5.4
S11A **Rachel** 76.85 322 ⇓P P 01 19 42.1 +1.0
baz=77
CTU **Camp Tracy** 76.92 326 eP P 01 19 41.8 +0.4
ARVC **Arvin** 76.92 318 ⇑P P 01 19 41.8 +0.1
baz=77
ISA **Isabella** 77.07 319 eP P 01 19 42.9 +0.5
ISA **Isabella** 77.07 319 P P 01 19 43.0 +0.5
baz=77,SNR=33
NOQ **North Oquirrh** 77.08 326 eP P 01 19 42.8 +0.4
DUG **Dugway** 77.09 325 eP P 01 19 42.8 +0.3
DUG **Dugway** 77.09 325 P P 01 19 42.9 +0.5
baz=77,SNR=26
P13A **Bates Ranch, G** 77.19 324 ⇑P P 01 19 43.7 +0.7
baz=77,SNR=31
R11A **Troy Canyon, C** 77.25 323 P P 01 19 44.2 +0.8
baz=78,SNR=21
TSUM **Tsumeb** 77.28 105 P P 01 19 43.6 -0.4
comp=Z,21nm,0.5s,mb5.0
CWC **Cottonwood Cre** 77.36 320 ⇑P P 01 19 44.5 +0.4
baz=78
PKM **Peak Mountain** 77.38 318 ⇓P P 01 19 44.6 +0.4
baz=78,SNR=17
BW06 **Boulder Array** 77.42 329 eP P 01 19 43.9 -0.3
comp=Z,236nm,2.5s,mb5.4
PDAR **Pinedale Array** 77.42 329 P P 01 19 43.9 -0.3
comp=Z,14nm,0.6s,mb4.8,baz=129,slow=7.8,SNR=125
PDAR pP pP 01 20 34.8 -1.0
comp=Z,4.2nm,0.7s,baz=139,slow=7.0,SNR=2.1
N15A **Stansbury Isla** 77.46 326 ⇓P P 01 19 44.6 +0.1
baz=78,SNR=9.7
HWUT **Hardware Ranch** 77.51 327 eP P 01 19 44.8 0.0
comp=Z,43nm,0.6s,mb5.2
S10A **Tonopah Range,** 77.52 322 ⇓P P 01 19 45.4 +0.5
baz=78,SNR=19
VES **Vestal, Richgr** 77.55 319 ⇑P P 01 19 45.1 0.0
baz=78,SNR=6.1
R10A **Warm Springs** 77.61 322 ⇑P P 01 19 46.4 +1.0
baz=78,SNR=27
Q11A **Duckwater** 77.64 323 P P 01 19 46.2 +0.7
baz=78,SNR=26
O13A **Hicks Ranch, I** 77.66 325 ⇑P P 01 19 46.0 +0.4
baz=78
P12A **McGill** 77.68 324 ⇑P P 01 19 46.4 +0.6
baz=78,SNR=12
SPUT **South Promonto** 77.73 326 eP P 01 19 46.2 +0.3
S09A **Goldfield** 77.74 321 ⇓P P 01 19 46.4 +0.3
baz=78,SNR=9.4
BGU **Big Grassy Mou** 77.74 326 eP P 01 19 45.7 -0.3
BGU ePcP PcP 01 19 55.2 +0.1
SMMC **Simmler** 77.76 318 ⇑P P 01 19 46.8 +0.5
baz=78,SNR=8.2
N14A **Grayback Hills** 77.77 326 P P 01 19 46.3 +0.2
baz=78,SNR=26
M15A **Larsen Ranch,** 77.84 327 P P 01 19 46.6 0.0
baz=78,SNR=16
TIN **Tinemaha** 77.87 320 ⇑P P 01 19 47.3 +0.5
baz=78,SNR=7.8
R09A **Tonopah** 78.01 322 ⇑P P 01 19 47.8 +0.2
baz=78,SNR=8.9
Q10A **Clear Creek Ra** 78.04 322 ⇓P P 01 19 48.5 +0.7
baz=78,SNR=9.8
V05C **Boulder Hill,** 78.07 318 ⇑P P 01 19 48.2 +0.3
baz=78
HELL **Mitchell Peak** 78.08 319 P P 01 19 47.8 -0.2
baz=78,SNR=51
S08C **White Mtn Res** 78.13 320 P P 01 19 48.8 +0.5
baz=78,SNR=13
AHID **Auburn Hatcher** 78.15 328 eP P 01 19 48.3 +0.1
comp=Z,76nm,0.8s,mb5.4
AHID epP pP 01 20 40.3 +0.5
O12A **Currie** 78.16 324 P P 01 19 48.7 +0.3
baz=78,SNR=38
HVU **Hansel Valley** 78.24 327 eP P 01 19 49.1 +0.3
MTUM **Tungsten Hills** 78.27 320 eP P 01 19 49.2 +0.3
MTUM epP pP 01 20 42.6 +2.0
N13A **Wendover, West** 78.30 325 ⇑P P 01 19 49.1 0.0
baz=78,SNR=7.5
M14A **Sheep Mountain** 78.33 326 P P 01 19 49.3 +0.1
baz=79,SNR=51
ULM **Lac du Bonnet** 78.44 341 P P 01 19 48.4 -1.3
comp=Z,73nm,0.6s,mb5.5,baz=153,slow=6.1,SNR=242
ULM pP pP 01 20 39.0 -2.3
comp=Z,14nm,0.7s,baz=177,slow=8.3,SNR=2.7
ULM PKKPbc PKKPbc 01 38 44.1 -3.6
comp=Z,1.0nm,0.6s,baz=294,slow=1.7,SNR=3.9
Q09A **Carvers** 78.48 322 ⇑P P 01 19 50.7 +0.5
baz=79,SNR=7.1
REDW **Red Top Meadow** 78.49 329 eP P 01 19 50.1 +0.1
comp=Z,56nm,0.9s,mb5.2
V04C **Ramage Ranch,** 78.51 318 ⇓P P 01 19 50.8 +0.4
baz=79
PKD **Parkfield** 78.51 318 ⇑P P 01 19 50.3 -0.1
baz=79
SNOW **Snow King Moun** 78.52 329 eP P 01 19 50.6 +0.4
comp=Z,55nm,0.8s,mb5.2
SNOW epP pP 01 20 44.0 +2.1
O11A **Cowboy Ranch,** 78.55 324 P P 01 19 51.0 +0.5
baz=79,SNR=37
LOHW **Long Hollow** 78.56 329 eP P 01 19 50.7 +0.2
comp=Z,52nm,0.8s,mb5.2
SCHQ **Schefferville** 78.61 360 P P 01 19 49.6 -0.8
comp=Z,30nm,0.6s,mb5.1,baz=183,slow=4.0,SNR=84
SCHQ pP pP 01 20 41.1 -1.0
comp=Z,20nm,0.8s,baz=137,slow=3.3,SNR=5.1
MLAC **Mammoth Lakes** 78.61 320 ⇑P P 01 19 51.5 +0.6
baz=79,SNR=5.8
TPAW **Teton Pass** 78.63 329 eP P 01 19 51.1 +0.3
comp=Z,50nm,0.8s,mb5.2
P10A **Eureka** 78.63 323 ⇑P P 01 19 51.7 +0.8
baz=79,SNR=7.9
M13A **Montello** 78.65 325 P P 01 19 51.0 0.0
baz=79,SNR=15
KCC **Kaiser Creek** 78.69 320 ⇑P P 01 19 50.7 -0.6
baz=79,SNR=11
T06C **Millerton Lake** 78.71 319 P P 01 19 50.2 -1.2
baz=79,SNR=11
N12A **Clover Valley,** 78.74 325 P P 01 19 51.5 +0.1
baz=79,SNR=11
DCID1 **Drake Creek** 78.82 329 eP P 01 19 52.7 +0.9
NVAR **Mina Array Bea** 78.84 321 P P 01 19 52.0 -0.1
comp=Z,9.9nm,0.6s,mb4.6,baz=137,slow=6.3,SNR=20
NVAR pP pP 01 20 40.3 -3.5
comp=Z,1.3nm,0.6s,baz=147,slow=5.4,SNR=1.0
Q08A **Gabbs** 78.93 322 ⇓P P 01 19 52.6 0.0
baz=79,SNR=23
U04C **Hernandez Rese** 78.93 318 ⇑P P 01 19 52.9 +0.2
baz=79,SNR=13
IMW **Indian Meadow** 78.93 329 eP P 01 19 52.9 +0.4
comp=Z,75nm,0.8s,mb5.4
P09A **Austin** 78.96 323 ⇑P P 01 19 52.9 +0.2
baz=79,SNR=9.6
FLWY **Flagg Ranch** 78.96 329 eP P 01 19 53.2 +0.6
V03C **Hunter Liggett** 78.99 318 ⇑P P 01 19 53.5 +0.6
baz=79
K14A **Jones Ranch, D** 79.01 327 ⇓P P 01 19 52.7 -0.2
baz=79,SNR=15
R07C **Lee Vining** 79.04 320 ⇓P P 01 19 53.9 +0.7
baz=79
LAO **LASA Array** 79.05 333 eP P 01 19 47.5 -5.5
L13A **Double Diamond** 79.06 326 ⇓P P 01 19 53.7 +0.5
baz=79,SNR=20
M12A **Wells** 79.08 325 P P 01 19 53.5 +0.2
baz=79,SNR=12
N11A **Elko Archery C** 79.08 324 ⇓P P 01 19 53.4 +0.1
baz=79
RLMT **Red Lodge** 79.11 331 eP P 01 19 52.9 -0.5
comp=Z,52nm,0.6s,mb5.3
O10A **Cortez Mining,** 79.12 323 ⇓P P 01 19 53.9 +0.3
baz=79
LKWY **Lake** 79.19 330 eP P 01 19 55.3 +1.4
LKWY epP pP 01 20 47.6 +2.0
T05C **Eagle Field, D** 79.21 319 ⇑P P 01 19 54.6 +0.4
baz=79
S05C **Merced** 79.30 319 P P 01 19 54.9 +0.2
baz=80,SNR=11
YFT **Old Faithful** 79.31 329 eP P 01 19 56.1 +1.6
O09A **Fish Creek Ran** 79.42 323 ⇑P P 01 19 55.2 0.0
baz=80,SNR=7.7
HAST **Hastings Reser** 79.42 318 P P 01 19 55.4 +0.2
baz=80,SNR=9.0
N10A **Dunphy** 79.43 324 ⇓P P 01 19 55.2 0.0
baz=80,SNR=8.9
YNR **Norris Junctio** 79.44 330 eP P 01 19 56.7 +1.5
Q07A **Schurz** 79.48 321 ⇑P P 01 19 56.0 +0.5
baz=80
YMR **Madison River** 79.53 330 eP P 01 19 56.4 +0.7
comp=Z,63nm,0.7s,mb5.3
YMR ePcP PcP 01 20 02.9 +0.1
K13A **Stover Farm, H** 79.54 326 P P 01 19 56.2 +0.4
baz=80,SNR=16
M11A **Holland Ranch,** 79.55 325 P P 01 19 56.5 +0.6
baz=80,SNR=22
R06C **Coleville** 79.57 321 ⇑P P 01 19 56.8 +0.8
baz=80,SNR=15
P08A **Dixie Valley** 79.58 322 ⇓P P 01 19 56.4 +0.3
baz=80
L12A **House Creek Ra** 79.65 326 P P 01 19 57.0 +0.6
baz=80,SNR=32
PACP **Pacheco Peak** 79.66 318 ⇑P P 01 19 56.7 +0.1
baz=80
DGMT **Dagmar** 79.70 336 eP P 01 19 56.6 +0.1
CMB **Columbia Colle** 79.79 320 eP P 01 19 56.6 -0.6
comp=Z,15nm,0.9s,mb4.6
CMB ePcP PcP 01 20 03.4 -0.8
CMB **Columbia Colle** 79.79 320 eP P 01 19 56.6 -0.7
CMB e 01 20 03.4
CMB pmax pmax
comp=Z,15nm,0.9s,mb4.6
CMB **Columbia Colle** 79.79 320 ⇑P P 01 19 56.9 -0.3
baz=80,SNR=9.0
GCMT **Greycliff** 79.80 331 eP P 01 19 56.9 -0.2
QLMT **Earthquake Lak** 79.87 329 eP P 01 19 58.3 +0.8
P07A **Fallon** 79.93 322 ⇓P P 01 19 58.4 +0.4
baz=80
K12A **Draper Farm, C** 79.95 326 ⇑P P 01 19 58.7 +0.7
baz=80,SNR=30
S04C **Ingram Canyon,** 80.01 319 P P 01 19 58.4 0.0
baz=80,SNR=5.8
M10A **I.L. Ranch, Tu** 80.01 324 ⇓P P 01 19 58.6 +0.3
baz=80,SNR=15
L11A **Cat Creek Ranc** 80.05 325 P P 01 19 59.0 +0.5
baz=80,SNR=40
R05C **Kirkwood Meado** 80.05 320 P P 01 19 59.2 +0.6
baz=80,SNR=12
N09A **Rock Creek Ran** 80.07 323 P P 01 19 58.2 -0.5
baz=80,SNR=5.7
J13A **Cove Ranch, Pi** 80.13 327 P P 01 19 59.5 +0.6
baz=80,SNR=42
R04C **Big Horse Ranc** 80.27 320 ⇑P P 01 20 00.1 +0.4
baz=80
WCN **Washoe City** 80.27 321 ⇑P P 01 20 00.4 +0.6
baz=80
BNLO **Ben Lomond (Sa** 80.28 318 ⇑P P 01 19 59.8 -0.1
baz=80
WENL **Wente Brothers** 80.34 319 ⇓P P 01 20 00.6 +0.4
baz=81
N08A **GE Springer Mi** 80.36 323 ⇓P P 01 19 59.5 -0.7
baz=81
BOSA **Boshof** 80.36 117 P P 01 20 00.2 -0.5
BOSA PKKPbc PKKPbc 01 38 40.2 -0.4
BOSA **Boshof** 80.36 117 P P 01 20 00.2 -0.5
comp=Z,10nm,0.4s,mb4.8,baz=252,slow=5.0,SNR=65
BOSA PKKPbc PKKPbc 01 38 40.2 -0.4
comp=Z,1.2nm,0.8s,baz=108,slow=4.9,SNR=5.5
L10A **Juniper Basin** 80.36 325 P P 01 20 00.7 +0.4
baz=81,SNR=81
HLID **Hailey** 80.37 327 eP P 01 20 00.9 +0.7
HLID **Hailey** 80.37 327 P P 01 20 01.0 +0.8
baz=81,SNR=180
M09A **Marrel Ranch,** 80.43 324 ⇓P P 01 20 00.7 +0.1
baz=81,SNR=13
LAVA **Lava Cap Winer** 80.48 320 P P 01 20 00.7 -0.2
baz=81,SNR=10
I13A **Wildhorse Cree** 80.48 327 P P 01 20 01.6 +0.9
baz=81,SNR=90
J12A **Stokes Ranch,** 80.49 326 P P 01 20 01.3 +0.5
baz=81,SNR=49
JRSC **Jasper Ridge** 80.49 318 ⇓P P 01 20 01.6 +0.5
baz=81
MCMT **McKenzie Canyo** 80.54 329 P P 01 20 01.8 +0.8
BOZ **Bozeman (W)** 80.58 330 eP P 01 20 01.0 -0.3
comp=Z,104nm,1.9s,mb5.1
BOZ **Bozeman (W)** 80.58 330 eP P 01 20 01.0 -0.3
BOZ pmax pmax
comp=Z,104nm,1.9s,mb5.1
BOZ **Bozeman (W)** 80.58 330 ⇑P P 01 20 01.1 -0.2
baz=81
P06A **Stead Airport,** 80.60 321 ⇑P P 01 20 01.9 +0.4
baz=81
G15A **Dillon** 80.62 329 ⇑P P 01 20 01.8 +0.3
baz=81,SNR=48
BDM **Black Diamond** 80.62 319 ⇓P P 01 20 02.2 +0.5
baz=81
K11A **Parker Ranch,** 80.62 325 P P 01 20 02.0 +0.4
baz=81,SNR=43
P05C **Yuba Gap, Truc** 80.76 321 ⇓P P 01 20 02.8 +0.4
baz=81,SNR=15
DLMT **Dillon** 80.82 329 eP P 01 20 02.9 +0.3
N07B **Gerlach** 80.82 322 ⇓P P 01 20 02.8 +0.1
baz=81,SNR=7.8
O06A **Flanigan** 80.89 322 ⇓P P 01 20 03.3 +0.2
baz=81
Q04C **Lincoln** 80.91 320 ⇓P P 01 20 03.6 +0.4
baz=81
M08A **Happy Creek Ra** 80.95 323 P P 01 20 03.4 +0.1
baz=81,SNR=19
L09A **Wilkinson Ranc** 80.96 324 P P 01 20 03.4 0.0
baz=81,SNR=16
MFID **Camas Ranch** 80.98 326 P P 01 20 03.7 +0.3
baz=81,SNR=26
BEKR **Beckwourth** 80.99 321 P P 01 20 03.9 +0.3
baz=81,SNR=23
K10A **MacKenzie Ranc** 81.07 325 ⇑P P 01 20 03.9 0.0
baz=81
LRM **Limekiln Ridge** 81.09 329 eP P 01 20 04.3 +0.3
F15A **Butte** 81.12 329 P P 01 20 04.5 +0.4
baz=81,SNR=39
G14A **Jackson** 81.14 329 P P 01 20 04.7 +0.5
baz=81,SNR=19
FARB **Farallon Islan** 81.15 318 ⇓P P 01 20 04.1 -0.4
baz=81
Q03C **Winters** 81.15 319 ⇓P P 01 20 05.1 +0.6
baz=81
MAW **Mawson** 81.23 163 ⇓iP P 01 20 05.0 +0.5
comp=Z,104nm,0.8s,mb5.5
MAW **Mawson** 81.23 163 ⇓iP P 01 20 05.0 +0.5
MAW pmax pmax
comp=Z,104nm,0.8s
MAW **Mawson** 81.23 163 P P 01 20 05.1 +0.6
comp=Z,112nm,0.8s,mb5.6,baz=228,slow=7.1,SNR=227
MAW SKKP 01 41 37.9
comp=Z,2.2nm,0.7s,baz=29,slow=5.7,SNR=4.1
CVS **Carmenet Viney** 81.23 319 ⇓P P 01 20 04.6 -0.3
baz=82,SNR=6.5
N06A **Buffalo Meadow** 81.28 322 P P 01 20 05.2 0.0
baz=82,SNR=28
OHCM **Honcut** 81.30 320 eP P 01 20 05.4 +0.2
H12A **Diamond D Ranc** 81.31 327 P P 01 20 05.6 +0.5
baz=82,SNR=52
M07A **Soldier Meadow** 81.34 323 P P 01 20 05.4 0.0
baz=82,SNR=34
MCCM **Marconi Confer** 81.36 318 ⇑P P 01 20 05.3 -0.2
baz=82
O05C **Quincy** 81.38 321 ⇓P P 01 20 05.8 +0.2
baz=82,SNR=14
G13A **Cobalt** 81.40 328 P P 01 20 06.3 +0.7
baz=82,SNR=322
I11A **Placerville** 81.40 326 P P 01 20 05.5 -0.2
baz=82,SNR=20
SUTB **Sutter Butte** 81.40 320 ⇓P P 01 20 05.2 -0.5
baz=82,SNR=7.3
NSHM **Saint Helena R** 81.43 319 eP P 01 20 05.7 -0.3
L08A **Fields** 81.44 324 P P 01 20 05.8 -0.1
baz=82,SNR=44
ORV **Oroville** 81.45 320 P P 01 20 06.0 0.0
baz=82,SNR=36
K09A **Rome** 81.46 325 P P 01 20 06.0 0.0
baz=82,SNR=35
J10A **Berg Farm, Mel** 81.47 326 ⇓P P 01 20 05.6 -0.4
baz=82,SNR=5.2
HRY **Holter Researc** 81.48 330 eP P 01 20 06.3 +0.3
MNRC **McLaughlin Nat** 81.57 319 ⇑P P 01 20 06.6 -0.1
baz=82
EGMT **Eagleton** 81.57 332 eP P 01 20 05.8 -0.7
comp=Z,88nm,0.9s,mb5.4
EGMT **Eagleton** 81.57 332 P P 01 20 05.9 -0.6
baz=82,SNR=32
E15A **Deer Lodge** 81.63 330 ⇓P P 01 20 06.9 +0.1
baz=82,SNR=18
ELFS **Eagle Lake Fie** 81.70 321 ⇑P P 01 20 07.4 +0.1
baz=82
O04C **Chester** 81.71 321 ⇑P P 01 20 07.1 -0.2
baz=82,SNR=8.9
WVOR **Wild Horse Val** 81.77 324 eP P 01 20 07.4 -0.2
comp=Z,9.1nm,0.8s,mb4.5
WVOR ePcP PcP 01 20 12.8 +0.1
WVOR **Wild Horse Val** 81.77 324 eP P 01 20 07.4 -0.2
WVOR pmax pmax
comp=Z,9.0nm,0.8s,mb4.5
MDT **Midelt** 81.81 49 P P 01 20 09.0 +0.9
comp=Z,33nm,1.1s,mb4.9,baz=238,slow=5.5,SNR=9.7
MORF **Marmelete** 81.86 43 eP P 01 20 09.9 +1.7
comp=Z,56nm,1.6s,mb4.9
L07A **Adell** 81.87 323 P P 01 20 08.6 +0.5
baz=82,SNR=38
K08A **Mann Creek Ran** 81.89 324 ⇓P P 01 20 08.2 0.0
baz=82,SNR=17
J09A **Fry Pan Ranch,** 81.93 325 ⇑P P 01 20 08.3 -0.1
baz=82
M06C **Likely Place G** 81.95 322 P P 01 20 08.8 +0.2
baz=82,SNR=17
I10A **Payette** 81.95 326 ⇑P P 01 20 08.7 +0.2
baz=82,SNR=6.5
PTEO **Sao Teotonio** 81.96 43 eP P 01 20 10.6 +1.9
H11A **Donnelly** 81.99 327 P P 01 20 08.7 0.0
baz=82,SNR=45
LBTB **Lobatse** 82.01 114 P P 01 20 09.1 -0.4
comp=Z,11nm,0.3s,mb5.0,baz=265,slow=7.1
E14A **Clinton** 82.02 329 ⇓P P 01 20 09.3 +0.5
baz=82,SNR=14
D15A **Lincoln** 82.04 330 P P 01 20 09.3 +0.4
baz=82,SNR=64
O03C **Acorn Hollow,** 82.05 320 ⇓P P 01 20 07.9 -1.2
baz=82,SNR=5.1
LBCM **Butte Creek Ri** 82.20 321 P P 01 20 09.4 -0.5
GASB **Alder Springs** 82.23 320 ⇑P P 01 20 10.5 +0.4
baz=82,SNR=9.9
HATC **Hat Creek Radi** 82.25 321 P P 01 20 09.9 -0.3
baz=82,SNR=16
K07A **Rock Creek Ran** 82.27 324 ⇑P P 01 20 10.7 +0.5
baz=82,SNR=61
PBDV **Barranco-do-Ve** 82.27 43 eP P 01 20 11.4 +1.0
comp=Z,49nm,1.2s,mb5.0
CHMT **Chamberlain Mo** 82.28 330 eP P 01 20 10.1 -0.1
H10A **Noah's Angus R** 82.28 326 P P 01 20 10.0 -0.2
baz=82,SNR=41
J08A **Circle Bar Ran** 82.31 325 P P 01 20 10.8 +0.4
baz=83,SNR=71
MOD **Modoc** 82.32 323 eP P 01 20 10.6 +0.1
MOD **Modoc** 82.32 323 ⇓P P 01 20 10.4 -0.1
baz=83,SNR=13
I09A **Lost Marbles R** 82.36 325 ⇑P P 01 20 10.7 +0.1
baz=83,SNR=12
E13A **Victor** 82.36 329 P P 01 20 11.0 +0.4
baz=83,SNR=132
F12A **Elk City** 82.37 328 ⇓P P 01 20 10.6 -0.1
baz=83
M05C **Lookout** 82.43 322 ⇑P P 01 20 10.8 -0.2
baz=83,SNR=7.8
P01C **Double 8 Ranch** 82.48 319 ⇓P P 01 20 11.6 +0.2
baz=83,SNR=5.4
LTIM **Timbered Crate** 82.50 321 ⇓P P 01 20 11.1 -0.3
PVAQ **Vaqueiros** 82.50 43 eP P 01 20 10.7 -0.9
comp=Z,67nm,1.9s,mb5.0
D14A **Greenough** 82.52 330 ⇑P P 01 20 11.3 -0.1
baz=83,SNR=19
MSO **Missoula** 82.53 329 eP P 01 20 11.5 +0.1
O02C **Red Bluff** 82.61 320 P P 01 20 11.2 -0.8
baz=83,SNR=6.3
G11A **Walters Elk Ra** 82.61 327 P P 01 20 12.0 +0.1
baz=83,SNR=77
L05A **Lakeview** 82.71 322 P P 01 20 12.9 +0.4
baz=83,SNR=30
WDC **Whiskeytown Da** 82.72 320 eP P 01 20 10.6 -2.0
comp=Z,26nm,0.7s,mb5.1
WDC **Whiskeytown Da** 82.72 320 eP P 01 20 10.6 -2.0
WDC pmax pmax
comp=Z,26nm,0.7s,mb5.1
WDC **Whiskeytown Da** 82.72 320 ⇓P P 01 20 10.8 -1.8
baz=83,SNR=15
EGRO **El Granado** 82.73 43 P P 01 20 12.9 +0.2
comp=Z,14nm,0.6s,mb4.9
I08A **Drewsey** 82.74 325 ⇓P P 01 20 12.8 +0.2
baz=83,SNR=12
BMO **Blue Mountains** 82.75 326 eP P 01 20 12.3 -0.3
J07A **Hines** 82.77 324 ⇓P P 01 20 12.9 +0.2
baz=83,SNR=5.1

PBEJ **Beja** 82.79 43 eP P 01 20 14.5 +1.5
comp=Z,32nm,1.3s,mb4.9
H09A **Durkee** 82.80 326 ⇑P P 01 20 12.8 -0.1
baz=83,SNR=26
LASM **Arnica Sink** 82.83 322 P P 01 20 13.2 +0.1
K06A **Valley Falls** 82.89 323 P P 01 20 13.8 +0.4
baz=83,SNR=29
F11A **Grangeville** 82.91 328 P P 01 20 13.0 -0.4
baz=83,SNR=29
M03C **McCloud** 82.93 321 ⇑P P 01 20 12.8 -0.9
baz=83,SNR=6.3
G10A **Bishop Farm, J** 82.96 327 P P 01 20 14.0 +0.3
baz=83,SNR=51
D13A **Huson** 82.97 329 ⇓P P 01 20 13.6 -0.1
baz=83,SNR=58
EVO **Evora** 83.02 42 eP P 01 20 13.6 -0.6
comp=Z,34nm,0.9s,mb4.8
EVO eMLR MLR
comp=Z,215nm,19.8s
EVO **Evora** 83.02 42 eP P 01 20 15.7 +1.5
M04C **Macdoel** 83.10 322 ⇓P P 01 20 14.1 -0.4
baz=83,SNR=20
C14A **Swan Lake** 83.13 330 ⇓P P 01 20 14.4 -0.1
baz=83
J06A **Christmas Vall** 83.14 324 ⇓P P 01 20 14.6 -0.1
baz=83,SNR=46
O01C **Eel River Cons** 83.19 320 ⇑P P 01 20 15.5 +0.5
baz=83
K05A **Summer Lake** 83.19 323 P P 01 20 15.2 +0.2
baz=83,SNR=46
LHEM **Herd Peak** 83.22 321 P P 01 20 14.7 -0.4
H08A **Prairie City** 83.22 325 P P 01 20 14.9 -0.1
baz=84,SNR=31
E11A **Bogner Ranch,** 83.27 328 ⇑P P 01 20 14.6 -0.7
baz=84,SNR=33
N02C **Big Bar** 83.32 320 ⇑P P 01 20 15.5 -0.1
baz=84,SNR=13
I07A **Izee** 83.35 325 P P 01 20 16.0 +0.2
baz=84,SNR=24
D12A **Red Ives Fores** 83.36 329 ⇓P P 01 20 15.4 -0.2
baz=84
ESPR **Espera** 83.37 45 P P 01 20 17.0 +1.0
comp=Z,24nm,0.7s,mb5.0
EMIN **Mina Concepcio** 83.38 44 P P 01 20 17.5 +1.4
comp=Z,29nm,0.8s,mb5.1
L04A **Klamath Falls** 83.39 322 ⇓P P 01 20 15.6 -0.4
baz=84,SNR=8.5
PBAR **Barrancos** 83.40 43 eP P 01 20 16.9 +0.8
comp=Z,24nm,1.4s,mb4.7
M02C **Callahan** 83.42 321 ⇓P P 01 20 15.5 -0.7
baz=84
C13A **Hot Springs** 83.45 330 ⇑P P 01 20 15.9 -0.2
baz=84,SNR=45
PESTR **Estremoz** 83.48 42 eP P 01 20 17.4 +0.9
comp=Z,30nm,1.6s,mb4.8
F10A **Beach Ranch, E** 83.50 327 P P 01 20 16.2 -0.2
baz=84,SNR=54
YBH **Yreka Blue Hor** 83.56 321 eP P 01 20 15.4 -1.4
YBH **Yreka Blue Hor** 83.56 321 ⇑P P 01 20 15.5 -1.3
baz=84,SNR=12
K04A **Chilquin** 83.58 322 ⇑P P 01 20 16.6 -0.3
baz=84
KHMM **Horse Mountain** 83.60 320 eP P 01 20 17.7 +0.6
I06A **Prineville** 83.64 324 ⇑P P 01 20 17.6 +0.4
baz=84,SNR=17
F09A **S2 Ranch, Elgi** 83.65 327 P P 01 20 16.9 -0.4
baz=84,SNR=8.2
BUOR **Burton Butte** 83.65 322 P P 01 20 17.1 -0.2
H07A **Lands Inn, Kim** 83.73 325 ⇑P P 01 20 17.6 0.0
baz=84
JCC **Jacoby Creek** 83.74 320 ⇑P P 01 20 17.9 +0.1
baz=84
J05A **Fort Rock** 83.75 323 ⇓P P 01 20 17.7 -0.1
baz=84,SNR=20
EBAD **Badajoz** 83.77 43 P P 01 20 18.4 +0.4
comp=Z,55nm,1.2s,mb5.2
E10A **Myers Farm, Un** 83.80 328 ⇓P P 01 20 17.5 -0.4
baz=84,SNR=24
D11A **Klaveano Farm,** 83.82 328 P P 01 20 17.0 -1.0
baz=84,SNR=21
EMIJ **Mijas** 83.89 46 P P 01 20 19.9 +1.3
comp=Z,49nm,1.0s,mb5.2
G08A **Pilot Rock** 83.89 326 ⇓P P 01 20 18.1 -0.3
baz=84
PINOR **Pine Mountain** 83.90 324 P P 01 20 18.2 -0.3
B13A **Whitefish** 83.91 330 P P 01 20 18.2 -0.2
baz=84,SNR=37
KTRM **Thompson Ridge** 84.06 321 P P 01 20 19.6 +0.2
PCBR **Castelo Branco** 84.15 42 eP P 01 20 20.3 +0.4
comp=Z,24nm,1.1s,mb4.8
FFC **Flin Flon** 84.18 340 P P 01 20 18.7 -0.9
comp=Z,157nm,0.9s,mb5.7,SNR=14
FFC **Flin Flon** 84.18 340 eP P 01 20 18.5 -1.1
J04A **Umpqua Nationa** 84.20 323 ⇑P P 01 20 20.0 -0.1
baz=84,SNR=16
H06A **Lindquist Farm** 84.23 325 ⇑P P 01 20 20.3 +0.1
baz=84,SNR=19
G07A **Ruggs Ranch, H** 84.25 325 ⇑P P 01 20 20.5 +0.3
baz=84,SNR=20
HUMO **Hull Mountain** 84.27 322 eP P 01 20 19.3 -1.1
HUMO **Hull Mountain** 84.27 322 ⇓P P 01 20 19.2 -1.2
baz=84,SNR=8.8
D10A **Wagner Farm, O** 84.28 328 ⇓P P 01 20 19.5 -0.9
baz=84,SNR=18
BBOR **Butler Butte** 84.29 322 P P 01 20 19.5 -1.0
A13A **Flathead Natio** 84.29 331 ⇓P P 01 20 20.4 +0.1
baz=84
RAR **Rarotonga** 84.32 249 P P 01 20 21.2 -0.1
comp=Z,28nm,0.8s,mb5.0,baz=156,slow=7.5,SNR=4.6
L02A **Cave Junction** 84.34 321 ⇑P P 01 20 20.5 -0.3
baz=85,SNR=9.2
I05A **Bend** 84.35 324 ⇓P P 01 20 21.1 +0.3
baz=85,SNR=15
ECAB **El Cabril** 84.36 44 P P 01 20 19.8 -1.2
comp=Z,16nm,0.5s,mb5.0
MTE **Manteigas** 84.45 41 eP P 01 20 21.7 +0.3
comp=Z,38nm,1.0s,mb5.1
MTE **Manteigas** 84.45 41 eP P 01 20 22.2 +0.8
B12A **Libby** 84.49 330 ⇑P P 01 20 21.3 0.0
baz=85,SNR=21
ELOJ **Sierra Loja** 84.63 45 P P 01 20 22.9 +0.5
comp=Z,8.5nm,0.4s,mb4.8
ELOJ **Sierra Loja** 84.63 45 P P 01 20 22.9 +0.5
ELOJ pmax pmax
comp=Z,9.0nm,0.4s,mb4.8
HUOR **Husband** 84.64 324 P P 01 20 22.8 +0.6
H05A **Madras** 84.65 324 ⇓P P 01 20 22.4 +0.1
baz=85
K02A **Glendale** 84.67 322 P P 01 20 22.4 0.0
baz=85,SNR=5.4
HBO **Huckleberry Mo** 84.71 323 P P 01 20 22.4 -0.2
G06A **Carlson Farm,** 84.73 325 P P 01 20 22.8 +0.2
baz=85,SNR=6.2
I04A **Tendick Farm,** 84.73 323 ⇑P P 01 20 21.7 -1.0
baz=85,SNR=7.9
DBO **Dodson Butte** 84.76 322 P P 01 20 23.2 +0.4
ERON **Agron** 84.78 46 P P 01 20 24.3 +1.2
comp=Z,2.4nm,0.3s,mb4.4
D09A **Jones Farm, Ri** 84.79 327 P P 01 20 22.5 -0.4
baz=85,SNR=26
ELUQ **Luque** 84.80 45 P P 01 20 24.4 +1.2
comp=Z,70nm,1.1s,mb5.3
ELUQ **Luque** 84.80 45 P P 01 20 24.4 +1.2
ELUQ pmax pmax
comp=Z,70nm,1.1s,mb5.3
F07A **Phinny Hill Vi** 84.81 326 ⇓P P 01 20 23.0 0.0
baz=85
B11A **Sandpoint** 84.83 329 P P 01 20 22.3 -0.7
baz=85,SNR=7.5
REDWA **Red Mountain** 84.83 326 P P 01 20 23.7 +0.6
C10A **Spilker Farm,** 84.83 328 ⇓P P 01 20 22.5 -0.6
baz=85,SNR=5.2
FRIS **Frissel Point** 84.83 323 P P 01 20 23.3 +0.1
A12A **Yaak River Ran** 84.85 330 ⇓P P 01 20 22.8 -0.4
baz=85,SNR=11
PVRL **Vila Real** 84.89 40 eP P 01 20 24.1 +0.6
comp=Z,31nm,1.2s,mb4.9
PRW **Prosser** 84.90 326 P P 01 20 24.0 +0.6
HSO **Harness Mounta** 84.93 322 P P 01 20 24.0 +0.3
HAWA **Hanford** 84.94 326 eP P 01 20 23.5 -0.2
comp=Z,47nm,0.8s,mb5.3
HAWA epP pP 01 21 15.9 -0.2
EADA **Adamuz** 84.95 44 P P 01 20 23.8 -0.1
comp=Z,13nm,0.6s,mb4.8
MJ2 **May Junction 2** 84.97 327 P P 01 20 24.2 +0.5
RSW **Rattlesnake Hi** 84.97 326 P P 01 20 24.1 +0.3
PCAB **Cabril** 84.98 40 eP P 01 20 24.5 +0.5

GBL **Gable Mountain** 85.05 327 P P 01 20 24.5 +0.3
ELOB **Lobios** 85.05 40 P P 01 20 23.3 -1.0
comp=Z,3.8nm,0.5s,mb4.4
NEW **Newport** 85.06 329 eP P 01 20 22.8 -1.5
ECOG **Cogollos-Vega** 85.09 46 P P 01 20 24.9 +0.3
comp=Z,5.3nm,0.5s,mb4.5
ECOG **Cogollos-Vega** 85.09 46 P P 01 20 24.9 +0.3
ECOG pmax pmax
comp=Z,5.0nm,0.5s,mb4.5
D08A **Wollman Farm,** 85.09 327 P P 01 20 24.2 -0.2
baz=85,SNR=18
G05A **Wamic** 85.09 325 ⇑P P 01 20 24.8 +0.4
baz=85,SNR=8.5
J02A **Umpqua** 85.10 322 ⇓P P 01 20 24.5 0.0
baz=85,SNR=9.1
BENWA **Benson Ranch** 85.12 326 P P 01 20 25.3 +0.7
GBB **Gable Butte** 85.14 326 P P 01 20 24.6 0.0
F06A **Goldendale** 85.16 325 ⇑P P 01 20 24.8 0.0
baz=85
CRF **Corfu** 85.16 327 P P 01 20 24.6 -0.1
H04A **Detroit Lake** 85.19 324 P P 01 20 24.2 -0.7
baz=85,SNR=14
A11A **Hall Mountain,** 85.20 330 P P 01 20 24.4 -0.4
baz=85,SNR=59
OD2 **Odessa Site #2** 85.22 327 P P 01 20 24.7 -0.3
E07A **Sunnyside** 85.22 326 P P 01 20 25.0 0.0
baz=86,SNR=10
VFP **Flag Point** 85.22 325 P P 01 20 25.5 +0.4
MVO **Moncorvo** 85.23 41 eP P 01 20 25.7 +0.5
comp=Z,64nm,1.7s,mb5.1
C09A **Chriman Ranch** 85.29 328 ⇓P P 01 20 24.9 -0.4
baz=86,SNR=50
DPW **Davenport** 85.30 328 P P 01 20 25.4 0.0
FHE **Frenchman Hill** 85.31 327 P P 01 20 25.7 +0.3
EBER **Berja** 85.31 46 P P 01 20 25.8 +0.1
comp=Z,41nm,0.8s,mb5.2
I03A **Eugene** 85.32 323 ⇑P P 01 20 25.3 -0.4
baz=86,SNR=7.5
STS **Santiago** 85.41 39 P P 01 20 27.4 +1.4
comp=Z,3.0nm,0.4s,mb4.4
STS **Santiago** 85.41 39 P P 01 20 27.4 +1.3
STS pmax pmax
comp=Z,3.0nm,0.4s,mb4.4
EBAN **Banos Encina** 85.46 45 P P 01 20 27.5 +1.1
comp=Z,20nm,0.5s,mb5.1
EBAN **Banos Encina** 85.46 45 P P 01 20 27.5 +1.1
EBAN pmax pmax
comp=Z,20nm,0.5s,mb5.1
F05A **White Salmon** 85.59 325 P P 01 20 26.7 -0.2
baz=86,SNR=5.9
I02A **Mapleton** 85.65 323 ⇑P P 01 20 27.1 -0.1
baz=86,SNR=6.2
C08A **Higginbotham F** 85.65 328 ⇑P P 01 20 26.4 -0.7
baz=86,SNR=8.5
B09A **Rice** 85.66 328 P P 01 20 26.5 -0.7
baz=86,SNR=24
G04A **Mulino** 85.69 324 ⇑P P 01 20 27.0 -0.4
baz=86,SNR=13
D07A **Quincy** 85.71 327 P P 01 20 27.4 0.0
baz=86,SNR=18
EQES **Quesada** 85.71 45 P P 01 20 26.9 -0.8
comp=Z,62nm,1.1s,mb5.2
COR **Corvallis** 85.73 323 eP P 01 20 27.8 +0.1
A10A **Northport** 85.77 329 P P 01 20 26.8 -0.9
baz=86,SNR=13
E06A **Yakima** 85.78 326 P P 01 20 27.7 -0.1
baz=86,SNR=11
H03A **Soap Creek Ran** 85.78 323 ⇑P P 01 20 27.9 0.0
baz=86,SNR=14
PBRG **Braganca** 85.79 40 eP P 01 20 28.7 +0.7
comp=Z,28nm,1.3s,mb4.8
ENIJ **Nijar** 85.81 46 P P 01 20 29.4 +1.2
comp=Z,7.7nm,0.5s,mb4.7
ENIJ **Nijar** 85.81 46 P P 01 20 29.4 +1.2
ENIJ pmax pmax
comp=Z,8.0nm,0.5s,mb4.7
ECAL **Calabor** 85.88 40 P P 01 20 29.2 +0.8
comp=Z,8.6nm,0.4s,mb4.8
PAB **San Pablo** 85.90 43 eP P 01 20 29.6 +1.0
comp=Z,66nm,1.1s,mb5.3
PAB **San Pablo** 85.90 43 eP P 01 20 29.6 +1.0
PAB pmax pmax
comp=Z,66nm,1.1s,mb5.3
C07A **Waterville** 86.09 327 ⇑P P 01 20 28.7 -0.6
baz=86,SNR=47
F04A **Amboy** 86.13 325 ⇓P P 01 20 28.6 -0.9
baz=86,SNR=17
D06A **Cle Elum** 86.15 326 ⇓P P 01 20 29.1 -0.5
baz=86,SNR=7.2
B08A **Colville Reser** 86.19 328 P P 01 20 28.7 -1.1
baz=86,SNR=22
G03A **Yamhill** 86.19 324 ⇓P P 01 20 29.6 -0.3
baz=86,SNR=8.2
E05A **Randle** 86.20 325 ⇑P P 01 20 28.8 -1.0
baz=86,SNR=9.2
ESDC **Sonseca Array** 86.22 43 P P 01 20 31.1 +1.0
comp=Z,16nm,0.9s,mb4.8
ESDC **Sonseca Array** 86.22 43 P P 01 20 31.1 +1.0
comp=Z,20nm,0.8s,mb4.9,baz=230,slow=4.8,SNR=47
ESDC pP pP 01 21 21.1 -1.6
comp=Z,8.9nm,1.1s,baz=235,slow=5.1,SNR=2.4
ESLA **Sonseca Array** 86.22 43 eP P 01 20 30.8 +0.6
comp=Z,7.8nm,1.0s,mb4.4
A09A **Danville** 86.25 329 P P 01 20 29.3 -0.8
baz=86,SNR=16
EPON **Pontenova** 86.49 39 P P 01 20 32.7 +1.3
comp=Z,9.8nm,0.6s,mb4.7
EVIA **Vianos** 86.56 45 P P 01 20 33.4 +1.6
comp=Z,33nm,0.8s,mb5.1
EVIA **Vianos** 86.56 45 P P 01 20 33.4 +1.6
EVIA pmax pmax
comp=Z,33nm,0.8s,mb5.1
A08A **Turner Farm, O** 86.56 328 P P 01 20 31.1 -0.5
baz=87,SNR=80
B07A **Winthrop** 86.64 328 P P 01 20 31.2 -0.7
baz=87,SNR=49
C06A **Tall Timber Ra** 86.66 327 ⇑P P 01 20 30.9 -1.2
baz=87
GUD **Guadarrama** 86.67 43 P P 01 20 33.6 +1.3
comp=Z,4.2nm,0.6s,mb4.3
GUD **Guadarrama** 86.67 43 P P 01 20 33.6 +1.3
GUD pmax pmax
comp=Z,4.0nm,0.6s,mb4.3
D05A **Enumclaw** 86.73 326 ⇓P P 01 20 31.5 -0.9
baz=87,SNR=12
C05A **Tolt Reservoir** 86.91 326 ⇑P P 01 20 31.9 -1.4
baz=87,SNR=15
EMUR **La Murta** 86.93 46 P P 01 20 35.9 +2.3
comp=Z,15nm,0.7s,mb4.8
EDM **Edmonton** 87.02 334 eP P 01 20 32.1 -1.6
D04A **Dobbs Creek Ra** 87.10 325 ⇑P P 01 20 34.1 -0.1
baz=87
E03A **Lebam** 87.13 325 P P 01 20 34.0 -0.3
baz=87,SNR=9.2
A07A **Ashnola River,** 87.17 328 ⇓P P 01 20 34.3 -0.1
baz=87,SNR=65
ETOB **Tobarra** 87.18 45 P P 01 20 33.6 -1.1
comp=Z,35nm,0.9s,mb5.1
B06A **Marblemount** 87.35 327 P P 01 20 34.2 -1.2
baz=88,SNR=16
GNW **Green Mountain** 87.40 326 eP P 01 20 34.9 -0.8
B05A **Bryant** 87.49 327 P P 01 20 34.9 -1.1
baz=88,SNR=17
C04A **Brinnon** 87.58 326 P P 01 20 36.1 -0.3
baz=88,SNR=12
EARI **Arriondas** 87.60 40 P P 01 20 40.7 +4.0
comp=Z,11nm,0.8s,mb4.7
D03A **Wishkah Elem.** 87.61 325 ⇓P P 01 20 36.4 -0.2
baz=88
A06A **Chilliwack** 87.73 327 ⇓P P 01 20 36.2 -1.0
baz=88,SNR=7.0
NLWA **Neilton Lookou** 87.83 325 eP P 01 20 37.4 -0.3
comp=Z,49nm,1.0s,mb5.3
NLWA **Neilton Lookou** 87.83 325 ⇑P P 01 20 37.6 -0.1
baz=88
A05A **Maple Falls** 87.97 327 ⇑P P 01 20 37.2 -1.1
baz=88,SNR=16
B04A **Port Angeles** 88.07 326 ⇓P P 01 20 38.6 -0.2
baz=88
EBEN **Beniarda** 88.07 46 P P 01 20 40.1 +1.0
comp=Z,46nm,1.1s,mb5.2
ETOR **Torete** 88.07 43 P P 01 20 39.5 +0.6
comp=Z,7.0nm,0.6s,mb4.7
ETOR **Torete** 88.07 43 P P 01 20 39.6 +0.6
ETOR pmax pmax
comp=Z,7.0nm,0.6s,mb4.7
ECHE **Chera** 88.08 45 P P 01 20 38.3 -0.8
comp=Z,2.9nm,0.4s,mb4.5
ECHE **Chera** 88.08 45 P P 01 20 38.3 -0.7
ECHE pmax pmax
comp=Z,3.0nm,0.4s,mb4.5
A04A **Legoe Bay, Lum** 88.09 327 P P 01 20 38.4 -0.5
baz=88,SNR=9.6
LSZ **Lusaka** 88.13 106 eP P 01 20 41.6 +1.7
comp=Z,41nm,1.0s,mb5.2
LSZ **Lusaka** 88.13 106 eP P 01 20 41.6 +1.7
LSZ pmax pmax
comp=Z,41nm,1.0s,mb5.2
LSZ **Lusaka** 88.13 106 P P 01 20 42.1 +2.2
SNR=14
LSZ **Lusaka** 88.13 106 P P 01 20 42.1 +2.2
SNR=14
MIR **Mirnyy** 88.32 172 ⇓iP P 01 20 39.0 -0.8
MIR pmax pmax
comp=Z,200nm,1.5s,mb5.7
PGC **Sidney** 88.43 326 eP P 01 20 40.5 0.0
ELAN **Lanestosa** 88.61 41 P P 01 20 40.9 -0.5
comp=Z,17nm,0.9s,mb4.9
ECRI **Cripan** 88.81 42 P P 01 20 43.5 +1.1
comp=Z,10nm,0.7s,mb4.8
ECRI **Cripan** 88.81 42 P P 01 20 43.5 +1.1
ECRI pmax pmax
comp=Z,11nm,0.7s,mb4.8
EMOS **Mosqueruela** 88.82 44 P P 01 20 42.4 -0.1
comp=Z,15nm,0.8s,mb4.9
EIBI **Ibiza** 89.28 46 P P 01 20 45.5 +0.8
comp=Z,26nm,0.9s,mb5.1
ESAC **San Caprasio** 89.57 43 P P 01 20 47.5 +1.6
comp=Z,12nm,0.5s,mb5.0
ERTA **Horta de San J** 89.66 44 P P 01 20 47.0 +0.6
comp=Z,7.0nm,0.5s,mb4.8
ELIZ **Elizondo** 89.71 42 P P 01 20 47.9 +1.3
comp=Z,4.6nm,0.6s,mb4.5
ELIZ **Elizondo** 89.71 42 P P 01 20 47.9 +1.3
ELIZ pmax pmax
comp=Z,5.0nm,0.6s,mb4.5
EALK **Alkurruntz** 89.76 42 P P 01 20 49.7 +2.9
comp=Z,2.6nm,0.5s,mb4.3
SJPF **Ste Jean** 89.87 42 eP P 01 20 47.8 +0.5
comp=Z,43nm,0.8s,mb5.0
SJPF **Ste Jean** 89.87 42 eP P 01 20 47.8 +0.5
comp=Z,21nm,0.8s,mb5.0
SJPF **Ste Jean** 89.87 42 eP P 01 20 47.8 +0.5
SJPF pmax pmax
comp=Z,21nm,0.8s,mb5.0
CASY **Casey** 89.88 179 ⇓iP P 01 20 47.9 +0.8
OSSF **Osses** 89.93 42 eP P 01 20 47.9 +0.3
LARF **Larrau** 89.97 42 eP P 01 20 48.9 +1.1
ETSF **Etsaut** 90.16 42 eP P 01 20 48.9 +0.2
comp=Z,28nm,0.7s,mb4.9
ETSF epP pP 01 21 41.0 -0.7
ETSF **Etsaut** 90.16 42 eP P 01 20 48.9 +0.2
comp=Z,14nm,0.7s,mb4.9
ETSF epP pP 01 21 41.0 -0.7
ETSF **Etsaut** 90.16 42 eP P 01 20 48.9 +0.2
ETSF pmax pmax
comp=Z,14nm,0.7s,mb4.9
ATE **Arette** 90.17 42 eP P 01 20 49.5 +0.8
EPOB **Poblet** 90.34 44 P P 01 20 48.8 -0.7
comp=Z,0.4nm,0.3s,mb3.7
REYF **Montagne du Re** 90.35 42 eP P 01 20 50.6 +1.0
EBIE **Bielsa** 90.47 43 P P 01 20 50.3 +0.1
comp=Z,1.9nm,0.4s,mb4.3
LABF **Labassere** 90.63 42 eP P 01 20 51.7 +0.8
ETOS **Mallorca** 90.64 46 P P 01 20 50.6 -0.4
comp=Z,1.0nm,0.4s,mb4.1
EPF **Esparros** 90.78 42 eP P 01 20 51.9 +0.3
comp=Z,18nm,0.7s,mb4.8
EPF **Esparros** 90.78 42 eP P 01 20 51.9 +0.3
comp=Z,8.8nm,0.7s,mb4.8
EPF **Esparros** 90.78 42 eP P 01 20 51.9 +0.3
EPF pmax pmax
comp=Z,9.0nm,0.7s,mb4.8
EMIR **Miracle** 90.93 44 P P 01 20 51.8 -0.4
comp=Z,3.1nm,0.5s,mb4.5
SALF **Salau** 91.16 43 eP P 01 20 54.6 +1.2
MLS **Moulis** 91.21 43 eP P 01 20 54.2 +0.6
QUIF **Quistinic** 91.47 37 eP P 01 20 54.7 +0.1
comp=Z,21nm,0.8s,mb4.8
QUIF **Quistinic** 91.47 37 eP P 01 20 54.7 +0.1
comp=Z,10nm,0.8s,mb4.8
QUIF **Quistinic** 91.47 37 eP P 01 20 54.7 +0.1
QUIF pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
ROSF **Rostrenen** 91.65 37 eP P 01 20 54.6 -0.8
comp=Z,81nm,1.3s,mb5.2
ROSF **Rostrenen** 91.65 37 eP P 01 20 54.6 -0.8
comp=Z,41nm,1.3s,mb5.2
ROSF **Rostrenen** 91.65 37 eP P 01 20 54.6 -0.8
ROSF pmax pmax
comp=Z,41nm,1.3s,mb5.2
CARF **Carcanieres** 91.71 43 eP P 01 20 56.6 +0.7
FILF **Fillols** 91.92 44 eP P 01 20 57.9 +1.1
SGMF **Saint Gilles** 91.99 37 eP P 01 20 56.1 -0.9
comp=Z,11nm,0.6s,mb4.7
SGMF **Saint Gilles** 91.99 37 eP P 01 20 56.1 -0.9
comp=Z,5.4nm,0.6s,mb4.7
SGMF **Saint Gilles** 91.99 37 eP P 01 20 56.1 -0.9
SGMF pmax pmax
comp=Z,5.0nm,0.6s,mb4.6
LFF **La Frestale** 92.06 41 eP P 01 20 57.3 -0.1
comp=Z,44nm,0.9s,mb5.1
LFF epP pP 01 21 49.2 -1.2
LFF **La Frestale** 92.06 41 eP P 01 20 57.3 -0.1
comp=Z,22nm,0.9s,mb5.1
LFF epP pP 01 21 49.2 -1.2
LFF **La Frestale** 92.06 41 eP P 01 20 57.3 -0.1
LFF pmax pmax
comp=Z,22nm,0.9s,mb5.1
MTLF **Montolieu** 92.11 43 eP P 01 20 57.0 -0.7
comp=Z,22nm,0.9s,mb4.8
MTLF **Montolieu** 92.11 43 eP P 01 20 57.0 -0.7
comp=Z,11nm,0.9s,mb4.8
MTLF **Montolieu** 92.11 43 eP P 01 20 57.0 -0.7
MTLF pmax pmax
comp=Z,11nm,0.9s,mb4.8
MFF **Saint Martin d** 92.43 39 eP P 01 20 58.7 -0.4
comp=Z,36nm,0.9s,mb5.0
MFF epP pP 01 21 50.6 -1.6
MFF **Saint Martin d** 92.43 39 eP P 01 20 58.7 -0.4
comp=Z,18nm,0.9s,mb5.0
MFF epP pP 01 21 50.6 -1.6
MFF **Saint Martin d** 92.43 39 eP P 01 20 58.7 -0.4
MFF pmax pmax
comp=Z,18nm,0.9s,mb5.0
RJF **Les Rejaudoux** 92.71 41 eP P 01 21 00.0 -0.4
comp=Z,27nm,1.0s,mb4.9
RJF eMLR MLR
comp=Z,336nm,19.2s
RJF **Les Rejaudoux** 92.71 41 eP P 01 21 00.0 -0.4
comp=Z,14nm,1.0s,mb4.9
RJF LR LR
comp=Z,340nm,19.3s
RJF **Les Rejaudoux** 92.71 41 eP P 01 21 00.0 -0.4
RJF pmax pmax
comp=Z,14nm,1.0s,mb5.0
RJF MLR MLR
comp=Z,340nm,19.3s
CAF **Calviac** 92.84 41 eP P 01 21 00.9 -0.2
comp=Z,15nm,0.8s,mb4.8
CAF **Calviac** 92.84 41 eP P 01 21 00.9 -0.2
comp=Z,7.5nm,0.8s,mb4.8
CAF **Calviac** 92.84 41 eP P 01 21 00.9 -0.2
CAF pmax pmax
comp=Z,8.0nm,0.8s,mb4.8
GRR **Gorron** 93.01 37 eP P 01 21 00.9 -0.8
comp=Z,37nm,0.8s,mb5.2
GRR **Gorron** 93.01 37 eP P 01 21 00.9 -0.8
comp=Z,18nm,0.8s,mb5.2
GRR **Gorron** 93.01 37 eP P 01 21 00.9 -0.8
GRR pmax pmax
comp=Z,19nm,0.8s,mb5.2
KEST **Kesra** 93.19 52 P P 01 21 04.0 +1.2
comp=Z,2.2nm,0.7s,mb4.3,baz=179,slow=2.0,SNR=14
KEST PKKPbc PKKPbc 01 38 11.2 +0.2
comp=Z,0.9nm,0.7s,baz=204,slow=2.9,SNR=5.6
FLN **La Foliniere** 93.42 37 eP P 01 21 03.0 -0.6
comp=Z,37nm,1.1s,mb5.0
FLN epP pP 01 21 54.5 -2.2
FLN eMLR MLR
comp=Z,138nm,22.2s
FLN **La Foliniere** 93.42 37 eP P 01 21 03.0 -0.6
comp=Z,19nm,1.1s,mb5.0

FLN *e*pP pP 01 21 54.5 -2.2
FLN LR LR
comp=Z,140nm,22.3s
FLN La Foliniere 93.42 37 *e*P **P 01 21 03.0 -0.6**
FLN pmax pmax
comp=Z,19nm,1.1s,mb5.0
FLN MLR MLR
comp=Z,140nm,22.3s
LASF Ste Croix 93.51 43 *e*P **P 01 21 04.1 0.0**
comp=Z,8.8nm,1.0s,mb4.5
LDF La Druitiere 93.53 38 *e*P **P 01 21 03.4 -0.7**
comp=Z,25nm,0.7s,mb5.0
LDF La Druitiere 93.53 38 *e*P **P 01 21 03.4 -0.7**
comp=Z,13nm,0.7s,mb5.1
LDF La Druitiere 93.53 38 *e*P **P 01 21 03.4 -0.7**
LDF pmax pmax
comp=Z,13nm,0.7s,mb5.1
TCF Toulx Ste Croi 93.64 40 *e*P **P 01 21 04.1 -0.6**
comp=Z,22nm,1.2s,mb4.8
TCF Toulx Ste Croi 93.64 40 *e*P **P 01 21 04.1 -0.6**
comp=Z,11nm,1.2s,mb4.8
TCF Toulx Ste Croi 93.64 40 *e*P **P 01 21 04.1 -0.6**
TCF pmax pmax
comp=Z,11nm,1.2s,mb4.8
LBL Lubilhac 93.72 42 *e*P **P 01 21 05.3 +0.2**
PYM Petit Puy Mans 93.84 41 *e*P **P 01 21 03.6 -2.0**
URZ Urewera 93.91 225 P **P 01 21 07.1 +0.7**
comp=Z,9.8nm,0.7s,mb5.0,baz=173,slow=11,SNR=5.0
AGO Saint Agoulin 94.07 41 *e*P **P 01 21 06.2 -0.5**
BGF Bois d'Agland 94.16 40 *e*P **P 01 21 06.5 -0.6**
comp=Z,19nm,0.8s,mb4.9
BGF *e*pP pP 01 21 58.5 -1.6
BGF Bois d'Agland 94.16 40 *e*P **P 01 21 06.5 -0.6**
comp=Z,9.4nm,0.8s,mb4.9
BGF *e*pP pP 01 21 58.5 -1.6
BGF Bois d'Agland 94.16 40 *e*P **P 01 21 06.5 -0.6**
BGF pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
PRAF Pradon 94.19 44 *e*P **P 01 21 09.0 +1.7**
PLDF La Plantade 94.32 41 *e*P **P 01 21 06.9 -0.9**
YKA Yellowknife Ar 94.34 340 P **P 01 21 06.6 -0.9**
YKA pP pP 01 21 58.7 -1.9
YKA Yellowknife Ar 94.34 340 P **P 01 21 06.6 -0.9**
comp=Z,34nm,0.6s,mb5.5,baz=134,slow=4.4,SNR=967
YKA pP pP 01 21 58.7 -1.9
comp=Z,6.5nm,0.8s,baz=134,slow=4.6,SNR=3.6
YKA PKiKP PKiKP 01 25 49.3 -0.4
comp=Z,0.7nm,0.8s,baz=130,slow=2.2,SNR=4.0
YKA PKKP PKKPbc 01 38 06.2 -3.0
comp=Z,0.5nm,0.7s,baz=326,slow=3.6,SNR=8.2
YKW3 Yellowknife Ar 94.40 340 *e*P **P 01 21 06.9 -0.8**
VIVF Saint-Julien-I 94.41 43 *e*P **P 01 21 08.4 +0.2**
comp=Z,14nm,0.8s,mb4.7
VIVF Saint-Julien-I 94.41 43 *e*P **P 01 21 08.4 +0.2**
comp=Z,7.1nm,0.8s,mb4.8
VIVF Saint-Julien-I 94.41 43 *e*P **P 01 21 08.4 +0.2**
VIVF pmax pmax
comp=Z,7.0nm,0.8s,mb4.7
SMRF Simiane la Rot 94.53 44 *e*P **P 01 21 09.4 +0.6**
comp=Z,18nm,0.8s,mb4.9
SMRF Simiane la Rot 94.53 44 *e*P **P 01 21 09.4 +0.6**
comp=Z,18nm,0.8s,mb5.2
VILF Villemus 94.56 44 *e*P **P 01 21 09.7 +0.7**
AVF Avril sur Loir 94.58 40 *e*P **P 01 21 08.3 -0.7**
comp=Z,14nm,1.0s,mb4.8
AVF *e*pP pP 01 22 00.3 -1.8
AVF Avril sur Loir 94.58 40 *e*P **P 01 21 08.3 -0.7**
comp=Z,6.9nm,1.0s,mb4.7
AVF *e*pP pP 01 22 00.3 -1.8
AVF Avril sur Loir 94.58 40 *e*P **P 01 21 08.3 -0.7**
AVF pmax pmax
comp=Z,7.0nm,1.0s,mb4.8
TAVF Tavernes 94.67 44 *e*P **P 01 21 09.7 +0.2**
SMF Signal de Mont 94.80 41 *e*P **P 01 21 09.6 -0.4**
comp=Z,27nm,0.9s,mb5.1
SMF Signal de Mont 94.80 41 *e*P **P 01 21 09.6 -0.4**
comp=Z,13nm,0.9s,mb5.1
SMF Signal de Mont 94.80 41 *e*P **P 01 21 09.6 -0.4**
SMF pmax pmax
comp=Z,13nm,0.9s,mb5.1
SSF Saint Saulge 94.81 40 *e*P **P 01 21 09.2 -0.8**
comp=Z,18nm,1.0s,mb4.9
SSF *e*pP pP 01 22 01.1 -2.0
SSF Saint Saulge 94.81 40 *e*P **P 01 21 09.2 -0.8**
comp=Z,9.0nm,1.0s,mb4.8
SSF *e*pP pP 01 22 01.1 -2.0
SSF Saint Saulge 94.81 40 *e*P **P 01 21 09.2 -0.8**
SSF pmax pmax
comp=Z,9.0nm,1.0s,mb4.8
LMR La Mourre 94.82 44 *e*P **P 01 21 10.2 0.0**
comp=Z,14nm,0.8s,mb4.9
LMR *e*pP pP 01 22 02.1 -1.1
LMR La Mourre 94.82 44 *e*P **P 01 21 10.2 0.0**
comp=Z,7.3nm,0.8s,mb4.9
LMR *e*pP pP 01 22 02.1 -1.1
LMR La Mourre 94.82 44 *e*P **P 01 21 10.2 0.0**
LMR pmax pmax
comp=Z,7.0nm,0.8s,mb4.8
FRF La Foret Royal 95.01 44 *e*P **P 01 21 11.1 +0.1**
comp=Z,20nm,1.2s,mb4.8
FRF La Foret Royal 95.01 44 *e*P **P 01 21 11.1 +0.1**
comp=Z,10nm,1.2s,mb4.8
FRF La Foret Royal 95.01 44 *e*P **P 01 21 11.1 +0.1**
FRF pmax pmax
comp=Z,10.0nm,1.2s,mb4.8
LOR Lormes 95.12 40 *e*P **P 01 21 10.7 -0.7**
comp=Z,13nm,0.9s,mb4.7
LOR *e*MLR MLR
comp=Z,136nm,17.5s
LOR Lormes 95.12 40 *e*P **P 01 21 10.7 -0.7**
comp=Z,6.3nm,0.9s,mb4.8
LOR LR LR
comp=Z,140nm,17.5s
LOR Lormes 95.12 40 *e*P **P 01 21 10.7 -0.7**
LOR pmax pmax
comp=Z,6.0nm,0.9s,mb4.7
LOR MLR MLR
comp=Z,140nm,17.5s
ORIF Oris-en-Rattie 95.18 43 *e*P **P 01 21 12.4 +0.6**
comp=Z,26nm,0.7s,mb5.1
ORIF *e*MLR MLR
comp=Z,241nm,22.8s
ORIF Oris-en-Rattie 95.18 43 *e*P **P 01 21 12.4 +0.6**
comp=Z,13nm,0.7s,mb5.2
ORIF Oris-en-Rattie 95.18 43 *e*P **P 01 21 12.4 +0.6**
ORIF pmax pmax
comp=Z,13nm,0.7s,mb5.2
CALN Calern 95.26 44 *e*P **P 01 21 13.1 +0.9**
MVIF Mont Vial 95.50 44 *e*P **P 01 21 12.5 -0.7**
REVF Revere 95.56 44 *e*P **P 01 21 14.1 +0.6**
TOUF Mont Tournerai 95.61 44 *e*P **P 01 21 14.5 +0.7**
LUCF Luceram 95.62 44 *e*P **P 01 21 14.2 +0.4**
MBDF Montbardon 95.65 43 *e*P **P 01 21 14.4 +0.5**
comp=Z,10nm,0.8s,mb4.8
MBDF Montbardon 95.65 43 *e*P **P 01 21 14.4 +0.5**
comp=Z,5.1nm,0.8s,mb4.8
MBDF Montbardon 95.65 43 *e*P **P 01 21 14.4 +0.5**
MBDF pmax pmax
comp=Z,5.0nm,0.8s,mb4.8
SBF Sospel 95.66 44 *e*P **P 01 21 14.1 +0.1**
comp=Z,35nm,0.9s,mb5.3
SBF Sospel 95.66 44 *e*P **P 01 21 14.1 +0.1**
comp=Z,18nm,0.9s,mb5.3
SBF Sospel 95.66 44 *e*P **P 01 21 14.1 +0.1**
SBF pmax pmax
comp=Z,18nm,0.9s,mb5.3
AUTN L'Aution 95.72 44 *e*P **P 01 21 14.2 0.0**
EKA Eskdalemuir Ar 95.73 31 P **P 01 21 13.2 -0.8**
comp=Z,2.3nm,0.9s,mb4.4,baz=278,slow=2.4,SNR=6.0
EKA *e*pP pP 01 22 04.0 -3.2
comp=Z,4.8nm,1.1s,baz=262,slow=5.8,SNR=4.4
SAOF Saorge 95.79 44 *e*P **P 01 21 15.3 +0.7**
LPL La Plagne 96.00 43 *e*P **P 01 21 16.2 +0.7**
comp=Z,19nm,0.8s,mb5.1
LPL *e*pP pP 01 22 08.1 -0.5
LPL La Plagne 96.00 43 *e*P **P 01 21 16.2 +0.7**
comp=Z,9.3nm,0.8s,mb5.1
LPL *e*pP pP 01 22 08.1 -0.5
LPL La Plagne 96.00 43 *e*P **P 01 21 16.2 +0.7**
LPL pmax pmax
comp=Z,9.0nm,0.8s,mb5.0
LPG La Plagne 96.00 43 *e*P **P 01 21 16.3 +0.8**
comp=Z,23nm,0.8s,mb5.2
LPG La Plagne 96.00 43 *e*P **P 01 21 16.3 +0.8**
comp=Z,12nm,0.8s,mb5.2
LPG La Plagne 96.00 43 *e*P **P 01 21 16.3 +0.8**
LPG pmax pmax
comp=Z,12nm,0.8s,mb5.2
PGF Pioggiola 96.07 46 *e*P **P 01 21 15.9 0.0**
comp=Z,13nm,0.9s,mb4.9
PGF Pioggiola 96.07 46 *e*P **P 01 21 15.9 0.0**
comp=Z,6.4nm,0.9s,mb4.8
PGF Pioggiola 96.07 46 *e*P **P 01 21 15.9 0.0**
PGF pmax pmax
comp=Z,6.0nm,0.9s,mb4.8
CABF La Chapelle 96.13 41 *e*P **P 01 21 15.8 -0.2**
comp=Z,17nm,0.9s,mb5.0
CABF La Chapelle 96.13 41 *e*P **P 01 21 15.8 -0.2**
comp=Z,8.3nm,0.9s,mb5.0
CABF La Chapelle 96.13 41 *e*P **P 01 21 15.8 -0.2**
CABF pmax pmax
comp=Z,8.0nm,0.9s,mb5.0
MEZF Maizieres J'vi 96.43 39 *e*P **P 01 21 16.8 -0.5**
comp=Z,11nm,0.6s,mb5.0
MEZF Maizieres J'vi 96.43 39 *e*P **P 01 21 16.8 -0.5**
comp=Z,11nm,0.6s,mb5.2
BAIF Baives 96.71 38 *e*P **P 01 21 17.8 -0.8**
DOU Dourbes 96.95 38 P **P 01 21 19.2 -0.4**
HAU Haudompre 96.95 40 *e*P **P 01 21 19.0 -0.7**
HAU *e*MLR MLR
comp=Z,179nm,18.0s
HAU Haudompre 96.95 40 *e*P **P 01 21 19.0 -0.7**
HAU MLR MLR
comp=Z,180nm,18.0s
GIVF Givet 97.08 38 *e*P **P 01 21 19.6 -0.6**
HINF Hinteralfeld 97.16 41 *e*P **P 01 21 19.9 -0.8**
DLBC Dease Lake 97.49 332 *e*P **P 01 21 21.8 -0.1**
WLF Walferdange 97.62 39 *e*P **P 01 21 23.6 +0.9**
comp=Z,15nm,1.0s,mb5.3
WLF Walferdange 97.62 39 *e*P **P 01 21 23.6 +0.9**
WLF pmax pmax
comp=Z,15nm,1.0s,mb5.3
WLF Walferdange 97.62 39 P **P 01 21 23.2 +0.5**
comp=Z,5.9nm,1.4s,mb4.7
CDF Champ du Feu 97.69 40 *e*P **P 01 21 22.4 -0.6**
comp=Z,16nm,1.0s,mb5.0
CDF *e*pP pP 01 22 14.5 -1.7
CDF Champ du Feu 97.69 40 *e*P **P 01 21 22.4 -0.6**
comp=Z,7.8nm,1.0s,mb5.0
CDF *e*pP pP 01 22 14.5 -1.7
CDF Champ du Feu 97.69 40 *e*P **P 01 21 22.4 -0.6**
CDF pmax pmax
comp=Z,8.0nm,1.0s,mb5.0
MEM Membach 97.99 38 P **P 01 21 23.8 -0.5**
comp=Z,4.9nm,1.4s,mb4.6
DAVOX Davos/Dischmat 98.52 43 P **P 01 21 27.7 +0.9**
comp=Z,7.1nm,0.8s,mb5.0,baz=284,slow=6.7,SNR=7.2
DAVOX PKKPbc PKKPbc 01 37 56.4 -0.7
comp=Z,2.9nm,0.7s,baz=72,slow=9.8,SNR=4.3
RES Resolute Bay 100.23 353 *e*Pdif Pdif 01 21 33.1 -1.5
GRA1 Grafenberg Arr 100.58 40 *e*Pdif Pdif 01 21 36.6 +0.5
GRA1 *e*PP PP 01 25 40.1 -6.1
GRF Grafenberg Arr 100.58 40 *e*Pdiff Pdif 01 21 36.6 +0.5
GRF *ep*Pdiff 01 22 28.1
GRF *e*PP PP 01 25 40.1 -6.1
GERES GERESS Array B 101.72 42 P Pdif 01 21 41.3 +0.1
comp=Z,0.9nm,0.8s,baz=220,slow=3.5,SNR=5.1
GERES PKiKP PKiKP 01 26 03.0 -0.2
comp=Z,1.1nm,0.8s,baz=236,slow=1.4,SNR=6.7
GERES PKKPbc PKKPbc 01 37 47.0 -1.1
comp=Z,2.0nm,0.8s,baz=11,slow=1.4,SNR=5.3
CLL Collm 102.28 39 *i* Pdif Pdif 01 21 49.2 +5.6
comp=Z,4.0nm,0.9s
CLL *e*PP PP 01 25 56.0 -2.8
CLL *e*SKS 01 32 07.0
CLL *e*Sdif Sdif 01 33 16.0 +8.1
CLL LR LR
comp=Z,200nm,21.3s
CLL Collm 102.28 39 *i* P Pdif 01 21 49.2 +5.6
CLL *e* 01 25 56.0
CLL *e* 01 32 07.0
CLL *e*S Sdif 01 33 16.0 +8.1
CLL pmax pmax
comp=Z,4.0nm,0.9s
CLL MLR MLR
comp=Z,200nm,21.3s
CLL Collm 102.28 39 *e*PP PP 01 25 56.0 -2.8
CLL *ep*PP 01 26 48.0
CLL *e*SKSac SKSac 01 32 07.0 +5.4
CLL *e*Sdif Sdif 01 33 16.0 +8.1
CLL *ep*SKKSac 01 33 41.0
CLL *e*SP SP 01 34 42.0 -0.7
CLL *e*PPS 01 35 56.0
CLL *e*SS SS 01 40 06.0 -13
CLL Lm 02 02 00.0
comp=Z,200nm,21.3s
INK Inuvik 104.11 339 *e*Pdif Pdif 01 21 50.7 -1.1
INK Inuvik 104.11 339 PKKPbc PKKPbc 01 37 39.5 -2.1
comp=Z,3.4nm,0.7s,baz=281,slow=2.7,SNR=12
DAWY Dawson 104.23 334 *e*Pdif Pdif 01 21 51.3 -1.1
NB2 NORSAR Subarra 105.12 30 PKKP PKKPbc 01 37 53.2 +15
comp=Z,2.1nm,0.8s,baz=68,slow=1.9
NOA NORSAR Array B 105.12 30 PKKP PKKPbc 01 37 53.1 +15
comp=Z,2.3nm,0.8s,baz=77,slow=4.3,SNR=7.3
EGAK Eagle 105.23 335 *e*Pdif Pdif 01 21 55.5 -1.3
HFS Hagfors 105.93 31 PKKPbc PKKPbc 01 37 33.1 -2.7
comp=Z,0.9nm,0.3s,baz=116,slow=6.6,SNR=16
HFS PKKPab PKKPab 01 37 49.3 +0.2
comp=Z,5.5nm,0.9s,baz=90,slow=7.4,SNR=5.9
KWP Kalwaria 107.54 43 *e*PKiKP PKiKP 01 26 14.6 +0.7
MCK McKinley 108.02 332 *e*PKiKP PKiKP 01 26 13.6 -0.7
MLR Muntele Rosu 108.49 48 PKKPbc PKKPbc 01 37 26.3 -0.9
comp=Z,1.6nm,0.7s,baz=157,slow=12,SNR=4.3
MLR PKKP PKKPbc 01 37 40.6 +13
comp=Z,3.3nm,0.8s,baz=112,slow=15,SNR=5.8
MLR Muntele Rosu 108.49 48 ⇑*P* PKKPbc 01 37 26.4 -0.8
KIEV Kiev 111.85 43 *e*PKiKP PKiKP 01 26 20.8 -1.1
AKASG Malin Array Be 111.86 43 PKPdf PKiKP 01 26 21.1 -0.9
AKASG PKKPbc PKKPbc 01 37 14.8 -1.7
AKASG PKKPab PKKPab 01 37 23.9 +0.6
AKASG Malin Array Be 111.86 43 PKiKP PKiKP 01 26 21.1 -0.9
comp=Z,2.9nm,0.5s,baz=263,slow=2.8,SNR=33
AKASG PKKPbc PKKPbc 01 37 14.8 -1.7
comp=Z,3.9nm,0.8s,baz=66,slow=4.0,SNR=18
AKASG PKKPab PKKPab 01 37 23.9 +0.6
comp=Z,5.9nm,0.7s,baz=68,slow=4.2,SNR=22
AKBB Malin Array Si 111.86 43 *e*PKiKP PKiKP 01 26 21.0 -1.0
VSU Vasula 111.93 34 *i* PKIKP PKiKP 01 26 21.5 -0.3
FINES FINESS Array B 112.13 31 PKiKP PKiKP 01 26 21.8 -0.3
comp=Z,1.3nm,0.8s,baz=348,slow=4.5,SNR=4.5
FINES PKKPbc PKKPbc 01 37 13.0 -3.0
comp=Z,0.7nm,0.3s,baz=54,slow=4.7,SNR=14
FINES PKKPab PKKPab 01 37 22.5 +0.8
comp=Z,2.8nm,0.9s,baz=79,slow=9.9,SNR=6.8
ARCES ARCESS Array B 113.08 22 PKKPbc PKKPbc 01 37 10.2 -2.9
comp=Z,1.4nm,0.3s,baz=84,slow=3.4,SNR=34
ARCES PKKPab PKKPab 01 37 18.5 +1.2
comp=Z,7.9nm,0.8s,baz=86,slow=5.0,SNR=9.8
SIM Simferopol' 113.99 50 *i* PKIKP PKiKP 01 26 26.8 +0.6
SIM 01 27 25.0
SIM 01 32 56.0
SIM *e*PS PS 01 36 55.0 -9.1
SIM pmax pmax
comp=Z,37nm,12.5s
MALT Malatya 115.92 58 *e*PKPdf PKPdf 01 26 30.4 +0.2
ANN Anapa 116.29 50 *i* PKIKP PKPdf 01 26 30.0 -0.7
ANN *e* 01 27 26.3
ANN *e* 01 32 58.8
ANN pmax pmax
comp=Z,26nm,0.9s
OBN Obninsk 116.87 39 ⇓*i* PKIKP PKPdf 01 26 30.7 -0.7
OBN *i* 01 27 26.4
OBN *e*PS PS 01 37 10.1 -20
OBN *e*SS SS 01 43 33.6 -0.3
OBN pmax pmax
comp=Z,42nm,1.1s
OBN MLR MLR
comp=Z,200nm,18.0s
SOC Sochi 117.75 52*c* *i* PKIKP PKPdf 01 26 33.5 0.0
SOC *e* 01 27 57.1
SOC *e*PPP 01 30 24.1
SOC *e*PS PS 01 37 10.5 -28
SOC *e*SSS 01 48 19.8
SOC pmax pmax
comp=Z,28nm,0.8s
TMCR Tamitsa 117.79 29 *e*PKIKP PKPdf 01 26 29.2 -3.7
STKA Stephens Creek 118.15 207 *e*PKP PKPdf 01 26 33.9 -0.9
comp=Z,4.8nm,0.8s
STKA *e*PP PP 01 27 49.5 -2.4
STKA Stephens Creek 118.15 207 PKP PKPdf 01 26 34.4 -0.4
comp=Z,6.2nm,0.8s,baz=88,slow=5.3,SNR=10
STKA PKKPbc PKKPbc 01 36 53.8 -0.9
comp=Z,3.4nm,0.8s,baz=328,slow=9.6,SNR=4.1
VRSR Storozhevoye 118.17 43 *e*PKIKP PKPdf 01 26 33.1 -1.0
VRSR pmax pmax
comp=Z,5.0nm,1.0s
VRSR pmax pmax
comp=N,1.0nm,0.8s
VRSR pmax pmax
comp=E,1.0nm,0.6s
KIV Kislovodsk 119.93 52 *e*PKPdf PKPdf 01 26 37.7 +0.1
KIV Kislovodsk 119.93 52 *i* PKIKP PKPdf 01 26 37.2 -0.5
KIV *e* 01 28 07.7
KIV *e* 01 33 11.0
KIV *e*SP SP 01 37 31.0 -1.2
KIV *e*SS SS 01 44 16.8 +2.8
KIV pmax pmax
comp=Z,26nm,1.1s
KIV MLR MLR
comp=Z,48nm,21.0s
NAY Al-Naaiem 121.35 69 *e*P PKPdf 01 26 40.4 -0.4
NAY AMb AMB 01 26 42.0
comp=Z,11nm,1.1s
MIB Mutribah 121.54 69 *e*P PKPdf 01 26 41.0 -0.3
MIB AMb AMB 01 26 42.1
comp=Z,22nm,1.1s
RDF Al-Radifah 121.55 70 *e*P PKPdf 01 26 41.0 -0.3
RDF AMb AMB 01 26 42.9
comp=Z,12nm,0.9s
UMR Umm Al-Rimmam 121.81 69 *e*P PKPdf 01 26 41.6 -0.2
UMR AMb AMB 01 26 42.7
comp=Z,34nm,0.7s
QRN Al-Qurain 121.82 70 *e*P PKPdf 01 26 41.8 -0.1
QRN AMb AMB 01 26 45.0
comp=Z,23nm,0.8s
FORT Forrest 123.65 195 *e*PKP PKPdf 01 26 44.2 -1.2
comp=Z,24nm,0.7s
MUN Mundaring 124.17 183 *e*PKP PKPdf 01 26 45.5 -0.9
KLBR Kellerberrin 124.47 185 *e*PKP PKPdf 01 26 46.0 -0.9
comp=Z,28nm,0.7s
CTA Charters Tower 125.65 219 *e*PKP PKPdf 01 26 49.1 -0.4
comp=Z,21nm,0.8s
CTA Charters Tower 125.65 219 PKP PKPdf 01 26 49.1 -0.4
comp=Z,30nm,0.9s,baz=125,slow=2.3,SNR=26
BILL Bilibino 125.71 338 ⇓*i* PKIKP PKPdf 01 26 47.5 -0.6
BILL *e* 01 27 43.0
BILL pmax pmax
comp=Z,18nm,0.8s
SOKR Solikamsk 127.27 32*d* *i* PKIKP PKPdf 01 26 51.0 -0.3
SOKR pmax pmax
comp=Z,20nm,0.9s
ASAR Alice Springs 128.51 204 PKHKP 01 26 40.8
ASAR 01 26 54.1
ASAR Alice Springs 128.51 204 PKhKP 01 26 40.8
comp=Z,0.4nm,0.3s,baz=156,slow=1.3,SNR=5.8
ASAR PKP PKPdf 01 26 54.0 -0.8
comp=Z,48nm,0.8s,baz=150,slow=2.2,SNR=156
ASAR PP PP 01 28 57.5 -3.9
comp=Z,3.2nm,0.9s,baz=148,slow=3.8,SNR=4.3
ASAR PKKP 01 37 01.9
comp=Z,0.6nm,0.7s,baz=318,slow=1.6,SNR=5.5
ASAR SKKPbc 01 39 51.2
comp=Z,0.6nm,0.7s,baz=351,slow=4.3,SNR=4.9
ARU Arti 129.05 36 *e*PKPdf PKPdf 01 26 55.2 +0.5
ARU Arti 129.05 36 *i* PKIKP PKPdf 01 26 55.0 +0.2
ARU 01 29 06.0
ARU SS SS 01 46 06.8 -0.7
SMDO Samad 129.55 79 PKPdf PKPdf 01 26 56.8 +0.1
SNR=7.2
SMDO Samad 129.55 79 P PKPdf 01 26 56.8 +0.1
SNR=7.2
SVE Sverdlovsk 130.03 35 *e*PKIKP PKPdf 01 26 56.8 +0.2
AKTO Aktyubinsk 130.11 43 *i* PKIKP PKPdf 01 26 55.0 -1.9
AKTO pmax pmax
comp=Z,1.0nm,0.9s
AKTO Aktyubinsk 130.11 43 SKPbc SKPbc 01 30 02.1 +2.7
comp=Z,40nm,1.0s,baz=282,slow=3.6,SNR=41
AKTO SKKPbc 01 39 47.2
comp=Z,1.5nm,0.9s,baz=83,slow=7.3,SNR=4.1
WBK Wadi Bani Khal 130.28 80 PKPdf PKPdf 01 26 58.9 +0.7
SNR=6.8
WBK Wadi Bani Khal 130.28 80 P PKPdf 01 26 58.9 +0.7
SNR=6.8
TIXI Tiksi 131.62 354 *e*PKPdf PKPdf 01 26 58.2 -1.1
TIXI Tiksi 131.62 354 *i* PKIKP PKPdf 01 26 58.1 -1.1
WB2 Warramunga Arr 131.69 207 *e*PKP PKPdf 01 27 00.3 -0.7
WB2 *es*PKP 01 28 15.5
WB2 *e*SKP 01 30 06.7
WB2 *e*PKS 01 30 25.7
WRA Warramunga Arr 131.70 207 PKIKP PKPdf 01 26 53.6 -7.4
WRA 01 29 18.9
WRA 01 39 44.5
WRA Warramunga Arr 131.70 207 PKhKP 01 26 53.6
comp=Z,3.0nm,0.7s,baz=227,slow=1.3,SNR=13
WRA PKP PKPdf 01 27 00.5 -0.5
comp=Z,18nm,0.5s,baz=165,slow=1.6,SNR=65
WRA PP PP 01 29 18.9 -3.2
comp=Z,3.5nm,1.0s,baz=152,slow=5.5,SNR=6.6
WRA SKPbc SKPbc 01 30 06.8 +0.5
comp=Z,11nm,0.8s,baz=153,slow=3.3,SNR=12
WRA SKKPbc 01 39 44.5
comp=Z,2.1nm,1.0s,baz=343,slow=5.5,SNR=4.7
WRAB Tennant Creek 131.70 207 *e*PKPdf PKPdf 01 27 00.5 -0.5
WRAB Tennant Creek 131.70 207 *i* PKIKP PKPdf 01 26 59.9 -1.1
SEY Seymchan 133.32 337 *i* PKIKP PKPdf 01 27 03.4 +0.8
PET Petropavlovsk 135.41 322 ⇑*i* PKIKP PKPdf 01 27 06.9 0.0
MA2 Magadan 135.99 334*c* *i* PKIKP PKPdf 01 27 07.8 +0.1
MA2 pmax pmax
comp=Z,20nm,0.8s
FITZ Fitzroy Crossi 136.39 197 *e*PKP 01 26 56.2
comp=Z,32nm,0.8s
FITZ *e*SKP 01 30 22.3
FITZ *e*PKS 01 30 41.7
FITZ Fitzroy Crossi 136.39 197 *e*PKPdf PKPdf 01 27 09.8 0.0
BRVK Borovoye 136.59 37 *e*PKPdf PKPdf 01 27 09.9 +0.8
BVAR Borovoye Array 136.66 37 PKP PKPdf 01 27 09.1 -0.1
comp=Z,21nm,0.9s,baz=270,slow=2.9,SNR=9.6
BVAR SKP 01 30 24.2
comp=Z,9.0nm,0.8s,baz=289,slow=4.5,SNR=13
BVAR SKKPbc 01 39 16.1
comp=Z,1.3nm,0.8s,baz=104,slow=4.6,SNR=4.3
KAKA Kakadu 138.95 209 *e*PKP 01 27 03.6
comp=Z,23nm,0.9s
KAKA *e*SKP 01 30 29.9
KK31 Karatay Array 140.08 51 *i* PKIKP PKPdf 01 27 16.0 +0.2
KK31 pmax pmax
comp=Z,6.0nm,0.7s
YAK Yakutsk 140.50 348 *e*PKIKP PKPdf 01 27 13.1 -2.8
YAK pmax pmax
comp=Z,33nm,0.9s
YAK pmax pmax
comp=N,7.0nm,1.4s
YAK pmax pmax
comp=E,7.0nm,1.1s
NVS Novosibirsk 142.03 28 ⇓*i* PKHKP 01 27 13.7
NVS *e* 01 30 34.3
NVS pmax pmax
comp=Z,90nm,1.3s
NVS pmax pmax
comp=E,28nm,1.5s
KURK Kurchatov 142.25 36 *e*PKP PKPdf 01 27 15.7 -3.7
KURK *e*PKPdf PKPdf 01 27 20.2 +0.8
EKS2 Erkin-Say 142.51 51 *e*PKP PKPdf 01 27 16.5 -3.6
EKS2 *e*PKPdf PKPdf 01 27 21.3 +1.2
EKS2 Erkin-Say 142.51 51 P PKPdf 01 27 17.3 -2.8
SNR=18
AML Almayashu 142.60 51 *e*PKPdf PKPdf 01 27 16.9 -3.5
AML Almayashu 142.60 51 P PKPdf 01 27 15.2 -5.1
SNR=10
USP Ospenovka 142.83 49 P PKPdf 01 27 22.1 +1.4
SNR=8.7
AAK Ala-Archa 143.02 50 *e*PKPdf PKPdf 01 27 17.9 -3.2
AAK Ala-Archa 143.02 50 PKPdf PKPdf 01 27 18.7 -2.4
SNR=12
AAK Ala-Archa 143.02 50 P PKPdf 01 27 18.7 -2.4
SNR=12
AAK Ala-Archa 143.02 50 P PKPdf 01 27 14.0 -7.0
SNR=14
FRU Bishkek 143.05 50 *e*PKIKP PKPdf 01 27 18.0 -3.1
FRU *e* 01 28 16.0
FRU *i* 01 30 41.0
CHMS Chumysh 143.09 50 P PKPdf 01 27 19.1 -2.1
SNR=6.4
UCH Uchtor 143.15 51 *e*PKPdf PKPdf 01 27 19.9 -1.4
UCH Uchtor 143.15 51 P PKPdf 01 27 20.0 -1.3
SNR=21

ZAL Zalesovo 143.31 28 PKIKP PKPdf 01 27 18.8 -2.4
ZAL 01 30 38.5
ZALV Zalesovo Beam 143.31 28 PKP PKPdf 01 27 18.8 -2.4
comp=E,84nm,0.8s,baz=300,slow=4.4,SNR=291
ZALV SKPbc SKPbc 01 30 38.5 -0.6
comp=E,39nm,0.9s,baz=298,slow=3.2,SNR=11
KBK Karagaybulak 143.33 50 P PKPdf 01 27 20.4 -1.2
SNR=17
TKM2 Tokmak 2 143.70 50 *e*PKPdf PKPdf 01 27 20.8 -1.5
TKM2 Tokmak 2 143.70 50 P PKPdf 01 27 20.9 -1.4
SNR=16
KZA Kyzart 143.72 51 P PKPdf 01 27 24.0 +1.7
SNR=22
ULHL Ulahol 144.37 50 P PKPdf 01 27 23.9 +0.5
SNR=12
SALM Salem 144.40 104 *e*P PKPdf 01 27 23.0 -1.3
PALK Pallekele 144.49 113 *e*PKPdf PKPdf 01 27 23.8 -0.7
PALK Pallekele 144.49 113 ⇑PKPbc PKPdf 01 27 24.3 -0.2
SNR=5.6
PALK Pallekele 144.49 113 ⇑P PKPdf 01 27 24.3 -0.2
SNR=5.6
KSH Kashi 144.96 55 *e*PKP PKPdf 01 27 25.3 +0.8
KSH PP PP 01 30 44.6 -0.5
KSH PKS 01 30 59.8
KSH SKS SKSdf 01 34 10.8 -2.3
KSH PP PP
comp=Z,503nm,5.6s
KSH LR LR
comp=N,454nm,4.2s
KSH LR LR
comp=E,529nm,4.8s
AJM Ajmer 144.97 78 *e*P PKPdf 01 27 25.4 +0.5
AJM AMb AMB 01 27 28.6
comp=Z,76nm,1.0s
THN Thein Dam 145.93 67 *e*P PKPdf 01 27 26.8 +0.4
DLH Dalhousie 146.13 67 *e*P PKPdf 01 27 28.0 +1.2
CLNS Chul'man 146.25 349 *e*PKIKP PKPdf 01 27 26.3 +0.1
CLNS pmax pmax
comp=N,32nm,1.0s
CLNS pmax pmax
comp=Z,72nm,1.0s
CLNS pmax pmax
comp=E,17nm,0.8s
BOD Bodaibo 146.31 359 ⇓*i*PKIKP PKPdf 01 27 25.4 -0.8
BOD pmax pmax
comp=Z,90nm,0.8s
MK31 Makanchi Array 146.37 40 *i* PKIKP PKPdf 01 27 27.1 +0.4
MK31 pmax pmax
comp=Z,121nm,0.7s
MKAR Makanchi Array 146.37 40 PKPbc PKPbc 01 27 27.0 -1.3
comp=Z,113nm,0.7s,baz=323,slow=1.8,SNR=225
MKAR pPKPbc pPKPbc 01 28 22.2 -1.0
comp=Z,28nm,1.0s,baz=336,slow=3.2,SNR=2.3
MKAR SKPbc SKPbc 01 30 48.4 +2.0
comp=Z,9.9nm,1.0s,baz=277,slow=3.8,SNR=4.8
HYB Hyderabad 146.81 95 *e*PKP PKPdf 01 27 29.0 +0.7
HYB *e* 01 28 24.5
HYB Hyderabad 146.81 95 *i* PKP PKPdf 01 27 29.0 +0.7
HYB *e*pPKP pPKPdf 01 28 24.5 +0.5
BHPL Bhopal 147.10 84 *e*P PKPdf 01 27 29.2 +0.6
YSS Yuzh-Sakhalins 147.29 322 *e*PKPdf PKPdf 01 27 28.6 +0.4
YSS Yuzh-Sakhalins 147.29 322 ⇑*i*PKIKP PKPdf 01 27 28.5 +0.3
YSS *e* 01 27 30.4
YSS *e* 01 28 24.5
YSS pmax pmax
comp=Z,60nm,1.0s
NDI New Delhi 147.35 74 *e*P PKPdf 01 27 28.5 -0.4
DDI Dehra Dun 148.05 71 *e*P PKPdf 01 27 31.7 +1.7
DDI *ex* x 01 28 29.0
GUMO Guam 148.50 256 PKPbc PKPbc 01 27 34.4 -0.6
comp=Z,572nm,0.9s,baz=192,slow=6.0,SNR=29
ASAJ Asahikawa 148.90 317 PKP PKPdf 01 27 31.4 +0.4
comp=Z,62nm,0.8s,baz=282,slow=6.3,SNR=12
ASAJ PKPbc PKPbc 01 27 35.3 +0.1
comp=Z,62nm,0.8s,baz=129,slow=2.1,SNR=32
JBP Jabalpur 149.41 85 ⇓*i*P PKPdf 01 27 32.7 +0.3
JBP *i* x x 01 28 31.8
ERM Erimo 149.54 313 *e*PKPbc PKPbc 01 27 36.3 -0.5
ERM *e*PKPab PKPab 01 27 42.9 +0.3
PTH Pithoragarh 149.96 72 *e*P PKPdf 01 27 34.0 +0.9
PTH *ex* x 01 28 33.3
LGTI Lohaghat 149.99 72 *e*P PKPdf 01 27 34.0 +0.8
HABR Khabarovsk 150.26 330 PKIKP PKPdf 01 27 31.5 -1.5
HABR *e* 01 27 44.5
HABR *e* 01 55 59.9
MOY Mondy 150.88 16 *e*PKIKP PKPdf 01 27 34.5 +0.7
MOY *e* 01 28 31.5
MOY pmax pmax
comp=Z,148nm,2.0s
KLR Kul'dur 151.07 335 *e*PKIKP PKPdf 01 27 29.4 -4.8
KLR *e* 01 28 29.2
KLR pmax pmax
comp=Z,120nm,0.8s
WMQ Urumqi 151.19 41 PKP PKPdf 01 27 34.8 +0.2
WMQ PKP2 PKPab 01 27 46.0 -3.3
WMQ PP PP
comp=Z,259nm,5.2s
BLSP Bilaspur 151.21 88 *e*P PKPdf 01 27 35.9 +0.7
VIS Vishakhapatnam 151.24 97 *e*P PKPdf 01 27 35.6 +0.2
TLY Talaya 151.46 13 *e*PKPdf PKPdf 01 27 35.9 +1.2
TLY *e*PKPbc PKPbc 01 27 41.3 +0.3
TLY *e*PKPab PKPab 01 27 50.7 +0.5
TLY Talaya 151.46 13 *e*PKIKP PKPdf 01 27 35.3 +0.6
TLY *e* 01 28 35.4
TLY pmax pmax
comp=Z,18nm,0.6s
TLY Talaya 151.46 13 PKPdf PKPdf 01 27 35.9 +1.2
SNR=9.5
TLY Talaya 151.46 13 P PKPdf 01 27 35.9 +1.2
SNR=9.5
ZAK Zakamensk 152.61 14 *e*PKIKP PKPdf 01 27 36.5 0.0
ZAK pmax pmax
comp=Z,13nm,1.0s
ZAK pmax pmax
comp=Z,5.0nm,1.7s
BOK Bokaro 154.87 85 *e*P PKPdf 01 27 40.5 0.0
MJAR Matsushiro Arr 155.33 306 PKP PKPdf 01 27 40.6 -0.1
MJAR PKPbc PKPdf 01 27 49.5 +8.7
MJAR PKPab PKPab 01 28 06.7 -0.5
MJAR PP PP 01 31 42.5 -2.1
MJAR Matsushiro Arr 155.33 306 PKP PKPdf 01 27 40.6 -0.1
comp=Z,4.6nm,0.9s,baz=335,slow=0.2,SNR=11
MJAR PKPbc PKPdf 01 27 49.5 +8.7
comp=Z,11nm,0.6s,baz=99,slow=1.5,SNR=18
MJAR PKPab PKPab 01 28 06.7 -0.5
comp=Z,28nm,0.8s,baz=70,slow=2.9,SNR=9.4
MJAR PP PP 01 31 42.5 -2.1
comp=Z,0.5nm,0.3s,baz=59,slow=5.4,SNR=4.1
MAJO Matsushiro 155.33 306 *e*PKPdf PKPdf 01 27 40.4 -0.4
MDJ Mudanjiang 155.64 331 PKP PKPdf 01 27 40.8 -0.1
SONM Songino Array 155.67 12 PKP PKPdf 01 27 41.4 +0.5
comp=Z,11nm,0.9s,baz=296,slow=0.8,SNR=76
SONM PKPbc PKPdf 01 27 50.3 +9.4
comp=Z,3.5nm,0.7s,baz=341,slow=3.3,SNR=5.1
SONM PKPab PKPab 01 28 08.6 +0.5
comp=Z,13nm,0.7s,baz=322,slow=4.3,SNR=17
ULN Ulaanbaatar 155.75 10 *e*PKPdf PKPdf 01 27 41.5 +0.5
ULN Ulaanbaatar 155.75 10 P PKPdf 01 27 41.8 +0.9
SNR=11
CN2 Changchun 158.00 336 *e*PKP PKPdf 01 27 43.3 -0.6
CN2 PKP2 PKPab 01 28 17.4 -0.9
CN2 *e*PP PP 01 32 00.3 +2.1
CN2 SKS SKSdf 01 34 24.8 -4.3
CN2 PP PP
comp=Z,200nm,6.0s
LSA Lhasa 159.40 69 PKP PKPdf 01 27 47.4 +1.3
LSA Lhasa 159.40 69 *e*PKIKP PKPdf 01 27 47.1 +1.0
GTA Gaotai 160.90 34 PKP PKPdf 01 27 47.8 +0.4
GTA PKP2 PKPab 01 28 31.3 +0.2
GTA PP PP 01 32 11.9 -2.3
GTA PP PP
comp=Z,96nm,9.5s
GTA LR LR
comp=N,133nm,24.3s
GTA LR LR
comp=E,111nm,21.3s
GTA LR LR
comp=Z,114nm,19.4s
KSRS Korea Array 161.79 320 PKP PKPdf 01 27 48.3 -0.1
comp=Z,10nm,0.9s,baz=79,slow=0.6,SNR=39
KSRS PKPab PKPab 01 28 35.1 0.0
comp=Z,6.5nm,0.8s,baz=38,slow=4.4,SNR=11
KKM Kota Kinabalu 161.84 189 *e*PKPdf PKPdf 01 27 49.1 0.0
HHC Hu-ho-hao-te 163.23 5 *e*PKP PKPdf 01 27 50.0 +0.3
HHC PP PP 01 32 22.8 -3.1
HHC SKS SKSdf 01 34 30.5 -3.2
HHC SKKS SKKSac 01 38 56.0 +2.8
HHC SS SS 01 52 33.3 +0.9
HHC LR LR
comp=N,152nm,4.3s
HHC LR LR
comp=E,194nm,4.9s
HHC LR LR
comp=Z,118nm,5.9s
DL2 Dalian 163.67 337 PKP PKPdf 01 27 48.5 -1.7
DL2 PKP2 PKPab 01 28 42.6 -0.6
DL2 PP PP 01 32 29.5 +1.0
DL2 SS SS 01 52 37.6 +0.1
DL2 PP PP
comp=Z,140nm,5.7s
BJI Beijing 163.94 352 PKP PKPdf 01 27 50.3 -0.1
BJI PP PP 01 32 31.0 +1.4
BJI SS SS 01 52 42.9 +3.2
BJI PP PP
comp=Z,196nm,6.8s
BJI LR LR
comp=N,82nm,38.3s
BJI LR LR
comp=E,194nm,36.4s
BJI LR LR
comp=Z,165nm,29.2s
LZH Lanzhou 165.49 32 *e*PKP PKPdf 01 27 53.1 +1.2
LZH PKP2 PKPab 01 28 52.8 +1.5
LZH PP PP 01 32 42.4 +4.2
LZH SKKS SKKSac 01 39 03.0 -2.0
LZH PP PP
comp=Z,1μm,6.4s
CHTO Chiang Mai 165.56 109 *e*PKPdf PKPdf 01 27 52.2 -0.2
CHTO Chiang Mai 165.56 109 PKPdf PKPdf 01 27 52.7 +0.3
SNR=8.7
CHTO Chiang Mai 165.56 109 P PKPdf 01 27 52.7 +0.3
SNR=8.7
CD2 Chengdu 169.09 49 *e*PKP PKPdf 01 27 54.3 -0.3
CD2 PKP2 PKPab 01 29 08.0 +0.5
CD2 PP PP 01 32 58.8 +1.5
CD2 SKS SKSdf 01 34 33.1 -4.7
CD2 PP PP
comp=Z,250nm,10.8s
CD2 LR LR
comp=N,320nm,26.4s
CD2 LR LR
comp=Z,250nm,24.2s
XAN Xi'an 169.35 21 PKP PKPdf 01 27 54.8 +0.1
SSE Sheshan 170.19 317 PKP PKPdf 01 27 52.8 -2.5
SSE PP PP 01 33 03.6 +1.1
SSE SS SS 01 53 41.3 -3.0
SSE LR LR
comp=N,154nm,21.4s
SSE LR LR
comp=E,198nm,21.5s
SSE LR LR
comp=Z,164nm,16.7s
KMI Kunming 170.25 82 PKP PKPdf 01 27 54.8 -0.7
KMI PKS 01 31 25.9
KMI PP PP 01 33 06.8 +2.8
KMI SKS SKSdf 01 34 34.9 -3.7
KMI PP PP
comp=Z,65nm,5.7s
KMI LR LR
comp=Z,117nm,32.0s
NJ2 Nanjing 170.73 330 *e*PKP PKPdf 01 27 54.5 -1.0
NJ2 PKP2 PKPab 01 29 15.6 +1.0
NJ2 PP PP 01 33 05.0 +0.3
NJ2 PP PP
comp=Z,530nm,12.8s
NJ2 LR LR
comp=N,6μm,20.5s
NJ2 LR LR
comp=E,3μm,19.5s
NJ2 LR LR
comp=Z,4μm,18.1s
GYA Guiyang 173.47 68 PKP PKPdf 01 27 55.3 -1.6
GYA PKP2 PKPab 01 29 27.9 +0.7
GYA PKS 01 31 27.3
GYA PP PP 01 33 20.6 +1.0
GYA SKS SKSdf 01 34 36.0 -3.7
GYA PP PP
comp=Z,160nm,7.9s
GYA LR LR
comp=N,590nm,23.9s
GYA LR LR
comp=E,430nm,23.1s
GYA LR LR
comp=Z,550nm,24.7s
WHN Wuhan 173.53 353 ⇓PKP PKPdf 01 27 56.8 0.0
QIZ Qiongzhong 173.97 146 PKP PKPdf 01 27 57.8 +0.5
QIZ PP PP 01 33 22.4 +1.7
QIZ SS SS 01 54 27.3 +7.0
QIZ PP PP
comp=Z,62nm,22.4s

*ISCJB **18** 01:13:16.3±1.7,2424S∧009×1800E±0.1,h508km±23km, mb4.4/14, Error ellipse: s-maj=16.4km s-min=11.6km az=36.4*
*NEIC **18** 01:13:16.6±1.2,2434S×17989W,h506km±13km,mb4.6/11, Error ellipse: s-maj=17.0km s-min=9.8km az=152.0*
*IDC **18** 01:13:16.2±1.9,2433S×17986W,h498km±17km,mb3.9/6, mb1 4.1/7,mb1mx3.7/14,mbtmp3.9/7, Error ellipse: s-maj=28.7km s-min=16.6km az=160.0*

ISC 18 01:13:16.3±1.4,2433S∧009×1800W∧01,h496km±20km, n41,σ0°84/25,mb4.4/14,2C-1D,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**12.93**	**38**	*e*P	**P**	**01 16 04.3**	**-0.5**
URZ	**Urewera**	**14.11**	**190**	P	**P**	**01 16 16.5**	**-0.5**
	0.4nm,0.3s,baz=347,slow=4.8,SNR=3.5						
URZ				S	**S**	**01 18 45.9**	**-0.1**
	1.8nm,0.3s,baz=66,slow=23,SNR=11						
ARMA	**Armidale**	**25.91**	**250**	*e*P	**P**	**01 18 10.1**	**+2.1**
CTA	**Charters Tower**	**31.52**	**271**	*e*P	**P**	**01 18 58.2**	**+1.1**
	16nm,0.3s,mb4.9						
CTA	**Charters Tower**	**31.52**	**271**	P	**P**	**01 18 58.5**	**+1.4**
	26nm,0.5s,mb5.0,baz=95,slow=11,SNR=27						
CTAO	**Charters Tower**	**31.52**	**271**	*e*P	**P**	**01 18 58.0**	**+1.0**
	12nm,0.4s,mb4.7						
STKA	**Stephens Creek**	**34.60**	**249**	*e*P	**P**	**01 19 24.1**	**+1.0**
	4.0nm,0.4s,mb4.2						
STKA	**Stephens Creek**	**34.60**	**249**	P	**P**	**01 19 24.1**	**+1.0**
	5.6nm,0.6s,mb4.2,baz=92,slow=8.6,SNR=24						
ASAR	**Alice Springs**	**42.00**	**261**	P	**P**	**01 20 23.9**	**+0.3**
	3.9nm,0.5s,mb4.1,baz=96,slow=7.3,SNR=67						
ASAR				ScP	ScP	01 25 10.9	+0.6
	1.4nm,0.8s,baz=101,slow=4.4,SNR=8.3						
ASAR				S	**S**	**01 26 03.0**	**-3.1**
	0.4nm,0.7s,baz=96,slow=13,SNR=4.2						
WB2	**Warramunga Arr**	**42.41**	**267**	⇓*i*P	**P**	**01 20 26.3**	**-0.5**
WB2				*e*		01 25 12.8	
WRAB	**Tennant Creek**	**42.41**	**267**	*e*P	**P**	**01 20 26.2**	**-0.5**
	21nm,1.1s,mb4.5						
WRA	**Warramunga Arr**	**42.42**	**267**	P	**P**	**01 20 26.6**	**-0.3**
	11nm,0.5s,mb4.6,baz=98,slow=8.3,SNR=212						
WRA				ScP	ScP	01 25 12.9	+0.9
	3.8nm,0.9s,baz=101,slow=4.1,SNR=17						
WRA				S	**S**	**01 26 07.4**	**-4.8**
	1.8nm,1.1s,baz=98,slow=14,SNR=4.2						
FORT	**Forrest**	**46.20**	**250**	*e*P	**P**	**01 20 55.4**	**-0.6**
	18nm,0.6s,mb4.7						
KAKA	**Kakadu**	**46.39**	**276**	*e*P	**P**	**01 20 56.9**	**-0.7**
	10nm,0.8s,mb4.3						
FITZ	**Fitzroy Crossi**	**50.83**	**266**	*e*P	**P**	**01 21 31.1**	**+0.4**
	11nm,0.6s,mb4.4						
GUMO	**Guam**	**50.99**	**314**	*e*P	**P**	**01 21 32.0**	**+0.2**
	16nm,0.3s,mb4.8						
KLBR	**Kellerberrin**	**54.86**	**248**	*e*P	**P**	**01 21 58.8**	**-0.6**
	143nm,1.9s,mb5.0						
MBWA	**Marble Bar**	**55.34**	**260**	*e*P	**P**	**01 22 02.0**	**-0.8**
	3.4nm,0.4s,mb4.0						
CASY	**Casey**	**59.74**	**206**	P	**P**	**01 22 32.5**	**+0.3**
	6.8nm,0.8s,mb4.1						
HAWA	**Hanford**	**89.09**	**37**	P	**P**	**01 25 18.2**	**+0.3**
TXAR	**Lajitas Array**	**90.63**	**58**	P	**P**	**01 25 26.9**	**+1.4**
	2.6nm,0.7s,mb4.3,baz=212,slow=6.4,SNR=16						
PDAR	**Pinedale Array**	**92.97**	**44**	P	**P**	**01 25 34.9**	**-1.0**
	1.1nm,0.9s,mb3.9,baz=160,slow=2.9,SNR=4.4						
YKA	**Yellowknife Ar**	**100.74**	**25**	PKKPbc	PKKPbc	01 42 19.2	-4.5
	0.1nm,0.7s,baz=38,slow=2.4,SNR=4.1						
BVAR	**Borovoye Array**	**120.79**	**319**	PKP	PKPdf	01 31 10.5	-0.6
	0.9nm,0.3s,baz=130,slow=2.3,SNR=6.0						
ARCES	**ARCESS Array B**	**132.32**	**348**	PKP	PKPdf	01 31 31.4	-1.3
ARCES	**ARCESS Array B**	**132.32**	**348**	PKP	PKPdf	01 31 31.4	-1.3
	3.1nm,0.8s,baz=90,slow=2.5,SNR=9.4						
RCBR	**Riachuelo**	**133.90**	**126**	PKPdf	PKPdf	01 31 37.8	+0.4
FINES	**FINESS Array B**	**138.87**	**341**	PKhKP		01 31 34.1	
	0.9nm,0.6s,baz=31,slow=5.6,SNR=7.4						
FINES				SKP		01 34 31.6	
	1.4nm,0.5s,baz=47,slow=5.3,SNR=9.8						
NB2	**NORSAR Subarra**	**142.51**	**351**	PKP	PKPdf	01 31 47.9	-3.7
	comp=Z,0.6nm,0.5s,baz=12,slow=3.1						
NOA	**NORSAR Array B**	**142.51**	**351**	PKhKP		01 31 47.8	
	comp=Z,2.1nm,0.9s,baz=9.7,slow=2.4,SNR=4.1						
HFS	**Hagfors**	**142.98**	**349**	PKP	PKPdf	01 31 49.5	-3.0
	comp=Z,7.8nm,0.4s,baz=64,slow=3.4,SNR=84						
AKASG	**Malin Array Be**	**145.35**	**327**	PKPbc	PKPbc	01 31 56.9	-1.0
	comp=Z,2.7nm,0.5s,baz=45,slow=3.7,SNR=17						
AKASG				SKPbc	SKPbc	01 34 48.2	-1.2
	comp=Z,0.3nm,0.4s,baz=36,slow=2.5,SNR=3.5						
BSD	**Bornholm Skovb**	**147.34**	**344**	*i* P	PKPdf	01 31 58.1	-2.0
	comp=Z,22nm,0.9s						
EKA	**Eskdalemuir Ar**	**148.95**	**4**	PKPbc	PKPbc	01 32 06.7	-0.7
	comp=Z,1.7nm,0.4s,baz=344,slow=2.8,SNR=18						
MLR	**Muntele Rosu**	**150.28**	**322**	PKPbc	PKPbc	01 32 10.3	-0.5
	comp=Z,1.6nm,0.6s,baz=291,slow=8.6,SNR=3.9						
KSP	**Ksiaz**	**150.70**	**339**	*e*P	PKPbc	01 32 12.0	+0.4
CLL	**Collm**	**151.28**	**343**	*e*PKP	PKPdf	01 32 11.0	+4.6
CLL				⇑*i*PKP	PKPbc	01 32 12.8	-0.1
CLL	**Collm**	**151.28**	**343**	⇑*i*PKPbc	PKPbc	01 32 12.8	-0.1
	comp=Z,12nm,0.8s						
BRG	**Berggiesshubel**	**151.41**	**341**	*e*PKP	PKPbc	01 32 13.0	-0.2
	comp=Z,5.8nm,0.5s						
GERES	**GERESS Array B**	**153.28**	**340**	PKPbc	PKPbc	01 32 17.1	-0.3
	comp=Z,0.3nm,0.5s,baz=342,slow=2.5,SNR=3.7						
TORD	**Torodi Ar. Bea**	**168.76**	**188**	PKP	PKPdf	01 32 24.7	-1.9
	comp=Z,0.5nm,0.7s,baz=196,slow=0.3,SNR=4.0						
TORD				PKPab	PKPab	01 33 39.6	-0.6
	comp=Z,1.1nm,0.9s,baz=190,slow=3.8,SNR=8.3						

IDC 18 01:49:17.9±2.4,1782S×16793E,h0km,mb3.9/4, mb1 4.1/4,mb1mx3.9/14,mbtmp3.9/4,Error ellipse: s-maj=90.6km s-min=34.1km az=139.0,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**27.60**	**235**	P	P	01 55 06.0	-1.0
	1.5nm,0.6s,baz=55,slow=12,SNR=3.5						
WRA	**Warramunga Arr**	**31.82**	**261**	P	P	01 55 44.7	+0.1
	0.5nm,0.5s,baz=84,slow=8.2,SNR=6.4						
ASAR	**Alice Springs**	**32.30**	**254**	P	P	01 55 49.0	+0.3
	2.4nm,0.6s,baz=82,slow=8.6,SNR=37						
SONM	**Songino Array**	**85.34**	**324**	P	P	02 01 58.4	+1.5
	0.3nm,0.5s,baz=132,slow=4.1,SNR=2.5						
ARCES	**ARCESS Array B**	**123.38**	**345**	PKP	PKPdf	02 08 15.5	-0.9
	5.0nm,1.0s,baz=61,slow=2.6,SNR=8.4						
HFS	**Hagfors**	**133.84**	**342**	PKP	PKPdf	02 08 35.8	-0.8
	3.3nm,0.9s,baz=48,slow=2.1,SNR=5.4						

*TIR **18** 02:16:50.4±1.9,4242N×1975E,h6km±56km,ML2.5*
*BEO **18** 02:16:50.5±1.1,4222N×1972E,h7km±5km,ML2.7/4*
*ISCJB **18** 02:16:51.7±0.3,4242N±002×1977E±003,h5km±4km, Error ellipse: s-maj=3.4km s-min=2.8km az=162.6*
*CSEM **18** 02:16:51.6±0.1,4240N×1980E,h8km,ML2.4/9, Error ellipse: s-maj=2.9km s-min=2.4km az=49.0*
*PDG **18** 02:16:52.1±0.2,4241N×1975E,h0km±11km,MD2.5/3, ML2.4/9, Error ellipse: s-maj=0.4km s-min=0.4km az=0.0*

ISC 18 02:16:52.5±0.3,4241N±002×1977E±003,h7km±4km,n39, σ0°92/76,8C-3D,Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PVY	**Plav**	**0.24**	**39**	⇑*i*Pg	**Pg**	**02 16 56.3**	**-1.0**
PVY				*e*Sg	**Sg**	**02 17 00.5**	**0.0**
PVY	**Plav**	**0.24**	**39**	*i* PG	**Pg**	**02 16 56.3**	**-1.0**
PVY				*i* SG	**Sg**	**02 17 00.4**	**-0.1**
PDG	**Podgorica**	**0.38**	**273**	*i* PG	**Pg**	**02 16 58.6**	**-1.2**
PDG				*i* SG	**Sg**	**02 17 04.6**	**-0.1**
PDG	**Podgorica**	**0.38**	**273**	*e*Pg	**Pg**	**02 16 58.6**	**-1.2**
PDG				*e*Sg	**Sg**	**02 17 04.6**	**-0.1**
TTG	**Podgorica**	**0.38**	**273**	*e*Pg	**Pg**	**02 16 58.6**	**-1.2**
TTG				*e*Sg	**Sg**	**02 17 04.6**	**-0.1**
BEY	**Berane**	**0.47**	**12**	*i* PG	**Pg**	**02 17 00.9**	**-0.7**
BEY				*i* SG	**Sg**	**02 17 08.3**	**+0.5**
BEY	**Berane**	**0.47**	**12**	⇑*i*Pg	**Pg**	**02 17 00.9**	**-0.7**
BEY				*e*Sg	**Sg**	**02 17 08.3**	**+0.5**
IVA	**Berane**	**0.47**	**12**	⇑*i*Pg	**Pg**	**02 17 00.9**	**-0.7**
IVA				*e*Sg	**Sg**	**02 17 08.3**	**+0.5**
ULC	**Ulcinj**	**0.59**	**221**	⇑*i*Pg	**Pg**	**02 17 03.1**	**-0.7**
ULC				*e*Sg	**Sg**	**02 17 12.2**	**+0.7**
ULC	**Ulcinj**	**0.59**	**221**	*i* PG	**Pg**	**02 17 03.1**	**-0.7**
ULC				*i* SG	**Sg**	**02 17 12.2**	**+0.7**
BUM	**Brajici-Budva**	**0.65**	**261**	⇑*i*Pg	**Pg**	**02 17 03.8**	**-1.3**
BUM				*e*Sg	**Sg**	**02 17 14.0**	**+0.4**
BUM	**Brajici-Budva**	**0.65**	**261**	*i* PG	**Pg**	**02 17 03.7**	**-1.4**
BUM				*i* SG	**Sg**	**02 17 14.0**	**+0.4**
NKY	**Niksic**	**0.70**	**306**	⇓*i*Pg	**Pg**	**02 17 04.6**	**-1.3**
NKY				*e*Sg	**Sg**	**02 17 15.4**	**+0.4**
NKY	**Niksic**	**0.70**	**306**	*i* PG	**Pg**	**02 17 04.6**	**-1.3**
NKY				*i* SG	**Sg**	**02 17 15.4**	**+0.4**
SJES	**Sjenica**	**0.87**	**8**	⇑*i*Pg	**Pg**	**02 17 09.3**	**+0.1**
SJES				*e*Sg	**Sg**	**02 17 24.2**	**+3.7**
PHP	**Peshkopia**	**0.88**	**145**	*i* PG	**Pg**	**02 17 08.4**	**-1.0**
PHP				*i* SG	**Sg**	**02 17 21.3**	**+0.5**
QSH	**Qafa e Shtames**	**0.89**	**173**	*i* PG	**Pg**	**02 17 09.0**	**-0.6**
QSH				*i* SG	**Sg**	**02 17 25.0**	**+3.8**
HCY	**Herceg Novi**	**0.94**	**273**	⇑*i*Pg	**Pg**	**02 17 09.4**	**-1.1**
HCY				*i* Sg	**Sg**	**02 17 23.7**	**+0.9**
PLE	**Pljevlja**	**0.96**	**343**	⇓*i*Pg	**Pg**	**02 17 09.6**	**-1.3**
PLE				*e*Sg	**Sg**	**02 17 24.6**	**+1.2**
UPM	**Unac-Piva**	**1.01**	**322**	*e*Pg	**Pg**	**02 17 10.9**	**-1.1**
UPM				*e*Sg	**Sg**	**02 17 26.2**	**+1.1**
BRY	**Bratogost**	**1.03**	**299**	⇑*i*Pg	**Pg**	**02 17 10.6**	**-1.6**
BRY				*e*Sg	**Sg**	**02 17 26.6**	**+1.0**
BRY	**Bratogost**	**1.03**	**299**	*i* PG	**Pg**	**02 17 10.6**	**-1.6**
BRY				*i* SG	**Sg**	**02 17 26.6**	**+1.0**
TIR	**Tirane**	**1.06**	**176**	*i* PG	**Pg**	**02 17 12.4**	**-0.4**
TIR				*i* SG	**Sg**	**02 17 29.7**	**+3.1**
SKO	**Skopje**	**1.32**	**109**	*e*Pn	**Pn**	**02 17 16.8**	**-0.4**
SKO				*e*Sn	**Sn**	**02 17 35.4**	**+0.4**
SKO	**Skopje**	**1.32**	**109**	*e*Pn	**Pn**	**02 17 16.8**	**-0.4**
SKO				*e*Sn	**Sn**	**02 17 35.3**	**+0.3**
OHR	**Ohrid**	**1.51**	**149**	*e*Pn	**Pg**	**02 17 22.9**	**+1.5**
OHR				*e*Sn	**Sg**	**02 17 41.8**	**+0.9**
OHR	**Ohrid**	**1.51**	**149**	*e*Pn	**Pg**	**02 17 22.8**	**+1.4**
OHR				*e*Sn	**Sg**	**02 17 41.8**	**+0.9**
KRUS	**Krusevo**	**1.52**	**133**	*e*Pn	**Pb**	**02 17 21.2**	**+0.4**
KRUS				*e*Sn	**Sn**	**02 17 40.1**	**+0.2**
KRUS	**Krusevo**	**1.52**	**133**	*e*Pn	**Pb**	**02 17 21.2**	**+0.3**
KRUS				*e*Sn	**Sn**	**02 17 40.0**	**+0.1**
BARS	**Barje**	**1.57**	**74**	⇓*i*Pn	**Pn**	**02 17 20.6**	**-0.2**
BARS				*e*Sn	**Sn**	**02 17 41.4**	**+0.1**
STON	**Ston**	**1.59**	**288**	*e*Pn	**Pn**	**02 17 21.0**	**0.0**
STON				Sn	**Sg**	**02 17 45.0**	**+1.3**
STON	**Ston**	**1.59**	**288**	*e*Pn	**Pn**	**02 17 21.0**	**-0.1**
STON				Sn	**Sg**	**02 17 45.0**	**+1.3**
GRUS	**Gruza**	**1.63**	**25**	*e*Pn	**Pn**	**02 17 21.7**	**+0.1**
GRUS				*e*Sn	**Sg**	**02 17 45.6**	**+0.6**
DIVS	**Divibare**	**1.70**	**5**	*e*Pn	**Pn**	**02 17 23.8**	**+1.3**
DIVS				*e*Sn	**Sg**	**02 17 47.1**	**+0.1**
BIA	**Bitola**	**1.81**	**139**	*e*Pn	**Pn**	**02 17 24.1**	**+0.1**
BIA				*e*Sn	**Sn**	**02 17 43.9**	**-3.3**
STIP	**Stip**	**1.94**	**111**	*e*Pn	**Pn**	**02 17 25.7**	**-0.1**
STIP				*e*Sn	**Sn**	**02 17 46.3**	**-4.0**
STIP	**Stip**	**1.94**	**111**	*e*Pn	**Pn**	**02 17 25.7**	**-0.1**
STIP				*e*Sn	**Sn**	**02 17 46.2**	**-4.1**
BZS	**Buzias**	**3.47**	**22**	*e*Pn	**Pn**	**02 17 47.0**	**+0.1**
PKSM	**Moragy**	**3.89**	**348**	*e*Pn	**Pn**	**02 17 52.2**	**-0.4**

*IDC **18** 02:17:06.4±1.0,1949N×66.15W,h0km,mb3.7/4,mb1 3.9/4, mb1mx3.6/20,mbtmp3.7/4, Error ellipse: s-maj=25.1km s-min=15.6km az=49.0*
*ISCJB **18** 02:17:08.9±1.7,1955N±004×66.12W±004,h31km±15km, mb3.6/3, Error ellipse: s-maj=7.0km s-min=6.2km az=42.2*
*RSPR **18** 02:17:09.9,1954N×66.12W,h6km±2km,MD4.0/16, MD4.0/16*
*NEIC **18** 02:17:09.9,1954N×66.12W,h6km,MD4.0(RSPR),After RSPR.*

ISC 18 02:17:08.5±1.8, 1949N±005×6613W±004, h15km±13km, n30, σ0°87/42, mb3.6/3, 9C-6D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJG	**San Juan**	**1.37**	**181**	*e*S	**Sn**	**02 17 51.0**	**0.0**
SJG	**San Juan**	**1.37**	**181**	⇑*i*P	**Pn**	**02 17 32.9**	**-0.2**
SJG				*e*S	**Sn**	**02 17 51.0**	**0.0**
SJG	**San Juan**	**1.37**	**181**	⇑*e*P	**Pn**	**02 17 32.9**	**-0.2**
SJG				*e*S	**Sn**	**02 17 51.0**	**0.0**
SJG	**San Juan**	**1.37**	**181**	Pn	**Pn**	**02 17 33.0**	**-0.1**
	74nm,0.3s,baz=22,slow=7.0,SNR=102						
SJG				Sn	**Sn**	**02 17 51.3**	**+0.3**
	205nm,0.3s,baz=281,slow=14,SNR=23						
LRS	**Lares**	**1.37**	**210**	⇓*e*P	**Pn**	**02 17 32.9**	**-0.3**
LRS				*e*S	**Sn**	**02 17 51.2**	**+0.2**
AGPR	**Aguadilla, PR**	**1.38**	**223**	⇑*e*Pn	**Pn**	**02 17 32.5**	**-0.8**
AGPR				*e*S	**Sn**	**02 17 51.8**	**+0.6**
CPD	**Cerro la Pandu**	**1.46**	**172**	*e*Pn	**Pn**	**02 17 32.3**	**-2.0**
CPD				*e*Sn	**Sn**	**02 17 51.2**	**-2.0**
CELP	**Cerrillos**	**1.47**	**197**	⇑*i*P	**Pn**	**02 17 34.4**	**-0.1**
CELP				*e*S	**Sn**	**02 17 53.1**	**-0.4**
OBIP	**Obispado Ponce**	**1.51**	**198**	⇑*i*P	**Pn**	**02 17 34.9**	**-0.1**
OBIP				*e*S	**Sn**	**02 17 54.6**	**+0.1**
STVI	**Saint Thomas**	**1.58**	**135**	⇑*e*P	**Pn**	**02 17 36.5**	**+0.4**
STVI				*e*S	**Sn**	**02 17 56.3**	**0.0**
LSP	**Las Mesas**	**1.59**	**215**	⇓*e*P	**Pn**	**02 17 36.0**	**-0.2**
LSP				*e*S	**Sn**	**02 17 57.0**	**+0.5**
ICM	**Isla Caja Muer**	**1.63**	**193**	⇑*i*P	**Pn**	**02 17 37.2**	**+0.5**
ICM				*e*S	**Sn**	**02 17 57.6**	**+0.2**
GBPR	**Guanica, Bosqu**	**1.67**	**205**	⇑*e*P	**Pn**	**02 17 37.9**	**+0.7**
CRPR	**Cabo Rojo, PR**	**1.74**	**212**	⇑*e*P	**Pn**	**02 17 37.8**	**-0.4**
CRPR				*e*S	**Sn**	**02 18 00.8**	**+0.6**
TBVI	**Tortola**	**1.78**	**126**	⇑*e*P	**Pn**	**02 17 38.3**	**-0.5**
CDVI	**St. Croix**	**2.16**	**143**	⇓*e*P	**Pn**	**02 17 45.7**	**+1.7**
IMO	**Isla Mona**	**2.17**	**231**	⇓*e*P	**Pn**	**02 17 45.9**	**+1.7**
SMN1	**Samana, DR**	**2.99**	**265**	⇓*e*P	**Pn**	**02 17 54.4**	**-1.0**
SMN1	**Samana, DR**	**2.99**	**265**	*e*S	**Sn**	**02 18 30.3**	**-0.7**
DR12	**Loma Pena Alta**	**3.15**	**258**	⇑*e*P	**Pn**	**02 17 57.9**	**+0.2**
SDDR	**Presa de Saban**	**4.90**	**265**	⇓*e*P	**Pn**	**02 18 23.0**	**+1.2**
MASC	**Masc**	**7.66**	**276**	*e*PG	**Pn**	**02 18 57.8**	**-1.8**
	baz=68						
MASC				*e*SG	**Sn**	**02 20 19.2**	**-7.0**
	comp=N,0.2nm,0.2s						
MASC				*e*			
	comp=E,0.5nm,0.2s						
SDV	**Santo Domingo**	**11.41**	**203**	Pn	**Pn**	**02 19 55.9**	**+4.9**
	comp=E,0.6nm,0.3s,baz=37,slow=8.7,SNR=6.9						
TEIG	**Tepich**	**20.85**	**276**	P	**P**	**02 21 50.7**	**+0.8**
	comp=E,4.3nm,0.6s,baz=95,slow=11,SNR=4.8						
TXAR	**Lajitas Array**	**35.43**	**293**	P	**P**	**02 24 04.6**	**+0.3**
	comp=E,0.9nm,0.6s,mb3.9,baz=112,slow=9.9,SNR=13						
YKA	**Yellowknife Ar**	**54.26**	**335**	P	**P**	**02 26 32.7**	**-1.0**
YKA	**Yellowknife Ar**	**54.26**	**335**	P	**P**	**02 26 32.7**	**-1.0**
	comp=E,0.3nm,0.7s,mb3.3,baz=111,slow=7.7,SNR=5.6						
TORD	**Torodi Ar. Bea**	**65.05**	**84**	P	**P**	**02 27 50.0**	**+1.1**
TORD	**Torodi Ar. Bea**	**65.05**	**84**	P	**P**	**02 27 50.0**	**+1.1**
	comp=E,0.9nm,1.0s,mb3.8,baz=305,slow=5.5,SNR=5.1						
ASAR	**Alice Springs**	**160.92**	**254**	PKPab	PKPab	02 37 51.2	-0.3
	comp=E,0.4nm,0.6s,baz=104,slow=4.7,SNR=7.5						

IDC 18 02:23:19.0±2.3, 1643S×17768W, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.8/15, mbtmp4.0/3, Error ellipse: s-maj=109.1km s-min=45.1km az=149.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**39.96**	**240**	P	P	02 30 55.9	+0.5
	1.2nm,0.4s,baz=90,slow=14,SNR=4.5						
WRA	**Warramunga Arr**	**45.60**	**258**	P	P	02 31 40.9	-0.4
	0.4nm,0.5s,baz=95,slow=6.9,SNR=15						
ASAR	**Alice Springs**	**45.88**	**253**	P	P	02 31 43.3	-0.2
	3.9nm,0.6s,baz=89,slow=8.1,SNR=70						
BOSA	**Boshof**	**130.02**	**207**	PKP	PKPdf	02 42 31.7	+0.2
	2.3nm,0.9s,baz=143,slow=5.1,SNR=3.5						
GERES	**GERESS Array B**	**146.36**	**346**	PKPbc	PKPbc	02 43 01.1	-0.7
	0.1nm,0.3s,baz=34,slow=3.4,SNR=3.5						

*CSEM **18** 02:24:18.3±0.1, 4310N×1342E, h25km, MD2.6/23, Error ellipse: s-maj=1.9km s-min=1.1km az=61.0*

ROM 18 02:24:19.2±0.2, 4309N×1340E, h5km±2km, Md2.6/23, Ml2.1/16, 5C-1D, Error ellipse: s-maj=2.3km s-min=2.1km az=108.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFFI	**Offida**	**0.26**	**127**	Pg	Pg	02 24 26.7	+2.4
	288nm,0.6s						
CING	**Cingoli**	**0.32**	**332**	⇓*i*Pg	Pg	02 24 26.3	+0.9
CING				Sg	Sg	02 24 31.7	+2.1
	736nm,0.1s						
NRCA	**Norcia**	**0.33**	**219**	⇑*i*Pg	Pg	02 24 26.8	+1.2
NRCA				Sg	Sg	02 24 32.4	+2.5
CESI	**CESI - Serrava**	**0.37**	**256**	⇑*i*Pg	Pg	02 24 27.4	+1.0
CESI				Sg	Sg	02 24 33.8	+2.6
	312nm,0.2s						
SNTG	**Esanatoglia**	**0.37**	**296**	⇑*i*Pg	Pg	02 24 27.2	+0.8
SNTG				Sg	Sg	02 24 33.5	+2.3
	128nm,0.2s						
TERO	**Teramo**	**0.49**	**162**	Pg	Pg	02 24 29.5	+0.8
	76nm,0.3s						
ARVD	**Arcevia**	**0.52**	**321**	Pg	Pg	02 24 29.7	+0.4
ARVD				Sg	Sg	02 24 38.1	+2.0
	43nm,0.1s						
ASS	**Assisi**	**0.55**	**267**	⇑*i*Pg	Pg	02 24 30.1	+0.4
ASS				Sg	Sg	02 24 38.6	+1.8
	5.0nm,0.3s						
CAMP	**Campotosto**	**0.56**	**179**	Pg	Pg	02 24 30.5	+0.6
CAMP				Sg	Sg	02 24 40.0	+2.9
	14nm,0.5s						
MURB	**Monte Urbino**	**0.66**	**285**	⇑*i*Pg	Pg	02 24 32.2	+0.3
MURB				Sg	Sg	02 24 43.1	+2.6
	380nm,0.3s						
FSSB	**Fossombrone**	**0.75**	**323**	Pg	Pg	02 24 34.3	+0.7
FSSB				Sg	Sg	02 24 46.6	+3.2
	33nm,0.2s						
PIEI	**Pieia**	**0.77**	**305**	Pg	Pg	02 24 33.6	-0.4
PIEI				Sg	Sg	02 24 46.2	+2.2
	71nm,0.2s						
VCEL	**Villa Celiera**	**0.77**	**155**	Pg	Pg	02 24 35.0	+1.0
	114nm,0.6s						
FAGN	**Fagnano**	**0.84**	**171**	Pg	Pg	02 24 35.5	+0.2
	89nm,0.5s						
FIAM	**Fiamignano**	**0.85**	**194**	Pg	Pg	02 24 35.7	+0.2
	34nm,0.5s						
MNS	**Montasola**	**0.88**	**217**	Pg	Pg	02 24 36.1	0.0
	56nm,0.4s						
BADI	**Badiali**	**0.94**	**297**	Pg	Pg	02 24 37.1	-0.1
BADI				Sg	Sg	02 24 51.7	+2.3
	22µm,16.0s						
PESA	**Pesaro**	**0.94**	**335**	Pg	Pg	02 24 38.0	+0.8
RSM	**Repubblica di**	**1.08**	**321**	Pg	Pg	02 24 41.6	+1.6
	5.0nm,0.3s						
SACS	**San Casciano d**	**1.12**	**258**	Pg	Pg	02 24 41.5	+0.9
INTR	**Introdacqua**	**1.14**	**161**	Pg	Pg	02 24 40.6	-0.5
	47nm,0.8s						
CRE	**Caprese Michel**	**1.18**	**297**	Pg	Pg	02 24 43.2	+1.4
	3.0nm,0.3s						
CERT	**Cerreto**	**1.18**	**195**	Pg	Pg	02 24 43.1	+1.2
	19nm,0.4s						
LATE	**Laterza**	**1.27**	**248**	Pg	Pg	02 24 44.1	+0.6
	4.0nm,0.5s						
NVLJ	**Novalja**	**1.82**	**35**	*e*Pn	Pn	02 24 49.3	-1.8
NVLJ				Sn	Sn	02 25 11.3	-3.2
NVLJ	**Novalja**	**1.82**	**35**	*e*Pn	Pn	02 24 49.2	-1.9
NVLJ				Sn	Sn	02 25 11.3	-3.2

IDC 18 02:26:34.0±5.4, 620S×15609E, h0km, mb3.8/4, mb1 3.9/4, mb1mx3.7/13, mbtmp3.8/4, Error ellipse: s-maj=170.4km s-min=32.5km az=111.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**25.16**	**235**	P	P	02 31 59.6	-1.6
	0.2nm,0.3s,baz=63,slow=9.1,SNR=9.3						
ASAR	**Alice Springs**	**27.51**	**229**	P	P	02 32 24.4	+2.1
	0.3nm,0.3s,baz=58,slow=9.4,SNR=5.0						
MKAR	**Makanchi Array**	**83.53**	**318**	P	P	02 39 04.5	+0.5
	1.7nm,0.6s,baz=101,slow=6.3,SNR=12						
ZALV	**Zalesovo Beam**	**84.14**	**326**	P	P	02 39 06.4	-0.4
	0.5nm,0.3s,baz=98,slow=6.4,SNR=2.7						

*NEIC **18** 02:41:58.8±0.6, 4675N×15304E, h10km, mb4.3/5, Error ellipse: s-maj=14.7km s-min=10.0km az=172.0*
*BJI **18** 02:41:59.1, 4608N×15281E, h10km, mB4.5, mb4.2, Ms4.4, Msz4.1*
*ISCJB **18** 02:42:07.2±1.1, 4726N±008×153.1E±0.1, h72km±9km, mb4.1/21, Error ellipse: s-maj=16.1km s-min=7.4km az=140.2*
*MOS **18** 02:42:10.6±1.4, 4733N×15303E, h102km, mb4.1/5, Error ellipse: s-maj=15.7km s-min=8.7km az=88.6*
*IDC **18** 02:42:12.7±4.0, 4729N×15299E, h103km±35km, mb3.7/12, mb1 3.9/13, mb1mx3.7/22, mbtmp3.7/13, MS3.3/1, Ms1 3.3/1, ms1mx2.6/29, Error ellipse: s-maj=18.9km s-min=15.4km az=124.0*

ISC 18 02:42:09.6±1.0, 4730N±008×1530E±01, h76km±9km, n59, σ1°11/56, mb4.1/21, 2C-3D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.95**	**30**	*e*PN	**Pn**	**02 43 05.0**	**-2.7**
SKR				*e*S	**Sn**	**02 43 48.5**	**-4.3**
SKR				pmax	pmax		
	comp=Z,80nm,0.5s						
SKR				pmax	pmax		
	comp=N,50nm,0.3s						
SKR				pmax	pmax		
	comp=E,50nm,0.3s						
SKR				smax			
	comp=N,50nm,0.4s						
SKR				smax			
	comp=N,80nm,0.5s						
SKR				smax			
	comp=E,270nm,0.5s						
KUR	**Kuril'sk**	**4.13**	**242**	*e*PN	**Pn**	**02 43 08.0**	**-2.3**
KUR				*e*S	**Sn**	**02 43 58.0**	**+0.7**
KUR				pmax	pmax		
	comp=Z,280nm,0.9s						
KUR				smax			
	comp=N,170nm,0.5s						
KUR				smax			
	comp=E,110nm,0.5s						
PET	**Petropavlovsk**	**6.77**	**30**	*e*Pn	**Pn**	**02 43 45.8**	**-0.4**
PET	**Petropavlovsk**	**6.77**	**30**	*e*PN	**Pn**	**02 43 46.6**	**+0.4**
PET				pmax	pmax		
	comp=Z,24nm,0.6s						
PET				MLR	MLR		
	comp=Z,100nm,13.0s						
YSS	**Yuzh-Sakhalins**	**7.02**	**271**	⇓*e*PN	**Pn**	**02 43 54.6**	**+5.0**
ASAJ	**Asahikawa**	**7.96**	**250**	P	**Pn**	**02 44 04.8**	**+2.3**
	baz=103,slow=24,SNR=3.5						
ERM	**Erimo**	**8.79**	**237**	⇑*e*PN	**Pn**	**02 44 22.6**	**+8.7**
MA2	**Magadan**	**12.37**	**355**	*e*Pn	**Pn**	**02 45 02.8**	**+0.3**
MA2	**Magadan**	**12.37**	**355**	*d i*PN	**Pn**	**02 45 02.7**	**+0.3**
MA2				pmax	pmax		
	comp=Z,30nm,0.7s						
MA2				pmax	pmax		
	comp=N,20nm,0.6s						
MJAR	**Matsushiro Arr**	**15.37**	**231**	LR	LR	02 51 54.2	
	comp=N,123nm,19.5s,baz=65,slow=38						
SEY	**Seymchan**	**15.67**	**359**	P	**Pn**	**02 45 46.3**	**+0.7**
SEY	**Seymchan**	**15.67**	**359**	*e*P	**Pn**	**02 45 47.6**	**+2.0**
MDJ	**Mudanjiang**	**16.50**	**269**	P	**Pn**	**02 45 49.3**	**-6.8**
MDJ				AMB	AMB		
	comp=Z,4.0nm,0.5s						
MDJ				AMB	AMB		
	comp=Z,47nm,4.0s						
YAK	**Yakutsk**	**19.82**	**327**	*e*P	**Pn**	**02 46 35.8**	**-0.2**
YAK				pmax	pmax		
	comp=Z,16nm,0.5s						
KSRS	**Korea Array**	**20.91**	**251**	P	**P**	**02 46 50.2**	**+4.5**
	comp=Z,0.5nm,0.4s,baz=62,slow=13,SNR=3.8						
BILL	**Biiibino**	**21.87**	**13**	*e*P	**P**	**02 46 56.4**	**+0.7**
BILL				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb3.5						
TIXI	**Tiksi**	**26.92**	**343**	⇑*e*P	**P**	**02 47 41.2**	**-1.9**
TIXI				*i* *PP	pP	02 48 02.9	+2.1
TIXI				pmax	pmax		
	comp=Z,8.0nm,2.6s,mb3.8						
NJ2	**Nanjing**	**30.11**	**252**	*e*P	**P**	**02 48 07.6**	**-4.2**
NJ2				AMB	AMB		
	comp=Z,40nm,0.8s,mb5.1						
ULN	**Ulaanbaatar**	**30.66**	**288**	P	**P**	**02 48 14.9**	**-1.7**
IMA2	**Indian Mountai**	**33.40**	**36**	*e*P	**P**	**02 48 40.5**	**+0.2**
COLA	**College**	**35.74**	**39**	*e*P	**P**	**02 49 00.9**	**+0.3**
	comp=Z,7.5nm,0.7s,mb4.7						
COLA	**College**	**35.74**	**39**	*i* P	**P**	**02 49 01.0**	**+0.4**
EGAK	**Eagle**	**38.61**	**39**	*e*P	**P**	**02 49 24.6**	**-0.2**
	comp=Z,7.6nm,1.1s,mb4.4						
DAWY	**Dawson**	**39.45**	**40**	*e*P	**P**	**02 49 32.2**	**+0.4**
CD2	**Chengdu**	**40.87**	**264**	*e*P	**P**	**02 49 41.0**	**-3.0**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.8						
INK	**Inuvik**	**41.22**	**33**	*e*P	**P**	**02 49 47.2**	**+0.9**
	comp=Z,67nm,0.5s,mb5.7						
INK	**Inuvik**	**41.22**	**33**	P	**P**	**02 49 47.3**	**+1.0**
	comp=Z,3.7nm,0.5s,mb4.5,baz=292,slow=6.7,SNR=38						
ZALV	**Zalesovo Beam**	**42.24**	**305**	PcP	PcP	02 51 47.8	+0.4
	comp=Z,0.6nm,0.5s,baz=72,slow=4.8,SNR=3.9						
MKAR	**Makanchi Array**	**46.64**	**297**	P	**P**	**02 50 29.6**	**-0.4**
	comp=Z,0.3nm,0.2s,mb3.6,baz=48,slow=2.1,SNR=2.7						
MKAR				PcP	PcP	02 52 02.8	+0.1
	comp=Z,0.3nm,0.4s,baz=35,slow=4.4,SNR=3.7						
KURK	**Kurchatov**	**47.01**	**303**	P	**P**	**02 50 32.7**	**-0.1**
KURK	**Kurchatov**	**47.01**	**303**	⇓*e*P	**P**	**02 50 32.6**	**-0.2**
KURK				*i* *PP	pP	02 50 59.4	+7.7
BVAR	**Borovoye Array**	**50.46**	**309**	P	**P**	**02 51 00.8**	**+1.6**
	comp=Z,0.4nm,0.5s,mb3.6,baz=79,slow=7.5,SNR=2.7						
BVAR				PcP	PcP	02 52 16.0	-0.3
	comp=Z,0.8nm,0.7s,baz=57,slow=5.5,SNR=5.3						
YKA	**Yellowknife Ar**	**50.52**	**37**	P	**P**	**02 51 00.0**	**+0.5**
YKA	**Yellowknife Ar**	**50.52**	**37**	P	**P**	**02 51 00.1**	**+0.6**
YKA						02 52 16.0	
YKA				pmax	pmax		
	comp=Z,4.0nm,0.6s						
YKA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
YKA	**Yellowknife Ar**	**50.52**	**37**	P	**P**	**02 51 00.1**	**+0.6**
	comp=Z,3.5nm,0.6s,mb4.6,baz=296,slow=7.1,SNR=75						
YKA				PcP	PcP	02 52 16.0	-0.3
	comp=Z,0.5nm,0.7s,baz=303,slow=3.7,SNR=4.9						
EDM	**Edmonton**	**55.98**	**46**	*e*P	**P**	**02 51 39.3**	**-0.4**
BOZ	**Bozeman (W)**	**61.47**	**53**	*e*P	**P**	**02 52 18.6**	**+0.7**
	comp=Z,0.9nm,0.6s,mb4.0						
BOZ	**Bozeman (W)**	**61.47**	**53**	*e*P	**P**	**02 52 18.6**	**+0.7**
BOZ				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb4.0						
TPAW	**Teton Pass**	**63.23**	**54**	*e*P	**P**	**02 52 27.5**	**-2.2**
	comp=Z,1.0nm,0.7s,mb3.9						
FINES	**FINESS Array B**	**63.52**	**335**	*e*P	**P**	**02 52 31.3**	**0.0**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
FINES	**FINESS Array B**	**63.52**	**335**	P	**P**	**02 52 30.9**	**-0.4**
	comp=Z,0.9nm,0.4s,mb3.9,baz=28,slow=10.0,SNR=16						
PDAR	**Pinedale Array**	**64.47**	**54**	P	**P**	**02 52 38.3**	**+0.5**
	comp=Z,0.3nm,0.7s,mb3.2,baz=282,slow=2.7,SNR=4.7						
NB2	**NORSAR Subarra**	**67.69**	**341**	P	**P**	**02 52 58.3**	**+0.2**
	comp=Z,1.4nm,0.6s,mb4.0,baz=26,slow=6.5						
NOA	**NORSAR Array B**	**67.69**	**341**	P	**P**	**02 52 58.5**	**+0.4**
	comp=Z,1.8nm,0.7s,mb4.0,baz=27,slow=6.3,SNR=9.0						
WRA	**Warramunga Arr**	**69.02**	**199**	P	**P**	**02 53 06.3**	**-0.5**
	comp=Z,0.4nm,0.7s,mb3.4,baz=22,slow=6.9,SNR=4.7						
AKASG	**Malin Array Be**	**71.05**	**326**	P	**P**	**02 53 18.4**	**-0.7**
	comp=Z,1.0nm,0.5s,mb3.9,baz=34,slow=6.2,SNR=4.7						
ASAR	**Alice Springs**	**72.71**	**198**	P	**P**	**02 53 29.9**	**+0.7**
	comp=Z,1.1nm,0.7s,mb3.8,baz=12,slow=5.4,SNR=18						
LVV	**L'vov**	**73.69**	**328**	*e*P	**P**	**02 53 27.9**	**-6.9**
STHS	**Stebnicka Huta**	**75.01**	**330**	*e*P	**P**	**02 53 38.9**	**-3.5**
DPC	**Dobruska-Polom**	**75.80**	**333**	*e*P	**P**	**02 53 48.5**	**+1.5**
CLL	**Collm**	**75.94**	**335**	*i* P	**P**	**02 53 47.7**	**0.0**
CLL				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.2						
CLL	**Collm**	**75.94**	**335**	*i* P	**P**	**02 53 47.7**	**0.0**
	comp=Z,5.0nm,1.0s,mb4.2						
TXAR	**Lajitas Array**	**77.27**	**61**	*e*P	**P**	**02 53 55.7**	**+0.1**
TXAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
TXAR	**Lajitas Array**	**77.27**	**61**	P	**P**	**02 53 55.8**	**+0.1**
	comp=Z,1.9nm,0.6s,mb4.0,baz=301,slow=4.0,SNR=32						
KHC	**Kasperske Hory**	**77.72**	**334**	*e*P	**P**	**02 53 57.5**	**-0.2**
GERES	**GERESS Array B**	**77.93**	**334**	P	**P**	**02 53 59.4**	**+0.5**
	comp=Z,0.9nm,0.6s,mb3.7,baz=32,slow=5.2,SNR=8.7						
BDFB	**Brasília**	**143.93**	**36**	PKP	PKPdf	03 01 33.7	-2.5
	comp=Z,0.3nm,0.3s,baz=177,slow=26,SNR=3.0						
CFAA	**Coronel Fontan**	**144.95**	**78**	PKP	PKPdf	03 01 36.0	-1.7
	comp=Z,0.3nm,0.5s,baz=344,slow=4.8,SNR=6.2						
PLCA	**Paso Flores**	**148.31**	**94**	PKPbc	PKPbc	03 01 46.6	+0.1
	comp=Z,1.3nm,0.8s,baz=137,slow=9.7,SNR=3.1						

IDC 18 03:10:42.6±8.2, 1801S×17307W, h0km, mb4.1/4, mb1 4.2/4, mb1mx3.9/16, mbtmp4.1/4, Error ellipse: s-maj=242.5km s-min=60.6km az=124.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**43.06**	**242**	P	P	03 18 44.0	-0.4
	1.6nm,0.6s,baz=81,slow=11,SNR=4.2						
WRA	**Warramunga Arr**	**49.61**	**259**	P	P	03 19 36.4	+0.3
	1.1nm,0.3s,baz=96,slow=7.6,SNR=55						
ASAR	**Alice Springs**	**49.66**	**254**	P	P	03 19 36.3	-0.1
	1.7nm,0.5s,baz=90,slow=8.1,SNR=19						
SONM	**Songino Array**	**96.99**	**318**	P	P	03 24 16.0	-0.1
	0.3nm,0.8s,baz=128,slow=2.4,SNR=3.8						

*NEIC **18** 03:40:43.4, 3088S×7172W, h7km, ML2.8(GUC), After GUC.*

GUC 18 03:40:43.4±0.8, 3088S×7172W, h7km±3km, MD3.5, ML2.8, 5C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OVCH	**Ovalle**	**0.52**	**59**	*i* P	Pg	03 40 54.4	+0.9
OVCH				*i* S	Sg	03 41 02.1	+1.8
OVCH	**Ovalle**	**0.52**	**59**	*i* P	Pg	03 40 54.4	+0.9
OVCH				⇓*i*P		03 40 54.5	
OVCH				*i* S	Sg	03 41 02.1	+1.8
OVCH				*i* S	Sg	03 41 02.3	+2.0
OVCH				AML	AML	03 41 02.8	
	comp=N,759nm,0.3s						
CMCH	**Combarbala**	**0.69**	**116**	⇑*i*P	Pg	03 40 57.2	+0.6
CMCH				*i* S	Sg	03 41 07.4	+1.8
CMCH	**Combarbala**	**0.69**	**116**	⇑*i*P	Pg	03 40 57.2	+0.6
CMCH				*i* S	Sg	03 41 07.4	+1.8
CMCH				AML	AML	03 41 09.2	
	comp=E,723nm,0.5s						
CHNG	**Los Chungos**	**1.02**	**169**	*i* P	Pg	03 40 43.2	-20
CHNG				*i* S	Sg	03 40 57.8	-19
CHNG				AML	AML	03 41 02.0	
	comp=E,154nm,0.7s						
TLL	**Tololo Astrono**	**1.06**	**48**	⇑*i*P	Pg	03 41 03.2	-0.6
TLL				*i* S	Sg	03 41 18.9	+1.4
TLL	**Tololo Astrono**	**1.06**	**48**	⇑*i*P	Pg	03 41 03.2	-0.6
TLL				*i* S	Sg	03 41 18.9	+1.4
TLL				AML	AML	03 41 21.3	
	comp=N,215nm,0.7s						
LCO	**Las Campanas**	**2.06**	**26**	*e*Pn	Pn	03 41 17.2	-1.2
LCO				*e*Sn	Sn	03 41 43.3	-1.1
PEL	**Peldehue**	**2.43**	**159**	*i* P	Pn	03 41 24.4	+1.0
PEL				*i* S	Sn	03 41 56.0	+2.6
PEL				AML	AML	03 42 04.2	
	comp=E,129nm,0.4s						
CLCH	**Cerro Calan**	**2.71**	**159**	AML	AML	03 42 11.7	
	comp=E,84nm,0.4s						
FCH	**Farellones**	**2.73**	**154**	⇑*i*P	Pn	03 41 28.8	+1.1
FCH				*i* S	Sn	03 42 03.9	+3.0
FCH				AML	AML	03 42 17.1	
	comp=E,46nm,0.6s						
LMEL	**Las Melosas**	**3.23**	**157**	AML	AML	03 42 24.0	
	comp=N,38nm,0.2s						

*IDC **18** 03:44:15.8±7.1, 3606N×7091E, h74km±63km, mb3.3/8, mb1 3.5/11, mb1mx3.3/23, mbtmp3.4/11, ML3.6/3, Error ellipse: s-maj=38.9km s-min=22.0km az=28.0*
*ISCJB **18** 03:44:21.2±0.4, 3647N±003×71.11E±006, h122km±7km, mb3.5/7, Error ellipse: s-maj=7.7km s-min=4.5km az=179.7*
*NEIC **18** 03:44:21.5±0.9, 3635N×7108E, h119km±9km, mb3.6/1, Error ellipse: s-maj=16.7km s-min=9.5km az=121.0*
*NNC **18** 03:44:29.3±8.0, 3697N×7039E, h147km±88km, mb3.2, mpv4.7, Error ellipse: s-maj=83.7km s-min=59.0km az=57.0*

ISC 18 03:44:22.3±0.4, 3646N±003×7108E±006, h121km±6km, n44, σ1°15/55, mb3.5/7, 4C-3D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**2.53**	**222**	*e*Pn	**Pn**	**03 45 02.1**	**-0.5**
KBL				*e*Sn	**Sn**	**03 45 33.4**	**-0.1**
CHCP	**Chirah Chowk**	**3.31**	**147**	P	**Pn**	**03 45 13.7**	**+0.9**
THW	**Thamme Wali**	**3.69**	**171**	⇑P	**Pn**	**03 45 17.8**	**0.0**
THN	**Thein Dam**	**5.54**	**135**	*e*P	**Pn**	**03 45 42.7**	**+0.1**
THN				*e*S	**Sn**	**03 46 43.3**	**-1.9**
DLH	**Dalhousie**	**5.61**	**133**	*e*P	**Pn**	**03 45 45.0**	**+1.5**
DLH				*e*S	**Sn**	**03 46 47.0**	**+0.2**
AML	**Almayashu**	**6.02**	**19**	*e*Pn	**Pn**	**03 45 49.2**	**+0.3**
	100nm,0.4s						
AML				*e*Sn	**Sn**	**03 46 55.2**	**-1.3**
AML	**Almayashu**	**6.02**	**19**	P	**P

VOSK	**Vostochnaya**	**16.27**	**360**	⇑P		**Pn**	**03 48 02.6**	**-1.0**
	comp=N,1.2nm,0.7s							
ZRNK	**Zerenda**	**16.56**	**356**	⇓P		**Pn**	**03 48 05.0**	**-2.1**
	comp=N,1.1nm,0.7s							
BVAR	**Borovoye Array**	**16.57**	**359**	P		**Pn**	**03 48 08.0**	**+0.6**
	comp=N,0.3nm,0.3s,baz=161,slow=9.4,SNR=5.6							
AKTK	**Aktyubinsk**	**16.85**	**330**	P		**Pn**	**03 48 10.5**	**-0.3**
AKTO	**Aktyubinsk**	**16.85**	**330**	P		**Pn**	**03 48 10.5**	**-0.3**
	comp=N,0.2nm,0.3s,baz=159,slow=9.7,SNR=10							
ZAA0	**Zalesovo Array**	**19.93**	**24**	*e*P		**P**	**03 48 45.4**	**+1.0**
ZALV	**Zalesovo Beam**	**19.93**	**24**	P		**P**	**03 48 45.2**	**+0.9**
	comp=N,4.9nm,0.5s,baz=223,slow=11,SNR=22							
FINES	**FINESS Array B**	**37.56**	**326**	P		**P**	**03 51 25.6**	**+1.1**
	comp=N,0.6nm,0.7s,mb3.5,baz=128,slow=11,SNR=3.4							
ARCES	**ARCESS Array B**	**41.21**	**338**	P		**P**	**03 51 56.1**	**+1.4**
	comp=N,1.5nm,0.7s,mb3.9,baz=96,slow=7.8,SNR=6.6							
CLL	**Collm**	**43.27**	**309**	*e*P		**P**	**03 52 13.0**	**+1.4**
NOA	**NORSAR Array B**	**44.46**	**323**	P		**P**	**03 52 20.5**	**-0.4**
	comp=N,1.2nm,0.9s,mb3.6,baz=97,slow=7.8,SNR=2.9							
TORD	**Torodi Ar. Bea**	**65.78**	**269**	P		**P**	**03 54 52.0**	**-2.8**
	comp=N,0.8nm,1.2s,mb3.4,baz=53,slow=6.4,SNR=6.4							
YKA	**Yellowknife Ar**	**81.29**	**3**	P		**P**	**03 56 25.2**	**+0.5**
	comp=N,0.1nm,0.3s,mb3.1,baz=351,slow=5.5,SNR=5.8							
WRA	**Warramunga Arr**	**81.91**	**122**	P		**P**	**03 56 26.8**	**-1.8**
	comp=N,0.2nm,0.4s,mb3.3,baz=324,slow=4.4,SNR=4.2							
ASAR	**Alice Springs**	**84.17**	**125**	P		**P**	**03 56 39.3**	**-0.8**
	comp=N,0.3nm,0.7s,mb3.3,baz=319,slow=5.1,SNR=3.5							

*ISCJB **18** 03:53:09.0±0.8, 209S±02×178.1W±02, h500km, mb3.9/10, Error ellipse: s-maj=27.7km s-min=18.1km az=152.0*
*IDC **18** 03:53:08.8±6.1, 2104S×17808W, h491km±64km, mb3.3/7, mb1 3.7/7, mb1mx3.5/13, mbtmp3.3/7, Error ellipse: s-maj=32.7km s-min=23.1km az=145.0*
*NEIC **18** 03:53:11.1±6.5, 2091S×178.12W, h518km±70km, mb4.2/3, Error ellipse: s-maj=35.2km s-min=27.8km az=140.0*

ISC 18 03:53:10.1±0.8, 209S±02×1781W±02, h500km, n20, σ1°01/11, mb3.9/10, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**44.33**	**257**	P		**P**	**04 00 35.0**	**-0.2**
	1.7nm,0.5s,mb3.7,baz=94,slow=8.0,SNR=22						
ASAR				PcP	PcP	04 02 08.4	-0.3
	0.8nm,0.6s,baz=107,slow=3.5,SNR=8.2						
WRA	**Warramunga Arr**	**44.44**	**262**	P		**P**	**04 00 34.8**	**-1.4**
	0.5nm,0.3s,mb3.5,baz=96,slow=7.4,SNR=24						
QSPA	**South Pole Qui**	**69.15**	**180**	*e*P		**P**	**04 03 25.5**	**+0.3**
MJAR	**Matsushiro Arr**	**70.48**	**324**	P		**P**	**04 03 34.0**	**+0.2**
	1.5nm,0.5s,mb3.8,baz=160,slow=6.5,SNR=5.3						
KSRS	**Korea Array**	**77.13**	**319**	P		**P**	**04 04 13.0**	**+1.4**
	1.2nm,0.5s,mb3.7,baz=130,slow=5.9,SNR=4.4						
NVAR	**Mina Array Bea**	**81.39**	**43**	P		**P**	**04 04 34.3**	**+0.1**
	1.3nm,0.2s,mb4.1,baz=211,slow=6.5,SNR=4.1						
TXAR	**Lajitas Array**	**87.36**	**57**	P		**P**	**04 05 04.3**	**+0.5**
	1.1nm,0.7s,mb3.7,baz=219,slow=6.4,SNR=15						
MCK	**McKinley**	**87.40**	**13**	*e*P		**P**	**04 05 02.4**	**-0.6**
	1.6nm,0.6s,mb3.9						
COLA	**College**	**88.63**	**12**	*e*P		**P**	**04 05 05.9**	**-3.0**
	3.3nm,0.6s,mb4.3						
PDAR	**Pinedale Array**	**89.33**	**43**	P		**P**	**04 05 12.2**	**-0.4**
	1.6nm,0.7s,mb3.9,baz=201,slow=2.6,SNR=13						
CHTO	**Chiang Mai**	**90.29**	**290**	*e*P		**P**	**04 05 19.0**	**+1.5**
	2.3nm,0.6s,mb4.2						
ARCES	**ARCESS Array B**	**129.31**	**350**	PKP		PKPdf	04 11 19.6	-0.8
	4.0nm,0.9s,baz=58,slow=3.0,SNR=6.7						
FINES	**FINESS Array B**	**136.14**	**343**	PKP		PKPdf	04 11 34.4	+0.9
	0.8nm,0.9s,baz=39,slow=7.3,SNR=3.7						
AKASG	**Malin Array Be**	**143.33**	**331**	PKP		PKPdf	04 11 43.9	-3.0
	4.1nm,0.5s,baz=43,slow=4.0,SNR=25						
MMAI	**Mount Meron Ar**	**147.93**	**299**	PKPbc		PKPbc	04 11 59.5	+0.5
	2.7nm,0.5s,baz=69,slow=5.4,SNR=4.5						
CLL	**Collm**	**148.44**	**347**	*i* PKPbc		PKPbc	04 11 59.5	-0.2
	comp=Z,6.0nm,1.0s						
BRG	**Bergqiesshubel**	**148.64**	**345**	*e*P		PKPbc	04 12 00.1	-0.1
	comp=Z,3.7nm,0.7s						
GERES	**GERESS Array B**	**150.57**	**344**	PKPbc		PKPbc	04 12 04.5	-0.4
	comp=Z,0.9nm,0.6s,baz=22,slow=4.3,SNR=8.8						
TORD	**Torodi Ar. Bea**	**172.27**	**179**	PKP		PKPdf	04 12 20.3	-1.7
TORD				PKPab		PKPab	04 13 48.5	-0.7
TORD	**Torodi Ar. Bea**	**172.27**	**179**	PKP		PKPdf	04 12 20.3	-1.7
	comp=Z,0.7nm,0.9s,baz=197,slow=4.6,SNR=3.6							
TORD				PKPab		PKPab	04 13 48.5	-0.7
	comp=Z,0.7nm,0.9s,baz=169,slow=5.6,SNR=3.8							

*KRSC **18** 03:56:14.9±0.7, 5083N×15749E, h42km±42km, ML4.0*

MOS 18 03:56:14.9±1.6, 5083N×15749E, h42km, mb4.2/1, 1D, Error ellipse: s-maj=72.2km s-min=16.1km az=71.2, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**0.88**	**261**	⇓*i*PN		Pn	03 56 28.5	-2.3
SKR				*e*S		Sn	03 56 39.6	-2.9
SKR				pmax		pmax		
	comp=Z,330nm,0.4s							
SKR				pmax		pmax		
	comp=N,120nm,0.2s							
SKR				pmax		pmax		
	comp=E,260nm,0.2s							
SKR				smax				
	comp=N,2μm,0.5s							
SKR				smax				
	comp=E,270nm,0.5s							
ALID	**Alaid**	**1.23**	**273**	P		Pn	03 56 34.4	-1.2
ALID				*i* S		Sn	03 56 48.2	-2.8
MIPR	**Malaya Ipel'ka**	**1.52**	**343**	*e*P		Pn	03 56 41.1	+1.6
MIPR				*i* S		Sn	03 57 00.6	+2.5
RUS	**Russkaya**	**1.73**	**21**	*e*P		Pn	03 56 43.5	+1.1
RUS				*i* S		Sn	03 57 04.6	+1.4
GRL	**Gorelyy**	**1.76**	**12**	P		Pn	03 56 45.4	+2.5
GRL				*i* S		Sn	03 57 07.2	+3.1
PET	**Petropavlovsk**	**2.31**	**18**	*e*PN		Pn	03 56 53.0	+2.6
PET				*e*S		Sn	03 57 20.8	+3.2
PET				smax				
	comp=E,168nm,1.0s							
PET				smax				
	comp=N,278nm,0.5s							
PET	**Petropavlovsk**	**2.31**	**18**	P		Pn	03 56 52.4	+2.0
PET				*i* S		Sn	03 57 20.0	+2.4
AVH	**Avacha**	**2.56**	**17**	P		Pn	03 56 57.1	+3.3
AVH				*i* S		Sn	03 57 27.6	+4.0
NLC	**Nalytchevo**	**2.61**	**25**	P		Pn	03 56 55.5	+1.0
NLC				*i* S		Sn	03 57 25.1	+0.2
SPN	**Mys Shipunski**	**2.76**	**34**	*e*P		Pn	03 56 58.7	+2.2
SPN				*i* S		Sn	03 57 30.7	+2.1
GNL	**Ganaly**	**2.88**	**5**	*e*P		Pn	03 57 01.4	+3.2
GNL				*e*S		Sn	03 57 35.5	+3.9
MKZ	**Mys Kozlova**	**4.54**	**33**	P		Pn	03 57 22.3	+1.4
MKZ				*i* S		Sn	03 58 12.0	-0.3

*ISCJB **18** 04:27:30.2±0.4, 3825N±002×2164E±002, h6km±3km, Error ellipse: s-maj=3.3km s-min=3.2km az=173.1*
*NEIC **18** 04:27:30.5, 3824N×2163E, h23km, MD3.5(ATH), After ATH.*
*ATH **18** 04:27:30.5, 3824N×2163E, h23km±2km, MD3.5/8*
*CSEM **18** 04:27:31.4±0.1, 3826N×2163E, h12km, ML3.4, Error ellipse: s-maj=1.8km s-min=1.6km az=9.0*
*THE **18** 04:27:31.1, 3825N×2165E, h3km, ML3.4*

ISC 18 04:27:31.2±0.3, 3825N±002×2165E±003, h12km±3km, n32, σ1°28/53, 3C-3D, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SELA	**Sela**	**0.20**	**81**	*e*Pg		**Pg**	**04 27 35.9**	**+0.4**
SELA				*e*Sg		**Sg**	**04 27 38.5**	**+0.2**
RLS	**Riolos of Patr**	**0.24**	**217**	⇓*e*PB		**Pg**	**04 27 36.6**	**+0.5**
RLS				*e*SB		**Sg**	**04 27 41.4**	**+1.9**
EVR	**Evrytania**	**0.68**	**11**	⇑*i*PN		**Pn**	**04 27 43.8**	**-2.9**
EVR				*e*SN		**Sg**	**04 27 54.0**	**+0.6**
KFL	**Anninata**	**0.69**	**259**	*e*Pg		**Pg**	**04 27 43.8**	**-0.8**
KFL				*e*Sg		**Sg**	**04 27 55.2**	**+1.6**
KFL	**Anninata**	**0.69**	**259**	*e*Pg		**Pg**	**04 27 43.8**	**-0.8**
KFL				*e*Sg		**Sg**	**04 27 55.2**	**+1.6**
VLS	**Valsamata**	**0.84**	**266**	⇓*i*PB		**Pb**	**04 27 45.9**	**-1.7**
VLS				*e*SN		**Sn**	**04 27 58.8**	**-2.2**
LKD	**Levkas**	**0.91**	**301**	*e*Pg		**Pg**	**04 27 46.7**	**-2.0**
LKD				*e*Sg		**Sg**	**04 28 00.7**	**+0.1**
AGG	**Agios Georgios**	**0.94**	**34**	*e*Pg		**Pg**	**04 27 48.1**	**-1.2**
AGG				*e*Sg		**Sg**	**04 28 01.9**	**+0.3**
VLX	**Vlachokerasia**	**1.05**	**146**	*e*Pg		**Pg**	**04 27 50.2**	**-1.2**
VLX				*e*Sg		**Sg**	**04 28 06.6**	**+1.6**
LTK	**Loutraki**	**1.06**	**102**	*e*Pg		**Pg**	**04 27 51.6**	**-0.1**
LTK				*e*Sg		**Sg**	**04 28 06.1**	**+0.6**
ITM	**Ithomi**	**1.09**	**168**	*e*PN		**Pn**	**04 27 51.1**	**-1.1**
LKR	**Lokris**	**1.14**	**69**	⇑*i*PB		**Pb**	**04 27 51.1**	**-1.7**
LKR				*e*SN		**Sn**	**04 28 09.0**	**+0.6**
LKR	**Lokris**	**1.14**	**69**	*e*Pg		**Pg**	**04 27 51.6**	**-1.5**
LKR				*e*Sn		**Sn**	**04 28 09.0**	**+0.6**
THL	**Klokotos Trika**	**1.35**	**12**	*e*Pg		**Pg**	**04 27 56.9**	**-0.2**
THL				*e*Sg		**Sg**	**04 28 16.2**	**+1.6**
THL	**Klokotos Trika**	**1.35**	**12**	⇓*e*PN		**Pn**	**04 27 56.8**	**+1.0**
PYL	**PYLOS**	**1.35**	**177**	*e*Pg		**Pg**	**04 27 56.0**	**-1.1**
PYL				*e*Sg		**Sg**	**04 28 16.8**	**+2.1**
DID	**Didima**	**1.46**	**120**	*e*Pg		**Pg**	**04 27 57.2**	**-2.0**
DID				*e*Sg		**Sg**	**04 28 19.1**	**+0.9**
MEV	**Metsovon**	**1.57**	**348**	*e*Pg		**Pg**	**04 28 00.2**	**-1.2**
MEV				*e*Sg		**Sg**	**04 28 21.8**	**+0.1**
IGT	**Igoumenitsa**	**1.64**	**322**	*e*Pb		**Pb**	**04 28 01.4**	**0.0**
IGT				*e*Sb		**Sb**	**04 28 23.4**	**+1.2**
XOR	**Xorichti**	**1.65**	**47**	*e*Pb		**Pb**	**04 27 59.3**	**-2.1**
VLI	**Veliai**	**1.84**	**146**	⇑*i*PN		**Pn**	**04 28 03.3**	**+0.7**
LIT	**Litokhoron**	**1.96**	**19**	*e*Pb		**Pb**	**04 28 05.0**	**-1.9**
LIT				*e*Sb		**Sb**	**04 28 31.3**	**-0.1**
AOS	**Alonnisos**	**1.98**	**61**	*e*Pb		**Pb**	**04 28 05.6**	**-1.5**
KEK	**Kerkira**	**2.05**	**316**	*e*PN		**Pn**	**04 28 06.0**	**+0.5**
PAIG	**Paliouri**	**2.31**	**43**	*e*Pn		**Pn**	**04 28 08.9**	**-0.1**
PAIG				*e*Sn		**Sn**	**04 28 40.0**	**+2.6**
PAIG	**Paliouri**	**2.31**	**43**	*e*Pn		**Pn**	**04 28 08.9**	**-0.1**
FNA	**Florina**	**2.54**	**355**	*e*Pn		**Pn**	**04 28 13.5**	**+1.3**
HORT	**Hortiatis**	**2.60**	**25**	*e*Pn		**Pn**	**04 28 13.9**	**+0.8**
GRG	**Griva**	**2.77**	**12**	*e*Pn		**Pn**	**04 28 17.0**	**+1.6**
OHR	**Ohrid**	**2.94**	**347**	*e*Pn		**Pn**	**04 28 25.0**	**+7.3**
OHR				*e*Sn		**Sn**	**04 29 02.4**	**+10**
KNT	**Kendrikon**	**3.07**	**18**	*e*Pn		**Pn**	**04 28 19.8**	**+0.3**
KRUS	**Krusevo**	**3.13**	**355**	*e*Pn		**Pn**	**04 28 20.6**	**+0.2**
KRUS				*e*Sn		**Sn**	**04 29 00.4**	**+2.7**

*NEIC **18** 04:27:45.8, 1690N×10121W, h15km, MD3.7(MEX), After MEX.*

MEX 18 04:27:45.1±0.9, 1690N×10124W, h13km±23km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZIIG	**Zihuatanejo**	**0.74**	**343**	*i* P		Pg	04 27 57.0	-2.5
ZIIG				*i* S		Sg	04 28 07.1	-2.2
CAIG	**El Cayaco**	**0.94**	**81**	*i* P		Pb	04 27 59.7	-3.5
CAIG				*i* S		Sg	04 28 11.8	-3.8
ACX	**Acapulco**	**1.26**	**91**	*i* P		Pn	04 28 06.0	-2.4
ACX				*i* S		Sb	04 28 21.0	-3.9
MEIG	**Mezcala**	**1.85**	**56**	*i* P		Pn	04 28 14.2	-2.3
MEIG				*i* S		Sn	04 28 34.5	-5.3
PLIG	**Platanillo**	**2.22**	**48**	*i* P		Pn	04 28 19.2	-2.4
PLIG				*i* S		Sn	04 28 44.8	-4.3
PPM	**Popocatepetl**	**3.29**	**49**	*i* P		Pn	04 28 33.7	-2.6
PPM				*i* S		Sn	04 29 13.3	-2.1
VHO	**Vista Hermosa**	**4.31**	**87**	*i* P		Pn	04 28 46.5	-3.8
VHO				*i* S		Sn	04 29 39.3	-1.3

*NEIC **18** 04:29:59.2, 1923N×6610W, h77km, MD3.5(RSPR), After RSPR.*

RSPR 18 04:29:59.2, 1923N×6610W, h77km±26km, MD3.5/8, MD3.5/8, 7C-3D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SJG	**San Juan**	**1.12**	**183**	⇓*e*P		Pn	04 30 18.9	-0.7
SJG				*e*S		Sn	04 30 34.1	-0.6
SJG	**San Juan**	**1.12**	**183**	⇑*e*P		Pn	04 30 19.1	-0.5
SJG				*e*S		Sn	04 30 34.3	-0.4
LRS	**Lares**	**1.18**	**217**	⇑*e*P		Pn	04 30 20.0	-0.3
CPD	**Cerro la Pandu**	**1.20**	**172**	⇑*e*P		Pn	04 30 19.0	-1.7
CPD				*e*S		Sn	04 30 36.6	-0.1
CELP	**Cerrillos**	**1.24**	**202**	⇑*e*P		Pn	04 30 19.7	-1.5
MTP	**Monte Pirata**	**1.24**	**155**	⇓*e*P		Pn	04 30 15.6	-5.5
MTP	**Monte Pirata**	**1.24**	**155**	*e*S		Sn	04 30 35.6	-2.0
STVI	**Saint Thomas**	**1.39**	**129**	⇑*e*P		Pn	04 30 23.0	-0.1
STVI				*e*S		Sn	04 30 41.3	+0.3
ICM	**Isla Caja Muer**	**1.39**	**197**	⇓*e*P		Pn	04 30 23.1	0.0
ICM				*e*S		Sn	04 30 41.6	+0.6
LSP	**Las Mesas**	**1.41**	**222**	⇑*e*P		Pn	04 30 22.0	-1.3
CRPR	**Cabo Rojo, PR**	**1.55**	**218**	⇑*e*P		Pn	04 30 24.9	-0.2

JMA 18 04:35:42.3±0.7, 2686N×12582E, h170km, M3.8, Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JKE	**Kume jima 2**	**1.01**	**121**	P		Pn	04 36 09.4	+0.3
JKE				*e*S		Sn	04 36 29.9	+0.2
JAGN	**Aguni-jima**	**1.30**	**102**	P		Pn	04 36 11.8	+0.3
JJT2	**Tamagusuku 2**	**1.87**	**112**	P		Pn	04 36 18.0	+0.7
JIH	**Iheya**	**1.92**	**84**	P		Pn	04 36 17.8	0.0
JIH				S		Sn	04 36 43.4	-1.8
JOGS	**Gusukube**	**2.12**	**190**	*e*S		Sn	04 36 48.1	-1.2
JOW	**Kunigami**	**2.19**	**90**	P		Pn	04 36 20.6	-0.2
JOW				S		Sn	04 36 48.1	-2.5
JTJ	**Tarama**	**2.43**	**205**	P		Pn	04 36 23.6	0.0
JTJ				S		Sn	04 36 54.4	-1.2
JIJ	**Ishigaki jima**	**2.91**	**212**	P		Pn	04 36 28.5	-0.9
JIJ				S		Sn	04 37 02.6	-3.3
JTK	**Tokunoshima**	**2.93**	**71**	P		Pn	04 36 28.9	-0.7
JTK				*e*S		Sn	04 37 03.1	-3.3
IRIF	**Iriomote-Funau**	**3.14**	**217**	P		Pn	04 36 31.7	-0.6

*NEIC **18** 04:51:01.4, 3812N×2037E, h21km, MD3.5(ATH), After ATH.*
*ATH **18** 04:51:01.4, 3812N×2037E, h21km, MD3.5/5*
*ISCJB **18** 04:51:03.4±0.8, 3837N±003×2052E±007, h2km, Error ellipse: s-maj=8.6km s-min=3.8km az=168.0*
*CSEM **18** 04:51:03.8±0.3, 3834N×2051E, h2km, MD3.5, Error ellipse: s-maj=7.6km s-min=3.6km az=71.0*
*THE **18** 04:51:03.1, 3836N×2047E, h3km, ML3.0*

ISC 18 04:51:03.5±1.0, 3835N±003×2048E±008, h4km±11km, n11, σ0°86/19, 1C-2D, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VLS	**Valsamata**	**0.20**	**153**	*e*Pg		**Pg**	**04 51 06.7**	**-0.6**
VLS				*e*Sg		**Sg**	**04 51 10.5**	**+0.6**
VLS	**Valsamata**	**0.20**	**153**	⇑*i*PB		**Pg**	**04 51 06.7**	**-0.6**
VLS				*e*SB		**Sg**	**04 51 10.5**	**+0.6**
KFL	**Anninata**	**0.34**	**135**	*e*Pg		**Pg**	**04 51 09.5**	**-0.6**
KFL				*e*Sg		**Sg**	**04 51 15.7**	**+1.1**
LKD	**Levkas**	**0.38**	**21**	*e*Pg		**Pg**	**04 51 09.4**	**-1.4**
LKD				*e*Sg		**Sg**	**04 51 15.4**	**-0.3**
RLS	**Riolos of Patr**	**0.83**	**110**	⇓*i*PN		**Pg**	**04 51 18.2**	**-1.2**
EVR	**Evrytania**	**1.18**	**61**	⇓*i*PN		**Pg**	**04 51 27.8**	**+1.6**
EVR				*e*SN		**Sg**	**04 51 46.7**	**+5.1**
IGT	**Igoumenitsa**	**1.18**	**355**	*e*Pg		**Pg**	**04 51 25.9**	**-0.3**
IGT				*e*Sg		**Sg**	**04 51 42.9**	**+1.3**
KEK	**Kerkira**	**1.46**	**339**	*e*PN		**Pb**	**04 51 31.4**	**+0.2**
AGG	**Agios Georgios**	**1.60**	**65**	*e*Pg		**Pn**	**04 51 32.5**	**+0.1**
AGG				*e*Sg		**Sg**	**04 51 54.7**	**-0.1**
AGG	**Agios Georgios**	**1.60**	**65**	*e*Pg		**Pn**	**04 51 32.5**	**0.0**
AGG				*e*Sg		**Sg**	**04 51 54.7**	**-0.1**
THL	**Klokotos Trika**	**1.70**	**44**	*e*PN		**Pb**	**04 51 35.1**	**-0.2**

*NEIC **18** 05:31:45.7, 3037S×7203W, h22km, ML3.1(GUC), After GUC.*

GUC 18 05:31:45.7±0.6, 3037S×7203W, h22km±6km, MD3.9, ML3.1, 2D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OVCH	**Ovalle**	**0.76**	**109**	*i* P		Pb	05 31 59.3	-0.9
OVCH				*i* S		Sb	05 32 09.8	-0.2
OVCH	**Ovalle**	**0.76**	**109**	*i* P		Pb	05 31 59.3	-0.9
OVCH				*i* S		Sb	05 32 09.8	-0.2
OVCH				AML	AML	05 32 12.4	
	comp=N,646nm,0.3s						
TLL	**Tololo Astrono**	**1.08**	**80**	⇓*i*P		Pn	05 32 05.6	+0.1
TLL				*i* S		Sb	05 32 20.5	+1.2
TLL	**Tololo Astrono**	**1.08**	**80**	⇓*i*P		Pn	05 32 05.6	+0.1
TLL				*i* S		Sb	05 32 20.5	+1.2
TLL				AML	AML	05 32 24.5	
	comp=N,446nm,0.7s						
CMCH	**Combarbala**	**1.20**	**132**	*e*P		Pn	05 32 06.5	-0.7
CMCH				*i* S		Sb	05 32 22.8	+0.1
CMCH	**Combarbala**	**1.20**	**132**	*e*P		Pn	05 32 06.5	-0.7
CMCH				*i* S		Sb	05 32 22.8	+0.1
CMCH				AML	AML	05 32 31.1	
	comp=E,1μm,0.6s						
CHNG	**Los Chungos**	**1.58**	**163**	*i* P		Pn	05 31 54.0	-18
CHNG				*i* S		Sn	05 32 14.1	-18
LCO	**Las Campanas**	**1.78**	**41**	*e*Pn		Pn	05 32 15.8	+0.6
LCO				*e*Sn		Sn	05 32 37.6	+0.5
CLCH	**Cerro Calan**	**3.28**	**158**	AML		AML	05 33 31.4	
	comp=E,88nm,0.4s							
FCH	**Farellones**	**3.30**	**154**	*i* P		Pn	05 32 38.2	+2.1
FCH				*i* S		Sn	05 33 17.7	+3.0
FCH				AML	AML	05 33 35.4	
	comp=N,29nm,0.2s							

*IDC **18** 05:32:22.4±1.8, 1734S×17727W, h0km, mb4.3/4, mb1 4.6/4, mb1mx4.1/14, mbtmp4.3/4, Error ellipse: s-maj=158.3km s-min=30.5km az=156.0*
*ISCJB **18** 05:33:21.7±1.2, 178S±02×1779W±02, h629km±22km, mb4.1/8, Error ellipse: s-maj=38.8km s-min=17.8km az=152.5*
*NEIC **18** 05:33:22.4±1.1, 1788S×17788W, h616km±17km, mb4.1/8, Error ellipse: s-maj=32.0km s-min=13.6km az=154.0*

ISC 18 05:33:22.4±1.2, 179S±02×1779W±02, h616km±20km, n15, σ0°89/15, mb4.1/8, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**7.07**	**57**	*e*Pn		**P**	**05 35 13.7**	**-0.1**
	16nm,0.5s						
EIDS	**Eidsvold**	**29.74**	**250**	*e*P		**P**	**05 38 40.6**	**-0.6**
	2.7nm,0.8s,mb3.9						
ARMA	**Armidale**	**30.39**	**240**	*e*P		**P**	**05 38 47.5**	**+0.8**
CTA	**Charters Tower**	**33.94**	**260**	*e*P		**P**	**05 39 17.5**	**+0.8**
	4.5nm,0.7s,mb4.2						
CTAO	**Charters Tower**	**33.94**	**260**	*e*P		**P**	**05 39 17.2**	**+0.5**
	5.8nm,0.7s,mb4.3						
STKA	**Stephens Creek**	**39.09**	**241**	*e*P		**P**	**05 39 59.2**	**+0.6**
	4.5nm,1.0s,mb4.0						
STKA	**Stephens Creek**	**39.09**	**241**	P		**P**	**05 39 58.5**	**-0.1**
	3.9nm,0.8s,mb4.0,baz=84,slow=9.8,SNR=6.8						
WB2	**Warramunga Arr**	**45.11**	**259**	*e*P		**P**	**05 40 45.9**	**+0.1**
WRA	**Warramunga Arr**	**45.12**	**259**	P		**P**	**05 40 46.0**	**+0.1**
	2.7nm,0.3s,mb4.2,baz=96,slow=7.0,SNR=154						
ASAR	**Alice Springs**	**45.27**	**254**	P		**P**	**05 40 47.2**	**+0.2**
	8.6nm,0.7s,mb4.4,baz=92,slow=7.7,SNR=98						
KAKA	**Kakadu**	**48.07**	**269**	*e*P		**P**	**05 41 08.6**	**+0.5**
	4.0nm,0.3s,mb4.4						
FORT	**Forrest**	**50.47**	**245**	*e*P		**P**	**05 41 23.9**	**-1.6**
	2.9nm,0.9s,mb3.7						
QSPA	**South Pole Qui**	**72.21**	**180**	*e*P		**P**	**05 43 45.2**	**-0.6**
	2.3nm,0.6s,mb3.9						
FALS	**False Pass**	**73.46**	**9**	*e*P		**P**	**05 43 51.8**	**-1.4**
	2μm,0.9s						
TXAR	**Lajitas Array**	**85.55**	**57**	P		**P**	**05 44 59.1**	**+2.0**
	0.1nm,0.5s,baz=216,slow=6.2,SNR=5.1						

*ISCJB **18** 05:42:50.1±1.0, 2443S±003×695W±02, h70km±16km, mb3.5/2, Error ellipse: s-maj=25.1km s-min=5.3km az=4.1*
*GUC **18** 05:42:52.1±0.7, 2442S×6998W, h97km±14km, MD3.7, ML3.8*
*NEIC **18** 05:42:52.1, 2442S×6998W, h97km, MD3.7(GUC), After GUC.*
*IDC **18** 05:42:53.1±1.0, 2430S×6962W, h75km±6km, mb3.4/2, mb1 3.7/4, mb1mx3.4/17, mbtmp3.5/4, Error ellipse: s-maj=41.8km s-min=22.2km az=95.0*

ISC 18 05:42:52.0±0.8, 2441S±003×696W±02, h72km±14km, n17, σ0°88/22, mb3.5/2, 4C-2D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CPN1	**Cerro Paranal**	**0.73**	**253**	⇑*i*P		**Pn**	**05 43 08.5**	**+1.1**
CPN1				*i* S		**Sn**	**05 43 20.2**	**+1.5**
CPN1				AML	AML	05 43 22.3	
	comp=N,6μm,0.1s						
ANCH	**Antofagasta**	**1.01**	**316**	⇓*i*P		**Pn**	**05 43 10.9**	**+0.2**
ANCH				*i* S		**S

IDC 18 06:02:28.5±6.1, 747S×11961E, h280km±56km, mb3.1/2, mb1 3.4/4, mb1mx3.1/15, mbtmp3.2/4, Error ellipse: s-maj=180.5km s-min=21.3km az=57.0, Flores Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Kupang**	**4.84**	**124**	P	Pn	06 03 44.2	+0.8
	16nm,0.3s,baz=289,slow=3.3,SNR=14						
BATI				S	S	06 04 43.2	-0.2
	13nm,0.3s,baz=274,slow=13,SNR=3.2						
WRA	**Warramunga Arr**	**18.91**	**132**	P	P	06 06 29.2	0.0
	0.5nm,0.3s,baz=304,slow=12,SNR=38						
WRA				S	S	06 10 05.3	+16
	0.1nm,0.3s,baz=299,slow=24,SNR=3.4						
ASAR	**Alice Springs**	**21.15**	**141**	P	P	06 06 52.6	+0.2
	1.0nm,0.3s,baz=315,slow=8.8,SNR=20						
MKAR	**Makanchi Array**	**63.39**	**332**	P	P	06 12 28.3	0.0
	0.5nm,0.4s,baz=134,slow=6.2,SNR=5.1						

*ISCJB **18** 06:04:39.6±1.3, 197S±0.1×178.1W±0.1, h559km±19km, mb4.1/16, Error ellipse: s-maj=24.7km s-min=13.3km az=146.7*

*NEIC **18** 06:04:40.6±0.9, 1972S×17798W, h563km±12km, mb4.5/11, Error ellipse: s-maj=17.0km s-min=9.0km az=148.0*

*IDC **18** 06:04:44.2±6.8, 1991S×17798W, h607km±90km, mb3.5/9, mb1 3.8/10, mb1mx3.6/16, mbtmp3.6/10, Error ellipse: s-maj=45.8km s-min=23.6km az=12.0*

ISC 18 06:04:40.5±1.3, 197S±01×1780W±01, h556km±18km, n27, σ0°69/26, mb4.1/16, 2D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**8.30**	**47**	*e*Pn	**P**	**06 06 41.5**	**0.0**
	65nm,0.8s						
URZ	**Urewera**	**18.96**	**192**	P	**P**	**06 08 25.4**	**-1.2**
	2.3nm,0.3s,baz=40,slow=3.4,SNR=12						
ARMA	**Armidale**	**29.41**	**243**	*e*P	**P**	**06 10 01.1**	**+1.7**
ARMA	**Armidale**	**29.41**	**243**	*e*P	**P**	**06 10 00.9**	**+1.4**
	0.2nm,0.6s,mb2.9						
CTA	**Charters Tower**	**33.57**	**263**	⇓*i*P	**P**	**06 10 36.0**	**+1.0**
	21nm,0.6s,mb4.8						
CTA	**Charters Tower**	**33.57**	**263**	P	**P**	**06 10 36.1**	**+1.0**
	28nm,0.5s,mb5.0,baz=97,slow=10,SNR=41						
CTAO	**Charters Tower**	**33.57**	**263**	*e*P	**P**	**06 10 35.7**	**+0.7**
	47nm,1.1s,mb4.9						
STKA	**Stephens Creek**	**38.12**	**243**	*e*P	**P**	**06 11 13.6**	**+1.0**
	6.6nm,1.0s,mb4.1						
STKA	**Stephens Creek**	**38.12**	**243**	*e*P	**P**	**06 11 13.3**	**+0.7**
	6.7nm,0.7s,mb4.3						
STKA	**Stephens Creek**	**38.12**	**243**	P	**P**	**06 11 13.2**	**+0.6**
	6.3nm,0.6s,mb4.3,baz=84,slow=8.2,SNR=9.9						
ASAR	**Alice Springs**	**44.69**	**256**	P	**P**	**06 12 04.9**	**+0.3**
	17nm,0.8s,mb4.6,baz=87,slow=8.5,SNR=129						
WB2	**Warramunga Arr**	**44.69**	**261**	⇓*i*P	**P**	**06 12 04.3**	**-0.3**
WRAB	**Tennant Creek**	**44.70**	**261**	*e*P	**P**	**06 12 03.6**	**-1.0**
	24nm,1.3s,mb4.6						
WRA	**Warramunga Arr**	**44.70**	**261**	P	**P**	**06 12 04.4**	**-0.3**
	3.4nm,0.3s,mb4.4,baz=97,slow=7.5,SNR=51						
KAKA	**Kakadu**	**47.95**	**270**	*e*P	**P**	**06 12 29.2**	**-0.2**
	12nm,0.9s,mb4.4						
FORT	**Forrest**	**49.60**	**246**	*e*P	**P**	**06 12 41.0**	**-0.3**
	14nm,0.6s,mb4.6						
FORT	**Forrest**	**49.60**	**246**	*e*P	**P**	**06 12 40.8**	**-0.6**
	3.1nm,0.8s,mb3.8						
FITZ	**Fitzroy Crossi**	**53.13**	**262**	*e*P	**P**	**06 13 07.0**	**0.0**
	4.7nm,0.6s,mb4.0						
FITZ	**Fitzroy Crossi**	**53.13**	**262**	P	**P**	**06 13 07.4**	**+0.4**
	2.9nm,0.6s,mb3.8,baz=100,slow=5.9,SNR=5.6						
MBWA	**Marble Bar**	**58.02**	**257**	*e*P	**P**	**06 13 40.1**	**-0.8**
	6.8nm,0.5s,mb4.1						
KLBR	**Kellerberrin**	**58.38**	**244**	*e*P	**P**	**06 13 42.8**	**-0.4**
	139nm,1.8s,mb4.9						
MJAR	**Matsushiro Arr**	**69.58**	**324**	P	**P**	**06 14 54.1**	**0.0**
	1.3nm,0.3s,mb3.9,baz=156,slow=4.5,SNR=4.9						
QSPA	**South Pole Qui**	**70.34**	**180**	*e*P	**P**	**06 14 58.8**	**+0.8**
	3.8nm,0.8s,mb4.0						
TXAR	**Lajitas Array**	**86.64**	**57**	P	**P**	**06 16 26.3**	**+0.7**
	1.2nm,0.8s,mb3.6,baz=220,slow=6.6,SNR=9.1						
PDAR	**Pinedale Array**	**88.40**	**43**	P	**P**	**06 16 33.5**	**0.0**
	1.0nm,0.7s,mb3.6,baz=226,slow=3.5,SNR=8.4						
YKA	**Yellowknife Ar**	**95.81**	**25**	P	**P**	**06 17 06.4**	**-0.6**
	0.2nm,0.9s,mb3.3,baz=231,slow=3.7,SNR=4.1						
GERES	**GERESS Array B**	**149.45**	**345**	PKPbc	PKPbc	06 23 25.5	-1.5
	0.5nm,0.6s,baz=242,slow=2.9,SNR=5.1						

*WEL **18** 06:08:50.0±0.7, 3678S×17877W, h33km, ML4.0/6, Error ellipse: s-maj=12.2km s-min=7.5km az=0.0*

*IDC **18** 06:08:52.4±7.1, 3749S×17870W, h59km±53km, mb3.5/2, mb1 3.8/3, mb1mx3.6/12, mbtmp3.5/3, ML3.2/1, MS3.6/2, Ms1 3.6/2, ms1mx3.0/24, Error ellipse: s-maj=46.6km s-min=37.6km az=78.0*

ISC 18 06:08:50.8±2.6, 371S±01×1788W±02, h30km±26km, n16, σ0°87/20, mb3.7/2, East of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**2.36**	**259**	PN	**Pn**	**06 09 26.9**	**-0.6**
MXZ				SN	**Sn**	**06 09 55.1**	**-0.3**
PUZ	**Puketiti**	**2.53**	**248**	PN	**Pn**	**06 09 31.0**	**+1.2**
MWZ	**Matawai**	**3.16**	**247**	PN	**Pn**	**06 09 38.6**	**+0.1**
MWZ				SN	**Sn**	**06 10 15.4**	**+0.3**
KNZ	**Kokohu**	**3.37**	**235**	*e*PN	**Pn**	**06 09 41.6**	**+0.3**
URZ	**Urewera**	**3.45**	**250**	P	**Pn**	**06 09 43.2**	**+0.8**
	2.3nm,0.3s,baz=146,slow=4.3,SNR=9.4						
URZ				S	**Sn**	**06 10 22.6**	**+0.3**
	10nm,0.3s,baz=311,slow=20,SNR=16						
URZ	**Urewera**	**3.45**	**250**	PN	**Pn**	**06 09 43.2**	**+0.8**
URZ				*e*SN	**Sn**	**06 10 22.6**	**+0.4**
BKZ	**Black Stump Fm**	**4.24**	**240**	PN	**Pn**	**06 09 53.9**	**+0.6**
BKZ				*e*SN	**Sn**	**06 10 42.6**	**+0.8**
KUZ	**Kuaotunu**	**4.43**	**273**	*e*PN	**Pn**	**06 09 53.6**	**-2.3**
TSZ	**Takapari Road**	**5.05**	**233**	*e*PN	**Pn**	**06 10 04.8**	**+0.5**
BFZ	**Birch Farm**	**5.25**	**226**	*e*PN	**Pn**	**06 10 06.4**	**-0.7**
MRZ	**Mangatainoka R**	**5.63**	**230**	PN	**Pn**	**06 10 11.9**	**-0.5**
MRZ				SN	**Sn**	**06 11 15.1**	**-1.0**
RAO	**Raoul Island**	**7.90**	**5**	LR	LR	06 13 29.4	
	comp=Z,128nm,20.6s,baz=309,slow=34						
HNR	**Honiara**	**33.64**	**320**	P	**P**	**06 15 30.3**	**+1.5**
	30nm,0.4s,baz=278,slow=17,SNR=2.3						
ASAR	**Alice Springs**	**42.55**	**275**	P	**P**	**06 16 43.6**	**-0.2**
	1.6nm,0.7s,mb3.9,baz=119,slow=7.7,SNR=12						
WRA	**Warramunga Arr**	**44.14**	**280**	P	**P**	**06 16 55.4**	**-1.3**
	0.5nm,0.6s,mb3.5,baz=120,slow=7.6,SNR=8.5						
TORD	**Torodi Ar. Bea**	**156.10**	**181**	PKPab	PKPab	06 29 05.9	-4.1
	1.3nm,0.8s,baz=187,slow=5.8,SNR=6.7						

IDC 18 06:37:03.1±2.1, 2051S×6819W, h126km±20km, mb3.3/3, mb1 3.3/7, mb1mx3.2/19, mbtmp3.2/7, Error ellipse: s-maj=24.4km s-min=20.0km az=79.0, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**4.20**	**1**	P	Pn	06 38 05.8	+0.4
	13nm,0.3s,baz=172,slow=7.3,SNR=170						
SIV	**San Ignacio**	**8.11**	**58**	P	Pn	06 38 57.5	-0.6
	1.2nm,0.3s,baz=261,slow=9.6,SNR=32						
CFAA	**Coronel Fontan**	**11.05**	**180**	P	Pn	06 39 38.8	+1.3
	0.1nm,0.3s,baz=355,slow=14,SNR=21						
CFAA				S	Sn	06 41 37.8	-1.6
	0.0nm,0.3s,baz=244,slow=20,SNR=4.8						
BDFB	**Brasilia**	**19.77**	**79**	P	P	06 41 24.6	+1.1
	0.1nm,0.3s,baz=251,slow=18,SNR=2.7						
TXAR	**Lajitas Array**	**60.21**	**324**	P	P	06 46 58.5	+0.6
	0.1nm,0.6s,baz=146,slow=5.0,SNR=2.3						
TORD	**Torodi Ar. Bea**	**76.38**	**70**	P	P	06 48 39.0	-0.1
	1.3nm,0.7s,baz=252,slow=5.5,SNR=18						
YKA	**Yellowknife Ar**	**90.48**	**340**	P	P	06 49 49.5	-0.5
	0.6nm,0.7s,baz=133,slow=4.6,SNR=19						

*CSEM **18** 06:38:40.1, 4268N×4640E, h17km, mb4.0, After OBN*

MOS 18 06:38:40.8±0.6, 4268N×4640E, h17km, mb4.0/1, Error ellipse: s-maj=18.3km s-min=9.0km az=24.2, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
XNZR	**Khunzakh**	**0.26**	**121**	*e*PG	Pg	06 38 49.0	+2.4
XNZR				*i* S	Sg	06 38 56.5	+6.0
XNZR				pmax	pmax		
	comp=Z,77nm,0.2s						
XNZR				*i* Sg	Sg	06 38 56.5	+6.0
KRNR	**Karanay**	**0.40**	**68**	*i* PG	Pg	06 38 50.0	+1.0
KRNR				*i* S	Sg	06 38 58.2	+3.6
KRNR				pmax	pmax		
	comp=Z,29nm,0.2s						
KRNR	**Karanay**	**0.40**	**68**	*i* Pg	Pg	06 38 50.0	+1.0
	comp=Z,29nm,0.2s						
KRNR				*i* Sg	Sg	06 38 58.2	+3.6
DBC	**Dubki**	**0.47**	**42**	*i* PG	Pg	06 38 51.0	+0.8
DBC				*i* S	Sg	06 39 00.0	+3.4
SNJR	**Sundja**	**1.23**	**289**	*e*Pg	Pg	06 39 02.5	-2.1
SNJR				*e*Sg	Sg	06 39 18.3	-2.4
BTKR	**Batakoyurt**	**1.53**	**298**	*e*Pg	Pg	06 39 07.9	-2.4
BTKR				*e*Sg	Sg	06 39 27.9	-2.3
LACR	**Lac**	**1.56**	**276**	*i* Pg	Pg	06 39 07.4	-3.4
TRKR	**Terskaya**	**1.61**	**311**	*e*Pg	Pg	06 39 09.7	-2.0
TRKR				*i* Sg	Sg	06 39 31.2	-1.5
ARNR	**Ardon**	**1.64**	**289**	*e*Pn	Pn	06 39 09.3	+0.5
KMSR	**Komsomolskaya**	**1.70**	**295**	*i* Pn	Pn	06 39 10.6	+1.0
KMSR				*i* Sg	Sg	06 39 32.4	-3.0
KORR	**Kora**	**1.76**	**284**	*e*Pn	Pn	06 39 11.2	+0.7
ZEI	**Tsey**	**1.85**	**274**	*i* Pn	Pn	06 39 12.3	+0.6
PRTR	**Priterechnaya**	**1.89**	**306**	*e*Pn	Pn	06 39 14.0	+1.8
DIGR	**Digorskoe uzhe**	**2.09**	**277**	*i* Pn	Pn	06 39 15.9	+0.9

*IDC **18** 06:43:55.5±10.0, 45.13N×14777E, h0km, mb3.6/3, mb1 3.7/3, mb1mx3.4/20, mbtmp3.6/3, Error ellipse: s-maj=270.4km s-min=42.0km az=170.0*

*MOS **18** 06:43:58.4±0.2, 4525N×14761E, h31km, mb4.0/1, Error ellipse: s-maj=99.9km s-min=55.3km az=63.0*

*ISCJB **18** 06:44:01.0±1.4, 44.1N±0.1×1479E±02, h105km±11km, mb3.5/3, Error ellipse: s-maj=27.2km s-min=14.3km az=145.1*

*JMA **18** 06:44:01.7±0.3, 4389N×14784E, h8km, M4.1*

ISC 18 06:44:02.3±1.4, 441N±01×1479E±02, h98km±13km, n13, σ0°88/22, mb3.5/3, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YUK	**Yuzh-Kuril'sk**	**1.48**	**268**	*e*PN	**Pn**	**06 44 27.0**	**-1.1**
YUK				*e*S	**Sn**	**06 44 46.2**	**-1.5**
YUK				pmax	pmax		
	comp=Z,220nm,0.3s						
YUK				smax			
	comp=N,1μm,0.3s						
YUK				smax			
	comp=E,1μm,0.3s						
YUK				smax			
	comp=N,2μm,0.5s						
YUK				smax			
	comp=E,2μm,0.5s						
NEM2	**Nemuro 2**	**1.73**	**246**	P	**Pn**	**06 44 30.8**	**-0.5**
NEM2				*e*S	**Sn**	**06 44 52.2**	**-1.2**
JRA	**Rausu**	**2.02**	**266**	P	**Pn**	**06 44 35.7**	**+0.8**
JRA				*e*S	**Sn**	**06 45 01.1**	**+1.2**
JNK	**Nakash**	**2.36**	**258**	P	**Pn**	**06 44 40.2**	**+0.7**
JNK				*e*S	**Sn**	**06 45 08.1**	**+0.1**
JAK	**Akkeshi**	**2.58**	**246**	P	**Pn**	**06 44 42.5**	**+0.1**
JAK				*e*S	**Sn**	**06 45 12.5**	**-0.7**
JAR	**Ashorobuto**	**3.11**	**256**	P	**Pn**	**06 44 50.7**	**+1.3**
JAR				*e*S	**Sn**	**06 45 26.6**	**+0.9**
JOB	**Onbets**	**3.20**	**249**	P	**Pn**	**06 44 51.6**	**+1.0**
JOB				*e*S	**Sn**	**06 45 27.7**	**-0.1**
JCH	**Churui**	**3.63**	**247**	P	**Pn**	**06 44 57.4**	**+1.0**
JCH				*e*S	**Sn**	**06 45 37.5**	**-0.8**
JNBK	**Urakawa-nobuka**	**4.19**	**246**	P	**Pn**	**06 45 04.4**	**+0.5**
JNBK				*e*S	**Sn**	**06 45 51.3**	**-0.4**
MKAR	**Makanchi Array**	**44.91**	**298**	P	**P**	**06 52 07.5**	**+0.6**
	comp=E,0.3nm,0.3s,mb3.5,baz=86,slow=8.7,SNR=4.3						
YKA	**Yellowknife Ar**	**55.20**	**34**	P	**P**	**06 53 24.0**	**-0.5**
	comp=E,0.2nm,0.6s,mb3.4,baz=300,slow=7.1,SNR=7.2						
FINES	**FINESS Array B**	**64.81**	**333**	P	**P**	**06 54 28.7**	**-1.4**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
FINES	**FINESS Array B**	**64.81**	**333**	P	**P**	**06 54 28.6**	**-1.4**
	comp=Z,0.8nm,0.5s,mb3.8,baz=21,slow=8.1,SNR=5.4						

MAN 18 06:45:00, 1127N×12567E, h1km, mb4.0, ML2.8, MS2.4, Samar

IDC 18 06:56:39.1±6.6, 1954S×17629W, h0km, mb4.3/2, mb1 4.6/2, mb1mx3.8/15, mbtmp4.3/2, Error ellipse: s-maj=289.5km s-min=104.6km az=153.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**46.31**	**256**	P	P	07 05 06.8	-0.1
	3.0nm,0.5s,baz=95,slow=7.9,SNR=64						
WRA	**Warramunga Arr**	**46.33**	**261**	P	P	07 05 07.2	0.0
	1.1nm,0.3s,baz=97,slow=7.0,SNR=91						
AKASG	**Malin Array Be**	**142.92**	**333**	PKP	PKPdf	07 16 14.2	-0.4
	0.4nm,0.3s,baz=38,slow=4.1,SNR=4.4						

*CSEM **18** 07:29:43.0±0.2, 3425N×2404E, h8km, MD3.3, Error ellipse: s-maj=5.8km s-min=2.3km az=91.0*

*NEIC **18** 07:29:43.9, 3434N×2413E, h16km, MD3.3(ATH), After ATH.*

*ATH **18** 07:29:43.9, 3434N×2413E, h16km±4km, MD3.3/5*

*HLW **18** 07:29:43.4, 3448N×2385E, h33km, Mb3.7*

ISC 18 07:29:44.2±1.5, 3431N±004×240E±01, h15km±11km, n8, σ0°93/11, 4C, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVD	**Gavdhos**	**0.53**	**5**	*e*PN	**Pg**	**07 29 54.0**	**-0.8**
VAM	**Vamos**	**1.11**	**7**	⇑*i*PN	**Pn**	**07 30 04.8**	**-0.4**
VAM				*e*SN	**Sn**	**07 30 18.8**	**-1.3**
NPS	**Neapolis**	**1.61**	**53**	*e*PN	**Pn**	**07 30 12.1**	**0.0**
NPS				*e*SN	**Sn**	**07 30 33.3**	**+0.7**
VLI	**Veliai**	**2.57**	**340**	*e*PN	**Pn**	**07 30 27.1**	**+1.9**
KARP	**Karpathos**	**2.85**	**63**	*e*PN	**Pn**	**07 30 29.5**	**+0.3**
HMAT	**Matruh**	**4.12**	**140**	⇑P	**Pn**	**07 30 47.0**	**+0.5**
SWA1		**5.23**	**164**	⇑*e*P	**Pn**	**07 31 02.8**	**+1.0**
SWA1				S	**Sn**	**07 32 00.4**	**-1.4**
HFRF	**Wahat Farafira**	**8.03**	**152**	⇑P	**Pn**	**07 31 39.9**	**-0.4**

IDC 18 07:30:27.8±4.0, 964N×8992E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.5/20, mbtmp3.5/4, Error ellipse: s-maj=147.4km s-min=25.3km az=67.0, Bay of Bengal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**37.60**	**351**	P	P	07 37 43.8	-0.3
	0.4nm,0.7s,baz=162,slow=8.2,SNR=4.9						
SONM	**Songino Array**	**40.54**	**17**	P	P	07 38 09.1	+0.4
	0.3nm,0.7s,baz=187,slow=10,SNR=3.1						
WRA	**Warramunga Arr**	**52.69**	**124**	P	P	07 39 43.6	-0.9
	0.8nm,0.6s,baz=304,slow=8.6,SNR=5.8						
ASAR	**Alice Springs**	**54.26**	**128**	P	P	07 39 56.6	+0.7
	0.4nm,0.6s,baz=304,slow=6.8,SNR=7.0						

*IDC **18** 07:59:31.1±1.2, 602S×15649E, h0km, mb4.1/5, mb1 4.1/6, mb1mx3.9/16, mbtmp4.1/6, ML4.3/1, MS3.2/2, Ms1 3.2/2, ms1mx2.7/30, Error ellipse: s-maj=43.9km s-min=26.3km az=55.0*

*ISCJB **18** 07:59:33.9±7.3, 6.1S±02×1565E±02, h29km±53km, mb3.9/5, Error ellipse: s-maj=41.5km s-min=15.6km az=39.3*

ISC 18 07:59:35.1±7.6, 61S±02×1565E±02, h25km±54km, n6, σ0°23/7, mb3.9/5, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.81**	**135**	Pn	**Pn**	**08 00 45.9**	**0.0**
	12nm,0.3s,baz=103,slow=2.5,SNR=9.9						
HNR				Sn	**Sn**	**08 01 40.9**	**0.0**
	13nm,0.3s,baz=80,slow=22,SNR=3.8						
HNR				LR	LR	08 02 17.0	
	comp=Z,167nm,20.6s,baz=3.2,slow=34						
WRA	**Warramunga Arr**	**25.56**	**235**	P	**P**	**08 05 02.2**	**0.0**
	0.9nm,0.6s,mb3.5,baz=61,slow=9.4,SNR=5.1						
SONM	**Songino Array**	**69.35**	**326**	P	**P**	**08 10 40.9**	**+0.3**
	0.7nm,0.5s,mb3.8,baz=127,slow=6.4,SNR=4.6						
MKAR	**Makanchi Array**	**83.68**	**318**	P	**P**	**08 12 01.7**	**0.0**
	1.7nm,0.6s,mb4.3,baz=102,slow=6.0,SNR=10						
ZALV	**Zalesovo Beam**	**84.23**	**326**	P	**P**	**08 12 04.3**	**-0.1**
	1.4nm,0.8s,mb4.1,baz=92,slow=4.3,SNR=2.7						
BVAR	**Borovoye Array**	**92.43**	**323**	P	**P**	**08 12 43.4**	**-0.3**
	0.3nm,0.5s,mb3.8,baz=111,slow=6.9,SNR=3.5						

*IDC **18** 07:59:56.4±2.4, 52.13N×3588E, h0km, mb3.6/1, mb1 3.8/4, mb1mx3.5/21, mbtmp3.6/4, ML3.3/4, Error ellipse: s-maj=30.9km s-min=14.6km az=123.0*

ISC 18 08:00:02.6±4.1, 525N±01×352E±03, h19km±33km, n7, σ0°81/9, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKASG	**Malin Array Be**	**4.16**	**246**	Pn	**Pn**	**08 01 03.5**	**-1.5**
	0.6nm,0.3s,baz=124,slow=25,SNR=3.7						
AKASG				Sn	**Sn**	**08 01 53.8**	**+0.8**
	2.5nm,0.3s,baz=60,slow=20,SNR=6.6						
FINES	**FINESS Array B**	**10.23**	**335**	Pn	**Pn**	**08 02 27.8**	**-0.4**
	0.2nm,0.3s,baz=150,slow=11,SNR=5.2						
FINES				Sn	**Sn**	**08 04 21.4**	**-0.8**
	0.2nm,0.3s,baz=160,slow=20,SNR=4.0						
JOF	**Joensuu**	**10.63**	**350**	*e*p	**Pn**	**08 02 34.0**	**+0.4**
HFS	**Hagfors**	**14.12**	**311**	Pn	**Pn**	**08 03 22.0**	**+0.7**
	0.1nm,0.3s,baz=106,slow=14,SNR=2.8						
NOA	**NORSAR Array B**	**15.60**	**313**	Pn	**Pn**	**08 03 35.9**	**-5.1**
	0.1nm,0.3s,baz=113,slow=13,SNR=3.3						
ARCES	**ARCESS Array B**	**17.67**	**349**	P	**Pn**	**08 04 08.1**	**+1.0**
	0.3nm,0.3s,baz=153,slow=8.2,SNR=9.2						
YKA	**Yellowknife Ar**	**62.88**	**345**	P	**P**	**08 10 26.3**	**-0.3**
	0.5nm,0.7s,baz=19,slow=6.8,SNR=9.0						

IDC 18 08:20:29.3±4.2, 3031N×6656E, h0km, mb3.4/4, mb1 3.6/4, mb1mx3.4/23, mbtmp3.5/4, MS3.0/7, Ms1 3.0/7, ms1mx2.8/26, Error ellipse: s-maj=133.6km s-min=30.7km az=137.0, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**20.48**	**32**	P	P	08 25 08.2	-0.4
	0.3nm,0.2s,baz=209,slow=9.3,SNR=7.1						
MKAR				LR	LR	08 32 56.5	
	comp=Z,12nm,18.1s,baz=177,slow=36						
BVAR	**Borovoye Array**	**22.87**	**6**	P	P	08 25 33.9	-0.2
	0.8nm,0.7s,baz=171,slow=10,SNR=6.0						
BVAR				LR	LR	08 35 39.1	
	comp=Z,31nm,18.6s,baz=309,slow=40						
SONM	**Songino Array**	**35.07**	**49**	LR	LR	08 42 45.7	
	comp=Z,45nm,19.9s,baz=274,slow=38						
ARCES	**ARCESS Array B**	**45.62**	**341**	LR	LR	08 48 58.5	
	comp=Z,34nm,20.9s,baz=266,slow=38						
HFS	**Hagfors**	**45.89**	**326**	LR	LR	08 50 32.3	
	comp=Z,20nm,20.4s,baz=111,slow=39						
NOA	**NORSAR Array B**	**47.31**	**327**	LR	LR	08 51 54.6	
	comp=Z,15nm,21.6s,baz=315,slow=40						
KEST	**Kesra**	**47.70**	**292**	LR	LR	08 52 36.2	
	comp=Z,13nm,21.0s,baz=263,slow=40						
TORD	**Torodi Ar. Bea**	**61.88**	**269**	P	P	08 30 50.5	-0.3
	0.5nm,0.8s,baz=67,slow=4.8,SNR=3.6						
YKA	**Yellowknife Ar**	**87.52**	**1**	P	P	08 33 19.4	+0.7
	0.3nm,0.7s,baz=350,slow=4.9,SNR=9.1						

*ISCJB **18** 08:42:22.1±0.2, 3942N±001×123.14W±002, h10km, mb4.6/46, MS4.5/39, Error ellipse: s-maj=2.6km s-min=1.7km az=157.7*

*IDC **18** 08:42:22.1±0.7, 3934N×123.11W, h0km, mb4.3/17, mb1 4.3/20, mb1mx4.2/28, mbtmp4.2/20, ML3.5/3, MS4.3/31, Ms1 4.3/31, ms1mx4.2/43, Error ellipse: s-maj=19.3km s-min=10.2km az=36.0*

*NEIC **18** 08:42:22.3, 3947N×123.11W, h6km, mb4.6/19, MS4.7/1, MW4.8(BRK), After NCEDC.*

NEIC Felt [V] at Potter Valley; [IV] at Fort Bragg, Kelseyville, Redwood Valley and Willits; [III] at Albion, Covelo, Lakeport, Little River, Mendocino, Philo, Santa Rosa and Ukiah; [II] at Clearlake Oaks. Also felt at Berkeley, Clearlake, Cloverdale, Comptche, Cotati, Elk, Eureka, Granite Bay, Guerneville, Healdsburg, Nice, Novato, Point Arena, San Francisco, Upper Lake, Winters and Witter Springs.

*MOS **18** 08:42:23.0±1.2, 3938N×123.15W, h10km, mb4.9/15, MS4.4/6, Error ellipse: s-maj=8.1km s-min=5.9km az=111.2*

*BJI **18** 08:42:24.2, 3975N×12365W, h14km, mb5.0, mB5.3, Ms5.2, Msz4.8*

ISC 18 08:42:23.2±0.2, 3944N±001×12311W±002, h10km, n294, σ1°30/288, mb4.6/46, MS4.5/39, 58C-52D, Near coast of northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
P01C	**Double 8 Ranch**	**0.18**	**279**	⇑P	**Pg**	**08 42 26.0**	**-1.1**
	baz=0.2,SNR=1000						
P01C				⇑S	**Sg**	**08 42 29.0**	**-0.7**
	baz=0.2						
GASB	**Alder Springs**	**0.37**	**55**	⇓P	**Pg**	**08 42 29.7**	**-0.8**
	baz=0.4,SNR=1000						
GASB				⇓S	**Sg**	**08 42 35.0**	**-0.6**
	baz=0.4						
KCPM	**Cahto Peak**	**0.44**	**304**	*e*Pg	**Pg**	**08 42 31.2**	**-0.6**
HOPS	**Hopland**	**0.45**	**176**	*e*Pg	**Pg**	**08 42 32.2**	**+0.3**
HOPS				*e*Sg	**Sg**	**08 42 39.9**	**+2.1**
HOPS	**Hopland**	**0.45**	**176**	⇓P	**Pg**	**08 42 32.0**	**0.0**
	baz=0.5						
HOPS				⇑S	**Sg**	**08 42 39.4**	**+1.5**
	baz=0.5						
KIPM	**Iron Peak**	**0.47**	**322**	*e*Pg	**Pg**	**08 42 31.3**	**-1.0**
MNRC	**McLaughlin Nat**	**0.76**	**137**	⇑P	**Pg**	**08 42 38.0**	**+0.1**
	baz=0.8						
MNRC				⇓S	**Sg**	**08 42 47.9**	**0.0**
	baz=0.8						
O02C	**Red Bluff**	**0.78**	**19**	⇓P	**Pg**	**08 42 37.3**	**-0.9**
	baz=0.8,SNR=1000						
O02C				⇓S	**Sg**	**08 42 47.0**	**-1.3**
	baz=0.8						
O01C	**Eel River Cons**

baz=1.8
BDM Black Diamond 1.77 146 ⇊P Pn 08 42 52.6 -1.4
baz=1.8,SNR=38
O04C Chester 1.79 60 ⇊P Pn 08 42 53.4 -0.7
baz=1.8,SNR=217
HATC Hat Creek Radi 1.87 42 ⇊P Pn 08 42 54.2 -1.0
baz=1.8,SNR=46
SAC San Andreas 1.93 163 *e*Pn **Pn 08 42 54.6 -1.5**
P05C Yuba Gap, Truc 1.94 93 ⇊P Pn 08 42 55.7 -0.6
baz=1.9,SNR=355
M02C Callahan 1.96 6 ⇊P Pn 08 42 55.5 -1.0
baz=1.9,SNR=187
LAVA Lava Cap Winer 1.97 110 ⇊P Pn 08 42 55.5 -1.1
baz=2.0,SNR=212
LAVA ⇊S **Sn 08 43 21.7 +0.4**
baz=2.0
M03C McCloud 1.98 22 ⇑P Pn 08 42 55.4 -1.4
baz=2.0,SNR=27
R04C Big Horse Ranc 2.07 124 ⇊P Pn 08 42 56.3 -1.7
baz=2.1,SNR=71
WENL Wente Brothers 2.10 149 ⇑P Pn 08 42 57.5 -1.0
baz=2.1
JRSC Jasper Ridge 2.15 161 P Pn 08 42 57.4 -1.7
baz=2.2,SNR=62
BEKR Beckwourth 2.17 78 ⇊P Pn 08 42 59.5 +0.2
baz=2.2
KRMB Red Mountain 2.17 344 *e*Pn **Pn 08 42 58.1 -1.3**
ELFS Eagle Lake Fie 2.17 56 ⇑P Pn 08 42 59.3 -0.1
baz=2.2,SNR=58
YBH Yreka Blue Hor 2.31 7 *e*Pn **Pn 08 43 01.2 -0.1**
YBH *e*Sg **Sg 08 43 37.7 +0.3**
YBH Yreka Blue Hor 2.31 7 ⇑P Pn 08 43 00.8 -0.5
baz=2.3,SNR=105
S04C Ingram Canyon, 2.39 144 ⇊P Pn 08 43 00.9 -1.4
baz=2.4,SNR=24
BNLO Ben Lomond (Sa 2.42 162 ⇊P Pn 08 43 01.4 -1.5
baz=2.4,SNR=26
M05C Lookout 2.43 37 ⇊P Pn 08 43 02.5 -0.5
baz=2.4,SNR=30
R05C Kirkwood Meado 2.47 106 ⇑P Pn 08 43 03.5 -0.1
baz=2.5,SNR=185
R05C ⇑S **Sn 08 43 33.5 -0.3**
baz=2.5
P06A Stead Airport, 2.49 84 ⇊P Pn 08 43 04.0 +0.1
baz=2.5,SNR=41
M01C Crescent City 2.52 343 ⇊P Pn 08 43 03.1 -1.1
baz=2.5
M04C Macdoel 2.53 22 ⇑P Pn 08 43 04.3 -0.1
baz=2.5,SNR=15
CMB Columbia Colle 2.55 123 *e*Pn **Pn 08 43 04.1 -0.5**
CMB *e*Sg **Sg 08 43 39.6 -5.5**
CMB Columbia Colle 2.55 123 ⇑P Pn 08 43 04.0 -0.6
baz=2.6,SNR=68
WCN Washoe City 2.60 92 ⇊P Pn 08 43 05.2 -0.2
baz=2.6
O06A Flanigan 2.63 73 ⇑P Pn 08 43 06.1 +0.4
baz=2.6,SNR=19
M06C Likely Place G 2.67 48 ⇑P Pn 08 43 06.3 0.0
baz=2.7,SNR=72
L02A Cave Junction 2.74 352 ⇑P Pn 08 43 06.2 -1.0
baz=2.7,SNR=51
PACP Pacheco Peak 2.82 149 ⇑P Pn 08 43 07.7 -0.7
baz=2.8
N06A Buffalo Meadow 2.83 61 ⇑P Pn 08 43 07.9 -0.6
baz=2.8,SNR=23
L04A Klamath Falls 2.88 18 ⇑P Pn 08 43 08.9 -0.3
baz=2.9,SNR=8.2
KBO Bosley Butte 2.90 343 *e*Pn **Pn 08 43 09.1 -0.2**
SAO San Andreas Ge 2.98 153 *e*Pn **Pn 08 43 08.8 -1.6**
R06C Coleville 3.00 107 ⇑P Pn 08 43 10.9 +0.2
baz=3.0
S05C Merced 3.02 133 ⇊P Pn 08 43 10.6 -0.5
baz=3.0,SNR=111
S05C ⇑S **Sn 08 43 47.6 +0.2**
baz=3.0
L05A Lakeview 3.13 33 ⇊P Pn 08 43 12.5 0.0
baz=3.1,SNR=15
HUMO Hull Mountain 3.17 2 *e*Pn **Pn 08 43 13.7 +0.7**
HUMO Hull Mountain 3.17 2 ⇑P Pn 08 43 12.7 -0.4
baz=3.1,SNR=65
T05C Eagle Field, D 3.19 142 ⇑P Pn 08 43 13.4 0.0
baz=3.2
MOD Modoc 3.26 40 *e*Pn **Pn 08 43 14.7 +0.4**
MOD *e*Sn **Sg 08 44 05.7 -2.1**
MOD Modoc 3.26 40 ⇑P Pn 08 43 13.9 -0.4
baz=3.2,SNR=28
HAST Hastings Reser 3.29 157 P Pn 08 43 13.1 -1.7
baz=3.3,SNR=55
K02A Glendale 3.33 355 ⇊P Pn 08 43 14.5 -0.9
baz=3.3,SNR=54
K04A Chilquin 3.34 18 ⇑P Pn 08 43 15.1 -0.3
baz=3.3
N07B Gerlach 3.44 66 ⇑P Pn 08 43 16.6 -0.3
baz=3.4
R07C Lee Vining 3.45 112 ⇊P Pn 08 43 17.0 0.0
baz=3.5
KEBM Edson Butte 3.55 345 *e*Pn **Pn 08 43 16.5 -1.9**
M07A Soldier Meadow 3.58 56 ⇊P Pn 08 43 18.1 -0.7
baz=3.6
U04C Hernandez Rese 3.58 148 ⇊P Pn 08 43 18.3 -0.5
baz=3.6
T06C Millerton Lake 3.62 131 ⇑P Pn 08 43 19.0 -0.3
baz=3.6
KCC Kaiser Creek 3.65 124 ⇑P Pn 08 43 19.5 -0.3
baz=3.7
K05A Summer Lake 3.69 26 ⇊P Pn 08 43 19.6 -0.6
baz=3.7
V03C Hunter Liggett 3.72 156 P Pn 08 43 19.9 -0.8
baz=3.7,SNR=16
J04A Umpqua Nationa 3.87 11 ⇑P Pn 08 43 22.3 -0.4
baz=3.8
NVAR Mina Array Bea 3.88 104 Pn **Pn 08 43 22.8 -0.1**
9.9nm,0.3s,baz=280,slow=15,SNR=53
NVAR Lg 08 44 24.1
12nm,0.3s,baz=274,slow=24,SNR=7.1
U05C Westside ANR, 3.90 142 ⇊P Pn 08 43 23.1 0.0
baz=3.9
J02A Umpqua 3.94 355 ⇊P Pn 08 43 23.6 -0.1
baz=3.9,SNR=29
K06A Valley Falls 3.99 32 ⇊P Pn 08 43 24.5 +0.1
baz=4.0,SNR=16
PKD Parkfield 4.04 149 P Pn 08 43 25.3 +0.2
baz=4.1,SNR=8.3
N08A GE Springer Mi 4.04 69 ⇑P Pn 08 43 24.7 -0.4
baz=4.0
J05A Fort Rock 4.09 20 ⇊P Pn 08 43 25.6 -0.2
baz=4.1
M08A Happy Creek Ra 4.13 59 ⇊P Pn 08 43 26.0 -0.3
baz=4.1
MTUM Tungsten Hills 4.13 119 *e*Pn **Pn 08 43 28.1 +1.7**
V04C Ramage Ranch, 4.19 154 ⇊P Pn 08 43 27.5 +0.3
baz=4.2
HELL Mitchell Peak 4.24 129 ⇑P Pn 08 43 27.9 0.0
baz=4.3
S08C White Mtn Res 4.33 115 ⇑P Pn 08 43 29.2 0.0
baz=4.3
K07A Rock Creek Ran 4.37 41 ⇊P Pn 08 43 29.8 +0.2
baz=4.3
I04A Tendick Farm, 4.38 7 ⇑P Pn 08 43 29.9 +0.2
baz=4.4
J06A Christmas Vall 4.41 29 ⇑P Pn 08 43 30.7 +0.5
baz=4.4
PTRM Twissleman Ran 4.42 148 *e*Pn **Pn 08 43 29.9 -0.5**
N09A Rock Creek Ran 4.51 70 ⇑P Pn 08 43 31.6 +0.1
baz=4.5
WVOR Wild Horse Val 4.52 47 *e*Pn **Pn 08 43 32.9 +1.2**
I02A Mapleton 4.59 353 ⇊P Pn 08 43 33.6 +1.0
baz=4.6
M09A Marrel Ranch, 4.75 64 ⇊P Pn 08 43 35.3 +0.4
baz=4.7
K08A Mann Creek Ran 4.80 45 ⇑P Pn 08 43 35.2 -0.2
baz=4.8
SMMC Simmler 4.81 148 ⇑P Pn 08 43 36.2 +0.5
baz=4.8
VES Vestal, Richgr 4.81 137 ⇑P Pn 08 43 35.2 -0.5
baz=4.8
L09A Wilkinson Ranc 4.87 56 ⇑P Pn 08 43 36.5 0.0
baz=4.8
S09A Goldfield 4.92 109 ⇊P Pn 08 43 37.1 -0.1
baz=4.9
COR Corvallis 5.14 358 *e*Pn **Pn 08 43 40.1 -0.2**
COR *e*Pg **Pg 08 43 56.6 -5.1**
ISA Isabella 5.27 134 *e*Pn **Pn 08 43 42.8 +0.8**
ISA *e*Sn **Sn 08 44 36.9 -5.9**
ISA Isabella 5.27 134 ⇊P Pn 08 43 42.1 +0.1
baz=5.3
H04A Detroit Lake 5.28 7 ⇑P Pn 08 43 42.5 +0.3
baz=5.3
ARVC Arvin 5.49 140 ⇊P Pn 08 43 45.1 0.0
baz=5.5
K10A MacKenzie Ranc 5.77 53 ⇊P Pn 08 43 49.1 +0.2
baz=5.7
HOOD Mount Hood Mea 5.97 10 *e*Pn **Pn 08 43 53.9 +2.3**
EDW2 Edwards Air Fo 6.12 136 ⇑P Pn 08 43 54.5 +0.8
baz=6.1
N12A Clover Valley, 6.34 75 ⇑P Pn 08 43 56.1 -0.7
baz=6.3
GSC Goldstone 6.50 127 *e*Pn **Pn 08 44 00.1 +1.2**
MWC Mount Wilson 6.60 141 *e*Pn **Pn 08 44 00.9 +0.6**
HAWA Hanford 7.43 20 *e*Pn **Pn 08 44 14.0 +2.4**
BGU Big Grassy Mou 7.86 76 *e*Pn **Pn 08 44 20.7 +3.2**
BGU *e*Sn Sn 08 46 22.1 +36
CCUT Cedar City 7.87 101 *e*Pn **Pn 08 44 21.5 +3.7**
PFO Pinyon Flat Ob 7.91 135 *e*Pn **Pn 08 44 18.5 +0.3**
PFO Pinyon Flat Ob 7.91 135 Pn **Pn 08 44 18.4 +0.1**
0.5nm,0.3s,baz=327,slow=8.0,SNR=8.9
PFO Lg 08 46 22.8
0.1nm,0.3s,baz=151,slow=15,SNR=3.0
DUG Dugway 7.96 81 *e*Pn **Pn 08 44 20.4 +1.5**
NLU North Lily Min 8.52 83 *e*Pn **Pn 08 44 30.5 +3.9**
NLU *e*Sn Sn 08 47 09.5 +67
MSU Marysvale 8.57 93 *e*Pn **Pn 08 44 29.2 +1.9**
MPU Maple Canyon 8.86 83 *e*Pn **Pn 08 44 32.2 +0.8**
JLU Jordanelle 9.02 79 *e*Pn **Pn 08 44 37.3 +3.9**
HWUT Hardware Ranch 9.05 72 *e*Pn **Pn 08 44 40.0 +6.1**
PGC Sidney 9.21 359 *e*Pn **Pn 08 44 35.1 -0.9**
TMUT Trail Mountain 9.22 87 *e*Pn **Pn 08 44 42.4 +6.1**
MCMT McKenzie Canyo 9.33 51 *e*Pn **Pn 08 44 44.4 +6.7**
DLMT Dillon 9.77 49 *e*Pn **Pn 08 44 49.2 +5.5**
SRU San Rafael 9.77 88 *e*Pn **Pn 08 44 48.7 +5.0**
NEW Newport 9.82 24 *e*Pn **Pn 08 44 47.2 +2.8**
NEW LR LR 08 48 49.0
NEW Newport 9.82 24 Pn **Pn 08 44 40.2 -4.2**
0.1nm,0.3s,baz=137,slow=22,SNR=1.9
NEW LR LR 08 48 49.0
comp=Z,2μm,19.3s,baz=223,slow=39
DCID1 Drake Creek 9.86 61 *e*Pn **Pn 08 44 50.2 +5.3**
MSO Missoula 9.97 39 *e*Pn **Pn 08 44 49.6 +3.2**
72nm,1.3s
TPAW Teton Pass 9.98 62 *e*Pn **Pn 08 44 51.7 +5.1**
REDW Red Top Meadow 10.01 63 *e*Pn **Pn 08 44 53.5 +6.5**
SNOW Snow King Moun 10.11 63 *e*Pn **Pn 08 44 53.4 +5.1**
LRM Limekiln Ridge 10.11 47 *e*Pn **Pn 08 44 54.2 +5.8**
IMW Indian Meadow 10.13 60 *e*Pn **Pn 08 44 52.7 +4.0**
QLMT Earthquake Lak 10.21 54 *e*Pn **Pn 08 44 55.5 +5.8**
MOOW Moose Ponds 10.21 61 *e*Pn **Pn 08 44 54.8 +5.0**
LOHW Long Hollow 10.26 62 *e*Pn **Pn 08 44 55.0 +4.6**
BSMT Bassoo Peak 10.34 33 *e*Pn **Pn 08 44 56.2 +4.7**
FLWY Flagg Ranch 10.36 59 *e*Pn **Pn 08 44 58.1 +6.2**
CHMT Chamberlain Mo 10.37 41 *e*Pn **Pn 08 44 57.4 +5.6**
YFT Old Faithful 10.42 57 *e*Pn **Pn 08 45 01.2 +8.5**
YMR Madison River 10.43 56 *e*Pn **Pn 08 44 58.5 +5.7**
144nm,1.8s
YNR Norris Junctio 10.63 56 *e*Pn **Pn 08 45 02.2 +6.7**
LKWY Lake 10.75 57 *e*Pn **Pn 08 45 03.4 +6.3**
PDAR Pinedale Array 10.75 68 Pn **Pn 08 45 02.0 +4.8**
0.0nm,0.3s,baz=235,slow=8.7,SNR=4.2
PDAR Lg 08 48 08.1
0.0nm,0.3s,baz=243,slow=28,SNR=2.3
PDAR LR LR 08 48 50.7
comp=Z,594nm,20.4s,baz=81,slow=36
HRY Holter Researc 10.98 45 *e*Pn **Pn 08 45 05.1 +4.7**
WALA Waterton Lakes 11.65 31 *e*Pn **Pn 08 45 11.9 +2.4**
MVCO Mesa Verde 11.69 96 *e*Pn **Pn 08 45 16.2 +6.2**
RLMT Red Lodge 11.71 57 *e*Pn **Pn 08 45 17.5 +7.2**
GCMT Greycliff 11.76 53 *e*Pn **Pn 08 45 16.3 +5.4**
TUC Tucson 12.26 122 *e*Pn **Pn 08 45 19.7 +1.8**
11nm,1.4s
TUC Tucson 12.26 122 *e*P **Pn 08 45 19.7 +1.8**
TUC pmax pmax
comp=Z,11nm,1.4s
SMCO Snowmass 12.51 86 *e*Pn **Pn 08 45 26.7 +5.5**
EGMT Eagleton 12.90 44 *e*Pn **Pn 08 45 31.1 +4.5**
BBB Bella Bella 13.21 346 LR LR 08 50 33.8
comp=Z,1μm,20.4s,baz=167,slow=37
ISCO Idaho Springs 13.50 83 *e*Pn **Pn 08 45 41.2 +6.5**
comp=Z,34nm,1.5s
ISCO Idaho Springs 13.50 83 *e*P **Pn 08 45 41.2 +6.5**
ISCO pmax pmax
comp=Z,34nm,1.5s
PHWY Pilot Hill 13.59 76 *e*Pn **Pn 08 45 39.8 +3.8**
LAZ Ladron 13.73 107 *e*Pn **Pn 08 45 42.2 +4.3**
ANMO Albuquerque 14.01 103 *e*Pn **Pn 08 45 46.8 +5.1**
ANMO Albuquerque 14.01 103 Pn **Pn 08 45 47.2 +5.5**
comp=Z,0.1nm,0.3s,baz=304,slow=12,SNR=8.3
ANMO Lg 08 49 41.9
comp=Z,0.1nm,0.3s,baz=6.2,slow=10,SNR=4.5
ANMO LR LR 08 51 10.6
comp=Z,1μm,20.1s,baz=104,slow=38
LPM Los Pinos Moun 14.14 106 *e*Pn **Pn 08 45 49.7 +6.1**
BNM Barren Site 14.22 107 *e*Pn **Pn 08 45 49.8 +5.2**
EDM Edmonton 15.32 23 *e*P **Pn 08 45 57.2 -2.2**
DGMT Dagmar 16.30 50 *e*P **Pn 08 46 13.7 +1.5**
comp=Z,66nm,1.3s
MNTX Cornudas Mount 16.35 113 *e*Pn **Pn 08 46 15.4 +2.6**
comp=Z,263nm,2.9s
AMTX Amarillo 17.67 98 *e*P **Pn 08 46 29.6 +0.3**
CBKS Cedar Bluff 18.14 85 *e*P **Pn 08 46 37.7 +2.5**
comp=Z,20nm,0.9s
CBKS Cedar Bluff 18.14 85 *e*P **Pn 08 46 37.7 +2.5**
CBKS pmax pmax
comp=Z,20nm,0.9s
LPIG La Paz 18.74 141 LR LR 08 54 23.2
comp=Z,3μm,18.4s,baz=331,slow=39
TXAR Lajitas Array 18.91 116 P **Pn 08 46 47.9 +3.2**
comp=Z,0.1nm,0.3s,baz=298,slow=7.9,SNR=34
TXAR LR LR 08 55 30.6
comp=Z,748nm,19.4s,baz=345,slow=42
DLBC Dease Lake 19.53 349 *e*P **Pn 08 46 49.6 -2.2**
WMOK Wichita Mounta 19.95 96 *e*P **Pn 08 46 58.5 +1.5**
comp=Z,34nm,1.4s
WMOK Wichita Mounta 19.95 96 *e*P **Pn 08 46 58.5 +1.5**
WMOK pmax pmax
comp=Z,34nm,1.4s
ECSD EROS,Sioux Fal 20.24 69 *e*P **P 08 46 55.8 -2.7**
comp=Z,28nm,0.9s
KSU1 Kansas State U 20.50 82 *e*P **P 08 47 05.5 +4.2**
FFC Flin Flon 20.87 36 *e*P **P 08 47 02.2 -3.0**
comp=Z,22nm,0.8s
FFC Flin Flon 20.87 36 *e*P **P 08 47 02.2 -3.0**
FFC pmax pmax
comp=Z,22nm,0.8s
JCT Junction City 21.05 108 *e*P **P 08 47 10.0 +2.7**
comp=Z,38nm,1.4s,mb4.5
JCT Junction City 21.05 108 *e*P **P 08 47 10.0 +2.7**
JCT pmax pmax
comp=Z,38nm,1.4s,mb4.5
AGMN Agassiz Refuge 21.45 57 *e*P **P 08 47 08.7 -2.8**
SKAG Skagway 21.49 343 *e*P **P 08 47 10.0 -1.7**
comp=Z,12nm,1.1s,mb4.1
ULM Lac du Bonnet 22.01 52 P **P 08 47 14.7 -2.7**
comp=Z,5.8nm,0.5s,mb4.3,baz=247,slow=10,SNR=15
ULM LR LR 08 55 28.2
comp=Z,719nm,19.9s,MS4.1,baz=257,slow=36
YKA Yellowknife Ar 23.66 10 P **P 08 47 33.9 -0.7**
comp=Z,5.2nm,0.9s,mb3.9,baz=194,slow=8.8,SNR=48
YKA LR LR 08 58 26.5
comp=Z,576nm,18.4s,MS4.1,baz=165,slow=41
YKW3 Yellowknife Ar 23.72 10 *e*P **P 08 47 34.6 -0.6**
DAWY Dawson 26.48 344 *e*P **P 08 47 59.2 -1.0**
PMR Palmer 27.32 333 *e*P **P 08 48 03.8 -4.0**
comp=Z,19nm,1.1s,mb4.5
PMR Palmer 27.32 333 *e*P **P 08 48 03.8 -4.0**
PMR pmax pmax
comp=Z,19nm,1.1s,mb4.5
MCK McKinley 28.74 336 *e*P **P 08 48 22.0 +1.5**
comp=Z,9.0nm,1.1s,mb4.4
MCK McKinley 28.74 336 *e*P **P 08 48 22.0 +1.5**
MCK pmax pmax
comp=Z,9.0nm,1.1s,mb4.4
COLA College 29.26 339 *e*P **P 08 48 24.5 -0.6**
COLA College 29.26 339 *e*P **P 08 48 26.6 +1.5**
INK Inuvik 29.48 352 *e*P **P 08 48 25.9 -1.1**
comp=Z,1μm,1.3s
INK Inuvik 29.48 352 P **P 08 48 26.9 -0.1**
comp=Z,14nm,1.0s,mb4.6,baz=167,slow=9.7,SNR=25
INK LR LR 09 01 55.6
comp=Z,2μm,18.1s,MS4.7,baz=167,slow=40
IMA2 Indian Mountai 31.83 337 *e*P **P 08 48 43.2 -4.5**
BLA Blacksburg 33.34 80 *e*P **P 08 49 03.3 +2.0**
comp=Z,33nm,1.3s,mb5.1
BLA Blacksburg 33.34 80 *e*P **P 08 49 03.3 +2.0**
BLA pmax pmax
comp=Z,33nm,1.3s,mb5.1
KIP Kipapa 34.77 249 *i*P **P 08 49 22.4 +8.6**
TNA Tin City 36.49 330 *e*P **P 08 49 24.2 -3.9**
comp=Z,20nm,1.7s,mb4.8
GAMB Gambell 37.40 327 *e*P **P 08 49 31.7 -4.2**
comp=Z,0.9nm,0.3s,mb4.1
RES Resolute Bay 37.69 12 *e*P **P 08 49 38.5 +0.2**
comp=Z,712nm,1.1s
SCHQ Schefferville 40.11 48 P **P 08 49 59.5 +0.8**
comp=Z,3.2nm,0.8s,mb4.1,baz=273,slow=6.5,SNR=11
BILL Bilibino 46.93 331⇑ *e*P **P 08 50 55.0 +1.5**
BILL pmax pmax
comp=Z,13nm,1.6s,mb4.6
BILL MLR MLR
comp=Z,300nm,15.0s,MS4.4
TAOE Nuku Hiva Isla 50.59 202 *e*S **S 08 58 40.0 +3.3**
comp=Z,2μm,25.6s
TAOE *e*LR LR 09 05 44.9
comp=Z,14μm,28.4s
SEY Seymchan 53.38 325 *e*P **P 08 51 45.0 +2.5**
SDV Santo Domingo 55.73 108 *e*P **P 08 52 01.1 +0.9**
ROSC El Rosal 55.83 115 LR LR 09 17 55.7
comp=Z,166nm,19.3s,MS4.1,baz=14,slow=38
TIXI Tiksi 58.38 339 *e*P **P 08 52 16.6 -1.6**
comp=Z,1.1nm,0.6s,mb4.1
TIXI Tiksi 58.38 339 *e*P **P 08 52 19.3 +1.1**
TIXI pmax pmax
comp=Z,8.0nm,1.6s,mb4.5
TIXI MLR MLR
comp=Z,200nm,20.0s,MS4.2
KBS Kingsbay 59.01 9 *e*P **P 08 52 21.8 -0.7**
PPT Papeete 61.87 209 *e*S **S 09 01 12.7 +6.3**
comp=Z,287nm,26.2s
PPT *e*LR LR 09 10 57.0
comp=Z,352nm,22.8s,baz=26
PPT Papeete 61.87 209 LR LR 09 11 57.7
comp=Z,332nm,19.0s,MS4.5,baz=12,slow=29
RKT Rikitea 63.21 192 *e*LR LR 09 11 38.4
comp=Z,293nm,25.5s
YAK Yakutsk 63.26 330 *e*P **P 08 52 53.5 +2.0**
YAK pmax pmax
comp=Z,30nm,1.0s,mb5.4
YAK MLR MLR
comp=Z,200nm,22.0s,MS4.2
TBI Tubuai 67.14 206 *e*LR LR 09 13 28.3
comp=Z,351nm,29.2s
ARCES ARCESS Array B 68.91 11 LR LR 09 27 22.2
comp=Z,286nm,18.4s,MS4.5,baz=340,slow=39
APA Apatity 71.84 9⇑ *i*P **P 08 53 41.0 -4.6**
APA *i* 08 53 46.5
APA pmax pmax
comp=Z,38nm,1.4s,mb5.1
BOD Bodaibo 71.97 332 *e*P **P 08 53 43.2 -3.4**
BOD pmax pmax
comp=Z,5.0nm,1.1s,mb4.4
NOA NORSAR Array B 73.18 21 P **P 08 53 55.0 +1.3**
NOA LR LR 09 25 30.8
NOA NORSAR Array B 73.18 21 P **P 08 53 55.0 +1.3**
comp=Z,1.5nm,0.9s,mb3.9,baz=325,slow=5.9,SNR=3.4
NOA LR LR 09 25 30.8
comp=Z,199nm,20.7s,MS4.4,baz=225,slow=35
MAJO Matsushiro 73.68 304 *e*P **P 08 53 51.2 -5.9**
HFS Hagfors 74.62 21 P **P 08 54 02.7 +0.6**
comp=Z,3.7nm,0.8s,mb4.4,baz=245,slow=9.5,SNR=4.2
HFS LR LR 09 27 10.4
comp=Z,331nm,21.5s,MS4.6,baz=322,slow=36
JHJ Hachijo jima 2 74.71 300 LR LR 09 21 11.2
comp=Z,201nm,21.5s,MS4.4,baz=94,slow=31
LPAZ La Paz 75.50 126 P **P 08 54 09.1 +1.3**
comp=Z,1.9nm,0.9s,mb4.0,baz=328,slow=3.5,SNR=6.2
LPAZ LR LR 09 27 20.3
comp=Z,155nm,19.3s,MS4.3,baz=145,slow=36
FINES FINESS Array B 76.39 15 P **P 08 54 13.7 +1.3**
comp=Z,2.4nm,0.7s,mb4.2,baz=341,slow=11,SNR=6.4
CN2 Changchun 76.62 316 *e*P **P 08 54 13.8 -0.1**
CN2 *e*S S 09 03 57.8 -2.4
CN2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.9
CN2 AMB AMB
comp=Z,200nm,3.0s
CBIJ Chichi jima 76.70 294 LR LR 09 26 44.1
comp=Z,213nm,18.6s,MS4.5,baz=161,slow=35
KSRS Korea Array 79.47 310 LR LR 09 24 43.3
comp=Z,72nm,20.4s,MS4.0,baz=160,slow=32
TLY Talaya 80.52 333 *e*P **P 08 54 38.2 +2.9**
TLY *e*S S 09 04 56.7 +15
TLY pmax pmax
comp=Z,4.0nm,1.2s,mb4.2
TLY MLR MLR
comp=Z,205nm,20.0s,MS4.5
CLL Collm 81.82 26 *e*P **P 08 54 44.0 +1.8**
comp=Z,16nm,1.6s,mb4.7
CLL LmV 08 32 00.0
comp=Z,300nm,19.2s
ULN Ulaanbaatar 82.31 329 *e*P **P 08 54 47.3 +2.4**
SONM Songino Array 82.60 329 P **P 08 54 48.3 +1.9**
comp=Z,0.5nm,0.6s,mb3.8,baz=22,slow=5.3,SNR=6.1
SONM LR LR 09 31 01.7
comp=Z,270nm,20.4s,MS4.6,baz=30,slow=35
GUMO Guam 83.04 282 LR LR 09 30 19.5
comp=Z,68nm,18.1s,MS4.1,baz=82,slow=35
NVS Novosibirsk 83.41 345⇑ *i*P **P 08 54 51.7 +1.2**
NVS pmax pmax
comp=Z,24nm,1.5s,mb5.0
NVS pmax pmax
comp=N,10.0nm,1.6s
NVS pmax pmax
comp=E,9.0nm,1.4s
PRU Pruhonice 83.46 26 AMS AMS 09 34 50.0
comp=Z,200nm,17.1s,MS4.6
UPC Upice 83.51 25 *e*P **P 08 54 53.6 +2.6**
ESDC Sonseca Array 83.61 43 P **P 08 54 53.0 +1.2**
comp=Z,0.3nm,0.3s,mb3.9,baz=317,slow=6.1,SNR=8.2
DPC Dobruska-Polom 83.74 25 *e*P **P 08 54 55.2 +3.0**
KHC Kasperske Hory 83.86 27 *e*P **P 08 54 55.4 +2.5**
KHC AMS AMS 09 33 10.0
comp=Z,300nm,20.2s,MS4.7
ZALV Zalesovo Beam 83.92 344 P **P 08 54 54.4 +1.4**
ZALV LR LR 09 35 03.3
ZALV Zalesovo Beam 83.92 344 P **P 08 54 54.4 +1.4**
comp=Z,1.5nm,0.6s,mb4.3,baz=20,slow=4.7,SNR=10.0
ZALV LR LR 09 35 03.3
comp=Z,144nm,19.3s,MS4.4,baz=16,slow=38
ZAL Zalesovo 83.94 344 P **P 08 54 54.4 +1.3**
GERES GERESS Array B 84.14 27 LR LR 09 33 41.8
comp=Z,250nm,20.5s,MS4.6,baz=159,slow=37
BJI Beijing 84.16 318 P **P 08 54 53.8 -0.8**
BJI S S 09 05 12.8 -6.7
BJI SS SS 09 10 45.1 -2.1
BJI LR LR
comp=N,150nm,14.8s,MS4.6
BJI LR LR
comp=E,143nm,15.3s,MS4.6
BJI LR LR
comp=Z,190nm,33.4s
OBN Obninsk 84.22 12⇊ *i*P **P 08 54 57.0 +2.4**
OBN pmax pmax
comp=Z,32nm,1.8s,mb5.2
OBN MLR MLR
comp=Z,400nm,20.0s,MS4.8
DAVOS Davos 84.37 30 P **P 08 54 59.1 +3.6**
TREC Trest 84.38 26 AMS AMS 09 35 10.0
comp=Z,300nm,17.9s,MS4.7
DAVOX Davos/Dischmat 84.45 30 P **P 08 54 59.1 +3.2**
comp=Z,1.6nm,0.4s,mb4.5,baz=329,slow=16,SNR=5.1
FETA Feichten 84.58 30⇊ *i*PcP PcP 08 55 00.3 +0.2
comp=Z,7.3nm,1.1s
WTTA Wattenberg 84.72 29⇑ *i*P **P 08 55 00.2 +2.9**
comp=Z,15nm,1.4s,mb4.9
WTTA Wattenberg 84.72 29⇑ *i*PcP PcP 08 55 00.2 -0.5
comp=Z,15nm,1.4s
WTTA Wattenberg 84.72 29⇑ *i*P **P 08 55 00.2 +2.9**
WTTA pmax pmax
comp=Z,15nm,1.4s,mb4.9
VRAC Vranov 84.73 25 P **P 08 54 59.6 +2.3**
comp=Z,5.4nm,0.3s,mb5.1,baz=101,slow=12,SNR=6.5
VRAC LR LR 09 32 28.4
comp=Z,133nm,21.1s,MS4.3,baz=339,slow=35
OKC Ostrava-Krasne 84.77 24 *e*P **P 08 55 00.0 +2.5**
KBA Koelnbreinsper 85.51 28⇑ *i*P **P 08 55 05.0 +3.8**
comp=Z,10nm,1.6s,mb4.8
KBA Koelnbreinsper 85.51 28⇑ *i*PcP PcP 08 55 05.0 +0.8
comp=Z,10nm,1.6s
KBA Koelnbreinsper 85.51 28⇑ *i*P **P 08 55 05.1 +3.9**
KBA pmax pmax
comp=Z,10.0nm,1.5s,mb4.8

HHC	**Hu-ho-hao-te**	**85.84 322**	*e*P	**P**	**08 55 01.3**	**-1.7**
HHC			AP	pP	08 55 06.8	+0.5
HHC			XP	sP	08 55 09.0	+1.5
HHC			PP	PP	08 58 23.5	+1.8
HHC			SKS		09 05 22.1	
HHC			S	S	09 05 32.4	-3.7
HHC			SS	SS	09 11 10.6	-1.2
HHC			AMB	AMB		
	comp=Z,21nm,0.3s,mb5.8					
HHC			AMB	AMB		
	comp=Z,118nm,5.5s					
HHC			LR	LR		
	comp=N,147nm,5.1s					
HHC			LR	LR		
	comp=E,302nm,4.9s					
HHC			LR	LR		
	comp=Z,171nm,11.8s,MS4.7					
OBKA	**Obir**	**86.43 28**⇑	*i*P	**P**	**08 55 08.7**	**+2.9**
	comp=Z,5.7nm,0.9s,mb4.8					
OBKA	**Obir**	**86.43 28**⇑	*i*PcP	PcP	08 55 08.7	+0.5
	comp=Z,5.7nm,0.9s					
AKASG	**Malin Array Be**	**87.01 17**	P	**P**	**08 55 09.3**	**+0.8**
AKASG			LR	LR	09 37 54.2	
AKASG	**Malin Array Be**	**87.01 17**	*i* P	**P**	**08 55 08.6**	**+0.1**
AKASG	**Malin Array Be**	**87.01 17**	P	**P**	**08 55 09.3**	**+0.8**
	comp=Z,0.2nm,0.3s,mb3.9,baz=342,slow=4.3,SNR=6.1					
AKASG			LR	LR	09 37 54.2	
	comp=Z,200nm,18.7s,MS4.5,baz=315,slow=38					
BVAR	**Borovoye Array**	**87.17 352**	P	**P**	**08 55 11.1**	**+1.8**
	comp=Z,1.6nm,0.8s,mb4.3,baz=0.0,slow=3.0,SNR=12					
BVAR			LR	LR	09 39 55.7	
	comp=Z,303nm,18.3s,MS4.7,baz=9.5,slow=40					
KURK	**Kurchatov**	**88.22 346**	*e*P	**P**	**08 55 13.5**	**-0.9**
	comp=Z,3.3nm,0.9s,mb4.6					
KURK	**Kurchatov**	**88.22 346**	*e*P	**P**	**08 55 16.6**	**+2.3**
NJ2	**Nanjing**	**88.56 311**	*e*P	**P**	**08 55 15.3**	**-1.1**
NJ2			AMB	AMB		
	comp=Z,40nm,0.7s,mb5.9					
BDFB	**Brasilia**	**88.72 111**	P	**P**	**08 55 18.9**	**+1.8**
	comp=Z,0.8nm,0.6s,mb4.2,baz=358,slow=9.3,SNR=3.9					
BDFB			LR	LR	09 36 39.5	
	comp=Z,67nm,19.9s,MS4.1,baz=161,slow=37					
AKTK	**Aktyubinsk**	**90.50 359**	P	**P**	**08 55 26.1**	**+1.1**
AKTO	**Aktyubinsk**	**90.50 359**	P	**P**	**08 55 26.1**	**+1.1**
	comp=Z,2.7nm,1.0s,mb4.5,baz=354,slow=5.5,SNR=5.6					
MLR	**Muntele Rosu**	**91.00 21**	LR	LR	09 37 01.5	
	comp=Z,381nm,21.1s,MS4.8,baz=353,slow=36					
MKAR	**Makanchi Array**	**91.20 343**	*i* P	**P**	**08 55 30.5**	**+2.1**
MKAR	**Makanchi Array**	**91.20 343**	P	**P**	**08 55 29.6**	**+1.2**
	comp=Z,0.3nm,0.3s,mb4.2,baz=349,slow=3.7,SNR=6.0					
MKAR			LR	LR	09 41 44.0	
	comp=Z,153nm,19.2s,MS4.5,baz=357,slow=39					
GTA	**Gaotai**	**92.25 328**	*e*P	**P**	**08 55 36.9**	**+3.5**
GTA			AP	pP	08 55 41.8	+5.1
GTA			XP	sP	08 55 43.9	+6.0
GTA			AMB	AMB		
	comp=Z,4.0nm,2.4s,mb4.3					
WMQ	**Urumqi**	**92.57 338**	*e*P	**P**	**08 55 35.0**	**+0.2**
WMQ			*e*SKS		09 06 08.0	
WMQ			AMB	AMB		
	comp=Z,5.0nm,0.7s,mb5.0					
WMQ			AMB	AMB		
	comp=Z,180nm,6.4s					
WMQ			LR	LR		
	comp=N,312nm,21.4s,MS4.8					
WMQ			LR	LR		
	comp=E,256nm,22.3s,MS4.8					
WMQ			LR	LR		
	comp=Z,339nm,20.0s,MS4.8					
PLCA	**Paso Flores**	**93.07 143**	LR	LR	09 32 29.8	
	comp=Z,182nm,19.8s,MS4.5,baz=357,slow=32					
LZH	**Lanzhou**	**93.28 324**	*e*P	**P**	**08 55 35.0**	**-3.2**
LZH			AMB	AMB		
	comp=Z,14nm,1.0s,mb5.3					
LZH			AMB	AMB		
	comp=Z,68nm,4.3s					
KEST	**Kesra**	**93.29 37**	LR	LR	09 38 49.7	
	comp=Z,80nm,19.4s,MS4.2,baz=270,slow=36					
VAE	**Valguarnera**	**94.07 33**	LR	LR	09 38 29.2	
	comp=Z,258nm,18.1s,MS4.7,baz=128,slow=36					
CD2	**Chengdu**	**97.56 321**	*e*P	**P**	**08 55 55.8**	**-2.1**
CD2			PP	PP	08 59 54.8	+0.4
CD2			SKS		09 06 31.1	
CD2			S	S	09 07 15.3	-7.7
CD2			SS	SS	09 13 56.6	-4.2
CD2			AMB	AMB		
	comp=Z,10.0nm,0.9s,mb5.3					
CD2			AMB	AMB		
	comp=Z,30nm,9.2s					
CD2			LR	LR		
	comp=N,280nm,19.2s,MS5.1					
CD2			LR	LR		
	comp=E,460nm,14.4s,MS5.1					
CD2			LR	LR		
	comp=Z,240nm,16.8s,MS4.8					
GYA	**Guiyang**	**99.67 316**	*e*P	Pdif	08 56 05.3	-1.8
GYA			PP	PP	09 00 12.4	+1.8
GYA			SKS		09 06 44.3	
GYA			SS	SS	09 14 29.3	-1.3
GYA			AMB	AMB		
	comp=Z,10.0nm,1.0s,mb5.2					
GYA			AMB	AMB		
	comp=Z,120nm,6.8s					
GYA			LR	LR		
	comp=N,490nm,23.6s,MS5.1					
GYA			LR	LR		
	comp=E,430nm,23.4s,MS5.1					
GYA			LR	LR		
	comp=Z,450nm,24.2s,MS4.9					
KMI	**Kunming**	**102.81 318**	P	Pdif	08 56 22.5	+1.4
KMI			S	Sdif	09 08 01.9	-4.9
KMI			AMB	AMB		
	comp=Z,11nm,0.6s					
KMI			LR	LR		
	comp=Z,108nm,16.4s,MS4.5					
QSPA	**South Pole Qui**	**129.25 180**	*e*PKPdf	PKPdf	09 01 28.0	-2.3
LSZ	**Lusaka**	**145.21 54**	*e*PKPdf	PKPdf	09 02 01.0	-0.4
MAW	**Mawson**	**151.59 185**	PKPbc	PKPbc	09 02 15.9	-0.6
	comp=Z,2.3nm,0.7s,baz=145,slow=5.8,SNR=4.2					
BOSA	**Boshof**	**151.78 77**	PKPbc	PKPbc	09 02 17.9	-0.2
	comp=Z,2.8nm,0.9s,baz=198,slow=3.2,SNR=2.8					

MAN 18 09:11:43,933N×12652E,h10km,mb4.3,ML3.1,MS2.9, Mindanao

ISK 18 09:16:37.9,3956N×3318E,h12km,MD2.8
CSEM 18 09:16:38.7±0.4,3961N×3329E,h5km,MD2.8, Error ellipse: s-maj=8.8km s-min=7.6km az=79.0
ISCJB 18 09:16:39.8±1.3,3950N±006×3326E±006,h15km±10km, Error ellipse: s-maj=11.3km s-min=7.3km az=150.7
DDA 18 09:16:39.7,3956N×3347E,h7km±1km,Md2.8
ISC 18 09:16:38.4±1.3,3960N±006×3322E±007,h1km±10km,n9, σ1§29/14,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAMT	**Kaman**	**0.45**	**120**	*e*PG	**Pg**	**09 16 47.4**	**+0.5**
KAMT				*e*SG	**Sg**	**09 16 54.2**	**+1.4**
CDAG	**Cicekdag**	**0.89**	**88**	*i* P	**Pg**	**09 16 52.8**	**-2.7**
CDAG				*i* S	**Sg**	**09 17 06.0**	**-1.1**
ELDT	**Eldivan**	**0.91**	**10**	*i* P	**Pg**	**09 16 56.9**	**+1.0**
ELDT				*i* S	**Sg**	**09 17 12.7**	**+5.1**
CORM	**Corum**	**1.23**	**61**	*e*PN	**Pn**	**09 17 02.5**	**-0.2**
CORM	**Corum**	**1.23**	**61**	*e*PN	**Pn**	**09 17 02.5**	**-0.2**
CORM				*e*SN	**Sn**	**09 17 21.5**	**+1.5**
KIZT	**Kizilcal**	**1.26**	**236**	*e*PN	**Pn**	**09 17 01.0**	**-2.0**
KDHN	**Kadinhani**	**1.37**	**219**	*i* P	**Pn**	**09 17 05.7**	**+1.1**
KDHN				*i* S	**Sg**	**09 17 27.0**	**+4.5**
YOZ	**Yozgat**	**1.63**	**88**	*e*PN	**Pn**	**09 17 07.2**	**-0.9**
KONT	**Konya--Tatoy**	**1.78**	**202**	*e*PN	**Pn**	**09 17 09.6**	**-0.6**

ISCJB 18 09:19:53.3±2.5,1238N±007×1414E±01,h47km±24km, mb4.4/18,MS3.3/5,Error ellipse: s-maj=23.4km s-min=12.3km az=3.2
IDC 18 09:19:55.2±3.2,1240N×1414 6E,h47km±32km,mb3.9/12, mb1 4.1/13,mb1mx3.9/21,mbtmp3.9/13,ML4.1/1,MS3.4/5, Ms1 3.4/5,ms1mx3.0/30,Error ellipse: s-maj=26.4km s-min=15.1km az=84.0
NEIC 18 09:19:56.2±1.7,1241N×1415 3E,h58km±16km,mb4.3/5, Error ellipse: s-maj=15.2km s-min=8.5km az=92.0
ISC 18 09:19:56.4±2.3,1240N±007×1416E±01,h60km±22km,n37, σ0§77/31,mb4.4/18,MS3.3/5,South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**3.45**	**70**	P	**Pn**	**09 20 47.3**	**-0.3**
	15nm,0.3s,baz=253,slow=6.0,SNR=10						
JHJ	**Hachijo jima 2**	**20.69**	**356**	LR	LR	09 30 26.8	
	comp=Z,46nm,19.5s,MS2.9,baz=168,slow=30						
JNU	**Nakatsue**	**22.82**	**336**	LR	LR	09 31 22.3	
	comp=Z,110nm,21.0s,MS3.3,baz=317,slow=30						
KSRS	**Korea Array**	**27.78**	**336**	LR	LR	09 36 46.9	
	comp=Z,31nm,18.4s,MS2.9,baz=165,slow=36						
CTA	**Charters Tower**	**32.61**	**172**	LR	LR	09 39 19.1	
	comp=Z,140nm,18.1s,MS3.7,baz=25,slow=36						
WRAB	**Tennant Creek**	**32.90**	**193**	*e*P	**P**	**09 26 25.1**	**+0.1**
	2.0nm,0.5s,mb4.3						
WB2	**Warramunga Arr**	**32.91**	**193**	*e*P	**P**	**09 26 25.3**	**+0.2**
WRA	**Warramunga Arr**	**32.91**	**193**	P	**P**	**09 26 24.6**	**-0.5**
	1.7nm,0.6s,mb4.1,baz=13,slow=9.6,SNR=26						
ASAR	**Alice Springs**	**36.61**	**192**	P	**P**	**09 26 57.5**	**+0.6**
	0.4nm,0.5s,mb3.5,baz=20,slow=12,SNR=9.8						
ASAR				PcP	PcP	09 29 19.6	+0.5
	0.4nm,0.7s,baz=36,slow=3.0,SNR=5.0						
STKA	**Stephens Creek**	**44.02**	**180**	*e*P	**P**	**09 27 58.2**	**+0.1**
	2.7nm,1.1s,mb3.9						
STKA	**Stephens Creek**	**44.02**	**180**	P	**P**	**09 27 57.8**	**-0.3**
	0.7nm,0.3s,mb3.8,baz=193,slow=12,SNR=6.9						
ULN	**Ulaanbaatar**	**45.58**	**328**	*e*P	**P**	**09 28 11.3**	**+0.9**
	1.8nm,0.6s,mb4.2						
SONM	**Songino Array**	**45.91**	**327**	P	**P**	**09 28 13.6**	**+0.6**
	0.8nm,0.7s,mb3.8,baz=142,slow=8.2,SNR=5.6						
MK31	**Makanchi Array**	**60.12**	**317**	*e*P	**P**	**09 29 58.4**	**+0.7**
MKAR	**Makanchi Array**	**60.12**	**317**	P	**P**	**09 29 57.8**	**+0.1**
	2.2nm,0.7s,mb4.3,baz=91,slow=8.6,SNR=17						
MKAR				PcP	PcP	09 30 43.1	+0.2
	0.3nm,0.5s,baz=96,slow=5.8,SNR=2.2						
ZAA0	**Zalesovo Array**	**60.73**	**325**	*e*P	**P**	**09 30 02.4**	**+0.7**
ZALV	**Zalesovo Beam**	**60.73**	**325**	P	**P**	**09 30 01.4**	**-0.3**
ZALV	**Zalesovo Beam**	**60.73**	**325**	P	**P**	**09 30 01.4**	**-0.2**
	2.0nm,0.3s,mb4.8,baz=92,slow=13,SNR=7.7						
KURK	**Kurchatov**	**63.43**	**321**	*e*P	**P**	**09 30 20.0**	**+0.2**
	6.8nm,0.6s,mb5.0						
BVAR	**Borovoye Array**	**68.86**	**322**	P	**P**	**09 30 55.1**	**+0.5**
	2.7nm,0.5s,mb4.5,baz=103,slow=7.3,SNR=11						
BRVK	**Borovoye**	**68.93**	**322**	*e*P	**P**	**09 30 54.8**	**-0.2**
	3.9nm,0.6s,mb4.5						
DAWY	**Dawson**	**74.15**	**27**	*e*P	**P**	**09 31 26.7**	**+0.5**
AKTK	**Aktyubinsk**	**76.45**	**319**	P	**P**	**09 31 39.4**	**-0.3**
AKTO	**Aktyubinsk**	**76.45**	**319**	P	**P**	**09 31 39.4**	**-0.3**
	1.0nm,0.4s,mb4.1,baz=89,slow=9.3,SNR=5.3						
INK	**Inuvik**	**76.70**	**22**	*e*P	**P**	**09 31 40.4**	**-0.4**
	76nm,0.8s,mb5.7						
YKA	**Yellowknife Ar**	**85.39**	**27**	P	**P**	**09 32 27.3**	**+0.3**
YKA	**Yellowknife Ar**	**85.39**	**27**	P	**P**	**09 32 27.3**	**+0.3**
	1.3nm,0.6s,mb4.2,baz=288,slow=4.9,SNR=28						
RES	**Resolute Bay**	**86.44**	**13**	*e*P	**P**	**09 32 32.3**	**+0.3**
	124nm,0.8s						
ARCES	**ARCESS Array B**	**87.20**	**342**	P	**P**	**09 32 35.5**	**-0.3**
ARCES	**ARCESS Array B**	**87.20**	**342**	P	**P**	**09 32 35.5**	**-0.3**
	1.7nm,0.6s,mb4.5,baz=60,slow=7.2,SNR=17						
JOF	**Joensuu**	**88.00**	**335**	*e*p	**P**	**09 32 37.9**	**-1.8**
	5.6nm,0.7s,mb4.9						
NVAR	**Mina Array Bea**	**90.18**	**51**	P	**P**	**09 32 52.1**	**+1.6**
	0.3nm,0.4s,mb3.9,baz=262,slow=6.3,SNR=3.4						
KAF	**Kangasniemi**	**90.44**	**335**	*e*p	**P**	**09 32 48.5**	**-2.7**
FINES	**FINESS Array B**	**90.85**	**334**	P	**P**	**09 32 51.9**	**-1.2**
FINES	**FINESS Array B**	**90.85**	**334**	P	**P**	**09 32 51.9**	**-1.2**
	4.0nm,0.6s,mb4.9,baz=62,slow=5.9,SNR=20						
NOA	**NORSAR Array B**	**96.97**	**338**	LR	LR	10 20 50.6	
	comp=Z,27nm,18.3s,MS3.8,baz=0.0,slow=38						
LPAZ	**La Paz**	**151.00**	**101**	PKPbc	PKPbc	09 39 45.0	+1.5
	3.2nm,0.7s,baz=287,slow=2.9,SNR=12						

ISCJB 18 09:25:07.7±0.4,1387N±009×120.1E±02,h10km,mb4.4/17, Error ellipse: s-maj=28.5km s-min=8.0km az=159.1
IDC 18 09:25:08.0±0.6,1389N×120.12E,h0km,mb4.1/10, mb1 4.2/10,mb1mx4.1/20,mbtmp4.1/10,Error ellipse: s-maj=45.4km s-min=12.9km az=68.0
NEIC 18 09:25:11.4±0.4,1410N×12055E,h25km,mb4.6/6,Error ellipse: s-maj=28.6km s-min=7.9km az=71.0
MAN 18 09:25:11,1369N×11982E,h6km,mb4.6,ML3.5,MS3.4
ISC 18 09:25:09.5±0.4,1391N±009×1202E±02,h10km,n24, σ0§55/24,mb4.4/17,Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NACB	**Ninganchiao**	**10.30**	**7**	*e*Pn	**Pn**	**09 27 31.8**	**-5.6**
BATI	**Kupang**	**24.20**	**172**	P	**P**	**09 30 27.1**	**+0.6**
	47nm,0.5s,mb5.2,baz=56,slow=2.2,SNR=10						
KSRS	**Korea Array**	**24.45**	**15**	P	**P**	**09 30 29.1**	**+0.7**
	1.8nm,0.7s,mb3.6,baz=202,slow=11,SNR=7.3						
KAKA	**Kakadu**	**29.10**	**155**	*e*P	**P**	**09 31 10.0**	**-0.6**
	5.8nm,0.6s,mb4.5						
MBWA	**Marble Bar**	**34.85**	**181**	*e*P	**P**	**09 32 01.4**	**+0.4**
	4.6nm,0.5s,mb4.7						
SONM	**Songino Array**	**35.72**	**344**	P	**P**	**09 32 08.3**	**0.0**
	0.6nm,0.5s,mb3.8,baz=163,slow=9.1,SNR=4.9						
SONM				PcP	PcP	09 34 36.1	-0.2
	0.9nm,0.6s,baz=176,slow=3.7,SNR=5.4						
WRAB	**Tennant Creek**	**36.40**	**157**	*e*P	**P**	**09 32 13.7**	**-0.7**
	12nm,0.6s,mb5.0						
WRA	**Warramunga Arr**	**36.41**	**157**	P	**P**	**09 32 13.9**	**-0.5**
	16nm,0.6s,mb5.1,baz=336,slow=9.6,SNR=120						
WB2	**Warramunga Arr**	**36.41**	**157**	*e*P	**P**	**09 32 14.3**	**-0.1**
ASAR	**Alice Springs**	**39.68**	**160**	P	**P**	**09 32 42.3**	**+0.3**
	7.7nm,0.5s,mb4.7,baz=340,slow=7.1,SNR=154						
CTA	**Charters Tower**	**42.41**	**142**	P	**P**	**09 33 05.3**	**+0.8**
	2.9nm,0.6s,mb4.1,baz=340,slow=11,SNR=4.2						
FORT	**Forrest**	**45.07**	**170**	*e*P	**P**	**09 33 26.1**	**+0.3**
	18nm,0.6s,mb5.1						
FORT	**Forrest**	**45.07**	**170**	*e*P	**P**	**09 33 25.9**	**+0.2**
	3.4nm,0.7s,mb4.3						
MK31	**Makanchi Array**	**45.57**	**324**	*e*P	**P**	**09 33 30.2**	**+0.6**
MKAR	**Makanchi Array**	**45.57**	**324**	P	**P**	**09 33 30.1**	**+0.5**
	0.4nm,0.4s,mb3.7,baz=133,slow=11,SNR=5.6						
MKAR				PcP	PcP	09 35 08.2	+0.1
	0.6nm,0.6s,baz=134,slow=4.2,SNR=3.4						
ZALV	**Zalesovo Beam**	**48.65**	**333**	P	**P**	**09 33 52.1**	**-1.4**
	1.1nm,0.4s,mb4.3,baz=140,slow=7.2,SNR=3.8						
KURK	**Kurchatov**	**49.74**	**326**	*e*P	**P**	**09 34 01.8**	**-0.1**
	4.6nm,0.7s,mb4.6						
STKA	**Stephens Creek**	**49.94**	**156**	*e*P	**P**	**09 34 03.6**	**-0.1**
	2.7nm,0.6s,mb4.5						
STKA	**Stephens Creek**	**49.94**	**156**	P	**P**	**09 34 03.0**	**-0.6**
	3.2nm,0.5s,mb4.6,baz=311,slow=8.3,SNR=20						
BVAR	**Borovoye Array**	**55.32**	**326**	P	**P**	**09 34 43.9**	**+0.6**
	0.7nm,0.5s,mb3.9,baz=101,slow=7.7,SNR=3.7						
AKTK	**Aktyubinsk**	**61.73**	**320**	P	**P**	**09 35 27.8**	**-0.3**
AKTO	**Aktyubinsk**	**61.73**	**320**	P	**P**	**09 35 27.8**	**-0.3**
	1.4nm,0.7s,mb4.2,baz=90,slow=13,SNR=6.4						
RES	**Resolute Bay**	**88.91**	**9**	*e*P	**P**	**09 38 03.5**	**-0.3**
	58nm,0.7s						
YKA	**Yellowknife Ar**	**92.78**	**22**	P	**P**	**09 38 21.9**	**-0.1**
	0.4nm,0.4s,mb4.2,baz=307,slow=4.6,SNR=17						

ISCJB 18 09:33:37.1±0.3,3270N±002×11603W±002,h11km±2km, Error ellipse: s-maj=3.3km s-min=3.0km az=25.1
NEIC 18 09:33:37.7,3268N×11606W,h10km,ML2.8(PAS),After PAS.
NEIC Felt at Ocotillo.
ECX 18 09:33:38.1±0.6,3270N×11604W,h4km±1km,MD2.7, ML2.8
ISC 18 09:33:37.1±0.3,3269N±002×11604W±002,h13km±3km, n30, σ0§73/50,10C-18D,California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DVTC	**Desert V Tower**	**0.06**	**235**	P	**Pg**	**09 33 39.7**	**0.0**
	baz=0.1,SNR=440						
DVTC				⇓S	**Sg**	**09 33 41.2**	**-0.3**
	baz=0.1						
RMX	**La Rumorosa**	**0.10**	**198**	⇓*e*P	**Pg**	**09 33 40.3**	**+0.3**
RMX				*e*S	**Sg**	**09 33 42.0**	**-0.1**
YUH	**Yuha Desert**	**0.11**	**115**	⇑*e*P	**Pg**	**09 33 40.0**	**-0.2**
CRR	**Carrizo Plain**	**0.20**	**18**	⇓*e*P	**Pg**	**09 33 41.7**	**+0.1**
SGL	**Mount Signal**	**0.27**	**99**	⇑*e*P	**Pg**	**09 33 43.1**	**+0.3**
COK	**Cook Ranch**	**0.31**	**60**	⇑*e*P	**Pg**	**09 33 44.0**	**+0.6**
SWSC	**Sam W. Stewart**	**0.32**	**40**	P	**Pg**	**09 33 43.9**	**+0.3**
	baz=0.4,SNR=95						
SWSC				⇓S	**Sg**	**09 33 48.4**	**+0.3**
	baz=0.4						
MONP	**Monument Peak**	**0.37**	**302**	⇑P	**Pg**	**09 33 44.8**	**+0.2**
	baz=0.3,SNR=28						
MONP				⇓S	**Sg**	**09 33 49.9**	**+0.2**
	baz=0.3						
BAR	**Barrett**	**0.53**	**269**	*e*P	**Pg**	**09 33 47.7**	**+0.2**
CBX	**Cerro Bola**	**0.65**	**234**	⇑*e*P	**Pg**	**09 33 49.8**	**+0.1**
CBX				*e*S	**Sg**	**09 33 58.5**	**+0.2**
CPBX	**Cerro Prieto**	**0.68**	**114**	⇓*e*P	**Pg**	**09 33 49.8**	**-0.5**
CPBX				*e*S	**Sg**	**09 33 59.3**	**0.0**
RDX	**Rancho Dowling**	**0.76**	**174**	⇓*e*P	**Pg**	**09 33 51.7**	**-0.2**
RDX				*e*S	**Sg**	**09 34 01.7**	**-0.2**
RDX				⇓*e*		09 34 06.4	
	comp=E,282nm,0.4s						
109C	**Camp Elliot, M**	**0.92**	**283**	P	**Pg**	**09 33 54.2**	**-0.6**
	baz=0.8,SNR=76						
109C				⇓S	**Sg**	**09 34 06.0**	**-0.8**
	baz=0.8						
ENX	**Ensenada**	**0.97**	**213**	*e*P	**Pb**	**09 33 55.1**	**-0.5**
ENX				*e*S	**Sg**	**09 34 08.2**	**-0.2**
ENX				*e*		09 34 10.5	
	comp=N,221nm,0.3s						
PFO	**Pinyon Flat Ob**	**0.98**	**339**	*e*P	**Pb**	**09 33 55.2**	**-0.6**
PFO				*e*S	**Sg**	**09 34 08.7**	**0.0**
PFO	**Pinyon Flat Ob**	**0.98**	**339**	⇓P	**Pb**	**09 33 55.4**	**-0.4**
	baz=0.9,SNR=89						
PFO				⇑S	**Sg**	**09 34 08.4**	**-0.3**
	baz=0.9						
EMX	**El Mayor**	**0.98**	**136**	⇓*e*P	**Pb**	**09 33 57.6**	**+1.8**
EMX				*e*S	**Sg**	**09 34 11.1**	**+2.4**
BC3	**Big Chuckw Mtn**	**1.08**	**27**	⇓S	**Sb**	**09 34 11.9**	**+0.4**
	baz=1.1						
GLA	**Glamis**	**1.08**	**70**	*e*P	**Pb**	**09 33 56.3**	**-1.4**
GLA				*e*S	**Sb**	**09 34 11.3**	**-0.4**
GLA	**Glamis**	**1.08**	**70**	P	**Pb**	**09 33 56.5**	**-1.1**
	baz=1.1,SNR=21						
GLA				⇓S	**Sb**	**09 34 10.2**	**-1.5**
	baz=1.1						
PBX	**Punta Banda**	**1.11**	**212**	*e*P	**Pb**	**09 33 57.8**	**-0.4**
PBX				*e*S	**Sb**	**09 34 12.7**	**+0.2**
PBX				⇓*e*		09 34 18.7	
	comp=E,283nm,1.0s						
ECNX	**Esteban Cantu**	**1.14**	**205**	*e*P	**Pb**	**09 33 58.2**	**-0.3**
ECNX				*e*S	**Sb**	**09 34 13.6**	**+0.4**
MURC	**Murrieta**	**1.33**	**313**	⇓Pg	**Pg**	**09 34 01.6**	**-1.0**
	baz=1.2,SNR=32						
MURC				⇑S	**Sb**	**09 34 18.5**	**-0.2**
	baz=1.2						
Y12C	**Blythe**	**1.65**	**50**	⇓P	**Pn**	**09 34 04.7**	**-1.0**
	baz=1.7						
Y12C				⇑S	**Sn**	**09 34 26.3**	**-0.5**
	baz=1.7						
BBRC	**Big Bear Sol-O**	**1.73**	**335**	⇓Sb	**Sb**	**09 34 31.5**	**+1.3**
	baz=1.7						
BFSC	**Mount Baldy St**	**2.05**	**319**	⇑Sb	**Sb**	**09 34 40.2**	**+0.7**
	baz=2.0						
Y13A	**Salome**	**2.17**	**58**	⇓P	**Pn**	**09 34 12.0**	**-0.8**
	baz=2.2						
GSC	**Goldstone**	**2.68**	**346**	*e*Pn	**Pn**	**09 34 25.3**	**+5.5**
GSC				*e*S	**Sn**	**09 34 59.1**	**+7.0**
EDW2	**Edwards Air Fo**	**2.72**	**324**	⇑Sb	**Sb**	**09 35 00.5**	**+1.8**
	baz=2.7						
ISA	**Isabella**	**3.58**	**326**	*e*Pg	**Pg**	**09 34 41.9**	**-3.8**
ISA				*e*Sg	**Sg**	**09 35 25.7**	**-6.4**

ISCJB 18 09:40:40.5±0.4,3832N±002×2195E±003,h5km±5km, Error ellipse: s-maj=3.7km s-min=3.4km az=173.9
NEIC 18 09:40:40.5,3830N×2197E,h5km,MD3.4(ATH),After ATH.
ATH 18 09:40:40.5,3830N×2197E,h5km,MD3.4/10
CSEM 18 09:40:41.3±0.1,3832N×2196E,h0km±2km,MD3.4,Error ellipse: s-maj=3.1km s-min=2.8km az=156.0
THE 18 09:40:41.2,3831N×2194E,h3km,ML3.5
ISC 18 09:40:41.2±0.4,3832N±002×2196E±003,h10km±6km,n24, σ1§18/40,2C-4D,Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RLS	**Riolos of Patr**	**0.47**	**237**	⇑*i*PB	**Pg**	**09 40 50.1**	**-0.3**
RLS				*e*SB	**Sg**	**09 40 57.0**	**+0.4**
EVR	**Evrytania**	**0.61**	**349**	*e*PG	**Pg**	**09 40 52.2**	**-0.9**
EVR				*e*SB	**Sb**	**09 41 01.8**	**-0.8**
AGG	**Agios Georgios**	**0.76**	**22**	*e*Pg	**Pg**	**09 40 55.0**	**-0.9**
AGG				*e*Sg	**Sg**	**09 41 07.3**	**+1.5**
LTK	**Loutraki**	**0.84**	**110**	*e*Pg	**Pg**	**09 40 58.0**	**+0.5**
LTK				*e*Sg	**Sg**	**09 41 09.8**	**+1.3**
LKR	**Lokris**	**0.88**	**67**	*e*Pg	**Pg**	**09 40 58.0**	**-0.1**
LKR				*e*Sg	**Sg**	**09 41 12.2**	**+2.6**
LKR	**Lokris**	**0.88**	**67**	⇓*i*PB	**Pg**	**09 40 58.0**	**-0.1**
KFL	**Anninata**	**0.95**	**258**	*e*Pg	**Pg**	**09 40 58.8**	**-0.7**
KFL				*e*Sg	**Sg**	**09 41 12.6**	**+0.8**
VLX	**Vlachokerasia**	**1.00**	**161**	*e*Pg	**Pg**	**09 40 59.7**	**-0.8**
VLX				*e*Sg	**Sg**	**09 41 15.0**	**+1.4**
VLS	**Valsamata**	**1.09**	**263**	*e*Pg	**Pg**	**09 41 00.8**	**-1.4**
VLS				*e*Sg	**Sg**	**09 41 17.7**	**+1.3**
VLS	**Valsamata**	**1.09**	**263**	⇓*i*Pg	**Pg**	**09 41 00.9**	**-1.3**
VLS				*e*Sb	**Sb**	**09 41 17.4**	**+1.0**
VLS				*e*Sg	**Sg**	**09 41 17.7**	**+1.

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**149.14**	**234**	PKPbc	PKPbc	10 06 25.5	-1.0
	0.5nm,0.6s,baz=120,slow=3.8,SNR=10						
WRA	**Warramunga Arr**	**150.37**	**241**	PKPbc	PKPbc	10 06 28.8	-0.7
	0.4nm,0.4s,baz=109,slow=2.7,SNR=18						

BJI 18 09:57:28.0, 4055N×9161E, h9km, ML3.5, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMQ	**Urumqi**	**4.38**	**320**	*e*PG	Pg	09 58 42.0	-10
WMQ				S	Sn	09 59 33.0	+7.4
WMQ				Smax			
	comp=N,138nm,0.7s						
WMQ				Smax			
	comp=E,169nm,0.5s						
GTA	**Gaotai**	**6.40**	**98**	PG	Pg	09 59 17.9	-13
GTA				S	Sn	10 00 11.3	-4.3
GTA				SG	Sg	10 00 44.9	-8.6
GTA				Smax			
	comp=N,27nm,0.9s						
GTA				Smax			
	comp=E,20nm,0.9s						

NIED ***18*** *10:20:00, 4390N×14780E, h41km, Mw3.7 Best double couple: M0 3.57000×10^14 NP1:φs 74.00000°, δ79.00000°, λ123.00000°. NP2:φs 180.00000°, δ34.00000°, λ19.00000°.*
MOS ***18*** *10:20:37.0±1.6, 44.12N×14828E, h58km, mb4.4/1, Error ellipse: s-maj=29.6km s-min=19.4km az=145.7*
ISCJB ***18*** *10:20:39.4±1.4, 440N±0.1×148.1E±0.1, h76km±14km, mb3.3/4, Error ellipse: s-maj=21.1km s-min=13.4km az=154.8*
JMA ***18*** *10:20:39.3±0.3, 4393N×14784E, h0km, M4.4*
IDC ***18*** *10:20:41.0±4.2, 44.11N×148.13E, h73km±47km, mb3.2/4, mb1 3.4/6, mb1mx3.2/22, mbtmp3.2/6, ML3.5/2, Error ellipse: s-maj=62.9km s-min=28.8km az=1.0*

ISC 18 10:20:39.6±1.1, 441N±01×1482E±01, h58km±13km, n20, σ1°01/29, mb3.4/4, 1C, Kirli Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YUK	**Yuzh-Kuril'sk**	**1.68**	**269**	⇑*i*PN	**Pn**	**10 21 06.0**	**-0.6**
YUK				*e*S	**Sn**	**10 21 25.0**	**-2.0**
YUK				pmax	pmax		
	comp=Z,380nm,0.3s						
YUK				smax			
	comp=N,2μm,0.5s						
YUK				smax			
	comp=E,2μm,0.5s						
YUK				smax			
	comp=N,2μm,0.5s						
YUK				smax			
	comp=E,2μm,0.5s						
NEM2	**Nemuro 2**	**1.92**	**248**	P	**Pn**	**10 21 09.1**	**-0.8**
NEM2				*e*S	**Sn**	**10 21 31.1**	**-1.8**
JRA	**Rausu**	**2.22**	**267**	P	**Pn**	**10 21 14.4**	**+0.4**
JRA				*e*S	**Sn**	**10 21 40.1**	**-0.1**
JNK	**Nakash**	**2.56**	**260**	P	**Pn**	**10 21 19.0**	**+0.3**
JNK				*e*S	**Sn**	**10 21 48.1**	**-0.5**
JAK	**Akkeshi**	**2.77**	**248**	P	**Pn**	**10 21 21.5**	**0.0**
JAK				*e*S	**Sn**	**10 21 52.3**	**-1.4**
JTKR	**Abashiri--Toko**	**3.09**	**269**	P	**Pn**	**10 21 27.0**	**+1.1**
JAR	**Ashorobuto**	**3.30**	**257**	P	**Pn**	**10 21 29.9**	**+1.1**
JAR				*e*S	**Sn**	**10 22 07.6**	**+0.8**
JOB	**Onbets**	**3.38**	**251**	P	**Pn**	**10 21 30.7**	**+0.8**
JOB				*e*S	**Sn**	**10 22 09.3**	**+0.5**
JMP	**Maruseppu**	**3.48**	**270**	P	**Pn**	**10 21 32.2**	**+1.0**
JCH	**Churui**	**3.82**	**249**	P	**Pn**	**10 21 36.3**	**+0.4**
JCH				*e*S	**Sn**	**10 22 18.8**	**-0.7**
JKK2	**Kamakawa 2**	**3.93**	**269**	P	**Pn**	**10 21 39.4**	**+2.0**
ASAJ	**Asahikawa**	**4.03**	**272**	P	**Pn**	**10 21 40.4**	**+1.7**
	comp=E,3.0nm,0.3s,baz=84,slow=12,SNR=14						
ASAJ				S	**Sn**	**10 22 37.0**	**+12**
	comp=E,1.5nm,0.3s,baz=36,slow=18,SNR=6.1						
JNBK	**Urakawa-nobuka**	**4.37**	**247**	P	**Pn**	**10 21 43.8**	**+0.4**
SKR	**Severo-Kuril's**	**8.50**	**36**	*e*PN	**Pn**	**10 22 37.6**	**-2.3**
MJAR	**Matsushiro Arr**	**10.72**	**229**	P	**Pn**	**10 23 09.9**	**-0.4**
	comp=E,0.3nm,0.3s,baz=24,slow=14,SNR=4.4						
SONM	**Songino Array**	**29.03**	**292**	P	**P**	**10 26 34.0**	**0.0**
	comp=E,0.3nm,0.7s,mb3.2,baz=86,slow=7.4,SNR=2.3						
MKAR	**Makanchi Array**	**45.09**	**298**	P	**P**	**10 28 48.9**	**-0.8**
	comp=E,0.2nm,0.2s,mb3.5,baz=69,slow=7.9,SNR=3.3						
YKA	**Yellowknife Ar**	**55.09**	**34**	P	**P**	**10 30 04.6**	**-0.6**
YKA	**Yellowknife Ar**	**55.09**	**34**	P	**P**	**10 30 04.6**	**-0.6**
	comp=E,0.3nm,0.7s,mb3.5,baz=299,slow=6.8,SNR=6.8						
TXAR	**Lajitas Array**	**81.83**	**57**	P	**P**	**10 32 52.9**	**+0.4**
	comp=E,0.3nm,0.5s,mb3.5,baz=292,slow=4.2,SNR=7.5						

IDC 18 10:21:47.3±2.5, 561S×13100E, h0km, mb4.2/1, mb1 3.7/4, mb1mx3.5/11, mbtmp3.6/4, ML3.6/3, Error ellipse: s-maj=117.3km s-min=27.5km az=78.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**13.47**	**202**	Pn	Pn	10 24 58.3	-1.5
	0.4nm,0.3s,baz=29,slow=13,SNR=7.5						
WRA	**Warramunga Arr**	**14.61**	**167**	Pn	Pn	10 25 15.4	+0.1
	0.3nm,0.3s,baz=351,slow=13,SNR=26						
ASAR	**Alice Springs**	**18.16**	**171**	P	Pn	10 26 01.9	+0.8
	0.1nm,0.3s,baz=1.2,slow=11,SNR=8.6						
MKAR	**Makanchi Array**	**67.62**	**326**	P	P	10 32 46.1	+0.1
	1.1nm,0.4s,baz=116,slow=8.0,SNR=13						

CSEM ***18*** *10:39:46.6, 4252N×4622E, h7km, mb3.7, After OBN*

MOS 18 10:39:46.6±2.8, 4252N×4622E, h7km, mb3.7/1, 1D, Error ellipse: s-maj=12.3km s-min=10.6km az=9.4, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTLR	**Botlikh**	**0.14**	**1**	*i*PG	Pg	10 39 47.5	-2.1
XNZR	**Khunzakh**	**0.36**	**86**	*e*PG	Pg	10 39 56.3	+2.7
XNZR				*i*S	Sg	10 40 03.3	+5.0
XNZR				pmax	pmax		
	comp=Z,55nm,0.2s						
XNZR	**Khunzakh**	**0.36**	**86**	*e*Pg	Pg	10 39 56.3	+2.7
	comp=Z,55nm,0.2s						
XNZR				*i*Sg	Sg	10 40 03.3	+5.0
UNCR	**Uncukul**	**0.47**	**65**	⇓*i*PG	Pg	10 39 54.6	-1.0
UNCR				*i*S	Sg	10 40 01.6	-0.1
UNCR				pmax	pmax		
	comp=Z,54nm,0.2s						
UNCR	**Uncukul**	**0.47**	**65**	*i*Pg	Pg	10 39 54.6	-1.0
	comp=Z,54nm,0.2s						
UNCR				*i*Sg	Sg	10 40 01.6	-0.1
KRNR	**Karanay**	**0.59**	**59**	*e*PG	Pg	10 39 57.8	-0.2
KRNR				*e*S	Sg	10 40 05.8	+0.1
DBC	**Dubki**	**0.67**	**42**	*e*PG	Pg	10 39 58.0	-1.5
DBC				*e*S	Sg	10 40 08.0	-0.3
LACR	**Lac**	**1.45**	**283**	*i*Pg	Pg	10 40 17.4	+3.0
LACR				*i*Sg	Sg	10 40 39.8	+6.6
BTKR	**Batakoyurt**	**1.50**	**305**	*e*Pg	Pg	10 40 15.4	+0.1
BTKR				*e*Sg	Sg	10 40 36.7	+2.0
TRKR	**Terskaya**	**1.62**	**318**	*e*Pn	Pn	10 40 16.4	+0.8
TRKR				*e*Sg	Sg	10 40 38.0	-0.7
KORR	**Kora**	**1.68**	**290**	*i*Pn	Pn	10 40 20.1	+3.7
KORR				*e*Sg	Sg	10 40 44.7	+4.1
ZEI	**Tsey**	**1.73**	**279**	*i*Pn	Pn	10 40 22.1	+5.0
ZEI				*i*Sg	Sg	10 40 48.1	+5.9
DIGR	**Digorskoe uzhe**	**1.98**	**282**	*i*Pn	Pn	10 40 25.5	+5.0
DIGR				*i*Sg	Sg	10 40 53.7	+3.4

IDC ***18*** *10:41:10.4±0.8, 771S×15564E, h0km, mb4.3/11, mb1 4.4/11, mb1mx4.3/16, mbtmp4.2/11, MS3.3/6, Ms1 3.3/6, ms1mx3.1/19, Error ellipse: s-maj=32.9km s-min=18.7km az=120.0*
NEIC ***18*** *10:41:11.7±0.5, 765S×15565E, h10km, mb4.9/3, Error ellipse: s-maj=22.0km s-min=11.7km az=124.0*
ISCJB ***18*** *10:41:14.0±0.7, 77S±01×1556E±02, h33km, mb4.3/14, MS3.3/4, Error ellipse: s-maj=26.2km s-min=13.3km az=31.0*

ISC 18 10:41:15.8±0.7, 77S±01×1556E±02, h35km, n22, σ0°94/17, mb4.2/14, MS3.3/4, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.60**	**112**	LR	LR	10 43 49.5	
	comp=Z,132nm,21.3s,baz=181,slow=35						
CTA	**Charters Tower**	**15.31**	**215**	LR	LR	10 50 03.8	
	comp=Z,114nm,18.5s,baz=144,slow=35						
GUMO	**Guam**	**23.69**	**333**	LR	LR	10 54 01.9	
	comp=Z,86nm,18.6s,MS3.2,baz=119,slow=32						
WRA	**Warramunga Arr**	**23.96**	**237**	P	**P**	**10 46 26.9**	**-0.1**
WRA				PcP	PcP	10 50 09.2	+0.3
WRA	**Warramunga Arr**	**23.96**	**237**	P	**P**	**10 46 26.9**	**-0.1**
	2.7nm,0.9s,mb3.7,baz=62,slow=9.4,SNR=12						
WRA				PcP	PcP	10 50 09.2	+0.3
	0.4nm,0.7s,baz=74,slow=1.8,SNR=4.6						
WRA				LR	LR	10 55 32.2	
	comp=Z,89nm,19.7s,MS3.2,baz=65,slow=36						
ASAR	**Alice Springs**	**26.20**	**230**	P	**P**	**10 46 46.9**	**-0.5**
	1.6nm,0.8s,mb3.6,baz=63,slow=8.4,SNR=16						
ASAR				PcP	PcP	10 50 13.3	-0.5
	0.3nm,0.7s,baz=62,slow=2.5,SNR=4.4						
STKA	**Stephens Creek**	**27.39**	**207**	P	**P**	**10 46 59.3**	**+1.3**
	3.1nm,0.9s,mb3.8,baz=42,slow=13,SNR=4.1						
STKA				LR	LR	10 56 59.4	
	comp=Z,126nm,19.6s,MS3.5,baz=25,slow=35						
FITZ	**Fitzroy Crossi**	**30.96**	**248**	P	**P**	**10 47 28.1**	**-1.8**
	1.3nm,0.6s,mb3.9,baz=77,slow=10,SNR=2.2						
KSRS	**Korea Array**	**51.85**	**332**	P	**P**	**10 50 21.9**	**+1.3**
	1.0nm,0.8s,mb3.8,baz=124,slow=7.5,SNR=4.8						
KSRS				LR	LR	11 09 27.6	
	comp=Z,25nm,19.8s,MS3.2,baz=130,slow=33						
SONM	**Songino Array**	**70.26**	**327**	P	**P**	**10 52 26.5**	**+1.1**
	1.2nm,0.8s,mb3.9,baz=131,slow=6.7,SNR=5.6						
QSPA	**South Pole Qui**	**82.29**	**180**	*e*P	**P**	**10 53 33.7**	**+0.6**
	36nm,2.1s,mb4.9						
MCK	**McKinley**	**82.46**	**22**	*e*P	**P**	**10 53 33.7**	**-0.5**
	8.7nm,0.8s,mb4.7						
COLA	**College**	**83.50**	**21**	*e*P	**P**	**10 53 37.7**	**-1.9**
	4.8nm,0.8s,mb4.6						
MK31	**Makanchi Array**	**84.34**	**319**	*e*P	**P**	**10 53 44.9**	**+0.6**
MKAR	**Makanchi Array**	**84.34**	**319**	P	**P**	**10 53 44.7**	**+0.4**
	4.3nm,0.8s,mb4.7,baz=105,slow=5.8,SNR=36						
ZALV	**Zalesovo Beam**	**85.11**	**326**	P	**P**	**10 53 47.1**	**-0.9**
	2.2nm,0.5s,mb4.5,baz=109,slow=5.4,SNR=13						
INK	**Inuvik**	**90.14**	**21**	P	**P**	**10 54 12.0**	**+0.1**
INK	**Inuvik**	**90.14**	**21**	P	**P**	**10 54 12.0**	**+0.1**
	1.6nm,0.5s,mb4.6,baz=226,slow=6.1,SNR=38						
YKA	**Yellowknife Ar**	**96.65**	**28**	P	**P**	**10 54 41.9**	**-0.1**
	1.4nm,0.7s,mb4.5,baz=266,slow=4.5,SNR=28						
PDAR	**Pinedale Array**	**98.69**	**48**	P	**P**	**10 54 51.8**	**+0.1**
	0.8nm,0.9s,mb4.2,baz=222,slow=2.0,SNR=6.1						
BDFB	**Brasilia**	**147.04**	**135**	PKPbc	PKPbc	11 00 55.6	-0.3
	4.8nm,0.7s,baz=215,slow=5.8,SNR=9.8						
TORD	**Torodi Ar. Bea**	**153.81**	**284**	PKPbc	PKPbc	11 01 12.0	-0.3
	0.8nm,0.7s,baz=35,slow=2.2,SNR=5.2						

HLW ***18*** *10:48:28.8, 2998N×3687E, h20km, Mb2.9*
ISCJB ***18*** *10:48:31.8±0.8, 2987N±003×3629E±005, h0km, Error ellipse: s-maj=6.8km s-min=4.8km az=167.7*
SGS ***18*** *10:48:32.6, 2995N×3623E, h3km*
GII ***18*** *10:48:33.3±0.9, 2989N×3617E, h0km, ML2.1/4*
CSEM ***18*** *10:48:34.2±0.2, 2985N×3607E, h1km, ML2.1, Error ellipse: s-maj=4.1km s-min=2.4km az=94.0, Mining explosion.*

ISC 18 10:48:32.0±0.9, 2986N±003×3632E±005, h0km, n19, σ0°78/27, 2C-1D, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HRFI	**Mount Harif**	**1.13**	**279**	Pg	**Pg**	**10 48 52.7**	**-1.0**
HRFI				Sg	**Sg**	**10 49 08.3**	**0.0**
ZFRI	**Zfri**	**1.21**	**305**	Pg	**Pg**	**10 48 54.1**	**-1.1**
ZFRI				Sg	**Sg**	**10 49 10.6**	**-0.2**
EIL	**Elat**	**1.21**	**261**	Pg	**Pg**	**10 48 54.8**	**-0.4**
EIL				Sg	**Sg**	**10 49 11.5**	**+0.7**
HQLS		**1.23**	**243**	P	**Pg**	**10 48 55.2**	**-0.4**
HQLS		**1.23**	**243**	P	**Pg**	**10 48 55.2**	**-0.4**
HQLS				S	**Sg**	**10 49 11.9**	**+0.3**
PRNI	**Paran**	**1.24**	**293**	Pg	**Pg**	**10 48 55.0**	**-0.8**
PRNI				Sg	**Sg**	**10 49 11.5**	**-0.4**
JLOS		**1.34**	**213**	P	**Pg**	**10 48 57.4**	**-0.2**
JLOS		**1.34**	**213**	P	**Pg**	**10 48 57.4**	**-0.2**
JLOS				S	**Sg**	**10 49 15.9**	**+1.0**
KRMI	**Paran Flat**	**1.41**	**281**	Pg	**Pg**	**10 48 58.0**	**-1.0**
KRMI	**Paran Flat**	**1.41**	**281**	Pg	**Pg**	**10 48 58.0**	**-1.0**
HBST	**Basata**	**1.53**	**246**	⇑P	**Pn**	**10 49 00.1**	**-0.4**
MZDA	**Masada**	**1.66**	**330**	Pn	**Pn**	**10 49 02.5**	**+0.1**
YTIR	**Yattir**	**1.82**	**325**	Pn	**Pn**	**10 49 04.8**	**+0.2**
HDHB	**Dhahab**	**1.87**	**233**	⇑P	**Pn**	**10 49 05.3**	**0.0**
DSI	**Dead Sea**	**1.89**	**335**	Pn	**Pn**	**10 49 06.2**	**+0.7**
DSI				Sn	**Sn**	**10 49 31.7**	**+1.8**
HNKL	**Nakhl**	**2.04**	**272**	P	**Pn**	**10 49 07.6**	**+0.1**
HNKL				S	**Sn**	**10 49 35.7**	**+2.1**
RSHS		**2.05**	**221**	P	**Pn**	**10 49 06.7**	**-1.0**
HKAT	**Jabal Katrina**	**2.44**	**237**	⇓P	**Pn**	**10 49 12.9**	**-0.1**
WJHS		**3.12**	**179**	P	**Pn**	**10 49 22.8**	**+0.4**

WEL 18 10:55:37.2±0.7, 4737S×16560E, h33km, ML3.6/5, Error ellipse: s-maj=6.5km s-min=5.7km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APZ	**The Paps**	**1.72**	**73**	PN	Pn	10 56 03.9	-0.8
APZ				SN	Sn	10 56 23.6	-1.8
DCZ	**Deep Cove**	**2.18**	**30**	PN	Pn	10 56 10.4	-0.6
WHZ	**Wether Hill Ro**	**2.19**	**48**	PN	Pn	10 56 10.7	-0.5
WHZ				*e*SN	Sn	10 56 36.0	-1.1
SYZ	**Scrubby Hill**	**2.56**	**72**	PN	Pn	10 56 16.4	+0.1
SYZ				SN	Sn	10 56 45.5	-0.8
MLZ	**Mavora Lakes**	**2.69**	**42**	PN	Pn	10 56 18.0	-0.2
MLZ				*e*SN	Sn	10 56 48.9	-0.6
TUZ	**Tuapeka**	**3.12**	**64**	PN	Pn	10 56 23.6	-0.3
MSZ	**Milford Sound**	**3.15**	**32**	*e*PN	Pn	10 56 25.5	+1.1
EAZ	**Earnscleugh**	**3.34**	**52**	*e*PN	Pn	10 56 26.5	-0.6
WKZ	**Wanaka**	**3.48**	**44**	PN	Pn	10 56 29.9	+0.9
JCZ	**Jackson Bay**	**3.97**	**35**	*e*PN	Pn	10 56 37.1	+1.4
ODZ	**Otahua Downs**	**4.20**	**58**	PN	Pn	10 56 36.8	-2.0
FOZ	**Fox Glacier**	**4.77**	**39**	*e*PN	Pn	10 56 48.0	+1.4

NIED ***18*** *11:03:00, 3280N×13230E, h11km, Mw3.4 Best double couple: M0 1.60000×10^14 NP1:φs 317.00000°, δ75.00000°, λ40.00000°. NP2:φs 215.00000°, δ51.00000°, λ161.00000°.*

JMA 18 11:03:14.1, 3276N×13233E, h18km±1km, M3.6, 2C-2D, Shikoku

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTO	**Tosashimizu**	**0.41**	**76**	⇓P	Pg	11 03 22.4	-0.1
JTO				S	Sg	11 03 28.0	-0.2
UWA2	**Uwa jima 2**	**0.52**	**29**	⇑P	Pg	11 03 24.1	-0.4
UWA2				S	Sg	11 03 30.9	-0.5
JUS	**Usuki**	**0.57**	**302**	P	Pg	11 03 25.3	-0.2
JUS				S	Sg	11 03 33.2	-0.1
JNA	**Nagahama**	**0.81**	**9**	⇑P	Pb	11 03 29.0	-0.6
JNA				S	Sb	11 03 39.6	-0.5
JKU	**Kubokawa**	**0.82**	**48**	⇓P	Pb	11 03 29.6	-0.3
JKU				S	Sb	11 03 40.2	-0.5
JTSN	**Tsuno**	**0.87**	**234**	P	Pb	11 03 29.8	-0.8
JTSN				S	Sb	11 03 41.8	0.0

IDC ***18*** *11:09:59.4±5.9, 3612N×7105E, h175km±53km, mb3.9/10, mb1 4.0/13, mb1mx3.7/23, mbtmp3.9/13, Error ellipse: s-maj=26.9km s-min=15.4km az=20.0*
MOS ***18*** *11:10:01.6±0.8, 3627N×7106E, h209km, mb4.3/7, Error ellipse: s-maj=20.0km s-min=8.3km az=88.5*
NEIC ***18*** *11:10:02.9±1.9, 3622N×7130E, h212km±12km, mb3.8/1, Error ellipse: s-maj=22.1km s-min=13.4km az=176.0*
ISCJB ***18*** *11:10:04.8±0.4, 3648N±003×7123E±006, h230km±6km, mb4.1/16, Error ellipse: s-maj=8.2km s-min=4.3km az=175.6*
BJI ***18*** *11:10:05.0, 3665N×7105E, h222km, mb4.2*
NNC ***18*** *11:10:12.0±4.0, 3702N×7136E, h230km±33km, mb3.0, mpv4.5, Error ellipse: s-maj=38.1km s-min=20.8km az=11.0*

ISC 18 11:10:05.3±0.4, 3637N±003×7131E±006, h230km±6km, n84, σ1°07/98, mb4.1/16, 5C-5D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHCP	**Chirah Chowk**	**3.15**	**149**	⇑P	**Pn**	**11 11 00.1**	**+1.8**
THW	**Thamme Wali**	**3.59**	**174**	⇓P	**Pn**	**11 11 04.6**	**+1.2**
DRP	**Derazinda**	**4.71**	**192**	P	**Pn**	**11 11 17.8**	**+0.9**
KSH	**Kashi**	**4.84**	**48**	*e*P	**Pn**	**11 11 19.9**	**+1.5**
KSH				S	**S**	**11 12 15.5**	**-1.0**
KSH				Smax			
	comp=N,3μm,0.5s						
KSH				Smax			
	comp=E,2μm,0.4s						
THN	**Thein Dam**	**5.36**	**136**	*e*P	**Pn**	**11 11 27.4**	**+2.4**
THN				*e*S	**S**	**11 12 29.7**	**+1.4**
DLH	**Dalhousie**	**5.42**	**133**	*e*P	**Pn**	**11 11 28.0**	**+2.2**
DLH				*e*S	**S**	**11 12 33.0**	**+3.2**
AML	**Almayashu**	**6.04**	**17**	*e*P	**Pn**	**11 11 32.8**	**-0.6**
	comp=E,137nm,0.5s						
AML				*e*S	**S**	**11 12 38.9**	**-4.9**
AML	**Almayashu**	**6.04**	**17**	P	**Pn**	**11 11 33.0**	**-0.5**
	SNR=201						
UCH	**Uchtor**	**6.35**	**22**	*e*P	**Pn**	**11 11 37.6**	**+0.2**
	comp=E,157nm,0.6s						
UCH				*e*S	**S**	**11 12 46.7**	**-4.2**
UCH	**Uchtor**	**6.35**	**22**	P	**Pn**	**11 11 37.6**	**+0.2**
	SNR=260						
KZA	**Kyzart**	**6.47**	**27**	P	**Pn**	**11 11 38.5**	**-0.3**
	SNR=42						
BHK	**Bhakra**	**6.52**	**138**	*e*P	**Pn**	**11 11 40.1**	**+0.5**
BHK				*e*S	**S**	**11 12 49.3**	**-5.6**
EKS2	**Erkin-Say**	**6.56**	**16**	*e*P	**Pn**	**11 11 39.7**	**-0.4**
	comp=E,25nm,0.5s						
EKS2				*e*S	**S**	**11 12 51.0**	**-4.8**
EKS2	**Erkin-Say**	**6.56**	**16**	P	**Pn**	**11 11 39.8**	**-0.2**
	SNR=27						
AAK	**Ala-Archa**	**6.72**	**21**	*e*P	**Pn**	**11 11 40.9**	**-1.2**
	comp=E,48nm,0.3s						
AAK	**Ala-Archa**	**6.72**	**21**	*e*PN	**Pn**	**11 11 40.9**	**-1.1**
AAK				pmax	pmax		
	comp=Z,48nm,0.3s						
AAK	**Ala-Archa**	**6.72**	**21**	P	**Pn**	**11 11 42.1**	**+0.1**
	SNR=82						
KK31	**Karatay Array**	**6.75**	**355**	P	**Pn**	**11 11 41.2**	**-1.2**
	comp=Z,6.2nm,0.5s,baz=175,slow=13,SNR=43						
KK31				⇓S	**S**	**11 12 53.0**	**-7.1**
	comp=Z,20nm,0.3s,baz=174,slow=22,SNR=17						
SDNR	**Sundarnagar**	**6.76**	**134**	*e*P	**Pn**	**11 11 43.5**	**+0.7**
SDNR				*e*S	**S**	**11 13 00.0**	**-0.6**
KBK	**Karagaybulak**	**6.88**	**23**	P	**Pn**	**11 11 44.4**	**+0.4**
	SNR=48						
ULHL	**Ulahol**	**7.00**	**32**	P	**Pn**	**11 11 45.6**	**0.0**
	SNR=43						
CHMS	**Chumysh**	**7.13**	**21**	P	**Pn**	**11 11 47.7**	**+0.4**
	SNR=13						
USP	**Ospenovka**	**7.31**	**19**	P	**Pn**	**11 11 49.9**	**+0.4**
	SNR=27						
TKM2	**Tokmak 2**	**7.33**	**26**	⇑P	**Pn**	**11 11 49.6**	**-0.2**
	comp=Z,110nm,1.0s						
TKM2				⇓S	**S**	**11 13 04.4**	**-9.1**
	comp=Z,47nm,1.1s						
TKM2	**Tokmak 2**	**7.33**	**26**	*e*P	**Pn**	**11 11 49.9**	**+0.1**
	comp=Z,95nm,0.7s						
TKM2	**Tokmak 2**	**7.33**	**26**	*e*PN	**Pn**	**11 11 49.9**	**+0.1**
TKM2				pmax	pmax		
	comp=Z,95nm,0.7s						
TKM2	**Tokmak 2**	**7.33**	**26**	P	**Pn**	**11 11 50.1**	**+0.4**
	SNR=26						
JOSI	**Joshimath**	**9.01**	**128**	*ex*	**Pn**	**11 12 15.0**	**+3.6**
JOSI				*e*S	**S**	**11 13 56.4**	**+3.4**
JOSI				AML	AML	11 14 01.6	
	comp=E,290nm,0.6s						
JOSI				AML	AML	11 14 04.6	
	comp=N,287nm,0.7s						
KHET	**Khetri**	**9.11**	**154**	*e*P	**Pn**	**11 12 04.7**	**-8.1**
KHET				*e*S	**S**	**11 13 38.9**	**-17**
KHET				AML	AML	11 13 55.4	
	comp=N,25nm,0.4s						
KHET				AML	AML	11 13 56.3	
	comp=E,26nm,0.3s						
NDI	**New Delhi**	**9.14**	**145**	*ex*	**S**	**11 13 52.0**	**-4.3**
KUDL	**Kundal**	**9.30**	**150**	*e*P	**Pn**	**11 12 10.9**	**-4.3**
KUDL				*e*S	**S**	**11 13 43.8**	**-16**
KUDL				AML	AML	11 14 02.2	
	comp=E,23nm,0.2s						
KUDL				AML	AML	11 14 04.8	
	comp=N,17nm,0.3s						
SONA	**Sohna**	**9.46**	**147**	*e*P	**Pn**	**11 12 13.9**	**-3.3**
SONA				*e*S	**S**	**11 13 50.6**	**-13**
SONA				AML	AML	11 14 04.0	
	comp=N,24nm,0.3s						
SONA				AML	AML	11 14 06.6	
	comp=E,41nm,0.2s						
AJM	**Ajmer**	**10.27**	**163**	*ex*	x	11 13 49.0	
MK31	**Makanchi Array**	**13.25**	**35**	P	**Pn**	**11 13 03.9**	**-0.8**
	comp=E,7.2nm,0.5s,baz=212,slow=13,SNR=52						
MKAR	**Makanchi Array**	**13.25**	**35**	P	**Pn**	**11 13 03.9**	**-0.8**
MKAR	**Makanchi Array**	**13.25**	**35**	P	**Pn**	**11 13 03.9**	**-0.8**
	comp=E,2.1nm,0.3s,baz=217,slow=14,SNR=40						
KURBB	**Kurchatov Arra**	**15.16**	**18**	⇓P	**Pn**	**11 13 26.6**	**-1.4**
	comp=E,0.4nm,0.5s						
KURK	**Kurchatov**	**15.27**	**18**	⇓P	**Pn**	**11 13 30.1**	**+0.8**
	comp=E,3.3nm,1.5s						
KURK	**Kurchatov**	**15.27**	**18**	*e*P	**Pn**	**11 13 29.1**	**-0.2**
	comp=E,2.9nm,0.6s						
KURK	**Kurchatov**	**15.27**	**18**	*e*P	**Pn**	**11 13 29.2**	**-0.1**
AB31	**Akbulak array**	**15.32**	**331**	P	**Pn**	**11 13 27.8**	**-2.1**
	comp=E,2.1nm,0.3s,baz=148,slow=11,SNR=143						
VOSK	**Vostochnaya**	**16.35**	**359**	⇑P	**P**	**11 13 41.9**	**+1.0**
	comp=E,2.3nm,0.5s						
BVA0	**Borovoye Array**	**16.66**	**358**	P	**P**	**11 13 45.1**	**+0.8**
	comp=E,0.5nm,0.5s,baz=170,slow=6.9,SNR=23						
BVAR	**Borovoye Array**	**16.66**	**358**	P

comp=Z,6.3nm,0.3s,mb4.6
JOF Joensuu 36.10 330 *e*P **P 11 16 44.8 -0.1**
JOF pmax pmax
comp=Z,6.0nm,0.3s,mb4.6
FINES FINESS Array B 37.73 326 P **P 11 16 58.9 +0.4**
FINES FINESS Array B 37.73 326 P **P 11 16 58.9 +0.4**
comp=Z,2.8nm,0.5s,mb4.1,baz=109,slow=8.8,SNR=14
KAF Kangasniemi 37.87 327 *e*p **P 11 16 58.6 -1.1**
ARCES ARCESS Array B 41.36 338 P **P 11 17 29.1 +0.8**
comp=Z,3.5nm,0.4s,mb4.1,baz=117,slow=8.3,SNR=64
NB2 NORSAR Subarra 44.63 323 P **P 11 17 54.3 -0.3**
comp=Z,2.9nm,0.5s,mb3.9,baz=97,slow=7.9
NOA NORSAR Array B 44.63 323 P **P 11 17 54.6 0.0**
comp=Z,3.1nm,0.5s,mb3.9,baz=96,slow=7.7,SNR=13
TIXI Tiksi 45.80 22 *e*P **P 11 18 03.9 +0.3**
TIXI pmax pmax
comp=Z,8.0nm,2.6s,mb3.6
TORD Torodi Ar. Bea 65.96 269 P **P 11 20 25.6 -1.6**
comp=Z,2.0nm,0.5s,mb4.0,baz=49,slow=5.9,SNR=39
DBIC Dimbokro 74.94 267 P **P 11 21 19.2 -2.2**
DBIC pmax pmax
comp=Z,4.0nm,1.0s
DBIC Dimbokro 74.94 267 P **P 11 21 19.1 -2.3**
comp=Z,3.7nm,1.0s,mb4.0,baz=24,slow=10.0,SNR=2.9
YKA Yellowknife Ar 81.36 3 P **P 11 21 56.7 +1.0**
YKA Yellowknife Ar 81.36 3 P **P 11 21 56.7 +1.0**
comp=Z,1.0nm,0.4s,mb3.8,baz=350,slow=5.4,SNR=32
WRA Warramunga Arr 81.71 122 P **P 11 21 59.1 +0.9**
WRA pmax pmax
comp=Z,1.0nm,0.4s
WRA Warramunga Arr 81.71 122 P **P 11 21 59.1 +0.8**
comp=Z,1.4nm,0.4s,mb4.0,baz=324,slow=4.9,SNR=51
ASAR Alice Springs 83.98 125 P **P 11 22 10.9 +1.1**
ASAR pmax pmax
comp=Z,2.0nm,0.6s
ASAR Alice Springs 83.98 125 P **P 11 22 10.8 +1.1**
comp=Z,2.4nm,0.6s,mb4.1,baz=308,slow=4.9,SNR=23
PLCA Paso Flores 150.02 250 PKPbc PKPbc 11 29 28.2 0.0
PLCA Paso Flores 150.02 250 PKPbc PKPbc 11 29 28.2 0.0
comp=Z,1.6nm,0.7s,baz=92,slow=2.7,SNR=4.1

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*ISCJB **18** 11:16:57.0±0.5,3469N±002×12138W±003,h10km,Error ellipse: s-maj=4.7km s-min=2.3km az=140.4*
*BJI **18** 11:16:57.5,3470N×12150W,h5km,mB4.5,mb4.3,Ms5.0, Msz4.7*
*NEIC **18** 11:16:57.6,3466N×12151W,h5km,mb4.0/1, ML4.0(NCEDC),After NCEDC.*
NEIC Felt [IV] at Arroyo Grande and [III] at San Luis Obispo. Also felt at Grover Beach, Los Osos, Morro Bay, Newbury Park, Pismo Beach, Templeton and Ventura.

ISC 18 11:16:58.5±0.5,3473N±002×12137W±003,h10km,n79, σ1§12/114,37C-41D,Off coast of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
V04C	**Ramage Ranch,** baz=1.2,SNR=464	**1.00**	**24**	P	**Pg**	**11 17 17.9**	**+0.3**
V04C	baz=1.2			⇓S	**Sg**	**11 17 33.1**	**+2.4**
SMMC	**Simmler** baz=1.4,SNR=90	**1.27**	**62**	P	**Pn**	**11 17 22.2**	**0.0**
SMMC	baz=1.4			⇑S	**Sb**	**11 17 39.4**	**+0.6**
PKM	**Peak Mountain** baz=1.4,SNR=43	**1.29**	**82**	⇑P	**Pn**	**11 17 22.3**	**-0.2**
PKM	baz=1.4			⇓S	**Sb**	**11 17 38.7**	**-0.6**
V03C	**Hunter Liggett** baz=1.4,SNR=204	**1.30**	**5**	P	**Pn**	**11 17 21.6**	**-1.0**
V03C	baz=1.4			⇓S	**Sb**	**11 17 39.3**	**-0.4**
PTRM	**Twissleman Ran**	**1.33**	**45**	*e*Pn	**Pn**	**11 17 22.8**	**-0.3**
PTRM				*e*Sg	**Sg**	**11 17 55.1**	**+14**
PKD	**Parkfield** baz=1.6,SNR=274	**1.39**	**29**	P	**Pn**	**11 17 23.2**	**-0.8**
BSC	**Santa Cruz Isl** baz=1.7	**1.61**	**116**	⇓P	**Pn**	**11 17 25.6**	**-1.4**
BSC	baz=1.7			⇑S	**Sn**	**11 17 45.5**	**-2.3**
V05C	**Boulder Hill,** baz=1.8,SNR=14	**1.65**	**46**	⇓P	**Pn**	**11 17 28.1**	**+0.5**
V05C	baz=1.8			⇓S	**Sn**	**11 17 48.8**	**0.0**
HAST	**Hastings Reser** baz=1.8,SNR=120	**1.67**	**355**	P	**Pn**	**11 17 26.4**	**-1.3**
HAST	baz=1.8			⇓S	**Sn**	**11 17 47.3**	**-1.9**
U04C	**Hernandez Rese** baz=1.9,SNR=41	**1.70**	**16**	⇓P	**Pn**	**11 17 28.1**	**-0.2**
U05C	**Westside ANR,** baz=2.1	**1.90**	**32**	⇓P	**Pn**	**11 17 31.7**	**+0.7**
U05C	baz=2.1			⇓S	**Sn**	**11 17 53.9**	**-1.1**
BLG	**Laguna Peak** baz=2.1	**2.00**	**107**	⇑P	**Pn**	**11 17 31.2**	**-1.2**
BLG	baz=2.1			⇓S	**Sn**	**11 17 55.9**	**-1.5**
SAO	**San Andreas Ge**	**2.04**	**358**	*e*Pn	**Pn**	**11 17 31.9**	**-1.0**
SAO				*e*Sg	**Sg**	**11 18 12.2**	**+8.2**
ARVC	**Arvin** baz=2.3,SNR=11	**2.12**	**78**	⇓P	**Pn**	**11 17 33.8**	**-0.2**
SNCC	**San Nicolas Is**	**2.13**	**133**	*e*Pn	**Pn**	**11 17 34.8**	**+0.8**
SNCC				*e*Sg	**Sg**	**11 18 08.5**	**+1.7**
VES	**Vestal, Richgr** baz=2.4,SNR=16	**2.18**	**59**	⇑P	**Pn**	**11 17 34.5**	**-0.3**
VES	baz=2.4			⇓S	**Sn**	**11 18 01.1**	**-0.7**
OSI	**Osito Adit** baz=2.3	**2.18**	**92**	⇓P	**Pn**	**11 17 34.8**	**-0.1**
OSI	baz=2.3			⇑S	**Sn**	**11 18 00.5**	**-1.4**
T05C	**Eagle Field, D** baz=2.4	**2.24**	**14**	⇑P	**Pn**	**11 17 36.1**	**+0.5**
PACP	**Pacheco Peak** baz=2.4	**2.28**	**2**	⇑P	**Pn**	**11 17 36.2**	**0.0**
PACP	baz=2.4			⇑S	**Sn**	**11 18 03.1**	**-1.2**
BNLO	**Ben Lomond (Sa** baz=2.6,SNR=33	**2.49**	**345**	P	**Pn**	**11 17 38.0**	**-1.1**
BNLO	baz=2.6			⇑S	**Sn**	**11 18 07.2**	**-2.3**
ISA	**Isabella**	**2.55**	**68**	*e*Pn	**Pn**	**11 17 40.3**	**+0.5**
ISA				*e*Sg	**Sn**	**11 18 10.9**	**-0.1**
ISA	**Isabella** baz=2.7,SNR=95	**2.55**	**68**	⇑P	**Pn**	**11 17 40.2**	**+0.4**
ISA	baz=2.7			⇑S	**Sn**	**11 18 10.7**	**-0.2**
T06C	**Millerton Lake** baz=2.8,SNR=39	**2.65**	**30**	⇓P	**Pn**	**11 17 41.3**	**+0.1**
T06C	baz=2.8			⇑S	**Sn**	**11 18 12.2**	**-1.2**
HELL	**Mitchell Peak** baz=2.9,SNR=186	**2.73**	**44**	P	**Pn**	**11 17 42.8**	**+0.4**
HELL	baz=2.9			⇑S	**Sn**	**11 18 15.2**	**-0.2**
FMP	**Fort Macarthur** baz=2.8	**2.74**	**111**	⇑S	**Sn**	**11 18 13.5**	**-2.2**
S05C	**Merced** baz=2.9,SNR=40	**2.75**	**18**	⇓P	**Pn**	**11 17 42.6**	**0.0**
S05C	baz=2.9			⇓S	**Sn**	**11 18 15.3**	**-0.5**
JRSC	**Jasper Ridge** baz=2.9,SNR=28	**2.76**	**345**	⇑P	**Pn**	**11 17 41.8**	**-1.0**
S04C	**Ingram Canyon,** baz=2.9,SNR=38	**2.77**	**1**	⇑P	**Pn**	**11 17 43.1**	**+0.1**
S04C	baz=2.9			⇑S	**Sn**	**11 18 15.6**	**-1.0**
EDW2	**Edwards Air Fo** baz=2.9,SNR=30	**2.78**	**86**	⇑P	**Pn**	**11 17 42.7**	**-0.4**
EDW2	baz=2.9			⇓S	**Sn**	**11 18 16.1**	**-0.7**
CIS	**Catalina Islan** baz=2.9	**2.79**	**117**	⇑P	**Pn**	**11 17 41.8**	**-1.4**
CIS	baz=2.9			⇓S	**Sn**	**11 18 14.1**	**-2.8**
WENL	**Wente Brothers** baz=3.0	**2.91**	**354**	⇓P	**Pn**	**11 17 44.8**	**0.0**
WENL	baz=3.0			⇓S	**Sn**	**11 18 18.7**	**-1.1**
KCC	**Kaiser Creek** baz=3.3	**3.08**	**32**	⇓P	**Pn**	**11 17 48.5**	**+1.3**
KCC	baz=3.3			⇓S	**Sn**	**11 18 24.3**	**+0.3**
BFSC	**Mount Baldy St** baz=3.2,SNR=35	**3.10**	**98**	⇑P	**Pn**	**11 17 47.6**	**+0.1**
BFSC	baz=3.2			⇑S	**Sn**	**11 18 23.4**	**-1.2**
CWC	**Cottonwood Cre** baz=3.4	**3.18**	**57**	⇓S	**Sn**	**11 18 28.1**	**+1.6**
CMB	**Columbia Colle**	**3.40**	**13**	*e*Pn	**Pn**	**11 17 52.2**	**+0.6**
CMB				*e*Sg	**Sn**	**11 18 36.8**	**+5.0**
CMB	**Columbia Colle** baz=3.5	**3.40**	**13**	⇓P	**Pn**	**11 17 52.1**	**+0.5**
CMB	baz=3.5			⇓S	**Sn**	**11 18 31.5**	**-0.4**
MPMC	**Manual Prospec** baz=3.6	**3.44**	**66**	⇑P	**Pn**	**11 17 52.8**	**+0.7**
TIN	**Tinemaha** baz=3.6	**3.45**	**47**	⇓S	**Sn**	**11 18 35.4**	**+2.2**
MTUM	**Tungsten Hills**	**3.47**	**40**	*e*Pn	**Pn**	**11 17 54.8**	**+2.2**
MTUM				*e*Sg	**Sn**	**11 18 38.9**	**+5.2**
R04C	**Big Horse Ranc** baz=3.7,SNR=13	**3.54**	**6**	⇑P	**Pn**	**11 17 53.4**	**-0.2**
R04C	baz=3.7			⇑S	**Sn**	**11 18 33.5**	**-2.0**
MLAC	**Mammoth Lakes** baz=3.7,SNR=15	**3.55**	**35**	⇓P	**Pn**	**11 17 55.6**	**+2.0**
MCCM	**Marconi Confer** baz=3.7,SNR=15	**3.62**	**341**	⇓P	**Pn**	**11 17 53.4**	**-1.3**
MURC	**Murrieta** baz=3.7	**3.63**	**107**	⇑P	**Pn**	**11 17 54.0**	**-0.8**
MURC	baz=3.7			⇑S	**Sn**	**11 18 36.2**	**-1.6**
BBRC	**Big Bear Sol-O** baz=3.8,SNR=9.9	**3.70**	**96**	⇑P	**Pn**	**11 17 56.8**	**+1.0**
CVS	**Carmenet Viney** baz=3.8,SNR=20	**3.72**	**347**	⇑P	**Pn**	**11 17 54.5**	**-1.4**
CVS	baz=3.8			⇓S	**Sn**	**11 18 37.8**	**-2.0**
GSC	**Goldstone**	**3.79**	**80**	*e*Pn	**Pn**	**11 17 56.7**	**-0.2**
GSC				*e*Sg	**Sg**	**11 18 55.1**	**-5.1**
S08C	**White Mtn Res** baz=4.0,SNR=29	**3.79**	**42**	⇓P	**Pn**	**11 17 59.6**	**+2.7**
R07C	**Lee Vining** baz=4.0,SNR=15	**3.84**	**28**	⇓P	**Pn**	**11 18 00.3**	**+2.6**
NSHM	**Saint Helena R**	**3.92**	**346**	*e*Pn	**Pn**	**11 17 58.1**	**-0.6**
Q03C	**Winters** baz=4.0	**3.94**	**353**	⇑P	**Pn**	**11 17 59.4**	**+0.5**
R05C	**Kirkwood Meado** baz=4.3	**4.10**	**14**	⇑P	**Pn**	**11 18 02.7**	**+1.4**
Q04C	**Lincoln** baz=4.2,SNR=10	**4.11**	**360**	⇑P	**Pn**	**11 18 01.1**	**-0.2**
PFO	**Pinyon Flat Ob**	**4.22**	**104**	*e*Pn	**Pn**	**11 18 03.2**	**+0.3**
PFO				*e*Sg	**Sn**	**11 18 51.9**	**-0.4**
PFO	**Pinyon Flat Ob** baz=4.3	**4.22**	**104**	⇑P	**Pn**	**11 18 02.8**	**-0.1**
R08A	**Mina** baz=4.6	**4.47**	**35**	⇓P	**Pn**	**11 18 07.8**	**+1.5**
S09A	**Goldfield** baz=4.7,SNR=9.6	**4.49**	**47**	⇓P	**Pn**	**11 18 08.3**	**+1.7**
OHCM	**Honcut**	**4.60**	**359**	*e*Pn	**Pn**	**11 18 08.3**	**+0.1**
P05C	**Yuba Gap, Truc** baz=4.8	**4.61**	**7**	⇑P	**Pn**	**11 18 09.5**	**+1.3**
GMRC	**Granite Mounta** baz=4.8	**4.70**	**88**	⇓P	**Pn**	**11 18 09.6**	**+0.2**
TPNV	**Topopah Spring**	**4.71**	**60**	*e*Pn	**Pn**	**11 18 11.4**	**+1.8**
WCN	**Washoe City** baz=4.9,SNR=28	**4.75**	**15**	⇑P	**Pn**	**11 18 11.9**	**+1.8**
ORV	**Oroville** baz=4.9	**4.82**	**359**	⇓P	**Pn**	**11 18 11.4**	**+0.3**
V11A	**Goodsprings** baz=5.1	**4.98**	**75**	⇓P	**Pn**	**11 18 13.5**	**+0.2**
W13A	**Hualapai Mount** baz=6.3,SNR=21	**6.16**	**84**	⇓P	**Pn**	**11 18 30.2**	**+0.7**
X13A	**Yucca** baz=6.3,SNR=23	**6.21**	**89**	P	**Pn**	**11 18 30.6**	**+0.4**
N02C	**Big Bar** baz=6.4	**6.28**	**346**	⇓P	**Pn**	**11 18 31.9**	**+0.8**
W14A	**Seligman** baz=7.0	**6.82**	**84**	⇑P	**Pn**	**11 18 39.5**	**+1.0**
V14A	**Boquillas Ranc** baz=7.0	**6.83**	**80**	⇑P	**Pn**	**11 18 39.7**	**+1.0**
Y14A	**Wickenburg** baz=7.1,SNR=6.8	**6.96**	**94**	P	**Pn**	**11 18 40.0**	**-0.6**
X14A	**Yava** baz=7.1,SNR=12	**7.00**	**90**	⇓P	**Pn**	**11 18 41.0**	**0.0**
Y15A	**Casa Rosa Ranc** baz=7.6,SNR=28	**7.51**	**93**	P	**Pn**	**11 18 48.4**	**+0.3**
X15A	**Humboldt** baz=7.7,SNR=19	**7.53**	**89**	P	**Pn**	**11 18 49.2**	**+0.8**
115A	**Sonoran Desert** baz=8.0	**7.88**	**102**	⇓P	**Pn**	**11 18 53.9**	**+0.7**
HWUT	**Hardware Ranch** 8.1nm,1.1s	**10.33**	**45**	*e*Pn	**Pn**	**11 19 32.6**	**+6.0**
EDM	**Edmonton**	**19.35**	**15**	*e*P	**Pn**	**11 21 26.5**	**+1.6**
AGMN	**Agassiz Refuge** 1.9nm,0.4s	**23.29**	**47**	*e*P	**P**	**11 22 08.0**	**+1.6**
CN2	**Changchun**	**81.01**	**318**	*e*P	**P**	**11 29 15.0**	**+1.6**
HHC	**Hu-ho-hao-te**	**90.41**	**323**	*e*P	**P**	**11 30 01.4**	**+1.2**
HHC				PP	PP	11 33 37.4	+3.6
HHC				SKS		11 40 33.5	
HHC				S	S	11 40 53.3	-1.8
HHC	comp=N,78nm,4.1s			LR	LR		
HHC	comp=E,110nm,4.1s			LR	LR		
HHC	comp=Z,115nm,5.5s			LR	LR		
LZH	**Lanzhou**	**97.90**	**325**	*e*P	**P**	**11 30 38.5**	**+3.8**
LZH				AP	pP	11 30 43.0	+5.0

CASC 18 11:22:43.0±2.4,964N×8426W,h35km±4km,MD3.6,ML3.1, 8C-3D,Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAJ	**Bijagual**	**0.26**	**31**	⇑*i*P	Pb	11 22 51.5	+1.1
LAJ				*e*S	Sb	11 22 58.6	+3.2
LCR2	**La Lucha 2**	**0.27**	**68**	⇑*i*P	Pb	11 22 51.0	+0.5
PRS1	**Puriscal**	**0.34**	**351**	⇓*e*P	Pb	11 22 50.6	-0.9
SJS	**Escuela Geolog**	**0.35**	**34**	*e*P	Pb	11 22 52.2	+0.6
SJS				*e*S	Sb	11 22 58.8	+1.2
CGA2	**Cerro Gallo 2**	**0.43**	**331**	⇑*e*P	Pb	11 22 52.2	-0.4
BUS	**Buena Vista**	**0.50**	**100**	⇑*i*P	Pb	11 22 54.1	+0.5
BUS				*e*S	Sb	11 23 02.8	+1.8
URSC	**Urasca**	**0.51**	**68**	⇓*e*P	Pn	11 22 54.0	+0.2
URSC				*e*S	Sb	11 23 03.0	+1.8
JCR	**Jicaral**	**0.87**	**284**	*e*P	Pn	11 22 58.2	-0.6
JCR				*e*S	Sn	11 23 09.9	-0.3
FORC	**Fortuna**	**0.92**	**334**	⇑*e*P	Pn	11 22 58.9	-0.6
FORC				*e*S	Sn	11 23 12.2	+0.7
BAR1		**1.01**	**113**	⇓*i*P	Pn	11 23 01.1	+0.4
BAR1				*e*S	Sn	11 23 15.2	+1.4
CUI		**1.36**	**318**	⇑*i*P	Pn	11 23 04.9	-0.7
CUI				*e*S	Sn	11 23 23.6	+1.1
LIM1	**Limonal**	**1.44**	**317**	⇑*i*P	Pn	11 23 05.8	-0.8
LIM1				*e*S	Sn	11 23 26.3	+2.0
VCR	**Vista de Mar**	**1.44**	**290**	*e*P	Pn	11 23 08.6	+2.0
CNI	**Changuinola**	**1.73**	**97**	*e*P	Pn	11 23 11.2	+0.6
BOAB	**BOACO BROADBAN**	**8.12**	**334**	⇑*e*P	Pn	11 23 28.8	-0.9
LAPE	**La Pedrera**	**12.71**	**98**	*e*P		11 23 08.0	
LAPE				*e*S		11 23 29.7	
PTP	**Ponta Puerca**	**19.99**	**63**	*e*P		11 23 15.1	

IDC 18 11:56:38.6±3.2,1039S×11152E,h0km,mb3.7/4, mb1 3.8/4,mb1mx3.6/15,mbtmp3.7/4,Error ellipse: s-maj=168.5km s-min=22.1km az=47.0,South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr** 0.7nm,0.5s,baz=290,slow=11,SNR=13	**23.95**	**116**	P	P	12 01 53.9	-0.9
ASAR	**Alice Springs** 0.5nm,0.5s,baz=295,slow=8.9,SNR=9.3	**25.09**	**125**	P	P	12 02 06.0	+0.9
MKAR	**Makanchi Array** 0.6nm,0.5s,baz=153,slow=7.4,SNR=7.6	**62.64**	**338**	P	P	12 07 04.9	+0.1
ZALV	**Zalesovo Beam** 0.9nm,0.5s,baz=145,slow=5.4,SNR=7.4	**67.98**	**343**	P	P	12 07 39.3	0.0

IDC 18 12:07:39.4±2.2,1262N×14435E,h58km±27km,mb3.3/6, mb1 3.5/6,mb1mx3.4/20,mbtmp3.3/6,Error ellipse: s-maj=47.9km s-min=16.7km az=93.0,South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.09**	**28**	P	Pn	12 07 57.8	-0.7
GUMO	174nm,0.3s,baz=236,slow=1.6,SNR=185			S	Sn	12 08 13.1	+0.4
WRA	**Warramunga Arr** 0.9nm,0.6s,baz=20,slow=9.7,SNR=18	**33.83**	**197**	P	P	12 14 16.2	-0.1
ASAR	**Alice Springs** 0.5nm,0.6s,baz=19,slow=11,SNR=17	**37.48**	**196**	P	P	12 14 47.9	+0.3
SONM	**Songino Array** 0.3nm,0.5s,baz=123,slow=7.1,SNR=2.7	**47.23**	**326**	P	P	12 16 06.6	0.0
MKAR	**Makanchi Array** 0.4nm,0.4s,baz=92,slow=10,SNR=2.8	**61.84**	**316**	P	P	12 17 53.4	+0.9
BVAR	**Borovoye Array** 0.4nm,0.3s,baz=98,slow=8.4,SNR=4.3	**70.37**	**322**	P	P	12 18 46.2	-0.9
YKA	**Yellowknife Ar** 0.2nm,0.3s,baz=286,slow=5.1,SNR=4.4	**83.95**	**27**	P	P	12 20 03.1	+0.1

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*NEIC **18** 12:15:46.8±5.9,1992S×17791W,h448km±67km,mb4.3/9, Error ellipse: s-maj=29.0km s-min=18.9km az=203.0*
*ISCJB **18** 12:15:51.0±2.4,200S±02×178.1W±01,h504km±27km, mb4.2/13,Error ellipse: s-maj=25.4km s-min=15.3km az=0.0*
*IDC **18** 12:15:53.2±2.2,2018S×17799W,h521km±26km,mb3.7/7, mb1 3.8/8,mb1mx3.5/17,mbtmp3.6/8,Error ellipse: s-maj=30.7km s-min=13.9km az=166.0*

ISC 18 12:15:52.8±2.5,200S±02×178.1W±01,h515km±27km,n24, σ0§70/25,mb4.3/13,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera** 1.1nm,0.3s,baz=344,slow=22,SNR=8.6	**18.72**	**192**	P	**P**	**12 19 35.5**	**-3.2**
ARMA	**Armidale**	**29.27**	**243**	*e*P	**P**	**12 21 13.7**	**+0.8**
CNB	**Canberra Magne** 35nm,1.7s,mb4.6	**32.49**	**235**	*e*P	**P**	**12 21 41.5**	**+0.9**
CTA	**Charters Tower** 4.5nm,0.4s,mb4.3	**33.50**	**264**	*e*P	**P**	**12 21 49.6**	**+0.3**
CTA	**Charters Tower** 5.5nm,0.4s,mb4.5,baz=95,slow=10,SNR=17	**33.50**	**264**	P	**P**	**12 21 49.6**	**+0.3**
STKA	**Stephens Creek** 3.7nm,0.4s,mb4.3	**37.99**	**244**	*e*P	**P**	**12 22 26.8**	**+0.4**
STKA	**Stephens Creek** 4.5nm,0.4s,mb4.4,baz=90,slow=10,SNR=39	**37.99**	**244**	P	**P**	**12 22 26.8**	**+0.4**
ASAR	**Alice Springs** 15nm,0.6s,mb4.7,baz=92,slow=8.0,SNR=263	**44.60**	**256**	P	**P**	**12 23 19.1**	**0.0**
ASAR	1.4nm,0.8s,baz=94,slow=16,SNR=13			S	**S**	**12 29 18.1**	**+0.7**
WB2	**Warramunga Arr**	**44.62**	**262**	*e*P	**P**	**12 23 18.6**	**-0.7**
WRAB	**Tennant Creek** 3.7nm,0.6s,mb4.1	**44.62**	**262**	*e*P	**P**	**12 23 18.7**	**-0.6**
WRA	**Warramunga Arr** 2.9nm,0.3s,mb4.3,baz=96,slow=7.6,SNR=310	**44.63**	**262**	P	**P**	**12 23 18.6**	**-0.7**
WRA	0.4nm,0.7s,baz=96,slow=13,SNR=3.6			S	**S**	**12 29 17.3**	**-0.6**
KAKA	**Kakadu** 5.1nm,0.5s,mb4.3	**47.92**	**271**	*e*P	**P**	**12 23 44.1**	**-0.3**
FORT	**Forrest** 13nm,0.9s,mb4.5	**49.47**	**246**	*e*P	**P**	**12 23 55.5**	**-0.2**
FITZ	**Fitzroy Crossi** 4.3nm,0.4s,mb4.1	**53.06**	**262**	*e*P	**P**	**12 24 22.2**	**+0.3**
FITZ	**Fitzroy Crossi** 2.2nm,0.5s,mb3.8,baz=128,slow=4.4,SNR=14	**53.06**	**262**	P	**P**	**12 24 22.3**	**+0.4**
KLBR	**Kellerberrin** 110nm,1.6s,mb4.8	**58.24**	**245**	*e*P	**P**	**12 24 57.5**	**-0.3**
MUN	**Mundaring**	**59.52**	**244**	*e*P	**P**	**12 25 07.0**	**+0.6**
QSPA	**South Pole Qui** 14nm,1.4s,mb4.3	**70.11**	**180**	*e*P	**P**	**12 26 13.6**	**+1.2**
TXAR	**Lajitas Array** 1.3nm,0.7s,mb3.7,baz=217,slow=6.6,SNR=22	**86.80**	**57**	P	**P**	**12 27 43.3**	**+0.8**
PDAR	**Pinedale Array** 0.7nm,0.4s,mb3.8,baz=224,slow=4.1,SNR=4.9	**88.60**	**43**	P	**P**	**12 27 50.1**	**-0.4**
VNA3	**Neumayer Olymp**	**88.69**	**176**	*e*	**P**	**12 27 50.0**	**-0.5**
VNA3				*e*		12 27 51.9	
VNA3				*e*		12 27 58.5	
VNA2	**Neumayer--Watz** baz=198,slow=3.3	**89.13**	**177**	*e*	**P**	**12 27 52.1**	**-0.5**
VNA2				*e*		12 27 53.7	
VNA2				*e*		12 28 00.0	
VNA1	**Neumayer--Stat**	**89.35**	**177**	*e*	**P**	**12 27 53.5**	**-0.2**
VNA1				*e*		12 27 55.2	
VNA1				*e*		12 28 01.0	
TORD	**Torodi Ar. Bea** 0.3nm,0.6s,baz=183,slow=5.5,SNR=2.6	**173.22**	**178**	PKPab	PKPab	12 36 33.8	-1.0

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*ISCJB **18** 12:19:25.7±0.4,5164N±002×689E±004,h0km,Error ellipse: s-maj=3.9km s-min=3.0km az=27.8*
*BNS **18** 12:19:26.7±0.7,5167N×702E,h1km,ML2.5,GESPUERT IN DORSTEN HERVEST*
*BUG **18** 12:19:26.5,5164N×700E,h1km,ML2.1*
*BGR **18** 12:19:27.2±0.6,5157N×713E,h1km,ML2.5/3,Error ellipse: s-maj=10.0km s-min=4.4km az=104.0*
*CSEM **18** 12:19:27.1±0.1,5168N×701E,h1km,ML3.0/3,Error ellipse: s-maj=3.0km s-min=1.6km az=80.0*
*NEIC **18** 12:19:28.0,5163N×695E,h1km,ML3.1(LDG),After LDG.*
*LDG **18** 12:19:28.0±0.2,5163N×695E,h1km,Md2.9/1,Ml3.1/3, Error ellipse: s-maj=3.0km s-min=1.9km az=33.0, Suspected Mining induced.*

ISC 18 12:19:26.8±0.4,5163N±002×692E±004,h0km,n37, σ1§05/60,1C,Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BZER	**Hlnxe**	**0.03**	**248**	Pg	**Pg**	**12 19 29.1**	**+1.7**
BZER				Sg	**Sg**	**12 19 31.4**	**+3.6**
BUG	**Bochum--Univer**	**0.29**	**131**	⇑*i*Pg	**Pg**	**12 19 32.5**	**+0.1**
BUG				Sg	**Sg**	**12 19 36.9**	**+0.7**
WTSB	**Winterswijk**	**0.34**	**348**	*e*Pg	**Pg**	**12 19 34.0**	**+0.6**
WTSB				*e*Sg	**Sg**	**12 19 39.0**	**+1.2**
BNS	**Bensberg**	**0.69**	**166**	*e*Pg	**Pg**	**12 19 40.5**	**+0.4**
BNS				*e*Sg	**Sg**	**12 19 50.0**	**+1.0**
HOBG	**Hohbusch**	**0.70**	**158**	*e*Pg	**Pg**	**12 19 40.5**	**+0.3**
HOBG				*e*Sg	**Sg**	**12 19 50.1**	**+0.8**
IBBN	**Ibbenburen** SNR=3.6	**0.85**	**37**	*e*Pg	**Pg**	**12 19 43.8**	**+0.6**
IBBN				*e*Sg	**Sg**	**12 19 53.4**	**-0.9**
STB	**Steinbach**	**1.04**	**183**	*e*Pg	**Pg**	**12 19 46.8**	**0.0**
STB				*e*Sg	**Sg**	**12 20 01.9**	**+1.7**
KLL	**Kalltalsperre** 97nm,0.2s	**1.06**	**201**	*e*Pg	**Pg**	**12 19 47.1**	**0.0**
KLL				*e*Sg	**Sg**	**12 20 03.3**	**+2.5**
DREG	**Dreilaegerbach** 48nm,0.7s	**1.06**	**204**	*e*Pg	**Pg**	**12 19 47.4**	**+0.2**
DREG				*e*Sg	**Sg**	**12 20 03.3**	**+2.4**
HGN	**Heimansgroeve** 113nm,0.6s 22nm,0.2s	**1.07**	**216**	*e*Pg	**Pg**	**12 19 47.8**	**+0.5**
HGN				*e*Sg	**Sg**	**12 20 02.4**	**+1.3**
BEBN	**Eben Emael**	**1.14**	**223**	P	**Pg**	**12 19 49.3**	**+0.6**
MEM	**Membach**	**1.17**	**210**	P	**Pg**	**12 19 49.0**	**-0.3**
SNF	**Seneffe**	**2.01**	**237**	P	**Pn**	**12 20 01.6**	**-0.3**
SNF	**Seneffe**	**2.01**	**237**	P	**Pn**	**12 20 01.5**	**-0.4**
GIVF	**Givet**	**2.03**	**222**	*e*Pg	**Pg**	**12 20 06.0**	**+0.4**
GIVF				*e*Sg	**Sg**	**12 20 31.9**	**0.0**
GIVF	**Givet** 48nm,0.3s	**2.03**	**222**	*e*Pn	**Pn**	**12 20 01.9**	**-0.3**
GIVF				*e*Pg	**Pg**	**12 20 06.0**	**+0.4**
GIVF				*e*Sg	**Sg**	**12 20 31.9**	**0.0**
GIVF	**Givet** 24nm,0.3s	**2.03**	**222**	*e*Pg	**Pg**	**12 20 06.0**	**+0.4**
GIVF				*e*Sg	**Sg**	**12 20 31.9**	**0.0**
WLF	**Walferdange**	**2.03**	**194**	*e*Sg	**Sg**	**12 20 30.1**	**-1.8**
UBBA	**Unterbreizbach** SNR=2.3	**2.10**	**112**	*e*Pg	**Pg**	**12 20 03.2**	**-3.9**
UBBA				*e*Sg	**Sg**	**12 20 29.2**	**-5.1**
DOU	**Dourbes**	**2.13**	**225**	P	**Pn**	**12 20 03.7**	**+0.1**

HAU	Haudompre	3.65	186	*e*Pn	Pn	12 20 23.7	-0.8
CLL	Collm	3.82	92	*e*Sg	Sg	12 21 31.0	+1.5
	comp=Z,11nm,0.8s						
LOR	Lormes	4.80	206	*e*Pn	Pn	12 20 39.2	-1.1
	baz=25						
CABF	La Chapelle	5.05	186	*e*Pn	Pn	12 20 42.9	-0.9
SSF	Saint Saulge	5.09	207	*e*Pn	Pn	12 20 43.6	-0.7
AVF	Avril sur Loir	5.38	207	*e*Pn	Pn	12 20 47.0	-1.2
SMF	Signal de Mont	5.38	203	*e*Pn	Pn	12 20 47.2	-1.1
LDF	La Druitiere	5.45	239	*e*Pn	Pn	12 20 48.7	-0.6
LDF				*e*Sn	Sn	12 21 48.6	-4.1
FLN	La Foliniere	5.55	242	*e*Pn	Pn	12 20 50.0	-0.6
	baz=67						
BGF	Bois d'Agland	5.74	209	*e*Pn	Pn	12 20 52.3	-0.9
GRR	Gorron	5.97	240	*e*Pn	Pn	12 20 55.5	-0.9
GRR				*e*Sn	Sn	12 22 01.0	-4.4

IDC 18 12:52:06.3±1.3, 714S×15559E, h0km, mb3.7/4, mb1 3.8/5, mb1mx3.6/14, mbtmp3.8/5, ML3.8/1, MS3.3/1, Ms1 3.3/1, ms1mx2.5/24, Error ellipse: s-maj=38.0km s-min=27.7km az=32.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	4.88	118	Pn	Pn	12 53 20.9	0.0
	3.8nm,0.3s,baz=261,slow=6.2,SNR=4.7						
HNR				Sn	Sn	12 54 19.1	+0.9
	8.8nm,0.3s,baz=100,slow=22,SNR=5.6						
WRA	Warramunga Arr	24.22	236	P	P	12 57 25.5	+0.6
	0.6nm,1.0s,baz=62,slow=9.7,SNR=3.5						
JNU	Nakatsue	46.42	331	LR	LR	13 17 10.2	
	comp=Z,32nm,18.4s,baz=54,slow=32						
SONM	Songino Array	69.78	327	P	P	13 03 19.3	+1.0
	0.5nm,0.7s,baz=133,slow=6.1,SNR=3.5						
MKAR	Makanchi Array	83.90	319	P	P	13 04 38.1	+0.1
	1.2nm,0.7s,baz=101,slow=6.3,SNR=9.5						
ZALV	Zalesovo Beam	84.63	326	P	P	13 04 40.3	-1.3
	0.8nm,0.6s,baz=122,slow=5.6,SNR=4.5						

IDC 18 12:54:17.7±39.0, 5589S×14399E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.6/9, mbtmp3.4/3, Error ellipse: s-maj=664.9km s-min=173.3km az=154.0, West of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	24.07	355	P	P	12 59 34.6	+0.2
	1.2nm,0.6s,baz=197,slow=14,SNR=2.7						
ASAR	Alice Springs	33.04	343	P	P	13 00 54.0	-0.5
	0.5nm,0.6s,baz=166,slow=10.0,SNR=4.6						
WRA	Warramunga Arr	36.62	345	P	P	13 01 25.8	+0.3
	0.4nm,0.6s,baz=170,slow=7.5,SNR=10						

MAN ***18*** *13:05:03, 946N×126.75E, h42km, mb4.5, ML3.4, MS3.3*

IDC 18 13:05:00.9±1.3, 848N×12507E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.5/17, mbtmp3.5/4, Error ellipse: s-maj=89.0km s-min=25.5km az=70.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	29.68	162	P	P	13 11 08.2	-0.5
	0.3nm,0.6s,baz=347,slow=9.4,SNR=5.1						
ASAR	Alice Springs	33.10	165	P	P	13 11 39.0	+0.3
	0.3nm,0.8s,baz=360,slow=8.1,SNR=5.3						
MKAR	Makanchi Array	52.75	324	P	P	13 14 16.8	-0.8
	0.4nm,0.6s,baz=114,slow=8.1,SNR=6.4						
YKA	Yellowknife Ar	95.86	24	P	P	13 18 30.4	+1.2
	0.3nm,0.7s,baz=303,slow=4.4,SNR=5.6						

IDC 18 13:13:49.5±1.1, 786S×15633E, h0km, mb3.7/5, mb1 3.8/6, mb1mx3.7/15, mbtmp3.7/6, ML4.1/1, MS3.1/2, Ms1 3.1/2, ms1mx2.8/18, Error ellipse: s-maj=30.3km s-min=25.1km az=170.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	3.90	114	Pn	Pn	13 14 50.4	-0.3
	14nm,0.3s,baz=259,slow=5.9,SNR=7.0						
HNR				Sn	Sn	13 15 39.0	+1.8
	10.0nm,0.3s,baz=102,slow=19,SNR=3.3						
HNR				LR	LR	13 16 08.2	
	comp=Z,195nm,21.1s,baz=354,slow=36						
WRA	Warramunga Arr	24.45	238	P	P	13 19 09.3	-0.9
	4.4nm,0.9s,baz=64,slow=9.9,SNR=18						
ASAR	Alice Springs	26.63	231	P	P	13 19 31.5	+1.6
	0.2nm,0.7s,baz=67,slow=9.4,SNR=2.7						
FITZ	Fitzroy Crossi	31.54	248	LR	LR	13 31 22.9	
	comp=Z,49nm,18.9s,baz=205,slow=33						
SONM	Songino Array	70.78	327	P	P	13 25 08.7	+1.0
	0.8nm,0.7s,baz=136,slow=5.7,SNR=4.2						
MKAR	Makanchi Array	84.93	318	P	P	13 26 26.2	-0.3
	0.6nm,0.6s,baz=100,slow=6.8,SNR=4.2						
YKA	Yellowknife Ar	96.48	28	P	P	13 27 19.5	-1.0
	0.2nm,0.7s,baz=271,slow=4.4,SNR=6.1						

MEX 18 13:35:40.7±0.5, 1546N×9579W, h10km±16km, MD4.0, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	Huatulco	0.44	315	*i* P	Pg	13 35 49.0	-0.2
HUIG				*i* S	Sg	13 35 55.1	0.0
VHO	Vista Hermosa	1.84	331	*i* P	Pn	13 36 08.7	-3.7
VHO				*i* S	Sn	13 36 31.6	-4.2
OXX	Oaxaca	1.85	331	*e*P	Pn	13 36 11.5	-1.0
CCIG	Comitan	3.60	76	*i* P	Pn	13 36 34.4	-2.3
PPM	Popocatepetl	4.50	323	*i* P	Pn	13 36 47.0	-1.9
PPM				*i* S	Sn	13 37 39.1	-2.2

IDC 18 14:27:59.8±1.8, 670S×15430E, h0km, mb3.5/3, mb1 3.7/4, mb1mx3.5/15, mbtmp3.7/4, MS3.0/2, Ms1 3.0/2, ms1mx2.7/12, Error ellipse: s-maj=41.5km s-min=28.1km az=5.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	6.22	116	Pn	Pn	14 29 32.9	-0.1
	baz=266,slow=19,SNR=1.8						
HNR				Sn	Sn	14 30 47.4	+2.6
	1.7nm,0.3s,baz=252,slow=3.2,SNR=2.3						
HNR				LR	LR	14 31 48.5	
	comp=Z,126nm,19.4s,baz=355,slow=37						
CTA	Charters Tower	15.43	210	LR	LR	14 36 24.9	
	comp=Z,49nm,20.2s,baz=58,slow=33						
WRA	Warramunga Arr	23.42	234	P	P	14 33 10.9	+0.1
	1.6nm,0.7s,baz=60,slow=9.7,SNR=11						
ASAR	Alice Springs	25.86	227	P	P	14 33 33.1	-0.2
	0.6nm,0.8s,baz=61,slow=8.5,SNR=12						
MKAR	Makanchi Array	82.72	319	P	P	14 40 25.8	+0.2
	0.1nm,0.5s,baz=93,slow=5.8,SNR=3.6						

IDC 18 14:55:25.2±8.4, 653S×15486E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.4/14, mbtmp3.3/3, Error ellipse: s-maj=258.8km s-min=42.0km az=111.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	23.97	234	P	P	15 00 42.7	+1.1
	0.4nm,0.5s,baz=62,slow=10.0,SNR=9.9						
ASAR	Alice Springs	26.38	228	P	P	15 01 02.6	-0.8
	0.2nm,0.5s,baz=60,slow=9.5,SNR=7.4						
MKAR	Makanchi Array	82.97	319	P	P	15 07 52.3	0.0
	0.3nm,0.7s,baz=90,slow=5.9,SNR=4.2						

IDC 18 15:04:17.9±4.0, 348S×10536E, h0km, mb3.6/5, mb1 3.7/5, mb1mx3.6/17, mbtmp3.6/5, Error ellipse: s-maj=241.8km s-min=20.8km az=54.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	32.66	122	P	P	15 10 52.6	+0.6
	0.1nm,0.3s,baz=301,slow=11,SNR=7.3						
ASAR	Alice Springs	34.10	129	P	P	15 11 03.9	-0.7
	0.1nm,0.3s,baz=304,slow=8.0,SNR=7.8						
STKA	Stephens Creek	44.22	134	P	P	15 12 29.1	+0.1
	0.5nm,0.4s,baz=309,slow=6.5,SNR=3.2						
MKAR	Makanchi Array	54.04	341	P	P	15 13 43.8	-0.2
	1.3nm,0.6s,baz=150,slow=8.3,SNR=15						
ZALV	Zalesovo Beam	59.74	346	P	P	15 14 24.7	+0.3
	0.8nm,0.5s,baz=158,slow=4.7,SNR=4.8						

NIED ***18*** *15:07:00, 4260N×142.00E, h135km, Mw5.5 Best double couple: M0 1.86000×10^17 NP1:φs 211.00000°, δ84.00000°, λ-150.00000°. NP2:φs 117.00000°, δ60.00000°, λ-7.00000°.*

BJI ***18*** *15:07:29.7, 4263N×141.93E, h124km, mB5.5, mb5.4*

MOS ***18*** *15:07:29.6±0.9, 4264N×141.95E, h118km, mb5.6/119, MS4.6/34, Error ellipse: s-maj=6.1km s-min=3.4km az=106.0*

ISCJB ***18*** *15:07:30.0±0.1, 4262N±001×14193E±001, h119km, mb5.5/353, Error ellipse: s-maj=2.0km s-min=1.4km az=152.1*

JMA ***18*** *15:07:31.0±0.2, 4267N×141.95E, h126km±2km, M5.6 Broadband fault plane solution: P waves. NP1: φs 119.00000°, δ65.00000°, λ-13.00000°. NP2: φs 215.00000°, δ78.00000°, λ-155.00000°. Principal axes: T Plg9.0000°, Azm345.0000°; N Plg62.0000°, Azm237.0000°; P Plg26.0000°, Azm79.0000°;*

JMA Felt IV J1.

GCMT ***18*** *15:07:31.6±0.1, 4267N×141.96E, h126km, MW5.5/102, Moment Tensor Solution. s87,c160; s102,c206; Duration: 1s4 Moment tensor: Scale 10^17Nm; Mrr-0.74±.03; Mθθ 1.79±.03; Mφφ-1.05±.03; Mrθ 0.72±.02; Mrφ 1.26±.03; Mθφ 0.97±.02; Best double couple: M0 2.27800×10^17 NP1:φs 113.00000°, δ53.00000°, λ-13.00000°. NP2:φs 210.00000°, δ80.00000°, λ-142.00000°. Principal axes: T 2.5910, Plg18.0000°, Azm336.0000°; N -0.6290, Plg51.0000°, Azm223.0000°; P -1.9650, Plg33.0000°, Azm78.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

IDC ***18*** *15:07:31.2±0.3, 4265N×141.90E, h118km±2km, mb5.1/36, mb1 5.1/39, mb1mx5.1/40, mbtmp5.1/39, MS4.3/20, Ms1 4.3/20, ms1mx4.0/38 Error ellipse: s-maj=8.0km s-min=5.0km az=100.0*

NEIC ***18*** *15:07:31.6±0.1, 4266N×141.86E, mb5.4/222, MW5.5, MW5.5(NIED), Error ellipse: s-maj=3.0km s-min=2.1km az=167.0, Moment Tensor Solution. s20 Moment tensor: Scale 10^17Nm; Mrr-0.75; Mθθ 0.98; Mφφ-0.23; Mrθ 0.69; Mrφ 1.47; Mθφ 0.89; Best double couple: M0 1.90000×10^17 NP1:φs 201.00000°, δ78.00000°, λ-136.00000°. NP2: φs 100.00000°, δ47.00000°, λ-16.00000°. Principal axes: T 2.3500, Plg19.0000°, Azm324.0000°; N -0.8300, Plg45.0000°, Azm214.0000°; P -1.5100, Plg39.0000°, Azm70.0000°;*

NEIC Felt [III] at Sapporo. Felt at Ebetsu, Iwanai, Obihiro, Otaru, Tono and Utashinai. Felt [IV] at Misawa, Honshu. Recorded [4 JMA] in the Niikappu area; [3 JMA] in south-central, southwestern and in the Tomakomai area, Hokkaido; [2 JMA] throughout southern Hokkaido. Also recorded [3 JMA] in Aomori and Iwate; [1 JMA] in Akita and Miyagi Prefectures, Honshu.

SZGRF ***18*** *15:07:35.4, 4271N×141.17E, h122km, mb5.8, Hokkaido, Japan, region*

ISC 18 15:07:31.8±0.1, 4263N±001×14190E±001, h121km, h121km±.8km: pP-P, n1412, σ 59/1455, mb5.5/353, 343C-149D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JBT2	Biratori 2	0.38	66	⇓P	Pn	15 07 48.9	-0.2
JBT2				*e*S	Sn	15 08 02.6	+0.4
JEW	Eniwo	0.39	303	⇓P	Pn	15 07 49.0	-0.2
JEW				*e*S	Sn	15 08 02.0	-0.3
JNB	Noboribetsu	0.65	256	⇓P	Pn	15 07 50.7	-0.1
JNB				*e*S	Sn	15 08 05.5	+0.3
JNBK	Urakawa-nobuka	0.72	118	⇑P	Pn	15 07 51.2	-0.1
JNBK				*e*S	Sn	15 08 05.7	-0.4
JFR	Furan	0.74	43	⇓P	Pn	15 07 50.5	-1.0
JFR				*e*S	Sn	15 08 05.2	-1.3
JAB	Ashibetsu	0.91	15	⇑P	Pn	15 07 52.9	-0.1
JAB				*e*S	Sn	15 08 08.9	-0.2
JKB	Kayabe	0.98	221	⇓P	Pn	15 07 53.5	-0.1
JKB				*e*S	Sn	15 08 09.7	-0.4
JCH	Churui	1.08	90	⇓P	Pn	15 07 53.4	-1.2
JCH				*e*S	Sn	15 08 10.0	-2.0
JEM	Erimo	1.11	123	⇑P	Pn	15 07 54.6	-0.4
ERM	Erimo	1.12	123	Pn	Pn	15 07 54.2	-0.8
	207μm,0.6s						
JHR	Hokuryu	1.12	354	⇑P	Pn	15 07 55.3	+0.2
JHR				*e*S	Sn	15 08 13.0	+0.2
JYM2	Yakumo 2	1.24	246	⇓P	Pn	15 07 57.0	+0.7
JSK	Shakotan	1.27	305	⇓P	Pn	15 07 57.2	+0.6
JSK				*e*S	Sn	15 08 16.7	+1.2
JSH	Shimam	1.37	271	⇓P	Pn	15 07 58.5	+0.8
JKK2	Kamakawa 2	1.39	26	⇑P	Pn	15 07 57.4	-0.6
JKK2				*e*S	Sn	15 08 16.8	-1.2
JOT	Ohata	1.39	207	⇓P	Pn	15 07 57.9	-0.1
JOT				*e*S	Sn	15 08 17.5	-0.5
JOB	Onbets	1.45	78	⇓P	Pn	15 07 57.7	-1.0
JAR	Ashorobuto	1.53	63	⇓P	Pn	15 07 58.1	-1.4
JAR				*e*S	Sn	15 08 17.9	-2.8
JSR	Shiriuchi	1.55	226	⇓P	Pn	15 08 00.3	+0.5
ASAJ	Asahikawa	1.58	19	PN	Pn	15 07 59.6	-0.5
ASAJ				S	Sn	15 08 20.1	-1.6
ASAJ				pmax	pmax		
	comp=Z,725nm,0.3s						
ASAJ				smax			
	comp=N,737nm,0.3s						
ASAJ	Asahikawa	1.58	19	P	Pn	15 07 59.6	-0.5
	comp=N,725nm,0.3s,baz=223,slow=12,SNR=7094						
ASAJ				S	Sn	15 08 20.1	-1.6
	comp=N,737nm,0.3s,baz=317,slow=29,SNR=68						
JMP	Maruseppu	1.75	37	⇓P	Pn	15 08 01.7	-0.4
JYG	Yagishiri	1.83	349	⇑P	Pn	15 08 03.4	+0.2
JYG				*e*S	Sn	15 08 27.6	+0.4
JOSM	Okushiri--Mats	1.88	254	⇓P	Pn	15 08 04.4	+0.7
JTM	Tenmabayashi	1.94	199	⇑P	Pn	15 08 04.1	-0.4
JTKR	Abashiri--Toko	1.99	47	⇓P	Pn	15 08 04.5	-0.6
JTKR				*e*S	Sn	15 08 29.4	-1.2
JAK	Akkeshi	2.09	79	⇓P	Pn	15 08 04.4	-2.0
JAK				*e*S	Sn	15 08 29.7	-3.2
JANG	Nango	2.27	187	⇑P	Pn	15 08 07.2	-1.4
JNK	Nakash	2.28	64	⇓P	Pn	15 08 07.3	-1.4
JRR	Rishiri	2.55	351	⇑P	Pn	15 08 13.0	+0.9
JKZ	Kuzumaki	2.67	189	⇑P	Pn	15 08 12.9	-0.9
JWK2	Keihoku	2.69	0	⇑P	Pn	15 08 14.4	+0.4
JRA	Rausu	2.70	60	⇓P	Pn	15 08 13.4	-0.7
NEM2	Nemuro 2	2.92	74	P	Pn	15 08 14.6	-2.3
MIYJ	Miyakonagasawa	3.05	181	⇑P	Pn	15 08 16.7	-2.0
JOG2	Oga 2	3.14	211	P	Pn	15 08 20.2	+0.3
JOM	Ohasama	3.18	188	⇑P	Pn	15 08 19.3	-1.2
YUK	Yuzh-Kuril'sk	3.22	63	⇓*i* PN	Pn	15 08 19.7	-1.2
YUK				*i* S	Sn	15 08 57.0	-1.8
YUK				pmax	pmax		
	comp=N,7μm,0.5s						
YUK				pmax	pmax		
	comp=E,4μm,0.5s						
YUK				pmax	pmax		
	comp=Z,16μm,0.5s						
YUK				pmax	pmax		
	comp=N,35μm,1.5s						
YUK				pmax	pmax		
	comp=E,32μm,1.5s						
YUK				pmax	pmax		
	comp=Z,80μm,1.5s						
YUK				smax			
	comp=N,17μm,0.6s						
YUK				smax			
	comp=E,25μm,0.6s						
YUK				smax			
	comp=N,130μm,2.5s						
YUK				smax			
	comp=E,100μm,2.0s						
JYW	Yuwa	3.34	203	⇑P	Pn	15 08 22.9	+0.4
OFUJ	Ofunato	3.55	183	⇑P	Pn	15 08 23.5	-1.8
JMK	Ichinoseki	3.71	188	⇑P	Pn	15 08 25.8	-1.6
JTB	Tobi-shima	3.86	208	⇑P	Pn	15 08 29.5	+0.1
JYK	Kaneyama	3.88	198	⇑P	Pn	15 08 29.1	-0.7
JIO	Ouri	4.19	186	⇑P	Pn	15 08 31.6	-2.2
JYA	Atsumi	4.36	203	P	Pn	15 08 35.8	-0.3
JOU	Okura	4.36	193	⇑P	Pn	15 08 35.1	-1.0
YSS	Yuzh-Sakhalins	4.37	8	⇑*i* PN	Pn	15 08 36.2	0.0
YSS	Yuzh-Sakhalins	4.37	8	⇑*i* PN	Pn	15 08 36.6	+0.4
YSS				*i* S	Sn	15 09 26.0	-0.2
YSS				pmax	pmax		
	comp=Z,10μm,0.8s						
YSS				pmax	pmax		
	comp=N,8μm,0.9s						
YSS				smax			
	comp=E,21μm,2.0s						
YSS				smax			
	comp=E,4μm,1.2s						
YSS				MLR	MLR		
	comp=Z,7μm,10.0s						
JYS	Shirataka	4.62	198	⇑P	Pn	15 08 39.1	-0.5
JAW	Awa shima	4.63	207	P	Pn	15 08 39.7	0.0
JMM	Marumori	4.83	190	P	Pn	15 08 40.2	-2.2
KUR	Kuril'sk	5.04	57	*i* PN	Pn	15 08 41.8	-3.4
KUR				*i* S	Sn	15 09 38.0	-4.3
KUR				pmax	pmax		
	comp=N,12μm,2.0s						
KUR				pmax	pmax		
	comp=E,12μm,2.0s						
KUR				pmax	pmax		
	comp=Z,35μm,2.0s						
KUR				pmax	pmax		
	comp=N,3μm,1.0s						
KUR				pmax	pmax		
	comp=E,2μm,1.0s						
KUR				pmax	pmax		
	comp=Z,16μm,1.0s						
KUR				smax			
	comp=N,3μm,0.8s						
KUR				smax			
	comp=E,4μm,0.8s						
KUR				smax			
	comp=N,20μm,2.0s						
KUR				smax			
	comp=E,28μm,2.0s						
JNS	Sasagawa	5.19	203	P	Pn	15 08 46.8	-0.5
JFK	Kawauchi	5.31	189	⇑P	Pn	15 08 46.3	-2.6
JSD	Sado	5.36	212	⇑P	Pn	15 08 49.9	+0.4
JIZZ	Izumozaki	5.64	207	P	Pn	15 08 54.1	+0.7
JHK	Hiroka	5.81	203	⇑P	Pn	15 08 55.1	-0.5
JSB	Shiboa	5.85	196	⇑P	Pn	15 08 55.2	-1.0
JKT	Katashina	6.20	200	P	Pn	15 09 00.4	-0.5
JJN	Nakama	6.22	209	⇑P	Pn	15 09 01.8	+0.7
UGL	Uglegorsk	6.46	1	α *i* PN	Pn	15 09 03.7	-0.5
UGL				S	Sn	15 10 16.0	-0.4
UGL				pmax	pmax		
	comp=N,808nm,1.0s						
UGL				pmax	pmax		
	comp=E,2μm,1.0s						
UGL				pmax	pmax		
	comp=Z,2μm,1.0s						
UGL				pmax	pmax		
	comp=N,4μm,2.0s						
UGL				pmax	pmax		
	comp=E,2μm,2.0s						
UGL				pmax	pmax		
	comp=Z,5μm,2.0s						
UGL				smax			
	comp=N,8μm,6.0s						
UGL				smax			
	comp=E,6μm,6.0s						
JAG	Ashikaga	6.47	198	⇑P	Pn	15 09 02.9	-1.7
JGK	Kuni	6.56	204	P	Pn	15 09 06.0	+0.3
MAJO	Matsushiro	6.71	206	⇑*i* PN	Pn	15 09 07.6	-0.1
	comp=E,414nm,0.8s						
MAJO	Matsushiro	6.71	206	⇑*i* PN	Pn	15 09 07.6	-0.2
MAJO				pmax	pmax		
	comp=Z,414nm,0.8s						
MAT	Matsushiro	6.71	206	P	Pn	15 09 07.6	-0.2
MAT				S	Sn	15 10 21.9	-0.8
MJAR	Matsushiro Arr	6.71	206	P	Pn	15 09 07.8	0.0
	comp=Z,33nm,0.3s,baz=29,slow=12,SNR=230						
MJAR				S	Sn	15 10 20.8	-1.9
	comp=Z,11nm,0.3s,baz=60,slow=15,SNR=4.5						
JNG	Nsakai	6.87	207	P	Pn	15 09 09.9	0.0
JGN	Niukaw	7.31	211	P	Pn	15 09 16.6	+0.7
JNT	Takato	7.34	205	P	Pn	15 09 15.9	-0.5
VLA	Vladivostok	7.37	277	*e*PN	Pn	15 09 17.6	+1.0
HABR	Khabarovsk	7.57	323	⇑*i* PN	Pn	15 09 19.9	+0.6
HABR				*e*S	Sn	15 10 45.2	+1.9
HABR				pmax	pmax		
	comp=Z,3μm,1.6s						
JNY	Yasuok	7.91	205	⇑P	Pn	15 09 22.9	-1.1
MDJ	Mudanjiang	9.15	287	P	Pn	15 09 41.1	+0.4
MDJ				S	Sn	15 11 24.0	+2.4
MDJ				SCP	ScP	15 19 11.6	+0.1
MDJ				PCS	PcS	15 19 24.4	+0.5
MDJ				SCS	ScS	15 22 46.8	+1.2
MDJ				AMB	AMB		
	comp=Z,63nm,1.0s						
MDJ				AMB	AMB		
	comp=Z,684nm,5.3s						
MDJ				LR	LR		
	comp=N,1μm,7.4s						
MDJ				LR	LR		
	comp=E,2μm,8.1s						
MDJ				LR	LR		
	comp=Z,3μm,12.3s						
MDJ	Mudanjiang	9.15	287	*e*Pn	Pn	15 09 41.0	+0.3
	comp=Z,184nm,0.9s						
JHJ	Hachijo jima 2	9.63	191	P	Pn	15 09 43.9	-3.5
	comp=Z,144nm,0.3s,baz=251,slow=20,SNR=30						
JHJ				S	Sn	15 11 24.4	-9.3
	comp=Z,236nm,0.3s,baz=294,slow=24,SNR=11						
JHJ				LR	LR	15 13 40.3	
	comp=Z,1μm,18.9s,baz=308,slow=38						
KLR	Kul'dur	9.67	317	⇓*i* PN	Pn	15 09 43.8	-3.9
KLR				pmax	pmax		
	comp=N,200nm,1.4s						
KLR				pmax	pmax		
	comp=E,1μm,1.4s						
KLR				pmax	pmax		
	comp=Z,1μm,1.4s						
KLR				pmax	pmax		
	comp=N,3μm,9.0s						
KLR				pmax	pmax		
	comp=E,4μm,9.0s						
KLR				pmax	pmax		
	comp=Z,5μm,9.0s						
KLR				MLR	MLR		
	comp=Z,22μm,12.0s						
OKH	Okha	10.95	3	*e*PN	Pn	15 10 04.2	-0.6
OKH				*i* S	Sn	15 12 08.4	+3.1
OKH				pmax	pmax		
	comp=Z,3μm,7.0s						
OKH				smax			
	comp=E,5μm,9.0s						
OKH				smax			
	comp=Z,2μm,10.0s						
KSRS	Korea Array	11.89	249	P	Pn	15 10 18.3	+1.0
	comp=Z,2.9nm,0.3s,baz=61,slow=12,SNR=265						
KSRS				LR	LR	15 14 42.1	
	comp=Z,863nm,19.2s,baz=61,slow=36						
KSRS				PcP	PcP	15 15 54.5	+0.8
	baz=78,slow=1.1,SNR=4.0						
KSRS				ScP	ScP	15 19 15.7	+0.5
	comp=Z,0.1nm,0.3s,baz=242,slow=0.3,SNR=7.2						
CN2	Changchun	12.06	281	*e*P	Pn	15 10 19.9	+0.3
CN2				*e*XP		15 10 53.1	
CN2				*e*S	Sn	15 12 31.6	-0.7
CN2				AMB	AMB		
	comp=Z,20nm,0.9s						
CN2				AMB	AMB		
	comp=Z,200nm,5.0s						
CN2				LR	LR		
	comp=N,11μm,10.0s						
CN2				LR	LR		
	comp=E,3μm,10.0s						
CN2				LR	LR		
	comp=Z,3μm,15.0s						
SKR	Severo-Kuril's	12.65	46	*e*PN	Pn	15 10 21.5	-5.7
SKR				pmax	pmax		
	comp=N,1μm,2.0s						
SKR				pmax	pmax		
	comp=E,1μm,2.0s						
SKR				pmax	pmax		
	comp=Z,2μm,2.0s						
SKR				pmax	pmax		
	comp=N,200nm,0.6s						

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SKR                                  pmax    pmax
     comp=Z,680nm,0.6s
SKR                                  pmax    pmax
     comp=E,580nm,1.0s
SKR                                  MLR     MLR
     comp=E,2µm,14.0s
SKR                                  MLR     MLR
     comp=Z,2µm,14.0s
INCN Inchon          12.77 251 ePn   Pn      15 10 29.0 +0.1
     comp=Z,177nm,1.3s
INCN Inchon          12.77 251 Pn    Pn      15 10 29.5 +0.7
     SNR=10
INCN Inchon          12.77 251 P     Pn      15 10 29.5 +0.7
     SNR=10
JNU  Nakatsue        12.86 226 P     Pn      15 10 29.1 -1.0
     comp=Z,1.4nm,0.3s,baz=50,slow=17,SNR=12
JNU                                  LR      LR      15 14 55.7
     comp=Z,1µm,18.5s,baz=27,slow=34
SNY  Shenyang        13.60 273 ⇑P    Pn      15 10 40.1 +0.5
SNY                                  PP      15 10 51.3
SNY                                  S       Sn      15 13 12.8 +3.3
SNY                                  AMB     AMB
     comp=Z,80nm,0.9s
SNY                                  AMB     AMB
     comp=Z,600nm,5.5s
SNY                                  LR      LR
     comp=N,2µm,9.0s
SNY                                  LR      LR
     comp=Z,2µm,16.7s
PET  Petropavlovsk   15.29  41 ePn   Pn      15 10 55.0 -5.8
     comp=Z,110nm,0.5s
PET  Petropavlovsk   15.29  41⇓iP    Pn      15 10 55.4 -5.4
PET                                  eS      S       15 13 38.5 -19
PET                                  pmax    pmax
     comp=Z,158nm,1.2s
PET                                  pmax    pmax
     comp=Z,800nm,9.7s
PET                                  pmax    pmax
     comp=Z,500nm,8.7s
PET                                  MLR     MLR
     comp=Z,2µm,19.0s
PET                                  MLR     MLR
     comp=Z,2µm,10.0s
CBIJ Chichi jima     15.49 179 P     Pn      15 11 00.1 -3.5
     comp=Z,63nm,0.3s,baz=351,slow=5.4,SNR=19
CBIJ                                 S       S       15 13 41.1 -21
     comp=Z,46nm,0.3s,baz=309,slow=21,SNR=4.7
DL2  Dalian          15.80 263 P     Pn      15 11 07.1 -0.2
DL2                                  XP      sP      15 11 44.0 -1.5
DL2                                  S       S       15 14 01.3 -7.1
DL2                                  AMB     AMB
     comp=Z,80nm,1.2s
DL2                                  AMB     AMB
     comp=Z,250nm,4.1s
HIA  Hailar          16.75 301 eP    Pn      15 11 16.9 -2.0
     comp=Z,555nm,1.0s
HIA  Hailar          16.75 301 eP    Pn      15 11 16.9 -2.0
HIA                                  pmax    pmax
     comp=Z,555nm,1.0s
MA2  Magadan         17.83  15 eP    Pn      15 11 28.4 -3.5
     comp=Z,525nm,0.9s
MA2  Magadan         17.83  15d iP   Pn      15 11 27.9 -4.0
MA2                                  eS      S       15 14 40.0 -9.4
MA2                                  pmax    pmax
     comp=Z,1µm,1.3s
MA2                                  MLR     MLR
     comp=Z,2µm,13.5s
NRGR Nerungri        17.84 328 i P   Pn      15 11 30.3 -1.7
NRGR                                 S       S       15 14 49.1 -0.4
NRGR                                 smax
     comp=E,384nm,0.9s
CLNS Chul'man        17.90 328 eP    Pn      15 11 30.7 -2.0
CLNS                                 eS      S       15 14 50.6 -0.1
CLNS                                 pmax    pmax
     comp=N,1µm,0.8s
CLNS                                 pmax    pmax
     comp=Z,2µm,0.8s
CLNS                                 pmax    pmax
     comp=E,704nm,0.7s
CLNS                                 smax
     comp=N,264nm,1.2s
CLNS                                 smax
     comp=E,162nm,1.2s
CLNS                                 smax
     comp=Z,65nm,1.1s
CLNS                                 MLR     MLR
     comp=Z,2µm,13.0s
CLNS                                 MLR     MLR
     comp=N,1µm,11.0s
CLNS                                 MLR     MLR
     comp=E,2µm,12.0s
JOW  Kunigami        19.29 220 P     P       15 11 45.9 -1.2
     comp=E,4.8nm,0.3s,baz=108,slow=13,SNR=3.8
BJI  Beijing         19.47 271 P     P       15 11 48.3 -0.6
BJI                                  XP      sP      15 12 27.0 +0.9
BJI                                  S       S       15 15 16.3 -6.0
BJI                                  SCP     ScP     15 19 29.5 +0.1
BJI                                  SCS     ScS     15 23 11.8 +0.4
BJI                                  AMB     AMB
     comp=Z,135nm,0.8s
BJI                                  AMB     AMB
     comp=Z,260nm,3.2s
BJT  Baijiatuau      19.48 271 eP    P       15 11 48.3 -0.8
     comp=Z,98nm,0.7s
BJT  Baijiatuau      19.48 271 eP    P       15 11 48.3 -0.8
BJT                                  pmax    pmax
     comp=Z,98nm,0.7s
SSE  Sheshan         20.12 242 P     P       15 11 57.8 +1.8
SSE                                  S       S       15 15 31.8 -3.5
SSE                                  XS      sS      15 16 07.9 -4.2
SSE                                  AMB     AMB
     comp=Z,47nm,0.9s
SSE                                  AMB     AMB
     comp=Z,119nm,3.5s
SSE                                  LR      LR
     comp=N,1µm,11.3s
SSE                                  LR      LR
     comp=E,855nm,11.3s
SSE                                  LR      LR
     comp=Z,1µm,12.7s
TIA  Tai'an          20.14 260 P     P       15 11 55.0 -1.3
TIA                                  S       S       15 15 29.0 -6.8
TIA                                  AMB     AMB
     comp=Z,87nm,1.0s
TIA                                  LR      LR
     comp=N,469nm,9.0s
YAK  Yakutsk         20.75 344 eP    P       15 11 58.9 -3.7
     comp=N,1µm,0.7s
YAK  Yakutsk         20.75 344ceP    P       15 11 59.1 -3.4
YAK                                  eS      S       15 15 36.6 -11
YAK                                  i               15 16 25.1
YAK                                  i               15 23 11.6
YAK                                  pmax    pmax
     comp=Z,907nm,0.8s
YAK                                  pmax    pmax
     comp=N,271nm,0.9s
YAK                                  pmax    pmax
     comp=E,279nm,1.2s
YAK                                  pmax    pmax
     comp=Z,336nm,0.9s
YAK                                  pmax    pmax
     comp=N,634nm,1.5s
YAK                                  pmax    pmax
     comp=E,418nm,1.3s
YAK                                  smax
     comp=E,1µm,2.7s
YAK                                  smax
     comp=Z,385nm,1.2s
YAK                                  smax
     comp=N,2µm,2.2s
YAK                                  MLR     MLR
     comp=N,619nm,14.0s
YAK                                  MLR     MLR
     comp=Z,620nm,14.0s
YAK                                  MLR     MLR
     comp=E,433nm,12.0s
NJ2  Nanjing         21.08 248 eP    P       15 12 05.3 -1.1
NJ2                                  AP      15 12 30.3
NJ2                                  PP      15 12 34.4
NJ2                                  XP      sP      15 12 45.0 +1.3
NJ2                                  S       S       15 15 42.0 -12
NJ2                                  XS      sS      15 16 28.0 -3.5
NJ2                                  AMB     AMB
     comp=Z,380nm,1.0s,mb5.7
NJ2                                  AMB     AMB
     comp=Z,380nm,3.7s
NJ2                                  LR      LR
     comp=N,4µm,22.4s
NJ2                                  LR      LR
     comp=E,2µm,18.2s
NJ2                                  LR      LR
     comp=Z,2µm,13.8s
SEY  Seymchan        21.25  13⇑iP    P       15 12 05.1 -2.8
SEY  Seymchan        21.25  13c iP   P       15 12 05.0 -2.9
HHC  Hu-ho-hao-te    22.65 276 eP    P       15 12 19.5 -3.3
HHC                                  AP      15 12 44.0
HHC                                  PP      15 12 53.1
HHC                                  PCP     PcP     15 16 12.0 +1.2
HHC                                  S       S       15 16 16.3 -5.1
HHC                                  PCS     PcS     15 19 49.5 -0.2
HHC                                  AMB     AMB
     comp=Z,17nm,0.4s,mb4.7
HHC                                  AMB     AMB
     comp=Z,237nm,3.2s
HHC                                  LR      LR
     comp=N,1µm,9.4s
HHC                                  LR      LR
     comp=E,949nm,5.8s
HHC                                  LR      LR
     comp=Z,875nm,10.3s
TIY  Taiyuan         22.98 268 P     P       15 12 24.5 -1.3
TIY                                  S       S       15 16 18.8 -8.0
TIY                                  AMB     AMB
     comp=Z,825nm,5.9s
TIY                                  LR      LR
     comp=N,2µm,11.5s
TIY                                  LR      LR
     comp=E,974nm,8.2s
TIY                                  LR      LR
     comp=Z,833nm,12.4s
BOD  Bodaibo         23.21 321⇓iP    P       15 12 23.8 -3.9
BOD                                  e       15 23 20.2
BOD                                  pmax    pmax
     comp=Z,39nm,1.0s,mb4.7
SMY  Shemya          23.73  54 eP    P       15 12 33.8 +1.3
     comp=Z,661nm,1.3s,mb5.8
SMY  Shemya          23.73  54 P     P       15 12 32.7 +0.2
SMY                                  pmax    pmax
     comp=Z,470nm,1.2s,mb5.7
BTO  Baotou          23.85 276 eP    P       15 12 33.9 +0.2
TATO Taipei          24.34 230 eP    P       15 12 39.1 +0.8
     comp=Z,107nm,0.8s,mb5.2
YHNB Yeheng          24.64 230 eP    P       15 12 41.8 +0.7
ULN  Ulaanbaatar     24.95 294⇑iP    P       15 12 42.4 -1.2
WHN  Wuhan           25.08 250⇓iP    P       15 12 43.5 -1.4
WHN                                  AP      pP      15 13 06.0 -4.8
WHN                                  PP      15 13 27.8
WHN                                  S       S       15 16 56.0 -4.4
WHN                                  AMB     AMB
     comp=Z,113nm,1.0s,mb5.2
WHN                                  AMB     AMB
     comp=Z,705nm,4.6s
WHN                                  LR      LR
     comp=Z,2µm,12.3s
SONM Songino Array   25.39 294 P     P       15 12 47.6  0.0
     comp=Z,170nm,1.0s,mb5.4,baz=84,slow=4.5,SNR=566
SONM                                 ScP     ScP     15 19 44.1 -0.5
     comp=Z,4.7nm,0.8s,baz=165,slow=0.9,SNR=4.0
SONM                                 LR      LR      15 23 16.6
     comp=Z,784nm,20.7s,baz=91,slow=37
QZH  Quanzhou        26.06 235⇓iP    P       15 12 54.8 +0.9
QZH                                  S       S       15 17 21.0 +4.9
QZH                                  AMB     AMB
     comp=Z,200nm,1.1s,mb5.5
QZH                                  AMB     AMB
     comp=Z,2µm,7.4s
IRK  Irkutsk         26.93 304⇑iP    P       15 13 01.1 -0.3
IRK                                  e       pP      15 13 21.6 -5.9
IRK                                  eS      S       15 17 33.5 +4.2
IRK                                  e       15 18 17.4
IRK                                  pmax    pmax
     comp=Z,563nm,1.3s,mb5.9
XAN  Xi'an           27.11 263 P     P       15 13 03.0 -0.3
XAN                                  AP      pP      15 13 26.3 -3.0
XAN                                  S       S       15 17 34.4 +1.8
XAN                                  AMB     AMB
     comp=Z,27nm,0.7s,mb4.9
XAN                                  AMB     AMB
     comp=Z,86nm,5.8s
XAN                                  LR      LR
     comp=N,251nm,11.1s
XAN                                  LR      LR
     comp=E,651nm,11.3s
XAN                                  LR      LR
     comp=Z,642nm,11.1s
TLY  Talaya          27.27 303 P     P       15 13 04.4 -0.1
     comp=Z,2µm,0.9s,mb6.7
TLY  Talaya          27.27 303 eP    P       15 13 04.8 +0.3
     comp=Z,315nm,0.9s,mb5.8
TLY  Talaya          27.27 303c iP   P       15 13 04.8 +0.3
TLY                                  ePPP    15 13 48.4
TLY                                  eS      S       15 17 35.9 +1.2
TLY                                  eSSS    15 19 02.6
TLY                                  pmax    pmax
     comp=Z,365nm,0.9s,mb5.9
TLY                                  MLR     MLR
     comp=Z,574nm,13.0s
TLY  Talaya          27.27 303 P     P       15 13 05.2 +0.8
     SNR=171
TLY  Talaya          27.27 303 P     P       15 13 05.2 +0.8
     SNR=171
ZAK  Zakamensk       27.44 300⇓iP    P       15 13 06.0  0.0
ZAK                                  pmax    pmax
     comp=Z,155nm,1.1s,mb5.5
BILL Bilibino        28.59  19 eP    P       15 13 13.1 -2.9
     comp=Z,13nm,0.6s,mb4.7
BILL Bilibino        28.59  19⇓eP    P       15 13 13.5 -2.5
BILL                                 i       pP      15 13 35.3 -6.9
BILL                                 e               15 13 48.1
BILL                                 i               15 14 09.1
BILL                                 i S     S       15 17 51.2 -3.9
BILL                                 eSS     SS      15 19 34.9 -26
BILL                                 pmax    pmax
     comp=Z,23nm,1.5s,mb4.6
BILL                                 MLR     MLR
     comp=Z,600nm,18.0s
MOY  Mondy           28.92 303 eP    P       15 13 19.4 +0.3
MOY                                  pmax    pmax
     comp=Z,933nm,1.9s,mb6.1
ADK  Adak            29.25  57 eP    P       15 13 20.2 -1.8
     comp=Z,231nm,1.1s,mb5.7
ADK  Adak            29.25  57 eP    P       15 13 20.2 -1.8
ADK                                  pmax    pmax
     comp=Z,231nm,1.1s,mb5.7
TIXI Tiksi           29.80 352 eP    P       15 13 23.0 -3.7
     comp=Z,47nm,0.8s,mb5.2
TIXI Tiksi           29.80 352c iP   P       15 13 23.3 -3.4
TIXI                                 pmax    pmax
     comp=Z,104nm,1.5s,mb5.2
LZH  Lanzhou         29.95 270⇓iP    P       15 13 29.9 +1.5
LZH                                  PCP     PcP     15 16 29.3 +1.4
LZH                                  eS      S       15 18 19.0 +1.9
LZH                                  SS      SS      15 19 58.0 -31
LZH                                  AMB     AMB
     comp=Z,85nm,1.1s,mb5.3
LZH                                  AMB     AMB
     comp=Z,162nm,4.3s
LZH                                  LR      LR
     comp=E,669nm,7.0s
LZH                                  LR      LR
     comp=Z,873nm,10.8s
GZH  Guangzhou       30.68 240 P     P       15 13 31.3 -3.6
GZH                                  S       S       15 18 20.6 -8.0
GZH                                  LR      LR
     comp=N,1µm,14.5s
GZH                                  LR      LR
     comp=E,2µm,15.4s
GZH                                  LR      LR
     comp=Z,804nm,18.2s
GTA  Gaotai          31.68 279⇑iP    P       15 13 44.5 +0.9
GTA                                  AP      pP      15 14 11.8 +1.9
GTA                                  XP      sP      15 14 27.8 +3.9
GTA                                  PP      PP      15 14 55.4 -1.9
GTA                                  PCP     PcP     15 16 33.5 +1.0
GTA                                  S       S       15 18 42.4 -1.6
GTA                                  XS      sS      15 19 33.0 +3.0
GTA                                  SCP     ScP     15 20 04.8 +0.4
GTA                                  PCS     PcS     15 20 17.3 +0.3
GTA                                  SS      SS      15 20 45.3 -19
GTA                                  SCS     ScS     15 24 01.3 -1.4
GTA                                  AMB     AMB
     comp=Z,82nm,0.9s,mb5.5
GTA                                  AMB     AMB
     comp=Z,195nm,7.6s
GTA                                  LR      LR
     comp=N,2µm,18.6s
GTA                                  LR      LR
     comp=E,857nm,20.2s
GTA                                  LR      LR
     comp=Z,881nm,25.5s
CD2  Chengdu         32.45 262⇑iP    P       15 13 50.6 +0.1
CD2                                  AP      pP      15 14 15.6 -1.3
CD2                                  XP      sP      15 14 31.3 +0.5
CD2                                  PP      PP      15 15 00.9 -5.1
CD2                                  PCP     PcP     15 16 35.6 +0.9
CD2                                  S       S       15 18 53.4 -2.8
CD2                                  SS      SS      15 20 55.0 -26
CD2                                  SCS     ScS     15 24 05.9 -1.0
CD2                                  AMB     AMB
     comp=Z,110nm,0.8s,mb5.6
CD2                                  AMB     AMB
     comp=Z,250nm,4.4s
CD2                                  LR      LR
     comp=N,1µm,12.6s
CD2                                  LR      LR
     comp=E,980nm,13.4s
CD2                                  LR      LR
     comp=Z,670nm,11.4s
GYA  Guiyang         32.92 252⇓iP    P       15 13 54.6 +0.1
GYA                                  AP      pP      15 14 23.9 +2.9
GYA                                  XP      sP      15 14 38.4 +3.5
GYA                                  PP      PP      15 15 10.9 -0.3
GYA                                  PCP     PcP     15 16 38.3 +2.2
GYA                                  S       S       15 19 02.0 -1.5
GYA                                  XS      sS      15 19 52.0 +2.3
GYA                                  SCP     ScP     15 20 10.0 +1.1
GYA                                  PCS     PcS     15 20 22.8 +1.1
GYA                                  SS      SS      15 21 12.8 -17
GYA                                  SCS     ScS     15 24 07.1 -2.3
GYA                                  AMB     AMB
     comp=Z,40nm,1.1s,mb5.2
GYA                                  AMB     AMB
     comp=Z,190nm,5.7s
GYA                                  LR      LR
     comp=N,660nm,14.7s
GYA                                  LR      LR
     comp=E,620nm,13.5s
GYA                                  LR      LR
     comp=Z,830nm,14.4s
QIZ  Qiongzhong      35.86 239 P     P       15 14 22.3 +2.4
QIZ                                  AP      pP      15 14 49.3 +2.6
QIZ                                  S       S       15 19 52.8 +4.0
QIZ                                  XS      sS      15 20 40.9 +5.6
QIZ                                  AMB     AMB
     comp=Z,39nm,1.6s,mb5.1
QIZ                                  AMB     AMB
     comp=Z,410nm,3.6s
TNA  Tin City        35.88  33 eP    P       15 14 18.5 -1.2
     comp=Z,83nm,1.1s,mb5.6
KMI  Kunming         36.52 254 P     P       15 14 26.4 +0.9
KMI                                  AP      pP      15 14 54.3 +2.0
KMI                                  XP      sP      15 15 08.3 +2.2
KMI                                  PP      PP      15 15 55.0 +4.1
KMI                                  PCP     PcP     15 16 48.8 +2.2
KMI                                  S       S       15 19 58.3 -0.5
KMI                                  SCP     ScP     15 20 22.9 +1.1
KMI                                  PCS     PcS     15 20 35.0 +0.3
KMI                                  XS      sS      15 20 47.6 +2.2
KMI                                  SS      SS      15 22 33.1 -9.1
KMI                                  SCS     ScS     15 24 27.5 -1.3
KMI                                  AMB     AMB
     comp=Z,94nm,0.9s,mb5.7
KMI                                  AMB     AMB
     comp=Z,246nm,3.1s
KMI                                  LR      LR
     comp=N,740nm,14.3s
KMI                                  LR      LR
     comp=E,511nm,14.9s
KMI                                  LR      LR
     comp=Z,642nm,13.1s
ZALV Zalesovo Beam   38.62 307 P     P       15 14 42.9  0.0
     comp=Z,320nm,0.8s,mb6.2,baz=85,slow=7.9,SNR=686
ZALV                                 PcP     PcP     15 16 52.2 -0.3
     comp=Z,24nm,0.8s,baz=120,slow=3.5,SNR=3.4
ZALV                                 pPcP    15 17 22.2
     comp=Z,40nm,0.8s,baz=109,slow=3.6,SNR=4.9
ZALV                                 ScP     ScP     15 20 28.8 -0.5
     comp=Z,46nm,0.9s,baz=83,slow=4.6,SNR=17
ZALV                                 ScS     ScS     15 24 38.5 -1.3
     comp=Z,3.6nm,1.0s,baz=74,slow=6.3,SNR=4.0
ZALV                                 LR      LR      15 32 33.2
     comp=Z,297nm,21.1s,baz=262,slow=39
ZAL  Zalesovo        38.63 307 P     P       15 14 42.9  0.0
ZAL                                                  15 16 52.3
ZAL                                                  15 20 28.8
ZAL                                                  15 24 38.5
WMQ  Urumqi          38.92 291⇑iP    P       15 14 44.9 -0.6
WMQ                                  AP      pP      15 15 12.0 -0.5
WMQ                                  XP      sP      15 15 26.0 -0.3
WMQ                                  PP      PP      15 16 18.0 +1.1
WMQ                                  SCP     ScP     15 20 29.0 -1.6
WMQ                                  S       S       15 20 34.0 -0.7
WMQ                                  XS      sS      15 21 22.0 +0.4
WMQ                                  SS      SS      15 23 24.0 -6.9
WMQ                                  AMB     AMB
     comp=Z,198nm,1.2s,mb5.8
WMQ                                  AMB     AMB
     comp=Z,500nm,3.6s
WMQ                                  LR      LR
     comp=N,4µm,13.5s
WMQ                                  LR      LR
     comp=E,1µm,18.0s
WMQ                                  LR      LR
     comp=Z,2µm,18.8s
NVS  Novosibirsk     39.43 309⇑iP    P       15 14 49.9 +0.3
NVS                                  e*PP    pP      15 15 17.1 +0.5
NVS                                  i               15 16 28.5
NVS                                  i S     S       15 20 40.9 -1.1
NVS                                  i               15 24 42.0
NVS                                  pmax    pmax
     comp=E,556nm,1.9s
NVS                                  pmax    pmax
     comp=Z,690nm,1.9s,mb6.2
NVS                                  pmax    pmax
     comp=N,157nm,1.7s
NVS                                  pmax    pmax
     comp=N,40nm,1.4s
NVS                                  pmax    pmax
     comp=E,130nm,1.4s
NVS                                  pmax    pmax
     comp=Z,127nm,1.4s,mb5.6
NVS                                  smax
     comp=N,180nm,1.6s
NVS                                  smax
     comp=E,325nm,1.8s
TTA  Tatalina        40.71  38 eP    P       15 14 59.7 -0.3
TTA  Tatalina        40.71  38 eP    P       15 14 59.6 -0.4
TTA                                  pmax    pmax
     comp=Z,200nm,1.4s,mb5.8
SVW2 Sparrevohn      40.96  41 eP    P       15 15 02.5 +0.4
MK31 Makanchi Array  41.69 297 i P   P       15 15 08.2  0.0
MKAR Makanchi Array  41.69 297 P     P       15 15 08.4 +0.2
MKAR                                 pP      pP      15 15 35.0 -0.5
MKAR                                 PcP     PcP     15 17 03.0 +0.5
MKAR                                 ScP     ScP     15 20 41.5 +0.1
MKAR                                 S       S       15 21 14.9 -0.8
MKAR                                 LR      LR      15 34 07.0
MKAR                                 e               15 44 32.7
MKAR Makanchi Array  41.69 297⇑eP    P       15 15 08.3 +0.1
MKAR Makanchi Array  41.69 297 P     P       15 15 08.4 +0.2
     comp=Z,181nm,0.8s,mb5.9,baz=82,slow=9.4,SNR=910
MKAR                                 pP      pP      15 15 35.0 -0.5
     comp=Z,15nm,0.7s,baz=47,slow=6.3,SNR=1.1
MKAR                                 PcP     PcP     15 17 03.0 +0.5
     comp=Z,26nm,0.9s,baz=72,slow=5.8,SNR=7.9
MKAR                                 ScP     ScP     15 20 41.5 +0.1
     comp=Z,7.9nm,0.8s,baz=85,slow=3.0,SNR=4.2
MKAR                                 S       S       15 21 14.9 -0.8
     comp=Z,10nm,1.1s,baz=81,slow=18,SNR=4.2
MKAR                                 LR      LR      15 34 07.0
     comp=Z,228nm,18.5s,baz=80,slow=38
MKAR                                 P3KPbc          15 44 32.7
     comp=Z,0.7nm,1.0s,baz=257,slow=4.9,SNR=5.2
UBT  Ubonrachathani  41.74 240 ⇑P    P       15 15 10.5 +1.5
IMA2 Indian Mountai  41.75  34 eP    P       15 15 07.6 -0.9
LSA  Lhasa           42.36 269 P     P       15 15 16.0 +2.1
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LSA S **S** **15 21 28.4 +2.3**
LSA AMB AMB
comp=Z,50nm,1.0s,mb5.2
LSA LR LR
comp=N,450nm,21.3s
LSA LR LR
comp=E,390nm,23.6s
LSA LR LR
comp=Z,620nm,26.0s
LSA Lhasa 42.36 269 *e*P **P** **15 15 16.0 +2.0**
comp=Z,70nm,1.0s,mb5.3
LSA Lhasa 42.36 269 *e*P **P** **15 15 16.0 +2.1**
LSA pmax pmax
comp=Z,71nm,1.0s,mb5.3
MYLDM Lahad Datu 42.68 216 ⇓P **P** **15 15 19.3 +2.7**
SDKM Sandakan 42.84 218 ⇓P **P** **15 15 19.3 +1.4**
KKM Kota Kinabalu 42.94 219 *e*P **P** **15 15 20.4 +1.7**
KKM Kota Kinabalu 42.94 219 ⇑P **P** **15 15 20.5 +1.9**
KURK Kurchatov 42.96 304 P **P** **15 15 18.4 -0.1**
comp=Z,4μm,1.0s
KURK Kurchatov 42.96 304 *e*P **P** **15 15 18.5 0.0**
comp=Z,1μm,1.3s,mb6.5
KURK Kurchatov 42.96 304 *c i*P **P** **15 15 17.1 -1.4**
IMP Imphal 43.07 261 *e*P **P** **15 15 19.0 -0.7**
IMP *ex* x 15 17 07.0
CHG Chiang Mai 43.28 250 ⇓P **P** **15 15 22.4 +1.0**
comp=Z,70nm,0.9s,mb5.4
CHTO Chiang Mai 43.28 250 *e*P **P** **15 15 22.3 +0.9**
comp=Z,48nm,0.8s,mb5.3
CHTO Chiang Mai 43.28 250 *e*P **P** **15 15 22.3 +0.9**
CHTO pmax pmax
comp=Z,47nm,0.8s,mb5.3
CHTO Chiang Mai 43.28 250 P **P** **15 15 22.8 +1.4**
SNR=17
CHTO Chiang Mai 43.28 250 P **P** **15 15 22.8 +1.4**
SNR=17
SLKM Skilak Lake 43.63 42 *e*P **P** **15 15 22.0 -1.7**
TSM Tawau 43.74 216 ⇓P **P** **15 15 26.5 +1.3**
MCK McKinley 43.86 37 *e*P **P** **15 15 24.6 -0.9**
comp=Z,110nm,0.8s,mb5.6
MCK McKinley 43.86 37 *e*P **P** **15 15 24.6 -0.9**
MCK pmax pmax
comp=Z,110nm,0.8s,mb5.6
PMR Palmer 44.01 40 *e*P **P** **15 15 25.8 -0.9**
comp=Z,109nm,0.8s,mb5.6
PMR LR LR
comp=Z,500nm,18.0s
PMR Palmer 44.01 40 *e*P **P** **15 15 25.8 -0.9**
PMR pmax pmax
comp=Z,109nm,0.8s,mb5.6
PMR MLR MLR
comp=Z,500nm,18.0s
SHL Shillong 44.11 264 ⇑*i*P **P** **15 15 29.0 +1.0**
SHL *e*S **S** **15 21 52.0 +0.3**
COLA College 44.23 35 *e*P **P** **15 15 28.0 -0.4**
comp=Z,123nm,0.8s,mb5.7
COLA College 44.23 35 *d i*P **P** **15 15 26.6 -1.8**
BDT Bhumibol Dam 44.31 249 P **P** **15 15 30.5 +0.8**
SML Sawmill 44.36 40 *e*P **P** **15 15 29.0 -0.5**
SML *e*pP pP 15 15 58.4 +1.3
NST Nakhon Sawan 44.65 246 P **P** **15 15 33.0 +0.6**
comp=Z,67nm,0.8s,mb5.4
EYAK Cordova Ski Ar 45.80 41 *e*P **P** **15 15 40.9 -0.1**
comp=Z,168nm,0.9s,mb5.8
MENT Mentasta 46.30 38 *e*P **P** **15 15 44.9 +0.1**
BTM Bintulu 46.91 221 ⇓P **P** **15 15 51.1 +0.9**
NNT Nongplab 47.14 243 P **P** **15 15 54.3 +2.4**
BVAR Borovoye Array 47.23 309 P **P** **15 15 52.6 +0.4**
baz=74,slow=8.8
BVAR ScP ScP 15 21 04.4 +0.3
comp=Z,18nm,0.9s,baz=29,slow=3.4,SNR=7.2
BVAR S **S** **15 22 35.2 -0.5**
comp=Z,14nm,0.9s,baz=76,slow=12,SNR=7.7
BRVK Borovoye 47.28 309 *e*P **P** **15 15 52.9 +0.3**
comp=Z,2μm,1.3s,mb6.7
BRVK Borovoye 47.28 309 *e*P **P** **15 15 52.9 +0.4**
BRVK pmax pmax
comp=Z,2μm,1.3s,mb6.7
ULHL Ulahol 47.32 293 P **P** **15 15 53.8 +0.7**
SNR=9.4
TKM2 Tokmak 2 47.49 294 *e*P **P** **15 15 55.2 +0.8**
comp=Z,270nm,0.8s,mb6.0
TKM2 *e*pP pP 15 16 24.1 +1.8
TKM2 Tokmak 2 47.49 294 *e*P **P** **15 15 55.2 +0.9**
TKM2 *e**PP pP 15 16 24.1 +1.9
TKM2 pmax pmax
comp=Z,270nm,0.8s,mb6.0
TKM2 Tokmak 2 47.49 294 P **P** **15 15 55.4 +1.1**
SNR=208
SBUM Sibu 47.98 222 ⇓P **P** **15 15 51.1 -7.3**
CHMS Chumysh 48.03 295 P **P** **15 15 58.8 +0.3**
SNR=14
KBK Karagaybulak 48.03 294 P **P** **15 15 59.5 +1.0**
SNR=148
KZA Kyzart 48.06 293 P **P** **15 16 00.2 +1.4**
SNR=74
USP Ospenovka 48.09 295 P **P** **15 15 59.2 +0.3**
SNR=80
FRU Bishkek 48.18 294 *e*P **P** **15 15 59.0 -0.7**
FRU *e* 15 22 50.0
FRU pmax pmax
comp=Z,160nm,2.0s,mb5.5
FRU MLR MLR
comp=Z,1μm,14.0s
AAK Ala-Archa 48.35 294 P **P** **15 16 00.8 -0.1**
comp=Z,373nm,0.5s,mb6.5,SNR=60
AAK Ala-Archa 48.35 294 *e*P **P** **15 16 00.1 -0.8**
comp=Z,54nm,0.8s,mb5.4
AAK Ala-Archa 48.35 294 *c i*P **P** **15 15 59.1 -1.8**
AAK pmax pmax
comp=Z,97nm,1.5s,mb5.4
AAK Ala-Archa 48.35 294 P **P** **15 16 00.6 -0.3**
SNR=35
AAK Ala-Archa 48.35 294 P **P** **15 16 00.6 -0.3**
SNR=35
AAK Ala-Archa 48.35 294 P **P** **15 16 01.5 +0.5**
SNR=20
UCH Uchtor 48.50 294 P **P** **15 16 03.2 +1.1**
SNR=26
KSH Kashi 48.66 290 P **P** **15 16 04.9 +1.5**
KSH *e*AP pP 15 16 33.8 +2.4
KSH *e*XP sP 15 16 48.8 +3.9
KSH *e*PCP PcP 15 17 28.4 +1.5
KSH *e*PP PP 15 17 59.4 +2.2
KSH *e*SCP ScP 15 21 10.4 0.0
KSH PCS PcS 15 21 23.5 +0.4
KSH S **S** **15 22 55.1 -1.2**
KSH XS sS 15 23 46.3 +1.6
KSH SCS ScS 15 25 41.5 -2.0
KSH SS SS 15 26 23.3 -4.4
KSH AMB AMB
comp=Z,204nm,0.7s,mb6.2
KSH AMB AMB
comp=Z,899nm,2.9s,mb6.2
KSH LR LR
comp=N,2μm,8.0s
KSH LR LR
comp=E,2μm,9.1s
KSH LR LR
comp=Z,3μm,15.6s
EKS2 Erkin-Say 48.82 295 *e*P **P** **15 16 04.7 +0.1**
comp=Z,51nm,0.6s,mb5.6
EKS2 *e*pP pP 15 16 33.3 +0.7
EKS2 *e*ScP ScP 15 21 10.8 -0.2
EKS2 Erkin-Say 48.82 295 P **P** **15 16 05.0 +0.5**
SNR=14
AML Almayashu 49.09 294 *e*P **P** **15 16 07.7 +1.0**
comp=Z,95nm,1.0s,mb5.7
AML Almayashu 49.09 294 P **P** **15 16 07.9 +1.3**
SNR=61
BOK Bokaro 49.56 266 *e*P **P** **15 16 10.5 0.0**
KSM Kuching 49.78 223 *e*P **P** **15 16 13.2 +1.0**
KSM Kuching 49.78 223 ⇓P **P** **15 16 13.9 +1.8**
JOSI Joshimath 50.44 278 *e*P **P** **15 16 17.8 +0.8**
JOSI AMb AMB 15 16 26.7
comp=Z,626nm,1.0s,mb6.5
PTH Pithoragarh 50.49 276 *e*P **P** **15 16 19.0 +1.6**
PTH *ex* x 15 23 26.6
LGTI Lohaghat 50.53 276 *e*P **P** **15 16 19.0 +1.3**
KTGM Kuala Trenggan 50.56 234 ⇓P **P** **15 16 20.1 +2.1**
SNG Songkhla 50.65 238 P **P** **15 16 21.0 +2.3**
KK31 Karatay Array 50.81 296 *i* P **P** **15 16 19.1 -0.5**
KK31 Karatay Array 50.81 296 *i* P **P** **15 16 19.0 -0.6**
KK31 pmax pmax
comp=Z,78nm,0.8s,mb5.8

KLP Kalpa 50.88 280 *e*P **P** **15 16 21.4 +1.1**
KLP AMb AMB 15 16 27.2
comp=Z,114nm,0.8s,mb5.9
SKAG Skagway 51.13 41 *e*P **P** **15 16 22.0 +0.2**
comp=Z,92nm,1.2s,mb5.7
SKAG LR LR
comp=Z,500nm,20.0s
SVE Sverdlovsk 51.30 316 ⇑*e*P **P** **15 16 23.9 +0.9**
SVE *e*S **S** **15 23 35.6 +3.2**
SVE pmax pmax
comp=Z,1μm,1.1s,mb6.9
SVE MLR MLR
comp=Z,970nm,20.0s
KAPI Kappang 51.50 209 P **P** **15 16 24.5 -0.5**
comp=Z,417nm,1.2s,mb6.3,SNR=24
SMLA Simla 51.88 280 *e*P **P** **15 16 28.0 +0.3**
SMLA AMb AMB 15 16 34.7
comp=Z,288nm,0.5s,mb6.5
SIT Sitka 51.99 43 *e*P **P** **15 16 29.1 +0.9**
comp=Z,155nm,1.3s,mb5.9
SIT Sitka 51.99 43 *e*P **P** **15 16 29.1 +0.9**
SIT pmax pmax
comp=Z,155nm,1.3s,mb5.9
DLH Dalhousie 52.02 282 *e*P **P** **15 16 30.0 +1.3**
DLH *ex* x 15 16 37.0
KULM Kulim 52.09 236 *e*P **P** **15 16 30.4 +0.9**
KULM *e*pP pP 15 16 57.8 0.0
KULM Kulim 52.09 236 ⇑P **P** **15 16 31.2 +1.7**
SOKR Solikamsk 52.21 320 *c i*P **P** **15 16 29.6 -0.1**
SOKR S **S** **15 23 43.9 -0.9**
SOKR SS SS 15 27 21.4 -1.7
SOKR pmax pmax
comp=Z,2μm,1.0s
SOKR MLR MLR
comp=Z,460nm,18.0s
THN Thein Dam 52.25 282 *e*P **P** **15 16 30.5 0.0**
IPM Ipoh 52.50 235 ⇓P **P** **15 16 33.3 +0.8**
ARU Árti 52.51 316 P **P** **15 16 32.3 +0.3**
comp=Z,3μm,1.0s,SNR=15
ARU Arti 52.51 316 *e*P **P** **15 16 31.9 -0.2**
comp=Z,514nm,1.0s,mb6.5
ARU Arti 52.51 316 *c i*P **P** **15 16 31.3 -0.7**
ARU *e**PP pP 15 17 00.4 0.0
ARU *e**SP sP 15 17 13.4 -0.5
ARU *e* 15 17 36.4
ARU *e*PPP 15 19 35.2
ARU *e*S **S** **15 23 48.7 -0.3**
ARU *e**SS sS 15 24 41.0 +3.0
ARU *e* 15 26 03.3
ARU *e*SS SS 15 27 34.3 +6.3
ARU SSS 15 29 17.3
ARU pmax pmax
comp=Z,730nm,1.2s,mb6.6
MYKOM Kota Tinggi 52.99 230 ⇓P **P** **15 16 38.0 +1.9**
BISR Bishrakh 53.06 277 *e*P **P** **15 16 37.8 +1.3**
KGM Kluang 53.12 231 ⇑P **P** **15 16 38.9 +1.9**
FRIM Kepong 53.12 234 ⇑P **P** **15 16 38.5 +1.4**
NDI New Delhi 53.16 277 *e*P **P** **15 16 37.6 +0.4**
NDI AMb AMB 15 16 44.0
comp=Z,94nm,0.6s,mb6.0
NDI *e*S **S** **15 24 00.0 +1.3**
SONA Sohna 53.50 277 *e*P **P** **15 16 40.1 +0.3**
SONA AMb AMB 15 16 46.1
comp=Z,61nm,0.8s,mb5.7
RTK Rohtak 53.56 278 *e*P **P** **15 16 38.4 -1.8**
RTK AMb AMB 15 16 44.9
comp=Z,59nm,0.7s,mb5.8
CRAG Craig 53.74 45 *e*P **P** **15 16 41.7 +0.6**
comp=Z,38nm,0.9s,mb5.4
KIP Kipapa 53.99 93 *e*P **P** **15 16 42.4 -0.9**
KUDL Kundal 54.00 277 *e*P **P** **15 16 42.7 -0.6**
KUDL AMb AMB 15 16 50.0
comp=Z,54nm,1.0s,mb5.5
DLBC Dease Lake 54.06 40 *e*P **P** **15 16 44.2 +0.9**
HNR Honiara 54.37 158 *e*P **P** **15 16 46.0 -0.1**
comp=Z,149nm,1.0s,mb6.0
HNR Honiara 54.37 158 P **P** **15 16 45.4 -0.7**
comp=Z,56nm,0.8s,mb5.6,baz=252,slow=3.5,SNR=5.9
HNR LR LR 15 35 57.4
comp=Z,176nm,21.1s,baz=0.6,slow=31
ALE Alert 54.52 4 P **P** **15 16 45.0 -1.4**
comp=Z,1μm,1.2s,mb6.7,SNR=86
KHET Khetri 54.54 277 *e*P **P** **15 16 47.3 +0.1**
KHET AMb AMB 15 17 19.7
comp=Z,81nm,0.7s,mb5.8
AB31 Akbulak array 54.73 307 *i* P **P** **15 16 48.5 +0.2**
PSI Prapat 55.10 236 P **P** **15 16 52.2 +0.8**
comp=Z,6.6nm,0.4s,mb5.0,baz=321,slow=4.2,SNR=23
PSI pP pP 15 17 19.9 -0.2
comp=Z,23nm,1.0s,baz=20,slow=4.9,SNR=3.3
PSI PcP PcP 15 17 51.5 +0.2
comp=Z,36nm,1.0s,baz=303,slow=3.0,SNR=5.7
BATI Kupang 55.16 202 P **P** **15 16 50.8 -1.0**
comp=Z,48nm,0.8s,mb5.6,baz=276,slow=3.2,SNR=10
BATI LR LR 15 40 03.9
comp=Z,201nm,19.6s,baz=266,slow=35
VIS Vishakhapatnam 55.18 262 *e*P **P** **15 16 52.7 +0.7**
VIS *i* S **S** **15 24 24.8 -1.2**
KBS Kingsbay 55.23 350 *e*P **P** **15 16 50.9 -0.6**
comp=Z,302nm,1.2s,mb6.2
KBS Kingsbay 55.23 350 *e*S **S** **15 24 18.4 -6.7**
KBS AMS AMS 15 30 35.9
comp=Z,115nm,19.1s
KBS Kingsbay 55.23 350 *c i*P **P** **15 16 48.8 -2.7**
AKTK Aktyubinsk 55.32 309 P **P** **15 16 52.5 0.0**
AKTK ScP ScP 15 21 39.0 -0.1
AKTK S **S** **15 24 28.1 +1.2**
AKTK LR LR 15 39 34.0
AKTO Aktyubinsk 55.32 309 P **P** **15 16 52.5 0.0**
AKTO S **S** **15 24 28.2 +1.2**
AKTO Aktyubinsk 55.32 309 P **P** **15 16 52.5 0.0**
comp=Z,93nm,0.7s,mb5.9,baz=58,slow=10,SNR=16
AKTO ScP ScP 15 21 39.0 -0.1
comp=Z,16nm,0.9s,baz=90,slow=4.5,SNR=4.6
AKTO S **S** **15 24 28.1 +1.2**
comp=Z,4.3nm,0.9s,baz=323,slow=24,SNR=4.9
AKTO LR LR 15 39 34.0
comp=Z,247nm,18.8s,baz=246,slow=35
KAKA Kakadu 55.74 191 *e*P **P** **15 16 55.7 -0.2**
comp=Z,118nm,0.7s,mb6.0
BHPL Bhopal 56.13 272 *e*P **P** **15 16 58.2 -0.5**
BHPL AMb AMB 15 17 07.4
comp=Z,53nm,1.1s,mb5.5
NGP Nagpur 56.19 268 *e*P **P** **15 16 57.9 -1.3**
AJM Ajmer 56.29 276 *e*P **P** **15 16 59.3 -0.5**
POHA Pohakuloa 56.84 93 *e*P **P** **15 17 04.8 +1.1**
comp=Z,603nm,1.2s,mb6.5
KHU Kahuku 57.09 94 *e*P **P** **15 17 06.6 +1.0**
RES Resolute Bay 57.11 15 *e*P **P** **15 17 03.9 -1.0**
comp=Z,7μm,0.8s
RES *e*pP pP 15 17 32.9 -0.8
APA Apatity 57.78 335 ⇓*i*P **P** **15 17 08.6 -1.0**
APA *i* *PP pP 15 17 34.4 -4.1
APA *i* 15 18 08.7
APA *e*S **S** **15 24 56.0 -2.9**
APA *e*SSS 15 31 11.0
APA pmax pmax
comp=Z,180nm,1.0s,mb6.1
AKL Akola 57.97 269 *e*P **P** **15 17 11.8 +0.2**
AKL AMb AMB 15 17 14.0
comp=Z,68nm,0.7s,mb5.8
TMCR Tamitsa 58.06 330 ⇓*i*P **P** **15 17 11.6 -0.1**
TMCR *e*S **S** **15 24 58.8 -3.9**
KEV Kevo 58.37 338 *e*p **P** **15 17 12.8 -1.0**
comp=Z,178nm,0.8s,mb6.2
KEV Kevo 58.37 338 *e*P **P** **15 17 12.8 -1.0**
KEV pmax pmax
comp=Z,178nm,0.8s,mb6.2
JASL Jaisalmer 58.77 279 *e*P **P** **15 17 17.4 +0.2**
JASL AMb AMB 15 17 24.4
comp=Z,144nm,1.5s,mb5.8
YKA Yellowknife Ar 58.83 32 P **P** **15 17 16.3 -0.7**
YKA pP pP 15 17 44.9 -1.1
YKA S **S** **15 25 12.6 -0.1**
YKA P'P' 15 46 45.7
YKA ⇑*e* 15 46 54.9
YKA Yellowknife Ar 58.83 32 P **P** **15 17 16.3 -0.7**
YKA *PP pP 15 17 44.9 -1.1
YKA S **S** **15 25 12.6 -0.1**
YKA Yellowknife Ar 58.83 32 P **P** **15 17 16.3 -0.7**
comp=Z,23nm,0.7s,mb5.3,baz=306,slow=6.5,SNR=353
YKA pP pP 15 17 44.9 -1.1
comp=Z,17nm,0.8s,baz=304,slow=6.6,SNR=3.8
YKA S **S** **15 25 12.6 -0.1**

comp=Z,2.6nm,1.0s,baz=311,slow=14,SNR=6.7
YKA PKPPKP 15 46 45.7
comp=Z,0.1nm,0.4s,baz=118,slow=2.4,SNR=4.7
YKA PKP2bc 15 46 54.8
comp=Z,1.3nm,0.9s,baz=125,slow=2.5,SNR=8.8
HYB Hyderabad 58.88 265 *e*P **P** **15 17 18.5 +0.5**
HYB Hyderabad 58.88 265 *i* P **P** **15 17 18.5 +0.5**
ARCES ARCESS Array B 58.92 338 P **P** **15 17 16.6 -0.9**
comp=Z,39nm,0.7s,mb5.6,baz=50,slow=6.0,SNR=94
ARCES PP PP 15 19 23.3 -5.3
comp=Z,24nm,0.9s,baz=57,slow=12,SNR=4.8
ARCES LR LR 15 45 35.2
comp=Z,236nm,20.4s,baz=43,slow=39
LATR Latur 59.72 268 *e*P **P** **15 17 24.2 +0.5**
LATR AMb AMB 15 17 25.7
comp=Z,41nm,0.9s,mb5.5
KTK1 Kautokeino 59.88 339 ⇑*i*P **P** **15 17 24.4 +0.3**
comp=Z,154nm,1.0s,mb6.0
KTK1 Kautokeino 59.88 339 ⇑*i*P **P** **15 17 24.4 +0.3**
KTK1 AMb AMB 15 17 28.0
comp=Z,154nm,1.0s,mb6.0
KTK1 *e*pP pP 15 17 53.7 +0.5
DAG Danmarks Havn 60.24 355 ⇓*i*P **P** **15 17 25.6 -1.0**
DAG pmax pmax
comp=Z,54nm,0.8s,mb5.6
DAG Danmarks Havn 60.24 355 ⇓*i*P **P** **15 17 25.6 -1.0**
comp=Z,54nm,0.8s,mb5.6
TRO Tromso 60.57 340 *i* P **P** **15 17 27.2 -1.6**
comp=Z,281nm,1.4s,mb6.1
TRO Tromso 60.57 340 *i* P **P** **15 17 27.2 -1.6**
TRO AMb AMB 15 17 29.9
comp=Z,281nm,1.4s,mb6.1
TRO *e*S **S** **15 25 35.1 +0.4**
TRO Tromso 60.57 340 *i* P **P** **15 17 27.2 -1.6**
TRO pmax pmax
comp=Z,281nm,1.4s,mb6.1
JOF Joensuu 61.24 331 *e*p **P** **15 17 32.4 -1.1**
comp=Z,255nm,0.6s,mb6.4
JOF Joensuu 61.24 331 *e*P **P** **15 17 32.4 -1.1**
JOF pmax pmax
comp=Z,255nm,0.6s,mb6.4
POO Poona 61.65 270 *e*P **P** **15 17 36.8 0.0**
POO AMb AMB 15 17 46.3
comp=Z,45nm,1.0s,mb5.5
C03A Quillayute Air 62.04 49 ⇑P **P** **15 17 39.5 +0.4**
baz=62
KAD Karad 62.17 268 *e*P **P** **15 17 40.0 -0.4**
KAD AMb AMB 15 17 47.4
comp=Z,69nm,0.9s,mb5.7
FITZ Fitzroy Crossi 62.25 198 *e*P **P** **15 17 40.9 +0.2**
comp=Z,77nm,1.0s,mb5.7
FITZ *e*pP pP 15 18 13.7 +3.7
FITZ *e*S **S** **15 26 17.0 +20**
FITZ Fitzroy Crossi 62.25 198 P **P** **15 17 41.1 +0.3**
comp=Z,44nm,1.0s,mb5.5,baz=16,slow=7.7,SNR=45
PGC Sidney 62.27 48 *e*P **P** **15 17 40.4 -0.2**
comp=Z,58nm,0.7s,mb5.7
CTA Charters Tower 62.53 175 *e*P **P** **15 17 41.9 -0.6**
comp=Z,20nm,1.3s,mb4.9
CTA *e*pP pP 15 18 20.7 +8.9
CTA *e*S **S** **15 26 03.7 +3.2**
CTA Charters Tower 62.53 175 *e*P **P** **15 17 41.9 -0.6**
CTA *e**PP pP 15 18 20.7 +8.9
CTA *e*S **S** **15 26 03.7 +3.2**
CTA pmax pmax
comp=Z,20nm,1.3s
CTA Charters Tower 62.53 175 P **P** **15 17 42.1 -0.4**
comp=Z,18nm,1.0s,mb5.0,baz=2.9,slow=7.6,SNR=7.9
CTAO Charters Tower 62.53 175 *e*P **P** **15 17 41.7 -0.8**
comp=Z,60nm,1.4s,mb5.3
CTAO Charters Tower 62.53 175 *e*P **P** **15 17 41.7 -0.8**
CTAO pmax pmax
comp=Z,60nm,1.4s,mb5.3
B04A Port Angeles 62.57 49 ⇓P **P** **15 17 42.7 +0.1**
baz=62,SNR=8.4
WRAB Tennant Creek 62.63 188 P **P** **15 17 42.0 -1.2**
comp=Z,236nm,1.3s,mb6.0,SNR=20
WRAB Tennant Creek 62.63 188 *e*P **P** **15 17 42.2 -1.0**
comp=Z,46nm,1.1s,mb5.3
WRAB Tennant Creek 62.63 188 ⇓*i*P **P** **15 17 42.4 -0.8**
A04A Legoe Bay, Lum 62.64 48 ⇑P **P** **15 17 43.4 +0.3**
baz=62,SNR=14
WB2 Warramunga Arr 62.64 188 *e*P **P** **15 17 42.1 -1.2**
WB2 *e*pP pP 15 18 11.2 -1.4
WB2 *e*S **S** **15 25 57.4 -4.5**
WRA Warramunga Arr 62.64 188 P **P** **15 17 42.4 -0.9**
WRA pP pP 15 18 10.8 -1.8
WRA ⇑*e* 15 46 50.7
WRA Warramunga Arr 62.64 188 P **P** **15 17 42.4 -0.9**
WRA *PP pP 15 18 10.8 -1.8
WRA Warramunga Arr 62.64 188 P **P** **15 17 42.4 -0.9**
comp=Z,13nm,0.5s,mb5.1,baz=6.4,slow=6.9,SNR=194
WRA pP pP 15 18 10.8 -1.8
comp=Z,24nm,0.9s,baz=4.2,slow=6.8,SNR=6.3
WRA PKP2bc 15 46 50.7
comp=Z,1.1nm,0.7s,baz=193,slow=2.8,SNR=12
NLWA Neilton Lookou 62.74 50 *e*P **P** **15 17 43.8 0.0**
comp=Z,159nm,1.1s,mb5.9
NLWA Neilton Lookou 62.74 50 ⇓P **P** **15 17 44.2 +0.4**
baz=62,SNR=14
VDB Vedder Mountai 62.80 47 P **P** **15 17 45.0 +0.9**
A05A Maple Falls 62.82 47 P **P** **15 17 44.0 -0.2**
baz=63,SNR=11
D03A Wishkah Elem. 62.95 50 ⇑P **P** **15 17 46.0 +0.8**
baz=63,SNR=5.2
LOF Lofoten 63.00 341 *e*P **P** **15 17 46.6 +1.5**
comp=Z,141nm,1.6s,mb5.7
LOF Lofoten 63.00 341 *e*P **P** **15 17 46.6 +1.5**
LOF AMb AMB 15 17 49.4
comp=Z,141nm,1.6s,mb5.6
MOS Moscow 63.03 322 *e*P **P** **15 17 44.2 -1.3**
MOS *e**PP pP 15 18 13.7 -1.1
MOS *e* 15 18 24.5
MOS *e* 15 20 01.8
MOS *e*S **S** **15 26 04.1 -2.0**
MOS pmax pmax
comp=Z,800nm,1.7s,mb6.4
MOS pmax pmax
comp=Z,512nm,1.7s,mb6.2
MOS smax
comp=N,700nm,2.0s
MOS smax
comp=E,500nm,2.0s
MOS MLR MLR
comp=Z,900nm,19.0s
MBW Mount Baker 63.04 48 P **P** **15 17 47.0 +1.3**
C04A Brinnon 63.06 49 P **P** **15 17 46.0 +0.1**
baz=63,SNR=14
ON2 Olympics--Nort 63.08 50 P **P** **15 17 47.2 +1.2**
SMW South Mountain 63.08 50 P **P** **15 17 46.9 +0.9**
A06A Chilliwack 63.09 47 ⇑P **P** **15 17 45.8 -0.2**
baz=63,SNR=10
CMW Cultus Mountai 63.13 48 P **P** **15 17 46.8 +0.5**
B05A Bryant 63.23 48 P **P** **15 17 47.3 +0.3**
baz=63,SNR=18
JCW Jim Creek 63.36 48 P **P** **15 17 48.1 +0.3**
E03A Lebam 63.39 50 ⇑P **P** **15 17 48.6 +0.6**
baz=63,SNR=16
B06A Marblemount 63.42 48 P **P** **15 17 48.2 0.0**
baz=63,SNR=17
D04A Dobbs Creek Ra 63.50 49 ⇓P **P** **15 17 49.6 +0.8**
baz=63
KAF Kangasniemi 63.54 332 *e*p **P** **15 17 47.9 -0.9**
comp=Z,164nm,0.6s,mb6.0,baz=46,slow=6.2
KAF Kangasniemi 63.54 332 *e*P **P** **15 17 47.9 -0.9**
KAF pmax pmax
comp=Z,164nm,0.6s,mb6.0
PUL Pulkovo 63.60 328 *e*P **P** **15 17 47.8 -1.4**
HTW Haystack Looko 63.68 48 ⇑P **P** **15 17 50.5 +0.5**
A07A Ashnola River, 63.71 47 P **P** **15 17 50.1 0.0**
baz=64,SNR=39
F03A Seaside 63.74 51 ⇓P **P** **15 17 50.7 +0.3**
baz=64
C05A Tolt Reservoir 63.78 48 P **P** **15 17 50.9 +0.3**
baz=64,SNR=22
LCW Lucas Creek 63.81 50 P **P** **15 17 51.9 +1.1**
GHW Garrison Hill 63.84 49 P **P** **15 17 53.0 +2.0**
RMW Rattlesnake Mo 63.85 49 P **P** **15 17 51.9 +0.8**
VRHR Novokhopersk 63.85 316 *e*P **P** **15 17 49.7 -1.3**
VRHR *e*S **S** **15 26 14.0 -2.5**
VRHR smax
comp=Z,210nm,1.6s
VRHR smax
comp=N,310nm,1.5s
VRHR smax
comp=E,220nm,1.5s

OBN	Obninsk	63.89	322	P		P	15 17 50.4	-0.8
	comp=E,1µm,0.6s,mb6.9,SNR=10							
OBN	Obninsk	63.89	322	eP		P	15 17 50.5	-0.6
	comp=E,266nm,1.0s,mb6.0							
OBN	Obninsk	63.89	322	c iP		P	15 17 50.1	-1.1
OBN				i		pP	15 18 20.0	-0.6
OBN				e			15 18 28.8	
OBN				e			15 20 10.8	
OBN				i S		S	15 26 14.6	-2.2
OBN				eSS		SS	15 30 22.2	-4.1
OBN				pmax		pmax		
	comp=Z,476nm,1.7s,mb6.0							
OBN				MLR		MLR		
	comp=Z,400nm,15.0s							
D05A	Enumclaw	63.91	49	⇓P		P	15 17 51.9	+0.4
	baz=64,SNR=14							
LMW	Ladd Mountain	64.04	50	P		P	15 17 53.5	+1.2
PALK	Pallekele	64.05	255	P		P	15 17 53.2	+0.4
	comp=Z,168nm,0.9s,mb5.9,SNR=9.5							
PALK	Pallekele	64.05	255	eP		P	15 17 52.9	+0.1
	comp=Z,42nm,1.2s,mb5.1							
PALK	Pallekele	64.05	255	P		P	15 17 54.2	+1.4
	SNR=5.3							
PALK	Pallekele	64.05	255	P		P	15 17 54.2	+1.4
	SNR=5.3							
RVC	Mount Rainier-	64.06	49	P		P	15 17 53.5	+1.1
FINES	FINESS Array B	64.07	331	i P		P	15 17 51.5	-0.8
FINES				pmax		pmax		
	comp=Z,190nm,0.5s							
FINES	FINESS Array B	64.07	331	P		P	15 17 51.6	-0.7
	comp=Z,190nm,0.5s,mb6.2,baz=62,slow=6.4,SNR=365							
FINES				pP		pP	15 18 20.6	-1.1
	comp=Z,45nm,0.9s,baz=59,slow=7.4,SNR=2.2							
FINES				S		S	15 26 17.2	-1.6
	comp=Z,4.1nm,0.9s,baz=46,slow=8.2,SNR=4.5							
FINES				LR		LR	15 48 02.7	
	comp=Z,274nm,19.6s,baz=212,slow=38							
C06A	Tall Timber Ra	64.09	48	⇑P		P	15 17 52.7	+0.1
	baz=64,SNR=6.7							
B07A	Winthrop	64.20	47	P		P	15 17 53.4	+0.1
	baz=64,SNR=29							
ERK	Elk Rock	64.22	50	P		P	15 17 54.2	+0.7
FMW	Mount Fremont	64.23	49	P		P	15 17 54.4	+0.8
RCS	Mount Rainier-	64.24	49	P		P	15 17 56.0	+2.4
RCM	Mount Rainier-	64.26	49	P		P	15 17 55.1	+1.4
G03A	Yamhill	64.26	51	⇑P		P	15 17 53.7	0.0
	baz=64							
LON	Longmire	64.26	49	P		P	15 17 53.5	-0.2
TDL	Tradedollar La	64.27	50	P		P	15 17 54.8	+1.0
MOR8	Moi Rana	64.27	339	⇑i P		P	15 17 51.5	-2.0
	comp=Z,355nm,0.7s,mb6.3							
MOR8	Moi Rana	64.27	339	⇑i P		P	15 17 51.5	-2.0
MOR8				AMb		AMB	15 17 54.3	
	comp=Z,355nm,0.7s,mb6.3							
MOR8				epP		pP	15 18 21.1	-1.8
FL2	Flat Top 2	64.28	50	P		P	15 17 54.8	+0.9
NLW	Nelson Butte	64.30	48	P		P	15 17 54.5	+0.6
LVP	Lakeview Peak	64.32	50	P		P	15 17 56.0	+1.8
A08A	Turner Farm, O	64.36	46	P		P	15 17 54.4	0.0
	baz=64,SNR=34							
ESD	East Dome	64.39	50	P		P	15 17 56.0	+1.3
F04A	Amboy	64.39	50	⇑P		P	15 17 54.8	+0.2
	baz=64,SNR=13							
E05A	Randle	64.40	50	P		P	15 17 54.8	+0.1
	baz=64,SNR=13							
MTMW	Mount Mitchell	64.46	50	P		P	15 17 56.1	+1.0
STOK	Stokkvaagen	64.52	340	eP		P	15 17 54.0	-1.0
	comp=Z,169nm,1.4s,mb5.7							
STOK	Stokkvaagen	64.52	340	eP		P	15 17 54.0	-1.0
STOK				AMb		AMB	15 17 56.8	
	comp=Z,169nm,1.4s,mb5.7							
D06A	Cle Elum	64.54	49	⇓P		P	15 17 55.5	-0.1
	baz=64,SNR=14							
TWW	Teanaway	64.56	49	P		P	15 17 56.8	+1.1
MPOR	Mary's Peak	64.57	52	P		P	15 17 57.0	+1.2
ETW	Entiat	64.58	48	P		P	15 17 56.3	+0.4
H03A	Soap Creek Ran	64.62	52	⇑P		P	15 17 56.7	+0.6
	baz=64							
CBSW	Chelan Butte S	64.62	48	P		P	15 17 56.2	+0.1
COR	Corvallis	64.67	52	eP		P	15 17 57.6	+1.2
	comp=Z,140nm,1.1s,mb5.7							
COR	Corvallis	64.67	52	eP		P	15 17 57.6	+1.2
COR				pmax		pmax		
	comp=Z,140nm,1.1s,mb5.7							
B08A	Colville Reser	64.68	47	P		P	15 17 56.4	-0.1
	baz=64,SNR=25							
C07A	Waterville	64.68	48	P		P	15 17 56.2	-0.2
	baz=64,SNR=19							
TBM	Table Mountain	64.69	48	⇑P		P	15 17 57.1	+0.6
VOR	Voronezh	64.69	318	eP		P	15 17 55.0	-1.5
VOR				pmax		pmax		
	comp=Z,480nm,1.8s,mb6.0							
A09A	Danville	64.71	46	P		P	15 17 56.9	+0.2
	baz=64,SNR=25							
WTV	Waterville	64.73	48	P		P	15 17 56.8	0.0
EDM	Edmonton	64.78	40	eP		P	15 17 56.3	-0.7
EDM				epP		pP	15 18 25.5	-0.9
G04A	Mulino	64.78	51	⇓P		P	15 17 57.5	+0.3
	baz=64,SNR=5.8							
NAC	Naches	64.82	49	P		P	15 17 58.2	+0.8
VLMM	Larch Mountain	64.84	51	P		P	15 17 58.5	+0.9
E06A	Yakima	64.85	49	P		P	15 17 58.1	+0.6
	baz=65,SNR=36							
EBG	Ellensburg	64.86	49	P		P	15 17 59.0	+1.3
GT2	Goat Mountain	64.93	51	P		P	15 17 59.0	+0.9
F05A	White Salmon	64.97	50	P		P	15 17 58.8	+0.5
	baz=65,SNR=6.8							
SSOR	Sweet Springs	65.00	51	P		P	15 17 59.5	+1.0
VRSR	Storozhevoye	65.01	317	c iP		P	15 17 58.2	-0.3
VRSR				e			15 20 19.2	
VRSR				eS		S	15 26 28.6	-2.1
VRSR				pmax		pmax		
	comp=E,40nm,0.8s							
VRSR				pmax		pmax		
	comp=Z,40nm,0.8s,mb5.3							
VRSR				pmax		pmax		
	comp=N,40nm,0.9s							
VRSR				smax				
	comp=N,90nm,4.1s							
VRSR				smax				
	comp=Z,40nm,3.5s							
VRSR				smax				
	comp=E,80nm,3.0s							
D07A	Quincy	65.02	48	P		P	15 17 58.7	0.0
	baz=65,SNR=11							
I03A	Eugene	65.04	53	⇑P		P	15 17 59.3	+0.5
	baz=65,SNR=7.9							
VORD	Divnogorie	65.11	317	eP		P	15 17 58.9	-0.3
VORD				eS		S	15 26 30.3	-1.7
VORD				pmax		pmax		
	comp=E,190nm,0.9s							
VORD				pmax		pmax		
	comp=Z,200nm,0.9s,mb6.0							
VORD				pmax		pmax		
	comp=N,240nm,1.2s							
VORD				smax				
	comp=Z,40nm,5.7s							
VORD				smax				
	comp=N,130nm,7.2s							
VORD				smax				
	comp=E,50nm,6.1s							
TDH	Tom, Dick, Har	65.13	51	P		P	15 18 01.0	+1.6
C08A	Higginbotham F	65.18	47	⇓P		P	15 17 59.2	-0.4
	baz=65,SNR=6.7							
HOOD	Mount Hood Mea	65.19	51	P		P	15 18 01.0	+1.2
MXC	Moxie City	65.21	49	P		P	15 18 01.0	+1.1
J02A	Umpqua	65.22	53	⇑P		P	15 18 00.4	+0.3
	baz=65,SNR=7.2							
A10A	Northport	65.25	45	P		P	15 18 00.2	0.0
	baz=65,SNR=14							
H04A	Detroit Lake	65.26	51	⇓P		P	15 18 00.2	0.0
	baz=65,SNR=18							
B09A	Rice	65.28	46	P		P	15 18 00.4	+0.1
	baz=65,SNR=23							
GL2	New Goldendale	65.28	50	P		P	15 18 01.2	+0.8
VFP	Flag Point	65.30	50	P		P	15 18 01.4	+0.9
BROR	Big Rock Looko	65.35	52	P		P	15 18 01.5	+0.6
MAK	Makhachkala	65.38	306	eP		P	15 17 57.6	-3.5
MAK				i		pP	15 18 24.6	-6.0
MAK				i S		S	15 26 33.9	-1.6
MAK				e			15 27 09.9	
MAK				i			15 27 40.5	
MAK				pmax		pmax		
	comp=Z,221nm,1.5s,mb5.8							
MAK				MLR		MLR		
	comp=Z,589nm,14.0s							
F06A	Goldendale	65.42	50	⇓P		P	15 18 01.5	+0.2
	baz=65							
G05A	Wamic	65.42	50	⇓P		P	15 18 01.6	+0.3
	baz=65,SNR=9.2							
BRVW	Black Rock Val	65.43	49	P		P	15 18 03.0	+1.7
E07A	Sunnyside	65.46	49	P		P	15 18 01.9	+0.3
	baz=65,SNR=14							
MDW	Midway	65.48	49	P		P	15 18 03.0	+1.3
WAH2	Wahluke Slope	65.51	48	⇑P		P	15 18 02.2	+0.4
CRF	Corfu	65.56	48	P		P	15 18 03.0	+0.8
BENWA	Benson Ranch	65.56	49	P		P	15 18 02.7	+0.5
J03A	Ideyld Park	65.58	53	⇑P		P	15 18 02.5	+0.2
	baz=65							
C09A	Chrisman Ranch	65.58	47	⇑P		P	15 18 01.9	-0.4
	baz=65,SNR=20							
OD2	Odessa Site #2	65.59	47	P		P	15 18 02.3	0.0
IRO	Indian Ridge	65.62	52	⇓P		P	15 18 02.9	+0.3
K02A	Glendale	65.62	54	⇑P		P	15 18 03.0	+0.4
	baz=65,SNR=6.1							
SNIWA	Sniwely Ranch	65.63	49	P		P	15 18 03.2	+0.6
I04A	Tendick Farm,	65.65	52	P		P	15 18 03.2	+0.4
	baz=65,SNR=16							
GBL	Gable Mountain	65.66	48	P		P	15 18 03.2	+0.4
RSW	Rattlesnake Hi	65.71	49	P		P	15 18 03.8	+0.7
HAWA	Hanford	65.74	49	eP		P	15 18 03.0	-0.3
	comp=Z,76nm,1.0s,mb5.5							
CROR	Criterion Ridg	65.77	51	P		P	15 18 04.1	+0.6
M01C	Crescent City	65.78	55	⇑P		P	15 18 03.7	0.0
	baz=66							
H2OWA	Water	65.80	49	P		P	15 18 05.0	+1.3
G06A	Carlson Farm,	65.82	50	P		P	15 18 04.2	+0.3
	baz=66,SNR=14							
F07A	Phinny Hill Vi	65.82	49	P		P	15 18 04.3	+0.5
	baz=66,SNR=21							
H05A	Madras	65.83	51	P		P	15 18 04.3	+0.4
	baz=66,SNR=8.0							
B10A	Chitwood Farm,	65.84	46	⇓P		P	15 18 03.6	-0.3
	baz=66							
REDWA	Red Mountain	65.85	49	P		P	15 18 05.0	+1.0
VSU	Vasula	65.86	329	⇑i P		P	15 18 02.5	-1.4
VTHM	Trough	65.89	50	P		P	15 18 05.1	+0.8
A11A	Hall Mountain,	65.89	45	⇑P		P	15 18 04.9	+0.7
	baz=66,SNR=33							
TRD	Trivandrum	65.89	259	eP		P	15 18 04.8	0.0
TRD				AMb		AMB	15 18 07.0	
	comp=Z,55nm,1.1s,mb5.3							
L02A	Cave Junction	65.92	54	P		P	15 18 05.1	+0.5
	baz=66,SNR=5.9							
NEW	Newport	65.92	46	eP		P	15 18 03.7	-0.7
	comp=Z,58nm,1.0s,mb5.4							
NEW	Newport	65.92	46	eP		P	15 18 03.7	-0.7
NEW				pmax		pmax		
	comp=Z,58nm,1.0s							
NEW	Newport	65.92	46	S		S	15 26 41.2	-0.6
	comp=Z,2.1nm,0.6s,baz=63,slow=19,SNR=8.2							
E08A	Dider Farm, El	65.94	48	⇓P		P	15 18 04.3	-0.3
	baz=66,SNR=20							
ET3	Eltopia	65.96	48	P		P	15 18 05.1	+0.4
D09A	Jones Farm, Ri	66.01	48	⇓P		P	15 18 04.6	-0.4
	baz=66,SNR=15							
HUMO	Hull Mountain	66.03	54	eP		P	15 18 05.6	+0.4
	comp=Z,59nm,1.4s,mb5.2							
HUMO	Hull Mountain	66.03	54	⇑P		P	15 18 05.5	+0.2
	baz=66,SNR=6.8							
C10A	Spilker Farm,	66.09	46	⇓P		P	15 18 05.3	-0.2
	baz=66							
I05A	Bend	66.09	51	⇓P		P	15 18 05.7	+0.1
	baz=66							
J04A	Umpqua Nationa	66.16	53	⇑P		P	15 18 06.3	+0.2
	baz=66,SNR=11							
NSS	Namsos	66.20	339	eP		P	15 18 04.0	-2.0
	comp=Z,157nm,1.0s,mb5.8							
NSS	Namsos	66.20	339	eP		P	15 18 04.0	-2.0
NSS				AMb		AMB	15 18 07.0	
	comp=Z,157nm,1.0s,mb5.8							
B11A	Sandpoint	66.21	45	⇓P		P	15 18 06.4	0.0
	baz=66,SNR=26							
VIPM	Ingram Point	66.26	51	P		P	15 18 07.4	+0.7
YPT	Yellepit	66.27	49	P		P	15 18 07.2	+0.6
A12A	Yaak River Ran	66.28	45	⇓P		P	15 18 06.8	0.0
	baz=66							
H06A	Lindquist Farm	66.29	50	⇑P		P	15 18 06.7	-0.2
	baz=66,SNR=14							
G07A	Ruggs Ranch, H	66.34	50	P		P	15 18 07.4	+0.2
	baz=66,SNR=14							
ASAR	Alice Springs	66.37	188	P		P	15 18 07.3	-0.1
ASAR				pP		pP	15 18 36.0	-1.1
ASAR				P'P'			15 46 36.1	
ASAR				⇑e			15 46 42.3	
ASAR	Alice Springs	66.37	188	P		P	15 18 07.4	-0.1
ASAR				*PP		pP	15 18 36.0	-1.1
ASAR	Alice Springs	66.37	188	P		P	15 18 07.3	-0.1
	comp=Z,21nm,0.8s,mb5.0,baz=7.1,slow=5.4,SNR=160							
ASAR				pP		pP	15 18 36.0	-1.1
	comp=Z,13nm,0.9s,baz=6.5,slow=5.1,SNR=4.5							
ASAR				PKPPKP			15 46 36.1	
	comp=Z,0.8nm,0.9s,baz=158,slow=3.7,SNR=5.5							
ASAR				PKP2bc			15 46 42.3	
	comp=Z,1.2nm,0.8s,baz=174,slow=3.1,SNR=7.3							
E09A	Wood Farm, Sta	66.43	48	P		P	15 18 08.0	+0.2
	baz=66,SNR=26							
F08A	Pendleton	66.52	49	⇑P		P	15 18 08.5	+0.2
	baz=66,SNR=15							
PINOR	Pine Mountain	66.53	52	P		P	15 18 09.4	+0.9
D10A	Wagner Farm, O	66.58	47	P		P	15 18 08.2	-0.4
	baz=66,SNR=12							
B12A	Libby	66.60	45	⇑P		P	15 18 09.1	+0.3
	baz=66							
J05A	Fort Rock	66.64	52	P		P	15 18 09.8	+0.7
	baz=66,SNR=18							
BUOR	Burton Butte	66.65	54	P		P	15 18 10.0	+0.8
MBWA	Marble Bar	66.68	203	eP		P	15 18 09.2	-0.3
	comp=Z,40nm,0.9s,mb5.2							
YBH	Yreka Blue Hor	66.70	54	eP		P	15 18 10.2	+0.6
	comp=Z,76nm,1.4s,mb5.3							
YBH	Yreka Blue Hor	66.70	54	eP		P	15 18 10.2	+0.6
YBH				pmax		pmax		
	comp=Z,76nm,1.4s							
YBH	Yreka Blue Hor	66.70	54	⇑P		P	15 18 10.0	+0.5
	baz=66,SNR=15							
G08A	Pilot Rock	66.73	49	P		P	15 18 09.8	+0.2
	baz=66,SNR=21							
LNOR	Lincton Mounta	66.75	49	P		P	15 18 10.4	+0.6
H07A	Lands Inn, Kim	66.81	50	⇓P		P	15 18 10.0	-0.2
	baz=67,SNR=10							
M02C	Callahan	66.82	55	⇓P		P	15 18 11.0	+0.7
	baz=67,SNR=12							
I06A	Prineville	66.83	51	P		P	15 18 10.8	+0.4
	baz=67,SNR=14							
N02C	Big Bar	66.89	55	⇑P		P	15 18 10.9	+0.1
	baz=67,SNR=5.8							
A13A	Flathead Natio	66.92	44	⇓P		P	15 18 10.7	-0.1
	baz=67							
L04A	Klamath Falls	66.92	53	P		P	15 18 11.6	+0.6
	baz=67,SNR=11							
E10A	Myers Farm, Un	67.02	47	P		P	15 18 11.6	+0.1
	baz=67,SNR=10							
F09A	S2 Ranch, Elgi	67.06	48	⇓P		P	15 18 11.8	+0.1
	baz=67							
LHEM	Herd Peak	67.06	54	P		P	15 18 12.4	+0.6
D11A	Klaveano Farm,	67.08	47	⇓P		P	15 18 11.4	-0.4
	baz=67,SNR=14							
WALA	Waterton Lakes	67.10	44	eP		P	15 18 11.5	-0.4
	comp=Z,54nm,1.0s,mb5.3							
I07A	Izee	67.16	51	P		P	15 18 12.8	+0.4
	baz=67,SNR=20							
K05A	Summer Lake	67.18	52	P		P	15 18 13.4	+0.8
	baz=67,SNR=30							
M04C	Macdoel	67.19	54	⇑P		P	15 18 12.9	+0.2
	baz=67,SNR=19							
B13A	Whitefish	67.24	45	P		P	15 18 13.2	+0.3
	baz=67,SNR=38							
F10A	Beach Ranch, E	67.27	48	P		P	15 18 13.2	+0.2
	baz=67,SNR=18							
J06A	Christmas Vall	67.29	52	P		P	15 18 13.6	+0.4
	baz=67,SNR=27							
M03C	McCloud	67.33	54	⇓P		P	15 18 13.5	0.0
	baz=67,SNR=5.9							
H08A	Prairie City	67.36	50	⇓P		P	15 18 13.6	0.0
	baz=67,SNR=15							
WDC	Whiskeytown Da	67.50	55	eP		P	15 18 13.6	-1.0
	comp=Z,73nm,1.3s,mb5.3							
WDC	Whiskeytown Da	67.50	55	eP		P	15 18 13.6	-1.0
WDC				pmax		pmax		
	comp=Z,73nm,1.3s,mb5.3							
WDC	Whiskeytown Da	67.50	55	⇑P		P	15 18 14.4	-0.2
	baz=67,SNR=12							
K06A	Valley Falls	67.51	52	⇑P		P	15 18 14.5	-0.2
	baz=67,SNR=19							
DGRG	David-gareji	67.55	306	P		P	15 18 14.2	-0.7
DGRG				S		S	15 27 02.2	+0.5
KIV	Kislovodsk	67.58	310	P		P	15 18 16.5	+1.4
	comp=Z,3µm,0.7s,SNR=47							
KIV	Kislovodsk	67.58	310	eP		P	15 18 15.8	+0.7
	comp=Z,326nm,0.8s,mb6.2							
KIV	Kislovodsk	67.58	310	eP		P	15 18 14.7	-0.4
KIV				e*PP		pP	15 18 45.6	+0.8
KIV				e			15 20 43.4	
KIV				eS		S	15 27 02.3	+0.3
KIV				eSS		SS	15 31 26.2	+2.0
KIV				pmax		pmax		
	comp=Z,41nm,3.2s							
KIV				pmax		pmax		
	comp=Z,485nm,1.2s,mb6.2							
KIV				MLR		MLR		
	comp=Z,460nm,17.0s							
E11A	Bogner Ranch,	67.58	47	P		P	15 18 14.6	-0.4
	baz=67,SNR=32							
O02C	Red Bluff	67.59	56	⇑P		P	15 18 15.5	+0.3
	baz=67,SNR=13							
D12A	Red Ives Fores	67.61	46	⇓P		P	15 18 14.8	-0.3
	baz=67							
C13A	Hot Springs	67.62	45	⇓P		P	15 18 15.3	0.0
	baz=67,SNR=26							
L05A	Lakeview	67.63	53	P		P	15 18 16.0	+0.6
	baz=67,SNR=19							
P01C	Double 8 Ranch	67.69	56	⇑P		P	15 18 15.8	0.0
	baz=68							
J07A	Hines	67.70	51	⇓P		P	15 18 15.9	+0.1
	baz=68,SNR=9.5							
MTA	Mtatsminda	67.75	307	P		P	15 18 16.4	+0.3
MTA				S		S	15 27 04.7	+0.6
G10A	Bishop Farm, J	67.75	48	P		P	15 18 16.2	+0.1
	baz=68,SNR=28							
TBLG	Delisi	67.75	307	eP		P	15 18 17.1	+0.9
TBLG	Delisi	67.75	307	P		P	15 18 17.1	+0.9
LTIM	Timbered Crate	67.77	54	P		P	15 18 16.7	+0.4
I08A	Drewsey	67.79	50	⇓P		P	15 18 16.5	+0.1
	baz=68,SNR=19							
H09A	Durkee	67.84	49	P		P	15 18 17.1	+0.4
	baz=68,SNR=12							
M05C	Lookout	67.86	54	⇓P		P	15 18 16.9	0.0
	baz=68,SNR=19							
F11A	Grangeville	67.91	48	P		P	15 18 16.9	-0.2
	baz=68,SNR=48							
IZAR	Zarasai	67.92	327	eP		P	15 18 17.0	0.0
IZAR				AMb		AMB	15 18 21.4	
	comp=Z,57nm,1.4s,mb5.2							
GASB	Alder Springs	67.95	56	P		P	15 18 18.4	+0.9
	baz=68,SNR=18							
ONI	Oni	67.99	308	P		P	15 18 18.6	+1.0
ONI				S		S	15 27 09.3	+2.3
C14A	Swan Lake	68.00	45	⇑P		P	15 18 17.7	0.0
	baz=68							
HATC	Hat Creek Radi	68.00	54	⇑P		P	15 18 18.3	+0.5
	baz=68,SNR=7.9							
IDID	Didziasalis	68.02	326	eP		P	15 18 17.6	0.0
IDID				AMb		AMB	15 18 22.2	
	comp=Z,58nm,1.4s,mb5.2							
MOD	Modoc	68.03	53	⇓P		P	15 18 17.8	-0.1
	baz=68,SNR=6.4							
LBCM	Butte Creek Ri	68.06	54	⇓P		P	15 18 18.2	+0.1
HOPS	Hopland	68.14	57	⇓P		P	15 18 18.7	0.0
	baz=68							
G11A	Walters Elk Ra	68.15	48	P		P	15 18 18.5	-0.1
	baz=68,SNR=83							
K07A	Rock Creek Ran	68.16	52	P		P	15 18 19.2	+0.5
	baz=68,SNR=46							
O03C	Acorn Hollow,	68.16	55	⇓P		P	15 18 18.4	-0.4
	baz=68							
EIDS	Eidsvold	68.18	171	eP		P	15 18 18.8	-0.1
	comp=Z,7.8nm,1.0s,mb4.5							
J08A	Circle Bar Ran	68.19	51	⇑P		P	15 18 19.3	+0.5
	baz=68							
IIGN	Ignalina	68.21	326	eP		P	15 18 18.9	+0.1
IIGN				AMb		AMB	15 18 23.5	
	comp=Z,96nm,1.5s,mb5.4							
I09A	Lost Marbles R	68.22	50	P		P	15 18 19.3	+0.2
	baz=68,SNR=16							
M06C	Likely Place G	68.35	54	⇑P		P	15 18 20.1	+0.1
	baz=68							
F12A	Elk City	68.48	47	P		P	15 18 20.8	+0.2
	baz=68,SNR=70							
L07A	Adell	68.52	52	⇓P		P	15 18 21.3	+0.4
	baz=68,SNR=12							
O04C	Chester	68.53	55	P		P	15 18 21.7	+0.6
	baz=68,SNR=15							
D14A	Greenough	68.56	45	P		P	15 18 20.9	-0.2
	baz=68,SNR=53							
ELFS	Eagle Lake Fie	68.57	54	⇑P		P	15 18 21.3	0.0
	baz=68							
K08A	Mann Creek Ran	68.57	51	⇑P		P	15 18 21.6	+0.3
	baz=68							
MNRC	McLaughlin Nat	68.59	57	⇑P		P	15 18 21.9	+0.4
	baz=68,SNR=12							
J09A	Fry Pan Ranch,	68.61	50	P		P	15 18 22.1	+0.6
	baz=68,SNR=27							
E13A	Victor	68.61	46	P		P	15 18 21.1	-0.4
	baz=68,SNR=9.4							
I10A	Payette	68.68	49	⇓P		P	15 18 22.2	+0.3
	baz=68,SNR=8.7							
H11A	Donnelly	68.73	48	⇑P		P	15 18 21.5	-0.7
	baz=68,SNR=10							
ORV	Oroville	68.76	55	⇑P		P	15 18 21.7	-0.7
	baz=68,SNR=22							
SUTB	Sutter Butte	68.78	56	⇑P		P	15 18 21.8	-0.8
	baz=69							
CHMT	Chamberlain Mo	68.81	45	eP		P	15 18 22.0	-0.6
FFC	Flin Flon	68.83	34	P		P	15 18 22.8	+0.1
	comp=Z,320nm,0.9s,mb6.2,SNR=19							
FFC	Flin Flon	68.83	34	eP		P	15 18 21.9	-0.8
	comp=Z,53nm,0.9s,mb5.4							
FFC	Flin Flon	68.83	34	eP		P	15 18 21.9	-0.8
FFC				pmax		pmax		
	comp=Z,53nm,0.9s,mb5.4							
O05C	Quincy	68.86	55	⇑P		P	15 18 22.7	-0.4
	baz=69,SNR=9.3	

E15A Deer Lodge 69.44 45 P **P 15 18 26.5 -0.1**
baz=69,SNR=62
P05C Yuba Gap, Truc 69.45 55 P **P 15 18 26.5 -0.3**
baz=69,SNR=12
G13A Cobalt 69.45 47 P **P 15 18 26.0 -0.7**
baz=69,SNR=19
H12A Diamond D Ranc 69.47 48 P **P 15 18 26.6 -0.2**
baz=69,SNR=52
K10A MacKenzie Ranc 69.47 50 ⇑P **P 15 18 27.3 +0.5**
baz=69,SNR=45
L09A Wilkinson Ranc 69.49 51 P **P 15 18 27.5 +0.5**
baz=69,SNR=20
SOC Sochi 69.49 311 *i* P **P 15 18 27.4 +0.5**
SOC Sochi 69.49 311 *c i* P **P 15 18 27.3 +0.4**
SOC *e* 15 18 47.6
SOC *e**PP pP 15 18 56.5 -0.3
SOC *e*S S 15 27 24.6 -0.1
SOC *e**SS sS 15 28 15.7 -0.3
SOC pmax pmax
comp=Z,56nm,0.8s,mb5.5
SOC pmax pmax
comp=Z,305nm,2.4s,mb5.7
SOC MLR MLR
comp=Z,650nm,17.0s
N07B Gerlach 69.51 53 ⇑P **P 15 18 27.4 +0.2**
baz=69,SNR=5.1
BDM Black Diamond 69.52 57 ⇓P **P 15 18 27.4 +0.2**
baz=69
JRSC Jasper Ridge 69.63 58 ⇑P **P 15 18 27.5 -0.4**
baz=69
P06A Stead Airport, 69.65 55 ⇓P **P 15 18 28.5 +0.5**
baz=69
MFID Camas Ranch 69.65 49 P **P 15 18 28.1 +0.2**
baz=69,SNR=31
HRY Holter Researc 69.68 45 *e*P **P 15 18 28.0 -0.1**
LAVA Lava Cap Winer 69.72 56 P **P 15 18 28.3 -0.1**
baz=70,SNR=27
WENL Wente Brothers 69.80 57 ⇑P **P 15 18 29.0 0.0**
baz=70,SNR=6.2
BNLO Ben Lomond (Sa 69.84 58 ⇓P **P 15 18 28.6 -0.6**
baz=70,SNR=7.2
EGMT Eagleton 69.87 43 *e*P **P 15 18 28.7 -0.5**
comp=Z,102nm,0.9s,mb5.7
EGMT Eagleton 69.87 43 P **P 15 18 29.1 -0.1**
baz=70,SNR=63
F15A Butte 69.90 46 ⇑P **P 15 18 29.3 -0.1**
baz=70,SNR=84
R04C Big Horse Ranc 69.91 56 ⇑P **P 15 18 29.5 -0.1**
baz=70
K11A Parker Ranch, 69.95 50 P **P 15 18 29.8 +0.1**
baz=70,SNR=19
ANN Anapa 69.97 313 *e*P **P 15 18 28.1 -1.7**
ANN *e**PP pP 15 18 58.6 -1.1
ANN *e*S S 15 27 28.1 -2.1
ANN pmax pmax
comp=Z,88nm,1.1s,mb5.5
ANN MLR MLR
comp=N,801nm,18.0s
ANN MLR MLR
comp=Z,581nm,18.0s
WCN Washoe City 69.97 55 P **P 15 18 30.6 +0.7**
baz=70,SNR=13
M09A Marrel Ranch, 70.00 52 ⇓P **P 15 18 30.3 +0.2**
baz=70,SNR=5.8
N08A GE Springer Mi 70.00 53 P **P 15 18 30.6 +0.4**
baz=70,SNR=30
WBK Wadi Bani Khal 70.01 283 P **P 15 18 32.0 +1.5**
SNR=8.4
WBK Wadi Bani Khal 70.01 283 P **P 15 18 32.0 +1.5**
SNR=8.4
BIDO Bidbid 70.05 284 P **P 15 18 32.1 +1.4**
SNR=8.5
BIDO Bidbid 70.05 284 P **P 15 18 32.1 +1.4**
SNR=8.5
S04C Ingram Canyon, 70.14 57 ⇓P **P 15 18 30.8 -0.2**
baz=70,SNR=6.3
AKASG Malin Array Be 70.14 321 P **P 15 18 30.2 -0.6**
AKASG pP pP 15 18 59.8 -0.9
AKASG PP PP 15 20 58.9 -8.0
AKASG S S 15 27 30.6 -1.4
AKASG LR LR 15 52 35.0
AKASG Malin Array Be 70.14 321 P **P 15 18 30.2 -0.5**
AKASG *PP pP 15 18 59.8 -0.8
AKASG S S 15 27 30.6 -1.3
AKASG Malin Array Be 70.14 321 P **P 15 18 30.2 -0.6**
comp=Z,193nm,0.8s,mb6.0,baz=41,slow=6.7,SNR=195
AKASG pP pP 15 18 59.8 -0.9
comp=Z,29nm,0.8s,baz=43,slow=6.0,SNR=1.8
AKASG PP PP 15 20 58.9 -8.0
comp=Z,19nm,1.1s,baz=41,slow=10,SNR=4.6
AKASG S S 15 27 30.6 -1.4
comp=Z,10nm,1.1s,baz=44,slow=12,SNR=19
AKASG LR LR 15 52 35.0
comp=Z,286nm,19.4s,baz=35,slow=39
L10A Juniper Basin 70.14 51 P **P 15 18 31.3 +0.3**
baz=70,SNR=36
KIEV Kiev 70.15 321 *e*P **P 15 18 30.1 -0.8**
comp=Z,205nm,0.8s,mb6.0
KIEV Kiev 70.15 321 *e*P **P 15 18 30.1 -0.7**
KIEV pmax pmax
comp=Z,205nm,0.8s,mb6.0
R05C Kirkwood Meado 70.15 55 P **P 15 18 31.3 +0.2**
baz=70,SNR=19
DLMT Dillon 70.16 46 *e*P **P 15 18 30.8 -0.2**
comp=Z,101nm,1.0s,mb5.6
J12A Stokes Ranch, 70.17 49 P **P 15 18 31.4 +0.3**
baz=70,SNR=34
OSL Oslo 70.23 336 *e*P **P 15 18 31.2 +0.1**
comp=Z,179nm,1.1s,mb5.8
OSL Oslo 70.23 336 *e*P **P 15 18 31.2 +0.1**
OSL AMb AMB 15 18 35.0
comp=Z,179nm,1.1s,mb5.8
I13A Wildhorse Cree 70.28 48 P **P 15 18 32.3 +0.5**
baz=70,SNR=73
O08A Rochester Mine 70.30 53 ⇓P **P 15 18 32.6 +0.6**
baz=70
N09A Rock Creek Ran 70.31 52 P **P 15 18 32.5 +0.5**
baz=70,SNR=12
G15A Dillon 70.35 46 P **P 15 18 32.1 0.0**
baz=70,SNR=115
MCMT McKenzie Canyo 70.38 47 *e*P **P 15 18 31.8 -0.5**
CMB Columbia Colle 70.38 56 *e*P **P 15 18 32.1 -0.4**
comp=Z,114nm,1.3s,mb5.5
CMB Columbia Colle 70.38 56 *e*P **P 15 18 32.1 -0.4**
CMB pmax pmax
comp=Z,114nm,1.3s,mb5.5
CMB Columbia Colle 70.38 56 P **P 15 18 32.6 +0.1**
baz=70,SNR=47
SMDO Samad 70.39 284 P **P 15 18 34.6 +1.9**
SNR=6.9
SMDO Samad 70.39 284 P **P 15 18 34.6 +1.9**
SNR=6.9
SUW Suwalki 70.41 327 *e*P **P 15 18 31.7 -0.6**
SUW *e*pP pP 15 19 02.0 -0.2
SUW *e*S S 15 27 33.7 -1.2
M10A I.L. Ranch, Tu 70.46 51 P **P 15 18 33.7 +0.8**
baz=70,SNR=46
PACP Pacheco Peak 70.47 57 ⇓P **P 15 18 33.0 -0.1**
baz=70,SNR=20
HYA Hoyanger 70.49 339 *e*P **P 15 18 33.0 +0.3**
comp=Z,193nm,1.0s,mb5.9
HYA Hoyanger 70.49 339 *e*P **P 15 18 33.0 +0.3**
HYA AMb AMB 15 18 36.5
comp=Z,193nm,1.0s,mb5.9
HYA *e*pP pP 15 19 03.2 +0.6
L11A Cat Creek Ranc 70.49 50 ⇓P **P 15 18 33.4 +0.3**
baz=70,SNR=76
SAO San Andreas Ge 70.53 58 *e*P **P 15 18 32.8 -0.5**
comp=Z,32nm,1.0s,mb5.1
SAO San Andreas Ge 70.53 58 *e*P **P 15 18 32.8 -0.6**
SAO pmax pmax
comp=Z,32nm,1.0s,mb5.1
J13A Cove Ranch, Pi 70.58 49 P **P 15 18 34.2 +0.6**
baz=70,SNR=33
HOQ Hoqain 70.59 284 P **P 15 18 34.8 +0.9**
SNR=10.0
HOQ Hoqain 70.59 284 P **P 15 18 34.8 +0.9**
SNR=10.0
R06C Coleville 70.65 55 P **P 15 18 34.8 +0.7**
baz=70,SNR=22
HATD Hatta, Dubai 70.66 286 P **P 15 18 35.4 +1.0**
SNR=14
HATD Hatta, Dubai 70.66 286 P **P 15 18 35.4 +1.0**
SNR=14
K12A Draper Farm, C 70.67 50 P **P 15 18 34.5 +0.4**
baz=70,SNR=15
HAST Hastings Reser 70.70 58 ⇓P **P 15 18 34.2 -0.2**
baz=70,SNR=11
P08A Dixie Valley 70.72 54 ⇑P **P 15 18 35.3 +0.8**
baz=70
JMDO Jabal Madar 70.78 283 P **P 15 18 36.0 +0.9**
SNR=8.4
JMDO Jabal Madar 70.78 283 P **P 15 18 36.0 +0.9**
SNR=8.4
KONO Kongsberg 70.79 337 *e*P **P 15 18 34.0 -0.6**
comp=Z,67nm,0.8s,mb5.5
KONO *i* 15 27 32.8
KONO LR LR
comp=Z,180nm,22.2s
KONO Kongsberg 70.79 337 *e*P **P 15 18 33.7 -0.9**
KONO *e*S S 15 27 38.1 -1.1
KONO AMS AMS 15 49 07.7
comp=Z,175nm,22.2s
KONO Kongsberg 70.79 337 *e*P **P 15 18 34.0 -0.6**
KONO *i* 15 27 32.8
KONO pmax pmax
comp=Z,67nm,0.8s,mb5.5
KONO MLR MLR
comp=Z,180nm,22.2s
ASHO Ashiyiah 70.80 286 P **P 15 18 35.7 +0.5**
SNR=13
ASHO Ashiyiah 70.80 286 P **P 15 18 35.7 +0.5**
SNR=13
S05C Merced 70.85 57 ⇑P **P 15 18 34.9 -0.4**
baz=71,SNR=11
T05C Eagle Field, D 70.92 57 ⇓P **P 15 18 36.3 +0.6**
baz=71
L12A House Creek Ra 70.93 50 P **P 15 18 36.4 +0.7**
baz=71,SNR=14
M11A Holland Ranch, 70.95 51 P **P 15 18 36.9 +1.1**
baz=71,SNR=48
O09A Fish Creek Ran 70.95 53 P **P 15 18 36.6 +0.8**
baz=71,SNR=6.4
N10A Dunphy 70.99 52 ⇑P **P 15 18 36.6 +0.5**
baz=71,SNR=5.3
K13A Stover Farm, H 71.12 49 P **P 15 18 37.6 +0.7**
baz=71,SNR=12
V03C Hunter Liggett 71.12 58 ⇑P **P 15 18 37.5 +0.4**
baz=71,SNR=5.2
QLMT Earthquake Lak 71.13 46 *e*P **P 15 18 37.0 +0.1**
R07C Lee Vining 71.17 55 ⇑P **P 15 18 37.9 +0.7**
baz=71
U04C Hernandez Rese 71.19 58 P **P 15 18 37.9 +0.4**
baz=71,SNR=9.7
BSY Bisya 71.20 284 P **P 15 18 38.7 +1.1**
SNR=18
BSY Bisya 71.20 284 P **P 15 18 38.7 +1.1**
SNR=18
O10A Cortez Mining, 71.27 52 P **P 15 18 38.9 +1.0**
baz=71,SNR=17
Q08A Gabbs 71.35 54 P **P 15 18 38.8 +0.5**
baz=71,SNR=18
P09A Austin 71.37 53 ⇓P **P 15 18 38.6 +0.1**
baz=71
NVAR Mina Array Bea 71.40 55 P **P 15 18 39.1 +0.5**
comp=Z,33nm,0.8s,mb5.2,baz=310,slow=4.5,SNR=28
NVAR pP pP 15 19 08.0 -0.6
comp=Z,26nm,1.1s,baz=311,slow=4.3,SNR=2.4
GCMT Greycliff 71.41 44 *e*P **P 15 18 38.6 +0.1**
GCMT *e*pP pP 15 19 08.6 +0.1
ODD1 Odda 71.42 338 *e*P **P 15 18 37.8 -0.5**
comp=Z,192nm,1.1s,mb5.8
ODD1 Odda 71.42 338 *e*P **P 15 18 37.5 -0.8**
ODD1 AMb AMB 15 18 41.0
comp=Z,192nm,1.1s,mb5.8
T06C Millerton Lake 71.45 57 P **P 15 18 38.6 -0.4**
baz=71,SNR=20
M12A Wells 71.46 51 P **P 15 18 39.8 +0.9**
baz=71,SNR=53
YMR Madison River 71.49 46 *e*P **P 15 18 39.5 +0.4**
comp=Z,55nm,1.0s,mb5.3
KCC Kaiser Creek 71.49 56 ⇓P **P 15 18 38.9 -0.3**
baz=71,SNR=28
L13A Double Diamond 71.57 50 ⇓P **P 15 18 40.2 +0.6**
baz=71
R08A Mina 71.57 55 ⇓P **P 15 18 40.3 +0.6**
baz=71
MLAC Mammoth Lakes 71.59 56 ⇑P **P 15 18 40.6 +0.8**
baz=71
V04C Ramage Ranch, 71.60 58 P **P 15 18 40.4 +0.5**
baz=71,SNR=7.7
YNR Norris Junctio 71.61 46 *e*P **P 15 18 40.9 +1.1**
PKD Parkfield 71.61 58 P **P 15 18 40.1 +0.1**
baz=71,SNR=9.9
U05C Westside ANR, 71.62 57 ⇓P **P 15 18 40.3 +0.3**
baz=71
SIM Simferopol' 71.64 315 *e*P **P 15 18 40.5 +0.6**
SIM *PP pP 15 19 06.8 -3.1
SIM *e* 15 21 24.0
SIM *e*S S 15 27 50.0 +0.5
SIM pmax pmax
comp=Z,158nm,0.9s,mb5.8
SIM MLR MLR
comp=Z,500nm,15.0s
K14A Jones Ranch, D 71.70 49 P **P 15 18 41.2 +0.9**
baz=71,SNR=27
YFT Old Faithful 71.70 46 *e*P **P 15 18 42.0 +1.7**
YFT *e*pP pP 15 19 12.0 +1.7
P10A Eureka 71.73 53 ⇑P **P 15 18 41.0 +0.4**
baz=72,SNR=16
N12A Clover Valley, 71.75 51 P **P 15 18 41.6 +0.9**
baz=72,SNR=16
Q09A Carvers 71.81 54 ⇑P **P 15 18 41.0 -0.1**
baz=72,SNR=9.4
O11A Cowboy Ranch, 71.87 52 P **P 15 18 42.0 +0.6**
baz=72,SNR=36
BLS5 Blasjo 71.88 338 *e*P **P 15 18 42.0 +0.9**
comp=Z,64nm,1.1s,mb5.4
BLS5 Blasjo 71.88 338 *e*P **P 15 18 42.0 +0.9**
BLS5 AMb AMB 15 18 45.8
comp=Z,64nm,1.1s,mb5.4
BLS5 *e*pP pP 15 19 11.1 0.0
M13A Montello 71.92 50 P **P 15 18 42.2 +0.6**
baz=72,SNR=19
IMW Indian Meadow 72.02 47 *e*P **P 15 18 42.9 +0.7**
comp=Z,56nm,0.9s,mb5.4
FLWY Flagg Ranch 72.02 46 *e*P **P 15 18 43.0 +0.8**
comp=Z,54nm,1.0s,mb5.3
V05C Boulder Hill, 72.06 58 ⇑P **P 15 18 43.1 +0.4**
baz=72
RLMT Red Lodge 72.07 45 *e*P **P 15 18 42.7 +0.1**
comp=Z,76nm,1.3s,mb5.4
RLMT *e*pP pP 15 19 12.8 +0.3
S08C White Mtn Res 72.08 55 P **P 15 18 43.3 +0.6**
baz=72,SNR=31
HELL Mitchell Peak 72.08 57 P **P 15 18 42.5 -0.2**
baz=72,SNR=65
DCID1 Drake Creek 72.09 47 *e*P **P 15 18 43.3 +0.6**
BORG Borgarnes 72.16 353 P **P 15 18 43.3 +0.6**
comp=Z,359nm,1.6s,mb6.0
BORG Borgarnes 72.16 353 P **P 15 18 43.5 +0.8**
comp=Z,50nm,0.9s,mb5.3,baz=25,slow=3.9,SNR=7.0
MOOW Moose Ponds 72.22 47 *e*P **P 15 18 44.1 +0.6**
comp=Z,69nm,1.1s,mb5.4
MOOW *e*pP pP 15 19 13.4 0.0
N13A Wendover, West 72.23 51 ⇑P **P 15 18 43.5 0.0**
baz=72,SNR=13
R09A Tonopah 72.26 54 ⇓P **P 15 18 43.8 0.0**
baz=72
Q10A Clear Creek Ra 72.28 53 P **P 15 18 44.4 +0.5**
baz=72,SNR=22
TPAW Teton Pass 72.28 47 *e*P **P 15 18 44.3 +0.5**
comp=Z,112nm,1.2s,mb5.6
TPAW *e*pP pP 15 19 15.2 +1.4
M14A Sheep Mountain 72.29 50 ⇓P **P 15 18 44.2 +0.3**
baz=72,SNR=23
O12A Currie 72.31 51 P **P 15 18 44.5 +0.5**
baz=72,SNR=42
TIN Tinemaha 72.33 56 ⇓P **P 15 18 44.4 +0.2**
baz=72,SNR=6.4
SMMC Simmler 72.35 58 ⇓P **P 15 18 44.7 +0.3**
baz=72
LOHW Long Hollow 72.39 47 *e*P **P 15 18 44.7 +0.3**
comp=Z,148nm,1.7s,mb5.5
SNOW Snow King Moun 72.41 47 *e*P **P 15 18 45.5 +0.9**
comp=Z,68nm,1.3s,mb5.3
REDW Red Top Meadow 72.42 47 *e*P **P 15 18 45.1 +0.4**
comp=Z,78nm,1.2s,mb5.4
REDW *e*pP pP 15 19 15.7 +1.0
HVU Hansel Valley 72.43 49 *e*P **P 15 18 45.0 +0.3**
comp=Z,73nm,1.3s,mb5.3
HVU *e*pP pP 15 19 14.9 +0.2
HVU Hansel Valley 72.43 49 *e*P **P 15 18 45.0 +0.3**
HVU *e**PP pP 15 19 14.9 +0.2
HVU pmax pmax
comp=Z,73nm,1.3s,mb5.3
S09A Goldfield 72.50 55 P **P 15 18 45.5 +0.3**
baz=72,SNR=29
VES Vestal, Richgr 72.59 57 ⇓P **P 15 18 44.6 -1.2**
baz=72,SNR=16
R10A Warm Springs 72.69 54 P **P 15 18 46.8 +0.5**
baz=72,SNR=6.3
AHID Auburn Hatcher 72.69 48 *e*P **P 15 18 46.5 +0.3**
comp=Z,45nm,1.4s,mb5.1
Q11A Duckwater 72.71 53 P **P 15 18 46.6 +0.2**
baz=72,SNR=38
BSD Bornholm Skovb 72.71 331 *i* P **P 15 18 45.7 -0.4**
BSD *i* 15 21 28.4
BSD *i* S S 15 28 01.7 +0.3
BSD pmax pmax
comp=Z,110nm,0.9s,mb5.7
BSD MLR MLR
comp=Z,230nm,19.0s
BSD Bornholm Skovb 72.71 331 *i* P **P 15 18 45.7 -0.4**
comp=Z,107nm,0.9s,mb5.7
BSD *i* 15 21 28.4
BSD *i* S S 15 28 01.7 +0.3
BSD
comp=Z,220nm,19.0s
PKM Peak Mountain 72.73 58 P **P 15 18 47.2 +0.6**
baz=72,SNR=11
P12A McGill 72.73 52 ⇓P **P 15 18 46.6 0.0**
baz=72,SNR=67
S10A Tonopah Range, 72.75 54 P **P 15 18 47.1 +0.4**
baz=72,SNR=17
N14A Grayback Hills 72.81 50 P **P 15 18 47.6 +0.6**
baz=72,SNR=10.0
CWC Cottonwood Cre 72.82 56 ⇓P **P 15 18 46.8 -0.3**
baz=73,SNR=5.3
M15A Larsen Ranch, 72.82 49 ⇓P **P 15 18 46.6 -0.4**
baz=73,SNR=8.9
BGU Big Grassy Mou 72.85 50 *e*P **P 15 18 47.4 +0.1**
GRAC Grapevine Rang 72.89 55 ⇑P **P 15 18 47.8 +0.3**
baz=73,SNR=9.8
KIS Kishinev 72.91 319 *e*P **P 15 18 45.0 -2.5**
KIS *e**PP pP 15 19 15.0 -2.5
KIS *e* 15 19 32.0
KIS *e* 15 21 29.0
KIS *e* 15 23 20.0
KIS *e*S S 15 28 03.0 -0.9
KIS *e*PS 15 28 40.0
KIS MLR MLR
comp=Z,400nm,15.0s
KIS Kishinev 72.91 319 *e*P **P 15 18 45.0 -2.5**
KIS *e*pP pP 15 19 15.0 -2.5
KIS Kishinev 72.91 319 *e*PP PP 15 21 29.0 -1.7
KIS *e*S S 15 28 03.0 -0.9
R11A Troy Canyon, C 73.08 53 ⇑P **P 15 18 48.4 -0.2**
baz=73,SNR=42
ISA Isabella 73.08 57 *e*P **P 15 18 47.5 -1.2**
comp=Z,62nm,1.4s,mb5.2
ISA Isabella 73.08 57 *e*P **P 15 18 47.5 -1.2**
ISA pmax pmax
comp=Z,62nm,1.4s,mb5.2
ISA Isabella 73.08 57 P **P 15 18 47.9 -0.8**
baz=73,SNR=12
LVV L'vov 73.11 323 *e*P **P 15 18 48.3 -0.3**
LVV *e* pP 15 19 16.5 -2.1
LVV *e*S S 15 28 05.1 -1.0
LVV MLR MLR
comp=N,100nm,13.0s
LVV MLR MLR
comp=E,400nm,15.0s
COP Copenhagen 73.12 333 *i* P **P 15 18 49.0 +0.5**
COP *i* S S 15 28 06.9 +0.9
COP pmax pmax
comp=Z,61nm,0.7s,mb5.5
COP MLR MLR
comp=Z,87nm,19.0s
COP Copenhagen 73.12 333 *i* P **P 15 18 49.0 +0.5**
comp=Z,61nm,0.7s,mb5.5
COP *i* S S 15 28 06.9 +0.9
COP
comp=Z,80nm,19.0s
N15A Stansbury Isla 73.16 50 ⇓P **P 15 18 49.3 +0.2**
baz=73
ARVC Arvin 73.20 58 ⇓P **P 15 18 48.7 -0.7**
baz=73
HWUT Hardware Ranch 73.22 49 *e*P **P 15 18 49.5 +0.2**
comp=Z,102nm,1.3s,mb5.5
ARMA Armidale 73.23 171 *e*P **P 15 18 50.3 +1.0**
ARMA *e*pP pP 15 19 22.8 +3.3
P13A Bates Ranch, G 73.26 52 P **P 15 18 50.2 +0.5**
baz=73,SNR=24
GKP Gorka Klasztor 73.30 329 *e*P **P 15 18 50.4 +0.7**
GKP *e*PcP PcP 15 19 11.0 +5.6
GKP *e*pP pP 15 19 20.2 +0.4
GKP *e*S S 15 28 09.2 +1.0
MPMC Manual Prospec 73.42 56 P **P 15 18 50.9 +0.2**
baz=73,SNR=34
S11A Rachel 73.44 54 ⇑P **P 15 18 51.2 +0.4**
baz=73
UMR Umm Al-Rimmam 73.49 295 *e*P **P 15 18 50.3 -0.8**
UMR AMb AMB 15 18 57.9
comp=Z,131nm,0.8s,mb5.8
PDAR Pinedale Array 73.52 47 P **P 15 18 51.0 -0.2**
comp=Z,36nm,1.0s,mb5.1,baz=284,slow=1.7,SNR=160
PDAR pP pP 15 19 20.4 -0.9
comp=Z,40nm,0.9s,baz=318,slow=2.0,SNR=8.9
PDAR LR LR 15 52 24.5
comp=Z,133nm,19.2s,baz=310,slow=37
FURC Furnace Creek, 73.54 56 P **P 15 18 51.6 +0.3**
baz=73,SNR=25
NOQ North Oquirrh 73.55 50 *e*P **P 15 18 51.8 +0.5**
comp=Z,291nm,1.3s,mb5.8
NOQ *e*pP pP 15 19 22.6 +1.1
MUD Monsted U'grnd 73.55 335 *i* P **P 15 18 51.5 +0.5**
MUD pmax pmax
comp=Z,40nm,0.5s,mb5.4
MUD MLR MLR
comp=Z,220nm,19.0s
MUD Monsted U'grnd 73.55 335 *i* P **P 15 18 51.5 +0.5**
comp=Z,40nm,0.5s,mb5.4
MUD *i* S S 15 27 32.1 -39
MUD
comp=Z,220nm,19.0s
MIB Mutribah 73.58 295 *e*P **P 15 18 51.0 -0.7**
MIB AMb AMB 15 18 58.5
comp=Z,162nm,0.9s,mb5.8
OSI Osito Adit 73.60 58 ⇓P **P 15 18 51.8 +0.1**
baz=73
MALT Malatya 73.66 307 *e*P **P 15 18 53.2 +1.2**
comp=Z,61nm,1.1s,mb5.2
MALT Malatya 73.66 307 *e*P **P 15 18 53.2 +1.2**
MALT pmax pmax
comp=Z,61nm,1.1s,mb5.2
MALT Malatya 73.66 307 ⇑*i* P **P 15 18 53.4 +1.4**
R12A Pony Springs, 73.67 53 ⇑P **P 15 18 51.7 -0.4**
baz=73,SNR=14
LRMC Laurel Mountai 73.68 57 P **P 15 18 52.3 +0.1**
baz=74,SNR=7.8
BLG Laguna Peak 73.72 59 ⇑P **P 15 18 51.9 -0.5**
baz=74
CTU Camp Tracy 73.73 49 *e*P **P 15 18 52.4 0.0**
comp=Z,74nm,1.2s,mb5.3
KBD Kabd 73.75 295 *e*P **P 15 18 52.0 -0.7**
KBD AMb AMB 15 18 54.1
comp=Z,197nm,0.6s,mb6.0
KWP Kalwaria 73.83 324 *e*P **P 15 18 53.3 +0.5**
comp=Z,700nm,2.1s,mb6.0
KWP *e*pP pP 15 19 23.5 +0.6
KWP *e*S S 15 28 15.4 +1.3
KWP Kalwaria 73.83 324 *e*P **P 15 18 53.3 +0.5**
KWP *e*pP pP 15 19 23.5 +0.6
KWP *e*S S 15 28 15.4 +1.2
KWP Kalwaria 73.83 324 *e*P **P 15 18 53.3 +0.5**
KWP *e**PP pP 15 19 23.5 +0.6
KWP *e*S S 15 28 15.4 +1.2
KWP pmax pmax
comp=Z,700nm,2.1s,mb6.0
KWP Kalwaria 73.83 324 ⇓*i* P **P 15 18 53.6 +0.8**
QRN Al-Qurain 73.87 294 *e*P **P 15 18 53.0 -0.5**
QRN AMb AMB 15 18 54.3
comp=Z,337nm,0.4s,mb6.5
EDW2 Edwards Air Fo 73.89 57 ⇓P **P 15 18 53.2 -0.2**
baz=74,SNR=23
U10A Ash Meadows, A 73.90 55 P **P 15 18 54.0 +0.6**
baz=74,SNR=21
JLU Jordanelle 73.96 49 *e*P **P 15 18 51.8 -1.9**
NAY Al-Naaiem 74.00 295 *e*P **P 15 18 53.3 -0.8**

NAY AMb AMB 15 19 00.8
comp=Z,58nm,0.7s,mb5.4
RDF Al-Radifah 74.00 295 *e*P **P 15 18 53.4 -0.7**
RDF AMb AMB 15 18 55.0
comp=Z,125nm,0.8s,mb5.7
S12A Delamar Landin 74.00 54 P **P 15 18 54.8 +0.8**
baz=74,SNR=21
T11A Corn Creek, Al 74.02 54 P **P 15 18 54.6 +0.4**
baz=74,SNR=35
NLU North Lily Min 74.04 50 *e*P **P 15 18 54.6 +0.4**
DECC Green Verdugo 74.08 58 ⇊P **P 15 18 54.3 -0.3**
baz=74
STKA Stephens Creek 74.14 180 *e*P **P 15 18 54.9 +0.3**
comp=Z,6.7nm,0.8s
STKA *e*pP pP 15 19 25.7 +0.9
STKA Stephens Creek 74.14 180 P **P 15 18 54.9 +0.3**
comp=Z,8.7nm,0.9s,mb4.5,baz=349,slow=7.5,SNR=15
STKA pP pP 15 19 24.3 -0.5
comp=Z,11nm,0.9s,baz=324,slow=12,SNR=6.9
FORT Forrest 74.14 192 *e*P **P 15 18 55.1 +0.4**
comp=Z,76nm,1.0s,mb5.4
DAU Daniels Canyon 74.19 49 *e*P **P 15 18 54.9 -0.2**
MPU Maple Canyon 74.25 50 *e*P **P 15 18 55.9 +0.5**
comp=Z,37nm,0.6s,mb5.3
MPU *e*pP pP 15 19 26.1 +0.5
SHOC Shoshone 74.27 56 ⇊P **P 15 18 55.3 -0.3**
baz=74
GSC Goldstone 74.34 56 *e*P **P 15 18 55.0 -1.0**
comp=Z,62nm,1.1s,mb5.2
GSC Goldstone 74.34 56 *e*P **P 15 18 55.1 -0.9**
GSC pmax pmax
comp=Z,62nm,1.1s,mb5.2
GSC Goldstone 74.34 56 ⇑P **P 15 18 55.7 -0.3**
baz=74,SNR=15
FMP Fort Macarthur 74.46 58 ⇑P **P 15 18 56.4 -0.4**
baz=74
U11A Corn Creek 74.47 55 ⇊P **P 15 18 57.0 +0.3**
baz=74,SNR=6.9
RRX Edison Barstow 74.50 57 ⇑P **P 15 18 56.8 -0.1**
baz=74
BFSC Mount Baldy St 74.51 58 P **P 15 18 56.9 -0.2**
baz=74,SNR=15
KOLS Kolonicke sedl 74.54 324 *e*P **P 15 18 56.9 0.0**
KOLS *e* 15 19 10.5
KOLS *e*S S 15 28 20.7 -1.4
KOLS Kolonicke sedl 74.54 324 *e*P **P 15 18 56.9 0.0**
KOLS *e*PCP PcP 15 19 10.5 -0.3
KOLS *e*PP PP 15 21 27.9 -16
KOLS *e*S S 15 28 20.7 -1.4
S13A Holt Ranch, En 74.60 53 ⇊P **P 15 18 57.7 +0.2**
baz=74,SNR=20
R14A James Farms, M 74.61 52 ⇊P **P 15 18 57.6 0.0**
baz=74
STHS Stebnicka Huta 74.62 324 *i* P **P 15 18 58.0 +0.6**
comp=Z,102nm,0.9s,mb5.6
STHS Stebnicka Huta 74.62 324 *i* P **P 15 18 58.0 +0.6**
STHS pmax pmax
comp=Z,102nm,0.9s,mb5.5
OJC Ojcow 74.62 326 *i* P **P 15 18 57.6 +0.2**
OJC *e*pP pP 15 19 27.6 0.0
OJC *e*sP sP 15 19 40.3 -0.3
OJC *e*S S 15 28 22.9 -0.2
OJC L 15 54 38.7
comp=Z,0.4nm,20.1s
ULM Lac du Bonnet 74.66 34 P **P 15 18 56.5 -1.1**
comp=Z,15nm,0.8s,mb4.8,baz=321,slow=6.6,SNR=35
ULM pP pP 15 19 27.5 -0.3
comp=Z,24nm,0.9s,baz=308,slow=7.4,SNR=6.2
ULM LR LR 15 53 09.1
comp=Z,158nm,20.0s,baz=340,slow=37
T12A Moapa 74.67 54 ⇊P **P 15 18 58.2 +0.3**
baz=74,SNR=7.2
ARUT Antelope Range 74.71 53 *e*P **P 15 18 57.7 -0.5**
VRI Vrincioaia 74.73 319 ⇊P **P 15 18 58.6 +0.5**
VRI Vrincioaia 74.73 319 ⇊*i*P **P 15 18 58.6 +0.5**
UZH Uzhgorod 74.75 323 *e*P **P 15 18 57.7 -0.5**
UZH *e* 15 19 13.0
UZH *i* S S 15 28 23.0 -1.5
UZH MLR MLR
comp=Z,460nm,14.0s
PLOR Plostina 74.78 319 P **P 15 18 59.1 +0.7**
PLOR Plostina 74.78 319 ⇑*i*P **P 15 18 59.3 +0.9**
TUQ Turquoise Mtn. 74.79 56 ⇑P **P 15 18 58.4 -0.3**
baz=75,SNR=5.1
V11A Goodsprings 74.83 55 ⇑P **P 15 18 59.1 +0.3**
baz=75,SNR=5.7
S14A Cedar City 74.89 52 ⇊P **P 15 18 59.7 +0.5**
baz=75
TIRR Tirgusor 74.91 317 ⇑P **P 15 18 59.1 -0.1**
TIRR Tirgusor 74.91 317 ⇑*i*P **P 15 18 59.1 -0.1**
CRVS Cervenica-Dubn 74.91 324 *e*P **P 15 18 59.3 +0.2**
CRVS *e*PP PP 15 21 31.8 -16
CRVS *e*S S 15 28 23.1 -3.2
CCUT Cedar City 74.92 53 *e*P **P 15 18 59.4 0.0**
CCUT *e*pP pP 15 19 30.6 +1.0
HEC Hector,Ludlow 74.95 57 ⇊P **P 15 18 59.4 -0.2**
baz=75,SNR=5.9
T13A Saint George 74.95 53 P **P 15 19 00.3 +0.8**
baz=75,SNR=24
BBRC Big Bear Sol-O 74.96 57 ⇊P **P 15 18 59.5 -0.2**
baz=75
MSU Marysvale 74.96 51 *e*P **P 15 19 00.4 +0.8**
U12A Valley of Fire 74.97 54 ⇑P **P 15 18 59.9 +0.3**
baz=75
TMUT Trail Mountain 74.98 50 *e*P **P 15 18 59.8 +0.2**
HARR Harsova 74.99 318 ⇊P **P 15 19 00.1 +0.5**
HARR Harsova 74.99 318 ⇊*i*P **P 15 19 00.1 +0.5**
NIE Niedzica 75.02 325 *e*P **P 15 19 00.6 +0.9**
BSEG Bad Segeberg 75.26 333 *e*P **P 15 19 01.1 +0.1**
BSEG pmax pmax
comp=Z,82nm,0.8s,mb5.5
BSEG Bad Segeberg 75.26 333 *e*P **P 15 19 01.1 +0.1**
comp=Z,82nm,0.8s,mb5.5
U13A Pakoon Wash 75.32 54 ⇑P **P 15 19 02.1 +0.4**
baz=75,SNR=35
MLR Muntele Rosu 75.38 319 P **P 15 19 02.1 +0.3**
comp=Z,33nm,1.0s,mb5.0,baz=1.6,slow=3.8,SNR=25
MLR PP PP 15 21 53.3 +1.6
comp=Z,19nm,0.9s,baz=145,slow=10,SNR=4.4
MLR Muntele Rosu 75.38 319 ⇑*i*P **P 15 19 02.1 +0.3**
GMRC Granite Mounta 75.39 56 P **P 15 19 02.3 +0.2**
baz=75,SNR=26
RAC Raciborz 75.39 326 *e*P **P 15 19 02.7 +0.9**
T14A Hurricane 75.41 53 ⇊P **P 15 19 02.6 +0.4**
baz=75,SNR=5.9
W12A Cal Nev Ari 75.53 55 ⇊P **P 15 19 03.0 +0.2**
baz=75
RWWY Rawlins 75.53 46 *e*P **P 15 19 02.4 -0.4**
comp=Z,53nm,0.6s,mb5.5
KSP Ksiaz 75.56 328 *e*P **P 15 19 03.1 +0.4**
comp=Z,2µm,10.7s
KSP *e*pP pP 15 19 33.4 +0.4
KSP *e*S S 15 28 33.3 -0.1
KSP Ksiaz 75.56 328 ⇑*e*P **P 15 19 03.0 +0.2**
KSP *e*pP pP 15 19 30.6 -2.4
KSP *e*PP PP 15 21 36.7 -16
KSP *e*S S 15 28 32.0 -1.4
KSP Ksiaz 75.56 328 ⇑*e*P **P 15 19 03.0 +0.2**
KSP *e**PP pP 15 19 30.6 -2.4
KSP *e*S S 15 28 32.0 -1.4
PSN Preselentsi 75.58 317 *i* P **P 15 19 03.4 +0.4**
OKC Ostrava-Krasne 75.60 326 *e*P **P 15 19 03.5 +0.5**
OKC *e*pP pP 15 19 37.1 +3.8
OKC *e*PP PP 15 21 43.3 -10
OKC *e*S S 15 28 35.3 +1.4
OKC Ostrava-Krasne 75.60 326 *e*P **P 15 19 03.5 +0.5**
OKC *e**PP pP 15 19 37.1 +3.8
OKC *e*S S 15 28 35.3 +1.4
OKC MLR MLR
comp=Z,300nm,14.4s
OKC Ostrava-Krasne 75.60 326 *e*P **P 15 19 03.5 +0.5**
OKC *e*pP pP 15 19 37.1 +3.8
OKC *e*x x 15 21 43.3
OKC *e*S S 15 28 35.3 +1.4
OKC AMS AMS 15 57 50.0
comp=Z,300nm,14.4s
KECS Kecovo 75.66 324 *i* P **P 15 19 03.5 +0.2**
comp=Z,16nm,0.8s,mb4.8
KECS *e*PP PP 15 21 37.2 -17
KECS Kecovo 75.66 324 *i* P **P 15 19 03.5 +0.2**
KECS pmax pmax
comp=Z,16nm,0.8s,mb4.8
PFO Pinyon Flat Ob 75.68 58 P **P 15 19 03.0 -0.7**
comp=Z,257nm,0.8s,mb6.0,SNR=8.4
PFO Pinyon Flat Ob 75.68 58 *e*P **P 15 19 03.3 -0.4**
comp=Z,93nm,1.4s,mb5.3
PFO pmax pmax
comp=Z,93nm,1.4s,mb5.3
PFO Pinyon Flat Ob 75.68 58 P **P 15 19 03.6 -0.2**
baz=75,SNR=11
BELC Belle Mtn. 75.70 57 ⇑P **P 15 19 03.2 -0.6**
baz=76,SNR=16
109C Camp Elliot, M 75.75 58 ⇊P **P 15 19 03.7 -0.5**
baz=76
U14A Mt Trumbull 75.79 54 ⇑P **P 15 19 04.7 +0.4**
baz=76,SNR=10.0
LIKS Likavka 75.81 325 *e*P **P 15 19 06.4 +2.2**
ANTO Ankara 75.83 311 *e*P **P 15 19 04.2 -0.2**
comp=Z,35nm,0.8s,mb5.1
ANTO Ankara 75.83 311 *e*P **P 15 19 04.3 -0.2**
ANTO pmax pmax
comp=Z,35nm,0.8s,mb5.1
ANTO Ankara 75.83 311 P **P 15 19 05.6 +1.1**
SNR=15
ANTO Ankara 75.83 311 P **P 15 19 05.6 +1.1**
SNR=15
ANTO Ankara 75.83 311 ⇑*i*P **P 15 19 05.4 +0.9**
T15A Red Dirt Ranch 75.85 53 ⇑P **P 15 19 05.0 +0.3**
baz=76,SNR=15
MORC Moravsky Berou 75.89 327 *e*P **P 15 19 04.9 +0.2**
comp=Z,98nm,1.2s,mb5.4
MORC Moravsky Berou 75.89 327 *e*P **P 15 19 04.9 +0.2**
MORC pmax pmax
comp=Z,98nm,1.2s,mb5.4
MORC Moravsky Berou 75.89 327 ⇊*i*P **P 15 19 04.8 +0.1**
UPC Upice 75.94 328 ⇑*i*P **P 15 19 05.1 +0.2**
DPC Dobruska-Polom 75.94 328 *e*P **P 15 19 05.6 +0.7**
DPC *e**PP pP 15 19 36.1 +0.9
DPC *e*S S 15 28 36.3 -1.2
DPC MLR MLR
comp=Z,400nm,12.1s
DPC Dobruska-Polom 75.94 328 *e*P **P 15 19 05.6 +0.7**
DPC *e*pP pP 15 19 36.1 +0.9
DPC *e*x x 15 21 46.1
DPC *e*S S 15 28 36.3 -1.2
DPC AMS AMS 15 57 40.0
comp=Z,400nm,12.1s
DRGR 75.94 322 ⇑P **P 15 19 05.3 +0.3**
DRGR 75.94 322 ⇑*i*P **P 15 19 05.3 +0.3**
NEE2 Needles Airpor 76.03 56 ⇊P **P 15 19 05.6 -0.2**
baz=76
IRM Iron Mountain 76.12 56 P **P 15 19 06.5 +0.3**
baz=76,SNR=13
AGMN Agassiz Refuge 76.15 36 *e*P **P 15 19 04.5 -1.7**
comp=Z,12nm,0.7s,mb4.7
MONP Monument Peak 76.18 58 ⇑P **P 15 19 06.5 -0.1**
baz=76
W13A Hualapai Mount 76.26 55 P **P 15 19 07.2 +0.1**
baz=76,SNR=29
BC3 Big Chuckw Mtn 76.27 57 ⇊P **P 15 19 06.7 -0.4**
baz=76,SNR=22
PSZ Piszkesteto 76.34 324 *e*P **P 15 19 07.4 +0.2**
comp=Z,77nm,1.0s,mb5.4
PSZ Piszkesteto 76.34 324 *e*P **P 15 19 07.4 +0.2**
PSZ pmax pmax
comp=Z,77nm,1.0s,mb5.4
PSZ Piszkesteto 76.34 324 ⇑*i*P **P 15 19 07.8 +0.6**
PSZ Piszkesteto 76.34 324 ⇑*e*P **P 15 19 08.0 +0.8**
VYHS Vyhne 76.35 325 *e*P **P 15 19 07.8 +0.5**
comp=Z,48nm,1.1s,mb5.1
VYHS *e*PP PP 15 21 42.6 -17
VYHS *e*S S 15 28 42.7 +0.5
VYHS Vyhne 76.35 325 *e*P **P 15 19 07.8 +0.5**
VYHS pmax pmax
comp=Z,48nm,1.1s,mb5.1
V14A Boquillas Ranc 76.36 54 P **P 15 19 08.4 +0.8**
baz=76,SNR=65
T16A Glen Canyon Da 76.39 52 ⇊P **P 15 19 06.9 -0.8**
baz=76
BRG Berggiesshubel 76.44 329 *i* P **P 15 19 07.7 0.0**
comp=Z,15nm,1.2s,mb4.6
BRG *i* 15 19 11.4
BRG pP pP 15 19 38.0 -0.1
BRG *e*PP PP 15 21 59.5 -0.8
BRG S S 15 28 43.0 -0.1
BRG LR LR
comp=Z,280nm,13.1s
BRG Berggiesshubel 76.44 329 *i* P **P 15 19 07.7 -0.1**
BRG *PP pP 15 19 38.0 -0.1
BRG *e* 15 21 59.5
BRG S S 15 28 43.0 -0.1
BRG pmax pmax
comp=Z,26nm,1.1s,mb4.9
BRG pmax pmax
comp=Z,16nm,0.9s,mb4.8
BRG MLR MLR
comp=N,212nm,17.5s
BRG MLR MLR
comp=E,201nm,13.8s
BRG Berggiesshubel 76.44 329 *e*P **P 15 19 07.4 -0.4**
BRG Berggiesshubel 76.44 329 *i* P **P 15 19 07.7 0.0**
comp=E,26nm,1.2s,mb4.8
BRG *i* 15 19 11.4
BRG pP pP 15 19 38.0 -0.1
BRG *e*PP PP 15 21 59.5 -0.8
comp=E,27nm,0.9s
BRG S S 15 28 43.0 -0.1
BRG
comp=N,354nm,17.5s
BRG
comp=E,336nm,13.8s
BRG
comp=Z,461nm,13.1s
CLL Collm 76.45 330 ⇑*i*P **P 15 19 07.4 -0.4**
comp=Z,91nm,1.1s,mb5.4
CLL *i* 15 19 11.6
CLL *e*pP pP 15 19 40.0 +1.9
CLL *e*S S 15 28 42.0 -1.1
CLL LR LR
comp=Z,300nm,19.5s
CLL Collm 76.45 330 ⇑*i*P **P 15 19 07.4 -0.4**
CLL *e**PP pP 15 19 40.0 +1.9
CLL *e*S S 15 28 42.0 -1.1
CLL pmax pmax
comp=Z,91nm,1.1s,mb5.4
CLL MLR MLR
comp=Z,300nm,19.5s
CLL Collm 76.45 330 *e*P **P 15 19 07.3 -0.5**
comp=Z,126nm,0.8s,mb5.7
CLL Collm 76.45 330 ⇑*i*P **P 15 19 07.4 -0.4**
comp=Z,91nm,1.1s,mb5.4
CLL ⇊*i*P(2) 15 19 11.6
comp=Z,126nm,0.8s
CLL *e*pP pP 15 19 40.0 +1.9
CLL *i* sP sP 15 19 53.9 +2.8
CLL *i* PP PP 15 21 53.4 -7.0
comp=Z,37nm,1.0s
CLL *i* PP(2) 15 21 57.3
comp=Z,34nm,0.9s
CLL *e*S S 15 28 42.0 -1.1
CLL *e*PS 15 29 42.0
CLL *e*SS SS 15 34 00.0 +21
CLL *e*x x 15 35 48.0
CLL *e*x x 15 38 29.0
CLL LmV 15 52 00.0
comp=Z,300nm,19.5s
CLL LmH 15 56 00.0
comp=N,400nm,20.6s
CLL LmH 15 56 00.0
comp=E,300nm,18.4s
KOLL Kolacno 76.47 325 *e*P **P 15 19 08.8 +0.8**
PVCC Panska Ves 76.48 329 *e*P **P 15 19 08.3 +0.3**
NRDL Niedersach Rie 76.52 332 *e*P **P 15 19 07.9 -0.2**
comp=Z,58nm,0.8s,mb5.4
DVTC Desert V Tower 76.53 58 P **P 15 19 08.6 0.0**
baz=76,SNR=7.3
SWSC Sam W. Stewart 76.53 58 ⇑P **P 15 19 07.9 -0.8**
baz=76,SNR=5.6
X13A Yucca 76.63 55 ⇊P **P 15 19 09.0 -0.2**
baz=76,SNR=77
PDMCI Parker Dam,Lak 76.64 56 P **P 15 19 09.2 0.0**
baz=76,SNR=37
VRAC Vranov 76.65 327 P **P 15 19 09.1 +0.2**
VRAC pmax pmax
comp=Z,56nm,0.7s
VRAC Vranov 76.65 327 P **P 15 19 09.1 +0.2**
comp=Z,56nm,0.7s,mb5.4,baz=47,slow=5.8,SNR=46
VRAC Vranov 76.65 327 ⇊*i*P **P 15 19 09.5 +0.6**
W14A Seligman 76.66 54 ⇊P **P 15 19 09.6 +0.3**
baz=76,SNR=71
PHWY Pilot Hill 76.73 46 *e*P **P 15 19 09.6 +0.1**
Y12C Blythe 76.78 56 P **P 15 19 10.2 +0.2**
baz=76,SNR=17
PRA Prague 76.90 328 ⇑P **P 15 19 11.0 +0.7**
PRU Pruhonice 76.92 328 *e*P **P 15 19 10.7 +0.2**
comp=Z,3.7nm,0.5s
PRU *e*pP pP 15 19 41.1 +0.3
PRU *e*PP PP 15 21 53.5 -11
PRU *e*S S 15 28 47.5 -0.8
PRU LR LR
comp=Z,300nm,13.3s
PRU Pruhonice 76.92 328 *e*P **P 15 19 10.7 +0.2**
PRU *e**PP pP 15 19 41.1 +0.3
PRU *e*S S 15 28 47.5 -0.8
PRU MLR MLR
comp=Z,300nm,13.3s
GZR Gura Zlata 76.96 321 ⇑P **P 15 19 11.4 +0.6**
GZR Gura Zlata 76.96 321 P **P 15 19 11.2 +0.4**
GZR Gura Zlata 76.96 321 ⇑*i*P **P 15 19 11.4 +0.6**
CLZ Clausthal 76.96 332 *e*P **P 15 19 10.7 +0.1**
CLZ pmax pmax
comp=Z,133nm,0.9s,mb5.7
CLZ Clausthal 76.96 332 *e*P **P 15 19 10.7 +0.1**
comp=Z,133nm,0.9s,mb5.7
ZIMR 77.01 318 P **P 15 19 11.6 +0.5**
ZIMR 77.01 318 ⇊*i*P **P 15 19 11.7 +0.6**
GLA Glamis 77.06 57 *e*P **P 15 19 11.5 -0.1**
comp=Z,83nm,1.0s,mb5.4
GLA *e*pP pP 15 19 43.1 +1.2
GLA Glamis 77.06 57 *e*P **P 15 19 11.5 -0.1**
GLA *e**PP pP 15 19 43.1 +1.2
GLA pmax pmax
comp=Z,83nm,1.0s,mb5.4
GLA Glamis 77.06 57 P **P 15 19 11.9 +0.3**
baz=77,SNR=19
MODS Modra-Piesok 77.10 326 *i* P **P 15 19 12.1 +0.6**
comp=Z,34nm,1.2s,mb5.0
MODS *e*PP PP 15 21 53.3 -13
MODS *e*S S 15 28 52.1 +1.8
MODS Modra-Piesok 77.10 326 *i* P **P 15 19 12.1 +0.6**
MODS pmax pmax
comp=Z,34nm,1.2s,mb5.0
TREC Trest 77.10 327 *e*P **P 15 19 11.9 +0.4**
TREC *e*S S 15 28 46.6 -3.7
KLBR Kellerberrin 77.11 201 *e*P **P 15 19 11.5 -0.1**
comp=Z,61nm,1.0s,mb5.3
Y13A Salome 77.16 56 P **P 15 19 12.4 +0.3**
baz=77,SNR=9.6
W15A Williams 77.17 54 P **P 15 19 13.3 +1.1**
baz=77,SNR=16
JMB Yambol 77.27 317 *e*P **P 15 19 12.6 0.0**
X14A Yava 77.28 55 ⇊P **P 15 19 13.2 +0.4**
baz=77,SNR=57
ZST Bratislava 77.31 326 *e*P **P 15 19 13.5 +0.8**
comp=Z,50nm,1.0s,mb5.2
ZST *e*PP PP 15 21 50.3 -17
ZST Bratislava 77.31 326 *e*P **P 15 19 13.5 +0.8**
ZST pmax pmax
comp=Z,50nm,1.0s,mb5.2
ZST Bratislava 77.31 326 *e*P **P 15 19 13.5 +0.8**
ZST *e*PP PP 15 21 50.2 -18
BZS Buzias 77.33 322 ⇑P **P 15 19 12.7 -0.1**
BZS Buzias 77.33 322 ⇑*i*P **P 15 19 12.7 -0.1**
PVL Pavlikeni 77.35 318 *i* P **P 15 19 13.6 +0.6**
TANN Tannenbergstha 77.37 330 *e*P **P 15 19 12.1 -0.9**
SMCO Snowmass 77.42 48 *e*P **P 15 19 13.9 +0.4**
comp=Z,116nm,1.3s,mb5.5
SMCO *e*pP pP 15 19 44.6 +0.7
IBBN Ibbenburen 77.47 333 *e*P **P 15 19 13.3 -0.2**
comp=Z,104nm,0.8s,mb5.6
WUAZ Wupatki 77.47 53 *e*P **P 15 19 14.7 +0.9**
comp=Z,129nm,1.3s,mb5.5
WUAZ *e*pP pP 15 19 45.5 +1.2
WUAZ Wupatki 77.47 53 ⇑P **P 15 19 14.2 +0.4**
baz=77,SNR=9.4
MOX Moxa 77.50 330 *e*P **P 15 19 13.9 +0.2**
comp=Z,81nm,1.3s,mb5.3
MOX
comp=Z,100nm,18.0s
MOX Moxa 77.50 330 *e*P **P 15 19 13.9 +0.2**
MOX pmax pmax
comp=Z,81nm,1.3s,mb5.3
MOX MLR MLR
comp=Z,100nm,18.0s
MOX Moxa 77.50 330 *e*P **P 15 19 13.2 -0.5**
comp=Z,68nm,1.1s,mb5.3
Y14A Wickenburg 77.58 55 P **P 15 19 14.7 +0.3**
baz=77,SNR=38
X15A Humboldt 77.67 54 ⇑P **P 15 19 15.6 +0.7**
baz=77,SNR=58
MANZ Manzenberg 77.85 330 *e*P **P 15 19 15.7 +0.1**
comp=Z,40nm,1.1s,mb5.1
MUN Mundaring 77.90 202 *e*P **P 15 19 16.1 +0.2**
UBBA Unterbreizbach 77.94 331 *e*P **P 15 19 15.4 -0.7**
comp=Z,56nm,1.4s,mb5.1
SOP Sopron 77.94 326 ⇑*e*P **P 15 19 17.1 +0.9**
MVCO Mesa Verde 77.96 50 *e*P **P 15 19 16.7 +0.2**
comp=Z,136nm,1.4s,mb5.5
MVCO Mesa Verde 77.96 50 P **P 15 19 16.9 +0.4**
baz=78,SNR=15
Y15A Casa Rosa Ranc 77.97 55 ⇊P **P 15 19 17.0 +0.3**
baz=78,SNR=68
KHC Kasperske Hory 77.99 328 *e*P **P 15 19 16.6 +0.2**
KHC *e*pP pP 15 19 46.8 0.0
KHC *e*S S 15 28 58.0 -1.8
KHC AMS AMS 15 59 00.0
comp=Z,500nm,12.2s
EKA Eskdalemuir Ar 77.99 340 P **P 15 19 16.1 -0.2**
comp=Z,15nm,0.7s,mb4.8,baz=22,slow=4.7,SNR=26
ROTZ Rotzenmuhle 78.00 329 *e*P **P 15 19 16.0 -0.4**
comp=Z,66nm,1.2s,mb5.2
Z14A Wintersburg 78.01 56 P **P 15 19 17.1 +0.2**
baz=78,SNR=7.9
ESK Eskdalemuir 78.02 340 P **P 15 19 16.6 +0.1**
comp=Z,153nm,0.7s,mb5.8,SNR=6.8
ESK Eskdalemuir 78.02 340 *e*P **P 15 19 15.7 -0.7**
comp=Z,29nm,1.0s,mb5.0
ESK Eskdalemuir 78.02 340 *e*P **P 15 19 15.7 -0.8**
ESK pmax pmax
comp=Z,29nm,1.0s,mb5.0
CONA Conrad Observa 78.03 326 *i* P **P 15 19 17.4 +0.7**
comp=Z,184nm,1.4s,mb5.6,SNR=28
WTSB Winterswijk 78.08 333 *e*P **P 15 19 16.4 -0.5**
comp=Z,76nm,0.9s,mb5.4
DIM Dimitrovgrad 78.11 317 *i* P **P 15 19 18.2 +1.0**
GEC2 GERESS Array S 78.17 328 *e*P **P 15 19 16.8 -0.6**
GEC2 pmax pmax
comp=Z,47nm,1.0s,mb5.2
GEC2 GERESS Array S 78.17 328 *e*P **P 15 19 16.8 -0.6**
comp=Z,47nm,1.0s,mb5.2
GERES GERESS Array B 78.17 328 P **P 15 19 17.3 -0.1**
GERES pP pP 15 19 46.9 -1.0
GERES LR LR 15 57 28.1
GERES GERESS Array B 78.17 328 P **P 15 19 17.3 -0.1**
GERES *PP pP 15 19 46.9 -0.9
GERES GERESS Array B 78.17 328 P **P 15 19 17.3 -0.1**
comp=Z,9.4nm,0.7s,mb4.6,baz=45,slow=4.0,SNR=44
GERES pP pP 15 19 46.9 -1.0
comp=Z,9.7nm,0.9s,baz=15,slow=5.5,SNR=3.1
GERES LR LR 15 57 28.1
comp=Z,186nm,18.7s,baz=53,slow=38
X16A Lo Mia Camp, P 78.19 54 ⇊P **P 15 19 18.4 +0.6**
baz=78,SNR=64
PKSM Moragy 78.20 324 ⇑P **P 15 19 17.1 -0.6**
PKSM Moragy 78.20 324 ⇑*i*P **P 15 19 17.1 -0.6**
WET Wettzell 78.25 329 *e*P **P 15 19 17.6 -0.2**
WET pmax pmax
comp=Z,103nm,1.1s,mb5.5
WET Wettzell 78.25 329 *e*P **P 15 19 17.6 -0.2**
comp=Z,103nm,1.1s,mb5.5
EYMN Ely 78.25 33 *e*P **P 15 19 16.8 -1.1**
comp=Z,36nm,0.9s,mb5.1
GRA1 Grafenberg Arr 78.42 330 *e*P **P 15 19 18.9 +0.1**
comp=Z,181nm,0.9s,mb5.8
GRA1 *e*pP pP 15 19 49.3 0.0
GRA1 *e*PP PP 15 22 07.7 -9.2
GRA1 *e*S S 15 29 01.6 -2.9
GRF Grafenberg Arr 78.42 330 *e*P **P 15 19 18.9 +0.1**
GRF *e**PP pP 15 19 49.3 0.0
GRF *e*S S 15 29 01.6 -2.9
GRF pmax pmax
comp=Z,181nm,0.9s,mb5.8
GRF Grafenberg Arr 78.42 330 *e*P **P 15 19 18.9 +0.1**
GRF *e**PP pP 15 19 49.3 0.0

GRF *e*S S 15 29 01.6 -2.9
GRF pmax pmax
comp=Z,181nm,0.9s,mb5.8
GRF Grafenberg Arr 78.42 330 *e*P **P 15 19 18.9 +0.1**
comp=Z,181nm,0.9s,mb5.8
GRF *e*pP pP 15 19 49.3 0.0
GRF *e*PP PP 15 22 07.7 -9.2
GRF *e*S S 15 29 01.6 -2.9
GRFO Grafenberg 78.43 330 *e*P **P 15 19 19.1 +0.2**
comp=Z,178nm,1.0s,mb5.8
GRFO Grafenberg 78.43 330 *e*P **P 15 19 19.1 +0.3**
GRFO pmax pmax
comp=Z,178nm,1.0s,mb5.8
PLD Plovdiv 78.48 318 *e*P **P 15 19 19.6 +0.3**
ISP Isparta 78.52 311 *e*P **P 15 19 17.7 -1.8**
ISP Isparta 78.52 311 *e*P **P 15 19 17.6 -1.9**
NWAO Narrogin (SRO) 78.52 201 *e*P **P 15 19 19.7 +0.4**
comp=Z,145nm,1.1s,mb5.7
NWAO Narrogin (SRO) 78.52 201 *e*P **P 15 19 19.7 +0.4**
NWAO pmax pmax
comp=Z,145nm,1.1s
NWAO Narrogin (SRO) 78.52 201 P **P 15 19 19.7 +0.4**
comp=Z,107nm,0.9s,mb5.7,baz=31,slow=5.2,SNR=11
Y16A Circle Bar Ran 78.54 54 P **P 15 19 20.3 +0.6**
baz=78,SNR=52
ALN Alexandroupoli 78.69 316 *e*P **P 15 19 18.9 -1.6**
ARSA Arzberg 78.71 326 *i* P **P 15 19 21.4 +0.9**
comp=Z,111nm,1.5s,mb5.5,SNR=23
MOA Molln 78.75 327⇑*i*P **P 15 19 20.8 +0.2**
comp=Z,141nm,2.2s,mb5.4,SNR=18
RZN Rozhen 78.78 317 *i* P **P 15 19 22.0 +1.1**
VTS Vitosha 78.85 319 *e*P **P 15 19 21.6 +0.3**
VTS Vitosha 78.85 319⇑*i*P **P 15 19 21.8 +0.5**
VTS Vitosha 78.85 319 *i* P **P 15 19 21.9 +0.6**
115A Sonoran Desert 78.90 56 P **P 15 19 22.1 +0.4**
baz=79,SNR=20
Z16A Peralta Trail, 78.94 55 P **P 15 19 22.5 +0.5**
baz=79,SNR=7.3
DIVS Divibare 79.23 321 *e*P **P 15 19 22.8 -0.5**
116A Eloy 79.31 56 P **P 15 19 24.4 +0.4**
baz=79,SNR=18
ECSD EROS,Sioux Fal 79.32 39 *e*P **P 15 19 22.8 -1.0**
comp=Z,75nm,1.0s,mb5.5
ECSD *e*pP pP 15 19 53.3 -1.0
GROS Grobnik 79.35 326 *e*P **P 15 19 23.7 -0.2**
MMB Musomiste 79.35 318 *i* P **P 15 19 24.3 +0.3**
PERS Pernice 79.37 326 *i* P **P 15 19 24.0 0.0**
PERS *i* 15 19 29.7
HGN Heimansgroeve 79.39 333 *e*P **P 15 19 23.5 -0.5**
comp=Z,70nm,0.9s,mb5.5
HGN Heimansgroeve 79.39 333 *e*S S 15 29 12.1 -2.5
BEBN Eben Emael 79.44 333 P **P 15 19 24.1 -0.3**
comp=Z,53nm,1.0s,mb5.3
KKB Krupnik 79.46 318 *i* P **P 15 19 25.5 +0.9**
MEM Membach 79.49 333 P **P 15 19 24.1 -0.5**
comp=Z,60nm,1.1s,mb5.3
ZAVS Zavodnje 79.57 326 *e*P **P 15 19 24.6 -0.5**
FUR Furstenfeldbru 79.66 329 *e*P **P 15 19 26.0 +0.4**
FUR pmax pmax
comp=Z,214nm,1.1s,mb5.9
FUR Furstenfeldbru 79.66 329 *e*P **P 15 19 26.0 +0.4**
comp=Z,214nm,1.1s,mb5.9
OBKA Obir 79.71 326⇑*i*P **P 15 19 25.9 0.0**
comp=Z,210nm,3.0s,SNR=25
KBA Koelnbreinsper 79.74 327⇓*i*P **P 15 19 26.3 +0.3**
comp=Z,197nm,1.2s,mb5.8,SNR=70
KBA Koelnbreinsper 79.74 327⇓*i*P **P 15 19 26.3 +0.3**
KBA pmax pmax
comp=Z,197nm,1.3s,mb5.8
216A Three Points, 79.85 56 P **P 15 19 27.2 +0.3**
baz=80,SNR=24
UCC Uccle 79.87 334 P **P 15 19 26.1 -0.6**
SCHQ Schefferville 79.87 16 P **P 15 19 26.0 -0.6**
comp=Z,14nm,0.8s,mb4.8,baz=334,slow=5.1,SNR=14
SCHQ pP pP 15 19 55.6 -1.5
comp=Z,61nm,1.1s,baz=359,slow=6.8,SNR=8.3
SCHQ LR LR 15 58 04.0
comp=Z,144nm,18.5s,baz=152,slow=38
BCLA Clavier 79.89 333 P **P 15 19 26.7 -0.1**
comp=Z,49nm,1.5s,mb5.1
LOS Limnos 79.90 316 *e*P **P 15 19 25.7 -1.4**
STU Stuttgart 79.93 330 *e*P **P 15 19 27.0 0.0**
comp=Z,139nm,1.1s,mb5.7
Z18A Geronimo 79.96 54 ⇑P **P 15 19 27.5 +0.1**
baz=80
MYKA Terra Mystica 79.98 327⇑*i*P **P 15 19 27.0 -0.4**
comp=Z,233nm,1.4s,mb5.8
STIP Stip 80.03 319 *e*P **P 15 19 27.8 +0.1**
TUC Tucson 80.05 55 *e*P **P 15 19 27.7 -0.2**
comp=Z,46nm,1.2s,mb5.2
TUC *e*pP pP 15 19 59.4 +0.9
TUC Tucson 80.05 55 *e*P **P 15 19 27.7 -0.3**
TUC *e**PP pP 15 19 59.4 +0.9
TUC pmax pmax
comp=Z,46nm,1.2s,mb5.2
KNT Kendrikon 80.08 318 *e*P **P 15 19 28.3 +0.3**
LJU Ljubljana 80.09 326 *e*P **P 15 19 27.3 -0.6**
LJU *e*S S 15 29 18.1 -4.1
LJU Ljubljana 80.09 326 *e*P **P 15 19 27.2 -0.7**
LJU *i* 15 19 32.9
LJU *e*PP PP 15 22 15.7 -15
LJU *e*S S 15 29 18.1 -4.1
LJU *e* 15 31 59.2
PLE Pljevlja 80.10 321⇑*i*P **P 15 19 28.7 +0.7**
VAY Valandovo 80.12 318 *e*P **P 15 19 27.9 -0.4**
VAY Valandovo 80.12 318 *e*P **P 15 19 27.6 -0.6**
SNF Seneffe 80.14 334 P **P 15 19 28.0 -0.1**
comp=Z,44nm,1.3s,mb5.1
SKO Skopje 80.18 319 *e*P **P 15 19 29.5 +1.0**
SKO Skopje 80.18 319 *e*P **P 15 19 29.5 +1.0**
BOJS Bojanci 80.22 325 *i* P **P 15 19 28.2 -0.4**
BOJS *e*S S 15 29 22.4 -1.2
IVA Berane 80.22 321⇑*i*P **P 15 19 29.1 +0.4**
WATA Walderalm 80.23 328⇑*i*P **P 15 19 28.8 +0.2**
comp=Z,85nm,1.1s,mb5.5,SNR=10
WATA Walderalm 80.23 328⇑*i*P **P 15 19 28.8 +0.2**
WATA pmax pmax
comp=Z,85nm,1.1s,mb5.5
WLF Walferdange 80.25 333 P **P 15 19 28.9 +0.2**
comp=Z,77nm,1.1s,mb5.4
WLF Walferdange 80.25 333 P **P 15 19 28.9 +0.2**
WLF pmax pmax
comp=Z,77nm,1.1s,mb5.5
WLF Walferdange 80.25 333 P **P 15 19 31.7 +3.0**
comp=Z,49nm,1.4s,mb5.1
LANF Langenberg 80.26 331 *e*P **P 15 19 28.6 -0.2**
WTTA Wattenberg 80.26 328⇑*i*P **P 15 19 29.1 +0.3**
comp=Z,245nm,2.1s,mb5.7,SNR=30
WTTA Wattenberg 80.26 328⇑*i*P **P 15 19 29.1 +0.3**
comp=Z,245nm,2.1s,mb5.7
WTTA Wattenberg 80.26 328⇑*i*P **P 15 19 29.1 +0.3**
WTTA pmax pmax
comp=Z,245nm,2.1s,mb5.7
PTCC Patocco-Chiusa 80.28 327 P **P 15 19 27.8 -1.1**
comp=Z,26nm,0.7s,mb5.2
GIVF Givet 80.32 334⇑*i*P **P 15 19 28.1 -1.0**
comp=Z,122nm,1.1s,mb5.4
GIVF *e*pP pP 15 19 56.7 -2.9
GIVF Givet 80.32 334⇑*i*P **P 15 19 28.1 -1.0**
comp=Z,61nm,1.1s,mb5.3
GIVF *e*pP pP 15 19 56.7 -2.9
GIVF Givet 80.32 334⇑*i*P **P 15 19 28.1 -1.0**
GIVF *e**PP pP 15 19 56.7 -2.9
GIVF pmax pmax
comp=Z,61nm,1.1s,mb5.3
ABTA Abfaltersbach 80.34 327⇑*i*P **P 15 19 28.5 -0.7**
comp=Z,36nm,1.4s,mb5.0,SNR=13
VOY Vojsko 80.36 326 *e*P **P 15 19 27.8 -1.6**
VOY *e* 15 19 48.4
VOY *e* pP 15 20 00.8 +0.8
DOU Dourbes 80.40 334 P **P 15 19 29.2 -0.3**
comp=Z,32nm,1.3s,mb5.0
PVY Plav 80.40 321⇑*i*P **P 15 19 29.7 0.0**
MOTA Moosalm 80.40 329⇑*i*P **P 15 19 29.8 +0.2**
comp=Z,114nm,1.0s,mb5.7,SNR=50
MOTA Moosalm 80.40 329⇑*i*P **P 15 19 29.8 +0.2**
MOTA pmax pmax
comp=Z,114nm,1.0s,mb5.7
JAVS Javornik 80.40 326 *i* P **P 15 19 28.4 -1.2**
PLG Polygyros 80.40 317 *e*P **P 15 19 28.9 -0.9**
HORT Hortiatis 80.41 317 *e*P **P 15 19 29.1 -0.6**
RETA Reutte 80.41 329⇑*i*P **P 15 19 29.9 +0.3**
comp=Z,120nm,1.3s,mb5.5,SNR=41
UPM Unac-Piva 80.42 322⇑*i*P **P 15 19 29.6 -0.2**
GMNA Gemona 80.43 327 P **P 15 19 29.4 -0.4**

SQTA Sankt Quirin 80.46 328⇓*i*P **P 15 19 30.1 +0.2**
comp=Z,47nm,0.9s,mb5.3,SNR=25
SQTA Sankt Quirin 80.46 328⇓*i*P **P 15 19 30.1 +0.2**
SQTA pmax pmax
comp=Z,47nm,0.9s,mb5.3
GRG Griva 80.48 318 *e*P **P 15 19 29.9 -0.2**
BAIF Baives 80.56 334⇑*i*P **P 15 19 29.5 -0.8**
comp=Z,68nm,0.9s,mb5.2
BAIF Baives 80.56 334⇑*i*P **P 15 19 29.5 -0.8**
comp=Z,34nm,0.9s,mb5.2
BAIF Baives 80.56 334⇑*i*P **P 15 19 29.5 -0.8**
BAIF pmax pmax
comp=Z,34nm,0.9s,mb5.2
BFO Black Forest 80.62 331 P **P 15 19 30.3 -0.4**
comp=Z,316nm,1.0s,mb6.1,SNR=13
BFO Black Forest 80.62 331 *e*P **P 15 19 30.0 -0.7**
BFO pmax pmax
comp=Z,91nm,1.3s,mb5.5
BFO Black Forest 80.62 331 *e*P **P 15 19 30.0 -0.7**
comp=Z,91nm,1.3s,mb5.5
PAIG Paliouri 80.62 317 *e*P **P 15 19 30.1 -0.8**
DLF Lyons Farm 80.67 341 *e*P **P 15 19 31.2 +0.3**
DSB Dublin 80.68 341 *e*P **P 15 19 31.1 +0.2**
comp=Z,19nm,0.8s,mb5.0
NKY Niksic 80.68 321⇑*i*P **P 15 19 30.1 -1.1**
COWI Conover 80.70 33 *e*P **P 15 19 29.8 -1.4**
comp=Z,21nm,0.8s,mb5.0
COWI *e*pP pP 15 20 00.7 -1.0
ANMO Albuquerque 80.73 51 *e*P **P 15 19 31.2 -0.4**
comp=Z,65nm,1.2s,mb5.3
ANMO *e*pP pP 15 20 01.9 -0.2
ANMO Albuquerque 80.73 51⇑*e*P **P 15 19 30.1 -1.4**
LAZ Ladron 80.73 51 *e*P **P 15 19 32.1 +0.5**
LAZ *e*pP pP 15 20 02.9 +0.7
KRUS Krusevo 80.73 319 *e*P **P 15 19 32.1 +0.6**
MENF Mencas 80.77 335 *e*P **P 15 19 30.3 -1.2**
DCN Croghan 80.80 342 *e*P **P 15 19 32.0 +0.4**
FETA Feichten 80.81 329 *i* P **P 15 19 32.0 +0.2**
comp=Z,79nm,1.4s,mb5.4,SNR=24
BRY Bratogost 80.83 322⇑*i*P **P 15 19 31.1 -0.8**
TTG Podgorica 80.86 321⇑*i*P **P 15 19 31.8 -0.3**
PUK Puka 80.86 320 *i* PN **P 15 19 32.5 +0.4**
PHP Peshkopia 80.88 320 *i* PN **P 15 19 32.2 0.0**
DAVA Damuels 80.92 329⇑*i*P **P 15 19 32.4 +0.1**
comp=Z,98nm,1.3s,mb5.5,SNR=41
CDF Champ du Feu 80.92 331⇑*i*P **P 15 19 31.9 -0.4**
comp=Z,209nm,1.2s,mb5.5
CDF *e*pP pP 15 20 00.1 -2.8
CDF Champ du Feu 80.92 331⇑*i*P **P 15 19 31.9 -0.4**
comp=Z,105nm,1.2s,mb5.5
CDF *e*pP pP 15 20 00.1 -2.8
CDF Champ du Feu 80.92 331⇑*i*P **P 15 19 31.9 -0.4**
CDF *e**PP pP 15 20 00.1 -2.8
CDF pmax pmax
comp=Z,105nm,1.2s,mb5.5
LENM Lemitar 80.99 52 *e*P **P 15 19 33.5 +0.5**
LIENZ Kamor/St.Gall 81.06 329⇑*i*P **P 15 19 33.0 -0.1**
comp=Z,152nm,1.8s,mb5.5
TRULL Truellikon 81.06 330⇑*i*P **P 15 19 32.8 -0.3**
comp=Z,379nm,1.4s,mb6.0
LPM Los Pinos Moun 81.08 51 *e*P **P 15 19 33.5 0.0**
LPM *e*pP pP 15 20 05.0 +1.0
AOS Alonnisos 81.09 316 *e*P **P 15 19 33.3 0.0**
LIT Litokhoron 81.09 317 *e*P **P 15 19 32.5 -0.9**
FNA Florina 81.12 319 *e*P **P 15 19 32.9 -0.6**
BUM Brajici-Budva 81.13 321⇑*i*P **P 15 19 33.4 -0.1**
ECH Echery 81.13 331 *e*P **P 15 19 32.9 -0.5**
NVLJ Novalja 81.13 325 P **P 15 19 32.1 -1.5**
OHR Ohrid 81.15 319 *e*P **P 15 19 31.9 -1.7**
HCY Herceg Novi 81.20 321⇑*i*P **P 15 19 33.8 -0.1**
BNM Barren Site 81.20 51 *e*P **P 15 19 34.5 +0.4**
BNM *e*pP pP 15 20 05.5 +0.7
ULC Ulcinj 81.23 321⇑*i*P **P 15 19 33.7 -0.4**
STON Ston 81.23 322 P **P 15 19 31.1 -3.0**
CTI Castel Tesino 81.25 327 P **P 15 19 33.6 -0.5**
QSH Qafa e Shtames 81.26 320 *i* PN **P 15 19 34.0 -0.3**
XOR Xorichti 81.29 317 *e*P **P 15 19 33.1 -1.4**
PLONS Plons/SG 81.30 329⇑*i*P **P 15 19 34.2 -0.2**
PLONS Plons/SG 81.30 329⇑*i*P **P 15 19 34.1 -0.3**
comp=Z,248nm,1.6s,mb5.8
FUORN Ofenpass-Fuorn 81.32 329⇑*i*P **P 15 19 35.0 +0.5**
FUORN Ofenpass-Fuorn 81.32 329⇑*i*P **P 15 19 34.3 -0.2**
comp=Z,168nm,0.8s,mb5.9
ZUR Degenried 81.33 330⇑*i*P **P 15 19 34.1 -0.4**
ZUR Degenried 81.33 330⇑*i*P **P 15 19 34.2 -0.3**
comp=Z,98nm,1.0s,mb5.6
DAVOX Davos/Dischmat 81.34 329 P **P 15 19 34.7 +0.1**
comp=Z,29nm,1.0s,mb5.1,baz=307,slow=2.2,SNR=22
DAVOX pP pP 15 20 04.4 -0.8
comp=Z,11nm,0.7s,baz=65,slow=5.6,SNR=2.7
DAVOX PP PP 15 22 33.7 -7.4
comp=Z,20nm,1.0s,baz=308,slow=6.5,SNR=4.8
DAVOX Davos/Dischmat 81.34 329⇑*i*P **P 15 19 34.8 +0.2**
comp=Z,123nm,1.5s,mb5.5
SULZ Cheisacher 81.37 330⇑*i*P **P 15 19 34.3 -0.4**
SULZ Cheisacher 81.37 330⇑*i*P **P 15 19 35.0 +0.3**
comp=Z,337nm,1.5s,mb6.0
BRMO Bormio 81.40 328 P **P 15 19 35.1 +0.2**
comp=Z,54nm,0.9s,mb5.4
TIR Tirane 81.41 320 *e*P **P 15 19 35.0 -0.1**
TIR Tirane 81.41 320 *i* PN **P 15 19 34.8 -0.3**
MOF Molkenrain 81.45 331 *e*P **P 15 19 34.9 -0.2**
KBN Korca 81.53 319 *i* PN **P 15 19 35.4 -0.3**
CBKS Cedar Bluff 81.53 44 *e*P **P 15 19 34.2 -1.5**
comp=Z,157nm,1.4s,mb5.7
CBKS *e*pP pP 15 20 05.2 -1.1
CBKS Cedar Bluff 81.53 44 *e*P **P 15 19 34.2 -1.5**
CBKS *e**PP pP 15 20 05.3 -1.1
CBKS pmax pmax
comp=Z,157nm,1.4s,mb5.7
THEF They Montfort 81.53 332 *e*P **P 15 19 35.1 -0.5**
HINF Hinteralfeld 81.58 331⇑*i*P **P 15 19 34.9 -0.9**
comp=Z,76nm,0.9s,mb5.2
HINF Hinteralfeld 81.58 331⇑*i*P **P 15 19 34.9 -0.9**
comp=Z,38nm,0.9s,mb5.2
HINF Hinteralfeld 81.58 331⇑*i*P **P 15 19 34.9 -0.9**
HINF pmax pmax
comp=Z,38nm,0.9s,mb5.2
BERNI Berninapass 81.59 329⇑*i*P **P 15 19 36.2 +0.3**
BERNI Berninapass 81.59 329⇑*i*P **P 15 19 35.8 -0.1**
comp=Z,114nm,1.3s,mb5.5
HAU Haudompre 81.60 332⇑*i*P **P 15 19 35.0 -0.9**
comp=Z,58nm,0.9s,mb5.1
HAU *e*MLR MLR
comp=Z,350nm,21.0s
HAU Haudompre 81.60 332⇑*i*P **P 15 19 35.0 -0.9**
comp=Z,29nm,0.9s,mb5.1
HAU LR LR
comp=Z,350nm,21.0s
HAU Haudompre 81.60 332⇑*i*P **P 15 19 35.0 -0.9**
HAU pmax pmax
comp=Z,29nm,0.9s,mb5.1
HAU MLR MLR
comp=Z,350nm,21.0s
LLS Linth-Limmern 81.61 329⇑*i*P **P 15 19 35.8 -0.2**
LLS Linth-Limmern 81.61 329⇑*i*P **P 15 19 36.0 0.0**
comp=Z,50nm,0.8s,mb5.4
MEZF Maizieres J'vi 81.62 333⇑*i*P **P 15 19 35.8 -0.2**
MUO Muotathal 81.65 330⇑*i*P **P 15 19 36.0 -0.2**
comp=Z,165nm,1.1s,mb5.8
EIL Elat 81.66 303 P **P 15 19 36.9 +0.3**
comp=Z,61nm,1.2s,mb5.3,baz=34,slow=3.0,SNR=10
EIL pP pP 15 20 07.0 -0.2
comp=Z,47nm,1.0s,baz=341,slow=4.2,SNR=5.4
EIL PP PP 15 22 43.3 -1.0
comp=Z,29nm,1.2s,baz=30,slow=8.1,SNR=7.8
BALST Balsthal 81.69 330⇑*i*P **P 15 19 36.0 -0.4**
BALST Balsthal 81.69 330⇑*i*P **P 15 19 36.2 -0.2**
comp=Z,296nm,1.1s,mb6.0
MABI Malga Bissina 81.70 328 P **P 15 19 35.6 -0.9**
VDL Val di Lei 81.75 329⇑*i*P **P 15 19 36.8 +0.1**
comp=Z,69nm,1.0s,mb5.4
TUE Stuetta 81.80 329 P **P 15 19 37.0 0.0**
BOURR Bourrignon 81.81 331⇑*i*P **P 15 19 36.8 -0.2**
comp=Z,92nm,1.2s,mb5.5
BNALP Bannalp 81.81 330⇑*i*P **P 15 19 36.9 -0.1**
comp=Z,73nm,1.2s,mb5.4
LKR Lokris 81.93 316 *e*P **P 15 19 36.7 -1.1**
MEV Metsovon 81.95 318 *e*P **P 15 19 42.4 +4.4**
LOMF Lomont 81.99 331 *e*P **P 15 19 38.0 +0.1**
AGG Agios Georgios 81.99 317 *e*P **P 15 19 36.5 -1.6**
FUSIO Fusio 82.07 329⇑*i*P **P 15 19 38.4 0.0**
comp=Z,132nm,1.2s,mb5.6
MUGIO Muggio 82.37 329⇑*i*P **P 15 19 39.0 -1.0**
comp=Z,153nm,1.1s,mb5.8

SRN Sarande 82.48 319 *i* PN **P 15 19 38.9 -1.8**
LKBD Leukerbad 82.51 330⇑*i*P **P 15 19 40.4 -0.3**
comp=Z,110nm,1.0s,mb5.6
IGT Igoumenitsa 82.59 318 *e*P **P 15 19 40.8 -0.5**
SENIN Lac Senin/Sane 82.65 330⇑*i*P **P 15 19 41.4 0.0**
comp=Z,77nm,1.0s,mb5.5
MMK Mattmark 82.67 330⇑*i*P **P 15 19 41.7 +0.2**
comp=Z,53nm,0.9s,mb5.4
SELA Sela 82.78 317 *e*P **P 15 19 41.5 -0.8**
AIGLE Aigle 82.80 330⇑*i*P **P 15 19 41.7 -0.5**
comp=Z,64nm,1.3s,mb5.3
GRYON Gryon 82.82 330⇑*i*P **P 15 19 42.0 -0.3**
comp=Z,58nm,0.8s,mb5.5
DIX Grande Dixence 82.85 330⇑*i*P **P 15 19 42.6 +0.1**
comp=Z,139nm,2.0s,mb5.4
CABF La Chapelle 82.88 331⇑*i*P **P 15 19 42.1 -0.5**
comp=Z,32nm,0.9s,mb4.8
CABF La Chapelle 82.88 331⇑*i*P **P 15 19 42.1 -0.5**
comp=Z,16nm,0.9s,mb4.8
CABF La Chapelle 82.88 331⇑*i*P **P 15 19 42.1 -0.5**
CABF pmax pmax
comp=Z,16nm,0.9s,mb4.8
KSU1 Kansas State U 82.89 42 *e*P **P 15 19 41.6 -1.2**
comp=Z,35nm,0.7s,mb5.3
KSU1 *e*pP pP 15 20 12.2 -1.3
OG01 Vacheresse 82.91 331 *e*P **P 15 19 42.7 -0.1**
FGMS Monte Sant'Ang 82.94 322 P **P 15 19 42.8 -0.2**
comp=Z,120nm,0.9s,mb5.7
SALAN Lac Salanfe 82.96 330⇑*i*P **P 15 19 42.8 -0.2**
comp=Z,69nm,1.1s,mb5.4
SNTG Esanatoglia 83.01 325 P **P 15 19 43.4 0.0**
comp=Z,31nm,0.6s,mb5.3
LCI Lecce 83.03 320 P **P 15 19 44.2 +0.7**
comp=Z,102nm,1.2s,mb5.5
LCI Lecce 83.03 320 P **P 15 19 44.2 +0.7**
LCI pmax pmax
comp=Z,102nm,1.2s,mb5.5
EMV Vieux Emosson 83.06 330⇑*i*P **P 15 19 43.4 -0.1**
comp=Z,50nm,0.8s,mb5.4
LOR Lormes 83.09 333⇑*i*P **P 15 19 42.9 -0.8**
comp=Z,180nm,1.0s,mb5.5
LOR *e*pP pP 15 20 11.2 -3.2
LOR *e*MLR MLR
comp=Z,151nm,18.5s
LOR Lormes 83.09 333⇑*i*P **P 15 19 42.9 -0.8**
comp=Z,90nm,1.0s,mb5.5
LOR *e*pP pP 15 20 11.2 -3.2
LOR LR LR
comp=Z,150nm,18.5s
LOR Lormes 83.09 333⇑*i*P **P 15 19 42.9 -0.8**
LOR *e**PP pP 15 20 11.2 -3.2
LOR pmax pmax
comp=Z,90nm,1.0s,mb5.5
LOR MLR MLR
comp=Z,150nm,18.5s
FLN La Foliniere 83.16 336⇑*i*P **P 15 19 43.1 -0.9**
comp=Z,158nm,1.2s,mb5.4
FLN *e*MLR MLR
comp=Z,280nm,22.5s
FLN La Foliniere 83.16 336⇑*i*P **P 15 19 43.1 -0.9**
comp=Z,79nm,1.2s,mb5.4
FLN LR LR
comp=Z,280nm,22.5s
FLN La Foliniere 83.16 336⇑*i*P **P 15 19 43.1 -0.9**
FLN pmax pmax
comp=Z,79nm,1.2s,mb5.4
FLN MLR MLR
comp=Z,280nm,22.5s
RAR Rarotonga 83.17 127 P **P 15 19 43.6 -0.7**
comp=Z,25nm,0.9s,mb5.0,baz=131,slow=9.3,SNR=3.1
MURB Monte Urbino 83.18 325 P **P 15 19 45.6 +1.4**
BOB Bobbio (Coli) 83.18 328 P **P 15 19 44.0 -0.2**
LDF La Druitiere 83.20 336⇑*i*P **P 15 19 43.4 -0.8**
comp=Z,77nm,1.0s,mb5.2
LDF La Druitiere 83.20 336⇑*i*P **P 15 19 43.4 -0.8**
comp=Z,39nm,1.0s,mb5.2
LDF La Druitiere 83.20 336⇑*i*P **P 15 19 43.4 -0.8**
LDF pmax pmax
comp=Z,39nm,1.0s,mb5.2
LAST Lasithi 83.24 312 *e*P **P 15 19 44.8 +0.2**
BDI Bagni Di Lucca 83.31 327 P **P 15 19 45.9 +1.0**
VLC Villacollemand 83.32 327 *e*P **P 15 19 45.6 +0.6**
comp=Z,43nm,0.9s,mb5.3
SSF Saint Saulge 83.39 333⇑*i*P **P 15 19 44.6 -0.6**
comp=Z,55nm,0.8s,mb5.1
SSF Saint Saulge 83.39 333⇑*i*P **P 15 19 44.6 -0.6**
comp=Z,27nm,0.8s,mb5.1
SSF Saint Saulge 83.39 333⇑*i*P **P 15 19 44.6 -0.6**
SSF pmax pmax
comp=Z,27nm,0.8s,mb5.1
AMTX Amarillo 83.45 48 *e*P **P 15 19 45.5 -0.2**
comp=Z,69nm,1.0s,mb5.4
AMTX *e*pP pP 15 20 16.4 -0.1
AQU L'Aquila 83.55 324 *e*P **P 15 19 46.5 +0.4**
comp=Z,114nm,0.9s,mb5.7
AQU L'Aquila 83.55 324 *e*P **P 15 19 46.5 +0.4**
AQU pmax pmax
comp=Z,115nm,0.9s,mb5.7
AQU L'Aquila 83.55 324⇓*i*P **P 15 19 46.8 +0.7**
LPL La Plagne 83.58 330⇑*i*P **P 15 19 46.3 +0.1**
comp=Z,62nm,0.8s,mb5.2
LPL La Plagne 83.58 330⇑*i*P **P 15 19 46.3 +0.1**
comp=Z,31nm,0.8s,mb5.2
LPL La Plagne 83.58 330⇑*i*P **P 15 19 46.3 +0.1**
LPL pmax pmax
comp=Z,31nm,0.8s,mb5.2
LPG La Plagne 83.59 330⇑*i*P **P 15 19 46.3 0.0**
comp=Z,72nm,0.8s,mb5.3
LPG La Plagne 83.59 330⇑*i*P **P 15 19 46.3 0.0**
comp=Z,36nm,0.8s,mb5.2
LPG La Plagne 83.59 330⇑*i*P **P 15 19 46.3 0.0**
LPG pmax pmax
comp=Z,36nm,0.8s,mb5.2
OG05 Jujurieux 83.59 331 *e*P **P 15 19 46.1 -0.2**
GRR Gorron 83.61 336⇑*i*P **P 15 19 45.8 -0.5**
comp=Z,163nm,1.2s,mb5.4
GRR Gorron 83.61 336⇑*i*P **P 15 19 45.8 -0.5**
comp=Z,82nm,1.2s,mb5.4
GRR Gorron 83.61 336⇑*i*P **P 15 19 45.8 -0.5**
GRR pmax pmax
comp=Z,82nm,1.2s,mb5.4
SMF Signal de Mont 83.64 332⇑*i*P **P 15 19 45.9 -0.6**
comp=Z,203nm,1.0s,mb5.6
SMF Signal de Mont 83.64 332⇑*i*P **P 15 19 45.9 -0.6**
comp=Z,102nm,1.0s,mb5.6
SMF Signal de Mont 83.64 332⇑*i*P **P 15 19 45.9 -0.6**
SMF pmax pmax
comp=Z,102nm,1.0s,mb5.6
AVF Avril sur Loir 83.68 333⇑*i*P **P 15 19 46.2 -0.5**
comp=Z,251nm,1.1s,mb5.7
AVF Avril sur Loir 83.68 333⇑*i*P **P 15 19 46.2 -0.5**
comp=Z,125nm,1.1s,mb5.7
AVF Avril sur Loir 83.68 333⇑*i*P **P 15 19 46.2 -0.5**
AVF pmax pmax
comp=Z,125nm,1.1s,mb5.7
MNTX Cornudas Mount 83.70 52 *e*P **P 15 19 46.9 -0.2**
comp=Z,62nm,1.2s,mb5.3
MNTX *e*pP pP 15 20 18.7 +0.8
MIDA Miranda 83.75 323 P **P 15 19 47.2 0.0**
KARN Karanos 83.90 313 *e*P **P 15 19 47.4 -0.7**
PYL PYLOS 83.91 316 *e*P **P 15 19 46.2 -1.9**
BNI Bardonecchia 84.00 330 *e*P **P 15 19 48.0 -0.3**
comp=Z,28nm,0.9s,mb5.1
BNI Bardonecchia 84.00 330 *e*P **P 15 19 48.1 -0.3**
BNI pmax pmax
comp=Z,28nm,0.9s,mb5.1
BGF Bois d'Agland 84.05 333⇑*i*P **P 15 19 48.1 -0.5**
comp=Z,43nm,0.9s,mb5.0
BGF Bois d'Agland 84.05 333⇑*i*P **P 15 19 48.1 -0.5**
comp=Z,22nm,0.9s,mb5.0
BGF Bois d'Agland 84.05 333⇑*i*P **P 15 19 48.1 -0.5**
BGF pmax pmax
comp=Z,22nm,0.9s,mb5.0
CERT Cerreto 84.06 324 P **P 15 19 48.4 -0.3**
GDM Grand'Maison 84.08 330 *e*P **P 15 19 49.3 +0.6**
FIN Finale Ligure 84.13 328 P **P 15 19 48.2 -0.9**
RFI Roccamonfina 84.15 323 P **P 15 19 50.4 +1.2**
comp=Z,37nm,1.4s,mb5.0
GRN Grenoble 84.18 331 *e*P **P 15 19 49.6 +0.3**
GRN Grenoble 84.18 331 *e*P **P 15 19 49.9 +0.6**
SGMF Saint Gilles 84.23 337⇑*i*P **P 15 19 49.0 -0.5**
comp=Z,35nm,0.7s,mb5.0
SGMF Saint Gilles 84.23 337⇑*i*P **P 15 19 49.0 -0.5**
comp=Z,18nm,0.7s,mb5.0
SGMF Saint Gilles 84.23 337⇑*i*P **P 15 19 49.0 -0.5**
SGMF pmax pmax

comp=Z,18nm,0.7s,mb5.0
MBDF Montbardon 84.24 330⇑iP P 15 19 49.0 -0.6
comp=Z,42nm,0.8s,mb5.0
MBDF Montbardon 84.24 330⇑iP P 15 19 49.0 -0.6
comp=Z,21nm,0.8s,mb5.0
MBDF Montbardon 84.24 330⇑iP P 15 19 49.0 -0.6
MBDF pmax pmax
comp=Z,21nm,0.8s,mb5.0
PLDF La Plantade 84.30 332 eP P 15 19 50.0 +0.1
ROSF Rostrenen 84.36 337⇑iP P 15 19 48.9 -1.2
comp=Z,152nm,1.1s,mb5.5
ROSF Rostrenen 84.36 337⇑iP P 15 19 48.9 -1.2
comp=Z,76nm,1.1s,mb5.4
ROSF Rostrenen 84.36 337⇑iP P 15 19 48.9 -1.2
ROSF pmax pmax
comp=Z,76nm,1.1s,mb5.4
MGR Morigerati 84.38 322 P **P 15 19 49.2 -1.2**
TOLF Tolfa 84.39 325 P **P 15 19 49.5 -0.9**
AGO Saint Agoulin 84.40 333 eP P 15 19 50.8 +0.5
ORIF Oris-en-Rattie 84.41 330⇑iP P 15 19 50.4 0.0
comp=Z,56nm,0.9s,mb5.1
ORIF eMLR MLR
comp=Z,267nm,19.0s
ORIF Oris-en-Rattie 84.41 330⇑iP P 15 19 50.4 0.0
comp=Z,28nm,0.9s,mb5.1
ORIF Oris-en-Rattie 84.41 330⇑iP P 15 19 50.4 0.0
ORIF pmax pmax
comp=Z,28nm,0.9s,mb5.1
SURF Saint Ours 84.43 329 eP P 15 19 50.7 +0.1
TCF Toulx Ste Croi 84.50 333⇑iP P 15 19 50.7 -0.2
comp=Z,149nm,1.4s,mb5.3
TCF Toulx Ste Croi 84.50 333⇑iP P 15 19 50.7 -0.2
comp=Z,75nm,1.4s,mb5.3
TCF Toulx Ste Croi 84.50 333⇑iP P 15 19 50.7 -0.2
TCF pmax pmax
comp=Z,75nm,1.4s,mb5.3
SAOF Saorge 84.57 329 eP P 15 19 50.3 -1.0
TIP Timpagrande 84.59 320 eP P 15 19 51.0 -0.5
comp=Z,20nm,0.9s,mb5.0
TOUF Mont Tournerai 84.67 329 eP P 15 19 51.3 -0.5
COLF Collangettes 84.67 332 eP P 15 19 51.4 -0.3
PYM Petit Puy Mans 84.70 332 eP P 15 19 51.5 -0.4
QUIF Quistinic 84.71 337⇑iP P 15 19 51.5 -0.4
comp=Z,81nm,1.1s,mb5.3
QUIF Quistinic 84.71 337⇑iP P 15 19 51.5 -0.4
comp=Z,41nm,1.1s,mb5.3
QUIF Quistinic 84.71 337⇑iP P 15 19 51.5 -0.4
QUIF pmax pmax
comp=Z,41nm,1.1s,mb5.3
SBF Sospel 84.72 329⇑iP P 15 19 51.1 -0.9
comp=Z,216nm,1.1s,mb5.7
SBF Sospel 84.72 329⇑iP P 15 19 51.1 -0.9
comp=Z,108nm,1.1s,mb5.7
SBF Sospel 84.72 329⇑iP P 15 19 51.1 -0.9
SBF pmax pmax
comp=Z,108nm,1.1s,mb5.7
LUCF Luceram 84.73 329 eP P 15 19 51.3 -0.8
MVIF Mont Vial 84.80 329 eP P 15 19 51.7 -0.7
OG25 Le Caire 84.81 330 eP P 15 19 52.1 -0.3
VERF Verneugheol 84.88 333 eP P 15 19 52.5 -0.3
VIVF Saint-Julien-l 84.90 331⇑iP P 15 19 52.9 0.0
comp=Z,90nm,0.9s,mb5.4
VIVF Saint-Julien-l 84.90 331⇑iP P 15 19 52.9 0.0
comp=Z,45nm,0.9s,mb5.4
VIVF Saint-Julien-l 84.90 331⇑iP P 15 19 52.9 0.0
VIVF pmax pmax
comp=Z,45nm,0.9s,mb5.4
OG26 St.-Nazaire-De 84.91 330 eP P 15 19 53.1 +0.1
MFF Saint Martin d 84.98 335⇑iP P 15 19 53.1 -0.2
comp=Z,187nm,1.2s,mb5.6
MFF Saint Martin d 84.98 335⇑iP P 15 19 53.1 -0.2
comp=Z,94nm,1.3s,mb5.6
MFF Saint Martin d 84.98 335⇑iP P 15 19 53.1 -0.2
MFF pmax pmax
comp=Z,94nm,1.3s,mb5.6
CALN Calern 85.03 329 eP P 15 19 52.7 -0.9
LBL Lubilhac 85.07 332 eP P 15 19 53.9 +0.1
WMOK Wichita Mounta 85.12 46 eP P 15 19 53.1 -1.1
comp=Z,52nm,1.1s,mb5.4
WMOK epP pP 15 20 23.9 -1.2
WMOK Wichita Mounta 85.12 46 eP P 15 19 53.1 -1.1
WMOK e*PP pP 15 20 23.9 -1.2
WMOK pmax pmax
comp=Z,52nm,1.1s,mb5.4
HDIL Hopedale 85.15 37 eP P 15 19 53.6 -0.6
comp=Z,61nm,0.8s,mb5.6
HDIL epP pP 15 20 24.0 -1.2
PGF Pioggiola 85.22 327⇑iP P 15 19 53.7 -0.8
comp=Z,48nm,1.0s,mb5.1
PGF Pioggiola 85.22 327⇑iP P 15 19 53.7 -0.8
comp=Z,24nm,1.0s,mb5.1
PGF Pioggiola 85.22 327⇑iP P 15 19 53.7 -0.8
PGF pmax pmax
comp=Z,24nm,1.0s,mb5.1
FRF La Foret Royal 85.28 329⇑iP P 15 19 54.0 -0.8
comp=Z,121nm,1.2s,mb5.4
FRF La Foret Royal 85.28 329⇑iP P 15 19 54.0 -0.8
comp=Z,61nm,1.2s,mb5.4
FRF La Foret Royal 85.28 329⇑iP P 15 19 54.0 -0.8
FRF pmax pmax
comp=Z,61nm,1.2s,mb5.4
SMRF Simiane la Rot 85.33 330⇑iP P 15 19 54.8 -0.2
comp=Z,88nm,1.3s,mb5.2
SMRF Simiane la Rot 85.33 330⇑iP P 15 19 54.8 -0.2
comp=Z,88nm,1.3s,mb5.5
VILF Villemus 85.38 330 eP P 15 19 55.3 0.0
TAVF Tavernes 85.45 329 eP P 15 19 55.6 -0.1
LMR La Mourre 85.53 329⇑iP P 15 19 55.2 -0.9
comp=Z,135nm,0.9s,mb5.6
LMR epP pP 15 20 23.7 -3.3
LMR La Mourre 85.53 329⇑iP P 15 19 55.2 -0.9
comp=Z,67nm,0.9s,mb5.6
LMR epP pP 15 20 23.7 -3.3
LMR La Mourre 85.53 329⇑iP P 15 19 55.2 -0.9
LMR e*PP pP 15 20 23.7 -3.3
LMR pmax pmax
comp=Z,67nm,0.9s,mb5.6
RJF Les Rejaudoux 85.60 333⇑iP P 15 19 56.4 0.0
RJF eMLR MLR
comp=Z,218nm,22.2s
RJF Les Rejaudoux 85.60 333⇑iP P 15 19 56.4 0.0
RJF MLR MLR
comp=Z,220nm,22.3s
PRAF Pradon 85.62 330 eP P 15 19 56.2 -0.3
PUYF Puyloubier 85.66 330 eP P 15 19 56.8 +0.1
TREF Trevaresse 85.70 330 eP P 15 19 57.0 +0.1
CAF Calviac 85.75 333⇑iP P 15 19 57.6 +0.5
CAF epP pP 15 20 25.8 -2.2
SOI Samo 85.80 320 P **P 15 19 57.5 0.0**
comp=Z,39nm,0.5s,mb5.6
SOI Samo 85.80 320 P **P 15 19 57.5 0.0**
SOI pmax pmax
comp=Z,39nm,0.5s,mb5.6
BERF Bertagne 85.85 330 eP P 15 19 57.6 -0.1
LASF Ste Croix 85.86 331⇑iP P 15 19 57.8 +0.1
comp=Z,104nm,1.4s,mb5.3
LFF La Frestale 86.18 333⇑iP P 15 19 59.5 +0.3
comp=Z,159nm,1.0s,mb5.6
LFF La Frestale 86.18 333⇑iP P 15 19 59.5 +0.3
comp=Z,80nm,1.0s,mb5.6
LFF La Frestale 86.18 333⇑iP P 15 19 59.5 +0.3
LFF pmax pmax
comp=Z,80nm,1.0s,mb5.6
CCM Cathedral Cave 86.29 39 eP P 15 19 58.7 -1.2
comp=Z,56nm,0.8s,mb5.5
CCM epP pP 15 20 30.0 -0.9
CCM Cathedral Cave 86.29 39 eP P 15 19 58.7 -1.2
CCM e*PP pP 15 20 30.0 -0.9
CCM pmax pmax
comp=Z,56nm,0.8s,mb5.5
TXAR Lajitas Array 86.43 53 P **P 15 20 00.5 -0.3**
TXAR pP pP 15 20 31.0 -0.7
TXAR PKKPbc PKKPbc 15 37 57.3 +2.4
TXAR Lajitas Array 86.43 53 P **P 15 20 00.5 -0.3**
TXAR *PP pP 15 20 31.0 -0.7
TXAR Lajitas Array 86.43 53 P **P 15 20 00.5 -0.3**
comp=Z,20nm,0.8s,mb5.1,baz=294,slow=3.7,SNR=189
TXAR pP pP 15 20 31.0 -0.8
comp=Z,25nm,1.0s,baz=298,slow=2.8,SNR=5.1
TXAR PKKPbc PKKPbc 15 37 57.3 +2.4
comp=Z,0.9nm,0.8s,baz=154,slow=5.0,SNR=7.5
URZ Urewera 86.64 153 P **P 15 20 00.2 -1.1**
comp=Z,30nm,1.1s,mb5.1,baz=18,slow=3.0,SNR=4.9
FVM French Village 86.73 39 eP P 15 20 00.9 -1.2
comp=Z,112nm,1.5s,mb5.6
FVM French Village 86.73 39 eP P 15 20 00.9 -1.2
FVM pmax pmax
comp=Z,112nm,1.5s,mb5.6
MSNY Massena 86.79 25 eP P 15 20 01.2 -1.0
PPT Papeete 86.83 117 eLQ 15 43 48.9
comp=Z,1μm,33.8s
PPT eLR LR 15 47 30.1
comp=Z,666nm,24.0s,baz=309
PPT Papeete 86.83 117 LR LR 15 52 03.9
comp=Z,361nm,20.1s,baz=314,slow=31
DGI Dorgali Grotta 86.84 325 P **P 15 20 01.9 -0.7**
MTLF Montolieu 87.08 332⇑iP P 15 20 03.8 +0.1
comp=Z,74nm,1.1s,mb5.2
MTLF Montolieu 87.08 332⇑iP P 15 20 03.8 +0.1
comp=Z,37nm,1.1s,mb5.2
MTLF Montolieu 87.08 332⇑iP P 15 20 03.8 +0.1
MTLF pmax pmax
comp=Z,37nm,1.1s,mb5.2
TAOE Nuku Hiva Isla 87.19 105 eLR LR 15 47 41.1
comp=Z,8μm,32.0s
VSL Villasalto 87.62 325 eP P 15 20 05.0 -1.3
comp=Z,33nm,1.3s,mb5.2
EJON La Jonquera 87.63 331 P **P 15 20 06.8 +0.5**
comp=Z,18nm,0.9s,mb5.1
FILF Fillols 87.65 331 eP P 15 20 06.1 -0.3
CARF Carcanieres 87.67 332 eP P 15 20 06.2 -0.3
JCT Junction City 87.80 50 eP P 15 20 06.5 -0.8
comp=Z,95nm,1.3s,mb5.7
JCT Junction City 87.80 50 eP P 15 20 06.6 -0.7
JCT pmax pmax
comp=Z,95nm,1.3s,mb5.7
MLS Moulis 87.81 332 eP P 15 20 07.5 +0.3
MIAR Mount Ida 87.97 43 eP P 15 20 07.4 -0.6
comp=Z,53nm,0.9s,mb5.6
MIAR epP pP 15 20 37.9 -1.2
MIAR Mount Ida 87.97 43 eP P 15 20 07.4 -0.7
MIAR e*PP pP 15 20 37.9 -1.2
MIAR pmax pmax
comp=Z,53nm,0.9s,mb5.6
USIN University of 88.00 37 P **P 15 20 07.2 -0.9**
EPF Esparros 88.00 333⇑iP P 15 20 07.8 -0.3
comp=Z,64nm,1.0s,mb5.3
EPF Esparros 88.00 333⇑iP P 15 20 07.8 -0.3
comp=Z,32nm,1.0s,mb5.3
EPF Esparros 88.00 333⇑iP P 15 20 07.8 -0.3
EPF pmax pmax
comp=Z,32nm,1.0s,mb5.3
ACSO Alum Creek Sta 88.07 33 eP P 15 20 08.1 -0.4
comp=Z,50nm,0.8s,mb5.6
PARMO Parma 88.11 39 eP P 15 20 08.6 -0.1
RESF Ens 88.20 333 eP P 15 20 10.0 +1.0
EBIE Bielsa 88.37 333 P **P 15 20 09.7 -0.1**
comp=Z,63nm,1.4s,mb5.5
WCI Wyandotte Cave 88.38 36 eP P 15 20 09.4 -0.6
comp=Z,20nm,0.7s,mb5.2
WCI Wyandotte Cave 88.38 36 eP P 15 20 09.4 -0.5
WCI pmax pmax
comp=Z,20nm,0.7s,mb5.3
ETSF Etsaut 88.42 333⇑iP P 15 20 09.6 -0.4
comp=Z,82nm,1.0s,mb5.4
ETSF Etsaut 88.42 333⇑iP P 15 20 09.6 -0.4
comp=Z,41nm,1.0s,mb5.4
ETSF Etsaut 88.42 333⇑iP P 15 20 09.6 -0.4
ETSF pmax pmax
comp=Z,41nm,1.0s,mb5.4
LARF Larrau 88.44 334 eP P 15 20 11.0 +0.9
EALK Alkurruntz 88.44 334 P **P 15 20 08.3 -1.8**
comp=Z,9.8nm,0.8s,mb4.9
SJPF Ste Jean 88.44 334⇑iP P 15 20 09.8 -0.3
comp=Z,42nm,1.0s,mb5.1
SJPF Ste Jean 88.44 334⇑iP P 15 20 09.8 -0.3
comp=Z,21nm,1.0s,mb5.1
SJPF Ste Jean 88.44 334⇑iP P 15 20 09.8 -0.3
SJPF pmax pmax
comp=Z,21nm,1.0s,mb5.1
ELIZ Elizondo 88.50 334 P **P 15 20 11.5 +1.1**
comp=Z,15nm,0.9s,mb5.0
ELIZ Elizondo 88.50 334 P **P 15 20 11.5 +1.1**
ELIZ pmax pmax
comp=Z,15nm,0.9s,mb5.0
EMIR Miracle 88.58 332 P **P 15 20 11.8 +0.9**
comp=Z,22nm,1.7s,mb4.9
GLAT Glass 88.65 39 eP P 15 20 11.1 -0.1
ELAN Lanestosa 89.04 335 P **P 15 20 13.2 +0.2**
comp=Z,46nm,1.2s,mb5.4
EPOB Poblet 89.23 332 P **P 15 20 12.8 -1.0**
comp=Z,46nm,1.1s,mb5.4
ECRI Cripan 89.31 335 P **P 15 20 12.8 -1.4**
comp=Z,3.4nm,0.4s,mb4.7
ECRI Cripan 89.31 335 P **P 15 20 12.8 -1.4**
ECRI pmax pmax
comp=Z,3.0nm,0.4s,mb4.7
ESAC San Caprasio 89.44 333 P **P 15 20 14.4 -0.4**
comp=Z,192nm,1.6s,mb5.9
EARI Arriondas 89.50 337 P **P 15 20 15.3 +0.2**
comp=Z,82nm,1.7s,mb5.6
SSPA Standing Stone 89.65 29 eP P 15 20 15.6 -0.3
comp=Z,137nm,1.4s,mb5.9
ERTA Horta de San J 89.84 332 P **P 15 20 16.5 -0.2**
comp=Z,21nm,0.9s,mb5.3
RPZ Rata Peaks 89.84 159 P **P 15 20 17.5 +1.2**
comp=Z,14nm,0.8s,mb5.1,baz=342,slow=3.0,SNR=5.1
ETOS Mallorca 90.00 330 P **P 15 20 19.1 +1.6**
comp=Z,28nm,1.0s,mb5.3
EPON Pontenova 90.03 338 P **P 15 20 17.7 +0.1**
comp=Z,75nm,1.1s,mb5.7
PLAL Pickwick Lake 90.27 39 eP P 15 20 17.6 -1.3
comp=Z,35nm,1.4s,mb5.3
EMOS Mosqueruela 90.65 332 P **P 15 20 21.1 +0.5**
comp=Z,16nm,0.6s,mb5.3
ETOR Torete 90.78 333 P **P 15 20 20.2 -0.8**
comp=Z,5.8nm,0.6s,mb4.9
ETOR Torete 90.78 333 P **P 15 20 20.2 -0.9**
ETOR pmax pmax
comp=Z,6.0nm,0.6s,mb4.9
KEST Kesra 90.79 323 P **P 15 20 21.4 +0.1**
comp=Z,2.6nm,0.8s,baz=282,slow=2.6,SNR=7.5
KEST PP PP 15 23 52.9 -4.7
comp=Z,6.2nm,0.9s,baz=275,slow=1.5,SNR=5.7
KEST LR LR 16 06 00.6
comp=Z,89nm,19.0s,baz=321,slow=39
TZTN Tazewell 90.97 35 eP P 15 20 21.4 -0.7
comp=Z,99nm,1.7s,mb5.7
SWET Sewanee 91.05 37 eP P 15 20 21.5 -0.9
TBI Tubuai 91.08 121 eLQ 15 45 46.0
comp=Z,316nm,31.2s
TBI eLR LR 15 49 11.4
comp=Z,405nm,37.0s
PBRG Braganca 91.33 337 eP P 15 20 23.7 +0.1
comp=Z,31nm,1.5s,mb5.2
CPCT Cooper Cave 91.48 36 eP P 15 20 23.9 -0.5
ELN Prospectdale 91.54 33 eP P 15 20 24.0 -0.7
GUD Guadarrama 91.61 335 P **P 15 20 24.2 -0.7**
comp=Z,10nm,0.7s,mb5.2
GUD Guadarrama 91.61 335 P **P 15 20 24.2 -0.8**
GUD pmax pmax
comp=Z,10.0nm,0.7s,mb5.2
TKL Tuckaleechee C 91.63 36 PKKPbc PKKPbc 15 37 38.0 -4.4
comp=Z,3.4nm,0.4s,baz=154,slow=24,SNR=11
ELOB Lobios 91.64 338 P **P 15 20 22.4 -2.7**
comp=Z,8.8nm,0.8s,mb5.0
MVO Moncorvo 92.00 337 eP P 15 20 26.8 +0.1
comp=Z,41nm,1.4s,mb5.5
PVRL Vila Real 92.09 338 eP P 15 20 27.4 +0.2
comp=Z,44nm,1.5s,mb5.5
ESDC Sonseca Array 92.43 334 P **P 15 20 28.9 +0.2**
comp=Z,2.0nm,0.4s,mb4.7,baz=15,slow=4.5,SNR=17
ESDC pP pP 15 20 59.2 -0.7
comp=Z,2.8nm,0.8s,baz=30,slow=3.1,SNR=2.1
ESDC PP PP 15 24 00.7 -10
comp=Z,0.7nm,0.4s,baz=31,slow=7.8,SNR=4.4
ESDC LR LR 16 03 47.1
comp=Z,172nm,21.0s,baz=0.0,slow=36
ETOB Tobarra 92.56 332 P **P 15 20 29.3 -0.1**
comp=Z,12nm,0.7s,mb5.3
PVIS Viseu 92.66 337 eP P 15 20 30.0 +0.2
comp=Z,36nm,1.2s,mb5.6
PVIS Viseu 92.66 337 ePP PP 15 24 10.3 -1.7
PAB San Pablo 92.67 335 eP P 15 20 30.4 +0.6
comp=Z,8.7nm,0.9s,mb5.1
PAB San Pablo 92.67 335 P **P 15 20 30.6 +0.7**
PAB pmax pmax
comp=Z,9.0nm,0.9s,mb5.1
MTE Manteigas 92.85 337 eP P 15 20 30.8 +0.1
comp=Z,31nm,1.7s,mb5.4
MTE Manteigas 92.85 337 ePP PP 15 24 14.0 +0.5
MTE Manteigas 92.85 337 eP P 15 20 30.8 +0.1
comp=Z,18nm,0.9s,mb5.4
EVIA Vianos 92.89 333 P **P 15 20 31.2 +0.3**
comp=Z,15nm,0.7s,mb5.4
EVIA Vianos 92.89 333 P **P 15 20 31.2 +0.3**
EVIA pmax pmax
comp=Z,15nm,0.7s,mb5.4
EBAN Banos Encina 93.75 334 P **P 15 20 32.7 -2.1**
comp=Z,10nm,0.7s,mb5.3
EBAN Banos Encina 93.75 334 P **P 15 20 32.7 -2.1**
EBAN pmax pmax
comp=Z,10.0nm,0.7s,mb5.2
EQES Quesada 93.84 333 P **P 15 20 33.8 -1.4**
PESTR Estremoz 94.29 337 ePP PP 15 24 24.4 -0.3
ECAB El Cabril 94.35 335 P **P 15 20 35.2 -2.4**
comp=Z,20nm,1.0s,mb5.4
EVO Evora 94.72 337 eP P 15 20 37.5 -1.8
comp=Z,46nm,1.4s,mb5.4
EVO eMLR MLR
comp=Z,260nm,22.0s
PBEJ Beja 95.14 336 eP P 15 20 41.5 +0.2
PBEJ Beja 95.14 336 ePP PP 15 24 30.6 -0.8
RKT Rikitea 100.49 112 eLR LR 15 53 54.2
comp=Z,1μm,35.5s,baz=297
KMBO Kilima Mbogo 101.52 279 Pdif Pdif 15 21 11.5 +1.6
comp=Z,3.6nm,0.9s
KMBO Kilima Mbogo 101.52 279 P Pdif 15 21 11.5 +1.6
KMBO pmax pmax
comp=Z,4.0nm,0.9s
TORD Torodi Ar. Bea 113.57 317 Pdiff Pdif 15 22 03.6 +0.1
comp=Z,0.3nm,0.7s,baz=328,slow=5.1,SNR=3.0
TORD PP PP 15 26 40.9 -7.8
comp=Z,18nm,0.9s,baz=24,slow=6.4,SNR=9.4
TORD PKKPbc PKKPbc 15 36 37.5 -0.7
comp=Z,2.5nm,0.8s,baz=193,slow=1.4,SNR=11
TORD PKKPab PKKPab 15 36 47.8 -1.7
comp=Z,2.2nm,0.8s,baz=218,slow=3.8,SNR=7.3
VNDA Vanda 120.51 175 PKP PKPdf 15 26 06.9 -0.6
comp=Z,4.5nm,1.0s,baz=314,slow=5.0,SNR=14
SDV Santo Domingo 120.75 38 ePKPdf PKPdf 15 26 09.5 -0.4
SBA Scott Base 121.17 174 ePKPdf PKPdf 15 26 09.3 +0.6
DBIC Dimbokro 122.36 320 PKIKP PKPdf 15 26 12.3 -0.7
DBIC 15 26 44.2
DBIC Dimbokro 122.36 320 PKP PKPdf 15 26 12.3 -0.7
comp=Z,4.1nm,0.6s,baz=359,slow=4.5,SNR=11
DBIC pPKP pPKPdf 15 26 44.2 -1.4
comp=Z,14nm,1.0s,baz=51,slow=3.3,SNR=6.5
DBIC PP PP 15 27 38.0 -12
comp=Z,12nm,1.0s,baz=358,slow=9.7,SNR=4.5
DBIC PKKPbc PKKPbc 15 36 08.3 +1.5
comp=Z,5.7nm,1.3s,baz=167,slow=2.7,SNR=3.2
ROSC El Rosal 122.45 44 PKP PKPdf 15 26 13.1 -0.1
comp=Z,5.2nm,0.3s,baz=264,slow=23,SNR=5.2
LIC Lamto 122.83 320 ePKIKP PKPdf 15 26 12.7 -1.2
comp=Z,3.1nm,0.4s
LIC eMLR MLR
comp=Z,129nm,22.0s
LIC Lamto 122.83 320 ePKPdf PKPdf 15 26 12.7 -1.2
LIC LR LR
comp=Z,60nm,22.0s
MAW Mawson 124.71 207 eP PKPdf 15 26 16.3 +0.6
comp=Z,10nm,0.8s
MAW Mawson 124.71 207 PKIKP PKPdf 15 26 16.4 +0.7
MAW pmax pmax
comp=Z,13nm,0.8s
MAW Mawson 124.71 207 PKP PKPdf 15 26 16.4 +0.7
comp=Z,13nm,0.8s,baz=349,slow=1.4,SNR=12
BOSA Boshof 127.77 264 PKP PKPdf 15 26 22.6 -0.2
comp=Z,7.3nm,1.0s,baz=276,slow=16,SNR=2.4
SYO Syowa Base 133.32 209⇓eX PKPdf 15 26 30.6 -1.5
SYO Syowa Base 133.32 209⇑pPKiKP 15 27 09.0
NVL N'lazarevskaya 142.56 205c iPKIKP PKPdf 15 26 45.0 -4.0
NVL pmax pmax
comp=Z,34nm,1.2s
MAIT Maitri 142.59 205⇑iPKPdf PKPdf 15 26 43.5 -5.6
LPAZ La Paz 143.30 54 PKP PKPdf 15 26 49.7 -2.2
LPAZ La Paz 143.30 54 PKP PKPdf 15 26 49.7 -2.2
comp=Z,10nm,0.9s,baz=8.0,slow=5.2,SNR=14
VNA2 Neumayer--Watz 147.76 198 ePKPdf PKPdf 15 26 58.4 +0.5
baz=148,slow=1.6
VNA2 e 15 27 01.1
VNA2 e 15 27 03.2
VNA2 e 15 27 09.3
VNA2 e 15 27 33.7
VNA2 e 15 27 35.0
VNA2 e 15 27 43.2
VNA2 e 15 27 50.7
VNA2 e 15 30 20.3
VNA2 e 15 30 27.4
VNA2 e 15 30 30.3
VNA1 Neumayer--Stat 148.16 198 ePKPdf PKPdf 15 26 59.2 +0.6
VNA1 e 15 27 02.7
VNA1 e 15 27 04.4
VNA1 e 15 27 10.6
VNA1 e 15 27 35.6
VNA1 e 15 27 36.9
VNA1 e 15 27 44.5
VNA1 e 15 27 51.8
VNA1 e 15 30 32.1
LCO Las Campanas 150.48 73 ePKPdf PKPdf 15 27 03.8 +0.2
LCO ePKPbc PKPbc 15 27 09.1 +0.1
LCO ePKPab PKPab 15 27 16.2 +0.1
TLL Tololo Astrono 151.07 75⇓iP PKPbc 15 27 10.6 +0.2
BDFB Brasilia 151.79 21 PKP PKPdf 15 27 04.3 -1.7
comp=Z,3.2nm,0.7s,baz=291,slow=22,SNR=8.8
BDFB PKPbc PKPbc 15 27 12.5 +0.1
comp=Z,16nm,0.8s,baz=207,slow=2.2,SNR=31
FCH Farellones 153.12 81 iP PKPbc 15 27 15.1 +0.2
LMEL Las Melosas 153.43 81 eP PKPbc 15 27 15.3 -0.3
PLCA Paso Flores 155.77 97 PKP PKPdf 15 27 10.2 -0.7
comp=Z,1.9nm,0.8s,baz=276,slow=13,SNR=3.4
PLCA PKPab PKPab 15 27 38.6 +0.5
comp=Z,22nm,0.8s,baz=268,slow=4.1,SNR=20

IDC 18 15:16:22.5±4.0, 2046S×16803E, h34km±6km, mb3.8/3, mb1 4.0/3, mb1mx3.8/13, mbtmp3.8/3, MS4.3/4, Ms1 4.3/4, ms1mx3.4/31, Error ellipse: s-maj=141.4km s-min=29.8km az=145.0, Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**2.18**	**222**	*e*P	Pn	15 15 52.4	-64
DZM				*e*S	Sn	15 16 20.0	-62
RAR	**Rarotonga**	**30.08**	**97**	LR	LR	15 32 21.6	
	comp=Z,197nm,18.1s,baz=151,slow=32						
WRA	**Warramunga Arr**	**31.59**	**265**	P	P	15 22 41.9	-0.3
	1.1nm,1.1s,baz=91,slow=8.5,SNR=2.7						
WRA				pP	pP	15 22 52.1	+0.1
	1.5nm,0.9s,baz=90,slow=8.5,SNR=4.7						
ASAR	**Alice Springs**	**31.74**	**258**	P	P	15 22 43.1	-0.4
	2.5nm,0.8s,baz=89,slow=9.2,SNR=8.8						
ASAR				pP	pP	15 22 53.6	+0.4
	5.2nm,0.6s,baz=87,slow=8.4,SNR=14						
FITZ	**Fitzroy Crossi**	**40.00**	**266**	pP	pP	15 24 04.6	+0.4
	5.6nm,0.8s,baz=110,slow=6.6,SNR=6.0						
PMSA	**Palmer Station**	**86.16**	**160**	LR	LR	15 59 18.2	
	comp=Z,370nm,21.6s,slow=30						
SONM	**Songino Array**	**87.51**	**324**	P	P	15 29 07.2	+0.6
	1.0nm,0.8s,baz=139,slow=5.3,SNR=7.4						
SONM				pP	pP	15 29 18.0	+0.6
	0.5nm,0.8s,baz=131,slow=4.0,SNR=3.2						
USHA	**Ushuaia**	**90.94**	**151**	LR	LR	15 59 21.2	
	comp=Z,152nm,21.4s,slow=28						
LPIG	**La Paz**	**90.97**	**65**	LR	LR	15 59 19.3	
	comp=Z,241nm,20.4s,slow=28						
GERES	**GERESS Array B**	**145.00**	**330**	PKPbc	PKPbc	15 35 54.8	-0.6
	2.6nm,0.8s,baz=52,slow=2.4,SNR=14						
GERES				pPKPbc		15 36 05.5	
	1.8nm,0.6s,baz=42,slow=2.2,SNR=6.8						

*CSEM **18** 15:44:38.8, 3523N×2230E, h27km, MD3.5/7, After ATH*
*NEIC **18** 15:44:38.8, 3523N×2230E, h27km, MD3.5(ATH), After ATH.*

ATH 18 15:44:38.8, 3523N×2230E, h27km±4km, MD3.5/7, 1C-3D, Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KYTH	**Kithira**	**1.21**	**30**	*e*PN	Pn	15 45 01.5	+1.6
GVD	**Gavdhos**	**1.52**	**104**	*e*PN	Pn	15 45 06.1	+1.9
VAM	**Vamos**	**1.56**	**83**	⇓*i*PN	Pn	15 45 07.0	+2.2
VLI	**Veliai**	**1.57**	**19**	⇓*i*PN	Pn	15 45 07.3	+2.4
VLI				*e*SN	Sn	15 45 27.5	+3.1
ITM	**Ithomi**	**1.97**	**351**	⇓*i*PN	Pn	15 45 12.4	+2.0

IDI	**Anoyia**	**2.12**	**88**	P	Pn	15 45 15.1	+2.7
NPS	**Neapolis**	**2.71**	**88**	*e*PN	Pn	15 45 23.0	+2.4
ZKR	**Zakros**	**3.21**	**91**	P	Pn	15 45 31.3	+3.9
KARP	**Karpathos**	**3.98**	**84**	⇑*i*PN	Pn	15 45 39.8	+1.7
NEO	**Neokhori**	**4.13**	**10**	P	Pn	15 45 42.9	+2.8

IDC 18 15:48:24.3±71.0, 5585S×14253E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.5/10, mbtmp3.4/3, Error ellipse: s-maj=1252.0km s-min=241.6km az=149.0, West of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**23.97**	**358**	P	P	15 53 40.4	+0.2
	2.4nm,1.0s,baz=179,slow=10,SNR=2.9						
ASAR	**Alice Springs**	**32.77**	**345**	P	P	15 54 58.9	0.0
	0.4nm,0.8s,baz=169,slow=10,SNR=4.6						
WRA	**Warramunga Arr**	**36.37**	**347**	P	P	15 55 30.0	-0.1
	0.2nm,0.5s,baz=170,slow=8.2,SNR=5.6						

*IDC **18** 15:51:29.9±1.3, 371N×12678E, h0km, mb3.8/6, mb1 3.9/6, mb1mx3.8/16, mbtmp3.8/6, Error ellipse: s-maj=202.9km s-min=17.1km az=68.0*
*NEIC **18** 15:51:31.5±0.5, 380N×12689E, h10km, mb4.2/3, Error ellipse: s-maj=19.5km s-min=8.7km az=62.0*
*ISCJB **18** 15:51:32.8±0.8, 38N±01×1269E±02, h33km, mb3.9/8, Error ellipse: s-maj=26.8km s-min=11.6km az=152.4*

ISC 18 15:51:35.2±0.7, 38N±01×1268E±02, h35km, n11, σ0°41/11, mb3.9/8, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSM	**Kuching**	**16.66**	**263**	*e*P	**Pn**	**15 55 26.2**	**0.0**
WRAB	**Tennant Creek**	**24.67**	**163**	*e*P	**P**	**15 56 53.0**	**+0.2**
	4.2nm,0.8s,mb4.0						
WRA	**Warramunga Arr**	**24.67**	**163**	P	**P**	**15 56 52.3**	**-0.6**
	2.6nm,0.6s,mb3.9,baz=334,slow=11,SNR=23						
WB2	**Warramunga Arr**	**24.68**	**163**	*e*P	**P**	**15 56 53.4**	**+0.5**
ASAR	**Alice Springs**	**28.11**	**166**	P	**P**	**15 57 23.6**	**-0.3**
	0.2nm,0.4s,mb3.1,baz=342,slow=7.1,SNR=15						
ASAR				PcP	PcP	16 00 38.6	+0.8
	0.4nm,0.8s,baz=342,slow=2.2,SNR=4.5						
STKA	**Stephens Creek**	**38.11**	**159**	*e*P	**P**	**15 58 51.9**	**+1.0**
	1.6nm,0.8s,mb3.8						
STKA	**Stephens Creek**	**38.11**	**159**	P	**P**	**15 58 50.1**	**-0.7**
	1.9nm,0.8s,mb3.9,baz=338,slow=7.4,SNR=4.1						
SONM	**Songino Array**	**47.31**	**341**	P	**P**	**16 00 05.3**	**0.0**
	0.6nm,0.6s,mb3.7,baz=157,slow=7.2,SNR=5.5						
MKAR	**Makanchi Array**	**57.60**	**325**	P	**P**	**16 01 21.5**	**-0.1**
	0.8nm,0.5s,mb4.0,baz=123,slow=8.2,SNR=12						
ZALV	**Zalesovo Beam**	**60.62**	**333**	P	**P**	**16 01 42.8**	**+0.4**
	0.3nm,0.3s,mb3.9,baz=120,slow=8.5,SNR=2.3						
KURK	**Kurchatov**	**61.78**	**327**	*e*P	**P**	**16 01 49.9**	**-0.4**
	1.9nm,0.5s,mb4.5						

*IDC **18** 16:15:11.2±1.2, 086N×12099E, h0km, mb3.6/4, mb1 3.8/5, mb1mx3.6/16, mbtmp3.6/5, ML3.5/1, Error ellipse: s-maj=119.1km s-min=19.4km az=67.0*
*ISCJB **18** 16:15:15.6±4.1, 05N±04×1203E±07, h53km±46km, mb3.6/5, Error ellipse: s-maj=133.7km s-min=16.0km az=154.2*
*NEIC **18** 16:15:16.1±0.7, 070N×12070E, h35km, mb4.1/1, Error ellipse: s-maj=57.3km s-min=9.9km az=61.0*
NEIC Felt [IV] at Tolitoli.

ISC 18 16:15:16.5±3.9, 06N±04×1205E±08, h40km±46km, n7, σ1°16/7, mb3.6/5, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKM	**Kota Kinabalu**	**6.92**	**322**	*e*P	**Pn**	**16 16 55.8**	**+0.3**
FITZ	**Fitzroy Crossi**	**19.22**	**165**	P	**Pn**	**16 19 37.5**	**-1.1**
	0.1nm,0.3s,baz=25,slow=6.9,SNR=3.0						
WRAB	**Tennant Creek**	**24.48**	**147**	*e*P	**P**	**16 20 31.8**	**-0.3**
	5.8nm,1.0s,mb4.0						
WRA	**Warramunga Arr**	**24.49**	**147**	P	**P**	**16 20 32.2**	**+0.1**
	1.1nm,0.5s,mb3.6,baz=325,slow=11,SNR=23						
ASAR	**Alice Springs**	**27.38**	**152**	P	**P**	**16 20 60.0**	**+1.7**
	0.3nm,0.5s,mb3.1,baz=345,slow=15,SNR=13						
SONM	**Songino Array**	**48.66**	**347**	P	**P**	**16 23 55.7**	**-0.8**
	0.9nm,0.7s,mb3.9,baz=166,slow=8.2,SNR=9.4						
MKAR	**Makanchi Array**	**56.84**	**330**	P	**P**	**16 24 57.2**	**+0.2**
	0.2nm,0.5s,mb3.4,baz=131,slow=5.0,SNR=4.7						

*NEIC **18** 16:31:06.4, 38.11S×17639E, h160km, MG3.8(WEL), After WEL.*

WEL 18 16:31:06.9±0.3, 3808S×17636E, h152km±2km, ML3.7/19, Error ellipse: s-maj=3.1km s-min=2.7km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**0.61**	**107**	P	Pn	16 31 28.9	0.0
URZ	**Urewera**	**0.61**	**107**	PN	Pn	16 31 28.9	0.0
URZ				SN	Sn	16 31 45.8	0.0
MWZ	**Matawai**	**0.95**	**106**	P	Pn	16 31 31.7	+0.4
MWZ				S	Sn	16 31 50.5	+0.5
MWZ	**Matawai**	**0.95**	**106**	PN	Pn	16 31 31.7	+0.4
MWZ				SN	Sn	16 31 50.3	+0.3
BKZ	**Black Stump Fm**	**1.09**	**175**	P	Pn	16 31 32.7	+0.2
BKZ				S	Sn	16 31 52.0	-0.2
BKZ	**Black Stump Fm**	**1.09**	**175**	PN	Pn	16 31 32.7	+0.2
BKZ				*e*SN	Sn	16 31 51.7	-0.5
TWVZ	**Taurewa**	**1.23**	**216**	P	Pn	16 31 33.9	+0.1
TWVZ	**Taurewa**	**1.23**	**216**	PN	Pn	16 31 33.9	+0.2
WPVZ	**Whakapapa**	**1.30**	**209**	P	Pn	16 31 34.7	+0.3
WPVZ	**Whakapapa**	**1.30**	**209**	PN	Pn	16 31 34.7	+0.3
TUVZ	**Tukino**	**1.31**	**205**	P	Pn	16 31 34.9	+0.3
TUVZ				S	Sn	16 31 56.8	+0.9
TUVZ	**Tukino**	**1.31**	**205**	PN	Pn	16 31 34.9	+0.4
TUVZ				*e*SN	Sn	16 31 56.7	+0.8
FWVZ	**Far West T-bar**	**1.34**	**208**	P	Pn	16 31 34.8	0.0
FWVZ	**Far West T-bar**	**1.34**	**208**	PN	Pn	16 31 34.8	0.0
FWVZ				*e*SN	Sn	16 31 56.9	+0.6
WNVZ	**Wahianoa**	**1.39**	**205**	P	Pn	16 31 35.5	+0.2
WNVZ	**Wahianoa**	**1.39**	**205**	PN	Pn	16 31 35.5	+0.2
KNZ	**Kokohu**	**1.39**	**133**	PN	Pn	16 31 35.8	+0.5
MOVZ	**Moawhango**	**1.41**	**200**	P	Pn	16 31 35.2	-0.4
MOVZ	**Moawhango**	**1.41**	**200**	PN	Pn	16 31 35.2	-0.3
MTVZ	**Mangateitei**	**1.48**	**208**	PN	Pn	16 31 36.4	+0.1
PUZ	**Puketiti**	**1.49**	**90**	P	Pn	16 31 36.4	0.0
PUZ	**Puketiti**	**1.49**	**90**	PN	Pn	16 31 36.4	0.0
PUZ				SN	Sn	16 31 58.0	-1.1
MXZ	**Matakaoa Point**	**1.62**	**72**	P	Pn	16 31 37.8	0.0
MXZ	**Matakaoa Point**	**1.62**	**72**	PN	Pn	16 31 37.8	0.0
MXZ				*e*SN	Sn	16 32 01.2	-0.2
WPHZ	**Waipukurau**	**1.99**	**178**	PN	Pn	16 31 41.3	-0.6
PXZ	**Pawanui**	**1.99**	**169**	PN	Pn	16 31 41.6	-0.3
WAZ	**Wanganui**	**1.99**	**212**	P	Pn	16 31 41.4	-0.5
WAZ	**Wanganui**	**1.99**	**212**	PN	Pn	16 31 41.4	-0.5
TSZ	**Takapari Road**	**2.00**	**189**	P	Pn	16 31 41.3	-0.8
TSZ	**Takapari Road**	**2.00**	**189**	PN	Pn	16 31 41.3	-0.8
BFZ	**Birch Farm**	**2.60**	**182**	*e*P	Pn	16 31 47.9	-1.3
BFZ	**Birch Farm**	**2.60**	**182**	PN	Pn	16 31 47.9	-1.4
MRZ	**Mangatainoka R**	**2.65**	**193**	P	Pn	16 31 48.0	-1.8
MRZ	**Mangatainoka R**	**2.65**	**193**	PN	Pn	16 31 48.0	-1.8
MRZ				SN	Sn	16 32 19.8	-3.3
TIWZ	**Tintock**	**2.72**	**188**	PN	Pn	16 31 49.0	-1.7
KIW	**Kapiti Island**	**3.00**	**202**	P	Pn	16 31 51.8	-2.4
KIW	**Kapiti Island**	**3.00**	**202**	PN	Pn	16 31 51.8	-2.4
MTW	**Mount Morrison**	**3.15**	**192**	P	Pn	16 31 53.4	-2.7
MTW	**Mount Morrison**	**3.15**	**192**	PN	Pn	16 31 53.4	-2.7
CAW	**Cannon Point**	**3.19**	**198**	P	Pn	16 31 54.1	-2.5
CAW	**Cannon Point**	**3.19**	**198**	PN	Pn	16 31 54.1	-2.5
DUWZ	**D'Urville Isla**	**3.31**	**214**	PN	Pn	16 31 55.7	-2.5
TRWZ	**Traveller**	**3.36**	**189**	PN	Pn	16 31 56.3	-2.4
PAWZ	**Paruwai Farm**	**3.38**	**192**	P	Pn	16 31 56.2	-2.8
PAWZ	**Paruwai Farm**	**3.38**	**192**	PN	Pn	16 31 56.2	-2.8
MRW	**Makara Radio**	**3.40**	**202**	P	Pn	16 31 56.5	-2.8
MRW	**Makara Radio**	**3.40**	**202**	PN	Pn	16 31 56.5	-2.8
WEL	**Wellington**	**3.43**	**201**	P	Pn	16 31 57.0	-2.7
WEL	**Wellington**	**3.43**	**201**	PN	Pn	16 31 57.0	-2.7
MSWZ	**Moikau Station**	**3.44**	**194**	P	Pn	16 31 56.9	-2.9
MSWZ	**Moikau Station**	**3.44**	**194**	PN	Pn	16 31 56.9	-3.0
SNZO	**South Karori**	**3.47**	**201**	P	Pn	16 31 57.1	-3.1
SNZO	**South Karori**	**3.47**	**201**	PN	Pn	16 31 57.1	-3.1
TCW	**Tory Channel**	**3.52**	**207**	P	Pn	16 31 58.0	-2.9
TCW	**Tory Channel**	**3.52**	**207**	PN	Pn	16 31 58.0	-2.9
TUWZ	**Tuamarina**	**3.83**	**208**	PN	Pn	16 32 01.6	-3.3
NNZ	**Nelson**	**3.89**	**215**	*e*P	Pn	16 32 02.4	-3.3
NNZ				S	Sn	16 32 47.2	-4.2
NNZ	**Nelson**	**3.89**	**215**	PN	Pn	16 32 02.4	-3.2
NNZ				SN	Sn	16 32 47.2	-4.2
QRZ	**Quartz Range**	**4.04**	**226**	*e*P	Pn	16 32 03.6	-4.0
QRZ	**Quartz Range**	**4.04**	**226**	PN	Pn	16 32 03.6	-4.0
BSWZ	**Blackbirch Sta**	**4.11**	**207**	P	Pn	16 32 05.3	-3.1
BSWZ	**Blackbirch Sta**	**4.11**	**207**	*e*PN	Pn	16 32 05.1	-3.4
THZ	**Tophouse**	**4.54**	**215**	*e*P	Pn	16 32 10.2	-4.0
THZ	**Tophouse**	**4.54**	**215**	PN	Pn	16 32 10.2	-3.9
KHZ	**Kahutara**	**4.84**	**206**	PN	Pn	16 32 14.5	-3.6
LTZ	**Lake Taylor**	**5.64**	**212**	*e*P	Pn	16 32 23.9	-4.8
LTZ	**Lake Taylor**	**5.64**	**212**	PN	Pn	16 32 23.9	-4.8

*NEIC **18** 16:37:19.5, 1621N×9765W, h30km, MD3.5(MEX), After MEX.*

MEX 18 16:37:19.4±0.6, 1620N×9765W, h31km±14km, MD3.5, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.50**	**292**	*i*P	Pb	16 37 27.7	-2.1
PNIG				*i*S	Sb	16 37 35.7	-1.3
VHO	**Vista Hermosa**	**1.23**	**45**	*i*P	Pn	16 37 38.5	-2.0
VHO				*i*S	Sn	16 37 53.6	-2.4
OXX	**Oaxaca**	**1.24**	**45**	*e*P	Pn	16 37 38.5	-2.2
HUIG	**Huatulco**	**1.54**	**106**	*i*P	Pn	16 37 43.2	-1.6
HUIG				*i*S	Sn	16 38 01.1	-2.7
MEIG	**Mezcala**	**2.55**	**313**	*i*P	Pn	16 37 57.1	-1.5
MEIG				*i*S	Sn	16 38 26.6	-2.0
PPM	**Popocatepetl**	**3.00**	**342**	*i*P	Pn	16 38 03.3	-1.5

*IDC **18** 16:49:10.3±4.9, 1913S×16957E, h254km±35km, mb3.5/5, mb1 3.7/6, mb1mx3.5/14, mbtmp3.6/6, Error ellipse: s-maj=57.3km s-min=26.0km az=135.0*
*ISCJB **18** 16:49:11.5±5.2, 192S±02×1693E±03, h265km±46km, mb3.6/5, Error ellipse: s-maj=47.1km s-min=34.6km az=16.0*
*NEIC **18** 16:49:12.2±4.3, 1905S×16948E, h272km±36km, Error ellipse: s-maj=35.2km s-min=19.9km az=110.0*

ISC 18 16:49:12.6±5.3, 191S±02×1694E±03, h264km±48km, n15, σ0°52/9, mb3.6/5, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**13.26**	**315**	*e*Pn	**Pn**	**16 52 11.2**	**-0.1**
HNR	**Honiara**	**13.26**	**315**	P	**Pn**	**16 52 11.5**	**+0.2**
	4.8nm,0.3s,baz=175,slow=1.5,SNR=15						
STKA	**Stephens Creek**	**28.01**	**238**	P	**P**	**16 54 40.3**	**+0.8**
	2.1nm,1.0s,mb3.5,baz=14,slow=23,SNR=3.0						
WRAB	**Tennant Creek**	**32.98**	**263**	*e*P	**P**	**16 55 22.3**	**-0.9**
WRA	**Warramunga Arr**	**32.98**	**263**	P	**P**	**16 55 22.7**	**-0.6**
	0.3nm,0.3s,mb3.3,baz=82,slow=6.0,SNR=22						
ASAR	**Alice Springs**	**33.27**	**256**	P	**P**	**16 55 25.8**	**+0.1**
	3.9nm,0.5s,mb4.2,baz=81,slow=8.9,SNR=137						
ASAR				PcP	PcP	16 58 00.6	-0.8
	0.3nm,0.7s,baz=97,slow=1.6,SNR=4.1						
ASAR				ScP	ScP	17 01 20.9	+0.5
	0.5nm,1.1s,baz=106,slow=4.0,SNR=4.0						
FITZ	**Fitzroy Crossi**	**41.37**	**264**	P	**P**	**16 56 34.1**	**+0.6**
	2.2nm,0.7s,mb3.5,baz=90,slow=11,SNR=6.4						
QSPA	**South Pole Qui**	**70.94**	**180**	*e*P	**P**	**17 00 00.6**	**-0.3**
SONM	**Songino Array**	**87.19**	**323**	P	**P**	**17 01 29.1**	**+0.2**
	1.2nm,0.8s,mb3.8,baz=145,slow=5.6,SNR=8.5						
YKA	**Yellowknife Ar**	**100.50**	**27**	P	Pdif	17 02 28.9	-1.0
YKA	**Yellowknife Ar**	**100.50**	**27**	P	Pdif	17 02 28.9	-1.0
	0.2nm,0.4s,baz=251,slow=4.5,SNR=4.1						
MKAR	**Makanchi Array**	**101.73**	**316**	P	Pdif	17 02 33.9	-1.5
	0.2nm,0.7s,baz=179,slow=12,SNR=3.5						
ARCES	**ARCESS Array B**	**124.97**	**345**	PKP	PKPdf	17 07 38.2	-2.4
ARCES	**ARCESS Array B**	**124.97**	**345**	PKP	PKPdf	17 07 38.2	-2.4
	2.6nm,1.0s,baz=46,slow=3.5,SNR=4.6						
GERES	**GERESS Array B**	**144.44**	**332**	PKP	PKPdf	17 08 15.6	-1.7
	1.0nm,0.6s,baz=28,slow=6.0,SNR=7.9						

KRSC 18 16:55:18.2±0.1, 5553N×16287E, h10km±10km, ML3.8, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**0.68**	**358**	*i*P	Pg	16 55 31.7	+0.4
KBTR				*i*S	Sg	16 55 42.0	+1.8
MKZ	**Mys Kozlova**	**1.18**	**214**	*e*P	Pb	16 55 40.0	-0.6
MKZ				*e*S	Sb	16 55 56.2	+0.4
ZLN	**Zelenaya**	**1.27**	**294**	P	Pn	16 55 42.5	+0.6
KLY	**Klyuchi**	**1.48**	**303**	P	Pn	16 55 43.1	-1.7
SRKR	**Sorokina**	**1.48**	**320**	*e*P	Pn	16 55 45.0	+0.2
SRKR				*i*S	Sn	16 56 05.3	+1.2
KMNR	**Kamenistaya**	**1.51**	**280**	*i*P	Pn	16 55 46.4	+1.2
KMNR				*i*S	Sn	16 56 06.1	+1.2
KPT	**Kopyto**	**1.56**	**287**	P	Pn	16 55 46.5	+0.6
KPT				*i*S	Sn	16 56 06.3	+0.1
TUMR	**Tumrok**	**1.57**	**262**	*e*P	Pn	16 55 47.1	+1.0
TUMR				*e*S	Sn	16 56 08.6	+2.1
KOZ	**Kozyrevsk**	**1.77**	**289**	*i*P	Pn	16 55 50.1	+1.2
KOZ				*i*S	Sn	16 56 13.1	+1.7
SRDR	**Sredinnyy**	**1.94**	**295**	*e*P	Pn	16 55 52.5	+1.3
SRDR				*i*S	Sn	16 56 17.5	+1.9
SPN	**Mys Shipunski**	**2.95**	**216**	P	Pn	16 56 05.9	+0.8
NLC	**Nalytchevo**	**3.14**	**223**	P	Pn	16 56 09.2	+1.6
NLC				*i*S	Sn	16 56 46.4	+1.3
AVH	**Avacha**	**3.31**	**228**	P	Pn	16 56 12.3	+2.3
AVH				*i*S	Sn	16 56 51.4	+2.0
GNL	**Ganaly**	**3.41**	**239**	*e*P	Pn	16 56 13.1	+1.8
PET	**Petropavlovsk**	**3.52**	**226**	P	Pn	16 56 15.1	+2.2
PET				*i*S	Sn	16 56 57.1	+2.5
RUS	**Russkaya**	**4.03**	**221**	P	Pn	16 56 22.3	+2.4

IDC 18 16:59:24.6±6.7, 5642S×15012W, h0km, mb3.8/2, mb1 4.0/2, mb1mx3.8/12, mbtmp3.8/2, MS3.7/3, Ms1 3.7/3, ms1mx3.3/14, Error ellipse: s-maj=1040.0km s-min=117.6km az=173.0, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPZ	**Rata Peaks**	**27.57**	**281**	LR	LR	17 14 28.7	
	comp=Z,128nm,19.3s,baz=260,slow=33						
RAR	**Rarotonga**	**35.88**	**345**	LR	LR	17 17 49.8	
	comp=Z,129nm,19.1s,baz=109,slow=31						
PLCA	**Paso Flores**	**51.92**	**108**	LR	LR	17 25 09.4	
	comp=Z,65nm,18.4s,baz=3.4,slow=30						
ASAR	**Alice Springs**	**62.91**	**268**	P	P	17 09 52.7	+0.2
	1.3nm,1.0s,baz=144,slow=5.8,SNR=7.3						
WRA	**Warramunga Arr**	**65.64**	**270**	P	P	17 10 10.3	-0.1
	0.8nm,1.0s,baz=141,slow=6.4,SNR=3.6						
MKAR	**Makanchi Array**	**146.82**	**276**	PKPbc	PKPbc	17 19 07.0	-0.6
	0.4nm,0.8s,baz=103,slow=2.8,SNR=4.7						

*ISCJB **18** 17:09:21.9±0.3, 4076N±002×2407E±002, h5km±3km, Error ellipse: s-maj=3.0km s-min=2.6km az=40.7*
*NEIC **18** 17:09:22.1, 4076N×2407E, h22km, MD3.3(ATH), After ATH.*
*ATH **18** 17:09:22.1, 4076N×2407E, h22km±5km, MD3.3/5*
*SOF **18** 17:09:22.0, 4077N×2405E, h20km, MD2.7*
*CSEM **18** 17:09:22.6±0.1, 4078N×2409E, h10km, ML3.0, Error ellipse: s-maj=1.3km s-min=1.0km az=148.0*
*THE **18** 17:09:23.5, 4074N×2403E, h5km, ML3.0*
*SKO **18** 17:09:26.7, 4072N×2385E, h11km*

ISC 18 17:09:22.8±0.3, 4076N±002×2407E±002, h7km±3km, n50, σ0°95/80, 9C-4D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OUR	**Ouranopolis**	**0.43**	**189**	*e*Pg	**Pg**	**17 09 32.0**	**+0.9**
OUR				*e*Sg	**Sg**	**17 09 37.4**	**+0.7**
SOH	**Sokhos**	**0.55**	**277**	*e*Pg	**Pg**	**17 09 33.2**	**-0.2**
SOH				*e*Sg	**Sg**	**17 09 40.7**	**+0.2**
PLG	**Polygyros**	**0.61**	**231**	*e*Pg	**Pg**	**17 09 34.8**	**+0.3**
PLG				*e*Sg	**Sg**	**17 09 42.8**	**+0.3**
PLG	**Polygyros**	**0.61**	**231**	⇑*i*PN	**Pg**	**17 09 34.9**	**+0.3**
PLG				*e*SN	**Sg**	**17 09 43.0**	**+0.5**
NVR	**Nevrokopi**	**0.61**	**345**	⇑*i*PN	**Pg**	**17 09 34.3**	**-0.3**
NVR				*e*SN	**Sg**	**17 09 42.7**	**+0.1**
HORT	**Hortiatis**	**0.76**	**258**	*e*Pg	**Pg**	**17 09 37.1**	**-0.2**
HORT				*e*Sg	**Sg**	**17 09 48.1**	**+1.0**
THE	**Thessaloniki**	**0.85**	**262**	*e*Pg	**Pg**	**17 09 38.8**	**-0.3**
THE				*e*Sg	**Sg**	**17 09 50.9**	**+0.8**
MMB	**Musomiste**	**0.87**	**343**	Pg	**Pg**	**17 09 38.9**	**-0.6**
MMB	**Musomiste**	**0.87**	**343**	*i*P	**Pg**	**17 09 38.4**	**-1.1**
PAIG	**Paliouri**	**0.88**	**200**	*e*Pg	**Pg**	**17 09 39.8**	**+0.1**
PAIG				*e*Sg	**Sg**	**17 09 51.2**	**+0.1**
KNT	**Kendrikon**	**0.98**	**295**	*e*Pg	**Pg**	**17 09 40.9**	**-0.7**
KNT				*e*Sg	**Sg**	**17 09 54.1**	**-0.1**
RZN	**Rozhen**	**1.05**	**27**	Pg	**Pg**	**17 09 43.3**	**+0.4**
RZN	**Rozhen**	**1.05**	**27**	*i*P	**Pg**	**17 09 43.0**	**+0.1**
RZN				*i*Pg	**Pg**	**17 09 44.5**	**+1.6**
LOS	**Limnos**	**1.13**	**136**	*e*Pg	**Pg**	**17 09 44.0**	**-0.5**
LOS				*e*Sg	**Sg**	**17 10 00.2**	**+1.2**
RDO	**Rodhopi**	**1.18**	**70**	⇓*i*PN	**Pn**	**17 09 45.2**	**-0.5**
RDO				*e*SN	**Sn**	**17 10 01.5**	**-0.5**
LIA	**Limnos Island**	**1.21**	**135**	⇓*i*PN	**Pn**	**17 09 42.7**	**-3.4**
LIA				*e*SN	**Sn**	**17 10 01.6**	**-1.1**
VAY	**Valandovo**	**1.27**	**297**	*e*Pg	**Pg**	**17 09 47.6**	**+0.5**
VAY				*e*Sg	**Sg**	**17 10 04.2**	**+0.7**
VAY	**Valandovo**	**1.27**	**297**	*e*Pg	**Pg**	**17 09 47.8**	**+0.7**
VAY				*e*Sg	**Sg**	**17 10 03.8**	**+0.2**
VAY	**Valandovo**	**1.27**	**297**	*e*Pg	**Pg**	**17 09 47.7**	**+0.6**
VAY				*e*Sg	**Sg**	**17 10 03.7**	**+0.2**
GRG	**Griva**	**1.28**	**279**	*e*Pg	**Pg**	**17 09 46.5**	**-0.9**
GRG				*e*Sg	**Sg**	**17 10 04.6**	**+0.6**
KKB	**Krupnik**	**1.33**	**326**	Pg	**Pg**	**17 09 47.2**	**-1.2**
KKB	**Krupnik**	**1.33**	**326**	*i*P	**Pn**	**17 09 47.1**	**-0.8**
KDZ	**Kurdzhali**	**1.35**	**48**	Pg	**Pg**	**17 09 48.1**	**-0.6**
LIT	**Litokhoron**	**1.37**	**242**	*e*Pg	**Pg**	**17 09 48.3**	**-0.8**
LIT				*e*Sg	**Sg**	**17 10 06.8**	**-0.2**
PLD	**Plovdiv**	**1.43**	**19**	*e*Pg	**Pg**	**17 09 49.7**	**-0.4**
PLD				*e*Sg	**Sg**	**17 10 10.4**	**+1.7**
PLD	**Plovdiv**	**1.43**	**19**	*i*P	**Pn**	**17 09 51.2**	**+2.1**
PLD				*e*Sg	**Sg**	**17 10 10.4**	**+1.7**
ALN	**Alexandroupoli**	**1.50**	**84**	*e*Pg	**Pg**	**17 09 49.9**	**-1.8**
XOR	**Xorichti**	**1.54**	**206**	*e*Pg	**Pg**	**17 09 50.8**	**-1.6**
NEO	**Neokhori**	**1.59**	**204**	⇑*i*PN	**Pn**	**17 09 51.3**	**0.0**
NEO				*e*SN	**Sn**	**17 10 12.1**	**0.0**
DIM	**Dimitrovgrad**	**1.70**	**40**	Pg	**Pg**	**17 09 56.5**	**+1.2**
DIM	**Dimitrovgrad**	**1.70**	**40**	*i*P	**Pn**	**17 09 56.4**	**+3.6**
STIP	**Stip**	**1.70**	**304**	*e*Pb	**Pb**	**17 09 53.8**	**-0.6**
STIP				*e*Sb	**Sn**	**17 10 15.2**	**+0.3**
STIP	**Stip**	**1.70**	**304**	*e*Pn	**Pn**	**17 09 54.0**	**+1.1**
STIP				*e*Sn	**Sn**	**17 10 15.3**	**+0.3**
STIP	**Stip**	**1.70**	**304**	*e*Pn	**Pn**	**17 09 53.9**	**+1.0**
STIP				*e*Sn	**Sn**	**17 10 15.2**	**+0.3**
PGB	**Panagyurishte**	**1.79**	**2**	*i*P	**Pn**	**17 09 55.1**	**+0.9**
PGB				*i*Pg	**Pg**	**17 09 56.0**	**-1.2**
VTS	**Vitosha**	**1.94**	**341**	*e*Pb	**Pb**	**17 09 57.1**	**-1.4**
VTS				*e*Sb	**Sb**	**17 10 22.3**	**-0.7**
VTS	**Vitosha**	**1.94**	**341**	⇑*i*P	**Pn**	**17 09 57.2**	**+1.0**
VTS	**Vitosha**	**1.94**	**341**	*i*P	**Pn**	**17 09 57.0**	**+0.8**
FNA	**Florina**	**2.05**	**272**	*e*Pn	**Pn**	**17 09 57.6**	**0.0**
FNA				*e*Sn	**Sn**	**17 10 23.7**	**+0.3**
AGG	**Agios Georgios**	**2.19**	**218**	*e*Pn	**Pn**	**17 09 59.3**	**-0.3**
AGG				*e*Sn	**Sn**	**17 10 26.9**	**0.0**
KRUS	**Krusevo**	**2.22**	**287**	*e*Pn	**Pn**	**17 10 01.2**	**+1.2**
KRUS				*e*Sn	**Sn**	**17 10 26.7**	**-1.0**
KRUS	**Krusevo**	**2.22**	**287**	*e*Pn	**Pn**	**17 10 01.1**	**+1.1**
KRUS				*e*Sn	**Sn**	**17 10 26.7**	**-1.0**
JMB	**Yambol**	**2.54**	**47**	*e*Pn	**Pn**	**17 10 05.2**	**+0.7**
GZR	**Gura Zlata**	**4.73**	**349**	⇑*i*P	**Pn**	**17 10 33.9**	**-0.6**
HARR	**Harsova**	**4.85**	**35**	⇓*i*P	**Pg**	**17 10 47.7**	**-8.0**
MLR	**Muntele Rosu**	**4.93**	**16**	⇑*i*P	**Pn**	**17 10 39.7**	**+2.5**
MLR	**Muntele Rosu**	**4.93**	**16**	⇓*i*P	**Sg**	**17 12 05.3**	**+4.4**
BZS	**Buzias**	**5.18**	**341**

comp=Z,0.1nm,0.3s,baz=176,slow=14,SNR=12
KSRS LR LR 17 27 40.8
comp=Z,559nm,18.4s,baz=173,slow=39
MJAR Matsushiro Arr 13.20 36 Pn **Pn 17 23 32.5 +7.9**
comp=Z,0.2nm,0.3s,baz=220,slow=9.9,SNR=6.9
BJI Beijing 17.34 326 P **Pn 17 24 20.8 +1.8**
BJI XP sP 17 24 24.4 -4.9
BJI S **Sn 17 27 36.5 +5.2**
BJI AMB AMB
comp=Z,19nm,0.6s
BJI LR LR
comp=N,2μm,12.7s
BJI LR LR
comp=E,1μm,13.1s
BJI LR LR
comp=Z,672nm,14.3s
CN2 Changchun 17.82 352 *e*P **Pn 17 24 26.0 +1.1**
CN2 *e*XP sP 17 24 33.0 -1.6
CN2 *e*S **Sn 17 27 42.0 -0.9**
CN2 AMB AMB
comp=Z,10.0nm,1.4s
CN2 AMB AMB
comp=Z,200nm,3.0s
CN2 LR LR
comp=N,1μm,13.0s
CN2 LR LR
comp=E,800nm,13.0s
CN2 LR LR
comp=Z,1μm,13.0s
QIZ Qiongzhong 18.73 252 P **Pn 17 24 37.8 +1.5**
QIZ S **Sn 17 28 06.8 +1.5**
QIZ XS sS 17 28 11.3 -6.6
QIZ LR LR
comp=N,831nm,20.6s
QIZ LR LR
comp=Z,448nm,21.0s
XAN Xi'an 18.78 299 P **Pn 17 24 36.6 -0.1**
XAN AP pP 17 24 46.3 +4.0
XAN S **Sn 17 28 08.0 +1.8**
XAN AMB AMB
comp=Z,21nm,1.0s
XAN AMB AMB
comp=Z,171nm,8.5s
XAN LR LR
comp=N,541nm,12.2s
XAN LR LR
comp=E,573nm,12.6s
XAN LR LR
comp=Z,708nm,13.6s
GUMO Guam 19.69 126 LR LR 17 30 31.8
comp=Z,178nm,19.9s,baz=284,slow=31
GYA Guiyang 19.71 276 P **Pn 17 24 47.1 -0.9**
GYA AP pP 17 24 51.8 -0.8
GYA XP sP 17 24 54.6 -0.9
GYA PP 17 25 07.6
GYA S **Sn 17 28 25.3 -3.5**
GYA PCP PcP 17 29 07.3 +2.4
GYA AMB AMB
comp=Z,10.0nm,0.8s
GYA AMB AMB
comp=Z,80nm,4.9s
GYA LR LR
comp=N,450nm,15.8s
GYA LR LR
comp=E,380nm,16.6s
GYA LR LR
comp=Z,460nm,15.3s
HHC Hu-ho-hao-te 20.40 320 *e*P **P 17 24 55.0 +1.2**
HHC AP 17 24 59.6
HHC XP sP 17 25 02.1 -0.8
HHC PP 17 25 15.3
HHC S **S 17 28 46.4 +5.1**
HHC XS sS 17 28 47.4 -3.7
HHC SS 17 29 06.8
HHC PCS PcS 17 32 43.5 0.0
HHC AMB AMB
comp=Z,19nm,0.3s
HHC AMB AMB
comp=Z,159nm,4.8s
HHC LR LR
comp=N,1μm,11.4s,MS4.6
HHC LR LR
comp=E,968nm,12.1s,MS4.6
HHC LR LR
comp=Z,2μm,12.2s,MS4.6
BTO Baotou 21.16 318 *e*P **P 17 25 01.9 -0.1**
ASAJ Asahikawa 21.21 29 P **P 17 25 02.7 +0.1**
ASAJ pmax pmax
comp=Z,13nm,1.1s
ASAJ MLR MLR
comp=Z,248nm,20.5s
ASAJ Asahikawa 21.21 29 P **P 17 25 02.7 +0.1**
comp=Z,13nm,1.1s,mb4.2,baz=243,slow=16,SNR=5.5
ASAJ LR LR 17 33 31.1
comp=Z,248nm,20.5s,MS3.6,baz=232,slow=37
CD2 Chengdu 22.36 288 P **P 17 25 13.3 -1.7**
CD2 AP 17 25 17.8
CD2 XP sP 17 25 20.8 -3.3
CD2 S **S 17 29 13.3 -6.7**
CD2 SS 17 29 56.5
CD2 AMB AMB
comp=Z,20nm,0.8s,mb4.6
CD2 AMB AMB
comp=Z,40nm,4.4s
CD2 LR LR
comp=N,910nm,12.0s,MS4.8
CD2 LR LR
comp=E,2μm,13.2s,MS4.8
CD2 LR LR
comp=Z,2μm,12.6s,MS4.6
HABR Khabarovsk 22.86 11 *e*P **P 17 25 20.3 +0.2**
HABR *e* 17 25 27.8
HABR *e* 17 25 45.0
HABR *e* 17 29 07.8
HABR *e*S **S 17 29 28.3 -0.2**
HABR *e* 17 29 43.4
HABR *e* 17 30 02.2
KLR Kul'dur 23.19 5 *e*P **P 17 25 17.4 -6.2**
KMI Kunming 23.37 273 ⇑P **P 17 25 26.0 +0.3**
KMI AP 17 25 29.0
KMI PP 17 25 57.0
KMI S **S 17 29 35.1 -2.1**
KMI SS 17 30 20.9
KMI AMB AMB
comp=Z,15nm,1.1s,mb4.3
KMI AMB AMB
comp=Z,176nm,4.4s
KMI LR LR
comp=N,651nm,17.1s
KMI LR LR
comp=E,718nm,8.6s
KMI LR LR
comp=Z,591nm,10.5s
LZH Lanzhou 23.38 301 *e*P **P 17 25 22.5 -3.3**
LZH PCP PcP 17 29 09.4 -2.5
LZH *e*S **S 17 29 34.0 -3.3**
LZH XS sS 17 29 44.0 -4.1
LZH SS 17 30 17.0
LZH AMB AMB
comp=Z,13nm,1.0s,mb4.3
LZH AMB AMB
comp=Z,145nm,4.4s
LZH LR LR
comp=E,587nm,9.8s
LZH LR LR
comp=Z,653nm,11.6s,MS4.3
YSS Yuzh-Sakhalins 23.60 25 *e*P **P 17 25 26.1 -1.6**
comp=Z,81nm,1.3s,mb5.0
YSS Yuzh-Sakhalins 23.60 25 ⇓*i*P **P 17 25 28.5 +0.7**
YSS *e* 17 25 37.0
YSS pmax pmax
comp=Z,50nm,1.0s,mb4.9
GTA Gaotai 27.49 306 ⇑*i*P **P 17 26 02.1 -1.0**
GTA AP pP 17 26 10.8 +1.0
GTA XP sP 17 26 14.4 +1.9
GTA PP 17 26 50.4
GTA PCP PcP 17 29 20.8 -0.3
GTA S **S 17 30 41.1 -1.6**
GTA XS sS 17 30 53.0 -0.7
GTA SS 17 31 59.3
GTA AMB AMB
comp=Z,33nm,0.9s,mb4.9
GTA AMB AMB
comp=Z,106nm,5.3s
GTA LR LR
comp=N,488nm,12.9s,MS4.4
GTA LR LR
comp=E,538nm,13.3s,MS4.4
GTA LR LR
comp=Z,643nm,11.0s,MS4.5
ULN Ulaanbaatar 27.54 328 *e*P **P 17 26 00.9 -2.5**
comp=Z,20nm,0.8s,mb4.8
ULN *e* pP 17 26 05.4 -4.7
ULN *e* 17 26 13.2
ULN Ulaanbaatar 27.54 328 *e*P **P 17 26 01.0 -2.5**
ULN *e* 17 26 13.2
ULN pmax pmax
comp=Z,20nm,0.8s,mb4.8
SONM Songino Array 27.84 327 P **P 17 26 04.8 -1.4**
comp=Z,16nm,0.8s,mb4.7,baz=140,slow=10,SNR=30
SONM LR LR 17 38 25.4
comp=Z,175nm,18.8s,MS3.7,baz=273,slow=39
CHTO Chiang Mai 28.35 261 *e*P **P 17 26 11.3 +0.3**
comp=Z,3.9nm,0.6s,mb4.2
CHTO Chiang Mai 28.35 261 *e*P **P 17 26 11.3 +0.3**
CHTO pmax pmax
comp=Z,4.0nm,0.6s,mb4.2
TLY Talaya 31.78 330 *e*P **P 17 26 40.1 -0.9**
TLY *e* 17 27 54.0
TLY *e*SS SS 17 33 43.3 -23
TLY pmax pmax
comp=Z,3.0nm,1.0s,mb4.1
TLY MLR MLR
comp=Z,291nm,13.0s,MS4.1
SHL Shillong 33.02 277 *e*P **P 17 26 52.5 +0.3**
LSA Lhasa 33.23 285 P **P 17 26 54.6 +0.6**
LSA Lhasa 33.23 285 *e*P **P 17 26 53.9 -0.1**
comp=Z,2.3nm,0.6s,mb4.3
LSA Lhasa 33.23 285 *e*P **P 17 26 53.9 -0.1**
LSA pmax pmax
comp=Z,2.0nm,0.6s,mb4.2
YAK Yakutsk 35.90 1 *e*P **P 17 27 16.3 -0.3**
comp=Z,18nm,0.8s,mb5.0
YAK Yakutsk 35.90 1 *e*P **P 17 27 15.2 -1.4**
YAK pmax pmax
comp=Z,19nm,1.0s,mb5.0
YAK pmax pmax
comp=N,11nm,1.4s
YAK pmax pmax
comp=E,3.0nm,0.9s
YAK MLR MLR
comp=Z,117nm,15.0s,MS3.8
YAK MLR MLR
comp=N,114nm,16.0s,MS3.8
YAK MLR MLR
comp=E,61nm,14.0s,MS3.8
MA2 Magadan 36.78 19 *e*P **P 17 27 24.7 +0.4**
MA2 *e*S **S 17 33 06.6 -0.3**
MA2 pmax pmax
comp=Z,10.0nm,1.3s,mb4.5
MA2 MLR MLR
comp=Z,300nm,21.1s,MS4.0
WMQ Urumqi 37.47 309 ⇓*i*P **P 17 27 30.3 0.0**
WMQ AP pP 17 27 35.0 -2.0
WMQ XP sP 17 27 38.0 -1.7
WMQ PP PP 17 28 58.0 +2.2
WMQ *e*S **S 17 33 19.0 +1.4**
WMQ AMB AMB
comp=Z,118nm,1.1s,mb5.6
WMQ AMB AMB
comp=Z,184nm,5.1s
WMQ LR LR
comp=N,556nm,14.1s,MS4.8
WMQ LR LR
comp=E,841nm,10.0s,MS4.8
WMQ LR LR
comp=Z,670nm,15.3s
SEY Seymchan 40.01 17 *d i*P **P 17 27 52.3 +1.0**
MK31 Makanchi Array 41.88 312 *i* P **P 17 28 05.8 -1.1**
MK31 pmax pmax
comp=Z,7.0nm,0.7s,mb4.4
MKAR Makanchi Array 41.88 312 P **P 17 28 06.3 -0.6**
comp=Z,5.8nm,0.6s,mb4.4,baz=100,slow=10,SNR=89
MKAR PcP PcP 17 30 03.0 +0.6
comp=Z,2.0nm,0.8s,baz=92,slow=6.3,SNR=4.7
ZAA0 Zalesovo Array 42.55 323 *e*P **P 17 28 11.1 -1.2**
ZAA0 *e* pP 17 28 19.0 -0.1
ZALV Zalesovo Beam 42.55 323 P **P 17 28 11.1 -1.2**
comp=Z,4.4nm,0.8s,mb4.3,baz=112,slow=7.8,SNR=18
ZALV LR LR 17 47 25.2
comp=Z,109nm,18.3s,MS3.8,baz=116,slow=38
ZAL Zalesovo 42.55 323 P **P 17 28 11.1 -1.3**
NVS Novosibirsk 43.75 323 *e*P **P 17 28 17.4 -4.6**
NVS pmax pmax
comp=Z,19nm,2.4s,mb4.4
NVS pmax pmax
comp=N,11nm,2.2s
NVS pmax pmax
comp=E,21nm,2.2s
FITZ Fitzroy Crossi 44.06 184 *e*P **P 17 28 24.6 -0.3**
comp=E,7.6nm,0.9s,mb4.4
FITZ *e*pP pP 17 28 33.0 +1.3
KURK Kurchatov 45.14 317 *e*P **P 17 28 32.5 -0.7**
comp=E,13nm,1.1s,mb4.7
KURK Kurchatov 45.14 317 ⇑*i*P **P 17 28 33.0 -0.2**
TIXI Tiksi 45.55 0 *e*P **P 17 28 35.1 -1.0**
comp=E,7.3nm,0.8s,mb4.7
TIXI Tiksi 45.55 0 *c i*P **P 17 28 35.6 -0.6**
TIXI pmax pmax
comp=Z,20nm,1.5s,mb4.8
TKM2 Tokmak 2 46.03 305 *e*P **P 17 28 41.4 +1.0**
comp=Z,5.7nm,0.7s,mb4.6
TKM2 Tokmak 2 46.03 305 *e*P **P 17 28 41.4 +1.0**
TKM2 pmax pmax
comp=Z,6.0nm,0.7s,mb4.6
WRAB Tennant Creek 46.12 173 *e*P **P 17 28 40.5 -0.7**
comp=Z,10nm,0.9s,mb4.8
WRAB *e* 17 28 49.0
WRAB Tennant Creek 46.12 173 *e*P **P 17 28 40.6 -0.6**
WRAB *e* 17 28 49.0
WRAB pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
WRA Warramunga Arr 46.13 173 P **P 17 28 41.0 -0.3**
comp=Z,5.7nm,0.6s,mb4.7,baz=353,slow=8.4,SNR=79
WB2 Warramunga Arr 46.13 173 *e*P **P 17 28 41.0 -0.3**
WB2 *e*pP pP 17 28 49.2 +1.0
UCH Uchtor 46.80 304 *e*P **P 17 28 48.0 +1.5**
comp=Z,9.6nm,0.8s,mb4.8
AAK Ala-Archa 46.83 305 *e*P **P 17 28 46.8 +0.1**
AAK pmax pmax
comp=Z,6.0nm,2.0s,mb4.2
AML Almayashu 47.41 304 *e*P **P 17 28 52.5 +1.3**
comp=Z,2.9nm,0.7s,mb4.3
BILL Bilibino 47.65 18 *e*P **P 17 28 53.4 +0.7**
comp=Z,8.2nm,0.9s,mb4.8
BILL Bilibino 47.65 18 ⇑*e*P **P 17 28 53.0 +0.4**
BILL *e* 17 29 04.0
BILL pmax pmax
comp=Z,10.0nm,1.0s,mb4.8
BILL MLR MLR
comp=Z,100nm,16.0s,MS3.9
CTAO Charters Tower 49.02 158 *e*P **P 17 29 04.1 +0.3**
ASAR Alice Springs 49.77 174 P **P 17 29 09.6 +0.2**
comp=Z,2.3nm,0.5s,mb4.5,baz=4.2,slow=12,SNR=82
KK31 Karatay Array 49.77 305 *i* P **P 17 29 10.0 +0.7**
BRVK Borovoye 50.66 318 *e*P **P 17 29 15.8 -0.1**
comp=Z,24nm,1.2s,mb5.0
BRVK Borovoye 50.66 318 *e*P **P 17 29 15.8 -0.1**
BRVK pmax pmax
comp=Z,24nm,1.2s,mb5.0
ARU Arti 57.70 322 *e*P **P 17 30 06.3 -0.9**
comp=Z,6.5nm,0.9s,mb4.7
ARU Arti 57.70 322 *c i*P **P 17 30 06.1 -1.0**
ARU *e* 17 30 58.0
ARU *e*S **S 17 38 02.8 -1.6**
ARU *e*SS SS 17 41 51.9 -2.6
ARU pmax pmax
comp=Z,7.0nm,0.8s,mb4.7
ARU MLR MLR
comp=Z,343nm,16.0s,MS4.5
STKA Stephens Creek 58.99 167 *e*P **P 17 30 16.4 0.0**
comp=Z,3.1nm,2.0s,mb4.0
STKA Stephens Creek 58.99 167 P **P 17 30 16.1 -0.3**
comp=Z,2.1nm,0.8s,mb4.2,baz=279,slow=8.4,SNR=5.5
IMA2 Indian Mountai 61.43 27 *e*P **P 17 30 33.5 +0.8**
MCK McKinley 63.57 30 *e*P **P 17 30 47.7 +0.6**
comp=Z,9.2nm,1.1s,mb4.7
MCK McKinley 63.57 30 *e*P **P 17 30 47.7 +0.6**
MCK pmax pmax
comp=Z,9.0nm,1.1s,mb4.7
APA Apatity 68.10 336 ⇑*i*P **P 17 31 17.0 +0.8**
APA *i* 17 31 29.0
APA pmax pmax
comp=Z,14nm,0.8s,mb5.0
INK Inuvik 68.83 23 LR LR 18 05 56.6
comp=Z,79nm,18.4s,MS4.0,baz=311,slow=40
KIV Kislovodsk 69.59 310 *e*P **P 17 31 26.3 +0.4**
comp=Z,16nm,1.1s,mb4.9
KIV *e* 17 31 35.4
KIV Kislovodsk 69.59 310 *e*P **P 17 31 26.3 +0.4**
KIV pmax pmax
comp=Z,15nm,1.1s,mb4.8
KIV MLR MLR
comp=Z,69nm,19.0s,MS3.9
OBN Obninsk 70.13 322 *e*P **P 17 31 28.5 -0.5**
OBN pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
OBN MLR MLR
comp=Z,100nm,13.0s,MS4.2
ARCES ARCESS Array B 70.23 339 P **P 17 31 29.5 +0.2**
ARCES LR LR 18 09 18.5
ARCES ARCESS Array B 70.23 339 P **P 17 31 29.5 +0.2**
comp=Z,5.2nm,0.9s,mb4.5,baz=77,slow=5.2,SNR=8.0
ARCES LR LR 18 09 18.5
comp=Z,96nm,21.2s,MS4.0,baz=271,slow=42
JOF Joensuu 70.31 331 *e*p **P 17 31 28.6 -1.3**
comp=Z,10.0nm,0.8s,mb4.8
JOF Joensuu 70.31 331 *e*P **P 17 31 28.6 -1.3**
JOF pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
MIB Mutribah 70.44 294 *e*P **P 17 31 31.7 +0.3**
MIB AMb AMB 17 31 33.2
comp=Z,27nm,0.9s,mb5.2
RDF Al-Radifah 70.56 293 *e*P **P 17 31 32.3 +0.2**
RDF AMb AMB 17 31 33.7
comp=Z,24nm,0.9s,mb5.1
NAY Al-Naaiem 70.71 294 *e*P **P 17 31 33.2 +0.2**
NAY AMb AMB 17 31 34.6
comp=Z,19nm,0.8s,mb5.0
RST Umm Al-Ruwaisa 70.82 294 *e*P **P 17 31 33.6 -0.1**
RST AMb AMB 17 31 37.0
comp=Z,20nm,1.0s,mb5.0
SOC Sochi 71.75 310 *e*P **P 17 31 38.1 -0.9**
SOC *e**SP sP 17 31 51.9 +3.1
SOC *e*S S 17 40 54.9 -3.1
SOC *e*SSS 17 48 43.1
SOC pmax pmax
comp=Z,15nm,0.7s,mb5.0
SOC MLR MLR
comp=Z,89nm,13.0s,MS4.2
KAF Kangasniemi 72.76 331 *e*p **P 17 31 35.6 -9.1**
baz=66,slow=5.6
ANN Anapa 72.89 312 *e*P **P 17 31 43.7 -2.2**
ANN pmax pmax
comp=Z,35nm,1.0s,mb5.2
FINES FINESS Array B 73.13 331 P **P 17 31 47.1 +0.1**
comp=Z,5.7nm,0.8s,mb4.6,baz=89,slow=6.8,SNR=18
FINES LR LR 18 07 14.2
comp=Z,55nm,19.9s,MS3.8,baz=16,slow=38
MALT Malatya 74.47 305 *e*P **P 17 31 56.8 +1.6**
comp=Z,13nm,1.1s,mb4.8
MALT Malatya 74.47 305 *e*P **P 17 31 56.8 +1.6**
MALT pmax pmax
comp=Z,13nm,1.1s,mb4.8
MALT Malatya 74.47 305 ⇓*i*P **P 17 31 56.7 +1.5**
SIM Simferopol' 75.05 313 P **P 17 32 00.1 +1.7**
SIM pmax pmax
comp=Z,12nm,0.8s,mb4.9
SIM MLR MLR
comp=Z,50nm,16.6s,MS3.9
RES Resolute Bay 75.57 11 *e*P **P 17 32 01.0 +0.1**
comp=Z,338nm,0.8s
RES *e* pP 17 32 05.8 -2.4
RES *e* 17 32 13.6
AKASG Malin Array Be 75.85 320 P **P 17 32 02.7 -0.2**
comp=Z,9.2nm,0.7s,mb4.8,baz=55,slow=5.8,SNR=33
KIEV Kiev 75.86 320 *e*P **P 17 32 02.0 -0.9**
comp=Z,5.6nm,0.6s,mb4.7
KIEV *e* 17 32 10.9
KIEV Kiev 75.86 320 *e*P **P 17 32 02.0 -1.0**
KIEV *e* 17 32 10.9
KIEV pmax pmax
comp=Z,6.0nm,0.6s,mb4.7
YKA Yellowknife Ar 78.46 25 P **P 17 32 18.0 +0.7**
comp=Z,1.7nm,0.7s,mb4.1,baz=303,slow=5.3,SNR=30
LVV L'vov 79.23 320 *e*P **P 17 32 26.7 +4.8**
LVV MLR MLR
comp=N,200nm,17.0s,MS4.7
LVV MLR MLR
comp=E,200nm,17.0s,MS4.7
LVV MLR MLR
comp=Z,100nm,17.0s,MS4.2
VRI Vrincioaia 79.42 316 ⇓P **P 17 32 24.8 +1.8**
VRI Vrincioaia 79.42 316 ⇓*i*P **P 17 32 24.8 +1.9**
NB2 NORSAR Subarra 79.56 334 P **P 17 32 23.2 -0.2**
comp=Z,5.5nm,0.7s,mb4.6,baz=53,slow=5.9
NOA NORSAR Array B 79.56 334 P **P 17 32 23.2 -0.3**
NOA NORSAR Array B 79.56 334 P **P 17 32 23.2 -0.3**
comp=Z,5.1nm,0.7s,mb4.6,baz=51,slow=5.5,SNR=16
MLR Muntele Rosu 80.07 316 ⇓P **P 17 32 28.2 +1.6**
MLR Muntele Rosu 80.07 316 ⇓*i*P **P 17 32 28.2 +1.7**
KWP Kalwaria 80.08 321 ⇑P **P 17 32 27.4 +0.9**
KWP Kalwaria 80.08 321 ⇑*i*P **P 17 32 27.4 +0.9**
STHS Stebnicka Huta 81.01 321 *e*P **P 17 32 32.6 +1.1**
comp=Z,2.5nm,1.1s,mb4.1
STHS Stebnicka Huta 81.01 321 *e*P **P 17 32 32.6 +1.1**
STHS pmax pmax
comp=Z,3.0nm,1.1s,mb4.1
STHS Stebnicka Huta 81.01 321 *e*P **P 17 32 32.5 +1.0**
OJC Ojcow 81.42 322 *e*P **P 17 32 34.5 +0.9**
DRGR 81.45 318 ⇑P **P 17 32 34.6 +0.8**
DRGR 81.45 318 ⇑*i*P **P 17 32 34.6 +0.8**
OKC Ostrava-Krasne 82.53 322 *e*P **P 17 32 41.2 +1.7**
VYHS Vyhne 82.85 321 *e*P **P 17 32 42.2 +1.0**
comp=Z,3.3nm,1.0s,mb4.3
VYHS Vyhne 82.85 321 *e*P **P 17 32 42.2 +1.0**
VYHS pmax pmax
comp=Z,3.0nm,1.0s,mb4.3
MORC Moravsky Berou 82.89 322 ⇓P **P 17 32 42.2 +0.9**
MORC Moravsky Berou 82.89 322 ⇓*i*P **P 17 32 42.2 +0.8**
DPC Dobruska-Polom 83.24 323 *e*P **P 17 32 45.1 +1.9**
DPC *e*P 17 32 56.2
UPC Upice 83.32 324 *e*P **P 17 32 43.6 0.0**
VRAC Vranov 83.67 322 ⇓*i*P **P 17 32 47.9 +2.5**
PVCC Panska Ves 84.08 324 *e*P **P 17 32 48.7 +1.3**
PVCC *e*x x 17 32 59.6
BRG Berggiesshubel 84.21 325 *e*P **P 17 32 40.4 -7.7**
comp=Z,1.1nm,0.7s,mb4.1
BRG *e* pP 17 32 49.1 -6.3
BRG LR LR
comp=Z,150nm,14.9s,MS4.5
BRG Berggiesshubel 84.21 325 *e*P **P 17 32 40.4 -7.7**
BRG *e* 17 32 49.1
BRG pmax pmax
comp=Z,8.0nm,0.7s,mb5.0
BRG pmax pmax
comp=Z,1.0nm,1.0s,mb3.9
BRG MLR MLR
comp=N,4μm,24.9s
BRG MLR MLR
comp=E,122nm,16.3s
BRG MLR MLR
comp=Z,58nm,14.9s
BRG Berggiesshubel 84.21 325 *e*P **P 17 32 40.4 -7.7**
comp=Z,1.8nm,0.7s,mb4.3
BRG *e* pP 17 32 49.1 -6.3
comp=Z,6.3nm,1.0s
BRG
comp=N,204nm,24.9s
BRG
comp=E,97nm,16.3s
BRG
comp=Z,256nm,14.9s
PRU Pruhonice 84.40 324 *e*P **P 17 32 50.0 +0.9**
CLL Collm 84.44 325 ⇑*i*P **P 17 32 49.9 +0.6**
comp=Z,11nm,0.9s,mb5.0
CLL *e* 17 32 53.0
CLL *e* 17 33 01.0
CLL LR LR
comp=Z,300nm,15.9s,MS4.8
CLL Collm 84.44 325 ⇑*i*P **P 17 32 49.9 +0.6**
CLL *e* 17 33 01.0
CLL pmax pmax
comp=Z,11nm,0.9s,mb5.0
CLL MLR MLR
comp=Z,300nm,15.9s,MS4.8

CLL	Collm	84.44	325	⇑iP	P	17 32 49.9	+0.6
	comp=Z,11nm,0.9s,mb5.0						
CLL				ePcP	PcP	17 32 53.0	+0.1
CLL				ex	x	17 33 01.0	
CONA	Conrad Observa	84.83	321	⇑iPcP	PcP	17 32 52.7	-1.9
	comp=Z,12nm,1.7s						
KHC	Kasperske Hory	85.40	323	eP	P	17 32 55.1	+1.0
KHC				ex	x	17 33 06.4	
GERES	GERESS Array B	85.50	323	P	P	17 32 55.7	+1.1
	comp=Z,1.3nm,0.7s,mb4.3,baz=49,slow=4.1,SNR=13						
GERES				LR	LR	18 14 36.9	
	comp=Z,124nm,19.5s,MS4.3,baz=268,slow=38						
ABTA	Abfaltersbach	87.38	322	⇑iP	PcP	17 33 06.5	+0.6
	comp=Z,3.9nm,1.0s						
PPT	Papeete	90.51	109	LR	LR	18 06 51.7	
	comp=Z,139nm,21.6s,MS4.4,baz=251,slow=31						
SCHQ	Schefferville	98.28	9	LR	LR	18 19 42.4	
	comp=Z,66nm,18.4s,MS4.2,baz=78,slow=36						

*CNRM **18** 17:20:57.1, 3004N×771W, h30km, MD3.5*
CSEM 18 17:20:55.4±0.6, 3008N×769W, h35km, MD3.5, Error ellipse: s-maj=15.3km s-min=7.1km az=160.0, Morocco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIO	Tiouine	0.92	23	P	Pn	17 21 16.0	+4.2
TIO				S	Sn	17 21 28.5	+4.7
OUK	Oukaimeden	1.14	352	iP	Pn	17 21 16.0	+1.2
OUK				iS	Sn	17 21 30.0	+0.8
AFS	Agadir Fac de	1.60	283	iP	Pn	17 21 22.0	+0.8
AFS				iS	Sn	17 21 40.0	-0.7
AOF	Agadir Oufela	1.66	283	iP	Pn	17 21 23.5	+1.5
AOF				iS	Sn	17 21 42.0	-0.1
CIA	Chichaoua	1.74	328	iP	Pn	17 21 25.0	+1.8
CIA				iS	Sn	17 21 44.0	-0.2
JHA	Jbel Lahdid	2.24	318	eP	Pn	17 21 32.0	+2.0
JHA				eS	Sn	17 21 56.0	-0.5
ZFT	Errachidia	3.46	55	eP	Pn	17 21 48.0	+1.2
ZFT				eS	Sn	17 22 27.0	+0.5
CZD	Col de Zad	3.71	37	eP	Pn	17 21 53.0	+2.8
CZD				eS	Sn	17 22 33.0	+0.4

*IDC **18** 17:32:33.4±5.8, 4248N×1460.8E, h0km, mb3.9/3, mb1 3.9/4, mb1mx3.5/21, mbtmp3.9/4, ML3.9/1, Error ellipse: s-maj=137.5km s-min=62.6km az=175.0*
*MOS **18** 17:32:42.2±0.7, 4290N×1456.8E, h60km, mb4.1/3, Error ellipse: s-maj=58.3km s-min=31.1km az=117.9*
*JMA **18** 17:32:43.2±0.1, 4290N×1454.9E, h44km±1km, M3.5*
JMA Felt I J1.
ISC 18 17:32:43.3±1.3, 4290N±008×1555E±01, h39km±11km, n17, σ0°53/22, mb3.8/3, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	Nemuro 2	0.49	19	P	Pn	17 32 54.0	+0.1
NEM2				eS	Sn	17 33 01.5	+0.2
JAK	Akkeshi	0.62	279	P	Pn	17 32 55.3	-0.3
JAK				eS	Sn	17 33 04.3	0.0
JNK	Nakash	0.90	320	P	Pn	17 32 59.3	-0.2
JNK				eS	Sn	17 33 10.6	-0.7
JRA	Rausu	1.08	344	P	Pn	17 33 02.0	+0.1
JRA				eS	Sn	17 33 16.0	+0.4
YUK	Yuzh-Kuril'sk	1.16	12	ePN	Pn	17 33 02.9	-0.1
YUK				iS	Sn	17 33 17.0	-0.6
YUK				pmax	pmax		
	comp=Z,380nm,0.3s						
YUK				smax			
	comp=N,2μm,0.5s						
YUK				smax			
	comp=E,2μm,0.5s						
YUK				smax			
	comp=N,2μm,0.8s						
YUK				smax			
	comp=E,4μm,0.8s						
JOB	Onbets	1.24	271	P	Pn	17 33 03.7	-0.4
JAR	Ashorobuto	1.35	288	P	Pn	17 33 05.4	-0.2
JTKR	Abashiri--Toko	1.59	313	P	Pn	17 33 09.5	+0.6
JCH	Churui	1.62	261	P	Pn	17 33 08.8	-0.5
ASAJ	Asahikawa	2.45	301	PN	Pn	17 33 22.4	+1.6
ASAJ				pmax	pmax		
	comp=Z,12nm,0.3s						
ASAJ	Asahikawa	2.45	301	Pn	Pn	17 33 22.4	+1.6
	comp=Z,12nm,0.3s,baz=135,slow=10,SNR=77						
SONM	Songino Array	27.72	294	P	P	17 38 28.2	+0.5
SONM				pmax	pmax		
	comp=Z,1.0nm,0.5s						
SONM	Songino Array	27.72	294	P	P	17 38 28.2	+0.5
	comp=Z,0.7nm,0.5s,mb3.5,baz=88,slow=7.8,SNR=6.6						
MKAR	Makanchi Array	43.93	298	P	P	17 40 46.2	+0.1
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
MKAR	Makanchi Array	43.93	298	P	P	17 40 46.2	+0.1
	comp=Z,0.8nm,0.7s,mb3.5,baz=81,slow=9.1,SNR=8.5						
FINES	FINESS Array B	65.09	333	P	P	17 43 18.8	-0.5
FINES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
FINES	FINESS Array B	65.09	333	P	P	17 43 18.8	-0.5
	comp=Z,1.3nm,0.5s,mb4.2,baz=57,slow=7.0,SNR=12						

WEL 18 17:59:26.2±0.1, 4352S×17068E, h5km, ML3.5/15, Error ellipse: s-maj=1.3km s-min=1.2km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPZ	Rata Peaks	0.33	126	PG	Pg	17 59 33.3	+0.7
RPZ				SG	Sg	17 59 38.1	+1.2
WVZ	Waitaha Valley	0.45	5	PG	Pg	17 59 35.3	+0.6
WVZ				SG	Sg	17 59 40.8	+0.2
FOZ	Fox Glacier	0.72	266	P*	Pb	17 59 38.9	-2.4
FOZ				SG	Sg	17 59 46.6	-2.8
LBZ	Lake Benmore	0.94	202	P*	Pb	17 59 43.6	-1.3
LTZ	Lake Taylor	1.38	58	PN	Pn	17 59 51.9	0.0
LTZ				S*	Sb	18 00 10.1	-0.1
CRLZ	Canterbury Las	1.41	93	PN	Pn	17 59 51.9	-0.6
CRLZ				SN	Sn	18 00 09.7	-1.7
MQZ	McQueen's Vall	1.44	98	PN	Pn	17 59 51.9	-1.0
JCZ	Jackson Bay	1.50	248	PN	Pn	17 59 53.5	-0.2
ODZ	Otahua Downs	1.52	181	PN	Pn	17 59 53.1	-0.9
WKZ	Wanaka	1.77	222	PN	Pn	17 59 56.7	-0.7
DSZ	Denniston Nort	1.96	25	PN	Pn	17 59 59.7	-0.3
EAZ	Earnscleugh	1.97	209	PN	Pn	17 59 58.8	-1.4
MSZ	Milford Sound	2.29	239	ePN	Pn	18 00 04.2	-0.4
KHZ	Kahutara	2.37	63	ePN	Pn	18 00 05.9	+0.2
THZ	Tophouse	2.40	44	PN	Pn	18 00 07.1	+0.9
MLZ	Mavora Lakes	2.56	224	PN	Pn	18 00 07.9	-0.4
QRZ	Quartz Range	3.02	28	PN	Pn	18 00 14.8	+0.1
NNZ	Nelson	3.05	42	ePN	Pn	18 00 16.0	+1.1
WHZ	Wether Hill Ro	3.07	218	PN	Pn	18 00 13.0	-2.3
SYZ	Scrubby Hill	3.21	199	PN	Pn	18 00 15.5	-1.7
APZ	The Paps	3.82	209	PN	Pn	18 00 22.9	-2.7

*NEIC **18** 18:09:46.2, 1737N×9484W, h146km, MD4.1(MEX), After MEX.*
MEX 18 18:09:46.1±0.8, 1736N×9483W, h147km±7km, MD4.1, Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	Matias Romero	0.28	191	iP	Pn	18 10 04.8	-1.4
CMIG				iS	Sn	18 10 19.0	-2.4
OXX	Oaxaca	1.83	261	iP	Pn	18 10 18.0	-1.1
OXX				iS	Sn	18 10 43.0	-1.3
VHO	Vista Hermosa	1.84	261	iP	Pn	18 10 18.0	-1.2
VHO				iS	Sn	18 10 42.6	-2.0
HUIG	Huatulco	2.01	218	iP	Pn	18 10 19.0	-2.1
HUIG				iS	Sn	18 10 46.8	-1.2
CCIG	Comitan	2.79	112	iP	Pn	18 10 31.4	+0.7
CCIG				iS	Sn	18 11 04.0	-1.1
CCIG	Comitan	2.79	112	iP	Pn	18 10 34.0	+0.1
CCIG				iS	Sn	18 11 04.0	-1.1

*IDC **18** 18:16:10.4±1.8, 5.18N×9469E, h0km, mb3.8/7, mb1 3.9/7, mb1mx3.7/20, mbtmp3.8/7, Error ellipse: s-maj=100.2km s-min=19.2km az=54.0*
*ISCJB **18** 18:16:14.2±1.5, 53N±03×949E±05, h33km, mb3.8/8, Error ellipse: s-maj=83.4km s-min=16.5km az=145.3*

*NEIC **18** 18:16:15.3±1.1, 527N×9482E, h30km, mb4.3/1, Error ellipse: s-maj=58.6km s-min=11.6km az=55.0*
ISC 18 18:16:16.2±1.5, 53N±03×949E±05, h35km, n9, σ0°30/9, mb3.8/8, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MK31	Makanchi Array	42.74	347	eP	P	18 24 09.8	-0.2
MKAR	Makanchi Array	42.74	347	P	P	18 24 10.3	+0.3
	0.7nm,0.4s,mb3.7,baz=168,slow=8.1,SNR=19						
WRA	Warramunga Arr	46.21	124	P	P	18 24 38.5	+0.4
	1.1nm,0.6s,mb4.0,baz=304,slow=9.1,SNR=13						
KURK	Kurchatov	47.27	346	eP	P	18 24 45.9	-0.1
	1.2nm,0.4s,mb4.2						
ASAR	Alice Springs	47.74	129	P	P	18 24 49.6	-0.3
	0.2nm,0.4s,mb3.5,baz=298,slow=7.9,SNR=14						
ZALV	Zalesovo Beam	49.19	352	P	P	18 25 00.9	+0.2
	2.4nm,0.5s,mb4.5,baz=173,slow=6.8,SNR=16						
BVAR	Borovoye Array	51.65	341	P	P	18 25 19.2	-0.1
	0.5nm,0.6s,mb3.6,baz=146,slow=8.2,SNR=4.7						
ARCES	ARCESS Array B	77.92	340	P	P	18 28 09.6	-0.6
	1.3nm,0.8s,mb3.9,baz=99,slow=6.1,SNR=5.3						
GERES	GERESS Array B	80.22	319	P	P	18 28 23.5	+0.3
	0.2nm,0.5s,mb3.3,baz=73,slow=4.6,SNR=4.0						

IDC 18 18:38:44.2±4.2, 6028S×14698W, h0km, mb3.5/2, mb1 3.8/2, mb1mx3.6/11, mbtmp3.5/2, MS3.6/1, Ms1 3.6/1, ms1mx3.0/16, Error ellipse: s-maj=774.3km s-min=108.0km az=179.0, Southern Pacific Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QSPA	South Pole Qui	29.86	180	LR	LR	18 55 53.4	
	comp=Z,92nm,18.1s,baz=304,slow=34						
ASAR	Alice Springs	64.39	267	P	P	18 49 21.9	+0.2
	0.9nm,1.1s,baz=143,slow=6.3,SNR=6.1						
WRA	Warramunga Arr	67.30	269	P	P	18 49 40.4	-0.1
	0.6nm,0.8s,baz=151,slow=5.5,SNR=4.9						
MKAR	Makanchi Array	148.58	267	PKPbc	PKPbc	18 58 31.4	-0.4
	0.5nm,1.0s,baz=146,slow=1.0,SNR=3.3						

*NEIC **18** 18:51:50.9±0.6, 7.10S×156.08E, h10km, mb4.6/3, Error ellipse: s-maj=16.8km s-min=12.3km az=187.0*
*ISCJB **18** 18:51:53.5±0.8, 7.1S±01×156.00E±008, h33km, mb4.2/9, MS3.0/4, Error ellipse: s-maj=18.8km s-min=9.7km az=17.6*
*IDC **18** 18:51:56.0±0.7, 7.25S×156.12E, h48km±6km, mb3.9/7, mb1 4.0/8, mb1mx3.8/16, mbtmp4.0/8, MS3.1/6, Ms1 3.1/6, ms1mx3.0/23, Error ellipse: s-maj=24.6km s-min=20.6km az=71.0*
ISC 18 18:51:55.6±0.8, 71S±01×1559.4E±008, h35km, (h52km±5km:pP-P), n21, σ0°92/16, mb4.2/9, MS3.0/4, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	4.59	121	P	Pn	18 52 59.9	-2.7
HNR				S	Sn	18 53 56.2	+1.4
HNR				LR	LR	18 54 41.5	
HNR	Honiara	4.59	121	P	Pn	18 52 59.9	-2.7
	3.6nm,0.3s,baz=260,slow=4.9,SNR=2.5						
HNR				S	Sn	18 53 56.2	+1.4
	9.9nm,0.3s,baz=98,slow=17,SNR=3.4						
HNR				LR	LR	18 54 41.5	
	comp=Z,128nm,19.3s,baz=180,slow=38						
CTA	Charters Tower	15.96	215	LR	LR	19 00 57.6	
	comp=Z,75nm,18.5s,baz=43,slow=34						
GUMO	Guam	23.31	332	LR	LR	19 05 27.4	
	comp=Z,24nm,19.5s,MS2.7,baz=304,slow=34						
KAKA	Kakadu	23.80	255	eP	P	18 57 05.6	+0.1
	8.7nm,0.5s,mb4.4						
WRAB	Tennant Creek	24.52	237	eP	P	18 57 12.2	+0.2
	5.6nm,0.7s,mb4.2						
WB2	Warramunga Arr	24.52	237	eP	P	18 57 12.4	+0.4
WRA	Warramunga Arr	24.53	237	P	P	18 57 12.6	+0.5
	4.4nm,0.6s,mb4.2,baz=60,slow=9.7,SNR=64						
WRA				LR	LR	19 06 21.2	
	comp=Z,43nm,21.2s,MS2.9,baz=230,slow=35						
ASAR	Alice Springs	26.81	230	P	P	18 57 32.0	-0.7
	0.5nm,0.6s,mb3.3,baz=59,slow=9.4,SNR=8.8						
ASAR				PcP	PcP	19 00 54.0	-1.1
	0.3nm,0.5s,baz=70,slow=2.6,SNR=5.6						
ASAR				pPcP		19 01 07.6	
	0.3nm,0.5s,baz=74,slow=2.4,SNR=5.5						
STKA	Stephens Creek	28.05	207	LR	LR	19 08 14.4	
	comp=Z,81nm,19.2s,MS3.3,baz=24,slow=35						
FITZ	Fitzroy Crossi	31.47	247	eP	P	18 58 14.7	+0.5
	5.1nm,0.6s,mb4.5						
FITZ	Fitzroy Crossi	31.47	247	P	P	18 58 14.2	0.0
	2.7nm,0.5s,mb4.3,baz=85,slow=7.5,SNR=12						
KSRS	Korea Array	51.47	331	LR	LR	19 19 59.9	
	comp=Z,16nm,18.4s,MS3.1,baz=131,slow=33						
SONM	Songino Array	69.93	327	P	P	19 03 04.3	+1.1
	1.0nm,0.7s,mb3.9,baz=142,slow=7.5,SNR=7.4						
SONM				pP	pP	19 03 18.3	+4.3
	1.1nm,0.5s,baz=145,slow=5.1,SNR=6.1						
QSPA	South Pole Qui	82.87	180	P	P	19 04 15.1	-1.0
	1.8nm,1.0s,mb4.1,baz=41,slow=4.0,SNR=8.0						
MKAR	Makanchi Array	84.10	318	P	P	19 04 23.1	+0.1
	3.6nm,0.7s,mb4.6,baz=102,slow=6.0,SNR=44						
MKAR				pP	pP	19 04 37.5	+3.5
	2.9nm,0.8s,baz=98,slow=6.0,SNR=12						
ZALV	Zalesovo Beam	84.79	326	P	P	19 04 25.5	-0.7
ZALV				pP	pP	19 04 40.2	+2.9
ZALV	Zalesovo Beam	84.79	326	P	P	19 04 25.5	-0.7
	1.7nm,0.5s,mb4.5,baz=106,slow=6.1,SNR=9.9						
ZALV				pP	pP	19 04 40.2	+2.9
	1.1nm,0.4s,baz=106,slow=4.8,SNR=4.1						
BDFB	Brasilia	147.24	134	PKPbc	PKPbc	19 11 34.6	-1.7
	0.7nm,0.4s,baz=184,slow=15,SNR=4.4						
BDFB				pPKPbc	pPKPbc	19 11 48.3	+0.6
	1.2nm,0.5s,baz=113,slow=26,SNR=2.6						
TORD	Torodi Ar. Bea	153.96	285	PKPbc	PKPbc	19 11 50.8	-1.7
TORD				pPKPbc	pPKPbc	19 12 05.5	+1.5
TORD	Torodi Ar. Bea	153.96	285	PKPbc	PKPbc	19 11 50.8	-1.7
	0.7nm,0.8s,baz=60,slow=2.2,SNR=4.3						
TORD				pPKPbc	pPKPbc	19 12 05.5	+1.5
	0.7nm,0.7s,baz=88,slow=2.9,SNR=4.7						

TRN 18 19:04:59.0, 1586N×6151W, h5km, M3.6(FDF), 2C-1D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TBG	Guadaloupe-3	0.13	267	⇑iP	Pg	19 05 01.3	-0.3
MGG	Marie-Galante	0.20	72	⇑iP	Pg	19 05 03.0	+0.1
SCG	Saint Claude	0.24	316	⇓iP	Pg	19 05 04.1	+0.5
BCG	Bois Riant Cap	0.25	335	eP	Pg	19 05 04.3	+0.5
LZG	Guadaloupe-1	0.38	318	eP	Pg	19 05 06.4	+0.1
SFG	Saint Francois	0.49	38	eP	Pg	19 05 08.1	-0.4
DEG	La Desirade	0.63	44	eP	Pg	19 05 09.6	-1.4
FDF	Fort de France	1.17	163	eP	Pg	19 05 16.9	-4.5
FDF				eS	Sg	19 05 32.3	-4.3
BIM	Bigot	1.40	162	eP	Pn	19 05 20.4	-4.7
MVM	Montagne Vaucl	1.43	155	eP	Pn	19 05 20.6	-4.9
MVM				eS	Sb	19 05 38.4	-6.2

*IDC **18** 19:33:41.8±5.9, 753S×129.17E, h169km±60km, mb2.9/1, mb1 3.1/5, mb1mx3.0/13, mbtmp2.9/5, Error ellipse: s-maj=56.0km s-min=22.0km az=46.0*
*ISCJB **18** 19:33:43.8±2.7, 77S±01×129.1E±01, h209km±32km, Error ellipse: s-maj=28.1km s-min=13.3km az=139.1*
ISC 18 19:33:41.1±3.4, 75S±02×1292E±02, h160km±37km, n5, σ0°69/9, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	Kupang	6.11	243	P	Pn	19 35 10.5	+1.1
	2.2nm,0.3s,baz=119,slow=2.9,SNR=6.1						
BATI				S	Sn	19 36 18.1	-0.6
	3.6nm,0.3s,baz=71,slow=22,SNR=12						
FITZ	Fitzroy Crossi	11.10	198	P	Pn	19 36 15.3	-0.2
	0.1nm,0.3s,baz=312,slow=22,SNR=13						
FITZ				S	Sn	19 38 12.9	-5.6
	0.3nm,0.3s,baz=278,slow=23,SNR=6.8						
WRA	Warramunga Arr	13.33	159	P	Pn	19 36 43.2	-1.1
	0.3nm,0.3s,baz=342,slow=13,SNR=24						
WRA				S	Sn	19 39 07.1	-5.0
	0.7nm,0.3s,baz=331,slow=23,SNR=12						
ASAR	Alice Springs	16.70	165	P	Pn	19 37 26.6	+0.7
	0.3nm,0.3s,baz=340,slow=9.4,SNR=40						
ASAR				S	S	19 40 31.7	+0.3
	0.2nm,0.3s,baz=348,slow=27,SNR=5.9						
MKAR	Makanchi Array	68.21	327	P	P	19 44 24.1	-0.2
	0.2nm,0.2s,baz=116,slow=8.7,SNR=4.3						

IDC 18 19:40:46.4±2.1, 188N×12698E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.5/13, mbtmp3.6/3, Error ellipse: s-maj=173.0km s-min=24.7km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	22.86	162	P	P	19 45 50.0	-1.5
	2.5nm,0.9s,baz=340,slow=11,SNR=15						
WB2	Warramunga Arr	22.86	162	eP	P	19 45 50.2	-1.4
ASAR	Alice Springs	26.27	166	P	P	19 46 25.0	+1.4
	0.5nm,0.3s,baz=346,slow=12,SNR=17						
MKAR	Makanchi Array	59.21	326	P	P	19 50 49.3	-0.1
	0.3nm,0.5s,baz=122,slow=7.7,SNR=6.7						

JMA 18 19:58:04.4±0.8, 4417N×14883E, h30km, M3.5, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	Nemuro 2	2.38	251	P	Pn	19 58 40.4	-0.9
NEM2				eS	Sn	19 59 07.2	-2.2
JRA	Rausu	2.68	266	P	Pn	19 58 46.6	+1.1
JNK	Nakash	3.03	260	P	Pn	19 58 50.2	0.0
JNK				eS	Sn	19 59 25.4	-0.1
JAK	Akkeshi	3.22	250	P	Pn	19 58 52.0	-0.9
JTKR	Abashiri--Toko	3.55	268	P	Pn	19 58 59.2	+1.8
JAR	Ashorobuto	3.77	258	P	Pn	19 59 01.1	+0.7
JAR				eS	Sn	19 59 43.7	0.0
JCH	Churui	4.28	251	P	Pn	19 59 08.2	+0.8
JCH				eS	Sn	19 59 54.9	-1.4
JEM	Erimo	4.68	245	P	Pn	19 59 13.7	+0.8
JBT2	Biratori 2	4.91	256	P	Pn	19 59 17.0	+0.9
JNB	Noboribetsu	5.93	256	P	Pn	19 59 30.9	+0.8
JNB				eS	Sn	20 00 36.2	-0.8
JKB	Kayabe	6.15	251	P	Pn	19 59 32.9	-0.3
JANG	Nango	6.62	238	P	Pn	19 59 37.0	-2.6
JANG				eS	Sn	20 00 44.6	-9.4
JTM	Tenmabayashi	6.66	242	P	Pn	19 59 38.5	-1.6
JTM				eS	Sn	20 00 47.1	-7.8
JTH	Tanohata	6.69	233	P	Pn	19 59 39.2	-1.3
JTH				eS	Sn	20 00 44.2	-11
OFUJ	Ofunato	7.39	229	eS	Sn	20 01 01.7	-11
JIO	Ouri	8.02	227	eS	Sn	20 01 14.8	-14

*ISCJB **18** 20:16:43.5±0.5, 972N±009×8400W±005, h87km±4km, mb3.5/5, Error ellipse: s-maj=16.0km s-min=5.3km az=24.2*
*CASC **18** 20:16:44.7±1.4, 967N×8403W, h74km±6km, MD3.9*
*NEIC **18** 20:16:44.3, 975N×8400W, h76km, MD4.1(CASC), After CASC.*
*IDC **18** 20:16:45.2±1.8, 1016N×8389W, h72km±26km, mb3.4/5, mb1 3.7/7, mb1mx3.5/21, mbtmp3.5/7, MS2.6/1, Ms1 2.6/1, ms1mx2.2/21, Error ellipse: s-maj=68.6km s-min=24.6km az=20.0*
ISC 18 20:16:44.3±0.5, 970N±009×8401W±005, h82km±4km, n35, σ0°77/44, mb3.5/5, 8C-14D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCR2	La Lucha 2	0.04	11	⇑eP	Pn	20 16 55.4	-0.6
LCR2	La Lucha 2	0.04	11	⇑iP	Pn	20 16 55.2	-0.8
LAJ	Bijagual	0.19	326	⇓eP	Pn	20 16 59.2	+2.9
LAJ	Bijagual	0.19	326	⇓eP	Pn	20 16 59.0	+2.7
SJS	Escuela Geolog	0.24	350	⇑eP	Pn	20 16 56.2	-0.4
SJS				eS	Sn	20 17 05.3	-0.2
URSC	Urasca	0.26	60	⇓iP	Pn	20 16 56.1	-0.5
URSC				eS	Sn	20 17 05.5	-0.3
URSC	Urasca	0.26	60	⇓iP	Pn	20 16 56.0	-0.7
URSC				eS	Sn	20 17 07.2	+1.5
BUS	Buena Vista	0.29	121	⇓eP	Pn	20 16 56.7	-0.1
BUS	Buena Vista	0.29	121	⇓eP	Pn	20 16 56.7	-0.1
PRS1	Puriscal	0.41	313	⇑iP	Pn	20 16 57.0	-0.5
PRS1	Puriscal	0.41	313	⇑iP	Pn	20 16 57.1	-0.5
CGA2	Cerro Gallo 2	0.55	305	⇑eP	Pn	20 16 58.8	+0.1
CGA2	Cerro Gallo 2	0.55	305	⇑iP	Pn	20 16 58.8	+0.2
BAR1		0.83	124	⇑iP	Pn	20 17 01.6	+0.1
BAR1				eS	Sn	20 17 14.3	-0.1
FORC	Fortuna	1.00	320	⇓eP	Pn	20 17 03.9	+0.4
FORC				eS	Sn	20 17 17.9	+0.1
JCR	Jicaral	1.09	278	⇓eP	Pn	20 17 04.8	+0.2
JCR				eS	Sn	20 17 20.4	+0.5
JCR	Jicaral	1.09	278	⇓eP	Pn	20 17 04.9	+0.3
JCR				eS	Sn	20 17 20.9	+1.0
JTS	JuntasAbangare	1.10	302	eP	Pn	20 17 03.8	-0.9
JTS	JuntasAbangare	1.10	302	P	Pn	20 17 04.0	-0.6
	158nm,0.3s,baz=99,slow=17,SNR=551						
JTS				S	Sn	20 17 19.3	-0.6
	346nm,0.3s,baz=344,slow=23,SNR=53						
CUI		1.49	310	⇓eP	Pn	20 17 09.9	+0.3
CUI				eS	Sn	20 17 28.4	-0.3
LIM1	Limonal	1.57	309	⇓iP	Pn	20 17 10.9	+0.3
LIM1				eS	Sn	20 17 31.2	+0.6
VCR	Vista de Mar	1.65	285	⇓eP	Pn	20 17 11.8	+0.1
VCR				eS	Sn	20 17 32.3	-0.1
VCR	Vista de Mar	1.65	285	⇓iP	Pn	20 17 11.6	0.0
VCR				eS	Sn	20 17 31.9	-0.5
MADN	Villa Maderas	2.26	319	eP	Pn	20 17 20.8	+1.1
BCIP	Isla Barro Col	4.15	97	eP	Pn	20 17 44.7	-0.6
LAPE	La Pedrera	12.48	99	⇓eP	Px	20 17 13.1	
LAPE				eS	Sx	20 17 36.3	
CMIG	Matias Romero	12.87	306	P	Pn	20 19 42.0	-2.0
	0.4nm,0.3s,baz=294,slow=18,SNR=3.3						
SDV	Santo Domingo	13.23	92	P	Pn	20 19 48.6	-0.3
	0.4nm,0.3s,baz=298,slow=6.8,SNR=5.6						
SDV				LR	LR	20 24 06.2	
	comp=Z,30nm,20.7s,baz=154,slow=34						
YKA	Yellowknife Ar	57.16	344	P	P	20 26 20.8	-1.5
	0.3nm,0.6s,mb3.5,baz=142,slow=6.8,SNR=11						
ESDC	Sonseca Array	76.23	52	P	P	20 28 25.4	+1.3
	0.7nm,0.6s,mb3.5,baz=285,slow=6.2,SNR=4.0						
TORD	Torodi Ar. Bea	83.70	78	P	P	20 29 04.9	+0.2
	0.3nm,0.8s,mb3.2,baz=289,slow=6.9,SNR=2.7				

UNCR	**Uncukul**	**0.86**	**91**	PG	**Pg**	**20 40 23.2**	**+1.9**
UNCR				*e*S	**Sg**	**20 40 38.2**	**+5.6**
UNCR				pmax	pmax		
	comp=Z,34nm,0.2s						
UNCR	**Uncukul**	**0.86**	**91**	Pg	**Pg**	**20 40 23.2**	**+1.9**
	comp=Z,34nm,0.2s						
UNCR				*e*Sg	**Sg**	**20 40 38.2**	**+5.6**
DBC	**Dubki**	**0.93**	**72**	*e*PG	**Pg**	**20 40 22.0**	**-0.6**
DBC				*e*S	**Sg**	**20 40 34.0**	**-0.7**
KRNR	**Karanay**	**0.95**	**84**	*e*PG	**Pg**	**20 40 24.5**	**+1.6**
KRNR				*e*S	**Sg**	**20 40 41.0**	**+5.7**
LACR	**Lac**	**0.98**	**275**	*i* Pg	**Pg**	**20 40 22.9**	**-0.6**
LACR				*i* Sg	**Sg**	**20 40 36.9**	**+0.7**
BTKR	**Batakoyurt**	**1.01**	**309**	*i* Pg	**Pg**	**20 40 24.0**	**-0.1**
BTKR				*i* Sg	**Sg**	**20 40 38.7**	**+1.4**
ARNR	**Ardon**	**1.08**	**295**	*i* Pg	**Pg**	**20 40 25.5**	**+0.1**
ARNR				*i* Sg	**Sg**	**20 40 40.7**	**+1.2**
KMSR	**Komsomolskaya**	**1.16**	**303**	*i* Pg	**Pg**	**20 40 26.9**	**0.0**
KMSR				*i* Sg	**Sg**	**20 40 43.1**	**+1.1**
TRKR	**Terskaya**	**1.18**	**327**	*e*Pg	**Pg**	**20 40 27.0**	**-0.3**
TRKR				*i* Sg	**Sg**	**20 40 43.3**	**+0.7**
KORR	**Kora**	**1.19**	**287**	*e*Pg	**Pg**	**20 40 27.5**	**0.0**
KORR				*i* Sg	**Sg**	**20 40 43.7**	**+0.7**
ZEI	**Tsey**	**1.27**	**272**	*i* Pg	**Pg**	**20 40 28.3**	**-0.7**
ZEI				*i* Sg	**Sg**	**20 40 45.3**	**-0.2**
DGRG	**David-gareji**	**1.30**	**188**	P	**Pg**	**20 40 36.2**	**+6.6**
DGRG				S	**Sg**	**20 40 59.0**	**+13**
PRTR	**Priterechnaya**	**1.41**	**316**	*i* Pg	**Pg**	**20 40 29.8**	**-1.8**
PRTR				*i* Sg	**Sg**	**20 40 49.2**	**-0.7**
LSNR	**Lesken**	**1.43**	**293**	*i* Pg	**Pg**	**20 40 30.8**	**-1.2**
LSNR				*i* Sg	**Sg**	**20 40 50.3**	**-0.2**
DIGR	**Digorskoe uzhe**	**1.51**	**277**	*i* Pg	**Pg**	**20 40 32.0**	**-1.6**
DIGR				*i* Sg	**Sg**	**20 40 51.8**	**-1.4**
ONI	**Oni**	**1.61**	**265**	P	**Pg**	**20 40 35.4**	**-0.1**
ONI				S	**Sg**	**20 40 58.8**	**+2.4**
KIV	**Kislovodsk**	**2.46**	**301**	*e*PN	**Pg**	**20 40 56.9**	**+5.1**
KIV				pmax	pmax		
	comp=Z,9.0nm,1.0s						
KIV	**Kislovodsk**	**2.46**	**301**	*e*Pn	**Pg**	**20 40 56.9**	**+5.1**
	comp=Z,9.0nm,1.0s						

IDC 18 20:40:08.8±2.8, 2470S×17807W, h0km, mb3.8/4, mb1 4.1/4, mb1mx3.8/13, mbtmp3.8/4, Error ellipse: s-maj=188.4km s-min=29.1km az=161.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**43.65**	**261**	P	P	20 48 14.8	-0.7
	1.3nm,0.9s,baz=100,slow=7.9,SNR=8.2						
WRA	**Warramunga Arr**	**44.11**	**266**	P	P	20 48 19.6	+0.4
	0.3nm,0.5s,baz=104,slow=7.9,SNR=10						
TXAR	**Lajitas Array**	**89.37**	**57**	P	P	20 53 06.7	-0.8
	0.4nm,0.8s,baz=236,slow=6.9,SNR=3.6						
PDAR	**Pinedale Array**	**92.05**	**43**	P	P	20 53 20.9	+1.2
	1.5nm,1.2s,baz=251,slow=2.8,SNR=4.5						
AKASG	**Malin Array Be**	**146.59**	**328**	PKPbc	PKPbc	20 59 51.4	-0.6
	0.9nm,0.5s,baz=46,slow=4.4,SNR=5.9						

IDC 18 20:51:45.8±1.9, 2583S×7045E, h0km, mb3.6/4, mb1 3.9/4, mb1mx3.5/19, mbtmp3.6/4, Error ellipse: s-maj=57.8km s-min=36.0km az=83.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**57.16**	**103**	P	P	21 01 34.5	-0.2
	0.4nm,0.9s,baz=253,slow=6.5,SNR=4.2						
WRA	**Warramunga Arr**	**58.66**	**98**	P	P	21 01 45.5	+0.2
	1.2nm,1.0s,baz=257,slow=7.1,SNR=6.4						
VNDA	**Vanda**	**65.28**	**166**	P	P	21 02 28.9	0.0
	1.0nm,0.8s,baz=246,slow=12.2,SNR=2.9						
MKAR	**Makanchi Array**	**73.07**	**8**	P	P	21 03 17.6	+0.2
	0.1nm,0.3s,baz=181,slow=4.9,SNR=4.6						

MOS 18 21:02:49.8±1.5, 4223N×4601E, h21km, mb3.6/1, 5C-2D, Error ellipse: s-maj=42.3km s-min=8.7km az=134.0, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNJR	**Sundja**	**1.22**	**314**	⇑*i*PG	Pn	21 03 12.2	+0.6
SNJR				*i* S	Sb	21 03 28.3	+0.9
VLKR	**Vladikavkaz**	**1.28**	**310**	*e*PG	Pn	21 03 13.4	+1.0
VLKR				*e*S	Sn	21 03 30.7	+1.8
LACR	**Lac**	**1.40**	**296**	⇑*i*PG	Pn	21 03 15.8	+1.7
LACR				*i* S	Sn	21 03 35.1	+3.2
ARNR	**Ardon**	**1.60**	**308**	*e*PG	Pn	21 03 18.6	+1.8
ARNR				*e*S	Sn	21 03 40.0	+3.3
ZEI	**Tsey**	**1.65**	**290**	⇑*i*PN	Pn	21 03 20.5	+3.0
ZEI				*i* S	Sn	21 03 42.8	+4.7
KORR	**Kora**	**1.67**	**301**	⇑*i*PN	Pn	21 03 20.2	+2.4
KORR				*i* S	Sn	21 03 42.4	+3.9
KMSR	**Komsomolskaya**	**1.70**	**313**	⇓*i*PN	Pn	21 03 20.0	+1.8
KMSR				*e*S	Sn	21 03 42.4	+3.0
TRKR	**Terskaya**	**1.76**	**328**	*e*PN	Pn	21 03 17.9	-1.2
DIGR	**Digorskoe uzhe**	**1.92**	**291**	*e*PN	Pn	21 03 24.3	+3.1
DIGR				*i* S	Sn	21 03 49.8	+5.2
LSNR	**Lesken**	**1.92**	**304**	⇓*i*PN	Pn	21 03 23.9	+2.6
PRTR	**Priterechnaya**	**1.98**	**321**	⇑*i*PN	Pn	21 03 22.9	+0.9

WEL 18 21:11:58.3±0.3, 4123S×17252E, h231km±2km, ML3.6/17, Error ellipse: s-maj=2.4km s-min=2.2km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QRZ	**Quartz Range**	**0.40**	**1**	PN	Pn	21 12 28.4	-0.3
QRZ				SN	S	21 12 51.7	-0.8
THZ	**Tophouse**	**0.60**	**152**	PN	Pn	21 12 29.6	+0.2
THZ				SN	S	21 12 52.9	-0.8
NNZ	**Nelson**	**0.65**	**89**	PN	Pn	21 12 29.4	-0.1
NNZ				SN	S	21 12 52.9	-1.0
DSZ	**Denniston Nort**	**0.74**	**226**	PN	Pn	21 12 29.6	-0.3
DSZ				SN	S	21 12 53.1	-1.6
TUWZ	**Tuamarina**	**1.09**	**101**	PN	Pn	21 12 31.9	+0.1
BSWZ	**Blackbirch Sta**	**1.13**	**116**	PN	Pn	21 12 32.3	+0.2
DUWZ	**D'Urville Isla**	**1.14**	**68**	PN	Pn	21 12 32.0	-0.2
TCW	**Tory Channel**	**1.32**	**90**	PN	Pn	21 12 33.5	0.0
KHZ	**Kahutara**	**1.41**	**148**	PN	Pn	21 12 34.0	-0.1
LTZ	**Lake Taylor**	**1.56**	**187**	PN	Pn	21 12 35.2	-0.1
MRW	**Makara Radio**	**1.64**	**91**	PN	Pn	21 12 35.8	-0.2
SNZO	**South Karori**	**1.65**	**93**	PN	Pn	21 12 35.8	-0.2
WEL	**Wellington**	**1.69**	**93**	PN	Pn	21 12 36.3	-0.1
BHW	**Baring Head**	**1.78**	**96**	PN	Pn	21 12 36.9	-0.2
KIW	**Kapiti Island**	**1.84**	**79**	PN	Pn	21 12 37.6	-0.2
CAW	**Cannon Point**	**1.93**	**87**	PN	Pn	21 12 38.3	-0.2
MSWZ	**Moikau Station**	**2.06**	**96**	PN	Pn	21 12 39.6	-0.2
PAWZ	**Paruwai Farm**	**2.19**	**95**	PN	Pn	21 12 41.0	-0.1
MTW	**Mount Morrison**	**2.25**	**89**	PN	Pn	21 12 41.5	-0.1
WVZ	**Waitaha Valley**	**2.27**	**215**	PN	Pn	21 12 41.1	-0.7
MRZ	**Mangatainoka R**	**2.38**	**77**	PN	Pn	21 12 42.6	-0.5
WAZ	**Wanganui**	**2.39**	**53**	PN	Pn	21 12 42.9	-0.2
TRWZ	**Traveller**	**2.39**	**95**	PN	Pn	21 12 43.3	+0.2
MQZ	**McQueen's Vall**	**2.48**	**178**	*e*PN	Pn	21 12 43.1	-0.8
TIWZ	**Tintock**	**2.59**	**81**	PN	Pn	21 12 45.0	-0.1
BFZ	**Birch Farm**	**2.87**	**80**	PN	Pn	21 12 48.2	-0.1
WNVZ	**Wahianoa**	**3.03**	**52**	PN	Pn	21 12 48.8	-1.2
FWVZ	**Far West T-bar**	**3.05**	**51**	PN	Pn	21 12 49.4	-0.8
MOVZ	**Moawhango**	**3.07**	**55**	PN	Pn	21 12 48.9	-1.5
TUVZ	**Tukino**	**3.10**	**52**	PN	Pn	21 12 50.1	-0.6
FOZ	**Fox Glacier**	**3.14**	**221**	PN	Pn	21 12 48.7	-2.4
WTVZ	**West Tongariro**	**3.16**	**49**	PN	Pn	21 12 50.0	-1.5
BKZ	**Black Stump Fm**	**3.67**	**57**	PN	Pn	21 12 55.6	-1.9
JCZ	**Jackson Bay**	**3.97**	**223**	PN	Pn	21 12 59.2	-1.6

*CSEM **18** 21:28:30.0, 4293N×4641E, h136km, mb3.5, After OBN*
MOS 18 21:28:30.3±0.7, 4293N×4641E, h136km, mb3.5/1, Error ellipse: s-maj=42.2km s-min=11.7km az=14.8, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DBC	**Dubki**	**0.32**	**74**	*e*P	Pn	21 28 49.0	-0.2
DBC				*e*S	Sn	21 28 59.0	-4.5
UNCR	**Uncukul**	**0.36**	**127**	*e*P	Pn	21 28 52.0	+2.7
UNCR				*e*S	Sn	21 29 03.5	-0.2
UNCR				pmax	pmax		
	comp=Z,27nm,0.2s						
UNCR	**Uncukul**	**0.36**	**127**	*e*P	Pn	21 28 52.0	+2.7
	comp=Z,27nm,0.2s						
UNCR				*e*S	Sn	21 29 03.5	-0.2
KRNR	**Karanay**	**0.38**	**106**	*e*P	Pn	21 28 50.8	+1.4
KRNR				*i* S	Sn	21 29 01.8	-2.1
SNJR	**Sundja**	**1.18**	**277**	*e*P	Pn	21 28 56.4	+1.0
SNJR				*i* S	Sn	21 29 10.1	-4.4
VLKR	**Vladikavkaz**	**1.28**	**276**	*e*P	Pn	21 28 57.1	+0.7
VLKR				*e*S	Sn	21 29 11.2	-5.1
BTKR	**Batakoyurt**	**1.44**	**289**	*e*P	Pn	21 28 59.0	+0.9
BTKR				*i* S	Sn	21 29 14.6	-4.7
TRKR	**Terskaya**	**1.46**	**303**	*i* P	Pn	21 28 59.7	+1.4
TRKR				*i* S	Sn	21 29 15.5	-4.2
LACR	**Lac**	**1.56**	**267**	*i* P	Pn	21 28 59.8	+0.4
LACR				*i* S	Sn	21 29 16.1	-5.5
ARNR	**Ardon**	**1.58**	**280**	*e*P	Pn	21 29 00.3	+0.6
ARNR				*i* S	Sn	21 29 17.1	-5.0
KMSR	**Komsomolskaya**	**1.61**	**287**	*i* P	Pn	21 29 00.9	+0.9
KMSR				*i* S	Sn	21 29 17.7	-5.0
KORR	**Kora**	**1.73**	**276**	*e*P	Pn	21 29 01.6	+0.3
KORR				*e*S	Sn	21 29 19.5	-5.5
PRTR	**Priterechnaya**	**1.76**	**299**	*e*P	Pn	21 29 02.9	+1.2
PRTR				*i* S	Sn	21 29 21.6	-4.1
ZEI	**Tsey**	**1.85**	**266**	*i* P	Pn	21 29 03.2	+0.4
ZEI				*i* S	Sn	21 29 22.0	-5.7
LSNR	**Lesken**	**1.93**	**281**	*e*P	Pn	21 29 04.4	+0.7
LSNR				*i* S	Sn	21 29 23.9	-5.4
DIGR	**Digorskoe uzhe**	**2.08**	**270**	*e*P	Pn	21 29 06.0	+0.5
DIGR				*i* S	Sn	21 29 27.1	-5.4

IDC 18 21:29:56.2±49.0, 1861S×17528W, h0km, mb4.0/3, mb1 4.1/3, mb1mx3.8/14, mbtmp4.0/3, Error ellipse: s-maj=915.4km s-min=168.0km az=81.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**40.93**	**243**	P	P	21 37 40.6	+0.1
	0.7nm,0.4s,baz=90,slow=12,SNR=4.3						
WRA	**Warramunga Arr**	**47.44**	**260**	P	P	21 38 32.8	0.0
	0.4nm,0.3s,baz=96,slow=7.2,SNR=44						
ASAR	**Alice Springs**	**47.47**	**255**	P	P	21 38 33.0	-0.2
	1.6nm,0.6s,baz=92,slow=8.4,SNR=33						

IDC 18 21:34:15.9±2.4, 2041S×6867W, h0km, mb3.6/2, mb1 3.9/3, mb1mx3.5/17, mbtmp3.7/3, ML3.6/1, Error ellipse: s-maj=66.3km s-min=41.6km az=74.0, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**4.13**	**7**	Pn	Pn	21 35 22.5	+2.1
	2.6nm,0.3s,baz=177,slow=12,SNR=50						
LPAZ				Sn	Sn	21 36 08.8	-0.7
	0.9nm,0.3s,baz=253,slow=19,SNR=1.6						
TORD	**Torodi Ar. Bea**	**76.78**	**70**	P	P	21 46 10.1	+0.2
	0.6nm,0.8s,baz=255,slow=5.8,SNR=7.8						
YKA	**Yellowknife Ar**	**90.24**	**341**	P	P	21 47 17.7	-0.3
	0.1nm,0.5s,baz=139,slow=4.9,SNR=3.2						

*ISCJB **18** 21:48:54.1±2.0, 2612N±005×12878E±004, h6km±14km, mb3.6/6, Error ellipse: s-maj=8.4km s-min=6.2km az=16.0*
*IDC **18** 21:48:54.9±1.0, 2614N×12856E, h0km, mb3.6/6, mb1 3.7/7, mb1mx3.6/19, mbtmp3.6/7, ML3.1/1, Error ellipse: s-maj=48.8km s-min=14.2km az=74.0*
*JMA **18** 21:48:56.3±0.2, 2612N×12877E, h43km*
*NEIC **18** 21:48:56.4±0.7, 2614N×12856E, h10km, MG3.3(JMA), Error ellipse: s-maj=27.8km s-min=12.4km az=82.0*
ISC 18 21:48:56.1±1.3, 2614N±005×12871E±004, h12km±8km, n17, σ0s96/23, mb3.6/6, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOW	**Kunigami**	**0.79**	**330**	P	**Pg**	**21 49 11.7**	**+0.3**
JOW				*e*S	**Sg**	**21 49 23.0**	**+1.2**
JOW	**Kunigami**	**0.79**	**330**	**Pn**	**Pn**	**21 49 11.8**	**-1.3**
	105nm,0.3s,baz=140,slow=17,SNR=130						
JOW				Sn	**Sn**	**21 49 25.5**	**+0.7**
	231nm,0.3s,baz=300,slow=20,SNR=19						
JJT2	**Tamagusuku 2**	**0.87**	**270**	P	**Pb**	**21 49 13.0**	**0.0**
JJT2				*e*S	**Sb**	**21 49 25.7**	**+1.1**
NAH1	**Naha**	**0.92**	**274**	P	**Pb**	**21 49 13.6**	**-0.4**
NAH1				*e*S	**Sb**	**21 49 26.1**	**-0.1**
JIH	**Iheya**	**1.11**	**323**	P	**Pb**	**21 49 16.6**	**-0.6**
JIH				*e*S	**Sb**	**21 49 30.6**	**-1.1**
JAGN	**Aguni-jima**	**1.39**	**289**	P	**Pn**	**21 49 20.7**	**-0.6**
JAGN				*e*S	**Sn**	**21 49 39.1**	**-0.5**
JTK	**Tokunoshima**	**1.65**	**7**	P	**Pn**	**21 49 24.2**	**-0.7**
JKE	**Kume jima 2**	**1.74**	**276**	P	**Pn**	**21 49 24.7**	**-1.4**
JMZ	**Minamidaito 2**	**2.28**	**98**	P	**Pn**	**21 49 32.2**	**-1.3**
JAM	**Amami Oshima**	**2.40**	**19**	P	**Pn**	**21 49 34.1**	**-1.0**
JNU	**Nakatsue**	**7.21**	**15**	Pn	**Pn**	**21 50 42.4**	**+1.2**
	0.3nm,0.3s,baz=227,slow=19,SNR=2.7						
MKAR	**Makanchi Array**	**41.92**	**312**	P	**P**	**21 56 45.9**	**-0.5**
	0.3nm,0.3s,mb3.4,baz=98,slow=9.2,SNR=3.9						
WRA	**Warramunga Arr**	**46.13**	**173**	P	**P**	**21 57 20.2**	**-0.3**
	0.2nm,0.7s,mb3.1,baz=353,slow=8.5,SNR=3.1						
ASAR	**Alice Springs**	**49.77**	**174**	P	**P**	**21 57 49.7**	**+1.2**
	0.3nm,0.7s,mb3.4,baz=359,slow=7.4,SNR=3.0						
FINES	**FINESS Array B**	**73.15**	**331**	P	**P**	**22 00 27.7**	**+1.4**
	1.1nm,0.9s,mb3.8,baz=111,slow=7.9,SNR=2.7						
AKASG	**Malin Array Be**	**75.88**	**320**	P	**P**	**22 00 43.5**	**+1.2**
	0.4nm,0.5s,mb3.6,baz=61,slow=6.3,SNR=2.7						
PDAR	**Pinedale Array**	**92.96**	**39**	P	**P**	**22 02 10.8**	**+1.5**
	0.3nm,0.4s,mb4.1,baz=262,slow=7.3,SNR=3.7						

*ISCJB **18** 22:23:11.0±0.5, 3343N±002×11656W±002, h10km±3km, Error ellipse: s-maj=3.2km s-min=2.5km az=30.6*
*NEIC **18** 22:23:12.0, 3345N×11659W, h11km, ML3.5(PAS), After PAS.*
ISC 18 22:23:11.3±0.3, 3343N±002×11658W±002, h9km±3km, n59, σ0s96/96, 29C-31D, Southern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PFO	**Pinyon Flat Ob**	**0.21**	**30**	⇓*e*P	**Pg**	**22 23 16.0**	**+0.3**
PFO				*e*S	**Sg**	**22 23 18.6**	**0.0**
PFO	**Pinyon Flat Ob**	**0.21**	**30**	⇑P	**Pg**	**22 23 16.0**	**+0.3**
	baz=0.2						
PFO				⇑S	**Sg**	**22 23 18.8**	**+0.1**
	baz=0.2						
MURC	**Murrieta**	**0.54**	**289**	P	**Pg**	**22 23 21.9**	**0.0**
	baz=0.5,SNR=1000						
MURC				⇓S	**Sg**	**22 23 29.0**	**0.0**
	baz=0.5						
MONP	**Monument Peak**	**0.55**	**166**	P	**Pg**	**22 23 22.8**	**+0.7**
	baz=0.6,SNR=149						
MONP				⇓S	**Sg**	**22 23 30.2**	**+0.9**
	baz=0.6						
109C	**Camp Elliot, M**	**0.69**	**219**	⇓P	**Pg**	**22 23 24.7**	**0.0**
	baz=0.7,SNR=162						
109C				⇑S	**Sg**	**22 23 33.9**	**+0.1**
	baz=0.7						
BELC	**Belle Mtn.**	**0.75**	**40**	⇑P	**Pg**	**22 23 25.5**	**-0.3**
	baz=0.7,SNR=77						
BELC				⇓S	**Sg**	**22 23 35.3**	**-0.4**
	baz=0.7						
SWSC	**Sam W. Stewart**	**0.82**	**126**	P	**Pg**	**22 23 26.9**	**-0.2**
	baz=0.8,SNR=257						
SWSC				⇓S	**Sg**	**22 23 38.5**	**+0.7**
	baz=0.8						
DVTC	**Desert V Tower**	**0.87**	**152**	⇑P	**Pg**	**22 23 28.5**	**+0.6**
	baz=0.9,SNR=31						
DVTC				⇓S	**Sg**	**22 23 40.6**	**+1.4**
	baz=0.9						
BBRC	**Big Bear Sol-O**	**0.88**	**341**	⇓P	**Pg**	**22 23 27.8**	**-0.4**
	baz=0.9,SNR=39						
BBRC				⇓S	**Sg**	**22 23 39.3**	**-0.4**
	baz=0.9						
BC3	**Big Chuckw Mtn**	**0.97**	**76**	P	**Pg**	**22 23 29.1**	**-0.9**
	baz=1.0,SNR=716						
BC3				⇓S	**Sg**	**22 23 42.9**	**+0.3**
	baz=1.0						
BFSC	**Mount Baldy St**	**1.21**	**312**	P	**Pb**	**22 23 33.1**	**-1.2**
	baz=1.2,SNR=135						
BFSC				⇓S	**Sb**	**22 23 48.9**	**-1.2**
	baz=1.2						
IRM	**Iron Mountain**	**1.40**	**58**	P	**Pn**	**22 23 35.9**	**-1.1**
	baz=1.4,SNR=180						
IRM				⇑S	**Sb**	**22 23 55.5**	**-0.1**
	baz=1.4						
HEC	**Hector,Ludlow**	**1.42**	**8**	⇑P	**Pn**	**22 23 36.4**	**-0.8**
	baz=1.4						
HEC				⇑S	**Sn**	**22 23 55.6**	**-0.4**
	baz=1.4						
GLA	**Glamis**	**1.52**	**104**	*e*Pn	**Pn**	**22 23 37.1**	**-1.5**
GLA				Sn	**Sn**	**22 23 57.0**	**-1.5**
GLA	**Glamis**	**1.52**	**104**	⇓P	**Pn**	**22 23 36.9**	**-1.7**
	baz=1.5,SNR=18						
CIS	**Catalina Islan**	**1.52**	**270**	⇓P	**Pn**	**22 23 37.6**	**-1.1**
	baz=1.5,SNR=28						
GMRC	**Granite Mounta**	**1.55**	**29**	P	**Pn**	**22 23 38.2**	**-0.9**
	baz=1.6,SNR=142						
DECC	**Green Verdugo**	**1.67**	**300**	⇑Pb	**Pb**	**22 23 41.7**	**-0.6**
	baz=1.7						
Y12C	**Blythe**	**1.75**	**79**	⇑P	**Pn**	**22 23 40.3**	**-1.5**
	baz=1.8,SNR=31						
Y12C				⇑Sb	**Sb**	**22 24 06.8**	**+1.2**
	baz=1.8						
EDW2	**Edwards Air Fo**	**1.86**	**322**	⇓Pb	**Pb**	**22 23 45.1**	**-0.4**
	baz=1.8						
EDW2				⇓Sb	**Sb**	**22 24 09.3**	**+0.4**
	baz=1.8						
GSC	**Goldstone**	**1.88**	**354**	*e*Pn	**Pn**	**22 23 43.2**	**-0.4**
GSC				*e*Pg	**Pg**	**22 23 48.2**	**+0.8**
GSC				Sn	**Sn**	**22 24 06.7**	**-0.8**
GSC	**Goldstone**	**1.88**	**354**	⇓P	**Pn**	**22 23 43.0**	**-0.7**
	baz=1.9						
GSC				⇑Sb	**Sb**	**22 24 10.1**	**+0.7**
	baz=1.9						
TUQ	**Turquoise Mtn.**	**2.08**	**15**	⇑Sb	**Sb**	**22 24 15.9**	**+0.8**
	baz=2.1						
NEE2	**Needles Airpor**	**2.11**	**50**	⇑P	**Pn**	**22 23 45.6**	**-1.2**
	baz=2.1,SNR=34						
NEE2				⇓Sb	**Sb**	**22 24 17.0**	**+1.0**
	baz=2.1						
OSI	**Osito Adit**	**2.14**	**304**	⇑Sb	**Sb**	**22 24 17.1**	**+0.3**
	baz=2.1						
BLG	**Laguna Peak**	**2.18**	**289**	⇑Sb	**Sb**	**22 24 18.7**	**+0.7**
	baz=2.2						
PDMCI	**Parker Dam,Lak**	**2.21**	**66**	⇑Pb	**Pb**	**22 23 51.7**	**+0.2**
	baz=2.2						
Y13A	**Salome**	**2.33**	**80**	⇓P	**Pn**	**22 23 48.8**	**-1.0**
	baz=2.3						
W12A	**Cal Nev Ari**	**2.35**	**37**	⇑Pb	**Pb**	**22 23 54.4**	**+0.6**
	baz=2.3,SNR=9.1						
W12A				⇓Sb	**Sb**	**22 24 24.4**	**+1.5**
	baz=2.3						
ARVC	**Arvin**	**2.52**	**313**	⇓Sb	**Sb**	**22 24 29.0**	**+1.2**
	baz=2.5						
X13A	**Yucca**	**2.56**	**62**	⇑P	**Pn**	**22 23 52.4**	**-0.6**
	baz=2.6,SNR=23						
X13A				⇓Sb	**Sb**	**22 24 31.9**	**+2.7**
	baz=2.6						
V11A	**Goodsprings**	**2.59**	**21**	⇑P	**Pn**	**22 23 53.0**	**-0.3**
	baz=2.6						
V11A				⇓Sb	**Sb**	**22 24 32.3**	**+2.6**
	baz=2.6						
BSC	**Santa Cruz Isl**	**2.60**	**283**	⇑Sb	**Sb**	**22 24 32.4**	**+2.1**
	baz=2.6						
ISA	**Isabella**	**2.72**	**326**	*e*Pn	**Pn**	**22 23 56.6**	**+1.4**
ISA				*e*Sn	**Sn**	**22 24 30.7**	**+2.5**
ISA	**Isabella**	**2.72**	**326**	⇓Sb	**Sb**	**22 24 35.0**	**+1.3**
	baz=2.7						
W13A	**Hualapai Mount**	**2.79**	**52**	P	**Pn**	**22 23 55.6**	**-0.5**
	baz=2.8,SNR=36						
W13A				⇑Sb	**Sb**	**22 24 38.2**	**+2.7**
	baz=2.8						
U10A	**Ash Meadows, A**	**2.99**	**4**	⇓P	**Pn**	**22 23 58.4**	**-0.5**
	baz=3.0						
Y14A	**Wickenburg**	**3.03**	**79**	P	**Pn**	**22 23 58.9**	**-0.5**
	baz=3.0,SNR=15						
Y14A				⇑Sb	**Sb**	**22 24 45.7**	**+3.3**
	baz=3.0						
Z14A	**Wintersburg**	**3.04**	**90**	⇑P	**Pn**	**22 23 59.0**	**-0.6**
	baz=3.1,SNR=5.3						
X14A	**Yava**	**3.24**	**70**	⇓P	**Pn**	**22 24 01.7**	**-0.6**
	baz=3.2,SNR=22						
W14A	**Seligman**	**3.40**	**57**	⇑P	**Pn**	**22 24 04.5**	**0.0**
	baz=3.4,SNR=16						
U12A	**Valley of Fire**	**3.44**	**29**	⇓P	**Pn**	**22 24 04.8**	**-0.2**
	baz=3.4,SNR=21						
TPNV	**Topopah Spring**	**3.52**	**4**	*e*Pn	**Pn**	**22 24 05.7**	**-0.5**
TPNV				*e*Sn	**Sn**	**22 24 46.5**	**-1.6**
Y15A	**Casa Rosa Ranc**	**3.58**	**80**	⇓P	**Pn**	**22 24 06.4**	**-0.6**
	baz=3.6,SNR=21						
V14A	**Boquillas Ranc**	**3.62**	**52**	⇓P	**Pn**	**22 24 07.5**	**0.0**
	baz=3.6,SNR=26						
U13A	**Pakoon Wash**	**3.68**	**35**	⇑P	**Pn**	**22 24 08.2**	**-0.1**
	baz=3.7,SNR=12						
115A	**Sonoran Desert**	**3.73**	**100**	⇑P	**Pn**	**22 24 08.8**	**-0.2**
	baz=3.7						
X15A	**Humboldt**	**3.76**	**72**	P	**Pn**	**22 24 09.3**	**-0.2**
	baz=3.8,SNR=25						
T13A	**Saint George**	**4.20**	**31**	⇓P	**Pn**	**22 24 15.6**	**+0.1**
	baz=4.2						
MTUM	**

mb3.1/5,**mb1 3.4**/5,**mb1mx3.2**/15,**mbtmp3.1**/5,**1C, Error ellipse: s-maj=72.2km s-min=27.7km az=13.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**20.30**	**191**	P	P	23 22 32.6	-0.2
	2.7nm,0.3s,baz=18,slow=20,SNR=6.2						
WRA	**Warramunga Arr**	**44.84**	**260**	P	P	23 26 01.0	-0.4
	0.4nm,0.5s,baz=96,slow=7.9,SNR=18						
ASAR	**Alice Springs**	**44.95**	**255**	P	P	23 26 02.7	+0.4
	2.5nm,0.6s,baz=89,slow=8.2,SNR=35						
TXAR	**Lajitas Array**	**85.98**	**57**	P	P	23 30 21.0	+0.9
	0.4nm,0.7s,baz=220,slow=8.0,SNR=5.0						
YKA	**Yellowknife Ar**	**94.59**	**25**	P	P	23 30 58.5	-0.7
	0.2nm,0.6s,baz=247,slow=4.1,SNR=4.1						
CLL	**Collm**	**145.93**	**348**	⇑*i*(P)	PKPdf	23 37 15.8	+1.2
	comp=Z,6.0nm,1.0s						
CLL				*i* x	x	23 37 24.0	
GERES	**GERESS Array B**	**148.08**	**345**	PKPbc	PKPbc	23 37 21.4	-0.6
	comp=Z,0.6nm,0.5s,baz=31,slow=3.1,SNR=9.1						
DAVOX	**Davos/Dischmat**	**150.87**	**349**	PKPbc	PKPbc	23 37 28.9	+0.1
	comp=Z,2.4nm,0.7s,baz=36,slow=8.7,SNR=5.1						

*IDC **18** 23:40:19.6±1.2, 34.75N×85.86E, h0km, mb3.5/6, mb1 3.8/8, mb1mx3.5/23, mbtmp3.6/8, ML3.3/2, MS3.2/6, Ms1 3.2/6, ms1mx2.9/34, Error ellipse: s-maj=41.3km s-min=22.5km az=63.0*

*ISCJB **18** 23:40:20.3±6.4, 34.8N±0.1×85.9E±0.2, h17km±43km, mb3.8/9, MS3.4/4, Error ellipse: s-maj=28.9km s-min=18.0km az=138.0*

*NEIC **18** 23:40:25.1±0.8, 34.86N×85.91E, h35km, mb3.8/1, Error ellipse: s-maj=14.6km s-min=13.1km az=67.0*

ISC 18 23:40:25.3±2.6, 34.8N±0.1×85.9E±0.2, h40km±20km, n20, σ1§00/17, mb3.8/9, MS3.4/4, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**11.99**	**311**	*e*Pn	Pn	**23 43 14.7**	**+1.1**
	1.7nm,0.8s						
MKAR	**Makanchi Array**	**12.25**	**348**	Pn	Pn	**23 43 16.0**	**-1.0**
MKAR				Lg		23 46 51.7	
MKAR				LR	LR	23 49 05.9	
MKAR	**Makanchi Array**	**12.25**	**348**	Pn	Pn	**23 43 16.0**	**-1.0**
	0.1nm,0.3s,baz=156,slow=15,SNR=40						
MKAR				Lg		23 46 51.7	
	0.0nm,0.3s,baz=157,slow=27,SNR=2.8						
MKAR				LR	LR	23 49 05.9	
	comp=Z,42nm,20.6s,baz=165,slow=43						
KBL	**Kabul**	**13.85**	**274**	*e*Pn	Pn	**23 43 39.5**	**+0.6**
	10nm,0.9s						
KURK	**Kurchatov**	**16.73**	**344**	*e*Pn	Pn	**23 44 15.9**	**-0.5**
	9.0nm,1.1s						
ZALV	**Zalesovo Beam**	**19.12**	**358**	P	Pn	**23 44 45.5**	**-0.3**
ZALV				LR	LR	23 52 03.6	
ZALV	**Zalesovo Beam**	**19.12**	**358**	P	Pn	**23 44 45.5**	**-0.3**
	0.1nm,0.3s,baz=181,slow=13,SNR=10.0						
ZALV				LR	LR	23 52 03.6	
	comp=Z,23nm,21.0s,baz=231,slow=37						
SONM	**Songino Array**	**20.08**	**43**	LR	LR	23 53 18.8	
	comp=Z,118nm,20.3s,MS3.2,baz=240,slow=39						
BVAR	**Borovoye Array**	**21.25**	**334**	P	P	**23 45 08.2**	**+0.5**
	2.1nm,1.1s,mb3.4,baz=140,slow=9.4,SNR=6.6						
AKTK	**Aktyubinsk**	**25.54**	**316**	P	P	**23 45 50.7**	**+0.7**
AKTO	**Aktyubinsk**	**25.54**	**316**	P	P	**23 45 50.7**	**+0.7**
	1.7nm,0.7s,mb3.7,baz=122,slow=9.9,SNR=8.5						
MIB	**Mutribah**	**32.80**	**272**	*e*P	P	**23 46 55.1**	**+0.3**
MIB				AMb	AMB	23 46 59.7	
	comp=Z,9.9nm,1.1s,mb4.7						
NAY	**Al-Naaiem**	**33.06**	**271**	*e*P	P	**23 46 54.8**	**-2.3**
NAY				AMb	AMB	23 47 02.4	
	comp=Z,4.3nm,1.0s,mb4.3						
RST	**Umm Al-Ruwaisa**	**33.18**	**272**	*e*P	P	**23 46 56.2**	**-1.9**
RST				AMb	AMB	23 47 02.5	
	comp=Z,13nm,1.1s,mb4.8						
HFS	**Hagfors**		**51.80**	**323**	LR	LR	00 13 21.1
	comp=Z,36nm,18.4s,MS3.4,baz=353,slow=38						
NOA	**NORSAR Array B**	**52.94**	**324**	LR	LR	00 12 21.1	
	comp=Z,30nm,20.9s,MS3.3,baz=85,slow=36						
GERES	**GERESS Array B**	**53.60**	**309**	P	P	**23 49 41.4**	**-0.8**
	comp=Z,0.4nm,0.6s,mb3.5,baz=69,slow=7.6,SNR=4.3						
GERES				LR	LR	00 14 07.3	
	comp=Z,37nm,18.5s,MS3.5,baz=259,slow=38						
WRA	**Warramunga Arr**	**71.32**	**132**	P	P	**23 51 41.1**	**+0.2**
	comp=Z,0.3nm,0.8s,mb3.3,baz=324,slow=6.8,SNR=4.9						
TORD	**Torodi Ar. Bea**	**77.88**	**278**	P	P	**23 52 20.6**	**+1.4**
	comp=Z,0.5nm,0.9s,mb3.5,baz=48,slow=4.0,SNR=4.3						
YKA	**Yellowknife Ar**	**81.62**	**9**	P	P	**23 52 39.3**	**+0.7**
	comp=Z,0.2nm,0.5s,mb3.3,baz=337,slow=4.9,SNR=4.0						

*ISCJB **18** 23:54:32.5±0.9, 8.99S±0.06×124.16E±0.07, h112km±9km, mb4.1/12, Error ellipse: s-maj=13.8km s-min=7.2km az=139.0*

*IDC **18** 23:54:33.0±1.8, 8.91S×124.07E, h96km±18km, mb3.8/6, mb1 4.1/9, mb1mx3.9/14, mbtmp3.9/9, MS2.7/1, Ms1 2.7/1, ms1mx2.4/25, Error ellipse: s-maj=35.0km s-min=20.8km az=82.0*

*NEIC **18** 23:54:37.7±1.7, 9.01S×124.19E, h147km±19km, mb4.6/8, Error ellipse: s-maj=17.0km s-min=8.2km az=74.0*

ISC 18 23:54:33.7±0.8, 9.01S±0.07×124.14E±0.07, h106km±9km, n35, σ1§15/44, mb4.1/12, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Kupang**	**1.28**	**202**	P	Pn	**23 54 57.5**	**-0.2**
	baz=332,slow=3.5						
BATI				S	Sn	23 55 15.7	-0.2
	208nm,0.3s,baz=131,slow=19,SNR=20						
KAKA	**Kakadu**	**8.94**	**115**	*e*P	Pn	**23 56 43.8**	**+3.8**
	12nm,0.3s						
KAKA				*e*S	Sn	23 58 17.4	-1.6
FITZ	**Fitzroy Crossi**	**9.15**	**171**	*e*P	Pn	**23 56 41.1**	**-1.8**
	43nm,0.4s						
FITZ				*e*S	Sn	23 58 17.0	-7.2
FITZ	**Fitzroy Crossi**	**9.15**	**171**	P	Pn	**23 56 41.9**	**-1.0**
	5.8nm,0.3s,baz=2.4,slow=10,SNR=108						
FITZ				S	Sn	23 58 17.0	-7.2
	7.0nm,0.3s,baz=44,slow=22,SNR=28						
FITZ				LR	LR	00 00 32.5	
	comp=Z,41nm,19.6s,baz=89,slow=39						
MBWA	**Marble Bar**	**12.81**	**199**	*e*Pn	Pn	**23 57 29.1**	**-2.8**
MBWA				S	Sn	23 59 41.5	-11
WRA	**Warramunga Arr**	**14.67**	**139**	P	Pn	**23 57 57.5**	**+1.4**
	1.5nm,0.3s,baz=318,slow=14,SNR=58						
WRA				S	Sn	**00 00 29.4**	**-8.7**
	2.0nm,0.3s,baz=308,slow=23,SNR=12						
WRAB	**Tennant Creek**	**14.67**	**139**	*e*Pn	Pn	**23 57 57.2**	**+1.0**
	15nm,0.6s						
WB2	**Warramunga Arr**	**14.68**	**139**	*e*P	Pn	**23 57 56.1**	**-0.1**
WB2				*e*S	Sn	**00 00 28.5**	**-10**
KKM	**Kota Kinabalu**	**16.91**	**332**	*e*P	Pn	**23 58 26.7**	**+2.6**
KSM	**Kuching**	**17.28**	**306**	P	Pn	**23 58 29.7**	**+1.2**
ASAR	**Alice Springs**	**17.31**	**149**	P	Pn	**23 58 30.9**	**+2.0**
	1.5nm,0.3s,baz=319,slow=11,SNR=73						
ASAR				S	S	**00 01 34.8**	**-7.2**
	1.3nm,0.3s,baz=323,slow=22,SNR=15						
FORT	**Forrest**	**21.97**	**171**	*e*P	P	**23 59 20.6**	**+1.6**
	19nm,0.5s,mb4.7						
FORT				*e*S	S	**00 03 20.1**	**+5.1**
KLBR	**Kellerberrin**	**23.24**	**194**	*e*P	P	**23 59 32.0**	**+0.3**
	16nm,0.5s,mb4.6						
KLBR				*e*S	S	**00 03 50.6**	**+15**
MUN	**Mundaring**	**24.01**	**197**	*e*P	P	**23 59 39.3**	**+0.6**
NWAO	**Narrogin (SRO)**	**24.64**	**194**	P	P	**23 59 45.1**	**+0.7**
	3.6nm,0.4s,mb4.2,baz=22,slow=10,SNR=7.7						
STKA	**Stephens Creek**	**27.93**	**147**	*e*P	P	**00 00 18.5**	**+4.4**
STKA	**Stephens Creek**	**27.93**	**147**	P	P	**00 00 18.5**	**+4.4**
	0.8nm,0.3s,mb3.7,baz=325,slow=7.9,SNR=7.2						
NACB	**Ninganchiao**	**33.07**	**356**	P	P	**00 00 55.3**	**-4.1**
YHNB	**Yeheng**	**33.58**	**355**	P	P	**00 01 05.0**	**+1.2**
CHTO	**Chiang Mai**	**37.18**	**318**	P	P	**00 01 34.6**	**-0.1**
	704nm,1.1s						
MJAR	**Matsushiro Arr**	**47.20**	**15**	P	P	**00 02 55.4**	**-0.4**
	2.2nm,0.7s,mb4.0,baz=187,slow=9.9,SNR=3.9						
SONM	**Songino Array**	**58.74**	**346**	P	P	**00 04 20.7**	**+0.3**
	0.9nm,0.5s,mb4.1,baz=140,slow=7.8,SNR=3.6						
MKAR	**Makanchi Array**	**66.89**	**330**	P	P	**00 05 14.5**	**+0.1**
MKAR	**Makanchi Array**	**66.89**	**330**	P	P	**00 05 14.5**	**+0.1**
	1.5nm,0.6s,mb4.0,baz=140,slow=6.8,SNR=24						
KBL	**Kabul**	**67.74**	**313**	P	P	**00 05 19.4**	**-0.7**
	4.7nm,0.8s,mb4.4						
TKM2	**Tokmak 2**	**67.99**	**324**	P	P	**00 05 21.8**	**+0.3**
UCH	**Uchtor**	**68.22**	**322**	P	P	**00 05 22.8**	**-0.1**
AAK	**Ala-Archa**	**68.47**	**323**	*e*P	P	**00 05 22.4**	**-2.0**
EKS2	**Erkin-Say**	**68.91**	**322**	*e*P	P	**00 05 27.5**	**+0.2**
	1.2nm,0.7s,mb3.8						
ZALV	**Zalesovo Beam**	**70.96**	**337**	P	P	**00 05 38.1**	**-1.5**
	0.9nm,0.3s,mb4.0,baz=127,slow=4.2,SNR=6.6						
MAW	**Mawson**	**71.00**	**201**	P	P	**00 05 30.9**	**-8.7**
KURK	**Kurchatov**	**71.34**	**331**	*e*P	P	**00 05 41.7**	**-0.2**
	2.1nm,0.4s,mb4.3						
AKTK	**Aktyubinsk**	**82.18**	**324**	P	P	**00 06 41.6**	**-1.2**
AKTO	**Aktyubinsk**	**82.18**	**324**	P	P	**00 06 41.6**	**-1.2**
	0.6nm,0.4s,mb3.8,baz=175,slow=4.5,SNR=3.9						
TORD	**Torodi Ar. Bea**	**123.47**	**280**	PKP	PKPdf	00 13 20.8	+1.2
	0.3nm,0.6s,baz=50,slow=2.1,SNR=8.0						

*BJI **19** 00:04:18.0, 6.54S×130.66E, h92km, mB5.1, mb4.9*

*MOS **19** 00:04:21.8±0.7, 6.20S×130.24E, h95km, mb4.9/23, Error ellipse: s-maj=17.8km s-min=6.9km az=114.8*

*NEIC **19** 00:04:23.8±1.0, 6.32S×130.27E, h105km±9km, mb4.8/24, Error ellipse: s-maj=9.5km s-min=5.1km az=66.0*

*ISCJB **19** 00:04:24.2±0.7, 6.40S±0.03×130.34E±0.04, h129km±7km, mb4.7/57, Error ellipse: s-maj=7.2km s-min=5.2km az=164.8*

*IDC **19** 00:04:24.7±2.8, 6.29S×130.25E, h109km±26km, mb4.4/13, mb1 4.5/16, mb1mx4.5/18, mbtmp4.5/16, MS3.4/2, Ms1 3.3/2, ms1mx2.8/19, Error ellipse: s-maj=20.0km s-min=11.9km az=72.0*

ISC 19 00:04:25.5±0.6, 6.43S±0.03×130.38E±0.04, h125km±6km, n166, σ1§11/151, mb4.8/57, 10C-10D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TLE	**Tual**	**2.47**	**72**	P	Pn	**00 05 04.0**	**-1.1**
	22μm,1.1s						
AAI	**Ambon**	**3.49**	**321**	P	Pn	**00 05 20.1**	**+1.8**
	780nm,0.8s						
KAKA	**Kakadu**	**6.57**	**162**	*e*P	Pn	**00 06 00.7**	**+1.0**
	324nm,0.7s						
KAKA				*e*S	Sn	00 07 10.9	-2.3
BATI	**Kupang**	**7.64**	**240**	P	Pn	**00 06 14.3**	**+0.1**
	90nm,0.3s,baz=86,slow=2.5,SNR=63						
BATI				S	Sn	**00 07 37.5**	**-1.7**
	76nm,0.3s,baz=172,slow=23,SNR=5.2						
BAKI	**Biak**	**7.72**	**48**	P	Pn	**00 06 16.2**	**+0.9**
	2μm,0.8s						
PCI	**Palu**	**11.86**	**297**	P	Pn	**00 07 15.3**	**+4.5**
	229nm,1.2s						
FITZ	**Fitzroy Crossi**	**12.49**	**201**	*e*P	Pn	**00 07 17.5**	**-1.5**
	36nm,0.7s						
FITZ				*e*S	Sn	**00 09 26.2**	**-11**
FITZ	**Fitzroy Crossi**	**12.49**	**201**	P	Pn	**00 07 18.3**	**-0.7**
	2.3nm,0.3s,baz=35,slow=13,SNR=52						
FITZ				S	Sn	**00 09 29.5**	**-7.2**
	9.8nm,0.3s,baz=108,slow=18,SNR=8.4						
WRAB	**Tennant Creek**	**13.97**	**164**	*e*Pn	Pn	**00 07 36.4**	**-1.7**
	44nm,0.6s						
WRAB				*e*		00 07 44.6	
WRAB				*e*Sn	Sn	**00 10 03.0**	**-9.3**
WRAB	**Tennant Creek**	**13.97**	**164**	*e*P	Pn	**00 07 36.4**	**-1.7**
WRAB				pmax	pmax		
	comp=Z,44nm,0.6s						
WRA	**Warramunga Arr**	**13.97**	**164**	P	Pn	**00 07 37.0**	**-1.2**
WRA				S	Sn	**00 10 04.7**	**-7.9**
WRA	**Warramunga Arr**	**13.97**	**164**	P	Pn	**00 07 37.0**	**-1.2**
	comp=Z,4.2nm,0.3s,baz=344,slow=13,SNR=52						
WRA				S	Sn	**00 10 04.7**	**-7.9**
	comp=Z,12nm,0.3s,baz=348,slow=22,SNR=8.5						
WB2	**Warramunga Arr**	**13.98**	**164**	*e*P	Pn	**00 07 35.4**	**-2.8**
WB2				*i*		00 07 44.5	
WB2				*e*S	Sn	**00 10 03.4**	**-9.2**
KMMI	**Kalianget**	**16.32**	**267**	P	Pn	**00 08 11.6**	**+4.1**
	comp=Z,218nm,0.9s						
TSM	**Tawau**	**16.41**	**310**	⇑P	Pn	**00 08 13.3**	**+4.6**
MYLDM	**Lahad Datu**	**16.54**	**314**	⇑P	Pn	**00 08 12.8**	**+2.5**
ASAR	**Alice Springs**	**17.47**	**169**	P	Pn	**00 08 22.9**	**+1.4**
	comp=Z,11nm,0.3s,baz=353,slow=11,SNR=378						
ASAR				S	S	**00 11 29.7**	**-6.4**
	comp=Z,4.6nm,0.3s,baz=359,slow=30,SNR=9.2						
SDKM	**Sandakan**	**17.80**	**312**	⇑P	Pn	**00 08 28.1**	**+2.6**
KRKI	**Karangkates**	**17.87**	**263**	P	Pn	**00 08 27.3**	**+1.0**
	comp=Z,182nm,0.6s						
MBWA	**Marble Bar**	**17.91**	**214**	*e*P	Pn	**00 08 28.1**	**+1.3**
	comp=Z,42nm,0.6s						
KKM	**Kota Kinabalu**	**18.80**	**311**	*e*P	P	**00 08 36.3**	**+0.8**
KKM				*e*S	S	**00 11 54.8**	**-8.1**
KKM	**Kota Kinabalu**	**18.80**	**311**	⇑P	P	**00 08 37.0**	**+1.6**
KDM	**Kudat**	**18.93**	**314**	⇑P	P	**00 08 35.9**	**-1.0**
BTM	**Bintulu**	**19.74**	**298**	⇓P	P	**00 08 46.0**	**+0.3**
SBUM	**Sibu**	**20.16**	**295**	⇓P	P	**00 08 51.9**	**+1.6**
CTA	**Charters Tower**	**20.54**	**133**	⇓*i*P	P	**00 08 57.0**	**+2.8**
	comp=Z,44nm,0.9s						
CTA				*e*S	S	**00 12 42.0**	**+4.8**
CTA	**Charters Tower**	**20.54**	**133**	⇓*i*P	P	**00 08 57.0**	**+2.8**
CTA				*e*S	S	**00 12 42.0**	**+4.8**
CTA				pmax	pmax		
	comp=Z,44nm,0.9s						
CTA	**Charters Tower**	**20.54**	**133**	P	P	**00 08 56.5**	**+2.3**
	comp=Z,56nm,0.9s,baz=308,slow=11,SNR=34						
CTAO	**Charters Tower**	**20.54**	**133**	*e*P	P	**00 08 57.1**	**+2.9**
	comp=Z,53nm,0.8s						
CTAO				*e*S	S	**00 12 47.8**	**+11**
CTAO	**Charters Tower**	**20.54**	**133**	*e*P	P	**00 08 57.1**	**+2.9**
CTAO				*e*S	S	**00 12 47.8**	**+11**
CTAO				pmax	pmax		
	comp=Z,53nm,0.8s						
KSM	**Kuching**	**21.52**	**291**	P	P	**00 09 00.5**	**-4.3**
KSM	**Kuching**	**21.52**	**291**	⇑P	P	**00 09 06.2**	**+1.4**
FORT	**Forrest**	**24.32**	**185**	*e*P	P	**00 09 31.6**	**0.0**
	comp=Z,22nm,0.6s,mb4.7						
STKA	**Stephens Creek**	**27.40**	**159**	⇓*i*P	P	**00 10 01.1**	**+1.7**
	comp=Z,11nm,0.5s,mb4.7						
STKA	**Stephens Creek**	**27.40**	**159**	P	P	**00 10 01.1**	**+1.8**
	comp=Z,14nm,0.5s,mb4.8,baz=330,slow=8.9,SNR=35						
STKA				LR	LR	00 21 31.9	
	comp=Z,59nm,18.4s,baz=204,slow=37						
KLBR	**Kellerberrin**	**27.68**	**204**	*e*P	P	**00 10 03.2**	**+1.3**
	comp=Z,11nm,0.4s,mb4.8						
MYKOM	**Kota Tinggi**	**27.72**	**286**	⇓P	P	**00 10 04.1**	**+1.7**
KGM	**Kluang**	**28.29**	**286**	⇑P	P	**00 10 02.3**	**-5.2**
NWAO	**Narrogin (SRO)**	**29.07**	**203**	*e*P	P	**00 10 16.1**	**+1.9**
	comp=Z,4.7nm,0.4s,mb4.5						
NWAO	**Narrogin (SRO)**	**29.07**	**203**	*e*P	P	**00 10 16.1**	**+2.0**
NWAO				pmax	pmax		
	comp=Z,5.0nm,0.4s						
NWAO	**Narrogin (SRO)**	**29.07**	**203**	P	P	**00 10 16.2**	**+2.1**
	comp=Z,5.3nm,0.4s,mb4.5,baz=69,slow=7.7,SNR=7.9						
NWAO				LR	LR	00 24 07.7	
	comp=Z,78nm,19.7s,baz=203,slow=41						
KTGM	**Kuala Trenggan**	**29.60**	**293**	⇓P	P	**00 10 16.1**	**-3.0**
FRIM	**Kepong**	**30.27**	**288**	⇓P	P	**00 10 25.1**	**0.0**
ARMA	**Armidale**	**31.11**	**143**	*e*P	P	**00 10 33.4**	**+1.2**
IPM	**Ipoh**	**31.25**	**290**	⇓P	P	**00 10 33.4**	**-0.2**
NACB	**Ninganchiao**	**31.60**	**345**	P	P	**00 10 35.1**	**-1.4**
KULM	**Kulim**	**31.88**	**291**	*e*P	P	**00 10 37.9**	**-1.3**
KULM	**Kulim**	**31.88**	**291**	⇑P	P	**00 10 39.1**	**-0.1**
YHNB	**Yeheng**	**32.13**	**344**	P	P	**00 10 40.0**	**-1.2**
PSI	**Prapat**	**32.72**	**285**	P	P	**00 10 45.0**	**-1.5**
	comp=Z,27nm,0.9s,mb5.1,baz=115,slow=4.4,SNR=6.3						
JNU	**Nakatsue**	**39.33**	**1**	P	P	**00 11 42.2**	**-0.3**
	comp=Z,6.8nm,0.7s,mb4.6,baz=149,slow=4.6,SNR=3.2						
CM31	**Chiang Mai Arr**	**39.66**	**309**	*e*P	P	**00 11 44.8**	**-0.7**
	comp=Z,5.3nm,0.6s,mb4.5						
NJ2	**Nanjing**	**39.81**	**345**	*e*P	P	**00 11 42.0**	**-4.5**
NJ2				PP	PP	00 13 17.0	-3.6
NJ2				S	S	**00 17 35.0**	**-6.6**
NJ2				AMB	AMB		
	comp=Z,30nm,0.6s,mb5.3						
NJ2				AMB	AMB		
	comp=Z,260nm,3.8s						
NJ2				LR	LR		
	comp=N,780nm,17.7s						
NJ2				LR	LR		
	comp=E,430nm,19.6s						
NJ2				LR	LR		
	comp=Z,570nm,23.9s						
WHN	**Wuhan**	**39.84**	**338**	P	P	**00 11 47.3**	**+0.5**
CHTO	**Chiang Mai**	**39.87**	**310**	*e*P	P	**00 11 46.9**	**-0.3**
	comp=Z,20nm,0.8s,mb5.0						
CHTO	**Chiang Mai**	**39.87**	**310**	*e*P	P	**00 11 46.9**	**-0.3**
CHTO				pmax	pmax		
	comp=Z,20nm,0.8s,mb5.0						
KMI	**Kunming**	**41.31**	**320**	P	P	**00 11 59.8**	**+0.8**
KMI				AMB	AMB		
	comp=Z,12nm,0.7s,mb4.8						
MJAR	**Matsushiro Arr**	**43.37**	**9**	P	P	**00 12 14.5**	**-0.9**
MJAR	**Matsushiro Arr**	**43.37**	**9**	P	P	**00 12 14.5**	**-0.9**
	comp=Z,4.0nm,0.7s,mb4.2,baz=185,slow=9.0,SNR=9.9						
MAJO	**Matsushiro**	**43.37**	**9**	*e*P	P	**00 12 14.3**	**-1.1**
	comp=Z,9.4nm,0.7s,mb4.6						
MAJO	**Matsushiro**	**43.37**	**9**	*e*P	P	**00 12 14.3**	**-1.1**
MAJO				pmax	pmax		
	comp=Z,9.0nm,0.7s,mb4.6						
KSRS	**Korea Array**	**43.71**	**357**	P	P	**00 12 18.6**	**+0.5**
	comp=Z,1.9nm,0.5s,mb4.1,baz=171,slow=9.2,SNR=5.2						
XAN	**Xi'an**	**45.08**	**335**	P	P	**00 12 28.3**	**-0.9**
XAN				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.5						
BJT	**Baijiatuau**	**48.04**	**345**	*e*P	P	**00 12 51.8**	**-0.3**
	comp=Z,9.8nm,0.6s,mb4.8						
BJT	**Baijiatuau**	**48.04**	**345**	*e*P	P	**00 12 51.8**	**-0.3**
BJT				pmax	pmax		
	comp=Z,10.0nm,0.6s						
LZH	**Lanzhou**	**49.08**	**331**	*e*P	P	**00 13 00.0**	**-0.2**
LZH				AMB	AMB		
	comp=Z,38nm,1.5s,mb5.1						
LZH				AMB	AMB		
	comp=Z,92nm,4.0s						
SHL	**Shillong**	**49.10**	**312**	*e*P	P	**00 13 01.0**	**+0.5**
MDJ	**Mudanjiang**	**50.81**	**359**	*e*P	P	**00 13 13.4**	**+0.3**
PALK	**Pallekele**	**51.40**	**285**	*e*P	P	**00 13 17.0**	**-1.0**
	comp=Z,4.7nm,0.7s,mb4.6						
LSA	**Lhasa**	**52.05**	**316**	P	P	**00 13 22.4**	**-0.3**
	comp=Z,6.5nm,0.4s,mb5.0						
LSA	**Lhasa**	**52.05**	**316**	P	P	**00 13 22.4**	**-0.2**
LSA				pmax	pmax		
	comp=Z,7.0nm,0.4s,mb5.0						
VIS	**Vishakhapatnam**	**52.29**	**298**	*e*P	P	**00 13 24.9**	**+0.4**
VIS				AMb	AMB	00 13 25.7	
	comp=Z,39nm,0.5s,mb5.7						
BOK	**Bokaro**	**52.79**	**306**	*e*P	P	**00 13 27.9**	**-0.3**
BOK				AMb	AMB	00 13 29.5	
	comp=Z,7.9nm,1.2s,mb4.6						
MDRS	**Chennai**	**53.44**	**291**	*e*P	P	**00 13 32.5**	**-0.6**
MDRS				AMb	AMB	00 13 34.0	
	comp=Z,42nm,1.0s,mb5.4						
GTA	**Gaotai**	**53.66**	**331**	*e*P	P	**00 13 34.9**	**+0.7**
GTA				AMB	AMB		
	comp=Z,10.0nm,1.3s,mb4.7						
KOD	**Kodaikanal**	**55.23**	**287**	*e*P	P	**00 13 46.3**	**+0.2**
KLR	**Kul'dur**	**55.43**	**1**	*e*P	P	**00 13 42.2**	**-4.7**
HIA	**Hailar**	**56.23**	**352**	P	P	**00 13 52.7**	**+0.2**
HYB	**Hyderabad**	**56.41**	**296**	*e*P	P	**00 13 53.5**	**-0.9**
HYB	**Hyderabad**	**56.41**	**296**	*i* P	P	**00 13 55.0**	**+0.6**
NGP	**Nagpur**	**57.34**	**300**	*e*P	P	**00 13 58.7**	**-2.2**
NGP				AMb	AMB	00 13 59.7	
	comp=Z,13nm,0.5s,mb5.2						
ULN	**Ulaanbaatar**	**57.84**	**342**	*e*P	P	**00 14 04.4**	**+0.5**
	comp=Z,14nm,0.8s,mb5.1						
ULN	**Ulaanbaatar**	**57.84**	**342**	*e*P	P	**00 14 04.4**	**+0.5**
ULN				pmax	pmax		
	comp=Z,15nm,0.8s,mb5.1						
SONM	**Songino Array**	**58.02**	**341**	P	P	**00 14 06.0**	**+0.8**
	comp=Z,5.5nm,0.6s,mb4.8,baz=162,slow=6.9,SNR=14						
LATR	**Latur**	**58.53**	**296**	*e*P	P	**00 14 09.1**	**-0.2**
AKL	**Akola**	**58.93**	**299**	*e*P	P	**00 14 09.7**	**-2.3**
AKL				AMb	AMB	00 14 12.2	
	comp=Z,18nm,0.6s,mb5.2						
BHPL	**Bhopal**	**59.53**	**302**	*e*P	P	**00 14 14.2**	**-1.9**
BHPL				AMb	AMB	00 14 16.3	
	comp=Z,13nm,0.4s,mb5.3						
KAD	**Karad**	**60.31**	**294**	*e*P	P	**00 14 20.1**	**-1.5**
KAD				AMb	AMB	00 14 21.9	
	comp=Z,17nm,0.4s,mb5.4						
ZAK	**Zakamensk**	**61.25**	**341**	*e*P	P	**00 14 27.2**	**0.0**
ZAK				*e*		00 15 07.7	
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.1s,mb4.2						
ZAK				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.2						
CASY	**Casey**	**61.33**	**189**	P	P	**00 14 29.3**	**+1.8**
NDI	**New Delhi**	**61.94**	**307**	*e*P	P	**00 14 31.0**	**-1.4**
NDI				AMb	AMB	00 14 32.2	
	comp=Z,20nm,1.1s,mb5.0						
TLY	**Talaya**	**62.25**	**342**	*e*P	P	**00 14 33.0**	**-0.9**
	comp=Z,3.2nm,0.7s,mb4.5						
TLY	**Talaya**	**62.25**	**342**	*e*P	P	**00 14 33.0**	**-0.9**
TLY				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.4						
SMLA	**Simla**	**63.05**	**310**	*e*P	P

```
TIXI                                   pmax    pmax
     comp=Z,5.0nm,0.6s,mb4.4
QSPA South Pole Qui     83.55 180  eP        P      00 16 40.5 +1.5
AKTK Aktyubinsk         83.85 322  P         P      00 16 41.0 -0.1
AKTO Aktyubinsk         83.85 322  P         P      00 16 41.0 -0.1
     comp=Z,5.2nm,0.6s,mb4.5,baz=107,slow=5.5,SNR=20
SVE  Sverdlovsk         84.47 329  eP        P      00 16 44.3 +0.2
SVE                                    pmax    pmax
     comp=Z,16nm,0.8s,mb4.9
ARU  Arti               85.42 328  eP        P      00 16 48.0 -0.8
     comp=Z,9.9nm,0.8s,mb4.8
ARU  Arti               85.42 328c iP        P      00 16 47.7 -1.1
ARU                                    e             00 20 08.8
ARU                                    ePPP          00 22 01.6
ARU                                    pmax    pmax
     comp=Z,15nm,1.0s,mb4.9
RDF  Al-Radifah         86.84 299  eP        P      00 16 55.7 -0.7
RDF                                    AMb     AMB   00 16 57.9
     comp=Z,33nm,1.1s,mb5.2
NAY  Al-Naaiem          87.15 300  eP        P      00 16 57.6 -0.3
NAY                                    AMb     AMB   00 16 58.6
     comp=Z,12nm,0.8s,mb4.9
MIB  Mutribah           87.16 300  eP        P      00 16 57.4 -0.6
MIB                                    AMb     AMB   00 17 00.6
     comp=Z,23nm,0.9s,mb5.1
RST  Umm Al-Ruwaisa     87.40 300  eP        P      00 16 58.5 -0.6
RST                                    AMb     AMB   00 16 59.5
     comp=Z,15nm,0.7s,mb5.0
ARCES ARCESS Array B 101.17 340    P         Pdif   00 17 59.7 -2.0
ARCES ARCESS Array B 101.17 340    P         Pdif   00 17 59.7 -2.0
     comp=Z,2.8nm,0.8s,baz=60,slow=7.2,SNR=7.5
AKASG Malin Array Be    102.01 320 P         Pdif   00 18 04.0 -1.3
     comp=Z,0.1nm,0.3s,baz=167,slow=0.7,SNR=3.0
FINES FINESS Array B    102.44 332 Pdiff     Pdif   00 18 04.8 -2.5
     comp=Z,0.9nm,0.7s,baz=146,slow=13,SNR=3.0
CDF  Champ du Feu       116.39 321 ePKIKP    PKPdf  00 22 55.0 +0.5
     comp=Z,2.6nm,0.7s
HINF Hinteralfeld       116.88 321 ePKIKP    PKPdf  00 22 55.9 +0.5
     comp=Z,3.0nm,0.5s
HAU  Haudompre          117.12 321 ePKIKP    PKPdf  00 22 55.8 -0.1
PGF  Pioggiola          117.22 315 ePKIKP    PKPdf  00 22 56.5 +0.2
MEZF Maizieres J'vi     117.73 322 ePKIKP    PKPdf  00 22 57.0 -0.1
LPG  La Plagne          117.78 319 ePKIKP    PKPdf  00 22 57.6 +0.3
     comp=Z,2.3nm,0.4s
LPL  La Plagne          117.79 319 ePKIKP    PKPdf  00 22 57.5 +0.2
     comp=Z,3.7nm,0.5s
CABF La Chapelle        117.81 320 ePKIKP    PKPdf  00 22 57.6 +0.3
     comp=Z,5.0nm,0.6s
SBF  Sospel             117.89 317 ePKIKP    PKPdf  00 22 57.3 -0.2
     comp=Z,11nm,0.7s
FRF  La Foret Royal     118.53 317 ePKIKP    PKPdf  00 22 58.7 -0.1
ORIF Oris-en-Rattie     118.57 318 ePKIKP    PKPdf  00 22 58.7 -0.1
LMR  La Mourre          118.70 316 ePKIKP    PKPdf  00 22 58.9 -0.2
SMF  Signal de Mont     119.22 321 ePKIKP    PKPdf  00 22 59.7 -0.3
SSF  Saint Saulge       119.27 321 ePKIKP    PKPdf  00 23 00.2 +0.1
     comp=Z,4.4nm,0.7s
VIVF Saint-Julien-l     119.39 318 ePKIKP    PKPdf  00 23 00.2 -0.2
AVF  Avril sur Loir     119.47 321 ePKIKP    PKPdf  00 23 00.1 -0.4
BGF  Bois d'Agland      119.89 321 ePKIKP    PKPdf  00 23 01.5 +0.2
     comp=Z,5.8nm,0.7s
TCF  Toulx Ste Croi     120.40 321 ePKIKP    PKPdf  00 23 02.5 +0.2
     comp=Z,3.6nm,0.7s
MTLF Montolieu          121.61 318 ePKIKP    PKPdf  00 23 04.6 -0.1
     comp=Z,4.6nm,0.9s
MFF  Saint Martin d     121.72 322 ePKIKP    PKPdf  00 23 04.7 -0.1
     comp=Z,5.6nm,0.6s
WMOK Wichita Mounta     126.74 51  PKPdf     PKPdf  00 23 16.8 +2.0
TORD Torodi Ar. Bea     129.07 282 PKP       PKPdf  00 23 19.9 +0.1
     comp=Z,2.5nm,0.6s,baz=81,slow=1.8,SNR=30
DBIC Dimbokro           135.54 273 PKP       PKPdf  00 23 32.9 +0.9
     comp=Z,3.1nm,0.6s,baz=5.6,slow=3.0,SNR=8.4
JTS  JuntasAbangare     144.84 81  PKPbc     PKPdf  00 23 48.6 -0.2
NNA  Nana               147.32 124 PKPdf     PKPdf  00 23 54.8 +1.8
LPAZ La Paz             150.93 141 PKPbc     PKPbc  00 24 07.5 +3.0
     comp=Z,0.9nm,0.4s,baz=28,slow=4.1,SNR=10.0
```

KRSC 19 00:26:24.9±0.4, 5089N×15815E, h43km±43km, ML3.8, East of Kuril Islands

```
Code Station Name       Δ°   AZ°   Phase ID          Time      Res
                                   Op      ISC       h m s     ISC
RUS  Russkaya           1.56   8   iP      Pn        00 26 51.8 +1.7
RUS                                iS      Sn        00 27 11.9 +2.8
MIPR Malaya Ipel'ka     1.64 329   iP      Pn        00 26 53.1 +1.9
MIPR                               iS      Sn        00 27 14.1 +3.1
ALID Alaid              1.65 270   iP      Pn        00 26 51.3  0.0
ALID                               iS      Sn        00 27 10.6 -0.6
GRL  Gorelyy            1.67 358   iP      Pn        00 26 54.4 +2.9
GRL                                iS      Sn        00 27 15.3 +3.6
PET  Petropavlovsk      2.16   8   eP      Pn        00 27 00.0 +1.7
PET                                iS      Sn        00 27 25.7 +1.9
NLC  Nalytchevo         2.40  17   iP      Pn        00 27 02.5 +0.9
NLC                                iS      Sn        00 27 29.7 -0.1
SDLR Sedlovina          2.43  10   iP      Pn        00 27 04.3 +2.2
SDLR                               iS      Sn        00 27 32.5 +1.9
GNL  Ganaly             2.81 357   iP      Pn        00 27 10.1 +2.8
GNL                                iS      Sn        00 27 43.8 +3.9
KII  Karymskiy          3.25  14   eP      Pn        00 27 16.4 +3.1
KII                                iS      Sn        00 27 55.1 +4.4
TUMR Tumrok             4.56  15   P       Pn        00 27 33.7 +2.4
```

IGQ 19 00:59:02.6, 175S×8114W, h5km±31km, Mb4.3, Ms4.1, 7C-2D, Error ellipse: s-maj=34.2km s-min=5.2km az=153.9, Off coast of Ecuador

```
Code Station Name       Δ°   AZ°   Phase ID          Time      Res
                                   Op      ISC       h m s     ISC
MAG1 Magdalena          2.15  39   ⇑P      Pn        00 59 40.8 +1.6
MAG1 Magdalena          2.15  39   ⇑S      Sn        01 00 10.2 +3.9
IGUA Igualata           2.51  84   ⇑P      Pn        00 59 46.9 +2.8
IGUA Igualata           2.51  84   ⇑S      Sn        01 00 16.6 +1.5
ARRY Arrayan            2.69  85   ⇓P      Pn        00 59 49.6 +3.1
ARRY Arrayan            2.69  85   ⇓S      Sn        01 00 20.0 +0.4
PATA Patacocha          2.71  85   P       Pn        00 59 50.3 +3.4
PATA Patacocha          2.71  85   S       Sn        01 00 23.5 +3.4
RUN5 Runtun             2.73  83   P       Pn        00 59 50.3 +3.1
VC1  Cotopaxi 1         2.95  68   P       Pn        00 59 53.2 +3.1
VC1  Cotopaxi 1         2.95  68   S       Sn        01 00 32.8 +6.9
JUA2 San Juan 2         2.96  59   P       Pn        00 59 51.6 +1.4
TAMB Tambo              2.96  69   P       Pn        00 59 53.9 +3.7
TAMB Tambo              2.96  69   S       Sn        01 00 33.6 +7.4
TERV Terraza Guagua     2.98  58   P       Pn        00 59 52.4 +1.9
PINO Pino               2.98  58   P       Pn        00 59 52.0 +1.4
PINO Pino               2.98  58   S       Sn        01 00 25.6 -1.1
GGP  Refugio Guagua     2.98  58   ⇑P      Pn        00 59 52.8 +2.2
GGP  Refugio Guagua     2.98  58   ⇑S      Sn        01 00 27.6 +0.8
ANTI Antisana           3.24  67   P       Pn        00 59 57.8 +3.6
ANTI Antisana           3.24  67   S       Sn        01 00 38.8 +5.6
COTA Cotacachi          3.48  54   P       Pn        01 00 00.6 +3.1
COTA Cotacachi          3.48  54   S       Sn        01 00 45.1 +6.0
CAYR Refugio Cayamb     3.59  61   ⇑P      Pn        01 00 04.2 +5.3
```

*IDC **19** 01:05:30.9±1.0, 7.95S×15683E, h0km, mb3.9/6, mb1 4.0/7, mb1mx3.9/14, mbtmp3.9/7, ML4.6/1, MS2.9/1, Ms1 2.9/1, ms1mx2.5/22, Error ellipse: s-maj=27.7km s-min=24.2km az=155.0*
*ISCJB **19** 01:05:31.2±0.8, 80S±0.1×15681E±008, h10km, mb3.7/6, Error ellipse: s-maj=21.1km s-min=9.8km az=16.4*
*NEIC **19** 01:05:32.5±0.8, 7.96S×15684E, h10km, Error ellipse: s-maj=22.7km s-min=17.6km az=179.0*

ISC 19 01:05:32.6±0.8, 79S±01×15683E±008, h10km, n8, σ0§98/10, mb3.7/6, Bougainville - Solomon Islands region

```
Code Station Name       Δ°   AZ°   Phase ID          Time      Res
                                   Op      ISC       h m s     ISC
HNR  Honiara            3.42 116   Pn      Pn        01 06 25.5 -0.5
HNR                                Sn      Sn        01 07 07.0 +0.3
HNR  Honiara            3.42 116   Pn      Pn        01 06 25.5 -0.5
     64nm,0.3s,baz=302,slow=0.6,SNR=13
HNR                                Sn      Sn        01 07 07.0 +0.3
     51nm,0.3s,baz=98,slow=23,SNR=7.3
WRA  Warramunga Arr     24.83 239  P       P         01 10 53.6 -1.7
     3.4nm,0.9s,mb3.9,baz=65,slow=9.6,SNR=12
WRA                                PcP     PcP       01 14 30.8 -0.9
     0.3nm,0.4s,baz=14,slow=1.1,SNR=5.1
ASAR Alice Springs      26.97 232  P       P         01 11 14.6  0.0
     0.4nm,0.8s,mb3.0,baz=61,slow=10,SNR=4.0
STKA Stephens Creek     27.72 209  P       P         01 11 22.6 +1.3
     3.1nm,0.6s,mb4.1,baz=37,slow=14,SNR=5.8
MKAR Makanchi Array     85.31 318  P       P         01 18 11.4 +1.5
     0.6nm,0.5s,mb4.0,baz=101,slow=6.3,SNR=5.9
ZALV Zalesovo Beam      85.97 326  P       P         01 18 13.0  0.0
     0.2nm,0.4s,mb3.7,baz=116,slow=3.4,SNR=2.1
YKA  Yellowknife Ar     96.32  28  P       P         01 19 00.4 -0.8
     0.2nm,0.8s,mb3.6,baz=261,slow=4.1,SNR=3.6
```

*ISCJB **19** 01:15:22.2±1.2, 2584S±003×712W±02, h43km±12km, mb3.9/2, Error ellipse: s-maj=27.6km s-min=4.9km az=2.3*
*GUC **19** 01:15:24.1±0.8, 2584S×7069W, h42km±7km, MD4.1, ML3.7*
*NEIC **19** 01:15:24.0, 2584S×7070W, h40km, MD3.8(GUC), After GUC.*
*IDC **19** 01:15:27.2±5.0, 2574S×7047W, h36km±35km, mb3.9/2, mb1 3.6/5, mb1mx3.4/19, mbtmp3.6/5, ML3.3/3, MS2.7/1, Ms1 2.8/1, ms1mx2.4/33, Error ellipse: s-maj=59.5km s-min=27.0km az=93.0*

ISC 19 01:15:23.9±1.2, 2585S±003×711W±02, h39km±14km, n19, σ1§00/25, mb3.9/2, 4C, Off coast of northern Chile

```
Code Station Name       Δ°   AZ°   Phase ID          Time      Res
                                   Op      ISC       h m s     ISC
CDCH Caldera            1.24 170   ⇑iP     Pn        01 15 43.6 -1.0
CDCH                               iS      Sn        01 15 59.8 -0.4
CPN1 Cerro Paranal      1.36  27   ⇑iP     Pn        01 15 46.7 +0.3
CPN1                               iS      Sn        01 16 03.5 +0.3
CPN1                               AML     AML       01 16 07.1
     comp=E,2μm,0.5s
CPCH Copiapo            1.64 157   eP      Pn        01 15 50.4 +0.3
CPCH                               iS      Sn        01 16 09.7 -0.3
ANCH Antofagasta        2.24  16   eP      Pn        01 15 58.3 -0.2
ANCH                               iS      Sn        01 16 24.8 -0.2
ANCH Antofagasta        2.24  16   eP      Pn        01 15 58.3 -0.2
ANCH                               iS      Sn        01 16 24.8 -0.2
ANCH                               AML     AML       01 16 40.2
     comp=N,551nm,0.5s
CEN1 Los Morros         2.58  18   ⇑iP     Pn        01 16 00.0 -3.1
CEN1                               iS      Sn        01 16 28.0 -5.2
CEN1                               AML     AML       01 16 43.6
     comp=E,245nm,0.7s
VACH Vallenar           2.73 174   ⇑iP     Pn        01 16 04.8 -0.3
VACH                               iS      Sn        01 16 36.8 -0.1
LCO  Las Campanas       3.17 174   ePn     Pn        01 16 11.5 +0.3
LCO                                eSn     Sn        01 16 53.8 +6.1
TLL  Tololo Astrono     4.31 177   AML     AML       01 17 55.7
     comp=N,109nm,0.5s
CFAA Coronel Fontan     6.25 157   Pn      Pn        01 16 55.2 +1.7
CFAA                               Sn      Sn        01 18 07.5 +3.8
CFAA Coronel Fontan     6.25 157   Pn      Pn        01 16 55.2 +1.7
     comp=N,0.1nm,0.3s,baz=337,slow=13,SNR=12
CFAA                               Sn      Sn        01 18 07.5 +3.8
     comp=N,0.1nm,0.3s,baz=349,slow=19,SNR=2.2
LPAZ La Paz             9.90  17   Pn      Pn        01 17 45.2 +1.5
LPAZ                               LR      LR        01 21 41.3
LPAZ La Paz             9.90  17   Pn      Pn        01 17 45.2 +1.5
     comp=N,0.2nm,0.3s,baz=193,slow=7.1,SNR=7.2
LPAZ                               LR      LR        01 21 41.3
     comp=N,44nm,21.3s,baz=238,slow=39
SIV  San Ignacio        13.54  46   Pn      Pn        01 18 29.5 -3.9
     comp=N,0.2nm,0.3s,baz=241,slow=13,SNR=23
BDFB Brasilia           23.80  69   P       P         01 20 31.7 -1.6
     comp=N,1.6nm,0.6s,mb3.7,baz=223,slow=17,SNR=6.6
TORD Torodi Ar. Bea     80.68  71   P       P         01 27 34.2 +0.9
     comp=N,1.9nm,0.6s,mb4.2,baz=260,slow=5.2,SNR=41
ZALV Zalesovo Beam     146.72  26   PKPbc   PKPbc     01 35 03.1 +2.0
     comp=N,1.0nm,0.4s,baz=290,slow=3.9,SNR=6.1
MKAR Makanchi Array    150.28  38   PKPbc   PKPbc     01 35 12.6 +1.9
MKAR Makanchi Array    150.28  38   PKPbc   PKPbc     01 35 12.6 +1.9
     comp=N,0.2nm,0.3s,baz=324,slow=1.6,SNR=4.5
```

*NEIC **19** 01:15:57.5±1.0, 4.11S×13944E, h35km, mb4.2/3, Error ellipse: s-maj=24.3km s-min=14.5km az=94.0*
*ISCJB **19** 01:16:01.6±3.0, 4.3S±0.1×1391E±0.1, h81km±29km, mb3.8/4, Error ellipse: s-maj=25.0km s-min=16.1km az=44.5*
*IDC **19** 01:16:03.3±5.0, 4.18S×13944E, h88km±44km, mb3.9/4, mb1 4.0/6, mb1mx3.7/12, mbtmp3.8/6, MS3.5/3, Ms1 3.4/3, ms1mx2.9/15, Error ellipse: s-maj=39.3km s-min=15.5km az=92.0*

ISC 19 01:16:05.6±2.4, 45S±01×1390E±01, h107km±22km, n15, σ0§77/17, mb3.8/4, 1D, Irian Jaya

```
Code Station Name       Δ°   AZ°   Phase ID          Time      Res
                                   Op      ISC       h m s     ISC
KAKA Kakadu            10.48 218   eP      Pn        01 18 33.1 +0.3
     29nm,0.7s
KAKA                               eS      Sn        01 20 28.2  0.0
WRAB Tennant Creek     16.05 196   ePn     Pn        01 19 45.0 -0.2
     16nm,0.6s
WRAB                               eSn     Sn        01 22 36.9 -6.3
WB2  Warramunga Arr    16.06 196   eP      Pn        01 19 44.9 -0.4
WB2                                eS      Sx        01 22 38.8
WRA  Warramunga Arr    16.06 196   P       Pn        01 19 45.3 -0.1
     1.2nm,0.3s,baz=17,slow=13,SNR=28
WRA                                S       Sx        01 22 36.8
     0.4nm,0.3s,baz=12,slow=22,SNR=3.7
CTA  Charters Tower    17.07 156   P       Pn        01 19 57.2 -0.5
     0.4nm,0.3s,baz=354,slow=15,SNR=3.5
CTA                                LR      LR        01 26 01.8
     comp=Z,64nm,21.8s,baz=51,slow=35
FITZ Fitzroy Crossi    18.86 223   ⇓iP     P         01 20 21.4 +3.9
     5.0nm,0.6s
FITZ                               eS      S         01 23 42.0 -4.4
FITZ Fitzroy Crossi    18.86 223   P       P         01 20 21.4 +4.0
     0.7nm,0.3s,baz=28,slow=13,SNR=25
FITZ                               S       S         01 23 45.6 -0.7
     0.3nm,0.3s,baz=162,slow=13,SNR=4.5
ASAR Alice Springs     19.73 194   P       P         01 20 30.6 +3.6
     29nm,0.7s,baz=24,slow=9.8,SNR=365
ASAR                               S       S         01 24 11.7 +7.9
     1.0nm,0.7s,baz=20,slow=22,SNR=4.9
MBWA Marble Bar        25.04 227   eP      P         01 21 24.9 +4.9
     3.3nm,0.5s,mb4.0
STKA Stephens Creek    27.39 175   LR      LR        01 33 31.5
     comp=Z,48nm,21.2s,baz=26,slow=38
RAR  Rarotonga         61.59 112   LR      LR        01 50 30.0
     comp=Z,158nm,18.9s,baz=159,slow=34
MKAR Makanchi Array    71.35 323   P       P         01 27 14.5 +0.6
     0.7nm,0.5s,mb3.8,baz=99,slow=7.6,SNR=8.1
ZALV Zalesovo Beam     73.59 330   P       P         01 27 25.8 -1.2
     0.8nm,0.5s,mb3.7,baz=107,slow=9.5,SNR=3.6
VNDA Vanda             74.03 175   P       P         01 27 30.1 +0.8
     0.9nm,0.5s,mb3.8,baz=310,slow=7.5,SNR=5.6
SIV  San Ignacio       151.58 136  PKPbc   PKPbc     01 35 48.5 +0.1
     0.7nm,0.5s,baz=255,slow=9.1,SNR=7.3
```

WEL 19 01:25:26.5±0.6, 3801S×17636E, h171km±5km, ML3.5/14, Error ellipse: s-maj=7.7km s-min=5.2km az=90.0, North Island

```
Code Station Name       Δ°   AZ°   Phase ID          Time      Res
                                   Op      ISC       h m s     ISC
MWZ  Matawai            0.98 110   PN      Pn        01 25 53.3 +0.2
MWZ                                SN      Sn        01 26 13.1 -0.5
BKZ  Black Stump Fm     1.17 175   PN      Pn        01 25 55.0 +0.4
BKZ                                SN      Sn        01 26 15.7 -0.6
TUVZ Tukino             1.38 203   PN      Pn        01 25 57.1 +0.6
KNZ  Kokohu             1.45 135   PN      Pn        01 25 57.7 +0.6
WNVZ Wahianoa           1.45 204   PN      Pn        01 25 57.6 +0.5
MXZ  Matakaoa Point     1.60  75   PN      Pn        01 25 58.6 -0.1
PXZ  Pawanui            2.06 169   PN      Pn        01 26 03.9 +0.3
TSZ  Takapari Road      2.08 188   PN      Pn        01 26 03.6 -0.2
TSZ                                SN      Sn        01 26 31.7 -0.9
BFZ  Birch Farm         2.67 182   PN      Pn        01 26 09.9 -0.8
MRZ  Mangatainoka R     2.72 193   PN      Pn        01 26 10.1 -1.2
MRZ                                eSN     Sn        01 26 43.7 -2.5
TIWZ Tintock            2.79 187   PN      Pn        01 26 11.2 -0.9
KIW  Kapiti Island      3.07 201   PN      Pn        01 26 13.7 -1.7
MTW  Mount Morrison     3.22 192   PN      Pn        01 26 15.4 -1.9
CAW  Cannon Point       3.26 197   PN      Pn        01 26 16.2 -1.6
PAWZ Paruwai Farm       3.45 192   PN      Pn        01 26 18.1 -2.1
MSWZ Moikau Station     3.51 194   PN      Pn        01 26 18.8 -2.2
TCW  Tory Channel       3.59 206   PN      Pn        01 26 19.8 -2.1
QRZ  Quartz Range       4.09 225   PN      Pn        01 26 25.0 -3.4
THZ  Tophouse           4.60 214   PN      Pn        01 26 32.0 -3.0
KHZ  Kahutara           4.91 205   PN      Pn        01 26 36.2 -2.7
DSZ  Denniston Nort     5.12 222   PN      Pn        01 26 43.8 +2.0
```

*ISCJB **19** 01:32:27.8±0.5, 1688N×003×9950W±002, h36km±5km, mb4.0/9, Error ellipse: s-maj=5.2km s-min=3.4km az=17.8*
*NEIC **19** 01:32:28.8, 1690N×9951W, h4km, mb4.2/8, MD4.6(MEX), After MEX.*
*MEX **19** 01:32:28.8±0.7, 1690N×9951W, h4km±4km, MD4.6*
*IDC **19** 01:32:33.3±4.1, 17.14N×9921W, h57km±34km, mb3.7/6, mb1 3.9/11, mb1mx3.7/25, mbtmp3.7/11, ML3.7/5, MS3.2/3, Ms1 3.2/3, ms1mx2.7/37, Error ellipse: s-maj=54.5km s-min=20.1km az=19.0*

ISC 19 01:32:27.9±0.9, 1691N±003×9949W±002, h19km±6km, n73, σ1§07/111, mb4.0/9, 1C, Near coast of Guerrero

```
Code Station Name       Δ°   AZ°   Phase ID          Time      Res
                                   Op      ISC       h m s     ISC
ACX  Acapulco           0.41 265   iP      Pg        01 32 36.0 -0.4
CAIG El Cayaco          0.76 281   iP      Pb        01 32 41.8 -0.7
CAIG                               iS      Sb        01 32 52.2 -0.3
CAIG El Cayaco          0.76 281   ⇑iP     Pb        01 32 41.8 -0.7
CAIG                               iS      Sb        01 32 52.2 -0.4
MEIG Mezcala            1.02 353   iP      Pb        01 32 45.8 -1.1
MEIG                               iS      Sb        01 32 59.0 -1.0
PNIG Pinotepa           1.40 111   eP      Pn        01 32 51.5 -0.9
PNIG                               iS      Sn        01 33 10.1 -0.3
PNIG Pinotepa           1.40 111   iP      Pn        01 32 51.5 -0.9
PNIG                               iS      Sn        01 33 10.1 -0.3
PLIG Platanillo         1.48 359   iP      Pn        01 32 53.0 -0.5
PLIG                               iS      Sn        01 33 11.8 -0.5
YAIG Yautepec           1.99  12   eP      Pn        01 32 59.8 -0.6
YAIG                               eS      Sn        01 33 23.9 -0.9
YAIG Yautepec           1.99  12   iP      Pn        01 32 59.8 -0.6
YAIG                               eS      Sn        01 33 23.9 -0.9
ZIIG Zihuatanejo        2.01 291   iP      Pn        01 32 59.9 -1.0
ZIIG                               iS      Sn        01 33 23.6 -1.9
MZVM                    2.28   6   eP      Pn        01 33 04.8 +0.2
MZVM                               iS      Sn        01 33 32.0 -0.2
PPM  Popocatepetl       2.30  21   eP      Pn        01 33 04.5 -0.3
PPM                                eP                01 33 05.3
PPM                                iP                01 33 06.0
PPM                                iS      Sn        01 33 33.0 +0.4
PPM                                eS      Sn        01 33 38.4 +5.8
PPM  Popocatepetl       2.30  21   eP      Pn        01 33 04.5 -0.3
PPM                                eP                01 33 05.3
PPM                                iS      Sn        01 33 33.0 +0.4
SZVM Salazar            2.41   2   eP      Pn        01 33 06.8 +0.6
SZVM                               iS      Sn        01 33 35.5 +0.4
UNM  Universidad Na     2.43   7   eP      Pn        01 33 06.7 +0.1
UNM                                eP                01 33 10.5
UNM                                iS      Sn        01 33 36.8 +1.1
UNM  Universidad Na     2.43   7   eP      Pn        01 33 06.7 +0.1
UNM                                eP                01 33 10.5
UNM                                iS      Sn        01 33 34.8 -1.0
VHO  Vista Hermosa      2.64  86   iP      Pn        01 33 09.8 +0.3
VHO                                eS      Sn        01 33 42.7 +1.7
VHO  Vista Hermosa      2.64  86   iP      Pn        01 33 09.8 +0.3
VHO                                iS      Sn        01 33 38.8 -2.2
OXX  Oaxaca             2.65  86   iP      Pn        01 33 10.5 +0.9
PTVM Pico Tres Padr     2.70   8   iP      Pn        01 33 08.3 -1.9
PTVM                               iS      Sn        01 33 46.0 +3.7
PTVM Pico Tres Padr     2.70   8   iP      Pn        01 33 08.3 -1.9
PTVM                               iS      Sn        01 33 41.7 -0.6
IIO  Organos            2.77  15   iP      Pn        01 33 11.7 +0.5
IIO                                iS      Sn        01 33 50.1 +6.0
IIO  Organos            2.77  15   iP      Pn        01 33 11.7 +0.5
IIO                                iS      Sn        01 33 44.3 +0.2
DEIG Demacu             3.40   7   eP      Pn        01 33 20.9 +0.9
DEIG                               iS      Sn        01 33 59.7 -0.1
HUIG Huatulco           3.44 109   iP      Pn        01 33 20.4  0.0
HUIG                               iS      Sn        01 34 01.0 +0.4
MMIG Aquila             3.93 291   eP      Pn        01 33 26.8 -0.3
MMIG                               eS      Sn        01 34 12.5 -0.3
LVIG Laguna Verde       4.04  46   eP      Pn        01 33 28.1 -0.7
LVIG                               iS      Sn        01 34 16.1 +0.5
CMIG Matias Romero      4.41  87   iP      Pn        01 33 31.7 -2.1
CMIG                               iS      Sn        01 34 23.1 -1.6
CMIG                               iS      Sn        01 34 24.4 -0.3
CMIG Matias Romero      4.41  87   P       Pn        01 33 33.5 -0.3
     3.6nm,0.3s,baz=256,slow=12,SNR=29
CMIG                               S       Sn        01 34 21.6 -3.0
     10nm,0.3s,baz=53,slow=23,SNR=3.0
CMIG                               LR      LR        01 35 32.1
     comp=Z,251nm,18.8s,baz=166,slow=43
CMIG Matias Romero      4.41  87   iP      Pn        01 33 33.5 -0.3
CMIG                               iS      Sn        01 34 23.6 -1.1
SFJM Santa Fe           4.90 317   iP      Pn        01 33 44.5 +4.0
TUIG Tuzandepetl        4.96  76   iP      Pn        01 33 40.8 -0.7
TUIG                               iS      Sn        01 34 39.8 +1.5
TUIG Tuzandepetl        4.96  76   iP      Pn        01 33 41.7 +0.3
TUIG                               iS      Sn        01 34 39.8 +1.5
CJM  Chamela            5.88 297   iP      Pn        01 33 56.7 +2.8
CJM                                eS      Sn        01 34 59.3 -1.5
CJM  Chamela            5.88 297   iP      Pn        01 33 56.7 +2.8
CJM                                eS      Sn        01 35 00.1 -0.8
ANIG Ahuacatlan         6.30 312   iP      Pn        01 33 60.0 +0.2
ANIG                               iS      Sn        01 35 12.0 +0.8
SCX  San Cristobal      6.57  90   iP      Pn        01 34 03.0 -0.4
LNIG Linares            7.95   0   eP      Pn        01 34 23.1 +0.7
TEIG Tepich            11.13  71   P       Pn        01 35 05.3 -0.8
TEIG                               ePn     Pn        01 35 17.6 +11
TEIG                               S       Sn        01 37 05.3 -4.8
TEIG                               LR      LR        01 40 05.1
TEIG Tepich            11.13  71   P       Pn        01 35 05.3 -0.8
     0.6nm,0.3s,baz=336,slow=15,SNR=5.5
TEIG                               S       Sn        01 37 05.3 -4.8
     2.0nm,0.3s,baz=12,slow=20,SNR=3.5
TEIG                               LR      LR        01 40 05.1
     comp=Z,127nm,19.6s,baz=3.1,slow=42
HPIG                   11.51 331   iP      Pn        01 35 14.0 +2.8
TXAR Lajitas Array     12.95 344   P       Pn        01 35 33.2 +2.3
TXAR Lajitas Array     12.95 344   P       Pn        01 35 33.2 +2.3
     0.1nm,0.3s,baz=161,slow=15,SNR=8.7
CGIG                   15.48 331   iP      Pn        01 36 07.1 +1.9
JTS  JuntasAbangare    15.58 113   ePn     Pn        01 36 09.5 +2.9
     16nm,0.9s
JTS  JuntasAbangare    15.58 113   P       Pn        01 36 07.8 +1.2
     1.1nm,0.3s,baz=317,slow=14,SNR=5.5
MNTX Cornudas Mount    15.67 341   ePn     Pn        01 36 09.2 +1.5
GDL2 Guadalupe Moun    15.86 345   ePn     Pn        01 36 11.6 +1.5
WMOK Wichita Mounta    17.77   2   ePn     Pn        01 36 33.6 -0.6
     8.0nm,0.8s
BNM  Barren Site       18.33 341   ePn     Pn        01 36 43.3 +2.2
MIAR Mount Ida         18.35  16   ePn     Pn        01 36 39.0 -2.3
     11nm,0.9s
LPM  Los Pinos Moun    18.48 341   eP      Pn        01 36 46.1 +3.2
UALR University of     18.91  18   ePn     Pn        01 36 47.4 -0.7
     20nm,1.2s
ANMO Albuquerque       19.02 342   P       Pn        01 36 48.9 -0.6
     0.2nm,0.3s,baz=145,slow=11,SNR=7.6
PLAL Pickwick Lake     20.69  27   eP      P         01 37 06.9  0.0
     12nm,1.2s
SWET Sewanee           21.88  31   eP      P         01 37 19.3 -0.4
CCM  Cathedral Cave    22.28  17   eP      P         01 37 23.9  0.0
TKL  Tuckaleechee C    23.34  34   P       P         01 37 34.1 -1.0
     3.7nm,0.8s,mb3.9,baz=203,slow=16,SNR=3.9
HWUT Hardware Ranch    26.72 340   eP      P         01 38 11.4 +5.4
     4.6nm,0.8s,mb4.1
NVAR Mina Array Bea    27.05 326   P       P         01 38 11.1 +2.0
     1.5nm,0.6s,mb3.7,baz=151,slow=7.8,SNR=7.9
BW06 Boulder Array     27.17 344   eP      P         01 38 09.2 -0.9
PDAR Pinedale Array    27.17 344   P       P         01 38 09.7 -0.4
     1.0nm,0.5s,mb3.6,baz=147,slow=13,SNR=13
TPAW Teton Pass        28.23 342   eP      P         01 38 20.6 +1.0
LOHW Long Hollow       28.24 343   eP      P         01 38 20.7 +1.1
MOOW Moose Ponds       28.41 343   eP      P         01 38 21.9 +0.7
     25nm,2.3s,mb4.4
BOZ  Bozeman (W)       30.40 343   eP      P         01 38 39.6 +0.8
     7.6nm,1.6s,mb4.2
LRM  Limekiln Ridge    30.80 342   eP      P         01 38 43.5 +1.2
CHMT Chamberlain Mo    32.02 342   eP      P         01 38 53.1 +0.1
ULM  Lac du Bonnet     33.39   4   P       P         01 39 03.4 -1.6
     0.9nm,0.6s,mb3.9,baz=185,slow=5.7,SNR=3.7
EDM  Edmonton          37.83 346   eP      P         01 39 42.4 -0.7
SCHQ Schefferville     45.41  26   P       P         01 40 44.0 -1.1
     2.2nm,0.7s,mb4.1,baz=250,slow=18,SNR=9.2
YKA  Yellowknife Ar    46.76 350   P       P         01 40 54.4 -1.2
     1.3nm,0.6s,mb4.0,baz=156,slow=6.9,SNR=24
INK  Inuvik            55.72 345   eP      P         01 42 02.5 -0.2
```

*ISCJB **19** 01:36:24.6±0.5, 2890N±003×5591E±004, h10km, Error ellipse: s-maj=5.1km s-min=4.4km az=34.3*
*CSEM **19** 01:36:25.6±0.1, 2887N×5600E, h15km, ML3.8, Error*

ellipse: s-maj=2.8km s-min=2.4km az=84.0
KISR 19 01:36:27.9±0.9, 2886N×5543E, h34km±643km, ML3.8
THR 19 01:36:27.0±0.3, 2885N×5619E, h18km, ML3.2
ISC 19 01:36:26.4±1.1, 2889N±003×5597E±008, h8km±13km, n25, σ1°25/42, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRBR	**Kerman**	1.29	32	*e*Pg	**Pg**	01 36 50.1	-1.0
KRBR				*e*Sg	**Sg**	01 37 06.8	-1.1
KRBR				AML	AML	01 37 08.5	
	comp=N,635nm,0.3s						
KRBR	**Kerman**	1.29	32	*e*Pg	**Pg**	01 36 50.1	-1.1
	SNR=92						
KRBR				*e*Sg	**Sg**	01 37 06.8	-1.1
	SNR=92						
BNDS	**Bandar-Abbas**	1.49	173	*e*Pg	**Pg**	01 36 53.9	-1.1
BNDS				*e*Sg	**Sg**	01 37 13.4	-0.9
BNDS				AML	AML	01 37 22.0	
	comp=N,253nm,0.4s						
BNDS	**Bandar-Abbas**	1.49	173	*e*Pg	**Pg**	01 36 53.9	-1.1
	SNR=92						
BNDS				*e*Sg	**Sg**	01 37 13.4	-0.9
	SNR=92						
GHIR	**Ghir-Karzin**	2.69	258	*e*Pn	**Pn**	01 37 14.1	+4.2
GHIR				AML	AML	01 37 50.7	
	comp=E,74nm,0.3s						
GHIR				AML	AML	01 37 51.9	
	comp=N,65nm,0.2s						
BANOM	**Banah**	2.96	174	P	**Pn**	01 37 12.8	-0.9
	SNR=111						
BANOM				S	**Sn**	01 37 44.9	-4.5
HATD	**Hatta, Dubai**	4.05	178	P	**Pn**	01 37 28.5	0.0
	SNR=7.5						
ASHO	**Ashiyiah**	4.18	179	P	**Pn**	01 37 30.7	+0.2
	SNR=10						
ASUD	**Al Ashush, Dub**	4.28	188	P	**Pn**	01 37 33.2	+1.4
	SNR=59						
SLWS		6.26	231	S	**Sn**	01 39 07.2	-3.5
SLWS		6.26	231	P	**Pn**	01 37 59.8	+0.8
BTHS		6.66	225	P	**Pn**	01 38 04.7	+0.3
QRN	**Al-Qurain**	7.07	271	*e*P	**Pn**	01 38 11.3	+1.2
QRN				*e*S	**Sn**	01 39 29.7	-0.9
QRN				AML	AML	01 39 30.9	
	comp=Z,48nm,0.2s						
UMR	**Umm Al-Rimmam**	7.25	277	*e*P	**Pn**	01 38 14.3	+1.8
UMR				*e*S	**Sn**	01 39 34.1	-0.9
UMR				AML	AML	01 39 34.4	
	comp=Z,25nm,0.3s						
UMR	**Umm Al-Rimmam**	7.25	277	*e*P	**Pn**	01 38 14.3	+1.8
UMR				*e*S	**Sn**	01 39 34.1	-0.9
KBD	**Kabd**	7.25	274	*e*P	**Pn**	01 38 14.5	+1.9
KBD				*e*S	**Sn**	01 39 34.5	-0.7
KBD				AML	AML	01 39 35.6	
	comp=Z,65nm,0.2s						
KBD	**Kabd**	7.25	274	*e*P	**Pn**	01 38 14.5	+1.9
KBD				*e*S	**Sn**	01 39 34.5	-0.7
RDF	**Al-Radifah**	7.38	272	*e*P	**Pn**	01 38 15.9	+1.5
RDF				*e*S	**Sn**	01 39 36.9	-1.5
RDF				AML	AML	01 39 39.2	
	comp=Z,19nm,0.2s						
RDF	**Al-Radifah**	7.38	272	*e*P	**Pn**	01 38 15.9	+1.5
RDF				*e*S	**Sn**	01 39 36.8	-1.6
	comp=Z,19nm,0.2s						
MIB	**Mutribah**	7.59	279	*e*P	**Pn**	01 38 19.3	+2.1
MIB				*e*S	**Sn**	01 39 42.6	-0.9
MIB				AML	AML	01 39 44.7	
	comp=Z,8.1nm,0.2s						
MIB	**Mutribah**	7.59	279	*e*P	**Pn**	01 38 19.3	+2.0
MIB				*e*S	**Sn**	01 39 42.6	-0.9
NAY	**Al-Naaiem**	7.65	275	*e*P	**Pn**	01 38 20.1	+2.0
NAY				*e*S	**Sn**	01 39 43.7	-1.3
NAY				AML	AML	01 39 43.9	
	comp=Z,3.6nm,0.3s						
NAY	**Al-Naaiem**	7.65	275	*e*P	**Pn**	01 38 20.1	+2.0
NAY				*e*S	**Sn**	01 39 43.7	-1.2
RST	**Umm Al-Ruwaisa**	7.87	277	*e*P	**Pn**	01 38 22.7	+1.6
RST				AML	AML	01 39 47.9	
	comp=Z,5.0nm,0.4s						
RST				*e*S	**Sn**	01 39 49.0	-1.3
HRDDS		8.34	226	P	**Pn**	01 38 27.1	-0.5

ISCJB 19 01:42:59.3±0.5, 3990N×002×2155E±003, h4km±4km, Error ellipse: s-maj=3.9km s-min=3.4km az=136.1
THE 19 01:42:59.9, 3991N×2154E, h3km, ML2.9
NEIC 19 01:42:59.5, 3989N×2151E, h9km, MD3.3(ATH), After ATH.
ATH 19 01:42:59.5, 3989N×2151E, h19km±2km, MD3.3/7
CSEM 19 01:43:00.0±0.2, 3990N×2152E, h2km, ML2.9, Error ellipse: s-maj=3.8km s-min=2.9km az=142.0
ISC 19 01:43:00.1±0.4, 3989N±002×2154E±003, h9km±3km, n28, σ1°19/49, 1C, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MEV	**Metsovon**	0.26	247	*e*Pg	**Pg**	01 43 05.1	-0.2
MEV				*e*Sg	**Sg**	01 43 10.0	+1.1
KZN	**Kozani**	0.45	23	↑*i*PB	**Pg**	01 43 08.6	-0.3
KZN				*e*SB	**Sg**	01 43 16.2	+1.3
JAN	**Janina**	0.58	247	*e*PN	**Pg**	01 43 10.3	-1.0
LIT	**Litokhoron**	0.76	73	*e*Pg	**Pg**	01 43 14.1	-0.6
LIT				*e*Sg	**Sg**	01 43 25.6	+1.0
FNA	**Florina**	0.90	352	*e*Pg	**Pg**	01 43 16.0	-1.5
FNA				*e*Sg	**Sg**	01 43 29.9	+0.6
EVR	**Evrytania**	0.99	168	*e*PN	**Pn**	01 43 18.2	-1.9
EVR				*e*SN	**Sn**	01 43 32.5	-1.7
IGT	**Igoumenitsa**	1.00	250	*e*Pg	**Pg**	01 43 18.2	-1.0
IGT				*e*Sg	**Sg**	01 43 33.4	+1.1
IGT	**Igoumenitsa**	1.00	250	*e*Pg	**Pg**	01 43 18.2	-1.1
IGT				*e*Sg	**Sg**	01 43 33.4	+1.2
AGG	**Agios Georgios**	1.06	145	*e*Pg	**Pg**	01 43 20.0	-0.4
AGG				*e*Sg	**Sg**	01 43 35.7	+1.6
BIA	**Bitola**	1.14	352	*e*Pn	**Pn**	01 43 19.6	-2.6
BIA				*e*Sn	**Sn**	01 43 36.9	-1.0
BIA	**Bitola**	1.14	352	*e*Pn	**Pn**	01 43 19.5	-2.7
BIA				*e*Sn	**Sn**	01 43 36.9	-1.0
SRN	**Sarande**	1.19	270	*i*Pn	**Pn**	01 43 22.6	-0.2
SRN				*i*Sn	**Sn**	01 43 41.0	+2.0
GRG	**Griva**	1.25	31	*e*Pg	**Pg**	01 43 22.8	-1.3
GRG				*e*Sg	**Sg**	01 43 41.0	+0.6
OHR	**Ohrid**	1.35	335	*e*Pn	**Pn**	01 43 23.8	-1.2
OHR				*e*Sn	**Sn**	01 43 43.8	+0.8
OHR	**Ohrid**	1.35	335	*e*Pn	**Pn**	01 43 23.7	-1.3
OHR				*e*Sn	**Sn**	01 43 43.8	+0.8
KEK	**Kerkira**	1.35	263	*e*PN	**Pn**	01 43 24.7	-0.4
XOR	**Xorichti**	1.38	112	*e*Pg	**Pg**	01 43 25.9	-0.6
XOR				*e*Sg	**Sg**	01 43 46.0	+1.7
NEO	**Neokhori**	1.42	114	*e*PN	**Pn**	01 43 27.3	+1.3
KRUS	**Krusevo**	1.50	352	*e*Pn	**Pn**	01 43 27.2	+0.2
KRUS				*e*Sn	**Sn**	01 43 48.3	+1.6
KRUS	**Krusevo**	1.50	352	*e*Pn	**Pn**	01 43 27.2	+0.1
KRUS				*e*Sn	**Sn**	01 43 48.2	+1.5
PLG	**Polygyros**	1.54	71	*e*PB	**Pb**	01 43 27.2	-1.5
VAY	**Valandovo**	1.63	28	*e*Pn	**Pn**	01 43 29.3	+0.4
VAY				*e*Sn	**Sn**	01 43 53.9	+3.9
VAY	**Valandovo**	1.63	28	*e*Pn	**Pn**	01 43 29.2	+0.3
VAY				*e*Sn	**Sn**	01 43 53.9	+3.9
KNT	**Kendrikon**	1.64	39	*e*Pb	**Pb**	01 43 28.9	-1.5
SOH	**Sokhos**	1.67	55	*e*Pb	**Pb**	01 43 29.3	-1.6
SOH				*e*Sb	**Sb**	01 43 53.1	+1.1
RLS	**Riolos of Patr**	1.83	182	*e*PN	**Pn**	01 43 32.1	+0.5
VLS	**Valsamata**	1.86	204	*e*PN	**Pn**	01 43 33.6	+1.5
STIP	**Stip**	1.87	15	*e*Pn	**Pn**	01 43 36.9	+4.7
STIP				*e*Sn	**Sn**	01 43 56.7	+0.9

NEIC 19 02:00:29.8, 3829N×2033E, h11km, MD3.5(ATH), After ATH.
ATH 19 02:00:29.8, 3829N×2033E, h11km±2km, MD3.5/6
ISCJB 19 02:00:30.5±0.9, 3836N±003×2045E±008, h8km, Error ellipse: s-maj=9.1km s-min=3.7km az=157.7
CSEM 19 02:00:30.5±0.1, 3837N×2045E, h8km, ML3.0, Error ellipse: s-maj=4.1km s-min=1.5km az=70.0
THE 19 02:00:30.8, 3838N×2049E, h3km, ML3.0
ISC 19 02:00:30.3±1.1, 3834N±004×2040E±008, h8km±6km, n14, σ0°90/24, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	0.22	138	*e*Pg	**Pg**	02 00 34.9	+0.2
VLS				*e*Sg	**Sg**	02 00 38.3	+0.6
VLS	**Valsamata**	0.22	138	*e*PG	**Pg**	02 00 34.9	+0.2
VLS				*e*SG	**Sg**	02 00 38.9	+1.2
KFL	**Anninata**	0.38	127	*e*Pg	**Pg**	02 00 37.6	-0.1
KFL				*e*Sg	**Sg**	02 00 43.3	+0.6
LKD	**Levkas**	0.42	28	*e*Pg	**Pg**	02 00 37.5	-0.9
LKD				*e*Sg	**Sg**	02 00 43.0	-0.9
LKD	**Levkas**	0.42	28	*e*Pg	**Pg**	02 00 37.5	-0.9
LKD				*e*Sg	**Sg**	02 00 43.0	-0.9
RLS	**Riolos of Patr**	0.88	108	*e*PG	**Pg**	02 00 46.8	-0.5
RLS				*e*SB	**Sb**	02 01 00.5	+0.7
SELA	**Sela**	1.17	93	*e*Pg	**Pn**	02 00 51.1	-1.9
SELA				*e*Sg	**Sg**	02 01 07.4	-0.7
IGT	**Igoumenitsa**	1.19	357	*e*Pg	**Pn**	02 00 51.8	-1.5
IGT				*e*Sg	**Sg**	02 01 09.7	+0.9
IGT	**Igoumenitsa**	1.19	357	*e*Pg	**Pn**	02 00 51.8	-1.5
IGT				*e*Sg	**Sg**	02 01 09.6	+0.9
EVR	**Evrytania**	1.24	62	*e*PB	**Pb**	02 00 54.6	+0.6
JAN	**Janina**	1.36	15	*e*PB	**Pb**	02 00 56.7	+0.7
JAN				*e*SB	**Sb**	02 01 15.6	+2.0
KEK	**Kerkira**	1.45	341	*e*PB	**Pb**	02 00 57.6	0.0
AGG	**Agios Georgios**	1.66	65	*e*Pg	**Pn**	02 00 59.7	0.0
ITM	**Ithomi**	1.67	133	*e*PB	**Pb**	02 01 01.2	-0.1

CSEM 19 02:01:00.2, 4295N×4708E, h15km, mb4.0, After OBN
MOS 19 02:01:00.2±2.7, 4295N×4708E, h15km, mb4.0/1, 1D, Error ellipse: s-maj=17.9km s-min=8.9km az=5.1, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRNR	**Karanay**	0.18	226	↓↓*i*PG	Pg	02 01 04.0	-0.5
KRNR				*i* S	Sg	02 01 09.5	+2.1
KRNR				pmax	pmax		
	comp=Z,40nm,0.2s						
KRNR	**Karanay**	0.18	226	*i* Pg	Pg	02 01 04.0	-0.5
	comp=Z,40nm,0.2s						
KRNR				*i* Sg	Sg	02 01 09.5	+2.1
DBC	**Dubki**	0.20	290	*e*PG	Pg	02 01 01.0	-3.8
DBC				pmax	pmax		
	comp=Z,485nm,0.1s						
DBC	**Dubki**	0.20	290	*e*Pg	Pg	02 01 01.0	-3.8
	comp=Z,485nm,0.1s						
UNCR	**Uncukul**	0.32	222	*e*PG	Pg	02 01 08.0	+1.2
UNCR				*i* S	Sg	02 01 15.0	+3.7
UNCR				pmax	pmax		
	comp=Z,67nm,0.2s						
UNCR	**Uncukul**	0.32	222	*e*Pg	Pg	02 01 08.0	+1.2
	comp=Z,67nm,0.2s						
UNCR				*i* Sg	Sg	02 01 15.0	+3.7
DLMR	**Dylym**	0.35	290	PG	Pg	02 01 03.6	-3.8
SNJR	**Sundja**	1.67	275	*e*Pn	Pn	02 01 31.6	+2.7
SNJR				*i* Sg	Sg	02 01 56.3	+2.3
VLKR	**Vladikavkaz**	1.77	274	*e*Pn	Pn	02 01 32.9	+2.7
VLKR				*i* Sg	Sg	02 01 58.7	+1.6
BTKR	**Batakoyurt**	1.91	284	*e*Pn	Pn	02 01 34.9	+2.8
BTKR				*i* Sg	Sg	02 02 02.2	+0.7
LACR	**Lac**	2.05	267	*i* Pn	Pn	02 01 36.5	+2.4
LACR				*i* Sg	Sg	02 02 05.0	-1.2
ARNR	**Ardon**	2.07	278	*i* Pn	Pn	02 01 36.9	+2.6
ARNR				*e*Sb	Sb	02 02 05.8	+2.9
KMSR	**Komsomolskaya**	2.08	283	*e*Pn	Pn	02 01 37.3	+2.7
KMSR				*e*Sb	Sb	02 02 06.4	+3.0
PRTR	**Priterechnaya**	2.19	292	*e*Pn	Pn	02 01 38.9	+2.8
PRTR				*e*Sn	Sn	02 02 09.1	+6.2
KORR	**Kora**	2.21	274	*i* Pn	Pn	02 01 38.9	+2.5
KORR				*e*Sn	Sn	02 02 09.3	+5.8
ZEI	**Tsey**	2.35	267	*e*Pn	Pn	02 01 40.5	+2.3
ZEI				*e*Sn	Sn	02 02 12.0	+5.3
DIGR	**Digorskoe uzhe**	2.57	270	*i* Pn	Pn	02 01 43.7	+2.4
DIGR				*e*Sn	Sn	02 02 17.5	+5.2

ISCJB 19 02:14:46.5±0.6, 931S±008×10773E±007, h10km, mb4.1/13, Error ellipse: s-maj=12.7km s-min=9.3km az=145.4
IDC 19 02:14:47.6±1.9, 923S×10790E, h0km, mb4.0/8, mb1 4.0/8, mb1mx3.9/17, mbtmp4.0/8, Error ellipse: s-maj=102.7km s-min=17.6km az=49.0
NEIC 19 02:14:48.5±0.5, 933S×10774E, h10km, mb4.4/5, Error ellipse: s-maj=14.3km s-min=10.2km az=49.0
ISC 19 02:14:50.5±7.0, 94S±01×10770E±008, h23km±51km, n17, σ0°77/17, mb4.1/13, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
XMIS	**Christmas Isla**	2.30	241	*e*Pn	**Pn**	02 15 27.2	+0.2
XMIS				*e*Sn	**Sn**	02 15 54.3	-0.2
WRA	**Warramunga Arr**	27.78	115	P	**P**	02 20 38.1	+0.1
	1.0nm,0.6s,mb3.6,baz=289,slow=11,SNR=6.8						
ASAR	**Alice Springs**	28.78	123	P	**P**	02 20 47.5	+0.7
	0.6nm,0.9s,mb3.3,baz=308,slow=6.2,SNR=5.6						
STKA	**Stephens Creek**	38.56	130	P	**P**	02 22 10.7	-1.0
	2.4nm,0.7s,mb4.0,baz=304,slow=9.3,SNR=5.1						
SONM	**Songino Array**	56.97	359	P	**P**	02 24 34.0	-0.1
	1.8nm,0.6s,mb4.3,baz=174,slow=8.1,SNR=8.1						
ULN	**Ulaanbaatar**	56.99	359	*e*P	**P**	02 24 34.0	-0.2
	1.7nm,0.6s,mb4.2						
TKM2	**Tokmak 2**	59.73	333	*e*P	**P**	02 24 52.0	-1.3
	1.9nm,0.6s,mb4.3						
MK31	**Makanchi Array**	60.35	340	*e*P	**P**	02 24 57.3	-0.2
MKAR	**Makanchi Array**	60.35	340	P	**P**	02 24 57.3	-0.3
	3.3nm,0.7s,mb4.5,baz=144,slow=7.4,SNR=20						
EKS2	**Erkin-Say**	60.35	332	*e*P	**P**	02 24 57.8	+0.1
	1.0nm,0.7s,mb4.0						
KURK	**Kurchatov**	64.96	340	*e*P	**P**	02 25 27.1	-1.2
	2.0nm,0.6s,mb4.3						
KURK				*e*		02 25 37.5	
ZALV	**Zalesovo Beam**	66.00	345	P	**P**	02 25 34.1	-0.8
	1.0nm,0.7s,mb3.9,baz=128,slow=2.4,SNR=4.4						
BVAR	**Borovoye Array**	69.82	337	P	**P**	02 26 00.4	+1.4
	1.8nm,0.6s,mb4.2,baz=139,slow=7.9,SNR=9.7						
BRVK	**Borovoye**	69.88	337	*e*P	**P**	02 25 59.6	+0.2
	3.5nm,0.8s,mb4.3						
AKTK	**Aktyubinsk**	73.51	329	P	**P**	02 26 22.5	+1.2
AKTO	**Aktyubinsk**	73.51	329	P	**P**	02 26 22.5	+1.2
	0.7nm,0.6s,mb3.8,baz=145,slow=6.2,SNR=3.5						
TXAR	**Lajitas Array**	144.55	52	PKP	PKPdf	02 34 25.7	-0.1
	0.1nm,0.4s,baz=236,slow=4.2,SNR=3.0						

IDC 19 02:57:18.3±0.7, 2974S×17732W, h0km, mb4.6/10, mb1 4.8/12, mb1mx4.6/17, mbtmp4.5/12, ML3.9/2, MS3.8/5, Ms1 3.8/5, ms1mx3.4/24, Error ellipse: s-maj=17.8km s-min=15.2km az=42.0
ISCJB 19 02:57:21.0±1.5, 2990S±004×17743W±0.10, h24km±9km, mb4.8/19, MS4.2/7, Error ellipse: s-maj=14.5km s-min=7.4km az=177.4
BJI 19 02:57:20.5, 2980S×17730W, h19km, mB5.6, mb5.4, Ms5.2, Msz4.9
NEIC 19 02:57:21.0±1.9, 2980S×17731W, h19km±10km, mb4.9/10, Error ellipse: s-maj=12.9km s-min=8.5km az=105.0
ISC 19 02:57:21.4±1.5, 2982S±005×17737W±009, h17km±8km, h17km±2.7km: pP-P, n83, σ1°14/42, mb4.8/19, MS4.2/7, 1C-3D, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	0.74	320	*e*Pg	**Pg**	02 57 36.1	+0.3
RAO				*e*Sg	**Sg**	02 57 46.2	+0.6
RAO	**Raoul Island**	0.74	320	Pn	**Pn**	02 57 36.6	-0.4
	5μm,0.3s,baz=261,slow=23,SNR=254						
RAO				LR	LR	02 57 44.7	
	comp=Z,9μm,21.9s,baz=0.0,slow=37						
RAO				Sn	**Sn**	02 57 47.5	-0.3
	6μm,0.3s,baz=34,slow=22,SNR=18						
URZ	**Urewera**	9.58	207	Pn	**Pn**	02 59 37.3	-1.3
	0.4nm,0.3s,baz=167,slow=22,SNR=3.4						
URZ				Sn	**Sn**	03 01 27.6	+1.7
	6.1nm,0.3s,baz=195,slow=21,SNR=9.4						
SNZO	**South Karori**	13.15	207	*e*Pn	**Pn**	03 00 25.6	-1.7
SNZO				*e*Sn	**Sn**	03 02 44.3	-8.9
RPZ	**Rata Peaks**	16.66	210	Pn	**Pn**	03 01 13.7	-0.3
	1.2nm,0.3s,baz=302,slow=1.5,SNR=8.2						
RAR	**Rarotonga**	18.03	66	LR	LR	03 06 19.4	
	comp=Z,387nm,19.6s,baz=106,slow=30						
TBI	**Tubuai**	25.74	82	*e*LR	LR	03 09 16.4	
	381nm,25.8s,baz=253						
ARMA	**Armidale**	26.78	261	*e*P	**P**	03 03 04.0	+3.5
PPT	**Papeete**	28.14	71	*e*S	**S**	03 07 48.7	-8.8
	79nm,27.2s						
PPT				*e*LR	LR	03 10 18.8	
	426nm,26.0s,baz=238						
PPT	**Papeete**	28.14	71	LR	LR	03 11 20.6	
	comp=Z,194nm,21.4s,MS3.7,baz=128,slow=30						
EIDS	**Eidsvold**	28.26	271	*e*P	**P**	03 03 14.7	+0.9
	4.2nm,0.8s,mb4.1						
HNR	**Honiara**	29.34	309	LR	LR	03 12 42.8	
	comp=Z,82nm,19.6s,MS3.4,baz=359,slow=32						
CTA	**Charters Tower**	34.25	278	*e*P	**P**	03 04 08.2	+1.6
	6.4nm,0.4s,mb4.9						
CTA	**Charters Tower**	34.25	278	P	**P**	03 04 07.5	+0.8
	10nm,0.5s,mb5.0,baz=101,slow=11,SNR=12						
CTA				LR	LR	03 16 04.6	
	comp=Z,283nm,18.2s,MS4.0,baz=51,slow=33						
CTAO	**Charters Tower**	34.25	278	*e*P	**P**	03 04 07.8	+1.2
	13nm,0.8s,mb4.9						
STKA	**Stephens Creek**	35.14	256	*e*P	**P**	03 04 15.8	+1.6
	17nm,0.9s,mb5.0						
STKA	**Stephens Creek**	35.14	256	P	**P**	03 04 15.9	+1.6
	21nm,0.9s,mb5.1,baz=88,slow=8.8,SNR=30						
STKA				LR	LR	03 17 44.5	
	comp=Z,199nm,18.4s,MS3.9,baz=162,slow=35						
RKT	**Rikitea**	38.37	90	*e*LR	LR	03 15 03.4	
	283nm,27.2s						
ASAR	**Alice Springs**	43.69	266	P	**P**	03 05 24.6	-1.1
	3.9nm,0.6s,mb4.3,baz=107,slow=7.6,SNR=46						
WB2	**Warramunga Arr**	44.61	271	↓↓*i*P	**P**	03 05 32.1	-1.0
WRAB	**Tennant Creek**	44.62	271	*e*P	**P**	03 05 32.3	-0.8
	19nm,0.7s,mb5.0						
WRA	**Warramunga Arr**	44.62	271	P	**P**	03 05 31.7	-1.5
	18nm,0.7s,mb5.0,baz=110,slow=7.8,SNR=117						
FORT	**Forrest**	46.72	254	*e*P	**P**	03 05 48.0	-1.7
	19nm,0.7s,mb5.1						
FITZ	**Fitzroy Crossi**	52.91	269	*e*P	**P**	03 06 36.3	-0.6
	10nm,0.8s,mb4.8						
FITZ	**Fitzroy Crossi**	52.91	269	P	**P**	03 06 36.7	-0.1
	5.8nm,0.8s,mb4.6,baz=159,slow=5.6,SNR=12						
CASY	**Casey**	55.91	208	*e*P	**P**	03 06 58.0	0.0
MBWA	**Marble Bar**	56.83	263	*e*P	**P**	03 07 05.2	-0.1
	8.1nm,1.0s,mb4.7						
QSPA	**South Pole Qui**	60.29	180	*e*P	**P**	03 07 30.8	+2.3
	10.0nm,0.7s,mb5.0						
MAW	**Mawson**	73.04	200	*e*P	**P**	03 08 51.0	+1.0
	4.8nm,0.9s,mb4.4						
MAW	**Mawson**	73.04	200	P	**P**	03 08 51.1	+1.1
	2.4nm,0.6s,mb4.3,baz=85,slow=8,8,SNR=7.8						
SYO	**Syowa Base**	77.81	193	↑*e*P	**P**	03 09 16.4	-0.9
SYO	**Syowa Base**	77.81	193	↓↓*e*pP	pP	03 09 21.6	-1.4
MJAR	**Matsushiro Arr**	78.07	325	P	**P**	03 09 18.0	-1.1
	2.4nm,0.8s,mb4.2,baz=155,slow=6.6,SNR=5.1						
VNA3	**Neumayer Olymp**	78.85	176	*e*	**P**	03 09 23.1	0.0
VNA3				*e*		03 09 33.5	
VNA2	**Neumayer--Watz**	79.29	177	*e*	**P**	03 09 25.9	+0.4
	baz=200,slow=1.4						
VNA2				*e*		03 09 37.9	
KULM	**Kulim**	85.67	279	*e*P	**P**	03 10 00.1	+0.3
NJ2	**Nanjing**	86.28	310	*e*P	**P**	03 10 04.3	+2.0
NJ2				AP	pP	03 10 08.8	+0.8
NJ2				XP	sP	03 10 11.6	+1.6
NJ2				PP	PP	03 13 29.0	+5.3
NJ2				S	S	03 20 40.0	+3.1
NJ2				XS	sS	03 20 46.0	-0.3
NJ2				AMB	AMB		
	comp=Z,20nm,1.0s,mb5.3						
NJ2				AMB	AMB		
	comp=Z,350nm,4.4s						
NJ2				LR	LR		
	comp=Z,1μm,34.8s,MS5.1						
NVAR	**Mina Array Bea**	87.44	42	P	**P**	03 10 08.1	+0.3
	comp=Z,2.0nm,0.8s,mb4.4,baz=210,slow=6.0,SNR=8.9						
TXAR	**Lajitas Array**	91.62	57	P	**P**	03 10 27.4	-0.2
TXAR	**Lajitas Array**	91.62	57	P	**P**	03 10 27.4	-0.2
	comp=Z,1.0nm,1.1s,mb4.1,baz=205,slow=5.5,SNR=6.0						
KMI	**Kunming**	94.05	297	P	**P**	03 10 38.9	-0.1
KMI				AP	pP	03 10 45.9	+1.2
KMI				XP	sP	03 10 49.4	+2.7
KMI				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb5.4						
KMI				LR	LR		
	comp=N,126nm,11.9s,MS5.0						
KMI				LR	LR		
	comp=E,281nm,13.3s,MS5.0						
KMI				LR	LR		
	comp=Z,187nm,19.1s						
PDAR	**Pinedale Array**	95.34	43	P	**P**	03 10 44.0	-0.5
	comp=Z,0.6nm,0.9s,mb4.0,baz=250,slow=3.0,SNR=4.0						
CD2	**Chengdu**	96.24	302	*e*P	**P**	03 10 45.4	-3.5
CD2				PP	PP	03 14 42.4	-0.2
CD2				SKS		03 21 19.8	
CD2				S	S	03 22 02.0	-5.8
CD2				SS	SS	03 28 40.3	-0.5
CD2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb5.2						
CD2				LR	LR		
	comp=N,230nm,12.0s						
CD

*ISCJB **19** 03:20:23.8±0.4,21.10S×007×16989E±006,h66km, mb4.7/31,Error ellipse: s-maj=10.4km s-min=8.4km az=0.9*
*NEIC **19** 03:20:24.9±0.2,2097S×16992E,mb4.9/19,Error ellipse: s-maj=9.2km s-min=7.4km az=164.0*
*BJI **19** 03:20:25.4,2099S×17039E,h81km,mB5.1,mb4.7,Ms5.3, Msz5.0*
*GCMT **19** 03:20:25.0±0.4,2082S×16990E,h83km±3km,MW5.1/50, Moment Tensor Solution. s27,c35; s50,c67; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-1.49±.24; Mθθ-1.66±.28; Mφφ3.15±.27; Mrθ-0.72±.16; Mθφ4.75±.27; Mrφ2.31±.15; Best double couple: M0:5.93400×10^16 NP1:φs75.00000°,δ63.00000°,λ-11.00000°. NP2: φs170.00000°,δ81.00000°,λ-153.00000°. Principal axes: T 6.4020, Plg12.0000°, Azm300.0000°; N -0.9380, Plg61.0000°, Azm187.0000°; P -5.4650, Plg26.0000°, Azm35.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*IDC **19** 03:20:25.8±0.6,2096S×16977E,h72km±4km,mb4.4/11, mb1 4.6/12,mb1mx4.4/17,mbtmp4.4/12,MS4.1/6, Ms1 4.0/6,ms1mx3.8/18 Error ellipse: s-maj=16.2km s-min=12.3km az=170.0*

ISC 19 03:20:25.7±0.4,2109S±007×16991E±006,h68km, h68km±2.4km:pP-P,n157,σ1§16/46,mb4.7/31,10C-8D, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.37**	**253**	*eP*		Px	03 21 16.6	
DZM				*eS*		Sx	03 21 53.4	
RAO	**Raoul Island**	**13.69**	**129**	LR		LR	03 27 49.9	
	comp=Z,542nm,20.0s,baz=136,slow=32							
HNR	**Honiara**	**15.05**	**319**	LR		LR	03 28 56.3	
	comp=Z,243nm,18.0s,baz=177,slow=34							
EIDS	**Eidsvold**	**17.81**	**253**	*eP*		**Pn**	**03 24 30.1**	**+1.0**
	14nm,1.0s							
URZ	**Urewera**	**18.20**	**162**	P		**Pn**	**03 24 35.7**	**+2.0**
	0.8nm,0.3s,baz=333,slow=6.6,SNR=8.1							
AFI	**Afiamalu**	**18.86**	**71**	*eP*		**Pn**	**03 24 40.5**	**-1.3**
	267nm,1.0s							
CTA	**Charters Tower**	**22.16**	**268**	*eP*		**P**	**03 25 17.0**	**+0.9**
	19nm,0.9s,mb4.4							
CTA	**Charters Tower**	**22.16**	**268**	P		**P**	**03 25 16.6**	**+0.5**
	25nm,0.9s,mb4.6,baz=88,slow=12,SNR=18							
CTAO	**Charters Tower**	**22.16**	**268**	*eP*		**P**	**03 25 16.5**	**+0.4**
	26nm,0.9s,mb4.6							
RPZ	**Rata Peaks**	**22.58**	**178**	P		**P**	**03 25 22.7**	**+2.5**
	4.7nm,0.6s,mb4.0,baz=27,slow=4.5,SNR=4.1							
STKA	**Stephens Creek**	**27.45**	**241**	*eP*		**P**	**03 26 06.0**	**+0.7**
	5.8nm,0.7s,mb4.2							
STKA				*e*		pP	03 26 21.9	+0.4
STKA	**Stephens Creek**	**27.45**	**241**	P		**P**	**03 26 06.2**	**+1.0**
	8.2nm,0.8s,mb4.3,baz=70,slow=9.5,SNR=15							
STKA				pP		pP	03 26 21.1	-0.5
	6.3nm,0.7s,baz=81,slow=12,SNR=6.6							
STKA				PcP		PcP	03 29 21.8	-0.6
	0.8nm,0.4s,baz=347,slow=9.2,SNR=3.8							
STKA				LR		LR	03 36 09.3	
	comp=Z,416nm,19.6s,baz=68,slow=34							
RAR	**Rarotonga**	**28.26**	**96**	P		**P**	**03 26 14.2**	**+1.6**
	27nm,0.9s,mb4.8,baz=23,slow=7.7,SNR=2.2							
WB2	**Warramunga Arr**	**33.28**	**266**	⇑*iP*		**P**	**03 26 55.8**	**-1.1**
WRAB	**Tennant Creek**	**33.28**	**266**	*eP*		**P**	**03 26 55.6**	**-1.3**
	35nm,1.0s,mb5.2							
WRA	**Warramunga Arr**	**33.29**	**266**	P		**P**	**03 26 56.0**	**-1.0**
	27nm,0.9s,mb5.1,baz=96,slow=9.0,SNR=89							
WRA				pP		pP	03 27 11.8	-1.7
	7.1nm,0.8s,baz=99,slow=8.5,SNR=4.8							
WRA				S		**S**	**03 32 10.1**	**-2.6**
	1.0nm,1.1s,baz=96,slow=17,SNR=3.8							
WRA				ScP		ScP	03 33 14.7	-1.8
	0.8nm,0.9s,baz=88,slow=3.7,SNR=5.0							
WRA				LR		LR	03 40 51.3	
	comp=Z,225nm,19.6s,baz=90,slow=37							
ASAR	**Alice Springs**	**33.34**	**259**	P		**P**	**03 26 57.1**	**-0.2**
	64nm,0.8s,mb5.5,baz=83,slow=9.0,SNR=395							
ASAR				pP		pP	03 27 12.7	-1.2
	9.1nm,0.7s,baz=85,slow=9.3,SNR=4.7							
ASAR				PcP		PcP	03 29 36.9	-1.1
	1.8nm,0.7s,baz=105,slow=4.4,SNR=4.1							
KAKA	**Kakadu**	**36.73**	**277**	*eP*		**P**	**03 27 26.2**	**-0.4**
	5.8nm,0.4s,mb4.9							
FORT	**Forrest**	**38.66**	**247**	*eP*		**P**	**03 27 42.8**	**0.0**
	13nm,0.8s,mb4.8							
FITZ	**Fitzroy Crossi**	**41.71**	**266**	*eP*		**P**	**03 28 08.7**	**+0.5**
	49nm,0.9s,mb5.2							
FITZ				*e*		pP	03 28 24.8	-0.3
BATI	**Kupang**	**45.67**	**276**	LR		LR	03 44 40.2	
	comp=Z,343nm,21.0s,baz=248,slow=32							
MBWA	**Marble Bar**	**46.64**	**260**	*eP*		**P**	**03 28 47.5**	**-0.1**
	31nm,0.8s,mb5.1							
MBWA				*e*pP		pP	03 29 03.3	-1.4
KLBR	**Kellerberrin**	**47.51**	**246**	*eP*		**P**	**03 28 53.4**	**-0.8**
	26nm,0.7s,mb5.2							
NWAO	**Narrogin (SRO)**	**47.95**	**244**	LR		LR	03 48 29.4	
	comp=Z,422nm,21.0s,baz=284,slow=35							
VNDA	**Vanda**	**56.61**	**182**	P		**P**	**03 30 00.7**	**-0.4**
	2.8nm,1.0s,mb4.3,baz=1.2,slow=8.0,SNR=9.0							
CASY	**Casey**	**58.69**	**204**	*eP*		**P**	**03 30 14.7**	**-1.1**
	9.3nm,0.9s,mb4.8							
KKM	**Kota Kinabalu**	**59.17**	**291**	*eP*		**P**	**03 30 20.8**	**+0.8**
KSM	**Kuching**	**62.40**	**283**	*eP*		**P**	**03 30 42.6**	**+0.7**
MJAR	**Matsushiro Arr**	**64.67**	**332**	P		**P**	**03 30 55.7**	**-0.7**
MJAR	**Matsushiro Arr**	**64.67**	**332**	P		**P**	**03 30 55.7**	**-0.7**
	3.2nm,0.7s,mb4.3,baz=165,slow=6.3,SNR=8.9							
MAJO	**Matsushiro**	**64.68**	**332**	*eP*		**P**	**03 30 57.0**	**+0.6**
	6.2nm,0.8s,mb4.5							
QSPA	**South Pole Qui**	**68.97**	**180**	*eP*		**P**	**03 31 23.1**	**-0.1**
	26nm,0.6s,mb5.2							
NJ2	**Nanjing**	**71.97**	**316**	*eP*		**P**	**03 31 44.6**	**+2.5**
NJ2				PCP		PcP	03 32 02.1	+1.7
NJ2				AMB		AMB		
	comp=Z,20nm,0.7s,mb5.1							
NJ2				AMB		AMB		
	comp=Z,350nm,4.4s							
NJ2				LR		LR		
	comp=N,2μm,27.7s							
NJ2				LR		LR		
	comp=E,2μm,28.4s							
NJ2				LR		LR		
	comp=Z,1μm,34.9s							
MDJ	**Mudanjiang**	**75.04**	**331**	P		**P**	**03 32 02.0**	**+2.2**
MDJ				AMB		AMB		
	comp=Z,14nm,2.6s,mb4.2							
MDJ				AMB		AMB		
	comp=Z,74nm,6.7s							
MAW	**Mawson**	**76.96**	**202**	P		**P**	**03 32 10.7**	**+0.1**
	comp=Z,5.5nm,0.8s,mb4.4,baz=117,slow=8.3,SNR=8.8							
MAW				pP		pP	03 32 29.2	+0.1
	comp=Z,6.5nm,0.8s,baz=50,slow=7.9,SNR=5.2							
KMI	**Kunming**	**79.78**	**302**	P		**P**	**03 32 30.8**	**+4.0**
KMI				AP		pP	03 32 46.4	+1.0
KMI				AMB		AMB		
	comp=Z,13nm,1.1s,mb4.7							
XAN	**Xi'an**	**79.82**	**312**	P		**P**	**03 32 26.1**	**-0.7**
XAN				AMB		AMB		
	comp=Z,3.0nm,0.8s,mb4.2							
CHTO	**Chiang Mai**	**79.99**	**295**	*eP*		**P**	**03 32 29.1**	**+1.1**
	comp=Z,6.6nm,0.8s,mb4.5							
CHTO				*e*pP		pP	03 32 47.1	+0.5
LZH	**Lanzhou**	**84.43**	**312**	*eP*		**P**	**03 32 54.4**	**+3.5**
LZH				AP		pP	03 33 12.4	+2.8
LZH				XP		sP	03 33 18.5	+1.4
LZH				PP		PP	03 36 13.0	+5.9
LZH				AMB		AMB		
	comp=Z,16nm,1.2s,mb4.7							
LZH				AMB		AMB		
	comp=Z,120nm,5.0s							
LZH				LR		LR		
	comp=E,435nm,15.5s							
LZH				LR		LR		
	comp=Z,712nm,16.8s							
PMSA	**Palmer Station**	**84.96**	**160**	*eP*		**P**	**03 32 52.4**	**-0.7**
	comp=Z,71nm,1.1s,mb5.5							
VNA3	**Neumayer Olymp**	**87.91**	**180**	*e*		**P**	**03 33 06.1**	**-1.4**
VNA3				*e*			03 33 08.3	
VNA3				*e*		pP	03 33 25.1	-1.3
VNA3				*e*		pP	03 33 28.0	+1.6
VNA2	**Neumayer--Watz**	**88.21**	**181**	*e*		**P**	**03 33 07.7**	**-1.2**
	baz=174,slow=3.4							
VNA2				*e*			03 33 10.0	
VNA2				*e*		pP	03 33 26.8	-1.0
VNA2				*e*		pP	03 33 30.0	+2.2
VNA1	**Neumayer--Stat**	**88.50**	**181**	*e*		**P**	**03 33 09.2**	**-1.0**
VNA1				*e*			03 33 11.6	
VNA1				*e*		pP	03 33 27.5	-1.7
VNA1				*e*		pP	03 33 30.7	+1.5
ULN	**Ulaanbaatar**	**88.72**	**323**	*eP*		**P**	**03 33 11.6**	**+0.1**
	comp=Z,2.6nm,0.7s,mb4.4							
GTA	**Gaotai**	**88.85**	**313**	*eP*		**P**	**03 33 14.0**	**+1.7**
GTA					AMB	AMB		
	comp=Z,6.0nm,1.1s,mb4.5							
BILL	**Bilibino**	**88.91**	**359**	*eP*		**P**	**03 33 11.2**	**-0.8**
	comp=Z,5.7nm,1.0s,mb4.6							
SONM	**Songino Aray**	**89.07**	**323**	P		**P**	**03 33 11.8**	**-1.4**
	comp=Z,3.1nm,0.9s,mb4.4,baz=156,slow=8.1,SNR=6.1							
NVAR	**Mina Array Bea**	**89.56**	**48**	P		**P**	**03 33 16.4**	**+0.7**
NVAR				pP		pP	03 33 36.9	+2.3
NVAR	**Mina Array Bea**	**89.56**	**48**	P		**P**	**03 33 16.4**	**+0.7**
	comp=Z,2.5nm,0.7s,mb4.5,baz=233,slow=10,SNR=16							
NVAR				pP		pP	03 33 36.9	+2.3
	comp=Z,3.4nm,0.9s,baz=218,slow=5.0,SNR=5.9							
WVOR	**Wild Horse Val**	**91.18**	**45**	*eP*		**P**	**03 33 21.3**	**-1.8**
	comp=Z,10nm,1.4s,mb4.8							
YKA	**Yellowknife Ar**	**102.02**	**27**	P		Pdif	03 34 10.9	-1.3
YKA	**Yellowknife Ar**	**102.02**	**27**	P		Pdif	03 34 10.9	-1.3
	comp=Z,0.2nm,0.6s,baz=252,slow=4.6,SNR=4.5							
YKA				PKiKP		PKiKP	03 38 32.0	-1.9
	comp=Z,0.2nm,0.7s,baz=264,slow=1.0,SNR=4.6							
MKAR	**Makanchi Array**	**103.49**	**315**	Pdiff		Pdif	03 34 20.5	+1.7
	comp=Z,0.5nm,0.5s,baz=97,slow=6.1,SNR=6.4							
MKAR				PKiKP		PKiKP	03 38 35.9	-1.2
	comp=Z,0.3nm,0.7s,baz=222,slow=1.6,SNR=4.2							
LBTB	**Lobatse**	**122.52**	**219**	*e*PKPdf		PKPdf	03 39 13.5	-0.5
ARCES	**ARCESS Array B**	**127.01**	**345**	PKP		PKPdf	03 39 19.6	-1.6
	comp=Z,3.7nm,0.6s,baz=81,slow=1.1,SNR=20							
ARCES				pPKP		pPKPdf	03 39 39.6	-1.3
	comp=Z,2.6nm,0.8s,baz=5.7,slow=3.7,SNR=1.7							
LSZ	**Lusaka**	**127.86**	**229**	*e*PKPdf		PKPdf	03 39 24.2	-0.2
BDFB	**Brasilia**	**127.87**	**131**	PKP		PKPdf	03 39 22.2	-2.2
	comp=Z,1.2nm,0.7s,baz=189,slow=21,SNR=3.7							
KMBO	**Kilima Mbogo**	**128.73**	**250**	*e*PKPdf		PKPdf	03 39 27.0	+0.8
FINES	**FINESS Array B**	**132.53**	**337**	PKP		PKPdf	03 39 29.1	-2.8
	comp=Z,1.7nm,0.8s,baz=98,slow=2.7,SNR=4.8							
AKASG	**Malin Array Be**	**137.35**	**324**	PKP		PKPdf	03 39 33.4	-7.9
AKASG				PKP		PKPdf	03 39 40.9	-0.3
AKASG	**Malin Array Be**	**137.35**	**324**	PKhKP			03 39 33.4	
	comp=Z,0.5nm,0.4s,baz=277,slow=38,SNR=3.8							
AKASG				PKP		PKPdf	03 39 40.9	-0.3
	comp=Z,0.5nm,0.4s,baz=65,slow=1.6,SNR=5.3							
NB2	**NORSAR Subarra**	**137.39**	**345**	PKPdf		PKPdf	03 39 41.4	+0.4
	comp=Z,0.2nm,0.7s,baz=44,slow=2.6							
NOA	**NORSAR Array B**	**137.39**	**345**	PKP		PKPdf	03 39 40.9	-0.1
	comp=Z,1.2nm,0.7s,baz=32,slow=1.9,SNR=4.6							
NAO01	**NORSAR Array S**	**137.64**	**345**	*e*PKPdf		PKPdf	03 39 41.8	+0.4
CSS	**Prodhromos**	**139.56**	**299**	*e*PKPdf		PKPdf	03 39 45.1	-0.7
MLR	**Muntele Rosu**	**141.76**	**318**	⇑*iP*		PKPdf	03 39 44.9	-4.5
KOLS	**Kolonicke sedl**	**142.10**	**325**	*e*PKP		PKPdf	03 39 49.9	0.0
STHS	**Stebnicka Huta**	**142.36**	**326**	*e*PKP		PKPdf	03 39 50.7	+0.4
STHS	**Stebnicka Huta**	**142.36**	**326**	*e*PKP		PKPdf	03 39 50.6	+0.3
RCBR	**Riachuelo**	**143.16**	**134**	*e*PKPdf		PKPdf	03 39 46.8	-6.1
GZR	**Gura Zlata**	**143.76**	**320**	⇓*iP*		PKPdf	03 39 49.7	-3.2
MORC	**Moravsky Berou**	**143.97**	**329**	*e*PKPdf		PKPdf	03 39 53.3	+0.2
MORC	**Moravsky Berou**	**143.97**	**329**	⇓*iP*		PKPdf	03 39 50.5	-2.7
PSZ	**Piszkesteto**	**143.98**	**325**	⇑*e*PKP		PKPdf	03 39 51.1	-2.1
DPC	**Dobruska-Polom**	**144.14**	**331**	*e*PKP		PKPdf	03 39 51.0	-2.5
UPC	**Upice**	**144.17**	**331**	*e*PKP		PKPdf	03 39 51.6	-1.9
VYHS	**Vyhne**	**144.17**	**327**	*e*PKP		PKPdf	03 39 51.6	-2.0
BZS	**Buzias**	**144.33**	**321**	⇓*iP*		PKPdf	03 39 51.7	-2.2
KOLL	**Kolacno**	**144.34**	**327**	*e*PKP		PKPdf	03 39 52.5	-1.4
VRAC	**Vranov**	**144.74**	**329**	⇓*iP*		PKPdf	03 39 53.2	-1.3
PVCC	**Panska Ves**	**144.79**	**332**	*e*PKP		PKPdf	03 39 53.4	-1.2
BRG	**Berggiesshubel**	**144.80**	**333**	*e*PKPbc		PKPdf	03 39 53.0	-1.6
BRG	**Berggiesshubel**	**144.80**	**333**	*i P*		PKPdf	03 39 53.3	-1.3
	comp=Z,9.5nm,0.7s							
BRG				*e*			03 40 11.3	
	comp=Z,4.8nm,0.8s							
BRG				*e*			03 40 22.4	
	comp=Z,7.0nm,0.8s							
BRG				*e*			03 43 26.7	
	comp=Z,5.5nm,0.9s							
VTS	**Vitosha**	**144.84**	**315**	⇓*iP*		PKPdf	03 39 54.1	-0.8
CLL	**Collm**	**144.85**	**335**	*e*PKPbc		PKPdf	03 39 52.7	-2.0
CLL	**Collm**	**144.85**	**335**	⇓*i*PKPdf		PKPdf	03 39 53.0	-1.7
	comp=Z,10.0nm,0.8s							
CLL				*i* sPKiKP			03 40 25.4	
NRDL	**Niedersach Rie**	**144.98**	**338**	*e*PKPbc		PKPdf	03 39 53.7	-1.1
MODS	**Modra-Piesok**	**145.04**	**328**	*i* PKP		PKPdf	03 39 54.0	-1.1
PRU	**Pruhonice**	**145.20**	**332**	*e*PKP		PKPdf	03 39 54.6	-0.7
ZST	**Bratislava**	**145.25**	**328**	*e*PKP		PKPdf	03 39 54.9	-0.5
APE	**Apeiranthos**	**145.27**	**305**	⇓*iP*		PKPbc	03 39 52.4	-3.3
TREC	**Trest**	**145.27**	**330**	*e*PKP		PKPdf	03 39 54.6	-0.8
CLZ	**Clausthal**	**145.42**	**338**	*e*PKPbc		PKPbc	03 39 55.2	-0.5
ESK	**Eskdalemuir**	**145.44**	**353**	*e*PKPbc		PKPbc	03 39 54.2	-1.4
PKSM	**Moragy**	**145.69**	**324**	⇓*iP*		PKPdf	03 39 56.1	-0.2
VAY	**Valandovo**	**145.84**	**314**	*e*PKP		PKPdf	03 39 56.8	+0.1
SOP	**Sopron**	**145.86**	**327**	⇑*e*PKP		PKPdf	03 39 57.3	+0.8
MOX	**Moxa**	**145.92**	**335**	*e*P		PKPdf	03 39 55.7	-0.8
CONA	**Conrad Observa**	**146.04**	**328**	⇑*i*PKPdf		PKPdf	03 39 54.9	-1.9
	comp=Z,2.5nm,1.4s							
CONA				⇑*i*PKPab		PKPab	03 39 58.1	-0.3
	comp=Z,10.0nm,0.9s							
KHC	**Kasperske Hory**	**146.26**	**332**	*e*PKP		PKPdf	03 39 57.9	+0.8
KHC				*e*pPKP		pPKPdf	03 40 19.0	+2.2
SKO	**Skopje**	**146.29**	**315**	*e*PKP		PKPdf	03 39 58.7	+1.3
ROTZ	**Rotzenmuhle**	**146.37**	**334**	*e*PKPbc		PKPbc	03 39 57.7	-0.9
GEC2	**GERESS Array S**	**146.41**	**331**	*e*PKPbc		PKPbc	03 39 58.1	-0.7
GERES	**GERESS Array B**	**146.41**	**331**	PKPbc		PKPbc	03 39 56.2	-2.6
	comp=Z,7.4nm,0.6s,baz=33,slow=2.7,SNR=65							
GERES				pPKP		pPKPdf	03 40 16.7	-0.4
	comp=Z,2.6nm,0.7s,baz=28,slow=3.2,SNR=5.3							
WET	**Wettzell**	**146.55**	**332**	*e*PKPbc		PKPbc	03 39 58.3	-0.9
KRUS	**Krusevo**	**146.70**	**315**	*e*PKP		PKPbc	03 39 59.4	-0.5
GRA1	**Grafenberg Arr**	**146.83**	**334**	*e*PKPbc		PKPbc	03 39 59.1	-0.9
GRF	**Grafenberg Arr**	**146.83**	**334**	*e*PKPbc		PKPbc	03 39 59.1	-0.9
GVD	**Gavdhos**	**147.02**	**302**	*e*PKPbc		PKPbc	03 40 00.3	-0.7
OHR	**Ohrid**	**147.12**	**314**	*e*PKP		PKPdf	03 39 59.4	+0.6
MEM	**Membach**	**147.93**	**341**	PKP		PKPbc	03 40 02.4	-0.6
SNF	**Seneffe**	**148.53**	**342**	PKP		PKPbc	03 40 05.3	+0.8
MOTA	**Moosalm**	**148.69**	**332**	⇑*iP*		PKPdf	03 40 01.1	-0.1
	comp=Z,1.0nm,0.7s							
MOTA				⇑*i*			03 40 04.3	
	comp=Z,7.8nm,0.9s							
WLF	**Walferdange**	**148.70**	**340**	*e*PKPbc		PKPbc	03 40 05.0	0.0
WLF	**Walferdange**	**148.70**	**340**	PKP		PKPbc	03 40 04.9	-0.1
WLF	**Walferdange**	**148.70**	**340**	*e*PKPbc		PKPbc	03 40 04.8	-0.2
GIVF	**Givet**	**148.74**	**341**	*e*PKP1		PKPbc	03 40 03.8	-1.3
DOU	**Dourbes**	**148.81**	**342**	PKP		PKPbc	03 40 04.4	-0.8
BFO	**Black Forest**	**149.06**	**336**	*e*PKPbc		PKPbc	03 40 04.9	-1.1
FETA	**Feichten**	**149.10**	**332**	⇑*i*PKPdf		PKPdf	03 40 02.1	+0.2
	comp=Z,2.8nm,0.9s							
FETA				⇑*i*PKiKP		PKiKP	03 40 05.9	-1.5
	comp=Z,13nm,1.0s							
CDF	**Champ du Feu**	**149.38**	**337**	*e*PKP1		PKPbc	03 40 05.3	-1.5
	comp=Z,31nm,1.2s							
HINF	**Hinteralfeld**	**150.04**	**337**	*e*PKP1		PKPbc	03 40 06.8	-1.6
	comp=Z,10nm,0.8s							
HAU	**Haudompre**	**150.06**	**338**	*e*PKP1		PKPbc	03 40 07.0	-1.4
	comp=Z,20nm,0.8s							
MEZF	**Maizieres J'vi**	**150.07**	**340**	*e*PKP1		PKPbc	03 40 07.6	-0.8
TIP	**Timpagrande**	**150.77**	**314**	*e*PKPbc		PKPbc	03 40 09.9	-0.5
AQU	**L'Aquila**	**151.04**	**322**	*e*PKPbc		PKPbc	03 40 10.2	-0.8
CABF	**La Chapelle**	**151.33**	**336**	*e*PKP1		PKPbc	03 40 10.5	-1.0
	comp=Z,19nm,0.8s							
FLN	**La Foliniere**	**151.34**	**347**	*e*PKP1		PKPbc	03 40 09.7	-1.7
	comp=Z,31nm,0.8s							
LDF	**La Druitiere**	**151.42**	**346**	*e*PKP1		PKPbc	03 40 09.8	-1.8
	comp=Z,16nm,0.8s							
LOR	**Lormes**	**151.54**	**340**	*e*PKP1		PKPbc	03 40 10.5	-1.4
	comp=Z,18nm,0.8s							
GRR	**Gorron**	**151.77**	**347**	*e*PKP1		PKPbc	03 40 10.9	-1.5
	comp=Z,20nm,0.8s							
SSF	**Saint Saulge**	**151.84**	**340**	*e*PKP1		PKPbc	03 40 11.3	-1.3
	comp=Z,22nm,0.9s							
LPL	**La Plagne**	**151.99**	**334**	*e*PKP1		PKPbc	03 40 12.0	-1.0
	comp=Z,11nm,0.7s							
LPG	**La Plagne**	**152.00**	**334**	*e*PKP1		PKPbc	03 40 12.2	-0.8
	comp=Z,14nm,0.8s							
SMF	**Signal de Mont**	**152.10**	**339**	*e*PKP1		PKPbc	03 40 11.5	-1.7
	comp=Z,12nm,1.0s							
AVF	**Avril sur Loir**	**152.13**	**340**	*e*PKP1		PKPbc	03 40 11.5	-1.8
	comp=Z,9.5nm,0.9s							
SGMF	**Saint Gilles**	**152.23**	**349**	*e*PKP1		PKPbc	03 40 11.6	-1.9
	comp=Z,16nm,0.7s							
ROSF	**Rostrenen**	**152.27**	**350**	*e*PKP1		PKPbc	03 40 11.5	-2.1
	comp=Z,14nm,0.8s							
BNI	**Bardonecchia**	**152.39**	**334**	*e*PKPbc		PKPbc	03 40 13.3	-0.6
BGF	**Bois d'Agland**	**152.49**	**340**	*e*PKP1		PKPbc	03 40 12.5	-1.6
	comp=Z,13nm,0.8s							
MBDF	**Montbardon**	**152.62**	**333**	*e*PKP1		PKPbc	03 40 12.8	-1.6
	comp=Z,11nm,0.9s							
ORIF	**Oris-en-Rattie**	**152.82**	**335**	*e*PKP1		PKPbc	03 40 13.5	-1.4
	comp=Z,20nm,0.8s							
TCF	**Toulx Ste Croi**	**152.93**	**341**	*e*PKP1		PKPbc	03 40 13.6	-1.5
	comp=Z,15nm,0.9s							
SBF	**Sospel**	**153.01**	**331**	*e*PKP1		PKPbc	03 40 13.3	-2.1
	comp=Z,30nm,1.1s							
PGF	**Pioggiola**	**153.27**	**327**	*e*PKP1		PKPbc	03 40 14.4	-1.6
	comp=Z,25nm,0.8s							
MFF	**Saint Martin d**	**153.29**	**345**	*e*PKP1		PKPbc	03 40 14.2	-1.7
	comp=Z,5.4nm,0.7s							
VIVF	**Saint-Julien-l**	**153.35**	**336**	*e*PKP1		PKPbc	03 40 14.6	-1.4
	comp=Z,8.9nm,0.8s							
FRF	**La Foret Royal**	**153.60**	**332**	*e*PKP1		PKPbc	03 40 15.5	-1.2
	comp=Z,19nm,1.1s							
SMRF	**Simiane la Rot**	**153.72**	**334**	*e*PKP1		PKPbc	03 40 15.8	-1.1
	comp=Z,8.9nm,0.8s							
LMR	**La Mourre**	**153.85**	**332**	*e*PKP1		PKPbc	03 40 15.3	-1.9
	comp=Z,26nm,1.1s							
RJF	**Les Rejaudoux**	**154.03**	**341**	*e*PKP1		PKPbc	03 40 16.0	-1.5
CAF	**Calviac**	**154.20**	**340**	*e*PKP1		PKPbc	03 40 16.5	-1.4
LASF	**Ste Croix**	**154.32**	**336**	*e*PKP1		PKPbc	03 40 16.8	-1.4
	comp=Z,18nm,1.1s							
MTLF	**Montolieu**	**155.55**	**338**	*e*PKP1		PKPdf	03 40 19.3	+7.7
	comp=Z,7.1nm,1.0s							
DBIC	**Dimbokro**	**164.79**	**200**	PKPab		PKPab	03 41 18.4	-0.2
	comp=Z,3.5nm,0.8s,baz=157,slow=9.6,SNR=5.2							
TOA0	**Torodi Ar. Sit**	**166.25**	**237**	*e*PKPab		PKPab	03 41 25.2	0.0
TORD	**Torodi Ar. Bea**	**166.25**	**237**	PKP		PKPdf	03 40 22.3	-1.5
	comp=Z,0.7nm,0.9s,baz=163,slow=0.6,SNR=3.5							
TORD				pPKP		pPKPdf	03 40 45.1	+1.5
	comp=Z,0.3nm,0.7s,baz=6.3,slow=0.9,SNR=1.5							
TORD				PKPab		PKPab	03 41 24.7	-0.4
	comp=Z,0.6nm,0.7s,baz=122,slow=2.8,SNR=4.2							

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*MOS **19** 03:25:47.4±1.5,1680S×17453W,h33km,mb5.4/32,Error ellipse: s-maj=8.5km s-min=7.9km az=72.9*
*SZGRF **19** 03:25:49.6,1639S×17401W,h161km,Tonga Islands*
*ISCJB **19** 03:25:59.8±0.1,1718S±003×17446W±003,h155km, mb4.9/110,Error ellipse: s-maj=5.7km s-min=3.4km az=141.1*
*NEIC **19** 03:26:01.5±0.1,1706S×17445W,mb5.0/70,Error ellipse: s-maj=7.2km s-min=4.5km az=153.0*
*GCMT **19** 03:26:01.5±0.2,1701S×17394W,h157km,MW5.4/91, Moment

ASAR ScP ScP 03 39 37.3 +4.2
comp=Z,6.5nm,1.1s,baz=99,slow=3.7,SNR=10
ASAR S **S** **03 41 17.1 -2.9**
comp=Z,2.9nm,1.0s,baz=90,slow=15,SNR=10
GUMO Guam 50.44 305 LR LR 03 54 00.7
comp=Z,154nm,18.2s,baz=150,slow=33
KAKA Kakadu 51.37 267 *e*P **P** **03 34 50.4 -0.2**
comp=Z,16nm,0.7s,mb4.8
FORT Forrest 53.73 244 *e*P **P** **03 35 06.7 -1.1**
comp=Z,31nm,0.7s,mb5.2
FITZ Fitzroy Crossi 56.87 259 *e*P **P** **03 35 30.2 -0.2**
comp=Z,12nm,0.9s,mb4.7
FITZ Fitzroy Crossi 56.87 259 P **P** **03 35 30.3 -0.1**
comp=Z,3.0nm,0.3s,mb4.6,baz=62,slow=5.9,SNR=8.6
FITZ LR LR 03 57 59.8
comp=Z,262nm,20.6s,baz=94,slow=34
BATI Kupang 60.31 268 P **P** **03 35 55.0 +0.7**
comp=Z,38nm,0.7s,mb5.3,baz=104,slow=2.4,SNR=6.0
SBA Scott Base 61.46 184 *e*P **P** **03 36 03.8 +2.8**
comp=Z,24nm,0.9s,mb5.0
SBA Scott Base 61.46 184 *e*P **P** **03 36 03.8 +2.8**
SBA pmax pmax
comp=Z,23nm,0.9s,mb5.0
VNDA Vanda 61.56 186 P **P** **03 36 03.4 +1.6**
comp=Z,12nm,0.9s,mb4.7,baz=7.7,slow=6.2,SNR=46
MBWA Marble Bar 61.91 255 ⇓*i*P **P** **03 36 04.4 -0.6**
comp=Z,50nm,1.2s,mb5.2
KLBR Kellerberrin 62.54 243 *e*P **P** **03 36 08.5 -0.5**
comp=Z,33nm,0.9s,mb5.2
NWAO Narrogin (SRO) 62.89 241 LR LR 04 00 02.9
comp=Z,268nm,19.6s,baz=90,slow=32
MUN Mundaring 63.82 242 *e*P **P** **03 36 17.8 +0.3**
KAPI Kappang 65.41 272 P **P** **03 36 27.0 -1.0**
comp=Z,246nm,1.0s,mb6.0,SNR=16
CASY Casey 68.42 205 *e*P **P** **03 36 47.3 +1.2**
comp=Z,22nm,1.1s,mb4.8
MJAR Matsushiro Arr 69.61 321 P **P** **03 36 53.7 -0.2**
MJAR LR LR 04 00 40.5
MJAR Matsushiro Arr 69.61 321 P **P** **03 36 53.7 -0.2**
comp=Z,28nm,1.1s,mb4.9,baz=156,slow=5.8,SNR=28
MJAR LR LR 04 00 40.4
comp=Z,164nm,21.3s,baz=150,slow=30
MAJO Matsushiro 69.61 321 *e*P **P** **03 36 53.4 -0.5**
comp=Z,60nm,1.4s,mb5.1
MAJO Matsushiro 69.61 321 *e*P **P** **03 36 53.4 -0.5**
MAJO pmax pmax
comp=Z,60nm,1.4s,mb5.1
MAT Matsushiro 69.61 321 P **P** **03 36 53.3 -0.6**
ERM Erimo 70.66 328 *e*P **P** **03 36 59.9 -0.3**
KKM Kota Kinabalu 72.23 282 *e*P **P** **03 37 10.7 +0.5**
JNU Nakatsue 72.24 314 LR LR 04 04 28.2
comp=Z,108nm,21.5s,baz=305,slow=32
QSPA South Pole Qui 72.93 180 *e*P **P** **03 37 14.8 +1.7**
comp=Z,80nm,0.9s,mb5.5
U04C Hernandez Rese 73.48 43 ⇑P **P** **03 37 17.7 +0.6**
baz=74
PACP Pacheco Peak 73.54 42 ⇑P **P** **03 37 17.7 +0.3**
baz=74
PET Petropavlovsk 73.62 343 *e*P **P** **03 37 16.6 -1.0**
PET Petropavlovsk 73.62 343 ⇓*i*P **P** **03 37 16.4 -1.1**
PET *e**SS sS 03 47 37.7 -3.4
PET pmax pmax
comp=Z,29nm,1.0s,mb5.0
HOPS Hopland 73.65 39 ⇓P **P** **03 37 18.4 +0.4**
baz=74
S04C Ingram Canyon, 73.81 41 ⇓P **P** **03 37 19.9 +0.8**
baz=74
O01C Eel River Cons 73.93 38 ⇑P **P** **03 37 19.7 +0.1**
baz=74
MNRC McLaughlin Nat 73.96 40 ⇑P **P** **03 37 20.5 +0.7**
baz=74,SNR=6.0
GASB Alder Springs 74.28 39 ⇑P **P** **03 37 22.2 +0.5**
baz=74,SNR=5.4
VES Vestal, Richgr 74.29 44 ⇑P **P** **03 37 22.3 +0.4**
baz=74
MURC Murrieta 74.32 47 ⇑P **P** **03 37 22.4 +0.3**
baz=74
BFSC Mount Baldy St 74.35 46 ⇓P **P** **03 37 22.3 +0.1**
baz=74
CHGN Chignik 74.38 9 *e*P **P** **03 37 20.4 -1.4**
MONP Monument Peak 74.48 48 ⇓P **P** **03 37 23.0 0.0**
baz=75
EDW2 Edwards Air Fo 74.48 45 ⇑P **P** **03 37 23.0 +0.1**
baz=75
YSS Yuzh-Sakhalins 74.48 331 *e*P **P** **03 37 22.8 +0.1**
comp=Z,93nm,1.0s,mb5.5
YSS Yuzh-Sakhalins 74.48 331 ⇑*e*P **P** **03 37 23.2 +0.6**
YSS *e* 03 46 44.0
YSS pmax pmax
comp=Z,110nm,1.1s,mb5.5
T06C Millerton Lake 74.56 43 P **P** **03 37 23.5 +0.1**
baz=75,SNR=6.5
O02C Red Bluff 74.56 39 ⇓P **P** **03 37 23.8 +0.5**
baz=75,SNR=8.5
ISA Isabella 74.60 44 ⇓P **P** **03 37 24.0 +0.4**
baz=75
N02C Big Bar 74.66 38 ⇓P **P** **03 37 24.0 +0.1**
baz=75
NACB Ninganchiao 74.66 302 ⇓*i*P **P** **03 37 24.0 -0.2**
CMB Columbia Colle 74.73 42 *e*P **P** **03 37 24.0 -0.3**
comp=Z,16nm,1.2s,mb4.5
CMB Columbia Colle 74.73 42 *e*P **P** **03 37 24.0 -0.3**
CMB pmax pmax
comp=Z,16nm,1.2s,mb4.5
CMB Columbia Colle 74.73 42 P **P** **03 37 24.4 +0.1**
baz=75,SNR=12
HELL Mitchell Peak 74.81 43 ⇑P **P** **03 37 25.2 +0.4**
baz=75
PFO Pinyon Flat Ob 74.84 47 P **P** **03 37 26.9 +1.8**
comp=Z,10nm,1.0s,mb4.4,baz=297,slow=1.6,SNR=4.2
PFO Pinyon Flat Ob 74.84 47 ⇑P **P** **03 37 25.2 +0.1**
baz=75
O03C Acorn Hollow, 74.90 39 ⇓P **P** **03 37 25.6 +0.4**
baz=75
LAVA Lava Cap Winer 74.94 41 ⇑P **P** **03 37 25.2 -0.3**
baz=75
ORV Oroville 74.95 40 P **P** **03 37 25.5 0.0**
baz=75,SNR=5.6
WDC Whiskeytown Da 74.96 38 *e*P **P** **03 37 25.9 +0.3**
comp=Z,32nm,1.3s,mb4.8
WDC Whiskeytown Da 74.96 38 *e*P **P** **03 37 25.9 +0.3**
WDC pmax pmax
comp=Z,32nm,1.3s,mb4.8
WDC Whiskeytown Da 74.96 38 P **P** **03 37 25.9 +0.4**
baz=75,SNR=9.5
KCC Kaiser Creek 75.00 43 ⇓P **P** **03 37 25.5 -0.3**
baz=75
LRMC Laurel Mountai 75.02 45 ⇓P **P** **03 37 26.2 +0.1**
baz=75
YHNB Yeheng 75.06 302 ⇓*e*P **P** **03 37 26.6 +0.1**
K01A Sixes 75.28 36 ⇓P **P** **03 37 27.8 +0.5**
baz=76
M02C Callahan 75.29 38 P **P** **03 37 28.3 +0.9**
baz=76,SNR=7.2
R05C Kirkwood Meado 75.32 41 P **P** **03 37 27.6 -0.1**
baz=76,SNR=7.1
L02A Cave Junction 75.34 37 ⇓P **P** **03 37 27.8 +0.1**
baz=76
P05C Yuba Gap, Truc 75.35 40 ⇓P **P** **03 37 27.6 -0.3**
baz=76
BELC Belle Mtn. 75.37 47 ⇑P **P** **03 37 28.1 0.0**
baz=76
MPMC Manual Prospec 75.48 45 ⇑P **P** **03 37 28.5 -0.2**
baz=76,SNR=13
MTUM Tungsten Hills 75.50 43 *e*P **P** **03 37 29.1 +0.4**
GSC Goldstone 75.52 46 *e*P **P** **03 37 28.3 -0.6**
comp=Z,9.3nm,0.9s,mb4.4
GSC Goldstone 75.52 46 *e*P **P** **03 37 28.3 -0.6**
GSC pmax pmax
comp=Z,9.0nm,0.9s,mb4.4
GSC Goldstone 75.52 46 ⇑P **P** **03 37 28.4 -0.5**
baz=76
O05C Quincy 75.56 40 ⇓P **P** **03 37 28.8 -0.2**
baz=76
YBH Yreka Blue Hor 75.58 37 *e*P **P** **03 37 29.4 +0.3**
comp=Z,25nm,1.0s,mb4.8
YBH *e*pP pP 03 38 06.6 -1.0
YBH Yreka Blue Hor 75.58 37 *e*P **P** **03 37 29.4 +0.3**
YBH pmax pmax
comp=Z,25nm,1.0s
YBH Yreka Blue Hor 75.58 37 ⇓P **P** **03 37 29.4 +0.3**
baz=76,SNR=16
HEC Hector,Ludlow 75.59 46 ⇑P **P** **03 37 29.1 -0.2**
baz=76
R06C Coleville 75.61 42 ⇓P **P** **03 37 29.5 +0.1**
baz=76
M03C McCloud 75.64 38 ⇑P **P** **03 37 29.3 -0.2**
baz=76,SNR=6.8
O04C Chester 75.67 39 ⇑P **P** **03 37 29.7 +0.1**
baz=76
HATC Hat Creek Radi 75.75 39 P **P** **03 37 30.6 +0.6**
baz=76,SNR=7.0
K02A Glendale 75.80 36 ⇓P **P** **03 37 31.2 +0.9**
baz=76
BEKR Beckwourth 75.84 40 P **P** **03 37 30.6 0.0**
baz=76,SNR=13
S08C White Mtn Res 75.84 43 ⇑P **P** **03 37 31.1 +0.4**
baz=76,SNR=6.4
WCN Washoe City 75.88 41 P **P** **03 37 31.3 +0.5**
baz=76,SNR=9.1
HUMO Hull Mountain 76.00 37 *e*P **P** **03 37 31.8 +0.4**
comp=Z,20nm,1.1s,mb4.7
HUMO Hull Mountain 76.00 37 P **P** **03 37 32.1 +0.7**
baz=76,SNR=6.9
GMRC Granite Mounta 76.03 47 ⇑P **P** **03 37 31.3 -0.5**
baz=76
IRM Iron Mountain 76.05 47 ⇑P **P** **03 37 32.0 0.0**
baz=76
GRAC Grapevine Rang 76.09 44 ⇓P **P** **03 37 32.2 +0.2**
baz=76
M04C Macdoel 76.12 38 P **P** **03 37 32.7 +0.5**
baz=76,SNR=9.5
FURC Furnace Creek, 76.13 45 ⇓P **P** **03 37 33.0 +0.7**
baz=76
J02A Umpqua 76.14 36 ⇑P **P** **03 37 32.4 +0.2**
baz=76
TUQ Turquoise Mtn. 76.20 46 ⇓P **P** **03 37 33.1 +0.3**
baz=76
M05C Lookout 76.27 38 P **P** **03 37 33.4 +0.4**
baz=76,SNR=10
Y12C Blythe 76.28 48 ⇓P **P** **03 37 33.2 0.0**
baz=76
NVAR Mln Array Bea 76.29 42 P **P** **03 37 33.1 -0.1**
comp=Z,9.5nm,0.9s,mb4.4,baz=217,slow=7.0,SNR=29
NVAR pP pP 03 38 09.9 -1.8
comp=Z,5.6nm,0.9s,baz=219,slow=7.5,SNR=2.6
NVAR PP PP 03 40 27.8 +0.8
comp=Z,0.6nm,0.6s,baz=246,slow=7.4,SNR=3.7
KSM Kuching 76.33 276 ⇓*i*P **P** **03 37 34.9 +0.9**
L04A Klamath Falls 76.34 37 ⇑P **P** **03 37 33.5 +0.2**
baz=76,SNR=6.0
I02A Mapleton 76.41 35 ⇓P **P** **03 37 34.5 +0.8**
baz=77
U10A Ash Meadows, A 76.46 45 ⇑P **P** **03 37 34.4 +0.2**
baz=77,SNR=7.7
M06C Likely Place G 76.58 39 P **P** **03 37 35.2 +0.5**
baz=77,SNR=8.0
S09A Goldfield 76.59 43 P **P** **03 37 35.0 +0.1**
baz=77,SNR=8.7
KSRS Korea Array 76.68 316 P **P** **03 37 37.1 +1.7**
comp=Z,37nm,1.1s,mb4.9,baz=132,slow=6.4,SNR=53
KSRS LR LR 04 08 36.2
comp=Z,85nm,19.5s,baz=283,slow=33
N06A Buffalo Meadow 76.69 40 P **P** **03 37 35.4 0.0**
baz=77,SNR=12
V11A Goodsprings 76.75 46 ⇓P **P** **03 37 35.9 +0.1**
baz=77
Q08A Gabbs 76.78 42 P **P** **03 37 35.8 -0.1**
baz=77,SNR=7.3
TPNV Topopah Spring 76.80 44 ⇓P **P** **03 37 36.2 +0.1**
baz=77
KDAK Kodiak Island 76.81 12 P **P** **03 37 35.3 -0.3**
comp=Z,50nm,1.1s,mb5.0,baz=142,slow=2.9,SNR=7.7
PDMCI Parker Dam,Lak 76.84 48 ⇑P **P** **03 37 36.6 +0.3**
baz=77
L05A Lakeview 76.88 38 ⇑P **P** **03 37 36.9 +0.5**
baz=77,SNR=7.1
J04A Umpqua Nationa 76.88 36 ⇑P **P** **03 37 36.5 +0.1**
baz=77,SNR=6.3
R09A Tonopah 76.98 43 ⇓P **P** **03 37 37.2 +0.2**
baz=77
I04A Tendick Farm, 77.06 36 ⇑P **P** **03 37 37.6 +0.2**
baz=77
MOD Modoc 77.10 38 *e*P **P** **03 37 38.1 +0.4**
comp=Z,26nm,1.1s,mb4.8
MOD *e*pP pP 03 38 14.9 -1.4
MOD Modoc 77.10 38 P **P** **03 37 38.0 +0.4**
baz=77,SNR=8.3
S10A Tonopah Range, 77.11 43 P **P** **03 37 37.6 -0.2**
baz=77,SNR=12
H03A Soap Creek Ran 77.14 35 ⇓P **P** **03 37 38.6 +0.8**
baz=77
P08A Dixie Valley 77.16 41 ⇑P **P** **03 37 38.1 +0.1**
baz=77
X13A Yucca 77.21 48 ⇓P **P** **03 37 38.7 +0.2**
baz=77,SNR=7.5
Z14A Wintersburg 77.21 49 ⇑P **P** **03 37 38.7 +0.2**
baz=77
N07B Gerlach 77.24 40 P **P** **03 37 38.7 +0.3**
baz=77,SNR=6.8
Q09A Carvers 77.24 42 ⇓P **P** **03 37 39.0 +0.5**
baz=77
K05A Summer Lake 77.26 37 P **P** **03 37 39.2 +0.7**
baz=78,SNR=15
115A Sonoran Desert 77.40 50 ⇓P **P** **03 37 39.4 -0.1**
baz=78
J05A Fort Rock 77.41 37 ⇑P **P** **03 37 39.8 +0.4**
baz=78,SNR=14
W13A Hualapai Mount 77.43 47 ⇓P **P** **03 37 40.0 +0.3**
baz=78,SNR=9.4
QZH Quanzhou 77.45 301 ⇓*i*P **P** **03 37 40.8 +0.8**
QZH AMB AMB
comp=Z,120nm,1.0s,mb5.5
Y14A Wickenburg 77.46 48 ⇑P **P** **03 37 39.9 +0.1**
baz=78,SNR=6.8
M07A Soldier Meadow 77.47 39 ⇑P **P** **03 37 39.9 +0.1**
baz=78,SNR=10.0
R10A Warm Springs 77.51 43 ⇑P **P** **03 37 40.2 +0.2**
baz=78,SNR=15
S11A Rachel 77.52 44 ⇓P **P** **03 37 40.2 +0.1**
baz=78
INCN Inchon 77.55 316 *e*P **P** **03 37 41.1 +0.9**
comp=Z,62nm,0.9s,mb5.2
G03A Yamhill 77.56 34 ⇑P **P** **03 37 40.9 +0.8**
baz=78
216A Three Points, 77.62 51 ⇑P **P** **03 37 40.7 -0.1**
baz=78
T11A Corn Creek, Al 77.65 45 P **P** **03 37 41.2 +0.4**
baz=78,SNR=15
K06A Valley Falls 77.68 38 P **P** **03 37 40.9 0.0**
baz=78,SNR=13
U12A Valley of Fire 77.68 46 ⇓P **P** **03 37 41.2 +0.2**
baz=78,SNR=10
116A Eloy 77.71 50 ⇓P **P** **03 37 41.4 +0.1**
baz=78
Q10A Clear Creek Ra 77.74 43 ⇓P **P** **03 37 41.5 +0.2**
baz=78
H04A Detroit Lake 77.75 35 ⇑P **P** **03 37 41.4 +0.3**
baz=78
L07A Adell 77.75 39 P **P** **03 37 41.5 +0.3**
baz=78,SNR=12
N08A GE Springer Mi 77.75 40 ⇑P **P** **03 37 41.4 +0.1**
baz=78,SNR=8.0
X14A Yava 77.81 48 ⇑P **P** **03 37 41.9 +0.1**
baz=78,SNR=13
G04A Mulino 77.92 35 ⇑P **P** **03 37 43.1 +1.0**
baz=78
I05A Bend 77.93 36 ⇓P **P** **03 37 42.4 +0.2**
baz=78
Y15A Casa Rosa Ranc 77.95 49 ⇓P **P** **03 37 42.7 +0.2**
baz=78,SNR=12
217A Green Valley 77.99 51 ⇑P **P** **03 37 42.9 +0.1**
baz=78,SNR=9.3
M08A Happy Creek Ra 77.99 40 ⇓P **P** **03 37 42.9 +0.3**
baz=78
O09A Fish Creek Ran 77.99 41 P **P** **03 37 42.9 +0.3**
baz=78,SNR=5.8
J06A Christmas Vall 78.01 37 P **P** **03 37 42.5 -0.1**
baz=78,SNR=13
R11A Troy Canyon, C 78.01 43 P **P** **03 37 43.0 +0.2**
baz=78,SNR=7.2
W14A Seligman 78.05 47 ⇓P **P** **03 37 43.7 +0.6**
baz=78,SNR=18
U13A Pakoon Wash 78.06 46 ⇑P **P** **03 37 43.5 +0.4**
baz=78,SNR=14
S12A Delamar Landin 78.10 44 ⇓P **P** **03 37 43.6 +0.4**
baz=78,SNR=9.7
P10A Eureka 78.14 42 ⇑P **P** **03 37 43.6 +0.1**
baz=78,SNR=6.1
N09A Rock Creek Ran 78.17 41 ⇓P **P** **03 37 43.6 0.0**
baz=78,SNR=5.9
K07A Rock Creek Ran 78.20 38 P **P** **03 37 43.8 +0.1**
baz=78,SNR=13
E03A Lebam 78.20 33 ⇑P **P** **03 37 44.5 +0.9**
baz=78
Q11A Duckwater 78.24 43 ⇓P **P** **03 37 44.0 -0.1**
baz=78,SNR=13
V14A Boquillas Ranc 78.25 47 ⇑P **P** **03 37 44.5 +0.3**
baz=78,SNR=20
H05A Madras 78.26 36 ⇓P **P** **03 37 44.7 +0.7**
baz=78
X15A Humboldt 78.28 48 ⇑P **P** **03 37 45.0 +0.6**
baz=78,SNR=9.5
Z16A Peralta Trail, 78.30 50 ⇑P **P** **03 37 45.2 +0.7**
baz=78
I06A Prineville 78.40 37 P **P** **03 37 45.1 +0.3**
baz=79,SNR=12
WVOR Wild Horse Val 78.41 39 ⇓*i*P **P** **03 37 44.6 -0.3**
comp=Z,21nm,1.1s,mb4.7
WVOR Wild Horse Val 78.41 39 ⇓*i*P **P** **03 37 44.6 -0.3**
WVOR pmax pmax
comp=Z,21nm,1.1s,mb4.7
F04A Amboy 78.42 34 ⇑P **P** **03 37 45.0 +0.2**
baz=79
T13A Saint George 78.42 45 ⇓P **P** **03 37 45.3 +0.2**
baz=79,SNR=11
L08A Fields 78.45 39 P **P** **03 37 45.4 +0.3**
baz=79,SNR=12
318A Bisbee 78.45 52 ⇓P **P** **03 37 46.1 +0.7**
baz=79,SNR=6.3
D03A Wishkah Elem. 78.47 33 ⇑P **P** **03 37 45.9 +0.8**
baz=79
O10A Cortez Mining, 78.50 41 ⇑P **P** **03 37 45.5 0.0**
baz=79
Y16A Circle Bar Ran 78.53 49 ⇑P **P** **03 37 46.5 +0.8**
baz=79,SNR=12
M09A Marrel Ranch, 78.55 40 ⇓P **P** **03 37 45.8 +0.1**
baz=79,SNR=6.1
J07A Hines 78.58 38 ⇓P **P** **03 37 46.1 +0.4**
baz=79
G05A Wamic 78.58 35 ⇑P **P** **03 37 46.2 +0.5**
baz=79
NLWA Neilton Lookou 78.60 32 ⇓P **P** **03 37 45.8 0.0**
baz=79
U14A Mt Trumbull 78.61 46 ⇑P **P** **03 37 46.7 +0.6**
baz=79,SNR=24
W15A Williams 78.61 48 ⇑P **P** **03 37 47.3 +1.2**
baz=79
R12A Pony Springs, 78.65 44 P **P** **03 37 47.4 +1.1**
baz=79,SNR=7.1
218A Dragoon 78.66 51 ⇓P **P** **03 37 47.5 +1.0**
baz=79,SNR=7.9
E04A Onalaska 78.68 34 ⇓P **P** **03 37 47.3 +1.1**
baz=79
K08A Mann Creek Ran 78.68 39 P **P** **03 37 46.7 +0.4**
baz=79,SNR=6.8
N10A Dunphy 78.73 41 ⇓P **P** **03 37 47.2 +0.5**
baz=79
S13A Holt Ranch, En 78.75 45 P **P** **03 37 47.7 +0.8**
baz=79,SNR=9.9
L09A Wilkinson Ranc 78.76 39 P **P** **03 37 47.1 +0.3**
baz=79,SNR=9.0
H06A Lindquist Farm 78.81 36 P **P** **03 37 47.0 0.0**
baz=79,SNR=13
X16A Lo Mia Camp, P 78.82 49 ⇑P **P** **03 37 47.6 +0.3**
baz=79,SNR=16
I07A Izee 78.89 37 P **P** **03 37 47.8 +0.3**
baz=79,SNR=8.3
O11A Cowboy Ranch, 78.94 42 ⇓P **P** **03 37 47.9 +0.1**
baz=79,SNR=13
G06A Carlson Farm, 78.95 36 ⇓P **P** **03 37 47.7 -0.1**
baz=79
319A Douglas 78.95 52 ⇓P **P** **03 37 48.4 +0.2**
baz=79,SNR=8.6
T14A Hurricane 79.00 46 ⇓P **P** **03 37 48.4 +0.1**
baz=79,SNR=8.4
J08A Circle Bar Ran 79.06 38 P **P** **03 37 48.2 -0.2**
baz=79,SNR=17
P12A McGill 79.07 43 ⇓P **P** **03 37 48.5 0.0**
baz=79
K09A Rome 79.12 39 P **P** **03 37 48.7 -0.1**
baz=79,SNR=23
H07A Lands Inn, Kim 79.16 37 ⇑P **P** **03 37 48.3 -0.6**
baz=79
M10A I.L. Ranch, Tu 79.17 40 ⇓P **P** **03 37 49.1 0.0**
baz=79,SNR=12
E05A Randle 79.17 34 P **P** **03 37 48.4 -0.5**
baz=79,SNR=8.6
HABR Khabarovsk 79.25 328 *e*P **P** **03 37 49.5 +0.2**
HABR *e* 03 37 57.0
HABR *e* 03 40 49.3
HABR *e*S S 03 47 34.6 -1.7
HABR *e* 03 47 55.1
HABR *e* 03 48 22.8
HABR *e* 03 56 08.6
HABR pmax pmax
comp=Z,150nm,1.2s,mb5.5
219A White Tail Can 79.26 52 ⇓P **P** **03 37 49.9 +0.1**
baz=79,SNR=7.4
C04A Brinnon 79.27 33 ⇓P **P** **03 37 50.0 +0.5**
baz=80
N11A Elko Archery C 79.27 41 ⇓P **P** **03 37 49.6 -0.1**
baz=79
S14A Cedar City 79.31 45 ⇓P **P** **03 37 50.1 +0.2**
baz=80
I08A Drewsey 79.33 38 ⇓P **P** **03 37 49.7 -0.1**
baz=80
Q13A Wheeler Ranch, 79.37 44 ⇑P **P** **03 37 50.0 -0.2**
baz=80
SVW2 Sparrevohn 79.41 9 *e*P **P** **03 37 47.8 -2.1**
D05A Enumclaw 79.44 33 ⇑P **P** **03 37 50.4 0.0**
baz=80
T15A Red Dirt Ranch 79.46 46 ⇓P **P** **03 37 51.1 +0.3**
baz=80,SNR=19
J09A Fry Pan Ranch, 79.47 38 P **P** **03 37 50.8 +0.2**
baz=80,SNR=19
G07A Ruggs Ranch, H 79.51 36 P **P** **03 37 50.6 -0.2**
baz=80,SNR=8.5
L10A Juniper Basin 79.52 40 P **P** **03 37 50.7 -0.2**
baz=80,SNR=18
E06A Yakima 79.58 34 P **P** **03 37 51.2 0.0**
baz=80,SNR=5.6
M11A Holland Ranch, 79.58 41 ⇓P **P** **03 37 51.6 +0.3**
baz=80,SNR=12
119A Ashpeak Ranch, 79.59 51 ⇓P **P** **03 37 51.2 -0.3**
baz=80
O12A Currie 79.60 42 P **P** **03 37 51.3 -0.2**
baz=80,SNR=7.6
H08A Prairie City 79.63 37 ⇓P **P** **03 37 51.0 -0.5**
baz=80
P13A Bates Ranch, G 79.64 43 P **P** **03 37 52.0 +0.4**
baz=80,SNR=8.5
K10A MacKenzie Ranc 79.68 39 P **P** **03 37 51.7 -0.1**
baz=80,SNR=21
N12A Clover Valley, 79.73 42 ⇑P **P** **03 37 52.1 -0.1**
baz=80
F07A Phimny Hill Vi 79.75 35 ⇑P **P** **03 37 52.0 -0.1**
baz=80
MDJ Mudanjiang 79.77 323 P **P** **03 37 52.8 +0.6**
MDJ AP pP 03 38 27.5 -3.6
MDJ PP PP 03 40 55.8 -0.1
MDJ S S 03 47 43.4 +1.5
MDJ AMB AMB
comp=Z,30nm,1.4s,mb4.7
MDJ AMB AMB
comp=Z,222nm,8.0s
I09A Lost Marbles R 79.85 38 ⇑P **P** **03 37 52.2 -0.5**
baz=80
BBB Bella Bella 79.88 27 P **P** **03 37 52.0 -0.7**
BBB Bella Bella 79.88 27 P **P** **03 37 52.0 -0.6**
comp=Z,8.5nm,0.8s,mb4.4,baz=316,slow=7.4,SNR=4.2
C05A Tolt Reservoir 79.92 33 P **P** **03 37 52.7 -0.3**
baz=80,SNR=9.6
G08A Pilot Rock 79.92 36 ⇑P **P** **03 37 52.8 -0.2**
baz=80,SNR=27
L11A Cat Creek Ranc 80.01 40 P **P** **03 37 53.5 -0.1**
baz=80,SNR=15
T16A Glen Canyon Da 80.05 46 ⇓P **P** **03 37 53.8 -0.1**
baz=80
A04A Legoe Bay, Lum 80.06 32 ⇑P **P** **03 37 53.5 -0.2**
baz=80,SNR=8.5
B05A Bryant 80.08 32 P **P** **03 37 53.5 -0.3**
baz=80,SNR=7.6
J10A Berg Farm, Mel 80.11 39 ⇑P **P** **03 37 53.5 -0.5**
baz=80
M12A Wells 80.12 41 P **P** **03 37 54.5 +0.3**
baz=80,SNR=9.3
K11A Parker Ranch, 80.18 40 P **P** **03 37 54.8 +0.3**
baz=80,SNR=8.7
E07A Sunnyside 80.20 35 ⇑P **P** **03 37 54.6 +0.2**
baz=80,SNR=5.4
N13A Wendover, West 80.27 42 ⇑P **P** **03 37 54.9 -0.1**
baz=80,SNR=6.3

HAWA **Hanford** 80.27 35 *e*P P 03 37 54.5 -0.4
comp=Z,22nm,1.1s,mb4.7
H09A **Durkee** 80.30 37 ⇓P P 03 37 55.1 +0.1
baz=80
F08A **Pendleton** 80.33 36 ⇓P P 03 37 55.3 +0.1
baz=80
MSU **Marysvale** 80.37 45 *e*P P 03 37 56.4 +0.8
MSU *e*pP pP 03 38 33.4 -1.1
NJ2 **Nanjing** 80.39 308 *e*P P 03 37 56.3 +0.4
NJ2 AP pP 03 38 35.8 +1.0
NJ2 XP sP 03 38 54.1 +2.6
NJ2 S S 03 47 46.0 -3.0
NJ2 SKS 03 47 53.0
NJ2 AMB AMB
comp=Z,40nm,1.0s,mb5.0
NJ2 AMB AMB
comp=Z,640nm,4.7s
NJ2 LR LR
comp=N,2μm,25.8s
NJ2 LR LR
comp=E,2μm,29.2s
NJ2 LR LR
comp=Z,2μm,29.2s
L12A **House Creek Ra** 80.46 40 ⇑P P 03 37 56.0 0.0
baz=81,SNR=5.1
BMO **Blue Mountains** 80.61 37 *e*P P 03 37 56.1 -0.7
comp=Z,11nm,1.0s,mb4.4
BMO *e*pP pP 03 38 35.4 -0.3
BMO **Blue Mountains** 80.61 37 *e*P P 03 37 56.1 -0.6
BMO pmax pmax
comp=Z,11nm,1.0s,mb4.4
MFID **Camas Ranch** 80.67 39 ⇓P P 03 37 56.8 -0.3
baz=81,SNR=12
F09A **S2 Ranch, Elgi** 80.77 36 ⇑P P 03 37 57.0 -0.5
baz=81,SNR=6.6
C07A **Waterville** 80.78 34 P P 03 37 57.1 -0.4
baz=81,SNR=5.9
H10A **Noah's Angus R** 80.79 38 ⇓P P 03 37 57.0 -0.6
baz=81
DUG **Dugway** 80.82 43 *e*P P 03 37 58.2 +0.2
comp=Z,12nm,1.2s,mb4.4
DUG *e*pP pP 03 38 36.6 -0.3
DUG **Dugway** 80.82 43 *e*P P 03 37 58.2 +0.3
DUG pmax pmax
comp=Z,12nm,1.2s,mb4.4
DUG **Dugway** 80.82 43 ⇓P P 03 37 57.6 -0.3
baz=81,SNR=6.2
I11A **Placerville** 80.87 39 ⇑P P 03 37 57.8 -0.3
baz=81,SNR=16
G10A **Bishop Farm, J** 80.97 37 P P 03 37 58.2 -0.4
baz=81,SNR=12
D08A **Wollman Farm,** 81.01 35 P P 03 37 58.9 +0.1
baz=81,SNR=8.9
PMR **Palmer** 81.01 12 *e*P P 03 37 58.0 -0.4
comp=Z,42nm,0.9s,mb5.1
PMR **Palmer** 81.01 12 *e*P P 03 37 58.0 -0.4
PMR pmax pmax
comp=Z,43nm,0.9s,mb5.1
J12A **Stokes Ranch,** 81.02 40 ⇑P P 03 37 59.1 +0.2
baz=81
L13A **Double Diamond** 81.09 41 ⇓P P 03 37 59.1 -0.3
baz=81
TTA **Tatalina** 81.10 8 *e*P P 03 37 59.0 +0.1
E09A **Wood Farm, Sta** 81.11 36 ⇑P P 03 37 59.2 -0.2
baz=81
M14A **Sheep Mountain** 81.16 42 P P 03 37 59.5 -0.2
baz=81,SNR=12
B07A **Winthrop** 81.22 33 P P 03 37 59.6 -0.3
baz=81,SNR=8.8
H11A **Donnelly** 81.28 38 ⇑P P 03 37 59.8 -0.5
baz=82,SNR=21
F10A **Beach Ranch, E** 81.31 36 ⇑P P 03 37 59.6 -0.8
baz=82,SNR=11
K13A **Stover Farm, H** 81.31 40 ⇓P P 03 38 00.5 0.0
baz=82,SNR=5.8
WRAK **Wrangell Islan** 81.33 22 *e*P P 03 38 00.6 +0.4
comp=Z,32nm,1.0s,mb4.9
D09A **Jones Farm, Ri** 81.35 35 ⇑P P 03 38 00.1 -0.5
baz=82,SNR=14
C08A **Higginbotham F** 81.38 34 ⇓P P 03 38 00.0 -0.7
baz=82
A07A **Ashnola River,** 81.45 33 ⇓P P 03 38 00.7 -0.4
baz=82,SNR=9.8
MA2 **Magadan** 81.50 343 ⇓*i*P P 03 37 59.7 -1.3
comp=Z,35nm,1.1s,mb4.9
MA2 **Magadan** 81.50 343 *e*P P 03 37 59.8 -1.3
MA2 PS 03 48 54.7
MA2 *SS sS 03 49 03.2 -3.7
MA2 pmax pmax
comp=Z,50nm,1.2s,mb5.0
G11A **Walters Elk Ra** 81.53 37 P P 03 38 01.1 -0.5
baz=82,SNR=22
B08A **Colville Reser** 81.58 34 P P 03 38 00.7 -1.0
baz=82,SNR=8.7
HLID **Hailey** 81.60 40 *e*P P 03 38 02.0 0.0
comp=Z,17nm,1.0s,mb4.6
HLID *e*pP pP 03 38 39.5 -1.5
J13A **Cove Ranch, Pi** 81.66 40 ⇓P P 03 38 02.3 0.0
baz=82,SNR=21
CN2 **Changchun** 81.75 321 *e*P P 03 38 03.8 +1.0
CN2 *e*XP sP 03 39 00.0 +1.5
CN2 *e*S S 03 48 02.3 -0.3
CN2 AMB AMB
comp=Z,30nm,1.1s,mb4.8
CN2 AMB AMB
comp=Z,200nm,4.0s
SRU **San Rafael** 81.78 45 *e*P P 03 38 02.8 -0.2
K14A **Jones Ranch, D** 81.82 41 ⇑P P 03 38 03.0 -0.2
baz=82,SNR=9.3
SNY **Shenyang** 81.86 318 ⇓P P 03 38 03.9 +0.5
SNY AMB AMB
comp=Z,39nm,1.2s,mb4.9
F11A **Grangeville** 81.87 37 P P 03 38 02.1 -1.2
baz=82,SNR=10.0
H12A **Diamond D Ranc** 81.88 39 ⇑P P 03 38 03.0 -0.4
baz=82,SNR=17
D10A **Wagner Farm, O** 81.91 35 P P 03 38 03.0 -0.5
baz=82,SNR=9.3
JLU **Jordanelle** 81.92 43 *e*P P 03 38 03.6 -0.1
JLU *e*pP pP 03 38 42.4 -0.4
LAZ **Ladron** 81.94 50 *e*P P 03 38 04.8 +0.8
LAZ *e*pP pP 03 38 43.5 +0.4
DAU **Daniels Canyon** 81.95 44 *e*P P 03 38 04.0 +0.1
LENM **Lemitar** 81.96 51 *e*P P 03 38 03.5 -0.6
A08A **Turner Farm, O** 81.97 33 P P 03 38 03.2 -0.6
baz=82,SNR=13
I13A **Wildhorse Cree** 81.98 39 ⇓P P 03 38 03.9 0.0
baz=82,SNR=7.6
MNTX **Cornudas Mount** 82.07 54 *e*P P 03 38 05.2 +0.5
comp=Z,10nm,1.3s,mb4.3
MNTX *e*pP pP 03 38 43.2 -0.6
E11A **Bogner Ranch,** 82.11 36 ⇑P P 03 38 03.9 -0.7
baz=82,SNR=8.9
BNM **Barren Site** 82.21 51 *e*P P 03 38 05.8 +0.4
BNM *e*pP pP 03 38 44.9 +0.4
H13A **Challis** 82.25 39 ⇓P P 03 38 05.1 -0.3
baz=82,SNR=9.6
LPM **Los Pinos Moun** 82.28 51 *e*P P 03 38 06.6 +0.8
LPM *e*pP pP 03 38 45.4 +0.5
F12A **Elk City** 82.32 37 P P 03 38 05.1 -0.6
baz=82,SNR=55
HWUT **Hardware Ranch** 82.36 42 *e*P P 03 38 05.4 -0.6
comp=Z,8.6nm,1.1s,mb4.3
TXAR **Lajitas Array** 82.42 56 P P 03 38 06.8 +0.2
TXAR pP pP 03 38 45.2 -0.5
TXAR **Lajitas Array** 82.42 56 P P 03 38 06.8 +0.2
comp=Z,5.5nm,1.1s,mb4.1,baz=219,slow=8.0,SNR=12
TXAR pP pP 03 38 45.2 -0.5
comp=Z,5.9nm,1.1s,baz=234,slow=4.2,SNR=5.9
D11A **Klaveano Farm,** 82.43 36 P P 03 38 05.5 -0.7
baz=83,SNR=13
G13A **Cobalt** 82.55 38 P P 03 38 06.5 -0.3
baz=83,SNR=16
TNA **Tin City** 82.58 3 ⇓*i*P P 03 38 06.4 -0.2
comp=Z,73nm,1.1s,mb5.3
TNA *e*pP pP 03 38 46.7 +1.0
QIZ **Qiongzhong** 82.60 292 P P 03 38 08.6 +0.8
QIZ S S 03 48 11.6 -0.6
QIZ XS sS 03 49 19.1 -0.9
QIZ AMB AMB
comp=Z,159nm,8.0s
ANMO **Albuquerque** 82.69 50 *e*P P 03 38 07.9 +0.1
comp=Z,18nm,1.1s,mb4.7
ANMO *e*pP pP 03 38 46.9 -0.1
ANMO **Albuquerque** 82.69 50 *e*P P 03 38 07.9 0.0
ANMO pmax pmax
comp=Z,18nm,1.1s
ANMO **Albuquerque** 82.69 50 P P 03 38 08.2 +0.4
comp=Z,14nm,1.1s,mb4.6,baz=225,slow=5.9,SNR=18
ANMO pP pP 03 38 47.2 +0.2
comp=Z,4.5nm,1.0s,baz=232,slow=4.0,SNR=2.2
SKAG **Skagway** 82.70 19 *e*P P 03 38 07.9 +0.6
comp=Z,48nm,1.2s,mb5.1
NEW **Newport** 82.70 35 *e*P P 03 38 06.5 -1.1
comp=Z,5.0nm,1.0s,mb4.2
NEW **Newport** 82.70 35 *e*P P 03 38 06.5 -1.1
NEW pmax pmax
comp=Z,5.0nm,1.0s
NEW **Newport** 82.70 35 P P 03 38 06.2 -1.5
comp=Z,5.0nm,1.0s,mb4.2,baz=180,slow=2.6,SNR=4.7
F13A **Darby** 82.87 38 ⇓P P 03 38 08.0 -0.6
baz=83
A10A **Northport** 82.89 34 ⇓P P 03 38 08.1 -0.4
baz=83
D12A **Red Ives Fores** 82.99 36 ⇓P P 03 38 08.9 -0.3
baz=83
MCK **McKinley** 83.00 11 ⇓*i*P P 03 38 07.6 -1.2
comp=Z,51nm,0.9s,mb5.3
MCK *e*pP pP 03 38 47.8 -0.2
MCK **McKinley** 83.00 11 ⇓*i*P P 03 38 07.6 -1.2
MCK pmax pmax
comp=Z,51nm,0.9s,mb5.2
G14A **Jackson** 83.09 38 ⇑P P 03 38 09.2 -0.4
baz=83,SNR=7.6
B11A **Sandpoint** 83.21 35 ⇑P P 03 38 09.4 -0.8
baz=83
WHN **Wuhan** 83.22 305 P P 03 38 12.0 +1.3
MCMT **McKenzie Canyo** 83.23 39 *e*P P 03 38 10.5 +0.1
MCMT *e*pP pP 03 38 49.8 +0.2
AHID **Auburn Hatcher** 83.24 42 *e*P P 03 38 10.4 -0.1
comp=Z,24nm,1.1s,mb4.8
AHID *e*pP pP 03 38 49.3 -0.4
E13A **Victor** 83.31 37 P P 03 38 10.2 -0.6
baz=84,SNR=26
MENT **Mentasta** 83.36 14 *e*P P 03 38 10.6 0.0
A11A **Hall Mountain,** 83.52 34 ⇑P P 03 38 11.4 -0.4
baz=84,SNR=6.1
D13A **Huson** 83.52 37 ⇓P P 03 38 11.0 -0.8
baz=84
DCID1 **Drake Creek** 83.61 41 *e*P P 03 38 12.9 +0.5
G15A **Dillon** 83.63 39 ⇓P P 03 38 11.5 -0.9
baz=84,SNR=7.2
DLMT **Dillon** 83.67 39 *e*P P 03 38 12.4 -0.2
comp=Z,25nm,1.0s,mb4.9
DLMT *e*pP pP 03 38 51.9 +0.1
DLBC **Dease Lake** 83.67 22 *e*P P 03 38 12.6 +0.3
DLBC **Dease Lake** 83.67 22 P P 03 38 12.0 -0.3
baz=222,slow=8.9
REDW **Red Top Meadow** 83.70 41 *e*P P 03 38 12.8 -0.1
comp=Z,28nm,1.0s,mb4.9
REDW *e*pP pP 03 38 51.0 -1.1
E14A **Clinton** 83.70 37 ⇓P P 03 38 12.2 -0.6
baz=84
TPAW **Teton Pass** 83.71 41 *e*P P 03 38 13.0 +0.1
comp=Z,28nm,1.0s,mb5.0
TPAW *e*pP pP 03 38 52.2 +0.1
C13A **Hot Springs** 83.78 36 P P 03 38 12.4 -0.7
baz=84,SNR=7.5
SNOW **Snow King Moun** 83.81 41 *e*P P 03 38 13.3 -0.1
comp=Z,34nm,1.1s,mb5.0
SNOW *e*pP pP 03 38 52.7 0.0
SEY **Seymchan** 83.92 345 ⇓*i*P P 03 38 12.7 -0.8
IMW **Indian Meadow** 83.92 41 ⇓*i*P P 03 38 13.6 -0.3
comp=Z,32nm,1.2s,mb4.9
IMW *e*pP pP 03 38 53.1 -0.1
MOOW **Moose Ponds** 83.97 41 *e*P P 03 38 13.6 -0.5
comp=Z,9.4nm,1.1s,mb4.4
MOOW *e*pP pP 03 38 53.4 0.0
F15A **Butte** 83.98 38 ⇓P P 03 38 13.8 -0.4
baz=84,SNR=14
LOHW **Long Hollow** 83.98 41 *e*P P 03 38 14.1 -0.2
comp=Z,18nm,1.2s,mb4.7
LOHW *e*pP pP 03 38 52.7 -0.9
D14A **Greenough** 84.06 37 P P 03 38 13.8 -0.8
baz=84,SNR=13
QLMT **Earthquake Lak** 84.10 40 *e*P P 03 38 15.3 +0.5
QLMT *e*pP pP 03 38 54.5 +0.4
CHMT **Chamberlain Mo** 84.11 37 *e*P P 03 38 14.1 -0.8
CHMT *e*pP pP 03 38 52.9 -1.2
FLWY **Flagg Ranch** 84.16 41 *e*P P 03 38 15.6 +0.4
comp=Z,40nm,1.0s,mb5.1
FLWY *e*pP pP 03 38 53.1 -1.3
E15A **Deer Lodge** 84.21 38 P P 03 38 15.1 -0.2
baz=84,SNR=9.1
B13A **Whitefish** 84.22 35 P P 03 38 15.1 -0.2
baz=84,SNR=6.6
BW06 **Boulder Array** 84.23 42 *e*P P 03 38 14.5 -1.0
comp=Z,18nm,1.0s,mb4.8
BW06 *e*pP pP 03 38 52.6 -2.2
PDAR **Pinedale Array** 84.23 42 P P 03 38 15.1 -0.5
comp=Z,12nm,1.1s,mb4.5,baz=214,slow=3.8,SNR=39
PDAR pP pP 03 38 53.0 -1.7
comp=Z,15nm,0.9s,baz=211,slow=2.5,SNR=9.3
SMCO **Snowmass** 84.24 46 *e*P P 03 38 15.9 +0.3
comp=Z,16nm,1.0s,mb4.7
SMCO *e*pP pP 03 38 54.4 -0.6
COLA **College** 84.24 11 ⇓*i*P P 03 38 13.7 -1.3
comp=Z,115nm,1.0s,mb5.6
COLA *e*pP pP 03 38 53.0 -1.3
COLA **College** 84.24 11 ⇓*i*P P 03 38 13.7 -1.4
COLA pmax pmax
comp=Z,115nm,1.0s,mb5.6
YFT **Old Faithful** 84.27 40 *e*P P 03 38 17.4 +1.7
YFT *e*pP pP 03 38 56.0 +1.0
C14A **Swan Lake** 84.29 36 ⇑P P 03 38 15.2 -0.6
baz=84
YMR **Madison River** 84.30 40 *e*P P 03 38 16.6 +0.8
comp=Z,28nm,1.2s,mb4.9
YMR *e*pP pP 03 38 55.9 +0.8
BOZ **Bozeman (W)** 84.40 39 *e*P P 03 38 15.8 -0.6
comp=Z,13nm,1.0s,mb4.6
BOZ *e*pP pP 03 38 55.3 -0.3
BOZ **Bozeman (W)** 84.40 39 *e*P P 03 38 15.8 -0.5
BOZ pmax pmax
comp=Z,13nm,1.0s,mb4.6
BOZ **Bozeman (W)** 84.40 39 ⇑P P 03 38 15.9 -0.4
baz=85
IMA2 **Indian Mountai** 84.41 8 *e*P P 03 38 15.6 -0.3
A13A **Flathead Natio** 84.56 35 ⇓P P 03 38 16.6 -0.4
baz=85,SNR=6.2
LKWY **Lake** 84.59 40 *e*P P 03 38 18.7 +1.3
comp=Z,22nm,1.2s,mb4.8
LKWY *e*pP pP 03 38 57.6 +1.0
LKWY **Lake** 84.59 40 *e*P P 03 38 18.7 +1.4
LKWY pmax pmax
comp=Z,22nm,1.2s,mb4.8
D15A **Lincoln** 84.61 37 ⇑P P 03 38 16.8 -0.5
baz=85,SNR=17
HRY **Holter Researc** 84.83 38 *e*P P 03 38 18.2 -0.2
HRY *e*pP pP 03 38 57.1 -0.7
DAWY **Dawson** 85.34 15 ⇓*i*P P 03 38 20.2 -0.4
EGAK **Eagle** 85.53 14 *e*P P 03 38 21.0 -0.5
comp=Z,54nm,0.9s,mb5.3
EGAK *e*pP pP 03 38 59.6 -1.2
RLMT **Red Lodge** 85.57 40 *e*P P 03 38 22.1 -0.1
comp=Z,11nm,1.2s,mb4.5
RLMT *e*pP pP 03 39 01.5 -0.1
MAW **Mawson** 85.84 199 *e*P P 03 38 25.2 +2.0
comp=Z,3.7nm,0.8s,mb4.2
MAW **Mawson** 85.84 199 *e*P P 03 38 25.2 +2.0
MAW pmax pmax
comp=Z,4.0nm,0.8s
MAW **Mawson** 85.84 199 P P 03 38 24.7 +1.5
comp=Z,4.6nm,0.8s,mb4.2,baz=127,slow=9.7,SNR=8.4
BJT **Baijiatuau** 85.91 314 *e*P P 03 38 24.9 +1.0
comp=Z,62nm,1.4s,mb5.2
BJT **Baijiatuau** 85.91 314 *e*P P 03 38 25.0 +1.0
BJT pmax pmax
comp=Z,62nm,1.4s
BJI **Beijing** 85.92 314 P P 03 38 24.8 +0.8
BJI AP pP 03 39 05.4 +2.0
BJI SKS 03 48 30.6
BJI S S 03 48 47.8 +3.5
BJI AMB AMB
comp=Z,32nm,1.2s,mb4.9
BILL **Bilibino** 86.08 353 ⇓*i*P P 03 38 23.4 -0.7
comp=Z,60nm,1.0s,mb5.3
BILL *e*pP pP 03 39 04.8 +1.3
BILL **Bilibino** 86.08 353 *d*⇓*i*P P 03 38 23.5 -0.7
BILL *e* 03 41 45.0
BILL pmax pmax
comp=Z,65nm,1.0s,mb5.3
SNG **Songkhla** 87.26 278 P P 03 38 33.5 +2.3
EDM **Edmonton** 87.49 32 *e*P P 03 38 30.0 -1.3
EDM *e*pP pP 03 39 10.0 -0.9
PSI **Prapat** 87.58 274 LR LR 04 15 20.9
comp=Z,76nm,18.4s,baz=131,slow=34
GYA **Guiyang** 87.95 298 ⇑*i*P P 03 38 32.8 -1.3
GYA AP pP 03 39 14.6 +0.9
GYA XP sP 03 39 31.4 +1.1
GYA PP PP 03 42 05.8 +2.8
GYA SKS 03 48 45.9
GYA S S 03 49 03.4 -1.0
GYA XS sS 03 50 12.5 -0.6
GYA SS SS 03 54 58.0 +1.7
GYA AMB AMB
comp=Z,10.0nm,1.0s,mb4.6
GYA AMB AMB
comp=Z,110nm,6.8s
GYA LR LR
comp=N,400nm,23.9s
GYA LR LR
comp=E,540nm,24.1s
GYA LR LR
comp=Z,410nm,22.7s
HIA **Hailar** 87.95 323 *e*P P 03 38 34.0 +0.4
comp=Z,20nm,0.9s,mb4.9
HIA **Hailar** 87.95 323 ⇓*i*P P 03 38 33.9 +0.3
RSSD **Black Hills** 88.42 43 *e*P P 03 38 34.7 -1.2
comp=Z,6.3nm,1.0s,mb4.4
RSSD *e*pP pP 03 39 13.8 -1.7
RSSD **Black Hills** 88.42 43 *e*P P 03 38 34.7 -1.2
RSSD pmax pmax
comp=Z,6.0nm,1.0s,mb4.4
XAN **Xi'an** 88.81 306 P P 03 38 38.9 +0.9
XAN AMB AMB
comp=Z,20nm,1.1s,mb5.0
PLCA **Paso Flores** 89.11 132 P P 03 38 39.0 -0.4
PLCA pP pP 03 39 18.7 -0.4
PLCA **Paso Flores** 89.11 132 P P 03 38 39.0 -0.4
comp=Z,2.3nm,0.8s,mb4.2,baz=20,slow=3.9,SNR=5.3
PLCA pP pP 03 39 18.7 -0.4
comp=Z,3.1nm,0.8s,baz=219,slow=5.7,SNR=2.8
NRGR **Nerungri** 89.22 331 *e*P P 03 38 40.3 +0.9
CLNS **Chul'man** 89.25 331 *e*P P 03 38 39.1 -0.4
CLNS *e*PP pP 03 38 51.6 -28
CLNS *e*SS sS 03 50 30.1 +6.0
CLNS pmax pmax
comp=Z,56nm,1.1s,mb5.4
CLNS pmax pmax
comp=N,31nm,1.3s
CLNS pmax pmax
comp=E,21nm,1.4s
CLNS pmax pmax
comp=Z,6.0nm,0.6s,mb4.7
HHC **Hu-ho-hao-te** 89.45 313 *e*P P 03 38 41.1 +0.3
HHC AP pP 03 39 21.9 +1.4
HHC XP sP 03 39 38.0 +1.0
HHC PP PP 03 42 17.9 +3.3
HHC SKS 03 48 55.0
HHC S S 03 49 17.6 -0.3
HHC XS sS 03 50 25.0 -1.7
HHC AMB AMB
comp=Z,27nm,0.3s,mb5.7
HHC AMB AMB
comp=Z,152nm,4.9s
HHC LR LR
comp=N,135nm,5.7s
HHC LR LR
comp=E,261nm,5.1s
HHC LR LR
comp=Z,97nm,15.2s
INK **Inuvik** 90.18 14 *e*P P 03 38 42.8 -0.8
comp=Z,1μm,1.1s,mb6.7
INK *e*pP pP 03 39 23.5 +0.1
INK **Inuvik** 90.18 14 P P 03 38 43.2 -0.4
comp=Z,24nm,1.1s,mb5.0,baz=212,slow=6.1,SNR=44
INK pP pP 03 39 22.6 -0.7
comp=Z,5.3nm,1.0s,baz=182,slow=13,SNR=1.9
NST **Nakhon Sawan** 90.27 286 P P 03 38 46.2 +1.0
YAK **Yakutsk** 90.29 337 *e*P P 03 38 41.7 -2.5
YAK pmax pmax
comp=Z,27nm,1.4s,mb5.0
SYO **Syowa Base** 90.71 192 ⇓*e*sP sP 03 39 42.4 -0.1
KMI **Kunming** 90.85 296 P P 03 38 49.8 +2.1
KMI AP pP 03 39 28.3 +0.8
KMI XP sP 03 39 44.3 +0.4
KMI PP PP 03 42 25.9 -0.2
KMI S S 03 49 29.6 -1.8
KMI XS sS 03 50 40.5 0.0
KMI AMB AMB
comp=Z,22nm,1.1s,mb5.1
KMI AMB AMB
comp=Z,197nm,6.5s
KMI LR LR
comp=N,112nm,13.2s
KMI LR LR
comp=E,137nm,18.3s
KMI LR LR
comp=Z,124nm,23.0s
VNA3 **Neumayer Olymp** 91.24 175 *e*P P 03 38 49.5 +0.8
VNA3 *e* 03 38 56.4
VNA3 *e* pP 03 39 28.8 +0.4
VNA2 **Neumayer--Watz** 91.72 176 *e*P P 03 38 52.5 +1.6
baz=186,slow=3.0
VNA2 *e* 03 38 59.3
VNA2 *e* pP 03 39 30.7 +0.1
CD2 **Chengdu** 91.84 302 *e*P P 03 38 52.4 +0.2
CD2 AP pP 03 39 33.0 +1.1
CD2 XP sP 03 39 50.0 +1.6
CD2 PP PP 03 42 36.8 +3.1
CD2 SKS 03 49 08.3
CD2 S S 03 49 37.4 -2.7
CD2 XS sS 03 50 48.5 -0.8
CD2 AMB AMB
comp=Z,10.0nm,1.2s,mb4.7
CD2 AMB AMB
comp=Z,30nm,9.2s
VNA1 **Neumayer--Stat** 91.92 175 *e*P pP 03 39 32.8 +1.2
YKA **Yellowknife Ar** 92.08 24 P P 03 38 51.5 -1.0
YKA pP pP 03 39 31.9 -0.3
YKA PP PP 03 42 27.8 -7.1
YKA **Yellowknife Ar** 92.08 24 P P 03 38 51.5 -1.0
comp=Z,1.4nm,0.7s,mb4.1,baz=236,slow=4.3,SNR=26
YKA pP pP 03 39 31.9 -0.3
comp=Z,1.0nm,0.9s,baz=234,slow=3.8,SNR=2.1
YKA PP PP 03 42 27.7 -7.1
comp=Z,1.9nm,1.1s,baz=243,slow=7.5,SNR=5.7
CHG **Chiang Mai** 92.29 289 ⇓P P 03 38 55.8 +1.3
comp=Z,28nm,0.9s,mb5.3
CHTO **Chiang Mai** 92.29 289 *e*P P 03 38 55.8 +1.3
comp=Z,12nm,0.9s,mb4.9
CHTO **Chiang Mai** 92.29 289 *e*P P 03 38 55.8 +1.3
CHTO pmax pmax
comp=Z,12nm,0.9s,mb4.9
JTS **JuntasAbangare** 92.52 80 *e*P P 03 38 56.3 +0.6
comp=Z,11nm,1.1s,mb4.9
JTS *e*pP pP 03 39 36.0 +0.5
JTS **JuntasAbangare** 92.52 80 *e*P P 03 38 56.3 +0.6
JTS pmax pmax
comp=Z,11nm,1.1s
LCO **Las Campanas** 93.33 122 *e*P P 03 39 00.9 +1.6
comp=Z,19nm,1.0s,mb5.2
LZH **Lanzhou** 93.42 307 *e*P P 03 38 59.6 +0.2
LZH AP pP 03 39 39.0 -0.1
LZH XP sP 03 39 56.0 +0.4
LZH PP PP 03 42 49.3 +3.3
LZH SKS 03 49 17.3
LZH *e*S S 03 49 50.0 -3.9
LZH XS sS 03 50 58.5 -4.8
LZH AMB AMB
comp=Z,39nm,1.2s,mb5.4
LZH AMB AMB
comp=Z,160nm,5.7s
BOD **Bodaibo** 94.88 329 *e*P P 03 39 04.5 -1.0
BOD pmax pmax
comp=Z,5.0nm,1.3s,mb4.6
ULN **Ulaanbaatar** 95.04 319 *e*P P 03 39 06.3 -0.2
comp=Z,4.7nm,0.9s,mb4.7
ULN **Ulaanbaatar** 95.04 319 *e*P P 03 39 06.3 -0.2
ULN pmax pmax
comp=Z,5.0nm,0.9s,mb4.7
AGMN **Agassiz Refuge** 95.26 41 *e*P P 03 39 06.5 -1.0
comp=Z,9.0nm,1.2s,mb4.9
AGMN *e*pP pP 03 39 45.0 -2.2
SONM **Songino Array** 95.44 318 P P 03 39 06.9 -1.4
comp=Z,1.0nm,0.6s,mb4.2,baz=167,slow=27,SNR=3.9

SONM PP PP 03 43 03.1 +1.7
comp=Z,5.2nm,1.1s,baz=138,slow=9.1,SNR=4.4
ULM Lac du Bonnet 95.91 39 P P 03 39 08.3 -2.0
comp=Z,2.6nm,0.9s,mb4.6,baz=247,slow=7.7,SNR=3.2
ULM pP pP 03 39 47.8 -2.4
comp=Z,5.9nm,1.0s,baz=264,slow=7.1,SNR=6.0
ULM LR LR 04 19 27.9
comp=Z,172nm,18.5s,baz=26,slow=33
TIXI Tiksi 96.38 345 *eP* **P 03 39 11.2 -0.9**
TIXI pmax pmax
comp=Z,12nm,1.1s,mb5.1
GTA Gaotai 97.46 309 *eP* **P 03 39 18.5 +0.8**
GTA AP pP 03 40 00.3 +2.8
GTA XP sP 03 40 16.9 +2.9
GTA PP PP 03 43 20.9 +3.8
GTA SKS 03 49 40.5
GTA S S 03 50 24.3 -4.3
GTA XS sS 03 51 37.1 -1.2
GTA AMB AMB
comp=Z,5.0nm,1.1s,mb4.8
GTA AMB AMB
comp=Z,44nm,5.3s
GTA LR LR
comp=N,129nm,25.6s
GTA LR LR
comp=E,161nm,24.8s
GTA LR LR
comp=Z,73nm,20.6s
ZAK Zakamensk 98.18 320 *eP* **P 03 39 19.9 -0.7**
ZAK *e* 03 43 19.1
ZAK pmax pmax
comp=Z,1.0nm,1.2s,mb4.1
ZAK pmax pmax
comp=Z,1.0nm,1.3s,mb4.1
ZAK pmax pmax
comp=Z,1.0nm,1.3s,mb4.1
ZAK pmax pmax
comp=Z,2.0nm,1.2s,mb4.4
RES Resolute Bay 103.66 16 *e*Pdif Pdif 03 39 44.4 -0.7
comp=Z,208nm,0.5s
RES Resolute Bay 103.66 16 *e*P Pdif 03 39 44.4 -0.7
RES pmax pmax
comp=Z,208nm,0.5s
WMQ Urumqi 107.24 311 PDIF Pdif 03 40 01.0 0.0
WMQ *e*PP PP 03 44 33.5 +3.3
WMQ LR LR
comp=N,172nm,27.0s
WMQ LR LR
comp=E,230nm,30.8s
WMQ LR LR
comp=Z,204nm,32.5s
ZALV Zalesovo Beam 109.95 322 PKiKP PKiKP 03 44 13.4 -0.7
comp=Z,1.9nm,0.8s,baz=129,slow=2.1,SNR=8.9
MK31 Makanchi Array 111.30 314 *e*PKP PKiKP 03 44 16.0 -0.8
MK31 *e*PP PP 03 44 54.9 -4.6
MKAR Makanchi Array 111.30 314 Pdif Pdif 03 40 21.5 +2.5
MKAR PKPdf PKiKP 03 44 16.6 -0.2
MKAR PP PP 03 44 57.8 -1.7
MKAR Makanchi Array 111.30 314 Pdiff Pdif 03 40 21.5 +2.5
comp=Z,0.6nm,0.8s,baz=71,slow=6.2,SNR=3.5
MKAR PKiKP PKiKP 03 44 16.6 -0.2
comp=Z,3.5nm,0.8s,baz=68,slow=2.5,SNR=23
MKAR PP PP 03 44 57.8 -1.7
comp=Z,1.5nm,1.0s,baz=70,slow=7.0,SNR=4.1
KURK Kurchatov 113.75 318 *e*PKP PKiKP 03 44 20.5 -0.9
KURK *e*PP PP 03 45 13.1 -3.7
TKM2 Tokmak 2 115.98 310 *e*PKPdf PKPdf 03 44 25.7 -0.3
UCH Uchtor 116.79 309 *e*PKPdf PKPdf 03 44 27.8 +0.3
AAK Ala-Archa 116.80 309 *e*PKPdf PKPdf 03 44 26.2 -1.3
AAK Ala-Archa 116.80 309 *i* PKIKP PKPdf 03 44 26.1 -1.4
EKS2 Erkin-Say 117.33 310 *e*PKPdf PKPdf 03 44 29.1 +0.5
AML Almayashu 117.40 309 *e*PKPdf PKPdf 03 44 29.2 +0.5
BRVK Borovoye 118.66 322 *e*PKPdf PKPdf 03 44 30.4 -0.3
KBL Kabul 121.15 300 *e*PKPdf PKPdf 03 44 36.9 +0.8
ARU Arti 124.25 328 *e*PKPdf PKPdf 03 44 41.2 -0.2
ARU Arti 124.25 328 *i* PKIKP PKPdf 03 44 41.2 -0.2
ARU 03 46 24.8
ARCES ARCESS Array B 126.16 351 PKP PKPdf 03 44 44.0 -0.7
comp=Z,7.8nm,0.9s,baz=18,slow=0.4,SNR=13
BOSA Boshof 130.69 203 PKP PKPdf 03 44 56.2 +1.5
comp=Z,1.6nm,0.8s,baz=161,slow=12,SNR=2.8
JOF Joensuu 130.87 345 *ep* PKPdf 03 44 52.5 -1.4
KAF Kangasniemi 132.74 347 *ep* PKPdf 03 44 52.0 -5.4
FINES FINESS Array B 133.39 347 PKhKP 03 44 50.4
comp=Z,0.8nm,0.5s,baz=219,slow=27,SNR=4.0
FINES PKP PKPdf 03 44 58.6 -0.1
comp=Z,2.9nm,0.9s,baz=104,slow=8.0,SNR=6.8
OBN Obninsk 135.26 335⇓*i*PKIKP PKPdf 03 45 02.9 +0.6
OBN pmax pmax
comp=Z,16nm,0.7s
KIV Kislovodsk 138.84 318 *i* PKIKP PKPdf 03 45 06.7 -2.6
KIV pmax pmax
comp=Z,7.0nm,0.9s
AKASG Malin Array Be 141.51 336 PKhKP 03 45 07.5
comp=Z,3.1nm,0.7s,baz=38,slow=3.6,SNR=12
AKBB Malin Array Si 141.51 336 *e*PKPpre 03 45 05.8
ANN Anapa 141.58 323 *i* PKIKP PKPdf 03 45 15.5 +1.2
ANN pmax pmax
comp=Z,93nm,6.6s
BSEG Bad Segeberg 143.08 355 *e*PKPbc PKPdf 03 45 14.0 -2.6
KMBO Kilima Mbogo 143.85 243 *e*PKPdf PKPdf 03 45 18.5 -0.8
LVV L'vov 144.13 339⇑*i*PKIKP PKPdf 03 45 16.4 -2.2
MALT Malatya 144.32 313 *e*PKPdf PKPdf 03 45 19.3 0.0
MALT Malatya 144.32 313 PKIKP PKPdf 03 45 19.9 +0.6
MALT Malatya 144.32 313⇓*i*P PKPdf 03 45 19.4 +0.1
NRDL Niedersach Rie 144.53 355 *e*PKPbc PKPdf 03 45 17.5 -1.7
KIS Kishinev 144.55 332 *e*P PKPdf 03 45 17.0 -2.4
KWP Kalwaria 144.73 341 *e*PKP PKPdf 03 45 18.9 -0.7
KWP Kalwaria 144.73 341⇓*i*P PKPdf 03 45 18.8 -0.8
IBBN Ibbenburen 144.85 358 *e*PKPbc PKPdf 03 45 18.9 -0.9
OJC Ojcow 145.05 344 *e*PKPdf PKPdf 03 45 19.9 -0.3
CLZ Clausthal 145.15 355 *e*PKPbc PKPbc 03 45 20.1 -0.1
WTSB Winterswijk 145.23 359 *e*PKP PKPdf 03 45 19.7 -0.7
comp=Z,78nm,1.4s
WTSB Winterswijk 145.23 359 *ex* x 03 46 01.4
comp=Z,34nm,2.0s
KSP Ksiaz 145.28 348 *e*PKP PKPdf 03 45 21.0 +0.4
KSP Ksiaz 145.28 348⇓*e*PKP PKPdf 03 45 20.8 +0.2
KSP *ep*PKP pPKPdf 03 46 02.0 -0.2
KSP *e*PP PP 03 48 40.0 -0.6
STHS Stebnicka Huta 145.37 342 *i* PKP PKPdf 03 45 21.6 +0.8
CLL Collm 145.38 352⇓*i*PKP PKPdf 03 45 20.5 -0.2
CLL *ep*PKP pPKPdf 03 46 05.0 +2.6
CLL Collm 145.38 352⇓*i*PKP2 PKPab 03 45 20.5 -0.7
CLL pmax pmax
comp=Z,114nm,1.1s
CLL Collm 145.38 352 *e*PKPbc PKPbc 03 45 20.5 -0.4
comp=Z,105nm,1.0s
CLL *ep*PKPbc pPKPbc 03 46 02.3 +0.5
CLL *e*PP PP 03 48 42.0 +0.8
CLL *e*(PPS) 04 01 27.8
CLL *e*(SS) 04 07 22.2
CLL *e*SSS 04 12 51.7
CLL Collm 145.38 352⇓*i*PKPdf PKPdf 03 45 20.5 -0.2
comp=Z,114nm,1.1s
CLL *ep*PKiKP 03 46 05.0
CLL *e*(sPKPdf) 03 46 14.0
CLL *e*PP PP 03 48 44.0 +2.8
CLL *ep*PP 03 49 25.0
CLL *e*SKSP 03 58 40.0
CLL *e*PPS 04 01 11.0
CLL *e*SS SS 04 07 06.0 -13
CLL *ex* x 04 09 42.0
CLL *e*SSS 04 13 00.0
KOLS Kolonicke sedl 145.47 340 *e*PKP PKPdf 03 45 21.7 +0.7
RAC Raciborz 145.58 346 *e*PKPdf PKPdf 03 45 22.5 +1.4
NIE Niedzica 145.63 343 *e*PKP PKPdf 03 45 22.4 +1.2
UPC Upice 145.65 348 *e*PKP PKPdf 03 45 21.9 +0.7
UPC *ep*PKP pPKPdf 03 46 04.5 +1.7
BRG Berggiesshubel 145.67 351 *i* PKIKP PKPdf 03 45 21.7 +0.5
BRG *i* 03 45 26.9
BRG Berggiesshubel 145.67 351 *e*PKPbc PKPbc 03 45 21.5 -0.3
BRG Berggiesshubel 145.67 351 *i* PKP PKPdf 03 45 21.6 +0.4
comp=Z,80nm,1.1s
BRG *i* 03 45 26.9
comp=Z,22nm,1.0s
BRG *e* 03 46 03.6
comp=Z,20nm,1.2s
BRG *e* 03 46 17.0
BRG *e* 03 47 11.0
BRG *e* 03 57 57.0
UZH Uzhgorod 145.73 340 *d* PKIKP PKPdf 03 45 22.0 +0.6
DPC Dobruska-Polom 145.74 348 *e*PKP PKPdf 03 45 22.5 +1.1

DPC *ep*PKP pPKPdf 03 46 02.3 -0.7
CRVS Cervenica-Dubn 145.76 341 *e*PKP PKPdf 03 45 22.2 +0.8
CRVS *e* 07 20 26.1
OKC Ostrava-Krasne 145.82 345 *e*PKP PKPdf 03 45 22.2 +0.7
OKC *e* pPKPdf 03 46 03.4 +0.2
OKC Ostrava-Krasne 145.82 345 *e*PKP PKPdf 03 45 22.2 +0.7
OKC *ep*PKP pPKPdf 03 46 03.4 +0.2
PVCC Panska Ves 145.90 350 *e*PKP PKPdf 03 45 22.8 +1.2
MORC Moravsky Berou 146.02 346 *e*PKPbc PKPbc 03 45 22.8 -0.1
MORC Moravsky Berou 146.02 346⇑*i*P PKPdf 03 45 23.3 +1.5
UBBA Unterbreizbach 146.20 355 *e*PKPbc PKPbc 03 45 23.3 -0.1
MOX Moxa 146.21 353 *e*PKP PKPbc 03 45 23.3 -0.1
comp=Z,94nm,1.3s
MOX *e* 03 46 02.3
MOX Moxa 146.21 353 *e*PKP2 PKPbc 03 45 23.3 -0.1
MOX pmax pmax
comp=Z,16nm,1.3s
MOX Moxa 146.21 353 *e*PKPbc PKPbc 03 45 23.4 0.0
MOX *ep*PKPbc pPKPbc 03 46 05.2 +0.7
TANN Tannenbergstha 146.33 352 *e*PKPbc PKPbc 03 45 23.9 +0.1
VRI Vrincioaia 146.34 333⇑*i*P PKPbc 03 45 24.5 +0.5
VRI Vrincioaia 146.34 333⇑*i*P PKPbc 03 45 24.5 +0.5
PLOR Plostina 146.38 333⇓*i*P PKPbc 03 45 24.4 +0.3
UCC Uccle 146.40 1 PKP PKPdf 03 45 23.8 +1.3
BEBN Eben Emael 146.41 360 PKP PKPdf 03 45 23.9 +1.4
PRU Pruhonice 146.42 349 *e*PKP PKPbc 03 45 24.3 +0.2
PRU *ep*PKP pPKPdf 03 46 02.2 -2.0
KECS Kecovo 146.43 342 *i* PKP PKPdf 03 45 24.3 +1.7
HGN Heimansgroeve 146.44 360 *e*PKP PKPdf 03 45 24.0 +1.4
comp=Z,33nm,2.2s
HGN Heimansgroeve 146.44 360 *ex* x 03 46 05.7
comp=Z,34nm,1.0s
MENF Mencas 146.54 4 PKP PKPdf 03 45 22.7 0.0
MEM Membach 146.60 359 PKP PKPdf 03 45 24.4 +1.6
TIRR Tirgusor 146.63 330⇑P PKPbc 03 45 25.3 +0.4
TIRR Tirgusor 146.63 330 PKP2 PKPab 03 45 25.5 -0.8
TIRR Tirgusor 146.63 330⇑*i*P PKPbc 03 45 25.3 +0.4
VRAC Vranov 146.67 347⇑P PKPbc 03 45 24.9 +0.1
VRAC Vranov 146.67 347 PKP2 PKPab 03 45 25.3 -0.9
VRAC Vranov 146.67 347⇑*i*P PKPbc 03 45 24.9 +0.1
SNF Seneffe 146.69 1 PKP PKPdf 03 45 24.4 +1.5
HARR Harsova 146.69 330⇑P PKPbc 03 45 25.8 +0.7
HARR Harsova 146.69 330 PKP2 PKPab 03 45 25.9 -0.6
HARR Harsova 146.69 330⇑*i*P PKPbc 03 45 25.8 +0.8
BCLA Clavier 146.79 0 PKP PKPbc 03 45 25.7 +0.5
VYHS Vyhne 146.88 344 *i* PKP PKPbc 03 45 25.8 +0.3
VYHS *e* 07 20 39.4
TREC Trest 146.91 348 *e*PKP PKPdf 03 45 23.6 +0.2
KOLL Kolacno 146.92 344 *i* PKP PKPbc 03 45 26.4 +0.8
MLR Muntele Rosu 146.97 333⇑P PKPbc 03 45 25.6 -0.2
MLR Muntele Rosu 146.97 333 PKP2 PKPab 03 45 26.7 -0.9
MLR Muntele Rosu 146.97 333 PKPbc PKPbc 03 45 26.4 +0.6
comp=Z,47nm,1.0s,baz=83,slow=2.2,SNR=26
MLR Muntele Rosu 146.97 333⇑*i*P PKPbc 03 45 25.6 -0.2
ROTZ Rotzenmuhle 147.00 352 *e*PKPbc PKPbc 03 45 25.9 +0.2
GIVF Givet 147.10 1⇓*i*PKP1 PKPbc 03 45 25.8 -0.2
comp=Z,116nm,1.1s
DOU Dourbes 147.10 1 PKP PKPbc 03 45 26.1 0.0
PSZ Piszkesteto 147.11 342 *e*PKPbc PKPbc 03 45 26.3 +0.2
PSZ Piszkesteto 147.11 342 PKP2 PKPab 03 45 26.4 -1.6
PSZ Piszkesteto 147.11 342⇑*i*P PKPbc 03 45 26.0 -0.1
PSZ Piszkesteto 147.11 342⇓*e*PKP PKPbc 03 45 26.3 +0.2
BAIF Baives 147.13 2⇓*i*PKP1 PKPbc 03 45 26.0 -0.1
comp=Z,143nm,1.1s
DRGR 147.18 338⇓P PKPbc 03 45 26.3 -0.1
DRGR 147.18 338 PKP2 PKPbc 03 45 26.6 +0.3
DRGR 147.18 338⇓*i*P PKPbc 03 45 26.3 0.0
GRA1 Grafenberg Arr 147.19 353 *e*PKPbc PKPbc 03 45 26.7 +0.4
GRA1 *ep*KPbc pPKPbc 03 46 08.4 +1.0
GRF Grafenberg Arr 147.19 353 *e*PKPbc PKPbc 03 45 26.7 +0.4
GRF *ep*KPbc pPKPbc 03 46 08.4 +1.0
GRFO Grafenberg 147.19 353 *e*PKPbc PKPbc 03 45 26.6 +0.3
ANTO Ankara 147.25 319 *e*PKPdf PKPdf 03 45 24.8 +0.5
ANTO *e*PKPbc PKPbc 03 45 27.8 +1.0
ANTO P 03 45 28.0
ANTO Ankara 147.25 319⇑*i*P PKPdf 03 45 25.1 +0.8
MODS Modra-Piesok 147.39 345 *i* PKP PKPbc 03 45 27.9 +1.0
KHC Kasperske Hory 147.42 350 *e*PKP PKPdf 03 45 24.0 -0.2
KHC *e* 03 45 27.0
KHC *e* 03 45 44.4
KHC *e* 03 46 07.2
KHC Kasperske Hory 147.42 350 *e*PKIKP PKPdf 03 45 24.0 -0.2
KHC *e* 03 45 27.0
KHC Kasperske Hory 147.42 350 *e*PKP PKPdf 03 45 24.0 -0.2
KHC x x 03 45 27.0
KHC x x 03 45 44.4
KHC *ep*PKP pPKPdf 03 46 07.2 +1.3
WET Wettzell 147.51 351 *e*PKPbc PKPbc 03 45 27.4 +0.2
WLF Walferdange 147.54 359 *e*PKPbc PKPbc 03 45 27.7 +0.4
WLF *ep*PKPdf pPKPdf 03 46 08.2 +2.1
WLF Walferdange 147.54 359 PKP PKPbc 03 45 27.9 +0.6
WLF Walferdange 147.54 359 *e*PKPbc PKPbc 03 45 27.9 +0.7
ZST Bratislava 147.60 345 *i* PKP PKPbc 03 45 28.2 +0.8
GEC2 GERESS Array S 147.67 350 *e*PKPdf PKPdf 03 45 24.7 +0.1
GEC2 *e*PKPbc PKPbc 03 45 27.6 0.0
GEC2 *e*PKPbc PKPbc 03 45 27.9 +0.3
GEC2 GERESS Array S 147.67 350 *e*PKIKP PKPdf 03 45 24.7 0.0
GEC2 *e* 03 45 27.9
GEC2 GERESS Array S 147.67 350 *e*PKPbc PKPbc 03 45 27.6 0.0
GERES GERESS Array B 147.67 350 PKPbc PKPbc 03 45 27.7 +0.1
comp=Z,25nm,1.0s,baz=38,slow=2.4,SNR=69
GERES pPKPbc pPKPbc 03 46 05.0 -3.8
comp=Z,3.1nm,0.9s,baz=18,slow=3.5,SNR=1.6
BUD Budapest 147.75 343⇓*e*PKP PKPbc 03 45 28.1 +0.2
ROSF Rostrenen 148.05 11⇓*i*PKP1 PKPbc 03 45 27.8 -0.8
comp=Z,92nm,1.3s
FLN La Foliniere 148.07 8⇓*i*PKP1 PKPbc 03 45 28.1 -0.6
comp=Z,132nm,1.0s
FLN *e*MLR MLR
comp=Z,44nm,20.9s
FLN La Foliniere 148.07 8⇓*i*PKIKP PKPbc 03 45 28.1 -0.6
FLN MLR MLR
comp=Z,40nm,20.9s
CONA Conrad Observa 148.13 347 *i* PKiKP PKiKP 03 45 29.4 -1.1
comp=Z,68nm,1.2s,SNR=29
LANF Langenberg 148.18 357 PKP PKPbc 03 45 28.3 -0.6
SOP Sopron 148.21 346⇓*e*PKP PKPbc 03 45 29.4 +0.3
SGMF Saint Gilles 148.26 10⇓*i*PKP1 PKPbc 03 45 28.2 -1.0
comp=Z,90nm,1.1s
LDF La Druitiere 148.28 7⇓*i*PKP1 PKPbc 03 45 28.6 -0.6
comp=Z,119nm,1.2s
STU Stuttgart 148.30 355 *e*PKPbc PKPbc 03 45 29.3 0.0
GZR Gura Zlata 148.34 337⇑*i*P PKPbc 03 45 29.4 -0.1
GRR Gorron 148.39 8⇓*i*PKP1 PKPbc 03 45 28.9 -0.6
comp=Z,105nm,1.1s
QUIF Quistinic 148.47 11⇓*i*PKP1 PKPbc 03 45 28.9 -0.8
comp=Z,64nm,1.1s
MOA Molln 148.53 349⇓*i*P PKPbc 03 45 29.9 0.0
comp=Z,48nm,1.3s,SNR=15
BZS Buzias 148.58 338⇑P PKPbc 03 45 29.8 -0.3
BZS Buzias 148.58 338⇑*i*P PKPbc 03 45 29.8 -0.3
ZIMR 148.67 332 P PKPbc 03 45 31.1 +0.8
FUR Furstenfeldbru 148.69 353 *e*PKPbc PKPbc 03 45 30.3 0.0
MEZF Maizieres J'vi 148.71 1 *e*PKP1 PKPbc 03 45 30.3 0.0
comp=Z,85nm,0.9s
CDF Champ du Feu 148.77 358⇓*i*PKP1 PKPbc 03 45 30.2 -0.3
comp=Z,90nm,1.0s
BFO Black Forest 148.80 356 *e*PKPbc PKPbc 03 45 30.6 +0.1
BFO Black Forest 148.80 356 *e*PKPbc PKPbc 03 45 30.5 0.0
ARSA Arzberg 148.85 347⇓*i*P PKPbc 03 45 30.4 -0.3
comp=Z,58nm,1.5s,SNR=17
ECH Echery 148.97 358 PKP PKPbc 03 45 29.7 -1.3
THEF They Montfort 148.98 359 PKP PKPbc 03 45 29.7 -1.3
PKSM Moragy 149.02 342⇓P PKPbc 03 45 30.8 -0.3
PKSM Moragy 149.02 342 PKP2 PKPbc 03 45 31.1 -0.1
PKSM Moragy 149.02 342⇓*i*P PKPbc 03 45 30.8 -0.4
HAU Haudompre 149.20 359⇓*i*PKP1 PKPbc 03 45 31.4 -0.2
comp=Z,95nm,1.1s
HAU *e*MLR MLR
comp=Z,44nm,18.2s
HAU Haudompre 149.20 359⇓*i*PKP2 PKPbc 03 45 31.4 -0.2
HAU MLR MLR
comp=Z,40nm,18.2s
MOF Molkenrain 149.33 358 PKP PKPbc 03 45 31.9 0.0
HINF Hinteralfeld 149.38 358⇓*i*PKP1 PKPbc 03 45 31.5 -0.5
RETA Reutte 149.42 353⇑*i*PKiKP PKiKP 03 45 32.2 -1.0
comp=Z,64nm,1.3s,SNR=9.0
KOGS Kog 149.44 345 *i* PKPbc PKPbc 03 45 31.8 -0.4
KOGS *i* PKPab PKPab 03 45 36.9 -0.6
KBA Koelnbreinsper 149.44 349⇑*i*P PKPbc 03 45 32.0 -0.2
comp=Z,29nm,1.2s,SNR=7.3
WATA Walderalm 149.47 352⇓*i*P PKPbc 03 45 32.3 0.0

comp=Z,31nm,1.1s
CSS Prodhromos 149.51 311 *e*PKPbc PKPbc 03 45 32.7 0.0
MOTA Moosalm 149.52 353⇓*i*P PKPbc 03 45 32.4 0.0
comp=Z,51nm,1.1s,SNR=13
WTTA Wattenberg 149.53 352⇓*i*P PKPbc 03 45 32.6 +0.2
comp=Z,90nm,1.3s,SNR=17
SQTA Sankt Quirin 149.63 352⇓*i*P PKPbc 03 45 32.8 +0.1
comp=Z,36nm,1.1s,SNR=16
DAVA Damuels 149.71 354⇓*i*P PKPbc 03 45 32.9 +0.1
comp=Z,82nm,1.2s,SNR=28
ZAVS Zavodnje 149.73 347 *i* PKPdf PKPdf 03 45 29.6 +1.5
MYKA Terra Mystica 149.82 349⇓*i*PKPbc PKPbc 03 45 32.2 -1.0
comp=Z,88nm,1.3s
LOMF Lomont 149.84 358 PKP PKPbc 03 45 31.9 -1.3
HYF Humbligny 149.85 4 *e*PKP1 PKPbc 03 45 33.2 0.0
FETA Feichten 149.88 353 *i* PKiKP PKiKP 03 45 33.6 -0.5
comp=Z,72nm,1.1s,SNR=23
ABTA Abfaltersbach 149.90 350⇑*i*PKPbc PKPbc 03 45 32.6 -0.7
comp=Z,59nm,1.1s,SNR=25
LOR Lormes 149.91 2⇓*i*PKP1 PKPbc 03 45 33.2 -0.1
comp=Z,86nm,1.1s
LOR *e*MLR MLR
comp=Z,61nm,22.2s
LOR Lormes 149.91 2⇓*i*PKHKP PKPbc 03 45 33.2 -0.1
LOR MLR MLR
comp=Z,60nm,22.3s
PTCC Patocco-Chiusa 150.09 349 PKP PKPbc 03 45 31.7 -2.1
SSF Saint Saulge 150.10 3⇓*i*PKP1 PKPbc 03 45 33.8 0.0
comp=Z,114nm,1.0s
LJU Ljubljana 150.21 347 *e*PKPbc PKPbc 03 45 34.0 0.0
CRES Cresnjev 150.21 346 *e*PKPdf PKPdf 03 45 29.9 +1.1
CRES *i* PKPbc PKPbc 03 45 34.1 0.0
MFF Saint Martin d 150.23 8⇓*i*PKP1 PKPbc 03 45 33.7 -0.4
comp=Z,59nm,1.0s
GMNA Gemona 150.24 349 PKP PKPbc 03 45 33.8 -0.3
VOY Vojsko 150.35 348 *e*PKPbc PKPbc 03 45 34.0 -0.4
VOY *e*PKPab PKPab 03 45 41.7 +0.5
VOY Vojsko 150.35 348 *e*PKPdf PKPdf 03 45 26.2 -2.9
VOY *e*PKPbc PKPbc 03 45 34.0 -0.4
VOY *e*PKPab PKPab 03 45 41.7 +0.5
APPI Appiano 150.35 352 PKP PKPbc 03 45 34.1 -0.3
AVF Avril sur Loir 150.37 3⇓*i*PKP1 PKPbc 03 45 33.9 -0.5
comp=Z,61nm,1.1s
JAVS Javornik 150.45 348 *i* PKPbc PKPbc 03 45 34.4 -0.2
VTS Vitosha 150.48 333 P PKPbc 03 45 35.2 +0.4
VTS Vitosha 150.48 333⇓*i*P PKPbc 03 45 34.8 0.0
CEY Cerknica 150.52 347 *e*PKPbc PKPbc 03 45 34.8 0.0
CEY *e*PKPab PKPab 03 45 41.3 -0.6
SMF Signal de Mont 150.53 2⇓*i*PKP1 PKPbc 03 45 34.3 -0.5
comp=Z,58nm,1.1s
BOJS Bojanci 150.56 346 *i* PKPbc PKPbc 03 45 35.1 +0.2
BGF Bois d'Agland 150.57 4⇓*i*PKP1 PKPbc 03 45 34.5 -0.4
comp=Z,91nm,1.0s
CABF La Chapelle 150.60 359⇓*i*PKP1 PKPbc 03 45 35.3 +0.3
comp=Z,172nm,1.0s
TCF Toulx Ste Croi 150.79 5⇓*i*PKP1 PKPbc 03 45 35.0 -0.5
comp=Z,67nm,1.0s
AGO Saint Agoulin 151.09 3 PKP PKPbc 03 45 36.1 -0.1
PLDF La Plantade 151.20 3 PKP PKPbc 03 45 36.1 -0.3
PYM Petit Puy Mans 151.38 4 PKP PKPbc 03 45 36.8 0.0
COLF Collangettes 151.65 3 PKP PKPbc 03 45 37.4 -0.1
LPL La Plagne 151.68 358⇓*i*PKP1 PKPbc 03 45 38.3 +0.8
comp=Z,50nm,1.0s
LPG La Plagne 151.70 358⇓*i*PKP1 PKPbc 03 45 38.3 +0.7
comp=Z,62nm,1.1s
RJF Les Rejaudoux 151.71 6⇓*i*PKP1 PKPbc 03 45 37.1 -0.5
RJF *e*MLR MLR
comp=Z,83nm,21.8s
FRNF Fournols 151.72 4 PKP PKPbc 03 45 38.0 +0.4
VAY Valandovo 151.78 332 *e*PKP PKPbc 03 45 36.5 -1.4
LBL Lubilhac 151.91 3 PKP PKPbc 03 45 38.4 +0.3
LFF La Frestale 151.98 7⇓*i*PKP1 PKPbc 03 45 37.9 -0.3
CAF Calviac 152.13 5⇓*i*PKP1 PKPbc 03 45 38.2 -0.4
comp=Z,36nm,1.1s
BNI Bardonecchia 152.14 358 *e*PKPbc PKPbc 03 45 39.4 +0.9
BNI *e*PKPab PKPab 03 45 49.4 +0.7
ORIF Oris-en-Rattie 152.29 359⇓*i*PKP1 PKPbc 03 45 38.9 0.0
ORIF *e*MLR MLR
comp=Z,98nm,21.8s
KRUS Krusevo 152.31 334 *e*PKP PKPbc 03 45 39.0 -0.1
VIVF Saint-Julien-l 152.35 1⇓*i*PKP1 PKPbc 03 45 39.0 0.0
comp=Z,47nm,1.1s
MBDF Montbardon 152.47 358⇓*i*PKP1 PKPbc 03 45 39.3 0.0
OG26 St.-Nazaire-De 152.63 0 PKP PKPbc 03 45 40.2 +0.5
SURF Saint Ours 152.71 358 PKP PKPbc 03 45 40.6 +0.7
LASF Ste Croix 153.10 3⇓*i*PKP1 PKPbc 03 45 40.8 +0.1
comp=Z,37nm,1.1s
TOUF Mont Tournerai 153.16 357 PKP PKPbc 03 45 40.4 -0.5
SAOF Saorge 153.17 357 PKP PKPbc 03 45 40.3 -0.6
SMRF Simiane la Rot 153.24 360⇓*i*PKP1 PKPbc 03 45 41.4 +0.4
comp=Z,42nm,1.1s
MVIF Mont Vial 153.28 357 PKP PKPbc 03 45 39.9 -1.2
VILF Villemus 153.36 360 PKP PKPbc 03 45 42.2 +0.9
CALN Calern 153.44 358 PKP PKPbc 03 45 40.9 -0.6
SJPF Ste Jean 153.47 11 *e*PKP1 PKPbc 03 45 42.2 +0.6
comp=Z,32nm,1.5s
NRCA Norcia 153.57 347 PKP PKPdf 03 45 33.8 -0.2
FRF La Foret Royal 153.63 358⇓*i*PKP1 PKPbc 03 45 41.4 -0.5
MTLF Montolieu 153.72 5⇓*i*PKP1 PKPbc 03 45 41.7 -0.4
comp=Z,14nm,1.2s
ETSF Etsaut 153.79 10 *e*PKP1 PKPbc 03 45 43.3 +1.0
comp=Z,17nm,1.0s
LMR La Mourre 153.87 358⇓*i*PKP1 PKPbc 03 45 42.9 +0.5
comp=Z,32nm,1.2s
AQU L'Aquila 153.97 347 *e*PKPab PKPab 03 45 56.0 -0.5
MTE Manteigas 154.19 23 *e*PKPdf PKPdf 03 45 36.3 +1.4
MTE *e*PKPbc PKPbc 03 45 43.0 -0.3
MRB1 Monte Rocchett 154.74 343 PKP PKPdf 03 45 39.3 +3.6
EVO Evora 155.60 26 *e*PKP2 PKPab 03 46 02.3 -1.3
comp=Z,10nm,0.9s
EVO *e*MLR MLR
comp=Z,78nm,20.2s
TIP Timpagrande 155.95 338 *e*PKPab PKPab 03 46 04.7 -0.3
ESDC Sonseca Array 156.06 18 P PKPab 03 46 06.1 +0.5
ESDC Sonseca Array 156.06 18 PKPab PKPab 03 46 05.1 -0.4
comp=Z,11nm,1.0s,baz=333,slow=3.9,SNR=24
ESLA Sonseca Array 156.06 18 *e*PKPab PKPab 03 46 05.1 -0.4
KEST Kesra 161.16 350 PKPab PKPab 03 46 25.6 -2.1
comp=Z,2.3nm,1.0s,baz=133,slow=10,SNR=3.2
DBIC Dimbokro 165.47 134 PKPab PKPab 03 46 47.0 -0.4
comp=Z,5.3nm,0.9s,baz=185,slow=7.5,SNR=5.6
TORD Torodi Ar. Bea 174.58 136 PKP PKPdf 03 45 52.7 -0.8
TORD pPKP pPKPdf 03 46 31.9 -3.5
TORD PKPab PKPab 03 47 27.8 +0.2
TORD pPKPab pPKPab 03 48 05.7 -1.8
TORD PP PP 03 51 18.8 -0.6
TORD Torodi Ar. Bea 174.58 136 PKP PKPdf 03 45 52.7 -0.8
comp=Z,3.0nm,1.0s,baz=346,slow=1.2,SNR=9.1
TORD pPKP pPKPdf 03 46 31.9 -3.5
comp=Z,2.2nm,1.1s,baz=335,slow=1.5,SNR=3.3
TORD PKPab PKPab 03 47 27.8 +0.2
comp=Z,4.4nm,0.9s,baz=249,slow=3.2,SNR=15
TORD pPKPab pPKPab 03 48 05.7 -1.8
comp=Z,4.5nm,0.9s,baz=242,slow=4.2,SNR=6.5
TORD PP PP 03 51 18.8 -0.6
comp=Z,1.0nm,0.9s,baz=231,slow=5.7,SNR=3.7

ISCJB ***19*** *03:45:12.7±2.0, 633S±006×1462E±01, h67km±17km, mb4.3/27, Error ellipse: s-maj=16.6km s-min=10.4km az=4.3*
BJI ***19*** *03:45:13.5, 662S×1464 0E, h94km, mB5.0, mb4.8*
NEIC ***19*** *03:45:16.9±2.5, 638S×146.17E, h94km±22km, mb4.4/17, Error ellipse: s-maj=15.2km s-min=10.9km az=71.0*
IDC ***19*** *03:45:19.6±4.6, 636S×1495E, h112km±40km, mb3.8/10, mb1 4.0/11, mb1mx3.9/15, mbtmp3.8/11, Error ellipse: s-maj=32.2km s-min=12.2km az=101.0*
ISC 19 03:45:16.8±1.9, 644S±007×1462E±01, h91km±17km, n47, σ0 87/42, mb4.4/26, 1D, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTAO	**Charters Tower**	**13.57**	**180**	*e*Pn	**Pn**	**03 48 24.5**	**-1.1**
KAKA	**Kakadu**	**14.94**	**244**	*e*P	**Pn**	**03 48 43.7**	**+0.4**
49nm,0.5s							
WRAB	**Tennant Creek**	**17.69**	**220**	*e*P	**Pn**	**03 49 17.0**	**-0.4**
4.4nm,0.5s							
WB2	**Warramunga Arr**	**17.69**	**220**	*e*P	**Pn**	**03 49 17.5**	**0.0**
WB2				*e*S	**S**	**03 52 44.2**	**+9.1**
WRA	**Warramunga Arr**	**17.70**	**220**	P	**Pn**	**03 49 17.6**	**0.0**
1.0nm,0.3s,baz=39,slow=11,SNR=34							
EIDS	**Eidsvold**	**19.40**	**167**	*e*P	**Pn**	**03 49 38.5**	**+0.8**
4.1nm,0.9s							
ASAR	**Alice Springs**	**20.82**	**213**	P	**P**	**03 49 51.9**	**+0.7**

2.1nm,0.4s,baz=48,slow=8.1,SNR=33
ASAR S **S** **03 53 37.5 -1.0**
2.1nm,0.8s,baz=33,slow=22,SNR=4.3
FITZ Fitzroy Crossi 23.18 238 *e*P **P** **03 50 12.7 -3.0**
21nm,0.8s,mb4.5
FITZ Fitzroy Crossi 23.18 238 P **P** **03 50 14.2 -1.6**
7.5nm,0.4s,mb4.3,baz=70,slow=7.0,SNR=35
STKA Stephens Creek 25.68 189 *e*P **P** **03 50 40.1 +1.7**
2.7nm,0.4s,mb4.0
STKA Stephens Creek 25.68 189 P **P** **03 50 39.9 +1.6**
3.0nm,0.4s,mb4.1,baz=354,slow=8.4,SNR=15
MBWA Marble Bar 29.52 238 *e*P **P** **03 51 11.9 -0.9**
KLBR Kellerberrin 36.52 223 *e*P **P** **03 52 12.8 -0.9**
7.3nm,0.3s,mb5.1
MJAR Matsushiro Arr 43.40 351 P **P** **03 53 09.4 -1.1**
1.9nm,0.8s,mb3.9,baz=178,slow=6.3,SNR=4.0
KSRS Korea Array 46.88 340 P **P** **03 53 37.4 -0.6**
1.5nm,0.7s,mb3.9,baz=153,slow=8.2,SNR=3.8
KMI Kunming 52.65 308 P **P** **03 54 23.6 +1.6**
KMI AMB AMB
comp=Z,8.0nm,1.0s,mb4.7
CHTO Chiang Mai 52.91 299 *e*P **P** **03 54 24.2 +0.2**
comp=Z,1.6nm,0.4s,mb4.4
MDJ Mudanjiang 52.97 345 P **P** **03 54 25.3 +1.3**
MDJ AMB AMB
comp=Z,11nm,2.3s,mb4.5
MDJ AMB AMB
comp=Z,72nm,4.8s
XAN Xi'an 53.52 321 P **P** **03 54 27.8 -0.5**
XAN AMB AMB
comp=Z,13nm,0.9s,mb5.0
CD2 Chengdu 55.02 315 ⇓*i*P **P** **03 54 39.5 +0.3**
CD2 XP sP 03 55 10.0 -1.7
CD2 PP PP 03 56 45.0 +1.7
CD2 S **S** **04 02 14.5 -0.2**
CD2 SS SS 04 05 58.3 -1.6
CD2 AMB AMB
comp=Z,50nm,0.6s
CD2 AMB AMB
comp=Z,70nm,5.8s
LZH Lanzhou 58.03 320 *e*P **P** **03 55 01.4 +0.9**
LZH AP pP 03 55 23.1 0.0
LZH XP sP 03 55 34.8 +1.7
LZH AMB AMB
comp=Z,23nm,1.0s,mb5.2
LZH AMB AMB
comp=Z,120nm,4.5s
GTA Gaotai 62.58 321 *e*P **P** **03 55 32.4 +1.0**
GTA AMB AMB
comp=Z,5.0nm,0.9s,mb4.4
LSA Lhasa 63.88 307 *e*P **P** **03 55 40.8 +0.6**
comp=Z,5.7nm,0.4s,mb4.8
ULN Ulaanbaatar 64.11 332 *e*P **P** **03 55 40.3 -1.1**
comp=Z,1.7nm,0.8s,mb3.9
VNDA Vanda 71.53 176 P **P** **03 56 28.2 +0.8**
comp=Z,0.5nm,0.6s,mb3.5,baz=330,slow=7.3,SNR=4.4
MK31 Makanchi Array 77.33 321 *e*P **P** **03 57 01.7 +0.1**
MKAR Makanchi Array 77.33 321 P **P** **03 57 01.7 +0.1**
comp=Z,2.9nm,0.7s,mb4.1,baz=104,slow=7.6,SNR=16
ZALV Zalesovo Beam 78.96 328 P **P** **03 57 08.9 -1.5**
comp=Z,1.9nm,0.5s,mb4.2,baz=104,slow=5.3,SNR=9.8
TKM2 Tokmak 2 80.40 315 *e*P **P** **03 57 18.5 +0.1**
comp=Z,2.0nm,0.5s,mb4.2
UCH Uchtor 80.95 314 *e*P **P** **03 57 22.5 +1.0**
comp=Z,7.1nm,1.0s,mb4.5
AAK Ala-Archa 81.09 315 *e*P **P** **03 57 21.4 -0.8**
comp=Z,3.4nm,0.9s,mb4.2
KURK Kurchatov 81.09 323 *e*P **P** **03 57 22.2 +0.3**
comp=Z,3.7nm,1.0s,mb4.2
AML Almayashu 81.51 314 *e*P **P** **03 57 25.3 +0.9**
comp=Z,11nm,0.9s,mb4.7
EKS2 Erkin-Say 81.60 315 *e*P **P** **03 57 25.6 +0.7**
comp=Z,6.2nm,0.9s,mb4.4
KBL Kabul 83.14 306 *e*P **P** **03 57 32.6 -0.5**
comp=Z,4.0nm,0.5s,mb4.5
QSPA South Pole Qui 83.54 180 *e*P **P** **03 57 34.6 +0.4**
MCK McKinley 84.94 24 *e*P **P** **03 57 40.6 -0.9**
comp=Z,3.0nm,0.5s,mb4.5
COLA College 85.85 23 *e*P **P** **03 57 44.9 -1.1**
comp=Z,3.9nm,0.9s,mb4.3
BVAR Borovoye Array 86.66 324 P **P** **03 57 49.7 -0.6**
comp=Z,1.4nm,0.5s,mb4.2,baz=115,slow=7.4,SNR=11
YKA Yellowknife Ar 99.92 28 P Pdif 03 58 50.4 -0.9
YKA Yellowknife Ar 99.92 28 P Pdif 03 58 50.4 -0.9
comp=Z,0.2nm,0.8s,baz=276,slow=4.7,SNR=4.7
GERES GERESS Array B 121.82 325 PKP PKPdf 04 04 00.0 -0.4
comp=Z,0.5nm,0.5s,baz=48,slow=2.0,SNR=4.7
EKA Eskdalemuir Ar 125.45 339 PKP PKPdf 04 04 07.0 -0.3
comp=Z,1.2nm,0.7s,baz=40,slow=4.0,SNR=5.1
TOA0 Torodi Ar. Sit 144.44 284 *e*PKPdf PKPdf 04 04 41.9 -1.8
TORD Torodi Ar. Bea 144.44 284 PKP PKPdf 04 04 42.0 -1.6
comp=Z,3.3nm,0.8s,baz=92,slow=3.1,SNR=56
MTP Monte Pirata 146.93 67 *e*PKPdf PKPdf 04 04 46.7 -1.1
DBIC Dimbokro 151.26 272 PKPbc PKPbc 04 05 00.9 0.0
comp=Z,6.4nm,0.7s,baz=82,slow=4.0,SNR=16

CASC 19 03:45:20.3±1.4, 1114N×8559W, h183km±4km, MD3.6, 12C-8D, Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MADN	**Villa Maderas**	**0.27**	**12⇑**	*e*P	Pn	03 45 45.6	+0.9
MADN				*e*S	Sn	03 46 04.5	+0.8
SSNN	**San Juan del S**	**0.29**	**300⇑**	*e*P	Pn	03 45 45.4	+0.6
SSNN				*e*S	Sn	03 46 05.2	+1.5
CONN	**Concepcion**	**0.42**	**355⇑**	*e*P	Pn	03 45 45.9	+0.7
LIM1	**Limonal**	**0.55**	**143**	*i*P	Pn	03 45 46.0	+0.2
LIM1				*i*S	Sn	03 46 05.6	+0.4
CUI		**0.62**	**139**	*i*P	Pn	03 45 46.5	+0.5
CUI				*i*S	Sn	03 46 06.3	+0.5
2RIO	**Dos Rios de Up**	**0.70**	**150⇑**	*i*P	Pn	03 45 45.0	-1.4
VCR	**Vista de Mar**	**1.01**	**182⇑**	*i*P	Pn	03 45 49.1	+0.7
VCR				*e*S	Sn	03 46 11.2	+1.0
TICN	**Ticuantepe**	**1.09**	**325⇓**	*e*P	Pn	03 45 50.1	+1.1
CRUN	**El Crucero**	**1.09**	**320**	*e*P	Pn	03 45 50.2	+1.2
MGAN	**Managua**	**1.19**	**327⇓**	*e*P	Pn	03 45 50.3	+0.5
MGAN				*e*S	Sn	03 46 12.6	-0.1
TISN	**Laguna Tiscapa**	**1.20**	**326**	*e*P	Pn	03 45 50.6	+0.7
XAVN	**Gruta Xavier**	**1.23**	**324**	*e*P	Pn	03 45 50.8	+0.6
APYN	**Apoyeque**	**1.32**	**326⇓**	*e*P	Pn	03 45 51.7	+0.8
CSAN		**1.32**	**322⇑**	*e*P	Pn	03 45 51.6	+0.7
HUEN		**1.32**	**334⇑**	*e*P	Pn	03 45 51.1	+0.2
JCR	**Jicaral**	**1.37**	**160⇓**	*e*P	Pn	03 45 52.0	+0.6
JCR				*e*S	Sn	03 46 16.2	+0.8
COPN	**Copaltepe**	**1.42**	**317⇓**	*e*P	Pn	03 45 52.0	+0.2
MOMJ	**Momotombo**	**1.56**	**324⇑**	*e*P	Pn	03 45 53.4	+0.2
MOMJ				*e*S	Sn	03 46 18.5	-0.2
CGA2	**Cerro Gallo 2**	**1.57**	**135⇓**	*e*P	Pn	03 45 54.2	+1.0
CGA2				*e*S	Sn	03 46 19.9	+1.2
PRS1	**Puriscal**	**1.71**	**132⇓**	*e*P	Pn	03 45 55.8	+1.3
TEL3	**Telica 3**	**1.88**	**319⇑**	*e*P	Pn	03 45 56.7	+0.4
TEL3				*e*S	Sn	03 46 26.0	+1.7
TELN	**Telica**	**1.89**	**320⇓**	*i*P	Pn	03 45 56.9	+0.4
LAJ	**Bijagual**	**1.92**	**131**	*e*P	Pn	03 45 55.7	-1.1
LAJ				*e*S	Sn	03 46 24.5	-0.5
LCR2	**La Lucha 2**	**2.09**	**132⇑**	*e*P	Pn	03 45 59.6	+1.0
LCR2				*e*S	Sn	03 46 30.1	+1.8
URSC	**Urasca**	**2.21**	**126**	*e*P	Pn	03 46 01.1	+1.2
URSC				*e*S	Sn	03 46 33.6	+3.0
BAR1		**2.93**	**130⇑**	*e*P	Pn	03 46 09.3	+1.0
BAR1				*e*S	Sn	03 46 46.2	+0.5
LAPE	**La Pedrera**	**14.28**	**103⇑**	*i*P		03 45 44.8	
LAPE				*i*S		03 46 04.2	

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*IDC **19** 04:05:29.7±1.3, 529N×12657E, h0km, mb3.7/7, mb1 3.9/7, mb1mx3.8/17, mbtmp3.8/7, Error ellipse: s-maj=100.5km s-min=16.6km az=69.0*
*ISCJB **19** 04:05:37.8±1.7, 53N±02×1264E±04, h81km±17km, mb3.8/8, Error ellipse: s-maj=72.9km s-min=13.8km az=160.9*
*NEIC **19** 04:05:39.3±1.7, 522N×12643E, h75km±17km, mb3.9/2, Error ellipse: s-maj=59.7km s-min=11.6km az=71.0*
ISC 19 04:05:38.3±1.7, 52N±02×1264E±04, h64km±18km, n11, σ1°04/12, mb3.8/8, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DAV	**Davao City (W)**	**2.00**	**337**	P	**Pn**	**04 06 11.4**	**+1.6**
DAV				Sn	**Sn**	**04 06 32.3**	**-1.5**
FITZ	**Fitzroy Crossi**	**23.19**	**182**	*e*P	**P**	**04 10 40.0**	**+0.2**
2.9nm,0.6s,mb3.9
FITZ Fitzroy Crossi 23.19 182 P **P** **04 10 39.7 -0.1**
1.2nm,0.5s,mb3.6,baz=8.3,slow=11,SNR=7.1
WRA Warramunga Arr 26.21 163 P **P** **04 11 06.4 -0.8**
1.5nm,0.3s,mb3.9,baz=342,slow=10,SNR=15
WB2 Warramunga Arr 26.21 163 *e*P **P** **04 11 09.3 +2.1**
MBWA Marble Bar 27.02 194 *e*P **P** **04 11 14.5 0.0**
2.4nm,0.6s,mb3.9
ASAR Alice Springs 29.64 166 P **P** **04 11 36.8 -1.0**
2.1nm,1.0s,mb3.8,baz=346,slow=6.8,SNR=6.7
STKA Stephens Creek 39.64 160 P **P** **04 13 03.0 -0.9**
2.2nm,0.6s,mb4.1,baz=320,slow=7.9,SNR=4.9
MKAR Makanchi Array 56.13 325 P **P** **04 15 10.8 -0.5**
0.3nm,0.5s,mb3.6,baz=117,slow=7.8,SNR=4.3
ZALV Zalesovo Beam 59.10 333 P **P** **04 15 32.1 +0.2**
0.3nm,0.4s,mb3.7,baz=114,slow=6.5,SNR=2.5
BVAR Borovoye Array 65.88 327 P **P** **04 16 18.1 +0.9**
0.3nm,0.4s,mb3.6,baz=115,slow=9.7,SNR=3.0

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*ISCJB **19** 04:22:03.6±0.5, 3831N±003×2208E±003, h10km, Error ellipse: s-maj=4.0km s-min=3.3km az=161.0*
*NEIC **19** 04:22:03.3, 3830N×2206E, h31km, MD3.2(ATH), After ATH.*
*ATH **19** 04:22:03.3, 3830N×2206E, h31km±1km, MD3.2/4*
*CSEM **19** 04:22:04.3±0.1, 3832N×2207E, h10km, ML2.7, Error ellipse: s-maj=3.5km s-min=2.7km az=158.0*
*THE **19** 04:22:04.2, 3832N×2206E, h6km, ML2.7*
ISC 19 04:22:04.1±0.5, 3832N±003×2207E±003, h18km±6km, n13, σ0°95/25, 1D, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SELA	**Sela**	**0.15**	**254**	*e*Pg	**Pg**	**04 22 07.3**	**-0.9**
SELA				*e*Sg	**Sg**	**04 22 09.8**	**-1.3**
RLS	**Riolos of Patr**	**0.54**	**242**	*e*PN	**Pg**	**04 22 14.8**	**-0.1**
RLS				*e*SN	**Sg**	**04 22 22.8**	**+0.6**
EVR	**Evrytania**	**0.63**	**341**	⇓*i*PN	**Pg**	**04 22 16.1**	**-0.5**
EVR				*e*SN	**Sg**	**04 22 26.5**	**+1.4**
AGG	**Agios Georgios**	**0.73**	**16**	*e*Pg	**Pg**	**04 22 17.5**	**-0.9**
AGG				*e*Sg	**Sg**	**04 22 29.1**	**+0.9**
LKR	**Lokris**	**0.80**	**65**	*e*Pg	**Pg**	**04 22 18.8**	**-0.9**
LKR				*e*Sg	**Sg**	**04 22 31.3**	**+1.0**
LKR	**Lokris**	**0.80**	**65**	*e*Pn	**Pn**	**04 22 19.3**	**-1.1**
LKR				*e*Sg	**Sg**	**04 22 31.3**	**+0.9**
VLX	**Vlachokerasia**	**0.98**	**165**	*e*Pg	**Pg**	**04 22 22.1**	**-0.9**
VLX				*e*Sg	**Sg**	**04 22 37.3**	**+1.4**
KFL	**Anninata**	**1.03**	**259**	*e*Pg	**Pg**	**04 22 23.0**	**-1.0**
KFL				*e*Sg	**Sg**	**04 22 38.0**	**+0.4**
KFL	**Anninata**	**1.03**	**259**	*e*Pg	**Pg**	**04 22 23.0**	**-1.1**
KFL				*e*Sg	**Sg**	**04 22 38.0**	**+0.4**
VLS	**Valsamata**	**1.18**	**264**	*e*Pg	**Pn**	**04 22 25.5**	**-0.1**
VLS				*e*Sg	**Sg**	**04 22 43.8**	**+1.6**
VLS	**Valsamata**	**1.18**	**264**	*e*PN	**Pn**	**04 22 25.4**	**-0.1**
DID	**Didima**	**1.23**	**131**	*e*Pg	**Pg**	**04 22 27.6**	**-0.1**
DID				*e*Sg	**Sg**	**04 22 44.7**	**+0.8**
DID	**Didima**	**1.23**	**131**	*e*Pg	**Pg**	**04 22 27.6**	**-0.2**
DID				*e*Sg	**Sg**	**04 22 44.7**	**+0.9**

MAN 19 04:30:42.9, 998N×12522E, h30km, mb4.0, ML2.8, MS2.5, Mindanao

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WEL 19 04:46:07.0±0.3, 3926S×17797E, h54km±2km, ML3.6/9, Error ellipse: s-maj=2.6km s-min=1.4km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KNZ	**Kokohu**	**0.33**	**316**	PN	Pn	04 46 16.5	-0.2
KNZ				SN	Sn	04 46 23.9	+0.3
MWZ	**Matawai**	**0.99**	**339**	PN	Pn	04 46 24.4	-0.1
MWZ				SN	Sn	04 46 36.8	-0.7
BKZ	**Black Stump Fm**	**1.15**	**274**	PN	Pn	04 46 26.8	0.0
BKZ				SN	Sn	04 46 41.1	-0.4
PXZ	**Pawanui**	**1.15**	**228**	PN	Pn	04 46 25.8	-1.0
PXZ				*e*SN	Sn	04 46 40.9	-0.7
URZ	**Urewera**	**1.20**	**326**	PN	Pn	04 46 27.3	-0.2
URZ				SN	Sn	04 46 42.0	-0.8
PUZ	**Puketiti**	**1.21**	**11**	PN	Pn	04 46 26.9	-0.6
TAZ	**Tarawera**	**1.54**	**311**	*e*PN	Pn	04 46 32.8	+0.8
MXZ	**Matakaoa Point**	**1.71**	**9**	PN	Pn	04 46 34.1	-0.3
MOVZ	**Moawhango**	**1.73**	**264**	PN	Pn	04 46 35.0	+0.4
TSZ	**Takapari Road**	**1.75**	**242**	PN	Pn	04 46 33.9	-1.0
TSZ				SN	Sn	04 46 54.7	-1.2
RATZ	**Rangitukua**	**1.76**	**282**	PN	Pn	04 46 35.2	+0.3
KATZ	**Kakaramea**	**1.79**	**278**	PN	Pn	04 46 35.8	+0.3
OTVZ	**Oturere**	**1.79**	**272**	PN	Pn	04 46 35.9	+0.4
TUVZ	**Tukino**	**1.80**	**269**	PN	Pn	04 46 36.1	+0.5
KRVZ	**Karewarewa**	**1.82**	**274**	PN	Pn	04 46 36.0	+0.2
NGZ	**Ngauruhoe**	**1.84**	**272**	PN	Pn	04 46 36.5	+0.3
WNVZ	**Wahianoa**	**1.84**	**267**	PN	Pn	04 46 36.5	+0.4
WTVZ	**West Tongariro**	**1.86**	**274**	PN	Pn	04 46 36.8	+0.4
FWVZ	**Far West T-bar**	**1.88**	**269**	PN	Pn	04 46 36.9	+0.3
TRVZ	**Turoa**	**1.88**	**268**	PN	Pn	04 46 37.0	+0.3
WPVZ	**Whakapapa**	**1.89**	**271**	PN	Pn	04 46 37.1	+0.3
BFZ	**Birch Farm**	**1.94**	**222**	PN	Pn	04 46 35.7	-1.9
BFZ				SN	Sn	04 46 59.0	-1.8
MTVZ	**Mangateitei**	**1.94**	**265**	PN	Pn	04 46 37.9	+0.4
TWVZ	**Taurewa**	**1.98**	**275**	PN	Pn	04 46 37.9	-0.1
TIWZ	**Tintock**	**2.21**	**226**	PN	Pn	04 46 39.4	-1.8
MRZ	**Mangatainoka R**	**2.31**	**232**	PN	Pn	04 46 41.0	-1.5
MRZ				SN	Sn	04 47 07.6	-2.2
WAZ	**Wanganui**	**2.36**	**257**	PN	Pn	04 46 43.9	+0.7
VRZ	**Vera Road**	**2.50**	**272**	PN	Pn	04 46 45.4	+0.3
PKE	**Pukeiti**	**3.10**	**270**	PN	Pn	04 46 54.2	+0.9
QRZ	**Quartz Range**	**4.46**	**248**	PN	Pn	04 47 09.1	-2.9
LTZ	**Lake Taylor**	**5.57**	**229**	PN	Pn	04 47 24.2	-3.0

IDC 19 04:53:48.8±3.1, 713S×15591E, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.7/15, mbtmp3.8/4, Error ellipse: s-maj=100.1km s-min=35.5km az=120.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.49**	**237**	P	P	04 59 10.7	+0.8
1.2nm,0.5s,baz=60,slow=9.4,SNR=18
ASAR Alice Springs 26.77 230 P P 04 59 30.2 -0.3
0.3nm,0.7s,baz=62,slow=8.7,SNR=4.4
FITZ Fitzroy Crossi 31.43 247 P P 05 00 12.0 -0.1
1.4nm,0.6s,baz=74,slow=8.4,SNR=4.1
MKAR Makanchi Array 84.10 318 P P 05 06 22.9 +1.3
1.1nm,0.7s,baz=107,slow=5.9,SNR=8.8
TORD Torodi Ar. Bea 153.93 285 PKPbc PKPbc 05 13 49.6 -1.7
0.2nm,0.7s,baz=38,slow=2.5,SNR=2.9

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*IDC **19** 05:06:30.3±1.0, 553S×13338E, h0km, mb4.2/3, mb1 4.3/7, mb1mx4.1/12, mbtmp4.2/7, ML4.0/4, MS3.1/3, Ms1 3.1/3, ms1mx2.9/17, Error ellipse: s-maj=36.0km s-min=21.3km az=79.0*
*ISCJB **19** 05:06:31.3±3.5, 568S±007×13341E±008, h19km±26km, mb4.1/7, MS3.2/2, Error ellipse: s-maj=13.0km s-min=11.1km az=160.0*
*NEIC **19** 05:06:35.8±0.7, 555S×13353E, h35km, mb4.1/6, Error ellipse: s-maj=22.9km s-min=11.5km az=81.0*
ISC 19 05:06:32.6±3.5, 565S±006×13348E±008, h14km±22km, n24, σ1°06/23, mb4.1/7, MS3.2/2, Aru Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KAKA	**Kakadu**	**7.09**	**188**	*e*P	**Pn**	**05 08 20.5**	**+4.5**
12nm,0.6s
BATI Kupang 10.72 244 Pn **Pn** **05 09 05.6 -0.2**
3.4nm,0.3s,baz=45,slow=14,SNR=2.5
BATI Sn **Sn** **05 11 06.2 +0.4**
2.2nm,0.3s,baz=349,slow=19,SNR=2.4
WRAB Tennant Creek 14.22 177 *e*P **Pn** **05 09 52.9 -0.8**
4.2nm,0.8s
WRAB *e* 05 10 04.5
WRA Warramunga Arr 14.23 177 Pn **Pn** **05 09 52.8 -1.0**
0.4nm,0.3s,baz=4.0,slow=13,SNR=15
WRA Sn **Sn** **05 12 30.2 -1.4**
0.4nm,0.3s,baz=360,slow=23,SNR=4.5
WB2 Warramunga Arr 14.23 177 *e*P **Pn** **05 09 53.1 -0.7**
FITZ Fitzroy Crossi 14.55 211 *e*P **Pn** **05 09 59.2 +1.0**
7.0nm,0.6s
FITZ Fitzroy Crossi 14.55 211 Pn **Pn** **05 09 58.4 +0.2**
0.6nm,0.3s,baz=33,slow=14,SNR=5.6
FITZ Sn **Sn** **05 12 33.3 -6.2**
0.5nm,0.3s,baz=311,slow=19,SNR=5.4
FITZ LR LR 05 16 04.8
comp=Z,57nm,20.1s,baz=36,slow=39
ASAR Alice Springs 17.92 179 P **Pn** **05 10 41.8 +0.3**
0.7nm,0.3s,baz=4.8,slow=11,SNR=83
CTAO Charters Tower 18.98 140 *e*P **Pn** **05 10 55.4 +0.9**
2.9nm,0.5s
MBWA Marble Bar 20.38 220 *e*P **P** **05 11 12.9 +3.8**
6.1nm,0.9s
FORT Forrest 25.51 191 *e*P **P** **05 12 03.8 +3.1**
18nm,0.6s,mb4.8
FORT Forrest 25.51 191 *e*P **P** **05 12 03.5 +2.7**
3.0nm,0.7s,mb3.9
STKA Stephens Creek 27.18 165 P **P** **05 12 17.1 +1.3**
1.2nm,0.7s,mb3.6,baz=307,slow=13,SNR=3.7
KSRS Korea Array 43.19 354 LR LR 05 30 23.3
comp=Z,23nm,19.6s,MS3.1,baz=190,slow=33
MK31 Makanchi Array 69.05 325 *e*P **P** **05 17 38.6 +0.7**
MKAR Makanchi Array 69.05 325 P **P** **05 17 36.7 -1.2**
1.9nm,0.8s,mb4.0,baz=127,slow=7.7,SNR=13
MKAR LR LR 05 47 35.0
comp=Z,21nm,19.7s,MS3.4,baz=356,slow=36
ZALV Zalesovo Beam 71.96 332 P **P** **05 17 54.4 -1.1**
ZALV Zalesovo Beam 71.96 332 P **P** **05 17 54.4 -1.1**
2.5nm,0.9s,mb4.1,baz=121,slow=5.7,SNR=7.7
KURK Kurchatov 73.22 327 *e*P **P** **05 18 02.7 -0.4**
2.9nm,0.9s,mb4.2
BRVK Borovoye 78.88 327 *e*P **P** **05 18 34.9 -0.4**
3.5nm,0.9s,mb4.3
QSPA South Pole Qui 84.32 180 *e*P **P** **05 19 05.2 +1.5**
1.4nm,0.7s,mb4.2
TORD Torodi Ar. Bea 131.92 283 PKP PKPdf 05 25 48.1 +1.4
1.1nm,1.2s,baz=340,slow=2.9,SNR=3.9
LPAZ La Paz 149.47 136 PKP PKPdf 05 26 18.1 +0.1
LPAZ PKPbc PKPbc 05 26 23.8 +1.3
LPAZ La Paz 149.47 136 PKP PKPdf 05 26 18.1 +0.1
0.3nm,0.5s,baz=270,slow=4.0,SNR=2.8
LPAZ PKPbc PKPbc 05 26 23.8 +1.3
1.7nm,0.9s,baz=133,slow=2.3,SNR=5.8

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*NEIC **19** 05:27:47.7, 1841N×6436W, h87km, MD3.5(RSPR), After RSPR.*
RSPR 19 05:27:47.7, 1841N×6436W, h87km, MD3.5/5, MD3.5/5, 5C, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TBVI	**Tortola**	**0.24**	**271⇑**	*e*P	Pn	05 28 00.0	-0.5
TBVI				*e*S	Sn	05 28 09.7	-0.3
STVI	**Saint Thomas**	**0.56**	**264⇑**	*e*P	Pn	05 28 02.3	-0.4
STVI				*e*S	Sn	05 28 13.5	-0.3
MTP	**Monte Pirata**	**1.17**	**255⇑**	*e*P	Pn	05 28 05.5	-3.8
CBYP	**Canovanas**	**1.43**	**265⇑**	*e*P	Pn	05 28 08.1	-4.3
CPD	**Cerro la Pandu**	**1.52**	**256⇑**	*e*P	Pn	05 28 12.9	-0.7

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*ATH **19** 05:37:24.9, 3823N×2036E, h25km±1km, MD3.0/3*
*CSEM **19** 05:37:25.8±0.9, 3836N×2037E, h5km, ML2.1, Error ellipse: s-maj=20.5km s-min=6.2km az=78.0*
*THE **19** 05:37:25.3, 3835N×2031E, h1km, ML2.1*
ISC 19 05:37:25.1±2.7, 3833N±007×203E±02, h21km±9km, n6, σ0°76/11, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VLS	**Valsamata**	**0.25**	**128**	*e*Pg	**Pb**	**05 37 30.8**	**-0.2**
VLS				*e*Sg	**Sb**	**05 37 34.7**	**-0.3**
VLS	**Valsamata**	**0.25**	**128**	*e*PB	**Pb**	**05 37 30.8**	**-0.2**
VLS				*e*SB	**Sb**	**05 37 35.0**	**0.0**
KFL	**Anninata**	**0.41**	**122**	*e*Pg	**Pb**	**05 37 33.7**	**0.0**
KFL				*e*Sg	**Sb**	**05 37 40.5**	**+0.9**
LKD	**Levkas**	**0.45**	**33**	*e*Pg	**Pb**	**05 37 33.7**	**-0.6**
LKD				*e*Sg	**Sb**	**05 37 40.5**	**-0.1**
RLS	**Riolos of Patr**	**0.93**	**107**	*e*PN	**Pn**	**05 37 42.4**	**-0.5**
RLS				*e*SN	**Sn**	**05 37 54.7**	**-0.9**
EVR	**Evrytania**	**1.29**	**63**	*e*PN	**Pn**	**05 37 49.7**	**+1.8**

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*ISCJB **19** 05:54:01.9±1.6, 234S±01×1800W±01, h518km±19km, mb3.6/9, Error ellipse: s-maj=21.2km s-min=16.1km az=20.8*
*NEIC **19** 05:54:01.4±1.6, 2310S×17995W, h511km±18km, mb4.1/2, Error ellipse: s-maj=22.5km s-min=15.4km az=176.0*
*IDC **19** 05:54:02.5±1.8, 2317S×17994W, h518km±18km, mb3.1/8, mb1 3.4/8, mb1mx3.2/16, mbtmp3.1/8, Error ellipse: s-maj=22.3km s-min=16.9km az=166.0*
ISC 19 05:54:01.7±1.7, 232S±01×1800W±01, h505km±20km, n23, σ0°98/19, mb3.6/9, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**6.25**	**163**	P	**P**	**05 55 41.2**	**+0.7**
64nm,0.3s,baz=288,slow=20,SNR=5.0
RAO S **S** **05 57 08.8 +7.3**
30nm,0.3s,baz=127,slow=20,SNR=2.2
URZ Urewera 15.18 189 P **P** **05 57 11.3 -2.1**
2.9nm,0.3s,baz=257,slow=2.5,SNR=13
URZ S **S** **05 59 44.6 -7.0**
0.3nm,0.3s,baz=72,slow=20,SNR=5.7
URZ Urewera 15.18 189 *e*PN **P** **05 57 11.4 -2.0**
QRZ Quartz Range 18.64 198 *e*PN **P** **05 57 48.8 +1.4**
NNZ Nelson 18.78 196 *e*PN **P** **05 57 47.3 -1.3**
THZ Tophouse 19.41 196 *e*PN **P** **05 57 54.3 -0.1**
LTZ Lake Taylor 20.53 197 *e*PN **P** **05 58 03.9 -0.6**
RPZ Rata Peaks 21.73 198 P **P** **05 58 17.4 +2.0**
12nm,0.5s,mb4.7,baz=0.3,slow=2.6,SNR=12
CTA Charters Tower 31.52 269 P **P** **05 59 41.0 -0.9**
3.1nm,0.3s,mb4.2,baz=85,slow=11,SNR=5.6
CTAO Charters Tower 31.52 269 *e*P **P** **05 59 41.1 -0.9**
4.6nm,0.8s,mb4.0
ASAR Alice Springs 42.19 260 P **P** **06 01 10.9 +1.1**
0.3nm,0.6s,mb2.9,baz=102,slow=7.1,SNR=4.0
ASAR ScP ScP 06 05 52.8 -2.0
0.7nm,1.0s,baz=94,slow=4.7,SNR=3.8
WRA Warramunga Arr 42.50 265 P **P** **06 01 12.3 0.0**
0.7nm,0.5s,mb3.4,baz=103,slow=8.3,SNR=48
WRA ScP ScP 06 05 53.9 -2.2
0.7nm,0.7s,baz=96,slow=3.7,SNR=7.0
QSPA South Pole Qui 66.84 180 *e*P **P** **06 04 02.6 +0.4**
3.2nm,0.6s,mb4.1
MAW Mawson 78.38 200 P **P** **06 05 08.6 -0.5**
0.7nm,0.7s,mb3.2,baz=157,slow=17,SNR=2.2
NVAR Mina Array Bea 84.25 44 P **P** **06 05 39.9 +0.2**
0.6nm,0.9s,mb3.1,baz=219,slow=9.7,SNR=2.9
TXAR Lajitas Array 90.05 58 P **P** **06 06 07.4 +0.1**
0.8nm,0.8s,mb3.6,baz=212,slow=6.2,SNR=11
PDAR Pinedale Array 92.19 44 P **P** **06 06 16.4 -0.5**
0.4nm,1.0s,mb3.3,baz=187,slow=1.5,SNR=4.1
ARCES ARCESS Array B 131.26 348 PKP PKPdf 06 12 13.5 -1.7
2.5nm,0.9s,baz=29,slow=2.8,SNR=4.8
AKASG Malin Array Be 144.44 328 PKP PKPdf 06 12 38.2 -1.6
AKASG Malin Array Be 144.44 328 PKP PKPdf 06 12 38.2 -1.6
0.6nm,0.4s,baz=45,slow=3.7,SNR=6.6
MORC Moravsky Berou 150.17 337 *e*PKPdf PKPdf 06 12 46.7 -2.6
PSZ Piszkesteto 150.73 332 *e*PKPdf PKPdf 06 12 48.5 -1.7
TORD Torodi Ar. Bea 169.84 189 PKPab PKPab 06 14 28.0 -1.5
0.4nm,0.7s,baz=156,slow=4.8,SNR=3.2

**IDC 19 06:01:03.1±44.0, 1311S×17887E, h0km, mb3

ATH.
*HLW **19** 06:16:59.5, 3584N×2964E, h33km, Mb3.7*
ISC 19 06:16:57.3±0.7, 3586N±003×2959E±003, h15km±4km, n34, σ0°94/48, 2C-1D, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSL	Kastellorizon	0.29	358	*e*PB	Pg	06 17 03.5	0.0
AKAS	Kas	0.37	1	*i* P	Pg	06 17 05.1	+0.1
AKAS				*i* S	Sg	06 17 11.2	+1.2
FETY	Fethiye	0.88	332	*e*PG	Pg	06 17 13.8	-0.5
FETY				*e*SG	Sg	06 17 25.8	-0.1
ELL	Elmali	0.92	16	*e*PG	Pg	06 17 14.3	-0.9
ELL				*e*SG	Sg	06 17 27.5	+0.2
ARG	Arkhangelos	1.24	287	*e*PN	Pn	06 17 20.0	-0.1
ARG				*e*SN	Sn	06 17 36.0	-0.6
ANTB	Antalya	1.34	39	*e*PN	Pn	06 17 19.4	-2.2
GOLH	Golhisar	1.37	359	*i* P	Pn	06 17 22.4	+0.4
GOLH				*i* S	Sn	06 17 42.2	+2.3
YER	Yerkesik	1.65	321	*e*PN	Pn	06 17 25.9	+0.1
YER				*e*SN	Sn	06 17 46.5	-0.2
BCK	Bucak	1.79	26	*e*PN	Pn	06 17 26.5	-1.1
DAT	Datca	1.84	299	*e*PN	Pn	06 17 28.5	+0.1
KARP	Karpathos	2.00	262	*e*PB	Pb	06 17 31.5	-2.0
KARP				*e*SN	Sn	06 17 55.7	+0.3
MLSB	Milas	2.05	315	*e*PN	Pn	06 17 30.9	-0.3
BDRM	Kayabasi	2.11	305	*i* P	Pn	06 17 37.1	+5.1
BDRM				*i* S	Sn	06 18 03.2	+5.2
ISP	Isparta	2.11	20	*e*PN	Pn	06 17 31.8	-0.2
ISP	Isparta	2.11	20	*e*Pn	Pn	06 17 35.2	+3.1
BODT	Bodrum	2.20	304	*e*PN	Pn	06 17 32.9	-0.4
TKTP	Tekketepe	2.25	15	*i* P	Pn	06 17 35.6	+1.6
TKTP				*i* S	Sn	06 18 08.5	+7.0
AYDN	Tasoluk	2.26	323	*i* P	Pn	06 17 34.7	+0.5
AYDN				*i* S	Sn	06 18 05.5	+3.7
KULA	Kula-Manisa	2.75	345	*e*PN	Pn	06 17 40.5	-0.4
LEF	Lefka	2.79	104	*e*PN	Pn	06 17 39.5	-1.9
ERMK	Ermenek	2.79	73	*e*P	Pn	06 17 42.1	+0.6
ERMK				*i* S	Sn	06 18 15.2	+0.3
SHUT	Suhut-Afyon	2.79	16	*e*PN	Pn	06 17 41.4	-0.1
KONT	Konya--Tatoy	3.04	46	*e*PN	Pn	06 17 44.2	-0.7
CSS	Prodhromos	3.18	105	*e*PN	Pn	06 17 47.1	+0.3
KDHN	Kadinhani	3.33	36	*i* P	Pn	06 17 49.2	+0.3
KDHN				*i* S	Sn	06 18 27.0	-1.2
IKL	Isikli	3.34	82	*e*PN	Pn	06 17 47.8	-1.2
HMAT	Matruh	5.19	204	⇓P	Pn	06 18 15.0	+0.5
HMAT				S	Sn	06 19 10.7	-3.3
AMAG	Maghara	6.02	149	P	Pn	06 18 25.8	0.0
KOT	Kottamia	6.21	162	P	Pn	06 18 29.5	+1.1
KOT				S	Sn	06 19 33.8	-5.3
HNAT	Natroun	6.27	172	P	Pn	06 18 30.3	+1.0
HSAF	As Saff	6.44	165	⇑P	Pn	06 18 32.0	+0.4
GLL	Jalalah	6.51	164	⇑P	Pn	06 18 33.0	+0.4
SWA1		7.35	208	P	Pn	06 18 44.8	+0.7
HBST	Basata	7.92	145	P	Pn	06 18 52.7	+0.8

*NEIC **19** 06:32:36.9, 1648N×95.16W, h81km, MD3.8(MEX), After MEX.*
MEX 19 06:32:36.8±0.8, 1647N×9514W, h81km±11km, MD3.8, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	Matias Romero	0.67	22	*i* P	Pn	06 32 51.0	-1.2
CMIG				*i* S	Sn	06 33 02.0	-1.8
HUIG	Huatulco	1.16	233	*i* P	Pn	06 32 56.1	-1.8
HUIG				*i* S	Sn	06 33 12.5	-1.2
OXX	Oaxaca	1.63	292	*i* P	Pn	06 33 03.5	-0.4
OXX				*i* S	Sn	06 33 23.0	-1.5
VHO	Vista Hermosa	1.64	292	*i* P	Pn	06 33 02.6	-1.4
VHO				*i* S	Sn	06 33 22.0	-2.6
VHO	Vista Hermosa	1.64	292	*i* P	Pn	06 33 02.8	-1.2
VHO				*i* S	Sn	06 33 22.9	-1.7
PPM	Popocatepetl	4.21	308	*i* P	Pn	06 33 39.0	+0.4
PPM				*i* S	Sn	06 34 20.4	-6.1
PPM	Popocatepetl	4.21	308	*i* P	Pn	06 33 39.0	+0.4
PPM				*i* S	Sn	06 34 26.0	-0.6

IDC 19 06:59:24.2±1.5, 205N×12259E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.6/16, mbtmp3.6/3, Error ellipse: s-maj=201.9km s-min=24.0km az=62.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	24.71	153	P	P	07 04 46.6	-0.6
	1.2nm,0.4s,baz=330,slow=11,SNR=24						
WB2	Warramunga Arr	24.72	153	*e*P	P	07 04 46.7	-0.6
ASAR	Alice Springs	27.83	157	P	P	07 05 16.5	+1.1
	0.2nm,0.3s,baz=346,slow=8.1,SNR=6.7						
MKAR	Makanchi Array	56.67	328	P	P	07 09 09.2	0.0
	0.5nm,0.4s,baz=122,slow=8.0,SNR=14						

*DDA **19** 07:16:25.8, 3831N×39.19E, h8km±4km, Md4.0, Ml4.2*
*CSEM **19** 07:16:26.3±0.1, 3829N×39.13E, h2km, MD4.1, Error ellipse: s-maj=1.5km s-min=1.3km az=177.0*
*ISK **19** 07:16:26.0, 3832N×3915E, h5km, MD4.1, ML3.9*
*ISCJB **19** 07:16:27.3±0.6, 3828N±002×3916E±003, h7km±4km, Error ellipse: s-maj=3.6km s-min=3.4km az=143.0*
*NSSC **19** 07:16:29.4, 3828N×3912E, h22km±6km*
ISC 19 07:16:27.5±0.6, 3827N±002×3917E±003, h2km±4km, n55, σ1°08/76, 14D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MALT	Malatya	0.59	274	PG	Pg	07 16 37.8	-1.0
MALT				*e*SG	Sg	07 16 47.1	+0.7
MYA	Malataya	0.59	276	PG	Pg	07 16 38.0	-0.9
MYA				*e*SG	Sg	07 16 46.9	+0.3
URFA	Urfa	0.88	199	PG	Pg	07 16 44.4	+0.1
URFA				*e*SG	Sg	07 16 58.3	+2.7
DIY	Diyarbakir	0.91	114	*e*PG	Pg	07 16 44.6	-0.4
ATAB	Bozova	1.06	221	*i* P	Pg	07 16 47.4	-0.5
ATAB				*i* S	Sg	07 17 03.4	+1.8
KEMA	Kemaliye	1.13	332	*i* P	Pg	07 16 46.5	-2.7
KEMA				*i* S	Sg	07 17 01.6	-2.3
BINT	Bingol	1.19	59	*e*PN	Pn	07 16 49.4	-1.8
DRBT	Darb Altahta	1.50	160	⇓P	Pn	07 16 59.9	+4.4
DRBT				⇑S	Sn	07 17 22.7	+7.1
DRBT	Darb Altahta	1.50	160	⇓*i*P	Pn	07 16 59.9	+4.4
EZC	Erzincan	1.56	19	*e*PN	Pn	07 16 53.4	-2.8
GZT	Gaziantep	1.57	235	*i* P	Pn	07 16 55.5	-0.8
GZT				*i* S	Sn	07 17 15.8	-1.4
MARD	Mardin	1.59	126	*i* P	Pn	07 16 55.1	-1.5
MARD				*i* S	Sn	07 17 16.8	-1.0
KBSD	Kabsdagh	1.67	139	⇑P	Pn	07 16 57.1	-0.6
KBSD				⇓S	Sn	07 17 20.3	+0.6
KBSD	Kabsdagh	1.67	139	⇑*i*P	Pn	07 16 57.1	-0.6
KBSD				⇓*i*S	Sn	07 17 20.3	+0.6
BNGL	BINGOL	1.69	66	*i* P	Pn	07 16 57.9	-0.1
BNGL				*i* S	Sn	07 17 23.0	+2.8
BTMT	Batman	1.82	92	*e*PN	Pn	07 16 58.1	-1.8
GAZ	Gaziantep	1.90	235	*e*PN	Pn	07 17 01.5	+0.6
KMRS	Kahramanmaras	1.96	248	*e*PN	Pn	07 17 01.8	+0.1
SFNV	Sufian	2.00	158	⇓P	Pn	07 17 01.9	-0.3
SFNV				⇑S	Sn	07 17 28.1	+0.4
SFNV	Sufian	2.00	158	⇓*i*P	Pn	07 17 01.9	-0.3
SFNV				⇑*i*S	Sn	07 17 28.1	+0.4
KOPT	Kop Dagi	2.02	30	*i* P	Pn	07 17 02.9	+0.3
GUMT	Gumushane	2.20	6	*e*PN	Pn	07 17 05.2	+0.2
SLMH	Al Salmeh	2.28	206	⇓P	Pn	07 17 05.6	-0.6
SLMH				⇓S	Sn	07 17 34.3	-0.5
SLMH	Al Salmeh	2.28	206	⇓*i*P	Pn	07 17 05.6	-0.5
SLMH				⇓*i*S	Sn	07 17 34.3	-0.5
EZM	Erzurum	2.36	46	*e*PN	Pn	07 17 07.1	-0.1
ERZM	Erzurum	2.36	46	*i* P	Pn	07 17 07.6	+0.4
SVSK	Karacayir	2.36	315	*e*PN	Pn	07 17 06.6	-0.6
BSHR	Al Beshri	2.65	169	⇑P	Pn	07 17 14.7	+3.5
BSHR				⇑S	Sn	07 17 49.2	+5.3
BSHR	Al Beshri	2.65	169	⇑*i*P	Pn	07 17 14.7	+3.5
BSHR				⇑*i*S	Sn	07 17 49.2	+5.4
JHLN	Al Jahlan	2.66	193	⇑P	Pn	07 17 11.3	0.0
JHLN				⇑S	Sn	07 17 43.2	-0.9
JHLN	Al Jahlan	2.66	193	⇑*i*P	Pn	07 17 11.3	0.0
JHLN				⇑*i*S	Sn	07 17 43.2	-0.9
ESPY	Espiye-Giresun	2.67	353	*e*PN	Pn	07 17 11.3	-0.1
BNN	Bunyan	2.67	284	*e*PN	Pn	07 17 11.8	+0.2
SIRT	Sirnak	2.69	106	*e*PN	Pn	07 17 12.7	+0.9
KOZT	Kozan	2.76	254	*e*PN	Pn	07 17 13.7	+1.0
HOMI	Horasan	2.77	49	*i* P	Pn	07 17 13.5	+0.7
BTCH	Batrach	3.11	225	⇑P	Pn	07 17 17.1	-0.5
BTCH				⇑S	Sn	07 17 54.1	-1.1
BTCH	Batrach	3.11	225	⇑*i*P	Pn	07 17 17.0	-0.5
BTCH				⇑*i*S	Sn	07 17 54.1	-1.1
HTY	Hatay	3.24	229	*e*PN	Pn	07 17 20.0	+0.7
AGRB	Hanur-Agry	3.25	65	*e*PN	Pn	07 17 20.3	+0.8
YOZ	Yozgat	3.30	296	*e*PN	Pn	07 17 21.1	+0.9
WRDH	Warideh	3.54	220	⇓P	Pn	07 17 23.4	0.0
WRDH				⇓S	Sn	07 18 04.3	-1.4
WRDH	Warideh	3.54	220	⇓*i*P	Pn	07 17 23.4	0.0
WRDH				⇓*i*S	Sn	07 18 04.3	-1.5
NIG	Nigde	3.60	269	*e*PN	Pn	07 17 24.8	+0.5
HKR	Hakkari	3.68	99	*e*PN	Pn	07 17 27.4	+2.0
MSL	Mosul	3.70	121	*ex*	x	07 17 27.0	
MSL				*ex*	x	07 17 34.5	
MSL				*ex*	x	07 17 45.0	
MSL				*ex*	x	07 18 17.0	
MSL				*ex*	x	07 18 28.0	
MSL				*i* x	x	07 18 39.5	
BIDA	Albida	3.98	216	⇑*i*P	Pn	07 17 28.7	-0.8
CORM	Corum	4.01	300	*e*PN	Pn	07 17 29.9	0.0
CTKT	Corum	4.13	306	*i* P	Pn	07 17 32.8	+1.3
KAMT	Kaman	4.40	286	*e*PN	Pn	07 17 36.1	+0.8
DIKM	Dikmen	4.52	320	*e*PN	Pn	07 17 37.8	+0.9
BYBT	Boyabat	4.66	315	*e*PN	Pn	07 17 39.2	+0.4
ELDT	Eldivan	4.97	298	*i* P	Pn	07 17 44.4	+1.2
ANTO	Ankara	5.22	290	*e*PN	Pn	07 17 48.3	+1.8
BHD	Baghdad	6.54	138	*ex*	x	07 17 55.0	

*BJI **19** 07:23:19.5, 839S×15806E, h13km, mB5.4, mb5.0*
*IDC **19** 07:23:21.0±0.7, 854S×157.17E, h0km, mb4.3/12, mb1 4.4/14, mb1mx4.3/17, mbtmp4.2/14, ML4.0/2, MS4.0/11, Ms1 4.0/11, ms1mx3.8/16, Error ellipse: s-maj=22.0km s-min=17.2km az=109.0*
*NEIC **19** 07:23:22.5±0.4, 852S×157.14E, h10km, mb4.6/6, Error ellipse: s-maj=11.5km s-min=8.5km az=128.0*
*ISCJB **19** 07:23:24.8±0.4, 869S±007×157.17E±008, h33km, mb4.4/26, MS4.0/12, Error ellipse: s-maj=11.9km s-min=8.7km az=31.5*
*MOS **19** 07:23:25.0±1.3, 866S×157.17E, h36km, mb4.5/6, Error ellipse: s-maj=13.2km s-min=11.5km az=53.1*
ISC 19 07:23:26.7±0.4, 871S±007×15720E±008, h35km, n56, σ1°35/51, mb4.4/26, MS4.0/12, 6C, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	2.81	105	*e*Pn	Pn	07 24 08.7	-0.4
HNR				*e*Sn	Sn	07 24 59.5	+18
HNR	Honiara	2.81	105	Pn	Pn	07 24 07.5	-1.6
	36nm,0.3s,baz=285,slow=4.5,SNR=6.2						
HNR				Sn	Sn	07 24 52.1	+10
	104nm,0.3s,baz=265,slow=18,SNR=5.5						
CTA	Charters Tower	15.49	222	*e*P	Pn	07 27 08.9	+6.3
	11nm,1.6s						
CTA	Charters Tower	15.49	222	Pn	Pn	07 27 03.1	+0.4
	0.3nm,0.3s,baz=44,slow=18,SNR=2.2						
CTAO	Charters Tower	15.49	222	*e*Pn	Pn	07 27 03.5	+0.9
	48nm,1.5s						
CTAO	Charters Tower	15.49	222	*e*P	Pn	07 27 03.5	+0.9
CTAO				pmax	pmax		
	comp=Z,48nm,1.5s						
ARMA	Armidale	22.22	193	*e*P	P	07 28 21.7	+1.5
KAKA	Kakadu	24.65	259	*e*P	P	07 28 42.5	-1.8
	comp=Z,9.7nm,0.8s,mb4.4						
WRAB	Tennant Creek	24.76	241	*e*P	P	07 28 44.3	-0.9
	comp=Z,15nm,1.0s,mb4.5						
WRAB	Tennant Creek	24.76	241	*e*P	P	07 28 44.3	-0.9
WRAB				pmax	pmax		
	comp=Z,15nm,1.0s,mb4.5						
WB2	Warramunga Arr	24.76	241	*e*P	P	07 28 44.2	-1.0
WRA	Warramunga Arr	24.77	241	P	P	07 28 44.3	-1.0
WRA				PcP	PcP	07 32 22.0	+0.4
WRA				LR	LR	07 37 55.1	
WRA	Warramunga Arr	24.77	241	P	P	07 28 44.3	-1.0
WRA						07 32 22.0	
WRA	Warramunga Arr	24.77	241	P	P	07 28 44.3	-1.0
	comp=Z,6.4nm,0.7s,mb4.2,baz=66,slow=9.6,SNR=25						
WRA				PcP	PcP	07 32 22.0	+0.4
	comp=Z,1.4nm,0.7s,baz=60,slow=2.9,SNR=10						
WRA				LR	LR	07 37 55.1	
	comp=Z,682nm,20.4s,MS4.1,baz=60,slow=35						
ASAR	Alice Springs	26.80	234	P	P	07 29 02.1	-1.6
	comp=Z,2.2nm,1.0s,mb3.7,baz=65,slow=9.1,SNR=18						
ASAR				PcP	PcP	07 32 26.9	+0.7
	comp=Z,0.4nm,0.8s,baz=87,slow=1.9,SNR=2.7						
STKA	Stephens Creek	27.24	210	*e*P	P	07 29 08.2	+0.7
	comp=Z,16nm,2.0s,mb4.2						
STKA	Stephens Creek	27.24	210	*e*P	P	07 29 07.8	+0.2
	comp=Z,7.1nm,0.9s,mb4.2,baz=26,slow=11,SNR=9.5						
STKA				LR	LR	07 39 17.3	
	comp=Z,476nm,21.6s,MS4.0,baz=25,slow=35						
FITZ	Fitzroy Crossi	32.04	250	P	P	07 29 51.4	+1.1
	comp=Z,0.9nm,0.6s,mb3.8,baz=90,slow=12,SNR=2.4						
FITZ				LR	LR	07 42 30.4	
	comp=Z,376nm,18.5s,MS4.1,baz=77,slow=36						
NWAO	Narrogin (SRO)	44.06	231	LR	LR	07 49 20.5	
	comp=Z,379nm,20.8s,MS4.3,baz=10,slow=35						
MJAR	Matsushiro Ar	48.42	339	P	P	07 32 03.2	-2.3
	comp=Z,0.5nm,0.2s,mb4.1,baz=131,slow=3.8,SNR=4.1						
MJAR				LR	LR	07 49 03.0	
	comp=Z,155nm,18.6s,MS4.0,baz=145,slow=32						
KSRS	Korea Array	53.47	331	P	P	07 32 42.5	-1.0
	comp=Z,3.9nm,1.0s,mb4.3,baz=152,slow=8.4,SNR=7.4						
KSRS				LR	LR	07 53 44.0	
	comp=Z,55nm,19.4s,MS3.6,baz=135,slow=34						
NJ2	Nanjing	54.62	320	*e*P	P	07 32 54.9	+2.9
NJ2				AMB	AMB		
	comp=Z,20nm,0.6s,mb5.3						
CHTO	Chiang Mai	63.61	296	*e*P	P	07 33 53.8	-0.8
LZH	Lanzhou	67.06	315	*e*P	P	07 34 18.3	+1.7
LZH				AP	pP	07 34 23.6	-3.8
LZH				XP	sP	07 34 25.1	-6.4
LZH				AMB	AMB		
	comp=Z,20nm,1.3s,mb5.0						
LZH				AMB	AMB		
	comp=Z,85nm,4.5s						
VNDA	Vanda	68.83	179	P	P	07 34 28.3	+1.3
	comp=Z,2.3nm,1.0s,mb4.1,baz=348,slow=6.6,SNR=10						
VNDA				LR	LR	07 57 39.0	
	comp=Z,94nm,21.7s,MS4.0,baz=1.5,slow=30						
GTA	Gaotai	71.48	317	*e*P	P	07 34 45.3	+1.4
GTA				AP	pP	07 34 54.1	-0.6
GTA				XP	sP	07 34 58.4	-0.4
GTA				AMB	AMB		
	comp=Z,6.0nm,1.6s,mb4.3						
SEY	Seymchan	71.52	358	⇑*e*P	P	07 34 43.7	+0.1
ULN	Ulaanbaatar	71.61	327	*e*P	P	07 34 46.7	+2.2
	comp=Z,21nm,1.7s,mb4.8						
ULN	Ulaanbaatar	71.61	327	⇑*e*P	P	07 34 46.3	+1.8
SONM	Songino Array	71.95	327	P	P	07 34 46.6	+0.1
	comp=Z,2.5nm,0.9s,mb4.2,baz=115,slow=7.0,SNR=4.8						
SHL	Shillong	72.04	300	*e*P	P	07 34 48.0	+0.4
YAK	Yakutsk	73.70	347	⇑*e*P	P	07 34 57.6	+1.0
YAK				pmax	pmax		
	comp=Z,11nm,0.5s,mb5.0						
LSA	Lhasa	74.04	304	P	P	07 35 00.8	+1.5
BOD	Bodaibo	75.01	338	*e*P	P	07 35 02.6	-1.7
BOD				pmax	pmax		
	comp=Z,4.0nm,1.4s,mb4.2						
ZAK	Zakamensk	75.09	328	*e*P	P	07 35 05.6	+0.7
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.6s,mb4.0						
BILL	Bilibino	76.83	3	*e*P	P	07 35 14.9	+0.4
BILL				pmax	pmax		
	comp=Z,8.0nm,1.4s,mb4.5						
BILL				MLR	MLR		
	comp=Z,100nm,14.0s,MS4.3						
WMQ	Urumqi	81.56	317	P	P	07 35 41.8	+0.9
WMQ				AMB	AMB		
	comp=Z,12nm,0.9s,mb4.8						
WMQ				AMB	AMB		
	comp=Z,179nm,3.9s						
TIXI	Tiksi	82.36	351	⇑*e*P	P	07 35 46.5	+2.1
TIXI				pmax	pmax		
	comp=Z,2.0nm,1.1s,mb4.0						
MAW	Mawson	83.67	203	LR	LR	08 06 55.6	
	comp=Z,77nm,19.6s,MS4.1,baz=233,slow=31						
COLA	College	83.89	21	*i* P	P	07 35 50.3	-2.2
MK31	Makanchi Array	86.13	318	*e*P	P	07 36 03.6	-0.5
MKAR	Makanchi Array	86.13	318	P	P	07 36 03.5	-0.6
	comp=Z,6.9nm,0.9s,mb4.9,baz=98,slow=6.4,SNR=28						
SKAG	Skagway	86.32	28	*e*P	P	07 36 07.5	+2.7
DAWY	Dawson	86.59	23	*e*P	P	07 36 05.8	-0.2
ZALV	Zalesovo Beam	86.81	326	P	P	07 36 04.5	-2.8
	comp=Z,0.6nm,0.3s,mb4.3,baz=115,slow=5.6,SNR=7.3						
ZALV				LR	LR	08 11 46.2	
	comp=Z,39nm,18.6s,MS3.8,baz=46,slow=34						
ZAL	Zalesovo	86.82	326	P	P	07 36 04.5	-2.9
KURK	Kurchatov	89.52	321	*e*P	P	07 36 19.3	-1.0
	comp=Z,14nm,1.5s,mb5.1						
KURK	Kurchatov	89.52	321	⇑*e*P	P	07 36 20.3	0.0
AAK	Ala-Archa	90.51	313	⇑*e*P	P	07 36 25.9	+0.8
AAK				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.6						
YKA	Yellowknife Ar	96.82	28	P	P	07 36 52.9	-0.7
	comp=Z,1.0nm,0.8s,mb4.3,baz=265,slow=4.7,SNR=18						
YKA				LR	LR	08 22 12.4	
	comp=Z,36nm,18.1s,MS3.9,baz=225,slow=36						
PDAR	Pinedale Array	98.22	48	P	P	07 36 58.9	-1.5
	comp=Z,0.4nm,1.0s,mb3.9,baz=243,slow=4.0,SNR=2.5						
PDAR				LR	LR	08 15 32.4	
	comp=Z,83nm,18.1s,MS4.3,baz=112,slow=32						
ARU	Arti	101.98	326	*e*Pdif	Pdif	07 37 12.5	-4.4
ARU	Arti	101.98	326	*e*P	Pdif	07 37 12.5	-4.4
ESDC	Sonseca Array	144.86	334	PKP	PKPdf	07 42 59.3	-1.0
	comp=Z,0.2nm,0.3s,baz=29,slow=3.3,SNR=4.4						
BDFB	Brasilia	145.23	134	PKPbc	PKPbc	07 43 01.8	+0.4
	comp=Z,2.7nm,0.8s,baz=192,slow=3.0,SNR=8.8						
TORD	Torodi Ar. Bea	155.56	283	PKPbc	PKPdf	07 43 25.2	+7.5
	comp=Z,1.6nm,1.1s,baz=108,slow=1.0,SNR=4.9						

IDC 19 07:32:55.5±2.4, 385S×12917E, h0km, mb3.8/2, mb1 3.9/3, mb1mx3.7/14, mbtmp3.7/3, ML3.3/1, Error ellipse: s-maj=164.7km s-min=29.0km az=69.0, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	16.77	163	Pn	Pn	07 36 50.2	-1.9
	0.1nm,0.3s,baz=346,slow=12,SNR=5.3						
ASAR	Alice Springs	20.23	167	P	P	07 37 33.2	+0.9
	4.3nm,0.7s,baz=347,slow=10,SNR=50						
MKAR	Makanchi Array	65.15	326	P	P	07 43 38.5	+0.1
	0.4nm,0.5s,baz=127,slow=7.8,SNR=5.1						

IDC 19 08:01:55.0±2.2, 355S×14757E, h0km, mb3.6/3, mb1 3.9/3, mb1mx3.6/13, mbtmp3.6/3, Error ellipse: s-maj=354.8km s-min=34.0km az=123.0, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	20.79	217	P	P	08 06 37.6	-0.4
	1.7nm,0.8s,baz=42,slow=11,SNR=8.4						
ASAR	Alice Springs	23.97	212	P	P	08 07 11.6	+0.3
	0.3nm,0.7s,baz=46,slow=8.1,SNR=7.0						
YKA	Yellowknife Ar	96.75	28	P	P	08 15 27.2	-0.1
	0.3nm,1.0s,baz=277,slow=5.3,SNR=3.9						

IDC 19 08:04:55.9±1.9, 341S×14766E, h0km, mb3.7/3, mb1 4.0/3, mb1mx3.6/13, mbtmp3.7/3, MS2.8/2, Ms1 2.8/2, ms1mx2.5/26, Error ellipse: s-maj=153.3km s-min=32.4km az=122.0, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	Guam	17.12	351	LR	LR	08 15 02.7	
	comp=Z,29nm,19.4s,baz=29,slow=36						
WB2	Warramunga Arr	20.94	217	*e*P	P	08 09 41.0	+0.6
WRA	Warramunga Arr	20.95	217	P	P	08 09 40.2	-0.3
	1.6nm,0.7s,baz=43,slow=10,SNR=27						
ASAR	Alice Springs	24.13	212	P	P	08 10 14.1	+0.5
	1.0nm,0.7s,baz=40,slow=7.4,SNR=8.5						
KSRS	Korea Array	44.61	337	LR	LR	08 29 37.3	
	comp=Z,10nm,18.9s,baz=180,slow=33						
YKA	Yellowknife Ar	96.59	28	P	P	08 18 27.2	-0.2
	0.5nm,1.0s,baz=281,slow=4.1,SNR=5.8						

*IDC **19** 08:14:25.4±19.0, 3799N×7268E, h114km±112km, mb3.3/3, mb1 3.4/7, mb1mx3.2/24, mbtmp3.3/7, ML3.8/4, Error ellipse: s-maj=198.2km s-min=38.0km az=1.0*
*ISCJB **19** 08:14:26.8±1.0, 3824N±007×725E±0.1, h123km±11km, mb3.6/3, Error ellipse: s-maj=15.0km s-min=9.6km az=31.7*
*NEIC **19** 08:14:27.1±1.0, 3813N×7264E, h122km±12km, mb4.0/1, Error ellipse: s-maj=24.6km s-min=9.7km az=126.0*
*NNC **19** 08:14:33.2±3.5, 3870N×7238E, h199km±48km, mb2.6, mpv3.4, Error ellipse: s-maj=40.1km s-min=16.3km az=10.0*
ISC 19 08:14:27.8±1.0, 3822N±007×725E±01, h121km±10km, n23, σ0°93/29, mb3.6/3, 3C-2D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	Almayashu	4.01	13	P	Pn	08 15 28.2	+0.7
	SNR=20						
UCH	Uchtor	4.29	21	*e*Pn	Pn	08 15 31.1	-0.1
UCH				*e*Sn	Sn	08 16 20.0	-0.5
UCH	Uchtor	4.29	21	P	Pn	08 15 31.4	+0.2
	SNR=20						
KZA	Kyzart	4.40	28	P	Pn	08 15 32.1	-0.6
	SNR=14						
EKS2	Erkin-Say	4.54

ASAR S **S** **08 31 53.3 +5.1**
0.2nm,0.7s,baz=86,slow=15,SNR=3.1
NVAR Mina Array Bea 76.58 42 P **P** **08 27 51.3 +0.2**
0.9nm,0.8s,mb3.8,baz=221,slow=6.7,SNR=6.6
TXAR Lajitas Array 82.47 56 P **P** **08 28 23.1 -0.2**
0.8nm,1.0s,mb3.6,baz=217,slow=6.1,SNR=5.6
PDAR Pinedale Array 84.52 42 P **P** **08 28 32.6 -0.9**
0.8nm,0.8s,mb3.9,baz=219,slow=1.9,SNR=7.2
YKA Yellowknife Ar 92.67 24 P **P** **08 29 12.8 +0.9**
0.8nm,0.9s,mb4.2,baz=239,slow=4.1,SNR=13
BRG Berggiesshubel 146.60 351 *e*P PKPdf 08 35 40.2 -0.1
5.5nm,1.0s
BRG *e* PKPab 08 35 46.6 +3.7
8.9nm,1.1s
KHC Kasperske Hory 148.35 351 *e*P PKPbc 08 35 51.5 +4.8
GERES GERESS Array B 148.61 350 PKPbc PKPbc 08 35 52.2 +4.8
1.3nm,0.7s,baz=48,slow=1.5,SNR=6.4

*NEIC **19** 08:17:44.5, 3609N×999W, h88km, MG3.6(MDD), After MDD.*
*MDD **19** 08:17:44.7±0.9, 3603N×994W, h40km±42km, mb4.5/11, Error ellipse: s-maj=10.4km s-min=5.8km az=85.0, PRXIMO*
*ISCJB **19** 08:17:45.8±0.7, 3622N±003×965W±005, h109km±6km, Error ellipse: s-maj=6.7km s-min=4.6km az=146.2*
*CSEM **19** 08:17:45.8±0.1, 3587N×947W, h40km, ML3.5/4, Error ellipse: s-maj=3.3km s-min=2.3km az=81.0*
*INMG **19** 08:17:46.3±0.8, 3624N×971W, h0km, MD2.8, ML2.6, Error ellipse: s-maj=3.5km s-min=2.5km az=64.0*
*CNRM **19** 08:17:47.3, 3588N×969W, h87km, MD3.6*
ISC 19 08:17:46.4±0.6, 3617N±003×971W±004, h86km±11km, n91, σ1§05/167, 2C, West of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PFVI	**Vila Bisbo**	**1.20**	**36**	*i* P	**Pn**	**08 18 07.2**	**-0.9**
PFVI				*e*S	**Sn**	**08 18 22.9**	**-1.5**
PFVI				A		08 18 28.7	
44nm,0.1s							
PFVI	**Vila Bisbo**	**1.20**	**36**	⇑P	**Pn**	**08 18 07.2**	**-0.9**
PFVI				S	**Sn**	**08 18 22.9**	**-1.5**
22nm,0.1s							
MORF	**Marmelete**	**1.42**	**37**	*e*P	**Pn**	**08 18 10.5**	**-0.4**
MORF				*e*S	**Sn**	**08 18 28.8**	**-0.6**
MORF				A		08 18 30.6	
75nm,0.2s							
MORF	**Marmelete**	**1.42**	**37**	P	**Pn**	**08 18 10.5**	**-0.4**
MORF				S	**Sn**	**08 18 28.8**	**-0.6**
75nm,0.2s							
PTEO	**Sao Teotonio**	**1.59**	**30**	*e*Pn	**Pn**	**08 18 12.7**	**-0.3**
PTEO				*e*Sn	**Sn**	**08 18 33.1**	**-0.1**
PTEO				A		08 18 36.1	
32nm,0.3s							
PTEO	**Sao Teotonio**	**1.59**	**30**	P	**Pn**	**08 18 12.7**	**-0.3**
PTEO				S	**Sn**	**08 18 33.1**	**-0.1**
16nm,0.3s							
PBDV	**Barranco-do-Ve**	**1.79**	**53**	*e*Pn	**Pn**	**08 18 16.0**	**+0.4**
PBDV				*e*Sn	**Sn**	**08 18 38.7**	**+0.9**
PBDV				A		08 18 48.2	
24nm,0.4s							
PBDV	**Barranco-do-Ve**	**1.79**	**53**	P	**Pn**	**08 18 16.0**	**+0.4**
PBDV				S	**Sn**	**08 18 38.7**	**+0.9**
12nm,0.4s							
PVAQ	**Vaqueiros**	**2.02**	**52**	*e*Pn	**Pn**	**08 18 19.0**	**+0.3**
PVAQ				*e*Sn	**Sn**	**08 18 43.7**	**+0.4**
PVAQ				A		08 18 57.7	
25nm,0.3s							
PVAQ	**Vaqueiros**	**2.02**	**52**	*e*Pn	**Pn**	**08 18 19.0**	**+0.3**
PVAQ				*e*Sn	**Sn**	**08 18 43.7**	**+0.4**
25nm,0.3s							
EGRO	**El Granado**	**2.25**	**52**	P	**Pn**	**08 18 22.3**	**+0.6**
2.1nm,0.1s,SNR=9.7							
EGRO				S	**Sn**	**08 18 50.1**	**+1.4**
14nm,0.1s,SNR=5.9							
EGRO	**El Granado**	**2.25**	**52**	P	**Pn**	**08 18 22.3**	**+0.6**
2.1nm,0.1s,SNR=9.7							
EGRO				S	**Sn**	**08 18 50.1**	**+1.4**
14nm,0.1s,SNR=5.9							
PBEJ	**Beja**	**2.37**	**38**	*e*Pn	**Pn**	**08 18 23.9**	**+0.6**
PBEJ				*e*Sn	**Sn**	**08 18 51.9**	**+0.3**
PBEJ				A		08 19 04.4	
13nm,0.4s							
PBEJ	**Beja**	**2.37**	**38**	*e*Pn	**Pn**	**08 18 23.9**	**+0.6**
PBEJ				*e*Sn	**Sn**	**08 18 51.9**	**+0.3**
13nm,0.4s							
MOE	**Montemor**	**2.59**	**24**	*e*Pn	**Pn**	**08 18 26.8**	**+0.6**
MOE				*e*Sn	**Sn**	**08 18 56.4**	**-0.4**
EVO	**Evora**	**2.72**	**29**	*e*Pn	**Pn**	**08 18 28.4**	**+0.4**
EVO				*e*Sn	**Sn**	**08 18 59.8**	**-0.2**
EVO				A		08 19 03.2	
22nm,0.1s							
EVO	**Evora**	**2.72**	**29**	*e*Pn	**Pn**	**08 18 28.4**	**+0.4**
EVO				*e*Sn	**Sn**	**08 18 59.8**	**-0.2**
22nm,0.1s							
PMAFR	**Mafra**	**2.80**	**7**	*e*Pn	**Pn**	**08 18 28.6**	**-0.5**
PMAFR				*e*Sn	**Sn**	**08 19 00.4**	**-1.6**
PMAFR				A		08 19 04.0	
57nm,0.2s							
PMAFR	**Mafra**	**2.80**	**7**	P	**Pn**	**08 18 28.6**	**-0.5**
PMAFR				S	**Sn**	**08 19 00.4**	**-1.6**
28nm,0.2s							
EMIN	**Mina Concepcio**	**2.91**	**56**	P	**Pn**	**08 18 31.7**	**+1.1**
1.6nm,0.1s,SNR=19							
EMIN				S	**Sn**	**08 19 05.1**	**+0.5**
6.0nm,0.2s,SNR=6.5							
EMIN	**Mina Concepcio**	**2.91**	**56**	P	**Pn**	**08 18 31.7**	**+1.1**
1.6nm,0.1s,SNR=19							
EMIN				S	**Sn**	**08 19 05.1**	**+0.5**
6.0nm,0.2s,SNR=6.5							
PBAR	**Barrancos**	**2.93**	**46**	*e*Pn	**Pn**	**08 18 31.9**	**+1.1**
PBAR				*e*Sn	**Sn**	**08 19 06.7**	**+1.7**
PBAR				A		08 19 23.6	
13nm,0.5s							
PBAR	**Barrancos**	**2.93**	**46**	P	**Pn**	**08 18 31.9**	**+1.1**
PBAR				S	**Sn**	**08 19 06.7**	**+1.7**
6.3nm,0.5s							
PESTR	**Estremoz**	**3.18**	**31**	*e*Pn	**Pn**	**08 18 34.6**	**+0.4**
PESTR				*e*Sn	**Sn**	**08 19 11.4**	**+0.3**
PESTR				A		08 19 15.8	
12nm,0.4s							
PESTR	**Estremoz**	**3.18**	**31**	*e*Pn	**Pn**	**08 18 34.6**	**+0.4**
PESTR				*e*Sn	**Sn**	**08 19 11.4**	**+0.3**
12nm,0.4s							
ESPR	**Espera**	**3.18**	**76**	P	**Pn**	**08 18 35.1**	**+0.9**
15nm,0.1s,SNR=51							
ESPR				S	**Sn**	**08 19 11.7**	**+0.5**
72nm,0.3s							
ESPR	**Espera**	**3.18**	**76**	P	**Pn**	**08 18 35.2**	**+1.0**
15nm,0.1s,SNR=51							
ESPR				S	**Sn**	**08 19 11.7**	**+0.5**
72nm,0.3s							
EBAD	**Badajoz**	**3.36**	**39**	P	**Pn**	**08 18 37.4**	**+0.8**
EBAD				S	**Sn**	**08 19 16.3**	**+0.9**
EBAD	**Badajoz**	**3.36**	**39**	P	**Pn**	**08 18 37.0**	**+0.3**
3.6nm,0.1s,SNR=21							
EBAD				S	**Sn**	**08 19 16.3**	**+0.9**
9.1nm,0.2s							
EBAD	**Badajoz**	**3.36**	**39**	P	**Pn**	**08 18 37.4**	**+0.8**
3.6nm,0.1s,SNR=21							
EBAD				S	**Sn**	**08 19 16.3**	**+0.9**
9.1nm,0.2s							
EJIF	**Jimena Fronter**	**3.44**	**84**	P	**Pn**	**08 18 37.8**	**+0.1**
EJIF				S	**Sn**	**08 19 18.7**	**+1.3**
EJIF	**Jimena Fronter**	**3.44**	**84**	P	**Pn**	**08 18 37.8**	**+0.1**
2.1nm,0.1s,SNR=7.9							
EJIF				S	**Sn**	**08 19 17.5**	**+0.1**
6.0nm,0.3s,SNR=7.9							
EJIF	**Jimena Fronter**	**3.44**	**84**	P	**Pn**	**08 18 37.8**	**+0.1**
2.1nm,0.1s,SNR=7.9							
EJIF				S	**Sn**	**08 19 18.7**	**+1.3**
6.0nm,0.3s,SNR=7.9							
ECEU	**Ceuta**	**3.52**	**93**	P	**Pn**	**08 18 39.3**	**+0.4**
5.2nm,0.1s,SNR=4.0							
ECEU	**Ceuta**	**3.52**	**93**	P	**Pn**	**08 18 39.3**	**+0.4**
5.2nm,0.1s,SNR=4.0							
DKH	**Dar Kharkhour**	**3.60**	**100**	*i* P	**Pn**	**08 18 41.0**	**+1.1**
DKH				*i* S	**Sn**	**08 19 19.0**	**-2.3**
ECAB	**El Cabril**	**3.92**	**60**	P	**Pn**	**08 18 45.4**	**+1.1**
7.1nm,0.1s,SNR=36							
ECAB				S	**Sn**	**08 19 28.9**	**-0.3**
11nm,0.1s							
ECAB	**El Cabril**	**3.92**	**60**	P	**Pn**	**08 18 45.3**	**+1.0**
ECAB				S	**Sn**	**08 19 28.9**	**-0.2**
11nm,0.1s							
EMIJ	**Mijas**	**4.01**	**83**	P	**Pn**	**08 18 45.1**	**-0.3**
EMIJ				S	**Sn**	**08 19 31.7**	**+0.5**
EMIJ	**Mijas**	**4.01**	**83**	P	**Pn**	**08 18 45.1**	**-0.3**
1.8nm,0.1s,SNR=7.5							
EMIJ				S	**Sn**	**08 19 31.2**	**0.0**
7.5nm,0.3s,SNR=7.9							
EMIJ	**Mijas**	**4.01**	**83**	P	**Pn**	**08 18 45.1**	**-0.3**
1.8nm,0.1s,SNR=7.5							
EMIJ				S	**Sn**	**08 19 31.7**	**+0.5**
7.5nm,0.3s,SNR=7.9							
PCBR	**Castelo Branco**	**4.07**	**25**	*e*Pn	**Pn**	**08 18 46.9**	**+0.7**
PCBR				*e*Sn	**Sn**	**08 19 32.2**	**-0.4**
PCBR				A		08 19 36.6	
7.2nm,0.2s							
PCBR	**Castelo Branco**	**4.07**	**25**	*e*Pn	**Pn**	**08 18 46.9**	**+0.7**
PCBR				*e*Sn	**Sn**	**08 19 32.2**	**-0.4**
7.2nm,0.2s							
MTE	**Manteigas**	**4.55**	**21**	*e*Pn	**Pn**	**08 18 53.5**	**+0.7**
MTE				*e*Sn	**Sn**	**08 19 43.9**	**-0.6**
MTE				A		08 19 57.1	
9.1nm,0.5s							
MTE	**Manteigas**	**4.55**	**21**	P	**Pn**	**08 18 53.5**	**+0.7**
MTE				S	**Sn**	**08 19 43.9**	**-0.6**
4.6nm,0.5s							
EADA	**Adamuz**	**4.56**	**63**	⇑P	**Pn**	**08 18 53.8**	**+0.9**
11nm,0.2s,SNR=18							
EADA				S	**Sn**	**08 19 44.7**	**0.0**
14nm,0.2s							
EADA	**Adamuz**	**4.56**	**63**	P	**Pn**	**08 18 53.8**	**+0.9**
11nm,0.2s,SNR=18							
EADA				S	**Sn**	**08 19 44.7**	**0.0**
14nm,0.2s							
ELUQ	**Luque**	**4.58**	**71**	S	**Sn**	**08 19 45.0**	**-0.2**
5.1nm,0.2s,SNR=4.0							
CIA	**Chichaoua**	**4.66**	**170**	P	**Pn**	**08 18 51.0**	**-3.3**
CIA				S	**Sn**	**08 19 39.0**	**-8.2**
CIA	**Chichaoua**	**4.66**	**170**	*i* P	**Pn**	**08 18 51.0**	**-3.3**
PVIS	**Viseu**	**4.76**	**17**	*e*Pn	**Pn**	**08 18 56.8**	**+1.2**
PVIS				*e*Sn	**Sn**	**08 19 48.3**	**-1.2**
PVIS				A		08 19 52.6	
5.5nm,0.1s							
PVIS	**Viseu**	**4.76**	**17**	P	**Pn**	**08 18 56.8**	**+1.2**
PVIS				S	**Sn**	**08 19 48.3**	**-1.2**
2.8nm,0.1s							
CZD	**Col de Zad**	**4.96**	**128**	*i* P	**Pn**	**08 18 57.0**	**-1.4**
CZD				*i* S	**Sn**	**08 19 49.0**	**-5.5**
TZK	**Tazeka**	**4.98**	**113**	*i* P	**Pn**	**08 18 57.5**	**-1.2**
TZK				*i* S	**Sn**	**08 19 50.0**	**-5.0**
EBAN	**Banos Encina**	**5.13**	**65**	P	**Pn**	**08 19 01.5**	**+0.8**
EBAN				S	**Sn**	**08 19 57.7**	**-1.0**
EBAN	**Banos Encina**	**5.13**	**65**	P	**Pn**	**08 19 01.5**	**+0.8**
5.7nm,0.1s,SNR=14							
EBAN				S	**Sn**	**08 19 57.7**	**-1.0**
4.3nm,0.1s							
EQUE	**Quentar**	**5.14**	**77**	P	**Pn**	**08 19 05.4**	**+4.5**
1.3nm,0.2s,SNR=7.9							
EQUE				S	**Sn**	**08 19 58.8**	**-0.1**
1.5nm,0.1s,SNR=7.9							
EQUE	**Quentar**	**5.14**	**77**	S	**Sn**	**08 19 59.0**	**+0.1**
1.5nm,0.1s,SNR=7.9							
OUK	**Oukaimeden**	**5.18**	**162**	P	**Pn**	**08 18 58.0**	**-3.4**
OUK				S	**Sn**	**08 19 51.0**	**-8.9**
OUK	**Oukaimeden**	**5.18**	**162**	*i* P	**Pn**	**08 18 58.0**	**-3.4**
PVRL	**Vila Real**	**5.33**	**16**	*e*Pn	**Pn**	**08 19 03.9**	**+0.5**
PVRL				*e*Sn	**Sn**	**08 20 03.4**	**-0.1**
PVRL				A		08 20 05.3	
18nm,0.2s							
PVRL	**Vila Real**	**5.33**	**16**	P	**Pn**	**08 19 03.9**	**+0.5**
PVRL				S	**Sn**	**08 20 03.4**	**-0.1**
8.8nm,0.2s							
MVO	**Moncorvo**	**5.41**	**22**	*e*Pn	**Pn**	**08 19 04.8**	**+0.3**
MVO				*e*Sn	**Sn**	**08 20 03.7**	**-1.7**
MVO				A		08 20 09.6	
7.2nm,0.1s							
MVO	**Moncorvo**	**5.41**	**22**	P	**Pn**	**08 19 04.8**	**+0.3**
MVO				S	**Sn**	**08 20 03.7**	**-1.7**
3.6nm,0.1s							
EBER	**Berja**	**5.54**	**80**	P	**Pn**	**08 19 06.9**	**+0.6**
0.5nm,0.2s,SNR=7.9							
EBER				S	**Sn**	**08 20 08.1**	**-0.6**
3.8nm,0.2s,SNR=7.9							
EBER	**Berja**	**5.54**	**80**	P	**Pn**	**08 19 06.9**	**+0.6**
0.5nm,0.2s,SNR=7.9							
EBER				S	**Sn**	**08 20 08.1**	**-0.5**
3.8nm,0.2s,SNR=7.9							
EQES	**Quesada**	**5.56**	**71**	S	**Sn**	**08 20 08.7**	**-0.3**
4.5nm,0.2s,SNR=7.9							
EQES	**Quesada**	**5.56**	**71**	S	**Sn**	**08 20 08.7**	**-0.4**
4.5nm,0.2s,SNR=7.9							
PCAB	**Cabril**	**5.69**	**13**	*e*Pn	**Pn**	**08 19 08.8**	**+0.6**
PCAB				*e*Sn	**Sn**	**08 20 11.3**	**-0.8**
PCAB				A		08 20 14.0	
4.2nm,0.1s							
PCAB	**Cabril**	**5.69**	**13**	P	**Pn**	**08 19 08.8**	**+0.6**
PCAB				S	**Sn**	**08 20 11.3**	**-0.8**
2.1nm,0.1s							
ESDC	**Sonseca Array**	**5.74**	**51**	P	**Pn**	**08 19 09.8**	**+0.9**
3.9nm,0.1s,baz=236,slow=13,SNR=16							
ESDC	**Sonseca Array**	**5.74**	**51**	P	**Pn**	**08 19 09.8**	**+0.9**
3.9nm,0.1s,SNR=16							
ELOB	**Lobios**	**5.83**	**12**	P	**Pn**	**08 19 09.8**	**-0.4**
ELOB				S	**Sn**	**08 20 12.3**	**-3.4**
ELOB	**Lobios**	**5.83**	**12**	P	**Pn**	**08 19 09.8**	**-0.4**
1.7nm,0.2s,SNR=7.3							
ELOB				S	**Sn**	**08 20 13.0**	**-2.7**
3.3nm,0.2s,SNR=7.9							
ZFT	**Errachidia**	**6.06**	**131**	*i* P	**Pn**	**08 19 12.0**	**-1.4**
PBRG	**Braganca**	**6.08**	**21**	*e*Pn	**Pn**	**08 19 14.5**	**+0.8**
PBRG				*e*Sn	**Sn**	**08 20 19.5**	**-2.3**
PBRG				A		08 20 22.8	
3.6nm,0.2s							
PBRG	**Braganca**	**6.08**	**21**	P	**Pn**	**08 19 14.5**	**+0.8**
PBRG				S	**Sn**	**08 20 19.5**	**-2.3**
1.8nm,0.2s							
GUD	**Guadarrama**	**6.24**	**43**	P	**Pn**	**08 19 16.7**	**+0.8**
GUD				S	**Sn**	**08 20 23.8**	**-2.0**
GUD	**Guadarrama**	**6.24**	**43**	P	**Pn**	**08 19 16.7**	**+0.8**
1.3nm,0.2s,SNR=5.9							
GUD				S	**Sn**	**08 20 23.8**	**-2.0**
2.1nm,0.4s,SNR=4.0							
EVIA	**Vianos**	**6.25**	**65**	P	**Pn**	**08 19 16.4**	**+0.5**
2.6nm,0.1s,SNR=9.6							
EVIA				S	**Sn**	**08 20 23.7**	**-2.1**
2.2nm,0.2s							
EMAZ	**Mazaricos**	**6.79**	**5**	P	**Pn**	**08 19 19.6**	**-3.8**
EMAZ				S	**Sn**	**08 20 32.3**	**-6.8**
EMAZ	**Mazaricos**	**6.79**	**5**	P	**Pn**	**08 19 20.6**	**-2.8**
4.7nm,0.3s,SNR=7.9							
EMAZ				S	**Sn**	**08 20 32.8**	**-6.3**
4.9nm,0.2s,SNR=7.9							
ETOB	**Tobarra**	**6.95**	**67**	P	**Pn**	**08 19 26.2**	**+0.7**
1.5nm,0.2s,SNR=7.2							
ETOB				S	**Sn**	**08 20 40.6**	**-2.5**
1.2nm,0.1s,SNR=7.9							
ETOR	**Torete**	**7.59**	**50**	P	**Pn**	**08 19 36.1**	**+2.0**
ETOR				S	**Sn**	**08 20 56.5**	**-2.1**
ETOR	**Torete**	**7.59**	**50**	P	**Pn**	**08 19 36.1**	**+2.0**
7.2nm,0.2s,SNR=4.9							
ETOR				S	**Sn**	**08 20 56.5**	**-2.1**
3.1nm,0.2s,SNR=7.9							
ECHE	**Chera**	**7.71**	**61**	P	**Pn**	**08 19 36.9**	**+1.0**
0.8nm,0.2s,SNR=7.9							
EARI	**Arriondas**	**7.92**	**25**	P	**Pn**	**08 19 38.3**	**-0.4**
EARI	**Arriondas**	**7.92**	**25**	P	**Pn**	**08 19 40.2**	**+1.5**
0.1nm,0.2s,SNR=7.9							
EMOS	**Mosqueruela**	**8.39**	**57**	P	**Pn**	**08 19 47.9**	**+2.8**
EMOS				S	**Sn**	**08 21 18.5**	**+0.5**
EMOS	**Mosqueruela**	**8.39**	**57**	P	**Pn**	**08 19 47.9**	**+2.5**
0.6nm,0.2s,SNR=7.9							
EMOS				S	**Sn**	**08 21 18.5**	**+0.5**
0.1nm,0.2s,SNR=7.9							
EMOS	**Mosqueruela**	**8.39**	**57**	P	**Pn**	**08 19 47.9**	**+2.9**

*IDC **19** 08:59:07.0±11.0, 2468S×17476W, h0km, mb5.1/6, mb1 5.2/6, mb1mx4.3/17, mbtmp5.1/6, Error ellipse: s-maj=219.3km s-min=98.1km az=68.0*
*NEIC **19** 09:00:53.3±3.8, 2626S×17835E, h660km±32km, mb4.8/13, Error ellipse: s-maj=62.4km s-min=16.3km az=48.0*
ISC 19 09:00:41.9±3.9, 257S±03×1794E±05, h596km±24km, n43, σ0§79/43, mb4.7/14, 1C-7D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**11.91**	**184**	PN	**P**	**09 03 19.6**	**+0.2**
URZ	**Urewera**	**12.71**	**188**	*e*PN	**P**	**09 03 26.7**	**-0.9**
MWZ	**Matawai**	**12.74**	**187**	*e*PN	**P**	**09 03 27.7**	**-0.1**
BKZ	**Black Stump Fm**	**13.69**	**189**	*e*PN	**P**	**09 03 36.2**	**-1.2**
BKZ				*e*SN	Sx	09 05 52.4	
PXZ	**Pawanui**	**14.49**	**188**	PN	**P**	**09 03 45.2**	**-0.1**
PXZ				*e*SN	Sx	09 06 03.1	
WAZ	**Wanganui**	**14.53**	**194**	*e*PN	**P**	**09 03 47.4**	**+1.7**
TSZ	**Takapari Road**	**14.64**	**190**	*e*PN	**P**	**09 03 46.8**	**+0.1**
BFZ	**Birch Farm**	**15.21**	**189**	*e*PN	**P**	**09 03 51.2**	**-0.7**
MRZ	**Mangatainoka R**	**15.29**	**191**	PN	**P**	**09 03 51.4**	**-1.3**
MRZ				*e*SN	Sx	09 06 16.7	
KIW	**Kapiti Island**	**15.61**	**193**	*e*PN	**P**	**09 03 55.6**	**0.0**
CAW	**Cannon Point**	**15.82**	**192**	*e*PN	**P**	**09 03 57.8**	**+0.3**
SNZO	**South Karori**	**16.09**	**193**	⇓*i*P	**P**	**09 04 00.3**	**+0.4**
58nm,0.5s							
QRZ	**Quartz Range**	**16.16**	**199**	*e*PN	**P**	**09 04 02.6**	**+1.9**
NNZ	**Nelson**	**16.30**	**196**	*e*PN	**P**	**09 04 02.3**	**+0.5**
NNZ				*e*SN	Sx	09 06 35.8	
THZ	**Tophouse**	**16.93**	**197**	*e*PN	**P**	**09 04 08.8**	**+1.1**
THZ				*e*SN	Sx	09 06 44.3	
DSZ	**Denniston Nort**	**17.23**	**199**	*e*PN	**P**	**09 04 11.3**	**+0.9**
KHZ	**Kahutara**	**17.39**	**195**	*e*PN	**P**	**09 04 11.8**	**-0.1**
LTZ	**Lake Taylor**	**18.05**	**197**	PN	**P**	**09 04 18.0**	**+0.1**
WVZ	**Waitaha Valley**	**18.76**	**200**	*e*PN	**P**	**09 04 24.2**	**-0.1**
FOZ	**Fox Glacier**	**19.54**	**201**	PN	**P**	**09 04 30.3**	**-1.1**
JCZ	**Jackson Bay**	**20.30**	**202**	*e*PN	**P**	**09 04 38.6**	**+0.3**
ARMA	**Armidale**	**24.91**	**253**	*e*P	**P**	**09 05 20.1**	**+0.6**
CNB	**Canberra Magne**	**27.50**	**242**	*e*P	**P**	**09 05 42.1**	**0.0**
6.7nm,0.5s,mb4.5							
CTA	**Charters Tower**	**30.95**	**273**	⇓*i*P	**P**	**09 06 13.5**	**+1.4**
34nm,0.4s,mb5.3							
CTA	**Charters Tower**	**30.95**	**273**	P	**P**	**09 06 13.5**	**+1.4**
41nm,0.4s,mb5.4,baz=98,slow=11,SNR=116							
CTAO	**Charters Tower**	**30.95**	**273**	⇓*i*P	**P**	**09 06 13.4**	**+1.3**
41nm,0.4s,mb5.4							
STKA	**Stephens Creek**	**33.56**	**250**	*e*P	**P**	**09 06 33.4**	**-0.6**
9.9nm,0.6s,mb4.6							
STKA	**Stephens Creek**	**33.56**	**250**	*e*P	**P**	**09 06 33.5**	**-0.6**
9.0nm,0.5s,mb4.7							
STKA	**Stephens Creek**	**33.56**	**250**	P	**P**	**09 06 33.6**	**-0.4**
9.3nm,0.5s,mb4.7,baz=95,slow=9.6,SNR=52							
ASAR	**Alice Springs**	**41.21**	**263**	P	**P**	**09 07 36.3**	**0.0**
21nm,0.4s,mb5.0,baz=92,slow=7.5,SNR=656							
WB2	**Warramunga Arr**	**41.73**	**268**	⇓*i*P	**P**	**09 07 40.4**	**-0.1**
WRAB	**Tennant Creek**	**41.74**	**268**	⇓*i*P	**P**	**09 07 40.4**	**-0.1**
14nm,0.4s,mb4.8							
WRA	**Warramunga Arr**	**41.74**	**268**	P	**P**	**09 07 40.7**	**+0.2**
18nm,0.3s,mb5.0,baz=104,slow=7.7,SNR=483							
FORT	**Forrest**	**45.18**	**251**	⇓*i*P	**P**	**09 08 05.5**	**-1.5**
48nm,0.6s,mb5.2							
KAKA	**Kakadu**	**45.92**	**277**	*e*P	**P**	**09 08 13.1**	**+0.3**
15nm,0.3s,mb5.0							
KNA	**Kununurra**	**48.10**	**272**	*e*P	**P**	**09 08 29.9**	**+0.8**
25nm,0.7s,mb4.9							
FITZ	**Fitzroy Crossi**	**50.14**	**267**	*e*P	**P**	**09 08 44.6**	**+0.5**
19nm,0.6s,mb4.7							
FITZ	**Fitzroy Crossi**	**50.14**	**267**	P	**P**	**09 08 44.8**	**+0.7**
9.5nm,0.5s,mb4.5,baz=118,slow=7.6,SNR=27							
KLBR	**Kellerberrin**	**53.79**	**248**	*e*P	**P**	**09 09 09.1**	**-0.9**
25nm,0.7s,mb4.7							
NWAO	**Narrogin (SRO)**	**54.00**	**247**	P	**P**	**09 09 10.5**	**-1.0**
4.8nm,0.6s,mb4.0,baz=89,slow=8.3,SNR=3.9							
MBWA	**Marble Bar**	**54.52**	**261**	⇓*i*P	**P**	**09 09 14.6**	**-0.7**
5.9nm,0.4s,mb4.3							
MUN	**Mundaring**	**55.02**	**248**	*e*P	**P**	**09 09 17.8**	**-0.8**
QSPA	**South Pole Qui**	**64.44**	**180**	⇑*i*P	**P**	**09 10 24.8**	**+4.7**
5.6nm,0.5s,mb4.2							

IDC 19 09:02:28.2±2.5, 2031S×6983W, h0km, mb3.6/2, mb1 3.7/4, mb1mx3.5/19, mbtmp3.6/4, ML3.4/2, Error ellipse: s-maj=62.1km s-min=48.2km az=175.0, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**4.31**	**22**	Pn	Pn	09 03 35.5	+0.4
0.6nm,0.3s,baz=190,slow=4.4,SNR=25							
SIV	**San Ignacio**	**9.37**	**64**	Pn	Pn	09 04 44.9	+0.4
0.7nm,0.3s,baz=261,slow=13,SNR=15							
TORD	**Torodi Ar. Bea**	**77.78**	**71**	P	P	09 14 27.8	0.0
0.3nm,0.5s,baz=232,slow=6.8,SNR=4.4							
YKA	**Yellowknife Ar**	**89.78**	**341**	P	P	09 15 28.1	+0.1
0.2nm,0.5s,baz=129,slow=4.7,SNR=6.0							

*BJI **19** 09:05:01.3, 0.14N×12597E, h10km, mB5.1, mb4.8, Ms4.6, Msz4.3*
*ISCJB **19** 09:05:06.8±0.2, 077N±003×12584E±005, h10km, mb4.9/79, MS4.1/19, Error ellipse: s-maj=7.7km s-min=3.9km az=162.7*
*IDC **19** 09:05:06.7±0.4, 079N×12584E, h0km, mb4.9/20, mb1 4.9/21, mb1mx4.9/23, mbtmp4.9/21, ML4.6/1, MS4.0/4, Ms1 4.0/4, ms1mx3.5/25, Error ellipse: s-maj=22.8km s-min=10.6km az=76.0*
*NEIC **19** 09:05:08.3±0.2, 079N×12580E, h10km, mb5.0/34, Error ellipse: s-maj=9.0km s-min=4.4km az=70.0*
NEIC Felt [III] at Teling and [II] at Manado, Indonesia.
*MOS **19** 09:05:

KULM	Kulim	25.56	281	⇓P		P	09 10 39.4 +1.5
JOW	Kunigami	26.02	5	P		P	09 10 42.4 +0.6
	comp=Z,80nm,0.9s,mb5.2,baz=199,slow=4.9,SNR=6.8						
PSI	Prapat	27.00	275	P		P	09 10 51.1 +0.2
	comp=Z,7.9nm,0.7s,mb4.3,baz=75,slow=7.4,SNR=7.9						
CTA	Charters Tower	28.80	137	eP		P	09 11 07.4 +0.5
	comp=Z,13nm,1.1s,mb4.6						
CTA	Charters Tower	28.80	137	eP		P	09 11 07.4 +0.5
CTA				pmax		pmax	
	comp=Z,13nm,1.1s						
CTA	Charters Tower	28.80	137	P		P	09 11 07.0 +0.2
	comp=Z,7.6nm,0.8s,mb4.5,baz=295,slow=6.7,SNR=5.7						
CTAO	Charters Tower	28.80	137	eP		P	09 11 07.2 +0.3
	comp=Z,27nm,1.2s,mb4.9						
CTAO	Charters Tower	28.80	137	eP		P	09 11 07.2 +0.3
CTAO				pmax		pmax	
	comp=Z,27nm,1.2s,mb4.8						
SSE	Sheshan	30.48	352	P		P	09 11 21.4 -0.3
SSE				S		S	09 16 24.3 +0.5
SSE				XS		sS	09 16 34.6 +10
SSE				AMB		AMB	
	comp=Z,29nm,0.8s,mb5.1						
SSE				AMB		AMB	
	comp=Z,91nm,5.2s						
SSE				LR		LR	
	comp=N,116nm,25.0s,MS3.9						
SSE				LR		LR	
	comp=E,283nm,25.0s,MS3.9						
SSE				LR		LR	
	comp=Z,331nm,13.7s						
FORT	Forrest	31.45	176	eP		P	09 11 30.4 +0.2
	comp=Z,201nm,0.7s,mb6.1						
GYA	Guiyang	31.52	326	P		P	09 11 32.6 +1.7
GYA				AP			09 11 36.8
GYA				XP		sP	09 11 38.5 +6.8
GYA				PP		PP	09 12 39.0 -3.1
GYA				S		S	09 16 42.5 +2.3
GYA				SS		SS	09 18 31.3 -24
GYA				SCS		ScS	09 22 05.0 -1.3
GYA				AMB		AMB	
	comp=Z,20nm,0.8s,mb5.0						
GYA				AMB		AMB	
	comp=Z,130nm,5.8s						
GYA				LR		LR	
	comp=N,650nm,17.8s,MS4.5						
GYA				LR		LR	
	comp=E,580nm,18.6s,MS4.5						
GYA				LR		LR	
	comp=Z,860nm,17.3s,MS4.5						
NJ2	Nanjing	31.81	349	eP		P	09 11 34.5 +1.1
NJ2				AP			09 11 39.1
NJ2				XP		sP	09 11 41.5 +7.4
NJ2				S		S	09 16 43.0 -1.6
NJ2				AMB		AMB	
	comp=Z,30nm,0.8s,mb5.2						
NJ2				AMB		AMB	
	comp=Z,490nm,5.2s						
NJ2				LR		LR	
	comp=N,780nm,22.1s						
NJ2				LR		LR	
	comp=E,290nm,14.6s						
NJ2				LR		LR	
	comp=Z,340nm,26.5s,MS3.9						
CHTO	Chiang Mai	31.91	306	eP		P	09 11 34.5 0.0
	comp=Z,8.1nm,1.1s,mb4.5						
CHTO	Chiang Mai	31.91	306	eP		P	09 11 34.5 0.0
CHTO				pmax		pmax	
	comp=Z,8.0nm,1.1s,mb4.5						
KMI	Kunming	32.94	319	P		P	09 11 43.1 -0.3
KMI				S		S	09 17 03.4 +1.0
KMI				AMB		AMB	
	comp=Z,14nm,0.7s,mb5.0						
KMI				LR		LR	
	comp=Z,364nm,23.1s,MS4.0						
KLBR	Kellerberrin	33.09	193	eP		P	09 11 44.8 +0.2
	comp=Z,56nm,0.9s,mb5.5						
MUN	Mundaring	33.83	195	eP		P	09 11 51.2 +0.1
NWAO	Narrogin (SRO)	34.49	193	eP		P	09 11 57.4 +0.6
	comp=Z,44nm,1.1s,mb5.3						
NWAO	Narrogin (SRO)	34.49	193	eP		P	09 11 57.4 +0.6
NWAO				pmax		pmax	
	comp=Z,44nm,1.1s						
NWAO	Narrogin (SRO)	34.49	193	P		P	09 11 57.7 +0.9
	comp=Z,39nm,1.0s,mb5.3,baz=26,slow=8.4,SNR=10						
NWAO				LR		LR	09 27 17.5
	comp=Z,233nm,21.1s,MS3.9,baz=10,slow=39						
STKA	Stephens Creek	35.73	157	⇑iP		P	09 12 07.3 -0.2
	comp=Z,57nm,1.0s,mb5.5						
STKA	Stephens Creek	35.73	157	P		P	09 12 07.4 -0.1
	comp=Z,61nm,0.8s,mb5.6,baz=331,slow=8.3,SNR=66						
KSRS	Korea Array	36.55	3	P		P	09 12 15.1 +0.7
	comp=Z,5.5nm,0.8s,mb4.5,baz=184,slow=10.0,SNR=8.2						
KSRS				PcP		PcP	09 14 38.5 +0.4
	comp=Z,1.2nm,0.6s,baz=192,slow=2.0,SNR=5.1						
CD2	Chengdu	36.57	327	⇓iP		P	09 12 14.0 -0.7
CD2				AP			09 12 18.4
CD2				XP		sP	09 12 21.3 +5.8
CD2				PP		PP	09 13 39.4 +1.4
CD2				S		S	09 17 57.3 -1.0
CD2				SS		SS	09 20 24.8 -13
CD2				AMB		AMB	
	comp=Z,10.0nm,1.0s,mb4.6						
CD2				AMB		AMB	
	comp=Z,30nm,4.2s						
CD2				LR		LR	
	comp=N,290nm,16.8s,MS4.2						
CD2				LR		LR	
	comp=E,270nm,18.0s,MS4.2						
CD2				LR		LR	
	comp=Z,220nm,16.8s,MS4.0						
XAN	Xi'an	36.70	336	P		P	09 12 17.1 +1.3
XAN				AP			09 12 22.6
XAN				S		S	09 18 08.9 +8.7
XAN				AMB		AMB	
	comp=Z,8.0nm,0.8s,mb4.6						
XAN				LR		LR	
	comp=N,121nm,15.4s,MS4.1						
XAN				LR		LR	
	comp=E,220nm,13.0s,MS4.1						
XAN				LR		LR	
	comp=Z,233nm,18.6s						
MAJO	Matsushiro	37.39	16	eP		P	09 12 23.1 +1.5
	comp=Z,180nm,2.5s,mb5.5						
MAJO	Matsushiro	37.39	16	eP		P	09 12 23.1 +1.5
MAJO				pmax		pmax	
	comp=Z,180nm,2.5s,mb5.5						
MAT	Matsushiro	37.39	16	P		P	09 12 22.6 +1.0
MJAR	Matsushiro Arr	37.39	16	P		P	09 12 20.9 -0.7
	comp=Z,14nm,0.9s,mb4.8,baz=187,slow=8.9,SNR=18						
MJAR				LR		LR	09 27 17.0
	comp=Z,134nm,19.4s,MS3.8,baz=170,slow=36						
ADE	Adelaide	37.53	163	P		P	09 12 24.0 +1.2
DL2	Dalian	38.15	355	P		P	09 12 30.0 +2.0
DL2				AMB		AMB	
	comp=Z,20nm,0.9s,mb4.8						
ARMA	Armidale	39.55	144	eP		P	09 12 41.2 +1.4
LZH	Lanzhou	40.65	332	eP		P	09 12 50.0 +1.1
LZH				AP			09 12 53.0
LZH				XP		sP	09 12 54.5 +4.8
LZH				PP		PP	09 14 27.5 +4.9
LZH				eS		S	09 19 00.0 +0.3
LZH				SS		SS	09 21 55.0 -4.9
LZH				AMB		AMB	
	comp=Z,25nm,1.0s,mb4.8						
LZH				AMB		AMB	
	comp=Z,170nm,4.6s						
LZH				LR		LR	
	comp=N,423nm,13.9s						
LZH				LR		LR	
	comp=Z,639nm,14.6s,MS4.6						
SNY	Shenyang	40.92	357	⇑P		P	09 12 50.9 -0.2
SNY				AMB		AMB	
	comp=Z,21nm,0.8s,mb4.8						
HHC	Hu-ho-hao-te	41.95	344	eP		P	09 13 01.1 +1.6
HHC				AP			09 13 05.3
HHC				XP		sP	09 13 08.4 +8.1
HHC				PCP		PcP	09 14 56.6 +1.6
HHC				S		S	09 19 20.6 +1.7
HHC				SS		SS	09 22 21.5 -4.1
HHC				SCS		ScS	09 22 58.9 -4.8
HHC				AMB		AMB	
	comp=Z,16nm,0.3s,mb5.1						
HHC				AMB		AMB	
	comp=Z,134nm,4.3s						
HHC				LR		LR	
	comp=N,179nm,6.3s						
HHC				LR		LR	
	comp=E,241nm,5.3s						
HHC				LR		LR	
	comp=Z,308nm,25.5s,MS4.1						
CNB	Canberra Magne	42.08	151	eP		P	09 13 02.1 +1.4
	comp=Z,18nm,0.9s,mb4.7						
CN2	Changchun	42.84	360	eP		P	09 13 09.3 +2.5
CN2				eXP		sP	09 13 16.0 +8.4
CN2				eS		S	09 19 34.0 +2.0
CN2				AMB		AMB	
	comp=Z,10.0nm,0.6s,mb4.7						
CN2				AMB		AMB	
	comp=Z,200nm,3.0s						
CN2				LR		LR	
	comp=N,300nm,12.0s,MS4.6						
CN2				LR		LR	
	comp=E,300nm,12.0s,MS4.6						
CN2				LR		LR	
	comp=Z,400nm,14.0s,MS4.5						
LSA	Lhasa	43.80	314	P		P	09 13 15.0 +0.2
GTA	Gaotai	45.22	331	eP		P	09 13 26.6 +0.7
GTA				AP			09 13 32.1
GTA				XP		sP	09 13 35.3 +8.6
GTA				PP		PP	09 15 09.4 -2.3
GTA				S		S	09 20 08.3 +1.5
GTA				XS		sS	09 20 20.4 +13
GTA				SS		SS	09 23 25.3 -4.3
GTA				AMB		AMB	
	comp=Z,8.0nm,0.7s,mb4.7						
GTA				AMB		AMB	
	comp=Z,90nm,7.3s						
GTA				LR		LR	
	comp=N,173nm,23.7s,MS4.2						
GTA				LR		LR	
	comp=E,243nm,20.3s,MS4.2						
GTA				LR		LR	
	comp=Z,382nm,25.2s,MS4.2						
HABR	Khabarovsk	48.18	8	eP		P	09 13 49.0 0.0
HABR				e			09 15 13.5
HABR				e			09 15 39.3
HABR				eS		S	09 20 48.3 -0.5
HABR				e			09 20 54.8
HABR				e			09 23 39.0
HABR				pmax		pmax	
	comp=Z,17nm,0.9s,mb5.1						
YSS	Yuzh-Sakhalins	48.31	15	iP		P	09 13 51.9 +1.9
YSS				pmax		pmax	
	comp=Z,3.0nm,0.5s,mb4.6						
YSS				MLR		MLR	
	comp=Z,100nm,27.0s,MS3.7						
HIA	Hailar	48.59	355	eP		P	09 13 52.0 -0.1
	comp=Z,29nm,1.2s,mb5.2						
HIA	Hailar	48.59	355	⇑eP		P	09 13 52.3 +0.1
HYB	Hyderabad	49.36	292	eP		P	09 13 57.5 -1.1
	comp=Z,50nm,1.0s,mb5.5						
HYB	Hyderabad	49.36	292	eP		P	09 13 57.5 -1.1
HYB				pmax		pmax	
	comp=Z,50nm,1.0s,mb5.5						
HYB	Hyderabad	49.36	292	iP		P	09 13 57.5 -1.1
	comp=Z,50nm,1.0s,mb5.5						
ULN	Ulaanbaatar	49.67	343	eP		P	09 13 59.8 -0.6
	comp=Z,6.9nm,0.9s,mb4.7						
ULN	Ulaanbaatar	49.67	343	⇓eP		P	09 14 00.2 -0.2
SONM	Songino Array	49.83	343	P		P	09 14 01.6 -0.1
	comp=Z,3.3nm,0.8s,mb4.4,baz=155,slow=12,SNR=4.2						
ZAK	Zakamensk	53.03	342	eP		P	09 14 25.1 -0.5
ZAK				e			09 15 34.6
ZAK				pmax		pmax	
	comp=Z,1.0nm,0.9s,mb3.8						
ZAK				pmax		pmax	
	comp=Z,3.0nm,1.0s,mb4.2						
TLY	Talaya	54.07	343	eP		P	09 14 32.7 -0.5
	comp=Z,5.2nm,0.7s,mb4.6						
TLY	Talaya	54.07	343	⇑eP		P	09 14 32.8 -0.4
WMQ	Urumqi	54.67	327	P		P	09 14 37.5 -0.3
WMQ				AP			09 14 42.0
WMQ				XP		sP	09 14 45.0 +6.5
WMQ				PCP		PcP	09 15 41.0 +0.4
WMQ				eS		S	09 22 15.0 -3.7
WMQ				AMB		AMB	
	comp=Z,12nm,1.0s,mb4.9						
WMQ				AMB		AMB	
	comp=Z,179nm,5.0s						
WMQ				LR		LR	
	comp=N,371nm,29.0s,MS4.4						
WMQ				LR		LR	
	comp=E,328nm,26.0s,MS4.4						
WMQ				LR		LR	
	comp=Z,445nm,26.2s,MS4.4						
MOY	Mondy	54.87	341	eP		P	09 14 42.7 +3.7
BOD	Bodaibo	57.66	353	eP		P	09 14 57.1 -1.7
BOD				pmax		pmax	
	comp=Z,16nm,1.0s,mb5.0						
PET	Petropavlovsk	58.77	22	eP		P	09 15 03.8 -3.0
PET				pmax		pmax	
	comp=Z,34nm,1.1s,mb5.3						
MK31	Makanchi Array	59.50	327	eP		P	09 15 10.5 -1.4
MKAR	Makanchi Array	59.50	327	P		P	09 15 10.4 -1.5
	comp=Z,5.5nm,0.5s,mb4.8,baz=124,slow=8.4,SNR=33						
RPZ	Rata Peaks	59.89	144	P		P	09 15 13.4 -1.3
	comp=Z,13nm,0.9s,mb4.9,baz=315,slow=4.3,SNR=3.9						
URZ	Urewera	61.02	135	P		P	09 15 21.2 -1.3
	comp=Z,11nm,0.7s,mb5.1,baz=349,slow=3.0,SNR=6.0						
YAK	Yakutsk	61.17	2	eP		P	09 15 22.3 -0.8
YAK				pmax		pmax	
	comp=N,8.0nm,1.0s						
YAK				pmax		pmax	
	comp=Z,29nm,1.0s,mb5.4						
KZA	Kyzart	61.23	319	P		P	09 15 22.7 -1.2
	SNR=9.0						
TKM2	Tokmak 2	61.40	320	eP		P	09 15 24.2 -0.9
	comp=Z,6.8nm,0.8s,mb4.8						
TKM2	Tokmak 2	61.40	320	eP		P	09 15 24.2 -0.8
TKM2				pmax		pmax	
	comp=Z,7.0nm,0.8s,mb4.8						
TKM2	Tokmak 2	61.40	320	P		P	09 15 28.6 +3.6
	SNR=6.3						
MA2	Magadan	61.77	14	eP		P	09 15 29.2 +2.1
MA2				e			09 30 33.6
MA2				pmax		pmax	
	comp=Z,30nm,0.9s,mb5.4						
UCH	Uchtor	61.78	319	eP		P	09 15 27.1 -0.5
	comp=Z,15nm,0.9s,mb5.1						
UCH	Uchtor	61.78	319	P		P	09 15 29.7 +2.1
	SNR=11						
AAK	Ala-Archa	61.98	319	eP		P	09 15 29.1 +0.2
	comp=Z,3.5nm,0.7s,mb4.6						
AAK	Ala-Archa	61.98	319	⇑eP		P	09 15 29.0 +0.1
AAK				pmax		pmax	
	comp=Z,5.0nm,1.1s,mb4.6						
AAK	Ala-Archa	61.98	319	P		P	09 15 24.0 -4.9
	SNR=7.5						
USP	Ospenovka	62.28	320	P		P	09 15 29.9 -1.0
	SNR=8.0						
AML	Almayashu	62.28	318	eP		P	09 15 30.4 -0.5
	comp=Z,8.8nm,0.7s,mb5.0						
AML	Almayashu	62.28	318	P		P	09 15 30.5 -0.4
	SNR=12						
EKS2	Erkin-Say	62.47	319	eP		P	09 15 31.3 -0.9
	comp=Z,7.4nm,0.8s,mb4.9						
EKS2	Erkin-Say	62.47	319	P		P	09 15 31.1 -1.0
	SNR=5.7						
KBL	Kabul	62.66	309	eP		P	09 15 32.3 -1.3
	comp=Z,13nm,0.9s,mb5.1						
ZAA0	Zalesovo Array	62.83	334	eP		P	09 15 32.5 -1.9
ZALV	Zalesovo Beam	62.83	334	P		P	09 15 32.2 -2.2
	comp=Z,3.1nm,0.7s,mb4.5,baz=111,slow=6.5,SNR=9.3						
ZAL	Zalesovo	62.83	334	P		P	09 15 32.2 -2.2
KURK	Kurchatov	63.77	329	P		P	09 15 39.4 -1.3
	comp=Z,230nm,0.8s,mb6.3,SNR=7.6						
KURK	Kurchatov	63.77	329	eP		P	09 15 37.9 -2.8
	comp=Z,26nm,0.8s,mb5.3						
KURK	Kurchatov	63.77	329	iP		P	09 15 37.8 -2.9
KURK				pmax		pmax	
	comp=Z,13nm,0.8s,mb5.0						
NVS	Novosibirsk	64.12	334	iP		P	09 15 40.5 -2.4
NVS				pmax		pmax	
	comp=Z,34nm,2.4s,mb5.0						
NVS				pmax		pmax	
	comp=N,9.0nm,1.7s						
NVS				pmax		pmax	
	comp=E,16nm,1.7s						
KK31	Karatay Array	64.82	318	iP		P	09 15 46.1 -1.6
KK31				pmax		pmax	
	comp=Z,4.0nm,0.6s,mb4.6						
CASY	Casey	67.80	187	eP		P	09 16 06.2 -0.1
	comp=Z,18nm,0.8s,mb5.2						
BRVK	Borovoye	69.40	328	eP		P	09 16 14.9 -1.7
	comp=Z,7.1nm,0.6s,mb4.8						
BRVK	Borovoye	69.40	328	eP		P	09 16 14.9 -1.7
BRVK				pmax		pmax	
	comp=Z,7.0nm,0.6s,mb4.8						
TIXI	Tiksi	70.79	1	eP		P	09 16 23.1 -1.7
	comp=Z,4.8nm,0.6s,mb4.6						
TIXI	Tiksi	70.79	1	⇓eP		P	09 16 23.0 -1.8
TIXI				pmax		pmax	
	comp=Z,5.0nm,0.6s,mb4.6						
BILL	Bilibino	72.62	15	iP		P	09 16 36.8 +0.9
BILL				pmax		pmax	
	comp=Z,7.0nm,1.6s,mb4.3						
BILL				MLR		MLR	
	comp=Z,100nm,18.0s,MS4.1						
SVE	Sverdlovsk	76.02	329	eP		P	09 16 55.1 -0.8
ARU	Arti	76.97	328	diP		P	09 17 00.1 -1.2
ARU				e			09 17 10.8
ARU				eS		S	09 26 46.4 -4.0
ARU				eSS		SS	09 31 43.9 -3.1
ARU				pmax		pmax	
	comp=Z,21nm,1.0s,mb5.0						
GAMB	Gambell	77.44	24	eP		P	09 17 03.0 -0.8
	comp=Z,3.4nm,0.8s,mb4.3						
SDPT	Sand Point	80.12	34	eP		P	09 17 18.4 -0.3
	comp=Z,86nm,0.9s,mb5.7						
VNDA	Vanda	80.62	173	P		P	09 17 21.1 0.0
	comp=Z,7.2nm,0.6s,mb4.8,baz=315,slow=6.0,SNR=52						
MAW	Mawson	80.69	200	eP		P	09 17 22.0 +0.4
	comp=Z,14nm,1.0s,mb4.9						
MAW	Mawson	80.69	200	eP		P	09 17 22.0 +0.4
MAW				pmax		pmax	
	comp=Z,14nm,1.0s						
MAW	Mawson	80.69	200	P		P	09 17 21.9 +0.3
	comp=Z,8.7nm,0.9s,mb4.7,baz=51,slow=5.6,SNR=10						
SBA	Scott Base	81.54	172	eP		P	09 17 27.0 +1.0
	comp=Z,4.0nm,0.7s,mb4.5						
SBA	Scott Base	81.54	172	eP		P	09 17 27.0 +1.0
SBA				pmax		pmax	
	comp=Z,4.0nm,0.7s,mb4.5						
BHD	Baghdad	82.45	303	ex		x	09 17 29.5
MSL	Mosul	83.71	306	ex		x	09 17 37.5
TTA	Tatalina	83.92	27	eP		P	09 17 39.5 +0.9
	comp=Z,78nm,1.8s,mb5.5						
TTA	Tatalina	83.92	27	eP		P	09 17 39.5 +1.0
TTA				pmax		pmax	
	comp=Z,78nm,1.8s,mb5.5						
KIV	Kislovodsk	84.54	314	eP		P	09 17 41.5 -0.7
KIV				e			09 28 04.2
KIV				pmax		pmax	
	comp=Z,11nm,1.1s,mb4.9						
KDAK	Kodiak Island	84.84	32	P		P	09 17 44.9 +1.5
	comp=Z,12nm,0.8s,mb5.0,baz=298,slow=16,SNR=4.1						
IMA2	Indian Mountai	85.42	24	eP		P	09 17 45.6 -0.5
VRSR	Storozhevoye	87.31	321	eP		P	09 17 53.1 -2.6
VRSR				pmax		pmax	
	comp=Z,3.0nm,1.0s,mb4.5						
VRSR				pmax		pmax	
	comp=N,2.0nm,0.9s						
VRSR				pmax		pmax	
	comp=E,2.0nm,0.8s						
SML	Sawmill	87.34	28	eP		P	09 17 57.5 +1.9
MALT	Malatya	87.51	308	eP		P	09 17 57.1 +0.2
	comp=E,16nm,1.3s,mb5.1						
MALT	Malatya	87.51	308	eP		P	09 17 57.2 +0.2
MALT				pmax		pmax	
	comp=Z,16nm,1.3s,mb5.1						
ANN	Anapa	88.34	315	eP		P	09 18 01.5 +0.7
ANN				pmax		pmax	
	comp=Z,34nm,1.0s,mb5.5						
KMBO	Kilima Mbogo	88.62	269	eP		P	09 18 04.1 +1.3
	comp=Z,13nm,1.2s,mb5.1						
KMBO	Kilima Mbogo	88.62	269	eP		P	09 18 04.1 +1.3
KMBO				pmax		pmax	
	comp=Z,13nm,1.2s						
ASF	Jabal al Asfar	88.71	302	P		P	09 18 02.4 -0.5
	comp=Z,10nm,1.0s,mb5.1,baz=321,slow=3.2,SNR=7.5						
OBN	Obninsk	88.97	325	⇓eP		P	09 18 02.5 -1.0
OBN				i			09 18 09.0
OBN				i			09 18 15.2
OBN				pmax		pmax	
	comp=Z,12nm,1.1s,mb5.1						
OBN				MLR		MLR	
	comp=Z,100nm,26.0s,MS4.1						
SYO	Syowa Base	89.37	201	⇓eP		P	09 18 04.8 -0.3
SYO	Syowa Base	89.37	201	⇓ePcP		PcP	09 18 07.4 +0.9
QSPA	South Pole Qui	90.70	180	eP		P	09 18 11.7 +0.6
	comp=Z,6.0nm,0.8s,mb5.0						
QSPA	South Pole Qui	90.70	180	P		P	09 18 11.5 +0.4
	comp=Z,5.0nm,0.8s,mb4.9,baz=355,slow=1.4,SNR=16						
DAWY	Dawson	91.40	26	eP		P	09 18 14.6 0.0
ARCES	ARCESS Array B	92.91	340	P		P	09 18 22.0 +0.5
	comp=Z,3.4nm,0.8s,mb4.8,baz=90,slow=6.1,SNR=5.0						
INK	Inuvik	93.22	21	eP		P	09 18 22.4 -0.5
AKASG	Malin Array Be	93.62	321	P		P	09 18 27.2 +2.0
AKASG	Malin Array Be	93.62	321	P		P	09 18 27.2 +2.0
	comp=Z,1.2nm,0.6s,mb4.5,baz=77,slow=4.4,SNR=5.3						
SKAG	Skagway	93.83	30	eP		P	09 18 27.5 +1.6
	comp=Z,3.1nm,0.7s,mb4.8						
FINES	FINESS Array B	94.01	332	P		P	09 18 25.0 -1.8
	comp=Z,1.8nm,0.7s,mb4.6,baz=298,slow=4.1,SNR=3.8						
BOSA	Boshof	99.68	241	LR		LR	09 59 04.3
	comp=Z,124nm,19.7s,MS4.4,baz=151,slow=32						
YKA	Yellowknife Ar	102.53	24	P		Pdif	09 19 04.7 -0.5
YKA	Yellowknife Ar	102.53	24	P		Pdif	09 19 04.7 -0.5
	comp=Z,0.5nm,0.7s,baz=297,slow=4.5,SNR=9.5						
YKA				PKiKP		PKiKP	09 23 26.4 +0.1
	comp=Z,0.1nm,0.5s,baz=315,slow=1.8,SNR=3.0						
YKA				PKKPbc		PKKPbc	09 35 03.4 -4.5
	comp=Z,0.4nm,0.6s,baz=115,slow=2.7,SNR=9.3						
NVAR	Mina Array Bea	109.51	49	PKKPab		PKKPab	09 34 56.7 -0.3
	comp=Z,0.3nm,0.6s,baz=203,slow=3.5,SNR=3.7						
PDAR	Pinedale Array	114.14	42	PKKPbc		PKKPbc	09 34 29.4 -1.1
	comp=Z,0.7nm,0.8s,baz=108,slow=4.8,SNR=4.4						
ULM	Lac du Bonnet	117.96	29	PKP		PKPdf	09 23 53.7 -2.0
ULM	Lac du Bonnet	117.96	29	PKP		PKPdf	09 23 53.7 -2.0
	comp=Z,0.9nm,0.5s,baz=315,slow=3.5,SNR=3.3						
MNTX	Cornudas Mount	121.78	51	ePKPdf		PKPdf	09 24 03.7 0.0
TOA0	Torodi Ar. Sit	122.95	286	ePKPdf		PKPdf	09 24 05.8 -0.5
TORD	Torodi Ar. Bea	122.95	286	PKP		PKPdf	09 24 05.7 -0.6
TORD				PKKPab		PKKPab	09 33 55.9 -2.3
TORD	Torodi Ar. Bea	122.95	286	PKP		PKPdf	09 24 05.7 -0.6
	comp=Z,3.8nm,0.7s,baz=72,slow=1.9,SNR=25						
TORD				PKKPab		PKKPab	09 33 55.9 -2.3
	comp=Z,1.9nm,0.8s,baz=272,slow=3.7,SNR=8.6						
SCHQ	Schefferville	123.61	9	PKP		PKPdf	09 24 05.9 -0.5
	comp=Z,2.4nm,0.7s,baz=64,slow=11,SNR=8.0						
TXAR	Lajitas Array	124.07	53	PKP		PKPdf	09 24 07.8 -0.4
	comp=Z,0.9nm,0.7s,baz=183,slow=0.1,SNR=12						
JCT	Junction City	126.62	50	ePKPdf		PKPdf	09 24 13.0 0.0
MGV	Manicaragua	146.05	46	eP		PKPdf	09 24 50.9 +1.9
JTS	JuntasAbangare	147.44	69	ePKPdf		PKPdf	09 24 52.2 +0.7
LCO	Las Campanas	147.77	152	ePKPbc		PKPbc	09 24 55.1 +0.6
LPAZ	La Paz	159.31	139	PKP		PKPdf	09 25 09.8 +1.4
LPAZ	La Paz	159.31	139	PKP		PKPdf	09 25 09.8 +1.4
	comp=Z,1.7nm,1.0s,baz=39,slow=2.9,SNR=7.2						
SDV	Santo Domingo	160.97	59	PKP		PKPdf	09 25 10.7 +0.3
	comp=Z,3.1nm,0.8s,baz=354,slow=2.5,SNR=5.9						

*NEIC **19** 09:13:48.9, 29.70S×71.29W, h47km, M

comp=E,188nm,0.6s

NIED ***19*** *09:56:00,2870N×14070E,h5km,Mw4.3 Best double couple: M0:3.38000×10^15 NP1:φs6.00000°,δ71.00000°, λ-76.00000°. NP2:φs149.00000°,δ23.00000°, λ-125.00000°.*

ISCJB ***19*** *09:56:22.3±1.1,2857N±007×1408E±0.1,h69km±12km, mb4.0/10,Error ellipse: s-maj=22.0km s-min=8.5km az=158.6*

IDC ***19*** *09:56:23.3±2.0,2853N×14080E,h60km±21km,mb3.7/7, mb1 3.8/9,mb1mx3.6/22,mbtmp3.6/9,ML3.5/2,MS3.3/3, Ms1 3.3/3,ms1mx2.9/39,Error ellipse: s-maj=26.9km s-min=13.0km az=66.0*

NEIC ***19*** *09:56:24.6±2.5,2857N×14067E,h74km±23km,mb4.1/4, Error ellipse: s-maj=31.9km s-min=14.0km az=90.0*

ISC 19 09:56:23.7±0.9,2856N±007×1409E±01,h64km±11km,n20, σ0:99/19,mb4.1/10,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**1.86**	**141**	P	**Pn**	**09 56 53.5**	**+0.1**
	106nm,0.3s,baz=290,slow=20,SNR=12						
CBIJ				S	**Sn**	**09 57 16.0**	**0.0**
	186nm,0.3s,baz=288,slow=23,SNR=11						
MJAR	**Matsushiro Arr**	**8.27**	**345**	P	**Pn**	**09 58 20.9**	**0.0**
	0.8nm,0.3s,baz=151,slow=13,SNR=7.6						
MAT	**Matsushiro**	**8.27**	**345**	P	**Pn**	**09 58 21.0**	**+0.1**
JNU	**Nakatsue**	**9.72**	**300**	LR	LR	10 01 40.7	
	comp=Z,262nm,19.0s,baz=314,slow=33						
JOW	**Kunigami**	**11.30**	**264**	LR	LR	10 02 34.1	
	comp=Z,242nm,20.3s,baz=132,slow=33						
KSRS	**Korea Array**	**14.01**	**313**	P	**Pn**	**09 59 39.9**	**+0.8**
	0.2nm,0.3s,baz=137,slow=15,SNR=3.1						
KSRS				LR	LR	10 04 06.7	
	comp=Z,62nm,21.0s,baz=125,slow=33						
YSS	**Yuzh-Sakhalins**	**18.42**	**4**	*eP*	**Pn**	**10 00 32.6**	**-1.8**
	10nm,0.9s						
TIXI	**Tiksi**	**43.64**	**355**	*eP*	**P**	**10 04 22.4**	**+0.9**
	2.1nm,0.8s,mb3.9						
WRAB	**Tennant Creek**	**48.62**	**188**	*eP*	**P**	**10 05 00.9**	**-0.3**
	8.0nm,0.9s,mb4.8						
WB2	**Warramunga Arr**	**48.63**	**188**	*eP*	**P**	**10 05 00.8**	**-0.4**
WRA	**Warramunga Arr**	**48.63**	**188**	P	**P**	**10 05 01.2**	**-0.1**
	7.8nm,0.9s,mb4.8,baz=5.1,slow=7.5,SNR=74						
MKAR	**Makanchi Array**	**48.65**	**309**	P	**P**	**10 04 59.2**	**-2.0**
	0.2nm,0.2s,mb3.7,baz=82,slow=10,SNR=2.5						
ASAR	**Alice Springs**	**52.35**	**188**	P	**P**	**10 05 29.2**	**-0.1**
	1.0nm,0.9s,mb3.7,baz=360,slow=5.1,SNR=11						
AML	**Almayashu**	**55.13**	**303**	*eP*	**P**	**10 05 48.4**	**-1.1**
	3.0nm,1.1s,mb4.2						
HYB	**Hyderabad**	**57.88**	**273**	*i P*	**P**	**10 06 10.0**	**+0.6**
INK	**Inuvik**	**62.19**	**25**	P	**P**	**10 06 38.9**	**+0.8**
	0.9nm,0.8s,mb4.0,baz=334,slow=5.0,SNR=4.6						
AKTK	**Aktyubinsk**	**64.18**	**315**		**P**	**10 06 53.1**	**+1.6**
AKTO	**Aktyubinsk**	**64.18**	**315**	P	**P**	**10 06 53.1**	**+1.6**
	0.5nm,0.2s,mb4.1,baz=95,slow=6.2,SNR=5.3						
YKA	**Yellowknife Ar**	**71.41**	**28**	P	**P**	**10 07 37.3**	**+0.6**
	0.6nm,0.9s,mb3.5,baz=295,slow=5.9,SNR=6.8						
FINES	**FINESS Array B**	**76.12**	**333**	P	**P**	**10 08 02.6**	**-1.8**
	1.6nm,1.0s,mb3.9,baz=76,slow=5.9,SNR=2.0						

CASC ***19*** *10:01:06.5±3.2,1725N×10830W,h24km,mb5.3(NEIC)*

ISCJB ***19*** *10:02:09.8±0.2,1738N±003×10103W±002,h23km, mb5.2/181,MS4.8/47,Error ellipse: s-maj=4.5km s-min=1.8km az=25.3*

GCMT ***19*** *10:02:10.9±0.3,1726N×10103W,h24km,MW5.3/73, Moment Tensor Solution. s73,c108; s72,c121; Duration: 1s0 Moment tensor: Scale 10^17Nm; Mrr0.67±.02; Mθθ-0.60±.02; Mφφ-0.07±.02; Mrθ0.56±.03; Mθφ0.30±.01; Mφr-0.31±.03; Best double couple: M0:0.95400×10^17 NP1:φs291.00000°,δ24.00000°, λ84.00000°. NP2:φs117.00000°,δ66.00000°,λ92.00000°. Principal axes: T 0.9230, Plg69.0000°, Azm32.0000°; N 0.0620, Plg2.0000°, Azm296.0000°; P -0.9850, Plg21.0000°, Azm205.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

BJI ***19*** *10:02:10.9,1720N×10130W,h23km,mB5.6,mb5.2,Ms5.4, Msz5.1*

MEX ***19*** *10:02:10.9±0.8,1724N×10130W,h24km±15km,MD5.1*

IDC ***19*** *10:02:10.1±0.7,1741N×10101W,h18km±3km,mb4.7/19, mb1 4.8/24,mb1mx4.8/28,mbtmp4.7/24,ML4.0/5,MS4.6/29, Ms1 4.6/29,ms1mx4.5/33,Error ellipse: s-maj=17.9km s-min=11.1km az=57.0*

NEIC ***19*** *10:02:10.9,1725N×10130W,h24km,mb5.3/157,MS4.8/6, MD5.2(MEX),After MEX.*

MOS ***19*** *10:02:10.5±1.0,1747N×10095W,h27km,mb5.5/69, MS4.7/8,Error ellipse: s-maj=7.2km s-min=4.2km az=86.8*

ISC 19 10:02:12.0±0.2,1742N±003×10096W±002,h25km, h25km±.6km:pP-P,n817,σ0:86/787,mb5.2/181,MS4.8/47, 134C-107D,Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.52**	**291**	*i P*	**Pb**	**10 02 18.0**	**-4.6**
ZIIG				*i S*	**Sb**	**10 02 22.7**	**-7.1**
CAIG	**El Cayaco**	**0.75**	**119**	*i P*	**Pb**	**10 02 26.2**	**-0.2**
CAIG				*i S*	**Sb**	**10 02 38.5**	**+2.1**
ACX	**Acapulco**	**1.13**	**119**	*i P*	**Pn**	**10 02 32.0**	**-0.3**
MEIG	**Mezcala**	**1.37**	**68**	*i P*	**Pn**	**10 02 37.2**	**+1.7**
MEIG				*i S*	**Sn**	**10 02 58.6**	**+5.7**
PLIG	**Platanillo**	**1.69**	**55**	*i P*	**Pn**	**10 02 42.0**	**+2.1**
PLIG				*i S*	**Sn**	**10 03 07.3**	**+6.5**
PLIG	**Platanillo**	**1.69**	**55**	*i P*	**Pn**	**10 02 42.0**	**+2.1**
PLIG				*i S*	**Sn**	**10 03 06.5**	**+5.7**
YAIG	**Yautepec**	**2.30**	**51**	*i P*	**Pn**	**10 02 49.7**	**+1.4**
YAIG				*i S*	**Sn**	**10 03 22.0**	**+6.1**
SZVM	**Salazar**	**2.41**	**38**	*i P*	**Pn**	**10 02 52.3**	**+2.4**
SZVM				*i S*	**Sn**	**10 03 25.3**	**+6.6**
MMIG	**Aquila**	**2.44**	**291**	*i P*	**Pn**	**10 02 45.0**	**-5.2**
MMIG				*i S*	**Sn**	**10 03 09.7**	**-10**
UNM	**Universidad Na**	**2.54**	**41**	*eP*	**Pn**	**10 02 55.0**	**+3.3**
PPM	**Popocatepetl**	**2.75**	**53**	*i P*	**Pn**	**10 02 56.4**	**+1.8**
PPM				*i P*		10 02 57.0	
PPM				*i S*	**Sn**	**10 03 33.0**	**+5.9**
PNIG	**Pinotepa**	**2.89**	**110**	*i P*	**Pn**	**10 02 57.7**	**+1.2**
PNIG				*i S*	**Sn**	**10 03 32.8**	**+2.3**
DEIG	**Demacu**	**3.40**	**32**	*i P*	**Pn**	**10 03 04.6**	**+1.1**
DEIG				*i S*	**Sn**	**10 03 47.0**	**+4.0**
SFJM	**Santa Fe**	**3.63**	**327**	*i P*	**Pn**	**10 03 08.5**	**+1.8**
VHO	**Vista Hermosa**	**4.05**	**94**	*i P*	**Pn**	**10 03 15.2**	**+2.8**
VHO				*i S*	**Sn**	**10 04 02.1**	**+3.1**
VHO	**Vista Hermosa**	**4.05**	**94**	*i P*	**Pn**	**10 03 15.2**	**+2.8**
VHO				*i S*	**Sn**	**10 04 03.0**	**+3.9**
OXX	**Oaxaca**	**4.06**	**94**	*i P*	**Pn**	**10 03 15.5**	**+3.0**
CJM	**Chamela**	**4.40**	**299**	*i P*	**Pn**	**10 03 15.8**	**-1.4**
CJM				*i S*	**Sn**	**10 03 58.7**	**-9.0**
CJM	**Chamela**	**4.40**	**299**	*i P*	**Pn**	**10 03 15.2**	**-2.1**
CJM				*i S*	**Sn**	**10 03 58.7**	**-9.0**
LVIG	**Laguna Verde**	**4.88**	**61**	*eP*	**Pn**	**10 03 30.0**	**+6.2**
HUIG	**Huatulco**	**4.93**	**109**	*i P*	**Pn**	**10 03 25.5**	**+1.0**
HUIG				*i S*	**Sn**	**10 04 22.9**	**+2.1**
ANIG	**Ahuacatlan**	**4.94**	**318**	*i P*	**Pn**	**10 03 21.1**	**-3.6**
ANIG				*i S*	**Sn**	**10 04 15.2**	**-5.9**
CMIG	**Matias Romero**	**5.81**	**92**	Pn	**Pn**	**10 03 38.2**	**+1.6**
	3.2nm,0.3s,baz=264,slow=12,SNR=44						
CMIG				Sn	**Sn**	**10 04 43.4**	**+0.9**
	27nm,0.3s,baz=295,slow=9.2,SNR=4.1						
CMIG				Lg		10 05 11.3	
	41nm,0.3s,baz=88,slow=14,SNR=7.4						
CMIG				LR	LR	10 06 14.3	
	comp=Z,10μm,18.0s,baz=265,slow=42						
CMIG	**Matias Romero**	**5.81**	**92**	*i P*	**Pn**	**10 03 38.8**	**+2.2**
CMIG				*i S*	**Sn**	**10 04 46.9**	**+4.4**
TUIG	**Tuzandepetl**	**6.26**	**83**	*i P*	**Pn**	**10 03 43.7**	**+0.9**
TUIG				*i S*	**Sn**	**10 04 58.3**	**+4.8**
TUIG	**Tuzandepetl**	**6.26**	**83**	*i P*	**Pn**	**10 03 43.9**	**+1.1**
TUIG				*i S*	**Sn**	**10 04 58.3**	**+4.8**
LNIG	**Linares**	**7.57**	**10**	*i P*	**Pn**	**10 04 08.7**	**+7.8**
MAIG	**Mazatlaan**	**7.70**	**319**	*i P*	**Pn**	**10 04 03.6**	**+1.0**
SCX	**San Cristobal**	**7.99**	**94**	*eP*	**Pn**	**10 04 01.5**	**-5.1**
SCX	**San Cristobal**	**7.99**	**94**	*eP*	**Pn**	**10 04 10.0**	**+3.4**
CCIG	**Comitan**	**8.52**	**96**	*eP*	**Pn**	**10 04 13.8**	**-0.1**
CCIG				*i S*	**Sn**	**10 05 57.6**	**+8.4**
CCIG	**Comitan**	**8.52**	**96**	*eP*	**Pn**	**10 04 17.0**	**+3.1**
CCIG				*i S*	**Sn**	**10 05 57.6**	**+8.4**
HPIG		**10.43**	**336**	*i P*	**Pn**	**10 04 41.8**	**+1.8**
HPIG				*i S*	**Sn**	**10 06 34.4**	**-1.7**
TXAR	**Lajitas Array**	**12.12**	**349**	Pn	**Pn**	**10 05 05.1**	**+2.0**
	0.1nm,0.3s,baz=165,slow=10,SNR=13						
TXAR				Lg		10 08 41.0	
	0.4nm,0.3s,baz=159,slow=23,SNR=4.2						
TXAR				LR	LR	10 10 46.0	
	comp=Z,2μm,19.9s,baz=325,slow=43						
TEIG	**Tepich**	**12.33**	**75**	*e*Pn	**Pn**	**10 05 04.8**	**-1.2**
TEIG				*e*Sn	**Sn**	**10 07 31.2**	**+8.5**
TEIG	**Tepich**	**12.33**	**75**	Pn	**Pn**	**10 05 05.9**	**-0.1**
	1.1nm,0.3s,baz=262,slow=9.2,SNR=7.0						
TEIG				LR	LR	10 10 40.8	
	comp=Z,3μm,19.6s,baz=103,slow=41						
JCT	**Junction City**	**13.05**	**4**	*e*Pn	**Pn**	**10 05 17.0**	**+1.2**
HKT	**Hockley**	**13.32**	**20**	*e*Pn	**Pn**	**10 05 19.9**	**+0.3**
	201nm,1.4s						
HKT	**Hockley**	**13.32**	**20**	*e*P	**Pn**	**10 05 19.9**	**+0.3**
HKT				pmax	pmax		
	comp=Z,201nm,1.4s						
TGUH	**Tegucigalpa,Un**	**13.59**	**102**	*e*Pn	**Pn**	**10 05 26.5**	**+3.2**
CGIG		**14.39**	**335**	*i P*	**Pn**	**10 05 33.1**	**-1.1**
MNTX	**Cornudas Mount**	**14.78**	**345**	*e*Pn	**Pn**	**10 05 42.9**	**+3.4**
NATX	**Nacogdoches**	**15.38**	**21**	*e*P	**Pn**	**10 05 52.1**	**+4.8**
	comp=Z,1μm,1.1s						
319A	**Douglas**	**15.82**	**333**	⇓P	**Pn**	**10 05 53.5**	**+0.4**
	baz=16,SNR=30						
318A	**Bisbee**	**16.19**	**331**	⇓P	**Pn**	**10 05 58.4**	**+0.5**
	baz=16,SNR=24						
219A	**White Tail Can**	**16.35**	**334**	⇑P	**Pn**	**10 05 60.0**	**0.0**
	baz=16,SNR=52						
VCR	**Vista de Mar**	**16.55**	**114**	*e*P	**Pn**	**10 06 10.0**	**+7.4**
218A	**Dragoon**	**16.67**	**332**	⇑P	**Pn**	**10 06 03.9**	**0.0**
	baz=17,SNR=10						
217A	**Green Valley**	**16.86**	**330**	⇓P	**Pn**	**10 06 06.2**	**-0.1**
	baz=17,SNR=19						
119A	**Ashpeak Ranch,**	**17.04**	**335**	⇑P	**Pn**	**10 06 09.2**	**+0.5**
	baz=17,SNR=14						
JTS	**JuntasAbangare**	**17.07**	**112**	Pn	**Pn**	**10 06 12.8**	**+3.7**
	comp=Z,502nm,1.0s,SNR=15						
JTS	**JuntasAbangare**	**17.07**	**112**	*e*P	**Pn**	**10 06 11.6**	**+2.5**
JTS	**JuntasAbangare**	**17.07**	**112**	P	**Pn**	**10 06 10.5**	**+1.4**
	comp=Z,0.8nm,0.3s,baz=304,slow=9.2,SNR=26						
JTS				LR	LR	10 12 06.2	
	comp=Z,1μm,20.3s,baz=314,slow=35						
JCR	**Jicaral**	**17.13**	**114**	⇑*e*P	**Pn**	**10 06 18.3**	**+8.4**
216A	**Three Points,**	**17.36**	**329**	⇑P	**Pn**	**10 06 13.0**	**+0.4**
	baz=17,SNR=16						
WMOK	**Wichita Mounta**	**17.36**	**6**	*e*P	**Pn**	**10 06 12.0**	**-0.6**
	comp=Z,565nm,2.2s						
WMOK	**Wichita Mounta**	**17.36**	**6**	*e*P	**Pn**	**10 06 12.0**	**-0.6**
WMOK				pmax	pmax		
	comp=Z,565nm,2.2s						
BNM	**Barren Site**	**17.42**	**344**	*e*P	**Pn**	**10 06 15.1**	**+1.7**
Y22C	**IRIS PASSCAL I**	**17.43**	**343**	⇓P	**Pn**	**10 06 14.1**	**+0.7**
	baz=18,SNR=9.7						
LENM	**Lemitar**	**17.53**	**343**	*e*P	**Pn**	**10 06 17.0**	**+2.3**
LPM	**Los Pinos Moun**	**17.58**	**344**	*e*P	**Pn**	**10 06 17.3**	**+2.0**
Z18A	**Geronimo**	**17.62**	**334**	⇑P	**Pn**	**10 06 16.5**	**+0.7**
	baz=18,SNR=22						
CGA2	**Cerro Gallo 2**	**17.62**	**113**	*e*P	**Pn**	**10 06 23.2**	**+7.3**
SOR	**Soroa**	**17.68**	**69**	*e*P	**Pn**	**10 06 15.1**	**-1.5**
LAZ	**Ladron**	**17.80**	**343**	*e*P	**Pn**	**10 06 20.1**	**+2.0**
116A	**Eloy**	**17.93**	**329**	⇓P	**Pn**	**10 06 20.3**	**+0.6**
	baz=18,SNR=9.6						
LAJ	**Bijagual**	**17.99**	**112**	*e*P	**Pn**	**10 06 20.5**	**-0.1**
ANMO	**Albuquerque**	**18.14**	**345**	*e*P	**Pn**	**10 06 23.3**	**+1.1**
	comp=Z,89nm,0.9s						
ANMO				*e*		10 06 31.1	
ANMO	**Albuquerque**	**18.14**	**345**	*c i*P	**Pn**	**10 06 23.2**	**+1.0**
ANMO	**Albuquerque**	**18.14**	**345**	P	**Pn**	**10 06 22.9**	**+0.7**
	comp=Z,1.9nm,0.3s,baz=156,slow=11,SNR=107						
ANMO				Lg		10 11 46.7	
	comp=Z,0.0nm,0.3s,baz=349,slow=12,SNR=7.6						
ANMO				LR	LR	10 13 42.0	
	comp=Z,3μm,20.5s,baz=283,slow=38						
LCR2	**La Lucha 2**	**18.15**	**113**	⇓*e*P	**Pn**	**10 06 25.9**	**+3.4**
MIAR	**Mount Ida**	**18.29**	**20**	*e*P	**Pn**	**10 06 23.3**	**-0.8**
	comp=Z,162nm,1.2s						
MIAR	**Mount Ida**	**18.29**	**20**	*e*P	**Pn**	**10 06 23.3**	**-0.8**
MIAR				pmax	pmax		
	comp=Z,162nm,1.2s						
115A	**Sonoran Desert**	**18.30**	**328**	⇑P	**Pn**	**10 06 24.8**	**+0.5**
	baz=18,SNR=18						
URSC	**Ursasca**	**18.30**	**112**	⇓*e*P	**Pn**	**10 06 28.1**	**+3.7**
Z16A	**Peralta Trail,**	**18.44**	**331**	⇑P	**Pn**	**10 06 26.0**	**0.0**
	baz=18,SNR=18						
BRAL	**Brewton**	**18.52**	**40**	*e*P	**Pn**	**10 06 28.2**	**+1.4**
	comp=Z,896nm,1.4s						
BRAL				*e*		10 06 35.8	
Y16A	**Circle Bar Ran**	**18.92**	**332**	P	**Pn**	**10 06 31.6**	**-0.1**
	baz=19,SNR=36						
UALR	**University of**	**18.92**	**22**	*e*P	**Pn**	**10 06 30.2**	**-1.5**
	comp=Z,138nm,1.0s						
UALR				*e*		10 06 38.2	
BAR1		**18.98**	**113**	⇑*e*P	**Pn**	**10 06 34.5**	**+1.9**
Z14A	**Wintersburg**	**19.19**	**328**	⇓P	**Pn**	**10 06 34.6**	**-0.4**
	baz=19,SNR=11						
X16A	**Lo Mia Camp, P**	**19.36**	**333**	P	**Pn**	**10 06 36.4**	**-0.6**
	baz=20,SNR=52						
Y15A	**Casa Rosa Ranc**	**19.37**	**330**	P	**Pn**	**10 06 36.6**	**-0.5**
	baz=20,SNR=10						
Y14A	**Wickenburg**	**19.68**	**329**	⇑P	**Pn**	**10 06 39.9**	**-1.0**
	baz=20,SNR=6.8						
X15A	**Humboldt**	**19.77**	**331**	P	**Pn**	**10 06 41.1**	**-0.8**
	baz=20,SNR=30						
GLA	**Glamis**	**19.96**	**324**	*e*P	**Pn**	**10 06 43.1**	**-1.1**
	comp=Z,209nm,1.1s						
GLA				*e*		10 06 55.0	
GLA	**Glamis**	**19.96**	**324**	*e*P	**Pn**	**10 06 43.1**	**-1.1**
GLA				pmax	pmax		
	comp=Z,209nm,1.1s						
GLA	**Glamis**	**19.96**	**324**	⇑P	**Pn**	**10 06 42.9**	**-1.3**
	baz=20,SNR=20						
LRAL	**Lakeview Retre**	**20.00**	**36**	*e*P	**P**	**10 06 42.0**	**-0.8**
	comp=Z,116nm,0.8s						
LRAL				*e*		10 06 50.4	
Y13A	**Salome**	**20.00**	**327**	⇑P	**P**	**10 06 43.4**	**+0.6**
	baz=20,SNR=54						
X14A	**Yava**	**20.06**	**330**	⇓P	**P**	**10 06 44.4**	**+1.0**
	baz=20,SNR=22						
MET	**Memphis--Engin**	**20.19**	**27**	*e*P	**P**	**10 06 44.8**	**0.0**
MET				*e*		10 06 50.8	
HBAR	**Harrisburg**	**20.25**	**25**	*e*P	**P**	**10 06 43.7**	**-1.9**
WUAZ	**Wupatki**	**20.27**	**335**	*e*P	**P**	**10 06 47.0**	**+1.3**
	comp=Z,267nm,0.9s						
WUAZ				*e*		10 06 55.3	
WUAZ	**Wupatki**	**20.27**	**335**	P	**P**	**10 06 47.3**	**+1.6**
	baz=20,SNR=109						
Y12C	**Blythe**	**20.32**	**326**	P	**P**	**10 06 47.0**	**+0.7**
	baz=20,SNR=38						
W15A	**Williams**	**20.36**	**332**	⇑P	**P**	**10 06 48.3**	**+1.6**
	baz=20,SNR=29						
DVTC	**Desert V Tower**	**20.42**	**321**	⇓P	**P**	**10 06 48.2**	**+0.8**
	baz=20,SNR=5.5						
SWSC	**Sam W. Stewart**	**20.44**	**322**	⇑P	**P**	**10 06 48.2**	**+0.6**
	baz=20,SNR=14						
PDMCI	**Parker Dam,Lak**	**20.54**	**327**	P	**P**	**10 06 49.4**	**+0.7**
	baz=21,SNR=48						
X13A	**Yucca**	**20.62**	**329**	P	**P**	**10 06 50.2**	**+0.7**
	baz=21,SNR=86						
SDCO	**Great Sand Dun**	**20.64**	**350**	*e*P	**P**	**10 06 50.2**	**+0.5**
	comp=Z,205nm,0.9s						
SDCO				*e*		10 06 58.0	
BC3	**Big Chuckw Mtn**	**20.76**	**324**	P	**P**	**10 06 51.5**	**+0.5**
	baz=21,SNR=23						
W14A	**Seligman**	**20.76**	**331**	P	**P**	**10 06 52.4**	**+1.3**
	baz=21,SNR=80						
MONP	**Monument Peak**	**20.78**	**321**	⇓P	**P**	**10 06 51.8**	**+0.5**
	baz=21,SNR=7.6						
BAR	**Barrett**	**20.79**	**320**	*e*P	**P**	**10 06 50.5**	**-0.8**
MVCO	**Mesa Verde**	**20.81**	**343**	*e*P	**P**	**10 06 52.0**	**+0.4**
	comp=Z,227nm,1.0s						
MVCO	**Mesa Verde**	**20.81**	**343**	P	**P**	**10 06 52.0**	**+0.5**
	baz=21,SNR=56						
GNAR	**Gosnell**	**20.87**	**26**	*e*P	**P**	**10 06 52.1**	**-0.1**
	comp=Z,3μm,0.8s						
PLAL	**Pickwick Lake**	**20.93**	**31**	*e*P	**P**	**10 06 51.8**	**-1.0**
	comp=Z,449nm,1.0s						
PLAL				*e*		10 07 03.5	
IRM	**Iron Mountain**	**20.97**	**325**	P	**P**	**10 06 54.0**	**+0.7**
	baz=21,SNR=73						
W13A	**Hualapai Mount**	**21.05**	**329**	P	**P**	**10 06 55.2**	**+1.1**
	baz=21,SNR=32						
HALT	**Halls**	**21.11**	**27**	*e*P	**P**	**10 06 58.5**	**+3.6**
V14A	**Boquillas Ranc**	**21.12**	**332**	P	**P**	**10 06 56.1**	**+1.2**
	baz=21,SNR=78						
NEE2	**Needles Airpor**	**21.15**	**327**	⇑P	**P**	**10 06 55.9**	**+0.6**
	baz=21						
109C	**Camp Elliot, M**	**21.19**	**320**	⇓P	**P**	**10 06 55.8**	**0.0**
	baz=21,SNR=6.2						
PFO	**Pinyon Flat Ob**	**21.30**	**322**	P	**P**	**10 06 58.0**	**+1.1**
	comp=Z,750nm,0.9s,mb6.0,SNR=8.9						
PFO	**Pinyon Flat Ob**	**21.30**	**322**	*e*P	**P**	**10 06 56.7**	**-0.2**
	comp=Z,150nm,1.0s,mb5.3						
PFO				*e*		10 07 05.0	
PFO	**Pinyon Flat Ob**	**21.30**	**322**	*e*P	**P**	**10 06 56.7**	**-0.2**
PFO				*e*		10 07 05.0	
PFO				pmax	pmax		
	comp=Z,150nm,1.0s,mb5.3						
PFO	**Pinyon Flat Ob**	**21.30**	**322**	P	**P**	**10 06 56.4**	**-0.5**
	comp=Z,35nm,1.1s,mb4.6,baz=119,slow=8.1,SNR=17						
PFO				LR	LR	10 15 15.3	
	comp=Z,1μm,18.1s,MS4.4,baz=150,slow=37						
PFO	**Pinyon Flat Ob**	**21.30**	**322**	⇑P	**P**	**10 06 57.3**	**+0.4**
	baz=21,SNR=12						
BELC	**Belle Mtn.**	**21.32**	**324**	P	**P**	**10 06 57.5**	**+0.4**
	baz=21,SNR=22						
CBKS	**Cedar Bluff**	**21.34**	**3**	*e*P	**P**	**10 06 55.6**	**-1.7**
	comp=Z,203nm,1.0s,mb5.4						
CBKS				*e*		10 07 03.7	
CBKS	**Cedar Bluff**	**21.34**	**3**	*e*P	**P**	**10 06 55.6**	**-1.7**
CBKS				*e*		10 07 03.7	
CBKS				pmax	pmax		
	comp=Z,203nm,1.0s,mb5.4						
PVMO	**Portageville**	**21.39**	**26**	*e*P	**P**	**10 07 01.3**	**+3.6**
	comp=Z,522nm,1.1s,mb5.8						
GLAT	**Glass**	**21.44**	**27**	*e*P	**P**	**10 06 58.6**	**+0.2**
PARMO	**Parma**	**21.58**	**25**	*e*P	**P**	**10 06 59.4**	**-0.5**
T16A	**Glen Canyon Da**	**21.60**	**337**	⇓P	**P**	**10 07 00.7**	**+0.6**
	baz=22,SNR=13						
LDFC	**Landfair**	**21.65**	**327**	*e*P	**P**	**10 07 02.4**	**+1.7**
UTMT	**University of**	**21.68**	**27**	*e*P	**P**	**10 07 00.5**	**-0.4**
	comp=Z,2μm,1.1s,mb6.3						
UTMT				*e*		10 07 12.9	
W12A	**Cal Nev Ari**	**21.70**	**328**	⇑P	**P**	**10 07 01.7**	**+0.6**
	baz=22,SNR=8.0						
GMRC	**Granite Mounta**	**21.71**	**326**	P	**P**	**10 07 01.8**	**+0.5**
	baz=22,SNR=47						
MURC	**Murrieta**	**21.74**	**321**	P	**P**	**10 07 02.0**	**+0.4**
	baz=22,SNR=14						
U14A	**Mt Trumbull**	**21.80**	**333**	⇑P	**P**	**10 07 03.0**	**+0.8**
	baz=22,SNR=69						
KSU1	**Kansas State U**	**21.93**	**9**	*e*P	**P**	**10 07 01.6**	**-2.1**
	comp=Z,168nm,0.9s,mb5.5						
T15A	**Red Dirt Ranch**	**21.98**	**335**	⇑P	**P**	**10 07 04.7**	**+0.6**
	baz=22,SNR=47						
BBRC	**Big Bear Sol-O**	**22.04**	**323**	⇑P	**P**	**10 07 05.5**	**+0.7**
	baz=22						
BCIP	**Isla Barro Col**	**22.11**	**109**	*e*P	**P**	**10 07 07.4**	**+1.7**
	comp=Z,35nm,0.8s,mb4.8						
HEC	**Hector,Ludlow**	**22.11**	**325**	⇓P	**P**	**10 07 05.9**	**+0.2**
	baz=22,SNR=21						
U13A	**Pakoon Wash**	**22.15**	**331**	P	**P**	**10 07 06.8**	**+0.8**
	baz=22,SNR=83						
CCCC	**Cccc**	**22.20**	**77**	*e*P	**P**	**10 07 12.4**	**+5.8**
SWET	**Sewanee**	**22.21**	**34**	*e*P	**P**	**10 07 04.4**	**-2.2**
CCM	**Cathedral Cave**	**22.26**	**21**	*e*P	**P**	**10 07 05.2**	**-1.9**
	comp=Z,91nm,1.0s,mb5.2						
CCM	**Cathedral Cave**	**22.26**	**21**	*e*P	**P**	**10 07 05.2**	**-1.9**
CCM				pmax	pmax		
	comp=Z,91nm,1.0s,mb5.2						
T14A	**Hurricane**	**22.30**	**334**	P	**P**	**10 07 08.0**	**+0.4**
	baz=22,SNR=40						
SMCO	**Snowmass**	**22.31**	**348**	*e*P	**P**	**10 07 08.5**	**+0.9**
	comp=Z,296nm,1.4s,mb5.5						
CIS	**Catalina Islan**	**22.35**	**319**	⇓P	**P**	**10 07 08.7**	**+0.6**
	baz=22						
TUQ	**Turquoise Mtn.**	**22.35**	**326**	P	**P**	**10 07 08.6**	**+0.5**
	baz=22,SNR=41						
GOGA	**Godfrey**	**22.38**	**41**	*e*P	**P**	**10 07 07.1**	**-1.3**
	comp=Z,116nm,1.0s,mb5.3						
GOGA	**Godfrey**	**22.38**	**41**	*e*P	**P**	**10 07 07.1**	**-1.3**
GOGA				pmax	pmax		
	comp=Z,116nm,1.0s,mb5.3						
**V11A

comp=Z,312nm,1.1s,mb5.7
TPNV e 10 07 29.8
TPNV Topopah Spring 23.68 328 eP P 10 07 22.5 +0.7
TPNV e 10 07 29.8
TPNV pmax pmax
comp=Z,312nm,1.1s,mb5.7
TPNV Topopah Spring 23.68 328 ⇑P P 10 07 22.3 +0.5
baz=24,SNR=222
TKL Tuckaleechee C 23.73 37 P P 10 07 21.1 -1.2
comp=Z,18nm,0.5s,mb4.8,baz=213,slow=8.3,SNR=38
TKL LR LR 10 20 15.0
comp=Z,800nm,18.6s,MS4.2,baz=229,slow=46
ARVC Arvin 23.76 321 ⇑P P 10 07 22.5 -0.1
baz=24
ISA Isabella 23.93 323 eP P 10 07 24.4 +0.2
comp=Z,165nm,1.3s,mb5.3
ISA e 10 07 33.1
ISA Isabella 23.93 323 eP P 10 07 24.4 +0.3
ISA e 10 07 33.1
ISA pmax pmax
comp=Z,165nm,1.3s,mb5.3
ISA Isabella 23.93 323 P P 10 07 24.4 +0.3
baz=24,SNR=46
S11A Rachel 23.98 330 ⇑P P 10 07 25.1 +0.5
baz=24,SNR=26
R12A Pony Springs, 24.02 333 ⇑P P 10 07 25.2 +0.3
baz=24,SNR=17
PHWY Pilot Hill 24.12 352 eP P 10 07 25.9 +0.1
PHWY e 10 07 32.6
COW Cow Castle Cre 24.17 45 eP P 10 07 26.0 -0.3
COW e 10 07 34.4
PKM Peak Mountain 24.21 320 ⇑P P 10 07 26.9 +0.1
baz=24
CWC Cottonwood Cre 24.26 325 ⇓P P 10 07 27.5 +0.3
baz=24,SNR=9.2
GRAC Grapevine Rang 24.30 327 ⇑P P 10 07 28.1 +0.6
baz=24
Q13A Wheeler Ranch, 24.30 335 ⇑P P 10 07 27.8 +0.3
baz=24
JSC Jenkinsville 24.34 43 eP P 10 07 27.4 -0.6
MPU Maple Canyon 24.35 340 eP P 10 07 27.6 -0.3
comp=Z,58nm,1.1s,mb4.9
NHSC New Hope 24.36 46 eP P 10 07 29.0 +0.8
comp=Z,2µm,1.2s,mb6.4
NHSC e 10 07 36.5
WCI Wyandotte Cave 24.39 29 eP P 10 07 26.9 -1.4
comp=Z,72nm,0.8s,mb5.2
WCI Wyandotte Cave 24.39 29 eP P 10 07 26.9 -1.4
WCI pmax pmax
comp=Z,72nm,0.8s,mb5.2
VES Vestal, Richgr 24.40 322 ⇑P P 10 07 28.8 +0.4
baz=24,SNR=12
NLU North Lily Min 24.44 339 eP P 10 07 28.9 +0.2
NLU e 10 07 36.3
R11A Troy Canyon, C 24.47 331 P P 10 07 29.3 +0.2
baz=25,SNR=40
TZTN Tazewell 24.49 36 eP P 10 07 28.6 -0.6
comp=Z,165nm,1.1s,mb5.4
DAU Daniels Canyon 24.59 341 eP P 10 07 30.1 0.0
SMMC Simmler 24.59 320 ⇓P P 10 07 30.4 +0.2
baz=25,SNR=8.9
S10A Tonopah Range, 24.61 329 ⇓P P 10 07 30.8 +0.5
baz=25,SNR=93
P13A Bates Ranch, G 24.72 335 ⇑P P 10 07 31.7 +0.3
baz=25
R10A Warm Springs 24.76 330 ⇑P P 10 07 32.3 +0.7
baz=25,SNR=24
S09A Goldfield 24.77 328 P P 10 07 31.9 +0.1
baz=25,SNR=46
RWWY Rawlins 24.78 349 eP P 10 07 32.7 +0.9
comp=Z,165nm,1.1s,mb5.5
RWWY e 10 07 40.6
JLU Jordanelle 24.82 341 eP P 10 07 32.3 +0.1
V05C Boulder Hill, 24.91 321 ⇓P P 10 07 33.7 +0.7
baz=25
Q11A Duckwater 24.91 332 P P 10 07 33.6 +0.6
baz=25,SNR=42
DUG Dugway 24.91 338 eP P 10 07 33.2 +0.2
comp=Z,106nm,1.3s,mb5.2
DUG Dugway 24.91 338 eP P 10 07 33.2 +0.2
DUG pmax pmax
comp=Z,106nm,1.3s,mb5.2
DUG Dugway 24.91 338 P P 10 07 33.4 +0.3
baz=25,SNR=65
PTRM Twissleman Ran 24.95 320 eP P 10 07 33.1 -0.4
HELL Mitchell Peak 24.96 324 P P 10 07 34.2 +0.6
baz=25,SNR=74
CTU Camp Tracy 25.00 340 eP P 10 07 34.0 +0.2
comp=Z,53nm,1.1s,mb5.0
BLO Bloomington 25.06 27 eP P 10 07 32.9 -1.5
comp=Z,72nm,0.8s,mb5.3
BLO Bloomington 25.06 27 eP P 10 07 32.9 -1.5
BLO pmax pmax
comp=Z,72nm,0.8s,mb5.2
S08C White Mtn Res 25.09 326 P P 10 07 35.5 +0.8
baz=25,SNR=59
R09A Tonopah 25.09 329 ⇑P P 10 07 35.0 +0.3
baz=25,SNR=74
P12A McGill 25.11 334 ⇓P P 10 07 35.1 +0.3
baz=25,SNR=31
HDIL Hopedale 25.16 21 eP P 10 07 34.0 -1.4
comp=Z,1µm,1.4s,mb6.2
MTUM Tungsten Hills 25.19 326 eP P 10 07 36.3 +0.7
MTUM e pP 10 07 44.4 +1.4
Q10A Clear Creek Ra 25.23 331 ⇓P P 10 07 36.7 +0.7
baz=25,SNR=61
O13A Hicks Ranch, I 25.29 336 ⇑P P 10 07 36.8 +0.3
baz=25,SNR=7.0
V04C Ramage Ranch, 25.34 320 ⇑P P 10 07 38.2 +1.1
baz=25
PKD Parkfield 25.35 321 ⇑P P 10 07 37.0 0.0
baz=25,SNR=6.5
U05C Westside ANR, 25.36 322 ⇓P P 10 07 38.4 +1.3
baz=25
MLAC Mammoth Lakes 25.54 326 ⇓P P 10 07 39.5 +0.7
baz=26
T06C Millerton Lake 25.58 323 P P 10 07 38.6 -0.6
baz=26,SNR=9.6
KCC Kaiser Creek 25.59 324 ⇑P P 10 07 39.2 0.0
baz=26,SNR=27
Q09A Carvers 25.61 330 ⇑P P 10 07 40.0 +0.6
baz=26,SNR=9.4
N14A Grayback Hills 25.63 338 P P 10 07 39.7 +0.2
baz=26,SNR=9.6
BGU Big Grassy Mou 25.64 339 eP P 10 07 39.4 -0.2
BGU e pP 10 07 47.2 +0.3
R08A Mina 25.70 328 ⇓P P 10 07 40.8 +0.6
baz=26,SNR=59
O12A Currie 25.71 335 P P 10 07 40.6 +0.4
baz=26,SNR=16
U04C Hernandez Rese 25.77 321 ⇑P P 10 07 41.0 +0.1
baz=26
HWUT Hardware Ranch 25.77 341 eP P 10 07 40.6 -0.2
comp=Z,95nm,1.0s,mb5.3
HWUT e 10 07 50.5
V03C Hunter Liggett 25.82 320 ⇓P P 10 07 41.7 +0.3
baz=26
NVAR Mina Array Bea 25.86 328 P P 10 07 42.5 +0.9
NVAR PcP PcP 10 11 10.3 -0.2
NVAR pPcP 10 11 16.7
NVAR Mina Array Bea 25.86 328 P P 10 07 42.5 +0.9
comp=Z,68nm,1.0s,mb5.1,baz=140,slow=10,SNR=96
NVAR PcP PcP 10 11 10.3 -0.2
comp=Z,1.8nm,0.9s,baz=160,slow=2.9,SNR=3.6
NVAR pPcP 10 11 16.7
comp=Z,3.6nm,1.0s,baz=224,slow=4.4,SNR=3.6
P10A Eureka 25.91 332 ⇑P P 10 07 42.6 +0.5
baz=26
O11A Cowboy Ranch, 25.97 334 ⇑P P 10 07 43.1 +0.4
baz=26,SNR=16
R07C Lee Vining 25.99 326 P P 10 07 43.4 +0.5
baz=26,SNR=6.5
Q08A Gabbs 26.00 329 P P 10 07 43.8 +0.8
baz=26,SNR=90
N13A Wendover, West 26.00 337 ⇓P P 10 07 42.8 -0.1
baz=26
T05C Eagle Field, D 26.06 322 ⇑P P 10 07 43.6 0.0
baz=26
P09A Austin 26.16 331 ⇓P P 10 07 44.6 +0.2
baz=26,SNR=14
S05C Merced 26.17 323 ⇑P P 10 07 43.8 -0.7
baz=26
HAST Hastings Reser 26.25 320 ⇓P P 10 07 45.1 -0.1
baz=26
M14A Sheep Mountain 26.26 339 ⇑P P 10 07 45.1 -0.1
baz=26,SNR=22
BW06 Boulder Array 26.31 346 eP P 10 07 45.1 -0.6

comp=Z,105nm,1.1s,mb5.3
PDAR Pinedale Array 26.31 346 P P 10 07 45.0 -0.7
PDAR PcP PcP 10 11 10.3 -1.1
PDAR pPcP 10 11 16.4
PDAR Pinedale Array 26.31 346 P P 10 07 45.0 -0.7
comp=Z,15nm,1.0s,mb4.5,baz=140,slow=12,SNR=34
PDAR PcP PcP 10 11 10.3 -1.1
comp=Z,5.4nm,0.8s,baz=195,slow=2.9,SNR=4.1
PDAR pPcP 10 11 16.4
comp=Z,6.7nm,0.9s,baz=154,slow=4.8,SNR=6.9
PDAR PKiKP PKiKP 10 18 48.9 -1.7
comp=Z,0.5nm,0.8s,baz=98,slow=3.7,SNR=3.5
PDAR pPKiKP 10 18 54.5
comp=Z,0.6nm,0.8s,baz=120,slow=2.4,SNR=4.0
PDAR LR LR 10 19 52.3
comp=Z,2µm,18.2s,MS4.7,baz=2.6,slow=40
HVU Hansel Valley 26.31 340 eP P 10 07 46.0 +0.3
comp=Z,27nm,0.8s,mb4.8
HVU Hansel Valley 26.31 340 eP P 10 07 46.0 +0.3
HVU pmax pmax
comp=Z,27nm,0.8s,mb4.8
N12A Clover Valley, 26.32 335 P P 10 07 46.2 +0.4
baz=26,SNR=9.7
M13A Montello 26.43 337 ⇓P P 10 07 46.8 0.0
baz=26,SNR=11
O10A Cortez Mining, 26.47 333 ⇑P P 10 07 47.3 +0.1
baz=27,SNR=19
ECSD EROS,Sioux Fal 26.49 7 eP P 10 07 45.4 -1.9
comp=Z,64nm,1.0s,mb5.1
Q07A Schurz 26.50 328 ⇓P P 10 07 48.1 +0.6
baz=27
R06C Coleville 26.53 326 ⇓P P 10 07 48.5 +0.8
baz=27,SNR=34
N11A Elko Archery C 26.58 334 ⇓P P 10 07 48.4 +0.3
baz=27
O09A Fish Creek Ran 26.68 331 P P 10 07 49.7 +0.6
baz=27,SNR=22
CMB Columbia Colle 26.69 324 eP P 10 07 48.5 -0.7
comp=Z,26nm,1.1s,mb4.7
CMB Columbia Colle 26.69 324 eP P 10 07 48.5 -0.6
CMB pmax pmax
comp=Z,26nm,1.1s,mb4.7
CMB Columbia Colle 26.69 324 ⇓P P 10 07 49.0 -0.1
baz=27,SNR=17
AHID Auburn Hatcher 26.70 343 eP P 10 07 49.1 -0.2
comp=Z,51nm,1.3s,mb4.9
P08A Dixie Valley 26.72 330 ⇑P P 10 07 49.9 +0.5
baz=27,SNR=6.8
RSSD Black Hills 26.75 355 eP P 10 07 49.3 -0.3
comp=Z,14nm,0.8s,mb4.6
RSSD Black Hills 26.75 355 eP P 10 07 49.3 -0.3
RSSD pmax pmax
comp=Z,14nm,0.8s,mb4.5
BLA Blacksburg 26.76 38 eP P 10 07 48.9 -0.8
comp=Z,145nm,1.0s,mb5.5
BLA Blacksburg 26.76 38 eP P 10 07 48.9 -0.9
BLA pmax pmax
comp=Z,145nm,1.0s,mb5.5
M12A Wells 26.76 336 ⇓P P 10 07 49.7 -0.1
baz=27
N10A Dunphy 26.82 333 ⇓P P 10 07 50.8 +0.4
baz=27
S04C Ingram Canyon, 26.86 322 ⇑P P 10 07 50.6 -0.1
baz=27
L13A Double Diamond 26.98 338 ⇑P P 10 07 51.9 +0.1
baz=27,SNR=7.7
R05C Kirkwood Meado 26.99 326 ⇓P P 10 07 52.7 +0.8
baz=27,SNR=15
P07A Fallon 27.00 328 ⇑P P 10 07 52.6 +0.7
baz=27
JFWS Jewell Farm 27.00 17 eP P 10 07 51.4 -0.5
comp=Z,44nm,0.9s,mb5.0
JFWS Jewell Farm 27.00 17 eP P 10 07 51.4 -0.5
JFWS pmax pmax
comp=Z,44nm,0.9s,mb5.0
BNLO Ben Lomond (Sa 27.11 321 ⇑P P 10 07 53.1 +0.1
baz=27
M11A Holland Ranch, 27.12 335 P P 10 07 53.5 +0.5
baz=27,SNR=29
K14A Jones Ranch, D 27.13 340 P P 10 07 53.2 +0.1
baz=27,SNR=18
R04C Big Horse Ranc 27.15 324 ⇑P P 10 07 53.9 +0.5
baz=27
WENL Wente Brothers 27.19 322 ⇓P P 10 07 54.1 +0.4
baz=27
REDW Red Top Meadow 27.19 344 eP P 10 07 53.3 -0.3
comp=Z,132nm,1.4s,mb5.3
REDW ePcP PcP 10 11 12.0 -1.5
SNOW Snow King Moun 27.26 344 eP P 10 07 54.0 -0.3
comp=Z,101nm,0.9s,mb5.3
TPAW Teton Pass 27.34 344 eP P 10 07 55.3 +0.4
comp=Z,105nm,0.9s,mb5.4
LOHW Long Hollow 27.36 345 eP P 10 07 54.8 -0.3
comp=Z,81nm,1.0s,mb5.2
LOHW e 10 08 06.2
N09A Rock Creek Ran 27.38 332 P P 10 07 55.7 +0.4
baz=28,SNR=12
LAVA Lava Cap Winer 27.39 325 ⇑P P 10 07 55.8 +0.3
baz=28,SNR=10
L12A House Creek Ra 27.43 337 ⇑P P 10 07 55.8 0.0
baz=28
BDM Black Diamond 27.48 322 ⇓P P 10 07 57.0 +0.7
baz=28
DCID1 Drake Creek 27.50 344 eP P 10 07 56.8 +0.4
DCID1 e 10 08 07.3
M10A I.L. Ranch, Tu 27.50 334 ⇓P P 10 07 56.9 +0.5
baz=28
MOOW Moose Ponds 27.53 345 eP P 10 07 56.5 -0.1
comp=Z,32nm,0.8s,mb5.0
K13A Stover Farm, H 27.53 339 P P 10 07 56.9 +0.3
baz=28,SNR=32
ACSO Alum Creek Sta 27.55 31 eP P 10 07 55.6 -1.3
comp=Z,79nm,1.1s,mb5.3
P06A Stead Airport, 27.61 327 ⇑P P 10 07 58.1 +0.6
baz=28,SNR=5.9
P05C Yuba Gap, Truc 27.71 326 P P 10 07 59.2 +0.9
baz=28,SNR=16
IMW Indian Meadow 27.71 344 eP P 10 07 58.4 +0.1
comp=Z,42nm,1.2s,mb5.0
L11A Cat Creek Ranc 27.72 336 P P 10 07 58.7 +0.3
baz=28,SNR=14
Q04C Lincoln 27.80 324 ⇑P P 10 08 00.0 +0.9
baz=28,SNR=9.5
M09A Marrel Ranch, 27.81 333 ⇓P P 10 07 59.6 +0.4
baz=28,SNR=15
K12A Draper Farm, C 27.81 338 P P 10 07 59.3 +0.1
baz=28,SNR=15
FLWY Flagg Ranch 27.83 345 eP P 10 08 00.2 +0.9
comp=Z,62nm,1.0s,mb5.2
FLWY e 10 08 11.4
L10A Juniper Basin 27.93 335 ⇓P P 10 08 00.5 +0.2
baz=28,SNR=14
O06A Flanigan 27.94 328 ⇑P P 10 08 01.0 +0.6
baz=28,SNR=19
N07B Gerlach 27.99 330 ⇓P P 10 08 01.0 +0.2
baz=28
BEKR Beckwourth 27.99 327 ⇓P P 10 08 01.4 +0.5
baz=28,SNR=28
Q03C Winters 28.02 323 ⇓P P 10 08 01.7 +0.5
baz=28
CVS Carmenet Viney 28.08 322 ⇓P P 10 08 01.8 +0.1
baz=28
YFT Old Faithful 28.21 345 eP P 10 08 05.2 +2.5
OHCM Honcut 28.21 325 eP P 10 08 02.9 +0.1
OHCM e pP 10 08 11.0 +0.8
SDDR Presa de Saban 28.21 82 eP P 10 08 04.9 +1.8
comp=Z,168nm,1.0s,mb5.6
SDDR e pP 10 08 12.9 +2.5
J13A Cove Ranch, Pi 28.22 339 P P 10 08 02.7 -0.2
baz=28,SNR=17
M08A Happy Creek Ra 28.24 332 ⇑P P 10 08 03.1 +0.1
baz=28
SUTB Sutter Butte 28.30 324 ⇓P P 10 08 04.0 +0.3
baz=28
K11A Parker Ranch, 28.35 336 P P 10 08 04.0 0.0
baz=28,SNR=13
O05C Quincy 28.36 326 ⇓P P 10 08 04.8 +0.7
baz=28
ORV Oroville 28.38 325 P P 10 08 05.0 +0.8
baz=28,SNR=27
L09A Wilkinson Ranc 28.39 333 ⇓P P 10 08 04.5 +0.2
baz=28,SNR=10
N06A Buffalo Meadow 28.39 329 P P 10 08 05.0 +0.7
baz=28,SNR=34
J12A Stokes Ranch, 28.41 338 P P 10 08 04.5 0.0
baz=28,SNR=28
MNRC McLaughlin Nat 28.43 323 ⇓P P 10 08 05.5 +0.7
baz=28

HLID Hailey 28.45 339 eP P 10 08 04.4 -0.4
comp=Z,16nm,0.8s,mb4.7
HLID e pP 10 08 11.8 -0.4
HLID Hailey 28.45 339 ⇓P P 10 08 04.8 0.0
baz=29
RLMT Red Lodge 28.49 348 eP P 10 08 05.4 +0.2
comp=Z,9,3nm,0.8s,mb4.5
M07A Soldier Meadow 28.56 331 ⇓P P 10 08 05.9 +0.1
baz=29,SNR=16
I13A Wildhorse Cree 28.66 340 ⇓P P 10 08 06.9 +0.2
baz=29,SNR=18
K10A MacKenzie Ranc 28.68 335 P P 10 08 07.0 +0.1
baz=29,SNR=10
O04C Chester 28.70 327 ⇑P P 10 08 07.6 +0.4
baz=29,SNR=11
QLMT Earthquake Lak 28.71 344 eP P 10 08 08.1 +0.9
ELFS Eagle Lake Fie 28.74 328 ⇑P P 10 08 08.0 +0.5
baz=29
URVA University of 28.75 41 eP P 10 08 15.5 +7.8
MCWV Mont Chateau 28.76 35 epP pP 10 08 14.9 -0.1
L08A Fields 28.82 333 ⇑P P 10 08 08.1 -0.1
baz=29,SNR=6.9
MFID Camas Ranch 28.82 337 ⇓P P 10 08 08.0 -0.1
baz=29,SNR=12
AAM Ann Arbor 28.87 27 eP P 10 08 07.7 -0.9
comp=Z,80nm,0.9s,mb5.5
AAM e pP 10 08 15.5 -0.5
AAM Ann Arbor 28.87 27 eP P 10 08 07.7 -0.9
AAM e pP 10 08 15.5 -0.5
AAM pmax pmax
comp=Z,80nm,0.9s,mb5.5
HOPS Hopland 28.87 323 eP P 10 08 09.8 +1.0
comp=Z,84nm,1.4s,mb5.3
HOPS Hopland 28.87 323 ⇓P P 10 08 09.2 +0.5
baz=29
ROSC El Rosal 28.90 112 P P 10 08 12.2 +3.0
comp=Z,4.4nm,0.4s,mb4.6,baz=75,slow=19,SNR=4.7
ROSC LR LR 10 20 40.4
comp=Z,200nm,18.5s,MS3.8,baz=174,slow=38
K09A Rome 28.97 334 P P 10 08 09.9 +0.4
baz=29,SNR=37
M06C Likely Place G 29.05 329 ⇑P P 10 08 11.0 +0.7
baz=29,SNR=16
MCMT McKenzie Canyo 29.10 342 eP P 10 08 11.6 +1.0
GASB Alder Springs 29.12 324 ⇑P P 10 08 11.5 +0.7
baz=29,SNR=6.4
L07A Adell 29.13 331 ⇓P P 10 08 11.2 +0.2
baz=29,SNR=21
WVOR Wild Horse Val 29.14 333 eP P 10 08 10.5 -0.6
comp=Z,36nm,1.2s,mb5.0
WVOR e pP 10 08 18.6 +0.1
WVOR Wild Horse Val 29.14 333 eP P 10 08 10.5 -0.6
WVOR e pP 10 08 18.6 +0.2
WVOR pmax pmax
comp=Z,36nm,1.2s,mb5.0
J10A Berg Farm, Mel 29.19 336 ⇓P P 10 08 11.2 -0.2
baz=29
GCMT Greycliff 29.21 347 eP P 10 08 11.2 -0.4
CBN Corbin 29.24 40 eP P 10 08 18.7 +6.7
comp=Z,103nm,1.5s,mb5.3
HATC Hat Creek Radi 29.26 327 ⇑P P 10 08 12.6 +0.4
baz=29
H13A Challis 29.29 340 P P 10 08 12.6 +0.3
baz=29,SNR=14
I11A Placerville 29.30 338 P P 10 08 12.6 +0.2
baz=29,SNR=11
G15A Dillon 29.30 343 P P 10 08 12.9 +0.5
baz=29,SNR=35
K08A Mann Creek Ran 29.32 333 P P 10 08 12.9 +0.3
baz=29,SNR=21
P01C Double 8 Ranch 29.34 323 ⇓P P 10 08 13.2 +0.3
baz=29
H12A Diamond D Ranc 29.47 340 P P 10 08 14.1 +0.2
baz=30,SNR=15
MOD Modoc 29.49 330 eP P 10 08 14.5 +0.3
comp=Z,87nm,1.0s,mb5.4
MOD e pP 10 08 22.1 +0.5
MOD Modoc 29.49 330 ⇑P P 10 08 14.4 +0.3
baz=30,SNR=57
M05C Lookout 29.50 328 ⇑P P 10 08 14.5 +0.3
baz=30,SNR=11
J09A Fry Pan Ranch, 29.51 335 P P 10 08 14.7 +0.4
baz=30,SNR=7.7
DLMT Dillon 29.52 343 eP P 10 08 14.7 +0.4
comp=Z,108nm,1.1s,mb5.5
O02C Red Bluff 29.52 325 ⇓P P 10 08 14.7 +0.3
baz=30
BOZ Bozeman (W) 29.52 345 eP P 10 08 14.0 -0.3
comp=Z,202nm,3.0s
BOZ e pP 10 08 20.5 -1.3
BOZ Bozeman (W) 29.52 345 eP P 10 08 14.0 -0.4
BOZ e pP 10 08 20.5 -1.3
BOZ pmax pmax
comp=Z,203nm,3.0s
BOZ Bozeman (W) 29.52 345 P P 10 08 14.1 -0.2
baz=30,SNR=10
K07A Rock Creek Ran 29.62 332 P P 10 08 15.6 +0.3
baz=30,SNR=19
KCPM Cahto Peak 29.63 323 eP P 10 08 16.5 +1.1
KCPM epP pP 10 08 23.7 +0.9
G14A Jackson 29.65 342 ⇑P P 10 08 15.6 +0.1
baz=30,SNR=22
KIPM Iron Peak 29.66 323 eP P 10 08 16.2 +0.6
G13A Cobalt 29.75 341 P P 10 08 16.5 +0.1
baz=30,SNR=23
I10A Payette 29.76 337 ⇓P P 10 08 16.7 +0.2
baz=30
J08A Circle Bar Ran 29.82 334 P P 10 08 17.2 +0.1
baz=30,SNR=26
L05A Lakeview 29.86 329 ⇑P P 10 08 18.0 +0.6
baz=30,SNR=10
LRM Limekiln Ridge 29.90 344 eP P 10 08 17.9 +0.2
F15A Butte 29.93 344 P P 10 08 18.0 +0.1
baz=30,SNR=26
M03C McCloud 29.94 327 ⇑P P 10 08 17.9 -0.2
baz=30
H11A Donnelly 30.00 338 P P 10 08 18.4 -0.2
baz=30,SNR=23
I09A Lost Marbles R 30.03 335 P P 10 08 18.7 -0.2
baz=30,SNR=8.8
F14A Wisdom 30.14 343 ⇑P P 10 08 19.8 0.0
baz=30
K06A Valley Falls 30.16 331 ⇑P P 10 08 20.1 0.0
baz=30
M04C Macdoel 30.16 328 P P 10 08 20.1 +0.1
baz=30,SNR=8.2
H10A Noah's Angus R 30.17 337 ⇓P P 10 08 19.6 -0.5
baz=30
J07A Hines 30.19 333 ⇑P P 10 08 20.0 -0.4
baz=30
COWI Conover 30.24 16 eP P 10 08 20.3 -0.5
comp=Z,6.2nm,0.5s,mb4.6
I08A Drewsey 30.31 334 P P 10 08 21.2 -0.2
baz=30,SNR=7.2
SDMD Soldier's Deli 30.32 39 eP P 10 08 22.4 +0.8
comp=Z,46nm,0.9s,mb5.2
K05A Summer Lake 30.41 330 ⇓P P 10 08 22.2 0.0
baz=30
F13A Darby 30.41 341 P P 10 08 22.1 -0.1
baz=30,SNR=45
L04A Klamath Falls 30.48 328 P P 10 08 23.0 +0.2
baz=31,SNR=6.0
E15A Deer Lodge 30.51 344 ⇑P P 10 08 22.6 -0.5
baz=31,SNR=14
SSPA Standing Stone 30.52 36 eP P 10 08 23.3 +0.1
comp=Z,106nm,1.4s,mb5.5
SSPA epP pP 10 08 29.4 -1.3
KHMM Horse Mountain 30.52 325 eP P 10 08 24.6 +1.3
HRY Holter Researc 30.57 345 eP P 10 08 23.7 +0.1
HRY epP pP 10 08 30.2 -0.8
GLMI Grayling 30.57 23 eP P 10 08 22.4 -1.3
comp=Z,77nm,1.3s,mb5.4
GLMI epP pP 10 08 33.3 +2.2
YBH Yreka Blue Hor 30.57 327 eP P 10 08 22.5 -1.2
comp=Z,31nm,1.3s,mb5.0
YBH epP pP 10 08 30.1 -1.0
YBH Yreka Blue Hor 30.57 327 eP P 10 08 22.5 -1.2
YBH e*PP pP 10 08 30.1 -1.0
YBH pmax pmax
comp=Z,31nm,1.3s
YBH Yreka Blue Hor 30.57 327 ⇑P P 10 08 22.7 -1.1
baz=31
H09A Durkee 30.58 336 ⇓P P 10 08 23.0 -0.7
baz=31,SNR=23
BMO Blue Mountains 30.60 337 eP P 10 08 22.9 -1.0
comp=Z,27nm,1.2s,mb5.0
SDV Santo Domingo 30.68 102 eP P 10 08 26.6 +1.6

comp=Z,15nm,0.9s,mb4.8
G11A Walters Elk Ra 30.70 339 P P 10 08 24.3 -0.5
baz=31,SNR=22
K04A Chilquin 30.72 329 ⇓P P 10 08 25.0 -0.1
baz=31
E14A Clinton 30.73 343 ⇑P P 10 08 25.1 0.0
baz=31,SNR=11
I07A Izee 30.85 333 ⇑P P 10 08 25.5 -0.6
baz=31
H08A Prairie City 30.86 335 P P 10 08 25.8 -0.3
baz=31,SNR=12
G10A Bishop Farm, J 30.91 338 ⇑P P 10 08 25.9 -0.8
baz=31,SNR=13
E13A Victor 30.95 342 P P 10 08 26.6 -0.5
baz=31,SNR=36
MVL Millersville 30.99 38 eP P 10 08 27.0 -0.4
comp=Z,30nm,0.9s,mb5.1
MVL epP pP 10 08 36.2 +1.4
J05A Fort Rock 31.00 331 P P 10 08 27.3 -0.1
baz=31,SNR=5.9
I06A Prineville 31.04 332 ⇓P P 10 08 27.2 -0.7
baz=31
D15A Lincoln 31.05 345 ⇑P P 10 08 27.3 -0.6
baz=31,SNR=12
KRMB Red Mountain 31.06 325 eP P 10 08 28.5 +0.4
KRMB epP pP 10 08 36.0 +0.6
AGMN Agassiz Refuge 31.08 7 eP P 10 08 26.3 -1.8
comp=Z,38nm,1.0s,mb5.2
AGMN ePcP PcP 10 11 27.2 +3.9
F11A Grangeville 31.08 339 P P 10 08 27.1 -1.0
baz=31,SNR=8.8
DGMT Dagmar 31.09 356 eP P 10 08 28.4 +0.2
comp=Z,55nm,1.1s,mb5.3
DGMT epP pP 10 08 34.9 -0.6
CHMT Chamberlain Mo 31.12 344 eP P 10 08 27.9 -0.6
H07A Lands Inn, Kim 31.28 334 ⇓P P 10 08 29.4 -0.6
baz=31
HUMO Hull Mountain 31.33 328 eP P 10 08 35.7 +5.3
D14A Greenough 31.34 343 P P 10 08 30.0 -0.4
baz=31,SNR=16
EGMT Eagleton 31.37 349 eP P 10 08 30.9 +0.3
comp=Z,80nm,1.5s,mb5.3
J04A Umpqua Nationa 31.38 330 ⇓P P 10 08 31.0 +0.2
baz=32,SNR=10
EYMN Ely 31.42 12 eP P 10 08 29.1 -2.0
comp=Z,34nm,1.2s,mb5.1
E11A Bogner Ranch, 31.51 340 P P 10 08 30.9 -1.1
baz=32,SNR=14
F10A Beach Ranch, E 31.53 338 P P 10 08 31.6 -0.5
baz=32,SNR=24
F09A S2 Ranch, Elgi 31.55 337 ⇓P P 10 08 31.4 -0.9
baz=32,SNR=6.3
G08A Pilot Rock 31.61 335 P P 10 08 32.1 -0.7
baz=32,SNR=22
D13A Huson 31.62 342 P P 10 08 32.4 -0.6
baz=32,SNR=16
I05A Bend 31.69 332 ⇓P P 10 08 33.5 0.0
baz=32,SNR=6.1
KBO Bosley Butte 31.71 326 eP P 10 08 35.4 +1.7
KBO epP pP 10 08 42.4 +1.2
H06A Lindquist Farm 31.73 333 ⇓P P 10 08 33.5 -0.4
baz=32
D12A Red Ives Fores 31.85 341 ⇑P P 10 08 33.9 -1.0
baz=32
G07A Ruggs Ranch, H 31.88 335 P P 10 08 34.7 -0.5
baz=32,SNR=6.3
E10A Myers Farm, Un 31.93 339 ⇓P P 10 08 34.4 -1.2
baz=32
I04A Tendick Farm, 31.94 330 ⇑P P 10 08 34.9 -0.8
baz=32
C14A Swan Lake 32.04 344 ⇓P P 10 08 35.9 -0.6
baz=32
D11A Klaveano Farm, 32.16 340 ⇑P P 10 08 36.3 -1.3
baz=32
C13A Hot Springs 32.19 343 ⇑P P 10 08 37.0 -0.9
baz=32
J02A Umpqua 32.19 328 ⇓P P 10 08 37.7 -0.2
baz=32
KEBM Edson Butte 32.23 327 eP P 10 08 40.1 +1.8
KEBM epP pP 10 08 47.5 +1.8
G06A Carlson Farm, 32.25 334 ⇓P P 10 08 38.3 -0.2
baz=32
D10A Wagner Farm, O 32.48 339 ⇓P P 10 08 39.9 -0.5
baz=33
I03A Eugene 32.49 329 ⇑P P 10 08 40.7 +0.1
baz=33
F07A Phinny Hill Vi 32.49 335 ⇑P P 10 08 40.2 -0.3
baz=33
H04A Detroit Lake 32.51 331 P P 10 08 40.3 -0.4
baz=33,SNR=9.9
BINY Binghamton 32.63 36 eP P 10 08 41.1 -0.6
comp=Z,53nm,0.9s,mb5.5
BINY epP pP 10 08 48.5 -0.7
B13A Whitefish 32.79 343 P P 10 08 42.8 -0.3
baz=33,SNR=10
D09A Jones Farm, Ri 32.85 338 ⇓P P 10 08 42.3 -1.4
baz=33
E07A Sunnyside 33.01 336 ⇑P P 10 08 44.5 -0.5
baz=33
ULM Lac du Bonnet 33.01 6 eP P 10 08 42.0 -3.0
comp=Z,36nm,1.1s,mb5.2
ULM epP pP 10 08 50.2 -2.2
ULM Lac du Bonnet 33.01 6 P P 10 08 42.5 -2.5
comp=Z,9.4nm,0.7s,mb4.8,baz=188,slow=9.2,SNR=22
ULM PcP PcP 10 11 27.1 -1.3
comp=Z,11nm,0.9s,baz=168,slow=3.0,SNR=3.9
ULM pPcP 10 11 33.1
comp=Z,13nm,0.8s,baz=219,slow=2.9,SNR=5.8
ULM LR LR 10 23 28.3
comp=Z,2μm,18.3s,MS4.8,baz=326,slow=39
H03A Soap Creek Ran 33.02 330 ⇑P P 10 08 45.1 -0.1
baz=33
G04A Mulino 33.04 332 ⇑P P 10 08 44.9 -0.4
baz=33
PAL Palisades 33.07 39 eP P 10 08 46.2 +0.5
comp=Z,55nm,0.8s,mb5.5
PAL epP pP 10 08 54.6 +1.5
PAL Palisades 33.07 39 eP P 10 08 46.2 +0.5
PAL e*PP pP 10 08 54.6 +1.5
PAL pmax pmax
comp=Z,55nm,0.8s,mb5.5
F05A White Salmon 33.12 333 ⇓P P 10 08 46.4 +0.4
baz=33,SNR=11
SJG San Juan 33.12 83 eP P 10 08 45.7 -0.7
SJG epP pP 10 08 54.6 +0.8
SJG esP sP 10 09 01.9 +5.0
SJG San Juan 33.12 83 P P 10 08 45.2 -1.2
comp=Z,6.7nm,0.2s,mb5.2,baz=322,slow=23,SNR=7.2
B12A Libby 33.20 342 ⇑P P 10 08 46.7 0.0
baz=33
WALA Waterton Lakes 33.27 344 eP P 10 08 47.4 +0.1
comp=Z,138nm,1.9s,mb5.6
A13A Flathead Natio 33.29 344 ⇓P P 10 08 47.5 +0.1
baz=33
CPD Cerro la Pandu 33.35 84 eP P 10 08 46.8 -1.6
CPD epP pP 10 08 54.6 -1.2
CPD esP sP 10 09 03.0 +4.1
CBYP Canovanas 33.39 83 eP P 10 08 45.1 -3.6
HUMP Col San Antoni 33.41 83 eP P 10 08 49.2 +0.3
E06A Yakima 33.45 335 ⇑P P 10 08 49.0 +0.1
baz=34,SNR=11
C09A Chrisman Ranch 33.47 339 ⇑P P 10 08 48.7 -0.4
baz=34
NEW Newport 33.48 340 eP P 10 08 49.0 -0.2
NEW epP pP 10 08 56.6 0.0
G03A Yamhill 33.49 331 ⇑P P 10 08 49.1 -0.2
baz=34
F04A Amboy 33.58 332 ⇑P P 10 08 49.7 -0.4
baz=34
D07A Quincy 33.58 336 ⇑P P 10 08 49.6 -0.4
baz=34
A12A Yaak River Ran 33.63 342 ⇓P P 10 08 50.4 0.0
baz=34
MTP Monte Pirata 33.69 83 eP P 10 08 47.0 -4.4
MTP epP pP 10 08 54.4 -4.4
MTP esP sP 10 09 01.1 -0.7
E05A Randle 33.78 334 ⇓P P 10 08 52.0 +0.1
baz=34,SNR=7.5
A11A Hall Mountain, 33.86 342 ⇑P P 10 08 52.1 -0.3
baz=34
D06A Cle Elum 33.92 335 ⇓P P 10 08 53.1 +0.1
baz=34,SNR=7.7
C07A Waterville 34.02 337 ⇑P P 10 08 53.7 -0.1
baz=34,SNR=20
E04A Onalaska 34.22 333 ⇑P P 10 08 55.9 +0.3
baz=34
A10A Northport 34.25 340 ⇑P P 10 08 56.0 +0.2
baz=34
B08A Colville Reser 34.31 338 ⇑P P 10 08 55.9 -0.5
baz=34,SNR=9.6
D05A Enumclaw 34.38 334 ⇓P P 10 08 57.0 0.0
baz=34
C06A Tall Timber Ra 34.53 336 ⇑P P 10 08 58.3 0.0
baz=35
E03A Lebam 34.55 332 ⇑P P 10 08 58.8 +0.3
baz=35
A09A Danville 34.58 339 ⇑P P 10 08 58.4 -0.3
baz=35
C05A Tolt Reservoir 34.66 335 P P 10 08 59.4 0.0
baz=35,SNR=6.5
B07A Winthrop 34.69 337 ⇑P P 10 08 59.0 -0.6
baz=35
ACCN Adirondack Com 34.69 36 eP P 10 09 00.1 +0.4
ACCN epP pP 10 09 06.4 -0.8
NCB Newcomb 34.77 35 eP P 10 08 59.6 -0.8
comp=Z,133nm,2.1s,mb5.5
LONY Lake Ozonia 35.01 34 eP P 10 09 01.5 -0.9
comp=Z,26nm,1.1s,mb5.1
GNW Green Mountain 35.02 334 eP P 10 09 01.7 -0.8
C04A Brinnon 35.20 334 ⇓P P 10 09 03.6 -0.5
baz=35
B06A Marblemount 35.25 336 ⇑P P 10 09 04.0 -0.5
baz=35
B05A Bryant 35.28 335 P P 10 09 03.9 -0.8
baz=35,SNR=8.2
NLWA Neilton Lookou 35.34 333 eP P 10 09 05.8 +0.6
NLWA Neilton Lookou 35.34 333 ⇓P P 10 09 05.4 +0.2
baz=35
FRNY Flat Rock 35.68 34 eP P 10 09 07.4 -0.9
comp=Z,16nm,0.9s,mb4.9
FRNY epP pP 10 09 16.0 +0.3
B04A Port Angeles 35.69 334 ⇑P P 10 09 08.2 -0.1
baz=36
A05A Maple Falls 35.87 336 P P 10 09 09.0 -0.8
baz=36,SNR=6.2
A04A Legoe Bay, Lum 35.89 335 ⇓P P 10 09 09.6 -0.4
baz=36,SNR=5.5
C03A Quillayute Air 36.06 333 ⇑P P 10 09 11.3 -0.2
baz=36
PGC Sidney 36.14 335 eP P 10 09 12.8 +0.8
EDM Edmonton 37.02 348 eP P 10 09 18.5 -1.1
FFC Flin Flon 37.24 359 P P 10 09 20.6 -0.8
comp=Z,140nm,0.8s,mb5.8,SNR=9.6
FFC Flin Flon 37.24 359 eP P 10 09 19.6 -1.8
comp=Z,18nm,0.8s,mb5.0
FFC epP pP 10 09 26.6 -2.3
FFC Flin Flon 37.24 359 eP P 10 09 19.6 -1.8
FFC e*PP pP 10 09 26.6 -2.3
FFC pmax pmax
comp=Z,18nm,0.8s,mb5.0
WVL Waterville 37.70 37 epP pP 10 09 34.0 +1.0
EMMW East Machias 39.08 39 epP pP 10 09 46.0 +1.5
FCC Fort Churchill 41.59 5 eP P 10 09 55.7 -2.0
comp=Z,13nm,0.9s,mb4.6
FCC Fort Churchill 41.59 5 eP P 10 09 55.7 -1.9
FCC pmax pmax
comp=Z,13nm,0.9s,mb4.6
CRAG Craig 45.19 335 eP P 10 10 27.8 +1.1
comp=Z,145nm,1.3s,mb5.7
CRAG LR LR
comp=Z,900nm,18.0s,MS4.8
WRAK Wrangell Islan 45.56 336 eP P 10 10 30.3 +0.7
comp=Z,30nm,1.3s,mb5.1
WRAK epP pP 10 10 38.3 +1.1
SCHQ Schefferville 45.58 27 eP P 10 10 28.7 -1.1
comp=Z,40nm,0.9s,mb5.3
SCHQ epP pP 10 10 34.7 -2.7
SCHQ Schefferville 45.58 27 P P 10 10 28.9 -1.0
comp=Z,14nm,0.5s,mb5.1,baz=223,slow=5.6,SNR=71
SCHQ LR LR 10 31 29.6
comp=Z,953nm,19.2s,MS4.8,baz=327,slow=39
YKA Yellowknife Ar 46.03 351 P P 10 10 31.6 -1.6
YKA PcP PcP 10 12 08.3 -1.1
YKA pPcP 10 12 14.5
YKA LR LR 10 31 29.3
YKA Yellowknife Ar 46.03 351 P P 10 10 31.7 -1.6
YKA 10 12 08.4
YKA 10 12 14.5
YKA Yellowknife Ar 46.03 351 P P 10 10 31.6 -1.6
comp=Z,22nm,0.8s,mb5.1,baz=160,slow=7.2,SNR=213
YKA PcP PcP 10 12 08.3 -1.1
comp=Z,5.3nm,0.9s,baz=147,slow=3.0,SNR=6.4
YKA pPcP 10 12 14.5
comp=Z,6.6nm,0.7s,baz=156,slow=3.4,SNR=12
YKA LR LR 10 31 29.3
comp=Z,1μm,19.4s,MS4.8,baz=150,slow=38
DLBC Dease Lake 46.22 339 eP P 10 10 35.9 +1.1
DLBC epP pP 10 10 42.0 -0.4
LPAZ La Paz 46.56 134 eP P 10 10 38.0 0.0
comp=Z,11nm,1.3s,mb4.6
LPAZ La Paz 46.56 134 eP P 10 10 38.0 0.0
LPAZ pmax pmax
comp=Z,11nm,1.3s
LPAZ La Paz 46.56 134 P P 10 10 38.3 +0.3
comp=Z,3.7nm,0.8s,mb4.3,baz=330,slow=8.5,SNR=18
LPAZ LR LR 10 28 09.4
comp=Z,414nm,19.5s,MS4.4,baz=53,slow=34
TAOE Nuku Hiva Isla 46.71 239 eS S 10 17 25.5 -2.3
comp=Z,6μm,27.7s
TAOE eLR LR 10 23 43.8
comp=Z,27μm,25.0s,baz=57
SKAG Skagway 48.84 337 eP P 10 10 55.4 +0.3
comp=Z,35nm,1.2s,mb5.3
SKAG LR LR
comp=Z,2μm,19.0s,MS5.2
RKT Rikitea 52.24 221 eS S 10 18 40.3 -4.7
comp=Z,428nm,27.5s
RKT eSS SS 10 22 19.7 -3.3
comp=Z,212nm,29.0s
RKT eLR LR 10 26 20.1
comp=Z,1μm,26.0s,baz=38
DAWY Dawson 53.41 340 eP P 10 11 29.2 -0.2
DAWY epP pP 10 11 34.9 -2.3
EYAK Cordova Ski Ar 53.60 334 eP P 10 11 31.0 +0.1
comp=Z,92nm,1.5s,mb5.5
EYAK epP pP 10 11 39.9 +1.4
MENT Mentasta 54.19 337 eP P 10 11 35.7 +0.6
EGAK Eagle 54.46 340 eP P 10 11 36.4 -0.7
comp=Z,60nm,0.9s,mb5.5
EGAK epP pP 10 11 44.7 -0.1
INK Inuvik 54.88 346 eP P 10 11 39.3 -0.8
comp=Z,6μm,1.0s
INK epP pP 10 11 47.9 +0.1
INK Inuvik 54.88 346 P P 10 11 39.5 -0.6
comp=Z,76nm,1.0s,mb5.7,baz=139,slow=8.9,SNR=139
SML Sawmill 55.33 335 eP P 10 11 43.6 +0.2
KDAK Kodiak Island 55.34 329 P P 10 11 42.1 -1.4
comp=Z,27nm,1.1s,mb5.2,baz=142,slow=12,SNR=3.2
SLKM Skilak Lake 55.47 333 eP P 10 11 43.5 -1.0
SLKM epP pP 10 11 50.0 -2.2
PMR Palmer 55.55 334 eP P 10 11 44.5 -0.4
comp=Z,30nm,0.9s,mb5.3
PMR epP pP 10 11 49.5 -3.2
PMR LR LR
comp=Z,800nm,17.0s,MS4.9
PMR Palmer 55.55 334 eP P 10 11 44.5 -0.5
PMR e*PP pP 10 11 49.5 -3.2
PMR pmax pmax
comp=Z,30nm,0.9s,mb5.3
PMR MLR MLR
comp=Z,800nm,17.0s,MS4.9
MCK McKinley 56.58 337 eP P 10 11 52.2 -0.1
comp=Z,46nm,1.0s,mb5.5
MCK McKinley 56.58 337 eP P 10 11 52.2 -0.1
MCK pmax pmax
comp=Z,46nm,1.0s,mb5.5
COLA College 56.80 338 eP P 10 11 53.0 -0.9
comp=Z,13nm,0.9s,mb5.0
COLA College 56.80 338 eP P 10 11 53.0 -0.9
COLA pmax pmax
comp=Z,13nm,0.9s,mb5.0
RES Resolute Bay 57.38 2 eP P 10 11 56.4 -1.4
comp=Z,412nm,0.8s,mb6.5
SVW2 Sparrevohn 58.09 332 eP P 10 12 01.9 -1.2
TTA Tatalina 59.02 334 eP P 10 12 08.1 -1.4
PPT Papeete 59.15 236 eS S 10 20 12.3 -5.1
comp=Z,303nm,30.0s
PPT eSS SS 10 24 06.6 -5.6
comp=Z,235nm,25.5s
PPT eLQ 10 27 03.5
comp=Z,753nm,30.5s
PPT eLR LR 10 29 30.5
comp=Z,1μm,25.2s,baz=54
PPT Papeete 59.15 236 LR LR 10 31 53.3
comp=Z,341nm,18.3s,MS4.5,baz=53,slow=30
IMA2 Indian Mountai 59.51 338 eP P 10 12 11.0 -1.8
FALS False Pass 60.13 324 eP P 10 12 18.3 +1.0
BDFB Brasilia 61.67 119 P P 10 12 28.2 -0.1
comp=Z,6.7nm,0.8s,mb4.8,baz=276,slow=16,SNR=20
BDFB LR LR 10 42 04.0
comp=Z,190nm,18.3s,MS4.3,baz=100,slow=39
TBI Tubuai 62.35 231 eS S 10 20 53.2 -4.8
comp=Z,266nm,27.5s
TBI eSS SS 10 24 54.9 -7.3
comp=Z,173nm,30.8s
TBI eLR LR 10 30 56.1
comp=Z,982nm,27.0s,baz=56
PLCA Paso Flores 64.38 155 eP P 10 12 45.4 -0.5
comp=Z,44nm,1.6s,mb5.2
PLCA Paso Flores 64.38 155 eP P 10 12 45.4 -0.4
PLCA pmax pmax
comp=Z,44nm,1.6s
PLCA Paso Flores 64.38 155 P P 10 12 45.0 -0.9
comp=Z,3.4nm,0.9s,mb4.4,baz=332,slow=10,SNR=5.3
PLCA pP pP 10 12 51.1 -2.6
comp=Z,6.9nm,0.9s,baz=335,slow=8.4,SNR=7.2
PLCA LR LR 10 35 06.3
comp=Z,441nm,18.6s,MS4.7,baz=345,slow=31
TNA Tin City 64.79 335 eP P 10 12 47.3 -1.0
comp=Z,24nm,0.8s,mb5.3
TNA epP pP 10 12 53.5 -2.6
TRQA Tornquist 66.22 147 eP P 10 12 55.1 -2.7
comp=Z,38nm,1.5s,mb5.2
RCBR Riachuelo 68.25 104 eP P 10 13 11.9 +0.7
comp=Z,42nm,1.3s,mb5.3
RCBR epP pP 10 13 17.5 -1.6
RAR Rarotonga 69.25 239 LR LR 10 34 60.0
comp=Z,364nm,20.8s,MS4.6,baz=285,slow=28
CAM4 Nova Friburgo 69.47 123 ⇑iP P 10 13 13.3 -5.3
CAM4 i 10 13 18.4
CAM4 i 10 13 23.9
CAM4 i 10 13 26.4
CAM4 i 10 13 34.2
BORG Borgarnes 69.97 27 LR LR 10 44 59.8
comp=Z,364nm,18.3s,MS4.7,baz=122,slow=37
DAG Danmarks Havn 71.40 14 ⇓iP P 10 13 28.7 -0.9
DAG pmax pmax
comp=Z,39nm,0.9s,mb5.3
DAG Danmarks Havn 71.40 14 ⇓iP P 10 13 28.7 -0.9
comp=Z,39nm,0.9s,mb5.3
JMIC Jan Mayen 74.47 20 eP P 10 13 44.8 -3.0
JMIC eS S 10 23 23.8 +2.8
JMIC AMS AMS 10 49 13.4
comp=Z,295nm,17.6s,MS4.6
JMIC Jan Mayen 74.47 20 LR LR 10 50 51.4
comp=Z,372nm,18.1s,MS4.7,baz=334,slow=39
BILL Bilibino 75.03 337 eP P 10 13 50.4 -0.8
comp=Z,45nm,1.3s,mb5.2
BILL Bilibino 75.03 337 ⇑eP P 10 13 50.4 -0.7
BILL i pP 10 13 56.7 -2.4
BILL pmax pmax
comp=Z,42nm,1.5s,mb5.2
BILL MLR MLR
comp=Z,2μm,25.0s,MS5.3
KBS Kingsbay 77.29 11 eP P 10 13 58.6 -5.3
KBS e 10 24 39.8
KBS AMS AMS 10 49 60.0
comp=Z,537nm,17.8s,MS4.9
EMAZ Mazaricos 79.76 48 ⇑P P 10 14 17.1 -1.0
comp=Z,317nm,3.4s
STS Santiago 80.08 48 P P 10 14 20.4 +0.6
comp=Z,9.1nm,0.7s,mb4.8
STS Santiago 80.08 48 P P 10 14 20.4 +0.6
STS pmax pmax
comp=Z,9.0nm,0.7s,mb4.8
PMAFR Mafra 80.53 52 eLR LR 10 44 51.4
ELOB Lobios 80.69 49 ⇑P P 10 14 23.1 -0.1
comp=Z,68nm,1.6s,mb5.3
PCAB Cabril 80.75 49 eP P 10 14 23.3 -0.2
comp=Z,32nm,1.3s,mb5.1
EPON Pontenova 80.96 48 P P 10 14 25.7 +1.1
comp=Z,13nm,1.0s,mb4.8
PVIS Viseu 81.11 50 eP P 10 14 25.1 -0.3
comp=Z,34nm,1.2s,mb5.2
PVIS epP pP 10 14 31.5 -1.9
PTEO Sao Teotonio 81.32 53 eP P 10 14 26.7 +0.1
PTEO epP pP 10 14 33.1 -1.5
PFVI Vila Bisbo 81.34 54 eP P 10 14 27.2 +0.5
comp=Z,99nm,1.3s,mb5.6
PFVI epP pP 10 14 35.5 +0.7
PFVI Vila Bisbo 81.34 54 eLR LR 10 45 39.7
comp=Z,310nm,20.0s
MTE Manteigas 81.45 50 eP P 10 14 27.0 -0.2
comp=Z,50nm,1.3s,mb5.3
MTE epP pP 10 14 33.5 -1.8
MTE Manteigas 81.45 50 eLR LR 10 46 06.0
comp=Z,307nm,18.0s
MTE Manteigas 81.45 50 eP P 10 14 26.6 -0.6
comp=Z,43nm,1.0s,mb5.3
MTE epP pP 10 14 32.1 -3.2
EVO Evora 81.60 52 ⇑iP P 10 14 27.6 -0.4
comp=Z,105nm,1.0s,mb5.4
EVO eMLR MLR
comp=Z,346nm,21.0s,MS4.4
EVO Evora 81.60 52 eP P 10 14 28.0 0.0
EVO epP pP 10 14 34.5 -1.6
MVO Moncorvo 81.62 50 eP P 10 14 28.0 -0.1
comp=Z,39nm,1.5s,mb5.1
MVO epP pP 10 14 34.7 -1.5
MVO Moncorvo 81.62 50 eLR LR 10 46 03.4
comp=Z,299nm,18.0s
PCBR Castelo Branco 81.65 51 eP P 10 14 28.1 -0.2
comp=Z,48nm,1.4s,mb5.2
PCBR epP pP 10 14 36.8 +0.5
PBRG Braganca 81.66 49 eP P 10 14 28.0 -0.3
comp=Z,35nm,1.5s,mb5.1
PESTR Estremoz 81.83 52 eP P 10 14 29.0 -0.2
comp=Z,33nm,1.5s,mb5.0
PESTR epP pP 10 14 35.6 -1.7
PESTR Estremoz 81.83 52 eLR LR 10 45 38.0
comp=Z,204nm,20.0s
PBEJ Beja 81.84 53 eP P 10 14 29.5 +0.1
comp=Z,44nm,1.6s,mb5.1
PBEJ epP pP 10 14 35.8 -1.6
SEY Seymchan 81.99 334 ⇑eP P 10 14 29.5 -0.1
PBDV Barranco-do-Ve 82.00 54 eP P 10 14 30.7 +0.5
comp=Z,68nm,2.0s,mb5.2
PBDV epP pP 10 14 36.7 -1.6
PBDV Barranco-do-Ve 82.00 54 eLR LR 10 46 03.4
comp=Z,316nm,20.0s
PVAQ Vaqueiros 82.13 53 eP P 10 14 30.9 0.0
comp=Z,59nm,1.3s,mb5.4
PVAQ epP pP 10 14 39.5 +0.6
PVAQ Vaqueiros 82.13 53 eLR LR 10 44 55.4
comp=Z,274nm,20.0s
ROSF Rostrenen 82.16 42 eP P 10 14 29.8 -1.0
comp=Z,26nm,0.9s,mb4.8
ROSF Rostrenen 82.16 42 eP P 10 14 29.8 -1.0
comp=Z,13nm,0.9s,mb4.9
ROSF Rostrenen 82.16 42 eP P 10 14 29.8 -1.0
ROSF pmax pmax
comp=Z,13nm,0.9s,mb4.9
EGRO El Granado 82.27 53 ⇑P P 10 14 31.8 +0.2
comp=Z,43nm,1.3s,mb5.2
EBAD Badajoz 82.29 52 ⇑P P 10 14 31.6 -0.1
comp=Z,39nm,1.4s,mb5.2
EARI Arriondas 82.33 47 P P 10 14 31.7 0.0
QUIF Quistinic 82.35 42 eP P 10 14 30.9 -0.9
PET Petropavlovsk 82.36 323 eP P 10 14 29.3 -2.4
PET eS S 10 24 40.6 -5.5
PET MLR MLR
comp=Z,200nm,20.0s,MS4.5
PBAR Barrancos 82.43 52 eP P 10 14 32.3 -0.1
comp=Z,48nm,1.4s,mb5.2
PBAR epP pP 10 14 38.5 -2.0
PBAR Barrancos 82.43 52 eLR LR 10 46 23.6
comp=Z,273nm,18.0s
SGMF Saint Gilles 82.64 42 eP P 10 14 33.1 -0.2
comp=Z,40nm,1.0s,mb5.1
SGMF Saint Gilles 82.64 42 eP P 10 14 33.1 -0.2
comp=Z,20nm,1.0s,mb5.1
SGMF Saint Gilles 82.64 42 eP P 10 14 33.1 -0.2
SGMF pmax pmax
comp=Z,20nm,1.0s,mb5.1
EMIN Mina Concepcio 82.82 53 ⇑P P 10 14 34.7 +0.2
comp=Z,42nm,1.3s,mb5.3
TRO Tromso 83.56 18 eP P 10 14 33.7 -3.9
TRO AMS AMS 10 35 09.3
comp=Z,148nm,18.8s,MS4.4

GRR	**Gorron**	**83.67**	**41**	*e*P	**P**	**10 14 38.2**	**-0.4**	
	comp=Z,55nm,1.0s,mb5.4							
GRR	**Gorron**	**83.67**	**41**	*e*P	**P**	**10 14 38.2**	**-0.4**	
	comp=Z,28nm,1.0s,mb5.3							
GRR	**Gorron**	**83.67**	**41**	*e*P	**P**	**10 14 38.2**	**-0.4**	
GRR				pmax	pmax			
	comp=Z,28nm,1.0s,mb5.3							
ECAB	**El Cabril**	**83.69**	**52**	⇑P	**P**	**10 14 39.3**	**+0.4**	
	comp=Z,24nm,1.0s,mb5.3							
ESPR	**Espera**	**83.70**	**53**	⇑P	**P**	**10 14 39.7**	**+0.7**	
	comp=Z,47nm,1.3s,mb5.5							
FLN	**La Foliniere**	**83.79**	**41**	*e*P	**P**	**10 14 38.9**	**-0.3**	
	comp=Z,226nm,1.5s,mb5.8							
FLN				*e*MLR	MLR			
	comp=Z,328nm,21.0s,MS4.4							
FLN	**La Foliniere**	**83.79**	**41**	*e*P	**P**	**10 14 38.9**	**-0.3**	
	comp=Z,113nm,1.5s,mb5.8							
FLN				LR	LR			
	comp=Z,330nm,21.0s,MS4.7							
FLN	**La Foliniere**	**83.79**	**41**	*e*P	**P**	**10 14 38.9**	**-0.3**	
FLN				pmax	pmax			
	comp=Z,113nm,1.5s,mb5.8							
FLN				MLR	MLR			
	comp=Z,330nm,21.0s,MS4.7							
GUD	**Guadarrama**	**83.86**	**49**	⇑P	**P**	**10 14 40.2**	**+0.4**	
	comp=Z,20nm,1.2s,mb5.1							
GUD	**Guadarrama**	**83.86**	**49**	⇑P	**P**	**10 14 40.2**	**+0.4**	
GUD				pmax	pmax			
	comp=Z,20nm,1.2s,mb5.1							
PAB	**San Pablo**	**84.05**	**51**	*e*P	**P**	**10 14 40.7**	**0.0**	
	comp=Z,63nm,1.3s,mb5.6							
PAB				*e*pP	pP	10 14 47.5	-1.3	
PAB	**San Pablo**	**84.05**	**51**	*e*P	**P**	**10 14 40.7**	**0.0**	
PAB				*e**PP	pP	10 14 47.5	-1.3	
PAB				pmax	pmax			
	comp=Z,63nm,1.3s,mb5.6							
MA2	**Magadan**	**84.05**	**331**	*i* P	**P**	**10 14 40.5**	**+0.2**	
MA2	**Magadan**	**84.05**	**331**	P	**P**	**10 14 40.5**	**+0.2**	
MA2				*e*		10 18 00.4		
MA2				*e*S	S	10 25 05.1	+2.0	
MA2				*e*SS	SS	10 30 34.1	+3.2	
MA2				pmax	pmax			
	comp=Z,30nm,1.1s,mb5.3							
LDF	**La Druitiere**	**84.07**	**41**	*e*P	**P**	**10 14 40.1**	**-0.6**	
	comp=Z,70nm,1.1s,mb5.4							
LDF	**La Druitiere**	**84.07**	**41**	*e*P	**P**	**10 14 40.1**	**-0.6**	
	comp=Z,35nm,1.1s,mb5.4							
LDF	**La Druitiere**	**84.07**	**41**	*e*P	**P**	**10 14 40.1**	**-0.6**	
LDF				pmax	pmax			
	comp=Z,35nm,1.1s,mb5.4							
EJIF	**Jimena Fronter**	**84.12**	**54**	⇓P	**P**	**10 14 42.8**	**+1.6**	
	comp=Z,128nm,1.6s,mb5.8							
EJIF	**Jimena Fronter**	**84.12**	**54**	⇓P	**P**	**10 14 42.8**	**+1.6**	
EJIF				pmax	pmax			
	comp=Z,129nm,1.6s,mb5.8							
EADA	**Adamuz**	**84.29**	**52**	P	**P**	**10 14 42.3**	**+0.2**	
	comp=Z,80nm,1.6s,mb5.6							
ESDC	**Sonseca Array**	**84.29**	**50**	P	**P**	**10 14 42.6**	**+0.6**	
	comp=Z,13nm,1.2s,mb4.9							
ESDC	**Sonseca Array**	**84.29**	**50**	P	**P**	**10 14 41.6**	**-0.4**	
	comp=Z,6.6nm,1.0s,mb4.7,baz=308,slow=5.1,SNR=21							
ESDC				LR	LR	10 54 02.7		
	comp=Z,380nm,19.0s,MS4.8,baz=295,slow=37							
ESLA	**Sonseca Array**	**84.29**	**50**	*e*P	**P**	**10 14 42.1**	**+0.2**	
	comp=Z,7.5nm,1.3s,mb4.7							
ESLA				*e*pP	pP	10 14 48.5	-1.5	
ECRI	**Cripan**	**84.42**	**47**	P	**P**	**10 14 43.7**	**+1.1**	
EMIJ	**Mijas**	**84.62**	**54**	⇑P	**P**	**10 14 44.3**	**+0.5**	
	comp=Z,63nm,1.4s,mb5.5							
ELUQ	**Luque**	**84.71**	**52**	P	**P**	**10 14 45.6**	**+1.4**	
MFF	**Saint Martin d**	**84.72**	**43**	*e*P	**P**	**10 14 43.3**	**-0.7**	
	comp=Z,132nm,1.4s,mb5.6							
MFF	**Saint Martin d**	**84.72**	**43**	*e*P	**P**	**10 14 43.3**	**-0.7**	
	comp=Z,66nm,1.4s,mb5.6							
MFF	**Saint Martin d**	**84.72**	**43**	*e*P	**P**	**10 14 43.3**	**-0.7**	
MFF				pmax	pmax			
	comp=Z,66nm,1.4s,mb5.6							
EBAN	**Banos Encina**	**84.89**	**52**	⇓P	**P**	**10 14 45.7**	**+0.6**	
	comp=Z,23nm,0.8s,mb5.4							
EBAN	**Banos Encina**	**84.89**	**52**	⇓P	**P**	**10 14 45.7**	**+0.7**	
EBAN				pmax	pmax			
	comp=Z,23nm,0.8s,mb5.4							
ELOJ	**Sierra Loja**	**84.92**	**53**	⇓P	**P**	**10 14 46.5**	**+1.3**	
	comp=Z,64nm,1.2s,mb5.6							
ELOJ	**Sierra Loja**	**84.92**	**53**	⇓P	**P**	**10 14 46.5**	**+1.3**	
ELOJ				pmax	pmax			
	comp=Z,65nm,1.2s,mb5.6							
EALK	**Alkurruntz**	**84.93**	**46**	⇑P	**P**	**10 14 45.2**	**0.0**	
	comp=Z,76nm,1.6s,mb5.6							
ELIZ	**Elizondo**	**84.93**	**46**	⇓P	**P**	**10 14 45.6**	**+0.4**	
TIXI	**Tiksi**	**85.01**	**346**	*e*P	**P**	**10 14 43.5**	**-1.4**	
	comp=Z,70nm,1.3s,mb5.6							
TIXI				*e*pP	pP	10 14 49.5	-3.5	
TIXI	**Tiksi**	**85.01**	**346**	*c i*P	**P**	**10 14 43.8**	**-1.1**	
TIXI				pmax	pmax			
	comp=Z,39nm,1.1s,mb5.5							
NB2	**NORSAR Subarra**	**85.15**	**27**	P	**P**	**10 14 45.6**	**-0.3**	
	comp=Z,7.5nm,1.1s,mb4.7,baz=298,slow=5.1							
NOA	**NORSAR Array B**	**85.15**	**27**	P	**P**	**10 14 45.6**	**-0.3**	
	comp=Z,4.4nm,1.0s,mb4.6,baz=301,slow=4.9,SNR=4.8							
NOA				LR	LR	10 53 26.1		
	comp=Z,335nm,21.3s,MS4.7,baz=305,slow=36							
SJPF	**Ste Jean**	**85.16**	**46**	*e*P	**P**	**10 14 46.0**	**-0.3**	
	comp=Z,72nm,1.3s,mb5.3							
SJPF	**Ste Jean**	**85.16**	**46**	*e*P	**P**	**10 14 46.0**	**-0.3**	
	comp=Z,36nm,1.3s,mb5.3							
SJPF	**Ste Jean**	**85.16**	**46**	*e*P	**P**	**10 14 46.0**	**-0.3**	
SJPF				pmax	pmax			
	comp=Z,36nm,1.3s,mb5.3							
ERON	**Agron**	**85.22**	**53**	⇑P	**P**	**10 14 47.3**	**+0.6**	
ETOR	**Torete**	**85.32**	**49**	⇑P	**P**	**10 14 47.8**	**+0.6**	
	comp=Z,23nm,1.2s,mb5.2							
ETOR	**Torete**	**85.32**	**49**	⇑P	**P**	**10 14 47.8**	**+0.7**	
ETOR				pmax	pmax			
	comp=Z,23nm,1.2s,mb5.2							
ECOG	**Cogollos-Vega**	**85.33**	**53**	⇑P	**P**	**10 14 48.6**	**+1.3**	
	comp=Z,12nm,0.7s,mb5.1							
ECOG	**Cogollos-Vega**	**85.33**	**53**	⇑P	**P**	**10 14 48.6**	**+1.3**	
ECOG				pmax	pmax			
	comp=Z,12nm,0.7s,mb5.1							
ARCES	**ARCESS Array B**	**85.47**	**16**	P	**P**	**10 14 46.9**	**-0.4**	
ARCES				LR	LR	10 56 38.9		
ARCES	**ARCESS Array B**	**85.47**	**16**	P	**P**	**10 14 46.9**	**-0.4**	
	comp=Z,5.6nm,0.8s,mb4.7,baz=343,slow=3.8,SNR=9.0							
ARCES				LR	LR	10 56 38.9		
	comp=Z,284nm,18.3s,MS4.7,baz=302,slow=38							
EQES	**Quesada**	**85.53**	**52**	P	**P**	**10 14 48.7**	**+0.5**	
	comp=Z,98nm,1.5s,mb5.8							
ETSF	**Etsaut**	**85.69**	**46**	*e*P	**P**	**10 14 48.5**	**-0.4**	
	comp=Z,86nm,1.0s,mb5.6							
ETSF	**Etsaut**	**85.69**	**46**	*e*P	**P**	**10 14 48.5**	**-0.4**	
	comp=Z,43nm,1.0s,mb5.6							
ETSF	**Etsaut**	**85.69**	**46**	*e*P	**P**	**10 14 48.5**	**-0.4**	
ETSF				pmax	pmax			
	comp=Z,43nm,1.0s,mb5.6							
EVIA	**Vianos**	**85.69**	**51**	P	**P**	**10 14 49.4**	**+0.4**	
	comp=Z,43nm,0.8s,mb5.7							
EVIA	**Vianos**	**85.69**	**51**	P	**P**	**10 14 49.4**	**+0.3**	
EVIA				pmax	pmax			
	comp=Z,43nm,0.8s,mb5.7							
LFF	**La Frestale**	**85.87**	**44**	*e*P	**P**	**10 14 49.1**	**-0.7**	
	comp=Z,154nm,1.1s,mb5.8							
LFF	**La Frestale**	**85.87**	**44**	*e*P	**P**	**10 14 49.1**	**-0.7**	
	comp=Z,77nm,1.1s,mb5.8							
LFF	**La Frestale**	**85.87**	**44**	*e*P	**P**	**10 14 49.1**	**-0.7**	
LFF				pmax	pmax			
	comp=Z,77nm,1.1s,mb5.8							
MDT	**Midelt**	**85.89**	**57**	LR	LR	10 48 08.6		
	comp=Z,379nm,21.9s,MS4.8,baz=290,slow=32							
EBER	**Berja**	**85.96**	**53**	P	**P**	**10 14 50.9**	**+0.5**	
	comp=Z,11nm,0.7s,mb5.2							
ESAC	**San Caprasio**	**86.15**	**48**	⇑P	**P**	**10 14 51.5**	**+0.3**	
	comp=Z,27nm,0.9s,mb5.5							
EALB	**Alboran**	**86.15**	**54**	P	**P**	**10 14 51.0**	**-0.4**	
BAIF	**Baives**	**86.19**	**39**	*e*P	**P**	**10 14 50.8**	**-0.4**	
	comp=Z,33nm,1.0s,mb5.2							
BAIF	**Baives**	**86.19**	**39**	*e*P	**P**	**10 14 50.8**	**-0.4**	
	comp=Z,16nm,1.0s,mb5.2							
BAIF	**Baives**	**86.19**	**39**	*e*P	**P**	**10 14 50.8**	**-0.4**	
BAIF				pmax	pmax			
	comp=Z,16nm,1.0s,mb5.2							
EBIE	**Bielsa**	**86.25**	**46**	P	**P**	**10 14 52.2**	**+0.5**	
	comp=Z,15nm,1.0s,mb5.2							
RJF	**Les Rejaudoux**	**86.26**	**44**	*e*P	**P**	**10 14 50.8**	**-0.9**	
	comp=Z,115nm,1.3s,mb5.7							
RJF				*e*MLR	MLR			
	comp=Z,416nm,22.2s,MS4.5							
RJF	**Les Rejaudoux**	**86.26**	**44**	*e*P	**P**	**10 14 50.8**	**-0.9**	
	comp=Z,58nm,1.3s,mb5.7							
RJF				LR	LR			
	comp=Z,420nm,22.3s,MS4.8							
RJF	**Les Rejaudoux**	**86.26**	**44**	*e*P	**P**	**10 14 50.8**	**-0.9**	
RJF				pmax	pmax			
	comp=Z,57nm,1.3s,mb5.6							
RJF				MLR	MLR			
	comp=Z,420nm,22.3s,MS4.8							
EPF	**Esparros**	**86.26**	**46**	*e*P	**P**	**10 14 51.1**	**-0.7**	
	comp=Z,131nm,1.2s,mb5.7							
EPF	**Esparros**	**86.26**	**46**	*e*P	**P**	**10 14 51.1**	**-0.7**	
	comp=Z,65nm,1.2s,mb5.7							
EPF	**Esparros**	**86.26**	**46**	*e*P	**P**	**10 14 51.1**	**-0.7**	
EPF				pmax	pmax			
	comp=Z,65nm,1.2s,mb5.7							
TCF	**Toulx Ste Croi**	**86.36**	**43**	*e*P	**P**	**10 14 51.3**	**-0.9**	
	comp=Z,63nm,1.0s,mb5.5							
TCF	**Toulx Ste Croi**	**86.36**	**43**	*e*P	**P**	**10 14 51.3**	**-0.9**	
	comp=Z,31nm,1.0s,mb5.5							
TCF	**Toulx Ste Croi**	**86.36**	**43**	*e*P	**P**	**10 14 51.3**	**-0.9**	
TCF				pmax	pmax			
	comp=Z,31nm,1.0s,mb5.5							
ETOB	**Tobarra**	**86.40**	**51**	P	**P**	**10 14 52.9**	**+0.4**	
	comp=Z,11nm,0.9s,mb5.1							
DOU	**Dourbes**	**86.40**	**38**	P	**P**	**10 14 50.9**	**-1.4**	
ECHE	**Chera**	**86.51**	**50**	P	**P**	**10 14 54.0**	**+0.9**	
	comp=Z,7.6nm,0.9s,mb4.9							
ECHE	**Chera**	**86.51**	**50**	P	**P**	**10 14 54.0**	**+0.9**	
ECHE				pmax	pmax			
	comp=Z,8.0nm,0.9s,mb5.0							
GIVF	**Givet**	**86.54**	**38**	*e*P	**P**	**10 14 52.5**	**-0.5**	
	comp=Z,31nm,1.0s,mb5.2							
GIVF	**Givet**	**86.54**	**38**	*e*P	**P**	**10 14 52.5**	**-0.5**	
	comp=Z,15nm,1.0s,mb5.2							
GIVF	**Givet**	**86.54**	**38**	*e*P	**P**	**10 14 52.5**	**-0.5**	
GIVF				pmax	pmax			
	comp=Z,15nm,1.0s,mb5.2							
EMOS	**Mosqueruela**	**86.61**	**49**	P	**P**	**10 14 52.8**	**-0.7**	
	comp=Z,14nm,1.0s,mb5.2							
BGF	**Bois d'Agland**	**86.67**	**42**	*e*P	**P**	**10 14 52.8**	**-0.9**	
	comp=Z,59nm,1.0s,mb5.5							
BGF	**Bois d'Agland**	**86.67**	**42**	*e*P	**P**	**10 14 52.8**	**-0.9**	
	comp=Z,30nm,1.0s,mb5.5							
BGF	**Bois d'Agland**	**86.67**	**42**	*e*P	**P**	**10 14 52.8**	**-0.9**	
BGF				pmax	pmax			
	comp=Z,30nm,1.0s,mb5.5							
BCLA	**Clavier**	**86.69**	**38**	P	**P**	**10 14 53.1**	**-0.6**	
	comp=Z,10nm,1.4s,mb4.9							
CAF	**Calviac**	**86.76**	**44**	*e*P	**P**	**10 14 53.2**	**-1.0**	
	comp=Z,15nm,0.9s,mb4.9							
CAF	**Calviac**	**86.76**	**44**	*e*P	**P**	**10 14 53.2**	**-1.0**	
	comp=Z,7.4nm,0.9s,mb4.9							
CAF	**Calviac**	**86.76**	**44**	*e*P	**P**	**10 14 53.2**	**-1.0**	
CAF				pmax	pmax			
	comp=Z,7.0nm,0.9s,mb4.9							
EMUR	**La Murta**	**86.89**	**51**	P	**P**	**10 14 54.6**	**-0.4**	
SSF	**Saint Saulge**	**86.90**	**42**	*e*P	**P**	**10 14 53.9**	**-0.9**	
	comp=Z,36nm,0.9s,mb5.3							
SSF	**Saint Saulge**	**86.90**	**42**	*e*P	**P**	**10 14 53.9**	**-0.9**	
	comp=Z,18nm,0.9s,mb5.3							
SSF	**Saint Saulge**	**86.90**	**42**	*e*P	**P**	**10 14 53.9**	**-0.9**	
SSF				pmax	pmax			
	comp=Z,18nm,0.9s,mb5.3							
AVF	**Avril sur Loir**	**86.90**	**42**	*e*P	**P**	**10 14 53.5**	**-1.3**	
	comp=Z,30nm,1.0s,mb5.2							
AVF	**Avril sur Loir**	**86.90**	**42**	*e*P	**P**	**10 14 53.5**	**-1.3**	
	comp=Z,15nm,1.0s,mb5.2							
AVF	**Avril sur Loir**	**86.90**	**42**	*e*P	**P**	**10 14 53.5**	**-1.3**	
AVF				pmax	pmax			
	comp=Z,15nm,1.0s,mb5.2							
ERTA	**Horta de San J**	**86.98**	**48**	P	**P**	**10 14 54.6**	**-0.7**	
	comp=Z,8.1nm,0.9s,mb5.0							
MEM	**Membach**	**87.03**	**38**	P	**P**	**10 14 53.7**	**-1.6**	
	comp=Z,11nm,1.7s,mb4.8							
LOR	**Lormes**	**87.04**	**41**	*e*P	**P**	**10 14 54.8**	**-0.7**	
	comp=Z,57nm,0.9s,mb5.5							
LOR				*e*MLR	MLR			
	comp=Z,353nm,20.8s,MS4.5							
LOR	**Lormes**	**87.04**	**41**	*e*P	**P**	**10 14 54.8**	**-0.7**	
	comp=Z,28nm,0.9s,mb5.5							
LOR				LR	LR			
	comp=Z,350nm,20.8s,MS4.8							
LOR	**Lormes**	**87.04**	**41**	*e*P	**P**	**10 14 54.8**	**-0.7**	
LOR				pmax	pmax			
	comp=Z,28nm,0.9s,mb5.5							
LOR				MLR	MLR			
	comp=Z,350nm,20.8s,MS4.8							
SMF	**Signal de Mont**	**87.27**	**42**	*e*P	**P**	**10 14 55.3**	**-1.3**	
	comp=Z,22nm,1.0s,mb5.0							
SMF	**Signal de Mont**	**87.27**	**42**	*e*P	**P**	**10 14 55.3**	**-1.3**	
	comp=Z,11nm,1.0s,mb5.0							
SMF	**Signal de Mont**	**87.27**	**42**	*e*P	**P**	**10 14 55.3**	**-1.3**	
SMF				pmax	pmax			
	comp=Z,11nm,1.0s,mb5.0							
MEZF	**Maizieres J'vi**	**87.30**	**40**	*e*P	**P**	**10 14 56.1**	**-0.6**	
EBEN	**Beniarda**	**87.35**	**50**	P	**P**	**10 14 57.3**	**+0.1**	
EPOB	**Poblet**	**87.37**	**47**	P	**P**	**10 14 56.2**	**-1.0**	
MTLF	**Montolieu**	**87.44**	**45**	*e*P	**P**	**10 14 56.7**	**-0.8**	
	comp=Z,40nm,1.0s,mb5.3							
MTLF	**Montolieu**	**87.44**	**45**	*e*P	**P**	**10 14 56.7**	**-0.8**	
	comp=Z,20nm,1.0s,mb5.3							
MTLF	**Montolieu**	**87.44**	**45**	*e*P	**P**	**10 14 56.7**	**-0.8**	
MTLF				pmax	pmax			
	comp=Z,20nm,1.0s,mb5.3							
EMIR	**Miracle**	**87.48**	**47**	P	**P**	**10 14 57.3**	**-0.4**	
LASF	**Ste Croix**	**88.26**	**44**	*e*P	**P**	**10 15 00.4**	**-1.0**	
	comp=Z,55nm,1.1s,mb5.4							
HAU	**Haudompre**	**88.30**	**40**	*e*P	**P**	**10 14 59.8**	**-1.7**	
	comp=Z,25nm,0.9s,mb5.1							
HAU				*e*MLR	MLR			
	comp=Z,485nm,18.8s,MS4.6							
HAU	**Haudompre**	**88.30**	**40**	*e*P	**P**	**10 14 59.8**	**-1.7**	
	comp=Z,12nm,0.9s,mb5.1							
HAU				LR	LR			
	comp=Z,490nm,18.8s,MS5.0							
HAU	**Haudompre**	**88.30**	**40**	*e*P	**P**	**10 14 59.8**	**-1.7**	
HAU				pmax	pmax			
	comp=Z,12nm,0.9s,mb5.1							
HAU				MLR	MLR			
	comp=Z,490nm,18.8s,MS5.0							
VIVF	**Saint-Julien-l**	**88.50**	**43**	*e*P	**P**	**10 15 02.2**	**-0.3**	
	comp=Z,23nm,1.2s,mb5.0							
VIVF	**Saint-Julien-l**	**88.50**	**43**	*e*P	**P**	**10 15 02.2**	**-0.3**	
	comp=Z,12nm,1.2s,mb5.0							
VIVF	**Saint-Julien-l**	**88.50**	**43**	*e*P	**P**	**10 15 02.2**	**-0.3**	
VIVF				pmax	pmax			
	comp=Z,12nm,1.2s,mb5.0							
HINF	**Hinteralfeld**	**88.68**	**40**	*e*P	**P**	**10 15 01.4**	**-1.9**	
CDF	**Champ du Feu**	**88.69**	**39**	*e*P	**P**	**10 15 01.6**	**-1.7**	
CABF	**La Chapelle**	**88.70**	**41**	*e*P	**P**	**10 15 02.6**	**-0.8**	
APA	**Apatity**	**88.94**	**16**	⇓*i*P	**P**	**10 15 03.6**	**-0.5**	
APA				pmax	pmax			
	comp=Z,18nm,1.2s,mb5.3							
APA				MLR	MLR			
	comp=Z,700nm,17.0s,MS5.2							
ORIF	**Oris-en-Rattie**	**89.26**	**43**	*e*P	**P**	**10 15 04.6**	**-1.5**	
ORIF				*e*MLR	MLR			
	comp=Z,430nm,20.5s,MS4.6							
SMRF	**Simiane la Rot**	**89.44**	**44**	*e*P	**P**	**10 15 06.0**	**-1.0**	
LPG	**La Plagne**	**89.58**	**42**	*e*P	**P**	**10 15 07.3**	**-0.3**	
MBDF	**Montbardon**	**89.92**	**43**	*e*P	**P**	**10 15 08.0**	**-1.2**	
FRF	**La Foret Royal**	**90.32**	**44**	*e*P	**P**	**10 15 09.4**	**-1.7**	
LMR	**La Mourre**	**90.32**	**44**	*e*P	**P**	**10 15 09.3**	**-1.8**	
	comp=Z,29nm,1.0s,mb5.2							
LMR	**La Mourre**	**90.32**	**44**	*e*P	**P**	**10 15 09.3**	**-1.8**	
	comp=Z,14nm,1.0s,mb5.3							
LMR	**La Mourre**	**90.32**	**44**	*e*P	**P**	**10 15 09.3**	**-1.8**	
LMR				pmax	pmax			
	comp=Z,14nm,1.0s,mb5.2							
CLL	**Collm**	**90.67**	**35**	*e*PP	PP	10 18 51.0	+3.6	
CLL				LmV		10 57 00.0		
	comp=Z,200nm,20.9s							
FINES	**FINESS Array B**	**90.88**	**23**	LR	LR	10 56 12.8		
	comp=Z,283nm,21.1s,MS4.7,baz=180,slow=36							
YAK	**Yakutsk**	**91.33**	**339**	⇓*e*P	**P**	**10 15 15.1**	**-0.3**	
YAK	**Yakutsk**	**91.33**	**339**	*e*P	**P**	**10 15 14.9**	**-0.5**	
YAK				pmax	pmax			
	comp=Z,26nm,0.9s,mb5.6							
YAK				pmax	pmax			
	comp=N,8.0nm,1.3s							
YAK				pmax	pmax			
	comp=E,10.0nm,1.3s							
KHC	**Kasperske Hory**	**92.07**	**37**	*i* P	**P**	**10 15 20.2**	**+1.1**	
KHC	**Kasperske Hory**	**92.07**	**37**	*i* P	**P**	**10 15 20.1**	**+1.0**	
GEC2	**GERESS Array S**	**92.28**	**37**	*e*P	**P**	**10 15 19.8**	**-0.3**	
GERES	**GERESS Array B**	**92.28**	**37**	LR	LR	10 57 38.5		
	comp=E,317nm,18.8s,MS4.8,baz=288,slow=36							
PGF	**Pioggiola**	**92.31**	**44**	*e*P	**P**	**10 15 18.6**	**-1.7**	
	comp=E,11nm,0.8s,mb4.9							
PGF	**Pioggiola**	**92.31**	**44**	*e*P	**P**	**10 15 18.6**	**-1.7**	
	comp=E,5.6nm,0.8s,mb5.0							
PGF	**Pioggiola**	**92.31**	**44**	*e*P	**P**	**10 15 18.6**	**-1.7**	
PGF				pmax	pmax			
	comp=Z,6.0nm,0.8s,mb5.0							
DBIC	**Dimbokro**	**93.81**	**82**	*e*PKPdf	**P**	**10 15 27.2**	**-0.6**	
DBIC	**Dimbokro**	**93.81**	**82**	P	**P**	**10 15 27.0**	**-0.8**	
DBIC				pP	pP	10 15 33.2	-2.7	
DBIC				LR	LR	10 57 39.2		
DBIC	**Dimbokro**	**93.81**	**82**	P	**P**	**10 15 27.0**	**-0.8**	
DBIC				*PP	pP	10 15 33.2	-2.7	
DBIC	**Dimbokro**	**93.81**	**82**	P	**P**	**10 15 27.0**	**-0.8**	
	comp=Z,6.8nm,0.9s,mb5.1,baz=277,slow=4.3,SNR=5.5							
DBIC				pP	pP	10 15 33.2	-2.7	
	comp=Z,9.0nm,0.8s,baz=272,slow=6.1,SNR=7.0							
DBIC				LR	LR	10 57 39.2		
	comp=Z,264nm,18.2s,MS4.7,baz=328,slow=36							
YSS	**Yuzh-Sakhalins**	**94.18**	**322**	⇓*e*P	**P**	**10 15 28.2**	**-0.7**	
YSS	**Yuzh-Sakhalins**	**94.18**	**322**	⇓*e*P	**P**	**10 15 28.1**	**-0.8**	
YSS				pmax	pmax			
	comp=Z,10.0nm,1.0s,mb5.2							
KEST	**Kesra**	**95.54**	**50**	LR	LR	11 01 21.3		
	comp=Z,88nm,18.4s,MS4.3,baz=234,slow=37							
LVV	**L'vov**	**97.35**	**32**	*e*P	**P**	**10 15 40.4**	**-2.8**	
TORD	**Torodi Ar. Bea**	**97.84**	**74**	P	**P**	**10 15 45.0**	**-1.1**	
	comp=Z,2.3nm,1.1s,mb4.6,baz=260,slow=3.7,SNR=8.2							
TORD				pP	pP	10 15 51.1	-3.1	
	comp=Z,1.6nm,0.8s,baz=299,slow=4.2,SNR=7.7							
TORD				LR	LR	11 02 08.2		
	comp=Z,394nm,18.5s,MS4.9,baz=280,slow=37							
KLR	**Kul'dur**	**98.89**	**328**	*e*P	**P**	**10 15 46.3**	**-3.9**	
TIP	**Timpagrande**	**99.09**	**44**	*e*P	**P**	**10 15 48.6**	**-2.7**	
	comp=Z,4.8nm,1.0s,mb5.0							
OBN	**Obninsk**	**99.27**	**23**	*e*P	**P**	**10 15 51.1**	**-0.6**	
OBN				pmax	pmax			
	comp=Z,9.0nm,1.3s,mb5.1							
AKASG	**Malin Array Be**	**99.33**	**29**	P	**P**	**10 15 49.7**	**-2.4**	
AKASG				pP	pP	10 15 56.2	-4.0	
AKASG				LR	LR	11 04 48.3		
AKASG	**Malin Array Be**	**99.33**	**29**	P	**P**	**10 15 49.7**	**-2.4**	
AKASG				*PP	pP	10 15 56.2	-4.0	
AKASG	**Malin Array Be**	**99.33**	**29**	P	**P**	**10 15 49.7**	**-2.3**	
	comp=Z,0.1nm,0.3s,baz=292,slow=3.5,SNR=5.0							
AKASG				pP	pP	10 15 56.2	-4.0	
	comp=Z,0.2nm,0.3s,baz=296,slow=3.6,SNR=2.5							
AKASG				LR	LR	11 04 48.3		
	comp=Z,272nm,18.8s,MS4.8,baz=315,slow=38							
BOD	**Bodaibo**	**99.64**	**342**	*e*P	Pdif	10 15 49.7	-3.7	
BOD				pmax	pmax			
	comp=Z,3.0nm,2.0s,mb4.4							
MDJ	**Mudanjiang**	**103.01**	**326**	P	Pdif	10 16 07.0	-1.4	
MDJ				AMB	AMB			
	comp=Z,8.0nm,2.2s							
MDJ				AMB	AMB			
	comp=Z,100nm,4.0s							
MDJ				LR	LR			
	comp=N,142nm,21.6s,MS4.7							
MDJ				LR	LR			
	comp=E,194nm,21.6s,MS4.7							
MDJ				LR	LR			
	comp=Z,285nm,16.1s							
LIA	**Limnos Island**	**104.07**	**40**	P	Pdif	10 16 08.8	-4.3	
CN2	**Changchun**	**105.75**	**327**	*e*PDIF	Pdif	10 16 24.0	+3.4	
CN2				PP	PP	10 20 49.0	+6.2	
CN2				PP	PP			
	comp=Z,200nm,8.0s							
CN2				LR	LR			
	comp=N,200nm,20.0s,MS4.9							
CN2				LR	LR			
	comp=E,300nm,20.0s,MS4.9							
CN2				LR	LR			
	comp=Z,500nm,21.0s,MS5.0							
ZAA0	**Zalesovo Array**	**108.76**	**356**	*e*PKPdf	PKiKP	10 20 42.1	+3.3	
ZAA0				*e*PP	PP	10 21 00.5	-3.7	
KURK	**Kurchatov**	**112.17**	**0**	*i* PKIKP	PKiKP	10 20 44.0	-1.4	
HHC	**Hu-

LBTB	Lobatse	129.86	108	PKP	PKPdf	10 21 19.0	-1.0
	comp=Z,6.5nm,1.0s,baz=350,slow=8.1,SNR=3.0						
KMI	Kunming	131.83	331	PKP	PKPdf	10 21 24.8	+1.0
KMI				LR	LR		
	comp=Z,208nm,18.7s,MS4.9						
FITZ	Fitzroy Crossi	135.71	262	*e*P	PKPdf	10 21 29.3	-1.9
	comp=Z,6.6nm,0.9s						
FITZ	Fitzroy Crossi	135.71	262	PKP	PKPdf	10 21 29.4	-1.8
	comp=Z,3.7nm,0.8s,baz=114,slow=6.2,SNR=7.2						
CHTO	Chiang Mai	139.03	331	*e*PKPdf	PKPdf	10 21 35.5	-1.8
KSM	Kuching	143.92	298	*e*PKPdf	PKPdf	10 21 42.6	-3.7
HYB	Hyderabad	145.38	1	*e*P	PKPbc	10 21 46.0	-2.5
HYB				*e*		10 21 53.0	
HYB	Hyderabad	145.38	1	*i* PKP	PKPdf	10 21 47.0	-1.7
	comp=Z,115nm,1.0s						
KULM	Kulim	148.95	315	*e*PKPdf	PKPdf	10 21 56.4	+1.6
OPO	Ambohidratompo	149.70	97	PKPbc	PKPbc	10 22 00.7	+0.2
	comp=Z,15nm,0.9s,baz=303,slow=2.6,SNR=9.7						

NEIC ***19*** *10:07:51.5, 1730N×10127W, h20km, MD3.8(MEX), After MEX.*

MEX 19 10:07:51.4±0.9, 1730N×10128W, h17km±169km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	Zihuatanejo	0.35	330	*i* P	Pg	10 07 57.8	-1.0
ZIIG				*i* S	Sg	10 08 02.1	-1.5
ZIIG				*i* S	Sg	10 08 02.6	-1.1
CAIG	El Cayaco	1.00	105	*i* P	Pb	10 08 06.8	-3.4
CAIG				*i* S	Sb	10 08 18.3	-4.9
ACX	Acapulco	1.37	108	*i* P	Pn	10 08 13.0	-2.8
ACX				*i* S	Sn	10 08 31.0	-2.6
ACX	Acapulco	1.37	108	*i* P	Pn	10 08 13.0	-2.8
ACX				*i* S	Sn	10 08 30.0	-3.6
MEIG	Mezcala	1.70	68	*i* P	Pn	10 08 18.2	-2.1
MEIG				*i* S	Sn	10 08 37.1	-4.5
PLIG	Platanillo	2.01	57	*i* P	Pn	10 08 23.3	-1.2
PLIG				*i* S	Sn	10 08 43.2	-6.1
PLIG	Platanillo	2.01	57	*i* P	Pn	10 08 22.3	-2.2
PLIG				*i* S	Sn	10 08 43.6	-5.8
YAIG	Yautepec	2.61	53	*i* P	Pn	10 08 28.9	-4.0
YAIG	Yautepec	2.61	53	*i* P	Pn	10 08 28.9	-4.0
UNM	Universidad Na	2.84	44	*i* P	Pn	10 08 39.8	+3.9
UNM	Universidad Na	2.84	44	*i* P	Pn	10 08 33.3	-2.6
UNM				*i* S	Sn	10 09 06.2	-3.6
VHO	Vista Hermosa	4.35	92	*e*P	Pn	10 08 55.5	-1.3
VHO				*i* S	Sn	10 09 52.1	+5.0

TIR ***19*** *10:15:22.0±4.4, 3872N×2551E, h0km±999km*
ROM ***19*** *10:15:29.6±0.1, 3962N×2577E, h10km, Ml4.9/1, Error ellipse: s-maj=5.2km s-min=0.0km az=2.0*
SOF ***19*** *10:15:42.1, 3956N×2434E, h10km, MD4.2*
PRU ***19*** *10:15:43.7, 3939N×2384E, h0km, M4.5*
IDC ***19*** *10:15:44.9±0.5, 3972N×2413E, h0km, mb4.2/21, mb1 4.3/25, mb1mx4.3/29, mbtmp4.2/25, ML4.4/5, MS3.9/10, Ms1 3.9/10, ms1mx3.6/41, Error ellipse: s-maj=14.4km s-min=9.0km az=110.0*
CRAAG ***19*** *10:15:44.4, 3968N×2418E, Mw4.8*
ISCJB ***19*** *10:15:45.7±0.3, 3973N±001×24.18E±001, h19km±3km, mb4.5/70, MS4.0/13, Error ellipse: s-maj=2.1km s-min=1.4km az=8.2*
CSEM ***19*** *10:15:45.7±0.0, 3977N×2429E, h10km, mb4.7/34, Ms3.7, Mw4.8, Error ellipse: s-maj=1.1km s-min=0.7km az=3.0*
NEIC ***19*** *10:15:45.0, 3970N×2429E, h26km, mb4.5/54, ML4.9(ROM), ML4.8(ATH), ML4.5(BUC), After ATH.*
ATH ***19*** *10:15:45.0, 3970N×2429E, h26km±1km, MD4.6/20, ML4.8*
PDG ***19*** *10:15:46.3±0.7, 3970N×2420E, h22km±2km, ML4.4/10, Error ellipse: s-maj=1.0km s-min=0.8km az=90.0*
THE ***19*** *10:15:46.0, 3970N×2427E, h4km, ML5.4*
SKO ***19*** *10:15:47.8, 3951N×2373E, h0km*
BJI ***19*** *10:15:47.0, 3970N×2430E, h26km, mB5.1, mb4.7, Ms5.0, Msz4.8*
MOS ***19*** *10:15:47.5±1.0, 3976N×2418E, h37km, mb4.7/19, Error ellipse: s-maj=3.6km s-min=2.5km az=122.6*
BEO ***19*** *10:15:51.2±0.8, 4005N×2451E, h33km, ML5.0/4*
DDA ***19*** *10:15:56.6, 3954N×2502E, h28km, Md4.2*

ISC 19 10:15:46.4±0.3, 3972N±001×2421E±001, h10km±2km, h16km±2.7km: pP-P, n753, σ1§11/827, mb4.5/70, MS4.0/13, 41C-35D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAIG	Paliouri	0.46	297	*e*Pg	Pg	10 15 56.1	+0.7
PAIG				*e*Sg	Sg	10 16 03.1	+1.7
AOS	Alonnisos	0.60	205	*e*Pg	Pg	10 15 57.7	-0.4
OUR	Ouranopolis	0.64	344	P	Pg	10 15 59.2	+0.4
OUR	Ouranopolis	0.64	344	*e*Pg	Pg	10 15 59.2	+0.4
OUR	Ouranopolis	0.64	344	*e*Pg	Pg	10 15 59.2	+0.4
LOS	Limnos	0.70	72	*e*Pg	Pg	10 16 00.2	+0.2
LIA	Limnos Island	0.77	76	⇓*e*PN	Pg	10 15 58.5	-2.8
LIA				*e*SN	Sg	10 16 09.8	-1.5
XOR	Xorichti	0.86	246	*e*Pg	Pg	10 16 02.5	-0.5
NEO	Neokhori	0.87	242	*e*PN	Pg	10 16 02.8	-1.8
PLG	Polygyros	0.88	318	*e*Pn	Pg	10 16 02.9	-0.5
PLG				*e*Sn	Sg	10 16 15.6	+0.8
PLG	Polygyros	0.88	318	*e*Pg	Pg	10 16 02.6	-0.7
PLG				*e*Sg	Sg	10 16 16.0	+1.1
PLG	Polygyros	0.88	318	*e*PN	Pg	10 16 02.9	-0.5
PLG				*e*SN	Sg	10 16 15.6	+0.8
PLG	Polygyros	0.88	318	*e*Pg	Pg	10 16 02.6	-0.8
PLG	Polygyros	0.88	318	*e*Pn	Pg	10 16 02.9	-0.5
PLG				*e*Sn	Sg	10 16 15.6	+0.8
PLG				*e*Sg	Sg	10 16 16.0	+1.2
HORT	Hortiatis	1.22	316	*e*Pg	Pg	10 16 09.2	-0.7
HORT				*e*Sg	Sg	10 16 27.9	+2.1
SOH	Sokhos	1.28	330	*e*Pg	Pg	10 16 09.9	-1.1
SOH				*e*Sg	Sg	10 16 29.7	+2.0
THE	Thessaloniki	1.32	314	*e*Pg	Pg	10 16 10.3	-1.4
THE				*e*Sg	Sg	10 16 29.8	+0.9
LIT	Litokhoron	1.38	287	P	Pn	10 16 10.4	-1.3
LIT	Litokhoron	1.38	287	*e*Pg	Pn	10 16 10.4	-1.3
LIT	Litokhoron	1.38	287	*e*Pg	Pn	10 16 10.4	-1.3
GADA	Gvkgeada	1.38	69	PN	Pn	10 16 10.8	-0.9
GADA	Gvkgeada	1.38	69	P	Pn	10 16 11.9	+0.2
GADA				S	Sb	10 16 31.6	+1.6
LKR	Lokris	1.42	222	*e*Pg	Pn	10 16 10.8	-1.5
LKR				*e*Sg	Sg	10 16 32.6	+0.5
BOZC	Bozcaada	1.43	84	*i* P	Pn	10 16 11.2	-1.2
BOZC				*i* S	Sn	10 16 32.8	+1.7
AGG	Agios Georgios	1.61	245	*e*Pb	Pn	10 16 13.7	-1.2
AGG				*e*Sb	Sb	10 16 37.0	+0.4
EZN	Ezine	1.63	86	PN	Pn	10 16 14.3	-0.9
EZN	Ezine	1.63	86	P	Pn	10 16 14.2	-1.0
EZN				S	Sn	10 16 37.4	+1.1
NVR	Nevrokopi	1.65	351	⇑*i*PN	Pn	10 16 14.6	-0.9
NVR				*e*SN	Sn	10 16 36.8	+0.1
PRK	Paraskevi	1.66	106	⇓*i*Pn	Pn	10 16 14.9	-0.7
PRK				*e*Sn	Sn	10 16 34.1	-2.9
PRK	Paraskevi	1.66	106	⇓*i*PN	Pn	10 16 14.6	-1.0
PRK				*e*SN	Sn	10 16 34.1	-2.9
PRK	Paraskevi	1.66	106	⇓*i*Pn	Pn	10 16 14.9	-0.7
PRK				*e*Sn	Sn	10 16 34.1	-2.9
PTL	Penteli	1.69	189	*e*PN	Pn	10 16 14.5	-1.4
THL	Klokotos Trika	1.70	266	*e*Pb	Pn	10 16 15.3	-0.8
THL	Klokotos Trika	1.70	266	⇓*i*Pb	Pn	10 16 15.4	-0.7
RDO	Rodhopi	1.75	35	⇑*i*PN	Pn	10 16 15.4	-1.4
KNT	Kendrikon	1.76	326	*e*Pb	Pn	10 16 16.8	-0.1
KNT				*e*Sb	Sb	10 16 40.9	+0.1
ATH	Athens Observa	1.78	193	*e*Pn	Pn	10 16 16.4	-0.9
ATH	Athens Observa	1.78	193	*e*PN	Pn	10 16 16.4	-0.9
ATH	Athens Observa	1.78	193	*e*Pn	Pn	10 16 16.4	-0.9
ENEZ	Enez	1.80	55	*e*PN	Pn	10 16 18.3	+0.8
ALN	Alexandroupoli	1.83	49	*e*Pb	Pn	10 16 16.4	-1.5
ALN				*e*Sb	Sb	10 16 41.6	-1.4
MMB	Musomiste	1.91	349	*i* P	Pn	10 16 17.8	-1.1
KVR	Kavouri	1.92	190	*e*PN	Pn	10 16 18.0	-1.1
LTK	Loutraki	1.95	210	*e*Sb	Sb	10 16 46.7	+0.3
CHOS	Chios island	1.96	132	*e*Pb	Pn	10 16 19.2	-0.5
CHOS				*e*Sb	Sb	10 16 43.2	-3.3
AYVA	Ayvalik	1.96	101	*i* P	Pn	10 16 19.5	-0.2
KZN	Kozani	1.96	288	⇓*i*PB	Pn	10 16 19.7	0.0
RZN	Rozhen	2.01	11	*i* P	Pn	10 16 20.0	-0.3
EVR	Evrytania	2.03	248	*e*PN	Pn	10 16 20.1	-0.5
VAY	Valandovo	2.03	323	*e*Pn	Pn	10 16 23.4	+2.8
VAY				*e*Sg	Sg	10 16 52.2	+0.5
NAIG	Nisos Aigina	2.04	196	*e*PN	Pn	10 16 19.5	-1.2
LPK	Lapseki	2.06	71	*e*PN	Pn	10 16 20.9	-0.2
LPK	Lapseki	2.06	71	P	Pn	10 16 20.8	-0.3
KDZ	Kurdzhali	2.14	25	*i* P	Pn	10 16 20.3	-1.8
MEV	Metsovon	2.30	273	*e*Pn	Pn	10 16 24.6	+0.2
MEV	Metsovon	2.30	273	*e*Pn	Pn	10 16 24.5	+0.2
URLA	Izmir	2.30	125	*i* P	Pn	10 16 23.7	-0.6
URLA				*i* S	Sg	10 17 02.7	+2.5
SELA	Sela	2.31	232	*e*Pn	Pn	10 16 24.0	-0.5
KKB	Krupnik	2.31	339	*i* P	Pn	10 16 24.0	-0.5
DID	Didima	2.33	199	*e*Pn	Pn	10 16 23.4	-1.4
DID				*e*Sn	Sn	10 16 55.2	+1.6
PLD	Plovdiv	2.42	9	*e*Pn	Pn	10 16 26.3	+0.3
PLD				*e*Sn	Sn	10 16 56.7	+1.2
FNA	Florina	2.42	297	*e*Pn	Pn	10 16 26.3	+0.3
RKY	Sarkoy-Tekirda	2.47	66	*e*PN	Pn	10 16 27.6	+0.9
RKY	Sarkoy-Tekirda	2.47	66	P	Pn	10 16 27.5	+0.8
SART	Tekirdag	2.47	66	*i* P	Pn	10 16 25.6	-1.1
STIP	Stip	2.50	323	*e*Pn	Pn	10 16 28.8	+1.7
DIM	Dimitrovgrad	2.54	23	*i* P	Pn	10 16 27.0	-0.6
BIA	Bitola	2.56	301	*e*Pn	Pn	10 16 27.7	-0.2
BIA	Bitola	2.56	301	*e*Pn	Pn	10 16 27.8	-0.1
JAN	Janina	2.59	270	*e*PB	Pb	10 16 29.3	-3.7
JAN				*e*SN	Sn	10 16 59.4	-0.5
RLS	Riolos of Patr	2.71	233	*e*PN	Pn	10 16 30.6	+0.7
KDAG	Bornova	2.72	118	*i* P	Pn	10 16 30.2	+0.1
MRMT	Marmara Adasi	2.74	70	*e*PN	Pn	10 16 32.2	+1.7
MRMT	Marmara Adasi	2.74	70	P	Pn	10 16 32.1	+1.7
VLX	Vlachokerasia	2.75	212	*e*Pn	Pn	10 16 29.8	-0.7
KBN	Korca	2.77	290	*i* Pn	Pn	10 16 31.4	+0.5
KRUS	Krusevo	2.80	307	*e*Pn	Pn	10 16 32.0	+0.9
BALB	Balikesir	2.83	90	*e*PN	Pn	10 16 31.7	0.0
BALB	Balikesir	2.83	90	P	Pn	10 16 31.6	-0.1
APE	Apeiranthos	2.84	158	⇓*e*PN	Pn	10 16 30.9	-0.9
APE				*e*Sn	Sn	10 17 03.6	-2.4
APE	Apeiranthos	2.84	158	*e*Pn	Pn	10 16 30.8	-1.0
APE	Apeiranthos	2.84	158	⇓*e*PN	Pn	10 16 30.9	-0.9
APE				*e*SN	Sn	10 17 03.6	-2.4
APE	Apeiranthos	2.84	158	⇓*i*P	Pn	10 16 31.0	-0.8
APE	Apeiranthos	2.84	158	*e*Pn	Pn	10 16 30.8	-1.0
APE	Apeiranthos	2.84	158	⇓*i*P	Pn	10 16 31.0	-0.8
APE				*e*Sn	Sn	10 17 03.6	-2.4
EDRB	Edirne	2.87	41	*e*PN	Pn	10 16 34.5	+2.4
EDRB	Edirne	2.87	41	P	Pn	10 16 34.5	+2.3
SMG	Samos	2.87	133	*e*PN	Pn	10 16 31.6	-0.6
EDC	Edincik	2.87	76	*e*PN	Pn	10 16 33.4	+1.1
EDC	Edincik	2.87	76	P	Pn	10 16 33.3	+1.1
AKS	Akhisar	2.92	106	*e*PN	Pn	10 16 32.0	-0.8
AKS	Akhisar	2.92	106	P	Pn	10 16 32.0	-0.8
BNT	Bandirma	2.92	76	*e*PN	Pn	10 16 33.4	+0.5
BNT	Bandirma	2.92	76	P	Pn	10 16 33.3	+0.4
LKD	Levkas	2.94	251	*e*Pn	Pn	10 16 34.8	+1.6
BTOK	Tokmak	2.95	88	*i* P	Pn	10 16 32.9	-0.3
OHR	Ohrid	2.95	299	*e*Pn	Pn	10 16 33.4	+0.1
OHR	Ohrid	2.95	299	*e*Pn	Pn	10 16 33.2	-0.1
VTS	Vitosha	2.97	346	*e*Pn	Pn	10 16 34.0	+0.5
VTS	Vitosha	2.97	346	⇑*i*P	Pn	10 16 34.2	+0.6
VTS	Vitosha	2.97	346	*i* P	Pn	10 16 34.1	+0.5
IGT	Igoumenitsa	3.00	268	*e*Pn	Pn	10 16 36.3	+2.3
SKO	Skopje	3.08	318	*e*Pn	Pn	10 16 35.9	+0.8
ITM	Ithomi	3.10	216	⇑*i*PN	Pn	10 16 35.6	+0.2
KFL	Anninata	3.12	240	*e*Pn	Pn	10 16 36.9	+1.4
VLI	Veliai	3.16	199	*e*PN	Pn	10 16 34.9	-1.2
VLS	Valsamata	3.21	243	*e*Pn	Pn	10 16 37.7	+0.8
VLS	Valsamata	3.21	243	*e*PN	Pn	10 16 38.3	+1.4
KCT	Karacabey	3.23	79	*e*PN	Pn	10 16 37.4	+0.3
KCT	Karacabey	3.23	79	P	Pn	10 16 37.4	+0.2
SRN	Sarande	3.25	274	*i* PN	Pn	10 16 39.5	+2.1
SRN				*i* SN	Sg	10 17 29.6	-1.1
JMB	Yambol	3.28	32	*e*Pn	Pn	10 16 36.4	-1.4
KEK	Kerkira	3.40	271	Pn	Pn	10 16 41.0	+1.5
	1μm,0.8s						
KEK	Kerkira	3.40	271	⇓*i*Pn	Pn	10 16 40.8	+1.3
DST	Dursunbey	3.41	90	*e*PN	Pn	10 16 39.7	+0.1
DST	Dursunbey	3.41	90	P	Pn	10 16 39.7	+0.1
PYL	PYLOS	3.42	215	*e*Pn	Pn	10 16 40.5	+0.7
CTT	Catalca	3.52	65	*e*PN	Pn	10 16 39.7	-1.4
CTT	Catalca	3.52	65	P	Pn	10 16 39.7	-1.5
AYDN	Tasoluk	3.53	124	*i* P	Pn	10 16 41.4	+0.1
KYTH	Kithira	3.55	195	*e*PN	Pn	10 16 41.0	-0.6
BARS	Barje	3.58	331	*e*Pn	Pn	10 16 42.3	+0.3
BARS				*e*Sg	Sg	10 17 40.5	-1.0
PVL	Pavlikeni	3.60	13	*i* P	Pn	10 16 39.8	-2.4
BODT	Bodrum	3.60	136	*e*PN	Pn	10 16 37.4	-4.8
KULA	Kula-Manisa	3.66	108	*e*PN	Pn	10 16 41.5	-1.6
BDRM	Kayabasi	3.67	135	*i* P	Pn	10 16 43.1	-0.1
TIR	Tirane	3.69	298	*e*Pn	Pn	10 16 45.8	+2.4
TIR	Tirane	3.69	298	P	Pn	10 16 45.3	+1.8
TIR	Tirane	3.69	298	*i* PN	Pn	10 16 46.3	+2.8
MLSB	Milas	3.70	130	*e*PN	Pn	10 16 40.3	-3.2
MLSB	Milas	3.70	130	P	Pn	10 16 40.3	-3.3
QSH	Qafa e Shtames	3.74	300	*i* PN	Pn	10 16 47.0	+2.9
GEMT	Gemlik	3.89	78	*e*PN	Pn	10 16 46.7	+0.5
GEMT	Gemlik	3.89	78	P	Pn	10 16 46.6	+0.4
BADT	Buyukada	3.92	72	*e*PN	Pn	10 16 47.3	+0.6
BADT	Buyukada	3.92	72	P	Pn	10 16 47.2	+0.6
ISK	Istanbul-Kandi	3.94	68	*e*PN	Pn	10 16 48.4	+1.5
ISK	Istanbul-Kandi	3.94	68	P	Pn	10 16 48.4	+1.5
DAT	Datca	3.99	137	*e*PN	Pn	10 16 43.8	-3.8
KLYT	Kilyos	3.99	66	*e*PN	Pn	10 16 50.2	+2.6
KLYT	Kilyos	3.99	66	P	Pn	10 16 50.1	+2.5
PUK	Puka	4.01	307	*i* PN	Pn	10 16 49.5	+1.6
PUK				*i* SN	Sg	10 17 59.0	+3.7
ZIMR		4.03	12	⇓P	Pn	10 16 47.6	-0.5
ZIMR		4.03	12	⇓*i*P	Pn	10 16 47.6	-0.5
YLV	Yalova	4.05	76	*e*PN	Pn	10 16 50.3	+1.9
YLV	Yalova	4.05	76	P	Pn	10 16 50.2	+1.8
IZI	Iznik	4.09	80	*e*PN	Pn	10 16 49.6	+0.7
IZI	Iznik	4.09	80	P	Pn	10 16 49.5	+0.6
YER	Yerkesik	4.11	128	*e*PN	Pn	10 16 46.1	-3.1
YER	Yerkesik	4.11	128	P	Pn	10 16 46.1	-3.1
DERT	Derbent	4.24	80	*e*PN	Pn	10 16 52.5	+1.4
DERT	Derbent	4.24	80	P	Pn	10 16 52.4	+1.3
DENT	Denizli	4.25	116	*e*PN	Pn	10 16 49.6	-1.6
DENT	Denizli	4.25	116	P	Pn	10 16 49.5	-1.7
GEDT	Gedikpinar	4.25	85	*e*PN	Pn	10 16 51.9	+0.7
GEDT	Gedikpinar	4.25	85	P	Pn	10 16 51.8	+0.6
PVY	Plav	4.30	313	⇑*i*Pn	Pn	10 16 52.6	+0.8
PVY				*e*Sn	Sn	10 17 40.5	-1.5
PVY	Plav	4.30	313	P	Pn	10 16 53.3	+1.5
PVY				*e*Sn	Sn	10 17 40.5	-1.5
ADVT	Abdulvahap	4.30	79	*e*PN	Pn	10 16 53.0	+1.2
ADVT	Abdulvahap	4.30	79	P	Pn	10 16 53.0	+1.1
VAM	Vamos	4.30	180	*e*PN	Pn	10 16 51.7	-0.2
HRT	Hereke	4.32	73	*e*PN	Pn	10 16 54.2	+2.1
HRT	Hereke	4.32	73	P	Pn	10 16 54.2	+2.1
KHL	Karahalli	4.37	107	*e*PN	Pn	10 16 51.9	-0.9
KHL	Karahalli	4.37	107	P	Pn	10 16 51.8	-0.9
ULC	Ulcinj	4.38	302	⇑*i*Pn	Pn	10 16 53.4	+0.5
ULC				*e*Sn	Sn	10 17 43.0	-1.0
ULC	Ulcinj	4.38	302	P	Pn	10 16 54.4	+1.5
ULC				*e*Sn	Sn	10 17 43.0	-1.0
SCTE	Santa Cesarea	4.43	276	Pn	Pn	10 16 54.3	+0.6
	577nm,0.9s						
BEY	Berane	4.53	316	⇑*i*Pn	Pn	10 16 55.8	+0.9
BEY				*e*Sn	Sn	10 17 46.8	-0.8
IVA	Berane	4.53	316	⇑*i*Pn	Pn	10 16 55.8	+0.9
IVA				*e*Sn	Sn	10 17 46.8	-0.8
IVA	Berane	4.53	316	P	Pn	10 16 56.4	+1.5
CRAR	CRAIOVA	4.62	356	P	Pn	10 16 56.1	-0.1
ALT	Altintas	4.62	96	*e*PN	Pn	10 16 56.5	+0.3
ALT	Altintas	4.62	96	P	Pn	10 16 56.5	+0.3
PDG	Podgorica	4.62	308	⇑*i*Pn	Pn	10 16 56.8	+0.6
PDG				*e*Sn	Sn	10 17 49.4	-0.5
TTG	Podgorica	4.62	308	⇑*i*PN	Pn	10 16 56.8	+0.6
TTG				*e*Sn	Sn	10 17 49.4	-0.5
TTG	Podgorica	4.62	308	P	Pn	10 16 57.6	+1.4
ARG	Arkhangelos	4.67	137	*e*PN	Pn	10 16 57.0	+0.1
GPA	Golpazari	4.72	81	*e*PN	Pn	10 16 57.1	-0.5
GPA	Golpazari	4.72	81	P	Pn	10 16 57.1	-0.5
LCI	Lecce	4.72	279	P	Pn	10 16 57.8	+0.2
LCI	Lecce	4.72	279	Pn	Pn	10 16 57.9	+0.3
	171nm,0.8s						
BUM	Brajici-Budva	4.78	304	⇑*i*Pn	Pn	10 16 58.8	+0.4
BUM				*e*Sn	Sn	10 17 52.7	-1.1
BUM	Brajici-Budva	4.78	304	P	Pn	10 16 59.8	+1.4
KARP	Karpathos	4.78	150	*e*PN	Pn	10 16 57.2	-1.2
BORA	Eskisehir	4.81	86	*i* P	Pn	10 16 59.2	+0.3
BUC1	Bucharest	4.82	16	⇑*i*P	Pg	10 17 14.6	-4.1
GVD	Gavdhos	4.87	181	*e*Pn	Pn	10 17 00.2	+0.5
GVD	Gavdhos	4.87	181	*e*Pn	Pn	10 17 00.0	+0.3
GULT	Gulveren	4.89	80	*e*PN	Pn	10 17 00.4	+0.4
GULT	Gulveren	4.89	80	P	Pn	10 17 00.3	+0.4
FETY	Fethiye	4.92	127	*e*PN	Pn	10 16 56.5	-3.8
FETY	Fethiye	4.92	127	P	Pn	10 16 56.5	-3.9
XRY	Khrisi	4.98	166	*e*PN	Pn	10 17 00.5	-0.6
NKY	Niksic	5.00	310	⇑*i*Pn	Pn	10 17 02.5	+1.1
NKY				*e*Sn	Sn	10 17 58.8	-0.5
NKY	Niksic	5.00	310	P	Pn	10 17 03.6	+2.2
NKY				*e*Sn	Sn	10 17 58.8	-0.5
TKTP	Tekketepe	5.05	107	*i* P	Pn	10 17 03.4	+1.2
TKTP				*i* S	Sg	10 18 38.5	+10
SVIS	Svilajnac	5.06	335	*e*Pn	Pn	10 17 01.9	-0.4
SVIS				*e*Sg	Sg	10 18 26.5	-2.4
SHUT	Suhut-Afyon	5.07	101	*e*PN	Pn	10 17 02.9	+0.5
HCY	Herceg Novi	5.11	304	⇑*i*Pn	Pn	10 17 03.6	+0.7
HCY				*e*Sn	Sn	10 18 01.0	-0.9
HCY	Herceg Novi	5.11	304	P	Pn	10 17 04.0	+1.1
HCY				*e*Sn	Sn	10 18 01.0	-0.9
PLE	Pljevlja	5.11	317	⇑*i*Pn	Pn	10 17 03.4	+0.5
PLE				*e*Sn	Sn	10 18 01.4	-0.5
PLE	Pljevlja	5.11	317	P	Pn	10 17 04.6	+1.7
PLE				*e*Sn	Sn	10 18 01.4	-0.5
ESKT	Eskisehir	5.13	90	*e*PN	Pn	10 17 04.3	+1.0
ESKT	Eskisehir	5.13	90	*i* P	Pn	10 17 03.9	+0.7
ESKT	Eskisehir	5.13	90	P	Pn	10 17 04.2	+0.9
SEYT	Eskypehyr	5.13	90	*i* P	Pn	10 17 03.9	+0.6
ISP	Isparta	5.26	109	*e*PN	Pn	10 17 06.5	+1.4
ISP	Isparta	5.26	109	*e*Pn	Pn	10 17 05.2	+0.1
ISP	Isparta	5.26	109	*e*Pn	Pn	10 17 04.7	-0.4
ISP	Isparta	5.26	109	⇓*i*P	Pn	10 17 06.1	+1.0
UPM	Unac-Piva	5.29	313	⇑*i*Pn	Pn	10 17 06.3	+0.9
UPM				*e*Sn	Sn	10 18 05.7	-0.7
UPM	Unac-Piva	5.29	313	P	Pn	10 17 07.1	+1.7
UPM				*e*Sn	Sn	10 18 05.7	-0.7
PE1	Pezze di Greco	5.30	284	*e*Pn	Pn	10 17 05.3	-0.3
BRY	Bratogost	5.32	309	⇑*i*Pn	Pn	10 17 06.9	+1.0
BRY				*e*Sn	Sn	10 18 06.5	-0.7
BRY	Bratogost	5.32	309	P	Pn	10 17 07.5	+1.6
BRY				*e*Sn	Sn	10 18 06.5	-0.7
TA1	Taranto	5.36	280	*e*Pn	Pn	10 17 06.5	+0.1
ELL	Elmali	5.38	122	*e*PN	Pn	10 17 04.0	-2.6
DIVS	Divibare	5.39	326	*e*Pn	Pn	10 17 07.5	+0.7
DIVS				*e*Sg	Sg	10 18 38.3	-1.1
BCK	Bucak	5.48	112	*e*PN	Pn	10 17 07.5	-0.6
BCK	Bucak	5.48	112	P	Pn	10 17 07.5	-0.6
AKAS	Kas	5.50	128	*i* P	Pn	10 17 10.6	+2.2
NOCI	Noci	5.57	283	Pn	Pn	10 17 08.9	-0.4
	408nm,1.0s						
TIRR	Tirgusor	5.68	32	⇓P	Pn	10 17

FG4	**Candela**	**6.78 285**	Pn	**Pn**	**10 17 26.3 +0.4**
	comp=Z,164nm,0.6s				
FG4			P		10 17 26.5
FG4	**Candela**	**6.78 285**	P	**Pn**	**10 17 26.3 +0.4**
FG4			pmax	pmax	
	comp=Z,164nm,0.6s				
BULG	**Bulgheria - Ca**	**6.80 276**	Pn	**Pn**	**10 17 27.0 +0.8**
MTTG	**Motta San Giov**	**6.86 258**	Pn	**Pn**	**10 17 26.8 -0.3**
	comp=Z,513nm,0.9s				
CMPR	**Campora**	**6.86 278**	Pn	**Pn**	**10 17 27.6 +0.5**
	comp=Z,160nm,0.7s				
CDRU	**Civita di Ruta**	**6.87 279**	Pn	**Pn**	**10 17 27.4 +0.2**
	comp=Z,101nm,0.6s				
SGTA	**Sant Agata di**	**6.90 285**	Pn	**Pn**	**10 17 27.7 +0.2**
	comp=Z,362nm,0.9s				
MSI	**Messina ING**	**6.91 260**	P	**Pn**	**10 17 29.4 +1.7**
MSRU	**Castanea**	**6.93 261**	Pn	**Pn**	**10 17 28.2 +0.2**
	comp=Z,190nm,0.4s				
CAFE	**Carife**	**6.98 284**	Pn	**Pn**	**10 17 28.8 +0.2**
	comp=Z,343nm,1.1s				
SNAL	**S. Angelo Dei**	**6.98 283**	Pn	**Pn**	**10 17 28.8 +0.1**
	comp=Z,466nm,1.1s				
FG5	**Orsara di Pugl**	**6.99 286**	P	**Pn**	**10 17 29.4 +0.6**
FG5			Pn	**Pn**	**10 17 29.6 +0.8**
FG5	**Orsara di Pugl**	**6.99 286**	Pn	**Pn**	**10 17 29.6 +0.8**
	comp=Z,158nm,0.9s				
MCRV	**Calabrutti - M**	**7.00 282**	Pn	**Pn**	**10 17 28.7 -0.2**
	comp=Z,204nm,0.7s				
DRGR		**7.16 352** ⇑	P	**Pn**	**10 17 30.2 -0.8**
DRGR		**7.16 352** ⇑	*i* P	**Pn**	**10 17 30.2 -0.8**
DRGR		**7.16 352**	P	**Pn**	**10 17 30.9 -0.1**
FG2	**Serracapriola**	**7.18 290**	P	**Pn**	**10 17 31.1 -0.3**
FG2	**Serracapriola**	**7.18 290**	Pn	**Pn**	**10 17 31.0 -0.4**
	comp=Z,225nm,0.7s				
MRB1	**Monte Rocchett**	**7.19 284**	P	**Pn**	**10 17 31.8 +0.3**
MRB1			Pn	**Pn**	**10 17 32.1 +0.6**
MRB1	**Monte Rocchett**	**7.19 284**	Pn	**Pn**	**10 17 32.1 +0.6**
	comp=Z,440nm,0.8s				
MMME	**Mongiuffi-Meli**	**7.21 259**	Pn	**Pn**	**10 17 32.8 +0.9**
	comp=Z,118nm,0.6s				
CANT	**Cankiri**	**7.26 80**	*e*PN	**Pn**	**10 17 33.0 +0.5**
CANT	**Cankiri**	**7.26 80**	P	**Pn**	**10 17 32.9 +0.4**
VPL	**Vulcano Piano**	**7.30 262**	Pn	**Pn**	**10 17 32.4 -0.7**
	comp=Z,470nm,0.7s				
LLI	**Lipari**	**7.32 263**	Pn	**Pn**	**10 17 32.9 -0.4**
	comp=Z,1µm,0.7s				
PSB1	**Pescosannita**	**7.32 285**	Pn	**Pn**	**10 17 35.0 +1.6**
	comp=Z,294nm,0.9s				
PSB1	**Pescosannita**	**7.32 285**	P	**Pn**	**10 17 34.9 +1.5**
KAMT	**Kaman**	**7.35 90**	*e*PN	**Pn**	**10 17 34.1 +0.4**
KAMT	**Kaman**	**7.35 90**	P	**Pn**	**10 17 34.1 +0.3**
SACR	**S. Croce Del S**	**7.43 286**	Pn	**Pn**	**10 17 35.2 +0.4**
	comp=Z,210nm,0.9s				
AGST	**Augusta-Monte**	**7.46 254**	P	**Pn**	**10 17 32.8 -2.5**
BSSO	**Busso**	**7.54 287**	Pn	**Pn**	**10 17 36.6 +0.3**
	comp=Z,156nm,0.8s				
PTRJ	**Pietraroja**	**7.55 286**	Pn	**Pn**	**10 17 36.8 +0.3**
	comp=Z,225nm,0.8s				
RHK3	**Tenkes**	**7.56 327** ⇑	*e*P	**Pn**	**10 17 37.0 +0.4**
FRES	**Fresagrandinar**	**7.58 290**	Pn	**Pn**	**10 17 36.7 -0.1**
	comp=Z,508nm,1.1s				
SSY	**Sortino**	**7.62 253**	Pn	**Pn**	**10 17 35.3 -2.1**
	comp=Z,132nm,0.7s				
SSY			P		10 17 35.6
LTBQ	**Tobruq**	**7.65 182**	*i* P	**Pn**	**10 17 37.9 0.0**
	SNR=96				
HAVL	**Avola**	**7.65 252**	P	**Pn**	**10 17 36.2 -1.7**
PKSM	**Moragy**	**7.67 330** ⇓	P	**Pn**	**10 17 37.6 -0.4**
PKSM	**Moragy**	**7.67 330** ⇓	*i* P	**Pn**	**10 17 37.6 -0.5**
PKSM	**Moragy**	**7.67 330**	P	**Pn**	**10 17 37.7 -0.4**
SGG	**Gregorio Mates**	**7.67 286**	P	**Pn**	**10 17 38.5 +0.4**
SGG	**Gregorio Mates**	**7.67 286**	Pn	**Pn**	**10 17 38.6 +0.5**
	comp=Z,189nm,0.6s				
PZI	**Palazzolo**	**7.74 253**	P	**Pn**	**10 17 36.6 -2.5**
PZI			Pn	**Pn**	**10 17 37.2 -1.9**
PZI	**Palazzolo**	**7.74 253**	Pn	**Pn**	**10 17 37.2 -1.9**
	comp=Z,16nm,0.1s				
BZK	**Bozkurt**	**7.76 70**	P	**Pn**	**10 17 40.5 +1.2**
VAGA	**Valle Agricola**	**7.78 286**	Pn	**Pn**	**10 17 39.9 +0.2**
	comp=Z,328nm,0.9s				
GALF	**Gagliano Caste**	**7.80 258**	Pn	**Pn**	**10 17 41.2 +1.3**
	comp=Z,446nm,0.6s				
MIDA	**Miranda**	**7.81 287**	P	**Pn**	**10 17 40.1 +0.1**
MIDA	**Miranda**	**7.81 287**	Pn	**Pn**	**10 17 40.0 0.0**
	comp=Z,147nm,0.8s				
MOCO	**Biccari - m.te**	**7.83 285**	Pn	**Pn**	**10 17 30.5 -10**
	comp=Z,281nm,1.0s				
HVZN	**Vizzini**	**7.87 254**	P	**Pn**	**10 17 39.2 -1.7**
HVZN	**Vizzini**	**7.87 254**	Pn	**Pn**	**10 17 39.3 -1.6**
	comp=Z,269nm,0.7s				
RNI2	**Rionero Sannit**	**7.89 288**	Pn	**Pn**	**10 17 41.7 +0.5**
	comp=Z,207nm,0.8s				
RNI2			P		10 17 41.9
HMDC	**Modica**	**7.91 253**	P	**Pn**	**10 17 39.5 -1.9**
HMDC	**Modica**	**7.91 253**	Pn	**Pn**	**10 17 39.4 -2.0**
	comp=Z,105nm,0.7s				
CERA	**Filignano**	**7.97 287**	Pn	**Pn**	**10 17 42.7 +0.4**
	comp=Z,253nm,0.9s				
VAE	**Valguarnera**	**7.99 257**	Pn	**Pn**	**10 17 44.7 +2.2**
	comp=Z,3.8nm,0.3s,baz=357,slow=6.6,SNR=3.9				
KIS	**Kishinev**	**8.01 23**	*e*P	**Pn**	**10 17 39.0 -3.8**
KIS			*e*S	**Sn**	**10 19 08.0 -5.4**
RAFF	**Raffo Rosso**	**8.12 255**	Pn	**Pn**	**10 17 44.5 +0.2**
	comp=Z,129nm,0.8s				
RAFF			P		10 17 45.1
RAFF	**Raffo Rosso**	**8.12 255**	P	**Pn**	**10 17 45.1 +0.8**
CSLB	**Castelbuono**	**8.12 261**	P	**Pn**	**10 17 44.3 0.0**
CSLB	**Castelbuono**	**8.12 261**	Pn	**Pn**	**10 17 44.2 -0.1**
	comp=Z,78nm,0.6s				
GIB	**Gibilmanna**	**8.13 261**	Pn	**Pn**	**10 17 44.7 +0.2**
	comp=Z,118nm,0.6s				
INTR	**Introdacqua**	**8.14 290**	Pn	**Pn**	**10 17 43.5 -1.1**
	comp=Z,296nm,1.3s				
SDI	**San Donato**	**8.15 287**	P	**Pn**	**10 17 44.5 -0.2**
SDI			Pn	**Pn**	**10 17 44.8 +0.1**
SDI	**San Donato**	**8.15 287**	Pn	**Pn**	**10 17 44.8 +0.1**
	comp=Z,90nm,0.8s				
POFI	**Posta Fibreno**	**8.22 287**	Pn	**Pn**	**10 17 46.4 +0.7**
	comp=Z,180nm,1.4s				
VVLD	**Villa Vallelon**	**8.32 288**	Pn	**Pn**	**10 17 47.5 +0.5**
	comp=Z,170nm,1.0s				
FAGN	**Fagnano**	**8.43 291**	Pn	**Pn**	**10 17 48.8 +0.3**
	comp=Z,114nm,0.5s				
NVLJ	**Novalja**	**8.46 308**	*e*Pn	**Pn**	**10 17 52.1 +3.2**
NVLJ			Sn	Sn	10 20 18.6 +54
NVLJ	**Novalja**	**8.46 308**	*e*Pn	**Pn**	**10 17 52.0 +3.1**
TERO	**Teramo**	**8.51 293**	Pn	**Pn**	**10 17 49.2 -0.4**
	comp=Z,50nm,0.6s				
TERO			P		10 17 49.4
SEV	**Sevastopol'**	**8.52 52**	*e*P	**Pn**	**10 17 47.2 -2.6**
SEV			*e*S	**Sn**	**10 19 18.5 -7.5**
SEV			pmax	pmax	
	comp=Z,3.0nm,0.3s				
SEV			smax		
	comp=N,13nm,0.4s				
SEV			smax		
	comp=E,2.0nm,0.4s				
GUAR	**Guarcino**	**8.53 288**	P	**Pn**	**10 17 53.9 +4.0**
WDD	**Wield Dalam**	**8.58 246**	Pn	**Pn**	**10 17 50.4 -0.2**
	comp=E,251nm,0.8s				
AQU	**L'Aquila**	**8.58 291**	*e*Pn	**Pn**	**10 17 50.2 -0.4**
AQU	**L'Aquila**	**8.58 291**	*e*Pn	**Pn**	**10 17 50.2 -0.4**
USI	**Ustica**	**8.62 267**	P	**Pn**	**10 17 50.5 -0.7**
USI			Pn	**Pn**	**10 17 51.0 -0.2**
USI	**Ustica**	**8.62 267**	Pn	**Pn**	**10 17 51.0 -0.2**
	comp=E,125nm,0.4s				
BUD	**Budapest**	**8.62 336** ⇓	*e*	**Pn**	**10 17 56.9 +5.7**
CAMP	**Campotosto**	**8.62 293**	Pn	**Pn**	**10 17 50.5 -0.7**
	comp=E,24nm,1.2s				
CORL	**Corleone**	**8.71 261**	Pn	**Pn**	**10 17 54.0 +1.6**
	comp=E,145nm,0.8s				
FIAM	**Fiamignano**	**8.77 290**	P	**Pn**	**10 17 54.0 +0.8**
FIAM	**Fiamignano**	**8.77 290**	Pn	**Pn**	**10 17 53.9 +0.7**
	comp=E,108nm,1.0s				
PSZ	**Piszkesteto**	**8.77 341**	*e*Pn	**Pn**	**10 17 52.8 -0.3**
PSZ	**Piszkesteto**	**8.77 341** ⇑	*i* P	**Pn**	**10 17 53.3 +0.1**
PSZ	**Piszkesteto**	**8.77 341** ⇓	*e*	**Pn**	**10 17 51.6 -1.6**
PSZ	**Piszkesteto**	**8.77 341**	*e*Pn	**Pn**	**10 17 52.8 -0.4**
PSZ	**Piszkesteto**	**8.77 341**	P	**Pn**	**10 17 53.3 +0.1**
YAL	**Yalta**	**8.79 54**	*e*P	**Pn**	**10 17 53.2 -0.3**
YAL			*e*S	**Sn**	**10 19 32.3 -0.3**
YAL			pmax	pmax	
	comp=Z,21nm,0.9s				
YAL			smax		
	comp=N,28nm,0.9s				
YAL			smax		
	comp=E,13nm,0.7s				
YAL	**Yalta**	**8.79 54**	*e*P	**Pn**	**10 17 53.2 -0.3**
	comp=E,21nm,0.9s				
YAL			*e*S	**Sn**	**10 19 32.3 -0.3**
	comp=E,28nm,0.9s				
CERT	**Cerreto**	**8.80 288**	Pn	**Pn**	**10 17 52.9 -0.7**
	comp=E,59nm,0.7s				
CERT			P		10 17 53.6
CERT	**Cerreto**	**8.80 288**	P	**Pn**	**10 17 53.6 0.0**
LNSS	**Leonessa**	**8.90 292**	Pn	**Pn**	**10 17 55.9 +0.9**
	comp=E,123nm,0.6s				
NRCA	**Norcia**	**8.92 294**	P	**Pn**	**10 17 55.0 -0.2**
NRCA	**Norcia**	**8.92 294**	Pn	**Pn**	**10 17 54.9 -0.3**
	comp=E,29nm,0.6s				
KMPD	**K-Podol'skiy**	**8.99 10**	P	**Pn**	**10 17 56.0 -0.2**
SIM	**Simferopol'**	**9.01 51**	*e*P	**Pn**	**10 17 55.8 -0.6**
SIM			*e*S	**Sn**	**10 19 37.2 -0.6**
SIM			pmax	pmax	
	comp=Z,79nm,0.6s				
SIM			smax		
	comp=N,295nm,0.8s				
SIM			smax		
	comp=E,163nm,1.1s				
SIM	**Simferopol'**	**9.01 51**	*e*P	**Pn**	**10 17 55.8 -0.6**
	comp=E,79nm,0.6s				
UZH	**Uzhgorod**	**9.02 352**	*e*P	**Pn**	**10 17 56.3 -0.3**
UZH			*e*S	**Sn**	**10 19 37.9 -0.2**
UZH			MLR	MLR	
	comp=Z,1µm,13.0s				
MNS	**Montasola**	**9.11 291**	Pn	**Pn**	**10 17 58.7 +0.8**
	comp=Z,67nm,1.1s				
KECS	**Kecovo**	**9.16 344**	*i* PN	**Pn**	**10 17 58.7 +0.1**
KECS			*e*SG	Sn	10 20 48.7 +67
SNTG	**Esanatoglia**	**9.17 296**	P	**Pn**	**10 17 57.5 -1.1**
SNTG	**Esanatoglia**	**9.17 296**	Pn	**Pn**	**10 17 57.4 -1.2**
	comp=Z,67nm,1.2s				
ERC	**Erice**	**9.22 263**	P	**Pn**	**10 18 00.7 +1.3**
ASS	**Assisi**	**9.31 295**	Pn	**Pn**	**10 18 00.3 -0.3**
	comp=Z,3.0nm,0.9s				
ASS			P		10 18 00.6
ASS	**Assisi**	**9.31 295**	P	**Pn**	**10 18 00.3 -0.3**
ASS			pmax	pmax	
	comp=Z,3.0nm,0.9s				
KOLS	**Kolonicke sedl**	**9.32 352**	*i* PN	**Pn**	**10 18 00.6 -0.1**
KOLS			*i* SG	Sn	10 20 50.2 +65
CRVS	**Cervenica-Dubn**	**9.39 349**	*i* PN	**Pn**	**10 18 04.5 +2.8**
CRVS			*i* SG	Sn	10 20 50.4 +63
FSSB	**Fossombrone**	**9.43 299**	Pn	**Pn**	**10 18 00.5 -1.7**
	comp=Z,34nm,0.6s				
FSSB			P		10 18 01.4
MURB	**Monte Urbino**	**9.46 296**	Pn	**Pn**	**10 18 02.1 -0.5**
	comp=Z,100nm,0.8s				
MURB			P		10 18 02.7
LJU	**Ljubljana**	**9.51 315**	*e*Pn	**Pn**	**10 18 04.0 +0.7**
SUDU	**Sudak**	**9.52 54**	*e*P	**Pn**	**10 18 02.0 -1.4**
SUDU			*e*S	**Sn**	**10 19 46.4 -4.0**
SUDU			pmax	pmax	
	comp=Z,4.0nm,0.8s				
SUDU			smax		
	comp=N,21nm,0.9s				
PIEI	**Pieia**	**9.54 297**	P	**Pn**	**10 18 01.7 -2.0**
PERS	**Pernice**	**9.58 319**	*i* Pn	**Pn**	**10 18 05.3 +1.0**
VYHS	**Vyhne**	**9.59 338**	*e*P	**Pn**	**10 18 03.9 -0.4**
VYHS			MLR	MLR	
	comp=Z,1µm,54.6s				
VYHS	**Vyhne**	**9.59 338**	*e*PN	**Pn**	**10 18 03.9 -0.4**
VYHS			*e*SG	Sn	10 20 57.8 +66
JAVS	**Javornik**	**9.68 313**	*i* Pn	**Pn**	**10 18 06.0 +0.4**
SOP	**Sopron**	**9.70 328** ⇓	*e*	**Pn**	**10 18 03.8 -2.1**
OBKA	**Obir**	**9.79 317** ⇑	*i* Pn	**Pn**	**10 18 07.5 +0.3**
OBKA		⇓	*i* Sn	**Sn**	**10 19 57.8 +0.7**
ARSA	**Arzberg**	**9.82 323** ⇑	*i* Pn	**Pn**	**10 18 08.8 +1.2**
ARSA	**Arzberg**	**9.82 323**	Pn	**Pn**	**10 18 08.8 +1.2**
VOY	**Vojsko**	**9.85 313**	*e*Pn	**Pn**	**10 18 08.2 +0.2**
VOY			*e*		10 18 25.7
VOY			*e*		10 18 53.3
VOY			*e*		10 20 01.5
ZST	**Bratislava**	**9.90 331**	*e*Pn	**Pn**	**10 18 12.5 +3.8**
	comp=Z,8.7nm,0.4s				
ZST			*i* Sg	Sn	10 21 01.2 +61
ZST	**Bratislava**	**9.90 331**	*e*P	**Pn**	**10 18 12.5 +3.8**
ZST			MLR	MLR	
	comp=Z,2µm,11.3s				
ZST	**Bratislava**	**9.90 331**	*e*PN	**Pn**	**10 18 12.5 +3.8**
ZST			*i* SG	Sn	10 21 01.2 +61
ZST	**Bratislava**	**9.90 331**	*e*P	**Pn**	**10 18 12.5 +3.8**
	comp=Z,2µm,11.3s				
STHS	**Stebnicka Huta**	**9.93 349**	*e*PN	**Pn**	**10 18 13.4 +4.4**
CRE	**Caprese Michel**	**9.97 297**	P	**Pn**	**10 18 11.3 +1.7**
GORS	**Gorjuse**	**9.97 315**	*i* Pn	**Pn**	**10 18 07.4 -2.2**
KWP	**Kalwaria**	**9.97 354**	*e*P	**Pn**	**10 18 11.6 +2.0**
KWP			*e*		10 18 13.6
KWP	**Kalwaria**	**9.97 354** ⇑	*i* P	**Pn**	**10 18 10.8 +1.2**
MODS	**Modra-Piesok**	**9.98 332**	*e*P	**Pn**	**10 18 16.5 +6.7**
MODS			MLR	MLR	
	comp=Z,100nm,2.3s				
MODS	**Modra-Piesok**	**9.98 332**	*e*PN	**Pn**	**10 18 16.5 +6.7**
MODS			*e*SG	Sn	10 21 05.6 +64
LVV	**L'vov**	**10.10 359**	*e*P	**Pn**	**10 18 06.8 -4.6**
LVV			MLR	MLR	
	comp=N,700nm,10.0s				
LVV			MLR	MLR	
	comp=E,700nm,10.0s				
LVV			MLR	MLR	
	comp=Z,600nm,10.0s				
CONA	**Conrad Observa**	**10.18 326** ⇓	*i* Pn	**Pn**	**10 18 12.8 +0.3**
PTCC	**Patocco-Chiusa**	**10.38 314**	P	**Pn**	**10 18 15.8 +0.6**
KBA	**Koelnbreinsper**	**10.79 317**	*i* Pn	**Pn**	**10 18 22.0 +1.2**
	SNR=14				
MOA	**Molln**	**10.84 322** ⇑	*i* Pn	**Pn**	**10 18 24.5 +2.9**
MOA	**Molln**	**10.84 322** ⇑	*i* Pn	**Pn**	**10 18 24.5 +2.9**
PZZT	**Monte Pizzetto**	**10.88 298**	Pn	**Pn**	**10 18 22.0 -0.1**
	comp=Z,49nm,1.4s				
OJC	**Ojcow**	**10.95 345**	*e*P	**Pn**	**10 18 23.7 +0.6**
OKC	**Ostrava-Krasne**	**10.99 339**	AMS	AMS	10 23 00.0
	comp=Z,1µm,13.2s				
ABTA	**Abfaltersbach**	**11.05 313**	*i* Pn	**Pn**	**10 18 24.4 +0.1**
	SNR=10				
MORC	**Moravsky Berou**	**11.11 337** ⇑	*i* P	**Pn**	**10 18 34.4 +9.1**
GSCL	**Gusciola**	**11.14 299**	P	**Pn**	**10 18 29.7 +4.1**
CTI	**Castel Tesino**	**11.17 309**	P	**Pn**	**10 18 25.0 -1.1**
CTI			pmax	pmax	
	comp=Z,28nm,0.7s				
CTI	**Castel Tesino**	**11.17 309**	Pn	**Pn**	**10 18 25.0 -1.1**
	comp=Z,28nm,0.7s				
MMAI	**Mount Meron Ar**	**11.23 123**	Pn	**Pn**	**10 18 26.9 0.0**
	comp=Z,2.6nm,0.3s,baz=312,slow=11,SNR=6.1				
TREC	**Trest**	**11.41 330**	AMS	AMS	10 23 00.0
	comp=Z,1µm,9.9s				
VSL	**Villasalto**	**11.45 274**	*e*Pn	**Pn**	**10 18 30.1 +0.2**
VSL	**Villasalto**	**11.45 274**	*e*Pn	**Pn**	**10 18 30.1 +0.2**
KIEV	**Kiev**	**11.53 16**	*e*Pn	**Pn**	**10 18 28.7 -2.1**
	comp=Z,15nm,0.7s				
KIEV	**Kiev**	**11.53 16**	*e*P	**Pn**	**10 18 28.7 -2.2**
KIEV			pmax	pmax	
	comp=Z,15nm,0.7s				
KIEV	**Kiev**	**11.53 16**	*e*Pn	**Pn**	**10 18 28.7 -2.2**
	comp=Z,15nm,0.7s				
AKASG	**Malin Array Be**	**11.54 16**	Pn	**Pn**	**10 18 28.4 -2.7**
	comp=Z,2.5nm,0.3s,baz=195,slow=13,SNR=39				
AKBB	**Malin Array Si**	**11.54 16**	*e*Pn	**Pn**	**10 18 29.4 -1.6**
AKBB	**Malin Array Si**	**11.54 16**	*e*Pn	**Pn**	**10 18 29.4 -1.6**
PGF	**Pioggiola**	**11.81 289**	*e*P	**Pn**	**10 18 35.7 +0.8**
	comp=Z,110nm,1.3s				
PGF	**Pioggiola**	**11.81 289**	*e*P	**Pn**	**10 18 35.7 +0.8**
PGF			pmax	pmax	
	comp=Z,55nm,1.3s				
PGF	**Pioggiola**	**11.81 289**	*e*P	**Pn**	**10 18 35.7 +0.8**
	comp=Z,55nm,1.3s				
GEC2	**GERESS Array S**	**11.82 324**	*e*Pn	**Pn**	**10 18 35.4 +0.5**
GEC2	**GERESS Array S**	**11.82 324**	*e*P	**Pn**	**10 18 35.4 +0.5**
GERES	**GERESS Array B**	**11.82 324**	Pn	**Pn**	**10 18 37.7 +2.8**
	comp=Z,0.3nm,0.3s,baz=146,slow=13,SNR=10				
WTTA	**Wattenberg**	**11.83 314** ⇓	*i* Pn	**Pn**	**10 18 35.8 +0.7**
MABI	**Malga Bissina**	**11.87 307**	P	**Pn**	**10 18 36.0 +0.4**
DPC	**Dobruska-Polom**	**12.00 335**	*e*P	**Pn**	**10 18 41.1 +3.8**
DPC			AMS	AMS	10 23 30.0
	comp=Z,1µm,9.9s				
DPC	**Dobruska-Polom**	**12.00 335**	*e*P	**Pn**	**10 18 41.1 +3.8**
	comp=Z,1µm,9.9s				
SQTA	**Sankt Quirin**	**12.05 313** ⇑	*i* Pn	**Pn**	**10 18 38.7 +0.6**
	SNR=5.2				
KHC	**Kasperske Hory**	**12.09 325**	*e*P	**Pn**	**10 18 41.2 +2.7**
KHC			AMS	AMS	10 23 10.0
	comp=Z,2µm,12.8s				
KHC	**Kasperske Hory**	**12.09 325**	*e*P	**Pn**	**10 18 41.2 +2.7**
	comp=Z,2µm,12.8s				
MOTA	**Moosalm**	**12.18 313** ⇓	*i* Pn	**Pn**	**10 18 40.1 +0.2**
MOTA		⇑	*i* Sn	**Sn**	**10 20 53.6 -2.0**
FETA	**Feichten**	**12.22 311** ⇓	*i* Pn	**Pn**	**10 18 41.0 +0.6**
PRU	**Pruhonice**	**12.34 330**	AMS	AMS	10 23 30.0
	comp=Z,1µm,9.9s				
KEST	**Kesra**	**12.42 256**	Pn	**Pn**	**10 18 46.0 +2.8**
	comp=Z,0.3nm,0.3s,baz=253,slow=5.1,SNR=6.3				
DAVOX	**Davos/Dischmat**	**12.60 309**	Pn	**Pn**	**10 18 46.0 +0.4**
	comp=Z,0.8nm,0.3s,baz=134,slow=19,SNR=7.4				
DAVOX			LR	LR	10 23 43.5
	comp=Z,586nm,18.6s,baz=110,slow=38				
ASF	**Jabal al Asfar**	**12.73 122**	LR	LR	10 24 05.5
	comp=Z,205nm,21.7s,baz=169,slow=39				
PVCC	**Panska Ves**	**12.76 331**	AMS	AMS	10 23 40.0
	comp=Z,1µm,10.9s				
SBF	**Sospel**	**13.18 294**	*e*P	**Pn**	**10 18 53.6 0.0**
	comp=Z,123nm,1.3s				
SBF	**Sospel**	**13.18 294**	*e*P	**Pn**	**10 18 53.6 0.0**
SBF			pmax	pmax	
	comp=Z,61nm,1.3s				
SBF	**Sospel**	**13.18 294**	*e*P	**Pn**	**10 18 53.6 0.0**
	comp=Z,61nm,1.3s				
BRG	**Berggiesshubel**	**13.28 331**	*e*P	**Pn**	**10 19 01.0 +6.2**
BRG			pmax	pmax	
	comp=Z,3.0nm,1.2s				
BRG			pmax	pmax	
	comp=Z,4.0nm,1.3s				
BRG			MLR	MLR	
	comp=N,8µm,15.0s				
BRG			MLR	MLR	
	comp=E,456nm,10.9s				
BRG			MLR	MLR	
	comp=Z,361nm,11.2s				
BRG	**Berggiesshubel**	**13.28 331**	*e*P	**Pn**	**10 19 01.0 +6.2**
	comp=Z,6.5nm,1.2s				
BRG			*e*		10 19 06.3
	comp=Z,13nm,1.3s				
BRG					
	comp=N,762nm,15.0s				
BRG					
	comp=E,603nm,10.9s				
BRG					
	comp=Z,1µm,11.2s				
EIL	**Elat**	**13.35 135**	Pn	**Pn**	**10 18 54.8 -1.1**
	comp=Z,0.3nm,0.3s,baz=343,slow=7.9,SNR=5.6				
NKC	**Novy Kostel**	**13.39 326**	AMS	AMS	10 24 00.0
	comp=Z,2µm,11.8s				
FRF	**La Foret Royal**	**13.68 292**	*e*P	**Pn**	**10 19 01.2 +0.8**
	comp=Z,110nm,1.4s				
FRF	**La Foret Royal**	**13.68 292**	*e*P	**Pn**	**10 19 01.2 +0.8**
FRF			pmax	pmax	
	comp=Z,55nm,1.4s				
FRF	**La Foret Royal**	**13.68 292**	*e*P	**Pn**	**10 19 01.2 +0.8**
	comp=Z,55nm,1.4s				
LMR	**La Mourre**	**13.74 291**	*e*P	**Pn**	**10 19 01.6 +0.4**
	comp=Z,54nm,1.3s				
LMR	**La Mourre**	**13.74 291**	*e*P	**Pn**	**10 19 01.6 +0.4**
LMR			pmax	pmax	
	comp=Z,27nm,1.3s				
LMR	**La Mourre**	**13.74 291**	*e*P	**Pn**	**10 19 01.6 +0.4**
	comp=Z,27nm,1.3s				
MBDF	**Montbardon**	**13.85 297**	*e*P	**Pn**	**10 19 01.9 -0.8**
	comp=Z,32nm,0.9s				
MBDF	**Montbardon**	**13.85 297**	*e*P	**Pn**	**10 19 01.9 -0.8**
MBDF			pmax	pmax	
	comp=Z,16nm,0.9s				
MBDF	**Montbardon**	**13.85 297**	*e*P	**Pn**	**10 19 01.9 -0.8**
	comp=Z,16nm,0.9s				
CLL	**Collm**	**13.98 330**	*e*P	**Pn**	**10 19 02.0 -2.4**
CLL			*es*PP		10 19 20.0
CLL			LmH		10 23 00.0
	comp=N,900nm,21.5s				
CLL			LmH		10 23 00.0
	comp=E,1µm,21.1s				
BNI	**Bardonecchia**	**14.00 298**	*e*Pn	**Pn**	**10 19 06.8 +2.0**
BNI	**Bardonecchia**	**14.00 298**	*e*P	**Pn**	**10 19 06.8 +2.0**
LPG	**La Plagne**	**14.09 300**	*e*P	**Pn**	**10 19 05.6 -0.3**
	comp=E,33nm,0.8s				
LPG	**La Plagne**	**14.09 300**	*e*P	**Pn**	**10 19 05.6 -0.3**
LPG			pmax	pmax	
	comp=Z,17nm,0.8s				
LPG	**La Plagne**	**14.09 300**	*e*P	**Pn**	**10 19 05.6 -0.3**
	comp=Z,16nm,0.8s				
LPL	**La Plagne**	**14.11 300**	*e*P	**Pn**	**10 19 05.8 -0.3**
	comp=Z,38nm,1.0s				
LPL	**La Plagne**	**14.11 300**	*e*P	**Pn**	**10 19 05.8 -0.3**
LPL			pmax	pmax	
	comp=Z,19nm,1.0s				
LPL	**La Plagne**	**14.11 300**	*e*P	**Pn**	**10 19 05.8 -0.3**
	comp=Z,19nm,1.0s				
TAVF	**Tavernes**	**14.12 292**	*e*P	**Pn**	**10 19 06.2 -0.1**
STOF	**St-Etienne Org**	**14.29 293**	*e*P	**Pn**	**10 19 11.6 +2.9**
SUW	**Suwalki**	**14.32 358**	*e*P	**Pn**	**10 19 09.8 +0.9**
SUW			*e*		10 19 15.8
SUW			LMZ		10 24 57.1
	comp=Z,700nm,19.1s				
SUW	**Suwalki**	**14.32 358**	*e*P	**Pn**	**10 19 09.8 +0.8**
SUW			*e*		10 19 15.8
SUW	**Suwalki**	**14.32 358**	*e*P	**Pn**	**10 19 09.8 +0.8**
SUW			MLR	MLR	
	comp=Z,700nm,19.1s				
SUW	**Suwalki**	**14.32 358**	*e*P	**Pn**	**10 19 09.8 +0.8**
	comp=Z,700nm,19.1s				
PUYF	**Puyloubier**	**14.36 291**	*e*P	**Pn**	**10 19 12.5 +2.9**
VILF	**Villemus**

VIVF	**Saint-Julien-I**	**15.34**	**296**	*e*P	**Pn**	**10 19 22.2**	**-0.6**
	comp=Z,22nm,1.0s						
VIVF	**Saint-Julien-I**	**15.34**	**296**	*e*P	**Pn**	**10 19 22.2**	**-0.6**
VIVF				pmax	pmax		
	comp=Z,11nm,1.0s						
VIVF	**Saint-Julien-I**	**15.34**	**296**	*e*P	**Pn**	**10 19 22.2**	**-0.6**
	comp=Z,11nm,1.0s						
VRSR	**Storozhevoye**	**15.54**	**37**	*e*P	**Pn**	**10 19 23.5**	**-1.9**
VRSR				pmax	pmax		
	comp=N,9.0nm,0.9s						
VRSR				pmax	pmax		
	comp=Z,4.0nm,0.9s						
VRSR				pmax	pmax		
	comp=E,10.0nm,1.0s						
VRSR				MLR	MLR		
	comp=Z,70nm,14.0s						
VRSR				MLR	MLR		
	comp=N,90nm,17.0s						
VRSR				MLR	MLR		
	comp=E,60nm,15.0s						
VRSR	**Storozhevoye**	**15.54**	**37**	*e*P	**Pn**	**10 19 23.5**	**-1.9**
	comp=E,90nm,17.0s						
LASF	**Ste Croix**	**15.76**	**293**	*e*P	**Pn**	**10 19 27.4**	**-0.9**
	comp=E,144nm,1.7s						
LASF	**Ste Croix**	**15.76**	**293**	*e*P	**Pn**	**10 19 27.4**	**-0.9**
	comp=E,72nm,1.7s						
SMF	**Signal de Mont**	**16.37**	**302**	*e*P	**Pn**	**10 19 35.6**	**-0.5**
	comp=E,49nm,1.2s						
SMF	**Signal de Mont**	**16.37**	**302**	*e*P	**Pn**	**10 19 35.6**	**-0.5**
SMF				pmax	pmax		
	comp=Z,24nm,1.2s						
SMF	**Signal de Mont**	**16.37**	**302**	*e*P	**Pn**	**10 19 35.6**	**-0.5**
	comp=Z,24nm,1.2s						
LBL	**Lubilhac**	**16.40**	**296**	*e*P	**Pn**	**10 19 38.7**	**+2.1**
LOR	**Lormes**	**16.56**	**304**	*e*P	**Pn**	**10 19 36.5**	**-2.0**
	comp=Z,17nm,0.9s						
LOR				*e*MLR	MLR		
	comp=Z,593nm,17.0s						
LOR	**Lormes**	**16.56**	**304**	*e*P	**Pn**	**10 19 36.5**	**-2.0**
	comp=Z,8.7nm,0.9s						
LOR	**Lormes**	**16.56**	**304**	*e*P	**Pn**	**10 19 36.5**	**-2.0**
LOR				pmax	pmax		
	comp=Z,9.0nm,0.9s						
PYM	**Petit Puy Mans**	**16.68**	**298**	*e*P	**Pn**	**10 19 45.6**	**+5.5**
SSF	**Saint Saulge**	**16.71**	**303**	*e*P	**Pn**	**10 19 39.5**	**-1.0**
	comp=Z,14nm,0.7s						
SSF	**Saint Saulge**	**16.71**	**303**	*e*P	**Pn**	**10 19 39.5**	**-1.0**
SSF				pmax	pmax		
	comp=Z,7.0nm,0.7s						
SSF	**Saint Saulge**	**16.71**	**303**	*e*P	**Pn**	**10 19 39.5**	**-1.0**
	comp=Z,7.1nm,0.7s						
AVF	**Avril sur Loir**	**16.73**	**302**	*e*P	**Pn**	**10 19 39.2**	**-1.5**
	comp=Z,23nm,0.7s						
AVF	**Avril sur Loir**	**16.73**	**302**	*e*P	**Pn**	**10 19 39.2**	**-1.5**
AVF				pmax	pmax		
	comp=Z,11nm,0.7s						
AVF	**Avril sur Loir**	**16.73**	**302**	*e*P	**Pn**	**10 19 39.2**	**-1.5**
	comp=Z,11nm,0.7s						
MTLF	**Montolieu**	**16.85**	**290**	*e*P	**Pn**	**10 19 42.3**	**0.0**
	comp=Z,81nm,1.6s						
MTLF	**Montolieu**	**16.85**	**290**	*e*P	**Pn**	**10 19 42.3**	**0.0**
MTLF				pmax	pmax		
	comp=Z,41nm,1.6s						
MTLF	**Montolieu**	**16.85**	**290**	*e*P	**Pn**	**10 19 42.3**	**0.0**
	comp=Z,40nm,1.6s						
BGF	**Bois d'Agland**	**17.00**	**301**	*e*P	**Pn**	**10 19 42.7**	**-1.4**
	comp=Z,103nm,1.4s						
BGF	**Bois d'Agland**	**17.00**	**301**	*e*P	**Pn**	**10 19 42.7**	**-1.4**
BGF				pmax	pmax		
	comp=Z,52nm,1.4s						
BGF	**Bois d'Agland**	**17.00**	**301**	*e*P	**Pn**	**10 19 42.7**	**-1.4**
	comp=Z,52nm,1.4s						
CAF	**Calviac**	**17.17**	**295**	*e*P	**Pn**	**10 19 45.7**	**-0.5**
	comp=Z,52nm,1.3s						
CAF	**Calviac**	**17.17**	**295**	*e*P	**Pn**	**10 19 45.7**	**-0.5**
CAF				pmax	pmax		
	comp=Z,26nm,1.3s						
CAF	**Calviac**	**17.17**	**295**	*e*P	**Pn**	**10 19 45.7**	**-0.5**
	comp=Z,26nm,1.3s						
GIVF	**Givet**	**17.17**	**314**	*e*P	**Pn**	**10 19 45.1**	**-1.1**
TCF	**Toulx Ste Croi**	**17.35**	**299**	*e*P	**Pn**	**10 19 47.8**	**-0.7**
	comp=Z,48nm,1.2s						
TCF	**Toulx Ste Croi**	**17.35**	**299**	*e*P	**Pn**	**10 19 47.8**	**-0.7**
TCF				pmax	pmax		
	comp=Z,24nm,1.2s						
TCF	**Toulx Ste Croi**	**17.35**	**299**	*e*P	**Pn**	**10 19 47.8**	**-0.7**
	comp=Z,24nm,1.2s						
OBN	**Obninsk**	**17.48**	**24⇑**	*e*P	**Pn**	**10 19 47.5**	**-2.6**
OBN				*e*S	**Sn**	**10 22 55.0**	**-10**
OBN				pmax	pmax		
	comp=Z,35nm,1.0s						
OBN				MLR	MLR		
	comp=Z,300nm,13.0s						
BAIF	**Baives**	**17.49**	**313**	*e*P	**Pn**	**10 19 48.4**	**-1.8**
	comp=Z,29nm,1.0s						
BAIF	**Baives**	**17.49**	**313**	*e*P	**Pn**	**10 19 48.4**	**-1.8**
BAIF				pmax	pmax		
	comp=Z,15nm,1.0s						
BAIF	**Baives**	**17.49**	**313**	*e*P	**Pn**	**10 19 48.4**	**-1.8**
	comp=Z,15nm,1.0s						
RJF	**Les Rejaudoux**	**17.61**	**296**	*e*P	**Pn**	**10 19 51.6**	**-0.2**
RJF				*e*MLR	MLR		
	comp=Z,662nm,17.0s						
MLS	**Moulis**	**17.65**	**288**	*e*P	**Pn**	**10 19 51.6**	**-0.6**
EPOB	**Poblet**	**17.65**	**283**	P	**Pn**	**10 19 52.8**	**+0.5**
	comp=Z,64nm,1.6s						
EPOB	**Poblet**	**17.65**	**283**	P	**Pn**	**10 19 52.8**	**+0.5**
	comp=Z,64nm,1.6s						
EIBI	**Ibiza**	**17.69**	**275**	P	**Pn**	**10 19 55.3**	**+2.5**
EIBI	**Ibiza**	**17.69**	**275**	P	**Pn**	**10 19 55.3**	**+2.5**
EPF	**Esparros**	**18.20**	**288**	*e*P	**Pn**	**10 19 57.9**	**-1.2**
ERTA	**Horta de San J**	**18.24**	**282**	P	**Pn**	**10 19 59.0**	**-0.5**
	comp=Z,81nm,1.9s						
ERTA	**Horta de San J**	**18.24**	**282**	P	**Pn**	**10 19 59.0**	**-0.5**
	comp=Z,81nm,1.9s						
EBIE	**Bielsa**	**18.34**	**287**	P	**Pn**	**10 20 00.7**	**0.0**
	comp=Z,49nm,1.5s						
EBIE	**Bielsa**	**18.34**	**287**	P	**Pn**	**10 20 00.7**	**0.0**
	comp=Z,49nm,1.5s						
MOS	**Moscow**	**18.34**	**25**	*e*P	**Pn**	**10 19 59.9**	**-0.7**
MOS				pmax	pmax		
	comp=Z,77nm,0.8s						
MOS	**Moscow**	**18.34**	**25**	*e*P	**Pn**	**10 19 59.9**	**-0.7**
	comp=Z,77nm,0.8s						
ESAC	**San Caprasio**	**18.80**	**284**	P	**Pn**	**10 20 06.8**	**+0.4**
	comp=Z,50nm,0.9s						
ESAC	**San Caprasio**	**18.80**	**284**	P	**Pn**	**10 20 06.8**	**+0.4**
	comp=Z,50nm,0.9s						
VSU	**Vasula**	**18.83**	**4⇑**	*e*P	**Pn**	**10 20 04.4**	**-2.2**
ETSF	**Etsaut**	**18.86**	**288**	*e*P	**Pn**	**10 20 06.4**	**-0.7**
	comp=Z,27nm,1.0s						
ETSF	**Etsaut**	**18.86**	**288**	*e*P	**Pn**	**10 20 06.4**	**-0.7**
ETSF				pmax	pmax		
	comp=Z,14nm,1.0s						
ETSF	**Etsaut**	**18.86**	**288**	*e*P	**Pn**	**10 20 06.4**	**-0.7**
	comp=Z,14nm,1.0s						
EMOS	**Mosqueruela**	**18.90**	**280**	P	**Pn**	**10 20 08.0**	**+0.4**
	comp=Z,115nm,1.4s						
EMOS	**Mosqueruela**	**18.90**	**280**	P	**Pn**	**10 20 07.9**	**+0.3**
	comp=Z,115nm,1.4s						
MFF	**Saint Martin d**	**19.01**	**299**	*e*P	**Pn**	**10 20 07.6**	**-1.3**
	comp=Z,20nm,0.8s						
MFF	**Saint Martin d**	**19.01**	**299**	*e*P	**Pn**	**10 20 07.6**	**-1.3**
MFF				pmax	pmax		
	comp=Z,10.0nm,0.8s						
MFF	**Saint Martin d**	**19.01**	**299**	*e*P	**Pn**	**10 20 07.6**	**-1.3**
	comp=Z,9.8nm,0.8s						
SJPF	**Ste Jean**	**19.35**	**288**	*e*P	**Pn**	**10 20 11.6**	**-1.4**
	comp=Z,23nm,0.8s						
SJPF	**Ste Jean**	**19.35**	**288**	*e*P	**Pn**	**10 20 11.6**	**-1.4**
SJPF				pmax	pmax		
	comp=Z,12nm,0.8s						
SJPF	**Ste Jean**	**19.35**	**288**	*e*P	**Pn**	**10 20 11.6**	**-1.4**
	comp=Z,12nm,0.8s						
ECHE	**Chera**	**19.38**	**278**	P	**Pn**	**10 20 13.7**	**+0.4**
ECHE				pmax	pmax		
	comp=Z,32nm,1.0s						
ECHE	**Chera**	**19.38**	**278**	P	**Pn**	**10 20 13.7**	**+0.4**
	comp=Z,32nm,1.0s						
LDF	**La Druitiere**	**19.52**	**305**	*e*P	**Pn**	**10 20 13.0**	**-1.9**
	comp=Z,40nm,1.1s						
LDF	**La Druitiere**	**19.52**	**305**	*e*P	**Pn**	**10 20 13.0**	**-1.9**
LDF				pmax	pmax		
	comp=Z,20nm,1.1s						
LDF	**La Druitiere**	**19.52**	**305**	*e*P	**Pn**	**10 20 13.0**	**-1.9**
	comp=Z,20nm,1.1s						
FLN	**La Foliniere**	**19.80**	**305**	*e*P	**Pn**	**10 20 16.6**	**-1.7**
	comp=Z,42nm,0.9s						
FLN				*e*MLR	MLR		
	comp=Z,692nm,18.8s						
FLN	**La Foliniere**	**19.80**	**305**	*e*P	**Pn**	**10 20 16.6**	**-1.7**
FLN				pmax	pmax		
	comp=Z,21nm,0.9s						
FLN	**La Foliniere**	**19.80**	**305**	*e*P	**Pn**	**10 20 16.6**	**-1.7**
	comp=Z,21nm,0.9s						
GRR	**Gorron**	**19.92**	**304**	*e*P	**Pn**	**10 20 18.1**	**-1.7**
	comp=Z,21nm,0.7s						
GRR	**Gorron**	**19.92**	**304**	*e*P	**Pn**	**10 20 18.1**	**-1.7**
GRR				pmax	pmax		
	comp=Z,11nm,0.7s						
GRR	**Gorron**	**19.92**	**304**	*e*P	**Pn**	**10 20 18.1**	**-1.7**
	comp=Z,11nm,0.7s						
ETOR	**Torete**	**20.05**	**282**	P	**P**	**10 20 18.8**	**-0.8**
	comp=Z,25nm,0.8s						
ETOR	**Torete**	**20.05**	**282**	P	**P**	**10 20 18.8**	**-0.8**
ETOR				pmax	pmax		
	comp=Z,25nm,0.8s						
ETOR	**Torete**	**20.05**	**282**	P	**P**	**10 20 18.8**	**-0.8**
	comp=Z,25nm,0.8s						
ECRI	**Cripan**	**20.30**	**287**	P	**P**	**10 20 22.3**	**0.0**
	comp=Z,19nm,1.0s						
ECRI	**Cripan**	**20.30**	**287**	P	**P**	**10 20 22.3**	**+0.1**
ECRI				pmax	pmax		
	comp=Z,19nm,1.0s						
ECRI	**Cripan**	**20.30**	**287**	P	**P**	**10 20 22.3**	**+0.1**
	comp=Z,19nm,1.0s						
EVIA	**Vianos**	**20.71**	**276**	P	**P**	**10 20 27.7**	**+0.9**
	comp=Z,47nm,0.9s						
EVIA	**Vianos**	**20.71**	**276**	P	**P**	**10 20 27.7**	**+0.9**
EVIA				pmax	pmax		
	comp=Z,47nm,0.9s						
EVIA	**Vianos**	**20.71**	**276**	P	**P**	**10 20 27.7**	**+0.9**
	comp=Z,47nm,0.9s						
ELAN	**Lanestosa**	**20.97**	**289**	P	**P**	**10 20 29.1**	**-0.4**
	comp=Z,68nm,1.1s						
ELAN	**Lanestosa**	**20.97**	**289**	P	**P**	**10 20 29.1**	**-0.4**
	comp=Z,68nm,1.1s						
SGMF	**Saint Gilles**	**20.98**	**303**	*e*P	**P**	**10 20 28.4**	**-1.2**
QUIF	**Quistinic**	**21.30**	**302**	*e*P	**P**	**10 20 32.4**	**-0.7**
EQES	**Quesada**	**21.33**	**274**	P	**P**	**10 20 35.6**	**+2.1**
	comp=Z,78nm,1.6s,mb4.8						
EQES	**Quesada**	**21.33**	**274**	P	**P**	**10 20 35.6**	**+2.1**
	comp=Z,78nm,1.6s,mb4.8						
EBER	**Berja**	**21.42**	**271**	P	**P**	**10 20 35.7**	**+1.2**
	comp=Z,154nm,2.6s,mb4.9						
EBER	**Berja**	**21.42**	**271**	P	**P**	**10 20 35.7**	**+1.2**
	comp=Z,154nm,2.6s,mb4.9						
ROSF	**Rostrenen**	**21.47**	**303**	*e*P	**P**	**10 20 33.6**	**-1.2**
	comp=Z,54nm,1.1s,mb4.5						
ROSF	**Rostrenen**	**21.47**	**303**	*e*P	**P**	**10 20 33.6**	**-1.2**
ROSF				pmax	pmax		
	comp=Z,27nm,1.1s,mb4.5						
ROSF	**Rostrenen**	**21.47**	**303**	*e*P	**P**	**10 20 33.6**	**-1.2**
	comp=Z,27nm,1.1s,mb4.5						
HFS	**Hagfors**	**21.48**	**346**	P	**P**	**10 20 33.7**	**-1.1**
	comp=Z,9.1nm,0.8s,mb4.2,baz=160,slow=11,SNR=14						
HFS				LR	LR	10 29 50.1	
	comp=Z,191nm,18.7s,MS3.5,baz=161,slow=39						
HFA0	**Hagfors New Ar**	**21.49**	**346**	Pn	**P**	**10 20 33.6**	**-1.3**
ESDC	**Sonseca Array**	**21.65**	**279**	P	**P**	**10 20 37.1**	**+0.3**
	comp=Z,5.6nm,0.6s,mb4.2						
ESDC	**Sonseca Array**	**21.65**	**279**	P	**P**	**10 20 35.6**	**-1.2**
	comp=Z,3.1nm,0.6s,mb3.9,baz=76,slow=9.9,SNR=9.4						
ESDC	**Sonseca Array**	**21.65**	**279**	P	**P**	**10 20 37.1**	**+0.2**
	comp=Z,5.6nm,0.6s,mb4.2						
ESLA	**Sonseca Array**	**21.65**	**279**	*e*P	**P**	**10 20 35.2**	**-1.6**
	comp=Z,2.2nm,0.8s,mb3.6						
ESLA	**Sonseca Array**	**21.65**	**279**	*e*P	**P**	**10 20 35.2**	**-1.7**
	comp=Z,2.2nm,0.8s,mb3.6						
GUD	**Guadarrama**	**21.66**	**282**	P	**P**	**10 20 36.2**	**-0.7**
	comp=Z,3.2nm,0.7s,mb3.9						
GUD	**Guadarrama**	**21.66**	**282**	P	**P**	**10 20 36.2**	**-0.8**
GUD				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb3.8						
GUD	**Guadarrama**	**21.66**	**282**	P	**P**	**10 20 36.2**	**-0.8**
	comp=Z,3.2nm,0.7s,mb3.9						
FINES	**FINESS Array B**	**21.78**	**2**	P	**P**	**10 20 37.1**	**-1.0**
	comp=Z,6.5nm,0.8s,mb4.1,baz=159,slow=12,SNR=16						
FINES				LR	LR	10 29 59.1	
	comp=Z,516nm,20.6s,MS3.9,baz=335,slow=39						
EBAN	**Banos Encina**	**21.80**	**275**	P	**P**	**10 20 38.9**	**+0.4**
	comp=Z,69nm,1.2s,mb5.0						
EBAN	**Banos Encina**	**21.80**	**275**	P	**P**	**10 20 38.9**	**+0.4**
EBAN				pmax	pmax		
	comp=Z,69nm,1.2s,mb5.0						
EBAN	**Banos Encina**	**21.80**	**275**	P	**P**	**10 20 38.9**	**+0.4**
	comp=Z,69nm,1.2s,mb5.0						
PAB	**San Pablo**	**21.96**	**279**	*e*P	**P**	**10 20 38.7**	**-1.5**
	comp=Z,14nm,1.0s,mb4.4						
PAB	**San Pablo**	**21.96**	**279**	*e*P	**P**	**10 20 38.7**	**-1.5**
PAB				pmax	pmax		
	comp=Z,15nm,1.0s,mb4.4						
PAB	**San Pablo**	**21.96**	**279**	*e*P	**P**	**10 20 38.7**	**-1.5**
	comp=Z,14nm,1.0s,mb4.4						
EARI	**Arriondas**	**22.27**	**289**	P	**P**	**10 20 42.5**	**-0.9**
	comp=Z,52nm,1.1s,mb4.9						
EADA	**Adamuz**	**22.41**	**275**	P	**P**	**10 20 46.2**	**+1.2**
	comp=Z,62nm,1.1s,mb5.0						
EADA	**Adamuz**	**22.41**	**275**	P	**P**	**10 20 46.2**	**+1.2**
	comp=Z,62nm,1.1s,mb5.0						
KAF	**Kangasniemi**	**22.46**	**3**	*e*p	**P**	**10 20 42.0**	**-3.3**
	comp=Z,6.3nm,0.7s,mb4.2,baz=179,slow=10						
KAF	**Kangasniemi**	**22.46**	**3**	*e*P	**P**	**10 20 42.0**	**-3.3**
KAF				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.1						
NAO01	**NORSAR Array S**	**22.71**	**343**	*e*P	**P**	**10 20 46.9**	**-1.1**
	comp=Z,12nm,0.6s,mb4.5						
NAO01	**NORSAR Array S**	**22.71**	**343**	*e*P	**P**	**10 20 46.9**	**-1.1**
	comp=Z,12nm,0.6s,mb4.5						
NB2	**NORSAR Subarra**	**22.81**	**344**	P	**P**	**10 20 47.5**	**-1.6**
	comp=Z,1.7nm,0.7s,mb3.6,baz=143,slow=10						
NOA	**NORSAR Array B**	**22.81**	**344**	P	**P**	**10 20 48.5**	**-0.6**
	comp=Z,13nm,0.8s,mb4.4,baz=153,slow=11,SNR=18						
NOA				LR	LR	10 29 59.0	
	comp=Z,182nm,19.7s,MS3.5,baz=180,slow=38						
EMIJ	**Mijas**	**22.97**	**271**	P	**P**	**10 20 50.2**	**-0.8**
	comp=Z,25nm,1.1s,mb4.6						
ECAB	**El Cabril**	**23.07**	**275**	P	**P**	**10 20 52.2**	**+0.2**
	comp=Z,160nm,1.5s,mb5.2						
ECAB	**El Cabril**	**23.07**	**275**	P	**P**	**10 20 52.2**	**+0.1**
	comp=Z,160nm,1.5s,mb5.2						
PBRG	**Braganca**	**23.48**	**285**	*e*P	**P**	**10 20 55.6**	**-0.7**
	comp=Z,51nm,1.3s,mb4.8						
JOF	**Joensuu**	**23.62**	**8**	*e*p	**P**	**10 20 54.6**	**-2.9**
	comp=Z,5.7nm,0.6s,mb4.2						
JOF	**Joensuu**	**23.62**	**8**	*e*P	**P**	**10 20 54.6**	**-2.9**
JOF				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.2						
EPON	**Pontenova**	**23.68**	**289**	P	**P**	**10 20 56.7**	**-1.5**
	comp=Z,70nm,1.1s,mb5.0						
EPON	**Pontenova**	**23.68**	**289**	P	**P**	**10 20 56.7**	**-1.5**
	comp=Z,70nm,1.1s,mb5.0						
ESPR	**Espera**	**23.72**	**273**	P	**P**	**10 20 57.9**	**-0.7**
	comp=Z,45nm,1.9s,mb4.6						
ESPR	**Espera**	**23.72**	**273**	P	**P**	**10 20 57.9**	**-0.7**
	comp=Z,45nm,1.9s,mb4.6						
MVO	**Moncorvo**	**23.76**	**284**	*e*P	**P**	**10 20 57.9**	**-1.0**
	comp=Z,39nm,1.5s,mb4.6						
EKA	**Eskdalemuir Ar**	**23.98**	**320**	P	**P**	**10 21 00.5**	**-0.3**
	comp=Z,4.9nm,1.0s,mb3.9,baz=112,slow=11,SNR=5.2						
EKA	**Eskdalemuir Ar**	**23.98**	**320**	P	**P**	**10 21 00.4**	**-0.4**
EMIN	**Mina Concepcio**	**24.11**	**275**	P	**P**	**10 21 01.8**	**-0.4**
	comp=Z,53nm,1.4s,mb4.8						
EMIN	**Mina Concepcio**	**24.11**	**275**	P	**P**	**10 21 01.8**	**-0.4**
	comp=Z,53nm,1.4s,mb4.8						
MDT	**Midelt**	**24.17**	**262**	P	**P**	**10 21 02.3**	**-0.5**
	comp=Z,5.2nm,0.8s,mb4.0,baz=89,slow=11,SNR=18						
MTE	**Manteigas**	**24.25**	**282**	*e*P	**P**	**10 21 08.6**	**+5.2**
	comp=Z,37nm,1.3s,mb4.7						
MTE	**Manteigas**	**24.25**	**282**	*e*P	**P**	**10 21 07.6**	**+4.2**
	comp=Z,26nm,1.1s,mb4.6						
PCBR	**Castelo Branco**	**24.29**	**281**	*e*P	**P**	**10 21 04.2**	**+0.4**
	comp=Z,27nm,1.3s,mb4.5						
PBAR	**Barrancos**	**24.30**	**276**	*e*P	**P**	**10 21 06.0**	**+2.1**
PCAB	**Cabril**	**24.44**	**285**	*e*P	**P**	**10 21 05.9**	**+0.7**
	comp=Z,34nm,1.1s,mb4.7						
ELOB	**Lobios**	**24.45**	**286**	P	**P**	**10 21 04.0**	**-1.3**
	comp=Z,82nm,1.9s,mb4.8						
ELOB	**Lobios**	**24.45**	**286**	P	**P**	**10 21 04.0**	**-1.3**
	comp=Z,82nm,1.9s,mb4.8						
PVAQ	**Vaqueiros**	**25.01**	**275**	*e*P	**P**	**10 21 10.6**	**+0.3**
PBDV	**Barranco-do-Ve**	**25.21**	**275**	*e*P	**P**	**10 21 11.7**	**-0.5**
	comp=Z,50nm,1.8s,mb4.7						
ARU	**Arti**	**28.00**	**42**	*d i*P	**P**	**10 21 36.8**	**-0.3**
ARU				*e*PPP		10 22 29.7	
ARU				*e*		10 24 52.8	
ARU				*e*S	**S**	**10 26 20.1**	**-1.0**
ARU				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.2						
ARU				MLR	MLR		
	comp=Z,338nm,21.0s,MS3.9						
ARU	**Arti**	**28.00**	**42**	*i* P	**P**	**10 21 36.8**	**-0.3**
	comp=Z,7.0nm,1.0s,mb4.2						
ARU				*e*S	**S**	**10 26 20.1**	**-1.0**
	comp=Z,338nm,21.0s						
APA	**Apatity**	**28.37**	**7⇑**	*i*P	**P**	**10 21 48.0**	**+7.7**
APA				pmax	pmax		
	comp=Z,27nm,1.4s,mb4.7						
APA				MLR	MLR		
	comp=Z,1μm,14.0s,MS4.6						
ARCES	**ARCESS Array B**	**29.89**	**1**	P	**P**	**10 21 53.2**	**-0.6**
	comp=Z,2.5nm,0.9s,mb3.9,baz=179,slow=7.2,SNR=3.0						
ARCES				LR	LR	10 35 00.0	
	comp=Z,606nm,19.2s,MS4.2,baz=178,slow=39						
TOA0	**Torodi Ar. Sit**	**33.08**	**223**	*e*P	**P**	**10 22 22.2**	**-0.1**
TOA0	**Torodi Ar. Sit**	**33.08**	**223**	*e*P	**P**	**10 22 22.2**	**-0.1**
TORD	**Torodi Ar. Bea**	**33.08**	**223**	P	**P**	**10 22 21.9**	**-0.4**
TORD	**Torodi Ar. Bea**	**33.08**	**223**	P	**P**	**10 22 21.9**	**-0.4**
	comp=Z,5.4nm,0.9s,mb4.5,baz=33,slow=9.2,SNR=45						
BVAR	**Borovoye Array**	**33.92**	**51**	P	**P**	**10 22 30.8**	**+1.4**
	comp=Z,1.3nm,0.8s,mb3.9,baz=262,slow=4.3,SNR=4.6						
KURK	**Kurchatov**	**39.05**	**55**	*e*P	**P**	**10 23 14.1**	**+1.0**
	comp=Z,16nm,1.6s,mb4.5						
KURK	**Kurchatov**	**39.05**	**55⇑**	*e*P	**P**	**10 23 16.4**	**+3.3**
KURK	**Kurchatov**	**39.05**	**55**	*e*P	**P**	**10 23 14.1**	**+1.0**
	comp=Z,16nm,1.6s,mb4.5						
NVS	**Novosibirsk**	**41.51**	**48**	*i* P	**P**	**10 23 34.4**	**+0.9**
NVS				pmax	pmax		
	comp=Z,19nm,1.4s,mb4.5						
NVS				pmax	pmax		
	comp=N,8.0nm,1.0s						
NVS				pmax	pmax		
	comp=E,10.0nm,1.0s						
NVS	**Novosibirsk**	**41.51**	**48**	*i* P	**P**	**10 23 34.4**	**+0.9**
	comp=E,19nm,1.4s,mb4.5						
DBIC	**Dimbokro**	**42.00**	**226**	*e*P	**P**	**10 23 37.4**	**-0.5**
DBIC				pmax	pmax		
	comp=Z,25nm,1.1s						
DBIC	**Dimbokro**	**42.00**	**226**	P	**P**	**10 23 37.5**	**-0.5**
	comp=Z,7.7nm,0.8s,mb4.4,baz=25,slow=9.7,SNR=10						
DBIC	**Dimbokro**	**42.00**	**226**	*e*P	**P**	**10 23 37.4**	**-0.5**
	comp=Z,25nm,1.1s,mb4.8						
MK31	**Makanchi Array**	**42.04**	**61**	*e*P	**P**	**10 23 39.5**	**+1.5**
MKAR	**Makanchi Array**	**42.04**	**61**	P	**P**	**10 23 39.2**	**+1.2**
MKAR				LR	LR	10 44 04.8	
MKAR	**Makanchi Array**	**42.04**	**61**	P	**P**	**10 23 39.2**	**+1.2**
	comp=Z,2.3nm,0.7s,mb3.9,baz=281,slow=7.0,SNR=9.1						
MKAR				LR	LR	10 44 04.8	
	comp=Z,116nm,19.4s,MS3.8,baz=274,slow=40						
ZAL	**Zalesovo**	**42.50**	**50**	P	**P**	**10 23 42.4**	**+0.8**
ZAA0	**Zalesovo Array**	**42.51**	**50**	*e*P	**P**	**10 23 41.9**	**+0.2**
ZAA0	**Zalesovo Array**	**42.51**	**50**	*e*P	**P**	**10 23 41.9**	**+0.2**
ZALV	**Zalesovo Beam**	**42.51**	**50**	P	**P**	**10 23 42.4**	**+0.7**
	comp=Z,14nm,0.7s,mb4.8,baz=275,slow=8.8,SNR=43						
ZALV				LR	LR	10 45 30.2	
	comp=Z,78nm,18.5s,MS3.6,baz=99,slow=42						
ZALV	**Zalesovo Beam**	**42.51**	**50**	P	**P**	**10 23 42.3**	**+0.6**
WMQ	**Urumqi**	**46.50**	**63**	*e*P	**P**	**10 24 15.0**	**+1.3**
WMQ				AP	pP	10 24 20.0	+3.2
WMQ				*e*S	**S**	**10 31 02.0**	**+0.2**
WMQ				AMB	AMB		
	comp=Z,8.0nm,0.9s,mb4.7						
WMQ				AMB	AMB		
	comp=Z,213nm,4.0s						
WMQ				LR	LR		
	comp=N,425nm,22.7s						
WMQ				LR	LR		
	comp=E,422nm,29.4s						
WMQ				LR	LR		
	comp=Z,355nm,25.0s,MS4.2						
TLY	**Talaya**	**54.12**	**49**	*e*P	**P**	**10 25 13.4**	**+2.1**
TLY				pmax	pmax		
	comp=Z,12nm,2.1s,mb4.5						
TLY				MLR	MLR		
	comp=Z,121nm,17.0s,MS4.0						
TLY	**Talaya**	**54.12**	**49**	*e*P	**P**	**10 25 13.4**	**+2.1**
	comp=Z,121nm,17.0s						
ZAK	**Zakamensk**	**54.37**	**51**	*e*P	**P**	**10 25 14.7**	**+1.6**

BILL pmax pmax
comp=Z,3.0nm,1.1s,mb4.1
BILL Bilibino 68.85 14 *e*P **P 10 26 50.8 +0.3**
comp=Z,3.0nm,1.1s,mb4.1
MA2 Magadan 71.70 26 P **P 10 27 09.8 +1.7**
MA2 *e* 10 41 05.8
MA2 pmax pmax
comp=Z,40nm,1.7s,mb5.1
MA2 Magadan 71.70 26 P **P 10 27 09.8 +1.7**
comp=Z,40nm,1.7s,mb5.1
MDJ Mudanjiang 72.58 46 P **P 10 27 13.0 -0.7**
MDJ PCP PcP 10 27 30.9 -0.3
MDJ AMB AMB
comp=Z,5.0nm,1.1s,mb4.4
MDJ AMB AMB
comp=Z,53nm,3.8s
YKA Yellowknife Ar 72.89 341⇑ *e*P **P 10 27 18.2 +3.0**
YKA Yellowknife Ar 72.89 341 P **P 10 27 15.0 -0.1**
comp=Z,0.7nm,0.6s,mb3.8,baz=29,slow=5.4,SNR=9.3
NJ2 Nanjing 73.56 62 *e*P **P 10 27 21.6 +1.9**
NJ2 AMB AMB
comp=Z,30nm,0.6s,mb5.4
IMA2 Indian Mountai 74.53 359 *e*P **P 10 27 26.4 +1.7**
IMA2 Indian Mountai 74.53 359 *e*P **P 10 27 26.4 +1.6**
DAWY Dawson 75.75 353 *e*P **P 10 27 32.5 +0.7**
DAWY Dawson 75.75 353 *e*P **P 10 27 32.5 +0.7**
KSRS Korea Array 76.12 53 P **P 10 27 34.6 +0.2**
comp=Z,2.8nm,0.8s,mb4.3,baz=299,slow=5.2,SNR=6.9
ULM Lac du Bonnet 76.13 325 P **P 10 27 34.0 -0.2**
comp=Z,0.8nm,0.5s,mb3.9,baz=79,slow=5.4,SNR=3.1
ULM LR LR 10 59 18.6
comp=Z,186nm,19.2s,MS4.4,baz=40,slow=34
YSS Yuzh-Sakhalins 77.81 38⇓ *e*P **P 10 27 44.4 +0.7**
YSS pmax pmax
comp=Z,5.0nm,0.6s,mb4.6
YSS Yuzh-Sakhalins 77.81 38 *e*P **P 10 27 44.4 +0.7**
comp=Z,5.0nm,0.6s,mb4.6
EDM Edmonton 80.43 336 *e*P **P 10 28 01.6 +3.7**
BDFB Brasilia 86.77 247 P **P 10 28 32.9 +1.9**
BDFB pmax pmax
comp=Z,2.0nm,0.6s
BDFB Brasilia 86.77 247 P **P 10 28 32.9 +1.9**
comp=Z,2.1nm,0.6s,mb4.5,baz=55,slow=17,SNR=7.5
PDAR Pinedale Array 87.84 328 LR LR 11 08 50.0
comp=Z,98nm,18.1s,MS4.3,baz=234,slow=36
SDV Santo Domingo 88.09 280 *e*P **P 10 28 38.6 +1.1**
comp=Z,1.4nm,0.5s,mb4.5
SDCO Great Sand Dun 90.16 322 *e*P **P 10 28 48.0 +1.2**
comp=Z,6.1nm,1.3s,mb4.8
SDCO Great Sand Dun 90.16 322 *e*P **P 10 28 48.0 +1.1**
comp=Z,6.1nm,1.3s,mb4.8
TXAR Lajitas Array 95.93 316 P **P 10 29 14.4 +0.8**
comp=Z,0.2nm,0.8s,mb3.6,baz=64,slow=6.1,SNR=2.9
ASAR Alice Springs 119.50 97 PKIKP PKPdf 10 34 34.8 -1.6
ASAR pmax pmax
comp=Z,1.0nm,0.9s
ASAR Alice Springs 119.50 97 PKP PKPdf 10 34 34.8 -1.7
comp=Z,1.0nm,0.9s,baz=292,slow=1.8,SNR=6.0

*THE **19** 10:28:07.7,3836N×2036E,h1km,ML3.0*
*CSEM **19** 10:28:07.1±0.1,3832N×2066E,h30km,ML3.0, Error ellipse: s-maj=5.1km s-min=3.1km az=78.0*
ATH 19 10:28:06.9,3793N×2063E,h14km,MD3.3/3,Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KFL	**Anninata**	**0.22**	**35**	*e*Pg	Pg	10 28 15.4	+3.7
KFL				*e*Sg	Sg	10 28 21.9	+6.8
VLS	**Valsamata**	**0.25**	**353**	*e*Pg	Pg	10 28 12.4	+0.2
VLS				*e*Sg	Sg	10 28 16.3	+0.4
VLS	**Valsamata**	**0.25**	**353**	*e*PG	Pg	10 28 12.6	+0.3
VLS				*e*SG	Sg	10 28 16.8	+0.9
VLS	**Valsamata**	**0.25**	**353**	*e*Pg	Pg	10 28 12.6	+0.3
VLS				*e*Sg	Sg	10 28 16.3	+0.4
RLS	**Riolos of Patr**	**0.67**	**79**	*e*PB	Pb	10 28 19.9	-0.5
LKD	**Levkas**	**0.78**	**1**	*e*Pg	Pg	10 28 15.8	-6.1
LKD				*e*Sg	Sg	10 28 21.5	-11
KEK	**Kerkira**	**1.90**	**340**	*e*PN	Pn	10 28 41.0	+2.2

*ISCJB **19** 10:32:04.0±0.4,5147N±002×1607E±003,h0km, Error ellipse: s-maj=3.6km s-min=2.2km az=15.7*
*IPEC **19** 10:32:04.0±0.3,5161N×1616E,h0km±1km, ML2.7/3, Error ellipse: s-maj=2.2km s-min=1.5km az=33.0*
*NEIC **19** 10:32:05.7±0.6,5152N×1609E,h5km,ML3.0(SZGRF), Error ellipse: s-maj=8.1km s-min=4.4km az=187.0*
*PRU **19** 10:32:06.7,5148N×1605E,h0km*
*WAR **19** 10:32:06.3,5154N×1603E,ML2.8, Mining Induced*
*IDC **19** 10:32:06.2±0.9,5154N×1585E,h0km,mb3.1/1,mb1 3.4/6, mb1mx3.3/22,mbtmp3.2/6,ML3.0/5, Error ellipse: s-maj=15.5km s-min=8.6km az=113.0*
*CSEM **19** 10:32:07.1±0.1,5148N×1600E,h1km,ML3.6/10, Error ellipse: s-maj=2.3km s-min=1.4km az=18.0*
*BGR **19** 10:32:07.2±0.5,5145N×1599E,h1km,ML3.0/9, Error ellipse: s-maj=6.7km s-min=3.3km az=27.0*
*VIE **19** 10:32:09.3±0.4,5120N×1619E,h0km,mb2.6/5,ML2.8/5, Error ellipse: s-maj=2.9km s-min=2.4km az=139.0 58 km WNW of Wroclaw Suspected Mining induced.*
ISC 19 10:32:05.0±0.4,5152N±002×1606E±002,h0km,n62, σ0§84/110,5C-2D,Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.70**	**168**	*e*Pg	Pg	10 32 19.5	+1.1
KSP				*e*Sg	Sg	10 32 29.1	+1.7
KSP	**Ksiaz**	**0.70**	**168**	*e*Pg	Pg	10 32 19.4	+1.1
KSP				*e*Sg	Sg	10 32 29.0	+1.7
KSP	**Ksiaz**	**0.70**	**168**	⇓*i*Pg	Pg	10 32 19.4	+1.1
KSP				*e*		10 32 21.2	
KSP				*e*Sg	Sg	10 32 28.9	+1.6
KSP				*e*		10 32 33.2	
KSP	**Ksiaz**	**0.70**	**168**	*e*Pg	Pg	10 32 19.2	+0.9
KSP				*e*Sg	Sg	10 32 28.1	+0.8
UPC	**Upice**	**1.02**	**182**	*e*PG	Pg	10 32 25.2	+0.7
DPC	**Dobruska-Polom**	**1.19**	**172**	*e*Pn	Pn	10 32 28.1	-0.7
DPC				*e*Sg	Sg	10 32 44.0	+1.0
DPC	**Dobruska-Polom**	**1.19**	**172**	*e*PG	Pg	10 32 28.1	+0.4
DPC				*e*SG	Sg	10 32 43.7	+0.7
	63nm,0.3s						
DPC	**Dobruska-Polom**	**1.19**	**172**	*e*Pg	Pg	10 32 28.0	+0.3
DPC				*e*Sg	Sg	10 32 43.7	+0.7
PVCC	**Panska Ves**	**1.37**	**224**	*e*Pg	Pg	10 32 31.2	0.0
PVCC				*e*Sg	Sg	10 32 50.4	+1.4
	214nm,0.3s						
BRG	**Berggiesshubel**	**1.48**	**245**	*e*Pn	Pn	10 32 32.0	-0.8
BRG				*e*Sg	Sg	10 32 52.8	+0.3
BRG	**Berggiesshubel**	**1.48**	**245**	Pg	Pg	10 32 33.4	0.0
BRG				Sg	Sg	10 32 52.8	+0.2
BRG	**Berggiesshubel**	**1.48**	**245**	PN	Pn	10 32 32.0	-0.8
BRG				PG	Pg	10 32 33.4	0.0
BRG				SG	Sg	10 32 53.4	+0.8
	90nm,0.5s						
FBE	**Freiberg**	**1.80**	**252**	*e*Pn	Pn	10 32 38.8	+1.5
PRU	**Pruhonice**	**1.81**	**213**	*e*PN	Pn	10 32 37.3	-0.1
PRU				*e*PG	Pg	10 32 39.1	-0.6
PRU				*e*SG	Sg	10 33 02.9	-0.3
	44nm,0.3s						
CLL	**Collm**	**1.93**	**265**	*e*Pn	Pn	10 32 38.2	-0.8
CLL				*e*Sg	Sg	10 33 06.7	-0.1
CLL	**Collm**	**1.93**	**265**	*i* Pn	Pn	10 32 38.1	-0.9
CLL				*i* Pg	Pg	10 32 41.0	-0.9
MORC	**Moravsky Berou**	**1.99**	**151**	*e*Pn	Pn	10 32 39.9	0.0
MORC	**Moravsky Berou**	**1.99**	**151**	*e*Sg	Sg	10 33 08.1	-0.7
	47nm,0.5s						
OKC	**Ostrava-Krasne**	**2.15**	**141**	*e*PN	Pn	10 32 41.9	-0.1
OKC				*e*PG	Pg	10 32 46.1	0.0
OKC				*e*SG	Sg	10 33 13.4	-0.5
	54nm,0.5s						
VRAC	**Vranov**	**2.24**	**171**	Pn	Pn	10 32 44.1	+0.7
	2.3nm,0.3s,baz=334,slow=16,SNR=7.7						
VRAC				Lg		10 33 18.6	
	8.7nm,0.3s,baz=80,slow=22,SNR=7.5						
VRAC	**Vranov**	**2.24**	**171**	Pn	Pn	10 32 44.0	+0.7
VRAC				*e*Sg	Sg	10 33 16.7	-0.3
	29nm,0.3s						
TREC	**Trest**	**2.26**	**190**	*e*PN	Pn	10 32 44.3	+0.7
TREC				*e*PG	Pg	10 32 48.0	-0.3
TREC	**Trest**	**2.26**	**190**	*e*Pg	Pg	10 32 48.0	-0.3
KRUC	**Moravsky**	**2.47**	**175**	*e*Pn	Pn	10 32 46.6	+0.1
KRUC				*e*Sg	Sg	10 33 24.2	-0.2
TANN	**Tannenbergstha**	**2.53**	**245**	*e*Pn	Pn	10 32 47.4	+0.1
TANN				*e*Sg	Sg	10 33 25.7	-0.5
WERD	**Werda**	**2.60**	**247**	*e*Pn	Pn	10 32 48.3	0.0
NKC	**Novy Kostel**	**2.63**	**242**	*e*PN	Pn	10 32 48.7	+0.1
NKC				*e*PG	Pg	10 32 55.4	+0.1
NKC				*e*SG	Sg	10 33 30.2	+0.9
	86nm,0.3s						
OJC	**Ojcow**	**2.71**	**117**	*e*Pg	Pg	10 32 57.3	+0.5
OJC				*e*Sg	Sg	10 33 32.6	+0.8
JAVC	**Velka Javorina**	**2.86**	**158**	*e*Pn	Pn	10 32 51.9	+0.1
JAVC				*e*Sg	Sg	10 33 37.1	+0.3
	26nm,0.8s						
KHC	**Kasperske Hory**	**2.87**	**215**	*e*PN	Pn	10 32 51.8	-0.2
KHC				*e*PG	Pg	10 32 58.3	-1.7
KHC				*e*SN	Sn	10 33 27.5	+0.3
KHC				*e*SG	Sg	10 33 36.7	-0.6
	15nm,0.3s						
MOX	**Moxa**	**2.94**	**254**	*e*Sg	Sg	10 33 39.9	+0.6
MOX	**Moxa**	**2.94**	**254**	*e*PN	Pn	10 32 53.8	+0.9
MOX				*e*PG	Sg	10 33 40.4	+1.1
MOX				*e*SG	Sg	10 33 40.4	+1.1
MOX	**Moxa**	**2.94**	**254**	*e*Pn	Pn	10 32 53.8	+0.9
MOX				Sg	Sg	10 33 39.9	+0.6
MANZ	**Manzenberg**	**2.94**	**240**	*e*Pn	Pn	10 32 53.3	+0.4
ROTZ	**Rotzenmuhle**	**3.02**	**236**	*e*Pn	Pn	10 32 54.3	+0.3
GEC2	**GERESS Array S**	**3.08**	**210**	*e*Pn	Pn	10 32 55.8	+1.0
GEC2				*e*Sg	Sg	10 33 42.9	-0.9
GEC2	**GERESS Array S**	**3.08**	**210**	*e*Pn	Pn	10 32 55.8	+1.0
GEC2				*e*Sg	Sg	10 33 42.9	-0.9
GERES	**GERESS Array B**	**3.08**	**210**	Pn	Pn	10 32 55.3	+0.5
	2.6nm,0.3s,baz=29,slow=13,SNR=38						
GERES				Pg	Pg	10 33 01.6	-2.4
	7.3nm,0.3s,baz=34,slow=17,SNR=29						
GERES				Lg		10 33 42.8	
	6.8nm,0.3s,baz=28,slow=24,SNR=12						
GERES	**GERESS Array B**	**3.08**	**210**	Pg	Pg	10 33 01.6	-2.4
WET	**Wettzell**	**3.13**	**222**	*e*Pn	Pn	10 32 56.0	+0.4
WET	**Wettzell**	**3.13**	**222**	*e*Pn	Pn	10 32 56.0	+0.4
MODS	**Modra-Piesok**	**3.25**	**166**	*e*PG	Pg	10 33 07.2	0.0
MODS				*e*SG	Sg	10 33 48.5	-0.8
ZST	**Bratislava**	**3.40**	**168**	*e*SG	Sg	10 33 55.0	+0.9
NIE	**Niedzica**	**3.44**	**126**	*e*P	Pg	10 33 10.6	-0.3
NIE				*e*S	Sg	10 33 54.9	-0.5
VYHS	**Vyhne**	**3.52**	**148**	*e*PG	Pg	10 33 12.4	-0.1
VYHS				*e*SG	Sg	10 33 56.7	-1.4
CLZ	**Clausthal**	**3.55**	**277**	*e*Pn	Pn	10 33 01.8	+0.5
CLZ	**Clausthal**	**3.55**	**277**	*e*Pn	Pn	10 33 01.8	+0.5
GRA1	**Grafenberg Arr**	**3.58**	**241**	*e*Pn	Pn	10 33 02.2	+0.4
GRA1				*e*Sg	Sg	10 33 59.7	-0.4
GRA1	**Grafenberg Arr**	**3.58**	**241**	Pn	Pn	10 33 02.2	+0.4
GRA1				Sg	Sg	10 33 59.7	-0.4
GRF	**Grafenberg Arr**	**3.58**	**241**	*e*Pn	Pn	10 33 02.2	+0.4
GRF				*e*Sg	Sg	10 33 59.7	-0.4
CONA	**Conrad Observa**	**3.60**	**182**	⇑*i*Pn	Pn	10 33 01.8	-0.1
CONA				⇓*i*Sg	Sg	10 33 57.9	-2.7
	27nm,0.6s						
CONA	**Conrad Observa**	**3.60**	**182**	Pn	Pn	10 33 01.8	-0.2
CONA				Sg	Sg	10 33 57.9	-2.7
	27nm,0.6s						
BSD	**Bornholm Skovb**	**3.66**	**350**	*i* P	Pn	10 33 01.3	-1.5
BSD				*i* S	Sn	10 33 41.1	-5.6
MOA	**Molln**	**3.86**	**198**	⇑*i*Pn	Pn	10 33 06.0	+0.5
MOA				⇑*i*Sg	Sg	10 34 08.0	-0.8
	12nm,0.5s						
STHS	**Stebnicka Huta**	**3.93**	**120**	*e*PN	Pn	10 33 08.1	+1.6
STHS				*e*PG	Pg	10 33 20.2	0.0
STHS				*e*SG	Sg	10 34 12.8	+1.7
KWP	**Kalwaria**	**4.64**	**111**	*e*Pg	Pg	10 33 32.1	-1.8
KWP	**Kalwaria**	**4.64**	**111**	*e*Pg	Pg	10 33 32.1	-1.8
KBA	**Koelnbreinsper**	**4.79**	**203**	⇑*i*Pn	Pn	10 33 19.5	+1.2
KBA				⇑*i*Sg	Sg	10 34 38.7	-0.1
	11nm,0.6s						
AKASG	**Malin Array Be**	**8.33**	**91**	Pn	Pn	10 34 07.2	+0.3
	1.6nm,0.3s,baz=281,slow=12,SNR=5.3						
FINES	**FINESS Array B**	**11.37**	**25**	Pn	Pn	10 34 45.4	-3.0
	0.1nm,0.3s,baz=207,slow=15,SNR=5.0						
ARCES	**ARCESS Array B**	**18.62**	**10**	Pn	Pn	10 36 19.5	-4.3
	0.1nm,0.3s,baz=183,slow=14,SNR=3.3						
YKA	**Yellowknife Ar**	**59.83**	**336**	P	P	10 42 11.7	+0.1
	0.1nm,0.6s,baz=28,slow=6.8,SNR=4.2						

IDC 19 10:41:05.8±3.3,681S×15510E,h0km,mb3.7/4,mb1 3.8/4, mb1mx3.6/14,mbtmp3.7/4,MS3.6/1,Ms1 3.6/1, ms1mx2.8/28,Error ellipse: s-maj=102.6km s-min=31.2km az=117.0,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**22.67**	**333**	LR	LR	10 53 38.1	
	comp=Z,146nm,21.1s,baz=89,slow=33						
WRA	**Warramunga Arr**	**24.01**	**235**	P	P	10 46 23.3	+0.9
	0.8nm,0.5s,baz=60,slow=9.5,SNR=37						
ASAR	**Alice Springs**	**26.37**	**228**	P	P	10 46 42.7	-1.2
	0.2nm,0.7s,baz=57,slow=9.3,SNR=4.5						
MKAR	**Makanchi Array**	**83.33**	**319**	P	P	10 53 35.9	+1.2
	0.5nm,0.4s,baz=99,slow=6.3,SNR=3.6						
ZALV	**Zalesovo Beam**	**84.09**	**326**	P	P	10 53 37.9	-0.5
	0.4nm,0.4s,baz=108,slow=4.7,SNR=2.5						

*BJI **19** 10:43:08.2,1698N×9580E,h10km,mB4.8,mb4.5,Ms4.6, Msz4.4*
*IDC **19** 10:43:13.9±0.8,1754N×9585E,h0km,mb4.1/14, mb1 4.2/14,mb1mx4.1/22,mbtmp4.1/14,MS4.0/6, Ms1 4.0/6,ms1mx3.6/36,Error ellipse: s-maj=39.5km s-min=16.3km az=54.0*
*ISCJB **19** 10:43:14.2±0.3,1767N±005×9620E±003,h10km, mb4.4/42,MS4.2/9,Error ellipse: s-maj=7.4km s-min=3.5km az=5.8*
*NEIC **19** 10:43:15.9±0.5,1771N×9617E,h10km,mb4.5/19,Error ellipse: s-maj=12.6km s-min=7.3km az=17.0*
*MOS **19** 10:43:17.9±1.0,1780N×9629E,h33km,mb4.7/11,Error ellipse: s-maj=14.8km s-min=7.7km az=120.5*
ISC 19 10:43:15.6±0.3,1761N±004×9621E±002,h10km,n121, σ1§08/141,mb4.4/42,MS4.2/9,2C-4D,Myanmar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BDT	**Bhumibol Dam**	**2.69**	**97**	PN	Pn	10 43 59.5	+0.5
BDT				PG	Pg	10 44 06.5	-0.7
BDT				SG	Sg	10 44 42.0	0.0
CM31	**Chiang Mai Arr**	**2.73**	**72**	*e*Pn	Pn	10 44 01.0	+1.5
CM31				*e*Pg	Pg	10 44 07.8	-0.1
CM31				*e*S	Sg	10 44 40.5	-2.9
CHG	**Chiang Mai**	**2.86**	**65**	PG	Pg	10 44 10.1	-0.3
CHG				SG	Sg	10 44 46.8	-0.7
CHTO	**Chiang Mai**	**2.86**	**65**	*e*Pn	Pn	10 44 01.3	0.0
CHTO				*e*Pg	Pg	10 44 09.7	-0.7
CHTO				*e*S	Sg	10 44 46.1	-1.4
CHRT	**Chiangrai**	**4.06**	**56**	PG	Pg	10 44 32.0	-1.5
CHRT				SG	Sg	10 45 20.0	-6.1
NST	**Nakhon Sawan**	**4.22**	**117**	PN	Pn	10 44 20.5	+0.4
NST	**Nakhon Sawan**	**4.22**	**117**	PG	Pg	10 44 35.2	-1.4
NST				SG	Sg	10 45 29.3	-2.0
IMP	**Imphal**	**7.45**	**344**	*e*P	Pn	10 45 07.0	+2.6
CAL	**Calcutta**	**8.88**	**305**	*e*x	x	10 45 57.3	
CAL				*e*S	Sn	10 46 56.8	-7.5
SHL	**Shillong**	**8.88**	**334**	*e*P	Pn	10 45 22.5	-1.6
SHL				*e*S	Sn	10 46 58.0	-6.3
KMI	**Kunming**	**9.63**	**38**	P	Pn	10 45 41.4	+7.0
KMI				S	Sn	10 47 34.1	+11
KMI				LR	LR		
	comp=N,1μm,6.7s						
KMI				LR	LR		
	comp=E,1μm,9.2s						
KMI				LR	LR		
	comp=Z,910nm,13.7s						
BOK	**Bokaro**	**11.45**	**304**	*e*P	Pn	10 45 59.1	-0.3
BOK				AMb	AMB	10 46 01.3	
	comp=Z,30nm,1.1s						
BOK				*e*S	Sn	10 47 56.4	-11
VIS	**Vishakhapatnam**	**12.28**	**272**	*e*P	Pn	10 46 09.4	-1.3
VIS				AMb	AMB	10 46 33.6	
	comp=Z,24nm,1.8s						
VIS				*e*S	Sn	10 48 16.0	-12
LSA	**Lhasa**	**12.89**	**340**	*e*Pn	Pn	10 46 15.1	-3.9
	comp=Z,11nm,0.6s						
LSA				*e*Sn	Sn	10 48 41.3	-1.3
LSA	**Lhasa**	**12.89**	**340**	*e*P	Pn	10 46 15.1	-3.9
LSA				*e*		10 48 41.3	
LSA				pmax	pmax		
	comp=Z,11nm,0.6s						
QIZ	**Qiongzhong**	**13.02**	**82**	P	Pn	10 46 22.6	+1.8
QIZ				*e*S	Sn	10 48 50.9	+5.1
QIZ				LR	LR		
	comp=N,1μm,15.0s						
QIZ				LR	LR		
	comp=Z,336nm,7.5s						
BLSP	**Bilaspur**	**13.99**	**291**	*e*P	Pn	10 46 34.9	+0.9
BLSP				AMb	AMB	10 46 38.8	
	comp=Z,6.0nm,0.3s						
BLSP				*e*x	Sn	10 49 03.5	-5.9
CD2	**Chengdu**	**14.91**	**26**	*e*P	Pn	10 46 50.0	+3.4
CD2				AP	pP	10 46 53.5	-1.6
CD2				XP	sP	10 46 57.3	+0.9
CD2				PP		10 47 02.9	
CD2				S	Sn	10 49 41.1	+9.2
CD2				SS		10 49 59.0	
CD2				AMB	AMB		
	comp=Z,20nm,0.8s						
CD2				AMB	AMB		
	comp=Z,40nm,3.8s						
CD2				LR	LR		
	comp=N,1μm,13.2s						
CD2				LR	LR		
	comp=E,2μm,9.6s						
CD2				LR	LR		
	comp=Z,650nm,12.0s						
PSI	**Prapat**	**14.96**	**169**	LR	LR	10 52 50.2	
	comp=Z,317nm,18.8s,baz=330,slow=38						
HYB	**Hyderabad**	**16.85**	**272**	*e*P	Pn	10 47 15.5	+3.7
HYB				*e*S	Sn	10 50 16.5	-2.6
HYB	**Hyderabad**	**16.85**	**272**	*i* P	Pn	10 47 15.5	+3.7
HYB				*e*S	Sn	10 50 18.0	-1.1
PALK	**Pallekele**	**18.29**	**238**	*e*P	Pn	10 47 23.9	-5.7
	comp=Z,13nm,1.1s						
BHPL	**Bhopal**	**18.47**	**291**	*e*P	Pn	10 47 32.8	+1.0
BHPL				AMb	AMB	10 47 35.9	
	comp=Z,17nm,2.6s						
BHPL				*e*x	x	10 50 42.6	
LZH	**Lanzhou**	**19.61**	**19**	*e*P	Pn	10 47 47.0	+1.5
LZH				AP	pP	10 47 50.1	+3.1
LZH				XP	sP	10 47 51.6	+3.3
LZH				PP		10 48 06.3	
LZH				*e*S	Sn	10 51 26.0	+0.4
LZH				SS		10 51 54.3	
LZH				AMB	AMB		
	comp=Z,56nm,1.5s						
LZH				AMB	AMB		
	comp=Z,240nm,4.2s						
LZH				LR	LR		
	comp=E,2μm,12.6s						
LZH				LR	LR		
	comp=Z,2μm,10.3s						
XAN	**Xi'an**	**19.93**	**32**	P	Pn	10 47 51.3	+2.0
XAN				AP	pP	10 47 57.3	+6.8
XAN				AMB	AMB		
	comp=Z,4.0nm,0.6s						
XAN				LR	LR		
	comp=N,606nm,10.5s						
XAN				LR	LR		
	comp=E,673nm,12.6s						
XAN				LR	LR		
	comp=Z,518nm,7.0s						
NDI	**New Delhi**	**20.62**	**306**	*e*P	P	10 47 54.0	-1.3
KAD	**Karad**	**21.02**	**273**	*e*P	P	10 48 00.1	+0.5
POO	**Poona**	**21.28**	**276**	*e*P	P	10 48 03.0	+0.5
GTA	**Gaotai**	**21.95**	**7**	*e*P	P	10 48 10.3	+0.9
GTA				AP		10 48 19.5	
GTA				XP	sP	10 48 23.8	+10
GTA				AMB	AMB		
	comp=Z,6.0nm,0.7s,mb4.1						
KKM	**Kota Kinabalu**	**22.67**	**118**	*e*P	P	10 48 14.2	-3.2
THN	**Thein Dam**	**23.66**	**312**	*e*x	P	10 48 25.2	-2.3
YHNB	**Yeheng**	**24.47**	**69**	*e*P	P	10 48 33.6	-1.4
NJ2	**Nanjing**	**25.00**	**51**	*e*P	P	10 48 40.8	+1.0
NJ2				AP	pP	10 48 45.1	+2.3
NJ2				XP	sP	10 48 48.1	+4.0
NJ2				PP		10 49 20.4	
NJ2				S	S	10 53 04.0	+0.2
NJ2				AMB	AMB		
	comp=Z,40nm,0.5s,mb5.2						
NJ2				AMB	AMB		
	comp=Z,410nm,4.6s						
NJ2				LR	LR		
	comp=N,790nm,12.2s,MS4.6						
NJ2				LR	LR		
	comp=E,1μm,13.6s,MS4.6						
NJ2				LR	LR		
	comp=Z,1μm,13.6s,MS4.5						
SSE	**Sheshan**	**26.34**	**55**	P	P	10 48 55.9	+4.0
SSE				S	S	10 53 25.3	+0.3
SSE				XS	sS	10 53 39.4	+9.4
SSE				AMB	AMB		
	comp=Z,38nm,0.7s,mb5.0						
SSE				AMB	AMB		
	comp=Z,160nm,4.7s						
SSE				LR	LR		
	comp=N,217nm,15.9s,MS4.1						
SSE				LR	LR		
	comp=E,345nm,15.9s,MS4.1						
SSE				LR	LR		
	comp=Z,496nm,12.3s,MS4.3						
HHC	**Hu-ho-hao-te**	**26.67**	**27**	*e*P	P	10 48 56.0	+1.3
HHC				AP	pP	10 49 00.3	+2.5
HHC				XP	sP	10 49 03.8	+4.8
HHC				PP		10 49 42.6	
HHC				PCP	PcP	10 52 18.8	+0.4
HHC				S	S	10 53 32.3	+2.3
HHC				SS		10 54 47.5	
HHC				PCS	PcS	10 55 59.9	+0.3
HHC				AMB	AMB		
	comp=Z,20nm,0.3s,mb5.1						
HHC				AMB	AMB		
	comp=Z,127nm,5.7s						
HHC				LR	LR		
	comp=N,475nm,13.1s,MS4.5						
HHC				LR	LR		
	comp=E,774nm,15.5s,MS4.5						
HHC				LR	LR		
	comp=Z,469nm,11.0s,MS4.3						
WMQ	**Urumqi**	**27.10**	**346**	*e*P	P	10 48 58.5	-0.1
WMQ				AMB	AMB		
	comp=Z,7.0nm,0.6s,mb4.4						
WMQ				AMB	AMB		
	comp=Z,142nm,4.0s						
TKM2	**Tokmak 2**	**30.71**	**330**	*e*P	P	10 49 30.5	-0.2
	comp=Z,3.4nm,0.9s,mb4.2						
TKM2	**Tokmak 2**	**30.71**	**330**	*e*P	P	10 49 30.5	-0.2
TKM2				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.1						
AAK	**Ala-Archa**	**31.04**	**328**	*e*P	P	10 49 32.5	-1.2
	comp=Z,7.4nm,0.8s,mb4.6						
AAK	**Ala-Archa**	**31.04**	**328**	*e*P	P	10 49 32.5	-1.2
AAK				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.5						
AML	**Almayashu**	**31.10**	**327**	*e*P	P	10 49 34.5	+0.4
	comp=Z,3.2nm,0.7s,mb4.3						
SONM	**Songino Array**	**31.28**	**13**	P	P	10 49 36.7	+1.0
	comp=Z

MDJ LR LR
comp=E,169nm,23.3s,MS3.8
MDJ LR LR
comp=Z,161nm,24.7s,MS3.8
BVAR Borovoye Array 40.69 336 P **P** **10 50 55.4 -0.8**
comp=Z,1.8nm,0.7s,mb3.8,baz=126,slow=7.5,SNR=8.5
BRVK Borovoye 40.76 336 *e*P **P** **10 50 55.5 -1.2**
comp=Z,2.6nm,0.8s,mb3.9
BRVK Borovoye 40.76 336 *e*P **P** **10 50 55.5 -1.2**
BRVK pmax pmax
comp=Z,3.0nm,0.8s,mb4.0
MJAR Matsushiro Arr 41.49 54 LR LR 11 10 14.9
comp=Z,287nm,18.7s,MS4.2,baz=20,slow=39
AKTK Aktyubinsk 44.73 326 P **P** **10 51 28.3 -0.6**
AKTO Aktyubinsk 44.73 326 P **P** **10 51 28.3 -0.6**
comp=Z,4.1nm,0.7s,mb4.4,baz=112,slow=5.8,SNR=16
ARU Arti 47.97 333 *e*P **P** **10 51 52.6 -1.7**
comp=Z,8.8nm,0.8s,mb4.8
ARU Arti 47.97 333*d i*P **P** **10 51 55.2 +0.8**
ARU *e* 10 53 46.9
ARU *e*S **S** **10 58 43.7 -8.3**
ARU *e*SS SS 11 02 08.7 -12
ARU pmax pmax
comp=Z,5.0nm,0.6s,mb4.7
KIV Kislovodsk 51.87 312 *e*P **P** **10 52 25.2 +1.0**
comp=Z,19nm,0.8s,mb5.1
KIV Kislovodsk 51.87 312 *e*P **P** **10 52 25.4 +1.1**
KIV pmax pmax
comp=Z,24nm,0.9s,mb5.1
WRA Warramunga Arr 52.85 133 P **P** **10 52 32.6 +0.8**
comp=Z,1.2nm,0.9s,mb3.8,baz=320,slow=7.3,SNR=9.8
ASAR Alice Springs 55.11 137 P **P** **10 52 49.6 +1.4**
comp=Z,0.8nm,0.7s,mb3.9,baz=315,slow=7.3,SNR=18
ANN Anapa 55.73 313 *e*P **P** **10 52 47.1 -5.4**
ANN pmax pmax
comp=Z,54nm,1.4s,mb5.4
EIL Elat 56.83 294 P **P** **10 52 58.2 -2.4**
EIL Elat 56.83 294 P **P** **10 52 58.2 -2.4**
comp=Z,4.8nm,0.6s,mb4.7,baz=162,slow=2.9,SNR=5.1
TIXI Tiksi 57.35 12 *e*P **P** **10 53 03.2 -0.3**
comp=Z,12nm,1.2s,mb4.8
TIXI Tiksi 57.35 12⇓*e*P **P** **10 53 02.8 -0.8**
TIXI pmax pmax
comp=Z,9.0nm,1.1s,mb4.7
AKASG Malin Array Be 62.02 318 P **P** **10 53 34.9 -1.2**
comp=Z,2.0nm,0.6s,mb4.4,baz=84,slow=6.3,SNR=13
KIEV Kiev 62.03 318 *e*P **P** **10 53 35.1 -1.0**
comp=Z,2.7nm,0.6s,mb4.5
KIEV Kiev 62.03 318 *e*P **P** **10 53 35.2 -1.0**
KIEV pmax pmax
comp=Z,3.0nm,0.6s,mb4.6
JOF Joensuu 63.09 332 *e*p **P** **10 53 36.6 -6.5**
FINES FINESS Array B 65.20 330⇑*e*P **P** **10 53 58.7 +1.8**
FINES FINESS Array B 65.20 330 P **P** **10 53 55.7 -1.2**
comp=Z,1.4nm,0.7s,mb4.1,baz=99,slow=6.2,SNR=5.3
FINES LR LR 11 26 58.8
comp=Z,95nm,18.3s,MS4.0,baz=202,slow=40
STKA Stephens Creek 65.68 138 LR LR 11 25 12.5
comp=Z,137nm,20.2s,MS4.2,baz=24,slow=38
ARCES ARCESS Array B 66.90 339 P **P** **10 54 08.0 +0.2**
comp=Z,3.1nm,0.7s,mb4.4,baz=81,slow=3.8,SNR=6.4
ARCES LR LR 11 29 57.0
comp=Z,94nm,18.4s,MS4.0,baz=333,slow=42
GERES GERESS Array B 72.07 316 P **P** **10 54 38.5 -1.6**
comp=Z,1.2nm,0.5s,mb4.1,baz=79,slow=5.1,SNR=6.6
NB2 NORSAR Subarra 72.35 329 P **P** **10 54 41.2 -0.3**
comp=Z,1.0nm,0.6s,mb3.9,baz=86,slow=6.2
NOA NORSAR Array B 72.35 329 P **P** **10 54 40.2 -1.3**
comp=Z,1.8nm,0.8s,mb4.0,baz=86,slow=6.1,SNR=4.8
NOA LR LR 11 29 15.6
comp=Z,92nm,18.3s,MS4.1,baz=180,slow=38
PGF Pioggiola 76.30 311 *e*P **P** **10 55 04.4 -0.5**
comp=Z,7.1nm,0.8s,mb4.3
PGF Pioggiola 76.30 311 *e*P **P** **10 55 04.4 -0.5**
comp=Z,3.5nm,0.8s,mb4.3
PGF Pioggiola 76.30 311 *e*P **P** **10 55 04.4 -0.5**
PGF pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
CDF Champ du Feu 76.35 317 *e*P **P** **10 55 05.9 +0.9**
comp=Z,3.8nm,0.6s,mb4.2
CDF Champ du Feu 76.35 317 *e*P **P** **10 55 05.9 +0.9**
comp=Z,1.9nm,0.6s,mb4.2
CDF Champ du Feu 76.35 317 *e*P **P** **10 55 05.9 +0.9**
CDF pmax pmax
comp=Z,2.0nm,0.6s,mb4.2
SBF Sospel 77.15 312 *e*P **P** **10 55 10.1 +0.4**
comp=Z,89nm,1.3s,mb5.2
SBF Sospel 77.15 312 *e*P **P** **10 55 10.1 +0.4**
comp=Z,44nm,1.3s,mb5.2
SBF Sospel 77.15 312 *e*P **P** **10 55 10.1 +0.4**
SBF pmax pmax
comp=Z,45nm,1.3s,mb5.2
MBDF Montbardon 77.44 313 *e*P **P** **10 55 12.0 +0.7**
LMR La Mourre 77.92 312 *e*P **P** **10 55 14.1 +0.1**
comp=Z,21nm,1.1s,mb4.7
LMR La Mourre 77.92 312 *e*P **P** **10 55 14.1 +0.1**
comp=Z,10nm,1.1s,mb4.7
LMR La Mourre 77.92 312 *e*P **P** **10 55 14.1 +0.1**
LMR pmax pmax
comp=Z,11nm,1.1s,mb4.7
BAIF Baives 77.97 319 *e*P **P** **10 55 14.9 +0.8**
ORIF Oris-en-Rattie 78.02 313 *e*P **P** **10 55 14.7 +0.2**
SMRF Simiane la Rot 78.44 313 *e*P **P** **10 55 17.3 +0.5**
comp=Z,6.9nm,0.9s,mb4.3
SMRF Simiane la Rot 78.44 313 *e*P **P** **10 55 17.3 +0.5**
comp=Z,6.9nm,0.9s,mb4.6
LOR Lormes 78.84 316 *e*P **P** **10 55 19.6 +0.6**
SMF Signal de Mont 79.00 315 *e*P **P** **10 55 20.8 +0.9**
comp=Z,11nm,0.9s,mb4.5
SMF Signal de Mont 79.00 315 *e*P **P** **10 55 20.8 +0.9**
comp=Z,5.7nm,0.9s,mb4.5
SMF Signal de Mont 79.00 315 *e*P **P** **10 55 20.8 +0.9**
SMF pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
SSF Saint Saulge 79.13 316 *e*P **P** **10 55 20.9 +0.3**
comp=Z,5.1nm,0.7s,mb4.3
SSF Saint Saulge 79.13 316 *e*P **P** **10 55 20.9 +0.3**
comp=Z,2.5nm,0.7s,mb4.2
SSF Saint Saulge 79.13 316 *e*P **P** **10 55 20.9 +0.3**
SSF pmax pmax
comp=Z,3.0nm,0.7s,mb4.3
AVF Avril sur Loir 79.30 316 *e*P **P** **10 55 21.7 +0.2**
comp=Z,9.5nm,0.9s,mb4.4
AVF Avril sur Loir 79.30 316 *e*P **P** **10 55 21.7 +0.2**
comp=Z,4.8nm,0.9s,mb4.4
AVF Avril sur Loir 79.30 316 *e*P **P** **10 55 21.7 +0.2**
AVF pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
LASF Ste Croix 79.62 313 *e*P **P** **10 55 23.8 +0.5**
TCF Toulx Ste Croi 80.19 315 *e*P **P** **10 55 26.9 +0.6**
comp=Z,8.6nm,0.9s,mb4.4
RJF Les Rejaudoux 80.91 315 *e*P **P** **10 55 30.5 +0.2**
MTLF Montolieu 80.96 313 *e*P **P** **10 55 31.0 +0.5**
LDF La Druitiere 81.08 318 *e*P **P** **10 55 31.6 +0.5**
FLN La Foliniere 81.27 318 *e*P **P** **10 55 32.5 +0.4**
SGMF Saint Gilles 82.73 318 *e*P **P** **10 55 40.1 +0.3**
ROSF Rostrenen 83.16 318 *e*P **P** **10 55 42.4 +0.4**
TORD Torodi Ar. Bea 90.30 284 P **P** **10 56 18.7 +1.1**
comp=Z,0.7nm,1.0s,mb4.0,baz=84,slow=5.6,SNR=3.7
YKA Yellowknife Ar 96.54 14⇑*e*P **P** **10 56 48.7 +3.4**
YKA Yellowknife Ar 96.54 14 P **P** **10 56 45.0 -0.3**
comp=Z,0.3nm,0.8s,mb3.8,baz=329,slow=4.4,SNR=4.2
PDAR Pinedale Array 115.41 21 PKP PKPdf 11 02 00.1 +2.1
comp=Z,0.2nm,0.7s,baz=344,slow=3.0,SNR=2.3

NEIC ***19*** *11:00:53.7, 3829N×2044E, h19km, MD3.4(ATH), After ATH.*
CSEM ***19*** *11:00:53.1±0.9, 3828N×2025E, h15km, ML3.4, Error ellipse: s-maj=16.9km s-min=8.6km az=77.0*
THE ***19*** *11:00:54.4, 3828N×2034E, h1km, ML3.4*
ATH 19 11:00:53.7, 3829N×2044E, h19km±3km**, MD3.4/4, Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.16**	**134**	*e*Pg	Pg	11 00 58.8	+0.6
VLS				*e*Sg	Sg	11 01 01.8	+0.5
VLS	**Valsamata**	**0.16**	**134**	*e*PB	Pg	11 00 58.8	+0.6
VLS				*e*SB	Sg	11 01 01.9	+0.6
KFL	**Anninata**	**0.33**	**123**	*e*Pg	Pg	11 01 01.9	+1.2
KFL				*e*Sg	Sg	11 01 07.3	+1.8
LKD	**Levkas**	**0.45**	**22**	*e*Pg	Pg	11 01 03.8	+0.9
LKD				*e*Sg	Sg	11 01 10.8	+1.7
RLS	**Riolos of Patr**	**0.84**	**106**	*e*PN	Pn	11 01 10.6	+0.1
SELA	**Sela**	**1.14**	**90**	*e*Pg	Pg	11 01 17.0	+1.1
SELA				*e*Sg	Sg	11 01 35.5	+4.6
EVR	**Evrytania**	**1.24**	**59**	*e*PN	Pn	11 01 17.1	+1.1
ITM	**Ithomi**	**1.62**	**133**	*e*PN	Pn	11 01 23.2	+2.0

NEIC ***19*** *11:01:32.1, 2989S×71.16W, h63km, MD3.8(GUC), After GUC.*
GUC 19 11:01:32.1±0.6**, 2989S×7116W, h63**km±4km**, MD3.8, ML3.6, 3C-4D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSCH	**La Serena**	**0.08**	**252**	⇑*i*P		11 02 58.3	
LSCH				*i* S		11 03 05.5	
TLL	**Tololo Astrono**	**0.42**	**132**	*e*P	Pn	11 01 44.6	+1.1
TLL				*i* S	Sn	11 01 53.6	+1.8
LCO	**Las Campanas**	**0.96**	**25**	*e*Pn	Pn	11 01 49.8	0.0
LCO				*e*Sn	Sn	11 02 02.5	-0.2
CMCH	**Combarbala**	**1.29**	**174**	⇓*i*P	Pn	11 01 54.6	+0.5
CMCH				*i* S	Sn	11 02 11.7	+1.2
CMCH	**Combarbala**	**1.29**	**174**	⇓*i*P	Pn	11 01 54.6	+0.5
CMCH				*i* S	Sn	11 02 11.7	+1.2
CMCH				AML	AML	11 02 13.8	
	comp=N,1μm,0.7s						
VACH	**Vallenar**	**1.35**	**15**	⇓*i*P	Pn	11 01 55.0	+0.1
VACH				*i* S	Sn	11 02 12.9	+1.0
VACH	**Vallenar**	**1.35**	**15**	⇓*i*P	Pn	11 01 55.0	+0.1
VACH				*i* S	Sn	11 02 12.9	+1.0
VACH				AML	AML	11 02 16.9	
	comp=N,2μm,0.1s						
CHNG	**Los Chungos**	**2.01**	**188**	*i* P	Pn	11 01 45.6	-18
CHNG				*i* S	Sn	11 02 09.8	-18
CDCH	**Caldera**	**2.82**	**6**	*i* S	Sn	11 02 48.1	+0.5
PEL	**Peldehue**	**3.27**	**173**	*i* P	Pn	11 02 21.6	+0.6
PEL				*i* S	Sn	11 02 59.6	+0.9
PEL				AML	AML	11 03 14.8	
	comp=E,134nm,0.3s						
LMEL	**Las Melosas**	**4.03**	**169**	⇑*i*P	Pn	11 02 36.2	+4.8
LMEL				*i* S	Sn	11 03 21.7	+4.4
LMEL	**Las Melosas**	**4.03**	**169**	⇑*i*P	Pn	11 02 36.2	+4.8
LMEL				*i* S	Sn	11 03 21.7	+4.4
LMEL				AML	AML	11 03 43.3	
	comp=N,50nm,0.3s						

ISCJB ***19*** *11:05:53.7±0.6, 4812N×00.6W×15293E±008, h118km±5km, mb4.3/48, Error ellipse: s-maj=12.4km s-min=5.1km az=139.9*
SKHL ***19*** *11:05:54.2±1.5, 4820N×15300E, h93km±55km, mb4.8/3, msha5.7/2*
MOS ***19*** *11:05:55.4±0.9, 4820N×15286E, h136km, mb3.9/10, Error ellipse: s-maj=14.5km s-min=9.7km az=77.1*
BJI ***19*** *11:05:56.5, 4792N×15301E, h150km, mB4.9, mb4.5*
NEIC ***19*** *11:05:57.6±1.0, 4814N×15289E, h142km±10km, mb4.3/6, Error ellipse: s-maj=17.2km s-min=7.5km az=147.0*
IDC ***19*** *11:05:58.7±3.1, 4813N×15284E, h151km±29km, mb3.6/21, mb1 3.8/23, mb1mx3.7/29, mbtmp3.6/23, Error ellipse: s-maj=14.8km s-min=12.0km az=131.0*
ISC 19 11:05:55.1±0.5**, 4814N**±006**×15291E**±008**, h115**km±5km**, n105,** σ0**96/**115**, mb4.3**/48**, 1C-2D, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.29**	**38**	*e*P	**Pn**	**11 06 44.7**	**-0.4**
SKR				AMB	AMB	11 06 44.7	
	60nm,0.5s						
SKR				*e*rx	rx	11 06 54.4	
SKR				*e*S	**Sn**	**11 07 21.5**	**-2.2**
SKR				A		11 07 28.5	
	240nm,0.2s						
SKR				A		11 07 28.5	
	470nm,0.2s						
SKR				A		11 07 28.5	
	80nm,0.5s						
KUR	**Kuril'sk**	**4.53**	**232**	*e*P	**Pn**	**11 07 02.0**	**+0.4**
KUR				AMB	AMB	11 07 04.0	
	76nm,0.5s						
KUR				*e*S	**Sn**	**11 07 54.0**	**+0.8**
KUR				A		11 08 06.5	
	129nm,0.7s						
PET	**Petropavlovsk**	**6.10**	**35**	*e*Pn	**Pn**	**11 07 24.6**	**+1.9**
JRA	**Rausu**	**6.86**	**235**	P	**Pn**	**11 07 33.5**	**+0.5**
NEM2	**Nemuro 2**	**6.92**	**229**	P	**Pn**	**11 07 31.2**	**-2.7**
NEM2				*e*S	**Sn**	**11 08 43.8**	**-7.3**
YSS	**Yuzh-Sakhalins**	**6.97**	**264**	*e*Pn	**Pn**	**11 07 39.3**	**+4.7**
	4.5nm,0.7s						
YSS	**Yuzh-Sakhalins**	**6.97**	**264**	*e*P	**Pn**	**11 07 39.2**	**+4.6**
JNK	**Nakash**	**7.31**	**234**	P	**Pn**	**11 07 38.7**	**-0.5**
JTKR	**Abashiri--Toko**	**7.52**	**240**	P	**Pn**	**11 07 43.0**	**+1.0**
JAK	**Akkeshi**	**7.72**	**231**	P	**Pn**	**11 07 41.9**	**-2.9**
JAK				*e*S	**Sn**	**11 09 03.2**	**-7.3**
JSE	**Soyaes**	**7.80**	**250**	P	**Pn**	**11 07 50.5**	**+4.7**
JMP	**Maruseppu**	**7.82**	**242**	P	**Pn**	**11 07 47.7**	**+1.6**
JAR	**Ashorobuto**	**8.02**	**236**	P	**Pn**	**11 07 49.0**	**+0.2**
ASAJ	**Asahikawa**	**8.21**	**244**	PN	**Pn**	**11 07 54.4**	**+3.0**
ASAJ				pmax	pmax		
	comp=Z,11nm,0.3s						
ASAJ	**Asahikawa**	**8.21**	**244**	P	**Pn**	**11 07 54.4**	**+3.0**
	comp=Z,11nm,0.3s,baz=72,slow=14,SNR=141						
JOB	**Onbets**	**8.25**	**234**	P	**Pn**	**11 07 50.6**	**-1.3**
JKK2	**Kamakawa 2**	**8.26**	**243**	P	**Pn**	**11 07 54.2**	**+2.2**
JCH	**Churui**	**8.70**	**234**	P	**Pn**	**11 07 56.0**	**-2.0**
JCH				*e*S	**Sn**	**11 09 26.7**	**-7.5**
JFR	**Furan**	**8.77**	**239**	P	**Pn**	**11 08 00.3**	**+1.3**
JHR	**Hokuryu**	**8.95**	**245**	P	**Pn**	**11 08 04.2**	**+2.9**
ERM	**Erimo**	**9.22**	**232**	*e*Pn	**Pn**	**11 08 05.2**	**+0.1**
	comp=Z,14nm,0.4s						
ERM				*e*Sn	**Sn**	**11 09 36.8**	**-10**
ERM	**Erimo**	**9.22**	**232**	*e*PN	**Pn**	**11 08 05.2**	**+0.1**
ERM				pmax	pmax		
	comp=Z,14nm,0.4s						
NKL	**Nikolayevsk**	**9.24**	**307**	*e*P	**Pn**	**11 08 05.5**	**+0.2**
NKL				AMB	AMB	11 08 06.9	
	comp=Z,15nm,1.0s						
JNB	**Noboribetsu**	**10.10**	**240**	P	**Pn**	**11 08 15.7**	**-1.3**
JKB	**Kayabe**	**10.47**	**238**	P	**Pn**	**11 08 19.2**	**-2.7**
JKB				*e*S	**Sn**	**11 10 08.2**	**-9.0**
JYM2	**Yakumo 2**	**10.71**	**240**	P	**Pn**	**11 08 23.3**	**-1.8**
JTM	**Tenmabayashi**	**11.20**	**233**	P	**Pn**	**11 08 26.9**	**-4.8**
JOSM	**Okushiri--Mats**	**11.25**	**242**	P	**Pn**	**11 08 30.5**	**-1.9**
KLR	**Kul'dur**	**14.02**	**282**	*e*P	**Pn**	**11 09 08.8**	**+0.4**
MJAR	**Matsushiro Arr**	**15.86**	**228**	P	**Pn**	**11 09 33.1**	**+1.4**
	comp=Z,0.8nm,0.3s,baz=16,slow=12,SNR=9.0						
MDJ	**Mudanjiang**	**16.46**	**266**	P	**Pn**	**11 09 39.5**	**+0.5**
MDJ				XP	sP	11 10 22.5	+7.6
MDJ				AMB	AMB		
	comp=Z,10.0nm,1.9s						
MDJ				AMB	AMB		
	comp=Z,283nm,6.2s						
KSRS	**Korea Array**	**21.13**	**249**	P	**P**	**11 10 31.7**	**+1.2**
	comp=Z,4.4nm,0.6s,mb4.0,baz=41,slow=10,SNR=21						
JNU	**Nakatsue**	**22.35**	**236**	P	**P**	**11 10 43.8**	**+0.2**
	comp=Z,4.5nm,0.8s,mb3.9,baz=41,slow=9.3,SNR=3.4						
HHC	**Hu-ho-hao-te**	**30.09**	**272**	*e*P	**P**	**11 11 55.8**	**+2.4**
HHC				AP	pP	11 12 26.0	+7.4
HHC				XP	sP	11 12 42.3	+10
HHC				PP	PP	11 12 57.9	-5.4
HHC				PCP	PcP	11 14 53.9	+1.7
HHC				S	**S**	**11 16 43.1**	**-0.2**
HHC				XS	sS	11 17 34.6	+7.3
HHC				SS	SS	11 18 28.9	-27
HHC				PCS	PcS	11 18 37.4	+1.8
HHC				AMB	AMB		
	comp=Z,14nm,0.3s,mb5.1						
HHC				AMB	AMB		
	comp=Z,200nm,4.7s						
HHC				LR	LR		
	comp=N,161nm,5.1s						
HHC				LR	LR		
	comp=E,305nm,16.3s						
HHC				LR	LR		
	comp=Z,211nm,5.5s						
IMA2	**Indian Mountai**	**32.77**	**37**	*e*P	**P**	**11 12 16.9**	**+0.3**
COLA	**College**	**35.14**	**40**	*e*P	**P**	**11 12 37.7**	**+0.5**
	comp=Z,4.0nm,0.6s,mb4.4						
COLA	**College**	**35.14**	**40**	*e*P	**P**	**11 12 37.7**	**+0.6**
COLA				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.4						
LZH	**Lanzhou**	**37.73**	**270**	*e*P	**P**	**11 13 00.5**	**+1.0**
LZH				AP	pP	11 13 31.3	+6.0
LZH				XP	sP	11 13 46.0	+7.6
LZH				AMB	AMB		
	comp=Z,13nm,1.0s,mb4.7						
LZH				AMB	AMB		
	comp=Z,65nm,4.5s						
INK	**Inuvik**	**40.56**	**33**	P	**P**	**11 13 23.4**	**+0.9**
INK	**Inuvik**	**40.56**	**33**	P	**P**	**11 13 23.4**	**+0.9**
	comp=Z,1.7nm,0.6s,mb4.1,baz=292,slow=7.2,SNR=18						
CD2	**Chengdu**	**40.88**	**263**	*e*P	**P**	**11 13 25.8**	**+0.1**
CD2				XP	sP	11 14 13.3	+8.5
CD2				PP	PP	11 15 05.3	+3.2
CD2				S	**S**	**11 19 25.3**	**-3.1**
CD2				SS	SS	11 22 27.3	-6.8
CD2				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.6						
CD2				AMB	AMB		
	comp=Z,20nm,6.8s						
ZALV	**Zalesovo Beam**	**41.70**	**304**	P	**P**	**11 13 31.5**	**-0.5**
ZALV				PcP	PcP	11 15 26.3	-0.1
ZALV	**Zalesovo Beam**	**41.70**	**304**	P	**P**	**11 13 31.5**	**-0.5**
	comp=Z,0.9nm,0.3s,mb4.0,baz=50,slow=6.6,SNR=4.4						
ZALV				PcP	PcP	11 15 26.3	-0.1
	comp=Z,0.8nm,0.3s,baz=100,slow=3.0,SNR=7.5						
ZAL	**Zalesovo**	**41.71**	**304**	P	**P**	**11 13 31.5**	**-0.7**
ZAL						11 15 26.3	
MK31	**Makanchi Array**	**46.19**	**296**	*e*P	**P**	**11 14 07.4**	**-0.6**
MKAR	**Makanchi Array**	**46.19**	**296**	P	**P**	**11 14 07.8**	**-0.2**
	comp=Z,1.5nm,0.7s,mb3.8,baz=69,slow=8.1,SNR=8.2						
KURK	**Kurchatov**	**46.49**	**302**	*e*P	**P**	**11 14 09.9**	**-0.4**
	comp=Z,3.3nm,0.6s,mb4.2						
KURK	**Kurchatov**	**46.49**	**302**⇓*e*P		**P**	**11 14 10.2**	**-0.1**
BVAR	**Borovoye Array**	**49.88**	**308**	P	**P**	**11 14 36.2**	**-0.1**
	comp=Z,1.7nm,0.3s,mb4.4,baz=58,slow=8.1,SNR=9.0						
YKA	**Yellowknife Ar**	**49.90**	**37**	P	**P**	**11 14 36.7**	**+0.4**
YKA	**Yellowknife Ar**	**49.90**	**37**	P	**P**	**11 14 36.7**	**+0.4**
	comp=Z,1.5nm,0.6s,mb4.1,baz=299,slow=7.0,SNR=28						
AAK	**Ala-Archa**	**53.10**	**295**⇑*e*P		**P**	**11 14 59.0**	**-1.5**
AAK				pmax	pmax		
	comp=Z,3.0nm,1.3s,mb4.2						
ARU	**Arti**	**53.90**	**317**	*e*P	**P**	**11 15 05.5**	**-0.5**
	comp=Z,3.5nm,0.4s,mb4.7						
ARU	**Arti**	**53.90**	**317***d i*P		**P**	**11 15 05.4**	**-0.6**
ARU				*e*		11 17 05.8	
ARU				*e*S	**S**	**11 22 31.6**	**-0.4**
ARU				*e*SS	SS	11 26 15.4	+1.5
ARU				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.5						
GUN	**Gumba**	**54.75**	**274**	*e*P	**P**	**11 15 12.9**	**+0.2**
	comp=Z,11nm,0.3s,mb5.3						
KKN	**Kakani**	**55.23**	**274**	*e*P	**P**	**11 15 17.0**	**+0.9**
PKI	**Pulchoki**	**55.29**	**274**	*e*P	**P**	**11 15 16.8**	**+0.3**
	comp=Z,4.1nm,0.2s,mb5.0						
DMN	**Daman**	**55.47**	**274**	*e*P	**P**	**11 15 18.4**	**+0.6**
	comp=Z,9.8nm,0.4s,mb5.2						
GKN	**Gorkha**	**55.52**	**275**	*e*P	**P**	**11 15 18.6**	**+0.4**
	comp=Z,10nm,0.4s,mb5.2						
KOLN	**Koldanda**	**56.37**	**275**	*e*P	**P**	**11 15 24.1**	**-0.1**
	comp=Z,3.4nm,0.3s,mb4.8						
ARCES	**ARCESS Array B**	**56.49**	**340**	P	**P**	**11 15 23.2**	**-1.3**
ARCES				PcP	PcP	11 16 19.9	+0.1
ARCES	**ARCESS Array B**	**56.49**	**340**	P	**P**	**11 15 23.2**	**-1.3**
	comp=Z,2.5nm,0.8s,mb4.3,baz=29,slow=7.4,SNR=8.7						
ARCES				PcP	PcP	11 16 19.9	+0.1
	comp=Z,2.1nm,0.8s,baz=64,slow=5.5,SNR=3.7						
AKTK	**Aktyubinsk**	**57.70**	**311**	P	**P**	**11 15 33.4**	**+0.1**
AKTK				PcP	PcP	11 16 24.9	0.0
AKTO	**Aktyubinsk**	**57.70**	**311**	P	**P**	**11 15 33.4**	**+0.1**
	comp=Z,0.7nm,0.5s,mb4.0,baz=76,slow=8.8,SNR=3.5						
AKTO				PcP	PcP	11 16 24.9	0.0
	comp=Z,1.1nm,0.8s,baz=333,slow=4.5,SNR=3.8						
NVAR	**Mina Array Bea**	**61.92**	**63**	P	**P**	**11 16 02.5**	**+0.2**
	comp=Z,0.3nm,0.5s,mb3.5,baz=302,slow=7.4,SNR=3.5						
FINES	**FINESS Array B**	**62.72**	**334**	P	**P**	**11 16 05.9**	**-1.4**
	comp=Z,1.4nm,0.5s,mb4.2,baz=56,slow=5.9,SNR=15						
BW06	**Boulder Array**	**64.04**	**54**	*e*P	**P**	**11 16 16.8**	**+0.5**
	comp=Z,0.8nm,0.6s,mb3.7						
PDAR	**Pinedale Array**	**64.04**	**54**	P	**P**	**11 16 16.8**	**+0.5**
	comp=Z,0.7nm,0.7s,mb3.6,baz=260,slow=2.8,SNR=6.7						
NOA	**NORSAR Array B**	**66.87**	**341**	P	**P**	**11 16 34.5**	**+0.4**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
NOA	**NORSAR Array B**	**66.87**	**341**	P	**P**	**11 16 34.5**	**+0.4**
	comp=Z,0.7nm,0.5s,mb3.7,baz=28,slow=6.5,SNR=2.8						
HFS	**Hagfors**	**67.11**	**339**	P	**P**	**11 16 35.3**	**-0.4**
HFS				pmax	pmax		
	comp=Z,2.0nm,0.4s						
HFS	**Hagfors**	**67.11**	**339**	P	**P**	**11 16 35.3**	**-0.4**
	comp=Z,1.8nm,0.4s,mb4.3,baz=74,slow=6.8,SNR=10						
WRA	**Warramunga Arr**	**69.79**	**199**	P	**P**	**11 16 51.5**	**-1.2**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
WRA	**Warramunga Arr**	**69.79**	**199**	P	**P**	**11 16 51.5**	**-1.3**
	comp=Z,0.8nm,0.8s,mb3.6,baz=18,slow=6.1,SNR=9.4						
AKASG	**Malin Array Be**	**70.31**	**326**	P	**P**	**11 16 55.1**	**-0.6**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
AKASG	**Malin Array Be**	**70.31**	**326**	P	**P**	**11 16 54.4**	**-1.3**
	comp=Z,1.2nm,0.4s,mb4.1,baz=34,slow=6.1,SNR=5.6						
SCHQ	**Schefferville**	**72.08**	**23**	P	**P**	**11 17 05.5**	**-0.7**
	comp=Z,2.9nm,0.7s,mb4.2,baz=18,slow=9.0,SNR=7.3						
ASAR	**Alice Springs**	**73.49**	**198**	P	**P**	**11 17 15.0**	**+0.1**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ASAR	**Alice Springs**	**73.49**	**198**	P	**P**	**11 17 14.6**	**-0.3**
	comp=Z,0.8nm,0.6s,mb3.8,baz=12,slow=5.9,SNR=22						
EKA	**Eskdalemuir Ar**	**74.95**	**346**	P	**P**	**11 17 23.1**	**0.0**
EKA				pmax	pmax		
	comp=Z,3.0nm,0.5s						
EKA	**Eskdalemuir Ar**	**74.95**	**346**	P	**P**	**11 17 23.1**	**0.0**
	comp=Z,2.5nm,0.5s,mb4.2,baz=16,slow=5.2,SNR=11						
CLL	**Collm**	**75.14**	**335**	*i* P	**P**	**11 17 24.1**	**-0.1**
CLL				pmax	pmax		
	comp=Z,7.0nm,0.5s,mb4.7						
CLL	**Collm**	**75.14**	**335**	*i* P	**P**	**11 17 24.1**	**-0.1**
	comp=Z,7.0nm,0.5s,mb4.7						
TXAR	**Lajitas Array**	**76.93**	**61**	P	**P**	**11 17 34.6**	**-0.2**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
TXAR	**Lajitas Array**	**76.93**	**61**	P	**P**	**11 17 34.6**	**-0.1**
	comp=Z,0.7nm,0.5s,mb3.6,baz=292,slow=4.6,SNR=13						
GERES	**GERESS Array B**	**77.14**	**

MD4.7(MEX), After MEX.
ISC 19 11:15:44.5±0.3, 1676N±004×9405W±002, h130km±3km, h144km±6.6km: pP-P, n84, σ1§35/112, mb4.2/29, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.86**	**293**	P	**Pn**	**11 16 06.5**	**+0.2**
	1μm,0.3s,baz=121,slow=4.2						
CMIG				S	**Sn**	**11 16 22.1**	**-0.6**
	1μm,0.3s,baz=252,slow=20,SNR=61						
CMIG	**Matias Romero**	**0.86**	**293**	*i* P	**Pn**	**11 16 06.5**	**+0.3**
CMIG				*i* S	**Sn**	**11 16 22.2**	**-0.4**
TUIG	**Tuzandepetl**	**1.32**	**344**	*i* P	**Pn**	**11 16 10.4**	**-0.2**
TUIG				*i* S	**Sn**	**11 16 29.9**	**-0.7**
SCX	**San Cristobal**	**1.36**	**91**	*i* P	**Pn**	**11 16 12.0**	**+0.9**
SCX				*i* S	**Sn**	**11 16 34.0**	**+2.7**
SCX	**San Cristobal**	**1.36**	**91**	*i* P	**Pn**	**11 16 12.0**	**+0.9**
SCX				*i* S	**Sn**	**11 16 32.0**	**+0.7**
CCIG	**Comitan**	**1.90**	**104**	*i* P	**Pn**	**11 16 18.4**	**+1.2**
CCIG				*i* S	**Sn**	**11 16 42.8**	**+0.5**
HUIG	**Huatulco**	**2.21**	**244**	*i* P	**Pn**	**11 16 18.9**	**-2.2**
HUIG				*i* S	**Sn**	**11 16 46.7**	**-2.4**
OXX	**Oaxaca**	**2.58**	**278**	*i* P	**Pn**	**11 16 27.0**	**+1.3**
VHO	**Vista Hermosa**	**2.58**	**277**	*i* P	**Pn**	**11 16 26.6**	**+0.8**
VHO				*i* S	**Sn**	**11 16 57.2**	**-0.3**
SCIG	**Sabancuy**	**3.50**	**51**	*i* P	**Pn**	**11 16 37.5**	**-0.2**
SCIG				*i* S	**Sn**	**11 17 19.3**	**+0.3**
LVIG	**Laguna Verde**	**3.71**	**323**	*i* P	**Pn**	**11 16 38.9**	**-1.6**
LVIG				*i* S	**Sn**	**11 17 18.6**	**-5.2**
LVIG	**Laguna Verde**	**3.71**	**323**	*i* P	**Pn**	**11 16 39.3**	**-1.1**
LVIG				*i* S	**Sn**	**11 17 22.6**	**-1.2**
UTMO	**Huajuapan**	**3.74**	**287**	*i* P	**Pn**	**11 16 42.1**	**+1.3**
PNIG	**Pinotepa**	**3.92**	**265**	*i* P	**Pn**	**11 16 41.0**	**-2.3**
PNIG				*i* S	**Sn**	**11 17 23.7**	**-5.2**
PNIG	**Pinotepa**	**3.92**	**265**	*i* P	**Pn**	**11 16 42.1**	**-1.2**
PNIG				*i* S	**Sn**	**11 17 24.9**	**-3.9**
PPM	**Popocatepetl**	**4.92**	**298**	*i* P	**Pn**	**11 16 58.9**	**+2.2**
PPM				*i* S	**Sn**	**11 17 53.7**	**+1.0**
PPM	**Popocatepetl**	**4.92**	**298**	*i* P	**Pn**	**11 16 58.9**	**+2.2**
PPM				*i* S	**Sn**	**11 17 52.7**	**0.0**
YAIG	**Yautepec**	**5.21**	**294**	*i* P	**Pn**	**11 17 01.6**	**+1.1**
YAIG				*i* S	**Sn**	**11 17 55.0**	**-4.7**
YAIG	**Yautepec**	**5.21**	**294**	*i* P	**Pn**	**11 17 02.2**	**+1.7**
YAIG				*i* S	**Sn**	**11 17 58.7**	**-1.0**
MEIG	**Mezcala**	**5.44**	**283**	*i* P	**Pn**	**11 17 04.8**	**+1.2**
MEIG				*i* S	**Sn**	**11 18 01.5**	**-3.7**
PLIG	**Platanillo**	**5.45**	**288**	*i* P	**Pn**	**11 17 04.5**	**+0.9**
PLIG				*i* S	**Sn**	**11 18 01.5**	**-3.8**
PLIG	**Platanillo**	**5.45**	**288**	*i* P	**Pn**	**11 17 04.5**	**+0.9**
PLIG				*i* S	**Sn**	**11 18 03.4**	**-1.9**
SZVM	**Salazar**	**5.67**	**298**	*i* P	**Pn**	**11 17 07.1**	**+0.4**
SZVM				*i* S	**Sn**	**11 18 08.2**	**-2.6**
DEIG	**Demacu**	**5.90**	**307**	*i* P	**Pn**	**11 17 11.3**	**+1.6**
DEIG				*i* S	**Sn**	**11 18 20.4**	**+4.3**
CAIG	**El Cayaco**	**5.96**	**274**	*i* P	**Pn**	**11 17 09.6**	**-0.9**
CAIG	**El Cayaco**	**5.96**	**274**	*i* P	**Pn**	**11 17 09.8**	**-0.7**
CAIG				*i* S	**Sn**	**11 18 15.2**	**-2.3**
TEIG	**Tepich**	**6.47**	**57**	*e*Pn	**Pn**	**11 17 15.7**	**-1.8**
	81nm,0.4s						
TEIG				*e*Sn	**Sn**	**11 18 28.7**	**-1.4**
TEIG	**Tepich**	**6.47**	**57**	P	**Pn**	**11 17 15.7**	**-1.8**
	22nm,0.3s,baz=254,slow=8.9,SNR=139						
TEIG				S	**Sn**	**11 18 27.3**	**-2.8**
	27nm,0.3s,baz=72,slow=20,SNR=8.3						
TEIG				LR	LR	11 20 30.1	
	comp=Z,114nm,18.4s,baz=55,slow=45						
TGUH	**Tegucigalpa,Un**	**7.07**	**111**	*e*Pn	**Pn**	**11 17 26.8**	**+1.3**
	45nm,0.8s						
MMIG	**Aquila**	**9.00**	**281**	*i* P	**Pn**	**11 17 52.2**	**+0.7**
MMIG				*i* S	**Sn**	**11 19 31.0**	**-0.1**
LNIG	**Linares**	**9.55**	**329**	*i* P	**Pn**	**11 17 59.9**	**+1.0**
LNIG				*i* S	**Sn**	**11 19 40.7**	**-3.7**
ANIG	**Ahuacatlan**	**10.79**	**295**	*i* P	**Pn**	**11 18 17.4**	**+1.9**
JTS	**JuntasAbangare**	**10.93**	**125**	*e*Pn	**Pn**	**11 18 15.8**	**-1.6**
	13nm,0.4s						
JTS	**JuntasAbangare**	**10.93**	**125**	P	**Pn**	**11 18 16.4**	**-1.0**
	4.7nm,0.3s,baz=317,slow=18,SNR=16						
SOR	**Soroa**	**12.00**	**58**	*e*P	**Pn**	**11 18 30.3**	**-1.1**
MGV	**Manicaragua**	**14.30**	**66**	*e*P	**Pn**	**11 19 02.2**	**+1.1**
JCT	**Junction City**	**14.63**	**340**	*e*Pn	**Pn**	**11 19 10.0**	**+4.7**
	52nm,0.6s						
NATX	**Nacogdoches**	**14.95**	**358**	*e*Pn	**Pn**	**11 19 10.3**	**+1.2**
	56nm,0.6s						
TXAR	**Lajitas Array**	**15.32**	**326**	P	**Pn**	**11 19 15.5**	**+1.7**
	0.2nm,0.3s,baz=148,slow=14,SNR=35						
LRAL	**Lakeview Retre**	**17.41**	**20**	*e*P	**Pn**	**11 19 44.6**	**+5.2**
	843nm,0.4s						
LRAL				*e*S	**S**	**11 22 41.3**	**-12**
MIAR	**Mount Ida**	**17.72**	**1**	*e*P	**Pn**	**11 19 41.9**	**-1.2**
	18nm,0.7s						
MIAR				*e*S	**S**	**11 22 49.4**	**-10**
MNTX	**Cornudas Mount**	**18.09**	**327**	*e*P	**P**	**11 19 47.5**	**+1.4**
	5.3nm,1.1s						
WMOK	**Wichita Mounta**	**18.40**	**348**	*e*P	**P**	**11 19 50.3**	**+0.8**
	22nm,0.6s						
WMOK				*e*S	**S**	**11 23 06.9**	**-6.0**
CGIG		**18.59**	**319**	*i* P	**P**	**11 19 57.6**	**+6.0**
PLAL	**Pickwick Lake**	**18.92**	**15**	*e*P	**P**	**11 19 54.0**	**-1.2**
	4.8nm,0.4s						
PLAL				*e*S	**S**	**11 23 16.8**	**-6.5**
BNM	**Barren Site**	**20.68**	**329**	*e*P	**P**	**11 20 16.2**	**+2.0**
LPM	**Los Pinos Moun**	**20.81**	**330**	*e*P	**P**	**11 20 17.9**	**+2.3**
TKL	**Tuckaleechee C**	**20.93**	**24**	P	**P**	**11 20 16.1**	**-0.8**
	1.7nm,0.5s,baz=204,slow=17,SNR=4.0						
LAZ	**Ladron**	**21.13**	**329**	*e*P	**P**	**11 20 21.8**	**+2.8**
LAZ				*e*		11 20 45.0	
LAZ				*e*PcP	PcP	11 24 26.9	+7.0
ANMO	**Albuquerque**	**21.25**	**331**	P	**P**	**11 20 20.9**	**+0.6**
	1.9nm,0.7s,mb3.5,baz=154,slow=9.1,SNR=9.1						
CCM	**Cathedral Cave**	**21.36**	**6**	*e*P	**P**	**11 20 20.5**	**-1.0**
	9.5nm,0.7s,mb4.2						
CCM				*e*		11 20 47.4	
KSU1	**Kansas State U**	**22.37**	**355**	*e*P	**P**	**11 20 30.8**	**-1.3**
	23nm,0.5s,mb4.9						
KSU1				*e*		11 20 56.0	
CBKS	**Cedar Bluff**	**22.53**	**348**	*e*P	**P**	**11 20 33.6**	**-0.1**
	24nm,0.9s,mb4.6						
CBKS				*e*		11 20 53.9	
MVCO	**Mesa Verde**	**24.04**	**331**	*e*P	**P**	**11 20 49.1**	**+1.6**
	5.0nm,0.7s,mb4.2						
MVCO				*e*		11 21 18.6	
SDV	**Santo Domingo**	**24.12**	**106**	*e*P	**P**	**11 20 45.7**	**-2.8**
	8.6nm,0.5s,mb4.5						
SDV				*e*		11 21 21.5	
SDV	**Santo Domingo**	**24.12**	**106**	P	**P**	**11 20 46.2**	**-2.3**
	9.0nm,0.5s,mb4.6,baz=317,slow=6.1,SNR=19						
WUAZ	**Wupatki**	**24.24**	**324**	*e*P	**P**	**11 20 53.0**	**+3.6**
	8.2nm,0.9s,mb4.3						
WUAZ				*e*pP		11 21 18.5	
WUAZ				*e*sP	sP	11 21 34.8	+2.7
ECSD	**EROS,Sioux Fal**	**26.98**	**356**	*e*P	**P**	**11 21 12.7**	**-1.2**
	3.7nm,0.5s,mb4.3						
ECSD				*e*pP	pP	11 21 43.0	+1.2
ECSD				*e*sP	sP	11 21 55.7	-1.2
RSSD	**Black Hills**	**28.55**	**345**	*e*P	**P**	**11 21 27.8**	**-0.1**
	1.8nm,0.4s,mb4.2						
RSSD				*e*pP	pP	11 22 02.3	+6.4
RSSD				*e*sP	sP	11 22 15.0	+3.9
PDAR	**Pinedale Array**	**29.11**	**336**	P	**P**	**11 21 33.2**	**+0.3**
	0.5nm,0.7s,mb3.4,baz=142,slow=7.5,SNR=5.2						
REDW	**Red Top Meadow**	**30.12**	**335**	*e*P	**P**	**11 21 43.7**	**+1.8**
	12nm,1.1s,mb4.6						
SNOW	**Snow King Moun**	**30.16**	**335**	*e*P	**P**	**11 21 43.8**	**+1.6**
	13nm,0.8s,mb4.7						
SNOW				*e*pP	pP	11 22 12.9	+2.5
TPAW	**Teton Pass**	**30.27**	**335**	*e*P	**P**	**11 21 45.0**	**+1.9**
	4.5nm,0.9s,mb4.2						
TPAW				*e*		11 22 30.2	
NVAR	**Mina Array Bea**	**30.30**	**320**	P	**P**	**11 21 46.4**	**+2.9**
	1.3nm,0.7s,mb3.8,baz=125,slow=8.9,SNR=12						
RLMT	**Red Lodge**	**31.03**	**339**	*e*P	**P**	**11 21 50.4**	**+0.6**
	1.7nm,0.5s,mb4.0						
AGMN	**Agassiz Refuge**	**31.49**	**358**	*e*P	**P**	**11 21 52.3**	**-1.5**
	6.3nm,0.8s,mb4.4						
ULM	**Lac du Bonnet**	**33.44**	**358**	P	**P**	**11 22 08.7**	**-2.1**
	1.7nm,0.4s,mb4.1,baz=176,slow=9.6,SNR=9.0						
FFC	**Flin Flon**	**38.38**	**353**	*e*P	**P**	**11 22 52.0**	**-0.9**
	8.2nm,1.0s,mb4.3						
FFC				*e*pP	pP	11 23 21.5	-0.2
LPAZ	**La Paz**	**41.61**	**141**	*e*P	**P**	**11 23 21.1**	**+1.1**
	2.6nm,0.8s,mb3.9						
LPAZ	**La Paz**	**41.61**	**141**	P	**P**	**11 23 21.5**	**+1.5**
	2.7nm,0.7s,mb4.0,baz=331,slow=6.7,SNR=11						
FCC	**Fort Churchill**	**41.94**	**360**	*e*P	**P**	**11 23 21.1**	**-1.0**
	4.0nm,0.7s,mb4.2						
SIV	**San Ignacio**	**46.01**	**133**	P	**P**	**11 23 53.7**	**-1.4**
	8.0nm,0.5s,mb4.6,baz=306,slow=7.8,SNR=56						
YKA	**Yellowknife Ar**	**47.91**	**347**	P	**P**	**11 24 08.6**	**-0.6**
	6.7nm,0.6s,mb4.5,baz=151,slow=7.3,SNR=161						
INK	**Inuvik**	**57.25**	**344**	P	**P**	**11 25 18.0**	**0.0**
	23nm,0.7s,mb5.2,baz=133,slow=6.8,SNR=285						
PLCA	**Paso Flores**	**61.22**	**160**	P	**P**	**11 25 46.1**	**+0.5**
	2.9nm,0.8s,mb4.2,baz=306,slow=8.3,SNR=5.7						
EKA	**Eskdalemuir Ar**	**76.90**	**36**	P	**P**	**11 27 20.2**	**-2.1**
	1.3nm,0.7s,mb3.7,baz=286,slow=6.8,SNR=5.6						
NB2	**NORSAR Subarra**	**82.67**	**28**	P	**P**	**11 27 52.8**	**-0.5**
	comp=Z,2.0nm,0.6s,mb4.0,baz=292,slow=5.3						
NOA	**NORSAR Array B**	**82.67**	**28**	P	**P**	**11 27 53.2**	**-0.1**
	comp=Z,3.6nm,0.7s,mb4.2,baz=292,slow=5.0,SNR=8.8						
ARCES	**ARCESS Array B**	**84.14**	**18**	P	**P**	**11 28 00.4**	**-0.3**
	comp=Z,6.9nm,0.6s,mb4.6,baz=299,slow=5.0,SNR=56						
TIXI	**Tiksi**	**87.16**	**348**	*e*P	**P**	**11 28 14.9**	**-0.6**
	comp=Z,1.7nm,0.8s,mb3.9						
FINES	**FINESS Array B**	**88.84**	**25**	P	**P**	**11 28 22.0**	**-1.6**
	comp=Z,1.5nm,0.8s,mb4.0,baz=196,slow=3.6,SNR=7.0						
BOSA	**Boshof**	**123.29**	**113**	PKP	PKPdf	11 34 27.2	+0.6
	comp=Z,1.7nm,0.7s,baz=326,slow=3.6,SNR=5.6						
WRA	**Warramunga Arr**	**134.08**	**258**	PKP	PKPdf	11 34 47.3	-0.1
	comp=Z,0.7nm,0.6s,baz=86,slow=2.4,SNR=17						
ASAR	**Alice Springs**	**134.64**	**253**	PKP	PKPdf	11 34 48.0	-0.3
	comp=Z,0.3nm,0.8s,baz=85,slow=2.1,SNR=4.3						

KRSC 19 11:16:23.6±0.1, 5509N×16223E, h23km±23km, ML3.9, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**0.61**	**209**	*i* P	Pb	11 16 35.9	+0.4
MKZ				*i* S	Sb	11 16 44.6	+1.0
KBTR	**Krutoberegovo**	**1.17**	**16**	*i* P	Pn	11 16 44.1	-0.4
KBTR				*i* S	Sn	11 16 59.3	-0.4
TUMR	**Tumrok**	**1.21**	**280**	*e*P	Pn	11 16 46.1	+1.0
TUMR				*i* S	Sn	11 17 03.3	+2.6
ZLN	**Zelenaya**	**1.23**	**319**	P	Pn	11 16 45.7	+0.3
ZLN				*i* S	Sn	11 17 03.3	+2.0
KMNR	**Kamenistaya**	**1.32**	**301**	*e*P	Pn	11 16 47.8	+1.3
KMNR				*i* S	Sn	11 17 05.3	+1.9
KPT	**Kopyto**	**1.44**	**308**	*e*P	Pn	11 16 49.3	+1.1
KPT				*i* S	Sn	11 17 08.3	+1.9
KLY	**Klyuchi**	**1.52**	**325**	*e*P	Pn	11 16 49.3	0.0
KLY				*i* S	Sn	11 17 07.5	-0.8
KOZ	**Kozyrevsk**	**1.65**	**307**	*e*P	Pn	11 16 52.6	+1.5
KOZ				*i* S	Sn	11 17 14.2	+2.6
SRKR	**Sorokina**	**1.68**	**340**	P	Pn	11 16 53.3	+1.8
SRKR				*i* S	Sn	11 17 14.6	+2.3
SRDR	**Sredinnyy**	**1.88**	**312**	P	Pn	11 16 55.5	+1.2
SRDR				*i* S	Sn	11 17 18.3	+1.1
KII	**Karymskiy**	**1.93**	**238**	*e*P	Pn	11 16 56.8	+1.8
KII				*i* S	Sn	11 17 20.1	+1.6
NLC	**Nalytchevo**	**2.56**	**223**	*e*P	Pn	11 17 05.5	+1.8
NLC				*i* S	Sn	11 17 35.3	+1.2
AVH	**Avacha**	**2.75**	**230**	*e*P	Pn	11 17 08.2	+2.0
AVH				*i* S	Sn	11 17 41.4	+2.8
GNL	**Ganaly**	**2.87**	**243**	*e*P	Pn	11 17 09.5	+1.6
GNL				*i* S	Sn	11 17 42.5	+0.9
PET	**Petropavlovsk**	**2.96**	**227**	*e*P	Pn	11 17 11.0	+2.0
PET				*i* S	Sn	11 17 45.3	+1.6
RUS	**Russkaya**	**3.46**	**221**	P	Pn	11 17 17.6	+1.7
RUS				*i* S	Sn	11 17 56.9	+0.8

*ISCJB **19** 11:18:35.0±0.3, 4622N±001×1553E±002, h5km±3km, Error ellipse: s-maj=2.4km s-min=2.1km az=28.7*
*VIE **19** 11:18:35.7±0.1, 4621N×1551E, h9km±1km, mb2.3/4, ML2.8/4, Error ellipse: s-maj=1.0km s-min=0.7km az=116.0 19 km E of Celje*
*LJU **19** 11:18:35.3, 46.19N×1551E, h10km, ML2.6*
*NEIC **19** 11:18:35.7±0.3, 46.19N×1550E, h5km, ML2.6(LJU), Error ellipse: s-maj=3.1km s-min=2.4km az=94.0*
NEIC Felt [IV] at Smarje and Podcetrtek.
*PRU **19** 11:18:37.4, 4627N×1536E, h0km*
ISC 19 11:18:35.8±0.3, 4620N±001×1553E±002, h5km±3km, n59, σ0§90/115, 13C-32D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DOBS	**Dobrina**	**0.07**	**220**	⇓*i*Pg	**Pg**	**11 18 37.2**	**-0.3**
DOBS				*i* Sg	**Sg**	**11 18 38.3**	**-0.2**
DOBS	**Dobrina**	**0.07**	**220**	⇓*i*Pg	**Pg**	**11 18 37.2**	**-0.3**
DOBS				*i* Sg	**Sg**	**11 18 38.3**	**-0.2**
DOBS							
	comp=Z,4μm,0.1s						
GOLS	**Golise**	**0.20**	**161**	⇓*i*Pg	**Pg**	**11 18 39.7**	**-0.1**
GOLS				*i* Sg	**Sg**	**11 18 42.9**	**+0.4**
GOLS	**Golise**	**0.20**	**161**	⇓*i*Pg	**Pg**	**11 18 39.7**	**-0.1**
GOLS				*i* Sg	**Sg**	**11 18 42.9**	**+0.4**
GOLS							
	comp=Z,536nm,0.2s						
CESS	**Cesta pri Krsk**	**0.23**	**192**	⇓*i*Pg	**Pg**	**11 18 40.4**	**-0.1**
CESS				*i* Sg	**Sg**	**11 18 43.8**	**+0.3**
CESS	**Cesta pri Krsk**	**0.23**	**192**	⇓*i*Pg	**Pg**	**11 18 40.4**	**-0.1**
CESS				*i* Sg	**Sg**	**11 18 43.8**	**+0.3**
CESS							
	comp=Z,362nm,0.1s						
GROS	**Grobnik**	**0.26**	**355**	⇓*i*Pg	**Pg**	**11 18 41.4**	**+0.4**
GROS				*i* Sg	**Sg**	**11 18 45.4**	**+1.0**
GROS	**Grobnik**	**0.26**	**355**	⇓*i*Pg	**Pg**	**11 18 41.4**	**+0.4**
GROS				*i* Sg	**Sg**	**11 18 45.4**	**+1.0**
GROS							
	comp=Z,670nm,0.1s						
LEGS	**Legarje**	**0.29**	**211**	⇓*i*Pg	**Pg**	**11 18 41.5**	**0.0**
LEGS				*i* Sg	**Sg**	**11 18 44.9**	**-0.5**
GCIS	**Gornji Cirnik**	**0.34**	**169**	⇓*i*Pg	**Pg**	**11 18 42.2**	**-0.2**
GCIS				*e*Sg	**Sg**	**11 18 46.5**	**-0.4**
GCIS	**Gornji Cirnik**	**0.34**	**169**	⇓*i*Pg	**Pg**	**11 18 42.2**	**-0.2**
GCIS				*e*Sg	**Sg**	**11 18 46.5**	**-0.4**
GCIS							
	comp=Z,70nm,0.1s						
CRES	**Cresnjev**	**0.38**	**188**	⇓*i*Pg	**Pg**	**11 18 43.0**	**-0.2**
CRES				*i* Sg	**Sg**	**11 18 48.5**	**+0.4**
CRES	**Cresnjev**	**0.38**	**188**	⇓*i*Pg	**Pg**	**11 18 43.0**	**-0.2**
CRES				*i* Sg	**Sg**	**11 18 48.5**	**+0.4**
CRES							
	comp=Z,198nm,0.2s						
PDKS	**Podkum**	**0.40**	**249**	⇓*i*Pg	**Pg**	**11 18 43.5**	**0.0**
PDKS				*i* Sg	**Sg**	**11 18 49.3**	**+0.6**
PDKS	**Podkum**	**0.40**	**249**	⇓*i*Pg	**Pg**	**11 18 43.5**	**0.0**
PDKS				*i* Sg	**Sg**	**11 18 49.3**	**+0.6**
PDKS							
	comp=Z,199nm,0.1s						
ZAVS	**Zavodnje**	**0.42**	**304**	⇓*i*Pg	**Pg**	**11 18 44.1**	**+0.1**
ZAVS				*i* Sg	**Sg**	**11 18 50.0**	**+0.5**
PERS	**Pernice**	**0.52**	**327**	⇓*i*Pg	**Pg**	**11 18 45.9**	**0.0**
PERS				*i* Sg	**Sg**	**11 18 52.6**	**0.0**
PERS	**Pernice**	**0.52**	**327**	⇓*i*Pg	**Pg**	**11 18 45.9**	**0.0**
PERS				*i* Sg	**Sg**	**11 18 52.6**	**0.0**
PERS							
	comp=Z,308nm,0.1s						
KOGS	**Kog**	**0.56**	**63**	⇓*i*Pg	**Pg**	**11 18 47.1**	**+0.6**
KOGS				*i* Sg	**Sg**	**11 18 54.7**	**+1.0**
VNDS	**Vrh nad Dolski**	**0.59**	**260**	*i* Pg	**Pg**	**11 18 46.9**	**-0.2**
VNDS				*i* Sg	**Sg**	**11 18 55.3**	**+0.5**
LJU	**Ljubljana**	**0.72**	**258**	⇓*i*Pg	**Pg**	**11 18 49.3**	**-0.3**
LJU				*i* Sg	**Sg**	**11 18 59.2**	**+0.3**
LJU	**Ljubljana**	**0.72**	**258**	⇓*i*Pg	**Pg**	**11 18 49.3**	**-0.3**
LJU				*i* Sg	**Sg**	**11 18 59.2**	**+0.3**
LJU							
	comp=Z,118nm,0.1s						
BOJS	**Bojanci**	**0.72**	**196**	⇓*i*Pg	**Pg**	**11 18 48.7**	**-1.1**
BOJS							
	comp=Z,130nm,0.3s						
OBKA	**Obir**	**0.75**	**295**	⇓*e*Pg	**Pg**	**11 18 50.3**	**+0.1**
	SNR=35						
OBKA				⇓*i*Sg	**Sg**	**11 19 00.1**	**+0.2**
	comp=Z,130nm,0.3s						
MOZS	**Mozjanca**	**0.76**	**277**	*i* Pg	**Pg**	**11 18 50.2**	**-0.3**
MOZS				*i* Sg	**Sg**	**11 19 00.5**	**+0.2**
CEY	**Cerknica**	**0.90**	**239**	⇓*i*Pg	**Pg**	**11 18 52.3**	**-0.8**
CEY				*i* Sg	**Sg**	**11 19 04.9**	**+0.2**
CEY	**Cerknica**	**0.90**	**239**	⇓*i*Pg	**Pg**	**11 18 52.3**	**-0.8**
CEY				*i* Sg	**Sg**	**11 19 04.9**	**+0.2**
CEY							
	comp=Z,106nm,0.2s						
SISC	**Sisak**	**0.94**	**141**	Sg	**Sg**	**11 19 06.8**	**+0.8**
ARSA	**Arzberg**	**1.05**	**360**	*e*Pg	**Pg**	**11 18 55.0**	**-1.0**
	SNR=37						
ARSA				⇑*i*Sg	**Sg**	**11 19 08.0**	**-1.6**
	comp=Z,82nm,0.2s						
KNDS	**Knezji Dol**	**1.05**	**230**	*i* Pg	**Pg**	**11 18 55.2**	**-0.7**
KNDS				*i* Sg	**Sg**	**11 19 09.9**	**+0.3**
KNDS	**Knezji Dol**	**1.05**	**230**	*i* Pg	**Pg**	**11 18 55.2**	**-0.7**
KNDS				*i* Sg	**Sg**	**11 19 09.9**	**+0.3**
KNDS							
	comp=Z,139nm,0.3s						
JAVS	**Javornik**	**1.07**	**254**	*i* Pg	**Pg**	**11 18 55.1**	**-1.2**
JAVS				*i* Sg	**Sg**	**11 19 11.2**	**+1.1**
JAVS	**Javornik**	**1.07**	**254**	*i* Pg	**Pg**	**11 18 55.1**	**-1.2**
JAVS				*i* Sg	**Sg**	**11 19 11.2**	**+1.1**
JAVS							
	comp=Z,95nm,0.2s						
GORS	**Gorjuse**	**1.07**	**277**	*i* Pg	**Pg**	**11 18 56.1**	**-0.3**
GORS				*i* Sg	**Sg**	**11 19 10.0**	**-0.3**
GORS	**Gorjuse**	**1.07**	**277**	*i* Pg	**Pg**	**11 18 56.1**	**-0.3**
GORS				*i* Sg	**Sg**	**11 19 10.0**	**-0.3**
GORS							
	comp=Z,88nm,0.2s						
VOY	**Vojsko**	**1.15**	**262**	*e*Pg	**Pg**	**11 18 56.7**	**-1.2**
VOY				*e*Sg	**Sg**	**11 19 14.3**	**+1.4**
MYKA	**Terra Mystica**	**1.38**	**289**	⇑*i*Pg	**Pg**	**11 19 01.9**	**-0.3**
MYKA				⇓*i*Sg	**Sg**	**11 19 20.6**	**+0.6**
	comp=Z,29nm,0.3s						
ROBS	**Robic**	**1.41**	**272**	*i* Pg	**Pg**	**11 19 01.3**	**-1.4**
ROBS				*i* Sg	**Sg**	**11 19 21.4**	**+0.4**
ROBS	**Robic**	**1.41**	**272**	*i* Pg	**Pg**	**11 19 01.3**	**-1.4**
ROBS				*i* Sg	**Sg**	**11 19 21.4**	**+0.4**
ROBS							
	comp=Z,32nm,0.2s						
LSR	**Lussari**	**1.42**	**282**	⇓*i*Pg	**Pg**	**11 19 02.4**	**-0.6**
LSR				*i* Sg	**Sg**	**11 19 23.5**	**+2.2**
COLI	**Coloredo**	**1.50**	**268**	⇑*i*Pg	**Pg**	**11 19 03.4**	**-1.1**
COLI				*i* Sg	**Sg**	**11 19 25.2**	**+1.2**
BAD	**Bernadia**	**1.59**	**272**	⇑*i*Pg	**Pg**	**11 19 05.4**	**-0.9**
BAD				*i* Sg	**Sg**	**11 19 28.1**	**+1.2**
SOP	**Sopron**	**1.64**	**25**	⇓*e*PB	**Pb**	**11 19 06.3**	**-0.2**
SOP				*e*Sg	**Sg**	**11 19 30.6**	**+2.1**
PLRO	**Paularo**	**1.69**	**283**	⇑*i*Pg	**Pg**	**11 19 07.2**	**-0.9**
PLRO				*i* Sg	**Sg**	**11 19 32.3**	**+2.3**
NVLJ	**Novalja**	**1.70**	**196**	⇓*i*Pn	**Pn**	**11 19 06.6**	**+0.5**
NVLJ				Sn	**Sn**	**11 19 28.5**	**+0.3**
CONA	**Conrad Observa**	**1.74**	**7**	⇑*e*Pn	**Pn**	**11 19 06.6**	**-0.1**
	SNR=9.6						
CONA				⇑*i*Pg	**Pg**	**11 19 09.0**	**-0.2**
CONA				⇑*i*Sn	**Sn**	**11 19 29.5**	**+0.3**
CONA				⇑*i*Sg	**Sg**	**11 19 33.5**	**+1.7**
	comp=Z,45nm,0.5s						
KBA	**Koelnbreinsper**	**1.74**	**301**	⇓*i*Pg	**Pg**	**11 19 08.7**	**-0.6**
KBA				⇑*i*Sg	**Sg**	**11 19 32.7**	**+0.9**
	comp=Z,16nm,0.3s						
MPRI	**Monte Prat**	**1.77**	**272**	⇓*i*Pg	**Pg**	**11 19 07.7**	**-2.0**
MOA	**Molln**	**1.86**	**333**	⇑*i*Pn	**Pn**	**11 19 07.6**	**-0.7**
MOA				*i* Sn	**Sn**	**11 19 32.7**	**+0.5**
MOA	**Molln**	**1.86**	**333**	⇑*i*Pn	**Pn**	**11 19 07.6**	**-0.7**
MOA				⇑*i*Sn	**Sn**	**11 19 32.7**	**+0.5**
ZST	**Bratislava**	**2.26**	**28**	*e*SG	**Sg**	**11 19 49.5**	**+1.0**
MODS	**Modra-Piesok**

comp=N,8.3nm,0.4s
KUDL AML AML 11 35 19.4
comp=E,13nm,0.4s
SONA Sohna 9.68 147 *e*P **Pn 11 33 35.3 -1.1**
SONA *e*S **Sn 11 35 16.8 -7.4**
SONA AML AML 11 35 22.1
comp=E,27nm,0.3s
SONA AML AML 11 35 25.2
comp=N,17nm,0.2s
MKAR Makanchi Array 13.14 36 P **Pn 11 34 21.0 +0.2**
baz=212,slow=10,SNR=2.3
KOLN Koldanda 13.69 126 *e*P **Pn 11 34 28.1 +0.2**
comp=N,8.5nm,0.4s
GKN Gorkha 14.22 123 *e*P **Pn 11 34 34.3 -0.2**
comp=N,20nm,0.4s
DMN Daman 14.79 123 *e*P **Pn 11 34 41.8 +0.2**
comp=N,17nm,0.4s
KKN Kakani 14.79 122 *e*P **Pn 11 34 41.8 +0.2**
comp=N,17nm,0.5s
PKI Pulchoki 15.02 123 *e*P **Pn 11 34 45.4 +1.0**
comp=N,17nm,0.4s
AB31 Akbulak array 15.09 331 P **Pn 11 34 43.9 -1.1**
comp=N,1.1nm,0.4s,baz=151,slow=9.6,SNR=31
AB31 ⇑S **S 11 37 22.5 -10**
comp=N,2.4nm,0.6s,baz=153,slow=23
GUN Gumba 15.13 121 *e*P **Pn 11 34 46.4 +0.7**
comp=N,10nm,0.4s
JIRN Jiri 15.50 121 *e*P **Pn 11 34 51.8 +1.5**
comp=N,23nm,0.4s
BVAR Borovoye Array 16.46 358 P **Pn 11 35 02.0 +0.4**
comp=N,0.3nm,0.3s,baz=163,slow=10,SNR=3.4
AKTO Aktyubinsk 16.79 330 P **Pn 11 35 06.1 +0.4**
comp=N,2.4nm,0.3s,baz=138,slow=9.5,SNR=36
FINES FINESS Array B 37.50 326 P **P 11 38 18.1 +0.8**
comp=N,0.8nm,0.6s,mb3.5,baz=126,slow=9.7,SNR=3.6
ARCES ARCESS Array B 41.13 338 P **P 11 38 47.9 +0.8**
comp=N,1.2nm,0.6s,mb3.7,baz=104,slow=8.9,SNR=8.8
NOA NORSAR Array B 44.41 323 P **P 11 39 13.2 -0.3**
comp=N,0.9nm,0.8s,mb3.4,baz=98,slow=8.4,SNR=2.7
TORD Torodi Ar. Bea 65.87 269 P **P 11 41 47.3 -0.4**
comp=N,0.2nm,0.4s,mb3.3,baz=46,slow=5.5,SNR=3.3
YKA Yellowknife Ar 81.16 3 P **P 11 43 16.4 +0.2**
comp=N,0.3nm,0.6s,mb3.1,baz=349,slow=5.2,SNR=11
WRA Warramunga Arr 81.90 122 P **P 11 43 19.6 -1.1**
comp=N,0.4nm,0.7s,mb3.3,baz=324,slow=4.8,SNR=8.2
ASAR Alice Springs 84.17 125 P **P 11 43 31.1 -1.1**
comp=N,0.4nm,0.7s,mb3.3,baz=311,slow=5.1,SNR=8.1

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*ISCJB **19** 11:33:31.2±0.4,3271N±002×11605W±002,h11km±3km, Error ellipse: s-maj=3.5km s-min=2.8km az=32.9*
*NEIC **19** 11:33:32.0,3268N×11606W,h11km,ML2.9(PAS),After PAS.*
NEIC Felt at Ocotillo.
*ECX **19** 11:33:32.6±0.7,3270N×11604W,h4km±2km,MD2.8, ML2.9*

ISC 19 11:33:30.9±0.3,3273N±002×11603W±002,h2km±4km,n33, σ1§17/61,24C-19D,California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
DVTC	**Desert V Tower**	**0.09**	**219**	⇑P			**Pg**	**11 33 34.1**	**+1.3**
	baz=0.1,SNR=439								
DVTC				⇓S			**Sg**	**11 33 35.7**	**+1.7**
	baz=0.1								
RMX	**La Rumorosa**	**0.14**	**197**	⇑*i*P			**Pg**	**11 33 34.7**	**+1.1**
RMX				*e*S			**Sg**	**11 33 36.5**	**+1.2**
SWSC	**Sam W. Stewart**	**0.29**	**44**	⇓P			**Pg**	**11 33 38.1**	**+1.6**
	baz=0.3,SNR=248								
SWSC				⇑S			**Sg**	**11 33 42.5**	**+2.3**
	baz=0.3								
MONP	**Monument Peak**	**0.36**	**296**	⇓P			**Pg**	**11 33 39.0**	**+1.0**
	baz=0.3,SNR=779								
MONP				⇓S			**Sg**	**11 33 43.9**	**+1.3**
	baz=0.3								
CBX	**Cerro Bola**	**0.68**	**232**	⇓*e*P			**Pg**	**11 33 44.1**	**+0.2**
CBX				*e*S			**Sg**	**11 33 52.8**	**+0.1**
RDX	**Rancho Dowling**	**0.80**	**175**	⇓*i*P			**Pg**	**11 33 46.0**	**-0.3**
RDX				*e*S			**Sg**	**11 33 56.1**	**-0.6**
RDX				⇑*e*				11 33 58.7	
	comp=N,335nm,0.2s								
109C	**Camp Elliot, M**	**0.92**	**280**	P			**Pg**	**11 33 48.3**	**-0.2**
	baz=0.8,SNR=78								
109C				⇑S			**Sg**	**11 33 59.9**	**-0.6**
	baz=0.8								
PFO	**Pinyon Flat Ob**	**0.94**	**338**	*e*P			**Pg**	**11 33 49.8**	**+0.8**
PFO				*e*S			**Sg**	**11 34 01.9**	**+0.6**
PFO	**Pinyon Flat Ob**	**0.94**	**338**	P			**Pg**	**11 33 49.6**	**+0.6**
	baz=0.9,SNR=126								
PFO				⇑S			**Sg**	**11 34 02.4**	**+1.0**
	baz=0.9								
ENX	**Ensenada**	**1.00**	**213**	⇓*e*P			**Pg**	**11 33 49.6**	**-0.5**
ENX				*e*S			**Sg**	**11 34 02.5**	**-0.6**
ENX				⇑*e*				11 34 06.2	
	comp=N,299nm,0.4s								
BC3	**Big Chuckw Mtn**	**1.04**	**28**	⇓P			**Pg**	**11 33 50.9**	**0.0**
	baz=1.1,SNR=9.0								
BC3				⇓S			**Sg**	**11 34 05.7**	**+1.3**
	baz=1.1								
GLA	**Glamis**	**1.06**	**72**	*e*P			**Pg**	**11 33 50.3**	**-1.0**
GLA				*e*S			**Sg**	**11 34 04.1**	**-1.0**
GLA	**Glamis**	**1.06**	**72**	⇑P			**Pg**	**11 33 50.5**	**-0.8**
	baz=1.1,SNR=22								
GLA				⇑S			**Sg**	**11 34 04.2**	**-0.9**
	baz=1.1								
PBX	**Punta Banda**	**1.15**	**211**	*e*P			**Pg**	**11 33 51.9**	**-1.0**
PBX				*e*S			**Sg**	**11 34 07.4**	**-0.5**
PBX				⇑*e*				11 34 10.5	
	comp=E,343nm,0.8s								
ECNX	**Esteban Cantu**	**1.17**	**204**	⇑*e*P			**Pg**	**11 33 52.8**	**-0.7**
ECNX				⇓*e*P				11 33 49.9	
ECNX				*e*S			**Sg**	**11 34 03.2**	**-5.4**
ECNX				*e*S			**Sg**	**11 34 08.2**	**-0.5**
BELC	**Belle Mtn.**	**1.27**	**1**	⇑P			**Pg**	**11 33 53.9**	**-1.3**
	baz=1.3								
BELC				⇓S			**Sg**	**11 34 10.2**	**-1.5**
	baz=1.3								
MURC	**Murrieta**	**1.31**	**312**	⇓Pg			**Pg**	**11 33 55.7**	**-0.4**
	baz=1.2,SNR=25								
MURC				⇓S			**Sg**	**11 34 12.2**	**-0.8**
	baz=1.2								
IRM	**Iron Mountain**	**1.60**	**27**	⇑Pb			**Pb**	**11 34 00.8**	**-0.4**
	baz=1.6								
IRM				⇑Sb			**Sb**	**11 34 22.8**	**+0.9**
	baz=1.6								
Y12C	**Blythe**	**1.62**	**51**	⇑P			**Pn**	**11 33 58.8**	**-1.7**
	baz=1.7								
Y12C				⇑S			**Sn**	**11 34 20.1**	**-1.8**
	baz=1.7								
BBRC	**Big Bear Sol-O**	**1.70**	**334**	⇓Pg			**Pg**	**11 34 03.8**	**+0.3**
	baz=1.7								
BBRC				⇓Sb			**Sb**	**11 34 25.5**	**+0.9**
	baz=1.7								
BFSC	**Mount Baldy St**	**2.03**	**318**	⇑Pb			**Pb**	**11 34 07.7**	**-0.7**
	baz=2.0								
BFSC				⇓Sb			**Sb**	**11 34 34.0**	**-0.1**
	baz=2.0								
CIS	**Catalina Islan**	**2.10**	**289**	⇑Pb			**Pb**	**11 34 08.7**	**-1.1**
	baz=2.0								
HEC	**Hector,Ludlow**	**2.11**	**353**	⇑Sb			**Sb**	**11 34 38.4**	**+1.9**
	baz=2.1								
Y13A	**Salome**	**2.14**	**59**	⇑P			**Pn**	**11 34 06.2**	**-1.4**
	baz=2.2								
Y13A				⇑Sb			**Sb**	**11 34 38.5**	**+1.2**
	baz=2.2								
X13A	**Yucca**	**2.61**	**44**	⇓S			**Sn**	**11 34 44.5**	**-1.9**
	baz=2.7								
GSC	**Goldstone**	**2.64**	**346**	*e*Pg			**Pg**	**11 34 20.0**	**-1.6**
GSC				*e*Sg			**Sg**	**11 34 54.6**	**-1.3**
Z14A	**Wintersburg**	**2.67**	**76**	⇑Sb			**Sb**	**11 34 54.5**	**+1.9**
	baz=2.7								
EDW2	**Edwards Air Fo**	**2.69**	**323**	⇑Sb			**Sb**	**11 34 55.0**	**+1.6**
	baz=2.6								
Y14A	**Wickenburg**	**2.81**	**64**	⇓Sb			**Sb**	**11 34 58.0**	**+1.4**
	baz=2.9								
W13A	**Hualapai Mount**	**2.96**	**36**	⇑Sb			**Sb**	**11 35 04.7**	**+3.7**
	baz=3.0								
LRMC	**Laurel Mountai**	**3.06**	**334**	⇓Sb			**Sb**	**11 35 07.5**	**+3.4**
	baz=3.0								
ISA	**Isabella**	**3.56**	**326**	*e*Pn			**Pn**	**11 34 28.5**	**+1.4**
ISA				*e*Pg			**Pg**	**11 34 39.1**	**0.0**
ISA				*e*Sn			**Sn**	**11 35 09.7**	**-0.1**
ISA				*e*Sg			**Sg**	**11 35 20.8**	**-4.4**
TPNV	**Topopah Spring**	**4.21**	**358**	*e*Pg			**Pg**	**11 34 50.1**	**-1.6**
TPNV				*e*Sg			**Sg**	**11 35 44.4**	**-1.9**

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*NEIC **19** 11:38:38.3,2613S×6989W,h29km±4km,ML3.5(GUC),After GUC.*

GUC 19 11:38:38.3±0.5,2613S×6989W,h29km±4km,MD3.9, ML3.5,3C,Northern Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CDCH	**Caldera**	**1.26**	**222**	⇑*i*P			Pn	11 38 60.0	+0.1
CDCH				*i*S			Sn	11 39 16.8	+1.0
CPCH	**Copiapo**	**1.29**	**199**	⇑*i*P			Pn	11 38 59.4	-0.9
CPCH				*i*S			Sn	11 39 16.4	-0.2
CPN1	**Cerro Paranal**	**1.57**	**343**	*e*P			Pn	11 39 06.0	+1.9
CPN1				*i*S			Sn	11 39 26.6	+3.1
CPN1				AML			AML	11 39 31.6	
	comp=E,760nm,0.4s								
ANCH	**Antofagasta**	**2.48**	**349**	⇑*i*P			Pn	11 39 17.9	+1.2
ANCH				*i*S			Sn	11 39 48.4	+2.3
CEN1	**Los Morros**	**2.74**	**354**	*e*P			Pn	11 39 17.5	-2.8
CEN1				*e*S			Sn	11 39 48.6	-3.9
CEN1				AML			AML	11 39 59.1	
	comp=E,154nm,0.9s								
LCO	**Las Campanas**	**2.96**	**194**	*e*Pn			Pn	11 39 22.9	-0.4
LCO				*e*				11 39 44.9	
TLL	**Tololo Astrono**	**4.10**	**191**	AML			AML	11 40 45.2	
	comp=N,78nm,0.9s								

IDC 19 11:40:50.7±2.9,1711S×17894W,h471km±33km,mb3.1/8, mb1 3.4/8,mb1mx3.2/16,mbtmp3.1/8,Error ellipse: s-maj=32.0km s-min=16.5km az=150.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
URZ	**Urewera**	**21.36**	**189**	P			P	11 45 02.4	-0.7
	2.8nm,0.3s,baz=299,slow=11,SNR=8.5								
STKA	**Stephens Creek**	**38.58**	**240**	P			P	11 47 33.3	+1.2
	0.8nm,0.7s,baz=80,slow=12,SNR=2.2								
WRA	**Warramunga Arr**	**44.28**	**259**	P			P	11 48 16.8	-0.9
	0.2nm,0.7s,baz=94,slow=8.4,SNR=4.0								
ASAR	**Alice Springs**	**44.52**	**253**	P			P	11 48 19.6	+0.1
	0.5nm,0.5s,baz=87,slow=8.3,SNR=17								
ASAR				ScP			ScP	11 52 59.5	-0.5
	0.2nm,0.6s,baz=99,slow=5.0,SNR=7.6								
NVAR	**Mina Array Bea**	**79.20**	**44**	P			P	11 52 06.5	+0.4
	0.6nm,0.6s,baz=219,slow=7.4,SNR=6.1								
TXAR	**Lajitas Array**	**86.00**	**58**	P			P	11 52 42.4	+1.7
	0.7nm,0.8s,baz=222,slow=6.8,SNR=9.2								
PDAR	**Pinedale Array**	**87.12**	**44**	P			P	11 52 45.8	+0.1
	1.3nm,0.6s,baz=216,slow=3.4,SNR=17								
YKA	**Yellowknife Ar**	**93.82**	**25**	P			P	11 53 15.1	-1.1
	0.7nm,0.7s,baz=240,slow=4.4,SNR=12								
ARCES	**ARCESS Array B**	**125.44**	**350**	PKP			PKPdf	11 58 56.1	-0.7
	1.1nm,0.6s,baz=14,slow=2.5,SNR=7.3								

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*ISCJB **19** 12:01:22.9±0.3,3272N±002×11606W±002,h10km±2km, Error ellipse: s-maj=3.2km s-min=2.6km az=32.4*
*NEIC **19** 12:01:23.6,3269N×11606W,h11km,ML2.8(PAS),After PAS.*
NEIC Felt at Ocotillo.
*ECX **19** 12:01:24.0±0.6,3271N×11604W,h4km±1km,MD2.8, ML2.9*

ISC 19 12:01:23.0±0.3,3271N±002×11605W±002,h10km±3km, n36,σ1§07/61,20C-22D,California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
DVTC	**Desert V Tower**	**0.06**	**219**	P			**Pg**	**12 01 25.8**	**+0.6**
	baz=0.1,SNR=1000								
DVTC				⇑S			**Sg**	**12 01 27.4**	**+0.7**
	baz=0.1								
RMX	**La Rumorosa**	**0.11**	**191**	⇑*i*P			**Pg**	**12 01 26.3**	**+0.7**
RMX				*e*S			**Sg**	**12 01 28.2**	**+0.6**
YUH	**Yuha Desert**	**0.13**	**119**	⇑*e*P			**Pg**	**12 01 26.1**	**+0.2**
CRR	**Carrizo Plain**	**0.19**	**22**	⇓*e*P			**Pg**	**12 01 27.6**	**+0.5**
SGL	**Mount Signal**	**0.28**	**102**	⇑*e*P			**Pg**	**12 01 29.1**	**+0.4**
COK	**Cook Ranch**	**0.31**	**63**	⇑*e*P			**Pg**	**12 01 30.0**	**+0.8**
SWSC	**Sam W. Stewart**	**0.32**	**43**	P			**Pg**	**12 01 29.8**	**+0.4**
	baz=0.4,SNR=295								
SWSC				⇓S			**Sg**	**12 01 34.2**	**+0.6**
	baz=0.4								
MONP	**Monument Peak**	**0.36**	**301**	⇓P			**Pg**	**12 01 30.6**	**+0.5**
	baz=0.3,SNR=635								
MONP				⇓S			**Sg**	**12 01 35.6**	**+0.8**
	baz=0.3								
BAR	**Barrett**	**0.52**	**267**	⇓*e*P			**Pg**	**12 01 33.5**	**+0.4**
CBX	**Cerro Bola**	**0.65**	**233**	⇓*e*P			**Pg**	**12 01 35.8**	**+0.2**
CBX				*e*S			**Sg**	**12 01 44.5**	**+0.5**
RDX	**Rancho Dowling**	**0.78**	**173**	⇓*e*P			**Pg**	**12 01 37.7**	**-0.3**
RDX				*e*S			**Sg**	**12 01 47.9**	**-0.3**
RDX				⇓*e*				12 01 50.7	
	comp=N,314nm,0.5s								
109C	**Camp Elliot, M**	**0.90**	**282**	P			**Pg**	**12 01 40.0**	**-0.4**
	baz=0.8,SNR=64								
109C				⇓S			**Sg**	**12 01 51.7**	**-0.4**
	baz=0.8								
PFO	**Pinyon Flat Ob**	**0.96**	**340**	*e*Pg			**Pg**	**12 01 40.8**	**-0.6**
PFO				*e*Sg			**Sg**	**12 01 53.9**	**0.0**
PFO	**Pinyon Flat Ob**	**0.96**	**340**	⇓P			**Pg**	**12 01 40.8**	**-0.6**
	baz=0.9,SNR=162								
PFO				⇓S			**Sg**	**12 01 53.8**	**-0.1**
	baz=0.9								
ENX	**Ensenada**	**0.97**	**212**	*e*P			**Pg**	**12 01 41.3**	**-0.4**
ENX				*e*S			**Sg**	**12 01 54.2**	**-0.2**
ENX				⇑*e*				12 01 55.5	
	comp=E,416nm,0.5s								
BC3	**Big Chuckw Mtn**	**1.07**	**28**	⇑P			**Pg**	**12 01 42.2**	**-1.4**
	baz=1.1,SNR=16								
BC3				⇑S			**Sg**	**12 01 57.4**	**-0.1**
	baz=1.1								
GLA	**Glamis**	**1.09**	**71**	*e*P			**Pg**	**12 01 42.1**	**-1.8**
GLA				*e*S			**Sg**	**12 01 55.8**	**-2.2**
GLA	**Glamis**	**1.09**	**71**	⇓P			**Pg**	**12 01 42.3**	**-1.6**
	baz=1.1,SNR=26								
GLA				⇑S			**Sg**	**12 01 55.6**	**-2.4**
	baz=1.1								
PBX	**Punta Banda**	**1.12**	**211**	*e*P			**Pb**	**12 01 43.7**	**-0.7**
PBX				*e*S			**Sg**	**12 01 59.0**	**0.0**
PBX				⇓*e*				12 02 00.5	
	comp=N,338nm,0.5s								
ECNX	**Esteban Cantu**	**1.15**	**204**	⇑*e*P			**Pb**	**12 01 44.4**	**-0.5**
ECNX				*e*P				12 01 41.6	
ECNX				*e*S			**Sb**	**12 01 54.9**	**-4.8**
ECNX				*e*S			**Sb**	**12 01 59.8**	**0.0**
BELC	**Belle Mtn.**	**1.29**	**2**	⇑P			**Pn**	**12 01 45.6**	**-1.5**
	baz=1.3,SNR=7.2								
BELC				⇓S			**Sb**	**12 02 01.6**	**-2.3**
	baz=1.3								
MURC	**Murrieta**	**1.31**	**313**	⇑Pg			**Pg**	**12 01 47.3**	**-0.8**
	baz=1.2,SNR=16								
MURC				⇓S			**Sb**	**12 02 04.3**	**-0.3**
	baz=1.2								
IRM	**Iron Mountain**	**1.63**	**27**	⇓P			**Pn**	**12 01 50.1**	**-1.6**
	baz=1.6								
IRM				⇑Sb			**Sb**	**12 02 14.8**	**+0.9**
	baz=1.6								
Y12C	**Blythe**	**1.65**	**51**	⇑Pb			**Pb**	**12 01 52.0**	**-1.5**
	baz=1.7								
Y12C				⇓S			**Sn**	**12 02 11.7**	**-1.5**
	baz=1.7								
BBRC	**Big Bear Sol-O**	**1.71**	**335**	⇑Sb			**Sb**	**12 02 17.2**	**+1.1**
	baz=1.7								
BFSC	**Mount Baldy St**	**2.03**	**319**	⇑Pb			**Pb**	**12 01 59.5**	**-0.4**
	baz=2.0								
BFSC				⇓Sb			**Sb**	**12 02 25.7**	**+0.4**
	baz=2.0								
CIS	**Catalina Islan**	**2.09**	**290**	⇑Pb			**Pb**	**12 02 00.4**	**-0.6**
	baz=2.0								
CIS				⇑S			**Sn**	**12 02 24.8**	**+0.6**
	baz=2.0								
Y13A	**Salome**	**2.17**	**59**	⇓Sb			**Sb**	**12 02 30.9**	**+1.7**
	baz=2.2								
GSC	**Goldstone**	**2.66**	**347**	*e*Pg			**Pg**	**12 02 12.6**	**-1.4**
GSC				*e*Sg			**Sg**	**12 02 48.5**	**+0.1**
Z14A	**Wintersburg**	**2.69**	**75**	⇓Sb			**Sb**	**12 02 46.4**	**+2.1**
	baz=2.7								
EDW2	**Edwards Air Fo**	**2.70**	**324**	⇓Sb			**Sb**	**12 02 46.5**	**+1.9**
	baz=2.6								
Y14A	**Wickenburg**	**2.83**	**64**	⇑Sb			**Sb**	**12 02 50.2**	**+1.8**
	baz=2.9								
W13A	**Hualapai Mount**	**2.99**	**37**	⇓Sb			**Sb**	**12 02 55.1**	**+2.2**
	baz=3.0								
LRMC	**Laurel Mountai**	**3.08**	**334**	⇑Sb			**Sb**	**12 02 58.4**	**+3.0**
	baz=3.0								
ISA	**Isabella**	**3.56**	**326**	*e*Pn			**Pn**	**12 02 18.7**	**+0.4**
ISA				*e*Pg			**Pg**	**12 02 30.5**	**-0.8**
ISA				*e*Sg			**Sg**	**12 03 12.5**	**-5.0**
TPNV	**Topopah Spring**	**4.23**	**358**	*e*Pg			**Pg**	**12 02 41.0**	**-3.1**

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*NEIC **19** 12:11:54.0±0.8,683S×15572E,h10km,mb4.8/4,Error ellipse: s-maj=20.3km s-min=16.1km az=204.0*
*ISCJB **19** 12:12:00.8±2.8,70S±01×1559E±01,h82km±28km, mb4.2/10,Error ellipse: s-maj=23.8km s-min=16.9km az=168.8*
*IDC **19** 12:12:03.1±3.7,704S×15588E,h92km±37km,mb4.0/6, mb1 4.0/7,mb1mx3.8/15,mbtmp4.0/7,MS3.6/2,Ms1 3.6/2, ms1mx3.0/20,Error ellipse: s-maj=27.0km s-min=23.6km az=144.0*

ISC 19 12:12:02.3±2.5,70S±01×1558E±01,h81km±27km,n19, σ0§42/18,mb4.2/10,1C,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.73**	**121**	P			**Pn**	**12 13 10.5**	**-0.7**
HNR				S			**Sn**	**12 14 05.4**	**+0.6**
HNR	**Honiara**	**4.73**	**121**	P			**Pn**	**12 13 10.5**	**-0.7**
	7.0nm,0.3s,baz=248,slow=3.7,SNR=4.7								
HNR				S			**Sn**	**12 14 05.4**	**+0.6**
	15nm,0.3s,baz=272,slow=21,SNR=4.2								
KAKA	**Kakadu**	**23.73**	**254**	*e*P			**P**	**12 17 07.8**	**+0.6**
	18nm,0.5s,mb4.7								
KAKA	**Kakadu**	**23.73**	**254**	*e*P			**P**	**12 17 07.1**	**-0.1**
	36nm,0.6s,mb4.9								
WRAB	**Tennant Creek**	**24.49**	**236**	*e*P			**P**	**12 17 14.2**	**+0.1**
	3.2nm,0.5s,mb3.9								
WB2	**Warramunga Arr**	**24.49**	**236**	⇑*i*P			**P**	**12 17 14.4**	**+0.3**
WRA	**Warramunga Arr**	**24.50**	**236**	P			**P**	**12 17 14.6**	**+0.4**
	3.6nm,0.5s,mb4.1,baz=64,slow=9.6,SNR=96								
WRA				PcP			PcP	12 20 49.7	-1.3
	0.8nm,0.8s,baz=70,slow=2.9,SNR=6.3								
ASAR	**Alice Springs**	**26.80**	**229**	P			**P**	**12 17 34.5**	**-0.4**
	1.1nm,0.5s,mb3.7,baz=58,slow=9.8,SNR=21								
ASAR				PcP			PcP	12 20 55.5	-0.6
	0.4nm,0.5s,baz=78,slow=4.4,SNR=5.5								
FITZ	**Fitzroy Crossi**	**31.41**	**247**	*e*P			**P**	**12 18 15.7**	**-0.3**
	8.1nm,0.7s,mb4.6								
FITZ	**Fitzroy Crossi**	**31.41**	**247**	*e*P			**P**	**12 18 15.7**	**-0.3**
	7.4nm,0.6s,mb4.6								
RAO	**Raoul Island**	**33.18**	**135**	LR			LR	12 30 13.3	
	comp=Z,545nm,21.1s,baz=79,slow=33								
RPZ	**Rata Peaks**	**38.93**	**162**	P			**P**	**12 19 19.7**	**-0.5**
	4.1nm,0.6s,mb4.5,baz=259,slow=8.4,SNR=3.6								
KSRS	**Korea Array**	**51.34**	**332**	LR			LR	12 38 37.3	
	comp=Z,14nm,20.0s,baz=190,slow=31								
SONM	**Songino Array**	**69.80**	**327**	P			**P**	**12 23 04.4**	**+0.5**
	1.9nm,0.5s,mb4.2,baz=140,slow=5.6,SNR=5.6								
QSPA	**South Pole Qui**	**82.97**	**180**	*e*P			**P**	**12 24 18.0**	**+0.1**
	4.1nm,0.6s,mb4.4								
MK31	**Makanchi Array**	**83.97**	**319**	*e*P			**P**	**12 24 23.8**	**+0.2**
MKAR	**Makanchi Array**	**83.97**	**319**	P			**P**	**12 24 23.7**	**+0.1**
	2.2nm,0.6s,mb4.2,baz=101,slow=6.0,SNR=24								
ZALV	**Zalesovo Beam**	**84.66**	**326**	P			**P**	**12 24 26.2**	**-0.7**
	1.2nm,0.5s,mb4.1,baz=108,slow=6.4,SNR=5.4								
TORD	**Torodi Ar. Bea**	**153.83**	**286**	PKPbc			PKPbc	12 31 52.5	-0.8
	1.1nm,0.7s,baz=26,slow=2.5,SNR=9.4								

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*IDC **19** 12:28:41.9±4.0,2212N×9469E,h0km,mb3.5/4,mb1 3.6/4, mb1mx3.4/20,mbtmp3.5/4,Error ellipse: s-maj=289.5km s-min=22.7km az=62.0*
*ISCJB **19** 12:28:43.0±0.9,225N±02×956E±02,h10km,mb3.4/4, Error ellipse: s-maj=34.8km s-min=11.5km az=35.3*

ISC 19 12:28:45.5±0.9,226N±02×957E±02,h10km,n10,σ0§45/11, mb3.4/4,Myanmar

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JIRN	**Jiri**	**9.97**	**302**	*e*P			**Pn**	**12 31 09.2**	**+0.4**
	16nm,0.2s								
GUN	**Gumba**	**10.33**	**303**	*e*P			**Pn**	**12 31 14.0**	**+0.2**
	17nm,0.2s								
GUN				*e*S			**Sn**	**12 32 55.3**	**-14**
PKI	**Pulchoki**	**10.55**	**300**	*e*P			**Pn**	**12 31 17.1**	**+0.3**
KKN	**Kakani**	**10.74**	**301**	*e*P			**Pn**	**12 31 19.2**	**-0.3**
	6.0nm,0.2s								
DMN	**Daman**	**10.80**	**300**	*e*P			**Pn**	**12 31 20.6**	**+0.3**
	5.1nm,0.2s								
GKN	**Gorkha**	**11.35**	**300**	*e*P			**Pn**	**12 31 27.0**	**-0.8**
	17nm,0.3s								
MKAR	**Makanchi Array**	**26.44**	**339**	P			**P**	**12 34 21.7**	**-0.7**
	0.4nm,0.4s,mb3.4,baz=167,slow=7.2,SNR=2.5								
ZALV	**Zalesovo Beam**	**32.34**	**348**	P			**P**	**12 35 15.4**	**+0.6**
	0.8nm,0.5s,mb3.8,baz=155,slow=8.0,SNR=4.4								
WRA	**Warramunga Arr**	**56.68**	**135**	P			**P**	**12 38 29.7**	**+0.3**
	0.2nm,0.9s,mb3.2,baz=321,slow=7.5,SNR=6.5								
ASAR	**Alice Springs**	**59.13**	**139**	P			**P**	**12 38 46.2**	**-0.3**
	0.2nm,0.5s,mb3.4,baz=322,slow=6.9,SNR=6.4								

WEL 19 12:29:51.2±0.5,3605S×17840E,h33km,ML3.5/8,Error ellipse: s-maj=6.3km s-min=3.7km az=90.0,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.51**	**183

GLA	Glamis	1.07	70	P		Pb	12 30 52.0	-0.4
	baz=1.1,SNR=8.6							
GLA				⇑S		Sb	12 31 05.2	-1.0
	baz=1.1							
BC3	Big Chuckw Mtn	1.08	26	⇓P		Pb	12 30 52.1	-0.5
	baz=1.1,SNR=8.0							
BC3				⇑S		Sb	12 31 06.9	+0.5
	baz=1.1							
PBX	Punta Banda	1.11	213	⇑eP		Pb	12 30 53.5	+0.3
PBX				eS		Sb	12 31 08.5	+1.1
PBX				⇑e			12 31 12.9	
	comp=N,202nm,1.1s							
ECNX	Esteban Cantu	1.14	206	eP		Pn	12 30 51.0	-2.5
ECNX				eS		Sb	12 31 04.6	-3.5
BELC	Belle Mtn.	1.31	1	⇓S		Sn	12 31 11.4	-1.7
	baz=1.3							
MURC	Murrieta	1.34	313	⇑Pb		Pb	12 30 56.8	-0.4
	baz=1.2,SNR=8.8							
MURC				⇓S		Sn	12 31 13.9	0.0
	baz=1.2							
Y12C	Blythe	1.64	49	⇓S		Sn	12 31 21.0	-0.3
	baz=1.7							
BBRC	Big Bear Sol-O	1.74	335	⇑Sb		Sb	12 31 26.8	+1.2
	baz=1.7							
BFSC	Mount Baldy St	2.07	319	⇑Sb		Sb	12 31 35.6	+0.7
	baz=2.0							
CIS	Catalina Islan	2.13	290	⇓Sb		Sb	12 31 38.0	+1.4
	baz=2.0							
HEC	Hector,Ludlow	2.15	353	⇑Sb		Sb	12 31 40.1	+2.6
	baz=2.1							

IDC 19 12:50:43.1±1.5,1549S×6916W,h254km±18km,mb3.3/2, mb1 3.2/3,mb1mx2.9/20,mbtmp3.1/3,Error ellipse: s-maj=79.1km s-min=35.5km az=8.0,Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	La Paz	1.27	129	P	Pn	12 51 22.0	+1.8
	13nm,0.3s,baz=311,slow=6.0,SNR=383						
LPAZ				S	S	12 51 50.8	+1.4
	12nm,0.3s,baz=127,slow=23,SNR=42						
SIV	San Ignacio	7.80	95	P	Pn	12 52 35.3	+1.3
	0.2nm,0.3s,baz=280,slow=11,SNR=5.1						
TORD	Torodi Ar. Bea	75.64	72	P	P	13 02 00.6	-0.3
	1.1nm,0.7s,baz=266,slow=4.4,SNR=11						
YKA	Yellowknife Ar	85.47	341	P	P	13 02 51.7	-0.2
	0.3nm,0.5s,baz=131,slow=4.8,SNR=10.0						
ASAR	Alice Springs	135.02	211	PKP	PKPdf	13 09 31.8	-1.0
	0.2nm,0.8s,baz=149,slow=1.8,SNR=4.3						
ZALV	Zalesovo Beam	136.57	22	PKP	PKPdf	13 09 35.8	+1.1
	1.0nm,0.6s,baz=300,slow=3.2,SNR=4.1						
WRA	Warramunga Arr	137.88	214	PKP	PKPdf	13 09 39.1	+0.9
	0.1nm,0.3s,baz=141,slow=1.8,SNR=12						

IDC 19 13:12:43.8±2.5,2211S×11458W,h0km,mb3.7/3, mb1 4.0/3,mb1mx3.7/15,mbtmp3.7/3,MS3.4/3,Ms1 3.4/3, ms1mx3.1/19,Error ellipse: s-maj=90.0km s-min=40.9km az=31.0,Easter Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RKT	Rikitea	18.86	263	eT		13 36 28.3	
	1.1nm,0.3s						
TAOE	Nuku Hiva Isla	27.88	294	eLR	LR	13 25 43.5	
	5μm,26.3s,baz=122						
TBI	Tubuai	32.15	261	eLR	LR	13 27 41.9	
	108nm,30.2s						
PPT	Papeete	33.18	271	eLR	LR	13 28 00.8	
	109nm,30.5s						
PLCA	Paso Flores	41.42	127	LR	LR	13 33 06.3	
	comp=Z,58nm,22.0s,baz=357,slow=30						
LPAZ	La Paz	44.12	91	P	P	13 20 54.9	+0.6
	2.2nm,1.0s,baz=280,slow=8.7,SNR=7.5						
LPAZ				LR	LR	13 34 29.2	
	comp=Z,62nm,22.0s,baz=82,slow=30						
LPIG	La Paz	46.12	5	LR	LR	13 33 35.5	
	comp=Z,32nm,21.2s,baz=208,slow=27						
PDAR	Pinedale Array	64.71	4	P	P	13 23 23.4	-0.2
	0.3nm,0.6s,baz=174,slow=8.8,SNR=4.2						
YKA	Yellowknife Ar	84.31	360	P	P	13 25 17.7	+0.7
	0.5nm,0.9s,baz=179,slow=4.6,SNR=7.6						
ZALV	Zalesovo Beam	144.97	340	PKP	PKPdf	13 32 21.6	-1.1
	1.1nm,0.7s,baz=33,slow=3.4,SNR=6.6						
MKAR	Makanchi Array	151.84	335	PKPbc	PKPbc	13 32 40.5	0.0
	0.4nm,0.6s,baz=46,slow=3.5,SNR=4.9						

*CSEM **19** 13:21:58.5±0.0,3856N×3123E,h2km,ML4.0,Error ellipse: s-maj=1.2km s-min=1.0km az=173.0*
*ISK **19** 13:21:59.3,3855N×3123E,h5km,ML4.0*
*ISCJB **19** 13:21:59.3±0.5,3857N±002×3125E±002,h4km±4km, mb3.6/4,MS2.9/2,Error ellipse: s-maj=3.6km s-min=2.9km az=2.0*
*NEIC **19** 13:21:59.4,3858N×3124E,h8km,ML4.0(ISK),After ISK.*
*IDC **19** 13:21:59.1±1.1,3863N×3107E,h0km,mb3.6/4,mb1 3.7/8, mb1mx3.6/24,mbtmp3.6/8,ML3.9/4,MS3.0/2,Ms1 3.0/2, ms1mx2.3/36,Error ellipse: s-maj=23.6km s-min=15.5km az=82.0*
*DDA **19** 13:21:59.7,3857N×3126E,h7km±5km,Md3.8,Ml3.8*
ISC 19 13:22:00.3±0.5,3856N±002×3124E±002,h4km±4km,n116, σ0990/128,mb3.6/4,MS2.9/2,6C-1D,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHUT	Suhut-Afyon	0.54	270	PG	Pg	13 22 10.7	+0.1
SHUT				SG	Sg	13 22 17.7	+0.2
KIZT	Kizilcal	0.60	57	ePG	Pg	13 22 11.4	-0.4
KIZT	Kizilcal	0.60	57	Pg	Pg	13 22 11.5	-0.3
KDHN	Kadinhani	0.69	93	iP	Pg	13 22 12.8	-0.8
KDHN				iS	Sg	13 22 22.6	+0.1
TKTP	Tekketepe	0.89	235	iP	Pg	13 22 17.4	+0.1
TKTP				iS	Sg	13 22 31.2	+2.5
ISP	Isparta	0.91	219	ePG	Pg	13 22 17.5	-0.3
ISP				eSG	Sg	13 22 30.6	+1.0
ISP	Isparta	0.91	219	Pg	Pg	13 22 17.1	-0.7
ISP				Sg	Sg	13 22 32.1	+2.5
ISP	Isparta	0.91	219	⇑iP	Pg	13 22 17.4	-0.4
ESKT	Eskisehir	1.01	343	iP	Pg	13 22 18.4	-1.3
ESKT				iS	Sg	13 22 34.3	+1.6
ESKT	Eskisehir	1.01	343	ePg	Pg	13 22 18.9	-0.7
SEYT	Eskypehyr	1.01	343	iP	Pg	13 22 18.4	-1.2
SEYT				iS	Sg	13 22 34.3	+1.6
ALT	Altintas	1.01	300	ePG	Pg	13 22 18.6	-1.0
ALT	Altintas	1.01	300	Pg	Pg	13 22 18.6	-1.0
ALT				Sg	Sg	13 22 32.6	-0.1
ALT	Altintas	1.01	300	ePg	Pg	13 22 18.6	-1.0
ALT				Sg	Sg	13 22 32.6	-0.2
KONT	Konya--Tatoy	1.07	124	ePG	Pg	13 22 20.0	-0.9
KONT				eSG	Sg	13 22 35.4	+0.6
KONT	Konya--Tatoy	1.07	124	Pn	Pn	13 22 19.9	-2.1
BCK	Bucak	1.21	205	ePN	Pn	13 22 22.2	-1.7
BCK	Bucak	1.21	205	Pn	Pn	13 22 24.2	+0.4
KHL	Karahalli	1.36	261	ePN	Pn	13 22 25.6	-0.4
KHL	Karahalli	1.36	261	Pn	Pn	13 22 26.3	+0.3
BORA	Eskisehir	1.46	336	iP	Pn	13 22 26.8	-0.4
BORA				iS	Sb	13 22 48.5	+1.7
GDZ	Gediz	1.47	292	iP	Pn	13 22 26.7	-0.7
GDZ				iS	Sn	13 22 48.0	+0.8
ANTB	Antalya	1.72	196	ePN	Pn	13 22 30.3	-0.6
LOD	Lodumlu	1.78	41	ePN	Pn	13 22 31.2	-0.6
LOD	Lodumlu	1.78	41	Pn	Pn	13 22 31.4	-0.4
ANTO	Ankara	1.79	42	ePN	Pn	13 22 31.5	-0.3
ANTO	Ankara	1.79	42	Pn	Pn	13 22 31.6	-0.2
ANTO	Ankara	1.79	42	⇑iP	Pn	13 22 32.0	+0.2
GOLH	Golhisar	1.87	226	iP	Pn	13 22 33.1	+0.2
GOLH				iS	Sn	13 23 00.7	+3.8
GPA	Golpazari	1.87	338	ePN	Pn	13 22 33.0	0.0
GPA	Golpazari	1.87	338	Pn	Pn	13 22 32.9	-0.1
GPA	Golpazari	1.87	338	Pn	Pn	13 22 32.9	-0.1
DENT	Denizli	1.91	246	ePN	Pn	13 22 33.2	-0.4
DENT	Denizli	1.91	246	Pn	Pn	13 22 32.6	-1.0
KULA	Kula-Manisa	2.02	270	ePN	Pn	13 22 34.2	-0.8
ELL	Elmali	2.09	211	ePN	Pn	13 22 36.1	+0.1
ELL	Elmali	2.09	211	Pn	Pn	13 22 36.7	+0.8
KAMT	Kaman	2.10	66	ePN	Pn	13 22 36.9	+0.8
KAMT	Kaman	2.10	66	Pn	Pn	13 22 35.8	-0.3
ADVT	Abdulvahap	2.20	329	ePN	Pn	13 22 37.7	+0.1
ADVT	Abdulvahap	2.20	329	Pn	Pn	13 22 37.4	-0.1
ADVT	Abdulvahap	2.20	329	Pn	Pn	13 22 37.4	-0.2
IZI	Iznik	2.24	323	ePN	Pn	13 22 38.8	+0.7
IZI	Iznik	2.24	323	Pn	Pn	13 22 37.8	-0.3
IZI	Iznik	2.24	323	Pn	Pn	13 22 37.8	-0.3
DST	Dursunbey	2.28	298	ePN	Pn	13 22 38.9	+0.2
DST	Dursunbey	2.28	298	Pn	Pn	13 22 38.1	-0.5
YLV	Yalova	2.47	325	ePN	Pn	13 22 41.2	0.0
FETY	Fethiye	2.57	222	Pn	Pn	13 22 43.0	+0.4
FETY	Fethiye	2.57	222	Pn	Pn	13 22 43.0	+0.4
NIG	Nigde	2.69	98	ePN	Pn	13 22 45.4	+1.1
NIG	Nigde	2.69	98	Pn	Pn	13 22 44.4	+0.1
AKS	Akhisar	2.70	278	ePN	Pn	13 22 44.6	+0.2
AKS	Akhisar	2.70	278	Pn	Pn	13 22 44.7	+0.4
CANT	Cankiri	2.75	41	ePN	Pn	13 22 45.1	0.0
CANT	Cankiri	2.75	41	Pn	Pn	13 22 44.4	-0.7
KCT	Karacabey	2.81	308	ePN	Pn	13 22 45.5	-0.4
KCT	Karacabey	2.81	308	Pn	Pn	13 22 44.4	-1.5
BALB	Balikesir	2.83	294	ePN	Pn	13 22 46.1	0.0
BALB	Balikesir	2.83	294	Pn	Pn	13 22 46.5	+0.4
SAFT	Safranbolu	2.90	22	ePN	Pn	13 22 48.1	+0.9
SAFT	Safranbolu	2.90	22	Pn	Pn	13 22 47.1	0.0
SAFT	Safranbolu	2.90	22	Pn	Pn	13 22 47.2	0.0
ISK	Istanbul-Kandi	3.02	327	ePN	Pn	13 22 49.2	+0.5
IKL	Isikli	3.03	139	ePN	Pn	13 22 49.5	+0.6
IKL	Isikli	3.03	139	Pn	Pn	13 22 48.6	-0.3
CORM	Corum	3.09	57	ePN	Pn	13 22 50.4	+0.7
MERS	Mersin	3.10	122	ePN	Pn	13 22 51.1	+1.2
BNT	Bandirma	3.13	306	ePN	Pn	13 22 50.6	+0.3
BNT	Bandirma	3.13	306	Pn	Pn	13 22 51.4	+1.0
EDC	Edincik	3.16	305	ePN	Pn	13 22 50.6	-0.1
EDC	Edincik	3.16	305	Pn	Pn	13 22 49.7	-1.1
TOS	Tosya	3.28	40	ePN	Pn	13 22 52.6	+0.3
TOS	Tosya	3.28	40	Pn	Pn	13 22 51.2	-1.1
KARA	Karaisali	3.29	112	ePN	Pn	13 22 53.4	+0.9
CTT	Catalca	3.37	321	ePN	Pn	13 22 53.4	-0.2
CTT	Catalca	3.37	321	Pn	Pn	13 22 52.8	-0.8
ARG	Arkhangelos	3.40	228	eP	Pb	13 22 59.0	-2.1
BODT	Bodrum	3.45	246	ePN	Pn	13 22 55.0	+0.4
BODT	Bodrum	3.45	246	Pn	Pn	13 22 54.9	+0.2
SMG	Samos	3.57	258	eP	Pn	13 22 55.8	-0.5
BNN	Bunyan	3.62	84	ePN	Pn	13 22 57.7	+0.7
BNN	Bunyan	3.62	84	Pn	Pn	13 22 56.2	-0.8
RKY	Sarkoy-Tekirda	3.79	305	ePN	Pn	13 23 00.5	+1.1
RKY	Sarkoy-Tekirda	3.79	305	Pn	Pn	13 22 59.7	+0.4
RKY	Sarkoy-Tekirda	3.79	305	Pn	Pn	13 22 59.7	+0.4
PRK	Paraskevi	3.93	282	eP	Pn	13 23 00.9	-0.4
BYBT	Boyabat	3.98	42	ePN	Pn	13 23 03.0	+1.1
BZK	Bozkurt	4.01	31	ePN	Pn	13 23 03.2	+0.9
BZK	Bozkurt	4.01	31	Pn	Pn	13 23 01.8	-0.5
KARP	Karpathos	4.43	229	eP	Pb	13 23 18.1	-0.5
GADA	Gvkgeada	4.45	293	ePN	Pn	13 23 09.3	+0.9
GADA	Gvkgeada	4.45	293	Pn	Pn	13 23 09.5	+1.1
KVT	Kavak	4.48	54	ePN	Pn	13 23 09.9	+1.1
APE	Apeiranthos	4.75	254	eP	Pb	13 23 23.5	-0.6
EDRB	Edirne	4.76	315	Pn	Pn	13 23 13.2	+0.5
LIA	Limnos Island	4.89	288	eP	Pn	13 23 11.8	-2.7
RDO	Rodhopi	5.09	302	eP	Pn	13 23 17.0	-0.2
TIRR	Tirgusor	6.27	341	⇑iP	Pn	13 23 33.4	0.0
MMAI	Mount Meron Ar	6.48	147	Pn	Pn	13 23 36.6	+0.2
	1.5nm,0.3s,baz=337,slow=12,SNR=3.6						
HARR	Harsova	6.61	339	⇑iP	Pn	13 23 38.3	+0.2
VTS	Vitosha	7.32	306	⇑iP	Pn	13 23 49.3	+1.5
MLR	Muntele Rosu	7.97	332	Pn	Pn	13 23 54.1	-2.7
	0.5nm,0.3s,baz=314,slow=24,SNR=2.7						
MLR	Muntele Rosu	7.97	332	⇓iP	Pn	13 24 04.0	+7.3
MLR	Muntele Rosu	7.97	332	Pn	Pn	13 23 54.0	-2.7
VRI	Vrancioaia	8.03	337	⇑iP	Pn	13 23 58.6	+1.0
EIL	Elat	9.38	160	Pn	Pn	13 24 16.8	+0.6
	0.5nm,0.3s,baz=326,slow=12,SNR=4.1						
AKASG	Malin Array Be	12.23	354	Pn	Pn	13 24 52.6	-2.4
	1.8nm,0.3s,baz=168,slow=12,SNR=6.1						
AKASG				Sn	Sn	13 27 08.1	-3.6
	0.5nm,0.3s,baz=180,slow=22,SNR=3.1						
AKTK	Aktyubinsk	22.36	49	P	P	13 26 59.4	+0.3
AKTK	Aktyubinsk	22.36	49	P	P	13 26 59.3	+0.2
AKTO	Aktyubinsk	22.36	49	P	P	13 26 59.4	+0.3
	3.2nm,1.1s,mb3.7,baz=234,slow=8.7,SNR=2.6						
BVAR	Borovoye Array	30.47	49	LR	LR	13 43 10.1	
	comp=Z,40nm,18.2s,MS3.1,baz=261,slow=42						
ARCES	ARCESS Array B	31.19	356	LR	LR	13 42 54.1	
	comp=Z,20nm,21.2s,MS2.8,baz=69,slow=40						
TORD	Torodi Ar. Bea	36.41	234	P	P	13 29 05.6	-0.3
	1.5nm,0.7s,mb4.0,baz=36,slow=9.3,SNR=12						
MKAR	Makanchi Array	37.85	61	P	P	13 29 18.0	+0.1
	0.3nm,0.6s,mb3.2,baz=285,slow=7.6,SNR=2.9						
YKA	Yellowknife Ar	75.61	344	P	P	13 33 45.2	-0.6
	0.3nm,0.7s,mb3.3,baz=30,slow=5.5,SNR=5.0						

*MOS **19** 13:34:00.8±1.9,3528N×2653E,h10km,mb4.3/8,Error ellipse: s-maj=7.4km s-min=4.8km az=117.2*
*HLW **19** 13:34:01.3,3585N×2648E,h33km,Mb4.0*
*IDC **19** 13:34:02.1±0.8,3563N×2653E,h0km,mb4.1/13, mb1 4.1/16,mb1mx4.0/25,mbtmp4.1/16,ML4.1/3,MS3.5/2, Ms1 3.5/2,ms1mx2.4/32,Error ellipse: s-maj=20.8km s-min=14.4km az=157.0*
*NEIC **19** 13:34:03.7±0.5,3536N×2655E,h10km,mb4.1/11, ML4.2(ATH),Error ellipse: s-maj=8.2km s-min=5.1km az=3.0*
*ATH **19** 13:34:04.7,3551N×2653E,h31km±1km,MD4.1/22,ML4.2*
*DDA **19** 13:34:04.2,3554N×2626E,h17km±49km,Md3.8*
*ISCJB **19** 13:34:05.1±0.2,3536N±002×2659E±002,h48km±3km, mb4.0/19,MS3.5/2,Error ellipse: s-maj=3.7km s-min=2.3km az=25.0*
*CSEM **19** 13:34:05.0±0.1,3535N×2657E,h30km,mb4.1/4,Ms2.6, Error ellipse: s-maj=1.5km s-min=1.2km az=28.0*
*THE **19** 13:34:07.9,3560N×2653E,h12km,ML4.4*
*GII **19** 13:34:10.7±0.0,3510N×2715E,h0km,mb4.1/5,ML3.9/6*
ISC 19 13:34:06.9±0.2,3540N±002×2659E±002,h39km±4km, n190,σ1926/215,mb4.0/19,MS3.5/2,4C-3D,Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	Karpathos	0.49	72	⇑iPN	Pn	13 34 16.1	-1.3
KARP				eSN	Sn	13 34 23.4	-1.4
NPS	Neapolis	0.81	260	⇑iPN	Pn	13 34 20.4	-1.4
NPS				eSN	Sn	13 34 31.8	-0.8
XRY	Khrisi	0.90	235	ePN	Pn	13 34 22.6	-0.4
NISR	Nisiros	1.28	20	ePN	Pn	13 34 26.8	-1.5
THR1	Thera Island	1.33	317	ePg	Pn	13 34 28.0	-0.9
IDI	Anoyia	1.40	266	P	Pn	13 34 29.5	-0.3
ARG	Arkhangelos	1.49	56	ePN	Pn	13 34 31.5	+0.4
ARG				eSN	Sn	13 34 50.0	+0.7
DAT	Datca	1.55	31	ePN	Pn	13 34 31.5	-0.4
BODT	Bodrum	1.76	19	ePN	Pn	13 34 34.2	-0.5
BDRM	Kayabasi	1.80	22	iP	Pn	13 34 36.0	+0.7
BDRM				iS	Sn	13 35 09.2	+12
APE	Apeiranthos	1.87	333	ePb	Pn	13 34 35.0	-1.3
APE				eSb	Sn	13 34 56.8	-2.0
APE	Apeiranthos	1.87	333	ePn	Pn	13 34 35.2	-1.2
APE				eSn	Sn	13 34 56.8	-2.0
VAM	Vamos	1.95	271	ePN	Pn	13 34 37.2	-0.3
MLSB	Milas	2.12	27	ePN	Pn	13 34 39.3	-0.5
GVD	Gavdhos	2.13	255	ePB	Pn	13 34 40.7	+0.8
DALT	Dalyan (Mudla)	2.15	50	ePN	Pn	13 34 41.6	+1.5
YER	Yerkesik	2.21	38	ePN	Pn	13 34 41.6	+0.7
SMG	Samos	2.31	5	ePN	Pn	13 34 41.2	-1.2
FETY	Fethiye	2.37	58	ePN	Pn	13 34 44.8	+1.7
KSL	Kastellorizon	2.55	72	ePN	Pn	13 34 47.0	+1.4
AKAS	Kas	2.59	70	iP	Pn	13 34 47.8	+1.7
AKAS				iS	Sn	13 35 17.5	+1.1
URLA	Izmir	2.95	0	iP	Pn	13 34 47.9	-3.3
URLA				iS	Sn	13 35 44.1	+19
BLCB	Balcova	3.00	7	ePN	Pn	13 34 50.3	-1.5
ELL	Elmali	3.00	62	ePN	Pn	13 34 53.6	+1.6
CHOS	Chios island	3.01	352	ePn	Pn	13 34 50.9	-1.1
CHOS				eSn	Sn	13 35 26.1	-0.8
KYTH	Kithira	3.02	288	ePN	Pn	13 34 51.1	-1.0
GOLH	Golhisar	3.02	52	iP	Pn	13 34 53.6	+1.5
GOLH				iS	Sn	13 35 41.1	+14
KDAG	Bornova	3.04	10	iP	Pn	13 34 50.9	-1.6
KDAG				iS	Sn	13 35 48.4	+21
DENT	Denizli	3.06	39	ePN	Pn	13 34 53.6	+0.8
VLI	Veliai	3.24	295	⇑iPN	Pn	13 34 54.3	-0.8
KVR	Kavouri	3.32	318	ePN	Pn	13 34 55.3	-0.9
DID	Didima	3.42	309	ePn	Pn	13 34 57.6	-0.1
DID				eSn	Sn	13 35 36.2	-0.9
NAIG	Nisos Aigina	3.43	314	ePN	Pn	13 34 57.0	-0.8
PTL	Penteli	3.43	321	ePN	Pn	13 34 56.5	-1.3
ATH	Athens Observa	3.45	319	ePN	Pn	13 34 57.5	-0.6
KULA	Kula-Manisa	3.52	27	ePN	Pn	13 35 00.4	+1.4
AKS	Akhisar	3.61	15	ePN	Pn	13 34 60.0	-0.2
KHL	Karahalli	3.75	38	ePN	Pn	13 35 03.2	+1.1
BCK	Bucak	3.82	56	ePN	Pn	13 35 05.5	+2.3
PRK	Paraskevi	3.85	356	ePN	Pn	13 35 02.7	-0.8
LTK	Loutraki	3.91	313	ePn	Pn	13 35 05.7	+1.3
VLX	Vlachokerasia	3.92	301	ePn	Pn	13 35 04.8	+0.3
VLX	Vlachokerasia	3.92	301	ePn	Pn	13 35 04.8	+0.2
ISP	Isparta	3.98	51	ePN	Pn	13 35 07.9	+2.5
ISP	Isparta	3.98	51	iP	Pn	13 35 07.4	+2.0
ISP	Isparta	3.98	51	ePn	Pn	13 35 06.7	+1.3
LTBQ	Tobruq	4.01	214	iP	Pn	13 35 08.1	+2.3
	SNR=101						
ITM	Ithomi	4.17	297	ePN	Pn	13 35 07.6	-0.3
PYL	PYLOS	4.20	292	ePn	Pn	13 35 08.7	+0.4
HMAT	Matruh	4.32	174	P	Pn	13 35 11.4	+1.5
HMAT				S	Sn	13 36 02.3	+3.3
LKR	Lokris	4.33	320	ePn	Pn	13 35 10.6	+0.4
SHUT	Suhut-Afyon	4.47	44	ePN	Pn	13 35 13.8	+1.8
ALT	Altintas	4.60	37	ePN	Pn	13 35 14.2	+0.4
LOS	Limnos	4.68	346	ePn	Pn	13 35 14.4	-0.5
AKMC	Akamas	4.71	93	P	Sn	13 36 02.5	-6.3
SELA	Sela	4.74	309	ePn	Pn	13 35 16.4	+0.7
PPCY	Paphos	4.74	95	P	Sn	13 36 02.2	-7.4
RLS	Riolos of Patr	4.89	304	ePN	Pn	13 35 18.4	+0.5
ALFC	Alevga	4.92	91	P	Sn	13 36 06.0	-7.9
	20nm,0.2s						
AGG	Agios Georgios	4.96	318	ePn	Pn	13 35 19.4	+0.6
LEF	Lefka	5.16	91	ePN	Pn	13 35 24.4	+2.8
EVR	Evrytania	5.19	314	ePN	Pn	13 35 22.0	+0.1
SZAC	Souni-Zanaja	5.20	95	P	Sn	13 36 20.3	-0.5
ALN	Alexandroupoli	5.50	356	ePn	Pn	13 35 25.6	-0.7
CSS	Prodhromos	5.54	93	P	Sn	13 36 20.0	-9.1
	4.2nm,0.3s						
CSS	Prodhromos	5.54	93	ePn	Pn	13 35 27.8	+1.0
	32nm,0.8s						
CSS				eSn	Sn	13 36 19.9	-9.2
CSS	Prodhromos	5.54	93	ePn	Pn	13 35 27.8	+1.1
	32nm,0.8s						
VLS	Valsamata	5.56	302	ePN	Pn	13 35 28.4	+1.4
LFK	Lefkose	5.68	89	ePN	Pn	13 35 32.2	+3.6
IKL	Isikli	5.83	80	ePN	Pn	13 35 33.5	+2.9
SWA1		6.17	187	P	Pn	13 35 36.0	+0.6
SWA1				S	Sn	13 36 45.8	+1.2
KZN	Kozani	6.21	324	P	Pn	13 35 32.0	-3.9
JAN	Janina	6.23	315	ePN	Pn	13 35 37.1	+0.9
KEK	Kerkira	6.90	311	ePN	Pn	13 35 46.8	+1.4
LJBD	Adjabya	6.98	232	iP	Pn	13 35 46.3	-0.3
	SNR=96						
KOT	Kottamia	7.02	140	⇓P	Pn	13 35 48.0	+0.9
HSAF	As Saff	7.13	143	⇓P	Pn	13 35 49.7	+1.1
GLL	Jalalah	7.24	142	⇓P	Pn	13 35 50.8	+0.7
AMAG	Maghara	7.31	129	P	Pn	13 35 50.8	-0.3
SUZ		7.64	135	⇑P	Pn	13 35 56.1	+0.4
VTS	Vitosha	7.65	341	P	Pn	13 35 57.9	+2.3
MMA0	Mount Meron ar	7.68	106	Sn	Sn	13 37 19.8	-2.0
MMAI	Mount Meron Ar	7.68	106	Pn	Pn	13 35 55.9	-0.2
	6.1nm,0.3s,baz=304,slow=12,SNR=18						
MMAI				Sn	Sn	13 37 20.1	-1.7
	24nm,0.3s,baz=314,slow=28,SNR=11						
SLTI	Sal'it	7.71	112	Sn	Sn	13 37 20.3	-2.2
KSDI	Kefar Szold	7.82	104	Pn	Pn	13 35 58.2	+0.2
KSDI				Sn	Sn	13 37 24.0	-1.4
MMLI	Mount Malkishu	7.91	109	Pn	Pn	13 36 00.1	+0.8
MMLI				Sn	Sn	13 37 25.8	-1.8
KZIT	Kziot	7.93	122	Pn	Pn	13 36 00.3	+0.7
KZIT				Sn	Sn	13 37 24.5	-3.5
KSHT	Keshet	8.01	105	Sn	Sn	13 37 29.2	-0.8
QSH	Qafa e Shtames	8.05	321	iPg	Px	13 36 36.0	
HMDT	Nahal Hemdat	8.07	110	Pn	Pn	13 36 01.8	+0.3
HMDT				Sn	Sn	13 37 29.9	-1.6
YTIR	Yattir	8.19	117	Pn	Pn	13 36 03.4	+0.3
YTIR				Sn	Sn	13 37 32.3	-2.0
DSI	Dead Sea	8.28	115	Pn	Pn	13 36 04.0	-0.3
DSI				Sn	Sn	13 37 34.5	-2.0
HNKL	Nakhl	8.28	129	P

comp=Z,9.2nm,0.6s
LOR eMLR MLR
comp=Z,44nm,20.8s,MS2.5
LOR Lormes 20.70 312 eP **P 13 38 42.1 -1.4**
comp=Z,4.6nm,0.6s
LOR LR LR
comp=Z,40nm,20.8s,MS2.8
LOR Lormes 20.70 312 eP **P 13 38 42.1 -1.4**
LOR pmax pmax
comp=Z,5.0nm,0.6s
LOR MLR MLR
comp=Z,40nm,20.8s,MS2.8
AVF Avril sur Loir 20.80 310 eP **P 13 38 42.8 -1.9**
SSF Saint Saulge 20.82 311 eP **P 13 38 43.3 -1.6**
comp=Z,23nm,0.7s
SSF Saint Saulge 20.82 311 eP **P 13 38 43.3 -1.6**
comp=Z,12nm,0.7s
SSF Saint Saulge 20.82 311 eP **P 13 38 43.3 -1.6**
SSF pmax pmax
comp=Z,12nm,0.7s
GIVF Givet 21.60 320 eP **P 13 38 51.7 -1.5**
BAIF Baives 21.90 319 eP **P 13 38 54.1 -2.3**
comp=Z,19nm,0.8s,mb4.3
BAIF Baives 21.90 319 eP **P 13 38 54.1 -2.3**
comp=Z,9.7nm,0.8s,mb4.3
BAIF Baives 21.90 319 eP **P 13 38 54.1 -2.3**
BAIF pmax pmax
comp=Z,10.0nm,0.8s,mb4.3
MFF Saint Martin d 22.96 307 eP **P 13 39 04.0 -3.7**
GRR Gorron 24.05 311 eP **P 13 39 14.4 -3.8**
QUIF Quistinic 25.34 309 eP **P 13 39 25.8 -4.1**
ROSF Rostrenen 25.54 310 eP **P 13 39 28.2 -3.5**
MDT Midelt 25.91 273 P **P 13 39 37.3 +2.1**
comp=Z,1.1nm,0.4s,mb3.8,baz=84,slow=7.1,SNR=6.5
FINES FINESS Array B 26.06 359 P **P 13 39 34.0 -2.3**
FINES FINESS Array B 26.06 359 P **P 13 39 34.0 -2.3**
comp=Z,0.9nm,0.6s,mb3.5,baz=167,slow=13,SNR=3.3
AKTK Aktyubinsk 27.23 47 P **P 13 39 47.1 +0.1**
AKTK Aktyubinsk 27.23 47 P **P 13 39 47.1 +0.1**
AKTO Aktyubinsk 27.23 47 P **P 13 39 47.1 +0.1**
comp=Z,2.2nm,0.6s,mb3.9,baz=252,slow=8.9,SNR=5.7
EKA Eskdalemuir Ar 28.53 324 P **P 13 40 00.1 +1.7**
comp=Z,1.1nm,0.6s,mb3.8,baz=113,slow=8.3,SNR=3.5
TORD Torodi Ar. Bea 31.55 232 P **P 13 40 27.3 +1.7**
TORD Torodi Ar. Bea 31.55 232 P **P 13 40 27.3 +1.7**
comp=Z,1.8nm,0.8s,mb4.0,baz=33,slow=8.6,SNR=20
ARCES ARCESS Array B 34.20 359 P **P 13 40 45.8 -2.4**
comp=Z,1.1nm,0.9s,mb3.8,baz=161,slow=7.7,SNR=5.5
BVAR Borovoye Array 35.34 46 P **P 13 40 58.8 +0.6**
comp=Z,0.9nm,0.4s,mb4.0,baz=252,slow=39,SNR=4.0
AAK Ala-Archa 37.50 64 eP **P 13 41 17.5 +0.7**
comp=Z,2.8nm,0.6s,mb4.2
AAK Ala-Archa 37.50 64 i P **P 13 41 17.6 +0.8**
AAK pmax pmax
comp=Z,3.0nm,0.5s,mb4.3
AAK Ala-Archa 37.50 64 i P **P 13 41 17.6 +0.8**
comp=Z,3.0nm,0.5s,mb4.3
TKM2 Tokmak 2 38.28 64 eP **P 13 41 24.5 +1.1**
TKM2 pmax pmax
comp=Z,3.0nm,0.6s,mb4.2
TKM2 Tokmak 2 38.28 64 eP **P 13 41 24.5 +1.1**
comp=Z,2.8nm,0.6s,mb4.2
KURK Kurchatov 40.12 51 eP **P 13 41 38.4 -0.2**
comp=Z,2.8nm,0.6s,mb4.2
KURK Kurchatov 40.12 51 eP **P 13 41 39.0 +0.4**
DBIC Dimbokro 40.64 233 P **P 13 41 44.5 +1.3**
comp=Z,0.7nm,0.4s,mb3.6,baz=6.5,slow=11,SNR=3.3
DBIC Dimbokro 40.64 233 P **P 13 41 44.5 +1.2**
MK31 Makanchi Array 42.66 57 eP **P 13 42 00.3 +0.7**
MK31 Makanchi Array 42.66 57 eP **P 13 42 00.3 +0.8**
MKAR Makanchi Array 42.66 57 P **P 13 42 00.6 +1.0**
comp=Z,5.0nm,0.5s,mb4.5,baz=274,slow=7.9,SNR=40
NVS Novosibirsk 43.09 45 i P **P 13 42 03.5 +0.6**
ZAL Zalesovo 43.98 46 P **P 13 42 10.0 0.0**
ZAA0 Zalesovo Array 43.99 46 eP **P 13 42 09.5 -0.6**
ZAA0 Zalesovo Array 43.99 46 eP **P 13 42 09.5 -0.6**
ZALV Zalesovo Beam 43.99 46 P **P 13 42 10.0 -0.2**
comp=Z,2.7nm,0.4s,mb4.3,baz=268,slow=8.7,SNR=15
ZAK Zakamensk 55.71 49 eP **P 13 43 39.5 +0.3**
ZAK pmax pmax
comp=Z,1.0nm,0.9s,mb3.9
ZAK Zakamensk 55.71 49 eP **P 13 43 39.5 +0.3**
comp=Z,1.0nm,0.9s,mb3.9
SONM Songino Array 58.43 51 P **P 13 43 59.5 +1.1**
SONM pmax pmax
comp=Z,2.0nm,0.6s
SONM Songino Array 58.43 51 P **P 13 43 59.5 +1.1**
comp=Z,1.6nm,0.6s,mb4.3,baz=290,slow=8.6,SNR=4.3
SCHQ Schefferville 63.76 320 P **P 13 44 33.6 -0.9**
comp=Z,3.3nm,0.5s,mb4.6,baz=63,slow=7.6,SNR=9.2
KSRS Korea Array 77.20 53 P **P 13 45 57.3 +0.5**
comp=Z,0.8nm,0.6s,mb3.8,baz=309,slow=4.3,SNR=5.0
YKA Yellowknife Ar 77.58 343 P **P 13 45 57.2 -1.1**
comp=Z,0.3nm,0.5s,mb3.5,baz=32,slow=5.3,SNR=6.8
KDAK Kodiak Island 87.17 360 LR LR 14 28 51.1
comp=Z,97nm,18.4s,MS4.2,baz=166,slow=38

*CSEM **19** 13:35:51.9±0.2, 4327N×1786E, h2km, ML2.6/10, Error ellipse: s-maj=3.6km s-min=2.0km az=110.0*
*PDG **19** 13:35:52.9±0.2, 4326N×1794E, h18km, MD2.7/2, ML2.6/10, Error ellipse: s-maj=0.7km s-min=1.1km az=0.0*
*NEIC **19** 13:35:52.9, 4326N×1794E, h18km, ML2.6(PDG), After PDG.*
*BEO **19** 13:35:55.2±1.4, 4280N×1855E, ML2.2/2*
ISC 19 13:35:48.7±1.7, 4337N±005×1770E±009, h4km±6km, n14, σ0:92/28, 4C-6D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRY	**Bratogost**	**0.78**	**127**	↑iPg	**Pg**	**13 36 03.7**	**+0.1**
BRY				eSg	**Sg**	**13 36 13.4**	**-0.3**
UPM	**Unac-Piva**	**0.90**	**100**	ePg	**Pg**	**13 36 06.5**	**+0.6**
UPM				eSg	**Sg**	**13 36 18.0**	**+0.4**
HCY	**Herceg Novi**	**1.10**	**147**	↑iPg	**Pg**	**13 36 09.8**	**+0.1**
HCY				eSg	**Sg**	**13 36 24.7**	**+0.8**
NKY	**Niksic**	**1.10**	**120**	ePg	**Pg**	**13 36 09.8**	**0.0**
NKY				eSg	**Sg**	**13 36 24.4**	**+0.3**
PLE	**Pljevlja**	**1.24**	**91**	↓iPg	**Pg**	**13 36 11.5**	**-0.9**
PLE				eSg	**Sg**	**13 36 29.4**	**+1.0**
BUM	**Brajici-Budva**	**1.39**	**140**	↓iPg	**Pg**	**13 36 14.9**	**-0.4**
BUM				eSg	**Sg**	**13 36 34.0**	**+0.8**
PDG	**Podgorica**	**1.49**	**129**	↑iPg	**Pg**	**13 36 16.6**	**-0.5**
PDG				eSg	**Sg**	**13 36 35.7**	**-0.7**
TTG	**Podgorica**	**1.49**	**129**	↑iPg	**Pg**	**13 36 16.6**	**-0.5**
TTG				eSg	**Sg**	**13 36 35.7**	**-0.7**
BEY	**Berane**	**1.69**	**107**	↓iPg	**Pg**	**13 36 19.5**	**-1.5**
BEY				eSg	**Sg**	**13 36 41.1**	**-1.7**
IVA	**Berane**	**1.69**	**107**	↓iPg	**Pg**	**13 36 19.5**	**-1.5**
IVA				eSg	**Sg**	**13 36 41.1**	**-1.7**
DIVS	**Divibare**	**1.81**	**66**	ePn	**Pn**	**13 36 25.2**	**+4.5**
DIVS				eSg	**Sg**	**13 36 48.3**	**+1.4**
ULC	**Ulcinj**	**1.81**	**140**	↓iPn	**Pn**	**13 36 21.8**	**+1.1**
ULC				eSn	**Sn**	**13 36 44.4**	**+0.3**
PVY	**Plav**	**1.84**	**114**	↓iPn	**Pn**	**13 36 22.0**	**+1.0**
PVY				eSn	**Sn**	**13 36 44.6**	**-0.2**
BARS	**Barje**	**3.07**	**99**	ePn	**Pn**	**13 36 36.1**	**-1.9**
BARS				eSg	**Sn**	**13 37 11.5**	**-3.6**

IDC 19 13:50:40.7±55.0, 1961S×17720W, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.8/15, mbtmp4.0/3, Error ellipse: s-maj=1010.0km s-min=165.7km az=82.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**38.86**	**243**	P	P	13 58 07.7	-0.1
	2.0nm,0.8s,baz=80,slow=6.1,SNR=3.6						
ASAR	**Alice Springs**	**45.46**	**256**	P	P	13 59 01.9	+0.1
	1.5nm,0.6s,baz=98,slow=7.7,SNR=35						
WRA	**Warramunga Arr**	**45.48**	**261**	P	P	13 59 01.8	-0.2
	1.4nm,0.6s,baz=97,slow=7.4,SNR=64						

*NEIC **19** 14:16:41.8, 3842N×2058E, h3km, MD3.7(ATH), After ATH.*
*ATH **19** 14:16:41.8, 3842N×2058E, h3km, MD3.6/6*
*ISCJB **19** 14:16:42.6±0.9, 3837N×2045E±006, h1km±5km, Error ellipse: s-maj=8.6km s-min=4.0km az=164.0*
*CSEM **19** 14:16:42.9±0.2, 3834N×2037E, h1km±1km, ML3.4, Error ellipse: s-maj=4.3km s-min=1.6km az=64.0*

*THE **19** 14:16:43.9, 3836N×2048E, h3km, ML3.4*
ISC 19 14:16:42.4±1.0, 3834N±003×2038E±007, h1km±6km, n19, σ0:96/31, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.23**	**136**	ePg	**Pg**	**14 16 47.1**	**+0.3**
VLS				eSg	**Sg**	**14 16 50.8**	**+0.9**
VLS	**Valsamata**	**0.23**	**136**	ePG	**Pg**	**14 16 47.1**	**+0.3**
VLS				eSG	**Sg**	**14 16 50.7**	**+0.9**
KFL	**Anninata**	**0.39**	**126**	ePg	**Pg**	**14 16 49.9**	**0.0**
KFL				eSg	**Sg**	**14 16 56.3**	**+1.2**
LKD	**Levkas**	**0.42**	**30**	ePg	**Pg**	**14 16 50.1**	**-0.3**
LKD				eSg	**Sg**	**14 16 56.4**	**+0.5**
RLS	**Riolos of Patr**	**0.90**	**108**	ePB	**Pb**	**14 16 57.5**	**-3.3**
IGT	**Igoumenitsa**	**1.19**	**358**	ePg	**Pg**	**14 17 05.5**	**+0.3**
IGT				eSg	**Sg**	**14 17 23.8**	**+3.2**
SELA	**Sela**	**1.19**	**93**	ePg	**Pg**	**14 17 04.2**	**-1.0**
SELA				eSg	**Sg**	**14 17 21.3**	**+0.7**
EVR	**Evrytania**	**1.25**	**62**	ePg	**Pg**	**14 17 02.0**	**-4.4**
KEK	**Kerkira**	**1.44**	**342**	ePB	**Pb**	**14 17 08.7**	**-1.4**
MEV	**Metsovon**	**1.58**	**24**	ePg	**Pg**	**14 17 12.5**	**-0.3**
MEV				eSg	**Sg**	**14 17 34.2**	**+0.9**
AGG	**Agios Georgios**	**1.67**	**65**	ePg	**Pg**	**14 17 12.6**	**-1.7**
AGG				eSg	**Sg**	**14 17 34.5**	**-1.5**
ITM	**Ithomi**	**1.69**	**133**	ePB	**Pb**	**14 17 13.3**	**-0.9**
VLX	**Vlachokerasia**	**1.85**	**121**	ePb	**Pb**	**14 17 16.1**	**-1.0**
VLX				eSb	**Sb**	**14 17 40.1**	**-0.6**
LTK	**Loutraki**	**2.06**	**98**	ePn	**Pn**	**14 17 18.8**	**+0.6**
LIT	**Litokhoron**	**2.40**	**42**	ePn	**Pn**	**14 17 23.4**	**+0.5**
LIT				eSn	**Sn**	**14 17 52.9**	**0.0**
LIT	**Litokhoron**	**2.40**	**42**	ePn	**Pn**	**14 17 23.4**	**+0.6**
LIT				eSn	**Sn**	**14 17 52.8**	**-0.1**
DID	**Didima**	**2.41**	**109**	ePn	**Pn**	**14 17 23.3**	**+0.4**
DID				eSn	**Sn**	**14 17 53.4**	**+0.4**
XOR	**Xorichti**	**2.42**	**64**	ePn	**Pn**	**14 17 23.8**	**+0.7**
VLI	**Veliai**	**2.60**	**128**	ePN	**Pn**	**14 17 26.2**	**+0.7**

*ISCJB **19** 14:21:03.1±0.4, 6040N±003×15041W±007, h61km±4km, mb3.9/9, Error ellipse: s-maj=6.0km s-min=5.2km az=20.9*
*IDC **19** 14:21:03.5±1.9, 6045N×15069W, h43km±21km, mb3.6/9, mb1 3.8/12, mb1mx3.6/26, mbtmp3.6/12, ML3.4/3, MS2.9/2, Ms1 2.9/2, ms1mx2.5/34, Error ellipse: s-maj=19.3km s-min=13.9km az=121.0*
*NEIC **19** 14:21:05.2, 6044N×15041W, h43km, ML4.0(PMR), ML3.7(AEIC), After AEIC.*
NEIC Felt [III] at Soldotna and [II] at Anchorage. Felt at Girdwood, Kasilof and Sterling.
ISC 19 14:21:04.5±0.4, 6040N±003×15041W±007, h52km±5km, n49, σ0:70/53, mb3.9/9, Kenai Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLKM	**Skilak Lake**	**0.15**	**39**	P	**Pn**	**14 21 11.8**	**-1.0**
SEW	**Seward**	**0.56**	**121**	P	**Pn**	**14 21 16.6**	**0.0**
SEW				S	**Sn**	**14 21 25.8**	**+0.5**
RC01	**Rabbit Creek A**	**0.77**	**25**	P	**Pn**	**14 21 18.1**	**-1.1**
RC01				S	**Sn**	**14 21 28.9**	**-1.1**
FIB	**Fire Island**	**0.78**	**8**	P	**Pn**	**14 21 19.0**	**-0.4**
FIB				S	**Sn**	**14 21 30.9**	**+0.7**
PMR	**Palmer**	**1.35**	**27**	P	**Pn**	**14 21 26.7**	**-0.3**
PMR				S	**Sn**	**14 21 43.6**	**-0.2**
GHO	**Glory Hole Cre**	**1.56**	**27**	P	**Pn**	**14 21 29.9**	**+0.1**
SKT	**Skwentna**	**1.68**	**342**	P	**Pn**	**14 21 31.8**	**+0.3**
SML	**Sawmill**	**1.74**	**35**	P	**Pn**	**14 21 32.3**	**+0.1**
AUL	**Augustine Lava**	**1.83**	**238**	P	**Pn**	**14 21 34.4**	**+0.9**
EYAK	**Cordova Ski Ar**	**2.31**	**84**	P	**Pn**	**14 21 39.5**	**-0.5**
SVW2	**Sparrevohn**	**2.63**	**288**	P	**Pn**	**14 21 44.0**	**-0.4**
RAGM	**Ragged Mountai**	**2.85**	**88**	P	**Pn**	**14 21 46.7**	**-0.6**
KDAK	**Kodiak Island**	**2.85**	**204**	P	**Pn**	**14 21 47.5**	**0.0**
KDAK	**Kodiak Island**	**2.85**	**204**	P	**Pn**	**14 21 47.5**	**0.0**
	7.7nm,0.3s,baz=72,slow=12,SNR=64						
KDAK				S	**Sn**	**14 22 19.4**	**-1.1**
	14nm,0.3s,baz=35,slow=15,SNR=4.8						
BMRM	**Bremner River**	**2.91**	**76**	P	**Pn**	**14 21 47.8**	**-0.5**
TRF	**Thorofare Moun**	**3.07**	**1**	P	**Pn**	**14 21 51.0**	**+0.6**
KTH	**Kantishna Hill**	**3.18**	**356**	P	**Pn**	**14 21 52.5**	**+0.6**
MCK	**McKinley**	**3.42**	**11**	P	**Pn**	**14 21 55.5**	**+0.3**
PAX	**Paxson**	**3.50**	**40**	P	**Pn**	**14 21 56.7**	**+0.5**
TT01	**Tatalina**	**3.68**	**316**	P	**Pn**	**14 21 58.5**	**-0.2**
TTA	**Tatalina**	**3.69**	**316**	ePn	**Pn**	**14 21 57.9**	**-1.0**
MENT	**Mentasta**	**4.08**	**48**	P	**Pn**	**14 22 04.9**	**+0.6**
DOT	**Dot Lake**	**4.43**	**40**	P	**Pn**	**14 22 09.2**	**+0.2**
COLA	**College**	**4.65**	**14**	P	**Pn**	**14 22 12.6**	**+0.5**
IL1	**Eielson Array**	**4.69**	**19**	P	**Pn**	**14 22 12.6**	**0.0**
BCA3	**Beaver Creek A**	**4.90**	**53**	P	**Pn**	**14 22 15.8**	**+0.3**
PNL	**Peninsula**	**5.57**	**93**	P	**Pn**	**14 22 23.9**	**-0.8**
IM3	**Indian Mountai**	**5.81**	**346**	P	**Pn**	**14 22 27.7**	**-0.2**
CHGN	**Chignik**	**5.88**	**229**	eP	**Pn**	**14 22 29.9**	**+0.9**
IMA2	**Indian Mountai**	**5.88**	**347**	eP	**Pn**	**14 22 30.6**	**+1.6**
EGAK	**Eagle**	**6.13**	**40**	P	**Pn**	**14 22 32.1**	**-0.2**
DAWY	**Dawson**	**6.33**	**50**	P	**Pn**	**14 22 35.1**	**+0.1**
BM3	**Burnt Mountain**	**7.50**	**17**	P	**Pn**	**14 22 51.0**	**-0.1**
TNA	**Tin City**	**9.48**	**311**	ePn	**Pn**	**14 23 19.4**	**+1.2**
	6.4nm,0.7s						
DLBC	**Dease Lake**	**10.56**	**92**	P	**Pn**	**14 23 33.5**	**+0.6**
INK	**Inuvik**	**10.75**	**35**	ePn	**Pn**	**14 23 36.2**	**+0.7**
	181nm,1.0s						
INK	**Inuvik**	**10.75**	**35**	P	**Pn**	**14 23 36.1**	**+0.6**
	0.2nm,0.3s,baz=225,slow=14,SNR=7.7						
INK				LR	LR	14 27 58.9	
	comp=Z,72nm,20.0s,baz=193,slow=38						
YKA	**Yellowknife Ar**	**17.11**	**67**	P	**Pn**	**14 24 59.0**	**-0.6**
YKA	**Yellowknife Ar**	**17.11**	**67**	P	**Pn**	**14 24 59.0**	**-0.5**
	0.2nm,0.3s,baz=276,slow=12,SNR=11						
YKA				LR	LR	14 32 12.2	
	comp=Z,39nm,20.0s,baz=125,slow=39						
NVAR	**Mina Array Bea**	**29.82**	**123**	P	**P**	**14 27 07.7**	**+1.4**
	0.9nm,0.8s,mb3.6,baz=322,slow=7.4,SNR=5.5						
SCHQ	**Schefferville**	**42.26**	**59**	P	**P**	**14 28 52.7**	**+0.5**
	3.1nm,0.9s,mb3.9,baz=7.1,slow=8.1,SNR=3.0						
TXAR	**Lajitas Array**	**43.93**	**114**	P	**P**	**14 29 07.0**	**+1.0**
	0.3nm,0.6s,mb3.2,baz=329,slow=6.8,SNR=3.7						
ARCES	**ARCESS Array B**	**50.33**	**2**	P	**P**	**14 29 55.3**	**+0.1**
	0.6nm,0.6s,mb3.8,baz=7.8,slow=7.3,SNR=3.4						
ARCES				PcP	PcP	14 31 13.2	0.0
	1.1nm,0.9s,baz=359,slow=3.7,SNR=15						
ZALV	**Zalesovo Beam**	**57.81**	**325**	P	**P**	**14 30 49.0**	**-0.9**
	0.4nm,0.5s,mb3.8,baz=46,slow=4.2,SNR=2.8						
EKA	**Eskdalemuir Ar**	**61.72**	**21**	P	**P**	**14 31 16.6**	**-0.1**
	1.6nm,0.7s,mb4.3,baz=334,slow=5.6,SNR=3.5						
BVAR	**Borovoye Array**	**62.31**	**334**	P	**P**	**14 31 19.5**	**-1.2**
	1.8nm,0.7s,mb4.3,baz=31,slow=7.4,SNR=8.5						
AKTO	**Aktyubinsk**	**67.17**	**341**	P	**P**	**14 31 51.5**	**-0.8**
	0.8nm,0.4s,mb4.1,baz=36,slow=5.1,SNR=5.0						
AKASG	**Malin Array Be**	**69.26**	**0**	P	**P**	**14 32 04.5**	**-1.0**
	0.7nm,0.3s,mb4.0,baz=0.5,slow=6.1,SNR=5.4						
QSPA	**South Pole Qui**	**150.20**	**180**	PKPbc	PKPbc	14 40 48.2	+0.7
	1.1nm,0.6s,baz=139,slow=1.5,SNR=15						

*IDC **19** 14:36:22.2±0.7, 4523S×7266W, h0km, mb4.2/11, mb1 4.3/11, mb1mx4.2/18, mbtmp4.2/11, ML3.1/1, MS4.0/14, Ms1 4.0/14, ms1mx3.9/23, Error ellipse: s-maj=31.1km s-min=15.8km az=89.0*
*ISCJB **19** 14:36:28.4±1.7, 4524S±006×7277W±02, h56km±14km, mb4.4/21, MS4.1/11, Error ellipse: s-maj=21.7km s-min=9.6km az=175.3*
*BJI **19** 14:36:30.3, 4520S×7260W, h59km, mB4.7, Ms4.6, Msz4.5*
*NEIC **19** 14:36:30.3±1.3, 4521S×7255W, h60km±11km, mb4.7/14, Error ellipse: s-maj=19.3km s-min=8.2km az=86.0*
ISC 19 14:36:30.6±1.4, 4522S±006×726W±02, h60km±12km, n52, σ19:06/35, mb4.4/21, 2C, Southern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**4.73**	**19**	ePn	**Pn**	**14 37 39.0**	**-0.4**
PLCA				eSn	Sn	14 38 54.0	+21
PLCA	**Paso Flores**	**4.73**	**19**	Pn	**Pn**	**14 37 39.3**	**0.0**
	1.6nm,0.3s,baz=198,slow=13,SNR=32						
PLCA				Lg		14 38 54.9	
	20nm,0.3s,baz=289,slow=22,SNR=7.0						
PLCA				LR	LR	14 39 45.9	
	comp=Z,2μm,19.5s,baz=197,slow=43						
USHA	**Ushuaia**	**9.98**	**166**	Pn	**Pn**	**14 38 51.6**	**+0.6**
	0.2nm,0.3s,baz=333,slow=11,SNR=3.0						
USHA				Lg		14 41 29.7	
	0.1nm,0.3s,baz=61,slow=15,SNR=2.1						
USHA				LR	LR	14 42 52.7	
	comp=Z,920nm,20.5s,baz=141,slow=39						

TRQA Tornquist 10.68 52 ePn **Pn 14 39 05.4 +4.8**
34nm,1.2s
CFAA Coronel Fontan 14.01 15 Pn **Pn 14 39 40.5 -5.6**
CFAA Lg 14 43 44.9
CFAA LR LR 14 44 50.5
CFAA Coronel Fontan 14.01 15 Pn **Pn 14 39 40.5 -5.6**
0.1nm,0.3s,baz=204,slow=7.2,SNR=2.7
CFAA Lg 14 43 44.9
0.1nm,0.3s,baz=242,slow=12,SNR=1.9
CFAA LR LR 14 44 50.4
comp=Z,172nm,18.7s,baz=182,slow=36
LCO Las Campanas 16.25 6 eP **Pn 14 40 14.4 -0.5**
PMSA Palmer Station 20.16 169 LR LR 14 47 40.0
comp=Z,703nm,21.8s,baz=155,slow=34
ARE Arequipa 28.69 2 eP **P 14 42 25.0 +3.1**
LPAZ La Paz 29.09 9 eP **P 14 42 24.8 -0.7**
13nm,1.1s,mb4.6
LPAZ La Paz 29.09 9 P **P 14 42 25.2 -0.2**
4.6nm,0.8s,mb4.2,baz=155,slow=6.4,SNR=12
LPAZ LR LR 14 56 12.5
comp=Z,382nm,19.0s,baz=319,slow=41
BDFB Brasilia 36.02 43 P **P 14 43 26.4 +0.4**
1.0nm,0.6s,mb3.9,baz=173,slow=23,SNR=3.6
BDFB LR LR 14 58 47.7
comp=Z,222nm,19.8s,baz=14,slow=37
ATAH Atahualpa 38.41 351 P **P 14 43 45.2 -1.0**
4.7nm,0.8s,mb4.3,baz=131,slow=7.1,SNR=4.0
SNAA Sanae 41.53 153 P **P 14 44 11.0 -0.6**
2.0nm,1.0s,mb3.7,baz=278,slow=8.4,SNR=7.5
QSPA South Pole Qui 45.03 180 eP **P 14 44 37.9 -1.7**
14nm,1.0s,mb4.8
QSPA South Pole Qui 45.03 180 P **P 14 44 37.7 -1.9**
6.7nm,0.8s,mb4.5,baz=148,slow=3.5,SNR=22
ROSC El Rosal 49.88 358 LR LR 15 05 17.4
comp=Z,161nm,18.8s,baz=206,slow=35
SBA Scott Base 52.04 193 eP **P 14 45 34.6 +1.2**
2.2nm,0.8s,mb4.1
VNDA Vanda 53.05 193 eP **P 14 45 41.3 +0.4**
2.8nm,1.1s,mb4.1
VNDA Vanda 53.05 193 P **P 14 45 41.8 +0.9**
2.1nm,1.1s,mb4.0,baz=124,slow=12,SNR=3.8
SDV Santo Domingo 53.88 2 eP **P 14 45 47.4 -0.3**
6.6nm,0.8s,mb4.6
SYO Syowa Base 55.68 156 ↑epP pP 14 46 14.5 -1.4
SYO Syowa Base 55.68 156 ↑eX 14 46 19.5
JTS JuntasAbangare 56.37 345 P **P 14 46 06.0 +0.4**
16nm,1.3s,mb4.9
MAW Mawson 62.58 162 P **P 14 46 44.9 -2.9**
MAW Mawson 62.58 162 LR LR 15 12 58.3
comp=Z,186nm,18.5s,baz=230,slow=35
SDDR Presa de Saban 63.90 1 P **P 14 46 59.4 +2.4**
10.0nm,1.4s,mb4.7
TEIG Tepich 66.69 344 P **P 14 47 14.8 -0.2**
5.3nm,0.8s,mb4.6
PPT Papeete 68.66 266 LR LR 15 09 21.3
comp=Z,140nm,18.2s,baz=146,slow=29
BOSA Boshof 75.38 116 P **P 14 48 08.0 +0.2**
2.6nm,0.6s,mb4.3,baz=230,slow=9.2,SNR=4.9
BOSA LR LR 15 18 06.9
comp=Z,109nm,20.0s,baz=341,slow=33
LBTB Lobatse 78.09 113 eP **P 14 48 23.0 -0.1**
7.1nm,0.8s,mb4.7
DBIC Dimbokro 79.36 69 P **P 14 48 28.6 -1.5**
10.0nm,1.3s,mb4.6
DBIC Dimbokro 79.36 69 P **P 14 48 30.8 +0.7**
2.7nm,0.8s,mb4.2,baz=189,slow=6.6,SNR=4.0
TXAR Lajitas Array 79.42 333 P **P 14 48 30.1 +0.1**
1.5nm,0.9s,mb3.9,baz=147,slow=7.0,SNR=9.3
TXAR LR LR 15 17 19.5
comp=Z,86nm,20.0s,baz=0.0,slow=31
CCM Cathedral Cave 84.59 345 P **P 14 48 55.3 -1.6**
6.4nm,0.7s,mb4.9
ANMO Albuquerque 85.50 333 eP **P 14 49 01.9 +0.3**
4.0nm,0.9s,mb4.5
ANMO Albuquerque 85.50 333 LR LR 15 22 29.6
comp=Z,92nm,20.2s,baz=190,slow=32
LSZ Lusaka 86.68 108 eP **P 14 49 09.7 +1.7**
5.0nm,0.8s,mb4.8
TOA0 Torodi Ar. Sit 88.47 70 eP **P 14 49 15.3 -1.1**
TORD Torodi Ar. Bea 88.47 70 P **P 14 49 17.0 +0.6**
2.1nm,0.7s,mb4.5,baz=239,slow=4.2,SNR=14
TORD LR LR 15 25 40.2
comp=Z,56nm,19.9s,baz=220,slow=33
HWUT Hardware Ranch 93.21 332 P **P 14 49 38.9 +1.1**
2.3nm,0.6s,mb4.8
PDAR Pinedale Array 93.61 334 P **P 14 49 39.0 -0.6**
0.5nm,0.7s,mb4.0,baz=160,slow=5.5,SNR=3.2
PDAR LR LR 15 26 44.1
comp=Z,64nm,18.4s,baz=345,slow=32
GERES GERESS Array B 120.05 50 PKP PKPdf 14 55 15.3 +1.7
0.3nm,0.4s,baz=132,slow=2.0,SNR=3.6
CLL Collm 121.10 47 ePKPdf PKPdf 14 55 15.0 -0.5
ARU Arti 147.84 52 ePKPbc PKPbc 14 56 08.2 +0.4
TIXI Tiksi 151.57 346 ePKPbc PKPbc 14 56 15.9 -0.6
TIXI ePKPab PKPab 14 56 25.1 -0.2
BVAR Borovoye Array 154.77 59 PKP PKPdf 14 56 16.6 +1.2
1.5nm,0.8s,baz=209,slow=2.6,SNR=8.3
MKAR Makanchi Array 162.48 76 PKP PKPdf 14 56 23.8 -1.0
0.4nm,0.9s,baz=274,slow=4.6,SNR=4.1
MKAR PKPab PKPab 14 57 13.2 +0.1
1.1nm,0.7s,baz=270,slow=4.0,SNR=10
ZALV Zalesovo Beam 163.00 51 PKPab PKPab 14 57 14.2 -0.9
0.8nm,0.6s,baz=297,slow=6.5,SNR=4.6
MDJ Mudanjiang 164.29 276 PKP PKPdf 14 56 27.6 +1.1
CD2 Chengdu 165.42 167 ePKP PKPdf 14 56 27.8 -0.2
CD2 XPKP 14 56 54.8
CD2 PKP2 PKPab 14 57 28.6 +2.4
CD2 PP PP 15 01 16.0 +3.5
CD2 SKKS SKKSac 15 07 57.9 +2.6
CD2 SS SS 15 21 47.0 +3.3
CD2 PP PP
comp=Z,90nm,10.2s
LZH Lanzhou 170.48 162 ePKP PKPdf 14 56 30.5 -0.8
LZH APKP 14 56 49.5
LZH XPKP 14 56 57.0

MAN 19 14:38:11, 683N×12347E, h64km, mb4.3, ML3.1, MS2.9, Mindanao

*NEIC **19** 14:51:38.3±2.8, 2272N×14339E, h46km±27km, mb4.2/3, Error ellipse: s-maj=40.2km s-min=14.9km az=82.0*
*ISCJB **19** 14:51:40.0±2.4, 227N±01×1434E±03, h76km±23km, mb3.7/9, Error ellipse: s-maj=44.9km s-min=15.8km az=170.2*
*IDC **19** 14:51:42.8±3.8, 2267N×14341E, h89km±34km, mb3.3/6, mb1 3.5/8, mb1mx3.4/20, mbtmp3.4/8, Error ellipse: s-maj=41.2km s-min=17.4km az=82.0*
ISC 19 14:51:41.4±2.2, 227N±01×1434E±03, h72km±21km, n14, σ0:95/15, mb3.7/9, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**4.49**	**346**	P	**Pn**	**14 52 48.6**	**+1.8**
	29nm,0.3s,baz=250,slow=19,SNR=4.6						
CBIJ				S	**Sn**	**14 53 36.0**	**-1.8**
	44nm,0.3s,baz=294,slow=23,SNR=10						
MJAR

*CSEM **19** 14:59:44.7±0.7, 3866N×2908W, h4km±4km, ML2.3, Error ellipse: s-maj=6.8km s-min=3.8km az=37.0, After PDA*
*PDA **19** 14:59:44.7±0.7, 3866N×2908W, h4km±4km, MD3.5, ML2.3, Error ellipse: s-maj=6.8km s-min=3.8km az=37.0*
SVSA 19 14:59:44.7±0.7, 3866N×2908W, h4km±4km, MD3.5, ML2.3, Error ellipse: s-maj=6.8km s-min=3.8km az=37.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CALA	**Caldeira**	**0.30**	**104**	*e*P	Pg	14 59 50.2	-0.4
CALA				*e*S	Sg	14 59 54.4	-0.1
HOR	**Horta**	**0.37**	**110**	*e*P	Pg	14 59 51.3	-0.6
HOR				*e*S	Sg	14 59 56.7	-0.1
PICO	**Pico**	**0.53**	**107**	*e*P	Pg	14 59 54.2	-0.8
PICO				*e*S	Sg	15 00 01.3	-0.6
ROSA	**Rosais**	**0.66**	**84**	*e*P	Pg	14 59 55.9	-1.4
ROSA				*e*S	Sg	15 00 04.0	-1.9
PMAN	**Manadas**	**0.78**	**91**	*e*P	Pg	14 59 57.4	-2.2
PMAN				*e*S	Sg	15 00 06.7	-2.9
PMAN	57nm,0.2s			A		15 00 07.4	
PMAN	**Manadas**	**0.78**	**91**	*e*P	Pg	14 59 57.4	-2.2
PMAN				*e*S	Sg	15 00 06.7	-2.9
SRBC	**Serra Branca**	**0.90**	**65**	*e*P	Pg	14 59 59.2	-2.7
SRBC				*e*S	Sg	15 00 10.2	-3.3

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*NEIC **19** 15:30:46.9±3.2, 823S×1168E, h35km, mb3.8/2, Error ellipse: s-maj=45.0km s-min=24.9km az=147.0*
*IDC **19** 15:31:04.9±3.3, 922S×1163E, h115km±31km, mb3.3/4, mb1 3.5/6, mb1mx3.2/18, mbtmp3.4/6, Error ellipse: s-maj=57.8km s-min=22.6km az=4.0*
ISC 19 15:30:59.8±7.1, 90S±04×1161E±04, h87km±29km, n11, σ0°54/11, mb3.7/3, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Kupang**	**7.52**	**100**	P	**Pn**	**15 32 46.9**	**+0.1**
	2.9nm,0.3s,baz=139,slow=19,SNR=3.9						
BATI				S	Sx	15 34 08.8	
	3.4nm,0.3s,baz=80,slow=19,SNR=2.6						
MBWA	**Marble Bar**	**12.55**	**164**	*e*Pn	**Pn**	**15 33 55.2**	**0.0**
MBWA				*e*Sn	Sx	15 36 04.8	
FITZ	**Fitzroy Crossi**	**12.91**	**135**	*e*P	**Pn**	**15 33 59.9**	**-0.1**
	4.0nm,0.6s						
FITZ				*e*S	Sx	15 36 18.4	
FITZ	**Fitzroy Crossi**	**12.91**	**135**	P	**Pn**	**15 34 00.1**	**+0.1**
	0.6nm,0.3s,baz=318,slow=15,SNR=25						
FITZ				S	Sx	15 36 18.6	
	0.4nm,0.3s,baz=175,slow=17,SNR=6.8						
WRA	**Warramunga Arr**	**20.68**	**124**	P	**P**	**15 35 32.7**	**-0.1**
	0.4nm,0.3s,baz=302,slow=12,SNR=25						
WRA				S	Sx	15 39 15.3	
	0.8nm,0.9s,baz=297,slow=20,SNR=3.4						
WRAB	**Tennant Creek**	**20.68**	**124**	P	**P**	**15 35 31.7**	**-1.2**
	3.3nm,0.9s						
WB2	**Warramunga Arr**	**20.69**	**124**	*e*P	**P**	**15 35 33.7**	**+0.7**
ASAR	**Alice Springs**	**22.38**	**133**	P	**P**	**15 35 51.3**	**+0.3**
	0.7nm,0.3s,baz=307,slow=9.2,SNR=50						
NWAO	**Narrogin (SRO)**	**23.81**	**178**	P	**P**	**15 36 03.8**	**-0.9**
	1.8nm,0.5s,mb3.7						
NWAO	**Narrogin (SRO)**	**23.81**	**178**	P	**P**	**15 36 05.2**	**+0.5**
	6.8nm,0.9s,mb4.0,baz=8.1,slow=7.1,SNR=5.0						
STKA	**Stephens Creek**	**32.79**	**138**	P	**P**	**15 37 25.2**	**+0.4**
	0.5nm,0.3s,mb3.8,baz=316,slow=8.0,SNR=6.8						

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*NEIC **19** 15:34:15.0, 1932N×6763W, h5km, MD3.1(RSPR), After RSPR.*
RSPR 19 15:34:15.0, 1932N×6763W, h5km±1km, MD3.0/14, MD3.0/14, 13C-1D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGPR	**Aguadilla, PR**	**0.98**	**150**	⇑*e*P	Pg	15 34 30.2	-3.7
AGPR				*e*S	Sg	15 34 42.6	-4.0
LSP	**Las Mesas**	**1.25**	**156**	⇑*e*P	Pg	15 34 35.1	-4.0
LSP				*e*S	Sg	15 34 52.3	-3.0
LRS	**Lares**	**1.27**	**144**	⇑*e*P	Pg	15 34 35.4	-3.9
LRS				*e*S	Sg	15 34 52.5	-3.3
AOPR	**Arecibo Observ**	**1.28**	**139**	⇓*e*P	Pg	15 34 36.2	-3.4
AOPR				*e*S	Sg	15 34 53.2	-2.9
CRPR	**Cabo Rojo, PR**	**1.40**	**159**	⇑*e*P	Pn	15 34 36.0	-5.2
CRPR	**Cabo Rojo, PR**	**1.40**	**159**	*e*S	Sb	15 34 53.7	-6.1
GBPR	**Guanica, Bosqu**	**1.52**	**152**	⇑*e*P	Pn	15 34 40.3	-2.5
GBPR	**Guanica, Bosqu**	**1.52**	**152**	*e*S	Sn	15 34 59.0	-4.0
SMN1	**Samana, DR**	**1.56**	**265**	⇑*e*P	Pn	15 34 40.4	-3.0
SMN1	**Samana, DR**	**1.56**	**265**	*e*S	Sn	15 35 00.3	-3.7
CELP	**Cerrillos**	**1.59**	**141**	⇑*e*P	Pn	15 34 40.7	-3.2
CELP				*e*S	Sn	15 35 01.3	-3.6
OBIP	**Obispado Ponce**	**1.60**	**143**	⇑*e*P	Pn	15 34 41.3	-2.7
OBIP				*e*S	Sn	15 35 01.7	-3.4
ICM	**Isla Caja Muer**	**1.77**	**143**	⇑*e*P	Pn	15 34 43.7	-2.6
ICM				*e*S	Sn	15 35 05.6	-3.6
SJG	**San Juan**	**1.85**	**130**	⇑*e*P	Pn	15 34 44.6	-2.8
SJG				*e*S	Sn	15 35 07.7	-3.5
SJG	**San Juan**	**1.85**	**130**	⇑*e*P	Pn	15 34 45.0	-2.4
SJG				*e*S	Sn	15 35 07.6	-3.6
CPD	**Cerro la Pandu**	**2.07**	**128**	⇑*e*P	Pn	15 34 48.0	-2.4
CPD				*e*S	Sn	15 35 12.4	-4.2
MTP	**Monte Pirata**	**2.31**	**121**	⇑*e*P	Pn	15 34 50.3	-3.5
MTP				*e*S	Sn	15 35 18.6	-4.2
SDDR	**Presa de Saban**	**3.48**	**265**	*e*Pn	Pn	15 35 10.5	+0.7
SDDR				*e*Sn	Sn	15 35 48.2	-3.2

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*LDG **19** 15:49:18.7±1.1, 1988S×16878E, h10km, Error ellipse: s-maj=148.6km s-min=6.1km az=127.0*
*NEIC **19** 15:49:20.6±0.6, 2041S×16924E, h35km, mb4.3/5, Error ellipse: s-maj=18.3km s-min=15.8km az=46.0*
*ISCJB **19** 15:49:21.7±3.2, 207S±0.1×169.1E±0.1, h52km±24km, mb4.2/11, MS3.6/7, Error ellipse: s-maj=26.4km s-min=16.9km az=28.2*
*IDC **19** 15:49:23.6±11.0, 2044S×169.18E, h55km±98km, mb3.7/6, mb1 4.0/7, mb1mx3.8/15, mbtmp3.8/7, ML4.1/1, MS3.6/9, Ms1 3.6/9, ms1mx3.4/26, Error ellipse: s-maj=56.6km s-min=27.5km az=11.0*
ISC 19 15:49:22.5±3.1, 206S±02×169.1E±01, h44km±24km, n47, σ0°86/17, mb4.2/11, MS3.6/7, 2C, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**2.88**	**239**	*e*P	**Pn**	**15 50 05.7**	**-0.1**
DZM				*e*S	**Sn**	**15 50 38.3**	**-1.0**
HNR	**Honiara**	**14.20**	**320**	LR	LR	15 56 55.7	
	comp=Z,129nm,19.1s,baz=65,slow=32						
URZ	**Urewera**	**18.90**	**160**	P	**Pn**	**15 53 41.6**	**+1.3**
	0.6nm,0.3s,baz=328,slow=8.2,SNR=6.2						
URZ				LR	LR	15 59 46.9	
	comp=Z,113nm,18.5s,baz=186,slow=33						
CTA	**Charters Tower**	**21.43**	**267**	LR	LR	16 00 17.7	
	comp=Z,89nm,18.5s,MS3.2,baz=47,slow=30						
RPZ	**Rata Peaks**	**23.10**	**176**	LR	LR	16 02 27.0	
	comp=Z,145nm,18.3s,MS3.5,baz=23,slow=34						
STKA	**Stephens Creek**	**27.03**	**240**	*e*P	**P**	**15 55 02.3**	**+1.7**
	1.3nm,0.6s,mb3.6						
STKA	**Stephens Creek**	**27.03**	**240**	P	**P**	**15 55 02.1**	**+1.6**
	2.0nm,0.7s,mb3.8,baz=72,slow=9.0,SNR=12						
STKA				LR	LR	16 05 13.7	
	comp=Z,108nm,18.7s,MS3.4,baz=25,slow=35						
WRAB	**Tennant Creek**	**32.58**	**265**	P	**P**	**15 55 49.2**	**-0.7**
	5.2nm,1.1s,mb4.4						
WRA	**Warramunga Arr**	**32.59**	**265**	P	**P**	**15 55 50.1**	**+0.1**
	0.5nm,0.5s,mb3.7,baz=94,slow=8.3,SNR=18						
WRA				PcP	PcP	15 58 35.6	-0.1
	0.2nm,0.6s,baz=98,slow=5.5,SNR=4.4						
ASAR	**Alice Springs**	**32.70**	**258**	P	**P**	**15 55 51.7**	**+0.8**
	1.3nm,0.6s,mb4.1,baz=83,slow=9.4,SNR=52						
ASAR				PcP	PcP	15 58 35.6	-0.3
	0.7nm,0.8s,baz=108,slow=2.8,SNR=5.8						
PPT	**Papeete**	**39.09**	**93**	*e*LR	LR	16 07 54.2	
	77nm,25.5s						
FITZ	**Fitzroy Crossi**	**41.00**	**266**	P	**P**	**15 57 02.8**	**+1.2**
	2.0nm,0.6s,mb3.9,baz=134,slow=6.8,SNR=5.2						
FITZ				LR	LR	16 13 29.4	
	comp=Z,63nm,19.1s,MS3.5,baz=164,slow=35						
MBWA	**Marble Bar**	**45.98**	**260**	P	**P**	**15 57 46.8**	**+5.2**
	4.8nm,0.8s,mb4.5						
NWAO	**Narrogin (SRO)**	**47.49**	**244**	LR	LR	16 19 32.1	
	comp=Z,119nm,18.9s,MS3.9,baz=35,slow=38						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**57.06**	**182**	*e*P	**P**	**15 59 02.5**	**-1.1**
	2.7nm,1.2s,mb4.2						
SBA	**Scott Base**	**57.30**	**181**	*e*P	**P**	**15 59 05.7**	**+0.4**
	4.2nm,0.9s,mb4.5						
QSPA	**South Pole Qui**	**69.45**	**180**	*e*P	**P**	**16 00 25.4**	**-0.2**
	34nm,0.6s,mb5.5						
RPN	**Rapa Nui**	**73.66**	**113**	LR	LR	16 27 25.1	
	comp=Z,67nm,19.3s,MS3.9,baz=300,slow=31						
SONM	**Songino Array**	**88.24**	**323**	P	**P**	**16 02 08.8**	**0.0**
	0.7nm,0.7s,mb4.0,baz=133,slow=6.1,SNR=5.2						
VNA3	**Neumayer Olymp**	**88.39**	**180**	*e*	**P**	**16 02 08.7**	**-0.6**
VNA3				*e*		16 02 10.4	
VNA3				*e*		16 02 11.9	
VNA2	**Neumayer--Watz**	**88.68**	**181**	*e*	**P**	**16 02 09.8**	**-0.9**
	baz=191,slow=4.2						
VNA2				*e*		16 02 11.5	
VNA2				*e*		16 02 13.1	
NVAR	**Mina Array Bea**	**89.79**	**49**	P	**P**	**16 02 15.5**	**-0.8**
	0.4nm,0.5s,mb4.0,baz=231,slow=9.3,SNR=3.7						
LPIG	**La Paz**	**90.12**	**64**	LR	LR	16 32 54.5	
	comp=Z,48nm,19.2s,MS3.9,baz=196,slow=29						
ARCES	**ARCESS Array B**	**126.35**	**345**	PKP	PKPdf	16 08 17.1	-2.6
	2.6nm,1.0s,baz=22,slow=1.3,SNR=7.8						
BRG	**Berggiesshubel**	**144.03**	**333**	*i* PKP	PKPdf	16 08 50.9	-2.1
	7.2nm,0.8s						
CLL	**Collm**	**144.10**	**334**	*e*PKPdf	PKPdf	16 08 51.0	-2.1
	comp=Z,6.0nm,0.8s						
CONA	**Conrad Observa**	**145.24**	**328**	⇑*i*PKPdf	PKPdf	16 08 55.3	+0.1
	comp=Z,6.2nm,0.8s						
KHC	**Kaperske Hory**	**145.48**	**331**	*e*PKP	PKPdf	16 08 55.5	-0.1
GERES	**GERESS Array B**	**145.63**	**331**	PKPbc	PKPbc	16 08 56.0	-0.1
	comp=Z,2.6nm,0.6s,baz=54,slow=3.4,SNR=19						
BAIF	**Baives**	**148.26**	**341**	*e*PKP1	PKPbc	16 09 03.1	-0.5
FETA	**Feichten**	**148.32**	**331**	⇑*i*PKPbc	PKPbc	16 09 02.0	-1.8
	comp=Z,5.1nm,0.9s						
CDF	**Champ du Feu**	**148.65**	**336**	*e*PKP1	PKPbc	16 09 08.2	+3.6
	comp=Z,8.7nm,0.7s						
DAVOX	**Davos/Dischmat**	**148.89**	**332**	PKPbc	PKPbc	16 09 05.2	0.0
	comp=Z,4.4nm,0.7s,baz=158,slow=6.2,SNR=5.4						
HINF	**Hinteralfeld**	**149.30**	**336**	*e*PKP1	PKPbc	16 09 04.8	-1.5
HAU	**Haudompre**	**149.33**	**337**	*e*PKP1	PKPbc	16 09 05.8	-0.6
CABF	**La Chapelle**	**150.59**	**336**	*e*PKP1	PKPbc	16 09 09.3	-0.2
FLN	**La Foliniere**	**150.69**	**346**	*e*PKP1	PKPbc	16 09 08.5	-1.1
LDF	**La Druitiere**	**150.77**	**345**	*e*PKP1	PKPbc	16 09 08.7	-1.1
	comp=Z,3.6nm,0.6s						
LOR	**Lormes**	**150.83**	**339**	*e*PKP1	PKPbc	16 09 09.2	-0.8
	comp=Z,2.9nm,0.5s						
SSF	**Saint Saulge**	**151.13**	**339**	*e*PKP1	PKPbc	16 09 10.0	-0.7
GRR	**Gorron**	**151.13**	**346**	*e*PKP1	PKPbc	16 09 09.7	-1.0
	comp=Z,6.2nm,0.5s						
LPL	**La Plagne**	**151.23**	**334**	*e*PKP1	PKPbc	16 09 10.8	-0.2
LPG	**La Plagne**	**151.24**	**334**	*e*PKP1	PKPbc	16 09 10.9	-0.1
SGMF	**Saint Gilles**	**151.61**	**348**	*e*PKP1	PKPbc	16 09 10.5	-1.3
	comp=Z,11nm,0.7s						
ROSF	**Rostrenen**	**151.66**	**349**	*e*PKP1	PKPbc	16 09 10.5	-1.4
	comp=Z,5.5nm,0.5s						
QUIF	**Quistinic**	**152.05**	**349**	*e*PKP1	PKPbc	16 09 11.3	-1.5
ORIF	**Oris-en-Rattie**	**152.07**	**334**	*e*PKP1	PKPbc	16 09 12.9	0.0

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*IDC **19** 16:06:48.8±3.5, 3007S×17885W, h0km, mb3.4/2, mb1 3.7/3, mb1mx3.6/14, mbtmp3.6/3, ML3.4/1, Error ellipse: s-maj=72.7km s-min=39.6km az=94.0*
ISC 19 16:07:35.6±2.0, 322S±02×1799W±06, h411km±37km, n12, σ0°79/15, mb2.7/2, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**5.57**	**195**	*e*PN	**P**	**16 09 04.1**	**+0.2**
MXZ				*e*SN	**S**	**16 10 14.5**	**-1.4**
PUZ	**Puketiti**	**6.07**	**194**	PN	**P**	**16 09 10.9**	**+1.7**
MWZ	**Matawai**	**6.49**	**198**	*e*PN	**P**	**16 09 13.2**	**-0.6**
MWZ				*e*SN	**S**	**16 10 34.5**	**+0.4**
URZ	**Urewera**	**6.54**	**201**	Sn	**S**	**16 10 36.9**	**+1.8**
	2.5nm,0.3s,baz=71,slow=22,SNR=12						
URZ	**Urewera**	**6.54**	**201**	*e*PN	**P**	**16 09 13.8**	**-0.5**
URZ				*e*SN	**S**	**16 10 35.3**	**+0.3**
TSZ	**Takapari Road**	**8.54**	**202**	*e*PN	**P**	**16 09 35.8**	**-0.7**
BFZ	**Birch Farm**	**9.03**	**199**	*e*PN	**P**	**16 09 42.2**	**+0.2**
MRZ	**Mangatainoka R**	**9.21**	**202**	*e*PN	**P**	**16 09 43.4**	**-0.5**
MRZ				*e*SN	**S**	**16 11 29.3**	**-0.2**
THZ	**Tophouse**	**11.15**	**209**	*e*PN	**P**	**16 10 06.1**	**+0.6**
ASAR	**Alice Springs**	**41.43**	**270**	P	**P**	**16 14 44.8**	**+0.4**
	0.1nm,0.4s,mb2.5,baz=103,slow=7.8,SNR=6.0						
WRA	**Warramunga Arr**	**42.59**	**275**	P	**P**	**16 14 53.2**	**-0.5**
	0.3nm,0.5s,mb2.9,baz=111,slow=8.1,SNR=4.8						
FINES	**FINESS Array B**	**146.22**	**338**	PKP	PKPdf	16 26 25.7	-0.3
	1.3nm,0.5s,baz=61,slow=4.9,SNR=13						

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*IDC **19** 16:12:57.4±2.9, 3266S×179.11W, h0km, mb3.8/2, mb1 4.0/3, mb1mx3.7/14, mbtmp3.8/3, ML3.7/1, Error ellipse: s-maj=64.6km s-min=35.4km az=109.0*
ISC 19 16:13:01.4±2.2, 331S±01×1783W±03, h78km±23km, n13, σ1°00/17, mb3.6/2, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**5.21**	**211**	*e*PN	**Pn**	**16 14 17.7**	**+1.0**
MXZ				*e*SN	**Sn**	**16 15 15.8**	**+0.4**
PUZ	**Puketiti**	**5.66**	**208**	*e*PN	**Pn**	**16 14 23.3**	**+0.5**
PUZ				*e*SN	**Sn**	**16 15 26.4**	**0.0**
MWZ	**Matawai**	**6.19**	**212**	*e*PN	**Pn**	**16 14 31.0**	**+0.9**
MWZ				*e*SN	**Sn**	**16 15 38.6**	**-0.8**
URZ	**Urewera**	**6.32**	**215**	Pn	**Pn**	**16 14 33.2**	**+1.3**
	1.5nm,0.3s,baz=329,slow=3.9,SNR=16						
URZ				Sn	**Sn**	**16 15 44.7**	**+2.1**
	2.2nm,0.3s,baz=250,slow=23,SNR=7.7						
URZ	**Urewera**	**6.32**	**215**	*e*PN	**Pn**	**16 14 32.5**	**+0.6**
URZ				*e*SN	**Sn**	**16 15 41.9**	**-0.7**
OUZ	**Omahuta**	**7.01**	**250**	*e*PN	**Pn**	**16 14 41.0**	**-0.3**
BKZ	**Black Stump Fm**	**7.33**	**213**	*e*PN	**Pn**	**16 14 45.4**	**-0.4**
BFZ	**Birch Farm**	**8.70**	**208**	*e*PN	**Pn**	**16 15 03.4**	**-0.9**
MRZ	**Mangatainoka R**	**8.96**	**211**	*e*PN	**Pn**	**16 15 04.8**	**-3.0**
THZ	**Tophouse**	**11.07**	**216**	*e*PN	**Pn**	**16 15 33.3**	**-3.4**
ASAR	**Alice Springs**	**42.75**	**270**	P	**P**	**16 20 51.7**	**+0.6**
	1.0nm,0.8s,mb3.6,baz=112,slow=7.9,SNR=20						
WRA	**Warramunga Arr**	**43.99**	**275**	P	**P**	**16 21 00.8**	**-0.3**
	1.3nm,0.9s,mb3.7,baz=114,slow=8.0,SNR=18						
FINES	**FINESS Array B**	**147.59**	**338**	PKPbc	PKPbc	16 32 39.9	+4.1
	1.6nm,0.8s,baz=51,slow=4.4,SNR=6.7						

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*NEIC **19** 16:17:05.9, 3845S×17598E, h145km, MG3.8(WEL), After WEL.*
WEL 19 16:17:06.0±0.2, 3846S×17598E, h144km±2km, ML3.5/6, 1C, Error ellipse: s-maj=1.7km s-min=1.5km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RATZ	**Rangitukua**	**0.44**	**202**	PN	Pn	16 17 26.5	+0.2
WTVZ	**West Tongariro**	**0.72**	**205**	P	Pn	16 17 28.2	+0.2
WTVZ	**West Tongariro**	**0.72**	**205**	PN	Pn	16 17 28.2	+0.2
TWVZ	**Taurewa**	**0.74**	**214**	PN	Pn	16 17 28.2	+0.1
OTVZ	**Oturere**	**0.74**	**199**	PN	Pn	16 17 28.7	+0.6
NGZ	**Ngauruhoe**	**0.77**	**202**	P	Pn	16 17 28.6	+0.3
NGZ	**Ngauruhoe**	**0.77**	**202**	PN	Pn	16 17 28.6	+0.3
BKZ	**Black Stump Fm**	**0.81**	**150**	P	Pn	16 17 29.0	+0.4
BKZ				S	Sn	16 17 46.1	+0.2
BKZ	**Black Stump Fm**	**0.81**	**150**	PN	Pn	16 17 29.0	+0.4
BKZ				SN	Sn	16 17 46.1	+0.1
WPVZ	**Whakapapa**	**0.81**	**204**	P	Pn	16 17 28.9	+0.2
WPVZ	**Whakapapa**	**0.81**	**204**	PN	Pn	16 17 28.9	+0.3
TUVZ	**Tukino**	**0.84**	**197**	PN	Pn	16 17 29.2	+0.3
FWVZ	**Far West T-bar**	**0.86**	**203**	P	Pn	16 17 29.3	+0.3
FWVZ	**Far West T-bar**	**0.86**	**203**	PN	Pn	16 17 29.3	+0.3
TRVZ	**Turoa**	**0.90**	**202**	PN	Pn	16 17 29.7	+0.4
URZ	**Urewera**	**0.91**	**78**	P	Pn	16 17 29.3	-0.1
URZ	**Urewera**	**0.91**	**78**	PN	Pn	16 17 29.3	-0.1
URZ				SN	Sn	16 17 47.0	-0.3
URZ				SN	Sn	16 17 47.0	-0.3
WNVZ	**Wahianoa**	**0.91**	**199**	P	Pn	16 17 29.6	+0.2
WNVZ	**Wahianoa**	**0.91**	**199**	PN	Pn	16 17 29.6	+0.2
MOVZ	**Moawhango**	**0.96**	**190**	P	Pn	16 17 29.7	-0.1
MOVZ	**Moawhango**	**0.96**	**190**	PN	Pn	16 17 29.7	-0.1
PKVZ	**Pokaka**	**0.96**	**211**	PN	Pn	16 17 29.8	0.0
MTVZ	**Mangateitei**	**1.00**	**203**	PN	Pn	16 17 30.3	+0.1
MWZ	**Matawai**	**1.23**	**85**	P	Pn	16 17 32.4	+0.2
MWZ				S	Sn	16 17 52.4	+0.1
MWZ	**Matawai**	**1.23**	**85**	PN	Pn	16 17 32.4	+0.2
MWZ				SN	Sn	16 17 52.4	+0.1
KNZ	**Kokohu**	**1.44**	**113**	*e*PN	Pn	16 17 35.1	+0.7
WAZ	**Wanganui**	**1.50**	**211**	P	Pn	16 17 34.9	-0.2
WAZ	**Wanganui**	**1.50**	**211**	PN	Pn	16 17 34.9	-0.2
TSZ	**Takapari Road**	**1.60**	**180**	⇑PN	Pn	16 17 35.8	-0.3
WPHZ	**Waipukurau**	**1.64**	**167**	PN	Pn	16 17 36.5	-0.1
PXZ	**Pawanui**	**1.71**	**157**	PN	Pn	16 17 37.5	+0.1
PUZ	**Puketiti**	**1.84**	**78**	P	Pn	16 17 38.6	-0.2
PUZ	**Puketiti**	**1.84**	**78**	PN	Pn	16 17 38.6	-0.2
PUZ				SN	Sn	16 18 03.3	-0.7
MXZ	**Matakaoa Point**	**2.05**	**65**	P	Pn	16 17 41.3	0.0
MXZ	**Matakaoa Point**	**2.05**	**65**	PN	Pn	16 17 41.3	0.0
MRZ	**Mangatainoka R**	**2.22**	**188**	PN	Pn	16 17 41.9	-1.4
MRZ				SN	Sn	16 18 08.8	-3.3
BFZ	**Birch Farm**	**2.23**	**175**	PN	Pn	16 17 42.3	-1.1
TIWZ	**Tintock**	**2.31**	**182**	PN	Pn	16 17 43.1	-1.3
KIW	**Kapiti Island**	**2.53**	**199**	P	Pn	16 17 45.0	-2.2
KIW	**Kapiti Island**	**2.53**	**199**	PN	Pn	16 17 45.0	-2.2
MTW	**Mount Morrison**	**2.72**	**188**	P	Pn	16 17 47.2	-2.3
MTW	**Mount Morrison**	**2.72**	**188**	PN	Pn	16 17 47.2	-2.3
MRW	**Makara Radio**	**2.93**	**199**	P	Pn	16 17 49.6	-2.6
MRW	**Makara Radio**	**2.93**	**199**	PN	Pn	16 17 49.6	-2.6
PAWZ	**Paruwai Farm**	**2.95**	**188**	P	Pn	16 17 49.9	-2.5
PAWZ	**Paruwai Farm**	**2.95**	**188**	PN	Pn	16 17 49.9	-2.5
WEL	**Wellington**	**2.97**	**198**	P	Pn	16 17 50.1	-2.5
WEL	**Wellington**	**2.97**	**198**	PN	Pn	16 17 50.1	-2.6
MSWZ	**Moikau Station**	**3.00**	**190**	P	Pn	16 17 50.4	-2.7
MSWZ	**Moikau Station**	**3.00**	**190**	PN	Pn	16 17 50.4	-2.6
SNZO	**South Karori**	**3.01**	**199**	P	Pn	16 17 50.3	-2.8
SNZO	**South Karori**	**3.01**	**199**	PN	Pn	16 17 50.3	-2.8
TCW	**Tory Channel**	**3.04**	**205**	PN	Pn	16 17 50.7	-2.9
QRZ	**Quartz Range**	**3.56**	**227**	*e*P	Pn	16 17 56.5	-3.7
QRZ	**Quartz Range**	**3.56**	**227**	PN	Pn	16 17 56.5	-3.7
KHZ	**Kahutara**	**4.37**	**204**	*e*P	Pn	16 18 07.2	-3.6
KHZ	**Kahutara**	**4.37**	**204**	PN	Pn	16 18 07.2	-3.6

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*MOS **19** 16:32:03.6±1.3, 2824S×6756W, h115km, mb5.0/17, Error ellipse: s-maj=15.8km s-min=8.5km az=97.3*
*GUC **19** 16:32:04.5±0.8, 2829S×6759W, h118km±62km, ML5.4*
*ISCJB **19** 16:32:05.7±0.2, 2833S±002×6765W±003, h131km, mb4.7/51, Error ellipse: s-maj=4.2km s-min=3.4km az=15.3*
*IDC **19** 16:32:06.0±0.4, 2829S×6747W, h127km±3km, mb4.3/13, mb1 4.3/16, mb1mx4.3/20, mbtmp4.2/16, MS3.7/4, Ms1 3.7/4, ms1mx3.2/23, Error ellipse: s-maj=14.4km s-min=8.3km az=90.0*
*NEIC **19** 16:32:06.5±0.2, 2834S×6765W, mb4.9/40, MD4.5(SJA), Error ellipse: s-maj=6.0km s-min=4.8km az=92.0*
NEIC Felt [III] at Tinogasta.
*GCMT **19** 16:32:06.5±0.4, 2832S×6772W, h124km±4km, MW4.9/65, Moment Tensor Solution. s25,c27; s65,c78; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.74±.11; $M_{\theta\theta}$1.28±.21; $M_{\phi\phi}$1.46±.24; $M_{r\theta}$-0.11±.14; $M_{r\phi}$-1.73±.24; $M_{\theta\phi}$-0.89±.15; Best double couple: $M_0$3.06800×10^{16} NP1:ϕ_s122.00000°, δ41.00000°, λ-112.00000°. NP2: ϕ_s331.00000°, δ52.00000°, λ-71.00000°. Principal axes: T 3.1590, Plg6.0000°, Azm48.0000°; N -0.1830, Plg15.0000°, Azm139.0000°; P -2.9770, Plg74.0000°, Azm297.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*BJI **19** 16:32:07.5, 2830S×6770W, h133km, mB4.8*
ISC 19 16:32:07.3±0.2, 2837S±003×6766W±004, h133km, h133km±1.1km: pP-P, n391, σ0°76/338, mb4.7/51, 96C-92D, La Rioja Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPCH	**Copiapo**	**2.59**	**292**	⇑*i*P	**Pn**	**16 32 46.6**	**-2.1**
CPCH				*i* S	**Sn**	**16 33 17.6**	**-3.0**
CPCH	**Copiapo**	**2.59**	**292**	⇑*i*P	**Pn**

JCT pmax pmax
comp=Z,25nm,1.1s,mb5.0
WVT Waverly 66.91 342 eP **P 16 42 42.9 -2.2**
comp=Z,30nm,0.6s,mb5.3
WVT Waverly 66.91 342 eP **P 16 42 42.9 -2.2**
WVT pmax pmax
comp=Z,30nm,0.6s,mb5.3
TXAR Lajitas Array 66.92 326 P **P 16 42 45.1 -0.2**
comp=Z,1.0nm,0.6s,mb3.8,baz=146,slow=9.1,SNR=14
TXAR pP pP 16 43 16.9 -0.8
comp=Z,1.2nm,0.9s,baz=163,slow=8.8,SNR=3.6
MIAR Mount Ida 67.20 337 eP **P 16 42 46.1 -0.9**
comp=Z,17nm,1.4s,mb4.7
MIAR Mount Ida 67.20 337 eP **P 16 42 46.1 -0.9**
MIAR pmax pmax
comp=Z,17nm,1.4s,mb4.7
SIUC Southern Illin 68.78 342 eP **P 16 42 55.0 -1.8**
comp=Z,18nm,0.5s,mb5.0
SBA Scott Base 69.31 191 P **P 16 43 00.1 +0.4**
comp=Z,8.6nm,1.1s,mb4.4
SBA Scott Base 69.31 191 P **P 16 43 00.1 +0.5**
SBA pmax pmax
comp=Z,9.0nm,1.1s,mb4.4
WMOK Wichita Mounta 69.32 333 eP **P 16 42 58.6 -1.6**
comp=Z,5.3nm,1.0s,mb4.2
WMOK Wichita Mounta 69.32 333 eP **P 16 42 58.6 -1.6**
WMOK pmax pmax
comp=Z,5.0nm,1.0s,mb4.2
FVM French Village 69.37 341 eP **P 16 42 58.8 -1.6**
comp=Z,32nm,0.6s,mb5.2
FVM French Village 69.37 341 eP **P 16 42 58.8 -1.6**
FVM pmax pmax
comp=Z,32nm,0.6s,mb5.2
CCM Cathedral Cave 69.67 340 eP **P 16 43 00.7 -1.6**
comp=Z,25nm,0.8s,mb5.0
CCM Cathedral Cave 69.67 340 eP **P 16 43 00.7 -1.6**
CCM pmax pmax
comp=Z,25nm,0.8s,mb5.0
SYO Syowa Base 69.71 158 ⇓eP **P 16 42 58.0 -4.2**
SYO Syowa Base 69.71 158 ⇓epP pP 16 43 33.6 -1.1
ACSO Alum Creek Sta 69.72 348 eP **P 16 43 01.2 -1.3**
comp=Z,26nm,1.0s,mb4.9
DBIC Dimbokro 69.78 70 eP **P 16 43 01.7 -1.9**
comp=Z,7.1nm,0.7s,mb4.5
DBIC Dimbokro 69.78 70 eP **P 16 43 01.7 -1.8**
DBIC pmax pmax
comp=Z,7.0nm,0.7s
DBIC Dimbokro 69.78 70 P **P 16 43 02.0 -1.6**
comp=Z,4.8nm,0.3s,mb4.7,baz=208,slow=6.9,SNR=33
VNDA Vanda 70.31 190 P **P 16 43 07.2 +1.4**
comp=Z,3.9nm,1.0s,mb4.1,baz=163,slow=5.5,SNR=7.9
319A Douglas 71.42 323 ⇑P **P 16 43 13.7 +0.7**
baz=72,SNR=5.8
318A Bisbee 71.85 323 ⇓P **P 16 43 16.1 +0.5**
baz=72,SNR=13
219A White Tail Can 71.90 324 ⇑P **P 16 43 16.5 +0.6**
baz=72,SNR=12
218A Dragoon 72.30 323 ⇑P **P 16 43 18.5 +0.3**
baz=73,SNR=8.8
BNM Barren Site 72.30 327 eP **P 16 43 18.2 0.0**
KSU1 Kansas State U 72.36 337 P **P 16 43 15.9 -2.5**
119A Ashpeak Ranch, 72.53 324 ⇓P **P 16 43 20.1 +0.4**
baz=73
217A Green Valley 72.55 322 P **P 16 43 20.3 +0.5**
baz=73,SNR=6.2
118A Homack Ranch, 72.78 324 ⇓P **P 16 43 21.5 +0.4**
baz=73
ANMO Albuquerque 72.87 327 eP **P 16 43 21.3 -0.3**
comp=Z,20nm,1.6s,mb4.6
ANMO epP pP 16 43 54.8 +0.4
ANMO Albuquerque 72.87 327 eP **P 16 43 21.3 -0.3**
ANMO e*PP pP 16 43 54.8 +0.4
ANMO pmax pmax
comp=Z,20nm,1.6s
Z19A T-Link Ranch, 72.92 324 ⇑P **P 16 43 22.5 +0.6**
baz=73
216A Three Points, 73.08 322 ⇓P **P 16 43 23.0 +0.1**
baz=73
117A Oracle 73.13 323 ⇑P **P 16 43 23.5 +0.3**
baz=73
Y19A Nutrioso 73.44 325 ⇓P **P 16 43 25.8 +0.9**
baz=74
116A Eloy 73.64 322 ⇓P **P 16 43 26.5 +0.4**
baz=74
JFWS Jewell Farm 73.92 343 P **P 16 43 25.5 -2.0**
comp=Z,19nm,1.0s,mb4.8
JFWS Jewell Farm 73.92 343 P **P 16 43 25.5 -2.0**
JFWS pmax pmax
comp=Z,19nm,1.0s,mb4.8
115A Sonoran Desert 74.03 322 ⇑P **P 16 43 29.1 +0.7**
baz=74
Y17A Roosevelt 74.06 324 ⇓P **P 16 43 29.2 +0.7**
baz=74
SUR Sutherland 74.23 118 P **P 16 43 30.6 +0.8**
comp=Z,20nm,1.2s,mb4.7
X18A Snowflake 74.25 325 ⇓P **P 16 43 30.4 +0.7**
baz=75
Y16A Circle Bar Ran 74.53 323 ⇑P **P 16 43 32.1 +0.8**
baz=75,SNR=6.9
X17A Forest Lakes 74.54 324 ⇑P **P 16 43 32.3 +1.0**
baz=75
SDCO Great Sand Dun 74.72 330 eP **P 16 43 32.4 +0.1**
comp=Z,15nm,1.6s,mb4.4
SDCO epP pP 16 44 06.4 +1.1
Z14A Wintersburg 74.92 322 ⇑P **P 16 43 33.6 0.0**
baz=75
X16A Lo Mia Camp, P 74.93 324 ⇑P **P 16 43 34.2 +0.6**
baz=75,SNR=8.6
Y15A Casa Rosa Ranc 75.04 323 ⇑P **P 16 43 34.8 +0.5**
baz=75,SNR=7.9
Y14A Wickenburg 75.39 322 ⇓P **P 16 43 36.3 +0.1**
baz=76,SNR=6.0
X15A Humboldt 75.40 323 ⇑P **P 16 43 36.9 +0.6**
baz=76,SNR=7.6
MVCO Mesa Verde 75.66 327 ⇓P **P 16 43 37.8 +0.1**
baz=76,SNR=6.0
X14A Yava 75.73 323 ⇑P **P 16 43 38.9 +0.7**
baz=76
Y13A Salome 75.74 322 ⇑P **P 16 43 38.7 +0.5**
baz=76
WUAZ Wupatki 75.75 324 eP **P 16 43 38.8 +0.6**
comp=Z,40nm,1.4s,mb4.8
WUAZ epP pP 16 44 12.0 +0.7
WUAZ Wupatki 75.75 324 ⇑P **P 16 43 38.8 +0.6**
baz=76,SNR=6.2
W15A Williams 75.95 324 ⇓P **P 16 43 40.1 +0.7**
baz=76
Y12C Blythe 76.08 321 ⇓P **P 16 43 40.7 +0.6**
baz=76
DVTC Desert V Tower 76.16 319 ⇓P **P 16 43 42.0 +1.4**
baz=76
SWSC Sam W. Stewart 76.19 320 ⇑P **P 16 43 41.9 +1.1**
baz=76
X13A Yucca 76.33 322 ⇓P **P 16 43 42.1 +0.5**
baz=77,SNR=10
W14A Seligman 76.40 323 ⇓P **P 16 43 42.5 +0.6**
baz=77,SNR=6.6
ECSD EROS,Sioux Fal 76.51 339 eP **P 16 43 41.1 -1.3**
comp=Z,23nm,1.2s,mb4.7
ECSD epP pP 16 44 13.2 -2.2
BC3 Big Chuckw Mtn 76.52 321 ⇓P **P 16 43 43.3 +0.6**
baz=77,SNR=5.6
SMCO Snowmass 76.55 330 eP **P 16 43 43.4 +0.7**
comp=Z,37nm,1.4s,mb4.8
SMCO epP pP 16 44 17.5 +1.7
IRM Iron Mountain 76.73 321 ⇓P **P 16 43 44.1 +0.3**
baz=77,SNR=5.9
V14A Boquillas Ranc 76.73 323 ⇓P **P 16 43 44.6 +0.8**
baz=77,SNR=12
W13A Hualapai Mount 76.74 323 ⇑P **P 16 43 44.7 +0.9**
baz=77,SNR=5.4
T16A Glen Canyon Da 76.95 325 ⇓P **P 16 43 45.3 +0.3**
baz=77
PFO Pinyon Flat Ob 77.05 320 ⇓P **P 16 43 46.7 +1.1**
baz=77
BELC Belle Mtn. 77.08 320 ⇑P **P 16 43 46.7 +0.9**
baz=77
V13A Grand Canyon W 77.36 323 ⇑P **P 16 43 48.0 +0.7**
baz=78
U14A Mt Trumbull 77.37 324 P **P 16 43 48.4 +1.1**
baz=78,SNR=17
T15A Red Dirt Ranch 77.42 325 ⇓P **P 16 43 48.4 +0.8**
baz=78,SNR=6.6
MAW Mawson 77.46 163 eP **P 16 43 46.5 -1.0**
comp=Z,34nm,1.1s,mb4.9
MAW Mawson 77.46 163 eP **P 16 43 46.5 -1.0**
MAW pmax pmax
comp=Z,34nm,1.1s
MAW Mawson 77.46 163 P **P 16 43 47.4 -0.1**
comp=Z,18nm,1.0s,mb4.7,baz=230,slow=5.9,SNR=13
GMRC Granite Mounta 77.47 321 P **P 16 43 48.9 +1.0**
baz=78,SNR=8.0
U13A Pakoon Wash 77.78 323 ⇓P **P 16 43 50.3 +0.6**
baz=78,SNR=5.4
HEC Hector,Ludlow 77.88 321 ⇓P **P 16 43 51.1 +0.8**
baz=78
U12A Valley of Fire 78.09 323 ⇑P **P 16 43 52.3 +0.9**
baz=78
TUQ Turquoise Mtn. 78.10 321 ⇑P **P 16 43 52.1 +0.7**
baz=78,SNR=5.1
SRU San Rafael 78.14 327 eP **P 16 43 51.1 -0.5**
comp=Z,19nm,1.2s,mb4.6
SRU epP pP 16 44 24.5 -0.3
SRU San Rafael 78.14 327 eP **P 16 43 51.1 -0.4**
SRU e*PP pP 16 44 24.5 -0.3
SRU pmax pmax
comp=Z,19nm,1.2s,mb4.6
BFSC Mount Baldy St 78.20 320 ⇑P **P 16 43 53.1 +1.1**
baz=78
T13A Saint George 78.21 324 ⇓P **P 16 43 52.6 +0.6**
baz=78
CCUT Cedar City 78.33 324 eP **P 16 43 53.6 +1.0**
CCUT epP pP 16 44 27.7 +1.8
MSU Marysvale 78.47 326 eP **P 16 43 53.9 +0.5**
MSU epP pP 16 44 28.4 +1.8
GSC Goldstone 78.49 321 ⇑P **P 16 43 54.4 +0.9**
baz=79
ARUT Antelope Range 78.55 325 eP **P 16 43 55.1 +1.2**
S13A Holt Ranch, En 78.61 324 P **P 16 43 55.1 +1.0**
baz=79,SNR=10
TOA0 Torodi Ar. Sit 78.70 68 eP **P 16 43 53.8 -1.4**
TOA0 epP pP 16 44 23.6 -4.9
TORD Torodi Ar. Bea 78.70 68 P **P 16 43 54.1 -1.1**
comp=Z,9.7nm,0.6s,mb4.7,baz=270,slow=5.7,SNR=78
TORD pP pP 16 44 24.8 -3.7
comp=Z,3.7nm,0.8s,baz=254,slow=4.8,SNR=2.7
TORD LR LR 17 16 45.9
comp=Z,68nm,19.6s,baz=230,slow=34
U10A Ash Meadows, A 79.05 322 ⇑P **P 16 43 57.3 +0.7**
baz=79
T11A Corn Creek, Al 79.06 323 ⇓P **P 16 43 57.3 +0.6**
baz=79,SNR=16
LRMC Laurel Mountai 79.11 320 ⇑P **P 16 43 57.4 +0.4**
baz=79
S12A Delamar Landin 79.14 324 ⇓P **P 16 43 58.0 +0.9**
baz=79
BOSA Boshof 79.29 117 P **P 16 43 58.1 -0.2**
BOSA pP pP 16 44 29.3 -2.3
BOSA LR LR 17 13 38.1
BOSA Boshof 79.29 117 P **P 16 43 58.2 -0.1**
BOSA *PP pP 16 44 29.3 -2.3
BOSA Boshof 79.29 117 P **P 16 43 58.1 -0.2**
comp=Z,14nm,0.8s,mb4.6,baz=244,slow=2.3,SNR=22
BOSA pP pP 16 44 29.3 -2.3
comp=Z,3.9nm,0.6s,baz=262,slow=6.1,SNR=2.8
BOSA LR LR 17 13 38.1
comp=Z,71nm,20.1s,baz=83,slow=32
FURC Furnace Creek, 79.37 322 ⇑P **P 16 43 59.6 +1.2**
baz=80
TPNV Topopah Spring 79.39 322 ⇑P **P 16 43 59.1 +0.6**
baz=80,SNR=7.8
MPMC Manual Prospec 79.42 321 ⇑P **P 16 43 58.9 +0.3**
baz=80
RSSD Black Hills 79.45 334 eP **P 16 43 58.4 -0.2**
comp=Z,18nm,1.4s,mb4.5
RSSD Black Hills 79.45 334 eP **P 16 43 58.4 -0.2**
RSSD pmax pmax
comp=Z,18nm,1.4s,mb4.5
DAU Daniels Canyon 79.51 328 eP **P 16 43 59.6 +0.6**
DAU epP pP 16 44 33.9 +1.6
R12A Pony Springs, 79.56 324 P **P 16 44 00.3 +1.0**
baz=80,SNR=7.9
ISA Isabella 79.69 320 eP **P 16 44 00.7 +0.6**
ISA epP pP 16 44 34.3 +0.8
ISA Isabella 79.69 320 ⇓P **P 16 44 00.6 +0.5**
baz=80
JLU Jordanelle 79.75 328 eP **P 16 44 00.6 +0.3**
JLU epP pP 16 44 34.8 +1.1
PKM Peak Mountain 79.91 319 ⇑P **P 16 44 01.6 +0.3**
baz=80
GRAC Grapevine Rang 80.04 322 ⇓P **P 16 44 02.8 +0.8**
baz=80
R11A Troy Canyon, C 80.08 324 P **P 16 44 02.8 +0.6**
baz=80,SNR=13
DUG Dugway 80.09 327 eP **P 16 44 01.6 -0.6**
comp=Z,20nm,1.5s,mb4.5
DUG epP pP 16 44 36.6 +1.1
DUG Dugway 80.09 327 eP **P 16 44 01.6 -0.5**
DUG pmax pmax
comp=Z,20nm,1.5s,mb4.5
DUG Dugway 80.09 327 ⇓P **P 16 44 02.2 +0.1**
baz=80
P13A Bates Ranch, G 80.11 325 ⇓P **P 16 44 02.7 +0.4**
baz=80,SNR=8.4
S10A Tonopah Range, 80.30 323 P **P 16 44 03.5 +0.2**
baz=81,SNR=8.1
SMMC Simmler 80.31 319 ⇓P **P 16 44 03.9 +0.5**
baz=81
R10A Warm Springs 80.41 323 P **P 16 44 05.0 +1.0**
baz=81,SNR=14
Q11A Duckwater 80.49 324 P **P 16 44 05.1 +0.8**
baz=81,SNR=9.3
S09A Goldfield 80.49 322 ⇓P **P 16 44 05.4 +1.0**
baz=81
TIN Tinemaha 80.55 321 ⇓P **P 16 44 05.0 +0.3**
baz=81
P12A McGill 80.58 325 ⇑P **P 16 44 05.1 +0.3**
baz=81,SNR=5.9
HWUT Hardware Ranch 80.59 328 eP **P 16 44 04.4 -0.4**
comp=Z,24nm,1.1s,mb4.7
HWUT epP pP 16 44 38.9 +0.7
PDAR Pinedale Array 80.61 330 P **P 16 44 04.4 -0.4**
comp=Z,4.8nm,0.8s,mb4.2,baz=150,slow=3.3,SNR=33
PDAR pP pP 16 44 37.2 -1.1
comp=Z,2.8nm,0.8s,baz=128,slow=6.5,SNR=5.2
HELL Mitchell Peak 80.72 320 ⇓P **P 16 44 05.4 -0.2**
baz=81
BGU Big Grassy Mou 80.76 327 eP **P 16 44 05.4 -0.3**
R09A Tonopah 80.79 323 P **P 16 44 06.1 +0.2**
baz=81,SNR=8.6
S08C White Mtn Res 80.84 322 ⇓P **P 16 44 06.9 +0.7**
baz=81
Q10A Clear Creek Ra 80.86 324 ⇓P **P 16 44 06.8 +0.5**
baz=81,SNR=5.4
M15A Larsen Ranch, 80.89 328 ⇑P **P 16 44 06.9 +0.5**
baz=81
LBTB Lobatse 81.18 114 eP **P 16 44 07.7 -0.7**
comp=Z,3.9nm,0.6s,mb4.2
LBTB epP pP 16 44 39.3 -2.6
LBTB Lobatse 81.18 114 eP **P 16 44 07.7 -0.8**
LBTB e*PP pP 16 44 39.3 -2.6
LBTB pmax pmax
comp=Z,4.0nm,0.6s,mb4.2
KCC Kaiser Creek 81.35 321 ⇓P **P 16 44 09.0 0.0**
baz=82
M14A Sheep Mountain 81.35 327 ⇓P **P 16 44 08.3 -0.5**
baz=82,SNR=7.6
O11A Cowboy Ranch, 81.45 325 ⇓P **P 16 44 09.5 +0.1**
baz=82,SNR=7.9
P10A Eureka 81.48 324 ⇑P **P 16 44 09.9 +0.3**
baz=82,SNR=6.6
NVAR Mina Array Bea 81.59 322 P **P 16 44 10.6 +0.4**
comp=Z,3.2nm,1.0s,mb3.9,baz=138,slow=6.3,SNR=15
NVAR pP pP 16 44 42.2 -1.4
comp=Z,1.1nm,0.9s,baz=141,slow=6.7,SNR=2.5
M13A Montello 81.64 326 ⇑P **P 16 44 09.9 -0.4**
baz=82
REDW Red Top Meadow 81.65 330 eP **P 16 44 09.8 -0.6**
comp=Z,25nm,1.4s,mb4.7
N12A Clover Valley, 81.68 326 ⇓P **P 16 44 10.6 +0.1**
baz=82
Q08A Gabbs 81.70 323 ⇑P **P 16 44 11.0 +0.3**
baz=82
R07C Lee Vining 81.75 321 ⇑P **P 16 44 11.4 +0.4**
baz=82
O10A Cortez Mining, 82.00 324 ⇓P **P 16 44 12.4 +0.1**
baz=82
M12A Wells 82.05 326 ⇑P **P 16 44 12.2 -0.3**
baz=82,SNR=6.4
K14A Jones Ranch, D 82.08 328 ⇑P **P 16 44 12.2 -0.4**
baz=82
L13A Double Diamond 82.09 327 ⇑P **P 16 44 12.7 +0.1**
baz=82,SNR=6.9
FLWY Flagg Ranch 82.16 330 eP **P 16 44 13.1 +0.1**
comp=Z,7.6nm,0.8s,mb4.4
FLWY epP pP 16 44 46.6 +0.1
ULM Lac du Bonnet 82.18 342 P **P 16 44 11.4 -1.5**
comp=Z,3.1nm,0.4s,mb4.3,baz=166,slow=4.3,SNR=10
ULM pP pP 16 44 45.2 -1.2
comp=Z,7.1nm,1.1s,baz=179,slow=3.0,SNR=4.6
R06C Coleville 82.28 322 ⇑P **P 16 44 14.2 +0.4**
baz=83
P08A Dixie Valley 82.39 323 ⇑P **P 16 44 14.5 +0.2**
baz=83
M11A Holland Ranch, 82.49 326 ⇑P **P 16 44 14.9 +0.1**
baz=83,SNR=14
K13A Stover Farm, H 82.58 327 ⇓P **P 16 44 15.0 -0.2**
baz=83
L12A House Creek Ra 82.65 327 ⇑P **P 16 44 15.8 +0.2**
baz=83
P07A Fallon 82.70 323 ⇑P **P 16 44 16.2 +0.2**
baz=83
YMR Madison River 82.74 330 eP **P 16 44 16.6 +0.7**
comp=Z,35nm,1.3s,mb4.9
R05C Kirkwood Meado 82.75 321 ⇑P **P 16 44 17.0 +0.8**
baz=83
SCHQ Schefferville 82.86 0 P **P 16 44 14.9 -1.5**
SCHQ Schefferville 82.86 0 P **P 16 44 14.7 -1.7**
comp=Z,6.6nm,1.0s,mb4.3,baz=154,slow=1.9,SNR=6.6
M10A I.L. Ranch, Tu 82.93 325 ⇑P **P 16 44 17.0 0.0**
baz=83
K12A Draper Farm, C 82.97 327 ⇑P **P 16 44 17.4 +0.2**
baz=83
L11A Cat Creek Ranc 83.03 326 P **P 16 44 17.7 +0.2**
baz=83,SNR=8.5
QLMT Earthquake Lak 83.07 330 eP **P 16 44 18.2 +0.6**
QLMT epP pP 16 44 51.3 0.0
J13A Cove Ranch, Pi 83.20 328 ⇓P **P 16 44 18.6 +0.2**
baz=84
BDM Black Diamond 83.23 320 ⇓P **P 16 44 19.0 +0.3**
baz=84
L10A Juniper Basin 83.31 326 P **P 16 44 18.9 -0.1**
baz=84,SNR=9.8
HLID Hailey 83.44 328 eP **P 16 44 19.7 +0.1**
comp=Z,17nm,1.1s,mb4.7
HLID epP pP 16 44 53.9 +0.6
HLID Hailey 83.44 328 P **P 16 44 20.1 +0.5**
baz=84,SNR=17
P05C Yuba Gap, Truc 83.47 321 ⇑P **P 16 44 20.4 +0.5**
baz=84
J12A Stokes Ranch, 83.52 327 P **P 16 44 20.1 +0.1**
baz=84,SNR=10
I13A Wildhorse Cree 83.57 328 P **P 16 44 20.7 +0.4**
baz=84,SNR=23
K11A Parker Ranch, 83.61 326 ⇑P **P 16 44 20.5 -0.1**
baz=84,SNR=6.7
N07B Gerlach 83.64 323 ⇑P **P 16 44 20.6 -0.1**
baz=84,SNR=9.9
MCMT McKenzie Canyo 83.69 329 eP **P 16 44 21.0 +0.2**
MCMT epP pP 16 44 55.4 +0.9
FARB Farallon Islan 83.70 319 ⇓P **P 16 44 20.8 -0.3**
baz=84
BEKR Beckwourth 83.73 322 ⇑P **P 16 44 21.1 -0.1**
baz=84,SNR=6.0
G15A Dillon 83.80 330 ⇓P **P 16 44 21.3 -0.1**
baz=84
M08A Happy Creek Ra 83.82 324 ⇓P **P 16 44 22.0 +0.4**
baz=84
CVS Carmenet Viney 83.83 320 ⇓P **P 16 44 21.8 +0.1**
baz=84
L09A Wilkinson Ranc 83.87 325 ⇑P **P 16 44 21.6 -0.2**
baz=84
DLMT Dillon 84.00 330 eP **P 16 44 22.4 0.0**
comp=Z,26nm,1.4s,mb4.8
DLMT epP pP 16 44 56.6 +0.5
MFID Camas Ranch 84.00 327 ⇓P **P 16 44 22.6 +0.2**
baz=84
K10A MacKenzie Ranc 84.03 326 ⇑P **P 16 44 22.5 -0.1**
baz=84
N06A Buffalo Meadow 84.08 323 P **P 16 44 22.9 0.0**
baz=84,SNR=5.8
O05C Quincy 84.10 322 ⇑P **P 16 44 23.0 -0.1**
baz=84
H13A Challis 84.13 329 P **P 16 44 23.3 +0.2**
baz=84,SNR=19
ORV Oroville 84.14 321 P **P 16 44 23.4 +0.1**
baz=84,SNR=6.8
M07A Soldier Meadow 84.18 324 ⇑P **P 16 44 23.3 -0.1**
baz=84,SNR=5.7
G14A Jackson 84.29 329 ⇓P **P 16 44 24.0 +0.1**
baz=85
F15A Butte 84.33 330 P **P 16 44 24.3 +0.3**
baz=85,SNR=9.4
L08A Fields 84.34 325 ⇑P **P 16 44 23.9 -0.3**
baz=85
H12A Diamond D Ranc 84.39 328 P **P 16 44 24.4 -0.1**
baz=85,SNR=9.8
K09A Rome 84.40 325 ⇓P **P 16 44 24.2 -0.3**
baz=85,SNR=6.0
ELFS Eagle Lake Fie 84.46 322 ⇓P **P 16 44 24.9 0.0**
baz=85
G13A Cobalt 84.52 329 ⇑P **P 16 44 25.2 +0.1**
baz=85,SNR=21
F14A Wisdom 84.69 330 ⇓P **P 16 44 26.0 +0.1**
baz=85
L07A Adell 84.72 324 ⇓P **P 16 44 26.8 +0.7**
baz=85,SNR=5.7
M06C Likely Place G 84.74 323 ⇓P **P 16 44 26.4 +0.2**
baz=85
E15A Deer Lodge 84.85 331 ⇓P **P 16 44 26.0 -0.7**
baz=85
GASB Alder Springs 84.88 321 ⇓P **P 16 44 27.9 +0.9**
baz=85
J09A Fry Pan Ranch, 84.89 326 ⇑P **P 16 44 26.8 -0.2**
baz=85,SNR=5.4
HATC Hat Creek Radi 85.00 322 ⇓P **P 16 44 27.3 -0.2**
baz=85
H11A Donnelly 85.05 328 ⇓P **P 16 44 27.7 0.0**
baz=85
F13A Darby 85.10 329 P **P 16 44 27.6 -0.3**
baz=85,SNR=13
MOD Modoc 85.14 323 ⇓P **P 16 44 28.7 +0.5**
baz=85,SNR=5.7
K07A Rock Creek Ran 85.16 325 P **P 16 44 28.6 +0.3**
baz=86,SNR=19
E14A Clinton 85.21 330 P **P 16 44 28.8 +0.3**
baz=86,SNR=5.6
J08A Circle Bar Ran 85.25 325 P **P 16 44 29.0 +0.3**
baz=86,SNR=20
D15A Lincoln 85.28 331 P **P 16 44 28.9 +0.2**
baz=86,SNR=5.1
O02C Red Bluff 85.28 321 ⇓P **P 16 44 28.7 -0.3**
baz=86
H10A Noah's Angus R 85.32 327 ⇓P **P 16 44 28.5 -0.6**
baz=86,SNR=9.8
I09A Lost Marbles R 85.34 326 ⇓P **P 16 44 29.1 0.0**
baz=86
WDC Whiskeytown Da 85.42 321 ⇑P **P 16 44 28.5 -1.2**
baz=86
F12A Elk City 85.50 329 ⇓P **P 16 44 29.6 -0.3**
baz=86
L05A Lakeview 85.53 323 ⇑P **P 16 44 30.5 +0.4**
baz=86,SNR=7.5
E13A Victor 85.54 330 ⇑P **P 16 44 29.7 -0.4**
baz=86
MORF Marmelete 85.61 43 eP **P 16 44 30.9 +0.2**
MORF esP sP 16 45 21.1 +2.6
G11A Walters Elk Ra 85.69 328 ⇓P **P 16 44 30.7 -0.2**
baz=86,SNR=18
PTEO Sao Teotonio 85.72 43 eP **P 16 44 31.7 +0.5**
comp=Z,34nm,1.1s,mb5.0
D14A Greenough 85.73 331 P **P 16 44 30.9 -0.2**
baz=86,SNR=6.0
K06A Valley Falls 85.75 324 P **P 16 44 31.6 +0.3**
baz=86,SNR=8.0
M04C Macdoel 85.88 323 ⇑P **P 16 44 31.6 -0.2**
baz=86
PBDV Barranco-do-Ve 86.00 44 eP **P 16 44 33.0 +0.4**
F11A Grangeville 86.01 328 ⇓P **P 16 44 31.6 -0.8**
baz=86
N02C Big Bar 86.01 321 ⇓P **P 16 44 32.5 -0.1**
baz=86
G10A Bishop Farm, J 86.02 327 P **P 16 44 32.8 +0.3**
baz=86,SNR=5.8
J06A Christmas Vall 86.03 324 P **P 16 44 32.5 0.0**
baz=86,SNR=9.2
K05A Summer Lake 86.04 324 ⇑P **P 16 44 33.0 +0.4**
baz=86,SNR=9.2
M02C Callahan 86.15 322 ⇓P **P 16 44 33.6 +0.3**
baz=86
D13A Huson 86.16 330 P **P 16 44 33.0 -0.1**
baz=86,SNR=7.0

L04A	**Klamath Falls**	**86.18**	**323**	⇑P		**P**	**16 44 33.7**	**+0.4**
	baz=86							
H08A	**Prairie City**	**86.20**	**326**	⇓P		**P**	**16 44 33.2**	**-0.2**
	baz=86							
PVAQ	**Vaqueiros**	**86.24**	**44**	*e*P		**P**	**16 44 33.8**	**0.0**
PVAQ				*ep*P		pP	16 45 05.9	-1.7
I07A	**Izee**	**86.29**	**325**	⇑P		**P**	**16 44 34.0**	**+0.1**
	baz=87							
G09A	**Cove**	**86.32**	**327**	⇓P		**P**	**16 44 34.2**	**+0.3**
	baz=87							
C14A	**Swan Lake**	**86.37**	**331**	⇓P		**P**	**16 44 33.9**	**-0.3**
	baz=87,SNR=8.4							
E11A	**Bogner Ranch,**	**86.38**	**329**	⇑P		**P**	**16 44 33.8**	**-0.5**
	baz=87							
K04A	**Chilquin**	**86.40**	**323**	⇓P		**P**	**16 44 34.2**	**-0.2**
	baz=87							
D12A	**Red Ives Fores**	**86.52**	**330**	⇓P		**P**	**16 44 34.3**	**-0.6**
	baz=87,SNR=24							
PBEJ	**Beja**	**86.55**	**43**	*e*P		**P**	**16 44 35.6**	**+0.3**
	comp=Z,23nm,1.9s,mb4.7							
PBEJ				*ep*P		pP	16 45 08.4	-0.7
I06A	**Prineville**	**86.55**	**325**	⇓P		**P**	**16 44 35.5**	**+0.4**
	baz=87,SNR=6.3							
F10A	**Beach Ranch, E**	**86.57**	**328**	⇓P		**P**	**16 44 35.1**	**-0.1**
	baz=87							
J05A	**Fort Rock**	**86.61**	**324**	P		**P**	**16 44 35.9**	**+0.5**
	baz=87,SNR=6.4							
C13A	**Hot Springs**	**86.66**	**330**	P		**P**	**16 44 35.2**	**-0.4**
	baz=87,SNR=9.0							
H07A	**Lands Inn, Kim**	**86.69**	**326**	⇑P		**P**	**16 44 35.9**	**+0.1**
	baz=87							
EVO	**Evora**	**86.79**	**43**	*e*P		**P**	**16 44 37.1**	**+0.7**
EVO				*ep*P		pP	16 45 09.9	-0.4
E10A	**Myers Farm, Un**	**86.89**	**328**	⇑P		**P**	**16 44 36.2**	**-0.5**
	baz=87							
G08A	**Pilot Rock**	**86.90**	**327**	⇓P		**P**	**16 44 37.3**	**+0.5**
	baz=87							
J04A	**Umpqua Nationa**	**87.03**	**323**	⇑P		**P**	**16 44 37.4**	**-0.1**
	baz=87							
L02A	**Cave Junction**	**87.08**	**322**	⇑P		**P**	**16 44 38.5**	**+0.8**
	baz=87							
B13A	**Whitefish**	**87.14**	**331**	P		**P**	**16 44 37.5**	**-0.4**
	baz=88,SNR=5.6							
PBAR	**Barrancos**	**87.14**	**43**	*ep*P		pP	16 45 10.6	-1.4
H06A	**Lindquist Farm**	**87.18**	**325**	⇑P		**P**	**16 44 38.5**	**+0.4**
	baz=88							
G07A	**Ruggs Ranch, H**	**87.23**	**326**	⇑P		**P**	**16 44 38.6**	**+0.3**
	baz=88							
PESTR	**Estremoz**	**87.26**	**43**	*ep*P		pP	16 45 11.6	-1.0
WALA	**Waterton Lakes**	**87.43**	**332**	*e*P		**P**	**16 44 38.5**	**-0.7**
	comp=Z,38nm,1.6s,mb5.0							
WALA				*ep*P		pP	16 45 12.7	-0.5
K02A	**Glendale**	**87.44**	**322**	⇓P		**P**	**16 44 39.6**	**+0.2**
	baz=88							
A13A	**Flathead Natio**	**87.55**	**331**	⇑P		**P**	**16 44 40.0**	**+0.2**
	baz=88							
I04A	**Tendick Farm,**	**87.58**	**324**	⇓P		**P**	**16 44 40.1**	**+0.1**
	baz=88							
G06A	**Carlson Farm,**	**87.68**	**326**	⇓P		**P**	**16 44 40.9**	**+0.3**
	baz=88							
B12A	**Libby**	**87.70**	**330**	⇑P		**P**	**16 44 39.8**	**-0.7**
	baz=88							
LSZ	**Lusaka**	**87.87**	**106**	*e*P		**P**	**16 44 42.8**	**+0.5**
	comp=Z,4.5nm,0.8s,mb4.3							
LSZ	**Lusaka**	**87.87**	**106**	*e*P		**P**	**16 44 42.8**	**+0.6**
LSZ				pmax		pmax		
	comp=Z,4.0nm,0.8s,mb4.3							
D09A	**Jones Farm, Ri**	**87.88**	**328**	⇑P		**P**	**16 44 41.2**	**-0.3**
	baz=88							
J02A	**Umpqua**	**87.89**	**323**	⇑P		**P**	**16 44 42.0**	**+0.4**
	baz=88							
PCBR	**Castelo Branco**	**87.95**	**42**	*ep*P		pP	16 45 14.8	-1.1
A12A	**Yaak River Ran**	**88.08**	**331**	⇑P		**P**	**16 44 42.5**	**+0.2**
	baz=88							
H04A	**Detroit Lake**	**88.08**	**324**	⇑P		**P**	**16 44 42.1**	**-0.4**
	baz=88							
I03A	**Eugene**	**88.15**	**323**	⇑P		**P**	**16 44 42.5**	**-0.3**
	baz=88							
NEW	**Newport**	**88.22**	**329**	P		**P**	**16 44 42.2**	**-0.8**
C09A	**Chrisman Ranch**	**88.40**	**329**	⇓P		**P**	**16 44 43.7**	**-0.2**
	baz=89							
A11A	**Hall Mountain,**	**88.40**	**330**	⇑P		**P**	**16 44 42.9**	**-0.9**
	baz=89,SNR=8.7							
I02A	**Mapleton**	**88.46**	**323**	⇑P		**P**	**16 44 44.5**	**+0.2**
	baz=89							
G04A	**Mulino**	**88.59**	**325**	⇓P		**P**	**16 44 44.7**	**-0.1**
	baz=89							
E06A	**Yakima**	**88.78**	**326**	⇑P		**P**	**16 44 46.0**	**+0.3**
	baz=89							
A10A	**Northport**	**88.95**	**330**	⇑P		**P**	**16 44 45.9**	**-0.5**
	baz=89							
MVO	**Moncorvo**	**89.06**	**41**	*e*P		**P**	**16 44 47.1**	**-0.1**
MVO				*ep*P		pP	16 45 20.6	-0.6
F04A	**Amboy**	**89.06**	**325**	⇓P		**P**	**16 44 46.7**	**-0.4**
	baz=89							
E05A	**Randle**	**89.17**	**326**	⇓P		**P**	**16 44 47.6**	**0.0**
	baz=90							
A09A	**Danville**	**89.40**	**329**	⇑P		**P**	**16 44 48.5**	**-0.1**
	baz=90							
FCC	**Fort Churchill**	**89.55**	**347**	*e*P		**P**	**16 44 47.8**	**-1.1**
	comp=Z,27nm,1.6s,mb4.9							
FCC				*ep*P		pP	16 45 21.2	-1.8
FCC	**Fort Churchill**	**89.55**	**347**	*e*P		**P**	**16 44 47.8**	**-1.2**
FCC				*e**PP		pP	16 45 21.2	-1.8
FCC				pmax		pmax		
	comp=Z,27nm,1.6s,mb4.9							
A08A	**Turner Farm, O**	**89.70**	**329**	⇓P		**P**	**16 44 50.0**	**0.0**
	baz=90							
B07A	**Winthrop**	**89.73**	**328**	⇓P		**P**	**16 44 49.7**	**-0.4**
	baz=90							
A07A	**Ashnola River,**	**90.28**	**328**	⇑P		**P**	**16 44 52.6**	**0.0**
	baz=91							
EDM	**Edmonton**	**90.43**	**335**	*e*P		**P**	**16 44 51.1**	**-2.1**
EDM				*ep*P		pP	16 45 25.4	-1.9
KEST	**Kesra**	**96.52**	**53**	LR		LR	17 32 12.5	
	comp=Z,39nm,19.1s,baz=222,slow=37							
YKA	**Yellowknife Ar**	**98.01**	**340**	P		**P**	**16 45 26.6**	**-1.2**
YKA				pP		pP	16 45 58.3	-3.6
YKA				PP		PP	16 49 29.7	+0.9
YKA	**Yellowknife Ar**	**98.01**	**340**	P		**P**	**16 45 26.5**	**-1.2**
	comp=Z,1.4nm,0.8s,mb4.4,baz=138,slow=4.5,SNR=21							
YKA				pP		pP	16 45 58.3	-3.6
	comp=Z,0.6nm,0.8s,baz=132,slow=4.4,SNR=2.6							
YKA				PP		PP	16 49 29.7	+0.9
	comp=Z,0.1nm,0.3s,baz=130,slow=7.8,SNR=5.2							
ESK	**Eskdalemuir**	**99.82**	**32**	*e*P		Pdif	16 45 37.3	+0.9
	comp=Z,14nm,1.0s							
ESK	**Eskdalemuir**	**99.82**	**32**	*e*P		Pdif	16 45 37.3	+0.9
ESK				pmax		pmax		
	comp=Z,14nm,1.0s,mb5.3							
AKASG	**Malin Array Be**	**115.59**	**44**	PKP		PKPdf	16 50 31.2	-1.9
	comp=Z,0.7nm,0.5s,baz=260,slow=2.6,SNR=7.8							
ASAR	**Alice Springs**	**124.25**	**204**	PKP		PKPdf	16 50 49.7	-1.1
	comp=Z,4.1nm,0.8s,baz=132,slow=1.7,SNR=109							
ASAR				pPKP		pPKPdf	16 51 24.1	-2.3
	comp=Z,2.2nm,0.6s,baz=139,slow=1.9,SNR=8.6							
WB2	**Warramunga Arr**	**127.47**	**206**	*e*P		PKPdf	16 50 55.1	-2.0
WRA	**Warramunga Arr**	**127.47**	**206**	PKP		PKPdf	16 50 56.0	-1.1
	comp=Z,4.3nm,0.5s,baz=154,slow=2.0,SNR=110							
WRA				pPKP		pPKPdf	16 51 31.0	-1.7
	comp=Z,4.0nm,0.6s,baz=167,slow=1.6,SNR=10							
WRAB	**Tennant Creek**	**127.48**	**206**	*c i* PKIKP		PKPdf	16 50 56.1	-1.0
BILL	**Bilibino**	**129.28**	**337**	‖ *i* PKIKP		PKPdf	16 50 58.8	-0.1
BILL				pmax		pmax		
	comp=Z,6.0nm,1.2s							
FITZ	**Fitzroy Crossi**	**132.04**	**197**	PKP		PKPdf	16 51 06.0	+0.3
	comp=Z,1.0nm,0.4s,baz=41,slow=3.7,SNR=3.2							
ARU	**Arti**	**133.03**	**38**	*i* PKIKP		PKPdf	16 51 06.4	+0.1
ARU							16 53 33.2	
ARU				SS		SS	17 10 58.2	-7.7
AKTK	**Aktyubinsk**	**133.79**	**46**	PKP		PKPdf	16 51 08.2	+0.2
AKTO	**Aktyubinsk**	**133.79**	**46**	PKP		PKPdf	16 51 08.2	+0.2
	comp=Z,0.8nm,0.5s,baz=86,slow=1.5,SNR=3.7							
SEY	**Seymchan**	**136.80**	**335**	⇑ *i* PKIKP		PKPdf	16 51 13.7	+0.5
BVAR	**Borovoye Array**	**140.59**	**39**	PKP		PKPdf	16 51 20.1	-0.3
BVAR	**Borovoye Array**	**140.59**	**39**	PKhKP			16 51 13.5	
	comp=Z,0.4nm,0.4s,baz=326,slow=0.4,SNR=5.5							
BVAR				PKP		PKPdf	16 51 20.1	-0.3
	comp=Z,0.9nm,0.5s,baz=292,slow=2.8,SNR=8.7							
KK31	**Karatay Array**	**143.39**	**55**	*i* PKIKP		PKPdf	16 51 22.2	-3.6
KK31				pmax		pmax		
	comp=Z,1.0nm,0.3s							
YAK	**Yakutsk**	**144.43**	**346**	*e*PKPdf		PKPdf	16 51 24.7	-2.3
YAK				*ep*PKPdf		pPKPdf	16 51 58.8	-3.8
YAK	**Yakutsk**	**144.43**	**346**	*e*PKIKP		PKPdf	16 51 24.6	-2.4
YAK				*e*			16 54 51.3	
YAK				*e*SS		SS	17 13 18.9	-0.1
YAK				pmax		pmax		
	comp=Z,65nm,1.1s							
YAK				pmax		pmax		
	comp=N,15nm,1.5s							
YAK				pmax		pmax		
	comp=E,13nm,1.3s							
YAK				pmax		pmax		
	comp=Z,99nm,4.6s							
YAK				pmax		pmax		
	comp=N,55nm,7.5s							
YAK				pmax		pmax		
	comp=E,126nm,4.7s							
EKS2	**Erkin-Say**	**145.83**	**55**	P		PKPdf	16 51 30.7	+0.7
	SNR=54							
AML	**Almayashu**	**145.88**	**56**	P		PKPdf	16 51 30.9	+0.8
	SNR=26							
KURK	**Kurchatov**	**146.19**	**39**	*c i* PKP2		PKPab	16 51 30.7	-1.8
NVS	**Novosibirsk**	**146.20**	**30**	*i* PKP2		PKPab	16 51 30.1	-2.4
NVS				pmax		pmax		
	comp=Z,29nm,0.9s							
NVS				pmax		pmax		
	comp=N,2.0nm,0.4s							
NVS				pmax		pmax		
	comp=E,6.0nm,0.6s							
USP	**Ospenovka**	**146.22**	**54**	P		PKPdf	16 51 31.4	+0.7
	SNR=7.2							
AAK	**Ala-Archa**	**146.36**	**55**	*c i* PKP2		PKPab	16 51 31.2	-2.3
AAK	**Ala-Archa**	**146.36**	**55**	P		PKPdf	16 51 31.9	+1.0
	SNR=32							
FRU	**Bishkek**	**146.40**	**54**	*e*PKP2		PKPab	16 51 31.0	-2.7
FRU				pmax		pmax		
	comp=Z,119nm,2.2s							
UCH	**Uchtor**	**146.46**	**56**	P		PKPdf	16 51 32.5	+1.4
	SNR=28							
CHMS	**Chumysh**	**146.46**	**54**	P		PKPdf	16 51 32.4	+1.3
	SNR=6.5							
KBK	**Karagaybulak**	**146.68**	**55**	P		PKPdf	16 51 33.1	+1.6
	SNR=20							
KZA	**Kyzart**	**147.02**	**56**	P		PKPdf	16 51 33.7	+1.6
	SNR=9.2							
TKM2	**Tokmak 2**	**147.08**	**54**	P		PKPdf	16 51 32.9	+0.8
	SNR=15							
HYB	**Hyderabad**	**147.12**	**102**	*e*P		PKPdf	16 51 35.0	+2.1
HYB	**Hyderabad**	**147.12**	**102**	*i* PKP		PKPdf	16 51 35.0	+2.1
ZALV	**Zalesovo Beam**	**147.48**	**31**	PKPbc		PKPbc	16 51 32.2	-3.0
	comp=Z,30nm,0.7s,baz=310,slow=1.6,SNR=73							
ZALV				pPKPbc		pPKPbc	16 52 06.7	-3.7
	comp=Z,13nm,0.7s,baz=299,slow=3.7,SNR=5.2							
ULHL	**Ulahol**	**147.71**	**55**	P		PKPdf	16 51 33.9	+0.7
	SNR=21							
YSS	**Yuzh-Sakhalins**	**149.88**	**316**	*e*PKPdf		PKPdf	16 51 36.2	-0.3
YSS				*e*PKPbc		PKPbc	16 51 40.8	-0.7
YSS				*ep*PKPbc		pPKPbc	16 52 15.2	-1.7
YSS	**Yuzh-Sakhalins**	**149.88**	**316**	*e*PKHKP			16 51 36.3	
YSS				pmax		pmax		
	comp=Z,40nm,1.0s							
MK31	**Makanchi Array**	**150.17**	**44**	*i* PKIKP		PKPdf	16 51 41.2	+4.2
MK31				pmax		pmax		
	comp=Z,45nm,0.9s							
MKAR	**Makanchi Array**	**150.17**	**44**	PKP		PKPdf	16 51 36.6	-0.4
	comp=Z,7.0nm,0.7s,baz=298,slow=1.1,SNR=5.8							
MKAR				PKPbc		PKPbc	16 51 40.7	-1.5
	comp=Z,20nm,0.8s,baz=293,slow=2.5,SNR=120							
MKAR				pPKPbc		pPKPbc	16 52 15.1	-2.6
	comp=Z,6.2nm,0.7s,baz=303,slow=2.4,SNR=5.3							
CLNS	**Chul'man**	**150.19**	**346**	*e*PKIKP		PKPdf	16 51 38.5	+1.8
CLNS				pmax		pmax		
	comp=Z,24nm,0.9s							
CLNS				pmax		pmax		
	comp=N,7.0nm,0.8s							
BOD	**Bodaibo**	**150.54**	**358**	*e*PKIKP		PKPdf	16 51 34.6	-2.6
BOD				*e*			16 52 13.3	
BOD				pmax		pmax		
	comp=Z,14nm,1.3s							
BOD				pmax		pmax		
	comp=Z,7.0nm,1.1s							
ASAJ	**Asahikawa**	**151.18**	**311**	PKPbc		PKPbc	16 51 44.0	-0.7
	comp=Z,11nm,0.9s,baz=262,slow=5.6,SNR=7.2							
ASAJ				PKPab		PKPab	16 51 53.1	+0.1
	comp=Z,12nm,1.1s,baz=29,slow=8.7,SNR=4.5							
ASAJ				pPKPbc		pPKPbc	16 52 18.9	-1.2
	comp=Z,9.7nm,0.9s,baz=248,slow=7.7,SNR=3.7							
PSI	**Prapat**	**151.53**	**151**	PKP		PKPdf	16 51 39.0	-1.2
PSI				PKPbc		PKPbc	16 51 44.4	-2.0
PSI				PKPab		PKPab	16 51 55.0	-0.2
PSI				pPKPbc		pPKPbc	16 52 20.2	-1.6
PSI				pPKPab		pPKPab	16 52 29.6	0.0
PSI	**Prapat**	**151.53**	**151**	PKIKP		PKPdf	16 51 39.0	-1.2
PSI							16 51 55.0	
PSI							16 52 20.2	
PSI	**Prapat**	**151.53**	**151**	PKP		PKPdf	16 51 39.0	-1.2
	comp=Z,1.3nm,0.4s,baz=345,slow=23,SNR=4.7							
PSI				PKPbc		PKPbc	16 51 44.4	-2.0
	comp=Z,3.3nm,0.5s,baz=194,slow=7.7,SNR=9.0							
PSI				PKPab		PKPab	16 51 55.0	-0.2
	comp=Z,8.8nm,1.0s,baz=258,slow=9.4,SNR=5.8							
PSI				pPKPbc		pPKPbc	16 52 20.2	-1.7
	comp=Z,2.0nm,0.4s,baz=244,slow=4.9,SNR=1.8							
PSI				pPKPab		pPKPab	16 52 29.6	0.0
	comp=Z,3.0nm,0.5s,baz=260,slow=0.9,SNR=2.2							
KLR	**Kul'dur**	**154.40**	**330**	*e*PKIKP		PKPdf	16 51 39.3	-3.9
KLR				pmax		pmax		
	comp=Z,46nm,1.8s							
WMQ	**Urumqi**	**154.94**	**45**	*e*PKP		PKPdf	16 51 39.0	-5.1
MJAR	**Matsushiro Arr**	**156.75**	**297**	PKPab		PKPab	16 52 16.7	-0.2
	comp=Z,2.6nm,0.9s,baz=107,slow=2.3,SNR=6.1							
ULN	**Ulaanbaatar**	**160.11**	**11**	*e*PKPdf		PKPdf	16 51 50.3	-0.1
ULN	**Ulaanbaatar**	**160.11**	**11**	*i* PKIKP		PKPdf	16 51 50.7	+0.3
LSA	**Lhasa**	**161.42**	**81**	*e*PKPdf		PKPdf	16 51 53.1	+0.7
KSRS	**Korea Array**	**164.10**	**309**	PKP		PKPdf	16 51 54.6	-0.2
	comp=Z,0.6nm,0.7s,baz=39,slow=0.8,SNR=4.6							
KSRS				PKPab		PKPab	16 52 48.0	-0.9
	comp=Z,0.7nm,0.7s,baz=101,slow=5.2,SNR=4.3							
GTA	**Gaotai**	**164.87**	**40**	PKP		PKPdf	16 51 55.9	+0.5
GTA				PKP2		PKPab	16 52 52.0	-0.2
GTA				PP		PP	16 56 38.6	-0.1
GTA				SKKS		SKKSac	17 03 15.1	+1.2
GTA				PP		PP		
	comp=Z,39nm,8.0s							
GTA				LR		LR		
	comp=N,121nm,17.6s							
GTA				LR		LR		
	comp=E,85nm,19.9s							
GTA				LR		LR		
	comp=Z,82nm,16.4s							
HHC	**Hu-ho-hao-te**	**167.53**	**3**	*e*PKP		PKPdf	16 52 01.0	+3.6
HHC				SKS		SKSdf	16 58 46.8	-2.1
HHC				SKKS		SKKSac	17 03 30.6	+3.8
HHC				PP		PP		
	comp=Z,79nm,6.3s							
HHC				LR		LR		
	comp=N,158nm,5.1s							
HHC				LR		LR		
	comp=E,94nm,5.1s							
HHC				LR		LR		
	comp=Z,117nm,5.3s							
LZH	**Lanzhou**	**169.47**	**41**	*e*PKP		PKPdf	16 51 52.9	-6.0
LZH				LR		LR		
	comp=N,98nm,19.6s							
LZH				LR		LR		
	comp=Z,159nm,20.4s							
KMI	**Kunming**	**170.83**	**108**	PKP		PKPdf	16 51 54.3	-5.7
CD2	**Chengdu**	**172.11**	**69**	*e*PKP		PKPdf	16 51 59.3	-1.1
CD2				APKP			16 52 34.3	
CD2				XPKP			16 52 46.3	
CD2				PKP2		PKPab	16 53 24.8	+0.1
CD2				PP		PP	16 57 17.3	+0.9
CD2				SKS		SKSdf	16 58 44.9	-6.6
CD2				SKKS		SKKSac	17 03 46.3	-3.9
CD2				SS		SS	17 18 09.3	-6.2
CD2				PP		PP		
	comp=Z,120nm,10.8s							
CD2				LR		LR		
	comp=N,150nm,24.0s							
CD2				LR		LR		
	comp=Z,130nm,26.4s							
XAN	**Xi'an**	**173.63**	**27**	PKP		PKPdf	16 52 00.4	-0.6
GYA	**Guiyang**	**174.61**	**109**	PKP		PKPdf	16 51 58.4	-3.1
GYA				APKP			16 52 35.6	
GYA				XPKP			16 52 49.8	
GYA				PKP2		PKPab	16 53 35.8	-0.1
GYA				PKS			16 55 30.0	
GYA				PP		PP	16 57 28.4	-0.2
GYA				SKS		SKSdf	16 58 47.3	-5.1
GYA					SKKS	SKKSac	17 03 59.8	-2.5
GYA					SS	SS	17 18 34.8	-4.9
GYA					PP	PP		
	comp=Z,110nm,8.9s							
GYA					LR	LR		
	comp=N,250nm,23.8s							
GYA					LR	LR		
	comp=E,380nm,22.6s							
GYA					LR	LR		
	comp=Z,260nm,24.3s							

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*IDC **19** 16:32:06.7±2.7, 3931N×14268E, h0km, mb3.4/3, mb1 3.5/4, mb1mx3.3/21, mbtmp3.3/4, ML2.8/1, MS3.6/1, Ms1 3.6/1, ms1mx2.7/20, Error ellipse: s-maj=70.8km s-min=33.9km az=62.0*

*ISCJB **19** 16:32:18.7±0.8, 3892N±005×1417E±01, h80km±5km, mb3.3/3, Error ellipse: s-maj=16.3km s-min=7.5km az=18.7*

*JMA **19** 16:32:20.1±0.1, 3894N×14163E, h74km±1km, M3.3*

JMA Felt I J1.

ISC 19 16:32:19.9±0.8, 3893N±005×1417E±01, h74km±5km, n16, σ0$57/22, mb3.3/3, 7C-2D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**0.15**	**351**	⇓P	**Pn**	**16 32 31.1**	**+0.4**
OFUJ				S	**Sn**	**16 32 39.1**	**+0.4**
JMK	**Ichinoseki**	**0.38**	**274**	⇑P	**Pn**	**16 32 31.8**	**-0.2**
JMK				S	**Sn**	**16 32 40.3**	**-0.6**
JIO	**Ouri**	**0.55**	**210**	⇓P	**Pn**	**16 32 33.6**	**+0.1**
JIO				*e*S	**Sn**	**16 32 43.2**	**-0.3**
JOM	**Ohasama**	**0.63**	**330**	⇑P	**Pn**	**16 32 34.2**	**-0.1**
JOM				S	**Sn**	**16 32 44.8**	**-0.1**
JOU	**Okura**	**0.99**	**236**	⇑P	**Pn**	**16 32 38.4**	**0.0**
JOU				S	**Sn**	**16 32 52.2**	**0.0**
JYK	**Kaneyama**	**1.05**	**270**	⇑P	**Pn**	**16 32 38.9**	**-0.2**
JMM	**Marumori**	**1.28**	**214**	P	**Pn**	**16 32 41.6**	**-0.5**
JMM				S	**Sn**	**16 32 58.2**	**-0.5**
JANG	**Nango**	**1.45**	**354**	P	**Pn**	**16 32 44.0**	**-0.2**
JYS	**Shiratake**	**1.46**	**242**	⇑P	**Pn**	**16 32 44.6**	**+0.2**
JYS				S	**Sn**	**16 33 03.2**	**+0.2**
JAH	**Hinai**	**1.50**	**327**	⇑P	**Pn**	**16 32 45.2**	**+0.3**
JYA	**Atsumi**	**1.59**	**258**	⇑P	**Pn**	**16 32 46.0**	**-0.1**
MJAR	**Matsushiro Arr**	**3.65**	**230**	Pn	**Pn**	**16 33 16.0**	**+2.1**
	0.5nm,0.3s,baz=47,slow=9.6,SNR=5.5						
MKAR	**Makanchi Array**	**43.33**	**300**	P	**P**	**16 40 14.0**	**-0.4**
	0.5nm,0.5s,mb3.5,baz=84,slow=9.9,SNR=6.0						
HNR	**Honiara**	**51.02**	**157**	LR	LR	16 58 47.4	
	comp=Z,59nm,20.0s,baz=172,slow=31						
WRA	**Warramunga Arr**	**58.97**	**188**	P	**P**	**16 42 10.4**	**-1.1**
	0.2nm,0.5s,mb3.4,baz=6.4,slow=6.8,SNR=8.8						
ASAR	**Alice Springs**	**62.69**	**188**	P	**P**	**16 42 37.5**	**+0.8**
	0.1nm,0.8s,mb2.8,baz=2.0,slow=7.5,SNR=4.4						

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*IDC **19** 16:51:30.9±3.2, 5025S×10194E, h0km, mb4.0/7, mb1 4.1/7, mb1mx3.9/18, mbtmp4.0/7, MS3.3/2, Ms1 3.3/2, ms1mx2.9/33, Error ellipse: s-maj=140.1km s-min=17.2km az=55.0*

*ISCJB **19** 16:51:34.1±1.3, 4945S±02×1021E±03, h33km, mb4.0/9, Error ellipse: s-maj=53.1km s-min=11.8km az=141.1*

*NEIC **19** 16:51:35.9±0.9, 4915S×102.12E, h30km, mb4.2/3, Error ellipse: s-maj=36.7km s-min=8.3km az=51.0*

ISC 19 16:51:36.7±1.3, 49S±02×1021E±03, h35km, n14, σ0$49/13, mb4.0/9, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**8.30**	**337**	LR	LR	16 57 16.7	
	comp=Z,127nm,19.1s,baz=12,slow=42						
FITZ	**Fitzroy Crossi**	**26.46**	**122**	P	**P**	**16 57 10.2**	**-0.5**
	3.2nm,0.8s,mb3.9,baz=264,slow=3.7,SNR=6.4						
WRA	**Warramunga Arr**	**34.72**	**118**	P	**P**	**16 58 23.6**	**-0.1**
	0.4nm,0.6s,mb3.5,baz=297,slow=11,SNR=9.7						
WRAB	**Tennant Creek**	**34.73**	**118**	*e*P	**P**	**16 58 23.9**	**+0.1**
	3.2nm,0.8s,mb4.3						
ASAR	**Alice Springs**	**35.85**	**124**	P	**P**	**16 58 33.8**	**+0.5**
	1.3nm,0.6s,mb4.0,baz=298,slow=7.7,SNR=38						
STKA	**Stephens Creek**	**45.65**	**131**	P	**P**	**16 59 54.1**	**0.0**
	0.8nm,0.6s,mb3.8						
STKA	**Stephens Creek**	**45.65**	**131**	P	**P**	**16 59 54.3**	**+0.3**
	0.7nm,0.4s,mb3.9,baz=318,slow=12,SNR=4.5						
GUMO	**Guam**	**46.23**	**66**	P	**P**	**16 59 58.6**	**-0.3**
	179nm,1.2s						
SONM	**Songino Array**	**52.65**	**4**	P	**P**	**17 00 48.3**	**+1.0**
	1.9nm,0.8s,mb4.1,baz=177,slow=9.2,SNR=14						
EKS2	**Erkin-Say**	**53.88**	**334**	*e*P	**P**	**17 00 56.7**	**+0.2**
	2.5nm,0.8s,mb4.2						
MK31	**Makanchi Array**	**54.39**	**343**	*e*P	**P**	**17 01 00.0**	**-0.1**
MKAR	**Makanchi Array**	**54.39**	**343**	P	**P**	**17 01 00.4**	**+0.3**
	1.3nm,0.7s,mb4.0,baz=145,slow=8.0

*NDI **19** 17:22:06.1±3.7,3429N×7366E,h33km,MD3.2,ML2.7, mb3.8(NEIC)*

ISC 19 17:22:07.8±0.6,3410N±004×7378E±008,h52km±10km, n34,σ1°20/41,mb3.5/6,Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THN	**Thein Dam**	**2.32**	**135**	*e*P	**Pn**	**17 22 48.0**	**+4.4**
THN				*e*SG	**Sn**	**17 23 20.8**	**+10**
SDNR	**Sundarnagar**	**3.73**	**133**	*e*P	**Pn**	**17 23 05.0**	**+2.1**
SDNR				*e*SG	**Sn**	**17 24 05.0**	**+19**
KBL	**Kabul**	**3.95**	**278**	*e*Pn	**Pn**	**17 23 07.5**	**+1.6**
SMLA	**Simla**	**4.12**	**135**	*e*P	**Pn**	**17 23 11.1**	**+2.9**
SMLA				*e*SG	Sn	17 24 16.1	+21
JOSI	**Joshimath**	**6.03**	**124**	*e*P	**Pn**	**17 23 33.6**	**-0.9**
JOSI				*e*S	**Sn**	**17 24 40.7**	**-1.5**
KHET	**Khetri**	**6.25**	**163**	*e*P	**Pn**	**17 23 36.6**	**-0.9**
KHET				*e*S	**Sn**	**17 24 46.5**	**-1.1**
KHET				AML	AML	17 25 35.1	
	comp=E,7.8nm,0.4s						
KHET				AML	AML	17 25 35.3	
	comp=N,5.9nm,0.2s						
KUDL	**Kundal**	**6.38**	**158**	*e*P	**Pn**	**17 23 39.1**	**-0.1**
KUDL				*e*S	**Sn**	**17 24 49.3**	**-1.3**
SONA	**Sohna**	**6.48**	**153**	*e*P	**Pn**	**17 23 41.5**	**+0.9**
SONA				*e*S	**Sn**	**17 24 52.5**	**-0.8**
SONA				AML	AML	17 25 25.3	
	comp=N,6.2nm,0.3s						
SONA				λML	AML	17 25 26.6	
	comp=E,11nm,0.3s						
AML	**Almayashu**	**8.02**	**360**	*e*Pn	**Pn**	**17 24 01.0**	**-0.5**
	comp=E,3.9nm,0.6s						
UCH	**Uchtor**	**8.13**	**4**	*e*Pn	**Pn**	**17 24 03.0**	**-0.2**
	comp=E,7.7nm,1.2s						
AAK	**Ala-Archa**	**8.54**	**4**	*e*Pn	**Pn**	**17 24 08.3**	**-0.4**
EKS2	**Erkin-Say**	**8.55**	**360**	*e*Pn	**Pn**	**17 24 08.8**	**0.0**
	comp=E,2.7nm,0.8s						
EKS2				*e*Sn	**Sn**	**17 25 40.7**	**-3.1**
TKM2	**Tokmak 2**	**8.92**	**9**	*e*Pn	**Pn**	**17 24 14.8**	**+0.9**
KOLN	**Koldanda**	**10.53**	**124**	*e*P	**Pn**	**17 24 37.5**	**+1.5**
	comp=E,3.0nm,0.2s						
GKN	**Gorkha**	**11.11**	**120**	*e*P	**Pn**	**17 24 44.6**	**+0.6**
DMN	**Daman**	**11.68**	**121**	*e*P	**Pn**	**17 24 52.0**	**+0.2**
	comp=E,4.6nm,0.3s						
KKN	**Kakani**	**11.70**	**119**	*e*P	**Pn**	**17 24 52.7**	**+0.6**
PKI	**Pulchoki**	**11.92**	**120**	*e*P	**Pn**	**17 24 54.9**	**-0.2**
	comp=E,5.5nm,0.3s						
GUN	**Gumba**	**12.07**	**117**	*e*P	**Pn**	**17 24 57.7**	**+0.6**
JIRN	**Jiri**	**12.44**	**118**	*e*P	**Pn**	**17 25 01.6**	**-0.5**
MKAR	**Makanchi Array**	**14.22**	**24**	Pn	**Pn**	**17 25 28.1**	**+1.9**
	comp=E,0.2nm,0.3s,baz=228,slow=15,SNR=2.5						
KURK	**Kurchatov**	**16.98**	**11**	Pn	**Pn**	**17 25 55.5**	**-6.0**
BVAR	**Borovoye Array**	**19.07**	**354**	P	**Pn**	**17 26 26.5**	**-0.5**
	comp=E,0.4nm,0.3s,baz=160,slow=9.8,SNR=15						
BRVK	**Borovoye**	**19.11**	**354**	*e*P	**Pn**	**17 26 25.4**	**-2.1**
	comp=E,1.4nm,0.5s						
AKTK	**Aktyubinsk**	**19.99**	**329**	P	**Pn**	**17 26 36.9**	**-1.1**
AKTO	**Aktyubinsk**	**19.99**	**329**	P	**Pn**	**17 26 36.9**	**-1.1**
	comp=E,1.9nm,0.4s,baz=131,slow=12,SNR=8.6						
ZALV	**Zalesovo Beam**	**21.32**	**18**	P	**Pn**	**17 26 49.9**	**-0.3**
	comp=E,0.7nm,0.4s,mb3.4,baz=203,slow=10,SNR=4.5						
PALK	**Pallekele**	**27.45**	**165**	*e*P	**P**	**17 27 46.0**	**-3.0**
	comp=E,6.3nm,1.1s,mb4.1						
ARCES	**ARCESS Array B**	**44.22**	**338**	P	**P**	**17 30 12.4**	**+1.0**
	comp=E,3.3nm,1.1s,mb4.0,baz=114,slow=8.7,SNR=6.6						
TORD	**Torodi Ar. Bea**	**67.99**	**271**	P	**P**	**17 33 02.9**	**+1.0**
TORD	**Torodi Ar. Bea**	**67.99**	**271**	P	**P**	**17 33 02.9**	**+1.0**
	comp=E,0.2nm,0.3s,mb3.6,baz=47,slow=5.6,SNR=4.0						
WRA	**Warramunga Arr**	**78.78**	**123**	P	**P**	**17 34 07.6**	**+2.4**
	comp=E,0.3nm,0.8s,mb3.3,baz=320,slow=5.3,SNR=3.5						
ASAR	**Alice Springs**	**81.01**	**126**	P	**P**	**17 34 17.0**	**-0.2**
ASAR	**Alice Springs**	**81.01**	**126**	P	**P**	**17 34 17.0**	**-0.2**
	comp=E,0.2nm,0.9s,mb3.0,baz=314,slow=5.4,SNR=3.3						

*NIED **19** 17:33:00,3280N×13060E,h8km,Mw3.7 Best double couple: M0:3.72000×10^14 NP1:φs=313.00000°,δ79.00000°, λ-21.00000°. NP2:φs=47.00000°,δ69.00000°, λ-168.00000°.*

JMA 19 17:33:37.8,3279N×13063E,h13km,M3.8,4C Broadband fault plane solution: P waves. NP1: φs=51.00000°,δ62.00000°,λ-169.00000°. NP2: φs=316.00000°,δ80.00000°,λ-28.00000°. Principal axes: T Plg12.0000°, Azm6.0000°; N Plg60.0000°, Azm118.0000°; P Plg27.0000°, Azm270.0000°; Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTA	**Tamana**	**0.19**	**335**	↑↑P	Pg	17 33 42.2	+0.1
JTA				S	Sg	17 33 45.2	+0.1
JIU2	**Izumi 2**	**0.29**	**147**	↑↑P	Pg	17 33 43.7	-0.1
JIU2				S	Sg	17 33 48.2	+0.4
JNU	**Nakatsue**	**0.39**	**32**	↑↑P	Pg	17 33 45.8	+0.2
JNU				S	Sg	17 33 51.1	+0.2
JTZ	**Takazaki**	**0.97**	**156**	↑↑P	Pb	17 33 56.4	0.0
JTZ				S	Sb	17 34 09.3	+0.2

*NEIC **19** 17:34:53.0,3797S×17630E,h177km,MG3.9(WEL),After WEL.*

WEL 19 17:34:52.8±0.2,3795S×17630E,h178km±1km,ML3.8/15, Error ellipse: s-maj=1.6km s-min=1.2km az=0.0,North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**0.71**	**116**	P	Pn	17 35 18.5	+0.2
URZ	**Urewera**	**0.71**	**116**	PN	Pn	17 35 18.5	+0.2
URZ				SN	Sn	17 35 37.7	-0.2
RATZ	**Rangitukua**	**1.01**	**204**	P	Pn	17 35 20.6	+0.3
RATZ	**Rangitukua**	**1.01**	**204**	PN	Pn	17 35 20.6	+0.3
MWZ	**Matawai**	**1.04**	**112**	P	Pn	17 35 20.8	+0.3
MWZ				S	Sn	17 35 42.3	+0.4
MWZ	**Matawai**	**1.04**	**112**	PN	Pn	17 35 20.8	+0.3
MWZ				SN	Sn	17 35 42.3	+0.4
BKZ	**Black Stump Fm**	**1.22**	**173**	P	Pn	17 35 22.2	+0.2
BKZ				S	Sn	17 35 44.3	-0.4
BKZ	**Black Stump Fm**	**1.22**	**173**	PN	Pn	17 35 22.2	+0.2
BKZ				SN	Sn	17 35 44.3	-0.4
KRVZ	**Karewarewa**	**1.25**	**204**	PN	Pn	17 35 22.5	+0.2
HIZ	**Hauiti**	**1.27**	**243**	P	Pn	17 35 22.5	+0.1
HIZ	**Hauiti**	**1.27**	**243**	PN	Pn	17 35 22.5	0.0
WTVZ	**West Tongariro**	**1.29**	**205**	P	Pn	17 35 22.8	+0.2
WTVZ	**West Tongariro**	**1.29**	**205**	PN	Pn	17 35 22.8	+0.2
TWVZ	**Taurewa**	**1.31**	**211**	PN	Pn	17 35 23.0	+0.2
OTVZ	**Oturere**	**1.31**	**202**	PN	Pn	17 35 23.3	+0.5
NGZ	**Ngauruhoe**	**1.34**	**204**	P	Pn	17 35 23.6	+0.5
NGZ	**Ngauruhoe**	**1.34**	**204**	PN	Pn	17 35 23.6	+0.6
WPVZ	**Whakapapa**	**1.39**	**205**	P	Pn	17 35 23.7	+0.2
WPVZ	**Whakapapa**	**1.39**	**205**	PN	Pn	17 35 23.7	+0.2
TUVZ	**Tukino**	**1.41**	**201**	P	Pn	17 35 23.9	+0.2
TUVZ	**Tukino**	**1.41**	**201**	PN	Pn	17 35 23.9	+0.3
FWVZ	**Far West T-bar**	**1.43**	**204**	P	Pn	17 35 24.1	+0.2
FWVZ	**Far West T-bar**	**1.43**	**204**	PN	Pn	17 35 24.1	+0.2
TRVZ	**Turoa**	**1.47**	**203**	PN	Pn	17 35 24.5	+0.3
WNVZ	**Wahianoa**	**1.48**	**202**	P	Pn	17 35 24.5	+0.1
WNVZ	**Wahianoa**	**1.48**	**202**	PN	Pn	17 35 24.5	+0.1
KNZ	**Kokohu**	**1.52**	**135**	*e*SN	Sn	17 35 49.2	-0.2
MOVZ	**Moawhango**	**1.52**	**196**	P	Pn	17 35 24.3	-0.4
MOVZ	**Moawhango**	**1.52**	**196**	PN	Pn	17 35 24.3	-0.4
PKVZ	**Pokaka**	**1.53**	**209**	PN	Pn	17 35 24.9	0.0
PUZ	**Puketiti**	**1.55**	**95**	P	Pn	17 35 25.0	0.0
PUZ	**Puketiti**	**1.55**	**95**	PN	Pn	17 35 25.0	0.0
MTVZ	**Mangateitei**	**1.57**	**204**	PN	Pn	17 35 25.3	0.0
MXZ	**Matakaoa Point**	**1.63**	**77**	P	Pn	17 35 25.9	0.0
MXZ	**Matakaoa Point**	**1.63**	**77**	PN	Pn	17 35 25.9	0.0
VRZ	**Vera Road**	**1.69**	**225**	P	Pn	17 35 26.5	+0.1
VRZ	**Vera Road**	**1.69**	**225**	PN	Pn	17 35 26.5	+0.2
RAEZ	**Rainy Point**	**2.00**	**228**	P	Pn	17 35 29.9	+0.2
WAZ	**Wanganui**	**2.08**	**209**	P	Pn	17 35 29.9	-0.6
WAZ	**Wanganui**	**2.08**	**209**	PN	Pn	17 35 29.9	-0.5
WPHZ	**Waipukurau**	**2.11**	**177**	PN	Pn	17 35 30.5	-0.4
TSZ	**Takapari Road**	**2.12**	**187**	P	Pn	17 35 30.3	-0.7
TSZ	**Takapari Road**	**2.12**	**187**	PN	Pn	17 35 30.3	-0.7
PXZ	**Pawanui**	**2.12**	**168**	PN	Pn	17 35 30.9	-0.1
NEZ	**North Egmont**	**2.17**	**232**	P	Pn	17 35 32.1	+0.5
NEZ	**North Egmont**	**2.17**	**232**	PN	Pn	17 35 32.1	+0.6
PKE	**Pukeiti**	**2.20**	**235**	P	Pn	17 35 32.1	+0.2
PKE	**Pukeiti**	**2.20**	**235**	PN	Pn	17 35 32.1	+0.2
BFZ	**Birch Farm**	**2.73**	**181**	P	Pn	17 35 36.6	-1.4
BFZ	**Birch Farm**	**2.73**	**181**	PN	Pn	17 35 36.6	-1.4
MRZ	**Mangatainoka R**	**2.76**	**191**	P	Pn	17 35 36.6	-1.8
MRZ	**Mangatainoka R**	**2.76**	**191**	PN	Pn	17 35 36.6	-1.8
MRZ				SN	Sn	17 36 11.0	-3.0
TIWZ	**Tintock**	**2.84**	**186**	PN	Pn	17 35 37.7	-1.7
KIW	**Kapiti Island**	**3.10**	**200**	P	Pn	17 35 40.0	-2.5
KIW	**Kapiti Island**	**3.10**	**200**	PN	Pn	17 35 40.0	-2.5
MTW	**Mount Morrison**	**3.26**	**191**	P	Pn	17 35 41.8	-2.7
MTW	**Mount Morrison**	**3.26**	**191**	PN	Pn	17 35 41.8	-2.7
CAW	**Cannon Point**	**3.29**	**196**	P	Pn	17 35 42.3	-2.6
CAW	**Cannon Point**	**3.29**	**196**	PN	Pn	17 35 42.3	-2.6
TRWZ	**Traveller**	**3.48**	**188**	PN	Pn	17 35 44.7	-2.4
PAWZ	**Paruwai Farm**	**3.49**	**191**	P	Pn	17 35 44.4	-3.0
PAWZ	**Paruwai Farm**	**3.49**	**191**	PN	Pn	17 35 44.4	-2.9
MRW	**Makara Radio**	**3.50**	**200**	P	Pn	17 35 44.5	-2.9
MRW	**Makara Radio**	**3.50**	**200**	PN	Pn	17 35 44.5	-3.0
WEL	**Wellington**	**3.53**	**199**	P	Pn	17 35 45.1	-2.8
WEL	**Wellington**	**3.53**	**199**	PN	Pn	17 35 45.1	-2.7
MSWZ	**Moikau Station**	**3.55**	**193**	P	Pn	17 35 45.1	-3.0
MSWZ	**Moikau Station**	**3.55**	**193**	PN	Pn	17 35 45.1	-3.0
SNZO	**South Karori**	**3.57**	**200**	P	Pn	17 35 45.2	-3.2
SNZO	**South Karori**	**3.57**	**200**	PN	Pn	17 35 45.2	-3.2
TCW	**Tory Channel**	**3.61**	**205**	P	Pn	17 35 45.9	-3.0
TCW	**Tory Channel**	**3.61**	**205**	PN	Pn	17 35 45.9	-3.0
BHW	**Baring Head**	**3.62**	**197**	P	Pn	17 35 45.8	-3.2
BHW	**Baring Head**	**3.62**	**197**	PN	Pn	17 35 45.8	-3.2
TUWZ	**Tuamarina**	**3.92**	**207**	PN	Pn	17 35 49.7	-3.1
NNZ	**Nelson**	**3.97**	**214**	*e*P	Pn	17 35 49.9	-3.5
NNZ	**Nelson**	**3.97**	**214**	PN	Pn	17 35 49.9	-3.5
QRZ	**Quartz Range**	**4.10**	**224**	*e*P	Pn	17 35 51.2	-3.8
QRZ	**Quartz Range**	**4.10**	**224**	PN	Pn	17 35 51.2	-3.8
BSWZ	**Blackbirch Sta**	**4.20**	**206**	P	Pn	17 35 53.2	-3.1
BSWZ	**Blackbirch Sta**	**4.20**	**206**	PN	Pn	17 35 53.2	-3.1
THZ	**Tophouse**	**4.62**	**213**	PN	Pn	17 35 57.9	-3.8
THZ				SN	Sn	17 36 50.3	-5.4
KHZ	**Kahutara**	**4.94**	**205**	*e*P	Pn	17 36 02.0	-3.8
KHZ	**Kahutara**	**4.94**	**205**	PN	Pn	17 36 02.0	-3.8
DSZ	**Denniston Nort**	**5.13**	**221**	*e*P	Pn	17 36 04.8	-3.6
DSZ	**Denniston Nort**	**5.13**	**221**	*e*PN	Pn	17 36 04.7	-3.6
LTZ	**Lake Taylor**	**5.72**	**211**	PN	Pn	17 36 10.3	-5.7
RPZ	**Rata Peaks**	**7.00**	**213**	*e*P	Pn	17 36 28.1	-4.7
JCZ	**Jackson Bay**	**8.36**	**221**	*e*P	Pn	17 36 46.0	-4.7

*ISCJB **19** 17:37:42.3±3.8,322S±009×1306E±02,h20km±27km, mb4.1/7,MS3.6/2,Error ellipse: s-maj=30.7km s-min=10.8km az=157.6*
*NEIC **19** 17:37:42.8±7.3,319S×13067E,h10km±45km,mb4.4/5, Error ellipse: s-maj=24.8km s-min=10.1km az=52.0*
*IDC **19** 17:37:52.4±4.8,350S×13021E,h83km±42km,mb3.7/5, mb1 3.9/7,mb1mx3.6/16,mbtmp3.7/7,ML3.9/2,MS3.4/3, Ms1 3.4/3,ms1mx2.9/21,Error ellipse: s-maj=100.1km s-min=13.0km az=73.0*

ISC 19 17:37:47.9±2.2,34S±01×1306E±02,h49km±20km,n21, σ1°08/22,mb4.1/7,MS3.6/2,Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**9.46**	**169**	*e*P	**Pn**	**17 40 02.1**	**+0.4**
	12nm,0.7s						
KAKA				*e*S	**Sn**	**17 41 44.0**	**-2.7**
BATI	**Kupang**	**9.66**	**225**	LR	LR	17 43 20.0	
	comp=Z,114nm,18.7s,baz=95,slow=35						
FITZ	**Fitzroy Crossi**	**15.42**	**198**	P	**Pn**	**17 41 23.6**	**+1.3**
	0.2nm,0.3s,baz=57,slow=17,SNR=4.4						
WRAB	**Tennant Creek**	**16.87**	**168**	*e*Pn	**Pn**	**17 41 40.8**	**+0.1**
	12nm,0.8s						
WRAB				*e*Sn	**Sn**	**17 44 37.4**	**-10**
WRA	**Warramunga Arr**	**16.88**	**168**	P	**Pn**	**17 41 41.3**	**+0.5**
	0.8nm,0.3s,baz=349,slow=12,SNR=22						
WRA				S	**S**	**17 44 37.7**	**-18**
	0.5nm,0.3s,baz=358,slow=23,SNR=6.6						
WB2	**Warramunga Arr**	**16.88**	**168**	*e*Pn	**Pn**	**17 41 39.9**	**-0.9**
WB2				*e*Sn	**Sn**	**17 44 35.6**	**-12**
ASAR	**Alice Springs**	**20.43**	**171**	P	**P**	**17 42 23.2**	**+2.0**
	21nm,0.7s,baz=350,slow=10,SNR=307						
ASAR				S	**S**	**17 46 05.8**	**-1.6**
	0.7nm,0.5s,baz=360,slow=28,SNR=5.0						
KSM	**Kuching**	**20.83**	**283**	*e*P	**P**	**17 42 25.8**	**+0.2**
STKA	**Stephens Creek**	**30.19**	**161**	*e*P	**P**	**17 43 55.3**	**+1.7**
	5.2nm,1.0s,mb4.2						
STKA	**Stephens Creek**	**30.19**	**161**	P	**P**	**17 43 55.5**	**+1.8**
	1.6nm,0.7s,mb3.9,baz=313,slow=11,SNR=5.9						
KULM	**Kulim**	**31.11**	**286**	*e*P	**P**	**17 44 00.8**	**-1.2**
KSRS	**Korea Array**	**40.69**	**357**	LR	LR	18 02 24.4	
	comp=Z,27nm,18.9s,MS3.1,baz=338,slow=36						
YAK	**Yakutsk**	**65.22**	**360**	P	**P**	**17 48 22.6**	**-1.3**
	8.2nm,0.9s,mb4.8						
MKAR	**Makanchi Array**	**65.54**	**326**	P	**P**	**17 48 25.9**	**-0.5**
	0.7nm,0.5s,mb4.0,baz=118,slow=8.2,SNR=13						
MK31	**Makanchi Array**	**65.55**	**326**	*e*P	**P**	**17 48 25.8**	**-0.6**
ZALV	**Zalesovo Beam**	**68.61**	**333**	P	**P**	**17 48 45.7**	**0.0**
	0.3nm,0.3s,mb3.7,baz=124,slow=8.9,SNR=2.3						
KURK	**Kurchatov**	**69.75**	**328**	*e*P	**P**	**17 48 53.2**	**+0.4**
	3.6nm,0.9s,mb4.3						
KURK				*e*		17 48 58.3	
KURK				*e*	pP	17 49 05.0	-1.9
BVAR	**Borovoye Array**	**75.33**	**327**	P	**P**	**17 49 26.1**	**+0.2**
	0.9nm,0.9s,mb3.7,baz=123,slow=5.5,SNR=4.5						
QSPA	**South Pole Qui**	**86.58**	**180**	P	**P**	**17 50 26.4**	**+1.0**
	1.3nm,0.7s,mb4.3						
FINES	**FINESS Array B**	**99.86**	**332**	LR	LR	18 38 33.8	
	comp=Z,48nm,19.3s,MS4.0,baz=357,slow=36						
TORD	**Torodi Ar. Bea**	**128.58**	**284**	PKP	PKPdf	17 56 52.0	+1.4
	0.3nm,0.6s,baz=46,slow=1.5,SNR=3.4						

*ISCJB **19** 17:38:17.2±0.4,3769N±002×2181E±003,h14km±5km, Error ellipse: s-maj=4.5km s-min=3.4km az=41.0*
*CSEM **19** 17:38:17.9±0.1,3771N×2178E,h8km,MD3.3,Error ellipse: s-maj=2.6km s-min=1.8km az=50.0*
*NEIC **19** 17:38:17.6,3770N×2179E,h16km,MD3.3(ATH),After ATH.*
*ATH **19** 17:38:17.6,3770N×2179E,h16km±3km,MD3.3/6*
*THE **19** 17:38:18.1,3770N×2182E,h3km,ML2.9*

ISC 19 17:38:18.2±0.4,3770N±002×2181E±003,h11km±6km,n19, σ1°08/34,Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RLS	**Riolos of Patr**	**0.45**	**323**	*e*PB	**Pg**	**17 38 25.8**	**-1.3**
RLS				*e*SB	**Sg**	**17 38 32.8**	**-0.3**
ITM	**Ithomi**	**0.53**	**170**	*e*PN	**Pg**	**17 38 27.8**	**-0.7**
ITM				*e*SN	**Sg**	**17 38 35.9**	**+0.5**
VLX	**Vlachokerasia**	**0.56**	**126**	*e*Pg	**Pg**	**17 38 28.5**	**-0.6**
VLX				*e*Sg	**Sg**	**17 38 37.4**	**+0.8**
VLX	**Vlachokerasia**	**0.56**	**126**	*e*Pg	**Pg**	**17 38 28.5**	**-0.6**
VLX				*e*Sg	**Sg**	**17 38 37.3**	**+0.8**
SELA	**Sela**	**0.58**	**7**	*e*Pg	**Pg**	**17 38 28.4**	**-1.1**
SELA				*e*Sg	**Sg**	**17 38 38.2**	**+1.0**
PYL	**PYLOS**	**0.80**	**184**	*e*Pg	**Pg**	**17 38 32.3**	**-1.4**
PYL				*e*Sg	**Sg**	**17 38 45.9**	**+1.7**
KFL	**Anninata**	**0.91**	**297**	*e*Pg	**Pg**	**17 38 35.0**	**-0.6**
KFL				*e*Sg	**Sg**	**17 38 49.3**	**+1.8**
LTK	**Loutraki**	**0.97**	**70**	*e*Pg	**Pg**	**17 38 36.6**	**-0.4**
LTK				*e*Sg	**Sg**	**17 38 49.7**	**+0.1**
VLS	**Valsamata**	**1.07**	**297**	*e*Pg	**Pg**	**17 38 38.0**	**-0.9**
VLS				*e*Sg	**Sg**	**17 38 54.7**	**+1.8**
VLS	**Valsamata**	**1.07**	**297**	*e*Pn	**Pn**	**17 38 38.2**	**-1.0**
VLS				*e*Sg	**Sg**	**17 38 54.7**	**+1.8**
DID	**Didima**	**1.15**	**99**	*e*Pg	**Pg**	**17 38 39.0**	**-1.4**
DID				*e*Sg	**Sg**	**17 38 56.5**	**+1.2**
EVR	**Evrytania**	**1.22**	**0**	*e*PN	**Pn**	**17 38 40.4**	**-0.7**
VLI	**Veliái**	**1.33**	**137**	*e*PN	**Pn**	**17 38 43.3**	**+0.7**
LKR	**Lokris**	**1.34**	**44**	*e*Pg	**Pg**	**17 38 42.8**	**-1.1**
LKR				*e*Sg	**Sg**	**17 39 02.1**	**+0.8**
LKR	**Lokris**	**1.34**	**44**	*e*Pn	**Pn**	**17 38 43.1**	**+0.3**
LKR				*e*Sg	**Sg**	**17 39 02.1**	**+0.8**
LKD	**Levkas**	**1.36**	**318**	*e*Pg	**Pg**	**17 38 42.7**	**-1.7**
LKD				*e*Sg	**Sg**	**17 39 03.6**	**+1.6**
AGG	**Agios Georgios**	**1.39**	**17**	*e*Pg	**Pg**	**17 38 43.3**	**-1.5**
AGG				*e*Sg	**Sg**	**17 39 03.9**	**+1.1**
THL	**Klokotos Trika**	**1.87**	**5**	*e*PN	**Pn**	**17 38 50.6**	**+0.5**
AOS	**Alonnisos**	**2.19**	**47**	*e*Pn	**Pn**	**17 38 55.6**	**+1.1**

*NEIC **19** 17:42:08.7,1902N×6770W,h105km,MD3.4(RSPR), After RSPR.*

RSPR 19 17:42:08.7,1902N×6770W,h105km±5km,MD3.4/17, MD3.4/17,8C-8D,Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSP	**Las Mesas**	**1.02**	**145**	↑*e*P	Pn	17 42 29.4	-0.3
LSP				*e*S	Sn	17 42 44.8	-0.9
LRS	**Lares**	**1.09**	**132**	↓*e*P	Pn	17 42 29.3	-1.2
LRS				*e*S	Sn	17 42 45.8	-1.1
AOPR	**Arecibo Observ**	**1.12**	**127**	↑*e*P	Pn	17 42 30.2	-0.6
AOPR				*e*S	Sn	17 42 48.3	+0.8
CRPR	**Cabo Rojo, PR**	**1.16**	**151**	↓*e*P	Pn	17 42 30.5	-0.8
CRPR				*e*S	Sn	17 42 48.0	-0.2
GBPR	**Guanica, Bosqu**	**1.30**	**143**	↓*e*P	Pn	17 42 32.1	-0.8
GBPR				*e*S	Sn	17 42 51.9	+0.8
CELP	**Cerrillos**	**1.42**	**131**	↓*e*P	Pn	17 42 33.3	-1.0
CELP				*e*S	Sn	17 42 54.5	+0.8
OBIP	**Obispado Ponce**	**1.42**	**133**	↓*e*P	Pn	17 42 34.2	-0.1
OBIP				*e*S	Sn	17 42 53.0	-0.8
SMN1	**Samana, DR**	**1.50**	**277**	↓*e*P	Pn	17 42 34.0	-1.2
SMN1	**Samana, DR**	**1.50**	**277**	*e*S	Sn	17 42 55.2	-0.1
ICM	**Isla Caja Muer**	**1.59**	**135**	↓*e*P	Pn	17 42 36.5	+0.2
ICM				*e*S	Sn	17 42 56.5	-0.7
SJG	**San Juan**	**1.73**	**121**	↑*e*P	Pn	17 42 37.5	-0.5
SJG				*e*S	Sn	17 43 00.4	0.0
SJG	**San Juan**	**1.73**	**121**	↑*e*P	Pn	17 42 38.0	-0.1
SJG				*e*S	Sn	17 43 00.9	+0.5
CBYP	**Canovanas**	**1.90**	**113**	↑*e*P	Pn	17 42 39.7	-0.6
CPD	**Cerro la Pandu**	**1.96**	**120**	↓*e*P	Pn	17 42 40.5	-0.5
CPD				*e*S	Sn	17 43 06.5	+1.0
HUMP	**Col San Antoni**	**1.96**	**116**	↑*e*P	Pn	17 42 41.3	+0.2
HUMP				*e*S	Sn	17 43 04.8	-0.9
MTP	**Monte Pirata**	**2.24**	**114**	↑*e*P	Pn	17 42 43.4	-1.1
MTP				*e*S	Sn	17 43 12.4	+0.4
STVI	**Saint Thomas**	**2.69**	**104**	↑*e*P	Pn	17 42 51.4	+1.0
SDDR	**Presa de Saban**	**3.39**	**270**	*e*Pn	Pn	17 42 58.4	-1.4
SDDR				*e*Sn	Sn	17 43 43.4	+4.0

*ISCJB **19** 17:43:05.7±0.5,4079N±003×2404E±004,h19km±6km, Error ellipse: s-maj=5.3km s-min=4.2km az=39.4*
*CSEM **19** 17:43:05.8±0.1,4078N×2405E,h20km,ML2.9,Error ellipse: s-maj=1.5km s-min=1.2km az=5.0*
*THE **19** 17:43:05.4,4077N×2405E,h5km,ML2.9*
*ATH **19** 17:43:05.1,4082N×2394E,h38km,MD3.1/3*
*SKO **19** 17:43:08.9,4068N×2376E,h17km*

ISC 19 17:43:05.0±0.4,4077N±002×2408E±003,h7km±8km,n18, σ0°65/34,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OUR	**Ouranopolis**	**0.45**	**189**	*e*Pg	**Pg**	**17 43 14.5**	**+0.9**
OUR				*e*Sg	**Sg**	**17 43 19.6**	**+0.2**
SRS	**Serrai**	**0.50**	**313**	*e*Pg	**Pg**	**17 43 15.1**	**+0.4**
SRS				*e*Sg	**Sg**	**17 43 21.0**	**-0.3**
SOH	**Sokhos**	**0.55**	**275**	*e*Pg	**Pg**	**17 43 15.8**	**+0.2**
SOH				*e*Sg	**Sg**	**17 43 23.5**	**+0.7**
NVR	**Nevrokopi**	**0.60**	**344**	*e*PN	**Pg**	**17 43 16.9**	**+0.4**
NVR				*e*SN	**Sg**	**17 43 25.2**	**+0.9**
PLG	**Polygyros**	**0.63**	**230**	*e*Pg	**Pg**	**17 43 17.4**	**+0.4**
PLG				*e*Sg	**Sg**	**17 43 25.4**	**+0.3**
PLG	**Polygyros**	**0.63**	**230**	*e*PN	**Pg**	**17 43 17.7**	**+0.7**
PLG				*e*SN	**Sg**	**17 43 25.2**	**+0.1**
HORT	**Hortiatis**	**0.76**	**257**	*e*Pg	**Pg**	**17 43 19.8**	**+0.1**
HORT				*e*Sg	**Sg**	**17 43 29.5**	**-0.1**
THE	**Thessaloniki**	**0.86

comp=E,1.6nm,0.3s,baz=143,slow=9.5,SNR=17
ROSC El Rosal 14.16 116 *e*Pn **Pn 17 56 28.4 +10**
ROSC El Rosal 14.16 116 Pn **Pn 17 56 28.2 +10**
comp=E,1.0nm,0.3s,baz=301,slow=12,SNR=7.6
SDV Santo Domingo 16.38 97 *e*P **Pn 17 56 49.7 +2.6**
comp=E,8.8nm,0.9s
SDV Santo Domingo 16.38 97 Pn **Pn 17 56 50.2 +3.1**
comp=E,0.6nm,0.3s,baz=279,slow=5.3,SNR=9.6
ATAH Atahualpa 20.14 154 LR LR 18 04 36.6
comp=E,251nm,18.1s,MS3.6,baz=107,slow=34
HKT Hockley 20.26 338 *e*P **P 17 57 30.4 -1.3**
comp=E,34nm,1.4s
LRAL Lakeview Retre 21.63 0 *e*P **P 17 57 46.9 +0.4**
comp=E,15nm,0.9s,mb4.4
TXAR Lajitas Array 23.68 322 P **P 17 58 08.4 +0.9**
comp=E,1.6nm,0.8s,mb3.5,baz=136,slow=10,SNR=16
TXAR PcP PcP 18 01 54.3 +3.6
comp=E,1.4nm,0.9s,baz=134,slow=3.6,SNR=7.6
MIAR Mount Ida 23.88 347 *e*P **P 17 58 07.5 -1.8**
comp=E,15nm,1.2s,mb4.3
MIAR *e* 17 58 17.8
TKL Tuckaleechee C 24.43 7 P **P 17 58 15.4 +1.1**
comp=E,8.1nm,0.9s,mb4.1,baz=182,slow=14,SNR=5.2
WVT Waverly 24.73 359 P **P 17 58 14.9 -2.1**
WMOK Wichita Mounta 25.65 337 *e*P **P 17 58 27.1 +1.8**
comp=E,35nm,1.4s,mb4.7
MNTX Cornudas Mount 26.41 323 *e*P **P 17 58 32.8 +0.5**
comp=E,6.0nm,1.1s,mb4.0
BBSR BB Station 29.40 41 P **P 17 58 55.8 -3.3**
comp=E,41nm,0.9s,mb5.2
SDCO Great Sand Dun 31.08 331 P **P 17 59 13.6 -0.2**
comp=E,1.6nm,0.8s,mb3.9
LPAZ La Paz 33.22 145 LR LR 18 13 48.5
comp=E,85nm,20.7s,MS3.4,baz=292,slow=38
COWI Conover 34.72 357 *e*P **P 17 59 43.9 -1.6**
comp=E,6.2nm,0.8s,mb4.6
PDAR Pinedale Array 36.95 332 P **P 18 00 05.3 +0.8**
comp=E,0.5nm,0.7s,mb3.5,baz=122,slow=12,SNR=4.8
HWUT Hardware Ranch 37.03 329 *e*P **P 18 00 06.1 +0.8**
comp=E,8.1nm,1.1s,mb4.5
REDW Red Top Meadow 38.01 331 P **P 18 00 12.4 -1.1**
comp=E,18nm,1.2s,mb4.7
NVAR Mina Array Bea 38.80 319 P **P 18 00 22.6 +2.3**
comp=E,0.5nm,0.6s,mb3.4,baz=132,slow=8.1,SNR=4.0
ULM Lac du Bonnet 39.50 351 P **P 18 00 24.5 -1.4**
comp=E,3.5nm,0.8s,mb4.2,baz=186,slow=7.7,SNR=7.3
HLID Hailey 39.90 329 *e*P **P 18 00 30.6 +1.2**
comp=E,1.5nm,0.9s,mb3.7
SCHQ Schefferville 46.27 16 LR LR 18 19 07.6
comp=E,80nm,20.6s,MS3.7,baz=68,slow=34
BDFB Brasilia 47.04 124 P **P 18 01 29.1 +1.9**
comp=E,3.7nm,1.0s,mb4.3,baz=297,slow=16,SNR=6.4
BDFB LR LR 18 21 47.5
comp=E,78nm,19.8s,MS3.7,baz=296,slow=37
PLCA Paso Flores 53.99 164 P **P 18 02 25.2 +6.0**
comp=E,2.3nm,1.0s,mb4.0,baz=255,slow=8.6,SNR=2.8
YKA Yellowknife Ar 54.80 345 P **P 18 02 24.0 -0.9**
comp=E,0.9nm,0.8s,mb3.9,baz=137,slow=7.5,SNR=22
YKA PcP PcP 18 03 27.8 +1.2
comp=E,0.4nm,0.8s,baz=141,slow=4.0,SNR=5.7
INK Inuvik 64.40 343 P **P 18 03 30.0 -0.8**
comp=E,152nm,1.3s
GERES GERESS Array B 88.58 40 LR LR 18 41 47.9
comp=E,52nm,18.4s,MS4.0,baz=98,slow=33
ASAR Alice Springs 139.16 247 PKP PKPdf 18 12 27.1 +4.8
comp=E,0.7nm,0.8s,baz=137,slow=1.7,SNR=7.4
WRA Warramunga Arr 139.28 253 PKP PKPdf 18 12 28.8 +6.2
comp=E,0.8nm,0.7s,baz=93,slow=2.5,SNR=12

KRSC 19 18:26:39.2±1.0,5033N×15742E,h21km±20km,ML3.7, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ALID	**Alaid**	**1.31**	**295**	*e*P			Pn	18 27 02.8	+0.6
ALID				*e*S			Sn	18 27 19.6	+0.6
MIPR	**Malaya Ipel'ka**	**1.99**	**348**	*e*P			Pn	18 27 13.5	+1.9
MIPR				S			Sn	18 27 38.8	+2.9
RUS	**Russkaya**	**2.21**	**18**	P			Pn	18 27 14.8	+0.1
RUS				S			Sn	18 27 41.0	-0.4
GRL	**Gorelyy**	**2.26**	**10**	*e*P			Pn	18 27 16.6	+1.3
GRL				S			Sn	18 27 43.9	+1.4
PET	**Petropavlovsk**	**2.81**	**15**	P			Pn	18 27 24.8	+2.0
PET				S			Sn	18 27 58.2	+2.3
AVH	**Avacha**	**3.05**	**15**	*e*P			Pn	18 27 29.0	+2.9
AVH				S			Sn	18 28 05.1	+3.1
SPN	**Mys Shipunski**	**3.21**	**29**	S			Sn	18 28 09.9	+4.0
GNL	**Ganaly**	**3.39**	**5**	*e*P			Pn	18 27 33.3	+2.6
GNL				S			Sn	18 28 12.8	+2.6

*NEIC **19** 18:37:24.2±3.6, 7.13S×13006E, h132km±37km, mb4.5/2, Error ellipse: s-maj=39.8km s-min=28.7km az=53.0*
*IDC **19** 18:37:26.7±8.3, 7.24S×12984E, h154km±87km, mb3.0/1, mb1 3.5/5, mb1mx3.2/14, mbtmp3.4/5, Error ellipse: s-maj=76.3km s-min=25.7km az=37.0*
*ISCJB **19** 18:37:27.1±1.7, 74S±0.1×12989E±008, h177km±20km, Error ellipse: s-maj=18.0km s-min=10.2km az=27.1*
ISC 19 18:37:28.3±1.7,749S±010×12987E±008,h167km±17km, n10,σ1°23/16,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**5.77**	**154**	*e*P			**Pn**	**18 38 51.8**	**-0.4**
KAKA	48nm,0.6s								
				*e*S			**Sn**	**18 39 58.1**	**+0.1**
BATI	**Kupang**	**6.70**	**246**	P			**Pn**	**18 39 05.0**	**+0.5**
BATI	9.8nm,0.3s,baz=94,slow=4.7,SNR=30								
				S			**Sn**	**18 40 20.1**	**0.0**
FITZ	**Fitzroy Crossi**	**11.33**	**201**	P			**Pn**	**18 40 07.5**	**+2.1**
FITZ	3.5nm,0.3s,baz=100,slow=17,SNR=2.9								
				S			**Sn**	**18 42 09.3**	**-1.7**
WRAB	**Tennant Creek**	**13.11**	**161**	*e*P			**Pn**	**18 40 28.4**	**+0.1**
WRA	0.4n,0.3s,baz=41,slow=14,SNR=19								
				S			**Sn**	**18 42 51.1**	**-2.9**
WRA	**Warramunga Arr**	**13.12**	**161**	P			**Pn**	**18 40 28.5**	**+0.1**
WRA	2.1nm,0.3s,baz=141,slow=20,SNR=15								
				S			**Sn**	**18 42 51.1**	**-2.9**
WRA	**Warramunga Arr**	**13.12**	**161**	P			**Pn**	**18 40 28.5**	**+0.1**
WRA	1.7nm,0.3s,baz=340,slow=14,SNR=71								
				S			**Sn**	**18 42 51.1**	**-2.9**
WB2	**Warramunga Arr**	**13.12**	**161**	*e*P			**Pn**	**18 40 28.5**	**0.0**
ASAR	**Alice Springs**	**16.55**	**167**	P			**Pn**	**18 41 13.8**	**+3.0**
ASAR	0.1nm,0.3s,baz=342,slow=8.9,SNR=11								
				S			**S**	**18 44 15.6**	**+0.9**
MKAR	**Makanchi Array**	**68.56**	**327**	P			**P**	**18 48 11.3**	**-1.5**
MKAR	**Makanchi Array**	**68.56**	**327**	P			**P**	**18 48 11.3**	**-1.5**
ASAR	0.2nm,0.5s,baz=113,slow=7.9,SNR=6.4								

*ISCJB **19** 18:53:47.2±1.1, 361S±02×1013W±02, h10km, mb3.9/8, MS3.4/7, Error ellipse: s-maj=27.7km s-min=20.8km az=43.3*
*IDC **19** 18:53:47.2±1.2, 36.10S×10125W, h0km, mb3.9/6, mb1 4.2/6, mb1mx4.0/17, mbtmp3.9/6, MS3.4/7, Ms1 3.4/7, ms1mx3.3/22, Error ellipse: s-maj=32.8km s-min=26.2km az=55.0*
*NEIC **19** 18:53:48.9±1.0, 3609S×10123W, h10km, mb4.7/2, Error ellipse: s-maj=26.3km s-min=20.1km az=225.0*
ISC 19 18:53:49.2±1.1,361S±02×1012W±02,h10km,n13,σ0°59/9, mb3.9/8,MS3.4/7,Southeast of Easter Island

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**24.40**	**110**	P			**P**	**18 59 08.3**	**+0.7**
PLCA	8.2nm,1.1s,mb4.1,baz=268,slow=8.4,SNR=7.5								
				LR			LR	19 06 17.4	
CFAA	**Coronel Fontan**	**27.68**	**90**	P			**P**	**18 59 37.8**	**+0.4**
CFAA	comp=Z,58nm,21.9s,MS3.0,baz=249,slow=31								
				LR			LR	19 07 30.5	
USHA	**Ushuaia**	**29.26**	**140**	LR			LR	19 08 32.1	
TRQA	**Tornquist**	**31.21**	**105**	*e*P			**P**	**19 00 08.7**	**0.0**
LPAZ	**La Paz**	**35.40**	**65**	*e*P			**P**	**19 00 44.2**	**-1.3**
LPAZ	13nm,1.5s,mb4.6								
				LR			LR	19 11 39.6	
LPAZ	**La Paz**	**35.40**	**65**	P			**P**	**19 00 44.4**	**-1.0**
LPAZ	2.6nm,1.1s,mb4.1,baz=229,slow=9.3,SNR=6.7								
				LR			LR	19 11 39.7	
BDFB	**Brasilia**	**51.36**	**81**	LR			LR	19 22 24.9	
QSPA	**South Pole Qui**	**54.11**	**180**	P			**P**	**19 03 13.2**	**-0.5**
TXAR	**Lajitas Array**	**65.13**	**358**	P			**P**	**19 04 35.5**	**+5.4**
NVAR	**Mina Array Bea**	**75.83**	**346**	P			**P**	**19 05 35.9**	**+0.6**
PDAR	**Pinedale Array**	**78.86**	**354**	P			**P**	**19 05 52.0**	**-0.1**
SCHQ	**Schefferville**	**95.27**	**19**	LR			LR	19 46 12.0	
BOSA	**Boshof**	**98.27**	**134**	LR			LR	19 43 40.0	

comp=Z,86nm,21.7s,MS3.5,baz=49,slow=30
comp=Z,31nm,20.3s,MS3.3,baz=181,slow=33
1.5nm,1.1s,mb3.9,baz=112,slow=6.8,SNR=3.8
0.4nm,0.8s,mb3.5,baz=174,slow=13,SNR=2.7
0.3nm,0.4s,mb3.6,baz=186,slow=7.3,SNR=5.2
1.5nm,1.0s,mb3.9,baz=190,slow=5.7,SNR=7.7
comp=Z,54nm,19.6s,MS4.0,baz=25,slow=33
comp=Z,42nm,20.0s,MS3.9,baz=330,slow=30

IDC 19 19:07:53.3±2.2,1014S×12415E,h0km,mb3.2/1, mb1 3.7/3,mb1mx3.4/12,mbtmp3.4/3,ML3.6/2,Error ellipse: s-maj=206.3km s-min=33.1km az=54.0,Timor region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**13.84**	**136**	Pn			Pn	19 11 09.4	-1.4
WRA	0.3nm,0.3s,baz=311,slow=14,SNR=29								
				Sn			Sn	19 13 34.1	-11
WRA	0.5nm,0.3s,baz=193,slow=13,SNR=9.3								
				Lg				19 15 16.5	
ASAR	**Alice Springs**	**16.35**	**147**	Pn			Pn	19 11 45.9	+1.5
ASAR	0.2nm,0.3s,baz=319,slow=12,SNR=27								
				Sn			Sn	19 14 40.0	-6.6
MKAR	**Makanchi Array**	**67.87**	**330**	P			P	19 18 53.5	+0.1
MKAR	0.1nm,0.3s,baz=141,slow=6.1,SNR=4.4								

*NEIC **19** 19:18:32.0, 3773N×2330E, h28km, ML2.5(ATH), After ATH.*
*ATH **19** 19:18:32.0, 3773N×2330E, h28km±4km, MD2.7/6, ML2.5*
*ISCJB **19** 19:18:33.3±0.5, 3776N±003×2330E±005, h21km±9km, Error ellipse: s-maj=6.7km s-min=5.0km az=29.4*
*CSEM **19** 19:18:33.1±0.1, 3781N×2323E, h15km, ML2.5, Error ellipse: s-maj=3.1km s-min=2.3km az=144.0*
*THE **19** 19:18:33.7, 3780N×2319E, h3km, ML2.4*
ISC 19 19:18:32.5±0.5,3780N±003×2325E±004,h18km±6km,n13, σ0°86/20,Southern Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
NAIG	**Nisos Aigina**	**0.19**	**102**	*e*PB			**Pg**	**19 18 37.5**	**+0.1**
DID	**Didima**	**0.29**	**182**	*e*Pg			**Pg**	**19 18 39.2**	**+0.2**
DID				*e*Sg			**Sg**	**19 18 44.4**	**+1.1**
LTK	**Loutraki**	**0.32**	**315**	*e*Pg			**Pg**	**19 18 38.5**	**-1.0**
LTK				*e*Sg			**Sg**	**19 18 42.9**	**-1.2**
ATH	**Athens Observa**	**0.41**	**65**	*e*PB			**Pb**	**19 18 41.0**	**-0.2**
ATH				*e*SB			**Sb**	**19 18 47.7**	**+0.6**
KVR	**Kavouri**	**0.41**	**86**	*e*PB			**Pb**	**19 18 41.5**	**+0.2**
PTL	**Penteli**	**0.55**	**62**	*e*PN			**Pg**	**19 18 42.5**	**-1.0**
VLX	**Vlachokerasia**	**0.81**	**239**	*e*Pg			**Pg**	**19 18 47.7**	**-0.8**
VLX				*e*Sg			**Sg**	**19 18 59.7**	**+0.5**
LKR	**Lokris**	**0.88**	**347**	*e*Pg			**Pg**	**19 18 50.1**	**+0.4**
LKR				*e*Sg			**Sg**	**19 19 03.4**	**+2.2**
VLI	**Veliai**	**1.11**	**193**	*e*PN			**Pn**	**19 18 52.1**	**-1.0**
ITM	**Ithomi**	**1.22**	**240**	*e*PN			**Pn**	**19 18 55.1**	**+0.5**
AGG	**Agios Georgios**	**1.42**	**330**	*e*Pg			**Pg**	**19 18 59.7**	**-0.2**
AGG				*e*Sg			**Sg**	**19 19 19.2**	**+0.7**
AOS	**Alonnisos**	**1.46**	**20**	*e*Pg			**Pg**	**19 18 60.0**	**-0.7**
PYL	**PYLOS**	**1.50**	**234**	*e*Pg			**Pg**	**19 19 00.3**	**-1.2**
PYL				*e*Sg			**Sg**	**19 19 22.0**	**+0.9**

IDC 19 19:33:51.5±1.9,1026S×12301E,h96km±20km,mb3.0/1, mb1 3.1/4,mb1mx3.0/13,mbtmp2.9/4,Error ellipse: s-maj=57.9km s-min=16.4km az=70.0,Timor region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BATI	**Kupang**	**0.64**	**85**	P			Pn	19 34 07.2	-0.9
BATI	36nm,0.3s,baz=304,slow=4.1,SNR=119								
				S			Sn	19 34 22.2	+1.7
FITZ	**Fitzroy Crossi**	**8.20**	**162**	P			Pn	19 35 49.7	+1.9
FITZ	74nm,0.3s,baz=329,slow=16,SNR=16								
				S			Sn	19 37 19.7	+0.9
WRA	**Warramunga Arr**	**14.56**	**133**	P			Pn	19 37 11.3	-1.6
WRA	0.4nm,0.3s,baz=232,slow=22,SNR=13								
				S			Sn	19 39 49.9	-3.5
ASAR	**Alice Springs**	**16.91**	**143**	P			Pn	19 37 44.2	+2.0
ASAR	0.1nm,0.3s,baz=322,slow=12,SNR=9.3								
				S			S	19 40 49.9	-4.2
MKAR	**Makanchi Array**	**67.42**	**331**	P			P	19 44 37.1	+0.5
MKAR	0.1nm,0.3s,baz=139,slow=6.0,SNR=2.6								

*BJI **19** 19:37:40.0, 291S×13822E, h10km, mB5.1, mb4.8, Ms4.9, Msz4.4*
*ISCJB **19** 19:37:45.8±0.3, 245S±003×13788E±004, h17km, mb4.9/53, MS4.2/19, Error ellipse: s-maj=6.4km s-min=4.6km az=1.8*
*MOS **19** 19:37:48.3±0.7, 239S×13769E, h32km, mb5.1/15, Error ellipse: s-maj=15.8km s-min=7.7km az=106.9*
*NEIC **19** 19:37:49.7±3.4, 241S×13772E, h30km±24km, mb4.9/23, Error ellipse: s-maj=11.0km s-min=6.7km az=66.0*
*IDC **19** 19:37:53.4±3.8, 248S×13765E, h60km±33km, mb4.2/8, mb1 4.3/12, mb1mx4.3/15, mbtmp4.3/12, ML4.5/4, MS4.2/8, Ms1 4.2/8, ms1mx3.9/25, Error ellipse: s-maj=24.7km s-min=10.8km az=86.0*
ISC 19 19:37:47.8±0.3,246S±003×13790E±005,h18km, h18km±1.0km:pP-P,n144,σ0°99/150,mb4.9/53,MS4.2/19, 8C-17D,Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BAKI	**Biak**	**2.19**	**305**	P			**Pn**	**19 38 21.7**	**-1.6**
BAKI	4μm,0.9s								
JAY	**Jayapura**	**2.80**	**91**	P			**Pn**	**19 38 32.5**	**+0.7**
JAY	536nm,0.8s								
AAI	**Ambon**	**9.77**	**263**	P			**Pn**	**19 40 08.5**	**+0.9**
AAI	142nm,0.6s								
KAKA	**Kakadu**	**11.54**	**208**	*e*P			**Pn**	**19 40 31.1**	**-0.7**
KAKA	178nm,0.5s								
				*e*S			**Sn**	**19 42 31.1**	**-9.1**
BATI	**Kupang**	**16.10**	**241**	P			**Pn**	**19 41 33.0**	**-0.4**
BATI	3.1nm,0.3s,baz=94,slow=4.9,SNR=6.4								
				S			**Sn**	**19 44 28.5**	**-3.3**
GUMO	**Guam**	**17.38**	**23**	LR			LR	19 46 50.2	
WRAB	**Tennant Creek**	**17.71**	**191**	P			**Pn**	**19 41 54.7**	**+1.0**
WRAB	271nm,0.6s,SNR=9.3								
WRAB	**Tennant Creek**	**17.71**	**191**	*e*P			**Pn**	**19 41 53.0**	**-0.8**
WRAB	119nm,0.7s								
				*e*S			**Sn**	**19 44 56.1**	**-15**
WRAB	**Tennant Creek**	**17.71**	**191**	*e*P			**Pn**	**19 41 53.0**	**-0.7**
WRAB				pmax			pmax		
	comp=Z,119nm,0.7s								
WB2	**Warramunga Arr**	**17.72**	**191**	*e*P			**Pn**	**19 41 52.7**	**-1.1**
WB2				*e*				19 42 08.3	
WB2				*e*S			**Sn**	**19 44 59.9**	**-11**
WRA	**Warramunga Arr**	**17.73**	**191**	P			**Pn**	**19 41 54.2**	**+0.3**
WRA				S			**Sn**	**19 44 59.6**	**-12**
WRA	**Warramunga Arr**	**17.73**	**191**	P			**Pn**	**19 41 54.2**	**+0.3**
WRA	comp=Z,2.5nm,0.3s,baz=8.0,slow=12,SNR=59								
				S			**Sn**	**19 44 59.6**	**-11**
PCI	**Palu**	**18.12**	**275**	P			**Pn**	**19 42 00.3**	**+1.5**
PCI	comp=Z,2.5nm,0.3s,baz=9.8,slow=22,SNR=9.1								
CTA	**Charters Tower**	**19.33**	**156**	*e*P			**Pn**	**19 42 16.2**	**+2.8**
CTA	comp=Z,198nm,1.1s								
CTA	**Charters Tower**	**19.33**	**156**	*e*P			**Pn**	**19 42 16.2**	**+2.8**
CTA	comp=Z,17nm,0.6s								
				pmax			pmax		
	comp=Z,17nm,0.6s								
CTA	**Charters Tower**	**19.33**	**156**	P			**Pn**	**19 42 15.4**	**+2.0**
CTA	comp=Z,0.3nm,0.3s,baz=327,slow=8.8,SNR=6.1								
CTAO	**Charters Tower**	**19.33**	**156**	*e*P			**Pn**	**19 42 16.3**	**+2.9**
CTAO	comp=Z,35nm,0.9s								
CTAO	**Charters Tower**	**19.33**	**156**	*e*P			**Pn**	**19 42 16.3**	**+2.9**
CTAO				pmax			pmax		
	comp=Z,35nm,0.9s								
FITZ	**Fitzroy Crossi**	**19.66**	**217**	*e*P			**Pn**	**19 42 15.7**	**-1.6**
FITZ	comp=Z,38nm,0.9s								
				*e*S			**Sn**	**19 45 44.1**	**-14**
FITZ	**Fitzroy Crossi**	**19.66**	**217**	P			**Pn**	**19 42 17.4**	**0.0**
FITZ	comp=Z,1.2nm,0.3s,baz=36,slow=13,SNR=20								
				S			**Sn**	**19 45 45.2**	**-13**
FITZ	comp=Z,4.0nm,0.3s,baz=188,slow=15,SNR=11								
MYLDM	**Lahad Datu**	**20.81**	**291**	⇓P			**P**	**19 42 31.3**	**+2.8**
TSM	**Tawau**	**21.11**	**288**	⇑P			**P**	**19 42 33.2**	**+1.5**
ASAR	**Alice Springs**	**21.44**	**190**	P			**P**	**19 42 35.8**	**+0.6**
ASAR	comp=Z,16nm,0.7s,mb4.5,baz=21,slow=12,SNR=144								
				S			**S**	**19 46 29.8**	**-2.6**
ASAR	comp=Z,17nm,0.7s,baz=12,slow=22,SNR=8.6								
SDKM	**Sandakan**	**22.19**	**291**	⇓P			**P**	**19 42 43.8**	**+0.4**
KDM	**Kudat**	**23.00**	**294**	⇓P			**P**	**19 42 54.0**	**+2.1**
KKM	**Kota Kinabalu**	**23.24**	**291**	*e*P			**P**	**19 42 53.7**	**-0.8**
KKM	**Kota Kinabalu**	**23.24**	**291**	⇓P			**P**	**19 42 55.8**	**+1.3**
KMMI	**Kalianget**	**24.28**	**258**	P			**P**	**19 43 04.4**	**+0.1**
BTM	**Bintulu**	**25.43**	**283**	⇓P			**P**	**19 43 16.7**	**+1.8**
MBWA	**Marble Bar**	**25.67**	**222**	*e*P			**P**	**19 43 17.1**	**+0.2**
SBUM	**Sibu**	**26.13**	**281**	⇑P			**P**	**19 43 22.7**	**+1.4**
KSM	**Kuching**	**27.86**	**278**	⇑P			**P**	**19 43 37.6**	**+0.8**
STKA	**Stephens Creek**	**29.47**	**174**	*e*P			**P**	**19 43 51.1**	**+0.2**
STKA	**Stephens Creek**	**29.47**	**174**	P			**P**	**19 43 51.2**	**+0.4**
STKA	comp=Z,3.6nm,0.6s,mb4.3,baz=338,slow=8.9,SNR=21								
				LR			LR	19 56 57.8	
FORT	**Forrest**	**29.67**	**197**	*e*P			**P**	**19 43 52.7**	**+0.1**
TPI	**Tanjungpandan**	**30.22**	**269**	P			**P**	**19 43 58.0**	**+0.3**
MYKOM	**Kota Tinggi**	**34.30**	**277**	⇑P			**P**	**19 44 34.1**	**+0.5**
CNB	**Canberra Magne**	**34.38**	**163**	*e*P			**P**	**19 44 35.7**	**+1.7**
KLBR	**Kellerberrin**	**34.65**	**211**	*e*P			**P**	**19 44 36.3**	**-0.1**
QIZ	**Qiongzhong**	**34.88**	**309**	P			**P**	**19 44 37.3**	**-1.2**
QIZ				*e*S			**S**	**19 50 08.3**	**-0.9**
QIZ				AMB			AMB		
	comp=Z,19nm,1.3s,mb4.9								
QIZ				LR			LR		
	comp=Z,171nm,17.2s,MS3.9								
KSI	**Kapahiang**	**35.27**	**267**	P			**P**	**19 44 41.0**	**-1.0**
	comp=Z,57nm,0.9s,mb5.5								
KTGM	**Kuala Trenggan**	**35.58**	**283**	⇓P			**P**	**19 44 44.9**	**+0.3**
NWAO	**Narrogin (SRO)**	**35.98**	**210**	*e*P			**P**	**19 44 47.9**	**+0.1**
FRIM	**Kepong**	**36.70**	**279**	⇓P			**P**	**19 44 54.1**	**-0.1**
SSE	**Sheshan**	**36.97**	**336**	P			**P**	**19 44 55.5**	**-0.7**
SSE				XP			sP	19 45 08.5	+4.5
SSE				S			**S**	**19 50 38.8**	**-2.0**
SSE				XS			sS	19 50 50.5	+0.6
SSE				AMB			AMB		
	comp=Z,37nm,0.8s,mb5.3								
SSE				AMB			AMB		
	comp=Z,149nm,4.6s								
SSE				LR			LR		
	comp=N,56nm,18.9s,MS3.8								
SSE				LR			LR		
	comp=E,123nm,18.9s,MS3.8								
SSE				LR			LR		
	comp=Z,74nm,18.2s,MS3.5								
IPM	**Ipoh**	**37.48**	**281**	⇓P			**P**	**19 45 01.3**	**+0.4**
KULM	**Kulim**	**38.00**	**282**	⇑P			**P**	**19 45 05.7**	**+0.4**
SNG	**Songkhla**	**38.42**	**285**	P			**P**	**19 45 08.5**	**-0.3**
NJ2	**Nanjing**	**38.79**	**334**	*e*P			**P**	**19 45 12.0**	**+0.4**
NJ2				AP			pP	19 45 17.1	0.0
NJ2				XP			sP	19 45 19.9	+0.6
NJ2				PP			PP	19 46 43.0	+2.4
NJ2				S			**S**	**19 51 08.0**	**-0.4**
NJ2				AMB			AMB		
	comp=Z,40nm,0.7s,mb5.3								
NJ2				AMB			AMB		
	comp=Z,200nm,4.8s								
NJ2				LR			LR		
	comp=N,280nm,15.1s,MS4.4								
NJ2				LR			LR		
	comp=E,380nm,15.3s,MS4.4								
NJ2				LR			LR		
	comp=Z,400nm,16.3s,MS4.3								
MJAR	**Matsushiro Arr**	**38.80**	**0**	P			**P**	**19 45 10.9**	**-0.7**
	comp=Z,1.2nm,0.8s,baz=154,slow=7.8,SNR=4.2								
MJAR				PcP			PcP	19 47 22.2	-0.6
	comp=Z,2.2nm,0.9s,baz=176,slow=3.6,SNR=4.6								
PSI	**Prapat**	**39.31**	**277**	P			**P**	**19 45 15.4**	**-0.9**
	comp=Z,21nm,0.8s,mb4.9,baz=110,slow=2.5,SNR=21								
WHN	**Wuhan**	**39.77**	**327**	⇓P			**P**	**19 45 21.3**	**+1.5**
KSRS	**Korea Array**	**40.77**	**348**	PcP			PcP	19 47 30.1	+0.9
	comp=Z,3.8nm,1.0s,baz=144,slow=2.3,SNR=5.8								
KSRS				LR			LR	20 00 04.8	
	comp=Z,76nm,18.3s,MS3.6,baz=180,slow=33								
NST	**Nakhon Sawan**	**41.46**	**297**	P			**P**	**19 45 30.6**	**-3.4**
GYA	**Guiyang**	**41.67**	**316**	⇑*i*P			**P**	**19 45 36.8**	**+1.2**
GYA				AP			pP	19 45 40.8	-0.4
GYA				XP			sP	19 45 44.3	+0.9
GYA				PP			PP	19 47 16.8	+4.7
GYA				PCP			PcP	19 47 34.0	+1.7
GYA				SCP			ScP	19 51 23.0	+1.1
GYA				S			**S**	**19 51 54.3**	**+2.6**
GYA				SS			SS	19 54 53.6	-3.9
GYA				SCS			ScS	19 55 38.4	-0.3
GYA				AMB			AMB		
	comp=Z,20nm,1.0s,mb4.7								
GYA				AMB			AMB		
	comp=Z,130nm,5.4s								
GYA				LR			LR		
	comp=N,640nm,17.6s,MS4.7								
GYA				LR			LR		
	comp=E,520nm,18.8s,MS4.7								
GYA				LR			LR		
	comp=Z,460nm,17.6s,MS4.4								
KMI	**Kunming**	**43.74**	**311**	P			**P**	**19 45 52.3**	**-0.1**
KMI				AMB			AMB		
	comp=Z,14nm,1.0s,mb4.7								
CHG	**Chiang Mai**	**43.76**	**301**	⇓P			**P**	**19 45 52.2**	**-0.4**
	comp=Z,48nm,0.9s,mb5.2								
CHTO	**Chiang Mai**	**43.76**	**301**	*e*P			**P**	**19 45 52.0**	**-0.6**
	comp=Z,24nm,1.1s,mb4.8								
CHTO	**Chiang Mai**	**43.76**	**301**	*e*P			**P**	**19 45 52.0**	**-0.6**
CHTO			

MDJ PCP PcP 19 47 51.6 -0.1
MDJ S **S** **19 53 19.6 +4.6**
MDJ SCS ScS 19 56 15.3 +0.7
MDJ SS SS 19 56 45.5 +2.4
MDJ AMB AMB
comp=Z,10.0nm,1.4s,mb4.5
MDJ AMB AMB
comp=Z,115nm,4.6s
MDJ LR LR
comp=Z,58nm,20.6s,MS3.5
MDJ Mudanjiang 47.45 352 *e*P **P** **19 46 20.8 -0.7**
comp=Z,8.2nm,0.9s,mb4.7
HHC Hu-ho-hao-te 49.34 334 *e*P **P** **19 46 36.4 +0.3**
HHC AP pP 19 46 40.8 -1.0
HHC XP sP 19 46 43.9 -0.1
HHC PCP PcP 19 48 00.0 +1.4
HHC PP PP 19 48 32.0 +1.7
HHC PCS PcS 19 51 55.4 +0.4
HHC S **S** **19 53 44.3 +2.3**
HHC SCS ScS 19 56 26.6 -0.8
HHC SS SS 19 57 10.9 -3.0
HHC AMB AMB
comp=Z,17nm,0.3s,mb5.5
HHC AMB AMB
comp=Z,158nm,5.1s
HHC LR LR
comp=N,127nm,18.6s
HHC LR LR
comp=Z,155nm,15.3s,MS4.1
LZH Lanzhou 49.80 324 *e*P **P** **19 46 40.3 +0.6**
LZH AP pP 19 46 46.5 +1.2
LZH XP sP 19 46 49.1 +1.6
LZH PCP PcP 19 48 01.5 +1.1
LZH AMB AMB
comp=Z,21nm,1.3s,mb5.0
LZH AMB AMB
comp=Z,68nm,4.2s
HABR Khabarovsk 50.78 358 P **P** **19 46 47.0 +0.1**
HABR *e* pP 19 46 53.5 +0.9
HABR *e* 19 48 02.3
HABR *e* 19 48 43.7
HABR *e*S **S** **19 54 02.1 +0.4**
HABR *e* 19 54 20.9
HABR *e* 19 59 09.8
KLR Kul'dur 51.75 355 *e*P **P** **19 46 49.2 -5.0**
SHL Shillong 52.53 305 *e*P **P** **19 47 02.0 +1.6**
GTA Gaotai 54.39 324 *e*P **P** **19 47 13.8 0.0**
GTA AP pP 19 47 19.3 -0.2
GTA XP sP 19 47 22.0 +0.3
GTA PCP PcP 19 48 18.8 +1.3
GTA PP PP 19 49 18.6 +2.6
GTA S **S** **19 54 51.1 -0.3**
GTA XS sS 19 55 01.3 +0.5
GTA SS SS 19 58 33.6 -0.4
GTA AMB AMB
comp=Z,9.0nm,1.2s,mb4.6
GTA AMB AMB
comp=Z,103nm,6.5s
GTA LR LR
comp=N,50nm,14.1s,MS4.1
GTA LR LR
comp=E,133nm,17.2s,MS4.1
GTA LR LR
comp=Z,83nm,14.5s,MS3.9
LSA Lhasa 54.93 309 P **P** **19 47 19.3 +1.4**
LSA Lhasa 54.93 309 *e*P **P** **19 47 18.2 +0.3**
comp=Z,7.5nm,0.6s,mb4.9
LSA Lhasa 54.93 309 *e*P **P** **19 47 18.2 +0.3**
LSA pmax pmax
comp=Z,7.0nm,0.6s,mb4.9
SONM Songino Array 57.15 335 P **P** **19 47 33.4 -0.1**
comp=Z,1.0nm,0.7s,mb4.0,baz=148,slow=8.0,SNR=6.5
SONM LR LR 20 10 42.9
comp=Z,144nm,20.3s,MS4.1,baz=312,slow=34
GUN Gumba 58.38 305 *e*P **P** **19 47 42.6 +0.1**
comp=Z,48nm,0.8s,mb5.6
PKI Pulchoki 58.64 304 *e*P **P** **19 47 44.2 -0.1**
KKN Kakani 58.83 305 *e*P **P** **19 47 45.4 -0.2**
comp=Z,55nm,0.9s,mb5.6
DMN Daman 58.90 304 *e*P **P** **19 47 46.2 0.0**
comp=Z,63nm,0.9s,mb5.6
GKN Gorkha 59.43 305 *e*P **P** **19 47 49.7 -0.1**
comp=Z,79nm,0.8s,mb5.8
KOLN Koldanda 60.20 304 *e*P **P** **19 47 55.2 0.0**
ZAK Zakamensk 60.42 335⇓ *i*P **P** **19 47 56.0 -0.1**
ZAK *e* 19 48 39.9
ZAK pmax pmax
comp=Z,5.0nm,1.3s,mb4.4
ZAK pmax pmax
comp=Z,5.0nm,1.2s,mb4.4
ZAK pmax pmax
comp=Z,3.0nm,1.0s,mb4.3
HYB Hyderabad 61.73 291 *e*P **P** **19 48 05.0 -0.7**
comp=Z,65nm,1.0s,mb5.7
HYB Hyderabad 61.73 291 *e*P **P** **19 48 05.0 -0.7**
HYB pmax pmax
comp=Z,65nm,1.0s,mb5.7
HYB Hyderabad 61.73 291⇓ *i*P **P** **19 48 05.0 -0.7**
comp=Z,65nm,1.0s,mb5.7
MOY Mondy 62.34 335 *e*P **P** **19 48 10.0 +0.9**
BOD Bodaibo 63.07 346⇓ *i*P **P** **19 48 13.5 -0.4**
BOD pmax pmax
comp=Z,5.0nm,1.0s,mb4.6
WMQ Urumqi 64.31 322 *e*P **P** **19 48 22.1 -0.2**
WMQ AP pP 19 48 27.0 -1.2
WMQ PCP PcP 19 48 56.5 -0.4
WMQ *e*S **S** **19 56 59.0 -0.6**
WMQ AMB AMB
comp=Z,19nm,1.0s,mb5.1
WMQ AMB AMB
comp=Z,194nm,4.6s
WMQ LR LR
comp=N,210nm,20.0s
WMQ LR LR
comp=E,188nm,28.2s
WMQ LR LR
comp=Z,164nm,22.2s,MS4.2
YAK Yakutsk 64.62 356 *e*P **P** **19 48 24.0 +0.1**
comp=Z,12nm,0.7s,mb5.0
YAK Yakutsk 64.62 356 *e*P **P** **19 48 23.9 -0.1**
YAK pmax pmax
comp=Z,16nm,0.8s,mb5.1
YAK pmax pmax
comp=N,7.0nm,1.3s
POO Poona 66.34 291 *e*x x 19 48 34.0
MK31 Makanchi Array 69.09 323 *e*P **P** **19 48 51.6 -1.3**
MK31 Makanchi Array 69.09 323 *i*P **P** **19 48 52.6 -0.2**
MK31 pmax pmax
comp=Z,42nm,1.4s,mb5.2
MKAR Makanchi Array 69.09 323 P **P** **19 48 52.7 -0.1**
comp=Z,15nm,0.9s,mb4.9,baz=113,slow=8.1,SNR=112
ZAA0 Zalesovo Array 71.31 330 *e*P **P** **19 49 05.1 -1.1**
ZALV Zalesovo Beam 71.31 330 P **P** **19 49 05.2 -1.1**
comp=Z,3.4nm,0.8s,mb4.4,baz=107,slow=5.8,SNR=17
ZAL Zalesovo 71.31 330 P **P** **19 49 05.2 -1.1**
KZA Kyzart 71.74 316 P **P** **19 49 10.7 +1.6**
SNR=11
TKM2 Tokmak 2 71.81 317 *e*P **P** **19 49 08.9 -0.6**
comp=Z,4.9nm,0.8s,mb4.5
TKM2 Tokmak 2 71.81 317 *e*P **P** **19 49 08.9 -0.6**
TKM2 pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
TKM2 Tokmak 2 71.81 317 P **P** **19 49 09.7 +0.2**
SNR=6.0
UCH Uchtor 72.31 316 *e*P **P** **19 49 13.4 +0.9**
comp=Z,476nm,0.6s
UCH Uchtor 72.31 316 P **P** **19 49 13.7 +1.2**
SNR=8.2
AAK Ala-Archa 72.46 316⇓ *e*P **P** **19 49 12.5 -0.9**
AAK pmax pmax
comp=Z,12nm,2.0s,mb4.5
AAK MLR MLR
comp=Z,100nm,23.0s,MS4.0
NVS Novosibirsk 72.57 330 *i*P **P** **19 49 12.4 -1.4**
NVS pmax pmax
comp=Z,16nm,1.2s,mb4.8
NVS pmax pmax
comp=N,11nm,1.4s
NVS pmax pmax
comp=E,16nm,1.4s
USP Ospenovka 72.68 317 P **P** **19 49 14.5 -0.2**
SNR=7.8
AML Almayashu 72.84 315 *e*P **P** **19 49 16.0 +0.3**
comp=E,14nm,0.8s,mb4.9
AML Almayashu 72.84 315 P **P** **19 49 17.0 +1.3**
SNR=12
EKS2 Erkin-Say 72.97 316 P **P** **19 49 16.9 +0.5**
SNR=8.2
KURK Kurchatov 73.05 325 *e*P **P** **19 49 16.0 -0.7**
comp=E,22nm,1.0s,mb5.0
KURK Kurchatov 73.05 325 *d i*P **P** **19 49 16.1 -0.6**
KURK pmax pmax
comp=Z,13nm,1.2s,mb4.7
KBL Kabul 74.13 307 *e*P **P** **19 49 22.4 -1.0**
comp=Z,10nm,0.8s,mb4.8
KBL Kabul 74.13 307 *e*P **P** **19 49 22.4 -1.1**
KBL pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
TIXI Tiksi 74.21 357 *e*P **P** **19 49 21.8 -1.4**
comp=Z,3.8nm,0.8s,mb4.4
TIXI Tiksi 74.21 357⇑ *e*P **P** **19 49 22.6 -0.5**
TIXI pmax pmax
comp=Z,5.0nm,1.2s,mb4.3
VNDA Vanda 76.10 175 P **P** **19 49 35.0 +0.9**
VNDA LR LR 20 24 40.4
VNDA Vanda 76.10 175 P **P** **19 49 35.0 +0.9**
comp=Z,2.7nm,0.9s,mb4.2,baz=318,slow=5.7,SNR=11
VNDA LR LR 20 24 40.4
comp=Z,591nm,18.9s,MS4.9,baz=351,slow=37
BRVK Borovoye 78.71 325 P **P** **19 49 48.4 -0.6**
comp=Z,207nm,0.8s,mb6.1,SNR=25
BRVK Borovoye 78.71 325 *e*P **P** **19 49 48.5 -0.5**
comp=Z,27nm,0.8s,mb5.2
BRVK Borovoye 78.71 325 *e*P **P** **19 49 48.5 -0.5**
BRVK pmax pmax
comp=Z,27nm,0.8s,mb5.2
CHKZ Chkalovo 78.74 326 *i*P **P** **19 49 48.1 -1.0**
CHKZ pmax pmax
comp=Z,17nm,1.0s,mb4.9
KDAK Kodiak Island 81.29 31 LR LR 20 25 22.6
comp=Z,190nm,18.6s,MS4.5,baz=79,slow=35
IMA2 Indian Mountai 83.62 22 *e*P **P** **19 50 15.6 +0.7**
MCK McKinley 84.80 25 *e*P **P** **19 50 20.3 -0.6**
comp=Z,8.5nm,0.9s,mb4.9
MCK McKinley 84.80 25 *e*P **P** **19 50 20.3 -0.6**
MCK pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
SVE Sverdlovsk 85.09 327 *e*P **P** **19 50 22.7 +0.2**
ARU Arti 86.14 327 *e*P **P** **19 50 26.6 -1.2**
comp=Z,11nm,0.9s,mb5.1
ARU Arti 86.14 327 *d i*P **P** **19 50 26.5 -1.2**
ARU *e* 19 53 47.2
ARU *e*S S 20 00 49.2 -12
ARU *e*SS SS 20 06 35.4 -4.8
ARU pmax pmax
comp=Z,14nm,1.0s,mb5.2
EGAK Eagle 88.34 25 *e*P **P** **19 50 38.6 +0.3**
comp=Z,13nm,0.9s,mb5.2
DAWY Dawson 89.00 26 *e*P **P** **19 50 41.6 +0.2**
DAWY *e* 19 50 54.5
INK Inuvik 91.74 22 *e*P **P** **19 50 53.2 -0.8**
INK Inuvik 91.74 22 LR LR 20 30 56.3
comp=Z,87nm,18.1s,MS4.2,baz=326,slow=35
BBB Bella Bella 94.38 38 LR LR 20 31 18.2
comp=Z,113nm,18.9s,MS4.4,baz=132,slow=34
VRSR Storozhevoye 97.37 321 *e*P **P** **19 51 17.9 -2.3**
VRSR pmax pmax
comp=N,1.0nm,0.9s
VRSR pmax pmax
comp=E,3.0nm,0.9s
VRSR pmax pmax
comp=Z,3.0nm,0.9s,mb4.7
OBN Obninsk 98.49 325⇓ *e*P **P** **19 51 23.0 -2.1**
OBN pmax pmax
comp=Z,23nm,1.3s,mb5.5
YKA Yellowknife Ar 100.20 27 P Pdif 19 51 32.3 -0.5
YKA Yellowknife Ar 100.20 27 P Pdif 19 51 32.3 -0.5
comp=Z,0.7nm,0.7s,baz=287,slow=4.6,SNR=12
GERES GERESS Array B 113.76 323 PKiKP PKiKP 19 56 24.4 -1.2
comp=Z,0.5nm,0.6s,baz=90,slow=1.3,SNR=5.0
PLCA Paso Flores 129.78 152 PKP PKPdf 19 56 58.1 +1.6
comp=Z,2.6nm,0.7s,baz=257,slow=5.0,SNR=3.5
TOA0 Torodi Ar. Sit 135.41 286 *e*PKPdf PKPdf 19 57 07.1 -0.7
TORD Torodi Ar. Bea 135.41 286 PKP PKPdf 19 57 06.9 -0.9
comp=Z,2.2nm,0.7s,baz=66,slow=1.7,SNR=13
LPAZ La Paz 148.25 127 *e*PKPdf PKPdf 19 57 30.9 +0.3
LPAZ PKPbc PKPbc 19 57 35.6 +1.7
LPAZ *e*PKPbc PKPbc 19 57 35.7 +1.8
LPAZ La Paz 148.25 127 PKPbc PKPbc 19 57 35.6 +1.7
comp=Z,2.4nm,0.7s,baz=251,slow=1.3,SNR=6.1
SDV Santo Domingo 150.91 76 *e*PKPdf PKPdf 19 57 34.4 -0.5
SDV *e*PKPbc PKPbc 19 57 40.6 0.0

IDC ***19*** *19:47:03.6±2.2, 857S×15135E, h0km, mb4.1/7, mb1 4.2/8, mb1mx4.1/14, mbtmp4.1/8, ML4.0/1, MS3.6/2, Ms1 3.6/2, ms1mx3.1/27, Error ellipse: s-maj=70.5km s-min=20.9km az=108.0*
NEIC ***19*** *19:47:05.1±1.1, 858S×15137E, h10km, mb4.2/5, Error ellipse: s-maj=31.2km s-min=10.6km az=113.0*
ISCJB ***19*** *19:47:08.1±1.4, 86S±01×151.1E±02, h33km, mb4.1/8, Error ellipse: s-maj=37.5km s-min=13.1km az=22.5*
ISC 19 19:47:10.0±1.4, 86S±01×1511E±02, h35km, n17, σ0:94/15, mb4.1/8, D'Entrecasteaux Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
HNR	Honiara	8.77	96	LR		LR	LR	19 51 19.0	
	comp=Z,168nm,21.7s,baz=353,slow=30								
KAKA	Kakadu	18.79	256	*e*P			**Pn**	19 51 28.2	+1.0
	4.5nm,0.4s								
WRAB	Tennant Creek	19.73	233	*e*P			**Pn**	19 51 37.5	-1.0
	6.7nm,0.8s								
WB2	Warramunga Arr	19.74	233	*e*P			**Pn**	19 51 38.0	-0.6
WRA	Warramunga Arr	19.75	233	P			**Pn**	19 51 37.1	-1.6
	0.4nm,0.3s,baz=55,slow=11,SNR=12								
ASAR	Alice Springs	22.25	226	P			**P**	19 52 05.5	+1.4
	1.7nm,0.6s,mb3.6,baz=58,slow=9.4,SNR=7.8								
STKA	Stephens Creek	24.78	200	*e*P			**P**	19 52 29.2	+0.6
	1.6nm,0.6s,mb3.7								
STKA	Stephens Creek	24.78	200	P			**P**	19 52 29.1	+0.5
	1.4nm,0.5s,mb3.7,baz=45,slow=20,SNR=3.7								
FITZ	Fitzroy Crossi	26.48	247	*e*P			**P**	19 52 44.8	+0.6
	9.5nm,0.6s,mb4.5								
FITZ	Fitzroy Crossi	26.48	247	P			**P**	19 52 44.6	+0.4
	5.1nm,0.6s,mb4.2,baz=84,slow=9.6,SNR=9.8								
MJAR	Matsushiro Arr	46.52	346	P			**P**	19 55 33.7	-0.5
	0.5nm,0.3s,mb3.9,baz=228,slow=5.5,SNR=5.2								
SONM	Songino Array	68.68	329	P			**P**	19 58 10.6	+0.7
	0.9nm,0.8s,mb3.8,baz=132,slow=2.3,SNR=5.3								
LSA	Lhasa	69.06	306	*e*P			**P**	19 58 13.8	+1.1
	1.9nm,0.6s,mb4.2								
MK31	Makanchi Array	82.10	320	*e*P			**P**	19 59 26.9	-0.1
MKAR	Makanchi Array	82.10	320	P			**P**	19 59 26.9	-0.1
	6.0nm,0.7s,mb4.7,baz=102,slow=7.0,SNR=70								
ZALV	Zalesovo Beam	83.39	327	P			**P**	19 59 32.1	-1.4
	1.7nm,0.5s,mb4.3,baz=109,slow=4.5,SNR=8.9								
TORD	Torodi Ar. Bea	149.64	281	PKPbc		PKPbc	PKPbc	20 06 55.3	-1.7
	2.7nm,0.7s,baz=71,slow=2.8,SNR=25								

IDC ***19*** *19:53:55.9±1.1, 5327N×16326E, h0km, mb3.6/6, mb1 3.9/6, mb1mx3.6/22, mbtmp3.6/6, Error ellipse: s-maj=32.6km s-min=28.2km az=165.0*
NEIC ***19*** *19:53:57.5±0.8, 5331N×16330E, h10km, Error ellipse: s-maj=22.8km s-min=15.9km az=176.0*
ISCJB ***19*** *19:53:59.8±0.9, 5333N±004×163.17E±007, h36km±9km, mb3.6/7, Error ellipse: s-maj=8.1km s-min=5.0km az=30.1*
MOS ***19*** *19:53:59.8±0.7, 5340N×16321E, h39km, mb3.9/3, Error ellipse: s-maj=15.0km s-min=11.3km az=103.3*
KRSC ***19*** *19:53:59.4±0.5, 5338N×163.10E, h43km±42km, ML4.4*
ISC 19 19:54:01.1±1.5, 5333N±003×16316E±006, h32km±12km, n36, σ0:94/57, mb3.6/7, 3D, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MKZ	Mys Kozlova	1.49	326	*i*P			**Pn**	19 54 24.4	-1.2
MKZ				*i*S			**Sn**	19 54 43.4	-0.5
SPN	Mys Shipunski	1.90	264	*i*P			**Pn**	19 54 30.7	-0.4
SPN				*i*S			**Sn**	19 54 53.0	-0.9
NLC	Nalytchevo	2.29	268	*e*P			**Pn**	19 54 36.6	0.0
NLC				*i*S			**Sn**	19 55 03.4	-0.3
KII	Karymskiy	2.32	289	*e*P			**Pn**	19 54 37.2	+0.3
KII				*i*S			**Sn**	19 55 04.7	+0.5
TUMR	Tumrok	2.64	319	*e*P			**Pn**	19 54 41.6	+0.3
TUMR				*i*S			**Sn**	19 55 12.2	+0.1
AVH	Avacha	2.65	270	*e*P			**Pn**	19 54 42.3	+0.8
AVH				*i*S			**Sn**	19 55 12.8	+0.3
PET	Petropavlovsk	2.73	265	*e*P			**Pn**	19 54 42.7	+0.2
PET				*e*S			**Sn**	19 55 13.9	-0.4
PET	Petropavlovsk	2.73	265	*e*PN			**Pn**	19 54 43.1	+0.6
PET				*e*S			**Sn**	19 55 15.0	+0.7
PET				pmax			pmax		
	comp=Z,40nm,0.4s								
PET				smax					
	comp=E,637nm,0.4s								
PET				smax					
	comp=N,433nm,0.5s								
PET				MLR			MLR		
	comp=Z,200nm,16.0s								
PET	Petropavlovsk	2.73	265	*e*P			**Pn**	19 54 42.9	+0.4
PET				*i*S			**Sn**	19 55 14.9	+0.6
KBTR	Krutoberegovo	2.90	356	*e*P			**Pn**	19 54 41.9	-2.9
KBTR				*i*S			**Sn**	19 55 12.9	-5.6
RUS	Russkaya	2.95	254	*e*P			**Pn**	19 54 45.0	-0.6
RUS				*i*S			**Sn**	19 55 18.5	-1.4
KMNR	Kamenistaya	2.97	326	*e*P			**Pn**	19 54 46.4	+0.6
KMNR				*i*S			**Sn**	19 55 20.5	+0.2
GNL	Ganaly	3.13	279	*e*P			**Pn**	19 54 49.4	+1.3
GNL				*i*S			**Sn**	19 55 25.6	+1.2
KPT	Kopyto	3.15	328	*e*P			**Pn**	19 54 48.9	+0.6
KPT				*e*S			**Sn**	19 55 25.6	+0.9
GRL	Gorelyy	3.17	258	*e*P			**Pn**	19 54 49.2	+0.6
GRL				*i*S			**Sn**	19 55 24.7	-0.6
KLY	Klyuchi	3.33	335	*e*P			**Pn**	19 54 49.4	-1.3
KLY				*e*S			**Sn**	19 55 25.1	-4.0
KOZR	Kozyr	3.33	327	PN			**Pn**	19 54 51.6	+0.8
KOZR				S			**Sn**	19 55 29.8	+0.5
KOZ	Kozyrevsk	3.33	326	*e*P			**Pn**	19 54 51.6	+0.7
KOZ				*i*S			**Sn**	19 55 29.8	+0.5
SRKR	Sorokina	3.53	342	*e*P			**Pn**	19 54 53.4	-0.1
SRKR				*i*S			**Sn**	19 55 32.4	-1.6
SRDR	Sredinnyy	3.60	328	*e*P			**Pn**	19 54 54.2	-0.3
SRDR				*e*S			**Sn**	19 55 33.9	-1.9
MIPR	Malaya Ipel'ka	4.02	257	*e*P			**Pn**	19 55 01.3	+1.0
MIPR				*i*S			**Sn**	19 55 45.6	-0.7
SKR	Severo-Kuril's	5.09	241	*e*PN			**Pn**	19 55 12.5	-2.5
ALID	Alaid	5.29	245	*e*P			**Pn**	19 55 17.4	-0.4
TIXI	Tiksi	23.67	334⇓	*e*P			**P**	19 59 11.4	+2.2
TIXI				pmax			pmax		
	comp=Z,5.0nm,1.8s,mb3.6								
MJAR	Matsushiro Arr	24.17	236	P			**P**	19 59 14.8	+0.7
	comp=Z,2.1nm,0.9s,mb3.5,baz=132,slow=14,SNR=4.3								
COLA	College	26.93	45	*i*P			**P**	19 59 37.8	-1.1
ZALV	Zalesovo Beam	44.19	304	P			**P**	20 02 06.4	0.0
	comp=Z,0.3nm,0.3s,mb3.4,baz=72,slow=9.3,SNR=2.3								
ZAL	Zalesovo	44.21	304	P			**P**	20 02 06.4	-0.2
KURK	Kurchatov	49.16	303⇓	*e*P			**P**	20 02 48.3	+2.9
MKAR	Makanchi Array	49.70	297	*i*P			**P**	20 02 49.7	+0.1
MKAR				pmax			pmax		
	comp=Z,1.0nm,0.6s								
MKAR	Makanchi Array	49.70	297	P			**P**	20 02 49.8	+0.2
	comp=Z,0.6nm,0.6s,mb3.8,baz=57,slow=7.4,SNR=5.5								
ANMO	Albuquerque	63.07	67⇓	*e*P			**P**	20 04 25.7	+0.8
TXAR	Lajitas Array	68.84	69	P			**P**	20 05 02.1	0.0
	comp=Z,0.4nm,0.6s,mb3.6,baz=290,slow=4.2,SNR=7.3								
WRA	Warramunga Arr	77.11	208	*i*P			**P**	20 05 50.5	-0.4
WRA	Warramunga Arr	77.11	208	P			**P**	20 05 50.1	-0.8
	comp=Z,0.4nm,0.6s,mb3.5,baz=20,slow=6.0,SNR=6.0								
ASAR	Alice Springs	80.76	207	P			**P**	20 06 10.9	0.0
	comp=Z,0.3nm,0.4s,mb3.5,baz=18,slow=5.0,SNR=8.5								

ISCJB ***19*** *20:33:00.8±1.1, 28.17S±008×1783W±02, h265km±11km, mb3.2/4, Error ellipse: s-maj=34.4km s-min=7.9km az=17.8*
IDC ***19*** *20:33:00.8±1.7, 2768S×17838W, h243km±18km, mb3.1/4, mb1 3.5/4, mb1mx3.2/13, mbtmp3.1/4, Error ellipse: s-maj=38.5km s-min=24.9km az=172.0*
NEIC ***19*** *20:33:01.6±1.1, 2813S×17829W, h263km±14km, Error ellipse: s-maj=34.0km s-min=20.3km az=139.0*
ISC 19 20:33:02.2±1.1, 2841S±008×1783W±02, h264km±10km, n30, σ1:56/25, mb3.2/4, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
RAO	Raoul Island	0.90	160	*e*P			**Pn**	20 33 39.1	+0.9
RAO	Raoul Island	0.90	160	P			**Pn**	20 33 39.3	+1.2
	420nm,0.3s,baz=96,slow=8.1,SNR=18								
URZ	Urewera	10.56	200	P			**Pn**	20 35 29.6	+2.1
	1.2nm,0.3s,baz=229,slow=6.8,SNR=12								
URZ				S			**S**	20 37 31.1	+5.3
	5.0nm,0.3s,baz=269,slow=22,SNR=12								
MRZ	Mangatainoka R	13.23	201	SN			**S**	20 38 23.5	-3.5
TIWZ	Tintock	13.24	200	SN			**S**	20 38 27.2	-0.1
KIW	Kapiti Island	13.63	202	SN			**S**	20 38 34.4	-1.6
MTW	Mount Morrison	13.71	200	SN			**S**	20 38 35.9	-1.9
DUWZ	D'Urville Isla	13.93	205	SN			**S**	20 38 45.6	+2.8
PAWZ	Paruwai Farm	13.94	200	SN			**S**	20 38 40.7	-2.3
MRW	Makara Radio	14.03	202	SN			**S**	20 38 45.3	+0.2
TCW	Tory Channel	14.16	204	SN			**S**	20 38 46.3	-1.7
TUWZ	Tuamarina	14.47	204	SN			**S**	20 38 53.0	-1.9
NNZ	Nelson	14.50	206	SN			**S**	20 38 54.1	-1.5
QRZ	Quartz Range	14.51	209	SN			**S**	20 38 57.2	+1.3
THZ	Tophouse	15.15	206	SN			**S**	20 39 09.5	+0.4
KHZ	Kahutara	15.48	203	SN			**S**	20 39 18.0	+2.1
DSZ	Denniston Nort	15.58	209	SN			**S**	20 39 18.2	+0.3
MQZ	McQueen's Vall	16.93	203	SN			**S**	20 39 46.2	+1.4
RPZ	Rata Peaks	17.53	207	SN			**S**	20 39 59.3	+2.6
	1.4nm,0.3s,baz=89,slow=15,SNR=12								
ODZ	Otahua Downs	18.81	205	SN			**S**	20 40 29.5	+7.6
ASAR	Alice Springs	43.02	265	P			**P**	20 40 36.8	+0.6
	0.1nm,0.3s,mb2.5,baz=92,slow=7.2,SNR=4.8								
WRA	Warramunga Arr	43.83	270	P			**P**	20 40 42.3	-0.3
	0.4nm,0.4s,mb3.0,baz=108,slow=6.3,SNR=14								
MJAR	Matsushiro Arr	76.47	325	P			**P**	20 44 20.1	-2.8
	1.7nm,0.5s,mb3.9,baz=158,slow=5.9,SNR=6.9								
NVAR	Mina Array Bea	86.94	43	P			**P**	20 45 16.8	-0.5
	0.2nm,0.5s,mb3.2,baz=234,slow=11,SNR=3.7								
ARCES	ARCESS Array B	136.60	348	PKP		PKPdf	PKPdf	20 51 52.2	+0.4
ARCES	ARCESS Array B	136.60	348	PKP		PKPdf	PKPdf	20 51 52.2	+0.4
	1.5nm,0.8s,baz=20,slow=2.0,SNR=11								
FINES	FINESS Array B	143.19	341	PKhKP				20 51 59.5	
	5.5nm,1.1s,baz=65,slow=1.8,SNR=7.0								
NOA	NORSAR Array B	146.75	352	PKPbc		PKPbc		20 52 10.6	-1.8
	1.9nm,0.9s,baz=6.4,slow=4.4,SNR=3.6								
AKASG	Malin Array Be	149.56	325	PKPbc		PKPbc		20 52 18.6	-1.3
	1.4nm,0.3s,baz=44,slow=3.6,SNR=24								
TORD	Torodi Ar. Bea	164.82	180	PKPab		PKPab		20 53 36.1	+3.8
	0.4nm,0.6s,baz=170,slow=2.9,SNR=5.9								

ISK ***19*** *20:45:15.8, 3840N×3921E, h5km, MD3.1*
ISCJB ***19*** *20:45:16.6±0.7, 3841N±003×3926E±003, h1km±6km, Error ellipse: s-maj=5.1km s-min=4.2km az=19.3*
CSEM ***19*** *20:45:16.5±0.1, 3840N×3920E, h5km, MD3.3, Error ellipse: s-maj=1.9km s-min=1.7km az=166.0*
DDA ***19*** *20:45:17.4, 3842N×3928E, h8km±2km, Md3.3*
ISC 19 20:45:17.7±0.6, 3841N±003×3923E±004, h9km±5km, n17, σ0:88/26, 1C, Turkey

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ELZG	Elazig	0.21	296⇑	*i*P			**Pg**	20 45 22.1	0.0
ELZG				*e*S			**Sg**	20 45 25.7	+0.7
MYA	Malataya	0.64	263	*e*PG			**Pg**	20 45 29.0	-0.9
MALT	Malatya	0.64	262	*e*PG			**Pg**	20 45 28.7	-1.2
MALT				*e*SG			**Sg**	20 45 38.5	+0.2
DIY	Diyarbakir	0.94	123	*e*PG			**Pg**	20 45 35.1	-0.5
DIY				*e*SG			**Sg**	20 45 49.4	+1.5
URFA	Urfa	1.02	199	*e*PG			**Pg**	20 45 36.3	-0.9
URFA				*e*SG			**Sg**	20 45 51.2	+0.8
KEMA	Kemaliye	1.04	327	*e*P			**Pg**	20 45 36.5	-1.0
KEMA				*e*S			**Sg**	20 45 52.3	+1.2
BINT	Bingol	1.09	64	*e*PN			**Pn**	20 45 37.8	-1.3
BINT				*e*SN			**Sn**	20 45 54.7	+0.4
ATAB	Bozova	1.19	219	*e*P			**Pb**	20 45 40.5	+0.2
ATAB				*e*S			**Sb**	20 45 56.4	+0.6
EZC	Erzincan	1.42	19	*e*PN			**Pn**	20 45 43.3	-0.2
MARD	Mardin	1.64	131	*e*P			**Pn**	20 45 45.6	-1.1
MARD				*e*S			**Sn**	20 46 07.8	0.0
GZT	Gaziantep	1.68	232	*e*P			**Pn**	20 45 46.3	-0.9
GZT				*e*S			**Sn**	20 46 12.5	+3.6
BTMT	Batman	1.79	96	*e*PN			**Pn**	20 45 48.1	-0.6
GAZ	Gaziantep	2.02	233	*e*PN			**Pn**	20 45 51.4	-0.5
GUMT	Gumushane	2.06	5

SIRT	Sirnak	2.69	109	*e*PN	Pn	20 46 02.4 +1.3

ISCJB ***19*** *20:45:27.8±0.4, 2560N∧007×124.15E±005, h158km±6km, mb3.6/6, Error ellipse: s-maj=13.1km s-min=4.5km az=147.6*
NEIC ***19*** *20:45:29.3±0.8, 2564N×124.16E, h160km±9km, MG3.5(JMA), Error ellipse: s-maj=13.1km s-min=11.9km az=198.0*
JMA ***19*** *20:45:30.0±0.2, 2548N×12407E, h153km, M3.5*
IDC ***19*** *20:45:30.8±5.6, 2574N×12439E, h178km±65km, mb3.3/6, mb1 3.4/7, mb1mx3.2/20, mbtmp3.3/7, Error ellipse: s-maj=69.4km s-min=14.0km az=64.0*

ISC 19 20:45:28.8±0.5, 2562N∧007×12413E±005, h152km±6km, n28, σ0§97/43, mb3.6/6, Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTJ	Tarama	1.10	152	P	Pn	20 45 55.4	+0.8
JTJ				S	Sn	20 46 14.3	-0.1
JIJ	Ishigaki jima	1.25	180	P	Pn	20 45 55.8	-0.2
JIJ				S	Sn	20 46 15.1	-1.7
JMJ	Miyako jima 2	1.32	127	P	Pn	20 45 57.9	+1.2
JMJ				S	Sn	20 46 19.9	+1.9
IRIF	Iriomote-Funau	1.33	196	P	Pn	20 45 56.5	-0.3
IRIF				S	Sn	20 46 18.0	-0.2
JKRS	Kuro-shima	1.38	185	P	Pn	20 45 57.3	0.0
JKRS				S	Sn	20 46 18.0	-1.1
JOGS	Gusukube	1.44	126	P	Pn	20 45 59.4	+1.6
JOGS				S	Sn	20 46 21.3	+1.3
YOJ	Yonaguni jima	1.54	222	P	Pn	20 45 59.2	+0.3
YOJ				S	Sn	20 46 21.2	-0.7
HATJ	Hateruma jima	1.58	191	P	Pn	20 45 59.4	0.0
HATJ				S	Sn	20 46 21.2	-1.6
JKE	Kume jima 2	2.49	73	P	Pn	20 46 11.3	+1.4
JKE				*e*S	Sn	20 46 41.5	0.0
YHNB	Yeheng	2.67	250	*e*P	Pn	20 46 13.4	+1.4
JAGN	Aguni-jima	2.96	70	P	Pn	20 46 17.0	+1.3
JAGN				*e*S	Sn	20 46 51.5	-0.4
NAH1	Naha	3.26	79	*e*S	Sn	20 46 58.1	-0.6
JJT2	Tamagusuku 2	3.30	80	P	Pn	20 46 21.3	+1.3
JJT2				*e*S	Sn	20 46 59.9	+0.2
JIH	Iheya	3.72	67	P	Pn	20 46 26.2	+0.8
JIH				S	Sn	20 47 08.8	-0.6
JOW	Kunigami	3.91	71	P	Pn	20 46 28.2	+0.3
JOW				S	Sn	20 47 11.4	-2.5
JOW	Kunigami	3.91	71	P	Pn	20 46 28.3	+0.4
JOW	2.8nm,0.3s,baz=102,slow=27,SNR=13			S	Sn	20 47 11.8	-2.0
	5.9nm,0.3s,baz=113,slow=25,SNR=6.4						
JTK	Tokunoshima	4.82	62	P	Pn	20 46 39.7	-0.1
JTK				*e*S	Sn	20 47 33.0	-2.2
JAM	Amami Oshima	5.62	59	P	Pn	20 46 50.0	-0.4
JMZ	Minamidaito 2	6.40	87	P	Pn	20 46 59.7	-1.1
KSRS	Korea Array	12.23	14	P	Pn	20 48 24.2	+6.3
	0.2nm,0.3s,baz=194,slow=12,SNR=5.4						
SONM	Songino Array	26.22	332	P	P	20 50 49.9	+0.6
	0.2nm,0.4s,mb3.1,baz=159,slow=11,SNR=4.3						
MKAR	Makanchi Array	39.23	314	P	P	20 52 42.0	-0.2
MKAR	Makanchi Array	39.23	314	P	P	20 52 42.0	-0.2
	0.5nm,0.3s,mb3.6,baz=98,slow=9.3,SNR=8.2						
ZALV	Zalesovo Beam	40.56	325	P	P	20 52 52.6	-0.4
	2.1nm,0.4s,mb4.1,baz=117,slow=8.7,SNR=13						
WRA	Warramunga Arr	46.36	167	P	P	20 53 39.6	-0.3
	0.6nm,0.5s,mb3.5,baz=348,slow=8.8,SNR=14						
ASAR	Alice Springs	49.90	168	P	P	20 54 07.1	+0.2
	0.2nm,0.4s,mb3.1,baz=355,slow=7.2,SNR=7.4						
FINES	FINESS Array B	71.56	330	P	P	20 56 32.4	-0.6
FINES	FINESS Array B	71.56	330	P	P	20 56 32.4	-0.6
	4.1nm,1.1s,mb4.1,baz=11,slow=12,SNR=3.8						

ISCJB ***19*** *20:58:15.0±3.6, 2111N±010×145.1E±03, h104km±31km, mb4.0/14, Error ellipse: s-maj=40.3km s-min=15.0km az=171.9*
NEIC ***19*** *20:58:15.3±3.2, 2113N×145.11E, h93km±28km, mb4.5/5, Error ellipse: s-maj=29.0km s-min=11.1km az=82.0*
IDC ***19*** *20:58:18.4±6.8, 2110N×14500E, h119km±61km, mb3.5/9, mb1 3.6/11, mb1mx3.6/22, mbtmp3.5/11, MS3.6/9, Ms1 3.6/9, ms1mx3.4/23, Error ellipse: s-maj=40.7km s-min=15.9km az=84.0*
BJI ***19*** *20:58:24.3, 2110N×145.10E, h93km, mb4.2*

ISC 19 20:58:15.5±3.6, 2112N±010×1452E±03, h94km±30km, n24, σ0§88/19, mb4.0/14, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	Guam	7.50	182	LR	LR	21 02 31.0	
	comp=Z,400nm,18.9s,baz=7.5,slow=34						
JOW	Kunigami	16.44	294	LR	LR	21 07 09.3	
	comp=Z,181nm,18.5s,baz=276,slow=33						
MJAR	Matsushiro Arr	16.52	340	P	Pn	21 02 00.9	-0.5
	0.2nm,0.3s,baz=160,slow=9.7,SNR=4.8						
JNU	Nakatsue	17.43	316	P	Pn	21 02 12.6	+0.1
	0.3nm,0.3s,baz=350,slow=23,SNR=4.1						
KSRS	Korea Array	22.10	321	P	P	21 03 04.1	+1.2
	6.5nm,0.7s,mb4.1,baz=146,slow=8.6,SNR=15						
KSRS				LR	LR	21 12 04.8	
	comp=Z,57nm,18.4s,baz=332,slow=38						
ASAJ	Asahikawa	23.03	355	LR	LR	21 11 05.6	
	comp=Z,101nm,19.9s,baz=174,slow=33						
ULN	Ulaanbaatar	40.58	320	*e*P	P	21 05 45.1	-0.5
	2.0nm,1.0s,mb3.9						
SONM	Songino Array	40.96	320	P	P	21 05 48.6	-0.2
	0.8nm,0.6s,mb3.7,baz=132,slow=8.1,SNR=7.8						
SONM				LR	LR	21 21 39.7	
	comp=Z,58nm,18.6s,baz=191,slow=34						
WB2	Warramunga Arr	42.16	195	*e*P	P	21 05 58.8	0.0
WRA	Warramunga Arr	42.16	195	P	P	21 05 59.0	+0.2
	1.6nm,0.8s,mb3.8,baz=14,slow=8.6,SNR=11						
ASAR	Alice Springs	45.84	194	P	P	21 06 27.8	-0.4
	0.5nm,0.7s,mb3.3,baz=18,slow=6.7,SNR=7.2						
ZAA0	Zalesovo Array	55.80	322	*e*P	P	21 07 42.1	-0.5
ZALV	Zalesovo Beam	55.80	322	P	P	21 07 41.6	-1.0
	0.8nm,0.5s,mb4.0,baz=103,slow=7.6,SNR=4.3						
ZALV				LR	LR	21 29 45.2	
	comp=Z,20nm,21.4s,baz=73,slow=34						
MKAR	Makanchi Array	56.44	313	P	P	21 07 47.3	0.0
	0.3nm,0.3s,mb3.8,baz=85,slow=9.6,SNR=8.9						
KDAK	Kodiak Island	57.63	34	LR	LR	21 33 47.9	
	comp=Z,124nm,19.3s,baz=265,slow=37						
TKM2	Tokmak 2	61.15	308	*e*P	P	21 08 21.4	+1.4
	1.9nm,0.6s,mb4.3						
AML	Almayashu	62.60	307	*e*P	P	21 08 31.6	+1.9
	4.7nm,1.0s,mb4.4						
BRVK	Borovoye	64.36	320	*e*P	P	21 08 39.0	-2.1
	13nm,1.6s,mb4.5						
KBL	Kabul	67.22	300	*e*P	P	21 08 59.8	-0.1
	5.4nm,0.7s,mb4.5						
PPT	Papeete	74.62	116	LR	LR	21 39 43.4	
	comp=Z,92nm,19.9s,baz=136,slow=33						
YKA	Yellowknife Ar	76.10	28	P	P	21 09 53.5	+0.9
YKA	Yellowknife Ar	76.10	28	P	P	21 09 53.5	+0.9
	0.5nm,0.8s,mb3.3,baz=295,slow=5.4,SNR=11						
ARCES	ARCESS Array B	80.05	342	P	P	21 10 14.7	+0.4
	3.0nm,1.0s,mb4.1,baz=74,slow=9.1,SNR=3.7						
ARCES				LR	LR	21 48 33.1	
	comp=Z,47nm,19.4s,baz=89,slow=38						
FINES	FINESS Array B	84.49	335	P	P	21 10 36.8	-0.8
	2.3nm,0.8s,mb4.0,baz=96,slow=4.1,SNR=8.3						

NEIC ***19*** *21:06:32.1±1.2, 3622N×14155E, h10km, MG3.4(JMA), Error ellipse: s-maj=28.4km s-min=18.2km az=181.0*
IDC ***19*** *21:06:32.3±2.0, 3601N×14138E, h0km, mb3.5/2, mb1 3.6/4, mb1mx3.3/22, mbtmp3.5/4, ML3.4/2, MS3.4/1, Ms1 3.4/1, ms1mx2.6/23, Error ellipse: s-maj=47.8km s-min=28.6km az=70.0*
ISCJB ***19*** *21:06:35.7±1.1, 3612N∧006×14119E±008, h31km±7km, mb3.4/2, Error ellipse: s-maj=11.1km s-min=9.1km az=147.5*
JMA ***19*** *21:06:37.0±0.1, 3606N×14108E, h42km±1km, M3.4*

ISC 19 21:06:36.5±1.1, 3612N∧005×14114E±008, h25km±8km, n13, σ0§70/17, mb3.4/2, 4C-1D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	Chosi	0.47	209	⇓P	Pb	21 06 46.4	+0.1
CHOJ				S	Sb	21 06 53.0	+0.1
JHO	Hitachi	0.68	317	⇑P	Pb	21 06 50.0	+0.3
JYT	Yasato	0.78	278	⇑P	Pb	21 06 51.1	-0.3
JYT				S	Sb	21 07 01.0	-0.5
JFK	Kawauchi	1.27	350	⇑P	Pn	21 06 58.0	-0.7
JAG	Ashikaga	1.40	283	⇑P	Pn	21 07 00.1	-0.4
JAG				S	Sn	21 07 16.8	-1.4
BSO1	Boso 1	1.47	185	P	Pn	21 07 01.2	-0.2
MJAR	Matsushiro Arr	2.41	281	Pn	Pn	21 07 15.4	+1.1
	4.9nm,0.3s,baz=112,slow=7.5,SNR=35						
MAJO	Matsushiro	2.41	281	*e*P	Pn	21 07 15.2	+0.8
MAT	Matsushiro	2.41	281	P	Pn	21 07 15.0	+0.6
MAT				*e*S	Sn	21 07 43.5	+0.4
ASAJ	Asahikawa	8.07	7	Pn	Pn	21 08 31.8	-0.3
	0.7nm,0.3s,baz=64,slow=23,SNR=5.9						
MKAR	Makanchi Array	44.43	303	P	P	21 14 46.4	+1.2
	0.2nm,0.2s,mb3.4,baz=91,slow=9.4,SNR=5.6						
SML	Sawmill	49.86	36	*e*P	P	21 15 22.4	-4.9
WRA	Warramunga Arr	56.12	188	P	P	21 16 12.9	-1.0
	0.2nm,0.4s,mb3.5,baz=5.9,slow=7.4,SNR=10						

IDC 19 21:21:28.2±49.0, 1761S×17768W, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.7/15, mbtmp4.0/3, Error ellipse: s-maj=905.6km s-min=167.8km az=79.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	39.38	241	P	P	21 28 59.9	+0.1
	1.4nm,0.7s,baz=67,slow=7.4,SNR=3.9						
WRA	Warramunga Arr	45.37	259	P	P	21 29 48.1	-0.6
	0.4nm,0.6s,baz=96,slow=7.5,SNR=6.8						
ASAR	Alice Springs	45.54	254	P	P	21 29 50.3	+0.3
	4.7nm,0.6s,baz=88,slow=8.5,SNR=119						

NIED ***19*** *21:33:00, 2700N×13090E, h5km, Mw3.8 Best double couple: M0:6.53000×1014 NP1:φ=229.00000°, δ=58.00000°, λ=-80.00000°. NP2:φ=31.00000°, δ=33.00000°, λ=-105.00000°.*

JMA 19 21:33:44.7±0.1, 2696N×13093E, h73km, M3.5, Southeast of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMZ	Minamidaito 2	1.17	167	P	Pn	21 34 05.6	+0.2
JMZ				S	Sn	21 34 21.3	+0.4
JZK	Kikaishima	1.59	328	P	Pn	21 34 12.0	+1.0
JZK				S	Sn	21 34 32.4	+1.5
JAM	Amami Oshima	1.86	321	P	Pn	21 34 14.6	0.0
JAM				S	Sn	21 34 36.9	-0.4
JTK	Tokunoshima	1.94	295	P	Pn	21 34 16.0	+0.4
JTK				S	Sn	21 34 39.3	+0.1
JOW	Kunigami	2.38	268	P	Pn	21 34 22.7	+1.3
JOW				S	Sn	21 34 50.4	+0.8
JIH	Iheya	2.65	272	P	Pn	21 34 26.5	+1.4
JIH				S	Sn	21 34 57.3	+1.2
JJT2	Tamagusuku 2	2.96	255	P	Pn	21 34 30.6	+1.2
JAGN	Aguni-jima	3.32	264	P	Pn	21 34 35.9	+1.7
JAGN				S	Sn	21 35 13.9	+1.4
JKE	Kume jima 2	3.76	261	P	Pn	21 34 41.5	+1.2
JKE				*e*S	Sn	21 35 23.5	+0.1

THE 19 21:33:47.0, 3833N×2044E, h12km, ML2.3, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	Valsamata	0.19	142	*e*Pg	Pg	21 33 51.1	0.0
VLS				*e*Sg	Sg	21 33 54.3	+0.3
VLS	Valsamata	0.19	142	*e*Pg	Pg	21 33 51.1	0.0
VLS				*e*Sg	Sg	21 33 54.3	+0.3
KFL	Anninata	0.35	128	*e*Pg	Pg	21 33 53.9	-0.1
KFL				*e*Sg	Sg	21 33 59.2	+0.5
KFL	Anninata	0.35	128	*e*Pg	Pg	21 33 53.9	-0.1
KFL				*e*Sg	Sg	21 33 59.2	+0.5
LKD	Levkas	0.41	23	*e*Pg	Pg	21 33 55.0	-0.2
LKD				*e*Sg	Sg	21 34 01.3	+0.6
LKD	Levkas	0.41	23	*e*Pg	Pg	21 33 55.0	-0.2
LKD				*e*Sg	Sg	21 34 01.3	+0.6
IGT	Igoumenitsa	1.21	356	*e*Pg	Pg	21 34 10.8	+0.6
IGT				*e*Sg	Sg	21 34 29.0	+3.1

ISCJB ***19*** *21:36:35.5±1.1, 1400N∧010×9158W±008, h77km±7km, mb3.6/3, Error ellipse: s-maj=18.6km s-min=10.1km az=33.2*
IDC ***19*** *21:36:37.2±6.5, 1405N×9133W, h68km±40km, mb3.3/3, mb1 3.7/5, mb1mx3.4/21, mbtmp3.4/5, ML4.4/2, MS2.9/2, Ms1 2.9/2, ms1mx2.4/22, Error ellipse: s-maj=55.6km s-min=21.0km az=171.0*
NEIC ***19*** *21:36:38.0±2.1, 1405N×9136W, h75km±15km, Error ellipse: s-maj=35.0km s-min=14.9km az=197.0*
MEX ***19*** *21:36:39.7±0.5, 1399N×9193W, h20km±42km, MD4.6*
CASC ***19*** *21:36:42.7±4.3, 1431N×9138W, h2km±13km, MD4.1*

ISC 19 21:36:37.1±1.0, 1405N±009×9159W±006, h66km±6km, n34, σ1§50/35, mb3.6/3, 1C-5D, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAT	Jato	0.27	350	⇑*e*P	Pn	21 36 48.1	+0.4
JAT				*e*S	Sn	21 36 54.1	-1.3
FUG	Fuego 3	0.83	61	⇓*i*P	Pn	21 36 54.0	+0.7
PCG	Pacaya	1.01	70	⇓*e*P	Pn	21 36 57.2	+1.6
RTR	El Retiro	1.89	94	*e*P	x	21 37 39.9	
RTR				*e*S	x	21 38 06.4	
SBLS	San Blas	1.92	96	⇓*e*P	x	21 37 40.2	
SBLS				*e*S	x	21 38 05.7	
SNJE	San Jose	1.94	95	⇓*e*P	x	21 37 40.6	
SNJE				*e*S	x	21 38 05.6	
BOQS	Boqueron	2.27	98	*e*P	x	21 37 44.8	
BOQS				*e*S	x	21 38 12.5	
CCIG	Comitan	2.28	347	*i*P	Pn	21 37 13.8	+1.3
CCIG				*i*S	Sn	21 37 40.9	+1.4
LBRS	Las Brisas	2.49	97	*e*P	x	21 37 49.1	
LBRS				*e*S	x	21 38 22.0	
LFRS	El Faro	2.49	100	*e*P	x	21 37 48.4	
LFRS				*e*S	x	21 38 17.7	
LCBS	La Ceiba	2.57	98	*e*P	x	21 37 50.0	
LCBS				*e*S	x	21 38 22.2	
SNVI	San Vicente	2.71	99	*e*P	x	21 37 51.3	
SNVI				*e*S	x	21 38 24.2	
SCX	San Cristobal	2.85	339	*e*P	Pn	21 37 18.0	-2.3
SCX				*i*S	Sn	21 38 00.0	+6.5
SCX	San Cristobal	2.85	339	*e*P	Pn	21 37 22.0	+1.7
SCX				*i*S	Sn	21 37 54.0	+0.5
VSM	San Miguel	3.28	100	*e*P	x	21 38 01.1	
VSM				*e*S	x	21 38 42.9	
BLLM	Bellamira	3.31	100	⇓*e*P	x	21 38 00.8	
BLLM				*e*S	x	21 38 39.0	
CNCH	Conchagua	3.73	101	*e*P	x	21 38 06.3	
CNCH				*e*S	x	21 38 49.7	
TGUH	Tegucigalpa,Un	4.19	89	P	Pn	21 37 36.5	-2.0
CMIG	Matias Romero	4.38	314	*i*P	Pn	21 37 42.1	+1.0
CMIG				*i*S	Sn	21 38 25.5	-5.5
CMIG	Matias Romero	4.38	314	P	Pn	21 37 42.0	+0.9
	7.2nm,0.3s,baz=118,slow=8.3,SNR=43						
CMIG				S	Sn	21 38 36.2	+5.2
	17nm,0.3s,baz=276,slow=23,SNR=7.0						
CMIG				LR	LR	21 39 26.9	
	comp=Z,113nm,21.4s,baz=188,slow=37						
CMIG	Matias Romero	4.38	314	*i*P	Pn	21 37 41.1	0.0
CMIG				*i*S	Sn	21 38 27.5	-3.5
OXX	Oaxaca	5.79	302	*e*P	Pn	21 38 04.0	+3.5
VHO	Vista Hermosa	5.80	302	*e*P	Pn	21 37 51.2	-9.3
VHO				*i*S	Sn	21 39 02.0	-3.6
VHO	Vista Hermosa	5.80	302	*e*P	Pn	21 38 00.2	-0.3
VHO				*i*S	Sn	21 39 03.0	-2.6
TEIG	Tepich	6.91	27	P	Pn	21 38 16.0	+0.2
TEIG				S	Sn	21 39 30.8	-2.2
TEIG	Tepich	6.91	27	P	Pn	21 38 16.0	+0.2
	18nm,0.3s,baz=243,slow=1.5,SNR=93						
TEIG				S	Sn	21 39 30.8	-2.2
	baz=334,slow=22,SNR=2.6						
PPM	Popocatepetl	8.39	307	*i*P	Pn	21 38 26.9	-9.0
PPM				*i*S	Sn	21 39 51.4	-18
PPM	Popocatepetl	8.39	307	*i*P	Pn	21 38 39.6	+3.6
PPM				*e*P		21 38 41.0	
PPM				*i*S	Sn	21 40 07.4	-1.8
TXAR	Lajitas Array	18.88	326	P	Pn	21 40 55.3	+2.0
	0.1nm,0.3s,baz=154,slow=12,SNR=14						
TKL	Tuckaleechee C	22.64	17	LR	LR	21 50 51.5	
	comp=Z,42nm,20.7s,baz=77,slow=38						
NVAR	Mina Array Bea	33.88	321	P	P	21 43 16.7	+3.2
	0.9nm,0.7s,mb3.7,baz=129,slow=10,SNR=6.5						
YKA	Yellowknife Ar	51.07	347	P	P	21 45 31.6	-0.8
YKA				PcP	PcP	21 46 47.8	+0.4
YKA	Yellowknife Ar	51.07	347	P	P	21 45 31.6	-0.8
	0.3nm,0.7s,mb3.4,baz=147,slow=7.6,SNR=7.2						
YKA				PcP	PcP	21 46 47.8	+0.4
	0.3nm,0.5s,baz=149,slow=3.6,SNR=6.1						
INK	Inuvik	60.50	343	P	P	21 46 39.1	-0.8
	0.4nm,0.5s,mb3.7,baz=135,slow=5.7,SNR=3.6						

ISCJB ***19*** *22:03:20.3±0.8, 3936N∧008×10029E±008, h10km, Error ellipse: s-maj=13.3km s-min=6.3km az=28.2*
BJI ***19*** *22:03:23.1, 3946N∧10026E, h19km, ML4.2*
IDC ***19*** *22:03:33.8±9.0, 4039N×9994E, h0km, mb4.0/1, mb1 3.7/4, mb1mx3.4/23, mbtmp3.7/4, ML3.6/3, Error ellipse: s-maj=144.7km s-min=48.5km az=164.0*

ISC 19 22:03:22.0±0.7, 3925N±010×1002E±01, h10km, n6, σ1§21/10, Gansu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTA	Gaotai	0.32	301	PG	Pg	22 03 29.0	+0.6
GTA				SG	Sg	22 03 33.4	+0.7
GTA				Smax			
	comp=N,21μm,0.5s						
GTA				Smax			
	comp=E,11μm,0.5s						
LZH	Lanzhou	4.30	136	*e*P	Pn	22 04 32.1	+4.7
LZH				PG	Pg	22 04 44.1	-0.2
LZH				S	Sn	22 05 19.9	+2.4
LZH				SG	Sg	22 05 38.6	-1.3
LZH				Smax			
	comp=N,662nm,0.8s						
LZH				Smax			
	comp=E,513nm,0.8s						
SONM	Songino Array	9.70	26	Pn	Pn	22 05 42.3	+0.8
	comp=E,1.7nm,0.3s,baz=207,slow=15,SNR=56						
SONM				Lg		22 08 23.3	
	comp=E,0.8nm,0.3s,baz=214,slow=28,SNR=4.3						
MKAR	Makanchi Array	15.08	306	Pn	Pn	22 06 53.5	-1.4
	comp=E,0.2nm,0.3s,baz=112,slow=15,SNR=5.0						
ZALV	Zalesovo Beam	18.04	330	Pn	Pn	22 07 31.2	-1.3
	comp=E,0.1nm,0.3s,baz=128,slow=11,SNR=2.3						
FINES	FINESS Array B	49.09	322	P	P	22 12 14.5	+5.4
	comp=E,2.0nm,0.9s,baz=83,slow=6.0,SNR=3.7						

NEIC 19 22:08:34.3, 3755S×17813E, h58km, ML4.0(WEL), After WEL., Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	0.14	96	P	Pn	22 08 43.3	+0.1
MXZ				S	Sn	22 08 49.3	-0.3
PUZ	Puketiti	0.53	169	P	Pn	22 08 46.3	-0.2
PUZ				S	Sn	22 08 55.0	-0.3
MWZ	Matawai	0.92	211	P	Pn	22 08 51.5	+0.3
MWZ				S	Sn	22 09 04.1	+0.5
URZ	Urewera	1.07	228	P	Pn	22 08 53.0	-0.2
EDRZ	Edgecumbe	1.23	243	P	Pn	22 08 55.6	+0.3
KNZ	Kokohu	1.51	194	*e*P	Pn	22 08 58.1	-1.0
KARZ	Kaharoa	1.57	252	P	Pn	22 09 00.0	+0.2
BKZ	Black Stump Fm	2.06	218	P	Pn	22 09 07.2	+0.6
KUZ	Kuaotunu	2.09	292	P	Pn	22 09 07.1	+0.2
WTVZ	West Tongariro	2.54	231	P	Pn	22 09 13.9	+0.9
NGZ	Ngauruhoe	2.57	230	P	Pn	22 09 14.2	+0.8
TUVZ	Tukino	2.59	228	P	Pn	22 09 14.5	+0.7
WPVZ	Whakapapa	2.62	230	P	Pn	22 09 15.1	+1.0
MOVZ	Moawhango	2.63	224	P	Pn	22 09 14.3	0.0
FWVZ	Far West T-bar	2.65	229	P	Pn	22 09 15.4	+0.9
WNVZ	Wahianoa	2.67	227	P	Pn	22 09 15.2	+0.4
TSZ	Takapari Road	3.03	213	*e*P	Pn	22 09 18.0	-1.7
WAZ	Wanganui	3.30	227	P	Pn	22 09 24.1	+0.6
BFZ	Birch Farm	3.45	205	*e*P	Pn	22 09 23.0	-2.5
MRZ	Mangatainoka R	3.69	212	P	Pn	22 09 25.8	-2.9
MTW	Mount Morrison	4.14	209	P	Pn	22 09 31.4	-3.5
KIW	Kapiti Island	4.15	216	P	Pn	22 09 32.4	-2.6
CAW	Cannon Point	4.27	213	P	Pn	22 09 33.1	-3.7
TCW	Tory Channel	4.72	218	P	Pn	22 09 39.7	-3.2
KHZ	Kahutara	6.00	215	*e*P	Pn	22 09 57.2	-3.3

PRU ***19*** *22:21:28.5, 4308N×2128E, h0km, M3.9*
CSEM ***19*** *22:21:29.5±0.0, 4317N×2118E, h5km, ML4.0, Error ellipse: s-maj=1.1km s-min=0.9km az=61.0*
ISCJB ***19*** *22:21:29.0±0.3, 4311N∧001×2113E±002, h8km±2km, mb3.8/12, Error ellipse: s-maj=2.1km s-min=1.7km az=150.7*
PDG ***19*** *22:21:29.8±0.8, 4312N×2116E, h11km±2km, MD3.6/10, ML3.8/9, Error ellipse: s-maj=1.0km s-min=1.3km az=0.0*
NEIC ***19*** *22:21:29.8, 4312N×2116E, h11km, mb3.9/3, ML3.8(PDG), ML3.7(BUC), After PDG.*
SKO ***19*** *22:21:29.9, 4310N×2114E, h0km*
IDC ***19*** *22:21:29.2±0.9, 4298N×2104E, h0km, mb3.7/8, mb1 3.8/15, mb1mx3.7/25, mbtmp3.7/15, ML3.6/7, Error ellipse: s-maj=13.2km s-min=10.5km az=171.0*
BEO ***19*** *22:21:30.3±0.3, 4305N×2114E, h10km±2km, ML4.0/7*
THE ***19*** *22:21:30.4, 4309N×2115E, h4km, ML4.0*
ROM ***19*** *22:21:31.9±0.6, 4301N×2105E, h10km, Ml3.7/37, Error ellipse: s-maj=9.6km s-min=3.1km az=111.0*
MOS ***19*** *22:21:32.2±1.0, 4313N×2104E, h33km, mb4.2/2, Error ellipse: s-maj=4.5km s-min=3.7km az=116.2*
LDG ***19*** *22:21:33.0±0.2, 4304N×2110E, h10km, Ml3.6/7, Error ellipse: s-maj=4.4km s-min=3.2km az=8.0*

ISC 19 22:21:30.0±0.3, 4309N∧001×2116E±002, h1km±2km, n331, σ0§87/428, mb3.9/12, 39C-30D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARS	Barje	0.56	119	⇑*i*Pg	Pg	22 21 41.2	+0.6
BARS				*e*Sg	Sg	22 21 48.4	+0.6
BARS	Barje	0.56	119	*e*Pg	Pg	22 21 41.1	+0.5
BARS				*e*Sg	Sg	22 21 48.4	+0.6
GRUS	Gruza	0.86	338	⇑*i*Pg	Pg	22 21 46.3	-0.2
GRUS				*e*Sg	Sg	22 21 59.6	+2.0
SJES	Sjenica	0.91	282	*e*Pg	Pg	22 21 46.3	-1.1
SJES				*e*

BEO eSg Sg 22 22 27.9 0.0
ULC Ulcinj 1.81 232⇑iPn Pn 22 22 02.5 +0.3
ULC eSn Sn 22 22 27.4 +1.7
QSH Qafa e Shtames 1.83 211 iPg Pg 22 22 04.0 -1.0
DJES Djerdap 1.83 32 ePn Pn 22 22 02.1 -0.4
DJES eSn Sn 22 22 25.5 -0.7
BUM Brajici-Budva 1.85 245⇓iPn Pn 22 22 03.3 +0.6
BUM eSn Sn 22 22 28.5 +1.8
BRY Bratogost 1.93 265⇓iPn Pn 22 22 03.8 -0.1
BRY eSn Sn 22 22 29.5 +0.7
TIR Tirane 1.99 209 ePn Pn 22 22 04.4 -0.3
TIR eSn Sn 22 22 30.5 +0.3
TIR Tirane 1.99 209 iPN Pn 22 22 06.7 +2.0
TIR iSN Sn 22 22 33.8 +3.6
TIR Tirane 1.99 209 Pn Pn 22 22 06.3 +1.6
805nm,1.1s
TIR iSn Sn 22 22 33.8 +3.6
OHR Ohrid 2.00 188 ePn Pn 22 22 04.1 -0.7
OHR eSn Sn 22 22 29.9 -0.4
OHR Ohrid 2.00 188 ePn Pn 22 22 04.0 -0.8
OHR eSg Sg 22 22 33.6 -0.5
OHR Ohrid 2.00 188 ePn Pn 22 22 03.9 -0.9
OHR eSn Sn 22 22 29.9 -0.5
OHR eSg Sg 22 22 33.6 -0.5
VAY Valandovo 2.06 149 ePn Pn 22 22 04.8 -0.8
VAY Valandovo 2.06 149 ePn Pn 22 22 04.7 -0.9
HCY Herceg Novi 2.06 253⇑iPn Pn 22 22 06.2 +0.5
HCY eSn Sn 22 22 33.8 +1.7
BIA Bitola 2.08 177 ePn Pn 22 22 05.4 -0.4
BIA eSn Sn 22 22 32.4 +0.1
BIA Bitola 2.08 177 ePn Pn 22 22 05.4 -0.4
BIA eSg Sg 22 22 35.4 -1.2
BIA Bitola 2.08 177 ePn Pn 22 22 05.4 -0.4
BIA eSn Sn 22 22 32.4 +0.1
BIA eSg Sg 22 22 35.3 -1.3
CRAR CRAIOVA 2.27 56⇑iP Pn 22 22 09.6 +1.0
FGSL Fruska Gora 2.28 335 ePn Pn 22 22 08.0 -0.7
FGSL eSn Sn 22 22 37.6 +0.2
FNA Florina 2.31 176 ePn Pn 22 22 09.1 0.0
FNA eSn Sn 22 22 37.9 -0.3
KNT Kendrikon 2.32 146 ePn Pn 22 22 08.8 -0.4
GRG Griva 2.33 156 ePn Pn 22 22 09.3 0.0
GRG eSn Sn 22 22 38.4 -0.1
KBN Korca 2.48 187 iPN Pn 22 22 13.8 +2.3
KBN iSN Sn 22 22 49.5 +7.2
BZS Buzias 2.54 7⇑P Pn 22 22 12.9 +0.6
BZS Buzias 2.54 7⇑iP Pn 22 22 12.9 +0.6
BZS Buzias 2.54 7 P Pn 22 22 10.9 -1.4
STON Ston 2.55 266 ePn Pn 22 22 13.1 +0.7
STON Sn Sn 22 22 44.3 +0.2
STON Ston 2.55 266 ePn Pn 22 22 13.0 +0.6
STON Sn Sn 22 22 44.2 +0.2
GZR Gura Zlata 2.58 26⇓P Pn 22 22 12.2 -0.6
GZR Gura Zlata 2.58 26⇓iP Pn 22 22 12.2 -0.6
NVR Nevrokopi 2.66 130⇑iP Pn 22 22 13.7 -0.1
SRS Serrai 2.68 137 ePn Pn 22 22 13.5 -0.6
PLD Plovdiv 2.79 109 ePn Pn 22 22 15.8 +0.1
PLD eSn Sn 22 22 50.6 +0.6
SOH Sokhos 2.80 144 ePn Pn 22 22 15.3 -0.5
THE Thessaloniki 2.80 151 ePn Pn 22 22 15.4 -0.4
KZN Kozani 2.82 171 eP Pn 22 22 16.8 +0.7
HORT Hortiatis 2.88 149 ePn Pn 22 22 16.7 -0.2
ZIMR 3.12 78⇑P Pn 22 22 20.9 +0.8
ZIMR 3.12 78⇑iP Pn 22 22 20.9 +0.7
LIT Litokhoron 3.15 161 ePn Pn 22 22 20.4 -0.2
PLG Polygyros 3.21 147 ePn Pn 22 22 21.3 -0.2
PLG Polygyros 3.21 147⇑iP Pn 22 22 21.6 +0.2
SRN Sarande 3.33 196 iPN Pn 22 22 24.4 +1.3
SRN iSN Sn 22 23 14.2 +11
JAN Janina 3.44 184 eP Pn 22 22 25.4 +0.8
OUR Ouranopolis 3.47 142 ePn Pn 22 22 24.5 -0.6
RHK3 Tenkes 3.49 324⇑iP Pn 22 22 24.6 -0.7
KEK Kerkira 3.53 197 eP Pn 22 22 26.2 +0.4
KEK Kerkira 3.53 197 Pn Pn 22 22 25.9 +0.1
478nm,2.1s
LCI Lecce 3.58 221 Pn Pn 22 22 26.0 -0.5
25nm,0.6s
THL Klokotos Trika 3.58 169 ePn Pn 22 22 26.8 +0.2
THL Klokotos Trika 3.58 169 eP Pn 22 22 27.1 +0.5
PKSM Moragy 3.60 331⇓P Pn 22 22 25.6 -1.2
PKSM Moragy 3.60 331⇓iP Pn 22 22 25.6 -1.2
PKSM Moragy 3.60 331⇑iPn Pn 22 22 26.0 -0.8
PKSM eSn Sn 22 23 09.9 0.0
PE1 Pezze di Greco 3.61 232 ePn Pn 22 22 26.4 -0.5
IGT Igoumenitsa 3.61 190 ePn Pn 22 22 27.0 +0.1
SCTE Santa Cesarea 3.63 215 Pn Pn 22 22 27.1 -0.2
VOIR 3.65 49⇑P Pn 22 22 28.2 +0.8
VOIR 3.65 49⇑iP Pn 22 22 28.2 +0.8
PAIG Paliouri 3.68 148 ePn Pn 22 22 27.6 -0.4
PKS6 Bocsa 3.69 343⇑iP Pn 22 22 27.8 -0.2
BAI Bari 3.75 240 ePn Pn 22 22 28.1 -0.8
RDO Rodhopi 3.79 119 eP Pn 22 22 29.5 +0.1
NOCI Noci 3.83 234 Pn Pn 22 22 29.1 -0.8
70nm,0.4s
DRGR 3.86 16⇓P Pn 22 22 29.6 -0.8
DRGR 3.86 16⇓iP Pn 22 22 29.6 -0.8
PKSN Nyarlorinc 3.91 347⇓iP Pn 22 22 31.1 0.0
TA1 Taranto 3.95 229 ePn Pn 22 22 30.8 -0.8
XOR Xorichti 4.02 157 ePn Pn 22 22 32.7 0.0
SG1 Sgolgore (BA) 4.03 238 ePn Pn 22 22 32.3 -0.4
AMUR Altamura 4.04 239 Pn Pn 22 22 32.1 -0.7
53nm,0.4s
JMB Yambol 4.04 97 ePn Pn 22 22 33.1 +0.3
FGMS Monte Sant'Ang 4.10 252 Pn Pn 22 22 33.2 -0.5
37nm,0.5s
MS1 Monte Sant'Ang 4.11 252 ePn Pn 22 22 33.7 -0.1
MSAG Monte S. Angel 4.13 252 Pn Pn 22 22 33.8 -0.3
166nm,0.7s
CDT Castel del Mon 4.16 243 ePn Pn 22 22 33.7 -0.8
AGG Agios Georgios 4.16 167 ePn Pn 22 22 34.5 0.0
SISC Sisak 4.18 306 ePn Pn 22 22 34.7 -0.1
SISC Sisak 4.18 306 ePn Pn 22 22 34.6 -0.2
MLR Muntele Rosu 4.19 53⇓P Pn 22 22 36.2 +1.4
MLR Muntele Rosu 4.19 53 Pn Pn 22 22 36.7 +1.8
2.4nm,0.3s,baz=238,slow=5.6,SNR=20
MLR Lg 22 23 46.0
5.7nm,0.3s,baz=276,slow=13,SNR=3.5
MLR Muntele Rosu 4.19 53⇓iP Pn 22 22 36.3 +1.4
MLR Muntele Rosu 4.19 53⇓P Pn 22 22 36.2 +1.3
EVR Evrytania 4.20 173 eP Pn 22 22 34.2 -0.9
PKS7 Kunszentmiklos 4.20 341⇓iP Pn 22 22 34.9 -0.2
SGRT San Giovanni R 4.23 253 Pn Pn 22 22 34.7 -0.8
112nm,0.8s
ALN Alexandroupoli 4.25 119 ePn Pn 22 22 35.7 0.0
MIGL Miglionico 4.32 236 Pn Pn 22 22 36.1 -0.5
304nm,0.8s
AOS Alonnisos 4.42 151 ePn Pn 22 22 37.6 -0.5
CRAC Craco 4.47 234 Pn Pn 22 22 37.9 -0.8
329nm,1.3s
FG4 Candela 4.63 247 Pn Pn 22 22 41.3 +0.3
80nm,0.6s
BUD Budapest 4.64 342⇑ePn Pn 22 22 39.6 -1.6
BUD eSn Sn 22 23 35.5 -0.1
VULT Monte Vulture 4.65 245 Pn Pn 22 22 41.6 +0.3
79nm,0.6s
ORI Oriolo Calabro 4.65 231 Pn Pn 22 22 41.6 +0.3
144nm,0.6s
PKSG 4.72 336⇓iP Pn 22 22 42.0 -0.3
PKSG eS Sn 22 23 38.8 +1.2
SGTA Sant Agata di 4.74 248 Pn Pn 22 22 42.2 -0.2
56nm,0.6s
FG5 Orsara di Pugl 4.74 250 Pn Pn 22 22 42.9 +0.4
53nm,0.4s
SCHR S. Chirico Rap 4.78 235 Pn Pn 22 22 42.5 -0.6
87nm,1.7s
NVLJ Novalja 4.78 290 ePn Pn 22 22 43.5 +0.4
NVLJ Sn Sn 22 23 38.1 -1.0
PLOR Plostina 4.80 53 P Pn 22 22 45.8 +2.5
MRLC Muro Lucano 4.83 243 Pn Pn 22 22 43.4 -0.4
SELA Sela 4.84 173 ePn Pn 22 22 44.8 +0.8
VRI Vrincioaia 4.85 53⇑iP Pn 22 22 45.3 +1.3
CIGN Sant'Elia a Pi 4.85 255 Pn Pn 22 22 44.5 +0.5
104nm,1.5s
CAFE Carife 4.87 247 Pn Pn 22 22 44.4 +0.1
84nm,1.1s
MCEL Monticello 4.87 237 Pn Pn 22 22 43.9 -0.4
45nm,0.8s
PENC Penc 4.88 345⇓iP Pn 22 22 43.6 -0.8
PENC eS Sn 22 23 42.4 +0.9
PSZ Piszkesteto 4.91 350⇑P Pn 22 22 44.0 -0.8
PSZ Piszkesteto 4.91 350⇑iP Pn 22 22 44.0 -0.8
PSZ Piszkesteto 4.91 350⇓ePn Pn 22 22 44.1 -0.7
PSZ eSn Sn 22 23 37.0 -5.2
CRES Cresnjev 4.92 306 iPn Pn 22 22 44.8 -0.1
SIRI Monte Sirino - 4.92 236 Pn Pn 22 22 45.0 +0.1
40nm,0.3s
VLS Valsamata 4.93 185 eP Pn 22 22 39.2 -5.9
SNAL S. Angelo Dei 4.94 246 Pn Pn 22 22 44.9 -0.3
50nm,0.7s
MTSN Montesano sull 4.94 237 Pn Pn 22 22 44.6 -0.6
36nm,0.5s
MRB1 Monte Rocchett 5.01 249 Pn Pn 22 22 46.7 +0.6
78nm,0.5s
MCRV Calabrutti - M 5.03 245 Pn Pn 22 22 45.5 -1.0
51nm,0.3s
SGO Sicignano 5.05 242 P Pn 22 22 46.3 -0.5
SGO pmax pmax
comp=Z,27nm,0.2s
SGO Sicignano 5.05 242 Pn Pn 22 22 46.3 -0.5
comp=Z,27nm,0.2s
SACR S. Croce Del S 5.08 253 Pn Pn 22 22 47.1 -0.1
comp=Z,38nm,0.5s
CSSN Cassano Irpino 5.09 246 Pn Pn 22 22 47.1 -0.2
comp=Z,17nm,0.3s
CDRU Civita di Ruta 5.09 241 Pn Pn 22 22 46.6 -0.7
comp=Z,33nm,0.3s
BSSO Busso 5.11 255 Pn Pn 22 22 48.1 +0.5
comp=Z,51nm,0.6s
TIP Timpagrande 5.13 222 ePn Pn 22 22 47.0 -0.9
comp=Z,14nm,0.6s
TIP eSn Sn 22 23 43.7 -4.0
TIP Timpagrande 5.13 222 Pn Pn 22 22 47.1 -0.8
comp=Z,49nm,1.4s
TIP eSn Sn 22 23 43.7 -4.0
MGR Morigerati 5.14 237 Pn Pn 22 22 47.5 -0.4
comp=Z,72nm,0.4s
CMPR Campora 5.19 240 Pn Pn 22 22 48.0 -0.7
comp=Z,31nm,0.4s
PTRJ Pietraroja 5.22 253 Pn Pn 22 22 49.5 +0.4
comp=Z,74nm,0.6s
SERS Sersale 5.28 221 Pn Pn 22 22 51.3 +1.4
comp=Z,25nm,1.1s
BULG Bulgheria - Ca 5.28 237 Pn Pn 22 22 49.9 0.0
comp=Z,61nm,0.4s
SGG Gregorio Mates 5.32 254 Pn Pn 22 22 50.8 +0.4
comp=Z,96nm,0.6s
MIDA Miranda 5.32 257 Pn Pn 22 22 50.8 +0.3
comp=Z,42nm,0.5s
CARO Carolei 5.35 226 Pn Pn 22 22 51.1 +0.2
comp=Z,52nm,0.7s
RNI2 Rionero Sannit 5.37 257 Pn Pn 22 22 51.6 +0.4
comp=Z,23nm,0.4s
VAGA Valle Agricola 5.41 254 Pn Pn 22 22 51.8 +0.1
comp=Z,70nm,0.3s
KECS Kecovo 5.41 355 iPN Pn 22 22 51.7 0.0
KECS iSN Sn 22 23 50.6 -4.0
TIRR Tirgusor 5.42 73⇓P Pn 22 22 52.0 +0.2
TIRR Tirgusor 5.42 73⇓iP Pn 22 22 52.0 +0.1
TIRR Tirgusor 5.42 73 P Pn 22 22 52.1 +0.2
PRK Paraskevi 5.44 133 eP Pn 22 22 52.7 +0.6
INTR Introdacqua 5.47 261 Pn Pn 22 22 51.9 -0.6
comp=Z,51nm,0.5s
MOCO Biccari - m.te 5.48 254 Pn Pn 22 22 43.4 -9.2
comp=Z,218nm,1.7s
CERA Filignano 5.50 257 Pn Pn 22 22 54.1 +1.2
comp=Z,57nm,0.7s
VNDS Vrh nad Dolski 5.51 305 iPn Pn 22 22 53.1 +0.1
PERS Pernice 5.57 312 iPn Pn 22 22 53.2 -0.7
TERO Teramo 5.58 268 Pn Pn 22 22 54.8 +0.8
comp=Z,16nm,0.6s
UZH Uzhgorod 5.60 8 eP Pn 22 22 48.3 -5.9
UZH iS Sn 22 23 48.7 -10
UZH smax
comp=N,60nm,0.8s
UZH smax
comp=E,80nm,0.8s
SDI San Donato 5.62 258 P Pn 22 22 54.9 +0.4
SDI pmax pmax
comp=Z,26nm,0.6s
SDI San Donato 5.62 258 Pn Pn 22 22 54.9 +0.4
comp=Z,26nm,0.6s
SOP Sopron 5.62 326⇓ePn Pn 22 22 53.8 -0.8
SOP eSn Sn 22 23 59.3 -0.4
RFI Roccamonfina 5.62 254 Pn Pn 22 22 55.7 +1.1
comp=Z,4,0nm,0.5s
VYHS Vyhne 5.64 344 iPn Pn 22 22 53.8 -1.1
comp=Z,117nm,4.2s
VYHS iSn Sn 22 23 56.1 -4.1
VYHS eSg Sg 22 24 37.1 +6.0
VYHS Vyhne 5.64 344 iP Pn 22 22 53.8 -1.1
VYHS i 22 23 56.1
VYHS smax
comp=N,117nm,4.2s
VYHS Vyhne 5.64 344 iPn Pn 22 22 53.8 -1.1
comp=N,117nm,4.2s
VYHS iSn Sn 22 23 56.1 -4.1
FAGN Fagnano 5.65 264 Pn Pn 22 22 55.5 +0.5
comp=N,117nm,0.5s
POFI Posta Fibreno 5.69 259 Pn Pn 22 22 55.6 +0.1
comp=N,13nm,0.6s
VVLD Villa Vallelon 5.71 260 Pn Pn 22 22 55.8 0.0
comp=N,80nm,0.7s
CAMP Campotosto 5.73 267 Pn Pn 22 22 57.1 +1.0
comp=N,12nm,2.1s
ARSA Arzberg 5.76 318⇑iSn Sn 22 23 59.0 -4.1
ARSA Arzberg 5.76 318 iPn Pn 22 22 56.0 -0.5
SNR=29
ARSA ⇑iSn Sn 22 23 59.0 -4.1
ARSA Arzberg 5.76 318 Pn Pn 22 22 56.0 -0.5
comp=N,29nm,1.0s
AQU L'Aquila 5.76 265 ePn Pn 22 22 57.3 +0.7
comp=N,12nm,0.7s
AQU eSn Sn 22 24 00.7 -2.6
AQU L'Aquila 5.76 265 eP Pn 22 22 57.3 +0.7
AQU e 22 24 00.7
AQU pmax pmax
comp=Z,12nm,0.7s
AQU L'Aquila 5.76 265 Pn Pn 22 22 57.5 +0.9
comp=Z,72nm,1.1s
AQU L'Aquila 5.76 265⇑iP Pn 22 22 55.0 -1.6
AQU L'Aquila 5.76 265 ePn Pn 22 22 57.3 +0.7
comp=Z,12nm,0.7s
AQU eSn Sn 22 24 00.7 -2.6
JAVS Javornik 5.80 301 iPn Pn 22 22 57.1 +0.1
DID Didima 5.80 163 ePn Pn 22 22 57.5 +0.4
CRVS Cervenica-Dubn 5.81 2 iP Pn 22 22 57.3 +0.1
CRVS e 22 23 58.3
CRVS Cervenica-Dubn 5.81 2 iPN Pn 22 22 57.3 +0.1
CRVS eSN Sn 22 23 58.3 -6.2
CRVS eSG Sg 22 24 45.1 +8.4
OBKA Obir 5.81 308⇓iSn Sn 22 24 01.2 -3.3
OBKA Obir 5.81 308⇓iPn Pn 22 22 57.0 -0.2
SNR=8.4
OBKA ⇓iSn Sn 22 24 01.2 -3.3
OBKA Obir 5.81 308 Pn Pn 22 22 57.0 -0.2
comp=Z,8.0nm,4.0s
CING Cingoli 5.83 276 Pn Pn 22 22 57.9 +0.5
comp=Z,78nm,0.9s
ZST Bratislava 5.84 332 iPN Pn 22 22 57.8 +0.2
ZST iSN Sn 22 23 59.2 -6.0
KOLS Kolonicke sedl 5.89 7 ePN Pn 22 22 57.0 -1.3
KOLS iSG Sg 22 24 40.1 +0.9
NRCA Norcia 5.91 270 Pn Pn 22 22 59.2 +0.6
comp=Z,20nm,0.6s
MODS Modra-Piesok 5.94 334 iP Pn 22 22 59.4 +0.4
MODS i 22 24 02.4
MODS smax
comp=N,20nm,1.5s
MODS Modra-Piesok 5.94 334 iP Pn 22 22 59.4 +0.4
comp=N,20nm,1.5s
MODS iSn Sn 22 24 02.4 -5.2
VOY Vojsko 5.97 302 ePn Pn 22 22 59.3 0.0
VOY eSn Sn 22 24 06.4 -1.8
FIAM Fiamignano 5.99 265 Pn Pn 22 23 00.9 +1.3
comp=N,60nm,0.8s
CHOS Chios island 5.99 140 ePn Pn 22 23 00.0 +0.4
LNSS Leonessa 5.99 268 Pn Pn 22 23 00.9 +1.2
comp=N,43nm,0.4s
SNTG Esanatoglia 6.01 274 Pn Pn 22 22 59.6 -0.4
comp=N,9,0nm,0.4s
GORS Gorjuse 6.04 305 iPn Pn 22 23 00.4 0.0
CESI CESI - Serrava 6.05 272 Pn Pn 22 23 00.8 +0.3
comp=N,7.0nm,0.4s
CONA Conrad Observa 6.10 324⇑iPn Pn 22 23 00.2 -1.0
SNR=20
FSSB Fossombrone 6.14 278 Pn Pn 22 23 01.7 0.0
comp=N,23nm,0.5s
ASS Assisi 6.23 273 P Pn 22 23 05.4 +2.4
ASS pmax pmax
comp=Z,2.0nm,0.6s
ASS Assisi 6.23 273 Pn Pn 22 23 05.4 +2.4
comp=Z,2.0nm,0.6s
MNS Montasola 6.29 266 P Pn 22 23 04.0 +0.3
MNS pmax pmax
comp=Z,35nm,0.5s
MNS Montasola 6.29 266 Pn Pn 22 23 04.0 +0.3
comp=Z,35nm,0.5s
PIEI Pieia 6.31 277 Pn Pn 22 23 04.8 +0.7
comp=Z,12nm,0.7s
STHS Stebnicka Huta 6.33 0 iP Pn 22 23 05.0 +0.7
STHS MLR MLR
comp=Z,100nm,2.7s
STHS Stebnicka Huta 6.33 0 iP Pn 22 23 05.0 +0.7
comp=Z,100nm,2.7s
SOI Samo 6.34 219 P Pn 22 23 03.2 -1.3
SOI pmax pmax
comp=Z,8.0nm,0.6s
SOI Samo 6.34 219 Pn Pn 22 23 03.2 -1.3
comp=Z,8.0nm,0.6s
PTCC Patocco-Chiusa 6.47 303 Pn Pn 22 23 06.3 0.0
comp=Z,5.0nm,0.4s
GMNA Gemona 6.48 302 Pn Pn 22 23 08.0 +1.6
comp=Z,156nm,1.1s
CRE Caprese Michel 6.74 278 P Pn 22 23 11.4 +1.5
CRE pmax pmax
comp=Z,3.0nm,0.4s
CRE Caprese Michel 6.74 278 Pn Pn 22 23 11.4 +1.5
comp=Z,3.0nm,0.4s
MOA Molln 6.79 317⇑iPn Pn 22 23 10.3 -0.3
SNR=20
MOA ⇑iSn Sn 22 24 24.9 -3.6
KBA Koelnbreinsper 6.82 308⇑iSn Sn 22 24 24.9 -4.3
KBA Koelnbreinsper 6.82 308⇓iPn Pn 22 23 11.2 +0.2
SNR=5.5
KBA ⇑iSn Sn 22 24 24.9 -4.3
KBA Koelnbreinsper 6.82 308 Pn Pn 22 23 11.2 +0.2
comp=Z,5.0nm,5.0s
SFI Santa Sofia 6.82 280 P Pn 22 23 11.8 +0.7
SFI pmax pmax
comp=Z,19nm,0.6s
SFI Santa Sofia 6.82 280 Pn Pn 22 23 11.8 +0.7
comp=Z,19nm,0.6s
APE Apeiranthos 6.88 149 ePn Pn 22 23 12.4 +0.5
APE Apeiranthos 6.88 149⇑iP Pn 22 23 12.1 +0.2
FVI Forni Avoltri 6.91 303 P Pn 22 23 13.2 +0.9
FVI pmax pmax
comp=Z,10.0nm,0.5s
FVI Forni Avoltri 6.91 303 Pn Pn 22 23 13.2 +0.9
comp=Z,10.0nm,0.5s
VRAC Vranov 6.98 335 P Pn 22 23 13.5 +0.3
VRAC Vranov 6.98 335 Pn Pn 22 23 13.6 +0.4
comp=Z,0.6nm,0.3s,baz=147,slow=11,SNR=10.0
VRAC Vranov 6.98 335⇓iP Pn 22 23 13.7 +0.5
VRAC Vranov 6.98 335 P Pn 22 23 13.5 +0.3
OKC Ostrava-Krasne 7.06 344 ePN Pn 22 23 15.9 +1.6
OKC eSN Sn 22 24 30.1 -5.0
MORC Moravsky Berou 7.14 341 ePn Pn 22 23 09.3 -6.0
MORC eSn Sn 22 24 34.5 -2.5
ABTA Abfaltersbach 7.14 304⇑iPn Pn 22 23 15.7 +0.2
SNR=5.9
SEST Monte Rota 7.33 303 Pn Pn 22 23 19.5 +1.5
comp=Z,271nm,2.0s
CTI Castel Tesino 7.41 297 P Pn 22 23 19.0 -0.1
CTI pmax pmax
comp=Z,6.0nm,0.6s
CTI Castel Tesino 7.41 297 Pn Pn 22 23 19.0 -0.1
comp=Z,6.0nm,0.6s
GEC2 GERESS Array S 7.75 320 ePn Pn 22 23 25.4 +1.6
GEC2 eSn Sn 22 24 51.9 -0.2
GEC2 GERESS Array S 7.75 320 eP Pn 22 23 25.4 +1.6
GEC2 eS Sn 22 24 51.9 -0.2
GERES GERESS Array B 7.75 320 Pn Pn 22 23 24.5 +0.7
comp=Z,1.0nm,0.3s,baz=139,slow=13,SNR=25
GERES Sn Sn 22 24 53.6 +1.5
comp=Z,0.5nm,0.3s,baz=133,slow=24,SNR=2.8
WTTA Wattenberg 7.92 305⇑iSn Sn 22 24 53.0 -3.2
WTTA Wattenberg 7.92 305⇑iPn Pn 22 23 26.8 +0.7
SNR=18
WTTA ⇑iSn Sn 22 24 53.0 -3.2
WTTA Wattenberg 7.92 305 Pn Pn 22 23 26.8 +0.7
comp=Z,17nm,9.0s
DPC Dobruska-Polom 7.98 337 ePN Pn 22 23 27.8 +0.8
WATA Walderalm 7.99 305⇓iPn Pn 22 23 27.1 0.0
SNR=12
KHC Kasperske Hory 8.01 322 ePn Pn 22 23 27.4 0.0
KHC e 22 23 34.0
KHC e 22 23 44.0
KHC eSn Sn 22 24 53.2 -5.4
KHC Kasperske Hory 8.01 322 ePN Pn 22 23 27.4 0.0
KHC x x 22 23 34.0
KHC x x 22 23 44.0
KHC eSN Sn 22 24 53.2 -5.4
SQTA Sankt Quirin 8.15 304⇑iPn Pn 22 23 29.8 +0.4
SNR=22
SQTA Sankt Quirin 8.15 304 Pn Pn 22 23 29.8 +0.5
comp=Z,21nm,5.0s
PRU Pruhonice 8.27 329 ePN Pn 22 23 31.6 +0.7
MOTA Moosalm 8.28 304⇑iPn Pn 22 23 31.3 +0.3
SNR=35
MOTA Moosalm 8.28 304 Pn Pn 22 23 31.3 +0.3
comp=Z,35nm,4.0s
FETA Feichten 8.37 302⇓iPn Pn 22 23 32.9 +0.7
SNR=12
RETA Reutte 8.55 305⇑iPn Pn 22 23 35.6 +0.9
SNR=12
GVD Gavdhos 8.55 164 Pn Pn 22 23 30.5 -4.3
DAVOX Davos/Dischmat 8.81 299 Pn Pn 22 23 39.4 +1.0
comp=Z,1.0nm,0.3s,baz=135,slow=17,SNR=13
PGF Pioggiola 8.96 271 ePn Pn 22 23 39.3 -1.1
DAVA Damuels 9.00 302⇑iPn Pn 22 23 41.2 +0.3
SNR=10.0
DAVA ⇑iSn Sn 22 25 19.4 -3.5
AKASG Malin Array Be 9.40 33 Pn Pn 22 23 46.9 +0.5
comp=Z,0.2nm,0.3s,baz=219,slow=12,SNR=3.2
AKASG Lg 22 26 32.9
comp=Z,0.3nm,0.3s,baz=218,slow=29,SNR=5.4
CLL Collm 9.91 329 ePn Pn 22 23 53.0 -0.4
CLL eSn Sn 22 25 25.0 -20
CLL Sg Sn 22 26 29.0 +44
CLL Collm 9.91 329 ePn Pn 22 23 53.0 -0.4
CLL eSn Sn 22 25 25.0 -20
CLL ex x 22 26 11.0
CLL e(Sb) Sn 22 26 29.0 +44
SBF Sospel 10.01 279 ePn Pn 22 23 54.0 -0.8
SBF eSn Sn 22 25 39.6 -8.1
comp=Z,3.5nm,0.4s
SBF Sospel 10.01 279 ePn Pn 22 23 54.0 -0.8
SBF eSn Sn 22 25 39.6 -8.1
comp=Z,1.8nm,0.4s
SPAK Spaichingen-Ko 10.01 304 P Pn 22 23 54.7 -0.1
BFO Black Forest 10.39 305 ePn Pn 22 24 00.3 +0.4
comp=Z,6.2nm,0.4s
BFO Black Forest 10.39 305 eP Pn 22 24 00.3 +0.4
BFO pmax pmax
comp=Z,6.0nm,0.4s
BFO Black Forest 10.39 305 eP Pn 22 24 00.3 +0.4
comp=Z,6.0nm,0.4s
FELD Feldberg im Sc 10.40 302 P Pn 22 24 00.1 0.0
MBDF Montbardon 10.52 284 ePn Pn 22 24 00.9 -0.8
MBDF eSn Sn 22 25 52.0 -8.0
comp=Z,1.2nm,0.3s
MBDF Montbardon 10.52 284 ePn Pn 22 24 00.9 -0.8
MBDF eSn Sn 22 25 52.0 -8.0
comp=Z,0.6nm,0.3s
FRF La Foret Royal 10.59 277 ePn Pn 22 24 01.5 -1.2
FRF eSn Sn 22 25 53.2 -8.7
comp=Z,2.6nm,0.5s
FRF La Foret Royal 10.59 277 ePn Pn 22 24 01.5 -1.2
FRF eSn Sn 22 25 53.2 -8.7
comp=Z,1.3nm,0.5s
BNI Bardonecchia 10.61 286 Pn Pn 22 24 04.7 +1.8
BNI Bardonecchia 10.61 286 Pn Pn 22 24 04.7 +1.7
LPG La Plagne 10.61 288 ePn Pn 22 24 02.4 -0.6
LPG eSn Sn 22 25 53.9 -8.4
comp=Z,6.6nm,0.7s
LPG La Plagne 10.61 288 ePn Pn 22 24 02.4 -0.6
LPG eSn Sn 22 25 53.9 -8.4
comp=Z,3.3nm,0.7s
LPL La Plagne 10.62 288 ePn Pn 22 24 02.5 -0.7
LPL eSn Sn 22 25 54.3 -8.4
comp=Z,4.3nm,0.6s

LPL	La Plagne	10.62	288	*e*Pn	Pn	22 24 02.5	-0.7
LPL				*e*Sn	Sn	22 25 54.3	-8.4
comp=Z,2.2nm,0.6s							
LMR	La Mourre	10.70	276	*e*Pn	Pn	22 24 02.9	-1.4
MOF	Molkenrain	10.94	301	P	Pn	22 24 07.2	-0.3
ECH	Echery	11.06	302	P	Pn	22 24 09.0	-0.1
CDF	Champ du Feu	11.06	304	*e*Pn	Pn	22 24 08.4	-0.7
HINF	Hinteralfeld	11.10	300	*e*Pn	Pn	22 24 09.2	-0.5
HINF				*e*Sn	Sn	22 26 06.0	-8.4
comp=Z,4.3nm,0.6s							
ORIF	Oris-en-Rattie	11.16	285	*e*Pn	Pn	22 24 09.9	-0.6
ORIF				*e*Sn	Sn	22 26 06.7	-9.2
comp=Z,0.9nm,0.2s							
ORIF	Oris-en-Rattie	11.16	285	*e*Pn	Pn	22 24 09.9	-0.6
ORIF				*e*Sn	Sn	22 26 06.7	-9.2
comp=Z,0.4nm,0.2s							
CABF	La Chapelle	11.27	293	*e*Pn	Pn	22 24 11.2	-0.7
HAU	Haudompre	11.49	300	*e*Pn	Pn	22 24 15.1	+0.1
VIVF	Saint-Julien-l	12.02	284	*e*Pn	Pn	22 24 20.5	-1.7
WLF	Walferdange	12.26	308	Pn	Pn	22 24 26.6	+1.0
WLF	Walferdange	12.26	308	P	Pn	22 24 26.6	+1.0
RGN	Rugen	12.56	339	Pn	Pn	22 24 28.9	-0.8
LOR	Lormes	12.90	295	*e*Pn	Pn	22 24 33.3	-1.0
CART	Cartagena	17.75	259	P	Pn	22 25 34.1	-4.1
FINES	FINESS Array B	18.61	7	P	Pn	22 25 49.7	+1.1
FINES	FINESS Array B	18.61	7	P	Pn	22 25 49.7	+1.1
comp=Z,0.1nm,0.3s,baz=196,slow=13,SNR=6.4							
EKA	Eskdalemuir Ar	19.94	316	P	Pn	22 26 02.5	-2.1
comp=Z,0.1nm,0.3s,baz=117,slow=11,SNR=3.8							
MDT	Midelt	22.69	252	P	P	22 26 29.7	-3.1
comp=Z,0.6nm,0.5s,mb3.4,baz=83,slow=12,SNR=3.6							
ARCES	ARCESS Array B	26.60	3	P	P	22 27 10.6	+1.2
comp=Z,1.6nm,0.8s,mb3.8,baz=177,slow=7.3,SNR=6.8							
BRVK	Borovoye	33.68	55	P	P	22 28 04.6	-7.6
TORD	Torodi Ar. Bea	34.24	215	P	P	22 28 17.0	-0.4
comp=Z,0.9nm,0.5s,mb3.9,baz=18,slow=6.6,SNR=21							
EKS2	Erkin-Say	38.03	72	P	P	22 28 40.4	-9.2
AAK	Ala-Archa	38.54	72	*e*P	P	22 28 45.1	-8.7
UCH	Uchtor	38.69	72	*e*P	P	22 28 46.2	-8.9
KURK	Kurchatov	39.11	58	*e*P	P	22 28 49.4	-9.1
TKM2	Tokmak 2	39.21	71	*e*P	P	22 28 51.5	-7.9
comp=Z,1.4nm,0.8s,mb3.6							
TKM2	Tokmak 2	39.21	71	*e*P	P	22 28 51.5	-7.9
TKM2				pmax	pmax		
comp=Z,1.0nm,0.8s,mb3.5							
ZAL	Zalesovo	42.16	52	P	P	22 29 24.9	+1.3
ZALV	Zalesovo Beam	42.16	52	P	P	22 29 24.9	+1.1
comp=Z,0.7nm,0.4s,mb3.7,baz=286,slow=8.6,SNR=4.8							
MKAR	Makanchi Array	42.47	63	P	P	22 29 26.4	+0.1
comp=Z,0.3nm,0.5s,mb3.3,baz=272,slow=7.2,SNR=4.0							
DBIC	Dimbokro	42.91	220	P	P	22 29 20.9	-9.2
DBIC	Dimbokro	42.91	220	P	P	22 29 27.1	-3.0
comp=Z,2.5nm,1.0s,mb3.9,baz=353,slow=3.3,SNR=3.0							
KMBO	Kilima Mbogo	46.34	157	P	P	22 29 48.4	-9.1
TLY	Talaya	53.67	50	*e*P	P	22 30 45.1	-7.8
LSA	Lhasa	56.38	79	*e*P	P	22 31 03.9	-8.9
comp=Z,0.9nm,0.4s,mb4.2							
LSA	Lhasa	56.38	79	*e*P	P	22 31 03.9	-8.9
LSA				pmax	pmax		
comp=Z,1.0nm,0.4s,mb4.2							
SONM	Songino Array	57.04	53	P	P	22 31 19.0	+1.7
comp=Z,0.9nm,1.0s,mb3.7,baz=266,slow=4.5,SNR=5.5							
YAK	Yakutsk	60.62	31	P	P	22 31 33.0	-8.8
PALK	Pallekele	63.00	106	P	P	22 31 48.8	-10
ENH	Enshi	68.90	68	*e*P	P	22 32 25.6	-11
comp=Z,0.4nm,0.5s,mb3.9							
YKA	Yellowknife Ar	68.95	340	P	P	22 32 35.8	-0.4
comp=Z,0.3nm,0.6s,mb3.7,baz=35,slow=5.6,SNR=6.8							
SUR	Sutherland	75.11	180	P	P	22 33 04.2	-9.1
YSS	Yuzh-Sakhalins	76.53	37	P	P	22 33 12.8	-8.7
YMR	Madison River	82.75	328	P	P	22 33 45.4	-10
comp=Z,16nm,0.7s,mb5.4							

IDC 19 22:48:45.5±1.8, 719S×15478E, h0km, mb3.7/6, mb1 3.9/6, mb1mx3.8/14, mbtmp3.7/6, Error ellipse: s-maj=64.3km s-min=24.1km az=112.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	23.53	235	P	P	22 53 57.3	-0.5
1.6nm,0.9s,baz=61,slow=9.5,SNR=11							
ASAR	Alice Springs	25.89	228	P	P	22 54 19.7	+0.5
0.6nm,0.8s,baz=60,slow=9.3,SNR=6.9							
STKA	Stephens Creek	27.47	205	P	P	22 54 33.3	-0.1
2.0nm,0.8s,baz=4.6,slow=11,SNR=5.3							
SONM	Songino Array	69.38	327	P		22 59 55.2	+0.1
0.3nm,0.8s,baz=144,slow=6.6,SNR=2.9							
MKAR	Makanchi Array	83.41	319	P	P	23 01 15.2	+0.4
0.7nm,0.8s,baz=118,slow=4.6,SNR=7.4							
YKA	Yellowknife Ar	96.61	28	P	P	23 02 16.9	-0.2
0.4nm,0.9s,baz=270,slow=4.9,SNR=5.6							

CSEM 19 22:54:40.7±0.7, 3861N×2920W, h3km±4km, ML3.0, Error ellipse: s-maj=8.6km s-min=5.1km az=9.0, After PDA
PDA 19 22:54:40.7±0.7, 3861N×2920W, h3km±4km, MD3.8, ML3.0, Error ellipse: s-maj=8.6km s-min=5.1km az=9.0

SVSA 19 22:54:40.7±0.7, 3861N×2920W, h3km±4km, MD3.8, ML3.0, Error ellipse: s-maj=8.6km s-min=5.1km az=9.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CALA	Caldeira	0.39	94	*i* P	Pg	22 54 47.5	-0.7
CALA				*e*S	Sg	22 54 53.3	+0.1
CALA	Caldeira	0.39	94	*e*S	Sg	22 54 53.3	+0.1
HOR	Horta	0.45	100	*i* P	Pg	22 54 48.5	-0.9
HOR				*e*S	Sg	22 54 54.9	-0.3
HOR	Horta	0.45	100	*e*S	Sg	22 54 54.9	-0.3
PICO	Pico	0.61	100	*i* P	Pg	22 54 51.2	-1.3
PICO				*e*S	Sg	22 54 59.1	-1.3
PICO	Pico	0.61	100	*e*S	Sg	22 54 59.1	-1.3
ROSA	Rosais	0.76	81	*e*P	Pg	22 54 53.5	-1.7
ROSA				*e*S	Sg	22 55 02.5	-2.5
PSET	Sete Cidades	2.85	105	*e*P	Pn	22 55 22.5	-4.5
PSET				*e*S	Sn	22 55 53.4	-8.4
PSET				A		22 55 57.6	
29nm,0.2s							
PSET	Sete Cidades	2.85	105	*e*P	Pn	22 55 22.5	-4.5
PSET				*e*S	Sn	22 55 53.4	-8.4
CMLA	Cha da Macela	3.01	105	*e*P	Pn	22 55 24.9	-4.4
CMLA				*e*S	Sn	22 55 57.9	-8.0
CMLA				A		22 56 03.9	
19nm,0.4s							
CMLA	Cha da Macela	3.01	105	*e*P	Pn	22 55 24.9	-4.4
CMLA				*e*S	Sn	22 55 57.9	-8.0

ISCJB 19 22:56:25.4±1.0, 198S±02×1778W±01, h450km, mb4.1/10, Error ellipse: s-maj=23.5km s-min=16.8km az=24.2
NEIC 19 22:56:27.9±5.3, 1980S×17778W, h470km±56km, mb4.4/5, Error ellipse: s-maj=31.5km s-min=17.0km az=45.0
IDC 19 22:56:28.9±12.0, 1980S×17779W, h478km±111km, mb3.7/8, mb1 3.8/9, mb1mx3.5/19, mbtmp3.7/9, Error ellipse: s-maj=91.7km s-min=18.8km az=46.0

ISC 19 22:56:26.6±1.0, 198S±02×1778W±01, h450km, n22, σ0§68/19, mb4.1/10, 2D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	18.90	192	P	P	23 00 16.9	-0.9
1.4nm,0.3s,baz=344,slow=7.4,SNR=6.4							
ARMA	Armidale	29.55	243	*e*P	P	23 01 54.0	+0.9
CTA	Charters Tower	33.77	263	⇓*i*P	P	23 02 30.6	+1.1
7.0nm,0.4s,mb4.4							
CTA	Charters Tower	33.77	263	P	P	23 02 30.6	+1.1
12nm,0.5s,mb4.6,baz=93,slow=10,SNR=15							
STKA	Stephens Creek	38.27	243	⇓*i*P	P	23 03 06.8	-0.1
3.4nm,0.6s,mb4.0							
STKA	Stephens Creek	38.27	243	P	P	23 03 07.0	+0.1
5.7nm,0.8s,mb4.1,baz=95,slow=9.8,SNR=16							
ASAR	Alice Springs	44.88	256	P	P	23 03 59.5	-0.2
14nm,0.7s,mb4.5,baz=96,slow=7.6,SNR=143							
WB2	Warramunga Arr	44.89	261	*e*P	P	23 03 58.7	-1.1
WRAB	Tennant Creek	44.89	261	*e*P	P	23 03 59.5	-0.4
15nm,1.0s,mb4.4							
WRA	Warramunga Arr	44.90	261	P	P	23 03 59.6	-0.3
6.9nm,0.5s,mb4.3,baz=97,slow=7.8,SNR=108							
KAKA	Kakadu	48.17	271	*e*P	P	23 04 24.8	-0.1
12nm,0.9s,mb4.2							
FITZ	Fitzroy Crossi	53.32	262	P	P	23 05 03.0	+0.4
1.8nm,0.5s,mb3.7,baz=311,slow=5.8,SNR=8.8							
VNDA	Vanda	58.60	185	P	P	23 05 39.4	+1.0
1.6nm,0.7s,mb3.4,baz=356,slow=6.7,SNR=20							
QSPA	South Pole Qui	70.24	180	*e*P	P	23 06 53.5	+0.9
6.6nm,0.4s,mb4.5							
QSPA	South Pole Qui	70.24	180	P	P	23 06 53.4	+0.8
8.2nm,0.7s,mb4.4,baz=357,slow=1.3,SNR=46							
MAW	Mawson	82.27	200	P	P	23 07 58.4	-0.9
1.4nm,0.5s,mb3.8,baz=144,slow=7.2,SNR=8.9							
FLWY	Flagg Ranch	88.25	42	P	P	23 08 28.8	0.0
VNA2	Neumayer--Watz	89.25	177	*e*	P	23 08 32.8	-0.3
baz=204,slow=3.3							
VNA2				*e*		23 08 35.4	
VNA2				*e*		23 08 40.2	
VNA1	Neumayer--Stat	89.47	177	*e*	P	23 08 26.2	-7.9
VNA1				*e*		23 08 28.6	
VNA1				*e*		23 08 34.5	
AKASG	Malin Array Be	142.52	332	PKP	PKPdf	23 15 05.3	-1.8
AKASG	Malin Array Be	142.52	332	PKP	PKPdf	23 15 05.3	-1.8
0.8nm,0.4s,baz=42,slow=4.3,SNR=14							
TORD	Torodi Ar. Bea	173.34	176	PKPab	PKPab	23 17 13.7	-1.5
0.6nm,0.8s,baz=178,slow=2.9,SNR=5.1							

CSEM 19 22:58:12.8±1.4, 3867N×2908W, h5km±7km, ML2.7, Error ellipse: s-maj=16.6km s-min=9.3km az=33.0, After PDA
PDA 19 22:58:12.8±1.4, 3867N×2908W, h5km±7km, MD3.8, ML2.7, Error ellipse: s-maj=16.6km s-min=9.3km az=33.0

SVSA 19 22:58:12.8±1.4, 3867N×2908W, h5km±7km, MD3.8, ML2.7, Error ellipse: s-maj=16.6km s-min=9.3km az=33.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CALA	Caldeira	0.30	106	*i* P	Pg	22 58 18.3	-0.4
CALA				*e*S	Sg	22 58 22.1	-0.6
CALA	Caldeira	0.30	106	*e*S	Sg	22 58 22.1	-0.6
HOR	Horta	0.38	111	*i* P	Pg	22 58 19.0	-1.0
HOR				*e*S	Sg	22 58 23.9	-1.0
HOR	Horta	0.38	111	*e*S	Sg	22 58 23.9	-1.0
PICO	Pico	0.54	108	*e*P	Pg	22 58 21.7	-1.4
PICO				*e*S	Sg	22 58 29.3	-0.7
ROSA	Rosais	0.66	85	*i* P	Pg	22 58 23.4	-2.0
ROSA				*e*S	Sg	22 58 31.8	-2.1
ROSA	Rosais	0.66	85	*e*S	Sg	22 58 31.8	-2.1
PSET	Sete Cidades	2.77	107	*e*P	Pn	22 58 53.3	-4.5
PDA	Ponta Delgada	2.84	108	*e*S	Sn	22 59 25.8	-7.5
CMLA	Cha da Macela	2.94	107	*e*P	Pn	22 58 56.2	-3.9
CMLA				*e*S	Sn	22 59 28.2	-7.6
CMLA				A		22 59 33.7	
9.1nm,0.4s							
CMLA	Cha da Macela	2.94	107	*e*P	Pn	22 58 56.2	-3.9
CMLA				*e*S	Sn	22 59 28.2	-7.6

IDC 19 23:13:18.6±0.7, 1757N×6189W, h0km, mb4.1/16, mb1 4.3/17, mb1mx4.1/26, mbtmp4.1/17, ML6.5/1, MS3.1/5, Ms1 3.2/5, ms1mx2.9/26, Error ellipse: s-maj=18.6km s-min=14.0km az=19.0
TRN 19 23:13:20.4, 1764N×6179W, h35km, MD3.9, M3.4(FDF)
TRN Felt in Antigua.
NEIC 19 23:13:20.5, 1766N×6180W, h35km, mb4.4/2, MD3.9(TRN), After TRN.
NEIC Felt [II] on Antigua.
ISCJB 19 23:13:22.4±0.6, 1751N±004×6195W±005, h49km±6km, mb4.1/18, MS3.3/3, Error ellipse: s-maj=9.4km s-min=3.8km az=137.9

ISC 19 23:13:23.3±0.7, 1756N±005×6191W±005, h38km±8km, n65, σ1§18/79, mb4.1/18, MS3.3/3, 6C, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STMA	St. Maarten, A	1.24	293	*e*P	Pn	23 13 44.8	+0.7
STMA				*e*S	Sn	23 14 00.3	+0.7
LZG	Guadaloupe-1	1.41	175	⇑*i*P	Pn	23 13 45.8	-0.7
SFG	Saint Francois	1.46	152	*e*P	Pn	23 13 46.2	-1.0
DEG	La Desirade	1.48	147	⇑*i*P	Pn	23 13 45.7	-1.7
BCG	Bois Riant Cap	1.49	169	⇑*i*P	Pn	23 13 46.8	-0.7
SCG	Saint Claude	1.53	172	⇑*i*P	Pn	23 13 47.5	-0.6
DOG	Dongo Capester	1.54	170	⇑*i*P	Pn	23 13 47.5	-0.7
MGG	Marie-Galante	1.73	161	⇑*e*P	Pn	23 13 50.0	-0.8
MGG				*e*S	Sn	23 14 10.4	-1.2
BIM	Bigot	3.13	165	*e*P	Pn	23 14 09.9	-0.2
MVM	Montagne Vaucl	3.14	162	*e*P	Pn	23 14 10.1	-0.1
MVM				*e*S	Sn	23 14 44.1	-2.4
MTP	Monte Pirata	3.51	279	*e*Pn	Pn	23 14 11.4	-4.0
MTP				Pg	Pn	23 14 18.5	+3.2
MTP				*e*Sn	Sn	23 14 50.8	-4.9
SLW	Petit Monier	3.64	165	*e*P	Pn	23 14 17.4	+0.3
SLW				*e*S	Sn	23 14 58.2	-0.6
SLB	Belfond	3.80	167	*e*P	Pn	23 14 19.1	-0.2
SLB				*e*S	Sn	23 15 03.6	+0.8
CPD	Cerro la Pandu	3.85	278	*e*Pn	Pn	23 14 19.3	-0.6
CPD				*e*Sn	Sn	23 15 02.3	-1.7
SJG	San Juan	4.08	278	Pn	Pn	23 14 24.2	+1.1
61nm,0.3s,baz=103,slow=58							
SJG				Sn	Sn	23 15 11.8	+2.2
42nm,0.3s,baz=58,slow=22,SNR=7.3							
SFAN	Fancy Village	4.21	170	*e*P	Pn	23 14 19.7	-5.3
SSV	Crater Summit	4.26	171	*e*P	Pn	23 14 26.1	+0.4
SSV				*e*S	Sn	23 15 14.3	+0.1
SVV	Soufriere Volc	4.27	171	*e*P	Pn	23 14 26.7	+1.0
SVV				*e*S	Sn	23 15 13.2	-1.1
BHS	Barnard House	4.30	170	*e*P	Pn	23 14 26.4	+0.2
SVB	Belmont	4.31	171	*e*P	Pn	23 14 27.4	+1.1
SVB				*e*S	Sn	23 15 16.9	+1.6
FCV	Fort Charlotte	4.42	172	*e*P	Pn	23 14 28.7	+0.9
FCV				*e*S	Sn	23 15 19.3	+1.2
GRGR	Grenville	5.40	177	*e*Pn	Pn	23 14 41.3	0.0
172nm,0.6s							
GRGR				*e*Sn	Sn	23 15 43.5	+1.3
PCRV	Puerto La Cruz	7.80	200	Pn	Pn	23 15 17.5	+3.2
2.9nm,0.3s,baz=11,slow=5.9,SNR=8.4							
PCRV				LR	LR	23 18 32.0	
comp=Z,179nm,19.2s,baz=184,slow=40							
SDDR	Presa de Saban	9.02	280	*e*Pn	Pn	23 15 31.6	+0.5
35nm,0.8s							
SDDR				*e*Sn	Sn	23 17 10.5	-0.9
SDV	Santo Domingo	12.09	226	Pn	Pn	23 16 18.3	+5.2
2.9nm,0.5s							
SDV				LR	LR	23 20 19.1	
SDV	Santo Domingo	12.09	226	Pn	Pn	23 16 16.4	+3.3
0.8nm,0.3s,baz=44,slow=16,SNR=4.0							
SDV				LR	LR	23 20 19.0	
comp=Z,37nm,20.8s,baz=148,slow=35							
JTS	JuntasAbangare	23.49	255	P	P	23 18 28.7	-1.3
TEIG	Tepich	25.08	280	*e*P	P	23 18 43.2	-1.2
TEIG	Tepich	25.08	280	P	P	23 18 45.0	+0.5
4.4nm,0.4s,mb4.3,baz=60,slow=6.2,SNR=5.6							
SDMD	Soldier's Deli	25.35	332	*e*P	P	23 18 44.2	-2.4
BRNJ	Basking Ridge	25.50	337	*e*P	P	23 18 43.9	-4.2
SIV	San Ignacio	33.34	179	P	P	23 19 57.7	-0.1
2.2nm,0.5s,mb4.4,baz=360,slow=7.1,SNR=20							
LPAZ	La Paz	34.18	191	P	P	23 20 03.9	-1.3
LPAZ	La Paz	34.18	191	LR	LR	23 34 15.5	
comp=Z,50nm,20.8s,MS3.2,baz=132,slow=37							
KSU1	Kansas State U	37.00	313	*e*P	P	23 20 26.4	-2.8
WMOK	Wichita Mounta	37.01	305	*e*P	P	23 20 27.0	-2.3
SCHQ	Schefferville	37.40	355	P	P	23 20 33.8	+1.5
SCHQ	Schefferville	37.40	355	P	P	23 20 33.6	+1.3
2.9nm,0.7s,mb4.2,baz=250,slow=3.8,SNR=9.6							
TXAR	Lajitas Array	39.87	295	P	P	23 20 54.0	+0.5
0.5nm,0.5s,mb3.5,baz=127,slow=7.2,SNR=12							
TXAR				PcP	PcP	23 23 00.7	+1.9
0.4nm,0.6s,baz=109,slow=4.8,SNR=4.0							
MNTX	Cornudas Mount	41.68	298	*e*P	P	23 21 09.1	+0.8
1.3nm,0.6s,mb3.7							
ULM	Lac du Bonnet	42.45	328	P	P	23 21 14.3	-0.1
ULM	Lac du Bonnet	42.45	328	P	P	23 21 14.3	-0.1
2.8nm,0.5s,mb4.2,baz=127,slow=9.6,SNR=5.0							
SDCO	Great Sand Dun	43.07	307	*e*P	P	23 21 19.0	-0.6
BNM	Barren Site	43.14	301	*e*P	P	23 21 20.2	0.0
ANMO	Albuquerque	43.16	303	*e*P	P	23 21 21.9	+1.6
ANMO	Albuquerque	43.16	303	P	P	23 21 21.8	+1.4
1.6nm,0.5s,mb4.0,baz=103,slow=5.7,SNR=6.4							
LPM	Los Pinos Moun	43.17	302	*e*P	P	23 21 19.7	-0.8
CPUP	Villa Florida	43.85	174	P	P	23 21 27.5	+1.6
2.6nm,0.6s,mb4.1,baz=342,slow=8.2,SNR=5.1							
RSSD	Black Hills	44.15	316	P	P	23 21 24.3	-3.8
PDAR	Pinedale Array	47.46	312	P	P	23 21 55.5	+1.2
0.6nm,0.4s,mb3.9,baz=112,slow=9.2,SNR=7.1							
LKWY	Lake	48.58	314	P	P	23 21 59.1	-3.9
15nm,1.0s,mb5.0							
HWUT	Hardware Ranch	48.59	310	*e*P	P	23 22 02.4	-0.7
BGU	Big Grassy Mou	49.51	309	*e*P	P	23 22 09.3	-0.8
HLID	Hailey	51.10	312	P	P	23 22 19.1	-3.0
NVAR	Mina Array Bea	53.11	305	P	P	23 22 38.8	+1.7
0.8nm,0.7s,mb3.8,baz=103,slow=7.6,SNR=7.2							
MDT	Midelt	53.43	62	P	P	23 22 41.8	+2.1
1.4nm,0.8s,mb3.9,baz=258,slow=8.6,SNR=4.0							
ESLA	Sonseca Array	54.45	54	P	P	23 22 41.3	-5.6
DBIC	Dimbokro	56.63	94	P	P	23 23 03.8	+0.7
1.6nm,0.5s,mb4.3,baz=270,slow=8.4,SNR=5.0							
YKA	Yellowknife Ar	57.73	334	P	P	23 23 10.0	+0.1
YKA				LR	LR	23 46 00.9	
YKA	Yellowknife Ar	57.73	334	P	P	23 23 10.0	+0.1
2.8nm,0.6s,mb4.5,baz=106,slow=7.4,SNR=47							
YKA				LR	LR	23 46 00.9	
comp=Z,23nm,18.8s,MS3.3,baz=280,slow=34							
RES	Resolute Bay	59.89	350	*e*P	P	23 23 23.2	-1.6
TORD	Torodi Ar. Bea	61.26	84	P	P	23 23 35.5	+0.4
0.7nm,0.7s,mb3.9,baz=294,slow=5.8,SNR=6.1							
GERES	GERESS Array B	67.56	44	P	P	23 24 16.6	+0.9
0.9nm,0.6s,mb4.0,baz=276,slow=5.7,SNR=11							
ARCES	ARCESS Array B	72.80	22	P	P	23 24 48.5	+1.0
1.8nm,0.7s,mb4.1,baz=286,slow=6.2,SNR=7.6							
ARCES				LR	LR	23 49 43.9	
comp=Z,16nm,21.8s,MS3.3,baz=352,slow=30							
FINES	FINESS Array B	73.80	30	P	P	23 24 54.5	+1.0
2.0nm,0.8s,mb4.1,baz=270,slow=3.6,SNR=12							

SKO 19 23:30:50.9, 3925N×2147E, h0km
ISCJB 19 23:30:50.8±0.4, 3931N±002×2161E±002, h1km±3km, Error ellipse: s-maj=3.0km s-min=2.5km az=166.6
NEIC 19 23:30:51.6, 3929N×2158E, h19km, ML3.7(ATH), After ATH.
ATH 19 23:30:51.6, 3929N×2158E, h19km±2km, MD3.7/15, ML3.7
THE 19 23:30:52.0, 3930N×2159E, h5km, ML3.6
CSEM 19 23:30:51.8±0.1, 3929N×2155E, h10km, ML3.7, Error ellipse: s-maj=1.1km s-min=1.0km az=138.0

ISC 19 23:30:51.6±0.4, 3931N±002×2162E±002, h2km±3km, n64, σ1§29/94, 1C-2D, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THL	Klokotos Trika	0.40	50	*e*Pg	Pg	23 31 00.5	+1.4
THL				*e*Sg	Sg	23 31 06.6	+2.3
THL	Klokotos Trika	0.40	50	*e*Pb	Pg	23 31 00.8	+1.6
THL				*e*Sg	Sg	23 31 06.6	+2.3
EVR	Evrytania	0.42	160	*e*PB	Pg	23 30 59.4	-0.2
MEV	Metsovon	0.56	328	*e*Pg	Pg	23 31 02.3	0.0
MEV				*e*Sg	Sg	23 31 11.4	+1.8
MEV	Metsovon	0.56	328	*e*Pg	Pg	23 31 02.3	0.0
MEV				*e*Sg	Sg	23 31 11.4	+1.8
AGG	Agios Georgios	0.62	117	*e*Pg	Pg	23 31 04.4	+0.9
AGG				*e*Sg	Sg	23 31 13.3	+1.7
JAN	Janina	0.69	300	*e*PN	Pg	23 31 04.3	-0.4
LKD	Levkas	0.97	232	*e*Pg	Pg	23 31 08.6	-1.5
LKD				*e*Sg	Sg	23 31 23.6	+1.0
KZN	Kozani	1.00	7	⇓*i*PN	Pn	23 31 11.2	-1.4
KZN				*e*SN	Sn	23 31 25.7	-1.5
IGT	Igoumenitsa	1.02	283	*e*Pg	Pg	23 31 10.0	-1.1
IGT				*e*Sg	Sg	23 31 25.8	+1.5
LIT	Litokhoron	1.03	40	*e*Pg	Pg	23 31 11.7	+0.3
LIT				*e*Sg	Sg	23 31 27.0	+2.2
SELA	Sela	1.06	168	*e*Pg	Pg	23 31 11.2	-0.6
SELA				*e*Sg	Sg	23 31 27.4	+1.9
XOR	Xorichti	1.22	87	*e*Pg	Pg	23 31 15.6	+0.7
XOR				*e*Sg	Sg	23 31 33.2	+2.4
RLS	Riolos of Patr	1.26	186	⇑*i*PN	Pn	23 31 15.0	-1.1
LKR	Lokris	1.26	121	*e*Pg	Pg	23 31 15.7	0.0
LKR	Lokris	1.26	121	*e*Pn	Pn	23 31 16.6	+0.5
KFL	Anninata	1.36	209	*e*Pg	Pg	23 31 16.0	-1.7
SRN	Sarande	1.37	295	*i*PN	Pn	23 31 18.1	+0.4
SRN				*i*SN	Sn	23 31 39.3	+2.9
VLS	Valsamata	1.39	216	*e*Pg	Pg	23 31 15.5	-2.7
VLS	Valsamata	1.39	216	*e*Pb	Pb	23 31 15.9	-2.3
KBN	Korca	1.46	334	*i*PN	Pn	23 31 20.2	+1.3
KBN				*i*SN	Sn	23 31 41.5	+3.0
KEK	Kerkira	1.47	286	*e*PN	Pn	23 31 19.1	+0.1
FNA	Florina	1.48	353	*e*Pg	Pg	23 31 18.7	-1.2
FNA				*e*Sg	Sg	23 31 39.6	+0.4
LTK	Loutraki	1.66	140	*e*Pb	Pb	23 31 21.9	-0.9
THE	Thessaloniki	1.68	38	*e*Pb	Pb	23 31

Code	Station	Δ°	AZ°	Phase	Op	ID	Time	Res
KARA	Karaisali	1.27	243	*e*PN		Pn	23 32 00.5	-2.1
KARA				*e*SN		Sn	23 32 20.1	-0.2
NIG	Nigde	1.49	280	*e*PN		Pn	23 32 04.5	-1.1
NIG				*e*SN		Sn	23 32 25.6	-0.1
ATAB	Bozova	1.50	104	*e*P		Pn	23 32 04.5	-1.3
ATAB				*e*S		Sb	23 32 27.4	+1.5
AVNT	Avonos	1.57	307	*e*P		Pn	23 32 06.1	-0.6
AVNT				*e*S		Sn	23 32 27.8	+0.2
MALT	Malatya	1.61	73	*e*PN		Pn	23 32 06.7	-0.6
MALT				*e*SN		Sn	23 32 29.6	+0.9
MYA	Malataya	1.61	72	*e*PN		Pn	23 32 06.0	-1.4
HTY	Hatay	1.75	189	*e*PN		Pn	23 32 08.0	-1.2
MERS	Mersin	1.84	238	*e*PN		Pn	23 32 09.7	-0.7
MERS				*e*SN		Sn	23 32 33.9	-0.3
URFA	Urfa	1.91	102	*e*PN		Pn	23 32 10.3	-1.2
URFA				*e*SN		Sn	23 32 36.8	+0.6
YOZ	Yozgat	2.00	334	*e*PN		Pn	23 32 12.3	-0.2
YOZ				*e*SN		Sn	23 32 39.3	+1.1
ELZG	Elazig	2.08	71	*e*P		Pn	23 32 14.6	+0.8
ELZG				*e*S		Sg	23 32 50.8	+6.0
SVSK	Karacayir	2.10	11	*e*PN		Pn	23 32 14.3	+0.3
KEMA	Kemaliye	2.12	48	*e*P		Pn	23 32 16.3	+2.0
KEMA				*e*S		Sg	23 32 50.7	+4.6
CDAG	Cicekdag	2.41	318	*e*P		Pn	23 32 15.9	-2.3
CDAG				*e*S		Sn	23 32 52.7	+4.4
KAMT	Kaman	2.63	306	*e*PN		Pn	23 32 21.6	+0.3
IKL	Isikli	2.75	235	*e*PN		Pn	23 32 23.1	+0.2
ERMK	Ermenek	3.08	248	*e*P		Pn	23 32 28.7	+1.2
EZC	Erzincan	3.23	53	*e*PN		Pn	23 32 25.7	-3.8
KONT	Konya--Tatoy	3.25	273	*e*PN		Pn	23 32 30.9	+1.1
ANTO	Ankara	3.50	306	*e*PN		Pn	23 32 33.5	+0.2
LOD	Lodumlu	3.53	306	*e*PN		Pn	23 32 33.9	+0.2
KIZT	Kizilcal	3.75	287	*e*PN		Pn	23 32 37.3	+0.7
CSS	Prodhromos	3.84	222	*e*PN		Pn	23 32 38.4	+0.5

IDC ***19*** *23:44:51.2±1.1, 1995N×12206E, h0km, mb3.6/5, mb1 3.8/5, mb1mx3.6/18, mbtmp3.6/5, Error ellipse: s-maj=76.2km s-min=22.2km az=69.0*
ISCJB ***19*** *23:44:54.3±0.9, 1994N±009×1219E±03, h33km, mb3.5/6, Error ellipse: s-maj=44.3km s-min=10.5km az=169.2*
NEIC ***19*** *23:44:56.0±0.8, 2010N×12221E, h35km, mb3.7/1, Error ellipse: s-maj=53.8km s-min=14.6km az=72.0*

ISC 19 23:44:56.3±0.9, 1992N±010×1219E±03, h35km, n8, σ0§43/9, mb3.5/6, Philippine Islands region

Code	Station	Δ°	AZ°	Phase	Op	ID	Time	Res
YHNB	Yeheng	4.76	354	*e*Pn		Pn	23 46 01.6	-3.9
YHNB				*e*Sn		Sn	23 46 59.6	+0.1
WRA	Warramunga Arr	41.44	162	P		P	23 52 39.6	-0.1
	0.6nm,0.7s,mb3.3,baz=343,slow=9.5,SNR=5.3							
ZALV	Zalesovo Beam	44.22	329	P		P	23 53 02.5	+0.5
ZALV	Zalesovo Beam	44.22	329	P		P	23 53 02.5	+0.5
	0.5nm,0.5s,mb3.5,baz=110,slow=8.4,SNR=4.4							
ASAR	Alice Springs	44.86	164	P		P	23 53 07.5	+0.1
	0.3nm,0.8s,mb3.2,baz=347,slow=7.6,SNR=3.5							
KURK	Kurchatov	45.85	323	*e*P		P	23 53 14.6	-0.4
	0.6nm,0.5s,mb3.8							
KURK				*e*PcP		PcP	23 54 52.8	+1.0
BVAR	Borovoye Array	51.44	323	P		P	23 53 57.9	0.0
	0.4nm,0.4s,mb3.7,baz=104,slow=7.5,SNR=4.4							
YKA	Yellowknife Ar	86.61	23	P		P	23 57 35.9	0.0
	0.3nm,0.5s,mb3.8,baz=307,slow=4.4,SNR=8.9							

CSEM ***20*** *00:16:27.5±0.1, 3880N×2773E, h12km, MD3.4, Error ellipse: s-maj=1.4km s-min=1.1km az=91.0*
ISK ***20*** *00:16:27.7, 3880N×2773E, h15km, MD3.4*
ISCJB ***20*** *00:16:28.2±0.3, 3881N±002×2775E±003, h12km±2km, Error ellipse: s-maj=3.5km s-min=3.2km az=179.5*
DDA ***20*** *00:16:28.9, 3879N×2772E, h8km±1km, Md3.0*
ATH ***20*** *00:16:28.8, 3886N×2775E, h34km±7km, MD3.5/3*

ISC 20 00:16:28.5±0.3, 3880N±002×2773E±003, h12km±2km, n46, σ0§57/61, 3C, Turkey

Code	Station	Δ°	AZ°	Phase	Op	ID	Time	Res
AKHS	Akhisar	0.10	40	⇑*i*P		Pg	00 16 31.2	-0.2
AKHS				*e*S		Sg	00 16 33.5	0.0
AKS	Akhisar	0.10	40	PG		Pg	00 16 31.0	-0.3
AKS				SG		Sg	00 16 33.7	+0.2
KDAG	Bornova	0.54	222	⇑*i*P		Pg	00 16 38.5	-0.6
KDAG				*e*S		Sg	00 16 46.4	+0.1
BLCB	Balcova	0.68	233	PG		Pg	00 16 41.1	-0.6
BLCB				SG		Sg	00 16 51.9	+1.2
MANT	Manisa	0.72	115	*e*P		Pg	00 16 42.4	-0.1
MANT				*e*S		Sg	00 16 51.9	0.0
KULA	Kula-Manisa	0.78	111	PG		Pg	00 16 43.4	-0.3
KULA				SG		Sg	00 16 54.0	+0.1
BALB	Balikesir	0.84	8	PG		Pg	00 16 44.5	-0.4
BALB				SG		Sg	00 16 56.7	+0.9
AYVA	Ayvalik	0.95	302	*e*P		Pg	00 16 46.8	-0.1
AYVA				*e*S		Sg	00 17 00.0	+0.6
URLA	Izmir	0.99	244	*i*P		Pb	00 16 46.7	-0.9
URLA				*e*S		Sg	00 17 00.9	+0.3
DST	Dursunbey	1.06	41	PG		Pg	00 16 48.6	-0.4
AYDN	Tasoluk	1.15	174	⇑*i*P		Pb	00 16 49.5	-0.7
AYDN				*e*S		Sb	00 17 05.1	0.0
PRK	Paraskevi	1.22	292	*e*PN		Pn	00 16 51.1	-0.3
PRK				*e*SN		Sn	00 17 07.5	-0.3
SMG	Samos	1.30	213	*e*PN		Pn	00 16 53.0	+0.6
SMG				*e*SN		Sn	00 17 11.1	+1.4
DENT	Denizli	1.47	135	*e*PN		Pn	00 16 54.7	0.0
KHL	Karahalli	1.48	108	*e*PN		Pn	00 16 54.2	-0.7
EZN	Ezine	1.49	314	PN		Pn	00 16 54.6	-0.5
EZN				SN		Sn	00 17 13.6	-0.9
MLSB	Milas	1.51	179	*e*PN		Pn	00 16 54.2	-1.0
KCT	Karacabey	1.54	18	*e*PN		Pn	00 16 55.2	-0.6
EDC	Edincik	1.54	4	*e*PN		Pn	00 16 54.9	-0.9
BNT	Bandirma	1.56	5	*e*PN		Pn	00 16 55.6	-0.4
BOZC	Bozcaada	1.67	309	*e*P		Pn	00 16 57.1	-0.4
BOZC				*e*S		Sn	00 17 22.1	+3.4
YER	Yerkesik	1.72	165	*e*PN		Pn	00 16 58.1	-0.1
BDRM	Kayabasi	1.75	188	*e*P		Pn	00 16 58.7	+0.1
BDRM				*e*S		Sn	00 17 26.2	+5.4
BODT	Bodrum	1.77	191	*e*PN		Pn	00 16 58.6	-0.3
MRMT	Marmara Adasi	1.80	357	*e*PN		Pn	00 16 59.4	+0.1
ALT	Altintas	1.87	82	*e*PN		Pn	00 17 00.2	-0.1
RKY	Sarkoy-Tekirda	1.93	347	*e*PN		Pn	00 17 01.1	0.0
GADA	Gvkgeada	1.98	315	*e*PN		Pn	00 17 01.3	-0.5
IZI	Iznik	2.04	41	*e*PN		Pn	00 17 02.5	-0.1
DAT	Datca	2.07	183	*e*PN		Pn	00 17 03.4	+0.3
DALT	Dalyan (Mudla)	2.15	160	*e*PN		Pn	00 17 04.8	+0.6
YLV	Yalova	2.17	35	*e*PN		Pn	00 17 04.5	+0.1
SHUT	Suhut-Afyon	2.22	96	*e*PN		Pn	00 17 05.3	+0.2
ADVT	Abdulvahap	2.25	43	*e*PN		Pn	00 17 06.2	+0.7
ENEZ	Enez	2.28	328	*e*PN		Pn	00 17 05.3	-0.7
BADT	Buyukada	2.31	27	*e*PN		Pn	00 17 06.2	-0.1
CTT	Catalca	2.40	13	*e*PN		Pn	00 17 07.6	0.0
FETY	Fethiye	2.42	153	*e*PN		Pn	00 17 07.6	-0.2
ISK	Istanbul-Kandi	2.48	24	*e*PN		Pn	00 17 08.9	+0.3
HRT	Hereke	2.51	36	*e*PN		Pn	00 17 09.9	+0.8
ESKT	Eskisehir	2.53	73	*e*PN		Pn	00 17 09.9	+0.5
KLYT	Kilyos	2.65	22	*e*PN		Pn	00 17 11.7	+0.7
ELL	Elmali	2.68	139	*e*PN		Pn	00 17 11.7	+0.3
GULT	Gulveren	2.70	52	*e*PN		Pn	00 17 12.6	+1.0
RDO	Rodhopi	2.88	325	*e*PN		Pn	00 17 14.8	+0.6
EDRB	Edirne	3.13	346	*e*PN		Pn	00 17 18.1	+0.5

KRSC 20 00:20:49.5±0.5, 5509N×16514E, h41km±41km, ML3.6, Komandorsky Islands region

Code	Station	Δ°	AZ°	Phase	Op	ID	Time	Res
KBTR	Krutoberegovo	1.73	311	*i*P		Pn	00 21 17.7	+0.7
KBTR				*i*S		Sn	00 21 38.8	+1.0
MKZ	Mys Kozlova	2.04	256	*e*P		Pn	00 21 23.5	+2.2
MKZ				*i*S		Sn	00 21 48.7	+3.1
TUMR	Tumrok	2.87	276	P		Pn	00 21 36.6	+3.9
KMNR	Kamenistaya	2.87	285	P		Pn	00 21 36.2	+3.5
SPN	Mys Shipunski	3.61	239	*e*P		Pn	00 21 45.4	+2.5
SPN				*i*S		Sn	00 22 25.3	+1.1
NLC	Nalytchevo	3.91	243	P		Pn	00 21 50.5	+3.5
NLC				*i*S		Sn	00 22 34.0	+2.4
AVH	Avacha	4.18	247	*e*P		Pn	00 21 54.7	+4.0
AVH				*i*S		Sn	00 22 40.7	+2.5
GNL	Ganaly	4.43	255	*e*P		Pn	00 21 58.8	+4.7

NIED ***20*** *00:26:00, 2580N×125.10E, h5km, Mw6.1 Best double couple: M0 1.66000×10^18 NP1:φ=88.00000°, δ=55.00000°, λ=-62.00000°. NP2:φ=226.00000°, δ=43.00000°, λ=-124.00000°.*
JMA ***20*** *00:26:39.9±0.3, 2574N×12507E, h22km±4km, M6.3*
JMA Felt III J1.
GCMT ***20*** *00:26:40.6±0.1, 2561N×12505E, h12km, MW6.1/104, Moment Tensor Solution. s103, c239; s104, c386; Duration: 2*8 Moment tensor: Scale 10^18 Nm; Mrr=1.36±.02; Mθθ=1.86±.01; Mφφ=-0.50±.02; Mrθ=0.02±.04; Mrφ=0.96±.01; Mθφ=0.59±.04; Best double couple: M0=1.96700×10^18 NP1:φ=99.00000°, δ=50.00000°, λ=-46.00000°. NP2:φ=223.00000°, δ=56.00000°, λ=-130.00000°. Principal axes: T 2.2140, Plg=4.0000°, Azm=340.0000°; N -0.4940, Plg=32.0000°, Azm=248.0000°; P -1.7200, Plg=58.0000°, Azm=75.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
BJI ***20*** *00:26:40.1, 2557N×12526E, h20km, mB6.4, mb5.5, ML5.9, Ms6.6, Msz6.4*
NEIC ***20*** *00:26:40.6±0.1, 2572N×12509E, h10km, mb5.6/145, MS6.1/170, MW6.0, MW6.1(NIED), Error ellipse: s-maj=3.6km s-min=3.2km az=170.0, Moment Tensor Solution. s60 Moment tensor: Scale 10^18 Nm; Mrr=1.30; Mθθ=1.13; Mφφ=0.17; Mrθ=-0.37; Mrφ=0.66; Mθφ=0.02; Best double couple: M0=1.40000×10^18 NP1:φ=234.00000°, δ=39.00000°, λ=-104.00000°. NP2:φ=72.00000°, δ=52.00000°, λ=-79.00000°. Principal axes: T 1.5000, Plg=7.0000°, Azm=154.0000°; N -0.1400, Plg=9.0000°, Azm=245.0000°; P -1.3700, Plg=79.0000°, Azm=27.0000°;*
NEIC Recorded [3 JMA] on Miyako-jima, [2 JMA] on Tarama-shima and [1 JMA] on Ishigaki-jima.
MOS ***20*** *00:26:41.8±0.9, 2571N×125.12E, h28km, mb5.8/95, MS6.3/58 Error ellipse: s-maj=6.7km s-min=3.7km az=112.1*
SZGRF ***20*** *00:26:41.9, 2554N×12544E, h33km, mb5.6, MS6.9, Southwestern Ryukyu Islands, Japan*
ISCJB ***20*** *00:26:42.2±0.1, 2566N±001×12508E±001, h29km, mb5.6/243, MS6.2/236, Error ellipse: s-maj=2.1km s-min=1.7km az=146.0*
IDC ***20*** *00:26:44.2±1.2, 2565N×12505E, h36km±8km, mb5.1/25, mb1 5.2/30, mb1mx5.2/31, mbtmp5.2/30, ML4.6/5, MS6.0/38, Ms1 6.0/38, ms1mx6.0/41, Error ellipse: s-maj=10.4km s-min=7.2km az=77.0*

ISC 20 00:26:43.9±0.1, 2566N±001×12512E±001, h30km, h30km±3.2km: pP-P, n1379, σ1§06/1260, mb5.6/243, MS6.2/236, 189C-203D, Southwestern Ryukyu Islands

Code	Station	Δ°	AZ°	Phase	Op	ID	Time	Res
JMJ	Miyako jima 2	0.86	169	⇑P		Pn	00 26 57.2	-2.8
JMJ				S		Sn	00 27 09.4	-2.1
JOGS	Gusukube	0.94	164	⇑P		Pn	00 26 58.7	-2.3
JOGS				S		Sn	00 27 11.6	-1.8
JTJ	Tarama	1.08	200	⇑P		Pn	00 27 00.0	-3.1
JTJ				S		Sn	00 27 14.7	-2.3
JIJ	Ishigaki jima	1.57	214	⇑P		Pn	00 27 07.4	-2.3
JIJ				S		Sn	00 27 27.5	-1.4
JKE	Kume jima 2	1.64	66	⇓P		Pn	00 27 07.8	-2.9
JKRS	Kuro-shima	1.74	215	⇑P		Pn	00 27 10.4	-1.7
JKRS				*e*S		Sn	00 27 31.2	-2.0
IRIF	Iriomote-Funau	1.82	224	⇑P		Pn	00 27 11.4	-1.8
IRIF				*e*S		Sn	00 27 35.9	+0.6
HATJ	Hateruma jima	1.99	217	P		Pn	00 27 14.0	-1.6
HATJ				*e*S		Sn	00 27 38.7	-0.8
JAGN	Aguni-jima	2.12	64	⇓P		Pn	00 27 15.2	-2.1
YOJ	Yonaguni jima	2.25	238	P		Pn	00 27 18.4	-0.7
NAH1	Naha	2.38	76	P		Pn	00 27 19.4	-1.5
JJT2	Tamagusuku 2	2.42	78	P		Pn	00 27 20.6	-0.8
JIH	Iheya	2.90	61	⇓P		Pn	00 27 27.0	-1.0
JIH				*e*S		Sn	00 27 59.9	-2.0
JOW	Kunigami	3.07	67	⇓P		Pn	00 27 29.3	-1.0
JOW	Kunigami	3.07	67	Pn		Pn	00 27 29.4	-1.0
	349nm,0.3s,baz=246,slow=8.4,SNR=416							
JOW				Sn		Sn	00 28 08.0	+2.0
	228nm,0.3s,baz=333,slow=29,SNR=8.3							
TATO	Taipei	3.35	259	*e*Pn		Pn	00 27 34.7	+0.4
NACB	Ninganchiao	3.52	246	⇓*i*Pn		Pn	00 27 37.5	+0.9
YHNB	Yeheng	3.53	255	⇓*i*Pn		Pn	00 27 37.5	+0.8
JTK	Tokunoshima	4.03	58	⇓P		Pn	00 27 42.9	-0.6
JAM	Amami Oshima	4.85	55	⇓P		Pn	00 27 54.4	-0.4
JZK	Kikaishima	5.07	58	P		Pn	00 27 58.3	+0.4
JMZ	Minamidaito 2	5.51	87	P		Pn	00 27 59.2	-4.7
JNN	Nakanoshima	5.92	44	P		Pn	00 28 11.2	+1.6
QZH	Quanzhou	5.95	264	⇓*i*P		Pn	00 28 11.3	+1.4
QZH				S		Sn	00 29 12.0	-5.0
QZH				Smax				
	comp=N,5μm,1.2s							
QZH				Smax				
	comp=E,6μm,1.3s							
QZH				LR		LR		
	comp=N,127μm,7.7s							
QZH				LR		LR		
	comp=E,170μm,7.6s							
QZH				LR		LR		
	comp=Z,203μm,12.8s							
SSE	Sheshan	6.42	328	P		Pn	00 28 16.9	+0.5
SSE				S		Sn	00 29 30.9	+2.2
SSE				Smax				
	comp=N,3μm,1.1s							
SSE				Smax				
	comp=E,4μm,1.2s							
SSE				LR		LR		
	comp=N,153μm,18.4s							
SSE				LR		LR		
	comp=E,176μm,18.4s							
SSE				LR		LR		
	comp=Z,240μm,13.3s							
JTSR	Tashiro 2	7.50	42	P		Pn	00 28 31.6	+0.4
NJ2	Nanjing	8.40	321	*e*P		Pn	00 28 46.8	+3.2
NJ2				AP			00 28 50.3	
NJ2				XP			00 28 53.5	
NJ2				S		Sn	00 30 23.1	+5.6
NJ2				XS			00 30 27.8	
NJ2				AMB		AMB		
	comp=Z,13μm,10.0s							
NJ2				Smax				
	comp=N,5μm,1.0s							
NJ2				Smax				
	comp=E,6μm,0.8s							
NJ2				LR		LR		
	comp=N,615μm,14.2s							
NJ2				LR		LR		
	comp=E,485μm,13.4s							
NJ2				LR		LR		
	comp=Z,484μm,13.4s							
JIU2	Izumi 2	8.48	35	P		Pn	00 28 47.2	+2.6
CVP	Callao Caves	8.49	202	*e*P		Pn	00 28 49.9	+5.0
JNU	Nakatsue	8.97	33	Pn		Pn	00 28 53.5	+2.1
	comp=Z,7.1nm,0.3s,baz=193,slow=15,SNR=120							
JNU				LR		LR	00 32 29.6	
	comp=Z,117μm,21.2s,baz=211,slow=38							
HKC	Hong Kong Obse	10.55	254	*i*P		Pn	00 29 19.0	+5.9
WHN	Wuhan	10.67	300	⇑P		Pn	00 29 13.4	-1.4
WHN				S		Sn	00 31 24.0	+11
WHN				LR		LR		
	comp=Z,332μm,16.0s							
PCPH	Palayan	10.73	201	⇓*e*P		Pn	00 29 17.4	+1.8
GZH	Guangzhou	11.03	259	P		Pn	00 29 16.8	-2.9
GZH				S		Sn	00 31 21.4	-0.7
GZH				AMB		AMB		
	comp=Z,559nm,1.6s							
GZH				LR		LR		
	comp=N,58μm,15.1s							
GZH				LR		LR		
	comp=E,71μm,15.6s							
GZH				LR		LR		
	comp=Z,96μm,15.4s							
NBP	Mount Natib	11.72	203	⇑*e*P		Pn	00 29 30.3	+1.1
NBP							09 06 36.9	
INCN	Inchon	11.85	6	*e*Pn		Pn	00 29 37.3	+6.4
KS15	Wonju Array Si	11.98	11	*e*Pn		Pn	00 29 36.8	+4.2
KSRS	Korea Array	11.99	11	Pn		Pn	00 29 34.1	+1.4
	comp=Z,1.1nm,0.3s,baz=194,slow=13,SNR=74							
KSRS				LR		LR	00 34 21.9	
	comp=Z,133μm,19.8s,baz=194,slow=38							
LBPH	Los Banos	12.03	199	⇓*e*P		Pn	00 29 35.7	+2.3
LBPH							08 00 59.9	
PVCP	Virac	12.04	184	⇓*e*P		Pn	00 29 35.1	+1.6
TGY	Tagaytay City	12.15	200	⇓*e*P		Pn	00 29 44.8	+10
TIA	Tai'an	12.55	329	*e*P		Pn	00 29 42.1	+1.8
TIA				XP			00 29 53.0	
TIA				AMB		AMB		
	comp=Z,9μm,6.0s							
TIA				LR		LR		
	comp=N,40μm,10.8s							
TIA				LR		LR		
	comp=E,11μm,14.4s							
DL2	Dalian	13.53	348	⇑*i*P		Pn	00 29 56.0	+2.3
DL2				*e*S		Sn	00 32 24.0	+1.0
DL2				AMB		AMB		
	comp=Z,124nm,0.9s							
DL2				AMB		AMB		
	comp=Z,20μm,8.0s							
DL2				LR		LR		
	comp=N,122μm,14.0s							
DL2				LR		LR		
	comp=E,160μm,12.0s							
PLP	Palo	14.42	181	*e*P		Pn	00 30 07.5	+1.5
JHJ	Hachijo jima 2	14.78	56	Pn		Pn	00 30 12.6	+1.7
	comp=E,8.2nm,0.3s,baz=100,slow=22,SNR=1.6							
JHJ				Sn		Sn	00 32 56.5	+2.9
	comp=E,12nm,0.3s,baz=116,slow=21,SNR=2.2							
JHJ				LR		LR	00 35 15.8	
	comp=E,23μm,20.8s,baz=262,slow=34							
CBIJ	Chichi jima	15.37	81	Pn		Pn	00 30 18.2	-0.4
	comp=E,6.3nm,0.3s,baz=260,slow=8.4,SNR=6.4							
CBIJ				Sn		Sn	00 33 09.2	+1.2
	comp=E,7.1nm,0.3s,baz=303,slow=22,SNR=2.0							
CBIJ				LR		LR	00 36 18.2	
	comp=E,14μm,18.4s,baz=112,slow=37							
MAJO	Matsushiro	15.58	43	*e*Pn		Pn	00 30 18.3	-3.0
MAT	Matsushiro	15.58	43	P		Pn	00 30 16.9	-4.5
MAT				*e*S		Sn	00 33 13.0	0.0
MJAR	Matsushiro Arr	15.58	43	P		Pn	00 30 17.8	-3.6
MJAR							00 33 15.7	
MJAR	Matsushiro Arr	15.58	43	Pn		Pn	00 30 17.8	-3.6
	comp=E,0.3nm,0.3s,baz=240,slow=13,SNR=16							
MJAR				Sn		Sn	00 33 15.7	+2.7
	comp=E,0.4nm,0.3s,baz=297,slow=20,SNR=2.3							
MJAR				LR		LR	00 36 43.9	
	comp=E,55μm,21.5s,baz=235,slow=38							
QIZ	Qiongzhong	15.59	248	P		Pn	00 30 23.3	+1.8
QIZ				XP		sP	00 30 29.4	-8.0
QIZ				S		Sn	00 33 16.0	+2.6
QIZ				AMB		AMB		
	comp=Z,2μm,5.9s							
QIZ				LR		LR		
	comp=E,42μm,9.1s							
QIZ				LR		LR		
	comp=Z,36μm,10.4s							
QIZ	Qiongzhong	15.59	248	⇓*e*Pn		Pn	00 30 24.2	+2.7
	comp=Z,285nm,1.0s							
TBP	Tagbilaran	15.93	185	*e*P		Pn	00 30 25.4	-0.6
TIY	Taiyuan	16.13	321	⇑*i*P		Pn	00 30 31.3	+2.9
TIY				S		Sn	00 33 31.8	+5.5
TIY				AMB		AMB		
	comp=Z,37μm,11.7s							
TIY				LR		LR		
	comp=N,187μm,10.0s							
TIY				LR		LR		
	comp=E,136μm,9.6s							
TIY				LR		LR		
	comp=Z,128μm,9.9s							
BJT	Baijiatuau	16.15	335	⇑*i*Pn		Pn	00 30 29.1	+0.3
	comp=Z,785nm,1.4s							
BJT	Baijiatuau	16.15	335	⇑*i*P		Pn	00 30 29.1	+0.4
BJT				pmax		pmax		
	comp=Z,785nm,1.4s							
BJI	Beijing	16.17	335	P		Pn	00 30 31.5	+2.6
BJI				S		Sn	00 33 37.4	+10
BJI				PCP		PcP	00 35 18.0	-5.0
BJI				AMB		AMB		
	comp=Z,164μm,3.1s							
BJI				AMB		AMB		
	comp=Z,20μm,9.7s							
BJI				LR		LR		
	comp=N,113μm,18.3s							
BJI				LR		LR		
	comp=E,127μm,12.5s							
BJI				LR		LR		
	comp=Z,116μm,20.0s							
SNY	Shenyang	16.17	356	⇑P		Pn	00 30 31.5	+2.6
SNY				AMB		AMB		
	comp=Z,327nm,1.2s							
SNY				AMB		AMB		
	comp=Z,31μm,10.2s							
SNY				LR		LR		
	comp=N,121μm,18.7s							
SNY				LR		LR		
	comp=E,246μm,16.4s							
SNY				LR		LR		
	comp=Z,138μm,12.3s							
XAN	Xi'an	16.33	305	P		Pn	00 30 32.5	+1.5
XAN				AP		pP	00 30 42.1	+0.4
XAN				S		Sn	00 33 37.6	+6.4
XAN				AMB		AMB		
	comp=Z,168nm,2.0s							
XAN				AMB		AMB		
	comp=Z,6μm,6.6s							
XAN				LR		LR		
	comp=N,166μm,11.7s							
XAN				LR		LR		
	comp=E,195μm,13.7s							
XAN				LR		LR		
	comp=Z,232μm,14.0s							
GYA	Guiyang	16.60	277	⇑*i*P		Pn	00 30 35.8	+1.3
GYA				AP		pP	00 30 38.9	-5.9
GYA				XP		sP	00 30 42.8	-5.9
GYA				PP			00 30 49.5	
GYA				S		Sn	00 33 40.5	+2.6
GYA				SS			00 34 00.8	
GYA				AMB		AMB		
	comp=Z,280nm,1.2s							
GYA				AMB		AMB		
	comp=Z,4μm,6.2s							
GYA				LR		LR		
	comp=N,52μm,9.6s							
GYA				LR		LR		
	comp=E,78μm,12.0s							
GYA				LR		LR		
	comp=Z,104μm,12.2s							
PPR	Puerto Princes	16.92	202	*e*P		Pn	00 30 36.6	-2.0
CN2	Changchun	18.10	1	⇓P		Pn	00 30 55.4	+2.5
CN2				*e*S		Sn	00 34 12.8	-1.1
CN2				AMB		AMB		
	comp=Z,90nm,0.8s							
VLA	Vladivostok	18.28	16	⇑*i*P		Pn	00 30 56.8	+1.7
VLA	Vladivostok	18.28	16	*c i*P		Pn	00 30 56.7	+1.6
VLA				pmax		pmax		
	comp=Z,259nm,1.2s							
HHC	Hu-ho-hao-te	18.88	327

comp=E,40μm,12.3s
CD2 Chengdu 19.51 290⇓*i*P Pn 00 31 10.5 +0.3
CD2 AP pP 00 31 20.8 +3.9
CD2 XP sP 00 31 26.8 +6.0
CD2 S **Sn 00 34 43.6 -4.7**
CD2 XS sS 00 34 59.0 -1.6
CD2 SS 00 35 11.9
CD2 AMB AMB
comp=Z,1μm,1.1s
CD2 AMB AMB
comp=Z,23μm,6.2s
CD2 LR LR
comp=N,279μm,13.2s
CD2 LR LR
comp=E,133μm,14.4s
CD2 LR LR
comp=Z,111μm,12.0s
KMI Kunming 20.22 273 ⇓P P 00 31 19.3 +2.8
KMI S **S 00 35 04.5 +2.5**
KMI AMB AMB
comp=Z,411nm,1.5s
KMI AMB AMB
comp=Z,13μm,7.6s
KMI LR LR
comp=N,73μm,12.6s,MS6.4
KMI LR LR
comp=E,68μm,10.5s,MS6.4
KMI LR LR
comp=Z,56μm,10.0s,MS6.2
KDM Kudat 20.25 204 ⇓P P 00 31 18.9 +2.0
LZH Lanzhou 20.96 305 ⇓P P 00 31 27.1 +2.6
LZH AP 00 31 31.8
LZH XP sP 00 31 34.3 -2.2
LZH PP 00 31 44.9
LZH S **S 00 35 15.3 -1.2**
LZH XS sS 00 35 23.0 -6.5
LZH SS 00 35 47.0
LZH AMB AMB
comp=Z,4μm,2.0s
LZH AMB AMB
comp=Z,16μm,5.9s
LZH LR LR
comp=E,121μm,11.8s
LZH LR LR
comp=Z,149μm,15.8s,MS6.5
KKM Kota Kinabalu 21.29 205⇑*i*P P 00 31 28.5 +0.4
KKM S **S 00 35 32.6 +10**
KKM Kota Kinabalu 21.29 205 ⇑P P 00 31 28.7 +0.6
SDKM Sandakan 21.30 202 ⇓P P 00 31 28.4 +0.1
MYLDM Lahad Datu 21.33 198 ⇓P P 00 31 30.5 +1.9
ERM Erimo 22.08 38⇑*e*P P 00 31 35.5 -0.9
ERM Erimo 22.08 38 P P 00 31 34.7 -1.7
ERM pmax pmax
comp=Z,53nm,0.8s,mb5.0
GUMO Guam 22.11 119 *e*P P 00 31 38.8 +1.8
GUMO LR LR
comp=Z,32μm,21.0s,MS5.7
GUMO Guam 22.11 119 P P 00 31 38.2 +1.3
GUMO S **S 00 35 38.9 -0.3**
GUMO pmax pmax
comp=Z,129nm,0.7s,mb5.5
GUMO smax
comp=N,16nm,0.4s
GUMO MLR MLR
comp=Z,31μm,20.1s,MS5.7
GUMO Guam 22.11 119 P P 00 31 38.2 +1.3
comp=Z,129nm,0.7s,mb5.5,baz=318,slow=19,SNR=5.6
GUMO S **S 00 35 38.9 -0.3**
comp=Z,16nm,0.3s,baz=282,slow=21,SNR=1.5
GUMO LR LR 00 38 26.2
comp=Z,31μm,20.1s,MS5.7,baz=95,slow=32
TSM Tawau 22.36 199 ⇑P P 00 31 40.4 +0.8
KKTK Khon Kaen 22.76 250 P P 00 31 45.3 +1.5
comp=Z,605nm,0.8s,mb6.1
ASAJ Asahikawa 23.25 33 P P 00 31 48.2 -0.6
ASAJ S **S 00 35 57.5 -1.1**
ASAJ pmax pmax
comp=Z,35nm,0.8s
ASAJ smax
comp=N,3.0nm,0.3s
ASAJ MLR MLR
comp=Z,66μm,18.5s
ASAJ Asahikawa 23.25 33 P P 00 31 48.2 -0.6
comp=Z,35nm,0.8s,mb4.9,baz=231,slow=20,SNR=11
ASAJ S **S 00 35 57.5 -1.1**
comp=Z,3.3nm,0.3s,baz=114,slow=25,SNR=1.9
ASAJ LR LR 00 41 20.4
comp=Z,66μm,18.5s,MS6.1,baz=238,slow=38
HIA Hailar 23.93 351⇓*e*P P 00 31 54.0 -1.1
HIA *e*S **S 00 36 14.0 +4.4**
HIA LR LR
comp=Z,93μm,19.0s,MS6.3
CHRT Chiangrai 24.04 261 ⇓P P 00 31 57.0 +0.5
comp=Z,974nm,0.9s,mb6.2
HABR Khabarovsk 24.07 16⇓*i*P P 00 31 54.6 -1.8
HABR *e* 00 32 10.1
HABR *e* 00 32 25.0
HABR *e* 00 35 35.4
HABR *e*S **S 00 36 09.5 -2.3**
HABR *e* 00 36 55.7
HABR *e* 00 42 56.6
HABR pmax pmax
comp=Z,352nm,2.3s,mb5.4
KLR Kul'dur 24.09 11 *e*P P 00 31 50.0 -6.6
KLR pmax pmax
comp=E,110nm,2.0s
KLR pmax pmax
comp=Z,400nm,2.0s,mb5.5
YUK Yuzh-Kuril'sk 24.90 37⇑*i*P P 00 32 03.5 -0.5
YUK *e*SP 00 32 16.0
YUK *e* 00 32 34.0
YUK *e*PPP 00 32 54.0
YUK pmax pmax
comp=N,8μm,7.0s
YUK pmax pmax
comp=E,8μm,7.0s
YUK pmax pmax
comp=Z,12μm,7.0s
YUK MLR MLR
comp=Z,46μm,17.0s,MS6.0
YUK MLR MLR
comp=N,50μm,15.0s,MS6.2
YUK MLR MLR
comp=E,38μm,18.0s,MS6.2
CHG Chiang Mai 25.14 260 ⇓P P 00 32 06.6 +0.1
comp=E,150nm,1.1s,mb5.4
CHTO Chiang Mai 25.14 260 *e*P P 00 32 06.4 0.0
CHTO LR LR
comp=Z,9μm,19.0s,MS5.3
BTM Bintulu 25.15 209 ⇑P P 00 32 07.3 +0.7
GTA Gaotai 25.25 309 P P 00 32 07.8 +0.5
GTA AP pP 00 32 12.0 -4.1
GTA XP sP 00 32 15.3 -4.5
GTA AMB AMB
comp=Z,172nm,1.1s,mb5.5
GTA AMB AMB
comp=Z,13μm,6.9s
GTA LR LR
comp=N,198μm,13.8s,MS6.8
GTA LR LR
comp=E,122μm,13.8s,MS6.8
GTA LR LR
comp=Z,84μm,16.8s,MS6.3
CM31 Chiang Mai Arr 25.26 259 PFAKE 00 32 20.0 +12
CM31 LR LR
comp=Z,5μm,19.0s,MS5.1
NST Nakhon Sawan 25.36 252 ⇑P P 00 32 10.0 +1.5
comp=Z,200nm,1.0s,mb5.6
YSS Yuzh-Sakhalins 25.45 29 *e*P P 00 32 09.7 +0.7
comp=Z,139nm,1.2s,mb5.4
YSS LR LR
comp=Z,31μm,20.0s,MS5.8
YSS Yuzh-Sakhalins 25.45 29*d*i P P 00 32 06.6 -2.4
YSS *e**SS sS 00 36 43.5 -5.1
YSS pmax pmax
comp=N,70nm,1.1s
YSS pmax pmax
comp=E,50nm,1.1s
YSS pmax pmax
comp=Z,90nm,1.1s,mb5.2
YSS pmax pmax
comp=N,3μm,10.0s
YSS pmax pmax
comp=Z,5μm,10.0s
YSS pmax pmax
comp=E,2μm,8.0s
YSS MLR MLR
comp=N,47μm,14.0s
YSS MLR MLR
comp=Z,47μm,14.0s,MS6.2
BDT Bhumibol Dam 25.67 256 P P 00 32 13.0 +1.7
comp=Z,22nm,1.0s,mb4.7
SBUM Sibu 26.20 210 ⇓P P 00 32 17.1 +1.0
ULN Ulaanbaatar 26.34 332⇓*e*P P 00 32 17.7 +0.6
comp=Z,742nm,1.4s,mb6.0
ULN *e*PcP PcP 00 35 46.7 +4.2
ULN *e*S **S 00 36 53.1 +5.1**
ULN LR LR
comp=Z,80μm,20.0s,MS6.3
ULN Ulaanbaatar 26.34 332⇓*e*P P 00 32 17.7 +0.6
ULN *e* 00 35 46.7
ULN *e*S **S 00 36 53.1 +5.1**
ULN pmax pmax
comp=Z,742nm,1.4s,mb6.0
ULN MLR MLR
comp=Z,80μm,20.0s,MS6.3
SONM Songino Array 26.60 331 P P 00 32 19.6 +0.2
SONM 00 35 42.5
SONM Songino Array 26.60 331 P P 00 32 19.6 +0.2
comp=Z,34nm,0.9s,mb4.9,baz=146,slow=7.6,SNR=57
SONM PcP PcP 00 35 42.5 -0.6
comp=Z,5.3nm,0.6s,baz=170,slow=2.5,SNR=6.4
SONM LR LR 00 44 22.2
comp=Z,104μm,19.9s,MS6.4,baz=160,slow=40
NNT Nongplab 27.21 246 P P 00 32 27.3 +2.0
KSM Kuching 27.96 213⇑*e*P P 00 32 31.9 -0.1
KSM Kuching 27.96 213 ⇑P P 00 32 33.1 +1.1
IMP Imphal 28.19 275 *e*P P 00 32 37.0 +3.0
IMP *ex* x 00 37 11.0
KTGM Kuala Trenggan 29.19 230 ⇓P P 00 32 44.5 +1.6
SNG Songkhla 29.73 236 P P 00 32 49.0 +1.3
comp=Z,206nm,1.0s,mb5.8
ZAK Zakamensk 29.86 331 *e*P P 00 32 47.7 -0.8
ZAK *e* 00 43 19.6
ZAK pmax pmax
comp=Z,39nm,1.8s,mb4.8
SHL Shillong 29.92 277⇓*i*P P 00 32 51.5 +2.2
SHL *ex* x 00 37 52.0
LSA Lhasa 30.28 285 P P 00 32 54.4 +1.9
LSA AP pP 00 33 02.8 +1.5
LSA XP sP 00 33 06.6 +1.6
LSA S **S 00 38 00.4 +10**
LSA SCS ScS 00 43 24.3 -4.4
LSA AMB AMB
comp=Z,30nm,1.4s,mb4.8
LSA LR LR
comp=N,44μm,18.2s,MS6.2
LSA LR LR
comp=E,23μm,17.5s,MS6.2
LSA LR LR
comp=Z,35μm,15.7s,MS6.1
LSA Lhasa 30.28 285⇓*e*P P 00 32 54.8 +2.3
comp=Z,413nm,1.8s,mb5.9
LSA *e*PP PP 00 33 55.1 -6.0
LSA *e*PcP PcP 00 36 00.3 +7.8
LSA LR LR
comp=Z,8μm,22.0s,MS5.3
LSA Lhasa 30.28 285⇓*e*P P 00 32 54.8 +2.3
LSA *e* 00 33 55.1
LSA *e* 00 36 00.3
LSA pmax pmax
comp=Z,413nm,1.8s,mb5.9
LSA MLR MLR
comp=Z,8μm,22.0s,MS5.3
TLY Talaya 30.69 333 *e*P P 00 32 56.4 +0.7
TLY LR LR
comp=Z,69μm,20.0s,MS6.3
TLY Talaya 30.69 333*d*i P P 00 32 55.8 0.0
TLY *e*PPP 00 34 09.2
TLY *e*S **S 00 37 51.0 -5.4**
TLY *e*SSS 00 39 57.2
TLY pmax pmax
comp=Z,198nm,20.0s
TLY MLR MLR
comp=Z,78μm,15.0s,MS6.5
IRK Irkutsk 30.88 335⇓*i*P P 00 32 56.9 -0.5
IRK pmax pmax
comp=Z,209nm,4.0s
NRGR Nerungri 30.97 360 *e*P P 00 33 00.3 +2.1
NRGR S **S 00 37 58.3 -2.3**
NRGR smax
comp=E,66nm,0.5s
KULM Kulim 30.97 233⇑*e*P P 00 32 59.1 +0.5
KULM *e*PP PP 00 34 09.8 +0.9
KULM PcP PcP 00 35 59.2 +4.6
KULM S **S 00 38 09.2 +7.7**
KULM *e*ScP ScP 00 39 43.1 +7.9
KULM Kulim 30.97 233 ⇑P P 00 32 60.0 +1.3
CLNS Chul'man 31.15 360 *e*P P 00 33 01.0 +1.3
CLNS *e**PP pP 00 33 07.4 -1.2
CLNS *e* 00 33 58.5
CLNS *e* 00 35 50.4
CLNS *e*S **S 00 38 07.6 +4.2**
CLNS pmax pmax
comp=Z,29nm,1.0s,mb5.1
CLNS pmax pmax
comp=N,21nm,0.9s
CLNS pmax pmax
comp=E,12nm,0.8s
CLNS pmax pmax
comp=Z,22nm,0.7s,mb5.1
CLNS pmax pmax
comp=N,32nm,1.3s
CLNS pmax pmax
comp=E,26nm,0.9s
CLNS smax
comp=N,12μm,13.1s
CLNS smax
comp=Z,11μm,13.9s
CLNS smax
comp=E,6μm,12.9s
CLNS MLR MLR
comp=Z,108μm,15.0s,MS6.6
CLNS MLR MLR
comp=N,73μm,13.0s,MS6.6
CLNS MLR MLR
comp=E,37μm,12.0s,MS6.6
IPM Ipoh 31.26 232 ⇑P P 00 33 01.8 +0.6
IPM Ipoh 31.26 232 ⇑P P 00 33 06.6 +5.4
MYKOM Kota Tinggi 31.35 224 ⇓P P 00 33 03.7 +1.7
MYKOM Kota Tinggi 31.35 224 ⇑P P 00 33 06.6 +4.6
KGM Kluang 31.52 225 ⇓P P 00 33 04.9 +1.5
FRIM Kepong 31.73 229 ⇑P P 00 33 06.6 +1.3
MOY Mondy 31.79 331 *e*P P 00 33 05.9 +0.4
MOY pmax pmax
comp=Z,624nm,2.3s,mb6.0
BOD Bodaibo 33.09 349 *e*P P 00 33 15.1 -1.7
BOD *e* 00 36 02.8
BOD pmax pmax
comp=Z,49nm,1.9s,mb5.1
PBA Port Blair 33.57 252 *ex* x 00 33 34.6
PBA *ex* x 00 33 55.9
comp=Z,199nm,2.1s
PBA *ex* x 00 40 05.0
PSI Prapat 33.92 232 P P 00 33 25.1 +0.6
PSI 00 43 47.3
PSI Prapat 33.92 232 P P 00 33 25.1 +0.5
comp=Z,52nm,0.8s,mb5.5,baz=15,slow=4.0,SNR=38
PSI ScS ScS 00 43 47.3 -0.2
comp=Z,2.3nm,0.4s,baz=95,slow=11,SNR=1.9
PSI LR LR 00 47 57.9
comp=Z,12μm,18.6s,MS5.6,baz=216,slow=38
SKR Severo-Kuril's 34.47 35 *e*P P 00 33 24.0 -4.9
SKR *e* 00 34 40.0
SKR *e*PPP 00 35 08.0
SKR *e*S **S 00 38 54.0 -1.2**
SKR *e*SS SS 00 41 06.0 -19
SKR pmax pmax
comp=Z,320nm,1.5s,mb6.0
SKR pmax pmax
comp=E,2μm,8.0s
SKR pmax pmax
comp=Z,2μm,8.0s
SKR smax
comp=N,4μm,10.0s
SKR MLR MLR
comp=N,7μm,16.0s,MS5.8
SKR MLR MLR
comp=E,13μm,16.0s,MS5.8
SKR MLR MLR
comp=Z,25μm,16.0s,MS6.0
GUN Gumba 35.00 283 *e*P P 00 33 34.8 +1.1
comp=Z,326nm,1.2s,mb6.1
WMQ Urumqi 35.31 310⇑*i*P P 00 33 37.4 +1.1
WMQ AP pP 00 33 50.0 +4.8
WMQ PP PP 00 35 00.0 +3.4
WMQ PCP PcP 00 36 06.0 -0.2
WMQ AMB AMB
comp=Z,181nm,1.0s,mb6.0
WMQ AMB AMB
comp=Z,5μm,5.1s
WMQ LR LR
comp=N,172μm,17.7s,MS6.9
WMQ LR LR
comp=E,69μm,17.0s,MS6.9
WMQ LR LR
comp=Z,51μm,19.0s,MS6.3
PKI Pulchoki 35.45 282 *e*P P 00 33 38.3 +0.7
comp=Z,122nm,1.1s,mb5.8
KKN Kakani 35.54 282 *e*P P 00 33 38.8 +0.4
comp=Z,194nm,1.0s,mb6.0
BOK Bokaro 35.59 276 *e*P P 00 33 38.5 -0.4
BATI Kupang 35.68 182 P P 00 33 37.1 -2.5
comp=Z,160nm,0.8s,mb6.0,baz=295,slow=1.8,SNR=16
BATI LR LR 00 50 32.1
comp=Z,11μm,21.3s,MS5.6,baz=22,slow=40
DMN Daman 35.71 282 *e*P P 00 33 40.5 +0.6
comp=Z,257nm,1.2s,mb6.0
DMN Daman 35.71 282 *e*P P 00 33 40.5 +0.6
comp=Z,216nm,1.1s,mb6.0
GKN Gorkha 36.08 283 *e*P P 00 33 43.5 +0.4
comp=Z,227nm,1.0s,mb6.1
YAK Yakutsk 36.49 4⇑*e*P P 00 33 45.9 -0.2
comp=Z,132nm,0.8s,mb5.9
YAK *e*PP PP 00 35 12.9 +3.6
YAK *e*S **S 00 39 31.5 +5.6**
YAK LR LR
comp=Z,27μm,20.0s,MS6.0
YAK Yakutsk 36.49 4 *e*P P 00 33 46.5 +0.4
YAK *e**PP pP 00 33 54.1 -0.9
YAK *e* 00 35 16.4
YAK *e*PPP 00 35 30.2
YAK *e*S **S 00 39 25.0 -0.9**
YAK *e*SS SS 00 42 13.4 +7.6
YAK pmax pmax
comp=Z,54nm,1.3s,mb5.3
YAK pmax pmax
comp=N,23nm,1.1s
YAK pmax pmax
comp=E,10.0nm,1.3s
YAK pmax pmax
comp=Z,7μm,7.2s
YAK pmax pmax
comp=N,6μm,6.5s
YAK pmax pmax
comp=E,839nm,4.5s
YAK smax
comp=N,2μm,9.2s
YAK smax
comp=Z,1μm,6.4s
YAK smax
comp=E,952nm,5.8s
YAK MLR MLR
comp=Z,62μm,18.0s,MS6.4
YAK MLR MLR
comp=N,48μm,16.0s,MS6.6
YAK MLR MLR
comp=E,59μm,17.0s,MS6.6
KOLN Koldanda 37.02 283 *e*P P 00 33 51.9 +0.8
comp=E,251nm,1.2s,mb5.9
KOLN Koldanda 37.02 283 *e*P P 00 33 51.9 +0.8
comp=E,251nm,1.2s,mb5.9
PET Petropavlovsk 37.09 34 *e*P P 00 33 50.0 -1.4
comp=E,141nm,1.4s,mb5.6
PET LR LR
comp=Z,25μm,21.0s,MS6.0
PET Petropavlovsk 37.09 34*d*i P P 00 33 49.7 -1.6
PET *e*S **S 00 39 30.5 -4.9**
PET pmax pmax
comp=Z,2μm,7.3s
PET pmax pmax
comp=Z,3μm,7.3s
PET pmax pmax
comp=Z,70nm,1.1s,mb5.4
PET smax
comp=N,2μm,12.3s
PET MLR MLR
comp=Z,18μm,17.0s,MS5.9
PET MLR MLR
comp=Z,21μm,18.0s
MA2 Magadan 38.30 21 *i* P P 00 34 01.6 +0.2
MA2 Magadan 38.30 21 *e*P P 00 34 01.6 +0.2
MA2 *e* 00 35 36.4
MA2 *e* 00 36 19.2
MA2 *e*S **S 00 39 52.7 -0.8**
MA2 pmax pmax
comp=N,10.0nm,0.9s
MA2 pmax pmax
comp=Z,30nm,0.9s,mb5.0
MA2 MLR MLR
comp=Z,18μm,18.0s,MS5.9
KAKA Kakadu 38.80 169⇑*i*P P 00 34 04.8 -1.3
comp=Z,286nm,0.9s,mb6.0
BLSP Bilaspur 39.33 274 *e*P P 00 34 11.5 +0.9
BLSP AMb AMB 00 34 19.1
comp=Z,236nm,1.5s,mb5.7
VIS Vishakhapatnam 39.49 267 *e*P P 00 34 13.5 +1.5
VIS *i* x x 00 40 10.2
PTH Pithoragarh 39.79 286 *e*P P 00 34 15.8 +1.4
MK31 Makanchi Array 39.85 313 *i* P P 00 34 14.4 -0.2
MKAR Makanchi Array 39.85 313 P P 00 34 14.2 -0.4
MKAR 00 44 18.2
MKAR Makanchi Array 39.85 313 P P 00 34 14.2 -0.4
comp=Z,38nm,0.8s,mb5.2,baz=97,slow=10,SNR=94
MKAR ScS ScS 00 44 18.1 -1.5
comp=Z,2.0nm,1.1s,baz=328,slow=34,SNR=2.4
MKAR LR LR 00 51 35.2
comp=Z,34μm,18.4s,MS6.2,baz=108,slow=37
JBP Jabalpur 41.02 276⇓*e*P P 00 34 25.8 +1.2
JBP *i* x x 00 40 42.0
ZAA0 Zalesovo Array 41.04 324⇓*e*P P 00 34 23.2 -1.0
ZALV Zalesovo Beam 41.04 324 P P 00 34 23.3 -1.0
comp=Z,112nm,0.6s,mb5.7,baz=110,slow=7.8,SNR=207
ZALV S **S 00 40 33.4 -1.3**
comp=Z,3.5nm,0.8s,baz=54,slow=41,SNR=2.8
ZALV LR LR 00 52 44.0
comp=Z,31μm,18.6s,MS6.2,baz=118,slow=38
ZAL Zalesovo 41.04 324 P P 00 34 23.3 -1.0
ZAL S **S 00 40 33.4 -1.3**
SEY Seymchan 41.41 18⇓*e*P P 00 34 26.2 -1.0
SEY Seymchan 41.41 18⇓*e*P P 00 34 26.1 -1.1
DDI Dehra Dun 41.59 288 *i* P P 00 34 30.9 +1.7
DDI *ex* x 00 38 48.9
NVS Novosibirsk 42.27 325 *i* P P 00 34 33.4 -0.9
NVS pmax pmax
comp=N,123nm,1.6s
NVS pmax pmax
comp=E,152nm,1.6s
NVS pmax pmax
comp=Z,223nm,1.6s,mb5.5
SMLA Simla 42.27 289 *e*P P 00 34 34.4 -0.3
NGP Nagpur 42.35 274 *e*P P 00 34 35.9 +0.3
NGP *e*S **S 00 40 57.2 +2.3**
SDNR Sundarnagar 42.41 289 *e*P P 00 34 36.5 +0.6
SDNR *ex* x 00 38 56.0
NDI New Delhi 42.50 285 *e*P P 00 34 36.2 -0.4
NDI *e*S **S 00 41 01.0 +4.0**
AAA Alma-Ata 42.79 307 *i* P P 00 34 40.0 +1.2
AAA Alma-Ata 42.79 307 *i* P P 00 34 43.0 +4.2
AAA pmax pmax
comp=Z,7μm,6.7s
AAA MLR MLR
comp=Z,52μm,15.7s,MS6.5
BHK Bhakra 42.89 289 *e*P P 00 34 39.0 -0.8
KSH Kashi 43.14 301 *e*P P 00 34 44.4 +2.7
KSH *e*PP PP 00 36 28.9 +6.8
KSH *e*PCP PcP 00 36 33.8 +2.8
KSH AMB AMB
comp=Z,683nm,1.5s,mb6.2
KSH AMB AMB
comp=Z,11μm,4.8s
KSH LR LR
comp=Z,92μm,14.6s,MS6.8
ULHL Ulahol 43.18 305 P P 00 34 42.8 +0.8
SNR=99
DLH Dalhousie 43.18 291 *ex* x 00 34 46.0

BHPL	**Bhopal**	**43.30 277**	*e*P		**P**	**00 34 43.4 +0.2**
BHPL			AMb		AMB	00 34 49.2
	comp=Z,149nm,1.3s,mb5.6					
KURK	**Kurchatov**	**43.33 318**	*i* P		**P**	**00 34 42.2 -0.8**
KURK	**Kurchatov**	**43.33 318**	*d* P		**P**	**00 34 42.1 -0.9**
KURK			pmax		pmax	
	comp=Z,223nm,1.9s,mb5.6					
THN	**Thein Dam**	**43.40 291**	*e*P		**P**	**00 34 42.5 -1.4**
FITZ	**Fitzroy Crossi**	**43.50 179** ⇑	*i*P		**P**	**00 34 43.8 -0.9**
	comp=Z,197nm,0.9s,mb5.8					
FITZ			*e*S		**S**	**00 41 03.4 -8.2**
FITZ	**Fitzroy Crossi**	**43.50 179**	P		**P**	**00 34 43.9 -0.8**
	comp=Z,99nm,0.8s,mb5.6,baz=7.0,slow=8.2,SNR=46					
FITZ			S		**S**	**00 41 09.5 -2.2**
	comp=Z,4.1nm,0.7s,baz=39,slow=15,SNR=2.8					
FITZ			LR		LR	00 53 34.2
	comp=Z,4μm,21.1s,MS5.3,baz=10.0,slow=37					
TKM2	**Tokmak 2**	**43.73 306** ⇓	*e*P		**P**	**00 34 47.2 +0.8**
	comp=Z,234nm,1.1s,mb5.8					
TKM2			*e*PcP		PcP	00 36 35.6 +2.7
TKM2			LR		LR	
	comp=Z,26μm,20.0s,MS6.1					
TKM2	**Tokmak 2**	**43.73 306** ⇓	*e*P		**P**	**00 34 47.2 +0.8**
TKM2			*e*			00 36 35.6
TKM2			pmax		pmax	
	comp=Z,234nm,1.1s,mb5.8					
TKM2			MLR		MLR	
	comp=Z,26μm,20.0s,MS6.1					
TKM2	**Tokmak 2**	**43.73 306**	P		**P**	**00 34 47.3 +1.0**
	SNR=79					
KZA	**Kyzart**	**43.89 305**	P		**P**	**00 34 49.1 +1.4**
	SNR=266					
HYB	**Hyderabad**	**43.90 269**	*e*P		**P**	**00 34 48.5 +0.4**
	comp=Z,185nm,1.0s,mb5.8					
HYB			*e*S		**S**	**00 41 24.0 +6.3**
HYB			*e*			00 54 12.0
HYB	**Hyderabad**	**43.90 269**	*e*P		**P**	**00 34 48.5 +0.4**
HYB			*e*S		**S**	**00 41 24.0 +6.3**
HYB			pmax		pmax	
	comp=Z,185nm,1.0s,mb5.8					
HYB	**Hyderabad**	**43.90 269** ⇓	*i*P		**P**	**00 34 48.5 +0.4**
	comp=Z,185nm,1.0s,mb5.8					
HYB			*e*PcP		PcP	00 36 36.0 +2.1
HYB			*e*S		**S**	**00 41 20.0 +2.3**
HYB			LR		LR	00 54 12.0
	comp=Z,16nm,16.0s					
KBK	**Karagaybulak**	**44.17 306**	P		**P**	**00 34 52.5 +2.6**
	SNR=37					
AKL	**Akola**	**44.30 274**	*e*P		**P**	**00 34 53.1 +1.9**
CHMS	**Chumysh**	**44.35 306**	P		**P**	**00 34 53.0 +1.6**
	SNR=21					
FRU	**Bishkek**	**44.43 306** ⇑	*i*P		**P**	**00 34 54.0 +2.0**
FRU			*i* S		**S**	**00 41 32.0 +7.1**
FRU			pmax		pmax	
	comp=Z,209nm,1.8s,mb5.6					
FRU			pmax		pmax	
	comp=Z,4μm,8.0s					
FRU			smax			
	comp=N,5μm,10.0s					
UCH	**Uchtor**	**44.45 305** ⇓	*e*P		**P**	**00 34 53.0 +0.8**
	comp=N,241nm,1.2s,mb5.8					
UCH			*e*PP		PP	00 36 36.6 +0.5
UCH			*e*ScP		ScP	00 40 34.2 +8.8
UCH			*e*S		**S**	**00 41 32.0 +6.8**
UCH			LR		LR	
	comp=Z,38μm,19.0s,MS6.3					
UCH	**Uchtor**	**44.45 305**	P		**P**	**00 34 54.0 +1.8**
	SNR=114					
AAK	**Ala-Archa**	**44.50 306**	*i* P		**P**	**00 34 53.0 +0.4**
AAK	**Ala-Archa**	**44.50 306**	P		**P**	**00 34 52.2 -0.4**
AAK			pmax		pmax	
	comp=Z,78nm,1.2s,mb5.4					
AAK	**Ala-Archa**	**44.50 306**	P		**P**	**00 34 53.3 +0.7**
	SNR=23					
USP	**Ospenovka**	**44.56 306**	P		**P**	**00 34 54.5 +1.4**
	SNR=35					
EKS2	**Erkin-Say**	**45.03 306** ⇓	*e*P		**P**	**00 34 57.3 +0.5**
	comp=Z,28nm,0.9s,mb5.1					
EKS2			*e*PcP		PcP	00 36 37.6 +0.2
EKS2			LR		LR	
	comp=Z,41μm,21.0s,MS6.3					
EKS2	**Erkin-Say**	**45.03 306**	P		**P**	**00 34 59.0 +2.2**
	SNR=24					
AML	**Almayashu**	**45.05 305** ⇓	*e*P		**P**	**00 34 58.2 +1.2**
	comp=Z,112nm,1.2s,mb5.6					
AML			*e*PcP		PcP	00 36 38.0 +0.5
AML			*e*ScP		ScP	00 40 33.3 +5.4
AML			LR		LR	
	comp=Z,36μm,20.0s,MS6.3					
AML	**Almayashu**	**45.05 305**	P		**P**	**00 34 58.4 +1.4**
	SNR=34					
LATR	**Latur**	**45.38 271**	*e*P		**P**	**00 35 00.6 +0.7**
SMY	**Shemya**	**45.40 40**	PFAKE			00 35 10.0 +10
SMY			LR		LR	
	comp=Z,4μm,19.0s,MS5.4					
TIXI	**Tiksi**	**46.07 2**	*i* P		**P**	**00 35 02.4 -2.2**
TIXI	**Tiksi**	**46.07 2**	*d* P		**P**	**00 35 02.3 -2.3**
TIXI			pmax		pmax	
	comp=Z,100nm,4.0s					
TIXI			MLR		MLR	
	comp=Z,58μm,19.0s,MS6.5					
PALK	**Pallekele**	**46.08 255**	*e*P		**P**	**00 35 06.3 +0.9**
PALK			LR		LR	
	comp=Z,11μm,20.0s,MS5.8					
WRAB	**Tennant Creek**	**46.20 168**	*e*P		**P**	**00 35 05.6 -0.6**
WRAB			LR		LR	
	comp=Z,20μm,21.0s,MS6.0					
WRAB	**Tennant Creek**	**46.20 168**	*c* P		**P**	**00 35 05.4 -0.8**
WRA	**Warramunga Arr**	**46.21 168**	P		**P**	**00 35 06.0 -0.2**
WRA			S		**S**	**00 41 47.1 -3.7**
WRA	**Warramunga Arr**	**46.21 168**	P		**P**	**00 35 06.0 -0.2**
	comp=Z,110nm,0.7s,mb5.9,baz=349,slow=8.7,SNR=237					
WRA			S		**S**	**00 41 47.1 -3.8**
	comp=Z,6.9nm,1.1s,baz=352,slow=8.6,SNR=2.3					
WRA			LR		LR	00 53 15.0
	comp=Z,16μm,21.1s,MS6.0,baz=0.0,slow=34					
WB2	**Warramunga Arr**	**46.21 168** ⇑	*i*P		**P**	**00 35 06.0 -0.3**
WB2			*e*S		**S**	**00 41 44.0 -6.9**
MBWA	**Marble Bar**	**46.84 187**	*e*P		**P**	**00 35 10.0 -1.1**
	comp=Z,145nm,0.9s,mb5.9					
MBWA			*e*PcP		PcP	00 36 43.9 +0.1
MBWA			LR		LR	
	comp=Z,5μm,21.0s,MS5.5					
KK31	**Karatay Array**	**47.46 306**	*i* P		**P**	**00 35 16.8 +0.9**
KOD	**Kodaikanal**	**47.59 260**	*e*P		**P**	**00 35 19.4 +2.1**
KOD			AMb		AMB	00 35 23.7
	comp=Z,196nm,1.1s,mb6.0					
POO	**Poona**	**47.79 272**	*e*P		**P**	**00 35 19.6 +0.8**
POO			*e*PP		PP	00 37 12.0 +1.3
KAD	**Karad**	**47.88 271**	*e*P		**P**	**00 35 20.3 +0.8**
KAD			AMb		AMB	00 35 27.7
	comp=Z,182nm,1.6s,mb5.9					
BHV	**Bhavnagar**	**48.40 277**	*e*P		**P**	**00 35 24.0 +0.5**
BOM	**Bombay**	**48.61 273**	*e*P		**P**	**00 35 26.7 +1.6**
BOM			*e*S		**S**	**00 42 24.3 -1.1**
HNR	**Honiara**	**48.64 131**	P		**P**	**00 35 25.6 +0.3**
HNR			LR		LR	
	comp=Z,13μm,21.0s,MS5.9					
HNR	**Honiara**	**48.64 131**	P		**P**	**00 35 25.6 +0.3**
	comp=Z,42nm,0.3s,mb5.9,baz=271,slow=4.5,SNR=2.0					
KBL	**Kabul**	**48.78 294**	*e*P		**P**	**00 35 27.4 +1.1**
TRD	**Trivandrum**	**48.79 258**	*e*P		**P**	**00 35 28.1 +1.6**
TRD			AMb		AMB	00 35 34.2
	comp=Z,155nm,1.0s,mb6.0					
GOA	**Goa**	**48.82 268**	*e*P		**P**	**00 35 28.3 +1.6**
GOA			AMb		AMB	00 35 30.5
	comp=Z,269nm,1.3s,mb6.1					
BVAR	**Borovoye Array**	**48.85 319**	LR		LR	00 59 06.5
	comp=Z,27μm,19.1s,MS6.3,baz=97,slow=40					
CHKZ	**Chkalovo**	**48.85 320**	*i* P		**P**	**00 35 25.8 -0.7**
CHKZ	**Chkalovo**	**48.85 320**	*i* P		**P**	**00 35 25.7 -0.8**
CHKZ			pmax		pmax	
	comp=Z,173nm,2.0s,mb5.7					
MNGI	**Mangalore**	**48.86 265**	*e*P		**P**	**00 35 28.1 +1.1**
MNGI			AMb		AMB	00 35 34.5
	comp=Z,212nm,1.6s,mb5.9					
MNGI			*e*S		**S**	**00 42 32.6 +3.8**
BRVK	**Borovoye**	**48.92 319**	*i* P		**P**	**00 35 27.2 +0.2**
BRVK	**Borovoye**	**48.92 319**	P		**P**	**00 35 25.9 -1.1**
BRVK			pmax		pmax	
	comp=Z,150nm,1.1s,mb5.9					
BILL	**Bilibino**	**49.10 19**	*e*P		**P**	**00 35 27.1 -1.1**
BILL			*i*			00 36 51.1
BILL			pmax		pmax	
	comp=Z,30nm,1.4s,mb5.1					
BILL			MLR		MLR	
	comp=Z,17μm,15.0s,MS6.2					
ASAR	**Alice Springs**	**49.77 169**	P		**P**	**00 35 33.9 +0.1**
	comp=Z,64nm,0.7s,mb5.8,baz=352,slow=8.6,SNR=198					
ASAR			PcP		PcP	00 36 54.4 0.0
	comp=Z,24nm,0.8s,baz=350,slow=3.7,SNR=6.9					
CTA	**Charters Tower**	**49.90 154**	*e*P		**P**	**00 35 35.1 +0.3**
	comp=Z,34nm,1.0s,mb5.3					
CTA			*e*S		**S**	**00 42 41.0 -2.1**
CTA	**Charters Tower**	**49.90 154**	*e*P		**P**	**00 35 35.1 +0.3**
CTA			*e*S		**S**	**00 42 41.0 -2.1**
CTA			pmax		pmax	
	comp=Z,34nm,1.0s					
CTA	**Charters Tower**	**49.90 154**	S		**S**	**00 42 41.3 -1.8**
	comp=Z,1.9nm,0.7s,baz=281,slow=16,SNR=1.5					
CTA			LR		LR	00 56 12.3
	comp=Z,32μm,20.4s,MS6.3,baz=339,slow=35					
CTAO	**Charters Tower**	**49.90 154**	*e*P		**P**	**00 35 35.1 +0.3**
	comp=Z,163nm,1.5s,mb5.8					
CTAO			*e*PcP		PcP	00 36 56.1 +1.1
CTAO			*e*PP		PP	00 37 31.1 +1.1
CTAO			ScP		ScP	00 40 47.4 -1.1
CTAO			*e*S		**S**	**00 42 43.3 +0.2**
CTAO			LR		LR	
	comp=Z,30μm,20.0s,MS6.3					
CTAO	**Charters Tower**	**49.90 154**	*e*P		**P**	**00 35 35.1 +0.3**
CTAO			*e*			00 36 56.1
CTAO			*e*			00 37 31.1
CTAO			*e*S		**S**	**00 42 43.3 +0.2**
CTAO			pmax		pmax	
	comp=Z,163nm,1.5s,mb5.8					
CTAO			MLR		MLR	
	comp=Z,30μm,20.0s,MS6.3					
BHJ	**Bhuj**	**50.23 280**	*e*P		**P**	**00 35 38.9 +1.5**
BHJ			AMb		AMB	00 35 44.5
	comp=Z,150nm,1.2s,mb5.9					
ADK	**Adak**	**50.75 43**	*e*P		**P**	**00 35 39.2 -1.7**
	comp=Z,170nm,1.2s,mb5.8					
ADK			*e*PcP		PcP	00 36 59.2 +1.5
ADK			LR		LR	
	comp=Z,6μm,19.0s,MS5.7					
ADK	**Adak**	**50.75 43**	*e*P		**P**	**00 35 39.2 -1.7**
ADK			*e*			00 36 59.2
ADK			pmax		pmax	
	comp=Z,170nm,1.2s,mb5.8					
ADK			MLR		MLR	
	comp=Z,6μm,19.0s,MS5.7					
MIDW	**Midway**	**50.93 74**	PFAKE			00 35 50.0 +7.4
MIDW			LR		LR	
	comp=Z,5μm,19.0s,MS5.6					
SVE	**Sverdlovsk**	**55.00 323** ⇓	*e*P		**P**	**00 36 12.7 +0.5**
SVE			*e*S		**S**	**00 44 00.7 +8.5**
SVE			pmax		pmax	
	comp=Z,238nm,1.2s,mb6.1					
SVE			MLR		MLR	
	comp=Z,93μm,17.0s,MS6.9					
GAMB	**Gambell**	**55.48 29**	*e*P		**P**	**00 36 14.0 -1.5**
	comp=Z,89nm,1.6s,mb5.5					
GAMB			*e*PcP		PcP	00 37 16.3 +1.0
ARU	**Arti**	**56.11 322**	P		**P**	**00 36 20.5 +0.3**
	comp=Z,905nm,1.0s,mb6.8,SNR=32					
ARU	**Arti**	**56.11 322**	*i* P		**P**	**00 36 19.5 -0.7**
ARU	**Arti**	**56.11 322**	*d* P		**P**	**00 36 19.7 -0.5**
ARU			*e*			00 37 13.6
ARU			*e*			00 38 19.7
ARU			*e*PPP			00 39 36.0
ARU			*e*S		**S**	**00 44 06.3 -0.7**
ARU			*e*			00 46 01.6
ARU			*e*SSS			00 49 59.0
ARU			pmax		pmax	
	comp=Z,204nm,1.7s,mb5.9					
ARU			pmax		pmax	
	comp=Z,2μm,9.2s					
ARU			smax			
	comp=N,777nm,7.8s					
ARU			MLR		MLR	
	comp=Z,63μm,19.0s,MS6.7					
FORT	**Forrest**	**56.19 177**	*e*P		**P**	**00 36 21.0 0.0**
	comp=Z,92nm,1.0s,mb5.8					
UNV	**Unalaska Valle**	**57.05 41**	PFAKE			00 36 40.0 +13
UNV			LR		LR	
	comp=Z,13μm,19.0s,MS6.0					
ABKT	**Ailbek**	**57.14 300**	P		**P**	**00 36 28.9 +1.0**
	comp=Z,2μm,0.9s,SNR=45					
VAN	**Vannovskaya**	**57.15 300**	P		**P**	**00 36 29.0 +1.1**
VAN			S		**S**	**00 44 30.0 +8.7**
KLBR	**Kellerberrin**	**57.37 187**	*e*P		**P**	**00 36 29.3 0.0**
	comp=Z,312nm,0.9s,mb6.3					
TNA	**Tin City**	**57.41 27**	*e*P		**P**	**00 36 28.4 -0.8**
	comp=Z,380nm,2.3s,mb6.0					
TNA			*e*PcP		PcP	00 37 22.2 -0.7
TNA			*e*PP		PP	00 38 33.2 -3.4
TNA			LR		LR	
	comp=Z,5μm,20.0s,MS5.6					
MUN	**Mundaring**	**57.95 189**	*e*P		**P**	**00 36 33.2 -0.2**
MUN			*e*S		**S**	**00 44 30.8 -0.7**
NWAO	**Narrogin (SRO)**	**58.75 188**	*e*P		**P**	**00 36 39.2 +0.2**
	comp=Z,620nm,1.7s,mb6.4					
NWAO			*e*PcP		PcP	00 37 27.4 -1.1
NWAO			*e*S		**S**	**00 44 50.0 +8.0**
NWAO			LR		LR	
	comp=Z,5μm,22.0s,MS5.6					
NWAO	**Narrogin (SRO)**	**58.75 188**	*e*P		**P**	**00 36 39.2 +0.3**
NWAO			*e*			00 37 27.4
NWAO			*e*S		**S**	**00 44 50.0 +8.1**
NWAO			pmax		pmax	
	comp=Z,620nm,1.7s					
NWAO			MLR		MLR	
	comp=Z,5μm,22.0s					
NWAO	**Narrogin (SRO)**	**58.75 188**	S		**S**	**00 44 42.9 +0.9**
	comp=Z,4.1nm,0.7s,baz=232,slow=7.5,SNR=1.9					
STKA	**Stephens Creek**	**59.34 164**	*e*P		**P**	**00 36 42.6 -0.5**
	comp=Z,55nm,0.9s,mb5.6					
STKA			*e*S		**S**	**00 44 50.8 +1.1**
STKA	**Stephens Creek**	**59.34 164**	*e*P		**P**	**00 36 42.9 -0.2**
STKA			*e*PcP		PcP	00 37 31.4 +0.6
STKA			*e*S		**S**	**00 44 55.2 +5.5**
STKA	**Stephens Creek**	**59.34 164**	P		**P**	**00 36 42.8 -0.4**
	comp=Z,61nm,0.9s,mb5.6,baz=346,slow=7.1,SNR=46					
STKA			S		**S**	**00 44 50.9 +1.2**
	comp=Z,3.5nm,1.0s,baz=158,slow=5.8,SNR=1.8					
STKA			LR		LR	01 04 55.5
	comp=Z,6μm,19.0s,MS5.7,baz=341,slow=39					
WBK	**Wadi Bani Khal**	**59.87 282**	P		**P**	**00 36 48.7 +1.6**
	SNR=14					
WBK	**Wadi Bani Khal**	**59.87 282**	P		**P**	**00 36 48.7 +1.6**
	SNR=14					
BIDO	**Bidbid**	**60.35 284**	P		**P**	**00 36 52.6 +2.2**
	SNR=19					
BIDO	**Bidbid**	**60.35 284**	P		**P**	**00 36 52.6 +2.2**
	SNR=19					
SMDO	**Samad**	**60.55 283**	P		**P**	**00 36 52.6 +0.8**
	SNR=26					
SMDO	**Samad**	**60.55 283**	P		**P**	**00 36 52.6 +0.8**
	SNR=26					
JMDO	**Jabal Madar**	**60.71 282**	P		**P**	**00 36 53.3 +0.5**
	SNR=18					
JMDO	**Jabal Madar**	**60.71 282**	P		**P**	**00 36 53.3 +0.5**
	SNR=18					
HOQ	**Hoqain**	**61.04 284**	P		**P**	**00 36 55.9 +0.7**
	SNR=31					
HOQ	**Hoqain**	**61.04 284**	P		**P**	**00 36 55.9 +0.7**
	SNR=31					
ARMA	**Armidale**	**61.27 154**	*e*P		**P**	**00 36 57.1 +0.7**
ARMA			*e*S		**S**	**00 45 18.4 +3.8**
BSY	**Bisya**	**61.39 283**	P		**P**	**00 36 58.2 +0.7**
	SNR=26					
BSY	**Bisya**	**61.39 283**	P		**P**	**00 36 58.2 +0.7**
	SNR=26					
CHGN	**Chignik**	**61.62 38**	*e*P		**P**	**00 36 57.2 -1.3**
HATD	**Hatta, Dubai**	**61.71 286**	P		**P**	**00 37 01.2 +1.5**
	SNR=10					
HATD	**Hatta, Dubai**	**61.71 286**	P		**P**	**00 37 01.2 +1.5**
	SNR=10					
ASHO	**Ashiyiah**	**61.81 285**	P		**P**	**00 37 01.4 +1.1**
	SNR=13					
ASHO	**Ashiyiah**	**61.81 285**	P		**P**	**00 37 01.4 +1.1**
	SNR=13					
TTA	**Tatalina**	**62.44 30**	*e*P		**P**	**00 37 02.7 -1.1**
TTA			*e*PcP		PcP	00 37 42.6 -0.4
FUNA	**Funafuti**	**62.60 116**	PFAKE			00 37 20.0 +14
FUNA			LR		LR	
	comp=Z,10μm,19.0s,MS6.0					
SVW2	**Sparrevohn**	**62.75 32**	*e*P		**P**	**00 37 06.1 +0.1**
IMA2	**Indian Mountai**	**63.28 27**	*e*P		**P**	**00 37 09.0 -0.4**
IMA2			*e*PcP		PcP	00 37 47.8 +1.4
IMA2			PP		PP	00 39 27.8 -0.6
MAK	**Makhachkala**	**64.24 307**	*c* P		**P**	**00 37 20.1 +4.0**
MAK			*e*			00 37 55.2
MAK			*i*			00 39 41.5
MAK			*i* S		**S**	**00 45 57.9 +6.2**
MAK			pmax		pmax	
	comp=Z,299nm,1.7s,mb6.0					
MAK			pmax		pmax	
	comp=N,96nm,0.8s					
MAK			pmax		pmax	
	comp=E,93nm,0.7s					
MAK			smax			
	comp=E,2204μm,6.8s					
MAK			smax			
	comp=N,6229μm,12.9s					
MAK			smax			
	comp=Z,1745μm,6.9s					
SHAO	**Shalim**	**64.32 279**	P		**P**	**00 37 18.7 +1.6**
	SNR=5.7					
SHAO	**Shalim**	**64.32 279**	P		**P**	**00 37 18.7 +1.6**
	SNR=5.7					
KDAK	**Kodiak Island**	**64.63 36**	P		**P**	**00 37 17.7 -0.7**
KDAK			S		**S**	**00 45 56.1 0.0**
KDAK			LR		LR	01 07 52.8
KDAK	**Kodiak Island**	**64.63 36**	P		**P**	**00 37 17.7 -0.7**
	comp=Z,144nm,0.9s,mb6.0,baz=301,slow=2.1,SNR=36					
KDAK			S		**S**	**00 45 56.1 0.0**
	comp=Z,13nm,1.0s,baz=225,slow=7.3,SNR=2.1					
KDAK			LR		LR	01 07 52.8
	comp=Z,6μm,19.5s,MS5.8,baz=261,slow=38					
CNB	**Canberra Magne**	**64.84 158**	*e*P		**P**	**00 37 20.9 +0.9**
	comp=Z,62nm,1.1s,mb5.5					
MCK	**McKinley**	**65.54 29**	*e*P		**P**	**00 37 23.6 -0.6**
	comp=Z,190nm,0.4s,mb6.5					
MCK			*e*PcP		PcP	00 37 57.1 +1.4
MCK			*e*PP		PP	00 39 46.2 -2.0
MCK			LR		LR	
	comp=Z,3μm,19.0s,MS5.6					
MCK	**McKinley**	**65.54 29**	*e*P		**P**	**00 37 23.6 -0.6**
MCK			*e*			00 37 57.2
MCK			*e*			00 39 46.2
MCK			pmax		pmax	
	comp=Z,190nm,0.4s,mb6.5					
MCK			MLR		MLR	
	comp=Z,3μm,19.0s,MS5.6					
RBK	**Rabkut**	**65.77 279**	P		**P**	**00 37 26.6 +0.1**
	SNR=26					
RBK	**Rabkut**	**65.77 279**	P		**P**	**00 37 26.6 +0.1**
	SNR=26					
PMR	**Palmer**	**65.78 32**	*e*P		**P**	**00 37 24.5 -1.3**
	comp=Z,803nm,2.3s,mb6.3					
PMR			LR		LR	
	comp=Z,6μm,19.0s,MS5.8					
PMR	**Palmer**	**65.78 32**	*e*P		**P**	**00 37 24.5 -1.3**
PMR			pmax		pmax	
	comp=Z,803nm,2.3s,mb6.3					
PMR			MLR		MLR	
	comp=Z,6μm,19.0s,MS5.8					
COLA	**College**	**65.83 28** ⇓	*i*P		**P**	**00 37 25.3 -0.7**
COLA			*e*PcP		PcP	00 37 56.8 -0.1
COLA			*e*PP		PP	00 39 47.4 -3.4
COLA			LR		LR	
	comp=Z,7μm,19.0s,MS5.9					
TMCR	**Tamitsa**	**65.96 331**	*i* P		**P**	**00 37 26.3 -0.6**
WHFO	**Wadi Hawf**	**66.01 279**	P		**P**	**00 37 27.7 -0.4**
	SNR=19					
WHFO	**Wadi Hawf**	**66.01 279**	P		**P**	**00 37 27.7 -0.4**
	SNR=19					
DGRG	**David-gareji**	**66.12 306**	P		**P**	**00 37 27.4 -0.9**
DGRG			S		S	00 46 28.4 +14
SML	**Sawmill**	**66.12 31**	*e*P		**P**	**00 37 27.5 -0.4**
SML			*e*PcP		PcP	00 37 57.9 -0.2
MTA	**Mtatsminda**	**66.48 306**	P		**P**	**00 37 29.1 -1.6**
MTA			S		S	00 46 20.1 +0.8
VRHR	**Novokhopersk**	**66.50 317**	*e*P		**P**	**00 37 29.6 -1.0**
VRHR			*e*			00 37 59.6
VRHR			*e*			00 39 58.4
VRHR			*e*PPP			00 41 33.2
VRHR			*e*S		S	00 46 20.4 +1.3
VRHR			pmax		pmax	
	comp=Z,40nm,0.8s,mb5.5					
VRHR			pmax		pmax	
	comp=N,10.0nm,0.6s					
VRHR			pmax		pmax	
	comp=E,30nm,0.9s					
VRHR			pmax		pmax	
	comp=Z,240nm,8.6s					
VRHR			pmax		pmax	
	comp=N,80nm,11.1s					
VRHR			pmax		pmax	
	comp=E,90nm,6.5s					
VRHR			smax			
	comp=N,2μm,6.6s					
VRHR			smax			
	comp=Z,700nm,6.5s					
VRHR			smax			
	comp=E,880nm,4.7s					
VRHR			MLR		MLR	
	comp=Z,20μm,14.0s,MS6.5					
VRHR			MLR		MLR	
	comp=N,8μm,12.0s,MS6.4					
VRHR			MLR		MLR	
	comp=E,14μm,15.0s,MS6.4					
TBLG	**Delisi**	**66.51 306**	*e*P		**P**	**00 37 31.4 +0.5**
TBLG	**Delisi**	**66.51 306**	P		**P**	**00 37 31.4 +0.6**
ABTO	**Aybut**	**66.63 279**	P		**P**	**00 37 32.5 +0.5**
	SNR=19					
ABTO	**Aybut**	**66.63 279**	P		**P**	**00 37 32.5 +0.5**
	SNR=19					
GOF	**Gofitskoye**	**66.92 310** ⇓	*i*P		**P**	**00 37 25.3 -8.1**
GOF			pmax		pmax	
	comp=Z,106nm,1.2s,mb5.8					
ONI	**Oni**	**67.23 308**	P		**P**	**00 37 36.4 +0.9**
ONI			S		S	00 46 31.9 +3.6
KIV	**Kislovodsk**	**67.43 309**	*i* P		**P**	**00 37 36.7 0.0**
KIV	**Kislovodsk**	**67.43 309**	*d* P		**P**	**00 37 36.6 -0.1**
KIV			*i*			00 37 59.3
KIV			*i* S		S	00 46 36.9 +6.3
KIV			*i* SS		SS	00 50 55.4 +4.7
KIV			pmax		pmax	
	comp=Z,211nm,1.5s,mb6.0					
KIV			MLR		MLR	
	comp=Z,16μm,14.0s,MS6.4					
UMR	**Umm Al-Rimmam**	**67.49 293**	*e*P		**P**	**00 37 35.3 -2.0**
UMR			AMb		AMB	00 37 40.1
	comp=Z,141nm,0.9s,mb6.0					
EYAK	**Cordova Ski Ar**	**67.59 32**	*e*P		**P**	**00 37 37.2 -0.2**
EYAK			*e*PcP		PcP	00 38 04.6 +0.3
EYAK			*e*PP		PP	00 40 05.6 -0.6
KBD	**Kabd**	**67.62 293**	*e*P		**P**	**00 37 36.8 -1.3**
KBD			AMb		AMB	00 37 44.1
	comp=Z,434nm,1.1s,mb6.4					
MIB	**Mutribah**	**67.72 293**	*e*P		**P**	**00 37 37.5 -1.3**
MIB			AMb		AMB	00 37 43.0
	comp=Z,174nm,0.9s,mb6.1					
CLDR	**Caldiran**	**67.78 304**	*e*P		**P**	**00 37 39.0 0.0**
RDF	**Al-Radifah**	**67.81 292**	*e*P		**P**	**00 37 37.5 -1.9**
RDF			AMb		AMB	00 37 45.8
	comp=Z,253nm,1.0s,mb6.2					
MOS	**Moscow**	**67.82 322**	*e*P		**P**	**00 37 39.8 +0.9**
MOS			*e*			00 37 54.3
MOS			*e*			00 38 03.7
MOS			*e*			00 40 08.6
MOS			*e*S		S	00 46 38.8 +4.0
MOS			*e*			00 47 34.0
MOS			pmax		pmax	
	comp=Z,177nm,1.4s,mb5.9					
MOS			pmax		pmax	
	comp=E,2μm,5.7s					
MOS			pmax		pmax	
	comp=Z,3μm,5.7s					
MOS			MLR		MLR	
	comp=Z,35μm,18.0s,MS

VORD				pmax	pmax		
	comp=N,120nm,0.8s						
VORD				pmax	pmax		
	comp=E,40nm,0.6s						
VORD				smax			
	comp=N,2μm,15.1s						
VORD				smax			
	comp=Z,1μm,19.6s						
VORD				smax			
	comp=E,2μm,18.9s						
VORD				MLR	MLR		
	comp=Z,18μm,14.0s,MS6.5						
VORD				MLR	MLR		
	comp=N,5μm,13.0s,MS6.4						
VORD				MLR	MLR		
	comp=E,14μm,15.0s,MS6.4						
VRSR	**Storozhevoye**	**67.96**	**317**	*d iP*	**P**	**00 37 38.4**	**-1.5**
VRSR				*e* *PP	pP	00 37 48.9	-0.5
VRSR				*e*		00 38 04.5	
VRSR				*e*		00 40 05.6	
VRSR				*e*S	S	00 46 38.1	+1.3
VRSR				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.8						
VRSR				pmax	pmax		
	comp=N,8.0nm,0.9s						
VRSR				pmax	pmax		
	comp=E,20nm,1.0s						
VRSR				smax			
	comp=N,100nm,4.4s						
VRSR				smax			
	comp=Z,60nm,4.0s						
VRSR				smax			
	comp=E,60nm,5.7s						
VRSR				MLR	MLR		
	comp=Z,3μm,17.0s,MS5.6						
VRSR				MLR	MLR		
	comp=N,1μm,16.0s,MS5.4						
VRSR				MLR	MLR		
	comp=E,2μm,17.0s,MS5.4						
NAY	**Al-Naaiem**	**67.97**	**293**	*e*P	**P**	**00 37 39.1**	**-1.2**
NAY				AMb	AMB	00 37 46.1	
	comp=Z,89nm,1.1s,mb5.7						
KARS	**Kars**	**68.00**	**306**	*e*P	**P**	**00 37 42.8**	**+2.5**
MENT	**Mentasta**	**68.00**	**30**	*e*P	**P**	**00 37 40.4**	**+0.5**
RST	**Umm Al-Ruwaisa**	**68.10**	**293**	*e*P	**P**	**00 37 39.2**	**-1.9**
RST				AMb	AMB	00 37 46.6	
	comp=Z,97nm,1.0s,mb5.8						
VANB	**Van**	**68.33**	**303**	*e*P	**P**	**00 37 46.4**	**+4.0**
HKR	**Hakkari**	**68.34**	**302**	*e*P	**P**	**00 37 42.5**	**0.0**
AGRB	**Hanur-Agry**	**68.35**	**305**	*e*P	**P**	**00 37 43.4**	**+0.8**
OBN	**Obninsk**	**68.55**	**322**	*e*P	**P**	**00 37 42.2**	**-1.3**
OBN				*e*PcP	PcP	00 38 08.2	-0.2
OBN				LR	LR		
	comp=Z,25μm,21.0s,MS6.4						
OBN	**Obninsk**	**68.55**	**322**	*e*P	**P**	**00 37 42.2**	**-1.3**
OBN				*i*		00 38 03.1	
OBN				*i* S	S	00 46 43.8	+0.2
OBN				pmax	pmax		
	comp=Z,245nm,2.1s,mb5.8						
OBN				MLR	MLR		
	comp=Z,24μm,18.0s,MS6.5						
EGAK	**Eagle**	**68.65**	**27**	*e*P	**P**	**00 37 43.0**	**-0.9**
	comp=Z,90nm,1.0s,mb5.7						
EGAK				*e*PcP	PcP	00 38 11.3	+2.6
EGAK				LR	LR		
	comp=Z,8μm,19.0s,MS6.0						
SPB4	**Spitsbergen Ar**	**68.80**	**348**	*e*P	**P**	**00 37 43.8**	**-1.0**
SPB4				*e*PcP	PcP	00 38 08.4	-0.7
SPB4				*e*PP	PP	00 40 16.0	-0.3
BCA	**Borcka**	**68.84**	**307**	*e*P	**P**	**00 37 45.1**	**-0.5**
KEV	**Kevo**	**68.93**	**338**	*e*p	**P**	**00 37 43.3**	**-2.3**
	comp=Z,34nm,0.9s,mb5.3						
KEV	**Kevo**	**68.93**	**338**	*e*P	**P**	**00 37 43.3**	**-2.3**
KEV				pmax	pmax		
	comp=Z,34nm,0.9s,mb5.3						
BHD	**Baghdad**	**69.09**	**298**	*e*x	x	00 37 45.0	
BHD				*e*x	x	00 40 25.0	
BHD				*e*x	x	00 46 51.0	
JOF	**Joensuu**	**69.17**	**331**	*e*p	**P**	**00 37 44.5**	**-2.7**
	comp=Z,25nm,1.0s,mb5.1						
JOF	**Joensuu**	**69.17**	**331**	*e*P	**P**	**00 37 44.5**	**-2.7**
JOF				pmax	pmax		
	comp=Z,25nm,1.0s,mb5.1						
MSL	**Mosul**	**69.21**	**301**	*e*x	x	00 37 23.0	
KBS	**Kingsbay**	**69.27**	**349**	*e*P	**P**	**00 37 48.5**	**+0.8**
KBS				*e*PP	PP	00 40 18.6	-1.9
KBS				*e*S	S	00 46 55.5	+3.9
KBS				*e*SS	SS	00 51 26.8	+9.1
KBS				AMS	AMS	01 09 39.2	
	comp=Z,12μm,20.9s,MS6.1						
SIRT	**Sirnak**	**69.35**	**303**	*e*P	**P**	**00 37 48.4**	**-0.4**
PZAR	**Pazar-Rize**	**69.44**	**307**	*e*P	**P**	**00 37 50.3**	**+1.0**
ARCES	**ARCESS Array B**	**69.50**	**338**	P	**P**	**00 37 48.1**	**-1.0**
	comp=Z,13nm,0.9s,mb4.8,baz=68,slow=7.5,SNR=20						
ARCES				LR	LR	01 15 37.4	
	comp=Z,21μm,18.3s,MS6.4,baz=82,slow=42						
ARE0	**ARCESS Array S**	**69.50**	**338**	*e*P	**P**	**00 37 48.1**	**-1.0**
ARE0				*e*PcP	PcP	00 38 11.1	-1.1
ARE0				*e*PP	PP	00 40 24.5	+2.0
DAWY	**Dawson**	**69.58**	**28**	*e*P	**P**	**00 37 49.6**	**-0.1**
DAWY				*e*PcP	PcP	00 38 13.7	+1.1
SOC	**Sochi**	**69.60**	**309**	*d iP*	**P**	**00 37 49.4**	**-0.8**
SOC				*e* *PP	pP	00 38 01.3	+1.5
SOC				*e*		00 38 11.3	
SOC				*e*		00 40 22.8	
SOC				*e*PPP		00 42 07.3	
SOC				*i* S	S	00 46 57.6	+1.1
SOC				*e*		00 47 41.3	
SOC				pmax	pmax		
	comp=Z,93nm,1.1s,mb5.6						
SOC				pmax	pmax		
	comp=Z,2μm,4.9s						
BJO	**Bjornoya**	**69.62**	**344**	*e*P	**P**	**00 37 54.3**	**+4.5**
BJO				*e*S	S	00 47 08.5	+13
BJO				*e*		00 51 55.4	
BJO				AMS	AMS	01 14 10.2	
	comp=Z,25μm,18.5s,MS6.5						
KIP	**Kipapa**	**69.67**	**75**	PFAKE		00 38 00.0	+9.0
KIP				LR	LR		
	comp=Z,4μm,19.0s,MS5.7						
BTMT	**Batman**	**69.87**	**303**	*e*P	**P**	**00 37 50.8**	**-1.2**
KTUT	**Trabzon**	**70.32**	**307**	*e*P	**P**	**00 37 54.1**	**-0.6**
BINT	**Bingol**	**70.42**	**304**	*e*P	**P**	**00 37 55.0**	**-0.4**
KTK1	**Kautokeino**	**70.44**	**338**	⇑*i iP*	**P**	**00 37 54.8**	**-0.1**
	comp=Z,105nm,1.9s,mb5.4						
KTK1	**Kautokeino**	**70.44**	**338**	⇑*i iP*	**P**	**00 37 54.8**	**-0.1**
KTK1				*e*pP	pP	00 37 57.8	-6.6
KTK1				AMb	AMB	00 38 16.8	
	comp=Z,105nm,1.9s,mb5.4						
INK	**Inuvik**	**70.50**	**23**	*e*P	**P**	**00 37 54.3**	**-1.0**
	comp=Z,1.1nm,0.5s						
INK				*e*PcP	PcP	00 38 15.9	-0.6
INK				*e*PP	PP	00 40 36.6	+5.4
INK	**Inuvik**	**70.50**	**23**	*e*P	**P**	**00 37 54.3**	**-1.0**
INK				*e*		00 38 15.9	
INK				*e*		00 40 36.6	
INK				pmax	pmax		
	comp=Z,1.0nm,0.5s						
INK	**Inuvik**	**70.50**	**23**	LR	LR	01 08 23.1	
	comp=Z,8μm,21.4s,MS6.0,baz=294,slow=35						
EZC	**Erzincan**	**70.65**	**305**	*e*P	**P**	**00 37 59.3**	**+2.5**
GUMT	**Gumushane**	**70.68**	**306**	*e*P	**P**	**00 37 55.0**	**-1.9**
ANN	**Anapa**	**70.83**	**311**	*e*P	**P**	**00 37 56.3**	**-1.4**
ANN	**Anapa**	**70.83**	**311**	⇑*i iP*	**P**	**00 37 56.4**	**-1.3**
ANN				*i* *PP	pP	00 38 05.8	-1.4
ANN				*e*S	S	00 47 10.4	-0.3
ANN				*e*SSS		00 54 53.3	
ANN				pmax	pmax		
	comp=Z,1μm,4.8s						
ANN				pmax	pmax		
	comp=Z,1μm,4.8s						
ANN				MLR	MLR		
	comp=N,30μm,19.0s,MS6.6						
ANN				MLR	MLR		
	comp=E,14μm,19.0s,MS6.6						
ANN				MLR	MLR		
	comp=Z,21μm,19.0s,MS6.4						
DIY	**Diyarbakir**	**70.91**	**304**	*e*P	**P**	**00 37 57.9**	**-0.5**
ESPY	**Espiye-Giresun**	**71.09**	**307**	*e*P	**P**	**00 38 01.1**	**+1.8**
TAU	**Tasmania Unive**	**71.23**	**163**	*e*P	**P**	**00 38 01.1**	**+1.2**
	comp=Z,182nm,1.5s,mb5.8						
TAU				*e*PcP	PcP	00 38 20.5	+0.8
TAU				LR	LR		
	comp=Z,10μm,20.0s,MS6.1						
TAU	**Tasmania Unive**	**71.23**	**163**	*e*P	**P**	**00 38 01.2**	**+1.3**
TAU				*e*		00 38 20.5	
TAU				pmax	pmax		
	comp=Z,182nm,1.5s,mb5.8						
TAU				MLR	MLR		
	comp=Z,10μm,20.0s,MS6.1						
TRO	**Tromso**	**71.62**	**339**	*e*P	**P**	**00 37 59.4**	**-2.6**
TRO				*e*PP	PP	00 40 43.8	+3.1
TRO				*e*		00 42 26.8	
TRO				*e*S	S	00 47 26.2	+7.2
TRO				*e*SS	SS	00 52 07.4	+13
TRO				AMS	AMS	01 15 42.6	
	comp=Z,19μm,19.4s,MS6.4						
KAF	**Kangasniemi**	**71.63**	**331**	*e*p	**P**	**00 37 59.9**	**-2.3**
	comp=Z,6.4nm,0.7s,mb4.7,baz=68,slow=5.6						
KAF	**Kangasniemi**	**71.63**	**331**	*e*P	**P**	**00 37 59.9**	**-2.3**
KAF				pmax	pmax		
	comp=Z,6.0nm,0.7s						
FIA1	**FINESS Array S**	**71.96**	**330**	*e*P	**P**	**00 38 03.1**	**-1.1**
FIA1				*e*PcP	PcP	00 38 22.7	-0.1
FINES	**FINESS Array B**	**71.96**	**330**	P	**P**	**00 38 03.1**	**-1.1**
FINES				LR	LR	01 13 33.0	
FINES	**FINESS Array B**	**71.96**	**330**	*i P*	**P**	**00 38 03.2**	**-1.1**
FINES				pmax	pmax		
	comp=Z,20nm,0.9s						
FINES	**FINESS Array B**	**71.96**	**330**	P	**P**	**00 38 03.1**	**-1.1**
	comp=Z,20nm,0.9s,mb5.1,baz=54,slow=5.8,SNR=23						
FINES				LR	LR	01 13 33.0	
	comp=Z,17μm,18.1s,MS6.4,baz=79,slow=39						
ALE	**Alert**	**71.97**	**1**	P	**P**	**00 38 02.2**	**-1.9**
	comp=Z,185nm,1.0s,mb6.0,SNR=11						
URFA	**Urfa**	**72.11**	**303**	*e*P	**P**	**00 38 03.5**	**-2.1**
MYA	**Malataya**	**72.12**	**304**	*e*P	**P**	**00 38 05.8**	**+0.1**
MALT	**Malatya**	**72.12**	**304**	*e*P	**P**	**00 38 04.3**	**-1.4**
MALT	**Malatya**	**72.12**	**304**	*e*P	**P**	**00 38 06.3**	**+0.7**
	comp=Z,130nm,1.3s,mb5.7						
MALT				*e*PcP	PcP	00 38 22.8	-1.1
MALT				*e*PP	PP	00 40 44.9	-1.0
MALT	**Malatya**	**72.12**	**304**	*e*P	**P**	**00 38 06.3**	**+0.6**
MALT				*e*		00 38 22.8	
MALT				*e*		00 40 44.9	
MALT				pmax	pmax		
	comp=Z,130nm,1.3s,mb5.7						
MALT	**Malatya**	**72.12**	**304**	⇓*i P*	**P**	**00 38 06.4**	**+0.7**
POHA	**Pohakuloa**	**72.44**	**76**	*e*P	**P**	**00 38 07.2**	**-0.6**
POHA				LR	LR		
	comp=Z,3μm,20.0s,MS5.6						
SVSK	**Karacayir**	**72.66**	**306**	*e*P	**P**	**00 38 14.8**	**+6.0**
VSU	**Vasula**	**72.71**	**327**	⇓*e*P	**P**	**00 38 07.5**	**-1.2**
SKAG	**Skagway**	**72.91**	**32**	*e*P	**P**	**00 38 10.4**	**+0.4**
	comp=Z,190nm,1.2s,mb5.9						
SKAG				LR	LR		
	comp=Z,6μm,19.0s,MS5.9						
AFI	**Afiamalu**	**72.93**	**115**	*e*P	**P**	**00 38 10.1**	**-0.7**
	comp=Z,158nm,1.4s,mb5.8						
AFI				LR	LR		
	comp=Z,5μm,20.0s,MS5.8						
AFI	**Afiamalu**	**72.93**	**115**	*e*P	**P**	**00 38 10.1**	**-0.6**
AFI				pmax	pmax		
	comp=Z,158nm,1.4s,mb5.8						
AFI				MLR	MLR		
	comp=Z,5μm,20.0s,MS5.8						
KVT	**Kavak**	**72.96**	**308**	*e*P	**P**	**00 38 15.3**	**+4.7**
SIM	**Simferopol'**	**73.02**	**312**	*e*P	**P**	**00 38 10.6**	**-0.3**
SIM	**Simferopol'**	**73.02**	**312**	*de*P	**P**	**00 38 10.4**	**-0.5**
SIM				*e*S	S	00 47 44.0	+8.1
SIM				pmax	pmax		
	comp=Z,77nm,1.3s,mb5.5						
SIM				MLR	MLR		
	comp=Z,16μm,19.0s,MS6.3						
DIKM	**Dikmen**	**73.33**	**309**	*e*P	**P**	**00 38 15.2**	**+2.5**
GAZ	**Gaziantep**	**73.41**	**304**	*e*P	**P**	**00 38 14.8**	**+1.5**
MNK	**Minsk**	**73.55**	**323**	⇑*e*P	**P**	**00 38 13.0**	**-0.8**
MNK				*e* *PP	pP	00 38 34.0	+11
MNK				*e*		00 41 00.0	
MNK				*e*PPP		00 42 44.0	
MNK				*e*S	S	00 47 43.0	+1.4
MNK				*e* *SS	sS	00 48 19.0	+22
MNK				*e*SS	SS	00 52 18.0	-6.1
MNK				pmax	pmax		
	comp=Z,200nm,1.5s,mb5.8						
MNK				MLR	MLR		
	comp=E,64μm,18.0s						
MNK				MLR	MLR		
	comp=Z,71μm,18.0s,MS7.0						
MNK				MLR	MLR		
	comp=N,27μm,12.0s						
SIT	**Sitka**	**73.81**	**34**	*e*P	**P**	**00 38 15.7**	**+0.4**
	comp=N,472nm,2.0s,mb6.1						
SIT				LR	LR		
	comp=Z,4μm,17.0s,MS5.7						
SIT	**Sitka**	**73.81**	**34**	*e*P	**P**	**00 38 15.7**	**+0.4**
SIT				pmax	pmax		
	comp=Z,472nm,2.0s,mb6.1						
SIT				MLR	MLR		
	comp=Z,4μm,17.0s,MS5.7						
IDID	**Didziasalis**	**73.84**	**324**	*e*P	**P**	**00 38 15.3**	**-0.2**
IDID				AMb	AMB	00 38 22.0	
	comp=Z,37nm,1.2s,mb5.2						
BNN	**Bunyan**	**73.86**	**306**	*e*P	**P**	**00 38 15.8**	**-0.1**
IZAR	**Zarasai**	**73.94**	**324**	*e*P	**P**	**00 38 15.9**	**-0.2**
IZAR				AMb	AMB	00 38 22.5	
	comp=Z,27nm,1.1s,mb5.1						
IIGN	**Ignalina**	**74.11**	**324**	*e*P	**P**	**00 38 16.9**	**-0.1**
IIGN				AMb	AMB	00 38 23.6	
	comp=Z,23nm,1.3s,mb4.9						
AKASG	**Malin Array Be**	**74.13**	**319**	P	**P**	**00 38 15.7**	**-1.6**
AKASG				S	S	00 47 47.2	-1.0
AKASG				LR	LR	01 11 48.8	
AKASG	**Malin Array Be**	**74.13**	**319**	P	**P**	**00 38 15.7**	**-1.6**
AKASG				S	S	00 47 47.2	-1.0
AKASG	**Malin Array Be**	**74.13**	**319**	P	**P**	**00 38 15.7**	**-1.6**
	comp=Z,30nm,0.8s,mb5.3,baz=58,slow=5.9,SNR=69						
AKASG				S	S	00 47 47.2	-1.0
	comp=Z,1.3nm,0.5s,baz=339,slow=38,SNR=2.9						
AKASG				LR	LR	01 11 48.8	
	comp=Z,24μm,20.6s,MS6.5,baz=60,slow=36						
AKBB	**Malin Array Si**	**74.13**	**319**	*e*P	**P**	**00 38 15.3**	**-2.0**
KIEV	**Kiev**	**74.14**	**319**	*e*P	**P**	**00 38 15.7**	**-1.7**
	comp=Z,59nm,1.0s,mb5.5						
KIEV				*e*PP	PP	00 40 59.9	-2.7
KIEV				LR	LR		
	comp=Z,25μm,22.0s,MS6.5						
KIEV	**Kiev**	**74.14**	**319**	*e*P	**P**	**00 38 15.7**	**-1.6**
KIEV				*e*		00 40 59.9	
KIEV				pmax	pmax		
	comp=Z,59nm,1.0s,mb5.5						
KIEV				MLR	MLR		
	comp=Z,25μm,22.0s,MS6.5						
KOZT	**Kozan**	**74.34**	**304**	*e*P	**P**	**00 38 21.7**	**+2.9**
CEYT	**Ceyhan**	**74.57**	**304**	*e*P	**P**	**00 38 23.8**	**+3.7**
HTY	**Hatay**	**74.58**	**303**	*e*P	**P**	**00 38 22.8**	**+2.6**
MOR8	**Moi Rana**	**74.69**	**337**	*e*P	**P**	**00 38 17.6**	**-2.6**
	comp=Z,90nm,1.4s,mb5.5						
MOR8	**Moi Rana**	**74.69**	**337**	*e*P	**P**	**00 38 17.6**	**-2.6**
MOR8				AMb	AMB	00 38 21.3	
	comp=Z,90nm,1.4s,mb5.5						
KARA	**Karaisali**	**75.00**	**304**	*e*P	**P**	**00 38 24.2**	**+1.7**
LBOS		**75.12**	**278**	⇓*e*P	**P**	**00 38 24.2**	**+0.6**
LBOS				AMb	AMB	00 38 25.8	
	comp=Z,85nm,0.8s,mb5.7						
HWQ	**Hawqa**	**75.39**	**301**	*e*P	**P**	**00 38 27.0**	**+2.1**
DAG	**Danmarks Havn**	**75.44**	**352**	⇑*e*P	**P**	**00 38 22.1**	**-2.3**
DAG				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.8						
DAG	**Danmarks Havn**	**75.44**	**352**	⇑*i iP*	**P**	**00 38 22.1**	**-2.3**
	comp=Z,10nm,0.8s,mb4.8						
CRAG	**Craig**	**75.56**	**35**	*e*P	**P**	**00 38 25.8**	**+0.3**
	comp=Z,543nm,2.2s,mb6.1						
CRAG				LR	LR		
	comp=Z,3μm,19.0s,MS5.6						
WRAK	**Wrangell Islan**	**75.57**	**34**	*e*P	**P**	**00 38 25.9**	**+0.4**
	comp=Z,175nm,1.3s,mb5.8						
WRAK				*e*PcP	PcP	00 38 37.4	-0.9
WRAK				LR	LR		
	comp=Z,5μm,21.0s,MS5.8						
DHBB	**Dhamar BB**	**75.61**	**279**	⇓*e*P	**P**	**00 38 27.0**	**+0.6**
DHBB				AMb	AMB	00 38 28.3	
	comp=Z,68nm,0.7s,mb5.7						
ANTO	**Ankara**	**75.71**	**307**	⇑P	**P**	**00 38 26.5**	**-0.1**
ANTO	**Ankara**	**75.71**	**307**	⇑*i iP*	**P**	**00 38 26.5**	**-0.1**
KIS	**Kishinev**	**75.74**	**315**	*c iP*	**P**	**00 38 25.0**	**-1.7**
KIS				*e*		00 41 20.0	
KIS				*i* S	S	00 48 07.0	+0.6
KIS				*e*PS		00 48 42.0	
KIS				*e*SS	SS	00 53 00.0	+2.2
KIS				pmax	pmax		
	comp=Z,2μm,7.0s						
KIS				smax			
	comp=N,2μm,14.0s						
KIS				MLR	MLR		
	comp=Z,18μm,19.0s,MS6.4						
KIS				MLR	MLR		
	comp=N,9μm,15.0s,MS6.5						
KIS				MLR	MLR		
	comp=E,17μm,20.0s,MS6.5						
KIS				MLR	MLR		
	comp=Z,19μm,20.0s						
KIS	**Kishinev**	**75.74**	**315**	⇑*i iP*	**P**	**00 38 25.0**	**-1.7**
	comp=Z,2μm,7.0s						
KIS	**Kishinev**	**75.74**	**315**	*e*PP	PP	00 41 20.0	+3.6
KIS	**Kishinev**	**75.74**	**315**	*e*PS		00 48 42.0	
KIS				*e*SS	SS	00 53 00.0	+2.2
KIS				LRM		01 16 24.0	
	comp=Z,19μm,20.0s						
BHL	**Bhannes**	**75.75**	**301**	*e*P	**P**	**00 38 28.9**	**+1.9**
DLBC	**Dease Lake**	**75.84**	**32**	*e*P	**P**	**00 38 27.7**	**+0.7**
DLBC				*e*PcP	PcP	00 38 39.3	-0.1
DLBC				*e*PP	PP	00 41 12.1	-4.8
SUW	**Suwalki**	**76.26**	**324**	*e*P	**P**	**00 38 28.3**	**-1.2**
SUW				*e*PcP	PcP	00 38 33.8	-7.6
SUW				LMZ		01 12 48.3	
	comp=Z,31μm,23.5s						
SUW	**Suwalki**	**76.26**	**324**	*e*P	**P**	**00 38 28.3**	**-1.2**
SUW				*e*		00 38 33.8	
TRBA	**At Turbah**	**76.38**	**278**	⇑*e*P	**P**	**00 38 31.4**	**+0.5**
TRBA				AMb	AMB	00 38 32.7	
	comp=Z,87nm,1.1s,mb5.6						
NSS	**Namsos**	**76.41**	**336**	*e*P	**P**	**00 38 27.6**	**-2.5**
NSS				*e*S	S	00 48 20.6	+7.5
NSS				AMS	AMS	01 16 14.9	
	comp=Z,28μm,15.8s,MS6.7						
IAS	**Iasi**	**76.46**	**316**	⇓P	**P**	**00 38 32.2**	**+1.4**
IAS	**Iasi**	**76.46**	**316**	⇓*i iP*	**P**	**00 38 32.2**	**+1.4**
RES	**Resolute Bay**	**76.61**	**10**	*e*P	**P**	**00 38 29.5**	**-1.6**
	comp=Z,1μm,0.9s,mb6.8						
RES				*e*PcP	PcP	00 38 39.0	-3.5
TIRR	**Tirgusor**	**76.98**	**313**	⇓*i iP*	**P**	**00 38 33.6**	**-0.2**
CSS	**Prodhromos**	**77.14**	**303**	*e*P	**P**	**00 38 34.2**	**-0.6**
	comp=Z,36nm,0.8s,mb5.3						
CSS	**Prodhromos**	**77.14**	**303**	*e*P	**P**	**00 38 33.1**	**-1.7**
HARR	**Harsova**	**77.21**	**313**	⇑*i iP*	**P**	**00 38 35.3**	**+0.3**
RAO	**Raoul Island**	**77.26**	**131**	PFAKE		00 38 50.0	+15
RAO				LR	LR		
	comp=Z,9μm,22.0s,MS6.0						
RAO	**Raoul Island**	**77.26**	**131**	LR	LR	01 07 14.7	
	comp=Z,8μm,21.6s,MS6.0,baz=316,slow=31						
VRI	**Vrincioaia**	**77.52**	**315**	⇓*i iP*	**P**	**00 38 37.0**	**+0.3**
LVV	**L'vov**	**77.54**	**319**	*e*P	**P**	**00 38 37.7**	**+0.9**
LVV				*e*		00 38 54.3	
LVV				*e*		00 41 34.5	
LVV				*e*		00 43 20.3	
LVV				*e*S	S	00 48 28.7	+2.8
LVV				*e*		00 53 30.1	
LVV				*e*		00 56 47.3	
LVV				MLR	MLR		
	comp=Z,10μm,17.3s,MS6.2						
LVV				MLR	MLR		
	comp=N,10μm,17.0s,MS6.3						
LVV				MLR	MLR		
	comp=E,6μm,17.0s,MS6.3						
PLOR	**Plostina**	**77.57**	**315**	⇓*i iP*	**P**	**00 38 38.5**	**+1.5**
HFS	**Hagfors**	**78.00**	**332**	LR	LR	01 14 26.1	
	comp=E,15μm,19.5s,MS6.3,baz=66,slow=37						
ISP	**Isparta**	**78.13**	**306**	⇓P	**P**	**00 38 40.1**	**-0.2**
ISP	**Isparta**	**78.13**	**306**	*d iP*	**P**	**00 38 39.7**	**-0.6**
ISP	**Isparta**	**78.13**	**306**	⇓*i iP*	**P**	**00 38 40.1**	**-0.2**
MLR	**Muntele Rosu**	**78.17**	**315**	⇓P	**P**	**00 38 40.6**	**+0.2**
MLR	**Muntele Rosu**	**78.17**	**315**	⇓*i iP*	**P**	**00 38 40.6**	**+0.2**
JMIC	**Jan Mayen**	**78.30**	**346**	*e*P	**P**	**00 38 42.4**	**+1.8**
JMIC				*e*PP	PP	00 41 39.1	+1.9
JMIC				*e*SS	SS	00 53 40.7	+5.6
JMIC				AMS	AMS	01 17 49.0	
	comp=Z,10μm,16.5s,MS6.2						
JMIC	**Jan Mayen**	**78.30**	**346**	LR	LR	01 17 23.4	
	comp=Z,11μm,18.3s,MS6.2,baz=42,slow=39						
KWP	**Kalwaria**	**78.40**	**320**	*e*P	**P**	**00 38 41.5**	**-0.1**
KWP				LMZ		01 14 54.5	
	comp=Z,24μm,23.4s						
KWP	**Kalwaria**	**78.40**	**320**	*e*P	**P**	**00 38 41.4**	**-0.1**
KWP	**Kalwaria**	**78.40**	**320**	⇓*i iP*	**P**	**00 38 42.0**	**+0.5**
NB2	**NORSAR Subarra**	**78.56**	**333**	P	**P**	**00 38 40.6**	**-1.6**
	comp=Z,255nm,2.5s,mb5.7,baz=56,slow=5.6						
NOA	**NORSAR Array B**	**78.56**	**333**	P	**P**	**00 38 40.7**	**-1.5**
NOA				pmax	pmax		
	comp=Z,13nm,0.8s						
NOA				MLR	MLR		
	comp=Z,52μm,18.0s						
NOA	**NORSAR Array B**	**78.56**	**333**	P	**P**	**00 38 40.7**	**-1.5**
	comp=Z,13nm,0.8s,mb4.9,baz=55,slow=5.5,SNR=19						
NOA				LR	LR	01 17 35.2	
	comp=Z,52μm,18.0s,MS6.9,baz=40,slow=39						
NAO01	**NORSAR Array S**	**78.80**	**333**	PFAKE		00 38 50.0	+6.5
NAO01				LR	LR		
	comp=Z,50μm,19.0s,MS6.9						
KOLS	**Kolonicke sedl**	**78.96**	**319**	*i P*	**P**	**00 38 44.0**	**-0.6**
KOLS				*e*PP	PP	00 41 44.2	+1.0
KOLS				*e*S	S	00 48 46.7	+5.5
JMB	**Yambol**	**79.01**	**312**	*e*P	**P**	**00 38 44.1**	**-1.0**
UZH	**Uzhgorod**	**79.08**	**319**	*c iP*	**P**	**00 38 45.5**	**+0.2**
UZH				*i*		00 38 49.3	
UZH				*e*		00 38 58.5	
UZH				*i*		00 41 45.0	
UZH				*e*PPP		00 43 31.0	
UZH				*i* S	S	00 48 44.5	+2.0
UZH				*i*		00 49 19.0	
UZH				*e*PS		00 49 42.0	
MOL	**Molde**	**79.14**	**335**	*e*P	**P**	**00 38 50.4**	**+5.0**
MOL				LR	LR		
	comp=Z,26μm,22.9s,MS6.5						
MOL	**Molde**	**79.14**	**335**	*e*P	**P**	**00 38 44.6**	**-0.7**
MOL				AMS	AMS	01 17 57.4	
	comp=Z,26μm,22.9s,MS6.5						
ZIMR		**79.32**	**313**	P	**P**	**00 38 46.9**	**+0.2**
**Z

YKA LR LR 01 18 00.4
YKA Yellowknife Ar 80.20 24 P **P 00 38 50.4 -0.7**
YKA S S 00 48 54.5 +0.6
YKA 00 57 31.9
YKA Yellowknife Ar 80.20 24 P **P 00 38 50.4 -0.7**
comp=Z,53nm,0.9s,mb5.5,baz=307,slow=5.0,SNR=495
YKA S S 00 48 54.5 +0.6
comp=Z,0.4nm,1.0s,baz=80,slow=28,SNR=2.3
YKA PKKPbc PKKPbc 00 57 31.9 -3.4
comp=Z,1.1nm,0.6s,baz=128,slow=2.4,SNR=18
YKA PKPPKP 01 05 43.7
comp=Z,0.6nm,1.0s,baz=154,slow=2.6,SNR=3.9
YKA LR LR 01 18 00.4
comp=Z,3μm,18.6s,MS5.6,baz=140,slow=38
KECS Kecovo 80.22 319 *i* P **P 00 38 51.1 -0.4**
comp=Z,7.9nm,1.1s
KECS Kecovo 80.22 319 *i* P **P 00 38 51.1 -0.4**
KECS pmax pmax
comp=Z,8.0nm,1.1s
GZR Gura Zlata 80.23 316 ⇑P **P 00 38 52.0 +0.4**
GZR Gura Zlata 80.23 316 ⇑*i*P **P 00 38 52.0 +0.4**
BLCB Balcova 80.40 308 *e*P **P 00 38 51.4 -1.3**
PLD Plovdiv 80.42 312 *e*P **P 00 38 52.9 +0.2**
PLD Plovdiv 80.42 312 *i* P **P 00 38 55.0 +2.3**
ARG Arkhangelos 80.53 306 *e*P **P 00 38 52.5 -0.9**
RZN Rozhen 80.60 312 *i* P **P 00 38 56.0 +2.3**
RAC Raciborz 80.78 321 *e*P **P 00 38 54.6 +0.1**
RAC LR LR
comp=Z,26μm,20.8s,MS6.6
PSZ Piszkesteto 80.83 319 ⇑P **P 00 38 55.0 +0.2**
PSZ Piszkesteto 80.83 319 P **P 00 38 54.6 -0.2**
PSZ Piszkesteto 80.83 319 ⇑*i*P **P 00 38 55.0 +0.2**
PSZ Piszkesteto 80.83 319 ⇑*e*PcP PcP 00 38 58.1 -3.3
SMG Samos 80.83 307 *e*P **P 00 38 54.5 -0.5**
BZS Buzias 80.85 316 ⇑P **P 00 38 54.2 -0.7**
BZS Buzias 80.85 316 P **P 00 38 54.6 -0.4**
BZS Buzias 80.85 316 ⇑*i*P **P 00 38 54.2 -0.8**
RPZ Rata Peaks 80.88 148 S S 00 49 00.9 -0.4
comp=Z,3.5nm,0.9s,baz=353,slow=13,SNR=1.7
RPZ LR LR 01 12 19.1
comp=Z,13μm,21.5s,MS6.2,baz=303,slow=34
COP Copenhagen 80.92 328 *i* P **P 00 38 55.0 -0.1**
COP *i* S S 00 49 10.5 +8.9
COP MLR MLR
comp=Z,15μm,18.0s,MS6.4
COP Copenhagen 80.92 328 *i* P **P 00 38 55.0 -0.1**
COP *i* S S 00 49 10.5 +8.9
COP *i* 00 58 40.6
COP
comp=Z,15μm,18.0s
OKC Ostrava-Krasne 80.93 321 *e*P **P 00 38 54.4 -0.9**
OKC *e*SKS 00 49 05.7
OKC Ostrava-Krasne 80.93 321 *e*P **P 00 38 54.4 -0.9**
OKC *e*S S 00 49 05.7 +3.8
OKC AMS AMS 01 17 50.0
comp=Z,21μm,14.2s,MS6.6
SNZO South Karori 80.94 144 PFAKE 00 39 10.0 +15
SNZO LR LR
comp=Z,14μm,22.0s,MS6.3
CHOS Chios Island 81.10 308 *e*P **P 00 38 53.6 -2.8**
VYHS Vyhne 81.18 320 *i* P **P 00 38 56.2 -0.4**
comp=Z,29nm,1.4s,mb5.0
VYHS *i* S S 00 49 07.8 +3.2
VYHS *e*SS SS 00 54 08.7 -11
VYHS Vyhne 81.18 320 *i* P **P 00 38 56.2 -0.4**
VYHS pmax pmax
comp=Z,29nm,1.4s,mb5.0
VTS Vitosha 81.20 313 *e*P **P 00 38 56.5 -0.4**
VTS Vitosha 81.20 313 ⇓*i*P **P 00 38 56.7 -0.2**
VTS Vitosha 81.20 313 *i* P **P 00 38 56.0 -0.9**
DESE Dese 81.24 278 *e*P **P 00 38 59.6 +2.0**
DESE S S 00 49 14.7 +8.4
MORC Moravsky Berou 81.30 321 *e*P **P 00 38 56.9 -0.3**
MORC Moravsky Berou 81.30 321 ⇓*i*P **P 00 38 57.3 +0.1**
BER Bergen 81.31 334 *e*P **P 00 39 01.4 +4.4**
BER LR LR
comp=Z,36μm,21.0s,MS6.7
BER Bergen 81.31 334 *e*PP PP 00 42 00.5 -1.8
BER *e*S S 00 49 07.5 +2.0
BER *e*SS SS 00 54 36.5 +16
BER AMS AMS 01 19 25.9
comp=Z,36μm,21.0s,MS6.7
MMB Musomiste 81.31 312 *i* P **P 00 38 56.0 -1.5**
KOLL Kolacno 81.39 320 *i* P **P 00 38 57.6 -0.2**
KSP Ksiaz 81.46 323 *e*P **P 00 38 57.7 -0.4**
KSP LMZ 01 18 21.4
comp=Z,58μm,19.2s
KSP Ksiaz 81.46 323 *e*P **P 00 38 57.4 -0.7**
KSP *e*PP PP 00 42 01.0 -2.9
KSP *e*PPPP 00 45 26.5
KSP *e*SKS 00 49 11.0
KSP *e*SS SS 00 54 21.0 -2.3
KSP LR LR
comp=Z,67μm,19.2s,MS7.0
KSP Ksiaz 81.46 323 *e*P **P 00 38 57.4 -0.7**
KSP *e* 00 42 01.0
KSP *e* 00 49 11.0
KSP *e*SS SS 00 54 21.0 -2.3
KSP MLR MLR
comp=Z,67μm,19.2s,MS7.0
KARP Karpathos 81.52 305 *e*P **P 00 38 57.8 -0.9**
BUD Budapest 81.56 319 ⇑*e*PcP PcP 00 39 01.3 -3.2
SRS Serrai 81.61 312 *e*P **P 00 38 57.3 -1.8**
DPC Dobruska-Polom 81.69 322 *e*P **P 00 38 59.1 -0.2**
DPC *e*S S 00 49 15.9 +6.0
DPC AMS AMS 01 18 40.0
comp=Z,27μm,18.6s,MS6.6
UPC Upice 81.78 322 *e*P **P 00 38 59.4 -0.4**
SOH Sokhos 81.90 311 *e*P **P 00 38 59.8 -0.8**
RUE Ruedersdorf 81.96 325 *e*P **P 00 39 01.0 +0.4**
comp=Z,81nm,1.0s,mb5.6
RUE *e*PcP PcP 00 39 05.1 -1.1
RUE *e*PP PP 00 42 06.2 -1.7
MUD Monsted U'grnd 82.01 330 *i* P **P 00 39 04.3 +3.5**
MUD *i* 00 42 13.7
MUD pmax pmax
comp=Z,57nm,1.2s,mb5.4
MUD MLR MLR
comp=Z,40μm,18.0s,MS6.8
MUD Monsted U'grnd 82.01 330 *i* P **P 00 39 04.3 +3.5**
comp=Z,57nm,1.2s,mb5.4
MUD *i* 00 42 13.7
MUD *i* S S 00 49 25.3 +12
MUD *i* 00 59 03.3
MUD
comp=Z,40μm,18.0s
PLG Polygyros 82.04 311 *e*P **P 00 38 59.8 -1.6**
APE Apeiranthos 82.05 307 *e*P **P 00 38 57.3 -4.2**
VRAC Vranov 82.07 321 ⇓P **P 00 39 01.1 -0.2**
VRAC Vranov 82.07 321 LR LR 01 19 15.5
comp=Z,33μm,18.7s,MS6.7,baz=64,slow=38
VRAC Vranov 82.07 321 ⇓*i*P **P 00 39 01.1 -0.2**
MODS Modra-Piesok 82.14 320 *i* P **P 00 39 01.8 +0.1**
MODS *i* S S 00 49 12.7 -1.9
MODS *e*SS SS 00 54 37.3 +3.7
HORT Hortiatis 82.18 311 *e*P **P 00 39 00.1 -2.0**
VAY Valandovo 82.20 312 *e*P **P 00 39 00.3 -1.9**
VAY Valandovo 82.20 312 *e*P **P 00 39 00.0 -2.2**
THE Thessaloniki 82.25 311 *e*P **P 00 39 01.2 -1.3**
STIP Stip 82.29 313 *e*P **P 00 39 00.9 -1.7**
STIP Stip 82.29 313 *e*P **P 00 39 00.6 -2.1**
ZST Bratislava 82.33 320 *e*P **P 00 39 02.0 -0.7**
ZST *e*S S 00 49 22.6 +6.1
ZST Bratislava 82.33 320 *e*P **P 00 39 01.9 -0.8**
ZST *e*S S 00 49 22.6 +6.1
PKSM Moragy 82.40 318 ⇓P **P 00 39 01.9 -1.3**
PKSM Moragy 82.40 318 P **P 00 39 02.7 -0.4**
PKSM Moragy 82.40 318 ⇓*i*P **P 00 39 01.9 -1.2**
ZKR Zakros 82.40 305 *e*P **P 00 39 03.0 -0.4**
GRG Griva 82.48 312 *e*P **P 00 39 01.7 -2.0**
PVCC Panska Ves 82.56 323 *e*P **P 00 39 04.9 +1.0**
PVCC *e*PP PP 00 42 08.6 -4.4
PVCC *e*S S 00 49 24.2 +5.4
PVCC AMS AMS 01 20 20.0
comp=Z,36μm,16.8s,MS6.8
DIVS Divibare 82.59 315 *e*P **P 00 39 02.3 -1.8**
SKO Skopje 82.65 313 *e*P **P 00 39 04.1 -0.5**
SKO Skopje 82.65 313 *e*P **P 00 39 02.6 -1.9**
TREC Trest 82.70 322 *e*P **P 00 39 04.2 -0.4**
TREC *e*PP PP 00 42 15.7 +1.6
TREC *e*S S 00 49 24.6 +4.4
TREC AMS AMS 01 19 10.0
comp=Z,36μm,17.4s,MS6.8
BRG Berggiesshubel 82.72 323 *i* P **P 00 39 04.3 -0.4**
comp=Z,15nm,1.2s,mb4.9
BRG *i* 00 39 08.1
BRG PP PP 00 42 12.0 -2.2
BRG S S 00 49 26.0 +5.6
BRG SS SS 00 54 58.0 +16
BRG LR LR
comp=Z,24μm,17.4s,MS6.6
BRG Berggiesshubel 82.72 323 *i* P **P 00 39 04.3 -0.4**
BRG *i* 00 39 08.1
BRG 00 42 12.0
BRG S S 00 49 26.0 +5.6
BRG pmax pmax
comp=Z,15nm,1.2s,mb4.9
BRG pmax pmax
comp=Z,25nm,1.3s,mb5.1
BRG MLR MLR
comp=N,20μm,16.8s
BRG MLR MLR
comp=E,9μm,22.9s
BRG MLR MLR
comp=Z,24μm,17.4s,MS6.6
BRG Berggiesshubel 82.72 323 *e*P **P 00 39 04.5 -0.2**
comp=Z,42nm,1.2s,mb5.3
BRG Berggiesshubel 82.72 323 *i* P **P 00 39 04.3 -0.4**
comp=Z,25nm,1.2s,mb5.1
BRG *i* 00 39 08.1
comp=Z,42nm,1.2s
BRG PP PP 00 42 12.0 -2.2
BRG S S 00 49 26.0 +5.6
BRG SS SS 00 54 58.0 +16
BRG
comp=N,34μm,16.8s
BRG
comp=E,16μm,22.9s
BRG
comp=Z,41μm,17.4s
NPS Neapolis 82.78 306 *e*P **P 00 39 04.0 -1.3**
LIT Litokhoron 82.82 311 *e*P **P 00 39 03.4 -2.0**
PRU Pruhonice 82.86 322 *e*P **P 00 39 05.2 -0.2**
PRU *e*PP PP 00 42 16.9 +1.5
PRU *e*S S 00 49 23.3 +1.5
PRU AMS AMS 01 18 50.0
comp=Z,29μm,18.6s,MS6.7
PRA Prague 82.88 323 P **P 00 39 07.0 +1.5**
PRA AMS AMS 01 19 30.0
XRY Khrisi 82.89 305 *e*P **P 00 39 05.6 -0.3**
BSEG Bad Segeberg 82.90 327 *e*P **P 00 39 04.7 -0.9**
BSEG pmax pmax
comp=Z,152nm,2.2s,mb5.6
BSEG Bad Segeberg 82.90 327 *e*P **P 00 39 04.7 -0.9**
comp=Z,152nm,2.2s,mb5.6
SOP Sopron 82.91 320 ⇑*e*PcP PcP 00 39 08.5 -2.0
LAST Lasithi 82.93 306 *e*P **P 00 39 04.2 -1.9**
CLL Collm 82.99 324 *i* P **P 00 39 05.2 -0.9**
comp=Z,35nm,1.2s,mb5.3
CLL *i* 00 39 09.3
CLL *i* PP PP 00 42 17.4 +1.0
CLL *e*S S 00 49 28.0 +4.9
CLL LR LR
comp=Z,57μm,18.0s,MS7.0
CLL Collm 82.99 324 *i* P **P 00 39 05.2 -0.9**
CLL *i* 00 39 09.3
CLL *i* 00 42 17.4
CLL *e*S S 00 49 28.0 +4.9
CLL pmax pmax
comp=Z,35nm,1.2s,mb5.3
CLL pmax pmax
comp=Z,60nm,1.1s,mb5.5
CLL pmax pmax
comp=Z,30nm,1.3s,mb5.2
CLL MLR MLR
comp=Z,57μm,18.0s,MS7.0
CLL Collm 82.99 324 *e*P **P 00 39 04.6 -1.5**
comp=Z,60nm,1.1s,mb5.5
CLL Collm 82.99 324 *i* P **P 00 39 05.2 -0.9**
comp=Z,35nm,1.2s,mb5.3
CLL *i* pP pP 00 39 09.3 -6.5
comp=Z,60nm,1.1s
CLL *e*Plp 00 39 12.0
comp=Z,1μm,16.5s
CLL *i* PP PP 00 42 17.4 +1.0
comp=Z,30nm,1.3s
CLL *e*PPlp 00 42 23.0
comp=Z,1μm,16.5s
CLL *ex* x 00 42 36.0
CLL *e*(PPPP) 00 45 42.0
CLL *e*S S 00 49 28.0 +4.9
comp=N,2μm,22.9s
CLL *e*S S 00 49 28.0 +4.9
comp=E,2μm,23.3s
CLL *e*PS 00 50 24.0
CLL *e*SS SS 00 54 51.0 +5.0
CLL *ex* x 00 59 24.0
KRUS Krusevo 83.06 313 *e*P **P 00 39 04.6 -2.0**
LKR Lokris 83.13 310 *e*P **P 00 39 04.3 -2.7**
BIA Bitola 83.18 312 *e*P **P 00 39 05.1 -2.1**
CONA Conrad Observa 83.19 320 *i* P **P 00 39 07.1 -0.1**
comp=E,46nm,1.3s,mb5.4,SNR=20
FNA Florina 83.25 312 *e*P **P 00 39 05.5 -2.2**
THL Klokotos Trika 83.39 311 *e*P **P 00 39 05.7 -2.7**
AGG Agios Georgios 83.42 310 *e*P **P 00 39 03.2 -5.4**
LTK Loutraki 83.44 309 *e*P **P 00 39 05.7 -3.0**
SIVA Sivas 83.48 306 *e*P **P 00 39 07.2 -1.7**
OHR Ohrid 83.48 313 *e*P **P 00 39 06.3 -2.6**
OHR Ohrid 83.48 313 *e*P **P 00 39 06.8 -2.1**
DID Didima 83.49 308 *e*P **P 00 39 04.6 -4.4**
PUK Puka 83.64 314 *i* PN **P 00 39 10.2 +0.6**
KBN Korca 83.72 312 *i* PN **P 00 39 09.8 -0.3**
ARSA Arzberg 83.73 320 *i* P **P 00 39 10.0 0.0**
comp=E,23nm,1.2s,mb5.2,SNR=13
VAM Vamos 83.75 306 *e*P **P 00 39 10.0 -0.3**
TANN Tannenbergstha 83.76 324 *e*P **P 00 39 09.6 -0.5**
comp=Z,19nm,1.3s,mb5.1
C03A Quillayute Air 83.79 39 ⇓P **P 00 39 11.6 +1.4**
baz=84
NRDL Niedersach Rie 83.83 326 *e*P **P 00 39 09.9 -0.5**
comp=Z,112nm,2.0s,mb5.7
EVR Evrytania 83.83 310 *e*P **P 00 39 10.0 -0.7**
KHC Kasperske Hory 83.85 322 *e*P **P 00 39 09.8 -0.7**
KHC *e*pP pP 00 39 13.5 -6.8
KHC *e*PP PP 00 42 22.6 -0.9
KHC *e*S S 00 49 35.7 +3.8
KHC AMS AMS 01 22 40.0
comp=Z,27μm,14.5s,MS6.8
NKC Novy Kostel 83.87 323 *e*P **P 00 39 10.3 -0.3**
NKC *e*PP PP 00 42 23.0 -0.6
NKC *e*SKS 00 49 38.8
NKC Novy Kostel 83.87 323 *e*P **P 00 39 10.3 -0.3**
NKC *e*PP PP 00 42 23.0 -0.6
NKC *e*S S 00 49 38.8 +6.8
NKC AMS AMS 01 21 10.0
comp=Z,45μm,16.6s,MS6.9
QSH Qafa e Shtames 83.88 313 *i* PN **P 00 39 12.0 +1.1**
GEC2 GERESS Array S 83.93 322 *e*P **P 00 39 09.9 -1.1**
GEC2 pmax pmax
comp=Z,28nm,1.0s,mb5.3
GEC2 GERESS Array S 83.93 322 *e*P **P 00 39 09.9 -1.1**
comp=Z,28nm,1.0s,mb5.3
GERES GERESS Array B 83.93 322 P **P 00 39 09.7 -1.3**
GERES S S 00 49 31.2 -1.5
GERES GERESS Array B 83.93 322 P **P 00 39 09.7 -1.3**
comp=Z,15nm,1.0s,mb5.1,baz=69,slow=4.4,SNR=35
GERES S S 00 49 31.2 -1.5
comp=Z,0.1nm,0.3s,baz=336,slow=41,SNR=2.1
GERES PKKPbc PKKPbc 00 57 22.9 -3.6
comp=Z,0.4nm,0.8s,baz=260,slow=3.9,SNR=2.9
GERES LR LR 01 20 29.5
comp=Z,32μm,19.0s,MS6.7,baz=60,slow=38
KARN Karanos 83.96 306 *e*P **P 00 39 06.8 -4.6**
TIR Tirane 83.99 313 *e*P **P 00 39 10.1 -1.4**
TIR Tirane 83.99 313 *i* PN **P 00 39 12.8 +1.4**
PGC Sidney 84.05 38 *e*P **P 00 39 11.6 +0.1**
comp=Z,956nm,2.3s,mb6.5
PGC *e*PcP PcP 00 39 15.3 -0.1
PGC *e*PP PP 00 42 27.7 +2.6
CLZ Clausthal 84.06 325 *e*P **P 00 39 11.0 -0.6**
CLZ pmax pmax
comp=Z,105nm,1.7s,mb5.7
CLZ Clausthal 84.06 325 *e*P **P 00 39 11.0 -0.6**
comp=Z,105nm,1.7s,mb5.7
VLI Veliai 84.06 308 *e*P **P 00 39 10.0 -1.9**
SELA Sela 84.08 310 *e*P **P 00 39 10.0 -1.9**
MOX Moxa 84.09 324 *e*P **P 00 39 13.5 +1.8**
comp=Z,82nm,2.0s,mb5.5
MOX
comp=Z,45μm,18.0s
MOX Moxa 84.09 324 *e*P **P 00 39 13.5 +1.8**
MOX pmax pmax
comp=Z,94nm,2.0s,mb5.6
MOX MLR MLR
comp=Z,82μm,18.0s
MOX Moxa 84.09 324 *e*P **P 00 39 11.0 -0.7**
comp=Z,61nm,1.8s,mb5.4
GVD Gavdhos 84.09 306 *e*P **P 00 39 10.6 -1.5**
comp=Z,74nm,1.0s,mb5.8
GVD *e*PcP PcP 00 39 15.3 -0.6
GVD *e*PP PP 00 42 24.3 -1.7
GVD Gavdhos 84.09 306 *e*P **P 00 39 10.3 -1.8**
MOA Molln 84.15 321 ⇓*i*P **P 00 39 11.1 -1.0**
comp=Z,30nm,1.0s,mb5.4,SNR=12
SISC Sisak 84.15 318 P **P 00 39 12.7 +0.6**
VLX Vlachokerasia 84.16 309 *e*P **P 00 39 10.0 -2.4**
WET Wettzell 84.23 322 *e*P **P 00 39 12.1 -0.4**
WET pmax pmax
comp=Z,49nm,1.9s,mb5.3
WET Wettzell 84.23 322 *e*P **P 00 39 12.1 -0.4**
comp=Z,49nm,1.9s,mb5.3
ROTZ Rotzenmuhle 84.25 323 *e*P **P 00 39 12.1 -0.5**
comp=Z,42nm,1.5s,mb5.3
PERS Pernice 84.29 319 *i* P **P 00 39 12.0 -0.8**
PERS *e*S S 00 49 37.7 +1.3
B04A Port Angeles 84.34 39 P **P 00 39 14.2 +1.1**
baz=84,SNR=6.2
OSD Olympics--Snow 84.35 39 P **P 00 39 14.8 +1.6**
A04A Legoe Bay, Lum 84.43 38 ⇓P **P 00 39 14.1 +0.6**
baz=84
NLWA Neilton Lookou 84.48 40 *e*P **P 00 39 14.6 +0.8**
comp=Z,58nm,1.3s,mb5.5
NLWA LR LR
comp=Z,5μm,19.0s,MS6.0
NLWA Neilton Lookou 84.48 40 ⇓P **P 00 39 14.4 +0.6**
baz=84,SNR=5.0
IGT Igoumenitsa 84.55 311 *e*P **P 00 39 10.7 -3.6**
SRN Sarande 84.61 312 *i* PN **P 00 39 15.6 +1.0**
A05A Maple Falls 84.62 38 ⇑P **P 00 39 14.2 -0.3**
baz=84
STON Ston 84.64 315 P **P 00 39 11.5 -3.2**
OBKA Obir 84.69 320 ⇓*i*P **P 00 39 13.9 -1.0**
comp=Z,27nm,1.1s,mb5.3,SNR=15
LKD Levkas 84.73 310 *e*P **P 00 39 12.7 -2.6**
BOJS Bojanci 84.80 318 *i* P **P 00 39 15.0 -0.5**
BOJS *e* 00 42 33.6
BOJS *e*S S 00 49 43.1 +1.6
C04A Brinnon 84.82 39 ⇓P **P 00 39 15.7 +0.2**
baz=84
GRA1 Grafenberg Arr 84.83 323 *e*P **P 00 39 14.9 -0.6**
comp=Z,68nm,1.3s,mb5.6
GRA1 *e*PP PP 00 42 32.9 +1.4
GRA1 *e*S S 00 49 44.9 +3.3
GRA1 *e*SS SS 00 55 16.2 +3.0
GRA1 LR LR
comp=Z,44μm,18.4s,MS6.9
GRF Grafenberg Arr 84.83 323 *e*P **P 00 39 14.9 -0.6**
GRF *e* 00 42 32.9
GRF *e*S S 00 49 44.9 +3.3
GRF *e*SS SS 00 55 16.2 +3.0
GRF pmax pmax
comp=Z,68nm,1.3s,mb5.6
GRF MLR MLR
comp=Z,44μm,18.4s,MS6.9
GRF Grafenberg Arr 84.83 323 *e*P **P 00 39 14.9 -0.6**
comp=Z,68nm,1.3s,mb5.6
GRF *e*PP PP 00 42 32.9 +1.4
GRF *e*S S 00 49 44.9 +3.3
GRF *e*SS SS 00 55 16.2 +3.0
GRF *e*L 01 22 03.1
comp=Z,44μm,18.4s
PYL PYLOS 84.83 308 *e*P **P 00 39 13.1 -2.7**
GRFO Grafenberg 84.83 323 *e*P **P 00 39 15.0 -0.5**
comp=Z,97nm,1.4s,mb5.7
GRFO *e*PP PP 00 42 33.4 +1.9
GRFO LR LR
comp=Z,33μm,20.0s,MS6.7
GRFO Grafenberg 84.83 323 *e*P **P 00 39 15.0 -0.5**
GRFO *e* 00 42 33.4
GRFO pmax pmax
comp=Z,97nm,1.4s,mb5.7
GRFO MLR MLR
comp=Z,33μm,20.0s,MS6.7
UBBA Unterbreizbach 84.84 325 *e*P **P 00 39 14.7 -0.8**
comp=Z,81nm,1.8s,mb5.5
MBW Mount Baker 84.84 38 P **P 00 39 16.3 +0.7**
A06A Chilliwack 84.89 37 ⇓P **P 00 39 15.6 -0.3**
baz=85
CMW Cultus Mountai 84.92 38 P **P 00 39 16.7 +0.7**
LJU Ljubljana 84.95 319 *e*P **P 00 39 16.9 +0.7**
LJU *e*S S 00 49 45.5 +2.5
B05A Bryant 85.02 38 P **P 00 39 17.0 +0.5**
baz=85,SNR=13
VLS Valsamata 85.03 310 *e*P **P 00 39 14.7 -2.0**
VLS Valsamata 85.03 310 *e*P **P 00 39 15.1 -1.6**
KBA Koelnbreinsper 85.09 320 ⇑*i*P **P 00 39 16.3 -0.5**
comp=Z,29nm,1.3s,mb5.2
KBA Koelnbreinsper 85.09 320 ⇑*i*P **P 00 39 16.3 -0.6**
KBA pmax pmax
comp=Z,29nm,1.3s,mb5.2
IBBN Ibbenburen 85.11 327 *e*P **P 00 39 15.9 -0.9**
comp=Z,76nm,1.0s,mb5.8
E03A Lebam 85.11 40 ⇑P **P 00 39 17.3 +0.3**
baz=85,SNR=7.2
JCW Jim Creek 85.15 38 P **P 00 39 17.7 +0.6**
B06A Marblemount 85.22 38 P **P 00 39 17.7 +0.3**
baz=85,SNR=7.3
D04A Dobbs Creek Ra 85.25 39 ⇑P **P 00 39 18.4 +0.7**
baz=85
JAVS Javornik 85.31 319 *i* P **P 00 39 16.6 -1.4**
JAVS *e* 00 42 35.8
JAVS *e*S S 00 49 48.0 +1.6
VOY Vojsko 85.33 319 *e*P **P 00 39 16.7 -1.4**
VOY *e* 00 43 37.0
PTCC Patocco-Chiusa 85.45 320 P **P 00 39 18.4 -0.3**
comp=Z,912nm,5.2s
F03A Seaside 85.45 41 ⇑P **P 00 39 19.0 +0.3**
baz=85
A07A Ashnola River, 85.52 37 P **P 00 39 19.0 +0.1**
baz=85,SNR=18
NVLJ Novalja 85.53 318 P **P 00 39 16.3 -2.8**
C05A Tolt Reservoir 85.56 39 ⇓P **P 00 39 19.3 +0.1**
baz=85,SNR=14
E04A Onalaska 85.58 40 ⇓P **P 00 39 20.0 +0.7**
baz=85
RMW Rattlesnake Mo 85.62 39 P **P 00 39 19.9 +0.4**
FUR Furstenfeldbru 85.66 322 *e*P **P 00 39 19.0 -0.7**
FUR pmax pmax
comp=Z,101nm,1.1s,mb6.0
FUR Furstenfeldbru 85.66 322 *e*P **P 00 39 19.0 -0.7**
comp=Z,101nm,1.1s,mb6.0
D05A Enumclaw 85.67 39 ⇑P **P 00 39 20.2 +0.5**
baz=85,SNR=9.7
ABTA Abfaltersbach 85.75 320 ⇓*i*P **P 00 39 18.4 -1.7**
comp=Z,20nm,1.3s,mb5.2,SNR=15
WTSB Winterswijk 85.78 327 *e*P **P 00 39 20.6 +0.3**
RVW Rose Valley 85.81 40 P **P 00 39 21.0 +0.6**
H02A Toledo 85.86 42 ⇑P **P 00 39 21.3 +0.6**
baz=86
C06A Tall Timber Ra 85.88 38 ⇑P **P 00 39 20.6 -0.2**
baz=86
G03A Yamhill 85.94 41 ⇓P **P 00 39 21.2 +0.1**
baz=86,SNR=8.3
WTTA Wattenberg 85.96 321 ⇑*i*P **P 00 39 20.7 -0.5**
comp=Z,48nm,1.2s,mb5.6,SNR=13
WTTA Wattenberg 85.96 321 ⇑*i*P **P 00 39 20.7 -0.5**
WTTA pmax pmax
comp=Z,48nm,1.2s,mb5.6
FMW Mount Fremont 85.99 39 P **P 00 39 21.8 +0.4**
TDL Tradedollar La 86.00 40 P **P 00 39 21.9 +0.5**
FL2 Flat Top 2 86.01 40 P **P 00 39 22.6 +1.1**
F04A Amboy 86.11 40 ⇓P **P 00 39 21.9 -0.1**
baz=86,SNR=12
E05A Randle 86.15 39 ⇓P **P 00 39 21.8 -0.3**
baz=86,SNR=8.8
A08A Turner Farm, O 86.17 37 ⇑P **P 00 39 22.2 0.0**
baz=86,SNR=14
BORG Borgarnes 86.19 346 PFAKE 00 39 30.0 +8.0
BORG LR LR
comp=Z,11μm,19.0s,MS6.3
MOTA Moosalm 86.21 321 ⇑*i*P **P 00 39 21.7 -0.8**

comp=Z,10.0nm,0.9s,mb5.0,SNR=11
MOTA Moosalm 86.21 321 ⇑*i*P **P 00 39 21.7 -0.7**
MOTA pmax pmax
comp=Z,10.0nm,0.9s,mb5.0
SQTA Sankt Quirin 86.22 321 ⇑*i*P **P 00 39 22.1 -0.4**
comp=Z,34nm,1.3s,mb5.4,SNR=9.3
SQTA Sankt Quirin 86.22 321 ⇑*i*P **P 00 39 22.1 -0.4**
SQTA pmax pmax
comp=Z,34nm,1.3s,mb5.4
H03A Soap Creek Ran 86.28 42 ⇑P **P 00 39 23.0 +0.2**
baz=86,SNR=9.0
D06A Cle Elum 86.31 39 ⇓P **P 00 39 22.9 -0.1**
baz=86
I02A Mapleton 86.32 42 ⇑P **P 00 39 23.3 +0.3**
baz=86
COR Corvallis 86.32 42 *e*P **P 00 39 23.2 +0.2**
COR LR LR
comp=Z,209nm,1.4s,mb6.2
comp=Z,3μm,21.0s,MS5.7
COR Corvallis 86.32 42 *e*P **P 00 39 23.2 +0.1**
COR pmax pmax
comp=Z,209nm,1.4s,mb6.2
COR MLR MLR
comp=Z,3μm,21.0s,MS5.7
ETW Entiat 86.37 38 P **P 00 39 23.7 +0.5**
STU Stuttgart 86.44 323 *e*P **P 00 39 22.3 -1.3**
comp=Z,60nm,1.1s,mb5.7
C07A Waterville 86.47 38 P **P 00 39 23.7 0.0**
baz=86,SNR=9.2
G04A Mulino 86.48 41 ⇑P **P 00 39 24.1 +0.3**
baz=86,SNR=7.1
RAR Rarotonga 86.48 115 LR LR 01 10 17.5
comp=Z,2μm,20.1s,MS5.6,baz=45,slow=30
B08A Colville Reser 86.49 37 P **P 00 39 24.0 +0.2**
baz=86,SNR=14
WTV Waterville 86.53 38 P **P 00 39 24.2 +0.2**
A09A Danville 86.53 36 P **P 00 39 24.6 +0.7**
baz=86,SNR=12
EDM Edmonton 86.54 31 *e*P **P 00 39 24.2 +0.3**
K01A Sixes 86.56 44 ⇓P **P 00 39 24.6 +0.3**
baz=86
E06A Yakima 86.61 39 P **P 00 39 24.9 +0.5**
baz=86,SNR=17
FETA Feichten 86.61 321 *i* PcP PcP 00 39 24.0 -2.7
comp=Z,25nm,1.1s,SNR=14
KEBM Edson Butte 86.61 44 *e*P **P 00 39 23.8 -0.7**
CTI Castel Tesino 86.63 320 P **P 00 39 24.2 -0.3**
comp=Z,61nm,1.7s,mb5.6
CTI Castel Tesino 86.63 320 P **P 00 39 24.2 -0.3**
CTI pmax pmax
comp=Z,61nm,1.7s,mb5.5
EBG Ellensburg 86.63 39 P **P 00 39 25.5 +1.0**
I03A Eugene 86.67 42 ⇑P **P 00 39 25.4 +0.7**
baz=86
F05A White Salmon 86.70 40 ⇑P **P 00 39 25.2 +0.3**
baz=86
D07A Quincy 86.80 38 ⇓P **P 00 39 25.0 -0.3**
baz=86
J02A Umpqua 86.82 43 ⇑P **P 00 39 26.3 +0.8**
baz=86,SNR=6.1
TDH Tom, Dick, Har 86.84 41 P **P 00 39 26.3 +0.8**
DAVA Damuels 86.93 322 ⇑*i*P **P 00 39 25.7 -0.3**
comp=Z,46nm,1.1s,mb5.6,SNR=14
DAVA Damuels 86.93 322 *i* PcP PcP 00 39 25.7 -2.5
comp=Z,46nm,1.1s,SNR=14
H04A Detroit Lake 86.94 41 P **P 00 39 26.2 +0.2**
baz=87,SNR=11
HGN Heimansgroeve 86.95 326 *e*P **P 00 39 26.1 +0.1**
HGN Heimansgroeve 86.95 326 *e*PP PP 00 42 47.3 -1.3
HGN Heimansgroeve 86.95 326 *e*S S 00 49 54.5 -7.8
HGN Heimansgroeve 86.95 326 *e*SS SS 00 55 14.0 -30
C08A Higginbotham F 86.98 37 ⇑P **P 00 39 26.2 +0.1**
baz=87,SNR=7.3
MXC Moxie City 86.98 39 P **P 00 39 27.5 +1.3**
MEM Membach 87.01 326 P **P 00 39 26.8 +0.5**
BEBN Eben Emael 87.06 326 P **P 00 39 26.9 +0.4**
LANF Langenberg 87.06 324 *e*P **P 00 39 26.4 -0.2**
A10A Northport 87.07 36 ⇑P **P 00 39 27.2 +0.6**
baz=87
TIP Timpagrande 87.13 312 *e*P **P 00 39 26.8 -0.4**
comp=Z,26nm,1.1s,mb5.4
TIP PP PP 00 42 52.0 +1.6
F06A Goldendale 87.16 40 ⇑P **P 00 39 27.6 +0.5**
baz=87
BFO Black Forest 87.17 323 *e*P **P 00 39 25.7 -1.4**
BFO pmax pmax
comp=Z,50nm,1.4s,mb5.5
BFO Black Forest 87.17 323 *e*P **P 00 39 25.7 -1.4**
comp=Z,50nm,1.4s,mb5.5
J03A Ideyld Park 87.19 43 P **P 00 39 28.6 +1.3**
baz=87,SNR=14
K02A Glendale 87.19 43 ⇑P **P 00 39 28.1 +0.8**
baz=87,SNR=6.0
E07A Sunnyside 87.23 39 ⇓P **P 00 39 27.5 0.0**
baz=87,SNR=8.0
MABI Malga Bissina 87.28 321 P **P 00 39 26.5 -1.2**
M01C Crescent City 87.29 44 ⇓P **P 00 39 28.6 +0.8**
baz=87
I04A Tendick Farm, 87.29 42 P **P 00 39 28.3 +0.5**
baz=87,SNR=11
HBO Huckleberry Mo 87.32 42 P **P 00 39 28.8 +0.9**
C09A Chrisman Ranch 87.39 37 ⇓P **P 00 39 28.5 +0.3**
baz=87
SNTG Esanatoglia 87.41 317 P **P 00 39 29.4 +1.0**
comp=Z,26nm,1.0s,mb5.4
L02A Cave Junction 87.45 44 ⇓P **P 00 39 28.5 -0.1**
baz=87
D08A Wollman Farm, 87.47 38 P **P 00 39 29.0 +0.4**
baz=87,SNR=9.9
BCLA Clavier 87.48 326 P **P 00 39 28.4 -0.2**
RSW Rattlesnake Hi 87.48 39 P **P 00 39 30.1 +1.4**
HAWA Hanford 87.51 39 *e*P **P 00 39 29.1 +0.3**
comp=Z,82nm,1.5s,mb5.7
HAWA *e*PP PP 00 42 47.4 -5.9
HAWA LR LR
comp=Z,3μm,21.0s,MS5.7
WLF Walferdange 87.51 325 *e*P **P 00 39 29.0 +0.2**
comp=Z,54nm,1.0s,mb5.7
WLF Walferdange 87.51 325 *e*P **P 00 39 29.0 +0.3**
WLF pmax pmax
comp=Z,54nm,1.0s,mb5.7
WLF Walferdange 87.51 325 P **P 00 39 29.0 +0.2**
comp=Z,36nm,1.2s,mb5.5
WLF Walferdange 87.51 325 *e*P **P 00 39 28.1 -0.6**
comp=Z,63nm,1.1s,mb5.8
H05A Madras 87.53 41 ⇓P **P 00 39 28.6 -0.3**
baz=87
G06A Carlson Farm, 87.54 40 P **P 00 39 29.5 +0.6**
baz=87,SNR=13
OPO Ambohidratompo 87.55 248 P **P 00 39 29.4 0.0**
comp=Z,21nm,1.1s,mb5.3,baz=58,slow=6.3,SNR=3.5
OPO S S 00 49 57.9 -11
comp=Z,4.1nm,1.1s,baz=69,slow=14,SNR=2.3
F07A Phinny Hill Vi 87.57 39 ⇓P **P 00 39 29.6 +0.5**
baz=87
SFJD Kangerlussuaq 87.57 358 *e*P **P 00 39 26.8 -1.9**
comp=Z,41nm,1.3s,mb5.5
SFJD *e*PP PP 00 42 53.3 +0.2
SFJD LR LR
comp=Z,10μm,19.0s,MS6.2
SFJD Kangerlussuaq 87.57 358 *e*P **P 00 39 26.8 -1.9**
SFJD *e* 00 42 53.3
SFJD pmax pmax
comp=Z,41nm,1.3s,mb5.5
SFJD MLR MLR
comp=Z,10μm,19.0s,MS6.2
KRMB Red Mountain 87.60 45 *e*P **P 00 39 29.9 +0.6**
HUMO Hull Mountain 87.61 43 *e*P **P 00 39 30.2 +0.8**
comp=Z,209nm,2.0s,mb6.0
HUMO LR LR
comp=Z,3μm,20.0s,MS5.7
HUMO Hull Mountain 87.61 43 ⇑P **P 00 39 29.4 0.0**
baz=87,SNR=9.3
AQU L'Aquila 87.61 316 *e*P **P 00 39 28.9 -0.5**
comp=Z,30nm,1.0s,mb5.5
AQU L'Aquila 87.61 316 *e*P **P 00 39 28.9 -0.5**
AQU pmax pmax
comp=Z,30nm,1.0s,mb5.5
AQU L'Aquila 87.61 316 ⇓*i*P **P 00 39 30.7 +1.3**
B10A Chitwood Farm, 87.66 36 ⇓P **P 00 39 29.7 +0.3**
baz=87
CDF Champ du Feu 87.69 324 *e*P **P 00 39 29.1 -0.5**
comp=Z,90nm,1.2s,mb5.6
CDF Champ du Feu 87.69 324 *e*P **P 00 39 29.1 -0.5**
comp=Z,45nm,1.2s,mb5.6
CDF Champ du Feu 87.69 324 *e*P **P 00 39 29.1 -0.5**
CDF pmax pmax
comp=Z,45nm,1.2s,mb5.6
BADI Badiali 87.69 318 P **P 00 39 30.7 +1.0**
TUE Stuetta 87.70 321 P **P 00 39 29.1 -0.6**
UCC Uccle 87.71 327 P **P 00 39 29.7 +0.1**
A11A Hall Mountain, 87.72 35 ⇓P **P 00 39 30.1 +0.4**
baz=87,SNR=29
E08A Dider Farm, El 87.72 38 ⇑P **P 00 39 30.0 +0.2**
baz=87
NEW Newport 87.73 36 *e*P **P 00 39 29.9 0.0**
comp=Z,30nm,0.9s,mb5.5
NEW LR LR
comp=Z,5μm,21.0s,MS5.9
NEW Newport 87.73 36 *e*P **P 00 39 29.9 +0.1**
NEW pmax pmax
comp=Z,31nm,0.9s
NEW MLR MLR
comp=Z,5μm,21.0s
I05A Bend 87.78 41 ⇑P **P 00 39 30.3 +0.1**
baz=88
J04A Umpqua Nationa 87.78 42 P **P 00 39 31.2 +1.0**
baz=88,SNR=28
D09A Jones Farm, Ri 87.81 38 ⇑P **P 00 39 30.1 -0.1**
baz=88
ECH Echery 87.87 324 *e*P **P 00 39 29.7 -0.8**
C10A Spilker Farm, 87.90 37 ⇓P **P 00 39 30.5 -0.1**
baz=88
JCC Jacoby Creek 87.90 45 ⇓P **P 00 39 30.5 -0.2**
baz=88
GIVF Givet 87.92 326 *e*P **P 00 39 29.9 -0.7**
SNF Seneffe 87.93 327 P **P 00 39 29.0 -1.7**
H06A Lindquist Farm 88.00 40 P **P 00 39 31.7 +0.5**
baz=88,SNR=8.2
B11A Sandpoint 88.03 36 ⇓P **P 00 39 31.4 +0.2**
baz=88,SNR=11
DOU Dourbes 88.03 326 P **P 00 39 30.7 -0.5**
ESK Eskdalemuir 88.08 333 PFAKE 00 39 40.0 +8.7
ESK LR LR
comp=Z,36μm,19.0s,MS6.8
G07A Ruggs Ranch, H 88.08 40 ⇓P **P 00 39 31.6 0.0**
baz=88,SNR=11
A12A Yaak River Ran 88.10 35 ⇑P **P 00 39 32.1 +0.5**
baz=88
MOF Molkenrain 88.10 323 *e*P **P 00 39 31.2 -0.4**
E09A Wood Farm, Sta 88.22 38 P **P 00 39 32.9 +0.7**
baz=88,SNR=7.8
BUOR Burton Butte 88.23 43 P **P 00 39 33.2 +0.9**
YBH Yreka Blue Hor 88.24 44 *e*P **P 00 39 32.9 +0.6**
comp=Z,60nm,1.3s,mb5.7
YBH *e*PP PP 00 42 59.8 +0.6
YBH LR LR
comp=Z,2μm,20.0s,MS5.6
YBH Yreka Blue Hor 88.24 44 *e*P **P 00 39 32.9 +0.5**
YBH *e* 00 42 59.8
YBH pmax pmax
comp=Z,60nm,1.3s
YBH MLR MLR
comp=Z,2μm,20.0s
YBH Yreka Blue Hor 88.24 44 P **P 00 39 33.1 +0.7**
baz=88,SNR=9.8
BAIF Baives 88.25 326 *e*P **P 00 39 31.5 -0.7**
comp=Z,45nm,1.3s,mb5.2
BAIF Baives 88.25 326 *e*P **P 00 39 31.5 -0.7**
comp=Z,22nm,1.3s,mb5.2
BAIF Baives 88.25 326 *e*P **P 00 39 31.5 -0.7**
BAIF pmax pmax
comp=Z,23nm,1.3s,mb5.2
HINF Hinteralfeld 88.27 324 *e*P **P 00 39 31.4 -1.0**
ERBM Eremo 88.27 319 P **P 00 39 33.8 +1.3**
F08A Pendleton 88.29 39 P **P 00 39 33.5 +1.0**
baz=88,SNR=8.9
J05A Fort Rock 88.29 42 ⇑P **P 00 39 33.2 +0.6**
baz=88,SNR=13
M02C Callahan 88.34 44 P **P 00 39 34.0 +1.1**
baz=88,SNR=10
K04A Chilquin 88.36 43 ⇓P **P 00 39 33.3 +0.4**
baz=88
N02C Big Bar 88.36 45 P **P 00 39 33.8 +0.8**
baz=88,SNR=9.0
D10A Wagner Farm, O 88.38 37 ⇓P **P 00 39 33.0 +0.1**
baz=88
O01C Eel River Cons 88.40 46 ⇑P **P 00 39 33.9 +0.7**
baz=88
B12A Libby 88.42 35 ⇑P **P 00 39 33.1 0.0**
baz=88
HAU Haudompre 88.43 324 *e*P **P 00 39 32.2 -0.9**
comp=Z,29nm,1.2s,mb5.1
HAU *e*MLR MLR
comp=Z,31μm,18.3s,MS6.5
HAU Haudompre 88.43 324 *e*P **P 00 39 32.2 -0.9**
comp=Z,15nm,1.2s,mb5.1
HAU LR LR
comp=Z,31μm,18.3s,MS6.8
HAU Haudompre 88.43 324 *e*P **P 00 39 32.2 -0.9**
HAU pmax pmax
comp=Z,15nm,1.2s,mb5.1
HAU MLR MLR
comp=Z,31μm,18.3s,MS6.8
G08A Pilot Rock 88.48 39 P **P 00 39 34.1 +0.7**
baz=88,SNR=12
L04A Klamath Falls 88.51 43 ⇑P **P 00 39 33.9 +0.2**
baz=88,SNR=7.1
I06A Prineville 88.53 41 ⇑P **P 00 39 33.8 +0.1**
baz=88,SNR=19
KMBO Kilima Mbogo 88.55 268 *e*P **P 00 39 34.9 +0.5**
comp=Z,21nm,0.9s,mb5.5
KMBO LR LR
comp=Z,4μm,21.0s,MS5.8
KMBO Kilima Mbogo 88.55 268 *e*P **P 00 39 34.9 +0.6**
KMBO pmax pmax
comp=Z,21nm,0.9s
KMBO MLR MLR
comp=Z,4μm,21.0s
LOMF Lomont 88.57 323 *e*P **P 00 39 34.0 +0.2**
LHEM Herd Peak 88.61 44 P **P 00 39 34.7 +0.6**
GRFL Gerfalco 88.66 318 P **P 00 39 34.2 -0.1**
comp=Z,6.3nm,0.9s,mb5.0
A13A Flathead Natio 88.74 35 P **P 00 39 35.4 +0.8**
baz=88,SNR=16
M04C Macdoel 88.76 44 P **P 00 39 35.3 +0.5**
baz=88,SNR=14
MEZF Maizieres J'vi 88.80 325 *e*P **P 00 39 34.2 -0.7**
K05A Summer Lake 88.81 42 P **P 00 39 36.2 +1.2**
baz=88,SNR=11
E10A Myers Farm, Un 88.81 38 ⇓P **P 00 39 35.3 +0.4**
baz=88,SNR=5.6
F09A S2 Ranch, Elgi 88.83 39 ⇑P **P 00 39 35.8 +0.7**
baz=88
M03C McCloud 88.86 44 P **P 00 39 35.8 +0.5**
baz=89,SNR=8.4
I07A Izee 88.86 41 P **P 00 39 36.1 +0.9**
baz=89,SNR=12
D11A Klaveano Farm, 88.89 37 P **P 00 39 35.6 +0.3**
baz=89,SNR=25
WALA Waterton Lakes 88.92 34 *e*P **P 00 39 36.1 +0.7**
comp=Z,790nm,2.3s,mb6.6
WALA *e*PP PP 00 43 05.7 +1.3
J06A Christmas Vall 88.96 42 P **P 00 39 36.6 +0.9**
baz=89,SNR=14
WDC Whiskeytown Da 88.98 45 *e*P **P 00 39 35.8 -0.1**
comp=Z,18nm,1.0s,mb5.3
WDC *e*PP PP 00 43 04.8 -0.4
WDC LR LR
comp=Z,3μm,19.0s,MS5.7
WDC Whiskeytown Da 88.98 45 *e*P **P 00 39 35.8 -0.1**
WDC *e* 00 43 04.8
WDC pmax pmax
comp=Z,18nm,1.0s,mb5.4
WDC MLR MLR
comp=Z,3μm,19.0s,MS5.7
WDC Whiskeytown Da 88.98 45 ⇓P **P 00 39 36.4 +0.5**
baz=89
O02C Red Bluff 89.05 45 ⇓P **P 00 39 36.8 +0.6**
baz=89
F10A Beach Ranch, E 89.05 38 ⇑P **P 00 39 36.5 +0.4**
baz=89,SNR=8.3
B13A Whitefish 89.06 35 ⇓P **P 00 39 36.4 +0.3**
baz=89,SNR=38
P01C Double 8 Ranch 89.08 46 ⇓P **P 00 39 37.0 +0.6**
baz=89
H08A Prairie City 89.10 40 P **P 00 39 37.1 +0.8**
baz=89,SNR=12
K06A Valley Falls 89.16 42 P **P 00 39 37.7 +1.1**
baz=89,SNR=10.0
L05A Lakeview 89.23 43 ⇓P **P 00 39 37.6 +0.6**
baz=89,SNR=7.1
GASB Alder Springs 89.38 46 ⇓P **P 00 39 37.2 -0.5**
baz=89
E11A Bogner Ranch, 89.39 37 P **P 00 39 38.0 +0.3**
baz=89,SNR=23
J07A Hines 89.39 41 ⇑P **P 00 39 38.1 +0.4**
baz=89,SNR=11
CABF La Chapelle 89.42 323 *e*P **P 00 39 37.3 -0.5**
D12A Red Ives Fores 89.42 37 ⇓P **P 00 39 38.2 +0.4**
baz=89
M05C Lookout 89.43 44 ⇑P **P 00 39 38.2 +0.2**
baz=89,SNR=5.7
C13A Hot Springs 89.44 36 P **P 00 39 38.7 +0.8**
baz=89,SNR=34
HOPS Hopland 89.51 46 PFAKE 00 39 50.0 +12
HOPS LR LR
comp=Z,4μm,19.0s,MS5.8
HOPS Hopland 89.51 46 ⇑P **P 00 39 38.6 +0.2**
baz=89
I08A Drewsey 89.51 40 ⇓P **P 00 39 38.3 0.0**
baz=89
G10A Bishop Farm, J 89.52 39 P **P 00 39 38.9 +0.6**
baz=89,SNR=38
HATC Hat Creek Radi 89.53 44 ⇑P **P 00 39 38.3 -0.2**
baz=89,SNR=8.7
QLNO Quiliano 89.53 320 P **P 00 39 37.6 -0.8**
H09A Durkee 89.59 39 ⇓P **P 00 39 39.0 +0.3**
baz=89,SNR=11
LBCM Butte Creek Ri 89.59 44 P **P 00 39 39.4 +0.7**
O03C Acorn Hollow, 89.63 45 ⇑P **P 00 39 38.9 0.0**
baz=89
MOD Modoc 89.64 43 *e*P **P 00 39 39.4 +0.4**
comp=Z,56nm,1.3s,mb5.7
MOD *e*PP PP 00 43 08.9 -1.4
MOD LR LR
comp=Z,3μm,20.0s,MS5.8
MOD Modoc 89.64 43 ⇑P **P 00 39 39.2 +0.2**
baz=89,SNR=7.3
FIN Finale Ligure 89.68 320 P **P 00 39 37.9 -1.2**
BMO Blue Mountains 89.68 39 *e*P **P 00 39 39.0 -0.1**
comp=Z,16nm,0.9s,mb5.3
BMO *e*PP PP 00 43 10.1 -0.6
BMO LR LR
comp=Z,3μm,20.0s,MS5.7
F11A Grangeville 89.70 38 P **P 00 39 39.3 +0.1**
baz=89,SNR=8.8
LPL La Plagne 89.73 322 *e*P **P 00 39 39.0 -0.3**
comp=Z,85nm,1.1s,mb5.7
LPL La Plagne 89.73 322 *e*P **P 00 39 39.0 -0.3**
comp=Z,42nm,1.1s,mb5.7
LPL La Plagne 89.73 322 *e*P **P 00 39 39.0 -0.3**
LPL pmax pmax
comp=Z,42nm,1.1s,mb5.7
LPG La Plagne 89.73 322 *e*P **P 00 39 39.3 0.0**
comp=Z,67nm,0.9s,mb5.7
LPG La Plagne 89.73 322 *e*P **P 00 39 39.3 0.0**
comp=Z,33nm,0.9s,mb5.7
LPG La Plagne 89.73 322 *e*P **P 00 39 39.3 0.0**
LPG pmax pmax
comp=Z,33nm,0.9s,mb5.7
C14A Swan Lake 89.82 35 ⇓P **P 00 39 39.9 +0.2**
baz=90,SNR=47
FCC Fort Churchill 89.82 19 *e*P **P 00 39 38.3 -1.1**
comp=Z,140nm,1.3s,mb6.1
FCC Fort Churchill 89.82 19 *e*P **P 00 39 38.3 -1.1**
FCC pmax pmax
comp=Z,140nm,1.3s,mb6.1
K07A Rock Creek Ran 89.82 42 ⇓P **P 00 39 39.8 0.0**
baz=90,SNR=20
D13A Huson 89.87 36 ⇓P **P 00 39 39.4 -0.5**
baz=90
J08A Circle Bar Ran 89.89 41 ⇑P **P 00 39 40.1 0.0**
baz=90,SNR=15
M06C Likely Place G 89.93 43 ⇓P **P 00 39 40.5 +0.2**
baz=90
G11A Walters Elk Ra 89.94 38 P **P 00 39 40.2 0.0**
baz=90,SNR=23
I09A Lost Marbles R 89.96 40 ⇑P **P 00 39 41.1 +0.7**
baz=90
MNRC McLaughlin Nat 89.98 46 ⇓P **P 00 39 41.1 +0.5**
baz=90
BNI Bardonecchia 90.05 321 *e*P **P 00 39 40.2 -0.6**
comp=Z,70nm,1.1s,mb5.9
BNI *e*PP PP 00 43 12.2 -1.4
BNI Bardonecchia 90.05 321 *e*P **P 00 39 40.2 -0.6**
BNI *e* 00 43 12.2
BNI pmax pmax
comp=Z,69nm,1.1s,mb5.9
O04C Chester 90.05 44 ⇓P **P 00 39 41.3 +0.5**
baz=90,SNR=5.8
ELFS Eagle Lake Fie 90.11 44 ⇑P **P 00 39 41.7 +0.6**
baz=90
L07A Adell 90.16 42 ⇓P **P 00 39 41.4 +0.1**
baz=90,SNR=14
H10A Noah's Angus R 90.16 39 P **P 00 39 41.5 +0.1**
baz=90,SNR=24
SAOF Saorge 90.19 320 *e*P **P 00 39 40.6 -0.9**
MBDF Montbardon 90.19 321 *e*P **P 00 39 40.5 -1.0**
comp=Z,32nm,0.9s,mb5.4
MBDF Montbardon 90.19 321 *e*P **P 00 39 40.5 -1.0**
comp=Z,16nm,0.9s,mb5.4
MBDF Montbardon 90.19 321 *e*P **P 00 39 40.5 -1.0**
MBDF pmax pmax
comp=Z,16nm,0.9s,mb5.3
PGF Pioggiola 90.19 318 *e*P **P 00 39 41.2 -0.3**
comp=Z,91nm,1.2s,mb5.7
PGF Pioggiola 90.19 318 *e*P **P 00 39 41.2 -0.3**
comp=Z,46nm,1.2s,mb5.7
PGF Pioggiola 90.19 318 *e*P **P 00 39 41.2 -0.3**
PGF pmax pmax
comp=Z,46nm,1.2s,mb5.7
LOR Lormes 90.20 324 *e*P **P 00 39 40.2 -1.3**
comp=Z,7.6nm,0.9s,mb4.7
LOR *e*MLR MLR
comp=Z,38μm,23.0s,MS6.5
LOR Lormes 90.20 324 *e*P **P 00 39 40.2 -1.3**
comp=Z,3.8nm,0.9s,mb4.7
LOR LR LR
comp=Z,38μm,23.0s,MS6.8
LOR Lormes 90.20 324 *e*P **P 00 39 40.2 -1.3**
LOR pmax pmax
comp=Z,4.0nm,0.9s,mb4.8
LOR MLR MLR
comp=Z,38μm,23.0s,MS6.8
SUTB Sutter Butte 90.21 46 ⇑P **P 00 39 41.3 -0.4**
baz=90
ORV Oroville 90.22 45 P **P 00 39 41.5 -0.2**
baz=90,SNR=8.0
K08A Mann Creek Ran 90.25 41 ⇑P **P 00 39 41.8 0.0**
baz=90,SNR=6.7
AUTN L'Aution 90.26 320 *e*P **P 00 39 42.1 +0.3**
FARB Farallon Islan 90.26 47 ⇑P **P 00 39 42.0 +0.1**
baz=90
CVS Carmenet Viney 90.27 47 ⇑P **P 00 39 42.1 +0.2**
baz=90
GDM Grand'Maison 90.27 322 *e*P **P 00 39 41.5 -0.3**
F12A Elk City 90.28 37 P **P 00 39 42.2 +0.3**
baz=90,SNR=44
MSO Missoula 90.31 36 *e*P **P 00 39 42.1 +0.1**
comp=Z,58nm,1.4s,mb5.7
MSO LR LR
comp=Z,4μm,21.0s,MS5.9
SURF Saint Ours 90.32 321 *e*P **P 00 39 42.2 +0.1**
FFC Flin Flon 90.32 25 *e*P **P 00 39 41.4 -0.4**
comp=Z,122nm,0.9s,mb6.2
FFC *e*PP PP 00 43 12.9 -2.4
FFC LR LR
comp=Z,7μm,22.0s,MS6.0
FFC Flin Flon 90.32 25 *e*P **P 00 39 41.4 -0.4**
FFC *e* 00 43 12.9
FFC pmax pmax
comp=Z,122nm,0.9s,mb6.2
FFC MLR MLR
comp=Z,7μm,22.0s,MS6.0
J09A Fry Pan Ranch, 90.32 40 ⇑P **P 00 39 42.4 +0.3**
baz=90,SNR=26
SBF Sospel 90.33 320 *e*P **P 00 39 41.1 -1.0**
comp=Z,158nm,1.0s,mb6.0
SBF Sospel 90.33 320 *e*P **P 00 39 41.1 -1.0**
comp=Z,79nm,1.0s,mb6.0
SBF Sospel 90.33 320 *e*P **P 00 39 41.1 -1.0**
SBF pmax pmax
comp=Z,79nm,1.0s,mb6.0
WVOR Wild Horse Val 90.34 42 *e*P **P 00 39 42.9 +0.7**
comp=Z,75nm,1.6s,mb5.8
WVOR *e*PP PP 00 43 17.2 +1.2
WVOR LR LR
comp=Z,3μm,19.0s,MS5.8
WVOR Wild Horse Val 90.34 42 *e*P **P 00 39 42.9 +0.7**
WVOR *e* 00 43 17.2

WVOR pmax pmax
comp=Z,75nm,1.6s,mb5.8
WVOR MLR MLR
comp=Z,3µm,19.0s,MS5.8
TOUF Mont Tournerai 90.35 320 *e*P **P 00 39 41.2 -1.0**
O05C Quincy 90.36 45 ⇑P **P 00 39 42.3 -0.1**
baz=90
LUCF Luceram 90.37 320 *e*P **P 00 39 41.0 -1.3**
D14A Greenough 90.39 36 P **P 00 39 42.4 +0.1**
baz=90,SNR=24
Q03C Winters 90.40 46 ⇓P **P 00 39 42.6 +0.1**
baz=90
E13A Victor 90.43 36 ⇓P **P 00 39 42.4 -0.2**
baz=90
I10A Payette 90.43 39 ⇑P **P 00 39 41.9 -0.7**
baz=90
GRN Grenoble 90.45 322 *e*P **P 00 39 42.7 0.0**
MVIF Mont Vial 90.48 320 *e*P **P 00 39 41.5 -1.3**
H11A Donnelly 90.50 39 P **P 00 39 43.0 0.0**
baz=90,SNR=15
SSF Saint Saulge 90.52 324 *e*P **P 00 39 41.9 -1.0**
comp=Z,8.4nm,1.0s,mb4.7
SSF Saint Saulge 90.52 324 *e*P **P 00 39 41.9 -1.0**
comp=Z,4.2nm,1.0s,mb4.7
SSF Saint Saulge 90.52 324 *e*P **P 00 39 41.9 -1.0**
SSF pmax pmax
comp=Z,4.0nm,1.0s,mb4.7
ORIF Oris-en-Rattie 90.58 322 *e*P **P 00 39 42.4 -0.9**
comp=Z,84nm,1.2s,mb5.6
ORIF *e*MLR MLR
comp=Z,30µm,18.0s,MS6.5
ORIF Oris-en-Rattie 90.58 322 *e*P **P 00 39 42.4 -0.9**
comp=Z,42nm,1.2s,mb5.6
ORIF Oris-en-Rattie 90.58 322 *e*P **P 00 39 42.4 -0.9**
ORIF pmax pmax
comp=Z,42nm,1.2s,mb5.6
N06A Buffalo Meadow 90.59 43 P **P 00 39 44.0 +0.7**
baz=90,SNR=13
SMF Signal de Mont 90.61 324 *e*P **P 00 39 42.1 -1.3**
comp=Z,17nm,1.0s,mb5.0
SMF Signal de Mont 90.61 324 *e*P **P 00 39 42.1 -1.3**
comp=Z,8.6nm,1.0s,mb5.0
SMF Signal de Mont 90.61 324 *e*P **P 00 39 42.1 -1.3**
SMF pmax pmax
comp=Z,9.0nm,1.0s,mb5.0
CHMT Chamberlain Mo 90.63 36 *e*P **P 00 39 43.7 +0.3**
M07A Soldier Meadow 90.63 43 P **P 00 39 44.7 +1.1**
baz=90,SNR=11
L08A Fields 90.66 42 ⇑P **P 00 39 43.9 +0.2**
baz=90,SNR=15
Q04C Lincoln 90.69 46 ⇓P **P 00 39 43.1 -0.8**
baz=90
CALN Calern 90.72 320 *e*P **P 00 39 43.4 -0.5**
K09A Rome 90.73 41 ⇑P **P 00 39 43.8 -0.2**
baz=90,SNR=22
F13A Darby 90.76 37 P **P 00 39 43.8 -0.3**
baz=90,SNR=12
BEKR Beckwourth 90.77 44 ⇑P **P 00 39 43.8 -0.4**
baz=90,SNR=15
AVF Avril sur Loir 90.77 324 *e*P **P 00 39 42.8 -1.3**
comp=Z,12nm,1.0s,mb4.9
AVF Avril sur Loir 90.77 324 *e*P **P 00 39 42.8 -1.3**
comp=Z,5.8nm,1.0s,mb4.9
AVF Avril sur Loir 90.77 324 *e*P **P 00 39 42.8 -1.3**
AVF pmax pmax
comp=Z,6.0nm,1.0s,mb4.9
OG25 Le Caire 90.81 321 *e*P **P 00 39 43.1 -1.2**
E14A Clinton 90.82 36 P **P 00 39 44.8 +0.4**
baz=90,SNR=28
J10A Berg Farm, Mel 90.85 40 ⇓P **P 00 39 44.9 +0.3**
baz=90
BDM Black Diamond 90.87 47 ⇓P **P 00 39 44.1 -0.7**
baz=91
D15A Lincoln 90.93 35 ⇓P **P 00 39 44.8 0.0**
baz=91,SNR=6.8
P05C Yuba Gap, Truc 90.93 45 ⇑P **P 00 39 45.3 +0.3**
baz=91
O06A Flanigan 90.93 44 P **P 00 39 45.6 +0.6**
baz=91,SNR=11
JRSC Jasper Ridge 90.93 47 ⇓P **P 00 39 44.7 -0.3**
baz=91
FRF La Foret Royal 90.97 320 *e*P **P 00 39 44.2 -0.9**
comp=Z,77nm,1.1s,mb5.7
FRF La Foret Royal 90.97 320 *e*P **P 00 39 44.2 -0.9**
comp=Z,38nm,1.1s,mb5.6
FRF La Foret Royal 90.97 320 *e*P **P 00 39 44.2 -0.9**
FRF pmax pmax
comp=Z,38nm,1.1s,mb5.6
I11A Placerville 91.02 39 ⇑P **P 00 39 44.5 -0.8**
baz=91,SNR=11
M08A Happy Creek Ra 91.08 42 ⇓P **P 00 39 46.0 +0.3**
baz=91,SNR=9.6
N07B Gerlach 91.11 43 ⇑P **P 00 39 46.1 +0.3**
baz=91,SNR=14
OG26 St.-Nazaire-De 91.11 322 *e*P **P 00 39 45.3 -0.4**
BNLO Ben Lomond (Sa 91.12 48 ⇑P **P 00 39 45.6 -0.3**
baz=91
WENL Wente Brothers 91.13 47 ⇓P **P 00 39 46.1 +0.2**
baz=91
STOF St-Etienne Org 91.13 321 *e*P **P 00 39 46.2 +0.4**
LAVA Lava Cap Winer 91.15 46 ⇓P **P 00 39 44.8 -1.3**
baz=91
PLDF La Plantade 91.16 323 *e*P **P 00 39 47.0 +1.1**
P06A Stead Airport, 91.16 44 ⇓P **P 00 39 46.0 -0.1**
baz=91
L09A Wilkinson Ranc 91.17 42 ⇓P **P 00 39 46.9 +0.8**
baz=91,SNR=15
K10A MacKenzie Ranc 91.18 41 ⇓P **P 00 39 46.4 +0.3**
baz=91,SNR=20
BGF Bois d'Agland 91.19 324 *e*P **P 00 39 43.6 -2.5**
LMR La Mourre 91.19 320 *e*P **P 00 39 45.5 -0.6**
comp=Z,146nm,1.1s,mb5.9
LMR La Mourre 91.19 320 *e*P **P 00 39 45.5 -0.6**
comp=Z,73nm,1.1s,mb5.9
LMR La Mourre 91.19 320 *e*P **P 00 39 45.5 -0.6**
LMR pmax pmax
comp=Z,73nm,1.1s,mb5.9
H12A Diamond D Ranc 91.25 38 ⇑P **P 00 39 46.4 +0.1**
baz=91,SNR=45
G13A Cobalt 91.25 38 P **P 00 39 46.1 -0.3**
baz=91,SNR=17
E15A Deer Lodge 91.26 36 P **P 00 39 47.1 +0.7**
baz=91,SNR=26
F14A Wisdom 91.27 37 ⇑P **P 00 39 47.0 +0.6**
baz=91,SNR=14
TAVF Tavernes 91.28 321 *e*P **P 00 39 46.4 -0.1**
VIVF Saint-Julien-I 91.29 322 *e*P **P 00 39 45.3 -1.3**
comp=Z,44nm,1.2s,mb5.4
VIVF Saint-Julien-I 91.29 322 *e*P **P 00 39 45.3 -1.3**
comp=Z,22nm,1.2s,mb5.4
VIVF Saint-Julien-I 91.29 322 *e*P **P 00 39 45.3 -1.3**
VIVF pmax pmax
comp=Z,22nm,1.2s,mb5.4
R04C Big Horse Ranc 91.31 46 ⇓P **P 00 39 47.3 +0.5**
baz=91
VILF Villemus 91.33 321 *e*P **P 00 39 46.6 -0.2**
SMRF Simiane la Rot 91.33 321 *e*P **P 00 39 46.5 -0.3**
comp=Z,68nm,1.1s,mb5.6
SMRF Simiane la Rot 91.33 321 *e*P **P 00 39 46.5 -0.3**
comp=Z,68nm,1.1s,mb5.9
LDF La Druitiere 91.35 327 *e*P **P 00 39 45.5 -1.3**
comp=Z,21nm,1.1s,mb5.1
LDF La Druitiere 91.35 327 *e*P **P 00 39 45.5 -1.3**
comp=Z,10nm,1.1s,mb5.1
LDF La Druitiere 91.35 327 *e*P **P 00 39 45.5 -1.3**
LDF pmax pmax
comp=Z,10.0nm,1.1s,mb5.1
AGO Saint Agoulin 91.36 324 *e*P **P 00 39 51.4 +4.5**
MFID Camas Ranch 91.40 40 ⇓P **P 00 39 47.3 +0.2**
baz=91,SNR=22
FLN La Foliniere 91.41 327 *e*P **P 00 39 46.0 -1.1**
FLN *e*MLR MLR
comp=Z,23µm,19.3s,MS6.3
FLN La Foliniere 91.41 327 *e*P **P 00 39 46.0 -1.1**
FLN MLR MLR
comp=Z,23µm,19.3s,MS6.6
WCN Washoe City 91.47 45 ⇓P **P 00 39 48.3 +0.8**
baz=91
S04C Ingram Canyon, 91.47 47 ⇓P **P 00 39 48.1 +0.5**
baz=91
PUYF Puyloubier 91.53 321 *e*P **P 00 39 46.6 -1.1**
H13A Challis 91.58 38 ⇓P **P 00 39 47.9 +0.1**
baz=91,SNR=25
G14A Jackson 91.58 37 ⇓P **P 00 39 47.7 -0.2**
baz=91
R05C Kirkwood Meado 91.61 45 ⇓P **P 00 39 48.8 +0.7**
baz=91

PYM Petit Puy Mans 91.62 324 *e*P **P 00 39 52.4 +4.3**
M09A Marrel Ranch, 91.65 42 ⇓P **P 00 39 49.0 +0.7**
baz=91,SNR=6.3
TREF Trevaresse 91.66 321 *e*P **P 00 39 48.0 -0.3**
PRAF Pradon 91.67 321 *e*P **P 00 39 46.9 -1.4**
BERF Bertagne 91.67 321 *e*P **P 00 39 48.0 -0.4**
K11A Parker Ranch, 91.68 40 P **P 00 39 49.3 +0.9**
baz=91,SNR=20
EGMT Eagleton 91.68 33 *e*P **P 00 39 48.7 +0.3**
comp=Z,48nm,0.9s,mb5.8
EGMT LR LR
comp=Z,5µm,20.0s,MS5.9
EGMT Eagleton 91.68 33 ⇓P **P 00 39 48.5 +0.2**
baz=91
TCF Toulx Ste Croi 91.70 324 *e*P **P 00 39 47.0 -1.4**
comp=Z,16nm,1.2s,mb4.9
TCF Toulx Ste Croi 91.70 324 *e*P **P 00 39 47.0 -1.4**
comp=Z,8.1nm,1.2s,mb4.9
TCF Toulx Ste Croi 91.70 324 *e*P **P 00 39 47.0 -1.4**
TCF pmax pmax
comp=Z,8.0nm,1.2s,mb4.9
F15A Butte 91.72 36 P **P 00 39 49.4 +0.8**
baz=91,SNR=43
PACP Pacheco Peak 91.78 47 ⇓P **P 00 39 49.5 +0.5**
baz=92
GELF Grande-Etoile 91.78 321 *e*P **P 00 39 48.5 -0.4**
CMB Columbia Colle 91.79 46 *e*P **P 00 39 48.9 -0.2**
comp=Z,30nm,1.3s,mb5.5
CMB *e*PP PP 00 43 26.4 -1.2
CMB LR LR
comp=Z,2µm,20.0s,MS5.6
CMB Columbia Colle 91.79 46 *e*P **P 00 39 48.9 -0.1**
CMB *e* 00 43 26.4
CMB pmax pmax
comp=Z,30nm,1.3s,mb5.5
CMB MLR MLR
comp=Z,2µm,20.0s,MS5.6
CMB Columbia Colle 91.79 46 P **P 00 39 49.1 +0.1**
baz=92,SNR=7.2
SAO San Andreas Ge 91.81 47 PFAKE 00 40 00.0 +11
SAO LR LR
comp=Z,3µm,19.0s,MS5.8
LBL Lubilhac 91.83 323 *e*P **P 00 39 50.5 +1.4**
L10A Juniper Basin 91.84 41 ⇓P **P 00 39 49.8 +0.7**
baz=92,SNR=22
GRR Gorron 91.85 327 *e*P **P 00 39 47.9 -1.2**
O08A Rochester Mine 91.89 43 ⇓P **P 00 39 50.1 +0.7**
baz=92
J12A Stokes Ranch, 91.92 39 P **P 00 39 50.6 +1.0**
baz=92,SNR=24
N09A Rock Creek Ran 91.95 42 ⇑P **P 00 39 50.6 +0.9**
baz=92
HAST Hastings Reser 91.95 48 ⇑P **P 00 39 50.1 +0.3**
baz=92
DLMT Dillon 91.97 37 *e*P **P 00 39 50.2 +0.5**
comp=Z,67nm,0.9s,mb6.0
I13A Wildhorse Cree 92.06 38 ⇑P **P 00 39 51.2 +1.0**
baz=92,SNR=59
R06C Coleville 92.11 45 ⇑P **P 00 39 50.8 +0.3**
baz=92
HLID Hailey 92.12 39 *e*P **P 00 39 51.4 +1.0**
comp=Z,50nm,1.0s,mb5.8
HLID LR LR
comp=Z,5µm,21.0s,MS6.0
HLID Hailey 92.12 39 ⇑P **P 00 39 51.4 +1.0**
baz=92,SNR=59
M10A I.L. Ranch, Tu 92.14 41 ⇑P **P 00 39 51.2 +0.7**
baz=92,SNR=13
G15A Dillon 92.16 37 ⇑P **P 00 39 50.9 +0.3**
baz=92,SNR=78
MCMT McKenzie Canyo 92.18 37 *e*P **P 00 39 51.2 +0.5**
L11A Cat Creek Ranc 92.21 41 ⇑P **P 00 39 51.7 +0.8**
baz=92,SNR=60
S05C Merced 92.22 47 ⇓P **P 00 39 50.8 -0.2**
baz=92
LASF Ste Croix 92.23 322 *e*P **P 00 39 49.6 -1.4**
comp=Z,56nm,1.3s,mb5.4
T05C Eagle Field, D 92.25 47 ⇑P **P 00 39 52.0 +0.8**
baz=92
P08A Dixie Valley 92.29 44 ⇓P **P 00 39 51.7 +0.4**
baz=92
BOZ Bozeman (W) 92.30 36 *e*P **P 00 39 51.5 +0.2**
comp=Z,54nm,1.5s,mb5.7
BOZ *e*PP PP 00 43 32.3 +1.0
BOZ LR LR
comp=Z,4µm,19.0s,MS5.8
BOZ Bozeman (W) 92.30 36 *e*P **P 00 39 51.5 +0.3**
BOZ *e* 00 43 32.3
BOZ pmax pmax
comp=Z,54nm,1.5s,mb5.7
BOZ MLR MLR
comp=Z,4µm,19.0s,MS5.8
BOZ Bozeman (W) 92.30 36 ⇓P **P 00 39 51.3 0.0**
baz=92
CASY Casey 92.32 186 PFAKE 00 40 00.0 +9.4
CASY LR LR
comp=Z,4µm,21.0s,MS5.8
J13A Cove Ranch, Pi 92.36 39 ⇑P **P 00 39 51.4 -0.1**
baz=92,SNR=18
V03C Hunter Liggett 92.37 48 ⇑P **P 00 39 51.6 -0.1**
baz=92
K12A Draper Farm, C 92.42 40 ⇑P **P 00 39 52.7 +0.9**
baz=92,SNR=18
U04C Hernandez Rese 92.48 48 ⇑P **P 00 39 52.5 +0.3**
baz=92
O09A Fish Creek Ran 92.56 43 ⇓P **P 00 39 53.2 +0.6**
baz=92
R07C Lee Vining 92.62 45 ⇑P **P 00 39 52.5 -0.4**
baz=92
M11A Holland Ranch, 92.64 41 ⇓P **P 00 39 54.3 +1.4**
baz=92,SNR=16
N10A Dunphy 92.64 42 ⇑P **P 00 39 52.7 -0.2**
baz=92
L12A House Creek Ra 92.65 40 ⇓P **P 00 39 53.6 +0.6**
baz=92,SNR=31
CAF Calviac 92.67 323 *e*P **P 00 39 51.4 -1.5**
comp=Z,26nm,1.0s,mb5.3
CAF Calviac 92.67 323 *e*P **P 00 39 51.4 -1.5**
comp=Z,13nm,1.0s,mb5.3
CAF Calviac 92.67 323 *e*P **P 00 39 51.4 -1.5**
CAF pmax pmax
comp=Z,13nm,1.0s,mb5.3
MFF Saint Martin d 92.71 326 *e*P **P 00 39 51.5 -1.6**
comp=Z,27nm,1.4s,mb5.2
MFF Saint Martin d 92.71 326 *e*P **P 00 39 51.5 -1.6**
comp=Z,14nm,1.4s,mb5.2
MFF Saint Martin d 92.71 326 *e*P **P 00 39 51.5 -1.6**
MFF pmax pmax
comp=Z,14nm,1.4s,mb5.2
RJF Les Rejaudoux 92.71 324 *e*P **P 00 39 51.9 -1.2**
comp=Z,48nm,1.3s,mb5.5
RJF *e*MLR MLR
comp=Z,29µm,22.0s,MS6.4
RJF Les Rejaudoux 92.71 324 *e*P **P 00 39 51.9 -1.2**
comp=Z,24nm,1.3s,mb5.5
RJF LR LR
comp=Z,29µm,22.0s,MS6.7
RJF Les Rejaudoux 92.71 324 *e*P **P 00 39 51.9 -1.2**
RJF pmax pmax
comp=Z,24nm,1.3s,mb5.5
RJF MLR MLR
comp=Z,29µm,22.0s,MS6.7
DRV Dumont d'Urvil 92.73 174 P **P 00 39 57.0 +4.6**
DRV Dumont d'Urvil 92.73 174 PP PP 00 43 42.0 +6.9
DRV S S 00 50 56.0 +1.2
DRV SP SP 00 52 10.0 +3.5
DRV SS SS 00 57 12.0 +3.2
DRV L 01 05 00.0
DRV R 01 11 00.0
SGMF Saint Gilles 92.76 328 *e*P **P 00 39 51.7 -1.6**
comp=Z,52nm,1.4s,mb5.5
SGMF Saint Gilles 92.76 328 *e*P **P 00 39 51.7 -1.6**
comp=Z,26nm,1.4s,mb5.5
SGMF Saint Gilles 92.76 328 *e*P **P 00 39 51.7 -1.6**
SGMF pmax pmax
comp=Z,26nm,1.4s,mb5.5
T06C Millerton Lake 92.82 46 P **P 00 39 53.7 -0.1**
baz=92,SNR=6.2
V04C Ramage Ranch, 92.83 48 ⇑P **P 00 39 54.4 +0.5**
baz=93
PKD Parkfield 92.88 48 ⇑P **P 00 39 53.6 -0.5**
baz=93
K13A Stover Farm, H 92.88 39 P **P 00 39 55.5 +1.6**
baz=93,SNR=15
Q08A Gabbs 92.88 44 P **P 00 39 54.8 +0.7**
baz=93,SNR=6.0
KCC Kaiser Creek 92.89 46 P **P 00 39 54.7 +0.6**
baz=93,SNR=6.1
NVAR Mina Array Bea 92.90 45 P **P 00 39 54.8 +0.6**
NVAR PP PP 00 43 34.7 -1.6
NVAR S SKSac 00 50 25.5 -0.6
NVAR Mina Array Bea 92.90 45 P **P 00 39 54.8 +0.6**
comp=Z,3.1nm,0.7s,mb4.9,baz=299,slow=3.0,SNR=20
NVAR PP PP 00 43 34.7 -1.6
comp=Z,3.1nm,0.9s,baz=300,slow=6.2,SNR=4.6
NVAR S SKSac 00 50 25.5 -0.6
comp=Z,0.2nm,0.5s,baz=354,slow=30,SNR=2.7
O10A Cortez Mining, 92.91 42 ⇑P **P 00 39 55.1 +1.0**
baz=93
U05C Westside ANR, 92.93 47 ⇑P **P 00 39 54.9 +0.5**
baz=93
QLMT Earthquake Lak 92.95 36 *e*P **P 00 39 55.5 +1.3**
P09A Austin 92.96 43 ⇓P **P 00 39 55.2 +0.7**
baz=93
MLAC Mammoth Lakes 93.03 46 ⇓P **P 00 39 55.2 +0.5**
baz=93
ROSF Rostrenen 93.05 328 *e*P **P 00 39 53.0 -1.6**
comp=Z,31nm,1.2s,mb5.3
ROSF Rostrenen 93.05 328 *e*P **P 00 39 53.0 -1.6**
comp=Z,15nm,1.2s,mb5.3
ROSF Rostrenen 93.05 328 *e*P **P 00 39 53.0 -1.6**
ROSF pmax pmax
comp=Z,15nm,1.2s,mb5.3
N11A Elko Archery C 93.05 42 ⇑P **P 00 39 54.9 +0.1**
baz=93
R08A Mina 93.07 45 ⇓P **P 00 39 55.8 +0.9**
baz=93
M12A Wells 93.17 41 ⇓P **P 00 39 56.4 +1.1**
baz=93,SNR=27
GCMT Greycliff 93.23 35 *e*P **P 00 39 58.2 +2.7**
QUIF Quistinic 93.29 328 *e*P **P 00 39 54.3 -1.4**
comp=Z,56nm,1.6s,mb5.5
QUIF Quistinic 93.29 328 *e*P **P 00 39 54.3 -1.4**
comp=Z,28nm,1.6s,mb5.4
QUIF Quistinic 93.29 328 *e*P **P 00 39 54.3 -1.4**
QUIF pmax pmax
comp=Z,28nm,1.6s,mb5.4
YMR Madison River 93.30 36 *e*P **P 00 39 56.0 +0.1**
comp=Z,76nm,1.3s,mb6.0
YMR LR LR
comp=Z,5µm,19.0s,MS6.0
L13A Double Diamond 93.31 40 ⇑P **P 00 39 57.1 +1.1**
baz=93,SNR=14
P10A Eureka 93.34 43 ⇓P **P 00 39 56.5 +0.4**
baz=93
V05C Boulder Hill, 93.34 48 ⇓P **P 00 39 56.5 +0.2**
baz=93
LFF La Frestale 93.36 324 *e*P **P 00 39 54.6 -1.6**
comp=Z,42nm,1.4s,mb5.4
LFF La Frestale 93.36 324 *e*P **P 00 39 54.6 -1.6**
comp=Z,21nm,1.4s,mb5.4
LFF La Frestale 93.36 324 *e*P **P 00 39 54.6 -1.6**
LFF pmax pmax
comp=Z,21nm,1.4s,mb5.4
Q09A Carvers 93.37 44 ⇓P **P 00 39 56.4 +0.1**
baz=93
PPT Papeete 93.37 108 *e*S S 00 50 58.9 -3.8
comp=Z,3µm,24.8s
PPT Papeete 93.37 108 *e*PS PS 00 52 21.9 +2.5
comp=Z,2µm,28.0s
PPT Papeete 93.37 108 *e*LQ 01 05 47.3
PPT *e*LR LR 01 10 01.0
comp=Z,21µm,31.5s,baz=302
PPT Papeete 93.37 108 LR LR 01 13 43.0
comp=Z,4µm,20.9s,MS5.8,baz=292,slow=30
YNR Norris Junctio 93.42 36 *e*P **P 00 39 57.2 +0.8**
N12A Clover Valley, 93.44 41 ⇑P **P 00 39 58.0 +1.4**
baz=93,SNR=14
HELL Mitchell Peak 93.46 46 P **P 00 39 56.6 -0.2**
baz=93,SNR=8.7
K14A Jones Ranch, D 93.46 39 ⇓P **P 00 39 57.5 +0.9**
baz=93,SNR=11
YFT Old Faithful 93.52 36 *e*P **P 00 39 59.2 +2.4**
O11A Cowboy Ranch, 93.52 42 ⇑P **P 00 39 57.6 +0.6**
baz=93,SNR=16
S08C White Mtn Res 93.53 45 ⇓P **P 00 39 57.4 +0.4**
baz=93,SNR=7.9
SMMC Simmler 93.60 48 ⇑P **P 00 39 57.8 +0.4**
baz=93
MTLF Montolieu 93.62 322 *e*P **P 00 39 55.6 -1.7**
comp=Z,34nm,1.4s,mb5.3
MTLF Montolieu 93.62 322 *e*P **P 00 39 55.6 -1.7**
comp=Z,17nm,1.4s,mb5.3
MTLF Montolieu 93.62 322 *e*P **P 00 39 55.6 -1.7**
MTLF pmax pmax
comp=Z,17nm,1.4s,mb5.3
M13A Montello 93.64 40 ⇓P **P 00 39 58.2 +0.7**
baz=93,SNR=8.6
LKWY Lake 93.67 36 *e*P **P 00 39 57.4 -0.1**
comp=Z,42nm,1.1s,mb5.8
LKWY LR LR
comp=Z,10µm,19.0s,MS6.3
LKWY Lake 93.67 36 *e*P **P 00 39 57.4 -0.2**
LKWY pmax pmax
comp=Z,42nm,1.1s,mb5.8
LKWY MLR MLR
comp=Z,10µm,19.0s,MS6.3
TIN Tinemaha 93.75 46 ⇑P **P 00 39 58.8 +0.7**
baz=94
R09A Tonopah 93.79 44 P **P 00 39 58.7 +0.4**
baz=94,SNR=22
IMW Indian Meadow 93.83 37 *e*P **P 00 39 59.7 +1.4**
comp=Z,67nm,1.3s,mb5.9
FLWY Flagg Ranch 93.83 37 *e*P **P 00 39 59.0 +0.6**
comp=Z,83nm,1.3s,mb6.0
Q10A Clear Creek Ra 93.86 43 ⇑P **P 00 39 58.5 0.0**
baz=94,SNR=7.5
RLMT Red Lodge 93.89 35 *e*P **P 00 39 59.3 +0.7**
comp=Z,326nm,2.3s,mb6.3
RLMT LR LR
comp=Z,6µm,19.0s,MS6.1
VES Vestal, Richgr 93.91 47 ⇑P **P 00 39 58.6 -0.3**
baz=94
KEST Kesra 93.95 313 P **P 00 39 58.7 -0.4**
comp=Z,2.3nm,1.0s,baz=84,slow=6.2,SNR=3.0
KEST LR LR 01 30 05.7
comp=Z,3µm,18.1s,baz=348,slow=40
PKM Peak Mountain 93.96 48 ⇑P **P 00 39 59.9 +0.8**
baz=94
O12A Currie 93.98 42 ⇑P **P 00 39 59.3 +0.2**
baz=94,SNR=22
S09A Goldfield 94.00 45 ⇓P **P 00 39 59.2 0.0**
baz=94
DGMT Dagmar 94.02 30 *e*P **P 00 39 58.9 -0.2**
comp=Z,46nm,0.8s,mb6.0
DGMT LR LR
comp=Z,9µm,20.0s,MS6.2
M14A Sheep Mountain 94.03 40 ⇓P **P 00 39 59.5 +0.2**
baz=94,SNR=41
TPAW Teton Pass 94.09 37 *e*P **P 00 40 01.0 +1.5**
comp=Z,16µm,0.8s
HVU Hansel Valley 94.18 39 *e*P **P 00 40 00.1 +0.1**
comp=Z,22nm,1.0s,mb5.5
HVU Hansel Valley 94.18 39 *e*P **P 00 40 00.1 +0.1**
HVU pmax pmax
comp=Z,22nm,1.0s,mb5.5
LOHW Long Hollow 94.20 37 *e*P **P 00 40 00.7 +0.7**
comp=Z,15nm,1.2s,mb5.3
CWC Cottonwood Cre 94.21 46 ⇑P **P 00 40 00.2 0.0**
baz=94
SNOW Snow King Moun 94.21 37 *e*P **P 00 39 59.8 -0.2**
REDW Red Top Meadow 94.23 37 *e*P **P 00 40 01.1 +0.9**
comp=Z,38nm,1.3s,mb5.7
R10A Warm Springs 94.24 44 P **P 00 40 01.2 +0.9**
baz=94,SNR=8.0
S10A Tonopah Range, 94.28 44 P **P 00 40 01.2 +0.7**
baz=94,SNR=13
Q11A Duckwater 94.31 43 ⇑P **P 00 40 00.3 -0.3**
baz=94
GRAC Grapevine Rang 94.34 45 ⇓P **P 00 40 00.4 -0.4**
baz=94
LAO LASA Array 94.34 33 PFAKE 00 40 10.0 +9.4
LAO LR LR
comp=Z,6µm,20.0s,MS6.0
P12A McGill 94.38 42 P **P 00 40 02.0 +1.0**
baz=94,SNR=13
ISA Isabella 94.41 47 *e*P **P 00 40 00.3 -0.9**
comp=Z,4.6nm,0.9s,mb4.9
ISA LR LR
comp=Z,4µm,21.0s,MS5.8
ISA Isabella 94.41 47 *e*P **P 00 40 00.3 -0.9**
ISA pmax pmax
comp=Z,5.0nm,0.9s,mb4.9
ISA MLR MLR

comp=Z,4μm,21.0s,MS5.8
ISA Isabella 94.41 47 ⇓P P 00 40 01.0 -0.2
baz=94
AHID Auburn Hatcher 94.48 38 eP P 00 40 01.6 +0.2
comp=Z,32nm,1.4s,mb5.6
AHID LR LR
comp=Z,4μm,19.0s,MS5.9
ARVC Arvin 94.49 48 ⇑P P 00 40 01.0 -0.5
baz=94
O13A Hicks Ranch, I 94.52 41 ⇓P P 00 40 01.8 +0.2
baz=94
N14A Grayback Hills 94.54 40 P P 00 40 02.6 +1.0
baz=94,SNR=19
M15A Larsen Ranch, 94.57 40 P P 00 40 02.5 +0.7
baz=94,SNR=13
BGU Big Grassy Mou 94.58 40 eP P 00 40 02.7 +0.9
BGU ePP PP 00 43 47.1 -2.2
R11A Troy Canyon, C 94.65 43 P P 00 40 02.9 +0.7
baz=94,SNR=15
SPUT South Promonto 94.67 40 eP P 00 40 02.7 +0.5
MPMC Manual Prospec 94.82 46 P P 00 40 03.8 +0.8
baz=94,SNR=14
EPF Esparros 94.85 323 eP P 00 40 01.3 -1.7
OSI Osito Adit 94.86 48 ⇑P P 00 40 04.0 +0.8
baz=95
N15A Stansbury Isla 94.90 40 ⇓P P 00 40 03.7 +0.4
baz=95
BLG Laguna Peak 94.92 49 ⇑P P 00 40 02.8 -0.7
baz=95
P13A Bates Ranch, G 94.93 42 P P 00 40 04.2 +0.7
baz=95,SNR=13
HWUT Hardware Ranch 94.98 39 eP P 00 40 04.5 +0.8
comp=Z,36nm,1.2s,mb5.7
HWUT ePP PP 00 43 51.5 -0.9
HWUT LR LR
comp=Z,3μm,19.0s,MS5.8
S11A Rachel 94.98 44 ⇓P P 00 40 03.4 -0.3
baz=95
FURC Furnace Creek, 94.99 46 P P 00 40 04.3 +0.5
baz=95,SNR=7.8
LRMC Laurel Mountai 95.04 47 ⇑P P 00 40 03.5 -0.5
baz=95
TPNV Topopah Spring 95.09 45 eP P 00 40 04.4 +0.1
comp=Z,16nm,1.2s,mb5.3
TPNV LR LR
comp=Z,3μm,20.0s,MS5.7
TPNV Topopah Spring 95.09 45 eP P 00 40 04.4 +0.2
TPNV pmax pmax
comp=Z,17nm,1.2s,mb5.3
TPNV MLR MLR
comp=Z,3μm,20.0s,MS5.7
MIR Mirnyy 95.09 192 eP P 00 40 00.0 -3.3
MIR i pP 00 40 11.0 -2.1
MIR i 00 43 56.0
MIR eS SKSac 00 50 40.0 +3.8
MIR i PS S 00 51 20.0 +4.4
MIR pmax pmax
comp=Z,100nm,1.5s,mb6.0
SNCC San Nicolas Is 95.10 49 PFAKE 00 40 20.0 +16
SNCC LR LR
comp=Z,3μm,20.0s,MS5.8
DUG Dugway 95.17 41 eP P 00 40 04.9 +0.4
comp=Z,55nm,1.6s,mb5.7
DUG LR LR
comp=Z,3μm,20.0s,MS5.8
DUG Dugway 95.17 41 eP P 00 40 04.9 +0.3
DUG pmax pmax
comp=Z,55nm,1.6s,mb5.7
DUG MLR MLR
comp=Z,3μm,20.0s,MS5.8
DUG Dugway 95.17 41 ⇓P P 00 40 04.4 -0.2
baz=95
EDW2 Edwards Air Fo 95.19 47 ⇓P P 00 40 05.2 +0.4
baz=95
R12A Pony Springs, 95.27 43 ⇑P P 00 40 05.1 0.0
baz=95
NOQ North Oquirrh 95.28 40 eP P 00 40 04.7 -0.4
comp=Z,26nm,1.0s,mb5.6
BW06 Boulder Array 95.33 37 eP P 00 40 05.2 0.0
comp=Z,32nm,1.5s,mb5.5
BW06 LR LR
comp=Z,4μm,19.0s,MS5.9
PDAR Pinedale Array 95.33 37 P P 00 40 05.0 -0.3
comp=Z,5.0nm,1.1s,mb4.9,baz=294,slow=1.5,SNR=18
PDAR PKKPbc PKKPbc 00 56 54.1 -4.1
comp=Z,0.3nm,0.7s,baz=170,slow=6.0,SNR=3.0
DECC Green Verdugo 95.33 48 ⇓P P 00 40 04.9 -0.5
baz=95
U10A Ash Meadows, A 95.36 45 ⇑P P 00 40 04.8 -0.7
baz=95
CTU Camp Tracy 95.47 40 eP P 00 40 07.0 +1.1
CTU ePP PP 00 43 55.7 -0.5
T11A Corn Creek, Al 95.56 44 ⇑P P 00 40 05.8 -0.6
baz=95,SNR=6.3
S12A Delamar Landin 95.57 44 ⇑P P 00 40 06.6 +0.2
baz=95
SJPF Ste Jean 95.64 324 eP P 00 40 04.7 -1.9
SHOC Shoshone 95.70 46 ⇑P P 00 40 06.5 -0.6
baz=95
JLU Jordanelle 95.70 40 eP P 00 40 07.0 0.0
GSC Goldstone 95.72 46 eP P 00 40 07.2 +0.1
comp=Z,17nm,1.0s,mb5.4
GSC LR LR
comp=Z,2μm,19.0s,MS5.7
GSC Goldstone 95.72 46 eP P 00 40 07.2 0.0
GSC pmax pmax
comp=Z,17nm,1.0s,mb5.4
GSC MLR MLR
comp=Z,2μm,19.0s,MS5.7
GSC Goldstone 95.72 46 P P 00 40 07.9 +0.8
baz=95,SNR=5.8
NLU North Lily Min 95.76 40 eP P 00 40 07.9 +0.7
BFSC Mount Baldy St 95.79 48 ⇓P P 00 40 06.9 -0.6
baz=96
DAU Daniels Canyon 95.94 40 eP P 00 40 08.0 -0.1
MPU Maple Canyon 95.98 40 eP P 00 40 08.5 +0.3
comp=Z,30nm,1.4s,mb5.5
MPU LR LR
comp=Z,4μm,20.0s,MS5.9
ULM Lac du Bonnet 96.15 25 P P 00 40 07.5 -1.2
comp=Z,13nm,0.9s,mb5.3,baz=324,slow=5.8,SNR=24
ULM S SKSac 00 50 42.5 -0.7
comp=Z,0.9nm,0.7s,baz=282,slow=20,SNR=1.8
ULM LR LR 01 28 39.3
comp=Z,10μm,19.9s,MS6.3,baz=336,slow=39
S13A Holt Ranch, En 96.20 43 P P 00 40 10.1 +0.8
baz=96,SNR=11
TUQ Turquoise Mtn. 96.21 46 ⇑P P 00 40 09.9 +0.5
baz=96
R14A James Farms, M 96.26 42 ⇑P P 00 40 09.0 -0.6
baz=96
V11A Goodsprings 96.29 45 ⇓P P 00 40 09.7 0.0
baz=96
HEC Hector,Ludlow 96.31 47 P P 00 40 10.4 +0.5
baz=96,SNR=6.6
MURC Murrieta 96.47 48 ⇑P P 00 40 10.0 -0.6
baz=96
S14A Cedar City 96.51 43 ⇓P P 00 40 10.1 -0.6
baz=96
T13A Saint George 96.52 44 ⇓P P 00 40 11.3 +0.5
baz=96
CCUT Cedar City 96.53 43 eP P 00 40 10.8 0.0
CCUT ePP PP 00 44 03.8 -0.7
MSU Marysvale 96.63 42 eP P 00 40 12.3 +1.1
GMRC Granite Mounta 96.78 46 ⇑P P 00 40 11.4 -0.6
baz=96
U13A Pakoon Wash 96.86 44 ⇑P P 00 40 10.0 -2.3
baz=97
109C Camp Elliot, M 96.96 49 ⇑P P 00 40 13.9 +1.1
baz=97
PFO Pinyon Flat Ob 96.97 48 eP P 00 40 13.3 +0.5
comp=Z,20nm,1.0s,mb5.5
PFO ePP PP 00 44 06.9 -1.1
PFO LR LR
comp=Z,3μm,21.0s,MS5.8
PFO Pinyon Flat Ob 96.97 48 eP P 00 40 13.4 +0.6
PFO e 00 44 06.9
PFO pmax pmax
comp=Z,20nm,1.0s,mb5.5
PFO MLR MLR
comp=Z,3μm,21.0s,MS5.8
PFO Pinyon Flat Ob 96.97 48 LR LR 01 16 56.8
comp=Z,3μm,21.4s,MS5.8,baz=322,slow=31
PFO Pinyon Flat Ob 96.97 48 ⇓P P 00 40 11.1 -1.8
baz=97
W12A Cal Nev Ari 96.98 46 ⇓P P 00 40 12.2 -0.6
baz=97

T14A Hurricane 97.01 43 ⇓P P 00 40 10.1 -2.9
baz=97
BELC Belle Mtn. 97.03 47 ⇑P P 00 40 11.4 -1.7
baz=97
SRU San Rafael 97.22 40 eP P 00 40 14.2 +0.3
comp=Z,3.4nm,0.7s,mb4.9
SRU San Rafael 97.22 40 eP P 00 40 14.2 +0.3
SRU pmax pmax
comp=Z,3.0nm,0.7s,mb4.8
RSSD Black Hills 97.26 33 eP P 00 40 13.9 0.0
comp=Z,297nm,2.8s,mb6.2
RSSD ePP PP 00 44 13.2 +3.4
RSSD LR LR
comp=Z,5μm,21.0s,MS5.9
RSSD Black Hills 97.26 33 eP P 00 40 13.9 0.0
RSSD e 00 44 13.2
RSSD pmax pmax
comp=Z,297nm,2.8s,mb6.2
RSSD MLR MLR
comp=Z,5μm,21.0s,MS5.9
U14A Mt Trumbull 97.35 44 ⇑P P 00 40 11.7 -2.9
baz=97
MONP Monument Peak 97.42 48 ⇓P P 00 40 15.4 +0.5
baz=97
T15A Red Dirt Ranch 97.47 43 ⇓P P 00 40 13.8 -1.2
baz=97
NEE2 Needles Airpor 97.47 46 ⇓P P 00 40 13.9 -1.2
baz=97
IRM Iron Mountain 97.50 47 ⇑P P 00 40 15.7 +0.5
baz=97
BC3 Big Chuckw Mtn 97.60 47 ⇑P P 00 40 14.9 -0.8
baz=97
AGMN Agassiz Refuge 97.72 26 eP P 00 40 15.1 -0.9
comp=Z,6.0nm,0.9s,mb5.1
AGMN ePP PP 00 44 13.4 +0.3
AGMN LR LR
comp=Z,7μm,20.0s,MS6.2
W13A Hualapai Mount 97.73 45 ⇓P P 00 40 16.7 +0.5
baz=98
DVTC Desert V Tower 97.77 48 ⇑P P 00 40 15.3 -1.2
baz=98
SWSC Sam W. Stewart 97.81 48 ⇓P P 00 40 16.0 -0.7
baz=98
V14A Boquillas Ranc 97.89 44 P P 00 40 18.2 +1.2
baz=98,SNR=6.6
TAOE Nuku Hiva Isla 98.02 96 eS S 00 51 40.5 -2.6
comp=Z,70μm,30.4s
TAOE Nuku Hiva Isla 98.02 96 eLR LR 01 12 15.1
comp=Z,97μm,25.7s
T16A Glen Canyon Da 98.02 42 ⇑P P 00 40 16.9 -0.7
baz=98
PDMCI Parker Dam,Lak 98.07 46 ⇓P P 00 40 17.1 -0.7
baz=98
X13A Yucca 98.09 46 ⇑P P 00 40 18.3 +0.4
baz=98
Y12C Blythe 98.16 47 ⇓P P 00 40 15.3 -2.9
baz=98
W14A Seligman 98.17 45 ⇑P P 00 40 16.5 -1.8
baz=98
GLA Glamis 98.39 47 eP P 00 40 19.6 +0.4
comp=Z,17nm,1.1s,mb5.5
GLA LR LR
comp=Z,3μm,21.0s,MS5.7
GLA Glamis 98.39 47 eP P 00 40 19.6 +0.3
GLA pmax pmax
comp=Z,17nm,1.1s,mb5.5
GLA MLR MLR
comp=Z,3μm,21.0s,MS5.7
GLA Glamis 98.39 47 ⇑P P 00 40 18.0 -1.2
baz=98
Y13A Salome 98.57 46 ⇓P P 00 40 19.9 -0.1
baz=98
W15A Williams 98.71 44 ⇑P P 00 40 18.8 -1.8
baz=98
X14A Yava 98.77 45 ⇓P P 00 40 21.9 +1.0
baz=98
Y14A Wickenburg 99.03 46 ⇓P P 00 40 19.7 -2.4
baz=99
WUAZ Wupatki 99.05 44 eP P 00 40 22.1 -0.1
comp=Z,7.4nm,1.0s,mb5.2
WUAZ LR LR
comp=Z,3μm,20.0s,MS5.8
X15A Humboldt 99.17 45 P P 00 40 24.1 +1.3
baz=99,SNR=5.9
SCHQ Schefferville 99.18 7 PFAKE 00 40 30.0 +7.7
SCHQ LR LR
comp=Z,15μm,20.0s,MS6.5
SCHQ Schefferville 99.18 7 S SKSac 00 50 57.3 -1.1
comp=Z,2.1nm,0.9s,baz=30,slow=12,SNR=2.2
SCHQ LR LR 01 29 48.5
comp=Z,13μm,18.3s,MS6.5,baz=350,slow=38
SMCO Snowmass 99.21 38 eP P 00 40 23.7 +0.9
comp=Z,95nm,2.3s,mb5.9
Z14A Wintersburg 99.43 46 ⇓P P 00 40 24.3 +0.4
baz=99
Y15A Casa Rosa Ranc 99.45 45 ⇑P P 00 40 22.7 -1.3
baz=99
PBRG Braganca 99.45 326 ePP PP 00 44 27.8 +1.2
ESDC Sonseca Array 99.51 323 P P 00 40 22.6 -1.5
comp=Z,2.3nm,0.9s,baz=31,slow=7.3,SNR=5.4
ESDC PP PP 00 44 21.2 -5.9
comp=Z,1.4nm,0.8s,baz=47,slow=8.4,SNR=4.4
ESDC LR LR 01 31 58.1
comp=Z,16μm,19.0s,baz=45,slow=39
ISCO Idaho Springs 99.53 37 eP P 00 40 22.5 -1.7
ISCO LR LR
comp=Z,5μm,20.0s,MS6.0
MVCO Mesa Verde 99.68 41 PFAKE 00 40 40.0 +15
MVCO LR LR
comp=Z,4μm,21.0s,MS5.9
MVCO Mesa Verde 99.68 41 ⇑P Pdif 00 40 24.7 +0.1
baz=99
EYMN Ely 99.68 24 PFAKE 00 40 40.0 +15
EYMN LR LR
comp=Z,8μm,22.0s,MS6.2
X16A Lo Mia Camp, P 99.72 44 ⇑P Pdif 00 40 25.0 +0.1
baz=99
PAB San Pablo 99.81 323 PFAKE 00 40 40.0 +15
PAB LR LR
comp=Z,16μm,21.0s,MS6.5
Y16A Circle Bar Ran 100.04 45 ⇓P Pdif 00 40 24.2 -2.1
baz=100
MVO Moncorvo 100.07 325 ePdif Pdif 00 40 29.4 +3.0
MVO Moncorvo 100.07 325 ePP PP 00 44 34.0 +2.7
MVO eP 00 53 37.3
MVO Moncorvo 100.07 325 eLR LR 01 15 09.8
comp=Z,21μm,18.0s
115A Sonoran Desert 100.31 46 ⇑P Pdif 00 40 27.1 -0.4
baz=100
PVRL Vila Real 100.33 326 ePP PP 00 44 36.2 +2.9
Z16A Peralta Trail, 100.42 45 ⇓P Pdif 00 40 26.4 -1.5
baz=100
PVIS Viseu 100.84 326 ePP PP 00 44 40.2 +3.0
MTE Manteigas 100.89 325 ePdif Pdif 00 40 32.9 +2.8
MTE Manteigas 100.89 325 ePP PP 00 44 39.0 +1.4
MTE eP 00 53 48.3
MTE Manteigas 100.89 325 eLR LR 01 15 20.0
comp=Z,17μm,22.0s
SDCO Great Sand Dun 101.03 39 ePdif Pdif 00 40 31.2 +0.5
SDCO LR LR
comp=Z,5μm,19.0s,MS6.0
ECSD EROS,Sioux Fal 101.04 29 ePdif Pdif 00 40 30.0 -0.7
comp=Z,9.1nm,1.1s
ECSD LR LR
comp=Z,7μm,19.0s,MS6.2
PCBR Castelo Branco 101.27 325 ePdif Pdif 00 40 34.4 +2.7
PCBR Castelo Branco 101.27 325 ePP PP 00 44 43.2 +2.8
217A Green Valley 101.82 46 ⇑P Pdif 00 40 33.2 -0.9
baz=102
PTOM Tomar 101.92 325 ePP PP 00 44 48.4 +3.1
PESTR Estremoz 102.04 324 ePdif Pdif 00 40 38.0 +2.8
PESTR Estremoz 102.04 324 ePP PP 00 44 48.0 +1.7
PESTR eSKS 00 51 19.8
PESTR eP 00 53 58.2
PESTR Estremoz 102.04 324 eLR LR 01 16 07.3
comp=Z,16μm,20.0s
COWI Conover 102.11 24 PFAKE 00 40 50.0 +15
COWI LR LR
comp=Z,11μm,20.0s,MS6.4
119A Ashpeak Ranch, 102.15 45 ⇓P Pdif 00 40 36.3 +0.7
baz=102
PBAR Barrancos 102.25 323 ePdif Pdif 00 40 39.5 +3.4
PBAR Barrancos 102.25 323 ePP PP 00 44 49.0 +1.1
PBAR eP 00 53 55.5
PBAR Barrancos 102.25 323 eLR LR 01 16 08.5
comp=Z,19μm,18.0s
ANMO Albuquerque 102.42 41 ePdif Pdif 00 40 36.1 -0.8

ANMO LR LR
comp=Z,5μm,20.0s,MS6.0
EVO Evora 102.51 324 eP Pdif 00 40 36.6 -0.7
comp=Z,18nm,1.2s
EVO eMLR MLR
comp=Z,21μm,22.5s,MS6.3
EVO Evora 102.51 324 ePdif Pdif 00 40 39.7 +2.4
EVO Evora 102.51 324 ePP PP 00 44 51.4 +1.6
318A Bisbee 102.58 46 ⇓P Pdif 00 40 37.1 -0.4
baz=102
LSZ Lusaka 102.58 259 ePdif Pdif 00 40 37.1 -0.4
comp=Z,9.4nm,0.8s
LSZ LR LR
comp=Z,4μm,22.0s,MS5.9
LSZ Lusaka 102.58 259 eP Pdif 00 40 37.1 -0.5
LSZ pmax pmax
comp=Z,9.0nm,0.8s
LSZ MLR MLR
comp=Z,4μm,22.0s,MS5.9
219A White Tail Can 102.68 45 ⇑P Pdif 00 40 37.0 -1.0
baz=102
PBEJ Beja 102.81 324 ePdif Pdif 00 40 42.6 +4.0
PBEJ Beja 102.81 324 ePP PP 00 44 56.1 +4.1
PMAFR Mafra 102.86 325 ePdif Pdif 00 40 39.7 +0.9
PMAFR Mafra 102.86 325 ePP PP 00 44 53.6 +1.2
PMAFR eSKS 00 51 21.5
PMAFR eP 00 53 59.0
PMAFR Mafra 102.86 325 eLR LR 01 16 30.7
comp=Z,23μm,20.0s
319A Douglas 103.08 46 ⇓P Pdif 00 40 39.9 +0.1
baz=103
PVAQ Vaqueiros 103.19 323 ePdif Pdif 00 40 41.7 +1.5
PVAQ Vaqueiros 103.19 323 ePP PP 00 44 56.3 +1.4
PVAQ eSKS 00 51 21.6
PVAQ eP 00 54 08.6
PVAQ Vaqueiros 103.19 323 eLR LR 01 16 45.2
comp=Z,14μm,16.0s
CBKS Cedar Bluff 103.35 34 PFAKE 00 40 50.0 +9.0
CBKS LR LR
comp=Z,8μm,19.0s,MS6.2
PBDV Barranco-do-Ve 103.42 323 ePdif Pdif 00 40 43.0 +1.7
PBDV Barranco-do-Ve 103.42 323 ePP PP 00 44 58.7 +2.1
PBDV eSKS 00 51 23.4
PBDV eP 00 54 11.8
PBDV Barranco-do-Ve 103.42 323 eLR LR 01 16 59.9
comp=Z,17μm,18.0s
PTEO Sao Teotonio 103.62 324 ePdif Pdif 00 40 45.4 +3.2
PTEO Sao Teotonio 103.62 324 ePP PP 00 45 01.1 +3.0
MAW Mawson 103.70 200 PFAKE 00 40 50.0 +7.5
MAW LR LR
comp=Z,5μm,21.0s,MS6.0
MAW Mawson 103.70 200 Sdiff SKSac 00 51 18.4 -0.6
comp=Z,2.1nm,1.0s,baz=4.2,slow=6.2,SNR=2.6
MORF Marmelete 103.76 324 ePdif Pdif 00 40 44.9 +2.1
MORF Marmelete 103.76 324 ePP PP 00 45 01.2 +2.0
MORF eSKS 00 51 26.4
MORF eP 00 54 16.9
MORF Marmelete 103.76 324 eLR LR 01 19 40.2
comp=Z,15μm,18.0s
JFWS Jewell Farm 104.39 26 PFAKE 00 41 00.0 +14
JFWS LR LR
comp=Z,7μm,22.0s,MS6.2
KSU1 Kansas State U 104.69 32 PFAKE 00 41 00.0 +13
KSU1 LR LR
comp=Z,4μm,20.0s,MS6.0
GLMI Grayling 104.78 21 PFAKE 00 41 00.0 +13
GLMI LR LR
comp=Z,7μm,21.0s,MS6.2
AMTX Amarillo 105.23 38 PFAKE 00 45 20.0 +16
AMTX LR LR
comp=Z,4μm,19.0s,MS6.0
VNDA Vanda 105.25 172 Pdif Pdif 00 40 53.2 +3.8
VNDA PKPdf PKiKP 00 45 02.6 +0.1
VNDA PKKPbc PKKPbc 00 56 29.5 -1.8
VNDA LR LR
comp=Z,7μm,20.0s,MS6.2
VNDA Vanda 105.25 172 Pdiff Pdif 00 40 53.2 +3.8
comp=Z,1.3nm,0.9s,baz=303,slow=4.7,SNR=5.7
VNDA PKiKP PKiKP 00 45 02.6 +0.1
comp=Z,1.1nm,0.9s,baz=302,slow=6.2,SNR=2.3
VNDA PKKPbc PKKPbc 00 56 29.5 -1.8
comp=Z,2.9nm,0.9s,baz=160,slow=3.0,SNR=4.0
MNTX Cornudas Mount 105.32 43 PFAKE 00 45 20.0 +16
MNTX LR LR
comp=Z,4μm,19.0s,MS6.0
SBA Scott Base 106.14 172 PFAKE 00 45 20.0 +16
SBA LR LR
comp=Z,3μm,22.0s,MS5.8
HDIL Hopedale 106.76 27 PFAKE 00 45 20.0 +14
HDIL LR LR
comp=Z,8μm,20.0s,MS6.2
WMOK Wichita Mounta 106.93 37 PFAKE 00 45 20.0 +13
WMOK LR LR
comp=Z,5μm,21.0s,MS6.1
AAM Ann Arbor 107.34 22 PFAKE 00 45 20.0 +12
AAM LR LR
comp=Z,8μm,19.0s,MS6.3
LONY Lake Ozonia 107.78 15 PFAKE 00 45 20.0 +12
LONY LR LR
comp=Z,9μm,20.0s,MS6.3
LTX Lajitas 108.02 44 PFAKE 00 45 20.0 +11
LTX LR LR
comp=Z,399nm,20.0s,MS5.0
TXAR Lajitas Array 108.02 44 Pdif Pdif 00 41 03.5 +1.7
TXAR PKPdf PKiKP 00 45 08.9 -0.2
TXAR PP PP 00 45 25.6 -5.3
TXAR PKKPbc PKKPbc 00 56 22.6 +1.4
TXAR Lajitas Array 108.02 44 Pdiff Pdif 00 41 03.5 +1.7
comp=Z,0.6nm,0.8s,baz=224,slow=3.8,SNR=2.5
TXAR PKiKP PKiKP 00 45 08.9 -0.2
comp=Z,1.2nm,0.7s,baz=181,slow=0.8,SNR=7.6
TXAR PP PP 00 45 25.6 -5.3
comp=Z,2.1nm,1.0s,baz=288,slow=1.2,SNR=4.4
TXAR PKKPbc PKKPbc 00 56 22.6 +1.4
comp=Z,0.6nm,0.8s,baz=133,slow=7.0,SNR=4.7
CCM Cathedral Cave 108.02 29 PFAKE 00 45 20.0 +11
CCM LR LR
comp=Z,8μm,19.0s,MS6.3
RKT Rikitea 108.13 107 ePS PS 00 54 55.8 -1.1
comp=Z,2μm,36.2s
RKT eSS SS 01 00 48.7 +3.5
comp=Z,1μm,32.5s
RKT Rikitea 108.13 107 eLQ 01 12 10.7
comp=Z,7μm,33.2s
RKT eLR LR 01 16 52.0
comp=Z,10μm,34.8s,baz=299
PKME Peaks-Kenny Pk 108.20 11 PFAKE 00 45 20.0 +11
PKME LR LR
comp=Z,15μm,21.0s,MS6.5
LBTB Lobatse 108.45 251 PKPdf PKiKP 00 45 09.6 -0.3
LBTB LR LR
comp=Z,4μm,19.0s,MS6.0
LBTB Lobatse 108.45 251 PKiKP PKiKP 00 45 09.6 -0.3
comp=Z,3.3nm,0.8s,baz=105,slow=7.0,SNR=4.3
NCB Newcomb 108.47 15 PFAKE 00 45 20.0 +10
NCB LR LR
comp=Z,8μm,21.0s,MS6.3
ERPA Erie 108.68 19 PFAKE 00 45 20.0 +10
ERPA LR LR
comp=Z,14μm,20.0s,MS6.5
LBNH Lisbon 108.71 13 PFAKE 00 45 20.0 +10
LBNH LR LR
comp=Z,13μm,21.0s,MS6.5
ACSO Alum Creek Sta 109.42 22 PFAKE 00 45 20.0 +8.5
ACSO LR LR
comp=Z,6μm,21.0s,MS6.2
JCT Junction City 109.53 40 PFAKE 00 45 20.0 +8.0
JCT LR LR
comp=Z,4μm,20.0s,MS6.0
BINY Binghamton 109.72 17 PFAKE 00 45 20.0 +8.0
BINY LR LR
comp=Z,10μm,21.0s,MS6.4
MIAR Mount Ida 109.78 33 PFAKE 00 45 20.0 +7.7
MIAR LR LR
comp=Z,5μm,19.0s,MS6.1
WCI Wyandotte Cave 109.95 26 PFAKE 00 45 20.0 +7.5
WCI LR LR
comp=Z,10μm,20.0s,MS6.4
HRV Adam Dziewonsk 110.45 13 PFAKE 00 45 20.0 +6.7
HRV LR LR
comp=Z,7μm,20.0s,MS6.2
WES Weston 110.61 13 PFAKE 00 45 20.0 +6.3
WES LR LR
comp=Z,6μm,20.0s,MS6.2
SSPA Standing Stone 110.66 19 PFAKE 00 45 30.0 +16

SSPA LR LR
comp=Z,7μm,19.0s,MS6.3
MCWV Mont Chateau 110.97 20 PFAKE 00 45 30.0 +16
MCWV LR LR
comp=Z,15μm,20.0s,MS6.6
WVT Waverly 111.12 28 PFAKE 00 45 30.0 +15
WVT LR LR
comp=Z,6μm,20.0s,MS6.2
CMLA Cha da Macela 111.14 335 PFAKE 00 45 30.0 +15
CMLA LR LR
comp=Z,9μm,22.0s,MS6.3
NATX Nacogdoches 111.42 36 PFAKE 00 45 30.0 +15
NATX LR LR
comp=Z,6μm,19.0s,MS6.2
PLAL Pickwick Lake 111.98 29 PFAKE 00 45 30.0 +14
PLAL LR LR
comp=Z,8μm,20.0s,MS6.3
HKT Hockley 112.19 38 PFAKE 00 45 30.0 +13
HKT LR LR
comp=Z,5μm,20.0s,MS6.1
TZTN Tazewell 112.48 25 PFAKE 00 45 30.0 +13
TZTN LR LR
comp=Z,19μm,21.0s,MS6.7
TOA0 Torodi Ar. Sit 112.76 298 *e*PKiKP PKiKP 00 45 16.8 -1.6
TORD Torodi Ar. Bea 112.76 298 PKPdf PKiKP 00 45 17.4 -1.0
TORD PP PP 00 45 56.6 -9.2
TORD PKKPbc PKKPbc 00 56 04.0 -1.5
TORD Torodi Ar. Bea 112.76 298 PKiKP PKiKP 00 45 17.4 -1.0
comp=Z,4.1nm,0.7s,baz=42,slow=1.7,SNR=20
TORD PP PP 00 45 56.6 -9.2
comp=Z,4.9nm,0.8s,baz=59,slow=4.9,SNR=7.6
TORD PKKPbc PKKPbc 00 56 04.0 -1.5
comp=Z,1.3nm,0.9s,baz=259,slow=3.4,SNR=6.1
KVTX Kingsville 112.82 41 PFAKE 00 45 30.0 +12
KVTX LR LR
comp=Z,4μm,19.0s,MS6.1
PTCN Pitcairn Islan 112.98 108 PFAKE 00 45 30.0 +11
PTCN LR LR
comp=Z,4μm,21.0s,MS6.0
BLA Blacksburg 113.00 22 PFAKE 00 45 30.0 +12
BLA LR LR
comp=Z,13μm,20.0s,MS6.5
CBN Corbin 113.06 19 PFAKE 00 45 30.0 +12
CBN LR LR
comp=Z,10μm,19.0s,MS6.4
TSUM Tsumeb 113.44 259 PFAKE 00 45 30.0 +10
TSUM LR LR
comp=Z,4μm,19.0s,MS6.0
LRAL Lakeview Retre 114.11 29 *e*PKiKP PKiKP 00 45 20.1 -0.5
LRAL LR LR
comp=Z,6μm,21.0s,MS6.2
SUR Sutherland 114.72 245 PFAKE 00 45 30.0 +8.4
SUR LR LR
comp=Z,4μm,20.0s,MS6.0
GOGA Godfrey 115.27 26 PFAKE 00 45 30.0 +7.2
GOGA LR LR
comp=Z,11μm,20.0s,MS6.4
QSPA South Pole Qui 115.44 180 *e*PKPdf PKPdf 00 45 21.0 -0.6
QSPA *e*PP PP 00 46 23.5 -0.2
QSPA LR LR
comp=Z,9μm,21.0s,MS6.4
QSPA South Pole Qui 115.44 180 PKP PKPdf 00 45 21.1 -0.5
comp=Z,3.8nm,0.8s,baz=306,slow=3.3,SNR=13
QSPA PP PP 00 46 23.2 -0.6
comp=Z,10nm,0.9s,baz=348,slow=3.2,SNR=5.6
BRAL Brewton 115.79 31 PFAKE 00 45 40.0 +16
BRAL LR LR
comp=Z,7μm,20.0s,MS6.3
NHSC New Hope 116.79 24 PFAKE 00 45 40.0 +14
NHSC LR LR
comp=Z,8μm,19.0s,MS6.4
DWPF Disney 120.75 27 PFAKE 00 45 40.0 +6.5
DWPF LR LR
comp=Z,7μm,20.0s,MS6.3
MAIT Maitri 121.67 201 *e*PKP PKPdf 00 45 29.5 -4.3
DBIC Dimbokro 121.75 296 PKP PKPdf 00 45 34.5 -1.2
comp=Z,17nm,0.8s,baz=28,slow=2.3,SNR=20
LIC Lamto 122.14 296 *e*PKIKP PKPdf 00 45 35.0 -1.5
comp=Z,54nm,0.9s
LIC *e*MLR MLR
comp=Z,9μm,18.8s,MS6.2
LIC Lamto 122.14 296 *e*PKPdf PKPdf 00 45 35.0 -1.5
LIC LR LR
comp=Z,5μm,18.8s,MS6.2
CMIG Matias Romero 122.37 47 PKP PKPdf 00 45 35.8 -1.0
comp=Z,7.8nm,0.7s,baz=294,slow=4.3,SNR=8.1
TEIG Tepich 124.03 39 PFAKE 00 45 50.0 +10
TEIG LR LR
comp=Z,5μm,19.0s,MS6.2
SNAA Sanae 125.75 198 PKP PKPdf 00 45 40.8 -0.8
comp=Z,0.9nm,0.8s,baz=339,slow=11,SNR=6.7
VNA2 Neumayer--Watz 127.39 198 *e*PKPdf PKPdf 00 45 47.1 +2.3
baz=70,slow=1.4
VNA2 *e* 00 45 50.5
VNA2 *e* 00 45 56.0
VNA2 *e* 00 45 59.1
VNA2 *e* 00 46 03.2
VNA1 Neumayer--Stat 127.78 198 *e*PKPdf PKPdf 00 45 49.2 +3.7
VNA1 *e* 00 45 52.1
VNA1 *e* 00 45 56.3
VNA1 *e* 00 45 59.4
VNA1 *e* 00 46 04.5
TGUH Tegucigalpa,Un 129.47 42 PFAKE 00 46 00.0 +10
TGUH LR LR
comp=Z,3μm,21.0s,MS6.0
SDDR Presa de Saban 132.84 21 PFAKE 00 46 10.0 +13
SDDR LR LR
comp=Z,6μm,20.0s,MS6.3
JTS JuntasAbangare 133.81 43 PFAKE 00 46 10.0 +11
JTS LR LR
comp=Z,4μm,22.0s,MS6.1
SJG San Juan 135.13 15 PFAKE 00 46 10.0 +8.9
SJG LR LR
comp=Z,6μm,21.0s,MS6.3
ASCN Ascension 137.61 287 PFAKE 00 46 20.0 +14
ASCN LR LR
comp=Z,3μm,19.0s,MS6.1
BCIP Isla Barro Col 137.71 38 *e*PKPdf PKPdf 00 46 05.6 -0.4
BCIP LR LR
comp=Z,6μm,22.0s,MS6.3
PMSA Palmer Station 140.44 174 PFAKE 00 46 20.0 +11
PMSA LR LR
comp=Z,4μm,21.0s,MS6.1
BBGH Gun Hill 141.16 7 PFAKE 00 46 20.0 +7.8
BBGH LR LR
comp=Z,8μm,22.0s,MS6.4
GRGR Grenville 141.86 11 PFAKE 00 46 30.0 +17
GRGR LR LR
comp=Z,4μm,21.0s,MS6.1
SDV Santo Domingo 142.39 26 *e*PKPdf PKPdf 00 46 09.7 -4.8
SDV LR LR
comp=Z,1μm,20.0s,MS5.7
ROSC El Rosal 144.27 35 PKP PKPdf 00 46 16.7 -1.1
comp=Z,50nm,0.9s,baz=91,slow=6.0,SNR=24
USHA Ushuaia 149.20 165 PKPbc PKPbc 00 46 26.5 -2.5
comp=Z,21nm,0.9s,baz=261,slow=4.0,SNR=1.7
ATAH Atahualpa 150.88 54 PKP PKPdf 00 46 30.4 +1.6
comp=Z,6.9nm,0.9s,baz=314,slow=21,SNR=6.4
ATAH PKPbc PKPbc 00 46 36.3 +1.9
comp=Z,47nm,0.8s,baz=336,slow=1.8,SNR=22
RCBR Riachuelo 153.19 314 *e*PKPbc PKPbc 00 46 39.6 0.0
RCBR LR LR
comp=Z,6μm,20.0s,MS6.4
EFI East Falkland 153.91 175 PFAKE 00 46 40.0 +8.0
EFI LR LR
comp=Z,5μm,21.0s,MS6.3
NNA Nana 155.22 61 *e*PKPdf PKPdf 00 46 35.5 +0.5
NNA LR LR
comp=Z,3μm,21.0s,MS6.1
PLCA Paso Flores 160.10 143 PKP PKPdf 00 46 41.4 +1.1
PLCA PKPab PKPab 00 47 20.4 +0.2
PLCA LR LR
comp=Z,6μm,20.0s
PLCA Paso Flores 160.10 143 PKP PKPdf 00 46 41.4 +1.1
comp=Z,1.4nm,0.7s,baz=150,slow=13,SNR=3.2
PLCA PKPab PKPab 00 47 20.4 +0.2
comp=Z,6.1nm,0.9s,baz=286,slow=8.1,SNR=3.1
LPAZ La Paz 164.52 56 *e*PKPdf PKPdf 00 46 46.8 +1.4
LPAZ LR LR
comp=Z,4μm,20.0s
LPAZ La Paz 164.52 56 PKP PKPdf 00 46 47.1 +1.8
comp=Z,9.0nm,1.2s,baz=10,slow=4.4,SNR=15
LCO Las Campanas 165.55 107 PFAKE 00 47 00.0 +14
LCO LR LR
comp=Z,5μm,20.0s
TRQA Tornquist 166.26 156 PFAKE 00 47 00.0 +14
TRQA LR LR
comp=Z,6μm,19.0s
CFAA Coronel Fontan 166.87 120 PKP PKPdf 00 46 46.9 0.0
CFAA PKPab PKPab 00 47 50.4 +0.1
CFAA Coronel Fontan 166.87 120 PKP PKPdf 00 46 46.9 +0.1
comp=Z,0.7nm,1.1s,baz=177,slow=3.2,SNR=2.3
CFAA PKPab PKPab 00 47 50.4 +0.1
comp=Z,1.0nm,0.8s,baz=257,slow=6.5,SNR=3.4
BDFB Brasília 168.14 326 PKP PKPdf 00 46 47.9 -0.3
comp=Z,3.0nm,1.1s,baz=351,slow=13,SNR=4.9
BDFB PKPab PKPab 00 47 55.5 -0.6
comp=Z,3.0nm,0.8s,baz=346,slow=26,SNR=2.0
SIV San Ignacio 168.78 32 PKP PKPdf 00 46 48.6 0.0
comp=Z,5.4nm,0.8s,baz=115,slow=0.7,SNR=18
SIV PKPab PKPab 00 47 58.1 -0.8
comp=Z,12nm,1.1s,baz=353,slow=4.1,SNR=5.2
LPA La Plata 170.42 165 *de*PKP PKPdf 00 46 50.0 +0.9
LPA *es*PKP 00 48 10.0
LPA *e*PP PP 00 51 53.0 -2.0
LPA
comp=Z,9μm,22.0s

NIED ***20*** *00:30:00,2570N×125.20E,h5km,Mw5.6 Best double couple: M0=3.27000×10^17 NP1:φ=223.00000°, δ=58.00000°, λ=-126.00000°. NP2:φ=97.00000°, δ=46.00000°, λ=-46.00000°.*
IDC ***20*** *00:30:57.4±0.4,2571N×125.16E,h0km,mb5.0/24, mb1 5.1/27,mb1mx5.0/30,mbtmp5.0/27,ML4.8/2,Error ellipse: s-maj=16.0km s-min=11.4km az=75.0*
NEIC ***20*** *00:30:60.0±0.1,2573N×125.15E,h10km,mb5.6/61, MW5.6(NIED),Error ellipse: s-maj=4.7km s-min=4.1km az=147.0*
JMA ***20*** *00:30:59.1±0.4,2575N×125.19E,h15km±4km,M5.5*
JMA Felt II J1.
ISCJB ***20*** *00:31:00.8±0.6,2567N±002×125.12E±002,h23km±4km, mb5.4/109,MS6.0/53,Error ellipse: s-maj=4.0km s-min=3.0km az=161.3*
GCMT ***20*** *00:31:00.0±0.2,2568N×125.17E,h21km,MW5.7/91, Moment Tensor Solution. s30,c43; s91,c205; Duration: 1s8 Moment tensor: Scale 10^17Nm; Mrr-4.12±.28; Mθθ4.96±.18; Mφφ-0.83±.15; Mrθ1.20±.26; Mφφ2.27±.09; Mφr0.31±.31; Best double couple: M0:5.08600×10^17 NP1:φs69.00000°, δ38.00000°, λ-93.00000°. NP2: φs-253.00000°, δ52.00000°, λ-87.00000°. Principal axes: T 5.8960, Plg7.0000°, Azm341.0000°; N -1.6170, Plg2.0000°, Azm71.0000°; P -4.2760, Plg83.0000°, Azm177.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
BJI ***20*** *00:31:00.5,2572N×125.14E,h11km,mB5.8,mb5.3,ML5.7, Ms6.1,Ms25.9*
SZGRF ***20*** *00:31:01.2,25.16N×124.94E,h33km,mb5.5,Northeast of Taiwan*
MOS ***20*** *00:31:01.7±0.9,2568N×125.15E,h33km,mb5.5/30, MS6.0/8,Error ellipse: s-maj=10.6km s-min=5.5km az=114.7*

ISC 20 00:31:01.6±1.1,2568N±002×12514E±002,h19km±6km, h40km±5.7km:pP-P,n607,σ0s87/584,mb5.4/109,MS6.0/53, 132C-119D,Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMJ	**Miyako jima 2**	**0.87**	**171**	P	**Pb**	**00 31 16.4**	**-1.7**
JMJ				*e*S	**Sb**	**00 31 29.0**	**-0.3**
JOGS	**Gusukube**	**0.94**	**165**	P	**Pb**	**00 31 17.8**	**-1.6**
JOGS				*e*S	**Sb**	**00 31 31.0**	**-0.5**
JTJ	**Tarama**	**1.11**	**201**	P	**Pn**	**00 31 20.4**	**-1.7**
JIJ	**Ishigaki jima**	**1.59**	**215**	P	**Pn**	**00 31 28.0**	**-0.8**
JIJ				*e*S	**Sn**	**00 31 48.5**	**-0.3**
JKE	**Kume jima 2**	**1.61**	**66**	P	**Pn**	**00 31 26.2**	**-2.8**
JKE				*e*S	**Sn**	**00 31 44.8**	**-4.5**
JKRS	**Kuro-shima**	**1.77**	**216**	P	**Pn**	**00 31 31.8**	**+0.7**
JKRS				*e*S	**Sn**	**00 31 55.4**	**+2.3**
IRIF	**Iriomote-Funau**	**1.85**	**224**	P	**Pn**	**00 31 31.9**	**-0.4**
HATJ	**Hateruma jima**	**2.02**	**217**	P	**Pn**	**00 31 36.6**	**+1.9**
JAGN	**Aguni-jima**	**2.09**	**64**	P	**Pn**	**00 31 36.6**	**+0.9**
NAH1	**Naha**	**2.35**	**77**	P	**Pn**	**00 31 38.7**	**-0.5**
NAH1				*e*S	**Sn**	**00 32 07.6**	**0.0**
JJT2	**Tamagusuku 2**	**2.39**	**78**	P	**Pn**	**00 31 38.8**	**-0.9**
JIH	**Iheya**	**2.87**	**61**	P	**Pn**	**00 31 46.4**	**0.0**
JIH				*e*S	**Sn**	**00 32 21.5**	**+1.1**
JOW	**Kunigami**	**3.04**	**67**	P	**Pn**	**00 31 48.1**	**-0.5**
JOW				*e*S	**Sn**	**00 32 23.9**	**-0.6**
JOW	**Kunigami**	**3.04**	**67**	Pn	**Pn**	**00 31 47.5**	**-1.1**
	382nm,0.3s,baz=239,slow=9.4,SNR=16						
JOW				Sn	**Sn**	**00 32 23.1**	**-1.4**
	266nm,0.3s,baz=222,slow=27,SNR=5.5						
NACB	**Ninganchiao**	**3.55**	**246**	Pn	**Pn**	**00 31 56.8**	**+1.0**
YHNB	**Yeheng**	**3.56**	**254**	Pn	**Pn**	**00 31 57.4**	**+1.6**
JTK	**Tokunoshima**	**4.00**	**57**	P	**Pn**	**00 32 01.2**	**-0.7**
JAM	**Amami Oshima**	**4.82**	**55**	P	**Pn**	**00 32 13.0**	**-0.2**
JNN	**Nakanoshima**	**5.90**	**44**	P	**Pn**	**00 32 31.2**	**+3.3**
NJ2	**Nanjing**	**8.41**	**320**	*e*P	**Pn**	**00 33 05.0**	**+2.6**
NJ2				AP		00 33 09.0	
NJ2				XP		00 33 11.9	
NJ2				S	**Sn**	**00 34 40.3**	**+3.5**
NJ2				XS		00 34 44.4	
NJ2				Smax			
	comp=N,3μm,1.0s						
NJ2				Smax			
	comp=E,2μm,1.0s						
NJ2				LR	LR		
	comp=Z,139μm,17.1s						
JNU	**Nakatsue**	**8.94**	**33**	Pn	**Pn**	**00 33 11.5**	**+1.7**
	comp=Z,4.0nm,0.3s,baz=165,slow=17,SNR=8.4						
ENH	**Enshi**	**14.57**	**292**	Pn	**Pn**	**00 34 33.3**	**+6.5**
CBIJ	**Chichi jima**	**15.34**	**81**	Pn	**Pn**	**00 34 35.5**	**-1.6**
	comp=Z,11nm,0.3s,baz=210,slow=4.6,SNR=5.8						
MAJO	**Matsushiro**	**15.55**	**43**	*e*P	**Pn**	**00 34 45.4**	**+5.5**
MAT	**Matsushiro**	**15.55**	**43**	P	**Pn**	**00 34 40.7**	**+0.9**
MJAR	**Matsushiro Arr**	**15.55**	**43**	Pn	**Pn**	**00 34 37.0**	**-2.8**
	comp=Z,0.1nm,0.3s,baz=238,slow=13,SNR=2.7						
QIZ	**Qiongzhong**	**15.62**	**248**	P	**Pn**	**00 34 44.5**	**+3.8**
QIZ				*e*S	**Sn**	**00 37 40.4**	**+7.0**
QIZ				AMB	AMB		
	comp=Z,146nm,1.4s						
TBP	**Tagbilaran**	**15.95**	**185**	*e*P	**Pn**	**00 34 51.5**	**+6.4**
TIY	**Taiyuan**	**16.13**	**321**	P	**Pn**	**00 34 50.9**	**+3.6**
TIY				S	**Sn**	**00 37 50.4**	**+4.7**
TIY				LR	LR		
	comp=Z,23μm,11.3s						
GYA	**Guiyang**	**16.62**	**277**	⇑*i*P	**Pn**	**00 34 54.3**	**+0.6**
GYA				AP	pP	00 34 58.4	-3.0
GYA				XP	sP	00 35 01.3	-2.6
GYA				PP		00 35 09.6	
GYA				S	**Sn**	**00 38 01.3**	**+3.5**
GYA				AMB	AMB		
	comp=Z,120nm,1.3s						
GYA				AMB	AMB		
	comp=Z,2μm,5.2s						
GYA				LR	LR		
	comp=N,35μm,12.1s						
GYA				LR	LR		
	comp=E,42μm,12.1s						
GYA				LR	LR		
	comp=Z,37μm,12.9s						
CN2	**Changchun**	**18.08**	**1**	⇑P	**Pn**	**00 35 14.9**	**+3.2**
CN2				*e*S	**Sn**	**00 38 31.6**	**-1.3**
CN2				AMB	AMB		
	comp=Z,20nm,1.3s						
CN2				LR	LR		
	comp=N,54μm,13.0s						
CN2				LR	LR		
	comp=E,47μm,13.0s						
CN2				LR	LR		
	comp=Z,45μm,14.0s						
VLA	**Vladivostok**	**18.26**	**16**	⇓*e*P	**Pn**	**00 35 17.1**	**+3.3**
VLA				pmax	pmax		
	comp=Z,69nm,1.3s						
HHC	**Hu-ho-hao-te**	**18.88**	**327**	*e*P	**Pn**	**00 35 23.0**	**+1.6**
HHC				AP	pP	00 35 26.8	+0.6
HHC				XP	sP	00 35 30.3	+1.6
HHC				PP		00 35 38.9	
HHC				S	**Sn**	**00 38 50.6**	**-1.6**
HHC				XS	sS	00 38 57.6	-5.7
HHC				SS		00 39 15.5	
HHC				AMB	AMB		
	comp=Z,181nm,1.1s						
HHC				LR	LR		
	comp=N,14μm,8.8s						
HHC				LR	LR		
	comp=E,19μm,10.4s						
HHC				LR	LR		
	comp=Z,13μm,10.4s						
MDJ	**Mudanjiang**	**19.24**	**10**	P	**Pn**	**00 35 23.5**	**-2.2**
MDJ				S	**Sn**	**00 38 58.5**	**-2.2**
MDJ				XS	sS	00 39 05.8	-4.6
MDJ				SCP	ScP	00 43 23.5	+1.2
MDJ				AMB	AMB		
	comp=Z,6μm,10.0s						
MDJ				LR	LR		
	comp=Z,49μm,11.6s						
MDJ	**Mudanjiang**	**19.24**	**10**	*e*P	**Pn**	**00 35 25.5**	**-0.2**
CD2	**Chengdu**	**19.53**	**290**	*e*P	**Pn**	**00 35 30.6**	**+1.3**
CD2				PP		00 35 50.1	
CD2				S	**Sn**	**00 39 00.9**	**-7.2**
CD2				SS		00 39 29.8	
CD2				AMB	AMB		
	comp=Z,280nm,1.3s						
KMI	**Kunming**	**20.25**	**273**	P	**P**	**00 35 38.6**	**+2.8**
KMI				AMB	AMB		
	comp=Z,156nm,1.6s						
KMI				LR	LR		
	comp=Z,26μm,10.2s,MS5.9						
KKM	**Kota Kinabalu**	**21.31**	**205**	*e*P	**P**	**00 35 49.1**	**+1.7**
ERM	**Erimo**	**22.05**	**38**	*i*P	**P**	**00 35 55.8**	**+0.7**
GUMO	**Guam**	**22.09**	**119**	*e*P	**P**	**00 35 56.5**	**+0.7**
	comp=Z,430nm,1.1s,mb5.8						
GUMO				LR	LR		
	comp=Z,20μm,20.0s,MS5.5						
GUMO	**Guam**	**22.09**	**119**	P	**P**	**00 35 54.8**	**-1.0**
	comp=Z,99nm,0.8s,mb5.3,baz=336,slow=6.9,SNR=3.4						
HIA	**Hailar**	**23.92**	**351**	⇓*e*P	**P**	**00 36 15.0**	**+0.8**
HABR	**Khabarovsk**	**24.05**	**16**	*e*P	**P**	**00 36 18.2**	**+2.8**
HABR				*e*		00 36 32.9	
HABR				*e*		00 36 49.0	
HABR				*e*		00 39 58.3	
HABR				*e*S	**S**	**00 40 34.1**	**+2.5**
HABR				*e*		00 41 20.5	
HABR				*e*		00 47 14.9	
KLR	**Kul'dur**	**24.07**	**11**	*e*P	**P**	**00 36 19.4**	**+3.8**
GTA	**Gaotai**	**25.26**	**309**	*e*P	**P**	**00 36 27.3**	**+0.7**
GTA				AP	pP	00 36 31.3	-1.1
GTA				XP	sP	00 36 34.3	-0.5
GTA				S	**S**	**00 40 52.5**	**+1.1**
GTA				AMB	AMB		
	comp=Z,113nm,1.3s,mb5.2						
GTA				AMB	AMB		
	comp=Z,2μm,8.8s						
GTA				LR	LR		
	comp=Z,33μm,12.6s,MS6.0						
CM31	**Chiang Mai Arr**	**25.29**	**259**	*e*P	**P**	**00 36 29.1**	**+2.1**
CM31				LR	LR		
	comp=Z,5μm,19.0s,MS5.1						
YSS	**Yuzh-Sakhalins**	**25.43**	**29**	P	**P**	**00 36 28.2**	**+0.2**
YSS				LR	LR		
	comp=Z,31μm,20.0s,MS5.8						
YSS	**Yuzh-Sakhalins**	**25.43**	**29**	*i*P	**P**	**00 36 31.2**	**+3.2**
YSS				pmax	pmax		
	comp=Z,48nm,1.3s,mb4.9						
ULN	**Ulaanbaatar**	**26.34**	**332**	⇓*e*P	**P**	**00 36 37.8**	**+1.6**
SONM	**Songino Array**	**26.60**	**331**	P	**P**	**00 36 38.7**	**+0.1**
	comp=Z,69nm,1.1s,mb5.1,baz=147,slow=7.4,SNR=9.2						
SONM				PcP	PcP	00 40 02.3	-0.1
	comp=Z,11nm,1.1s,baz=159,slow=3.6,SNR=4.2						
KSM	**Kuching**	**27.99**	**213**	*e*P	**P**	**00 36 53.1**	**+1.7**
LSA	**Lhasa**	**30.30**	**285**	PFAKE		00 37 20.0	+8.2
LSA				LR	LR		
	comp=Z,6μm,22.0s,MS5.2						
TLY	**Talaya**	**30.69**	**333**	*e*P	**P**	**00 37 15.1**	**+0.1**
	comp=Z,35nm,1.0s,mb5.1						
TLY				LR	LR		
	comp=Z,69μm,20.0s,MS6.3						
TLY	**Talaya**	**30.69**	**333**	*i*P	**P**	**00 37 15.4**	**+0.5**
TLY				pmax	pmax		
	comp=Z,16nm,2.2s,mb4.5						
KULM	**Kulim**	**31.00**	**233**	*e*P	**P**	**00 37 19.9**	**+1.8**
PSI	**Prapat**	**33.95**	**232**	P	**P**	**00 37 43.3**	**-0.7**
	comp=Z,34nm,0.9s,mb5.3,baz=18,slow=4.6,SNR=7.2						
WMQ	**Urumqi**	**35.33**	**310**	⇑*i*P	**P**	**00 37 56.8**	**+1.3**
WMQ				PP	PP	00 39 18.0	+2.2
WMQ				S	**S**	**00 43 25.0**	**-3.8**
WMQ				AMB	AMB		
	comp=Z,95nm,1.4s,mb5.5						
WMQ				AMB	AMB		
	comp=Z,436nm,4.2s						
WMQ				LR	LR		
	comp=Z,22μm,16.0s,MS6.0						
BATI	**Kupang**	**35.70**	**182**	P	**P**	**00 37 56.4**	**-2.5**
	comp=Z,22nm,0.5s,mb5.4,baz=324,slow=1.7,SNR=3.0						
YAK	**Yakutsk**	**36.47**	**4**	*e*P	pP	00 38 16.6	+5.6
YAK				LR	LR		
	comp=Z,27μm,20.0s,MS6.0						
YAK	**Yakutsk**	**36.47**	**4**	*i*P	**P**	**00 38 06.4**	**+1.3**
YAK				pmax	pmax		
	comp=Z,59nm,1.5s,mb5.3						
PET	**Petropavlovsk**	**37.07**	**34**	*e*P	**P**	**00 38 09.0**	**-1.3**
	comp=Z,112nm,1.6s,mb5.5						
PET				LR	LR		
	comp=Z,25μm,21.0s,MS6.0						
PET	**Petropavlovsk**	**37.07**	**34**	*e*P	**P**	**00 38 08.9**	**-1.4**
PET				pmax	pmax		
	comp=Z,43nm,1.9s,mb5.0						
PET				MLR	MLR		
	comp=Z,16μm,14.0s,MS6.0						
MA2	**Magadan**	**38.27**	**21**	*e*P	**P**	**00 38 20.5**	**+0.1**
MA2				LR	LR		
	comp=Z,16μm,20.0s,MS5.8						
KAKA	**Kakadu**	**38.81**	**169**	*e*P	**P**	**00 38 24.2**	**-1.2**
MK31	**Makanchi Array**	**39.86**	**313**	*i*P	**P**	**00 38 33.0**	**-0.9**
MK31				pmax	pmax		
	comp=Z,221nm,1.2s,mb5.8						
MKAR	**Makanchi Array**	**39.86**	**313**	*i*P	**P**	**00 38 34.5**	**+0.6**
MKAR				pmax	pmax		
	comp=Z,36nm,1.0s						
MKAR	**Makanchi Array**	**39.86**	**313**	P	**P**	**00 38 33.8**	**-0.1**
	comp=Z,36nm,1.0s,mb5.0,baz=100,slow=9.2,SNR=12						
ZAA0	**Zalesovo Array**	**41.04**	**324**	*e*P	**P**	**00 38 42.7**	**-0.8**
ZALV	**Zalesovo Beam**	**41.04**	**324**	P	**P**	**00 38 42.4**	**-1.2**
	comp=Z,13nm,0.5s,mb4.8,baz=115,slow=8.5,SNR=16						
ZAL	**Zalesovo**	**41.05**	**324**	P	**P**	**00 38 42.4**	**-1.2**
SEY	**Seymchan**	**41.39**	**18**	*i*P	**P**	**00 38 47.7**	**+1.4**
KSH	**Kashi**	**43.16**	**301**	*e*P	**P**	**00 39 04.1**	**+3.1**
KSH				*e*PP	PP	00 40 47.8	+6.5
KSH				*e*PCP	PcP	00 40 52.9	+2.4
KSH				*e*SCP	ScP	00 44 38.3	-2.5
KSH				PCS	PcS	00 44 45.6	+2.7
KSH				S	**S**	**00 45 26.5**	**-0.1**
KSH				SS	SS	00 48 31.5	-8.0
KSH				SCS	ScS	00 48 56.3	-4.3
KSH				AMB	AMB		
	comp=Z,364nm,1.0s,mb6.1						
KSH				AMB	AMB		
	comp=Z,2μm,2.8s,mb6.4						
ULHL	**Ulahol**	**43.19**	**305**	P	**P**	**00 39 02.2**	**+1.0**
	SNR=13						
KURK	**Kurchatov**	**43.33**	**318**	*e*P	**P**	**00 39 01.7**	**-0.6**
	comp=Z,341nm,1.2s,mb6.0						
KURK				LR	LR		
	comp=Z,43μm,20.0s,MS6.3						
KURK	**Kurchatov**	**43.33**	**318**	*e*P	**P**	**00 39 01.7**	**-0.6**
KURK				pmax	pmax		
	comp=Z,341nm,1.2s,mb6.0						
KURK				MLR	MLR		
	comp=Z,43μm,20.0s,MS6.3						
FITZ	**Fitzroy Crossi**	**43.52**	**179**	*e*P	**P**	**00 39 02.9**	**-1.1**
	comp=Z,60nm,0.9s,mb5.3						
FITZ	**Fitzroy Crossi**	**43.52**	**179**	*e*P	**P**	**00 39 04.3**	**+0.3**
FITZ	**Fitzroy Crossi**	**43.52**	**179**	P	**P**	**00 39 03.0**	**-1.0**
	comp=Z,20nm,0.9s,mb4.8,baz=10,slow=10,SNR=6.1						
TKM2	**Tokmak 2**	**43.74**	**306**	*e*P	**P**	**00 39 06.1**	**+0.4**
TKM2				LR	LR		
	comp=Z,26μm,20.0s,MS6.1						
TKM2	**Tokmak 2**	**43.74**	**306**	P	**P**	**00 39 06.5**	**+0.8**
	SNR=13						
KZA	**Kyzart**	**43.91**	**305**	P	**P**	**00 39 07.6**	**+0.5**
	SNR=8.6						
HYB	**Hyderabad**	**43.92**	**269**	*e*P	**P**	**00 39 09.0**	**+1.5**
HYB	**Hyderabad**	**43.92**	**269**	*i*P	**P**	**00 39 09.0**	**+1.5**
HYB				*e*S	**S**	**00 45 40.0**	**+1.7**
KBK	**Karagaybulak**	**44.19**	**306**	P	pP	00 39 19.2	+3.9
	SNR=5.7						
CHMS	**Chumysh**	**44.37**	**306**	P	**P**	**00 39 12.6**	**+1.8**

SNR=10
UCH Uchtor 44.46 305 *e*P **P 00 39 12.9 +1.3**
UCH LR LR
comp=Z,38µm,19.0s,MS6.3
UCH Uchtor 44.46 305 P **P 00 39 13.8 +2.2**
SNR=14
AAK Ala-Archa 44.52 306 *e*P **P 00 39 12.4 +0.5**
AAK LR LR
comp=Z,51µm,20.0s,MS6.4
AAK Ala-Archa 44.52 306⇓ *e*P **P 00 39 13.1 +1.2**
AAK pmax pmax
comp=Z,40nm,1.3s,mb5.1
AAK Ala-Archa 44.52 306 P pP 00 39 24.0 +6.1
SNR=7.7
USP Ospenovka 44.58 306 P **P 00 39 12.3 -0.1**
SNR=7.0
EKS2 Erkin-Say 45.05 305 *e*P **P 00 39 16.9 +0.7**
EKS2 *e*PcP PcP 00 40 54.7 -2.1
EKS2 LR LR
comp=Z,41µm,21.0s,MS6.3
AML Almayashu 45.06 305 *e*P **P 00 39 18.1 +1.8**
AML LR LR
comp=Z,36µm,20.0s,MS6.3
AML Almayashu 45.06 305 P **P 00 39 19.4 +3.2**
SNR=5.5
TIXI Tiksi 46.05 2 *e*P **P 00 39 31.6 +7.9**
comp=Z,129nm,1.3s,mb5.7
TIXI Tiksi 46.05 2 *e*P **P 00 39 31.6 +7.9**
TIXI pmax pmax
comp=Z,130nm,1.3s,mb5.7
PALK Pallekele 46.10 255 *e*P **P 00 39 26.9 +2.0**
comp=Z,162nm,2.2s,mb5.6
PALK LR LR
comp=Z,11µm,20.0s,MS5.8
WRAB Tennant Creek 46.21 168 *e*P **P 00 39 25.7 +0.2**
comp=Z,40nm,0.8s,mb5.4
WRAB LR LR
comp=Z,20µm,21.0s,MS6.0
WRAB Tennant Creek 46.21 168 *e*P **P 00 39 25.7 +0.2**
WRAB pmax pmax
comp=Z,40nm,0.8s,mb5.4
WRAB MLR MLR
comp=Z,20µm,21.0s,MS6.0
WRA Warramunga Arr 46.22 168 *i*P **P 00 39 25.2 -0.3**
WRA pmax pmax
comp=Z,19nm,0.6s
WRA Warramunga Arr 46.22 168 P **P 00 39 23.6 -2.0**
comp=Z,19nm,0.6s,mb5.2,baz=350,slow=8.7,SNR=14
WB2 Warramunga Arr 46.22 168 *e*P **P 00 39 25.0 -0.6**
MBWA Marble Bar 46.85 187 *e*P **P 00 39 29.6 -0.8**
MBWA LR LR
comp=Z,5µm,21.0s,MS5.5
KK31 Karatay Array 47.47 306 *i*P **P 00 39 35.4 +0.2**
KK31 pmax pmax
comp=Z,48nm,1.1s,mb5.3
KBL Kabul 48.80 294 *e*P **P 00 39 47.1 +1.4**
BRVK Borovoye 48.92 319 *e*P **P 00 39 46.1 -0.1**
BRVK LR LR
comp=Z,36µm,22.0s,MS6.3
BILL Bilibino 49.08 19 *e*P **P 00 39 46.1 -1.2**
BILL LR LR
comp=Z,20µm,21.0s,MS6.1
BILL Bilibino 49.08 19 *e*P **P 00 39 47.0 -0.3**
BILL *i* 00 41 11.1
BILL pmax pmax
comp=Z,53nm,2.3s,mb5.2
ASAR Alice Springs 49.78 169 P **P 00 39 52.5 -0.6**
comp=Z,10nm,0.6s,mb5.0,baz=356,slow=14,SNR=13
ASAR PKPPKP 01 10 51.5
comp=Z,1.7nm,1.2s,baz=151,slow=2.9,SNR=4.1
CTAO Charters Tower 49.90 154 PFAKE 00 40 10.0 +16
CTAO LR LR
comp=Z,30µm,20.0s,MS6.3
SVE Sverdlovsk 55.01 323⇓ *e*P **P 00 40 31.7 +0.2**
SVE pmax pmax
comp=Z,208nm,1.3s,mb6.0
GAMB Gambell 55.45 29 *e*P **P 00 40 34.6 0.0**
NIKO Nikolski 55.59 42 P **P 00 40 35.2 -0.6**
ARU Arti 56.11 322 P **P 00 40 39.0 -0.5**
comp=Z,745nm,1.1s,mb6.6,SNR=9.3
ARU Arti 56.11 322 *e*P **P 00 40 38.8 -0.7**
ARU LR LR
comp=Z,67µm,19.0s,MS6.8
ARU Arti 56.11 322 *d*P **P 00 40 39.1 -0.4**
ARU *e* 00 41 33.2
ARU *e* 00 42 44.4
ARU *e*S **S 00 48 24.6 -2.7**
ARU *e*SS SS 00 52 06.6 -6.8
ARU pmax pmax
comp=Z,173nm,1.2s,mb6.0
ABKT Ailbek 57.16 300 P **P 00 40 48.0 +0.7**
comp=Z,505nm,1.3s,mb6.4,SNR=15
KLBR Kellerberrin 57.38 187 *e*P **P 00 40 48.9 +0.2**
comp=Z,92nm,0.9s,mb5.8
MUN Mundaring 57.96 189 *e*P **P 00 40 53.3 +0.5**
NWAO Narrogin (SRO) 58.76 188 *e*P **P 00 40 59.1 +0.7**
comp=Z,89nm,1.2s,mb5.7
NWAO LR LR
comp=Z,5µm,22.0s,MS5.6
NWAO Narrogin (SRO) 58.76 188 P **P 00 40 58.5 +0.2**
NWAO pmax pmax
comp=Z,24nm,0.9s
NWAO Narrogin (SRO) 58.76 188 P **P 00 40 58.5 +0.1**
comp=Z,24nm,0.9s,mb5.2,baz=12,slow=7.9,SNR=4.5
STKA Stephens Creek 59.35 164 *e*P **P 00 41 02.3 -0.1**
comp=Z,18nm,0.9s,mb5.1
STKA Stephens Creek 59.35 164 P **P 00 41 01.9 -0.5**
comp=Z,14nm,1.0s,mb5.0,baz=1.9,slow=8.4,SNR=4.8
TTA Tatalina 62.41 30 *e*P **P 00 41 22.8 -0.2**
SVW2 Sparrevohn 62.73 32 *e*P **P 00 41 23.7 -1.4**
IMA2 Indian Mountai 63.26 27 *e*P **P 00 41 27.3 -1.2**
KDAK Kodiak Island 64.60 36 *e*P **P 00 41 36.4 -1.1**
KDAK Kodiak Island 64.60 36 P **P 00 41 36.1 -1.4**
comp=Z,68nm,1.0s,mb5.6,baz=299,slow=3.3,SNR=11
MCK McKinley 65.51 29 *e*P **P 00 41 42.4 -1.0**
MCK LR LR
comp=Z,4µm,19.0s,MS5.6
PMR Palmer 65.76 32 *e*P **P 00 41 43.9 -1.0**
comp=Z,187nm,1.7s,mb5.8
PMR LR LR
comp=Z,1µm,19.0s,MS5.2
COLA College 65.81 28 *e*P **P 00 41 44.2 -1.0**
COLA LR LR
comp=Z,7µm,19.0s,MS5.9
TMCR Tamitsa 65.96 331 *i*P **P 00 41 40.9 -5.3**
SML Sawmill 66.09 31 *e*P **P 00 41 46.7 -0.4**
GOF Gofitskoye 66.93 310 *e*P **P 00 41 45.5 -7.3**
GOF *i* 00 42 02.6
GOF pmax pmax
comp=Z,87nm,1.3s,mb5.6
KIV Kislovodsk 67.44 309⇓ P **P 00 41 56.4 +0.4**
KIV LR LR
comp=Z,22µm,20.0s,MS6.4
KIV Kislovodsk 67.44 309 *d*P **P 00 41 56.1 +0.1**
KIV *i* 00 42 13.0
KIV pmax pmax
comp=Z,132nm,1.1s,mb5.9
KIV Kislovodsk 67.44 309⇓ *i*P **P 00 41 56.4 +0.4**
MIB Mutribah 67.74 293 *e*P **P 00 41 56.0 -2.2**
MIB AMb AMB 00 42 00.3
comp=Z,90nm,1.3s,mb5.6
MOS Moscow 67.82 322 *e*P **P 00 41 56.6 -1.6**
MOS *i* 00 42 14.6
MOS pmax pmax
comp=Z,203nm,1.4s,mb6.0
RDF Al-Radifah 67.83 292 *e*P **P 00 41 56.9 -1.9**
RDF AMb AMB 00 42 06.4
comp=Z,140nm,1.4s,mb5.8
MENT Mentasta 67.97 30 *e*P **P 00 41 59.1 +0.1**
NAY Al-Naaiem 67.99 293 *e*P **P 00 41 58.2 -1.6**
NAY AMb AMB 00 42 06.3
comp=Z,40nm,1.0s,mb5.4
RST Umm Al-Ruwaisa 68.12 293 *e*P **P 00 41 59.1 -1.4**
RST AMb AMB 00 42 02.3
comp=Z,80nm,1.4s,mb5.5
OBN Obninsk 68.56 322 *e*P **P 00 42 01.9 -0.9**
OBN LR LR
comp=Z,25µm,21.0s,MS6.4
OBN Obninsk 68.56 322 *d*P **P 00 42 01.4 -1.4**
OBN *e* 00 44 33.6
KEV Kevo 68.93 338 *e*p **P 00 42 02.6 -2.3**
comp=Z,13nm,0.8s,mb4.9
KEV Kevo 68.93 338 *e*P **P 00 42 02.6 -2.3**
KEV pmax pmax
comp=Z,13nm,0.8s,mb4.9

BHD Baghdad 69.11 298 *ex* x 00 42 04.0
JOF Joensuu 69.17 331 *e*p **P 00 42 02.7 -3.8**
comp=Z,10.0nm,0.8s,mb4.8
JOF Joensuu 69.17 331 *e*P **P 00 42 02.7 -3.8**
JOF pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
MSL Mosul 69.22 301 *ex* x 00 42 07.0
ARCES ARCESS Array B 69.50 338 P **P 00 42 06.5 -1.9**
comp=Z,18nm,1.2s,mb4.9,baz=65,slow=5.7,SNR=6.5
ARE0 ARCESS Array S 69.50 338 *e*P **P 00 42 07.8 -0.7**
DAWY Dawson 69.56 28 *e*P **P 00 42 08.6 -0.3**
DAWY *e*PP PP 00 44 45.9 +3.5
SOC Sochi 69.62 309 *c i*P **P 00 42 09.7 +0.1**
SOC pmax pmax
comp=Z,75nm,1.0s,mb5.6
SOC MLR MLR
comp=Z,28µm,16.0s,MS6.6
INK Inuvik 70.48 23 *e*P **P 00 42 13.5 -1.0**
ANN Anapa 70.84 311 *e*P **P 00 42 15.5 -1.6**
ANN *e**PP pP 00 42 25.6 +2.2
ANN pmax pmax
comp=Z,120nm,1.6s,mb5.6
TAU Tasmania Unive 71.24 163 *e*P **P 00 42 19.7 +0.4**
TAU LR LR
comp=Z,10µm,20.0s,MS6.1
HKL Haleakala 71.43 75 *e*P **P 00 42 13.2 -7.9**
KAF Kangasniemi 71.63 331 *e*p **P 00 42 18.4 -3.2**
ALE Alert 71.96 1 P **P 00 42 22.9 -0.4**
comp=Z,164nm,1.0s,mb5.9,SNR=6.3
FIA1 FINESS Array S 71.96 330 *e*P **P 00 42 23.0 -0.6**
FIA1 *e*PcP PcP 00 42 41.4 -0.8
FINES FINESS Array B 71.97 330 *i*P **P 00 42 23.1 -0.5**
FINES pmax pmax
comp=Z,7.0nm,0.8s
FINES FINESS Array B 71.97 330 P **P 00 42 21.4 -2.2**
comp=Z,7.4nm,0.8s,mb4.7,baz=71,slow=4.7,SNR=6.6
MALT Malatya 72.14 304⇓P **P 00 42 25.8 +0.7**
MALT Malatya 72.14 304⇓ *i*P **P 00 42 25.8 +0.7**
POHA Pohakuloa 72.41 76 PFAKE 00 42 40.0 +13
POHA LR LR
comp=Z,3µm,20.0s,MS5.6
VSU Vasula 72.71 327 *i*P **P 00 42 27.0 -1.1**
SKAG Skagway 72.89 32 *e*P **P 00 42 29.3 +0.2**
comp=Z,162nm,1.3s,mb5.8
SIT Sitka 73.78 34 *e*P **P 00 42 35.1 +0.7**
comp=Z,151nm,1.3s,mb5.8
SIT Sitka 73.78 34 *e*P **P 00 42 35.1 +0.7**
SIT pmax pmax
comp=Z,151nm,1.3s,mb5.8
AKASG Malin Array Be 74.13 319 *i*P **P 00 42 35.5 -1.1**
AKASG pmax pmax
comp=Z,13nm,0.9s
AKASG Malin Array Be 74.13 319 P **P 00 42 34.4 -2.3**
comp=Z,13nm,0.9s,mb4.9,baz=57,slow=5.5,SNR=9.3
AKBB Malin Array Si 74.13 319 *e*P **P 00 42 36.0 -0.6**
AKBB *e*PcP PcP 00 42 52.3 +0.7
KIEV Kiev 74.15 319 *e*P **P 00 42 33.8 -2.9**
KIEV *e*PP PP 00 45 20.0 -1.9
CRAG Craig 75.54 35 *e*P **P 00 42 44.9 +0.3**
comp=Z,133nm,1.5s,mb5.7
WRAK Wrangell Islan 75.54 34 *e*P **P 00 42 45.2 +0.5**
ANTO Ankara 75.72 307⇑P **P 00 42 46.1 +0.1**
ANTO Ankara 75.72 307⇑ *i*P **P 00 42 46.2 +0.2**
KIS Kishinev 75.75 315 *e*PPP 00 42 58.0
KIS Kishinev 75.75 315 *e*P **P 00 42 42.0 -4.0**
DLBC Dease Lake 75.82 32 *e*P **P 00 42 46.4 +0.2**
SUW Suwalki 76.26 324 *e*P **P 00 42 47.4 -1.4**
RES Resolute Bay 76.59 10 *e*P **P 00 42 48.3 -2.0**
TIRR Tirgusor 77.00 313⇑P **P 00 42 53.0 -0.1**
TIRR Tirgusor 77.00 313⇑ *i*P **P 00 42 53.0 -0.2**
CSS Prodhromos 77.15 303 *e*P **P 00 42 53.1 -1.2**
VRI Vrincioaia 77.53 315⇑P **P 00 42 56.5 +0.4**
VRI Vrincioaia 77.53 315⇑ *i*P **P 00 42 56.5 +0.4**
ISP Isparta 78.14 306⇓ *e*P **P 00 42 59.5 -0.2**
MLR Muntele Rosu 78.18 315⇑ *i*P **P 00 42 59.8 0.0**
KWP Kalwaria 78.40 320 *e*P **P 00 43 01.2 +0.3**
KWP Kalwaria 78.40 320⇓ *i*P **P 00 43 01.4 +0.5**
NB2 NORSAR Subarra 78.56 333 P **P 00 43 00.6 -0.9**
comp=Z,5.1nm,0.8s,mb4.5,baz=55,slow=5.6
NOA NORSAR Array B 78.56 333 P **P 00 42 59.4 -2.1**
NOA NORSAR Array B 78.56 333 P **P 00 42 59.4 -2.1**
comp=Z,7.6nm,0.9s,mb4.6,baz=55,slow=5.5,SNR=9.0
KOLS Kolonicke sedl 78.97 319 *e*P **P 00 43 03.6 -0.4**
STHS Stebnicka Huta 79.35 320 *i*P **P 00 43 05.8 -0.3**
comp=Z,14nm,1.3s,mb4.7
STHS Stebnicka Huta 79.35 320 *i*P **P 00 43 05.8 -0.3**
STHS pmax pmax
comp=Z,14nm,1.3s,mb4.7
CRVS Cervenica-Dubn 79.46 319 *i*P **P 00 43 06.3 -0.4**
CRVS Cervenica-Dubn 79.46 319 *i*P **P 00 43 06.2 -0.5**
DRGR 79.65 317⇓P **P 00 43 08.2 +0.4**
DRGR 79.65 317⇓ *i*P **P 00 43 08.2 +0.4**
OJC Ojcow 79.81 321 *e*P **P 00 43 07.9 -0.7**
OJC *e*pP pP 00 43 24.4 +9.4
OJC *e*SKSac SKSac 00 53 19.2 -5.4
OJC *e*SS SS 00 58 15.4 -3.6
NIE Niedzica 79.89 320 *e*P **P 00 43 08.8 -0.2**
URZ Urewera 80.10 141 P **P 00 43 08.7 -1.5**
comp=Z,2.8nm,0.6s,mb4.3,baz=267,slow=9.5,SNR=5.0
YKA Yellowknife Ar 80.18 24 *i*P **P 00 43 08.8 -1.5**
YKA pmax pmax
comp=Z,19nm,0.7s
YKA Yellowknife Ar 80.18 24 P **P 00 43 08.9 -1.4**
comp=Z,19nm,0.7s,mb5.1,baz=303,slow=5.4,SNR=31
KECS Kecovo 80.22 319 *e*P **P 00 43 10.1 -0.8**
comp=Z,12nm,1.4s,mb4.6
KECS Kecovo 80.22 319 *e*P **P 00 43 10.1 -0.8**
KECS pmax pmax
comp=Z,12nm,1.4s,mb4.6
KECS Kecovo 80.22 319 *e*P **P 00 43 10.0 -0.9**
GZR Gura Zlata 80.24 316⇑P **P 00 43 11.7 +0.7**
GZR Gura Zlata 80.24 316⇑ *i*P **P 00 43 11.7 +0.7**
ARG Arkhangelos 80.54 306 *e*P **P 00 43 11.1 -1.7**
PSZ Piszkesteto 80.84 319⇓ *i*P **P 00 43 13.5 -0.7**
RPZ Rata Peaks 80.88 148 P **P 00 43 13.0 -1.2**
comp=Z,40nm,1.1s,mb5.3,baz=2.7,slow=3.0,SNR=8.8
OKC Ostrava-Krasne 80.93 321 *e*P **P 00 43 14.0 -0.6**
VYHS Vyhne 81.19 320 *i*P **P 00 43 15.1 -0.9**
comp=Z,26nm,1.4s,mb5.0
VYHS Vyhne 81.19 320 *i*P **P 00 43 15.1 -0.9**
VYHS pmax pmax
comp=Z,26nm,1.4s,mb5.0
VTS Vitosha 81.21 313⇑P **P 00 43 16.8 +0.5**
VTS Vitosha 81.21 313⇑ *i*P **P 00 43 16.8 +0.5**
MORC Moravsky Berou 81.30 321⇑P **P 00 43 15.7 -0.9**
MORC Moravsky Berou 81.30 321⇑ *i*P **P 00 43 15.7 -0.9**
KOLL Kolacno 81.40 320 *i*P **P 00 43 17.1 0.0**
KSP Ksiaz 81.47 323 *e*P **P 00 43 17.8 +0.3**
KSP Ksiaz 81.47 323 *e*P **P 00 43 17.5 +0.1**
KARP Karpathos 81.53 305 *e*P **P 00 43 15.0 -3.1**
DPC Dobruska-Polom 81.70 322 *e*P **P 00 43 18.2 -0.5**
VRAC Vranov 82.07 321⇓P **P 00 43 21.2 +0.5**
VRAC Vranov 82.07 321⇓ *i*P **P 00 43 21.2 +0.5**
MODS Modra-Piesok 82.15 320 *e*P **P 00 43 20.3 -0.8**
ZST Bratislava 82.34 320 *e*P **P 00 43 22.6 +0.5**
comp=Z,47nm,2.1s,mb5.0
ZST Bratislava 82.34 320 *e*P **P 00 43 22.6 +0.5**
ZST pmax pmax
comp=Z,47nm,2.1s,mb5.0
PKSM Moragy 82.41 318⇑P **P 00 43 22.6 0.0**
PKSM Moragy 82.41 318⇑ *i*P **P 00 43 22.6 +0.1**
PVCC Panska Ves 82.57 323 *e*P **P 00 43 23.2 -0.1**
TREC Trest 82.70 322 *e*P **P 00 43 23.2 -0.8**
BRG Berggiesshubel 82.72 323 *e*P **P 00 43 23.2 -0.9**
BRG 00 46 36.3
BRG pmax pmax
comp=Z,16nm,1.5s,mb4.8
BRG pmax pmax
comp=Z,7.0nm,1.3s,mb4.5
BRG Berggiesshubel 82.72 323 *e*P **P 00 43 23.3 -0.8**
comp=Z,24nm,1.2s,mb5.1
BRG Berggiesshubel 82.72 323 *e*P **P 00 43 23.2 -0.8**
comp=Z,26nm,1.5s,mb5.1
BRG PP PP 00 46 36.3 +2.8
comp=Z,11nm,1.3s
NPS Neapolis 82.80 306 *e*P **P 00 43 22.9 -1.9**
PRU Pruhonice 82.87 322 *e*P **P 00 43 24.3 -0.5**
CLL Collm 82.99 324 *i*P **P 00 43 23.9 -1.5**
comp=Z,36nm,1.4s,mb5.2
CLL *i*pP pP 00 43 36.9 +5.1
CLL *i*sP sP 00 43 43.2 +9.1
CLL Collm 82.99 324 *i*P **P 00 43 23.9 -1.5**
CLL *i**PP pP 00 43 36.9 +5.1

CLL pmax pmax
comp=Z,36nm,1.4s,mb5.2
CLL Collm 82.99 324 *e*P **P 00 43 25.7 +0.3**
comp=Z,37nm,1.4s,mb5.2
CLL Collm 82.99 324 *i*P **P 00 43 23.9 -1.5**
comp=Z,36nm,1.4s,mb5.2
CLL *i*x x 00 43 36.9
CLL *i*x x 00 43 43.2
CLL *e*PP PP 00 46 36.0 +0.3
comp=Z,24nm,1.5s
CLL *ex* x 00 46 52.0
CONA Conrad Observa 83.19 320⇑ *i*P **P 00 43 25.5 -1.0**
comp=Z,46nm,1.3s,mb5.3
VAM Vamos 83.77 306 *e*P **P 00 43 30.0 +0.2**
KHC Kasperske Hory 83.85 322 *e*P **P 00 43 30.0 +0.1**
GEC2 GERESS Array S 83.94 322 *e*P **P 00 43 29.7 -0.7**
GEC2 pmax pmax
comp=Z,21nm,1.2s,mb5.1
GEC2 GERESS Array S 83.94 322 *e*P **P 00 43 29.7 -0.7**
comp=Z,21nm,1.2s,mb5.1
GERES GERESS Array B 83.94 322 P **P 00 43 30.2 -0.2**
comp=Z,4.5nm,1.1s,mb4.5,baz=74,slow=1.9,SNR=4.0
OBC Olympics--Boni 84.00 39 P **P 00 43 32.0 +1.4**
PGC Sidney 84.02 38 *e*P **P 00 43 30.2 -0.6**
CLZ Clausthal 84.06 326 *e*P **P 00 43 30.9 0.0**
CLZ pmax pmax
comp=Z,55nm,1.3s,mb5.5
CLZ Clausthal 84.06 326 *e*P **P 00 43 30.9 0.0**
comp=Z,55nm,1.3s,mb5.5
MOX Moxa 84.09 324 *e*P **P 00 43 30.9 -0.2**
comp=Z,33nm,1.6s,mb5.2
GVD Gavdhos 84.11 306 *e*P **P 00 43 29.8 -1.7**
comp=Z,51nm,1.1s,mb5.6
MOA Molln 84.15 321⇑ *i*P **P 00 43 37.8 +6.3**
comp=Z,37nm,1.7s,mb5.2
WET Wettzell 84.23 322 *e*P **P 00 43 31.6 -0.3**
WET pmax pmax
comp=Z,23nm,1.5s,mb5.1
WET Wettzell 84.23 322 *e*P **P 00 43 31.6 -0.3**
comp=Z,23nm,1.5s,mb5.1
ROTZ Rotzenmuhle 84.26 323 *e*P **P 00 43 32.0 0.0**
comp=Z,40nm,1.6s,mb5.3
PERS Pernice 84.30 319 *e*P **P 00 43 29.8 -2.5**
B04A Port Angeles 84.31 39⇑P **P 00 43 32.7 +0.5**
baz=84
OSD Olympics--Snow 84.32 39 P **P 00 43 33.2 +0.9**
A04A Legoe Bay, Lum 84.40 38⇑P **P 00 43 32.7 0.0**
baz=84
NLWA Neilton Lookou 84.46 40 *e*P **P 00 43 33.4 +0.4**
NLWA Neilton Lookou 84.46 40⇓P **P 00 43 33.5 +0.5**
baz=84
ITM Ithomi 84.58 309 *e*P **P 00 43 30.0 -3.8**
A05A Maple Falls 84.59 38⇓P **P 00 43 33.4 -0.3**
baz=84
C04A Brinnon 84.80 39⇑P **P 00 43 34.7 0.0**
baz=85
BOJS Bojanci 84.81 318 *e*P **P 00 43 32.6 -2.3**
GRA1 Grafenberg Arr 84.83 323 *e*P **P 00 43 34.8 -0.1**
comp=Z,62nm,1.4s,mb5.5
GRF Grafenberg Arr 84.83 323 *e*P **P 00 43 34.8 -0.1**
GRF pmax pmax
comp=Z,62nm,1.4s,mb5.5
GRF Grafenberg Arr 84.83 323 *e*P **P 00 43 34.8 -0.1**
GRF pmax pmax
comp=Z,62nm,1.4s,mb5.5
GRF Grafenberg Arr 84.83 323 *e*P **P 00 43 34.8 -0.1**
comp=Z,62nm,1.4s,mb5.5
GRFO Grafenberg 84.83 323 *e*P **P 00 43 34.8 -0.1**
comp=Z,59nm,1.6s,mb5.5
GRFO Grafenberg 84.83 323 *e*P **P 00 43 34.8 -0.1**
GRFO pmax pmax
comp=Z,59nm,1.6s,mb5.5
UBBA Unterbreizbach 84.84 325 *e*P **P 00 43 34.4 -0.5**
comp=Z,51nm,1.5s,mb5.4
A06A Chilliwack 84.87 37⇑P **P 00 43 34.8 -0.3**
baz=85
LJU Ljubljana 84.96 319 *i*P **P 00 43 34.8 -0.8**
B05A Bryant 84.99 38⇓P **P 00 43 35.8 +0.1**
baz=85
VLS Valsamata 85.04 310 *e*P **P 00 43 30.0 -6.1**
E03A Lebam 85.09 40⇑P **P 00 43 36.3 +0.1**
baz=85
IBBN Ibbenburen 85.11 327 *e*P **P 00 43 35.9 -0.3**
comp=Z,63nm,1.4s,mb5.5
B06A Marblemount 85.19 38⇓P **P 00 43 36.5 -0.2**
baz=85
JAVS Javornik 85.31 319 *e*P **P 00 43 35.9 -1.4**
F03A Seaside 85.42 41⇓P **P 00 43 38.2 +0.3**
baz=85
A07A Ashnola River, 85.49 37⇑P **P 00 43 38.0 -0.2**
baz=85
C05A Tolt Reservoir 85.53 39⇑P **P 00 43 38.4 -0.1**
baz=85
RMW Rattlesnake Mo 85.60 39 P **P 00 43 40.1 +1.3**
D05A Enumclaw 85.64 39⇓P **P 00 43 39.2 +0.2**
baz=85
FUR Furstenfeldbru 85.66 322 *e*P **P 00 43 39.1 +0.1**
FUR pmax pmax
comp=Z,140nm,1.4s,mb6.0
FUR Furstenfeldbru 85.66 322 *e*P **P 00 43 39.1 +0.1**
comp=Z,140nm,1.4s,mb6.0
G03A Yamhill 85.92 41⇑P **P 00 43 39.7 -0.7**
baz=86
TDL Tradedollar La 85.97 40⇓P **P 00 43 41.8 +1.1**
F04A Amboy 86.09 40⇑P **P 00 43 41.0 -0.2**
baz=86
E05A Randle 86.12 40⇓P **P 00 43 41.2 -0.2**
baz=86
A08A Turner Farm, O 86.15 37⇑P **P 00 43 41.4 -0.1**
baz=86
MTMW Mount Mitchell 86.16 40 P **P 00 43 42.7 +1.2**
BORG Borgarnes 86.18 346 *e*P **P 00 43 40.4 -0.9**
BORG LR LR
comp=Z,11µm,19.0s,MS6.3
H03A Soap Creek Ran 86.25 42⇓P **P 00 43 42.2 +0.2**
baz=86
D06A Cle Elum 86.29 39⇑P **P 00 43 41.8 -0.3**
baz=86
I02A Mapleton 86.29 42⇑P **P 00 43 41.9 -0.3**
baz=86
COR Corvallis 86.30 42 *e*P **P 00 43 43.0 +0.7**
comp=Z,180nm,1.3s,mb6.1
COR Corvallis 86.30 42 *e*P **P 00 43 43.0 +0.7**
COR pmax pmax
comp=Z,180nm,1.3s,mb6.1
C07A Waterville 86.44 38⇓P **P 00 43 42.6 -0.3**
baz=86
STU Stuttgart 86.45 323 *e*P **P 00 43 42.4 -0.5**
comp=Z,64nm,1.5s,mb5.6
G04A Mulino 86.45 41⇑P **P 00 43 42.9 -0.1**
baz=86
B08A Colville Reser 86.46 37⇓P **P 00 43 43.1 +0.2**
baz=86
A09A Danville 86.50 36⇑P **P 00 43 42.9 -0.3**
baz=86
EDM Edmonton 86.52 31 *e*P **P 00 43 43.0 -0.1**
K01A Sixes 86.53 44⇓P **P 00 43 43.3 -0.2**
baz=86
E06A Yakima 86.58 39⇑P **P 00 43 43.4 -0.2**
baz=86
KEBM Edson Butte 86.58 44 *e*P **P 00 43 44.6 +0.9**
I03A Eugene 86.64 42⇓P **P 00 43 44.2 +0.2**
baz=86
F05A White Salmon 86.67 40⇓P **P 00 43 44.4 +0.3**
baz=86
D07A Quincy 86.78 38⇓P **P 00 43 44.5 -0.1**
baz=86
J02A Umpqua 86.79 43⇑P **P 00 43 44.9 +0.2**
baz=87
TDH Tom, Dick, Har 86.81 41 P **P 00 43 45.9 +1.1**
H04A Detroit Lake 86.91 41⇑P **P 00 43 45.4 +0.2**
baz=87
DAVA Damuels 86.94 322⇑ *i*P **P 00 43 41.8 -3.6**
comp=Z,40nm,1.2s,mb5.5
DAVA Damuels 86.94 322⇑ *e*P **P 00 43 44.7 -0.6**
comp=Z,40nm,1.2s,mb5.5
C08A Higginbotham F 86.95 37⇑P **P 00 43 45.4 0.0**
baz=87
HGN Heimansgroeve 86.95 326 *e*PPP 00 44 13.2
A10A Northport 87.05 36⇓P **P 00 43 45.6 -0.2**
baz=87
LANF Langenberg 87.07 324 *e*P **P 00 43 45.4 -0.6**
F06A Goldendale 87.13 40⇑P **P 00 43 46.3 0.0**
baz=87
K02A Glendale 87.17 43⇑P **P 00 43 46.4 -0.2**
baz=87
BFO Black Forest 87.17 323 *e*P **P 00 43 45.7 -0.8**

BFO pmax pmax

comp=Z,50nm,1.4s,mb5.5
BFO Black Forest 87.17 323 *e*P **P 00 43 45.7 -0.8**
comp=Z,50nm,1.4s,mb5.5
E07A Sunnyside 87.21 39 ⇑P **P 00 43 46.7 0.0**
baz=87
IRO Indian Ridge 87.25 42 P **P 00 43 47.3 +0.3**
I04A Tendick Farm, 87.27 42 ⇑P **P 00 43 46.9 -0.1**
baz=87
C09A Chrisman Ranch 87.36 37 ⇑P **P 00 43 47.3 -0.1**
baz=87
L02A Cave Junction 87.43 44 ⇓P **P 00 43 47.7 -0.1**
baz=87
D08A Wollman Farm, 87.44 38 ⇓P **P 00 43 47.6 -0.2**
baz=87
HAWA Hanford 87.49 39 *e*P **P 00 43 48.4 +0.4**
comp=Z,53nm,1.5s,mb5.5
H05A Madras 87.50 41 ⇓P **P 00 43 48.3 +0.1**
baz=87
G06A Carlson Farm, 87.52 40 ⇑P **P 00 43 48.5 +0.3**
baz=87
WLF Walferdange 87.52 325 *e*P **P 00 43 47.9 -0.2**
WLF Walferdange 87.52 325 P **P 00 43 48.5 +0.4**
comp=Z,27nm,1.5s,mb5.2
WLF Walferdange 87.52 325 *e*P **P 00 43 48.0 -0.1**
comp=Z,56nm,1.4s,mb5.6
F07A Phinny Hill Vi 87.55 39 ⇑P **P 00 43 48.6 +0.3**
baz=87
KRMB Red Mountain 87.57 45 *e*P **P 00 43 48.9 +0.3**
OPO Ambohidratompo 87.58 248 P **P 00 43 48.6 -0.3**
comp=Z,13nm,1.0s,mb5.1,baz=58,slow=5.1,SNR=6.3
HUMO Hull Mountain 87.58 43 *e*P **P 00 43 48.6 0.0**
HUMO Hull Mountain 87.58 43 ⇑P **P 00 43 48.9 +0.3**
baz=87
VTHM Trough 87.59 40 P **P 00 43 49.8 +1.2**
AQU L'Aquila 87.62 316 *e*P **P 00 43 49.5 +0.7**
comp=Z,44nm,1.3s,mb5.5
B10A Chitwood Farm, 87.63 36 ⇓P **P 00 43 48.6 -0.1**
baz=87
A11A Hall Mountain, 87.69 35 ⇓P **P 00 43 49.2 +0.2**
baz=87
CDF Champ du Feu 87.69 324 ⇑*i*P **P 00 43 48.6 -0.4**
comp=Z,120nm,1.5s,mb5.6
CDF Champ du Feu 87.69 324 ⇑*i*P **P 00 43 48.6 -0.4**
comp=Z,60nm,1.5s,mb5.6
E08A Dider Farm, El 87.69 39 ⇓P **P 00 43 48.9 -0.1**
baz=88
KTRM Thompson Ridge 87.70 44 P **P 00 43 50.1 +0.9**
NEW Newport 87.71 36 *e*P **P 00 43 48.8 -0.3**
NEW LR LR
comp=Z,5μm,21.0s,MS5.9
J04A Umpqua Nationa 87.75 42 ⇓P **P 00 43 49.7 +0.3**
baz=88
D09A Jones Farm, Ri 87.78 38 ⇓P **P 00 43 49.2 -0.3**
baz=88
ECH Echery 87.87 324 *e*P **P 00 43 49.0 -0.8**
C10A Spilker Farm, 87.88 37 ⇑P **P 00 43 49.6 -0.3**
baz=88
JCC Jacoby Creek 87.88 45 ⇑P **P 00 43 49.7 -0.3**
baz=88
VIPM Ingram Point 87.94 41 P **P 00 43 50.8 +0.6**
H06A Lindquist Farm 87.98 40 ⇓P **P 00 43 50.7 +0.2**
baz=88
B11A Sandpoint 88.00 36 ⇓P **P 00 43 50.9 +0.5**
baz=88
DOU Dourbes 88.04 326 P **P 00 43 50.6 0.0**
comp=Z,7.9nm,1.6s,mb4.7
A12A Yaak River Ran 88.07 35 ⇓P **P 00 43 51.3 +0.5**
baz=88
MOF Molkenrain 88.10 323 *e*P **P 00 43 50.4 -0.6**
E09A Wood Farm, Sta 88.19 38 ⇑P **P 00 43 51.8 +0.4**
baz=88
YBH Yreka Blue Hor 88.22 44 *e*P **P 00 43 51.9 +0.3**
YBH Yreka Blue Hor 88.22 44 ⇑P **P 00 43 52.2 +0.6**
baz=88
J05A Fort Rock 88.26 42 ⇑P **P 00 43 52.7 +0.9**
baz=88
HINF Hinteralfeld 88.28 324 *e*P **P 00 43 51.0 -0.8**
comp=Z,70nm,1.6s,mb5.3
HINF Hinteralfeld 88.28 324 *e*P **P 00 43 51.0 -0.8**
comp=Z,35nm,1.6s,mb5.3
M02C Callahan 88.31 44 ⇑P **P 00 43 52.8 +0.8**
baz=88
K04A Chilquin 88.33 43 ⇑P **P 00 43 52.7 +0.5**
baz=88
N02C Big Bar 88.33 45 ⇑P **P 00 43 52.2 0.0**
baz=88
D10A Wagner Farm, O 88.35 37 ⇑P **P 00 43 52.5 +0.4**
baz=88
O01C Eel River Cons 88.37 46 ⇓P **P 00 43 53.2 +0.8**
baz=88
B12A Libby 88.39 36 ⇑P **P 00 43 52.5 +0.2**
baz=88
HAU Haudompre 88.43 324 ⇑*i*P **P 00 43 51.8 -0.7**
L04A Klamath Falls 88.48 43 ⇓P **P 00 43 53.0 +0.1**
baz=88
I06A Prineville 88.50 41 ⇓P **P 00 43 53.1 +0.2**
baz=88
LOMF Lomont 88.57 323 *e*P **P 00 43 53.0 -0.2**
A13A Flathead Natio 88.72 35 ⇓P **P 00 43 54.1 +0.3**
baz=88
M04C Macdoel 88.73 44 ⇓P **P 00 43 54.3 +0.2**
baz=88
K05A Summer Lake 88.78 42 ⇓P **P 00 43 54.0 -0.3**
baz=89
E10A Myers Farm, Un 88.78 38 ⇑P **P 00 43 54.0 -0.2**
baz=88
F09A S2 Ranch, Elgi 88.80 39 ⇑P **P 00 43 54.3 0.0**
baz=89
M03C McCloud 88.83 44 ⇓P **P 00 43 54.4 -0.1**
baz=89
I07A Izee 88.84 41 ⇓P **P 00 43 54.7 +0.2**
baz=89
D11A Klaveano Farm, 88.87 37 ⇑P **P 00 43 54.2 -0.4**
baz=89
WALA Waterton Lakes 88.89 34 *e*P **P 00 43 54.4 -0.2**
J06A Christmas Vall 88.93 42 ⇑P **P 00 43 54.9 0.0**
baz=89
WDC Whiskeytown Da 88.95 45 *e*P **P 00 43 54.9 -0.3**
WDC Whiskeytown Da 88.95 45 ⇓P **P 00 43 55.1 0.0**
baz=89
LASM Arnica Sink 89.00 44 P **P 00 43 56.0 +0.7**
O02C Red Bluff 89.02 45 ⇓P **P 00 43 55.8 +0.4**
baz=89
F10A Beach Ranch, E 89.03 38 ⇓P **P 00 43 55.2 -0.2**
baz=89
B13A Whitefish 89.04 35 ⇑P **P 00 43 55.4 +0.1**
baz=89
P01C Double 8 Ranch 89.05 46 ⇓P **P 00 43 55.8 +0.2**
baz=89
H08A Prairie City 89.07 40 ⇓P **P 00 43 55.9 +0.3**
baz=89
K06A Valley Falls 89.13 42 ⇓P **P 00 43 56.5 +0.6**
baz=89
L05A Lakeview 89.20 43 ⇓P **P 00 43 56.7 +0.5**
baz=89
GASB Alder Springs 89.35 46 ⇓P **P 00 43 57.0 0.0**
baz=89
E11A Bogner Ranch, 89.36 37 ⇓P **P 00 43 56.8 0.0**
baz=89
J07A Hines 89.36 41 ⇑P **P 00 43 57.8 +0.8**
baz=89
D12A Red Ives Fores 89.39 37 ⇑P **P 00 43 57.2 +0.2**
baz=89
M05C Lookout 89.40 44 ⇑P **P 00 43 56.7 -0.5**
baz=89
C13A Hot Springs 89.42 36 ⇑P **P 00 43 57.3 +0.2**
baz=89
I08A Drewsey 89.49 40 ⇓P **P 00 43 57.8 +0.2**
baz=89
G10A Bishop Farm, J 89.50 39 ⇓P **P 00 43 57.5 0.0**
baz=89
HATC Hat Creek Radi 89.51 44 ⇑P **P 00 43 57.6 -0.1**
baz=89
H09A Durkee 89.56 39 ⇓P **P 00 43 58.1 +0.2**
baz=89
MOD Modoc 89.61 43 *e*P **P 00 43 57.5 -0.7**
comp=Z,37nm,1.2s,mb5.6
MOD Modoc 89.61 43 ⇓P **P 00 43 58.1 0.0**
baz=89
BMO Blue Mountains 89.66 39 *e*P **P 00 43 58.7 +0.4**
F11A Grangeville 89.67 38 ⇑P **P 00 43 58.4 +0.1**
baz=89
LPL La Plagne 89.74 322 ⇑*i*P **P 00 43 58.7 0.0**
comp=Z,94nm,1.4s,mb5.6
LPL La Plagne 89.74 322 ⇑*i*P **P 00 43 58.7 0.0**
comp=Z,47nm,1.4s,mb5.6
LPG La Plagne 89.74 322 ⇑*i*P **P 00 43 58.8 +0.1**
comp=Z,147nm,1.6s,mb5.8
LPG La Plagne 89.74 322 ⇑*i*P **P 00 43 58.8 +0.1**
comp=Z,73nm,1.6s,mb5.8
C14A Swan Lake 89.80 35 ⇑P **P 00 43 59.2 +0.3**
baz=90
K07A Rock Creek Ran 89.80 42 ⇑P **P 00 43 59.7 +0.7**
baz=90
FCC Fort Churchill 89.80 19 *e*P **P 00 43 57.5 -1.1**
J08A Circle Bar Ran 89.87 41 ⇓P **P 00 43 59.7 +0.3**
baz=90
M06C Likely Place G 89.90 43 ⇑P **P 00 43 59.5 0.0**
baz=90
G11A Walters Elk Ra 89.91 38 ⇑P **P 00 43 59.2 -0.3**
baz=90
I09A Lost Marbles R 89.93 40 ⇑P **P 00 43 59.4 -0.2**
baz=90
O04C Chester 90.02 44 ⇓P **P 00 44 00.2 +0.1**
baz=90
L07A Adell 90.13 42 ⇓P **P 00 44 01.3 +0.7**
baz=90
H10A Noah's Angus R 90.13 39 ⇓P **P 00 44 00.4 -0.2**
baz=90
ORV Oroville 90.19 45 ⇓P **P 00 44 00.8 -0.2**
baz=90
PGF Pioggiola 90.20 318 ⇑*i*P **P 00 44 00.8 -0.1**
comp=Z,80nm,1.4s,mb5.6
PGF Pioggiola 90.20 318 ⇑*i*P **P 00 44 00.8 -0.1**
comp=Z,40nm,1.4s,mb5.6
K08A Mann Creek Ran 90.23 41 ⇓P **P 00 44 01.2 +0.2**
baz=90
F12A Elk City 90.25 37 ⇓P **P 00 44 01.3 +0.2**
baz=90
AUTN L'Aution 90.27 320 *e*P **P 00 44 00.4 -0.8**
MSO Missoula 90.29 36 *e*P **P 00 44 01.4 +0.2**
J09A Fry Pan Ranch, 90.30 40 ⇑P **P 00 44 01.7 +0.3**
baz=90
FFC Flin Flon 90.30 25 *e*P **P 00 44 00.2 -0.9**
WVOR Wild Horse Val 90.31 42 *e*P **P 00 44 01.2 -0.2**
comp=Z,31nm,1.5s,mb5.4
SBF Sospel 90.34 320 ⇑*i*P **P 00 44 00.8 -0.7**
comp=Z,76nm,0.9s,mb5.7
SBF Sospel 90.34 320 ⇑*i*P **P 00 44 00.8 -0.7**
comp=Z,38nm,0.9s,mb5.7
TOUF Mont Tournerai 90.36 320 *e*P **P 00 44 01.9 +0.3**
D14A Greenough 90.36 36 ⇓P **P 00 44 01.6 0.0**
baz=90
E13A Victor 90.40 36 ⇓P **P 00 44 01.6 -0.2**
baz=90
I10A Payette 90.40 39 ⇓P **P 00 44 01.9 +0.1**
baz=90
H11A Donnelly 90.48 39 ⇓P **P 00 44 02.5 +0.3**
baz=90
MVIF Mont Vial 90.48 320 *e*P **P 00 44 01.8 -0.4**
N06A Buffalo Meadow 90.56 44 ⇑P **P 00 44 03.1 +0.4**
baz=90
CHMT Chamberlain Mo 90.60 36 *e*P **P 00 44 02.6 -0.1**
M07A Soldier Meadow 90.60 43 ⇓P **P 00 44 03.1 +0.3**
baz=90
L08A Fields 90.63 42 ⇓P **P 00 44 02.5 -0.4**
baz=90
K09A Rome 90.70 41 ⇓P **P 00 44 03.2 -0.1**
baz=90
CALN Calern 90.72 320 *e*P **P 00 44 03.0 -0.3**
F13A Darby 90.73 37 ⇑P **P 00 44 03.2 -0.1**
baz=90
BEKR Beckwourth 90.74 44 ⇑P **P 00 44 03.5 +0.1**
baz=90
E14A Clinton 90.79 36 ⇑P **P 00 44 03.7 +0.2**
baz=90
OG25 Le Caire 90.81 321 *e*P **P 00 44 02.7 -1.0**
O06A Flanigan 90.90 44 ⇑P **P 00 44 04.5 +0.3**
baz=91
FRF La Foret Royal 90.98 320 ⇑*i*P **P 00 44 03.9 -0.6**
comp=Z,115nm,1.4s,mb5.7
FRF La Foret Royal 90.98 320 ⇑*i*P **P 00 44 03.9 -0.6**
comp=Z,58nm,1.4s,mb5.7
I11A Placerville 90.99 39 ⇓P **P 00 44 05.0 +0.4**
baz=91
M08A Happy Creek Ra 91.05 42 ⇓P **P 00 44 05.3 +0.4**
baz=91
N07B Gerlach 91.08 43 ⇑P **P 00 44 05.3 +0.3**
baz=91
LAVA Lava Cap Winer 91.12 46 ⇑P **P 00 44 04.9 -0.4**
baz=91
L09A Wilkinson Ranc 91.14 42 ⇓P **P 00 44 05.6 +0.3**
baz=91
K10A MacKenzie Ranc 91.16 41 ⇑P **P 00 44 05.6 +0.3**
baz=91
LMR La Mourre 91.20 320 ⇑*i*P **P 00 44 05.1 -0.4**
comp=Z,184nm,1.4s,mb5.9
LMR La Mourre 91.20 320 ⇑*i*P **P 00 44 05.1 -0.4**
comp=Z,92nm,1.4s,mb5.9
H12A Diamond D Ranc 91.22 38 ⇑P **P 00 44 05.8 +0.1**
baz=91
G13A Cobalt 91.23 38 ⇓P **P 00 44 05.8 +0.1**
baz=91
E15A Deer Lodge 91.24 36 ⇓P **P 00 44 05.8 +0.1**
baz=91
F14A Wisdom 91.24 37 ⇓P **P 00 44 05.9 +0.3**
baz=91
TAVF Tavernes 91.28 321 *e*P **P 00 44 05.7 -0.2**
VIVF Saint-Julien-I 91.29 322 ⇑*i*P **P 00 44 05.4 -0.5**
comp=Z,70nm,1.5s,mb5.5
VIVF Saint-Julien-I 91.29 322 ⇑*i*P **P 00 44 05.4 -0.5**
comp=Z,35nm,1.5s,mb5.5
VILF Villemus 91.33 321 *e*P **P 00 44 05.7 -0.5**
SMRF Simiane la Rot 91.34 321 ⇑*i*P **P 00 44 06.0 -0.2**
comp=Z,99nm,1.4s,mb5.7
SMRF Simiane la Rot 91.34 321 ⇑*i*P **P 00 44 06.0 -0.2**
comp=Z,99nm,1.4s,mb6.0
MFID Camas Ranch 91.37 40 ⇑P **P 00 44 06.5 +0.2**
baz=91
H13A Challis 91.55 38 ⇓P **P 00 44 07.6 +0.5**
baz=91
G14A Jackson 91.56 37 ⇓P **P 00 44 07.4 +0.3**
baz=91
R05C Kirkwood Meado 91.58 45 ⇓P **P 00 44 07.6 +0.2**
baz=91
K11A Parker Ranch, 91.65 40 ⇓P **P 00 44 07.8 +0.1**
baz=91
EGMT Eagleton 91.66 33 ⇓P **P 00 44 07.3 -0.3**
baz=91
TREF Trevaresse 91.66 321 *e*P **P 00 44 08.1 +0.4**
PRAF Pradon 91.67 321 *e*P **P 00 44 08.1 +0.4**
F15A Butte 91.69 36 ⇓P **P 00 44 08.3 +0.5**
baz=91
PACP Pacheco Peak 91.75 47 ⇓P **P 00 44 08.2 -0.1**
baz=92
CMB Columbia Colle 91.76 46 *e*P **P 00 44 08.0 -0.3**
comp=Z,15nm,1.4s,mb5.1
CMB LR LR
comp=Z,2μm,20.0s,MS5.6
CMB Columbia Colle 91.76 46 ⇓P **P 00 44 08.0 -0.3**
baz=92
GELF Grande-Etoile 91.79 321 *e*P **P 00 44 06.9 -1.4**
L10A Juniper Basin 91.81 41 ⇓P **P 00 44 09.3 +0.9**
baz=92
J12A Stokes Ranch, 91.89 39 ⇓P **P 00 44 09.4 +0.6**
baz=92
DLMT Dillon 91.95 37 *e*P **P 00 44 09.3 +0.4**
I13A Wildhorse Cree 92.03 38 ⇓P **P 00 44 10.3 +0.9**
baz=92
HLID Hailey 92.09 39 *e*P **P 00 44 08.9 -0.8**
HLID LR LR
comp=Z,5μm,21.0s,MS6.0
HLID Hailey 92.09 39 ⇑P **P 00 44 10.5 +0.9**
baz=92
M10A I.L. Ranch, Tu 92.11 41 ⇓P **P 00 44 10.3 +0.5**
baz=92
G15A Dillon 92.13 37 ⇓P **P 00 44 09.9 +0.1**
baz=92
MCMT McKenzie Canyo 92.15 37 *e*P **P 00 44 10.7 +0.7**
L11A Cat Creek Ranc 92.18 41 ⇓P **P 00 44 11.0 +0.9**
baz=92
LASF Ste Croix 92.24 322 ⇑*i*P **P 00 44 08.9 -1.4**
comp=Z,58nm,1.4s,mb5.4
BOZ Bozeman (W) 92.28 36 *e*P **P 00 44 11.0 +0.5**
comp=Z,36nm,1.6s,mb5.5
BOZ Bozeman (W) 92.28 36 ⇑P **P 00 44 11.2 +0.7**
baz=92
J13A Cove Ranch, Pi 92.33 39 ⇓P **P 00 44 11.4 +0.6**
baz=92
K12A Draper Farm, C 92.39 40 ⇓P **P 00 44 11.4 +0.4**
baz=92
U04C Hernandez Rese 92.45 48 ⇓P **P 00 44 12.0 +0.5**
baz=92
M11A Holland Ranch, 92.61 41 ⇑P **P 00 44 12.9 +0.7**
baz=92
N10A Dunphy 92.62 42 ⇓P **P 00 44 12.7 +0.5**
baz=92
L12A House Creek Ra 92.63 40 ⇑P **P 00 44 12.3 +0.1**
baz=92
RJF Les Rejaudoux 92.72 324 ⇑*i*P **P 00 44 12.0 -0.5**
comp=Z,60nm,1.5s,mb5.5
RJF Les Rejaudoux 92.72 324 ⇑*i*P **P 00 44 12.0 -0.5**
comp=Z,30nm,1.5s,mb5.5
T06C Millerton Lake 92.79 47 ⇑P **P 00 44 13.0 -0.1**
baz=93
V04C Ramage Ranch, 92.80 48 ⇑P **P 00 44 13.7 +0.5**
baz=93
PKD Parkfield 92.85 48 ⇑P **P 00 44 13.5 +0.2**
baz=93
K13A Stover Farm, H 92.85 39 ⇓P **P 00 44 13.9 +0.7**
baz=93
KCC Kaiser Creek 92.86 46 ⇑P **P 00 44 13.8 +0.4**
baz=93
NVAR Mina Array Bea 92.87 45 P **P 00 44 14.1 +0.7**
comp=Z,1.8nm,0.8s,mb4.6,baz=298,slow=3.1,SNR=4.3
NVAR PP PP 00 47 54.0 -1.3
comp=Z,2.9nm,1.1s,baz=293,slow=9.4,SNR=4.4
QLMT Earthquake Lak 92.92 36 *e*P **P 00 44 14.4 +1.0**
M12A Wells 93.14 41 ⇓P **P 00 44 15.3 +0.7**
baz=93
YMR Madison River 93.28 36 *e*P **P 00 44 16.1 +1.0**
comp=Z,46nm,0.8s,mb6.0
L13A Double Diamond 93.28 40 ⇑P **P 00 44 16.0 +0.8**
baz=93
N12A Clover Valley, 93.42 41 ⇑P **P 00 44 16.2 +0.3**
baz=93
K14A Jones Ranch, D 93.44 39 ⇓P **P 00 44 16.5 +0.6**
baz=93
YFT Old Faithful 93.49 36 *e*P **P 00 44 18.0 +1.9**
O11A Cowboy Ranch, 93.49 42 ⇑P **P 00 44 16.8 +0.6**
baz=93
S08C White Mtn Res 93.50 45 ⇑P **P 00 44 16.8 +0.5**
baz=93
LKWY Lake 93.65 36 *e*P **P 00 44 17.3 +0.5**
comp=Z,25nm,1.0s,mb5.6
R09A Tonopah 93.76 44 ⇓P **P 00 44 17.5 0.0**
baz=94
IMW Indian Meadow 93.80 37 *e*P **P 00 44 19.2 +1.7**
FLWY Flagg Ranch 93.81 37 *e*P **P 00 44 19.0 +1.4**
RLMT Red Lodge 93.87 35 *e*P **P 00 44 18.5 +0.7**
PKM Peak Mountain 93.93 48 ⇑P **P 00 44 19.0 +0.7**
baz=94
O12A Currie 93.95 42 ⇓P **P 00 44 18.9 +0.6**
baz=94
S09A Goldfield 93.97 45 ⇑P **P 00 44 19.2 +0.7**
baz=94
DGMT Dagmar 93.99 30 *e*P **P 00 44 17.7 -0.7**
comp=Z,34nm,1.0s,mb5.7
M14A Sheep Mountain 94.00 40 ⇑P **P 00 44 19.2 +0.7**
baz=94
HVU Hansel Valley 94.15 39 *e*P **P 00 44 19.5 +0.3**
R10A Warm Springs 94.22 44 ⇓P **P 00 44 20.3 +0.7**
baz=94
MBAR Mbarara 94.23 271 *i*P **P 00 44 20.1 0.0**
S10A Tonopah Range, 94.25 44 ⇓P **P 00 44 19.8 +0.1**
baz=94
Q11A Duckwater 94.28 43 ⇑P **P 00 44 19.7 -0.2**
baz=94
P12A McGill 94.35 42 ⇑P **P 00 44 20.4 +0.2**
baz=94
ISA Isabella 94.38 47 PFAKE 00 44 30.0 +10
ISA LR LR
comp=Z,4μm,21.0s,MS5.8
N14A Grayback Hills 94.51 40 ⇓P **P 00 44 21.4 +0.5**
baz=94
M15A Larsen Ranch, 94.55 40 ⇓P **P 00 44 21.7 +0.7**
baz=94
BGU Big Grassy Mou 94.55 40 *e*P **P 00 44 22.3 +1.2**
R11A Troy Canyon, C 94.63 43 ⇑P **P 00 44 21.5 +0.1**
baz=94
N15A Stansbury Isla 94.87 40 ⇑P **P 00 44 23.2 +0.7**
baz=95
BLG Laguna Peak 94.89 49 ⇓P **P 00 44 23.2 +0.5**
baz=95
HWUT Hardware Ranch 94.96 39 *e*P **P 00 44 23.7 +0.8**
comp=Z,36nm,1.4s,mb5.6
HWUT LR LR
comp=Z,3μm,19.0s,MS5.8
LRMC Laurel Mountai 95.01 47 ⇓P **P 00 44 24.1 +0.8**
baz=95
TPNV Topopah Spring 95.06 45 PFAKE 00 44 30.0 +6.5
TPNV LR LR
comp=Z,3μm,20.0s,MS5.7
DUG Dugway 95.15 41 *e*P **P 00 44 24.2 +0.4**
comp=Z,17nm,1.3s,mb5.3
DUG LR LR
comp=Z,3μm,20.0s,MS5.8
NOQ North Oquirrh 95.26 40 *e*P **P 00 44 25.5 +1.2**
comp=Z,14nm,0.8s,mb5.4
BW06 Boulder Array 95.30 37 *e*P **P 00 44 22.7 -1.8**
BW06 LR LR
comp=Z,4μm,19.0s,MS5.9
PDAR Pinedale Array 95.30 37 P **P 00 44 22.2 -2.2**
comp=Z,1.3nm,1.0s,mb4.3,baz=359,slow=6.5,SNR=2.7
GSC Goldstone 95.69 47 *e*P **P 00 44 26.1 -0.3**
comp=Z,28nm,1.4s,mb5.5
ULM Lac du Bonnet 96.12 25 P **P 00 44 24.9 -3.2**
comp=Z,6.0nm,0.8s,mb5.0,baz=344,slow=5.6,SNR=6.8
TUQ Turquoise Mtn. 96.19 46 ⇓P **P 00 44 28.7 0.0**
baz=96
MSU Marysvale 96.60 42 P **P 00 44 31.5 +1.1**
RSSD Black Hills 97.23 33 *e*P **P 00 44 33.2 0.0**
RSSD LR LR
comp=Z,5μm,21.0s,MS5.9
T15A Red Dirt Ranch 97.44 43 ⇑P **P 00 44 34.3 +0.1**
baz=97
IRM Iron Mountain 97.47 47 ⇑P **P 00 44 35.2 +0.7**
baz=97
BC3 Big Chuckw Mtn 97.58 47 ⇓P **P 00 44 35.2 +0.2**
baz=97
W13A Hualapai Mount 97.71 45 ⇑P **P 00 44 35.8 +0.3**
baz=98
SWSC Sam W. Stewart 97.78 48 ⇓P **P 00 44 36.0 +0.1**
baz=98
WUAZ Wupatki 99.03 44 *e*P **P 00 44 41.6 +0.2**
comp=Z,16nm,1.3s,mb5.4
SCHQ Schefferville 99.16 7 PFAKE 00 44 50.0 +8.4
SCHQ LR LR
comp=Z,15μm,20.0s,MS6.5
Y15A Casa Rosa Ranc 99.42 45 ⇑P **P 00 44 43.6 +0.4**
baz=99
ISCO Idaho Springs 99.50 37 PFAKE 00 44 50.0 +6.6
ISCO LR LR
comp=Z,5μm,20.0s,MS6.0
ESDC Sonseca Array 99.51 323 PP PP 00 48 43.7 -2.7
comp=Z,2.7nm,1.0s,baz=52,slow=8.9,SNR=5.3
115A Sonoran Desert 100.28 46 ⇑P Pdif 00 44 47.2 +0.5
baz=100
SDCO Great Sand Dun 101.01 39 PFAKE 00 45 00.0 +10
SDCO LR LR
comp=Z,5μm,19.0s,MS6.0
ANMO Albuquerque 102.39 41 PFAKE 00 45 10.0 +14
ANMO LR LR
comp=Z,5μm,20.0s,MS6.0
EVO Evora 102.52 324 *e*P Pdif 00 44 56.4 -0.2
comp=Z,56nm,1.7s
LSZ Lusaka 102.61 259 *e*Pdif Pdif 00 44 56.1 -0.9
VNDA Vanda 105.26 172 *e*Pdif Pdif 00 45 09.6 +0.8
comp=Z,43nm,1.6s
VNDA PKPdf PKiKP 00 49 20.9 -1.1
VNDA Vanda 105.26 172 PKiKP PKiKP 00 49 20.9 -1.1
comp=Z,0.5nm,0.7s,baz=335,slow=9.4,SNR=2.1
MNTX Cornudas Mount 105.29 43 *e*Pdif Pdif 00 45 09.2 +0.2
comp=Z,70nm,2.1s
SBA Scott Base 106.16 172 *e*Pdif Pdif 00 45 11.5 -1.3
comp=Z,67nm,1.7s
SBA LR LR
comp=Z,3μm,22.0s,MS5.8
WMOK Wichita Mounta 106.91 37 *e*Pdif Pdif 00 45 14.6 -1.5
WMOK LR LR
comp=Z,5μm,21.0s,MS6.1
LTX Lajitas 107.99 44 PFAKE 00 49 40.0 +11
LTX LR LR
comp=Z,399nm,20.0s,MS5.0
TXAR Lajitas Array 107.99 44 PKPdf PKiKP 00 49 28.1 -0.5
TXAR PKKPbc PKKPbc 01 00 38.7 -2.0
TXAR Lajitas Array 107.99 44 PKiKP PKiKP 00 49 28.1 -0.5
comp=Z,0.8nm,0.8s,baz=156,slow=1.3,SNR=3.8
TXAR PKKPbc PKKPbc 01 00 38.7 -2.0
comp=Z,0.8nm,1.1s,baz=158,slow=1.3,SNR=3.6

TORD	**Torodi Ar. Bea**	**112.78**	**298**	PKiKP	PKiKP	00 49 36.9	-1.0
	comp=Z,1.9nm,0.7s,baz=25,slow=1.7,SNR=6.4						
TORD				PP	PP	00 50 23.1	-2.0
	comp=Z,2.1nm,0.9s,baz=51,slow=4.2,SNR=3.8						
QSPA	**South Pole Qui**	**115.46**	**180**	PFAKE		00 49 50.0	+8.9
QSPA				LR	LR		
	comp=Z,9μm,21.0s,MS6.4						
QSPA	**South Pole Qui**	**115.46**	**180**	PP	PP	00 50 42.1	-1.0
	comp=Z,6.7nm,1.1s,baz=313,slow=5.3,SNR=3.4						
DBIC	**Dimbokro**	**121.77**	**296**	PKP	PKPdf	00 49 53.4	-1.8
DBIC	**Dimbokro**	**121.77**	**296**	PKP	PKPdf	00 49 53.4	-1.8
	comp=Z,6.0nm,0.7s,baz=143,slow=4.0,SNR=7.0						
LIC	**Lamto**	**122.16**	**296**	*e*PKIKP	PKPdf	00 49 55.2	-0.8
	comp=Z,26nm,0.9s						
CMIG	**Matias Romero**	**122.34**	**47**	PKP	PKPdf	00 49 55.2	-1.0
CMIG	**Matias Romero**	**122.34**	**47**	PKP	PKPdf	00 49 55.2	-1.0
	comp=Z,3.3nm,0.9s,baz=330,slow=1.1,SNR=3.8						
JTS	**JuntasAbangare**	**133.78**	**43**	PFAKE		00 50 30.0	+12
JTS				LR	LR		
	comp=Z,4μm,22.0s,MS6.1						
SDV	**Santo Domingo**	**142.37**	**26**	PKP	PKPdf	00 50 30.3	-3.5
	comp=Z,31nm,0.8s,baz=17,slow=2.3,SNR=7.2						
ROSC	**El Rosal**	**144.24**	**35**	PKP	PKPdf	00 50 37.0	-0.1
	comp=Z,28nm,0.8s,baz=103,slow=9.7,SNR=6.8						
ATAH	**Atahualpa**	**150.85**	**54**	PKPbc	PKPbc	00 50 55.1	+1.4
	comp=Z,101nm,1.3s,baz=309,slow=2.1,SNR=13						
EFI	**East Falkland**	**153.93**	**175**	*e*PKPdf	PKPdf	00 50 51.8	+0.4
NNA	**Nana**	**155.19**	**61**	PFAKE		00 51 10.0	+16
NNA				LR	LR		
	comp=Z,3μm,21.0s,MS6.1						
LPAZ	**La Paz**	**164.49**	**56**	PKP	PKPdf	00 51 05.6	+0.9
LPAZ				LR	LR		
	comp=Z,4μm,20.0s						
LPAZ	**La Paz**	**164.49**	**56**	PKP	PKPdf	00 51 05.6	+0.9
	comp=Z,14nm,1.2s,baz=353,slow=3.5,SNR=8.5						
BDFB	**Brasilia**	**168.14**	**326**	PKP	PKPdf	00 51 07.2	-0.4
	comp=Z,2.3nm,0.9s,baz=158,slow=26,SNR=4.4						
SIV	**San Ignacio**	**168.75**	**32**	PKP	PKPdf	00 51 08.3	+0.3
	comp=Z,4.2nm,0.9s,baz=180,slow=2.2,SNR=6.6						
SIV				PP	PP	00 56 00.8	-5.6
	comp=Z,2.2nm,0.9s,baz=179,slow=17,SNR=2.3						

JMA 20 00:36:56.4±0.2, 2567N×12506E, h27km, M3.7, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMJ	**Miyako jima 2**	**0.88**	**166**	P	Pn	00 37 12.3	-0.7
JMJ				S	Sb	00 37 23.9	-0.4
JOGS	**Gusukube**	**0.96**	**161**	P	Pn	00 37 13.8	-0.3
JOGS				S	Sb	00 37 26.4	-0.3
JTJ	**Tarama**	**1.07**	**198**	P	Pn	00 37 15.9	+0.2
JTJ				S	Sn	00 37 29.1	-0.6
JIJ	**Ishigaki jima**	**1.54**	**213**	P	Pn	00 37 22.2	+0.1
JIJ				*e*S	Sn	00 37 42.1	+0.8
JKRS	**Kuro-shima**	**1.72**	**214**	*e*S	Sn	00 37 47.7	+2.2
JOW	**Kunigami**	**3.11**	**67**	P	Pn	00 37 45.3	+1.6

BJI ***20*** *00:39:14.0, 758S×1568E, h10km, mB5.3, mb5.3, Ms5.5, Msz5.4*
ISCJB ***20*** *00:39:17.6±0.2, 725S±004×15522E±005, h10km, mb5.0/50, MS4.9/1, Error ellipse: s-maj=6.9km s-min=6.1km az=16.3*
IDC ***20*** *00:39:17.3±0.5, 7.17S×155.14E, h0km, mb4.6/17, mb1 4.7/18, mb1mx4.7/20, mbtmp4.6/18, ML4.1/1, Error ellipse: s-maj=17.8km s-min=12.5km az=128.0*
NEIC ***20*** *00:39:19.0±0.2, 7.18S×155.16E, h10km, mb5.0/22, Error ellipse: s-maj=7.4km s-min=5.8km az=119.0*
MOS ***20*** *00:39:20.8±1.2, 720S×15529E, h33km, mb4.8/6, Error ellipse: s-maj=12.8km s-min=9.6km az=75.6*
ISC 20 00:39:18.5±1.9, 722S±005×15521E±005, h5km±11km, h14km±1.0km: pP-P, n139, σ1§09/115, mb5.0/50, MS4.9/1, 3C-1D, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.18**	**115**	Pn	**Pn**	**00 40 35.5**	**-1.2**
	6.3nm,0.3s,baz=260,slow=10,SNR=1.7						
CTA	**Charters Tower**	**15.46**	**213**	Pn	**Pn**	**00 42 59.4**	**+2.1**
CTA	**Charters Tower**	**15.46**	**213**	Pn	**Pn**	**00 42 59.4**	**+2.1**
	0.2nm,0.3s,baz=47,slow=12,SNR=2.4						
CTAO	**Charters Tower**	**15.46**	**213**	Pn	**Pn**	**00 42 58.5**	**+1.2**
KAKA	**Kakadu**	**23.07**	**255**	*e*P	**P**	**00 44 24.3**	**-0.9**
	46nm,1.1s,mb4.8						
ARMA	**Armidale**	**23.32**	**188**	*e*P	**P**	**00 44 28.6**	**+1.0**
WRAB	**Tennant Creek**	**23.85**	**236**	P	**P**	**00 44 33.0**	**0.0**
	292nm,1.0s,mb5.7,SNR=11						
WRAB	**Tennant Creek**	**23.85**	**236**	*e*P	**P**	**00 44 32.7**	**-0.2**
	96nm,1.3s,mb5.1						
WRAB	**Tennant Creek**	**23.85**	**236**	⇑*i*P	**P**	**00 44 33.3**	**+0.3**
WB2	**Warramunga Arr**	**23.85**	**236**	*e*P	**P**	**00 44 32.6**	**-0.4**
WRA	**Warramunga Arr**	**23.86**	**236**	P	**P**	**00 44 32.5**	**-0.6**
WRA						00 48 16.3	
WRA				S	**S**	**00 48 50.4**	**+0.7**
WRA	**Warramunga Arr**	**23.86**	**236**	P	**P**	**00 44 32.5**	**-0.6**
	43nm,1.1s,mb4.8,baz=62,slow=9.5,SNR=24						
WRA				PcP	PcP	00 48 16.3	0.0
	1.9nm,0.8s,baz=60,slow=2.7,SNR=5.4						
WRA				S	**S**	**00 48 50.4**	**+0.7**
	1.3nm,1.1s,baz=57,slow=15,SNR=3.3						
WRA				ScP	ScP	00 51 55.1	-0.5
	1.4nm,0.7s,baz=60,slow=3.1,SNR=7.0						
ASAR	**Alice Springs**	**26.18**	**229**	P	**P**	**00 44 53.7**	**-0.5**
ASAR				S	**S**	**00 49 28.1**	**+1.4**
ASAR	**Alice Springs**	**26.18**	**229**	P	**P**	**00 44 53.6**	**-0.5**
	18nm,1.0s,mb4.5,baz=59,slow=9.9,SNR=20						
ASAR				S	**S**	**00 49 28.1**	**+1.4**
	0.9nm,0.9s,baz=46,slow=8.3,SNR=3.3						
ASAR				ScP	ScP	00 52 01.9	-0.1
	3.7nm,1.0s,baz=59,slow=3.6,SNR=15						
STKA	**Stephens Creek**	**27.62**	**206**	*e*P	**P**	**00 45 06.4**	**-0.6**
	13nm,0.9s,mb4.5						
STKA	**Stephens Creek**	**27.62**	**206**	P	**P**	**00 45 06.8**	**-0.2**
	14nm,0.9s,mb4.6,baz=27,slow=12,SNR=9.6						
STKA				ScP	ScP	00 52 05.9	-0.2
	2.4nm,0.9s,baz=40,slow=7.9,SNR=3.9						
FITZ	**Fitzroy Crossi**	**30.76**	**247**	*e*P	**P**	**00 45 34.6**	**-0.5**
	20nm,0.8s,mb5.0						
FITZ	**Fitzroy Crossi**	**30.76**	**247**	P	**P**	**00 45 34.5**	**-0.5**
	12nm,0.7s,mb4.8,baz=89,slow=8.2,SNR=18						
RAO	**Raoul Island**	**33.48**	**134**	P	**P**	**00 45 56.7**	**-2.1**
FORT	**Forrest**	**34.57**	**224**	*e*P	**P**	**00 46 07.4**	**-0.9**
	18nm,0.7s,mb5.1						
TAU	**Tasmania Unive**	**36.22**	**190**	*e*P	**P**	**00 46 22.5**	**+0.2**
MBWA	**Marble Bar**	**36.97**	**244**	*e*P	**P**	**00 46 26.3**	**-2.7**
	9.4nm,0.6s,mb4.8						
RPZ	**Rata Peaks**	**38.91**	**162**	P	**P**	**00 46 46.0**	**+0.8**
	5.0nm,0.8s,mb4.3,baz=22,slow=16,SNR=3.5						
KKM	**Kota Kinabalu**	**41.08**	**288**	P	**P**	**00 47 01.8**	**-1.8**
KLBR	**Kellerberrin**	**42.50**	**230**	*e*P	**P**	**00 47 13.9**	**-1.1**
	91nm,1.5s,mb5.3						
NWAO	**Narrogin (SRO)**	**43.50**	**229**	P	**P**	**00 47 21.6**	**-1.5**
	6.7nm,1.0s,mb4.3,baz=100,slow=11,SNR=2.4						
NACB	**Ninganchiao**	**45.27**	**315**	*e*P	**P**	**00 47 34.2**	**-3.1**
KSM	**Kuching**	**45.62**	**279**	P	**P**	**00 47 40.4**	**+0.1**
YHNB	**Yeheng**	**45.73**	**315**	*e*P	**P**	**00 47 40.9**	**-0.1**
MJAR	**Matsushiro Arr**	**46.36**	**341**	P	**P**	**00 47 44.4**	**-1.4**
	0.6nm,0.3s,mb4.0,baz=175,slow=6.1,SNR=3.1						
NJ2	**Nanjing**	**52.22**	**320**	*e*P	**P**	**00 48 32.0**	**+1.3**
NJ2				AP	pP	00 48 35.8	+3.5
NJ2				XP	sP	00 48 39.1	+6.2
NJ2				PCP	PcP	00 49 44.1	+1.8
NJ2				S	**S**	**00 55 55.0**	**-1.2**
NJ2				AMB	AMB		
	comp=Z,30nm,0.6s,mb5.4						
PMOR	**Pomariorio Ree**	**56.24**	**103**	*e*P	**P**	**00 49 01.9**	**+1.6**
	comp=Z,98nm,1.1s,mb5.8						
VAH	**Vaihoa**	**56.50**	**103**	*e*P	**P**	**00 49 03.3**	**+1.1**
	comp=Z,58nm,1.1s,mb5.5						
MDJ	**Mudanjiang**	**56.53**	**338**	P	**P**	**00 49 03.3**	**+1.5**
CN2	**Changchun**	**57.49**	**335**	*e*P	**P**	**00 49 11.8**	**+3.2**
GYA	**Guiyang**	**57.76**	**307**	*e*P	**P**	**00 49 12.8**	**+1.9**
GYA				XP	sP	00 49 19.8	+6.7
GYA				PCP	PcP	00 50 06.3	+2.6
GYA				PP	PP	00 51 23.8	+4.8
GYA				SCP	ScP	00 54 04.8	+0.1
GYA				S	**S**	**00 57 11.3**	**+0.6**
GYA				SCS	ScS	00 58 59.8	-1.8
GYA				SS	SS	01 01 02.6	+1.1
GYA				AMB	AMB		
	comp=Z,20nm,1.0s,mb5.1						
GYA				AMB	AMB		
	comp=Z,140nm,6.4s						
GYA				LR	LR		
	comp=N,640nm,19.6s,MS5.0						
GYA				LR	LR		
	comp=E,820nm,18.8s,MS5.0						
GYA				LR	LR		
	comp=Z,760nm,18.6s,MS4.8						
KMI	**Kunming**	**60.32**	**304**	P	**P**	**00 49 30.6**	**+1.9**
KMI				AMB	AMB		
	comp=Z,18nm,1.4s,mb4.9						
CM31	**Chiang Mai Arr**	**61.07**	**296**	*e*P	**P**	**00 49 33.9**	**0.0**
CD2	**Chengdu**	**62.12**	**310**	*e*P	**P**	**00 49 41.6**	**+0.8**
CD2				S	**S**	**00 58 05.1**	**-1.7**
CD2				SS	SS	01 02 09.9	0.0
CD2				AMB	AMB		
	comp=Z,90nm,0.7s,mb6.0						
HHC	**Hu-ho-hao-te**	**62.40**	**324**	*e*P	**P**	**00 49 44.6**	**+2.1**
HHC				AP	pP	00 49 49.3	+5.2
HHC				XP	sP	00 49 51.8	+7.1
HHC				PP	PP	00 52 04.3	+4.4
HHC				S	**S**	**00 58 09.4**	**-0.5**
HHC				AMB	AMB		
	comp=Z,32nm,0.4s,mb5.8						
LZH	**Lanzhou**	**64.62**	**316**	*e*P	**P**	**00 49 58.8**	**+1.5**
LZH				AP	pP	00 50 01.8	+2.9
LZH				XP	sP	00 50 03.6	+4.1
LZH				AMB	AMB		
	comp=Z,30nm,1.0s,mb5.3						
LZH				AMB	AMB		
	comp=Z,159nm,4.5s						
CASY	**Casey**	**66.44**	**198**	P	**P**	**00 50 07.9**	**-0.7**
MA2	**Magadan**	**66.68**	**358**	*e*P	**P**	**00 50 09.5**	**-0.5**
MA2	**Magadan**	**66.68**	**358**	*e*P	**P**	**00 50 09.5**	**-0.5**
MA2				*e*		00 50 15.6	
MA2				pmax	pmax		
	comp=Z,40nm,0.8s,mb5.5						
GTA	**Gaotai**	**69.05**	**317**	*e*P	**P**	**00 50 26.8**	**+1.4**
GTA				AP	pP	00 50 30.9	+3.8
GTA				XP	sP	00 50 34.5	+6.8
GTA				PP	PP	00 53 01.5	+3.4
GTA				S	S	00 59 32.9	+1.7
GTA				SCS	ScS	01 00 23.0	-4.0
GTA				SS	SS	01 03 57.8	+0.4
GTA				AMB	AMB		
	comp=Z,20nm,0.6s,mb5.2						
SONM	**Songino Array**	**69.64**	**327**	P	**P**	**00 50 29.3**	**+0.4**
	comp=Z,5.4nm,0.7s,mb4.6,baz=132,slow=6.6,SNR=25						
SONM				PKPPKP		01 18 37.1	
	comp=Z,0.9nm,1.1s,baz=307,slow=1.4,SNR=4.5						
VNDA	**Vanda**	**70.35**	**178**	P	**P**	**00 50 33.7**	**+0.9**
	comp=Z,1.5nm,0.9s,mb3.9,baz=346,slow=10.0,SNR=2.8						
YAK	**Yakutsk**	**71.82**	**348**	P	**P**	**00 50 41.3**	**-0.6**
ZAK	**Zakamensk**	**72.80**	**328**	*e*P	**P**	**00 50 47.3**	**-0.7**
ZAK				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.4						
JIRN	**Jiri**	**75.08**	**301**	*e*P	**P**	**00 51 02.9**	**+1.0**
GAMB	**Gambell**	**75.08**	**15**	*e*P	**P**	**00 51 01.4**	**+0.3**
GUN	**Gumba**	**75.42**	**301**	*e*P	**P**	**00 51 04.4**	**+0.6**
	comp=Z,41nm,0.7s,mb5.5						
BILL	**Bilibino**	**75.49**	**4**	*e*P	**P**	**00 51 03.2**	**-0.2**
	comp=Z,30nm,1.2s,mb5.1						
BILL	**Bilibino**	**75.49**	**4**	⇓*i*P	**P**	**00 51 03.5**	**+0.2**
BILL				*i*		00 51 10.5	
BILL				pmax	pmax		
	comp=Z,35nm,1.4s,mb5.1						
PALK	**Pallekele**	**75.69**	**279**	*e*P	**P**	**00 51 05.4**	**-0.2**
PKI	**Pulchoki**	**75.72**	**301**	*e*P	**P**	**00 51 05.9**	**+0.3**
KKN	**Kakani**	**75.89**	**301**	*e*P	**P**	**00 51 06.8**	**+0.3**
	comp=Z,28nm,0.6s,mb5.4						
DMN	**Daman**	**75.99**	**301**	*e*P	**P**	**00 51 07.7**	**+0.6**
	comp=Z,44nm,0.6s,mb5.5						
GKN	**Gorkha**	**76.50**	**301**	*e*P	**P**	**00 51 10.2**	**+0.2**
	comp=Z,67nm,0.9s,mb5.6						
KOLN	**Koldanda**	**77.32**	**300**	*e*P	**P**	**00 51 14.5**	**-0.1**
	comp=Z,36nm,0.8s,mb5.4						
TNA	**Tin City**	**77.49**	**15**	*e*P	**P**	**00 51 14.8**	**+0.1**
SVW2	**Sparrevohn**	**78.13**	**22**	*e*P	**P**	**00 51 19.4**	**+1.0**
WMQ	**Urumqi**	**79.13**	**317**	*e*P	**P**	**00 51 25.0**	**+0.7**
TTA	**Tatalina**	**79.16**	**21**	*e*P	**P**	**00 51 24.3**	**+0.3**
SLKM	**Skilak Lake**	**79.86**	**24**	*e*P	**P**	**00 51 27.7**	**-0.1**
TIXI	**Tiksi**	**80.61**	**352**	*e*P	**P**	**00 51 31.0**	**-0.7**
	comp=Z,1.4nm,0.6s,mb4.1						
TIXI	**Tiksi**	**80.61**	**352**	⇑*i*P	**P**	**00 51 30.5**	**-1.2**
TIXI				pmax	pmax		
	comp=Z,11nm,1.7s,mb4.5						
PMR	**Palmer**	**80.91**	**24**	*e*P	**P**	**00 51 33.2**	**-0.3**
	comp=Z,13nm,0.5s,mb5.1						
PMR	**Palmer**	**80.91**	**24**	*e*P	**P**	**00 51 33.2**	**-0.3**
PMR				pmax	pmax		
	comp=Z,13nm,0.5s,mb5.1						
SML	**Sawmill**	**81.35**	**24**	*e*P	**P**	**00 51 35.9**	**0.0**
IMA2	**Indian Mountai**	**81.95**	**19**	*e*P	**P**	**00 51 39.1**	**+0.2**
MCK	**McKinley**	**82.19**	**22**	*e*P	**P**	**00 51 39.4**	**-0.8**
	comp=Z,48nm,0.9s,mb5.4						
MCK	**McKinley**	**82.19**	**22**	*e*P	**P**	**00 51 39.4**	**-0.8**
MCK				pmax	pmax		
	comp=Z,48nm,0.9s,mb5.4						
QSPA	**South Pole Qui**	**82.75**	**180**	P	**P**	**00 51 44.2**	**+1.2**
	comp=Z,4.6nm,0.9s,mb4.5,baz=40,slow=3.0,SNR=4.0						
COLA	**College**	**83.22**	**21**	*e*P	**P**	**00 51 44.5**	**-1.1**
	comp=Z,32nm,0.9s,mb5.4						
COLA	**College**	**83.22**	**21**	*e*P	**P**	**00 51 44.5**	**-1.1**
COLA				pmax	pmax		
	comp=Z,33nm,0.9s,mb5.4						
MKAR	**Makanchi Array**	**83.71**	**319**	P	**P**	**00 51 48.1**	**-0.5**
	comp=Z,4.2nm,0.8s,mb4.6,baz=101,slow=6.4,SNR=21						
MENT	**Mentasta**	**83.78**	**24**	*e*P	**P**	**00 51 48.9**	**+0.4**
MAW	**Mawson**	**84.27**	**203**	*e*P	**P**	**00 51 51.9**	**+0.9**
	comp=Z,7.7nm,0.9s,mb4.8						
MAW	**Mawson**	**84.27**	**203**	*e*P	**P**	**00 51 51.9**	**+0.9**
MAW				pmax	pmax		
	comp=Z,8.0nm,0.9s						
MAW	**Mawson**	**84.27**	**203**	P	**P**	**00 51 51.0**	**0.0**
	comp=Z,4.1nm,0.9s,mb4.6,baz=124,slow=5.3,SNR=5.4						
ZAA0	**Zalesovo Array**	**84.48**	**326**	*e*P	**P**	**00 51 50.4**	**-1.9**
ZALV	**Zalesovo Beam**	**84.48**	**326**	P	**P**	**00 51 50.5**	**-1.8**
	comp=Z,2.7nm,0.5s,mb4.6,baz=117,slow=5.6,SNR=16						
ZAL	**Zalesovo**	**84.49**	**326**	P	**P**	**00 51 50.5**	**-1.8**
EGAK	**Eagle**	**85.64**	**23**	*e*P	**P**	**00 51 58.2**	**+0.3**
DAWY	**Dawson**	**86.02**	**24**	*e*P	**P**	**00 52 00.4**	**+0.7**
KSH	**Kashi**	**86.32**	**310**	P	**P**	**00 52 03.5**	**+1.7**
KSH				*e*AP	pP	00 52 08.3	+4.8
KSH				*e*XP	sP	00 52 10.3	+6.3
KSH				*e*PP	PP	00 55 26.0	+3.1
KSH				SKS		01 02 25.8	
KSH				S	S	01 02 37.5	-0.6
KSH				XS	sS	01 02 45.9	+5.1
KSH				SS	SS	01 08 20.6	+2.9
KSH				AMB	AMB		
	comp=Z,157nm,0.8s						
KURK	**Kurchatov**	**87.14**	**322**	*e*P	**P**	**00 52 04.5**	**-1.1**
	comp=Z,9.4nm,1.6s,mb4.8						
KURK	**Kurchatov**	**87.14**	**322**	*e*P	**P**	**00 52 04.5**	**-1.0**
KURK				pmax	pmax		
	comp=Z,9.0nm,1.6s,mb4.8						
TKM2	**Tokmak 2**	**87.32**	**314**	*e*P	**P**	**00 52 06.4**	**-0.2**
	comp=Z,2.0nm,0.7s,mb4.5						
TKM2	**Tokmak 2**	**87.32**	**314**	*e*P	**P**	**00 52 06.4**	**-0.2**
TKM2				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.5						
KIPM	**Iron Peak**	**87.95**	**50**	*e*P	**P**	**00 52 08.5**	**-1.2**
UCH	**Uchtor**	**87.96**	**313**	*e*P	**P**	**00 52 10.5**	**+0.7**
	comp=Z,2.8nm,0.7s,mb4.6						
AAK	**Ala-Archa**	**88.06**	**313**	*e*P	**P**	**00 52 09.6**	**-0.6**
	comp=Z,2.3nm,0.5s,mb4.7						
AAK	**Ala-Archa**	**88.06**	**313**	*e*P	**P**	**00 52 09.8**	**-0.4**
AAK				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.6						
DLBC	**Dease Lake**	**88.23**	**31**	*e*P	**P**	**00 52 11.6**	**+1.0**
AML	**Almayashu**	**88.54**	**313**	*e*P	**P**	**00 52 14.3**	**+1.8**
	comp=Z,11nm,0.9s,mb5.2						
EKS2	**Erkin-Say**	**88.58**	**313**	*e*P	**P**	**00 52 14.0**	**+1.3**
	comp=Z,3.2nm,0.8s,mb4.7						
NVAR	**Mina Array Bea**	**91.70**	**52**	P	**P**	**00 52 28.8**	**+1.5**
	comp=Z,2.9nm,0.9s,mb4.6,baz=257,slow=3.9,SNR=14						
SYO	**Syowa Base**	**92.18**	**199**	⇑*e*PcP	PcP	00 52 30.3	+0.6
BVAR	**Borovoye Array**	**92.60**	**323**	P	**P**	**00 52 28.5**	**-2.7**
	comp=Z,0.8nm,0.6s,mb4.3,baz=101,slow=7.7,SNR=6.1						
BRVK	**Borovoye**	**92.67**	**323**	P	**P**	**00 52 30.1**	**-1.4**
YKW3	**Yellowknife Ar**	**96.44**	**28**	*e*P	**P**	**00 52 47.9**	**-0.5**
YKA	**Yellowknife Ar**	**96.44**	**28**	P	**P**	**00 52 48.0**	**-0.4**
YKA	**Yellowknife Ar**	**96.44**	**28**	P	**P**	**00 52 48.0**	**-0.4**
	comp=Z,3.8nm,0.7s,mb4.9,baz=265,slow=4.6,SNR=53						
EGMT	**Eagleton**	**98.69**	**43**	*e*P	**P**	**00 52 59.1**	**+0.2**
	comp=Z,51nm,1.3s,mb5.9						
BW06	**Boulder Array**	**98.69**	**48**	*e*P	**P**	**00 52 57.1**	**-2.0**
PDAR	**Pinedale Array**	**98.69**	**48**	P	**P**	**00 52 58.5**	**-0.6**
	comp=Z,0.8nm,0.7s,mb4.4,baz=210,slow=4.0,SNR=5.6						
ANMO	**Albuquerque**	**100.92**	**56**	*e*P	Pdif	00 53 05.3	-3.5
PHWY	**Pilot Hill**	**101.73**	**49**	*e*Pdif	Pdif	00 53 07.4	-5.0
WMOK	**Wichita Mounta**	**107.23**	**56**	PKiKP	PKiKP	00 57 46.2	-0.3
ARCES	**ARCESS Array B**	**109.87**	**343**	PKPdf	PKiKP	00 57 50.2	-0.2
ARCES	**ARCESS Array B**	**109.87**	**343**	PKiKP	PKiKP	00 57 50.2	-0.2
	comp=Z,3.9nm,1.1s,baz=70,slow=3.3,SNR=4.9						
MALT	**Malatya**	**115.39**	**309**	*e*PKPdf	PKPdf	00 58 00.2	-1.6
KMBO	**Kilima Mbogo**	**117.55**	**265**	PKPdf	PKPdf	00 58 07.3	+0.6
LBTB	**Lobatse**	**121.43**	**235**	*e*PKPdf	PKPdf	00 58 15.7	+1.9
CFAA	**Coronel Fontan**	**123.33**	**135**	PKP	PKPdf	00 58 17.0	-0.4
	comp=Z,0.4nm,0.8s,baz=207,slow=2.3,SNR=4.7						
NNA	**Nana**	**124.84**	**110**	*e*PKPdf	PKPdf	00 58 20.4	-0.3
CLL	**Collm**	**126.11**	**332**	*e*PKPdf	PKPdf	00 58 22.0	0.0
GERES	**GERESS Array B**	**127.36**	**329**	PKP	PKPdf	00 58 23.3	-1.1
	comp=Z,0.6nm,0.6s,baz=134,slow=3.9,SNR=4.4						
LPAZ	**La Paz**	**131.16**	**119**	*e*PKPdf	PKPdf	00 58 33.5	+0.9
LPAZ	**La Paz**	**131.16**	**119**	PKP	PKPdf	00 58 33.4	+0.8
	comp=Z,4.0nm,0.9s,baz=334,slow=2.5,SNR=8.4						
LPAZ				SKPbc	SKPbc	01 01 58.6	+0.4
	comp=Z,1.1nm,0.7s,baz=172,slow=7.1,SNR=4.4						
SDV	**Santo Domingo**	**134.60**	**85**	PKP	PKPdf	00 58 39.3	+0.1
SDV	**Santo Domingo**	**134.60**	**85**	PKP	PKPdf	00 58 39.3	+0.1
	comp=Z,3.6nm,0.8s,baz=305,slow=5.7,SNR=5.4						
SIV	**San Ignacio**	**137.31**	**123**	PKP	PKPdf	00 58 44.4	+0.3
	comp=Z,3.0nm,0.9s,baz=244,slow=2.4,SNR=5.0						
SIV				SKPbc	SKPbc	01 02 17.4	-1.0
	comp=Z,0.9nm,0.6s,baz=285,slow=12,SNR=4.0						
PCBR	**Castelo Branco**	**144.00**	**337**	*e*PKP	PKPdf	00 58 53.7	-1.9
PTOM	**Tomar**	**144.55**	**338**	*e*PKP	PKPdf	00 58 55.0	-1.6
PESTR	**Estremoz**	**144.88**	**336**	*e*PKP	PKPdf	00 58 55.9	-1.3
PBAR	**Barrancos**	**145.25**	**335**	*e*PKP	PKPdf	00 58 57.3	-0.5
EVO	**Evora**	**145.34**	**337**	*e*PKP	PKPdf	00 58 57.7	-0.3
PMAFR	**Mafra**	**145.45**	**338**	*e*PKP	PKPdf	00 58 58.1	0.0
PBEJ	**Beja**	**145.71**	**336**	*e*PKP	PKPdf	00 58 59.0	+0.4
PVAQ	**Vaqueiros**	**146.18**	**335**	*e*PKP	PKPdf	00 59 00.6	+1.2
PBDV	**Barranco-do-Ve**	**146.41**	**335**	*e*PKP	PKPdf	00 59 01.5	+1.7
PTEO	**Sao Teotonio**	**146.47**	**337**	*e*PKP	PKPdf	00 59 01.2	+1.3
BDFB	**Brasilia**	**147.67**	**135**	PKPbc	PKPbc	00 59 02.8	-2.5
	comp=Z,7.4nm,0.8s,baz=191,slow=25,SNR=15						
MDT	**Midelt**	**148.38**	**326**	PKPbc	PKPbc	00 59 07.0	+0.4
	comp=Z,3.3nm,0.8s,baz=72,slow=3.8,SNR=12						
TORD	**Torodi Ar. Bea**	**153.29**	**285**	PKPbc	PKPbc	00 59 17.9	-0.8
	comp=Z,4.0nm,0.9s,baz=56,slow=1.9,SNR=13						
DBIC	**Dimbokro**	**160.20**	**270**	PKPab	PKPab	01 00 01.9	+1.4
	comp=Z,2.7nm,0.7s,baz=136,slow=5.7,SNR=4.0						

JMA 20 00:39:33.0±0.1, 2577N×12525E, h26km±3km, M3.7, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMJ	**Miyako jima 2**	**0.95**	**178**	P	Pn	00 39 50.2	-0.5
JMJ				S	Sb	00 40 02.7	-0.3
JOGS	**Gusukube**	**1.02**	**172**	P	Pn	00 39 51.2	-0.4
JOGS				S	Sb	00 40 04.3	-0.6
JTJ	**Tarama**	**1.23**	**204**	P	Pn	00 39 54.6	+0.1

1.1nm,0.7s,mb4.0,baz=102,slow=8.5,SNR=7.5
BVAR PcP PcP 00 57 46.7 0.0
0.8nm,0.8s,baz=115,slow=6.5,SNR=3.3
ASAR Alice Springs 49.76 170 P **P 00 56 29.8 +0.5**
1.8nm,0.8s,mb4.2,baz=353,slow=9.5,SNR=14
ASAR PcP PcP 00 57 50.6 +0.4
0.8nm,0.9s,baz=337,slow=2.5,SNR=3.2
STKA Stephens Creek 59.32 164 P **P 00 57 39.0 +0.3**
1.3nm,0.7s,mb4.1,baz=34,slow=4.0,SNR=3.5
DAWY Dawson 69.55 28 *eP* **P 00 58 45.4 +0.1**
INK Inuvik 70.48 23 P **P 00 58 50.8 -0.1**
0.8nm,0.8s,mb3.7,baz=293,slow=5.9,SNR=6.4
AKASG Malin Array Be 74.17 319 P **P 00 59 12.3 -1.0**
0.8nm,0.5s,mb3.9,baz=57,slow=5.6,SNR=4.5
YKA Yellowknife Ar 80.17 24 P **P 00 59 46.5 -0.3**
YKA Yellowknife Ar 80.17 24 P **P 00 59 46.5 -0.3**
3.4nm,0.8s,mb4.3,baz=305,slow=5.2,SNR=50
VRAC Vranov 82.11 321 P **P 00 59 57.6 +0.3**
0.7nm,0.5s,mb3.9,baz=120,slow=8.1,SNR=3.6

JMA 20 00:49:27.6±0.3, 2573N×12514E, h18km, M4.1, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMJ	**Miyako jima 2**	**0.92**	**171**	P	Pb	00 49 44.6	-0.5
JMJ				S	Sb	00 49 56.5	-0.5
JOGS	**Gusukube**	**0.99**	**166**	P	Pb	00 49 45.8	-0.5
JOGS				S	Sb	00 49 59.0	-0.1
JTJ	**Tarama**	**1.16**	**200**	P	Pn	00 49 48.1	-0.8
JTJ				*e*S	Sb	00 50 03.6	-0.1
JIJ	**Ishigaki jima**	**1.63**	**214**	P	Pn	00 49 55.9	+0.5
JIJ				*e*S	Sn	00 50 16.3	+0.3
JKRS	**Kuro-shima**	**1.81**	**215**	P	Pn	00 49 59.8	+2.0

*IDC **20** 00:57:00.0±1.5, 2563N×125.14E, h0km, mb3.4/3, mb1 3.6/4, mb1mx3.4/20, mbtmp3.5/4, ML3.0/1, Error ellipse: s-maj=41.0km s-min=33.9km az=78.0*
*JMA **20** 00:57:01.5±0.1, 2573N×125.19E, h20km±2km, M2.8*
*ISCJB **20** 00:57:03.7±2.5, 2564N±0.10×1252E±0.1, h33km±18km, mb3.4/3, Error ellipse: s-maj=25.8km s-min=9.6km az=32.1*
ISC 20 00:57:01.8±2.5, 2568N±009×1252E±01, h11km±16km, n9, σ0°71/11, mb3.4/3, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMJ	**Miyako jima 2**	**0.87**	**173**	P	**Pg**	**00 57 18.3**	**-0.3**
JMJ				*e*S	**Sg**	**00 57 30.4**	**+0.4**
JOGS	**Gusukube**	**0.94**	**167**	P	**Pg**	**00 57 19.5**	**-0.5**
JOGS				*e*S	**Sg**	**00 57 32.5**	**+0.3**
JTJ	**Tarama**	**1.12**	**203**	*e*S	**Sb**	**00 57 37.7**	**-0.1**
JKE	**Kume jima 2**	**1.59**	**66**	P	**Pn**	**00 57 28.4**	**-1.4**
JIJ	**Ishigaki jima**	**1.61**	**216**	P	**Pn**	**00 57 30.0**	**-0.2**
JOW	**Kunigami**	**3.01**	**67**	Pn	**Pn**	**00 57 51.0**	**+1.6**
3.6nm,0.3s,baz=225,slow=9.5,SNR=7.7							
ZALV	**Zalesovo Beam**	**41.05**	**324**	P	**P**	**01 04 45.8**	**+0.7**
0.6nm,0.5s,mb3.5,baz=125,slow=12,SNR=2.1							
WRA	**Warramunga Arr**	**46.22**	**168**	P	**P**	**01 05 26.8**	**-0.2**
0.4nm,0.7s,mb3.4,baz=350,slow=8.5,SNR=3.1							
YKA	**Yellowknife Ar**	**80.16**	**24**	P	**P**	**01 09 11.4**	**-0.3**
0.3nm,0.7s,mb3.3,baz=303,slow=5.0,SNR=8.7							

JMA 20 00:57:22.7±0.2, 2570N×12520E, h22km±5km, M3.6, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMJ	**Miyako jima 2**	**0.89**	**174**	P	Pb	00 57 39.0	-0.4
JMJ				S	Sb	00 57 50.8	0.0
JOGS	**Gusukube**	**0.95**	**169**	P	Pb	00 57 40.2	-0.4
JOGS				S	Sb	00 57 53.0	+0.3
JTJ	**Tarama**	**1.15**	**203**	S	Sb	00 57 58.6	+0.3
JIJ	**Ishigaki jima**	**1.64**	**216**	S	Sn	00 58 10.5	-0.1

*ISCJB **20** 00:59:05.4±0.4, 4330S±003×17338E±005, h38km±12km, Error ellipse: s-maj=8.0km s-min=3.1km az=41.8*
*WEL **20** 00:59:06.7±0.3, 4325S×17328E, h25km±2km, ML4.0/50, Error ellipse: s-maj=3.9km s-min=2.3km az=90.0*
WEL Felt in the Canterbury region, maximum reported intensity MM 4.
*NEIC **20** 00:59:06.7, 4325S×17331E, h22km, ML4.0(WEL), After WEL.*
NEIC Felt at Greta Valley.
ISC 20 00:59:06.4±0.6, 4326S±004×17333E±005, h29km±6km, n62, σ0°81/75, 1C-4D, Off east coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRLZ	**Canterbury Las**	**0.60**	**238**	P	**Pb**	**00 59 18.7**	**+0.3**
CRLZ				S	**Sb**	**00 59 26.3**	**-0.4**
CRLZ	**Canterbury Las**	**0.60**	**238**	⇓P*	**Pb**	**00 59 18.7**	**+0.2**
CRLZ				S*	**Sb**	**00 59 26.3**	**-0.3**
MQZ	**McQueen's Vall**	**0.66**	**228**	P	**Pb**	**00 59 19.3**	**-0.1**
MQZ				S	**Sb**	**00 59 27.5**	**-0.8**
MQZ	**McQueen's Vall**	**0.66**	**228**	⇓P*	**Pb**	**00 59 19.3**	**-0.2**
MQZ				S*	**Sb**	**00 59 27.5**	**-0.8**
KHZ	**Kahutara**	**0.86**	**10**	*e*P	**Pn**	**00 59 22.4**	**-0.1**
KHZ				S	**Sb**	**00 59 33.0**	**-0.8**
KHZ	**Kahutara**	**0.86**	**10**	⇑PN	**Pn**	**00 59 22.4**	**0.0**
KHZ				S*	**Sb**	**00 59 33.4**	**-0.4**
LTZ	**Lake Taylor**	**0.91**	**301**	P	**Pn**	**00 59 23.4**	**+0.2**
LTZ	**Lake Taylor**	**0.91**	**301**	⇓PN	**Pn**	**00 59 23.4**	**+0.2**
THZ	**Tophouse**	**1.53**	**348**	P	**Pn**	**00 59 31.9**	**+0.2**
THZ	**Tophouse**	**1.53**	**348**	PN	**Pn**	**00 59 31.9**	**+0.2**
THZ				SN	**Sn**	**00 59 49.6**	**-1.0**
BSWZ	**Blackbirch Sta**	**1.60**	**15**	P	**Pn**	**00 59 33.2**	**+0.6**
BSWZ	**Blackbirch Sta**	**1.60**	**15**	PN	**Pn**	**00 59 33.2**	**+0.5**
BSWZ				SN	**Sn**	**00 59 53.0**	**+0.7**
RPZ	**Rata Peaks**	**1.72**	**254**	P	**Pn**	**00 59 34.3**	**0.0**
RPZ	**Rata Peaks**	**1.72**	**254**	⇓PN	**Pn**	**00 59 34.3**	**0.0**
RPZ				SN	**Sn**	**00 59 53.4**	**-1.8**
TUWZ	**Tuamarina**	**1.89**	**14**	PN	**Pn**	**00 59 36.6**	**0.0**
DSZ	**Denniston Nort**	**1.89**	**323**	PN	**Pn**	**00 59 37.6**	**+0.9**
DSZ				SN	**Sn**	**00 59 58.8**	**-0.7**
WVZ	**Waitaha Valley**	**1.91**	**275**	P	**Pn**	**00 59 37.3**	**+0.4**
WVZ	**Waitaha Valley**	**1.91**	**275**	PN	**Pn**	**00 59 37.3**	**+0.4**
WVZ				SN	**Sn**	**00 59 59.0**	**-0.9**
NNZ	**Nelson**	**2.04**	**1**	PN	**Pn**	**00 59 39.0**	**+0.3**
TCW	**Tory Channel**	**2.17**	**19**	PN	**Pn**	**00 59 40.2**	**-0.3**
TCW				SN	**Sn**	**01 00 04.7**	**-1.5**
BHW	**Baring Head**	**2.18**	**32**	PN	**Pn**	**00 59 40.2**	**-0.4**
SNZO	**South Karori**	**2.20**	**28**	*e*Pn	**Pn**	**00 59 40.9**	**-0.1**
SNZO				*e*Sn	**Sn**	**01 00 05.1**	**-2.0**
SNZO	**South Karori**	**2.20**	**28**	PN	**Pn**	**00 59 40.7**	**-0.3**
MRW	**Makara Radio**	**2.27**	**27**	PN	**Pn**	**00 59 41.5**	**-0.4**
MSWZ	**Moikau Station**	**2.33**	**38**	PN	**Pn**	**00 59 41.9**	**-0.8**
PAWZ	**Paruwai Farm**	**2.44**	**40**	PN	**Pn**	**00 59 44.1**	**-0.1**
DUWZ	**D'Urville Isla**	**2.50**	**10**	PN	**Pn**	**00 59 45.2**	**+0.2**
QRZ	**Quartz Range**	**2.50**	**346**	PN	**Pn**	**00 59 46.2**	**+1.1**
CAW	**Cannon Point**	**2.51**	**32**	PN	**Pn**	**00 59 44.7**	**-0.4**
LBZ	**Lake Benmore**	**2.54**	**243**	PN	**Pn**	**00 59 46.0**	**+0.5**
TRWZ	**Traveller**	**2.55**	**44**	PN	**Pn**	**00 59 45.1**	**-0.7**
ODZ	**Otahua Downs**	**2.63**	**226**	PN	**Pn**	**00 59 47.0**	**+0.2**
FOZ	**Fox Glacier**	**2.67**	**262**	PN	**Pn**	**00 59 47.5**	**+0.1**
KIW	**Kapiti Island**	**2.67**	**27**	PN	**Pn**	**00 59 47.2**	**-0.2**
MRZ	**Mangatainoka R**	**3.09**	**34**	PN	**Pn**	**00 59 52.3**	**-0.9**
TIWZ	**Tintock**	**3.13**	**38**	PN	**Pn**	**00 59 52.6**	**-1.1**
HHSZ	**Highcliff Hill**	**3.27**	**216**	PN	**Pn**	**00 59 55.5**	**-0.1**
BFZ	**Birch Farm**	**3.37**	**41**	PN	**Pn**	**00 59 55.7**	**-1.3**
JCZ	**Jackson Bay**	**3.42**	**255**	PN	**Pn**	**00 59 57.6**	**0.0**
EAZ	**Earnscleugh**	**3.50**	**234**	PN	**Pn**	**00 59 58.9**	**+0.2**
WAZ	**Wanganui**	**3.72**	**20**	PN	**Pn**	**01 00 03.4**	**+1.6**
TSZ	**Takapari Road**	**3.76**	**33**	PN	**Pn**	**01 00 01.3**	**-1.1**
TUZ	**Tuapeka**	**3.77**	**223**	PN	**Pn**	**01 00 02.6**	**+0.1**
NWEZ	**Newall Road**	**4.00**	**6**	PN	**Pn**	**01 00 07.9**	**+2.2**
PKE	**Pukeiti**	**4.09**	**7**	PN	**Pn**	**01 00 09.0**	**+2.0**
MLZ	**Mavora Lakes**	**4.25**	**239**	PN	**Pn**	**01 00 09.3**	**+0.3**
MOVZ	**Moawhango**	**4.26**	**26**	PN	**Pn**	**01 00 08.8**	**-0.4**
WNVZ	**Wahianoa**	**4.29**	**24**	PN	**Pn**	**01 00 09.8**	**+0.3**
FWVZ	**Far West T-bar**	**4.34**	**23**	PN	**Pn**	**01 00 11.2**	**+0.9**
TUVZ	**Tukino**	**4.36**	**24**	PN	**Pn**	**01 00 11.1**	**+0.5**
WPVZ	**Whakapapa**	**4.38**	**23**	PN	**Pn**	**01 00 11.4**	**+0.5**
SYZ	**Scrubby Hill**	**4.43**	**221**	PN	**Pn**	**01 00 11.6**	**+0.2**
NGZ	**Ngauruhoe**	**4.43**	**24**	PN	**Pn**	**01 00 11.8**	**+0.3**
TWVZ	**Taurewa**	**4.48**	**22**	PN	**Pn**	**01 00 12.5**	**+0.3**
WTVZ	**West Tongariro**	**4.48**	**23**	PN	**Pn**	**01 00 12.6**	**+0.3**
KRVZ	**Karewarewa**	**4.51**	**24**	PN	**Pn**	**01 00 13.4**	**+0.7**
WHZ	**Wether Hill Ro**	**4.66**	**234**	PN	**Pn**	**01 00 13.6**	**-1.1**
HIZ	**Hauiti**	**4.88**	**14**	PN	**Pn**	**01 00 18.5**	**+0.8**
APZ	**The Paps**	**5.20**	**225**	PN	**Pn**	**01 00 22.1**	**-0.1**
RAO	**Raoul Island**	**15.65**	**30**	Pn	**Pn**	**01 02 45.3**	**+0.6**
TAU	**Tasmania Unive**	**18.98**	**262**	P	**Pn**	**01 03 28.5**	**+2.3**
WRAB	**Tennant Creek**	**40.03**	**293**	P	**P**	**01 06 39.2**	**+0.4**

IDC 20 01:00:31.7±29.0, 1735S×17858W, h478km±360km, mb3.3/7, mb1 3.6/7, mb1mx3.3/16, mbtmp3.3/7, Error ellipse: s-maj=138.9km s-min=62.9km az=179.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**38.75**	**241**	*e*P	P	01 07 14.1	+0.1
2.3nm,0.6s							
STKA	**Stephens Creek**	**38.75**	**241**	P	P	01 07 13.8	-0.3
3.1nm,0.6s,baz=86,slow=8.1,SNR=7.1							
WB2	**Warramunga Arr**	**44.56**	**259**	*e*P	P	01 07 59.9	-0.4
WRA	**Warramunga Arr**	**44.57**	**259**	P	P	01 08 00.1	-0.3
2.0nm,0.4s,baz=94,slow=7.1,SNR=71							
ASAR	**Alice Springs**	**44.78**	**254**	P	P	01 08 02.2	+0.2
21nm,0.6s,baz=88,slow=8.4,SNR=244							
FITZ	**Fitzroy Crossi**	**52.96**	**260**	P	P	01 09 03.0	+0.1
0.6nm,0.3s,baz=104,slow=4.2,SNR=6.0							
NVAR	**Mina Array Bea**	**79.14**	**44**	P	P	01 11 46.8	+0.8
0.5nm,0.6s,baz=227,slow=7.8,SNR=4.1							
TXAR	**Lajitas Array**	**85.84**	**58**	P	P	01 12 20.6	+0.3
0.5nm,0.7s,baz=220,slow=5.8,SNR=7.6							
PDAR	**Pinedale Array**	**87.06**	**44**	P	P	01 12 25.1	-0.6
0.3nm,0.4s,baz=204,slow=3.3,SNR=3.7							

*IDC **20** 01:01:05.4±1.1, 2535N×125.15E, h0km, mb3.6/6, mb1 3.7/7, mb1mx3.6/21, mbtmp3.6/7, ML3.8/1, Error ellipse: s-maj=33.5km s-min=23.3km az=52.0*
*JMA **20** 01:01:08.6±0.3, 2580N×125.17E, h21km±4km, M3.7*
*ISCJB **20** 01:01:09.4±2.0, 2576N±009×1252E±01, h23km±19km, mb3.5/6, Error ellipse: s-maj=20.3km s-min=8.0km az=43.1*
ISC 20 01:01:09.7±1.9, 2571N±007×1252E±01, h15km±14km, n15, σ0°78/19, mb3.5/6, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMJ	**Miyako jima 2**	**0.90**	**174**	P	**Pg**	**01 01 26.5**	**-0.5**
JMJ				S	**Sg**	**01 01 39.3**	**+0.5**
JOGS	**Gusukube**	**0.96**	**169**	P	**Pg**	**01 01 27.8**	**-0.5**
JOGS				S	**Sg**	**01 01 41.7**	**+0.7**
JTJ	**Tarama**	**1.16**	**203**	P	**Pb**	**01 01 30.3**	**-1.0**
JTJ				S	**Sb**	**01 01 46.2**	**+0.1**
JKE	**Kume jima 2**	**1.55**	**66**	P	**Pn**	**01 01 35.3**	**-1.4**
JIJ	**Ishigaki jima**	**1.65**	**216**	P	**Pn**	**01 01 37.2**	**-0.8**
JIJ				S	**Sn**	**01 01 58.5**	**-0.4**
JKRS	**Kuro-shima**	**1.82**	**217**	P	**Pn**	**01 01 41.2**	**+0.8**
IRIF	**Iriomote-Funau**	**1.91**	**225**	P	**Pn**	**01 01 41.4**	**-0.2**
HATJ	**Hateruma jima**	**2.08**	**218**	P	**Pn**	**01 01 44.6**	**+0.7**
JOW	**Kunigami**	**2.98**	**67**	Pn	**Pn**	**01 01 57.1**	**+0.8**
20nm,0.3s,baz=242,slow=10,SNR=18							
SONM	**Songino Array**	**26.59**	**331**	P	**P**	**01 06 48.7**	**+1.5**
0.4nm,0.6s,mb3.1,baz=146,slow=10,SNR=3.5							
MKAR	**Makanchi Array**	**39.87**	**313**	P	**P**	**01 08 42.0**	**-0.6**
0.4nm,0.6s,mb3.4,baz=103,slow=9.2,SNR=3.5							
ZALV	**Zalesovo Beam**	**41.04**	**324**	P	**P**	**01 08 51.5**	**-0.7**
0.8nm,0.4s,mb3.7,baz=113,slow=7.4,SNR=5.1							
WRA	**Warramunga Arr**	**46.24**	**168**	P	**P**	**01 09 29.9**	**-4.4**
0.3nm,0.7s,mb3.3,baz=349,slow=7.8,SNR=2.8							
BVAR	**Borovoye Array**	**48.86**	**319**	P	**P**	**01 09 55.3**	**+0.9**
0.4nm,0.6s,mb3.6,baz=92,slow=8.7,SNR=3.1							
YKA	**Yellowknife Ar**	**80.13**	**24**	P	**P**	**01 13 18.7**	**0.0**
1.0nm,0.7s,mb3.9,baz=304,slow=5.2,SNR=24							

*IDC **20** 01:05:20.4±1.3, 2563N×125.29E, h0km, mb3.4/5, mb1 3.5/6, mb1mx3.4/20, mbtmp3.4/6, ML3.2/1, Error ellipse: s-maj=35.9km s-min=25.1km az=50.0*
*JMA **20** 01:05:21.8±0.3, 2576N×125.27E, h28km±5km, M3.4*
*ISCJB **20** 01:05:23.7±0.6, 2569N±004×1253E±007, h33km, mb3.2/5, Error ellipse: s-maj=9.9km s-min=5.4km az=23.7*
ISC 20 01:05:22.6±1.6, 2568N±005×1252E±009, h14km±10km, n12, σ0°96/17, mb3.2/5, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMJ	**Miyako jima 2**	**0.86**	**178**	P	**Pg**	**01 05 38.9**	**-0.4**
JMJ				S	**Sg**	**01 05 51.4**	**+0.8**
JOGS	**Gusukube**	**0.93**	**171**	P	**Pb**	**01 05 39.7**	**-0.7**
JOGS				S	**Sb**	**01 05 53.5**	**+1.0**
JTJ	**Tarama**	**1.15**	**206**	P	**Pb**	**01 05 43.4**	**-0.8**
JTJ				S	**Sb**	**01 05 58.8**	**-0.1**
JKE	**Kume jima 2**	**1.52**	**65**	P	**Pn**	**01 05 47.1**	**-2.2**
JIJ	**Ishigaki jima**	**1.65**	**218**	P	**Pn**	**01 05 50.4**	**-0.7**
JIJ				S	**Sn**	**01 06 11.5**	**-0.6**
JKRS	**Kuro-shima**	**1.83**	**218**	P	**Pn**	**01 05 54.2**	**+0.7**
JKRS				S	**Sn**	**01 06 16.6**	**+0.2**
JOW	**Kunigami**	**2.95**	**66**	Pn	**Pn**	**01 06 10.2**	**+1.3**
5.7nm,0.3s,baz=258,slow=8.5,SNR=6.0							
SONM	**Songino Array**	**26.64**	**331**	P	**P**	**01 11 01.5**	**+0.8**
0.6nm,1.0s,mb3.1,baz=134,slow=4.2,SNR=2.8							
MKAR	**Makanchi Array**	**39.93**	**313**	P	**P**	**01 12 58.3**	**+2.2**
0.2nm,0.5s,mb3.1,baz=112,slow=9.8,SNR=2.4							
ZALV	**Zalesovo Beam**	**41.09**	**324**	P	**P**	**01 13 05.0**	**-0.7**
0.6nm,0.6s,mb3.4,baz=117,slow=9.2,SNR=3.1							
WRA	**Warramunga Arr**	**46.20**	**168**	P	**P**	**01 13 46.8**	**-0.3**
0.2nm,0.5s,mb3.3,baz=350,slow=9.2,SNR=4.9							
YKA	**Yellowknife Ar**	**80.14**	**24**	P	**P**	**01 17 31.4**	**-0.5**
0.2nm,0.5s,mb3.3,baz=300,slow=5.4,SNR=5.8							

*NEIC **20** 01:08:41.7, 1721N×100.44W, h36km, MD3.7(MEX), After MEX.*
MEX 20 01:08:41.8±0.5, 1720N×10043W, h36km±6km, MD3.7, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.22**	**134**	*i* P	Pn	01 08 47.3	-1.5
CAIG				*i* S	Sn	01 08 52.0	-1.7
CAIG	**El Cayaco**	**0.22**	**134**	*i* P	Pn	01 08 47.3	-1.5
CAIG				*i* S	Sn	01 08 52.0	-1.7
ACX	**Acapulco**	**0.59**	**124**	*i* P	Pn	01 08 52.0	-1.7
ACX				*i* S	Sn	01 09 00.0	-2.1
MEIG	**Mezcala**	**1.06**	**47**	*i* P	Pn	01 08 58.4	-1.8
MEIG				*i* S	Sn	01 09 11.3	-2.3
PLIG	**Platanillo**	**1.48**	**37**	*i* P	Pn	01 09 05.2	-0.7
PLIG				*i* S	Sn	01 09 21.7	-2.3
PPM	**Popocatepetl**	**2.53**	**42**	*i* P	Pn	01 09 19.7	-0.6
PPM				*i* S	Sn	01 09 52.0	+2.1

*IDC **20** 01:14:59.1±1.2, 2561N×125.24E, h0km, mb3.5/4, mb1 3.7/5, mb1mx3.5/18, mbtmp3.6/5, ML3.0/1, Error ellipse: s-maj=35.2km s-min=27.7km az=62.0*
*ISCJB **20** 01:15:02.0±1.9, 2574N±009×1253E±0.1, h27km±16km, mb3.5/5, Error ellipse: s-maj=19.8km s-min=9.5km az=42.0*
*JMA **20** 01:15:01.6±0.3, 2577N×125.25E, h28km, M3.2*
ISC 20 01:15:01.4±1.7, 2573N±005×1252E±009, h12km±11km, n12, σ0°47/16, mb3.5/5, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMJ	**Miyako jima 2**	**0.91**	**177**	P	**Pg**	**01 15 18.6**	**-0.3**
JMJ				S	**Sg**	**01 15 31.2**	**+0.4**
JOGS	**Gusukube**	**0.97**	**171**	P	**Pb**	**01 15 19.9**	**-0.3**
JOGS				S	**Sb**	**01 15 33.4**	**+0.5**
JTJ	**Tarama**	**1.18**	**204**	P	**Pn**	**01 15 23.3**	**-0.4**
JTJ				S	**Sb**	**01 15 39.1**	**+0.1**
JIJ	**Ishigaki jima**	**1.68**	**216**	P	**Pn**	**01 15 30.4**	**-0.2**
JIJ				S	**Sn**	**01 15 52.1**	**+0.1**
JKRS	**Kuro-shima**	**1.85**	**217**	P	**Pn**	**01 15 33.4**	**+0.5**
IRIF	**Iriomote-Funau**	**1.94**	**225**	P	**Pn**	**01 15 33.9**	**-0.3**
JOW	**Kunigami**	**2.94**	**67**	Pn	**Pn**	**01 15 48.1**	**+0.2**
3.5nm,0.3s,baz=255,slow=12,SNR=11							
SONM	**Songino Array**	**26.60**	**331**	P	**P**	**01 20 44.5**	**+5.1**
1.9nm,0.9s,mb3.6,baz=145,slow=11,SNR=3.2							
MKAR	**Makanchi Array**	**39.89**	**313**	P	**P**	**01 22 34.8**	**-0.2**
0.1nm,0.3s,mb3.0,baz=92,slow=11,SNR=3.1							
ZALV	**Zalesovo Beam**	**41.05**	**324**	P	**P**	**01 22 45.2**	**+0.7**
1.0nm,0.6s,mb3.6,baz=120,slow=8.5,SNR=2.8							
WRA	**Warramunga Arr**	**46.25**	**168**	P	**P**	**01 23 25.4**	**-1.2**
0.5nm,0.9s,mb3.4,baz=350,slow=8.7,SNR=3.3							
YKA	**Yellowknife Ar**	**80.10**	**24**	P	**P**	**01 27 11.2**	**+0.4**
0.4nm,0.6s,mb3.5,baz=303,slow=5.2,SNR=8.9							

*IDC **20** 01:15:34.4±5.7, 2461N×125.31E, h0km, mb3.7/4, mb1 3.9/5, mb1mx3.7/17, mbtmp3.8/5, ML3.8/1, Error ellipse: s-maj=127.2km s-min=35.0km az=180.0*
*JMA **20** 01:15:42.0±0.3, 2572N×125.18E, h24km, M4.0*
*ISCJB **20** 01:15:43.4±2.0, 2566N±008×1252E±0.1, h29km±17km, mb3.5/4, Error ellipse: s-maj=21.6km s-min=7.6km az=31.7*
ISC 20 01:15:42.4±2.1, 2567N±007×1251E±01, h13km±15km, n11, σ1°00/15, mb3.5/4, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMJ	**Miyako jima 2**	**0.86**	**171**	P	**Pg**	**01 15 58.6**	**-0.4**
JMJ				S	**Sg**	**01 16 10.8**	**+0.5**
JOGS	**Gusukube**	**0.93**	**165**	P	**Pg**	**01 15 59.8**	**-0.6**
JOGS				*e*S	**Sg**	**01 16 13.1**	**+0.5**
JTJ	**Tarama**	**1.10**	**201**	P	**Pb**	**01 16 02.9**	**-0.4**
JTJ				*e*S	**Sb**	**01 16 18.1**	**+0.6**
JIJ	**Ishigaki jima**	**1.58**	**215**	P	**Pn**	**01 16 09.6**	**-0.6**
JIJ				*e*S	**Sn**	**01 16 29.1**	**-1.4**
JKRS	**Kuro-shima**	**1.75**	**216**	*e*S	**Sn**	**01 16 36.9**	**+2.1**
IRIF	**Iriomote-Funau**	**1.84**	**224**	*e*S	**Sn**	**01 16 36.1**	**-0.9**
JOW	**Kunigami**	**3.04**	**67**	Pn	**Pn**	**01 16 30.4**	**0.0**
16nm,0.3s,baz=219,slow=6.2,SNR=5.5							
SONM	**Songino Array**	**26.61**	**331**	P	**P**	**01 21 24.0**	**+3.6**
1.1nm,0.8s,mb3.5,baz=134,slow=10,SNR=4.6							
MKAR	**Makanchi Array**	**39.86**	**313**	P	**P**	**01 23 17.4**	**+1.7**
0.2nm,0.5s,mb3.1,baz=106,slow=9.8,SNR=2.1							
ZALV	**Zalesovo Beam**	**41.05**	**324**	P	**P**	**01 23 25.1**	**-0.3**
0.8nm,0.4s,mb3.7,baz=116,slow=8.2,SNR=3.8							
YKA	**Yellowknife Ar**	**80.19**	**24**	P	**P**	**01 27 51.3**	**-0.9**
0.6nm,0.7s,mb3.6,baz=301,slow=5.4,SNR=8.4							

*IDC **20** 01:18:18.8±1.4, 2564N×125.21E, h0km, mb3.6/5, mb1 3.7/6, mb1mx3.6/20, mbtmp3.6/6, ML3.5/1, Error ellipse: s-maj=37.5km s-min=27.5km az=48.0*
*JMA **20** 01:18:19.4±0.2, 2576N×125.11E, h21km±3km, M3.5*
*ISCJB **20** 01:18:21.0±1.6, 2569N±007×125.14E±008, h26km±14km, mb3.5/5, Error ellipse: s-maj=15.9km s-min=5.7km az=41.1*
ISC 20 01:18:20.9±1.6, 2566N±006×12513E±009, h15km±11km, n17, σ0°85/22, mb3.5/5, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMJ	**Miyako jima 2**	**0.85**	**170**	P	**Pg**	**01 18 37.0**	**-0.5**
JMJ				*e*S	**Sg**	**01 18 49.5**	**+0.8**
JOGS	**Gusukube**	**0.93**	**164**	P	**Pg**	**01 18 38.2**	**-0.7**
JOGS				S	**Sg**	**01 18 51.9**	**+0.8**
JTJ	**Tarama**	**1.09**	**201**	P	**Pb**	**01 18 40.4**	**-1.0**
JTJ				*e*S	**Sb**	**01 18 55.8**	**+0.5**
JIJ	**Ishigaki jima**	**1.57**	**215**	P	**Pn**	**01 18 47.8**	**-0.4**
JIJ				*e*S	**Sn**	**01 19 07.4**	**-0.9**
JKE	**Kume jima 2**	**1.63**	**66**	P	**Pn**	**01 18 47.2**	**-1.9**
JKRS	**Kuro-shima**	**1.74**	**216**	P	**Pn**	**01 18 50.1**	**-0.5**
JKRS				*e*S	**Sn**	**01 19 13.1**	**+0.6**
HATJ	**Hateruma jima**	**2.00**	**217**	P	**Pn**	**01 18 54.9**	**+0.8**
YOJ	**Yonaguni jima**	**2.26**	**239**	P	**Pn**	**01 18 56.6**	**-1.1**
JIH	**Iheya**	**2.89**	**61**	P	**Pn**	**01 19 06.8**	**+0.4**
JOW	**Kunigami**	**3.06**	**67**	Pn	**Pn**	**01 19 08.8**	**+0.1**
11nm,0.3s,baz=236,slow=11,SNR=5.4							
JTK	**Tokunoshima**	**4.02**	**57**	P	**Pn**	**01 19 20.6**	**-1.3**
JAM	**Amami Oshima**	**4.84**	**55**	P	**Pn**	**01 19 34.6**	**+1.4**
SONM	**Songino Array**	**26.61**	**331**	P	**P**	**01 23 59.7**	**+1.2**
0.4nm,0.6s,mb3.1,baz=134,slow=6.2,SNR=2.4							
MKAR	**Makanchi Array**	**39.86**	**313**	P	**P**	**01 25 54.4**	**+0.6**
0.3nm,0.5s,mb3.3,baz=100,slow=6.4,SNR=3.6							
ZALV	**Zalesovo Beam**	**41.05**	**324**	P	**P**	**01 26 04.3**	**+0.9**
0.6nm,0.4s,mb3.5,baz=106,slow=7.4,SNR=3.5							
WRA	**Warramunga Arr**	**46.20**	**168**	P	**P**	**01 26 45.3**	**0.0**
1.0nm,

JMA 20 01:22:18.1±0.3, 2576N×12515E, h11km±4km, M3.5, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMJ				P	Pg	01 22 36.2	-0.2
JMJ				S	Sg	01 22 48.5	-0.3
JOGS	**Gusukube**	**1.02**	**167**	P	Pg	01 22 37.4	-0.4
JOGS				S	Sg	01 22 50.7	-0.4
JTJ	**Tarama**	**1.19**	**200**	P	Pb	01 22 40.1	-0.5
JTJ				*e*S	Sb	01 22 55.2	-0.8
JKE	**Kume jima 2**	**1.58**	**69**	P	Pn	01 22 45.8	-0.2
JIJ	**Ishigaki jima**	**1.66**	**214**	P	Pn	01 22 47.3	+0.1
JIJ				*e*S	Sn	01 23 08.0	-0.5
JKRS	**Kuro-shima**	**1.84**	**215**	P	Pn	01 22 50.4	+0.8
IRIF	**Iriomote-Funau**	**1.92**	**223**	P	Pn	01 22 53.5	+2.8
JAGN	**Aguni-jima**	**2.05**	**66**	P	Pn	01 22 53.3	+0.7
HATJ	**Hateruma jima**	**2.09**	**216**	P	Pn	01 22 53.3	+0.2
JIH	**Iheya**	**2.83**	**63**	P	Pn	01 23 03.1	-0.1
JOW	**Kunigami**	**3.00**	**68**	P	Pn	01 23 07.5	+1.9

*IDC **20** 01:31:21.5±1.9, 2573N×12509E, h0km, mb3.4/3, mb1 3.7/4, mb1mx3.4/20, mbtmp3.5/4, ML3.6/1, Error ellipse: s-maj=62.8km s-min=28.0km az=107.0*
*ISCJB **20** 01:31:22.7±2.5, 257N±0.1× 125.1E±0.1, h19km±18km, mb3.4/3, Error ellipse: s-maj=21.2km s-min=14.5km az=135.3*
*JMA **20** 01:31:22.2±0.2, 2572N×12502E, h9km, M3.3*
ISC 20 01:31:21.4±2.9, 257N±01×1250E±01, h0km±18km, n8, σ0§24/10, mb3.4/3, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMJ	**Miyako jima 2**	**0.95**	**165**	P	**Pg**	**01 31 39.9**	**+0.2**
JMJ				*e*S	**Sg**	**01 31 52.2**	**+0.1**
JOGS	**Gusukube**	**1.04**	**160**	S	**Sg**	**01 31 54.4**	**-0.3**
JTJ	**Tarama**	**1.14**	**195**	P	**Pg**	**01 31 42.8**	**-0.4**
JTJ				*e*S	**Sg**	**01 31 58.2**	**+0.3**
JIJ	**Ishigaki jima**	**1.59**	**210**	P	**Pn**	**01 31 50.6**	**-0.1**
JOW	**Kunigami**	**3.11**	**69**	Pn	**Pn**	**01 32 11.8**	**+0.1**
	12nm,0.3s,baz=236,slow=11,SNR=17						
WRA	**Warramunga Arr**	**46.30**	**168**	P	**P**	**01 39 48.6**	**-0.3**
	0.4nm,0.6s,mb3.6,baz=351,slow=9.0,SNR=5.3						
ASAR	**Alice Springs**	**49.86**	**169**	P	**P**	**01 40 16.7**	**+0.3**
	0.3nm,0.7s,mb3.3,baz=358,slow=7.6,SNR=4.6						
YKA	**Yellowknife Ar**	**80.16**	**24**	P	**P**	**01 43 33.2**	**0.0**
	0.3nm,0.9s,mb3.2,baz=305,slow=6.5,SNR=2.6						

*BJI **20** 01:32:04.5, 2516N×12539E, h10km, mb4.5*
*IDC **20** 01:32:08.1±1.0, 2571N×125.17E, h0km, mb3.8/6, mb1 3.9/7, mb1mx3.8/20, mbtmp3.8/7, MS4.3/1, Ms1 4.3/1, ms1mx2.9/47, Error ellipse: s-maj=33.8km s-min=20.1km az=65.0*
*JMA **20** 01:32:09.6±0.3, 2571N×125.12E, h23km±5km, M3.9*
*NEIC **20** 01:32:10.0±0.6, 2572N×125.18E, h10km, MG4.4(JMA), Error ellipse: s-maj=14.5km s-min=12.4km az=170.0*
*ISCJB **20** 01:32:10.6±1.2, 2566N±005×12520E±008, h28km±11km, mb3.7/7, Error ellipse: s-maj=13.1km s-min=7.3km az=25.8*
ISC 20 01:32:10.6±1.4, 2564N±005×12518E±008, h15km±10km, n17, σ0§75/21, mb3.7/7, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMJ	**Miyako jima 2**	**0.82**	**173**	P	**Pg**	**01 32 26.0**	**-0.6**
JMJ				S	**Sg**	**01 32 38.2**	**+1.0**
JOGS	**Gusukube**	**0.90**	**167**	P	**Pb**	**01 32 27.4**	**-0.4**
JOGS				S	**Sg**	**01 32 40.0**	**+0.5**
JTJ	**Tarama**	**1.08**	**204**	P	**Pb**	**01 32 29.6**	**-1.3**
JTJ				S	**Sb**	**01 32 44.9**	**+0.1**
JIJ	**Ishigaki jima**	**1.58**	**217**	P	**Pn**	**01 32 37.1**	**-0.9**
JIJ				S	**Sn**	**01 32 57.9**	**-0.2**
JKRS	**Kuro-shima**	**1.75**	**218**	P	**Pn**	**01 32 40.0**	**-0.4**
JKRS				*e*S	**Sn**	**01 33 02.9**	**+0.5**
IRIF	**Iriomote-Funau**	**1.84**	**226**	P	**Pn**	**01 32 41.2**	**-0.5**
JOW	**Kunigami**	**3.03**	**66**	Pn	**Pn**	**01 32 58.5**	**+0.6**
	3.2nm,0.3s,baz=250,slow=13,SNR=4.5						
YHNB	**Yeheng**	**3.58**	**255**	*e*Pn	**Pn**	**01 33 06.9**	**+1.4**
JNU	**Nakatsue**	**8.96**	**32**	LR	LR	01 37 53.8	
	comp=Z,2μm,18.3s,baz=308,slow=39						
CD2	**Chengdu**	**19.57**	**290**	*e*P	**Pn**	**01 36 40.3**	**+1.0**
CD2				AMB	AMB		
	comp=Z,30nm,0.8s						
GTA	**Gaotai**	**25.31**	**309**	*e*P	**P**	**01 37 37.3**	**+0.7**
GTA				AP	pP	01 37 41.4	+0.2
GTA				XP	sP	01 37 44.5	+1.3
GTA				AMB	AMB		
	comp=Z,5.0nm,1.0s,mb4.0						
SONM	**Songino Array**	**26.65**	**331**	P	**P**	**01 37 48.4**	**-0.2**
	comp=Z,0.7nm,0.8s,mb3.3,baz=147,slow=10.0,SNR=4.4						
MKAR	**Makanchi Array**	**39.91**	**313**	P	**P**	**01 39 43.8**	**-0.1**
	comp=Z,0.5nm,0.4s,mb3.6,baz=102,slow=9.6,SNR=5.9						
ZALV	**Zalesovo Beam**	**41.09**	**324**	P	**P**	**01 39 52.6**	**-0.9**
	comp=Z,3.3nm,0.7s,mb4.0,baz=113,slow=7.8,SNR=14						
WRA	**Warramunga Arr**	**46.17**	**168**	P	**P**	**01 40 34.7**	**-0.1**
	comp=Z,0.2nm,0.3s,mb3.5,baz=350,slow=8.5,SNR=7.5						
ASAR	**Alice Springs**	**49.73**	**169**	P	**P**	**01 41 03.5**	**+1.2**
	comp=Z,0.3nm,0.8s,mb3.4,baz=354,slow=12,SNR=5.0						
YKA	**Yellowknife Ar**	**80.20**	**24**	P	**P**	**01 44 19.1**	**-0.9**
	comp=Z,1.0nm,0.7s,mb3.9,baz=303,slow=5.5,SNR=12						

*IDC **20** 01:33:46.3±1.0, 2575N×125.14E, h0km, mb3.6/6, mb1 3.7/7, mb1mx3.6/20, mbtmp3.6/7, ML3.6/1, Error ellipse: s-maj=34.0km s-min=19.9km az=65.0*
*ISCJB **20** 01:33:47.9±1.4, 2577N±006×125.16E±008, h18km±12km, mb3.5/6, Error ellipse: s-maj=14.9km s-min=6.2km az=37.0*
*JMA **20** 01:33:47.6±0.3, 2577N×12520E, h21km±5km, M3.8*
ISC 20 01:33:47.2±1.5, 2575N±005×12512E±008, h4km±10km, n16, σ0§63/21, mb3.5/6, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMJ	**Miyako jima 2**	**0.94**	**170**	P	**Pg**	**01 34 05.2**	**-0.1**
JMJ				S	**Sg**	**01 34 18.0**	**+0.4**
JOGS	**Gusukube**	**1.02**	**165**	P	**Pg**	**01 34 06.3**	**-0.4**
JOGS				S	**Sg**	**01 34 19.7**	**-0.3**
JTJ	**Tarama**	**1.17**	**199**	P	**Pg**	**01 34 09.0**	**-0.6**
JTJ				S	**Sg**	**01 34 25.2**	**+0.5**
JIJ	**Ishigaki jima**	**1.64**	**213**	P	**Pn**	**01 34 16.5**	**-0.3**
JIJ				*e*S	**Sn**	**01 34 37.8**	**-0.6**
JKRS	**Kuro-shima**	**1.81**	**214**	P	**Pn**	**01 34 20.3**	**+1.1**
JKRS				*e*S	**Sn**	**01 34 43.2**	**+0.6**
JIH	**Iheya**	**2.86**	**63**	P	**Pn**	**01 34 34.8**	**+1.2**
JOW	**Kunigami**	**3.03**	**68**	P	**Pn**	**01 34 35.4**	**-0.6**
JOW	**Kunigami**	**3.03**	**68**	Pn	**Pn**	**01 34 35.3**	**-0.7**
	14nm,0.3s,baz=235,slow=9.6,SNR=5.5						
JTK	**Tokunoshima**	**3.98**	**59**	P	**Pn**	**01 34 49.2**	**+0.1**
JAM	**Amami Oshima**	**4.80**	**55**	P	**Pn**	**01 35 00.6**	**+0.3**
SONM	**Songino Array**	**26.52**	**331**	P	**P**	**01 39 26.3**	**+0.4**
	0.2nm,0.5s,mb2.9,baz=140,slow=9.8,SNR=2.9						
MKAR	**Makanchi Array**	**39.79**	**313**	P	**P**	**01 41 19.9**	**-1.4**
	0.3nm,0.3s,mb3.4,baz=106,slow=11,SNR=2.6						
ZALV	**Zalesovo Beam**	**40.97**	**324**	P	**P**	**01 41 31.7**	**+0.7**
	0.7nm,0.5s,mb3.5,baz=120,slow=8.8,SNR=4.0						
WRA	**Warramunga Arr**	**46.29**	**168**	P	**P**	**01 42 13.7**	**-0.4**
	0.6nm,0.6s,mb3.7,baz=350,slow=9.1,SNR=3.8						
ASAR	**Alice Springs**	**49.85**	**169**	P	**P**	**01 42 41.5**	**-0.1**
	0.4nm,0.6s,mb3.7,baz=357,slow=9.6,SNR=6.3						
YKA	**Yellowknife Ar**	**80.12**	**24**	P	**P**	**01 45 57.7**	**-0.4**
	0.7nm,0.7s,mb3.7,baz=302,slow=5.5,SNR=7.6						

*PGC **20** 01:36:07.8±35.0, 6740N×14140W, h1km, ML3.2/2, 298km west of Fort McPherson, Nt Alaska*
NEIC 20 01:36:06.2, 6746N×14194W, h10km, ML3.2(PGC), **ML3.0**(AEIC), **After AEIC., Northern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BM3	**Burnt Mountain**	**1.03**	**269**	P	Pg	01 36 25.6	-0.3
BM3				S	Sg	01 36 41.9	+2.6
EGAK	**Eagle**	**2.71**	**173**	P	Pn	01 36 50.6	+1.1
EGAK				S	Sn	01 37 21.9	-0.4
COLD	**Coldfoot**	**3.21**	**270**	P	Pn	01 36 58.3	+1.8
INK	**Inuvik**	**3.30**	**71**	*e*Pn	Pn	01 36 57.7	0.0
INK				Pg	Pg	01 37 09.3	+0.1
INK				*e*Sn	Sn	01 37 37.1	+0.2
INK	**Inuvik**	**3.30**	**71**	Pn	Pn	01 36 57.5	-0.2
INK				Sn	Sn	01 37 34.2	-2.7
IL1	**Eielson Array**	**3.36**	**219**	P	Pn	01 36 58.5	-0.1
COLA	**College**	**3.53**	**226**	P	Pn	01 37 00.8	-0.1
COLA				S	Sn	01 37 44.4	+1.8
DAWY	**Dawson**	**3.56**	**162**	P	Pn	01 37 01.9	+0.6
DAWY	**Dawson**	**3.56**	**162**	Pn	Pn	01 37 01.9	+0.5
DOT	**Dot Lake**	**3.92**	**194**	P	Pn	01 37 07.1	+0.8
BCA3	**Beaver Creek A**	**4.41**	**179**	P	Pn	01 37 13.6	+0.7
MCK	**McKinley**	**4.73**	**221**	P	Pn	01 37 17.7	+0.3
IMA2	**Indian Mountai**	**4.86**	**259**	*e*P	Pn	01 37 18.9	-0.2
IM3	**Indian Mountai**	**4.91**	**258**	P	Pn	01 37 19.1	-0.8
TRF	**Thorofare Moun**	**5.31**	**225**	P	Pn	01 37 25.6	+0.3
KTH	**Kantishna Hill**	**5.41**	**228**	P	Pn	01 37 26.3	-0.4
HYT	**Haines Junctio**	**6.93**	**162**	Pn	Pn	01 37 49.9	+2.3
WHY	**Whitehorse**	**7.49**	**152**	Pn	Pn	01 37 54.9	-0.3
YKW3	**Yellowknife Ar**	**12.47**	**100**	Pn	Pn	01 39 00.0	-3.4
YKW3				Sn	Sn	01 41 09.2	-13

*MOS **20** 01:37:56.4±1.1, 4854N×15501E, h35km, mb4.7/10, Error ellipse: s-maj=14.0km s-min=6.3km az=71.1*
*ISCJB **20** 01:37:58.8±0.8, 4866N±006×1549E±0.1, h56km±6km, mb4.1/29, Error ellipse: s-maj=14.3km s-min=5.0km az=41.1*
*KRSC **20** 01:37:59.7±1.3, 4866N×15597E, h9km±11km, ML4.6*
*NEIC **20** 01:38:01.1±1.5, 4869N×15466E, h62km±14km, mb4.3/10, Error ellipse: s-maj=11.1km s-min=8.5km az=151.0*
*IDC **20** 01:38:04.5±3.6, 4871N×15458E, h94km±33km, mb3.6/18, mb1 3.8/20, mb1mx3.7/26, mbtmp3.6/20, Error ellipse: s-maj=17.5km s-min=13.0km az=137.0*
ISC 20 01:38:01.0±0.7, 4869N±006×1548E±01, h60km±5km, n87, σ1§02/95, mb4.1/29, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.16**	**22**	*e*PN	**Pn**	**01 38 33.5**	**-1.1**
SKR				*e*S	**Sn**	**01 38 59.4**	**-0.8**
SKR				pmax	pmax		
	comp=Z,50nm,0.4s						
SKR				smax			
	comp=N,1μm,0.4s						
SKR				smax			
	comp=E,570nm,0.4s						
ALID	**Alaid**	**2.23**	**12**	*e*P	**Pn**	**01 38 36.3**	**+0.8**
ALID				*i* S	**Sn**	**01 39 02.8**	**+0.9**
MIPR	**Malaya Ipel'ka**	**3.79**	**18**	*e*P	**Pn**	**01 38 57.6**	**+0.8**
MIPR				*e*S	**Sn**	**01 39 40.2**	**+0.1**
GRL	**Gorelyy**	**4.38**	**27**	*e*P	**Pn**	**01 39 06.3**	**+1.4**
GRL				*i* S	**Sn**	**01 39 55.4**	**+0.9**
RUS	**Russkaya**	**4.42**	**31**	*e*P	**Pn**	**01 39 04.6**	**-0.8**
RUS				*i* S	**Sn**	**01 39 52.9**	**-2.6**
PET	**Petropavlovsk**	**4.96**	**28**	*e*PN	**Pn**	**01 39 14.5**	**+1.6**
PET				pmax	pmax		
	comp=Z,31nm,0.5s						
PET	**Petropavlovsk**	**4.96**	**28**	P	**Pn**	**01 39 14.1**	**+1.2**
PET				*i* S	**Sn**	**01 40 08.9**	**0.0**
SDLR	**Sedlovina**	**5.25**	**28**	*e*P	**Pn**	**01 39 17.1**	**+0.3**
SDLR				*i* S	**Sn**	**01 40 14.4**	**-1.6**
GNL	**Ganaly**	**5.38**	**20**	*e*P	**Pn**	**01 39 20.2**	**+1.7**
GNL				*e*S	**Sn**	**01 40 18.5**	**-0.5**
SPN	**Mys Shipunski**	**5.50**	**35**	P	**Pn**	**01 39 18.5**	**-1.7**
SPN				*i* S	**Sn**	**01 40 17.1**	**-4.8**
KUR	**Kuril'sk**	**5.89**	**237**	*e*PN	**Pn**	**01 39 23.2**	**-2.4**
KUR				pmax	pmax		
	comp=E,90nm,0.8s						
KUR				pmax	pmax		
	comp=Z,220nm,0.8s						
KII	**Karymskiy**	**6.08**	**27**	P	**Pn**	**01 39 29.9**	**+1.8**
KII				*i* S	**Sn**	**01 40 36.5**	**+0.3**
MKZ	**Mys Kozlova**	**7.27**	**34**	*e*P	**Pn**	**01 39 42.8**	**-1.6**
MKZ				*e*S	**Sn**	**01 40 59.4**	**-6.0**
TUMR	**Tumrok**	**7.37**	**24**	P	**Pn**	**01 39 45.1**	**-0.6**
YSS	**Yuzh-Sakhalins**	**8.32**	**262**	*e*PN	**Pn**	**01 40 01.0**	**+2.2**
YSS				pmax	pmax		
	comp=Z,30nm,1.0s						
KBTR	**Krutoberegovo**	**8.96**	**30**	P	**Pn**	**01 40 06.7**	**-0.8**
ASAJ	**Asahikawa**	**9.61**	**246**	PN	**Pn**	**01 40 18.3**	**+1.8**
ASAJ				pmax	pmax		
	comp=Z,5.0nm,0.3s						
ASAJ	**Asahikawa**	**9.61**	**246**	P	**Pn**	**01 40 18.3**	**+1.8**
	comp=Z,5.0nm,0.3s,baz=71,slow=16,SNR=21						
ERM	**Erimo**	**10.58**	**235**	*e*PN	**Pn**	**01 40 27.9**	**-1.9**
	comp=Z,18nm,0.6s						
ERM	**Erimo**	**10.58**	**235**	*e*PN	**Pn**	**01 40 27.9**	**-1.9**
ERM				pmax	pmax		
	comp=Z,18nm,0.6s						
KLR	**Kul'dur**	**15.17**	**281**	*e*P	**Pn**	**01 41 33.2**	**+1.8**
MJAR	**Matsushiro Art**	**17.20**	**231**	P	**Pn**	**01 41 57.3**	**+0.4**
	comp=Z,0.5nm,0.3s,baz=17,slow=14,SNR=4.1						
BILL	**Bilibino**	**20.24**	**12**	*e*P	**P**	**01 42 30.4**	**-0.4**
BILL				pmax	pmax		
	comp=Z,4.0nm,1.3s						
KSRS	**Korea Array**	**22.52**	**250**	P	**P**	**01 42 55.1**	**-0.4**
	comp=Z,2.8nm,0.6s,mb3.9,baz=52,slow=11,SNR=7.3						
SONM	**Songino Array**	**31.83**	**287**	P	**P**	**01 44 20.1**	**+0.3**
	comp=Z,0.4nm,0.8s,mb3.3,baz=35,slow=13,SNR=3.6						
COLA	**College**	**33.90**	**40**	*i* P	**P**	**01 44 38.7**	**+1.1**
INK	**Inuvik**	**39.39**	**34**	P	**P**	**01 45 25.1**	**+0.9**
	comp=Z,0.6nm,0.4s,mb3.7,baz=324,slow=5.1,SNR=5.6						
ZALV	**Zalesovo Beam**	**42.44**	**305**	PcP	PcP	01 47 40.9	-0.5
	comp=Z,0.7nm,0.3s,baz=65,slow=3.9,SNR=6.6						
MKAR	**Makanchi Array**	**47.10**	**297**	P	**P**	**01 46 25.3**	**-1.3**
	comp=Z,1.0nm,0.5s,mb4.0,baz=68,slow=8.1,SNR=7.7						
MKAR				PcP	PcP	01 47 57.3	-0.2
	comp=Z,0.3nm,0.3s,baz=44,slow=3.7,SNR=3.8						
YKA	**Yellowknife Ar**	**48.67**	**38**	P	**P**	**01 46 38.9**	**+0.3**
YKA				PcP	PcP	01 48 03.2	+0.3
YKA	**Yellowknife Ar**	**48.67**	**38**	P	**P**	**01 46 38.8**	**+0.3**
YKA						01 48 03.2	
YKA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
YKA	**Yellowknife Ar**	**48.67**	**38**	P	**P**	**01 46 38.8**	**+0.3**
	comp=Z,1.1nm,0.8s,mb4.0,baz=297,slow=7.4,SNR=11						
YKA				PcP	PcP	01 48 03.2	+0.4
	comp=Z,0.3nm,0.5s,baz=302,slow=3.6,SNR=4.9						
BVAR	**Borovoye Array**	**50.54**	**309**	P	**P**	**01 46 51.0**	**-1.9**
	comp=Z,0.3nm,0.3s,mb3.7,baz=56,slow=8.1,SNR=4.3						
BVAR				PcP	PcP	01 48 09.7	-0.1
	comp=Z,1.2nm,0.5s,baz=64,slow=3.4,SNR=7.4						
CHTO	**Chiang Mai**	**53.70**	**257**	*e*P	**P**	**01 47 16.0**	**-0.8**
	comp=Z,7.7nm,0.9s,mb4.6						
CHTO	**Chiang Mai**	**53.70**	**257**	*e*P	**P**	**01 47 16.0**	**-0.7**
CHTO				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.6						
ARCES	**ARCESS Array B**	**56.40**	**341**	P	**P**	**01 47 34.5**	**-1.0**
	comp=Z,1.4nm,0.9s,mb4.0,baz=52,slow=5.8,SNR=3.6						
NVAR	**Mina Array Bea**	**60.52**	**64**	P	**P**	**01 48 06.0**	**+1.3**
	comp=Z,0.7nm,0.7s,mb3.9,baz=291,slow=9.5,SNR=5.4						
PDAR	**Pinedale Array**	**62.67**	**56**	P	**P**	**01 48 20.5**	**+1.4**
	comp=Z,1.6nm,0.8s,mb4.2,baz=310,slow=2.8,SNR=14						
FINES	**FINESS Array B**	**62.77**	**335**	P	**P**	**01 48 18.1**	**-1.4**
	comp=Z,0.7nm,0.5s,mb4.0,baz=35,slow=7.0,SNR=6.6						
ULM	**Lac du Bonnet**	**64.30**	**42**	P	**P**	**01 48 29.9**	**+0.2**
ULM	**Lac du Bonnet**	**64.30**	**42**	P	**P**	**01 48 29.9**	**+0.3**
	comp=Z,3.1nm,1.1s,mb4.2,baz=294,slow=3.7,SNR=5.3						
NOA	**NORSAR Array B**	**66.76**	**342**	P	**P**	**01 48 43.9**	**-1.4**
	comp=Z,1.4nm,0.9s,mb4.0,baz=22,slow=8.2,SNR=3.0						
HFS	**Hagfors**	**67.04**	**340**	P	**P**	**01 48 46.6**	**-0.5**
	comp=Z,4.1nm,0.9s,mb4.4,baz=54,slow=2.6,SNR=5.1						
WRA	**Warramunga Arr**	**70.73**	**200**	P	**P**	**01 49 09.2**	**-1.3**
	comp=Z,1.6nm,0.8s,mb4.0,baz=15,slow=6.4,SNR=19						
SCHQ	**Schefferville**	**71.06**	**24**	P	**P**	**01 49 12.4**	**+0.2**
	comp=Z,0.8nm,0.4s,mb4.0,baz=310,slow=8.8,SNR=8.1						
ASAR	**Alice Springs**	**74.42**	**200**	P	**P**	**01 49 32.1**	**-0.3**
	comp=Z,0.9nm,0.5s,mb4.0,baz=14,slow=5.1,SNR=14						
EKA	**Eskdalemuir Ar**	**74.72**	**347**	P	**P**	**01 49 33.5**	**-0.3**
	comp=Z,0.6nm,0.6s,mb3.7,baz=7.8,slow=5.7,SNR=4.0						
TXAR	**Lajitas Array**	**75.54**	**62**	P	**P**	**01 49 39.7**	**+0.7**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
TXAR	**Lajitas Array**	**75.54**	**62**	P	**P**	**01 49 39.8**	**+0.8**
	comp=Z,1.2nm,0.6s,mb4.0,baz=294,slow=4.5,SNR=19						
GRR	**Gorron**	**81.04**	**344**	*e*P	**P**	**01 50 08.8**	**-0.2**
CABF	**La Chapelle**	**81.26**	**339**	*e*P	**P**	**01 50 09.9**	**-0.3**
AVF	**Avril sur Loir**	**81.72**	**341**	*e*P	**P**	**01 50 12.2**	**-0.4**
	comp=Z,3.5nm,0.8s,mb4.1						
AVF	**Avril sur Loir**	**81.72**	**341**	*e*P	**P**	**01 50 12.2**	**-0.4**
	comp=Z,1.8nm,0.8s,mb4.0						
AVF	**Avril sur Loir**	**81.72**	**341**	*e*P	**P**	**01 50 12.2**	**-0.4**
AVF				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.1						
SMF	**Signal de Mont**	**81.75**	**340**	*e*P	**P**	**01 50 13.0**	**+0.2**
	comp=Z,5.7nm,0.8s,mb4.2						
SMF	**Signal de Mont**	**81.75**	**340**	*e*P	**P**	**01 50 13.0**	**+0.2**
	comp=Z,2.8nm,0.8s,mb4.2						
SMF	**Signal de Mont**	**81.75**	**340**	*e*P	**P**	**01 50 13.0**	**+0.2**
SMF				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3						
LPL	**La Plagne**	**82.12**	**338**	*e*P	**P**	**01 50 15.9**	**+1.1**
	comp=Z,6.4nm,0.9s,mb4.2						
LPL	**La Plagne**	**82.12**	**338**	*e*P	**P**	**01 50 15.9**	**+1.1**
	comp=Z,3.2nm,0.9s,mb4.2						
LPL	**La Plagne**	**82.12**	**338**	*e*P	**P**	**01 50 15.9**	**+1.1**
LPL				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.2						
LPG	**La Plagne**	**82.14**	**338**	*e*P	**P**	**01 50 15.7**	**+0.8**
	comp=Z,8.4nm,0.9s,mb4.4						
LPG	**La Plagne**	**82.14**	**338**	*e*P	**P**	**01 50 15.7**	**+0.8**
	comp=Z,4.2nm,0.9s,mb4.4						
LPG	**La Plagne**	**82.14**	**338**	*e*P	**P**	**01 50 15.7**	**+0.8**
LPG				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.3						
MFF	**Saint Martin d**	**82.62**	**343**	*e*P	**P**	**01 50 17.5**	**+0.1**
ORIF	**Oris-en-Rattie**	**82.89**	**338**	*e*P	**P**	**01 50 19.2**	**+0.4**
	comp=Z,5.1nm,0.8s,mb4.3						
ORIF	**Oris-en-Rattie**	**82.89**	**338**	*e*P	**P**	**01 50 19.2**	**+0.4**
	comp=Z,2.5nm,0.8s,mb4.3						
ORIF	**Oris-en-Rattie**	**82.89**	**338**	*e*P	**P**	**01 50 19.2**	**+0.4**
ORIF				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.4						
VIVF	**Saint-Julien-l**	**83.24**	**339**	*e*P	**P**	**01 50 21.1**	**+0.5**
RJF	**Les Rejaudoux**	**83.53**	**341**	*e*P	**P**	**01 50 21.8**	**-0.2**
CAF	**Calviac**	**83.77**	**341**	*e*P	**P**	**01 50 23.8**	**+0.5**
	comp=Z,8.7nm,1.0s,mb4.5						
CAF	**Calviac**	**83.77**	**341**	*e*P	**P**	**01 50 23.8**	**+0.5**
	comp=Z,4.3nm,1.0s,mb4.5						
CAF	**Calviac**	**83.77**	**341**	*e*P	**P**	**01 50 23.8**	**+0.5**
CAF				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.5						
SMRF	**Simiane la Rot**	**83.86**	**338**	*e*P	**P**	**01 50 24.1**	**+0.3**
FRF	**La Foret Royal**	**83.98**	**337**	*e*P	**P**	**01 50 24.7**	**+0.3**
	comp=Z,8.5nm,1.1s,mb4.5						
FRF	**La Foret Royal**	**83.98**	**337**	*e*P	**P**	**01 50 24.7**	**+0.3**
	comp=Z,4.3nm,1.1s,mb4.5						
FRF	**La Foret Royal**	**83.98**	**337**	*e*P	**P**	**01 50 24.7**	**+0.3**
FRF				pmax	pmax		
	comp=Z,4.0nm,1.1s,mb4.5						
LASF	**Ste Croix**	**84.17**	**339**	*e*P	**P**	**01 50 25.4**	**0.0**
	comp=Z,9.0nm,1.2s,mb4.5						
LMR	**La Mourre**	**84.22**	**337**	*e*P	**P**	**01 50 25.7**	**+0.1**
PGF	**Pioggiola**	**84.29**	**335**	*e*P	**P**	**01 50 26.3**	**+0.3**
	comp=Z,8.7nm,1.0s,mb4.5						
PGF	**Pioggiola**	**84.29**	**335**	*e*P	**P**	**01 50 26.3**	**+0.3**
	comp=Z,4.3nm,1.0s,mb4.5						
PGF	**Pioggiola**	**84.29**	**335**	*e*P	**P**	**01 50 26.3**	**+0.3**
PGF				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.5						
MTLF	**Montolieu**	**85.24**	**340**	*e*P	**P**	**01 50 30.6**	**-0.2**
	comp=Z,2.4nm,0.7s,mb4.1						
MTLF	**Montolieu**	**85.24**	**340**	*e*P	**P**	**01 50 30.6**	**-0.2**
	comp=Z,1.2nm,0.7s,mb4.1						
MTLF	**Montolieu**	**85.24**	**340**	*e*P	**P**	**01 50 30.6**	**-0.2**
MTLF				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb4.0						
SJPF	**Ste Jean**	**86.19**	**343**	*e*P	**P**	**01 50 35.2**	**-0.3**
TORD	**Torodi Ar. Bea**	**113.99**	**331**	PKPdf	PKiKP	01 56 32.4	-0.9
TORD	**Torodi Ar. Bea**	**113.99**	**331**	PKiKP	PKiKP	01 56 32.4	-0.9
	comp=Z,0.2nm,0.6s,baz=1.4,slow=3.0,SNR=4.3						

JMA 20 01:39:08.1±0.2, 2573N×12495E, h13km, Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMJ	**Miyako jima 2**	**0.96**	**161**	P	Pb	01 39 26.0	-0.6
JMJ		

λ-41.00000°. Principal axes: T 3.3800, Plg0.0000°, Azm168.0000°; N -0.6470, Plg39.0000°, Azm258.0000°; P -2.7330, Plg51.0000°, Azm78.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.

IDC **20** 01:45:56.1±1.1, 2563N×125.12E, h12km±6km, mb5.3/35, mb1 5.4/39, mb1mx5.4/40, mbtmp5.3/39, ML4.7/4, MS6.1/38, Ms1 6.1/38, ms1mx6.0/45 Error ellipse: s-maj=9.2km s-min=5.6km az=65.0

NEIC **20** 01:45:56.1±0.1, 2571N×125.11E, h9km, mb5.9/170, ME6.4, MS6.2/160, MW6.2, MW6.1(NIED), Error ellipse: s-maj=3.3km s-min=2.9km az=161.0 Broadband fault plane solution: P waves. NP1:φs120.00000°, δ60.00000°, λ-40.00000°. NP2:φs233.00000°, δ56.00000°, λ-143.00000°. Principal axes: T Plg2.0000°, Azm177.0000°; N Plg0.0000°, Azm0.0000°; P Plg48.0000°, Azm85.0000°; Moment Tensor Solution. s44 Moment tensor: Scale 10^{18} Nm; M_{rr}-1.87; $M_{\theta\theta}$2.03; $M_{\phi\phi}$-0.16; $M_{r\theta}$-0.38; $M_{\theta\phi}$0.75; M_{rf}0.64; Best double couple: M_o2.20000×10^{18} NP1:φs232.00000°, δ47.00000°, λ-121.00000°. NP2:φs93.00000°, δ51.00000°, λ-61.00000°. Principal axes: T 2.2700, Plg3.0000°, Azm164.0000°; N -0.1000, Plg22.0000°, Azm255.0000°; P -2.1700, Plg68.0000°, Azm67.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.

NEIC Felt at Chatan and Hirara. Recorded [3 JMA] on Miyako-jima, [2 JMA] on Tarama-shima and [1 JMA] on Ishigaki-jima, Kume-jima and Okinawa.

MOS **20** 01:45:57.9±0.9, 2574N×12524E, h33km, mb6.0/80, MS6.5/59 Error ellipse: s-maj=6.5km s-min=3.4km az=115.5

BGS **20** 01:46:08.4, 2674N×12134E, h10km, mb5.4

ISC 20 01:45:56.8±0.5, 2566N±001×12511E±001, h12km±3km, h14km±.9km:pP-P, n1771, σ1§04/1659, mb5.8/262, MS6.3/230, 166C-217D, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
				Op	ISC		
JMJ	**Miyako jima 2**	**0.86**	**169**	⇑P	**Pg**	**01 46 12.2**	**-1.1**
JMJ				*e*S	**Sg**	**01 46 24.6**	**+0.1**
JOGS	**Gusukube**	**0.93**	**163**	⇑P	**Pg**	**01 46 13.5**	**-1.3**
JOGS				*e*S	**Sg**	**01 46 26.4**	**-0.6**
JTJ	**Tarama**	**1.08**	**200**	⇑P	**Pb**	**01 46 15.4**	**-2.0**
JTJ				*e*S	**Sb**	**01 46 32.2**	**+0.7**
JIJ	**Ishigaki jima**	**1.56**	**214**	⇑P	**Pn**	**01 46 23.0**	**-1.4**
JIJ				*e*S	**Sn**	**01 46 43.6**	**-0.9**
JKE	**Kume jima 2**	**1.65**	**66**	⇓P	**Pn**	**01 46 22.1**	**-3.5**
JKE				S	**Sn**	**01 46 42.9**	**-3.8**
JKRS	**Kuro-shima**	**1.73**	**215**	⇑P	**Pn**	**01 46 26.0**	**-0.8**
IRIF	**Iriomote-Funau**	**1.82**	**224**	⇑P	**Pn**	**01 46 27.1**	**-0.8**
IRIF				*e*S	**Sn**	**01 46 49.3**	**-1.6**
HATJ	**Hateruma jima**	**1.99**	**217**	P	**Pn**	**01 46 30.5**	**+0.2**
HATJ				*e*S	**Sn**	**01 46 57.0**	**+1.9**
JAGN	**Aguni-jima**	**2.13**	**64**	⇓P	**Pn**	**01 46 29.6**	**-2.6**
JAGN				*e*S	**Sn**	**01 46 54.3**	**-4.3**
YOJ	**Yonaguni jima**	**2.25**	**238**	P	**Pn**	**01 46 35.2**	**+1.4**
YOJ				*e*S	**Sn**	**01 47 00.4**	**-1.1**
NAH1	**Naha**	**2.38**	**76**	P	**Pn**	**01 46 33.6**	**-2.1**
NAH1				*e*S	**Sn**	**01 47 01.3**	**-3.6**
JJT2	**Tamagusuku 2**	**2.42**	**78**	P	**Pn**	**01 46 34.5**	**-1.8**
JJT2				*e*S	**Sn**	**01 47 02.9**	**-3.0**
JIH	**Iheya**	**2.91**	**61**	⇓P	**Pn**	**01 46 41.4**	**-1.5**
JOW	**Kunigami**	**3.07**	**67**	Pn	**Pn**	**01 46 43.6**	**-1.6**
	471nm,0.3s,baz=249,slow=13,SNR=291						
JOW				Sn	**Sn**	**01 47 21.6**	**-0.3**
	455nm,0.3s,baz=342,slow=17,SNR=4.3						
JOW				LR	LR	01 48 04.6	
	comp=Z,352μm,21.1s,baz=253,slow=42						
TATO	**Taipei**	**3.35**	**259**	*e*Pn	**Pn**	**01 46 51.3**	**+2.3**
TATO	**Taipei**	**3.35**	**259**	P	**Pn**	**01 46 51.7**	**+2.7**
	SNR=96						
TATO	**Taipei**	**3.35**	**259**	P	**Pn**	**01 46 51.7**	**+2.7**
	SNR=96						
TATO	**Taipei**	**3.35**	**259**	P	**Pn**	**01 46 51.7**	**+2.7**
	SNR=96						
TATO	**Taipei**	**3.35**	**259**	P	**Pn**	**01 46 51.7**	**+2.7**
	SNR=96						
TATO	**Taipei**	**3.35**	**259**	P	**Pn**	**01 46 51.7**	**+2.7**
	SNR=96						
TATO	**Taipei**	**3.35**	**259**	P	**Pn**	**01 46 51.7**	**+2.7**
	SNR=96						
TATO	**Taipei**	**3.35**	**259**	P	**Pn**	**01 46 51.7**	**+2.7**
	SNR=96						
NACB	**Ninganchiao**	**3.52**	**246**	*e*Pn	**Pn**	**01 46 53.9**	**+2.6**
YHNB	**Yeheng**	**3.52**	**255**	*e*Pn	**Pn**	**01 46 53.5**	**+2.1**
JTK	**Tokunoshima**	**4.04**	**57**	⇓P	**Pn**	**01 46 57.3**	**-1.1**
JAM	**Amami Oshima**	**4.86**	**55**	P	**Pn**	**01 47 08.7**	**-1.0**
JZK	**Kikaishima**	**5.08**	**58**	P	**Pn**	**01 47 12.5**	**-0.3**
JMZ	**Minamidaito 2**	**5.51**	**87**	P	**Pn**	**01 47 13.9**	**-4.9**
JNN	**Nakanoshima**	**5.93**	**44**	⇓P	**Pn**	**01 47 25.8**	**+1.3**
JNN				S	**Sn**	**01 48 31.0**	**-1.4**
QZH	**Quanzhou**	**5.94**	**265**	P	**Pn**	**01 47 27.3**	**+2.6**
QZH				S	**Sn**	**01 48 29.1**	**-3.6**
QZH				Smax			
	comp=N,5μm,1.0s						
QZH				Smax			
	comp=E,7μm,1.5s						
QZH				LR	LR		
	comp=N,267μm,9.2s						
QZH				LR	LR		
	comp=E,136μm,13.6s						
QZH				LR	LR		
	comp=Z,287μm,15.2s						
SSE	**Sheshan**	**6.42**	**328**	P	**Pn**	**01 47 30.8**	**-0.5**
SSE				S	**Sn**	**01 48 44.9**	**+0.3**
SSE				Smax			
	comp=N,6μm,1.2s						
SSE				Smax			
	comp=E,5μm,1.2s						
SSE				LR	LR		
	comp=N,212μm,19.2s						
SSE				LR	LR		
	comp=E,367μm,19.2s						
SSE				LR	LR		
	comp=Z,211μm,22.3s						
JSJ	**Shimokoshiki**	**7.23**	**33**	P	**Pn**	**01 47 46.4**	**+4.0**
NJ2	**Nanjing**	**8.40**	**321**	*e*P	**Pn**	**01 48 00.5**	**+2.1**
NJ2				AP		01 48 04.3	
NJ2				XP		01 48 06.9	
NJ2				S	**Sn**	**01 49 35.9**	**+2.6**
NJ2				AMB	AMB		
	comp=Z,270nm,1.1s						
NJ2				AMB	AMB		
	comp=Z,12μm,10.2s						
NJ2				Smax			
	comp=N,52μm,2.0s						
NJ2				Smax			
	comp=E,31μm,2.0s						
NJ2				LR	LR		
	comp=N,961μm,18.2s						
NJ2				LR	LR		
	comp=E,556μm,15.2s						
NJ2				LR	LR		
	comp=Z,555μm,15.2s						
CVP	**Callao Caves**	**8.49**	**202**	⇑*e*P	**Pn**	**01 47 59.1**	**-0.5**
JKIT	**Kitakata**	**8.88**	**37**	P	**Pn**	**01 48 06.0**	**+1.0**
JNU	**Nakatsue**	**8.98**	**33**	Pn	**Pn**	**01 48 08.2**	**+2.0**
	comp=Z,12nm,0.3s,baz=181,slow=14,SNR=63						
JNU				Sn	**Sn**	**01 49 49.0**	**+1.6**
	baz=192,slow=4.6,SNR=1.2						
JNU				LR	LR	01 51 43.7	
	comp=Z,193μm,21.4s,baz=209,slow=39						
HKC	**Hong Kong Obse**	**10.54**	**254**	*i* P	**Pn**	**01 48 31.0**	**+3.2**
HKC	**Hong Kong Obse**	**10.54**	**254**	*i* P	**Sn**	**01 50 27.0**	**+1.1**
WHN	**Wuhan**	**10.67**	**300**	P	**Pn**	**01 48 32.0**	**+2.5**
WHN				S	**Sn**	**01 50 41.5**	**+13**
WHN				LR	LR		
	comp=Z,404μm,8.6s						
GZH	**Guangzhou**	**11.03**	**259**	P	**Pn**	**01 48 32.8**	**-1.6**
GZH				S	**Sn**	**01 50 34.8**	**-3.0**
GZH				AMB	AMB		
	comp=Z,497nm,1.5s						
GZH				LR	LR		
	comp=N,147μm,11.7s						
GZH				LR	LR		
	comp=E,57μm,10.8s						
GZH				LR	LR		
	comp=Z,122μm,16.7s						
INCN	**Inchon**	**11.86**	**6**	*e*Pn	**Pn**	**01 48 51.2**	**+5.4**
INCN	**Inchon**	**11.86**	**6**	P	**Pn**	**01 48 50.4**	**+4.6**
	SNR=13						
INCN	**Inchon**	**11.86**	**6**	P	**Pn**	**01 48 50.4**	**+4.6**
	SNR=13						
INCN	**Inchon**	**11.86**	**6**	P	**Pn**	**01 48 50.4**	**+4.6**
	SNR=13						
INCN	**Inchon**	**11.86**	**6**	P	**Pn**	**01 48 50.4**	**+4.6**
	SNR=13						
INCN	**Inchon**	**11.86**	**6**	P	**Pn**	**01 48 50.4**	**+4.6**
	SNR=13						
INCN	**Inchon**	**11.86**	**6**	P	**Pn**	**01 48 50.4**	**+4.6**
	SNR=13						
INCN	**Inchon**	**11.86**	**6**	P	**Pn**	**01 48 50.4**	**+4.6**
	SNR=13						
KS15	**Wonju Array Si**	**11.98**	**11**	*e*Pn	**Pn**	**01 48 52.0**	**+4.5**
KSRS	**Korea Array**	**12.00**	**11**	Pn	**Pn**	**01 48 48.9**	**+1.2**
	comp=Z,1.1nm,0.3s,baz=192,slow=13,SNR=43						
KSRS				LR	LR	01 53 36.3	
	comp=Z,207μm,19.5s,baz=193,slow=38						
PVCP	**Virac**	**12.03**	**184**	⇓*e*P	**Pn**	**01 48 47.9**	**-0.3**
TIA	**Tai'an**	**12.55**	**329**	*e*P	**Pn**	**01 48 57.4**	**+2.2**
TIA				XP		01 49 05.0	
TIA				AMB	AMB		
	comp=Z,2μm,6.0s						
TIA				LR	LR		
	comp=N,46μm,12.6s						
TIA				LR	LR		
	comp=E,130μm,13.2s						
DL2	**Dalian**	**13.53**	**348**	⇑*i*P	**Pn**	**01 49 12.0**	**+3.4**
DL2				*e*S	**Sn**	**01 51 40.0**	**+1.1**
DL2				AMB	AMB		
	comp=Z,263nm,1.0s						
DL2				AMB	AMB		
	comp=Z,22μm,8.0s						
DL2				LR	LR		
	comp=N,170μm,12.0s						
DL2				LR	LR		
	comp=E,276μm,10.0s						
RCP	**Roxas**	**14.20**	**189**	⇑*e*P	**Pn**	**01 49 20.9**	**+3.0**
PLP	**Palo**	**14.42**	**181**	*e*P	**Pn**	**01 49 20.0**	**-0.8**
JHJ	**Hachijo jima 2**	**14.78**	**56**	Pn	**Pn**	**01 49 24.6**	**-1.2**
	comp=E,14nm,0.3s,baz=88,slow=23,SNR=2.7						
JHJ				Sn	**Sn**	**01 52 12.3**	**+2.8**
	comp=E,19nm,0.3s,baz=212,slow=20,SNR=1.7						
JHJ				LR	LR	01 54 47.5	
	comp=E,48μm,18.9s,baz=258,slow=36						
LLP	**Lapu-Lapu**	**15.30**	**184**	⇓*e*P	**Pn**	**01 49 33.9**	**+1.2**
CBIJ	**Chichi jima**	**15.37**	**81**	Pn	**Pn**	**01 49 32.3**	**-1.3**
	comp=E,6.4nm,0.3s,baz=267,slow=3.2,SNR=19						
CBIJ				Sn	**Sn**	**01 52 25.5**	**+1.6**
	comp=E,2.6nm,0.3s,baz=138,slow=23,SNR=1.9						
CBIJ				LR	LR	01 55 22.6	
	comp=E,29μm,18.9s,baz=277,slow=37						
QIZ	**Qiongzhong**	**15.58**	**248**	P	**Pn**	**01 49 39.0**	**+2.6**
QIZ				XP	sP	01 49 45.1	-0.4
QIZ				S	**Sn**	**01 52 35.6**	**+6.5**
QIZ				AMB	AMB		
	comp=Z,7μm,7.2s						
QIZ				LR	LR		
	comp=N,85μm,16.3s						
QIZ				LR	LR		
	comp=E,36μm,14.6s						
QIZ				LR	LR		
	comp=Z,54μm,15.5s						
QIZ	**Qiongzhong**	**15.58**	**248**	Pn	**Pn**	**01 49 34.5**	**-1.9**
	comp=Z,1μm,1.8s						
QIZ				*e*Sn	**Sn**	**01 52 33.3**	**+4.2**
MAJO	**Matsushiro**	**15.59**	**43**	*e*Pn	**Pn**	**01 49 34.4**	**-2.0**
MAT	**Matsushiro**	**15.59**	**43**	P	**Pn**	**01 49 31.8**	**-4.6**
MAT				S	**Sn**	**01 52 27.0**	**-2.1**
MJAR	**Matsushiro Arr**	**15.59**	**43**	P	**Pn**	**01 49 32.8**	**-3.6**
MJAR						01 52 31.1	
MJAR	**Matsushiro Arr**	**15.59**	**43**	Pn	**Pn**	**01 49 32.8**	**-3.6**
	comp=Z,0.2nm,0.3s,baz=242,slow=13,SNR=14						
MJAR				Sn	**Sn**	**01 52 31.1**	**+2.0**
	comp=Z,0.5nm,0.3s,baz=162,slow=28,SNR=2.4						
MJAR				LR	LR	01 56 08.2	
	comp=Z,75μm,20.1s,baz=215,slow=39						
TBP	**Tagbilaran**	**15.93**	**184**	*e*P	**Pn**	**01 49 39.6**	**-1.3**
TIY	**Taiyuan**	**16.13**	**321**	⇑*i*P	**Pn**	**01 49 47.1**	**+3.7**
TIY				S	**Sn**	**01 52 50.5**	**+8.3**
TIY				AMB	AMB		
	comp=Z,37μm,4.5s						
TIY				LR	LR		
	comp=N,126μm,8.1s						
TIY				LR	LR		
	comp=E,217μm,11.4s						
TIY				LR	LR		
	comp=Z,118μm,12.1s						
BJT	**Baijiatuau**	**16.16**	**335**	⇑*e*Pn	**Pn**	**01 49 43.8**	**+0.1**
	comp=Z,644nm,1.2s						
BJT				*e*Sn	**Sn**	**01 52 35.5**	**-7.3**
BJT	**Baijiatuau**	**16.16**	**335**	⇑*e*P	**Pn**	**01 49 43.8**	**+0.1**
BJT				*e*		01 52 35.5	
BJT				pmax	pmax		
	comp=Z,644nm,1.2s						
BJI	**Beijing**	**16.17**	**335**	P	**Pn**	**01 49 46.0**	**+2.1**
BJI				S	**Sn**	**01 52 53.6**	**+10**
BJI				PCP	PcP	01 54 37.6	-1.3
BJI				AMB	AMB		
	comp=Z,13μm,4.3s						
BJI				LR	LR		
	comp=N,136μm,20.0s						
BJI				LR	LR		
	comp=E,156μm,22.6s						
BJI				LR	LR		
	comp=Z,137μm,20.0s						
SNY	**Shenyang**	**16.18**	**356**	⇑P	**Pn**	**01 49 46.4**	**+2.4**
SNY				AP	pP	01 49 55.6	+5.2
SNY				S	**Sn**	**01 52 41.3**	**-2.0**
SNY				AMB	AMB		
	comp=Z,306nm,1.8s						
SNY				AMB	AMB		
	comp=Z,56μm,9.4s						
SNY				LR	LR		
	comp=N,140μm,17.5s						
SNY				LR	LR		
	comp=E,289μm,14.7s						
SNY				LR	LR		
	comp=Z,195μm,12.5s						
XAN	**Xi'an**	**16.33**	**305**	P	**Pn**	**01 49 46.9**	**+1.0**
XAN				AP	pP	01 49 56.6	+4.5
XAN				AMB	AMB		
	comp=Z,114nm,1.0s						
XAN				AMB	AMB		
	comp=Z,6μm,4.3s						
XAN				LR	LR		
	comp=N,154μm,12.1s						
XAN				LR	LR		
	comp=E,162μm,13.7s						
XAN				LR	LR		
	comp=Z,164μm,14.3s						
GYA	**Guiyang**	**16.60**	**277**	⇓*i*P	**Pn**	**01 49 51.8**	**+2.4**
GYA				AP	pP	01 49 54.0	-1.2
GYA				XP	sP	01 49 57.4	+0.7
GYA				PP		01 50 06.3	
GYA				SS		01 53 17.9	
GYA				PCP	PcP	01 54 42.9	+3.1
GYA				AMB	AMB		
	comp=Z,520nm,1.5s						
GYA				LR	LR		
	comp=N,85μm,10.5s						
GYA				LR	LR		
	comp=E,161μm,12.9s						
GYA				LR	LR		
	comp=Z,201μm,13.1s						
PPR	**Puerto Princes**	**16.92**	**202**	⇑*i*P	**Pn**	**01 49 53.1**	**-0.4**
CN2	**Changchun**	**18.10**	**1**	⇑P	**Pn**	**01 50 10.8**	**+2.7**
CN2				*e*XP	sP	01 50 17.0	+3.8
CN2				*e*S	**Sn**	**01 53 29.9**	**0.0**
CN2				AMB	AMB		
	comp=Z,70nm,1.2s						
VLA	**Vladivostok**	**18.28**	**16**	*i* P	**Pn**	**01 50 12.0**	**+1.7**
VLA	**Vladivostok**	**18.28**	**16**	*d* iP	**Pn**	**01 50 12.9**	**+2.6**
VLA				pmax	pmax		
	comp=Z,2μm,1.7s						
VLA				MLR	MLR		
	comp=Z,117μm,23.0s						
HHC	**Hu-ho-hao-te**	**18.88**	**327**	*e*P	**Pn**	**01 50 20.3**	**+2.7**
HHC				AP	pP	01 50 23.8	+3.5
HHC				XP	sP	01 50 27.3	+5.5
HHC				PP		01 50 36.3	
HHC				S	**Sn**	**01 53 55.8**	**+7.0**
HHC				SS		01 54 11.8	
HHC				PCP	PcP	01 54 47.8	+4.5
HHC				SCP	ScP	01 58 21.9	+3.0
HHC				PCS	PcS	01 58 24.8	+4.7
HHC				AMB	AMB		
	comp=Z,315nm,1.1s						
HHC				AMB	AMB		
	comp=Z,45μm,4.6s						
HHC				LR	LR		
	comp=N,63μm,10.7s						
HHC				LR	LR		
	comp=E,55μm,12.9s						
HHC				LR	LR		
	comp=Z,48μm,12.4s						
MDJ	**Mudanjiang**	**19.26**	**10**	P	**Pn**	**01 50 19.1**	**-3.0**
MDJ				S	**Sn**	**01 53 53.5**	**-4.4**
MDJ				XS	sS	01 54 01.3	-3.0
MDJ				SCS	ScS	02 02 01.3	0.0
MDJ				AMB	AMB		
	comp=Z,12μm,10.4s						
MDJ				LR	LR		
	comp=N,44μm,26.9s						
MDJ				LR	LR		
	comp=E,199μm,18.8s						
MDJ				LR	LR		
	comp=Z,168μm,12.1s						
MDJ	**Mudanjiang**	**19.26**	**10**	⇓*e*P	**Pn**	**01 50 21.0**	**-1.1**
	comp=Z,526nm,1.3s						
MDJ				*e*S	**Sn**	**01 54 09.6**	**+12**
BTO	**Baotou**	**19.50**	**324**	*e*P	**Pn**	**01 50 26.8**	**+1.8**
BTO				S	**Sn**	**01 54 08.3**	**+4.6**
BTO				LR	LR		
	comp=N,51μm,15.7s						
BTO				LR	LR		
	comp=E,57μm,16.2s						
CD2	**Chengdu**	**19.51**	**290**	⇓*i*P	**Pn**	**01 50 26.3**	**+1.1**
CD2				AP	pP	01 50 30.0	+2.7
CD2				XP	sP	01 50 33.5	+4.7
CD2				PP		01 50 43.8	
CD2				S	**Sn**	**01 53 58.9**	**-5.3**
CD2				SS		01 54 25.5	
CD2				AMB	AMB		
	comp=Z,1μm,1.2s						
CD2				AMB	AMB		
	comp=Z,25μm,6.0s						
CD2				LR	LR		
	comp=N,175μm,10.8s						
CD2				LR	LR		
	comp=E,183μm,10.8s						
CD2				LR	LR		
	comp=Z,220μm,13.2s						
KMI	**Kunming**	**20.22**	**273**	⇓P	**P**	**01 50 35.3**	**+3.5**
KMI				XP	sP	01 50 39.6	+3.0
KMI				PP		01 50 57.1	
KMI				S	**S**	**01 54 22.3**	**+3.7**
KMI				XS	sS	01 54 27.1	+3.3
KMI				AMB	AMB		
	comp=Z,478nm,2.0s						
KMI				AMB	AMB		
	comp=Z,15μm,4.6s						
KMI				LR	LR		
	comp=N,83μm,11.2s,MS6.5						
KMI				LR	LR		
	comp=E,93μm,13.5s,MS6.5						
KMI				LR	LR		
	comp=Z,91μm,12.4s,MS6.3						
LZH	**Lanzhou**	**20.96**	**305**	⇓P	**P**	**01 50 42.9**	**+3.1**
LZH				AP		01 50 47.4	
LZH				XP	sP	01 50 51.0	+6.4
LZH				PP		01 51 05.8	
LZH				*e*S	**S**	**01 54 35.0**	**+1.8**
LZH				XS	sS	01 54 39.3	+0.8
LZH				AMB	AMB		
	comp=Z,2μm,1.5s						
LZH				AMB	AMB		
	comp=Z,17μm,6.8s						
LZH				LR	LR		
	comp=N,182μm,12.7s						
LZH				LR	LR		
	comp=Z,125μm,13.7s,MS6.5						
KKM	**Kota Kinabalu**	**21.28**	**205**	*e*P	**P**	**01 50 43.9**	**+0.6**
ERM	**Erimo**	**22.08**	**38**	*e*P	**P**	**01 50 49.3**	**-2.4**
	comp=Z,104nm,0.9s,mb5.3						
ERM				LR	LR		
	comp=Z,78μm,22.0s,MS6.1						
GUMO	**Guam**	**22.11**	**119**	*e*P	**P**	**01 50 52.6**	**+0.4**
GUMO				LR	LR		
	comp=Z,32μm,20.0s,MS5.7						
GUMO	**Guam**	**22.11**	**119**	P	**P**	**01 50 51.7**	**-0.5**
GUMO				S	**S**	**01 54 56.7**	**+0.7**
GUMO				smax			
	comp=N,131nm,1.1s						
GUMO				MLR	MLR		
	comp=Z,32μm,19.1s,MS5.8						
GUMO	**Guam**	**22.11**	**119**	P	**P**	**01 50 51.7**	**-0.5**
	comp=Z,1μm,1.2s,mb6.3,baz=144,slow=3.7,SNR=8.2						
GUMO				S	**S**	**01 54 56.7**	**+0.7**
	comp=Z,131nm,1.1s,baz=111,slow=11,SNR=2.0						
GUMO				LR	LR	01 57 38.4	
	comp=Z,32μm,19.1s,MS5.8,baz=118,slow=32						
KKTK	**Khon Kaen**	**22.75**	**250**	P	**P**	**01 51 02.0**	**+3.0**
	comp=Z,4μm,0.8s,mb6.9						
ASAJ	**Asahikawa**	**23.26**	**33**	P	**P**	**01 51 02.3**	**-1.8**
ASAJ				S	**S**	**01 55 16.5**	**+0.6**
ASAJ				smax			
	comp=N,6.0nm,0.4s						
ASAJ				MLR	MLR		
	comp=Z,110μm,19.1s						
ASAJ	**Asahikawa**	**23.26**	**33**	P	**P**	**01 51 02.3**	**-1.8**
	comp=Z,16nm,0.6s,mb4.7,baz=237,slow=16,SNR=8.3						
ASAJ				S	**S**	**01 55 16.4**	**+0.5**
	comp=Z,6.3nm,0.4s,baz=81,slow=33,SNR=3.9						
ASAJ				LR	LR	02 00 34.6	
	comp=Z,110μm,19.1s,MS6.3,baz=239,slow=38						
HIA	**Hailar**	**23.94**	**351**	⇓*i*P	**P**	**01 51 10.6**	**-0.1**
	comp=Z,4μm,2.0s,mb6.5						
HIA				*e*S	**S**	**01 55 34.3**	**+7.5**
HIA				LR	LR		
	comp=Z,116μm,21.0s,MS6.3						
HIA	**Hailar**	**23.94**	**351**	⇓*i*P	**P**	**01 51 10.6**	**-0.1**
HIA				pmax	pmax		
	comp=Z,4μm,2.0s						
HIA				MLR	MLR		
	comp=Z,116μm,21.0s						
CHRT	**Chiangrai**	**24.04**	**261**	⇑P	**P**	**01 51 13.0**	**+1.1**
	comp=Z,2μm,0.8s,mb6.5						
HABR	**Khabarovsk**	**24.07**	**16**	⇓*i*P	**P**	**01 51 06.6**	**-5.3**
HABR				*e*		01 54 49.0	
HABR				*e*S	**S**	**01 55 20.6**	**-8.5**
HABR				*e*		02 02 09.0	
HABR				pmax	pmax		
	comp=Z,173nm,2.1s,mb5.1						
HABR				MLR	MLR		
	comp=Z,37μm,14.2s,MS6.0						
KLR	**Kul'dur**	**24.09**	**11**	*e*P	**P**	**01 51 05.8**	**-6.3**
KLR				pmax	pmax		
	comp=E,300nm,2.2s						
KLR				pmax	pmax		
	comp=Z,500nm,2.2s,mb5.6						
YUK	**Yuzh-Kuril'sk**	**24.90**	**37**	⇓*i*P	**P**	**01 51 17.0**	**-2.6**
YUK				*e*SP		01 51 28.0	
YUK				*e*S	**S**	**01 55 43.0**	**+0.4**
YUK				pmax	pmax		
	comp=N,15μm,7.0s						
YUK				pmax	pmax		
	comp=E,15μm,7.0s						
YUK				pmax	pmax		
	comp=Z,18μm,7.0s						
YUK				smax			
	comp=N,22μm,16.0s						
YUK				smax			
	comp=E,39μm,16.0s						
YUK				MLR	MLR		
	comp=Z,48μm,16.0s,MS6.1						
YUK				MLR	MLR		
	comp=N,54μm,14.0s,MS6.2						
YUK				MLR	MLR		
	comp=E,27μm,14.0s,MS6.2						
CHTO	**Chiang Mai**	**25.13**	**260**	*e*P	**P**	**01 51 23.0**	**+1.1**
CHTO				LR	LR		
	comp=Z,16μm,19.0s,MS5.5						
CHTO	**Chiang Mai**	**25.13**	**260**	P	**P**	**01 51 23.3**	**+1.4**
	SNR=122						

CHTO	**Chiang Mai**	**25.13 260**	P	**P**	**01 51 23.3 +1.4**
	SNR=122				
CHTO	**Chiang Mai**	**25.13 260**	P	**P**	**01 51 23.3 +1.4**
	SNR=122				
CHTO	**Chiang Mai**	**25.13 260**	P	**P**	**01 51 23.3 +1.4**
	SNR=122				
CHTO	**Chiang Mai**	**25.13 260**	P	**P**	**01 51 23.3 +1.4**
	SNR=122				
CHTO	**Chiang Mai**	**25.13 260**	P	**P**	**01 51 23.3 +1.4**
	SNR=122				
CHTO	**Chiang Mai**	**25.13 260**	P	**P**	**01 51 23.3 +1.4**
	SNR=122				
CHTO	**Chiang Mai**	**25.13 260**	P	**P**	**01 51 23.3 +1.4**
	SNR=122				
CHTO	**Chiang Mai**	**25.13 260**	P	**P**	**01 51 23.3 +1.4**
	SNR=122				
CHTO	**Chiang Mai**	**25.13 260**	P	**P**	**01 51 23.3 +1.4**
	SNR=122				
CHTO	**Chiang Mai**	**25.13 260**	P	**P**	**01 51 23.3 +1.4**
	SNR=122				
GTA	**Gaotai**	**25.25 309**	*e*P	**P**	**01 51 22.9 +0.1**
GTA			AP	pP	01 51 27.0 +0.7
GTA			XP	sP	01 51 30.4 +2.6
GTA			PP		01 52 02.3
GTA			S	**S**	**01 55 49.3 +1.1**
GTA			AMB	AMB	
	comp=Z,88nm,1.2s,mb5.2				
GTA			AMB	AMB	
	comp=Z,7μm,6.9s				
GTA			LR	LR	
	comp=N,216μm,16.0s,MS6.8				
GTA			LR	LR	
	comp=E,138μm,15.7s,MS6.8				
GTA			LR	LR	
	comp=Z,95μm,16.0s,MS6.4				
CM31	**Chiang Mai Arr**	**25.26 259**	*e*P	**P**	**01 51 15.1 -7.9**
CM31			LR	LR	
	comp=Z,10μm,20.0s,MS5.3				
NST	**Nakhon Sawan**	**25.35 252**	P	**P**	**01 51 26.1 +2.2**
YSS	**Yuzh-Sakhalins**	**25.46 29**	*e*P	**P**	**01 51 25.0 +0.5**
	comp=Z,244nm,1.3s,mb5.6				
YSS			LR	LR	
	comp=Z,54μm,20.0s,MS6.1				
YSS	**Yuzh-Sakhalins**	**25.46 29**	*d i*P	**P**	**01 51 21.5 -3.1**
YSS			*e**PP	pP	01 51 33.0 +4.9
YSS			*e*		01 52 09.0
YSS			*e*S	**S**	**01 55 43.0 -8.3**
YSS			*e**SS	sS	01 55 58.0 +0.8
YSS			pmax	pmax	
	comp=Z,150nm,1.4s,mb5.3				
YSS			pmax	pmax	
	comp=Z,9μm,9.0s				
YSS			pmax	pmax	
	comp=N,5μm,8.0s				
YSS			pmax	pmax	
	comp=E,4μm,8.0s				
YSS			MLR	MLR	
	comp=N,60μm,14.0s,MS6.3				
YSS			MLR	MLR	
	comp=E,22μm,14.0s,MS6.3				
YSS			MLR	MLR	
	comp=Z,67μm,14.0s,MS6.3				
BDT	**Bhumibol Dam**	**25.66 256**	P	**P**	**01 51 28.0 +1.3**
	comp=Z,29nm,1.0s,mb4.8				
ULN	**Ulaanbaatar**	**26.34 332**	*e*P	**P**	**01 51 33.3 +0.7**
	comp=Z,841nm,1.2s,mb6.2				
ULN			LR	LR	
	comp=Z,100μm,21.0s,MS6.3				
ULN	**Ulaanbaatar**	**26.34 332**	P	**P**	**01 51 33.8 +1.3**
	SNR=622				
ULN	**Ulaanbaatar**	**26.34 332**	P	**P**	**01 51 33.8 +1.3**
	SNR=622				
SONM	**Songino Array**	**26.60 331**	P	**P**	**01 51 35.0 +0.1**
SONM			S	**S**	01 54 58.3
SONM			S	**S**	**01 56 11.8 +2.4**
SONM	**Songino Array**	**26.60 331**	P	**P**	**01 51 35.0 +0.1**
	comp=Z,115nm,1.0s,mb5.4,baz=150,slow=7.3,SNR=103				
SONM			PcP	PcP	01 54 58.3 -0.6
	comp=Z,20nm,0.8s,baz=142,slow=2.9,SNR=7.1				
SONM			S	**S**	**01 56 11.8 +2.4**
	comp=Z,4.9nm,0.9s,baz=102,slow=7.8,SNR=1.2				
SONM			LR	LR	02 03 38.1
	comp=Z,112μm,20.2s,MS6.4,baz=142,slow=40				
PCI	**Palu**	**26.90 192**	P	**P**	**01 51 38.6 +0.8**
NNT	**Nongplab**	**27.21 246**	P	**P**	**01 51 44.4 +3.7**
KSM	**Kuching**	**27.96 213**	*e*P	**P**	**01 51 48.4 +1.0**
IMP	**Imphal**	**28.19 275**	*ex*	x	01 51 55.0
AAI	**Ambon**	**29.32 174**	P	**P**	**01 51 59.7 +0.2**
SNG	**Songkhla**	**29.73 236**	P	**S**	**01 57 06.0 +6.8**
	comp=Z,216nm,1.1s				
ZAK	**Zakamensk**	**29.87 331**	*e*P	**P**	**01 52 03.8 -0.2**
ZAK			*e*		02 02 37.8
ZAK			pmax	pmax	
	comp=Z,77nm,2.3s,mb5.0				
SHL	**Shillong**	**29.92 277**	*e*P	**P**	**01 52 06.0 +1.2**
SHL			*i* S	**S**	**01 57 04.0 +1.9**
LSA	**Lhasa**	**30.28 285**	P	**P**	**01 52 10.3 +2.4**
LSA			AP	pP	01 52 17.3 +5.8
LSA			XP	sP	01 52 21.8 +8.9
LSA			S	**S**	**01 57 15.5 +7.8**
LSA			SCS	ScS	02 02 38.8 -7.8
LSA			LR	LR	
	comp=N,43μm,18.6s				
LSA			LR	LR	
	comp=E,54μm,12.7s				
LSA			LR	LR	
	comp=Z,79μm,11.8s				
LSA	**Lhasa**	**30.28 285**	*e*P	**P**	**01 52 08.6 +0.7**
	comp=Z,238nm,1.5s,mb5.7				
LSA			PcP	PcP	01 55 14.6 +6.2
LSA			*e*S	**S**	**01 57 09.9 +2.2**
LSA			ScP	ScP	01 58 54.5 +3.8
LSA			LR	LR	
	comp=Z,23μm,19.0s,MS5.8				
LSA	**Lhasa**	**30.28 285**	*e*P	**P**	**01 52 08.6 +0.7**
LSA					01 55 14.6
LSA			*e*S	**S**	**01 57 09.9 +2.2**
LSA			pmax	pmax	
	comp=Z,238nm,1.5s,mb5.7				
LSA			MLR	MLR	
	comp=Z,23μm,19.0s,MS5.8				
TLY	**Talaya**	**30.69 333**	*e*P	**P**	**01 52 11.5 +0.3**
TLY			LR	LR	
	comp=Z,78μm,19.0s,MS6.4				
TLY	**Talaya**	**30.69 333**	*d i*P	**P**	**01 52 12.0 +0.7**
TLY			*e*		01 53 28.0
TLY			pmax	pmax	
	comp=Z,400nm,2.1s,mb5.9				
TLY			MLR	MLR	
	comp=Z,70μm,16.0s,MS6.4				
TLY	**Talaya**	**30.69 333**	P	**P**	**01 52 12.0 +0.7**
	SNR=159				
TLY	**Talaya**	**30.69 333**	P	**P**	**01 52 12.0 +0.7**
	SNR=159				
TLY	**Talaya**	**30.69 333**	P	**P**	**01 52 12.0 +0.7**
	SNR=159				
TLY	**Talaya**	**30.69 333**	P	**P**	**01 52 12.0 +0.7**
	SNR=159				
TLY	**Talaya**	**30.69 333**	P	**P**	**01 52 12.0 +0.7**
	SNR=159				
TLY	**Talaya**	**30.69 333**	P	**P**	**01 52 12.0 +0.7**
	SNR=159				
TLY	**Talaya**	**30.69 333**	P	**P**	**01 52 12.0 +0.7**
	SNR=159				
TLY	**Talaya**	**30.69 333**	P	**P**	**01 52 12.0 +0.7**
	SNR=159				
TLY	**Talaya**	**30.69 333**	P	**P**	**01 52 12.0 +0.7**
	SNR=159				
TLY	**Talaya**	**30.69 333**	P	**P**	**01 52 12.0 +0.7**
	SNR=159				
TLY	**Talaya**	**30.69 333**	P	**P**	**01 52 12.0 +0.7**
	SNR=159				
IRK	**Irkutsk**	**30.88 335⇑**	*i*P	**P**	**01 52 13.0 +0.1**
IRK			pmax	pmax	
	comp=Z,348nm,4.2s				
KULM	**Kulim**	**30.96 233**	*e*P	**P**	**01 52 14.5 +0.4**
KULM			*e*PP	PP	01 53 18.1 -6.0
KULM			*e*PcP	PcP	01 55 15.4 +5.0
KULM			*e*S	S	01 57 46.3 +28
KULM			*e*ScP	ScP	01 58 56.2 +3.1
NRGR	**Nerungri**	**30.97 360**	*e*P	**P**	**01 52 15.8 +2.1**
NRGR			S	**S**	**01 57 11.5 -6.4**
NRGR			smax		
	comp=E,65nm,0.6s				
CLNS	**Chul'man**	**31.15 360**	*e*P	**P**	**01 52 15.6 +0.3**
CLNS			*e**PP	pP	01 52 25.9 +7.1
CLNS			*e*PPP		01 53 24.0
CLNS			*e*		01 55 05.6
CLNS			*e*S	**S**	**01 57 20.7 0.0**
CLNS			pmax	pmax	
	comp=Z,23nm,0.8s,mb5.1				
CLNS			pmax	pmax	
	comp=N,46nm,1.6s				
CLNS			pmax	pmax	
	comp=E,16nm,1.0s				
CLNS			smax		
	comp=N,15μm,11.0s				
CLNS			smax		
	comp=Z,19μm,14.0s				
CLNS			smax		
	comp=E,7μm,13.3s				
CLNS			MLR	MLR	
	comp=N,117μm,14.0s,MS6.8				
CLNS			MLR	MLR	
	comp=Z,158μm,14.0s,MS6.8				
CLNS			MLR	MLR	
	comp=E,48μm,13.0s,MS6.8				
KGM	**Kluang**	**31.51 225**	⇓P	**P**	**01 52 20.5 +1.6**
FRIM	**Kepong**	**31.72 229**	⇓P	**P**	**01 52 23.5 +2.7**
MOY	**Mondy**	**31.79 331**	*e*P	**P**	**01 52 21.8 +0.8**
MOY			pmax	pmax	
	comp=Z,1μm,1.9s,mb6.4				
TPI	**Tanjungpandan**	**32.92 213**	P	**P**	**01 52 31.8 +0.5**
BOD	**Bodaibo**	**33.10 349**	*e*P	**P**	**01 52 31.5 -0.8**
BOD			pmax	pmax	
	comp=Z,75nm,1.9s,mb5.3				
PSI	**Prapat**	**33.92 232**	P	**P**	**01 52 40.3 +0.3**
PSI			S	**S**	**01 58 06.4 +1.7**
PSI	**Prapat**	**33.92 232**	P	**P**	**01 52 40.3 +0.3**
	comp=Z,81nm,0.9s,mb5.7,baz=16,slow=4.4,SNR=54				
PSI			S	**S**	**01 58 06.4 +1.8**
	comp=Z,1.3nm,0.3s,baz=165,slow=15,SNR=1.5				
PSI			LR	LR	02 07 03.5
	comp=Z,19μm,19.5s,MS5.8,baz=46,slow=37				
KMMI	**Kalianget**	**34.27 200**	P	**P**	**01 52 43.3 +0.3**
SKR	**Severo-Kuril's**	**34.48 35**	*e*P	**P**	**01 52 42.0 -2.4**
SKR			*e*		01 54 04.0
SKR			*e*S	**S**	**01 58 04.0 -8.6**
SKR			*e*		02 02 58.0
SKR			pmax	pmax	
	comp=Z,130nm,1.0s,mb5.8				
SKR			pmax	pmax	
	comp=E,3μm,6.0s				
SKR			pmax	pmax	
	comp=Z,4μm,6.0s				
SKR			pmax	pmax	
	comp=N,2μm,12.0s				
SKR			pmax	pmax	
	comp=Z,3μm,12.0s				
SKR			smax		
	comp=N,3μm,12.0s				
SKR			smax		
	comp=E,4μm,12.0s				
SKR			MLR	MLR	
	comp=N,10μm,16.0s,MS6.0				
SKR			MLR	MLR	
	comp=E,18μm,16.0s,MS6.0				
SKR			MLR	MLR	
	comp=Z,36μm,16.0s,MS6.2				
BSI	**Banda Aceh**	**34.87 240**	P	**P**	**01 52 48.6 +0.4**
GUN	**Gumba**	**34.99 283**	*e*P	**P**	**01 52 50.6 +1.4**
	comp=Z,205nm,1.0s,mb6.0				
WMQ	**Urumqi**	**35.31 310⇓**	*i*P	**P**	**01 52 52.5 +0.7**
WMQ			AP	pP	01 52 57.0 +1.6
WMQ			XP	sP	01 53 00.0 +3.2
WMQ			PP	PP	01 54 13.0 +1.1
WMQ			S	**S**	**01 58 26.0 +0.3**
WMQ			XS	sS	01 58 33.0 +1.4
WMQ			PCS	PcS	01 59 06.0 -2.9
WMQ			SS	SS	02 00 46.0 -13
WMQ			AMB	AMB	
	comp=Z,242nm,2.0s,mb5.8				
WMQ			AMB	AMB	
	comp=Z,6μm,4.1s				
WMQ			LR	LR	
	comp=N,257μm,15.4s,MS7.1				
WMQ			LR	LR	
	comp=E,83μm,16.4s,MS7.1				
WMQ			LR	LR	
	comp=Z,63μm,18.2s,MS6.4				
PKI	**Pulchoki**	**35.44 282**	*e*P	**P**	**01 52 53.9 +0.8**
	comp=Z,347nm,1.2s,mb6.2				
KKN	**Kakani**	**35.53 282**	*e*P	**P**	**01 52 54.8 +0.9**
	comp=Z,247nm,1.0s,mb6.1				
BOK	**Bokaro**	**35.59 276**	*e*P	**P**	**01 52 55.9 +1.5**
BATI	**Kupang**	**35.68 182**	P	**P**	**01 52 52.7 -2.4**
	comp=Z,100nm,0.9s,mb5.8,baz=336,slow=1.6,SNR=10				
BATI			S	**S**	**01 58 31.7 +0.1**
	comp=Z,14nm,0.4s,baz=251,slow=18,SNR=2.1				
BATI			LR	LR	02 07 54.5
	comp=Z,23μm,20.2s,MS5.9,baz=11,slow=37				
DMN	**Daman**	**35.71 282**	*e*P	**P**	**01 52 56.3 +0.9**
	comp=Z,308nm,1.2s,mb6.1				
JCJI	**Jatiwangi**	**35.90 209**	P	**P**	**01 53 00.6 +3.5**
GSI	**Gunungsitoli**	**35.92 232**	P	**P**	**01 52 57.5 +0.2**
GKN	**Gorkha**	**36.08 283**	*e*P	**P**	**01 52 59.4 +0.8**
	comp=Z,417nm,1.2s,mb6.3				
KLI	**Kotabumi**	**36.15 216**	P	**P**	**01 53 01.4 +2.2**
KSI	**Kapahiang**	**36.41 220**	P	**P**	**01 53 03.8 +2.4**
YAK	**Yakutsk**	**36.49 4**	*e*P	**P**	**01 53 10.3 +8.7**
	comp=Z,488nm,1.5s,mb6.2				
YAK			LR	LR	
	comp=Z,41μm,19.0s,MS6.2				
YAK	**Yakutsk**	**36.49 4**	*e*P	**P**	**01 53 00.1 -1.5**
YAK			*e*		01 54 24.9
YAK			*e*PPP		01 54 42.0
YAK			*e*S	**S**	**01 58 40.4 -2.9**
YAK			*e*SSS		02 01 32.6
YAK			pmax	pmax	
	comp=E,14nm,1.4s				
YAK			pmax	pmax	
	comp=Z,136nm,1.4s,mb5.7				
YAK			pmax	pmax	
	comp=N,113nm,1.3s				
YAK			pmax	pmax	
	comp=Z,11μm,6.9s				
YAK			pmax	pmax	
	comp=N,11μm,7.4s				
YAK			pmax	pmax	
	comp=E,3μm,7.3s				
YAK			smax		
	comp=N,9μm,16.4s				
YAK			smax		
	comp=Z,2μm,12.9s				
YAK			smax		
	comp=E,1μm,6.1s				
YAK			MLR	MLR	
	comp=Z,80μm,16.0s,MS6.6				
YAK			MLR	MLR	
	comp=N,95μm,21.0s,MS6.7				
YAK			MLR	MLR	
	comp=E,69μm,18.0s,MS6.7				
SBJI	**Serang**	**36.58 213**	P	**P**	**01 53 03.9 +1.0**
KOLN	**Koldanda**	**37.02 283**	*e*P	**P**	**01 53 07.7 +1.1**
	comp=E,145nm,1.0s,mb5.8				
PET	**Petropavlovsk**	**37.10 34**	*e*P	**P**	**01 53 05.0 -1.9**
PET			LR	LR	
	comp=Z,44μm,20.0s,MS6.2				
PET	**Petropavlovsk**	**37.10 34**	*e*P	**P**	**01 52 58.2 -8.7**
PET			*e*		01 55 27.0
PET			pmax	pmax	
	comp=Z,3μm,8.0s				
PET			pmax	pmax	
	comp=Z,5μm,6.9s				
PET			pmax	pmax	
	comp=Z,129nm,1.5s,mb5.5				
PET			MLR	MLR	
	comp=Z,52μm,21.0s,MS6.3				
PET			MLR	MLR	
	comp=Z,38μm,19.0s				
MA2	**Magadan**	**38.30 21**	*e*P	**P**	**01 53 17.5 +0.5**
MA2			LR	LR	
	comp=Z,27μm,20.0s,MS6.1				
MA2	**Magadan**	**38.30 21**	*e*P	**P**	**01 53 14.5 -2.5**
MA2			*e*PPP		01 55 04.0
MA2			*e*S	**S**	**01 59 05.3 -5.5**
MA2			pmax	pmax	
	comp=Z,50nm,1.0s,mb5.2				
MA2			MLR	MLR	
	comp=Z,29μm,18.0s,MS6.1				
KAKA	**Kakadu**	**38.80 169**	*e*P	**P**	**01 53 18.9 -2.7**
	comp=Z,327nm,1.1s,mb6.0				
BLSP	**Bilaspur**	**39.33 274**	*e*P	**P**	**01 53 27.1 +1.0**
VIS	**Vishakhapatnam**	**39.49 267**	*i* P	**P**	**01 53 29.8 +2.3**
VIS			*ex*	x	01 53 37.9
	comp=Z,285nm,1.9s				
VIS			*i* S	**S**	**01 59 30.3 +0.6**
PTH	**Pithoragarh**	**39.79 286**	*e*P	**P**	**01 53 31.7 +1.8**
PTH			*ex*	x	01 56 12.0
MK31	**Makanchi Array**	**39.85 313⇓**	*i*P	**P**	**01 53 30.3 +0.2**
MK31			*e*PP	PP	01 55 05.7 +4.1
MK31			*e*PcP	PcP	01 55 35.3 -0.6
MK31			*e*S	**S**	**01 59 40.7 +6.2**
MK31	**Makanchi Array**	**39.85 313**	*i* P	**P**	**01 53 29.9 -0.2**
MK31			pmax	pmax	
	comp=Z,888nm,1.5s,mb6.3				
MKAR	**Makanchi Array**	**39.85 313**	P	**P**	**01 53 29.3 -0.9**
MKAR			PcP	PcP	01 55 36.5 +0.5
MKAR			S	**S**	**01 59 36.5 +2.1**
MKAR			LR	LR	02 11 13.0
MKAR	**Makanchi Array**	**39.85 313**	P	**P**	**01 53 29.3 -0.8**
MKAR					01 55 36.5
MKAR			S	**S**	**01 59 36.5 +2.1**
MKAR	**Makanchi Array**	**39.85 313**	P	**P**	**01 53 29.3 -0.8**
	comp=Z,38nm,0.7s,mb5.2,baz=99,slow=11,SNR=65				
MKAR			PcP	PcP	01 55 36.5 +0.5
	comp=Z,20nm,0.7s,baz=98,slow=3.7,SNR=3.9				
MKAR			S	**S**	**01 59 36.5 +2.1**
	comp=Z,0.6nm,0.4s,baz=218,slow=43,SNR=2.4				
MKAR			LR	LR	02 11 13.0
	comp=Z,42μm,18.1s,MS6.3,baz=106,slow=38				
JBP	**Jabalpur**	**41.02 276⇓**	*i*P	**P**	**01 53 42.1 +1.9**
JBP			⇑*ex*	x	01 53 50.7
	comp=Z,388nm,2.0s				
JBP			*i* x	x	01 59 32.0
ZAA0	**Zalesovo Array**	**41.04 324**	*e*P	**P**	**01 53 39.0 -0.9**
ZALV	**Zalesovo Beam**	**41.04 324**	P	**P**	**01 53 38.9 -0.9**
ZALV			S	**S**	**01 59 50.1 -1.8**
ZALV			LR	LR	02 11 28.2
ZALV	**Zalesovo Beam**	**41.04 324**	P	**P**	**01 53 38.9 -0.9**
	comp=Z,110nm,0.6s,mb5.6,baz=112,slow=7.3,SNR=162				
ZALV			S	**S**	**01 59 50.1 -1.8**
	comp=Z,3.6nm,1.0s,baz=153,slow=13,SNR=3.4				
ZALV			LR	LR	02 11 28.2
	comp=Z,40μm,21.6s,MS6.2,baz=119,slow=37				
ZAL	**Zalesovo**	**41.04 324**	P	**P**	**01 53 38.9 -1.0**
ZAL			S	**S**	**01 59 50.2 -1.9**
SEY	**Seymchan**	**41.42 18⇑**	*e*P	**P**	**01 53 41.3 -1.5**
SEY	**Seymchan**	**41.42 18⇑**	*e*P	**P**	**01 53 41.2 -1.6**
DDI	**Dehra Dun**	**41.58 288**	*i* P	**P**	**01 53 45.2 +0.5**
NVS	**Novosibirsk**	**42.27 325**	*i* P	**P**	**01 53 49.2 -0.7**
NVS			pmax	pmax	
	comp=N,573nm,1.9s				
NVS			pmax	pmax	
	comp=Z,988nm,1.9s,mb6.1				
NVS			pmax	pmax	
	comp=E,663nm,1.7s				
SMLA	**Simla**	**42.27 289**	*e*P	**P**	**01 53 50.3 0.0**
SMLA			AMb	AMB	01 53 57.6
	comp=Z,713nm,3.6s				
NGP	**Nagpur**	**42.35 274**	*e*P	**P**	**01 53 51.2 +0.2**
NGP			*ex*	x	01 53 57.6
	comp=Z,374nm,1.4s				
NGP			*e*S	**S**	**02 00 13.3 +1.1**
NDI	**New Delhi**	**42.49 285**	*e*P	**P**	**01 53 51.0 -1.2**
	comp=Z,17nm,1.1s,mb4.6				
NDI			*e*P		01 53 52.2
NDI			AMb	AMB	01 53 58.7
	comp=Z,611nm,1.4s,mb6.0				
NDI			*e*S	**S**	**02 00 15.0 +0.8**
AAA	**Alma-Ata**	**42.79 307**	*i* P	**P**	**01 53 56.0 +1.6**
AAA			pmax	pmax	
	comp=Z,8μm,6.2s				
AAA			MLR	MLR	
	comp=Z,74μm,13.7s,MS6.7				
BHK	**Bhakra**	**42.89 289**	*e*P	**P**	**01 53 55.8 +0.5**
KSH	**Kashi**	**43.14 301**	*e*P	**P**	**01 54 00.5 +3.3**
KSH			*e*AP	pP	01 54 04.4 +3.5
KSH			*e*XP	sP	01 54 07.1 +4.8
KSH			*e*PP	PP	01 55 42.8 +5.4
KSH			*e*PCP	PcP	01 55 49.8 +2.9
KSH			*e*SCP	ScP	01 59 39.1 +1.0
KSH			PCS	PcS	01 59 41.1 +1.9
KSH			S	**S**	**02 00 26.6 +3.1**
KSH			XS	sS	02 00 33.1 +3.6
KSH			SS	SS	02 03 32.3 -3.7
KSH			SCS	ScS	02 03 57.4 -0.4
KSH			AMB	AMB	
	comp=Z,2μm,1.8s,mb6.5				
KSH			AMB	AMB	
	comp=Z,16μm,4.4s				
KSH			LR	LR	
	comp=Z,144μm,18.4s,MS6.9				
ULHL	**Ulahol**	**43.17 305**	P	**P**	**01 53 59.2 +1.7**
	SNR=72				
DLH	**Dalhousie**	**43.18 291**	*e*P	**P**	**01 53 59.0 +1.3**
BHPL	**Bhopal**	**43.30 277**	*e*P	**P**	**01 53 59.5 +0.7**
KURK	**Kurchatov**	**43.33 318**	*e*P	**P**	**01 53 57.6 -1.0**
	comp=Z,871nm,1.4s,mb6.3				
KURK			LR	LR	
	comp=Z,64μm,19.0s,MS6.5				
THN	**Thein Dam**	**43.40 291**	*i* P	**P**	**01 53 58.4 -1.0**
FITZ	**Fitzroy Crossi**	**43.50 179**	*e*P	**P**	**01 53 58.8 -1.4**
	comp=Z,136nm,0.7s,mb5.8				
FITZ			*e*S	**S**	**02 00 23.7 -5.2**
FITZ	**Fitzroy Crossi**	**43.50 179**	P	**P**	**01 53 58.4 -1.8**
	comp=Z,67nm,0.9s,mb5.4,baz=14,slow=9.1,SNR=64				
FITZ			S	**S**	**02 00 25.2 -3.7**
	comp=Z,6.2nm,1.0s,baz=161,slow=12,SNR=4.3				
FITZ			LR	LR	02 13 22.5
	comp=Z,4μm,18.2s,MS5.3,baz=212,slow=38				
TKM2	**Tokmak 2**	**43.73 306**	*e*P	**P**	**01 54 02.8 +0.9**
	comp=Z,206nm,0.8s,mb5.9				
TKM2			LR	LR	
	comp=Z,36μm,19.0s,MS6.3				
TKM2	**Tokmak 2**	**43.73 306**	P	**P**	**01 54 02.9 +1.0**
	SNR=111				
KZA	**Kyzart**	**43.89 305**	P	**P**	**01 54 05.7 +2.4**
	SNR=60				
HYB	**Hyderabad**	**43.90 269**	*e*P	**P**	**01 54 04.5 +0.9**
	comp=Z,393nm,1.2s,mb6.0				
HYB			*e*S	**S**	**02 00 40.0 +5.0**
HYB	**Hyderabad**	**43.90 269**	*e*P	**P**	**01 54 04.5 +0.9**
HYB			*e*S	**S**	**02 00 40.0 +5.0**
HYB			pmax	pmax	
	comp=Z,393nm,1.2s,mb6.0				
HYB	**Hyderabad**	**43.90 269**	*i* P	**P**	**01 54 04.5 +0.9**
	comp=Z,393nm,1.2s,mb6.0				
HYB			*e*S	**S**	**02 00 35.0 0.0**
MDRS	**Chennai**	**43.94 262⇓**	*i*P	**P**	**01 54 04.5 +0.5**
KBK	**Karagaybulak**	**44.17 306**	P	**P**	**01 54 07.2 +1.7**
	SNR=33				
AKL	**Akola**	**44.30 274**	*i* P	**P**	**01 54 09.1 +2.3**
AKL			*ex*	x	01 54 15.0
	comp=Z,637nm,1.5s				
CHMS	**Chumysh**	**44.35 306**	P	**P**	**01 54 08.1 +1.2**
	SNR=46				
FRU	**Bishkek**	**44.43 306⇓**	*i*P	**P**	**01 54 00.0 -7.6**
FRU			*e*		02 00 40.0
FRU			*i* S	**S**	**02 00 46.0 +3.8**
FRU			pmax	pmax	
	comp=Z,510nm,1.8s,mb6.0				
FRU			pmax	pmax	
	comp=Z,5μm,7.0s				
FRU			MLR	MLR	
	comp=Z,60μm,16.0s,MS6.6				
UCH	**Uchtor**	**44.45 305**	*e*P	**P**	**01 54 09.3 +1.6**
	comp=Z,752nm,1.5s,mb6.2				
UCH			LR	LR	
	comp=Z,37μm,20.0s,MS6.3				
UCH	**Uchtor**	**44.45 305**	P	**P**	**01 54 09.1 +1.4**
	SNR=73				
AAK	**Ala-Archa**	**44.50 306**	*e*P	**P**	**01 54 07.9 -0.3**
	comp=Z,234nm,1.5s,mb5.8				
AAK			LR	LR	
	comp=Z,50μm,20.0s,MS6.4				
AAK	**Ala-Archa**	**44.50 306**	*d i*P	**P**	**01 54 08.3 +0.1**
AAK			pmax	pmax	
	comp=Z,24nm,1.1s,mb4.9				
AAK			MLR	MLR	
	comp=Z,50μm,13.0s,MS6.6				
AAK	**Ala-Archa**	**44.50 306**	P	**P**	**01 54 08.7 +0.5**
	SNR=60				

AAK	**Ala-Archa**	**44.50 306**	P	**P**	**01 54 08.7 +0.5**
	SNR=60				
AAK	**Ala-Archa**	**44.50 306**	P	**P**	**01 54 08.7 +0.5**
	SNR=60				
AAK	**Ala-Archa**	**44.50 306**	P	**P**	**01 54 08.7 +0.5**
	SNR=60				
AAK	**Ala-Archa**	**44.50 306**	P	**P**	**01 54 08.7 +0.5**
	SNR=60				
AAK	**Ala-Archa**	**44.50 306**	P	**P**	**01 54 08.7 +0.5**
	SNR=60				
AAK	**Ala-Archa**	**44.50 306**	P	**P**	**01 54 08.7 +0.5**
	SNR=60				
AAK	**Ala-Archa**	**44.50 306**	P	**P**	**01 54 08.7 +0.5**
	SNR=60				
AAK	**Ala-Archa**	**44.50 306**	P	**P**	**01 54 08.7 +0.5**
	SNR=60				
AAK	**Ala-Archa**	**44.50 306**	P	**P**	**01 54 08.7 +0.5**
	SNR=60				
AAK	**Ala-Archa**	**44.50 306**	P	**P**	**01 54 09.1 +1.0**
	SNR=36				
USP	**Ospenovka**	**44.56 306**	P	**P**	**01 54 09.6 +1.0**
	SNR=23				
EKS2	**Erkin-Say**	**45.03 306**⇓	*e*P	**P**	**01 54 13.3 +1.0**
	comp=Z,180nm,1.5s,mb5.7				
EKS2			*e*PcP	PcP	01 55 52.4 -0.8
EKS2			*e*ScP	ScP	01 59 46.4 +0.7
EKS2			*e*S	**S**	**02 00 56.8 +5.9**
EKS2			LR	LR	
	comp=Z,45μm,20.0s,MS6.4				
EKS2	**Erkin-Say**	**45.03 306**	P	**P**	**01 54 13.6 +1.2**
	SNR=38				
AML	**Almayashu**	**45.05 305**⇓	*i*P	**P**	**01 54 14.5 +2.0**
	comp=Z,437nm,1.6s,mb6.0				
AML			*e*PcP	PcP	01 55 54.6 +1.3
AML			LR	LR	
	comp=Z,42μm,20.0s,MS6.4				
AML	**Almayashu**	**45.05 305**	P	**P**	**01 54 14.4 +1.9**
	SNR=28				
LATR	**Latur**	**45.38 271**	*e*P	**P**	**01 54 16.9 +1.5**
LATR			*e*P		01 54 17.6
LATR			AMb	AMB	01 54 19.4
	comp=Z,375nm,0.7s,mb6.3				
SMY	**Shemya**	**45.41 40**	*e*P	**P**	**01 54 14.9 -0.3**
	comp=Z,1μm,1.5s,mb6.6				
PALK	**Pallekele**	**46.07 255**⇓	*e*P	**P**	**01 54 22.5 +1.6**
	comp=Z,922nm,2.3s,mb6.3				
PALK			*e*PcP	PcP	01 55 56.6 -0.7
PALK			ScP	ScP	01 59 50.0 -0.5
PALK			*e*S	**S**	**02 01 08.6 +2.0**
PALK			LR	LR	
	comp=Z,8μm,20.0s,MS5.7				
PALK	**Pallekele**	**46.07 255**	P	**P**	**01 54 23.2 +2.2**
	SNR=52				
PALK	**Pallekele**	**46.07 255**	P	**P**	**01 54 23.2 +2.2**
	SNR=52				
PALK	**Pallekele**	**46.07 255**	P	**P**	**01 54 23.2 +2.2**
	SNR=52				
PALK	**Pallekele**	**46.07 255**	P	**P**	**01 54 23.2 +2.2**
	SNR=52				
PALK	**Pallekele**	**46.07 255**	P	**P**	**01 54 23.2 +2.2**
	SNR=52				
PALK	**Pallekele**	**46.07 255**	P	**P**	**01 54 23.2 +2.2**
	SNR=52				
PALK	**Pallekele**	**46.07 255**	P	**P**	**01 54 23.2 +2.2**
	SNR=52				
PALK	**Pallekele**	**46.07 255**	P	**P**	**01 54 23.2 +2.2**
	SNR=52				
PALK	**Pallekele**	**46.07 255**	P	**P**	**01 54 23.2 +2.2**
	SNR=52				
PALK	**Pallekele**	**46.07 255**	P	**P**	**01 54 23.2 +2.2**
	SNR=52				
TIXI	**Tiksi**	**46.07 2**	*i* P	**P**	**01 54 17.5 -2.7**
TIXI	**Tiksi**	**46.07 2**	*d i*P	**P**	**01 54 17.4 -2.8**
TIXI			pmax	pmax	
	comp=Z,88nm,1.4s,mb5.5				
TIXI			MLR	MLR	
	comp=Z,78μm,19.0s,MS6.7				
WRAB	**Tennant Creek**	**46.20 168**⇑	*e*P	**P**	**01 54 20.8 -0.9**
WRAB	**Tennant Creek**	**46.20 168**⇑	*e*P	**P**	**01 54 20.7 -1.0**
WRA	**Warramunga Arr**	**46.21 168**	P	**P**	**01 54 20.6 -1.2**
WRA			S	**S**	**02 01 06.2 -1.9**
WRA	**Warramunga Arr**	**46.21 168**	P	**P**	**01 54 20.6 -1.2**
	comp=Z,92nm,0.8s,mb5.8,baz=351,slow=8.4,SNR=143				
WRA			S	**S**	**02 01 06.2 -1.9**
	comp=Z,7.8nm,1.3s,baz=350,slow=14,SNR=5.3				
WRA			LR	LR	02 13 10.7
	comp=Z,23μm,20.8s,MS6.1,baz=0.0,slow=35				
WRA			PKPPKP		02 25 23.7
	comp=Z,1.9nm,1.0s,baz=125,slow=2.2,SNR=6.6				
WB2	**Warramunga Arr**	**46.21 168**	*e*P	**P**	**01 54 20.8 -1.0**
WB2			*i* S	**S**	**02 01 05.4 -2.7**
MBWA	**Marble Bar**	**46.83 187**⇑	*e*P	**P**	**01 54 26.0 -0.6**
	comp=Z,339nm,1.4s,mb6.1				
MBWA			PcP	PcP	01 56 00.9 +1.2
MBWA			PP	PP	01 56 13.6 -3.4
MBWA			*e*S	**S**	**02 01 12.9 -4.1**
MBWA			LR	LR	
	comp=Z,9μm,21.0s,MS5.7				
MBWA	**Marble Bar**	**46.83 187**	P	**P**	**01 54 26.5 -0.1**
	SNR=31				
MBWA	**Marble Bar**	**46.83 187**	P	**P**	**01 54 26.5 -0.1**
	SNR=31				
MBWA	**Marble Bar**	**46.83 187**	P	**P**	**01 54 26.5 -0.1**
	SNR=31				
MBWA	**Marble Bar**	**46.83 187**	P	**P**	**01 54 26.5 -0.1**
	SNR=31				
MBWA	**Marble Bar**	**46.83 187**	P	**P**	**01 54 26.5 -0.1**
	SNR=31				
MBWA	**Marble Bar**	**46.83 187**	P	**P**	**01 54 26.5 -0.1**
	SNR=31				
MBWA	**Marble Bar**	**46.83 187**	P	**P**	**01 54 26.5 -0.1**
	SNR=31				
MBWA	**Marble Bar**	**46.83 187**	P	**P**	**01 54 26.5 -0.1**
	SNR=31				
MBWA	**Marble Bar**	**46.83 187**	P	**P**	**01 54 26.5 -0.1**
	SNR=31				
KK31	**Karatay Array**	**47.46 306**	*i* P	**P**	**01 54 31.8 +0.3**
KOD	**Kodaikanal**	**47.58 260**	*e*P	**P**	**01 54 35.5 +2.7**
KOD			AMb	AMB	01 54 41.3
	comp=Z,225nm,1.0s,mb6.2				
POO	**Poona**	**47.79 272**	*e*P	**P**	**01 54 34.2 -0.1**
AMKA	**Amchitka**	**48.20 43**	*e*P	**P**	**01 54 36.5 -0.6**
BHV	**Bhavnagar**	**48.40 277**	*e*P	**P**	**01 54 40.0 +1.0**
BOM	**Bombay**	**48.61 273**	*e*P	**P**	**01 54 43.0 +2.3**
BOM			*ex*	x	01 54 48.0
	comp=Z,451nm,1.6s				
BOM			*ex*	x	02 01 36.2
HNR	**Honiara**	**48.64 131**⇓	*i*P	**P**	**01 54 40.2 -0.7**
	comp=Z,4μm,2.4s,mb7.0				
HNR			*e*PcP	PcP	01 56 03.3 -3.1
HNR			*e*PP	PP	01 56 33.5 -0.5
HNR			*e*S	**S**	**02 01 34.4 -8.6**
HNR	**Honiara**	**48.64 131**	P	**P**	**01 54 40.0 -0.9**
HNR			S	**S**	**02 01 43.1 +0.1**
HNR			pmax	pmax	
	comp=Z,28nm,0.3s,mb5.8				
HNR			smax		
	comp=N,28nm,0.3s				
HNR	**Honiara**	**48.64 131**	P	**P**	**01 54 40.0 -0.9**
	comp=N,28nm,0.3s,mb5.7,baz=247,slow=5.3,SNR=4.3				
HNR			S	**S**	**02 01 43.1 0.0**
	comp=N,28nm,0.3s,baz=105,slow=1.8,SNR=2.5				
HNR			LR	LR	02 13 22.8
	comp=N,15μm,19.2s,MS6.0,baz=352,slow=34				
KBL	**Kabul**	**48.78 294**⇓	*i*P	**P**	**01 54 43.1 +1.3**
	comp=N,1μm,1.6s,mb6.6				
KBL			*e*PcP	PcP	01 56 07.2 +0.5
KBL			*e*PP	PP	01 56 37.7 +2.7
KBL			*e*ScP	ScP	02 00 04.9 +3.3
KBL			S	**S**	**02 01 41.3 -3.4**
TRD	**Trivandrum**	**48.78 258**	*e*P	**P**	**01 54 42.5 +0.5**
GOA	**Goa**	**48.81 268**	*e*P	**P**	**01 54 43.9 +1.6**
GOA			AMb	AMB	01 54 50.5
	comp=Z,436nm,1.8s,mb6.2				
BVAR	**Borovoye Array**	**48.85 319**	P	**P**	**01 54 41.4 -0.6**
	comp=Z,25nm,0.6s,mb5.4,baz=108,slow=8.4,SNR=99				
BVAR			PcP	PcP	01 56 06.7 +0.2
	comp=Z,28nm,0.8s,baz=106,slow=4.8,SNR=4.6				
MNGI	**Mangalore**	**48.85 265**	*i* P	**P**	**01 54 44.3 +1.7**
MNGI			AMb	AMB	01 54 50.9
	comp=Z,274nm,1.9s,mb6.0				
BRVK	**Borovoye**	**48.92 319**	*i* P	**P**	**01 54 42.5 -0.1**
BRVK	**Borovoye**	**48.92 319**	P	**P**	**01 54 41.7 -0.9**
BRVK			pmax	pmax	
	comp=Z,740nm,1.6s,mb6.5				
BILL	**Bilibino**	**49.11 19**	*i* P	**P**	**01 54 41.0 -2.8**
BILL	**Bilibino**	**49.11 19**	*d i*P	**P**	**01 54 41.9 -1.9**
BILL			*i*		01 56 06.2
BILL			*i* S	**S**	**02 01 45.5 -2.9**
BILL			pmax	pmax	
	comp=Z,39nm,1.9s,mb5.1				
BILL			MLR	MLR	
	comp=Z,30μm,25.0s,MS6.2				
ASAR	**Alice Springs**	**49.77 169**	P	**P**	**01 54 48.6 -0.7**
ASAR			PcP	PcP	01 56 10.8 +0.7
ASAR			S	**S**	**02 01 49.5 -9.0**
ASAR			P'P'		02 25 19.1
ASAR	**Alice Springs**	**49.77 169**	P	**P**	**01 54 48.7 -0.6**
ASAR					01 56 10.9
ASAR			S	**S**	**02 01 49.5 -9.0**
ASAR	**Alice Springs**	**49.77 169**	P	**P**	**01 54 48.6 -0.7**
	comp=Z,42nm,0.8s,mb5.5,baz=355,slow=7.6,SNR=100				
ASAR			PcP	PcP	01 56 10.8 +0.7
	comp=Z,47nm,0.8s,baz=355,slow=4.0,SNR=7.7				
ASAR			S	**S**	**02 01 49.5 -9.0**
	comp=Z,1.6nm,1.0s,baz=294,slow=39,SNR=2.5				
ASAR			PKPPKP		02 25 19.1
	comp=Z,2.2nm,1.0s,baz=121,slow=3.2,SNR=8.5				
CTA	**Charters Tower**	**49.90 154**	*e*P	**P**	**01 54 49.6 -0.8**
	comp=Z,87nm,1.4s,mb5.6				
CTA			*e*S	**S**	**02 01 59.2 -1.3**
CTA	**Charters Tower**	**49.90 154**	P	**P**	**01 54 50.0 -0.4**
CTA					01 56 11.4
CTA			S	**S**	**02 02 00.4 -0.1**
CTA			pmax	pmax	
	comp=Z,48nm,0.9s				
CTA			smax		
	comp=N,4.0nm,1.0s				
CTA			MLR	MLR	
	comp=Z,45μm,20.1s				
CTA	**Charters Tower**	**49.90 154**	P	**P**	**01 54 50.0 -0.4**
	comp=Z,48nm,0.9s,mb5.5,baz=335,slow=7.2,SNR=15				
CTA			PcP	PcP	01 56 11.4 +0.6
	comp=Z,50nm,0.9s,baz=351,slow=13,SNR=1.5				
CTA			S	**S**	**02 02 00.4 0.0**
	comp=Z,3.9nm,1.0s,baz=160,slow=23,SNR=2.0				
CTA			LR	LR	02 15 35.6
	comp=Z,45μm,20.1s,MS6.5,baz=337,slow=36				
CTAO	**Charters Tower**	**49.90 154**⇓	*i*P	**P**	**01 54 50.3 -0.1**
	comp=Z,344nm,1.5s,mb6.2				
CTAO			*e*PcP	PcP	01 56 15.5 +4.8
CTAO			*e*S	**S**	**02 01 56.1 -4.4**
CTAO			LR	LR	
	comp=Z,44μm,20.0s,MS6.5				
BHJ	**Bhuj**	**50.23 280**	*e*P	**P**	**01 54 53.4 +0.4**
ADK	**Adak**	**50.75 43**	*e*P	**P**	**01 54 54.9 -1.7**
	comp=Z,270nm,1.2s,mb6.0				
ADK			*e*PcP	PcP	01 56 14.6 +1.1
ADK			*e*PP	PP	01 56 50.1 -2.4
ADK			LR	LR	
	comp=Z,10μm,20.0s,MS5.8				
ADK	**Adak**	**50.75 43**	*e*P	**P**	**01 54 54.9 -1.6**
ADK			*e*		01 56 14.6
ADK			*e*		01 56 50.1
ADK			pmax	pmax	
	comp=Z,269nm,1.2s,mb6.0				
ADK			MLR	MLR	
	comp=Z,10μm,20.0s,MS5.8				
MIDW	**Midway**	**50.93 74**	*e*P	**P**	**01 54 57.4 -0.9**
	comp=Z,275nm,1.0s,mb6.1				
MIDW			*e*PcP	PcP	01 56 14.6 -0.1
MIDW			LR	LR	
	comp=Z,8μm,22.0s,MS5.7				
AB31	**Akbulak array**	**54.99 313**⇑	*e*P	**P**	**01 55 27.6 -0.3**
SVE	**Sverdlovsk**	**55.00 323**⇑	*e*P	**P**	**01 55 27.8 -0.1**
SVE			*e*S	**S**	**02 03 05.0 -4.6**
SVE			*e*		02 05 13.2
SVE			pmax	pmax	
	comp=Z,684nm,1.7s,mb6.4				
SVE			pmax	pmax	
	comp=Z,2μm,8.3s				
SVE			MLR	MLR	
	comp=Z,92μm,17.0s,MS6.9				
GAMB	**Gambell**	**55.48 29**⇓	*i*P	**P**	**01 55 30.2 -1.0**
	comp=Z,161nm,1.5s,mb5.8				
GAMB			*e*PcP	PcP	01 56 30.1 -1.1
GAMB			*e*PP	PP	01 57 27.9 -7.0
GAMB			ScP	ScP	02 00 35.4 +5.3
GAMB			S	**S**	**02 03 14.1 -1.8**
ARU	**Arti**	**56.11 322**	P	**P**	**01 55 35.2 -0.6**
	comp=Z,1μm,1.3s,mb6.8,SNR=25				
ARU	**Arti**	**56.11 322**	*i* P	**P**	**01 55 35.2 -0.6**
ARU	**Arti**	**56.11 322**	*d i*P	**P**	**01 55 35.3 -0.5**
ARU			*e*		01 56 27.9
ARU			*e*		01 57 41.1
ARU			*e*S	**S**	**02 03 23.0 -1.4**
ARU			*e*		02 05 16.5
ARU			*e*SSS		02 09 19.7
ARU			pmax	pmax	
	comp=Z,541nm,2.5s,mb6.1				
ARU			pmax	pmax	
	comp=Z,3μm,13.1s				
ARU			MLR	MLR	
	comp=Z,69μm,18.0s,MS6.8				
FORT	**Forrest**	**56.19 177**	*e*P	**P**	**01 55 35.9 -0.7**
	comp=Z,96nm,0.7s,mb5.9				
FORT			*e*S	**S**	**02 03 23.7 -2.2**
AKTK	**Aktyubinsk**	**56.24 315**	P	**P**	**01 55 36.4 -0.5**
AKTK			LR	LR	02 21 33.7
AKTO	**Aktyubinsk**	**56.24 315**	P	**P**	**01 55 36.4 -0.5**
	comp=Z,20nm,1.0s,mb5.1,baz=85,slow=7.8,SNR=26				
AKTO			LR	LR	02 21 33.7
	comp=Z,45μm,18.4s,MS6.6,baz=292,slow=38				
UNV	**Unalaska Valle**	**57.05 41**	PFAKE		01 55 50.0 +7.4
UNV			LR	LR	
	comp=Z,18μm,20.0s,MS6.2				
ABKT	**Ailbek**	**57.14 300**	P	**P**	**01 55 44.4 +0.9**
	comp=Z,1μm,1.8s,mb6.7,SNR=65				
VAN	**Vannovskaya**	**57.15 300**	P	**P**	**01 55 45.0 +1.5**
VAN			S	**S**	**02 03 43.0 +4.2**
KLBR	**Kellerberrin**	**57.36 187**	*e*P	**P**	**01 55 44.1 -0.8**
	comp=Z,349nm,1.0s,mb6.3				
TNA	**Tin City**	**57.42 27**⇓	*i*P	**P**	**01 55 44.1 -0.9**
	comp=Z,248nm,1.4s,mb6.0				
TNA			*e*PcP	PcP	01 56 37.7 -1.0
TNA			*e*PP	PP	01 57 51.4 -0.8
TNA			ScP	ScP	02 00 37.0 -1.5
TNA			LR	LR	
	comp=Z,8μm,20.0s,MS5.8				
MUN	**Mundaring**	**57.94 189**	*e*P	**P**	**01 55 50.4 +1.4**
MUN			*e*S	**S**	**02 03 51.1 +2.2**
NWAO	**Narrogin (SRO)**	**58.74 188**	P	**P**	**01 55 53.7 -0.9**
NWAO			S	**S**	**02 03 57.3 -2.0**
NWAO	**Narrogin (SRO)**	**58.74 188**	P	**P**	**01 55 59.2 +4.6**
	SNR=20				
NWAO	**Narrogin (SRO)**	**58.74 188**	P	**P**	**01 55 59.2 +4.6**
	SNR=20				
NWAO	**Narrogin (SRO)**	**58.74 188**	P	**P**	**01 55 59.2 +4.6**
	SNR=20				
NWAO	**Narrogin (SRO)**	**58.74 188**	P	**P**	**01 55 59.2 +4.6**
	SNR=20				
NWAO	**Narrogin (SRO)**	**58.74 188**	P	**P**	**01 55 59.2 +4.6**
	SNR=20				
NWAO	**Narrogin (SRO)**	**58.74 188**	P	**P**	**01 55 59.2 +4.6**
	SNR=20				
NWAO	**Narrogin (SRO)**	**58.74 188**	P	**P**	**01 55 59.2 +4.6**
	SNR=20				
NWAO	**Narrogin (SRO)**	**58.74 188**	P	**P**	**01 55 53.6 -0.9**
	comp=Z,66nm,0.9s,mb5.7,baz=11,slow=8.0,SNR=18				
NWAO			S	**S**	**02 03 57.2 -2.1**
	comp=Z,11nm,1.1s,baz=239,slow=15,SNR=1.6				
NWAO			LR	LR	02 19 44.9
	comp=Z,8μm,21.7s,MS5.8,baz=173,slow=35				
STKA	**Stephens Creek**	**59.34 164**	*e*P	**P**	**01 55 57.7 -1.0**
	comp=Z,76nm,1.0s,mb5.7				
STKA			*e*S	**S**	**02 03 57.8 -9.3**
STKA	**Stephens Creek**	**59.34 164**	P	**P**	**01 55 57.6 -1.2**
	comp=Z,67nm,0.8s,mb5.7,baz=342,slow=7.1,SNR=12				
STKA			S	**S**	**02 04 05.0 -2.1**
	comp=Z,0.5nm,0.4s,baz=163,slow=13,SNR=1.8				
STKA			LR	LR	02 23 20.8
	comp=Z,9μm,19.7s,MS5.9,baz=337,slow=38				
STKA			PKP2bc		02 25 40.0
	comp=Z,2.6nm,0.9s,baz=129,slow=8.0,SNR=4.6				
WBK	**Wadi Bani Khal**	**59.87 282**	P	**P**	**01 56 04.1 +1.4**
	SNR=31				
WBK	**Wadi Bani Khal**	**59.87 282**	P	**P**	**01 56 04.1 +1.4**
	SNR=31				
WBK	**Wadi Bani Khal**	**59.87 282**	P	**P**	**01 56 04.1 +1.4**
	SNR=31				
WBK	**Wadi Bani Khal**	**59.87 282**	P	**P**	**01 56 04.1 +1.4**
	SNR=31				
WBK	**Wadi Bani Khal**	**59.87 282**	P	**P**	**01 56 04.1 +1.4**
	SNR=31				
WBK	**Wadi Bani Khal**	**59.87 282**	P	**P**	**01 56 04.1 +1.4**
	SNR=31				
WBK	**Wadi Bani Khal**	**59.87 282**	P	**P**	**01 56 04.1 +1.4**
	SNR=31				
WBK	**Wadi Bani Khal**	**59.87 282**	P	**P**	**01 56 04.1 +1.4**
	SNR=31				
WBK	**Wadi Bani Khal**	**59.87 282**	P	**P**	**01 56 04.1 +1.4**
	SNR=31				
BIDO	**Bidbid**	**60.34 284**	P	**P**	**01 56 07.5 +1.5**
	SNR=30				
BIDO	**Bidbid**	**60.34 284**	P	**P**	**01 56 07.5 +1.5**
	SNR=30				
BIDO	**Bidbid**	**60.34 284**	P	**P**	**01 56 07.5 +1.5**
	SNR=30				
BIDO	**Bidbid**	**60.34 284**	P	**P**	**01 56 07.5 +1.5**
	SNR=30				
BIDO	**Bidbid**	**60.34 284**	P	**P**	**01 56 07.5 +1.5**
	SNR=30				
BIDO	**Bidbid**	**60.34 284**	P	**P**	**01 56 07.5 +1.5**
	SNR=30				
BIDO	**Bidbid**	**60.34 284**	P	**P**	**01 56 07.5 +1.5**
	SNR=30				
BIDO	**Bidbid**	**60.34 284**	P	**P**	**01 56 07.5 +1.5**
	SNR=30				
SMDO	**Samad**	**60.55 283**	P	**P**	**01 56 08.2 +0.8**
	SNR=34				
SMDO	**Samad**	**60.55 283**	P	**P**	**01 56 08.2 +0.8**
	SNR=34				
SMDO	**Samad**	**60.55 283**	P	**P**	**01 56 08.2 +0.8**
	SNR=34				
SMDO	**Samad**	**60.55 283**	P	**P**	**01 56 08.2 +0.8**
	SNR=34				
SMDO	**Samad**	**60.55 283**	P	**P**	**01 56 08.2 +0.8**
	SNR=34				
SMDO	**Samad**	**60.55 283**	P	**P**	**01 56 08.2 +0.8**
	SNR=34				
SMDO	**Samad**	**60.55 283**	P	**P**	**01 56 08.2 +0.8**
	SNR=34				
SMDO	**Samad**	**60.55 283**	P	**P**	**01 56 08.2 +0.8**
	SNR=34				
SMDO	**Samad**	**60.55 283**	P	**P**	**01 56 08.2 +0.8**
	SNR=34				
JMDO	**Jabal Madar**	**60.71 282**	P	**P**	**01 56 09.2 +0.7**
	SNR=25				
JMDO	**Jabal Madar**	**60.71 282**	P	**P**	**01 56 09.2 +0.7**
	SNR=25				
JMDO	**Jabal Madar**	**60.71 282**	P	**P**	**01 56 09.2 +0.7**
	SNR=25				
JMDO	**Jabal Madar**	**60.71 282**	P	**P**	**01 56 09.2 +0.7**
	SNR=25				
JMDO	**Jabal Madar**	**60.71 282**	P	**P**	**01 56 09.2 +0.7**
	SNR=25				
JMDO	**Jabal Madar**	**60.71 282**	P	**P**	**01 56 09.2 +0.7**
	SNR=25				
JMDO	**Jabal Madar**	**60.71 282**	P	**P**	**01 56 09.2 +0.7**
	SNR=25				
JMDO	**Jabal Madar**	**60.71 282**	P	**P**	**01 56 09.2 +0.7**
	SNR=25				
HOQ	**Hoqain**	**61.04 284**	P	**P**	**01 56 11.6 +0.8**
	SNR=59				
HOQ	**Hoqain**	**61.04 284**	P	**P**	**01 56 11.6 +0.8**
	SNR=59				
HOQ	**Hoqain**	**61.04 284**	P	**P**	**01 56 11.6 +0.8**
	SNR=59				
HOQ	**Hoqain**	**61.04 284**	P	**P**	**01 56 11.6 +0.8**
	SNR=59				
HOQ	**Hoqain**	**61.04 284**	P	**P**	**01 56 11.6 +0.8**
	SNR=59				
HOQ	**Hoqain**	**61.04 284**	P	**P**	**01 56 11.6 +0.8**
	SNR=59				
HOQ	**Hoqain**	**61.04 284**	P	**P**	**01 56 11.6 +0.8**
	SNR=59				
ARMA	**Armidale**	**61.27 154**	*e*P	**P**	**01 56 15.8 +3.8**
ARMA	**Armidale**	**61.27 154**⇓	*e*P	**P**	**01 56 12.6 +0.6**
	comp=Z,1.5nm,0.9s				
ARMA			PcP	PcP	01 56 54.8 +0.4
ARMA			*e*PP	PP	01 58 28.9 +1.6
ARMA			*e*S	**S**	**02 04 22.1 -10**
BSY	**Bisya**	**61.39 283**	P	**P**	**01 56 14.0 +0.8**
	SNR=50				
BSY	**Bisya**	**61.39 283**	P	**P**	**01 56 14.0 +0.8**
	SNR=50				
BSY	**Bisya**	**61.39 283**	P	**P**	**01 56 14.0 +0.8**
	SNR=50				
BSY	**Bisya**	**61.39 283**	P	**P**	**01 56 14.0 +0.8**
	SNR=50				
BSY	**Bisya**	**61.39 283**	P	**P**	**01 56 14.0 +0.8**
	SNR=50				
BSY	**Bisya**	**61.39 283**	P	**P**	**01 56 14.0 +0.8**
	SNR=50				
BSY	**Bisya**	**61.39 283**	P	**P**	**01 56 14.0 +0.8**
	SNR=50				
CHGN	**Chignik**	**61.63 38**	*e*P	**P**	**01 56 13.1 -1.1**
ADE	**Adelaide**	**61.66 167**	P	**P**	**01 56 14.1 -0.4**
HATD	**Hatta, Dubai**	**61.71 286**	P	**P**	**01 56 16.6 +1.4**
	SNR=22				
HATD	**Hatta, Dubai**	**61.71 286**	P	**P**	**01 56 16.6 +1.4**
	SNR=22				
HATD	**Hatta, Dubai**	**61.71 286**	P	**P**	**01 56 16.6 +1.4**
	SNR=22				
HATD	**Hatta, Dubai**	**61.71 286**	P	**P**	**01 56 16.6 +1.4**
	SNR=22				
HATD	**Hatta, Dubai**	**61.71 286**	P	**P**	**01 56 16.6 +1.4**
	SNR=22				
HATD	**Hatta, Dubai**	**61.71 286**	P	**P**	**01 56 16.6 +1.4**
	SNR=22				
HATD	**Hatta, Dubai**	**61.71 286**	P	**P**	**01 56 16.6 +1.4**
	SNR=22				
HATD	**Hatta, Dubai**	**61.71 286**	P	**P**	**01 56 16.6 +1.4**
	SNR=22				
ASHO	**Ashiyiah**	**61.81 285**	P	**P**	**01 56 17.2 +1.2**
	SNR=20				
ASHO	**Ashiyiah**	**61.81 285**	P	**P**	**01 56 17.2 +1.2**
	SNR=20				
ASHO	**Ashiyiah**	**61.81 285**	P	**P**	**01 56 17.2 +1.2**
	SNR=20				
ASHO	**Ashiyiah**	**61.81 285**	P	**P**	**01 56 17.2 +1.2**
	SNR=20				
ASHO	**Ashiyiah**	**61.81 285**	P	**P**	**01 56 17.2 +1.2**
	SNR=20				
ASHO	**Ashiyiah**	**61.81 285**	P	**P**	**01 56 17.2 +1.2**
	SNR=20				
TTA	**Tatalina**	**62.45 30**	*e*P	**P**	**01 56 18.9 -0.7**
TTA			PcP	PcP	01 56 57.6 -1.2
FUNA	**Funafuti**	**62.60 116**⇓	*i*P	**P**	**01 56 21.4 0.0**
	comp=Z,1μm,1.9s,mb6.7				
FUNA			PcP	PcP	01 57 03.5 +3.2
FUNA			*e*PP	PP	01 58 43.0 +3.8
FUNA			LR	LR	
	comp=Z,9μm,19.0s,MS6.0				
SVW2	**Sparrevohn**	**62.76 32**	*e*P	**P**	**01 56 20.5 -1.2**
IMA2	**Indian Mountai**	**63.29 27**	*e*P	**P**	**01 56 24.4 -0.7**
RIV	**Riverview**	**64.13 156**	*e*P	**P**	**01 56 34.7 +3.7**
MAK	**Makhachkala**	**64.24 307**	*c i*P	**P**	**01 56 34.1 +2.3**
MAK			*i*		01 58 56.0
MAK			*i* S	**S**	**02 05 11.0 +1.8**
MAK			*i*		02 06 26.6
MAK			*e*SS	SS	02 09 15.4 -2.9
MAK			pmax	pmax	
	comp=E,324nm,1.6s				
MAK			pmax	pmax	
	comp=N,370nm,1.5s				
MAK			pmax	pmax	
	comp=Z,5767μm,6.7s				
MAK			pmax	pmax	
	comp=Z,262nm,1.5s,mb6.0				
MAK			smax		
	comp=N,5357μm,11.2s				

MAK smax
comp=E,2461μm,7.1s
MAK MLR MLR
comp=Z,23μm,14.0s,MS6.5
MAK MLR MLR
comp=E,47μm,16.0s,MS6.9
MAK MLR MLR
comp=N,34μm,13.0s,MS6.9
SHAO Shalim 64.32 279 P **P 01 56 37.6 +4.9**
SNR=11
SHAO Shalim 64.32 279 P **P 01 56 37.6 +4.9**
SNR=11
SHAO Shalim 64.32 279 P **P 01 56 37.6 +4.9**
SNR=11
SHAO Shalim 64.32 279 P **P 01 56 37.6 +4.9**
SNR=11
SHAO Shalim 64.32 279 P **P 01 56 37.6 +4.9**
SNR=11
SHAO Shalim 64.32 279 P **P 01 56 37.6 +4.9**
SNR=11
SHAO Shalim 64.32 279 P **P 01 56 37.6 +4.9**
SNR=11
KDAK Kodiak Island 64.64 36⇓*i*P **P 01 56 32.8 -1.3**
comp=N,854nm,1.3s,mb6.6
KDAK *e*PcP PcP 01 57 07.3 -0.6
KDAK *e*PP PP 01 58 53.4 -2.6
KDAK LR LR
comp=Z,2μm,19.0s,MS5.4
KDAK Kodiak Island 64.64 36 S **S 02 05 10.7 -3.0**
comp=Z,9.1nm,1.0s,baz=268,slow=24,SNR=1.8
KDAK LR LR 02 26 48.0
comp=Z,9μm,18.8s,MS6.0,baz=262,slow=38
CNB Canberra Magne 64.84 158 *e*P **P 01 56 33.9 -1.7**
comp=Z,118nm,1.3s,mb5.8
SLKM Skilak Lake 65.44 33 *e*P **P 01 56 38.3 -0.9**
SLKM *e*PcP PcP 01 57 11.8 +0.6
SLKM *e*PP PP 01 59 02.4 -0.6
MCK McKinley 65.54 29⇓*i*P **P 01 56 39.0 -0.9**
comp=Z,2μm,2.0s,mb6.8
MCK *e*PcP PcP 01 57 12.8 +1.2
MCK PP PP 01 58 50.5 -13
MCK *e*S S 02 05 25.5 +0.9
MCK LR LR
comp=Z,6μm,19.0s,MS5.8
MCK McKinley 65.54 29⇓*i*P **P 01 56 39.0 -0.9**
MCK *e* 01 57 12.8
MCK *e*S S 02 05 25.5 +0.9
MCK pmax pmax
comp=Z,2μm,2.0s,mb6.8
MCK MLR MLR
comp=Z,6μm,19.0s,MS5.8
RBK Rabkut 65.77 279 P **P 01 56 42.3 +0.2**
SNR=47
RBK Rabkut 65.77 279 P **P 01 56 42.3 +0.2**
SNR=47
RBK Rabkut 65.77 279 P **P 01 56 42.3 +0.2**
SNR=47
RBK Rabkut 65.77 279 P **P 01 56 42.3 +0.2**
SNR=47
RBK Rabkut 65.77 279 P **P 01 56 42.3 +0.2**
SNR=47
RBK Rabkut 65.77 279 P **P 01 56 42.3 +0.2**
SNR=47
PMR Palmer 65.79 32⇓*i*P **P 01 56 40.2 -1.3**
comp=Z,312nm,1.5s,mb6.1
PMR *e*PcP PcP 01 57 15.2 +2.6
PMR *e*PP PP 01 59 00.6 -5.4
PMR LR LR
comp=Z,11μm,20.0s,MS6.1
PMR Palmer 65.79 32⇓*i*P **P 01 56 40.2 -1.3**
PMR *e* 01 57 15.2
PMR *e* 01 59 00.6
PMR pmax pmax
comp=Z,312nm,1.5s,mb6.1
PMR MLR MLR
comp=Z,11μm,20.0s,MS6.1
COLA College 65.84 28 *i*P **P 01 56 41.0 -0.8**
TMCR Tamitsa 65.97 331⇓*i*P **P 01 56 41.9 -0.7**
TMCR *e**PP pP 01 56 52.0 +5.6
TMCR pmax pmax
comp=Z,178nm,0.7s,mb6.2
WHFO Wadi Hawf 66.01 279 P **P 01 56 43.5 -0.2**
SNR=28
WHFO Wadi Hawf 66.01 279 P **P 01 56 43.5 -0.2**
SNR=28
WHFO Wadi Hawf 66.01 279 P **P 01 56 43.5 -0.2**
SNR=28
WHFO Wadi Hawf 66.01 279 P **P 01 56 43.5 -0.2**
SNR=28
WHFO Wadi Hawf 66.01 279 P **P 01 56 43.5 -0.2**
SNR=28
WHFO Wadi Hawf 66.01 279 P **P 01 56 43.5 -0.2**
SNR=28
DGRG David-gareji 66.12 306 P **P 01 56 45.2 +1.2**
DGRG S S 02 05 37.8 +5.4
SML Sawmill 66.13 31⇓*i*P **P 01 56 42.8 -0.9**
SML *e*PcP PcP 01 57 16.4 +2.4
SML *e*PP PP 01 59 04.1 -4.8
MTA Mtatsminda 66.48 306 P **P 01 56 46.3 0.0**
MTA S S 02 05 27.3 -10
VRHR Novokhopersk 66.50 317 *e*P **P 01 56 45.0 -1.3**
VRHR pmax pmax
comp=N,30nm,0.7s
VRHR pmax pmax
comp=Z,100nm,0.7s,mb6.0
VRHR pmax pmax
comp=E,90nm,0.8s
VRHR MLR MLR
comp=Z,17μm,15.0s,MS6.4
VRHR MLR MLR
comp=N,16μm,16.0s,MS6.4
VRHR MLR MLR
comp=E,11μm,14.0s,MS6.4
TBLG Delisi 66.51 306 *e*P **P 01 56 45.8 -0.8**
TBLG Delisi 66.51 306 P **P 01 56 45.8 -0.7**
ABTO Aybut 66.63 279 P **P 01 56 48.4 +0.7**
SNR=30
ABTO Aybut 66.63 279 P **P 01 56 48.4 +0.7**
SNR=30
ABTO Aybut 66.63 279 P **P 01 56 48.4 +0.7**
SNR=30
ABTO Aybut 66.63 279 P **P 01 56 48.4 +0.7**
SNR=30
ABTO Aybut 66.63 279 P **P 01 56 48.4 +0.7**
SNR=30
ONI Oni 67.23 308 P **P 01 56 51.2 +0.1**
ONI S S 02 05 43.6 -2.2
KIV Kislovodsk 67.43 309⇓*i*P **P 01 56 52.5 +0.1**
comp=E,358nm,1.3s,mb6.2
KIV *e*PcP PcP 01 57 22.0 +2.2
KIV *e*PP PP 01 59 22.0 +1.3
KIV *e*S S 02 05 52.6 +4.5
KIV LR LR
comp=Z,28μm,20.0s,MS6.5
KIV Kislovodsk 67.43 309⇓*i*P **P 01 56 52.0 -0.4**
KIV *i* 01 57 13.1
KIV pmax pmax
comp=Z,104nm,1.1s,mb5.8
KIV MLR MLR
comp=Z,21μm,17.0s,MS6.4
EYAK Cordova Ski Ar 67.60 32⇓*i*P **P 01 56 52.2 -0.9**
comp=Z,547nm,0.9s,mb6.6
EYAK *e*PcP PcP 01 57 20.7 +0.5
EYAK *e*PP PP 01 59 20.1 -1.7
CLDR Caldiran 67.78 304 *e*P **P 01 56 55.7 +1.0**
MOS Moscow 67.82 322 *e*P **P 01 56 54.1 -0.5**
MOS *e* 01 57 04.5
MOS *e* 01 57 18.1
MOS *e* 01 59 26.4
MOS *e*S S 02 05 52.8 +0.4
MOS *i*SS SS 02 10 15.6 +2.3
MOS pmax pmax
comp=Z,3μm,5.1s
MOS pmax pmax
comp=E,2μm,5.5s
MOS MLR MLR
comp=E,36μm,18.0s
MOS MLR MLR
comp=Z,42μm,18.0s,MS6.7
VOR Voronezh 67.84 318 *e*P **P 01 56 54.0 -0.8**
VOR pmax pmax
comp=Z,600nm,1.6s,mb6.4
VORD Divnogorie 67.96 317 *e*P **P 01 56 54.4 -1.2**
VORD *e*S S 02 05 49.6 -4.7
VORD pmax pmax
comp=Z,70nm,0.9s,mb5.7
VORD pmax pmax
comp=N,30nm,0.6s
VORD pmax pmax
comp=E,100nm,0.8s
VORD MLR MLR
comp=Z,21μm,14.0s,MS6.5
VORD MLR MLR
comp=N,5μm,12.0s,MS6.4
VORD MLR MLR
comp=E,15μm,16.0s,MS6.4
VRSR Storozhevoye 67.96 317*d i*P **P 01 56 54.4 -1.2**
VRSR *e* 01 57 19.7
VRSR *e*S S 02 05 52.4 -1.9
VRSR pmax pmax
comp=Z,7.0nm,0.9s,mb4.7
VRSR pmax pmax
comp=N,7.0nm,1.2s
VRSR pmax pmax
comp=E,10.0nm,1.1s
VRSR smax
comp=N,140nm,5.1s
VRSR smax
comp=Z,30nm,3.3s
VRSR smax
comp=E,80nm,3.6s
VRSR MLR MLR
comp=Z,4μm,18.0s,MS5.7
VRSR MLR MLR
comp=N,380nm,11.0s
VRSR MLR MLR
comp=E,2μm,19.0s
KARS Kars 68.00 306 *e*P **P 01 56 57.7 +1.7**
MENT Mentasta 68.00 30 *e*P **P 01 56 54.5 -1.1**
VANB Van 68.32 303 *e*P **P 01 56 59.3 +1.2**
HKR Hakkari 68.34 302 *e*P **P 01 56 58.6 +0.4**
AGRB Hanur-Agry 68.35 305 *e*P **P 01 56 59.9 +1.6**
OBN Obninsk 68.55 322 *i*P **P 01 56 58.1 -1.1**
OBN Obninsk 68.55 322*d i*P **P 01 56 58.0 -1.2**
OBN *i* 01 57 16.2
OBN *e* 01 59 30.8
OBN pmax pmax
comp=Z,79nm,0.9s,mb5.6
OBN MLR MLR
comp=Z,25μm,18.0s,MS6.5
EGAK Eagle 68.66 27⇓*e*P **P 01 56 58.9 -0.8**
comp=Z,199nm,1.0s,mb6.0
EGAK PcP PcP 01 57 23.4 -1.1
EGAK *e*PP PP 01 59 30.1 -0.7
EGAK LR LR
comp=Z,9μm,19.0s,MS6.0
SPB4 Spitsbergen Ar 68.81 348 *e*P **P 01 56 58.9 -1.6**
SPB4 *e*PcP PcP 01 57 28.0 +3.0
SPB4 *e*PP PP 01 59 31.4 -0.5
BCA Borcka 68.84 307 *e*P **P 01 57 00.2 -1.1**
KEV Kevo 68.94 338 *e*p **P 01 56 59.9 -1.4**
comp=Z,20nm,0.6s,mb5.2
KEV Kevo 68.94 338 *e*P **P 01 56 59.9 -1.4**
KEV pmax pmax
comp=Z,21nm,0.6s,mb5.2
BHD Baghdad 69.09 298 *i x* x 01 57 00.5
BHD *e*x x 01 59 43.0
BHD *e*x x 02 06 06.0
BHD *e*x x 02 06 56.0
JOF Joensuu 69.17 331 *e*p **P 01 57 00.5 -2.4**
comp=Z,27nm,0.8s,mb5.2
JOF Joensuu 69.17 331 *e*P **P 01 57 00.5 -2.4**
JOF pmax pmax
comp=Z,27nm,0.8s,mb5.2
MSL Mosul 69.21 301 *e*x x 01 57 04.0
MSL *e*x x 01 57 15.0
MSL *e*x x 01 57 22.0
MSL *e*x x 01 57 32.0
MSL *e*x x 02 06 15.0
KBS Kingsbay 69.28 349 *e*P **P 01 56 59.1 -4.3**
KBS AMS AMS 02 28 53.8
comp=Z,15μm,23.4s,MS6.2
KBS Kingsbay 69.28 349 *e*P **P 01 57 06.5 +3.2**
KBS MLR MLR
comp=Z,15μm,23.4s,MS6.2
SIRT Sirnak 69.35 303 *e*P **P 01 57 07.3 +2.8**
EZM Erzurum 69.47 305 *e*P **P 01 57 05.9 +0.7**
ARCES ARCESS Array B 69.50 338 P **P 01 57 03.0 -1.9**
ARCES S S 02 06 12.8 +0.8
ARCES ARCESS Array B 69.50 338 P **P 01 57 03.0 -1.9**
comp=Z,39nm,0.8s,mb5.4,baz=74,slow=8.6,SNR=30
ARCES S S 02 06 12.8 +0.8
comp=Z,1.8nm,0.9s,baz=21,slow=34,SNR=2.6
ARCES LR LR 02 32 53.8
comp=Z,26μm,19.1s,MS6.5,baz=82,slow=40
ARE0 ARCESS Array S 69.50 338⇑*i*P **P 01 57 05.7 +0.8**
ARE0 PcP PcP 01 57 25.1 -2.9
ARE0 *e*PP PP 01 59 38.4 +0.3
DAWY Dawson 69.59 28⇓*i*P **P 01 57 05.2 -0.3**
DAWY *e*PcP PcP 01 57 28.4 -0.1
DAWY *e*PP PP 01 59 36.1 -2.8
DAWY *e*S S 02 06 15.2 +2.0
SOC Sochi 69.60 309*d i*P **P 01 57 05.2 -0.7**
SOC *e* 01 57 25.5
SOC *e* 01 59 40.0
SOC *e*PPP 02 01 19.0
SOC *i*S S 02 06 13.8 -0.2
SOC *e* 02 07 02.6
SOC *e*SS SS 02 10 44.7 +3.2
SOC pmax pmax
comp=Z,4μm,5.9s
SOC pmax pmax
comp=Z,130nm,1.2s,mb5.7
SOC MLR MLR
comp=Z,33μm,19.0s,MS6.6
KIP Kipapa 69.68 75 PFAKE 01 57 20.0 +13
KIP LR LR
comp=Z,7μm,20.0s,MS5.9
BTMT Batman 69.87 303 *e*P **P 01 57 06.3 -1.4**
KTUT Trabzon 70.32 307 *e*P **P 01 57 11.5 +1.1**
BINT Bingol 70.41 304 *e*P **P 01 57 10.1 -0.9**
INK Inuvik 70.51 23⇓*i*P **P 01 57 10.3 -0.7**
INK *e*PcP PcP 01 57 32.3 0.0
INK *e*PP PP 01 59 47.4 +0.6
INK Inuvik 70.51 23 S S 02 06 24.6 +0.8
comp=Z,0.5nm,0.4s,baz=142,slow=30,SNR=7.8
PUL Pulkovo 70.53 328 *i*P **P 01 57 12.2 +0.9**
EZC Erzincan 70.65 305 *e*P **P 01 57 15.8 +3.3**
GUMT Gumushane 70.68 306 *e*P **P 01 57 12.9 +0.3**
ANN Anapa 70.83 311⇓*i*P **P 01 57 12.5 -0.9**
ANN *i**PP pP 01 57 21.9 +4.7
ANN *i* 01 57 31.5
ANN *e* 01 59 49.0
ANN *e*PPP 02 01 32.3
ANN *e*S S 02 06 27.6 -0.7
ANN pmax pmax
comp=Z,186nm,1.4s,mb5.8
ANN MLR MLR
comp=N,31μm,16.0s,MS6.7
ANN MLR MLR
comp=E,14μm,16.0s,MS6.7
ANN MLR MLR
comp=Z,22μm,16.0s,MS6.5
DIY Diyarbakir 70.91 304 *e*P **P 01 57 14.8 +0.8**
ESPY Espiye-Giresun 71.09 307 *e*P **P 01 57 14.3 -0.7**
TAU Tasmania Unive 71.23 163 *e*P **P 01 57 15.7 +0.1**
TAU PcP PcP 01 57 37.5 +2.0
TAU LR LR
comp=Z,15μm,21.0s,MS6.2
TRO Tromso 71.62 339 *e*P **P 01 57 15.3 -2.4**
TRO AMS AMS 02 34 57.4
comp=Z,22μm,14.7s,MS6.5
KAF Kangasniemi 71.63 331 *e*p **P 01 57 16.3 -1.7**
comp=Z,30nm,0.7s,mb5.3,baz=69,slow=5.6
KAF Kangasniemi 71.63 331 *e*P **P 01 57 16.3 -1.7**
KAF pmax pmax
comp=Z,30nm,0.7s,mb5.3
FIA1 FINESS Array S 71.97 330 *e*P **P 01 57 19.1 -0.9**
FIA1 *e*PcP PcP 01 57 38.0 -0.6
FIA1 *e*PP PP 01 59 53.3 -6.1
FINES FINESS Array B 71.97 330 *i*P **P 01 57 19.2 -0.8**
FINES pmax pmax
comp=Z,56nm,0.8s
FINES FINESS Array B 71.97 330 P **P 01 57 18.3 -1.7**
comp=Z,56nm,0.8s,mb5.5,baz=74,slow=6.8,SNR=30
FINES LR LR 02 31 58.9
comp=Z,22μm,19.1s,MS6.4,baz=77,slow=38
ALE Alert 71.98 1 P **P 01 57 18.5 -1.3**
comp=Z,537nm,1.1s,mb6.4,SNR=24
URFA Urfa 72.11 303 *e*P **P 01 57 22.2 +0.9**
MYA Malataya 72.12 304 *e*P **P 01 57 21.9 +0.5**
MALT Malatya 72.12 304 *e*P **P 01 57 20.8 -0.6**
MALT Malatya 72.12 304⇓*i*P **P 01 57 22.5 +1.1**
POHA Pohakuloa 72.44 76 *e*P **P 01 57 24.7 +1.1**
POHA LR LR
comp=Z,6μm,19.0s,MS5.9
KHU Kahuku 72.55 77 *e*P **P 01 57 24.2 -0.1**
KHU PcP PcP 01 57 42.6 +0.7
SVSK Karacayir 72.66 306 *e*P **P 01 57 23.8 -0.7**
VSU Vasula 72.71 327 *i*P **P 01 57 23.9 -0.6**
VSU Vasula 72.71 327*d i*P **P 01 57 23.8 -0.7**
SKAG Skagway 72.92 32 *e*P **P 01 57 25.6 -0.1**
comp=Z,673nm,1.5s,mb6.3
AFI Afiamalu 72.93 115⇓*e*P **P 01 57 26.4 -0.1**
comp=Z,754nm,1.8s,mb6.3
AFI *e*PcP PcP 01 57 47.3 +3.8
AFI Afiamalu 72.93 115⇓*e*P **P 01 57 26.4 -0.1**
AFI *e* 01 57 47.3
AFI pmax pmax
comp=Z,754nm,1.8s,mb6.3
KVT Kavak 72.96 308 *e*P **P 01 57 26.1 -0.2**
SIM Simferopol' 73.02 312 *e*P **P 01 57 26.3 -0.3**
SIM Simferopol' 73.02 312 *e*P **P 01 57 25.9 -0.7**
SIM *i*S S 02 06 57.0 +3.5
SIM pmax pmax
comp=Z,75nm,1.1s,mb5.5
SIM MLR MLR
comp=Z,22μm,18.0s,MS6.5
DIKM Dikmen 73.33 309 *e*P **P 01 57 26.1 -2.3**
GAZ Gaziantep 73.41 304 *e*P **P 01 57 26.1 -2.9**
MNK Minsk 73.55 323⇓*i*P **P 01 57 28.0 -1.5**
MNK *e* 02 00 16.0
MNK *e*S S 02 06 58.0 -1.2
MNK pmax pmax
comp=Z,270nm,1.2s,mb6.0
MNK pmax pmax
comp=Z,10μm,6.0s
MNK pmax pmax
comp=N,420nm,1.5s
MNK pmax pmax
comp=E,530nm,1.5s
MNK MLR MLR
comp=N,73μm,20.0s,MS7.2
MNK MLR MLR
comp=Z,107μm,20.0s,MS7.1
MNK MLR MLR
comp=E,71μm,16.0s,MS7.2
SIT Sitka 73.81 34 *e*P **P 01 57 31.0 0.0**
comp=E,521nm,1.2s,mb6.3
SIT Sitka 73.81 34 *e*P **P 01 57 31.0 0.0**
SIT pmax pmax
comp=Z,521nm,1.2s,mb6.3
BNN Bunyan 73.85 306 *e*P **P 01 57 27.6 -4.1**
AKASG Malin Array Be 74.13 319 P **P 01 57 31.2 -1.8**
AKASG S S 02 07 04.1 -1.8
AKASG Malin Array Be 74.13 319 P **P 01 57 31.1 -1.8**
comp=Z,55nm,0.7s,mb5.6,baz=58,slow=6.7,SNR=75
AKASG S S 02 07 04.0 -1.8
comp=Z,0.2nm,0.2s,baz=331,slow=29,SNR=2.7
AKASG LR LR 02 31 05.4
comp=Z,32μm,20.5s,MS6.6,baz=65,slow=36
AKBB Malin Array Si 74.13 319⇓*e*P **P 01 57 31.6 -1.4**
AKBB *e*PcP PcP 01 57 46.9 -1.1
AKBB *e*PP PP 02 00 19.1 +1.0
KIEV Kiev 74.14 319 P **P 01 57 31.0 -2.1**
KOZT Kozan 74.34 304 *e*P **P 01 57 35.6 +1.1**
CEYT Ceyhan 74.56 304 *e*P **P 01 57 34.6 -1.2**
HTY Hatay 74.58 303 *e*P **P 01 57 36.0 +0.1**
MOR8 Moi Rana 74.69 337 *e*P **P 01 57 33.3 -2.6**
comp=Z,164nm,1.3s,mb5.8
MOR8 Moi Rana 74.69 337 *e*P **P 01 57 33.3 -2.6**
MOR8 AMb AMB 01 57 39.7
comp=Z,164nm,1.3s,mb5.8
KARA Karaisali 74.99 304 *e*P **P 01 57 38.9 +0.6**
STOK Stokkvaagen 75.11 337 *e*P **P 01 57 40.4 +2.0**
comp=Z,197nm,1.3s,mb5.9
STOK Stokkvaagen 75.11 337 *e*P **P 01 57 37.8 -0.6**
STOK *e*pP pP 01 57 40.6 -1.6
STOK AMb AMB 01 57 42.9
comp=Z,197nm,1.3s,mb5.9
LBOS 75.11 278⇓*e*P **P 01 57 39.7 +0.4**
HWQ Hawqa 75.39 301 *e*P **P 01 57 40.6 0.0**
ASF Jabal al Asfar 75.40 299 P **P 01 57 41.3 +0.6**
comp=Z,26nm,0.9s,mb5.2,baz=266,slow=0.6,SNR=26
ASF S S 02 07 20.6 -0.2
comp=Z,3.8nm,0.8s,baz=132,slow=2.0,SNR=2.6
DAG Danmarks Havn 75.44 352⇑*i*P **P 01 57 37.8 -2.3**
DAG pmax pmax
comp=Z,36nm,0.6s,mb5.5
DAG MLR MLR
comp=N,15μm,18.0s
DAG MLR MLR
comp=Z,22μm,18.0s,MS6.5
DAG Danmarks Havn 75.44 352⇑*i*P **P 01 57 37.8 -2.3**
comp=Z,36nm,0.6s,mb5.5
DAG
comp=Z,22μm,18.0s
CRAG Craig 75.57 35 *e*P **P 01 57 41.3 +0.1**
comp=Z,477nm,1.4s,mb6.2
WRAK Wrangell Islan 75.58 34⇓*e*P **P 01 57 41.6 +0.3**
comp=Z,263nm,1.0s,mb6.1
WRAK PcP PcP 01 57 54.7 +0.6
WRAK *e*PP PP 02 00 27.0 -3.2
WRAK LR LR
comp=Z,8μm,19.0s,MS6.1
DHBB Dhamar BB 75.61 279⇓*e*P **P 01 57 42.6 +0.4**
DHBB AMb AMB 01 57 43.9
comp=Z,158nm,1.5s,mb5.7
ANTO Ankara 75.71 307 ⇓P **P 01 57 42.2 -0.1**
ANTO Ankara 75.71 307 P **P 01 57 42.6 +0.3**
SNR=17
ANTO Ankara 75.71 307 P **P 01 57 42.6 +0.3**
SNR=17
ANTO Ankara 75.71 307 P **P 01 57 42.6 +0.3**
SNR=17
ANTO Ankara 75.71 307⇓*i*P **P 01 57 42.2 -0.1**
ANTO Ankara 75.71 307 P **P 01 57 42.2 -0.1**
KIS Kishinev 75.75 315 *e*P **P 01 57 39.0 -3.4**
KIS *e* 02 00 30.0
KIS *i*S S 02 07 20.0 -4.0
KIS *e*PS 02 07 50.0
KIS *e*SS SS 02 12 16.0 +1.0
KIS smax
comp=N,3μm,14.0s
KIS MLR MLR
comp=Z,20μm,16.0s,MS6.5
KIS MLR MLR
comp=N,10μm,19.0s,MS6.5
KIS MLR MLR
comp=E,17μm,18.0s,MS6.5
KIS MLR MLR
comp=Z,23μm,19.0s
KIS Kishinev 75.75 315 *e*P **P 01 57 39.0 -3.4**
KIS *i*S S 02 07 20.0 -4.0
comp=Z,3μm,14.0s
KIS Kishinev 75.75 315 *e*PS SKSac 02 07 50.0 -2.6
KIS *e*SS SS 02 12 16.0 +1.0
KIS LRM 02 35 40.0
comp=Z,17μm,18.0s
BHL Bhannes 75.75 301 *e*P **P 01 57 42.9 +0.2**
DLBC Dease Lake 75.85 32⇓*i*P **P 01 57 43.7 +0.9**
DLBC PcP PcP 01 57 54.4 -0.9
DLBC *e*PP PP 02 00 31.6 -0.8
SUW Suwalki 76.26 324 *e*P **P 01 57 44.5 -0.7**
SUW *e*pP pP 01 57 51.4 +2.3
SUW *e*S S 02 07 26.9 -2.6
SUW LMZ 02 31 58.9
comp=Z,44μm,23.4s
SUW Suwalki 76.26 324 *e*P **P 01 57 44.5 -0.7**
SUW *e*pP pP 01 57 51.4 +2.4
SUW *e*S S 02 07 26.9 -2.5
MMAI Mount Meron Ar 76.27 300 P **P 01 57 46.2 +0.6**
comp=Z,10nm,0.8s,mb4.8,baz=80,slow=6.0,SNR=14
MMAI S S 02 07 30.5 +0.2
comp=Z,3.3nm,0.6s,baz=340,slow=27,SNR=1.5
TRBA At Turbah 76.38 276⇓*e*P **P 01 57 46.9 +0.3**
TRBA AMb AMB 01 57 48.4
comp=Z,26nm,0.9s,mb5.2
NSS Namsos 76.41 336 *e*P **P 01 57 43.4 -2.5**
NSS *e* 02 16 49.7
NSS AMS AMS 02 35 47.8
comp=Z,34μm,18.5s,MS6.7
IAS Iasi 76.46 316 ⇑P **P 01 57 46.6 +0.1**

IAS	**Iasi**	**76.46 316**	P	**P**	**01 57 45.8**	**-0.7**
IAS	**Iasi**	**76.46 316**	⇑*i*P	**P**	**01 57 46.6**	**+0.1**
KMPD	**K-Podol'skiy**	**76.60 318**	P	**P**	**01 57 46.0**	**-1.3**
RES	**Resolute Bay**	**76.62 10**	⇓*e*P	**P**	**01 57 45.3**	**-1.6**
RES			PcP	PcP	01 57 58.0	-0.4
RES			*e*PP	PP	02 00 37.7	-0.9
CFR	**Carcaliu**	**76.88 314**	P	**P**	**01 57 51.4**	**+2.4**
TIRR	**Tirgusor**	**76.98 313**	⇓*i*P	**P**	**01 57 50.8**	**+1.3**
CSS	**Prodhromos**	**77.14 303**	⇓*e*P	**P**	**01 57 49.8**	**-0.8**
	comp=Z,237nm,1.4s,mb5.9					
CSS			PcP	PcP	01 58 00.4	-1.0
CSS			*e*PP	PP	02 00 49.8	+5.8
CSS			S	S	02 07 44.4	+4.7
CSS	**Prodhromos**	**77.14 303**	*e*P	**P**	**01 57 49.0**	**-1.6**
RAO	**Raoul Island**	**77.26 131**	PFAKE		01 58 00.0	+8.9
RAO			LR	LR		
	comp=Z,11μm,22.0s,MS6.1					
RAO	**Raoul Island**	**77.26 131**	LR	LR	02 26 27.7	
	comp=Z,9μm,21.7s,MS6.0,baz=306,slow=32					
PSN	**Preselentsi**	**77.44 312**	*i* P	**P**	**01 57 54.1**	**+2.0**
VRI	**Vrincioaia**	**77.52 315**	⇓P	**P**	**01 57 52.4**	**-0.1**
VRI	**Vrincioaia**	**77.52 315**	⇓*i*P	**P**	**01 57 52.4**	**-0.1**
LVV	**L'vov**	**77.54 319**	*i* P	**P**	**01 57 52.1**	**-0.4**
LVV	**L'vov**	**77.54 319**	*i* P	**P**	**01 57 52.3**	**-0.2**
LVV			*e*		02 00 52.7	
LVV			*e*S	S	02 07 41.5	-2.1
LVV			*e*		02 08 38.1	
LVV			MLR	MLR		
	comp=Z,11μm,16.9s,MS6.2					
LVV			MLR	MLR		
	comp=N,2μm,15.5s,MS6.4					
LVV			MLR	MLR		
	comp=E,14μm,15.5s,MS6.4					
PLOR	**Plostina**	**77.57 315**	⇑*i*P	**P**	**01 57 53.9**	**+1.1**
EIL	**Elat**	**77.88 297**	P	**P**	**01 57 53.5**	**-1.3**
	comp=E,26nm,1.2s,mb5.0,baz=40,slow=2.0,SNR=7.1					
EIL			S	S	02 07 48.7	+0.7
	comp=E,24nm,0.6s,baz=118,slow=21,SNR=4.4					
EIL			LR	LR	02 33 44.4	
	comp=E,13μm,21.3s,MS6.2,baz=71,slow=37					
HFA0	**Hagfors New Ar**	**78.00 332**	P	**P**	**01 57 54.4**	**-0.5**
HFS	**Hagfors**	**78.00 332**	P	**P**	**01 57 53.4**	**-1.4**
	comp=E,80nm,0.8s,mb5.7,baz=74,slow=5.3,SNR=20					
ISP	**Isparta**	**78.12 306**	P	**P**	**01 57 55.2**	**-0.8**
ISP	**Isparta**	**78.12 306**	*d* *i*P	**P**	**01 57 54.9**	**-1.1**
ISP	**Isparta**	**78.12 306**	⇓*i*P	**P**	**01 57 55.2**	**-0.8**
MLR	**Muntele Rosu**	**78.17 315**	P	**P**	**01 57 55.9**	**-0.2**
MLR	**Muntele Rosu**	**78.17 315**	P	**P**	**01 57 54.8**	**-1.3**
MLR					02 00 51.6	
MLR			S	S	02 07 50.5	0.0
MLR			pmax	pmax		
	comp=Z,11nm,0.9s					
MLR			pmax	pmax		
	comp=Z,7.0nm,1.0s					
MLR			smax			
	comp=N,4.0nm,1.0s					
MLR	**Muntele Rosu**	**78.17 315**	P	**P**	**01 57 54.8**	**-1.4**
	comp=N,11nm,0.9s,mb4.8					
MLR			PP	PP	02 00 51.6	-0.7
	comp=N,6.5nm,0.9s,baz=154,slow=19,SNR=1.6					
MLR			S	S	02 07 50.5	-0.1
	comp=N,3.7nm,1.0s,baz=329,slow=6.2,SNR=1.8					
MLR	**Muntele Rosu**	**78.17 315**	⇓*i*P	**P**	**01 57 55.9**	**-0.2**
ATD	**Arta Tunnel**	**78.19 277**	PP	PP	02 00 53.3	-0.1
	comp=N,6.7nm,0.9s,baz=250,slow=20,SNR=1.8					
ATD			S	S	02 07 50.5	-1.2
	comp=N,1.8nm,0.4s,baz=179,slow=21,SNR=1.6					
WAR	**Warsaw**	**78.20 322**	*e*P	**P**	**01 57 59.8**	**+3.7**
WAR			LMZ		02 34 25.0	
	comp=N,33μm,20.1s					
WAR	**Warsaw**	**78.20 322**	*e*P	**P**	**01 57 59.8**	**+3.7**
WAR			LR	LR		
	comp=Z,33μm,20.1s,MS6.7					
JMIC	**Jan Mayen**	**78.30 346**	*e*P	**P**	**01 57 41.9**	**-14**
JMIC			LR	LR		
	comp=Z,14μm,21.1s,MS6.3					
JMIC	**Jan Mayen**	**78.30 346**	*e*PP	PP	02 00 52.5	-0.2
JMIC			*e*SS	SS	02 12 54.0	+1.5
JMIC			AMS	AMS	02 34 53.8	
	comp=Z,14μm,21.1s,MS6.3					
JMIC	**Jan Mayen**	**78.30 346**	S	S	02 07 51.8	+0.8
	comp=Z,34nm,0.4s,baz=189,slow=8.7,SNR=1.7					
JMIC			LR	LR	02 34 38.1	
	comp=Z,17μm,21.1s,MS6.3,baz=222,slow=37					
KWP	**Kalwaria**	**78.40 320**	*e*P	**P**	**01 57 57.1**	**-0.2**
KWP			*e*PcP	PcP	01 58 01.1	-5.4
KWP			LMZ		02 34 11.1	
	comp=Z,28μm,22.6s					
KWP	**Kalwaria**	**78.40 320**	*e*P	**P**	**01 57 57.0**	**-0.3**
KWP			*e*		01 58 06.3	
KWP			*e*		02 00 54.4	
KWP			*e*S	S	02 07 46.8	-6.0
KWP	**Kalwaria**	**78.40 320**	⇓*i*P	**P**	**01 57 57.1**	**-0.2**
NB2	**NORSAR Subarra**	**78.56 333**	P	**P**	**01 57 57.1**	**-0.9**
	comp=Z,124nm,1.0s,mb5.8,baz=56,slow=5.6					
NB2	**NORSAR Subarra**	**78.56 333**	P	**P**	**01 57 59.0**	**+1.0**
NOA	**NORSAR Array B**	**78.56 333**	P	**P**	**01 57 55.7**	**-2.3**
NOA					02 00 56.1	
NOA	**NORSAR Array B**	**78.56 333**	P	**P**	**01 57 55.7**	**-2.3**
	comp=Z,34nm,0.7s,mb5.4,baz=56,slow=5.4,SNR=44					
NOA			PP	PP	02 00 56.1	+0.9
	comp=Z,4.4nm,1.0s,baz=68,slow=9.5,SNR=3.0					
NOA			LR	LR	02 36 51.3	
	comp=Z,52μm,18.0s,MS6.9,baz=40,slow=39					
BUC1	**Bucharest**	**78.59 314**	P	**P**	**01 58 02.7**	**+4.3**
VOIR		**78.77 315**	P	**P**	**01 58 02.8**	**+3.4**
VOIR		**78.77 315**	⇑*i*P	**P**	**01 57 59.3**	**-0.1**
NAO01	**NORSAR Array S**	**78.81 333**	PFAKE		01 58 10.0	+11
NAO01			LR	LR		
	comp=Z,48μm,20.0s,MS6.8					
DOMB	**Dombas**	**78.87 334**	*e*P	**P**	**01 57 59.0**	**-0.6**
	comp=Z,172nm,1.5s,mb5.8					
DOMB	**Dombas**	**78.87 334**	*e*P	**P**	**01 57 59.0**	**-0.6**
DOMB			*e*pP	pP	01 58 02.1	-1.4
DOMB			AMb	AMB	01 58 04.7	
	comp=Z,172nm,1.6s,mb5.7					
KOLS	**Kolonicke sedl**	**78.96 319**	*i* P	**P**	**01 57 59.0**	**-1.4**
KOLS			*e*	pP	01 58 03.4	-0.8
KOLS			*i* S	S	02 07 47.2	-12
KOLS	**Kolonicke sedl**	**78.96 319**	*i* P	**P**	**01 57 59.0**	**-1.4**
KOLS			*e*pP	pP	01 58 03.4	-0.8
KOLS			*i* S	S	02 07 47.2	-12
KOLS			*e*SS	SS	02 13 11.9	+8.5
JMB	**Yambol**	**79.01 312**	*e*P	**P**	**01 58 00.0**	**-0.7**
HIZ	**Hauiti**	**79.02 142**	P*	**P**	**01 58 02.0**	**+1.3**
UZH	**Uzhgorod**	**79.08 319**	*i* P	**P**	**01 58 00.3**	**-0.8**
UZH	**Uzhgorod**	**79.08 319**	*e*P	**P**	**01 58 00.0**	**-1.1**
UZH			*e*		01 58 05.7	
UZH			*i*		01 58 12.0	
UZH			*e*		02 01 00.0	
UZH			*e*S	S	02 07 58.0	-2.2
UZH			*i* SP		02 08 51.0	
UZH			*e*SS	SS	02 13 05.0	-0.2
ZIMR		**79.32 313**	⇓P	**P**	**01 58 02.7**	**+0.2**
ZIMR		**79.32 313**	P	**P**	**01 58 02.6**	**+0.1**
ZIMR		**79.32 313**	⇓*i*P	**P**	**01 58 02.7**	**+0.2**
STHS	**Stebnicka Huta**	**79.35 320**	*e*P	**P**	**01 58 02.1**	**-0.4**
	comp=Z,13nm,1.1s,mb4.8					
STHS			*e*PP	PP	02 01 03.4	+1.4
STHS	**Stebnicka Huta**	**79.35 320**	*e*P	**P**	**01 58 02.1**	**-0.4**
STHS			pmax	pmax		
	comp=Z,13nm,1.1s,mb4.8					
OSL	**Oslo**	**79.37 332**	*e*P	**P**	**01 58 04.6**	**+2.2**
OSL	**Oslo**	**79.37 332**	*e*P	**P**	**01 58 02.9**	**+0.5**
CRVS	**Cervenica-Dubn**	**79.45 319**	*i* P	**P**	**01 58 02.6**	**-0.5**
CRVS			P	pP	01 58 05.9	-1.0
CRVS			*e*PP	PP	02 01 02.2	-0.7
CRVS			*e*S	S	02 07 56.1	-8.0
PVL	**Pavlikeni**	**79.53 313**	*i* P	**P**	**01 58 06.6**	**+3.0**
DRGR		**79.65 317**	⇓P	**P**	**01 58 03.9**	**-0.3**
DRGR		**79.65 317**	⇓*i*P	**P**	**01 58 03.9**	**-0.3**
GKP	**Gorka Klasztor**	**79.75 324**	*e*P	**P**	**01 58 02.2**	**-2.5**
GKP			*e*PcP	PcP	01 58 08.4	-3.9
GKP			LMZ		02 35 51.5	
	comp=Z,72μm,20.0s					
GKP	**Gorka Klasztor**	**79.75 324**	*e*P	**P**	**01 58 02.2**	**-2.4**
GKP			*e*		01 58 08.4	
OJC	**Ojcow**	**79.81 321**	*e*P	**P**	**01 58 04.6**	**-0.4**
OJC			*e*sP	sP	01 58 08.3	-1.9
OJC			*e*PcP	PcP	01 58 11.8	-0.8
OJC			*e*S	S	02 08 07.3	-0.5
OJC			*e*SKSac	SKSac	02 08 19.6	-2.3
OJC			L		02 34 27.3	
	comp=Z,30nm,20.7s					
NIE	**Niedzica**	**79.89 320**	*e*P	**P**	**01 58 05.5**	**+0.1**
NIE			*es*P	sP	01 58 09.3	-1.4
KONO	**Kongsberg**	**80.00 332**	PFAKE		01 58 20.0	+14
KONO			LR	LR		
	comp=Z,42μm,19.0s,MS6.8					
BSD	**Bornholm Skovb**	**80.01 327**	⇑*i*P	**P**	**01 58 08.1**	**+2.1**
BSD			*i* S	S	02 08 20.1	+10
BSD			MLR	MLR		
	comp=Z,38μm,17.0s,MS6.8					
BSD	**Bornholm Skovb**	**80.01 327**	⇑*i*P	**P**	**01 58 08.1**	**+2.1**
BSD			*i* S	S	02 08 20.1	+10
BSD			*i*		02 17 48.0	
BSD						
	comp=Z,38μm,17.0s					
ALN	**Alexandroupoli**	**80.03 311**	*e*P	**P**	**01 58 05.6**	**-0.8**
CRAR	**CRAIOVA**	**80.05 314**	P	**P**	**01 58 10.3**	**+3.9**
URZ	**Urewera**	**80.10 141**	S	S	02 08 07.8	-3.2
	comp=Z,3.6nm,0.9s,baz=186,slow=16,SNR=1.7					
URZ			LR	LR	02 28 58.4	
	comp=Z,9μm,21.4s,MS6.1,baz=319,slow=32					
YKA	**Yellowknife Ar**	**80.21 24**	P	**P**	**01 58 05.5**	**-1.4**
YKA			S	S	02 08 10.1	-1.5
YKA			PKKPbc	PKKPbc	02 16 47.7	-3.4
YKA			P'P'		02 24 48.0	
YKA			LR	LR	02 33 07.7	
YKA	**Yellowknife Ar**	**80.21 24**	P	**P**	**01 58 05.5**	**-1.4**
YKA			S	S	02 08 10.1	-1.5
YKA					02 16 47.7	
YKA	**Yellowknife Ar**	**80.21 24**	P	**P**	**01 58 05.4**	**-1.5**
	comp=Z,131nm,1.1s,mb5.8,baz=310,slow=5.2,SNR=317					
YKA			S	S	02 08 10.1	-1.5
	comp=Z,0.9nm,0.8s,baz=298,slow=5.6,SNR=4.2					
YKA			PKKPbc	PKKPbc	02 16 47.7	-3.4
	comp=Z,2.3nm,0.8s,baz=131,slow=2.6,SNR=20					
YKA			PKPPKP		02 24 48.0	
	comp=Z,0.3nm,0.8s,baz=138,slow=1.9,SNR=4.1					
YKA			LR	LR	02 33 07.7	
	comp=Z,4μm,21.6s,MS5.7,baz=135,slow=35					
KECS	**Kecovo**	**80.22 319**	*i* P	**P**	**01 58 07.3**	**+0.1**
	comp=Z,7.5nm,1.2s					
GZR	**Gura Zlata**	**80.23 316**	⇑P	**P**	**01 58 08.1**	**+0.7**
GZR	**Gura Zlata**	**80.23 316**	P	**P**	**01 58 07.2**	**-0.2**
GZR	**Gura Zlata**	**80.23 316**	⇑*i*P	**P**	**01 58 08.1**	**+0.7**
RDO	**Rodhopi**	**80.28 311**	*e*P	**P**	**01 58 04.8**	**-2.9**
BLCB	**Balcova**	**80.40 308**	P	**P**	**01 58 08.1**	**-0.3**
BLCB	**Balcova**	**80.40 308**	*e*P	**P**	**01 58 07.4**	**-1.0**
PLD	**Plovdiv**	**80.42 312**	*e*P	**P**	**01 58 07.7**	**-0.7**
PLD	**Plovdiv**	**80.42 312**	P	**P**	**01 58 08.8**	**+0.3**
ARG	**Arkhangelos**	**80.53 306**	*e*P	**P**	**01 58 06.9**	**-2.3**
PRK	**Paraskevi**	**80.58 309**	*e*P	**P**	**01 58 06.2**	**-3.2**
RZN	**Rozhen**	**80.60 312**	*i* P	**P**	**01 58 08.4**	**-1.0**
RAC	**Raciborz**	**80.78 321**	*e*P	**P**	**01 58 10.0**	**-0.2**
RAC			LR	LR		
	comp=Z,44μm,19.3s,MS6.8					
PSZ	**Piszkesteto**	**80.83 319**	P	**P**	**01 58 10.5**	**0.0**
PSZ	**Piszkesteto**	**80.83 319**	⇓*i*P	**P**	**01 58 10.5**	**-0.1**
PSZ	**Piszkesteto**	**80.83 319**	‖*e*PcP	PcP	01 58 13.9	-3.3
SMG	**Samos**	**80.83 307**	*e*P	**P**	**01 58 08.3**	**-2.5**
BZS	**Buzias**	**80.85 316**	⇑P	**P**	**01 58 10.0**	**-0.7**
BZS	**Buzias**	**80.85 316**	⇑*i*P	**P**	**01 58 10.0**	**-0.7**
RPZ	**Rata Peaks**	**80.88 148**	S	S	02 08 17.5	-1.4
	comp=Z,4.6nm,1.0s,baz=46,slow=15,SNR=2.0					
RPZ			LR	LR	02 31 22.0	
	comp=Z,18μm,21.4s,MS6.4,baz=308,slow=34					
RPZ	**Rata Peaks**	**80.88 148**	P*	**P**	**01 58 09.7**	**-1.0**
COP	**Copenhagen**	**80.92 328**	⇑*i*P	**P**	**01 58 13.9**	**+3.1**
COP			pmax	pmax		
	comp=Z,64nm,0.9s,mb5.5					
COP			MLR	MLR		
	comp=Z,14μm,18.0s,MS6.4					
COP	**Copenhagen**	**80.92 328**	⇑*i*P	**P**	**01 58 13.9**	**+3.1**
	comp=Z,64nm,0.9s,mb5.5					
COP			*i* S	S	02 08 03.7	-16
COP			*i*		02 17 54.8	
COP						
	comp=Z,14μm,18.0s					
OKC	**Ostrava-Krasne**	**80.93 321**	*e*P	**P**	**01 58 10.5**	**-0.5**
OKC			*e*pP	pP	01 58 14.2	-0.7
OKC			*e*SKS		02 08 21.8	
OKC	**Ostrava-Krasne**	**80.93 321**	*e*P	**P**	**01 58 10.5**	**-0.5**
OKC			*e*pP	pP	01 58 14.2	-0.7
OKC			*e*S	S	02 08 21.8	+2.2
OKC			AMS	AMS	02 36 20.0	
	comp=Z,24μm,16.6s,MS6.6					
SNZO	**South Karori**	**80.94 144**	PFAKE		01 58 20.0	+9.0
SNZO			LR	LR		
	comp=Z,17μm,22.0s,MS6.3					
MRZ	**Mangatainoka R**	**80.94 144**	P*	**P**	**01 58 10.2**	**-0.8**
LBZ	**Lake Benmore**	**80.98 149**	P*	**P**	**01 58 11.3**	**+0.2**
LIA	**Limnos Island**	**81.06 310**	*e*P	**P**	**01 58 02.7**	**-9.2**
CHOS	**Chios island**	**81.10 308**	*e*P	**P**	**01 58 10.5**	**-1.7**
VYHS	**Vyhne**	**81.18 320**	*i* P	**P**	**01 58 11.8**	**-0.6**
	comp=Z,27nm,1.3s,mb5.0					
VYHS			*i* PP	PP	02 01 19.3	+2.1
VYHS			*e*S	S	02 08 16.4	-5.9
VYHS	**Vyhne**	**81.18 320**	*i* P	**P**	**01 58 11.8**	**-0.6**
VYHS			pmax	pmax		
	comp=Z,27nm,1.3s,mb5.0					
VTS	**Vitosha**	**81.20 313**	*e*P	**P**	**01 58 12.4**	**-0.2**
VTS	**Vitosha**	**81.20 313**	⇓P	**P**	**01 58 12.7**	**+0.1**
VTS	**Vitosha**	**81.20 313**	⇑*i*P	**P**	**01 58 11.8**	**-0.8**
VTS	**Vitosha**	**81.20 313**	*i* P	**P**	**01 58 12.4**	**-0.2**
DESE	**Dese**	**81.23 278**	*e*P	**P**	**01 58 15.7**	**+2.4**
DESE			S	S	02 07 57.7	-26
MORC	**Moravsky Berou**	**81.30 321**	P	**P**	**01 58 13.1**	**+0.1**
MORC	**Moravsky Berou**	**81.30 321**	⇓*i*P	**P**	**01 58 13.1**	**+0.1**
ASK	**Askoy**	**81.30 334**	*e*P	**P**	**01 58 15.9**	**+3.1**
ASK	**Askoy**	**81.30 334**	*e*	**P**	**01 58 15.9**	**+3.1**
MMB	**Musomiste**	**81.31 312**	*i* P	**P**	**01 58 12.9**	**-0.3**
BER	**Bergen**	**81.31 334**	*e*P	**P**	**01 58 09.8**	**-3.0**
BER			*e*		02 08 24.6	
BER			AMS	AMS	02 37 59.9	
	comp=Z,39μm,19.4s,MS6.8					
BFZ	**Birch Farm**	**81.31 143**	P*	**P**	**01 58 11.8**	**-1.2**
NVR	**Nevrokopi**	**81.32 312**	*e*P	**P**	**01 58 07.6**	**-5.7**
KOLL	**Kolacno**	**81.39 320**	*i* P	**P**	**01 58 13.1**	**-0.4**
EGD	**Espegrend**	**81.42 334**	*e*P	**P**	**01 58 18.0**	**+4.6**
EGD	**Espegrend**	**81.42 334**	*e*	**P**	**01 58 18.0**	**+4.6**
KSP	**Ksiaz**	**81.46 323**	*e*P	**P**	**01 58 13.7**	**-0.1**
KSP			*e*PcP	PcP	01 58 17.8	-2.0
KSP			*e*S	S	02 08 25.6	+0.5
KSP			LMZ		02 37 31.5	
	comp=Z,64μm,18.5s					
KSP	**Ksiaz**	**81.46 323**	*e*P	**P**	**01 58 13.0**	**-0.8**
KSP			*e*pP	pP	01 58 16.9	-0.8
KSP			*e*S	S	02 08 24.7	-0.4
KSP			*e*SS	SS	02 13 44.0	+3.4
KSP			LR	LR		
	comp=Z,74μm,18.5s,MS7.1					
KARP	**Karpathos**	**81.52 305**	*e*P	**P**	**01 58 12.6**	**-1.9**
BUD	**Budapest**	**81.56 319**	‖*e*PcP	PcP	01 58 14.2	-6.1
SRS	**Serrai**	**81.61 312**	*e*P	**P**	**01 58 13.1**	**-1.8**
KKB	**Krupnik**	**81.61 312**	*i* P	**P**	**01 58 12.5**	**-2.3**
JAVC	**Velka Javorina**	**81.68 320**	P	**P**	**01 58 15.7**	**+0.7**
DPC	**Dobruska-Polom**	**81.69 322**	*e*P	**P**	**01 58 14.9**	**-0.2**
DPC			*e*pP	pP	01 58 18.5	-0.4
DPC			*e*S	S	02 08 27.7	+0.2
DPC			AMS	AMS	02 37 50.0	
	comp=Z,30μm,19.8s,MS6.7					
SNART	**Snartemo**	**81.77 332**	*e*P	**P**	**01 58 16.3**	**+1.0**
SNART			AMb	AMB	01 58 32.5	
	comp=Z,124nm,1.6s,mb5.6					
UPC	**Upice**	**81.79 322**	*e*P	**P**	**01 58 15.0**	**-0.6**
UPC			*e*pP	pP	01 58 18.5	-0.9
SOH	**Sokhos**	**81.90 311**	*e*P	**P**	**01 58 14.1**	**-2.3**
RUE	**Ruedersdorf**	**81.96 325**	⇑*e*P	**P**	**01 58 17.9**	**+1.5**
	comp=Z,117nm,1.0s,mb5.8					
RUE			*e*S	PP	02 01 22.6	-0.9
BARS	**Barje**	**82.01 314**	P	**P**	**01 58 16.8**	**-0.1**
MUD	**Monsted U'grnd**	**82.01 330**	*i* P	**P**	**01 58 16.1**	**-0.5**
MUD			*i* S	S	02 08 34.4	+3.9
MUD			*i*		02 09 38.2	
MUD			pmax	pmax		
	comp=Z,60nm,0.8s,mb5.6					
MUD			MLR	MLR		
	comp=Z,36μm,19.0s,MS6.8					
MUD	**Monsted U'grnd**	**82.01 330**	*i* P	**P**	**01 58 16.1**	**-0.5**
	comp=Z,60nm,0.8s,mb5.6					
MUD			*i* S	S	02 08 34.4	+3.9
MUD			*i*		02 09 38.2	
MUD			*i*		02 18 23.5	
MUD						
	comp=Z,36μm,19.0s					
PLG	**Polygyros**	**82.04 311**	*e*P	**P**	**01 58 15.2**	**-1.9**
PLG	**Polygyros**	**82.04 311**	*e*P	**P**	**01 58 13.3**	**-3.8**
APE	**Apeiranthos**	**82.05 307**	*e*P	**P**	**01 58 10.2**	**-7.0**
APE	**Apeiranthos**	**82.05 307**	*e*P	**P**	**01 58 11.9**	**-5.3**
APE	**Apeiranthos**	**82.05 307**	⇓*i*P	**P**	**01 58 14.8**	**-2.4**
KNT	**Kendrikon**	**82.06 312**	P	**P**	**01 58 17.0**	**-0.2**
VRAC	**Vranov**	**82.07 321**	P	**P**	**01 58 16.2**	**-0.8**
	comp=Z,43nm,0.8s,mb5.4,baz=61,slow=4.5,SNR=36					
VRAC			S	S	02 08 34.1	+2.7
	comp=Z,0.8nm,0.4s,baz=12,slow=20,SNR=1.5					
VRAC	**Vranov**	**82.07 321**	⇓*i*P	**P**	**01 58 17.4**	**+0.3**
MODS	**Modra-Piesok**	**82.15 320**	*e*P	**P**	**01 58 16.7**	**-0.8**
MODS			*e*pP	pP	01 58 20.9	-0.5
MODS			*i* PP	PP	02 01 30.2	+5.1
MODS			*e*S	S	02 08 25.0	-7.2
MODS			*e*SS	SS	02 13 50.4	-0.5
SYZ	**Scrubby Hill**	**82.16 151**	P*	**P**	**01 58 15.5**	**-1.9**
HORT	**Hortiatis**	**82.17 311**	P	**P**	**01 58 17.4**	**-0.4**
HORT	**Hortiatis**	**82.17 311**	*e*P	**P**	**01 58 16.2**	**-1.6**
VAY	**Valandovo**	**82.20 312**	*e*P	**P**	**01 58 15.9**	**-2.0**
VAY	**Valandovo**	**82.20 312**	P	**P**	**01 58 17.3**	**-0.6**
VAY	**Valandovo**	**82.20 312**	*i* P	**P**	**01 58 15.7**	**-2.3**
THE	**Thessaloniki**	**82.25 311**	*e*P	**P**	**01 58 16.2**	**-2.0**
STIP	**Stip**	**82.29 313**	*e*P	**P**	**01 58 16.6**	**-1.8**
STIP	**Stip**	**82.29 313**	*i* P	**P**	**01 58 16.4**	**-2.0**
KRUC	**Moravsky**	**82.31 321**	P	**P**	**01 58 18.1**	**-0.2**
ZST	**Bratislava**	**82.34 320**	*e*P	**P**	**01 58 16.4**	**-2.1**
ZST			*i* S	S	02 08 31.9	-2.3
ZST	**Bratislava**	**82.34 320**	*e*P	**P**	**01 58 16.4**	**-2.1**
ZST			*i* S	S	02 08 31.9	-2.3
PKSM	**Moragy**	**82.40 318**	⇓*i*P	**P**	**01 58 18.5**	**-0.4**
ZKR	**Zakros**	**82.40 305**	P	**P**	**01 58 19.3**	**+0.2**
GRG	**Griva**	**82.48 312**	*e*P	**P**	**01 58 17.8**	**-1.7**
GRG	**Griva**	**82.48 312**	P	**P**	**01 58 18.5**	**-0.9**
PVCC	**Panska Ves**	**82.56 323**	*e*P	**P**	**01 58 19.5**	**-0.1**
PVCC			*e*pP	pP	01 58 23.0	-0.5
PVCC			*e*S	S	02 08 43.0	+6.5
PVCC			AMS	AMS	02 39 40.0	
	comp=Z,38μm,15.9s,MS6.9					
SKO	**Skopje**	**82.65 313**	*e*P	**P**	**01 58 20.2**	**-0.1**
SKO	**Skopje**	**82.65 313**	*i* P	**P**	**01 58 18.2**	**-2.1**
NEO	**Neokhori**	**82.68 310**	*e*P	**P**	**01 58 12.6**	**-7.9**
TREC	**Trest**	**82.70 322**	*e*P	**P**	**01 58 20.0**	**-0.4**
TREC			*e*pP	pP	01 58 23.5	-0.7
TREC			*e*S	S	02 08 40.4	+2.5
TREC			AMS	AMS	02 37 10.0	
	comp=Z,35μm,19.7s,MS6.7					
BRG	**Berggiesshubel**	**82.72 323**	*i* P	**P**	**01 58 20.6**	**+0.1**
	comp=Z,10nm,1.1s,mb4.8					
BRG			*i*	pP	01 58 25.5	+1.2
BRG			PP	PP	02 01 30.0	+0.2
BRG			S	S	02 08 41.0	+3.0
BRG			SS	SS	02 14 20.0	+21
BRG			LR	LR		
	comp=Z,28μm,16.4s,MS6.7					
BRG	**Berggiesshubel**	**82.72 323**	*i* P	**P**	**01 58 20.6**	**+0.1**
BRG					02 01 30.0	
BRG			S	S	02 08 41.0	+3.0
BRG			pmax	pmax		
	comp=Z,31nm,1.0s,mb5.3					
BRG			MLR	MLR		
	comp=N,32μm,17.1s,MS6.8					
BRG			MLR	MLR		
	comp=E,13μm,16.3s,MS6.8					
BRG			MLR	MLR		
	comp=Z,28μm,16.4s,MS6.7					
BRG	**Berggiesshubel**	**82.72 323**	*e*P	**P**	**01 58 19.8**	**-0.7**
	comp=Z,52nm,1.0s,mb5.5					
BRG			*e*S	S	02 08 44.2	+6.2
BRG	**Berggiesshubel**	**82.72 323**	*i* P	**P**	**01 58 20.6**	**+0.1**
	comp=Z,17nm,1.1s,mb5.0					
BRG			*i*	pP	01 58 25.5	+1.2
	comp=Z,52nm,1.0s					
BRG			PP	PP	02 01 30.0	+0.2
BRG			S	S	02 08 41.0	+3.0
BRG			SS	SS	02 14 20.0	+21
BRG						
	comp=N,53μm,17.1s					
BRG						
	comp=E,22μm,16.3s					
BRG						
	comp=Z,47μm,16.4s					
NPS	**Neapolis**	**82.78 306**	*e*P	**P**	**01 58 21.1**	**0.0**
LIT	**Litokhoron**	**82.82 311**	*e*P	**P**	**01 58 19.5**	**-1.7**
LIT	**Litokhoron**	**82.82 311**	P	**P**	**01 58 20.4**	**-0.8**
PRU	**Pruhonice**	**82.86 322**	*e*P	**P**	**01 58 20.8**	**-0.4**
PRU			*e*pP	pP	01 58 24.3	-0.8
PRU			*e*S	S	02 08 44.9	+5.4
PRU			AMS	AMS	02 38 10.0	
	comp=Z,29μm,16.9s,MS6.7					
PRA	**Prague**	**82.88 323**	P	**P**	**01 58 23.0**	**+1.7**
PRA			*e*x	x	01 58 42.0	
PRA			AMS	AMS	02 34 30.0

VAM	**Vamos**	**83.75**	**306**	*eP*	**P**	**01 58 23.9**	**-2.2**
TANN	**Tannenbergstha**	**83.76**	**324**	*eP*	**P**	**01 58 25.1**	**-0.7**
	comp=Z,251nm,2.5s,mb5.9						
TANN				*e*S	S	02 08 53.9	+5.3
C03A	**Quillayute Air**	**83.80**	**39**	⇓P	**P**	**01 58 26.7**	**+0.6**
	baz=84						
NRDL	**Niedersach Rie**	**83.83**	**326**	*eP*	**P**	**01 58 25.7**	**-0.4**
	comp=Z,199nm,1.6s,mb6.0						
NRDL				*e*S	S	02 08 54.5	+5.3
EVR	**Evrytania**	**83.83**	**310**	*eP*	**P**	**01 58 24.7**	**-1.7**
KHC	**Kasperske Hory**	**83.85**	**322**	*eP*	**P**	**01 58 25.7**	**-0.6**
KHC				*ep*P	pP	01 58 29.6	-0.6
KHC				*ex*	x	01 58 45.5	
KHC				*e*S	S	02 08 51.6	+2.1
KHC				AMS	AMS	02 41 40.0	
	comp=Z,37µm,14.4s,MS6.9						
NKC	**Novy Kostel**	**83.87**	**323**	*eP*	**P**	**01 58 25.8**	**-0.6**
NKC				*ep*P	pP	01 58 28.0	-2.3
NKC				*e*SKS		02 08 53.3	
NKC	**Novy Kostel**	**83.87**	**323**	*eP*	**P**	**01 58 25.8**	**-0.6**
NKC				*ep*P	pP	01 58 28.0	-2.3
NKC				*e*S	S	02 08 53.3	+3.6
NKC				AMS	AMS	02 40 20.0	
	comp=Z,53µm,16.8s,MS7.0						
GEC2	**GERESS Array S**	**83.93**	**322**	*eP*	**P**	**01 58 26.1**	**-0.6**
	comp=Z,244nm,2.3s,mb5.9						
GEC2				*e*S	S	02 08 56.1	+5.7
GERES	**GERESS Array B**	**83.93**	**322**	P	**P**	**01 58 25.6**	**-1.1**
GERES				S	S	02 08 50.7	+0.3
GERES	**GERESS Array B**	**83.93**	**322**	P	**P**	**01 58 25.6**	**-1.2**
	comp=Z,9.7nm,0.8s,mb5.0,baz=48,slow=4.0,SNR=36						
GERES				S	S	02 08 50.7	+0.3
	comp=Z,0.2nm,0.3s,baz=238,slow=30,SNR=2.6						
GERES				PKKPbc	PKKPbc	02 16 41.8	-0.5
	comp=Z,2.3nm,0.8s,baz=204,slow=2.9,SNR=11						
GERES				PKPPKP		02 24 46.6	
	comp=Z,0.6nm,0.9s,baz=356,slow=15,SNR=3.3						
GERES				LR	LR	02 39 14.7	
	comp=Z,35µm,20.4s,MS6.7,baz=61,slow=38						
KARN	**Karanos**	**83.96**	**306**	*eP*	**P**	**01 58 26.1**	**-1.1**
TIR	**Tirane**	**83.99**	**313**	*eP*	**P**	**01 58 25.6**	**-1.6**
TIR	**Tirane**	**83.99**	**313**	P	**P**	**01 58 26.8**	**-0.4**
OBC	**Olympics--Boni**	**84.03**	**39**	P	**P**	**01 58 28.1**	**+0.8**
PGC	**Sidney**	**84.06**	**38**	*eP*	**P**	**01 58 27.4**	**0.0**
	comp=Z,238nm,1.2s,mb6.2						
PGC				PcP	PcP	01 58 31.8	+0.5
PGC				*ep*PP	PP	02 01 39.7	-1.1
CLZ	**Clausthal**	**84.06**	**325**	*eP*	**P**	**01 58 26.6**	**-0.7**
CLZ				*e*S	S	02 08 56.7	+5.1
CLZ				pmax	pmax		
	comp=Z,350nm,1.6s,mb6.2						
CLZ	**Clausthal**	**84.06**	**325**	*eP*	**P**	**01 58 26.6**	**-0.7**
	comp=Z,350nm,1.6s,mb6.2						
CLZ				*e*S	S	02 08 56.7	+5.1
VLI	**Veliai**	**84.06**	**308**	*eP*	**P**	**01 58 23.2**	**-4.5**
SELA	**Sela**	**84.08**	**310**	*eP*	**P**	**01 58 25.8**	**-1.9**
MOX	**Moxa**	**84.09**	**324**	*eP*	**P**	**01 58 27.5**	**0.0**
	comp=Z,209nm,2.0s,mb5.9						
MOX				*e*	pP	01 58 31.4	0.0
MOX				*e*		02 01 42.8	
MOX				LR	LR		
	comp=Z,45µm,18.0s,MS6.9						
MOX	**Moxa**	**84.09**	**324**	*eP*	**P**	**01 58 27.5**	**0.0**
MOX				*e*	pP	01 58 31.4	0.0
	comp=Z,209nm,2.0s						
MOX				*e*		02 01 42.8	
MOX							
	comp=Z,45µm,18.0s						
MOX	**Moxa**	**84.09**	**324**	*eP*	**P**	**01 58 26.5**	**-1.0**
MOX				*e*S	S	02 08 57.7	+5.8
GVD	**Gavdhos**	**84.09**	**306**	⇓*eP*	**P**	**01 58 26.5**	**-1.3**
	comp=Z,66nm,0.9s,mb5.8						
GVD				*e*PP	PP	02 01 42.1	+0.6
GVD	**Gavdhos**	**84.09**	**306**	*eP*	**P**	**01 58 26.5**	**-1.3**
JAN	**Janina**	**84.14**	**311**	*eP*	**P**	**01 58 25.4**	**-2.6**
MOA	**Molln**	**84.15**	**321**	*i* P	**P**	**01 58 27.6**	**-0.3**
	comp=Z,52nm,0.9s,mb5.7,SNR=55						
SISC	**Sisak**	**84.15**	**318**	P	**P**	**01 58 27.4**	**-0.5**
VLX	**Vlachokerasia**	**84.16**	**309**	*eP*	**P**	**01 58 22.8**	**-5.3**
WET	**Wettzell**	**84.23**	**322**	*eP*	**P**	**01 58 27.7**	**-0.5**
WET				pmax	pmax		
	comp=Z,207nm,2.1s,mb5.9						
WET	**Wettzell**	**84.23**	**322**	*eP*	**P**	**01 58 27.7**	**-0.5**
	comp=Z,207nm,2.1s,mb5.9						
WET				*e*S	S	02 09 00.2	+6.8
ROTZ	**Rotzenmuhle**	**84.26**	**323**	*eP*	**P**	**01 58 27.8**	**-0.6**
	comp=Z,370nm,2.2s,mb6.1						
ROTZ				*e*S	S	02 09 00.5	+6.9
PERS	**Pernice**	**84.29**	**319**	*eP*	**P**	**01 58 28.0**	**-0.6**
B04A	**Port Angeles**	**84.34**	**39**	⇑P	**P**	**01 58 29.5**	**+0.6**
	baz=84,SNR=15						
OSD	**Olympics--Snow**	**84.36**	**39**	P	**P**	**01 58 30.1**	**+1.2**
MCW	**Mount Constitu**	**84.39**	**38**	P	**P**	**01 58 30.0**	**+0.9**
A04A	**Legoe Bay, Lum**	**84.43**	**38**	⇑P	**P**	**01 58 29.9**	**+0.6**
	baz=84,SNR=12						
RLS	**Riolos of Patr**	**84.47**	**310**	*eP*	**P**	**01 58 26.1**	**-3.6**
NLWA	**Neilton Lookou**	**84.49**	**40**	*eP*	**P**	**01 58 29.9**	**+0.3**
	comp=Z,170nm,1.4s,mb6.0						
NLWA				*e*PcP	PcP	01 58 34.0	+0.8
NLWA				*e*PP	PP	02 01 42.5	-1.9
NLWA				LR	LR		
	comp=Z,7µm,19.0s,MS6.0						
NLWA	**Neilton Lookou**	**84.49**	**40**	P	**P**	**01 58 30.3**	**+0.7**
	baz=84,SNR=14						
CRES	**Cresnjev**	**84.51**	**319**	P	**P**	**01 58 29.5**	**-0.3**
IGT	**Igoumenitsa**	**84.55**	**311**	*eP*	**P**	**01 58 28.1**	**-2.0**
IGT	**Igoumenitsa**	**84.55**	**311**	P	**P**	**01 58 28.8**	**-1.3**
ITM	**Ithomi**	**84.56**	**309**	*eP*	**P**	**01 58 25.4**	**-4.8**
VDB	**Vedder Mountai**	**84.60**	**38**	P	**P**	**01 58 30.2**	**0.0**
A05A	**Maple Falls**	**84.62**	**38**	P	**P**	**01 58 30.2**	**0.0**
	baz=84,SNR=19						
STON	**Ston**	**84.64**	**315**	P	**P**	**01 58 27.9**	**-2.6**
OBKA	**Obir**	**84.69**	**319**	P	**P**	**01 58 30.5**	**-0.1**
D03A	**Wishkah Elem.**	**84.69**	**40**	⇓P	**P**	**01 58 30.9**	**+0.2**
	baz=84						
LKD	**Levkas**	**84.73**	**310**	*eP*	**P**	**01 58 28.7**	**-2.3**
BOJS	**Bojanci**	**84.81**	**318**	*eP*	**P**	**01 58 30.8**	**-0.4**
BOJS				*e*		02 01 50.5	
BOJS				*e*S	S	02 08 59.9	+0.7
KEK	**Kerkira**	**84.82**	**312**	*eP*	**P**	**01 58 29.6**	**-1.9**
PYL	**PYLOS**	**84.83**	**308**	*eP*	**P**	**01 58 28.8**	**-2.8**
C04A	**Brinnon**	**84.83**	**39**	P	**P**	**01 58 31.9**	**+0.6**
	baz=84,SNR=10						
GRA1	**Grafenberg Arr**	**84.83**	**323**	*eP*	**P**	**01 58 30.2**	**-1.1**
	comp=Z,335nm,1.5s,mb6.2						
GRA1				*e*	pP	01 58 34.8	-0.3
GRA1				*e*		01 58 50.7	
GRA1				*e*PP	PP	02 01 49.5	+2.5
GRA1				*e*S	S	02 09 05.5	+6.2
GRA1				*e*SS	SS	02 14 34.8	+4.3
GRA1				*e*PKKPbc	PKKPbc	02 16 43.9	+3.6
GRA1				LR	LR		
	comp=Z,50µm,18.6s,MS6.9						
GRF	**Grafenberg Arr**	**84.83**	**323**	*eP*	**P**	**01 58 30.2**	**-1.1**
GRF				*e*		02 01 49.5	
GRF				*e*SS	SS	02 14 34.8	+4.3
GRF				pmax	pmax		
	comp=Z,335nm,1.5s,mb6.2						
GRF	**Grafenberg Arr**	**84.83**	**323**	*eP*	**P**	**01 58 30.2**	**-1.1**
GRF				*e*		02 01 49.5	
GRF				*e*SS	SS	02 14 34.8	+4.3
GRF				pmax	pmax		
	comp=Z,335nm,1.5s,mb6.2						
GRF				MLR	MLR		
	comp=Z,50µm,18.6s,MS6.9						
GRF	**Grafenberg Arr**	**84.83**	**323**	*eP*	**P**	**01 58 30.2**	**-1.1**
	comp=Z,335nm,1.5s,mb6.2						
GRF				*e*	pP	01 58 34.8	-0.3
GRF				*e*		01 58 50.7	
GRF				*e*PP	PP	02 01 49.5	+2.5
GRF				*e*S	S	02 09 05.5	+6.2
GRF				*e*SS	SS	02 14 34.8	+4.3
GRF				*e*PKKPbc	PKKPbc	02 16 43.9	+3.6
GRF				*e*L		02 41 18.3	
	comp=Z,50µm,18.6s						
GRFO	**Grafenberg**	**84.83**	**323**	*eP*	**P**	**01 58 30.7**	**-0.5**
	comp=Z,310nm,1.5s,mb6.2						
GRFO				*e*PcP	PcP	01 58 35.4	+0.7
GRFO				*e*PP	PP	02 01 46.6	-0.4
GRFO				LR	LR		
	comp=Z,28µm,21.0s,MS6.6						
GRFO	**Grafenberg**	**84.83**	**323**	*eP*	**P**	**01 58 30.7**	**-0.6**
GRFO				*e*		02 01 46.6	
GRFO				pmax	pmax		
	comp=Z,310nm,1.5s,mb6.2						
GRFO				MLR	MLR		
	comp=Z,28µm,21.0s,MS6.6						
UBBA	**Unterbreizbach**	**84.84**	**325**	*eP*	**P**	**01 58 30.0**	**-1.3**
	comp=Z,246nm,1.7s,mb6.1						
UBBA				*e*S	S	02 09 04.5	+5.1
MBW	**Mount Baker**	**84.84**	**38**	P	**P**	**01 58 32.1**	**+0.8**
A06A	**Chilliwack**	**84.90**	**37**	⇓P	**P**	**01 58 31.3**	**-0.4**
	baz=85						
CMW	**Cultus Mountai**	**84.92**	**38**	P	**P**	**01 58 32.8**	**+1.0**
LJU	**Ljubljana**	**84.95**	**319**	*eP*	**P**	**01 58 31.0**	**-1.0**
LJU				*e*		02 01 50.4	
LJU				*e*S	S	02 08 54.0	-6.7
LJU	**Ljubljana**	**84.95**	**319**	*eP*	**P**	**01 58 31.0**	**-0.9**
LJU				*e*		02 01 50.4	
LJU				*e*S	S	02 08 54.0	-6.6
LJU				*e*SS	SS	02 15 20.7	+48
B05A	**Bryant**	**85.02**	**38**	P	**P**	**01 58 32.5**	**+0.2**
	baz=85,SNR=17						
VLS	**Valsamata**	**85.03**	**310**	*eP*	**P**	**01 58 30.1**	**-2.4**
VLS	**Valsamata**	**85.03**	**310**	P	**P**	**01 58 31.4**	**-1.1**
VLS	**Valsamata**	**85.03**	**310**	*eP*	**P**	**01 58 26.8**	**-5.7**
GMW	**Gold Mountain**	**85.03**	**39**	P	**P**	**01 58 33.5**	**+1.1**
KBA	**Koelnbreinsper**	**85.09**	**320**	⇑*i*P	**P**	**01 58 32.5**	**-0.1**
	comp=Z,32nm,0.9s,mb5.5,SNR=9.4						
KBA	**Koelnbreinsper**	**85.09**	**320**	⇑*i*P	**P**	**01 58 32.5**	**-0.1**
KBA				pmax	pmax		
	comp=Z,32nm,0.9s,mb5.5						
IBBN	**Ibbenburen**	**85.11**	**327**	*eP*	**P**	**01 58 31.1**	**-1.5**
	comp=Z,220nm,1.2s,mb6.2						
IBBN				*e*S	S	02 09 05.8	+3.8
E03A	**Lebam**	**85.12**	**40**	P	**P**	**01 58 32.9**	**+0.1**
	baz=85,SNR=22						
JCW	**Jim Creek**	**85.16**	**38**	P	**P**	**01 58 33.7**	**+0.8**
B06A	**Marblemount**	**85.22**	**38**	P	**P**	**01 58 33.2**	**0.0**
	baz=85,SNR=13						
D04A	**Dobbs Creek Ra**	**85.25**	**39**	⇑P	**P**	**01 58 34.2**	**+0.7**
	baz=85						
JAVS	**Javornik**	**85.31**	**319**	*eP*	**P**	**01 58 32.8**	**-0.9**
VOY	**Vojsko**	**85.33**	**319**	*eP*	**P**	**01 58 32.2**	**-1.7**
VOY				*e*	pP	01 58 35.4	-2.3
VOY				*e*		01 58 53.2	
VOY				*e*		01 59 12.1	
VOY				*e*		01 59 35.3	
PTCC	**Patocco-Chiusa**	**85.45**	**320**	P	**P**	**01 58 33.4**	**-1.0**
F03A	**Seaside**	**85.45**	**41**	⇓P	**P**	**01 58 35.1**	**+0.6**
	baz=85,SNR=18						
HTW	**Haystack Looko**	**85.46**	**38**	P	**P**	**01 58 35.2**	**+0.7**
A07A	**Ashnola River,**	**85.53**	**37**	P	**P**	**01 58 34.3**	**-0.5**
	baz=85,SNR=42						
NVLJ	**Novalja**	**85.53**	**318**	P	**P**	**01 58 31.7**	**-3.2**
C05A	**Tolt Reservoir**	**85.56**	**39**	P	**P**	**01 58 35.3**	**+0.3**
	baz=85,SNR=45						
E04A	**Onalaska**	**85.58**	**40**	⇑P	**P**	**01 58 36.0**	**+0.9**
	baz=85,SNR=10						
GMNA	**Gemona**	**85.58**	**320**	P	**P**	**01 58 34.7**	**-0.4**
RMW	**Rattlesnake Mo**	**85.63**	**39**	P	**P**	**01 58 36.4**	**+1.1**
LCI	**Lecce**	**85.64**	**313**	P	**P**	**01 58 35.0**	**-0.5**
FUR	**Furstenfeldbru**	**85.66**	**322**	*eP*	**P**	**01 58 34.4**	**-1.0**
FUR				*e*S	S	02 09 11.1	+3.5
FUR				pmax	pmax		
	comp=Z,433nm,1.3s,mb6.5						
FUR	**Furstenfeldbru**	**85.66**	**322**	*eP*	**P**	**01 58 34.4**	**-1.0**
	comp=Z,433nm,1.3s,mb6.5						
FUR				*e*S	S	02 09 11.1	+3.5
D05A	**Enumclaw**	**85.68**	**39**	P	**P**	**01 58 36.0**	**+0.4**
	baz=85,SNR=26						
ABTA	**Abfaltersbach**	**85.75**	**320**	⇓*i*P	**P**	**01 58 34.2**	**-1.7**
	comp=Z,59nm,1.7s,mb5.5,SNR=24						
WTSB	**Winterswijk**	**85.78**	**327**	*eP*	**P**	**01 58 35.4**	**-0.6**
	comp=Z,201nm,2.1s,mb6.0						
WTSB	**Winterswijk**	**85.78**	**327**	*e*PP	PP	02 01 55.4	+0.7
RVW	**Rose Valley**	**85.81**	**40**	P	**P**	**01 58 36.6**	**+0.3**
H02A	**Toledo**	**85.86**	**42**	⇓P	**P**	**01 58 37.1**	**+0.6**
	baz=86						
C06A	**Tall Timber Ra**	**85.88**	**38**	⇑P	**P**	**01 58 36.9**	**+0.4**
	baz=86						
SIND	**Sindeldorf**	**85.89**	**324**	P	**P**	**01 58 36.4**	**-0.2**
G03A	**Yamhill**	**85.95**	**41**	⇓P	**P**	**01 58 37.6**	**+0.6**
	baz=86,SNR=15						
WTTA	**Wattenberg**	**85.96**	**321**	⇑*i*P	**P**	**01 58 35.9**	**-1.1**
	comp=Z,109nm,1.4s,mb5.9,SNR=42						
WTTA	**Wattenberg**	**85.96**	**321**	⇑*i*P	**P**	**01 58 35.9**	**-1.1**
WTTA				pmax	pmax		
	comp=Z,109nm,1.4s,mb5.9						
ERK	**Elk Rock**	**85.96**	**40**	P	**P**	**01 58 37.9**	**+0.9**
FMW	**Mount Fremont**	**86.00**	**39**	P	**P**	**01 58 37.8**	**+0.6**
B07A	**Winthrop**	**86.00**	**37**	⇑P	**P**	**01 58 37.4**	**+0.2**
	baz=86						
HDH	**Heidenheim-Cha**	**86.01**	**323**	P	**P**	**01 58 36.9**	**-0.3**
TDL	**Tradedollar La**	**86.01**	**40**	P	**P**	**01 58 38.6**	**+1.4**
FL2	**Flat Top 2**	**86.02**	**40**	P	**P**	**01 58 37.8**	**+0.6**
F04A	**Amboy**	**86.12**	**40**	P	**P**	**01 58 38.0**	**+0.2**
	baz=86,SNR=32						
E05A	**Randle**	**86.16**	**39**	P	**P**	**01 58 37.9**	**-0.1**
	baz=86,SNR=17						
TOD	**Tromm**	**86.17**	**324**	*eP*	**P**	**01 58 37.3**	**-0.6**
A08A	**Turner Farm, O**	**86.18**	**37**	⇓P	**P**	**01 58 38.3**	**+0.2**
	baz=86,SNR=30						
MTMW	**Mount Mitchell**	**86.19**	**40**	P	**P**	**01 58 39.0**	**+0.9**
BORG	**Borgarnes**	**86.19**	**346**	P	**P**	**01 58 38.5**	**+0.7**
BORG				LR	LR		
	comp=Z,14µm,19.0s,MS6.4						
BORG	**Borgarnes**	**86.19**	**346**	P	**P**	**01 58 39.4**	**+1.6**
	comp=Z,20nm,0.9s,mb5.3,baz=80,slow=6.3,SNR=6.3						
MOTA	**Moosalm**	**86.21**	**321**	⇓*i*P	**P**	**01 58 37.2**	**-1.1**
	comp=Z,34nm,1.0s,mb5.5,SNR=22						
MOTA	**Moosalm**	**86.21**	**321**	⇓*i*P	**P**	**01 58 37.1**	**-1.1**
	comp=Z,34nm,1.0s,mb5.5						
MOTA	**Moosalm**	**86.21**	**321**	⇓*i*P	**P**	**01 58 37.2**	**-1.0**
MOTA				pmax	pmax		
	comp=Z,34nm,1.0s,mb5.5						
SQTA	**Sankt Quirin**	**86.22**	**321**	⇓*i*P	**P**	**01 58 37.7**	**-0.6**
	comp=Z,70nm,1.2s,mb5.8						
SQTA	**Sankt Quirin**	**86.22**	**321**	⇓*i*P	**P**	**01 58 37.7**	**-0.6**
SQTA				pmax	pmax		
	comp=Z,70nm,1.2s,mb5.8						
H03A	**Soap Creek Ran**	**86.29**	**42**	P	**P**	**01 58 39.5**	**+0.8**
	baz=86,SNR=17						
SWS	**Schriesheim-Wi**	**86.29**	**324**	P	**P**	**01 58 42.0**	**+3.4**
D06A	**Cle Elum**	**86.32**	**39**	⇓P	**P**	**01 58 38.9**	**+0.1**
	baz=86						
RETA	**Reutte**	**86.33**	**322**	*i* P	**P**	**01 58 38.2**	**-0.6**
	comp=Z,62nm,1.9s,mb5.5,SNR=24						
I02A	**Mapleton**	**86.33**	**42**	⇑P	**P**	**01 58 39.6**	**+0.7**
	baz=86						
COR	**Corvallis**	**86.33**	**42**	*eP*	**P**	**01 58 38.7**	**-0.1**
	comp=Z,248nm,1.1s,mb6.3						
COR				*e*PP	PP	02 01 55.9	-3.5
COR				LR	LR		
	comp=Z,5µm,20.0s,MS6.0						
COR	**Corvallis**	**86.33**	**42**	*eP*	**P**	**01 58 38.7**	**-0.2**
COR				*e*		02 01 55.9	
COR				pmax	pmax		
	comp=Z,248nm,1.1s,mb6.3						
COR				MLR	MLR		
	comp=Z,5µm,20.0s,MS6.0						
TWW	**Teanaway**	**86.34**	**39**	P	**P**	**01 58 40.4**	**+1.5**
MSAG	**Monte S. Angel**	**86.38**	**315**	P	**P**	**01 58 40.2**	**+1.1**
STU	**Stuttgart**	**86.45**	**323**	*eP*	**P**	**01 58 38.5**	**-0.8**
	comp=Z,138nm,1.0s,mb6.1						
STU				*e*S	S	02 09 18.0	+2.7
SGRT	**San Giovanni R**	**86.46**	**315**	P	**P**	**01 58 38.7**	**-0.8**
C07A	**Waterville**	**86.48**	**38**	⇓P	**P**	**01 58 39.2**	**-0.3**
	baz=86,SNR=23						
RAR	**Rarotonga**	**86.48**	**115**	LR	LR	02 30 20.6	
	comp=Z,3µm,21.4s,MS5.7,baz=308,slow=31						
G04A	**Mulino**	**86.48**	**41**	⇑P	**P**	**01 58 39.6**	**0.0**
	baz=86,SNR=24						
B08A	**Colville Reser**	**86.49**	**37**	⇑P	**P**	**01 58 39.8**	**+0.2**
	baz=86,SNR=42						
MCD	**Coleburn Disti**	**86.50**	**335**	*eP*	**P**	**01 58 38.6**	**-0.8**
WTV	**Waterville**	**86.53**	**38**	P	**P**	**01 58 39.9**	**+0.2**
A09A	**Danville**	**86.54**	**36**	P	**P**	**01 58 40.2**	**+0.4**
	baz=86,SNR=22						
EDM	**Edmonton**	**86.55**	**31**	*eP*	**P**	**01 58 39.1**	**-0.7**
EDM				*e*PP	PP	02 02 04.8	+4.0
BUCH	**Bad Urach**	**86.55**	**323**	P	**P**	**01 58 39.9**	**+0.1**
K01A	**Sixes**	**86.57**	**44**	⇑P	**P**	**01 58 41.0**	**+1.0**
	baz=86,SNR=13						
UBR	**Ueberruh**	**86.58**	**322**	P	**P**	**01 58 39.4**	**-0.6**
MVH1	**Achvaich**	**86.60**	**336**	*eP*	**P**	**01 58 39.9**	**0.0**
FETA	**Feichten**	**86.61**	**321**	*i* P	**P**	**01 58 39.5**	**-0.7**
	comp=Z,67nm,1.1s,mb5.8,SNR=23						
E06A	**Yakima**	**86.61**	**39**	P	**P**	**01 58 40.7**	**+0.5**
	baz=86,SNR=31						
EBG	**Ellensburg**	**86.64**	**39**	P	**P**	**01 58 40.5**	**+0.2**
ABH	**Alteburg**	**86.66**	**325**	*eP*	**P**	**01 58 39.9**	**-0.5**
I03A	**Eugene**	**86.68**	**42**	⇓P	**P**	**01 58 40.8**	**+0.2**
	baz=86						
SSOR	**Sweet Springs**	**86.69**	**41**	P	**P**	**01 58 41.3**	**+0.7**
F05A	**White Salmon**	**86.71**	**40**	P	**P**	**01 58 41.1**	**+0.5**
	baz=86,SNR=9.5						
LBG	**Lerchenberg**	**86.72**	**323**	P	**P**	**01 58 40.6**	**-0.1**
D07A	**Quincy**	**86.81**	**38**	⇑P	**P**	**01 58 41.3**	**+0.1**
	baz=86,SNR=17						
J02A	**Umpqua**	**86.83**	**43**	⇓P	**P**	**01 58 41.9**	**+0.6**
	baz=86,SNR=12						
AOI	**Ancona**	**86.84**	**317**	P	**P**	**01 58 39.8**	**-1.6**
TDH	**Tom, Dick, Har**	**86.84**	**41**	P	**P**	**01 58 42.2**	**+0.8**
ORI	**Oriolo Calabro**	**86.88**	**313**	P	**P**	**01 58 42.0**	**+0.4**
PTRP	**Pietrapertosa**	**86.89**	**314**	P	**P**	**01 58 42.8**	**+1.1**
GUT	**Gutenstein**	**86.90**	**323**	P	**P**	**01 58 41.8**	**+0.2**
FG4	**Candela**	**86.93**	**315**	P	**P**	**01 58 41.4**	**-0.5**
DAVA	**Damuels**	**86.93**	**322**	⇑*i*P	**P**	**01 58 40.9**	**-0.8**
	comp=Z,93nm,1.0s,mb6.0,SNR=41						
H04A	**Detroit Lake**	**86.94**	**41**	P	**P**	**01 58 41.5**	**-0.3**
	baz=87,SNR=24						
HGN	**Heimansgroeve**	**86.95**	**326**	*eP*	**P**	**01 58 41.1**	**-0.7**
	comp=Z,138nm,2.1s,mb5.8						
HGN	**Heimansgroeve**	**86.95**	**326**	*e*PP	PP	02 02 05.1	+1.0
HGN	**Heimansgroeve**	**86.95**	**326**	*e*S	S	02 09 15.5	-4.6
HGN	**Heimansgroeve**	**86.95**	**326**	*e*SS	SS	02 15 05.4	+3.9
MXC	**Moxie City**	**86.98**	**39**	P	**P**	**01 58 43.3**	**+1.3**
C08A	**Higginbotham F**	**86.98**	**37**	⇓P	**P**	**01 58 42.1**	**+0.1**
	baz=87,SNR=18						
MEM	**Membach**	**87.01**	**326**	P	**P**	**01 58 42.0**	**-0.1**
FG5	**Orsara di Pugl**	**87.01**	**315**	P	**P**	**01 58 42.0**	**-0.3**
RUP	**Ruppelstein**	**87.02**	**325**	*eP*	**P**	**01 58 41.8**	**-0.3**
BEBN	**Eben Emael**	**87.06**	**326**	P	**P**	**01 58 41.5**	**-0.8**
SPAK	**Spaichingen-Ko**	**87.06**	**323**	*eP*	**P**	**01 58 41.6**	**-0.7**
LANF	**Langenberg**	**87.06**	**324**	*eP*	**P**	**01 58 42.1**	**-0.3**
LANF	**Langenberg**	**87.06**	**324**	*eP*	**P**	**01 58 41.9**	**-0.5**
A10A	**Northport**	**87.08**	**36**	⇑P	**P**	**01 58 42.7**	**+0.2**
	baz=87						
B09A	**Rice**	**87.09**	**37**	⇓P	**P**	**01 58 43.3**	**+0.7**
	baz=87						
BRMO	**Bormio**	**87.12**	**321**	P	**P**	**01 58 42.5**	**-0.2**
TIP	**Timpagrande**	**87.13**	**312**	P	**P**	**01 58 42.5**	**-0.4**
G05A	**Wamic**	**87.15**	**40**	⇓P	**P**	**01 58 43.6**	**+0.7**
	baz=87						
TDS	**Terranova Siba**	**87.16**	**313**	P	**P**	**01 58 43.2**	**+0.2**
F06A	**Goldendale**	**87.16**	**40**	⇑P	**P**	**01 58 43.2**	**+0.3**
	baz=87						
BFO	**Black Forest**	**87.17**	**323**	*eP*	**P**	**01 58 41.0**	**-1.9**
BFO				*e*S	S	02 09 24.9	+2.6
BFO				pmax	pmax		
	comp=Z,350nm,2.1s,mb6.2						
BFO	**Black Forest**	**87.17**	**323**	*eP*	**P**	**01 58 41.0**	**-1.9**
	comp=Z,350nm,2.1s,mb6.2						
BFO				*e*S	S	02 09 24.9	+2.6
CING	**Cingoli**	**87.19**	**317**	P	**P**	**01 58 42.9**	**-0.2**
J03A	**Ideyld Park**	**87.19**	**43**	P	**P**	**01 58 43.9**	**+0.8**
	baz=87,SNR=20						
K02A	**Glendale**	**87.20**	**43**	⇑P	**P**	**01 58 43.5**	**+0.3**
	baz=87,SNR=17						
SISB	**Singen-Schiene**	**87.20**	**323**	P	**P**	**01 58 43.2**	**+0.1**
DAVOX	**Davos/Dischmat**	**87.22**	**322**	P	**P**	**01 58 42.5**	**-0.6**
	comp=Z,63nm,0.8s,mb5.9,baz=53,slow=9.2,SNR=26						
DAVOX				PP	PP	02 02 05.6	-0.9
	comp=Z,4.0nm,0.7s,baz=63,slow=10,SNR=4.0						
DAVOX				PKKPbc	PKKPbc	02 16 38.3	+3.8
	comp=Z,4.7nm,0.8s,baz=4.0,slow=11,SNR=5.1						
E07A	**Sunnyside**	**87.24**	**39**	P	**P**	**01 58 43.8**	**+0.6**
	baz=87,SNR=17						
FSSB	**Fossombrone**	**87.27**	**318**	P	**P**	**01 58 44.0**	**+0.5**
IRO	**Indian Ridge**	**87.28**	**42**	P	**P**	**01 58 44.2**	**+0.7

BADI	Badiali	87.69	318	P	P	01 58 46.1	+0.6
TUE	Stuetta	87.70	321	P	P	01 58 45.3	-0.2
SDI	San Donato	87.71	316	P	P	01 58 44.5	-1.1
UCC	Uccle	87.71	327	P	P	01 58 45.3	-0.2
SFI	Santa Sofia	87.71	318	P	P	01 58 46.3	+0.7
A11A	Hall Mountain,	87.72	35	⇑P	P	01 58 46.8	+1.2
	baz=87,SNR=64						
E08A	Dider Farm, El	87.73	38	⇓P	P	01 58 45.8	+0.2
	baz=87						
KTRM	Thompson Ridge	87.73	44	⇑P	P	01 58 47.1	+1.4
NEW	Newport	87.74	36	eP	P	01 58 44.8	-0.8
NEW				ePP	PP	02 02 11.5	+0.9
NEW				LR	LR		
	comp=Z,7µm,19.0s,MS6.1						
VVLD	Villa Vallelon	87.74	316	P	P	01 58 45.1	-0.7
SULZ	Cheisacher	87.77	323	⇓P	P	01 58 44.8	-1.0
I05A	Bend	87.78	41	⇓P	P	01 58 46.6	+0.7
	baz=88,SNR=9.6						
J04A	Umpqua Nationa	87.79	42	⇓P	P	01 58 46.8	+0.8
	baz=88,SNR=39						
CRE	Caprese Michel	87.81	318	P	P	01 58 47.1	+1.0
D09A	Jones Farm, Ri	87.81	38	P	P	01 58 46.2	+0.2
	baz=88,SNR=12						
RFI	Roccamonfina	87.82	315	P	P	01 58 46.2	0.0
FIAM	Fiamignano	87.84	316	P	P	01 58 45.8	-0.4
VMG	Vicchio	87.86	319	P	P	01 58 47.0	+0.7
ECH	Echery	87.87	324	eP	P	01 58 45.4	-0.8
ECH	Echery	87.87	324	P	P	01 58 46.6	+0.4
C10A	Spilker Farm,	87.91	37	⇑P	P	01 58 46.8	+0.4
	baz=88						
JCC	Jacoby Creek	87.91	45	⇓P	P	01 58 46.9	+0.3
	baz=88,SNR=8.1						
GIVF	Givet	87.92	326	eP	P	01 58 45.6	-0.8
	comp=Z,66nm,0.9s,mb5.6						
GIVF	Givet	87.92	326	eP	P	01 58 45.6	-0.8
	comp=Z,33nm,0.9s,mb5.6						
GIVF	Givet	87.92	326	eP	P	01 58 45.6	-0.8
GIVF				pmax	pmax		
	comp=Z,33nm,0.9s,mb5.6						
SNF	Seneffe	87.93	327	P	P	01 58 47.1	+0.7
FNVD	Fontana Vidola	88.00	319	P	P	01 58 47.6	+0.7
H06A	Lindquist Farm	88.01	40	P	P	01 58 47.2	+0.2
	baz=88,SNR=26						
DOU	Dourbes	88.03	326	P	P	01 58 47.1	+0.1
B11A	Sandpoint	88.04	36	P	P	01 58 47.9	+0.9
	baz=88,SNR=33						
YPT	Yellepit	88.04	39	P	P	01 58 48.1	+1.0
EKA	Eskdalemuir Ar	88.05	333	P	P	01 58 46.0	-1.0
	comp=Z,4.9nm,0.8s,mb4.8,baz=70,slow=5.4,SNR=9.7						
ESK	Eskdalemuir	88.08	333	eP	P	01 58 47.4	+0.3
ESK				AMb	AMB	01 58 51.0	
	comp=Z,34nm,2.2s,mb5.2						
ESK	Eskdalemuir	88.08	333	PFAKE		01 59 00.0	+13
ESK				LR	LR		
	comp=Z,40µm,19.0s,MS6.8						
G07A	Ruggs Ranch, H	88.09	40	P	P	01 58 47.8	+0.4
	baz=88,SNR=24						
CERT	Cerreto	88.10	316	P	P	01 58 46.6	-0.9
MOF	Molkenrain	88.10	323	eP	P	01 58 46.4	-1.0
MOF	Molkenrain	88.10	323	P	P	01 58 47.7	+0.3
A12A	Yaak River Ran	88.11	35	P	P	01 58 48.3	+0.9
	baz=88,SNR=18						
SOI	Samo	88.17	312	P	P	01 58 48.3	+0.4
MTCE	Montecelio	88.21	316	P	P	01 58 48.9	+0.9
GSCL	Gusciola	88.21	319	P	P	01 58 48.8	+0.9
E09A	Wood Farm, Sta	88.23	38	⇑P	P	01 58 48.5	+0.5
	baz=88,SNR=21						
BUOR	Burton Butte	88.24	43	P	P	01 58 49.2	+1.1
YBH	Yreka Blue Hor	88.25	44	eP	P	01 58 47.9	-0.3
	comp=Z,91nm,1.3s,mb5.8						
YBH				ePP	PP	02 02 14.3	-0.6
YBH				LR	LR		
	comp=Z,4µm,20.0s,MS5.8						
YBH	Yreka Blue Hor	88.25	44	eP	P	01 58 47.9	-0.3
YBH				e		02 02 14.3	
YBH				pmax	pmax		
	comp=Z,91nm,1.3s						
YBH				MLR	MLR		
	comp=Z,4µm,20.0s						
YBH	Yreka Blue Hor	88.25	44	P	P	01 58 48.9	+0.7
	baz=88,SNR=30						
BAIF	Baives	88.25	326	eP	P	01 58 47.0	-1.0
	comp=Z,42nm,1.1s,mb5.3						
BAIF	Baives	88.25	326	eP	P	01 58 47.0	-1.0
	comp=Z,21nm,1.0s,mb5.3						
BAIF	Baives	88.25	326	eP	P	01 58 47.0	-1.0
BAIF				pmax	pmax		
	comp=Z,21nm,1.0s,mb5.3						
HINF	Hinteralfeld	88.27	324	eP	P	01 58 46.9	-1.3
ERBM	Eremo	88.27	319	P	P	01 58 48.8	+0.6
CSNT	Castellina Chi	88.29	318	P	P	01 58 47.8	-0.5
F08A	Pendleton	88.29	39	P	P	01 58 49.1	+0.8
	baz=88,SNR=27						
J05A	Fort Rock	88.29	42	⇓P	P	01 58 49.3	+1.0
	baz=88,SNR=46						
M02C	Callahan	88.34	44	P	P	01 58 49.5	+0.8
	baz=88,SNR=16						
BDI	Bagni Di Lucca	88.37	319	P	P	01 58 47.9	-0.8
K04A	Chilguin	88.37	43	⇑P	P	01 58 49.2	+0.5
	baz=88,SNR=11						
N02C	Big Bar	88.37	45	P	P	01 58 49.3	+0.5
	baz=88,SNR=26						
VAI	Varese	88.38	321	P	P	01 58 47.4	-1.3
D10A	Wagner Farm, O	88.38	37	P	P	01 58 48.6	-0.1
	baz=88,SNR=17						
O01C	Eel River Cons	88.41	46	⇓P	P	01 58 49.8	+0.8
	baz=88						
B12A	Libby	88.43	35	⇑P	P	01 58 49.5	+0.6
	baz=88						
HAU	Haudompre	88.43	324	eP	P	01 58 47.6	-1.3
HAU				eMLR	MLR		
	comp=Z,42µm,20.2s,MS6.5						
HAU	Haudompre	88.43	324	eP	P	01 58 47.6	-1.3
HAU				MLR	MLR		
	comp=Z,42µm,20.3s,MS6.8						
VLC	Villacollemand	88.44	319	eP	P	01 58 49.8	+0.8
	comp=Z,23nm,0.9s,mb5.4						
VLC				ePP	PP	02 02 14.0	-2.3
MTTG	Motta San Giov	88.45	312	P	P	01 58 49.5	+0.3
LATE	Laterza	88.46	317	P	P	01 58 48.3	-0.9
THEF	They Montfort	88.48	324	eP	P	01 58 48.0	-1.2
THEF	They Montfort	88.48	324	eP	P	01 58 49.4	+0.2
G08A	Pilot Rock	88.48	39	P	P	01 58 49.8	+0.6
	baz=88,SNR=21						
L04A	Klamath Falls	88.51	43	P	P	01 58 49.9	+0.5
	baz=88,SNR=30						
LNOR	Lincton Mounta	88.53	39	P	P	01 58 50.9	+1.5
I06A	Prineville	88.53	41	⇓P	P	01 58 50.2	+0.7
	baz=88,SNR=41						
H07A	Lands Inn, Kim	88.54	40	⇓P	P	01 58 50.0	+0.5
	baz=88						
KMBO	Kilima Mbogo	88.55	268	eP	P	01 58 50.3	+0.2
	comp=Z,32nm,0.9s,mb5.7						
KMBO				ePP	PP	02 02 19.1	+0.6
KMBO				LR	LR		
	comp=Z,6µm,19.0s,MS6.0						
KMBO	Kilima Mbogo	88.55	268	eP	P	01 58 50.3	+0.2
KMBO				e		02 02 19.1	
KMBO				pmax	pmax		
	comp=Z,32nm,0.9s						
KMBO				MLR	MLR		
	comp=Z,6µm,19.0s						
KMBO	Kilima Mbogo	88.55	268	P	P	01 58 51.4	+1.3
	SNR=45						
KMBO	Kilima Mbogo	88.55	268	P	P	01 58 51.4	+1.3
	SNR=45						
KMBO	Kilima Mbogo	88.55	268	P	P	01 58 51.4	+1.3
	SNR=45						
LOMF	Lomont	88.57	323	eP	P	01 58 49.2	-0.4
LOMF	Lomont	88.57	323	eP	P	01 58 49.5	-0.1
LHEM	Herd Peak	88.61	44	⇑P	P	01 58 50.9	+1.0
BOB	Bobbio (Coli)	88.64	320	P	P	01 58 49.9	-0.1
TOLF	Tolfa	88.64	317	P	P	01 58 49.7	-0.4
LKBD	Leukerbad	88.71	322	⇓P	P	01 58 49.6	-0.7
MMK	Mattmark	88.72	322	⇓P	P	01 58 50.3	0.0
A13A	Flathead Natio	88.75	35	⇑P	P	01 58 51.2	+0.9
	baz=88						
LHO	Holmfirth	88.76	332	eP	P	01 58 50.2	-0.1
M04C	Macdoel	88.76	44	⇓P	P	01 58 51.1	+0.4
	baz=88,SNR=57						
MEZF	Maizieres J'vi	88.80	325	eP	P	01 58 49.8	-0.8
	comp=Z,83nm,1.1s,mb5.7						
MEZF	Maizieres J'vi	88.80	325	eP	P	01 58 49.8	-0.8
	comp=Z,83nm,1.1s,mb6.0						
K05A	Summer Lake	88.82	42	⇑P	P	01 58 51.8	+0.9
	baz=88,SNR=42						
E10A	Myers Farm, Un	88.82	38	P	P	01 58 51.1	+0.3
	baz=88,SNR=30						
KBI1	Birley Grange	88.82	331	eP	P	01 58 50.3	-0.3
F09A	S2 Ranch, Elgi	88.84	39	P	P	01 58 51.5	+0.6
	baz=88,SNR=16						
M03C	McCloud	88.87	44	⇓P	P	01 58 51.6	+0.4
	baz=89,SNR=33						
I07A	Izee	88.87	41	⇑P	P	01 58 51.8	+0.7
	baz=89,SNR=36						
D11A	Klaveano Farm,	88.90	37	⇑P	P	01 58 51.2	+0.1
	baz=89,SNR=71						
WALA	Waterton Lakes	88.92	34	eP	P	01 58 51.4	+0.2
WALA				ePP	PP	02 02 21.4	+1.4
J06A	Christmas Vall	88.96	42	P	P	01 58 52.1	+0.6
	baz=89,SNR=41						
ORO	Oropa	88.97	321	P	P	01 58 50.2	-1.3
MAON	Monte Argentar	88.97	317	P	P	01 58 51.4	-0.2
WDC	Whiskeytown Da	88.99	45	eP	P	01 58 50.8	-0.9
	comp=Z,92nm,1.3s,mb6.0						
WDC				ePP	PP	02 02 20.1	-0.7
WDC				LR	LR		
	comp=Z,5µm,20.0s,MS5.9						
WDC	Whiskeytown Da	88.99	45	eP	P	01 58 50.8	-0.9
WDC				e		02 02 20.1	
WDC				pmax	pmax		
	comp=Z,92nm,1.3s,mb6.0						
WDC				MLR	MLR		
	comp=Z,5µm,20.0s,MS5.9						
WDC	Whiskeytown Da	88.99	45	P	P	01 58 51.9	+0.2
	baz=89,SNR=26						
GAL1	Galloway	89.01	334	eP	P	01 58 51.8	+0.3
GAL1				AMb	AMB	01 58 55.3	
	comp=Z,52nm,2.3s,mb5.5						
DIX	Grande Dixence	89.02	322	⇓P	P	01 58 51.4	-0.3
O02C	Red Bluff	89.05	45	P	P	01 58 52.9	+0.8
	baz=89,SNR=27						
F10A	Beach Ranch, E	89.06	38	⇑P	P	01 58 52.3	+0.3
	baz=89,SNR=24						
B13A	Whitefish	89.07	35	⇑P	P	01 58 53.0	+1.1
	baz=89,SNR=58						
CWF	Charnwood Fore	89.08	331	eP	P	01 58 50.7	-1.1
CWF				AMb	AMB	01 58 51.5	
	comp=Z,70nm,1.8s,mb5.7						
P01C	Double 8 Ranch	89.08	46	⇓P	P	01 58 52.5	+0.3
	baz=89						
H08A	Prairie City	89.10	40	⇓P	P	01 58 52.9	+0.7
	baz=89,SNR=31						
KWE	Weaver Farm	89.12	331	eP	P	01 58 51.1	-1.0
K06A	Valley Falls	89.16	42	⇑P	P	01 58 53.2	+0.7
	baz=89,SNR=49						
L05A	Lakeview	89.24	43	P	P	01 58 53.6	+0.8
	baz=89,SNR=20						
EMV	Vieux Emosson	89.31	322	⇓P	P	01 58 52.4	-0.7
LTIM	Timbered Crate	89.32	44	P	P	01 58 54.1	+0.8
GASB	Alder Springs	89.38	46	⇓P	P	01 58 54.5	+0.9
	baz=89,SNR=22						
E11A	Bogner Ranch,	89.39	37	⇑P	P	01 58 53.8	+0.3
	baz=89,SNR=52						
J07A	Hines	89.40	41	P	P	01 58 54.6	+1.1
	baz=89,SNR=33						
CABF	La Chapelle	89.42	323	eP	P	01 58 52.0	-1.6
D12A	Red Ives Fores	89.43	37	⇓P	P	01 58 54.1	+0.5
	baz=89						
M05C	Lookout	89.43	44	⇓P	P	01 58 54.2	+0.4
	baz=89,SNR=14						
C13A	Hot Springs	89.45	36	⇑P	P	01 58 54.6	+0.8
	baz=89,SNR=70						
HOPS	Hopland	89.51	46	eP	P	01 58 54.4	+0.2
	comp=Z,414nm,2.0s,mb6.4						
HOPS				ePP	PP	02 02 25.9	+0.8
HOPS				LR	LR		
	comp=Z,6µm,19.0s,MS6.0						
HOPS	Hopland	89.51	46	⇓P	P	01 58 54.1	-0.1
	baz=89						
I08A	Drewsey	89.52	40	⇓P	P	01 58 55.1	+0.9
	baz=89						
G10A	Bishop Farm, J	89.53	39	⇓P	P	01 58 54.7	+0.6
	baz=89,SNR=61						
QLNO	Quiliano	89.53	320	P	P	01 58 53.0	-1.2
HATC	Hat Creek Radi	89.54	44	⇓P	P	01 58 55.1	+0.8
	baz=89,SNR=16						
SKP1	Kophill	89.55	330	eP	P	01 58 53.2	-0.9
H09A	Durkee	89.60	39	P	P	01 58 55.6	+1.2
	baz=89,SNR=10						
LBCM	Butte Creek Ri	89.60	44	P	P	01 58 54.7	+0.2
O03C	Acorn Hollow,	89.64	45	⇑P	P	01 58 54.3	-0.4
	baz=89						
MOD	Modoc	89.64	43	eP	P	01 58 54.6	-0.1
	comp=Z,95nm,1.2s,mb6.0						
MOD				ePP	PP	02 02 23.4	-2.6
MOD				LR	LR		
	comp=Z,5µm,20.0s,MS6.0						
MOD	Modoc	89.64	43	P	P	01 58 55.0	+0.2
	baz=89,SNR=25						
RSP	Reno Superiore	89.66	321	P	P	01 58 53.0	-1.8
FIN	Finale Ligure	89.68	320	P	P	01 58 53.5	-1.4
BMO	Blue Mountains	89.69	39	eP	P	01 58 54.3	-0.6
	comp=Z,64nm,1.2s,mb5.8						
BMO				ePP	PP	02 02 26.1	-0.1
BMO				LR	LR		
	comp=Z,5µm,22.0s,MS5.9						
BMO	Blue Mountains	89.69	39	eP	P	01 58 54.3	-0.6
BMO				pmax	pmax		
	comp=Z,64nm,1.2s,mb5.8						
BMO				MLR	MLR		
	comp=Z,5µm,22.0s,MS5.9						
F11A	Grangeville	89.71	38	⇓P	P	01 58 54.8	-0.2
	baz=89						
LPL	La Plagne	89.73	322	eP	P	01 58 54.7	-0.4
	comp=Z,132nm,1.0s,mb5.9						
LPL	La Plagne	89.73	322	eP	P	01 58 54.7	-0.4
	comp=Z,66nm,1.0s,mb5.9						
LPL	La Plagne	89.73	322	eP	P	01 58 54.7	-0.4
LPL				pmax	pmax		
	comp=Z,66nm,1.0s,mb5.9						
LPG	La Plagne	89.74	322	eP	P	01 58 54.7	-0.4
	comp=Z,185nm,0.9s,mb6.1						
LPG	La Plagne	89.74	322	eP	P	01 58 54.7	-0.4
	comp=Z,92nm,0.9s,mb6.1						
LPG	La Plagne	89.74	322	eP	P	01 58 54.7	-0.4
LPG				pmax	pmax		
	comp=Z,92nm,0.9s,mb6.1						
SBD1	Bryn Du	89.81	332	eP	P	01 58 54.4	-0.9
FCC	Fort Churchill	89.83	19	eP	P	01 58 53.8	-1.4
FCC				ePP	PP	02 02 26.0	-0.8
C14A	Swan Lake	89.83	35	⇑P	P	01 58 56.3	+0.8
	baz=90						
K07A	Rock Creek Ran	89.83	42	⇑P	P	01 58 56.5	+0.9
	baz=90,SNR=42						
SSW	Stow on the Wo	89.85	330	eP	P	01 58 55.5	0.0
D13A	Huson	89.88	36	P	P	01 58 55.6	-0.1
	baz=90,SNR=12						
J08A	Circle Bar Ran	89.90	41	P	P	01 58 56.3	+0.4
	baz=90,SNR=40						
HLM1	Long Mynd	89.92	331	eP	P	01 58 55.2	-0.6
M06C	Likely Place G	89.94	43	⇑P	P	01 58 56.9	+0.8
	baz=90						
G11A	Walters Elk Ra	89.94	38	P	P	01 58 55.5	-0.6
	baz=90,SNR=49						
I09A	Lost Marbles R	89.97	40	⇑P	P	01 58 56.6	+0.4
	baz=90,SNR=28						
MNRC	McLaughlin Nat	89.99	46	P	P	01 58 57.2	+0.8
	baz=90,SNR=8.9						
BNI	Bardonecchia	90.05	321	P	P	01 58 56.1	-0.5
O04C	Chester	90.06	44	P	P	01 58 57.3	+0.6
	baz=90,SNR=18						
DOI	San Damiano	90.06	321	P	P	01 58 53.8	-2.8
DOI				P	pP	01 58 57.6	-2.9
ELFS	Eagle Lake Fie	90.11	44	⇑P	P	01 58 57.3	+0.3
	baz=90						
HAE	Alders End	90.11	331	eP	P	01 58 56.8	+0.1
H10A	Noah's Angus R	90.17	39	⇓P	P	01 58 57.1	-0.1
	baz=90,SNR=63						
L07A	Adell	90.17	42	⇓P	P	01 58 58.5	+1.3
	baz=90,SNR=42						
SAOF	Saorge	90.19	320	eP	P	01 58 56.4	-0.9
MBDF	Montbardon	90.19	321	eP	P	01 58 56.2	-1.1
	comp=Z,65nm,0.8s,mb5.7						
MBDF	Montbardon	90.19	321	eP	P	01 58 56.2	-1.1
	comp=Z,32nm,0.8s,mb5.7						
MBDF	Montbardon	90.19	321	eP	P	01 58 56.2	-1.1
MBDF				pmax	pmax		
	comp=Z,32nm,0.8s,mb5.7						
PGF	Pioggiola	90.19	318	eP	P	01 58 56.7	-0.6
	comp=Z,188nm,1.2s,mb6.0						
PGF	Pioggiola	90.19	318	eP	P	01 58 56.7	-0.6
	comp=Z,94nm,1.2s,mb6.0						
PGF	Pioggiola	90.19	318	eP	P	01 58 56.7	-0.6
PGF				pmax	pmax		
	comp=Z,94nm,1.2s,mb6.0						
LOR	Lormes	90.20	324	eP	P	01 58 55.6	-1.6
	comp=Z,23nm,1.0s,mb5.2						
LOR				eMLR	MLR		
	comp=Z,50µm,22.5s,MS6.6						
LOR	Lormes	90.20	324	eP	P	01 58 55.6	-1.6
	comp=Z,12nm,1.0s,mb5.2						
LOR				LR	LR		
	comp=Z,50µm,22.5s,MS6.9						
LOR	Lormes	90.20	324	eP	P	01 58 55.6	-1.6
LOR				pmax	pmax		
	comp=Z,12nm,1.0s,mb5.2						
LOR				MLR	MLR		
	comp=Z,50µm,22.5s,MS6.9						
SUTB	Sutter Butte	90.22	46	⇑P	P	01 58 57.0	-0.5
	baz=90						
ORV	Oroville	90.22	45	P	P	01 58 57.0	-0.5
	baz=90,SNR=23						
AUTN	L'Aution	90.26	320	eP	P	01 58 57.4	-0.2
K08A	Mann Creek Ran	90.26	41	⇓P	P	01 58 58.3	+0.7
	baz=90,SNR=19						
FARB	Farallon Islan	90.27	47	⇓P	P	01 58 57.2	-0.6
	baz=90						
GDM	Grand'Maison	90.27	322	eP	P	01 58 57.4	-0.2
CVS	Carmenet Viney	90.27	47	⇓P	P	01 58 57.5	-0.2
	baz=90						
F12A	Elk City	90.28	37	⇓P	P	01 58 58.1	+0.4
	baz=90,SNR=118						
SURF	Saint Ours	90.32	321	eP	P	01 58 57.2	-0.6
MSO	Missoula	90.32	36	eP	P	01 58 56.9	-0.9
	comp=Z,66nm,1.1s,mb5.9						
MSO				ePP	PP	02 02 31.5	+0.3
MSO				LR	LR		
	comp=Z,6µm,22.0s,MS6.0						
FFC	Flin Flon	90.33	25	eP	P	01 58 56.5	-1.1
	comp=Z,777nm,1.4s,mb6.8						
FFC				ePP	PP	02 02 31.0	+0.1
FFC				LR	LR		
	comp=Z,10µm,22.0s,MS6.2						
FFC	Flin Flon	90.33	25	eP	P	01 58 56.5	-1.2
FFC				e		02 02 31.0	
FFC				pmax	pmax		
	comp=Z,777nm,1.4s,mb6.8						
FFC				MLR	MLR		
	comp=Z,10µm,22.0s,MS6.2						
J09A	Fry Pan Ranch,	90.33	40	⇓P	P	01 58 58.7	+0.8
	baz=90,SNR=70						
SBF	Sospel	90.33	320	eP	P	01 58 56.6	-1.3
	comp=Z,278nm,0.8s,mb6.3						
SBF	Sospel	90.33	320	eP	P	01 58 56.6	-1.3
	comp=Z,139nm,0.8s,mb6.3						
SBF	Sospel	90.33	320	eP	P	01 58 56.6	-1.3
SBF				pmax	pmax		
	comp=Z,139nm,0.8s,mb6.3						
MCH1	Michaelchurch	90.34	331	eP	P	01 58 55.6	-2.1
MCH1				AMb	AMB	01 59 02.1	
	comp=Z,94nm,1.2s,mb6.0						
WVOR	Wild Horse Val	90.35	42	eP	P	01 58 58.4	+0.3
	comp=Z,283nm,1.8s,mb6.3						
WVOR				ePP	PP	02 02 31.1	-0.5
WVOR				LR	LR		
	comp=Z,4µm,20.0s,MS5.9						
WVOR	Wild Horse Val	90.35	42	eP	P	01 58 58.4	+0.4
WVOR				e		02 02 31.1	
WVOR				pmax	pmax		
	comp=Z,283nm,1.8s,mb6.3						
WVOR				MLR	MLR		
	comp=Z,4µm,20.0s,MS5.9						
TOUF	Mont Tournerai	90.35	320	eP	P	01 58 57.5	-0.5
O05C	Quincy	90.36	45	⇑P	P	01 58 58.3	+0.2
	baz=90						
LUCF	Luceram	90.37	320	eP	P	01 58 57.4	-0.7
D14A	Greenough	90.39	36	⇑P	P	01 58 58.2	+0.1
	baz=90,SNR=77						
HTR	Trewern Hill	90.40	331	eP	P	01 58 57.2	-0.8
Q03C	Winters	90.40	46	⇓P	P	01 58 59.0	+0.7
	baz=90						
E13A	Victor	90.43	36	P	P	01 58 58.0	-0.3
	baz=90,SNR=15						
I10A	Payette	90.44	39	P	P	01 58 59.2	+0.8
	baz=90,SNR=15						
REVF	Revere	90.45	320	eP	P	01 58 57.3	-1.2
REVF	Revere	90.45	320	eP	P	01 58 55.8	-2.7
GRN	Grenoble	90.45	322	eP	P	01 58 57.7	-0.8
MVIF	Mont Vial	90.48	320	eP	P	01 58 58.0	-0.6
MVIF	Mont Vial	90.48	320	eP	P	01 58 57.7	-0.9
HGH	Gray Hill	90.51	331	eP	P	01 58 58.4	-0.1
H11A	Donnelly	90.51	39	P	P	01 58 58.6	-0.1
	baz=90,SNR=25						
SSF	Saint Saulge	90.52	324	eP	P	01 58 57.5	-1.2
	comp=Z,9.7nm,1.0s,mb4.8						
SSF	Saint Saulge	90.52	324	eP	P	01 58 57.5	-1.2
	comp=Z,4.8nm,1.0s,mb4.8						
SSF	Saint Saulge	90.52	324	eP	P	01 58 57.5	-1.2
SSF				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.8						
ORIF	Oris-en-Rattie	90.58	322	eP	P	01 58 58.2	-0.8
	comp=Z,142nm,1.0s,mb6.0						
ORIF				eMLR	MLR		
	comp=Z,37µm,22.0s,MS6.5						
ORIF	Oris-en-Rattie	90.58	322	eP	P	01 58 58.2	-0.8
	comp=Z,71nm,1.0s,mb6.0						
ORIF	Oris-en-Rattie	90.58	322	eP	P	01 58 58.2	-0.8
ORIF				pmax	pmax		
	comp=Z,71nm,1.0s,mb6.0						
DMUB	Kingscourt	90.59	334	eP	PP	02 02 35.1	+2.0
N06A	Buffalo Meadow	90.59	43	P	P	01 58 59.6	+0.4
	baz=90,SNR=26						
SMF	Signal de Mont	90.61	324	eP	P	01 58 57.9	-1.2
	comp=Z,45nm,0.9s,mb5.5						
SMF	Signal de Mont	90.61	324	eP	P	01 58 57.9	-1.2
	comp=Z,23nm,0.9s,mb5.5						
SMF	Signal de Mont	90.61	324	eP	P	01 58 57.9	-1.2
SMF				pmax	pmax		
	comp=Z,23nm,0.9s,mb5.5						
CHMT	Chamberlain Mo	90.63	36	eP	P	01 58 59.2	0.0
CHMT				ePP	PP	02 02 35.2	+1.6
M07A	Soldier Meadow	90.63	43	P	P	01 59 00.2	+0.8
	baz=90,SNR=26						
L08A	Fields	90.67	42	P	P	01 59 00.4	+0.9
	baz=90,SNR=38						
Q04C	Lincoln	90.70	46	⇑P	P	01 59 00.0	+0.3
	baz=90						
CALN	Calern	90.72	320	eP	P	01 58 59.1	-0.6
CALN	Calern	90.72	320	eP	P	01 58 57.1	-2.

I11A	Placerville	91.03	39	P	P	01 59 01.7	+0.5
	baz=91,SNR=78						
M08A	Happy Creek Ra	91.08	42	P	P	01 59 02.5	+1.0
	baz=91,SNR=37						
N07B	Gerlach	91.11	43	P	P	01 59 02.4	+0.8
	baz=91,SNR=24						
OG26	St.-Nazaire-De	91.11	322	eP	P	01 59 01.4	-0.1
STOF	St-Etienne Org	91.13	321	eP	P	01 59 01.5	-0.1
BNLO	Ben Lomond (Sa	91.13	48	⇓P	P	01 59 01.6	-0.2
	baz=91						
WENL	Wente Brothers	91.13	47	⇓P	P	01 59 01.2	-0.6
	baz=91						
DCN	Croghan	91.16	334	eP	P	01 59 01.2	-0.3
PLDF	La Plantade	91.16	323	eP	P	01 59 02.2	+0.5
LAVA	Lava Cap Winer	91.16	46	⇓P	P	01 59 01.5	-0.3
	baz=91,SNR=10						
P06A	Stead Airport,	91.17	44	⇓P	P	01 59 02.2	+0.3
	baz=91						
L09A	Wilkinson Ranc	91.17	42	⇑P	P	01 59 03.0	+1.1
	baz=91						
K10A	MacKenzie Ranc	91.19	41	P	P	01 59 02.9	+0.9
	baz=91,SNR=60						
LMR	La Mourre	91.19	320	eP	P	01 59 00.6	-1.3
	comp=Z,253nm,1.1s,mb6.2						
LMR	La Mourre	91.19	320	eP	P	01 59 00.6	-1.3
	comp=Z,126nm,1.1s,mb6.2						
LMR	La Mourre	91.19	320	eP	P	01 59 00.6	-1.3
LMR				pmax	pmax		
	comp=Z,126nm,1.1s,mb6.2						
H12A	Diamond D Ranc	91.26	38	⇑P	P	01 59 02.7	+0.5
	baz=91,SNR=117						
G13A	Cobalt	91.26	38	⇑P	P	01 59 02.0	-0.2
	baz=91,SNR=29						
E15A	Deer Lodge	91.27	36	⇑P	P	01 59 02.8	+0.6
	baz=91,SNR=53						
F14A	Wisdom	91.27	37	P	P	01 59 02.9	+0.7
	baz=91,SNR=13						
TAVF	Tavernes	91.28	321	eP	P	01 59 01.7	-0.6
VIVF	Saint-Julien-l	91.29	322	eP	P	01 59 01.4	-0.9
	comp=Z,124nm,1.2s,mb5.8						
VIVF	Saint-Julien-l	91.29	322	eP	P	01 59 01.4	-0.9
	comp=Z,62nm,1.3s,mb5.8						
VIVF	Saint-Julien-l	91.29	322	eP	P	01 59 01.4	-0.9
VIVF				pmax	pmax		
	comp=Z,62nm,1.3s,mb5.8						
R04C	Big Horse Ranc	91.31	46	⇑P	P	01 59 02.4	-0.2
	baz=91						
VILF	Villemus	91.33	321	eP	P	01 59 01.9	-0.7
SMRF	Simiane la Rot	91.33	321	eP	P	01 59 01.8	-0.8
	comp=Z,157nm,1.1s,mb5.9						
SMRF	Simiane la Rot	91.33	321	eP	P	01 59 01.8	-0.8
	comp=Z,157nm,1.1s,mb6.3						
LDF	La Druitiere	91.35	327	eP	P	01 59 00.7	-1.9
	comp=Z,86nm,1.4s,mb5.6						
LDF	La Druitiere	91.35	327	eP	P	01 59 00.7	-1.9
	comp=Z,43nm,1.4s,mb5.6						
LDF	La Druitiere	91.35	327	eP	P	01 59 00.7	-1.9
LDF				pmax	pmax		
	comp=Z,43nm,1.4s,mb5.6						
AGO	Saint Agoulin	91.37	324	eP	P	01 59 03.2	+0.5
AGO	Saint Agoulin	91.37	324	eP	P	01 59 03.9	+1.2
COLF	Collangettes	91.41	323	eP	P	01 59 01.9	-1.0
MFID	Camas Ranch	91.41	40	⇓P	P	01 59 03.8	+0.9
	baz=91,SNR=47						
FLN	La Foliniere	91.42	327	eP	P	01 59 01.1	-1.7
	comp=Z,63nm,1.4s,mb5.5						
FLN				eMLR	MLR		
	comp=Z,38µm,17.5s,MS6.6						
FLN	La Foliniere	91.42	327	eP	P	01 59 01.1	-1.7
	comp=Z,32nm,1.4s,mb5.5						
FLN				LR	LR		
	comp=Z,38µm,17.5s,MS6.9						
FLN	La Foliniere	91.42	327	eP	P	01 59 01.1	-1.7
FLN				pmax	pmax		
	comp=Z,32nm,1.4s,mb5.5						
FLN				MLR	MLR		
	comp=Z,38µm,17.5s,MS6.9						
WCN	Washoe City	91.48	45	⇑P	P	01 59 03.7	+0.4
	baz=91						
S04C	Ingram Canyon,	91.48	47	⇑P	P	01 59 03.0	-0.4
	baz=91						
PUYF	Puyloubier	91.53	321	eP	P	01 59 03.1	-0.4
H13A	Challis	91.58	38	⇑P	P	01 59 04.0	+0.3
	baz=91,SNR=65						
G14A	Jackson	91.59	37	⇓P	P	01 59 03.6	-0.1
	baz=91,SNR=9.3						
R05C	Kirkwood Meado	91.62	45	P	P	01 59 04.4	+0.4
	baz=91,SNR=14						
N08A	GE Springer Mi	91.62	43	⇑P	P	01 59 04.6	+0.6
	baz=91						
TREF	Trevaresse	91.66	321	eP	P	01 59 04.3	+0.2
M09A	Marrel Ranch,	91.66	42	⇑P	P	01 59 05.3	+1.1
	baz=91,SNR=16						
PRAF	Pradon	91.67	321	eP	P	01 59 03.8	-0.3
BERF	Bertagne	91.67	321	eP	P	01 59 04.1	-0.1
BERF	Bertagne	91.67	321	eP	P	01 59 03.7	-0.5
K11A	Parker Ranch,	91.68	40	⇓P	P	01 59 05.1	+0.9
	baz=91,SNR=72						
EGMT	Eagleton	91.69	33	eP	P	01 59 04.3	+0.2
	comp=Z,52nm,0.9s,mb5.9						
EGMT				LR	LR		
	comp=Z,7µm,19.0s,MS6.1						
EGMT	Eagleton	91.69	33	⇓P	P	01 59 04.2	+0.1
	baz=91						
TCF	Toulx Ste Croi	91.70	324	eP	P	01 59 03.0	-1.2
	comp=Z,12nm,0.8s,mb5.0						
TCF	Toulx Ste Croi	91.70	324	eP	P	01 59 03.0	-1.2
	comp=Z,6.2nm,0.8s,mb5.0						
TCF	Toulx Ste Croi	91.70	324	eP	P	01 59 03.0	-1.2
TCF				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb5.0						
F15A	Butte	91.72	36	⇓P	P	01 59 04.9	+0.5
	baz=91,SNR=77						
GELF	Grande-Etoile	91.78	321	eP	P	01 59 04.3	-0.4
GELF	Grande-Etoile	91.78	321	eP	P	01 59 04.8	+0.1
PACP	Pacheco Peak	91.79	47	⇑P	P	01 59 05.2	+0.4
	baz=92						
CMB	Columbia Colle	91.80	46	eP	P	01 59 04.6	-0.3
	comp=Z,89nm,1.5s,mb5.9						
CMB				ePP	PP	02 02 43.1	0.0
CMB				LR	LR		
	comp=Z,4µm,20.0s,MS5.8						
CMB	Columbia Colle	91.80	46	P	P	01 59 04.8	-0.1
	baz=92,SNR=32						
SAO	San Andreas Ge	91.82	47	eP	P	01 59 05.1	+0.1
	comp=Z,65nm,1.5s,mb5.7						
SAO				ePP	PP	02 02 40.5	-2.9
SAO				LR	LR		
	comp=Z,4µm,20.0s,MS5.8						
SAO	San Andreas Ge	91.82	47	eP	P	01 59 05.1	+0.1
SAO				e		02 02 40.5	
SAO				pmax	pmax		
	comp=Z,65nm,1.5s,mb5.7						
SAO				MLR	MLR		
	comp=Z,4µm,20.0s,MS5.8						
LBL	Lubilhac	91.83	323	eP	P	01 59 04.6	-0.2
LBL	Lubilhac	91.83	323	eP	P	01 59 05.4	+0.6
L10A	Juniper Basin	91.85	41	⇓P	P	01 59 06.1	+1.1
	baz=92,SNR=79						
GRR	Gorron	91.85	327	eP	P	01 59 03.3	-1.6
	comp=Z,105nm,1.5s,mb5.6						
GRR	Gorron	91.85	327	eP	P	01 59 03.3	-1.6
	comp=Z,53nm,1.5s,mb5.6						
GRR	Gorron	91.85	327	eP	P	01 59 03.3	-1.6
GRR				pmax	pmax		
	comp=Z,53nm,1.5s,mb5.7						
DYA	Yadsworthy	91.86	330	eP	P	01 59 04.9	+0.1
DYA				AMb	AMB	01 59 10.7	
	comp=Z,64nm,1.8s,mb5.7						
P07A	Fallon	91.89	44	⇑P	P	01 59 05.7	+0.5
	baz=92						
O08A	Rochester Mine	91.90	43	⇑P	P	01 59 06.0	+0.8
	baz=92						
J12A	Stokes Ranch,	91.93	39	⇑P	P	01 59 06.0	+0.6
	baz=92,SNR=78						
N09A	Rock Creek Ran	91.95	42	P	P	01 59 06.5	+1.0
	baz=92,SNR=15						
HAST	Hastings Reser	91.96	48	P	P	01 59 05.8	+0.2
	baz=92,SNR=14						
DLMT	Dillon	91.98	37	eP	P	01 59 05.3	-0.2
	comp=Z,164nm,1.0s,mb6.3						
DLMT				PP	PP	02 02 45.0	+0.7
I13A	Wildhorse Cree	92.07	38	⇓P	P	01 59 07.2	+1.3
	baz=92,SNR=153						
R06C	Coleville	92.12	45	P	P	01 59 07.0	+0.6
	baz=92,SNR=21						
HLID	Hailey	92.12	39	eP	P	01 59 06.2	-0.1
HLID				ePP	PP	02 02 46.6	+1.1
HLID				LR	LR		
	comp=Z,7µm,21.0s,MS6.1						
HLID	Hailey	92.12	39	⇑P	P	01 59 07.5	+1.3
	baz=92,SNR=187						
M10A	I.L. Ranch, Tu	92.14	41	P	P	01 59 07.6	+1.2
	baz=92,SNR=50						
G15A	Dillon	92.16	37	⇑P	P	01 59 06.8	+0.4
	baz=92,SNR=166						
MCMT	McKenzie Canyo	92.19	37	eP	P	01 59 06.5	0.0
MCMT				ePP	PP	02 02 44.4	-1.6
L11A	Cat Creek Ranc	92.22	41	⇓P	P	01 59 08.0	+1.3
	baz=92,SNR=146						
S05C	Merced	92.23	47	⇑P	P	01 59 06.6	-0.2
	baz=92,SNR=9.5						
LASF	Ste Croix	92.23	322	eP	P	01 59 05.9	-0.8
T05C	Eagle Field, D	92.25	47	⇑P	P	01 59 07.4	+0.4
	baz=92						
Q07A	Schurz	92.29	45	⇑P	P	01 59 07.5	+0.4
	baz=92						
P08A	Dixie Valley	92.30	44	⇑P	P	01 59 08.0	+0.9
	baz=92						
BOZ	Bozeman (W)	92.31	36	eP	P	01 59 07.0	-0.1
	comp=Z,55nm,1.2s,mb5.8						
BOZ				ePP	PP	02 02 47.4	+0.4
BOZ				LR	LR		
	comp=Z,6µm,20.0s,MS6.0						
BOZ	Bozeman (W)	92.31	36	eP	P	01 59 07.0	-0.1
BOZ				e		02 02 47.4	
BOZ				pmax	pmax		
	comp=Z,55nm,1.2s,mb5.8						
BOZ				MLR	MLR		
	comp=Z,6µm,20.0s,MS6.0						
BOZ	Bozeman (W)	92.31	36	⇓P	P	01 59 07.6	+0.5
	baz=92,SNR=52						
CASY	Casey	92.32	186	P	P	01 59 07.9	+1.6
	comp=Z,943nm,2.3s,mb6.7						
CASY				LR	LR		
	comp=Z,4µm,20.0s,MS5.9						
J13A	Cove Ranch, Pi	92.36	39	⇑P	P	01 59 08.6	+1.3
	baz=92,SNR=90						
V03C	Hunter Liggett	92.37	48	⇓P	P	01 59 08.2	+0.6
	baz=92						
K12A	Draper Farm, C	92.42	40	P	P	01 59 08.2	+0.6
	baz=92,SNR=68						
U04C	Hernandez Rese	92.48	48	P	P	01 59 08.8	+0.7
	baz=92,SNR=10						
O09A	Fish Creek Ran	92.57	43	P	P	01 59 09.4	+1.0
	baz=92,SNR=22						
R07C	Lee Vining	92.63	45	⇓P	P	01 59 09.2	+0.5
	baz=92						
M11A	Holland Ranch,	92.65	41	⇑P	P	01 59 10.3	+1.6
	baz=92,SNR=47						
N10A	Dunphy	92.65	42	⇓P	P	01 59 09.9	+1.1
	baz=92						
L12A	House Creek Ra	92.66	40	⇓P	P	01 59 09.9	+1.1
	baz=92,SNR=89						
CAF	Calviac	92.67	323	eP	P	01 59 08.5	-0.2
	comp=Z,139nm,1.6s,mb5.8						
CAF	Calviac	92.67	323	eP	P	01 59 08.5	-0.2
	comp=Z,69nm,1.6s,mb5.8						
CAF	Calviac	92.67	323	eP	P	01 59 08.5	-0.2
CAF				pmax	pmax		
	comp=Z,69nm,1.6s,mb5.8						
MFF	Saint Martin d	92.71	326	eP	P	01 59 07.3	-1.6
	comp=Z,36nm,1.1s,mb5.4						
MFF	Saint Martin d	92.71	326	eP	P	01 59 07.3	-1.6
	comp=Z,18nm,1.1s,mb5.4						
MFF	Saint Martin d	92.71	326	eP	P	01 59 07.3	-1.6
MFF				pmax	pmax		
	comp=Z,18nm,1.1s,mb5.4						
RJF	Les Rejaudoux	92.71	324	eP	P	01 59 08.8	-0.1
	comp=Z,179nm,1.7s,mb5.9						
RJF				eMLR	MLR		
	comp=Z,37µm,22.5s,MS6.5						
RJF	Les Rejaudoux	92.71	324	eP	P	01 59 08.8	-0.1
	comp=Z,90nm,1.7s,mb5.9						
RJF				LR	LR		
	comp=Z,37µm,22.5s,MS6.8						
RJF	Les Rejaudoux	92.71	324	eP	P	01 59 08.8	-0.1
RJF				pmax	pmax		
	comp=Z,90nm,1.7s,mb5.9						
RJF				MLR	MLR		
	comp=Z,37µm,22.5s,MS6.8						
DRV	Dumont d'Urvil	92.73	174	P	P	01 59 06.0	-2.2
DRV	Dumont d'Urvil	92.73	174	PP	PP	02 02 58.0	+7.4
DRV				S	S	02 09 52.0	-21
DRV				SP	SP	02 11 24.0	-0.1
DRV				SS	SS	02 16 25.0	-1.1
DRV				L		02 25 00.0	
DRV				R		02 30 00.0	
DRV				R		03 08 00.0	
SGMF	Saint Gilles	92.77	328	eP	P	01 59 07.6	-1.5
	comp=Z,135nm,1.6s,mb5.8						
SGMF	Saint Gilles	92.77	328	eP	P	01 59 07.6	-1.5
	comp=Z,67nm,1.6s,mb5.8						
SGMF	Saint Gilles	92.77	328	eP	P	01 59 07.6	-1.5
SGMF				pmax	pmax		
	comp=Z,67nm,1.6s,mb5.8						
T06C	Millerton Lake	92.83	46	P	P	01 59 09.3	-0.3
	baz=92,SNR=27						
V04C	Ramage Ranch,	92.84	48	⇑P	P	01 59 10.6	+0.9
	baz=93						
PKD	Parkfield	92.88	48	P	P	01 59 10.1	+0.2
	baz=93,SNR=15						
K13A	Stover Farm, H	92.88	39	P	P	01 59 11.1	+1.3
	baz=93,SNR=63						
Q08A	Gabbs	92.89	44	⇓P	P	01 59 10.1	+0.2
	baz=93,SNR=21						
KCC	Kaiser Creek	92.90	46	P	P	01 59 10.0	0.0
	baz=93,SNR=22						
NVAR	Mina Array Bea	92.91	45	P	P	01 59 09.8	-0.2
NVAR				PP	PP	02 02 49.3	-2.6
NVAR	Mina Array Bea	92.91	45	P	P	01 59 09.8	-0.2
	comp=Z,6.4nm,0.7s,mb5.1,baz=293,slow=2.6,SNR=41						
NVAR				PP	PP	02 02 49.3	-2.6
	comp=Z,3.9nm,1.0s,baz=289,slow=8.5,SNR=4.6						
O10A	Cortez Mining,	92.91	42	P	P	01 59 11.2	+1.2
	baz=93,SNR=15						
U05C	Westside ANR,	92.94	47	⇓P	P	01 59 10.9	+0.7
	baz=93						
QLMT	Earthquake Lak	92.95	36	eP	P	01 59 10.7	+0.7
QLMT				ePP	PP	02 02 52.2	+0.2
P09A	Austin	92.97	43	⇑P	P	01 59 10.7	+0.5
	baz=93						
MLAC	Mammoth Lakes	93.03	46	⇓P	P	01 59 11.2	+0.6
	baz=93						
ROSF	Rostrenen	93.05	328	eP	P	01 59 08.7	-1.7
	comp=Z,67nm,1.2s,mb5.7						
ROSF	Rostrenen	93.05	328	eP	P	01 59 08.7	-1.7
	comp=Z,33nm,1.2s,mb5.6						
ROSF	Rostrenen	93.05	328	eP	P	01 59 08.7	-1.7
ROSF				pmax	pmax		
	comp=Z,33nm,1.2s,mb5.6						
N11A	Elko Archery C	93.06	42	P	P	01 59 11.9	+1.3
	baz=93,SNR=9.4						
R08A	Mina	93.08	45	⇓P	P	01 59 11.4	+0.6
	baz=93						
M12A	Wells	93.17	41	⇑P	P	01 59 12.5	+1.3
	baz=93,SNR=70						
GCMT	Greycliff	93.24	35	eP	P	01 59 11.5	+0.2
GCMT				ePP	PP	02 02 59.0	+4.8
QUIF	Quistinic	93.29	328	eP	P	01 59 09.9	-1.6
	comp=Z,51nm,1.3s,mb5.5						
QUIF	Quistinic	93.29	328	eP	P	01 59 09.9	-1.6
	comp=Z,26nm,1.3s,mb5.5						
QUIF	Quistinic	93.29	328	eP	P	01 59 09.9	-1.6
QUIF				pmax	pmax		
	comp=Z,26nm,1.3s,mb5.5						
YMR	Madison River	93.31	36	eP	P	01 59 12.3	+0.6
	comp=Z,104nm,1.1s,mb6.2						
YMR				ePP	PP	02 03 00.7	+5.9
YMR				LR	LR		
	comp=Z,8µm,19.0s,MS6.2						
L13A	Double Diamond	93.32	40	P	P	01 59 13.2	+1.4
	baz=93,SNR=33						
P10A	Eureka	93.34	43	⇓P	P	01 59 12.3	+0.3
	baz=93,SNR=23						
V05C	Boulder Hill,	93.35	48	⇓P	P	01 59 12.7	+0.6
	baz=93						
LFF	La Frestale	93.37	324	eP	P	01 59 10.7	-1.2
	comp=Z,116nm,1.6s,mb5.8						
LFF	La Frestale	93.37	324	eP	P	01 59 10.7	-1.2
	comp=Z,58nm,1.6s,mb5.8						
LFF	La Frestale	93.37	324	eP	P	01 59 10.7	-1.2
LFF				pmax	pmax		
	comp=Z,58nm,1.6s,mb5.8						
Q09A	Carvers	93.37	44	⇓P	P	01 59 12.6	+0.5
	baz=93						
PPT	Papeete	93.37	108	eS	S	02 10 11.8	-8.6
	comp=Z,6µm,24.8s						
PPT	Papeete	93.37	108	ePS	PS	02 11 31.5	-3.2
	comp=Z,3µm,28.0s						
PPT	Papeete	93.37	108	eLQ		02 25 14.8	
	comp=Z,18µm,30.5s						
PPT				eLR	LR	02 29 13.2	
	comp=Z,9µm,23.2s,baz=297						
YNR	Norris Junctio	93.43	36	eP	P	01 59 13.9	+1.6
YNR				ePP	PP	02 03 01.6	+5.9
N12A	Clover Valley,	93.45	41	P	P	01 59 13.1	+0.7
	baz=93,SNR=58						
HELL	Mitchell Peak	93.46	46	⇓P	P	01 59 12.3	-0.3
	baz=93,SNR=25						
K14A	Jones Ranch, D	93.47	39	⇑P	P	01 59 13.8	+1.3
	baz=93,SNR=47						
YFT	Old Faithful	93.52	36	eP	P	01 59 14.2	+1.5
O11A	Cowboy Ranch,	93.52	42	P	P	01 59 13.6	+0.8
	baz=93,SNR=22						
S08C	White Mtn Res	93.54	45	P	P	01 59 13.7	+0.8
	baz=93,SNR=35						
SMMC	Simmler	93.61	48	⇑P	P	01 59 14.0	+0.7
	baz=93						
MTLF	Montolieu	93.62	322	eP	P	01 59 12.1	-1.0
	comp=Z,261nm,1.8s,mb6.0						
MTLF	Montolieu	93.62	322	eP	P	01 59 12.1	-1.0
	comp=Z,131nm,1.8s,mb6.1						
MTLF	Montolieu	93.62	322	eP	P	01 59 12.1	-1.0
MTLF				pmax	pmax		
	comp=Z,131nm,1.8s,mb6.1						
M13A	Montello	93.65	40	⇓P	P	01 59 14.3	+1.0
	baz=93,SNR=45						
LKWY	Lake	93.68	36	eP	P	01 59 15.3	+1.9
	comp=Z,61nm,1.0s,mb6.0						
LKWY				LR	LR		
	comp=Z,13µm,19.0s,MS6.4						
LKWY	Lake	93.68	36	eP	P	01 59 15.3	+1.9
LKWY				pmax	pmax		
	comp=Z,61nm,1.0s,mb6.0						
LKWY				MLR	MLR		
	comp=Z,13µm,19.0s,MS6.4						
LRDF	Laroque-de-Fa	93.70	322	eP	P	01 59 12.9	-0.6
TIN	Tinemaha	93.76	46	⇓P	P	01 59 14.6	+0.7
	baz=94						
R09A	Tonopah	93.80	44	⇑P	P	01 59 14.3	+0.2
	baz=94,SNR=39						
EJON	La Jonquera	93.82	321	P	P	01 59 12.2	-1.8
	comp=Z,1.6nm,0.6s						
IMW	Indian Meadow	93.83	37	eP	P	01 59 15.0	+0.9
	comp=Z,69nm,1.1s,mb6.0						
IMW				ePP	PP	02 03 07.2	+8.3
FLWY	Flagg Ranch	93.84	37	eP	P	01 59 14.9	+0.8
	comp=Z,129nm,1.1s,mb6.3						
FLWY				ePP	PP	02 02 54.1	-4.9
Q10A	Clear Creek Ra	93.86	43	P	P	01 59 14.8	+0.5
	baz=94,SNR=30						
DCID1	Drake Creek	93.90	37	eP	P	01 59 16.0	+1.5
RLMT	Red Lodge	93.90	35	eP	P	01 59 15.2	+0.8
	comp=Z,119nm,1.5s,mb6.1						
RLMT				PP	PP	02 02 59.8	+0.4
RLMT				LR	LR		
	comp=Z,9µm,20.0s,MS6.2						
VES	Vestal, Richgr	93.91	47	⇑P	P	01 59 13.5	-1.2
	baz=94						
FILF	Fillols	93.93	321	eP	P	01 59 14.1	-0.5
N13A	Wendover, West	93.94	41	⇓P	P	01 59 15.6	+1.0
	baz=94,SNR=19						
KEST	Kesra	93.95	313	P	P	01 59 13.3	-1.5
	comp=Z,1.7nm,1.0s,baz=334,slow=8.2,SNR=2.4						
KEST				LR	LR	02 44 15.4	
	comp=Z,5µm,19.7s,MS5.9,baz=352,slow=37						
PKM	Peak Mountain	93.96	48	⇑P	P	01 59 15.4	+0.5
	baz=94						
O12A	Currie	93.99	42	⇓P	P	01 59 15.7	+0.8
	baz=94,SNR=32						
S09A	Goldfield	94.01	45	P	P	01 59 15.5	+0.4
	baz=94,SNR=24						
DGMT	Dagmar	94.03	30	eP	P	01 59 14.9	0.0
	comp=Z,951nm,1.9s,mb6.9						
DGMT				ePP	PP	02 03 00.2	0.0
DGMT				LR	LR		
	comp=Z,13µm,20.0s,MS6.4						
M14A	Sheep Mountain	94.03	40	⇑P	P	01 59 16.3	+1.2
	baz=94,SNR=104						
MOOW	Moose Ponds	94.04	37	eP	P	01 59 15.8	+0.7
	comp=Z,81nm,1.6s,mb5.9						
MOOW				ePP	PP	02 03 05.1	+4.6
CARF	Carcanieres	94.09	322	eP	P	01 59 14.6	-0.7
TPAW	Teton Pass	94.09	37	eP	P	01 59 15.8	+0.4
	comp=Z,42nm,1.0s,mb5.8						
TPAW				ePP	PP	02 03 03.0	+2.1
HVU	Hansel Valley	94.19	39	eP	P	01 59 16.1	+0.3
	comp=Z,70nm,1.2s,mb6.0						
HVU				ePP	PP	02 03 01.6	-0.1
LOHW	Long Hollow	94.20	37	eP	P	01 59 15.9	0.0
	comp=Z,47nm,1.4s,mb5.7						
LOHW				ePP	PP	02 03 02.1	+0.3
MBAR	Mbarara	94.20	271	/ P	P	01 59 15.8	-0.6
CWC	Cottonwood Cre	94.22	46	⇑P	P	01 59 16.1	+0.1
	baz=94						
SNOW	Snow King Moun	94.22	37	eP	P	01 59 16.9	+1.0
	comp=Z,32nm,1.1s,mb5.7						
SNOW				ePP	PP	02 03 01.1	-0.8
REDW	Red Top Meadow	94.23	37	eP	P	01 59 16.4	+0.4
	comp=Z,93nm,1.4s,mb6.0						
REDW				ePP	PP	02 03 03.5	+1.4
R10A	Warm Springs	94.25	44	P	P	01 59 16.8	+0.7
	baz=94,SNR=18						
S10A	Tonopah Range,	94.29	44	P	P	01 59 16.3	0.0
	baz=94,SNR=27						
Q11A	Duckwater	94.31	43	P	P	01 59 16.7	+0.3
	baz=94,SNR=20						
VALF	Valcebollere	94.34	322	eP	P	01 59 16.0	-0.5
GRAC	Grapevine Rang	94.35	45	⇑P	P	01 59 16.8	+0.2
	baz=94						
LAO	LASA Array	94.35	33	eP	P	01 59 15.9	-0.5
LAO				ePP	PP	02 03 01.7	-1.1
LAO				LR	LR		
	comp=Z,8µm,20.0s,MS6.2						
P12A	McGill	94.38	42	P	P	01 59 17.5	+0.8
	baz=94,SNR=29						
ISA	Isabella	94.42	47	eP	P	01 59 16.3	-0.7
	comp=Z,20nm,1.1s,mb5.5						
ISA				ePP	PP	02 03 03.4	-0.4
ISA				LR	LR		
	comp=Z,5µm,21.0s,MS5.9						
ISA	Isabella	94.42	47	P	P	01 59 16.4	-0.6
	baz=94,SNR=7.9						
MLS	Moulis	94.49	322	eP	P	01 59 16.0	-1.1
AHID	Auburn Hatcher	94.49	38	eP	P	01 59 17.3	+0.2
	comp=Z,36nm,1.1s,mb5.7						
AHID				ePP	PP	02 03 04.5	+0.5
AHID				LR	LR		
	comp=Z,5µm

HWUT LR LR
comp=Z,6µm,19.0s,MS6.0
S11A Rachel 94.99 44 P **P 01 59 20.1 +0.5**
baz=95,SNR=18
FURC Furnace Creek, 94.99 46 ⇓P **P 01 59 20.0 +0.4**
baz=95
RESF Ens 95.00 323 *e*P **P 01 59 19.5 0.0**
LRMC Laurel Mountai 95.04 47 P **P 01 59 19.8 0.0**
baz=95,SNR=14
MIR Mirnyy 95.09 192 *e*P **P 01 59 16.0 -3.1**
MIR *i* 01 59 22.0
MIR *i* 02 03 10.0
MIR *i* S SKSac 02 09 54.0 -0.1
MIR *i* 02 11 50.0
MIR *i* 02 17 00.0
MIR pmax pmax
comp=Z,100nm,2.0s,mb5.9
TPNV Topopah Spring 95.09 45 *e*P **P 01 59 19.9 -0.2**
TPNV *e*PP PP 02 03 05.5 -3.6
TPNV LR LR
comp=Z,5µm,20.0s,MS6.0
TPNV Topopah Spring 95.09 45 P **P 01 59 20.3 +0.3**
baz=95,SNR=38
SNCC San Nicolas Is 95.11 49 PFAKE 01 59 30.0 +10
SNCC LR LR
comp=Z,4µm,19.0s,MS6.0
SNCC San Nicolas Is 95.11 49 ⇓P **P 01 59 20.9 +0.7**
baz=95
DUG Dugway 95.18 41 *e*P **P 01 59 20.3 -0.1**
DUG *e*PP PP 02 03 07.7 -1.8
DUG LR LR
comp=Z,4µm,22.0s,MS5.9
DUG Dugway 95.18 41 ⇓P **P 01 59 20.9 +0.5**
baz=95,SNR=34
EBIE Bielsa 95.19 323 P **P 01 59 20.2 -0.1**
comp=Z,5.8nm,1.0s,mb5.0
EDW2 Edwards Air Fo 95.20 47 P **P 01 59 20.8 +0.2**
baz=95,SNR=15
R12A Pony Springs, 95.28 43 ⇑P **P 01 59 21.3 +0.4**
baz=95,SNR=17
NOQ North Oquirrh 95.29 40 *e*P **P 01 59 21.6 +0.8**
comp=Z,177nm,1.6s,mb6.2
NOQ *e*PP PP 02 03 09.7 -0.7
BW06 Boulder Array 95.34 37 *e*P **P 01 59 20.1 -1.0**
comp=Z,21nm,1.1s,mb5.5
BW06 LR LR
comp=Z,5µm,19.0s,MS6.0
PDAR Pinedale Array 95.34 37 P **P 01 59 19.9 -1.1**
comp=Z,16nm,1.1s,mb5.4,baz=288,slow=1.4,SNR=31
PDAR PP PP 02 03 09.9 -0.7
comp=Z,3.3nm,1.0s,baz=309,slow=5.7,SNR=3.9
PDAR PKKPbc PKKPbc 02 16 11.2 -2.8
comp=Z,0.8nm,0.8s,baz=179,slow=4.2,SNR=2.7
DECC Green Verdugo 95.34 48 ⇑P **P 01 59 21.1 -0.1**
baz=95
U10A Ash Meadows, A 95.36 45 ⇑P **P 01 59 22.0 +0.7**
baz=95
ETSF Etsaut 95.43 323 *e*P **P 01 59 20.8 -0.7**
CTU Camp Tracy 95.48 40 *e*P **P 01 59 22.2 +0.5**
comp=Z,42nm,1.4s,mb5.7
CTU *e*PP PP 02 03 10.2 -1.6
EPOB Poblet 95.56 321 P **P 01 59 21.8 -0.3**
comp=Z,12nm,1.1s,mb5.2
T11A Corn Creek, Al 95.57 44 P **P 01 59 22.2 0.0**
baz=95,SNR=24
S12A Delamar Landin 95.57 44 ⇑P **P 01 59 23.1 +0.9**
baz=95
ETOS Mallorca 95.58 319 P **P 01 59 23.5 +1.2**
comp=Z,8.2nm,0.9s,mb5.2
SJPF Ste Jean 95.64 324 *e*P **P 01 59 21.4 -1.0**
FMP Fort Macarthur 95.68 49 ⇓P **P 01 59 22.7 -0.1**
baz=95
SHOC Shoshone 95.71 46 ⇓P **P 01 59 22.7 -0.2**
baz=95
JLU Jordanelle 95.71 40 *e*P **P 01 59 22.7 -0.1**
JLU *e*PP PP 02 03 12.0 -1.6
GSC Goldstone 95.73 46 *e*P **P 01 59 23.1 +0.2**
comp=Z,53nm,1.1s,mb5.9
GSC *e*PP PP 02 03 11.8 -2.2
GSC LR LR
comp=Z,3µm,19.0s,MS5.8
GSC Goldstone 95.73 46 P **P 01 59 23.2 +0.2**
baz=95,SNR=21
NLU North Lily Min 95.77 40 *e*P **P 01 59 23.5 +0.4**
NLU *e*PP PP 02 03 14.7 +0.6
CIS Catalina Islan 95.78 49 ⇓P **P 01 59 22.8 -0.5**
baz=96
BFSC Mount Baldy St 95.79 48 ⇓P **P 01 59 22.7 -0.6**
baz=96
RRX Edison Barstow 95.85 47 ⇑P **P 01 59 24.1 +0.5**
baz=96
SCI San Clemente I 95.93 49 ⇑P **P 01 59 24.5 +0.5**
baz=96
DAU Daniels Canyon 95.95 40 *e*P **P 01 59 24.6 +0.8**
DAU *e*PP PP 02 03 13.8 -1.7
U11A Corn Creek 95.97 45 ⇑P **P 01 59 24.8 +0.8**
baz=96
MPU Maple Canyon 95.99 40 *e*P **P 01 59 24.0 0.0**
comp=Z,63nm,1.4s,mb5.8
MPU *e*PP PP 02 03 14.6 -1.2
MPU LR LR
comp=Z,6µm,19.0s,MS6.1
ULM Lac du Bonnet 96.15 25 P **P 01 59 23.1 -1.4**
comp=Z,38nm,0.8s,mb5.8,baz=331,slow=6.2,SNR=24
ULM LR LR 02 47 33.6
comp=Z,15µm,19.9s,MS6.5,baz=336,slow=38
T12A Moapa 96.20 44 ⇑P **P 01 59 25.6 +0.5**
baz=96
S13A Holt Ranch, En 96.20 43 P **P 01 59 25.6 +0.5**
baz=96,SNR=24
TUQ Turquoise Mtn. 96.22 46 P **P 01 59 25.5 +0.3**
baz=96,SNR=18
R14A James Farms, M 96.27 42 ⇑P **P 01 59 25.7 +0.4**
baz=96
BBRC Big Bear Sol-O 96.27 47 ⇑P **P 01 59 26.0 +0.5**
baz=96
V11A Goodsprings 96.29 45 ⇑P **P 01 59 25.8 +0.2**
baz=96
HEC Hector,Ludlow 96.32 47 P **P 01 59 25.9 +0.2**
baz=96,SNR=15
MURC Murrieta 96.48 48 ⇑P **P 01 59 25.6 -0.9**
baz=96
U12A Valley of Fire 96.50 44 ⇓P **P 01 59 26.8 +0.4**
baz=96
S14A Cedar City 96.52 43 ⇓P **P 01 59 27.0 +0.5**
baz=96
T13A Saint George 96.53 44 P **P 01 59 27.3 +0.7**
baz=96,SNR=17
CCUT Cedar City 96.53 43 *e*P **P 01 59 26.9 +0.3**
MSU Marysvale 96.64 42 *e*P **P 01 59 27.6 +0.5**
MSU *e*PP PP 02 03 22.4 +1.5
ECRI Cripan 96.68 324 P **P 01 59 27.9 +0.8**
comp=Z,3.1nm,0.6s,mb4.9
TMUT Trail Mountain 96.70 41 *e*P **P 01 59 27.8 +0.5**
TMUT *e*PP PP 02 03 21.9 +0.5
GMRC Granite Mounta 96.79 46 P **P 01 59 28.1 +0.3**
baz=96,SNR=12
U13A Pakoon Wash 96.87 44 ⇓P **P 01 59 28.5 +0.3**
baz=97
109C Camp Elliot, M 96.96 49 ⇑P **P 01 59 28.6 0.0**
baz=97
PFO Pinyon Flat Ob 96.97 48 *e*P **P 01 59 28.1 -0.6**
comp=Z,66nm,1.3s,mb5.9
PFO *e*PP PP 02 03 22.9 -0.8
PFO LR LR
comp=Z,6µm,19.0s,MS6.1
PFO Pinyon Flat Ob 96.97 48 LR LR 02 36 43.1
comp=Z,5µm,21.4s,MS6.0,baz=299,slow=31
PFO Pinyon Flat Ob 96.97 48 ⇑P **P 01 59 28.7 +0.1**
baz=97
W12A Cal Nev Ari 96.98 46 ⇓P **P 01 59 29.0 +0.3**
baz=97
T14A Hurricane 97.01 43 ⇑P **P 01 59 29.5 +0.7**
baz=97
BELC Belle Mtn. 97.04 47 ⇑P **P 01 59 29.2 +0.2**
baz=97
EMOS Mosqueruela 97.09 321 P **P 01 59 31.2 +2.1**
comp=Z,15nm,0.9s,mb5.4
SRU San Rafael 97.23 40 *e*P **P 01 59 29.5 -0.2**
comp=Z,17nm,1.0s,mb5.4
SRU *e*PP PP 02 03 26.1 +0.7
RSSD Black Hills 97.26 33 *e*P **P 01 59 29.5 -0.3**
RSSD *e*PP PP 02 03 21.2 -4.2
RSSD LR LR
comp=Z,5µm,20.0s,MS6.0
RWWY Rawlins 97.35 37 *e*P **P 01 59 29.7 -0.4**
comp=Z,65nm,1.7s,mb5.8
RWWY *e*PP PP 02 03 26.6 +0.4
U14A Mt Trumbull 97.36 44 ⇑P **P 01 59 30.9 +0.6**
baz=97
MONP Monument Peak 97.43 48 ⇑P **P 01 59 30.8 +0.1**
baz=97
T15A Red Dirt Ranch 97.47 43 P **P 01 59 31.2 +0.3**
baz=97,SNR=12
NEE2 Needles Airpor 97.47 46 ⇓P **P 01 59 31.2 +0.3**
baz=97
IRM Iron Mountain 97.50 47 ⇑P **P 01 59 31.4 +0.3**
baz=97,SNR=12
BC3 Big Chuckw Mtn 97.61 47 P **P 01 59 31.6 +0.1**
baz=97,SNR=13
ETOR Torete 97.67 322 P **P 01 59 32.9 +1.3**
comp=Z,8.9nm,0.8s,mb5.3
AGMN Agassiz Refuge 97.73 26 *e*P **P 01 59 30.5 -1.3**
comp=Z,76nm,1.6s,mb6.0
AGMN LR LR
comp=Z,11µm,20.0s,MS6.3
W13A Hualapai Mount 97.74 45 ⇓P **P 01 59 32.7 +0.6**
baz=97,SNR=14
DVTC Desert V Tower 97.78 48 ⇓P **P 01 59 32.6 +0.3**
baz=98
SWSC Sam W. Stewart 97.81 48 ⇑P **P 01 59 32.7 +0.2**
baz=98
V14A Boquillas Ranc 97.90 44 P **P 01 59 33.4 +0.6**
baz=98,SNR=28
TAOE Nuku Hiva Isla 98.02 96 *e*S S 02 10 51.6 -9.3
comp=Z,46µm,26.9s
TAOE *e*SS SS 02 17 37.0 -6.3
comp=Z,100µm,32.0s
TAOE *e*LQ 02 26 47.0
comp=Z,206µm,34.8s
TAOE *e*LR LR 02 31 17.1
comp=Z,142µm,25.1s
T16A Glen Canyon Da 98.03 42 ⇓P **P 01 59 33.0 -0.3**
baz=98
PDMCI Parker Dam,Lak 98.07 46 ⇑P **P 01 59 33.7 0.0**
baz=98
X13A Yucca 98.09 46 P **P 01 59 33.8 +0.1**
baz=98,SNR=15
Y12C Blythe 98.16 47 ⇑P **P 01 59 34.0 -0.1**
baz=98,SNR=10
W14A Seligman 98.18 45 P **P 01 59 34.7 +0.6**
baz=98,SNR=11
GLA Glamis 98.39 47 *e*P **P 01 59 35.2 +0.1**
comp=Z,41nm,1.2s,mb5.8
GLA *e*PP PP 02 03 33.2 -1.3
GLA LR LR
comp=Z,4µm,20.0s,MS5.9
GLA Glamis 98.39 47 ⇑P **P 01 59 35.6 +0.5**
baz=98,SNR=12
PHWY Pilot Hill 98.56 36 *e*P **P 01 59 34.9 -0.8**
PHWY *e*PP PP 02 03 35.6 +0.2
Y13A Salome 98.58 46 ⇑P **P 01 59 36.3 +0.4**
baz=98
W15A Williams 98.72 44 ⇑P **P 01 59 37.4 +0.9**
baz=98
X14A Yava 98.77 45 P **P 01 59 37.1 +0.3**
baz=98,SNR=8.8
GUD Guadarrama 98.93 323 P **P 01 59 40.1 +2.7**
comp=Z,12nm,1.2s,mb5.3
Y14A Wickenburg 99.03 46 P **P 01 59 38.1 +0.1**
baz=99,SNR=13
WUAZ Wupatki 99.06 44 *e*PP PP 02 03 38.2 -1.3
comp=Z,76nm,1.7s
WUAZ LR LR
comp=Z,4µm,20.0s,MS5.9
WUAZ Wupatki 99.06 44 ⇓P **P 01 59 38.1 +0.1**
baz=99,SNR=10
X15A Humboldt 99.18 45 P **P 01 59 39.2 +0.6**
baz=99,SNR=13
SCHQ Schefferville 99.19 7 *e*P **P 01 59 38.3 +0.2**
comp=Z,32nm,1.4s,mb5.7
SCHQ LR LR 02 49 02.8
SCHQ Schefferville 99.19 7 P **P 01 59 37.3 -0.8**
comp=Z,5.1nm,1.0s,mb5.0,baz=8.0,slow=5.7,SNR=3.3
SCHQ LR LR 02 49 02.8
comp=Z,20µm,18.4s,MS6.6,baz=350,slow=38
SMCO Snowmass 99.22 38 *e*P **P 01 59 38.7 +0.1**
comp=Z,44nm,1.6s,mb5.7
ECAL Calabor 99.35 326 P **P 01 59 41.0 +1.8**
comp=Z,14nm,1.1s,mb5.4
EVIA Vianos 99.42 321 P **P 01 59 43.0 +3.5**
comp=Z,6.5nm,1.0s,mb5.1
Z14A Wintersburg 99.44 46 ⇓P **P 01 59 39.6 -0.1**
baz=99
PBRG Braganca 99.45 326 *e*Pdif **P 01 59 41.3 +1.7**
PBRG Braganca 99.45 326 *e*PP PP 02 03 44.0 +1.8
Y15A Casa Rosa Ranc 99.46 45 P **P 01 59 40.1 +0.3**
baz=99,SNR=12
ESDC Sonseca Array 99.51 323 P **P 01 59 38.2 -1.7**
ESDC P pP 01 59 43.1 -0.7
ESDC PP PP 02 03 40.9 -1.8
ESDC PKKPbc PKKPbc 02 16 07.7 +5.1
ESDC LR LR 02 51 13.9
ESDC Sonseca Array 99.51 323 P **P 01 59 38.2 -1.7**
comp=Z,1.3nm,0.8s,baz=32,slow=4.5,SNR=4.3
ESDC PP PP 02 03 40.9 -1.8
comp=Z,2.8nm,0.8s,baz=50,slow=7.6,SNR=5.5
ESDC PKKPbc PKKPbc 02 16 07.7 +5.1
comp=Z,0.6nm,0.4s,baz=233,slow=1.7,SNR=8.2
ESDC LR LR 02 51 14.0
comp=Z,16µm,19.3s,MS6.5,baz=35,slow=39
ISCO Idaho Springs 99.53 37 *e*P **P 01 59 40.3 +0.3**
comp=Z,17nm,1.6s,mb5.2
ISCO *e*PP PP 02 03 42.9 0.0
ISCO LR LR
comp=Z,6µm,20.0s,MS6.1
MVCO Mesa Verde 99.68 41 *e*Pdif Pdif 01 59 41.1 +0.6
comp=Z,121nm,2.2s
MVCO *e*PP PP 02 03 44.5 +0.3
MVCO LR LR
comp=Z,6µm,21.0s,MS6.0
MVCO Mesa Verde 99.68 41 ⇑P Pdif 01 59 41.5 +1.0
baz=99
EYMN Ely 99.69 24 *e*Pdif Pdif 01 59 40.0 -0.5
comp=Z,69nm,1.5s
EYMN LR LR
comp=Z,11µm,22.0s,MS6.3
X16A Lo Mia Camp, P 99.73 44 P Pdif 01 59 41.8 +1.1
baz=99,SNR=11
PAB San Pablo 99.81 323 PFAKE 01 59 50.0 +9.0
PAB LR LR
comp=Z,21µm,20.0s,MS6.7
Y16A Circle Bar Ran 100.05 45 P Pdif 01 59 43.1 +1.0
baz=100,SNR=9.5
MVO Moncorvo 100.07 325 *e*Pdif Pdif 01 59 41.9 -0.3
MVO Moncorvo 100.07 325 *e*PP PP 02 03 47.3 +0.4
MVO *e*P 02 12 52.5
MVO Moncorvo 100.07 325 *e*LR LR 02 34 23.5
comp=Z,20µm,20.0s
MVO Moncorvo 100.07 325 *e*P Pdif 01 59 44.3 +2.1
EQES Quesada 100.32 321 P Pdif 01 59 46.6 +3.4
comp=Z,265nm,3.7s
115A Sonoran Desert 100.32 46 ⇓P Pdif 01 59 44.4 +1.1
baz=100
PVRL Vila Real 100.34 326 *e*Pdif Pdif 01 59 46.6 +3.2
PVRL Vila Real 100.34 326 *e*PP PP 02 03 50.5 +1.6
Z16A Peralta Trail, 100.43 45 ⇓P Pdif 01 59 44.5 +0.7
baz=100
116A Eloy 100.75 46 ⇑P Pdif 01 59 45.8 +0.6
baz=100
PVIS Viseu 100.84 326 *e*Pdif Pdif 01 59 48.2 +2.6
PVIS Viseu 100.84 326 *e*PP PP 02 03 55.4 +2.6
MTE Manteigas 100.89 325 *e*Pdif Pdif 01 59 45.3 -0.6
MTE Manteigas 100.89 325 *e*PP PP 02 03 53.8 +0.6
MTE *e*P 02 13 05.6
MTE Manteigas 100.89 325 *e*LR LR 02 34 24.4
comp=Z,21µm,20.0s
MTE Manteigas 100.89 325 *e*P Pdif 01 59 46.1 +0.2
EADA Adamuz 100.91 322 P Pdif 01 59 49.8 +3.9
comp=Z,2.1nm,0.9s
SDCO Great Sand Dun 101.04 39 *e*Pdif Pdif 01 59 47.3 +0.8
comp=Z,4.8nm,1.2s
SDCO *e*PP PP 02 03 52.3 -2.1
SDCO LR LR
comp=Z,6µm,19.0s,MS6.1
ECSD EROS,Sioux Fal 101.05 29 *e*PKPdf Pdif 01 59 46.0 -0.6
comp=Z,12nm,1.0s
ECSD *e*PP PP 02 03 53.3 -0.9
ECSD LR LR
comp=Z,10µm,22.0s,MS6.3
216A Three Points, 101.27 46 ⇑P Pdif 01 59 48.6 +1.1
baz=101
PCBR Castelo Branco 101.27 325 *e*Pdif Pdif 01 59 49.7 +2.2
PCBR Castelo Branco 101.27 325 *e*PP PP 02 03 58.6 +2.5
ECAB El Cabril 101.44 322 P Pdif 01 59 52.8 +4.5
comp=Z,7.6nm,1.0s
Z18A Geronimo 101.48 45 ⇓P Pdif 01 59 49.3 +0.8
baz=101
EBAD Badajoz 101.82 324 P Pdif 01 59 53.7 +3.7
comp=Z,3.6nm,0.8s
217A Green Valley 101.83 46 ⇑P Pdif 01 59 50.8 +0.8
baz=102
PTOM Tomar 101.92 325 *e*PP PP 02 04 04.8 +3.9
PESTR Estremoz 102.05 324 *e*Pdif Pdif 01 59 51.5 +0.5
PESTR Estremoz 102.05 324 *e*PP PP 02 04 03.0 +1.1
PESTR *e*P 02 13 15.4
PESTR Estremoz 102.05 324 *e*LR LR 02 35 08.6
comp=Z,21µm,18.0s
COWI Conover 102.11 24 PFAKE 02 00 00.0 +8.7
COWI LR LR
comp=Z,13µm,20.0s,MS6.5
119A Ashpeak Ranch, 102.16 44 ⇑P Pdif 01 59 52.4 +0.9
baz=102
218A Dragoon 102.20 46 ⇑P Pdif 01 59 52.1 +0.5
baz=102
PBAR Barrancos 102.26 323 *e*Pdif Pdif 01 59 51.4 -0.5
PBAR Barrancos 102.26 323 *e*PP PP 02 04 00.4 -3.1
PBAR *e*P 02 13 17.8
PBAR Barrancos 102.26 323 *e*LR LR 02 35 24.3
comp=Z,21µm,20.0s
EMIN Mina Concepcio 102.35 323 P Pdif 01 59 56.5 +4.2
comp=Z,1.4nm,0.7s
LAZ Ladron 102.40 42 *e*Pdif Pdif 01 59 53.3 +0.8
LAZ *e*PP PP 02 03 59.5 -5.3
ANMO Albuquerque 102.43 41 *e*Pdif Pdif 01 59 52.6 0.0
comp=Z,8.2nm,1.3s
ANMO LR LR
comp=Z,6µm,20.0s,MS6.1
EVO Evora 102.52 324 *e*P Pdif 01 59 53.3 +0.2
comp=Z,11nm,0.9s
EVO *e*MLR MLR
comp=Z,26µm,19.2s,MS6.5
EVO Evora 102.52 324 *e*Pdif Pdif 01 59 53.4 +0.3
EVO Evora 102.52 324 *e*PP PP 02 04 03.0 -2.4
EVO Evora 102.52 324 *e*P Pdif 01 59 54.6 +1.5
ESPR Espera 102.55 322 P Pdif 01 59 57.3 +4.1
comp=Z,3.3nm,0.8s
LSZ Lusaka 102.58 259 *e*Pdif Pdif 01 59 53.3 0.0
comp=Z,33nm,1.3s
LSZ *e*PP PP 02 04 08.0 +0.7
LSZ LR LR
comp=Z,6µm,19.0s,MS6.1
LSZ Lusaka 102.58 259 P Pdif 01 59 57.8 +4.5
SNR=7.6
LSZ Lusaka 102.58 259 Pdiff Pdif 01 59 57.8 +4.5
SNR=7.6
318A Bisbee 102.58 46 ⇑P Pdif 01 59 54.2 +0.8
baz=102
219A White Tail Can 102.69 45 ⇓P Pdif 01 59 55.0 +1.2
baz=102
Y22C IRIS PASSCAL I 102.75 42 ⇓P Pdif 01 59 54.4 +0.3
baz=102
LPM Los Pinos Moun 102.77 42 *e*PP PP 02 04 00.3 -7.2
PBEJ Beja 102.81 324 *e*Pdif Pdif 01 59 57.5 +3.1
PBEJ Beja 102.81 324 *e*PP PP 02 04 05.2 -2.5
PMAFR Mafra 102.86 325 *e*Pdif Pdif 01 59 54.6 0.0
PMAFR Mafra 102.86 325 *e*PP PP 02 04 09.2 +1.2
PMAFR *e*P 02 13 22.9
PMAFR Mafra 102.86 325 *e*LR LR 02 35 44.6
comp=Z,30µm,20.0s
BNM Barren Site 102.88 42 *e*Pdif Pdif 01 59 55.2 +0.5
BNM *e*PP PP 02 04 02.6 -5.8
EGRO El Granado 102.96 323 P Pdif 01 59 58.1 +3.1
comp=Z,4.0nm,1.0s
319A Douglas 103.08 46 ⇓P Pdif 01 59 56.0 +0.4
baz=103
PVAQ Vaqueiros 103.19 323 *e*Pdif Pdif 01 59 58.7 +2.7
PVAQ Vaqueiros 103.19 323 *e*PP PP 02 04 11.3 +0.8
PVAQ *e*P 02 13 27.4
PVAQ Vaqueiros 103.19 323 *e*LR LR 02 35 43.5
comp=Z,14µm,18.0s
CBKS Cedar Bluff 103.36 34 PFAKE 02 00 10.0 +13
CBKS LR LR
comp=Z,10µm,19.0s,MS6.4
PBDV Barranco-do-Ve 103.42 323 *e*Pdif Pdif 01 59 58.3 +1.2
PBDV Barranco-do-Ve 103.42 323 *e*PP PP 02 04 12.5 +0.3
PBDV Barranco-do-Ve 103.42 323 *e*LR LR 02 35 49.1
comp=Z,19µm,18.0s
PTEO Sao Teotonio 103.62 324 *e*PP PP 02 04 16.7 +3.0
MAW Mawson 103.69 200 Pdif Pdif 01 59 58.3 0.0
MAW PP PP 02 04 14.3 -0.3
MAW LR LR
comp=Z,7µm,21.0s,MS6.2
MAW Mawson 103.69 200 Pdiff Pdif 01 59 58.3 0.0
comp=Z,2.2nm,0.9s,baz=28,slow=15,SNR=3.8
MAW PP PP 02 04 14.3 -0.3
comp=Z,1.5nm,0.7s,baz=24,slow=11,SNR=1.6
MORF Marmelete 103.76 324 *e*Pdif Pdif 01 59 58.0 -0.6
MORF Marmelete 103.76 324 *e*PP PP 02 04 15.6 +0.8
MORF *e*SKS 02 11 47.1
MORF *e*P 02 13 33.2
MORF Marmelete 103.76 324 *e*LR LR 02 38 51.9
comp=Z,21µm,18.0s
MORF Marmelete 103.76 324 *e*P Pdif 02 00 01.7 +3.1
JFWS Jewell Farm 104.39 26 PFAKE 02 00 10.0 +8.6
JFWS LR LR
comp=Z,10µm,21.0s,MS6.3
MDT Midelt 104.68 318 PKiKP PKiKP 02 04 17.0 -1.8
comp=Z,3.0nm,0.9s,baz=50,slow=5.2,SNR=4.8
KSU1 Kansas State U 104.69 32 PFAKE 02 00 10.0 +7.2
KSU1 LR LR
comp=Z,8µm,20.0s,MS6.2
GLMI Grayling 104.79 21 PFAKE 02 00 10.0 +6.8
GLMI LR LR
comp=Z,10µm,19.0s,MS6.4
AMTX Amarillo 105.24 38 PKiKP PKiKP 02 04 20.7 +1.0
AMTX LR LR
comp=Z,7µm,22.0s,MS6.2
VNDA Vanda 105.25 172 Pdif Pdif 02 00 04.0 -1.2
VNDA PP PP 02 04 21.1 -4.8
VNDA PKKPbc PKKPbc 02 15 45.8 -1.4
VNDA LR LR
comp=Z,10µm,19.0s,MS6.4
VNDA Vanda 105.25 172 Pdiff Pdif 02 00 04.0 -1.2
comp=Z,1.2nm,1.2s,baz=299,slow=8.3,SNR=1.8
VNDA PP PP 02 04 21.1 -4.8
comp=Z,1.8nm,0.8s,baz=308,slow=10.0,SNR=4.0
VNDA PKKPbc PKKPbc 02 15 45.8 -1.4
comp=Z,4.1nm,0.9s,baz=81,slow=3.0,SNR=12
MNTX Cornudas Mount 105.32 43 PKiKP PKiKP 02 04 19.7 -0.3
MNTX LR LR
comp=Z,6µm,19.0s,MS6.2
SBA Scott Base 106.14 172 *e*PKiKP PKiKP 02 04 19.6 -0.4
SBA *e*PP PP 02 04 36.3 +3.7
SBA LR LR
comp=Z,4µm,19.0s,MS5.9
HDIL Hopedale 106.77 27 PFAKE 02 04 30.0 +7.6
HDIL LR LR
comp=Z,13µm,20.0s,MS6.5
WMOK Wichita Mounta 106.94 37 *e*PKiKP PKiKP 02 04 22.6 -0.2
WMOK *e*PP PP 02 04 36.7 -1.7
WMOK LR LR
comp=Z,8µm,20.0s,MS6.2
AAM Ann Arbor 107.35 22 PFAKE 02 04 30.0 +6.6
AAM LR LR
comp=Z,13µm,19.0s,MS6.5
LONY Lake Ozonia 107.78 15 PFAKE 02 04 40.0 +16
LONY LR LR
comp=Z,11µm,20.0s,MS6.4
SLM Saint Louis 107.98 28 PKiKP PKiKP 02 04 24.8 +0.1
SLM *e*PP PP 02 04 45.1 -0.7
LTX Lajitas 108.03 44 PFAKE 02 04 40.0 +15
LTX LR LR
comp=Z,290nm,21.0s
TXAR Lajitas Array 108.03 44 Pdiff Pdif 02 00 18.1 +0.5
comp=Z,0.5nm,0.8s,baz=259,slow=2.6,SNR=4.4
TXAR PKiKP PKiKP 02 04 25.2 +0.2
comp=Z,4.7nm,0.9s,baz=191,slow=1.3,SNR=6.8
TXAR PKKPbc PKKPbc 02 15 37.8 +0.8
comp=Z,0.9nm,0.9s,baz=124,slow=4.5,SNR=4.6
CCM Cathedral Cave 108.03 29 PFAKE 02 04 40.0 +15
CCM LR LR
comp=Z,10µm,20.0s,MS6.4
RKT Rikitea 108.13 107 *e*PS PS 02 14 09.0 -3.2
comp=Z,2µm,32.8s
RKT Rikitea 108.13 107 *e*LQ 02 31 24.4
comp=Z,11µm,33.2s
RKT *e*LR LR 02 35 51.4
comp=Z,6µm,27.0s,baz=290

PKME	**Peaks-Kenny Pk**	**108.21**	**11**	PFAKE		02 04 40.0	+15
PKME				LR	LR		
comp=Z,23μm,21.0s,MS6.7							
LBTB	**Lobatse**	**108.45**	**251**	PFAKE		02 04 40.0	+14
LBTB				LR	LR		
comp=Z,6μm,19.0s,MS6.2							
NCB	**Newcomb**	**108.48**	**15**	PFAKE		02 04 40.0	+15
NCB				LR	LR		
comp=Z,10μm,21.0s,MS6.4							
ERPA	**Erie**	**108.68**	**19**	PFAKE		02 04 40.0	+14
ERPA				LR	LR		
comp=Z,22μm,21.0s,MS6.7							
LBNH	**Lisbon**	**108.71**	**13**	PFAKE		02 04 40.0	+14
LBNH				LR	LR		
comp=Z,15μm,20.0s,MS6.6							
ACSO	**Alum Creek Sta**	**109.42**	**22**	PFAKE		02 04 40.0	+13
ACSO				LR	LR		
comp=Z,11μm,19.0s,MS6.5							
JCT	**Junction City**	**109.54**	**40**	*e*PKiKP	PKiKP	02 04 27.6	-0.2
JCT				LR	LR		
comp=Z,6μm,20.0s,MS6.1							
USIN	**University of**	**109.63**	**27**	PKiKP	PKiKP	02 04 29.0	+1.2
BINY	**Binghamton**	**109.72**	**17**	PFAKE		02 04 40.0	+12
BINY				LR	LR		
comp=Z,12μm,20.0s,MS6.5							
MIAR	**Mount Ida**	**109.78**	**33**	PFAKE		02 04 40.0	+12
MIAR				LR	LR		
comp=Z,7μm,19.0s,MS6.2							
BOSA	**Boshof**	**109.94**	**247**	PFAKE		02 04 40.0	+12
BOSA				LR	LR		
comp=Z,5μm,21.0s,MS6.0							
BOSA	**Boshof**	**109.94**	**247**	PKKP	PKKPbc	02 15 46.4	+15
comp=Z,5.6nm,0.9s,baz=249,slow=6.8,SNR=4.1							
WCI	**Wyandotte Cave**	**109.96**	**26**	*e*PKiKP	PKiKP	02 04 28.4	0.0
WCI				LR	LR		
comp=Z,12μm,19.0s,MS6.5							
UALR	**University of**	**110.20**	**32**	PKiKP	PKiKP	02 04 29.1	+0.2
HRV	**Adam Dziewonsk**	**110.45**	**13**	PFAKE		02 04 40.0	+11
HRV				LR	LR		
comp=Z,9μm,19.0s,MS6.4							
WES	**Weston**	**110.62**	**13**	PFAKE		02 04 40.0	+10
WES				LR	LR		
comp=Z,8μm,19.0s,MS6.3							
SSPA	**Standing Stone**	**110.66**	**19**	PFAKE		02 04 40.0	+10
SSPA				LR	LR		
comp=Z,11μm,19.0s,MS6.5							
MCWV	**Mont Chateau**	**110.97**	**20**	PFAKE		02 04 40.0	+10
MCWV				LR	LR		
comp=Z,22μm,20.0s,MS6.8							
MET	**Memphis--Engin**	**111.04**	**30**	PKiKP	PKiKP	02 04 29.8	-0.8
MET				*e*PP	PP	02 05 07.9	-0.1
WVT	**Waverly**	**111.12**	**28**	PKiKP	PKiKP	02 04 30.0	-0.7
WVT				LR	LR		
comp=Z,8μm,19.0s,MS6.3							
CMLA	**Cha da Macela**	**111.15**	**335**	*e*PS	PS	02 14 34.5	-5.7
CMLA				*e*SS	SS	02 20 42.9	+2.9
CMLA	**Cha da Macela**	**111.15**	**335**	*e*LQ		02 31 26.5	
CMLA				*e*LR	LR	02 39 08.6	
CMLA	**Cha da Macela**	**111.15**	**335**	PFAKE		02 04 40.0	+9.3
CMLA				LR	LR		
comp=Z,10μm,20.0s,MS6.4							
NATX	**Nacogdoches**	**111.43**	**36**	PFAKE		02 04 40.0	+8.6
NATX				LR	LR		
comp=Z,9μm,19.0s,MS6.4							
PLAL	**Pickwick Lake**	**111.99**	**29**	*e*PKiKP	PKiKP	02 04 31.5	-0.8
PLAL				*e*PP	PP	02 05 14.6	-0.2
PLAL				LR	LR		
comp=Z,10μm,20.0s,MS6.4							
SYO	**Syowa Base**	**112.11**	**203⃛**	*e*P	PP	02 05 01.3	-15
HKT	**Hockley**	**112.20**	**38**	PFAKE		02 04 40.0	+7.1
HKT				LR	LR		
comp=Z,8μm,20.0s,MS6.3							
TZTN	**Tazewell**	**112.49**	**25**	PFAKE		02 04 40.0	+6.7
TZTN				LR	LR		
comp=Z,18μm,19.0s,MS6.7							
SWET	**Sewanee**	**112.70**	**27**	*e*PKiKP	PKiKP	02 04 33.4	-0.4
SWET				*e*PP	PP	02 05 19.6	-0.1
TOA0	**Torodi Ar. Sit**	**112.76**	**298**	*e*PKiKP	PKiKP	02 04 33.3	-0.9
TORD	**Torodi Ar. Bea**	**112.76**	**298**	PKiKP	PKiKP	02 04 33.3	-1.0
comp=Z,4.2nm,0.8s,baz=35,slow=1.7,SNR=23							
TORD				PP	PP	02 05 21.2	-0.1
comp=Z,6.5nm,1.1s,baz=36,slow=5.7,SNR=6.8							
TORD				PKKPbc	PKKPbc	02 15 19.4	-2.0
comp=Z,4.9nm,0.9s,baz=218,slow=2.7,SNR=4.8							
TORD				PKKP	PKKPbc	02 15 39.8	+18
comp=Z,2.7nm,0.9s,baz=248,slow=2.4,SNR=5.0							
KVTX	**Kingsville**	**112.83**	**41**	PFAKE		02 04 50.0	+16
KVTX				LR	LR		
comp=Z,6μm,20.0s,MS6.2							
PTCN	**Pitcairn Islan**	**112.98**	**108**	PFAKE		02 04 50.0	+16
PTCN				LR	LR		
comp=Z,5μm,21.0s,MS6.1							
BLA	**Blacksburg**	**113.01**	**22**	PFAKE		02 04 50.0	+16
BLA				LR	LR		
comp=Z,19μm,19.0s,MS6.7							
CBN	**Corbin**	**113.06**	**19**	PFAKE		02 04 50.0	+16
CBN				LR	LR		
comp=Z,16μm,19.0s,MS6.6							
LRAL	**Lakeview Retre**	**114.11**	**29**	*e*PKiKP	PKiKP	02 04 35.5	-1.0
LRAL				*e*PP	PP	02 05 29.1	-0.8
LRAL				LR	LR		
comp=Z,9μm,22.0s,MS6.3							
SUR	**Sutherland**	**114.72**	**245**	PFAKE		02 04 50.0	+13
SUR				LR	LR		
comp=Z,4μm,19.0s,MS6.0							
GOGA	**Godfrey**	**115.27**	**26**	PFAKE		02 04 50.0	+11
GOGA				LR	LR		
comp=Z,15μm,20.0s,MS6.6							
QSPA	**South Pole Qui**	**115.44**	**180**	*e*PKPdf	PKPdf	02 04 37.8	+0.3
QSPA				*e*PP	PP	02 05 39.2	-0.2
QSPA				LR	LR		
comp=Z,13μm,21.0s,MS6.5							
QSPA	**South Pole Qui**	**115.44**	**180**	PKKPbc	PKKPbc	02 15 12.6	-1.2
comp=Z,4.6nm,1.0s,baz=146,slow=3.1,SNR=6.0							
BRAL	**Brewton**	**115.80**	**31**	PKPdf	PKPdf	02 04 39.7	0.0
BRAL				LR	LR		
comp=Z,8μm,20.0s,MS6.3							
NHSC	**New Hope**	**116.80**	**24**	PFAKE		02 04 50.0	+8.4
NHSC				LR	LR		
comp=Z,11μm,19.0s,MS6.5							
DWPF	**Disney**	**120.76**	**27**	PFAKE		02 05 00.0	+11
DWPF				LR	LR		
comp=Z,10μm,20.0s,MS6.5							
NVL	**N'lazarevskaya**	**121.64**	**201**	PKIKP	PKPdf	02 04 52.1	+2.5
NVL				SS	SS	02 22 55.2	-2.5
NVL				pmax	pmax		
comp=Z,25nm,1.8s							
DBIC	**Dimbokro**	**121.75**	**296**	PKP	PKPdf	02 04 50.5	-1.1
DBIC				PP	PP	02 06 21.9	-2.2
DBIC	**Dimbokro**	**121.75**	**296**	PKP	PKPdf	02 04 50.5	-1.1
comp=Z,22nm,0.8s,baz=36,slow=1.1,SNR=20							
DBIC				PP	PP	02 06 21.9	-2.2
comp=Z,3.1nm,1.0s,baz=139,slow=12,SNR=1.6							
LIC	**Lamto**	**122.14**	**296**	*e*PKIKP	PKPdf	02 04 50.4	-2.0
comp=Z,91nm,1.1s							
LIC				*e*MLR	MLR		
comp=Z,10μm,22.2s,MS6.1							
LIC	**Lamto**	**122.14**	**296**	*e*PKPdf	PKPdf	02 04 50.4	-2.0
LIC				LR	LR		
comp=Z,5μm,22.3s,MS6.1							
SOR	**Soroa**	**124.66**	**32**	*e*P	PKPdf	02 04 55.2	-1.8
BBTS	**Babate**	**125.22**	**313**	PP	PP	02 06 46.2	-0.8
comp=Z,16nm,0.9s,baz=41,slow=6.1,SNR=2.1							
MGV	**Manicaragua**	**126.64**	**29**	*e*P		02 04 47.6	
VNA2	**Neumayer--Watz**	**127.39**	**198**	*e*PKPdf	PKPdf	02 05 00.3	-0.3
baz=50,slow=1.2							
VNA2				*e*		02 05 04.2	
VNA2				*e*		02 05 07.8	
VNA2				*e*		02 05 09.8	
VNA2				*e*		02 05 15.9	
VNA2				*e*		02 05 25.3	
VNA1	**Neumayer--Stat**	**127.78**	**198**	*e*PKPdf	PKPdf	02 05 03.9	+2.5
VNA1				*e*		02 05 06.6	
VNA1				*e*		02 05 10.0	
VNA1				*e*		02 05 13.3	
VNA1				*e*		02 05 18.1	
VNA1				*e*		02 05 27.1	
TGUH	**Tegucigalpa,Un**	**129.47**	**42**	*e*PKPdf	PKPdf	02 05 07.4	+1.1
TGUH				LR	LR		
comp=Z,6μm,19.0s,MS6.3							
MASC	**Masc**	**130.72**	**24**	*e*P	PKPdf	02 05 09.6	+1.0
RPN	**Rapa Nui**	**131.53**	**104**	PFAKE		02 05 20.0	+10
RPN				LR	LR		
comp=Z,4μm,22.0s,MS6.1							

SDDR	**Presa de Saban**	**132.85**	**21**	*e*PKPdf	PKPdf	02 05 14.6	+1.9
SDDR				*e*PP	PP	02 07 39.5	+3.4
SDDR				LR	LR		
comp=Z,9μm,20.0s,MS6.5							
SJG	**San Juan**	**135.14**	**15**	PFAKE		02 05 30.0	+13
SJG				LR	LR		
comp=Z,7μm,21.0s,MS6.3							
SJG	**San Juan**	**135.14**	**15**	PP	PP	02 07 50.8	+0.3
comp=Z,2.4nm,0.3s,baz=2.9,slow=22,SNR=1.8							
CPD	**Cerro la Pandu**	**135.26**	**15**	*e*PKPdf	PKPdf	02 05 08.2	-9.0
ASCN	**Ascension**	**137.61**	**287**	PFAKE		02 05 30.0	+8.4
ASCN				LR	LR		
comp=Z,4μm,20.0s,MS6.2							
BCIP	**Isla Barro Col**	**137.72**	**38**	*e*PKPdf	PKPdf	02 05 21.4	-0.4
BCIP				*e*PP	PP	02 08 07.4	0.0
BCIP				LR	LR		
comp=Z,6μm,20.0s,MS6.3							
PMSA	**Palmer Station**	**140.44**	**174**	PFAKE		02 05 40.0	+15
PMSA				LR	LR		
comp=Z,5μm,22.0s,MS6.3							
BBGH	**Gun Hill**	**141.17**	**7**	PFAKE		02 05 40.0	+12
BBGH				LR	LR		
comp=Z,13μm,22.0s,MS6.6							
GRGR	**Grenville**	**141.87**	**11**	PFAKE		02 05 40.0	+11
GRGR				LR	LR		
comp=Z,7μm,22.0s,MS6.4							
SDV	**Santo Domingo**	**142.40**	**26**	PKP	PKPdf	02 05 23.9	-6.4
SDV	**Santo Domingo**	**142.40**	**26**	PKhKP		02 05 23.9	
comp=Z,26nm,0.9s,baz=327,slow=1.6,SNR=1.4							
PCRV	**Puerto La Cruz**	**143.14**	**16**	PKhKP		02 05 27.0	
comp=Z,26nm,0.8s,baz=84,slow=4.1,SNR=7.7							
TRN	**Trinidad (W)**	**143.36**	**11**	*e*P	PKPdf	02 05 23.6	-8.4
TRN	**Trinidad (W)**	**143.36**	**11**	*e*	PKPdf	02 05 23.6	-8.4
ROSC	**El Rosal**	**144.28**	**35**	PKP	PKPdf	02 05 31.8	-1.9
comp=Z,61nm,1.0s,baz=100,slow=23,SNR=17							
ATAH	**Atahualpa**	**150.89**	**54**	PKPdf	PKPdf	02 05 43.5	-1.1
comp=Z,2.6nm,0.7s,baz=111,slow=18,SNR=1.4							
ATAH				PKPbc	PKPbc	02 05 51.7	+1.5
comp=Z,275nm,0.9s,baz=354,slow=2.0,SNR=4.0							
ATAH				PP	PP	02 09 27.9	+1.0
comp=Z,4.1nm,0.7s,baz=313,slow=22,SNR=2.4							
RCBR	**Riachuelo**	**153.19**	**314**	*e*PKPdf	PKPdf	02 05 48.0	-0.1
RCBR				*e*PKPbc	PKPbc	02 05 56.4	+1.0
RCBR				LR	LR		
comp=Z,494μm,22.0s							
EFI	**East Falkland**	**153.91**	**176**	PFAKE		02 06 00.0	+12
EFI				LR	LR		
comp=Z,7μm,21.0s,MS6.4							
NNA	**Nana**	**155.22**	**61**	PKP	PKPdf	02 05 48.8	-2.1
comp=Z,3.1nm,0.3s,baz=192,slow=14,SNR=1.9							
NNA				PP	PP	02 09 50.0	-1.7
comp=Z,3.5nm,0.4s,baz=237,slow=10,SNR=2.2							
PLCA	**Paso Flores**	**160.10**	**143**	PKP	PKPdf	02 05 56.6	+0.5
comp=Z,7.8nm,0.9s,baz=245,slow=2.3,SNR=9.3							
PLCA				PKPab	PKPab	02 06 33.8	-2.2
comp=Z,17nm,1.2s,baz=196,slow=4.9,SNR=3.3							
ARE	**Arequipa**	**162.02**	**63**	*e*P	PKPdf	02 06 03.0	+4.1
LPAZ	**La Paz**	**164.53**	**56**	PKP	PKPdf	02 06 02.9	+1.6
LPAZ				PKPab	PKPab	02 06 55.8	-0.3
LPAZ				PP	PP	02 10 42.5	+0.6
LPAZ	**La Paz**	**164.53**	**56**	PKP	PKPdf	02 06 02.9	+1.6
comp=Z,19nm,1.0s,baz=15,slow=3.2,SNR=28							
LPAZ				PKPab	PKPab	02 06 55.8	-0.3
comp=Z,15nm,1.0s,baz=304,slow=5.7,SNR=4.1							
LPAZ				PP	PP	02 10 42.5	+0.6
comp=Z,14nm,1.3s,baz=326,slow=3.5,SNR=3.6							
LCO	**Las Campanas**	**165.56**	**107**	*e*PKPdf	PKPdf	02 06 03.3	+1.5
LCO				*e*PKPab	PKPab	02 07 01.0	+0.6
LCO				LR	LR		
comp=Z,6μm,21.0s							
TRQA	**Tornquist**	**166.26**	**156**	PFAKE		02 06 10.0	+7.9
TRQA				LR	LR		
comp=Z,11μm,22.0s							
CFAA	**Coronel Fontan**	**166.87**	**120**	PKP	PKPdf	02 06 03.0	+0.3
comp=Z,1.9nm,1.1s							
CFAA				PKPab	PKPab	02 07 06.7	+0.6
comp=Z,2.4nm,0.9s,baz=234,slow=3.7,SNR=4.5							
CFAA				PP	PP	02 10 52.6	-1.6
comp=Z,0.3nm,0.4s,baz=172,slow=22,SNR=2.8							
BDFB	**Brasilia**	**168.14**	**326**	PKP	PKPdf	02 06 03.9	-0.2
comp=Z,8.8nm,1.1s,baz=31,slow=4.1,SNR=13							
BDFB				PKPab	PKPab	02 07 12.7	+0.9
comp=Z,4.1nm,0.8s,baz=50,slow=10,SNR=4.9							
BDFB				PP	PP	02 10 58.2	-1.6
comp=Z,1.8nm,1.0s,baz=174,slow=24,SNR=2.3							
SIV	**San Ignacio**	**168.78**	**32**	PKP	PKPdf	02 06 04.2	-0.3
comp=Z,26nm,0.9s,baz=274,slow=0.5,SNR=28							
SIV				PKPab	PKPab	02 07 13.6	-1.1
comp=Z,21nm,1.0s,baz=354,slow=6.3,SNR=3.4							
SIV				PP	PP	02 11 02.7	-0.3
comp=Z,6.9nm,0.9s,baz=352,slow=4.5,SNR=6.9							
LPA	**La Plata**	**170.41**	**165**	*ce*PKP	PKPdf	02 06 04.0	-1.0
LPA							
comp=Z,12μm,22.0s							
CPUP	**Villa Florida**	**177.71**	**107**	PKP	PKPdf	02 06 07.5	-0.3
CPUP				PKPab	PKPab	02 07 51.5	-2.9
CPUP				PP	PP	02 11 46.8	-1.2
CPUP	**Villa Florida**	**177.71**	**107**	PKP	PKPdf	02 06 07.5	-0.3
comp=Z,6.3nm,1.0s,baz=162,slow=0.5,SNR=4.5							
CPUP				PKPab	PKPab	02 07 51.5	-2.9
comp=Z,9.8nm,0.9s,baz=244,slow=5.8,SNR=5.8							
CPUP				PP	PP	02 11 46.8	-1.2
comp=Z,1.2nm,0.5s,baz=217,slow=13,SNR=1.4							

IDC ***20*** *01:50:39.5±1.1,2564N×12528E,h0km,mb4.2/5, mb1 4.4/6,mb1mx4.2/21,mbtmp4.2/6,Error ellipse: s-maj=36.5km s-min=24.7km az=71.0*
JMA ***20*** *01:50:40.4±0.2,2572N×125.11E,h11km±4km,M4.6*
ISCJB ***20*** *01:50:42.9±1.5,2566N±008×1252E±01,h35km±16km, mb4.2/5, Error ellipse: s-maj=17.3km s-min=10.5km az=33.3*
ISC 20 01:50:42.2±2.3,2565N±006×1252E±01,h18km±14km,n10, σ0°46/12,mb4.2/5,Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JMJ	**Miyako jima 2**	**0.84**	**173**	P	**Pb**	**01 50 57.6**	**-0.7**
JMJ				S	**Sg**	**01 51 10.1**	**+0.3**
JOGS	**Gusukube**	**0.91**	**167**	P	**Pb**	**01 50 59.2**	**-0.3**
JOGS				S	**Sb**	**01 51 12.0**	**+0.7**
JTJ	**Tarama**	**1.10**	**204**	S	**Sb**	**01 51 16.7**	**-0.1**
JIJ	**Ishigaki jima**	**1.59**	**217**	*e*S	**Sn**	**01 51 29.5**	**-0.2**
JOW	**Kunigami**	**3.01**	**66**	Pn	**Pn**	**01 51 28.9**	**-0.2**
32nm,0.3s,baz=262,slow=11,SNR=3.9							
ZALV	**Zalesovo Beam**	**41.08**	**324**	P	**P**	**01 58 24.8**	**0.0**
5.7nm,0.7s,mb4.3,baz=117,slow=9.1,SNR=4.9							
WRA	**Warramunga Arr**	**46.19**	**168**	P	**P**	**01 59 05.4**	**-0.7**
1.1nm,0.6s,mb3.9,baz=352,slow=9.1,SNR=2.2							
BVAR	**Borovoye Array**	**48.90**	**319**	P	**P**	**01 59 27.6**	**+0.7**
2.0nm,0.6s,mb4.3,baz=98,slow=8.9,SNR=3.1							
ASAR	**Alice Springs**	**49.75**	**170**	P	**P**	**01 59 34.2**	**+0.5**
1.5nm,0.8s,mb4.0,baz=352,slow=8.4,SNR=3.3							
YKA	**Yellowknife Ar**	**80.18**	**24**	P	**P**	**02 02 51.3**	**+0.1**
3.4nm,0.7s,mb4.4,baz=299,slow=5.7,SNR=7.8							

JMA ***20*** *01:55:24.1±0.2,2568N×125.12E,h27km±4km,M4.1*
ISC 20 01:55:25.4±2.0,2560N±008×12518E±009,h16km±9km,n7, σ0°80/11,mb4.9/1,Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JMJ	**Miyako jima 2**	**0.79**	**172**	P	**Pb**	**01 55 40.1**	**-0.6**
JMJ				S	**Sg**	**01 55 51.5**	**+0.4**
JOGS	**Gusukube**	**0.86**	**166**	P	**Pb**	**01 55 41.3**	**-0.6**
JOGS				S	**Sb**	**01 55 54.0**	**+0.8**
JTJ	**Tarama**	**1.05**	**205**	P	**Pb**	**01 55 43.6**	**-1.5**
JTJ				*e*S	**Sb**	**01 55 58.2**	**-0.4**
JKRS	**Kuro-shima**	**1.72**	**218**	P	**Pn**	**01 55 54.0**	**-0.7**
JKRS				*e*S	**Sn**	**01 56 17.0**	**+0.6**
NACB	**Ninganchiao**	**3.55**	**247**	*e*Pn	**Pg**	**01 56 34.5**	**+1.0**
WB2	**Warramunga Arr**	**46.13**	**168**	P	**P**	**02 03 49.1**	**0.0**
CTAO	**Charters Tower**	**49.81**	**154**	*e*P	**P**	**02 04 18.7**	**+1.0**
15nm,1.3s,mb4.9							

NEIC ***20*** *01:55:42.3±1.2,2454N×12533E,h10km,mb4.6/14,Error ellipse: s-maj=27.4km s-min=7.9km az=164.0*
IDC ***20*** *01:55:46.9±0.7,2571N×12528E,h0km,mb4.4/13, mb1 4.5/14,mb1mx4.4/24,mbtmp4.4/14,ML3.8/1,Error ellipse: s-maj=22.9km s-min=15.4km az=74.0*
JMA ***20*** *01:55:47.9±0.3,2574N×12522E,h17km±4km,M4.1*
JMA Felt I J1.
ISCJB ***20*** *01:55:50.8±0.5,2564N±004×12527E±005,h38km±6km, mb4.4/22,Error ellipse: s-maj=8.3km s-min=4.6km az=39.0*
ISC 20 01:55:51.8±1.6,2560N±003×12527E±005,h32km±13km, n58,σ0°98/59,mb4.4/22,Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JMJ	**Miyako jima 2**	**0.79**	**179**	P	**Pn**	**01 56 04.8**	**-1.8**
JMJ				S	**Sn**	**01 56 16.9**	**-0.4**
JOGS	**Gusukube**	**0.85**	**172**	S	**Sn**	**01 56 18.9**	**+0.1**
JTJ	**Tarama**	**1.09**	**208**	S	**Sn**	**01 56 25.2**	**+0.4**
JKE	**Kume jima 2**	**1.54**	**62**	P	**Pn**	**01 56 14.7**	**-2.3**
JIJ	**Ishigaki jima**	**1.60**	**220**	S	**Sn**	**01 56 37.0**	**-0.5**
JKRS	**Kuro-shima**	**1.78**	**220**	P	**Pn**	**01 56 19.3**	**-1.0**
JKRS				S	**Sn**	**01 56 43.1**	**+1.3**
IRIF	**Iriomote-Funau**	**1.89**	**228**	P	**Pn**	**01 56 21.0**	**-0.8**
JAGN	**Aguni-jima**	**2.02**	**61**	P	**Pn**	**01 56 24.6**	**+0.9**
NAH1	**Naha**	**2.26**	**74**	P	**Pn**	**01 56 27.0**	**+0.1**
YOJ	**Yonaguni jima**	**2.35**	**241**	P	**Pn**	**01 56 30.5**	**+2.4**
JIH	**Iheya**	**2.81**	**59**	P	**Pn**	**01 56 34.3**	**-0.1**
JOW	**Kunigami**	**2.96**	**65**	P	**Pn**	**01 56 36.3**	**-0.2**
JOW	**Kunigami**	**2.96**	**65**	Pn	**Pn**	**01 56 36.0**	**-0.6**
22nm,0.3s,baz=249,slow=9.9,SNR=16							
TATO	**Taipei**	**3.48**	**260**	Pn	**Pn**	**01 56 37.7**	**-6.1**
YHNB	**Yeheng**	**3.65**	**256**	*e*Pn	**Pn**	**01 56 45.0**	**-1.1**
JTK	**Tokunoshima**	**3.94**	**56**	P	**Pn**	**01 56 49.6**	**-0.5**
JAM	**Amami Oshima**	**4.77**	**53**	P	**Pn**	**01 57 01.7**	**+0.3**
JNU	**Nakatsue**	**8.94**	**32**	Pn	**Pn**	**01 57 59.8**	**+1.0**
0.4nm,0.3s,baz=194,slow=38,SNR=3.6							
KSRS	**Korea Array**	**12.03**	**10**	Pn	**Pn**	**01 58 41.5**	**+0.5**
0.2nm,0.3s,baz=103,slow=37,SNR=2.5							
ENH	**Enshi**	**14.71**	**292**	Pn	**Pn**	**01 59 17.4**	**-0.1**
MAJO	**Matsushiro**	**15.53**	**42**	Pn	**Pn**	**01 59 33.0**	**+4.6**
79nm,2.3s							
MJAR	**Matsushiro Arr**	**15.53**	**42**	Pn	**Pn**	**01 59 29.9**	**+1.5**
0.3nm,0.3s,baz=242,slow=11,SNR=2.6							
BJT	**Baijiatuao**	**16.27**	**334**	Pn	**Pn**	**01 59 47.4**	**+10**
MDJ	**Mudanjiang**	**19.29**	**9**	*e*P	**Pn**	**02 00 19.1**	**+4.0**
120nm,1.4s							
HIA	**Hailar**	**24.01**	**351**	P	**P**	**02 01 08.8**	**+5.3**
16nm,0.9s,mb4.5							
ULN	**Ulaanbaatar**	**26.46**	**332**	P	**P**	**02 01 27.6**	**+1.8**
SONM	**Songino Array**	**26.72**	**331**	P	**P**	**02 01 28.4**	**+0.3**
3.0nm,0.8s,mb3.9,baz=139,slow=5.6,SNR=5.4							
TLY	**Talaya**	**30.81**	**333**	*e*P	**P**	**02 02 08.0**	**+3.6**
16nm,1.0s,mb4.8							
PSI	**Prapat**	**34.00**	**232**	P	**P**	**02 02 33.8**	**+1.0**
2.3nm,0.4s,mb4.5,baz=214,slow=5.6,SNR=3.5							
MKAR	**Makanchi Array**	**39.99**	**313**	P	**P**	**02 03 23.2**	**-0.2**
1.8nm,0.6s,mb4.0,baz=96,slow=10,SNR=5.9							
ZAA0	**Zalesovo Array**	**41.17**	**324**	*e*P	**P**	**02 03 32.4**	**-0.5**
ZALV	**Zalesovo Beam**	**41.17**	**324**	P	**P**	**02 03 32.6**	**-0.3**
9.7nm,0.7s,mb4.5,baz=110,slow=8.5,SNR=22							
KURK	**Kurchatov**	**43.47**	**318**	*e*P	**P**	**02 03 51.4**	**-0.4**
TKM2	**Tokmak 2**	**43.88**	**306**	*e*P	**P**	**02 03 54.7**	**-0.5**
4.9nm,0.7s,mb4.3							
UCH	**Uchtor**	**44.60**	**305**	*e*P	**P**	**02 04 02.8**	**+1.8**
8.9nm,1.1s,mb4.5							
AAK	**Ala-Archa**	**44.65**	**306**	*e*P	**P**	**02 04 01.2**	**-0.2**
1.1nm,0.5s,mb3.9							
AML	**Almayashu**	**45.20**	**305**	P	**P**	**02 04 05.0**	**-0.7**
WRA	**Warramunga Arr**	**46.12**	**168**	P	**P**	**02 04 13.8**	**+0.7**
3.4nm,0.7s,mb4.4,baz=350,slow=8.6,SNR=14							
WB2	**Warramunga Arr**	**46.12**	**168**	*e*P	**P**	**02 04 14.0**	**+0.8**
KBL	**Kabul**	**48.94**	**294**	*e*P	**P**	**02 04 34.1**	**-0.9**
8.5nm,1.2s,mb4.7							
BVAR	**Borovoye Array**	**48.99**	**319**	P	**P**	**02 04 35.2**	**+0.1**
2.4nm,0.6s,mb4.4,baz=99,slow=8.9,SNR=9.2							
BRVK	**Borovoye**	**49.05**	**319**	*e*P	**P**	**02 04 35.8**	**+0.2**
4.2nm,0.7s,mb4.6							
BILL	**Bilibino**	**49.12**	**19**	P	**P**	**02 04 38.4**	**+2.5**
ASAR	**Alice Springs**	**49.69**	**170**	P	**P**	**02 04 42.0**	**+1.4**
1.7nm,0.6s,mb4.2,baz=358,slow=15,SNR=17							
ARU	**Arti**	**56.24**	**322**	*e*P	**P**	**02 05 28.6**	**-0.2**
11nm,1.0s,mb4.8							
STKA	**Stephens Creek**	**59.24**	**164**	P	**P**	**02 05 50.4**	**+0.4**
2.9nm,0.8s,mb4.4,baz=318,slow=9.0,SNR=3.2							
KDAK	**Kodiak Island**	**64.59**	**36**	P	**P**	**02 06 25.4**	**-0.3**
17nm,1.0s,mb5.0,baz=47,slow=12,SNR=4.4							
MCK	**McKinley**	**65.52**	**29**	*e*P	**P**	**02 06

HNR Honiara 4.65 122 P **Pn 02 04 38.4 +9.0**
31nm,0.3s,baz=267,slow=10,SNR=3.9
HNR S **Sn 02 05 32.0 +8.7**
40nm,0.3s,baz=104,slow=20,SNR=10
CTA Charters Tower 16.05 215 P **Pn 02 07 08.4 +3.5**
0.2nm,0.3s,baz=41,slow=13,SNR=2.6
CTAO Charters Tower 16.05 215 *e*P **Pn 02 07 11.8 +6.8**
4.5nm,0.7s
KAKA Kakadu 23.82 254 *e*P **P 02 08 32.7 +0.2**
64nm,0.6s,mb5.2
WB2 Warramunga Arr 24.58 236 *e*P **P 02 08 40.1 +0.8**
WRA Warramunga Arr 24.59 236 P **P 02 08 40.4 +1.0**
9.5nm,0.6s,mb4.5,baz=63,slow=9.5,SNR=79
WRA PcP PcP 02 12 17.2 -0.2
3.2nm,0.8s,baz=60,slow=2.4,SNR=11
ASAR Alice Springs 26.87 230 P **P 02 09 00.3 +0.2**
3.0nm,0.5s,mb4.1,baz=60,slow=9.5,SNR=63
ASAR PcP PcP 02 12 22.2 -0.4
1.6nm,0.4s,baz=70,slow=2.5,SNR=11
ASAR ScP ScP 02 15 58.5 -4.2
0.7nm,0.8s,baz=62,slow=3.8,SNR=4.5
STKA Stephens Creek 28.14 207 *e*P **P 02 09 11.9 +0.6**
STKA Stephens Creek 28.14 207 P **P 02 09 12.2 +0.8**
1.1nm,0.3s,mb3.9,baz=21,slow=13,SNR=4.1
STKA PcP PcP 02 12 24.1 -1.4
1.0nm,0.4s,baz=73,slow=4.9,SNR=3.6
FITZ Fitzroy Crossi 31.51 247 *e*P **P 02 09 40.4 -1.0**
20nm,0.6s,mb5.1
FITZ Fitzroy Crossi 31.51 247 P **P 02 09 40.7 -0.7**
11nm,0.6s,mb4.9,baz=87,slow=7.8,SNR=24
FITZ PcP PcP 02 12 34.4 0.0
3.1nm,0.9s,baz=244,slow=1.7,SNR=3.8
FORT Forrest 35.23 224 *e*P **P 02 10 13.7 0.0**
13nm,0.5s,mb5.1
MBWA Marble Bar 37.71 244 *e*P **P 02 10 34.0 -1.1**
8.2nm,0.8s,mb4.5
RPZ Rata Peaks 38.90 162 P **P 02 10 44.3 -0.5**
10nm,0.6s,mb4.8,baz=13,slow=1.8,SNR=13
KKM Kota Kinabalu 41.70 287 *e*P **P 02 11 08.4 0.0**
KLBR Kellerberrin 43.20 230 *e*P **P 02 11 20.0 -0.3**
18nm,0.5s,mb5.0
KSM Kuching 46.30 279 *e*P **P 02 11 44.7 -0.6**
MJAR Matsushiro Arr 46.39 340 P **P 02 11 45.7 0.0**
1.8nm,0.6s,mb4.2,baz=158,slow=7.2,SNR=5.2
KSRS Korea Array 51.38 331 P **P 02 12 25.2 +1.2**
2.9nm,0.8s,mb4.3,baz=150,slow=7.1,SNR=6.2
KULM Kulim 56.51 281 *e*P **P 02 13 00.3 -1.6**
MDJ Mudanjiang 56.59 338 P **P 02 13 03.3 +1.4**
MDJ AMB AMB
comp=Z,28nm,6.0s
GYA Guiyang 58.20 307 P **P 02 13 15.8 +2.2**
GYA AP pP 02 13 31.3 +13
GYA PCP PcP 02 14 06.5 +1.5
GYA AMB AMB
comp=Z,10.0nm,0.8s,mb4.9
GYA AMB AMB
comp=Z,70nm,5.4s
KMI Kunming 60.79 304 P **P 02 13 35.1 +3.5**
KMI AMB AMB
comp=Z,13nm,1.0s,mb5.0
CHTO Chiang Mai 61.74 296 *e*P **P 02 13 37.1 -1.0**
comp=Z,1.9nm,0.4s,mb4.6
LZH Lanzhou 64.97 315 *e*P **P 02 14 00.0 +0.8**
LZH AP pP 02 14 15.8 +12
LZH AMB AMB
comp=Z,14nm,1.0s,mb5.0
LZH AMB AMB
comp=Z,65nm,4.3s
ULN Ulaanbaatar 69.51 327 *e*P **P 02 14 28.8 +1.1**
comp=Z,3.7nm,0.6s,mb4.5
SONM Songino Array 69.84 327 P **P 02 14 30.7 +0.9**
comp=Z,9.5nm,0.7s,mb4.8,baz=136,slow=6.4,SNR=48
VNDA Vanda 70.55 179 P **P 02 14 34.5 +0.8**
comp=Z,1.1nm,0.7s,mb3.9,baz=321,slow=5.6,SNR=6.3
JIRN Jiri 75.58 301 *e*P **P 02 15 05.0 +0.6**
GUN Gumba 75.92 301 *e*P **P 02 15 06.9 +0.6**
comp=Z,18nm,0.5s,mb5.3
PKI Pulchoki 76.23 300 *e*P **P 02 15 07.9 -0.2**
comp=Z,9.1nm,0.5s,mb5.0
KKN Kakani 76.40 301 *e*P **P 02 15 09.2 +0.2**
comp=Z,13nm,0.4s,mb5.2
DMN Daman 76.50 300 *e*P **P 02 15 10.0 +0.4**
comp=Z,16nm,0.5s,mb5.2
GKN Gorkha 77.00 301 *e*P **P 02 15 12.2 -0.2**
comp=Z,25nm,0.5s,mb5.4
KOLN Koldanda 77.83 300 *e*P **P 02 15 16.6 -0.5**
comp=Z,14nm,0.6s,mb5.1
HYB Hyderabad 80.15 289 *i*P **P 02 15 30.0 0.0**
QSPA South Pole Qui 82.98 180 *e*P **P 02 15 44.0 +0.2**
comp=Z,12nm,0.6s,mb5.1
QSPA South Pole Qui 82.98 180 P **P 02 15 44.2 +0.4**
comp=Z,15nm,0.9s,mb5.0,baz=352,slow=0.4,SNR=50
MK31 Makanchi Array 84.02 318 *e*P **P 02 15 49.8 +0.1**
MKAR Makanchi Array 84.02 318 P **P 02 15 49.8 +0.1**
comp=Z,6.5nm,0.5s,mb5.0,baz=99,slow=6.1,SNR=52
ZAA0 Zalesovo Array 84.70 326 *e*P **P 02 15 51.8 -1.2**
ZALV Zalesovo Beam 84.70 326 P **P 02 15 52.0 -1.0**
ZALV Zalesovo Beam 84.70 326 P **P 02 15 52.0 -1.0**
comp=Z,4.8nm,0.5s,mb4.9,baz=117,slow=5.5,SNR=18
KURK Kurchatov 87.41 322 *e*P **P 02 16 05.3 -1.1**
comp=Z,2.9nm,0.4s,mb4.9
TKM2 Tokmak 2 87.69 314 *e*P **P 02 16 07.8 -0.1**
comp=Z,3.4nm,0.9s,mb4.6
AAK Ala-Archa 88.43 313 *e*P **P 02 16 10.8 -0.8**
comp=Z,3.3nm,0.8s,mb4.6
NVAR Mina Array Bea 90.99 52 P **P 02 16 23.7 +0.1**
NVAR Mina Array Bea 90.99 52 P **P 02 16 23.7 +0.1**
comp=Z,0.3nm,0.5s,mb3.8,baz=208,slow=3.1,SNR=3.9
KBL Kabul 91.37 304 *e*P **P 02 16 23.9 -1.5**
comp=Z,3.7nm,0.5s,mb5.0
BRVK Borovoye 92.93 323 *e*P **P 02 16 30.4 -1.8**
comp=Z,2.8nm,0.8s,mb4.7
ARCES ARCESS Array B 109.86 343 PKiKP PKiKP 02 21 48.9 -1.0
comp=Z,4.0nm,1.1s,baz=83,slow=1.8,SNR=7.9
AKASG Malin Array Be 118.08 325 PKP PKPdf 02 22 04.7 -1.5
comp=Z,1.8nm,0.6s,baz=62,slow=2.2,SNR=8.0
BOSA Boshof 120.74 231 *e*PKPdf PKPdf 02 22 11.5 -0.5
BOSA Boshof 120.74 231 PKP PKPdf 02 22 11.7 -0.4
comp=Z,4.2nm,0.7s,baz=251,slow=3.7,SNR=9.1
LBTB Lobatse 122.14 235 *e*PKPdf PKPdf 02 22 13.8 -1.0
LSZ Lusaka 123.69 247 *e*PKPdf PKPdf 02 22 17.6 -0.4
BRG Berggiesshubel 126.10 331 *e*P PKPdf 02 22 20.5 -1.1
comp=Z,3.8nm,0.9s
CLL Collm 126.26 332 *e*PKPdf PKPdf 02 22 21.0 -0.8
KHC Kasperske Hory 127.41 330 *e*PKP PKPdf 02 22 23.5 -0.6
GERES GERESS Array B 127.53 329 PKP PKPdf 02 22 24.1 -0.2
comp=Z,1.7nm,0.6s,baz=75,slow=1.6,SNR=17
EKA Eskdalemuir Ar 128.99 345 PKP PKPdf 02 22 26.7 -0.2
comp=Z,0.5nm,0.5s,baz=7.8,slow=2.6,SNR=4.2
WLF Walferdange 130.49 335 *e*PKPdf PKPdf 02 22 30.9 +1.0
GIVF Givet 130.71 336 *e*PKIKP PKPdf 02 22 29.8 -0.6
DAVOX Davos/Dischmat 130.83 330 PKP PKPdf 02 22 30.2 -0.5
comp=Z,1.9nm,0.5s,baz=227,slow=7.8,SNR=5.8
TSUM Tsumeb 131.41 237 *e*PKPdf PKPdf 02 22 32.0 -0.6
HINF Hinteralfeld 131.56 332 *e*PKIKP PKPdf 02 22 31.1 -0.9
comp=Z,2.7nm,0.5s
HAU Haudompre 131.65 333 *e*PKIKP PKPdf 02 22 31.7 -0.5
comp=Z,6.0nm,0.6s
MEZF Maizieres J'vi 131.85 334 *e*PKIKP PKPdf 02 22 32.0 -0.6
CABF La Chapelle 132.80 332 *e*PKIKP PKPdf 02 22 33.8 -0.6
comp=Z,6.8nm,0.8s
LPL La Plagne 133.28 330 *e*PKIKP PKPdf 02 22 34.9 -0.5
comp=Z,2.5nm,0.5s
LPG La Plagne 133.28 330 *e*PKIKP PKPdf 02 22 35.0 -0.4
comp=Z,5.5nm,0.7s
LOR Lormes 133.31 334 *e*PKIKP PKPdf 02 22 34.8 -0.6
SSF Saint Saulge 133.62 334 *e*PKIKP PKPdf 02 22 35.0 -1.0
comp=Z,6.6nm,0.9s
MBDF Montbardon 133.82 330 *e*PKIKP PKPdf 02 22 35.7 -0.7
SDV Santo Domingo 133.86 84 PKP PKPdf 02 22 35.3 -2.0
SDV Santo Domingo 133.86 84 PKP PKPdf 02 22 35.3 -2.0
comp=Z,1.6nm,0.9s,baz=276,slow=7.2,SNR=5.0
SBF Sospel 134.09 328 *e*PKIKP PKPdf 02 22 36.2 -0.7
ORIF Oris-en-Rattie 134.13 330 *e*PKIKP PKPdf 02 22 36.1 -0.9
comp=Z,6.4nm,0.9s
PGF Pioggiola 134.13 326 *e*PKIKP PKPdf 02 22 36.5 -0.6
comp=Z,9.2nm,0.8s
BGF Bois d'Agland 134.30 334 *e*PKIKP PKPdf 02 22 36.5 -0.7
FRF La Foret Royal 134.71 329 *e*PKIKP PKPdf 02 22 36.7 -1.4
comp=Z,15nm,1.3s
VIVF Saint-Julien-l 134.76 331 *e*PKIKP PKPdf 02 22 37.3 -0.9
TCF Toulx Ste Croi 134.78 334 *e*PKIKP PKPdf 02 22 37.5 -0.7
comp=Z,4.4nm,0.8s
LMR La Mourre 134.94 328 *e*PKIKP PKPdf 02 22 37.4 -1.2
comp=Z,5.2nm,0.8s
SMRF Simiane la Rot 134.96 330 *e*PKIKP PKPdf 02 22 37.6 -1.0
comp=Z,4.5nm,0.8s

MFF Saint Martin d 135.50 336 *e*PKIKP PKPdf 02 22 38.8 -0.7
LASF Ste Croix 135.73 331 *e*PKIKP PKPdf 02 22 39.2 -0.8
comp=Z,9.0nm,1.0s
LFF La Frestale 136.48 334 *e*PKIKP PKPdf 02 22 40.4 -1.0
MTLF Montolieu 137.06 332 *e*PKIKP PKPdf 02 22 41.3 -1.2
comp=Z,2.4nm,0.8s
EPF Esparros 138.17 333 *e*PKIKP PKPdf 02 22 43.7 -0.9
ETSF Etsaut 138.68 334 *e*PKIKP PKPdf 02 22 44.6 -0.9
comp=Z,7.1nm,0.7s
GUD Guadarrama 142.07 335 PKP PKPdf 02 22 54.8 +3.1
EQES Quesada 143.90 331 PKP PKPdf 02 22 52.8 -2.2
EADA Adamuz 144.30 333 PKP PKPdf 02 22 54.2 -1.5
EBER Berja 144.53 330 PKP PKPdf 02 22 56.9 +0.7
ELUQ Luque 144.66 332 PKP PKPdf 02 22 54.9 -1.5
ECAB El Cabril 144.75 334 PKP PKPdf 02 22 56.3 -0.2
EBAD Badajoz 144.83 337 PKP PKPdf 02 22 55.7 -0.9
EALB Alboran 145.35 329 PKP PKPdf 02 22 55.4 -2.2
EVO Evora 145.41 338 *e*PKIKP PKPdf 02 22 56.4 -1.2
comp=Z,6.0nm,0.7s
EMIN Mina Concepcio 145.54 335 PKP PKPdf 02 22 58.0 +0.1
EMIJ Mijas 145.70 332 PKP PKPdf 02 22 56.8 -1.4
ESPR Espera 145.94 333 PKP PKPdf 02 22 59.4 +0.8
EGRO El Granado 146.07 336 PKP PKPdf 02 23 00.3 +1.5
BDFB Brasilia 147.31 134 PKPbc PKPbc 02 23 02.1 -1.7
comp=Z,4.3nm,0.7s,baz=174,slow=8.5,SNR=12
MDT Midelt 148.59 327 PKPbc PKPbc 02 23 06.7 -0.1
comp=Z,3.7nm,0.7s,baz=118,slow=3.1,SNR=14
TOA0 Torodi Ar. Sit 153.93 286 *e*PKPbc PKPbc 02 23 17.9 -1.9
TORD Torodi Ar. Bea 153.93 286 PKP PKPdf 02 23 10.3 -1.4
comp=Z,0.5nm,0.7s,baz=72,slow=0.9,SNR=3.6
TORD PKPbc PKPbc 02 23 18.1 -1.6
comp=Z,3.2nm,0.7s,baz=35,slow=2.4,SNR=26
DBIC Dimbokro 160.92 270 PKPab PKPab 02 24 02.7 -0.5
comp=Z,8.0nm,0.5s,baz=88,slow=4.8,SNR=30
LIC Lamto 161.07 269 *e*PKIKP PKPdf 02 23 18.0 -2.7
comp=Z,51nm,1.5s

ISCJB ***20*** *02:03:23.1±0.2, 3444N±003×2530E±003, h10km, mb4.1/34, Error ellipse: s-maj=4.1km s-min=2.6km az=28.0*
BJI ***20*** *02:03:24.4, 3450N×2550E, h19km, mB4.8, mb4.4, Ms4.4, Msz4.3*
IDC ***20*** *02:03:25.8±0.9, 3488N×2552E, h0km, mb4.1/12, mb1 4.1/15, mb1mx4.1/26, mbtmp4.1/15, ML3.9/3, MS4.1/1, Ms1 4.1/1, ms1mx3.3/44, Error ellipse: s-maj=21.5km s-min=15.6km az=178.0*
NEIC ***20*** *02:03:27.4, 3452N×2555E, h19km, mb4.0/28, ML4.4(ATH), After ATH.*
ATH ***20*** *02:03:27.4, 3452N×2555E, h19km±1km, MD4.1/14, ML4.4*
CSEM ***20*** *02:03:32.1±0.2, 3482N×2561E, h30km, ML4.3, Error ellipse: s-maj=5.9km s-min=1.9km az=167.0*
THE ***20*** *02:03:33.1, 3488N×2556E, h16km, ML4.3*
GII ***20*** *02:03:37.9±0.7, 3451N×2666E, h2km±42km, mb4.1/2, ML3.8/3*
HLW ***20*** *02:03:42.5, 3385N×2633E, h22km, Mb4.0*
ISC 20 02:03:25.9±0.2,**3452N**±003×**2537E**±002,**h10**km,**n201,**
σ1§**45**/232,**mb4.1**/34,**9C-7D, Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
XRY	**Khrisi**	**0.45**	**37**	*e*PB	**Pg**	**02 03 35.0**	**+0.3**
LAST	**Lasithi**	**0.65**	**8**	*e*Pg	**Pg**	**02 03 39.7**	**+1.2**
LAST				*e*Sg	**Sg**	**02 03 43.9**	**-3.1**
SIVA	**Sivas**	**0.68**	**317**	*e*Pg	**Pg**	**02 03 45.2**	**+6.2**
SIVA				*e*Sg	**Sg**	**02 03 55.2**	**+7.3**
NPS	**Neapolis**	**0.77**	**15**	*e*Pn	**Pn**	**02 03 41.5**	**-1.3**
NPS	**Neapolis**	**0.77**	**15**	*e*PN	**Pn**	**02 03 41.5**	**-1.3**
NPS				*e*SN	**Sg**	**02 03 51.5**	**+0.7**
IDI	**Anoyia**	**0.86**	**333**	P	**Pg**	**02 03 46.5**	**+4.0**
ZKR	**Zakros**	**0.92**	**49**	*e*Pg	**Pg**	**02 03 43.7**	**+0.1**
ZKR				*e*Sg	**Sg**	**02 03 54.1**	**-1.5**
GVD	**Gavdhos**	**1.10**	**287**	*e*Pn	**Pn**	**02 03 53.8**	**+6.3**
GVD	**Gavdhos**	**1.10**	**287**	*e*Pg	**Pg**	**02 03 53.9**	**+6.8**
GVD				*e*Sg	**Sg**	**02 04 09.6**	**+8.1**
GVD	**Gavdhos**	**1.10**	**287**	*e*Pn	**Pn**	**02 03 50.3**	**+2.9**
GVD	**Gavdhos**	**1.10**	**287**	*e*Pg	**Pg**	**02 03 53.9**	**+6.8**
GVD				*e*Sg	**Sg**	**02 04 09.6**	**+8.2**
VAM	**Vamos**	**1.30**	**313**	*e*PN	**Pn**	**02 03 55.2**	**+5.0**
VAM				*e*SN	**Sn**	**02 04 14.2**	**+6.5**
KARN	**Karanos**	**1.48**	**307**	*e*Pg	**Pg**	**02 03 58.2**	**+3.8**
KARN				*e*Sg	**Sg**	**02 04 16.3**	**+2.7**
KARP	**Karpathos**	**1.79**	**55**	*e*PN	**Pn**	**02 03 58.2**	**+1.2**
KARP				*e*SN	**Sn**	**02 04 19.5**	**-0.3**
THR1	**Thera Island**	**1.85**	**2**	*e*Pg	**Pg**	**02 03 58.8**	**-2.6**
NISR	**Nisiros**	**2.53**	**34**	*e*PB	**Pb**	**02 04 09.0**	**-2.5**
APE	**Apeiranthos**	**2.55**	**3**	*e*Pn	**Pn**	**02 04 07.6**	**+0.3**
APE				*e*Sn	**Sn**	**02 04 34.1**	**-4.3**
APE	**Apeiranthos**	**2.55**	**3**	*e*PN	**Pn**	**02 04 10.0**	**+2.7**
KYTH	**Kithira**	**2.59**	**313**	*e*PN	**Pn**	**02 04 12.3**	**+4.4**
ARG	**Arkhangelos**	**2.82**	**52**	⇑*i*PN	**Pn**	**02 04 12.3**	**+1.3**
VLI	**Veliai**	**2.95**	**319**	⇑*i*PN	**Pn**	**02 04 16.5**	**+3.6**
BDRM	**Kayabasi**	**3.05**	**33**	⇓*i*P	**Pn**	**02 04 14.4**	**+0.2**
SMG	**Samos**	**3.40**	**20**	*e*PN	**Pn**	**02 04 21.2**	**+2.2**
DID	**Didima**	**3.44**	**331**	*e*Pn	**Pn**	**02 04 21.5**	**+1.9**
KVR	**Kavouri**	**3.54**	**339**	*e*PN	**Pn**	**02 04 25.0**	**+4.0**
NAIG	**Nisos Aigina**	**3.57**	**335**	*e*PN	**Pn**	**02 04 25.8**	**+4.4**
ATH	**Athens Observa**	**3.69**	**339**	*e*PN	**Pn**	**02 04 27.6**	**+4.5**
HMAT	**Matruh**	**3.71**	**156**	⇓*e*P	**Pn**	**02 04 25.5**	**+2.1**
HMAT				S	**Sn**	**02 04 56.8**	**-10**
HMAT	**Matruh**	**3.71**	**156**	P	**Pn**	**02 04 25.5**	**+2.1**
	2μm,0.2s						
PTL	**Penteli**	**3.73**	**341**	*e*PN	**Pn**	**02 04 27.0**	**+3.5**
AYDN	**Tasoluk**	**3.74**	**32**	⇑*i*P	**Pn**	**02 04 24.9**	**+1.2**
VLX	**Vlachokerasia**	**3.74**	**320**	*e*Pn	**Pn**	**02 04 26.9**	**+3.3**
PYL	**PYLOS**	**3.78**	**310**	*e*Pn	**Pn**	**02 04 27.1**	**+2.8**
ITM	**Ithomi**	**3.85**	**315**	*e*PN	**Pn**	**02 04 29.3**	**+4.0**
AKAS	**Kas**	**3.86**	**63**	*i*P	**Pn**	**02 04 26.2**	**+0.8**
CHOS	**Chios island**	**3.90**	**8**	*e*Pn	**Pn**	**02 04 26.4**	**+0.5**
CHOS				*e*Sn	**Sn**	**02 05 07.8**	**-3.9**
URLA	**Izmir**	**3.96**	**14**	*i*P	**Pn**	**02 04 33.5**	**+6.8**
LTK	**Loutraki**	**4.00**	**332**	*e*Pn	**Pn**	**02 04 30.0**	**+2.8**
BLCB	**Balcova**	**4.09**	**19**	*e*Pn	**Pn**	**02 04 29.0**	**+0.6**
KDAG	**Bornova**	**4.17**	**21**	*i*P	**Pn**	**02 04 31.0**	**+1.5**
GOLH	**Golhisar**	**4.35**	**50**	⇓*i*P	**Pn**	**02 04 33.0**	**+0.8**
LKR	**Lokris**	**4.54**	**336**	*e*Pn	**Pn**	**02 04 37.2**	**+2.5**
LKR	**Lokris**	**4.54**	**336**	*e*Pn	**Pn**	**02 04 38.2**	**+3.5**
MANT	**Manisa**	**4.72**	**32**	⇑*i*P	**Pn**	**02 04 38.1**	**+0.9**
RLS	**Riolos of Patr**	**4.73**	**319**	*e*PN	**Pn**	**02 04 42.5**	**+5.2**
PRK	**Paraskevi**	**4.77**	**8**	*e*PN	**Pn**	**02 04 41.4**	**+3.5**
AGG	**Agios Georgios**	**5.11**	**332**	*e*Pn	**Pn**	**02 04 45.9**	**+3.3**
XOR	**Xorichti**	**5.14**	**341**	*e*Pn	**Pn**	**02 04 44.9**	**+1.9**
XOR	**Xorichti**	**5.14**	**341**	*e*Pn	**Pn**	**02 04 44.8**	**+1.9**
SWA1		**5.25**	**177**	⇓*e*P	**Pn**	**02 04 50.1**	**+5.6**
SWA1				S	**Sn**	**02 05 39.4**	**-5.6**
VLS	**Valsamata**	**5.31**	**315**	*e*PN	**Pn**	**02 04 50.3**	**+5.0**
TKTP	**Tekketepe**	**5.32**	**47**	*i*P	**Pn**	**02 04 50.6**	**+5.1**
BTOK	**Tokmak**	**5.65**	**21**	*i*P	**Pn**	**02 04 50.8**	**+0.8**
THL	**Klokotos Trika**	**5.70**	**333**	*e*PN	**Pn**	**02 04 55.9**	**+5.2**
CSS	**Prodhromos**	**6.57**	**84**	*e*Pn	**Pn**	**02 05 02.1**	**-0.5**
CSS				*e*Sn	**Sn**	**02 06 06.6**	**-11**
CSS	**Prodhromos**	**6.57**	**84**	*e*Pn	**Pn**	**02 05 02.1**	**-0.5**
HMYD	**Mayadein**	**6.59**	**134**	⇑*e*P	**Pn**	**02 05 03.1**	**+0.2**
HNAT	**Natroun**	**6.60**	**136**	⇓*i*P	**Pn**	**02 05 03.4**	**+0.3**
ESKT	**Eskisehir**	**6.64**	**40**	*i*P	**Pn**	**02 05 00.2**	**-3.4**
KOT	**Kottamia**	**7.14**	**128**	⇓*e*P	**Pn**	**02 05 11.7**	**+1.3**
KOT	**Kottamia**	**7.14**	**128**	P	**Pn**	**02 05 11.6**	**+1.2**
GLL	**Jalalah**	**7.30**	**131**	⇓*e*P	**Pn**	**02 05 13.1**	**+0.5**
HHAG	**Hagoal**	**7.30**	**127**	⇑P	**Pn**	**02 05 13.2**	**+0.6**
HHAG	**Hagoal**	**7.30**	**127**	P	**Pn**	**02 05 13.1**	**+0.5**
	3μm,0.2s						
AMAG	**Maghara**	**7.66**	**118**	⇑*e*P	**Pn**	**02 05 17.6**	**0.0**
HNTI	**Hanita**	**8.29**	**97**	Sn	**Sn**	**02 06 49.3**	**-11**
TIP	**Timpagrande**	**8.32**	**306**	*e*Pn	**Pn**	**02 05 28.5**	**+2.0**
TIP				*e*Sn	**Sn**	**02 06 54.3**	**-6.3**
TIP	**Timpagrande**	**8.32**	**306**	*e*Pn	**Pn**	**02 05 28.5**	**+1.9**
SLTI	**Sal'it**	**8.40**	**103**	Pn	**Pn**	**02 05 26.9**	**-0.9**
SLTI				Sn	**Sn**	**02 06 52.6**	**-10**
KZIT	**Kziot**	**8.42**	**113**	Pn	**Pn**	**02 05 28.9**	**+1.0**
KZIT				Sn	**Sn**	**02 06 55.4**	**-7.7**
MMA3	**Mount Meron ar**	**8.49**	**97**	Pn	**Pn**	**02 05 28.4**	**-0.5**
MMA3				Sn	**Sn**	**02 06 53.8**	**-11**
MMAI	**Mount Meron Ar**	**8.49**	**97**	Pn	**Pn**	**02 05 28.7**	**-0.3**
	2.7nm,0.3s,baz=301,slow=13,SNR=21						
MMAI				Sn	**Sn**	**02 06 59.9**	**-4.9**
	9.5nm,0.3s,baz=289,slow=18,SNR=8.7						
HNKL	**Nakhl**	**8.61**	**120**	⇑*e*P	**Pn**	**02 05 31.5**	**+0.9**
HNKL				S	**Sn**	**02 06 51.6**	**-16**
MMLI	**Mount Malkishu**	**8.65**	**101**	Pn	**Pn**	**02 05 31.1**	**0.0**

MMLI Mount Malkishu 8.65 101 Pn **Pn 02 05 31.2 0.0**
MMLI Sn **Sn 02 06 59.4 -9.4**
KSDI Kefar Szold 8.66 96 Sn **Sn 02 06 59.3 -10**
YTIR Yattir 8.78 108 Pn **Pn 02 05 32.6 -0.2**
YTIR Sn **Sn 02 07 04.1 -7.8**
YTIR Yattir 8.78 108 Pn **Pn 02 05 32.6 -0.3**
YTIR Sn **Sn 02 07 04.1 -7.8**
HMDT Nahal Hemdat 8.79 102 Pn **Pn 02 05 33.3 +0.2**
DSI Dead Sea 8.90 107 Pn **Pn 02 05 34.5 -0.2**
DSI Sn **Sn 02 07 06.7 -8.4**
MZDA Masada 8.99 108 Pn **Pn 02 05 36.0 +0.2**
MZDA Sn **Sn 02 07 08.2 -9.0**
MZDA Masada 8.99 108 Pn **Pn 02 05 36.0 +0.2**
MZDA Sn **Sn 02 07 08.2 -9.0**
KRMI Paran Flat 9.05 116 Pn **Pn 02 05 37.8 +1.1**
KRMI Sn **Sn 02 07 11.7 -6.9**
PRNI Paran 9.14 114 Pn **Pn 02 05 39.1 +1.2**
PRNI Sn **Sn 02 07 13.4 -7.4**
ZFRI Zfri 9.18 113 Pn **Pn 02 05 39.5 +1.1**
ZFRI Sn **Sn 02 07 13.1 -8.6**
HRFI Mount Harif 9.33 116 Pn **Pn 02 05 41.2 +0.8**
HRFI Sn **Sn 02 07 18.3 -7.1**
VAE Valguarnera 9.35 292 Pn **Pn 02 05 46.7 +5.9**
4.0nm,0.3s,baz=62,slow=7.9,SNR=9.7
EIL Elat 9.46 118 Pn **Pn 02 05 43.9 +1.6**
1.3nm,0.3s,baz=338,slow=11,SNR=20
EIL Sn **Sn 02 07 19.6 -9.1**
6.4nm,0.3s,baz=39,slow=16,SNR=13
EIL Elat 9.46 118 Pn **Pn 02 05 43.8 +1.6**
EIL Elat 9.46 118 Pn **Pn 02 05 43.8 +1.6**
EIL Sn **Sn 02 07 19.5 -9.1**
HKAT Jabal Katrina 9.48 127 ⇓*e*P **Pn 02 05 43.4 +0.8**
ASF Jabal al Asfar 9.93 100 Pn **Pn 02 05 48.9 +0.3**
0.5nm,0.3s,baz=272,slow=6.1,SNR=10
ASF Sn **Sn 02 07 32.3 -7.8**
0.6nm,0.3s,baz=245,slow=19,SNR=5.9
MLR Muntele Rosu 10.97 2 Pn **Pn 02 06 09.6 +6.7**
0.1nm,0.3s,baz=180,slow=14,SNR=3.3
MLR LR LR 02 10 30.9
comp=Z,971nm,19.3s,baz=304,slow=40
MALT Malatya 11.18 66 *e*Pn **Pn 02 06 04.2 -1.6**
AQU L'Aquila 12.20 313 *e*Pn **Pn 02 06 21.9 +2.1**
AQU L'Aquila 12.20 313 *e*Pn **Pn 02 06 21.9 +2.1**
PGF Pioggiola 15.09 307 *e*P **Pn 02 06 57.9 -1.3**
5.0nm,0.6s
PGF Pioggiola 15.09 307 *e*P **Pn 02 06 57.9 -1.3**
2.5nm,0.6s
MORC Moravsky Berou 16.30 342 *e*P **Pn 02 07 14.0 -0.8**
3.3nm,0.9s
KIV Kislovodsk 16.37 50 *e*P **Pn 02 07 17.9 +2.2**
35nm,1.3s
AKASG Malin Array Be 16.41 9 Pn **Pn 02 07 17.0 +0.8**
AKASG Malin Array Be 16.41 9 Pn **Pn 02 07 17.0 +0.8**
1.1nm,0.3s,baz=198,slow=11,SNR=13
AKBB Malin Array Si 16.41 9 *e*P **Pn 02 07 16.8 +0.6**
AKBB Malin Array Si 16.41 9 *e*P **Pn 02 07 16.8 +0.5**
SBF Sospel 16.71 309 *e*P **Pn 02 07 18.6 -1.5**
25nm,1.0s
SBF Sospel 16.71 309 *e*P **Pn 02 07 18.6 -1.5**
12nm,1.0s
GERES GERESS Array B 16.73 332 Pn **Pn 02 07 23.0 +2.8**
0.1nm,0.3s,baz=156,slow=15,SNR=4.3
LMR La Mourre 17.08 307 *e*P **Pn 02 07 23.4 -1.4**
23nm,1.4s
LMR La Mourre 17.08 307 *e*P **Pn 02 07 23.4 -1.4**
11nm,1.4s
FRF La Foret Royal 17.09 307 *e*P **Pn 02 07 23.0 -1.8**
MBDF Montbardon 17.54 311 *e*P **Pn 02 07 28.9 -1.6**
BNI Bardonecchia 17.76 312 *e*P **Pn 02 07 36.0 +2.8**
5.2nm,1.0s
BNI Bardonecchia 17.76 312 *e*P **Pn 02 07 36.0 +2.8**
5.2nm,1.0s
LPG La Plagne 17.94 313 *e*P **Pn 02 07 33.8 -1.6**
SMRF Simiane la Rot 17.97 308 *e*P **Pn 02 07 34.3 -1.4**
CABF La Chapelle 18.93 315 *e*P **Pn 02 07 45.2 -2.2**
11nm,0.8s
CABF La Chapelle 18.93 315 *e*P **Pn 02 07 45.2 -2.2**
5.6nm,0.8s
LASF Ste Croix 19.14 306 *e*P **Pn 02 07 48.2 -1.8**
13nm,1.2s
LASF Ste Croix 19.14 306 *e*P **Pn 02 07 48.2 -1.8**
6.4nm,1.2s
HINF Hinteralfeld 19.19 319 *e*P **Pn 02 07 48.1 -2.5**
CDF Champ du Feu 19.33 321 *e*P **Pn 02 07 49.7 -2.6**
HAU Haudompre 19.57 319 *e*P **Pn 02 07 52.6 -2.6**
5.0nm,0.5s
HAU Haudompre 19.57 319 *e*P **Pn 02 07 52.6 -2.6**
2.5nm,0.5s
MTLF Montolieu 20.00 303 *e*P **P 02 07 58.1 -0.5**
SMF Signal de Mont 20.27 313 *e*P **P 02 08 00.5 -1.0**
8.6nm,0.9s
SMF Signal de Mont 20.27 313 *e*P **P 02 08 00.5 -1.0**
4.3nm,0.9s
MEZF Maizieres J'vi 20.57 319 *e*P **P 02 08 03.1 -1.6**
LOR Lormes 20.57 315 *e*P **P 02 08 03.4 -1.3**
3.6nm,0.6s
LOR Lormes 20.57 315 *e*P **P 02 08 03.4 -1.3**
1.8nm,0.6s
AVF Avril sur Loir 20.64 313 *e*P **P 02 08 04.3 -1.2**
SSF Saint Saulge 20.68 314 *e*P **P 02 08 04.5 -1.4**
19nm,1.1s
SSF Saint Saulge 20.68 314 *e*P **P 02 08 04.5 -1.4**
9.4nm,1.1s
WLF Walferdange 20.70 323 *e*P **P 02 08 05.3 -0.9**
4.9nm,0.7s
BGF Bois d'Agland 20.84 312 *e*P **P 02 08 06.5 -1.1**
7.7nm,0.7s
BGF Bois d'Agland 20.84 312 *e*P **P 02 08 06.5 -1.1**
3.8nm,0.7s
TCF Toulx Ste Croi 21.11 311 *e*P **P 02 08 09.4 -1.2**
RJF Les Rejaudoux 21.15 308 *e*P **P 02 08 10.2 -0.9**
MEM Membach 21.39 325 P **P 02 08 14.7 +1.2**
comp=Z,5.6nm,1.1s,mb3.8
LFF La Frestale 21.53 306 *e*P **P 02 08 13.8 -1.3**
comp=Z,9.8nm,0.9s,mb3.9
LFF La Frestale 21.53 306 *e*P **P 02

TORD	**Torodi Ar. Bea**	30.21	231	P	P	02 09 41.3	+4.5
	comp=Z,0.8nm,0.4s,mb3.8,baz=33,slow=8.6,SNR=16						
ARCES	**ARCESS Array B**	35.07	0	P	P	02 10 16.1	-2.6
	comp=Z,3.4nm,0.9s,mb4.3,baz=188,slow=9.4,SNR=13						
BRVK	**Borovoye**	36.61	46	*e*P	P	02 10 30.2	-2.0
	comp=Z,3.8nm,1.0s,mb4.2						
BRVK	**Borovoye**	36.61	46	*e*P	P	02 10 30.2	-1.9
	comp=Z,3.8nm,1.0s,mb4.2						
BVAR	**Borovoye Array**	36.67	46	P	P	02 10 31.9	-0.7
	comp=Z,3.0nm,0.8s,mb4.2,baz=262,slow=4.5,SNR=10.0						
EKS2	**Erkin-Say**	38.26	63	*e*P	P	02 10 45.9	-0.3
	comp=Z,2.7nm,0.8s,mb4.0						
EKS2	**Erkin-Say**	38.26	63	*e*P	P	02 10 45.9	-0.4
	comp=Z,2.7nm,0.8s,mb4.0						
AAK	**Ala-Archa**	38.79	63	*e*P	P	02 10 49.9	-0.8
	comp=Z,3.2nm,0.9s,mb4.0						
AAK	**Ala-Archa**	38.79	63	*e*P	P	02 10 49.9	-0.8
	comp=Z,3.2nm,0.9s,mb4.0						
UCH	**Uchtor**	38.84	64	*e*P	P	02 10 51.2	+0.1
	comp=Z,2.2nm,0.7s,mb4.0						
UCH	**Uchtor**	38.84	64	*e*P	P	02 10 51.2	+0.1
	comp=Z,2.2nm,0.7s,mb4.0						
TKM2	**Tokmak 2**	39.58	62	*e*P	P	02 10 57.1	-0.2
	comp=Z,2.0nm,0.6s,mb4.0						
TKM2	**Tokmak 2**	39.58	62	*e*P	P	02 10 57.1	-0.2
	comp=Z,2.0nm,0.6s,mb4.0						
KURK	**Kurchatov**	41.45	50	*e*P	P	02 11 11.7	-0.9
	comp=Z,5.2nm,0.8s,mb4.2						
KURK	**Kurchatov**	41.45	50	*e*P	P	02 11 11.7	-1.0
	comp=Z,5.2nm,0.8s,mb4.2						
MK31	**Makanchi Array**	43.99	56	*e*P	P	02 11 32.8	-0.5
MK31	**Makanchi Array**	43.99	56	*e*P	P	02 11 32.8	-0.5
MKAR	**Makanchi Array**	43.99	56	P	P	02 11 33.0	-0.3
	comp=Z,3.0nm,0.7s,mb4.1,baz=277,slow=6.6,SNR=25						
ZAA0	**Zalesovo Array**	45.33	46	*e*P	P	02 11 42.1	-1.8
ZAA0	**Zalesovo Array**	45.33	46	*e*P	P	02 11 42.1	-1.8
ZALV	**Zalesovo Beam**	45.33	46	P	P	02 11 42.6	-1.3
	comp=Z,2.1nm,0.5s,mb4.2,baz=260,slow=9.1,SNR=9.1						
SONM	**Songino Array**	59.76	50	P	P	02 13 30.2	-0.7
	comp=Z,2.0nm,0.8s,mb4.2,baz=272,slow=7.2,SNR=10						
ULN	**Ulaanbaatar**	60.17	50	*e*P	P	02 13 33.3	-0.4
	comp=Z,4.4nm,0.9s,mb4.5						
ULN	**Ulaanbaatar**	60.17	50	*e*P	P	02 13 33.3	-0.4
	comp=Z,4.4nm,0.9s,mb4.5						
LZH	**Lanzhou**	62.33	64	*e*P	P	02 13 48.8	+0.2
LZH				AMB	AMB		
	comp=Z,20nm,1.2s,mb5.1						
LZH				AMB	AMB		
	comp=Z,108nm,5.1s						
SCHQ	**Schefferville**	63.78	320	P	P	02 13 58.5	+0.5
	comp=Z,2.5nm,0.3s,mb4.7,baz=84,slow=4.6,SNR=31						
GYA	**Guiyang**	68.78	72	P	P	02 14 29.8	-0.6
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.8						
MDJ	**Mudanjiang**	75.53	46	P	P	02 15 07.3	-3.2
MDJ				AMB	AMB		
	comp=Z,6.0nm,1.8s,mb4.2						
YKA	**Yellowknife Ar**	78.11	342	P	P	02 15 24.3	-0.4
	comp=Z,0.3nm,0.4s,mb3.6,baz=32,slow=5.0,SNR=16						
FFC	**Flin Flon**	80.28	332	*e*P	P	02 15 36.7	-0.1
	comp=Z,2.0nm,0.9s,mb4.0						
FFC	**Flin Flon**	80.28	332	*e*P	P	02 15 36.7	0.0
	comp=Z,2.0nm,0.9s,mb4.0						
QSPA	**South Pole Qui**	124.38	180	PKP	PKPdf	02 22 25.0	+1.2
QSPA	**South Pole Qui**	124.38	180	PKP	PKPdf	02 22 25.0	+1.2
	comp=Z,2.1nm,1.2s,baz=260,slow=1.2,SNR=5.4						

CSEM ***20*** *02:06:56.0, 34.76N×25.63E, h27km, MD3.5/4, After ATH*
NEIC ***20*** *02:06:56.0, 34.76N×25.63E, h27km, MD3.5(ATH), After ATH.*

ATH 20 02:06:56.0, 34.76N×25.63E, h27km±1km, MD3.5/4, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
XRY	**Khrisi**	0.13	25	*e*PB	Pb	02 07 01.1	0.0
NPS	**Neapolis**	0.50	358	*e*PN	Pn	02 07 06.3	-1.1
VAM	**Vamos**	1.34	299	*e*PN	Pn	02 07 21.1	+2.2
KARP	**Karpathos**	1.48	58	*e*PN	Pn	02 07 23.7	+2.9
KARP				*e*SN	Sn	02 07 42.3	+3.0

ISCJB ***20*** *02:11:06.0±0.3, 102N±004×126.14E±007, h10km, mb4.8/56, MS5.2/2, Error ellipse: s-maj=10.9km s-min=5.3km az=165.1*
BJI ***20*** *02:11:06.0, 100N×126.10E, h10km, mB4.8, mb4.8, Ms4.7, Msz4.5*
IDC ***20*** *02:11:06.1±0.4, 0.99N×126.17E, h0km, mb4.7/21, mb1 4.7/23, mb1mx4.7/24, mbtmp4.6/23, ML4.4/2, MS6.3/1, Ms1 6.3/1, ms1mx4.7/16, Error ellipse: s-maj=22.9km s-min=8.6km az=73.0*
NEIC ***20*** *02:11:07.5±0.2, 104N×126.15E, h10km, mb4.8/22, Error ellipse: s-maj=10.4km s-min=4.7km az=73.0*
MOS ***20*** *02:11:09.6±1.1, 109N×126.11E, h33km, mb4.9/23, Error ellipse: s-maj=16.5km s-min=7.5km az=111.9*

ISC 20 02:11:06.8±2.1, 101N±004×12616E±007, h4km±13km, h13km±1.0km: pP-P, n123, σ0991/119, mb4.8/56, MS5.2/2, 2C-4D, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKM	**Kota Kinabalu**	11.11	297	*e*Pn	Pn	02 13 53.0	+6.4
BATI	**Kupang**	11.42	193	Pn	Pn	02 13 50.9	+0.1
	4.5nm,0.3s,baz=34,slow=6.4,SNR=2.6						
KMMI	**Kalianget**	14.57	236	P	Pn	02 14 44.7	+11
	219nm,1.0s						
KAKA	**Kakadu**	14.99	156	*e*P	Pn	02 14 39.4	-0.3
	29nm,0.7s						
KSM	**Kuching**	15.86	272	*e*P	Pn	02 14 56.9	+5.9
KRKI	**Karangkates**	16.43	236	P	Pn	02 15 05.3	+6.9
	258nm,1.1s						
BJII	**Banjamegara**	18.39	243	P	Pn	02 15 28.0	+5.1
	54nm,1.6s						
FITZ	**Fitzroy Crossi**	19.00	182	*e*P	Pn	02 15 25.6	-4.7
	12nm,0.9s						
FITZ	**Fitzroy Crossi**	19.00	182	P	Pn	02 15 30.0	-0.3
	0.6nm,0.3s,baz=7.4,slow=8.7,SNR=12						
WRAB	**Tennant Creek**	22.31	159	*i* P	P	02 16 05.9	+0.4
WRA	**Warramunga Arr**	22.32	159	P	P	02 16 06.2	+0.6
	15nm,0.8s,mb4.5,baz=337,slow=11,SNR=63						
WRA				PcP	PcP	02 20 01.2	-0.4
	1.0nm,0.6s,baz=320,slow=2.3,SNR=4.8						
WRA				S	S	02 20 10.3	-1.5
	2.4nm,0.8s,baz=330,slow=20,SNR=4.6						
WB2	**Warramunga Arr**	22.32	159	*e*P	P	02 16 06.1	+0.5
MBWA	**Marble Bar**	22.92	196	*e*P	P	02 16 11.8	-0.1
	13nm,0.9s,mb4.4						
ASAR	**Alice Springs**	25.66	163	P	P	02 16 38.2	+0.3
	4.7nm,0.7s,mb4.1,baz=350,slow=7.6,SNR=37						
ASAR				PcP	PcP	02 20 08.4	-0.2
	1.4nm,0.6s,baz=342,slow=2.1,SNR=7.6						
ASAR				S	S	02 21 08.1	+1.1
	0.6nm,0.9s,baz=351,slow=29,SNR=4.2						
JOW	**Kunigami**	25.75	4	P	P	02 16 40.5	+1.9
	52nm,0.7s,mb5.2,baz=195,slow=9.0,SNR=7.6						
JOW				LR	LR	02 26 58.3	
	comp=Z,60μm,18.1s,MS6.2,baz=252,slow=37						
KULM	**Kulim**	25.82	280	*e*P	P	02 16 39.4	-0.1
PSI	**Prapat**	27.28	274	P	P	02 16 53.0	+0.4
	20nm,0.8s,mb4.7,baz=104,slow=4.4,SNR=22						
GYA	**Guiyang**	31.49	325	P	P	02 17 31.8	+1.9
GYA				PP	PP	02 18 36.9	-4.2
GYA				PCP	PcP	02 20 25.3	+2.2
GYA				S	S	02 22 40.0	+1.2
GYA				SCP	ScP	02 24 07.4	+0.1
GYA				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.7						
GYA				AMB	AMB		
	comp=Z,90nm,5.4s						
GYA				LR	LR		
	comp=N,460nm,17.9s,MS4.4						
GYA				LR	LR		
	comp=E,540nm,18.1s,MS4.4						
GYA				LR	LR		
	comp=Z,480nm,17.7s,MS4.2						
NJ2	**Nanjing**	31.63	348	*e*P	P	02 17 33.1	+2.0
NJ2				AMB	AMB		
	comp=Z,20nm,0.6s,mb5.1						
FORT	**Forrest**	31.67	177	*e*P	P	02 17 31.6	+0.2
	comp=Z,22nm,0.8s,mb5.0						
CHTO	**Chiang Mai**	32.02	305	*e*P	P	02 17 34.8	+0.1
	comp=Z,3.9nm,0.6s,mb4.4						
CHTO	**Chiang Mai**	32.02	305	*e*P	P	02 17 34.8	+0.1
CHTO				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.4						
KMI	**Kunming**	32.95	319	P	P	02 17 44.8	+2.0
KMI				AP	pP	02 17 48.3	+4.3
KMI				AMB	AMB		
	comp=Z,11nm,0.7s,mb4.9						
STKA	**Stephens Creek**	35.83	157	*e*P	P	02 18 07.8	+0.2
	comp=Z,6.9nm,0.8s,mb4.6						
STKA	**Stephens Creek**	35.83	157	P	P	02 18 07.9	+0.3
	comp=Z,9.1nm,0.8s,mb4.8,baz=331,slow=8.0,SNR=24						
KSRS	**Korea Array**	36.30	2	P	P	02 18 12.7	+1.2
	comp=Z,6.5nm,0.9s,mb4.5,baz=179,slow=9.6,SNR=7.8						
MJAR	**Matsushiro Arr**	37.07	16	P	P	02 18 17.6	-0.5
	comp=Z,8.0nm,0.9s,mb4.6,baz=188,slow=9.3,SNR=13						
MAJO	**Matsushiro**	37.07	16	*e*P	P	02 18 17.5	-0.6
	comp=Z,5.7nm,0.4s,mb4.8						
MAJO	**Matsushiro**	37.07	16	*e*P	P	02 18 17.5	-0.6
MAJO				pmax	pmax		
	comp=Z,6.0nm,0.4s,mb4.8						
BJT	**Baijiatuau**	39.87	348	*e*P	P	02 18 42.0	+0.4
	comp=Z,10nm,0.6s,mb4.7						
BJT	**Baijiatuau**	39.87	348	*e*P	P	02 18 42.1	+0.4
BJT				pmax	pmax		
	comp=Z,10.0nm,0.6s						
LZH	**Lanzhou**	40.58	332	*e*P	P	02 18 49.6	+2.0
LZH				AP	pP	02 18 53.8	+4.9
LZH				XP	sP	02 18 56.3	+6.9
LZH				AMB	AMB		
	comp=Z,14nm,1.0s,mb4.5						
LZH				AMB	AMB		
	comp=Z,68nm,4.5s						
MDJ	**Mudanjiang**	43.52	4	P	P	02 19 12.0	+0.5
MDJ				AP	pP	02 19 15.0	+2.2
MDJ				PP	PP	02 20 53.3	+0.6
MDJ				SCP	ScP	02 24 51.1	-0.8
MDJ				S	S	02 25 42.1	+1.2
MDJ				XS	sS	02 25 47.3	+4.2
MDJ				AMB	AMB		
	comp=Z,19nm,1.1s,mb4.7						
GTA	**Gaotai**	45.15	331	*e*P	P	02 19 24.9	+0.3
GTA				AP	pP	02 19 29.3	+3.4
GTA				XP	sP	02 19 32.3	+5.9
GTA				AMB	AMB		
	comp=Z,7.0nm,0.8s,mb4.5						
GUN	**Gumba**	46.91	308	*e*P	P	02 19 38.2	-0.5
	comp=Z,41nm,0.7s,mb5.5						
PKI	**Pulchoki**	47.12	308	*e*P	P	02 19 40.4	0.0
KKN	**Kakani**	47.32	308	*e*P	P	02 19 42.1	+0.2
DMN	**Daman**	47.38	308	*e*P	P	02 19 43.0	+0.6
GKN	**Gorkha**	47.92	308	*e*P	P	02 19 45.8	-0.8
	comp=Z,22nm,0.6s,mb5.3						
YSS	**Yuzh-Sakhalins**	47.99	15	*e*P	P	02 19 47.3	+0.5
YSS				pmax	pmax		
	comp=Z,8.0nm,0.7s,mb4.9						
KLR	**Kul'dur**	48.27	5	*e*P	P	02 19 45.3	-3.6
HIA	**Hailar**	48.38	354	*e*P	P	02 19 50.7	+0.9
	comp=Z,16nm,1.0s,mb5.0						
HIA	**Hailar**	48.38	354	*e*P	P	02 19 50.7	+0.9
HIA				pmax	pmax		
	comp=Z,16nm,1.0s						
KOLN	**Koldanda**	48.65	307	*e*P	P	02 19 51.5	-0.7
	comp=Z,35nm,0.6s,mb5.6						
ULN	**Ulaanbaatar**	49.52	343	*e*P	P	02 19 59.1	+0.5
	comp=Z,3.6nm,0.6s,mb4.6						
ULN	**Ulaanbaatar**	49.52	343	*e*P	P	02 19 59.1	+0.6
ULN				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.6						
HYB	**Hyderabad**	49.55	292	*i* P	P	02 20 01.0	+1.7
SONM	**Songino Array**	49.69	343	P	P	02 19 59.3	-0.5
	comp=Z,4.0nm,0.8s,mb4.5,baz=155,slow=7.9,SNR=17						
SONM				PcP	PcP	02 21 20.8	-0.3
	comp=Z,1.5nm,0.6s,baz=147,slow=3.4,SNR=4.0						
ZAK	**Zakamensk**	52.90	342	*e*P	P	02 20 20.3	-3.6
ZAK				*e*		02 21 32.6	
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.1s,mb4.0						
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.2s,mb4.1						
BOD	**Bodaibo**	57.46	352	*e*P	P	02 20 56.5	-0.1
MK31	**Makanchi Array**	59.47	326	*e*P	P	02 21 10.1	-0.8
MK31	**Makanchi Array**	59.47	326	*i* P	P	02 21 10.4	-0.5
MK31				pmax	pmax		
	comp=Z,8.0nm,0.4s,mb5.1						
MKAR	**Makanchi Array**	59.47	326	P	P	02 21 10.3	-0.7
MKAR				PcP	PcP	02 21 58.1	-0.4
MKAR	**Makanchi Array**	59.47	326	P	P	02 21 10.3	-0.7
	comp=Z,5.2nm,0.4s,mb4.9,baz=121,slow=7.8,SNR=70						
MKAR				PcP	PcP	02 21 58.1	-0.4
	comp=Z,2.6nm,0.7s,baz=109,slow=5.6,SNR=4.7						
ULHL	**Ulahol**	60.67	319	P	P	02 21 19.0	-0.3
	SNR=120						
YAK	**Yakutsk**	60.92	2	*i* P	P	02 21 20.3	-0.3
KZA	**Kyzart**	61.24	319	P	P	02 21 19.0	-4.2
	SNR=111						
TKM2	**Tokmak 2**	61.41	320	*e*P	P	02 21 23.5	-0.8
	comp=Z,6.5nm,0.8s,mb4.8						
TKM2	**Tokmak 2**	61.41	320	*e*P	P	02 21 23.5	-0.8
TKM2				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.8						
TKM2	**Tokmak 2**	61.41	320	P	P	02 21 26.3	+2.0
	SNR=6.1						
UCH	**Uchtor**	61.80	319	P	P	02 21 27.5	+0.6
	SNR=8.7						
AAK	**Ala-Archa**	62.00	319	*e*P	P	02 21 27.4	-0.9
	comp=Z,11nm,1.4s,mb4.8						
AAK	**Ala-Archa**	62.00	319	*e*P	P	02 21 28.0	-0.3
AAK				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.5						
USP	**Ospenovka**	62.29	320	P	P	02 21 29.7	-0.5
	SNR=5.2						
AML	**Almayashu**	62.30	318	P	P	02 21 30.3	0.0
	SNR=6.6						
EKS2	**Erkin-Say**	62.48	319	*e*P	P	02 21 30.8	-0.7
	comp=Z,7.8nm,0.9s,mb4.8						
EKS2	**Erkin-Say**	62.48	319	P	P	02 21 31.2	-0.3
	SNR=6.1						
KBL	**Kabul**	62.74	309	*e*P	P	02 21 31.8	-1.6
	comp=Z,9.3nm,1.0s,mb4.9						
KBL	**Kabul**	62.74	309	*e*P	P	02 21 31.8	-1.6
KBL				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.8						
ZAA0	**Zalesovo Array**	62.75	334	*e*P	P	02 21 31.5	-1.6
ZALV	**Zalesovo Beam**	62.75	334	P	P	02 21 31.9	-1.2
	comp=Z,2.9nm,0.5s,mb4.7,baz=138,slow=5.8,SNR=14						
ZAL	**Zalesovo**	62.75	334	P	P	02 21 31.9	-1.2
KURK	**Kurchatov**	63.73	328	*e*P	P	02 21 38.6	-1.0
	comp=Z,28nm,0.7s,mb5.4						
KURK	**Kurchatov**	63.73	328	*i* P	P	02 21 38.8	-0.8
KURK				pmax	pmax		
	comp=Z,17nm,0.9s,mb5.1						
NVS	**Novosibirsk**	64.03	334	*i* P	P	02 21 40.2	-1.3
KK31	**Karatay Array**	64.84	318	*i* P	P	02 21 46.0	-1.1
KK31				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.5						
BRVK	**Borovoye**	69.36	328	*e*P	P	02 22 14.9	-0.7
	comp=Z,11nm,0.8s,mb4.8						
BRVK	**Borovoye**	69.36	328	*e*P	P	02 22 14.9	-0.7
BRVK				pmax	pmax		
	comp=Z,11nm,0.8s,mb4.8						
TIXI	**Tiksi**	70.55	1	*e*P	P	02 22 22.4	-0.2
TIXI				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.6						
AKTK	**Aktyubinsk**	75.43	322	P	P	02 22 51.5	-0.4
AKTO	**Aktyubinsk**	75.43	322	P	P	02 22 51.5	-0.4
	comp=Z,11nm,0.8s,mb4.8,baz=104,slow=8.6,SNR=29						
SVE	**Sverdlovsk**	75.97	329	*e*P	P	02 22 54.5	-0.4
ARU	**Arti**	76.92	328	*e*P	P	02 22 59.1	-1.1
	comp=Z,23nm,0.6s,mb5.3						
ARU	**Arti**	76.92	328	*c i* P	P	02 22 59.7	-0.6
ARU				*e*		02 25 51.7	
ARU				*e*S	S	02 32 44.9	-3.9
ARU				pmax	pmax		
	comp=Z,35nm,1.0s,mb5.2						
VNDA	**Vanda**	80.82	173	*e*P	P	02 23 20.9	-0.4
	comp=Z,1.9nm,0.8s,mb4.1						
VNDA	**Vanda**	80.82	173	*e*P	P	02 23 20.9	-0.4
VNDA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
VNDA	**Vanda**	80.82	173	P	P	02 23 21.6	+0.3
	comp=Z,1.9nm,0.8s,mb4.1,baz=304,slow=4.3,SNR=9.7						
MAW	**Mawson**	81.03	200	P	P	02 23 23.0	+0.5
	comp=Z,2.2nm,0.8s,mb4.2,baz=269,slow=15,SNR=6.2						
ATD	**Arta Tunnel**	83.25	281	P	P	02 23 36.5	+1.1
	comp=Z,11nm,0.7s,mb5.0,baz=204,slow=5.8,SNR=5.7						
TTA	**Tatalina**	83.56	27	*e*P	P	02 23 37.0	+1.1
	comp=Z,3.9nm,0.6s,mb4.7						
TTA	**Tatalina**	83.56	27	*e*P	P	02 23 37.0	+1.1
TTA				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.7						
KIV	**Kislovodsk**	84.59	314	*e*P	P	02 23 42.3	+0.7
	comp=Z,8.9nm,0.7s,mb5.0						
KIV	**Kislovodsk**	84.59	314	*e*P	P	02 23 42.1	+0.5
KIV				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.8						
SLKM	**Skilak Lake**	85.97	30	*e*P	P	02 23 47.1	-1.0
MALT	**Malatya**	87.60	308	*e*P	P	02 23 57.1	+0.5
	comp=Z,5.0nm,0.9s,mb4.7						
MALT	**Malatya**	87.60	308	*e*P	P	02 23 57.1	+0.5
MALT				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.7						
ASF	**Jabal al Asfar**	88.84	302	P	P	02 24 03.2	+0.5
	comp=Z,6.1nm,1.0s,mb4.9,baz=36,slow=3.5,SNR=8.4						
KMBO	**Kilima Mbogo**	88.93	269	*e*P	P	02 24 03.9	+0.5
	comp=Z,3.5nm,0.9s,mb4.7						
KMBO	**Kilima Mbogo**	88.93	269	*e*P	P	02 24 03.9	+0.5
KMBO				pmax	pmax		
	comp=Z,3.0nm,0.9s						
OBN	**Obninsk**	88.94	325	*e*P	P	02 24 02.4	-0.2
OBN				pmax	pmax		
	comp=Z,16nm,1.4s,mb5.2						
SYO	**Syowa Base**	89.70	201	*e*P	P	02 24 05.2	-0.7
MMAI	**Mount Meron Ar**	90.09	303	P	P	02 24 09.1	+0.6
	comp=Z,5.7nm,0.9s,mb4.9,baz=87,slow=5.9,SNR=4.7						
QSPA	**South Pole Qui**	90.94	180	*e*P	P	02 24 11.4	0.0
	comp=Z,1.9nm,0.7s,mb4.5						
QSPA	**South Pole Qui**	90.94	180	P	P	02 24 11.8	+0.4
	comp=Z,0.9nm,0.8s,mb4.2,baz=301,slow=7.7,SNR=5.3						
JOF	**Joensuu**	91.32	333	*e*p	P	02 24 09.9	-3.6
	comp=Z,1.7nm,0.6s,mb4.5						
ARCES	**ARCESS Array B**	92.78	340	P	P	02 24 18.8	-1.4
ARCES	**ARCESS Array B**	92.78	340	P	P	02 24 18.8	-1.4
	comp=Z,4.0nm,0.9s,mb4.9,baz=81,slow=7.5,SNR=7.6						
AKASG	**Malin Array Be**	93.62	321	P	P	02 24 23.0	-1.4
AKASG	**Malin Array Be**	93.62	321	*i* P	P	02 24 25.2	+0.8
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.6s						
AKASG	**Malin Array Be**	93.62	321	P	P	02 24 23.0	-1.4
	comp=Z,0.7nm,0.6s,mb4.3,baz=69,slow=4.6,SNR=5.7						
KAF	**Kangasniemi**	93.72	332	*e*p	P	02 24 23.4	-1.2
	comp=Z,1.8nm,0.4s,mb4.8						
KAF	**Kangasniemi**	93.72	332	*e*P	P	02 24 23.4	-1.2
KAF				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.9						
FINES	**FINESS Array B**	93.94	332	*i* P	P	02 24 29.1	+3.5
FINES				pmax	pmax		
	comp=Z,3.0nm,0.7s						
FINES	**FINESS Array B**	93.94	332	P	P	02 24 26.4	+0.8
	comp=Z,2.5nm,0.7s,mb4.8,baz=72,slow=6.2,SNR=7.9						
MLR	**Muntele Rosu**	96.44	316	P	P	02 24 38.2	+0.7
	comp=Z,1.0nm,0.5s,mb4.5,baz=212,slow=16,SNR=4.2						
YKA	**Yellowknife Ar**	102.19	24	P	Pdif	02 25 03.0	+0.1
YKA	**Yellowknife Ar**	102.19	24	P	Pdif	02 25 03.0	+0.1
	comp=Z,0.2nm,0.7s,baz=297,slow=4.3,SNR=4.8						
YKA				PKiKP	PKiKP	02 29 25.6	+0.7
	comp=Z,0.1nm,0.5s,baz=310,slow=1.9,SNR=4.6						
TORD	**Torodi Ar. Bea**	123.18	286	PKP	PKPdf	02 30 05.4	-0.5
	comp=Z,1.8nm,0.7s,baz=55,slow=1.7,SNR=14						
TORD				PKKPbc	PKKPbc	02 39 56.8	+0.6
	comp=Z,0.8nm,0.7s,baz=273,slow=3.0,SNR=6.2						
SCHQ	**Schefferville**	123.32	9	PKP	PKPdf	02 30 03.9	-1.2
	comp=Z,0.7nm,0.4s,baz=284,slow=8.3,SNR=4.6						
TXAR	**Lajitas Array**	123.69	53	PKP	PKPdf	02 30 06.7	+0.1
	comp=Z,0.5nm,0.7s,baz=201,slow=1.4,SNR=8.5						
DBIC	**Dimbokro**	130.53	280	PKP	PKPdf	02 30 20.1	+0.1
	comp=Z,2.4nm,0.8s,baz=90,slow=1.9,SNR=4.5						
CFAA	**Coronel Fontan**	146.67	157	PKPbc	PKPbc	02 30 50.3	-0.2
	comp=Z,0.5nm,0.7s,baz=245,slow=3.2,SNR=8.0						
SDV	**Santo Domingo**	160.59	59	PKP	PKPdf	02 31 07.7	-1.5
	comp=Z,1.6nm,0.7s,baz=281,slow=6.3,SNR=4.7						
SDV				PKPab	PKPab	02 31 51.3	+0.7
	comp=Z,1.1nm,0.5s,baz=321,slow=5.0,SNR=3.6						

JMA 20 02:11:51.0±0.2, 2572N×12526E, h25km±4km, M3.6, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMJ	**Miyako jima 2**	0.90	178	P	Pb	02 12 07.6	-0.4
JMJ				S	Sb	02 12 19.4	-0.2
JOGS	**Gusukube**	0.96	172	P	Pn	02 12 08.5	-0.5
JOGS				S	Sb	02 12 21.2	-0.2
JTJ	**Tarama**	1.19	205	P	Pn	02 12 11.7	-0.3
JTJ				S	Sn	02 12 27.0	-0.4
JKE	**Kume jima 2**	1.50	66	P	Pn	02 12 16.6	+0.3
JIJ	**Ishigaki jima**	1.69	217	P	Pn	02 12 19.5	+0.6

s-min=8.7km az=75.0
JMA **20** 02:23:32.3±0.2, 25.69N×125.05E, h24km±3km, M6.1
JMA Felt III J1.
BJI **20** 02:23:33.6, 25.73N×125.06E, h8km, mB6.2, mb5.3, ML5.9, Ms6.4, Msz6.1
NEIC **20** 02:23:34.0±0.1, 25.62N×125.04E, mb5.7/158, MS5.9/176, MW5.8(NIED), Error ellipse: s-maj=4.2km s-min=3.7km az=155.0
NEIC Felt [III] on Okinawa. Recorded [3 JMA] on Miyako-jima and [1 JMA] on Ishigaki-jima and Tarama-shima.
GCMT **20** 02:23:34.0±0.1, 25.60N×125.07E, h14km, MW6.0/114, Moment Tensor Solution. s83,c156; s114,c356; Duration: 2≥3 Moment tensor: Scale 10^{18}Nm; M_{rr}-0.36±.01; $M_{\theta\theta}$0.43±.01; $M_{\phi\phi}$-0.07±.01; $M_{r\theta}$-0.06±.02; $M_{\theta\phi}$1.02±.01; $M_{\phi r}$0.07±.03; Best double couple: M_0=1.06100×10^{18} NP1:ϕ_s188.00000°, δ83.00000°, λ-173.00000°. NP2:ϕ_s97.00000°, δ83.00000°, λ-7.00000°. Principal axes: T 1.2300, Plg0.0000°, Azm142.0000°; N -0.3390, Plg80.0000°, Azm233.0000°; P -0.8910, Plg10.0000°, Azm52.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.
MOS **20** 02:23:35.9±1.1, 25.67N×125.08E, h33km, mb5.9/81, MS6.1/37 Error ellipse: s-maj=7.2km s-min=3.9km az=112.1

ISC 20 02:23:33.3±0.6, 25.62N±002×125.07E±002, h5km±3km, h14km±1.7km: pP-P, n1295, σ1.02/1175, mb5.7/239, MS5.9/211, 158C-155D, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JMJ	**Miyako jima 2**	**0.83**	**165**	⇑P	**Pg**	**02 23 48.7**	**-0.5**
JMJ				S	**Sg**	**02 24 00.2**	**+0.3**
JOGS	**Gusukube**	**0.91**	**160**	⇑P	**Pg**	**02 23 50.2**	**-0.5**
JOGS				S	**Sg**	**02 24 03.2**	**+0.6**
JTJ	**Tarama**	**1.03**	**199**	P	**Pg**	**02 23 51.9**	**-1.1**
JTJ				S	**Sg**	**02 24 05.5**	**-0.9**
JIJ	**Ishigaki jima**	**1.50**	**214**	⇓P	**Pn**	**02 23 58.7**	**-2.2**
JIJ				*e*S	**Sn**	**02 24 18.1**	**-2.8**
JKRS	**Kuro-shima**	**1.68**	**215**	⇓P	**Pn**	**02 24 01.8**	**-1.5**
JKRS				*e*S	**Sn**	**02 24 24.7**	**-0.5**
JKE	**Kume jima 2**	**1.70**	**65**	⇓P	**Pn**	**02 24 00.8**	**-2.8**
IRIF	**Iriomote-Funau**	**1.76**	**224**	P	**Pn**	**02 24 02.7**	**-1.8**
HATJ	**Hateruma jima**	**1.93**	**217**	P	**Pn**	**02 24 06.1**	**-0.7**
HATJ				S	**Sn**	**02 24 29.8**	**-1.7**
JAGN	**Aguni-jima**	**2.18**	**63**	P	**Pn**	**02 24 08.3**	**-2.0**
YOJ	**Yonaguni jima**	**2.19**	**239**	⇓P	**Pn**	**02 24 09.7**	**-0.7**
NAH1	**Naha**	**2.44**	**76**	P	**Pn**	**02 24 12.8**	**-0.9**
JJT2	**Tamagusuku 2**	**2.47**	**77**	P	**Pn**	**02 24 13.6**	**-0.6**
JIH	**Iheya**	**2.96**	**61**	P	**Pn**	**02 24 20.2**	**-0.8**
JOW	**Kunigami**	**3.13**	**67**	Pn	**Pn**	**02 24 22.4**	**-0.8**
	101nm,0.3s,baz=245,slow=11,SNR=105						
JOW				Sn	**Sn**	**02 25 00.1**	**-0.9**
	227nm,0.3s,baz=206,slow=24,SNR=4.4						
TATO	**Taipei**	**3.30**	**260**	*e*Pn	**Pn**	**02 24 26.2**	**+0.6**
TATO	**Taipei**	**3.30**	**260**	P	**Pn**	**02 24 26.9**	**+1.2**
	SNR=42						
TATO	**Taipei**	**3.30**	**260**	Pn	**Pn**	**02 24 26.9**	**+1.2**
	SNR=42						
TATO	**Taipei**	**3.30**	**260**	P	**Pn**	**02 24 26.9**	**+1.2**
	SNR=42						
TATO	**Taipei**	**3.30**	**260**	P	**Pn**	**02 24 26.9**	**+1.2**
	SNR=42						
TATO	**Taipei**	**3.30**	**260**	P	**Pn**	**02 24 26.9**	**+1.2**
	SNR=42						
TATO	**Taipei**	**3.30**	**260**	P	**Pn**	**02 24 26.9**	**+1.2**
	SNR=42						
TATO	**Taipei**	**3.30**	**260**	P	**Pn**	**02 24 26.9**	**+1.2**
	SNR=42						
NACB	**Ninganchiao**	**3.46**	**246**	⇓*i*Pn	**Pn**	**02 24 28.6**	**+0.7**
YHNB	**Yeheng**	**3.48**	**255**	*e*Pn	**Pn**	**02 24 28.8**	**+0.8**
JTK	**Tokunoshima**	**4.09**	**57**	⇓P	**Pn**	**02 24 36.2**	**-0.3**
JAM	**Amami Oshima**	**4.91**	**55**	P	**Pn**	**02 24 47.6**	**-0.2**
JZK	**Kikaishima**	**5.14**	**57**	P	**Pn**	**02 24 50.7**	**-0.2**
JMZ	**Minamidaito 2**	**5.56**	**87**	P	**Pn**	**02 24 55.0**	**-1.7**
JMZ				*e*S	**Sn**	**02 25 55.4**	**-5.5**
QZH	**Quanzhou**	**5.90**	**265**	⇓*i*P	**Pn**	**02 25 04.0**	**+2.6**
QZH				S	**Sn**	**02 26 10.3**	**+0.9**
QZH				Smax			
	comp=N,7μm,1.4s						
QZH				Smax			
	comp=E,4μm,1.2s						
QZH				LR	LR		
	comp=N,170μm,12.0s						
QZH				LR	LR		
	comp=E,101μm,11.7s						
QZH				LR	LR		
	comp=Z,121μm,10.6s						
JNN	**Nakanoshima**	**5.99**	**44**	⇑P	**Pn**	**02 25 04.7**	**+2.1**
SSE	**Sheshan**	**6.44**	**329**	P	**Pn**	**02 25 07.0**	**-1.8**
SSE				S	**Sn**	**02 26 21.8**	**-0.8**
SSE				Smax			
	comp=N,3μm,1.2s						
SSE				Smax			
	comp=E,5μm,1.2s						
SSE				LR	LR		
	comp=N,71μm,12.6s						
SSE				LR	LR		
	comp=E,126μm,12.6s						
SSE				LR	LR		
	comp=Z,137μm,12.0s						
NJ2	**Nanjing**	**8.41**	**321**	*e*P	**Pn**	**02 25 39.5**	**+3.7**
NJ2				AP		02 25 43.5	
NJ2				XP		02 25 46.6	
NJ2				S	**Sn**	**02 27 15.9**	**+4.7**
NJ2				XS		02 27 19.9	
NJ2				AMB	AMB		
	comp=Z,160nm,1.1s						
NJ2				AMB	AMB		
	comp=Z,8μm,10.0s						
NJ2				Smax			
	comp=N,25μm,1.6s						
NJ2				Smax			
	comp=E,11μm,1.4s						
NJ2				LR	LR		
	comp=N,211μm,15.9s						
NJ2				LR	LR		
	comp=E,211μm,12.2s						
NJ2				LR	LR		
	comp=Z,211μm,12.2s						
CVP	**Callao Caves**	**8.43**	**202**	*e*P	**Pn**	**02 25 38.5**	**+2.3**
JNU	**Nakatsue**	**9.03**	**33**	Pn	**Pn**	**02 25 47.8**	**+3.4**
	comp=Z,6.2nm,0.3s,baz=192,slow=9.8,SNR=69						
JNU				Sn	**Sn**	**02 27 40.9**	**+14**
	baz=192,slow=20,SNR=1.1						
WHN	**Wuhan**	**10.66**	**300**	P	**Pn**	**02 26 05.9**	**-0.7**
WHN				S	**Sn**	**02 28 17.8**	**+11**
INCN	**Inchon**	**11.90**	**6**	*e*Pn	**Pn**	**02 26 30.9**	**+7.3**
INCN	**Inchon**	**11.90**	**6**	P	**Pn**	**02 26 33.4**	**+10**
	SNR=6.2						
INCN	**Inchon**	**11.90**	**6**	P	**Pn**	**02 26 33.4**	**+10**
	SNR=6.2						
INCN	**Inchon**	**11.90**	**6**	Pn	**Pn**	**02 26 33.4**	**+10**
	SNR=6.2						
INCN	**Inchon**	**11.90**	**6**	P	**Pn**	**02 26 33.4**	**+10**
	SNR=6.2						
INCN	**Inchon**	**11.90**	**6**	P	**Pn**	**02 26 33.4**	**+10**
	SNR=6.2						
INCN	**Inchon**	**11.90**	**6**	P	**Pn**	**02 26 33.4**	**+10**
	SNR=6.2						
INCN	**Inchon**	**11.90**	**6**	P	**Pn**	**02 26 33.4**	**+10**
	SNR=6.2						
INCN	**Inchon**	**11.90**	**6**	P	**Pn**	**02 26 33.4**	**+10**
	SNR=6.2						
INCN	**Inchon**	**11.90**	**6**	P	**Pn**	**02 26 33.4**	**+10**
	SNR=6.2						
KS15	**Wonju Array Si**	**12.03**	**11**	*e*Pn	**Pn**	**02 26 29.6**	**+4.2**
KSRS	**Korea Array**	**12.05**	**11**	Pn	**Pn**	**02 26 27.8**	**+2.2**
	comp=Z,1.4nm,0.3s,baz=196,slow=13,SNR=32						
TIA	**Tai'an**	**12.56**	**329**	*e*P	**Pn**	**02 26 35.0**	**+2.3**
DL2	**Dalian**	**13.56**	**348**	P	**Pn**	**02 26 50.0**	**+3.7**
DL2				*e*S	**Sn**	**02 29 18.4**	**+1.0**
DL2				AMB	AMB		
	comp=Z,62nm,0.9s						
DL2				AMB	AMB		
	comp=Z,3μm,9.0s						
DL2				LR	LR		
	comp=N,86μm,10.0s						
DL2				LR	LR		
	comp=E,174μm,10.0s						
RCP	**Roxas**	**14.15**	**189**	⇑*e*P	**Pn**	**02 26 59.5**	**+4.9**
PLP	**Palo**	**14.38**	**180**	*e*P	**Pn**	**02 26 58.1**	**+0.5**
JHJ	**Hachijo jima 2**	**14.84**	**56**	Pn	**Pn**	**02 27 08.4**	**+4.6**
	comp=E,42nm,0.3s,baz=213,slow=14,SNR=3.9						
JHJ				LR	LR	02 32 41.4	
	comp=E,20μm,18.8s,baz=87,slow=37						
CBIJ	**Chichi jima**	**15.42**	**81**	Pn	**Pn**	**02 27 12.2**	**+0.7**
	comp=E,3.9nm,0.3s,baz=236,slow=15,SNR=3.1						
CBIJ				LR	LR	02 32 04.4	
	comp=E,7μm,18.8s,baz=92,slow=33						
QIZ	**Qiongzhong**	**15.53**	**248**	P	**Pn**	**02 27 14.8**	**+1.7**
QIZ				S	**Sn**	**02 30 09.5**	**+3.9**
QIZ				XS	sS	02 30 16.5	-7.2
QIZ				AMB	AMB		
	comp=Z,160nm,1.8s						
QIZ				LR	LR		
	comp=N,40μm,17.5s						
QIZ				LR	LR		
	comp=Z,24μm,17.4s						
QIZ	**Qiongzhong**	**15.53**	**248**	*e*P	**Pn**	**02 27 14.9**	**+1.8**
	comp=Z,312nm,1.5s						
MAJO	**Matsushiro**	**15.64**	**43**	*e*Pn	**Pn**	**02 27 13.0**	**-1.5**
MAJO				*e*P		02 27 19.7	
MAT	**Matsushiro**	**15.64**	**43**	P	**Pn**	**02 27 12.0**	**-2.5**
MAT				*e*S	**Sn**	**02 30 05.0**	**-3.2**
MJAR	**Matsushiro Arr**	**15.65**	**43**	Pn	**Pn**	**02 27 11.6**	**-2.9**
MJAR				LR	LR	02 33 49.0	
MJAR	**Matsushiro Arr**	**15.65**	**43**	Pn	**Pn**	**02 27 11.6**	**-2.9**
	comp=Z,0.4nm,0.3s,baz=240,slow=13,SNR=15						
MJAR				LR	LR	02 33 49.1	
	comp=Z,27μm,19.4s,baz=225,slow=40						
TBP	**Tagbilaran**	**15.88**	**184**	*e*P	**Pn**	**02 27 16.4**	**-1.3**
TIY	**Taiyuan**	**16.14**	**321**	⇑*i*P	**Pn**	**02 27 26.4**	**+5.6**
TIY				S	**Sn**	**02 30 21.8**	**+1.7**
TIY				XS	sS	02 30 32.3	-3.6
TIY				AMB	AMB		
	comp=Z,26μm,5.1s						
TIY				LR	LR		
	comp=N,88μm,12.7s						
TIY				LR	LR		
	comp=E,110μm,9.9s						
TIY				LR	LR		
	comp=Z,60μm,11.3s						
BJT	**Baijiatuau**	**16.18**	**335**	*e*P	**Pn**	**02 27 22.0**	**+0.7**
	comp=Z,405nm,1.5s						
BJT	**Baijiatuau**	**16.18**	**335**	*e*P	**Pn**	**02 27 22.0**	**+0.7**
BJT				pmax	pmax		
	comp=Z,405nm,1.5s						
BJI	**Beijing**	**16.19**	**335**	P	**Pn**	**02 27 22.8**	**+1.3**
BJI				AMB	AMB		
	comp=Z,149nm,2.6s						
BJI				AMB	AMB		
	comp=Z,10μm,4.1s						
BJI				LR	LR		
	comp=N,64μm,16.0s						
BJI				LR	LR		
	comp=E,50μm,11.5s						
BJI				LR	LR		
	comp=Z,55μm,18.8s						
SNY	**Shenyang**	**16.21**	**356**	⇑P	**Pn**	**02 27 23.3**	**+1.5**
SNY				AP	pP	02 27 31.3	+4.9
SNY				S	**Sn**	**02 30 23.8**	**+1.8**
SNY				AMB	AMB		
	comp=Z,51nm,1.1s						
SNY				AMB	AMB		
	comp=Z,16μm,6.7s						
SNY				LR	LR		
	comp=N,60μm,17.5s						
SNY				LR	LR		
	comp=E,200μm,16.6s						
SNY				LR	LR		
	comp=Z,98μm,12.7s						
XAN	**Xi'an**	**16.32**	**305**	P	**Pn**	**02 27 23.5**	**+0.3**
XAN				AP	pP	02 27 31.0	+3.4
XAN				AMB	AMB		
	comp=Z,95nm,1.1s						
XAN				AMB	AMB		
	comp=Z,1μm,4.3s						
XAN				LR	LR		
	comp=N,94μm,11.9s						
XAN				LR	LR		
	comp=E,84μm,15.0s						
XAN				LR	LR		
	comp=Z,124μm,14.0s						
GYA	**Guiyang**	**16.56**	**277**	⇑*i*P	**Pn**	**02 27 29.5**	**+3.1**
GYA				PP		02 27 41.1	
GYA				SS		02 30 51.1	
GYA				PCP	PcP	02 32 19.8	+2.4
GYA				AMB	AMB		
	comp=Z,120nm,1.0s						
GYA				AMB	AMB		
	comp=Z,3μm,6.1s						
GYA				LR	LR		
	comp=N,44μm,9.9s						
GYA				LR	LR		
	comp=E,52μm,11.7s						
GYA				LR	LR		
	comp=Z,47μm,11.4s						
PPR	**Puerto Princes**	**16.87**	**202**	*e*P	**Pn**	**02 27 35.4**	**+5.2**
CN2	**Changchun**	**18.14**	**1**	⇑P	**Pn**	**02 27 48.3**	**+2.3**
CN2				*e*XP	sP	02 27 55.0	+6.7
CN2				*e*S	**Sn**	**02 31 07.5**	**-1.2**
CN2				LR	LR		
	comp=N,75μm,13.0s						
CN2				LR	LR		
	comp=E,68μm,13.0s						
CN2				LR	LR		
	comp=Z,67μm,14.0s						
VLA	**Vladivostok**	**18.33**	**16**	⇓*e*P	**Pn**	**02 27 52.8**	**+4.5**
VLA				pmax	pmax		
	comp=Z,821nm,1.6s						
HHC	**Hu-ho-hao-te**	**18.89**	**327**	⇑*i*P	**Pn**	**02 27 56.5**	**+1.4**
HHC				AP	pP	02 28 00.3	+4.3
HHC				XP	sP	02 28 03.9	+7.3
HHC				PP		02 28 12.8	
HHC				SS		02 31 49.3	
HHC				PCP	PcP	02 32 25.4	+4.5
HHC				PCS	PcS	02 35 57.5	-0.2
HHC				AMB	AMB		
	comp=Z,253nm,1.1s						
HHC				AMB	AMB		
	comp=Z,15μm,5.5s						
HHC				LR	LR		
	comp=N,46μm,9.2s						
HHC				LR	LR		
	comp=E,21μm,9.4s						
HHC				LR	LR		
	comp=Z,34μm,10.0s						
MDJ	**Mudanjiang**	**19.31**	**10**	P	**Pn**	**02 27 58.3**	**-1.8**
MDJ				AP	pP	02 28 01.3	+0.8
MDJ				S	**Sn**	**02 31 34.6**	**-2.2**
MDJ				XS	sS	02 31 41.9	+1.9
MDJ				SCP	ScP	02 35 57.0	-1.2
MDJ				PCS	PcS	02 35 58.1	-0.4
MDJ				SCS	ScS	02 39 38.6	-1.3
MDJ				AMB	AMB		
	comp=Z,3μm,7.7s						
MDJ				LR	LR		
	comp=N,16μm,20.1s						
MDJ				LR	LR		
	comp=E,71μm,19.1s						
MDJ				LR	LR		
	comp=Z,63μm,12.7s						
MDJ	**Mudanjiang**	**19.31**	**10**	*e*P	**Pn**	**02 28 01.0**	**+0.9**
	comp=Z,1μm,1.8s						
CD2	**Chengdu**	**19.48**	**291**	⇓*i*P	**Pn**	**02 28 02.3**	**-0.1**
CD2				AP	pP	02 28 06.0	+3.4
CD2				XP	sP	02 28 09.5	+6.3
CD2				PP		02 28 19.8	
CD2				S	**Sn**	**02 31 34.9**	**-6.5**
CD2				XS	sS	02 31 40.8	-3.2
CD2				SS		02 32 01.3	
CD2				AMB	AMB		
	comp=Z,900nm,1.1s						
CD2				LR	LR		
	comp=N,205μm,15.6s						
CD2				LR	LR		
	comp=E,119μm,11.0s						
CD2				LR	LR		
	comp=Z,109μm,13.2s						
BTO	**Baotou**	**19.50**	**324**	*e*P	**Pn**	**02 28 02.5**	**0.0**
BTO				S	**Sn**	**02 31 41.4**	**-0.3**
BTO				LR	LR		
	comp=N,18μm,9.3s						
BTO				LR	LR		
	comp=E,19μm,10.3s						
KMI	**Kunming**	**20.18**	**273**	P	**P**	**02 28 12.1**	**+3.3**
KMI				XP	sP	02 28 15.9	+5.1
KMI				PP		02 28 31.3	
KMI				S	**S**	**02 31 50.8**	**-5.0**
KMI				AMB	AMB		
	comp=Z,209nm,1.7s						
KMI				AMB	AMB		
	comp=Z,5μm,6.3s						
KMI				LR	LR		
	comp=N,38μm,10.0s,MS6.1						
KMI				LR	LR		
	comp=E,31μm,12.5s,MS6.1						
KMI				LR	LR		
	comp=Z,32μm,11.9s,MS5.9						
KDM	**Kudat**	**20.19**	**204**	⇓P	**P**	**02 28 11.1**	**+2.1**
LZH	**Lanzhou**	**20.95**	**305**	⇓P	**P**	**02 28 19.1**	**+2.0**
LZH				AP		02 28 23.3	
LZH				XP	sP	02 28 26.5	+7.4
LZH				PP		02 28 41.9	
LZH				S	**S**	**02 32 11.0**	**0.0**
LZH				XS	sS	02 32 18.0	+4.7
LZH				SS		02 32 39.0	
LZH				AMB	AMB		
	comp=Z,1μm,1.4s						
LZH				AMB	AMB		
	comp=Z,5μm,5.8s						
LZH				LR	LR		
	comp=N,110μm,13.8s						
LZH				LR	LR		
	comp=Z,120μm,14.2s,MS6.4						
KKM	**Kota Kinabalu**	**21.23**	**205**	*e*P	**P**	**02 28 20.5**	**+0.3**
KKM	**Kota Kinabalu**	**21.23**	**205**	⇓P	**P**	**02 28 22.2**	**+2.0**
SDKM	**Sandakan**	**21.25**	**202**	⇑P	**P**	**02 28 21.5**	**+1.1**
MYLDM	**Lahad Datu**	**21.27**	**198**	⇑P	**P**	**02 28 23.9**	**+3.2**
GUMO	**Guam**	**22.13**	**119**	*e*P	**P**	**02 28 31.6**	**+1.7**
	comp=Z,591nm,1.2s,mb5.9						
GUMO				LR	LR	02 35 19.7	
GUMO	**Guam**	**22.13**	**119**	P	**P**	**02 28 26.8**	**-3.1**
GUMO				pmax	pmax		
	comp=Z,19nm,0.3s,mb5.0						
GUMO				MLR	MLR		
	comp=Z,21μm,20.4s,MS5.5						
GUMO	**Guam**	**22.13**	**119**	P	**P**	**02 28 26.8**	**-3.1**
	comp=Z,19nm,0.3s,mb5.0,baz=312,slow=14,SNR=2.0						
GUMO				LR	LR	02 35 19.7	
	comp=Z,21μm,20.4s,MS5.5,baz=311,slow=32						
ERM	**Erimo**	**22.14**	**38**	*i*P	**P**	**02 28 29.7**	**-0.1**
ERM				LR	LR		
	comp=Z,15μm,19.0s,MS5.4						
ERM	**Erimo**	**22.14**	**38**	*i*P	**P**	**02 28 29.6**	**-0.2**
TSM	**Tawau**	**22.30**	**199**	⇓P	**P**	**02 28 32.5**	**+0.8**
KKTK	**Khon Kaen**	**22.70**	**250**	P	**P**	**02 28 37.0**	**+1.0**
	comp=Z,1μm,1.4s,mb6.2						
ASAJ	**Asahikawa**	**23.31**	**33**	P	**P**	**02 28 39.9**	**-2.3**
ASAJ				pmax	pmax		
	comp=Z,13nm,0.6s						
ASAJ				MLR	MLR		
	comp=Z,17μm,21.2s						
ASAJ	**Asahikawa**	**23.31**	**33**	P	**P**	**02 28 39.9**	**-2.3**
	comp=Z,13nm,0.6s,mb4.5,baz=223,slow=28,SNR=8.3						
ASAJ				LR	LR	02 37 01.4	
	comp=Z,17μm,21.2s,MS5.5,baz=235,slow=35						
HIA	**Hailar**	**23.97**	**351**	*e*P	**P**	**02 28 47.7**	**-0.8**
	comp=Z,1μm,1.8s,mb6.0						
HIA				LR	LR		
	comp=Z,46μm,20.0s,MS6.0						
HIA	**Hailar**	**23.97**	**351**	⇓*e*P	**P**	**02 28 47.4**	**-1.1**
CHRT	**Chiangrai**	**23.99**	**261**	⇑P	**P**	**02 28 49.0**	**0.0**
	comp=Z,355nm,1.2s,mb5.7						
HABR	**Khabarovsk**	**24.12**	**16**	P	**P**	**02 28 49.9**	**0.0**
HABR				*e*		02 28 57.8	
HABR				*e*		02 29 02.8	
HABR				*e*		02 29 19.5	
HABR				*e*		02 32 35.1	
HABR				*e*S	**S**	**02 33 06.5**	**-1.6**
HABR				*e*		02 33 23.0	
KLR	**Kul'dur**	**24.14**	**11**	*e*P	**P**	**02 28 43.8**	**-6.3**
YUK	**Yuzh-Kuril'sk**	**24.96**	**37**	P	**P**	**02 28 58.0**	**+0.4**
YUK				pmax	pmax		
	comp=Z,8μm,7.0s						
YUK				MLR	MLR		
	comp=N,31μm,16.0s,MS5.9						
YUK				MLR	MLR		
	comp=E,11μm,16.0s,MS5.9						
YUK				MLR	MLR		
	comp=Z,20μm,16.0s,MS5.7						
CHG	**Chiang Mai**	**25.09**	**260**	⇑P	**P**	**02 29 00.0**	**+1.0**
	comp=Z,150nm,1.6s,mb5.3						
CHTO	**Chiang Mai**	**25.09**	**260**	*e*P	**P**	**02 28 58.9**	**-0.1**
	comp=Z,73nm,1.0s,mb5.2						
CHTO				LR	LR		
	comp=Z,11μm,20.0s,MS5.4						
CHTO	**Chiang Mai**	**25.09**	**260**	P	**P**	**02 29 01.0**	**+2.1**
	SNR=61						
CHTO	**Chiang Mai**	**25.09**	**260**	P	**P**	**02 29 01.0**	**+2.1**
	SNR=61						
CHTO	**Chiang Mai**	**25.09**	**260**	P	**P**	**02 29 01.0**	**+2.1**
	SNR=61						
CHTO	**Chiang Mai**	**25.09**	**260**	P	**P**	**02 29 01.0**	**+2.1**
	SNR=61						
CHTO	**Chiang Mai**	**25.09**	**260**	P	**P**	**02 29 01.0**	**+2.1**
	SNR=61						
CHTO	**Chiang Mai**	**25.09**	**260**	P	**P**	**02 29 01.0**	**+2.1**
	SNR=61						
CHTO	**Chiang Mai**	**25.09**	**260**	P	**P**	**02 29 01.0**	**+2.1**
	SNR=61						
CHTO	**Chiang Mai**	**25.09**	**260**	P	**P**	**02 29 01.0**	**+2.1**
	SNR=61						
CHTO	**Chiang Mai**	**25.09**	**260**	P	**P**	**02 29 01.0**	**+2.1**
	SNR=61						
BTM	**Bintulu**	**25.09**	**209**	⇑P	**P**	**02 28 59.6**	**+0.6**
CM31	**Chiang Mai Arr**	**25.21**	**259**	PFAKE		02 29 10.0	+10
CM31				LR	LR		
	comp=Z,14μm,21.0s,MS5.5						
GTA	**Gaotai**	**25.24**	**309**	P	**P**	**02 29 00.3**	**+0.1**
GTA				AP	pP	02 29 04.1	+2.4
GTA				XP	sP	02 29 07.4	+5.0
GTA				PP		02 29 42.0	
GTA				PCP	PcP	02 32 37.8	+4.2
GTA				S	**S**	**02 33 23.8**	**-2.5**
GTA				XS	sS	02 33 37.8	+9.0
GTA				SS		02 34 27.9	
GTA				SCP	ScP	02 36 12.0	-1.6
GTA				PCS	PcS	02 36 15.5	+1.6
GTA				SCS	ScS	02 40 00.1	-2.0
GTA				AMB	AMB		
	comp=Z,55nm,1.2s,mb5.0						
GTA				AMB	AMB		
	comp=Z,8μm,7.3s						
GTA				LR	LR		
	comp=N,92μm,14.9s,MS6.5						
GTA				LR	LR		
	comp=E,51μm,14.1s,MS6.5						
GTA				LR	LR		
	comp=Z,53μm,16.4s,MS6.1						
NST	**Nakhon Sawan**	**25.30**	**252**	P	**P**	**02 29 02.0**	**+1.0**
YSS	**Yuzh-Sakhalins**	**25.51**	**29**	*e*P	**P**	**02 29 00.7**	**-1.9**
	comp=Z,68nm,1.0s,mb5.1						
YSS				LR	LR		
	comp=Z,17μm,20.0s,MS5.6						
YSS	**Yuzh-Sakhalins**	**25.51**	**29**	*be*P	**P**	**02 29 01.0**	**-1.6**
YSS				*e*		02 29 11.0	
YSS				*e*S	**S**	**02 33 32.0**	**+1.6**
YSS				pmax	pmax		
	comp=Z,90nm,1.3s,mb5.1						
YSS				MLR	MLR		
	comp=Z,28μm,14.0s,MS5.9						
YSS				MLR	MLR		
	comp=N,28μm,15.0s,MS5.9						
YSS				MLR	MLR		
	comp=E,9μm,16.0s,MS5.9						
SBUM	**Sibu**	**26.14**	**210**	⇓P	**P**	**02 29 10.0**	**+1.4**
ULN	**Ulaanbaatar**	**26.36**	**332**	*e*P	**P**	**02 29 10.1**	**-0.1**
	comp=E,766nm,1.5s,mb6.0						
ULN				LR	LR		
	comp=Z,31μm,20.0s,MS5.8						
ULN	**Ulaanbaatar**	**26.36**	**332**	*e*P	**P**	**02 29 10.1**	**-0.1**
ULN				pmax	pmax		
	comp=Z,766nm,1.5s,mb6.0						
ULN				MLR	MLR		
	comp=Z,31μm,20.0s,MS5.8						
SONM	**Songino Array**	**26.61**	**331**	P	**P**	**02 29 12.9**	**+0.4**
	comp=Z,44nm,1.0s,mb5.0,baz=148,slow=6.9,SNR=82						

SONM			PcP	PcP	02 32 38.4	+1.8
	comp=Z,7.2nm,0.6s,baz=150,slow=5.1,SNR=6.1					
NNT	**Nongplab**	**27.16 246**	P	**P**	**02 29 21.5**	**+3.8**
KSM	**Kuching**	**27.90 213**	*e*P	**P**	**02 29 25.0**	**+0.5**
KSM	**Kuching**	**27.90 213**	⇓P	**P**	**02 29 26.5**	**+2.1**
IMP	**Imphal**	**28.15 275**	*e*x	x	02 29 37.0	
IMP			*e*x	x	02 32 51.0	
KTGM	**Kuala Trenggan**	**29.12 230**	⇑P	**P**	**02 29 35.4**	**+0.1**
SNG	**Songkhla**	**29.67 236**	P	**P**	**02 29 44.0**	**+3.8**
ZAK	**Zakamensk**	**29.88 332**	*e*P	**P**	**02 29 40.5**	**-1.2**
ZAK			pmax	pmax		
	comp=Z,38nm,1.8s,mb4.8					
SHL	**Shillong**	**29.88 277**	*e*P	**P**	**02 29 42.0**	**0.0**
LSA	**Lhasa**	**30.25 285**	P	**P**	**02 29 48.0**	**+2.8**
LSA			AP	pP	02 29 57.1	+10
LSA			XP	sP	02 30 00.9	+14
LSA			S	**S**	**02 34 36.4**	**-9.0**
LSA			XS	sS	02 34 55.4	+7.5
LSA			SCP	ScP	02 36 32.8	+3.7
LSA			SCS	ScS	02 40 27.3	+2.4
LSA			LR	LR		
	comp=N,35μm,18.0s,MS6.2					
LSA			LR	LR		
	comp=E,22μm,14.5s,MS6.2					
LSA			LR	LR		
	comp=Z,25μm,14.5s,MS6.0					
LSA	**Lhasa**	**30.25 285**	*e*P	**P**	**02 29 47.9**	**+2.7**
	comp=Z,28nm,0.7s,mb5.1					
LSA			LR	LR		
	comp=Z,22μm,20.0s,MS5.8					
LSA	**Lhasa**	**30.25 285**	*e*P	**P**	**02 29 47.9**	**+2.7**
LSA			pmax	pmax		
	comp=Z,28nm,0.7s,mb5.1					
LSA			MLR	MLR		
	comp=Z,22μm,20.0s,MS5.8					
TLY	**Talaya**	**30.71 334**	P	**P**	**02 29 49.8**	**+0.8**
	comp=Z,314nm,1.7s,mb5.9,SNR=16					
TLY	**Talaya**	**30.71 334**	*e*P	**P**	**02 29 48.5**	**-0.4**
	comp=Z,250nm,1.8s,mb5.7					
TLY			LR	LR		
	comp=Z,33μm,20.0s,MS6.0					
TLY	**Talaya**	**30.71 334**	*e*P	**P**	**02 29 49.7**	**+0.7**
TLY			*e*		02 30 55.3	
TLY			*e*S	**S**	**02 34 55.6**	**+3.5**
TLY			pmax	pmax		
	comp=Z,166nm,1.8s,mb5.6					
TLY			MLR	MLR		
	comp=Z,45μm,14.0s,MS6.3					
TLY	**Talaya**	**30.71 334**	P	**P**	**02 29 49.1**	**+0.1**
	SNR=50

CTA			pmax	pmax		
	comp=Z,33nm,1.2s					
CTA	**Charters Tower**	**49.88 154**	P	**P**	**02 32 26.5**	**-1.3**
	comp=Z,16nm,0.9s,mb5.1,baz=317,slow=5.6,SNR=7.7					
CTA			LR	LR	02 53 13.8	
	comp=Z,11μm,19.8s,MS5.9,baz=343,slow=36					
CTAO	**Charters Tower**	**49.88 154**	*e*P	**P**	**02 32 27.7**	**-0.1**
	comp=Z,114nm,1.4s,mb5.7					
CTAO			LR	LR		
	comp=Z,11μm,20.0s,MS5.8					
BHJ	**Bhuj**	**50.19 280**	*e*P	**P**	**02 32 29.9**	**-0.5**
BHJ			AMb	AMB	02 32 37.0	
	comp=Z,112nm,1.6s,mb5.6					
ADK	**Adak**	**50.81 43**	*e*P	**P**	**02 32 32.5**	**-2.1**
	comp=Z,333nm,1.4s,mb6.1					
ADK			LR	LR		
	comp=Z,6μm,19.0s,MS5.6					
AB31	**Akbulak array**	**54.99 313⇑**	*e*P	**P**	**02 33 05.6**	**+0.1**
SVE	**Sverdlovsk**	**55.01 323⇑**	*e*P	**P**	**02 33 05.7**	**+0.2**
SVE			*e*		02 34 10.0	
SVE			*e*		02 35 07.5	
SVE			pmax	pmax		
	comp=Z,461nm,1.7s,mb6.2					
SVE			MLR	MLR		
	comp=Z,36μm,17.0s,MS6.5					
GAMB	**Gambell**	**55.54 29**	*e*P	**P**	**02 33 08.1**	**-1.1**
ARU	**Arti**	**56.12 322**	P	**P**	**02 33 12.1**	**-1.3**
	comp=Z,903nm,0.9s,mb6.8,SNR=8.5					
ARU	**Arti**	**56.12 322**	*e*P	**P**	**02 33 12.4**	**-1.0**
	comp=Z,162nm,1.0s,mb6.0					
ARU			LR	LR		
	comp=Z,24μm,19.0s,MS6.3					
ARU	**Arti**	**56.12 322**	*d i*P	**P**	**02 33 12.9**	**-0.5**
ARU			*e*		02 34 08.7	
ARU			*e*		02 35 19.9	
ARU			*e*S	**S**	**02 41 01.4**	**-1.4**
ARU			*e*SS	SS	02 44 46.9	-1.8
ARU			*e*SSS		02 47 00.1	
ARU			pmax	pmax		
	comp=Z,219nm,1.2s,mb6.1					
ARU			MLR	MLR		
	comp=Z,25μm,21.0s,MS6.3					
FORT	**Forrest**	**56.15 177**	*e*P	**P**	**02 33 13.7**	**-0.2**
	comp=Z,93nm,1.2s,mb5.7					
AKTK	**Aktyubinsk**	**56.24 315**	P	**P**	**02 33 13.8**	**-0.6**
AKTO	**Aktyubinsk**	**56.24 315**	P	**P**	**02 33 13.8**	**-0.6**
	comp=Z,12nm,0.9s,mb4.9,baz=88,slow=8.8,SNR=15					
UNV	**Unalaska Valle**	**57.11 41**	PFAKE		02 33 30.0	+9.4
UNV			LR	LR		
	comp=Z,10μm,20.0s,MS5.9					
ABKT	**Ailbek**	**57.13 300**	P	**P**	**02 33 21.3**	**+0.3**
	comp=Z,1μm,1.0s,mb7.0,SNR=31					
KLBR	**Kellerberrin**	**57.31 187**	*e*P	**P**	**02 33 20.9**	**-1.3**
	comp=Z,465nm,1.6s,mb6.3					
TNA	**Tin City**	**57.47 27**	*e*P	**P**	**02 33 21.9**	**-1.1**
	comp=Z,223nm,1.6s,mb5.9					
TNA			LR	LR		
	comp=Z,3μm,22.0s,MS5.3					
MUN	**Mundaring**	**57.90 189**	*e*P	**P**	**02 33 25.7**	**-0.5**
NWAO	**Narrogin (SRO)**	**58.70 188**	*e*P	**P**	**02 33 32.2**	**+0.4**
	comp=Z,420nm,1.5s,mb6.2					
NWAO			LR	LR		
	comp=Z,3μm,22.0s,MS5.4					
NWAO	**Narrogin (SRO)**	**58.70 188**	P	**P**	**02 33 32.8**	**+1.0**
	SNR=12

comp=Z,13nm,0.8s,mb4.9,baz=56,slow=5.6,SNR=16
NOA LR LR 03 14 25.9
comp=Z,25μm,18.5s,MS6.6,baz=45,slow=39
NAO01 NORSAR Array S 78.82 333 *e*P **P** **02 35 37.5 +0.5**
comp=Z,27nm,1.1s,mb5.1
NAO01 LR LR
comp=Z,20μm,19.0s,MS6.5
KOLS Kolonicke sedl 78.96 319 *i* P **P** **02 35 37.9 -0.1**
KOLS *e*pP pP 02 35 40.3 +0.7
UZH Uzhgorod 79.08 319 *e*P **P** **02 35 38.0 -0.7**
UZH *e* 02 35 45.8
UZH *i* 02 35 48.7
UZH *e*S S 02 45 35.0 -3.5
UZH *e*SS SS 02 50 49.9 +6.4
SZH Strazhica 79.11 313 *e*P **P** **02 35 42.0 +3.1**
BTOK Tokmak 79.12 309 *i* P **P** **02 35 38.9 -0.2**
STHS Stebnicka Huta 79.35 320 *e*P **P** **02 35 40.2 +0.1**
comp=Z,7.4nm,1.2s,mb4.5
STHS Stebnicka Huta 79.35 320 *e*P **P** **02 35 40.2 +0.1**
STHS pmax pmax
comp=Z,7.0nm,1.2s,mb4.5
CRVS Cervenica-Dubn 79.46 319 *e*P **P** **02 35 40.1 -0.6**
PVL Pavlikeni 79.52 313 *e*P **P** **02 35 45.0 +3.8**
DRGR 79.65 317 ⇓*i*P **P** **02 35 41.3 -0.5**
GKP Gorka Klasztor 79.76 324 *e*P **P** **02 35 39.7 -2.6**
GKP Gorka Klasztor 79.76 324 *e*P **P** **02 35 39.7 -2.6**
GKP LR LR
comp=Z,72μm,20.0s,MS7.0
OJC Ojcow 79.81 321 *e*P **P** **02 35 41.8 -0.8**
OJC *e*sP sP 02 35 45.9 +1.1
OJC *e*PcP PcP 02 35 50.1 -0.2
OJC L 03 13 07.3
comp=Z,12nm,22.6s
DIM Dimitrovgrad 79.89 312 *e*P **P** **02 35 44.0 +0.8**
NIE Niedzica 79.89 320 *e*P **P** **02 35 42.6 -0.5**
KONO Kongsberg 80.02 332 PFAKE 02 35 50.0 +6.4
KONO LR LR
comp=Z,12μm,20.0s,MS6.2
AYDN Tasoluk 80.10 307 *i* P **P** **02 35 45.1 +0.6**
KDZ Kurdzhali 80.14 311 *e*P **P** **02 35 46.0 +1.4**
YKW3 Yellowknife Ar 80.22 24 *e*P **P** **02 35 42.8 -1.7**
KECS Kecovo 80.22 319 *e*P **P** **02 35 45.4 +0.5**
comp=Z,32nm,1.8s,mb4.9
KECS *e*PP PP 02 38 46.5 -0.3
KECS Kecovo 80.22 319 *e*P **P** **02 35 45.4 +0.5**
KECS pmax pmax
comp=Z,32nm,1.8s,mb5.0
GZR Gura Zlata 80.23 316 ⇑*i*P **P** **02 35 45.9 +0.9**
AYVA Ayvalik 80.25 309 *i* P **P** **02 35 44.4 -0.9**
YKA Yellowknife Ar 80.26 24 P **P** **02 35 43.0 -1.8**
YKA PKKPbc PKKPbc 02 54 26.4 -2.3
YKA LR LR 03 15 44.3
YKA Yellowknife Ar 80.26 24 P **P** **02 35 43.0 -1.8**
YKA 02 54 26.4
YKA Yellowknife Ar 80.26 24 P **P** **02 35 43.0 -1.8**
comp=Z,42nm,1.0s,mb5.3,baz=310,slow=5.1,SNR=130
YKA PKKPbc PKKPbc 02 54 26.4 -2.3
comp=Z,0.7nm,0.7s,baz=128,slow=2.4,SNR=19
YKA LR LR 03 15 44.3
comp=Z,1μm,18.3s,MS5.3,baz=325,slow=39
BLCB Balcova 80.39 308 *e*P **P** **02 35 46.6 +0.6**
BDRM Kayabasi 80.66 307 *i* P **P** **02 35 48.1 +0.6**
RAC Raciborz 80.79 321 *e*P **P** **02 35 49.1 +1.2**
RAC LR LR
comp=Z,12μm,20.2s,MS6.2
PSZ Piszkesteto 80.84 319 *e*P **P** **02 35 48.0 -0.2**
comp=Z,189nm,2.2s,mb5.6
PSZ *e*PP PP 02 38 56.0 +4.1
PSZ Piszkesteto 80.84 319 *e*P **P** **02 35 48.0 -0.2**
PSZ *e* 02 38 56.0
PSZ pmax pmax
comp=Z,190nm,2.2s,mb5.6
PSZ Piszkesteto 80.84 319 ⇑*i*P **P** **02 35 49.0 +0.8**
PSZ Piszkesteto 80.84 319 *e*P **P** **02 35 48.7 +0.5**
BZS Buzias 80.86 316 P **P** **02 35 51.3 +2.9**
BZS Buzias 80.86 316 ⇓*i*P **P** **02 35 48.4 +0.1**
SNZO South Karori 80.93 144 PFAKE 02 36 00.0 +11
SNZO LR LR
comp=Z,5μm,22.0s,MS5.8
OKC Ostrava-Krasne 80.93 321 *e*P **P** **02 35 48.6 -0.1**
OKC *e*pP pP 02 35 51.4 +1.1
OKC Ostrava-Krasne 80.93 321 *e*P **P** **02 35 48.6 -0.1**
OKC *e*pP pP 02 35 51.4 +1.1
OKC AMS AMS 03 17 30.0
comp=Z,10μm,12.9s,MS6.4
VYHS Vyhne 81.19 320 *e*P **P** **02 35 49.8 -0.2**
comp=Z,128nm,2.1s,mb5.5
VYHS *e*PP PP 02 38 57.6 +2.8
VYHS Vyhne 81.19 320 *e*P **P** **02 35 49.8 -0.2**
VYHS pmax pmax
comp=Z,128nm,2.1s,mb5.5
VTS Vitosha 81.20 313 *e*P **P** **02 35 49.6 -0.6**
VTS Vitosha 81.20 313 P **P** **02 35 50.3 0.0**
VTS Vitosha 81.20 313 ⇑*i*P **P** **02 35 51.3 +1.0**
VTS Vitosha 81.20 313 *i* P **P** **02 35 51.0 +0.7**
MMB Musomiste 81.30 312 *i* P **P** **02 35 51.0 +0.2**
MORC Moravsky Berou 81.30 321 *e*P **P** **02 35 49.8 -0.8**
comp=Z,212nm,2.2s,mb5.7
MORC Moravsky Berou 81.30 321 *e*P **P** **02 35 49.8 -0.8**
MORC pmax pmax
comp=Z,210nm,2.2s,mb5.7
MORC Moravsky Berou 81.30 321 ⇓*i*P **P** **02 35 50.3 -0.3**
KSP Ksiaz 81.47 323 *e*P **P** **02 35 52.1 +0.6**
KSP Ksiaz 81.47 323 *e*P **P** **02 35 51.0 -0.5**
KSP *e*pP pP 02 35 55.0 +1.9
KSP LR LR
comp=Z,30μm,18.7s,MS6.7
BUD Budapest 81.56 319 ⇓*e*PcP PcP 02 35 54.8 -3.2
SRS Serrai 81.60 312 *e*P **P** **02 35 50.8 -1.6**
DPC Dobruska-Polom 81.70 322 *e*P **P** **02 35 52.6 -0.1**
DPC *e*pP pP 02 35 56.2 +1.8
DPC AMS AMS 03 18 20.0
comp=Z,11μm,13.5s,MS6.4
UPC Upice 81.79 322 *e*P **P** **02 35 52.3 -0.9**
UPC *e*pP pP 02 35 56.1 +1.3
PLG Polygyros 82.04 311 *e*P **P** **02 35 54.4 -0.4**
KNT Kendrikon 82.05 312 *e*P **P** **02 35 54.3 -0.5**
VRAC Vranov 82.07 321 P **P** **02 35 54.6 -0.2**
VRAC Vranov 82.07 321 ⇓*i*P **P** **02 35 56.0 +1.3**
MODS Modra-Piesok 82.15 320 *e*P **P** **02 35 55.9 +0.8**
VAY Valandovo 82.20 312 *e*P **P** **02 35 51.0 -4.5**
VAY Valandovo 82.20 312 *e*P **P** **02 35 53.9 -1.7**
STIP Stip 82.28 313 *e*P **P** **02 35 54.2 -1.8**
PKSM Moragy 82.41 318 P **P** **02 35 56.6 +0.1**
PKSM Moragy 82.41 318 ⇓*i*P **P** **02 35 56.9 +0.4**
GRG Griva 82.48 312 *e*P **P** **02 35 53.6 -3.4**
PVCC Panska Ves 82.57 323 *e*P **P** **02 35 57.7 +0.4**
PVCC AMS AMS 03 17 20.0
comp=Z,17μm,16.5s,MS6.5
SKO Skopje 82.65 313 *e*P **P** **02 35 56.1 -1.8**
TREC Trest 82.70 322 *e*P **P** **02 35 58.5 +0.5**
TREC AMS AMS 03 16 00.0
comp=Z,16μm,16.9s,MS6.5
BRG Berggiesshubel 82.73 323 *e*P **P** **02 35 57.5 -0.6**
comp=Z,24nm,1.7s,mb5.0
BRG *e* pP 02 36 00.5 +0.7
BRG *e*PP PP 02 39 08.2 +0.7
BRG *e* 02 57 30.8
BRG LR LR
comp=Z,10μm,17.2s,MS6.2
BRG Berggiesshubel 82.73 323 *e*P **P** **02 35 57.5 -0.6**
BRG *e* 02 39 08.1
BRG pmax pmax
comp=Z,24nm,1.7s,mb5.0
BRG pmax pmax
comp=Z,11nm,1.0s,mb4.8
BRG pmax pmax
comp=Z,14nm,1.8s,mb4.7
BRG pmax pmax
comp=Z,11nm,1.9s,mb4.6
BRG MLR MLR
comp=N,7μm,15.6s,MS6.2
BRG MLR MLR
comp=E,5μm,19.2s,MS6.2
BRG MLR MLR
comp=Z,10μm,17.2s,MS6.2
BRG Berggiesshubel 82.73 323 *e*P **P** **02 35 57.3 -0.8**
comp=Z,22nm,1.1s,mb5.1
BRG Berggiesshubel 82.73 323 *e*P **P** **02 35 57.5 -0.6**
comp=Z,41nm,1.7s,mb5.2
BRG *e* pP 02 36 00.5 +0.7
comp=Z,18nm,1.0s
BRG *e*PP PP 02 39 08.2 +0.7
BRG *e* 02 57 30.8
comp=Z,18nm,1.9s
BRG
comp=N,12μm,15.6s
BRG
comp=E,9μm,19.2s
BRG
comp=Z,16μm,17.2s
LIT Litokhoron 82.81 311 *e*P **P** **02 35 60.0 +1.2**
PRU Pruhonice 82.87 322 *e*P **P** **02 35 59.1 +0.2**
PRU AMS AMS 03 15 50.0
comp=Z,15μm,19.2s,MS6.4
XRY Khrisi 82.88 305 *e*P **P** **02 35 59.5 +0.2**
SOP Sopron 82.91 320 ⇑*e*PcP PcP 02 36 02.7 -1.2
LAST Lasithi 82.92 305 *e*P **P** **02 35 59.7 +0.3**
BSEG Bad Segeberg 82.92 327 *e*P **P** **02 35 59.0 0.0**
BSEG pmax pmax
comp=Z,75nm,1.2s,mb5.6
BSEG Bad Segeberg 82.92 327 *e*P **P** **02 35 59.0 0.0**
comp=Z,75nm,1.2s,mb5.6
CLL Collm 83.00 324 *i* P **P** **02 35 58.2 -1.3**
CLL *i* 02 36 02.5
CLL *i* pP pP 02 36 07.5 +6.4
CLL LR LR
comp=Z,20μm,18.5s,MS6.5
CLL Collm 83.00 324 *e*P **P** **02 35 59.1 -0.4**
comp=Z,39nm,1.2s,mb5.3
CLL *e*PP PP 02 39 13.1 +3.5
CLL Collm 83.00 324 *i* P **P** **02 35 58.2 -1.3**
CLL Lm 02 17 00.0
comp=Z,20μm,18.5s
CLL *i* pP pP 02 36 02.5 +1.4
comp=Z,28nm,1.1s
CLL *i* pPcP 02 36 07.5
CLL *i* (sPcP) 02 36 10.1
CLL *i* PP PP 02 39 13.0 +3.4
comp=Z,91nm,1.6s
KRUS Krusevo 83.06 313 *e*P **P** **02 35 58.4 -1.6**
BIA Bitola 83.17 312 *e*P **P** **02 35 58.3 -2.3**
CONA Conrad Observa 83.19 320 ⇑*i*pP pP 02 36 01.6 -0.6
comp=Z,66nm,1.3s,SNR=25
FNA Florina 83.25 312 *e*P **P** **02 35 56.4 -4.6**
AGG Agios Georgios 83.42 310 *e*P **P** **02 36 01.4 -0.5**
SIVA Sivas 83.47 306 *e*P **P** **02 36 00.7 -1.6**
OHR Ohrid 83.48 313 *e*P **P** **02 36 00.4 -1.8**
ARSA Arzberg 83.74 320 ⇑*i*P **P** **02 36 03.8 +0.3**
comp=Z,30nm,1.6s,mb5.2
VAM Vamos 83.74 306 *e*P **P** **02 36 04.1 +0.4**
TANN Tannenbergstha 83.77 324 *e*P **P** **02 36 03.2 -0.3**
comp=Z,18nm,1.1s,mb5.1
NRDL Niedersach Rie 83.84 326 *e*P **P** **02 36 04.0 +0.2**
comp=Z,190nm,1.9s,mb5.9
C03A Quillayute Air 83.85 39 ⇓P **P** **02 36 04.8 +0.8**
baz=84
KHC Kasperske Hory 83.86 322 *e*P **P** **02 36 03.2 -0.8**
KHC *e*pP pP 02 36 06.9 +1.3
KHC *e*x x 02 36 12.5
KHC AMS AMS 03 19 50.0
comp=Z,15μm,13.1s,MS6.5
NKC Novy Kostel 83.88 323 *e*P **P** **02 36 04.8 +0.7**
NKC *e*pP pP 02 36 08.0 +2.3
NKC Novy Kostel 83.88 323 *e*P **P** **02 36 04.8 +0.7**
NKC *e*pP pP 02 36 08.0 +2.3
NKC AMS AMS 03 18 10.0
comp=Z,20μm,15.1s,MS6.6
GEC2 GERESS Array S 83.94 322 *e*P **P** **02 36 03.6 -0.8**
GEC2 pmax pmax
comp=Z,37nm,1.4s,mb5.3
GEC2 GERESS Array S 83.94 322 *e*P **P** **02 36 03.6 -0.8**
comp=Z,37nm,1.4s,mb5.3
GERES GERESS Array B 83.94 322 P **P** **02 36 03.3 -1.1**
comp=Z,5.1nm,0.8s,mb4.7,baz=22,slow=4.3,SNR=19
GERES PKKPbc PKKPbc 02 54 21.8 +1.9
comp=Z,0.3nm,0.6s,baz=232,slow=1.5,SNR=4.1
GERES LR LR 03 17 21.2
comp=Z,14μm,18.4s,MS6.4,baz=47,slow=38
KARN Karanos 83.95 306 *e*P **P** **02 36 04.5 -0.3**
VLI Velia 84.06 308 *e*P **P** **02 36 03.5 -1.7**
CLZ Clausthal 84.07 325 *e*P **P** **02 36 05.1 +0.1**
CLZ pmax pmax
comp=Z,125nm,1.3s,mb5.9
CLZ Clausthal 84.07 325 *e*P **P** **02 36 05.1 +0.1**
comp=Z,125nm,1.3s,mb5.9
GVD Gavdhos 84.08 306 *e*P **P** **02 36 03.6 -1.8**
comp=Z,66nm,1.0s,mb5.7
GVD Gavdhos 84.08 306 *e*P **P** **02 36 04.2 -1.2**
GVD Gavdhos 84.08 306 *e*P **P** **02 36 05.0 -0.4**
MOX Moxa 84.10 324 *e*P **P** **02 36 06.3 +1.1**
comp=Z,122nm,1.9s,mb5.7
MOX *e* 02 39 19.2
MOX
comp=Z,21μm,18.0s
MOX Moxa 84.10 324 *e*P **P** **02 36 06.3 +1.1**
MOX *e* 02 39 19.2
MOX pmax pmax
comp=Z,45nm,1.9s,mb5.3
MOX Moxa 84.10 324 *e*P **P** **02 36 04.8 -0.4**
comp=Z,95nm,1.8s,mb5.6
PGC Sidney 84.11 38 *e*P **P** **02 36 05.2 -0.1**
comp=Z,166nm,1.4s,mb6.0
WET Wettzell 84.24 322 *e*P **P** **02 36 05.6 -0.3**
WET pmax pmax
comp=Z,56nm,1.7s,mb5.4
WET Wettzell 84.24 322 *e*P **P** **02 36 05.6 -0.3**
comp=Z,56nm,1.7s,mb5.4
ROTZ Rotzenmuhle 84.26 323 *e*P **P** **02 36 06.0 0.0**
comp=Z,48nm,1.1s,mb5.5
B04A Port Angeles 84.40 39 ⇓P **P** **02 36 07.6 +0.8**
baz=84
A04A Legoe Bay, Lum 84.49 38 ⇑P **P** **02 36 07.7 +0.5**
baz=84
IGT Igoumenitsa 84.55 311 *e*P **P** **02 36 03.8 -3.9**
NLWA Neilton Lookou 84.55 40 *e*P **P** **02 36 08.7 +1.2**
comp=Z,59nm,1.2s,mb5.6
NLWA LR LR
comp=Z,4μm,21.0s,MS5.8
NLWA Neilton Lookou 84.55 40 ⇑P **P** **02 36 07.8 +0.3**
baz=84
ITM Ithomi 84.56 309 *e*P **P** **02 36 05.6 -2.2**
A05A Maple Falls 84.68 38 ⇓P **P** **02 36 08.2 0.0**
baz=84
D03A Wishkah Elem. 84.75 40 ⇑P **P** **02 36 08.7 +0.2**
baz=84
GRA1 Grafenberg Arr 84.84 323 *e*P **P** **02 36 08.9 0.0**
comp=Z,300nm,1.8s,mb6.1
GRA1 *e* 02 36 12.5
GRA1 LR LR
comp=Z,15μm,18.1s,MS6.4
GRF Grafenberg Arr 84.84 323 *e*P **P** **02 36 08.9 0.0**
GRF pmax pmax
comp=Z,300nm,1.8s,mb6.1
GRF MLR MLR
comp=Z,15μm,18.1s,MS6.4
GRF Grafenberg Arr 84.84 323 *e*P **P** **02 36 08.9 0.0**
comp=Z,300nm,1.8s,mb6.1
GRF *e* 02 36 12.5
GRF *e*L 03 19 03.9
comp=Z,15μm,18.1s
GRFO Grafenberg 84.84 323 PFAKE 02 36 20.0 +11
GRFO LR LR
comp=Z,11μm,19.0s,MS6.3
UBBA Unterbreizbach 84.85 325 *e*P **P** **02 36 08.7 -0.3**
comp=Z,125nm,1.6s,mb5.8
C04A Brinnon 84.89 39 ⇓P **P** **02 36 09.6 +0.4**
baz=85
A06A Chilliwack 84.96 37 ⇑P **P** **02 36 09.7 +0.2**
baz=85
CMW Cultus Mountai 84.98 38 P **P** **02 36 10.9 +1.3**
GNW Green Mountain 85.05 39 *e*P **P** **02 36 10.4 +0.4**
B05A Bryant 85.08 38 ⇓P **P** **02 36 10.8 +0.6**
baz=85
KBA Koelnbreinsper 85.09 320 ⇑*i*P **P** **02 36 10.3 0.0**
comp=Z,24nm,1.1s,mb5.2
KBA Koelnbreinsper 85.09 320 ⇑*i*P **P** **02 36 10.3 0.0**
KBA pmax pmax
comp=Z,24nm,1.1s,mb5.2
IBBN Ibbenburen 85.12 327 *e*P **P** **02 36 10.2 -0.1**
comp=Z,97nm,1.1s,mb5.8
E03A Lebam 85.18 40 ⇑P **P** **02 36 10.7 0.0**
baz=85,SNR=8.3
JCW Jim Creek 85.21 38 P **P** **02 36 11.8 +1.0**
B06A Marblemount 85.28 38 ⇑P **P** **02 36 10.8 -0.4**
baz=85
D04A Dobbs Creek Ra 85.31 39 ⇑P **P** **02 36 11.3 -0.1**
baz=85
VOY Vojsko 85.33 319 *e*P **P** **02 36 10.3 -1.2**
VOY *e* pP 02 36 13.7 +0.6
PTCC Patocco-Chiusa 85.45 320 P **P** **02 36 11.7 -0.4**
comp=Z,380nm,4.1s
F03A Seaside 85.51 41 ⇓P **P** **02 36 12.5 +0.1**
baz=85
A07A Ashnola River, 85.58 37 P **P** **02 36 13.0 +0.3**
baz=85,SNR=17
C05A Tolt Reservoir 85.62 39 ⇑P **P** **02 36 13.0 +0.1**
baz=85,SNR=11
E04A Onalaska 85.64 40 ⇓P **P** **02 36 14.0 +1.0**
baz=85
FUR Furstenfeldbru 85.66 322 *e*P **P** **02 36 12.8 -0.3**
FUR *e* 02 39 35.9
FUR pmax pmax
comp=Z,526nm,2.0s,mb6.4
FUR Furstenfeldbru 85.66 322 *e*P **P** **02 36 12.8 -0.3**
comp=Z,526nm,2.0s,mb6.4
FUR *e*PP PP 02 39 35.9 +4.5
D05A Enumclaw 85.73 39 ⇓P **P** **02 36 14.5 +1.0**
baz=86
WTSB Winterswijk 85.80 327 *e*P **P** **02 36 16.9 +3.2**
comp=Z,111nm,1.8s,mb5.8
H02A Toledo 85.92 42 ⇑P **P** **02 36 15.3 +0.9**
baz=86
SEST Monte Rota 85.92 321 P **P** **02 36 13.8 -0.6**
C06A Tall Timber Ra 85.94 38 ⇓P **P** **02 36 14.7 +0.3**
baz=86
WTTA Wattenberg 85.97 321 ⇑*i*P **P** **02 36 13.6 -1.0**
comp=Z,58nm,1.3s,mb5.7,SNR=22
WTTA Wattenberg 85.97 321 ⇑*i*P **P** **02 36 13.6 -1.0**
WTTA pmax pmax
comp=Z,58nm,1.3s,mb5.7
G03A Yamhill 86.01 41 ⇓P **P** **02 36 16.0 +1.1**
baz=86
FMW Mount Fremont 86.06 39 P **P** **02 36 15.6 +0.5**
B07A Winthrop 86.06 37 ⇑P **P** **02 36 15.3 +0.2**
baz=86
F04A Amboy 86.18 40 P **P** **02 36 16.2 +0.5**
baz=86,SNR=8.1
E05A Randle 86.21 39 ⇑P **P** **02 36 16.1 +0.2**
baz=86,SNR=8.9
BORG Borgarnes 86.22 346 PFAKE 02 36 30.0 +14
BORG LR LR
comp=Z,6μm,21.0s,MS6.0
SQTA Sankt Quirin 86.23 321 ⇓*i*P **P** **02 36 14.8 -1.2**
comp=Z,141nm,2.0s,mb5.8,SNR=13
SQTA Sankt Quirin 86.23 321 ⇓*i*P **P** **02 36 14.8 -1.1**
SQTA pmax pmax
comp=Z,141nm,2.0s,mb5.8
A08A Turner Farm, O 86.24 37 ⇑P **P** **02 36 16.5 +0.6**
baz=86,SNR=12
H03A Soap Creek Ran 86.34 42 ⇑P **P** **02 36 17.7 +1.1**
baz=86,SNR=7.9
D06A Cle Elum 86.38 39 ⇓P **P** **02 36 16.9 +0.2**
baz=86
I02A Mapleton 86.38 42 ⇑P **P** **02 36 17.5 +0.7**
baz=86
COR Corvallis 86.39 42 *e*P **P** **02 36 18.0 +1.2**
comp=Z,122nm,1.0s,mb6.1
COR LR LR
comp=Z,3μm,20.0s,MS5.6
COR Corvallis 86.39 42 *e*P **P** **02 36 18.0 +1.2**
COR pmax pmax
comp=Z,122nm,1.0s,mb6.1
COR MLR MLR
comp=Z,3μm,20.0s,MS5.6
STU Stuttgart 86.45 323 *e*P **P** **02 36 16.2 -0.8**
comp=Z,61nm,1.1s,mb5.7
C07A Waterville 86.53 38 ⇓P **P** **02 36 18.1 +0.7**
baz=86,SNR=12
G04A Mulino 86.54 41 ⇑P **P** **02 36 18.2 +0.7**
baz=86
B08A Colville Reser 86.55 37 ⇑P **P** **02 36 18.3 +0.9**
baz=86,SNR=16
WTV Waterville 86.59 38 P **P** **02 36 20.2 +2.5**
A09A Danville 86.59 36 ⇑P **P** **02 36 18.7 +1.0**
baz=86
EDM Edmonton 86.60 31 *e*P **P** **02 36 17.5 -0.1**
FETA Feichten 86.61 321 *i* P **P** **02 36 17.4 -0.4**
comp=Z,40nm,1.3s,mb5.5,SNR=20
K01A Sixes 86.63 44 ⇑P **P** **02 36 18.5 +0.5**
baz=86
CTI Castel Tesino 86.64 320 P **P** **02 36 17.5 -0.5**
comp=Z,857nm,3.8s
CTI Castel Tesino 86.64 320 P **P** **02 36 17.5 -0.5**
CTI pmax pmax
comp=Z,857nm,3.8s
E06A Yakima 86.67 39 ⇑P **P** **02 36 19.1 +1.0**
baz=86,SNR=17
KEBM Edson Butte 86.68 44 *e*P **P** **02 36 18.0 -0.2**
I03A Eugene 86.73 42 ⇑P **P** **02 36 18.6 +0.1**
baz=86,SNR=14
F05A White Salmon 86.76 40 ⇑P **P** **02 36 18.9 +0.4**
baz=86
D07A Quincy 86.87 38 ⇑P **P** **02 36 18.9 -0.1**
baz=87
J02A Umpqua 86.88 43 ⇓P **P** **02 36 19.3 +0.1**
baz=87
FG4 Candela 86.93 315 P **P** **02 36 23.0 +3.5**
comp=Z,196nm,1.6s,mb6.1
FG4 Candela 86.93 315 P **P** **02 36 23.0 +3.5**
FG4 pmax pmax
comp=Z,196nm,1.6s,mb6.1
DAVA Damuels 86.94 322 ⇑*i*P **P** **02 36 18.2 -1.2**
comp=Z,49nm,1.1s,mb5.7,SNR=17
HGN Heimansgroeve 86.96 326 *e*P **P** **02 36 22.6 +3.2**
comp=Z,63nm,1.9s,mb5.5
HOOD Mount Hood Mea 86.96 40 *e*P **P** **02 36 20.5 +1.0**
H04A Detroit Lake 87.00 41 ⇓P **P** **02 36 19.3 -0.5**
baz=87,SNR=14
FG5 Orsara di Pugl 87.01 315 P **P** **02 36 22.1 +2.2**
comp=Z,18nm,0.6s,mb5.5
FG5 Orsara di Pugl 87.01 315 P **P** **02 36 22.1 +2.2**
FG5 pmax pmax
comp=Z,18nm,0.6s,mb5.5
MEM Membach 87.02 326 P **P** **02 36 19.7 0.0**
comp=Z,30nm,2.0s,mb5.2
C08A Higginbotham F 87.04 37 ⇑P **P** **02 36 20.0 +0.1**
baz=87
LANF Langenberg 87.07 324 *e*P **P** **02 36 21.0 +1.0**
KBO Bosley Butte 87.10 44 *e*P **P** **02 36 23.4 +3.1**
BRMO Bormio 87.12 321 P **P** **02 36 21.0 +0.7**
comp=Z,87nm,1.7s,mb5.7
TIP Timpagrande 87.13 312 *e*P **P** **02 36 21.4 +0.9**
comp=Z,24nm,1.2s,mb5.3
A10A Northport 87.14 36 ⇓P **P** **02 36 19.5 -0.9**
baz=87
B09A Rice 87.15 37 ⇓P **P** **02 36 21.0 +0.6**
baz=87
TDS Terranova Siba 87.16 313 P **P** **02 36 21.1 +0.5**
comp=Z,75nm,0.8s,mb6.0
TDS Terranova Siba 87.16 313 P **P** **02 36 21.1 +0.5**
TDS pmax pmax
comp=Z,75nm,0.8s,mb6.0
BFO Black Forest 87.18 323 P **P** **02 36 19.9 -0.7**
comp=Z,160nm,1.5s,mb6.0,SNR=8.6
BFO Black Forest 87.18 323 *e*P **P** **02 36 19.6 -1.0**
comp=Z,142nm,1.8s,mb5.9
BFO *e*PP PP 02 39 46.4 +2.8
BFO LR LR
comp=Z,12μm,19.0s,MS6.3
BFO Black Forest 87.18 323 *e*P **P** **02 36 19.6 -1.0**
comp=Z,142nm,1.8s,mb5.9
BFO *e*PP PP 02 39 46.4 +2.8
G05A Wamic 87.20 40 ⇑P **P** **02 36 20.5 -0.3**
baz=87
F06A Goldendale 87.22 40 ⇑P **P** **02 36 20.8 0.0**
baz=87
J03A Ideyld Park 87.25 43 ⇓P **P** **02 36 21.1 +0.1**
baz=87
K02A Glendale 87.26 43 ⇓P **P** **02 36 21.0 0.0**
baz=87
E07A Sunnyside 87.30 39 ⇑P **P** **02 36 21.3 +0.1**
baz=87
M01C Crescent City 87.36 44 ⇓P **P** **02 36 21.5 0.0**
baz=87
I04A Tendick Farm, 87.36 42 P **P** **02 36 22.1 +0.5**
baz=87,SNR=10
SNTG Esanatoglia 87.41 317 P **P** **02 36 22.5 +0.7**
comp=Z,25nm,1.1s,mb5.4
C09A Chrisman Ranch 87.45 37 ⇓P **P** **02 36 22.1 +0.2**
baz=87
BCLA Clavier 87.49 326 P **P** **02 36 22.1 +0.1**
comp=Z,28nm,2.0s,mb5.2
L02A Cave Junction 87.52 44 ⇑P **P** **02 36 23.2 +0.8**
baz=87
WLF Walferdange 87.52 325 *e*P **P** **02 36 22.5 +0.3**

comp=Z,62nm,1.1s,mb5.8
WLF Walferdange 87.52 325 P **P 02 36 22.0 -0.2**
WLF pmax pmax
comp=Z,110nm,1.4s,mb5.9
WLF Walferdange 87.52 325 eP **P 02 36 22.5 +0.3**
WLF pmax pmax
comp=Z,62nm,1.1s,mb5.8
WLF Walferdange 87.52 325 P **P 02 36 22.2 0.0**
comp=Z,64nm,1.9s,mb5.5
WLF Walferdange 87.52 325 eP **P 02 36 22.0 -0.2**
comp=Z,147nm,1.6s,mb6.0
D08A Wollman Farm, 87.53 38 ⇑P **P 02 36 22.5 +0.2**
baz=87,SNR=7.0
NRCA Norcia 87.53 317 P **P 02 36 22.7 +0.3**
comp=Z,59nm,2.0s,mb5.5
HAWA Hanford 87.58 39 eP **P 02 36 23.2 +0.7**
HAWA comp=Z,40nm,1.1s,mb5.6 LR LR
comp=Z,3µm,20.0s,MS5.6
H05A Madras 87.59 41 ⇓P **P 02 36 22.5 -0.2**
baz=87
G06A Carlson Farm, 87.61 40 ⇑P **P 02 36 23.4 +0.7**
baz=87
AQU L'Aquila 87.62 316 eP **P 02 36 21.5 -1.3**
comp=Z,13nm,0.8s,mb5.2
AQU L'Aquila 87.62 316 eP **P 02 36 21.5 -1.3**
AQU pmax pmax
comp=Z,13nm,0.8s,mb5.2
SFJD Kangerlussuaq 87.62 358 PFAKE 02 36 30.0 +7.7
SFJD LR LR
comp=Z,7µm,20.0s,MS6.1
F07A Phinny Hill Vi 87.64 39 ⇑P **P 02 36 23.4 +0.6**
baz=87
HUMO Hull Mountain 87.67 43 eP **P 02 36 23.1 0.0**
comp=Z,31nm,1.0s,mb5.5
HUMO LR LR
comp=Z,2µm,19.0s,MS5.6
HUMO Hull Mountain 87.67 43 ⇓P **P 02 36 23.5 +0.5**
baz=87,SNR=10
CDF Champ du Feu 87.69 324 eP **P 02 36 22.4 -0.6**
comp=Z,302nm,1.7s,mb5.9
CDF Champ du Feu 87.69 324 eP **P 02 36 22.4 -0.6**
comp=Z,151nm,1.7s,mb6.0
CDF Champ du Feu 87.69 324 eP **P 02 36 22.4 -0.6**
CDF pmax pmax
comp=Z,151nm,1.7s,mb6.0
SDI San Donato 87.71 316 P **P 02 36 23.0 -0.3**
comp=Z,78nm,2.1s,mb5.6
SDI San Donato 87.71 316 P **P 02 36 23.0 -0.3**
SDI pmax pmax
comp=Z,78nm,2.1s,mb5.6
B10A Chitwood Farm, 87.72 36 ⇓P **P 02 36 23.5 +0.3**
baz=88
UCC Uccle 87.72 327 P **P 02 36 22.0 -1.1**
A11A Hall Mountain, 87.78 35 P **P 02 36 24.4 +0.9**
baz=88,SNR=28
E08A Dider Farm, El 87.78 38 ⇓P **P 02 36 24.0 +0.4**
baz=88
NEW Newport 87.80 36 eP **P 02 36 23.6 0.0**
comp=Z,86nm,1.4s,mb5.8
NEW LR LR
comp=Z,3µm,20.0s,MS5.7
I05A Bend 87.84 41 ⇑P **P 02 36 24.4 +0.6**
baz=88
J04A Umpqua Nationa 87.85 42 P **P 02 36 24.1 +0.2**
baz=88,SNR=18
VMG Vicchio 87.86 319 P **P 02 36 25.7 +1.8**
comp=Z,44nm,1.0s,mb5.7
D09A Jones Farm, Ri 87.87 38 ⇓P **P 02 36 24.6 +0.7**
baz=88
ECH Echery 87.88 324 eP **P 02 36 22.9 -1.0**
GIVF Givet 87.93 326 eP **P 02 36 24.0 -0.1**
C10A Spilker Farm, 87.96 37 ⇓P **P 02 36 24.8 +0.4**
baz=88
JCC Jacoby Creek 87.97 45 ⇓P **P 02 36 25.3 +0.8**
baz=88
VIPM Ingram Point 88.03 41 P **P 02 36 25.6 +0.8**
DOU Dourbes 88.05 326 P **P 02 36 26.2 +1.5**
H06A Lindquist Farm 88.07 40 P **P 02 36 25.6 +0.7**
baz=88,SNR=13
B11A Sandpoint 88.09 36 P **P 02 36 26.1 +1.2**
baz=88,SNR=19
ESK Eskdalemuir 88.10 333 PFAKE 02 36 40.0 +15
ESK LR LR
comp=Z,16µm,20.0s,MS6.4
MOF Molkenrain 88.11 323 eP **P 02 36 23.8 -1.2**
KHMM Horse Mountain 88.13 45 eP **P 02 36 28.8 +3.5**
G07A Ruggs Ranch, H 88.15 40 ⇑P **P 02 36 26.0 +0.7**
baz=88,SNR=8.0
A12A Yaak River Ran 88.16 35 ⇑P **P 02 36 26.3 +1.1**
baz=88
GSCL Gusciola 88.21 319 P **P 02 36 27.1 +1.5**
comp=Z,49nm,1.3s,mb5.6
BAIF Baives 88.26 326 eP **P 02 36 25.0 -0.7**
ERBM Eremo 88.28 319 P **P 02 36 27.3 +1.4**
comp=Z,349nm,2.1s,mb6.2
HINF Hinteralfeld 88.28 324 eP **P 02 36 24.9 -0.9**
E09A Wood Farm, Sta 88.28 38 ⇑P **P 02 36 26.4 +0.6**
baz=88
BUOR Burton Butte 88.29 43 P **P 02 36 27.2 +1.2**
YBH Yreka Blue Hor 88.31 44 eP **P 02 36 26.2 +0.1**
comp=Z,58nm,1.3s,mb5.7
YBH LR LR
comp=Z,2µm,19.0s,MS5.5
YBH Yreka Blue Hor 88.31 44 eP **P 02 36 26.2 +0.1**
YBH pmax pmax
comp=Z,58nm,1.3s
YBH MLR MLR
comp=Z,2µm,19.0s
YBH Yreka Blue Hor 88.31 44 P **P 02 36 27.1 +1.0**
baz=88,SNR=20
F08A Pendleton 88.35 39 ⇓P **P 02 36 26.9 +0.7**
baz=88,SNR=6.6
J05A Fort Rock 88.35 42 P **P 02 36 27.1 +0.8**
baz=88,SNR=20
VAI Varese 88.39 321 P **P 02 36 25.7 -0.7**
comp=Z,212nm,2.0s,mb6.0
VAI Varese 88.39 321 P **P 02 36 25.7 -0.7**
VAI pmax pmax
comp=Z,212nm,2.0s,mb6.0
M02C Callahan 88.40 44 ⇑P **P 02 36 27.2 +0.7**
baz=88,SNR=9.7
K04A Chilquin 88.42 43 ⇑P **P 02 36 27.1 +0.4**
baz=88
N02C Big Bar 88.43 45 ⇑P **P 02 36 27.6 +0.9**
baz=88
HAU Haudompre 88.44 324 eP **P 02 36 25.4 -1.2**
comp=Z,69nm,1.4s,mb5.4
HAU eMLR MLR
comp=Z,15µm,17.5s,MS6.2
HAU Haudompre 88.44 324 eP **P 02 36 25.4 -1.2**
comp=Z,34nm,1.4s,mb5.4
HAU LR LR
comp=Z,15µm,17.5s,MS6.5
HAU Haudompre 88.44 324 eP **P 02 36 25.4 -1.2**
HAU pmax pmax
comp=Z,34nm,1.4s,mb5.4
HAU MLR MLR
comp=Z,15µm,17.5s,MS6.5
D10A Wagner Farm, O 88.44 37 ⇑P **P 02 36 27.2 +0.6**
baz=88
O01C Eel River Cons 88.47 46 ⇓P **P 02 36 28.3 +1.4**
baz=88
B12A Libby 88.48 35 ⇓P **P 02 36 27.8 +1.0**
baz=88
THEF They Montfort 88.49 324 eP **P 02 36 26.0 -0.8**
KMBO Kilima Mbogo 88.51 268 eP **P 02 36 29.2 +1.7**
comp=Z,26nm,1.2s,mb5.4
KMBO LR LR
comp=Z,3µm,20.0s,MS5.6
KMBO Kilima Mbogo 88.51 268 P **P 02 36 33.7 +6.2**
SNR=11
G08A Pilot Rock 88.54 39 ⇓P **P 02 36 28.1 +0.9**
baz=88,SNR=11
L04A Klamath Falls 88.57 43 ⇑P **P 02 36 25.5 -1.9**
baz=88
LOMF Lomont 88.58 323 eP **P 02 36 25.0 -2.2**
I06A Prineville 88.59 41 ⇑P **P 02 36 26.0 -1.4**
baz=88,SNR=14
H07A Lands Inn, Kim 88.60 40 ⇑P **P 02 36 26.0 -1.4**
baz=88
LHEM Herd Peak 88.67 44 P **P 02 36 28.5 +0.7**
A13A Flathead Natio 88.80 35 ⇑P **P 02 36 28.8 +0.5**
baz=88
MEZF Maizieres J'vi 88.81 325 eP **P 02 36 28.0 -0.3**
M04C Macdoel 88.82 43 ⇑P **P 02 36 27.1 -1.4**
baz=89,SNR=9.8
K05A Summer Lake 88.87 42 P **P 02 36 29.6 +0.8**
baz=89,SNR=17
E10A Myers Farm, Un 88.87 38 ⇑P **P 02 36 29.2 +0.5**
baz=89,SNR=12
F09A S2 Ranch, Elgi 88.89 39 ⇑P **P 02 36 29.3 +0.5**
baz=89
M03C McCloud 88.93 44 P **P 02 36 29.8 +0.8**
baz=89,SNR=11
I07A Izee 88.93 41 P **P 02 36 29.7 +0.7**
baz=89,SNR=9.1
D11A Klaveano Farm, 88.96 37 P **P 02 36 29.0 -0.1**
baz=89,SNR=26
ORO Oropa 88.97 321 P **P 02 36 28.5 -0.7**
comp=Z,24nm,0.8s,mb5.6
ORO Oropa 88.97 321 P **P 02 36 28.5 -0.7**
ORO pmax pmax
comp=Z,24nm,0.8s,mb5.6
WALA Waterton Lakes 88.98 34 eP **P 02 36 29.5 +0.4**
comp=Z,374nm,1.7s,mb6.4
J06A Christmas Vall 89.02 42 ⇓P **P 02 36 28.5 -0.9**
baz=89,SNR=24
WDC Whiskeytown Da 89.05 45 eP **P 02 36 29.3 -0.3**
comp=Z,59nm,1.6s,mb5.7
WDC LR LR
comp=Z,2µm,21.0s,MS5.6
WDC Whiskeytown Da 89.05 45 eP **P 02 36 29.3 -0.3**
WDC pmax pmax
comp=Z,59nm,1.6s,mb5.7
WDC MLR MLR
comp=Z,2µm,21.0s,MS5.6
WDC Whiskeytown Da 89.05 45 ⇓P **P 02 36 29.6 0.0**
baz=89
O02C Red Bluff 89.11 45 ⇓P **P 02 36 29.5 -0.4**
baz=89,SNR=5.8
F10A Beach Ranch, E 89.12 38 ⇑P **P 02 36 29.4 -0.4**
baz=89,SNR=14
B13A Whitefish 89.13 35 ⇑P **P 02 36 31.7 +1.9**
baz=89,SNR=29
P01C Double 8 Ranch 89.14 46 ⇓P **P 02 36 31.5 +1.5**
baz=89
H08A Prairie City 89.16 40 ⇑P **P 02 36 31.5 +1.5**
baz=89
K06A Valley Falls 89.22 42 P **P 02 36 30.6 +0.2**
baz=89,SNR=18
BSMT Bassoo Peak 89.29 36 eP **P 02 36 31.1 +0.5**
L05A Lakeview 89.29 43 ⇓P **P 02 36 30.3 -0.4**
baz=89,SNR=11
CABF La Chapelle 89.43 323 eP **P 02 36 30.6 -0.7**
comp=Z,91nm,1.6s,mb5.6
CABF La Chapelle 89.43 323 eP **P 02 36 30.6 -0.7**
comp=Z,45nm,1.5s,mb5.6
CABF La Chapelle 89.43 323 eP **P 02 36 30.6 -0.7**
CABF pmax pmax
comp=Z,45nm,1.5s,mb5.6
GASB Alder Springs 89.44 46 ⇓P **P 02 36 31.0 -0.4**
baz=89,SNR=12
E11A Bogner Ranch, 89.45 37 P **P 02 36 31.4 0.0**
baz=89,SNR=20
J07A Hines 89.45 41 ⇓P **P 02 36 31.5 0.0**
baz=89,SNR=17
D12A Red Ives Fores 89.48 36 ⇑P **P 02 36 31.1 -0.5**
baz=89
M05C Lookout 89.49 44 ⇑P **P 02 36 31.2 -0.4**
baz=89
C13A Hot Springs 89.51 36 P **P 02 36 32.1 +0.5**
baz=89,SNR=29
HOPS Hopland 89.57 46 PFAKE 02 36 40.0 +7.9
HOPS LR LR
comp=Z,3µm,20.0s,MS5.7
HOPS Hopland 89.57 46 ⇓P **P 02 36 32.1 0.0**
baz=89
I08A Drewsey 89.58 40 ⇓P **P 02 36 32.0 0.0**
baz=89
G10A Bishop Farm, J 89.59 39 P **P 02 36 32.3 +0.2**
baz=89,SNR=32
HATC Hat Creek Radi 89.60 44 ⇓P **P 02 36 32.2 0.0**
baz=89
H09A Durkee 89.65 39 ⇓P **P 02 36 32.4 0.0**
baz=89
LBCM Butte Creek Ri 89.66 44 P **P 02 36 32.9 +0.5**
O03C Acorn Hollow, 89.69 45 ⇓P **P 02 36 31.7 -0.9**
baz=90
MOD Modoc 89.70 43 eP **P 02 36 33.6 +0.9**
comp=Z,52nm,1.3s,mb5.7
MOD ePP PP 02 40 03.0 -1.0
MOD LR LR
comp=Z,3µm,19.0s,MS5.7
MOD Modoc 89.70 43 ⇑P **P 02 36 28.9 -3.8**
baz=90,SNR=9.1
LPL La Plagne 89.74 322 eP **P 02 36 32.4 -0.4**
comp=Z,120nm,1.3s,mb5.8
LPL La Plagne 89.74 322 eP **P 02 36 32.4 -0.4**
comp=Z,60nm,1.3s,mb5.8
LPL La Plagne 89.74 322 eP **P 02 36 32.4 -0.4**
LPL pmax pmax
comp=Z,60nm,1.3s,mb5.8
LPG La Plagne 89.74 322 eP **P 02 36 32.5 -0.3**
comp=Z,170nm,1.4s,mb5.9
LPG La Plagne 89.74 322 eP **P 02 36 32.5 -0.3**
comp=Z,85nm,1.4s,mb5.9
LPG La Plagne 89.74 322 eP **P 02 36 32.5 -0.3**
LPG pmax pmax
comp=Z,85nm,1.4s,mb5.9
BMO Blue Mountains 89.75 39 eP **P 02 36 32.9 +0.1**
comp=Z,44nm,1.4s,mb5.6
BMO LR LR
comp=Z,3µm,20.0s,MS5.8
F11A Grangeville 89.76 38 ⇓P **P 02 36 31.4 -1.4**
baz=90
FCC Fort Churchill 89.88 19 eP **P 02 36 31.8 -1.4**
comp=Z,207nm,1.4s,mb6.3
FCC Fort Churchill 89.88 19 eP **P 02 36 31.8 -1.3**
FCC pmax pmax
comp=Z,180nm,1.2s,mb6.3
C14A Swan Lake 89.88 35 ⇓P **P 02 36 34.3 +1.0**
baz=90
K07A Rock Creek Ran 89.89 42 ⇑P **P 02 36 32.1 -1.4**
baz=90,SNR=30
D13A Huson 89.94 36 ⇓P **P 02 36 33.2 -0.5**
baz=90
J08A Circle Bar Ran 89.96 41 P **P 02 36 34.4 +0.6**
baz=90,SNR=22
M06C Likely Place G 89.99 43 ⇑P **P 02 36 34.0 0.0**
baz=90
G11A Walters Elk Ra 90.00 38 ⇓P **P 02 36 32.6 -1.4**
baz=90,SNR=24
I09A Lost Marbles R 90.02 40 ⇑P **P 02 36 32.7 -1.4**
baz=90
MNRC McLaughlin Nat 90.05 46 ⇓P **P 02 36 32.0 -2.4**
baz=90
IMI Imperia 90.05 320 P **P 02 36 33.8 -0.4**
BNI Bardonecchia 90.05 321 eP **P 02 36 33.3 -1.0**
comp=Z,45nm,1.1s,mb5.7
BNI ePP PP 02 40 06.7 0.0
O04C Chester 90.11 44 ⇓P **P 02 36 35.1 +0.5**
baz=90,SNR=20
ELFS Eagle Lake Fie 90.17 44 ⇓P **P 02 36 34.9 0.0**
baz=90
SAOF Saorge 90.20 320 eP **P 02 36 34.1 -0.8**
PGF Pioggiola 90.20 318 eP **P 02 36 34.3 -0.7**
comp=Z,30nm,0.8s,mb5.3
PGF Pioggiola 90.20 318 eP **P 02 36 34.3 -0.7**
comp=Z,15nm,0.8s,mb5.4
PGF Pioggiola 90.20 318 eP **P 02 36 34.3 -0.7**
PGF pmax pmax
comp=Z,15nm,0.8s,mb5.4
MBDF Montbardon 90.20 321 eP **P 02 36 34.2 -0.7**
comp=Z,109nm,1.5s,mb5.7
MBDF Montbardon 90.20 321 eP **P 02 36 34.2 -0.7**
comp=Z,54nm,1.5s,mb5.7
MBDF Montbardon 90.20 321 eP **P 02 36 34.2 -0.7**
MBDF pmax pmax
comp=Z,55nm,1.5s,mb5.7
LOR Lormes 90.21 324 eP **P 02 36 33.9 -1.0**
LOR eMLR MLR
comp=Z,16µm,21.8s,MS6.1
LOR Lormes 90.21 324 eP **P 02 36 33.9 -1.0**
LOR MLR MLR
comp=Z,16µm,21.8s,MS6.4
H10A Noah's Angus R 90.22 39 P **P 02 36 34.8 -0.2**
baz=90,SNR=35
L07A Adell 90.22 42 P **P 02 36 35.5 +0.5**
baz=90,SNR=36
AUTN L'Aution 90.26 320 eP **P 02 36 38.2 +3.0**
SUTB Sutter Butte 90.28 46 ⇑P **P 02 36 34.5 -0.9**
baz=90
ORV Oroville 90.28 45 ⇓P **P 02 36 34.9 -0.5**
baz=90,SNR=13
K08A Mann Creek Ran 90.32 41 ⇓P **P 02 36 35.0 -0.5**
baz=90,SNR=5.3
FARB Farallon Islan 90.33 47 ⇓P **P 02 36 35.7 0.0**
baz=90
CVS Carmenet Viney 90.33 47 ⇑P **P 02 36 35.7 0.0**
baz=90
SBF Sospel 90.34 320 eP **P 02 36 34.4 -1.2**
comp=Z,80nm,0.9s,mb5.7
SBF Sospel 90.34 320 eP **P 02 36 34.4 -1.2**
comp=Z,40nm,0.9s,mb5.8
SBF Sospel 90.34 320 eP **P 02 36 34.4 -1.2**
SBF pmax pmax
comp=Z,40nm,0.9s,mb5.8
F12A Elk City 90.34 37 P **P 02 36 35.6 0.0**
baz=90,SNR=36
TOUF Mont Tournerai 90.36 320 eP **P 02 36 34.9 -0.8**
LUCF Luceram 90.37 320 eP **P 02 36 33.3 -2.4**
MSO Missoula 90.38 36 eP **P 02 36 36.0 +0.3**
comp=Z,101nm,1.8s,mb5.8
MSO LR LR
comp=Z,3µm,19.0s,MS5.7
FFC Flin Flon 90.38 25 P **P 02 36 34.1 -1.4**
comp=Z,980nm,1.2s,mb7.0,SNR=34
FFC Flin Flon 90.38 25 eP **P 02 36 33.6 -2.0**
comp=Z,671nm,1.6s,mb6.7
FFC LR LR
comp=Z,3µm,19.0s,MS5.8
J09A Fry Pan Ranch, 90.39 40 ⇓P **P 02 36 35.3 -0.5**
baz=90,SNR=35
WVOR Wild Horse Val 90.40 42 eP **P 02 36 36.2 +0.3**
comp=Z,74nm,1.4s,mb5.8
WVOR LR LR
comp=Z,2µm,20.0s,MS5.6
WVOR Wild Horse Val 90.40 42 P **P 02 36 36.6 +0.7**
WVOR pmax pmax
comp=Z,74nm,1.4s,mb5.8
OHCM Honcut 90.41 45 eP **P 02 36 36.4 +0.4**
O05C Quincy 90.42 45 ⇑P **P 02 36 35.1 -0.9**
baz=90
D14A Greenough 90.45 36 P **P 02 36 35.8 -0.2**
baz=90,SNR=26
REVF Revere 90.45 320 eP **P 02 36 35.6 -0.5**
Q03C Winters 90.46 46 ⇓P **P 02 36 37.7 +1.4**
baz=90
MVIF Mont Vial 90.48 320 eP **P 02 36 35.5 -0.8**
E13A Victor 90.49 36 ⇑P **P 02 36 36.2 0.0**
baz=90
I10A Payette 90.49 39 ⇑P **P 02 36 36.8 +0.5**
baz=90
SSF Saint Saulge 90.53 324 eP **P 02 36 35.3 -1.1**
H11A Donnelly 90.57 39 P **P 02 36 37.0 +0.3**
baz=90,SNR=9.3
ORIF Oris-en-Rattie 90.58 322 eP **P 02 36 35.5 -1.2**
comp=Z,141nm,1.5s,mb5.8
ORIF eMLR MLR
comp=Z,14µm,19.8s,MS6.1
ORIF Oris-en-Rattie 90.58 322 eP **P 02 36 35.5 -1.2**
comp=Z,70nm,1.5s,mb5.8
ORIF Oris-en-Rattie 90.58 322 eP **P 02 36 35.5 -1.2**
ORIF pmax pmax
comp=Z,70nm,1.5s,mb5.8
SMF Signal de Mont 90.62 324 eP **P 02 36 35.8 -1.0**
comp=Z,26nm,0.9s,mb5.2
SMF Signal de Mont 90.62 324 eP **P 02 36 35.8 -1.0**
comp=Z,13nm,0.9s,mb5.3
SMF Signal de Mont 90.62 324 eP **P 02 36 35.8 -1.0**
SMF pmax pmax
comp=Z,13nm,0.9s,mb5.3
N06A Buffalo Meadow 90.65 43 ⇑P **P 02 36 37.6 +0.5**
baz=90,SNR=20
CHMT Chamberlain Mo 90.69 36 eP **P 02 36 36.5 -0.7**
M07A Soldier Meadow 90.69 43 ⇑P **P 02 36 36.8 -0.5**
baz=90
CALN Calern 90.72 320 eP **P 02 36 38.2 +0.8**
L08A Fields 90.72 42 ⇑P **P 02 36 37.4 0.0**
baz=90,SNR=24
Q04C Lincoln 90.76 46 ⇓P **P 02 36 36.7 -0.9**
baz=90
AVF Avril sur Loir 90.78 324 eP **P 02 36 36.6 -1.0**
comp=Z,13nm,0.9s,mb4.9
AVF Avril sur Loir 90.78 324 eP **P 02 36 36.6 -1.0**
comp=Z,6.4nm,0.9s,mb5.0
AVF Avril sur Loir 90.78 324 eP **P 02 36 36.6 -1.0**
AVF pmax pmax
comp=Z,6.0nm,0.9s,mb4.9
K09A Rome 90.79 41 P **P 02 36 38.4 +0.6**
baz=90,SNR=28
OG25 Le Caire 90.81 321 eP **P 02 36 37.0 -0.8**
F13A Darby 90.82 37 ⇑P **P 02 36 36.8 -1.0**
baz=91,SNR=9.8
BEKR Beckwourth 90.83 44 ⇓P **P 02 36 37.9 0.0**
baz=91,SNR=9.2
E14A Clinton 90.88 36 P **P 02 36 38.2 +0.2**
baz=91,SNR=16
J10A Berg Farm, Mel 90.91 40 ⇓P **P 02 36 37.3 -1.0**
baz=91
BDM Black Diamond 90.93 47 ⇑P **P 02 36 37.5 -0.9**
baz=91
FRF La Foret Royal 90.98 320 eP **P 02 36 37.0 -1.6**
comp=Z,101nm,1.2s,mb5.7
FRF La Foret Royal 90.98 320 eP **P 02 36 37.0 -1.6**
comp=Z,50nm,1.2s,mb5.7
FRF La Foret Royal 90.98 320 eP **P 02 36 37.0 -1.6**
FRF pmax pmax
comp=Z,50nm,1.2s,mb5.7
D15A Lincoln 90.99 35 ⇓P **P 02 36 39.0 +0.5**
baz=91,SNR=6.9
P05C Yuba Gap, Truc 90.99 45 ⇑P **P 02 36 39.7 +0.9**
baz=91
JRSC Jasper Ridge 90.99 47 ⇑P **P 02 36 35.9 -2.8**
baz=91
O06A Flanigan 90.99 44 ⇓P **P 02 36 39.2 +0.5**
baz=91,SNR=22
I11A Placerville 91.08 39 ⇑P **P 02 36 38.6 -0.5**
baz=91
OG26 St.-Nazaire-De 91.12 322 eP **P 02 36 38.9 -0.3**
STOF St-Etienne Org 91.13 321 eP **P 02 36 38.8 -0.5**
M08A Happy Creek Ra 91.14 42 ⇑P **P 02 36 39.8 +0.5**
baz=91,SNR=27
N07B Gerlach 91.17 43 P **P 02 36 40.2 +0.7**
baz=91,SNR=9.4
BNLO Ben Lomond (Sa 91.19 47 ⇓P **P 02 36 37.3 -2.4**
baz=91
LMR La Mourre 91.19 320 eP **P 02 36 38.3 -1.3**
comp=Z,231nm,1.5s,mb6.0
LMR La Mourre 91.19 320 eP **P 02 36 38.3 -1.3**
comp=Z,115nm,1.5s,mb6.0
LMR La Mourre 91.19 320 eP **P 02 36 38.3 -1.3**
LMR pmax pmax
comp=Z,115nm,1.5s,mb6.0
LAVA Lava Cap Winer 91.22 46 ⇓P **P 02 36 37.9 -1.9**
baz=91
P06A Stead Airport, 91.23 44 ⇓P **P 02 36 39.8 0.0**
baz=91
L09A Wilkinson Ranc 91.23 41 P **P 02 36 40.6 +0.8**
baz=91,SNR=20
K10A MacKenzie Ranc 91.25 41 ⇑P **P 02 36 39.8 0.0**
baz=91,SNR=29
TAVF Tavernes 91.28 321 eP **P 02 36 39.8 -0.2**
VIVF Saint-Julien-I 91.30 322 eP **P 02 36 39.3 -0.7**
comp=Z,201nm,1.7s,mb5.9
VIVF Saint-Julien-I 91.30 322 eP **P 02 36 39.3 -0.7**
comp=Z,101nm,1.7s,mb5.9
VIVF Saint-Julien-I 91.30 322 eP **P 02 36 39.3 -0.7**
VIVF pmax pmax
comp=Z,101nm,1.7s,mb5.9
H12A Diamond D Ranc 91.31 38 P **P 02 36 40.4 +0.3**
baz=91,SNR=26
G13A Cobalt 91.32 38 ⇑P **P 02 36 40.1 0.0**
baz=91
E15A Deer Lodge 91.33 36 P **P 02 36 40.5 +0.3**
baz=91,SNR=30
F14A Wisdom 91.33 37 ⇓P **P 02 36 41.1 +0.9**
baz=91
VILF Villemus 91.33 321 eP **P 02 36 40.3 +0.1**
SMRF Simiane la Rot 91.34 321 eP **P 02 36 39.0 -1.2**
comp=Z,185nm,1.6s,mb5.9
SMRF Simiane la Rot 91.34 321 eP **P 02 36 39.0 -1.2**
comp=Z,185nm,1.6s,mb6.2
LDF La Druitiere 91.36 327 eP **P 02 36 39.7 -0.6**
comp=Z,88nm,1.6s,mb5.5
LDF La Druitiere 91.36 327 eP **P 02 36 39.7 -0.6**
comp=Z,44nm,1.6s,mb5.5
LDF La Druitiere 91.36 327 eP **P 02 36 39.7 -0.6**
LDF pmax pmax
comp=Z,44nm,1.6s,mb5.5

R04C **Big Horse Ranc** 91.37 46 ⇑P P 02 36 41.0 +0.5
baz=91
FLN **La Foliniere** 91.43 327 eP P 02 36 39.9 -0.6
FLN eMLR MLR
comp=Z,10µm,20.8s,MS5.9
FLN **La Foliniere** 91.43 327 eP P 02 36 39.9 -0.6
FLN MLR MLR
comp=Z,10µm,20.8s,MS6.2
MFID **Camas Ranch** 91.46 40 P P 02 36 41.4 +0.6
baz=91,SNR=33
WCN **Washoe City** 91.53 45 ⇓P P 02 36 42.6 +1.4
baz=91
S04C **Ingram Canyon,** 91.54 47 ⇑P P 02 36 40.3 -1.0
baz=91
PUYF **Puyloubier** 91.54 321 eP P 02 36 40.7 -0.5
HRY **Holter Researc** 91.56 35 eP P 02 36 49.7 +8.5
H13A **Challis** 91.64 38 P P 02 36 41.9 +0.3
baz=91,SNR=5.9
G14A **Jackson** 91.64 37 ⇑P P 02 36 42.1 +0.4
baz=91
TREF **Trevaresse** 91.66 321 eP P 02 36 41.7 0.0
PRAF **Pradon** 91.67 321 eP P 02 36 41.7 -0.1
R05C **Kirkwood Meado** 91.67 45 ⇓P P 02 36 41.4 -0.5
baz=91,SNR=8.7
BERF **Bertagne** 91.68 320 eP P 02 36 41.7 -0.1
N08A **GE Springer Mi** 91.68 43 ⇓P P 02 36 42.8 +0.9
baz=91
TCF **Toulx Ste Croi** 91.71 324 eP P 02 36 40.8 -1.1
comp=Z,33nm,1.5s,mb5.1
TCF **Toulx Ste Croi** 91.71 324 eP P 02 36 40.8 -1.1
comp=Z,17nm,1.5s,mb5.1
TCF **Toulx Ste Croi** 91.71 324 eP P 02 36 40.8 -1.1
TCF pmax pmax
comp=Z,17nm,1.5s,mb5.2
M09A **Marrel Ranch,** 91.72 42 ⇓P P 02 36 43.0 +0.9
baz=92
K11A **Parker Ranch,** 91.74 40 P P 02 36 42.7 +0.6
baz=92,SNR=27
EGMT **Eagleton** 91.75 33 eP P 02 36 43.6 +1.6
EGMT LR LR
comp=Z,4µm,20.0s,MS5.8
EGMT **Eagleton** 91.75 33 ⇓P P 02 36 42.0 0.0
baz=92
F15A **Butte** 91.78 36 P P 02 36 42.7 +0.5
baz=92,SNR=30
GELF **Grande-Etoile** 91.79 321 eP P 02 36 41.2 -1.1
LRM **Limekiln Ridge** 91.82 36 eP P 02 36 42.2 -0.2
PACP **Pacheco Peak** 91.84 47 ⇑P P 02 36 42.7 0.0
baz=92
CMB **Columbia Colle** 91.85 46 PFAKE 02 36 50.0 +7.3
CMB LR LR
comp=Z,3µm,20.0s,MS5.7
CMB **Columbia Colle** 91.85 46 ⇑P P 02 36 42.7 0.0
baz=92,SNR=16
GRR **Gorron** 91.86 327 eP P 02 36 42.1 -0.5
comp=Z,51nm,1.5s,mb5.3
GRR **Gorron** 91.86 327 eP P 02 36 42.1 -0.5
comp=Z,25nm,1.5s,mb5.3
GRR **Gorron** 91.86 327 eP P 02 36 42.1 -0.5
GRR pmax pmax
comp=Z,25nm,1.5s,mb5.3
SAO **San Andreas Ge** 91.87 47 PFAKE 02 36 50.0 +7.1
SAO LR LR
comp=Z,3µm,20.0s,MS5.7
L10A **Juniper Basin** 91.91 41 P P 02 36 43.8 +0.9
baz=92,SNR=33
P07A **Fallon** 91.94 44 ⇓P P 02 36 43.1 0.0
baz=92
O08A **Rochester Mine** 91.96 43 ⇓P P 02 36 44.1 +0.9
baz=92
J12A **Stokes Ranch,** 91.98 39 P P 02 36 44.0 +0.8
baz=92,SNR=26
N09A **Rock Creek Ran** 92.01 42 ⇓P P 02 36 43.9 +0.4
baz=92
HAST **Hastings Reser** 92.01 48 ⇑P P 02 36 41.6 -1.9
baz=92
DLMT **Dillon** 92.03 37 eP P 02 36 43.6 +0.2
comp=Z,75nm,1.0s,mb6.0
I13A **Wildhorse Cree** 92.12 38 P P 02 36 45.0 +1.1
baz=92,SNR=47
R06C **Coleville** 92.18 45 ⇑P P 02 36 45.1 +0.9
baz=92
HLID **Hailey** 92.18 39 eP P 02 36 44.3 +0.2
comp=Z,60nm,1.3s,mb5.8
HLID ePP PP 02 40 26.2 +2.6
HLID LR LR
comp=Z,4µm,19.0s,MS5.8
HLID **Hailey** 92.18 39 P P 02 36 45.1 +1.0
baz=92,SNR=59
M10A **I.L. Ranch, Tu** 92.20 41 P P 02 36 45.0 +0.7
baz=92,SNR=31
G15A **Dillon** 92.22 37 P P 02 36 44.5 +0.2
baz=92,SNR=28
LASF **Ste Croix** 92.24 322 eP P 02 36 43.5 -0.9
comp=Z,169nm,1.7s,mb5.8
MCMT **McKenzie Canyo** 92.24 37 eP P 02 36 46.1 +1.7
L11A **Cat Creek Ranc** 92.27 41 P P 02 36 45.3 +0.7
baz=92,SNR=50
CASY **Casey** 92.28 186 PFAKE 02 36 50.0 +6.2
CASY LR LR
comp=Z,2µm,20.0s,MS5.6
S05C **Merced** 92.28 46 ⇓P P 02 36 44.2 -0.5
baz=92
T05C **Eagle Field, D** 92.31 47 ⇓P P 02 36 44.4 -0.5
baz=92
BOZ **Bozeman (W)** 92.37 36 eP P 02 36 45.1 +0.1
comp=Z,242nm,2.5s,mb6.1
BOZ LR LR
comp=Z,2µm,19.0s,MS5.6
BOZ **Bozeman (W)** 92.37 36 P P 02 36 45.2 +0.2
baz=92,SNR=21
J13A **Cove Ranch, Pi** 92.42 39 P P 02 36 45.9 +0.7
baz=92,SNR=43
V03C **Hunter Liggett** 92.43 48 ⇑P P 02 36 45.4 0.0
baz=92
K12A **Draper Farm, C** 92.48 40 P P 02 36 46.5 +0.9
baz=92,SNR=23
U04C **Hernandez Rese** 92.54 47 ⇓P P 02 36 45.0 -1.0
baz=92
O09A **Fish Creek Ran** 92.62 43 ⇓P P 02 36 46.7 +0.4
baz=92,SNR=14
CAF **Calviac** 92.67 323 eP P 02 36 45.6 -0.8
comp=Z,25nm,1.0s,mb5.3
CAF **Calviac** 92.67 323 eP P 02 36 45.6 -0.8
comp=Z,12nm,1.0s,mb5.3
CAF **Calviac** 92.67 323 eP P 02 36 45.6 -0.8
CAF pmax pmax
comp=Z,12nm,1.0s,mb5.3
R07C **Lee Vining** 92.69 45 ⇓P P 02 36 46.1 -0.5
baz=92
M11A **Holland Ranch,** 92.70 41 ⇑P P 02 36 47.5 +0.9
baz=92,SNR=26
N10A **Dunphy** 92.71 42 ⇑P P 02 36 47.5 +0.9
baz=92
L12A **House Creek Ra** 92.72 40 P P 02 36 47.7 +1.0
baz=92,SNR=33
RJF **Les Rejaudoux** 92.72 324 eP P 02 36 46.9 +0.3
RJF eMLR MLR
comp=Z,15µm,19.5s,MS6.2
RJF **Les Rejaudoux** 92.72 324 eP P 02 36 46.9 +0.3
RJF MLR MLR
comp=Z,15µm,19.5s,MS6.5
MFF **Saint Martin d** 92.72 326 eP P 02 36 45.7 -0.9
comp=Z,19nm,1.1s,mb5.1
MFF **Saint Martin d** 92.72 326 eP P 02 36 45.7 -0.9
comp=Z,9.4nm,1.1s,mb5.1
MFF **Saint Martin d** 92.72 326 eP P 02 36 45.7 -0.9
MFF pmax pmax
comp=Z,9.0nm,1.1s,mb5.1
SGMF **Saint Gilles** 92.78 328 eP P 02 36 45.3 -1.5
comp=Z,103nm,1.7s,mb5.7
SGMF **Saint Gilles** 92.78 328 eP P 02 36 45.3 -1.5
comp=Z,51nm,1.7s,mb5.7
SGMF **Saint Gilles** 92.78 328 eP P 02 36 45.3 -1.5
SGMF pmax pmax
comp=Z,51nm,1.7s,mb5.7
T06C **Millerton Lake** 92.88 46 P P 02 36 47.7 +0.2
baz=93,SNR=12
V04C **Ramage Ranch,** 92.89 48 ⇑P P 02 36 48.0 +0.4
baz=93
PKD **Parkfield** 92.94 48 ⇓P P 02 36 48.2 +0.4
baz=93
K13A **Stover Farm, H** 92.94 39 ⇓P P 02 36 47.6 -0.1
baz=93,SNR=20
Q08A **Gabbs** 92.94 44 P P 02 36 48.5 +0.7
baz=93,SNR=12
KCC **Kaiser Creek** 92.95 46 ⇓P P 02 36 47.8 -0.1
baz=93
NVAR **Mina Array Bea** 92.96 45 P P 02 36 48.1 +0.2
comp=Z,2.4nm,0.7s,mb4.7,baz=307,slow=3.7,SNR=14
NVAR PP PP 02 40 32.8 +2.9
comp=Z,8.9nm,1.2s,baz=302,slow=5.8,SNR=7.3
O10A **Cortez Mining,** 92.97 42 ⇑P P 02 36 48.3 +0.4
baz=93
U05C **Westside ANR,** 93.00 47 ⇓P P 02 36 49.0 +0.9
baz=93
QLMT **Earthquake Lak** 93.01 36 eP P 02 36 49.2 +1.3
P09A **Austin** 93.03 43 ⇓P P 02 36 49.0 +0.9
baz=93
ROSF **Rostrenen** 93.06 328 eP P 02 36 46.9 -1.2
comp=Z,72nm,1.4s,mb5.6
ROSF **Rostrenen** 93.06 328 eP P 02 36 46.9 -1.2
comp=Z,36nm,1.4s,mb5.6
ROSF **Rostrenen** 93.06 328 eP P 02 36 46.9 -1.2
ROSF pmax pmax
comp=Z,36nm,1.4s,mb5.6
MLAC **Mammoth Lakes** 93.09 46 ⇓P P 02 36 48.9 +0.4
baz=93
N11A **Elko Archery C** 93.11 42 ⇑P P 02 36 48.4 -0.1
baz=93
R08A **Mina** 93.14 45 ⇑P P 02 36 48.6 -0.1
baz=93
M12A **Wells** 93.23 41 ⇓P P 02 36 48.9 -0.1
baz=93,SNR=35
QUIF **Quistinic** 93.31 328 eP P 02 36 47.9 -1.3
YMR **Madison River** 93.36 36 eP P 02 36 50.9 +1.3
comp=Z,123nm,1.6s,mb6.1
YMR LR LR
comp=Z,4µm,21.0s,MS5.9
LFF **La Frestale** 93.37 324 eP P 02 36 48.8 -0.8
comp=Z,32nm,1.2s,mb5.3
LFF **La Frestale** 93.37 324 eP P 02 36 48.8 -0.8
comp=Z,16nm,1.2s,mb5.3
LFF **La Frestale** 93.37 324 eP P 02 36 48.8 -0.8
LFF pmax pmax
comp=Z,16nm,1.2s,mb5.3
L13A **Double Diamond** 93.38 40 ⇓P P 02 36 51.0 +1.3
baz=93,SNR=12
P10A **Eureka** 93.40 43 ⇓P P 02 36 51.7 +1.8
baz=93
PPT **Papeete** 93.40 108 eLQ 03 02 55.0
PPT LR LR 03 06 51.5
comp=Z,7µm,30.5s
comp=Z,9µm,24.2s,baz=303
PPT **Papeete** 93.40 108 LR LR 03 10 58.5
comp=Z,3µm,19.7s,MS5.7,baz=292,slow=30
V05C **Boulder Hill,** 93.41 47 ⇑P P 02 36 48.5 -1.5
baz=93
MTUM **Tungsten Hills** 93.43 46 eP P 02 36 50.5 +0.5
MTUM ePP PP 02 40 35.4 +1.8
Q09A **Carvers** 93.43 44 ⇑P P 02 36 50.4 +0.4
baz=93
YNR **Norris Junctio** 93.49 36 eP P 02 36 52.1 +2.0
N12A **Clover Valley,** 93.51 41 P P 02 36 51.4 +1.1
baz=93,SNR=26
HELL **Mitchell Peak** 93.52 46 ⇓P P 02 36 51.3 +0.9
baz=93,SNR=13
K14A **Jones Ranch, D** 93.53 39 ⇑P P 02 36 51.2 +0.8
baz=93,SNR=17
YFT **Old Faithful** 93.58 36 eP P 02 36 52.7 +2.1
O11A **Cowboy Ranch,** 93.58 42 ⇓P P 02 36 51.1 +0.4
baz=93,SNR=14
S08C **White Mtn Res** 93.59 45 ⇑P P 02 36 52.1 +1.3
baz=93,SNR=22
MTLF **Montolieu** 93.62 322 eP P 02 36 49.6 -1.2
comp=Z,127nm,1.9s,mb5.7
MTLF **Montolieu** 93.62 322 eP P 02 36 49.6 -1.2
comp=Z,63nm,1.9s,mb5.7
MTLF **Montolieu** 93.62 322 eP P 02 36 49.6 -1.2
MTLF pmax pmax
comp=Z,63nm,1.9s,mb5.7
LRDF **Laroque-de-Fa** 93.70 322 eP P 02 36 51.6 +0.4
M13A **Montello** 93.70 40 P P 02 36 52.6 +1.4
baz=94,SNR=23
LKWY **Lake** 93.73 36 eP P 02 36 52.4 +1.1
comp=Z,39nm,1.2s,mb5.7
LKWY LR LR
comp=Z,6µm,20.0s,MS6.1
LKWY **Lake** 93.73 36 eP P 02 36 52.4 +1.1
LKWY pmax pmax
comp=Z,39nm,1.2s,mb5.7
LKWY MLR MLR
comp=Z,6µm,20.0s,MS6.1
TIN **Tinemaha** 93.82 46 ⇑P P 02 36 51.8 0.0
baz=94
R09A **Tonopah** 93.85 44 ⇓P P 02 36 52.8 +0.9
baz=94,SNR=23
IMW **Indian Meadow** 93.89 37 eP P 02 36 53.5 +1.5
comp=Z,39nm,1.1s,mb5.8
FLWY **Flagg Ranch** 93.89 37 eP P 02 36 52.9 +0.9
comp=Z,74nm,1.3s,mb6.0
Q10A **Clear Creek Ra** 93.92 43 P P 02 36 53.1 +0.8
baz=94,SNR=9.2
KEST **Kesra** 93.94 313 P P 02 36 51.7 -0.8
comp=Z,2.6nm,1.1s,mb4.6,baz=56,slow=4.7,SNR=2.7
KEST LR LR 03 26 20.8
comp=Z,2µm,18.4s,MS5.6,baz=104,slow=40
DCID1 **Drake Creek** 93.95 37 eP P 02 36 55.2 +2.9
RLMT **Red Lodge** 93.96 35 eP P 02 36 48.0 -4.3
comp=Z,117nm,1.6s,mb6.1
RLMT LR LR
comp=Z,4µm,20.0s,MS5.8
VES **Vestal, Richgr** 93.97 47 ⇑P P 02 36 52.2 -0.3
baz=94
N13A **Wendover, West** 94.00 41 ⇓P P 02 36 53.9 +1.3
baz=94
PKM **Peak Mountain** 94.02 48 ⇓P P 02 36 54.2 +1.4
baz=94
O12A **Currie** 94.05 42 ⇓P P 02 36 54.1 +1.3
baz=94,SNR=13
S09A **Goldfield** 94.06 45 ⇑P P 02 36 52.4 -0.6
baz=94,SNR=5.5
DGMT **Dagmar** 94.08 30 eP P 02 36 52.8 0.0
comp=Z,180nm,1.3s,mb6.3
DGMT LR LR
comp=Z,3µm,21.0s,MS5.8
M14A **Sheep Mountain** 94.09 40 P P 02 36 54.0 +1.0
baz=94,SNR=35
MOOW **Moose Ponds** 94.09 37 eP P 02 36 53.5 +0.6
comp=Z,272nm,2.6s,mb6.2
TPAW **Teton Pass** 94.15 37 eP P 02 36 53.8 +0.6
comp=Z,18nm,1.0s,mb5.5
MBAR **Mbarara** 94.16 271 eP P 02 36 54.2 +0.4
MBAR **Mbarara** 94.16 271 eP P 02 36 54.1 +0.3
HVU **Hansel Valley** 94.24 39 eP P 02 36 55.0 +1.3
comp=Z,28nm,1.1s,mb5.6
LOHW **Long Hollow** 94.26 37 eP P 02 36 53.9 +0.2
comp=Z,261nm,2.8s,mb6.2
SNOW **Snow King Moun** 94.28 37 eP P 02 36 55.5 +1.8
comp=Z,13nm,1.0s,mb5.3
REDW **Red Top Meadow** 94.29 37 eP P 02 36 53.2 -0.6
comp=Z,52nm,1.6s,mb5.7
REDW ePP PP 02 40 39.4 -0.7
R10A **Warm Springs** 94.31 44 ⇓P P 02 36 54.4 +0.4
baz=94,SNR=13
S10A **Tonopah Range,** 94.34 44 P P 02 36 55.1 +0.9
baz=94,SNR=19
VALF **Valcebollere** 94.34 321 eP P 02 36 53.3 -0.8
Q11A **Duckwater** 94.37 43 ⇑P P 02 36 55.2 +0.8
baz=94
GRAC **Grapevine Rang** 94.40 45 ⇑P P 02 36 53.0 -1.5
baz=94
LAO **LASA Array** 94.40 33 PFAKE 02 37 10.0 +16
LAO LR LR
comp=Z,3µm,20.0s,MS5.8
P12A **McGill** 94.44 42 P P 02 36 55.2 +0.6
baz=94,SNR=19
ISA **Isabella** 94.47 47 PFAKE 02 37 10.0 +15
ISA LR LR
comp=Z,3µm,19.0s,MS5.8
AHID **Auburn Hatcher** 94.55 38 PFAKE 02 37 10.0 +15
AHID LR LR
comp=Z,3µm,20.0s,MS5.8
ARVC **Arvin** 94.55 48 ⇑P P 02 36 56.1 +0.8
baz=94
N14A **Grayback Hills** 94.60 40 ⇑P P 02 36 55.2 -0.1
baz=94,SNR=9.9
M15A **Larsen Ranch,** 94.64 39 ⇑P P 02 36 54.9 -0.6
baz=94,SNR=12
BGU **Big Grassy Mou** 94.64 40 eP P 02 36 56.1 +0.5
R11A **Troy Canyon, C** 94.72 43 P P 02 36 56.1 +0.2
baz=94,SNR=12
SPUT **South Promonto** 94.73 40 eP P 02 36 56.9 +1.0
EPF **Esparros** 94.86 323 eP P 02 36 55.4 -1.1
MPMC **Manual Prospec** 94.89 46 ⇑P P 02 36 57.1 +0.4
baz=95
N15A **Stansbury Isla** 94.96 40 ⇓P P 02 36 56.4 -0.6
baz=95
P13A **Bates Ranch, G** 94.99 42 ⇓P P 02 36 57.0 -0.1
baz=95,SNR=16
HWUT **Hardware Ranch** 95.05 39 eP P 02 36 57.3 -0.1
comp=Z,44nm,1.4s,mb5.7
HWUT LR LR
comp=Z,4µm,20.0s,MS5.9
FURC **Furnace Creek,** 95.05 46 P P 02 36 58.1 +0.6
baz=95,SNR=11
TPNV **Topopah Spring** 95.15 45 eP P 02 36 58.0 +0.1
comp=Z,100nm,1.9s,mb5.9
TPNV ePP PP 02 40 44.0 -3.1
TPNV LR LR
comp=Z,3µm,19.0s,MS5.8
TPNV **Topopah Spring** 95.15 45 P P 02 36 58.2 +0.2
baz=95,SNR=13
SNCC **San Nicolas Is** 95.16 49 PFAKE 02 37 10.0 +12
SNCC LR LR
comp=Z,3µm,20.0s,MS5.8
DUG **Dugway** 95.24 41 eP P 02 36 59.2 +0.9
comp=Z,66nm,1.6s,mb5.8
DUG ePP PP 02 40 46.8 -0.8
DUG LR LR
comp=Z,3µm,19.0s,MS5.8
DUG **Dugway** 95.24 41 ⇑P P 02 36 58.1 -0.2
baz=95,SNR=9.8
EDW2 **Edwards Air Fo** 95.25 47 ⇑P P 02 36 58.3 -0.1
baz=95
R12A **Pony Springs,** 95.33 43 ⇑P P 02 36 58.6 -0.2
baz=95
NOQ **North Oquirrh** 95.35 40 eP P 02 36 59.4 +0.6
comp=Z,79nm,1.5s,mb5.9
BW06 **Boulder Array** 95.39 37 eP P 02 37 00.8 +1.9
BW06 LR LR
comp=Z,4µm,20.0s,MS5.9
PDAR **Pinedale Array** 95.39 37 P P 02 36 58.3 -0.6
comp=Z,2.0nm,0.9s,mb4.5,baz=48,slow=4.4,SNR=11
PDAR PP PP 02 40 52.6 +4.0
comp=Z,1.7nm,0.9s,baz=306,slow=4.1,SNR=4.0
U10A **Ash Meadows, A** 95.42 45 ⇑P P 02 36 58.1 -1.1
baz=95
CTU **Camp Tracy** 95.54 40 eP P 02 37 02.4 +2.7
T11A **Corn Creek, Al** 95.62 44 ⇑P P 02 36 58.5 -1.6
baz=95,SNR=11
SJPF **Ste Jean** 95.65 324 eP P 02 36 59.1 -1.0
comp=Z,30nm,1.3s,mb5.3
SJPF **Ste Jean** 95.65 324 eP P 02 36 59.1 -1.0
comp=Z,15nm,1.3s,mb5.3
SJPF **Ste Jean** 95.65 324 eP P 02 36 59.1 -1.0
SJPF pmax pmax
comp=Z,15nm,1.3s,mb5.3
JLU **Jordanelle** 95.77 40 eP P 02 37 02.2 +1.5
JLU ePP PP 02 40 58.6 +7.0
GSC **Goldstone** 95.78 46 eP P 02 37 00.7 -0.1
comp=Z,52nm,1.5s,mb5.7
GSC ePP PP 02 40 50.3 -1.7
GSC LR LR
comp=Z,3µm,20.0s,MS5.7
GSC **Goldstone** 95.78 46 eP P 02 37 00.7 -0.2
GSC e 02 40 50.3
GSC pmax pmax
comp=Z,52nm,1.5s,mb5.7
GSC MLR MLR
comp=Z,3µm,20.0s,MS5.7
GSC **Goldstone** 95.78 46 ⇓P P 02 37 00.7 -0.2
baz=96
BFSC **Mount Baldy St** 95.85 48 ⇑P P 02 37 01.1 -0.1
baz=96
DAU **Daniels Canyon** 96.00 40 eP P 02 37 03.3 +1.6
DAU **Daniels Canyon** 96.00 40 P P 02 37 02.8 +1.0
MPU **Maple Canyon** 96.04 40 eP P 02 37 02.2 +0.2
comp=Z,18nm,1.2s,mb5.4
MPU LR LR
comp=Z,5µm,22.0s,MS6.0
ULM **Lac du Bonnet** 96.21 25 eP P 02 37 00.5 -2.0
comp=Z,103nm,1.6s,mb6.0
ULM LR LR
comp=Z,6µm,20.0s,MS6.1
ULM **Lac du Bonnet** 96.21 25 P P 02 37 00.2 -2.3
comp=Z,14nm,1.0s,mb5.4,baz=326,slow=5.5,SNR=10
ULM LR LR 03 20 58.6
comp=Z,5µm,20.1s,MS6.0,baz=216,slow=36
S13A **Holt Ranch, En** 96.26 43 ⇑P P 02 37 03.3 +0.3
baz=96
TUQ **Turquoise Mtn.** 96.28 46 ⇓P P 02 37 03.4 +0.3
baz=96,SNR=8.8
HEC **Hector,Ludlow** 96.38 47 ⇓P P 02 37 02.9 -0.7
baz=96
MURC **Murrieta** 96.54 48 ⇓P P 02 37 04.2 -0.2
baz=96
U12A **Valley of Fire** 96.55 44 ⇑P P 02 37 04.1 -0.2
baz=96
T13A **Saint George** 96.58 44 ⇓P P 02 37 04.3 -0.2
baz=96
MSU **Marysvale** 96.69 42 eP P 02 37 05.9 +1.0
MSU ePP PP 02 41 07.5 +8.6
GMRC **Granite Mounta** 96.85 46 ⇑P P 02 37 05.0 -0.7
baz=97
U13A **Pakoon Wash** 96.93 44 ⇑P P 02 37 04.9 -1.2
baz=97
PFO **Pinyon Flat Ob** 97.03 48 eP P 02 37 07.4 +0.9
comp=Z,30nm,1.2s,mb5.6
PFO LR LR
comp=Z,3µm,20.0s,MS5.7
PFO **Pinyon Flat Ob** 97.03 48 P P 02 37 04.3 -2.3
PFO pmax pmax
comp=Z,15nm,1.1s,mb5.3
PFO **Pinyon Flat Ob** 97.03 48 P P 02 37 04.2 -2.3
comp=Z,15nm,1.1s,mb5.3,baz=311,slow=7.6,SNR=4.7
PFO **Pinyon Flat Ob** 97.03 48 ⇑P P 02 37 05.8 -0.8
baz=97
BELC **Belle Mtn.** 97.10 47 ⇓P P 02 37 06.6 -0.2
baz=97
SRU **San Rafael** 97.28 40 eP P 02 37 07.8 +0.2
comp=Z,2.7nm,0.5s,mb4.9
SRU ePP PP 02 40 55.2 -8.1
SRU **San Rafael** 97.28 40 P P 02 37 08.2 +0.6
SRU pmax pmax
comp=Z,11nm,1.2s,mb5.2
RSSD **Black Hills** 97.32 33 eP P 02 37 06.9 -0.7
comp=Z,71nm,1.7s,mb5.8
RSSD e 02 37 12.6
RSSD LR LR
comp=Z,3µm,20.0s,MS5.8
RSSD **Black Hills** 97.32 33 eP P 02 37 06.9 -0.7
RSSD pmax pmax
comp=Z,71nm,1.7s,mb5.8
RSSD MLR MLR
comp=Z,3µm,20.0s,MS5.8
IRM **Iron Mountain** 97.56 47 ⇑P P 02 37 08.7 -0.2
baz=97
BC3 **Big Chuckw Mtn** 97.67 47 ⇑P P 02 37 08.2 -1.2
baz=97
AGMN **Agassiz Refuge** 97.78 26 PFAKE 02 37 20.0 +10
AGMN LR LR
comp=Z,4µm,21.0s,MS5.9
W13A **Hualapai Mount** 97.80 45 ⇓P P 02 37 09.3 -0.7
baz=98
V14A **Boquillas Ranc** 97.96 44 ⇓P P 02 37 11.9 +1.1
baz=98
TAOE **Nuku Hiva Isla** 98.06 96 eLQ 03 04 46.5
comp=Z,147µm,35.0s
TAOE eLR LR 03 08 59.6
comp=Z,64µm,24.7s
PDMCI **Parker Dam,Lak** 98.13 46 ⇓P P 02 37 12.2 +0.7
baz=98
X13A **Yucca** 98.15 46 ⇓P P 02 37 12.3 +0.7
baz=98
Y12C **Blythe** 98.22 47 ⇓P P 02 37 12.6 +0.7
baz=98
W14A **Seligman** 98.24 45 ⇑P P 02 37 12.6 +0.7
baz=98
GLA **Glamis** 98.45 47 eP P 02 37 15.0 +2.0
GLA LR LR
comp=Z,3µm,20.0s,MS5.8
GLA **Glamis** 98.45 47 ⇑P P 02 37 13.2 +0.2
baz=98
PHWY **Pilot Hill** 98.61 36 P P 02 37 14.0 +0.5
Y13A **Salome** 98.64 46 ⇑P P 02 37 13.5 -0.3
baz=98
W15A **Williams** 98.78 44 ⇓P P 02 37 16.0 +1.6
baz=98
WUAZ **Wupatki** 99.12 44 eP P 02 37 18.7 +2.8
comp=Z,22nm,1.3s,mb5.5

WUAZ ePP PP 02 41 14.9 -2.6
WUAZ LR LR
comp=Z,3μm,20.0s,MS5.8
SCHQ Schefferville 99.23 7 PFAKE 02 37 30.0 +14
SCHQ LR LR
comp=Z,7μm,19.0s,MS6.2
SCHQ Schefferville 99.23 7 LR LR 03 27 22.7
comp=Z,5μm,18.4s,MS6.1,baz=352,slow=39
X15A Humboldt 99.24 45 ⇑P **P 02 37 17.5 +1.1**
baz=99,SNR=10
SMCO Snowmass 99.27 38 ePdif **P 02 37 16.1 -0.4**
comp=Z,128nm,2.9s,mb5.9
PBRG Braganca 99.46 326 ePP PP 02 41 24.1 +4.2
Y15A Casa Rosa Ranc 99.51 45 ⇑P **P 02 37 18.3 +0.6**
baz=99,SNR=12
ESDC Sonseca Array 99.52 323 P **P 02 37 14.3 -3.3**
comp=Z,1.0nm,0.9s,baz=48,slow=4.6,SNR=3.4
ESDC PP PP 02 41 20.6 +0.2
comp=Z,2.3nm,0.9s,baz=54,slow=8.6,SNR=5.7
ESDC LR LR 03 28 49.2
comp=Z,6μm,19.3s,MS6.1,baz=50,slow=39
ESLA Sonseca Array 99.52 323 PFAKE 02 37 30.0 +12
ESLA LR LR
comp=Z,43μm,21.0s,MS6.9
ISCO Idaho Springs 99.59 37 PFAKE 02 37 30.0 +12
ISCO LR LR
comp=Z,4μm,19.0s,MS5.9
ISCO Idaho Springs 99.59 37 eP **P 02 37 25.8 +7.9**
MVCO Mesa Verde 99.74 41 PFAKE 02 37 30.0 +12
MVCO LR LR
comp=Z,3μm,20.0s,MS5.8
EYMN Ely 99.74 24 PFAKE 02 37 30.0 +12
EYMN LR LR
comp=Z,5μm,20.0s,MS6.0
X16A Lo Mia Camp, P 99.78 44 ⇓P Pdif 02 37 20.0 +1.4
baz=100
PAB San Pablo 99.82 323 PFAKE 02 37 30.0 +11
PAB LR LR
comp=Z,7μm,20.0s,MS6.1
MVO Moncorvo 100.08 325 ePP PP 02 41 27.5 +2.9
MVO Moncorvo 100.08 325 eLR LR 03 12 46.1
comp=Z,10μm,18.0s
Y16A Circle Bar Ran 100.11 45 ⇓P Pdif 02 37 20.5 +0.5
baz=100
PVRL Vila Real 100.35 326 ePP PP 02 41 30.4 +3.8
PVIS Viseu 100.85 325 ePP PP 02 41 33.4 +3.0
MTE Manteigas 100.90 325 ePP PP 02 41 35.9 +5.1
MTE Manteigas 100.90 325 eLR LR 03 13 10.1
comp=Z,10μm,21.2s
SDCO Great Sand Dun 101.10 39 PFAKE 02 37 40.0 +16
SDCO LR LR
comp=Z,3μm,21.0s,MS5.8
ECSD EROS,Sioux Fal 101.10 29 PFAKE 02 37 40.0 +16
ECSD LR LR
comp=Z,4μm,20.0s,MS5.9
PCBR Castelo Branco 101.28 325 ePP PP 02 41 36.0 +2.3
217A Green Valley 101.89 46 ⇑P Pdif 02 37 29.8 +1.9
baz=102
PTOM Tomar 101.93 325 ePP PP 02 41 40.4 +1.8
PESTR Estremoz 102.05 324 eLR LR 03 14 46.3
comp=Z,7μm,11.2s
COWI Conover 102.17 24 PFAKE 02 37 40.0 +11
COWI LR LR
comp=Z,6μm,21.0s,MS6.1
PBAR Barrancos 102.26 323 eLR LR 03 15 30.1
comp=Z,8μm,16.4s
ANMO Albuquerque 102.49 41 PFAKE 02 37 40.0 +9.4
ANMO LR LR
comp=Z,3μm,20.0s,MS5.8
EVO Evora 102.52 324 ePP PP 02 41 46.6 +3.5
LSZ Lusaka 102.53 259 ePdif Pdif 02 37 31.5 +0.8
LSZ ePP PP 02 41 44.9 +0.3
LSZ LR LR
comp=Z,3μm,19.0s,MS5.9
LSZ Lusaka 102.53 259 eP Pdif 02 37 31.5 +0.7
LSZ e 02 41 48.2
318A Bisbee 102.64 46 ⇑P Pdif 02 37 31.3 0.0
baz=102
PBEJ Beja 102.82 324 ePP PP 02 41 46.0 +0.7
PMAFR Mafra 102.87 325 eLR LR 03 16 01.3
comp=Z,11μm,33.3s
319A Douglas 103.14 46 ⇑P Pdif 02 37 35.4 +1.9
baz=103
PVAQ Vaqueiros 103.19 323 eLR LR 03 15 01.5
comp=Z,7μm,25.3s
CBKS Cedar Bluff 103.42 34 PFAKE 02 37 50.0 +15
CBKS LR LR
comp=Z,4μm,19.0s,MS6.0
PBDV Barranco-do-Ve 103.43 323 eLR LR 03 15 46.0
comp=Z,8μm,22.5s
MORF Marmelete 103.77 324 ePP PP 02 41 51.1 -1.3
MORF Marmelete 103.77 324 eLR LR 03 18 33.2
comp=Z,7μm,14.1s
JFWS Jewell Farm 104.45 26 PFAKE 02 37 50.0 +11
JFWS LR LR
comp=Z,5μm,19.0s,MS6.1
KSU1 Kansas State U 104.75 32 PFAKE 02 37 50.0 +9.4
KSU1 LR LR
comp=Z,4μm,19.0s,MS6.0
GLMI Grayling 104.84 21 PFAKE 02 37 50.0 +9.0
GLMI LR LR
comp=Z,4μm,20.0s,MS6.0
VNDA Vanda 105.21 172 ePKP PKiKP 02 41 56.1 +0.1
VNDA ePP PP 02 42 02.5 -0.8
VNDA LR LR
comp=Z,3μm,21.0s,MS5.8
VNDA Vanda 105.21 172 PKiKP PKiKP 02 41 54.6 -1.4
comp=Z,0.9nm,0.9s,baz=328,slow=1.7,SNR=2.1
VNDA PKKPbc PKKPbc 02 53 26.5 +1.6
comp=Z,1.6nm,0.8s,baz=124,slow=2.6,SNR=5.9
AMTX Amarillo 105.30 38 ePKP PKiKP 02 41 56.2 -1.2
AMTX ePP PP 02 42 06.2 +2.3
AMTX LR LR
comp=Z,3μm,19.0s,MS5.8
MNTX Cornudas Mount 105.38 43 ePKP PKiKP 02 42 00.0 +2.3
MNTX LR LR
comp=Z,4μm,20.0s,MS5.9
SBA Scott Base 106.11 172 PFAKE 02 42 10.0 +12
SBA LR LR
comp=Z,1μm,22.0s,MS5.5
HDIL Hopedale 106.82 27 PFAKE 02 42 10.0 +10
HDIL LR LR
comp=Z,4μm,20.0s,MS5.9
WMOK Wichita Mounta 107.00 37 PFAKE 02 42 10.0 +9.4
WMOK LR LR
comp=Z,3μm,19.0s,MS5.9
AAM Ann Arbor 107.40 22 PFAKE 02 42 10.0 +8.8
AAM LR LR
comp=Z,3μm,19.0s,MS5.9
LONY Lake Ozonia 107.83 15 PFAKE 02 42 10.0 +8.1
LONY LR LR
comp=Z,5μm,19.0s,MS6.1
CCM Cathedral Cave 108.08 29 PFAKE 02 42 10.0 +7.4
CCM LR LR
comp=Z,4μm,21.0s,MS6.0
LTX Lajitas 108.08 44 PFAKE 02 42 10.0 +7.2
LTX LR LR
comp=Z,446nm,22.0s,MS5.0
TXAR Lajitas Array 108.08 44 Pdiff Pdif 02 37 58.0 +2.6
comp=Z,0.8nm,0.9s,baz=335,slow=5.5,SNR=7.0
TXAR PKiKP PKiKP 02 42 01.9 -0.9
comp=Z,0.9nm,0.7s,baz=315,slow=2.0,SNR=7.3
TXAR PKKPbc PKKPbc 02 53 22.3 +7.8
comp=Z,0.2nm,0.6s,baz=48,slow=1.3,SNR=3.6
RKT Rikitea 108.16 107 eLR LR 03 13 35.6
comp=Z,7μm,33.8s,baz=288
PKME Peaks-Kenny Pk 108.25 11 PFAKE 02 42 10.0 +7.3
PKME LR LR
comp=Z,6μm,19.0s,MS6.2
LBTB Lobatse 108.39 251 PFAKE 02 42 10.0 +6.6
LBTB LR LR
comp=Z,3μm,20.0s,MS5.9
NCB Newcomb 108.53 15 PFAKE 02 42 10.0 +6.8
NCB LR LR
comp=Z,4μm,19.0s,MS6.0
ERPA Erie 108.73 19 PFAKE 02 42 10.0 +6.3
ERPA LR LR
comp=Z,4μm,20.0s,MS6.0
LBNH Lisbon 108.76 13 PFAKE 02 42 10.0 +6.4
LBNH LR LR
comp=Z,7μm,22.0s,MS6.2
ACSO Alum Creek Sta 109.47 22 PFAKE 02 42 20.0 +15
ACSO LR LR
comp=Z,4μm,19.0s,MS6.0
JCT Junction City 109.59 40 ePKP PKiKP 02 42 07.1 +1.5
JCT ePP PP 02 42 33.8 -1.7
JCT LR LR
comp=Z,3μm,19.0s,MS5.9
BINY Binghamton 109.77 16 PFAKE 02 42 20.0 +14
BINY LR LR
comp=Z,6μm,20.0s,MS6.2
MIAR Mount Ida 109.84 33 ePKP PKiKP 02 42 01.9 -4.1
MIAR ePP PP 02 42 35.3 -1.7
MIAR LR LR
comp=Z,5μm,21.0s,MS6.0
BOSA Boshof 109.88 247 PFAKE 02 42 20.0 +14
BOSA LR LR
comp=Z,3μm,20.0s,MS5.9
WCI Wyandotte Cave 110.01 26 PFAKE 02 42 20.0 +14
WCI LR LR
comp=Z,4μm,21.0s,MS5.9
HRV Adam Dziewonsk 110.50 13 PFAKE 02 42 20.0 +13
HRV LR LR
comp=Z,5μm,20.0s,MS6.1
WES Weston 110.67 13 PFAKE 02 42 20.0 +13
WES LR LR
comp=Z,3μm,20.0s,MS5.9
SSPA Standing Stone 110.72 18 PFAKE 02 42 20.0 +13
SSPA LR LR
comp=Z,4μm,21.0s,MS6.0
MCWV Mont Chateau 111.03 20 PFAKE 02 42 20.0 +12
MCWV LR LR
comp=Z,6μm,19.0s,MS6.2
CMLA Cha da Macela 111.17 335 PFAKE 02 42 20.0 +12
CMLA LR LR
comp=Z,4μm,22.0s,MS6.0
WVT Waverly 111.18 28 ePKP PKiKP 02 42 08.1 -0.3
WVT LR LR
comp=Z,3μm,20.0s,MS5.9
NATX Nacogdoches 111.48 36 PFAKE 02 42 20.0 +11
NATX LR LR
comp=Z,3μm,20.0s,MS5.9
PLAL Pickwick Lake 112.05 29 ePKP PKiKP 02 42 10.9 +0.8
PLAL LR LR
comp=Z,4μm,21.0s,MS6.0
SYO Syowa Base 112.05 203 ⇑eX PP 02 42 49.0 -4.2
HKT Hockley 112.25 38 PFAKE 02 42 20.0 +9.3
HKT LR LR
comp=Z,5μm,22.0s,MS6.0
TZTN Tazewell 112.54 25 PFAKE 02 42 20.0 +9.0
TZTN LR LR
comp=Z,5μm,21.0s,MS6.0
TOA0 Torodi Ar. Sit 112.74 298 ePKP PKiKP 02 42 11.6 -0.3
TOA0 ePP PP 02 42 53.3 -5.5
TORD Torodi Ar. Bea 112.74 298 PKPdf PKiKP 02 42 11.6 -0.4
TORD PP PP 02 42 53.5 -5.4
TORD PKKPbc PKKPbc 02 53 03.5 +4.4
TORD Torodi Ar. Bea 112.74 298 PKiKP PKiKP 02 42 11.6 -0.4
comp=Z,1.7nm,0.6s,baz=22,slow=3.6,SNR=16
TORD PP PP 02 42 53.5 -5.4
comp=Z,4.2nm,0.8s,baz=50,slow=4.9,SNR=9.9
TORD PKKPbc PKKPbc 02 53 03.5 +4.4
comp=Z,0.9nm,0.8s,baz=251,slow=2.0,SNR=5.3
KVTX Kingsville 112.88 41 PFAKE 02 42 20.0 +8.1
KVTX LR LR
comp=Z,5μm,20.0s,MS6.1
BLA Blacksburg 113.06 22 PFAKE 02 42 20.0 +8.0
BLA LR LR
comp=Z,6μm,19.0s,MS6.2
CBN Corbin 113.11 19 PFAKE 02 42 20.0 +7.9
CBN LR LR
comp=Z,4μm,19.0s,MS6.1
TSUM Tsumeb 113.38 259 ePKP PKiKP 02 42 13.2 +0.3
TSUM LR LR
comp=Z,3μm,19.0s,MS5.9
LRAL Lakeview Retre 114.17 29 PFAKE 02 42 30.0 +16
LRAL LR LR
comp=Z,5μm,21.0s,MS6.1
SUR Sutherland 114.66 244 PFAKE 02 42 30.0 +15
SUR LR LR
comp=Z,5μm,20.0s,MS6.1
GOGA Godfrey 115.33 26 PFAKE 02 42 30.0 +14
GOGA LR LR
comp=Z,4μm,19.0s,MS6.1
QSPA South Pole Qui 115.40 180 PKP PKPdf 02 42 14.1 -1.0
QSPA PP PP 02 43 17.7 +1.0
QSPA PKKPbc PKKPbc 02 52 54.2 +2.6
QSPA LR LR
comp=Z,4μm,21.0s,MS6.0
QSPA South Pole Qui 115.40 180 PKP PKPdf 02 42 14.1 -1.0
comp=Z,0.5nm,0.4s,baz=353,slow=12,SNR=2.6
QSPA PP PP 02 43 17.7 +1.0
comp=Z,12nm,1.1s,baz=356,slow=2.9,SNR=6.7
QSPA PKKPbc PKKPbc 02 52 54.2 +2.6
comp=Z,3.3nm,1.2s,baz=336,slow=2.0,SNR=3.8
BRAL Brewton 115.85 30 PFAKE 02 42 30.0 +12
BRAL LR LR
comp=Z,3μm,19.0s,MS6.0
NHSC New Hope 116.85 24 PFAKE 02 42 30.0 +11
NHSC LR LR
comp=Z,5μm,19.0s,MS6.1
DWPF Disney 120.81 27 PFAKE 02 42 40.0 +13
DWPF LR LR
comp=Z,4μm,20.0s,MS6.0
MAIT Maitri 121.61 201 ⇑iPKP PKPdf 02 42 32.5 +5.3
DBIC Dimbokro 121.73 296 ePKPdf PKPdf 02 42 29.0 -0.2
DBIC LR LR
comp=Z,3μm,20.0s,MS6.0
DBIC Dimbokro 121.73 296 PKP PKPdf 02 42 28.1 -1.1
comp=Z,6.4nm,0.6s,baz=31,slow=2.6,SNR=15
LIC Lamto 122.12 296 ePKIKP PKPdf 02 42 26.9 -3.1
comp=Z,24nm,0.9s
LIC eMLR MLR
comp=Z,5μm,20.0s,MS5.9
LIC Lamto 122.12 296 ePKPdf PKPdf 02 42 26.9 -3.1
LIC LR LR
comp=Z,3μm,20.0s,MS5.9
TEIG Tepich 124.09 39 PP PP 02 44 17.1 +0.4
TEIG PKKPbc PKKPbc 02 52 22.9 +4.6
comp=Z,6.4nm,1.1s,baz=165,slow=9.9,SNR=3.1
VNA2 Neumayer--Watz 127.34 198 ePKPdf PKPdf 02 42 40.0 +1.8
baz=56,slow=1.1
VNA2 e 02 42 46.1
VNA2 e 02 42 51.2
VNA2 e 02 43 00.4
VNA2 e 02 43 07.9
VNA2 e 02 43 13.2
VNA2 e 02 43 19.8
VNA2 e 02 44 37.1
VNA1 Neumayer--Stat 127.73 198 ePKPdf PKPdf 02 42 42.4 +3.4
VNA1 e 02 42 48.8
VNA1 e 02 42 53.9
VNA1 e 02 43 04.2
VNA1 e 02 43 11.0
VNA1 e 02 43 16.3
VNA1 e 02 43 21.5
TGUH Tegucigalpa,Un 129.53 42 PFAKE 02 43 00.0 +16
TGUH LR LR
comp=Z,2μm,20.0s,MS5.9
SDDR Presa de Saban 132.90 21 PFAKE 02 43 00.0 +10
SDDR LR LR
comp=Z,3μm,19.0s,MS6.0
SJG San Juan 135.19 15 PFAKE 02 43 10.0 +15
SJG LR LR
comp=Z,2μm,22.0s,MS5.9
ASCN Ascension 137.58 287 PFAKE 02 43 10.0 +11
ASCN LR LR
comp=Z,2μm,19.0s,MS5.9
BCIP Isla Barro Col 137.78 38 ePKPdf PKPdf 02 42 59.2 -0.4
BCIP LR LR
comp=Z,3μm,20.0s,MS6.0
PMSA Palmer Station 140.40 174 PFAKE 02 43 10.0 +7.2
PMSA LR LR
comp=Z,4μm,22.0s,MS6.1
BBGH Gun Hill 141.21 7 PFAKE 02 43 20.0 +14
BBGH LR LR
comp=Z,3μm,20.0s,MS6.1
GRGR Grenville 141.91 11 PFAKE 02 43 20.0 +13
GRGR LR LR
comp=Z,2μm,19.0s,MS6.0
SDV Santo Domingo 142.45 26 ePKPpre 02 43 01.9
SDV PKP PKPdf 02 43 08.1 0.0
SDV LR LR
comp=Z,2μm,22.0s,MS5.8
SDV Santo Domingo 142.45 26 PKhKP 02 43 03.0
comp=Z,15nm,0.7s,baz=68,slow=0.8,SNR=21
SDV PKP PKPdf 02 43 08.1 0.0
comp=Z,46nm,0.8s,baz=350,slow=2.0,SNR=24
ROSC El Rosal 144.33 35 PKP PKPdf 02 43 08.0 -3.4
ROSC ePKPdf PKPdf 02 43 11.2 -0.3
ROSC El Rosal 144.33 35 PKP PKPdf 02 43 08.0 -3.4
comp=Z,6.3nm,0.7s,baz=316,slow=5.4,SNR=6.6
ATAH Atahualpa 150.95 54 PKPbc PKPbc 02 43 27.2 -0.8
comp=Z,62nm,1.0s,baz=343,slow=2.5,SNR=19
RCBR Riachuelo 153.19 314 ePKPbc PKPbc 02 43 33.3 +0.2
RCBR LR LR
comp=Z,3μm,22.0s,MS6.1
EFI East Falkland 153.87 176 PFAKE 02 43 40.0 +15
EFI LR LR
comp=Z,7μm,20.0s,MS6.5
NNA Nana 155.28 61 PFAKE 02 43 40.0 +11
NNA LR LR
comp=Z,3μm,21.0s,MS6.0
PLCA Paso Flores 160.10 143 PKP PKPdf 02 43 33.3 -0.5
PLCA PKPab PKPab 02 44 12.2 -1.4
PLCA ePKPab PKPab 02 44 12.9 -0.7
PLCA LR LR
comp=Z,7μm,19.0s
PLCA Paso Flores 160.10 143 PKP PKPdf 02 43 33.3 -0.5
comp=Z,2.1nm,1.0s,baz=211,slow=1.3,SNR=2.3
PLCA PKPab PKPab 02 44 12.2 -1.4
comp=Z,5.9nm,1.0s,baz=243,slow=5.5,SNR=3.5
LPAZ La Paz 164.58 56 ePKPdf PKPdf 02 43 40.4 +1.4
LPAZ ePKPab PKPab 02 44 33.7 -0.3
LPAZ LR LR
comp=Z,2μm,19.0s
LPAZ La Paz 164.58 56 PKIKP PKPdf 02 43 39.6 +0.6
LPAZ 02 48 25.6
LPAZ pmax pmax
comp=Z,7.0nm,1.2s
LPAZ pmax pmax
comp=Z,6.0nm,1.0s
LPAZ pmax pmax
comp=Z,2.0nm,0.8s
LPAZ La Paz 164.58 56 PKP PKPdf 02 43 39.5 +0.6
comp=Z,6.9nm,1.2s,baz=20,slow=2.9,SNR=11
LPAZ PKPab PKPab 02 44 34.9 +1.0
comp=Z,6.2nm,1.0s,baz=1.2,slow=13,SNR=4.1
LPAZ PP PP 02 48 25.6 +5.8
comp=Z,1.8nm,0.8s,baz=53,slow=3.0,SNR=4.7
LCO Las Campanas 165.58 107 PFAKE 02 43 50.0 +11
LCO LR LR
comp=Z,5μm,21.0s
TRQA Tornquist 166.24 156 ePKPab PKPab 02 44 44.2 +3.7
TRQA LR LR
comp=Z,7μm,21.0s
CFAA Coronel Fontan 166.89 120 PKP PKPdf 02 43 40.2 -0.2
CFAA PKPab PKPab 02 44 42.9 -0.9
CFAA Coronel Fontan 166.89 120 PKP PKPdf 02 43 40.2 -0.2
comp=Z,0.9nm,1.3s,baz=190,slow=6.1,SNR=2.8
CFAA PKPab PKPab 02 44 42.9 -0.9
comp=Z,0.1nm,0.5s,baz=247,slow=4.5,SNR=3.1
BDFB Brasilia 168.15 326 PKIKP PKPdf 02 43 39.8 -2.0
BDFB 02 44 49.7
BDFB Brasilia 168.15 326 PKP PKPdf 02 43 39.8 -2.0
comp=Z,2.0nm,1.0s,baz=39,slow=0.7,SNR=2.7
BDFB PKPab PKPab 02 44 49.6 +0.1
comp=Z,2.8nm,0.8s,baz=13,slow=15,SNR=7.0
BDFB PP PP 02 48 49.5 +12
comp=Z,0.7nm,0.7s,baz=24,slow=21,SNR=3.5
SIV San Ignacio 168.84 32 PKP PKPdf 02 43 41.6 -0.6
comp=Z,7.3nm,0.9s,baz=326,slow=0.4,SNR=12
SIV PKPab PKPab 02 44 51.8 -0.8
comp=Z,12nm,1.0s,baz=347,slow=3.6,SNR=6.5
SIV PP PP 02 48 41.5 +0.6
comp=Z,7.4nm,1.1s,baz=340,slow=4.2,SNR=10
CPUP Villa Florida 177.73 109 PKP PKPdf 02 43 45.7 +0.3
CPUP PKPab PKPab 02 45 32.4 +0.3
CPUP LR LR
comp=Z,715nm,20.0s
CPUP Villa Florida 177.73 109 PKP PKPdf 02 43 45.7 +0.3
comp=Z,2.1nm,0.9s,baz=271,slow=13,SNR=3.4
CPUP PKPab PKPab 02 45 32.4 +0.3
comp=Z,0.4nm,0.4s,baz=27,slow=11,SNR=2.8

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*IDC **20** 02:29:29.1±0.8, 2572N×12505E, h0km, mb4.1/12, mb1 4.2/13, mb1mx4.1/23, mbtmp4.1/13, ML3.8/1, Error ellipse: s-maj=27.1km s-min=19.7km az=59.0*
*NEIC **20** 02:29:30.9±0.5, 2571N×12505E, h10km, mb4.5/7, Error ellipse: s-maj=12.8km s-min=9.4km az=207.0*
*JMA **20** 02:29:31.9±0.2, 2568N×12509E, h27km±3km, M3.7*
*ISCJB **20** 02:29:32.9±0.6, 2566N±005×125.10E±005, h38km±8km, mb4.2/19, Error ellipse: s-maj=10.0km s-min=4.5km az=44.9*
ISC 20 02:29:33.8±1.8, 2562N±003×12512E±005, h32km±14km, n38, σ0=84/44, mb4.2/19, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JMJ	**Miyako jima 2**	**0.82**	**169**	P		**Pn**		**02 29 48.0**	**-1.0**
JMJ				S		**Sn**		**02 29 59.4**	**-0.6**
JOGS	**Gusukube**	**0.89**	**163**	P		**Pn**		**02 29 49.4**	**-0.7**
JOGS				S		**Sn**		**02 30 02.0**	**+0.1**
JTJ	**Tarama**	**1.04**	**201**	P		**Pn**		**02 29 51.2**	**-1.0**
JTJ				S		**Sn**		**02 30 05.2**	**-0.4**
JIJ	**Ishigaki jima**	**1.53**	**215**	P		**Pn**		**02 29 58.3**	**-0.6**
JIJ				S		**Sn**		**02 30 17.7**	**+0.1**
JKE	**Kume jima 2**	**1.66**	**65**	P		**Pn**		**02 29 59.5**	**-1.2**
JKE				eS		**Sn**		**02 30 19.2**	**-1.7**
JKRS	**Kuro-shima**	**1.70**	**216**	P		**Pn**		**02 30 01.1**	**-0.1**
JKRS				eS		**Sn**		**02 30 22.8**	**+0.9**
IRIF	**Iriomote-Funau**	**1.79**	**225**	P		**Pn**		**02 30 02.5**	**0.0**
IRIF				eS		**Sn**		**02 30 24.4**	**+0.3**
HATJ	**Hateruma jima**	**1.96**	**218**	P		**Pn**		**02 30 05.6**	**+0.8**
NAH1	**Naha**	**2.39**	**75**	P		**Pn**		**02 30 11.0**	**+0.3**
JJT2	**Tamagusuku 2**	**2.43**	**77**	P		**Pn**		**02 30 12.3**	**+1.1**
JIH	**Iheya**	**2.92**	**61**	P		**Pn**		**02 30 18.9**	**+0.9**
JOW	**Kunigami**	**3.08**	**66**	Pn		**Pn**		**02 30 20.4**	**+0.1**
	20nm,0.3s,baz=251,slow=13,SNR=7.9								
JTK	**Tokunoshima**	**4.05**	**57**	P		**Pn**		**02 30 34.1**	**+0.5**
JAM	**Amami Oshima**	**4.88**	**54**	P		**Pn**		**02 30 45.8**	**+0.9**
ULN	**Ulaanbaatar**	**26.38**	**332**	eP		**P**		**02 35 05.9**	**-1.2**
	6.0nm,0.9s,mb4.1								
SONM	**Songino Array**	**26.64**	**331**	P		**P**		**02 35 10.2**	**+0.8**
	3.2nm,0.9s,mb3.9,baz=141,slow=9.1,SNR=3.4								
MK31	**Makanchi Array**	**39.88**	**313**	eP		**P**		**02 37 03.2**	**-1.2**
MKAR	**Makanchi Array**	**39.88**	**313**	P		**P**		**02 37 04.0**	**-0.4**
	0.8nm,0.4s,mb3.8,baz=101,slow=11,SNR=4.8								
ZAA0	**Zalesovo Array**	**41.07**	**324**	eP		**P**		**02 37 13.7**	**-0.5**
ZALV	**Zalesovo Beam**	**41.07**	**324**	P		**P**		**02 37 13.9**	**-0.3**
	3.5nm,0.5s,mb4.3,baz=107,slow=8.4,SNR=5.2								
TKM2	**Tokmak 2**	**43.75**	**306**	eP		**P**		**02 37 37.5**	**+1.4**
	2.7nm,0.6s,mb4.2								
WRA	**Warramunga Arr**	**46.17**	**168**	P		**P**		**02 37 56.5**	**+1.0**
	1.8nm,0.7s,mb4.1,baz=350,slow=8.4,SNR=4.5								
BVAR	**Borovoye Array**	**48.88**	**319**	P		**P**		**02 38 16.8**	**+0.5**
	1.0nm,0.5s,mb4.1,baz=108,slow=9.3,SNR=2.4								
ASAR	**Alice Springs**	**49.73**	**169**	P		**P**		**02 38 24.4**	**+1.4**
	0.9nm,0.9s,mb3.8,baz=354,slow=7.5,SNR=5.0								
ARU	**Arti**	**56.14**	**322**	eP		**P**		**02 39 09.6**	**-0.4**
	14nm,1.1s,mb4.9								
KDAK	**Kodiak Island**	**64.67**	**36**	P		**P**		**02 40 07.8**	**-0.4**
	26nm,1.1s,mb5.2,baz=273,slow=6.3,SNR=5.2								
COLA	**College**	**65.87**	**28**	eP		**P**		**02 40 16.7**	**+0.8**
	2.6nm,0.7s,mb4.4								
DAWY	**Dawson**	**69.62**	**28**	eP		**P**		**02 40 40.0**	**+0.5**
INK	**Inuvik**	**70.55**	**23**	P		**P**		**02 40 45.2**	**+0.1**
	1.2nm,0.9s,mb3.8,baz=312,slow=9.6,SNR=5.0								
FINES	**FINESS Array B**	**72.00**	**330**	P		**P**		**02 40 53.3**	**-0.8**
	2.5nm,1.0s,mb4.1,baz=62,slow=5.2,SNR=3.4								
MALT	**Malatya**	**72.15**	**304**	eP		**P**		**02 40 56.5**	**+1.1**
	1.4nm,0.7s,mb4.0								
AKASG	**Malin Array Be**	**74.16**	**319**	P		**P**		**02 41 05.0**	**-2.0**
	1.0nm,0.7s,mb3.8,baz=57,slow=6.1,SNR=4.3								
NOA	**NORSAR Array B**	**78.60**	**333**	P		**P**		**02 41 30.7**	**-1.3**
	1.5nm,0.8s,mb4.0,baz=58,slow=5.3,SNR=2.9								
YKA	**Yellowknife Ar**	**80.24**	**24**	P		**P**		**02 41 41.3**	**+0.4**
YKA	**Yellowknife Ar**	**80.24**	**24**	P		**P**		**02 41 41.3**	**+0.4**
	3.3nm,0.8s,mb4.3,baz=304,slow=5.2,SNR=14								
FFC	**Flin Flon**	**90.36**	**25**	eP		**P**		**02 42 31.9**	**+0.3**
	5.6nm,0.9s,mb4.9								
HLID	**Hailey**	**92.15**	**39**	eP		**P**		**02 42 40.9**	**+0.8**
	2.2nm,0.9s,mb4.5								
SDV	**Santo Domingo**	**142.44**	**26**	PKP		PKPdf		02 49 05.4	+1.3
	2.7nm,0.7s,baz=276,slow=4.7,SNR=3.6								

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*IDC **20** 02:33:51.0±1.0, 2629N×12527E, h0km, mb3.7/5, mb1 3.8/6, mb1mx3.6/20, mbtmp3.6/6, ML2.5/1, Error ellipse: s-maj=34.5km s-min=21.9km az=65.0*
*ISCJB **20** 02:33:57.1±0.5, 256N±02×1253E±0.1, h91km±15km, mb3.6/5, Error ellipse: s-maj=32.9km s-min=6.5km*

az=142.2
*JMA **20** 02:33:57.5±0.1,2572N×12518E,h35km,M3.2*
ISC 20 02:33:57.9±0.6,256N±02×1253E±01,h86km±16km,n16, σ0§81/22,mb3.6/5,Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMJ	**Miyako jima 2**	**0.75**	**179**	P	**Pn**	**02 34 13.9**	**-0.7**
JMJ				S	**Sn**	**02 34 26.0**	**-1.0**
JOGS	**Gusukube**	**0.81**	**172**	P	**Pn**	**02 34 15.1**	**-0.1**
JOGS				S	**Sn**	**02 34 28.2**	**+0.1**
JTJ	**Tarama**	**1.06**	**210**	P	**Pn**	**02 34 18.1**	**+0.1**
JTJ				*e*S	**Sn**	**02 34 32.9**	**-0.2**
JKE	**Kume jima 2**	**1.55**	**60**	P	**Pn**	**02 34 23.6**	**-0.5**
JKE				*e*S	**Sn**	**02 34 42.9**	**-1.1**
JIJ	**Ishigaki jima**	**1.58**	**221**	P	**Pn**	**02 34 24.8**	**+0.3**
JIJ				*e*S	**Sn**	**02 34 44.6**	**0.0**
JKRS	**Kuro-shima**	**1.75**	**221**	P	**Pn**	**02 34 28.0**	**+1.2**
JKRS				*e*S	**Sn**	**02 34 48.8**	**+0.1**
IRIF	**Iriomote-Funau**	**1.86**	**229**	P	**Pn**	**02 34 28.6**	**+0.4**
JAGN	**Aguni-jima**	**2.04**	**60**	P	**Pn**	**02 34 31.0**	**+0.5**
JIH	**Iheya**	**2.82**	**58**	P	**Pn**	**02 34 42.9**	**+2.0**
JOW	**Kunigami**	**2.97**	**64**	P	**Pn**	**02 34 45.1**	**+2.1**
JOW	**Kunigami**	**2.97**	**64**	Pn	**Pn**	**02 34 37.4**	**-5.5**
	1.5nm,0.3s,baz=209,slow=13,SNR=2.6						
MKAR	**Makanchi Array**	**40.02**	**313**	P	**P**	**02 41 23.6**	**-0.7**
	0.5nm,0.6s,mb3.5,baz=106,slow=8.9,SNR=3.4						
ZALV	**Zalesovo Beam**	**41.20**	**324**	P	**P**	**02 41 32.8**	**-1.1**
	0.5nm,0.5s,mb3.6,baz=125,slow=7.4,SNR=4.3						
WRA	**Warramunga Arr**	**46.08**	**168**	P	**P**	**02 42 22.0**	**+8.6**
	1.3nm,0.6s,mb3.9,baz=351,slow=8.5,SNR=12						
ASAR	**Alice Springs**	**49.65**	**170**	P	**P**	**02 42 50.3**	**+9.4**
	0.8nm,0.6s,mb3.8,baz=347,slow=7.1,SNR=12						
YKA	**Yellowknife Ar**	**80.23**	**24**	P	**P**	**02 45 58.7**	**0.0**
	0.2nm,0.7s,mb3.0,baz=301,slow=5.1,SNR=2.7						

*IDC **20** 02:44:40.2±1.0,2565N×12506E,h0km,mb3.7/6, mb1 3.9/7,mb1mx3.8/20,mbtmp3.8/7,ML3.4/1,Error ellipse: s-maj=33.4km s-min=19.9km az=66.0*
*JMA **20** 02:44:41.2±0.3,2569N×12496E,h23km,M3.3*
*NEIC **20** 02:44:42.1±0.6,2569N×12515E,h10km,mb4.0/1,Error ellipse: s-maj=14.0km s-min=10.4km az=156.0*
*ISCJB **20** 02:44:43.6±0.7,2561N±005×12508E±005,h34km±9km, mb3.7/7,Error ellipse: s-maj=9.2km s-min=5.6km az=136.9*
ISC 20 02:44:41.6±1.3,2563N±005×12500E±006,h10km±8km, n26,σ1§06/31,mb3.7/7,Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMJ	**Miyako jima 2**	**0.85**	**162**	P	**Pg**	**02 44 58.1**	**+0.1**
JMJ				S	**Sg**	**02 45 10.1**	**+1.0**
JOGS	**Gusukube**	**0.94**	**157**	P	**Pg**	**02 44 59.6**	**-0.1**
JOGS				S	**Sg**	**02 45 12.7**	**+0.8**
JTJ	**Tarama**	**1.02**	**196**	P	**Pg**	**02 44 59.8**	**-1.5**
JTJ				S	**Sg**	**02 45 14.0**	**-0.5**
JIJ	**Ishigaki jima**	**1.48**	**212**	P	**Pn**	**02 45 07.7**	**-0.7**
JIJ				S	**Sn**	**02 45 26.7**	**-1.1**
JKRS	**Kuro-shima**	**1.65**	**213**	P	**Pn**	**02 45 09.6**	**-1.2**
JKRS				S	**Sn**	**02 45 32.3**	**+0.2**
IRIF	**Iriomote-Funau**	**1.73**	**222**	P	**Pn**	**02 45 12.2**	**+0.4**
JKE	**Kume jima 2**	**1.75**	**66**	P	**Pn**	**02 45 10.4**	**-1.7**
HATJ	**Hateruma jima**	**1.91**	**215**	*e*S	**Sn**	**02 45 40.3**	**+2.0**
YOJ	**Yonaguni jima**	**2.15**	**238**	*e*S	**Sn**	**02 45 42.8**	**-1.5**
JAGN	**Aguni-jima**	**2.23**	**64**	P	**Pn**	**02 45 17.9**	**-0.8**
JIH	**Iheya**	**3.00**	**62**	P	**Pn**	**02 45 30.4**	**+1.0**
JOW	**Kunigami**	**3.17**	**67**	P	**Pn**	**02 45 32.0**	**+0.3**
JOW	**Kunigami**	**3.17**	**67**	Pn	**Pn**	**02 45 31.7**	**0.0**
	6.2nm,0.3s,baz=254,slow=13,SNR=18						
NACB	**Ninganchiao**	**3.42**	**246**	*e*Pn	**Pn**	**02 45 37.9**	**+2.9**
YHNB	**Yeheng**	**3.42**	**255**	*e*Pn	**Pn**	**02 45 38.9**	**+3.7**
SONM	**Songino Array**	**26.58**	**331**	P	**P**	**02 50 21.3**	**+1.4**
	0.4nm,0.6s,mb3.1,baz=144,slow=11,SNR=2.9						
MK31	**Makanchi Array**	**39.80**	**313**	*e*P	**P**	**02 52 16.5**	**+1.6**
MKAR	**Makanchi Array**	**39.80**	**313**	P	**P**	**02 52 15.5**	**+0.6**
MKAR	**Makanchi Array**	**39.80**	**313**	P	**P**	**02 52 15.5**	**+0.6**
	0.4nm,0.4s,mb3.5,baz=114,slow=8.1,SNR=4.4						
ZALV	**Zalesovo Beam**	**41.01**	**324**	P	**P**	**02 52 23.6**	**-1.1**
	0.6nm,0.3s,mb3.7,baz=119,slow=7.6,SNR=6.2						
WRA	**Warramunga Arr**	**46.20**	**168**	P	**P**	**02 53 07.0**	**+0.1**
	1.1nm,0.7s,mb3.9,baz=350,slow=8.5,SNR=6.9						
ASAR	**Alice Springs**	**49.76**	**169**	P	**P**	**02 53 34.6**	**+0.2**
	0.8nm,1.0s,mb3.7,baz=355,slow=11,SNR=7.4						
DAWY	**Dawson**	**69.66**	**28**	*e*P	**P**	**02 55 50.6**	**-0.5**
YKA	**Yellowknife Ar**	**80.27**	**24**	P	**P**	**02 56 51.7**	**-0.7**
YKA	**Yellowknife Ar**	**80.27**	**24**	P	**P**	**02 56 51.7**	**-0.7**
	0.8nm,0.9s,mb3.6,baz=309,slow=5.0,SNR=9.6						
FFC	**Flin Flon**	**90.39**	**25**	*e*P	**P**	**02 57 42.9**	**-0.3**
	0.4nm,0.4s,mb4.1						

*ISCJB **20** 02:46:39.5±0.4,3809N±002×2362E±004,h18km±6km, Error ellipse: s-maj=5.0km s-min=4.1km az=7.8*
*CSEM **20** 02:46:39.6±0.1,3810N×2360E,h15km,ML2.7,Error ellipse: s-maj=1.8km s-min=1.4km az=86.0*
*THE **20** 02:46:39.5,3810N×2358E,h11km,ML3.4*
*NEIC **20** 02:46:39.2,3808N×2356E,h18km,ML2.7(ATH),After ATH.*
*ATH **20** 02:46:39.2,3808N×2356E,h18km±2km,ML2.7*
ISC 20 02:46:39.3±0.4,3811N±002×2358E±003,h13km±4km,n23, σ0§96/37,1C,Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATH	**Athens Observa**	**0.17**	**141**	*e*PB	**Pg**	**02 46 43.6**	**+0.3**
ATH				*e*SB	**Sg**	**02 46 46.3**	**+0.2**
PTL	**Penteli**	**0.23**	**105**	*e*PB	**Pg**	**02 46 44.5**	**+0.2**
PTL				*e*SB	**Sg**	**02 46 48.0**	**+0.3**
KVR	**Kavouri**	**0.32**	**152**	*e*PB	**Pg**	**02 46 45.8**	**0.0**
KVR				*e*SB	**Sg**	**02 46 51.0**	**+0.8**
NAIG	**Nisos Aigina**	**0.36**	**191**	*e*PB	**Pg**	**02 46 46.5**	**0.0**
NAIG				*e*SB	**Sg**	**02 46 51.0**	**-0.3**
LTK	**Loutraki**	**0.49**	**260**	*e*Pg	**Pg**	**02 46 48.9**	**0.0**
LTK				*e*Sg	**Sg**	**02 46 55.9**	**+0.4**
DID	**Didima**	**0.66**	**204**	*e*Pg	**Pg**	**02 46 51.5**	**-0.6**
DID				*e*Sg	**Sg**	**02 47 01.8**	**+0.9**
LKR	**Lokris**	**0.71**	**320**	*e*Pg	**Pg**	**02 46 52.8**	**-0.2**
LKR				*e*Sg	**Sg**	**02 47 03.9**	**+1.5**
LKR	**Lokris**	**0.71**	**320**	⇑*i*PB	**Pb**	**02 46 52.7**	**-0.7**
LKR				*e*SN	**Sg**	**02 47 03.6**	**+1.3**
LKR	**Lokris**	**0.71**	**320**	*e*Pg	**Pg**	**02 46 52.8**	**-0.2**
LKR				*e*Sn	**Sg**	**02 47 03.6**	**+1.3**
LKR				*e*Sg	**Sg**	**02 47 03.8**	**+1.5**
AOS	**Alonnisos**	**1.08**	**12**	*e*Pg	**Pg**	**02 46 59.7**	**-0.5**
AOS				*e*Sg	**Sg**	**02 47 15.3**	**+0.9**
VLX	**Vlachokerasia**	**1.20**	**233**	*e*Pg	**Pg**	**02 47 01.6**	**-0.8**
VLX				*e*Sg	**Sg**	**02 47 17.8**	**-0.3**
NEO	**Neokhori**	**1.23**	**347**	P	**Pn**	**02 47 04.2**	**+2.1**
XOR	**Xorichti**	**1.29**	**347**	*e*Pg	**Pg**	**02 47 02.7**	**-1.4**
XOR				*e*Sg	**Sg**	**02 47 21.0**	**+0.1**
AGG	**Agios Georgios**	**1.34**	**313**	*e*Pg	**Pg**	**02 47 04.0**	**-1.0**
AGG				*e*Sg	**Sg**	**02 47 21.8**	**-0.6**
VLI	**Veliai**	**1.48**	**200**	*e*PB	**Pb**	**02 47 05.2**	**-1.4**
ITM	**Ithomi**	**1.61**	**235**	*e*PN	**Pn**	**02 47 08.1**	**+0.8**
RLS	**Riolos of Patr**	**1.67**	**269**	*e*PN	**Pn**	**02 47 10.2**	**+2.1**
PAIG	**Paliouri**	**1.82**	**2**	*e*Pb	**Pb**	**02 47 10.0**	**-2.3**
APE	**Apeiranthos**	**1.87**	**123**	*e*PB	**Pb**	**02 47 10.8**	**-2.4**
OUR	**Ouranopolis**	**2.24**	**8**	*e*Pn	**Pn**	**02 47 16.1**	**+0.1**
PLG	**Polygyros**	**2.26**	**357**	*e*Pn	**Pn**	**02 47 16.6**	**+0.3**
PLG	**Polygyros**	**2.26**	**357**	P	**Pn**	**02 47 17.2**	**+0.9**
SMG	**Samos**	**2.61**	**98**	P	**Pn**	**02 47 21.6**	**+0.6**

*IDC **20** 02:47:59.6±0.6,2012N×12200E,h0km,mb4.5/15, mb1 4.7/17,mb1mx4.6/20,mbtmp4.6/17,ML4.4/1,Error ellipse: s-maj=31.4km s-min=13.2km az=68.0*
*BJI **20** 02:48:01.7,2025N×122.15E,h13km,mB5.7,mb4.7,ML4.5, Ms5.2,Msz5.1*
*ISCJB **20** 02:48:01.9±1.4,2024N±003×12232E±004,h24km±9km, mb4.6/74,MS5.0/4,Error ellipse: s-maj=7.1km s-min=4.7km az=173.7*
*NEIC **20** 02:48:02.3±2.3,2021N×12222E,h18km±13km,mb4.7/44, Error ellipse: s-maj=7.3km s-min=5.3km az=90.0*
NEIC Felt [III PIVS] at Basco.
*MOS **20** 02:48:03.0±1.1,2020N×12227E,h33km,mb4.9/18,Error ellipse: s-maj=21.7km s-min=7.9km az=117.9*
*MAN **20** 02:48:03,2028N×12227E,h27km,mb5.8,ML4.8,MS5.1*
MAN INTENSITY III - BASCO, BATANES.

ISC 20 02:48:05.7±0.6,2020N±003×12221E±005,h40km±5km, n186,σ1§16/191,mb4.6/74,MS5.0/4,11C-14D,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CVP	**Callao Caves**	**2.51**	**188**	*e*P	**Pn**	**02 48 45.0**	**+1.0**
CVP				*e*S	**Sn**	**02 49 14.6**	**+1.3**
NACB	**Ninganchiao**	**4.00**	**352**	*e*Pn	**Pn**	**02 49 00.4**	**-4.1**
NACB				*e*Sn	**Sn**	**02 49 44.6**	**-5.5**
YHNB	**Yeheng**	**4.52**	**350**	*e*Pn	**Pn**	**02 49 09.9**	**-1.7**
TATO	**Taipei**	**4.80**	**352**	*e*Pn	**Pn**	**02 49 14.2**	**-1.3**
TATO				*e*Sn	**Sn**	**02 50 08.6**	**-1.4**
NBP	**Mount Natib**	**5.69**	**198**	⇑*e*P	**Pn**	**02 49 29.3**	**+1.6**
QZH	**Quanzhou**	**5.79**	**325**	P	**Pn**	**02 49 26.8**	**-2.3**
QZH				S	**Sn**	**02 50 26.3**	**-7.9**
QZH				Smax			
	comp=N,120nm,0.8s						
QZH				Smax			
	comp=E,120nm,0.6s						
JOW	**Kunigami**	**8.63**	**39**	Pn	**Pn**	**02 50 06.5**	**-1.6**
	comp=E,12nm,0.3s,baz=236,slow=14,SNR=12						
QIZ	**Qiongzhong**	**11.71**	**266**	P	**Pn**	**02 50 49.0**	**-1.3**
QIZ				S	**Sn**	**02 53 05.3**	**+5.5**
QIZ				AMB	AMB		
	comp=Z,19nm,0.9s						
QIZ	**Qiongzhong**	**11.71**	**266**	*e*Pn	**Pn**	**02 50 48.5**	**-1.9**
	comp=Z,29nm,0.6s						
QIZ				*e*Sn	**Sn**	**02 52 55.8**	**-4.0**
NJ2	**Nanjing**	**12.19**	**346**	*e*P	**Pn**	**02 50 57.9**	**+1.2**
NJ2				AP		02 51 02.1	
NJ2				XP		02 51 05.3	
NJ2				PP		02 51 08.1	
NJ2				S	**Sn**	**02 53 13.0**	**+1.8**
NJ2				XS		02 53 20.0	
NJ2				AMB	AMB		
	comp=Z,60nm,1.0s						
NJ2				LR	LR		
	comp=N,12μm,11.2s						
NJ2				LR	LR		
	comp=E,8μm,10.5s						
NJ2				LR	LR		
	comp=Z,8μm,12.3s						
JNU	**Nakatsue**	**15.02**	**29**	Pn	**Pn**	**02 51 43.2**	**+8.1**
	comp=Z,1.3nm,0.3s,baz=200,slow=4.6,SNR=14						
KKM	**Kota Kinabalu**	**15.22**	**203**	*e*Pn	**Pn**	**02 51 36.1**	**-1.8**
GYA	**Guiyang**	**15.57**	**297**	⇑*i*P	**Pn**	**02 51 42.8**	**+0.3**
GYA				PP		02 51 55.3	
GYA				S	**S**	**02 54 36.6**	**-12**
GYA				SS		02 54 55.3	
GYA				PCP	PcP	02 56 45.3	+2.4
GYA				AMB	AMB		
	comp=Z,20nm,1.7s						
GYA				AMB	AMB		
	comp=Z,1μm,4.6s						
GYA				LR	LR		
	comp=N,4μm,12.9s						
GYA				LR	LR		
	comp=E,2μm,11.2s						
GYA				LR	LR		
	comp=Z,7μm,11.4s						
KS15	**Wonju Array Si**	**17.88**	**15**	*e*P	**Pn**	**02 52 14.1**	**+2.8**
KSRS	**Korea Array**	**17.90**	**15**	P	**Pn**	**02 52 12.7**	**+1.0**
	comp=Z,1.2nm,0.3s,baz=199,slow=12,SNR=36						
KMI	**Kunming**	**18.62**	**289**	P	**Pn**	**02 52 22.6**	**+2.1**
KMI				AMB	AMB		
	comp=Z,13nm,0.6s						
CD2	**Chengdu**	**19.75**	**306**	*e*P	**Pn**	**02 52 33.3**	**-0.6**
CD2				XP	sP	02 52 46.5	-0.7
CD2				PP		02 52 52.1	
CD2				S	**S**	**02 56 09.1**	**-3.6**
CD2				XS	sS	02 56 21.8	-6.7
CD2				SS		02 56 36.9	
CD2				AMB	AMB		
	comp=Z,50nm,0.8s						
BJT	**Baijiatuau**	**20.43**	**347**	*e*P	**P**	**02 52 37.9**	**-1.6**
	comp=Z,22nm,0.3s						
BJI	**Beijing**	**20.45**	**347**	P	**P**	**02 52 38.6**	**-1.1**
BJI				AMB	AMB		
	comp=Z,13nm,0.6s						
MAT	**Matsushiro**	**21.48**	**37**	P	**P**	**02 52 53.4**	**+2.6**
MJAR	**Matsushiro Arr**	**21.48**	**37**	P	**P**	**02 52 55.0**	**+4.2**
	comp=Z,9.8nm,1.0s,mb4.1,baz=226,slow=7.6,SNR=12						
SNY	**Shenyang**	**21.60**	**3**	⇓P	**P**	**02 52 53.8**	**+1.7**
SNY				AMB	AMB		
	comp=Z,26nm,0.8s,mb4.7						
KSM	**Kuching**	**21.95**	**213**	*e*P	**P**	**02 52 56.7**	**+0.7**
CHTO	**Chiang Mai**	**21.97**	**270**	*e*P	**P**	**02 52 57.3**	**+1.0**
	comp=Z,16nm,0.9s,mb4.5						
HHC	**Hu-ho-hao-te**	**22.50**	**339**	*e*P	**P**	**02 53 02.1**	**+0.4**
HHC				AP		02 53 11.3	
HHC				XP	sP	02 53 16.0	-0.9
HHC				PP		02 53 31.9	
HHC				PCP	PcP	02 56 55.8	+1.1
HHC				S	**S**	**02 57 07.0**	**+0.5**
HHC				SS		02 57 44.0	
HHC				PCS	PcS	03 00 33.8	+0.4
HHC				AMB	AMB		
	comp=Z,38nm,0.4s,mb5.2						
HHC				AMB	AMB		
	comp=Z,2μm,7.1s						
HHC				LR	LR		
	comp=N,2μm,10.8s,MS5.0						
HHC				LR	LR		
	comp=E,2μm,10.2s,MS5.0						
HHC				LR	LR		
	comp=Z,2μm,12.2s,MS4.8						
LZH	**Lanzhou**	**22.59**	**318**	*e*P	**P**	**02 53 02.9**	**+0.2**
LZH				AP		02 53 06.0	
LZH				XP	sP	02 53 07.8	-10
LZH				PP		02 53 25.9	
LZH				*e*S	**S**	**02 56 54.0**	**-14**
LZH				AMB	AMB		
	comp=Z,60nm,1.3s,mb4.9						
LZH				AMB	AMB		
	comp=Z,235nm,4.5s						
LZH				LR	LR		
	comp=N,4μm,12.0s						
LZH				LR	LR		
	comp=Z,4μm,12.0s,MS5.1						
CN2	**Changchun**	**23.69**	**6**	*e*P	**P**	**02 53 16.8**	**+3.0**
MDJ	**Mudanjiang**	**25.11**	**12**	P	**P**	**02 53 25.9**	**-0.8**
MDJ				AP	pP	02 53 28.9	-8.7
MDJ				S	**S**	**02 57 51.4**	**+2.7**
MDJ				XS	sS	02 57 56.8	-10
MDJ				SCP	ScP	03 00 38.9	+2.6
MDJ				PCS	PcS	03 00 40.3	-0.1
MDJ				AMB	AMB		
	comp=Z,4.0nm,1.2s,mb3.8						
MDJ				AMB	AMB		
	comp=Z,3μm,9.1s						
MDJ				LR	LR		
	comp=N,2μm,17.7s,MS5.1						
MDJ				LR	LR		
	comp=E,5μm,17.7s,MS5.1						
MDJ				LR	LR		
	comp=Z,5μm,13.4s,MS5.2						
KULM	**Kulim**	**25.67**	**238**	*e*P	**P**	**02 53 29.4**	**-2.7**
GTA	**Gaotai**	**27.16**	**320**	*e*P	**P**	**02 53 46.8**	**+1.6**
GTA				AP	pP	02 53 56.3	+0.1
GTA				XP	sP	02 54 00.5	-0.5
GTA				PCP	PcP	02 57 08.5	+3.4
GTA				S	**S**	**02 58 24.3**	**+3.2**
GTA				SCP	ScP	03 00 44.3	+1.9
GTA				PCS	PcS	03 00 49.3	+2.7
GTA				AMB	AMB		
	comp=Z,9.0nm,1.2s,mb4.2						
GTA				LR	LR		
	comp=N,2μm,13.0s						
GTA				LR	LR		
	comp=E,3μm,9.6s						
GTA				LR	LR		
	comp=Z,2μm,11.5s,MS4.9						
HIA	**Hailar**	**29.07**	**357**	*i*P	**P**	**02 54 03.4**	**+1.2**
ASAJ	**Asahikawa**	**29.28**	**31**	P	**P**	**02 54 07.7**	**+3.5**
	comp=Z,11nm,0.7s,mb4.7,baz=172,slow=5.7,SNR=7.6						
ULN	**Ulaanbaatar**	**30.21**	**340**	*e*P	**P**	**02 54 11.4**	**-0.9**
	comp=Z,7.5nm,0.9s,mb4.4						
SONM	**Songino Array**	**30.40**	**339**	P	**P**	**02 54 13.8**	**-0.3**
	comp=Z,4.4nm,0.8s,mb4.2,baz=150,slow=9.7,SNR=20						
YSS	**Yuzh-Sakhalins**	**31.51**	**27**	⇓*e*P	**P**	**02 54 26.1**	**+2.3**
YSS				pmax	pmax		
	comp=Z,50nm,1.6s,mb5.1						
ZAK	**Zakamensk**	**33.65**	**338**	*e*P	**P**	**02 54 41.4**	**-1.1**
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.0s,mb4.0						
WMQ	**Urumqi**	**37.16**	**317**	*e*P	**P**	**02 55 15.0**	**+2.3**
WRAB	**Tennant Creek**	**41.62**	**163**	*e*P	**P**	**02 55 48.9**	**-1.2**
	comp=Z,20nm,0.8s,mb4.8						
WRAB	**Tennant Creek**	**41.62**	**163**	⇓*e*P	**P**	**02 55 49.3**	**-0.8**
WRA	**Warramunga Arr**	**41.62**	**163**	*i*P	**P**	**02 55 49.2**	**-0.9**
WRA				pmax	pmax		
	comp=Z,21nm,1.0s						
WRA	**Warramunga Arr**	**41.62**	**163**	P	**P**	**02 55 49.3**	**-0.8**
	comp=Z,21nm,1.0s,mb4.7,baz=345,slow=8.9,SNR=68						
WB2	**Warramunga Arr**	**41.62**	**163**	⇓*i*P	**P**	**02 55 49.2**	**-0.9**
MK31	**Makanchi Array**	**41.90**	**319**	*e*P	**P**	**02 55 52.8**	**+0.7**
MK31	**Makanchi Array**	**41.90**	**319**	*i*P	**P**	**02 55 52.7**	**+0.5**
MK31				pmax	pmax		
	comp=Z,18nm,0.9s,mb4.7						
MKAR	**Makanchi Array**	**41.90**	**319**	⇑*e*P	**P**	**02 55 52.7**	**+0.5**
MKAR	**Makanchi Array**	**41.90**	**319**	P	**P**	**02 55 52.8**	**+0.6**
	comp=Z,6.1nm,0.6s,mb4.4,baz=111,slow=9.7,SNR=51						
YAK	**Yakutsk**	**42.12**	**5**	⇓*e*P	**P**	**02 55 52.6**	**-1.1**
YAK				pmax	pmax		
	comp=Z,20nm,0.6s,mb4.9						
ZALV	**Zalesovo Beam**	**44.12**	**329**	P	**P**	**02 56 09.4**	**-0.6**
	comp=Z,6.6nm,0.5s,mb4.6,baz=117,slow=7.7,SNR=41						
ULHL	**Ulahol**	**44.39**	**310**	P	**P**	**02 56 13.9**	**+1.6**
	SNR=7.6						
TKM2	**Tokmak 2**	**45.02**	**311**	*e*P	**P**	**02 56 18.7**	**+1.3**
	comp=Z,6.5nm,0.4s,mb4.8						
TKM2	**Tokmak 2**	**45.02**	**311**	P	pP	02 56 29.3	+0.5
	SNR=12						
KZA	**Kyzart**	**45.06**	**310**	P	**P**	**02 56 20.2**	**+2.5**
	SNR=7.5						
ASAR	**Alice Springs**	**45.06**	**165**	P	**P**	**02 56 17.9**	**+0.1**
	comp=Z,1.6nm,0.6s,mb4.0,baz=352,slow=7.1,SNR=26						
KBK	**Karagaybulak**	**45.42**	**310**	P	**P**	**02 56 22.1**	**+1.5**
	SNR=5.7						
UCH	**Uchtor**	**45.63**	**310**	*e*P	**P**	**02 56 24.2**	**+2.0**
	comp=Z,10nm,1.0s,mb4.7						
UCH	**Uchtor**	**45.63**	**310**	P	**P**	**02 56 24.8**	**+2.5**
	SNR=7.6						
AAK	**Ala-Archa**	**45.74**	**310**	*e*P	**P**	**02 56 22.6**	**-0.4**
	comp=Z,2.6nm,0.8s,mb4.2						
AAK	**Ala-Archa**	**45.74**	**310**	⇓*e*P	**P**	**02 56 23.9**	**+0.8**
AAK				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.2						
KURK	**Kurchatov**	**45.78**	**322**	*e*P	**P**	**02 56 22.9**	**-0.3**
	comp=Z,7.0nm,0.6s,mb4.8						
KURK				*e*PcP	PcP	02 57 58.8	-1.6
KURK	**Kurchatov**	**45.78**	**322**	⇑*e*P	**P**	**02 56 23.3**	**0.0**
AML	**Almayashu**	**46.20**	**309**	P	**P**	**02 56 28.8**	**+2.1**
	SNR=9.9						
EKS2	**Erkin-Say**	**46.26**	**310**	*e*P	**P**	**02 56 28.2**	**+1.0**
	comp=Z,3.3nm,0.8s,mb4.3						
KK31	**Karatay Array**	**48.70**	**310**	*i*P	**P**	**02 56 47.1**	**+1.0**
KK31				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.5						
KBL	**Kabul**	**48.81**	**299**	*e*P	**P**	**02 56 49.3**	**+2.1**
	comp=Z,14nm,1.0s,mb5.0						
FORT	**Forrest**	**50.99**	**174**	*e*P	**P**	**02 57 03.6**	**0.0**
	comp=Z,2.9nm,0.8s,mb4.3						
BVAR	**Borovoye Array**	**51.38**	**323**	P	**P**	**02 57 06.7**	**+0.5**
	comp=Z,6.0nm,0.5s,mb4.8,baz=107,slow=8.5,SNR=24						
BVAR				PcP	PcP	02 58 19.3	-1.2
	comp=Z,3.4nm,0.7s,baz=129,slow=3.9,SNR=5.1						
BRVK	**Borovoye**	**51.45**	**323**	*e*P	**P**	**02 57 06.7**	**-0.1**
TIXI	**Tiksi**	**51.61**	**3**	*e*P	**P**	**02 57 06.2**	**-1.5**
	comp=Z,80nm,2.5s,mb5.2						
TIXI	**Tiksi**	**51.61**	**3**	⇓*e*P	**P**	**02 57 06.6**	**-1.1**
TIXI				pmax	pmax		
	comp=Z,17nm,2.0s,mb4.6						
ZRNK	**Zerenda**	**52.15**	**322**	*i*P	**P**	**02 57 12.0**	**0.0**
ZRNK				pmax	pmax		
	comp=Z,9.0nm,0.7s,mb4.8						
STKA	**Stephens Creek**	**55.01**	**160**	*e*P	**P**	**02 57 33.0**	**-0.2**
	comp=Z,2.8nm,0.8s,mb4.3						
STKA	**Stephens Creek**	**55.01**	**160**	P	**P**	**02 57 33.3**	**+0.1**
	comp=Z,4.1nm,0.9s,mb4.5,baz=318,slow=9.1,SNR=9.4						
BILL	**Bilibino**	**55.12**	**19**	*e*P	**P**	**02 57 33.6**	**+0.1**
	comp=Z,4.1nm,0.7s,mb4.6						
BILL	**Bilibino**	**55.12**	**19**	*e*P	**P**	**02 57 33.6**	**+0.1**
BILL				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.5						
AKTK	**Aktyubinsk**	**58.31**	**317**	P	**P**	**02 57 56.4**	**-0.1**
AKTO	**Aktyubinsk**	**58.31**	**317**	P	**P**	**02 57 56.4**	**-0.1**
	comp=Z,1.8nm,0.5s,mb4.3,baz=86,slow=5.0,SNR=9.0						
ARU	**Arti**	**58.87**	**324**	*e*P	**P**	**02 57 59.5**	**-0.7**
	comp=Z,8.8nm,0.4s,mb5.1						
ARU	**Arti**	**58.87**	**324**	*c*P	**P**	**02 57 59.6**	**-0.7**
ARU				*e*S	**S**	**03 06 04.4**	**+1.3**
ARU				*e*SS	SS	03 09 58.7	+2.0
ARU				pmax	pmax		
	comp=Z,25nm,1.7s,mb5.0						
TTA	**Tatalina**	**68.49**	**29**	*e*P	**P**	**02 59 04.5**	**+0.9**
ONI	**Oni**	**68.50**	**309**	P	**P**	**02 59 06.1**	**+2.1**
KIV	**Kislovodsk**	**68.86**	**310**	*e*P	**P**	**02 59 07.4**	**+1.1**
	comp=Z,25nm,0.8s,mb5.2						
KIV	**Kislovodsk**	**68.86**	**310**	*e*P	**P**	**02 59 07.4**	**+1.2**
KIV				*i*		02 59 30.6	
KIV				pmax	pmax		
	comp=Z,40nm,1.2s,mb5.2						
KIV	**Kislovodsk**	**68.86**	**310**	⇓*i*P	**P**	**02 59 07.6**	**+1.4**
VORD	**Divnogorie**	**70.18**	**318**	*e*P	**P**	**02 59 13.4**	**-0.8**
VORD				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
VORD				pmax	pmax		
	comp=N,8.0nm,0.6s						
VORD				pmax	pmax		
	comp=E,10.0nm,0

NOA	NORSAR Array B	82.18	333	P	P	03 00 21.2	-1.1
	comp=Z,2.8nm,0.7s,mb4.3,baz=63,slow=4.9,SNR=10						
NIE	Niedzica	82.33	320	eP	P	03 00 24.0	+0.7
OJC	Ojcow	82.34	321	eP	P	03 00 23.3	0.0
RES	Resolute Bay	82.43	9	eP	P	03 00 22.8	-0.5
	comp=Z,115nm,0.9s,mb5.8						
KECS	Kecovo	82.58	319	eP	P	03 00 26.4	+1.8
	comp=Z,1.3nm,0.8s,mb4.0						
KECS	Kecovo	82.58	319	eP	P	03 00 26.4	+1.8
KECS				pmax	pmax		
	comp=Z,1.0nm,0.8s,mb3.9						
VTS	Vitosha	82.94	313	⇑P	P	03 00 27.0	+0.4
VTS	Vitosha	82.94	313	⇑iP	P	03 00 27.0	+0.4
VYHS	Vyhne	83.59	319	iP	P	03 00 30.1	+0.3
	comp=Z,2.1nm,0.9s,mb4.3						
VYHS	Vyhne	83.59	319	iP	P	03 00 30.1	+0.3
VYHS				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.2						
MORC	Moravsky Berou	83.85	321	eP	P	03 00 30.7	-0.4
	comp=Z,2.0nm,0.7s,mb4.4						
KSP	Ksiaz	84.14	322	eP	P	03 00 32.8	+0.2
KSP	Ksiaz	84.14	322	eP	P	03 00 32.4	-0.2
DPC	Dobruska-Polom	84.33	322	eP	P	03 00 33.6	0.0
UPC	Upice	84.44	322	eP	P	03 00 34.1	0.0
VRAC	Vranov	84.61	321	⇓P	P	03 00 35.5	+0.5
VRAC	Vranov	84.61	321	⇓iP	P	03 00 35.5	+0.5
GVD	Gavdhos	85.07	305	eP	P	03 00 36.4	-1.2
	comp=Z,4.4nm,0.7s,mb4.7						
PVCC	Panska Ves	85.27	322	eP	P	03 00 37.4	-0.9
KMBO	Kilima Mbogo	85.65	267	eP	P	03 00 42.6	+1.7
	comp=Z,8.3nm,0.9s,mb5.0						
CLL	Collm	85.80	324	eP	P	03 00 46.0	+5.1
	comp=Z,43nm,2.3s,mb5.3						
CLL	Collm	85.80	324	eP	P	03 00 46.0	+5.1
CLL				pmax	pmax		
	comp=Z,43nm,2.3s,mb5.3						
CLL	Collm	85.80	324	epP	P	03 00 46.0	+5.1
	comp=Z,43nm,2.3s,mb5.3						
YKW3	Yellowknife Ar	86.21	23	eP	P	03 00 43.2	+0.5
YKA	Yellowknife Ar	86.26	23	⇑eP	P	03 00 43.0	+0.1
YKA	Yellowknife Ar	86.26	23	P	P	03 00 43.1	+0.2
	comp=Z,2.9nm,0.5s,mb4.8,baz=308,slow=4.6,SNR=167						
YKA				PKKPbc	PKKPbc	03 18 39.1	-3.4
	comp=Z,0.1nm,0.5s,baz=123,slow=2.6,SNR=4.2						
KHC	Kasperske Hory	86.47	321	eP	P	03 00 41.2	-3.0
GERES	GERESS Array B	86.52	321	P	P	03 00 44.0	-0.5
	comp=Z,0.8nm,0.6s,mb4.2,baz=60,slow=6.2,SNR=10						
CDF	Champ du Feu	90.45	323	eP	P	03 01 02.7	-0.5
LPG	La Plagne	92.29	321	eP	P	03 01 11.5	-0.3
	comp=Z,4.2nm,0.6s,mb4.6						
LPG	La Plagne	92.29	321	eP	P	03 01 11.5	-0.3
	comp=Z,2.1nm,0.6s,mb4.6						
LPL	La Plagne	92.30	321	eP	P	03 01 11.3	-0.5
	comp=Z,6.9nm,0.8s,mb4.7						
LPL	La Plagne	92.30	321	eP	P	03 01 11.3	-0.5
	comp=Z,3.5nm,0.8s,mb4.7						
PGF	Pioggiola	92.43	317	eP	P	03 01 11.6	-0.9
	comp=Z,12nm,0.7s,mb5.0						
PGF	Pioggiola	92.43	317	eP	P	03 01 11.6	-0.9
	comp=Z,5.8nm,0.7s,mb5.0						
BNI	Bardonecchia	92.57	320	eP	P	03 01 12.8	-0.3
	comp=Z,1.8nm,0.6s,mb4.7						
MBDF	Montbardon	92.69	320	eP	P	03 01 13.0	-0.6
SBF	Sospel	92.74	319	eP	P	03 01 13.0	-0.9
LOR	Lormes	93.01	323	eP	P	03 01 14.5	-0.5
	comp=Z,8.8nm,1.0s,mb4.8						
LOR	Lormes	93.01	323	eP	P	03 01 14.5	-0.5
	comp=Z,4.4nm,1.0s,mb4.8						
ORIF	Oris-en-Rattie	93.12	320	eP	P	03 01 15.0	-0.6
	comp=Z,4.2nm,0.8s,mb4.6						
ORIF	Oris-en-Rattie	93.12	320	eP	P	03 01 15.0	-0.6
	comp=Z,2.1nm,0.8s,mb4.6						
SSF	Saint Saulge	93.32	323	eP	P	03 01 15.7	-0.8
	comp=Z,2.8nm,0.7s,mb4.5						
SSF	Saint Saulge	93.32	323	eP	P	03 01 15.7	-0.8
	comp=Z,1.4nm,0.7s,mb4.5						
SMF	Signal de Mont	93.37	323	eP	P	03 01 15.1	-1.6
FRF	La Foret Royal	93.38	319	eP	P	03 01 15.9	-0.9
	comp=Z,3.7nm,0.8s,mb4.6						
FRF	La Foret Royal	93.38	319	eP	P	03 01 15.9	-0.9
	comp=Z,1.9nm,0.8s,mb4.6						
AVF	Avril sur Loir	93.56	323	eP	P	03 01 16.3	-1.3
	comp=Z,6.2nm,0.8s,mb4.8						
AVF	Avril sur Loir	93.56	323	eP	P	03 01 16.3	-1.3
	comp=Z,3.1nm,0.8s,mb4.8						
LMR	La Mourre	93.59	319	eP	P	03 01 16.8	-1.0
NEW	Newport	93.72	35	eP	P	03 01 18.2	-0.1
	comp=Z,1.5nm,0.7s,mb4.5						
SMRF	Simiane la Rot	93.82	320	eP	P	03 01 17.9	-0.9
LDF	La Druitiere	94.41	326	eP	P	03 01 20.8	-0.7
	comp=Z,21nm,1.3s,mb5.1						
LDF	La Druitiere	94.41	326	eP	P	03 01 20.8	-0.7
	comp=Z,11nm,1.3s,mb5.1						
FLN	La Foliniere	94.50	326	eP	P	03 01 20.9	-0.9
TCF	Toulx Ste Croi	94.50	323	eP	P	03 01 21.2	-0.7
	comp=Z,3.5nm,0.8s,mb4.5						
TCF	Toulx Ste Croi	94.50	323	eP	P	03 01 21.2	-0.7
	comp=Z,1.8nm,0.8s,mb4.5						
RJF	Les Rejaudoux	95.47	322	eP	P	03 01 25.5	-0.9
	comp=Z,3.7nm,0.8s,mb4.6						
RJF	Les Rejaudoux	95.47	322	eP	P	03 01 25.5	-0.9
	comp=Z,1.9nm,0.8s,mb4.6						
MTLF	Montolieu	96.19	321	eP	P	03 01 28.6	-1.1
	comp=Z,4.0nm,1.0s,mb4.5						
MTLF	Montolieu	96.19	321	eP	P	03 01 28.6	-1.1
	comp=Z,2.0nm,1.0s,mb4.5						
NVAR	Mina Array Bea	98.67	44	P	P	03 01 42.2	+1.2
	comp=Z,0.4nm,0.7s,mb4.0,baz=273,slow=6.0,SNR=3.2						
TORD	Torodi Ar. Bea	112.77	294	PP	PP	03 07 23.2	-3.5
	comp=Z,0.6nm,0.9s,baz=47,slow=5.2,SNR=3.7						
TXAR	Lajitas Array	113.81	43	PKP	PKiKP	03 06 41.2	+0.5
	comp=Z,0.3nm,0.6s,baz=212,slow=1.7,SNR=6.1						
VNA2	Neumayer–Watz	121.40	197	ePKPdf	PKPdf	03 06 53.0	-0.9
	baz=91,slow=1.1						
VNA2				e		03 07 00.5	
VNA2				e		03 07 07.0	
VNA2				e		03 07 13.8	
VNA2				e		03 07 20.5	
VNA2				e		03 07 26.3	
SDV	Santo Domingo	148.46	25	ePKPdf	PKPdf	03 07 46.0	+0.6
ROSC	El Rosal	150.27	35	ePKPbc	PKPbc	03 07 54.7	+1.2
PLCA	Paso Flores	156.81	155	PKP	PKPdf	03 07 57.2	+0.3
	comp=Z,1.6nm,0.9s,baz=241,slow=10,SNR=2.5						
CPUP	Villa Florida	173.88	184	PKPab	PKPab	03 09 42.3	+0.5
	comp=Z,1.7nm,0.8s,baz=151,slow=4.1,SNR=4.3						
SIV	San Ignacio	174.78	37	PKP	PKPdf	03 08 12.3	+0.2
	comp=Z,1.0nm,0.9s,baz=52,slow=1.6,SNR=5.5						

IDC 20 02:51:43.7±1.4, 099N×12589E, h0km, mb4.0/6, mb1 4.1/6, mb1mx3.9/17, mbtmp4.0/6, Error ellipse: s-maj=134.7km s-min=25.9km az=67.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	22.40	159	P	P	02 56 44.1	+0.2
	5.3nm,0.7s,baz=338,slow=11,SNR=2.5						
SONM	Songino Array	49.63	343	P	P	03 00 37.8	+0.9
	0.7nm,0.7s,baz=163,slow=9.0,SNR=3.4						
MKAR	Makanchi Array	59.33	327	P	P	03 01 47.6	+0.1
	1.0nm,0.5s,baz=126,slow=7.8,SNR=7.4						
ZALV	Zalesovo Beam	62.65	334	P	P	03 02 08.9	-1.0
	0.4nm,0.4s,baz=120,slow=8.8,SNR=2.7						
BVAR	Borovoye Array	69.16	328	P	P	03 02 52.6	+0.7
	1.1nm,0.7s,baz=148,slow=8.5,SNR=4.5						
AKTO	Aktyubinsk	75.28	322	P	P	03 03 28.4	-0.2
	0.9nm,0.7s,baz=102,slow=5.8,SNR=4.1						

*IDC **20** 02:53:18.8±0.9, 2564N×125.14E, h0km, mb3.8/7, mb1 3.9/8, mb1mx3.8/21, mbtmp3.8/8, ML3.1/1, Error ellipse: s-maj=32.5km s-min=19.0km az=63.0*
*ISCJB **20** 02:53:20.8±0.4, 2563N±003×12509E±005, h25km, mb3.8/10, Error ellipse: s-maj=6.4km s-min=3.8km az=24.9*
*JMA **20** 02:53:20.4±0.2, 2566N×12508E, h25km, M3.6*
*NEIC **20** 02:53:20.2±0.4, 2562N×125.11E, h10km, mb4.2/3, Error ellipse: s-maj=11.4km s-min=8.7km az=56.0*

ISC 20 02:53:21.1±1.4, 2559N±005×12509E±007, h17km±9km, n27, σ0§62/33, mb3.8/10, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMJ	Miyako jima 2	0.80	167	P	Pg	02 53 36.4	-0.2
JMJ				S	Sg	02 53 47.3	+0.2
JOGS	Gusukube	0.88	161	P	Pg	02 53 37.7	-0.4
JOGS				S	Sg	02 53 50.6	+0.9
JTJ	Tarama	1.01	200	P	Pb	02 53 39.3	-0.9
JTJ				S	Sb	02 53 53.2	0.0
JIJ	Ishigaki jima	1.50	215	P	Pn	02 53 46.3	-0.9
JIJ				S	Sn	02 54 05.3	-1.1
JKRS	Kuro-shima	1.67	216	P	Pn	02 53 49.9	+0.3
JKRS				S	Sn	02 54 10.9	+0.3
JKE	Kume jima 2	1.69	64	P	Pn	02 53 48.2	-1.7
IRIF	Iriomote-Funau	1.76	225	P	Pn	02 53 50.7	-0.1
IRIF				eS	Sn	02 54 13.1	+0.2
HATJ	Hateruma jima	1.93	218	eS	Sn	02 54 17.1	+0.2
JAGN	Aguni-jima	2.17	62	P	Pn	02 53 56.0	-0.5
JIH	Iheya	2.95	60	P	Pn	02 54 07.6	+0.4
JOW	Kunigami	3.11	66	P	Pn	02 54 10.1	+0.7
JOW	Kunigami	3.11	66	Pn	Pn	02 54 09.6	+0.2
	4.0nm,0.3s,baz=238,slow=11,SNR=8.9						
JTK	Tokunoshima	4.08	57	P	Pn	02 54 23.3	+0.5
SONM	Songino Array	26.65	331	P	P	02 58 59.5	+0.7
	0.7nm,0.6s,mb3.3,baz=140,slow=9.5,SNR=3.6						
MKAR	Makanchi Array	39.88	313	P	P	03 00 55.1	+1.2
	0.3nm,0.3s,mb3.5,baz=100,slow=11,SNR=3.7						
ZAA0	Zalesovo Array	41.08	324	eP	P	03 01 03.1	-0.6
ZALV	Zalesovo Beam	41.08	324	P	P	03 01 03.5	-0.2
	2.1nm,0.5s,mb4.0,baz=109,slow=8.7,SNR=8.9						
UCH	Uchtor	44.47	305	eP	P	03 01 32.3	+0.9
	1.3nm,0.8s,mb3.7						
WRAB	Tennant Creek	46.14	168	eP	P	03 01 44.8	0.0
	2.1nm,0.7s,mb4.2						
WRA	Warramunga Arr	46.15	168	P	P	03 01 45.0	+0.2
	0.9nm,0.6s,mb3.9,baz=350,slow=8.7,SNR=6.7						
BVAR	Borovoye Array	48.89	319	P	P	03 02 05.7	-0.1
	0.5nm,0.6s,mb3.7,baz=103,slow=7.9,SNR=2.9						
ASAR	Alice Springs	49.71	169	P	P	03 02 13.3	+1.0
	0.5nm,0.6s,mb3.8,baz=353,slow=7.4,SNR=7.2						
DAWY	Dawson	69.66	28	eP	P	03 04 29.4	+0.1
INK	Inuvik	70.58	23	eP	P	03 04 34.5	-0.5
YKA	Yellowknife Ar	80.27	24	P	P	03 05 30.3	-0.4
YKA	Yellowknife Ar	80.27	24	P	P	03 05 30.3	-0.4
	0.9nm,0.7s,mb3.8,baz=305,slow=5.1,SNR=14						
FFC	Flin Flon	90.39	25	eP	P	03 06 21.3	-0.1
	2.3nm,0.8s,mb4.6						

*NEIC **20** 02:53:44.1, 3800N×2365E, h44km, MD2.9(ATH), After ATH.*
*ATH **20** 02:53:44.1, 3800N×2365E, h44km±6km, MD2.9/5, ML3.1*
*CSEM **20** 02:53:45.4±0.1, 3796N×2362E, h30km, ML3.1, Error ellipse: s-maj=2.9km s-min=2.3km az=63.0*
*ISCJB **20** 02:53:46.7±0.5, 3800N±004×2368E±006, h33km, Error ellipse: s-maj=6.6km s-min=5.0km az=4.6*
*THE **20** 02:53:47.3, 38.10N×2357E, h4km, ML2.9*

ISC 20 02:53:46.6±0.6, 3798N±004×2373E±007, h35km, n15, σ1§41/25, 1C, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATH	Athens Observa	0.01	258	⇑iP	Pn	02 53 51.7	-0.6
PTL	Penteli	0.13	55	eP	Pn	02 53 52.5	-0.3
PTL				eS	Sn	02 53 56.3	-0.7
KVR	Kavouri	0.15	169	eP	Pn	02 53 52.8	-0.1
KVR				eS	Sn	02 53 57.8	+0.5
NAIG	Nisos Aigina	0.29	222	eP	Pn	02 53 53.5	-0.9
LTK	Loutraki	0.61	275	ePg	Pn	02 53 57.2	-1.5
LTK				eSg	Sn	02 54 03.5	-3.7
DID	Didima	0.61	220	ePg	Pn	02 53 59.8	+1.1
DID				eSg	Sn	02 54 09.1	+1.8
LKR	Lokris	0.89	320	ePg	Pn	02 54 00.9	-1.6
LKR				eSg	Sn	02 54 11.7	-2.4
LKR	Lokris	0.89	320	eP	Pn	02 54 00.9	-1.6
LKR				eS	Sn	02 54 11.6	-2.6
AOS	Alonnisos	1.20	5	ePg	Pn	02 54 07.2	+0.4
AOS				eSg	Sn	02 54 23.3	+1.5
AOS	Alonnisos	1.20	5	ePg	Pn	02 54 07.2	+0.4
AOS				eSg	Sn	02 54 23.3	+1.4
VLX	Vlachokerasia	1.23	241	ePg	Pn	02 54 09.5	+2.2
VLX				eSg	Sn	02 54 26.0	+3.4
VLI	Veliai	1.41	207	eP	Pn	02 54 07.5	-2.2
XOR	Xorichti	1.45	343	ePg	Pn	02 54 11.9	+1.6
AGG	Agios Georgios	1.52	314	ePg	Pn	02 54 12.5	+1.3
AGG				eSg	Sn	02 54 30.4	+0.7
ITM	Ithomi	1.64	242	eP	Pn	02 54 11.1	-1.8

*NIED **20** 03:00:00, 2570N×12520E, h5km, Mw5.1 Best double couple: M0:5.22000×10^16 NP1:φs=233.00000°, δ53.00000°, λ-128.00000°. NP2:φs=106.00000°, δ51.00000°, λ-50.00000°.*
*IDC **20** 03:00:56.4±0.5, 2572N×125.18E, h0km, mb4.5/19, mb1 4.6/20, mb1mx4.6/24, mbtmp4.5/20, ML4.4/1, MS5.0/9, Ms1 5.0/9, ms1mx4.6/41, Error ellipse: s-maj=19.6km s-min=12.0km az=73.0*
*JMA **20** 03:00:57.9±0.3, 2573N×125.16E, h22km±4km, M5.3*
JMA Felt II J1.
*BJI **20** 03:00:57.8, 2560N×12538E, h16km, mB5.6, mb4.7, ML4.8, Ms5.3, Msz5.2*
*NEIC **20** 03:00:58.1±0.2, 2570N×12531E, h10km, mb4.9/48, MW5.1(NIED), Error ellipse: s-maj=6.4km s-min=5.5km az=115.0*
NEIC Recorded [2 JMA] on Miyako-jima.
*GCMT **20** 03:00:58.1±0.4, 2559N×12536E, h12km, MW5.3/62, Moment Tensor Solution. s7,c7; s62,c97; Duration: 1§1 Moment tensor: Scale 10^17Nm; Mrr~0.68±.05; Mθθ0.84±.04; Mφφ~0.15±.05; Mrθ~0.11±.14; Mφθ0.28±.03; Mφr~1.02±.20; Best double couple: M0:1.26000×10^17 NP1:φs=280.00000°, δ38.00000°, λ-32.00000°. NP2: φs36.00000°, δ71.00000°, λ-124.00000°. Principal axes: T 1.0420, Plg19.0000°, Azm150.0000°; N 0.4350, Plg31.0000°, Azm48.0000°; P -1.4770, Plg52.0000°, Azm267.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*ISCJB **20** 03:01:00.4±0.3, 2562N±002×12526E±003, h37km±3km, mb4.8/80, MS5.2/11 Error ellipse: s-maj=4.5km s-min=3.3km az=44.1*
*MOS **20** 03:01:00.0±0.9, 2573N×12528E, h33km, mb5.2/32, Error ellipse: s-maj=12.0km s-min=5.7km az=116.9*
*SZGRF **20** 03:01:02.7, 2548N×12503E, h33km, mb5.0, Southwestern Ryukyu Islands, Japan*

ISC 20 03:01:01.3±1.0, 2561N±002×12525E±003, h31km±7km, h14km±1.5km: pP-P, n231, σ1§17/247, mb4.8/80, MS5.2/11, 4C-5D, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMJ	Miyako jima 2	0.79	177	P	Pn	03 01 14.8	-1.4
JMJ				S	Sn	03 01 26.7	-0.2
JOGS	Gusukube	0.85	170	P	Pn	03 01 16.1	-1.0
JOGS				S	Sn	03 01 29.1	+0.6
JTJ	Tarama	1.08	207	P	Pn	03 01 18.5	-1.8
JTJ				S	Sn	03 01 33.0	-1.2
JKE	Kume jima 2	1.56	62	P	Pn	03 01 24.6	-2.2
JIJ	Ishigaki jima	1.59	219	P	Pn	03 01 25.7	-1.6
JIJ				eS	Sn	03 01 46.2	-0.6
JKRS	Kuro-shima	1.77	220	P	Pn	03 01 28.6	-1.1
IRIF	Iriomote-Funau	1.87	228	P	Pn	03 01 29.7	-1.4
HATJ	Hateruma jima	2.03	221	P	Pn	03 01 33.3	+0.1
JAGN	Aguni-jima	2.04	61	P	Pn	03 01 32.1	-1.3
NAH1	Naha	2.28	74	P	Pn	03 01 37.2	+0.5
JJT2	Tamagusuku 2	2.31	76	P	Pn	03 01 37.6	+0.4
YOJ	Yonaguni jima	2.33	241	P	Pn	03 01 36.8	-0.6
JIH	Iheya	2.82	59	P	Pn	03 01 43.8	-0.4
JOW	Kunigami	2.98	65	P	Pn	03 01 46.0	-0.3
JOW	Kunigami	2.98	65	Pn	Pn	03 01 46.0	-0.3
	89nm,0.3s,baz=245,slow=11,SNR=98						
JOW				Sn	Sn	03 02 22.7	+1.7
	118nm,0.3s,baz=295,slow=26,SNR=7.3						
JOW				LR	LR	03 03 05.6	
	comp=Z,9μm,20.2s,baz=107,slow=43						
TATO	Taipei	3.46	260	ePn	Pn	03 01 55.6	+2.6
TATO				ePg	Pn	03 02 06.2	+13
NACB	Ninganchiao	3.61	248	ePn	Pn	03 01 55.8	+0.7
YHNB	Yeheng	3.63	256	ePn	Pn	03 01 55.9	+0.5
JTK	Tokunoshima	3.96	56	P	Pn	03 01 59.9	+0.1
JTK				eS	Sn	03 02 45.7	+0.6
JAM	Amami Oshima	4.78	53	P	Pn	03 02 12.0	+0.8
JAM				eS	Sn	03 03 06.1	+0.6
QZH	Quanzhou	6.06	265	P	Pn	03 02 31.5	+2.7
QZH				S	Sn	03 03 44.0	+6.9
QZH				Smax			
	comp=N,390nm,1.0s						
QZH				Smax			
	comp=E,280nm,1.0s						
QZH				LR	LR		
	comp=N,4μm,7.4s						
QZH				LR	LR		
	comp=E,11μm,9.1s						
QZH				LR	LR		
	comp=Z,11μm,9.5s						
NJ2	Nanjing	8.52	320	eP	Pn	03 03 04.4	+1.9
NJ2				AP		03 03 08.4	
NJ2				XP		03 03 11.3	
NJ2				S	Sn	03 04 41.5	+3.9
NJ2				AMB	AMB		
	comp=Z,30nm,0.7s						
NJ2				AMB	AMB		
	comp=Z,4μm,10.0s						
NJ2				Smax			
	comp=N,460nm,1.0s						
NJ2				Smax			
	comp=E,560nm,1.2s						
NJ2				LR	LR		
	comp=N,29μm,16.2s						
NJ2				LR	LR		
	comp=E,21μm,13.2s						
NJ2				LR	LR		
	comp=Z,21μm,13.2s						
JNU	Nakatsue	8.95	32	Pn	Pn	03 03 11.8	+3.4
	comp=Z,1.2nm,0.3s,baz=144,slow=12,SNR=6.0						
JNU				LR	LR	03 06 33.6	
	comp=Z,6μm,19.1s,baz=195,slow=38						
WHN	Wuhan	10.81	300	P	Pn	03 03 34.3	+0.5
WHN				S	Sn	03 05 46.8	+13
WHN				LR	LR		
	comp=Z,24μm,8.6s						
GZH	Guangzhou	11.14	259	P	Pn	03 03 37.3	-1.1
GZH				S	Sn	03 05 40.4	-1.5
GZH				LR	LR		
	comp=N,4μm,12.3s						
GZH				LR	LR		
	comp=E,3μm,9.6s						
GZH				LR	LR		
	comp=Z,4μm,10.2s						
KSRS	Korea Array	12.03	10	Pn	Pn	03 03 54.0	+3.5
	comp=Z,0.3nm,0.3s,baz=186,slow=12,SNR=15						
KSRS				Lg		03 07 19.6	
	comp=Z,0.3nm,0.3s,baz=201,slow=30,SNR=3.7						
KSRS				LR	LR	03 08 36.7	
	comp=Z,6μm,18.5s,baz=60,slow=39						
TIA	Tai'an	12.66	329	eP	Pn	03 04 03.0	+3.9
TIA				LR	LR		
	comp=N,3μm,10.0s						
TIA				LR	LR		
	comp=E,6μm,11.0s						
MAJO	Matsushiro	15.54	42	ePn	Pn	03 04 35.1	-3.0
MJAR	Matsushiro Arr	15.54	42	Pn	Pn	03 04 42.3	+4.3
	comp=E,0.2nm,0.3s,baz=236,slow=12,SNR=9.0						
QIZ	Qiongzhong	15.68	248	P	Pn	03 04 41.8	+1.8
QIZ				eS	Sn	03 07 37.8	+5.0
QIZ				AMB	AMB		
	comp=Z,18nm,1.1s						
SNY	Shenyang	16.24	356	⇓P	Pn	03 04 50.9	+3.9
SNY				AMB	AMB		
	comp=Z,51nm,1.8s						
SNY				AMB	AMB		
	comp=Z,2μm,10.2s						
SNY				LR	LR		
	comp=N,7μm,13.5s						
SNY				LR	LR		
	comp=E,5μm,12.3s						
SNY				LR	LR		
	comp=Z,9μm,12.9s						
BJT	Baijiatuau	16.26	334	ePn	Pn	03 04 46.6	-0.7
GYA	Guiyang	16.73	277	⇓iP	Pn	03 04 54.0	+0.7
GYA				PP		03 05 08.6	
GYA				S	Sn	03 08 01.0	+2.8
GYA				SS		03 08 21.4	
GYA				PCP	PcP	03 09 44.3	+3.0
GYA				AMB	AMB		
	comp=Z,50nm,1.0s						
GYA				AMB	AMB		
	comp=Z,230nm,7.7s						
GYA				LR	LR		
	comp=N,4μm,10.7s						
GYA				LR	LR		
	comp=E,6μm,10.6s						
GYA				LR	LR		
	comp=Z,7μm,11.1s						
CN2	Changchun	18.15	0	eP	Pn	03 05 13.6	+2.8
CN2				eXP	sP	03 05 20.0	-3.3
CN2				eS	Sn	03 08 32.8	+0.4
CN2				AMB	AMB		
	comp=Z,10.0nm,0.6s						
CN2				AMB	AMB		
	comp=Z,200nm,7.0s						
CN2				LR	LR		
	comp=N,6μm,13.0s						
CN2				LR	LR		
	comp=E,5μm,13.0s						
CN2				LR	LR		
	comp=Z,6μm,15.0s						
HHC	Hu-ho-hao-te	18.99	327	eP	Pn	03 05 22.8	+1.8
HHC				AP	pP	03 05 31.9	+3.4
HHC				XP	sP	03 05 35.9	+3.3
HHC				PP		03 05 40.6	
HHC				S	Sn	03 08 57.5	+4.7
HHC				SS		03 09 18.8	
HHC				PCP	PcP	03 09 46.3	+1.6
HHC				PCS	PcS	03 13 24.3	+2.7
HHC				AMB	AMB		
	comp=Z,39nm,0.4s						
HHC				AMB	AMB		
	comp=Z,3μm,5.9s						
HHC				LR	LR		
	comp=N,2μm,11.6s						
HHC				LR	LR		
	comp=E,2μm,11.2s						
HHC				LR	LR		
	comp=Z,3μm,12.4s						
MDJ	Mudanjiang	19.29	9	P	Pn	03 05 22.5	-2.1
MDJ				AP	pP	03 05 25.4	-6.3
MDJ				S	Sn	03 08 59.1	-0.8
MDJ				XS	sS	03 09 06.5	-6.9
MDJ				SCP	ScP	03 13 21.0	+2.2
MDJ				PCS	PcS	03 13 22.4	+0.3
MDJ				AMB	AMB		
	comp=Z,960nm,8.5s						
MDJ				LR	LR		
	comp=N,2μm,20.5s						
MDJ				LR	LR		
	comp=E,5μm,16.7s						
MDJ				LR	LR		
	comp=Z,4μm,18.2s						
CD2	Chengdu	19.65	291	eP	Pn	03 05 29.0	0.0
CD2				AP	pP	03 05 32.9	-2.9
CD2				XP	sP	03 05 36.0	-3.8
CD2				PP		03 05 47.8	
CD2				S	Sn	03 09 06.0	-2.7
CD2				XS	sS	03 09 11.8

LZH eS S 03 09 41.0 +4.8
LZH XS sS 03 09 50.0 +0.3
LZH SS 03 10 09.0
LZH AMB AMB
comp=Z,170nm,1.2s,mb5.2
LZH AMB AMB
comp=Z,1μm,7.8s
LZH LR LR
comp=N,6μm,9.9s
LZH LR LR
comp=Z,9μm,11.8s,MS5.4
KKM Kota Kinabalu 21.29 205 eP P 03 05 46.3 +1.0
HIA Hailar 24.01 351 eP P 03 06 12.4 -0.6
comp=Z,26nm,1.0s,mb4.6
HIA Hailar 24.01 351|| eP P 03 06 12.0 -1.0
KLR Kul'dur 24.12 10 eP P 03 06 09.0 -5.1
KLR pmax pmax
comp=Z,90nm,2.0s,mb4.8
CHTO Chiang Mai 25.25 260 eP P 03 06 26.8 +2.2
GTA Gaotai 25.38 309 eP P 03 06 26.1 +0.4
GTA AP pP 03 06 29.1 -5.6
GTA XP sP 03 06 32.4 -6.2
GTA PP 03 07 06.1
GTA S S 03 10 53.1 +2.9
GTA AMB AMB
comp=Z,21nm,1.0s,mb4.6
GTA AMB AMB
comp=Z,3μm,8.4s
GTA LR LR
comp=N,7μm,14.5s,MS5.4
GTA LR LR
comp=E,4μm,14.1s,MS5.4
GTA LR LR
comp=Z,4μm,14.9s,MS5.0
ULN Ulaanbaatar 26.45 332 eP P 03 06 35.3 +0.1
comp=Z,56nm,1.4s,mb4.9
ULN Ulaanbaatar 26.45 332|| eP P 03 06 35.5 +0.3
SONM Songino Array 26.71 331 P P 03 06 37.1 -0.5
SONM 03 10 00.3
SONM Songino Array 26.71 331 P P 03 06 37.1 -0.4
comp=Z,8.0nm,0.7s,mb4.4,baz=153,slow=9.9,SNR=29
SONM PcP PcP 03 10 00.3 -0.2
comp=Z,0.9nm,0.6s,baz=161,slow=4.9,SNR=6.5
SONM LR LR 03 18 39.0
comp=Z,5μm,19.8s,MS5.1,baz=138,slow=40
KSM Kuching 27.98 213 eP P 03 06 50.5 +1.1
ZAK Zakamensk 29.97 331 eP P 03 07 04.5 -2.1
ZAK pmax pmax
comp=Z,3.0nm,1.8s,mb3.7
TLY Talaya 30.79 333 eP P 03 07 14.2 +0.3
TLY pmax pmax
comp=Z,23nm,2.0s,mb4.7
TLY MLR MLR
comp=Z,3μm,16.0s,MS5.1
KULM Kulim 31.03 234 eP P 03 07 18.3 +1.9
MOY Mondy 31.90 331 eP P 03 07 23.7 +0.1
MOY pmax pmax
comp=Z,71nm,2.2s,mb5.1
BOD Bodaibo 33.17 349 eP P 03 07 33.6 -1.1
PSI Prapat 33.99 232 P P 03 07 43.0 +0.7
PSI Prapat 33.99 232 P P 03 07 43.0 +0.7
comp=Z,5.1nm,0.6s,mb4.7,baz=18,slow=4.9,SNR=7.8
WMQ Urumqi 35.44 310 eP P 03 07 54.8 +0.2
WMQ AP pP 03 07 59.5 -4.3
WMQ XP sP 03 08 02.0 -5.6
WMQ PP PP 03 09 15.0 -0.3
WMQ eS S 03 13 29.0 +1.5
WMQ AMB AMB
comp=Z,42nm,1.9s,mb5.0
WMQ LR LR
comp=N,6μm,17.1s,MS5.5
WMQ LR LR
comp=E,4μm,15.3s,MS5.5
WMQ LR LR
comp=Z,3μm,17.2s,MS5.2
KAKA Kakadu 38.72 169 eP P 03 08 23.7 +1.1
comp=Z,12nm,0.6s,mb4.8
KAKA Kakadu 38.72 169 eP P 03 08 20.2 -2.4
comp=Z,39nm,0.9s,mb5.1
MK31 Makanchi Array 39.98 313 eP P 03 08 32.8 0.0
MKAR Makanchi Array 39.98 313 P P 03 08 32.5 -0.3
comp=Z,7.6nm,0.5s,mb4.7,baz=99,slow=10,SNR=46
MKAR PcP PcP 03 10 38.4 +0.7
comp=Z,2.8nm,0.9s,baz=98,slow=5.0,SNR=4.3
ZAA0 Zalesovo Array 41.15 324 eP P 03 08 41.3 -1.2
ZALV Zalesovo Beam 41.15 324 P P 03 08 41.1 -1.3
comp=Z,12nm,0.5s,mb4.8,baz=110,slow=8.0,SNR=62
ZALV LR LR 03 27 09.8
comp=Z,2μm,18.4s,MS4.9,baz=64,slow=38
ZAL Zalesovo 41.16 324 P P 03 08 41.1 -1.4
NVS Novosibirsk 42.38 325 i P P 03 08 51.3 -1.2
NVS pmax pmax
comp=N,38nm,1.9s
NVS pmax pmax
comp=Z,53nm,1.9s,mb4.8
NVS pmax pmax
comp=E,34nm,1.6s
KSH Kashi 43.28 301 eP P 03 09 05.8 +5.8
KSH eAP pP 03 09 10.0 +0.7
KSH eXP sP 03 09 12.8 -0.3
KSH ePP PP 03 10 49.4 +8.6
KSH ePCP PcP 03 10 52.8 +4.2
KSH eSCP ScP 03 14 42.6 +4.9
KSH PCS PcS 03 14 44.8 +3.7
KSH S S 03 15 35.8 +11
KSH XS sS 03 15 43.9 +3.3
KSH SCS ScS 03 19 02.3 +4.5
KSH AMB AMB
comp=Z,6μm,9.1s
KSH LR LR
comp=N,11μm,13.4s
KSH LR LR
comp=E,10μm,12.6s
KSH LR LR
comp=Z,6μm,12.5s
FITZ Fitzroy Crossi 43.45 179 eP P 03 09 01.5 +0.1
comp=Z,13nm,0.6s,mb4.8
FITZ Fitzroy Crossi 43.45 179 P P 03 09 01.6 +0.2
comp=Z,6.2nm,0.6s,mb4.5,baz=7.2,slow=9.1,SNR=15
KURK Kurchatov 43.45 318 eP P 03 09 00.5 -0.7
comp=Z,72nm,1.2s,mb5.3
KURK ePcP PcP 03 10 48.4 -0.6
KURK Kurchatov 43.45 318 eP P 03 09 00.5 -0.7
KURK e 03 10 48.4
KURK pmax pmax
comp=Z,71nm,1.2s,mb5.3
TKM2 Tokmak 2 43.86 306 eP P 03 09 04.9 +0.3
comp=Z,14nm,0.6s,mb4.9
TKM2 Tokmak 2 43.86 306 eP P 03 09 04.9 +0.3
TKM2 pmax pmax
comp=Z,15nm,0.6s,mb4.9
HYB Hyderabad 44.02 269 eP P 03 09 08.5 +2.3
HYB Hyderabad 44.02 269 i P P 03 09 08.5 +2.3
FRU Bishkek 44.57 306 eP P 03 09 13.0 +2.7
FRU e 03 09 25.0
FRU pmax pmax
comp=Z,50nm,1.8s,mb5.0
UCH Uchtor 44.58 305 eP P 03 09 12.1 +1.7
comp=Z,34nm,1.2s,mb5.0
AAK Ala-Archa 44.63 306 eP P 03 09 10.3 -0.5
EKS2 Erkin-Say 45.16 306 eP P 03 09 16.2 +1.1
comp=Z,13nm,1.4s,mb4.6
AML Almayashu 45.18 305 eP P 03 09 16.8 +1.6
comp=Z,4.9nm,0.5s,mb4.6
TIXI Tiksi 46.12 2 i P P 03 09 18.8 -3.4
WRAB Tennant Creek 46.12 168 eP P 03 09 21.8 -0.9
comp=Z,22nm,1.1s,mb5.0
WRAB Tennant Creek 46.12 168|| eP P 03 09 23.7 +1.0
WRA Warramunga Arr 46.13 168 P P 03 09 23.4 +0.6
comp=Z,8.9nm,0.8s,mb4.8,baz=350,slow=8.8,SNR=41
WRA LR LR 03 27 59.9
comp=Z,1μm,20.5s,MS4.8,baz=160,slow=35
WB2 Warramunga Arr 46.13 168 eP P 03 09 23.4 +0.6
MBWA Marble Bar 46.79 187 eP P 03 09 28.0 0.0
comp=Z,8.7nm,0.7s,mb4.8
KK31 Karatay Array 47.59 306 i P P 03 09 33.6 -0.5
KK31 pmax pmax
comp=Z,6.0nm,0.7s,mb4.7
KBL Kabul 48.92 294 eP P 03 09 45.7 +1.3
comp=Z,80nm,1.5s,mb5.5
BVAR Borovoye Array 48.97 319 P P 03 09 44.3 -0.3
comp=Z,5.4nm,0.7s,mb4.7,baz=112,slow=9.2,SNR=22
BRVK Borovoye 49.04 319 eP P 03 09 45.2 +0.1
BILL Bilibino 49.12 19 eP P 03 09 41.7 -3.8
BILL e 03 11 09.0
BILL pmax pmax
comp=Z,3.0nm,1.6s,mb4.1
ASAR Alice Springs 49.69 170 P P 03 09 51.1 +0.8
comp=Z,4.8nm,0.6s,mb4.7,baz=354,slow=8.5,SNR=49
ZRNK Zerenda 49.78 319 i P P 03 09 50.1 -0.6
SVE Sverdlovsk 55.12 323 eP P 03 10 30.6 +0.3
SVE pmax pmax
comp=Z,62nm,1.5s,mb5.4
NIKO Nikolski 55.58 42 eP P 03 10 31.4 -2.2
comp=Z,364nm,1.3s
FORT Forrest 56.13 177 eP P 03 10 38.9 +1.2
comp=Z,11nm,0.6s,mb5.1
ARU Arti 56.23 322 eP P 03 10 37.9 -0.3
comp=Z,7.5nm,0.4s,mb5.1
ARU Arti 56.23 322 c iP P 03 10 37.8 -0.4
ARU e 03 12 38.0
ARU eS S 03 18 25.5 -0.1
ARU eSS SS 03 22 03.9 -8.2
ARU eSSS 03 24 20.4
ARU pmax pmax
comp=Z,41nm,1.7s,mb5.2
AKTK Aktyubinsk 56.37 315 P P 03 10 38.6 -0.7
AKTO Aktyubinsk 56.37 315 P P 03 10 38.6 -0.7
comp=Z,1.3nm,0.5s,mb4.2,baz=32,slow=3.7,SNR=6.1
KLBR Kellerberrin 57.33 188 eP P 03 10 47.4 +1.2
comp=Z,25nm,0.8s,mb5.3
NWAO Narrogin (SRO) 58.71 188 P P 03 10 57.5 +1.6
baz=359,slow=9.7
STKA Stephens Creek 59.25 164 eP P 03 11 01.2 +1.5
comp=Z,3.1nm,0.7s,mb4.5
STKA Stephens Creek 59.25 164 P P 03 11 00.0 +0.4
comp=Z,3.5nm,0.8s,mb4.5,baz=348,slow=7.6,SNR=6.7
STKA LR LR 03 34 40.1
comp=Z,1μm,18.9s,MS5.1,baz=278,slow=34
IMA2 Indian Mountai 63.28 27 eP P 03 11 26.9 +0.4
MCK McKinley 65.53 29 eP P 03 11 41.5 +0.2
comp=Z,26nm,1.2s,mb5.1
MCK McKinley 65.53 29 eP P 03 11 41.5 +0.2
MCK pmax pmax
comp=Z,26nm,1.2s,mb5.1
COLA College 65.82 28 eP P 03 11 43.2 0.0
comp=Z,5.7nm,0.8s,mb4.7
COLA College 65.82 28 eP P 03 11 43.2 0.0
COLA pmax pmax
comp=Z,6.0nm,0.8s,mb4.7
TMCR Tamitsa 66.07 331 eP P 03 11 43.7 -1.1
ONI Oni 67.36 308 P P 03 11 54.6 +1.1
KIV Kislovodsk 67.56 309 eP P 03 11 56.1 +1.4
KIV Kislovodsk 67.56 309 eP P 03 11 55.7 +1.0
KIV i 03 12 22.2
KIV pmax pmax
comp=Z,53nm,1.7s,mb5.3
MOS Moscow 67.94 322 eP P 03 11 56.9 +0.1
MOS pmax pmax
comp=Z,57nm,1.2s,mb5.5
EGAK Eagle 68.64 27 eP P 03 12 01.1 0.0
OBN Obninsk 68.67 322 i P P 03 12 03.1 +1.7
OBN i 03 12 27.1
OBN pmax pmax
comp=Z,41nm,1.3s,mb5.2
KEV Kevo 69.03 338 ep P 03 12 01.6 -1.8
comp=Z,8.6nm,0.8s,mb4.7
KEV Kevo 69.03 338 eP P 03 12 01.6 -1.8
KEV pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
JOF Joensuu 69.28 331 ep P 03 12 03.7 -1.4
DAWY Dawson 69.58 28 eP P 03 12 07.2 +0.3
ARCES ARCESS Array B 69.60 338 P P 03 12 06.3 -0.6
comp=Z,7.5nm,1.2s,mb4.5,baz=70,slow=7.2,SNR=9.3
INK Inuvik 70.51 23 eP P 03 12 11.9 -0.6
comp=Z,212nm,0.9s
INK Inuvik 70.51 23 eP P 03 12 11.9 -0.6
INK pmax pmax
comp=Z,212nm,0.9s
KAF Kangasniemi 71.74 331 ep P 03 12 16.0 -4.1
FINES FINESS Array B 72.07 330 i P P 03 12 23.2 +1.1
FINES pmax pmax
comp=Z,1.0nm,0.4s
FINES FINESS Array B 72.07 330 P P 03 12 20.6 -1.5
comp=Z,1.4nm,0.4s,mb4.2,baz=70,slow=6.5,SNR=18
MALT Malatya 72.26 304 eP P 03 12 24.4 +0.8
comp=Z,24nm,1.4s,mb4.9
MALT Malatya 72.26 304 eP P 03 12 24.4 +0.8
MALT pmax pmax
comp=Z,24nm,1.4s,mb4.9
SKAG Skagway 72.90 32 eP P 03 12 28.1 +1.1
comp=Z,31nm,1.4s,mb5.0
AKASG Malin Array Be 74.25 319 i P P 03 12 33.7 -1.4
AKASG pmax pmax
comp=Z,6.0nm,0.8s
AKASG Malin Array Be 74.25 319 P P 03 12 33.2 -1.9
comp=Z,5.7nm,0.8s,mb4.5,baz=57,slow=6.2,SNR=12
AKBB Malin Array Si 74.25 319 eP P 03 12 34.1 -1.1
DLBC Dease Lake 75.83 32 eP P 03 12 45.6 +1.6
RES Resolute Bay 76.65 10 eP P 03 12 47.9 -0.6
CSS Prodhromos 77.27 303 eP P 03 12 54.0 +1.3
comp=Z,15nm,1.0s,mb4.9
NB2 NORSAR Subarra 78.67 333 P P 03 12 58.5 -1.5
comp=Z,1.5nm,0.7s,mb4.0,baz=55,slow=5.6
NOA NORSAR Array B 78.67 333 P P 03 12 58.0 -2.0
NOA LR LR 03 51 43.6
NOA NORSAR Array B 78.67 333 P P 03 12 58.0 -2.0
comp=Z,4.1nm,1.0s,mb4.3,baz=54,slow=5.6,SNR=5.8
NOA LR LR 03 51 43.6
comp=Z,2μm,18.5s,MS5.5,baz=40,slow=39
KOLS Kolonicke sedl 79.08 319 i P P 03 12 55.3 -7.2
UZH Uzhgorod 79.20 319 eP P 03 13 02.0 -1.2
STHS Stebnicka Huta 79.47 320 eP P 03 13 01.5 -3.1
comp=Z,1.5nm,0.9s,mb3.9
STHS Stebnicka Huta 79.47 320 eP P 03 13 01.5 -3.1
STHS pmax pmax
comp=Z,2.0nm,0.9s,mb4.0
CRVS Cervenica-Dubn 79.57 319 eP P 03 13 05.9 +0.7
CRVS Cervenica-Dubn 79.57 319 eP P 03 13 05.8 +0.6
YKW3 Yellowknife Ar 80.16 24 eP P 03 13 07.9 -0.2
YKA Yellowknife Ar 80.20 24 P P 03 13 08.2 -0.1
YKA PKKPbc PKKPbc 03 31 50.6 -1.8
YKA Yellowknife Ar 80.20 24 P P 03 13 08.2 -0.1
comp=Z,6.3nm,0.7s,mb4.7,baz=302,slow=5.4,SNR=159
YKA PKKPbc PKKPbc 03 31 50.6 -1.8
comp=Z,0.1nm,0.4s,baz=131,slow=2.5,SNR=12
VYHS Vyhne 81.30 320 i P P 03 13 14.5 0.0
comp=Z,22nm,2.8s,mb4.6
VYHS Vyhne 81.30 320 i P P 03 13 14.5 0.0
VYHS pmax pmax
comp=Z,22nm,2.8s,mb4.6
MORC Moravsky Berou 81.42 321 eP P 03 13 14.9 -0.1
comp=Z,8.1nm,1.3s,mb4.5
MORC Moravsky Berou 81.42 321 eP P 03 13 15.0 0.0
MORC pmax pmax
comp=Z,8.0nm,1.3s,mb4.5
DPC Dobruska-Polom 81.81 322 eP P 03 13 17.3 +0.2
TREC Trest 82.82 322 eP P 03 13 24.4 +2.0
PRU Pruhonice 82.98 323 eP P 03 13 25.7 +2.5
CLL Collm 83.11 324 i P P 03 13 24.4 +0.5
CLL pmax pmax
comp=Z,16nm,1.5s,mb4.8
CLL Collm 83.11 324 i P P 03 13 24.4 +0.5
comp=Z,16nm,1.5s,mb4.8
CONA Conrad Observa 83.31 320⇑ i pP P 03 13 25.6 +0.7
comp=Z,13nm,1.6s,mb4.7
KHC Kasperske Hory 83.97 322 eP P 03 13 30.8 +2.5
GERES GERESS Array B 84.05 322 P P 03 13 28.0 -0.8
comp=Z,1.8nm,1.0s,mb4.2,baz=47,slow=5.9,SNR=6.9
GVD Gavdhos 84.22 306 eP P 03 13 28.6 -1.4
comp=Z,5.4nm,0.6s,mb4.8
BOJS Bojanci 84.93 318 i P P 03 13 32.9 -0.4
VNDS Vrh nad Dolski 84.94 319 i P P 03 13 33.0 -0.3
GRA1 Grafenberg Arr 84.95 323 eP P 03 13 33.7 +0.4
comp=Z,14nm,1.6s,mb4.8
GRF Grafenberg Arr 84.95 323 eP P 03 13 33.7 +0.4
GRF pmax pmax
comp=Z,14nm,1.6s,mb4.8
GRF Grafenberg Arr 84.95 323 eP P 03 13 33.7 +0.4
GRF pmax pmax
comp=Z,14nm,1.6s,mb4.8
GRF Grafenberg Arr 84.95 323 eP P 03 13 33.7 +0.4
comp=Z,14nm,1.6s,mb4.8
JAVS Javornik 85.43 319 eP P 03 13 35.5 -0.3
EDM Edmonton 86.53 31 eP P 03 13 41.7 +0.7
DAVA Damuels 87.05 322⇑ i P P 03 13 44.6 +0.9
comp=Z,9.2nm,1.3s,mb4.9
DAVA Damuels 87.05 322⇑ i PcP P 03 13 44.6 +0.9
comp=Z,9.2nm,1.3s,mb4.9
NEW Newport 87.71 36 eP P 03 13 47.1 +0.3
comp=Z,2.3nm,0.8s,mb4.5
NEW Newport 87.71 36 eP P 03 13 47.1 +0.2
NEW pmax pmax
comp=Z,2.0nm,0.8s
CDF Champ du Feu 87.80 324 eP P 03 13 46.5 -0.8
KMBO Kilima Mbogo 88.67 268 eP P 03 13 52.3 +0.2
comp=Z,1.9nm,0.8s,mb4.5
KMBO Kilima Mbogo 88.67 268 eP P 03 13 52.3 +0.2
KMBO pmax pmax
comp=Z,2.0nm,0.8s
CABF La Chapelle 89.54 323 eP P 03 13 54.6 -0.9
FCC Fort Churchill 89.83 19 eP P 03 13 56.4 -0.3
comp=Z,11nm,1.1s,mb5.1
FCC Fort Churchill 89.83 19 eP P 03 13 56.4 -0.3
FCC pmax pmax
comp=Z,11nm,1.1s,mb5.1
LPL La Plagne 89.85 322 eP P 03 13 56.6 -0.4
LPG La Plagne 89.86 322 eP P 03 13 56.7 -0.3
comp=Z,17nm,1.2s,mb4.9
LPG La Plagne 89.86 322 eP P 03 13 56.7 -0.3
comp=Z,8.6nm,1.2s,mb5.0
LPG La Plagne 89.86 322 eP P 03 13 56.7 -0.3
LPG pmax pmax
comp=Z,9.0nm,1.2s,mb5.0
BNI Bardonecchia 90.17 322 eP P 03 13 58.3 -0.2
comp=Z,9.4nm,1.3s,mb5.0
BNI Bardonecchia 90.17 322 eP P 03 13 58.3 -0.2
BNI pmax pmax
comp=Z,9.0nm,1.3s,mb4.9
MBDF Montbardon 90.31 321 eP P 03 13 58.2 -1.0
PGF Pioggiola 90.32 318 eP P 03 13 58.6 -0.7
comp=Z,9.2nm,1.0s,mb4.8
PGF Pioggiola 90.32 318 eP P 03 13 58.6 -0.7
comp=Z,4.6nm,1.0s,mb4.8
PGF Pioggiola 90.32 318 eP P 03 13 58.6 -0.7
PGF pmax pmax
comp=Z,5.0nm,1.0s,mb4.8
LOR Lormes 90.32 324 eP P 03 13 57.8 -1.4
FFC Flin Flon 90.32 25 eP P 03 13 58.8 -0.2
comp=Z,23nm,1.1s,mb5.4
FFC Flin Flon 90.32 25 eP P 03 13 58.8 -0.2
FFC pmax pmax
comp=Z,23nm,1.1s,mb5.4
SBF Sospel 90.46 320 eP P 03 13 58.7 -1.2
comp=Z,20nm,0.9s,mb5.2
SBF Sospel 90.46 320 eP P 03 13 58.7 -1.2
comp=Z,10.0nm,0.9s,mb5.2
SBF Sospel 90.46 320 eP P 03 13 58.7 -1.2
SBF pmax pmax
comp=Z,10.0nm,0.9s,mb5.2
ORIF Oris-en-Rattie 90.70 322 eP P 03 13 59.9 -1.1
comp=Z,12nm,1.1s,mb4.8
ORIF Oris-en-Rattie 90.70 322 eP P 03 13 59.9 -1.1
comp=Z,5.9nm,1.1s,mb4.8
ORIF Oris-en-Rattie 90.70 322 eP P 03 13 59.9 -1.1
ORIF pmax pmax
comp=Z,6.0nm,1.1s,mb4.8
FRF La Foret Royal 91.09 320 eP P 03 14 01.7 -1.2
comp=Z,16nm,1.1s,mb4.9
FRF La Foret Royal 91.09 320 eP P 03 14 01.7 -1.2
comp=Z,7.8nm,1.1s,mb5.0
FRF La Foret Royal 91.09 320 eP P 03 14 01.7 -1.2
FRF pmax pmax
comp=Z,8.0nm,1.1s,mb5.0
LMR La Mourre 91.31 320 eP P 03 14 02.9 -1.0
comp=Z,34nm,1.3s,mb5.2
LMR La Mourre 91.31 320 eP P 03 14 02.9 -1.0
comp=Z,17nm,1.3s,mb5.2
LMR La Mourre 91.31 320 eP P 03 14 02.9 -1.0
LMR pmax pmax
comp=Z,17nm,1.3s,mb5.2
VIVF Saint-Julien-l 91.41 322 eP P 03 14 03.2 -1.1
SMRF Simiane la Rot 91.45 321 eP P 03 14 03.8 -0.7
comp=Z,20nm,1.2s,mb5.0
SMRF Simiane la Rot 91.45 321 eP P 03 14 03.8 -0.7
comp=Z,20nm,1.2s,mb5.3
HLID Hailey 92.08 39 eP P 03 14 09.1 +1.6
comp=Z,4.8nm,0.9s,mb4.8
BOZ Bozeman (W) 92.28 36 eP P 03 14 09.4 +1.1
comp=Z,1.0nm,0.6s,mb4.3
BOZ Bozeman (W) 92.28 36 eP P 03 14 09.4 +1.1
BOZ pmax pmax
comp=Z,1.0nm,0.6s,mb4.3
LASF Ste Croix 92.35 322 eP P 03 14 07.4 -1.3
RJF Les Rejaudoux 92.83 324 eP P 03 14 09.6 -1.2
comp=Z,25nm,1.5s,mb5.1
RJF Les Rejaudoux 92.83 324 eP P 03 14 09.6 -1.2
comp=Z,13nm,1.5s,mb5.1
RJF Les Rejaudoux 92.83 324 eP P 03 14 09.6 -1.2
RJF pmax pmax
comp=Z,13nm,1.5s,mb5.1
NVAR Mina Array Bea 92.85 45 P P 03 14 12.1 +0.9
comp=Z,0.5nm,0.6s,mb4.1,baz=292,slow=5.2,SNR=5.1
ROSF Rostrenen 93.16 328 eP P 03 14 10.2 -2.1
comp=Z,17nm,1.2s,mb5.0
ROSF Rostrenen 93.16 328 eP P 03 14 10.2 -2.1
comp=Z,8.5nm,1.2s,mb5.0
ROSF Rostrenen 93.16 328 eP P 03 14 10.2 -2.1
ROSF pmax pmax
comp=Z,9.0nm,1.2s,mb5.1
MTLF Montolieu 93.73 322 eP P 03 14 13.5 -1.6
TPAW Teton Pass 94.06 37 eP P 03 14 16.9 +0.4
comp=Z,2.8nm,1.0s,mb4.7
HWUT Hardware Ranch 94.95 39 eP P 03 14 22.2 +1.6
comp=Z,1.8nm,0.8s,mb4.5
PDAR Pinedale Array 95.30 37 P P 03 14 22.6 +0.3
comp=Z,0.2nm,0.8s,mb3.6,baz=286,slow=3.7,SNR=3.2
ULM Lac du Bonnet 96.15 25 eP P 03 14 25.5 -0.4
comp=Z,1.0nm,0.5s,mb4.5
ULM Lac du Bonnet 96.15 25 P P 03 14 25.0 -0.9
comp=Z,1.8nm,0.8s,mb4.5,baz=327,slow=6.7,SNR=4.4
ESDC Sonseca Array 99.63 323 LR LR 04 06 15.6
comp=Z,1μm,19.1s,MS5.4,baz=90,slow=39
TORD Torodi Ar. Bea 112.89 298 PKiKP PKiKP 03 19 36.5 +0.7
comp=Z,0.6nm,0.9s,baz=42,slow=1.8,SNR=6.3
TORD PP PP 03 20 26.6 +2.7
comp=Z,1.3nm,1.1s,baz=50,slow=7.6,SNR=5.7
DBIC Dimbokro 121.88 297 ePKPdf PKPdf 03 19 53.0 -0.2
DBIC Dimbokro 121.88 297 PKP PKPdf 03 19 52.3 -0.9
comp=Z,0.8nm,0.4s,baz=112,slow=1.6,SNR=7.0
SDV Santo Domingo 142.39 26 ePKPdf PKPdf 03 20 27.1 -4.5
ROSC El Rosal 144.25 35 ePKPdf PKPdf 03 20 37.9 +3.0
ROSC El Rosal 144.25 35 PKP PKPdf 03 20 37.2 +2.3
comp=Z,4.0nm,0.5s,baz=298,slow=7.9,SNR=4.7
LPAZ La Paz 164.45 56 ePKPdf PKPdf 03 21 04.2 +1.7

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*NEIC **20** 03:05:01.3, 3354S×7190W, h15km, ML3.2(GUC), After GUC.*

GUC 20 03:05:01.3±0.7, 3354S×7190W, h15km±10km, MD3.7, ML3.2, 8C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
LCCH	**Las Cruces**	**0.28**	**77**	eP		Pg	03 05 07.6	+0.3
IHA	**Instituto Hidr**	**0.55**	**23⇑**	iP		Pg	03 05 11.6	-0.6
IHA				i S		Sg	03 05 19.6	0.0
TACH	**Talagante**	**0.81**	**98⇑**	iP		Pg	03 05 15.8	-1.3
TACH				i S		Sg	03 05 26.8	-0.9
RCDM	**Rinconada Maip**	**0.91**	**87||**	iP		Pb	03 05 17.5	-1.3
RCDM				i S		Sb	03 05 29.5	-1.3
RCDM	**Rinconada Maip**	**0.91**	**87||**	iP		Pb	03 05 17.5	-1.3
RCDM				i S		Sb	03 05 29.5	-1.3
RCDM				AML		AML	03 05 30.7	
	comp=N,1μm,0.1s							
STL	**Santa Lucia**	**1.06**	**85⇑**	iP		Pb	03 05 20.1	-1.1
STL				i S		Sb	03 05 34.1	-0.8
PEL	**Peldehue**	**1.09**	**69**	i P		Pb	03 05 20.4	-1.5
PEL				eS		Sb	03 05 35.1	-0.7
PEL				AML		AML	03 05 40.1	
	comp=N,1μm,0.6s							
CLCH	**Cerro Calan**	**1.15**	**83⇑**	iP		Pn	03 05 21.7	-1.0
CLCH				i S		Sb	03 05 37.1	-0.4
CLCH				AML		AML	03 05 44.8	
	comp=E,576nm,0.5s							
PCH	**Pirque**	**1.16**	**95**	i P		Pn	03 05 21.7	-1.2
PCH				i S		Sb	03 05 37.1	-0.7
SJCH	**San Jose de Ma**	**1.29**	**95**	i P		Pn	03 05 23.2	-1.6
SJCH				i S		Sb	03 05 40.4	-1.4
FCH	**Farellones**	**1.36**	**82⇑**	eP		Pn	03 05 25.4	-0.4
FCH				i S		Sn	03 05 43.7	+0.3
FCH				AML		AML	03 05 48.6	
	comp=N,477nm,0.4s							
JACH	**Jahuel**	**1.39**	**52⇑**	iP		Pn	03 05 25.4	-0.7
JACH				i S		Sn	03 05 43.5	-0.7

LMEL	**Las Melosas**	**1.45**	**103**	⇑*i*P	Pn	03 05 26.0	-0.9
LMEL				*i*S	Sn	03 05 45.7	+0.1
LMEL	**Las Melosas**	**1.45**	**103**	⇑*i*P	Pn	03 05 26.0	-0.9
LMEL				*i*S	Sn	03 05 45.7	+0.1
LMEL				AML	AML	03 05 51.4	
	comp=N,351nm,0.2s						
CMCH	**Combarbala**	**2.48**	**18**	*i*P	Pn	03 05 43.5	+2.4
CMCH				*i*S	Sn	03 06 15.0	+4.0
CMCH	**Combarbala**	**2.48**	**18**	*i*P	Pn	03 05 43.5	+2.4
CMCH				*i*S	Sn	03 06 15.0	+4.0
CMCH				AML	AML	03 06 21.5	
	comp=N,695nm,0.7s						
TLL	**Tololo Astrono**	**3.49**	**16**	AML	AML	03 06 58.0	
	comp=N,55nm,0.4s						

*ISCJB **20** 03:09:19.0±3.7, 2181N±009×1430E±01, h79km±32km, mb4.1/20, Error ellipse: s-maj=22.1km s-min=14.9km az=169.7*
*NEIC **20** 03:09:19.9±2.2, 2185N×14307E, h72km±19km, mb4.4/6, Error ellipse: s-maj=12.6km s-min=8.7km az=80.0*
*IDC **20** 03:09:20.3±6.0, 2184N×14306E, h77km±54km, mb3.7/15, mb1 3.9/16, mb1mx3.8/24, mbtmp3.7/16, ML3.6/1, Error ellipse: s-maj=26.4km s-min=13.9km az=80.0*

ISC 20 03:09:20.5±3.3, 2183N±009×**1431E**±01**, h77**km±29km**, n29,** σ0°**65/27, mb4.0**/20**, Mariana Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**15.26**	**345**	P	**Pn**	**03 12 51.0**	**-0.5**
	0.2nm,0.3s,baz=165,slow=13,SNR=4.7						
KSRS	**Korea Array**	**20.36**	**323**	P	**P**	**03 13 52.2**	**+1.5**
	3.4nm,0.6s,baz=142,slow=8.8,SNR=8.2						
SONM	**Songino Array**	**39.19**	**320**	P	**P**	**03 16 39.4**	**-1.4**
	2.7nm,0.6s,mb4.2,baz=129,slow=9.1,SNR=13						
WRA	**Warramunga Arr**	**42.39**	**192**	P	**P**	**03 17 07.0**	**-0.5**
	2.0nm,1.0s,mb3.8,baz=15,slow=9.0,SNR=8.9						
ASAR	**Alice Springs**	**46.10**	**192**	P	**P**	**03 17 37.0**	**0.0**
	1.0nm,0.6s,mb3.7,baz=16,slow=9.6,SNR=18						
STKA	**Stephens Creek**	**53.42**	**182**	*e*P	**P**	**03 18 33.3**	**+0.8**
STKA	**Stephens Creek**	**53.42**	**182**	P	**P**	**03 18 32.3**	**-0.2**
	2.0nm,0.7s,mb4.2,baz=23,slow=5.6,SNR=6.4						
ZALV	**Zalesovo Beam**	**54.06**	**322**	P	**P**	**03 18 36.5**	**-0.3**
	3.3nm,0.7s,mb4.5,baz=103,slow=6.5,SNR=16						
MK31	**Makanchi Array**	**54.55**	**313**	*e*P	**P**	**03 18 41.0**	**+0.4**
MKAR	**Makanchi Array**	**54.55**	**313**	P	**P**	**03 18 40.3**	**-0.3**
	0.8nm,0.5s,mb4.0,baz=95,slow=8.4,SNR=11						
KURK	**Kurchatov**	**57.32**	**317**	*e*P	**P**	**03 19 00.3**	**-0.1**
	8.1nm,1.4s,mb4.6						
TKM2	**Tokmak 2**	**59.20**	**308**	*e*P	**P**	**03 19 14.6**	**+1.0**
	1.8nm,0.7s,mb4.2						
AAK	**Ala-Archa**	**60.02**	**308**	*e*P	**P**	**03 19 19.1**	**-0.2**
	1.4nm,0.6s,mb4.2						
EKS2	**Erkin-Say**	**60.55**	**308**	*e*P	**P**	**03 19 23.5**	**+0.6**
	1.5nm,0.5s,mb4.3						
BVAR	**Borovoye Array**	**62.52**	**319**	P	**P**	**03 19 36.3**	**+0.4**
	3.9nm,0.6s,mb4.5,baz=90,slow=7.4,SNR=19						
BRVK	**Borovoye**	**62.58**	**319**	*e*P	**P**	**03 19 36.5**	**+0.1**
	4.1nm,0.8s,mb4.4						
INK	**Inuvik**	**67.48**	**24**	P	**P**	**03 20 07.2**	**-0.6**
	1.2nm,0.9s,mb3.7,baz=291,slow=9.5,SNR=3.3						
AKTK	**Aktyubinsk**	**70.42**	**317**	P	**P**	**03 20 26.1**	**-0.2**
AKTO	**Aktyubinsk**	**70.42**	**317**	P	**P**	**03 20 26.1**	**-0.2**
	1.2nm,0.8s,mb3.8,baz=116,slow=8.8,SNR=5.2						
YKA	**Yellowknife Ar**	**76.37**	**28**	P	**P**	**03 21 01.2**	**+0.1**
	0.8nm,0.4s,mb3.8,baz=293,slow=5.9,SNR=34						
RES	**Resolute Bay**	**76.96**	**13**	*e*P	**P**	**03 21 04.5**	**+0.2**
ARCES	**ARCESS Array B**	**78.77**	**341**	P	**P**	**03 21 14.6**	**+0.2**
	3.0nm,0.9s,mb4.1,baz=50,slow=9.7,SNR=3.7						
NVAR	**Mina Array Bea**	**83.12**	**51**	P	**P**	**03 21 38.6**	**+0.5**
	0.8nm,0.8s,mb3.6,baz=267,slow=8.3,SNR=6.0						
FFC	**Flin Flon**	**85.75**	**32**	*e*P	**P**	**03 21 51.7**	**+0.6**
	4.0nm,0.8s,mb4.4						
AKASG	**Malin Array Be**	**87.35**	**324**	P	**P**	**03 21 57.2**	**-1.7**
AKASG	**Malin Array Be**	**87.35**	**324**	P	**P**	**03 21 57.2**	**-1.7**
	0.5nm,0.5s,mb3.7,baz=53,slow=4.8,SNR=5.9						
PDAR	**Pinedale Array**	**87.35**	**45**	P	**P**	**03 21 59.0**	**-0.1**
	0.3nm,0.8s,mb3.3,baz=268,slow=2.7,SNR=2.3						
TORD	**Torodi Ar. Bea**	**128.60**	**309**	PKP	PKPdf	03 28 19.4	-0.2
	0.6nm,1.1s,baz=25,slow=1.8,SNR=5.3						
LPAZ	**La Paz**	**150.00**	**85**	PKPbc	PKPbc	03 29 04.4	+1.5
	1.6nm,0.9s,baz=51,slow=7.3,SNR=3.8						

*IDC **20** 03:13:09.8±1.4, 1007N×9344E, h0km, mb3.8/7, mb1 3.9/7, mb1mx3.7/20, mbtmp3.8/7, MS4.2/1, Ms1 4.2/1, ms1mx3.8/39, Error ellipse: s-maj=67.3km s-min=20.4km az=58.0*
*NEIC **20** 03:13:14.6±0.9, 1012N×9354E, h30km, mb4.2/2, Error ellipse: s-maj=40.9km s-min=12.3km az=57.0*
*ISCJB **20** 03:13:28.3±6.2, 103N±02×938E±03, h171km±59km, mb3.6/9, Error ellipse: s-maj=61.7km s-min=20.1km az=142.9*

ISC 20 03:13:31.8±4.3**, 103N**±02×**938E**±03**, h186**km±41km**, n18,** σ0°**52/17, mb3.6**/9**, Andaman Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**9.02**	**146**	LR	LR	03 19 34.9	
	comp=Z,1μm,18.1s,baz=1,6,slow=42						
JIRN	**Jiri**	**18.69**	**338**	*e*P	**P**	**03 17 36.4**	**+0.3**
	7.0nm,0.2s						
PKI	**Pulchoki**	**18.91**	**336**	*e*P	**P**	**03 17 38.2**	**-0.2**
GUN	**Gumba**	**19.04**	**338**	*e*P	**P**	**03 17 39.3**	**-0.5**
	18nm,0.5s						
DMN	**Daman**	**19.06**	**336**	*e*P	**P**	**03 17 40.3**	**+0.2**
KKN	**Kakani**	**19.16**	**336**	*e*P	**P**	**03 17 41.1**	**0.0**
	16nm,0.5s						
GKN	**Gorkha**	**19.61**	**335**	*e*P	**P**	**03 17 46.2**	**+0.3**
	28nm,0.3s						
KOLN	**Koldanda**	**19.85**	**332**	*e*P	**P**	**03 17 48.9**	**+0.3**
	48nm,0.7s						
AAK	**Ala-Archa**	**36.36**	**336**	*e*P	**P**	**03 20 17.3**	**-0.7**
	3.4nm,1.0s,mb3.9						
MKAR	**Makanchi Array**	**37.66**	**347**	P	**P**	**03 20 27.6**	**-1.2**
	0.2nm,0.2s,mb3.3,baz=186,slow=7.2,SNR=2.5						
SONM	**Songino Array**	**38.87**	**14**	P	**P**	**03 20 39.2**	**+0.3**
	0.6nm,0.9s,mb3.2,baz=203,slow=11,SNR=3.7						
ZALV	**Zalesovo Beam**	**44.11**	**352**	P	**P**	**03 21 22.3**	**+0.9**
ZALV	**Zalesovo Beam**	**44.11**	**352**	P	**P**	**03 21 22.3**	**+0.9**
	1.8nm,0.7s,mb3.8,baz=178,slow=9.7,SNR=8.6						
BRVK	**Borovoye**	**46.66**	**341**	*e*P	**P**	**03 21 40.7**	**-0.7**
	2.7nm,0.9s,mb3.9						
WRA	**Warramunga Arr**	**49.94**	**127**	P	**P**	**03 22 06.8**	**-0.2**
	0.2nm,0.4s,mb3.1,baz=307,slow=8.4,SNR=7.4						
ASAR	**Alice Springs**	**51.73**	**131**	P	**P**	**03 22 20.4**	**+0.1**
	0.5nm,0.7s,mb3.3,baz=306,slow=7.2,SNR=7.0						
ARCES	**ARCESS Array B**	**72.88**	**340**	P	**P**	**03 24 40.5**	**+0.5**
	7.4nm,1.1s,mb4.3,baz=98,slow=7.3,SNR=9.8						
GERES	**GERESS Array B**	**75.82**	**318**	P	**P**	**03 24 57.8**	**+0.4**
	0.7nm,0.7s,mb3.4,baz=73,slow=3.3,SNR=4.6						

*ISCJB **20** 03:18:49.4±0.7, 74S±02×137W±02, h10km, mb4.0/8, Error ellipse: s-maj=28.3km s-min=13.5km az=135.3*
*NEIC **20** 03:18:50.1±0.7, 749S×1379W, h10km, mb4.3/1, Error ellipse: s-maj=24.8km s-min=12.6km az=137.0*
*IDC **20** 03:18:50.7±1.9, 744S×1326W, h0km, mb3.9/7, mb1 4.1/7, mb1mx3.8/21, mbtmp3.9/7, Error ellipse: s-maj=81.3km s-min=23.0km az=141.0*

ISC 20 03:18:50.6±0.8**, 75S**±02×**137W**±02**, h10**km**, n11,** σ1°**04/11, mb4.0**/8**, Ascension Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASCN	**Ascension**	**0.75**	**235**	*e*Pn	**Pn**	**03 19 05.8**	**-1.3**
TOA0	**Torodi Ar. Sit**	**25.61**	**37**	*e*P	**P**	**03 24 19.4**	**-1.0**
TORD	**Torodi Ar. Bea**	**25.61**	**37**	P	**P**	**03 24 19.3**	**-1.0**
	2.2nm,0.8s,mb3.7,baz=222,slow=7.0,SNR=15						
BOSA	**Boshof**	**42.32**	**125**	*e*P	**P**	**03 26 45.4**	**+0.5**
	5.8nm,1.0s,mb4.2						
PLCA	**Paso Flores**	**60.21**	**227**	P	**P**	**03 29 03.6**	**+4.6**
	1.3nm,0.8s,mb4.0,baz=117,slow=4.5,SNR=2.9						
GERES	**GERESS Array B**	**61.06**	**20**	P	**P**	**03 29 05.3**	**+0.8**
	0.8nm,0.7s,mb4.0,baz=204,slow=9.2,SNR=5.1						
ROSC	**El Rosal**	**61.69**	**280**	*e*P	**P**	**03 29 09.3**	**-0.2**
ROSC	**El Rosal**	**61.69**	**280**	P	**P**	**03 29 14.8**	**+5.3**
	1.6nm,0.4s,mb4.5,baz=36,slow=5.2,SNR=3.2						
AKASG	**Malin Array Be**	**68.82**	**28**	P	**P**	**03 29 54.6**	**-0.4**
	0.4nm,0.5s,mb3.6,baz=226,slow=6.3,SNR=3.5						
FINES	**FINESS Array B**	**75.40**	**19**	P	**P**	**03 30 34.8**	**+0.6**
	1.7nm,0.7s,mb4.1,baz=199,slow=4.0,SNR=3.8						
TXAR	**Lajitas Array**	**93.56**	**299**	P	**P**	**03 32 10.6**	**+3.2**
	0.1nm,0.4s,mb3.6,baz=91,slow=7.2,SNR=2.5						

*IDC **20** 03:21:01.5±5.9, 2476N×12502E, h0km, mb3.6/4, mb1 3.7/5, mb1mx3.5/18, mbtmp3.6/5, ML3.3/1, Error ellipse: s-maj=134.2km s-min=34.1km az=2.0*
*ISCJB **20** 03:21:05.9±2.2, 2569N±004×12502E±009, h1km±14km, mb3.5/4, Error ellipse: s-maj=13.4km s-min=6.4km az=15.8*
*JMA **20** 03:21:07.9±0.2, 2569N×12506E, h21km±4km, M3.3*

ISC 20 03:21:07.4±1.6**, 2566N**±006×**12502E**±009**, h4**km±11km**, n12,** σ0°**80/16, mb3.4**/4**, Southwestern Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMJ	**Miyako jima 2**	**0.88**	**164**	P	**Pg**	**03 21 24.4**	**+0.1**
JMJ				*e*S	**Sg**	**03 21 35.9**	**+0.2**
JOGS	**Gusukube**	**0.96**	**159**	P	**Pg**	**03 21 25.6**	**-0.3**
JOGS				S	**Sg**	**03 21 38.8**	**+0.4**
JTJ	**Tarama**	**1.06**	**196**	P	**Pg**	**03 21 27.5**	**-0.2**
JTJ				*e*S	**Sg**	**03 21 41.5**	**0.0**
JIJ	**Ishigaki jima**	**1.52**	**212**	P	**Pn**	**03 21 34.8**	**-0.5**
JIJ				*e*S	**Sn**	**03 21 53.6**	**-2.0**
JKRS	**Kuro-shima**	**1.69**	**213**	*e*S	**Sn**	**03 22 00.1**	**+0.3**
IRIF	**Iriomote-Funau**	**1.77**	**222**	*e*S	**Sn**	**03 22 02.7**	**+1.0**
HATJ	**Hateruma jima**	**1.94**	**215**	*e*S	**Sn**	**03 22 06.6**	**+0.6**
JOW	**Kunigami**	**3.14**	**68**	Pn	**Pn**	**03 21 57.8**	**+0.1**
	4.6nm,0.3s,baz=259,slow=28,SNR=6.4						
SONM	**Songino Array**	**26.56**	**331**	P	**P**	**03 26 49.2**	**+3.0**
	0.7nm,0.8s,mb3.3,baz=152,slow=9.5,SNR=3.4						
MKAR	**Makanchi Array**	**39.79**	**313**	P	**P**	**03 28 41.4**	**0.0**
	0.3nm,0.4s,mb3.4,baz=95,slow=10,SNR=5.0						
ZALV	**Zalesovo Beam**	**40.99**	**324**	P	**P**	**03 28 50.5**	**-0.7**
	1.0nm,0.5s,mb3.7,baz=120,slow=8.8,SNR=6.1						
YKA	**Yellowknife Ar**	**80.23**	**24**	P	**P**	**03 33 18.6**	**-0.3**
	0.3nm,0.7s,mb3.3,baz=308,slow=5.0,SNR=9.0						

*IDC **20** 03:25:24.2±2.8, 3855N×11963W, h0km, mb2.8/1, mb1 3.3/2, mb1mx3.2/22, mbtmp2.9/2, ML3.7/1, Error ellipse: s-maj=30.0km s-min=11.6km az=29.0*

NEIC 20 03:25:26.6, 3867N×**11951W, h0**km**, ML3.6**(NCEDC)**, ML3.4**(REN)**, After REN., California-Nevada border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMB	**Columbia Colle**	**0.94**	**228**	*e*Pg	Pg	03 25 43.0	-1.6
CMB				*e*Sg	Sg	03 25 53.9	-2.8
NVAR	**Mina Array Bea**	**0.97**	**104**	Pg	Pg	03 25 44.6	-0.7
	341nm,0.3s,baz=274,slow=18,SNR=5404						
NVAR				Lg		03 25 58.1	
	242nm,0.3s,baz=55,slow=24,SNR=16						
MTUM	**Tungsten Hills**	**1.51**	**150**	*e*Pn	Pn	03 25 54.2	-0.7
MTUM				*e*Sg	Sg	03 26 12.5	-2.5
OHCM	**Honcut**	**1.68**	**294**	*e*Pn	Pn	03 25 56.1	-1.1
OHCM				*e*Sn	Sn	03 26 17.5	-2.0
NSHM	**Saint Helena R**	**2.43**	**268**	*e*Pn	Pn	03 26 07.6	-0.1
NSHM				*e*Sn	Sn	03 26 34.9	-3.2
NSHM				*e*Sg	Sg	03 26 40.7	-4.1
SAO	**San Andreas Ge**	**2.44**	**220**	*e*Pn	Pn	03 26 07.3	-0.5
SAO				*e*Sn	Sn	03 26 35.7	-2.6
SAO				*e*Sg	Sg	03 26 42.0	-3.2
HOPS	**Hopland**	**2.81**	**278**	*e*Pn	Pn	03 26 12.9	+0.2
HOPS				*e*Pg	Pg	03 26 17.9	-2.5
HOPS				*e*Sg	Sg	03 26 51.8	-4.9
WDC	**Whiskeytown Da**	**3.02**	**310**	*e*Pn	Pn	03 26 15.0	-0.8
WDC				*e*Sn	Sn	03 26 51.8	-0.9
WDC				*e*Sg	Sg	03 27 01.2	-2.6
TPNV	**Topopah Spring**	**3.10**	**123**	*e*Pn	Pn	03 26 16.1	-0.6
TPNV				*e*Pg	Pg	03 26 24.6	-1.3
TPNV				*e*Sn	Sn	03 26 54.1	-0.4
TPNV				*e*Sg	Sg	03 27 06.0	-0.1
ISA	**Isabella**	**3.11**	**164**	*e*Pn	Pn	03 26 16.5	-0.4
ISA				*e*Pb	Pb	03 26 21.5	-1.2
ISA				*e*Pg	Pg	03 26 24.8	-1.4
ISA				*e*Sg	Sg	03 27 01.5	-5.0
KIPM	**Iron Peak**	**3.29**	**292**	*e*Pg	Pg	03 26 26.2	-3.5
KIPM				*e*Sn	Sn	03 26 57.0	-2.2
MOD	**Modoc**	**3.29**	**350**	*e*Pg	Pg	03 26 28.3	-1.4
KCPM	**Cahto Peak**	**3.33**	**289**	*e*Pg	Pg	03 26 26.9	-3.6
KCPM				*e*Sn	Sn	03 26 58.2	-1.9
WVOR	**Wild Horse Val**	**3.82**	**10**	*e*Pg	Pg	03 26 36.8	-3.1
WVOR				*e*Sg	Sg	03 27 27.6	-1.9
YBH	**Yreka Blue Hor**	**3.92**	**322**	*e*Pn	Pn	03 26 28.5	+0.4
YBH				*e*Sg	Sg	03 27 28.2	-4.5
GSC	**Goldstone**	**3.99**	**146**	*e*Pn	Pn	03 26 28.1	-0.9
GSC				*e*Pg	Pg	03 26 41.2	-1.9
KRMB	**Red Mountain**	**4.42**	**312**	*e*Pn	Pn	03 26 34.2	-0.8
HUMO	**Hull Mountain**	**4.73**	**327**	*e*Pn	Pn	03 26 40.6	+1.4
ARUT	**Antelope Range**	**4.86**	**99**	*e*Pn	Pn	03 26 41.1	+0.2
ARUT				*e*Pg	Pg	03 26 56.3	-3.4
ARUT				*e*Sg	Sg	03 27 57.8	-4.8
CCUT	**Cedar City**	**4.97**	**101**	*e*Pn	Pn	03 26 42.4	-0.1
CCUT				*e*Pg	Pg	03 26 58.3	-3.6
CCUT				*e*Sb	Sb	03 27 53.6	-1.2
CCUT				*e*Sg	Sg	03 28 03.2	-3.2
DUG	**Dugway**	**5.40**	**71**	*e*Pn	Pn	03 26 47.6	-0.8
	9.6nm,0.6s						
DUG				*e*Pg	Pg	03 27 09.8	-0.4
DUG				*e*Sg	Sg	03 28 18.6	-1.5
BGU	**Big Grassy Mou**	**5.47**	**64**	*e*Pn	Pn	03 26 48.9	-0.5
BGU				*e*Pg	Pg	03 27 08.5	-3.0
BGU				*e*Sn	Sn	03 27 52.0	-1.1
BGU				*e*Sg	Sg	03 28 20.4	-2.0
PFO	**Pinyon Flat Ob**	**5.62**	**153**	*e*Pn	Pn	03 26 51.3	0.0
MSU	**Marysvale**	**5.74**	**89**	*e*Pn	Pn	03 26 52.8	-0.3
MSU				*e*Pg	Pg	03 27 14.7	-2.0
MSU				*e*Sg	Sg	03 28 28.0	-3.1
HVU	**Hansel Valley**	**6.02**	**57**	*e*Pn	Pn	03 26 56.7	-0.2
	7.7nm,0.4s						
HVU				*e*Pg	Pg	03 27 17.4	-4.5
HVU				*e*Sg	Sg	03 28 35.0	-4.9
SPUT	**South Promonto**	**6.03**	**62**	*e*Pn	Pn	03 26 54.9	-2.1
SPUT				*e*Pg	Pg	03 27 17.1	-5.0
SPUT				*e*Sg	Sg	03 28 31.8	-8.5
HLID	**Hailey**	**6.22**	**37**	*e*Pn	Pn	03 26 59.4	-0.3
	2.6nm,0.4s						
HLID				*e*Pb	Pb	03 27 15.2	-0.6
HLID				*e*Pg	Pg	03 27 21.9	-3.9
HLID				*e*Sg	Sg	03 28 39.0	-7.4
TMUT	**Trail Mountain**	**6.50**	**82**	*e*Pn	Pn	03 27 02.1	-0.8
TMUT				*e*Pg	Pg	03 27 30.2	-0.9
JLU	**Jordanelle**	**6.51**	**70**	*e*Pn	Pn	03 27 04.1	+0.4
JLU				*e*Pg	Pg	03 27 32.3	+0.9
JLU				*e*Sg	Sg	03 28 52.6	-3.2
DAU	**Daniels Canyon**	**6.61**	**72**	*e*Pn	Pn	03 27 08.1	+3.0
DAU				*e*Pg	Pg	03 27 32.0	-1.3
DAU				*e*Sg	Sg	03 29 03.8	+4.9
HWUT	**Hardware Ranch**	**6.76**	**62**	*e*Pn	Pn	03 27 06.0	-1.0
	8.2nm,0.8s						
HWUT				*e*Pg	Pg	03 27 32.2	-3.9
HWUT				*e*Sg	Sg	03 29 02.7	-0.9
SRU	**San Rafael**	**7.02**	**84**	*e*Pn	Pn	03 27 12.7	+2.0
	2.9nm,0.6s						
MCMT	**McKenzie Canyo**	**7.92**	**37**	*e*Pg	Pb	03 27 45.7	+1.1
MCMT				*e*Sg	Sg	03 29 37.5	-3.2
REDW	**Red Top Meadow**	**8.05**	**52**	*e*Pg	Pg	03 27 50.2	-11
REDW				*e*Sg	Sg	03 29 39.9	-5.2
TPAW	**Teton Pass**	**8.06**	**51**	*e*Pg	Pg	03 27 52.5	-8.4
	2.5nm,0.6s						
TPAW				*e*Sg	Sg	03 29 43.4	-2.0
IMW	**Indian Meadow**	**8.30**	**48**	*e*Pg	Pg	03 27 54.0	-12
MOOW	**Moose Ponds**	**8.33**	**50**	*e*Pg	Pg	03 27 56.1	-10
MOOW				*e*Sg	Sg	03 29 49.2	-4.7
BW06	**Boulder Array**	**8.59**	**58**	*e*Pn	Pn	03 27 35.5	+3.3
BW06				*e*Pg	Pg	03 28 05.7	-5.5
PDAR	**Pinedale Array**	**8.59**	**58**	Pn	Pn	03 27 34.8	+2.6
	0.1nm,0.3s,baz=238,slow=14,SNR=6.5						
PDAR				Lg		03 29 58.2	
	0.1nm,0.3s,baz=218,slow=18,SNR=4.6						
YKA	**Yellowknife Ar**	**24.05**	**6**	P	P	03 30 41.6	-1.4
	0.2nm,0.8s,baz=188,slow=9.3,SNR=6.5						

*NIED **20** 03:28:00, 2570N×12530E, h11km, Mw5.1 Best double couple: M0:5.85000×10^16 NP1:φs223.00000°, δ68.00000°, λ-150.00000°. NP2:φs121.00000°, δ62.00000°, λ-25.00000°.*
*IDC **20** 03:28:52.8±0.5, 2573N×12526E, h0km, mb4.5/24, mb1 4.6/26, mb1mx4.6/30, mbtmp4.5/26, ML4.2/2, MS4.8/18, Ms1 4.9/18, ms1mx4.7/34, Error ellipse: s-maj=18.2km s-min=11.7km az=74.0*
*ISCJB **20** 03:28:53.2±0.9, 2567N±002×12529E±002, h5km±5km, mb4.8/104, MS5.0/25, Error ellipse: s-maj=3.8km s-min=2.7km az=139.1*
*BJI **20** 03:28:53.9, 2540N×12555E, h28km, mB5.3, mb4.7, ML5.2, Ms5.3, Ms25.1*
*JMA **20** 03:28:54.1±0.2, 2573N×12526E, h22km±3km, M5.5*
JMA Felt II J1.
*NEIC **20** 03:28:54.7±0.2, 2566N×12532E, h10km, mb5.0/68, MW5.1(NIED), Error ellipse: s-maj=5.3km s-min=4.3km az=136.0*
NEIC Recorded [2 JMA] on Miyako-jima.
*GCMT **20** 03:28:54.7±0.3, 2557N×12528E, h15km±2km, MW5.3/73, Moment Tensor Solution. s10,c10; s73,c111; Duration: 1s1 Moment tensor: Scale 10^17Nm; Mrr-0.68±.12; Mθθ1.22±.09; Mφφ-0.54±.06; Mrθ0.19±.10; Mφθ0.28±.04; Mφr0.17±.13; Best double couple: M0:1.03700×10^17 NP1:φs112.00000°, δ48.00000°, λ-43.00000°. NP2: φs234.00000°, δ60.00000°, λ-130.00000°. Principal axes: T 1.2870, Plg6.0000°, Azm351.0000°; N -0.4990, Plg33.0000°, Azm257.0000°; P -0.7870, Plg56.0000°, Azm90.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*MOS **20** 03:28:56.6±0.9, 2567N×12528E, h33km, mb5.1/37, MS5.0/8 Error ellipse: s-maj=9.0km s-min=5.3km az=105.7*

ISC 20 03:28:55.9±0.8**, 2562N**±002×**12531E**±002**, h15**km±4km**, n424,** σ0°**89/437, mb4.8**/104**, MS5.0**/25**, 98C-59D, Southwestern Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMJ	**Miyako jima 2**	**0.80**	**181**	P	**Pg**	**03 29 11.0**	**-0.6**
JMJ				S	**Sg**	**03 29 22.8**	**+0.6**
JOGS	**Gusukube**	**0.86**	**174**	P	**Pb**	**03 29 12.0**	**-0.6**
JOGS				S	**Sg**	**03 29 24.6**	**+0.6**
JTJ	**Tarama**	**1.12**	**209**	P	**Pb**	**03 29 15.2**	**-1.8**
JTJ				*e*S	**Sb**	**03 29 30.2**	**-1.2**
JKE	**Kume jima 2**	**1.51**	**62**	P	**Pn**	**03 29 19.8**	**-2.6**
JIJ	**Ishigaki jima**	**1.64**	**220**	P	**Pn**	**03 29 22.9**	**-1.3**
JIJ				S	**Sn**	**03 29 44.1**	**-0.9**
JKRS	**Kuro-shima**	**1.81**	**221**	P	**Pn**	**03 29 25.9**	**-0.7**
JKRS				*e*S	**Sn**	**03 29 49.3**	**0.0**
IRIF	**Iriomote-Funau**	**1.92**	**228**	P	**Pn**	**03 29 27.2**	**-0.9**
JAGN	**Aguni-jima**	**1.99**	**61**	P	**Pn**	**03 29 27.2**	**-1.8**
HATJ	**Hateruma jima**	**2.07**	**222**	P	**Pn**	**03 29 30.1**	**-0.1**
NAH1	**Naha**	**2.22**	**74**	P	**Pn**	**03 29 31.7**	**-0.6**
JJT2	**Tamagusuku 2**	**2.26**	**76**	P	**Pn**	**03 29 33.6**	**+0.8**
YOJ	**Yonaguni jima**	**2.38**	**241**	P	**Pn**	**03 29 34.2**	**-0.2**
YOJ				*e*S	**Sn**	**03 30 04.1**	**+0.8**
JIH	**Iheya**	**2.77**	**59**	P	**Pn**	**03 29 39.3**	**-0.5**
JOW	**Kunigami**	**2.93**	**65**	P	**Pn**	**03 29 41.1**	**-0.8**
JOW	**Kunigami**	**2.93**	**65**	Pn	**Pn**	**03 29 41.2**	**-0.7**
	86nm,0.3s,baz=241,slow=9.4,SNR=102						
JOW				LR	LR	03 31 00.0	
	comp=Z,15μm,20.8s,baz=258,slow=43						
TATO	**Taipei**	**3.52**	**260**	*e*Pn	**Pn**	**03 29 52.6**	**+2.6**
NACB	**Ninganchiao**	**3.67**	**248**	*e*Pn	**Pn**	**03 29 53.6**	**+1.6**
YHNB	**Yeheng**	**3.69**	**256**	*e*Pn	**Pn**	**03 29 54.4**	**+2.0**
JTK	**Tokunoshima**	**3.91**	**56**	P	**Pn**	**03 29 55.1**	**-0.3**
JAM	**Amami Oshima**	**4.74**	**53**	P	**Pn**	**03 30 06.6**	**-0.2**
JMZ	**Minamidaito 2**	**5.34**	**87**	P	**Pn**	**03 30 11.6**	**-3.5**
QZH	**Quanzhou**	**6.12**	**265**	P	**Pn**	**03 30 28.5**	**+2.7**
QZH				S	**Sn**	**03 31 39.3**	**+3.8**
QZH				Smax			
	comp=N,610nm,1.0s						
QZH				Smax			
	comp=E,650nm,1.0s						
QZH				LR	LR		
	comp=N,14μm,8.6s						
QZH				LR	LR		
	comp=E,13μm,12.6s						
QZH				LR	LR		
	comp=Z,12μm,11.1s						
NJ2	**Nanjing**	**8.54**	**320**	*e*P	**Pn**	**03 31 02.1**	**+3.0**
NJ2				AP		03 31 06.3	
NJ2				XP		03 31 09.9	
NJ2				S	**Sn**	**03 32 37.0**	**+1.7**
NJ2				AMB	AMB		
	comp=Z,30nm,1.0s	

comp=Z,5μm,11.2s
BJI Beijing 16.28 334 P Pn 03 32 48.8 +4.8
BJI PCP PcP 03 37 33.8 -3.8
BJI AMB AMB
comp=Z,20nm,1.6s
BJI AMB AMB
comp=Z,1μm,4.5s
BJI LR LR
comp=N,4μm,21.4s
BJI LR LR
comp=E,4μm,16.0s
BJI LR LR
comp=Z,4μm,19.8s
XAN Xi'an 16.49 304 P Pn 03 32 51.3 +4.5
XAN AP pP 03 32 58.3 +4.7
XAN S **Sn 03 36 01.0 +11**
XAN AMB AMB
comp=Z,4.0nm,0.7s
XAN LR LR
comp=N,8μm,12.8s
XAN LR LR
comp=E,4μm,12.8s
XAN LR LR
comp=Z,6μm,10.2s
GYA Guiyang 16.78 277⇓ iP Pn 03 32 52.1 +1.7
GYA PP 03 33 05.8
GYA S **Sn 03 35 58.3 +1.7**
GYA SS 03 36 18.8
GYA PCP PcP 03 37 41.3 +2.7
GYA AMB AMB
comp=Z,30nm,1.0s
GYA AMB AMB
comp=Z,530nm,6.7s
GYA LR LR
comp=N,4μm,12.0s
GYA LR LR
comp=E,7μm,12.2s
GYA LR LR
comp=Z,8μm,11.6s
CN2 Changchun 18.14 0 ⇑P Pn 03 33 10.0 +2.8
CN2 eXP sP 03 33 17.0 +3.3
CN2 eS **Sn 03 36 29.3 0.0**
CN2 AMB AMB
comp=Z,90nm,1.4s
CN2 AMB AMB
comp=Z,200nm,6.0s
CN2 LR LR
comp=N,5μm,12.0s
CN2 LR LR
comp=E,6μm,12.0s
CN2 LR LR
comp=Z,5μm,14.0s
VLA Vladivostok 18.27 16 i P Pn 03 33 08.6 -0.2
VLA pmax pmax
comp=Z,62nm,0.7s
HHC Hu-ho-hao-te 19.01 326 eP Pn 03 33 20.8 +3.0
HHC AP pP 03 33 28.4 +7.1
HHC XP sP 03 33 33.1 +10
HHC PP 03 33 37.9
HHC S **Sn 03 36 55.1 +4.7**
HHC XS sS 03 37 01.0 +1.8
HHC SS 03 37 15.5
HHC AMB AMB
comp=Z,59nm,1.6s
HHC AMB AMB
comp=Z,2μm,6.3s
HHC LR LR
comp=N,3μm,9.2s
HHC LR LR
comp=E,4μm,10.2s
HHC LR LR
comp=Z,3μm,9.8s
MDJ Mudanjiang 19.27 9 P Pn 03 33 19.1 -1.8
MDJ S **Sn 03 36 55.5 -1.1**
MDJ XS sS 03 37 02.5 -1.9
MDJ SCP ScP 03 41 17.8 -0.1
MDJ PCS PcS 03 41 19.1 -0.2
MDJ AMB AMB
comp=Z,19nm,1.8s
MDJ AMB AMB
comp=Z,1μm,9.8s
MDJ LR LR
comp=N,2μm,25.5s
MDJ LR LR
comp=E,6μm,19.4s
MDJ LR LR
comp=Z,7μm,13.4s
MDJ Mudanjiang 19.27 9 eP Pn 03 33 20.9 -0.1
comp=Z,40nm,1.0s
BTO Baotou 19.63 323 eP Pn 03 33 26.3 +1.0
CD2 Chengdu 19.69 290 eP Pn 03 33 26.5 +0.4
CD2 AP pP 03 33 30.4 +1.5
CD2 XP sP 03 33 34.0 +3.1
CD2 PP 03 33 45.3
CD2 S **Sn 03 37 03.5 -3.5**
CD2 SS 03 37 31.1
CD2 AMB AMB
comp=Z,190nm,1.0s
CD2 LR LR
comp=N,10μm,12.0s
CD2 LR LR
comp=E,8μm,9.6s
CD2 LR LR
comp=Z,8μm,9.6s
KMI Kunming 20.40 273 P P 03 33 35.1 +2.7
KMI S **S 03 37 17.4 -3.1**
KMI AMB AMB
comp=Z,44nm,2.0s
KMI AMB AMB
comp=Z,971nm,10.2s
KMI LR LR
comp=N,3μm,11.1s,MS5.1
KMI LR LR
comp=E,3μm,10.2s,MS5.1
KMI LR LR
comp=Z,3μm,11.4s,MS5.0
LZH Lanzhou 21.13 305 ⇓P P 03 33 42.4 +2.2
LZH AP 03 33 45.5
LZH PP 03 34 05.5
LZH S **S 03 37 34.0 -0.9**
LZH SS 03 38 06.9
LZH AMB AMB
comp=Z,122nm,1.5s,mb5.0
LZH AMB AMB
comp=Z,910nm,4.6s
LZH LR LR
comp=N,10μm,10.9s
LZH LR LR
comp=Z,11μm,11.4s,MS5.5
KKM Kota Kinabalu 21.32 206 eP P 03 33 42.4 0.0
ASAJ Asahikawa 23.19 33 P P 03 34 01.6 -0.5
ASAJ pmax pmax
comp=Z,6.0nm,0.8s
ASAJ Asahikawa 23.19 33 P P 03 34 01.6 -0.6
comp=Z,5.8nm,0.8s,mb4.1,baz=241,slow=10,SNR=3.8
HIA Hailar 24.00 351 eP P 03 34 09.2 -0.6
comp=Z,50nm,1.3s,mb4.8
HIA Hailar 24.00 351 d iP P 03 34 08.9 -1.0
KLR Kul'dur 24.10 10 eP P 03 34 04.4 -6.4
CHTO Chiang Mai 25.30 260 eP P 03 34 22.4 +0.4
comp=Z,22nm,1.2s,mb4.6
CHTO Chiang Mai 25.30 260 eP P 03 34 22.4 +0.4
CHTO pmax pmax
comp=Z,22nm,1.2s,mb4.6
YSS Yuzh-Sakhalins 25.41 29 eP P 03 34 21.0 -1.7
YSS MLR MLR
comp=N,2μm,14.0s
YSS MLR MLR
comp=Z,2μm,14.0s,MS4.8
GTA Gaotai 25.41 309 eP P 03 34 22.9 0.0
GTA S **S 03 38 49.5 +0.4**
GTA AMB AMB
comp=Z,21nm,1.4s,mb4.5
GTA AMB AMB
comp=Z,462nm,5.7s
GTA LR LR
comp=N,9μm,14.1s,MS5.5
GTA LR LR
comp=E,6μm,13.4s,MS5.5
GTA LR LR
comp=Z,4μm,11.8s,MS5.1
ULN Ulaanbaatar 26.46 332 eP P 03 34 31.8 -0.5
comp=Z,93nm,1.4s,mb5.1
ULN Ulaanbaatar 26.46 332 d iP P 03 34 32.5 +0.3
SONM Songino Array 26.72 331 P P 03 34 34.1 -0.5
SONM 03 37 57.8
comp=Z,15nm,1.1s,mb4.4,baz=147,slow=8.0,SNR=35
SONM PcP PcP 03 37 57.8 +0.1
comp=Z,3.0nm,1.1s,baz=144,slow=5.2,SNR=3.1
SONM LR LR 03 46 25.6
comp=Z,3μm,19.3s,MS4.9,baz=261,slow=40
KSM Kuching 28.02 213 eP P 03 34 47.2 +0.6
ZAK Zakamensk 29.98 331 eP P 03 35 02.9 -0.8
ZAK pmax pmax
comp=Z,14nm,1.4s,mb4.5
ZAK pmax pmax
comp=Z,2.0nm,1.4s,mb3.6
LSA Lhasa 30.46 285 P P 03 35 09.8 +1.7
TLY Talaya 30.80 333 eP P 03 35 11.2 +0.3
TLY e 03 36 05.5
TLY pmax pmax
comp=Z,31nm,2.2s,mb4.8
TLY MLR MLR
comp=Z,3μm,16.0s,MS5.0
IRK Irkutsk 30.99 335 eP P 03 35 12.4 -0.1
IRK pmax pmax
comp=Z,37nm,1.7s,mb4.9
NRGR Nerungri 31.01 359 eP P 03 35 13.5 +0.8
MOY Mondy 31.91 331 eP P 03 35 20.6 -0.1
MOY pmax pmax
comp=Z,59nm,2.3s,mb5.0
BOD Bodaibo 33.17 349 eP P 03 35 29.5 -2.1
PSI Prapat 34.03 232 P P 03 35 39.9 +0.2
comp=Z,11nm,0.8s,mb4.8,baz=49,slow=2.9,SNR=10
WMQ Urumqi 35.47 310 P P 03 35 51.9 +0.1
WMQ PP PP 03 37 12.0 -0.3
WMQ eS **S 03 41 26.0 -0.4**
WMQ SS SS 03 43 44.0 -17
WMQ AMB AMB
comp=Z,23nm,1.8s,mb4.8
WMQ LR LR
comp=N,9μm,18.0s,MS5.6
WMQ LR LR
comp=E,2μm,13.7s,MS5.6
WMQ LR LR
comp=Z,4μm,18.7s,MS5.2
BATI Kupang 35.65 183 LR LR 03 51 21.7
comp=Z,500nm,19.6s,MS4.3,baz=187,slow=38
YAK Yakutsk 36.52 3⇑ eP P 03 36 00.1 -0.4
KAKA Kakadu 38.73 169 eP P 03 36 19.0 -0.6
comp=Z,25nm,0.9s,mb4.9
MK31 Makanchi Array 40.00 313 eP P 03 36 29.9 -0.1
MK31 Makanchi Array 40.00 313 i P P 03 36 30.1 +0.1
MK31 pmax pmax
comp=Z,23nm,1.2s,mb4.8
MKAR Makanchi Array 40.00 313 P P 03 36 29.3 -0.7
MKAR 03 38 33.8
MKAR Makanchi Array 40.00 313 P P 03 36 29.3 -0.7
comp=Z,8.0nm,0.9s,mb4.4,baz=101,slow=10.0,SNR=57
MKAR PcP PcP 03 38 33.8 -1.2
comp=Z,4.4nm,0.9s,baz=98,slow=6.0,SNR=3.5
MKAR LR LR 03 53 24.1
comp=Z,1μm,18.5s,MS4.8,baz=107,slow=37
ZAA0 Zalesovo Array 41.17 324 eP P 03 36 37.7 -1.8
ZALV Zalesovo Beam 41.17 324 P P 03 36 38.7 -0.9
ZALV PcP PcP 03 38 37.2 -1.4
ZALV LR LR 03 54 35.8
ZALV Zalesovo Beam 41.17 324 P P 03 36 38.7 -0.9
comp=Z,8.1nm,0.6s,mb4.6,baz=116,slow=7.0,SNR=19
ZALV PcP PcP 03 38 37.2 -1.4
comp=Z,4.1nm,1.0s,baz=120,slow=5.7,SNR=4.0
ZALV LR LR 03 54 35.8
comp=Z,1μm,18.4s,MS4.8,baz=115,slow=38
ZAL Zalesovo 41.18 324 P P 03 36 38.7 -0.9
ZAL 03 38 37.2
SEY Seymchan 41.40 18⇑ eP P 03 36 41.8 +0.5
NVS Novosibirsk 42.40 325 i P P 03 36 47.5 -2.1
NVS pmax pmax
comp=Z,49nm,2.0s,mb4.8
NVS pmax pmax
comp=N,23nm,1.7s
NVS pmax pmax
comp=E,22nm,1.4s
FITZ Fitzroy Crossi 43.46 180 eP P 03 36 57.1 -1.4
comp=E,22nm,0.9s,mb4.9
FITZ Fitzroy Crossi 43.46 180 P P 03 36 57.5 -1.0
comp=E,6.3nm,0.7s,mb4.5,baz=9.0,slow=12,SNR=14
KURK Kurchatov 43.47 318 P P 03 36 58.6 +0.2
comp=E,166nm,1.3s,mb5.6,SNR=17
KURK Kurchatov 43.47 318 eP P 03 36 57.9 -0.5
comp=E,42nm,1.2s,mb5.0
KURK Kurchatov 43.47 318 d iP P 03 36 57.6 -0.8
TKM2 Tokmak 2 43.89 306 eP P 03 37 02.7 +0.8
comp=E,14nm,0.6s,mb4.9
TKM2 Tokmak 2 43.89 306 eP P 03 37 02.7 +0.8
TKM2 pmax pmax
comp=Z,14nm,0.6s,mb4.9
HYB Hyderabad 44.07 269 eP P 03 37 04.5 +0.9
HYB Hyderabad 44.07 269 i P P 03 37 04.5 +0.9
FRU Bishkek 44.60 306 eP P 03 37 08.0 +0.5
FRU e 03 37 21.0
UCH Uchtor 44.62 305 eP P 03 37 08.8 +1.1
comp=Z,29nm,1.2s,mb5.0
AAK Ala-Archa 44.67 306 eP P 03 37 07.9 -0.2
comp=Z,8.2nm,1.2s,mb4.4
AAK Ala-Archa 44.67 306⇑ eP P 03 37 07.5 -0.6
AAK pmax pmax
comp=Z,6.0nm,1.6s,mb4.2
EKS2 Erkin-Say 45.20 306 eP P 03 37 12.8 +0.5
comp=Z,5.8nm,1.0s,mb4.4
AML Almayashu 45.22 305 eP P 03 37 12.5 0.0
comp=Z,10.0nm,1.1s,mb4.6
TIXI Tiksi 46.11 2 eP P 03 37 18.2 -0.9
comp=Z,49nm,1.9s,mb5.1
TIXI Tiksi 46.11 2⇓ eP P 03 37 17.4 -1.7
TIXI pmax pmax
comp=Z,10.0nm,2.2s,mb4.4
WRAB Tennant Creek 46.13 168 P P 03 37 20.4 +0.6
comp=Z,149nm,1.5s,mb5.7,SNR=6.8
WRAB Tennant Creek 46.13 168 eP P 03 37 18.4 -1.4
comp=Z,68nm,1.4s,mb5.4
WRAB Tennant Creek 46.13 168 eP P 03 37 18.4 -1.4
WRAB pmax pmax
comp=Z,68nm,1.4s,mb5.4
WRA Warramunga Arr 46.13 168 P P 03 37 19.0 -0.8
comp=Z,7.6nm,0.9s,mb4.7,baz=350,slow=7.5,SNR=39
WRA LR LR 03 58 24.6
comp=Z,646nm,18.6s,MS4.6,baz=15,slow=38
WB2 Warramunga Arr 46.14 168 eP P 03 37 19.4 -0.5
MBWA Marble Bar 46.81 187 eP P 03 37 24.8 -0.4
comp=Z,50nm,1.2s,mb5.3
KK31 Karatay Array 47.62 306 i P P 03 37 31.7 +0.3
HNR Honiara 48.48 131 LR LR 03 55 07.9
comp=Z,707nm,20.4s,MS4.6,baz=0.5,slow=32
KBL Kabul 48.96 294 eP P 03 37 42.8 +1.0
BVAR Borovoye Array 48.99 319 P P 03 37 40.9 -0.9
comp=Z,2.0nm,0.6s,mb4.3,baz=109,slow=8.2,SNR=12
BVAR PcP PcP 03 39 04.4 -1.2
comp=Z,6.3nm,1.1s,baz=83,slow=5.1,SNR=4.3
BRVK Borovoye 49.06 319 P P 03 37 42.1 -0.2
comp=Z,66nm,1.3s,mb5.5,SNR=6.2
BRVK Borovoye 49.06 319 eP P 03 37 42.5 +0.2
comp=Z,21nm,1.2s,mb5.0
BRVK Borovoye 49.06 319 eP P 03 37 42.5 +0.2
BRVK pmax pmax
comp=Z,21nm,1.2s,mb5.0
BILL Bilibino 49.09 19 eP P 03 37 40.1 -2.2
comp=Z,3.5nm,0.6s,mb4.6
BILL Bilibino 49.09 19⇑ i P P 03 37 41.3 -1.0
BILL i 03 39 05.0
BILL e 03 39 35.3
BILL pmax pmax
comp=Z,7.0nm,1.1s,mb4.6
ASAR Alice Springs 49.70 170 P P 03 37 47.8 +0.4
comp=Z,5.1nm,0.9s,mb4.5,baz=352,slow=6.7,SNR=34
ASAR PcP PcP 03 39 09.0 +0.5
comp=Z,2.9nm,1.0s,baz=359,slow=3.8,SNR=2.9
CTA Charters Tower 49.79 154 LR LR 03 58 31.6
comp=Z,2μm,20.7s,MS5.0,baz=266,slow=36
CTAO Charters Tower 49.79 154 eP P 03 37 47.7 -0.4
comp=Z,36nm,1.5s,mb5.2
CTAO Charters Tower 49.79 154 eP P 03 37 47.7 -0.4
CTAO pmax pmax
comp=Z,36nm,1.5s,mb5.2
ZRNK Zerenda 49.80 319 i P P 03 37 47.2 -0.7
SVE Sverdlovsk 55.14 323⇓ eP P 03 38 27.2 -0.2
SVE eSS SS 03 49 47.4 -6.0
SVE eSSS 03 51 48.1
SVE pmax pmax
comp=Z,38nm,1.3s,mb5.3
SVE MLR MLR
comp=E,2μm,15.0s
GAMB Gambell 55.43 29 eP P 03 38 29.0 -0.4
FORT Forrest 56.14 177 eP P 03 38 33.8 -1.1
comp=E,16nm,1.2s,mb4.9
ARU Arti 56.25 322 eP P 03 38 34.2 -1.2
comp=E,42nm,1.3s,mb5.3
ARU Arti 56.25 322 d iP P 03 38 34.5 -0.9
ARU e 03 40 35.0
ARU eS **S 03 46 23.4 -1.1**
ARU eSS SS 03 50 05.3 -5.5
ARU pmax pmax
comp=Z,29nm,1.0s,mb5.3
ARU MLR MLR
comp=Z,2μm,21.0s,MS5.2
AKTK Aktyubinsk 56.39 315 P P 03 38 35.7 -0.9
AKTK LR LR 04 04 41.5
AKTO Aktyubinsk 56.39 315 P P 03 38 35.7 -0.9
comp=Z,4.0nm,1.0s,mb4.4,baz=88,slow=9.1,SNR=9.6
AKTO LR LR 04 04 41.5
comp=Z,1μm,18.8s,MS5.0,baz=183,slow=38
KLBR Kellerberrin 57.35 188 eP P 03 38 43.5 +0.1
comp=Z,42nm,0.9s,mb5.5
TNA Tin City 57.37 27 eP P 03 38 43.0 -0.2
comp=Z,31nm,1.5s,mb5.1
NWAO Narrogin (SRO) 58.73 188 P P 03 38 54.6 +1.5
comp=Z,23nm,1.1s,mb5.1,baz=40,slow=5.5,SNR=4.2
STKA Stephens Creek 59.25 164 eP P 03 38 57.1 +0.3
comp=Z,9.6nm,1.2s,mb4.7
STKA Stephens Creek 59.25 164 P P 03 38 57.5 +0.7
comp=Z,18nm,1.2s,mb5.0,baz=343,slow=5.6,SNR=12
TTA Tatalina 62.39 30 eP P 03 39 17.9 +0.1
SVW2 Sparrevohn 62.69 32 eP P 03 39 19.9 +0.1
IMA2 Indian Mountai 63.24 27 eP P 03 39 23.5 +0.1
KDAK Kodiak Island 64.56 36 eP P 03 39 31.6 -0.6
MCK McKinley 65.49 29 eP P 03 39 36.5 -1.7
comp=Z,64nm,1.2s,mb5.5
MCK McKinley 65.49 29 eP P 03 39 36.5 -1.7
MCK pmax pmax
comp=Z,64nm,1.2s,mb5.5
PMR Palmer 65.73 32 eP P 03 39 38.2 -1.5
comp=Z,37nm,1.2s,mb5.3
PMR Palmer 65.73 32 eP P 03 39 38.2 -1.5
PMR pmax pmax
comp=Z,37nm,1.2s,mb5.3
COLA College 65.79 28 eP P 03 39 39.8 -0.3
comp=Z,75nm,1.8s,mb5.4
COLA College 65.79 28⇑ eP P 03 39 40.0 -0.1
SML Sawmill 66.07 31 eP P 03 39 40.7 -1.2
TMCR Tamitsa 66.08 331 eP P 03 39 45.5 +3.5
TMCR pmax pmax
comp=Z,22nm,0.8s,mb5.2
ONI Oni 67.39 308 P P 03 39 51.7 +1.0
KIV Kislovodsk 67.59 309 eP P 03 39 51.9 -0.1
comp=Z,26nm,1.0s,mb5.2
KIV Kislovodsk 67.59 309 d iP P 03 39 51.7 -0.3
KIV i 03 40 12.2
KIV pmax pmax
comp=Z,27nm,1.2s,mb5.2
KIV MLR MLR
comp=Z,500nm,17.0s,MS4.8
MENT Mentasta 67.95 30 eP P 03 39 54.2 +0.3
VORD Divnogorie 68.11 317 eP P 03 39 53.7 -1.4
VORD pmax pmax
comp=N,10.0nm,0.7s
VORD pmax pmax
comp=Z,9.0nm,0.7s,mb4.9
VORD pmax pmax
comp=E,10.0nm,0.9s
EGAK Eagle 68.61 27 eP P 03 39 57.3 -0.7
comp=E,19nm,1.0s,mb5.0
OBN Obninsk 68.69 322 eP P 03 39 57.2 -1.4
OBN pmax pmax
comp=Z,11nm,0.5s,mb5.0
OBN MLR MLR
comp=Z,800nm,17.0s,MS5.0
JOF Joensuu 69.29 331 ep P 03 40 02.3 0.0
comp=Z,5.8nm,0.9s,mb4.5
JOF Joensuu 69.29 331 eP P 03 40 02.3 0.0
JOF pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
DAWY Dawson 69.54 28 eP P 03 40 03.5 -0.3
ARCES ARCESS Array B 69.60 338 P P 03 40 02.5 -1.5
comp=Z,3.2nm,1.0s,mb4.2,baz=58,slow=8.6,SNR=4.0
ARCES LR LR 04 12 14.2
comp=Z,864nm,19.2s,MS5.0,baz=60,slow=37
INK Inuvik 70.48 23 eP P 03 40 08.5 -0.9
ANN Anapa 70.98 311 eP P 03 40 15.9 +2.9
ANN pmax pmax
comp=Z,39nm,1.2s,mb5.2
ANN MLR MLR
comp=Z,706nm,15.0s,MS5.0
FINES FINESS Array B 72.09 330 P P 03 40 16.5 -2.8
comp=Z,3.8nm,0.9s,mb4.3,baz=119,slow=15,SNR=5.1
FINES LR LR 04 15 56.6
comp=Z,1μm,18.3s,MS5.2,baz=352,slow=39
MALT Malatya 72.29 304 eP P 03 40 21.1 +0.1
comp=Z,9.3nm,1.2s,mb4.6
MALT Malatya 72.29 304 eP P 03 40 21.1 +0.1
MALT pmax pmax
comp=Z,9.0nm,1.2s,mb4.6
SKAG Skagway 72.86 32 eP P 03 40 24.4 +0.5
comp=Z,75nm,1.4s,mb5.4
AKASG Malin Array Be 74.27 319 P P 03 40 30.0 -2.4
comp=Z,5.1nm,0.9s,mb4.5,baz=56,slow=5.8,SNR=17
AKASG LR LR 04 15 55.3
comp=Z,761nm,18.8s,MS5.0,baz=335,slow=38
AKBB Malin Array Si 74.27 319 eP P 03 40 30.4 -2.0
WRAK Wrangell Islan 75.51 34 eP P 03 40 39.2 -0.3
comp=Z,62nm,1.6s,mb5.3
DLBC Dease Lake 75.79 32 eP P 03 40 42.0 +1.0
SUW Suwalki 76.39 324 eP P 03 40 43.6 -1.0
RES Resolute Bay 76.62 10 eP P 03 40 41.6 -3.9
comp=Z,276nm,1.2s,mb6.1
CSS Prodhromos 77.31 303 eP P 03 40 49.5 -0.5
comp=Z,8.9nm,0.7s,mb4.8
MLR Muntele Rosu 78.32 315 P P 03 40 54.5 -1.0
comp=Z,3.2nm,1.1s,mb4.2,baz=98,slow=8.7,SNR=3.0
KWP Kalwaria 78.54 320 eP P 03 40 56.6 0.0
NB2 NORSAR Subarra 78.68 333 P P 03 40 55.2 -2.0
comp=Z,5.8nm,1.1s,mb4.4,baz=54,slow=5.6
NOA NORSAR Array B 78.68 333 P P 03 40 54.4 -2.8
comp=Z,2.5nm,0.9s,mb4.1,baz=82,slow=9.4,SNR=3.5
NOA LR LR 04 19 29.8
comp=Z,1μm,18.6s,MS5.3,baz=45,slow=39
UZH Uzhgorod 79.23 319 e P 03 40 55.7 -4.7
UZH MLR MLR
comp=Z,500nm,14.0s,MS5.0
OJC Ojcow 79.95 321 eP P 03 41 04.1 -0.2
NIE Niedzica 80.03 320 eP P 03 41 04.8 0.0
YKW3 Yellowknife Ar 80.12 24 eP P 03 41 04.2 -0.8
YKA Yellowknife Ar 80.17 24 P P 03 41 03.9 -1.4
YKA PKKPbc PKKPbc 03 59 46.2 -3.6
YKA Yellowknife Ar 80.17 24 P P 03 41 03.8 -1.4
comp=Z,23nm,1.0s,mb5.0,baz=306,slow=5.2,SNR=175
YKA PKKPbc PKKPbc 03 59 46.2 -3.6
comp=Z,0.1nm,0.5s,baz=133,slow=2.4,SNR=7.4
PSZ Piszkesteto 80.98 319 eP P 03 41 09.3 -0.6
VYHS Vyhne 81.32 320 i P P 03 41 10.9 -0.8
comp=Z,4.6nm,1.1s,mb4.3
VYHS i PP pP 03 41 14.7 -2.1
VYHS Vyhne 81.32 320 i P P 03 41 10.9 -0.8
VYHS pmax pmax
comp=Z,5.0nm,1.1s,mb4.4
MORC Moravsky Berou 81.44 321 eP P 03 41 11.3 -1.1
comp=Z,3.4nm,0.9s,mb4.3
MORC Moravsky Berou 81.44 321 eP P 03 41 11.3 -1.0
MORC pmax pmax
comp=Z,3.0nm,0.9s,mb4.2
VRAC Vranov 82.21 321 P P 03 41 15.4 -1.0
comp=Z,4.3nm,0.7s,mb4.5,baz=7.7,slow=6.2,SNR=4.4
MODS Modra-Piesok 82.29 320 eP P 03 41 16.0 -0.8
comp=Z,2.0nm,1.2s,mb3.9
MODS Modra-Piesok 82.29 320 eP P 03 41 16.0 -0.8
MODS pmax pmax
comp=Z,2.0nm,1.2s,mb3.9
BRG Berggiesshubel 82.86 324 eP P 03 41 18.1 -1.6
BRG pmax pmax
comp=Z,3.0nm,1.1s,mb4.2
BRG MLR MLR
comp=N,851nm,16.8s,MS5.3
BRG MLR MLR
comp=E,728nm,19.7s,MS5.3
BRG MLR MLR
comp=Z,1μm,17.0s,MS5.3
BRG Berggiesshubel 82.86 324 eP P 03 41 18.1 -1.6
comp=Z,5.3nm,1.1s,mb4.5

BRG
comp=N,1μm,16.8s
BRG
comp=E,1μm,19.6s
BRG
comp=Z,2μm,17.0s
CLL Collm 83.12 324 *i* P **P 03 41 19.3 -1.8**
CLL *e* 03 41 26.0
CLL pmax pmax
comp=Z,7.0nm,1.3s,mb4.5
CLL Collm 83.12 324 *i* P **P 03 41 19.3 -1.8**
comp=Z,7.0nm,1.3s,mb4.5
CLL *e*pP pP 03 41 26.0 -0.1
GERES GERESS Array B 84.07 322 P **P 03 41 25.1 -1.0**
comp=Z,1.5nm,0.9s,mb4.1,baz=62,slow=6.2,SNR=8.5
GERES LR LR 04 21 20.7
comp=Z,1μm,19.3s,MS5.3,baz=243,slow=38
A05A Maple Falls 84.55 38 ⇑P **P 03 41 28.1 -0.3**
baz=84
C04A Brinnon 84.75 39 ⇓P **P 03 41 29.2 -0.2**
baz=84
B05A Bryant 84.94 38 ⇑P **P 03 41 30.4 -0.1**
baz=85
BOJS Bojanci 84.95 318 *e*P **P 03 41 30.3 -0.3**
VNDS Vrh nad Dolski 84.96 319 *e*P **P 03 41 29.9 -0.7**
E03A Lebam 85.03 40 ⇓P **P 03 41 31.0 0.0**
baz=85
F03A Seaside 85.37 41 ⇓P **P 03 41 32.6 0.0**
baz=85
JAVS Javornik 85.45 319 *e*P **P 03 41 31.8 -1.3**
A07A Ashnola River, 85.45 37 ⇑P **P 03 41 33.1 +0.1**
baz=85
C05A Tolt Reservoir 85.48 39 ⇑P **P 03 41 33.1 -0.1**
baz=85
D05A Enumclaw 85.59 39 ⇓P **P 03 41 33.6 -0.1**
baz=85
H02A Toledo 85.77 42 ⇑P **P 03 41 34.5 -0.1**
baz=86
G03A Yamhill 85.86 41 ⇑P **P 03 41 35.1 0.0**
baz=86
B07A Winthrop 85.93 37 ⇑P **P 03 41 35.1 -0.2**
baz=86
F04A Amboy 86.03 40 ⇓P **P 03 41 35.6 -0.4**
baz=86
E05A Randle 86.07 40 ⇑P **P 03 41 35.9 -0.2**
baz=86
A08A Turner Farm, O 86.11 37 ⇓P **P 03 41 35.9 -0.4**
baz=86
G04A Mulino 86.40 41 ⇑P **P 03 41 37.6 -0.1**
baz=86
B08A Colville Reser 86.42 37 ⇓P **P 03 41 37.9 +0.1**
baz=86
EDM Edmonton 86.49 31 *e*P **P 03 41 38.2 +0.1**
E06A Yakima 86.53 39 ⇑P **P 03 41 38.9 +0.5**
baz=86
D07A Quincy 86.73 38 ⇑P **P 03 41 39.2 -0.1**
baz=86
HOOD Mount Hood Mea 86.82 41 *e*P **P 03 41 40.1 +0.3**
H04A Detroit Lake 86.86 41 ⇑P **P 03 41 40.4 +0.4**
baz=87
B09A Rice 87.02 37 ⇑P **P 03 41 40.4 -0.4**
baz=87
G05A Wamic 87.06 40 ⇑P **P 03 41 41.5 +0.5**
baz=87
J03A Ideyld Park 87.10 43 ⇑P **P 03 41 41.7 +0.5**
baz=87
I04A Tendick Farm, 87.21 42 ⇑P **P 03 41 42.1 +0.3**
baz=87
DAVOX Davos/Dischmat 87.36 322 P **P 03 41 40.7 -1.8**
comp=Z,3.8nm,0.8s,mb4.7,baz=90,slow=1.8,SNR=5.1
D08A Wollman Farm, 87.40 38 ⇓P **P 03 41 42.5 -0.1**
baz=87
HAWA Hanford 87.44 39 *e*P **P 03 41 42.5 -0.3**
comp=Z,18nm,1.4s,mb5.1
H05A Madras 87.45 41 ⇓P **P 03 41 42.9 0.0**
baz=87
G06A Carlson Farm, 87.46 40 ⇑P **P 03 41 42.6 -0.4**
baz=87
F07A Phinny Hill Vi 87.50 39 ⇑P **P 03 41 43.1 0.0**
baz=87
HUMO Hull Mountain 87.52 43 ⇑P **P 03 41 43.9 +0.6**
baz=87
A11A Hall Mountain, 87.65 35 ⇑P **P 03 41 43.9 +0.1**
baz=87,SNR=8.2
NEW Newport 87.67 36 *e*P **P 03 41 44.4 +0.5**
comp=Z,11nm,1.3s,mb4.9
NEW Newport 87.67 36 *e*P **P 03 41 44.4 +0.5**
NEW pmax pmax
comp=Z,11nm,1.3s
J04A Umpqua Nationa 87.70 42 ⇓P **P 03 41 44.1 0.0**
baz=87
D09A Jones Farm, Ri 87.73 38 ⇑P **P 03 41 44.3 +0.1**
baz=87
CDF Champ du Feu 87.82 324⇑*i*P **P 03 41 44.0 -0.6**
comp=Z,15nm,1.1s,mb4.8
CDF Champ du Feu 87.82 324⇑*i*P **P 03 41 44.0 -0.6**
comp=Z,7.6nm,1.1s,mb4.8
CDF Champ du Feu 87.82 324⇑*i*P **P 03 41 44.0 -0.6**
CDF pmax pmax
comp=Z,8.0nm,1.1s,mb4.9
B11A Sandpoint 87.96 36 P **P 03 41 46.1 +0.9**
baz=88,SNR=6.8
G07A Ruggs Ranch, H 88.01 40 ⇑P **P 03 41 45.8 +0.2**
baz=88
E09A Wood Farm, Sta 88.15 38 ⇓P **P 03 41 46.7 +0.5**
baz=88
YBH Yreka Blue Hor 88.15 44 ⇓P **P 03 41 46.3 0.0**
baz=88
J05A Fort Rock 88.20 42 P **P 03 41 47.1 +0.6**
baz=88,SNR=5.8
G08A Pilot Rock 88.40 40 ⇓P **P 03 41 47.9 +0.5**
baz=88
L04A Klamath Falls 88.42 43 ⇓P **P 03 41 48.0 +0.5**
baz=88
I06A Prineville 88.44 41 ⇑P **P 03 41 47.5 -0.2**
baz=88
H07A Lands Inn, Kim 88.45 40 ⇓P **P 03 41 47.7 0.0**
baz=88
M04C Macdoel 88.67 44 ⇑P **P 03 41 48.8 +0.1**
baz=88,SNR=5.8
A13A Flathead Natio 88.68 35 ⇓P **P 03 41 49.0 +0.4**
baz=88
K05A Summer Lake 88.72 42 ⇑P **P 03 41 49.1 +0.1**
baz=88
KMBO Kilima Mbogo 88.72 268 *e*P **P 03 41 50.2 +0.7**
comp=Z,3.1nm,0.7s,mb4.8
KMBO Kilima Mbogo 88.72 268 *e*P **P 03 41 50.3 +0.8**
KMBO pmax pmax
comp=Z,3.0nm,0.7s
E10A Myers Farm, Un 88.74 38 ⇓P **P 03 41 49.0 0.0**
baz=88
M03C McCloud 88.77 44 ⇑P **P 03 41 49.3 +0.1**
baz=88
I07A Izee 88.78 41 ⇓P **P 03 41 49.2 0.0**
baz=88
D11A Klaveano Farm, 88.82 37 P **P 03 41 49.5 +0.2**
baz=88,SNR=5.9
WALA Waterton Lakes 88.86 34 *e*P **P 03 41 50.1 +0.6**
comp=Z,21nm,1.3s,mb5.3
J06A Christmas Vall 88.87 42 ⇑P **P 03 41 49.8 +0.1**
baz=89
WDC Whiskeytown Da 88.89 45 ⇓P **P 03 41 50.1 +0.3**
baz=89
O02C Red Bluff 88.95 45 ⇓P **P 03 41 50.2 +0.1**
baz=89
F10A Beach Ranch, E 88.98 38 ⇑P **P 03 41 50.2 +0.1**
baz=89
B13A Whitefish 89.00 35 ⇓P **P 03 41 50.5 +0.4**
baz=89,SNR=8.4
H08A Prairie City 89.02 40 ⇓P **P 03 41 50.5 +0.2**
baz=89
K06A Valley Falls 89.07 42 ⇓P **P 03 41 51.1 +0.4**
baz=89
L05A Lakeview 89.14 43 ⇑P **P 03 41 51.1 +0.1**
baz=89
GASB Alder Springs 89.28 46 ⇑P **P 03 41 52.2 +0.6**
baz=89
J07A Hines 89.31 41 ⇑P **P 03 41 51.7 -0.1**
baz=89
E11A Bogner Ranch, 89.31 38 ⇑P **P 03 41 51.2 -0.5**
baz=89
M05C Lookout 89.34 44 ⇓P **P 03 41 51.6 -0.3**
baz=89
D12A Red Ives Fores 89.35 37 ⇓P **P 03 41 51.8 0.0**
baz=89
C13A Hot Springs 89.38 36 P **P 03 41 52.7 +0.7**
baz=89,SNR=6.5
G10A Bishop Farm, J 89.45 39 P **P 03 41 52.8 +0.4**
baz=89,SNR=11
H09A Durkee 89.51 39 ⇓P **P 03 41 52.4 -0.3**
baz=89
MOD Modoc 89.55 43 ⇑P **P 03 41 53.2 +0.3**
baz=89
BMO Blue Mountains 89.61 39 *e*P **P 03 41 53.3 +0.2**
comp=Z,9.3nm,1.3s,mb5.0
BMO Blue Mountains 89.61 39 *e*P **P 03 41 53.3 +0.2**
BMO pmax pmax
comp=Z,9.0nm,1.3s,mb4.9
F11A Grangeville 89.63 38 ⇑P **P 03 41 53.4 +0.2**
baz=89
K07A Rock Creek Ran 89.74 42 ⇓P **P 03 41 54.6 +0.8**
baz=90
C14A Swan Lake 89.76 35 ⇑P **P 03 41 53.9 +0.2**
baz=89
FCC Fort Churchill 89.80 19 *e*P **P 03 41 52.8 -0.9**
comp=Z,42nm,1.2s,mb5.6
FCC Fort Churchill 89.80 19 *e*P **P 03 41 52.8 -0.9**
FCC pmax pmax
comp=Z,42nm,1.2s,mb5.6
J08A Circle Bar Ran 89.81 41 ⇑P **P 03 41 54.8 +0.7**
baz=90
M06C Likely Place G 89.84 43 ⇓P **P 03 41 54.4 +0.2**
baz=90
G11A Walters Elk Ra 89.86 38 ⇑P **P 03 41 53.9 -0.4**
baz=90
LPL La Plagne 89.87 322⇑*i*P **P 03 41 54.2 -0.1**
comp=Z,8.6nm,1.0s,mb4.8
LPL La Plagne 89.87 322⇑*i*P **P 03 41 54.2 -0.1**
comp=Z,4.3nm,1.0s,mb4.7
LPL La Plagne 89.87 322⇑*i*P **P 03 41 54.2 -0.1**
LPL pmax pmax
comp=Z,4.0nm,1.0s,mb4.7
LPG La Plagne 89.87 322⇑*i*P **P 03 41 54.3 0.0**
O04C Chester 89.96 44 ⇓P **P 03 41 55.4 +0.5**
baz=90,SNR=7.6
L07A Adell 90.07 42 ⇓P **P 03 41 55.5 +0.2**
baz=90,SNR=7.7
H10A Noah's Angus R 90.08 39 P **P 03 41 55.4 +0.1**
baz=90,SNR=8.8
K08A Mann Creek Ran 90.17 41 ⇓P **P 03 41 56.3 +0.5**
baz=90
BNI Bardonecchia 90.19 322 *e*P **P 03 41 54.8 -1.0**
comp=Z,8.2nm,1.1s,mb5.0
BNI Bardonecchia 90.19 322 *e*P **P 03 41 54.8 -1.0**
BNI pmax pmax
comp=Z,8.0nm,1.1s,mb5.0
F12A Elk City 90.21 38 P **P 03 41 56.1 +0.2**
baz=90,SNR=12
J09A Fry Pan Ranch, 90.24 41 ⇑P **P 03 41 56.3 +0.2**
baz=90,SNR=8.2
MSO Missoula 90.25 36 *e*P **P 03 41 56.2 +0.1**
comp=Z,7.0nm,1.1s,mb4.9
WVOR Wild Horse Val 90.26 42 *e*P **P 03 41 56.2 0.0**
comp=Z,24nm,1.9s,mb5.2
WVOR Wild Horse Val 90.26 42 *e*P **P 03 41 56.2 0.0**
WVOR pmax pmax
comp=Z,24nm,1.9s,mb5.2
FFC Flin Flon 90.28 25 P **P 03 41 55.6 -0.4**
comp=Z,179nm,1.2s,SNR=17
FFC Flin Flon 90.28 25 *e*P **P 03 41 55.5 -0.5**
comp=Z,46nm,1.2s,mb5.7
FFC Flin Flon 90.28 25 *e*P **P 03 41 55.5 -0.5**
FFC pmax pmax
comp=Z,46nm,1.2s,mb5.7
D14A Greenough 90.32 36 P **P 03 41 56.4 +0.1**
baz=90,SNR=6.4
MBDF Montbardon 90.33 321⇑*i*P **P 03 41 55.4 -1.1**
comp=Z,7.6nm,1.0s,mb4.7
MBDF Montbardon 90.33 321⇑*i*P **P 03 41 55.4 -1.1**
comp=Z,3.8nm,1.0s,mb4.7
MBDF Montbardon 90.33 321⇑*i*P **P 03 41 55.4 -1.1**
MBDF pmax pmax
comp=Z,4.0nm,1.0s,mb4.7
LOR Lormes 90.33 324 *e*P **P 03 41 55.2 -1.2**
comp=Z,3.9nm,0.7s,mb4.5
LOR Lormes 90.33 324 *e*P **P 03 41 55.2 -1.2**
comp=Z,2.0nm,0.7s,mb4.6
LOR Lormes 90.33 324 *e*P **P 03 41 55.2 -1.2**
LOR pmax pmax
comp=Z,2.0nm,0.7s,mb4.6
PGF Pioggiola 90.34 319⇑*i*P **P 03 41 56.3 -0.3**
E13A Victor 90.36 37 ⇑P **P 03 41 56.6 +0.1**
baz=90
H11A Donnelly 90.43 39 ⇓P **P 03 41 57.0 +0.1**
SBF Sospel 90.48 320⇑*i*P **P 03 41 56.2 -1.0**
comp=Z,24nm,0.8s,mb5.3
SBF Sospel 90.48 320⇑*i*P **P 03 41 56.2 -1.0**
comp=Z,12nm,0.8s,mb5.3
SBF Sospel 90.48 320⇑*i*P **P 03 41 56.2 -1.0**
SBF pmax pmax
comp=Z,12nm,0.8s,mb5.3
N06A Buffalo Meadow 90.50 44 ⇑P **P 03 41 56.9 -0.5**
baz=90
CHMT Chamberlain Mo 90.56 36 *e*P **P 03 41 57.4 -0.1**
L08A Fields 90.58 42 ⇑P **P 03 41 58.1 +0.4**
baz=90,SNR=6.6
K09A Rome 90.64 41 P **P 03 41 58.8 +0.8**
baz=90,SNR=5.7
BEKR Beckwourth 90.67 45 ⇑P **P 03 41 57.8 -0.3**
baz=90
ORIF Oris-en-Rattie 90.72 322⇑*i*P **P 03 41 57.8 -0.5**
comp=Z,28nm,1.4s,mb5.1
ORIF Oris-en-Rattie 90.72 322⇑*i*P **P 03 41 57.8 -0.5**
comp=Z,14nm,1.4s,mb5.1
ORIF Oris-en-Rattie 90.72 322⇑*i*P **P 03 41 57.8 -0.5**
ORIF pmax pmax
comp=Z,14nm,1.4s,mb5.1
E14A Clinton 90.75 36 P **P 03 41 58.8 +0.4**
baz=90,SNR=5.6
O06A Flanigan 90.84 44 ⇑P **P 03 41 58.5 -0.5**
baz=91
D15A Lincoln 90.86 35 ⇑P **P 03 41 58.6 -0.3**
baz=90
I11A Placerville 90.94 39 ⇓P **P 03 41 59.5 +0.2**
baz=91,SNR=10
M08A Happy Creek Ra 90.99 42 ⇑P **P 03 41 59.8 +0.2**
baz=91
LAVA Lava Cap Winer 91.06 46 ⇓P **P 03 42 00.3 +0.3**
baz=91
K10A MacKenzie Ranc 91.10 41 P **P 03 42 01.0 +0.9**
baz=91,SNR=7.5
FRF La Foret Royal 91.11 320⇑*i*P **P 03 41 59.3 -0.8**
comp=Z,12nm,1.0s,mb4.9
FRF La Foret Royal 91.11 320⇑*i*P **P 03 41 59.3 -0.8**
comp=Z,5.8nm,1.0s,mb4.9
FRF La Foret Royal 91.11 320⇑*i*P **P 03 41 59.3 -0.8**
FRF pmax pmax
comp=Z,6.0nm,1.0s,mb4.9
H12A Diamond D Ranc 91.18 38 P **P 03 42 01.1 +0.7**
baz=91,SNR=12
G13A Cobalt 91.18 38 ⇓P **P 03 42 00.8 +0.4**
baz=91
E15A Deer Lodge 91.19 36 P **P 03 42 00.9 +0.5**
baz=91,SNR=6.8
F14A Wisdom 91.20 37 P **P 03 42 01.3 +0.8**
baz=91,SNR=5.9
MFID Camas Ranch 91.32 40 P **P 03 42 01.9 +0.7**
baz=91,SNR=12
LMR La Mourre 91.33 320⇑*i*P **P 03 42 00.5 -0.7**
comp=Z,29nm,1.2s,mb5.2
LMR La Mourre 91.33 320⇑*i*P **P 03 42 00.5 -0.7**
comp=Z,15nm,1.2s,mb5.2
LMR La Mourre 91.33 320⇑*i*P **P 03 42 00.5 -0.7**
LMR pmax pmax
comp=Z,15nm,1.2s,mb5.2
SMRF Simiane la Rot 91.47 321⇑*i*P **P 03 42 01.4 -0.4**
comp=Z,14nm,1.1s,mb4.9
SMRF Simiane la Rot 91.47 321⇑*i*P **P 03 42 01.4 -0.4**
comp=Z,14nm,1.1s,mb5.2
H13A Challis 91.50 38 ⇑P **P 03 42 02.0 0.0**
baz=91
N08A GE Springer Mi 91.53 43 ⇑P **P 03 42 02.5 +0.4**
baz=91
K11A Parker Ranch, 91.60 40 P **P 03 42 03.5 +1.1**
baz=91,SNR=6.6
F15A Butte 91.65 36 P **P 03 42 03.3 +0.7**
baz=91,SNR=7.4
LRM Limekiln Ridge 91.69 36 *e*P **P 03 42 03.4 +0.6**
CMB Columbia Colle 91.69 46 ⇑P **P 03 42 03.0 0.0**
baz=91
L10A Juniper Basin 91.76 41 P **P 03 42 04.3 +1.1**
baz=92,SNR=8.1
J12A Stokes Ranch, 91.84 39 P **P 03 42 04.4 +0.9**
baz=92,SNR=7.0
DLMT Dillon 91.90 37 *e*P **P 03 42 04.5 +0.8**
comp=Z,18nm,1.2s,mb5.3
I13A Wildhorse Cree 91.99 39 P **P 03 42 05.5 +1.4**
baz=92,SNR=24
HLID Hailey 92.04 39 *e*P **P 03 42 05.6 +1.2**
comp=Z,16nm,1.3s,mb5.2
HLID Hailey 92.04 39 P **P 03 42 05.7 +1.3**
baz=92,SNR=18
M10A I.L. Ranch, Tu 92.06 41 ⇓P **P 03 42 05.6 +1.0**
baz=92
G15A Dillon 92.09 37 P **P 03 42 05.4 +0.8**
baz=92,SNR=19
L11A Cat Creek Ranc 92.13 41 P **P 03 42 06.2 +1.4**
baz=92,SNR=17
BOZ Bozeman (W) 92.24 36 *e*P **P 03 42 05.6 +0.3**
comp=Z,2.9nm,1.0s,mb4.6
BOZ Bozeman (W) 92.24 36 *e*P **P 03 42 05.6 +0.3**
BOZ pmax pmax
comp=Z,3.0nm,1.0s,mb4.6
BOZ Bozeman (W) 92.24 36 P **P 03 42 05.9 +0.6**
baz=92,SNR=6.0
J13A Cove Ranch, Pi 92.28 39 P **P 03 42 06.8 +1.3**
baz=92,SNR=12
K12A Draper Farm, C 92.34 40 P **P 03 42 07.2 +1.3**
baz=92,SNR=7.8
LASF Ste Croix 92.37 322 *e*P **P 03 42 04.4 -1.6**
O09A Fish Creek Ran 92.47 43 ⇑P **P 03 42 06.9 +0.4**
baz=92
M11A Holland Ranch, 92.56 41 ⇑P **P 03 42 08.0 +1.1**
baz=92,SNR=6.4
L12A House Creek Ra 92.57 40 P **P 03 42 08.2 +1.3**
baz=92,SNR=7.6
T06C Millerton Lake 92.72 47 ⇓P **P 03 42 08.2 +0.5**
baz=92
Q08A Gabbs 92.79 44 ⇓P **P 03 42 08.6 +0.6**
baz=92
KCC Kaiser Creek 92.80 46 ⇑P **P 03 42 08.7 +0.6**
baz=92
K13A Stover Farm, H 92.80 39 ⇑P **P 03 42 08.7 +0.7**
baz=92
NVAR Mina Array Bea 92.81 45 P **P 03 42 07.9 -0.2**
comp=Z,1.4nm,1.0s,mb4.3,baz=316,slow=3.4,SNR=9.0
O10A Cortez Mining, 92.82 42 ⇑P **P 03 42 08.9 +0.7**
baz=92
N11A Elko Archery C 92.97 42 ⇓P **P 03 42 09.1 +0.4**
baz=93
M12A Wells 93.09 41 P **P 03 42 10.8 +1.4**
baz=93,SNR=8.1
L13A Double Diamond 93.23 40 P **P 03 42 11.5 +1.5**
baz=93,SNR=6.2
HELL Mitchell Peak 93.36 47 ⇑P **P 03 42 11.0 +0.3**
baz=93
N12A Clover Valley, 93.36 41 P **P 03 42 11.8 +1.2**
baz=93,SNR=6.7
K14A Jones Ranch, D 93.39 39 ⇑P **P 03 42 11.6 +1.0**
baz=93
O11A Cowboy Ranch, 93.43 42 ⇓P **P 03 42 10.9 0.0**
baz=93
S08C White Mtn Res 93.44 45 ⇓P **P 03 42 11.6 +0.6**
baz=93
M13A Montello 93.56 41 ⇓P **P 03 42 11.8 +0.3**
baz=93,SNR=6.2
LKWY Lake 93.60 36 *e*P **P 03 42 12.2 +0.6**
comp=Z,29nm,1.1s,mb5.6
LKWY Lake 93.60 36 *e*P **P 03 42 12.2 +0.6**
LKWY pmax pmax
comp=Z,29nm,1.1s,mb5.6
FLWY Flagg Ranch 93.76 37 *e*P **P 03 42 14.0 +1.7**
comp=Z,18nm,1.4s,mb5.3
Q10A Clear Creek Ra 93.77 44 ⇑P **P 03 42 12.8 +0.3**
baz=94
N13A Wendover, West 93.85 41 ⇓P **P 03 42 13.7 +0.8**
baz=94
O12A Currie 93.90 42 P **P 03 42 14.0 +0.9**
baz=94,SNR=9.2
S09A Goldfield 93.91 45 ⇓P **P 03 42 13.0 -0.2**
baz=94
M14A Sheep Mountain 93.95 40 P **P 03 42 14.4 +1.1**
baz=94,SNR=13
MOOW Moose Ponds 93.96 37 *e*P **P 03 42 14.1 +0.8**
comp=Z,9.0nm,1.7s,mb4.9
TPAW Teton Pass 94.02 37 *e*P **P 03 42 14.7 +1.1**
comp=Z,2.6nm,0.9s,mb4.7
HVU Hansel Valley 94.10 40 *e*P **P 03 42 15.2 +1.2**
LOHW Long Hollow 94.13 37 *e*P **P 03 42 13.0 -1.0**
comp=Z,4.2nm,1.3s,mb4.7
R10A Warm Springs 94.16 44 ⇓P **P 03 42 14.6 +0.3**
baz=94
S10A Tonopah Range, 94.19 44 ⇑P **P 03 42 14.8 +0.3**
baz=94
Q11A Duckwater 94.22 43 ⇑P **P 03 42 15.0 +0.4**
baz=94
P12A McGill 94.29 42 ⇑P **P 03 42 15.5 +0.6**
baz=94
N14A Grayback Hills 94.46 40 P **P 03 42 16.5 +0.8**
baz=94,SNR=6.4
M15A Larsen Ranch, 94.49 40 ⇑P **P 03 42 16.1 +0.3**
baz=94
R11A Troy Canyon, C 94.56 44 ⇓P **P 03 42 16.0 -0.2**
baz=94
MPMC Manual Prospec 94.73 46 ⇑P **P 03 42 16.9 -0.1**
baz=94
P13A Bates Ranch, G 94.84 42 ⇓P **P 03 42 18.1 +0.7**
baz=94
FURC Furnace Creek, 94.89 46 ⇑P **P 03 42 17.8 0.0**
baz=95
HWUT Hardware Ranch 94.91 39 *e*P **P 03 42 18.8 +1.1**
comp=Z,9.8nm,1.3s,mb5.1
TPNV Topopah Spring 95.00 45 ⇑P **P 03 42 18.1 -0.1**
baz=95
EDW2 Edwards Air Fo 95.09 48 ⇓P **P 03 42 17.9 -0.7**
baz=95
DUG Dugway 95.09 41 *e*P **P 03 42 18.8 +0.2**
comp=Z,12nm,1.6s,mb5.1
DUG Dugway 95.09 41 *e*P **P 03 42 18.8 +0.2**
DUG pmax pmax
comp=Z,12nm,1.6s,mb5.1
DUG Dugway 95.09 41 ⇑P **P 03 42 18.8 +0.3**
baz=95
BW06 Boulder Array 95.26 37 *e*P **P 03 42 16.8 -2.5**
comp=Z,1.8nm,1.0s,mb4.5
PDAR Pinedale Array 95.26 37 P **P 03 42 16.9 -2.3**
comp=Z,0.7nm,0.9s,mb4.1,baz=350,slow=1.8,SNR=5.7
T11A Corn Creek, Al 95.47 44 ⇑P **P 03 42 20.7 +0.4**
baz=95
S13A Holt Ranch, En 96.11 43 ⇑P **P 03 42 23.5 +0.2**
baz=96
ULM Lac du Bonnet 96.11 25 *e*P **P 03 42 21.7 -1.3**
comp=Z,5.3nm,1.2s,mb4.8
ULM Lac du Bonnet 96.11 25 P **P 03 42 22.0 -1.0**
comp=Z,3.1nm,1.0s,mb4.7,baz=322,slow=3.2,SNR=4.8
TUQ Turquoise Mtn. 96.12 46 ⇓P **P 03 42 23.3 0.0**
baz=96
V14A Boquillas Ranc 97.81 44 ⇑P **P 03 42 30.9 -0.1**
baz=98
TXAR Lajitas Array 107.93 44 PP PP 03 47 52.5 +8.1
comp=Z,0.4nm,1.0s,baz=298,slow=2.7,SNR=3.9
TORD Torodi Ar. Bea 112.93 298 PKiKP PKiKP 03 47 31.6 -1.6
comp=Z,0.8nm,1.0s,baz=38,slow=2.6,SNR=3.8
TORD PP PP 03 48 26.5 +5.3
comp=Z,1.1nm,1.1s,baz=46,slow=4.3,SNR=3.5
ROSC El Rosal 144.21 35 *e*PKPdf PKPdf 03 48 30.3 -1.8
ROSC El Rosal 144.21 35 PKP PKPdf 03 48 31.6 -0.5
comp=Z,9.8nm,1.0s,baz=270,slow=6.1,SNR=9.8
LPAZ La Paz 164.40 56 *e*PKPdf PKPdf 03 49 00.4 +0.7
LPAZ *e*PKPab PKPab 03 49 53.0 -1.1
LPAZ La Paz 164.40 56 PKP PKPdf 03 49 00.7 +1.0
comp=Z,1.7nm,0.9s,baz=51,slow=1.6,SNR=7.5
LPAZ PKPab PKPab 03 49 53.4 -0.6
comp=Z,6.0nm,1.3s,baz=331,slow=10,SNR=4.4

IDC ***20*** *03:34:05.8±1.4, 2565N×12532E, h0km, mb3.7/3, mb1 3.9/4, mb1mx3.6/20, mbtmp3.7/4, ML3.7/1, Error ellipse: s-maj=39.6km s-min=29.3km az=80.0*
ISCJB ***20*** *03:34:07.7±1.9, 2569N±009×1253E±0.1, h24km±15km, mb3.6/3, Error ellipse: s-maj=20.2km s-min=7.4km az=43.5*
JMA ***20*** *03:34:07.0±0.2, 2572N×12525E, h22km±3km, M3.5*
ISC 20 03:34:07.1±1.9, 2568N±008×12525E±010, h11km±12km, n11, c0%63/16, mb3.6/3, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMJ	**Miyako jima 2**	**0.86**	**177**	P	**Pg**	**03 34 23.9**	**+0.2**
JMJ				*e*S	**Sg**	**03 34 35.6**	**+0.7**
JOGS	**Gusukube**	**0.92**	**171**	P	**Pg**	**03 34 24.7**	**-0.2**
JOGS				S	**Sg**	**03 34 37.4**	**+0.4**

JTJ	**Tarama**	**1.14 206**	P		**Pb**	**03 34 28.1**	**-0.8**
JTJ			*e*S		**Sg**	**03 34 43.1**	**-0.9**
JKE	**Kume jima 2**	**1.53 65**	P		**Pn**	**03 34 33.1**	**-1.2**
JIJ	**Ishigaki jima**	**1.65 218**	P		**Pn**	**03 34 36.0**	**+0.1**
JIJ			*e*S		**Sn**	**03 34 56.0**	**-1.1**
JKRS	**Kuro-shima**	**1.82 218**	P		**Pn**	**03 34 39.0**	**+0.7**
JKRS			*e*S		**Sn**	**03 35 01.9**	**+0.5**
IRIF	**Iriomote-Funau**	**1.92 226**	P		**Pn**	**03 34 39.9**	**+0.2**
JOW	**Kunigami**	**2.95 66**	Pn		**Pn**	**03 34 53.9**	**-0.1**
	17nm,0.3s,baz=249,slow=13,SNR=6.6						
ZALV	**Zalesovo Beam**	**41.09 324**	P		**P**	**03 41 51.6**	**+0.9**
	1.1nm,0.5s,mb3.7,baz=117,slow=7.3,SNR=4.6						
WRA	**Warramunga Arr**	**46.20 168**	P		**P**	**03 42 32.2**	**+0.1**
	0.4nm,0.9s,mb3.3,baz=349,slow=8.0,SNR=3.0						
YKA	**Yellowknife Ar**	**80.14 24**	P		**P**	**03 46 17.3**	**+0.4**
	0.6nm,0.7s,mb3.6,baz=302,slow=5.3,SNR=9.5						

*IDC **20** 03:36:23.9±1.1,2560N×12521E,h0km,mb3.7/5, mb1 3.9/6,mb1mx3.7/20,mbtmp3.7/6,ML3.7/1,Error ellipse: s-maj=36.7km s-min=21.5km az=74.0*
*JMA **20** 03:36:24.9±0.2,2576N×12509E,h28km±4km,M3.6*
*NEIC **20** 03:36:25.5±0.8,2559N×12520E,h10km,MG3.6(JMA), Error ellipse: s-maj=19.0km s-min=15.9km az=74.0*
*ISCJB **20** 03:36:26.5±1.5,2566N±005×125.14E±007,h31km±12km, mb3.6/5,Error ellipse: s-maj=12.4km s-min=5.5km az=32.0*

ISC 20 03:36:26.9±1.7,2564N±007×12511E±009,h23km±13km, n19,σ0°86/23,mb3.6/5,Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMJ	**Miyako jima 2**	**0.84**	**168**	P	**Pb**	**03 36 42.4**	**-0.4**
JMJ				*e*S	**Sb**	**03 36 54.5**	**+0.9**
JOGS	**Gusukube**	**0.92**	**163**	P	**Pb**	**03 36 43.6**	**-0.5**
JOGS				*e*S	**Sb**	**03 36 56.8**	**+0.9**
JTJ	**Tarama**	**1.06**	**200**	P	**Pn**	**03 36 45.5**	**-0.9**
JTJ				*e*S	**Sb**	**03 37 00.2**	**+0.2**
JIJ	**Ishigaki jima**	**1.54**	**215**	P	**Pn**	**03 36 52.7**	**-0.3**
JIJ				*e*S	**Sn**	**03 37 11.5**	**-0.9**
JKE	**Kume jima 2**	**1.66**	**65**	P	**Pn**	**03 36 52.1**	**-2.5**
JKRS	**Kuro-shima**	**1.72**	**216**	*e*S	**Sn**	**03 37 17.2**	**+0.6**
IRIF	**Iriomote-Funau**	**1.81**	**224**	P	**Pn**	**03 36 55.7**	**-0.9**
HATJ	**Hateruma jima**	**1.97**	**217**	P	**Pn**	**03 36 58.9**	**0.0**
JIH	**Iheya**	**2.92**	**61**	P	**Pn**	**03 37 11.5**	**-0.4**
JOW	**Kunigami**	**3.08**	**67**	P	**Pn**	**03 37 13.9**	**-0.3**
JOW	**Kunigami**	**3.08**	**67**	Pn	**Pn**	**03 37 13.6**	**-0.6**
	17nm,0.3s,baz=256,slow=11,SNR=9.5						
JTK	**Tokunoshima**	**4.05**	**57**	P	**Pn**	**03 37 27.8**	**+0.4**
JAM	**Amami Oshima**	**4.87**	**54**	P	**Pn**	**03 37 39.5**	**+0.8**
SONM	**Songino Array**	**26.61**	**331**	P	**P**	**03 42 06.1**	**+2.6**
	0.7nm,0.8s,mb3.3,baz=143,slow=11,SNR=2.7						
ZALV	**Zalesovo Beam**	**41.05**	**324**	P	**P**	**03 44 08.8**	**+0.4**
	0.6nm,0.4s,mb3.6,baz=116,slow=6.7,SNR=2.6						
WRA	**Warramunga Arr**	**46.19**	**168**	P	**P**	**03 44 50.6**	**+0.6**
	1.1nm,0.6s,mb3.9,baz=351,slow=8.5,SNR=12						
ASAR	**Alice Springs**	**49.75**	**169**	P	**P**	**03 45 17.4**	**-0.2**
	0.4nm,0.5s,mb3.7,baz=353,slow=6.9,SNR=5.2						
YKA	**Yellowknife Ar**	**80.22**	**24**	P	**P**	**03 48 35.7**	**+0.4**
YKA	**Yellowknife Ar**	**80.22**	**24**	P	**P**	**03 48 35.7**	**+0.4**
	0.3nm,0.8s,mb3.3,baz=303,slow=5.0,SNR=4.4						

*ISCJB **20** 03:45:50.3±2.1,2572N±004×12508E±006,h9km±14km, mb3.5/6,Error ellipse: s-maj=9.4km s-min=5.8km az=18.4*
*IDC **20** 03:45:50.1±1.0,2568N×12507E,h0km,mb3.6/6, mb1 3.8/7,mb1mx3.7/20,mbtmp3.6/7,ML3.2/1,Error ellipse: s-maj=33.1km s-min=20.2km az=64.0*
*NEIC **20** 03:45:51.7±0.6,2566N×12503E,h10km,MG3.7(JMA), Error ellipse: s-maj=16.2km s-min=13.1km az=52.0*
*JMA **20** 03:45:52.0±0.2,2570N×12508E,h26km±3km,M3.7*

ISC 20 03:45:50.9±1.4,2569N±005×12507E±007,h5km±9km,n17, σ0°75/24,mb3.5/6,Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMJ	**Miyako jima 2**	**0.90**	**167**	P	**Pg**	**03 46 08.5**	**+0.4**
JMJ				S	**Sg**	**03 46 20.2**	**+0.5**
JOGS	**Gusukube**	**0.98**	**162**	P	**Pg**	**03 46 09.9**	**+0.3**
JOGS				S	**Sg**	**03 46 22.5**	**+0.2**
JTJ	**Tarama**	**1.10**	**198**	P	**Pg**	**03 46 11.7**	**-0.3**
JTJ				*e*S	**Sg**	**03 46 25.6**	**-0.6**
JIJ	**Ishigaki jima**	**1.57**	**213**	P	**Pn**	**03 46 18.4**	**-1.0**
JIJ				*e*S	**Sn**	**03 46 38.0**	**-2.1**
JKE	**Kume jima 2**	**1.67**	**67**	P	**Pn**	**03 46 19.9**	**-0.9**
JKRS	**Kuro-shima**	**1.74**	**214**	P	**Pn**	**03 46 21.6**	**-0.2**
JKRS				*e*S	**Sn**	**03 46 44.4**	**0.0**
IRIF	**Iriomote-Funau**	**1.82**	**222**	P	**Pn**	**03 46 22.4**	**-0.5**
IRIF				*e*S	**Sn**	**03 46 46.7**	**+0.4**
HATJ	**Hateruma jima**	**1.99**	**215**	P	**Pn**	**03 46 25.5**	**+0.2**
HATJ				*e*S	**Sn**	**03 46 52.1**	**+1.5**
YOJ	**Yonaguni jima**	**2.23**	**237**	*e*S	**Sn**	**03 46 57.7**	**+1.1**
JOW	**Kunigami**	**3.09**	**68**	Pn	**Pn**	**03 46 41.5**	**+1.1**
	5.6nm,0.3s,baz=238,slow=9.3,SNR=7.9						
SONM	**Songino Array**	**26.55**	**331**	P	**P**	**03 51 30.5**	**+0.8**
	0.4nm,0.5s,mb3.2,baz=127,slow=9.3,SNR=2.7						
MKAR	**Makanchi Array**	**39.80**	**313**	P	**P**	**03 53 25.2**	**+0.3**
	0.6nm,0.7s,mb3.5,baz=119,slow=5.1,SNR=3.5						
ZALV	**Zalesovo Beam**	**40.99**	**324**	P	**P**	**03 53 34.2**	**-0.5**
ZALV	**Zalesovo Beam**	**40.99**	**324**	P	**P**	**03 53 34.2**	**-0.5**
	1.2nm,0.4s,mb3.8,baz=115,slow=8.7,SNR=6.5						
WRA	**Warramunga Arr**	**46.25**	**168**	P	**P**	**03 54 17.0**	**-0.4**
	0.5nm,0.6s,mb3.6,baz=351,slow=8.6,SNR=5.3						
ASAR	**Alice Springs**	**49.81**	**169**	P	**P**	**03 54 44.9**	**+0.1**
	0.3nm,0.6s,mb3.5,baz=351,slow=7.1,SNR=5.8						
YKA	**Yellowknife Ar**	**80.19**	**24**	P	**P**	**03 58 01.5**	**-0.6**
	0.6nm,0.8s,mb3.6,baz=307,slow=5.1,SNR=15						

*NEIC **20** 03:54:06.4,3163S×7202W,h30km,ML3.1(GUC),After GUC.*

GUC 20 03:54:06.4±0.7,3163S×7202W,h30km±4km,MD3.5, ML3.1,6C-2D,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHNG	**Los Chungos**	**0.51**	**119** ⇓	*i*P	Px	03 53 56.4	
CHNG				*i* S	Sx	03 54 03.9	
CMCH	**Combarbala**	**0.98**	**63** ⇑	*i*P	Pn	03 54 22.8	-1.4
CMCH				*i* S	Sn	03 54 36.1	-1.0
CMCH	**Combarbala**	**0.98**	**63** ⇑	*i*P	Pn	03 54 22.8	-1.4
CMCH				*i* S	Sn	03 54 36.1	-1.0
CMCH				AML	AML	03 54 41.5	
	comp=N,1μm,0.7s						
PTCH	**Petorca**	**1.12**	**124** ⇓	*i*P	Pn	03 54 25.4	-0.7
PTCH				*i* S	Sn	03 54 40.2	-0.2
ROCH	**El Roble**	**1.59**	**148**	*i* S	Sn	03 54 55.0	+3.0
JACH	**Jahuel**	**1.60**	**131** ⇑	*i*P	Pn	03 54 33.7	+1.0
JACH				*i* S	Sn	03 54 55.2	+2.9
TLL	**Tololo Astrono**	**1.80**	**36** ⇑	*i*P	Pn	03 54 37.5	+2.1
TLL				*i* S	Sn	03 55 00.6	+3.5
TLL	**Tololo Astrono**	**1.80**	**36** ⇑	*i*P	Pn	03 54 37.5	+2.1
TLL				*i* S	Sn	03 55 00.6	+3.5
TLL				AML	AML	03 55 10.2	
	comp=E,159nm,0.7s						
PEL	**Peldehue**	**1.88**	**143** ⇑	*i*P	Pn	03 54 38.1	+1.6
PEL				*i* S	Sn	03 55 02.1	+2.8
PEL				AML	AML	03 55 07.5	
	comp=E,463nm,0.5s						
FCH	**Farellones**	**2.24**	**140**	*i* P	Pn	03 54 42.3	+0.9
FCH				*i* S	Sn	03 55 10.4	+2.4
FCH				AML	AML	03 55 19.6	
	comp=E,107nm,0.6s						
LMEL	**Las Melosas**	**2.69**	**146**	AML	AML	03 55 35.1	
	comp=N,91nm,0.5s						

IDC 20 03:55:45.5±6.5,781S×15770E,h0km,mb3.9/3,mb1 4.0/4, mb1mx3.6/15,mbtmp3.9/4,ML4.0/1,Error ellipse: s-maj=129.4km s-min=26.8km az=15.0,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.75**	**126**	Pn	Pn	03 56 30.4	-0.5
	24nm,0.3s,baz=230,slow=6.7,SNR=3.9						
HNR				Sn	Sn	03 57 07.0	+2.2
	39nm,0.3s,baz=84,slow=21,SNR=5.1						
WRA	**Warramunga Arr**	**25.64**	**240**	P	P	04 01 17.6	+0.6
	2.1nm,0.6s,baz=66,slow=9.4,SNR=29						
ASAR	**Alice Springs**	**27.73**	**233**	P	P	04 01 35.1	-0.8
	0.4nm,0.8s,baz=61,slow=8.7,SNR=5.0						
STKA	**Stephens Creek**	**28.25**	**210**	P	P	04 01 40.8	+0.3
	1.6nm,0.6s,baz=31,slow=11,SNR=6.5						

JMA 20 04:08:33.0±0.1,2572N×12515E,h19km±3km,M3.6, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMJ	**Miyako jima 2**	**0.91**	**172**	P	Pb	04 08 49.8	-0.4
JMJ				*e*S	Sb	04 09 01.9	0.0
JOGS	**Gusukube**	**0.98**	**166**	P	Pb	04 08 51.0	-0.4
JOGS				S	Sb	04 09 03.9	-0.1
JTJ	**Tarama**	**1.15**	**201**	*e*S	Sb	04 09 08.7	-0.1

JMA 20 04:26:56.7±0.2,2573N×12520E,h14km±2km,M3.6, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMJ	**Miyako jima 2**	**0.92**	**175**	P	Pb	04 27 13.8	-0.6
JMJ				S	Sb	04 27 26.0	-0.4
JOGS	**Gusukube**	**0.98**	**169**	P	Pb	04 27 14.8	-0.7
JOGS				*e*S	Sb	04 27 27.6	-0.7
JTJ	**Tarama**	**1.18**	**203**	P	Pn	04 27 18.3	-0.4
JTJ				*e*S	Sb	04 27 33.6	-0.2
JKE	**Kume jima 2**	**1.54**	**67**	P	Pn	04 27 24.2	+0.4
JIJ	**Ishigaki jima**	**1.67**	**215**	P	Pn	04 27 25.5	+0.1
JIJ				*e*S	Sn	04 27 46.1	-0.5
JKRS	**Kuro-shima**	**1.84**	**216**	P	Pn	04 27 29.0	+1.2
JKRS				*e*S	Sn	04 27 51.9	+1.0
IRIF	**Iriomote-Funau**	**1.93**	**224**	P	Pn	04 27 29.7	+0.7
IRIF				*e*S	Sn	04 27 53.3	+0.2

IDC 20 04:27:21.2±1.5,2562N×12520E,h0km,mb3.7/3, mb1 4.0/3,mb1mx3.6/19,mbtmp3.7/3,Error ellipse: s-maj=71.0km s-min=32.7km az=76.0,Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZALV	**Zalesovo Beam**	**41.12**	**324**	P	P	04 35 05.9	-0.8
	0.6nm,0.4s,baz=119,slow=9.3,SNR=3.9						
WRA	**Warramunga Arr**	**46.15**	**168**	P	P	04 35 47.5	-0.1
	0.9nm,1.0s,baz=353,slow=8.9,SNR=3.6						
YKA	**Yellowknife Ar**	**80.21**	**24**	P	P	04 39 33.7	+0.5
	0.6nm,0.7s,baz=305,slow=5.4,SNR=12						

*IDC **20** 04:44:44.3±1.2,032N×9883E,h0km,mb4.0/6,mb1 4.0/7, mb1mx3.8/20,mbtmp4.0/7,ML3.0/1,MS3.2/1,Ms1 3.2/1, ms1mx3.1/32,Error ellipse: s-maj=51.6km s-min=16.8km az=64.0*
*ISCJB **20** 04:44:46.7±1.0,01N±01×985E±02,h33km,mb4.3/18, Error ellipse: s-maj=32.4km s-min=12.2km az=149.6*
*BJI **20** 04:44:48.9,020N×9880E,h30km,mB4.7,mb4.5*
*NEIC **20** 04:44:49.0±0.7,023N×9878E,h30km,mb4.2/6,Error ellipse: s-maj=29.1km s-min=11.4km az=64.0*

ISC 20 04:44:48.7±1.0,00N±01×985E±02,h35km,n24,σ1°24/23, mb4.3/18,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.81**	**9**	Pn	**Pn**	**04 45 26.2**	**-4.9**
	3.4nm,0.3s,baz=179,slow=7.2,SNR=12						
PSI				LR	LR	04 46 12.1	
	comp=Z,576nm,21.5s,baz=223,slow=37						
KMI	**Kunming**	**25.30**	**9**	P	**P**	**04 50 16.4**	**+4.3**
KMI				AP	pP	04 50 22.5	+0.3
KMI				AMB	AMB		
	comp=Z,8.0nm,0.7s,mb4.4						
GYA	**Guiyang**	**27.45**	**16**	P	**P**	**04 50 34.3**	**+2.8**
GYA				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.3						
CD2	**Chengdu**	**31.14**	**9**	*e*P	**P**	**04 51 06.8**	**+2.6**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.8						
CD2				AMB	AMB		
	comp=Z,20nm,4.2s						
XAN	**Xi'an**	**35.24**	**15**	P	**P**	**04 51 36.8**	**-3.1**
XAN				AMB	AMB		
	comp=Z,4.0nm,0.6s,mb4.5						
WRA	**Warramunga Arr**	**40.30**	**122**	P	**P**	**04 52 22.0**	**-0.9**
	comp=Z,0.7nm,0.4s,mb3.7,baz=303,slow=9.0,SNR=15						
WRA				PcP	PcP	04 54 27.2	+0.9
	comp=Z,0.5nm,1.0s,baz=305,slow=3.2,SNR=5.0						
ASAR	**Alice Springs**	**41.64**	**127**	P	**P**	**04 52 34.1**	**+0.2**
	comp=Z,0.9nm,0.7s,mb3.5,baz=300,slow=7.8,SNR=17						
BJT	**Baijiatuau**	**42.96**	**20**	*e*P	**P**	**04 52 45.0**	**+0.6**
	comp=Z,6.5nm,0.3s,mb4.8						
BJI	**Beijing**	**42.98**	**20**	P	**P**	**04 52 43.9**	**-0.7**
BJI				AMB	AMB		
	comp=Z,26nm,0.8s,mb5.0						
BJI				AMB	AMB		
	comp=Z,175nm,6.4s						
TKM2	**Tokmak 2**	**47.41**	**337**	*e*P	**P**	**04 53 21.4**	**+1.7**
	comp=Z,2.7nm,0.8s,mb4.2						
EKS2	**Erkin-Say**	**47.93**	**335**	*e*P	**P**	**04 53 24.5**	**+0.8**
	comp=Z,1.4nm,0.5s,mb4.2						
SONM	**Songino Array**	**48.13**	**7**	P	**P**	**04 53 23.7**	**-1.5**
	comp=Z,2.8nm,0.8s,mb4.3,baz=190,slow=8.2,SNR=16						
SONM				PcP	PcP	04 54 52.8	+0.4
	comp=Z,0.4nm,0.6s,baz=184,slow=3.1,SNR=4.3						
ULN	**Ulaanbaatar**	**48.24**	**8**	*e*P	**P**	**04 53 26.4**	**+0.3**
	comp=Z,1.8nm,0.8s,mb4.2						
MK31	**Makanchi Array**	**48.71**	**345**	*e*P	**P**	**04 53 30.1**	**+0.4**
MKAR	**Makanchi Array**	**48.71**	**345**	P	**P**	**04 53 28.5**	**-1.2**
MKAR	**Makanchi Array**	**48.71**	**345**	P	**P**	**04 53 28.5**	**-1.2**
	comp=Z,3.2nm,0.7s,mb4.5,baz=153,slow=7.7,SNR=19						
STKA	**Stephens Creek**	**51.59**	**132**	*e*P	**P**	**04 53 52.9**	**+1.0**
STKA	**Stephens Creek**	**51.59**	**132**	P	**P**	**04 53 52.6**	**+0.8**
	comp=Z,0.8nm,0.6s,mb3.9,baz=358,slow=5.7,SNR=3.2						
MDJ	**Mudanjiang**	**52.29**	**28**	P	**P**	**04 53 57.1**	**+0.3**
MDJ				AMB	AMB		
	comp=Z,6.0nm,1.0s,mb4.5						
MDJ				AMB	AMB		
	comp=Z,63nm,3.2s						
KURK	**Kurchatov**	**53.28**	**344**	*e*P	**P**	**04 54 03.4**	**-0.6**
	comp=Z,1.9nm,0.8s,mb4.1						
ZAA0	**Zalesovo Array**	**54.94**	**350**	*e*P	**P**	**04 54 16.4**	**+0.3**
ZALV	**Zalesovo Beam**	**54.94**	**350**	P	**P**	**04 54 13.7**	**-2.3**
	comp=Z,1.9nm,0.5s,mb4.3,baz=175,slow=7.7,SNR=13						
BRVK	**Borovoye**	**57.86**	**340**	*e*P	**P**	**04 54 36.4**	**-0.4**
	comp=Z,1.8nm,0.8s,mb4.2						
CPUP	**Villa Florida**	**144.97**	**220**	PKPbc	PKPdf	05 04 24.9	+1.8
	comp=Z,1.6nm,0.6s,baz=110,slow=2.7,SNR=6.5						

IDC 20 04:49:04.5±1.2,2193N×14325E,h0km,mb3.4/6, mb1 3.6/6,mb1mx3.5/20,mbtmp3.4/6,Error ellipse: s-maj=45.0km s-min=23.8km az=85.0,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**39.20**	**320**	P	P	04 56 34.8	+0.7
	0.4nm,0.5s,baz=126,slow=9.1,SNR=3.5						
WRA	**Warramunga Arr**	**42.52**	**192**	P	P	04 57 03.2	+1.5
	0.3nm,0.7s,baz=16,slow=9.3,SNR=3.7						
ASAR	**Alice Springs**	**46.22**	**192**	P	P	04 57 30.0	-1.4
	0.3nm,0.7s,baz=19,slow=9.0,SNR=4.4						
ZALV	**Zalesovo Beam**	**54.06**	**322**	P	P	04 58 30.5	-0.2
	0.4nm,0.4s,baz=94,slow=7.4,SNR=2.9						
MKAR	**Makanchi Array**	**54.58**	**313**	P	P	04 58 34.2	-0.3
	0.1nm,0.3s,baz=100,slow=8.1,SNR=2.4						
YKA	**Yellowknife Ar**	**76.22**	**28**	P	P	05 00 54.5	+0.1
	0.2nm,0.5s,baz=294,slow=5.9,SNR=11						

*IDC **20** 05:00:19.1±5.1,2411N×12592E,h0km,mb3.5/3, mb1 3.7/4,mb1mx3.5/18,mbtmp3.6/4,Error ellipse: s-maj=114.0km s-min=38.2km az=172.0*
*ISCJB **20** 05:00:27.3±1.9,2569N±010×1253E±01,h20km±15km, mb3.2/3,Error ellipse: s-maj=22.1km s-min=6.8km az=43.8*
*JMA **20** 05:00:27.8±0.2,2568N×12531E,h31km±4km,M3.6*

ISC 20 05:00:27.0±2.7,257N±01×1252E±02,h11km±16km,n12, σ0°46/17,mb3.2/3,Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMJ	**Miyako jima 2**	**0.85**	**177**	P	**Pg**	**05 00 43.5**	**0.0**
JMJ				S	**Sg**	**05 00 55.0**	**+0.4**
JOGS	**Gusukube**	**0.92**	**171**	P	**Pg**	**05 00 44.4**	**-0.3**
JOGS				S	**Sg**	**05 00 56.7**	**0.0**
JTJ	**Tarama**	**1.14**	**206**	P	**Pb**	**05 00 48.6**	**0.0**
JTJ				*e*S	**Sb**	**05 01 03.2**	**-0.2**
JKE	**Kume jima 2**	**1.54**	**65**	P	**Pn**	**05 00 53.1**	**-1.2**
JIJ	**Ishigaki jima**	**1.64**	**218**	P	**Pn**	**05 00 55.4**	**-0.3**
JIJ				S	**Sn**	**05 01 16.2**	**-0.6**
JKRS	**Kuro-shima**	**1.81**	**218**	P	**Pn**	**05 00 58.4**	**+0.3**
JKRS				*e*S	**Sn**	**05 01 21.6**	**+0.5**
JIH	**Iheya**	**2.80**	**60**	P	**Pn**	**05 01 12.1**	**+0.5**
JOW	**Kunigami**	**2.96**	**66**	P	**Pn**	**05 01 14.3**	**+0.4**
JOW	**Kunigami**	**2.96**	**66**	Pn	**Pn**	**05 01 14.4**	**+0.5**
	16nm,0.3s,baz=224,slow=8.4,SNR=17						
MKAR	**Makanchi Array**	**39.93**	**313**	P	**P**	**05 08 07.7**	**+6.7**
	0.1nm,0.3s,mb3.0,baz=105,slow=9.5,SNR=3.3						
ZALV	**Zalesovo Beam**	**41.10**	**324**	P	**P**	**05 08 17.4**	**+6.8**
	0.6nm,0.6s,mb3.4,baz=114,slow=11,SNR=4.6						
YKA	**Yellowknife Ar**	**80.15**	**24**	P	**P**	**05 12 37.1**	**+0.3**
	0.3nm,0.7s,mb3.3,baz=304,slow=5.4,SNR=8.8						

WEL 20 05:01:04.9±0.2,4125S×17255E,h212km±1km,ML3.6/12, 4C,Error ellipse: s-maj=2.2km s-min=2.0km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QRZ	**Quartz Range**	**0.42**	**358**	PN	Pn	05 01 33.1	-0.1
QRZ				SN	S	05 01 54.1	-1.0
QRZ				SN	S	05 01 54.2	-0.9
THZ	**Tophouse**	**0.58**	**153**	⇑PN	Pn	05 01 34.0	+0.3
THZ				SN	S	05 01 55.7	-0.6
THZ				SN	S	05 01 55.7	-0.5
NNZ	**Nelson**	**0.63**	**88**	⇑PN	Pn	05 01 33.8	-0.1
NNZ				SN	S	05 01 55.5	-0.9
DSZ	**Denniston Nort**	**0.75**	**228**	⇑PN	Pn	05 01 34.3	-0.2
DSZ				SN	S	05 01 56.1	-1.4
DSZ				SN	S	05 01 56.2	-1.4
TUWZ	**Tuamarina**	**1.06**	**100**	PN	Pn	05 01 36.5	+0.2
BSWZ	**Blackbirch Sta**	**1.10**	**116**	PN	Pn	05 01 36.7	+0.1
BSWZ				SN	S	05 02 00.8	-0.4
DUWZ	**D'Urville Isla**	**1.13**	**67**	PN	Pn	05 01 36.7	-0.1
DUWZ				SN	S	05 02 01.4	-0.1
TCW	**Tory Channel**	**1.30**	**89**	⇑PN	Pn	05 01 38.0	-0.1
TCW				SN	S	05 02 02.8	-1.1
KHZ	**Kahutara**	**1.39**	**148**	PN	Pn	05 01 38.6	-0.1
LTZ	**Lake Taylor**	**1.55**	**188**	PN	Pn	05 01 40.0	-0.1
MRW	**Makara Radio**	**1.62**	**90**	PN	Pn	05 01 40.4	-0.3
SNZO	**South Karori**	**1.62**	**93**	PN	Pn	05 01 40.4	-0.4
KIW	**Kapiti Island**	**1.82**	**79**	PN	Pn	05 01 42.3	-0.4
CAW	**Cannon Point**	**1.91**	**87**	PN	Pn	05 01 43.0	-0.4
MSWZ	**Moikau Station**	**2.04**	**96**	PN	Pn	05 01 44.3	-0.4
MTW	**Mount Morrison**	**2.23**	**89**	PN	Pn	05 01 46.2	-0.4
HOWZ	**Holdsworth Sta**	**2.27**	**82**	PN	Pn	05 01 46.7	-0.4
WVZ	**Waitaha Valley**	**2.27**	**216**	PN	Pn	05 01 46.2	-0.9
MRZ	**Mangatainoka R**	**2.37**	**77**	PN	Pn	05 01 47.4	-0.7
MQZ	**McQueen's Vall**	**2.46**	**178**	PN	Pn	05 01 48.5	-0.6
TMWZ	**Te Maipa**	**2.52**	**88**	PN	Pn	05 01 49.7	-0.1
TIWZ	**Tintock**	**2.57**	**81**	PN	Pn	05 01 49.9	-0.4
BFZ	**Birch Farm**	**2.85**	**80**	PN	Pn	05 01 53.1	-0.4
WNVZ	**Wahianoa**	**3.02**	**52**	PN	Pn	05 01 54.7	-0.7

*ISCJB **20** 05:08:19.3±0.3,4327N±003×3594E±003,h10km,mb3.5/8, Error ellipse: s-maj=4.0km s-min=3.3km az=27.8*
*CSEM **20** 05:08:19.4±0.1,4316N×3604E,h10km,mb3.8/2,Error ellipse: s-maj=2.8km s-min=2.2km az=28.0*
*MOS **20** 05:08:19.9±1.4,4323N×3609E,h10km,mb3.8/2,Error ellipse: s-maj=9.4km s-min=7.0km az=117.9*
*IDC **20** 05:08:19.9±1.4,4313N×3599E,h0km,mb3.4/6,mb1 3.6/9, mb1mx3.5/23,mbtmp3.5/9,ML3.7/3,Error ellipse: s-maj=28.3km s-min=15.7km az=5.0*
*NEIC **20** 05:08:20.9±0.8,4319N×3604E,h10km,mb3.8/2,Error ellipse: s-maj=18.1km s-min=7.2km az=181.0*

ISC 20 05:08:21.3±0.8,4322N±003×3596E±003,h12km±5km,n81, σ1°37/99,mb3.5/8,9C-5D,Black Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SUDU	**Sudak**	**1.81**	**338**	*e*P	**Pn**	**05 08 53.2**	**+0.9**
SUDU				*e*S	**Sn**	**05 09 17.0**	**+1.9**
SUDU				pmax	pmax		
	comp=Z,10.0nm,0.2s						
SUDU				smax			
	comp=N,52nm,0.3s						
SUDU	**Sudak**	**1.81**	**338**	*e*P	**Pn**	**05 08 53.2**	**+0.9**
	comp=N,52nm,0.3s						
SUDU				*e*S	**Sn**	**05 09 17.0**	**+1.9**
YAL	**Yalta**	**1.82**	**315**	*e*P	**Pn**	**05 08 54.7**	**+2.3**
YAL				*e*		05 09 16.6	
YAL				pmax	pmax		
	comp=Z,10.0nm,0.3s						
YAL				smax			
	comp=E,45nm,0.9s						
YAL				smax			
	comp=Z,85nm,0.9s						
YAL	**Yalta**	**1.82**	**315**	*e*S	**Sn**	**05 09 16.6**	**+1.2**
ALU	**Alushta**	**1.85**	**323**	*e*P	**Pg**	**05 08 54.9**	**-1.9**
ALU				*e*		05 09 17.7	
ALU				pmax	pmax		
	comp=Z,11nm,0.2s						
ALU		

GRSN	GIRESUNGRSN	2.86	142	*i* P		Pn	05 09 05.1	-1.7
ELDT	Eldivan	3.32	216	*i* P		Pn	05 09 14.0	+1.0
MACK	Trabzon	3.63	127	*i* P		Pn	05 09 16.9	-0.5
CDAG	Cicekdag	3.78	199	*i* P		Pn	05 09 17.8	-1.7
KEMA	Kemaliye	4.38	153	*i* P		Pn	05 09 29.6	+2.0
HENT	Hendek	4.46	239	*i* P		Pn	05 09 29.2	+0.5
KOPT	Kop Dagi	4.67	132	*i* P		Pn	05 09 32.3	+0.8
ARTV	Artvin	4.88	113	*i* P		Pn	05 09 34.2	-0.2
KIV	Kislovodsk	4.94	79	*e*Pn		Pn	05 09 32.0	-3.3
KIV	Kislovodsk	4.94	79	*e*P		Pn	05 09 32.3	-3.0
KIV				*e*S		Sn	05 10 28.6	-3.8
KIV				pmax	pmax			
	comp=Z,4.0nm,0.7s							
KIV	Kislovodsk	4.94	79	*e*Pn		Pn	05 09 32.0	-3.3
KIV	Kislovodsk	4.94	79	*e*P		Pn	05 09 32.3	-3.0
	comp=Z,4.0nm,0.7s							
PYA	Pyatigorsk	5.22	79	*i* P		Pn	05 09 36.3	-2.8
ERZM	Erzurum	5.23	127	*i* P		Pn	05 09 43.5	+4.1
ONI	Oni	5.54	94	P		Pn	05 09 44.1	+0.6
TIRR	Tirgusor	5.60	285	⇑P		Pn	05 09 43.8	-0.6
TIRR				S		Sn	05 10 44.8	-3.7
TIRR	Tirgusor	5.60	285	⇑*i*P		Pn	05 09 43.8	-0.5
TIRR	Tirgusor	5.60	285	S		Sn	05 10 44.8	-3.7
PSN	Preselentsi	5.68	277	*e*P		Sn	05 10 48.7	-1.8
ELBA	Catalca	5.96	252	*i* P		Pn	05 09 49.6	+0.3
HARR	Harsova	5.98	287	⇓P		Pn	05 09 49.6	0.0
HARR				S		Sn	05 10 55.5	-2.5
HARR	Harsova	5.98	287	⇓*i*P		Pn	05 09 49.6	0.0
HARR	Harsova	5.98	287	S		Sn	05 10 55.5	-2.4
PRD	Provadia	6.26	273	*e*P		Sn	05 10 59.7	-5.0
JMB	Yambol	6.93	267	*e*P		Sn	05 11 14.7	-6.7
VRI	Vrincioaia	7.11	295	⇑*i*P		Pn	05 10 07.6	+2.5
PLOR	Plostina	7.16	295	⇓P		Pn	05 10 08.0	+2.3
PLOR				S		Sn	05 11 26.1	-0.7
PLOR	Plostina	7.16	295	⇓*i*P		Pn	05 10 07.9	+2.2
PLOR	Plostina	7.16	295	S		Sn	05 11 26.1	-0.7
MLR	Muntele Rosu	7.53	291	⇑P		Pn	05 10 12.6	+1.7
MLR				S		Sn	05 11 35.2	-0.8
MLR	Muntele Rosu	7.53	291	Pn		Pn	05 10 12.3	+1.4
	comp=Z,0.7nm,0.3s,baz=38,slow=12,SNR=7.8							
MLR				Sn		Sn	05 11 31.5	-4.6
	comp=Z,0.4nm,0.3s,baz=124,slow=3.8,SNR=3.4							
MLR	Muntele Rosu	7.53	291	⇑*i*P		Pn	05 10 12.6	+1.8
MLR	Muntele Rosu	7.53	291	S		Sn	05 11 35.2	-0.9
VOIR		8.13	290	S		Sn	05 11 47.9	-3.0
VRSR	Storozhevoye	8.30	14	*e*P		Pn	05 10 19.8	-1.5
VRSR				*e*S		Sn	05 11 48.9	-6.0
VRSR				pmax	pmax			
	comp=N,1.0nm,0.8s							
VRSR				pmax	pmax			
	comp=E,1.0nm,0.9s							
VRSR				smax				
	comp=N,3.0nm,1.0s							
VRSR				smax				
	comp=Z,1.0nm,0.6s							
VRSR				smax				
	comp=E,9.0nm,0.9s							
VRSR				MLR	MLR			
	comp=Z,20nm,17.0s							
VRSR				MLR	MLR			
	comp=N,50nm,20.0s							
VRSR				MLR	MLR			
	comp=E,30nm,24.0s							
AKASG	Malin Array Be	8.79	331	Pn		Pn	05 10 27.4	-0.7
	comp=E,1.4nm,0.3s,baz=153,slow=9.1,SNR=5.8							
AKASG				Sn		Sn	05 12 01.3	-5.6
	comp=E,3.2nm,0.3s,baz=137,slow=24,SNR=6.6							
GZR	Gura Zlata	9.70	287	⇑P		Pn	05 10 40.4	-0.2
GZR				S		Sn	05 12 24.7	-4.7
GZR	Gura Zlata	9.70	287	⇑*i*P		Pn	05 10 40.4	-0.2
GZR	Gura Zlata	9.70	287	S		Sn	05 12 24.7	-4.7
DRGR		10.04	295	⇓*i*P		Px	05 10 58.0	
DRGR		10.04	295	S		Sn	05 12 36.8	-0.9
AKTK	Aktyubinsk	16.69	57	P		Pn	05 12 14.2	-0.7
AKTO	Aktyubinsk	16.69	57	Pn		Pn	05 12 14.2	-0.7
	comp=E,0.5nm,0.3s,baz=262,slow=11,SNR=5.7							
FINES	FINESS Array B	19.19	345	P		Pn	05 12 46.3	+0.8
	comp=E,0.2nm,0.3s,baz=148,slow=16,SNR=7.9							
FINES	FINESS Array B	19.19	345	P		Pn	05 12 46.1	+0.6
ARU	Arti	19.56	40	*e*P		Pn	05 12 43.0	-7.0
ARU				pmax	pmax			
	comp=Z,2.0nm,1.0s							
JOF	Joensuu	19.92	354	*e*p		Pn	05 12 52.6	-1.7
	comp=Z,1.2nm,0.4s							
JOF	Joensuu	19.92	354	*e*P		Pn	05 12 52.6	-1.7
JOF				pmax	pmax			
	comp=Z,1.0nm,0.4s							
BRVK	Borovoye	24.71	55	*e*P		P	05 13 42.9	+0.8
	comp=Z,1.4nm,0.7s,mb3.6							
BRVK	Borovoye	24.71	55	*e*P		P	05 13 42.9	+0.8
BRVK				pmax	pmax			
	comp=Z,1.0nm,0.7s,mb3.5							
BRVK	Borovoye	24.71	55	*e*P		P	05 13 42.9	+0.8
	comp=Z,1.4nm,0.7s,mb3.6							
BVAR	Borovoye Array	24.77	55	P		P	05 13 44.4	+1.8
	comp=Z,0.6nm,0.7s,mb3.3,baz=256,slow=10,SNR=4.3							
EKS2	Erkin-Say	27.54	78	*e*P		P	05 14 07.3	-0.5
	comp=Z,1.2nm,0.6s,mb3.7							
MKAR	Makanchi Array	32.59	67	P		P	05 14 51.7	-0.7
	comp=Z,0.2nm,0.4s,mb3.4,baz=283,slow=6.8,SNR=2.8							
ZAL	Zalesovo	33.41	54	P		P	05 14 59.9	+0.5
ZALV	Zalesovo Beam	33.42	54	P		P	05 14 59.9	+0.3
	comp=Z,0.7nm,0.5s,mb3.9,baz=282,slow=7.4,SNR=4.1							
TORD	Torodi Ar. Bea	42.03	235	P		P	05 16 12.9	+0.2
	comp=Z,0.3nm,0.8s,mb3.0,baz=38,slow=9.9,SNR=2.5							
SONM	Songino Array	48.00	59	P		P	05 17 01.5	+1.6
	comp=Z,0.3nm,0.5s,mb3.6,baz=283,slow=8.7,SNR=2.9							
YKA	Yellowknife Ar	72.02	346	P		P	05 19 45.1	+0.7
	comp=Z,0.4nm,0.8s,mb3.4,baz=18,slow=6.4,SNR=10							
YKA	Yellowknife Ar	72.02	346	P		P	05 19 45.6	+1.1

THE ***20*** *05:14:16.3, 38.41N×20.44E, h19km, ML3.4*
ISCJB ***20*** *05:14:17.8±1.2, 38.38N±0.03×205.5E±0.1, h9km±6km, Error ellipse: s-maj=18.7km s-min=5.3km az=174.1*
NEIC ***20*** *05:14:17.4, 38.26N×20.41E, h22km, MD3.5(ATH), After ATH.*
ATH ***20*** *05:14:17.4, 38.26N×20.41E, h22km±1km, MD3.5/4*
CSEM ***20*** *05:14:18.0±0.2, 38.40N×20.49E, h0km±2km, MD3.5, Error ellipse: s-maj=4.8km s-min=3.1km az=86.0*

ISC 20 05:14:18.1±1.5,**3840N**±004×**205E**±02,**h3**km±10km,**n10,** σ**1**§**00**/15,**1C, Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.24**	**159**	*e*Pg	**Pg**	**05 14 22.1**	**-0.5**
VLS				*e*Sg	**Sg**	**05 14 26.9**	**+1.1**
VLS	**Valsamata**	**0.24**	**159**	⇑*i*PB	**Pg**	**05 14 22.2**	**-0.5**
VLS				*e*SB	**Sg**	**05 14 26.6**	**+0.8**
VLS	**Valsamata**	**0.24**	**159**	*e*Pg	**Pg**	**05 14 22.1**	**-0.6**
VLS				*e*Sg	**Sg**	**05 14 26.9**	**+1.1**
LKD	**Levkas**	**0.33**	**23**	*e*Pg	**Pg**	**05 14 23.4**	**-1.0**
LKD				*e*Sg	**Sg**	**05 14 29.0**	**+0.2**
KFL	**Anninata**	**0.38**	**141**	*e*Pg	**Pg**	**05 14 24.8**	**-0.6**
KFL				*e*Sg	**Sg**	**05 14 31.0**	**+0.8**
RLS	**Riolos of Patr**	**0.85**	**114**	*e*PN	**Pn**	**05 14 33.7**	**-3.2**
EVR	**Evrytania**	**1.16**	**63**	*e*PN	**Pn**	**05 14 41.5**	**+0.3**
KEK	**Kerkira**	**1.41**	**338**	*e*PN	**Pn**	**05 14 45.5**	**+0.8**
THL	**Klokotos Trika**	**1.67**	**45**	*e*PN	**Pn**	**05 14 49.3**	**+1.2**
ITM	**Ithomi**	**1.67**	**136**	*e*PN	**Pn**	**05 14 46.9**	**-1.4**

ISCJB ***20*** *05:19:13.3±0.4, 25.00S±0.08×69.95E±0.09, h10km, mb4.4/24, Error ellipse: s-maj=12.2km s-min=11.4km az=154.7*
IDC ***20*** *05:19:13.7±0.6, 25.01S×69.89E, h0km, mb4.3/14, mb1 4.4/14, mb1mx4.2/25, mbtmp4.3/14, Error ellipse: s-maj=18.8km s-min=16.9km az=35.0*
NEIC ***20*** *05:19:15.3±0.3, 24.98S×69.91E, h10km, mb4.4/7, Error ellipse: s-maj=12.0km s-min=10.1km az=187.0*

ISC 20 05:19:15.4±0.4,**2500S**±008×**6991E**±009,**h10**km,**n37,** σ**0**§**77**/30,**mb4.4**/24,**Mid-Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPO	**Ambohidratompo**	**22.03**	**282**	P	**P**	**05 24 11.9**	**+1.7**
	4.7nm,0.8s,mb4.0,baz=84,slow=9.5,SNR=5.3						
KMBO	**Kilima Mbogo**	**39.47**	**302**	*e*P	**P**	**05 26 45.8**	**-0.4**
	3.5nm,1.1s,mb4.0						
BOSA	**Boshof**	**39.85**	**255**	P	**P**	**05 26 48.1**	**-1.1**
	6.3nm,1.0s,mb4.3,baz=135,slow=8.4,SNR=4.4						
LSZ	**Lusaka**	**40.21**	**276**	*e*P	**P**	**05 26 52.5**	**+0.1**
	1.8nm,0.7s,mb3.9						
CHTO	**Chiang Mai**	**51.92**	**36**	*e*P	**P**	**05 28 24.5**	**0.0**
	2.5nm,0.8s,mb4.2						
FITZ	**Fitzroy Crossi**	**51.99**	**94**	P	**P**	**05 28 24.6**	**-0.6**
	3.1nm,0.8s,mb4.3,baz=247,slow=4.9,SNR=5.6						
KOLN	**Koldanda**	**54.09**	**15**	*e*P	**P**	**05 28 40.7**	**+0.3**
	20nm,0.9s,mb5.1						
DMN	**Daman**	**54.31**	**17**	*e*P	**P**	**05 28 42.2**	**+0.2**
	25nm,1.0s,mb5.1						
KKN	**Kakani**	**54.53**	**17**	*e*P	**P**	**05 28 43.7**	**+0.1**
	9.8nm,0.6s,mb5.0						
GKN	**Gorkha**	**54.57**	**16**	*e*P	**P**	**05 28 43.6**	**-0.3**
GUN	**Gumba**	**54.80**	**17**	*e*P	**P**	**05 28 46.2**	**+0.6**
	15nm,0.7s,mb5.1						
ASAR	**Alice Springs**	**57.82**	**103**	P	**P**	**05 29 07.7**	**+0.3**
	2.4nm,0.8s,mb4.3,baz=254,slow=6.3,SNR=16						
ASAR				PcP	PcP	05 30 00.3	+0.3
	0.4nm,0.7s,baz=258,slow=3.7,SNR=4.3						
WRA	**Warramunga Arr**	**59.27**	**99**	P	**P**	**05 29 17.8**	**+0.2**
	5.9nm,0.9s,mb4.6,baz=255,slow=6.8,SNR=24						
SNAA	**Sanae**	**61.06**	**200**	P	**P**	**05 29 29.2**	**+0.2**
	1.2nm,0.8s,mb4.0,baz=78,slow=7.7,SNR=7.0						
STKA	**Stephens Creek**	**62.39**	**114**	P	**P**	**05 29 38.8**	**+0.2**
	1.5nm,0.8s,mb4.2,baz=286,slow=7.3,SNR=4.1						
QSPA	**South Pole Qui**	**65.13**	**180**	*e*P	**P**	**05 29 56.4**	**+0.5**
	4.8nm,0.8s,mb4.6						
QSPA	**South Pole Qui**	**65.13**	**180**	P	**P**	**05 29 56.1**	**+0.3**
	4.4nm,0.8s,mb4.5,baz=287,slow=3.1,SNR=10						
VNDA	**Vanda**	**66.20**	**166**	P	**P**	**05 30 02.7**	**-0.1**
VNDA	**Vanda**	**66.20**	**166**	P	**P**	**05 30 02.7**	**-0.1**
	2.1nm,0.9s,mb4.2,baz=281,slow=7.6,SNR=6.5						
AAK	**Ala-Archa**	**67.42**	**4**	*e*P	**P**	**05 30 11.1**	**+0.2**
TKM2	**Tokmak 2**	**67.78**	**5**	*e*P	**P**	**05 30 10.6**	**-2.6**
	1.6nm,0.7s,mb4.2						
MKAR	**Makanchi Array**	**72.33**	**9**	P	**P**	**05 30 40.2**	**-0.8**
MKAR	**Makanchi Array**	**72.33**	**9**	P	**P**	**05 30 40.2**	**-0.8**
	5.5nm,0.8s,mb4.5,baz=191,slow=5.6,SNR=33						
KURK	**Kurchatov**	**75.77**	**6**	*e*P	**P**	**05 31 01.2**	**+0.2**
	6.6nm,1.0s,mb4.5						
TOA0	**Torodi Ar. Sit**	**76.52**	**292**	*e*P	**P**	**05 31 05.7**	**-0.5**
TORD	**Torodi Ar. Bea**	**76.52**	**292**	P	**P**	**05 31 05.8**	**-0.4**
	1.3nm,0.8s,mb3.9,baz=106,slow=4.9,SNR=6.0						
BVAR	**Borovoye Array**	**77.69**	**0**	P	**P**	**05 31 12.3**	**+0.4**
	0.9nm,0.6s,mb3.9,baz=157,slow=8.0,SNR=5.6						
SONM	**Songino Array**	**79.57**	**24**	P	**P**	**05 31 23.9**	**+1.6**
	3.2nm,0.9s,mb4.3,baz=214,slow=6.4,SNR=3.0						
ZALV	**Zalesovo Beam**	**79.67**	**9**	P	**P**	**05 31 23.6**	**+0.8**
	11nm,0.8s,mb4.8,baz=157,slow=4.5,SNR=5.9						
ULN	**Ulaanbaatar**	**79.84**	**24**	*e*P	**P**	**05 31 22.5**	**-1.3**
	8.3nm,1.0s,mb4.6						
YKA	**Yellowknife Ar**	**142.39**	**3**	PKP	PKPdf	05 38 48.5	+0.7
	0.8nm,1.0s,baz=328,slow=2.9,SNR=3.2						
FCC	**Fort Churchill**	**144.41**	**346**	*e*PKPdf	PKPdf	05 38 50.5	-0.9
FFC	**Flin Flon**	**149.71**	**351**	*e*PKPbc	PKPbc	05 39 06.3	+1.3
JTS	**JuntasAbangare**	**152.01**	**243**	*e*PKPdf	PKPdf	05 39 05.2	0.0
ULM	**Lac du Bonnet**	**152.49**	**340**	*e*PKPbc	PKPbc	05 39 11.9	+0.3
ULM	**Lac du Bonnet**	**152.49**	**340**	PKPbc	PKPbc	05 39 11.1	-0.6
	3.6nm,0.8s,baz=43,slow=4.4,SNR=7.4						
PDAR	**Pinedale Array**	**162.27**	**359**	PKPab	PKPab	05 40 03.6	-0.6
	1.1nm,1.0s,baz=344,slow=3.2,SNR=4.4						

NIED ***20*** *05:23:00, 25.70N×125.20E, h5km, Mw5.4 Best double couple: M0=1.65000×10^17 NP1:φs=123.00000°, δ67.00000°, λ-37.00000°. NP2:φs=229.00000°, δ56.00000°, λ-151.00000°.*
ISCJB ***20*** *05:23:08.8±0.7, 25.69N±0.02×125.23E±0.02, h0km±4km, mb5.1/147, MS5.2/184, Error ellipse: s-maj=3.7km s-min=2.5km az=148.1*
IDC ***20*** *05:23:09.3±0.4, 25.74N×125.16E, h0km, mb4.7/26, mb1 4.8/28, mb1mx4.7/32, mbtmp4.7/28, ML4.7/1, MS5.1/26, Ms1 5.1/26, ms1mx4.9/37, Error ellipse: s-maj=13.8km s-min=9.1km az=71.0*
JMA ***20*** *05:23:09.6±0.2, 25.73N×125.22E, h18km±3km, M5.7*
JMA Felt II J1.
BJI ***20*** *05:23:10.0, 25.40N×125.61E, h25km, mB5.4, mb5.0, ML5.0, Ms5.7, Msz5.5*
GCMT ***20*** *05:23:11.3±0.1, 25.55N×125.26E, h14km, MW5.5/97, Moment Tensor Solution. s79,c147; s97,c202; Duration: 1§3 Moment tensor: Scale 10^17Nm; Mrr=1.00±.04; Mθθ=2.26±.03; Mφφ=-1.25±.03; Mrθ=0.00±.06; Mθφ=0.36±.03; Mφr=0.28±.07; Best double couple: M0=1.87400×10^17 NP1:φs=125.00000°, δ68.00000°, λ-23.00000°. NP2:φs=224.00000°, δ69.00000°, λ-156.00000°. Principal axes: T 2.2960, Plg0.0000°, Azm354.0000°; N -0.8330, Plg59.0000°, Azm263.0000°; P -1.4530, Plg31.0000°, Azm85.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***20*** *05:23:11.3±0.1, 25.68N×125.24E, h10km, mb5.1/90, MS5.2/141, MW5.5, MW5.4(NIED) Error ellipse: s-maj=4.2km s-min=3.7km az=149.0, Moment Tensor Solution. s8 Moment tensor: Scale 10^17Nm; Mrr=1.38; Mθθ=1.44; Mφφ=-0.06; Mrθ=0.68; Mθφ=1.00; Mφr=0.48; Best double couple: M0=1.90000×10^17 NP1:φs=216.00000°, δ46.00000°, λ-133.00000°. NP2:φs=90.00000°, δ58.00000°, λ-55.00000°. Principal axes: T 1.9900, Plg7.0000°, Azm156.0000°; N -0.1500, Plg29.0000°, Azm250.0000°; P -1.8400, Plg60.0000°, Azm53.0000°;*
NEIC Recorded [2 JMA] on Miyako-jima.
SZGRF ***20*** *05:23:14.6, 25.28N×125.08E, h33km, mb5.1, MS5.8, Southwestern Ryukyu Islands, Japan*
MOS ***20*** *05:23:14.1±0.9, 25.89N×125.24E, h33km, mb5.2/55, MS5.3/42, Error ellipse: s-maj=7.8km s-min=4.7km az=109.1*

ISC 20 05:23:10.4±0.7,**2566N**±002×**12527E**±002,**h2**km±4km, **h20**km±2.5km:**pP-P, n765,** σ**0**§**84**/679,**mb5.1**/147,**MS5.2**/184, **117C-95D, Southwestern Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMJ	**Miyako jima 2**	**0.85**	**178**	P	**Pg**	**05 23 26.5**	**-0.1**
JMJ				S	**Sg**	**05 23 38.8**	**+1.2**
JOGS	**Gusukube**	**0.91**	**172**	P	**Pg**	**05 23 27.6**	**-0.2**
JOGS				*e*S	**Sg**	**05 23 40.3**	**+0.7**
JTJ	**Tarama**	**1.14**	**207**	P	**Pg**	**05 23 30.6**	**-1.7**
JTJ				*e*S	**Sg**	**05 23 46.2**	**-0.8**
JKE	**Kume jima 2**	**1.52**	**64**	P	**Pn**	**05 23 36.2**	**-2.4**
JIJ	**Ishigaki jima**	**1.65**	**218**	P	**Pn**	**05 23 38.4**	**-1.9**
JIJ				*e*S	**Sn**	**05 23 59.8**	**-2.2**
JKRS	**Kuro-shima**	**1.82**	**219**	P	**Pn**	**05 23 41.6**	**-1.1**
JKRS				*e*S	**Sn**	**05 24 04.1**	**-2.2**
IRIF	**Iriomote-Funau**	**1.92**	**227**	P	**Pn**	**05 23 42.5**	**-1.6**
IRIF				*e*S	**Sn**	**05 24 05.0**	**-3.8**
JAGN	**Aguni-jima**	**2.00**	**62**	P	**Pn**	**05 23 43.7**	**-1.5**
HATJ	**Hateruma jima**	**2.08**	**220**	P	**Pn**	**05 23 46.0**	**-0.2**
NAH1	**Naha**	**2.25**	**76**	P	**Pn**	**05 23 47.9**	**-0.7**
NAH1				*e*S	**Sn**	**05 24 15.0**	**-1.9**
JJT2	**Tamagusuku 2**	**2.29**	**78**	P	**Pn**	**05 23 48.7**	**-0.4**
YOJ	**Yonaguni jima**	**2.37**	**240**	P	**Pn**	**05 23 49.6**	**-0.6**
JIH	**Iheya**	**2.78**	**60**	P	**Pn**	**05 23 56.1**	**+0.2**
JOW	**Kunigami**	**2.94**	**66**	P	**Pn**	**05 23 57.6**	**-0.5**
JOW	**Kunigami**	**2.94**	**66**	Pn	**Pn**	**05 23 57.6**	**-0.5**
	197nm,0.3s,baz=248,slow=9.5,SNR=138						
JOW				Sn	**Sn**	**05 24 33.4**	**-0.7**
	185nm,0.3s,baz=261,slow=21,SNR=9.6						
JOW				LR	LR	05 25 17.0	
	comp=Z,34μm,21.9s,baz=250,slow=42						
TATO	**Taipei**	**3.49**	**259**	*e*Pn	**Pn**	**05 24 06.7**	**+1.1**
NACB	**Ninganchiao**	**3.65**	**247**	*e*Pn	**Pn**	**05 24 08.9**	**+1.1**
YHNB	**Yeheng**	**3.66**	**255**	*e*Pn	**Pn**	**05 24 09.7**	**+1.7**
JTK	**Tokunoshima**	**3.92**	**57**	P	**Pn**	**05 24 12.0**	**+0.5**
JAM	**Amami Oshima**	**4.74**	**54**	P	**Pn**	**05 24 23.2**	**+0.3**
QZH	**Quanzhou**	**6.08**	**265**	*i* PNR		05 24 46.0	
QZH				S	**Sn**	**05 25 56.0**	**+4.5**
QZH				Smax			
	comp=N,470nm,0.9s						
QZH				Smax			
	comp=E,440nm,1.0s						
QZH				LR	LR		
	comp=N,36μm,11.2s						
QZH				LR	LR		
	comp=E,25μm,11.0s						
QZH				LR	LR		
	comp=Z,26μm,10.4s						
NJ2	**Nanjing**	**8.49**	**320**	*e*P	**Pn**	**05 25 19.5**	**+5.2**
NJ2				AP		05 25 23.3	
NJ2				XP		05 25 26.1	
NJ2				S	**Sn**	**05 26 55.0**	**+4.3**
NJ2				AMB	AMB		
	comp=Z,30nm,0.5s						
NJ2				AMB	AMB		
	comp=Z,1μm,8.7s						
NJ2				Smax			
	comp=N,1μm,0.9s						
NJ2				Smax			
	comp=E,1μm,1.4s						
NJ2				LR	LR		
	comp=N,83μm,18.3s						
NJ2				LR	LR		
	comp=E,46μm,14.7s						
NJ2				LR	LR		
	comp=Z,46μm,14.7s						
JNU	**Nakatsue**	**8.90**	**32**	Pn	**Pn**	**05 25 22.9**	**+3.0**
JNU				Sn	**Sn**	**05 27 15.9**	**+15**
JNU				LR	LR	05 28 56.7	
JNU	**Nakatsue**	**8.90**	**32**	Pn	**Pn**	**05 25 22.9**	**+3.0**
	comp=Z,3.6nm,0.3s,baz=190,slow=13,SNR=44						
JNU				Sn	**Sn**	**05 27 15.9**	**+15**
	baz=42,slow=20,SNR=1.6						
JNU				LR	LR	05 28 56.7	
	comp=Z,13μm,21.7s,baz=208,slow=39						
HKC	**Hong Kong Obse**	**10.68**	**254**	P	**Pn**	**05 25 50.0**	**+5.6**
WHN	**Wuhan**	**10.79**	**299**	P	**Pn**	**05 25 46.9**	**+1.0**
WHN				S	**Sn**	**05 28 01.0**	**+14**
WHN				LR	LR		
	comp=Z,57μm,8.0s						
WHN				LR	LR		
	comp=Z,217μm,16.0s						
KS15	**Wonju Array Si**	**11.95**	**10**	*e*Pn	**Pn**	**05 26 09.4**	**+7.6**
KSRS	**Korea Array**	**11.97**	**10**	Pn	**Pn**	**05 26 07.5**	**+5.6**
	comp=Z,0.6nm,0.3s,baz=186,slow=13,SNR=56						
KSRS				Sn	**Sn**	**05 28 28.9**	**+13**
	comp=Z,0.2nm,0.3s,baz=202,slow=28,SNR=2.9						
KSRS				LR	LR	05 30 49.9	
	comp=Z,15μm,19.0s,baz=65,slow=39						
TIA	**Tai'an**	**12.62**	**328**	*e*P	**Pn**	**05 26 19.4**	**+8.6**
TIA				LR	LR		
	comp=N,17μm,12.0s						
DL2	**Dalian**	**13.55**	**348**	⇑*i*P	**Pn**	**05 26 30.1**	**+6.4**
DL2				*e*S	**Sn**	**05 29 03.6**	**+8.8**
DL2				SS		05 29 20.6	
DL2				AMB	AMB		
	comp=Z,50nm,1.0s						
DL2				AMB	AMB		
	comp=Z,770nm,5.7s						
DL2				LR	LR		
	comp=N,5μm,11.3s						
DL2				LR	LR		
	comp=E,5μm,12.6s						
DL2				LR	LR		
	comp=Z,6μm,10.4s						
JHJ	**Hachijo jima 2**	**14.67**	**56**	LR	LR	05 31 59.9	
	comp=Z,6μm,18.7s,baz=245,slow=36						
CBIJ	**Chichi jima**	**15.23**	**81**	Pn	**Pn**	**05 26 51.9**	**+5.3**
	comp=Z,3.7nm,0.3s,baz=292,slow=19,SNR=3.2						
CBIJ				LR	LR	05 32 34.2	
	comp=Z,3μm,19.0s,baz=188,slow=37						
MAJO	**Matsushiro**	**15.49**	**42**	*e*Pn	**Pn**	**05 26 50.9**	**+1.0**
MAJO				*e*P		05 26 54.5	
MAT	**Matsushiro**	**15.49**	**42**	P	**Pn**	**05 26 46.7**	**-3.2**
MAT				*e*S	**Sn**	**05 29 41.0**	**-1.0**
MJAR	**Matsushiro Arr**	**15.49**	**42**	Pn	**Pn**	**05 26 47.7**	**-2.2**
	baz=240,slow=13,SNR=6.0						
MJAR				LR	LR	05 32 25.2	
	comp=Z,4μm,19.8s,baz=220,slow=36						
QIZ	**Qiongzhong**	**15.71**	**248**	P	**Pn**	**05 26 56.0**	**+3.1**
QIZ				XP	sP	05 27 01.9	+3.9
QIZ				S	**Sn**	**05 29 50.0**	**+2.3**
QIZ				SS		05 30 07.6	
QIZ				AMB	AMB		
	comp=Z,1μm,7.6s						
QIZ				LR	LR		
	comp=N,8μm,18.5s						
QIZ				LR	LR		
	comp=E,4μm,18.8s						
QIZ				LR	LR		
	comp=Z,6μm,16.0s						
QIZ	**Qiongzhong**	**15.71**	**248**	*e*P	**Pn**	**05 26 56.4**	**+3.5**
	comp=Z,66nm,1.3s						
SNY	**Shenyang**	**16.18**	**355**	⇑P	**Pn**	**05 27 03.8**	**+5.0**
SNY				AP	pP	05 27 09.6	+6.8
SNY				S	**Sn**	**05 30 10.6**	**+12**
SNY				AMB	AMB		
	comp=Z,80nm,1.0s						
SNY				AMB	AMB		
	comp=Z,5μm,9.4s						
SNY				LR	LR		
	comp=N,13μm,12.5s						
SNY				LR	LR		
	comp=E,10μm,10.6s						
SNY				LR	LR		
	comp=Z,18μm,11.2s						
BJT	**Baijiatuau**	**16.21**	**334**	*e*P	**Pn**	**05 27 03.7**	**+4.5**
	comp=Z,48nm,0.9s						
BJT	**Baijiatuau**	**16.21**	**334**	*e*P	**Pn**	**05 27 03.7**	**+4.5**
BJT				pmax	pmax		
	comp=Z,48nm,0.9s						
TIY	**Taiyuan**	**16.21**	**321**	P	**Pn**	**05 27 05.8**	**+6.5**
TIY				S	**Sn**	**05 30 03.4**	**+3.8

HHC			PP			05 27 53.4
HHC			S		**Sn**	**05 31 16.9 +11**
HHC			XS		sS	05 31 18.3 +8.6
HHC			PCP		PcP	05 32 02.5 +3.9
HHC			AMB		AMB	
	comp=Z,50nm,1.2s					
HHC			AMB		AMB	
	comp=Z,2μm,5.2s					
HHC			LR		LR	
	comp=N,7μm,8.8s					
HHC			LR		LR	
	comp=E,8μm,10.4s					
HHC			LR		LR	
	comp=Z,6μm,8.6s					
MDJ	**Mudanjiang**	**19.23**	**9**	P	**Pn**	**05 27 36.5 -0.1**
MDJ				S	**Sn**	**05 31 13.4 +0.8**
MDJ				XS	sS	05 31 20.3 +5.0
MDJ				SCP	ScP	05 35 34.9 -1.0
MDJ				PCS	PcS	05 35 36.3 +0.4
MDJ				AMB	AMB	
	comp=Z,22nm,1.1s					
MDJ				AMB	AMB	
	comp=Z,1μm,7.9s					
MDJ				LR	LR	
	comp=N,3μm,26.9s					
MDJ				LR	LR	
	comp=E,13μm,21.1s					
MDJ				LR	LR	
	comp=Z,14μm,14.0s					
BTO	**Baotou**	**19.58**	**323**	*e*P	**Pn**	**05 27 43.4 +2.6**
BTO				S	**Sn**	**05 31 25.9 +4.9**
BTO				LR	LR	
	comp=N,5μm,15.3s					
BTO				LR	LR	
	comp=E,5μm,13.7s					
CD2	**Chengdu**	**19.64**	**290**	⇓*i*P	**Pn**	**05 27 41.5 -0.1**
CD2				PP		05 27 59.8
CD2				S	**Sn**	**05 31 16.3 -6.3**
CD2				AMB	AMB	
	comp=Z,470nm,1.2s					
CD2				AMB	AMB	
	comp=Z,1μm,8.4s					
CD2				LR	LR	
	comp=N,19μm,13.2s					
CD2				LR	LR	
	comp=E,19μm,9.6s					
CD2				LR	LR	
	comp=Z,23μm,9.6s					
KDM	**Kudat**	**20.31**	**205**	⇑P	**P**	**05 27 51.1 +3.4**
KMI	**Kunming**	**20.36**	**273**	P	**P**	**05 27 51.3 +3.1**
KMI				PP		05 28 14.1
KMI				S	**S**	**05 31 40.8 +3.8**
KMI				XS	sS	05 31 46.0 +7.9
KMI				AMB	AMB	
	comp=Z,73nm,1.0s					
KMI				AMB	AMB	
	comp=Z,1μm,6.1s					
KMI				LR	LR	
	comp=N,8μm,13.8s,MS5.5					
KMI				LR	LR	
	comp=E,10μm,12.4s,MS5.5					
KMI				LR	LR	
	comp=Z,9μm,12.6s,MS5.3					
LZH	**Lanzhou**	**21.07**	**305**	⇓P	**P**	**05 27 58.1 +2.2**
LZH				PP		05 28 21.0
LZH				S	**S**	**05 31 52.0 +0.9**
LZH				AMB	AMB	
	comp=Z,194nm,1.5s,mb5.2					
LZH				AMB	AMB	
	comp=Z,530nm,4.0s					
LZH				LR	LR	
	comp=E,16μm,10.7s					
LZH				LR	LR	
	comp=Z,21μm,11.6s,MS5.8					
KKM	**Kota Kinabalu**	**21.34**	**205**	*e*P	**P**	**05 27 59.9 +0.9**
KKM	**Kota Kinabalu**	**21.34**	**205**	⇓P	**P**	**05 28 00.4 +1.5**
SDKM	**Sandakan**	**21.36**	**203**	⇓P	**P**	**05 27 59.6 +0.6**
MYLDM	**Lahad Datu**	**21.38**	**199**	⇑P	**P**	**05 28 02.0 +2.7**
GUMO	**Guam**	**21.99**	**119**	P	**P**	**05 28 07.3 +1.4**
GUMO				S	**S**	**05 32 08.1 -1.3**
GUMO				LR	LR	
	comp=Z,2μm,19.0s,MS4.4					
GUMO	**Guam**	**21.99**	**119**	P	**P**	**05 28 07.3 +1.4**
	comp=Z,59nm,0.7s,mb5.1,baz=198,slow=17,SNR=3.0					
GUMO				S	**S**	**05 32 08.1 -1.3**
	comp=Z,61nm,0.6s,baz=36,slow=21,SNR=2.1					
ERM	**Erimo**	**21.99**	**38**	PFAKE		05 28 20.0 +14
ERM				LR	LR	
	comp=Z,3μm,22.0s,MS4.7					
ERM	**Erimo**	**21.99**	**38**	*i* P	**P**	**05 28 06.1 +0.4**
TSM	**Tawau**	**22.40**	**200**	⇑P	**P**	**05 28 10.9 +0.6**
ASAJ	**Asahikawa**	**23.18**	**33**	P	**P**	**05 28 17.8 -0.4**
ASAJ				pmax	pmax	
	comp=Z,6.0nm,0.5s					
ASAJ				MLR	MLR	
	comp=Z,9μm,19.5s					
ASAJ	**Asahikawa**	**23.18**	**33**	P	**P**	**05 28 17.8 -0.5**
	comp=Z,5.8nm,0.5s,mb4.3,baz=261,slow=24,SNR=4.8					
ASAJ				LR	LR	05 37 47.8
	comp=Z,9μm,19.5s,MS5.2,baz=89,slow=38					
HIA	**Hailar**	**23.95**	**351**	*e*P	**P**	**05 28 25.3 -0.6**
	comp=Z,78nm,1.1s,mb5.0					
HIA				LR	LR	
	comp=Z,9μm,21.0s,MS5.2					
HIA	**Hailar**	**23.95**	**351**	*e*P	**P**	**05 28 25.3 -0.5**
HIA				pmax	pmax	
	comp=Z,78nm,1.1s					
HIA				MLR	MLR	
	comp=Z,9μm,21.0s					
YUK	**Yuzh-Kuril'sk**	**24.82**	**37**	P	**P**	**05 28 24.0 -10**
YUK				*e*PPP		05 29 21.0
YUK				pmax	pmax	
	comp=Z,2μm,6.0s					
YUK				MLR	MLR	
	comp=N,8μm,16.0s,MS5.4					
YUK				MLR	MLR	
	comp=E,4μm,16.0s,MS5.4					
YUK				MLR	MLR	
	comp=Z,6μm,16.0s,MS5.2					
BTM	**Bintulu**	**25.22**	**210**	⇑P	**P**	**05 28 38.1 +0.4**
CHTO	**Chiang Mai**	**25.27**	**260**	*e*P	**P**	**05 28 38.6 +0.5**
	comp=Z,23nm,0.9s,mb4.7					
CHTO				LR	LR	
	comp=Z,2μm,20.0s,MS4.5					
CHTO	**Chiang Mai**	**25.27**	**260**	*e*P	**P**	**05 28 38.6 +0.4**
CHTO				pmax	pmax	
	comp=Z,23nm,0.9s,mb4.7					
CHTO				MLR	MLR	
	comp=Z,2μm,20.0s,MS4.5					
GTA	**Gaotai**	**25.36**	**309**	*e*P	**P**	**05 28 39.3 +0.5**
GTA				PP		05 29 16.8
GTA				S	**S**	**05 33 05.8 0.0**
GTA				AMB	AMB	
	comp=Z,21nm,1.5s,mb4.5					
GTA				AMB	AMB	
	comp=Z,599nm,6.1s					
GTA				LR	LR	
	comp=N,20μm,14.5s,MS5.8					
GTA				LR	LR	
	comp=E,12μm,14.1s,MS5.8					
GTA				LR	LR	
	comp=Z,8μm,12.6s,MS5.4					
YSS	**Yuzh-Sakhalins**	**25.39**	**29**	PFAKE		05 28 50.0 +11
YSS				LR	LR	
	comp=Z,4μm,20.0s,MS4.9					
YSS	**Yuzh-Sakhalins**	**25.39**	**29**	⇓*e*P	**P**	**05 28 37.0 -1.9**
YSS				*e*		05 29 23.0
YSS				*e*S	**S**	**05 32 58.0 -8.1**
YSS				*e*		05 33 12.0
YSS				pmax	pmax	
	comp=Z,30nm,1.0s,mb4.8					
YSS				pmax	pmax	
	comp=Z,600nm,8.0s					
YSS				MLR	MLR	
	comp=Z,6μm,15.0s,MS5.2					
YSS				MLR	MLR	
	comp=N,5μm,14.0s,MS5.2					
YSS				MLR	MLR	
	comp=E,3μm,15.0s,MS5.2					
CM31	**Chiang Mai Arr**	**25.40**	**259**	PFAKE		05 28 50.0 +11
CM31				LR	LR	
	comp=Z,2μm,19.0s,MS4.7					
SBUM	**Sibu**	**26.27**	**211**	⇑P	**P**	**05 28 49.1 +1.8**
ULN	**Ulaanbaatar**	**26.40**	**332**	*e*P	**P**	**05 28 48.4 +0.3**
	comp=Z,96nm,1.1s,mb5.2					
ULN				LR	LR	
	comp=Z,7μm,19.0s,MS5.2					
ULN	**Ulaanbaatar**	**26.40**	**332**	*e*P	**P**	**05 28 48.4 +0.3**
ULN				pmax	pmax	
	comp=Z,96nm,1.1s,mb5.2					
ULN				MLR	MLR	
	comp=Z,7μm,19.0s,MS5.2					
SONM	**Songino Array**	**26.66**	**331**	P	**P**	**05 28 50.7 +0.2**
SONM						05 32 13.8
SONM	**Songino Array**	**26.66**	**331**	P	**P**	**05 28 50.7 +0.2**
	comp=Z,36nm,1.0s,mb4.9,baz=150,slow=6.8,SNR=58					
SONM				PcP	PcP	05 32 13.8 -0.4
	comp=Z,4.8nm,0.9s,baz=157,slow=4.4,SNR=5.8					
SONM				S	**S**	**05 33 44.5 +18**
	comp=Z,0.4nm,0.8s,baz=198,slow=39,SNR=1.8					
SONM				LR	LR	05 41 03.1
	comp=Z,7μm,18.8s,MS5.3,baz=140,slow=40					
KSM	**Kuching**	**28.04**	**213**	*e*P	**P**	**05 29 05.3 +2.1**
KSM	**Kuching**	**28.04**	**213**	⇑P	**P**	**05 29 04.8 +1.7**
KTGM	**Kuala Trenggan**	**29.29**	**230**	⇓P	**P**	**05 29 15.5 +1.2**
ZAK	**Zakamensk**	**29.93**	**331**	*e*P	**P**	**05 29 18.9 -0.7**
ZAK				pmax	pmax	
	comp=Z,6.0nm,2.1s,mb4.0					
SHL	**Shillong**	**30.06**	**277**	*ex*	x	05 28 45.0
LSA	**Lhasa**	**30.41**	**285**	*e*P	**P**	**05 29 24.7 +0.6**
	comp=Z,15nm,0.9s,mb4.7					
LSA				LR	LR	
	comp=Z,1μm,19.0s,MS4.5					
LSA	**Lhasa**	**30.41**	**285**	*e*P	**P**	**05 29 24.7 +0.6**
LSA				pmax	pmax	
	comp=Z,15nm,0.9s,mb4.7					
LSA				MLR	MLR	
	comp=Z,1μm,19.0s,MS4.5					
TLY	**Talaya**	**30.75**	**333**	P	**P**	**05 29 27.8 +1.0**
	comp=Z,57nm,0.8s,mb5.5,SNR=5.6					
TLY	**Talaya**	**30.75**	**333**	*e*P	**P**	**05 29 27.0 +0.2**
	comp=Z,5.9nm,0.7s,mb4.5					
TLY				LR	LR	
	comp=Z,4μm,21.0s,MS5.1					
TLY	**Talaya**	**30.75**	**333**	*e*P	**P**	**05 29 27.2 +0.4**
TLY				*e*		05 30 37.8
TLY				pmax	pmax	
	comp=Z,15nm,1.2s,mb4.7					
TLY				MLR	MLR	
	comp=Z,5μm,17.0s,MS5.2					
KULM	**Kulim**	**31.08**	**233**	*e*P	**P**	**05 29 30.0 -0.1**
CLNS	**Chul'man**	**31.15**	**360**	*e*P	**P**	**05 29 31.0 +0.7**
CLNS				*e**PP	pP	05 29 43.6 +13
CLNS				*e*		05 30 27.8
CLNS				*e*PPP		05 30 40.7
CLNS				*e*		05 32 19.7
CLNS				*e*S	**S**	**05 34 37.3 +0.7**
CLNS				pmax	pmax	
	comp=Z,13nm,0.8s,mb4.8					
CLNS				pmax	pmax	
	comp=N,6.0nm,1.0s					
CLNS				pmax	pmax	
	comp=E,6.0nm,0.9s					
CLNS				pmax	pmax	
	comp=Z,12nm,0.9s,mb4.7					
CLNS				pmax	pmax	
	comp=N,9.0nm,1.1s					
CLNS				pmax	pmax	
	comp=E,7.0nm,0.9s					
CLNS				smax		
	comp=E,560nm,12.9s					
CLNS				smax		
	comp=Z,1μm,11.8s					
CLNS				smax		
	comp=N,1μm,11.4s					
CLNS				MLR	MLR	
	comp=Z,11μm,14.0s,MS5.7					
CLNS				MLR	MLR	
	comp=N,8μm,15.0s,MS5.6					
CLNS				MLR	MLR	
	comp=E,4μm,12.0s,MS5.6					
IPM	**Ipoh**	**31.37**	**232**	⇑P	**P**	**05 29 33.0 +0.3**
MYKOM	**Kota Tinggi**	**31.45**	**224**	⇓P	**P**	**05 29 34.5 +1.1**
KGM	**Kluang**	**31.61**	**225**	⇑P	**P**	**05 29 35.6 +0.8**
FRIM	**Kepong**	**31.83**	**229**	⇓P	**P**	**05 29 41.7 +4.9**
MOY	**Mondy**	**31.86**	**331**	*e*P	**P**	**05 29 36.9 +0.3**
MOY				pmax	pmax	
	comp=Z,52nm,1.3s,mb5.2					
BOD	**Bodaibo**	**33.12**	**349**	*e*P	**P**	**05 29 45.9 -1.7**
PSI	**Prapat**	**34.03**	**232**	P	**P**	**05 29 55.8 -0.2**
PSI				S	**S**	**05 35 21.3 -1.1**
PSI	**Prapat**	**34.03**	**232**	P	**P**	**05 29 55.8 -0.2**
	comp=Z,25nm,0.9s,mb5.2,baz=16,slow=6.4,SNR=7.6					
PSI				S	**S**	**05 35 21.3 -1.1**
	comp=Z,1.0nm,0.3s,baz=146,slow=23,SNR=2.2					
PSI				LR	LR	05 44 09.0
	comp=Z,1μm,18.6s,MS4.6,baz=45,slow=37					
GUN	**Gumba**	**35.13**	**283**	*e*P	**P**	**05 30 06.1 +0.7**
	comp=Z,50nm,0.9s,mb5.4					
WMQ	**Urumqi**	**35.42**	**310**	P	**P**	**05 30 08.3 +0.6**
WMQ				PP	PP	05 31 28.0 +0.1
WMQ				S	**S**	**05 35 42.0 -1.2**
WMQ				PCS	PcS	05 36 24.0 -0.5
WMQ				SS	SS	05 38 09.0 -7.9
WMQ				AMB	AMB	
	comp=Z,37nm,1.0s,mb5.3					
WMQ				AMB	AMB	
	comp=Z,459nm,4.1s					
WMQ				LR	LR	
	comp=N,22μm,17.0s,MS6.0					
WMQ				LR	LR	
	comp=E,7μm,16.4s,MS6.0					
WMQ				LR	LR	
	comp=Z,9μm,16.8s,MS5.6					
PKI	**Pulchoki**	**35.58**	**282**	*e*P	**P**	**05 30 09.6 +0.3**
	comp=Z,61nm,1.0s,mb5.5					
KKN	**Kakani**	**35.67**	**282**	*e*P	**P**	**05 30 10.3 +0.2**
	comp=Z,47nm,0.9s,mb5.4					
BATI	**Kupang**	**35.69**	**183**	LR	LR	05 45 07.6
	comp=Z,2μm,20.7s,MS4.8,baz=125,slow=37					
BOK	**Bokaro**	**35.73**	**276**	*e*P	**P**	**05 30 11.2 +0.6**
BOK				AMb	AMB	05 30 13.2
	comp=Z,26nm,1.4s,mb5.0					
DMN	**Daman**	**35.84**	**282**	*e*P	**P**	**05 30 12.0 +0.4**
	comp=Z,51nm,0.9s,mb5.5					
GKN	**Gorkha**	**36.21**	**283**	*e*P	**P**	**05 30 14.8 +0.1**
	comp=Z,57nm,0.9s,mb5.5					
YAK	**Yakutsk**	**36.48**	**4**	*e*P	**P**	**05 30 15.0 -1.5**
YAK				*e**PP	pP	05 30 24.2 +6.9
YAK				*e*		05 31 39.2
YAK				*e*PPP		05 31 55.0
YAK				*e*		05 32 39.6
YAK				*e*S	**S**	**05 35 57.9 -1.1**
YAK				*e*SS	SS	05 38 48.0 +10
YAK				*e*		05 40 25.3
YAK				pmax	pmax	
	comp=Z,15nm,1.0s,mb4.9					
YAK				pmax	pmax	
	comp=N,10.0nm,1.3s					
YAK				pmax	pmax	
	comp=E,5.0nm,1.1s					
YAK				pmax	pmax	
	comp=Z,17nm,0.4s,mb5.3					
YAK				pmax	pmax	
	comp=N,25nm,1.2s					
YAK				pmax	pmax	
	comp=E,15nm,1.4s					
YAK				smax		
	comp=N,9.0nm,1.5s					
YAK				smax		
	comp=Z,9.0nm,0.6s					
YAK				smax		
	comp=E,7.0nm,1.2s					
YAK				MLR	MLR	
	comp=Z,8μm,19.0s,MS5.5					
YAK				MLR	MLR	
	comp=N,5μm,18.0s,MS5.5					
YAK				MLR	MLR	
	comp=E,6μm,19.0s,MS5.5					
PET	**Petropavlovsk**	**37.02**	**34**	PFAKE		05 30 30.0 +8.7
PET				LR	LR	
	comp=Z,2μm,20.0s,MS5.0					
PET	**Petropavlovsk**	**37.02**	**34**	*e*P	**P**	**05 30 18.6 -2.7**
PET				*e*S	**S**	**05 36 01.2 -6.3**
PET				MLR	MLR	
	comp=Z,2μm,17.0s,MS5.0					
PET				MLR	MLR	
	comp=Z,2μm,19.0s					
KOLN	**Koldanda**	**37.15**	**283**	*e*P	**P**	**05 30 23.2 +0.4**
	comp=Z,57nm,1.0s,mb5.3					
MA2	**Magadan**	**38.25**	**21**	PFAKE		05 30 40.0 +8.4
MA2				LR	LR	
	comp=Z,2μm,20.0s,MS4.9					
MA2	**Magadan**	**38.25**	**21**	*e*P	**P**	**05 30 29.5 -2.1**
MA2				*e*PPP		05 32 26.1
MA2				*e*		05 32 45.2
MA2				*e*S	**S**	**05 36 20.1 -5.9**
MA2				pmax	pmax	
	comp=Z,10.0nm,1.0s,mb4.5					
MA2				MLR	MLR	
	comp=Z,2μm,18.0s,MS5.1					
KAKA	**Kakadu**	**38.78**	**169**	*e*P	**P**	**05 30 34.9 -1.6**
	comp=Z,38nm,0.7s,mb5.2					
VIS	**Vishakhapatnam**	**39.63**	**267**	*e*P	**P**	**05 30 43.4 -0.3**
VIS				AMb	AMB	05 30 52.1
	comp=Z,48nm,0.9s,mb5.2					
VIS				*ex*	x	05 36 32.4
MK31	**Makanchi Array**	**39.95**	**313**	*e*P	**P**	**05 30 47.1 +1.1**
MKAR	**Makanchi Array**	**39.95**	**313**	P	**P**	**05 30 46.0 0.0**
MKAR				PcP	PcP	05 32 50.0 -1.5
MKAR				S	**S**	**05 36 48.0 -3.9**
MKAR	**Makanchi Array**	**39.95**	**313**	P	**P**	**05 30 46.0 0.0**
MKAR				S	**S**	**05 36 48.0 -3.9**
MKAR	**Makanchi Array**	**39.95**	**313**	P	**P**	**05 30 46.0 0.0**
	comp=Z,19nm,0.9s,mb4.8,baz=98,slow=11,SNR=41					
MKAR				PcP	PcP	05 32 50.0 -1.5
	comp=Z,6.9nm,0.9s,baz=90,slow=3.4,SNR=4.6					
MKAR				S	**S**	**05 36 48.0 -3.9**
	comp=Z,0.3nm,0.8s,baz=117,slow=5.0,SNR=2.4					
MKAR				LR	LR	05 47 40.5
	comp=Z,3μm,18.1s,MS5.1,baz=105,slow=37					
ZAA0	**Zalesovo Array**	**41.11**	**324**	*e*P	**P**	**05 30 54.8 -0.7**
ZALV	**Zalesovo Beam**	**41.11**	**324**	P	**P**	**05 30 54.2 -1.3**
	comp=Z,17nm,0.8s,mb4.8,baz=112,slow=8.4,SNR=44					
ZALV				PcP	PcP	05 32 53.8 -1.2
	comp=Z,7.9nm,0.9s,baz=128,slow=2.4,SNR=3.9					
ZALV				LR	LR	05 48 44.0
	comp=Z,3μm,20.4s,MS5.1,baz=119,slow=37					
ZAL	**Zalesovo**	**41.12**	**324**	P	**P**	**05 30 54.2 -1.4**
ZAL						05 32 53.8
SEY	**Seymchan**	**41.37**	**18**	⇑*e*P	**P**	**05 30 57.7 +0.2**
NVS	**Novosibirsk**	**42.34**	**325**	*i* P	**P**	**05 31 04.8 -0.8**
NVS				pmax	pmax	
	comp=Z,24nm,1.5s,mb4.6					
NVS				pmax	pmax	
	comp=N,15nm,1.4s					
NVS				pmax	pmax	
	comp=E,22nm,1.4s					
SMLA	**Simla**	**42.40**	**289**	*e*P	**P**	**05 31 06.5 +0.1**
NGP	**Nagpur**	**42.49**	**274**	*e*P	**P**	**05 31 07.4 +0.1**
NGP				*ex*	x	05 31 14.5
	comp=Z,70nm,1.4s					
NGP				*e*S	**S**	**05 37 30.5 +0.3**
NDI	**New Delhi**	**42.63**	**285**	*e*P	**P**	**05 31 07.0 -1.3**
NDI				AMb	AMB	05 31 14.8
	comp=Z,85nm,1.4s,mb5.3					
AAA	**Alma-Ata**	**42.90**	**307**	*i* P	**P**	**05 31 19.1 +8.8**
AAA				pmax	pmax	
	comp=Z,649nm,5.4s					
AAA				MLR	MLR	
	comp=Z,6μm,14.2s,MS5.6					
KSH	**Kashi**	**43.26**	**301**	*e*P	**P**	**05 31 15.9 +2.6**
KSH				*e*AP	pP	05 31 20.1 +6.1
KSH				*e*XP	sP	05 31 22.4 +8.1
KSH				*e*PP	PP	05 32 59.0 +5.4
KSH				*e*PCP	PcP	05 33 05.3 +2.9
KSH				*e*SCP	ScP	05 36 54.4 -0.4
KSH				PCS	PcS	05 36 56.3 +1.4
KSH				S	**S**	**05 37 43.1 +1.9**
KSH				SS	SS	05 40 49.9 -4.2
KSH				AMB	AMB	
	comp=Z,50nm,0.4s,mb5.6					
KSH				AMB	AMB	
	comp=Z,513nm,3.5s					
KSH				LR	LR	
	comp=N,29μm,14.4s,MS6.5					
KSH				LR	LR	
	comp=E,25μm,12.7s,MS6.5					
KSH				LR	LR	
	comp=Z,14μm,12.2s,MS6.1					
KURK	**Kurchatov**	**43.42**	**318**	P	**P**	**05 31 14.6 +0.2**
	comp=Z,394nm,0.8s,mb6.2,SNR=13					
KURK	**Kurchatov**	**43.42**	**318**	PFAKE		05 31 30.0 +16
KURK				LR	LR	
	comp=Z,2μm,22.0s,MS4.9					
KURK	**Kurchatov**	**43.42**	**318**	*d i* P	**P**	**05 31 13.3 -1.1**
KURK				pmax	pmax	
	comp=Z,25nm,0.8s,mb5.0					
BHPL	**Bhopal**	**43.43**	**277**	*e*P	**P**	**05 31 14.7 -0.2**
BHPL				AMb	AMB	05 31 21.9
	comp=Z,32nm,0.8s,mb5.1					
BHPL				*ex*	x	05 37 37.0
FITZ	**Fitzroy Crossi**	**43.50**	**179**	*e*P	**P**	**05 31 13.7 -1.6**
	comp=Z,29nm,0.9s,mb5.0					
FITZ	**Fitzroy Crossi**	**43.50**	**179**	P	**P**	**05 31 14.2 -1.1**
	comp=Z,6.7nm,0.7s,mb4.5,baz=352,slow=6.6,SNR=11					
THN	**Thein Dam**	**43.53**	**291**	*e*P	**P**	**05 31 14.7 -0.8**
TKM2	**Tokmak 2**	**43.84**	**306**	PFAKE		05 31 30.0 +12
TKM2				LR	LR	
	comp=Z,3μm,20.0s,MS5.1					
HYB	**Hyderabad**	**44.03**	**269**	*e*P	**P**	**05 31 25.0 +5.2**
HYB				*e*S	**S**	**05 37 54.0 +1.0**
HYB	**Hyderabad**	**44.03**	**269**	*i* P	**P**	**05 31 20.0 +0.2**
HYB				*es*P	sP	05 31 25.0 +4.2
HYB				*e*S	**S**	**05 37 52.0 -1.0**
MDRS	**Chennai**	**44.08**	**262**	*ex*	x	05 31 02.8
AKL	**Akola**	**44.44**	**274**	*e*P	**P**	**05 31 22.2 -0.8**
FRU	**Bishkek**	**44.54**	**306**	*e*P	**P**	**05 31 24.0 +0.5**
FRU				*e*		05 31 31.0
FRU				MLR	MLR	
	comp=Z,5μm,15.0s,MS5.6					
UCH	**Uchtor**	**44.56**	**305**	*e*P	**P**	**05 31 25.0 +1.3**
	comp=Z,41nm,0.9s,mb5.3					
UCH				LR	LR	
	comp=Z,2μm,20.0s,MS5.1					
AAK	**Ala-Archa**	**44.61**	**306**	*e*P	**P**	**05 31 23.9 -0.2**
	comp=Z,6.6nm,0.8s,mb4.5					
AAK				LR	LR	
	comp=Z,4μm,20.0s,MS5.3					
AAK	**Ala-Archa**	**44.61**	**306**	⇑*e*P	**P**	**05 31 23.6 -0.5**
AAK				pmax	pmax	
	comp=Z,14nm,2.4s,mb4.4					
EKS2	**Erkin-Say**	**45.14**	**305**	*e*P	**P**	**05 31 28.2 -0.2**
	comp=Z,7.4nm,0.9s,mb4.5					
EKS2				*e*PcP	PcP	05 33 08.5 -0.3
EKS2				LR	LR	
	comp=Z,3μm,19.0s,MS5.3					
AML	**Almayashu**	**45.16**	**305**	*e*P	**P**	**05 31 29.0 +0.5**
	comp=Z,14nm,0.8s,mb4.8					
AML				*e*PcP	PcP	05 33 09.4 +0.6
AML				LR	LR	
	comp=Z,3μm,19.0s,MS5.2					
AJM	**Ajmer**	**45.23**	**283**	*ex*	x	05 31 24.2
LATR	**Latur**	**45.52**	**271**	*e*P	**P**	**05 31 32.6 +1.0**
TIXI	**Tiksi**	**46.06**	**2**	*e*P	**P**	**05 31 33.8 -1.4**
	comp=Z,180nm,3.0s					
TIXI				LR	LR	
	comp=Z,5μm,22.0s,MS5.4					
TIXI	**Tiksi**	**46.06**	**2**	⇑*e*P	**P**	**05 31 33.5 -1.7**
TIXI				pmax	pmax	
	comp=Z,6.0nm,1.4s,mb4.3					
WRAB	**Tennant Creek**	**46.17**	**168**	P	**P**	**05 31 36.0 -0.6**
	comp=Z,186nm,1.2s,mb5.9,SNR=8.3					
WRAB	**Tennant Creek**	**46.17**	**168**	*e*P	**P**	**05 31 36.0 -0.6**
	comp=Z,53nm,1.2s,mb5.3					
WRAB	**Tennant Creek**	**46.17**	**168**	⇓*e*P	**P**	**05 31 35.6 -1.0**
WRA	**Warramunga Arr**	**46.18**	**168**	P	**P**	**05 31 35.9 -0.8**
WRA				S	**S**	**05 38 30.0 +6.2**
WRA	**Warramunga Arr**	**46.18**	**168**	P	**P**	**05 31 35.9 -0.8**
	comp=Z,11nm,0.8s,mb4.8,baz=349,slow=8.0,SNR=46					
WRA				S	**S**	**05 38 30.0 +6.2**
	comp=Z,0.7nm,1.2s,baz=315,slow=7.1,SNR=7.2					
WRA				LR	LR	05 50 12.6
	comp=Z,2μm,20.8s,MS5.0,baz=0.0,slow=35					
WB2	**Warramunga Arr**	**46.19**	**168**	*e*P	**P**	**05 31 35.0 -1.7**
WB2				*e*S	**S**	**05 38 18.2 -5.6**
PALK	**Pallekele**	**46.21**	**255**	*e*P	**P**	**05 31 37.7 +0.6**
	comp=Z,5.9nm,0.8s,mb4.6					
PALK				LR	LR	
	comp=Z,808nm,19.0s,MS4.7					
MBWA	**Marble Bar**	**46.85**	**187**	*e*P	**P**	**05 31 40.5 -1.4**
	comp=Z,48nm,1.1s,mb5.3					
MBWA				LR	LR	
	comp=Z,1μm,22.0s,MS4.8					
KK31	**Karatay Array**	**47.57**	**306**	*i* P	**P**	**05 31 47.3 -0.1**
KK31				pmax	pmax	

comp=Z,6.0nm,0.7s,mb4.7
KOD Kodaikanal 47.72 260 *e*P **P 05 31 50.4 +1.5**
POO Poona 47.93 272 *e*P **P 05 31 50.1 -0.4**
POO AMb AMB 05 31 58.4
comp=E,43nm,0.7s
KAD Karad 48.01 271 *e*P **P 05 31 52.1 +1.0**
KAD AMb AMB 05 31 58.2
comp=Z,26nm,0.5s,mb5.5
HNR Honiara 48.54 131 PFAKE 05 32 10.0 +15
HNR LR LR
comp=Z,1μm,20.0s,MS4.8
BOM Bombay 48.75 273 *e*x x 05 31 31.2
BOM *e*x x 05 31 33.2
comp=Z,30nm,1.4s
BOM *e*x x 05 38 53.5
KBL Kabul 48.91 294 *e*P **P 05 31 59.1 +1.3**
comp=Z,51nm,0.9s,mb5.6
TRD Trivandrum 48.92 258 *e*x x 05 31 54.4
TRD AMb AMB 05 32 07.4
comp=Z,44nm,1.1s,mb5.4
BVAR Borovoye Array 48.94 319 P **P 05 31 57.4 -0.4**
BVAR 05 33 21.0
BVAR Borovoye Array 48.94 319 P **P 05 31 57.4 -0.4**
comp=Z,3.9nm,0.7s,mb4.6,baz=106,slow=9.4,SNR=18
BVAR PcP PcP 05 33 21.0 -1.1
comp=Z,12nm,1.0s,baz=102,slow=5.0,SNR=6.8
BVAR LR LR 05 53 47.2
comp=Z,2μm,18.1s,MS5.2,baz=286,slow=38
GOA Goa 48.95 269 *e*P **P 05 31 59.7 +1.3**
BRVK Borovoye 49.00 319 P **P 05 31 58.8 +0.5**
comp=Z,135nm,0.7s,mb6.1,SNR=8.9
BRVK Borovoye 49.00 319 *e*P **P 05 31 58.0 -0.3**
comp=Z,15nm,0.7s,mb5.1
BRVK LR LR
comp=Z,2μm,19.0s,MS5.2
BRVK Borovoye 49.00 319 *e*P **P 05 31 58.0 -0.3**
BRVK pmax pmax
comp=Z,15nm,0.7s,mb5.1
BRVK MLR MLR
comp=Z,2μm,19.0s,MS5.2
BILL Bilibino 49.06 19 *e*P **P 05 31 58.3 -0.2**
comp=Z,7.4nm,0.8s,mb4.8
BILL Bilibino 49.06 19 *e*P **P 05 31 58.5 0.0**
BILL *i* 05 33 22.0
BILL *e* 05 33 48.0
BILL pmax pmax
comp=Z,9.0nm,0.9s,mb4.8
BILL MLR MLR
comp=Z,1μm,14.0s,MS5.1
ASAR Alice Springs 49.75 170 P **P 05 32 03.6 -0.6**
comp=Z,6.8nm,0.8s,mb4.7,baz=353,slow=7.0,SNR=57
ASAR PcP PcP 05 33 24.8 -0.5
comp=Z,7.6nm,0.9s,baz=353,slow=2.7,SNR=4.8
CTA Charters Tower 49.84 154 *e*P **P 05 32 04.7 -0.3**
comp=Z,11nm,1.3s,mb4.7
CTA Charters Tower 49.84 154 *e*P **P 05 32 04.7 -0.3**
CTA pmax pmax
comp=Z,11nm,1.3s
CTA Charters Tower 49.84 154 P **P 05 32 04.5 -0.6**
comp=Z,6.0nm,1.0s,mb4.6,baz=304,slow=17,SNR=3.4
CTAO Charters Tower 49.84 154 *e*P **P 05 32 04.8 -0.2**
comp=Z,78nm,1.8s,mb5.4
CTAO Charters Tower 49.84 154 *e*P **P 05 32 04.8 -0.2**
CTAO pmax pmax
comp=Z,78nm,1.8s,mb5.4
SVE Sverdlovsk 55.08 323⇓*e*P **P 05 32 43.1 -0.4**
SVE *e*S **S 05 40 20.9 -5.9**
SVE pmax pmax
comp=Z,58nm,1.1s,mb5.5
SVE MLR MLR
comp=Z,7μm,23.0s,MS5.7
GAMB Gambell 55.41 29 *e*P **P 05 32 45.3 -0.5**
comp=Z,18nm,1.2s,mb5.0
FORT Forrest 56.19 177 *e*P **P 05 32 51.2 -0.5**
comp=Z,17nm,1.1s,mb5.0
ARU Arti 56.19 322 *e*P **P 05 32 50.6 -0.9**
comp=Z,36nm,0.8s,mb5.5
ARU LR LR
comp=Z,5μm,19.0s,MS5.6
ARU Arti 56.19 322*c i*P **P 05 32 50.4 -1.1**
ARU *e* 05 33 46.3
ARU *e* 05 34 53.3
ARU *e*S **S 05 40 38.5 -3.0**
ARU pmax pmax
comp=Z,46nm,1.0s,mb5.5
ARU MLR MLR
comp=Z,5μm,21.0s,MS5.6
AKTK Aktyubinsk 56.34 315 P **P 05 32 51.7 -1.0**
AKTO Aktyubinsk 56.34 315 P **P 05 32 51.7 -1.0**
comp=Z,7.1nm,1.0s,mb4.7,baz=92,slow=5.8,SNR=9.4
ABKT Ailbek 57.26 300 P **P 05 33 00.9 +1.5**
comp=Z,335nm,0.8s,mb6.4,SNR=5.1
TNA Tin City 57.35 27 *e*P **P 05 32 58.8 -0.8**
comp=Z,22nm,1.3s,mb5.0
TNA LR LR
comp=Z,793nm,19.0s,MS4.8
KLBR Kellerberrin 57.38 188 *e*P **P 05 32 59.5 -0.7**
comp=Z,65nm,1.1s,mb5.6
NWAO Narrogin (SRO) 58.77 188 *e*P **P 05 33 13.0 +3.2**
NWAO Narrogin (SRO) 58.77 188 P **P 05 33 08.9 -0.9**
comp=Z,15nm,0.9s,mb5.0,baz=1.8,slow=9.6,SNR=4.9
STKA Stephens Creek 59.30 164 *e*P **P 05 33 12.8 -0.8**
comp=Z,12nm,0.9s,mb4.9
STKA Stephens Creek 59.30 164 P **P 05 33 12.8 -0.8**
comp=Z,10nm,0.9s,mb4.8,baz=339,slow=7.7,SNR=18
STKA LR LR 05 57 30.6
comp=Z,914nm,21.9s,MS4.9,baz=346,slow=35
TTA Tatalina 62.37 30 *e*P **P 05 33 34.6 +0.4**
SVW2 Sparrevohn 62.68 32 *e*P **P 05 33 36.8 +0.5**
IMA2 Indian Mountai 63.22 27 *e*P **P 05 33 39.6 -0.2**
MAK Makhachkala 64.35 307 *e*P **P 05 33 47.3 -0.3**
MAK *e*S **S 05 42 29.5 +2.8**
MAK pmax pmax
comp=Z,280nm,1.8s,mb6.0
KDAK Kodiak Island 64.55 36 P **P 05 33 48.2 -0.5**
comp=Z,769nm,1.3s,SNR=7.6
KDAK Kodiak Island 64.55 36 *e*P **P 05 33 48.3 -0.4**
comp=Z,190nm,1.2s,mb6.0
KDAK LR LR
comp=Z,270nm,19.0s,MS4.5
SLKM Skilak Lake 65.36 33 *e*P **P 05 33 52.1 -1.7**
MCK McKinley 65.47 29 *e*P **P 05 33 53.8 -0.8**
comp=Z,94nm,1.0s,mb5.8
MCK McKinley 65.47 29 *e*P **P 05 33 53.8 -0.8**
MCK pmax pmax
comp=Z,94nm,1.0s,mb5.8
PMR Palmer 65.71 32 *e*P **P 05 33 54.8 -1.3**
comp=Z,46nm,1.0s,mb5.5
PMR LR LR
comp=Z,1μm,20.0s,MS5.0
PMR Palmer 65.71 32 *e*P **P 05 33 54.8 -1.3**
PMR pmax pmax
comp=Z,46nm,1.0s,mb5.5
PMR MLR MLR
comp=Z,1μm,20.0s,MS5.0
COLA College 65.77 28 *e*P **P 05 33 55.8 -0.7**
comp=Z,23nm,0.9s,mb5.2
COLA College 65.77 28⇑*e*P **P 05 33 56.2 -0.3**
TMCR Tamitsa 66.03 331 *e*P **P 05 33 57.1 -1.1**
SML Sawmill 66.05 31 *e*P **P 05 33 57.5 -0.8**
GOF Gofitskoye 67.03 310 *e*P **P 05 34 10.6 +5.7**
APA Apatity 67.26 335⇓*i*P **P 05 34 04.8 -1.2**
APA *e*S S 05 43 00.0 -1.5
APA pmax pmax
comp=Z,21nm,1.0s,mb5.1
APA MLR MLR
comp=Z,4μm,15.0s,MS5.8
KIV Kislovodsk 67.54 309 *e*P **P 05 34 08.4 +0.3**
comp=Z,64nm,1.1s,mb5.6
KIV LR LR
comp=Z,2μm,21.0s,MS5.2
KIV Kislovodsk 67.54 309*d i*P **P 05 34 08.0 -0.1**
KIV *i* 05 34 13.8
KIV *e* 05 34 31.6
KIV *i* S S 05 43 07.9 +2.4
KIV pmax pmax
comp=Z,46nm,0.9s,mb5.5
KIV MLR MLR
comp=Z,1μm,17.0s,MS5.2
MENT Mentasta 67.93 30 *e*P **P 05 34 10.2 -0.1**
VRSR Storozhevoye 68.06 317 *e*P **P 05 34 10.7 -0.6**
VRSR pmax pmax
comp=N,3.0nm,1.0s
VRSR pmax pmax
comp=Z,5.0nm,1.0s,mb4.5
VRSR pmax pmax
comp=E,4.0nm,1.1s
VRSR MLR MLR
comp=Z,360nm,17.0s,MS4.7
VRSR MLR MLR
comp=N,370nm,53.0s
VRSR MLR MLR
comp=E,130nm,17.0s
EGAK Eagle 68.59 27 *e*P **P 05 34 13.7 -0.6**
comp=E,54nm,1.0s,mb5.4
EGAK LR LR
comp=Z,1μm,19.0s,MS5.1
OBN Obninsk 68.63 322 PFAKE 05 34 30.0 +15
OBN LR LR
comp=Z,3μm,19.0s,MS5.5
OBN Obninsk 68.63 322 *e*P **P 05 34 14.4 -0.4**
OBN *e* 05 34 37.9
OBN *i* S S 05 43 09.6 -8.7
OBN pmax pmax
comp=Z,34nm,1.2s,mb5.2
OBN MLR MLR
comp=Z,2μm,18.0s,MS5.4
KEV Kevo 68.98 338 *e*p **P 05 34 14.7 -2.0**
comp=Z,7.3nm,0.7s,mb4.7
KEV Kevo 68.98 338 *e*P **P 05 34 14.7 -2.0**
KEV pmax pmax
comp=Z,7.0nm,0.7s,mb4.7
JOF Joensuu 69.24 331 *e*p **P 05 34 15.7 -2.7**
comp=Z,12nm,0.7s,mb4.9
JOF Joensuu 69.24 331 *e*P **P 05 34 15.7 -2.7**
JOF pmax pmax
comp=Z,12nm,0.7s,mb4.9
KBS Kingsbay 69.30 349 PFAKE 05 34 30.0 +11
KBS LR LR
comp=Z,2μm,21.0s,MS5.3
DAWY Dawson 69.52 28 *e*P **P 05 34 20.1 -0.1**
ARCES ARCESS Array B 69.55 338 P **P 05 34 19.2 -1.0**
comp=Z,8.5nm,1.0s,mb4.6,baz=53,slow=6.2,SNR=7.2
ARCES LR LR 06 10 42.6
comp=Z,2μm,18.2s,MS5.4,baz=81,slow=41
SOC Sochi 69.71 309 *e*P **P 05 34 18.1 -3.6**
SOC *e* 05 34 41.4
SOC *e* 05 36 56.8
SOC *e*PPP 05 38 34.3
SOC *e*S S 05 43 21.3 -10
SOC *e* 05 44 21.3
SOC *e*SS SS 05 47 49.8 -9.2
SOC pmax pmax
comp=Z,56nm,1.2s,mb5.4
SOC MLR MLR
comp=Z,2μm,19.0s,MS5.3
INK Inuvik 70.45 23 *e*P **P 05 34 25.1 -0.7**
ANN Anapa 70.93 311 *e*P **P 05 34 27.6 -1.6**
ANN *e*S S 05 43 39.6 -6.0
ANN pmax pmax
comp=Z,43nm,1.1s,mb5.3
ANN MLR MLR
comp=N,3μm,22.0s,MS5.6
ANN MLR MLR
comp=E,2μm,22.0s,MS5.6
ANN MLR MLR
comp=Z,2μm,22.0s,MS5.3
TAU Tasmania Unive 71.19 163 *e*P **P 05 34 30.8 +0.2**
comp=Z,34nm,1.2s,mb5.2
TAU LR LR
comp=Z,1μm,20.0s,MS5.2
TAU Tasmania Unive 71.19 163 *e*P **P 05 34 30.8 +0.3**
TAU pmax pmax
comp=Z,34nm,1.2s,mb5.2
TAU MLR MLR
comp=Z,1μm,20.0s,MS5.2
KAF Kangasniemi 71.70 331 *e*p **P 05 34 30.9 -2.6**
comp=Z,11nm,0.9s,mb4.8,baz=68,slow=5.7
KAF Kangasniemi 71.70 331 *e*P **P 05 34 30.9 -2.6**
KAF pmax pmax
comp=Z,11nm,0.9s,mb4.8
ALE Alert 71.97 1 P **P 05 34 33.0 -1.9**
comp=Z,71nm,1.1s,mb5.5,SNR=6.5
FIA1 FINESS Array S 72.03 330 *e*P **P 05 34 34.1 -1.4**
FINES FINESS Array B 72.03 330 *i* P **P 05 34 35.0 -0.5**
FINES pmax pmax
comp=Z,9.0nm,0.9s
FINES FINESS Array B 72.03 330 P **P 05 34 33.5 -2.0**
comp=Z,9.0nm,0.9s,mb4.7,baz=69,slow=6.3,SNR=12
FINES LR LR 06 09 14.4
comp=Z,2μm,18.7s,MS5.3,baz=76,slow=38
MALT Malatya 72.24 304 *e*P **P 05 34 37.7 +0.6**
comp=Z,18nm,1.1s,mb4.9
MALT Malatya 72.24 304⇑*i*P **P 05 34 37.8 +0.6**
SKAG Skagway 72.84 32 *e*P **P 05 34 40.7 +0.3**
comp=Z,79nm,0.9s,mb5.6
SKAG LR LR
comp=Z,500nm,18.0s,MS4.8
SIM Simferopol' 73.12 312 *e*P **P 05 34 44.4 +2.1**
SIM *e*S S 05 44 11.0 +0.2
SIM MLR MLR
comp=Z,1μm,14.0s,MS5.3
MNK Minsk 73.63 323 *e*P **P 05 34 42.0 -3.2**
SIT Sitka 73.73 34 *e*P **P 05 34 46.5 +0.8**
comp=Z,91nm,1.0s,mb5.7
SIT Sitka 73.73 34 *e*P **P 05 34 46.5 +0.8**
SIT pmax pmax
comp=Z,91nm,1.0s,mb5.7
AKASG Malin Array Be 74.22 319 P **P 05 34 47.1 -1.5**
comp=Z,13nm,0.9s,mb4.8,baz=57,slow=5.9,SNR=27
AKASG LR LR 06 08 21.3
comp=Z,3μm,19.1s,MS5.5,baz=65,slow=37
AKBB Malin Array Si 74.22 319 *e*P **P 05 34 46.8 -1.8**
KIEV Kiev 74.23 319 *e*P **P 05 34 47.0 -1.8**
comp=Z,13nm,0.8s,mb4.9
KIEV Kiev 74.23 319 *e*P **P 05 34 47.0 -1.7**
KIEV pmax pmax
comp=Z,13nm,0.8s,mb4.9
CRAG Craig 75.49 35 *e*P **P 05 34 56.6 +0.7**
WRAK Wrangell Islan 75.49 34 *e*P **P 05 34 55.6 -0.3**
comp=Z,54nm,1.1s,mb5.4
ASF Jabal al Asfar 75.52 299 P **P 05 34 56.7 +0.1**
comp=Z,11nm,1.0s,mb4.7,baz=350,slow=1.6,SNR=6.4
DLBC Dease Lake 75.77 32 *e*P **P 05 34 58.0 +0.5**
SUW Suwalki 76.34 324 *e*P **P 05 35 00.2 -0.6**
MMAI Mount Meron Ar 76.39 300 P **P 05 35 01.7 +0.2**
comp=Z,0.5nm,0.3s,mb3.9,baz=44,slow=13,SNR=3.1
RES Resolute Bay 76.59 10 *e*P **P 05 35 00.5 -1.4**
VRI Vrincioaia 77.61 315⇑P **P 05 35 08.3 +0.2**
VRI Vrincioaia 77.61 315⇑*i*P **P 05 35 08.3 +0.2**
MLR Muntele Rosu 78.27 315⇓*i*P **P 05 35 11.7 -0.1**
ATD Arta Tunnel 78.33 277 P **P 05 35 12.0 -0.7**
comp=Z,3.6nm,0.3s,mb4.7,baz=230,slow=21,SNR=3.2
KWP Kalwaria 78.48 320 *e*P **P 05 35 12.7 -0.2**
KWP Kalwaria 78.48 320⇑*i*P **P 05 35 12.5 -0.4**
NB2 NORSAR Subarra 78.62 333 P **P 05 35 11.5 -1.9**
comp=Z,0.8nm,0.7s,mb3.8,baz=62,slow=6.2
NOA NORSAR Array B 78.62 333 P **P 05 35 11.6 -1.9**
comp=Z,5.2nm,0.8s,mb4.5,baz=55,slow=5.6,SNR=11
NOA LR LR 06 14 05.6
comp=Z,3μm,18.2s,MS5.7,baz=45,slow=39
NAO01 NORSAR Array S 78.86 333 PFAKE 05 35 30.0 +15
NAO01 LR LR
comp=Z,5μm,20.0s,MS5.8
KOLS Kolonicke sedl 79.05 319 *e*P **P 05 35 15.0 -1.0**
KOLS *e* 05 35 26.2
UZH Uzhgorod 79.17 319 *e*P **P 05 35 16.0 -0.7**
UZH *i* 05 35 22.4
UZH *e*S S 05 45 14.0 -3.2
UZH MLR MLR
comp=Z,2μm,15.0s,MS5.5
STHS Stebnicka Huta 79.43 320 *e*P **P 05 35 17.5 -0.6**
comp=Z,6.9nm,0.9s,mb4.6
STHS *e* 05 35 24.4
STHS Stebnicka Huta 79.43 320 *e*P **P 05 35 17.5 -0.6**
STHS *e* 05 35 24.4
STHS pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
CRVS Cervenica-Dubn 79.54 319 *e*P **P 05 35 19.2 +0.5**
DRGR 79.74 317⇓P **P 05 35 19.8 -0.1**
DRGR 79.74 317⇓*i*P **P 05 35 19.8 0.0**
OJC Ojcow 79.89 321 *e*P **P 05 35 20.0 -0.6**
NIE Niedzica 79.97 320 *e*P **P 05 35 21.0 0.0**
KONO Kongsberg 80.06 332 PFAKE 05 35 30.0 +8.7
KONO LR LR
comp=Z,4μm,19.0s,MS5.7
YKW3 Yellowknife Ar 80.10 24 *e*P **P 05 35 20.4 -1.0**
YKA Yellowknife Ar 80.15 24 P **P 05 35 20.4 -1.3**
YKA PKKPbc PKKPbc 05 54 02.0 -4.4
YKA LR LR 06 14 28.3
YKA Yellowknife Ar 80.15 24 P **P 05 35 20.4 -1.3**
YKA 05 54 02.1
YKA Yellowknife Ar 80.15 24 P **P 05 35 20.4 -1.3**
comp=Z,46nm,0.9s,mb5.4,baz=308,slow=5.0,SNR=393
YKA PKKPbc PKKPbc 05 54 02.0 -4.5
comp=Z,0.2nm,0.4s,baz=132,slow=2.5,SNR=16
YKA LR LR 06 14 28.3
comp=Z,200nm,18.4s,MS4.5,baz=125,slow=38
KECS Kecovo 80.31 319 *e*P **P 05 35 22.7 -0.2**
comp=Z,5.0nm,1.3s,mb4.3
KECS *e* 05 35 39.4
KECS Kecovo 80.31 319 *e*P **P 05 35 22.7 -0.2**
KECS *e* 05 35 39.4
KECS pmax pmax
comp=Z,5.0nm,1.3s,mb4.3
GZR Gura Zlata 80.32 316⇑*i*P **P 05 35 22.3 -0.7**
PSZ Piszkesteto 80.92 319 *e*P **P 05 35 25.7 -0.4**
comp=Z,7.9nm,1.0s,mb4.6
PSZ Piszkesteto 80.92 319 *e*P **P 05 35 25.7 -0.5**
PSZ pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
OKC Ostrava-Krasne 81.01 321 *e*P **P 05 35 26.5 -0.1**
OKC AMS AMS 06 13 20.0
comp=Z,2μm,15.1s,MS5.6
VYHS Vyhne 81.27 320 *i* P **P 05 35 27.8 -0.2**
comp=Z,9.0nm,1.0s,mb4.7
VYHS *e* 05 35 33.7
VYHS Vyhne 81.27 320 *i* P **P 05 35 27.8 -0.2**
VYHS *e* 05 35 33.7
VYHS pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
VTS Vitosha 81.30 313⇓P **P 05 35 28.7 +0.4**
VTS Vitosha 81.30 313⇓*i*P **P 05 35 28.7 +0.4**
MORC Moravsky Berou 81.38 321 *e*P **P 05 35 28.2 -0.4**
comp=Z,7.1nm,0.9s,mb4.6
MORC Moravsky Berou 81.38 321⇑*i*P **P 05 35 28.8 +0.2**
KOLL Kolacno 81.48 320 *e*P **P 05 35 29.0 -0.1**
KOLL *e*pP pP 05 35 34.2 +4.3
KSP Ksiaz 81.54 323 *e*P **P 05 35 29.0 -0.4**
KSP Ksiaz 81.54 323 *e*P **P 05 35 28.6 -0.8**
KSP *e**PP pP 05 35 34.2 +4.0
KSP MLR MLR
comp=Z,5μm,17.7s,MS5.9
DPC Dobruska-Polom 81.78 322 *e*P **P 05 35 30.6 -0.1**
DPC *e*pP pP 05 35 35.8 +4.3
DPC AMS AMS 06 14 30.0
comp=Z,2μm,16.2s,MS5.6
VRAC Vranov 82.15 321⇑P **P 05 35 33.3 +0.7**
VRAC Vranov 82.15 321⇑*i*P **P 05 35 33.3 +0.6**
MODS Modra-Piesok 82.23 320 *e*P **P 05 35 29.5 -3.6**
PKSM Moragy 82.49 318⇑P **P 05 35 33.9 -0.6**
PKSM Moragy 82.49 318⇑*i*P **P 05 35 33.9 -0.6**
PVCC Panska Ves 82.64 323 AMS AMS 06 16 20.0
comp=Z,2μm,14.6s,MS5.7
TREC Trest 82.78 322 *e*P **P 05 35 35.6 -0.4**
TREC AMS AMS 06 14 20.0
comp=Z,3μm,16.2s,MS5.7
BRG Berggiesshubel 82.80 323 *e*P **P 05 35 36.2 +0.2**
BRG S S 05 45 58.0 +3.0
BRG SS SS 05 51 08.0 -8.5
BRG pmax pmax
comp=Z,5.0nm,0.5s,mb4.8
BRG MLR MLR
BRG MLR MLR
comp=E,880nm,14.4s
BRG MLR MLR
comp=Z,2μm,20.6s
BRG Berggiesshubel 82.80 323 *e*P **P 05 35 36.2 +0.2**
comp=Z,7.8nm,0.5s,mb5.0
BRG S S 05 45 58.0 +3.0
BRG SS SS 05 51 08.0 -8.5
BRG
comp=N,3μm,15.5s
BRG
comp=E,2μm,14.4s
BRG
comp=Z,4μm,20.6s
PRU Pruhonice 82.94 323 *e*P **P 05 35 36.1 -0.7**
PRU AMS AMS 06 21 00.0
comp=Z,2μm,14.1s,MS5.7
CLL Collm 83.07 324 *i* P **P 05 35 33.9 -3.5**
comp=Z,6.0nm,1.1s,mb4.5
CLL *i* 05 35 36.8
CLL *i* 05 35 42.3
CLL *e*S S 05 46 03.0 +5.3
CLL LR LR
comp=Z,3μm,18.1s,MS5.8
CLL Collm 83.07 324 *i* P **P 05 35 33.9 -3.5**
CLL *i* 05 35 42.3
CLL pmax pmax
comp=Z,6.0nm,1.1s,mb4.5
CLL MLR MLR
comp=Z,3μm,18.1s,MS5.8
CLL Collm 83.07 324 *e*P **P 05 35 37.2 -0.2**
comp=Z,12nm,1.0s,mb4.9
CLL Collm 83.07 324 *i* P **P 05 35 36.8 -0.6**
comp=Z,12nm,1.0s,mb4.9
CLL *i* sP sP 05 35 42.3 +3.8
CLL *i* x x 05 35 48.7
CLL *e*PP PP 05 39 00.0 +12
CLL *e*x x 05 41 36.0
CLL *e*S S 05 46 03.0 +5.3
CLL *e*(SS) 05 51 12.0
CLL *e*x x 05 55 51.0
CLL LmH 06 09 00.0
comp=N,4μm,20.0s
CLL LmH 06 09 00.0
comp=E,2μm,20.7s
CLL LmV 06 17 00.0
comp=Z,3μm,18.1s
KHC Kasperske Hory 83.93 322 *e*P **P 05 35 40.4 -1.5**
KHC *e*pP pP 05 35 46.0 +3.3
KHC AMS AMS 06 15 00.0
comp=Z,2μm,16.4s,MS5.7
NKC Novy Kostel 83.95 323 AMS AMS 06 17 40.0
comp=Z,4μm,16.3s,MS5.8
GEC2 GERESS Array S 84.02 322 *e*P **P 05 35 42.1 -0.2**
GEC2 pmax pmax
comp=Z,6.0nm,1.0s,mb4.7
GEC2 GERESS Array S 84.02 322 *e*P **P 05 35 42.1 -0.2**
comp=Z,6.0nm,1.0s,mb4.7
GERES GERESS Array B 84.02 322 P **P 05 35 41.9 -0.4**
comp=Z,2.0nm,0.5s,mb4.5,baz=77,slow=5.9,SNR=13
GERES LR LR 06 15 37.7
comp=Z,3μm,18.9s,MS5.6,baz=62,slow=38
GVD Gavdhos 84.20 306 *e*P **P 05 35 42.0 -1.5**
comp=Z,14nm,0.8s,mb5.2
A04A Legoe Bay, Lum 84.34 38⇓P **P 05 35 44.1 +0.1**
baz=84,SNR=5.7
PERS Pernice 84.38 319 *e*P **P 05 35 43.9 -0.4**
NLWA Neilton Lookou 84.40 40 *e*P **P 05 35 45.2 +1.0**
NLWA LR LR
comp=Z,606nm,19.0s,MS5.0
NLWA Neilton Lookou 84.40 40⇓P **P 05 35 44.0 -0.3**
baz=84
A05A Maple Falls 84.54 38⇑P **P 05 35 45.2 +0.2**
baz=84
D03A Wishkah Elem. 84.60 40⇓P **P 05 35 45.2 -0.2**
baz=84
MBW Mount Baker 84.76 38 P **P 05 35 46.5 +0.5**
A06A Chilliwack 84.81 37⇑P **P 05 35 45.5 -0.9**
baz=85
CMW Cultus Mountai 84.83 38 *i* P **P 05 35 47.2 +0.8**
BOJS Bojanci 84.89 318 *i* P **P 05 35 46.6 -0.2**
GNW Green Mountain 84.90 39 *e*P **P 05 35 47.3 +0.5**
VNDS Vrh nad Dolski 84.91 319 *i* P **P 05 35 47.1 +0.2**
GRA1 Grafenberg Arr 84.91 323 *e*P **P 05 35 46.5 -0.3**
GRA1 *e*S S 05 46 18.0 +1.7
GRA1 LR LR
comp=Z,3μm,18.6s,MS5.8
GRF Grafenberg Arr 84.91 323 *e*P **P 05 35 46.5 -0.3**
GRF *e*S S 05 46 18.0 +1.7
GRF Grafenberg Arr 84.91 323 *e*P **P 05 35 46.5 -0.3**
GRF *e*S S 05 46 18.0 +1.7
GRF *e*L 06 18 32.8
comp=Z,3μm,18.6s
B05A Bryant 84.93 38⇓P **P 05 35 47.1 +0.1**
baz=85
E03A Lebam 85.03 40⇑P **P 05 35 47.4 0.0**
baz=85,SNR=6.2
JCW Jim Creek 85.06 38 P **P 05 35 47.9 +0.2**
B06A Marblemount 85.13 38⇓P **P 05 35 47.9 0.0**
baz=85
IBBN Ibbenburen 85.18 327 *e*P **P 05 35 48.0 -0.1**
comp=Z,24nm,1.0s,mb5.3
F03A Seaside 85.36 41⇑P **P 05 35 49.6 +0.4**

baz=85
JAVS Javornik 85.39 319 *i* P **P 05 35 48.6 -0.7**
A07A Ashnola River, 85.44 37 P **P 05 35 49.7 +0.2**
baz=85,SNR=10
C05A Tolt Reservoir 85.47 39 ⇑P **P 05 35 49.3 -0.4**
baz=85,SNR=7.7
E04A Onalaska 85.49 40 ⇑P **P 05 35 49.9 +0.1**
baz=85
D05A Enumclaw 85.58 39 ⇓P **P 05 35 50.4 +0.2**
baz=85,SNR=6.9
G03A Yamhill 85.85 41 ⇓P **P 05 35 51.6 -0.1**
baz=86
TDL Tradedollar La 85.92 40 P **P 05 35 52.4 +0.4**
B07A Winthrop 85.92 37 ⇑P **P 05 35 51.8 -0.1**
baz=86,SNR=6.0
F04A Amboy 86.03 40 ⇑P **P 05 35 52.5 +0.1**
baz=86,SNR=9.2
E05A Randle 86.06 40 ⇓P **P 05 35 52.5 -0.2**
baz=86
A08A Turner Farm, O 86.09 37 ⇓P **P 05 35 52.8 +0.1**
baz=86,SNR=7.9
H03A Soap Creek Ran 86.19 42 ⇓P **P 05 35 53.6 +0.3**
baz=86
BORG Borgarnes 86.22 346 PFAKE 05 36 00.0 +6.9
BORG LR LR
comp=Z,1µm,21.0s,MS5.3
D06A Cle Elum 86.23 39 ⇑P **P 05 35 53.1 -0.3**
baz=86
COR Corvallis 86.23 42 PFAKE 05 36 00.0 +6.5
COR LR LR
comp=Z,524nm,19.0s,MS5.0
C07A Waterville 86.39 38 ⇑P **P 05 35 54.0 -0.2**
baz=86
G04A Mulino 86.39 41 ⇓P **P 05 35 54.2 -0.1**
baz=86,SNR=5.5
B08A Colville Reser 86.40 37 ⇓P **P 05 35 54.0 -0.3**
baz=86,SNR=11
A09A Danville 86.45 36 ⇓P **P 05 35 54.6 +0.1**
baz=86
K01A Sixes 86.47 44 ⇑P **P 05 35 55.3 +0.5**
baz=86
EDM Edmonton 86.47 31 *e*P **P 05 35 54.1 -0.5**
E06A Yakima 86.52 39 ⇑P **P 05 35 55.2 +0.3**
baz=86,SNR=6.1
F05A White Salmon 86.61 40 ⇑P **P 05 35 55.8 +0.4**
baz=86
D07A Quincy 86.72 38 ⇑P **P 05 35 56.0 +0.2**
baz=86,SNR=5.5
J02A Umpqua 86.73 43 ⇑P **P 05 35 56.4 +0.4**
baz=86
HOOD Mount Hood Mea 86.81 41 *e*P **P 05 35 57.4 +1.0**
H04A Detroit Lake 86.85 41 ⇑P **P 05 35 56.3 -0.2**
baz=87
C08A Higginbotham F 86.89 37 ⇓P **P 05 35 56.4 -0.3**
baz=87,SNR=5.4
A10A Northport 86.99 36 ⇑P **P 05 35 56.7 -0.4**
baz=87
B09A Rice 87.01 37 ⇑P **P 05 35 57.2 -0.1**
baz=87,SNR=5.1
G05A Wamic 87.05 40 ⇓P **P 05 35 57.5 -0.1**
baz=87
J03A Ideyld Park 87.10 43 ⇓P **P 05 35 58.3 +0.5**
baz=87
K02A Glendale 87.10 43 ⇑P **P 05 35 58.1 +0.3**
baz=87
E07A Sunnyside 87.15 39 ⇑P **P 05 35 58.0 0.0**
baz=87
I04A Tendick Farm, 87.20 42 ⇑P **P 05 35 58.3 0.0**
baz=87,SNR=6.7
TIP Timpagrande 87.23 312 *e*P **P 05 35 58.4 -0.1**
comp=Z,7.2nm,1.0s,mb4.9
BFO Black Forest 87.25 323 PFAKE 05 36 10.0 +12
BFO LR LR
comp=Z,2µm,22.0s,MS5.5
C09A Chrisman Ranch 87.31 37 ⇓P **P 05 35 58.9 +0.2**
baz=87
L02A Cave Junction 87.36 44 ⇑P **P 05 35 59.2 +0.1**
baz=87
D08A Wollman Farm, 87.39 38 ⇑P **P 05 35 58.8 -0.3**
baz=87,SNR=8.8
HAWA Hanford 87.43 39 *e*P **P 05 35 59.9 +0.5**
comp=Z,67nm,2.0s,mb5.5
HAWA LR LR
comp=Z,548nm,19.0s,MS5.0
H05A Madras 87.44 41 ⇑P **P 05 35 59.0 -0.4**
baz=87
G06A Carlson Farm, 87.45 40 ⇓P **P 05 36 00.0 +0.5**
baz=87
F07A Phinny Hill Vi 87.49 39 ⇑P **P 05 36 00.0 +0.4**
baz=87
HUMO Hull Mountain 87.52 43 *e*P **P 05 36 00.1 +0.3**
comp=Z,8.5nm,0.8s,mb5.0
HUMO LR LR
comp=Z,345nm,21.0s,MS4.7
HUMO Hull Mountain 87.52 43 ⇑P **P 05 36 00.1 +0.3**
baz=87
A11A Hall Mountain, 87.64 35 ⇑P **P 05 36 00.8 +0.5**
baz=87,SNR=12
E08A Dider Farm, El 87.64 39 ⇑P **P 05 36 00.6 +0.3**
baz=87
NEW Newport 87.65 36 *e*P **P 05 36 00.3 -0.1**
comp=Z,14nm,0.8s,mb5.3
NEW LR LR
comp=Z,750nm,19.0s,MS5.1
NEW Newport 87.65 36 *e*P **P 05 36 00.3 -0.1**
NEW pmax pmax
comp=Z,14nm,0.8s
NEW MLR MLR
comp=Z,750nm,19.0s
OPO Ambohidratompo 87.68 248 P **P 05 36 00.7 -0.3**
comp=Z,4.0nm,0.9s,mb4.6,baz=65,slow=9.7,SNR=3.3
I05A Bend 87.69 41 ⇓P **P 05 36 01.0 +0.4**
baz=88
J04A Umpqua Nationa 87.69 42 ⇑P **P 05 36 01.1 +0.4**
baz=88,SNR=13
D09A Jones Farm, Ri 87.72 38 ⇓P **P 05 36 00.7 -0.1**
baz=88,SNR=5.1
CDF Champ du Feu 87.76 324 *e*P **P 05 35 59.5 -1.4**
comp=Z,18nm,1.0s,mb5.0
CDF Champ du Feu 87.76 324 *e*P **P 05 35 59.5 -1.4**
comp=Z,9.1nm,1.0s,mb5.0
CDF Champ du Feu 87.76 324 *e*P **P 05 35 59.5 -1.4**
CDF pmax pmax
comp=Z,9.0nm,1.0s,mb5.0
C10A Spilker Farm, 87.82 37 ⇓P **P 05 36 01.0 -0.2**
baz=88
H06A Lindquist Farm 87.92 41 ⇓P **P 05 36 01.4 -0.3**
baz=88,SNR=5.4
B11A Sandpoint 87.95 36 ⇑P **P 05 36 02.1 +0.3**
baz=88,SNR=14
G07A Ruggs Ranch, H 88.00 40 ⇓P **P 05 36 02.4 +0.3**
baz=88
A12A Yaak River Ran 88.02 35 ⇑P **P 05 36 02.7 +0.5**
baz=88
DOU Dourbes 88.11 326 P **P 05 36 02.1 -0.4**
E09A Wood Farm, Sta 88.14 38 ⇑P **P 05 36 02.6 -0.1**
baz=88
BUOR Burton Butte 88.14 43 P **P 05 36 02.9 +0.1**
ESK Eskdalemuir 88.14 333 PFAKE 05 36 10.0 +7.5
ESK LR LR
comp=Z,3µm,19.0s,MS5.7
YBH Yreka Blue Hor 88.15 44 *e*P **P 05 36 02.9 0.0**
comp=Z,12nm,1.1s,mb5.0
YBH LR LR
comp=Z,411nm,20.0s,MS4.8
YBH Yreka Blue Hor 88.15 44 *e*P **P 05 36 02.9 0.0**
YBH pmax pmax
comp=Z,12nm,1.1s
YBH MLR MLR
comp=Z,411nm,20.0s
YBH Yreka Blue Hor 88.15 44 ⇓P **P 05 36 03.0 +0.1**
baz=88
J05A Fort Rock 88.20 42 ⇓P **P 05 36 03.5 +0.4**
baz=88,SNR=11
F08A Pendleton 88.20 39 ⇓P **P 05 36 03.4 +0.4**
baz=88
N02C Big Bar 88.27 45 ⇓P **P 05 36 03.5 0.0**
baz=88,SNR=5.2
K04A Chilquin 88.27 43 ⇑P **P 05 36 03.2 -0.2**
baz=88,SNR=6.2
D10A Wagner Farm, O 88.30 37 P **P 05 36 03.5 +0.1**
baz=88,SNR=5.4
B12A Libby 88.34 36 ⇓P **P 05 36 04.3 +0.6**
baz=88
G08A Pilot Rock 88.39 39 ⇓P **P 05 36 04.0 0.0**
baz=88
L04A Klamath Falls 88.42 43 ⇓P **P 05 36 04.4 +0.3**
baz=88

I06A Prineville 88.44 41 ⇓P **P 05 36 04.6 +0.4**
baz=88,SNR=7.0
H07A Lands Inn, Kim 88.45 40 ⇑P **P 05 36 04.1 -0.1**
baz=88
A13A Flathead Natio 88.66 35 ⇓P **P 05 36 05.3 +0.1**
baz=88
M04C Macdoel 88.66 44 ⇓P **P 05 36 05.2 -0.1**
baz=88,SNR=9.1
KMBO Kilima Mbogo 88.69 268 *e*P **P 05 36 06.1 +0.2**
comp=Z,9.9nm,0.8s,mb5.2
KMBO Kilima Mbogo 88.69 268 *e*P **P 05 36 06.1 +0.2**
KMBO pmax pmax
comp=Z,10.0nm,0.8s
K05A Summer Lake 88.72 42 ⇑P **P 05 36 05.6 +0.1**
baz=88,SNR=6.0
E10A Myers Farm, Un 88.73 38 ⇑P **P 05 36 05.6 +0.1**
baz=88,SNR=10
F09A S2 Ranch, Elgi 88.74 39 ⇓P **P 05 36 06.0 +0.4**
baz=88
M03C McCloud 88.77 44 ⇑P **P 05 36 05.7 -0.1**
baz=88,SNR=5.8
I07A Izee 88.78 41 ⇑P **P 05 36 06.3 +0.5**
baz=88,SNR=5.9
D11A Klaveano Farm, 88.81 37 ⇓P **P 05 36 05.6 -0.3**
baz=89,SNR=19
WALA Waterton Lakes 88.84 34 *e*P **P 05 36 06.7 +0.7**
comp=Z,32nm,1.1s,mb5.6
J06A Christmas Vall 88.87 42 ⇓P **P 05 36 06.1 -0.1**
baz=89,SNR=9.1
WDC Whiskeytown Da 88.89 45 PFAKE 05 36 20.0 +14
WDC LR LR
comp=Z,373nm,19.0s,MS4.8
WDC Whiskeytown Da 88.89 45 ⇓P **P 05 36 07.0 +0.6**
baz=89
O02C Red Bluff 88.95 45 ⇑P **P 05 36 07.2 +0.5**
baz=89
F10A Beach Ranch, E 88.97 38 P **P 05 36 07.3 +0.6**
baz=89,SNR=7.0
B13A Whitefish 88.99 35 ⇓P **P 05 36 07.3 +0.6**
baz=89,SNR=24
H08A Prairie City 89.01 40 ⇑P **P 05 36 07.1 +0.2**
baz=89,SNR=6.2
K06A Valley Falls 89.07 42 ⇑P **P 05 36 07.4 +0.2**
baz=89,SNR=8.1
L05A Lakeview 89.14 43 ⇑P **P 05 36 08.0 +0.5**
baz=89
BSMT Bassoo Peak 89.14 36 *e*P **P 05 36 08.0 +0.5**
GASB Alder Springs 89.28 46 ⇑P **P 05 36 08.2 0.0**
baz=89
J07A Hines 89.30 41 P **P 05 36 08.8 +0.6**
baz=89,SNR=15
E11A Bogner Ranch, 89.30 37 P **P 05 36 08.5 +0.3**
baz=89,SNR=11
M05C Lookout 89.33 44 ⇑P **P 05 36 08.5 0.0**
baz=89
D12A Red Ives Fores 89.34 37 ⇑P **P 05 36 08.1 -0.2**
baz=89
C13A Hot Springs 89.36 36 P **P 05 36 09.1 +0.6**
baz=89,SNR=22
I08A Drewsey 89.42 40 P **P 05 36 09.8 +0.9**
baz=89,SNR=5.6
G10A Bishop Farm, J 89.44 39 P **P 05 36 09.4 +0.5**
baz=89,SNR=19
HATC Hat Creek Radi 89.44 44 ⇑P **P 05 36 09.3 +0.4**
baz=89
LBCM Butte Creek Ri 89.50 44 P **P 05 36 09.1 -0.2**
CABF La Chapelle 89.50 323 *e*P **P 05 36 08.2 -0.9**
comp=Z,5.2nm,0.8s,mb4.6
CABF La Chapelle 89.50 323 *e*P **P 05 36 08.2 -0.9**
comp=Z,2.6nm,0.8s,mb4.6
CABF La Chapelle 89.50 323 *e*P **P 05 36 08.2 -0.9**
CABF pmax pmax
comp=Z,3.0nm,0.8s,mb4.7
H09A Durkee 89.50 39 P **P 05 36 10.1 +0.9**
baz=89,SNR=5.5
MOD Modoc 89.55 43 *e*P **P 05 36 09.1 -0.4**
comp=Z,11nm,1.0s,mb5.2
MOD LR LR
comp=Z,402nm,20.0s,MS4.8
MOD Modoc 89.55 43 P **P 05 36 10.1 +0.7**
baz=89,SNR=8.2
BMO Blue Mountains 89.60 39 *e*P **P 05 36 09.9 +0.3**
comp=Z,9.1nm,1.0s,mb5.1
BMO LR LR
comp=Z,464nm,19.0s,MS4.9
BMO Blue Mountains 89.60 39 *e*P **P 05 36 09.9 +0.3**
BMO pmax pmax
comp=Z,9.0nm,1.0s,mb5.0
BMO MLR MLR
comp=Z,464nm,19.0s,MS4.9
F11A Grangeville 89.62 38 ⇓P **P 05 36 10.2 +0.5**
baz=89
K07A Rock Creek Ran 89.73 42 P **P 05 36 11.1 +0.8**
baz=90,SNR=6.4
C14A Swan Lake 89.74 35 ⇑P **P 05 36 10.6 +0.4**
baz=90
FCC Fort Churchill 89.78 19 *e*P **P 05 36 09.0 -1.1**
comp=Z,76nm,1.2s,mb5.9
FCC Fort Churchill 89.78 19 *e*P **P 05 36 09.0 -1.2**
FCC pmax pmax
comp=Z,76nm,1.2s,mb5.9
D13A Huson 89.79 36 ⇓P **P 05 36 10.5 0.0**
baz=90
J08A Circle Bar Ran 89.81 41 ⇑P **P 05 36 11.0 +0.3**
baz=90,SNR=8.4
LPL La Plagne 89.82 322 *e*P **P 05 36 09.8 -0.8**
comp=Z,14nm,0.8s,mb5.0
LPL La Plagne 89.82 322 *e*P **P 05 36 09.8 -0.8**
comp=Z,6.9nm,0.8s,mb5.0
LPL La Plagne 89.82 322 *e*P **P 05 36 09.8 -0.8**
LPL pmax pmax
comp=Z,7.0nm,0.8s,mb5.0
LPG La Plagne 89.82 322 *e*P **P 05 36 10.0 -0.7**
comp=Z,23nm,1.0s,mb5.2
LPG La Plagne 89.82 322 *e*P **P 05 36 10.0 -0.7**
comp=Z,12nm,1.0s,mb5.2
LPG La Plagne 89.82 322 *e*P **P 05 36 10.0 -0.7**
LPG pmax pmax
comp=Z,12nm,1.0s,mb5.2
M06C Likely Place G 89.83 43 ⇑P **P 05 36 10.8 0.0**
baz=90
G11A Walters Elk Ra 89.85 38 P **P 05 36 10.6 -0.2**
baz=90,SNR=15
I09A Lost Marbles R 89.87 40 P **P 05 36 11.5 +0.6**
baz=90,SNR=6.2
MNRC McLaughlin Nat 89.88 46 ⇑P **P 05 36 11.3 +0.2**
baz=90
O04C Chester 89.95 44 ⇑P **P 05 36 12.0 +0.6**
baz=90
L07A Adell 90.07 42 ⇑P **P 05 36 12.2 +0.3**
baz=90,SNR=9.8
H10A Noah's Angus R 90.07 39 P **P 05 36 11.7 -0.1**
baz=90,SNR=19
ORV Oroville 90.12 45 P **P 05 36 11.8 -0.4**
baz=90,SNR=6.9
BNI Bardonecchia 90.13 322 *e*P **P 05 36 11.4 -0.8**
comp=Z,12nm,1.0s,mb5.2
BNI Bardonecchia 90.13 322 *e*P **P 05 36 11.4 -0.7**
BNI pmax pmax
comp=Z,12nm,1.0s,mb5.2
K08A Mann Creek Ran 90.17 41 ⇓P **P 05 36 12.3 0.0**
baz=90,SNR=7.6
F12A Elk City 90.19 38 P **P 05 36 12.1 -0.4**
baz=90,SNR=24
J09A Fry Pan Ranch, 90.23 41 ⇑P **P 05 36 12.7 +0.1**
baz=90,SNR=21
MSO Missoula 90.23 36 *e*P **P 05 36 12.5 -0.1**
comp=Z,13nm,1.0s,mb5.2
MSO LR LR
comp=Z,300nm,20.0s,MS4.7
WVOR Wild Horse Val 90.25 42 *e*P **P 05 36 12.3 -0.5**
comp=Z,5.7nm,1.0s,mb4.9
WVOR LR LR
comp=Z,410nm,20.0s,MS4.9
WVOR Wild Horse Val 90.25 42 *e*P **P 05 36 12.3 -0.4**
WVOR pmax pmax
comp=Z,6.0nm,1.0s,mb4.9
WVOR MLR MLR
comp=Z,410nm,20.0s,MS4.9
FFC Flin Flon 90.26 25 P **P 05 36 12.9 +0.4**
comp=Z,348nm,1.1s,SNR=37
FFC Flin Flon 90.26 25 *e*P **P 05 36 11.6 -1.0**
comp=Z,72nm,1.1s,mb5.9
FFC LR LR
comp=Z,992nm,22.0s,MS5.2
FFC Flin Flon 90.26 25 *e*P **P 05 36 11.6 -0.9**
FFC pmax pmax
comp=Z,72nm,1.1s,mb5.9

FFC MLR MLR
comp=Z,992nm,22.0s,MS5.2
MBDF Montbardon 90.28 321 *e*P **P 05 36 11.8 -1.0**
comp=Z,11nm,1.0s,mb4.9
MBDF Montbardon 90.28 321 *e*P **P 05 36 11.8 -1.0**
comp=Z,5.7nm,1.0s,mb4.9
MBDF Montbardon 90.28 321 *e*P **P 05 36 11.8 -1.0**
MBDF pmax pmax
comp=Z,6.0nm,1.0s,mb4.9
LOR Lormes 90.28 324 *e*P **P 05 36 11.5 -1.3**
LOR *e*MLR MLR
comp=Z,3µm,20.5s,MS5.5
LOR Lormes 90.28 324 *e*P **P 05 36 11.5 -1.3**
LOR MLR MLR
comp=Z,3µm,20.5s,MS5.8
PGF Pioggiola 90.28 318 *e*P **P 05 36 11.9 -1.0**
comp=Z,16nm,0.9s,mb5.0
PGF Pioggiola 90.28 318 *e*P **P 05 36 11.9 -1.0**
comp=Z,7.8nm,0.9s,mb5.0
PGF Pioggiola 90.28 318 *e*P **P 05 36 11.9 -1.0**
PGF pmax pmax
comp=Z,8.0nm,0.9s,mb5.0
D14A Greenough 90.31 36 P **P 05 36 13.1 +0.2**
baz=90,SNR=13
E13A Victor 90.35 37 ⇓P **P 05 36 12.8 -0.3**
baz=90
H11A Donnelly 90.42 39 P **P 05 36 13.5 0.0**
baz=90,SNR=8.1
SBF Sospel 90.42 320 *e*P **P 05 36 12.3 -1.2**
comp=Z,45nm,0.8s,mb5.6
SBF Sospel 90.42 320 *e*P **P 05 36 12.3 -1.2**
comp=Z,22nm,0.8s,mb5.5
SBF Sospel 90.42 320 *e*P **P 05 36 12.3 -1.2**
SBF pmax pmax
comp=Z,23nm,0.8s,mb5.6
N06A Buffalo Meadow 90.50 44 ⇑P **P 05 36 14.0 +0.1**
baz=90
CHMT Chamberlain Mo 90.55 36 *e*P **P 05 36 14.1 +0.1**
L08A Fields 90.57 42 ⇓P **P 05 36 14.7 +0.5**
baz=90,SNR=14
K09A Rome 90.64 41 ⇑P **P 05 36 14.7 +0.2**
baz=90,SNR=10
BEKR Beckwourth 90.67 45 P **P 05 36 15.1 +0.3**
baz=90,SNR=6.9
F13A Darby 90.68 37 ⇑P **P 05 36 14.0 -0.7**
baz=90
SMF Signal de Mont 90.69 324 *e*P **P 05 36 13.5 -1.2**
comp=Z,8.1nm,0.8s,mb4.8
SMF Signal de Mont 90.69 324 *e*P **P 05 36 13.5 -1.2**
comp=Z,4.1nm,0.8s,mb4.8
SMF Signal de Mont 90.69 324 *e*P **P 05 36 13.5 -1.2**
SMF pmax pmax
comp=Z,4.0nm,0.8s,mb4.8
E14A Clinton 90.74 36 ⇑P **P 05 36 14.8 -0.2**
baz=90,SNR=17
J10A Berg Farm, Mel 90.76 40 ⇓P **P 05 36 15.2 +0.1**
baz=90
O06A Flanigan 90.83 44 ⇓P **P 05 36 15.6 +0.1**
baz=91
D15A Lincoln 90.85 35 P **P 05 36 15.7 +0.3**
baz=91,SNR=5.3
AVF Avril sur Loir 90.85 324 *e*P **P 05 36 14.3 -1.1**
I11A Placerville 90.94 39 ⇑P **P 05 36 15.7 -0.2**
baz=91,SNR=14
M08A Happy Creek Ra 90.98 42 ⇑P **P 05 36 16.2 +0.1**
baz=91
N07B Gerlach 91.01 43 ⇑P **P 05 36 16.4 +0.1**
baz=91
LAVA Lava Cap Winer 91.06 46 ⇑P **P 05 36 16.6 +0.1**
baz=91
FRF La Foret Royal 91.06 320 *e*P **P 05 36 15.3 -1.2**
comp=Z,29nm,0.9s,mb5.3
FRF La Foret Royal 91.06 320 *e*P **P 05 36 15.3 -1.2**
comp=Z,14nm,0.9s,mb5.3
FRF La Foret Royal 91.06 320 *e*P **P 05 36 15.3 -1.2**
FRF pmax pmax
comp=Z,15nm,0.9s,mb5.3
L09A Wilkinson Ranc 91.08 42 ⇓P **P 05 36 17.4 +0.8**
baz=91
K10A MacKenzie Ranc 91.09 41 P **P 05 36 17.6 +1.0**
baz=91,SNR=13
H12A Diamond D Ranc 91.17 38 P **P 05 36 17.8 +0.8**
baz=91,SNR=26
G13A Cobalt 91.17 38 P **P 05 36 16.7 -0.3**
baz=91,SNR=6.7
E15A Deer Lodge 91.18 36 P **P 05 36 17.6 +0.6**
baz=91,SNR=15
F14A Wisdom 91.19 37 ⇓P **P 05 36 17.5 +0.4**
baz=91,SNR=13
LMR La Mourre 91.28 320 *e*P **P 05 36 16.2 -1.3**
comp=Z,34nm,1.0s,mb5.3
LMR La Mourre 91.28 320 *e*P **P 05 36 16.2 -1.3**
comp=Z,17nm,1.0s,mb5.3
LMR La Mourre 91.28 320 *e*P **P 05 36 16.2 -1.3**
LMR pmax pmax
comp=Z,17nm,1.0s,mb5.3
MFID Camas Ranch 91.31 40 P **P 05 36 18.5 +0.8**
baz=91,SNR=21
VIVF Saint-Julien-I 91.37 322 *e*P **P 05 36 16.8 -1.1**
S04C Ingram Canyon, 91.38 47 ⇓P **P 05 36 17.9 -0.2**
baz=91
SMRF Simiane la Rot 91.42 321 *e*P **P 05 36 17.1 -1.0**
comp=Z,23nm,1.1s,mb5.1
SMRF Simiane la Rot 91.42 321 *e*P **P 05 36 17.1 -1.0**
comp=Z,23nm,1.1s,mb5.4
HRY Holter Researc 91.42 35 *e*P **P 05 36 14.1 -4.0**
H13A Challis 91.49 38 ⇓P **P 05 36 18.4 -0.1**
baz=91,SNR=7.5
G14A Jackson 91.50 37 ⇑P **P 05 36 18.4 -0.1**
baz=91
N08A GE Springer Mi 91.53 43 ⇓P **P 05 36 19.1 +0.4**
baz=91
M09A Marrel Ranch, 91.56 42 ⇓P **P 05 36 19.4 +0.6**
baz=91
K11A Parker Ranch, 91.59 40 P **P 05 36 19.8 +0.9**
baz=91,SNR=15
EGMT Eagleton 91.61 33 PFAKE 05 36 30.0 +11
EGMT LR LR
comp=Z,716nm,19.0s,MS5.1
F15A Butte 91.64 36 P **P 05 36 19.9 +0.7**
baz=91,SNR=19
LRM Limekiln Ridge 91.67 36 *e*P **P 05 36 19.9 +0.7**
PACP Pacheco Peak 91.68 47 ⇓P **P 05 36 19.6 +0.1**
baz=92
CMB Columbia Colle 91.69 46 *e*P **P 05 36 19.2 -0.3**
comp=Z,11nm,1.3s,mb5.0
CMB LR LR
comp=Z,325nm,20.0s,MS4.8
CMB Columbia Colle 91.69 46 *e*P **P 05 36 19.2 -0.3**
CMB pmax pmax
comp=Z,11nm,1.3s,mb5.0
CMB MLR MLR
comp=Z,325nm,20.0s,MS4.8
CMB Columbia Colle 91.69 46 ⇓P **P 05 36 19.7 +0.2**
baz=92,SNR=6.0
SAO San Andreas Ge 91.71 48 PFAKE 05 36 30.0 +10
SAO LR LR
comp=Z,375nm,19.0s,MS4.8
L10A Juniper Basin 91.75 41 ⇓P **P 05 36 20.2 +0.4**
baz=92,SNR=20
J12A Stokes Ranch, 91.83 39 P **P 05 36 21.0 +0.9**
baz=92,SNR=17
DLMT Dillon 91.89 37 *e*P **P 05 36 20.8 +0.5**
comp=Z,30nm,0.9s,mb5.6
I13A Wildhorse Cree 91.98 38 P **P 05 36 21.4 +0.7**
baz=92,SNR=45
R06C Coleville 92.02 45 ⇓P **P 05 36 21.4 +0.4**
baz=92
HLID Hailey 92.03 39 *e*P **P 05 36 21.6 +0.6**
comp=Z,22nm,1.0s,mb5.4
HLID LR LR
comp=Z,600nm,21.0s,MS5.0
HLID Hailey 92.03 39 P **P 05 36 21.6 +0.7**
baz=92,SNR=44
M10A I.L. Ranch, Tu 92.05 41 ⇓P **P 05 36 21.6 +0.5**
baz=92,SNR=6.0
G15A Dillon 92.08 37 P **P 05 36 21.6 +0.5**
baz=92,SNR=50
MCMT McKenzie Canyo 92.10 37 *e*P **P 05 36 21.2 -0.1**
L11A Cat Creek Ranc 92.12 41 ⇑P **P 05 36 22.3 +0.9**
baz=92,SNR=29
S05C Merced 92.12 47 ⇓P **P 05 36 21.2 -0.3**
baz=92
BOZ Bozeman (W) 92.22 36 *e*P **P 05 36 22.1 +0.3**
comp=Z,6.4nm,0.9s,mb5.0
BOZ LR LR
comp=Z,593nm,21.0s,MS5.0

BOZ Bozeman (W) 92.22 36 *e*P **P 05 36 22.1 +0.3**
BOZ pmax pmax
comp=Z,6.0nm,0.9s,mb4.9
BOZ MLR MLR
comp=Z,593nm,21.0s,MS5.0
BOZ Bozeman (W) 92.22 36 ⇑P **P 05 36 21.9 0.0**
baz=92
J13A Cove Ranch, Pi 92.27 39 P **P 05 36 23.1 +1.1**
baz=92,SNR=21
LASF Ste Croix 92.32 322 *e*P **P 05 36 21.3 -1.0**
comp=Z,6.5nm,0.8s,mb4.7
K12A Draper Farm, C 92.33 40 ⇑P **P 05 36 22.6 +0.2**
baz=92,SNR=15
U04C Hernandez Rese 92.38 48 ⇑P **P 05 36 23.3 +0.5**
baz=92
O09A Fish Creek Ran 92.47 43 ⇓P **P 05 36 23.5 +0.4**
baz=92
M11A Holland Ranch, 92.55 41 ⇑P **P 05 36 24.1 +0.7**
baz=92,SNR=14
N10A Dunphy 92.55 42 ⇓P **P 05 36 23.7 +0.2**
baz=92
L12A House Creek Ra 92.57 40 ⇓P **P 05 36 23.9 +0.4**
baz=92,SNR=14
T06C Millerton Lake 92.72 47 ⇓P **P 05 36 24.5 +0.2**
baz=92
CAF Calviac 92.75 323 *e*P **P 05 36 23.2 -1.1**
comp=Z,6.3nm,0.9s,mb4.8
CAF Calviac 92.75 323 *e*P **P 05 36 23.2 -1.1**
comp=Z,3.2nm,0.9s,mb4.8
CAF Calviac 92.75 323 *e*P **P 05 36 23.2 -1.1**
CAF pmax pmax
comp=Z,3.0nm,0.9s,mb4.7
Q08A Gabbs 92.78 44 ⇑P **P 05 36 24.6 0.0**
baz=93
K13A Stover Farm, H 92.79 39 ⇓P **P 05 36 25.3 +0.8**
baz=92,SNR=14
KCC Kaiser Creek 92.79 46 ⇑P **P 05 36 24.5 -0.1**
baz=93
NVAR Mina Array Bea 92.80 45 P **P 05 36 24.1 -0.5**
comp=Z,2.0nm,0.8s,mb4.6,baz=312,slow=3.8,SNR=16
NVAR PP PP 05 40 00.9 -5.2
comp=Z,1.5nm,1.0s,baz=304,slow=5.9,SNR=4.8
O10A Cortez Mining, 92.82 42 ⇑P **P 05 36 25.0 +0.3**
baz=93
QLMT Earthquake Lak 92.86 37 *e*P **P 05 36 26.4 +1.6**
N11A Elko Archery C 92.96 42 ⇓P **P 05 36 26.0 +0.6**
baz=93
M12A Wells 93.08 41 P **P 05 36 27.4 +1.5**
baz=93,SNR=15
ROSF Rostrenen 93.12 328 *e*P **P 05 36 24.7 -1.2**
YMR Madison River 93.22 36 PFAKE 05 36 40.0 +14
YMR LR LR
comp=Z,1μm,21.0s,MS5.3
L13A Double Diamond 93.22 40 P **P 05 36 27.9 +1.4**
baz=93,SNR=19
PPT Papeete 93.24 108 *e*S S 05 47 31.0 -4.5
comp=Z,641nm,26.5s
PPT Papeete 93.24 108 *e*PS PS 05 48 46.3 -1.9
comp=Z,160nm,27.5s
PPT Papeete 93.24 108 *e*LQ 06 02 28.5
PPT *e*LR LR 06 06 30.2
comp=Z,1μm,27.0s
PPT Papeete 93.24 108 LR LR 06 10 32.3
comp=Z,424nm,19.4s,MS4.9,baz=277,slow=30
P10A Eureka 93.25 43 ⇑P **P 05 36 27.1 +0.4**
baz=93
YNR Norris Junctio 93.34 36 *e*P **P 05 36 29.8 +2.8**
N12A Clover Valley, 93.35 41 P **P 05 36 28.2 +1.1**
baz=93,SNR=12
HELL Mitchell Peak 93.36 47 ⇓P **P 05 36 26.7 -0.6**
baz=93
K14A Jones Ranch, D 93.38 39 ⇑P **P 05 36 27.6 +0.4**
baz=93,SNR=11
O11A Cowboy Ranch, 93.43 42 ⇑P **P 05 36 27.6 +0.1**
baz=93,SNR=6.9
S08C White Mtn Res 93.43 45 P **P 05 36 28.1 +0.6**
baz=93,SNR=6.7
YFT Old Faithful 93.43 37 *e*P **P 05 36 28.1 +0.6**
M13A Montello 93.55 40 ⇑P **P 05 36 28.4 +0.4**
baz=93,SNR=7.4
LKWY Lake 93.59 36 *e*P **P 05 36 30.0 +1.8**
comp=Z,15nm,1.0s,mb5.4
LKWY LR LR
comp=Z,977nm,20.0s,MS5.3
LKWY Lake 93.59 36 *e*P **P 05 36 30.0 +1.8**
LKWY pmax pmax
comp=Z,15nm,1.0s,mb5.4
LKWY MLR MLR
comp=Z,977nm,20.0s,MS5.3
R09A Tonopah 93.70 44 P **P 05 36 29.3 +0.5**
baz=94,SNR=9.7
MTLF Montolieu 93.70 322 *e*P **P 05 36 27.5 -1.2**
IMW Indian Meadow 93.74 37 *e*P **P 05 36 30.2 +1.3**
comp=Z,14nm,1.0s,mb5.3
FLWY Flagg Ranch 93.75 37 *e*P **P 05 36 29.9 +1.0**
comp=Z,16nm,0.9s,mb5.4
Q10A Clear Creek Ra 93.77 44 ⇑P **P 05 36 29.1 0.0**
baz=94
VES Vestal, Richgr 93.81 47 ⇑P **P 05 36 28.8 -0.5**
baz=94
RLMT Red Lodge 93.82 35 *e*P **P 05 36 22.1 -7.1**
RLMT LR LR
comp=Z,877nm,20.0s,MS5.2
N13A Wendover, West 93.85 41 ⇓P **P 05 36 30.0 +0.6**
baz=94
PKM Peak Mountain 93.86 48 ⇓P **P 05 36 30.0 +0.4**
baz=94
O12A Currie 93.89 42 P **P 05 36 30.3 +0.7**
baz=94,SNR=12
S09A Goldfield 93.91 45 ⇑P **P 05 36 29.9 +0.1**
baz=94
M14A Sheep Mountain 93.94 40 P **P 05 36 30.9 +1.1**
baz=94,SNR=23
MOOW Moose Ponds 93.95 37 *e*P **P 05 36 30.6 +0.8**
DGMT Dagmar 93.95 30 *e*P **P 05 36 30.2 +0.5**
comp=Z,27nm,1.3s,mb5.5
DGMT LR LR
comp=Z,1μm,19.0s,MS5.3
TPAW Teton Pass 94.01 37 *e*P **P 05 36 31.2 +1.1**
comp=Z,10nm,1.0s,mb5.2
KEST Kesra 94.04 313 LR LR 06 21 30.9
comp=Z,378nm,19.2s,MS4.9,baz=179,slow=37
HVU Hansel Valley 94.09 40 *e*P **P 05 36 31.5 +1.0**
LOHW Long Hollow 94.11 37 *e*P **P 05 36 31.3 +0.8**
comp=Z,5.1nm,1.1s,mb4.9
SNOW Snow King Moun 94.13 37 *e*P **P 05 36 31.4 +0.7**
comp=Z,8.1nm,1.0s,mb5.1
R10A Warm Springs 94.15 44 ⇓P **P 05 36 31.5 +0.6**
baz=94,SNR=7.0
S10A Tonopah Range, 94.19 44 P **P 05 36 31.7 +0.6**
baz=94,SNR=7.3
Q11A Duckwater 94.21 43 ⇑P **P 05 36 31.4 +0.2**
baz=94
LAO LASA Array 94.27 33 PFAKE 05 36 40.0 +8.8
LAO LR LR
comp=Z,1μm,20.0s,MS5.3
P12A McGill 94.29 42 ⇓P **P 05 36 31.4 -0.1**
baz=94,SNR=8.0
ISA Isabella 94.31 47 PFAKE 05 36 40.0 +8.3
ISA LR LR
comp=Z,555nm,22.0s,MS5.0
ISA Isabella 94.31 47 ⇓P **P 05 36 31.3 -0.4**
baz=94
AHID Auburn Hatcher 94.40 38 PFAKE 05 36 40.0 +8.1
AHID LR LR
comp=Z,480nm,21.0s,MS4.9
N14A Grayback Hills 94.45 40 P **P 05 36 33.2 +1.0**
baz=94,SNR=5.3
M15A Larsen Ranch, 94.49 40 P **P 05 36 33.0 +0.7**
baz=94,SNR=6.1
R11A Troy Canyon, C 94.56 44 P **P 05 36 33.4 +0.7**
baz=94,SNR=9.1
MPMC Manual Prospec 94.72 46 P **P 05 36 33.9 +0.4**
baz=94,SNR=5.5
P13A Bates Ranch, G 94.84 42 P **P 05 36 34.7 +0.7**
baz=95,SNR=5.4
FURC Furnace Creek, 94.89 46 P **P 05 36 34.5 +0.2**
baz=95,SNR=5.4
S11A Rachel 94.89 44 ⇓P **P 05 36 34.3 +0.1**
baz=95,SNR=5.7
HWUT Hardware Ranch 94.90 39 *e*P **P 05 36 34.9 +0.7**
comp=Z,9.2nm,1.1s,mb5.1
HWUT LR LR
comp=Z,543nm,21.0s,MS5.0
TPNV Topopah Spring 94.99 45 PFAKE 05 36 50.0 +15
TPNV LR LR
comp=Z,448nm,20.0s,MS4.9

TPNV Topopah Spring 94.99 45 ⇓P **P 05 36 34.6 -0.2**
baz=95
SNCC San Nicolas Is 95.00 50 PFAKE 05 36 50.0 +15
SNCC LR LR
comp=Z,712nm,19.0s,MS5.2
DUG Dugway 95.09 41 *e*P **P 05 36 35.9 +0.7**
comp=Z,15nm,1.6s,mb5.2
DUG LR LR
comp=Z,435nm,20.0s,MS4.9
DUG Dugway 95.09 41 *e*P **P 05 36 35.9 +0.8**
DUG pmax pmax
comp=Z,15nm,1.6s,mb5.2
DUG MLR MLR
comp=Z,435nm,20.0s,MS4.9
DUG Dugway 95.09 41 ⇑P **P 05 36 35.2 +0.1**
baz=95
EDW2 Edwards Air Fo 95.09 47 ⇑P **P 05 36 34.9 -0.3**
baz=95
R12A Pony Springs, 95.18 43 ⇑P **P 05 36 35.6 +0.1**
baz=95
BW06 Boulder Array 95.25 37 *e*P **P 05 36 35.5 -0.3**
BW06 LR LR
comp=Z,409nm,19.0s,MS4.9
PDAR Pinedale Array 95.25 37 P **P 05 36 35.1 -0.7**
comp=Z,2.3nm,1.0s,mb4.6,baz=270,slow=1.5,SNR=13
T11A Corn Creek, Al 95.47 44 P **P 05 36 37.3 +0.4**
baz=95,SNR=5.3
S12A Delamar Landin 95.47 44 ⇑P **P 05 36 37.1 +0.2**
baz=95
GSC Goldstone 95.62 47 PFAKE 05 36 50.0 +12
GSC LR LR
comp=Z,404nm,19.0s,MS4.9
MPU Maple Canyon 95.89 40 PFAKE 05 36 50.0 +11
MPU LR LR
comp=Z,827nm,20.0s,MS5.2
ULM Lac du Bonnet 96.09 25 *e*P **P 05 36 37.4 -2.0**
comp=Z,16nm,1.4s,mb5.3
ULM LR LR
comp=Z,2μm,20.0s,MS5.5
ULM Lac du Bonnet 96.09 25 P **P 05 36 37.5 -2.0**
comp=Z,7.7nm,1.0s,mb5.1,baz=322,slow=5.6,SNR=13
ULM LR LR 06 24 57.9
comp=Z,1μm,20.5s,MS5.3,baz=79,slow=39
S13A Holt Ranch, En 96.11 43 ⇑P **P 05 36 39.9 0.0**
baz=96,SNR=5.2
TUQ Turquoise Mtn. 96.12 46 ⇓P **P 05 36 40.0 0.0**
baz=96
V11A Goodsprings 96.19 45 ⇑P **P 05 36 40.3 0.0**
baz=96
T13A Saint George 96.43 44 P **P 05 36 42.1 +0.8**
baz=96,SNR=5.3
MSU Marysvale 96.54 42 *e*P **P 05 36 42.9 +1.1**
GMRC Granite Mounta 96.69 46 ⇑P **P 05 36 42.5 0.0**
baz=96
U13A Pakoon Wash 96.77 44 ⇑P **P 05 36 42.9 0.0**
baz=96
PFO Pinyon Flat Ob 96.86 48 PFAKE 05 36 50.0 +6.6
PFO LR LR
comp=Z,632nm,20.0s,MS5.1
RSSD Black Hills 97.18 33 PFAKE 05 37 00.0 +15
RSSD LR LR
comp=Z,871nm,19.0s,MS5.3
IRM Iron Mountain 97.40 47 ⇓P **P 05 36 45.6 -0.1**
baz=97
W13A Hualapai Mount 97.64 45 ⇑P **P 05 36 46.7 -0.2**
baz=97
AGMN Agassiz Refuge 97.66 26 PFAKE 05 37 00.0 +13
AGMN LR LR
comp=Z,885nm,20.0s,MS5.2
TAOE Nuku Hiva Isla 97.89 96 *e*LR LR 06 08 43.1
comp=Z,16μm,25.5s
W14A Seligman 98.08 45 ⇓P **P 05 36 48.9 +0.1**
baz=98
GLA Glamis 98.29 47 PFAKE 05 37 00.0 +10
GLA LR LR
comp=Z,543nm,20.0s,MS5.0
GLA Glamis 98.29 47 ⇑P **P 05 36 49.8 +0.1**
baz=98
W15A Williams 98.62 44 ⇑P **P 05 36 51.3 0.0**
baz=98
X14A Yava 98.67 45 ⇓P **P 05 36 51.9 +0.4**
baz=98
WUAZ Wupatki 98.96 44 PFAKE 05 37 00.0 +7.3
WUAZ LR LR
comp=Z,375nm,19.0s,MS4.9
X15A Humboldt 99.08 45 ⇑P **P 05 36 53.7 +0.4**
baz=99
SCHQ Schefferville 99.16 7 PFAKE 05 37 00.0 +6.8
SCHQ LR LR
comp=Z,2μm,20.0s,MS5.6
SCHQ Schefferville 99.16 7 LR LR 06 26 25.2
comp=Z,2μm,18.4s,MS5.5,baz=354,slow=38
Y15A Casa Rosa Ranc 99.35 45 ⇓P **P 05 36 54.8 +0.3**
baz=99
ISCO Idaho Springs 99.44 37 PFAKE 05 37 10.0 +15
ISCO LR LR
comp=Z,531nm,20.0s,MS5.0
ESDC Sonseca Array 99.59 323 LR LR 06 28 38.3
comp=Z,1μm,18.2s,MS5.4,baz=5.0,slow=40
ESLA Sonseca Array 99.59 323 PFAKE 05 37 10.0 +15
ESLA LR LR
comp=Z,7μm,19.0s,MS6.2
X16A Lo Mia Camp, P 99.63 44 ⇑P 05 36 55.9
baz=99
EYMN Ely 99.63 24 PFAKE 05 37 10.0 +15
EYMN LR LR
comp=Z,804nm,20.0s,MS5.2
PAB San Pablo 99.89 323 PFAKE 05 37 10.0 +13
PAB LR LR
comp=Z,2μm,19.0s,MS5.5
Y16A Circle Bar Ran 99.95 45 ⇓P Pdif 05 36 57.3 +0.5
baz=100
MVO Moncorvo 100.14 325 *e*LR LR 06 12 06.8
comp=Z,2μm,20.5s
SDCO Great Sand Dun 100.95 39 PFAKE 05 37 10.0 +8.7
SDCO LR LR
comp=Z,414nm,19.0s,MS5.0
MTE Manteigas 100.97 325 *e*LR LR 06 12 09.9
comp=Z,2μm,29.5s
ECSD EROS,Sioux Fal 100.97 30 PFAKE 05 37 10.0 +8.6
ECSD LR LR
comp=Z,886nm,21.0s,MS5.2
COWI Conover 102.05 24 PFAKE 05 37 20.0 +14
COWI LR LR
comp=Z,885nm,20.0s,MS5.3
PESTR Estremoz 102.12 324 *e*LR LR 06 12 51.4
comp=Z,1μm,28.2s
ANMO Albuquerque 102.33 41 PFAKE 05 37 20.0 +13
ANMO LR LR
comp=Z,400nm,20.0s,MS4.9
PBAR Barrancos 102.33 323 *e*LR LR 06 12 55.0
comp=Z,1μm,26.9s
LSZ Lusaka 102.71 259 *e*Pdif Pdif 05 37 09.2 +0.1
LSZ LR LR
comp=Z,599nm,19.0s,MS5.1
PMAFR Mafra 102.94 325 *e*LR LR 06 13 16.2
comp=Z,2μm,16.5s
PVAQ Vaqueiros 103.27 323 *e*LR LR 06 13 28.0
comp=Z,1μm,21.2s
CBKS Cedar Bluff 103.28 35 PFAKE 05 37 20.0 +8.4
CBKS LR LR
comp=Z,679nm,19.0s,MS5.2
PBDV Barranco-do-Ve 103.50 323 *e*LR LR 06 14 15.5
comp=Z,1μm,20.0s
MORF Marmelete 103.84 324 *e*LR LR 06 16 49.5
comp=Z,2μm,25.9s
JFWS Jewell Farm 104.33 26 PFAKE 05 37 30.0 +14
JFWS LR LR
comp=Z,825nm,20.0s,MS5.3
KSU1 Kansas State U 104.62 32 PFAKE 05 37 30.0 +12
KSU1 LR LR
comp=Z,724nm,21.0s,MS5.2
GLMI Grayling 104.73 22 PFAKE 05 37 30.0 +12
GLMI LR LR
comp=Z,924nm,21.0s,MS5.3
AMTX Amarillo 105.15 38 PFAKE 05 41 50.0 +15
AMTX LR LR
comp=Z,593nm,20.0s,MS5.1
MNTX Cornudas Mount 105.22 43 PFAKE 05 41 50.0 +15
MNTX LR LR
comp=Z,563nm,19.0s,MS5.1
VNDA Vanda 105.23 172 PFAKE 05 41 40.0 +6.5
VNDA LR LR
comp=Z,677nm,20.0s,MS5.2
HDIL Hopedale 106.70 27 PFAKE 05 41 50.0 +13
HDIL LR LR
comp=Z,1μm,20.0s,MS5.4

WMOK Wichita Mounta 106.85 37 PFAKE 05 41 50.0 +12
WMOK LR LR
comp=Z,745nm,19.0s,MS5.3
AAM Ann Arbor 107.29 22 PFAKE 05 41 50.0 +11
AAM LR LR
comp=Z,1μm,20.0s,MS5.4
LONY Lake Ozonia 107.74 15 PFAKE 05 41 50.0 +11
LONY LR LR
comp=Z,951nm,21.0s,MS5.3
LTX Lajitas 107.92 44 PFAKE 05 41 50.0 +10
LTX LR LR
comp=Z,311nm,21.0s,MS4.8
TXAR Lajitas Array 107.92 44 PKPdf PKiKP 05 41 39.7 -0.4
TXAR Lajitas Array 107.92 44 PKiKP PKiKP 05 41 39.7 -0.4
comp=Z,0.9nm,0.9s,baz=222,slow=1.0,SNR=7.3
CCM Cathedral Cave 107.95 30 PFAKE 05 41 50.0 +10
CCM LR LR
comp=Z,769nm,20.0s,MS5.3
RKT Rikitea 108.00 107 *e*LQ 06 08 44.3
comp=Z,657nm,37.5s
RKT *e*LR LR 06 13 31.4
comp=Z,474nm,32.2s
PKME Peaks-Kenny Pk 108.18 11 PFAKE 05 41 50.0 +10
PKME LR LR
comp=Z,2μm,22.0s,MS5.6
NCB Newcomb 108.44 15 PFAKE 05 41 50.0 +9.4
NCB LR LR
comp=Z,857nm,21.0s,MS5.3
LBTB Lobatse 108.58 251 PFAKE 05 41 50.0 +8.7
LBTB LR LR
comp=Z,686nm,20.0s,MS5.2
ERPA Erie 108.63 20 PFAKE 05 41 50.0 +9.0
ERPA LR LR
comp=Z,2μm,21.0s,MS5.6
LBNH Lisbon 108.68 13 PFAKE 05 41 50.0 +9.0
LBNH LR LR
comp=Z,1μm,21.0s,MS5.4
ACSO Alum Creek Sta 109.36 23 PFAKE 05 41 50.0 +7.6
ACSO LR LR
comp=Z,793nm,19.0s,MS5.3
JCT Junction City 109.44 40 PFAKE 05 41 50.0 +7.1
JCT LR LR
comp=Z,447nm,19.0s,MS5.1
BINY Binghamton 109.68 17 PFAKE 05 41 50.0 +7.0
BINY LR LR
comp=Z,993nm,20.0s,MS5.4
MIAR Mount Ida 109.70 33 PFAKE 05 41 50.0 +6.8
MIAR LR LR
comp=Z,754nm,20.0s,MS5.3
WCI Wyandotte Cave 109.89 26 PFAKE 05 41 50.0 +6.5
WCI LR LR
comp=Z,820nm,21.0s,MS5.3
HRV Adam Dziewonsk 110.42 13 PFAKE 05 42 00.0 +16
HRV LR LR
comp=Z,707nm,21.0s,MS5.2
WES Weston 110.58 13 PFAKE 05 42 00.0 +15
WES LR LR
comp=Z,2μm,21.0s,MS5.6
SSPA Standing Stone 110.61 19 PFAKE 05 42 00.0 +15
SSPA LR LR
comp=Z,815nm,19.0s,MS5.3
MCWV Mont Chateau 110.92 21 PFAKE 05 42 00.0 +15
MCWV LR LR
comp=Z,2μm,20.0s,MS5.6
WVT Waverly 111.05 28 PFAKE 05 42 00.0 +14
WVT LR LR
comp=Z,731nm,19.0s,MS5.3
CMLA Cha da Macela 111.20 335 PFAKE 05 42 00.0 +14
CMLA LR LR
comp=Z,864nm,19.0s,MS5.3
NATX Nacogdoches 111.34 36 PFAKE 05 42 00.0 +14
NATX LR LR
comp=Z,601nm,22.0s,MS5.1
PLAL Pickwick Lake 111.92 29 PFAKE 05 42 00.0 +13
PLAL LR LR
comp=Z,765nm,22.0s,MS5.2
HKT Hockley 112.11 38 PFAKE 05 42 00.0 +12
HKT LR LR
comp=Z,452nm,19.0s,MS5.1
TZTN Tazewell 112.42 25 PFAKE 05 42 00.0 +12
TZTN LR LR
comp=Z,1μm,19.0s,MS5.6
KVTX Kingsville 112.73 41 PFAKE 05 42 00.0 +11
KVTX LR LR
comp=Z,673nm,19.0s,MS5.3
TORD Torodi Ar. Bea 112.88 298 PKiKP PKiKP 05 41 48.0 -1.7
comp=Z,1.1nm,0.9s,baz=47,slow=2.0,SNR=5.6
TORD PP PP 05 42 32.8 -4.5
comp=Z,1.0nm,0.9s,baz=70,slow=4.0,SNR=4.8
BLA Blacksburg 112.95 22 PFAKE 05 42 00.0 +11
BLA LR LR
comp=Z,1μm,20.0s,MS5.5
CBN Corbin 113.01 19 PFAKE 05 42 00.0 +11
CBN LR LR
comp=Z,1μm,20.0s,MS5.5
TSUM Tsumeb 113.57 259 PFAKE 05 42 00.0 +9.2
TSUM LR LR
comp=Z,496nm,22.0s,MS5.1
LRAL Lakeview Retre 114.04 29 PFAKE 05 42 00.0 +8.5
LRAL LR LR
comp=Z,908nm,22.0s,MS5.3
GOGA Godfrey 115.21 26 PFAKE 05 42 00.0 +6.2
GOGA LR LR
comp=Z,1μm,20.0s,MS5.4
QSPA South Pole Qui 115.44 180 PKP PKPdf 05 41 51.7 -1.0
comp=Z,1.0nm,0.9s,baz=324,slow=14,SNR=2.8
BRAL Brewton 115.72 31 PFAKE 05 42 10.0 +15
BRAL LR LR
comp=Z,668nm,19.0s,MS5.3
NHSC New Hope 116.74 24 PFAKE 05 42 10.0 +13
NHSC LR LR
comp=Z,797nm,20.0s,MS5.3
DWPF Disney 120.69 27 PFAKE 05 42 20.0 +16
DWPF LR LR
comp=Z,903nm,21.0s,MS5.4
DBIC Dimbokro 121.87 297 *e*PKPdf PKPdf 05 42 05.7 -1.3
DBIC LR LR
comp=Z,495nm,20.0s,MS5.2
DBIC Dimbokro 121.87 297 PKP PKPdf 05 42 04.8 -2.2
comp=Z,5.5nm,0.9s,baz=327,slow=1.5,SNR=5.6
LIC Lamto 122.27 296 *e*PKIKP PKPdf 05 42 05.7 -2.1
LIC comp=Z,30nm,1.0s
*e*MLR MLR
comp=Z,786nm,22.0s,MS5.0
LIC Lamto 122.27 296 *e*PKPdf PKPdf 05 42 05.7 -2.1
LIC LR LR
comp=Z,390nm,22.0s,MS5.0
TEIG Tepich 123.94 39 PFAKE 05 42 20.0 +9.1
TEIG LR LR
comp=Z,713nm,19.0s,MS5.3
VNA2 Neumayer--Watz 127.43 198 *e*PKPdf PKPdf 05 42 15.8 -0.1
baz=88,slow=1.5
VNA2 *e* 05 42 21.8
VNA2 *e* 05 42 26.5
TGUH Tegucigalpa,Un 129.37 42 PFAKE 05 42 30.0 +8.6
TGUH LR LR
comp=Z,533nm,22.0s,MS5.2
SDDR Presa de Saban 132.79 22 PFAKE 05 42 40.0 +12
SDDR LR LR
comp=Z,620nm,21.0s,MS5.3
JTS JuntasAbangare 133.71 43 PFAKE 05 42 40.0 +10
JTS LR LR
comp=Z,459nm,19.0s,MS5.2
SJG San Juan 135.09 15 PFAKE 05 42 40.0 +7.9
SJG LR LR
comp=Z,645nm,20.0s,MS5.3
BBGH Gun Hill 141.14 8 PFAKE 05 42 50.0 +6.7
BBGH LR LR
comp=Z,1μm,20.0s,MS5.7
SDV Santo Domingo 142.33 26 *e*PKPdf PKPdf 05 42 40.1 -5.3
SDV LR LR
comp=Z,247nm,21.0s,MS4.9
ROSC El Rosal 144.19 35 *e*PKPdf PKPdf 05 42 47.1 -1.6
ROSC El Rosal 144.19 35 PKP PKPdf 05 42 46.9 -1.8
comp=Z,23nm,0.9s,baz=112,slow=3.0,SNR=18
RCBR Riachuelo 153.28 314 *e*PKPbc PKPbc 05 43 11.0 +0.2
RCBR LR LR
comp=Z,463nm,20.0s,MS5.3
NNA Nana 155.10 61 PFAKE 05 43 20.0 +14
NNA LR LR
comp=Z,372nm,19.0s,MS5.2
PLCA Paso Flores 160.02 143 *e*PKPdf PKPdf 05 43 11.4 +0.2
PLCA *e*PKPab PKPab 05 43 51.3 +0.5
PLCA LR LR
comp=Z,474nm,20.0s

PLCA	**Paso Flores**	**160.02 143**	PKPab	PKPab	05 43 50.3	-0.5
	comp=Z,3.5nm,1.0s,baz=200,slow=1.0,SNR=4.9					
LPAZ	**La Paz**	**164.41 56**	*e*PKPdf	PKPdf	05 43 17.3	+1.0
LPAZ			*e*PKPab	PKPab	05 44 09.8	-0.8
LPAZ			LR	LR		
	comp=Z,454nm,20.0s					
LPAZ	**La Paz**	**164.41 56**	PKP	PKPdf	05 43 17.7	+1.4
	comp=Z,3.4nm,1.0s,baz=347,slow=6.4,SNR=8.8					
LPAZ			PKPab	PKPab	05 44 09.9	-0.8
	comp=Z,3.7nm,1.0s,baz=322,slow=5.4,SNR=5.1					
LCO	**Las Campanas**	**165.42 107**	PFAKE		05 43 30.0	+13
LCO			LR	LR		
	comp=Z,563nm,19.0s					
TRQA	**Tornquist**	**166.20 155**	PFAKE		05 43 30.0	+13
TRQA			LR	LR		
	comp=Z,10μm,21.0s					
CPUP	**Villa Florida**	**177.57 106**	PFAKE		05 43 30.0	+7.1
CPUP			LR	LR		
	comp=Z,148nm,19.0s					

*ISCJB **20** 05:39:18.3±0.5, 4080N±003×2409E±003, h13km, Error ellipse: s-maj=4.5km s-min=3.7km az=177.0*
*CSEM **20** 05:39:19.9±0.1, 4078N×2404E, h20km, ML2.5, Error ellipse: s-maj=1.6km s-min=1.3km az=171.0*
*THE **20** 05:39:19.9, 4077N×2403E, h13km, ML2.5*
*ATH **20** 05:39:19.3, 4084N×2394E, h38km±25km, MD3.0/3*

ISC 20 05:39:19.2±0.6,**4079N**±003×**2411E**±004,**h2**km±11km,**n12,** σ0§**49**/22,**1D, Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OUR	**Ouranopolis**	**0.46**	**192**	*e*Pg	**Pg**	**05 39 28.7**	**+0.6**
OUR				*e*Sg	**Sg**	**05 39 34.8**	**+0.8**
SRS	**Serrai**	**0.51**	**310**	*e*Pg	**Pg**	**05 39 29.3**	**+0.3**
SRS				*e*Sg	**Sg**	**05 39 36.1**	**+0.4**
SOH	**Sokhos**	**0.58**	**274**	*e*Pg	**Pg**	**05 39 29.9**	**-0.3**
SOH				*e*Sg	**Sg**	**05 39 37.4**	**-0.3**
NVR	**Nevrokopi**	**0.59**	**341**	*e*PN	**Pg**	**05 39 30.9**	**+0.3**
NVR				*e*SN	**Sg**	**05 39 38.8**	**+0.6**
PLG	**Polygyros**	**0.66**	**231**	*e*Pg	**Pg**	**05 39 31.4**	**-0.3**
PLG				*e*Sg	**Sg**	**05 39 39.7**	**-0.5**
PLG	**Polygyros**	**0.66**	**231**	⇓*i*PN	**Pg**	**05 39 31.5**	**-0.2**
HORT	**Hortiatis**	**0.79**	**256**	*e*Pg	**Pg**	**05 39 33.9**	**-0.4**
HORT				*e*Sg	**Sg**	**05 39 44.1**	**-0.5**
PAIG	**Paliouri**	**0.92**	**201**	*e*Pg	**Pg**	**05 39 37.7**	**+0.9**
KNT	**Kendrikon**	**0.99**	**293**	*e*Pg	**Pg**	**05 39 37.5**	**-0.7**
KNT				*e*Sg	**Sg**	**05 39 51.3**	**+0.2**
RDO	**Rodhopi**	**1.14**	**71**	*e*PN	**Pn**	**05 39 42.0**	**-0.1**
RDO				*e*SN	**Sn**	**05 39 58.3**	**+0.1**
ALN	**Alexandroupoli**	**1.47**	**85**	*e*Pg	**Pg**	**05 39 46.9**	**-0.5**
ALN				*e*Sg	**Sg**	**05 40 05.8**	**-0.6**
ALN	**Alexandroupoli**	**1.47**	**85**	*e*Pg	**Pg**	**05 39 46.9**	**-0.5**
ALN				*e*Sg	**Sg**	**05 40 05.8**	**-0.6**

*JMA **20** 05:39:52.6±0.2, 2572N×12528E, h23km±3km, M3.8*
*IDC **20** 05:39:52.0±1.2, 2557N×12545E, h0km, mb3.6/4, mb1 3.8/5, mb1mx3.7/20, mbtmp3.7/5, ML3.7/1, Error ellipse: s-maj=39.5km s-min=23.3km az=85.0*
*NEIC **20** 05:39:54.4±0.7, 2549N×12551E, h10km, mb4.1/3, Error ellipse: s-maj=17.2km s-min=10.4km az=159.0*
*ISCJB **20** 05:39:56.4±0.6, 2552N±005×12536E±006, h40km±9km, mb3.8/7, Error ellipse: s-maj=10.5km s-min=6.2km az=136.7*

ISC 20 05:39:57.1±1.2,**2543N**±007×**12539E**±007,**h28**km±10km,
n24, σ1§**37**/29,**mb3.8**/7,**Southwestern Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMJ	**Miyako jima 2**	**0.62**	**188**	P	**Pb**	**05 40 09.0**	**-0.5**
JMJ				*e*S	**Sb**	**05 40 21.5**	**+3.7**
JOGS	**Gusukube**	**0.67**	**179**	P	**Pb**	**05 40 10.2**	**-0.1**
JOGS				*e*S	**Sb**	**05 40 22.5**	**+3.3**
JTJ	**Tarama**	**1.00**	**219**	P	**Pn**	**05 40 14.1**	**-1.2**
JTJ				*e*S	**Sn**	**05 40 29.3**	**+0.8**
JKE	**Kume jima 2**	**1.54**	**54**	P	**Pn**	**05 40 18.6**	**-4.1**
JIJ	**Ishigaki jima**	**1.55**	**227**	P	**Pn**	**05 40 21.1**	**-1.7**
JIJ				S	**Sn**	**05 40 42.1**	**0.0**
JKRS	**Kuro-shima**	**1.73**	**227**	P	**Pn**	**05 40 24.5**	**-0.8**
IRIF	**Iriomote-Funau**	**1.86**	**234**	P	**Pn**	**05 40 25.5**	**-1.6**
JIH	**Iheya**	**2.81**	**55**	P	**Pn**	**05 40 39.2**	**-0.9**
JOW	**Kunigami**	**2.94**	**61**	P	**Pn**	**05 40 40.4**	**-1.6**
JOW	**Kunigami**	**2.94**	**61**	Pn	**Pn**	**05 40 40.5**	**-1.5**
	22nm,0.3s,baz=241,slow=13,SNR=27						
JOW				Sn	**Sn**	**05 41 18.4**	**+2.0**
	7.9nm,0.3s,baz=112,slow=27,SNR=4.6						
TATO	**Taipei**	**3.56**	**264**	*e*Pn	**Pn**	**05 40 50.9**	**+0.4**
NACB	**Ninganchiao**	**3.67**	**251**	*e*Pn	**Pn**	**05 40 52.2**	**+0.2**
YHNB	**Yeheng**	**3.72**	**259**	*e*Pn	**Pn**	**05 40 54.4**	**+1.8**
KSRS	**Korea Array**	**12.18**	**10**	Pn	**Pn**	**05 42 51.9**	**+3.3**
	0.1nm,0.3s,baz=299,slow=37,SNR=3.5						
SONM	**Songino Array**	**26.92**	**331**	P	**P**	**05 45 35.1**	**-0.6**
	0.5nm,0.6s,mb3.2,baz=133,slow=8.4,SNR=3.1						
TKM2	**Tokmak 2**	**44.06**	**306**	*e*P	**P**	**05 48 06.9**	**+4.4**
	4.3nm,1.1s,mb4.1						
UCH	**Uchtor**	**44.79**	**305**	*e*P	**P**	**05 48 12.1**	**+3.8**
	3.1nm,1.0s,mb4.1						
AML	**Almayashu**	**45.39**	**305**	*e*P	**P**	**05 48 15.5**	**+2.5**
	1.4nm,0.8s,mb3.8						
WRA	**Warramunga Arr**	**45.93**	**168**	P	**P**	**05 48 17.7**	**+0.3**
	1.1nm,1.1s,mb3.7,baz=349,slow=8.6,SNR=4.0						
ASAR	**Alice Springs**	**49.50**	**170**	P	**P**	**05 48 45.5**	**+0.4**
	0.7nm,0.8s,mb3.7,baz=358,slow=8.9,SNR=4.4						
DAWY	**Dawson**	**69.67**	**28**	*e*P	**P**	**05 51 07.4**	**+3.7**
INK	**Inuvik**	**70.62**	**23**	*e*P	**P**	**05 51 09.5**	**0.0**
YKA	**Yellowknife Ar**	**80.31**	**24**	P	**P**	**05 52 02.7**	**-2.4**
YKA	**Yellowknife Ar**	**80.31**	**24**	P	**P**	**05 52 02.7**	**-2.4**
	1.1nm,1.0s,mb3.8,baz=304,slow=5.5,SNR=12						

*IDC **20** 05:50:15.7±0.8, 2554N×12518E, h0km, mb3.9/6, mb1 4.1/8, mb1mx3.9/21, mbtmp3.9/8, ML3.5/2, Error ellipse: s-maj=29.3km s-min=17.9km az=74.0*
*JMA **20** 05:50:16.4±0.3, 2570N×12527E, h7km±4km, M4.3*
*NEIC **20** 05:50:18.2±0.6, 2558N×12542E, h10km, mb4.3/9, Error ellipse: s-maj=15.1km s-min=10.8km az=153.0*
*ISCJB **20** 05:50:19.9±0.6, 2557N±004×12538E±005, h36km±7km, mb4.1/15, Error ellipse: s-maj=9.5km s-min=5.5km az=37.3*

ISC 20 05:50:20.5±1.0,**2553N**±005×**12538E**±006,**h28**km±8km,
n36, σ1§**04**/39,**mb4.1**/15,**Southwestern Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMJ	**Miyako jima 2**	**0.72**	**186**	P	**Pb**	**05 50 33.0**	**-1.5**
JMJ				*e*S	**Sb**	**05 50 45.1**	**+1.1**
JOGS	**Gusukube**	**0.77**	**178**	P	**Pb**	**05 50 34.3**	**-1.0**
JOGS				*e*S	**Sb**	**05 50 46.8**	**+1.3**
JTJ	**Tarama**	**1.08**	**215**	P	**Pn**	**05 50 38.5**	**-1.2**
JTJ				*e*S	**Sn**	**05 50 54.8**	**+1.0**
JKE	**Kume jima 2**	**1.50**	**58**	P	**Pn**	**05 50 43.9**	**-1.6**
JIJ	**Ishigaki jima**	**1.62**	**224**	P	**Pn**	**05 50 45.5**	**-1.6**
JIJ				*e*S	**Sn**	**05 51 06.8**	**-0.2**
JKRS	**Kuro-shima**	**1.79**	**224**	P	**Pn**	**05 50 48.8**	**-0.7**
JKRS				*e*S	**Sn**	**05 51 12.0**	**+0.7**
IRIF	**Iriomote-Funau**	**1.91**	**232**	P	**Pn**	**05 50 49.9**	**-1.3**
HATJ	**Hateruma jima**	**2.05**	**224**	P	**Pn**	**05 50 53.4**	**+0.3**
JIH	**Iheya**	**2.77**	**57**	P	**Pn**	**05 51 02.5**	**-0.4**
JOW	**Kunigami**	**2.91**	**63**	P	**Pn**	**05 51 05.6**	**+0.7**
JOW	**Kunigami**	**2.91**	**63**	Pn	**Pn**	**05 51 06.3**	**+1.4**
	9.9nm,0.3s,baz=234,slow=10,SNR=8.6						
TATO	**Taipei**	**3.56**	**262**	*e*Pn	**Pn**	**05 51 18.4**	**+4.4**
NACB	**Ninganchiao**	**3.69**	**249**	*e*Pn	**Pn**	**05 51 16.4**	**+0.7**
YHNB	**Yeheng**	**3.73**	**258**	*e*Pn	**Pn**	**05 51 17.0**	**+0.8**
JNU	**Nakatsue**	**8.96**	**31**	Pn	**Pn**	**05 52 29.4**	**+1.5**
	0.5nm,0.3s,baz=237,slow=7.8,SNR=3.1						
KSRS	**Korea Array**	**12.08**	**10**	Pn	**Pn**	**05 53 12.9**	**+2.2**
	0.2nm,0.3s,baz=57,slow=32,SNR=5.4						
SONM	**Songino Array**	**26.82**	**331**	P	**P**	**05 55 58.2**	**-0.1**
	1.7nm,0.9s,mb3.6,baz=160,slow=9.1,SNR=10						
MKAR	**Makanchi Array**	**40.11**	**313**	P	**P**	**05 57 51.5**	**-2.2**
	0.4nm,0.4s,mb3.5,baz=100,slow=10,SNR=7.2						
MKAR				PcP	PcP	05 59 56.6	-1.2
	0.2nm,0.4s,baz=85,slow=3.6,SNR=3.5						
ZALV	**Zalesovo Beam**	**41.28**	**324**	P	**P**	**05 58 02.3**	**-0.9**
	0.7nm,0.5s,mb3.5,baz=111,slow=8.1,SNR=3.6						
KURK	**Kurchatov**	**43.58**	**318**	*e*P	**P**	**05 58 21.4**	**-0.5**
	2.6nm,1.0s,mb3.9						
TKM2	**Tokmak 2**	**43.99**	**306**	*e*P	**P**	**05 58 26.0**	**+0.6**
	3.7nm,1.1s,mb4.0						

UCH	**Uchtor**	**44.72**	**305**	*e*P	**P**	**05 58 32.7**	**+1.5**
	4.0nm,1.2s,mb4.1						
AML	**Almayashu**	**45.32**	**305**	*e*P	**P**	**05 58 36.6**	**+0.6**
	1.9nm,0.9s,mb3.9						
WRAB	**Tennant Creek**	**46.03**	**168**	*e*P	**P**	**05 58 41.9**	**+0.2**
	2.3nm,0.7s,mb4.2						
WRA	**Warramunga Arr**	**46.03**	**168**	P	**P**	**05 58 41.5**	**-0.2**
	1.5nm,0.6s,mb4.1,baz=350,slow=8.8,SNR=24						
BVAR	**Borovoye Array**	**49.10**	**319**	PcP	PcP	06 00 28.1	-0.4
	0.4nm,0.3s,baz=38,slow=2.6,SNR=3.5						
ASAR	**Alice Springs**	**49.60**	**170**	P	**P**	**05 59 09.7**	**+0.3**
	0.8nm,0.6s,mb4.0,baz=356,slow=14,SNR=14						
ASAR				PcP	PcP	06 00 30.1	-0.6
	0.5nm,0.8s,baz=354,slow=2.0,SNR=4.3						
DAWY	**Dawson**	**69.59**	**28**	*e*P	**P**	**06 01 26.2**	**-0.4**
INK	**Inuvik**	**70.53**	**23**	*e*P	**P**	**06 01 31.6**	**-0.8**
YKA	**Yellowknife Ar**	**80.22**	**24**	P	**P**	**06 02 27.1**	**-1.1**
YKA	**Yellowknife Ar**	**80.22**	**24**	P	**P**	**06 02 27.1**	**-1.1**
	2.8nm,0.8s,mb4.2,baz=303,slow=5.3,SNR=58						
MORC	**Moravsky Berou**	**81.55**	**321**	*e*P	**P**	**06 02 36.4**	**+0.9**
	2.2nm,0.7s,mb4.2						
FCC	**Fort Churchill**	**89.86**	**19**	*e*P	**P**	**06 03 15.8**	**-0.7**
	3.8nm,0.9s,mb4.7						
FFC	**Flin Flon**	**90.34**	**25**	*e*P	**P**	**06 03 19.1**	**+0.3**
	2.4nm,0.8s,mb4.6						
HLID	**Hailey**	**92.07**	**39**	*e*P	**P**	**06 03 28.4**	**+1.3**
	1.3nm,0.8s,mb4.3						
SDV	**Santo Domingo**	**142.41**	**27**	*e*P	PKPdf	06 09 51.5	0.0

*PDA **20** 05:52:11.9±0.6, 3872N×2906W, h2km±8km, MD3.5, ML2.3, Error ellipse: s-maj=11.7km s-min=2.4km az=69.0*
*CSEM **20** 05:52:11.9±0.6, 3872N×2906W, h2km±8km, ML2.3, Error ellipse: s-maj=11.7km s-min=2.4km az=69.0, After PDA*

SVSA 20 05:52:11.9±0.6,**3872N×2906W,h2**km±8km,**MD3.5,ML2.3,**
Error ellipse: s-maj=11.7km s-min=2.4km az=69.0,
Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CALA	**Caldeira**	**0.31**	**116**	*i* P	Pg	05 52 17.6	-0.3
CALA				*e*S	Sg	05 52 22.1	+0.1
CALA	**Caldeira**	**0.31**	**116**	*e*S	Sg	05 52 22.1	+0.1
HOR	**Horta**	**0.39**	**119**	*i* P	Pg	05 52 18.6	-0.7
HOR				*e*S	Sg	05 52 24.0	-0.4
HOR	**Horta**	**0.39**	**119**	*e*S	Sg	05 52 24.0	-0.4
PICO	**Pico**	**0.54**	**113**	*e*P	Pg	05 52 21.6	-0.7
PICO				*e*S	Sg	05 52 28.8	-0.6
ROSA	**Rosais**	**0.64**	**90**	*e*P	Pg	05 52 23.2	-1.0
ROSA				*e*S	Sg	05 52 31.2	-1.3
PMAN	**Manadas**	**0.77**	**96**	*e*P	Pg	05 52 24.9	-1.7
PMAN				*e*S	Sg	05 52 34.1	-2.4
PMAN				A		05 52 35.7	
	61nm,0.2s						
PMAN	**Manadas**	**0.77**	**96**	*e*P	Pg	05 52 24.9	-1.7
PMAN				*e*S	Sg	05 52 34.1	-2.4
SRBC	**Serra Branca**	**0.86**	**68**	*e*P	Pg	05 52 25.9	-2.5
SRBC				*e*S	Sg	05 52 36.4	-3.1
PSCM	**Serra do Cume**	**1.52**	**90**	*e*P	Pn	05 52 35.1	-4.9
PSCM				*e*S	Sn	05 52 52.6	-7.8
PSCM				A		05 52 58.0	
	19nm,0.4s						
PSCM	**Serra do Cume**	**1.52**	**90**	*e*P	Pn	05 52 35.1	-4.9
PSCM				*e*S	Sn	05 52 52.6	-7.8

*NEIC **20** 05:57:37.0, 1795N×6802W, h120km, MD3.2(RSPR), After RSPR.*

RSPR 20 05:57:37.0,1795N×6802W,h120km±3km,**MD3.2**/4,
MD3.2/4,**13C,Mona Passage**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRPR	**Cabo Rojo, PR**	**0.87**	**86**	*i* eP	Pn	05 57 58.0	+0.2
CRPR	**Cabo Rojo, PR**	**0.87**	**86**	*e*S	Sn	05 58 13.1	-0.3
CRPR	**Cabo Rojo, PR**	**0.87**	**86**	*i* eP	Pn	05 57 59.1	+1.4
CRPR	**Cabo Rojo, PR**	**0.87**	**86**	*e*S	Sn	05 58 13.2	-0.2
CRPR	**Cabo Rojo, PR**	**0.87**	**86**	*i* eP	Pn	05 57 59.1	+1.4
CRPR				*e*S	Sn	05 58 13.2	-0.2
LSP	**Las Mesas**	**0.92**	**75**	*e*S	Sn	05 58 13.8	-0.4
LSP	**Las Mesas**	**0.92**	**75**	*e*S	Sn	05 58 13.8	-0.4
AGPR	**Aguadilla, PR**	**1.01**	**59**	*i* eP	Pn	05 57 59.2	+0.1
AGPR	**Aguadilla, PR**	**1.01**	**59**	*e*S	Sn	05 58 15.3	-0.5
AGPR	**Aguadilla, PR**	**1.01**	**59**	*i* eP	Pn	05 58 00.8	+1.7
AGPR	**Aguadilla, PR**	**1.01**	**59**	*e*S	Sn	05 58 15.9	+0.1
AGPR	**Aguadilla, PR**	**1.01**	**59**	*i* eP	Pn	05 58 00.8	+1.7
AGPR				*e*S	Sn	05 58 15.9	+0.1
LRS	**Lares**	**1.17**	**73**	*e*S	Sn	05 58 20.5	+1.8
AOPR	**Arecibo Observ**	**1.27**	**71**	*i* eP	Pn	05 58 02.1	+0.4
AOPR	**Arecibo Observ**	**1.27**	**71**	*e*S	Sn	05 58 21.1	+0.5
AOPR	**Arecibo Observ**	**1.27**	**71**	*e*S	Sn	05 58 22.4	+1.8
AOPR	**Arecibo Observ**	**1.27**	**71**	*i* eP	Pn	05 58 04.1	+2.3
AOPR	**Arecibo Observ**	**1.27**	**71**	*i* eP	Pn	05 58 04.1	+2.3
AOPR				*e*S	Sn	05 58 22.4	+1.8
SMN1	**Samana, DR**	**1.71**	**316**	*e*S	Sn	05 58 26.1	-3.7
SMN1	**Samana, DR**	**1.71**	**316**	*i* eP	Pn	05 58 05.6	-1.4
DR08	**Loma La Naviza**	**2.15**	**298**	*i* eP	Pn	05 58 11.8	-0.5
DR08	**Loma La Naviza**	**2.15**	**298**	*i* eP	Pn	05 58 11.8	-0.5
MTP	**Monte Pirata**	**2.35**	**86**	*i* eP	Pn	05 58 13.9	-1.0
MTP				*e*S	Sn	05 58 44.0	+0.1

*ISCJB **20** 05:58:18.8±0.6, 2566N±004×12502E±006, h10km, mb3.6/8, Error ellipse: s-maj=8.4km s-min=5.3km az=170.1*
*JMA **20** 05:58:18.5±0.4, 2562N×12497E, h0km, M3.3*
*IDC **20** 05:58:19.0±0.9, 2585N×12515E, h0km, mb3.5/7, mb1 3.6/8, mb1mx3.6/20, mbtmp3.5/8, ML3.0/1, Error ellipse: s-maj=33.6km s-min=19.7km az=65.0*
*NEIC **20** 05:58:20.8±0.7, 2584N×12511E, h10km, MG3.3(JMA), Error ellipse: s-maj=15.6km s-min=12.0km az=156.0*

ISC 20 05:58:20.1±0.6,**2560N**±004×**12503E**±006,**h10**km,**n19,**
σ1§**22**/23,**mb3.6**/8,**Southwestern Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMJ	**Miyako jima 2**	**0.82**	**163**	P	**Pg**	**05 58 35.3**	**-0.6**
JMJ				S	**Sg**	**05 58 47.2**	**+0.6**
JOGS	**Gusukube**	**0.91**	**158**	P	**Pg**	**05 58 36.6**	**-1.0**
JOGS				S	**Sg**	**05 58 49.6**	**+0.2**
JTJ	**Tarama**	**1.00**	**197**	P	**Pg**	**05 58 37.7**	**-1.7**
JTJ				S	**Sg**	**05 58 52.6**	**+0.2**
JIJ	**Ishigaki jima**	**1.47**	**213**	P	**Pn**	**05 58 45.8**	**-0.9**
JKRS	**Kuro-shima**	**1.64**	**214**	P	**Pn**	**05 58 48.8**	**-0.2**
IRIF	**Iriomote-Funau**	**1.73**	**223**	P	**Pn**	**05 58 50.5**	**+0.3**
JOW	**Kunigami**	**3.16**	**66**	Pn	**Pn**	**05 59 09.3**	**-0.6**
	3.3nm,0.3s,baz=200,slow=9.4,SNR=6.9						
NACB	**Ninganchiao**	**3.43**	**246**	*e*Pn	**Pn**	**05 59 17.8**	**+4.2**
YHNB	**Yeheng**	**3.44**	**255**	*e*Pn	**Pn**	**05 59 15.7**	**+2.0**
YHNB				*e*Pg	**Pg**	**05 59 25.4**	**-0.6**
KSRS	**Korea Array**	**12.07**	**11**	Pn	**Pn**	**06 01 21.9**	**+10**
	0.3nm,0.3s,baz=184,slow=14,SNR=4.8						
SONM	**Songino Array**	**26.61**	**331**	P	**P**	**06 03 58.9**	**+0.3**
	0.2nm,0.5s,mb2.9,baz=113,slow=31,SNR=2.1						
MKAR	**Makanchi Array**	**39.83**	**313**	P	**P**	**06 05 52.8**	**-0.8**
	0.2nm,0.2s,mb3.4,baz=99,slow=9.2,SNR=3.4						
ZALV	**Zalesovo Beam**	**41.04**	**324**	P	**P**	**06 06 01.9**	**-1.6**
ZALV	**Zalesovo Beam**	**41.04**	**324**	P	**P**	**06 06 01.9**	**-1.5**
	1.0nm,0.6s,mb3.6,baz=107,slow=8.7,SNR=4.5						
WRA	**Warramunga Arr**	**46.17**	**168**	P	**P**	**06 06 46.6**	**+1.5**
	0.7nm,0.6s,mb3.8,baz=350,slow=8.6,SNR=11						
ASAR	**Alice Springs**	**49.72**	**169**	P	**P**	**06 07 15.4**	**+2.8**
	0.4nm,0.6s,mb3.7,baz=356,slow=10,SNR=6.8						
INK	**Inuvik**	**70.59**	**23**	P	**P**	**06 09 37.2**	**+2.0**
	1.3nm,1.0s,mb3.8,baz=286,slow=5.8,SNR=3.7						
AKASG	**Malin Array Be**	**74.12**	**319**	P	**P**	**06 09 57.8**	**+1.3**
	0.2nm,0.3s,mb3.6,baz=95,slow=5.8,SNR=4.4						
YKA	**Yellowknife Ar**	**80.29**	**24**	P	**P**	**06 10 28.8**	**-2.2**
	1.3nm,0.8s,mb3.9,baz=302,slow=5.1,SNR=7.5						

FUNV 20 06:01:45.1,991N×6926W,h5km,**MW3.8,7C-6D,**
Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TEPV	**Terepaima**	**0.08**	**52**	*i* eP	Pg	06 01 46.0	-0.9
TEPV				*e*S	Sg	06 01 47.4	-0.7
SANV	**Sanarito**	**0.49**	**214**	⇑*i* P	Pg	06 01 53.7	-0.9
SANV				*e*S	Sg	06 02 01.0	-0.1
CURV	**Curarigua**	**0.70**	**278**	⇓*i* P	Pg	06 01 57.8	-0.8
CURV				*e*S	Sg	06 02 08.2	+0.5

SIQV	**Siquisique**	**0.91**	**323**	⇑*e*P	Pg	06 02 02.2	-0.4
SIQV				*e*S	Sg	06 02 15.0	+0.5
JACV	**Jacura**	**1.24**	**20**	⇑*e*P	Pg	06 02 08.3	-0.6
JACV				*e*S	Sg	06 02 25.6	+0.5
QARV	**Quebrada Arrib**	**1.28**	**283**	*e*P	Pn	06 02 08.8	-0.8
QARV				⇓*i* P		06 02 09.4	
QARV				*e*S	Sg	06 02 26.4	0.0
BAUV	**El Baul**	**1.54**	**129**	⇓*e*P	Pn	06 02 12.2	-1.0
DABV	**Dabajuro**	**1.69**	**307**	*e*P	Pn	06 02 15.2	0.0
DABV				*e*S	Sn	06 02 36.3	-0.9
SOCV	**Socops**	**2.26**	**224**	*e*P	Pn	06 02 23.0	-0.2
SOCV				*e*S	Sn	06 02 50.7	-0.7
VIGV	**El Vigia**	**2.34**	**243**	*e*P	Pn	06 02 24.2	0.0
VIGV				*e*S	Sn	06 02 51.8	-1.5
FUNV	**FUNVISIS**	**2.47**	**77**	⇑*e*P	Pn	06 02 25.9	-0.2
FUNV				*e*S	Sn	06 02 55.4	-1.2
ELOV	**Elorza**	**2.90**	**184**	⇑*i* P	Pn	06 02 31.9	-0.1
ELOV				*e*S	Sn	06 03 05.4	-1.8
IMOV	**Isla Los Monje**	**2.92**	**327**	⇑*e*P	Pn	06 02 31.2	-1.0
MERV	**Las Mercedes**	**2.99**	**102**	*e*P	Pn	06 02 32.5	-0.8
MERV				*e*S	Sn	06 03 07.5	-2.0
BIRV	**Birongo**	**2.99**	**79**	*e*P	Pn	06 02 32.7	-0.5
BIRV				*e*S	Sn	06 03 08.0	-1.6
VIRV	**Villa del Rosa**	**3.15**	**281**	*e*P	Pn	06 02 35.0	-0.5
VIRV				*e*S	Sn	06 03 10.7	-2.8
CUPV	**Cœpira**	**3.42**	**87**	⇓*e*P	Pn	06 02 38.4	-0.7
ORCV	**Isla La Orchil**	**3.55**	**58**	*e*P	Pn	06 02 39.1	-1.8
CAPV	**Capacho**	**3.64**	**236**	*e*P	Pn	06 02 41.5	-0.6
CAPV				*e*S	Sn	06 03 22.8	-2.8
CAOV	**Caicara del Or**	**3.88**	**131**	⇓*e*P	Pn	06 02 44.3	-1.1
CAOV				*e*S	Sn	06 03 28.1	-3.2
PCRV	**Puerto La Cruz**	**4.56**	**86**	*e*P	Pn	06 02 53.9	-0.9
PRGV	**PARIAGUAN**	**4.69**	**104**	*e*P	Pn	06 02 55.2	-1.4
IBAV	**Isla La Blanqu**	**4.97**	**67**	*e*P	Pn	06 02 58.0	-2.5
ITEV	**Isla Los Testi**	**6.19**	**76**	⇑*e*P	Pn	06 03 14.6	-2.6
GUNV	**Guanoco**	**6.22**	**87**	*e*P	Pn	06 03 15.9	-1.8
LUEV	**Luepa**	**8.72**	**117**	*e*P	Pn	06 03 48.6	-3.3

*ISCJB **20** 06:04:26.2±0.7, 1376N±008×1449E±02, h108km±5km, mb3.8/14, Error ellipse: s-maj=25.8km s-min=13.7km az=174.3*
*NEIC **20** 06:04:26.3±0.4, 1380N×14505E, mb4.2/1, Error ellipse: s-maj=17.0km s-min=9.5km az=85.0*
*IDC **20** 06:04:26.5±0.6, 1384N×14503E, h94km±4km, mb3.7/14, mb1 3.9/14, mb1mx3.8/23, mbtmp3.7/14, Error ellipse: s-maj=21.8km s-min=12.7km az=89.0*

ISC 20 06:04:27.1±0.8,**1378N**±008×**1450E**±02,**h102**km±5km,
h97km±3.9km:**pP-P,n23,**σ0§**67**/20,**mb3.8**/14,**Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**0.25**	**220**	P	**Pn**	**06 04 42.0**	**+0.3**
	1μm,0.3s,baz=138,slow=2.6,SNR=453						
GUMO				S	**Sn**	**06 04 52.3**	**-0.2**
	2μm,0.3s,baz=270,slow=20,SNR=135						
JOW	**Kunigami**	**20.35**	**312**	P	**P**	**06 08 56.0**	**+0.5**
	16nm,0.7s,baz=126,slow=17,SNR=3.4						
MJAR	**Matsushiro Art**	**23.48**	**346**	P	**P**	**06 09 26.4**	**-1.2**
	1.8nm,0.6s,mb3.6,baz=170,slow=11,SNR=6.0						
WB2	**Warramunga Arr**	**35.12**	**198**	*e*P	**P**	**06 11 10.6**	**-0.3**
WRA	**Warramunga Arr**	**35.12**	**198**	P	**P**	**06 11 11.0**	**+0.1**
	1.5nm,0.6s,mb4.0,baz=20,slow=9.4,SNR=27						
WRA				pP	pP	06 11 33.3	-0.7
	0.6nm,0.5s,baz=16,slow=9.5,SNR=2.9						
WRA				PcP	PcP	06 13

PET pmax pmax
comp=Z,191nm,0.7s
PET smax
comp=E,985nm,0.5s
PET smax
comp=N,709nm,0.5s
PET Petropavlovsk 2.98 228 *e*P **Pn 06 07 24.7 +0.6**
PET *i* S **Sn 06 07 59.5 +0.7**
RUS Russkaya 3.48 222 P **Pn 06 07 31.3 +0.4**
RUS *i* S **Sn 06 08 10.0 -1.0**
GRL Gorelyy 3.56 227 *e*P **Pn 06 07 34.3 +2.2**
GRL *i* S **Sn 06 08 15.3 +2.1**
MIPR Malaya Ipel'ka 4.34 232 P **Pn 06 07 44.7 +2.0**
SKR Severo-Kuril's 5.78 223 *e*PN **Pn 06 08 05.6 +3.0**
SKR *e* 06 09 13.5
MA2 Magadan 7.73 311 *e*PN **Pn 06 08 22.1 -7.2**
BILL Biiibino 13.16 6 *e*PN **Pn 06 09 47.3 +3.8**
BILL pmax pmax
comp=Z,2.0nm,1.0s
ASAJ Asahikawa 16.78 237 P **Pn 06 10 32.0 +0.5**
ASAJ pmax pmax
comp=Z,1.0nm,0.3s
ASAJ Asahikawa 16.78 237 Pn **Pn 06 10 32.0 +0.5**
comp=Z,1.2nm,0.3s,baz=35,slow=9.7,SNR=3.9
ERM Erimo 18.13 232 *e*P **Pn 06 10 48.4 +0.1**
TIXI Tiksi 21.91 332 *e*P **P 06 11 26.6 -2.6**
TIXI pmax pmax
comp=Z,4.0nm,1.0s,mb3.8
MAT Matsushiro 24.81 232 P **P 06 11 56.8 -1.3**
MJAR Matsushiro Arr 24.81 232 P **P 06 11 56.1 -2.0**
comp=Z,2.8nm,0.5s,mb4.0,baz=27,slow=7.7,SNR=7.1
COLA College 26.08 48 *i* P **P 06 12 17.3 +7.9**
BOD Bodaibo 26.42 296 *e*P **P 06 12 13.6 +1.1**
INK Inuvik 31.51 40 P **P 06 12 58.1 +0.5**
comp=Z,1.2nm,0.6s,mb3.9,baz=300,slow=5.2,SNR=12
SONM Songino Array 34.77 282 P **P 06 13 25.1 -1.2**
comp=Z,0.4nm,0.6s,mb3.5,baz=66,slow=8.1,SNR=2.8
SONM PcP PcP 06 15 58.4 -0.7
comp=Z,0.4nm,0.6s,baz=93,slow=2.8,SNR=3.6
YKA Yellowknife Ar 40.82 45 P **P 06 14 17.8 +0.5**
YKA pP pP 06 14 26.7 +0.6
YKA PcP PcP 06 16 17.4 -0.1
YKA Yellowknife Ar 40.82 45 P **P 06 14 17.7 +0.5**
YKA *PP pP 06 14 26.7 +0.6
YKA 06 16 17.4
YKA pmax pmax
comp=Z,2.0nm,0.6s
YKA Yellowknife Ar 40.82 45 P **P 06 14 17.7 +0.5**
comp=Z,2.0nm,0.6s,mb3.9,baz=299,slow=7.9,SNR=50
YKA pP pP 06 14 26.7 +0.6
comp=Z,0.7nm,0.7s,baz=300,slow=8.0,SNR=7.7
YKA PcP PcP 06 16 17.4 -0.1
comp=Z,0.2nm,0.7s,baz=309,slow=3.9,SNR=4.3
ARCES ARCESS Array B 51.83 342 P **P 06 15 42.3 -1.2**
comp=Z,2.1nm,0.8s,mb4.1,baz=16,slow=10,SNR=2.7
NVAR Mina Array Bea 53.86 73 P **P 06 16 00.9 +2.0**
comp=Z,0.2nm,0.6s,mb3.2,baz=283,slow=8.2,SNR=2.4
NVAR pP pP 06 16 10.7 +2.6
comp=Z,0.4nm,0.7s,baz=318,slow=6.6,SNR=4.0
PDAR Pinedale Array 55.43 63 P **P 06 16 11.6 +1.4**
comp=Z,0.9nm,0.7s,mb3.9,baz=318,slow=2.6,SNR=8.9
FINES FINESS Array B 58.84 337 P **P 06 16 32.5 -1.5**
comp=Z,2.3nm,0.7s,mb4.3,baz=36,slow=7.1,SNR=6.0
NOA NORSAR Array B 62.02 345 P **P 06 16 53.5 -2.2**
comp=Z,0.5nm,0.4s,mb4.0,baz=19,slow=6.9,SNR=3.4
SCHQ Schefferville 63.29 29 P **P 06 17 02.9 -1.4**
comp=Z,1.2nm,0.7s,mb4.2,baz=305,slow=12,SNR=4.1
AKASG Malin Array Be 67.60 330 P **P 06 17 29.8 -2.5**
comp=Z,0.2nm,0.3s,mb3.6,baz=25,slow=7.2,SNR=3.5
TXAR Lajitas Array 68.67 69 P **P 06 17 40.6 +1.3**
comp=Z,0.8nm,0.7s,mb3.8,baz=300,slow=4.6,SNR=12
GERES GERESS Array B 73.18 339 P **P 06 18 05.4 -0.9**
comp=Z,0.3nm,0.2s,mb3.8,baz=9.3,slow=7.3,SNR=2.7
POO Poona 74.18 280 *ex* x 06 18 02.5
WRA Warramunga Arr 78.43 207 P **P 06 18 35.5 -0.9**
comp=Z,1.0nm,0.7s,mb3.8,baz=20,slow=5.9,SNR=11
WRA pP pP 06 18 45.7 -0.4
comp=Z,1.7nm,0.8s,baz=20,slow=6.0,SNR=9.3
ASAR Alice Springs 82.10 206 P **P 06 18 56.2 +0.1**
comp=Z,1.5nm,0.7s,mb4.0,baz=15,slow=5.3,SNR=18
ASAR pP pP 06 19 06.4 +0.6
comp=Z,1.5nm,0.7s,baz=16,slow=5.4,SNR=9.1
ESDC Sonseca Array 84.92 349 P **P 06 19 10.0 -0.7**
comp=Z,0.8nm,0.4s,mb4.2,baz=2.3,slow=4.4,SNR=5.3
QSPA South Pole Qui 144.80 180 PKP PKPdf 06 26 08.5 -2.4
comp=Z,2.3nm,0.6s,baz=281,slow=3.9,SNR=21

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*IDC **20** 06:15:15.9±1.2,2552N×12544E,h0km,mb3.6/4, mb1 3.7/5,mb1mx3.5/20,mbtmp3.5/5,ML2.6/1,MS3.0/1, Ms1 3.0/1,ms1mx2.6/30,Error ellipse: s-maj=42.7km s-min=23.5km az=85.0*
*JMA **20** 06:15:16.4±0.2,2570N×12528E,h25km±3km,M3.4*
*ISCJB **20** 06:15:17.7±0.7,2562N±005×12530E±008,h25km, mb3.5/4,Error ellipse: s-maj=11.4km s-min=6.3km az=22.4*

ISC 20 06:15:17.6±2.5,2561N±010×1253E±01,h17km±15km,n12, σ0°88/14,mb3.5/4,Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JMJ	**Miyako jima 2**	**0.79**	**178**	P	**Pg**	**06 15 32.5**	**-0.6**
JMJ				S	**Sg**	**06 15 44.2**	**+0.6**
JOGS	**Gusukube**	**0.86**	**172**	P	**Pb**	**06 15 33.4**	**-0.6**
JOGS				S	**Sg**	**06 15 46.1**	**+0.5**
JTJ	**Tarama**	**1.10**	**208**	P	**Pb**	**06 15 37.2**	**-0.9**
JKE	**Kume jima 2**	**1.54**	**62**	P	**Pn**	**06 15 42.4**	**-1.9**
JIJ	**Ishigaki jima**	**1.61**	**220**	P	**Pn**	**06 15 45.0**	**-0.3**
JIJ				S	**Sn**	**06 16 05.7**	**0.0**
JKRS	**Kuro-shima**	**1.79**	**220**	P	**Pn**	**06 15 47.9**	**+0.2**
JOW	**Kunigami**	**2.96**	**65**	Pn	**Pn**	**06 16 05.0**	**+1.2**
	1.6nm,0.3s,baz=231,slow=10,SNR=2.8						
JNU	**Nakatsue**	**8.94**	**32**	LR	LR	06 21 09.3	
	comp=Z,93nm,20.8s,baz=303,slow=40						
SONM	**Songino Array**	**26.71**	**331**	P	**P**	**06 20 59.2**	**+3.2**
	1.0nm,1.1s,mb3.3,baz=145,slow=5.4,SNR=5.6						
WRA	**Warramunga Arr**	**46.13**	**168**	P	**P**	**06 23 41.1**	**-0.2**
	0.7nm,0.9s,mb3.6,baz=350,slow=8.8,SNR=6.4						
ASAR	**Alice Springs**	**49.70**	**170**	P	**P**	**06 24 09.2**	**+0.4**
	0.3nm,0.4s,mb3.6,baz=353,slow=7.5,SNR=5.9						
YKA	**Yellowknife Ar**	**80.19**	**24**	P	**P**	**06 27 26.9**	**+0.2**
	0.8nm,0.8s,mb3.7,baz=301,slow=5.3,SNR=12						

IDC 20 06:16:52.4±53.0,1673S×17735W,h0km,mb3.8/3, mb1 4.0/3,mb1mx3.7/14,mbtmp3.8/3,Error ellipse: s-maj=986.8km s-min=173.3km az=78.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**40.09**	**240**	P	P	06 24 30.6	+0.8
	0.5nm,0.4s,baz=80,slow=12,SNR=4.8						
WRA	**Warramunga Arr**	**45.85**	**258**	P	P	06 25 16.7	-0.1
	0.3nm,0.5s,baz=97,slow=7.4,SNR=5.4						
ASAR	**Alice Springs**	**46.09**	**253**	P	P	06 25 17.9	-0.7
	2.1nm,0.5s,baz=88,slow=8.5,SNR=38						

JMA 20 06:19:44.5±0.2,2564N×12499E,h11km,M3.5,Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JMJ	**Miyako jima 2**	**0.87**	**161**	P	Pg	06 20 00.9	-0.3
JMJ				S	Sg	06 20 12.4	-0.1
JOGS	**Gusukube**	**0.95**	**157**	P	Pg	06 20 02.2	-0.7
JOGS				S	Sg	06 20 15.1	-0.2
JTJ	**Tarama**	**1.03**	**195**	P	Pg	06 20 03.5	-0.8
JTJ				S	Sg	06 20 17.5	-0.2
JIJ	**Ishigaki jima**	**1.48**	**211**	S	Sn	06 20 30.0	-0.5
JKRS	**Kuro-shima**	**1.66**	**213**	P	Pn	06 20 14.1	+0.6
JKRS				S	Sn	06 20 36.8	+2.0

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*CSEM **20** 06:32:56.3,4264N×4601E,h27km,mb3.8,After OBN*

MOS 20 06:32:56.3±1.6,4264N×4601E,h27km,mb3.8/1,Error ellipse: s-maj=21.8km s-min=9.3km az=26.2,Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BTLR	**Botlikh**	**0.16**	**83**	*e*PG	Pb	06 33 01.3	-0.4
BTLR				*i* S	Sb	06 33 06.5	+1.2
BTLR				pmax	pmax		
	comp=Z,53nm,0.2s						
BTLR	**Botlikh**	**0.16**	**83**	*e*Pg	Pb	06 33 01.3	-0.4
	comp=Z,53nm,0.2s						
BTLR				*i* Sg	Sb	06 33 06.5	+1.2
XNZR	**Khunzakh**	**0.52**	**101**	*e*Pg	Pb	06 33 11.2	+4.2
DBC	**Dubki**	**0.71**	**58**	*i* PG	Pb	06 33 08.5	-1.6
DBC				*i* S	Sb	06 33 22.0	+2.5
SNJR	**Sundja**	**0.98**	**296**	*e*Pg	Pn	06 33 12.7	-1.5
SNJR				*e*Sg	Sb	06 33 25.6	-1.5
LACR	**Lac**	**1.28**	**279**	*e*Pg	Pn	06 33 17.0	-1.3
BTKR	**Batakoyurt**	**1.30**	**305**	*e*Pg	Pn	06 33 19.2	+0.6
BTKR				*e*Sg	Sn	06 33 36.3	+1.2
ARNR	**Ardon**	**1.38**	**294**	*e*Pg	Pn	06 33 20.0	+0.2
TRKR	**Terskaya**	**1.43**	**320**	*e*Pg	Pn	06 33 22.3	+1.9
TRKR				*e*Sg	Sn	06 33 41.5	+3.2
KORR	**Kora**	**1.50**	**288**	*e*Pg	Pn	06 33 21.7	+0.4
ZEI	**Tsey**	**1.56**	**275**	*e*Pg	Pn	06 33 22.0	-0.2
PRTR	**Priterechnaya**	**1.68**	**312**	*i* Pn	Pn	06 33 25.7	+1.8
PRTR				*e*Sg	Sn	06 33 47.6	+3.1
LSNR	**Lesken**	**1.73**	**292**	*e*Pn	Pn	06 33 25.7	+1.1
DIGR	**Digorskoe uzhe**	**1.81**	**279**	*i* Pn	Pn	06 33 26.4	+0.8

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*CSEM **20** 06:33:54.9±0.1,3718N×2814E,h10km,MD2.7,Error ellipse: s-maj=3.5km s-min=2.2km az=7.0*
*ISK **20** 06:33:54.3,3725N×2815E,h3km,MD2.7*
*ISCJB **20** 06:33:55.7±0.5,3717N±005×2815E±004,h10km,Error ellipse: s-maj=6.9km s-min=4.2km az=177.5*
*DDA **20** 06:33:57.5,3734N×2803E,h7km±3km,Md2.8*

ISC 20 06:33:55.9±0.6,3722N±005×2817E±004,h5km±10km,n10, σ0°81/15,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YER	**Yerkesik**	**0.12**	**132**	PG	**Pg**	**06 33 57.9**	**-0.5**
YER				*e*SG	**Sg**	**06 34 01.4**	**+1.2**
MLSB	**Milas**	**0.32**	**284**	*e*PG	**Pg**	**06 34 01.3**	**-0.8**
DALT	**Dalyan (Mudla)**	**0.58**	**140**	*e*PG	**Pg**	**06 34 06.7**	**-0.4**
BDRM	**Kayabasi**	**0.60**	**255**	*i* P	**Pg**	**06 34 07.5**	**+0.1**
BDRM				*i* S	**Sg**	**06 34 16.8**	**+1.7**
DAT	**Datca**	**0.68**	**224**	*e*PG	**Pg**	**06 34 07.9**	**-1.0**
BODT	**Bodrum**	**0.70**	**257**	*e*PG	**Pg**	**06 34 08.1**	**-1.3**
BODT				*e*SG	**Sg**	**06 34 19.1**	**+0.6**
FETY	**Fethiye**	**0.94**	**128**	*e*PG	**Pg**	**06 34 13.4**	**-0.4**
GOLH	**Golhisar**	**1.11**	**89**	*i* P	**Pg**	**06 34 17.0**	**-0.2**
GOLH				*i* S	**Sg**	**06 34 38.3**	**+6.7**
MANT	**Manisa**	**1.31**	**14**	*i* P	**Pn**	**06 34 20.7**	**0.0**
MANT				*i* S	**Sg**	**06 34 38.3**	**+0.4**
ELL	**Elmali**	**1.47**	**108**	*e*PN	**Pn**	**06 34 23.7**	**+0.7**

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*NIED **20** 06:36:00,2570N×12530E,h5km,Mw4.0 Best double couple: M0=9.64000×10^14 NP1:φs=217.00000°,δ=76.00000°, λ=-148.00000°. NP2:φs=119.00000°,δ=59.00000°, λ=-16.00000°.*
*JMA **20** 06:36:17.2±0.1,2573N×12527E,h17km±2km,M3.9*
*IDC **20** 06:36:17.9±1.0,2544N×12554E,h0km,mb3.5/6, mb1 3.6/7,mb1mx3.6/20,mbtmp3.5/7,ML3.3/1,MS3.1/2, Ms1 3.1/2,ms1mx2.8/30,Error ellipse: s-maj=33.2km s-min=21.5km az=69.0*
*NEIC **20** 06:36:20.0±0.6,2542N×12548E,h15km,MG3.6(JMA), Error ellipse: s-maj=13.3km s-min=9.9km az=158.0*
*ISCJB **20** 06:36:21.3±1.3,2551N±006×12544E±007,h33km±11km, mb3.4/6,Error ellipse: s-maj=13.8km s-min=6.7km az=42.1*

ISC 20 06:36:21.4±1.3,2547N±007×12543E±008,h28km±10km, n19,σ1°22/24,mb3.4/6,Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JMJ	**Miyako jima 2**	**0.67**	**190**	P	**Pb**	**06 36 34.1**	**-0.4**
JMJ				S	**Sb**	**06 36 46.4**	**+3.0**
JOGS	**Gusukube**	**0.71**	**181**	P	**Pb**	**06 36 35.2**	**0.0**
JOGS				S	**Sb**	**06 36 47.9**	**+3.3**
JTJ	**Tarama**	**1.06**	**218**	P	**Pn**	**06 36 39.1**	**-1.2**
JTJ				S	**Sn**	**06 36 54.1**	**0.0**
JKE	**Kume jima 2**	**1.49**	**55**	P	**Pn**	**06 36 43.5**	**-2.8**
JIJ	**Ishigaki jima**	**1.61**	**227**	P	**Pn**	**06 36 46.5**	**-1.4**
JIJ				S	**Sn**	**06 37 07.1**	**-0.6**
JKRS	**Kuro-shima**	**1.78**	**227**	P	**Pn**	**06 36 49.3**	**-1.0**
JKRS				S	**Sn**	**06 37 12.8**	**+0.8**
IRIF	**Iriomote-Funau**	**1.91**	**234**	P	**Pn**	**06 36 50.3**	**-1.8**
JOW	**Kunigami**	**2.90**	**62**	Pn	**Pn**	**06 37 04.8**	**-0.8**
	7.5nm,0.3s,baz=239,slow=11,SNR=16						
JOW				LR	LR	06 38 19.4	
	comp=Z,244nm,19.2s,baz=101,slow=43						
NACB	**Ninganchiao**	**3.71**	**250**	*e*Pn	**Pn**	**06 37 16.9**	**0.0**
YHNB	**Yeheng**	**3.76**	**259**	*e*Pn	**Pn**	**06 37 17.5**	**0.0**
SONM	**Songino Array**	**26.90**	**331**	P	**P**	**06 42 01.0**	**+1.1**
	0.7nm,0.6s,mb3.4,baz=134,slow=8.5,SNR=4.4						
MKAR	**Makanchi Array**	**40.18**	**313**	P	**P**	**06 43 57.4**	**+2.3**
MKAR	**Makanchi Array**	**40.18**	**313**	P	**P**	**06 43 57.4**	**+2.3**
	0.2nm,0.2s,mb3.4,baz=95,slow=10,SNR=3.8						
ZALV	**Zalesovo Beam**	**41.35**	**324**	P	**P**	**06 44 05.7**	**+1.0**
ZALV	**Zalesovo Beam**	**41.35**	**324**	P	**P**	**06 44 05.7**	**+1.0**
	0.7nm,0.5s,mb3.5,baz=109,slow=8.0,SNR=3.8						
WRA	**Warramunga Arr**	**45.97**	**168**	P	**P**	**06 44 41.7**	**-0.4**
	0.4nm,0.6s,mb3.6,baz=349,slow=8.7,SNR=5.2						
ASAR	**Alice Springs**	**49.53**	**170**	P	**P**	**06 45 10.8**	**+1.1**
	0.2nm,0.5s,mb3.4,baz=356,slow=14,SNR=4.3						
YKA	**Yellowknife Ar**	**80.26**	**24**	P	**P**	**06 48 30.1**	**+0.8**
YKA	**Yellowknife Ar**	**80.26**	**24**	P	**P**	**06 48 30.1**	**+0.8**
	0.3nm,0.7s,mb3.3,baz=304,slow=5.3,SNR=9.9						

JMA 20 06:39:00.4±0.4,2573N×12517E,h21km,M3.6, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JMJ	**Miyako jima 2**	**0.92**	**173**	P	Pb	06 39 17.3	-0.3
JMJ				S	Sb	06 39 29.3	-0.1
JOGS	**Gusukube**	**0.99**	**167**	P	Pb	06 39 18.5	-0.3
JOGS				S	Sb	06 39 31.5	+0.1
JTJ	**Tarama**	**1.16**	**201**	P	Pn	06 39 21.7	+0.2
JTJ				S	Sb	06 39 36.6	+0.1
JIJ	**Ishigaki jima**	**1.65**	**215**	P	Pn	06 39 27.6	-0.5
JIJ				S	Sn	06 39 49.1	+0.4

OTT 20 06:45:28.3±1.1,4108N×5525W,h18km,ML3.7/3, Atlantic Ocean, southeast of Nova Scotia. 660km southeast from Louisbourg, Ns,North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GBN	**Guysborough**	**6.29**	**315**	PN	Pn	06 47 00.1	-0.1
GBN				SN	Sn	06 48 05.0	-6.5
GBN				Trac		06 48 17.8	
	comp=Z,8.5nm,0.3s						
CHEG	**Cheticamp, Nov**	**6.93**	**327**	PN	Pn	06 47 08.4	-0.6
CHEG				SN	Sn	06 48 22.5	-4.8
CHEG				Trac		06 48 26.4	
	comp=Z,13nm,0.3s						
MALG	**Malagash, Nova**	**7.53**	**311**	PN	Pn	06 47 17.0	-0.1
MALG				SN	Sn	06 48 37.8	-4.1
DRLN	**Deer Lake**	**8.33**	**350**	PN	Pn	06 47 25.4	-2.7
DRLN				SN	Sn	06 48 53.8	-7.7
DRLN				Trac		06 48 59.1	
	comp=Z,5.3nm,0.4s						
LMN	**Caledonia Moun**	**8.42**	**308**	PN	Pn	06 47 27.8	-1.6
LMN				SN	Sn	06 48 58.2	-5.8
LMN				Trac		06 49 05.4	
	comp=Z,5.7nm,0.3s						
GGN	**Saint George**	**9.39**	**299**	PN	Pn	06 47 40.0	-2.6
GGN				SN	Sn	06 49 22.0	-5.7
BATG	**Bathurst New B**	**9.93**	**312**	PN	Pn	06 47 49.1	-0.9
BATG				SN	Sn	06 49 31.5	-9.4
NATG	**Natashquan Que**	**10.61**	**333**	PN	Pn	06 47 55.6	-3.7
NATG				SN	Sn	06 49 50.0	-7.6

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*ISCJB **20** 06:47:51.5±0.7,1596N±006×14536E±007,h277km±7km, mb4.2/51,Error ellipse: s-maj=11.0km s-min=9.1km az=152.3*
*IDC **20** 06:47:51.8±0.8,1595N×14548E,h270km±8km,mb3.9/19, mb1 3.9/19,mb1mx3.9/25,mbtmp3.9/19,Error ellipse: s-maj=15.7km s-min=9.3km az=88.0*
*MOS **20** 06:47:56.0±1.0,1627N×14539E,h309km,mb4.3/20,Error ellipse: s-maj=15.6km s-min=8.0km az=102.5*
*BJI **20** 06:48:01.6,1638N×14567E,h381km,mb4.3,mB4.6*
*NEIC **20** 06:48:06.8±1.9,1669N×14541E,h382km±20km,mb4.1/24, Error ellipse: s-maj=7.8km s-min=6.4km az=106.0*

ISC 20 06:47:52.1±0.7,1597N±006×14542E±007,h269km±8km, h383km±5.3km:pP-P,n107,σ0°89/107,mb4.2/51,3C-2D, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**2.42**	**193**	P	**Pn**	**06 48 41.0**	**+1.0**
	318nm,0.3s,baz=157,slow=4.4,SNR=103						
GUMO				S	**S**	**06 49 17.4**	**-0.7**
	283nm,0.3s,baz=34,slow=22,SNR=7.3						
MJAR	**Matsushiro Arr**	**21.47**	**344**	P	**P**	**06 52 19.0**	**-0.7**
	5.0nm,0.7s,mb4.0,baz=171,slow=11,SNR=10						
MAJO	**Matsushiro**	**21.48**	**344**	*e*P	**P**	**06 52 20.4**	**+0.7**
	6.3nm,0.4s,mb4.3						
MAJO	**Matsushiro**	**21.48**	**344**	*e*P	**P**	**06 52 20.4**	**+0.7**
MAJO				pmax	pmax		
	comp=Z,6.0nm,0.4s,mb4.3						
MAT	**Matsushiro**	**21.48**	**344**	P	**P**	**06 52 19.4**	**-0.3**
JNU	**Nakatsue**	**21.56**	**325**	P	**P**	**06 52 20.9**	**+0.4**
	comp=Z,11nm,0.7s,mb4.3,baz=158,slow=8.8,SNR=6.0						
KSRS	**Korea Array**	**26.41**	**327**	P	**P**	**06 53 04.2**	**-0.2**
	comp=Z,5.7nm,0.5s,mb4.2,baz=146,slow=9.6,SNR=12						
ASAJ	**Asahikawa**	**28.16**	**356**	P	**P**	**06 53 19.6**	**-0.2**
	comp=Z,3.5nm,0.5s,mb4.1,baz=191,slow=12,SNR=3.7						
MDJ	**Mudanjiang**	**31.54**	**338**	P	**P**	**06 53 50.4**	**+1.0**
MDJ				AP	pP	06 55 01.8	+19
MDJ				PP	PP	06 55 10.4	+3.6
MDJ				XP	sP	06 55 47.6	+34
MDJ				S	**S**	**06 58 26.3**	**-11**
MDJ				SCP	ScP	06 59 40.4	-12
MDJ				PCS	PcS	07 00 20.0	+0.3
MDJ				XS	sS	07 00 38.9	+26
MDJ				AMB	AMB		
	comp=Z,8.0nm,1.8s,mb4.0						
MDJ				AMB	AMB		
	comp=Z,115nm,5.2s						
MDJ				LR	LR		
	comp=N,171nm,6.3s						
MDJ				LR	LR		
	comp=E,209nm,5.4s						
MDJ				LR	LR		
	comp=Z,171nm,5.8s						
WB2	**Warramunga Arr**	**37.30**	**197**	*e*P	**P**	**06 54 38.2**	**-0.7**
WRA	**Warramunga Arr**	**37.31**	**197**	P	**P**	**06 54 38.4**	**-0.6**
	comp=Z,1.2nm,0.7s,mb3.4,baz=24,slow=8.9,SNR=26						
GYA	**Guiyang**	**37.48**	**293**	P	**P**	**06 54 44.3**	**+3.9**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.2						
HHC	**Hu-ho-hao-te**	**38.36**	**317**	*e*P	**P**	**06 54 45.3**	**-2.3**
HHC				AP	pP	06 56 02.8	+21
HHC				XP	sP	06 56 49.1	+36
HHC				S	**S**	**07 00 07.8**	**-14**
HHC				PCS	PcS	07 00 41.3	-3.4
HHC				SS	SS	07 03 07.5	-15
HHC				SCS	ScS	07 04 09.3	-19
HHC				AMB	AMB		
	comp=Z,13nm,0.4s,mb4.7						
HHC				AMB	AMB		
	comp=Z,197nm,5.1s						
HHC				LR	LR		
	comp=N,278nm,12.7s						
HHC				LR	LR		
	comp=E,177nm,5.1s						
HHC				LR	LR		
	comp=Z,140nm,6.3s						
FITZ	**Fitzroy Crossi**	**39.06**	**211**	P	**P**	**06 54 53.7**	**+0.1**
	comp=Z,0.5nm,0.3s,mb3.5,baz=37,slow=15,SNR=6.5						
HIA	**Hailar**	**39.25**	**333**	*e*P	**P**	**06 54 55.0**	**+0.2**
	comp=Z,5.0nm,0.6s,mb4.1						
HIA	**Hailar**	**39.25**	**333**	*e*P	**P**	**06 54 55.0**	**+0.3**
HIA				pmax	pmax		
	comp=Z,5.0nm,0.6s						
CD2	**Chengdu**	**40.77**	**299**	*e*P	**P**	**06 55 10.3**	**+2.8**
CD2				AP	pP	06 56 24.6	+22
CD2				PP	PP	06 56 54.3	+6.6
CD2				S	**S**	**07 00 50.3**	**-7.3**
CD2				SS	SS	07 03 59.4	-11
CD2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.2						
ASAR	**Alice Springs**	**40.96**	**196**	P	**P**	**06 55 08.8**	**-0.2**
	comp=Z,0.4nm,0.7s,baz=19,slow=8.6,SNR=9.8						
ASAR				ScP	ScP	07 00 24.7	-2.8
	comp=Z,0.7nm,0.8s,baz=9.6,slow=4.8,SNR=4.2						
LZH	**Lanzhou**	**42.00**	**307**	*e*P	**P**	**06 55 18.9**	**+1.5**
LZH				AP	pP	06 56 34.5	+22
LZH				XP	sP	06 57 15.5	+32
LZH				AMB	AMB		
	comp=Z,15nm,1.0s,mb4.2						
LZH				AMB	AMB		
	comp=Z,79nm,4.5s						
MA2	**Magadan**	**43.72**	**4**	*e*P	**P**	**06 55 29.9**	**-0.8**
	comp=Z,5.3nm,0.6s,mb4.0						
MA2	**Magadan**	**43.72**	**4**	*e*P	**P**	**06 55 29.9**	**-0.8**
MA2				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb3.9						
ULN	**Ulaanbaatar**	**44.77**	**324**	*e*P	**P**	**06 55 40.1**	**+0.9**
	comp=Z,8.8nm,0.6s,mb4.2						
ULN	**Ulaanbaatar**	**44.77**	**324**	*e*P	**P**	**06 55 39.3**	**+0.1**
SONM	**Songino Array**	**45.13**	**323**	P	**P**	**06 55 42.9**	**+0.9**
	comp=Z,6.0nm,0.6s,mb4.0,baz=135,slow=6.4,SNR=34						
SONM				PcP	PcP	06 57 16.4	-1.1
	comp=Z,0.8nm,0.6s,baz=60,slow=3.5,SNR=4.0						
GTA	**Gaotai**	**46.04**	**310**	*e*P	**P**	**06 55 50.3**	**+1.0**
GTA				SCP	ScP	07 00 30.6	-17
GTA				S	**S**	**07 01 58.3**	**-15**
GTA				AMB	AMB		
	comp=Z,3.0nm,0.7s,mb3.7						
GTA				AMB	AMB		
	comp=Z,56nm,7.3s						
GTA				LR	LR		
	comp=N,347nm,18.3s						
GTA				LR	LR		
	comp=E,124nm,16.4s						
GTA				LR	LR		
	comp=Z,146nm,13.4s						
SEY	**Seymchan**	**47.17**	**4**	*e*P	**P**	**06 55 56.8**	**-0.8**
STKA	**Stephens Creek**	**47.71**	**184**	P	**P**	**06 56 01.6**	**-0.5**
	comp=Z,0.6nm,0.3s,mb3.4,baz=349,slow=16,SNR=3.1						
BOD	**Bodaibo**	**47.91**	**338**	*e*P	**P**	**06 56 02.4**	**-1.0**
ZAK	**Zakamensk**	**48.19**	**325**	*i*P	**P**	**06 56 06.2**	**+0.6**
ZAK				*e*		06 57 49.6	
ZAK				pmax	pmax		
	comp=Z,5.0nm,0.8s						
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.5s						
TLY	**Talaya**	**48.66**	**326**	*e*P	**P**	**06 56 10.0**	**+0.9**
	comp=Z,5.3nm,0.6s,mb4.0						
TLY	**Talaya**	**48.66**	**326**	*e*P	**P**	**06 56 10.0**	**+0.9**
TLY				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.0						
BILL	**Bilibino**	**53

TKM2	**Tokmak 2**	**64.58**	**310**	*e*P	**P**		**06 58 02.1**	**+1.2**
	comp=Z,3.4nm,0.9s,mb4.0							
TKM2	**Tokmak 2**	**64.58**	**310**	*e*P	**P**		**06 58 02.1**	**+1.1**
TKM2				pmax	pmax			
	comp=Z,3.0nm,0.9s,mb3.9							
SML	**Sawmill**	**64.88**	**29**	*e*P	**P**		**06 58 02.6**	**+0.2**
MCK	**McKinley**	**65.08**	**27**	*e*P	**P**		**06 58 03.2**	**-0.5**
COLA	**College**	**65.83**	**25**	*e*P	**P**		**06 58 08.4**	**-0.1**
	comp=Z,2.5nm,0.7s,mb4.0							
COLA	**College**	**65.83**	**25**	*e*P	**P**		**06 58 08.4**	**-0.1**
COLA				pmax	pmax			
	comp=Z,3.0nm,0.7s,mb4.1							
AML	**Almayashu**	**65.98**	**309**	*e*P	**P**		**06 58 10.2**	**+0.3**
	comp=Z,4.2nm,1.0s,mb4.1							
BVAR	**Borovoye Array**	**68.41**	**321**	P	**P**		**06 58 25.1**	**+0.1**
	comp=Z,11nm,0.5s,mb4.8,baz=101,slow=8.1,SNR=57							
BRVK	**Borovoye**	**68.48**	**321**	*e*P	**P**		**06 58 25.1**	**-0.2**
	comp=Z,7.3nm,0.6s,mb4.6							
BRVK	**Borovoye**	**68.48**	**321**	*e*P	**P**		**06 58 25.1**	**-0.2**
BRVK				pmax	pmax			
	comp=Z,7.0nm,0.6s,mb4.6							
EGAK	**Eagle**	**68.62**	**26**	*e*P	**P**		**06 58 25.8**	**-0.2**
	comp=Z,2.1nm,0.4s,mb4.2							
ZRNK	**Zerenda**	**69.25**	**321**	*i* P	**P**		**06 58 29.8**	**-0.2**
ZRNK				pmax	pmax			
	comp=Z,11nm,1.3s,mb4.4							
DAWY	**Dawson**	**69.29**	**27**	*e*P	**P**		**06 58 30.3**	**+0.2**
SKAG	**Skagway**	**70.94**	**32**	*e*P	**P**		**06 58 41.1**	**+1.0**
INK	**Inuvik**	**71.98**	**23**	*e*P	**P**		**06 58 45.5**	**-0.7**
INK	**Inuvik**	**71.98**	**23**	P	**P**		**06 58 45.8**	**-0.4**
	comp=Z,5.6nm,0.7s,mb4.3,baz=270,slow=6.7,SNR=53							
DLBC	**Dease Lake**	**73.71**	**33**	*e*P	**P**		**06 58 57.2**	**+0.7**
ARU	**Arti**	**75.13**	**325**	*e*P	**P**		**06 59 04.8**	**+0.1**
	comp=Z,14nm,0.8s,mb4.7							
ARU	**Arti**	**75.13**	**325**	*d* iP	**P**		**06 59 03.5**	**-1.2**
ARU				*e*			06 59 12.7	
ARU				*e*SS	SS		07 13 17.4	+2.1
ARU				pmax	pmax			
	comp=Z,21nm,1.7s,mb4.5							
AKTK	**Aktyubinsk**	**76.23**	**319**	P	**P**		**06 59 10.7**	**-0.3**
AKTO	**Aktyubinsk**	**76.23**	**319**	P	**P**		**06 59 10.7**	**-0.3**
	comp=Z,1.5nm,0.5s,mb3.9,baz=95,slow=9.5,SNR=6.5							
GNW	**Green Mountain**	**79.56**	**43**	*e*P	**P**		**06 59 31.1**	**+1.7**
YKW3	**Yellowknife Ar**	**80.50**	**28**	*e*P	**P**		**06 59 33.6**	**-0.4**
YKA	**Yellowknife Ar**	**80.52**	**28**	⇑*e*P	**P**		**06 59 33.5**	**-0.7**
YKA	**Yellowknife Ar**	**80.52**	**28**	P	**P**		**06 59 33.6**	**-0.6**
	comp=Z,6.6nm,0.7s,mb4.5,baz=287,slow=5.1,SNR=210							
RES	**Resolute Bay**	**82.13**	**13**	*e*P	**P**		**06 59 42.1**	**-0.3**
	comp=Z,195nm,0.7s							
NEW	**Newport**	**83.11**	**42**	*e*P	**P**		**06 59 48.4**	**+0.4**
	comp=Z,1.9nm,0.7s,mb4.0							
NEW	**Newport**	**83.11**	**42**	*e*P	**P**		**06 59 48.4**	**+0.5**
NEW				pmax	pmax			
	comp=Z,2.0nm,0.7s							
CMB	**Columbia Colle**	**83.56**	**52**	*e*P	**P**		**06 59 50.7**	**+0.2**
	comp=Z,1.3nm,0.5s,mb4.0							
CMB	**Columbia Colle**	**83.56**	**52**	*e*P	**P**		**06 59 50.7**	**+0.3**
CMB				pmax	pmax			
	comp=Z,1.0nm,0.5s,mb3.9							
EDM	**Edmonton**	**83.93**	**36**	*e*P	**P**		**06 59 52.3**	**+0.3**
BMO	**Blue Mountains**	**83.95**	**45**	*e*P	**P**		**06 59 52.9**	**+0.7**
KEV	**Kevo**	**84.44**	**342**	*e*p	**P**		**06 59 51.9**	**-2.3**
	comp=Z,2.3nm,0.6s,mb4.2							
KEV	**Kevo**	**84.44**	**342**	*e*P	**P**		**06 59 51.9**	**-2.3**
KEV				pmax	pmax			
	comp=Z,2.0nm,0.6s,mb4.1							
BSMT	**Bassoo Peak**	**84.73**	**42**	*e*P	**P**		**06 59 56.8**	**+0.7**
WALA	**Waterton Lakes**	**84.91**	**40**	*e*P	**P**		**06 59 58.1**	**+1.2**
ARCES	**ARCESS Array B**	**85.00**	**342**	P	**P**		**06 59 56.0**	**-1.0**
	comp=Z,1.8nm,0.5s,mb4.1,baz=71,slow=7.3,SNR=18							
NVAR	**Mina Array Bea**	**85.03**	**52**	P	**P**		**06 59 58.5**	**+0.7**
	comp=Z,2.0nm,0.6s,mb4.1,baz=60,slow=26,SNR=22							
HLID	**Hailey**	**86.32**	**46**	*e*P	**P**		**07 00 04.6**	**+0.6**
	comp=Z,2.1nm,0.7s,mb4.1							
JOF	**Joensuu**	**86.38**	**335**	*e*p	**P**		**07 00 01.3**	**-2.5**
	comp=Z,3.7nm,0.4s,mb4.6							
JOF	**Joensuu**	**86.38**	**335**	*e*P	**P**		**07 00 01.3**	**-2.5**
JOF				pmax	pmax			
	comp=Z,4.0nm,0.4s,mb4.6							
TPNV	**Topopah Spring**	**87.02**	**53**	*e*P	**P**		**07 00 08.2**	**+0.7**
	comp=Z,1.7nm,0.6s,mb4.0							
TPNV	**Topopah Spring**	**87.02**	**53**	*e*P	**P**		**07 00 08.2**	**+0.7**
TPNV				pmax	pmax			
	comp=Z,2.0nm,0.6s,mb4.1							
DUG	**Dugway**	**88.54**	**49**	*e*P	**P**		**07 00 15.7**	**+1.0**
	comp=Z,3.9nm,0.6s,mb4.4							
DUG	**Dugway**	**88.54**	**49**	*e*P	**P**		**07 00 15.7**	**+1.1**
DUG				pmax	pmax			
	comp=Z,4.0nm,0.6s,mb4.4							
MOOW	**Moose Ponds**	**88.76**	**45**	*e*P	**P**		**07 00 16.6**	**+1.1**
	comp=Z,25nm,2.5s,mb4.6							
HWUT	**Hardware Ranch**	**88.95**	**47**	*e*P	**P**		**07 00 16.8**	**+0.3**
	comp=Z,9.8nm,1.4s,mb4.5							
FINES	**FINESS Array B**	**89.24**	**335**	*i* P	**P**		**07 00 15.6**	**-1.8**
FINES				pmax	pmax			
	comp=Z,3.0nm,0.5s							
FINES	**FINESS Array B**	**89.24**	**335**	P	**P**		**07 00 15.6**	**-1.8**
	comp=Z,3.1nm,0.5s,mb4.4,baz=65,slow=5.0,SNR=16							
FFC	**Flin Flon**	**89.53**	**32**	*e*P	**P**		**07 00 18.0**	**-0.9**
BW06	**Boulder Array**	**89.92**	**45**	*e*P	**P**		**07 00 21.2**	**+0.2**
	comp=Z,0.5nm,0.4s,mb3.7							
PDAR	**Pinedale Array**	**89.93**	**45**	P	**P**		**07 00 20.3**	**-0.7**
	comp=Z,0.7nm,0.6s,mb3.6,baz=198,slow=2.0,SNR=8.1							
SRU	**San Rafael**	**90.58**	**49**	*e*P	**P**		**07 00 24.3**	**+0.1**
	comp=Z,1.7nm,0.6s,mb4.0							
SRU	**San Rafael**	**90.58**	**49**	*e*P	**P**		**07 00 24.3**	**+0.2**
SRU				pmax	pmax			
	comp=Z,2.0nm,0.6s,mb4.1							
PHWY	**Pilot Hill**	**93.31**	**45**	*e*P	**P**		**07 00 37.6**	**+0.9**
TORD	**Torodi Ar. Bea**	**133.92**	**307**	SKPbc	SKPbc		07 09 39.0	-2.7
	comp=Z,0.3nm,0.7s,baz=51,slow=2.8,SNR=4.3							
NNA	**Nana**	**138.85**	**90**	*e*PKPdf	PKPdf		07 06 49.5	+2.2
DBIC	**Dimbokro**	**142.96**	**305**	PKhKP			07 06 51.3	
	comp=Z,2.3nm,0.5s,baz=71,slow=5.0,SNR=7.1							
LPAZ	**La Paz**	**147.79**	**95**	*e*PKPdf	PKPdf		07 07 06.0	+3.1
LPAZ	**La Paz**	**147.79**	**95**	PKPbc	PKPbc		07 07 06.6	+0.5
	comp=Z,0.9nm,0.6s,baz=358,slow=7.0,SNR=10.0							

*ISCJB **20** 06:53:05.2±1.8, 79S±03×1573E±03, h26km, mb4.2/10, Error ellipse: s-maj=58.5km s-min=15.6km az=36.7*
*IDC **20** 06:53:05.4±2.0, 800S×15766E, h25km±3km, mb4.1/8, mb1 4.1/8, mb1mx3.9/15, mbtmp4.0/8, Error ellipse: s-maj=63.1km s-min=17.8km az=123.0*
*NEIC **20** 06:53:16.1±0.7, 706S×15559E, mb4.2/2, Error ellipse: s-maj=18.4km s-min=15.7km az=183.0*

ISC 20 06:53:06.7±1.8, 80S±03×1574E±03, h27km, h27km±1.0km: pP-P, n14, σ0§73/12, mb4.2/10, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**25.01**	**257**	*e*P	**P**	**06 58 26.1**	**-2.5**
	7.1nm,0.7s,mb4.3						
WRAB	**Tennant Creek**	**25.31**	**240**	*e*P	**P**	**06 58 31.5**	**+0.3**
	3.7nm,0.6s,mb4.1						
WB2	**Warramunga Arr**	**25.31**	**240**	*e*P	**P**	**06 58 31.1**	**-0.2**
WRA	**Warramunga Arr**	**25.32**	**240**	P	**P**	**06 58 31.6**	**+0.2**
	3.5nm,0.6s,mb4.1,baz=64,slow=9.8,SNR=34						
WRA				pP	pP	06 58 40.1	+0.8
	1.2nm,0.4s,baz=60,slow=9.2,SNR=6.4						
ASAR	**Alice Springs**	**27.41**	**233**	P	**P**	**06 58 50.4**	**+0.1**
	0.4nm,0.7s,mb3.0,baz=64,slow=9.1,SNR=6.1						
ASAR				pP	pP	06 58 57.6	-0.6
	0.6nm,0.4s,baz=60,slow=9.6,SNR=4.7						
STKA	**Stephens Creek**	**27.98**	**210**	pP	pP	06 59 04.2	+1.0
	1.5nm,0.6s,baz=37,slow=14,SNR=2.7						
FITZ	**Fitzroy Crossi**	**32.50**	**249**	P	**P**	**06 59 36.4**	**+1.0**
	1.2nm,0.6s,mb3.9,baz=79,slow=8.2,SNR=4.1						
FITZ				pP	pP	06 59 45.6	+2.2
	2.1nm,0.5s,baz=77,slow=9.6,SNR=4.6						
SONM	**Songino Array**	**71.44**	**326**	P	**P**	**07 04 25.1**	**+0.5**
	2.4nm,0.6s,mb4.3,baz=144,slow=6.1,SNR=19						
SONM				pP	pP	07 04 32.8	-0.4
	1.4nm,0.4s,baz=144,slow=6.4,SNR=8.8						
MK31	**Makanchi Array**	**85.71**	**318**	*e*P	**P**	**07 05 43.4**	**+0.2**
MK31				*e*pP	pP	07 05 52.1	+0.1
MKAR	**Makanchi Array**	**85.71**	**318**	P	**P**	**07 05 43.8**	**+0.5**
	5.2nm,0.7s,mb4.9,baz=96,slow=6.3,SNR=38						
MKAR				pP	pP	07 05 51.3	-0.7
	5.3nm,0.7s,baz=99,slow=6.7,SNR=14						
ZALV	**Zalesovo Beam**	**86.32**	**326**	P	**P**	**07 05 45.7**	**-0.4**
	3.2nm,0.5s,mb4.8,baz=112,slow=5.9,SNR=14						
ZALV				pP	pP	07 05 54.0	-0.8
	2.5nm,0.4s,baz=119,slow=5.6,SNR=8.0						
INK	**Inuvik**	**89.78**	**20**	pP	pP	07 06 08.8	-2.3
	0.9nm,0.9s,baz=138,slow=1.9,SNR=2.6						
BVAR	**Borovoye Array**	**94.50**	**323**	P	**P**	**07 06 24.5**	**0.0**
	1.2nm,0.5s,mb4.6,baz=101,slow=6.4,SNR=7.6						
BVAR				pP	pP	07 06 31.7	-1.6
	1.1nm,0.5s,baz=101,slow=5.3,SNR=4.2						
YKA	**Yellowknife Ar**	**96.06**	**28**	P	**P**	**07 06 30.9**	**-0.5**
	0.3nm,1.1s,mb3.6,baz=265,slow=6.8,SNR=2.8						
YKA				pP	pP	07 06 38.1	-2.1
	0.1nm,0.6s,baz=270,slow=4.7,SNR=2.4						

*ISCJB **20** 06:53:25.2±0.8, 80S±02×1560E±01, h10km, mb4.6/4, Error ellipse: s-maj=30.8km s-min=10.1km az=22.0*
*IDC **20** 06:53:25.0±1.2, 796S×15607E, h0km, mb4.5/5, mb1 4.4/6, mb1mx4.1/16, mbtmp4.5/6, ML4.2/1, Error ellipse: s-maj=36.8km s-min=28.8km az=26.0*

ISC 20 06:53:26.8±0.8, 80S±02×1560E±01, h10km, n7, σ0§89/8, mb4.6/4, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.17**	**111**	Pn	**Pn**	**06 54 28.7**	**-1.8**
	14nm,0.3s,baz=214,slow=1.2,SNR=2.9						
HNR				Sn	**Sn**	**06 55 20.4**	**+1.1**
	15nm,0.3s,baz=271,slow=22,SNR=5.6						
ASAR	**Alice Springs**	**26.32**	**231**	P	**P**	**06 59 03.1**	**+0.1**
	1.3nm,0.6s,baz=64,slow=8.2,SNR=8.8						
SONM	**Songino Array**	**70.68**	**327**	P	**P**	**07 04 43.0**	**+0.2**
	1.3nm,0.6s,mb4.0,baz=143,slow=7.9,SNR=3.9						
MKAR	**Makanchi Array**	**84.78**	**319**	P	**P**	**07 06 02.4**	**+0.9**
	7.6nm,0.7s,mb4.9,baz=92,slow=6.7,SNR=12						
ZALV	**Zalesovo Beam**	**85.53**	**326**	P	**P**	**07 06 04.8**	**-0.3**
	1.7nm,0.5s,mb4.6,baz=115,slow=5.9,SNR=5.0						
RPN	**Rapa Nui**	**90.54**	**117**	*e*P	**P**	**07 06 24.1**	**-5.6**
	98nm,1.0s						
BVAR	**Borovoye Array**	**93.66**	**323**	P	**P**	**07 06 43.0**	**-0.4**
	2.3nm,0.7s,mb4.8,baz=101,slow=6.3,SNR=7.4						

IDC 20 06:57:00.1±46.0, 2179S×17981W, h559km±380km, mb3.3/4, mb1 3.4/4, mb1mx3.1/15, mbtmp3.3/4, Error ellipse: s-maj=372.0km s-min=104.6km az=77.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**31.71**	**267**	P	P	07 02 39.5	+0.7
	3.7nm,0.4s,baz=89,slow=12,SNR=9.1						
STKA	**Stephens Creek**	**35.72**	**245**	P	P	07 03 11.5	-0.8
	1.2nm,0.5s,baz=99,slow=8.1,SNR=3.8						
ASAR	**Alice Springs**	**42.59**	**258**	P	P	07 04 07.8	0.0
	4.2nm,0.6s,baz=91,slow=8.2,SNR=45						
ASAR				PcP	PcP	07 05 47.0	-0.1
	0.2nm,0.5s,baz=109,slow=3.6,SNR=5.4						
WRA	**Warramunga Arr**	**42.77**	**264**	P	P	07 04 08.7	-0.4
	1.0nm,0.3s,baz=95,slow=8.2,SNR=61						

*ISCJB **20** 06:56:58.9±8.0, 215N±0.1×1204E±02, h12km±50km, mb3.8/7, Error ellipse: s-maj=38.7km s-min=19.7km az=164.5*
*IDC **20** 06:56:58.5±1.0, 2165N×12057E, h0km, mb3.7/6, mb1 4.0/6, mb1mx3.8/18, mbtmp3.7/6, Error ellipse: s-maj=55.8km s-min=21.1km az=70.0*
*NEIC **20** 06:57:00.0±0.5, 2156N×12041E, h10km, mb4.8/1, Error ellipse: s-maj=19.1km s-min=9.5km az=88.0*

ISC 20 06:57:01.8±6.3, 216N±01×1204E±02, h21km±44km, n11, σ0§34/11, mb3.8/7, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YHNB	**Yeheng**	**3.19**	**16**	*e*Pn	**Pn**	**06 57 51.1**	**+0.3**
TATO	**Taipei**	**3.52**	**16**	*e*Pn	**Pn**	**06 57 55.0**	**-0.2**
MKAR	**Makanchi Array**	**39.77**	**318**	P	**P**	**07 04 33.2**	**+0.1**
MKAR	**Makanchi Array**	**39.77**	**318**	P	**P**	**07 04 33.2**	**+0.1**
	0.4nm,0.7s,mb3.2,baz=108,slow=12,SNR=5.1						
ZALV	**Zalesovo Beam**	**42.08**	**329**	P	**P**	**07 04 51.8**	**-0.2**
	0.9nm,0.7s,mb3.5,baz=109,slow=8.2,SNR=4.8						
WRA	**Warramunga Arr**	**43.45**	**161**	P	**P**	**07 05 03.9**	**+0.4**
	3.5nm,0.8s,mb4.1,baz=344,slow=8.8,SNR=12						
ASAR	**Alice Springs**	**46.85**	**163**	P	**P**	**07 05 29.9**	**-0.5**
	0.4nm,0.7s,mb3.5,baz=348,slow=7.0,SNR=4.5						
INK	**Inuvik**	**75.89**	**22**	P	**P**	**07 08 46.0**	**-0.4**
	1.1nm,0.9s,mb3.8,baz=315,slow=7.1,SNR=3.7						
GRFO	**Grafenberg**	**85.46**	**322**	*e*P	**P**	**07 09 38.2**	**+0.2**
	2.9nm,0.4s,mb4.8						
GRFO				*e*PcP	PcP	07 09 40.9	-0.1
YKA	**Yellowknife Ar**	**85.63**	**22**	P	**P**	**07 09 38.3**	**-0.2**
	0.5nm,0.9s,mb3.8,baz=312,slow=4.8,SNR=9.2						
PTRM	**Twissleman Ran**	**99.17**	**46**	*e*P	**P**	**07 10 42.6**	**+0.5**

IDC 20 06:58:11.0±2.6, 798S×15645E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.6/14, mbtmp3.6/4, Error ellipse: s-maj=85.4km s-min=36.3km az=127.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.49**	**239**	P	P	07 03 31.9	-0.2
	1.1nm,0.7s,baz=59,slow=8.9,SNR=12						
SONM	**Songino Array**	**70.94**	**327**	P	P	07 09 31.5	+1.3
	0.5nm,0.9s,baz=116,slow=6.6,SNR=3.2						
MKAR	**Makanchi Array**	**85.09**	**318**	P	P	07 10 48.4	-0.4
	0.4nm,0.9s,baz=115,slow=6.5,SNR=3.0						
YKA	**Yellowknife Ar**	**96.53**	**28**	P	P	07 11 41.3	-0.9
	0.1nm,0.7s,baz=265,slow=4.7,SNR=5.1						

*IDC **20** 07:12:49.0±0.9, 5374N×169.12E, h0km, mb3.6/6, mb1 3.9/6, mb1mx3.7/22, mbtmp3.6/6, Error ellipse: s-maj=47.4km s-min=22.0km az=149.0*
*ISCJB **20** 07:12:52.4±0.8, 538N±03×1692E±03, h33km, mb3.8/8, Error ellipse: s-maj=39.4km s-min=18.3km az=156.0*
*NEIC **20** 07:12:53.8±0.6, 5372N×169.18E, h30km, mb4.5/3, Error ellipse: s-maj=25.3km s-min=14.2km az=158.0*

ISC 20 07:12:54.5±0.8, 538N±03×1691E±03, h35km, n9, σ0§34/9, mb3.8/8, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YKA	**Yellowknife Ar**	**38.89**	**46**	P	**P**	**07 20 15.7**	**-0.3**
YKA	**Yellowknife Ar**	**38.89**	**46**	P	**P**	**07 20 15.7**	**-0.3**
	0.5nm,0.7s,mb3.4,baz=295,slow=7.7,SNR=13						
SONM	**Songino Array**	**38.91**	**288**	P	**P**	**07 20 16.5**	**+0.1**
	0.5nm,0.7s,mb3.4,baz=69,slow=8.7,SNR=3.6						
LKWY	**Lake**	**50.73**	**66**	*e*P	**P**	**07 21 44.7**	**-5.8**
	4.5nm,0.5s,mb4.7						
PDAR	**Pinedale Array**	**52.38**	**67**	P	**P**	**07 22 03.1**	**+0.3**
	0.6nm,0.9s,mb3.5,baz=337,slow=3.9,SNR=4.1						
SRU	**San Rafael**	**54.34**	**71**	*e*P	**P**	**07 22 17.1**	**-0.1**
	2.0nm,0.9s,mb4.0						
TXAR	**Lajitas Array**	**65.33**	**74**	P	**P**	**07 23 33.1**	**+0.2**
	0.3nm,0.4s,mb3.6,baz=310,slow=5.3,SNR=7.9						
WRA	**Warramunga Arr**	**79.31**	**213**	P	**P**	**07 24 55.6**	**-0.6**
	0.7nm,0.8s,mb3.6,baz=27,slow=6.0,SNR=4.3						
ASAR	**Alice Springs**	**82.93**	**212**	P	**P**	**07 25 15.8**	**+0.4**
	0.5nm,0.6s,mb3.7,baz=24,slow=5.1,SNR=4.7						

*CSEM **20** 07:13:27.4±0.8, 3868N×2907W, h5km±4km, ML2.8, Error ellipse: s-maj=8.0km s-min=4.2km az=47.0, After PDA*
*PDA **20** 07:13:27.4±0.8, 3868N×2907W, h5km±4km, MD3.6, ML2.8, Error ellipse: s-maj=8.0km s-min=4.2km az=47.0*

SVSA 20 07:13:27.4±0.8, 3868N×2907W, h5km±4km, MD3.6, ML2.8, Error ellipse: s-maj=8.0km s-min=4.2km az=47.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CALA	**Caldeira**	**0.31**	**109**	*e*P	Pg	07 13 32.9	-0.4
CALA				*e*S	Sg	07 13 37.5	+0.2
HOR	**Horta**	**0.38**	**114**	*e*P	Pg	07 13 33.8	-0.9
HOR				*e*S	Sg	07 13 39.2	-0.4
PICO	**Pico**	**0.54**	**110**	*e*P	Pg	07 13 36.7	-1.0
PICO				*e*S	Sg	07 13 43.4	-1.3
ROSA	**Rosais**	**0.65**	**87**	*i* P	Pg	07 13 38.3	-1.6
ROSA				*e*S	Sg	07 13 46.2	-2.1
ROSA	**Rosais**	**0.65**	**87**	*e*S	Sg	07 13 46.2	-2.1
SRBC	**Serra Branca**	**0.88**	**66**	*e*P	Pg	07 13 41.6	-2.6
PSCM	**Serra do Cume**	**1.53**	**89**	*e*P	Pn	07 13 50.2	-5.2
PSCM				*e*S	Sn	07 14 08.1	-7.6
PSCM				A		07 14 10.0	
	56nm,0.1s						
PSCM	**Serra do Cume**	**1.53**	**89**	*e*P	Pn	07 13 50.2	-5.2
PSCM				*e*S	Sn	07 14 08.1	-7.6
PSET	**Sete Cidades**	**2.77**	**107**	*e*P	Pn	07 14 08.1	-4.4
PDA	**Ponta Delgada**	**2.84**	**108**	*e*P	Sn	07 14 41.7	-6.4
CMLA	**Cha da Macela**	**2.94**	**107**	*e*P	Pn	07 14 10.4	-4.4
CMLA				*e*S	Sn	07 14 42.5	-8.0
CMLA				A		07 14 47.7	
	20nm,0.5s						
CMLA	**Cha da Macela**	**2.94**	**107**	*e*P	Pn	07 14 10.4	-4.4
CMLA				*e*S	Sn	07 14 42.5	-8.0

*ISCJB **20** 07:13:57.7±0.8, 3831N±003×2028E±005, h3km, Error ellipse: s-maj=6.4km s-min=3.4km az=160.4*
*NEIC **20** 07:13:57.0, 3823N×2022E, h4km, MD3.6(ATH), After ATH.*
*ATH **20** 07:13:57.0, 3823N×2022E, h4km±3km, MD3.6/4*
*CSEM **20** 07:13:59.4±0.3, 3830N×2034E, h2km, ML3.3, Error ellipse: s-maj=5.3km s-min=2.0km az=81.0*
*THE **20** 07:14:00.1, 3831N×2041E, h3km, ML3.3*

ISC 20 07:13:57.9±1.0, 3829N±003×2026E±006, h2km±5km, n18, σ0§79/33, 1C, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.28**	**114**	*e*Pg	**Pg**	**07 14 03.4**	**+0.1**
VLS				*e*Sg	**Sg**	**07 14 06.8**	**-0.1**
VLS	**Valsamata**	**0.28**	**114**	⇑*i*PG	**Pg**	**07 14 03.4**	**+0.2**
VLS				*e*SG	**Sg**	**07 14 06.7**	**-0.2**
KFL	**Anninata**	**0.45**	**114**	*e*Pg	**Pg**	**07 14 06.3**	**-0.2**
KFL				*e*Sg	**Sg**	**07 14 12.9**	**+0.6**
LKD	**Levkas**	**0.51**	**36**	*e*Pg	**Pg**	**07 14 07.2**	**-0.5**
LKD				*e*Sg	**Sg**	**07 14 14.3**	**-0.1**
RLS	**Riolos of Patr**	**0.98**	**103**	*e*PG	**Pg**	**07 14 15.8**	**-0.8**
SELA	**Sela**	**1.28**	**90**	*e*Pg	**Pn**	**07 14 21.1**	**-1.6**
SELA				*e*Sg	**Sg**	**07 14 39.7**	**+0.7**
EVR	**Evrytania**	**1.36**	**62**	*e*PN	**Pn**	**07 14 24.2**	**+0.4**
EVR				*e*SB	**Sg**	**07 14 43.2**	**+1.6**
KEK	**Kerkira**	**1.47**	**346**	*e*PN	**Pn**	**07 14 25.2**	**-0.1**
KEK				*e*SB	**Sg**	**07 14 46.3**	**+1.3**
MEV	**Metsovon**	**1.67**	**26**	*e*Pg	**Pg**	**07 14 30.1**	**+0.3**
MEV				*e*Sg	**Sg**	**07 14 51.1**	**-0.4**
ITM	**Ithomi**	**1.72**	**130**	*e*PB	**Pb**	**07 14 29.2**	**-1.0**
AGG	**Agios Georgios**	**1.77**	**65**	*e*Pb	**Pb**	**07 14 30.2**	**-0.8**
AGG				*e*Sb	**Sb**	**07 14 53.0**	**-0.7**
PYL	**PYLOS**	**1.82**	**139**	*e*Pb	**Pb**	**07 14 31.5**	**-0.4**
PYL				*e*Sb	**Sb**	**07 14 54.6**	**-0.5**
THL	**Klokotos Trika**	**1.87**	**46**	*e*Pb	**Pb**	**07 14 32.0**	**-0.6**
THL				*e*Sb	**Sb**	**07 14 55.5**	**-0.9**
THL	**Klokotos Trika**	**1.87**	**46**	*e*Pg	**Pg**	**07 14 32.8**	**-0.8**
THL				*e*Sb	**Sb**	**07 14 55.5**	**-0.9**
VLX	**Vlachokerasia**	**1.91**	**118**	*e*Pb	**Pn**	**07 14 32.1**	**+0.7**
VLX				*e*Sb	**Sn**	**07 14 55.9**	**0.0**
LTK	**Loutraki**	**2.15**	**96**	*e*Pn	**Pn**	**07 14 35.5**	**+0.8**
LTK				*e*Sn	**Sn**	**07 15 01.7**	**-0.1**
DID	**Didima**	**2.48**	**108**	*e*Pn	**Pn**	**07 14 40.8**	**+1.6**
DID				*e*Sn	**Sn**	**07 15 11.3**	**+1.4**
XOR	**Xorichti**	**2.53**	**64**	*e*Pn	**Pn**	**07 14 40.2**	**+0.4**

IDC 20 07:19:01.2±3.7, 2657S×13290E, h0km, mb1 2.9/3, mb1mx2.9/12, mbtmp2.7/3, ML3.1/2, Error ellipse: s-maj=36.3km s-min=22.4km az=74.0, South Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**3.03**	**18**	Pn	Pn	07 19 51.5	+1.0
	0.1nm,0.3s,baz=197,slow=12,SNR=9.4						
ASAR				Pg	Pg	07 19 58.0	-1.4
	0.5nm,0.3s,baz=194,slow=16,SNR=16						
ASAR				Lg		07 20 36.4	
	2.7nm,0.3s,baz=199,slow=26,SNR=26						
WRA	**Warramunga Arr**	**6.73**	**12**	Pn	Pn	07 20 41.0	-0.3
	0.1nm,0.3s,baz=195,slow=14,SNR=8.1						
WRA				Sn	Sn	07 21 55.3	-3.4
	0.4nm,0.3s,ba

HSAF	**As Saff**	**2.88 187**	⇓P	**Pn**	**07 26 13.5**	**0.0**
FYM	**Al Fayyum**	**2.90 196**	⇓P	**Pn**	**07 26 14.0**	**+0.2**
FYM			S	**Sn**	**07 26 45.4**	**-3.2**
YTIR	**Yattir**	**2.90 112**	Pn	**Pn**	**07 26 15.1**	**+1.3**
YTIR			Sn	**Sn**	**07 26 48.1**	**-0.6**
GLL	**Jalalah**	**2.91 185**	⇑P	**Pn**	**07 26 13.9**	**0.0**
MMLI	**Mount Malkishu**	**2.92 90**	Pn	**Pn**	**07 26 13.8**	**-0.2**
MMLI			Sn	**Sn**	**07 26 47.4**	**-1.8**
MMA1	**Mount Meron ar**	**2.94 79**	Pn	**Pn**	**07 26 14.6**	**+0.2**
MMA1			Sn	**Sn**	**07 26 48.9**	**-0.9**
HMDT	**Nahal Hemdat**	**3.02 93**	Pn	**Pn**	**07 26 15.8**	**+0.4**
DSI	**Dead Sea**	**3.04 107**	Pn	**Pn**	**07 26 16.2**	**+0.5**
DSI			Sn	**Sn**	**07 26 51.9**	**-0.2**
HNAT	**Natroun**	**3.07 203**	P	**Pn**	**07 26 15.6**	**-0.5**
HNKL	**Nakhl**	**3.08 145**	⇑P	**Pn**	**07 26 16.8**	**+0.7**
HNKL			S	**Sn**	**07 26 51.8**	**-1.2**
LFK	**Lefkose**	**3.08 25**	*e*PN	**Pn**	**07 26 17.7**	**+1.5**
MZDA	**Masada**	**3.11 111**	Pn	**Pn**	**07 26 17.6**	**+0.9**
MZDA			Sn	**Sn**	**07 26 53.1**	**-0.9**
KSDI	**Kefar Szold**	**3.18 76**	Pn	**Pn**	**07 26 18.1**	**+0.4**
KSDI			Sn	**Sn**	**07 26 55.3**	**-0.4**
ZNM		**3.19 166**	⇓P	**Pn**	**07 26 18.7**	**+0.8**
ZAF		**3.23 171**	⇑P	**Pn**	**07 26 18.9**	**+0.5**
HRI	**Mount Hermon**	**3.26 75**	Pn	**Pn**	**07 26 19.5**	**+0.8**
KSHT	**Keshet**	**3.27 80**	Pn	**Pn**	**07 26 20.4**	**+1.4**
KSHT			Sn	**Sn**	**07 26 57.1**	**-0.8**
KSHT	**Keshet**	**3.27 80**	Pn	**Pn**	**07 26 20.3**	**+1.4**
KSHT			Sn	**Sn**	**07 26 57.1**	**-0.8**
KRMI	**Paran Flat**	**3.33 134**	Pn	**Pn**	**07 26 20.7**	**+0.9**
KRMI			Sn	**Sn**	**07 26 59.1**	**-0.4**
ZFRI	**Zfri**	**3.35 124**	Sn	**Sn**	**07 26 58.7**	**-1.1**
PRNI	**Paran**	**3.35 129**	Pn	**Pn**	**07 26 21.1**	**+1.1**
RCY	**Rachaya**	**3.38 72**	*e*Pn	**Pn**	**07 26 21.1**	**+0.6**
EREN	**Erenkoy**	**3.54 30**	*e*PN	**Pn**	**07 26 24.0**	**+1.3**
HBNS	**Bani Suwayf**	**3.58 191**	⇑P	**Pn**	**07 26 23.2**	**0.0**
HRFI	**Mount Harif**	**3.58 132**	Pn	**Pn**	**07 26 24.1**	**+0.9**
HRFI			Sn	**Sn**	**07 27 04.8**	**-0.8**
EIL	**Elat**	**3.80 137**	Pn	**Pn**	**07 26 27.4**	**+1.3**
EIL			Sn	**Sn**	**07 27 10.1**	**-0.7**
IKL	**Isikli**	**4.00 20**	*e*PN	**Pn**	**07 26 29.4**	**+0.5**
HBST	**Basata**	**4.03 143**	P	**Pn**	**07 26 30.6**	**+1.3**
HQLS		**4.14 139**	P	**Pn**	**07 26 31.8**	**+0.9**
HQLS		**4.14 139**	P	**Pn**	**07 26 31.8**	**+1.0**
HQLS			S	**Sn**	**07 27 17.6**	**-1.7**
ERMK	**Ermenek**	**4.22 10**	*i* P	**Pn**	**07 26 32.5**	**+0.6**
ERMK			*i* S	**Sn**	**07 27 18.9**	**-2.3**
GRB	**Gharib**	**4.26 170**	P	**Pn**	**07 26 32.7**	**+0.2**
HKAT	**Jabal Katrina**	**4.32 156**	⇓P	**Pn**	**07 26 33.8**	**+0.5**
HMAT	**Matruh**	**4.38 253**	⇓*e*P	**Pn**	**07 26 32.1**	**-2.0**
HMAT			S	**Sn**	**07 27 17.8**	**-7.4**
HDHB	**Dhahab**	**4.39 148**	P	**Pn**	**07 26 34.7**	**+0.4**
ELL	**Elmali**	**4.58 339**	*e*PN	**Pn**	**07 26 32.4**	**-4.4**
FETY	**Fethiye**	**4.78 331**	*e*PN	**Pn**	**07 26 35.9**	**-3.7**
TR1		**4.78 158**	P	**Pn**	**07 26 40.0**	**+0.4**
JLOS		**4.81 140**	P	**Pn**	**07 26 40.8**	**+0.7**
JLOS		**4.81 140**	P	**Pn**	**07 26 40.8**	**+0.7**
JLOS			S	**Sn**	**07 27 33.5**	**-2.4**
MERS	**Mersin**	**4.85 25**	*e*PN	**Pn**	**07 26 41.9**	**+1.3**
SHRM		**4.94 157**	P	**Pn**	**07 26 42.7**	**+0.8**
GOLH	**Golhisar**	**5.14 338**	*i* P	**Pn**	**07 26 43.2**	**-1.3**
GOLH			*i* S	**Sn**	**07 27 32.7**	**-11**
HHRG	**Al Ghardaqah**	**5.43 165**	P	**Pn**	**07 26 49.0**	**+0.4**
TKTP	**Tekketepe**	**5.71 347**	*i* P	**Pn**	**07 26 51.3**	**-1.0**
BDRM	**Kayabasi**	**5.89 322**	*i* P	**Pn**	**07 26 50.1**	**-4.8**
SWA1		**6.27 241**	P	**Pn**	**07 26 58.3**	**-1.8**
SWA1			S	**Sn**	**07 28 03.5**	**-8.2**
SWA1		**6.27 241**	P	**Pn**	**07 26 58.3**	**-1.8**
SWA1			S	**Sn**	**07 28 03.5**	**-8.3**
GDZ	**Gediz**	**6.89 344**	*i* P	**Pn**	**07 27 06.2**	**-2.5**
WJHS		**6.91 145**	P	**Pn**	**07 27 09.8**	**+1.0**

*ISCJB **20** 07:37:23.6±0.5,2481S×003×6990W±007,h51km±6km, mb4.1/13,Error ellipse: s-maj=9.9km s-min=4.6km az=0.5*
*GUC **20** 07:37:24.5±0.6,2479S×7081W,h41km±3km,MD4.3, ML4.2*
*NEIC **20** 07:37:24.5,2479S×7081W,h41km,MG4.2(GUC),After GUC.*
NEIC Felt [III] at Taltal.
*IDC **20** 07:37:26.0±0.4,2481S×6996W,h56km±3km,mb3.8/13, mb1 3.9/16,mb1mx3.8/22,mbtmp3.8/16,MS3.1/4, Ms1 3.1/4,ms1mx2.8/23,Error ellipse: s-maj=18.1km s-min=11.0km az=71.0*
ISC 20 07:37:25.1±0.4,**2479S**±003×**6998W**±006,**h48**km±5km, **h57**km±.9km:**pP-P,n36,**σ1§**00**/39,**mb4.1**/13,**6D,Northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPN1	**Cerro Paranal**	**0.42 293**		*e*P	**Pn**	**07 37 35.1**	**-0.1**
CPN1				*i* S	**Sn**	**07 37 42.7**	**+0.3**
CPN1				AML	AML	07 37 43.4	
	comp=E,28μm,0.1s						
ANCH	**Antofagasta**	**1.17 340**		⇓*e*P	**Pn**	**07 37 45.8**	**+0.8**
ANCH				*i* S	**Sn**	**07 38 01.2**	**+1.3**
ANCH	**Antofagasta**	**1.17 340**		⇓*e*P	**Pn**	**07 37 45.8**	**+0.8**
ANCH				*i* S	**Sn**	**07 38 01.2**	**+1.3**
ANCH				AML	AML	07 38 05.9	
	comp=E,7μm,0.1s						
CEN1	**Los Morros**	**1.41 352**		*e*P	**Pn**	**07 37 47.0**	**-1.3**
CEN1				*i* S	**Sn**	**07 38 04.0**	**-1.6**
CDCH	**Caldera**	**2.40 198**		⇓*e*P	**Pn**	**07 38 00.3**	**-1.6**
CDCH				*i* S	**Sn**	**07 38 27.9**	**-2.2**
CDCH	**Caldera**	**2.40 198**		⇓*e*P	**Pn**	**07 38 00.3**	**-1.6**
CDCH				*i* S	**Sn**	**07 38 27.9**	**-2.2**
CDCH				AML	AML	07 38 43.4	
	comp=E,2μm,0.4s						
CPCH	**Copiapo**	**2.58 187**		⇓*e*P	**Pn**	**07 38 05.2**	**+0.9**
CPCH				*i* S	**Sn**	**07 38 35.8**	**+1.3**
LCO	**Las Campanas**	**4.25 189**		*e*Pn	**Pn**	**07 38 27.1**	**-0.2**
CFAA	**Coronel Fontan**	**6.96 168**		P	**Pn**	**07 39 06.2**	**+1.7**
	comp=E,0.2nm,0.3s,baz=345,slow=13,SNR=18						
CFAA				S	**Sn**	**07 40 22.6**	**+0.2**
	comp=E,6.1nm,0.3s,baz=270,slow=20,SNR=21						
ARE	**Arequipa**	**8.40 350**		*e*P	**Pn**	**07 39 21.0**	**-3.3**
ARE				*e*		07 40 54.0	
LPAZ	**La Paz**	**8.63 12**		P	**Pn**	**07 39 29.5**	**+2.0**
	comp=E,0.5nm,0.3s,baz=215,slow=6.7,SNR=13						
LPAZ				LR	LR	07 43 22.4	
	comp=E,147nm,19.8s,baz=78,slow=41						
CPUP	**Villa Florida**	**11.53 100**		*e*Pn	**Pn**	**07 40 07.3**	**+0.2**
	comp=E,20nm,0.8s						
CPUP				LR	LR	07 44 38.4	
CPUP	**Villa Florida**	**11.53 100**		P	**Pn**	**07 40 07.1**	**+0.1**
	comp=E,0.1nm,0.3s,baz=247,slow=13,SNR=2.6						
CPUP				LR	LR	07 44 38.4	
	comp=E,102nm,20.4s,baz=91,slow=38						
SIV	**San Ignacio**	**12.10 45**		P	**Pn**	**07 40 13.4**	**-1.4**
	comp=E,0.7nm,0.3s,baz=245,slow=11,SNR=20						
SIV				S	**Sn**	**07 42 28.9**	**+0.6**
	comp=E,0.3nm,0.3s,baz=292,slow=19,SNR=3.6						
PLCA	**Paso Flores**	**15.91 182**		LR	LR	07 47 05.8	
	comp=E,163nm,18.7s,baz=345,slow=36						
BDFB	**Brasilia**	**22.51 70**		P	**P**	**07 42 19.8**	**-1.0**
	comp=E,4.5nm,0.8s,mb4.0,baz=227,slow=17,SNR=12						
BDFB				LR	LR	07 52 09.6	
	comp=E,19nm,21.0s,baz=191,slow=39						
VNA3	**Neumayer Olymp**	**57.30 160**		*e*	**P**	**07 47 07.3**	**-0.3**
VNA2	**Neumayer--Watz**	**57.90 160**		*e*	**P**	**07 47 11.9**	**+0.1**
	baz=288,slow=8.6						
SNAA	**Sanae**	**59.52 160**		P	**P**	**07 47 22.7**	**-0.3**
	comp=E,0.9nm,0.7s,mb3.9,baz=301,slow=9.0,SNR=11						
TXAR	**Lajitas Array**	**62.79 327**		P	**P**	**07 47 45.4**	**-0.4**
	comp=E,0.3nm,0.6s,mb3.6,baz=147,slow=7.1,SNR=3.9						
TXAR				pP	pP	07 48 01.2	+2.0
	comp=E,0.7nm,0.7s,baz=156,slow=6.3,SNR=6.4						
QSPA	**South Pole Qui**	**65.42 180**		P	**P**	**07 48 02.7**	**+0.4**
	comp=E,4.6nm,0.9s,mb4.5,baz=161,slow=3.3,SNR=10						
QSPA				pP	pP	07 48 18.6	+2.8
	comp=E,4.1nm,1.1s,baz=165,slow=2.6,SNR=6.5						
ANMO	**Albuquerque**	**68.74 328**		P	**P**	**07 48 24.7**	**+0.8**
	comp=E,0.7nm,0.6s,mb3.8,baz=189,slow=10.0,SNR=3.9						
ANMO				pP	pP	07 48 40.3	+2.8
	comp=E,1.5nm,0.7s,baz=166,slow=6.2,SNR=5.2						
DBIC	**Dimbokro**	**70.63 73**		P	**P**	**07 48 36.5**	**+0.5**
	comp=E,7.4nm,0.9s,mb4.6,baz=211,slow=6.4,SNR=6.5						
SYO	**Syowa Base**	**73.79 159**		⇓*e*P	**P**	**07 48 53.2**	**-0.8**
PDAR	**Pinedale Array**	**76.48 331**		P	**P**	**07 49 10.3**	**+0.6**
	comp=E,0.4nm,0.8s,mb3.4,baz=159,slow=10,SNR=3.0						
PDAR				pP	pP	07 49 25.6	+2.1
	comp=E,0.5nm,0.7s,baz=160,slow=4.7,SNR=3.8						

NVAR	**Mina Array Bea**	**77.49 323**		P	**P**	**07 49 17.0**	**+1.5**
	comp=E,0.2nm,0.6s,mb3.2,baz=103,slow=10,SNR=2.6						
NVAR				pP	pP	07 49 31.4	+2.1
	comp=E,0.6nm,0.8s,baz=144,slow=7.6,SNR=4.1						
ULM	**Lac du Bonnet**	**78.16 343**		P	**P**	**07 49 18.7**	**-0.2**
	comp=E,2.8nm,1.0s,mb4.1,baz=149,slow=6.7,SNR=4.7						
ULM				pP	pP	07 49 34.2	+1.4
	comp=E,2.7nm,0.8s,baz=188,slow=6.5,SNR=4.8						
TORD	**Torodi Ar. Bea**	**79.39 70**		P	**P**	**07 49 26.6**	**+0.1**
	comp=E,3.9nm,0.6s,mb4.5,baz=261,slow=5.2,SNR=32						
TORD				pP	pP	07 49 41.6	+1.2
	comp=E,1.5nm,0.6s,baz=259,slow=5.3,SNR=5.0						
TORD				sP	sP	07 49 48.4	+2.6
	comp=E,2.8nm,0.8s,baz=257,slow=5.2,SNR=4.7						
MAW	**Mawson**	**81.47 163**		P	**P**	**07 49 36.5**	**-0.3**
	comp=E,5.4nm,0.8s,mb4.5,baz=224,slow=7.0,SNR=8.1						
BOSA	**Boshof**	**82.78 118**		P	**P**	**07 49 44.4**	**-0.1**
	comp=E,3.6nm,1.0s,mb4.4,baz=0.8,slow=4.9,SNR=3.4						
YKA	**Yellowknife Ar**	**93.95 341**		P	**P**	**07 50 36.4**	**-0.8**
	comp=E,0.9nm,0.7s,mb4.3,baz=138,slow=4.5,SNR=32						
YKA				pP	pP	07 50 52.6	+1.4
	comp=E,2.0nm,0.8s,baz=139,slow=4.5,SNR=26						
YKA				sP	sP	07 50 58.9	+2.3
	comp=E,0.8nm,0.7s,baz=139,slow=4.4,SNR=7.1						
ASAR	**Alice Springs**	**126.55 208**		PKP	PKPdf	07 56 22.8	-0.8
	comp=E,0.7nm,0.8s,baz=141,slow=3.0,SNR=6.2						
WRA	**Warramunga Arr**	**129.63 210**		PKP	PKPdf	07 56 28.7	-0.9
	comp=E,0.2nm,0.5s,baz=146,slow=1.7,SNR=7.9						
WRA				pPKP	pPKPdf	07 56 44.7	+0.6
	comp=E,0.8nm,0.8s,baz=157,slow=1.9,SNR=5.5						
ZALV	**Zalesovo Beam**	**145.33 26**		PKPbc	PKPbc	07 56 57.7	+0.5
	comp=E,17nm,0.9s,baz=316,slow=4.1,SNR=55						
ZALV				pPKPbc	pPKPbc	07 57 14.0	+2.5
	comp=E,13nm,0.8s,baz=311,slow=4.4,SNR=15						
MKAR	**Makanchi Array**	**148.84 38**		PKPbc	PKPbc	07 57 07.5	+0.3
	comp=E,3.4nm,0.7s,baz=336,slow=2.7,SNR=27						
MKAR				pPKPbc	pPKPbc	07 57 23.6	+1.8
	comp=E,1.2nm,0.7s,baz=325,slow=1.9,SNR=4.6						
SONM	**Songino Array**	**156.82 6**		PKPab	PKPab	07 57 44.4	-0.3
	comp=E,0.7nm,0.8s,baz=270,slow=1.5,SNR=4.3						

*ISK **20** 07:41:48.5,3566N×3180E,h4km,MD3.6*
*ISCJB **20** 07:41:49.8±1.2,3577N±004×3177E±006,h6km±10km, Error ellipse: s-maj=9.5km s-min=4.8km az=135.0*
*CSEM **20** 07:41:50.1±0.1,3574N×3179E,h10km,Mw3.0,Error ellipse: s-maj=4.7km s-min=2.4km az=37.0*
*NIC **20** 07:41:50.9±0.3,3568N×3140E,h25km,ML3.2,MW3.0*
ISC 20 07:41:50.0±0.9,**3575N**±005×**3179E**±005,**h4**km±7km,**n23,** σ1§**15**/30,**1D,Cyprus region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKMC	**Akamas**	**0.84 148**		P	**Pg**	**07 42 07.5**	**+1.3**
ALFC	**Alevga**	**0.88 132**		⇓P	**Pg**	**07 42 07.8**	**+0.8**
	11nm,0.2s						
ALFC				S	**Sg**	**07 42 22.9**	**+4.5**
PPCY	**Paphos**	**0.97 152**		P	**Pg**	**07 42 08.8**	**+0.1**
LEF	**Lefka**	**1.09 125**		*e*PG	**Pg**	**07 42 08.2**	**-2.8**
LEF				*e*SG	**Sg**	**07 42 23.1**	**-2.1**
ERMK	**Ermenek**	**1.27 45**		*i* P	**Pg**	**07 42 13.9**	**-0.5**
SZAC	**Souni-Zanaja**	**1.33 138**		P	**Pn**	**07 42 15.2**	**-0.1**
SZAC				S	**Sg**	**07 42 34.1**	**+1.2**
CSS	**Prodhromos**	**1.48 122**		*e*PN	**Pn**	**07 42 15.3**	**-2.1**
CSS				*e*SN	**Sn**	**07 42 36.5**	**-0.6**
CSS	**Prodhromos**	**1.48 122**		P	**Pn**	**07 42 18.0**	**+0.6**
	1.7nm,0.7s						
CSS				*e*Sn	**Sn**	**07 42 36.5**	**-0.7**
CSS				S	**Sn**	**07 42 39.2**	**+2.0**
LFK	**Lefkose**	**1.50 108**		*e*PN	**Pn**	**07 42 16.4**	**-1.1**
IKL	**Isikli**	**1.61 72**		*e*PN	**Pn**	**07 42 19.1**	**0.0**
IKL				*e*SN	**Sn**	**07 42 40.3**	**0.0**
ELL	**Elmali**	**1.82 304**		*e*PN	**Pn**	**07 42 22.0**	**0.0**
AKAS	**Kas**	**1.84 286**		*i* P	**Pn**	**07 42 19.4**	**-2.9**
EREN	**Erenkoy**	**1.95 96**		*e*PN	**Pn**	**07 42 23.3**	**-0.5**
KONT	**Konya--Tatoy**	**2.24 12**		*e*PN	**Pn**	**07 42 28.7**	**+0.9**
GOLH	**Golhisar**	**2.33 310**		*i* P	**Pn**	**07 42 29.4**	**+0.3**
FETY	**Fethiye**	**2.36 293**		*e*PN	**Pn**	**07 42 30.1**	**+0.6**
MERS	**Mersin**	**2.47 62**		*e*PN	**Pn**	**07 42 30.8**	**-0.2**
TKTP	**Tekketepe**	**2.57 333**		*i* P	**Pn**	**07 42 33.5**	**+1.1**
KDHN	**Kadinhani**	**2.78 5**		*i* P	**Pn**	**07 42 34.4**	**-0.8**
KARA	**Karaisali**	**3.03 59**		*e*PN	**Pn**	**07 42 40.2**	**+1.5**
KOZT	**Kozan**	**3.68 61**		*e*PN	**Pn**	**07 42 49.3**	**+1.7**
BDRM	**Kayabasi**	**3.75 292**		*i* P	**Pg**	**07 43 08.2**	**+6.4**
GDZ	**Gediz**	**3.81 332**		*i* P	**Pn**	**07 42 47.9**	**-1.4**

*GII **20** 07:42:15.8±1.1,3381N×3579E,h0km,ML2.5/7*
*ISCJB **20** 07:42:17.4±0.4,3379N±002×3574E±005,h0km,Error ellipse: s-maj=5.7km s-min=2.9km az=8.5*
*CSEM **20** 07:42:17.0±0.1,3379N×3578E,h2km,ML2.9,Error ellipse: s-maj=2.6km s-min=1.5km az=92.0,Mining explosion.*
*GRAL **20** 07:42:17.6±2.3,3376N×3568E,h12km±18km,MD2.9*
ISC 20 07:42:17.8±0.4,**3379N**±002×**3572E**±005,**h0**km,**n19,** σ1§**19**/32,**Jordan - Syria region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BHL	**Bhannes**	**0.13 332**		*i* Pg	**Pg**	**07 42 20.1**	**-0.3**
BHL				*i* Sg	**Sg**	**07 42 23.2**	**+1.3**
BHL	**Bhannes**	**0.13 332**		*i* Pg	**Pg**	**07 42 20.0**	**-0.3**
BHL				*i* Sg	**Sg**	**07 42 23.2**	**+1.2**
BEYL	**Beyrouth**	**0.21 293**		*i* Pg	**Pg**	**07 42 21.9**	**+0.1**
RCY	**Rachaya**	**0.32 165**		*e*Pg	**Pg**	**07 42 22.8**	**-1.1**
RCY				*e*Sg	**Sg**	**07 42 27.9**	**-0.1**
MATL	**Matirih**	**0.45 228**		*e*Pg	**Pg**	**07 42 25.9**	**-0.5**
HWQ	**Hawqa**	**0.52 21**		*e*Pg	**Pg**	**07 42 26.7**	**-1.1**
HWQ				*e*Sg	**Sg**	**07 42 37.0**	**+2.4**
HRI	**Mount Hermon**	**0.52 179**		Pg	**Pg**	**07 42 27.1**	**-0.7**
HRI				Sg	**Sg**	**07 42 36.3**	**+1.7**
KSDI	**Kefar Szold**	**0.60 185**		Pg	**Pg**	**07 42 29.0**	**-0.3**
KSDI				Sg	**Sg**	**07 42 38.9**	**+1.9**
FKH	**Fakeheh**	**0.72 52**		*e*Pg	**Pg**	**07 42 30.4**	**-1.2**
FKH				*e*Sg	**Sg**	**07 42 42.6**	**+1.7**
KSHT	**Keshet**	**0.81 175**		Pg	**Pg**	**07 42 33.0**	**-0.4**
KSHT				Sg	**Sg**	**07 42 45.6**	**+1.8**
MMB4	**Mount Meron ar**	**0.81 199**		Pg	**Pg**	**07 42 32.8**	**-0.6**
MMA1	**Mount Meron ar**	**0.81 199**		Pg	**Pg**	**07 42 32.7**	**-0.8**
MMA1				Sg	**Sg**	**07 42 46.7**	**+2.7**
MMB1	**Mount Meron ar**	**0.82 199**		Pg	**Pg**	**07 42 32.9**	**-0.6**
HNTI	**Hanita**	**0.84 213**		Pg	**Pg**	**07 42 34.7**	**+0.7**
HNTI				Sg	**Sg**	**07 42 46.6**	**+1.7**
OFRI	**'Ofer**	**1.32 208**		Pn	**Pn**	**07 42 41.8**	**-1.7**
OFRI				Sn	**Sn**	**07 43 02.7**	**+0.9**
MMLI	**Mount Malkishu**	**1.37 191**		Pn	**Pn**	**07 42 42.6**	**-1.6**
MMLI				Sn	**Sn**	**07 43 03.4**	**+0.3**
HMDT	**Nahal Hemdat**	**1.54 186**		Pn	**Pn**	**07 42 45.5**	**-1.1**
HMDT				Sn	**Sn**	**07 43 06.7**	**-0.6**
SLTI	**Sal'it**	**1.65 201**		Pn	**Pn**	**07 42 47.1**	**-1.0**
DSI	**Dead Sea**	**2.23 188**		Pn	**Pn**	**07 42 54.8**	**-1.2**

*IDC **20** 07:58:25.6±2.9,3737N×5654E,h0km,mb3.6/4,mb1 3.8/6, mb1mx3.6/23,mbtmp3.8/6,ML3.9/2,Error ellipse: s-maj=48.3km s-min=31.8km az=178.0*
*TEH **20** 07:58:27.9,3752N×5676E,h15km,ML4.1*
*NEIC **20** 07:58:29.1±0.6,3759N×5673E,h10km,mb4.3/1, MN4.1(TEH),Error ellipse: s-maj=10.5km s-min=7.5km az=131.0*
*CSEM **20** 07:58:30.4±0.1,3750N×5673E,h30km,ML4.1,Error ellipse: s-maj=2.2km s-min=1.4km az=9.0*
*THR **20** 07:58:31.0±0.6,3733N×5661E,h17km±9km,ML4.1*
*ISCJB **20** 07:58:31.2±0.6,3744N±004×5672E±004,h41km±9km, mb3.6/5,Error ellipse: s-maj=6.6km s-min=4.7km az=5.9*
ISC 20 07:58:31.1±0.8,**3752N**±003×**5674E**±003,**h25**km±7km,**n61,** σ1§**24**/92,**mb3.6/5,Northern central Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRVT	**Maraveh tapeh**	**0.54 285**		*e*Pg	**Pb**	**07 58 41.6**	**-0.3**
MRVT				*e*Sg	**Sb**	**07 58 48.8**	**-0.4**
MRVT				AML	AML	07 58 49.3	
	comp=N,29μm,0.2s						
MRVT				AML	AML	07 58 49.9	
	comp=E,23μm,0.2s						
MRVT	**Maraveh tapeh**	**0.54 285**		*e*Pg	**Pb**	**07 58 41.6**	**-0.3**
MRVT				*e*Sg	**Sb**	**07 58 48.8**	**-0.4**
	SNR=98						
IKRD	**Kardeh**	**1.61 117**		*e*Pn	**Pb**	**07 59 09.0**	**+9.0**

IKRD				*e*Sn	**Sb**	**07 59 36.0**	**+16**
IKRD				*e*		07 59 49.7	
	comp=Z,8μm,0.4s						
IPAY	**Payeh**	**2.10 120**		*e*Pn	**Pn**	**07 59 05.5**	**+0.9**
IPAY				*e*Sn	**Sn**	**07 59 31.5**	**+1.6**
IPAY				*e*		07 59 41.4	
	comp=Z,12μm,0.4s						
IPAY	**Payeh**	**2.10 120**		*e*Pn	**Pn**	**07 59 05.5**	**+0.9**
IPAY				*e*Sn	**Sn**	**07 59 31.5**	**+1.6**
IMYA	**Miami**	**2.94 113**		*e*Pn	**Pn**	**07 59 17.0**	**+0.8**
IANJ	**Anjilo**	**3.06 229**		*e*Pn	**Pn**	**07 59 18.2**	**+0.3**
IANJ				*e*Sn	**Sn**	**07 59 54.9**	**+1.1**
IANJ				*e*		08 00 10.4	
	comp=Z,5μm,0.3s						
IANJ	**Anjilo**	**3.06 229**		*e*Pn	**Pn**	**07 59 18.2**	**+0.3**
IANJ				*e*Sn	**Sn**	**07 59 54.9**	**+1.1**
ISHM	**Shahmirzad**	**3.26 239**		Pn	**Pn**	**07 59 21.4**	**+0.8**
ISHM				Sn	**Sn**	**07 59 58.9**	**+0.3**
ISHM	**Shahmirzad**	**3.26 239**		*e*Pn	**Pn**	**07 59 21.5**	**+0.9**
ISHM				*e*Sn	**Sn**	**07 59 59.0**	**+0.4**
ISHM				*e*		08 00 25.9	
	comp=Z,10μm,0.3s						
ISHM	**Shahmirzad**	**3.26 239**		*e*Pn	**Pn**	**07 59 21.5**	**+0.9**
ISHM				*e*Sn	**Sn**	**07 59 59.0**	**+0.4**
IFIR	**Firoozkooh**	**3.72 241**		Pn	**Pn**	**07 59 28.4**	**+1.5**
IFIR				Sn	**Sn**	**08 00 09.7**	**-0.2**
IFIR	**Firoozkooh**	**3.72 241**		*e*Pn	**Pn**	**07 59 28.4**	**+1.5**
IFIR				*e*		07 59 39.6	
	comp=Z,4μm,0.2s						
IFIR				*e*Sn	**Sn**	**08 00 09.8**	**-0.1**
ILAS	**Lasjerd**	**3.72 236**		*e*Pn	**Pb**	**07 59 35.2**	**-0.9**
ILAS				*e*Sn	**Sn**	**08 00 10.8**	**+0.8**
ILAS				*e*		08 00 42.3	
	comp=Z,4μm,0.3s						
IDMV	**Damavand**	**4.26 244**		*e*Pn	**Pn**	**07 59 37.0**	**+2.7**
IDMV				*e*Sn	**Sn**	**08 00 23.5**	**+0.3**
IDMV				*e*		08 01 40.0	
	comp=Z,2μm,0.2s						
IDMV	**Damavand**	**4.26 244**		Pn	**Pn**	**07 59 36.9**	**+2.6**
IDMV				Sn	**Sn**	**08 00 23.4**	**+0.2**
DAMV	**Damavand**	**4.28 245**		*e*Pn	**Pn**	**07 59 35.3**	**+0.7**
DAMV				*e*Sg	**Sn**	**08 00 38.5**	**+15**
DAMV				AML	AML	08 00 56.9	
	comp=E,187nm,0.5s						
DAMV				AML	AML	08 01 03.1	
	comp=N,144nm,0.7s						
DAMV	**Damavand**	**4.28 245**		*e*Pn	**Pn**	**07 59 35.3**	**+0.7**
	SNR=52						
DAMV				*e*Sg	**Sn**	**08 00 38.5**	**+15**
	SNR=91						
IAFJ	**Afjeh**	**4.37 249**		*e*Pn	**Pb**	**07 59 42.6**	**-4.5**
IAFJ				*e*		08 00 50.4	
	comp=Z,3μm,0.2s						
CHTH	**Charan**	**4.79 252**		*e*Pn	**Pn**	**07 59 42.5**	**+0.9**
CHTH	**Charan**	**4.79 252**		*e*Pn	**Pn**	**07 59 42.5**	**+0.9**
	SNR=52						
ISFB	**Sefidab**	**4.83 230**		Pn	**Pn**	**07 59 41.1**	**-1.1**
ISFB				Sn	**Sn**	**08 00 35.9**	**-1.5**
ISFB	**Sefidab**	**4.83 230**		*e*Pn	**Pn**	**07 59 41.2**	**-1.0**
ISFB				*e*Sn	**Sn**	**08 00 36.0**	**-1.4**
ISFB				*e*		08 01 12.9	
	comp=Z,823nm,0.2s						
ISFB	**Sefidab**	**4.83 230**		*e*Pn	**Pn**	**07 59 41.2**	**-1.0**
ISFB				*e*Sn	**Sn**	**08 00 36.0**	**-1.4**
ITEG	**Tejag**	**4.90 160**		*e*Pn	**Pn**	**07 59 40.8**	**-2.3**
IMON	**Monand**	**4.94 150**		*e*Pn

Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMJ	**Miyako jima 2**	**0.82**	**178**	P	**Pg**	**07 59 59.2**	**-0.4**
JMJ				S	**Sg**	**08 00 11.1**	**+0.7**
JOGS	**Gusukube**	**0.89**	**172**	P	**Pb**	**08 00 00.3**	**-0.5**
JOGS				S	**Sb**	**08 00 12.9**	**+0.4**
JTJ	**Tarama**	**1.12**	**207**	P	**Pb**	**08 00 03.5**	**-1.3**
JTJ				*e*S	**Sb**	**08 00 18.6**	**-0.6**
JKE	**Kume jima 2**	**1.53**	**63**	P	**Pn**	**08 00 08.2**	**-2.3**
JIJ	**Ishigaki jima**	**1.63**	**219**	P	**Pn**	**08 00 11.2**	**-0.7**
JIJ				*e*S	**Sn**	**08 00 32.1**	**-0.6**
JKRS	**Kuro-shima**	**1.81**	**220**	P	**Pn**	**08 00 14.3**	**0.0**
JKRS				*e*S	**Sn**	**08 00 37.1**	**+0.1**
IRIF	**Iriomote-Funau**	**1.91**	**227**	P	**Pn**	**08 00 15.4**	**-0.3**
JAGN	**Aguni-jima**	**2.01**	**62**	P	**Pn**	**08 00 15.7**	**-1.4**
HATJ	**Hateruma jima**	**2.06**	**220**	P	**Pn**	**08 00 17.8**	**-0.1**
NAH1	**Naha**	**2.25**	**75**	P	**Pn**	**08 00 19.6**	**-0.8**
YOJ	**Yonaguni jima**	**2.36**	**241**	P	**Pn**	**08 00 22.3**	**+0.3**
JIH	**Iheya**	**2.79**	**60**	P	**Pn**	**08 00 27.9**	**0.0**
JIH				*e*S	**Sn**	**08 01 02.7**	**+1.4**
JOW	**Kunigami**	**2.95**	**66**	P	**Pn**	**08 00 29.9**	**-0.1**
JOW	**Kunigami**	**2.95**	**66**	P	**Pn**	**08 00 29.8**	**-0.2**
	87nm,0.3s,baz=241,slow=12,SNR=78						
JOW				S	**Sn**	**08 01 05.0**	**-0.2**
	34nm,0.3s,baz=279,slow=26,SNR=3.5						
JOW				LR	LR	08 01 49.0	
	comp=Z,1μm,20.9s,baz=225,slow=42						
TATO	**Taipei**	**3.49**	**260**	*e*Pn	**Pn**	**08 00 41.3**	**+3.9**
NACB	**Ninganchiao**	**3.64**	**247**	*e*Pn	**Pn**	**08 00 42.1**	**+2.6**
YHNB	**Yeheng**	**3.66**	**255**	*e*Pn	**Pn**	**08 00 42.8**	**+3.0**
JTK	**Tokunoshima**	**3.92**	**56**	P	**Pn**	**08 00 43.4**	**-0.1**
JAM	**Amami Oshima**	**4.75**	**54**	P	**Pn**	**08 00 55.0**	**+0.2**
QZH	**Quanzhou**	**6.08**	**265**	P	**Pn**	**08 01 17.8**	**+4.6**
QZH				S	**Sn**	**08 02 28.6**	**+6.0**
QZH				LR	LR		
	comp=N,2μm,13.3s						
QZH				LR	LR		
	comp=E,1μm,12.3s						
QZH				LR	LR		
	comp=Z,1μm,10.2s						
NJ2	**Nanjing**	**8.51**	**320**	*e*P	**Pn**	**08 01 45.6**	**-0.8**
NJ2				S	**Sn**	**08 03 19.1**	**-3.1**
NJ2				AMB	AMB		
	comp=Z,30nm,0.7s						
NJ2				AMB	AMB		
	comp=Z,300nm,5.1s						
NJ2				Smax			
	comp=N,230nm,0.9s						
NJ2				Smax			
	comp=E,140nm,1.3s						
NJ2				LR	LR		
	comp=N,3μm,19.3s						
NJ2				LR	LR		
	comp=E,2μm,11.6s						
NJ2				LR	LR		
	comp=Z,2μm,14.2s						
JNU	**Nakatsue**	**8.91**	**32**	P	**Pn**	**08 01 54.8**	**+2.8**
	comp=Z,0.9nm,0.3s,baz=202,slow=12,SNR=11						
JNU				LR	LR	08 05 36.6	
	comp=Z,501nm,18.9s,baz=204,slow=39						
KSRS	**Korea Array**	**11.99**	**10**	P	**Pn**	**08 02 37.3**	**+3.2**
	comp=Z,0.3nm,0.3s,baz=186,slow=14,SNR=13						
KSRS				LR	LR	08 07 20.0	
	comp=Z,467nm,19.2s,baz=66,slow=38						
MAJO	**Matsushiro**	**15.50**	**42**	*e*Pn	**Pn**	**08 03 21.8**	**0.0**
MAT	**Matsushiro**	**15.50**	**42**	P	**Pn**	**08 03 17.0**	**-4.8**
MJAR	**Matsushiro Arr**	**15.50**	**42**	P	**Pn**	**08 03 24.2**	**+2.3**
	comp=Z,0.1nm,0.3s,baz=229,slow=11,SNR=4.9						
QIZ	**Qiongzhong**	**15.71**	**248**	P	**Pn**	**08 03 28.5**	**+3.9**
QIZ				*e*S	**Sn**	**08 06 24.1**	**+5.5**
QIZ				LR	LR		
	comp=N,300nm,15.3s						
QIZ				LR	LR		
	comp=Z,286nm,15.3s						
XAN	**Xi'an**	**16.45**	**304**	P	**Pn**	**08 03 38.5**	**+4.4**
XAN				S	**Sn**	**08 06 49.4**	**+13**
XAN				AMB	AMB		
	comp=Z,3.0nm,0.5s						
XAN				LR	LR		
	comp=N,488nm,12.5s						
XAN				LR	LR		
	comp=E,596nm,10.4s						
XAN				LR	LR		
	comp=Z,637nm,9.6s						
GYA	**Guiyang**	**16.74**	**277**	P	**Pn**	**08 03 39.3**	**+1.5**
GYA				PP		08 03 52.0	
GYA				S	**Sn**	**08 06 43.3**	**-0.3**
GYA				PCP	PcP	08 08 30.8	+4.3
GYA				AMB	AMB		
	comp=Z,20nm,0.8s						
GYA				AMB	AMB		
	comp=Z,110nm,4.1s						
GYA				LR	LR		
	comp=N,590nm,10.8s						
GYA				LR	LR		
	comp=E,590nm,12.9s						
GYA				LR	LR		
	comp=Z,880nm,12.9s						
MDJ	**Mudanjiang**	**19.25**	**9**	P	**Pn**	**08 04 05.3**	**-3.3**
MDJ				S	**Sn**	**08 07 37.8**	**-6.3**
MDJ				XS	sS	08 07 45.3	-6.2
MDJ				SCP	ScP	08 12 07.3	+1.5
MDJ				AMB	AMB		
	comp=Z,25nm,2.5s						
MDJ				LR	LR		
	comp=N,220nm,20.3s						
MDJ				LR	LR		
	comp=E,574nm,20.3s						
MDJ				LR	LR		
	comp=Z,669nm,10.7s						
CD2	**Chengdu**	**19.65**	**290**	*e*P	**Pn**	**08 04 13.3**	**-0.1**
CD2				AP	pP	08 04 17.0	+1.0
CD2				XP	sP	08 04 20.3	+2.5
CD2				PP		08 04 31.0	
CD2				S	**Sn**	**08 07 45.9**	**-8.0**
CD2				AMB	AMB		
	comp=Z,60nm,0.8s						
CD2				AMB	AMB		
	comp=Z,120nm,4.2s						
CD2				LR	LR		
	comp=N,1μm,13.2s						
CD2				LR	LR		
	comp=E,1μm,9.6s						
CD2				LR	LR		
	comp=Z,830nm,9.6s						
KMI	**Kunming**	**20.36**	**273**	P	**P**	**08 04 24.8**	**+5.0**
KMI				AMB	AMB		
	comp=Z,18nm,1.0s						
KMI				LR	LR		
	comp=Z,119nm,15.5s,MS3.4						
LZH	**Lanzhou**	**21.09**	**305**	*e*P	**P**	**08 04 30.6**	**+3.0**
LZH				AP		08 04 33.5	
LZH				XP	sP	08 04 35.3	+1.8
LZH				PP		08 04 52.3	
LZH				*e*S	**S**	**08 08 18.0**	**-4.0**
LZH				AMB	AMB		
	comp=Z,30nm,1.4s,mb4.4						
LZH				AMB	AMB		
	comp=Z,230nm,5.6s						
LZH				LR	LR		
	comp=N,872nm,11.2s						
LZH				LR	LR		
	comp=Z,1μm,10.0s,MS4.5						
KKM	**Kota Kinabalu**	**21.33**	**205**	*e*P	**P**	**08 04 31.6**	**+1.3**
ASAJ	**Asahikawa**	**23.19**	**33**	LR	LR	08 14 18.5	
	comp=Z,309nm,19.0s,MS3.8,baz=168,slow=38						
KLR	**Kul'dur**	**24.08**	**10**	*e*P	**P**	**08 05 02.9**	**+4.4**
KLR				MLR	MLR		
	comp=Z,1μm,13.0s,MS4.6						
GTA	**Gaotai**	**25.37**	**309**	*e*P	**P**	**08 05 11.4**	**+1.0**
GTA				AP	pP	08 05 15.8	+1.2
GTA				XP	sP	08 05 18.8	+2.4
GTA				PP		08 05 46.6	
GTA				S	**S**	**08 09 37.4**	**+1.0**
GTA				AMB	AMB		
	comp=Z,12nm,2.0s,mb4.1						
GTA				AMB	AMB		
	comp=Z,124nm,6.5s						
GTA				LR	LR		
	comp=N,707nm,13.7s,MS4.4						
GTA				LR	LR		
	comp=E,542nm,13.8s,MS4.4						
GTA				LR	LR		
	comp=Z,342nm,12.2s,MS4.1						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**26.68**	**331**	P	**P**	**08 05 23.3**	**+1.1**
SONM				LR	LR	08 17 23.2	
SONM	**Songino Array**	**26.68**	**331**	P	**P**	**08 05 23.3**	**+1.1**
	comp=Z,4.9nm,0.8s,mb4.1,baz=144,slow=10,SNR=18						
SONM				LR	LR	08 17 23.3	
	comp=Z,330nm,20.6s,MS3.9,baz=191,slow=40						
MOY	**Mondy**	**31.88**	**331**	*e*P	**P**	**08 06 08.1**	**-0.1**
PSI	**Prapat**	**34.02**	**232**	LR	LR	08 19 13.3	
	comp=Z,85nm,20.5s,MS3.5,baz=232,slow=34						
WMQ	**Urumqi**	**35.43**	**310**	P	**P**	**08 06 37.6**	**-1.7**
WMQ				PP	PP	08 07 56.0	-3.7
WMQ				*e*S	**S**	**08 12 08.0**	**-5.7**
WMQ				AMB	AMB		
	comp=Z,25nm,0.9s,mb5.1						
WMQ				AMB	AMB		
	comp=Z,156nm,4.7s						
WMQ				LR	LR		
	comp=N,1μm,16.3s						
WMQ				LR	LR		
	comp=E,654nm,10.0s						
WMQ				LR	LR		
	comp=Z,768nm,18.0s,MS4.5						
BATI	**Kupang**	**35.66**	**183**	LR	LR	08 23 09.8	
	comp=Z,131nm,19.2s,MS3.7,baz=97,slow=39						
PET	**Petropavlovsk**	**37.03**	**33**	*e*P	**P**	**08 06 50.1**	**-2.7**
	comp=Z,25nm,0.9s,mb5.0						
PET	**Petropavlovsk**	**37.03**	**33**	*e*P	**P**	**08 06 50.1**	**-2.7**
PET				pmax	pmax		
	comp=Z,25nm,0.9s,mb5.0						
MK31	**Makanchi Array**	**39.97**	**313**	*e*P	**P**	**08 07 17.7**	**+0.1**
MKAR	**Makanchi Array**	**39.97**	**313**	P	**P**	**08 07 17.8**	**+0.2**
	comp=Z,2.3nm,0.6s,mb4.1,baz=99,slow=10,SNR=20						
MKAR				LR	LR	08 24 38.9	
	comp=Z,80nm,19.2s,MS3.6,baz=276,slow=37						
ZALV	**Zalesovo Beam**	**41.13**	**324**	P	**P**	**08 07 26.5**	**-0.6**
ZALV				LR	LR	08 25 24.0	
ZALV	**Zalesovo Beam**	**41.13**	**324**	P	**P**	**08 07 26.5**	**-0.6**
	comp=Z,4.2nm,0.5s,mb4.3,baz=118,slow=8.3,SNR=18						
ZALV				LR	LR	08 25 24.0	
	comp=Z,89nm,19.3s,MS3.6,baz=131,slow=37						
ZAL	**Zalesovo**	**41.14**	**324**	P	**P**	**08 07 26.5**	**-0.7**
FITZ	**Fitzroy Crossi**	**43.48**	**179**	*e*P	**P**	**08 07 46.1**	**-0.5**
	comp=Z,4.9nm,0.8s,mb4.3						
FITZ	**Fitzroy Crossi**	**43.48**	**179**	P	**P**	**08 07 45.2**	**-1.4**
	comp=Z,2.2nm,0.8s,mb4.0,baz=341,slow=9.7,SNR=4.4						
EKS2	**Erkin-Say**	**45.16**	**306**	*e*P	**P**	**08 07 58.4**	**-1.5**
	comp=Z,2.1nm,0.6s,mb4.1						
WRAB	**Tennant Creek**	**46.15**	**168**	*e*P	**P**	**08 08 08.1**	**+0.3**
WRAB	**Tennant Creek**	**46.15**	**168**	*e*P	**P**	**08 08 12.2**	**+4.4**
WRA	**Warramunga Arr**	**46.16**	**168**	P	**P**	**08 08 07.0**	**-0.9**
	comp=Z,1.1nm,0.8s,mb3.9,baz=350,slow=8.8,SNR=10						
WB2	**Warramunga Arr**	**46.16**	**168**	*e*P	**P**	**08 08 08.8**	**+0.9**
BVAR	**Borovoye Array**	**48.95**	**319**	P	**P**	**08 08 29.5**	**+0.2**
	comp=Z,1.3nm,0.6s,mb4.2,baz=100,slow=8.0,SNR=5.2						
BILL	**Bilibino**	**49.08**	**19**	*e*P	**P**	**08 08 28.5**	**-1.6**
BILL				*e*		08 09 52.5	
BILL				pmax	pmax		
	comp=Z,1.0nm,1.0s,mb3.8						
BILL				MLR	MLR		
	comp=Z,100nm,12.0s,MS4.0						
ASAR	**Alice Springs**	**49.72**	**170**	P	**P**	**08 08 36.1**	**+0.7**
	comp=Z,0.6nm,0.6s,mb3.8,baz=353,slow=7.7,SNR=11						
STKA	**Stephens Creek**	**59.28**	**164**	LR	LR	08 32 14.7	
	comp=Z,65nm,21.0s,MS3.7,baz=26,slow=33						
MCK	**McKinley**	**65.49**	**29**	*e*P	**P**	**08 10 25.9**	**-0.1**
	comp=Z,6.4nm,0.6s,mb4.8						
MCK	**McKinley**	**65.49**	**29**	*e*P	**P**	**08 10 25.9**	**-0.1**
MCK				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.8						
PMR	**Palmer**	**65.73**	**32**	*e*P	**P**	**08 10 27.0**	**-0.6**
	comp=Z,7.5nm,0.9s,mb4.7						
PMR	**Palmer**	**65.73**	**32**	*e*P	**P**	**08 10 27.0**	**-0.6**
PMR				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.8						
COLA	**College**	**65.79**	**28**	*e*P	**P**	**08 10 28.9**	**+1.0**
	comp=Z,2.9nm,0.6s,mb4.5						
COLA	**College**	**65.79**	**28**	*e*P	**P**	**08 10 28.9**	**+1.0**
COLA				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.5						
EGAK	**Eagle**	**68.61**	**27**	*e*P	**P**	**08 10 45.9**	**+0.1**
ARCES	**ARCESS Array B**	**69.57**	**338**	LR	LR	08 44 53.6	
	comp=Z,47nm,18.1s,MS3.8,baz=176,slow=39						
INK	**Inuvik**	**70.47**	**23**	*e*P	**P**	**08 10 55.4**	**-1.9**
FINES	**FINESS Array B**	**72.05**	**330**	P	**P**	**08 11 06.3**	**-0.7**
	comp=Z,2.8nm,0.9s,mb4.2,baz=113,slow=4.4,SNR=6.1						
FINES				LR	LR	08 42 52.6	
	comp=Z,63nm,18.8s,MS3.9,baz=169,slow=36						
SKAG	**Skagway**	**72.86**	**32**	*e*P	**P**	**08 11 13.0**	**+1.2**
AKASG	**Malin Array Be**	**74.23**	**319**	P	**P**	**08 11 19.1**	**-1.0**
	comp=Z,2.3nm,0.7s,mb4.2,baz=62,slow=6.5,SNR=3.6						
AKASG				LR	LR	08 44 52.1	
	comp=Z,98nm,19.3s,MS4.1,baz=60,slow=36						
DLBC	**Dease Lake**	**75.79**	**32**	*e*P	**P**	**08 11 30.0**	**+1.2**
RES	**Resolute Bay**	**76.61**	**10**	P	**P**	**08 11 32.1**	**-1.2**
	comp=Z,570nm,2.4s						
NOA	**NORSAR Array B**	**78.64**	**333**	P	**P**	**08 11 43.7**	**-1.2**
	comp=Z,1.9nm,0.8s,mb4.1,baz=55,slow=5.3,SNR=3.6						
NOA				LR	LR	08 49 36.4	
	comp=Z,77nm,18.4s,MS4.1,baz=15,slow=38						
YKW3	**Yellowknife Ar**	**80.12**	**24**	*e*P	**P**	**08 11 51.4**	**-1.5**
YKA	**Yellowknife Ar**	**80.16**	**24**	P	**P**	**08 11 52.8**	**-0.3**
YKA	**Yellowknife Ar**	**80.16**	**24**	*i* P	**P**	**08 11 52.7**	**-0.4**
YKA				pmax	pmax		
	comp=Z,7.0nm,0.8s						
YKA	**Yellowknife Ar**	**80.16**	**24**	P	**P**	**08 11 52.8**	**-0.3**
	comp=Z,7.4nm,0.8s,mb4.7,baz=305,slow=5.2,SNR=138						
GERES	**GERESS Array B**	**84.04**	**322**	LR	LR	08 52 51.0	
	comp=Z,87nm,19.6s,MS4.1,baz=58,slow=38						
NEW	**Newport**	**87.67**	**36**	*e*P	**P**	**08 12 32.3**	**+0.5**
	comp=Z,2.8nm,0.7s,mb4.6						
NEW	**Newport**	**87.67**	**36**	*e*P	**P**	**08 12 32.3**	**+0.6**
NEW				pmax	pmax		
	comp=Z,3.0nm,0.7s						
WALA	**Waterton Lakes**	**88.86**	**34**	*e*P	**P**	**08 12 37.9**	**+0.6**
	comp=Z,3.0nm,0.9s,mb4.6						
FCC	**Fort Churchill**	**89.80**	**19**	*e*P	**P**	**08 12 41.3**	**-0.2**
	comp=Z,5.4nm,0.7s,mb5.0						
FCC	**Fort Churchill**	**89.80**	**19**	*e*P	**P**	**08 12 41.3**	**-0.2**
FCC				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb5.0						
FFC	**Flin Flon**	**90.28**	**25**	*e*P	**P**	**08 12 43.1**	**-0.8**
	comp=Z,11nm,1.0s,mb5.1						
FFC	**Flin Flon**	**90.28**	**25**	*e*P	**P**	**08 12 43.1**	**-0.8**
FFC				pmax	pmax		
	comp=Z,11nm,1.0s,mb5.1						
DLMT	**Dillon**	**91.91**	**37**	*e*P	**P**	**08 12 52.9**	**+1.2**
	comp=Z,6.8nm,0.8s,mb5.0						
HLID	**Hailey**	**92.05**	**39**	*e*P	**P**	**08 12 53.8**	**+1.5**
	comp=Z,2.9nm,0.7s,mb4.7						
NVAR	**Mina Array Bea**	**92.82**	**45**	P	**P**	**08 12 56.0**	**-0.1**
	comp=Z,0.6nm,0.8s,mb4.1,baz=280,slow=7.9,SNR=4.6						
FLWY	**Flagg Ranch**	**93.77**	**37**	*e*P	**P**	**08 13 01.5**	**+1.3**
	comp=Z,3.3nm,0.8s,mb4.8						
TPNV	**Topopah Spring**	**95.01**	**45**	*e*P	**P**	**08 13 08.0**	**+1.9**
	comp=Z,2.2nm,0.7s,mb4.7						
TPNV	**Topopah Spring**	**95.01**	**45**	*e*P	**P**	**08 13 08.0**	**+1.9**
TPNV				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.7						
DUG	**Dugway**	**95.10**	**41**	*e*P	**P**	**08 13 07.2**	**+0.8**
	comp=Z,1.3nm,0.7s,mb4.5						
DUG	**Dugway**	**95.10**	**41**	*e*P	**P**	**08 13 07.2**	**+0.7**
DUG				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb4.3						
ULM	**Lac du Bonnet**	**96.11**	**25**	P	**P**	**08 13 10.3**	**-0.5**
	comp=Z,1.5nm,0.7s,mb4.5,baz=272,slow=2.6,SNR=3.6						
VNA2	**Neumayer--Watz**	**127.41**	**198**	*e*PKPdf	PKPdf	08 18 48.8	+1.7
	baz=76,slow=0.7						
VNA2				*e*		08 18 51.8	
VNA2				*e*		08 18 54.9	
VNA1	**Neumayer--Stat**	**127.81**	**198**	*e*PKPdf	PKPdf	08 18 50.5	+2.6
VNA1				*e*		08 18 53.6	
VNA1				*e*		08 18 57.7	
VNA3	**Neumayer Olymp**	**127.84**	**197**	*e*PKPdf	PKPdf	08 18 50.3	+2.3
VNA3				*e*		08 18 53.4	
VNA3				*e*		08 18 57.6	
JTS	**JuntasAbangare**	**133.72**	**43**	*e*PKPdf	PKPdf	08 18 55.8	-5.0

TEH ***20*** *08:00:15.1,3765N×5671E,h9km,ML4.3*
ISCJB ***20*** *08:00:16.1±2.4,373N±03×5662E±005,h10km, Error ellipse: s-maj=40.4km s-min=5.5km az=177.0*
NEIC ***20*** *08:00:16.8,3748N×5662E,h13km,mb3.5/1,MN4.0(TEH), After TEH.*
ISC 20 08:00:16.5±2.4,374N±03×5661E±005,h10km,n10, σ0°81/15,Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKRD	**Kardeh**	**1.64**	**111**	*e*Pn	**Pg**	**08 00 52.7**	**+4.8**
IKRD				*e*		08 01 33.3	
	comp=Z,6μm,0.3s						
IPAY	**Payeh**	**2.12**	**115**	Pn	**Pn**	**08 00 50.4**	**-1.7**
IPAY				Sn	**Sn**	**08 01 18.9**	**+0.4**
IPAY	**Payeh**	**2.12**	**115**	*e*Pn	**Pn**	**08 00 50.5**	**-1.6**
IPAY				*e*		08 00 57.2	
	comp=Z,7μm,0.2s						
IPAY				*e*Sn	**Sn**	**08 01 19.0**	**+0.5**
IANJ	**Anjilo**	**2.90**	**230**	*e*Pn	**Pn**	**08 01 04.0**	**+1.3**
IANJ				*e*		08 01 52.6	
	comp=E,5μm,0.4s						
IMYA	**Miami**	**2.98**	**109**	Pn	**Pn**	**08 01 04.7**	**+0.8**
IMYA				Sn	**Sn**	**08 01 39.4**	**-0.3**
IMYA	**Miami**	**2.98**	**109**	*e*Pn	**Pn**	**08 01 04.8**	**+0.9**
IMYA				*e*		08 01 09.7	
	comp=Z,5μm,0.3s						
IMYA				*e*Sn	**Sn**	**08 01 39.5**	**-0.2**
ISHM	**Shahmirzad**	**3.10**	**241**	Pn	**Pb**	**08 01 11.0**	**-0.8**
ISHM	**Shahmirzad**	**3.10**	**241**	*e*Pn	**Pb**	**08 01 11.1**	**-0.7**
ISHM				*e*		08 02 08.6	
	comp=Z,6μm,0.3s						
ILAS	**Lasjerd**	**3.56**	**237**	*e*Pn	**Pn**	**08 01 12.0**	**+0.2**
ILAS				*e*		08 01 23.1	
	comp=Z,2μm,0.2s						
ILAS				*e*Sn	**Sn**	**08 01 53.6**	**-0.4**
IFIR	**Firoozkooh**	**3.56**	**242**	*e*Pn	**Pn**	**08 01 11.9**	**+0.1**
IFIR				*e*		08 01 24.8	
	comp=Z,2μm,0.2s						

NEIC ***20*** *08:04:40.7±0.4,3767N×5675E,h10km,mb4.4/2, MN4.3(TEH),Error ellipse: s-maj=6.8km s-min=4.9km az=161.0*
CSEM ***20*** *08:04:41.9±0.1,3762N×5672E,h30km,ML4.1*
ISCJB ***20*** *08:04:42.1±0.4,3765N±003×5670E±003,h36km±8km, mb3.8/8,MS2.9/3,Error ellipse: s-maj=5.8km s-min=3.4km az=177.4*
THR ***20*** *08:04:43.9±0.5,3730N×5652E,h17km±7km,ML4.1*
IDC ***20*** *08:04:45.0±6.0,3771N×5681E,h33km±43km,mb3.6/7, mb1 3.8/11,mb1mx3.6/26,mbtmp3.7/11,ML4.1/4,MS2.9/6, Ms1 2.9/6,ms1mx2.7/30,Error ellipse: s-maj=40.5km s-min=17.8km az=152.0*
ISC 20 08:04:42.7±0.7,3764N±003×5674E±002,h25km±6km,n76, σ1°11/101,mb3.8/8,MS2.9/3,Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRVT	**Maraveh tapeh**	**0.52**	**272**	*e*Pg	**Pb**	**08 04 53.9**	**+0.7**
MRVT				*e*Sg	**Sb**	**08 05 00.9**	**+0.6**
MRVT				AML	AML	08 05 01.5	
	comp=E,32μm,0.2s						
MRVT				AML	AML	08 05 03.1	
	comp=N,18μm,0.3s						
MRVT	**Maraveh tapeh**	**0.52**	**272**	*e*Pg	**Pb**	**08 04 53.9**	**+0.7**
	SNR=97						
MRVT				*e*Sg	**Sb**	**08 05 00.9**	**+0.6**
	SNR=97						
ISHV	**Shirvan**	**0.77**	**98**	*e*Pg	**Pb**	**08 04 56.5**	**-0.9**
ISHV				*e*		08 05 00.4	
	comp=Z,58μm,0.2s						
ISHV				*e*Sg	**Sb**	**08 05 06.7**	**-0.7**
ISHV	**Shirvan**	**0.77**	**98**	Pg	**Pb**	**08 04 56.4**	**-1.0**
ISHV				Sg	**Sb**	**08 05 06.6**	**-0.8**
ISFR	**Sfrayin**	**1.17**	**120**	*e*Pg	**Pn**	**08 05 02.6**	**-0.8**
ISFR				*e*Sg	**Sn**	**08 05 19.5**	**+0.9**
ISFR	**Sfrayin**	**1.17**	**120**	Pg	**Pn**	**08 05 02.5**	**-0.9**
ISFR				Sg	**Sn**	**08 05 19.4**	**+0.8**
IEMG	**Emamgholi**	**1.54**	**98**	*e*Pn	**Pn**	**08 05 09.6**	**+1.1**
IEMG				*e*Sn	**Sn**	**08 05 31.0**	**+3.3**
IEMG				*e*		08 05 38.2	
	comp=Z,53μm,0.2s						
IEMG	**Emamgholi**	**1.54**	**98**	*e*Pn	**Pn**	**08 05 09.6**	**+1.1**
IEMG				Sn	**Sn**	**08 05 30.9**	**+3.2**
IQHU	**Qucahn**	**1.55**	**111**	*e*Pn	**Pn**	**08 05 09.4**	**+0.7**
IQHU				*e*		08 05 10.1	
	comp=Z,50μm,0.2s						
IKRD	**Kardeh**	**1.67**	**121**	*e*Pn	**Pb**	**08 05 21.4**	**+8.7**
IKRD				*e*		08 05 24.2	
	comp=Z,18μm,0.3s						
IKRD				*e*Sn	**Sb**	**08 05 50.5**	**+17**
IPAY	**Payeh**	**2.16**	**123**	*e*Pn	**Pn**	**08 05 17.7**	**+0.6**
IPAY				*e*Sn	**Sn**	**08 05 44.3**	**+1.2**
IPAY				*e*		08 05 54.9	
	comp=Z,22μm,0.2s						
IPAY	**Payeh**	**2.16**	**123**	Pn	**Pn**	**08 05 17.6**	**+0.5**
IPAY				Sn	**Sn**	**08 05 44.2**	**+1.1**
IMYA	**Miami**	**2.99**	**115**	*e*Pn	**Pn**	**08 05 29.4**	**+0.9**
IANJ	**Anjilo**	**3.14**	**227**	*e*Pn	**Pn**	**08 05 29.4**	**-1.2**
IANJ				*e*Sn	**Sn**	**08 06 07.6**	**+0.3**
IANJ				*e*		08 06 32.8	
	comp=Z,6μm,0.2s						
IANJ	**Anjilo**	**3.14**	**227**	*e*Pn	**Pn**	**08 05 29.4**	**-1.2**
IANJ				Sn	**Sn**	**08 06 07.5**	**+0.2**
ISHM	**Shahmirzad**	**3.32**	**238**	*e*Pn	**Pn**	**08 05 33.6**	**+0.5**
ISHM				*e*Sn	**Sn**	**08 06 12.2**	**+0.5**
ISHM				*e*		08 06 40.0	
	comp=Z,10μm,0.2s						
ISHM	**Shahmirzad**	**3.32**	**238**	Pn	**Pn**	**08 05 33.5**	**+0.4**
ISHM				*e*Sn	**Sn**	**08 06 12.2**	**+0.5**
IFIR	**Firoozkooh**	**3.78**	**239**	*e*Pn	**Pn**	**08 05 40.1**	**+0.8**
IFIR				*e*		08 05 52.7	
	comp=Z,4μm,0.1s						
IFIR				*e*Sn	**Sn**	**08 06 22.7**	**-0.2**
IFIR	**Firoozkooh**	**3.78**	**239**	*e*Pn	**Pn**	**08 05 40.1**	**+0.8**
IFIR				Sn	**Sn**	**08 06 22.6**	**-0.3**
ILAS	**Lasjerd**	**3.79**	**235**	*e*Pn	**Pn**	**08 05 40.3**	**+0.8**
ILAS				*e*Sn	**Sn**	**08 06 23.2**	**-0.1**
ILAS				*e*		08 06 54.4	
	comp=Z,6μm,

IZEF				Sn	Sn	08 07 13.3	-3.3
IKLH	**Kolahrood**	**6.03**	**226**	*e*Pn	**Pn**	**08 06 09.9**	**-0.4**
IKLH				*e*		08 08 04.2	
comp=N,2μm,0.5s							
IKLH	**Kolahrood**	**6.03**	**226**	Pn	**Pn**	**08 06 09.8**	**-0.5**
IBAF	**Bafgh**	**6.11**	**189**	*e*Pn	**Pn**	**08 06 11.2**	**-0.2**
IBAF				*e*		08 08 14.1	
comp=Z,816nm,0.4s							
ASAO	**Ashtian**	**6.25**	**242**	*e*Pn	**Pn**	**08 06 13.5**	**+0.2**
ALIB	**Ii-Bayraml**	**6.47**	**293**	P	**Pn**	**08 06 17.5**	**+1.2**
SNR=6.5							
ALIB				S	**Sn**	**08 07 29.4**	**+0.1**
IGAR	**Gharneh**	**6.55**	**216**	*e*Pn	**Pn**	**08 06 14.6**	**-2.8**
SIZA	**Siyzn**	**6.98**	**302**	P	**Pn**	**08 06 23.4**	**+0.1**
SNR=16							
PQL	**Pirkuli**	**7.06**	**299**	P	**Pn**	**08 06 24.6**	**+0.1**
SNR=7.4							
BRDA	**Brd**	**7.90**	**292**	P	**Pn**	**08 06 35.4**	**-0.5**
SNR=4.0							
AKTK	**Aktyubinsk**	**12.82**	**4**	Pn	**Pn**	**08 07 42.3**	**-1.0**
AKTK				LR	LR	08 12 29.6	
AKTK	**Aktyubinsk**	**12.82**	**4**	Pn	**Pn**	**08 07 42.3**	**-1.0**
AKTO	**Aktyubinsk**	**12.82**	**4**	Pn	**Pn**	**08 07 42.3**	**-1.0**
comp=Z,2.2nm,0.3s,baz=179,slow=15,SNR=16							
AKTO				LR	LR	08 12 29.6	
comp=Z,39nm,21.2s,baz=59,slow=36							
AAK	**Ala-Archa**	**14.46**	**64**	*e*Pn	**Pn**	**08 08 02.8**	**-2.9**
comp=Z,3.0nm,0.6s							
AAK	**Ala-Archa**	**14.46**	**64**	*e*Pn	**Pn**	**08 08 02.8**	**-2.9**
comp=Z,3.0nm,0.6s							
ASF	**Jabal al Asfar**	**17.16**	**257**	P	**Pn**	**08 08 42.4**	**+1.7**
comp=Z,0.2nm,0.3s,baz=127,slow=5.1,SNR=4.0							
ASF				LR	LR	08 16 16.5	
comp=Z,28nm,20.9s,baz=93,slow=40							
MMAI	**Mount Meron Ar**	**18.00**	**262**	P	**Pn**	**08 08 53.9**	**+2.7**
comp=Z,1.0nm,0.3s,baz=72,slow=11,SNR=2.4							
MMAI				LR	LR	08 16 21.0	
comp=Z,33nm,20.3s,baz=10.0,slow=38							
BVAR	**Borovoye Array**	**18.08**	**27**	P	**Pn**	**08 08 51.8**	**-0.1**
comp=Z,0.8nm,0.3s,baz=219,slow=9.9,SNR=7.7							
ARU	**Arti**	**18.84**	**3**	*e*P	**Pn**	**08 08 59.6**	**-1.5**
comp=Z,12nm,0.7s							
ARU	**Arti**	**18.84**	**3**	*e*P	**Pn**	**08 08 59.7**	**-1.5**
comp=Z,12nm,0.7s							
MK31	**Makanchi Array**	**20.94**	**56**	*e*P	**P**	**08 09 22.7**	**-0.8**
MKAR	**Makanchi Array**	**20.94**	**56**	P	**P**	**08 09 22.6**	**-0.9**
comp=Z,1.9nm,0.6s,baz=244,slow=11,SNR=11							
AKASG	**Malin Array Be**	**23.50**	**313**	P	**P**	**08 09 49.8**	**-0.9**
comp=Z,2.4nm,0.4s,mb4.0,baz=98,slow=8.4,SNR=9.8							
AKBB	**Malin Array Si**	**23.50**	**313**	*e*P	**P**	**08 09 50.1**	**-0.5**
AKBB	**Malin Array Si**	**23.50**	**313**	*e*P	**P**	**08 09 50.1**	**-0.6**
KIEV	**Kiev**	**23.51**	**313**	*e*P	**P**	**08 09 50.2**	**-0.5**
comp=Z,10nm,0.6s,mb4.4							
KIEV	**Kiev**	**23.51**	**313**	*e*P	**P**	**08 09 50.2**	**-0.5**
MLR	**Muntele Rosu**	**24.23**	**299**	P	**P**	**08 09 57.3**	**-0.1**
comp=Z,1.3nm,0.5s,mb3.6,baz=117,slow=4.5,SNR=3.0							
MLR				LR	LR	08 22 32.9	
comp=Z,6.5nm,20.7s,MS2.1,baz=189,slow=44							
MLR	**Muntele Rosu**	**24.23**	**299**	P	**P**	**08 09 57.2**	**-0.2**
ZALV	**Zalesovo Beam**	**25.24**	**41**	P	**P**	**08 10 06.9**	**+0.4**
comp=Z,0.4nm,0.3s,mb3.4,baz=255,slow=10,SNR=2.8							
HFS	**Hagfors**	**35.23**	**324**	LR	LR	08 28 40.4	
comp=Z,55nm,18.4s,MS3.3,baz=307,slow=41							
ARCES	**ARCESS Array B**	**36.10**	**342**	P	**P**	**08 11 43.6**	**+1.6**
comp=Z,2.1nm,0.9s,mb4.0,baz=126,slow=9.1,SNR=2.5							
NB2	**NORSAR Subarra**	**36.69**	**324**	P	**P**	**08 11 43.8**	**-3.4**
comp=Z,3.3nm,1.0s,mb4.1,baz=54,slow=5.9							
NOA	**NORSAR Array B**	**36.69**	**324**	LR	LR	08 28 07.0	
comp=Z,49nm,18.5s,MS3.3,baz=315,slow=38							
TORD	**Torodi Ar. Bea**	**54.52**	**259**	P	**P**	**08 14 11.3**	**+2.6**
TORD	**Torodi Ar. Bea**	**54.52**	**259**	P	**P**	**08 14 11.3**	**+2.6**
comp=Z,0.6nm,0.9s,mb3.6,baz=49,slow=7.8,SNR=3.3							
YKA	**Yellowknife Ar**	**79.97**	**356**	P	**P**	**08 16 50.1**	**+0.8**
comp=Z,0.4nm,0.7s,mb3.5,baz=1.1,slow=5.9,SNR=13							

OTT 20 08:09:50.2±2.0, 4120N×5521W, h18km, ML4.1/3, Atlantic Ocean, southeast of Nova Scotia. 650km southeast from Louisbourg, Ns, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GBN	**Guysborough**	**6.23**	**315**	PN	Pn	08 11 21.3	+0.1
GBN				SN	Sn	08 12 27.5	-4.4
GBN				Trac		08 12 35.7	
comp=Z,5.4nm,0.2s							
CHEG	**Cheticamp, Nov**	**6.85**	**327**	PN	Pn	08 11 29.3	-0.4
CHEG				SN	Sn	08 12 43.5	-3.7
CHEG				Trac		08 12 53.6	
comp=Z,6.8nm,0.2s							
DRLN	**Deer Lake**	**8.22**	**349**	PN	Pn	08 11 46.9	-1.6
DRLN				SN	Sn	08 13 15.4	-5.4
DRLN				Trac		08 13 21.0	
comp=Z,29nm,0.3s							
LMN	**Caledonia Moun**	**8.38**	**307**	PN	Pn	08 11 48.9	-1.8
LMN				SN	Sn	08 13 14.8	-10
LMN				Trac		08 13 25.7	
comp=Z,23nm,0.3s							
GGN	**Saint George**	**9.36**	**299**	PN	Pn	08 11 59.9	-4.3
GGN				SN	Sn	08 13 40.8	-8.1
BATG	**Bathurst New B**	**9.87**	**312**	PN	Pn	08 12 11.1	-0.1
BATG				SN	Sn	08 13 53.5	-7.9
NATG	**Natashquan Que**	**10.52**	**332**	PN	Pn	08 12 18.6	-1.4
NATG				SN	Sn	08 14 08.9	-8.4

CASC 20 08:13:13.1±1.3, 1184N×8377W, h34km±8km, MD3.8, 2D, Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRS1	**Puriscal**	**1.92**	**196**	*e*P	Pn	08 13 44.7	+1.3
PRS1				*e*S	Sn	08 14 11.4	+5.1
BOAB	**BOACO BROADBAN**	**.95**	**288**	⇓*e*P	Pn	08 13 45.1	+1.2
BOAB				*e*S	Sn	08 14 09.3	+2.1
URSC	**Urasca**	**1.99**	**180**	⇓*e*P	Pn	08 13 44.6	+0.2
URSC				*e*S	Sn	08 14 08.8	+0.6
LCR2	**La Lucha 2**	**2.10**	**186**	*e*P	Pn	08 13 47.0	+1.2
LCR2				*e*S	Sn	08 14 11.7	+0.9
BAR1		**2.62**	**170**	*e*P	Pn	08 13 53.4	+0.3

IDC 20 08:14:13.2±6.5, 971S×12793E, h0km, mb3.7/1, mb1 3.5/4, mb1mx3.3/13, mbtmp3.3/4, ML3.3/2, Error ellipse: s-maj=78.9km s-min=52.7km az=144.0, Timor Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**8.64**	**195**	Pn	Pn	08 16 18.6	-1.0
0.2nm,0.3s,baz=20,slow=9.0,SNR=4.7							
FITZ				Sn	Sn	08 18 01.3	+3.5
0.3nm,0.3s,baz=312,slow=16,SNR=5.0							
WRA	**Warramunga Arr**	**11.91**	**149**	Pn	Pn	08 17 03.5	-0.9
0.2nm,0.3s,baz=319,slow=13,SNR=15							
WRA				Sn	Sn	08 19 19.8	+1.7
0.3nm,0.3s,baz=333,slow=23,SNR=8.3							
ASAR	**Alice Springs**	**15.01**	**158**	Pn	Pn	08 17 46.2	-0.5
0.1nm,0.3s,baz=331,slow=9.7,SNR=5.6							
ASAR				Sn	Sn	08 20 40.9	+7.0
0.1nm,0.3s,baz=319,slow=20,SNR=4.0							
STKA	**Stephens Creek**	**25.44**	**152**	P	P	08 19 43.5	+0.6
1.3nm,1.0s,baz=323,slow=10,SNR=3.0							

*IDC **20** 08:20:56.6±0.9, 2565N×125.12E, h0km, mb3.7/6, mb1 3.8/7, mb1mx3.7/20, mbtmp3.7/7, ML3.4/1, MS3.2/1, Ms1 3.2/1, ms1mx2.6/33, Error ellipse: s-maj=32.6km s-min=18.9km az=67.0*
*ISCJB **20** 08:20:57.9±1.5, 2567N±006×125.10E±008, h19km±12km, mb3.6/6, Error ellipse: s-maj=14.2km s-min=6.7km az=38.4*
*JMA **20** 08:20:57.7±0.2, 2570N×125.12E, h25km±4km, M3.5*
*NEIC **20** 08:20:58.8±0.6, 2564N×12508E, MG3.5(JMA), Error ellipse: s-maj=15.4km s-min=12.5km az=48.0*
*NIED **20** 08:21:00, 2570N×125.10E, h8km, Mw3.6 Best double couple: M≥3.24000×10¹⁴ NP1:φs106.00000°, δ63.00000°, λ-53.00000°. NP2:φs227.00000°, δ45.00000°, λ-139.00000°.*

ISC 20 08:20:57.5±1.5, 2566N±005×12507E±008, h6km±9km, n16, σ0§78/21, mb3.6/6, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMJ	**Miyako jima 2**	**0.86**	**167**	P	**Pg**	**08 21 14.1**	**+0.1**
JMJ				*e*S	**Sg**	**08 21 25.5**	**+0.3**
JOGS	**Gusukube**	**0.94**	**161**	P	**Pg**	**08 21 15.5**	**-0.1**
JOGS				*e*S	**Sg**	**08 21 28.0**	**+0.2**
JTJ	**Tarama**	**1.06**	**198**	P	**Pg**	**08 21 17.6**	**-0.3**
JTJ				*e*S	**Sg**	**08 21 31.7**	**0.0**
JIJ	**Ishigaki jima**	**1.54**	**213**	P	**Pn**	**08 21 24.5**	**-0.9**
JIJ				*e*S	**Sn**	**08 21 44.7**	**-1.0**
JKE	**Kume jima 2**	**1.68**	**66**	P	**Pn**	**08 21 25.0**	**-2.4**
JKRS	**Kuro-shima**	**1.71**	**215**	P	**Pn**	**08 21 27.9**	**+0.1**
JKRS				*e*S	**Sn**	**08 21 51.2**	**+1.3**
JIH	**Iheya**	**2.94**	**61**	P	**Pn**	**08 21 45.8**	**+1.1**
JOW	**Kunigami**	**3.10**	**67**	Pn	**Pn**	**08 21 47.2**	**+0.3**
7.6nm,0.3s,baz=246,slow=12,SNR=12							
SONM	**Songino Array**	**26.59**	**331**	P	**P**	**08 26 37.5**	**+1.2**
0.6nm,0.6s,mb3.3,baz=148,slow=8.5,SNR=3.4							
MKAR	**Makanchi Array**	**39.83**	**313**	P	**P**	**08 28 31.8**	**+0.3**
0.4nm,0.4s,mb3.5,baz=97,slow=9.9,SNR=5.5							
ZALV	**Zalesovo Beam**	**41.02**	**324**	P	**P**	**08 28 41.4**	**+0.2**
2.0nm,0.7s,mb3.9,baz=109,slow=8.6,SNR=11							
WRA	**Warramunga Arr**	**46.21**	**168**	P	**P**	**08 29 22.9**	**-0.4**
0.4nm,0.5s,mb3.6,baz=349,slow=8.8,SNR=8.6							
ASAR	**Alice Springs**	**49.77**	**169**	P	**P**	**08 29 51.2**	**+0.4**
0.4nm,0.5s,mb3.7,baz=356,slow=10.0,SNR=15							
KWP	**Kalwaria**	**78.38**	**320**	*e*P	**P**	**08 32 57.5**	**-1.2**
34nm,0.5s							
KWP				*e*pP	pP	08 33 02.8	+1.9
YKA	**Yellowknife Ar**	**80.22**	**24**	P	**P**	**08 33 08.3**	**-0.2**
0.6nm,0.7s,mb3.6,baz=301,slow=5.3,SNR=17							
ISCO	**Idaho Springs**	**99.56**	**37**	*e*P	**P**	**08 34 42.0**	**+0.3**
7.2nm,0.4s							
ISCO				*e*pP	pP	08 34 46.6	+2.8

JMA 20 08:21:46.6±0.1, 2571N×12513E, h22km±2km, M4.1, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMJ	**Miyako jima 2**	**0.90**	**171**	P	Pb	08 22 03.2	-0.4
JMJ				*e*S	Sb	08 22 15.2	0.0
JOGS	**Gusukube**	**0.98**	**165**	P	Pb	08 22 04.4	-0.5
JOGS				*e*S	Sb	08 22 17.3	0.0
JTJ	**Tarama**	**1.13**	**200**	P	Pn	08 22 07.0	-0.1
JTJ				*e*S	Sb	08 22 21.6	-0.2

IDC 20 08:32:25.5±3.2, 1186N×9212E, h0km, mb3.6/5, mb1 3.7/5, mb1mx3.6/20, mbtmp3.6/5, Error ellipse: s-maj=128.3km s-min=21.9km az=65.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**0.64**	**109**	*e*P	x	08 32 55.4	
PBA				*e*S	x	08 33 04.9	
PBA				*ex*	x	08 33 06.7	
comp=E,13μm,0.5s							
PBA				*ex*	x	08 33 07.1	
comp=N,19μm,0.5s							
MKAR	**Makanchi Array**	**35.80**	**348**	P	P	08 39 27.2	+0.7
comp=N,0.2nm,0.4s,baz=172,slow=11,SNR=4.3							
SONM	**Songino Array**	**37.80**	**16**	P	P	08 39 43.2	-0.4
comp=N,0.2nm,0.4s,baz=197,slow=8.8,SNR=5.6							
ZALV	**Zalesovo Beam**	**42.38**	**354**	P	P	08 40 20.9	-0.5
comp=N,0.4nm,0.4s,baz=171,slow=10,SNR=4.2							
WRA	**Warramunga Arr**	**52.21**	**127**	P	P	08 41 38.6	0.0
comp=N,0.6nm,0.4s,baz=302,slow=10.0,SNR=19							
WB2	**Warramunga Arr**	**52.22**	**127**	*e*P	P	08 41 38.5	-0.1
ASAR	**Alice Springs**	**54.00**	**131**	P	P	08 41 52.0	+0.2
comp=N,0.2nm,0.5s,baz=308,slow=6.4,SNR=7.0							

*ISCJB **20** 09:03:31.6±0.4, 4367N±002×13.44E±003, h6km, Error ellipse: s-maj=3.6km s-min=3.0km az=179.0*
*CSEM **20** 09:03:31.9±0.1, 4366N×1339E, h16km±1km, MD2.9/25, Error ellipse: s-maj=1.9km s-min=1.4km az=59.0*
*NEIC **20** 09:03:32.6, 4366N×1337E, h6km, ML2.6(ROM), After ROM.*
*ROM **20** 09:03:32.6±0.2, 4366N×1337E, h6km±2km, Md2.9/25, Ml2.6/25, Error ellipse: s-maj=3.8km s-min=2.5km az=167.0*

ISC 20 09:03:32.7±0.4, 4367N±002×1340E±004, h9km±4km, n46, σ0§90/58, 6C-7D, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SENI	**Senigallia**	**0.13**	**287**	Pg	**Pg**	**09 03 35.4**	**-0.2**
SENI				Sg	**Sg**	**09 03 38.0**	**+0.4**
AOI	**Ancona**	**0.19**	**129**	Pg	**Pg**	**09 03 36.9**	**+0.3**
AOI				Sg	**Sg**	**09 03 41.1**	**+1.8**
2μm,0.3s							
CING	**Cingoli**	**0.33**	**207**	⇓*i*Pg	**Pg**	**09 03 39.2**	**+0.1**
CING				Sg	**Sg**	**09 03 45.2**	**+1.7**
479nm,0.4s							
ARVD	**Arcevia**	**0.38**	**243**	Pg	**Pg**	**09 03 39.7**	**-0.3**
417nm,0.6s							
FSSB	**Fossombrone**	**0.45**	**273**	Pg	**Pg**	**09 03 40.8**	**-0.7**
948nm,0.3s							
PESA	**Pesaro**	**0.49**	**304**	Pg	**Pg**	**09 03 41.5**	**-0.6**
PESA				Sg	**Sg**	**09 03 50.0**	**+1.4**
817nm,0.3s							
SNTG	**Esanatoglia**	**0.53**	**219**	⇓*i*Pg	**Pg**	**09 03 42.6**	**-0.4**
167nm,0.3s							
PIEI	**Pieia**	**0.64**	**258**	Pg	**Pg**	**09 03 44.1**	**-1.0**
PIEI				Sg	**Sg**	**09 03 55.2**	**+1.7**
554nm,0.3s							
RSM	**Repubblica di**	**0.74**	**291**	Pg	**Pg**	**09 03 46.8**	**0.0**
32nm,0.6s							
CESI	**CESI - Serrava**	**0.76**	**209**	⇓*i*Pg	**Pg**	**09 03 46.6**	**-0.6**
150nm,0.3s							
MURB	**Monte Urbino**	**0.76**	**238**	Pg	**Pg**	**09 03 46.7**	**-0.5**
1μm,0.3s							
OFFI	**Offida**	**0.76**	**164**	Pg	**Pg**	**09 03 48.9**	**+1.6**
1μm,0.5s							
ASS	**Assisi**	**0.82**	**222**	Pg	**Pg**	**09 03 47.6**	**-0.7**
5.0nm,0.3s							
BADI	**Badiali**	**0.85**	**260**	Pg	**Pg**	**09 03 48.5**	**-0.6**
209nm,0.3s							
NRCA	**Norcia**	**0.86**	**194**	Pg	**Pg**	**09 03 48.4**	**-0.8**
125nm,0.5s							
CRE	**Caprese Michel**	**1.05**	**268**	Pg	**Pg**	**09 03 54.0**	**+1.1**
90nm,0.4s							
TERO	**Teramo**	**1.06**	**172**	Pg	**Pg**	**09 03 52.2**	**-0.7**
307nm,0.7s							
LNSS	**Leonessa**	**1.10**	**194**	Pg	**Pg**	**09 03 53.5**	**-0.2**
475nm,0.3s							
CAMP	**Campotosto**	**1.13**	**180**	Pg	**Pg**	**09 03 53.3**	**-1.1**
42nm,0.6s							
SFI	**Santa Sofia**	**1.15**	**282**	Pg	**Pg**	**09 03 54.4**	**-0.3**
40nm,0.3s							
VCEL	**Villa Celiera**	**1.31**	**166**	Pg	**Pg**	**09 03 58.1**	**+0.2**
162nm,0.4s							
SACS	**San Casciano d**	**1.36**	**234**	Pg	**Pg**	**09 03 58.3**	**-0.5**
126nm,0.8s							
VMG	**Vicchio**	**1.38**	**283**	Pg	**Pg**	**09 03 59.1**	**+0.1**
28nm,0.4s							
NVLJ	**Novalja**	**1.39**	**49**	*e*Pg	Pn	09 03 57.6	-0.5
NVLJ				Sg	**Sn**	09 04 15.9	-0.6
NVLJ	**Novalja**	**1.39**	**49**	*e*Pg	Pn	09 03 57.5	-0.6
NVLJ				Sg	**Sn**	09 04 15.9	-0.6
MNS	**Montasola**	**1.39**	**203**	Pg	**Pg**	**09 03 58.9**	**-0.4**
144nm,0.5s							
FAGN	**Fagnano**	**1.41**	**174**	Pg	**Pg**	**09 03 58.9**	**-0.8**
186nm,0.4s							
SEI	**Scarperia**	**1.53**	**285**	Pg	**Pg**	**09 04 01.6**	**-0.3**
143nm,0.4s							
CSNT	**Castellina Chi**	**1.55**	**263**	Pg	**Pg**	**09 04 01.8**	**-0.5**
32nm,0.6s							
LATE	**Laterza**	**1.57**	**228**	Pg	**Pg**	**09 04 02.1**	**-0.7**
14nm,0.7s							
ARCI	**Arcidosso**	**1.63**	**240**	Pg	**Pg**	**09 04 02.9**	**-0.9**
34nm,0.8s							
CERT	**Cerreto**	**1.75**	**190**	Pg	**Pn**	**09 04 04.0**	**+1.0**
79nm,0.8s							
CRMI	**Cagnano**	**1.77**	**275**	Pg	**Pn**	**09 04 04.6**	**+1.3**
8.0nm,0.8s							
VVLD	**Villa Vallelon**	**1.81**	**175**	Pg	**Pg**	**09 04 06.9**	**-0.3**
116nm,0.9s							
GRFL	**Gerfalco**	**1.84**	**254**	Pg	**Pn**	**09 04 04.1**	**-0.2**
12nm,0.7s							
PZZT	**Monte Pizzetto**	**1.89**	**285**	Pg	**Pn**	**09 04 06.1**	**+1.1**
31nm,0.6s							
SDI	**San Donato**	**1.98**	**171**	Pg	**Pn**	**09 04 08.0**	**+1.7**
VOY	**Vojsko**	**2.39**	**8**	*e*Pn	**Pn**	**09 04 11.2**	**-0.7**
VOY				*e*(Sn)	**Sn**	**09 04 41.0**	**-0.2**
VOY				*e*		09 04 42.7	
VOY	**Vojsko**	**2.39**	**8**	*e*Pn	**Pn**	**09 04 11.2**	**-0.7**
VOY				Sn	**Sn**	**09 04 41.0**	**-0.2**
DRE	**Drenchia**	**2.51**	**4**	⇑*i*Pn	**Pn**	**09 04 12.2**	**-1.4**
BAD	**Bernadia**	**2.57**	**358**	⇑*i*Pn	**Pn**	**09 04 13.8**	**-0.6**
OBKA	**Obir**	**2.95**	**16**	⇓*i*Pn	**Pn**	**09 04 15.1**	**-4.6**
OBKA	**Obir**	**2.95**	**16**	⇑*i*Sn	**Sn**	**09 04 46.9**	**-8.2**
OBKA				⇑*i*Sg	**Sg**	**09 04 58.1**	**-9.4**
comp=E,36nm,0.4s							
OBKA	**Obir**	**2.95**	**16**	⇓*e*Pn	**Pn**	**09 04 20.7**	**+1.0**
OBKA				⇓*i*Sg	**Sg**	**09 05 07.9**	**+0.4**
36nm,0.4s							
FETA	**Feichten**	**3.84**	**332**	⇑*i*Pn	**Pn**	**09 04 35.4**	**+3.6**
FETA				⇓*i*Sn	**Sn**	**09 05 21.6**	**+4.5**
4.6nm,0.4s							
SQTA	**Sankt Quirin**	**3.87**	**337**	⇑*i*Pg	**Pn**	**09 04 34.0**	**+1.7**

MAN 20 09:03:37, 933N×12669E, h36km, mb4.3, ML3.2, MS3.0, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**1.27**	**291**	⇑*e*P	Pn	09 03 57.4	-0.9
SCPH				*e*S	Sn	09 04 15.4	+1.3
TBP	**Tagbilaran**	**2.82**	**278**	*e*P	Pn	09 04 21.3	+1.8
TBP				*e*S	Sn	09 04 54.4	+2.1

*CSEM **20** 09:13:01.5±0.6, 3869N×2908W, h2km±7km, ML3.0, Error ellipse: s-maj=10.9km s-min=3.6km az=60.0, After PDA*
*PDA **20** 09:13:01.5±0.6, 3869N×2908W, h2km±7km, MD3.6, ML3.0, Error ellipse: s-maj=10.9km s-min=3.6km az=60.0*

SVSA 20 09:13:01.5±0.6, 3869N×2908W, h2km±7km, MD3.6, ML3.0, Error ellipse: s-maj=10.9km s-min=3.6km az=60.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CALA	**Caldeira**	**0.32**	**109**	*i*P	Pg	09 13 07.3	-0.3
CALA				*e*S	Sg	09 13 11.6	-0.1
CALA	**Caldeira**	**0.32**	**109**	*e*S	Sg	09 13 11.6	-0.1
HOR	**Horta**	**0.39**	**114**	*e*P	Pg	09 13 08.3	-0.7
HOR				*i*S	Sg	09 13 13.7	-0.3
PICO	**Pico**	**0.55**	**110**	*e*P	Pg	09 13 11.3	-0.7
PICO				*e*S	Sg	09 13 18.6	-0.5
ROSA	**Rosais**	**0.66**	**87**	*i*P	Pg	09 13 12.8	-1.3
ROSA				*i*S	Sg	09 13 21.3	-1.4
ROSA	**Rosais**	**0.66**	**87**	*i*S	Sg	09 13 21.3	-1.4
PMAN	**Manadas**	**0.78**	**94**	*e*P	Pg	09 13 14.3	-2.2
PMAN				*e*S	Sg	09 13 23.9	-2.7
PMAN				A		09 13 24.5	
448nm,0.3s							
PMAN	**Manadas**	**0.78**	**94**	*e*P	Pg	09 13 14.3	-2.2
PMAN				*e*S	Sg	09 13 23.9	-2.7
PSCM	**Serra do Cume**	**1.54**	**89**	*e*P	Pn	09 13 25.0	-4.9
PSCM				*e*S	Sn	09 13 42.7	-7.7
PSCM				A		09 13 50.1	
72nm,0.4s							
PSCM	**Serra do Cume**	**1.54**	**89**	*e*P	Pn	09 13 25.0	-4.9
PSCM				*e*S	Sn	09 13 42.7	-7.7
CMLA	**Cha da Macela**	**2.95**	**107**	*e*P	Sn	09 14 16.4	-8.9

*ISCJB **20** 09:20:08.4±0.6, 4193N±002×23.11E±006, h4km±8km, Error ellipse: s-maj=7.0km s-min=3.9km az=172.8*
*CSEM **20** 09:20:08.9±0.1, 4196N×2313E, h15km, ML2.1, Error ellipse: s-maj=1.9km s-min=0.8km az=87.0*
*THE **20** 09:20:09.2, 4192N×23.11E, h2km, ML2.6*
*BEO **20** 09:20:10.2±0.7, 4194N×23.11E, ML2.1/4*

ISC 20 09:20:09.2±0.6, 4194N±002×2312E±006, h8km±8km, n14, σ0§35/26, 1C-1D, Greece-Bulgaria border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VTS	**Vitosha**	**0.66**	**6**	*e*Pg	**Pg**	**09 20 22.3**	**+0.4**
VTS				*e*Sg	**Sg**	**09 20 30.8**	**+0.2**
VTS	**Vitosha**	**0.66**	**6**	⇑*i*Pg	**Pg**	**09 20 22.0**	**+0.1**
VTS				*e*Sg	**Sg**	**09 20 30.6**	**+0.1**
STIP	**Stip**	**0.74**	**251**	*e*Sg	**Sg**	**09 20 32.9**	**-0.1**
VAY	**Valandovo**	**0.74**	**214**	*e*Pg	**Pg**	**09 20 23.3**	**-0.1**
VAY				*e*Sg	**Sg**	**09 20 33.0**	**-0.1**
VAY	**Valandovo**	**0.74**	**214**	⇓*i*Pg	**Pg**	**09 20 23.6**	**+0.2**
VAY				*e*Sg	**Sg**	**09 20 33.5**	**+0.5**
KNT	**Kendrikon**	**0.79**	**192**	*e*Pg	**Pg**	**09 20 24.4**	**-0.1**
KNT				*e*Sg	**Sg**	**09 20 34.5**	**-0.2**
SRS	**Serrai**	**0.89**	**156**	*e*Pg	**Pg**	**09 20 26.1**	**-0.3**
SRS				*e*Sg	**Sg**	**09 20 38.5**	**+0.5**
GRG	**Griva**	**1.12**	**209**	*e*Pg	**Pg**	**09 20 30.3**	**-0.3**
GRG				*e*Sg	**Sg**	**09 20 45.4**	**+0.2**
GRG	**Griva**	**1.12**	**209**	*e*Pg	**Pg**	**09 20 30.3**	**-0.4**
GRG				*e*Sg	**Sg**	**09 20 45.3**	**+0.2**
SOH	**Sokhos**	**1.13**	**171**	*e*Pg	**Pg**	**09 20 30.4**	**-0.5**
SOH				*e*Sg	**Sg**	**09 20 45.4**	**-0.1**
BARS	**Barje**	**1.30**	**313**	*e*Pg	**Pg**	**09 20 33.9**	**-0.3**
BARS				*e*Sg	**Sg**	**09 20 51.5**	**+0.4**
HORT	**Hortiatis**	**1.34**	**181**	*e*Pg	**Pg**	**09 20 34.3**	**-0.6**
HORT				*e*Sg	**Sg**	**09 20 53.1**	**+0.9**
PLG	**Polygyros**	**1.58**	**171**	*e*Pg	**

SLR				*e*S	Sn	09 39 35.5	-0.5
SLR				AML	AML	09 40 29.9	
	comp=Z,406nm,0.7s						
ERPM	**east rand prop**	**6.54**	**225**	*e*P	Pn	09 38 33.4	+3.3
ERPM				*e*S	Sn	09 39 42.6	-2.3
ERPM				AML	AML	09 40 37.1	
	comp=Z,171nm,0.5s						
KSR	**Koster**	**7.25**	**234**	*e*P	Pn	09 38 45.7	+5.8
KSR				*e*S	Sn	09 40 03.6	+1.2
KSR				AML	AML	09 40 57.0	
	comp=Z,190nm,0.6s						
PRYS	**Parys**	**7.58**	**225**	*e*P	Pn	09 38 48.1	+3.6
PRYS				*e*S	Sn	09 40 06.8	-3.7
PRYS				AML	AML	09 41 17.3	
	comp=Z,119nm,0.6s						
LBTB	**Lobatse**	**7.89**	**244**	*e*P	Pn	09 38 57.1	+8.5
LBTB				*e*S	Sn	09 40 22.9	+4.8
LBTB				AML	AML	09 41 16.0	
	comp=Z,147nm,0.5s						
LBTB	**Lobatse**	**7.89**	**244**	Pn	Pn	09 38 53.8	+5.1
	comp=Z,3.9nm,0.3s,baz=63,slow=14,SNR=36						
LBTB				Sn	Sn	09 40 21.2	+3.2
	comp=Z,11nm,0.3s,baz=221,slow=3.2,SNR=6.1						
LBTB				Lg		09 41 05.3	
	comp=Z,11nm,0.3s,baz=344,slow=18,SNR=9.4						
LBTB				LR	LR	09 42 15.3	
	comp=Z,109nm,19.4s,baz=94,slow=39						
LSZ	**Lusaka**	**8.05**	**321**	*e*Pn	Pn	09 38 49.2	-1.6
	comp=Z,36nm,0.4s						
SEK	**Senekal**	**8.43**	**217**	*e*P	Pn	09 38 57.2	+1.1
SEK				*e*S	Sn	09 40 23.2	-8.1
SEK				AML	AML	09 41 37.9	
	comp=Z,105nm,0.6s						
SWZ	**Schweizer**	**9.16**	**232**	*e*P	Pn	09 39 10.9	+4.9
SWZ				*e*S	Sn	09 40 47.4	-1.9
SWZ				AML	AML	09 41 53.6	
	comp=Z,130nm,0.5s						
BOSA	**Boshof**	**10.10**	**225**	*e*P	Pn	09 39 22.6	+3.7
BOSA				*e*S	Sn	09 41 06.4	-5.8
BOSA				AML	AML	09 42 50.4	
	comp=Z,56nm,0.7s						
BOSA	**Boshof**	**10.10**	**225**	Pn	Pn	09 39 23.7	+4.8
BOSA				Sn	Sn	09 41 11.9	-0.3
BOSA				Lg		09 42 16.4	
BOSA	**Boshof**	**10.10**	**225**	Pn	Pn	09 39 23.7	+4.8
	comp=Z,1.5nm,0.3s,baz=48,slow=11,SNR=19						
BOSA				Sn	Sn	09 41 11.9	-0.3
	comp=Z,3.0nm,0.3s,baz=353,slow=17,SNR=3.3						
BOSA				Lg		09 42 16.4	
	comp=Z,6.5nm,0.3s,baz=302,slow=19,SNR=3.3						
HVD	**Gariep Dam**	**11.37**	**217**	*e*P	Pn	09 39 37.5	+1.2
HVD				*e*S	Sn	09 41 32.9	-11
HVD				AML	AML	09 43 02.0	
	comp=Z,20nm,0.5s						
UPI	**Upington**	**12.85**	**236**	*e*P	Pn	09 40 03.0	+6.3
UPI				*e*S	Sn	09 42 17.3	-2.5
UPI				AML	AML	09 42 36.0	
	comp=Z,16nm,0.4s						
OPO	**Ambohidratompo**	**13.33**	**79**	Pn	Pn	09 40 01.8	-1.3
	comp=Z,0.6nm,0.3s,baz=256,slow=12,SNR=4.2						
OPO				Sn	Sn	09 42 18.6	-13
	comp=Z,0.5nm,0.3s,baz=274,slow=19,SNR=2.7						
TSUM	**Tsumeb**	**15.02**	**277**	*e*Pn	Pn	09 40 25.9	-0.2
	comp=Z,1.7nm,0.4s						
SUR	**Sutherland**	**15.45**	**224**	*e*P	Pn	09 40 35.7	+3.9
SUR				*e*S	Sn	09 43 13.7	-9.5
SUR	**Sutherland**	**15.45**	**224**	Pn	Pn	09 40 38.4	+6.6
	comp=Z,1.6nm,0.3s,baz=53,slow=14,SNR=17						
SUR				Sn	Sn	09 43 21.1	-2.1
	comp=Z,1.5nm,0.3s,baz=324,slow=22,SNR=4.2						
SUR				Lg		09 45 07.0	
	comp=Z,1.5nm,0.3s,baz=106,slow=9.9,SNR=4.3						
TORD	**Torodi Ar. Bea**	**46.53**	**315**	P	P	09 45 21.7	-0.1
	comp=Z,1.3nm,0.8s,mb3.9,baz=130,slow=7.1,SNR=11						
DBIC	**Dimbokro**	**46.90**	**303**	P	P	09 45 26.4	+1.7
	comp=Z,1.4nm,0.5s,mb4.2,baz=131,slow=9.0,SNR=5.8						
BVAR	**Borovoye Array**	**81.02**	**22**	P	P	09 49 08.7	+0.2
	comp=Z,0.5nm,0.7s,mb3.5,baz=213,slow=5.0,SNR=3.3						
MKAR	**Makanchi Array**	**81.18**	**32**	P	P	09 49 09.0	-0.5
	comp=Z,0.1nm,0.3s,mb3.2,baz=228,slow=4.7,SNR=3.8						
ASAR	**Alice Springs**	**90.52**	**116**	P	P	09 50 00.2	+3.7
	comp=Z,0.5nm,0.8s,mb3.9,baz=238,slow=4.1,SNR=7.0						

MOS ***20*** *09:49:50.9±0.8, 5360N×16420W, h17km, mb4.6/9, Error ellipse: s-maj=21.3km s-min=9.8km az=98.6*
IDC ***20*** *09:49:50.2±1.2, 5361N×16420W, h0km, mb4.0/13, mb1 4.1/13, mb1mx3.9/26, mbtmp4.0/13, MS3.7/3, Ms1 3.7/3, ms1mx3.0/32, Error ellipse: s-maj=36.0km s-min=15.7km az=8.0*
BJI ***20*** *09:49:54.0, 5370N×16420W, h37km, mB4.9, mb4.8, Ms4.7, Msz4.5*
ISCJB ***20*** *09:49:55.7±1.0, 5371N±0.10×16408W±007, h49km±6km, mb4.4/29, MS3.7/4, Error ellipse: s-maj=16.7km s-min=6.1km az=169.3*
NEIC ***20*** *09:49:56.2±0.9, 5366N×164.17W, h38km±6km, mb4.4/5, ML3.8(PMR), ML3.5(AEIC), Error ellipse: s-maj=13.3km s-min=4.8km az=172.0*

ISC 20 09:49:56.6±1.0, 537N±01×16411W±007, h39km±7km, h36km±3km: pP-P, n60, σ1$00/64, mb4.4/29, MS3.7/4, 3D, Unimak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKUT	**Akutan**	**1.08**	**295**	*e*P	Pn	09 50 15.0	-0.2
AKLV	**Akutan Long Va**	**1.19**	**294**	P	Pn	09 50 16.2	-0.5
AKLV				S	Sn	09 50 35.1	+3.5
AKGG	**Akutan Green G**	**1.23**	**296**	P	Pn	09 50 17.0	-0.1
FALS	**False Pass**	**1.24**	**19**	P	Pn	09 50 18.8	+1.3
FALS				S	Sn	09 50 41.4	+8.5
UNV	**Unalaska Valle**	**1.43**	**277**	P	Pn	09 50 18.0	-2.0
UNV				S	Sn	09 50 38.1	+0.6
SDPT	**Sand Point**	**2.69**	**50**	P	Pn	09 50 37.8	+0.4
SVW2	**Sparrevohn**	**8.73**	**28**	*e*Pn	Pn	09 51 59.8	-0.4
MCK	**McKinley**	**12.75**	**32**	*e*Pn	Pn	09 52 55.7	+0.7
COLA	**College**	**13.90**	**30**	*e*Pn	Pn	09 53 10.7	0.0
COLA	**College**	**13.90**	**30**	*e*P	Pn	09 53 10.1	-0.6
EGAK	**Eagle**	**16.05**	**37**	*e*Pn	Pn	09 53 39.2	+0.2
DAWY	**Dawson**	**16.35**	**41**	*e*Pn	Pn	09 53 42.7	-0.1
DLBC	**Dease Lake**	**19.47**	**62**	P	Pn	09 54 19.1	-2.1
	baz=292,slow=16						
BILL	**Bilibino**	**20.06**	**327**	*e*P	P	09 54 25.7	-0.3
BILL				pmax	pmax		
	comp=Z,3.0nm,0.9s						
BILL				MLR	MLR		
	comp=Z,300nm,17.0s,MS3.7						
INK	**Inuvik**	**20.51**	**33**	*e*P	P	09 54 30.8	-0.1
INK	**Inuvik**	**20.51**	**33**	P	P	09 54 29.9	-1.0
	comp=Z,3.7nm,0.5s,baz=249,slow=13,SNR=20						
MA2	**Magadan**	**25.10**	**302**	*e*P	P	09 55 16.8	-0.4
MA2				pmax	pmax		
	comp=Z,4.0nm,0.4s,mb4.3						
YKA	**Yellowknife Ar**	**26.96**	**51**	P	P	09 55 34.6	+0.6
	comp=Z,0.7nm,0.6s,mb3.3,baz=270,slow=8.1,SNR=24						
TIXI	**Tiksi**	**33.28**	**328**	*e*P	P	09 56 30.6	+0.9
HLID	**Hailey**	**33.73**	**87**	*e*P	P	09 56 36.3	+2.4
	comp=Z,2.3nm,0.7s,mb4.2						
NVAR	**Mina Array Bea**	**34.59**	**97**	P	P	09 56 41.9	+0.5
	comp=Z,0.3nm,0.6s,mb3.4,baz=309,slow=9.0,SNR=2.8						
YAK	**Yakutsk**	**34.71**	**311**	*e*P	P	09 56 41.8	-0.4
YAK				pmax	pmax		
	comp=Z,5.0nm,0.5s,mb4.7						
ULM	**Lac du Bonnet**	**40.72**	**66**	P	P	09 57 32.2	-0.9
	comp=Z,1.1nm,0.8s,mb3.5,baz=284,slow=8.3,SNR=2.9						
MDJ	**Mudanjiang**	**42.83**	**286**	P	P	09 57 48.5	-1.8
MDJ				AMB	AMB		
	comp=Z,11nm,2.2s,mb4.2						
MDJ				AMB	AMB		
	comp=Z,40nm,3.0s						
BOD	**Bodaibo**	**43.62**	**310**	*e*P	P	09 57 54.6	-1.9
CN2	**Changchun**	**45.68**	**288**	*e*P	P	09 58 14.0	+0.8
KSRS	**Korea Array**	**48.37**	**279**	P	P	09 58 32.5	-1.7
	comp=Z,2.3nm,0.7s,mb4.3,baz=51,slow=6.6,SNR=6.7						
TXAR	**Lajitas Array**	**49.61**	**94**	P	P	09 58 43.2	-0.6
	comp=Z,0.4nm,0.5s,mb3.7,baz=295,slow=5.4,SNR=8.2						
TLY	**Talaya**	**52.08**	**308**	*e*P	P	09 59 02.4	+0.3
TLY	**Talaya**	**52.08**	**308**	*d*P	P	09 59 02.0	-0.1
TLY				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.7						
ULN	**Ulaanbaatar**	**52.95**	**302**	*e*P	P	09 59 07.9	-0.7
	comp=Z,2.9nm,0.6s,mb4.4						
ULN	**Ulaanbaatar**	**52.95**	**302**	*e*P	P	09 59 07.0	-1.6
SONM	**Songino Array**	**53.30**	**303**	P	P	09 59 11.1	-0.1
	comp=Z,1.5nm,0.7s,mb4.0,baz=46,slow=7.1,SNR=9.4						
HHC	**Hu-ho-hao-te**	**55.36**	**293**	*e*P	P	09 59 27.5	+1.2
HHC				AP	pP	09 59 37.8	+0.1
HHC				XP	sP	09 59 42.9	+0.6
HHC				PCP	PcP	10 00 30.3	+4.0
HHC				PP	PP	10 01 30.0	+0.1
HHC				PCS	PcS	10 04 23.8	-2.5
HHC				S	S	10 07 13.1	+5.5
HHC				XS	sS	10 07 24.1	-2.4
HHC				SCS	ScS	10 09 10.6	-1.3
HHC				SS	SS	10 10 54.4	+2.6
HHC				AMB	AMB		
	comp=Z,12nm,0.3s,mb5.4						
HHC				AMB	AMB		
	comp=Z,149nm,5.0s						
HHC				LR	LR		
	comp=E,258nm,27.6s						
HHC				LR	LR		
	comp=Z,161nm,5.5s						
ARCES	**ARCESS Array B**	**56.89**	**356**	P	P	09 59 36.1	-0.6
	comp=Z,3.0nm,0.9s,mb4.3,baz=7.2,slow=6.7,SNR=6.6						
NJ2	**Nanjing**	**57.46**	**281**	*e*P	P	09 59 43.4	+2.1
NJ2				AMB	AMB		
	comp=Z,30nm,0.8s,mb5.4						
ZALV	**Zalesovo Beam**	**58.53**	**320**	LR	LR	10 26 54.4	
	comp=Z,39nm,18.7s,MS3.6,baz=160,slow=38						
LZH	**Lanzhou**	**62.99**	**295**	*e*P	P	10 00 20.4	+1.3
LZH				AP	pP	10 00 30.8	+0.1
LZH				XP	sP	10 00 34.6	-0.6
LZH				AMB	AMB		
	comp=Z,15nm,1.0s,mb5.1						
LZH				AMB	AMB		
	comp=Z,73nm,4.5s						
KURK	**Kurchatov**	**63.43**	**321**	*e*P	P	10 00 21.4	-0.4
	comp=Z,2.0nm,0.8s,mb4.3						
KURK	**Kurchatov**	**63.43**	**321**	*e*P	P	10 00 21.4	-0.4
KURK				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.3						
BVAR	**Borovoye Array**	**64.41**	**327**	P	P	10 00 28.5	+0.3
BVAR				LR	LR	10 31 46.6	
BVAR	**Borovoye Array**	**64.41**	**327**	P	P	10 00 28.5	+0.3
	comp=Z,4.0nm,0.6s,mb4.6,baz=42,slow=6.7,SNR=23						
BVAR				LR	LR	10 31 46.6	
	comp=Z,71nm,19.3s,MS3.9,baz=237,slow=39						
BRVK	**Borovoye**	**64.41**	**327**	*e*P	P	10 00 28.6	+0.4
ARU	**Arti**	**64.82**	**335**	*d*P	P	10 00 29.3	-1.5
ARU				*e*		10 01 03.3	
ARU				*e*S	S	10 09 07.5	-0.9
ARU				*e*SS	SS	10 13 18.5	-0.6
ARU				pmax	pmax		
	comp=Z,4.0nm,0.5s,mb4.7						
FINES	**FINESS Array B**	**64.93**	**355**	P	P	10 00 31.6	+0.1
	comp=Z,3.6nm,1.0s,mb4.4,baz=27,slow=6.4,SNR=5.0						
MK31	**Makanchi Array**	**65.14**	**316**	*e*P	P	10 00 32.5	-0.5
MKAR	**Makanchi Array**	**65.14**	**316**	*i*P	P	10 00 32.0	-1.0
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
MKAR	**Makanchi Array**	**65.14**	**316**	P	P	10 00 32.3	-0.7
	comp=Z,1.0nm,0.6s,mb4.0,baz=46,slow=6.0,SNR=11						
MKAR				LR	LR	10 30 20.3	
	comp=Z,48nm,18.2s,MS3.7,baz=177,slow=37						
CD2	**Chengdu**	**66.93**	**291**	*e*P	P	10 00 45.4	+0.6
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.9						
CD2				AMB	AMB		
	comp=Z,30nm,5.8s						
GYA	**Guiyang**	**68.69**	**286**	P	P	10 00 55.8	-0.1
GYA				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.8						
AKTK	**Aktyubinsk**	**70.37**	**333**	P	P	10 01 06.6	+0.7
AKTO	**Aktyubinsk**	**70.37**	**333**	P	P	10 01 06.6	+0.7
	comp=Z,5.5nm,0.8s,mb4.6,baz=38,slow=6.5,SNR=25						
AAK	**Ala-Archa**	**71.71**	**318**	*e*P	P	10 01 13.8	-0.4
	comp=Z,3.0nm,0.6s,mb4.4						
AAK	**Ala-Archa**	**71.71**	**318**	*d*P	P	10 01 14.4	+0.3
AAK				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.3						
KMI	**Kunming**	**71.95**	**288**	P	P	10 01 17.6	+1.7
KMI				AMB	AMB		
	comp=Z,7.0nm,0.8s,mb4.6						
AML	**Almayashu**	**72.45**	**319**	*e*P	P	10 01 20.0	+1.4
	comp=Z,3.7nm,0.8s,mb4.4						
AKASG	**Malin Array Be**	**75.38**	**351**	*i*P	P	10 01 35.7	+0.1
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
AKASG	**Malin Array Be**	**75.38**	**351**	P	P	10 01 34.9	-0.7
	comp=Z,0.6nm,0.3s,mb3.9,baz=8.7,slow=5.3,SNR=5.9						
BFO	**Black Forest**	**78.16**	**5**	*e*P	P	10 01 46.8	-4.5
BFO				*e*	pP	10 01 57.6	-5.5
KIV	**Kislovodsk**	**80.06**	**341**	*e*P	P	10 02 02.0	+0.3
KIV				pmax	pmax		
	comp=Z,9.0nm,1.7s,mb4.4						

IDC 20 09:59:25.0±2.7, 2069S×6872W, h110km±21km, mb3.1/2, mb1 3.1/6, mb1mx3.0/21, mbtmp3.0/6, Error ellipse: s-maj=41.3km s-min=18.7km az=81.0, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**4.42**	**7**	P	Pn	10 00 31.7	+1.6
	0.7nm,0.3s,baz=188,slow=11,SNR=15						
LPAZ				S	Sn	10 01 21.8	+1.3
	0.3nm,0.3s,baz=219,slow=18,SNR=3.0						
SIV	**San Ignacio**	**8.63**	**58**	P	Pn	10 01 25.8	-1.3
	1.0nm,0.3s,baz=249,slow=11,SNR=19						
CFAA	**Coronel Fontan**	**10.88**	**178**	P	Pn	10 01 56.3	-1.2
	0.0nm,0.3s,baz=16,slow=15,SNR=2.9						
CFAA				S	Sn	10 03 46.9	-10
	0.0nm,0.3s,baz=288,slow=20,SNR=2.3						
CPUP	**Villa Florida**	**11.85**	**120**	P	Pn	10 02 12.5	+2.0
	0.5nm,0.3s,baz=306,slow=10.0,SNR=4.8						
TORD	**Torodi Ar. Bea**	**76.91**	**70**	P	P	10 11 05.7	-0.1
	0.7nm,0.6s,baz=251,slow=5.5,SNR=12						
YKA	**Yellowknife Ar**	**90.49**	**341**	P	P	10 12 14.2	+0.3
	0.1nm,0.8s,baz=141,slow=6.2,SNR=2.7						
YKA				pP	pP	10 12 43.6	+1.0
	0.2nm,0.6s,baz=133,slow=4.7,SNR=5.6						

NEIC ***20*** *10:17:27.6±2.0, 7.11S×129.47E, h73km±18km, mb4.3/1, Error ellipse: s-maj=21.7km s-min=13.0km az=61.0*
IDC ***20*** *10:17:28.0±4.4, 7.12S×129.57E, h75km±38km, mb3.6/5, mb1 4.1/9, mb1mx3.9/14, mbtmp4.0/9, ML4.8/4, Error ellipse: s-maj=53.1km s-min=19.3km az=63.0*
ISCJB ***20*** *10:17:29.0±2.5, 72S±0.1×129.5E±0.1, h105km±25km, mb3.8/6, Error ellipse: s-maj=27.1km s-min=13.1km az=38.8*

ISC 20 10:17:27.3±2.6, 71S±01×12932E±008, h66km±25km, n19, σ0$84/18, mb3.8/6, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**6.33**	**151**	*e*P	Pn	10 19 03.8	+5.7
	7.9nm,0.3s						
KAKA				*e*S	Sn	10 20 09.1	0.0
BATI	**Kupang**	**6.37**	**241**	P	Pn	10 19 04.0	+5.4
	40nm,0.3s,baz=92,slow=3.8,SNR=31						
BATI				S	Sn	10 20 08.9	-1.0
	37nm,0.3s,baz=70,slow=17,SNR=15						
FITZ	**Fitzroy Crossi**	**11.47**	**198**	P	Pn	10 20 08.6	+0.3
	7.1nm,0.3s,baz=30,slow=12,SNR=78						
FITZ				S	Sn	10 22 07.0	-7.8
	2.8nm,0.3s,baz=88,slow=23,SNR=4.9						
WRAB	**Tennant Creek**	**13.62**	**159**	*e*P	Pn	10 20 37.3	-0.2
	19nm,0.8s						
WRAB				*e*S	Sx	10 22 56.4	
WRA	**Warramunga Arr**	**13.63**	**160**	P	Pn	10 20 37.4	-0.2
	4.1nm,0.3s,baz=340,slow=13,SNR=47						
WRA				S	Sx	10 22 55.9	
	3.1nm,0.3s,baz=336,slow=23,SNR=13						
WB2	**Warramunga Arr**	**13.63**	**160**	*e*P	Pn	10 20 37.4	-0.3
WB2				*e*S	Sx	10 22 50.4	
MBWA	**Marble Bar**	**16.74**	**213**	*e*P	Pn	10 21 19.6	+2.0
ASAR	**Alice Springs**	**17.01**	**165**	P	Pn	10 21 21.7	+0.7
	1.9nm,0.3s,baz=336,slow=9.7,SNR=108						
ASAR				S	Sx	10 24 21.1	
	1.8nm,0.3s,baz=347,slow=25,SNR=7.9						
FORT	**Forrest**	**23.55**	**183**	*e*P	P	10 22 32.3	+0.5
	6.8nm,0.5s,mb4.2						
STKA	**Stephens Creek**	**27.15**	**157**	P	P	10 23 02.6	-1.8
	1.9nm,0.4s,mb3.9,baz=324,slow=11,SNR=5.0						
SONM	**Songino Array**	**58.36**	**342**	P	P	10 27 16.1	+0.5
	0.2nm,0.5s,mb3.4,baz=150,slow=6.1,SNR=3.0						
MKAR	**Makanchi Array**	**67.97**	**327**	P	P	10 28 20.3	+1.0
	1.1nm,0.6s,mb3.9,baz=122,slow=7.8,SNR=11						
ZALV	**Zalesovo Beam**	**71.41**	**334**	P	P	10 28 39.5	-0.8
	0.5nm,0.4s,mb3.7,baz=123,slow=5.3,SNR=3.8						
KURK	**Kurchatov**	**72.28**	**329**	*e*P	P	10 28 45.1	-0.5
MAW	**Mawson**	**74.58**	**201**	P	P	10 28 58.8	-0.1
	0.6nm,0.6s,mb3.5,baz=38,slow=14,SNR=3.5						
TORD	**Torodi Ar. Bea**	**128.17**	**281**	PKP	PKPdf	10 36 25.4	-1.7
	0.5nm,0.7s,baz=80,slow=1.9,SNR=3.4						
CPUP	**Villa Florida**	**146.11**	**169**	PKPbc	PKPbc	10 37 00.2	-0.6
CPUP	**Villa Florida**	**146.11**	**169**	PKPbc	PKPbc	10 37 00.2	-0.6
	0.4nm,0.3s,baz=159,slow=0.5,SNR=3.4						
LPAZ	**La Paz**	**151.02**	**144**	PKPbc	PKPbc	10 37 14.9	+1.1
	0.7nm,0.7s,baz=270,slow=4.0,SNR=3.4						

CSEM ***20*** *10:23:41.9±0.1, 4696N×1326E, h0km, ML3.3/10, Error ellipse: s-maj=1.2km s-min=0.9km az=66.0*
VIE ***20*** *10:23:41.6±0.1, 4699N×1325E, h7km±3km, mb2.4/9, ML2.8/14, Error ellipse: s-maj=1.3km s-min=0.7km az=14.0 6 km E of Mallnitz*
ISCJB ***20*** *10:23:41.1±0.3, 4704N±001×1327E±002, h12km±5km, Error ellipse: s-maj=2.6km s-min=2.4km az=135.2*
ROM ***20*** *10:23:43.3±0.5, 4696N×1319E, h10km, Md2.5/3, Ml2.0/1, Error ellipse: s-maj=5.1km s-min=3.7km az=25.0*
BGR ***20*** *10:23:43.9±1.3, 47.14N×1331E, h5km, ML2.6/2, Error ellipse: s-maj=17.8km s-min=7.8km az=151.0*
PRU ***20*** *10:23:44.7, 4705N×1330E, h0km*

ISC 20 10:23:42.4±0.3, 4701N±001×1327E±002, h4km±8km, n43, σ0$89/70, 23C-11D, Austria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBA	**Koelnbreinsper**	**0.09**	**36**	*e*Pg	Pg	10 23 44.7	+0.5
	comp=Z,51nm,0.1s,SNR=331						
KBA				⇑*i*Sg	Sg	10 23 46.1	+0.6
	comp=N,822nm,0.1s						
MYKA	**Terra Mystica**	**0.46**	**146**	⇑*i*Pg	Pg	10 23 50.6	-0.6
	14nm,0.0s						
MYKA				⇑*i*Sg	Sg	10 23 56.2	-0.9
	12nm,0.1s						
PLRO	**Paularo**	**0.47**	**191**	⇑*i*Pg	Pg	10 23 51.2	-0.2
PLRO	**Paularo**	**0.47**	**191**		Pg	10 23 51.2	-0.2
ZOU	**Zoufplan**	**0.50**	**204**	⇓*e*Pg	Pg	10 23 51.9	-0.1
ZOU	**Zoufplan**	**0.50**	**204**		Pg	10 23 51.9	-0.1
FVI	**Forni Avoltri**	**0.53**	**219**	⇑*i*Pg	Pg	10 23 52.5	-0.2
FVI				Sg	Sg	10 23 59.6	0.0
	106nm,0.3s						
LSR	**Lussari**	**0.56**	**162**	⇑*i*Pg	Pg	10 23 53.1	-0.1
LSR	**Lussari**	**0.56**	**162**		Pg	10 23 53.3	+0.1
ABTA	**Abfaltersbach**	**0.58**	**244**	⇓*i*Pg	Pg	10 23 53.0	-0.7
	1.2nm,0.0s						
PTCC	**Patocco-Chiusa**	**0.61**	**175**	Pg	Pg	10 23 54.3	+0.2
	16nm,0.2s						
CSMI	**Casera Mimoias**	**0.65**	**221**	*e*Pg	Pg	10 23 54.8	-0.1
CSMI				*e*Sg	Sg	10 24 03.2	-0.3
BGLD	**Berchtesgaden**	**0.67**	**345**	⇓*i*Pg	Pg	10 23 55.5	+0.2
BGLD				*e*Sg	Sg	10 24 04.6	+0.7
GMNA	**Gemona**	**0.73**	**182**	Pg	Pg	10 23 57.0	+0.5
SEST	**Monte Rota**	**0.77**	**251**	Pg	Pg	10 23 56.9	-0.3
BAD	**Bernadia**	**0.77**	**181**	⇑*i*Pg	Pg	10 23 57.0	-0.3
BAD				*i* Sg	Sg	10 24 07.5	+0.3
BAD	**Bernadia**	**0.77**	**181**		Pg	10 23 57.7	+0.5
RJOB	**Jochberg**	**0.80**	**336**	⇑*i*Pg	Pg	10 23 58.1	+0.4
RJOB				*e*Sg	Sg	10 24 10.3	+2.2
COLI	**Coloredo**	**0.88**	**175**	⇑*i*Pg	Pg	10 23 59.8	+0.5
COLI				*i* Sg	Sg	10 24 12.0	+1.4
COLI	**Coloredo**	**0.88**	**175**		Pg	10 24 00.0	+0.7
OBKA	**Obir**	**1.01**	**119**	⇑*e*Pg	Pg	10 24 00.9	-0.9
	7.3nm,0.2s,SNR=13						
OBKA				⇑*i*Sg	Sg	10 24 14.6	-0.3
	35nm,0.3s						
SCE	**Schlegeis**	**1.07**	**272**	⇑*i*Pg	Pg	10 24 02.4	-0.5
SCE				*e*Sg	Sg	10 24 16.5	-0.3
VOY	**Vojsko**	**1.07**	**156**	*e*Pg	Pg	10 24 04.5	+1.6
VOY				*e*Sg	Sg	10 24 16.5	-0.2
MOA	**Molln**	**1.08**	**38**	⇑*e*Pg	Pg	10 24 03.0	-0.1
	7.6nm,0.1s,SNR=12						
MOA				⇑*i*Sg	Sg	10 24 18.2	+1.1
	76nm,0.3s						
WTTA	**Wattenberg**	**1.15**	**283**	⇑*e*Pg	Pg	10 24 03.8	-0.6
	34nm,0.2s,SNR=24						
WTTA				⇑*i*Sg	Sg	10 24 19.9	+0.7
	44nm,0.3s						
WATA	**Walderalm**	**1.20**	**286**	⇓*e*Pg	Pg	10 24 05.0	-0.5
	42nm,0.2s,SNR=31						
WATA				⇓*i*Sg	Sg	10 24 20.9	-0.1
	38nm,0.2s						
SQTA	**Sankt Quirin**	**1.43**	**279**	⇓*i*Pg	Pg	10 24 08.9	-0.8
	24nm,0.2s						
SQTA				⇓*i*Sg	Sg	10 24 28.3	+0.1
	73nm,0.3s						
MOTA	**Moosalm**	**1.52**	**284**	⇑*i*Pg	Pg	10 24 10.6	-0.9
	10nm,0.2s						
MOTA				⇓*e*Sg	Sg	10 24 31.4	+0.2

BLCB	**Balcova**	**0.76**	**228**	*e*PG	**Pg**	**10 31 23.3**	**-0.9**
BLCB	**Balcova**	**0.76**	**228**	*e*Pg	**Pg**	**10 31 24.0**	**-0.1**
BLCB				*e*Sg	**Sg**	**10 31 34.9**	**+0.9**
BLCB	**Balcova**	**0.76**	**228**	*e*Pg	**Pg**	**10 31 23.3**	**-0.8**
BLCB				*e*Sg	**Sg**	**10 31 34.9**	**+0.8**
KULA	**Kula-Manisa**	**0.80**	**118**	*e*PG	**Pg**	**10 31 24.2**	**-0.6**
BTOK	**Tokmak**	**0.89**	**13**	*i* P	**Pg**	**10 31 25.9**	**-0.6**
BTOK				*i* S	**Sg**	**10 31 39.3**	**+1.3**
DST	**Dursunbey**	**0.97**	**43**	*e*PG	**Pg**	**10 31 28.5**	**+0.4**
URLA	**Izmir**	**1.06**	**240**	*i* P	**Pg**	**10 31 29.6**	**-0.2**
URLA				*i* S	**Sg**	**10 31 43.9**	**+0.2**
GDZ	**Gediz**	**1.35**	**81**	*i* P	**Pn**	**10 31 35.0**	**+0.2**
GDZ				*i* S	**Sb**	**10 31 53.6**	**+1.1**
CHOS	**Chios island**	**1.43**	**250**	*e*Pg	**Pg**	**10 31 36.6**	**-0.3**
CHOS				*e*Sg	**Sg**	**10 31 55.9**	**+0.4**
KCT	**Karacabey**	**1.44**	**18**	*e*PN	**Pn**	**10 31 35.3**	**-0.7**
EZN	**Ezine**	**1.45**	**310**	*e*PN	**Pn**	**10 31 35.8**	**-0.3**
KHL	**Karahalli**	**1.49**	**112**	*e*PN	**Pn**	**10 31 36.4**	**-0.2**
ALT	**Altintas**	**1.83**	**84**	*e*PN	**Pn**	**10 31 41.2**	**-0.1**
ALN	**Alexandroupoli**	**2.40**	**327**	*e*Pn	**Pn**	**10 31 48.8**	**-0.3**
ALN				*e*Sn	**Sn**	**10 32 18.9**	**+0.2**

*ISCJB **20** 11:23:04.1±2.4, 5826S±008×259W±01, h74km±23km, mb4.6/18, Error ellipse: s-maj=14.6km s-min=10.8km az=27.7*
*IDC **20** 11:23:08.1±1.4, 5827S×2600W, h100km±10km, mb4.4/12, mb1 4.4/14, mb1mx4.4/19, mbtmp4.4/14, MS3.6/8, Ms1 3.6/8, ms1mx3.2/24, Error ellipse: s-maj=13.8km s-min=12.6km az=44.0*
*NEIC **20** 11:23:11.6±1.8, 5829S×2593W, h134km±16km, mb4.7/11, Error ellipse: s-maj=9.0km s-min=7.0km az=210.0*
ISC 20 11:23:05.5±2.0, 5829S±008×259W±01, h73km±20km, n52, σ0.9 67/35, mb4.6/18, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**14.46**	**156**	*e*P	**Pn**	**11 26 25.8**	**-0.2**
VNA1				*e*		11 26 33.6	
VNA1				*e*		11 26 40.0	
VNA1				*e*		11 28 54.7	
VNA1				*e*		11 28 57.5	
VNA1				*e*		11 29 02.4	
VNA1				*e*		11 29 07.7	
VNA1				*e*		11 29 11.7	
VNA3	**Neumayer Olymp**	**14.64**	**159**	*e*P	**Pn**	**11 26 27.6**	**-0.8**
VNA3				*e*		11 26 34.8	
VNA3				*e*		11 26 41.5	
VNA3				*e*		11 28 54.6	
VNA3				*e*		11 28 59.1	
VNA3				*e*		11 29 03.6	
VNA3				*e*		11 29 09.0	
VNA3				*e*		11 29 12.1	
VNA2	**Neumayer--Watz**	**14.85**	**156**	*e*P	**Pn**	**11 26 30.3**	**-0.9**
	baz=316,slow=14						
VNA2				*e*		11 26 38.4	
VNA2				*e*		11 26 44.3	
VNA2				*e*		11 29 01.0	
VNA2				*e*		11 29 04.2	
VNA2				*e*		11 29 08.7	
VNA2				*e*		11 29 13.6	
VNA2				*e*		11 29 17.4	
SNAA	**Sanae**	**16.41**	**154**	P	**Pn**	**11 26 52.3**	**+1.5**
	1.8nm,0.3s,baz=326,slow=13,SNR=161						
SNAA				S	**S**	**11 29 38.9**	**-21**
	1.1nm,0.3s,baz=330,slow=19,SNR=7.3						
SNAA				LR	LR	11 31 34.5	
	comp=Z,56nm,21.6s,baz=50,slow=31						
PMSA	**Palmer Station**	**19.04**	**234**	*e*P	**Pn**	**11 27 23.2**	**+0.3**
	86nm,1.1s						
PMSA	**Palmer Station**	**19.04**	**234**	P	**Pn**	**11 27 22.9**	**0.0**
	1.2nm,0.3s,baz=52,slow=9.4,SNR=4.1						
PMSA				LR	LR	11 32 31.3	
	comp=Z,210nm,21.4s,baz=50,slow=30						
EFI	**East Falkland**	**19.45**	**276**	*e*P	**Pn**	**11 27 27.9**	**0.0**
	20nm,0.6s						
MAIT	**Maitri**	**20.00**	**144**	*e*P	**Pn**	**11 27 28.7**	**-5.4**
MAIT				*e*S	**S**	**11 31 01.1**	**-11**
USHA	**Ushuaia**	**23.39**	**260**	P	**P**	**11 28 07.7**	**+0.3**
	14nm,0.9s,mb4.3,baz=113,slow=15,SNR=3.9						
USHA				LR	LR	11 34 16.0	
	comp=Z,138nm,21.1s,baz=72,slow=29						
QSPA	**South Pole Qui**	**31.95**	**180**	*e*P	**P**	**11 29 24.1**	**+0.3**
	22nm,0.6s,mb5.1						
QSPA	**South Pole Qui**	**31.95**	**180**	P	**P**	**11 29 24.3**	**+0.6**
	14nm,0.5s,mb5.0,baz=211,slow=2.1,SNR=162						
QSPA				ScP	ScP	11 35 45.4	-3.2
	3.1nm,0.9s,baz=109,slow=6.3,SNR=5.3						
PLCA	**Paso Flores**	**33.11**	**282**	*e*P	**P**	**11 29 33.6**	**-0.7**
	7.6nm,1.1s,mb4.4						
PLCA	**Paso Flores**	**33.11**	**282**	P	**P**	**11 29 33.8**	**-0.5**
	3.6nm,0.7s,mb4.3,baz=154,slow=4.8,SNR=9.5						
PLCA				ScP	ScP	11 35 49.8	-3.4
	0.7nm,0.6s,baz=225,slow=2.9,SNR=3.6						
PLCA				LR	LR	11 42 30.6	
	comp=Z,77nm,18.8s,baz=180,slow=35						
MAW	**Mawson**	**37.95**	**141**	P	**P**	**11 30 15.1**	**-0.3**
	4.4nm,0.5s,mb4.5,baz=239,slow=7.6,SNR=29						
CFAA	**Coronel Fontan**	**39.10**	**294**	P	**P**	**11 30 25.2**	**-0.2**
	0.5nm,0.7s,mb3.5,baz=157,slow=9.4,SNR=6.1						
SUR	**Sutherland**	**40.64**	**71**	P	**P**	**11 30 39.3**	**+1.1**
	8.0nm,0.9s,mb4.6,baz=217,slow=5.3,SNR=7.5						
SBA	**Scott Base**	**43.89**	**184**	*e*P	**P**	**11 31 05.2**	**+1.1**
	9.5nm,1.0s,mb4.5						
VNDA	**Vanda**	**44.36**	**182**	P	**P**	**11 31 08.8**	**+0.9**
VNDA				ScP	ScP	11 36 33.6	-2.0
VNDA	**Vanda**	**44.36**	**182**	P	**P**	**11 31 08.8**	**+1.0**
	8.1nm,0.5s,mb4.7,baz=179,slow=9.6						
VNDA				ScP	ScP	11 36 33.6	-2.0
	1.3nm,0.9s,baz=135,slow=1.4,SNR=4.4						
BDFB	**Brasilia**	**45.65**	**330**	P	**P**	**11 31 19.3**	**+0.6**
	1.2nm,0.6s,mb3.8,baz=135,slow=20,SNR=3.9						
BOSA	**Boshof**	**45.92**	**72**	*e*P	**P**	**11 31 20.4**	**-0.3**
	23nm,1.2s,mb4.8						
BOSA	**Boshof**	**45.92**	**72**	P	**P**	**11 31 20.7**	**0.0**
	11nm,0.8s,mb4.7,baz=200,slow=7.6,SNR=25						
BOSA				LR	LR	11 45 58.8	
	comp=Z,120nm,21.0s,baz=149,slow=30						
LBTB	**Lobatse**	**49.06**	**70**	*e*P	**P**	**11 31 45.0**	**-0.1**
	16nm,0.8s,mb5.0						
LPAZ	**La Paz**	**52.24**	**305**	*e*P	**P**	**11 32 08.5**	**-0.6**
	3.7nm,0.6s,mb4.6						
LPAZ	**La Paz**	**52.24**	**305**	P	**P**	**11 32 08.6**	**-0.5**
	3.5nm,0.6s,mb4.6,baz=159,slow=6.8,SNR=18						
DBIC	**Dimbokro**	**66.95**	**23**	*e*P	**P**	**11 33 49.8**	**-0.4**
	23nm,1.0s,mb5.0						
DBIC	**Dimbokro**	**66.95**	**23**	P	**P**	**11 33 49.9**	**-0.2**
	16nm,0.6s,mb5.0,baz=160,slow=7.1,SNR=24						
DBIC				LR	LR	11 57 40.0	
	comp=Z,27nm,18.7s,baz=124,slow=31						
TOA0	**Torodi Ar. Sit**	**74.69**	**28**	*e*P	**P**	**11 34 37.0**	**0.0**
TORD	**Torodi Ar. Bea**	**74.69**	**28**	P	**P**	**11 34 37.3**	**+0.2**
	42nm,0.6s,mb5.4,baz=198,slow=6.5,SNR=418						
TORD				LR	LR	12 00 00.7	
	comp=Z,52nm,18.9s,baz=235,slow=30						
SDV	**Santo Domingo**	**76.08**	**314**	*e*P	**P**	**11 34 45.3**	**+0.2**
	4.5nm,0.8s,mb4.2						
FORT	**Forrest**	**88.63**	**158**	*e*P	**P**	**11 35 50.1**	**-0.3**
	13nm,0.7s,mb5.1						
STKA	**Stephens Creek**	**89.57**	**169**	P	**P**	**11 35 54.1**	**-0.7**
	2.4nm,0.6s,mb4.5,baz=198,slow=3.3,SNR=6.0						
PPT	**Papeete**	**91.40**	**233**	LR	LR	12 07 51.7	
	comp=Z,76nm,21.6s,baz=188,slow=29						
ASAR	**Alice Springs**	**96.64**	**161**	P	**P**	**11 36 25.9**	**-1.5**
	2.0nm,0.6s,mb4.7,baz=184,slow=4.0,SNR=27						
ASAR				PP	PP	11 40 21.5	-0.2
	0.3nm,0.8s,baz=190,slow=6.6,SNR=4.8						
ASAR				PKKPbc	PKKPbc	11 53 08.2	+0.8
	0.3nm,0.5s,baz=16,slow=1.6,SNR=6.3						
WRA	**Warramunga Arr**	**100.36**	**161**	PKKPbc	PKKPbc	11 52 57.9	+0.9
	0.2nm,0.5s,baz=354,slow=2.9,SNR=4.8						
SCHQ	**Schefferville**	**117.49**	**335**	PKP	PKPdf	11 41 40.0	-1.5
	1.6nm,0.4s,baz=176,slow=2.7,SNR=11						
PDAR	**Pinedale Array**	**122.10**	**300**	PKP	PKPdf	11 41 48.8	-1.9
	0.4nm,0.5s,baz=118,slow=4.9,SNR=8.2						
ULM	**Lac du Bonnet**	**122.33**	**314**	PKP	PKPdf	11 41 48.9	-2.0
	1.3nm,0.5s,baz=313,slow=2.0,SNR=5.5						
FINES	**FINESS Array B**	**126.05**	**28**	PKP	PKPdf	11 41 56.0	-1.7
	1.8nm,0.6s,baz=186,slow=1.7,SNR=8.4						
AKTK	**Aktyubinsk**	**128.11**	**54**	PKP	PKPdf	11 42 00.4	-1.6
AKTO	**Aktyubinsk**	**128.11**	**54**	PKP	PKPdf	11 42 00.4	-1.6
	1.1nm,0.5s,baz=180,slow=2.5,SNR=4.5						
ARCES	**ARCESS Array B**	**132.77**	**22**	PKP	PKPdf	11 42 07.6	-2.6
	1.4nm,0.6s,baz=220,slow=2.5,SNR=11						
ARCES				SKPbc	SKPbc	11 45 26.3	-4.6
	1.6nm,0.6s,baz=197,slow=3.8,SNR=8.0						
BVAR	**Borovoye Array**	**135.38**	**59**	PKP	PKPdf	11 42 14.2	-1.4
	1.3nm,0.4s,baz=201,slow=2.1,SNR=8.0						
BVAR				SKPbc	SKPbc	11 45 35.9	-4.0
	1.0nm,0.7s,baz=225,slow=1.9,SNR=5.4						
MKAR	**Makanchi Array**	**136.92**	**73**	PKP	PKPdf	11 42 16.0	-2.7
	0.6nm,0.7s,baz=211,slow=1.4,SNR=3.6						
MKAR				SKPbc	SKPbc	11 45 40.8	-4.0
	0.3nm,0.5s,baz=211,slow=3.5,SNR=3.1						
YKA	**Yellowknife Ar**	**138.28**	**316**	PKP	PKPdf	11 42 19.4	-1.2
YKA				SKPbc	SKPbc	11 45 43.2	-5.0
YKA	**Yellowknife Ar**	**138.28**	**316**	PKhKP		11 42 11.2	
	0.1nm,0.5s,baz=122,slow=3.5,SNR=5.8						
YKA				PKP	PKPdf	11 42 19.4	-1.2
	3.7nm,0.7s,baz=129,slow=2.3,SNR=89						
YKA				SKPbc	SKPbc	11 45 43.2	-5.0
	1.7nm,0.7s,baz=129,slow=2.9,SNR=18						
ZALV	**Zalesovo Beam**	**142.70**	**66**	PKP	PKPdf	11 42 23.9	-5.0
ZALV	**Zalesovo Beam**	**142.70**	**66**	PKhKP		11 42 23.9	
	2.3nm,0.3s,baz=222,slow=4.5,SNR=19						
INK	**Inuvik**	**147.96**	**318**	*e*PKPbc	PKPbc	11 42 38.9	-1.8
DAWY	**Dawson**	**148.77**	**309**	*e*PKPbc	PKPbc	11 42 41.1	-1.8
SONM	**Songino Array**	**150.12**	**89**	PKPbc	PKPbc	11 42 45.8	-1.0
	7.4nm,0.6s,baz=231,slow=2.9,SNR=60						
KSRS	**Korea Array**	**153.06**	**129**	PKPab	PKPab	11 43 05.3	-0.3
	2.5nm,0.8s,baz=224,slow=5.2,SNR=4.8						

*NEIC **20** 11:29:34.1±2.2, 658S×12546E, h493km±34km, mb4.3/2, Error ellipse: s-maj=47.3km s-min=18.1km az=55.0*
*ISCJB **20** 11:29:35.3±1.2, 68S±01×125.1E±03, h530km±17km, mb3.4/4, Error ellipse: s-maj=42.5km s-min=13.8km az=154.1*
*IDC **20** 11:29:36.7±2.5, 684S×125.15E, h532km±37km, mb3.0/4, mb1 3.3/8, mb1mx3.1/16, mbtmp3.1/8, Error ellipse: s-maj=89.1km s-min=16.4km az=61.0*
ISC 20 11:29:36.2±1.2, 69S±01×1252E±02, h525km±17km, n12, σ0.8 88/14, mb3.4/4, 2C, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Kupang**	**3.61**	**204**	P	**P**	**11 30 55.2**	**+1.8**
	29nm,0.3s,baz=57,slow=2.2,SNR=44						
BATI				S	**S**	**11 31 55.4**	**-0.9**
	baz=316,slow=18,SNR=2.1						
FITZ	**Fitzroy Crossi**	**11.16**	**178**	⇑*i P*	**P**	**11 32 06.9**	**+1.0**
	2.0nm,0.2s						
FITZ	**Fitzroy Crossi**	**11.16**	**178**	P	**P**	**11 32 06.7**	**+0.8**
	0.4nm,0.3s,baz=157,slow=22,SNR=19						
FITZ				S	**S**	**11 34 08.3**	**-0.8**
	0.1nm,0.3s,baz=26,slow=20,SNR=3.7						
WRAB	**Tennant Creek**	**15.75**	**146**	*e*P	**P**	**11 32 53.2**	**-0.5**
	6.3nm,0.7s						
WRA	**Warramunga Arr**	**15.75**	**146**	P	**P**	**11 32 52.9**	**-0.8**
	1.4nm,0.3s,baz=336,slow=9.4,SNR=105						
WB2	**Warramunga Arr**	**15.75**	**146**	⇑*i P*	**P**	**11 32 53.4**	**-0.4**
ASAR	**Alice Springs**	**18.68**	**154**	P	**P**	**11 33 22.6**	**+1.0**
	1.2nm,0.3s,baz=347,slow=15,SNR=130						
STKA	**Stephens Creek**	**29.22**	**150**	P	**P**	**11 34 56.2**	**+0.9**
	2.2nm,0.3s,mb4.2,baz=315,slow=10.0,SNR=7.0						
SONM	**Songino Array**	**56.95**	**345**	P	**P**	**11 38 30.8**	**-0.4**
	0.2nm,0.3s,mb2.8,baz=156,slow=7.7,SNR=3.0						
MKAR	**Makanchi Array**	**65.57**	**329**	P	**P**	**11 39 28.0**	**+0.2**
MKAR	**Makanchi Array**	**65.57**	**329**	P	**P**	**11 39 28.0**	**+0.2**
	0.4nm,0.4s,mb3.3,baz=124,slow=7.9,SNR=7.1						
ZALV	**Zalesovo Beam**	**69.43**	**336**	P	**P**	**11 39 50.4**	**-0.9**
	0.7nm,0.4s,mb3.5,baz=126,slow=4.1,SNR=3.7						

*ISCJB **20** 12:01:49.6±0.6, 2552S±003×70.1W±02, h55km±12km, mb3.4/2, Error ellipse: s-maj=23.3km s-min=5.1km az=0.0*
*GUC **20** 12:01:49.7±0.9, 2547S×7060W, h58km±20km, MD3.9, ML4.0*
*NEIC **20** 12:01:49.7, 2547S×7060W, h58km, MD3.9(GUC), After GUC.*
NEIC Felt at Taltal.
*IDC **20** 12:01:51.4±3.3, 2547S×70.13W, h58km±28km, mb3.4/2, mb1 3.4/5, mb1mx3.2/19, mbtmp3.3/5, ML2.9/1, Error ellipse: s-maj=54.7km s-min=19.0km az=92.0*
ISC 20 12:01:51.0±0.5, 2552S±003×705W±02, h57km±10km, n19, σ0.6 63/25, mb3.4/2, 2C-2D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPN1	**Cerro Paranal**	**0.89**	**3**	⇓*e*P	**Pn**	**12 02 07.4**	**-0.1**
CPN1				*i* S	**Sn**	**12 02 19.8**	**+0.2**
CPN1				AML	AML	12 02 21.1	
	comp=E,5μm,0.5s						
CDCH	**Caldera**	**1.59**	**192**	*e*P	**Pn**	**12 02 16.2**	**-0.6**
CDCH				*i* S	**Sn**	**12 02 36.0**	**-0.2**
CDCH	**Caldera**	**1.59**	**192**	*e*P	**Pn**	**12 02 16.2**	**-0.6**
CDCH				*i* S	**Sn**	**12 02 36.0**	**-0.2**
CDCH				AML	AML	12 02 41.7	
	comp=E,524nm,0.3s						
ANCH	**Antofagasta**	**1.83**	**1**	⇓*i P*	**Pn**	**12 02 20.2**	**+0.1**
ANCH				*i* S	**Sn**	**12 02 42.3**	**+0.2**
CPCH	**Copiapo**	**1.84**	**177**	⇑*i P*	**Pn**	**12 02 20.2**	**0.0**
CPCH				*i* S	**Sn**	**12 02 43.1**	**+0.7**
CPCH	**Copiapo**	**1.84**	**177**	⇑*i P*	**Pn**	**12 02 20.2**	**0.0**
CPCH				*i* S	**Sn**	**12 02 43.1**	**+0.7**
CPCH				AML	AML	12 02 46.8	
	comp=E,12μm,0.1s						
CEN1	**Los Morros**	**2.13**	**6**	*e*P	**Pn**	**12 02 20.4**	**-3.8**
CEN1				*i* S	**Sn**	**12 02 43.2**	**-6.3**
CEN1				AML	AML	12 02 56.3	
	comp=E,290nm,0.5s						
VACH	**Vallenar**	**3.06**	**185**	AML	AML	12 03 31.0	
	comp=E,1μm,0.4s						
LCO	**Las Campanas**	**3.49**	**184**	*e*P	**Pn**	**12 02 42.0**	**-0.8**
TLL	**Tololo Astrono**	**4.64**	**184**	*i* P	**Pn**	**12 02 58.8**	**+0.2**
TLL				AML	AML	12 04 23.1	
	comp=N,117nm,0.8s						
CFAA	**Coronel Fontan**	**6.37**	**163**	P	**Pn**	**12 03 23.5**	**+1.2**
CFAA				S	**Sn**	**12 04 33.4**	**-0.3**
CFAA	**Coronel Fontan**	**6.37**	**163**	P	**Pn**	**12 03 23.5**	**+1.2**
	comp=N,0.1nm,0.3s,baz=343,slow=12,SNR=14						
CFAA				S	**Sn**	**12 04 33.4**	**-0.3**
	comp=N,0.2nm,0.3s,baz=348,slow=6.6,SNR=2.9						
LPAZ	**La Paz**	**9.44**	**14**	P	**Pn**	**12 04 04.0**	**-0.3**
LPAZ	**La Paz**	**9.44**	**14**	P	**Pn**	**12 04 04.0**	**-0.3**
	comp=N,0.1nm,0.3s,baz=249,slow=8.6,SNR=2.1						
SIV	**San Ignacio**	**12.91**	**45**	P	**Pn**	**12 04 47.0**	**-4.8**
	comp=N,0.2nm,0.3s,baz=252,slow=12,SNR=7.3						
TORD	**Torodi Ar. Bea**	**80.04**	**70**	P	**P**	**12 13 54.1**	**-0.8**
	comp=N,0.3nm,0.5s,mb3.5,baz=250,slow=6.1,SNR=5.0						
TORD				pP	pP	12 14 10.4	-0.6
	comp=N,0.5nm,0.7s,baz=259,slow=5.2,SNR=4.3						
YKA	**Yellowknife Ar**	**94.50**	**341**	P	**P**	**12 15 05.5**	**+0.9**
	comp=N,0.1nm,0.7s,mb3.4,baz=139,slow=4.1,SNR=3.8						
ASAR	**Alice Springs**	**125.71**	**208**	PKP	PKPdf	12 20 46.1	-0.7
	comp=N,0.1nm,0.4s,baz=116,slow=1.4,SNR=4.5						
WRA	**Warramunga Arr**	**128.79**	**210**	PKP	PKPdf	12 20 52.7	0.0
	comp=N,0.6nm,1.1s,baz=148,slow=1.7,SNR=5.8						

*NEIC **20** 12:04:56.2, 3685N×1252W, h0km, MG3.8(MDD), After MDD.*
*INMG **20** 12:04:58.1±0.9, 3667N×1290W, h10km, ML2.2, Error ellipse: s-maj=5.6km s-min=5.3km az=78.0*
MDD 20 12:04:56.8±2.1, 3686N×1251W, h0km, mb3.9/5, Error ellipse: s-maj=19.7km s-min=15.3km az=32.0, PRXIMO, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTEO	**Sao Teotonio**	**3.10**	**76**	*e*Pn	Pn	12 05 46.2	-0.7
PTEO				*e*Sn	Sn	12 06 21.6	-3.1
PTEO				A		12 06 24.2	
	8.2nm,0.3s						
PTEO	**Sao Teotonio**	**3.10**	**76**	P	Pn	12 05 46.2	-0.7
PTEO				S	Sn	12 06 21.6	-3.1
	4.1nm,0.3s						
MORF	**Marmelete**	**3.12**	**81**	*e*Pn	Pn	12 05 46.1	-1.1
MORF				*e*Sn	Sn	12 06 22.3	-2.9
MORF				A		12 06 25.5	
	6.5nm,0.1s						
MORF	**Marmelete**	**3.12**	**81**	P	Pn	12 05 46.1	-1.1
MORF				S	Sn	12 06 22.3	-2.9
	6.5nm,0.1s						
PMAFR	**Mafra**	**3.30**	**50**	*e*Pn	Pn	12 05 49.0	-0.7
PMAFR				*e*Sn	Sn	12 06 26.8	-2.8
PMAFR				A		12 06 29.4	
	15nm,0.1s						
PMAFR	**Mafra**	**3.30**	**50**	P	Pn	12 05 49.0	-0.7
PMAFR				S	Sn	12 06 26.8	-2.8
	15nm,0.1s						
PBDV	**Barranco-do-Ve**	**3.69**	**83**	*e*Sn	Sn	12 06 35.8	-3.3
PBDV				A		12 06 39.9	
	3.4nm,0.1s						
PBDV	**Barranco-do-Ve**	**3.69**	**83**	S	Sn	12 06 35.8	-3.3
	3.4nm,0.1s						
MOE	**Montemor**	**3.69**	**62**	*e*Pn	Pn	12 05 54.0	-1.1
MOE				*e*Sn	Sn	12 06 36.7	-2.6
PVAQ	**Vaqueiros**	**3.87**	**81**	*e*Pn	Pn	12 05 56.6	-0.9
PVAQ				*e*Sn	Sn	12 06 40.4	-3.3
PVAQ				A		12 06 45.0	
	3.3nm,0.1s						
PVAQ	**Vaqueiros**	**3.87**	**81**	P	Pn	12 05 56.6	-0.9
PVAQ				S	Sn	12 06 40.4	-3.3
	1.7nm,0.1s						
PBEJ	**Beja**	**3.88**	**71**	*e*Sn	Sn	12 06 40.8	-3.0
PBEJ				A		12 06 43.7	
	3.9nm,0.5s						
PBEJ	**Beja**	**3.88**	**71**	S	Sn	12 06 40.8	-3.0
	1.9nm,0.5s						
EVO	**Evora**	**3.94**	**64**	*e*Pn	Pn	12 05 57.1	-1.4
EVO				*e*Sn	Sn	12 06 42.4	-3.0
EVO				A		12 06 47.1	
	8.4nm,0.1s						
EVO	**Evora**	**3.94**	**64**	P	Pn	12 05 57.1	-1.4
EVO				S	Sn	12 06 42.4	-3.0
	4.2nm,0.1s						
EGRO	**El Granado**	**4.07**	**79**	S	Sn	12 06 43.9	-4.8
	3.4nm,0.1s,SNR=7.9						
EGRO	**El Granado**	**4.07**	**79**	S	Sn	12 06 43.8	-4.8
	3.4nm,0.1s,SNR=7.9						
PESTR	**Estremoz**	**4.38**	**61**	*e*Pn	Pn	12 06 03.8	-0.7
PESTR				*e*Sn	Sn	12 06 53.1	-3.1
PESTR				A		12 07 05.1	
	4.1nm,0.6s						
PBAR	**Barrancos**	**4.54**	**72**	*e*Pn	Pn	12 06 06.3	-0.5
PBAR				*e*Sn	Sn	12 06 56.2	-4.1
PBAR				A		12 07 01.0	
	2.0nm,0.1s						
PBAR	**Barrancos**	**4.54**	**72**	P	Pn	12 06 06.3	-0.5
PBAR				S	Sn	12 06 56.2	-4.1
	1.0nm,0.1s						
EMIN	**Mina Concepcio**	**4.74**	**77**	P	Pn	12 06 07.8	-1.7
	0.3nm,0.1s,SNR=7.9						
EMIN				S	Sn	12 06 59.7	-5.5
	1.5nm,0.1s,SNR=6.7						
EMIN	**Mina Concepcio**	**4.74**	**77**	P	Pn	12 06 07.8	-1.7
	0.3nm,0.1s,SNR=7.9						
EMIN				S	Sn	12 06 59.7	-5.5
	1.5nm,0.1s,SNR=6.7						
EBAD	**Badajoz**	**4.75**	**65**	P	Pn	12 06 08.3	-1.3
	1.0nm,0.1s,SNR=7.9						
EBAD				S	Sn	12 07 01.3	-4.0
	2.9nm,0.1s,SNR=5.6						
EBAD	**Badajoz**	**4.75**	**65**	P	Pn	12 06 08.3	-1.3
	1.0nm,0.1s,SNR=7.9						
EBAD				S	Sn	12 07 01.3	-4.0
	2.9nm,0.1s,SNR=5.6						
ESPR	**Espera**	**5.34**	**88**	P	Pn	12 06 16.0	-1.7
	1.3nm,0.2s,SNR=7.9						
ESPR				S	Sn	12 07 15.5	-4.3
	8.3nm,0.2s,SNR=7.9						
ESPR	**Espera**	**5.34**	**88**	P	Pn	12 06 16.0	-1.7
	1.3nm,0.2s,SNR=7.9						
ESPR				S	Sn	12 07 15.5	-4.3
	8.3nm,0.2s,SNR=7.9						
MVO	**Moncorvo**	**6.06**	**43**	*e*Pn	Pn	12 06 27.1	-0.5
MVO				*e*Sn	Sn	12 07 32.7	-4.9
ELOB	**Lobios**	**6.07**	**33**	P	Pn	12 06 27.1	-0.7
	0.2nm,0.1s,SNR=7.9						
ELOB				S	Sn	12 07 32.3	-5.6
	0.7nm,0.1s,SNR=7.9						
ELOB	**Lobios**	**6.07**	**33**	P	Pn	12 06 27.0	-0.8
	0.2nm,0.1s,SNR=7.9						
ELOB				S	Sn	12 07 32.3	-5.7
	0.7nm,0.1s,SNR=7.9						
EADA	**Adamuz**	**6.44**	**76**	P	Pn	12 06 30.6	-2.2
	0.1nm,0.0s,SNR=7.9						
EADA				S	Sn	12 07 41.4	-5.6
	1.0nm,0.1s,SNR=7.9						
EADA	**Adamuz**	**6.44**	**76**	P	Pn	12 06 30.6	-2.2
	0.1nm,0.0s,SNR=7.9						
EADA				S	Sn	12 07 41.4	-5.6
	1.0nm,0.1s,SNR=7.9						
EMAZ	**Mazaricos**	**6.66**	**23**	P	Pn	12 06 33.6	-2.2
	0.6nm,0.1s,SNR=7.9						
EMAZ				S	Sn	12 07 44.7	-7

0.2nm,0.6s,mb3.4,baz=354,slow=7.8,SNR=3.7
NOA NORSAR Array B 78.73 333 LR LR 13 02 37.4
comp=Z,24nm,21.4s,MS3.5,baz=55,slow=39
YKA Yellowknife Ar 80.24 24 P **P** **12 24 13.7 +0.3**
YKA Yellowknife Ar 80.24 24 P **P** **12 24 13.7 +0.3**
0.6nm,0.7s,mb3.6,baz=303,slow=5.3,SNR=16

NIED ***20*** *12:15:00,2560N×12490E,h5km,Mw3.8 Best double couple: M0=5.80000×10^14 NP1:φs67.00000°,δ74.00000°, λ-78.00000°. NP2:φs209.00000°,δ20.00000°, λ-126.00000°.*
IDC ***20*** *12:15:05.7±1.0,2565N×125.12E,h0km,mb3.5/5, mb1 3.7/7,mb1mx3.6/21,mbtmp3.5/7,ML3.2/2,Error ellipse: s-maj=31.0km s-min=21.7km az=73.0*
ISCJB ***20*** *12:15:06.4±2.4,2569N±004×12504E±007,h12km±17km, mb3.5/5,Error ellipse: s-maj=10.6km s-min=6.3km az=11.8*
JMA ***20*** *12:15:07.1±0.3,2564N×12495E,h8km,M3.7*
NEIC ***20*** *12:15:07.2±0.6,2564N×125.10E,h10km,MG3.7(JMA), Error ellipse: s-maj=14.4km s-min=12.6km az=125.0*
ISC 20 12:15:06.7±1.6,2566N±006×12502E±009,h7km±11km, n15,σ0§68/19,mb3.5/5,Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMJ	**Miyako jima 2**	**0.88**	**164**	P	**Pg**	**12 15 23.7**	**+0.1**
JMJ				S	**Sg**	**12 15 35.5**	**+0.5**
JOGS	**Gusukube**	**0.97**	**159**	P	**Pg**	**12 15 25.2**	**0.0**
JOGS				*e*S	**Sg**	**12 15 38.2**	**+0.4**
JTJ	**Tarama**	**1.06**	**196**	P	**Pg**	**12 15 26.1**	**-0.9**
JIJ	**Ishigaki jima**	**1.52**	**212**	P	**Pn**	**12 15 33.5**	**-0.8**
JIJ				*e*S	**Sn**	**12 15 53.1**	**-1.2**
JKRS	**Kuro-shima**	**1.69**	**213**	P	**Pn**	**12 15 36.9**	**+0.3**
JKRS				*e*S	**Sn**	**12 15 59.9**	**+1.3**
IRIF	**Iriomote-Funau**	**1.77**	**222**	P	**Pn**	**12 15 37.8**	**+0.1**
JOW	**Kunigami**	**3.15**	**68**	Pn	**Pn**	**12 15 56.0**	**-0.7**
2.5nm,0.3s,baz=213,slow=2.6,SNR=3.8							
KSRS	**Korea Array**	**12.01**	**11**	Pn	**Pn**	**12 18 02.4**	**+4.1**
0.1nm,0.3s,baz=192,slow=13,SNR=2.8							
MJAR	**Matsushiro Arr**	**15.64**	**43**	Pn	**Pn**	**12 18 47.6**	**+0.1**
0.5nm,0.3s,baz=220,slow=5.6,SNR=6.4							
MKAR	**Makanchi Array**	**39.78**	**313**	P	**P**	**12 22 41.2**	**+0.9**
0.2nm,0.3s,mb3.4,baz=98,slow=10,SNR=2.7							
ZALV	**Zalesovo Beam**	**40.98**	**324**	P	**P**	**12 22 50.4**	**+0.3**
0.9nm,0.5s,mb3.7,baz=113,slow=9.0,SNR=3.7							
WRA	**Warramunga Arr**	**46.23**	**168**	P	**P**	**12 23 31.9**	**-0.7**
0.3nm,0.6s,mb3.4,baz=349,slow=8.5,SNR=7.2							
ASAR	**Alice Springs**	**49.79**	**169**	P	**P**	**12 24 00.5**	**+0.4**
0.3nm,0.5s,mb3.6,baz=356,slow=7.9,SNR=8.5							
YKA	**Yellowknife Ar**	**80.24**	**24**	P	**P**	**12 27 17.4**	**-0.3**
YKA	**Yellowknife Ar**	**80.24**	**24**	P	**P**	**12 27 17.4**	**-0.3**
0.4nm,0.8s,mb3.4,baz=305,slow=5.2,SNR=6.2							

ISCJB ***20*** *12:34:52.4±0.5,3511N±005×14021E±005,h50km±4km, mb3.7/4,Error ellipse: s-maj=9.0km s-min=6.7km az=35.3*
NEIC ***20*** *12:34:52.8±1.4,3467N×13908E,h10km,MG3.3(JMA), Error ellipse: s-maj=63.9km s-min=9.7km az=76.0*
IDC ***20*** *12:34:52.3±1.7,3457N×13876E,h0km,mb3.8/4, mb1 3.9/4,mb1mx3.6/20,mbtmp3.8/4,Error ellipse: s-maj=65.9km s-min=18.3km az=76.0*
JMA ***20*** *12:34:53.3±0.1,3519N×14022E,h42km±2km,M3.3 Broadband fault plane solution: P waves. NP1: φs224.00000°,δ33.00000°,λ-56.00000°. NP2:φs6.00000°, δ63.00000°,λ-110.00000°. Principal axes: T Plg16.0000°, Azm110.0000°; N Plg17.0000°, Azm15.0000°; P Plg66.0000°, Azm240.0000°;*
JMA Felt I J1.
ISC 20 12:34:53.4±0.5,3511N±005×14020E±005,h41km±5km, n19,σ0§59/25,mb3.7/4,7C-2D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTR	**Katsuura**	**0.10**	**67**	⇓P	**Pn**	**12 35 00.0**	**-0.2**
KTR				*e*S	**Sn**	**12 35 04.7**	**-0.2**
BSO4	**Boso 4**	**0.16**	**136**	P	**Pn**	**12 35 01.3**	**+0.8**
TATJ	**Tateyama 2**	**0.26**	**253**	⇑P	**Pn**	**12 35 02.4**	**+1.0**
JCN	**Nagara**	**0.31**	**1**	⇓P	**Pn**	**12 35 01.4**	**-0.5**
BSO3	**Boso 3**	**0.40**	**140**	⇑P	**Pn**	**12 35 03.3**	**+0.4**
JIM2	**Oshima 3**	**0.74**	**239**	⇑P	**Pn**	**12 35 07.1**	**-0.3**
JIM2				*e*S	**Sn**	**12 35 17.6**	**+0.1**
BSO1	**Boso 1**	**0.79**	**125**	⇑P	**Pn**	**12 35 07.5**	**-0.5**
JOD2	**Odawara 2**	**0.92**	**280**	⇑P	**Pn**	**12 35 09.4**	**-0.4**
JOD2				*e*S	**Sn**	**12 35 21.0**	**-0.9**
JIZS	**Izushimoda**	**1.15**	**251**	P	**Pn**	**12 35 13.0**	**0.0**
JIZS				*e*S	**Sn**	**12 35 27.2**	**-0.3**
JRY	**Ryogami san**	**1.39**	**311**	⇑P	**Pn**	**12 35 15.8**	**-0.5**
JAG	**Ashikaga**	**1.45**	**335**	⇑P	**Pn**	**12 35 16.1**	**-1.0**
MJAR	**Matsushiro Arr**	**2.16**	**312**	Pn	**Pn**	**12 35 26.8**	**0.0**
8.4nm,0.3s,baz=164,slow=15,SNR=49							
MJAR				S	**Sn**	**12 35 54.4**	**+2.0**
14nm,0.3s,baz=161,slow=22,SNR=8.5							
MAJO	**Matsushiro**	**2.16**	**312**	*e*P	**Pn**	**12 35 26.8**	**0.0**
MAT	**Matsushiro**	**2.16**	**312**	P	**Pn**	**12 35 26.9**	**+0.1**
MAT				S	**Sn**	**12 35 52.5**	**+0.1**
ZALV	**Zalesovo Beam**	**42.51**	**314**	P	**P**	**12 42 44.7**	**+0.2**
0.4nm,0.4s,mb3.5,baz=93,slow=7.1,SNR=2.1							
MKAR	**Makanchi Array**	**44.33**	**304**	P	**P**	**12 42 59.3**	**+0.1**
0.2nm,0.2s,mb3.4,baz=92,slow=10,SNR=4.6							
WB2	**Warramunga Arr**	**55.03**	**187**	*e*P	**P**	**12 44 20.6**	**-0.1**
WRA	**Warramunga Arr**	**55.03**	**187**	P	**P**	**12 44 20.6**	**-0.1**
2.0nm,0.6s,mb4.3,baz=0.9,slow=7.5,SNR=61							
ASAR	**Alice Springs**	**58.76**	**187**	P	**P**	**12 44 47.5**	**+0.4**
0.4nm,0.7s,mb3.5,baz=359,slow=6.1,SNR=12							

CSEM ***20*** *12:41:26.9±0.1,3836N×3919E,h2km,MD3.1,Error ellipse: s-maj=2.9km s-min=2.0km az=15.0*
ISK ***20*** *12:41:26.6,3836N×3919E,h5km,MD3.1*
ISCJB ***20*** *12:41:27.4±0.5,3836N±004×3925E±004,h2km,Error ellipse: s-maj=5.9km s-min=3.9km az=32.6*
DDA ***20*** *12:41:28.0,3830N×3918E,h7km±3km,Md3.2*
ISC 20 12:41:27.8±0.9,3837N±004×3926E±006,h2km±9km,n12, σ1§00/17,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ELZG	**Elazig**	**0.25**	**300**	*i*P	**Pg**	**12 41 32.7**	**+0.1**
ELZG				*i*S	**Sg**	**12 41 36.8**	**+1.0**
MALT	**Malatya**	**0.66**	**265**	PG	**Pg**	**12 41 38.8**	**-1.6**
MALT				SG	**Sg**	**12 41 49.2**	**+0.4**
MYA	**Malataya**	**0.66**	**266**	PG	**Pg**	**12 41 39.3**	**-1.1**
DIY	**Diyarbakir**	**0.90**	**122**	*e*PG	**Pg**	**12 41 46.1**	**+1.0**
URFA	**Urfa**	**0.99**	**201**	*e*PG	**Pg**	**12 41 46.2**	**-0.6**
URFA				*e*SG	**Sg**	**12 42 00.7**	**+1.0**
KEMA	**Kemaliye**	**1.08**	**327**	*i*P	**Pg**	**12 41 46.9**	**-1.6**
KEMA				*i*S	**Sg**	**12 42 04.1**	**+1.6**
BINT	**Bingol**	**1.09**	**62**	*e*PN	**Pn**	**12 41 49.6**	**-0.5**
MARD	**Mardin**	**1.60**	**131**	*i*P	**Pn**	**12 41 56.6**	**-0.5**
MARD				*i*S	**Sn**	**12 42 18.8**	**+0.4**
BTMT	**Batman**	**1.77**	**95**	*e*PN	**Pn**	**12 41 58.1**	**-1.3**
KMRS	**Kahramanmaras**	**2.06**	**246**	*e*PN	**Pn**	**12 42 03.6**	**+0.2**
SVSK	**Karacayir**	**2.34**	**312**	*e*PN	**Pn**	**12 42 07.4**	**+0.2**
SIRT	**Sirnak**	**2.66**	**108**	*e*PN	**Pn**	**12 42 13.2**	**+1.5**

IDC 20 12:44:22.4±2.5,1713S×6977W,h157km±19km,mb3.4/4, mb1 3.6/4,mb1mx3.2/18,mbtmp3.4/4,Error ellipse: s-maj=36.1km s-min=26.6km az=95.0,Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**1.78**	**62**	P	Pn	12 44 55.9	+0.4
4.0nm,0.3s,baz=258,slow=7.5,SNR=61							
LPAZ				S	Sn	12 45 22.2	+1.4
1.4nm,0.3s,baz=4.0,slow=22,SNR=7.5							
PLCA	**Paso Flores**	**23.53**	**181**	P	P	12 49 18.3	+0.1
2.3nm,0.9s,baz=2.6,slow=8.0,SNR=3.8							
ULM	**Lac du Bonnet**	**70.92**	**343**	P	P	12 55 21.9	-0.4
0.4nm,0.3s,baz=151,slow=5.5,SNR=4.9							
TORD	**Torodi Ar. Bea**	**76.71**	**72**	P	P	12 55 56.7	0.0
0.5nm,0.3s,baz=258,slow=5.2,SNR=15							
YKA	**Yellowknife Ar**	**86.81**	**341**	P	P	12 56 49.3	+0.8
0.2nm,0.6s,baz=132,slow=4.6,SNR=5.9							

IDC 20 12:49:54.9±7.4,2168N×14305E,h287km±74km,mb3.1/9, mb1 3.3/9,mb1mx3.2/20,mbtmp3.1/9,Error ellipse: s-maj=38.2km s-min=14.6km az=82.0,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSRS	**Korea Array**	**20.46**	**324**	P	P	12 54 11.3	0.0
1.4nm,0.6s,baz=153,slow=8.9,SNR=5.7							
WRA	**Warramunga Arr**	**42.23**	**192**	P	P	12 57 20.4	-0.1
0.5nm,0.4s,baz=16,slow=9.6,SNR=19							
ASAR	**Alice Springs**	**45.94**	**192**	P	P	12 57 49.7	0.0
0.2nm,0.7s,baz=16,slow=9.4,SNR=5.2							
ZALV	**Zalesovo Beam**	**54.15**	**322**	P	P	12 58 50.1	-0.6
0.5nm,0.5s,baz=76,slow=6.1,SNR=3.2							
MKAR	**Makanchi Array**	**54.62**	**313**	P	P	12 58 54.9	+0.7
0.2nm,0.3s,baz=87,slow=9.9,SNR=5.5							
YKA	**Yellowknife Ar**	**76.53**	**28**	P	P	13 01 13.4	+0.1
0.5nm,0.6s,baz=292,slow=5.8,SNR=11							
ARCES	**ARCESS Array B**	**78.90**	**341**	P	P	13 01 26.4	+0.2
2.7nm,0.7s,baz=44,slow=7.2,SNR=9.4							
FINES	**FINESS Array B**	**83.14**	**334**	P	P	13 01 48.0	-0.6
1.5nm,0.6s,baz=71,slow=4.6,SNR=7.0							
NVAR	**Mina Array Bea**	**83.25**	**51**	P	P	13 01 50.3	+0.7
0.2nm,0.5s,baz=280,slow=7.2,SNR=2.9							

IDC ***20*** *13:20:57.5±0.3,0225S×12422E,h0km,mb5.0/21, mb1 5.0/22,mb1mx5.0/24,mbtmp5.0/22,ML4.4/1,MS4.0/12, Ms1 4.0/12,ms1mx3.8/22,Error ellipse: s-maj=18.5km s-min=7.9km az=75.0*
BJI ***20*** *13:21:00.0,0105S×12440E,h20km,mB5.1,mb5.1,Ms4.6, Msz4.2*
NEIC ***20*** *13:21:01.0±2.1,0145S×12442E,h21km±15km,mb5.3/37, MS5.0/1,Error ellipse: s-maj=8.2km s-min=4.5km az=74.0*
NEIC Felt [III] at Bolaang Mongondow and on Ternate; [II] at Bitung and Manado, Indonesia.
MOS ***20*** *13:21:01.3±1.4,0095S×12433E,h33km,mb5.6/33,Error ellipse: s-maj=11.8km s-min=6.0km az=106.9*
GCMT ***20*** *13:21:01.0±0.2,0265S×12469E,h44km,MW5.1/60, Moment Tensor Solution. s53,c76; s60,c88; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr4.93±.19; Mθθ-2.61±.12; Mφφ-2.32±.16; Mrθ0.13±.11; Mθφ-2.79±.09; Mφr1.44±.14; Best double couple: M0=5.30200×10^16 NP1:φs237.00000°,δ40.00000°,λ107.00000°. NP2: φs36.00000°,δ52.00000°,λ76.00000°. Principal axes: T 5.2280, Plg78.0000°, Azm255.0000°; N 0.1470, Plg11.0000°, Azm44.0000°; P -5.3750, Plg6.0000°, Azm135.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISCJB ***20*** *13:21:05.3±0.7,0215S×12453E±004,h75km±6km, mb5.2/102 Error ellipse: s-maj=6.6km s-min=4.5km az=151.5*
ISC 20 13:21:07.7±0.6,024S±003×12452E±004,h82km±5km, h14km±6.0km:pP-P,n279,σ1§15/241,mb5.2/102,18C-19D, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCI	**Palu**	**4.73**	**262**	P	**Pn**	**13 22 15.0**	**-1.5**
4μm,1.0s							
AAI	**Ambon**	**5.02**	**133**	P	**Pn**	**13 22 17.8**	**-2.8**
1μm,0.6s							
DAV	**Davao City (W)**	**7.34**	**8**	*e*P	**Pn**	**13 22 51.8**	**-0.4**
859nm,1.0s							
TARAI	**Tarakan**	**7.80**	**297**	P	**Pn**	**13 22 58.7**	**+0.3**
1μm,0.7s							
TSM	**Tawau**	**8.02**	**304**	⇑P	**Pn**	**13 22 60.0**	**-1.6**
MYLDM	**Lahad Datu**	**8.07**	**312**	⇓P	**Pn**	**13 23 03.2**	**+1.0**
SDKM	**Sandakan**	**9.36**	**309**	⇑P	**Pn**	**13 23 19.6**	**-0.1**
TBP	**Tagbilaran**	**9.89**	**356**	*e*P	**Pn**	**13 23 29.0**	**+2.0**
BATI	**Kupang**	**9.94**	**185**	Pn	**Pn**	**13 23 26.6**	**-1.1**
0.4nm,0.3s,baz=112,slow=24,SNR=2.7							
BATI				LR	LR	13 27 34.1	
comp=Z,2μm,20.9s,baz=13,slow=40							
KKM	**Kota Kinabalu**	**10.38**	**307**	*e*P	**Pn**	**13 23 33.9**	**+0.2**
KKM	**Kota Kinabalu**	**10.38**	**307**	⇓P	**Pn**	**13 23 34.4**	**+0.7**
KDM	**Kudat**	**10.46**	**313**	⇓P	**Pn**	**13 23 36.8**	**+2.1**
BTM	**Bintulu**	**11.93**	**287**	⇓P	**Pn**	**13 23 55.3**	**+0.5**
KMMI	**Kalianget**	**12.51**	**237**	P	**Pn**	**13 24 05.4**	**+2.7**
137nm,0.9s							
SBUM	**Sibu**	**12.58**	**282**	⇑P	**Pn**	**13 24 03.6**	**-0.1**
KSM	**Kuching**	**14.31**	**277**	*e*P	**Pn**	**13 24 29.3**	**+2.8**
KSM	**Kuching**	**14.31**	**277**	⇑P	**Pn**	**13 24 26.3**	**-0.1**
KRKI	**Karangkates**	**14.37**	**237**	P	**Pn**	**13 24 32.6**	**+5.4**
547nm,1.3s							
KAKA	**Kakadu**	**14.67**	**148**	⇓*i*P	**Pn**	**13 24 28.2**	**-2.9**
87nm,0.6s							
TPI	**Tanjungpandan**	**17.04**	**261**	P	**Pn**	**13 25 00.6**	**-0.3**
86nm,1.1s							
FITZ	**Fitzroy Crossi**	**17.78**	**177**	*e*P	**Pn**	**13 25 09.9**	**0.0**
25nm,0.7s							
FITZ				*e*S	**S**	**13 28 28.1**	**-0.6**
FITZ	**Fitzroy Crossi**	**17.78**	**177**	P	**Pn**	**13 25 09.1**	**-0.8**
0.9nm,0.3s,baz=11,slow=9.1,SNR=23							
FITZ				S	**S**	**13 28 27.6**	**-1.1**
0.1nm,0.3s,baz=169,slow=23,SNR=3.3							
KLI	**Kotabumi**	**20.17**	**257**	P	**P**	**13 25 43.7**	**+8.0**
112nm,1.1s							
MYKOM	**Kota Tinggi**	**20.76**	**276**	⇓P	**P**	**13 25 43.9**	**+1.7**
MBWA	**Marble Bar**	**21.31**	**192**	*e*P	**P**	**13 25 48.1**	**+0.2**
202nm,1.3s,mb5.3							
MBWA	**Marble Bar**	**21.31**	**192**	P	**P**	**13 25 48.9**	**+1.0**
SNR=11							
KGM	**Kluang**	**21.31**	**276**	⇓P	**P**	**13 25 49.2**	**+1.2**
WRAB	**Tennant Creek**	**21.81**	**154**	P	**P**	**13 25 52.0**	**-1.3**
368nm,1.0s,mb5.7,SNR=20							
WRAB	**Tennant Creek**	**21.81**	**154**	*e*P	**P**	**13 25 52.0**	**-1.2**
152nm,1.2s,mb5.2							
WRAB	**Tennant Creek**	**21.81**	**154**	*e*P	**P**	**13 25 52.3**	**-1.0**
WRA	**Warramunga Arr**	**21.82**	**154**	P	**P**	**13 25 52.0**	**-1.3**
WRA				PcP	PcP	13 29 51.5	+0.9
WRA	**Warramunga Arr**	**21.82**	**154**	P	**P**	**13 25 52.0**	**-1.3**
26nm,0.9s,mb4.6,baz=337,slow=11,SNR=115							
WRA				PcP	PcP	13 29 51.5	+0.9
17nm,1.1s,baz=317,slow=2.4,SNR=11							
WRA				PKiKP	PKiKP	13 37 37.4	+0.2
0.5nm,0.6s,baz=310,slow=1.1,SNR=7.0							
WB2	**Warramunga Arr**	**21.82**	**154**	*e*P	**P**	**13 25 52.2**	**-1.2**
WB2				*e*S	**S**	**13 29 46.9**	**-3.1**
KTGM	**Kuala Trenggan**	**22.06**	**285**	⇓P	**P**	**13 25 57.1**	**+1.1**
KSI	**Kapahiang**	**22.17**	**261**	P	**P**	**13 26 03.8**	**+6.6**
115nm,1.3s,mb5.0							
IPM	**Ipoh**	**23.93**	**282**	⇑P	**P**	**13 26 15.5**	**+1.1**
QIZ	**Qiongzhong**	**23.96**	**324**	P	**P**	**13 26 14.8**	**+0.2**
QIZ				S	**S**	**13 30 24.0**	**-1.6**
QIZ				SS		13 31 17.3	
QIZ				AMB	AMB		
comp=Z,46nm,1.2s,mb4.7							
QIZ				AMB	AMB		
comp=Z,166nm,10.7s							
QIZ	**Qiongzhong**	**23.96**	**324**	*e*P	**P**	**13 26 14.9**	**+0.4**
comp=Z,32nm,0.8s,mb4.7							
PPI	**Padang Panjang**	**24.12**	**269**	P	**P**	**13 26 15.4**	**-0.7**
comp=Z,81nm,1.2s,mb4.9							
GUMO	**Guam**	**24.40**	**55**	P	**P**	**13 26 19.6**	**+1.0**
comp=Z,65nm,0.6s,mb5.2,baz=343,slow=9.2,SNR=4.3							
KULM	**Kulim**	**24.46**	**283**	*e*P	**P**	**13 26 19.4**	**+0.1**
KULM	**Kulim**	**24.46**	**283**	⇓P	**P**	**13 26 20.3**	**+1.1**
YHNB	**Yeheng**	**24.95**	**353**	*e*P	**P**	**13 26 21.1**	**-2.4**
SNG	**Songkhla**	**24.95**	**288**	P	**P**	**13 26 23.0**	**-0.7**
ASAR	**Alice Springs**	**25.00**	**159**	P	**P**	**13 26 24.4**	**+0.3**
ASAR				PcP	PcP	13 29 59.1	+1.9
ASAR				S	**S**	**13 30 48.0**	**+5.8**
ASAR	**Alice Springs**	**25.00**	**159**	P	**P**	**13 26 24.4**	**+0.3**
comp=Z,16nm,0.9s,mb4.4,baz=334,slow=7.0,SNR=135							
ASAR				PcP	PcP	13 29 59.1	+1.9
comp=Z,12nm,0.7s,baz=351,slow=2.0,SNR=22							
ASAR				S	**S**	**13 30 48.0**	**+5.8**
comp=Z,15nm,1.1s,baz=343,slow=18,SNR=12							
ASAR				PKiKP	PKiKP	13 37 39.1	+0.4
comp=Z,0.9nm,0.8s,baz=1.2,slow=1.3,SNR=8.1							
GZH	**Guangzhou**	**25.61**	**336**	P	**P**	**13 26 32.8**	**+3.3**
GZH				S	**S**	**13 30 59.1**	**+7.3**
GZH				LR	LR		
comp=Z,601nm,21.6s							
PSI	**Prapat**	**25.76**	**277**	P	**P**	**13 26 27.5**	**-3.5**
PSI	**Prapat**	**25.76**	**277**	P	**P**	**13 26 27.5**	**-3.5**
comp=Z,19nm,0.8s,mb4.6,baz=142,slow=1.3,SNR=10.0							
KKTK	**Khon Kaen**	**27.01**	**309**	P	**P**	**13 26 43.0**	**+0.8**
comp=Z,1μm,0.6s							
NNT	**Nongplab**	**27.70**	**298**	P	**P**	**13 26 49.8**	**+1.4**
NST	**Nakhon Sawan**	**28.81**	**304**	P	**P**	**13 26 59.5**	**+1.2**
CTA	**Charters Tower**	**29.02**	**134**	P	**P**	**13 27 01.8**	**+1.7**
comp=Z,4.6nm,1.0s,mb4.1,baz=288,slow=13,SNR=2.2							
BDT	**Bhumibol Dam**	**30.55**	**306**	P	**P**	**13 27 15.0**	**+1.3**
comp=Z,16nm,0.6s,mb4.9							
FORT	**Forrest**	**30.56**	**174**	⇓*i*P	**P**	**13 27 14.0**	**+0.5**
comp=Z,27nm,0.6s,mb5.2							
SSE	**Sheshan**	**31.32**	**354**	P	**P**	**13 27 18.3**	**-2.0**
SSE				AMB	AMB		
comp=Z,23nm,0.7s,mb5.0							
SSE				AMB	AMB		
comp=Z,125nm,5.9s							
CHRT	**Chiangrai**	**31.41**	**311**	⇑P	**P**	**13 27 22.0**	**+0.8**
comp=Z,224nm,1.0s,mb5.8							
CHG	**Chiang Mai**	**31.45**	**308**	⇑P	**P**	**13 27 21.7**	**+0.1**
comp=Z,150nm,0.9s,mb5.7							
CHTO	**Chiang Mai**	**31.45**	**308**	*e*P	**P**	**13 27 21.8**	**+0.2**
comp=Z,108nm,1.1s,mb5.5							
CHTO	**Chiang Mai**	**31.45**	**308**	*e*P	**P**	**13 27 21.8**	**+0.2**
CHTO				pmax	pmax		
comp=Z,108nm,1.1s,mb5.5							
CHTO	**Chiang Mai**	**31.45**	**308**	P	**P**	**13 27 22.6**	**+1.1**
SNR=28							
GYA	**Guiyang**	**31.63**	**328**	P	**P**	**13 27 24.0**	**+0.9**
GYA				AMB	AMB		
comp=Z,20nm,0.7s,mb5.0							
KLBR	**Kellerberrin**	**31.83**	**191**	⇓*i*P	**P**	**13 27 24.8**	**0.0**
comp=Z,19nm,0.6s,mb5.0							
CBIJ	**Chichi jima**	**32.05**	**31**	LR	LR	13 37 57.5	
comp=Z,1μm,21.9s,baz=42,slow=32							
WHN	**Wuhan**	**32.10**	**343**	*e*P	**P**	**13 27 29.6**	**+2.4**
NJ2	**Nanjing**	**32.56**	**351**	*e*P	**P**	**13 27 31.6**	**+0.5**
NJ2				PP	PP	13 28 41.0	-5.3
NJ2				S	**S**	**13 32 37.0**	**-3.7**
NJ2				AMB	AMB		
comp=Z,20nm,0.5s,mb5.2							
NJ2				AMB	AMB		
comp=Z,250nm,5.6s							
NJ2				LR	LR		
comp=N,450nm,10.7s							
NJ2				LR	LR		
comp=E,400nm,26.6s							
NJ2				LR	LR		
comp=Z,400nm,26.0s							
NWAO	**Narrogin (SRO)**	**33.23**	**191**	P	**P**	**13 27 36.6**	**-0.3**
comp=Z,6.1nm,0.6s,mb4.6,baz=31,slow=4.2,SNR=6.4							
STKA	**Stephens Creek**	**35.37**	**154**	*e*P	**P**	**13 27 56.2**	**+0.7**
comp=Z,11nm,0.5s,mb4.9							
STKA	**Stephens Creek**	**35.37**	**154**	P	**P**	**13 27 56.5**	**+1.0**
comp=Z,13nm,0.6s,mb4.9,baz=325,slow=9.1,SNR=49							
STKA				PcP	PcP	13 30 24.8	+0.8
comp=Z,9.6nm,0.9s,baz=21,slow=1.4,SNR=3.3							
STKA				LR	LR	13 44 24.8	
comp=Z,152nm,19.9s,baz=124,slow=40							
CD2	**Chengdu**	**36.72**	**329**	P	**P**	**13 28 06.6**	**-0.4**
CD2				AMB	AMB		
comp=Z,40nm,1.0s,mb5.3							
CD2				AMB	AMB		
comp=Z,100nm,5.6s							
XAN	**Xi'an**	**37.11**	**338**	P	**P**	**13 28 09.3**	**-1.0**
XAN				AP	pP	13 28 21.3	-8.3
XAN				LR	LR		
comp=N,151nm,9.0s							
XAN				LR	LR		
comp=E,82nm,7.0s							
XAN				LR	LR		
comp=Z,173nm,8.0s							
KSRS	**Korea Array**	**37.64**	**4**	P	**P**	**13 28 15.1**	**+0.4**
comp=Z,7.0nm,0.7s,mb4.6,baz=179,slow=9.5,SNR=14							
KSRS				LR	LR	13 43 58.6	
comp=Z,208nm,20.0s,baz=194,slow=37							
MJAR	**Matsushiro Arr**	**38.74**	**18**	P	**P**	**13 28 23.1**	**-0.9**
MJAR						13 30 36.0	
MJAR	**Matsushiro Arr**	**38.74**	**18**	P	**P**	**13 28 23.1**	**-0.9**
comp=Z,22nm,0.7s,mb5.1,baz=191,slow=8.9,SNR=49							
MJAR				PcP	PcP	13 30 36.0	+1.8
comp=Z,6.7nm,0.9s,baz=195,slow=3.7,SNR=5.3							
MJAR				LR	LR	13 41 10.0	
comp=Z,170nm,21.4s,baz=200,slow=31							
MAJO	**Matsushiro**	**38.74**	**18**	*e*P	**P**	**13 28 22.4**	**-1.6**
comp=Z,31nm,0.8s,mb5.2							
MAJO	**Matsushiro**	**38.74**	**18**	*e*P	**P**	**13 28 22.4**	**-1.6**
MAJO				pmax	pmax		
comp=Z,31nm,0.8s,mb5.2							
MAT	**Matsushiro**	**38.74**	**18**	P	**P**	**13 28 22.6**	**-1.4**
DL2	**Dalian**	**39.05**	**356**	P	**P**	**13 28 28.1**	**+1.6**
DL2				AMB	AMB		
comp=Z,20nm,0.7s,mb5.1							
ARMA	**Armidale**	**39.55**	**142**	*e*P	**P**	**13 28 32.4**	**+1.5**
SHL	**Shillong**	**40.64**	**312**	⇓*i*P	**P**	**13 28 40.0**	**+0.1**
BJT	**Baijiatuau**	**40.79**	**350**	*e*P	**P**	**13 28 40.6**	**-0.3**
comp=Z,21nm,0.8s,mb5.0							
BJT	**Baijiatuau**	**40.79**	**350**	*e*P	**P**	**13 28 40.6**	**-0.3**
BJT				pmax	pmax		
comp=Z,21nm,0.8s							
BJI	**Beijing**	**40.81**	**350**	P	**P**	**13 28 41.6**	**+0.5**
BJI				AMB	AMB		
comp

MDRS **Chennai** **45.83 288** *ex* x 13 29 59.9
JIRN **Jiri** **46.06 310** *eP* **P** **13 29 23.9 +0.3**
comp=Z,40nm,0.5s,mb5.4
GUN **Gumba** **46.42 310** *eP* **P** **13 29 26.7 +0.3**
comp=Z,82nm,0.6s,mb5.6
KKN **Kakani** **46.82 310** *eP* **P** **13 29 29.5 0.0**
comp=Z,38nm,0.7s,mb5.2
DMN **Daman** **46.87 309** *eP* **P** **13 29 30.0 +0.1**
comp=Z,85nm,1.1s,mb5.4
GKN **Gorkha** **47.42 310** *eP* **P** **13 29 34.0 -0.2**
comp=Z,56nm,0.7s,mb5.4
KOD **Kodaikanal** **47.94 284** *ex* x 13 31 08.1
KOD AMb AMB 13 31 09.0
comp=Z,33nm,1.0s,mb5.1
KOLN **Koldanda** **48.11 309** *eP* **P** **13 29 39.7 +0.2**
comp=Z,131nm,0.8s,mb5.8
HYB **Hyderabad** **48.52 294** *eP* **P** **13 29 42.0 -0.8**
comp=Z,90nm,1.0s,mb5.7
HYB **Hyderabad** **48.52 294** *eP* **P** **13 29 42.0 -0.8**
HYB pmax pmax
comp=Z,90nm,1.0s,mb5.7
HYB **Hyderabad** **48.52 294** *i* P **P** **13 29 42.0 -0.8**
comp=Z,90nm,1.0s,mb5.7
NGP **Nagpur** **49.22 299** *eP* **P** **13 29 47.7 -0.4**
NGP AMb AMB 13 29 49.3
comp=Z,42nm,0.9s,mb5.3
HABR **Khabarovsk** **49.37 9** *eP* **P** **13 29 48.8 0.0**
HABR *e* 13 30 02.6
HABR *e* 13 31 10.5
HABR *e* 13 31 49.9
HABR *e* 13 39 35.5
HABR pmax pmax
comp=Z,38nm,1.0s,mb5.3
HIA **Hailar** **49.49 356** *eP* **P** **13 29 49.0 -0.6**
comp=Z,28nm,0.8s,mb5.2
HIA **Hailar** **49.49 356** *eP* **P** **13 29 49.0 -0.6**
HIA pmax pmax
comp=Z,28nm,0.8s
YSS **Yuzh-Sakhalins** **49.64 16** *eP* **P** **13 29 50.3 -0.6**
comp=Z,9.1nm,0.5s,mb5.0
YSS **Yuzh-Sakhalins** **49.64 16**⇓*eP* **P** **13 29 51.0 +0.1**
YSS pmax pmax
comp=Z,30nm,1.0s,mb5.2
KLR **Kul'dur** **49.67 6** *eP* **P** **13 29 46.8 -4.2**
ULN **Ulaanbaatar** **50.27 345**⇑*eP* **P** **13 29 54.9 -0.7**
ULN **Ulaanbaatar** **50.27 345** P **P** **13 29 55.3 -0.2**
SNR=12
SONM **Songino Array** **50.41 344** P **P** **13 29 56.4 -0.3**
SONM 13 31 14.9
SONM **Songino Array** **50.41 344** P **P** **13 29 56.4 -0.3**
comp=Z,33nm,0.9s,mb5.2,baz=156,slow=9.0,SNR=85
SONM PcP PcP 13 31 14.9 +0.9
comp=Z,5.6nm,0.8s,baz=151,slow=4.9,SNR=4.9
SONM ScP ScP 13 35 06.2 +3.3
comp=Z,1.4nm,0.9s,baz=143,slow=2.7,SNR=4.9
SONM LR LR 13 52 38.9
comp=Z,139nm,21.1s,baz=150,slow=38
LATR **Latur** **50.62 294** *eP* **P** **13 29 58.4 -0.4**
LATR AMb AMB 13 30 00.5
comp=Z,81nm,1.1s,mb5.7
AKL **Akola** **50.88 297** *eP* **P** **13 29 59.5 -1.2**
AKL AMb AMB 13 30 02.6
comp=Z,79nm,1.4s,mb5.6
BHPL **Bhopal** **51.35 300** *eP* **P** **13 30 03.0 -1.2**
BHPL AMb AMB 13 30 06.5
comp=Z,36nm,1.3s,mb5.2
KAD **Karad** **52.52 292** *eP* **P** **13 30 11.9 -1.0**
KAD AMb AMB 13 30 13.1
comp=Z,30nm,0.6s,mb5.5
POO **Poona** **53.13 293** *eP* **P** **13 30 14.5 -2.9**
NDI **New Delhi** **53.57 307** *eP* **P** **13 30 17.7 -2.8**
NDI *ex* x 13 30 18.0
NDI AMb AMB 13 30 20.7
comp=Z,22nm,0.8s,mb5.2
ZAK **Zakamensk** **53.59 343** *eP* **P** **13 30 19.4 -0.8**
ZAK *e* 13 31 26.8
ZAK pmax pmax
comp=Z,8.0nm,1.0s,mb4.7
ZAK pmax pmax
comp=Z,5.0nm,0.9s,mb4.5
ZAK pmax pmax
comp=Z,1.0nm,1.2s
ZAK pmax pmax
comp=Z,2.0nm,1.1s,mb4.1
SMLA **Simla** **54.63 309** *eP* **P** **13 30 28.0 -0.2**
SMLA AMb AMB 13 30 30.6
comp=Z,83nm,0.6s,mb5.9
TLY **Talaya** **54.66 344** P **P** **13 30 28.6 +0.6**
comp=Z,229nm,0.6s,mb6.4,SNR=5.1
TLY **Talaya** **54.66 344** *eP* **P** **13 30 27.4 -0.6**
comp=Z,30nm,0.8s,mb5.4
TLY **Talaya** **54.66 344** *eP* **P** **13 30 27.9 -0.1**
TLY *e* 13 33 45.4
TLY pmax pmax
comp=Z,24nm,0.7s,mb5.3
TLY MLR MLR
comp=Z,125nm,19.0s
TLY **Talaya** **54.66 344** ⇓P **P** **13 30 27.6 -0.4**
SNR=8.5
WMQ **Urumqi** **54.79 328**⇓*iP* **P** **13 30 29.4 +0.3**
WMQ AP pP 13 30 35.5 -14
WMQ XP sP 13 30 39.0 -20
WMQ PP PP 13 32 31.0 -1.7
WMQ S **S** **13 37 56.5 -7.3**
WMQ SCS ScS 13 40 15.0 +4.3
WMQ AMB AMB
comp=Z,34nm,0.9s,mb5.4
WMQ AMB AMB
comp=Z,163nm,5.6s
WMQ LR LR
comp=N,400nm,27.0s
WMQ LR LR
comp=E,381nm,23.7s
WMQ LR LR
comp=Z,423nm,24.5s
IRK **Irkutsk** **55.00 345**⇑*iP* **P** **13 30 32.1 +1.7**
IRK pmax pmax
comp=Z,20nm,1.0s,mb5.1
MOY **Mondy** **55.40 342** *eP* **P** **13 30 33.8 +0.4**
MOY pmax pmax
comp=Z,28nm,1.4s,mb5.1
THN **Thein Dam** **56.30 310** *eP* **P** **13 30 37.6 -2.6**
CLNS **Chul'man** **56.90 0** *eP* **P** **13 30 43.3 -0.6**
CLNS pmax pmax
comp=Z,29nm,0.7s,mb5.4
CLNS pmax pmax
comp=N,17nm,1.0s
CLNS pmax pmax
comp=E,15nm,0.8s
BOD **Bodaibo** **58.49 353** *eP* **P** **13 30 54.6 -0.4**
BOD pmax pmax
comp=Z,59nm,0.8s,mb5.7
MK31 **Makanchi Array** **59.62 328** *eP* **P** **13 31 02.1 -0.9**
MKAR **Makanchi Array** **59.62 328** P **P** **13 31 02.1 -0.9**
MKAR PcP PcP 13 31 50.0 +0.5
MKAR ScP ScP 13 35 46.9 +3.7
MKAR LR LR 13 57 07.5
MKAR ⇑*e* 14 00 43.6
MKAR **Makanchi Array** **59.62 328** P **P** **13 31 02.1 -1.0**
MKAR 13 31 50.0
MKAR **Makanchi Array** **59.62 328** P **P** **13 31 02.1 -1.0**
comp=Z,22nm,0.6s,mb5.4,baz=124,slow=8.1,SNR=96
MKAR PcP PcP 13 31 50.0 +0.5
comp=Z,19nm,0.7s,baz=116,slow=5.5,SNR=11
MKAR ScP ScP 13 35 46.9 +3.7
comp=Z,1.0nm,0.6s,baz=140,slow=3.9,SNR=4.5
MKAR LR LR 13 57 07.5
comp=Z,118nm,19.9s,baz=135,slow=36
MKAR PKP2bc 14 00 43.6
comp=Z,0.4nm,0.5s,baz=336,slow=2.7,SNR=6.9
RPZ **Rata Peaks** **59.89 143** P **P** **13 31 06.6 +1.6**
comp=Z,27nm,0.8s,mb5.3,baz=351,slow=2.0,SNR=23
ULHL **Ulahol** **60.57 320** P **P** **13 31 10.5 +0.9**
SNR=22
KZA **Kyzart** **61.12 320** P **P** **13 31 14.2 +0.8**
SNR=60
TKM2 **Tokmak 2** **61.32 321** P **P** **13 31 14.6 -0.2**
SNR=50
KBK **Karagaybulak** **61.60 320** P **P** **13 31 17.1 +0.5**
SNR=24
UCH **Uchtor** **61.67 320** P **P** **13 31 17.9 +0.8**
SNR=57
AAK **Ala-Archa** **61.88 320**⇑*eP* **P** **13 31 17.2 -1.3**
AAK pmax pmax
comp=Z,52nm,1.7s,mb5.3
AAK **Ala-Archa** **61.88 320** P **P** **13 31 18.3 -0.3**
SNR=18
AAK **Ala-Archa** **61.88 320** P **P** **13 31 18.9 +0.4**
SNR=37
FRU **Bishkek** **61.90 320** *eP* **P** **13 31 20.0 +1.3**
FRU *e* pP 13 31 36.0 -3.5
FRU pmax pmax
comp=Z,20nm,1.5s,mb4.9
AML **Almayashu** **62.15 319** *eP* **P** **13 31 20.3 0.0**
AML **Almayashu** **62.15 319** P **P** **13 31 20.3 -0.1**
SNR=63
USP **Ospenovka** **62.19 321** P **P** **13 31 20.1 -0.5**
SNR=52
YAK **Yakutsk** **62.23 3** *eP* **P** **13 31 20.4 0.0**
comp=Z,79nm,0.8s,mb5.8
YAK **Yakutsk** **62.23 3** *eP* **P** **13 31 20.6 +0.1**
YAK *e**PP pP 13 31 28.1 -13
YAK *e* 13 31 34.7
YAK *e* 13 33 35.6
YAK *e*S **S** **13 39 40.4 +0.6**
YAK pmax pmax
comp=Z,84nm,1.1s,mb5.7
YAK pmax pmax
comp=N,22nm,0.9s
YAK pmax pmax
comp=E,12nm,1.0s
YAK pmax pmax
comp=Z,134nm,5.8s
YAK pmax pmax
comp=N,119nm,5.5s
YAK pmax pmax
comp=E,161nm,6.1s
YAK smax
comp=N,51nm,1.5s
YAK smax
comp=Z,127nm,3.8s
YAK smax
comp=E,28nm,1.8s
KBL **Kabul** **62.26 310** *eP* **P** **13 31 20.2 -1.1**
comp=E,49nm,0.8s,mb5.6
EKS2 **Erkin-Say** **62.35 320** P **P** **13 31 22.1 +0.4**
SNR=30
MA2 **Magadan** **63.07 15** *eP* **P** **13 31 27.2 +1.1**
comp=E,44nm,0.7s,mb5.5
MA2 **Magadan** **63.07 15***c iP* **P** **13 31 27.4 +1.3**
MA2 *e* 13 32 04.3
MA2 *e* 13 33 48.4
MA2 *e*S **S** **13 39 53.8 +3.4**
MA2 pmax pmax
comp=N,20nm,0.7s
MA2 pmax pmax
comp=Z,60nm,0.7s,mb5.6
MA2 MLR MLR
comp=Z,300nm,28.0s
ZAA0 **Zalesovo Array** **63.16 335** *eP* **P** **13 31 24.6 -2.3**
ZALV **Zalesovo Beam** **63.16 335** P **P** **13 31 25.1 -1.7**
ZALV PcP PcP 13 32 02.9 -0.7
ZALV LR LR 13 58 01.5
ZALV ⇑*e* 14 00 31.8
ZALV **Zalesovo Beam** **63.16 335** P **P** **13 31 25.1 -1.8**
comp=Z,10nm,0.6s,mb5.0,baz=122,slow=6.6,SNR=32
ZALV PcP PcP 13 32 02.9 -0.7
comp=Z,2.4nm,0.5s,baz=137,slow=3.0,SNR=3.8
ZALV LR LR 13 58 01.5
comp=Z,64nm,20.1s,baz=148,slow=35
ZALV PKP2bc 14 00 31.8
comp=Z,0.9nm,0.6s,baz=329,slow=5.2,SNR=5.9
ZAL **Zalesovo** **63.16 335** P **P** **13 31 25.1 -1.7**
ZAL 13 32 02.9
KURK **Kurchatov** **63.95 329** P **P** **13 31 31.3 -0.8**
comp=Z,782nm,0.5s,SNR=73
KURK **Kurchatov** **63.95 329** *eP* **P** **13 31 30.8 -1.2**
comp=Z,19μm,1.0s
KURK **Kurchatov** **63.95 329**⇑*eP* **P** **13 31 31.0 -1.1**
NVS **Novosibirsk** **64.45 335** *eP* **P** **13 31 33.4 -1.9**
NVS *e* 13 32 07.5
NVS *i* S **S** **13 40 08.0 +0.3**
NVS *e* 13 41 17.0
NVS pmax pmax
comp=Z,26nm,0.7s,mb5.2
NVS pmax pmax
comp=N,12nm,0.6s
NVS pmax pmax
comp=E,18nm,0.6s
NVS smax
comp=E,27nm,1.6s
NVS smax
comp=N,15nm,1.8s
SEY **Seymchan** **66.38 13**⇑*eP* **P** **13 31 48.4 +0.9**
JMDO **Jabal Madar** **68.36 294** P **P** **13 32 01.0 +0.1**
SNR=5.9
BIDO **Bidbid** **68.53 295** P **P** **13 32 01.6 -0.3**
SNR=5.9
BVAR **Borovoye Array** **69.47 328** P **P** **13 32 06.3 -0.8**
comp=N,11nm,0.6s,mb4.8,baz=142,slow=7.5,SNR=38
BVAR LR LR 14 02 46.6
comp=N,82nm,20.6s,baz=316,slow=36
BRVK **Borovoye** **69.55 328** *eP* **P** **13 32 06.6 -1.0**
comp=N,22nm,0.8s,mb5.0
BRVK **Borovoye** **69.55 328** *eP* **P** **13 32 06.6 -1.0**
BRVK pmax pmax
comp=Z,23nm,0.8s,mb5.1
MIR **Mirnyy** **69.82 193**⇑*iP* **P** **13 32 11.0 +2.0**
MIR pmax pmax
comp=Z,200nm,1.5s,mb5.7
ABKT **Ailbek** **71.70 310** P **P** **13 32 20.4 -0.6**
comp=Z,121nm,1.1s,mb5.6,SNR=5.1
TIXI **Tiksi** **71.83 1** *eP* **P** **13 32 20.3 -0.8**
comp=Z,16nm,0.8s,mb4.9
TIXI **Tiksi** **71.83 1**⇑*eP* **P** **13 32 20.4 -0.7**
TIXI pmax pmax
comp=Z,28nm,1.3s,mb4.9
ABTO **Aybut** **72.17 288** P **P** **13 32 24.8 +0.5**
SNR=5.1
BILL **Bilibino** **73.93 15** *eP* **P** **13 32 33.1 -0.5**
comp=Z,9.1nm,0.8s,mb4.6
BILL **Bilibino** **73.93 15** *eP* **P** **13 32 32.4 -1.2**
BILL *e* 13 32 48.0
BILL pmax pmax
comp=Z,4.0nm,0.6s,mb4.3
BILL MLR MLR
comp=Z,100nm,18.0s
AKTK **Aktyubinsk** **75.42 323** P **P** **13 32 42.1 -0.5**
AKTO **Aktyubinsk** **75.42 323** P **P** **13 32 42.1 -0.5**
comp=Z,34nm,0.7s,mb5.2,baz=106,slow=7.1,SNR=56
SVE **Sverdlovsk** **76.20 329** *eP* **P** **13 32 46.0 -0.9**
SVE pmax pmax
comp=Z,42nm,0.9s,mb5.2
ARU **Arti** **77.12 329** P **P** **13 32 48.9 -3.2**
comp=Z,172nm,1.2s,mb5.7,SNR=8.2
ARU **Arti** **77.12 329** *eP* **P** **13 32 48.1 -4.0**
comp=Z,27nm,0.9s,mb5.0
ARU **Arti** **77.12 329***d iP* **P** **13 32 49.6 -2.5**
ARU *e* 13 32 59.9
ARU *e* 13 35 40.6
ARU *e*S S 13 42 31.9 -2.6
ARU pmax pmax
comp=Z,32nm,1.0s,mb5.0
GAMB **Gambell** **78.90 24** *eP* **P** **13 33 03.1 +1.3**
comp=Z,32nm,0.9s,mb5.2
MAW **Mawson** **79.29 200** *eP* **P** **13 33 05.7 +1.8**
comp=Z,11nm,1.0s,mb4.6
MAW **Mawson** **79.29 200** *eP* **P** **13 33 05.7 +1.8**
MAW pmax pmax
comp=Z,11nm,1.0s
MAW **Mawson** **79.29 200** P **P** **13 33 05.0 +1.2**
comp=Z,11nm,0.9s,mb4.7,baz=51,slow=8.5,SNR=16
MAW LR LR 14 08 32.5
comp=Z,119nm,18.5s,baz=74,slow=36
VNDA **Vanda** **79.80 172** P **P** **13 33 07.9 +1.4**
comp=Z,7.9nm,0.7s,mb4.6,baz=317,slow=6.3,SNR=30
TNA **Tin City** **81.08 23** *eP* **P** **13 33 14.8 +1.3**
comp=Z,22nm,1.0s,mb4.9
KIV **Kislovodsk** **84.28 314** *eP* **P** **13 33 29.7 -0.9**
KIV pmax pmax
comp=Z,9.0nm,1.2s,mb4.5
SVW2 **Sparrevohn** **85.32 29** *eP* **P** **13 33 36.8 +1.4**
TTA **Tatalina** **85.42 27** *eP* **P** **13 33 37.8 +1.9**
PPT **Papeete** **86.02 107** LR LR 14 09 35.1
comp=Z,33nm,19.7s,baz=283,slow=34
SOC **Sochi** **86.39 314** *i P* **P** **13 33 41.0 -0.1**
IMA2 **Indian Mountai** **86.88 24** *eP* **P** **13 33 44.3 +1.3**
MALT **Malatya** **87.07 308** *eP* **P** **13 33 45.2 +0.6**
comp=Z,25nm,1.3s,mb5.0
MALT **Malatya** **87.07 308** *eP* **P** **13 33 45.2 +0.6**
MALT pmax pmax
comp=Z,25nm,1.3s,mb5.0
VORD **Divnogorie** **87.17 321** *eP* **P** **13 33 43.9 -0.8**
VORD pmax pmax
comp=N,10.0nm,0.8s
VORD pmax pmax
comp=E,40nm,0.8s
VORD pmax pmax
comp=Z,40nm,0.8s,mb5.4
VRSR **Storozhevoye** **87.25 321** *eP* **P** **13 33 44.8 -0.3**
VRSR pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
VRSR pmax pmax
comp=N,4.0nm,0.9s
VRSR pmax pmax
comp=E,7.0nm,1.0s
KMBO **Kilima Mbogo** **87.26 269** *eP* **P** **13 33 47.8 +1.8**
comp=E,42nm,1.3s,mb5.2
KMBO **Kilima Mbogo** **87.26 269** *eP* **P** **13 33 47.8 +1.8**
KMBO pmax pmax
comp=Z,42nm,1.3s
KMBO **Kilima Mbogo** **87.26 269** ⇑P **P** **13 33 47.3 +1.3**
SNR=9.9
SYO **Syowa Base** **87.95 201**⇓*eP* **P** **13 33 48.4 +0.3**
SYO **Syowa Base** **87.95 201**⇓*eP* pP 13 34 05.3 -4.8
ANN **Anapa** **88.09 315** *eP* **P** **13 33 57.1 +7.8**
ANN pmax pmax
comp=Z,41nm,0.9s,mb5.5
MOS **Moscow** **88.44 326** *eP* **P** **13 33 49.7 -1.0**
MOS pmax pmax
comp=Z,62nm,0.9s,mb5.6
TMCR **Tamitsa** **88.67 334** *eP* **P** **13 33 49.7 -1.9**
MCK **McKinley** **88.68 26** *eP* **P** **13 33 51.4 -0.2**
comp=Z,29nm,1.0s,mb5.3
MCK **McKinley** **88.68 26** *eP* **P** **13 33 51.4 -0.2**
MCK pmax pmax
comp=Z,29nm,1.0s,mb5.3
SML **Sawmill** **88.86 28** *eP* **P** **13 33 53.0 +0.5**
OBN **Obninsk** **89.02 325** *eP* **P** **13 33 52.3 -1.1**
OBN pmax pmax
comp=Z,46nm,1.6s,mb5.3
COLA **College** **89.20 25** *eP* **P** **13 33 53.6 -0.5**
comp=Z,11nm,1.0s,mb4.8
COLA **College** **89.20 25** *eP* **P** **13 33 53.9 -0.2**
QSPA **South Pole Qui** **89.69 180** *eP* **P** **13 33 58.1 +2.0**
comp=Z,29nm,0.7s,mb5.5
MENT **Mentasta** **91.02 27** *eP* **P** **13 34 04.2 +1.6**
JOF **Joensuu** **91.68 333** *ep* **P** **13 34 03.4 -2.2**
comp=Z,32nm,0.8s,mb5.6
JOF **Joensuu** **91.68 333** *eP* **P** **13 34 03.4 -2.2**
JOF pmax pmax
comp=Z,32nm,0.8s,mb5.6
EGAK **Eagle** **92.07 25** *eP* **P** **13 34 08.0 +0.6**
comp=Z,7.6nm,1.0s,mb4.9
KEV **Kevo** **92.83 340** *ep* **P** **13 34 09.8 -1.0**
comp=Z,4.7nm,0.7s,mb4.9
KEV **Kevo** **92.83 340** *eP* **P** **13 34 09.8 -1.0**
KEV pmax pmax
comp=Z,5.0nm,0.7s,mb5.0
DAWY **Dawson** **92.89 26** *eP* **P** **13 34 12.4 +1.2**
ARCES **ARCESS Array B** **93.38 340** P **P** **13 34 12.6 -0.8**
comp=Z,8.7nm,0.8s,mb5.1,baz=83,slow=6.2,SNR=19
AKASG **Malin Array Be** **93.55 321** P **P** **13 34 13.0 -1.6**
comp=Z,6.6nm,0.8s,mb5.0,baz=79,slow=4.0,SNR=12
AKBB **Malin Array Si** **93.55 321** *eP* **P** **13 34 14.9 +0.4**
SPB4 **Spitsbergen Ar** **93.92 349** *eP* **P** **13 34 15.2 -0.5**
KAF **Kangasniemi** **94.06 332** *ep* **P** **13 34 13.9 -2.7**
baz=79,slow=4.2
FINES **FINESS Array B** **94.25 332** P **P** **13 34 16.0 -1.5**
comp=Z,3.0nm,0.8s,mb4.7,baz=65,slow=5.4,SNR=9.1
INK **Inuvik** **94.64 21** *eP* **P** **13 34 19.3 +0.2**
comp=Z,674nm,1.1s
SKAG **Skagway** **95.37 30** *eP* **P** **13 34 24.3 +1.6**
comp=Z,30nm,0.8s,mb5.8
SKAG LR LR
comp=Z,500nm,20.0s
LSZ **Lusaka** **96.05 255** *eP* **P** **13 34 27.4 +0.6**
comp=Z,18nm,1.0s,mb5.5
LSZ **Lusaka** **96.05 255** *eP* **P** **13 34 27.4 +0.7**
LSZ pmax pmax
comp=Z,18nm,1.0s,mb5.5
NB2 **NORSAR Subarra101.31 333** Pdif Pdif 13 34 47.9 -1.6
comp=Z,8.4nm,1.1s,baz=69,slow=4.4
NOA **NORSAR Array B 101.31 333** P Pdif 13 34 47.6 -1.8
comp=Z,3.5nm,0.9s,baz=75,slow=4.6,SNR=5.0
BRG **Berggiesshubel** **103.06 322** *eP* Pdif 13 34 57.6 +0.4
BRG pmax pmax
comp=Z,2.0nm,0.6s
BRG **Berggiesshubel** **103.06 322** *eP* Pdif 13 34 57.6 +0.4
comp=Z,3.8nm,0.6s
YKA **Yellowknife Ar** **104.00 24** Pdif Pdif 13 35 02.5 +1.1
YKA **Yellowknife Ar** **104.00 24** Pdiff Pdif 13 35 02.5 +1.1
comp=Z,0.9nm,0.7s,baz=298,slow=4.7,SNR=21
YKA PKIKP PKiKP 13 39 19.0 +0.8
comp=Z,0.2nm,0.5s,baz=307,slow=1.7,SNR=7.0
YKA PKKPbc PKKPbc 13 50 51.1 -1.9
comp=Z,0.7nm,0.8s,baz=113,slow=2.7,SNR=9.3
CABF **La Chapelle** **109.34 320** *e*PKIKP PKiKP 13 39 29.3 +0.7
comp=Z,5.7nm,0.7s
SMF **Signal de Mont** **110.76 321** *e*PKIKP PKiKP 13 39 31.9 +0.6
SSF **Saint Saulge** **110.81 321** *e*PKIKP PKiKP 13 39 32.1 +0.7
comp=Z,13nm,1.1s
AVF **Avril sur Loir** **111.02 321** *e*PKIKP PKiKP 13 39 32.4 +0.6
NVAR **Mina Array Bea** **111.18 49** PKiKP PKiKP 13 39 35.2 +2.9
comp=Z,8nm,0.8s,baz=276,slow=3.4,SNR=5.0
CAF **Calviac** **112.59 320** *e*PKIKP PKiKP 13 39 35.8 +1.0
MFF **Saint Martin d** **113.28 322** *e*PKIKP PKiKP 13 39 36.5 +0.4
comp=Z,15nm,1.0s
ETSF **Etsaut** **115.16 318** *e*PKIKP PKiKP 13 39 41.0 +1.2
MSU **Marysvale** **115.68 47** *e*PKPdf PKPdf 13 39 43.6 +2.7
PDAR **Pinedale Array** **115.78 41** PKP PKPdf 13 39 42.4 +1.4
comp=Z,0.7nm,0.6s,baz=197,slow=4.6,SNR=6.5
PDAR PKKPab PKKPab 13 50 19.1 +0.3
comp=Z,2.0nm,0.8s,baz=128,slow=2.4,SNR=3.8
ESDC **Sonseca Array** **118.88 316** PP PP 13 41 08.5 +2.1
comp=Z,0.3nm,0.3s,baz=64,slow=7.8,SNR=4.4
ULM **Lac du Bonnet** **119.48 29** PKP PKPdf 13 39 48.3 +0.4
comp=Z,4.0nm,0.8s,baz=348,slow=1.9,SNR=9.3
ULM PKKPbc PKKPbc 13 50 00.9 -0.6
comp=Z,0.8nm,0.4s,baz=154,slow=8.3,SNR=2.9
LAZ **Ladron** **121.02 49** *e*PKPdf PKPdf 13 39 53.0 +1.6
BNM **Barren Site** **121.51 49** *e*PKPdf PKPdf 13 39 54.6 +2.3
TORD **Torodi Ar. Bea** **121.94 285** PKP PKPdf 13 39 54.4 +0.8
TORD PKKPab PKKPab 13 49 54.8 +2.7
TORD **Torodi Ar. Bea** **121.94 285** PKP PKPdf 13 39 54.4 +0.8
comp=Z,4.7nm,0.7s,baz=65,slow=1.9,SNR=31
TORD PKKPab PKKPab 13 49 54.8 +2.7
comp=Z,3.5nm,0.9s,baz=282,slow=4.4,SNR=17
ECSD **EROS,Sioux Fal** **123.29 35** *e*PKPdf PKPdf 13 39 56.3 +0.8
MNTX **Cornudas Mount** **123.45 51** *e*PKPdf PKPdf 13 39 58.2 +2.1
SCHQ **Schefferville** **124.80 8** PKP PKPdf 13 39 59.6 +1.6
comp=Z,4.6nm,0.5s,baz=4.6,slow=1.7,SNR=20
TXAR **Lajitas Array** **125.75 53** PKP PKPdf 13 40 02.6 +2.1
comp=Z,2.1nm,0.9s,baz=204,slow=1.7,SNR=18
JCT **Junction City** **128.30 50** *e*PKPdf PKPdf 13 40 07.0 +1.5
DBIC **Dimbokro** **129.10 278** PKP PKPdf 13 40 08.3 +0.9
DBIC **Dimbokro** **129.10 278** PKP PKPdf 13 40 08.3 +0.9
comp=Z,2.8nm,0.7s,baz=85,slow=1.9,SNR=5.4
WVT **Waverly** **133.34 37** *e*PKPdf PKPdf 13 40 17.2 +2.4
PLAL **Pickwick Lake** **133.96 38** *e*PKPdf PKPdf 13 40 18.0 +2.0
LRAL **Lakeview Retre** **135.92 39** *e*PKPdf PKPdf 13 40 22.4 +2.7
PLCA **Paso Flores** **136.98 163** PKP PKPdf 13 40 23.1 +1.7
comp=Z,1.5nm,0.8s,baz=95,slow=6.6,SNR=3.0
CFAA **Coronel Fontan** **146.10 160** PKPbc PKPbc 13 40 40.2 +1.3
comp=Z,2.1nm,0.8s,baz=229,slow=2.6,SNR=19
LCO **Las Campanas** **147.48 155** *e*PKPdf PKPbc 13 40 43.4 +0.4
JTS **JuntasAbangare** **149.04 70** *e*PKPbc PKPbc 13 40 47.7 +0.2
CPUP **Villa Florida** **153.52 176** *e*PKPdf PKPdf 13 40 52.1 +2.3
CPUP *e*PKPbc PKPbc 13 40 59.6 +2.0
CPUP **Villa Florida** **153.52 176** PKP PKPdf 13 40 52.2 +2.4
comp=Z,2.3nm,0.7s,baz=147,slow=2.7,SNR=8.6
CPUP PKPbc PKPbc 13 40 59.6 +2.0
comp=Z,3.4nm,0.5s,baz=154,slow=1.5,SNR=9.8
CPUP PKPab PKPab 13 41 10.3 +0.4
comp=Z,8.2nm,0.8s,baz=157,slow=4.8,SNR=9.3
ATAH **Atahualpa** **156.04 108** PKP PKPdf 13 40 55.8 +2.1
comp=Z,3.6nm,0.7s,baz=34,slow=1.9,SNR=5.2
ATAH PKPab PKPab 13 41 25.5 +4.2
comp=Z,7.3nm,0.8s,baz=304,slow=7.1,SNR=5.2
LPAZ **La Paz** **159.37 143** *e*PKPdf PKPdf 13 41 00.8 +3.2
LPAZ **La Paz** **159.37 143** PKP PKPdf 13 41 01.4 +3.7
comp=Z,4.0nm,0.9s,baz=14,slow=0.2,SNR=14
LPAZ PKPab PKPab 13 41 39.6 +4.2
comp=Z,5.9nm,0.7s,baz=219,slow=4.1,SNR=10
ROSC **El Rosal** **160.62 76** PKP PKPdf 13 41 01.7 +2.5
comp=Z,7.2nm,0.4s,baz=103,slow=22,SNR=4.5
ROSC PKPab PKPab 13 41 44.4 +3.2
comp=Z,7.3nm,0.5s,baz=92,slow=20,SNR=4.1

BDFB Brasilia 162.58 205 PKP PKPdf 13 41 02.1 +1.0
comp=Z,1.0nm,0.4s,baz=67,slow=17,SNR=3.6
BDFB PKPab PKPab 13 41 51.1 +1.8
comp=Z,1.1nm,0.7s,baz=330,slow=27,SNR=3.1
SDV Santo Domingo 162.64 60 *e*PKPdf PKPdf 13 41 02.3 +1.0
SDV Santo Domingo 162.64 60 PKP PKPdf 13 41 02.4 +1.1
comp=Z,8.8nm,0.8s,baz=344,slow=0.6
SDV PKPab PKPab 13 41 52.4 +2.5
comp=Z,3.3nm,0.6s,baz=332,slow=6.7,SNR=3.3
SIV San Ignacio 162.95 161 PKP PKPdf 13 41 03.9 +2.4
comp=Z,5.1nm,0.9s,baz=196,slow=1.0,SNR=19
SIV PKPab PKPab 13 41 53.0 +2.0
comp=Z,3.9nm,0.8s,baz=180,slow=2.9,SNR=7.0
SIV PP PP 13 45 39.2 +4.8
comp=Z,0.7nm,0.6s,baz=191,slow=7.2,SNR=4.0

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*NIED **20** 13:25:00, 2950N×128.10E, h8km, Mw4.0 Best double couple: M0 1.23000×10^15 NP1:φs 122.00000°, δ87.00000°, λ-36.00000°. NP2:φs 215.00000°, δ54.00000°, λ-176.00000°.*

JMA 20 13:25:59.7±0.2, 2946N×12807E, h21km, M3.7, Northwest of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNN	**Nakanoshima**	**1.62**	**76**	P	Pn	13 26 27.6	+0.6
JAM	**Amami Oshima**	**1.70**	**127**	P	Pn	13 26 29.0	+0.8
JTK	**Tokunoshima**	**1.84**	**155**	P	Pn	13 26 30.5	+0.5
JKC	**Kuchinoerabu**	**2.10**	**61**	P	Pn	13 26 34.5	+0.9
JOW	**Kunigami**	**2.62**	**176**	P	Pn	13 26 42.7	+1.9
JSJ	**Shimokoshiki**	**2.63**	**32**	P	Pn	13 26 42.3	+1.4
JTN	**Tanegashima 3**	**2.79**	**64**	P	Pn	13 26 44.8	+1.7
JTZ	**Takazaki**	**3.56**	**46**	P	Pn	13 26 56.2	+2.5

MAN 20 13:43:08, 1859N×12062E, h8km, mb4.7, ML3.6, MS3.6, Luzon

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*NIED **20** 13:50:00, 2570N×125.10E, h5km, Mw4.0 Best double couple: M0 1.27000×10^15 NP1:φs 29.00000°, δ64.00000°, λ-111.00000°. NP2:φs 251.00000°, δ33.00000°, λ-53.00000°.*
*IDC **20** 13:50:32.8±0.8, 2564N×125.12E, h0km, mb3.9/8, mb1 3.9/10, mb1mx3.8/22, mbtmp3.8/10, ML3.3/1, MS3.7/1, Ms1 3.7/1, ms1mx2.8/31, Error ellipse: s-maj=29.5km s-min=17.2km az=67.0*
*JMA **20** 13:50:33.8±0.3, 2569N×125.11E, h21km±4km, M4.4*
*NEIC **20** 13:50:34.5±0.6, 2567N×12520E, h10km, mb4.2/2, Error ellipse: s-maj=12.5km s-min=11.5km az=156.0*
*ISCJB **20** 13:50:35.8±1.1, 2561N±004×12520E±006, h33km±10km, mb3.9/11, Error ellipse: s-maj=9.8km s-min=5.2km az=34.7*
*BJI **20** 13:50:37.0, 2575N×12493E, h15km, mB4.5, mb4.5, ML3.8, Ms3.8, Ms2.3.9*

ISC 20 13:50:35.4±1.4, 2560N±003×12517E±005, h17km±10km, n34, σ1°04/39, mb3.9/11, 1C, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMJ	**Miyako jima 2**	**0.79**	**172**	P	**Pb**	13 50 50.3	-0.3
JMJ				S	**Sg**	13 51 01.7	+0.6
JOGS	**Gusukube**	**0.86**	**166**	P	**Pb**	13 50 51.6	-0.3
JOGS				*e*S	**Sb**	13 51 04.2	+1.1
JTJ	**Tarama**	**1.04**	**204**	P	**Pb**	13 50 53.5	-1.5
JTJ				*e*S	**Sb**	13 51 08.6	+0.2
JIJ	**Ishigaki jima**	**1.54**	**218**	P	**Pn**	13 51 00.6	-1.6
JIJ				*e*S	**Sn**	13 51 20.5	-1.3
JKE	**Kume jima 2**	**1.62**	**63**	P	**Pn**	13 51 01.4	-1.9
JKRS	**Kuro-shima**	**1.72**	**218**	P	**Pn**	13 51 04.0	-0.5
JKRS				*e*S	**Sn**	13 51 27.0	+0.9
IRIF	**Iriomote-Funau**	**1.81**	**227**	P	**Pn**	13 51 04.7	-1.2
HATJ	**Hateruma jima**	**1.97**	**219**	P	**Pn**	13 51 08.5	+0.4
JAGN	**Aguni-jima**	**2.11**	**62**	P	**Pn**	13 51 09.4	-0.5
YOJ	**Yonaguni jima**	**2.26**	**241**	P	**Pn**	13 51 12.2	+0.1
JIH	**Iheya**	**2.89**	**60**	P	**Pn**	13 51 21.6	+0.9
JOW	**Kunigami**	**3.05**	**65**	P	**Pn**	13 51 22.9	+0.1
JOW	**Kunigami**	**3.05**	**65**	Pn	**Pn**	13 51 22.8	0.0
7.4nm,0.3s,baz=245,slow=12,SNR=13							
TATO	**Taipei**	**3.39**	**260**	*e*P	**Pn**	13 51 33.0	+5.4
NACB	**Ninganchiao**	**3.54**	**247**	*e*P	**Pn**	13 51 31.1	+1.4
YHNB	**Yeheng**	**3.56**	**256**	*e*P	**Pn**	13 51 30.9	+1.0
KSRS	**Korea Array**	**12.05**	**11**	Pn	**Pn**	13 53 26.1	-0.2
baz=16,slow=37,SNR=2.2							
CD2	**Chengdu**	**19.58**	**291⇑**	*i*P	**Pn**	13 55 04.6	+0.5
CD2				AMB	AMB		
comp=Z,40nm,1.2s							
CD2				AMB	AMB		
comp=Z,120nm,6.4s							
LZH	**Lanzhou**	**21.05**	**305**	*e*P	**P**	13 55 21.0	+2.5
LZH				AP		13 55 24.5	
LZH				XP	sP	13 55 26.6	+1.1
LZH				AMB	AMB		
comp=Z,32nm,1.4s,mb4.5							
LZH				AMB	AMB		
comp=Z,160nm,4.9s							
JMP	**Maruseppu**	**23.58**	**34**	P	**P**	13 55 47.7	+2.4
ULN	**Ulaanbaatar**	**26.42**	**332**	*e*P	**P**	13 56 13.3	+2.1
comp=Z,5.8nm,1.0s,mb4.1							
SONM	**Songino Array**	**26.68**	**331**	P	**P**	13 56 13.6	+0.1
comp=Z,1.2nm,0.8s,mb3.5,baz=149,slow=9.2,SNR=6.5							
SONM				LR	LR	14 08 13.0	
comp=Z,149nm,18.8s,baz=330,slow=40							
MK31	**Makanchi Array**	**39.93**	**313**	*e*P	**P**	13 58 07.7	-0.9
MKAR	**Makanchi Array**	**39.93**	**313**	P	**P**	13 58 08.7	0.0
comp=Z,1.0nm,0.6s,mb3.7,baz=97,slow=10,SNR=9.7							
ZAA0	**Zalesovo Array**	**41.12**	**324**	*e*P	**P**	13 58 17.5	-0.9
ZALV	**Zalesovo Beam**	**41.12**	**324**	P	**P**	13 58 17.7	-0.7
ZALV	**Zalesovo Beam**	**41.12**	**324**	P	**P**	13 58 17.7	-0.7
comp=Z,3.1nm,0.6s,mb4.1,baz=113,slow=8.5,SNR=17							
KURK	**Kurchatov**	**43.41**	**318**	*e*P	**P**	13 58 36.8	-0.3
comp=Z,6.4nm,1.3s,mb4.2							
WRA	**Warramunga Arr**	**46.13**	**168**	P	**P**	13 58 59.1	+0.1
comp=Z,1.2nm,0.7s,mb3.9,baz=350,slow=8.8,SNR=16							
BVAR	**Borovoye Array**	**48.93**	**319**	P	**P**	13 59 20.6	+0.1
comp=Z,0.7nm,0.5s,mb4.0,baz=111,slow=8.1,SNR=4.2							
ASAR	**Alice Springs**	**49.70**	**169**	P	**P**	13 59 27.6	+1.0
comp=Z,0.6nm,0.6s,mb3.8,baz=356,slow=12,SNR=14							
AKASG	**Malin Array Be**	**74.21**	**319**	P	**P**	14 02 09.3	-1.9
AKASG	**Malin Array Be**	**74.21**	**319**	P	**P**	14 02 09.3	-1.9
comp=Z,0.1nm,0.2s,mb3.3,baz=55,slow=6.1,SNR=4.6							
YKA	**Yellowknife Ar**	**80.24**	**24**	P	**P**	14 02 44.7	-0.2
comp=Z,0.8nm,0.7s,mb3.8,baz=305,slow=5.2,SNR=15							

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*NIED **20** 13:53:00, 4730N×15470E, h5km, Mw4.3 Best double couple: M0 3.31000×10^15 NP1:φs 45.00000°, δ77.00000°, λ69.00000°. NP2:φs 284.00000°, δ25.00000°, λ147.00000°.*
*IDC **20** 13:53:37.7±0.7, 4645N×15534E, h0km, mb3.9/15, mb1 4.1/17, mb1mx4.0/25, mbtmp3.9/17, ML3.7/2, MS3.4/3, Ms1 3.4/3, ms1mx3.0/30, Error ellipse: s-maj=21.3km s-min=14.4km az=156.0*
*ISCJB **20** 13:53:38.3±1.9, 4632N±007×155.19E±009, h20km±13km, mb4.1/27, MS3.4/4, Error ellipse: s-maj=14.4km s-min=7.7km az=141.6*
*BJI **20** 13:53:39.1, 4640N×15530E, h10km, mB4.8, mb4.5*
*NEIC **20** 13:53:39.2±0.5, 4640N×15529E, h10km, mb4.3/5, Error ellipse: s-maj=14.0km s-min=9.0km az=154.0*
*MOS **20** 13:53:41.7±1.0, 4640N×155.11E, h44km, mb4.5/8, Error ellipse: s-maj=11.5km s-min=9.4km az=91.8*

ISC 20 13:53:41.9±1.9, 4636N±007×15521E±009, h30km±13km, n68, σ1°09/76, mb4.1/27, MS3.4/4, 6C, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**4.37**	**8**	*e*PN	**Pn**	13 54 47.5	+1.3
SKR				pmax	pmax		
comp=Z,80nm,0.4s							
KUR	**Kuril'sk**	**5.26**	**260**	*e*PN	**Pn**	13 54 56.3	-2.1
KUR				pmax	pmax		
comp=N,80nm,0.6s							
KUR				pmax	pmax		
comp=E,60nm,0.6s							
KUR				pmax	pmax		
comp=Z,230nm,0.6s							
PET	**Petropavlovsk**	**7.04**	**17**	*e*PN	**Pn**	13 55 21.3	-1.5
NEM2	**Nemuro 2**	**7.36**	**249**	P	**Pn**	13 55 26.2	-1.1
NEM2				*e*S	**Sn**	13 56 44.3	-5.4
JRA	**Rausu**	**7.53**	**255**	P	**Pn**	13 55 30.7	+1.1
JNK	**Nakash**	**7.94**	**253**	P	**Pn**	13 55 35.6	+0.4
JAK	**Akkeshi**	**8.21**	**250**	P	**Pn**	13 55 38.1	-0.8
JAK				*e*S	**Sn**	13 57 04.7	-5.9
JTKR	**Abashiri--Toko**	**8.34**	**257**	P	**Pn**	13 55 41.6	+1.0
YSS	**Yuzh-Sakhalins**	**8.59**	**278**	*e*PN	**Pn**	13 55 46.0	+1.9
JAR	**Ashorobuto**	**8.69**	**253**	P	**Pn**	13 55 45.8	+0.4
JOB	**Onbets**	**8.82**	**251**	P	**Pn**	13 55 46.4	-0.8
JKK2	**Kamakawa 2**	**9.16**	**259**	P	**Pn**	13 55 53.2	+1.3
ASAJ	**Asahikawa**	**9.18**	**260**	PN	**Pn**	13 55 54.1	+1.9
ASAJ				pmax	pmax		
comp=Z,1.0nm,0.3s							
ASAJ	**Asahikawa**	**9.18**	**260**	Pn	**Pn**	13 55 54.1	+1.9
comp=Z,1.1nm,0.3s,baz=86,slow=9.5,SNR=13							
JCH	**Churui**	**9.26**	**250**	P	**Pn**	13 55 52.6	-0.6
JCH				*e*S	**Sn**	13 57 30.9	-5.4
JFR	**Furan**	**9.53**	**255**	P	**Pn**	13 55 58.8	+1.9
JEM	**Erimo**	**9.68**	**248**	P	**Pn**	13 55 59.7	+0.6
ERM	**Erimo**	**9.68**	**248**	*e*PN	**Pn**	13 55 59.7	+0.6
JNBK	**Urakawa-nobuka**	**9.81**	**250**	P	**Pn**	13 55 59.9	-1.0
JNBK				*e*S	**Sn**	13 57 43.2	-6.7
JBT2	**Biratori 2**	**9.84**	**253**	P	**Pn**	13 56 01.0	-0.2
JNB	**Noboribetsu**	**10.86**	**254**	P	**Pn**	13 56 14.7	-0.4
JKB	**Kayabe**	**11.12**	**251**	P	**Pn**	13 56 17.5	-1.3
JKB				*e*S	**Sn**	13 58 14.3	-7.8
JANG	**Nango**	**11.62**	**244**	P	**Pn**	13 56 22.9	-2.7
JANG				*e*S	**Sn**	13 58 24.3	-10
JTM	**Tenmabayashi**	**11.67**	**247**	P	**Pn**	13 56 24.9	-1.3
JTM				*e*S	**Sn**	13 58 26.1	-9.3
MJAR	**Matsushiro Arr**	**16.05**	**238**	Pn	**Pn**	13 57 24.5	-0.8
comp=Z,0.2nm,0.3s,baz=36,slow=12,SNR=7.1							
MAT	**Matsushiro**	**16.05**	**238**	P	**Pn**	13 57 24.4	-0.9
MDJ	**Mudanjiang**	**18.03**	**274**	*e*P	**Pn**	13 57 50.0	0.0
YAK	**Yakutsk**	**21.44**	**326⇑**	*e*P	**P**	13 58 20.7	-6.6
YAK				pmax	pmax		
comp=Z,5.0nm,0.7s,mb4.0							
KSRS	**Korea Array**	**22.08**	**256**	P	**P**	13 58 37.5	+3.1
comp=Z,3.4nm,0.7s,mb3.9,baz=54,slow=9.9,SNR=8.7							
KSRS				LR	LR	14 07 35.6	
comp=Z,27nm,19.8s,MS2.7,baz=180,slow=38							
BILL	**Bilibino**	**22.48**	**11**	*e*P	**P**	13 58 39.4	+1.1
comp=Z,7.6nm,0.9s,mb4.1							
BILL	**Bilibino**	**22.48**	**11**	*e*P	**P**	13 58 39.3	+1.0
BILL				*e*		13 58 59.4	
BILL				pmax	pmax		
comp=Z,17nm,1.6s,mb4.2							
TIXI	**Tiksi**	**28.26**	**343**	*e*P	**P**	13 59 30.6	-1.3
comp=Z,11nm,1.4s,mb4.3							
TIXI	**Tiksi**	**28.26**	**343⇑**	*e*P	**P**	13 59 31.5	-0.5
TIXI				pmax	pmax		
comp=Z,9.0nm,1.5s,mb4.2							
NJ2	**Nanjing**	**31.29**	**256**	*e*P	**P**	14 00 00.6	+1.5
NJ2				AMB	AMB		
comp=Z,50nm,0.6s,mb5.5							
ULN	**Ulaanbaatar**	**32.39**	**291⇑**	*e*P	**P**	14 00 08.1	-0.6
SONM	**Songino Array**	**32.83**	**291**	P	**P**	14 00 12.5	0.0
comp=Z,0.4nm,0.6s,mb3.5,baz=70,slow=8.3,SNR=2.5							
TLY	**Talaya**	**33.64**	**298**	*e*P	**P**	14 00 19.5	-0.1
TLY				*e*S	**S**	14 05 38.1	-2.1
TLY				*e*SS	SS	14 07 47.8	-18
TLY				pmax	pmax		
comp=Z,2.0nm,0.7s,mb4.2							
TLY				MLR	MLR		
comp=Z,90nm,15.0s,MS3.6							
ZAK	**Zakamensk**	**34.15**	**296**	*e*P	**P**	14 00 22.7	-1.3
ZAK				pmax	pmax		
comp=Z,1.0nm,0.8s,mb3.8							
COLA	**College**	**35.55**	**38**	*e*P	**P**	14 00 42.8	+6.9
LZH	**Lanzhou**	**39.35**	**274**	*e*P	**P**	14 01 12.0	+3.6
LZH				AP	pP	14 01 21.0	+3.8
LZH				XP	sP	14 01 24.3	+3.5
LZH				AMB	AMB		
comp=Z,26nm,1.2s,mb4.8							
LZH				AMB	AMB		
comp=Z,120nm,4.5s							
INK	**Inuvik**	**41.21**	**32**	P	**P**	14 01 22.6	-0.8
comp=Z,1.4nm,1.2s,mb3.5,baz=166,slow=4.2,SNR=3.0							
ZALV	**Zalesovo Beam**	**44.01**	**307**	P	**P**	14 01 46.0	-0.3
comp=Z,0.5nm,0.5s,mb3.5,baz=97,slow=7.8,SNR=3.2							
ZALV				PcP	PcP	14 03 30.4	-1.0
comp=Z,0.9nm,0.8s,baz=0.0,slow=0.7,SNR=3.9							
ZAL	**Zalesovo**	**44.03**	**307**	P	**P**	14 01 46.0	-0.4
ZAL						14 03 30.4	
MK31	**Makanchi Array**	**48.41**	**299**	*e*P	**P**	14 02 22.6	+1.7
MKAR	**Makanchi Array**	**48.41**	**299**	P	**P**	14 02 21.8	+0.8
MKAR				LR	LR	14 23 38.9	
MKAR	**Makanchi Array**	**48.41**	**299**	P	**P**	14 02 21.8	+0.8
comp=Z,0.3nm,0.3s,mb3.9,baz=70,slow=10,SNR=7.6							
MKAR				LR	LR	14 23 38.9	
comp=Z,44nm,20.3s,MS3.4,baz=167,slow=37							
KURK	**Kurchatov**	**48.78**	**305**	*e*P	**P**	14 02 23.8	0.0
comp=Z,1.5nm,0.6s,mb4.2							
KURK	**Kurchatov**	**48.78**	**305⇑**	*e*P	**P**	14 02 23.7	-0.1
YKA	**Yellowknife Ar**	**50.37**	**37**	P	**P**	14 02 34.7	-1.0
YKA	**Yellowknife Ar**	**50.37**	**37**	P	**P**	14 02 34.7	-0.9
comp=Z,0.4nm,0.6s,mb3.6,baz=297,slow=7.3,SNR=6.6							
LSA	**Lhasa**	**51.74**	**275**	*e*P	**P**	14 02 50.6	+4.1
BVAR	**Borovoye Array**	**52.22**	**310**	P	**P**	14 02 50.1	+0.4
comp=Z,1.3nm,0.4s,mb4.2,baz=53,slow=7.8,SNR=12							
BRVK	**Borovoye**	**52.26**	**311**	*e*P	**P**	14 02 50.3	+0.3
comp=Z,3.7nm,0.8s,mb4.4							
BRVK	**Borovoye**	**52.26**	**311**	*e*P	**P**	14 02 50.3	+0.3
BRVK				pmax	pmax		
comp=Z,4.0nm,0.8s,mb4.4							
AAK	**Ala-Archa**	**55.30**	**298**	*e*P	**P**	14 03 13.0	+0.6
comp=Z,2.9nm,0.8s,mb4.4							
AAK	**Ala-Archa**	**55.30**	**298⇑**	*e*P	**P**	14 03 12.7	+0.3
AAK				pmax	pmax		
comp=Z,5.0nm,1.2s,mb4.4							
ARU	**Arti**	**56.27**	**318***c*	*i*P	**P**	14 03 17.5	-1.6
ARU				*e*		14 05 19.9	
ARU				*e*S	**S**	14 11 01.2	-5.6
ARU				*e*SS	SS	14 14 43.7	-9.3
ARU				pmax	pmax		
comp=Z,7.0nm,1.0s,mb4.7							
NVAR	**Mina Array Bea**	**61.33**	**63**	P	**P**	14 03 54.9	+0.3
comp=Z,0.8nm,0.6s,mb4.0,baz=297,slow=7.0,SNR=7.6							
JOF	**Joensuu**	**62.32**	**335**	*e*p	**P**	14 04 00.6	-0.2
comp=Z,2.3nm,0.5s,mb4.6							
JOF	**Joensuu**	**62.32**	**335**	*e*P	**P**	14 04 00.6	-0.2
JOF				pmax	pmax		
comp=Z,2.0nm,0.5s,mb4.5							
PDAR	**Pinedale Array**	**63.80**	**55**	P	**P**	14 04 11.2	+0.3
comp=Z,1.4nm,0.9s,mb4.0,baz=298,slow=3.2,SNR=10							
FINES	**FINESS Array B**	**65.00**	**336**	P	**P**	14 04 19.5	+1.0
comp=Z,1.3nm,0.4s,mb4.3,baz=31,slow=7.7,SNR=12							
ULM	**Lac du Bonnet**	**65.86**	**42**	P	**P**	14 04 23.4	-0.9
comp=Z,0.9nm,0.5s,mb4.0,baz=322,slow=13,SNR=3.4							
WRA	**Warramunga Arr**	**68.64**	**201**	P	**P**	14 04 42.5	+0.4
comp=Z,1.3nm,0.9s,mb3.9,baz=22,slow=6.7,SNR=7.3							
ASAR	**Alice Springs**	**72.32**	**200**	P	**P**	14 05 06.3	+1.8
comp=Z,1.2nm,0.7s,mb3.9,baz=16,slow=5.1,SNR=19							
AKASG	**Malin Array Be**	**72.67**	**327**	P	**P**	14 05 06.2	-0.1
comp=Z,0.7nm,0.5s,mb3.9,baz=36,slow=6.3,SNR=4.2							
TXAR	**Lajitas Array**	**76.41**	**62**	P	**P**	14 05 28.6	+0.1
comp=Z,2.9nm,0.6s,mb4.4,baz=301,slow=4.1,SNR=45							
PPT	**Papeete**	**80.76**	**127**	LR	LR	14 33 32.2	
comp=Z,86nm,21.5s,MS4.1,baz=177,slow=30							

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*NIED **20** 13:57:00, 2950N×12800E, h5km, Mw4.0 Best double couple: M0 1.26000×10^15 NP1:φs 93.00000°, δ77.00000°, λ-25.00000°. NP2:φs 189.00000°, δ65.00000°, λ-166.00000°.*
*ISCJB **20** 13:57:44.2±0.6, 2947N±005×12808E±008, h10km, mb3.6/6, Error ellipse: s-maj=10.1km s-min=7.8km az=177.8*
*JMA **20** 13:57:44.6±0.1, 2945N×12804E, h22km, M3.7*
*IDC **20** 13:57:46.0±0.9, 2931N×12743E, h0km, mb3.5/8, mb1 3.6/11, mb1mx3.6/24, mbtmp3.5/11, ML3.0/3, MS3.0/3, Ms1 3.0/3, ms1mx2.8/22, Error ellipse: s-maj=30.3km s-min=16.2km az=78.0*
*NEIC **20** 13:57:47.5±0.5, 2928N×12741E, h10km, Error ellipse: s-maj=14.7km s-min=8.6km az=77.0*

ISC 20 13:57:45.6±0.6, 2949N±006×12817E±008, h10km, n20, σ0°85/16, mb3.6/6, Northwest of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNN	**Nakanoshima**	**1.53**	**76**	P	**Pn**	13 58 12.8	-0.1
JAM	**Amami Oshima**	**1.66**	**130**	P	**Pn**	13 58 13.9	-0.8
JTK	**Tokunoshima**	**1.83**	**158**	P	**Pn**	13 58 15.6	-1.5
JKC	**Kuchinoerabu**	**2.01**	**61**	P	**Pn**	13 58 19.6	+0.1
JSJ	**Shimokoshiki**	**2.56**	**31**	P	**Pn**	13 58 27.4	+0.4
JOW	**Kunigami**	**2.65**	**178**	Pn	**Pn**	13 58 29.1	+0.7
4.6nm,0.3s,baz=92,slow=17,SNR=6.7							
JOW				LR	LR	13 59 33.2	
comp=Z,209nm,19.9s,baz=15,slow=42							
JTN	**Tanegashima 3**	**2.70**	**64**	P	**Pn**	13 58 29.8	+0.8
JNU	**Nakatsue**	**4.30**	**32**	Pn	**Pb**	13 59 00.4	-0.8
0.8nm,0.3s,baz=150,slow=16,SNR=5.3							
JNU				LR	LR	14 00 44.9	
comp=Z,171nm,20.3s,baz=186,slow=37							
KSRS	**Korea Array**	**7.94**	**359**	Pn	**Pn**	13 59 44.3	+3.3
0.2nm,0.3s,baz=184,slow=13,SNR=2.9							
KSRS				Lg		14 02 01.4	
0.5nm,0.3s,baz=178,slow=31,SNR=5.5							
ASAJ	**Asahikawa**	**18.57**	**34**	LR	LR	14 08 56.8	
comp=Z,71nm,20.8s,baz=247,slow=35							
SONM	**Songino Array**	**24.85**	**324**	P	**P**	14 03 07.4	-0.6
0.6nm,0.5s,mb3.4,baz=135,slow=10,SNR=6.4							
MKAR	**Makanchi Array**	**39.38**	**309**	P	**P**	14 05 14.8	-0.5
MKAR	**Makanchi Array**	**39.38**	**309**	P	**P**	14 05 14.8	-0.5
0.3nm,0.3s,mb3.6,baz=97,slow=9.9,SNR=6.1							
ZALV	**Zalesovo Beam**	**39.66**	**321**	P	**P**	14 05 16.9	-0.6
0.6nm,0.5s,mb3.6,baz=120,slow=8.7,SNR=4.1							
BVAR	**Borovoye Array**	**47.84**	**316**	P	**P**	14 06 23.4	+0.1
0.7nm,0.7s,mb3.8,baz=83,slow=12,SNR=3.7							
WRA	**Warramunga Arr**	**49.51**	**172**	P	**P**	14 06 37.6	+1.2
0.9nm,0.9s,mb3.8,baz=351,slow=7.7,SNR=3.8							
ASAR	**Alice Springs**	**53.14**	**173**	P	**P**	14 07 04.2	+0.7
0.4nm,1.0s,mb3.3,baz=11,slow=11,SNR=3.2							
INK	**Inuvik**	**65.93**	**24**	P	pP	14 08 36.1	+1.6
0.3nm,0.5s,baz=273,slow=3.5,SNR=3.6							
YKA	**Yellowknife Ar**	**75.61**	**25**	P	pP	14 09 35.5	+1.9
YKA	**Yellowknife Ar**	**75.61**	**25**	P	pP	14 09 35.5	+1.9
0.6nm,1.0s,baz=301,slow=5.9,SNR=6.8							

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*NEIC **20** 14:38:02.8±1.5, 3725N×2833E, h10km, MD3.1(ISK), ML3.0(ATH), Error ellipse: s-maj=20.0km s-min=10.7km az=225.0*
*CSEM **20** 14:38:02.8±0.1, 3720N×2821E, h10km, MD3.1, Error ellipse: s-maj=1.6km s-min=1.3km az=36.0*
*ISK **20** 14:38:02.9, 3720N×2821E, h14km, MD3.1*
*ATH **20** 14:38:02.5, 3722N×2824E, h25km±2km, MD3.4/5*
*ISCJB **20** 14:38:03.3±0.4, 3720N±002×2821E±003, h10km±3km, Error ellipse: s-maj=4.1km s-min=3.5km az=37.8*
*DDA **20** 14:38:04.6, 3722N×2819E, h4km±3km, Md3.1*

ISC 20 14:38:03.7±0.4, 3720N±002×2821E±003, h12km±3km, n33, σ0°79/51, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YER	**Yerkesik**	**0.09**	**140**	*e*PG	**Pg**	14 38 06.1	-0.2
MLSB	**Milas**	**0.36**	**285**	*e*PG	**Pg**	14 38 10.8	-0.2
MLSB				*e*SG	**Sg**	14 38 16.2	+0.4
AYDN	**Tasoluk**	**0.53**	**330**	*i* P	**Pg**	14 38 14.2	+0.1
AYDN				*i* S	**Sg**	14 38 21.4	+0.3
AYDN	**Tasoluk**	**0.53**	**330**	*i* P	**Pg**	14 38 14.2	+0.1
AYDN				*i* S	**Sg**	14 38 21.5	+0.3
DALT	**Dalyan (Mudla)**	**0.55**	**142**	*e*PG	**Pg**	14 38 14.1	-0.3
DALT				*e*SG	**Sg**	14 38 22.5	+0.9
BDRM	**Kayabasi**	**0.63**	**258**	*i* P	**Pg**	14 38 15.6	-0.4
BDRM				*e*S	**Sg**	14 38 24.6	+0.4
DAT	**Datca**	**0.69**	**228**	*e*PG	**Pg**	14 38 16.6	-0.6
DAT				*e*SG	**Sg**	14 38 26.8	+0.6
BODT	**Bodrum**	**0.73**	**260**	*e*PG	**Pg**	14 38 17.5	-0.5
DENT	**Denizli**	**0.85**	**49**	*e*PG	**Pg**	14 38 19.8	-0.4
FETY	**Fethiye**	**0.90**	**129**	*e*PG	**Pg**	14 38 20.7	-0.3
ARG	**Arkhangelos**	**0.98**	**184**	*e*PN	**Pn**	14 38 21.7	-1.7
ARG				*e*SN	**Sn**	14 38 36.4	-0.8
ARG	**Arkhangelos**	**0.98**	**184**	P	**Pb**	14 38 22.5	-0.2
ARG				*e*Sn	**Sn**	14 38 36.4	-0.8
GOLH	**Golhisar**	**1.08**	**88**	*i* P	**Pb**	14 38 23.5	-0.8
GOLH				*i* S	**Sb**	14 38 40.2	+1.9
GOLH	**Golhisar**	**1.08**	**88**	*i* P	**Pb**	14 38 23.5	-0.8
GOLH				*i* S	**Sb**	14 38 40.2	+1.9
SMG	**Samos**	**1.21**	**295**	*e*PN	**Pn**	14 38 26.0	-0.5
SMG				*e*SN	**Sn**	14 38 42.3	-0.5
SMG	**Samos**	**1.21**	**295**	P	**Pn**	14 38 26.9	+0.4
SMG				*e*Sn	**Sn**	14 38 42.3	-0.5
KULA	**Kula-Manisa**	**1.36**	**15**	*e*PN	**Pn**	14 38 28.2	-0.3
KDAG	**Bornova**	**1.42**	**328**	*i* P	**Pn**	14 38 29.2	-0.1
KDAG				*i* S	**Sn**	14 38 48.3	+0.4
ELL	**Elmali**	**1.43**	**108**	*e*PN	**Pn**	14 38 28.5	-1.0
AKAS	**Kas**	**1.48**	**130**	*i* P	**Pn**	14 38 32.3	+2.1

WRA Warramunga Arr 32.05 254 P P 15 01 08.6 +0.6
0.5nm,0.9s,baz=83,slow=7.7,SNR=5.7
ASAR Alice Springs 33.02 248 P P 15 01 16.2 -0.2
0.5nm,0.4s,baz=73,slow=9.6,SNR=30
ARCES ARCESS Array B 119.21 346 PKP PKPdf 15 13 29.7 -0.1
2.5nm,0.8s,baz=68,slow=1.8,SNR=8.9

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*NEIC **20** 14:55:24.0, 1901N×6466W, h5km±2km,*
RSPR 20 14:55:24.0, 1901N×6466W, h5km±2km, MD3.6/17, MD3.6/17, 12C-5D, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABV	**Anegada**	**0.42**	**132⇓**	*e*P	Pg	14 55 32.1	0.0
ABV	**Anegada**	**0.42**	**132**	*e*S	Sg	14 55 38.5	+1.0
TBVI	**Tortola**	**0.59**	**176⇓**	*e*P	Pg	14 55 35.3	-0.1
TBVI				*e*S	Sg	14 55 44.2	+1.1
STVI	**Saint Thomas**	**0.71**	**203⇓**	*e*P	Pg	14 55 37.3	-0.4
STVI				*e*S	Sg	14 55 48.0	+1.0
MTP	**Monte Pirata**	**1.24**	**223⇓**	*e*P	Pg	14 55 49.2	-7.6
MTP	**Monte Pirata**	**1.24**	**223**	*e*S	Sg	14 55 58.0	-5.9
CBYP	**Canovanas**	**1.35**	**237⇓**	*e*P	Pn	14 55 42.4	-7.1
HUMP	**Col San Antoni**	**1.42**	**233⇓**	*e*P	Pn	14 55 47.5	-2.9
HUMP				*e*S	Sb	14 56 04.9	-4.4
CPD	**Cerro la Pandu**	**1.53**	**231⇑**	*e*P	Pn	14 55 47.9	-4.1
CPD				*e*S	Sn	14 56 08.1	-4.2
SJG	**San Juan**	**1.67**	**238⇑**	*e*P	Pn	14 55 51.2	-2.7
SJG				*e*S	Sn	14 56 11.7	-4.0
SJG	**San Juan**	**1.67**	**238⇑**	*e*P	Pn	14 55 51.0	-2.9
SJG				*e*S	Sn	14 56 11.4	-4.3
CELP	**Cerrillos**	**2.04**	**243⇑**	*e*P	Pn	14 55 56.3	-2.7
CELP				*e*S	Sn	14 56 22.4	-2.4
OBIP	**Obispado Ponce**	**2.08**	**243⇑**	*e*P	Pn	14 55 56.9	-2.7
OBIP				*e*S	Sn	14 56 23.3	-2.6
ICM	**Isla Caja Muer**	**2.08**	**238⇑**	*e*P	Pn	14 55 57.6	-2.0
AOPR	**Arecibo Observ**	**2.09**	**252⇑**	*e*P	Pn	14 55 56.3	-3.3
AOPR				*e*S	Sn	14 56 22.7	-3.3
LRS	**Lares**	**2.19**	**251⇑**	*e*P	Pn	14 55 58.7	-2.4
GBPR	**Guanica, Bosqu**	**2.34**	**244⇑**	*e*P	Pn	14 56 00.0	-3.1
LSP	**Las Mesas**	**2.44**	**251⇑**	*e*P	Pn	14 56 02.3	-2.2
CRPR	**Cabo Rojo, PR**	**2.53**	**247⇑**	*e*P	Pn	14 56 03.1	-2.6
CRPR				*e*S	Sn	14 56 34.0	-2.9
SDDR	**Presa de Saban**	**6.27**	**271**	*e*Pn	Pn	14 56 54.5	-2.7
	12nm,0.6s						
SDDR				*e*Sn	Sn	14 58 06.9	-2.3

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*ISK **20** 15:01:38.8, 3833N×39.17E, h5km, MD2.9*
*ISCJB **20** 15:01:39.3±0.8, 3833N±003×3922E±005, h8km±7km, Error ellipse: s-maj=7.4km s-min=5.5km az=158.8*
*CSEM **20** 15:01:39.0±0.2, 3837N×3919E, h8km, MD2.9, Error ellipse: s-maj=3.7km s-min=3.3km az=139.0*
*DDA **20** 15:01:39.6, 3833N×3922E, h7km±3km, Md2.9*
ISC 20 15:01:39.7±0.9, 3836N±004×3923E±006, h10km±8km, n10, σ0§79/17, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ELZG	**Elazig**	**0.24**	**307**	*i* P	**Pg**	**15 01 44.5**	**0.0**
ELZG				*i* S	**Sg**	**15 01 48.3**	**+0.5**
MALT	**Malatya**	**0.63**	**266**	PG	**Pg**	**15 01 51.0**	**-0.8**
MALT				*e*SG	**Sg**	**15 02 01.0**	**+0.9**
MYA	**Malataya**	**0.63**	**268**	PG	**Pg**	**15 01 51.2**	**-0.7**
URFA	**Urfa**	**0.97**	**199**	*e*PG	**Pg**	**15 01 58.3**	**0.0**
URFA				*e*SG	**Sg**	**15 02 11.6**	**+0.8**
KEMA	**Kemaliye**	**1.08**	**328**	*i* P	**Pg**	**15 01 59.5**	**-0.8**
KEMA				*i* S	**Sg**	**15 02 14.6**	**+0.2**
KEMA	**Kemaliye**	**1.08**	**328**	*i* P	**Pg**	**15 01 59.5**	**-0.9**
KEMA				*i* S	**Sg**	**15 02 14.6**	**+0.2**
BINT	**Bingol**	**1.12**	**62**	*e*PN	**Pn**	**15 02 02.0**	**+0.6**
EZC	**Erzincan**	**1.47**	**18**	*e*PN	**Pn**	**15 02 07.2**	**+1.0**
MARD	**Mardin**	**1.61**	**130**	*i* P	**Pn**	**15 02 06.9**	**-1.2**
MARD				*i* S	**Sn**	**15 02 29.2**	**+0.5**
GZT	**Gaziantep**	**1.65**	**233**	*i* P	**Pn**	**15 02 07.1**	**-1.6**
GZT				*i* S	**Sn**	**15 02 30.5**	**+0.5**

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*IDC **20** 15:01:49.8±1.0, 4643N×15530E, h0km, mb3.7/8, mb1 3.9/9, mb1mx3.7/22, mbtmp3.7/9, ML2.9/1, Error ellipse: s-maj=31.6km s-min=23.5km az=4.0*
*NEIC **20** 15:01:51.6±1.2, 4675N×15539E, h10km, mb4.3/3, Error ellipse: s-maj=27.5km s-min=18.4km az=151.0*
*ISCJB **20** 15:01:52.8±0.9, 465N±0.1×1552E±0.1, h33km, mb3.8/16, Error ellipse: s-maj=21.7km s-min=13.3km az=166.1*
*MOS **20** 15:01:54.8±2.4, 4661N×15473E, h46km, mb4.3/6, Error ellipse: s-maj=16.1km s-min=14.8km az=125.5*
ISC 20 15:01:55.0±0.9, 465N±01×1551E±01, h35km, n32, σ1§10/33, mb3.8/16, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**4.24**	**8**	*e*PN	**Pn**	**15 03 04.0**	**+7.1**
SKR				pmax	pmax		
	comp=Z,80nm,0.5s						
KUR	**Kuril'sk**	**5.23**	**259**	*e*PN	**Pn**	**15 03 08.7**	**-1.9**
KUR				pmax	pmax		
	comp=Z,90nm,0.6s						
PET	**Petropavlovsk**	**6.92**	**18**	*e*Pn	**Pn**	**15 03 25.3**	**-8.4**
	comp=Z,21nm,0.8s						
PET				*e*Sn	**Sn**	**15 04 38.1**	**-13**
PET	**Petropavlovsk**	**6.92**	**18**	*e*PN	**Pn**	**15 03 25.3**	**-8.4**
PET				pmax	pmax		
	comp=Z,21nm,0.8s						
YSS	**Yuzh-Sakhalins**	**8.52**	**278**	Pn	**Pn**	**15 03 51.3**	**-4.4**
ASAJ	**Asahikawa**	**9.15**	**259**	Pn	**Pn**	**15 04 03.0**	**-1.4**
	comp=Z,0.1nm,0.3s,baz=137,slow=33,SNR=3.1						
MDJ	**Mudanjiang**	**17.96**	**273**	Pn	**Pn**	**15 06 03.2**	**+1.5**
YAK	**Yakutsk**	**21.30**	**326**	*e*P	**P**	**15 06 33.1**	**-5.1**
YAK				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb3.8						
KSRS	**Korea Array**	**22.07**	**256**	P	**P**	**15 06 53.6**	**+7.0**
	comp=Z,1.3nm,0.7s,mb3.5,baz=53,slow=12,SNR=5.8						
BILL	**Bilibino**	**22.35**	**11**	*e*P	**P**	**15 06 48.2**	**-1.1**
	comp=Z,2.1nm,0.7s,mb3.7						
BILL	**Bilibino**	**22.35**	**11**	*e*P	**P**	**15 06 48.2**	**-1.1**
BILL				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb3.7						
TIXI	**Tiksi**	**28.11**	**343**	*e*P	**P**	**15 07 35.3**	**-7.7**
TIXI				pmax	pmax		
	comp=Z,2.0nm,1.3s,mb3.6						
ULN	**Ulaanbaatar**	**32.29**	**290**	*e*P	**P**	**15 08 26.7**	**+6.5**
ZAK	**Zakamensk**	**34.04**	**296**	*e*P	**P**	**15 08 35.6**	**+0.2**
ZAK				*e*		15 08 51.7	
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.4s,mb3.5						
ZAK				pmax	pmax		
	comp=Z,1.0nm,0.8s,mb3.8						
ZAK				pmax	pmax		
	comp=Z,2.0nm,2.7s,mb3.6						
ZALV	**Zalesovo Beam**	**43.88**	**307**	P	**P**	**15 09 57.0**	**-0.6**
	comp=Z,0.5nm,0.5s,mb3.5,baz=62,slow=6.3,SNR=3.1						
ZAL	**Zalesovo**	**43.90**	**307**	P	**P**	**15 09 57.0**	**-0.8**
MKAR	**Makanchi Array**	**48.29**	**298**	P	**P**	**15 10 33.1**	**+0.8**
	comp=Z,0.2nm,0.3s,mb3.6,baz=73,slow=9.0,SNR=4.8						
KURK	**Kurchatov**	**48.66**	**305**	*e*P	**P**	**15 10 35.2**	**0.0**
	comp=Z,3.4nm,0.8s,mb4.4						
KURK	**Kurchatov**	**48.66**	**305**	*e*P	**P**	**15 10 35.2**	**0.0**
KURK				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.4						
BVAR	**Borovoye Array**	**52.09**	**310**	P	**P**	**15 11 02.2**	**+1.1**
	comp=Z,1.2nm,0.5s,mb4.1,baz=52,slow=12,SNR=3.9						
TKM2	**Tokmak 2**	**54.36**	**297**	*e*P	**P**	**15 11 17.6**	**-0.3**
	comp=Z,3.0nm,0.6s,mb4.4						
TKM2	**Tokmak 2**	**54.36**	**297**	*e*P	**P**	**15 11 17.6**	**-0.3**
TKM2				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.4						
NVAR	**Mina Array Bea**	**61.31**	**63**	P	**P**	**15 12 06.4**	**-0.3**
	comp=Z,0.4nm,0.7s,mb3.7,baz=284,slow=9.2,SNR=2.7						
JOF	**Joensuu**	**62.17**	**335**	*e*p	**P**	**15 12 10.8**	**-1.3**
	comp=Z,3.0nm,0.6s,mb4.6						
JOF	**Joensuu**	**62.17**	**335**	*e*P	**P**	**15 12 10.8**	**-1.3**
JOF				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.6						
FINES	**FINESS Array B**	**64.85**	**336**	P	**P**	**15 12 31.5**	**+1.7**
FINES	**FINESS Array B**	**64.85**	**336**	P	**P**	**15 12 31.5**	**+1.7**
	comp=Z,1.9nm,0.6s,mb4.3,baz=36,slow=8.1,SNR=16						
ASAR	**Alice Springs**	**72.43**	**200**	P	**P**	**15 13 18.2**	**+0.7**
	comp=Z,0.1nm,0.5s,mb3.0,baz=16,slow=4.5,SNR=5.7						
AKASG	**Malin Array Be**	**72.52**	**327**	P	**P**	**15 13 19.7**	**+1.9**
AKASG	**Malin Array Be**	**72.52**	**327**	P	**P**	**15 13 19.7**	**+1.9**
	comp=Z,0.4nm,0.5s,mb3.6,baz=34,slow=6.5,SNR=3.2						
TXAR	**Lajitas Array**	**76.39**	**62**	P	**P**	**15 13 40.2**	**-0.5**
TXAR	**Lajitas Array**	**76.39**	**62**	P	**P**	**15 13 40.2**	**-0.5**
	comp=Z,0.7nm,0.6s,mb3.8,baz=300,slow=3.7,SNR=13						

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*ISCJB **20** 15:02:06.9±0.7, 465N±0.1×1553E±0.1, h10km, mb4.0/18, Error ellipse: s-maj=17.1km s-min=11.0km az=165.4*
*IDC **20** 15:02:07.1±0.8, 4636N×15535E, h0km, mb3.9/12, mb1 4.1/13, mb1mx4.0/23, mbtmp3.9/13, ML3.5/1, MS2.7/1, Ms1 2.7/1, ms1mx2.5/40, Error ellipse: s-maj=22.2km s-min=19.1km az=3.0*
*BJI **20** 15:02:08.4, 4650N×15520E, h10km, mb4.5*
*NEIC **20** 15:02:08.4±0.7, 4647N×15520E, h10km, mb4.4/3, Error ellipse: s-maj=19.4km s-min=15.9km az=180.0*
*MOS **20** 15:02:09.6±1.9, 4651N×15536E, h34km, mb4.4/4, Error ellipse: s-maj=18.2km s-min=14.3km az=38.5*
ISC 20 15:02:11.6±5.1, 465N±01×1553E±02, h27km±35km, n32, σ1§20/32, mb4.0/18, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YSS	**Yuzh-Sakhalins**	**8.64**	**277**	*e*PN	**Pn**	**15 04 14.6**	**-0.2**
YSS				pmax	pmax		
	comp=Z,7.0nm,1.3s						
ASAJ	**Asahikawa**	**9.28**	**260**	PN	**Pn**	**15 04 23.3**	**-0.2**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,45nm,18.5s						
ASAJ	**Asahikawa**	**9.28**	**260**	Pn	**Pn**	**15 04 23.3**	**-0.2**
	comp=Z,0.6nm,0.3s,baz=59,slow=12,SNR=7.1						
ASAJ				LR	LR	15 07 40.4	
	comp=Z,45nm,18.5s,baz=186,slow=36						
VLA	**Vladivostok**	**16.95**	**267**	*e*P	**Pn**	**15 06 09.0**	**+2.3**
VLA				pmax	pmax		
	comp=Z,24nm,1.3s						
KSRS	**Korea Array**	**22.20**	**256**	P	**P**	**15 07 10.9**	**+5.3**
	comp=Z,2.4nm,0.6s,mb3.8,baz=54,slow=11,SNR=7.8						
BILL	**Bilibino**	**22.30**	**11**	*e*P	**P**	**15 07 05.5**	**-0.9**
	comp=Z,21nm,1.5s,mb4.3						
BILL	**Bilibino**	**22.30**	**11**	*e*P	**P**	**15 07 05.2**	**-1.2**
BILL				pmax	pmax		
	comp=Z,10.0nm,1.4s,mb4.0						
NJ2	**Nanjing**	**31.40**	**256**	*e*P	**P**	**15 08 30.5**	**+0.3**
NJ2				AMB	AMB		
	comp=Z,30nm,0.9s,mb5.1						
ULN	**Ulaanbaatar**	**32.41**	**290**	P	**P**	**15 08 36.4**	**-2.5**
ULN	**Ulaanbaatar**	**32.41**	**290**	*e*P	**P**	**15 08 35.6**	**-3.3**
SONM	**Songino Array**	**32.84**	**291**	P	**P**	**15 08 41.9**	**-0.8**
	comp=Z,0.2nm,0.3s,mb3.5,baz=60,slow=9.5,SNR=2.9						
GTA	**Gaotai**	**40.51**	**281**	*e*P	**P**	**15 09 49.8**	**+1.8**
GTA				AP	pP	15 09 54.1	-2.1
GTA				XP	sP	15 09 57.3	-2.3
GTA				AMB	AMB		
	comp=Z,4.0nm,1.8s,mb3.8						
ZALV	**Zalesovo Beam**	**43.98**	**307**	P	**P**	**15 10 15.5**	**-0.6**
	comp=Z,0.9nm,0.7s,mb3.6,baz=79,slow=7.7,SNR=4.5						
ZAL	**Zalesovo**	**43.99**	**307**	P	**P**	**15 10 15.5**	**-0.7**
MKAR	**Makanchi Array**	**48.39**	**298**	P	**P**	**15 10 51.4**	**+0.4**
	comp=Z,0.6nm,0.4s,mb3.9,baz=61,slow=8.8,SNR=7.2						
KURK	**Kurchatov**	**48.75**	**305**	*e*P	**P**	**15 10 51.4**	**-2.2**
	comp=Z,4.3nm,0.8s,mb4.5						
KURK	**Kurchatov**	**48.75**	**305**	*e*P	**P**	**15 10 51.4**	**-2.2**
KURK				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.5						
BVAR	**Borovoye Array**	**52.17**	**310**	P	**P**	**15 11 19.4**	**0.0**
	comp=Z,1.7nm,0.7s,mb4.1,baz=69,slow=8.1,SNR=6.0						
ARU	**Arti**	**56.20**	**318**	*e*P	**P**	**15 11 45.9**	**-2.8**
	comp=Z,1.9nm,0.4s,mb4.5						
ARU	**Arti**	**56.20**	**318**	*e*P	**P**	**15 11 45.9**	**-2.8**
ARU				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.5						
AKTK	**Aktyubinsk**	**60.01**	**313**	P	**P**	**15 12 16.4**	**+1.0**
AKTO	**Aktyubinsk**	**60.01**	**313**	P	**P**	**15 12 16.4**	**+1.0**
	comp=Z,1.4nm,0.5s,mb4.2,baz=48,slow=8.9,SNR=4.7						
NVAR	**Mina Array Bea**	**61.18**	**63**	P	**P**	**15 12 24.4**	**+0.7**
	comp=Z,0.3nm,0.5s,mb3.6,baz=286,slow=12,SNR=4.9						
PDAR	**Pinedale Array**	**63.64**	**55**	P	**P**	**15 12 40.5**	**+0.5**
	comp=Z,0.4nm,0.8s,mb3.5,baz=338,slow=0.8,SNR=3.6						
FINES	**FINESS Array B**	**64.89**	**336**	P	**P**	**15 12 49.2**	**+1.3**
FINES	**FINESS Array B**	**64.89**	**336**	P	**P**	**15 12 49.2**	**+1.3**
	comp=Z,2.7nm,0.6s,mb4.5,baz=32,slow=7.5,SNR=6.7						
WRA	**Warramunga Arr**	**68.82**	**201**	P	**P**	**15 13 11.4**	**-1.9**
	comp=Z,0.7nm,0.9s,mb3.6,baz=16,slow=6.2,SNR=4.5						
ASAR	**Alice Springs**	**72.50**	**201**	P	**P**	**15 13 35.6**	**0.0**
	comp=Z,0.8nm,0.8s,mb3.7,baz=17,slow=5.4,SNR=11						
AKASG	**Malin Array Be**	**72.57**	**327**	P	**P**	**15 13 37.2**	**+1.3**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.7s						
AKASG	**Malin Array Be**	**72.57**	**327**	P	**P**	**15 13 37.2**	**+1.3**
	comp=Z,1.3nm,0.7s,mb4.0,baz=35,slow=6.1,SNR=5.4						
TXAR	**Lajitas Array**	**76.27**	**62**	P	**P**	**15 13 57.7**	**0.0**
TXAR	**Lajitas Array**	**76.27**	**62**	P	**P**	**15 13 57.7**	**0.0**
	comp=Z,1.7nm,0.8s,mb4.0,baz=295,slow=3.7,SNR=13						

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*BJI **20** 15:06:44.1, 6890N×14475W, h28km, mB4.9, mb4.8, Ms4.8, Msz4.5*
*NEIC **20** 15:06:45.8, 6964N×14459W, h10km, mb4.4/17, ML4.5(AEIC), After AEIC.*
*ISCJB **20** 15:06:46.1±0.2, 6961N±003×14547W±008, h10km, mb4.3/43, MS4.0/6, Error ellipse: s-maj=4.6km s-min=3.2km az=42.0*
*MOS **20** 15:06:47.7±1.4, 6960N×14501W, h27km, mb4.6/11, Error ellipse: s-maj=21.8km s-min=6.4km az=93.2*
*IDC **20** 15:06:47.0±0.8, 6990N×14425W, h0km, mb4.0/14, mb1 4.2/16, mb1mx4.1/24, mbtmp4.0/16, ML3.9/2, MS3.9/8, Ms1 3.9/8, ms1mx3.6/36, Error ellipse: s-maj=26.6km s-min=11.0km az=44.0*
ISC 20 15:06:48.1±0.2, 6963N±003×14541W±008, h10km, n225, σ0§97/235, mb4.3/43, MS4.0/6, 60C-54D, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BM3	**Burnt Mountain**	**2.24**	**172**	P	**Pn**	**15 07 23.2**	**-1.9**
BM3				S	**Sn**	**15 07 51.2**	**-1.6**
COLD	**Coldfoot**	**2.99**	**219**	P	**Pn**	**15 07 35.9**	**+0.4**
INK	**Inuvik**	**4.48**	**102**	*e*Pn	**Pn**	**15 07 51.1**	**-4.9**
INK	**Inuvik**	**4.48**	**102**	Pn	**Pn**	**15 07 51.2**	**-4.8**
	2.3nm,0.3s,baz=241,slow=10,SNR=107						
INK				Sn	**Sn**	**15 08 39.1**	**-9.0**
	13nm,0.3s,baz=214,slow=26,SNR=4.6						
INK				Lg		15 09 01.5	
	12nm,0.3s,baz=114,slow=14,SNR=7.6						
INK				LR	LR	15 10 05.1	
	comp=Z,672nm,19.2s,baz=282,slow=48						
IMA2	**Indian Mountai**	**4.75**	**225**	*e*P	**Pn**	**15 07 59.5**	**-0.2**
IM3	**Indian Mountai**	**4.83**	**225**	P	**Pn**	**15 07 59.7**	**-1.1**
COLA	**College**	**4.87**	**192**	P	**Pn**	**15 08 00.5**	**-0.8**
COLA				S	**Sn**	**15 08 55.7**	**-1.9**
EGAK	**Eagle**	**5.14**	**159**	P	**Pn**	**15 08 01.9**	**-3.1**
EGAK				S	**Sn**	**15 08 57.9**	**-6.5**
DOT	**Dot Lake**	**6.03**	**174**	P	**Pn**	**15 08 15.2**	**-2.0**
DAWY	**Dawson**	**6.07**	**154**	P	**Pn**	**15 08 14.8**	**-3.0**
MCK	**McKinley**	**6.08**	**195**	P	**Pn**	**15 08 16.7**	**-1.2**
KTH	**Kantishna Hill**	**6.48**	**202**	P	**Pn**	**15 08 22.6**	**-0.8**
TRF	**Thorofare Moun**	**6.50**	**200**	P	**Pn**	**15 08 23.1**	**-0.6**
PAX	**Paxson**	**6.69**	**180**	P	**Pn**	**15 08 25.4**	**-0.8**
BCA3	**Beaver Creek A**	**6.75**	**166**	P	**Pn**	**15 08 24.9**	**-2.2**
MENT	**Mentasta**	**6.75**	**173**	*e*P	**Pn**	**15 08 25.1**	**-2.0**
SML	**Sawmill**	**7.95**	**190**	*e*Pn	**Pn**	**15 08 42.7**	**-0.8**
TTA	**Tatalina**	**7.96**	**217**	*e*P	**Pn**	**15 08 45.5**	**+1.9**
PMR	**Palmer**	**8.21**	**193**	*e*Pn	**Pn**	**15 08 47.3**	**+0.1**
	12nm,0.6s						
PMR				*e*Sn	**Sn**	**15 10 17.1**	**-2.7**
EYAK	**Cordova Ski Ar**	**9.12**	**181**	*e*Pn	**Pn**	**15 08 59.0**	**-0.5**
EYAK				*e*S	Sn	15 11 13.7	+32
SLKM	**Skilak Lake**	**9.38**	**195**	Pn	**Pn**	**15 09 04.5**	**+1.4**
TNA	**Tin City**	**9.48**	**255**	*e*Pn	**Pn**	**15 09 05.6**	**+1.2**
	12nm,0.9s						
TNA				*e*Sn	**Sn**	**15 10 39.1**	**-12**
SVW2	**Sparrevohn**	**9.54**	**211**	*e*P	**Pn**	**15 09 07.3**	**+2.0**
SKAG	**Skagway**	**11.07**	**152**	*e*Pn	**Pn**	**15 09 21.2**	**-5.0**
	54nm,1.4s						
SKAG				*e*P		15 09 25.0	
GAMB	**Gambell**	**11.86**	**253**	*e*Pn	**Pn**	**15 09 36.5**	**-0.6**
	34nm,1.6s						
DLBC	**Dease Lake**	**13.04**	**142**	*e*Pn	**Pn**	**15 09 48.4**	**-4.6**
DLBC	**Dease Lake**	**13.04**	**142**	Pn	**Pn**	**15 09 49.0**	**-4.0**
	baz=332,slow=10						
DLBC				Lg		15 13 30.8	
	baz=119,slow=19						
YKA	**Yellowknife Ar**	**14.24**	**105**	Pn	**Pn**	**15 10 00.9**	**-8.6**
YKA				Sn	**Sn**	**15 12 27.6**	**-20**
YKA				Lg		15 13 51.4	
YKA	**Yellowknife Ar**	**14.24**	**105**	Pn	**Pn**	**15 10 00.9**	**-8.6**
	1.2nm,0.3s,baz=311,slow=13,SNR=63						
YKA				Sn	**Sn**	**15 12 27.6**	**-20**
	1.4nm,0.3s,baz=314,slow=23,SNR=9.9						
YKA				Lg		15 13 51.4	
	baz=317,slow=25,SNR=2.3						
RES	**Resolute Bay**	**15.81**	**49**	*e*Pn	**Pn**	**15 10 22.2**	**-8.1**
	1μm,1.1s						
RES				*e*Sn	**Sn**	**15 13 04.8**	**-20**
RES	**Resolute Bay**	**15.81**	**49**	*e*P	**Pn**	**15 10 22.2**	**-8.1**
RES				pmax	pmax		
	comp=Z,1μm,1.1s						
BILL	**Bilibino**	**17.16**	**288**	*e*Pn	**Pn**	**15 10 49.8**	**+2.2**
	comp=Z,9.6nm,0.9s						
BILL	**Bilibino**	**17.16**	**288**	*e*P	**Pn**	**15 10 49.6**	**+2.0**
BILL				*e*S	**Sn**	**15 13 49.3**	**-8.8**
BILL				pmax	pmax		
	comp=Z,10.0nm,1.1s						
BILL				MLR	MLR		
	comp=Z,500nm,14.0s						
BBB	**Bella Bella**	**19.27**	**146**	LR	LR	15 18 29.1	
	comp=Z,208nm,19.6s,baz=240,slow=36						
EDM	**Edmonton**	**22.05**	**122**	*e*P	**P**	**15 11 39.5**	**-3.0**
A07A	**Ashnola River,**	**23.91**	**137**	⇓P	**P**	**15 12 01.3**	**-0.4**
	baz=24						
A08A	**Turner Farm, O**	**24.27**	**135**	⇑P	**P**	**15 12 04.5**	**-0.5**
	baz=24						
FFC	**Flin Flon**	**24.43**	**105**	*e*P	**P**	**15 12 02.1**	**-4.3**
	comp=Z,5.7nm,0.8s,mb4.0						
FFC	**Flin Flon**	**24.43**	**105**	*e*P	**P**	**15 12 02.1**	**-4.2**
FFC				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.1						
B07A	**Winthrop**	**24.52**	**137**	⇑P	**P**	**15 12 07.0**	**-0.3**
	baz=24						
B08A	**Colville Reser**	**24.81**	**136**	P	**P**	**15 12 09.8**	**-0.2**
	baz=24,SNR=6.2						
SEY	**Seymchan**	**24.82**	**285⇑**	*e*P	**P**	**15 12 09.3**	**-0.6**
A11A	**Hall Mountain,**	**25.02**	**131**	⇑P	**P**	**15 12 11.0**	**-0.7**
	baz=25						
B09A	**Rice**	**25.05**	**134**	⇑P	**P**	**15 12 11.6**	**-0.4**
	baz=25						
C07A	**Waterville**	**25.26**	**137**	⇑P	**P**	**15 12 13.1**	**-0.8**
	baz=25						
C08A	**Higginbotham F**	**25.42**	**136**	⇑P	**P**	**15 12 15.2**	**-0.2**
	baz=25						
NEW	**Newport**	**25.45**	**133**	P	**P**	**15 12 14.8**	**-1.0**
NEW				LR	LR	15 22 40.1	
NEW	**Newport**	**25.45**	**133**	P	**P**	**15 12 14.8**	**-1.0**
	comp=Z,3.8nm,0.7s,mb4.0,baz=316,slow=12,SNR=6.2						
NEW				LR	LR	15 22 40.1	
	comp=Z,544nm,18.8s,MS4.1,baz=339,slow=38						
B11A	**Sandpoint**	**25.49**	**131**	⇑P	**P**	**15 12 15.2**	**-0.9**
	baz=25						
A13A	**Flathead Natio**	**25.56**	**128**	⇑P	**P**	**15 12 16.3**	**-0.4**
	baz=25						
E05A	**Randle**	**25.93**	**141**	⇑P	**P**	**15 12 20.1**	**0.0**
	baz=26						
B13A	**Whitefish**	**26.06**	**129**	⇑P	**P**	**15 12 20.3**	**-1.0**
	baz=26						
D08A	**Wollman Farm,**	**26.13**	**136**	⇓P	**P**	**15 12 21.4**	**-0.4**
	baz=26						
E06A	**Yakima**	**26.13**	**140**	P	**P**	**15 12 21.8**	**-0.1**
	baz=26,SNR=6.2						
TIXI	**Tiksi**	**26.27**	**314**	*e*P	**P**	**15 12 23.4**	**+0.4**
	comp=Z,3.8nm,0.8s,mb4.0						
TIXI	**Tiksi**	**26.27**	**314⇑**	*e*P	**P**	**15 12 24.1**	**+1.2**
TIXI				pmax	pmax		
	comp=Z,6.0nm,1.3s,mb4.0						
D09A	**Jones Farm, Ri**	**26.27**	**135**	⇓P	**P**	**15 12 22.6**	**-0.6**
	baz=26						
E07A	**Sunnyside**	**26.37**	**138**	⇑P	**P**	**15 12 23.9**	**-0.1**
	baz=26						
D10A	**Wagner Farm, O**	**26.54**	**134**	⇓P	**P**	**15 12 24.7**	**-0.8**
	baz=26						
F05A	**White Salmon**	**26.64**	**141**	⇓P	**P**	**15 12 27.3**	**+0.8**
	baz=26						
E09A	**Wood Farm, Sta**	**26.82**	**135**	⇓P	**P**	**15 12 28.1**	**-0.1**
	baz=27						
E10A	**Myers Farm, Un**	**27.11**	**134**	⇑P	**P**	**15 12 30.5**	**-0.2**
	baz=27						
D13A	**Huson**	**27.23**	**130**	⇑P	**P**	**15 12 31.5**	**-0.3**
	baz=27						
G06A	**Carlson Farm,**	**27.44**	**140**	⇓P	**P**	**15 12 34.1**	**+0.4**

K06A Valley Falls 29.84 141 ⇓P P 15 12 55.3 +0.3
baz=30
J09A Fry Pan Ranch, 29.89 137 ⇓P P 15 12 55.6 0.0
baz=30
L04A Klamath Falls 30.09 144 ⇑P P 15 12 58.1 +0.8
baz=30
K07A Rock Creek Ran 30.17 140 ⇓P P 15 12 58.4 +0.4
baz=30
ULM Lac du Bonnet 30.22 104 P P 15 12 57.1 -1.3
comp=Z,0.8nm,0.5s,mb3.7,baz=353,slow=17,SNR=1.9
ULM LR LR 15 25 44.6
comp=Z,185nm,18.3s,MS3.8,baz=357,slow=38
I13A Wildhorse Cree 30.27 132 P P 15 12 58.9 +0.1
baz=30,SNR=8.3
MFID Camas Ranch 30.30 135 ⇑P P 15 12 59.4 +0.3
baz=30
K08A Mann Creek Ran 30.31 139 ⇓P P 15 12 60.0 +0.8
baz=30
M04C Macdoel 30.48 144 ⇓P P 15 13 01.6 +0.9
baz=30
K09A Rome 30.52 138 P P 15 13 01.6 +0.6
baz=30,SNR=6.5
HLID Hailey 30.52 133 ⇓P P 15 13 00.9 -0.2
baz=30
J12A Stokes Ranch, 30.64 134 P P 15 13 02.6 +0.5
baz=30,SNR=6.5
M02C Callahan 30.65 146 ⇓P P 15 13 03.0 +0.8
baz=30
L07A Adell 30.79 140 ⇓P P 15 13 04.2 +0.7
baz=30
L08A Fields 30.85 139 ⇓P P 15 13 04.6 +0.6
baz=31
M05C Lookout 31.03 143 ⇑P P 15 13 06.4 +0.9
baz=31
N02C Big Bar 31.11 146 ⇓P P 15 13 07.9 +1.6
baz=31
K12A Draper Farm, C 31.27 134 ⇓P P 15 13 08.7 +1.0
baz=31,SNR=6.0
M06C Likely Place G 31.32 142 ⇑P P 15 13 09.0 +0.9
baz=31
L10A Juniper Basin 31.40 136 ⇓P P 15 13 09.3 +0.5
baz=31
WDC Whiskeytown Da 31.49 145 ⇑P P 15 13 10.6 +0.9
baz=31
L11A Cat Creek Ranc 31.49 135 ⇑P P 15 13 10.2 +0.5
baz=31
LOHW Long Hollow 31.50 127 eP P 15 13 09.0 -0.6
comp=Z,3.1nm,0.8s,mb4.2
M08A Happy Creek Ra 31.55 139 ⇓P P 15 13 10.8 +0.6
baz=31
K14A Jones Ranch, D 31.79 132 ⇑P P 15 13 11.7 -0.6
baz=32
ELFS Eagle Lake Fie 31.83 143 ⇓P P 15 13 13.5 +0.9
baz=32
N06A Buffalo Meadow 31.89 142 P P 15 13 14.3 +1.1
baz=32,SNR=6.1
L13A Double Diamond 32.02 133 ⇓P P 15 13 14.8 +0.5
baz=32
O04C Chester 32.04 144 ⇓P P 15 13 16.0 +1.6
baz=32
PDAR Pinedale Array 32.57 127 P P 15 13 18.1 -1.0
comp=Z,2.7nm,0.8s,mb4.2,baz=8.0,slow=5.0,SNR=19
M13A Montello 32.65 134 P P 15 13 20.9 +1.1
baz=32,SNR=9.1
M14A Sheep Mountain 32.73 132 ⇓P P 15 13 20.7 +0.2
baz=32
YAK Yakutsk 32.79 300⇑ eP P 15 13 22.8 +2.0
YAK pmax pmax
comp=Z,6.0nm,1.2s,mb4.4
N12A Clover Valley, 32.91 135 ⇓P P 15 13 23.0 +0.9
baz=33
O11A Cowboy Ranch, 33.44 136 ⇑P P 15 13 27.7 +0.9
baz=33
O12A Currie 33.54 135 ⇓P P 15 13 28.3 +0.7
baz=33
LAVA Lava Cap Winer 33.62 144 ⇓P P 15 13 28.4 +0.2
baz=33
EYMN Ely 33.69 102 P P 15 13 21.5 -7.3
comp=Z,5.1nm,0.8s,mb4.5
R05C Kirkwood Meado 33.80 143 ⇑P P 15 13 30.7 +0.8
baz=34
DUG Dugway 34.09 133 eP P 15 13 32.8 +0.4
comp=Z,5.8nm,1.0s,mb4.5
DUG Dugway 34.09 133 eP P 15 13 32.8 +0.4
DUG pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
DUG Dugway 34.09 133 ⇑P P 15 13 32.6 +0.2
baz=34
R06C Coleville 34.11 142 ⇑P P 15 13 33.5 +0.9
baz=34
P12A McGill 34.25 136 ⇑P P 15 13 34.4 +0.7
baz=34
NVAR Mina Array Bea 34.45 141 P P 15 13 35.8 +0.3
comp=Z,2.3nm,0.8s,mb4.2,baz=338,slow=7.2,SNR=15
P13A Bates Ranch, G 34.48 135 P P 15 13 36.2 +0.5
baz=34,SNR=7.8
Q10A Clear Creek Ra 34.51 138 ⇓P P 15 13 36.7 +0.8
baz=34
Q11A Duckwater 34.66 137 P P 15 13 38.2 +0.9
baz=34,SNR=5.8
R09A Tonopah 34.91 139 ⇓P P 15 13 39.9 +0.4
baz=35
R11A Troy Canyon, C 35.15 137 ⇑P P 15 13 42.3 +0.7
baz=35
KCC Kaiser Creek 35.29 143 ⇑P P 15 13 43.8 +1.0
baz=35
S10A Tonopah Range, 35.32 139 P P 15 13 43.6 +0.6
baz=35,SNR=5.5
S08C White Mtn Res 35.37 141 ⇓P P 15 13 44.2 +0.7
baz=35
R12A Pony Springs, 35.41 136 ⇑P P 15 13 44.6 +0.9
baz=35
MSU Marysvale 35.84 133 eP P 15 13 47.8 +0.3
HELL Mitchell Peak 35.97 143 ⇑P P 15 13 49.4 +0.8
baz=36
S12A Delamar Landin 36.03 137 ⇑P P 15 13 49.5 +0.4
baz=36
ARUT Antelope Range 36.21 135 eP P 15 13 50.9 +0.3
T11A Corn Creek, Al 36.29 137 ⇑P P 15 13 51.8 +0.4
baz=36
S13A Holt Ranch, En 36.30 135 ⇓P P 15 13 52.0 +0.6
baz=36
TPNV Topopah Spring 36.33 139 ⇓P P 15 13 52.3 +0.6
baz=36
SCHQ Schefferville 36.47 73 P P 15 13 49.3 -3.4
comp=Z,3.5nm,0.8s,mb4.3,baz=309,slow=15,SNR=5.3
SCHQ LR LR 15 29 05.9
comp=Z,216nm,18.3s,MS4.0,baz=339,slow=37
SMCO Snowmass 36.63 126 eP P 15 13 52.2 -2.0
comp=Z,4.3nm,0.9s,mb4.3
MPMC Manual Prospec 36.90 141 ⇑P P 15 13 57.5 +0.9
baz=37
T15A Red Dirt Ranch 37.20 134 P P 15 14 00.1 +1.0
baz=37,SNR=9.0
U13A Pakoon Wash 37.38 136 ⇓P P 15 14 01.2 +0.5
baz=37
T16A Glen Canyon Da 37.46 133 ⇓P P 15 14 01.8 +0.5
baz=37
EDW2 Edwards Air Fo 37.93 142 ⇑P P 15 14 05.7 +0.5
baz=38
V14A Boquillas Ranc 38.34 135 ⇑P P 15 14 09.0 +0.3
baz=38
SDCO Great Sand Dun 38.38 125 eP P 15 14 07.8 -1.2
comp=Z,1.7nm,0.8s,mb3.8
GMRC Granite Mounta 38.54 139 ⇑P P 15 14 11.0 +0.6
baz=38
W14A Seligman 38.74 136 ⇑P P 15 14 12.9 +0.8
baz=38
BC3 Big Chuckw Mtn 39.67 139 ⇑P P 15 14 20.7 +0.9
baz=39
Y15A Casa Rosa Ranc 40.12 135 ⇑P P 15 14 24.6 +0.9
baz=40
ANMO Albuquerque 40.72 128 eP P 15 14 28.2 -0.4
KEV Kevo 40.77 4 P P 15 14 26.2 -2.4
comp=Z,27nm,1.1s,mb4.8
KEV Kevo 40.77 4 P P 15 14 26.2 -2.4
KEV pmax pmax
comp=Z,27nm,1.1s,mb4.8
YSS Yuzh-Sakhalins 40.79 275 P P 15 14 29.3 +0.3
YSS Yuzh-Sakhalins 40.79 275 eP P 15 14 26.5 -2.5
BOD Bodaibo 40.81 306 eP P 15 14 27.6 -1.5
BOD pmax pmax
comp=Z,7.0nm,0.9s,mb4.3
ARCES ARCESS Array B 40.95 5 P P 15 14 28.0 -2.1
ARCES ARCESS Array B 40.95 5 P P 15 14 28.0 -2.1
comp=Z,3.4nm,0.8s,mb4.1,baz=349,slow=7.8,SNR=7.9
119A Ashpeak Ranch, 42.02 132 ⇓P P 15 14 40.2 +1.0
baz=42

218A Dragoon 42.58 133 ⇓P P 15 14 44.4 +0.5
baz=42
219A White Tail Can 42.76 132 ⇑P P 15 14 46.1 +0.8
baz=42
318A Bisbee 43.10 134 ⇑P P 15 14 48.9 +0.8
baz=43
ERM Erimo 44.95 271 P P 15 15 03.2 +0.4
comp=Z,13nm,0.9s,mb4.8
ERM Erimo 44.95 271 P P 15 15 03.2 +0.4
ERM pmax pmax
comp=Z,13nm,0.9s,mb4.8
MIAR Mount Ida 44.98 113 eP P 15 14 59.8 -3.3
comp=Z,7.6nm,1.1s,mb4.4
MIAR Mount Ida 44.98 113 eP P 15 14 59.8 -3.3
MIAR pmax pmax
comp=Z,8.0nm,1.1s,mb4.5
TXAR Lajitas Array 46.79 127 P P 15 15 16.8 -0.6
comp=Z,0.5nm,0.6s,mb3.6,baz=4.2,slow=3.3,SNR=4.5
MDJ Mudanjiang 47.36 285 P P 15 15 21.3 -0.4
MDJ AMB AMB
comp=Z,9.0nm,2.3s,mb4.3
MDJ AMB AMB
comp=Z,60nm,3.6s
JOF Joensuu 47.72 2 ep P 15 15 23.1 -1.1
comp=Z,1.5nm,0.5s,mb4.3
VLA Vladivostok 47.89 282 eP P 15 15 23.5 -2.4
VLA pmax pmax
comp=Z,23nm,1.3s,mb5.0
KAF Kangasniemi 48.41 5 ep P 15 15 25.2 -4.4
FINES FINESS Array B 49.08 5 P P 15 15 32.7 -2.0
FINES LR LR 15 35 52.5
FINES FINESS Array B 49.08 5 P P 15 15 32.7 -2.0
comp=Z,0.7nm,0.4s,mb4.1,baz=5.6,slow=7.6,SNR=9.6
FINES LR LR 15 35 52.5
comp=Z,160nm,18.3s,MS4.0,baz=36,slow=36
CN2 Changchun 49.47 288 eP P 15 15 38.8 +0.8
CN2 AMB AMB
comp=Z,10.0nm,0.5s,mb5.1
ZALV Zalesovo Beam 51.46 324 P P 15 15 54.3 +1.4
comp=Z,1.0nm,0.5s,mb4.0,baz=22,slow=7.5,SNR=5.3
ZALV LR LR 15 38 36.6
comp=Z,81nm,19.0s,MS3.8,baz=181,slow=37
ZAL Zalesovo 51.47 324 P P 15 15 54.3 +1.3
MAJO Matsushiro 51.56 272 eP P 15 15 54.3 +0.5
comp=Z,6.6nm,0.9s,mb4.6
MAJO Matsushiro 51.56 272 eP P 15 15 54.3 +0.4
MAJO pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
MJAR Matsushiro Arr 51.56 272 P P 15 15 53.6 -0.3
comp=Z,2.2nm,0.8s,mb4.1,baz=16,slow=7.4,SNR=6.0
SONM Songino Array 51.80 305 P P 15 15 59.3 +3.8
comp=Z,1.2nm,0.9s,mb3.8,baz=33,slow=5.7,SNR=6.7
BVAR Borovoye Array 54.91 334 P P 15 16 17.2 -1.0
comp=Z,1.0nm,0.6s,mb4.0,baz=24,slow=12,SNR=5.3
KURK Kurchatov 55.74 328⇑ eP P 15 16 24.1 -0.2
HHC Hu-ho-hao-te 56.60 298 eP P 15 16 30.3 -0.3
HHC PP PP 15 18 34.9 -1.2
HHC PCS PcS 15 21 25.8 -1.7
HHC S S **15 24 20.3 -1.8**
HHC SCS ScS 15 26 15.8 -3.6
HHC AMB AMB
comp=Z,17nm,0.4s,mb5.4
HHC AMB AMB
comp=Z,127nm,4.6s
HHC LR LR
comp=N,159nm,5.2s
HHC LR LR
comp=E,164nm,5.0s
HHC LR LR
comp=Z,127nm,7.0s
MKAR Makanchi Array 58.76 324 i P P 15 16 48.7 +3.0
MKAR Makanchi Array 58.76 324 P P 15 16 45.0 -0.6
comp=Z,0.2nm,0.3s,mb3.6,baz=31,slow=6.6,SNR=4.9
MKAR LR LR 15 44 37.5
comp=Z,167nm,18.7s,MS4.2,baz=19,slow=39
AKASG Malin Array Be 59.92 4 P P 15 16 51.1 -2.5
comp=Z,0.3nm,0.3s,mb3.8,baz=354,slow=6.8,SNR=4.1
GERES GERESS Array B 60.85 16 P P 15 16 58.0 -2.0
comp=Z,0.6nm,0.6s,mb3.9,baz=6.6,slow=5.8,SNR=4.1
LZH Lanzhou 63.33 302 eP P 15 17 16.0 -0.9
LZH AP pP 15 17 23.3 +3.2
LZH XP sP 15 17 26.8 +5.5
LZH AMB AMB
comp=Z,13nm,1.0s,mb5.0
LZH AMB AMB
comp=Z,50nm,4.0s
AAK Ala-Archa 64.29 328 eP P 15 17 22.5 -0.5
comp=Z,1.4nm,0.7s,mb4.1
AAK Ala-Archa 64.29 328⇑ eP P 15 17 23.8 +0.8
AAK pmax pmax
comp=Z,4.0nm,1.4s,mb4.3
EKS2 Erkin-Say 64.39 329 eP P 15 17 23.4 -0.3
comp=Z,3.9nm,0.6s,mb4.6
AML Almayashu 64.92 329 eP P 15 17 27.7 +0.5
comp=Z,2.2nm,0.6s,mb4.4
KIV Kislovodsk 66.58 354 eP P 15 17 38.6 +0.8
KIV pmax pmax
comp=Z,7.0nm,1.4s,mb4.5
CD2 Chengdu 68.18 300 eP P 15 17 48.4 +0.2
CD2 AMB AMB
comp=Z,10.0nm,0.6s,mb5.0
CD2 AMB AMB
comp=Z,20nm,5.2s
GYA Guiyang 71.43 296 P P 15 18 07.6 -0.6
GYA AMB AMB
comp=Z,10.0nm,1.0s,mb4.7
KMI Kunming 73.90 299 P P 15 18 24.0 +1.1
KMI AMB AMB
comp=Z,11nm,0.9s,mb4.8

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*JMA **20** 15:07:11.3±0.2, 35.13N×141.60E, h32km±5km, M2.5*
ISC 20 15:07:11.1±2.7, 35.15N±006×141.6E±01, h11km±11km, n6, σ0.54/10, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BSO1	**Boso 1**	**0.69**	**225**	P	**Pg**	**15 07 24.6**	**+0.1**
BSO1				S	**Sg**	**15 07 34.3**	**+0.7**
BSO2	**Boso 2**	**0.78**	**240**	S	**Sg**	**15 07 36.9**	**+0.6**
CHOJ	**Chosi**	**0.81**	**314**	S	**Sg**	**15 07 37.7**	**+0.5**
BSO3	**Boso 3**	**0.94**	**249**	P	**Pg**	**15 07 28.0**	**-1.2**
BSO3				S	**Sg**	**15 07 40.9**	**-0.5**
BSO4	**Boso 4**	**1.02**	**262**	P	**Pg**	**15 07 30.6**	**-0.2**
BSO4				S	**Sg**	**15 07 44.0**	**-0.2**
MAT	**Matsushiro**	**3.07**	**298**	P	**Pn**	**15 07 59.9**	**+0.3**
MAT				*eS*	**Sn**	**15 08 36.2**	**-0.1**

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*BJI **20** 15:14:05.6, 33.79S×178.56W, h11km, mB5.6, mb5.4, Ms5.4, Msz5.0*
*IDC **20** 15:14:06.4±0.5, 34.04S×178.97W, h0km, mb4.8/17, mb1 4.9/19, mb1mx4.9/20, mbtmp4.8/19, ML4.7/2, MS5.1/23, Ms1 5.1/23, ms1mx5.0/34, Error ellipse: s-maj=15.9km s-min=10.7km az=18.0*
*GCMT **20** 15:14:07.1±0.1, 33.96S×178.28W, h14km, MW5.4/90, Moment Tensor Solution. s76,c133; s90,c177; Duration: 1s2 Moment tensor: Scale 1017Nm; Mrr1.07±.02; Mθθ-0.10±.02; Mφφ-0.97±.02; Mrθ0.07±.04; Mθφ-0.41±.01; Mφr1.27±.06; Best double couple: Mo1.68300×1017 NP1:φs215.00000°, δ22.00000°, λ115.00000°. NP2:φs8.00000°, δ70.00000°, λ80.00000°. Principal axes: T 1.6860, Plg64.0000°, Azm262.0000°; N -0.0030, Plg9.0000°, Azm11.0000°; P -1.6810, Plg24.0000°, Azm106.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*ISCJB **20** 15:14:07.5±1.3, 34.03S±004×178.89W±005, h17km±8km, mb5.3/53, MS5.2/89 Error ellipse: s-maj=8.5km s-min=4.8km az=34.5*
*NEIC **20** 15:14:07.0±3.7, 34.02S×178.84W, h8km±21km, mb5.5/27, MS5.2/55, Error ellipse: s-maj=9.9km s-min=8.9km az=176.0*
*MOS **20** 15:14:11.4±1.3, 34.04S×179.00W, h33km, mb5.8/20, MS5.2/17, Error ellipse: s-maj=12.7km s-min=12.0km az=18.3*
ISC 20 15:14:08.2±1.4, 34.01S±003×178.83W±005, h12km±8km, h38km±3.2km: pP-P, n439, σ1.30/168, mb5.3/53, MS5.2/89, 25C-12D, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**4.24**	**212**	*eP*	**Pn**	**15 15 10.9**	**-1.7**
MXZ				S	**Sn**	**15 16 02.9**	**+0.9**
MXZ	**Matakaoa Point**	**4.24**	**212**	PN	**Pn**	**15 15 11.5**	**-1.1**
MXZ				*e*SN	**Sn**	**15 16 02.1**	**0.0**
MXZ				T		15 19 42.5	
PUZ	**Puketiti**	**4.69**	**209**	*eP*	**Pn**	**15 15 17.6**	**-1.2**
PUZ				S	**Sn**	**15 16 11.1**	**-2.0**
PUZ	**Puketiti**	**4.69**	**209**	PN	**Pn**	**15 15 17.6**	**-1.2**
PUZ				SN	**Sn**	**15 16 13.1**	**0.0**
RAO	**Raoul Island**	**4.81**	**10**	*e*Pn	**Pn**	**15 15 14.6**	**-5.9**
RAO	**Raoul Island**	**4.81**	**10**	Pn	**Pn**	**15 15 15.5**	**-5.0**
	82nm,0.3s,baz=86,slow=23,SNR=4.9						
RAO				Sn	**Sn**	**15 16 10.6**	**-5.5**
	127nm,0.3s,baz=294,slow=19,SNR=4.6						
MYRZ	**Mayor Island**	**5.17**	**229**	PN	**Pn**	**15 15 28.4**	**+3.0**
KUZ	**Kuaotunu**	**5.22**	**237**	PN	**Pn**	**15 15 28.7**	**+2.6**
MWZ	**Matawai**	**5.22**	**213**	*eP*	**Pn**	**15 15 25.4**	**-0.8**
MWZ	**Matawai**	**5.22**	**213**	PN	**Pn**	**15 15 25.4**	**-0.8**
OPRZ	**Ohinepanea**	**5.35**	**223**	PN	**Pn**	**15 15 29.0**	**+1.1**
OPRZ				SN	**Sn**	**15 16 32.4**	**+2.9**
URZ	**Urewera**	**5.36**	**217**	*eP*	**Pn**	**15 15 27.4**	**-0.7**
URZ	**Urewera**	**5.36**	**217**	Pn	**Pn**	**15 15 26.1**	**-2.0**
	50nm,0.3s,baz=36,slow=5.9,SNR=368						
URZ				Sn	**Sn**	**15 16 29.6**	**-0.1**
	88nm,0.3s,baz=160,slow=22,SNR=20						
URZ	**Urewera**	**5.36**	**217**	*e*PN	**Pn**	**15 15 27.4**	**-0.7**
URZ				SN	**Sn**	**15 16 30.8**	**+1.1**
MARZ	**Manawahe**	**5.39**	**221**	PN	**Pn**	**15 15 29.5**	**+1.1**
EDRZ	**Edgecumbe**	**5.44**	**220**	PN	**Pn**	**15 15 30.1**	**+1.0**
EDRZ				SN	**Sn**	**15 16 33.4**	**+1.8**
TGRZ	**Tauranga**	**5.45**	**226**	PN	**Pn**	**15 15 30.0**	**+0.8**
TGRZ				SN	**Sn**	**15 16 36.3**	**+4.6**
MKRZ	**Makatiti**	**5.61**	**221**	*e*PN	**Pn**	**15 15 32.1**	**+0.7**
KARZ	**Kaharoa**	**5.65**	**224**	PN	**Pn**	**15 15 32.9**	**+0.9**
KARZ				SN	**Sn**	**15 16 40.2**	**+3.3**
KNZ	**Kokohu**	**5.74**	**208**	*e*PN	**Pn**	**15 15 31.3**	**-1.8**
KNZ				*e*SN	**Sn**	**15 16 37.7**	**-1.2**
WCZ	**Waipu Caves**	**5.93**	**249**	PN	**Pn**	**15 15 39.9**	**+4.1**
OUZ	**Omahuta**	**6.36**	**257**	PN	**Pn**	**15 15 46.4**	**+4.6**
BKZ	**Black Stump Fm**	**6.37**	**215**	PN	**Pn**	**15 15 41.1**	**-0.8**
BKZ				SN	**Sn**	**15 16 55.2**	**+0.6**
RATZ	**Rangitukua**	**6.51**	**220**	PN	**Pn**	**15 15 44.8**	**+1.0**
HIZ	**Hauiti**	**6.80**	**227**	PN	**Pn**	**15 15 49.1**	**+1.3**
TUVZ	**Tukino**	**6.87**	**219**	PN	**Pn**	**15 15 49.9**	**+1.2**
FWVZ	**Far West T-bar**	**6.91**	**219**	*e*PN	**Pn**	**15 15 49.6**	**+0.2**
PXZ	**Pawanui**	**6.93**	**209**	PN	**Pn**	**15 15 47.5**	**-2.0**
PXZ				SN	**Sn**	**15 17 06.0**	**-2.3**
WAZ	**Wanganui**	**7.58**	**219**	*e*PN	**Pn**	**15 15 58.5**	**+0.1**
BFZ	**Birch Farm**	**7.72**	**209**	*e*PN	**Pn**	**15 15 56.3**	**-4.1**
MRZ	**Mangatainoka R**	**7.99**	**212**	*e*PN	**Pn**	**15 16 01.0**	**-3.2**
MRZ				*e*SN	**Sn**	**15 17 27.9**	**-6.6**
KIW	**Kapiti Island**	**8.46**	**214**	*e*PN	**Pn**	**15 16 07.7**	**-2.8**
KIW				*e*SN	**Sn**	**15 17 40.2**	**-5.7**
SNZO	**South Karori**	**8.90**	**213**	*e*Pn	**Pn**	**15 16 12.9**	**-3.7**
SNZO				*e*Sn	**Sn**	**15 17 47.7**	**-9.2**
SNZO	**South Karori**	**8.90**	**213**	*e*PN	**Pn**	**15 16 13.1**	**-3.6**
SNZO				*e*SN	**Sn**	**15 17 50.1**	**-6.8**
NNZ	**Nelson**	**9.48**	**218**	*e*PN	**Pn**	**15 16 21.4**	**-3.2**
NNZ				SN	**Sn**	**15 18 05.6**	**-5.4**
THZ	**Tophouse**	**10.12**	**218**	PN	**Pn**	**15 16 29.2**	**-4.2**
THZ				*e*SN	**Sn**	**15 18 18.3**	**-8.4**
RPZ	**Rata Peaks**	**12.48**	**216**	Pn	**Pn**	**15 17 02.5**	**-3.1**
	2.1nm,0.3s,baz=5.7,slow=2.1,SNR=14						
RPZ				Sn	**Sn**	**15 19 12.1**	**-12**
	4.5nm,0.3s,baz=322,slow=19,SNR=20						
ODZ	**Otahua Downs**	**13.68**	**213**	*e*PN	**Pn**	**15 17 16.0**	**-5.9**
WHZ	**Wether Hill Ro**	**15.58**	**216**	*e*PN	**Pn**	**15 17 44.2**	**-3.4**
AFI	**Afiamalu**	**21.01**	**19**	*eP*	**P**	**15 18 48.2**	**-3.6**
	221nm,1.1s,mb5.4						
AFI				*e*S	**S**	**15 22 39.4**	**-6.2**
AFI	**Afiamalu**	**21.01**	**19**	*eP*	**P**	**15 18 48.2**	**-3.5**
AFI				*e*S	**S**	**15 22 39.4**	**-6.2**
AFI				pmax	pmax		
comp=Z,221nm,1.1s,mb5.4							
RAR	**Rarotonga**	**21.11**	**58**	P	**P**	**15 18 51.5**	**-1.3**
comp=Z,54nm,1.1s,mb4.8,baz=239,slow=7.9,SNR=5.2							
RAR				LR	LR	15 25 18.8	
comp=Z,2μm,18.0s,MS4.6,baz=235,slow=32							
RIV	**Riverview**	**24.87**	**262**	*eP*	**P**	**15 19 32.1**	**+1.4**
ARMA	**Armidale**	**25.21**	**270**	*eP*	**P**	**15 19 37.4**	**+3.6**
FUNA	**Funafuti**	**25.43**	**355**	*eP*	**P**	**15 19 33.4**	**-2.5**
comp=Z,263nm,1.8s,mb5.5							
CNB	**Canberra Magne**	**26.14**	**258**	*eP*	**P**	**15 19 45.2**	**+3.0**
comp=Z,121nm,1.6s,mb5.2							
TAU	**Tasmania Unive**	**27.80**	**241**	*eP*	**P**	**15 19 58.3**	**+1.1**
comp=Z,21nm,0.9s,mb4.8							
TAU				LR	LR		
comp=Z,3μm,19.0s,MS4.9							
PPT	**Papeete**	**30.86**	**65**	LR	LR	15 31 48.7	
comp=Z,4μm,18.3s,MS5.1,baz=248,slow=34							
HNR	**Honiara**	**31.28**	**317**	*eP*	**P**	**15 20 28.2**	**0.0**
comp=Z,217nm,1.6s,mb5.7							
HNR				*e*		15 20 39.7	
HNR				LR	LR		
comp=Z,1μm,21.0s,MS4.6							
HNR	**Honiara**	**31.28**	**317**	P	**P**	**15 20 28.2**	**0.0**
comp=Z,41nm,0.9s,mb5.3,baz=258,slow=4.5,SNR=7.6							
HNR				LR	LR	15 30 57.4	
comp=Z,1μm,19.9s,MS4.5,baz=177,slow=32							
STKA	**Stephens Creek**	**33.14**	**262**	*eP*	**P**	**15 20 46.7**	**+2.3**
comp=Z,14nm,1.7s,mb4.6							
STKA				*e*pP	pP	15 20 58.9	+11
STKA				*e*PCP	PcP	15 23 27.1	-0.3
STKA				*e*		15 27 10.8	
STKA				*e*SCS	ScS	15 31 07.4	-4.6
STKA	**Stephens Creek**	**33.14**	**262**	P	**P**	**15 20 44.8**	**+0.3**
comp=Z,9.2nm,0.6s,mb4.9,baz=105,slow=10,SNR=32							
STKA				ScP	ScP	15 27 10.7	-0.8
comp=Z,7.4nm,1.1s,baz=130,slow=7.9,SNR=4.7							
STKA				LR	LR	15 34 16.7	
comp=Z,8μm,18.0s,MS5.5,baz=90,slow=37							
CTA	**Charters Tower**	**33.87**	**285**	*eP*	**P**	**15 20 52.4**	**+1.5**
comp=Z,51nm,1.8s,mb5.2							
CTA				*e*S	**S**	**15 26 17.3**	**+2.2**
CTA				*e*		15 27 15.6	
CTA	**Charters Tower**	**33.87**	**285**	*eP*	**P**	**15 20 52.4**	**+1.5**
CTA				*e*S	**S**	**15 26 17.3**	**+2.2**
CTA				pmax	pmax		
comp=Z,51nm,1.8s							
CTA	**Charters Tower**	**33.87**	**285**	P	**P**	**15 20 51.5**	**+0.7**
comp=Z,35nm,0.7s,mb5.4,baz=106,slow=9.6,SNR=32							
CTA				S	**S**	**15 26 17.5**	**+2.4**
comp=Z,6.2nm,1.0s,baz=23,slow=23,SNR=14							
CTA				LR	LR	15 31 12.2	
comp=Z,2μm,21.2s,MS4.8,baz=116,slow=30							
CTAO	**Charters Tower**	**33.87**	**285**	⇑*i*P	**P**	**15 20 52.5**	**+1.6**
comp=Z,489nm,1.8s,mb6.1							
CTAO				LR	LR		
comp=Z,1μm,20.0s,MS4.7							
ADE	**Adelaide**	**34.82**	**256**	*eP*	**P**	**15 21 01.6**	**+2.6**
RKT	**Rikitea**	**39.75**	**86**	*e*S	**S**	**15 27 50.4**	**+5.7**
comp=Z,492nm,25.5s							
RKT				*e*LR	LR	15 32 05.8	
comp=Z,3μm,20.8s,baz=248							
DRV	**Dumont d'Urvil**	**40.55**	**204**	P	**P**	**15 21 48.0**	**+1.0**
DRV				S	**S**	**15 28 04.0**	**+8.3**
DRV				L		15 31 00.0	
DRV				R		15 34 00.0	
ASAR	**Alice Springs**	**42.35**	**271**	P	**P**	**15 22 02.4**	**0.0**
comp=Z,47nm,0.7s,mb5.2,baz=112,slow=7.0,SNR=271							
ASAR				S	**S**	**15 28 20.9**	**-2.5**
comp=Z,6.2nm,0.9s,baz=114,slow=14,SNR=14							
WB2	**Warramunga Arr**	**43.65**	**276**	⇑*i*P	**P**	**15 22 12.8**	**-0.1**
WB2				*e*pP	pP	15 22 24.1	+7.4
WB2				*e*S	**S**	**15 28 39.2**	**-3.4**
WRAB	**Tennant Creek**	**43.66**	**276**	P	**P**	**15 22 12.2**	**-0.8**
comp=Z,497nm,0.7s,mb6.3,SNR=39							
WRAB	**Tennant Creek**	**43.66**	**276**	⇑*i*P	**P**	**15 22 12.6**	**-0.3**
comp=Z,71nm,0.8s,mb5.5							
WRAB				*e*		15 22 23.2	
WRAB				LR	LR		
comp=Z,2μm,20.0s,MS5.1							
WRA	**Warramunga Arr**	**43.66**	**276**	P	**P**	**15 22 12.9**	**-0.1**
WRA				S	**S**	**15 28 40.0**	**-2.7**
WRA	**Warramunga Arr**	**43.66**	**276**	P	**P**	**15 22 12.9**	**-0.1**
comp=Z,51nm,0.7s,mb5.4,baz=118,slow=7.6,SNR=514							
WRA				S	**S**	**15 28 40.0**	**-2.7**
comp=Z,7.7nm,1.1s,baz=113,slow=14,SNR=6.5							
WRA				LR	LR	15 40 47.4	
comp=Z,2μm,18.3s,MS5.1,baz=110,slow=37							
SBA	**Scott Base**	**44.39**	**184**	*eP*	**P**	**15 22 19.6**	**+1.5**
comp=Z,133nm,1.4s,mb5.5							
SBA				LR	LR		
comp=Z,3μm,20.0s,MS5.3							
VNDA	**Vanda**	**44.44**	**186**	LR	LR	15 38 19.5	

comp=Z,2μm,19.0s,MS5.0,baz=32,slow=33
FORT Forrest 44.55 259 *e*P **P 15 22 19.4 -0.6**
comp=Z,33nm,0.5s,mb5.4
KAKA Kakadu 48.98 284 *e*P **P 15 22 53.8 -1.0**
comp=Z,34nm,0.9s,mb5.4
CASY Casey 51.64 209 *e*P **P 15 23 16.3 +2.0**
FITZ Fitzroy Crossi 51.75 273 *e*P **P 15 23 15.5 -0.3**
comp=Z,56nm,1.0s,mb5.5
FITZ *e*pP pP 15 23 26.7 +7.1
FITZ *e*S **S 15 30 35.7 -1.9**
FITZ Fitzroy Crossi 51.75 273 S **S 15 30 33.4 -4.3**
comp=Z,1.4nm,1.0s,baz=56,slow=3.6,SNR=2.4
FITZ LR LR 15 46 10.0
comp=Z,4μm,18.4s,MS5.5,baz=304,slow=37
NWAO Narrogin (SRO) 52.54 252 *e*P **P 15 23 17.5 -4.1**
comp=Z,149nm,1.7s,mb5.6
NWAO LR LR
comp=Z,3μm,19.0s,MS5.3
NWAO Narrogin (SRO) 52.54 252 *e*P **P 15 23 17.5 -4.1**
NWAO pmax pmax
comp=Z,149nm,1.7s
NWAO MLR MLR
comp=Z,3μm,19.0s
KLBR Kellerberrin 52.59 254 *e*P **P 15 23 21.3 -0.6**
comp=Z,108nm,1.1s,mb5.7
MUN Mundaring 53.69 253⇑ *i*P **P 15 23 28.9 -1.1**
MBWA Marble Bar 55.22 267⇑ *i*P **P 15 23 39.0 -2.2**
comp=Z,146nm,1.7s,mb5.7
MBWA LR LR
comp=Z,1μm,19.0s,MS5.0
QSPA South Pole Qui 56.11 180 P **P 15 23 48.6 +1.8**
QSPA LR LR 15 45 12.3
QSPA South Pole Qui 56.11 180 P **P 15 23 48.6 +1.8**
comp=Z,42nm,1.0s,mb5.4,baz=30,slow=3.5,SNR=41
QSPA LR LR 15 45 12.3
comp=Z,2μm,18.9s,MS5.3,baz=221,slow=33
BATI Kupang 57.50 280 LR LR 15 46 47.5
comp=Z,1μm,18.1s,MS5.1,baz=135,slow=34
POHA Pohakuloa 57.89 26 *e*P **P 15 24 05.4 +5.3**
comp=Z,141nm,1.1s,mb5.9
GUMO Guam 58.60 318 LR LR 15 44 30.1
comp=Z,454nm,20.6s,MS4.6,baz=70,slow=31
MIR Mirnyy 58.60 208⇑ *i*P **P 15 24 05.0 +0.4**
MIR *i* 15 24 19.0
MIR *i*S **S 15 32 16.0 +7.9**
MIR pmax pmax
comp=Z,300nm,1.5s,mb6.1
MIR MLR MLR
comp=Z,2μm,19.0s,MS5.2
RPN Rapa Nui 59.21 104 LR LR 15 45 41.9
comp=Z,3μm,18.3s,MS5.4,baz=235,slow=32
KAPI Kappang 63.63 282 P **P 15 24 38.5 -1.0**
comp=Z,118nm,1.5s,mb5.7,SNR=6.1
MAW Mawson 68.69 201 *e*P **P 15 25 11.6 +0.4**
comp=Z,26nm,1.2s,mb5.0
MAW Mawson 68.69 201 *e*P **P 15 25 11.6 +0.4**
MAW pmax pmax
comp=Z,26nm,1.2s
MAW Mawson 68.69 201 P **P 15 25 11.7 +0.5**
comp=Z,18nm,0.9s,mb5.0,baz=107,slow=7.7,SNR=17
MAW LR LR 15 54 00.1
comp=Z,3μm,19.2s,MS5.5,baz=115,slow=35
PMSA Palmer Station 69.28 155 PFAKE 15 25 30.0 +15
PMSA LR LR
comp=Z,3μm,20.0s,MS5.5
KKM Kota Kinabalu 73.06 290⇑ *e*P **P 15 25 36.7 -1.8**
SYO Syowa Base 73.45 194⇓ *i*P **P 15 25 38.6 -1.4**
SYO Syowa Base 73.45 194⇑ *i*sP sP 15 26 01.4 +16
SNAA Sanae 74.57 179 P **P 15 25 46.4 -0.1**
comp=Z,7.1nm,1.0s,mb4.5,baz=198,slow=6.4,SNR=25
VNA3 Neumayer Olymp 74.76 176 *e*PKPdf **P 15 25 47.1 -0.5**
VNA3 *e* pP 15 25 51.6 +0.1
VNA3 *e* 15 25 59.2
KSM Kuching 75.05 282 *e*P **P 15 25 48.9 -1.2**
KSM *e*PP PP 15 28 36.2 -2.1
VNA2 Neumayer--Watz 75.18 177 *e*PKPdf **P 15 25 50.2 +0.2**
baz=179,slow=4.2
VNA2 *e* pP 15 25 55.4 +1.5
VNA2 *e* 15 26 02.1
VNA2 *e* 15 26 06.2
VNA2 *e* 15 26 16.4
MAIT Maitri 75.23 184 *e*P **P 15 25 48.1 -2.2**
NVL N'lazarevskaya 75.24 184 *e*P **P 15 25 51.5 +1.1**
NVL *e*PP pP 15 26 01.8 +7.5
NVL S S 15 35 23.1 -5.7
NVL pmax pmax
comp=Z,78nm,1.9s,mb5.3
NVL MLR MLR
comp=N,2μm,19.0s
NVL MLR MLR
comp=Z,3μm,19.0s,MS5.6
NVL MLR MLR
comp=E,267nm,9.0s
VNA1 Neumayer--Stat 75.42 177 *e*PKPdf **P 15 25 52.0 +0.6**
VNA1 *e* pP 15 25 56.9 +1.6
VNA1 *e* 15 26 03.7
VNA1 *e* 15 26 07.9
VNA1 *e* 15 26 18.3
VNA1 *e* 17 41 18.0
EFI East Falkland 80.15 147 PFAKE 15 26 30.0 +12
EFI LR LR
comp=Z,2μm,19.0s,MS5.4
PLCA Paso Flores 80.56 133 *e*P **P 15 26 20.4 -0.2**
comp=Z,22nm,1.2s,mb5.0
PLCA LR LR
comp=Z,1μm,19.0s,MS5.3
PLCA Paso Flores 80.56 133 P **P 15 26 21.0 +0.5**
PLCA pmax pmax
comp=Z,22nm,1.2s
PLCA Paso Flores 80.56 133 P **P 15 26 20.2 -0.3**
comp=Z,7.9nm,1.1s,mb4.6,baz=155,slow=1.7,SNR=8.2
PLCA LR LR 15 57 10.0
comp=Z,1μm,18.1s,MS5.3,baz=232,slow=32
MJAR Matsushiro Arr 80.82 326 P **P 15 26 21.5 -0.2**
comp=Z,2.5nm,1.0s,mb4.1,baz=168,slow=6.1,SNR=4.8
MJAR LR LR 16 01 24.3
comp=Z,304nm,18.4s,MS4.7,baz=125,slow=35
MAJO Matsushiro 80.83 326 PFAKE 15 26 30.0 +8.3
MAJO LR LR
comp=Z,467nm,21.0s,MS4.8
TATO Taipei 81.56 308 PFAKE 15 26 40.0 +14
TATO LR LR
comp=Z,836nm,20.0s,MS5.1
KULM Kulim 85.11 280 *e*P **P 15 26 43.6 -1.0**
PSI Prapat 85.13 277 LR LR 16 08 34.0
comp=Z,2μm,18.0s,MS5.4,baz=135,slow=38
ASAJ Asahikawa 85.32 333 P **P 15 26 45.3 +0.5**
comp=Z,8.3nm,1.1s,mb4.8,baz=213,slow=19,SNR=4.6
QIZ Qiongzhong 85.92 296 P **P 15 26 47.3 -1.1**
QIZ PP PP 15 30 07.4 -1.1
QIZ S S 15 37 15.3 -6.7
QIZ XS sS 15 37 37.1 +8.6
QIZ AMB AMB
comp=Z,13nm,1.5s,mb4.9
QIZ AMB AMB
comp=Z,313nm,9.8s
SSE Sheshan 85.97 312 P **P 15 26 50.4 +2.1**
SSE PP PP 15 30 11.3 +2.6
SSE S S 15 37 13.8 -8.1
SSE AMB AMB
comp=Z,38nm,0.7s,mb5.7
SSE AMB AMB
comp=Z,256nm,11.0s
SSE LR LR
comp=N,186nm,13.9s,MS4.8
SSE LR LR
comp=E,235nm,13.9s,MS4.8
SSE LR LR
comp=Z,289nm,12.5s,MS4.9
KSRS Korea Array 86.65 320 P **P 15 26 52.1 +0.6**
comp=Z,1.7nm,0.9s,mb4.3,baz=146,slow=5.2,SNR=5.2
KSRS LR LR 16 03 08.4
comp=Z,198nm,18.6s,MS4.5,baz=302,slow=34
TRQA Tornquist 87.39 135 *e*P **P 15 26 55.9 +0.5**
comp=Z,28nm,1.4s,mb5.3
TRQA LR LR
comp=Z,1μm,19.0s,MS5.3
CFAA Coronel Fontan 87.64 127 P **P 15 26 56.3 -0.5**
comp=Z,0.9nm,0.9s,mb4.0,baz=267,slow=5.2,SNR=7.5
YSS Yuzh-Sakhalins 87.69 335 *e*P **P 15 26 56.6 +0.2**
comp=Z,166nm,1.7s,mb6.0
YSS LR LR
comp=Z,1μm,19.0s,MS5.2
YSS Yuzh-Sakhalins 87.69 335 *αe*P **P 15 26 56.8 +0.5**
YSS *e* 15 27 05.0
YSS *e*PPP 15 32 26.0
YSS *e* 15 37 22.0
YSS *e*S S 15 37 25.0 -13
YSS *e*PPS 15 38 48.0
YSS pmax pmax
comp=Z,230nm,2.0s,mb6.1
YSS MLR MLR
comp=Z,1μm,18.0s,MS5.3
YSS MLR MLR
comp=N,1μm,19.0s
NJ2 Nanjing 88.07 311 *e*P **P 15 26 58.4 -0.1**
NJ2 SKS 15 37 20.0
NJ2 S S 15 37 32.0 -10
NJ2 AMB AMB
comp=Z,30nm,0.9s,mb5.5
NJ2 AMB AMB
comp=Z,420nm,10.0s
NJ2 LR LR
comp=N,660nm,22.5s,MS5.2
NJ2 LR LR
comp=E,580nm,17.5s,MS5.2
NJ2 LR LR
comp=Z,550nm,15.1s,MS5.1
PET Petropavlovsk 88.86 347 *e*P **P 15 27 01.5 -0.2**
PET *e*S S 15 37 42.2 -6.5
PET *e*SP 15 38 49.2
PET *e*SSS 15 47 20.9
PET pmax pmax
comp=Z,54nm,1.4s,mb5.7
ISA Isabella 89.35 45 *e*P **P 15 27 04.6 +0.1**
comp=Z,45nm,1.2s,mb5.7
ISA *e* 15 27 17.0
ISA LR LR
comp=Z,2μm,20.0s,MS5.4
ISA Isabella 89.35 45 *e*P **P 15 27 04.6 +0.1**
ISA *e* 15 27 17.0
ISA pmax pmax
comp=Z,45nm,1.2s,mb5.7
ISA MLR MLR
comp=Z,2μm,20.0s,MS5.4
GLA Glamis 89.80 49 *e*P **P 15 27 07.8 +1.1**
comp=Z,28nm,1.1s,mb5.5
GLA *e* 15 27 19.0
GLA *e* 15 27 23.0
GLA Glamis 89.80 49 *e*P **P 15 27 07.8 +1.2**
GLA *e* 15 27 19.0
GLA *e* 15 27 23.0
GLA pmax pmax
comp=Z,29nm,1.1s,mb5.5
CMB Columbia Colle 89.90 42 *e*P **P 15 27 07.6 +0.6**
comp=Z,24nm,1.3s,mb5.4
CMB *e* 15 27 19.0
CMB LR LR
comp=Z,1μm,19.0s,MS5.4
CMB Columbia Colle 89.90 42 *e*P **P 15 27 07.6 +0.6**
CMB *e* 15 27 19.0
CMB pmax pmax
comp=Z,24nm,1.3s,mb5.4
CMB MLR MLR
comp=Z,1μm,19.0s,MS5.4
GSC Goldstone 90.09 46 *e*P **P 15 27 09.3 +1.4**
comp=Z,39nm,1.2s,mb5.6
GSC *e* 15 27 20.6
GSC Goldstone 90.09 46 *e*P **P 15 27 09.3 +1.4**
GSC *e* 15 27 20.6
GSC pmax pmax
comp=Z,39nm,1.2s,mb5.6
OHCM Honcut 90.22 41 P **P 15 27 09.5 +1.0**
MTUM Tungsten Hills 90.46 44 *e*P **P 15 27 10.0 +0.3**
WDC Whiskeytown Da 90.55 39 *e*P **P 15 27 11.0 +1.0**
comp=Z,51nm,1.8s,mb5.5
WDC *e* 15 27 22.7
WDC Whiskeytown Da 90.55 39 *e*P **P 15 27 11.0 +1.0**
WDC *e* 15 27 22.7
WDC pmax pmax
comp=Z,51nm,1.8s,mb5.5
DL2 Dalian 91.13 318 P **P 15 27 07.6 -5.1**
DL2 AP pP 15 27 20.4 +3.7
DL2 SKS 15 37 43.8
DL2 S S 15 37 56.9 -14
DL2 XS sS 15 38 20.0 +3.0
DL2 SS SS 15 44 11.8 -3.7
DL2 AMB AMB
comp=Z,10.0nm,0.7s,mb5.2
DL2 AMB AMB
comp=Z,140nm,4.2s
DL2 LR LR
comp=N,150nm,16.2s,MS4.7
DL2 LR LR
comp=E,180nm,16.1s,MS4.7
DL2 LR LR
comp=Z,210nm,15.8s,MS4.7
MDJ Mudanjiang 91.21 326 P **P 15 27 11.6 -1.3**
MDJ AP pP 15 27 24.5 +7.6
MDJ PP PP 15 30 48.3 -2.1
MDJ S S 15 38 05.1 -5.7
MDJ SCS ScS 15 38 07.9 -5.9
MDJ SS SS 15 44 10.6 -5.7
MDJ AMB AMB
comp=Z,14nm,1.8s,mb5.0
MDJ AMB AMB
comp=Z,210nm,6.8s
MDJ LR LR
comp=N,210nm,35.9s
MDJ LR LR
comp=E,212nm,30.7s
MDJ LR LR
comp=Z,231nm,36.6s,MS4.3
MDJ Mudanjiang 91.21 326 P **P 15 27 13.7 +0.8**
comp=Z,21nm,1.1s,mb5.4
MDJ LR LR
comp=Z,511nm,19.0s,MS5.0
NVAR Mina Array Bea 91.35 43 P **P 15 27 13.6 -0.1**
comp=Z,1.7nm,0.9s,mb4.4,baz=207,slow=1.7,SNR=10
CN2 Changchun 92.60 323⇓ P **P 15 27 19.4 +0.1**
CN2 *e*S S 15 38 17.5 -5.9
CN2 AMB AMB
comp=Z,30nm,1.4s,mb5.5
CN2 AMB AMB
comp=Z,200nm,7.0s
CN2 LR LR
comp=N,700nm,16.0s,MS5.2
CN2 LR LR
comp=E,300nm,16.0s,MS5.2
CN2 LR LR
comp=Z,400nm,18.0s,MS4.9
GYA Guiyang 92.74 300 *e*P **P 15 27 20.8 +0.3**
GYA PP PP 15 31 05.8 +2.9
GYA SKS 15 37 48.8
GYA S S 15 38 19.3 -6.2
GYA SS SS 15 44 36.5 -2.5
GYA AMB AMB
comp=Z,30nm,1.0s,mb5.7
GYA AMB AMB
comp=Z,160nm,7.6s
GYA LR LR
comp=N,640nm,20.6s,MS5.3
GYA LR LR
comp=E,820nm,21.8s,MS5.3
GYA LR LR
comp=Z,760nm,20.6s,MS5.1
KLR Kul'dur 93.80 330 *e*P **P 15 27 20.6 -4.1**
KLR *e*S S 15 37 52.5 -41
KLR *e* 15 38 35.0
KLR pmax pmax
comp=Z,56nm,1.8s,mb5.7
CM31 Chiang Mai Arr 93.93 289 PFAKE 15 27 40.0 +14
CM31 LR LR
comp=Z,334nm,19.0s,MS4.8
CMIG Matias Romero 94.52 73 LR LR 15 59 33.3
comp=Z,188nm,18.4s,MS4.6,slow=29
KMI Kunming 94.82 297 P **P 15 27 30.1 0.0**
KMI PP PP 15 31 22.9 +3.7
KMI SKS 15 38 04.4
KMI S S 15 38 42.4 -1.4
KMI XS sS 15 38 49.3 -1.2
KMI SS SS 15 45 11.8 +3.0
KMI LR LR
comp=N,257nm,17.7s,MS5.0
KMI LR LR
comp=E,390nm,19.0s,MS5.0
KMI LR LR
comp=Z,395nm,17.7s,MS4.9
TXAR Lajitas Array 94.91 58 P **P 15 27 30.3 -0.1**
comp=Z,1.0nm,1.1s,mb4.2,baz=217,slow=6.0,SNR=6.7
TXAR LR LR 16 05 09.4
comp=Z,1μm,18.1s,MS5.5,baz=5.0,slow=32
BJT Baijiatuau 94.99 316 P **P 15 27 29.0 -1.5**
BJT LR LR
comp=Z,488nm,20.0s,MS5.0
ANMO Albuquerque 96.36 52 PFAKE 15 27 50.0 +13
ANMO LR LR
comp=Z,1μm,19.0s,MS5.5
MA2 Magadan 96.58 345 PFAKE 15 27 50.0 +13
MA2 LR LR
comp=Z,667nm,21.0s,MS5.1
BBB Bella Bella 96.60 29 P **P 15 27 35.4 -2.1**
comp=Z,12nm,1.0s,mb5.3,baz=180,slow=3.0,SNR=3.0
LPAZ La Paz 97.28 115 P **P 15 27 42.5 +0.9**
LPAZ LR LR 16 06 09.8
LPAZ La Paz 97.28 115 P **P 15 27 42.5 +0.9**
comp=Z,1.1nm,0.8s,mb4.3,baz=219,slow=5.1,SNR=4.7
LPAZ LR LR 16 06 09.8
comp=Z,368nm,19.1s,MS4.9,baz=73,slow=32
HWUT Hardware Ranch 97.33 44 PFAKE 15 27 50.0 +8.9
HWUT LR LR
comp=Z,1μm,19.0s,MS5.4
CD2 Chengdu 97.41 302 *e*P **P 15 27 42.6 +0.9**
CD2 PP PP 15 31 43.0 +3.8
CD2 SS SS 15 45 43.1 -2.3
CD2 AMB AMB
comp=Z,10.0nm,0.8s,mb5.3
CD2 AMB AMB
comp=Z,30nm,9.2s
CD2 LR LR
comp=N,380nm,20.4s
CD2 LR LR
comp=Z,440nm,25.2s,MS4.8
HHC Hu-ho-hao-te 98.23 314 *e*P **P 15 27 46.6 +1.4**
HHC PP PP 15 31 50.4 +5.1
HHC SKS 15 38 19.6
HHC S S 15 39 17.4 +4.9
HHC SS SS 15 45 57.5 +0.9
HHC AMB AMB
comp=Z,18nm,0.4s,mb6.0
HHC AMB AMB
comp=Z,249nm,5.5s
HHC LR LR
comp=N,285nm,9.8s
HHC LR LR
comp=E,395nm,12.5s
HHC LR LR
comp=Z,214nm,13.5s,MS4.8
CPUP Villa Florida 98.27 129 P **P 15 27 46.4 +0.4**
comp=Z,1.0nm,0.7s,mb4.4,baz=243,slow=6.8,SNR=3.1
CPUP LR LR 16 08 05.4
comp=Z,1μm,18.4s,MS5.4,baz=219,slow=33
PMR Palmer 98.27 14 PFAKE 15 28 00.0 +15
PMR LR LR
comp=Z,759nm,20.0s,MS5.2
SDCO Great Sand Dun 98.66 50 PFAKE 15 28 00.0 +13
SDCO LR LR
comp=Z,970nm,19.0s,MS5.3
NEW Newport 98.69 37 PFAKE 15 28 00.0 +13
NEW LR LR
comp=Z,3μm,20.0s,MS5.8
NEW Newport 98.69 37 LR LR 16 06 39.7
comp=Z,2μm,19.1s,MS5.7,baz=233,slow=32
PDAR Pinedale Array 99.22 44 PP PP 15 32 03.0 +10
comp=Z,1.0nm,1.1s,baz=250,slow=4.4,SNR=4.7
PDAR LR LR 16 08 37.8
comp=Z,1μm,18.4s,MS5.4,baz=241,slow=33
HIA Hailar 99.23 324 PFAKE 15 28 00.0 +11
HIA LR LR
comp=Z,713nm,19.0s,MS5.2
MCK McKinley 100.26 13 PFAKE 15 28 00.0 +5.6
MCK LR LR
comp=Z,555nm,20.0s,MS5.1
LZH Lanzhou 100.31 307 *e*P Pdif 15 27 57.1 +2.5
LZH PP PP 15 32 06.0 +4.8
LZH SKS 15 38 29.1
LZH *e*S Sdif 15 39 26.0 -4.3
LZH SS SS 15 46 29.0 +3.2
LZH AMB AMB
comp=Z,26nm,1.5s
LZH AMB AMB
comp=Z,120nm,4.0s
LZH LR LR
comp=E,433nm,14.3s
LZH LR LR
comp=Z,816nm,17.0s,MS5.3
COLA College 101.50 13 PFAKE 15 28 10.0 +10
COLA LR LR
comp=Z,872nm,20.0s,MS5.3
BILL Bilibino 102.35 354 *e*P Pdif 15 28 06.0 +2.3
BILL *e*S SKSac 15 38 34.6 -6.9
BILL pmax pmax
comp=Z,2.0nm,1.2s
BILL MLR MLR
comp=Z,500nm,18.0s,MS5.1
PALK Pallekele 102.69 270 PFAKE 15 28 20.0 +15
PALK LR LR
comp=Z,1μm,19.0s,MS5.5
RSSD Black Hills 103.26 46 PFAKE 15 28 20.0 +12
RSSD LR LR
comp=Z,1μm,19.0s,MS5.5
SHL Shillong 103.28 292 *e*P PKiKP 15 32 23.0 -4.4
YAK Yakutsk 104.31 338 PFAKE 15 28 20.0 +7.6
YAK LR LR
comp=Z,557nm,19.0s,MS5.1
ULN Ulaanbaatar 104.98 318 PFAKE 15 28 30.0 +15
ULN LR LR
comp=Z,296nm,19.0s,MS4.8
SONM Songino Array 105.33 318 PP PP 15 32 43.5 +4.9
comp=Z,1.5nm,1.1s,baz=151,slow=3.4,SNR=4.3
SONM PKKP PKKPbc 15 44 08.9 +12
comp=Z,0.4nm,0.5s,baz=291,slow=1.2,SNR=3.3
LSA Lhasa 105.95 295 PFAKE 15 32 40.0 +7.8
LSA LR LR
comp=Z,244nm,20.0s,MS4.8
TLY Talaya 108.91 320 PFAKE 15 32 50.0 +13
TLY LR LR
comp=Z,319nm,21.0s,MS4.9
YKA Yellowknife Ar 108.99 26 PKPdf PKiKP 15 32 37.8 +1.0
YKA PKKPbc PKKPbc 15 43 43.7 -2.0
YKA Yellowknife Ar 108.99 26 PKiKP PKiKP 15 32 37.8 +1.0
comp=Z,0.2nm,0.4s,baz=235,slow=2.1,SNR=5.0
YKA PKKPbc PKKPbc 15 43 43.7 -2.0
comp=Z,1.1nm,0.9s,baz=40,slow=3.5,SNR=9.1
SUR Sutherland 111.42 198 PFAKE 15 32 50.0 +7.5
SUR LR LR
comp=Z,1μm,20.0s,MS5.5
TIXI Tiksi 111.54 344 *i* PKIKP PKiKP 15 32 44.2 +2.8
BOSA Boshof 113.67 203 PFAKE 15 33 00.0 +13
BOSA LR LR
comp=Z,1μm,20.0s,MS5.4
WMQ Urumqi 114.87 307 *e*PKP PKiKP 15 32 50.0 +1.5
WMQ *e*PP PP 15 33 53.6 +5.9
WMQ PKS 15 36 25.0
WMQ SKS SKSdf 15 39 57.0 -3.3
WMQ PP PP
comp=Z,176nm,4.6s
WMQ LR LR
comp=N,399nm,26.7s,MS5.0
WMQ LR LR
comp=E,235nm,24.1s,MS5.0
WMQ LR LR
comp=Z,376nm,24.0s,MS4.9
LBTB Lobatse 116.88 205 PFAKE 15 33 00.0 +6.8
LBTB LR LR
comp=Z,1μm,19.0s,MS5.5
MK31 Makanchi Array 119.52 309 PKIKP PKPdf 15 32 56.8 -0.6
MKAR Makanchi Array 119.52 309 PKP PKPdf 15 32 56.4 -1.0
comp=Z,2.1nm,0.7s,baz=201,slow=1.0,SNR=16
ZALV Zalesovo Beam 120.23 317 PKP PKPdf 15 32 57.4 -1.1
comp=Z,2.4nm,0.7s,baz=158,slow=1.6,SNR=12
ZAL Zalesovo 120.23 317 PKIKP PKPdf 15 32 57.4 -1.1
NVS Novosibirsk 121.37 318 *i* PKIKP PKPdf 15 32 58.1 -2.6
NVS *e* 15 39 56.0
NVS pmax pmax
comp=Z,25nm,1.9s
NVS pmax pmax
comp=E,10.0nm,1.6s
ULHL Ulahol 122.13 302 P PKPdf 15 33 02.7 +0.1
SNR=12
KZA Kyzart 122.78 302 P PKPdf 15 33 04.5 +0.7
SNR=10
TKM2 Tokmak 2 122.79 303 *e*PKPdf PKPdf 15 33 03.1 -0.7
TKM2 LR LR
comp=Z,315nm,20.0s,MS5.0
KURK Kurchatov 122.99 312 *e*PKPdf PKPdf 15 33 02.4 -1.5
KURK *e*SKP 15 36 40.5

KURK LR LR
comp=Z,333nm,20.0s,MS5.0
UCH Uchtor 123.34 302 *e*PKPdf PKPdf 15 33 04.9 0.0
UCH LR LR
comp=Z,315nm,20.0s,MS5.0
UCH Uchtor 123.34 302 P PKPdf 15 33 05.9 +1.0
SNR=13
FRU Bishkek 123.45 302 *e*PKIKP PKPdf 15 33 06.0 +0.9
FRU pmax pmax
comp=Z,40nm,2.0s
AAK Ala-Archa 123.48 302⇑ *e*PKP PKPdf 15 33 03.9 -1.2
AAK LR LR
comp=Z,383nm,19.0s,MS5.1
AAK Ala-Archa 123.48 302⇑ *i*PKIKP PKPdf 15 33 03.8 -1.3
USP Ospenovka 123.66 303 P PKPdf 15 33 05.4 -0.1
SNR=6.2
AML Almayashu 123.90 301 *e*PKPdf PKPdf 15 33 06.4 +0.5
AML Almayashu 123.90 301 P PKPdf 15 33 06.8 +0.9
SNR=12
EKS2 Erkin-Say 123.99 302 *e*PKPdf PKPdf 15 33 05.7 -0.4
EKS2 LR LR
comp=Z,421nm,19.0s,MS5.1
EKS2 Erkin-Say 123.99 302 P PKPdf 15 33 06.5 +0.4
SNR=7.4
LSZ Lusaka 124.64 212 PFAKE 15 33 20.0 +12
LSZ LR LR
comp=Z,910nm,19.0s,MS5.5
TSUM Tsumeb 124.82 199 PFAKE 15 33 20.0 +11
TSUM LR LR
comp=Z,885nm,19.0s,MS5.5
KBL Kabul 124.93 291 *e*PKPdf PKPdf 15 33 07.9 -0.3
BRVK Borovoye 128.51 314 *e*PKPdf PKPdf 15 33 12.7 -1.7
BRVK LR LR
comp=Z,401nm,19.0s,MS5.1
KMBO Kilima Mbogo 131.32 232 PFAKE 15 33 30.0 +8.9
KMBO LR LR
comp=Z,520nm,19.0s,MS5.2
ARU Arti 135.37 318 *e*PKPdf PKPdf 15 33 26.1 -1.1
ARU *e*SKP 15 36 57.7
ARU LR LR
comp=Z,472nm,20.0s,MS5.2
ARU Arti 135.37 318 *i*PKIKP PKPdf 15 33 27.3 0.0
QRN Al-Qurain 140.01 276 *e*P PKPdf 15 33 35.5 -1.2
QRN AMb AMB 15 33 42.9
comp=Z,77nm,1.3s
KBD Kabd 140.34 276 *e*P PKPdf 15 33 36.4 -0.9
KBD AMb AMB 15 33 45.1
comp=Z,138nm,1.3s
RDF Al-Radifah 140.38 276 *e*P PKPdf 15 33 37.1 -0.3
RDF AMb AMB 15 33 46.0
comp=Z,92nm,1.6s
NAY Al-Naaiem 140.74 276 *e*P PKPdf 15 33 37.6 -0.4
NAY AMb AMB 15 33 43.4
comp=Z,24nm,1.6s
KEV Kevo 141.46 346 *e*PKPdf PKPdf 15 33 35.3 -2.8
APA Apatity 141.61 341⇑ *i*PKIKP PKPdf 15 33 41.0 +2.6
APA MLR MLR
comp=Z,800nm,17.0s,MS5.5
ARCES ARCESS Array B 141.94 346 PKP PKPdf 15 33 35.7 -3.3
ARCES ARCESS Array B 141.94 346 PKhKP 15 33 35.7
comp=Z,4.2nm,0.8s,baz=6.7,slow=4.2,SNR=14
TRO Tromso 142.99 350 *e*P PKPdf 15 33 45.6 +4.8
MAK Makhachkala 143.04 298 *i*PKHKP 15 33 33.9
MAK *e*PPP 15 40 02.1
MAK MLR MLR
comp=Z,575nm,17.0s,MS5.4
BHD Baghdad 144.22 281 *e*x x 15 33 39.6
DGRG David-gareji 144.57 295 P PKPdf 15 33 43.2 -1.3
MTA Mtatsminda 145.01 296 P PKPbc 15 33 44.0 -0.5
JOF Joensuu 145.47 336 *e*pkp PKPdf 15 33 43.6 -1.7
DYDN Diyadin 145.74 292 *i*P PKPdf 15 33 46.8 +0.3
MSL Mosul 145.84 286 *e*x x 15 33 46.5
ONI Oni 146.03 297 P PKPdf 15 33 47.2 +0.3
VRHR Novokhopersk 146.17 313 *e*PKP2 PKPab 15 33 47.7 -0.9
VRHR pmax pmax
comp=Z,490nm,1.8s
VRHR pmax pmax
comp=N,110nm,1.6s
VRHR pmax pmax
comp=E,250nm,1.7s
TUTA Tutak 146.40 291 *i*P PKPdf 15 33 48.9 +1.2
KIV Kislovodsk 146.54 300 *e*PKPdf PKPdf 15 33 48.0 +0.3
KIV LR LR
comp=Z,333nm,19.0s,MS5.1
KIV Kislovodsk 146.54 300⇑ *i*PKIKP PKPdf 15 33 47.5 -0.2
KIV pmax pmax
comp=Z,87nm,1.7s
KIV Kislovodsk 146.54 300⇑ *i*P PKPdf 15 33 49.2 +1.5
MOS Moscow 146.83 322 *e*P PKPdf 15 33 48.4 +0.6
MOS Moscow 146.83 322 *e*PKIKP PKPdf 15 33 47.9 +0.1
MOS *e* 15 33 59.2
MOS pmax pmax
comp=Z,1μm,2.4s
MOS pmax pmax
comp=Z,484nm,1.5s
MOR8 Moi Rana 146.85 350 *e*P PKPdf 15 33 49.7 +2.1
MOR8 AMb AMB 15 33 53.3
comp=Z,140nm,1.6s
HOMI Horasan 147.14 293 *i*P PKPdf 15 33 50.6 +1.8
ARTV Artvin 147.16 295 *i*P PKPdf 15 33 49.7 +0.9
VOR Voronezh 147.45 315 *e*PKIKP PKPdf 15 33 50.0 +1.0
VOR pmax pmax
comp=Z,460nm,1.8s
ERZM Erzurum 147.55 292 *i*P PKPbc 15 33 52.7 +0.5
VRSR Storozhevoye 147.61 314*c* *i*PKP2 PKPbc 15 33 51.5 -0.5
VRSR pmax pmax
comp=Z,20nm,1.1s
VRSR pmax pmax
comp=N,10.0nm,4.0s
VRSR pmax pmax
comp=E,10.0nm,1.2s
VORD Divnogorie 147.62 313 *e*PKP2 PKPbc 15 33 51.5 -0.5
VORD pmax pmax
comp=Z,130nm,1.4s
VORD pmax pmax
comp=N,10.0nm,0.6s
VORD pmax pmax
comp=E,40nm,1.0s
OBN Obninsk 147.64 322 *e*PKPdf PKPdf 15 33 49.0 -0.2
OBN LR LR
comp=Z,364nm,19.0s,MS5.2
OBN Obninsk 147.64 322⇑ *i*PKP2 PKPbc 15 33 51.6 -0.4
OBN pmax pmax
comp=Z,324nm,1.5s
KAF Kangasniemi 147.67 338 *e*pkp PKPdf 15 33 50.4 +1.4
MARD Mardin 147.81 287 *i*P PKPdf 15 33 49.5 -0.6
KOPT Kop Dagi 148.22 292 *i*P PKPbc 15 33 53.7 -0.3
FIA1 FINESS Array S 148.24 337 *e*PKPdf PKPdf 15 33 48.9 -1.1
FIA1 *e*PKPbc PKPbc 15 33 53.2 -0.2
FINES FINESS Array B 148.25 337 PKPbc PKPbc 15 33 52.9 -0.5
comp=Z,45nm,0.8s,baz=48,slow=4.5,SNR=106
SOC Sochi 148.72 299 *i*PKHKP 15 33 46.1
SOC *e*SSS 16 02 13.9
ELZG Elazig 149.33 289 *i*P PKPbc 15 33 57.4 +0.5
KEMA Kemaliye 149.74 291 *i*P PKPdf 15 33 52.3 -0.8
MALT Malatya 149.75 289 *e*PKPdf PKPdf 15 33 52.6 -0.6
MALT *e*PKPbc PKPbc 15 33 57.7 -0.2
MALT Malatya 149.75 289⇑ *i*P PKPbc 15 33 58.5 +0.6
ATAB Bozova 149.80 287 *i*P PKPbc 15 33 58.2 +0.2
ANN Anapa 150.21 302 *i*PKIKP PKPbc 15 33 57.4 -1.4
ANN pmax pmax
comp=Z,180nm,1.6s
GZT Gaziantep 150.37 287 *i*P PKPbc 15 33 59.5 0.0
FKH Fakeheh 150.92 280 *e*P PKPbc 15 34 00.9 +0.1
BHL Bhannes 151.48 280 *e*P PKPbc 15 34 02.2 0.0
LIC Lamto 151.76 167 *e*PKIKP PKPdf 15 33 57.0 -0.1
comp=Z,144nm,1.1s
LIC *e*MLR MLR
comp=Z,1μm,19.8s,MS5.4
LIC Lamto 151.76 167 *e*PKPdf PKPdf 15 33 57.0 -0.1
LIC LR LR
comp=Z,590nm,19.8s,MS5.4
NB2 NORSAR Subarra152.19 350 PKP PKPbc 15 34 02.4 -0.5
comp=Z,30nm,0.9s,baz=15,slow=2.5
NB2 NORSAR Subarra152.19 350 PKP PKPbc 15 34 02.4 -0.5
baz=15,slow=2.5
NOA NORSAR Array B152.19 350 PKPbc PKPbc 15 34 02.7 -0.2
comp=Z,11nm,0.7s,baz=20,slow=4.2,SNR=25
DBIC Dimbokro 152.23 167 *e*PKPdf PKPdf 15 33 55.9 -1.8
DBIC *e*PKPbc PKPbc 15 34 04.5 +0.1
DBIC *e*PKPab PKPab 15 34 14.7 +0.7
DBIC LR LR
comp=Z,1μm,19.0s,MS5.7
DBIC Dimbokro 152.23 167 PKP PKPdf 15 33 56.5 -1.2
comp=Z,5.1nm,1.1s,baz=142,slow=5.7,SNR=4.0
DBIC PKPbc PKPbc 15 34 04.3 -0.2
comp=Z,15nm,0.8s,baz=145,slow=3.5,SNR=16
MNK Minsk 152.28 326 *e*PKIKP PKPbc 15 34 02.0 -1.3
MNK pmax pmax
comp=Z,510nm,2.0s
NAO01 NORSAR Array S 152.42 350 *e*PKPbc PKPbc 15 34 00.8 -2.6
BOYT Boyabat 152.44 296 *i*P PKPbc 15 34 01.5 -2.6
SIM Simferopol' 152.50 303 *e*PKIKP PKPbc 15 34 03.7 -0.4
CTKT Corum 152.58 294 *i*P PKPbc 15 34 05.0 +0.6
CDAG Cicekdag 152.94 292 *i*P PKPbc 15 34 02.8 -2.4
CSS Prodhromos 153.53 281 *e*PKPbc PKPbc 15 34 05.8 -0.9
BALT Daday 153.56 296 *i*P PKPbc 15 34 06.5 -0.1
AKASG Malin Array Be 153.62 318 PKP PKPdf 15 33 57.0 -1.6
AKASG PKPbc PKPbc 15 34 07.4 +1.0
AKASG Malin Array Be 153.62 318 PKP PKPdf 15 33 57.0 -1.6
comp=Z,0.3nm,0.4s,baz=73,slow=1.3,SNR=5.1
AKASG PKPbc PKPbc 15 34 07.4 +1.0
comp=Z,7.5nm,0.7s,baz=61,slow=2.1,SNR=38
AKBB Malin Array Si 153.62 318 *e*PKPdf PKPdf 15 33 58.9 +0.3
AKBB *e*PKPbc PKPbc 15 34 06.1 -0.2
ELDT Eldivan 153.62 294 *i*P PKPbc 15 34 06.5 -0.2
KIEV Kiev 153.63 318 *e*PKPbc PKPbc 15 34 06.2 -0.2
KONO Kongsberg 153.76 350 PFAKE 15 34 10.0 +11
KONO LR LR
comp=Z,715nm,19.0s,MS5.5
KONO Kongsberg 153.76 350⇑ *i*PKIKP PKPbc 15 34 09.2 +2.8
ANTO Ankara 154.14 292 *e*PKPdf PKPdf 15 33 57.4 -2.4
ANTO *e*PKPbc PKPbc 15 34 08.5 +0.6
ANTO LR LR
comp=Z,357nm,19.0s,MS5.2
ANTO Ankara 154.14 292⇓ *i*P PKPbc 15 34 07.7 -0.2
KIS Kishinev 155.44 310 *e*PKIKP PKPdf 15 34 10.0 +8.7
KIS MLR MLR
comp=Z,300nm,20.0s,MS5.1
KIS MLR MLR
comp=Z,500nm,20.0s
LVV L'vov 156.92 320 *e*PKP2 PKPab 15 34 30.1 -3.1
KWP Kalwaria 157.73 321 *e*PKPab PKPab 15 34 36.6 0.0
KWP Kalwaria 157.73 321⇑ *i*P PKPab 15 34 36.8 +0.1
KOLS Kolonicke sedl 158.37 320 *e*PKP PKPdf 15 34 04.6 -0.4
ESK Eskdalemuir 158.48 7 PFAKE 15 34 20.0 +15
ESK LR LR
comp=Z,758nm,20.0s,MS5.5
UZH Uzhgorod 158.54 319*d* *i*PKP2 PKPab 15 34 39.5 -0.7
STHS Stebnicka Huta 158.62 322 *e*PKP PKPab 15 34 40.6 +0.1
OJC Ojcow 158.81 325 *e*PKP PKPab 15 34 41.1 -0.2
CRVS Cervenica-Dubn 158.82 321 *e*PKP PKPab 15 34 40.8 -0.6
URLA Izmir 159.05 289 *i*P PKPdf 15 34 04.4 -1.8
BSEG Bad Segeberg 159.06 345 *e*PKPab PKPab 15 34 41.1 -1.1
TOA0 Torodi Ar. Sit 159.22 181 *e*PKPdf PKPdf 15 34 06.9 -0.1
TOA0 *e*PKPab PKPab 15 34 42.4 -1.5
TORD Torodi Ar. Bea 159.22 181 PKP PKPdf 15 34 07.4 +0.4
TORD PKPab PKPab 15 34 43.7 -0.1
TORD Torodi Ar. Bea 159.22 181 PKP PKPdf 15 34 07.4 +0.4
comp=Z,3.4nm,1.1s,baz=334,slow=2.0,SNR=9.9
TORD PKPab PKPab 15 34 43.7 -0.1
comp=Z,13nm,1.1s,baz=182,slow=3.2,SNR=12
DRGR 159.30 314⇓ *i*P PKPab 15 34 44.4 +0.9
KECS Kecovo 159.59 321 *e*PKP PKPab 15 34 45.3 +0.6
KECS *e*pP 17 32 39.3
KECS *e*sP 17 32 56.5
KECS *e* 17 33 15.3
OKC Ostrava-Krasne 159.84 327 *e*PKPDF PKPdf 15 34 06.3 -0.3
OKC *e*PKPAB PKPab 15 34 45.4 -0.4
KSP Ksiaz 159.88 331 *e*PKPdf PKPdf 15 34 04.0 -2.6
KSP *e*PKPab PKPab 15 34 45.1 -0.8
APE Apeiranthos 159.96 286⇑ *i*P PKPdf 15 34 11.9 +4.7
MORC Moravsky Berou 160.15 327 *e*PKPab PKPab 15 34 46.8 -0.4
MORC Moravsky Berou 160.15 327⇑ *i*P PKPab 15 34 46.8 -0.3
DPC Dobruska-Polom 160.25 330 *e*PKPDF PKPdf 15 34 06.8 -0.3
DPC *e*PKPAB PKPab 15 34 47.5 0.0
PSZ Piszkesteto 160.25 320 *e*PKPdf PKPdf 15 34 05.2 -2.0
PSZ *e*PKPab PKPab 15 34 47.1 -0.5
PSZ Piszkesteto 160.25 320⇓ *i*P PKPab 15 34 47.6 0.0
PSZ Piszkesteto 160.25 320⇓ *e*pPKP pPKPdf 15 34 07.1 -4.2
UPC Upice 160.25 331 *e*PKIKP PKPdf 15 34 06.9 -0.2
UPC *e* 15 34 47.4
UPC Upice 160.25 331 *e*PKPDF PKPdf 15 34 06.9 -0.2
UPC *e*PKPAB PKPab 15 34 47.4 -0.1
UPC *ex* x 15 34 57.5
VYHS Vyhne 160.43 323 *e*PKP PKPdf 15 34 06.3 -1.0
VYHS *e* 15 34 48.3
NRDL Niedersach Rie 160.44 344 *e*PKPab PKPab 15 34 47.2 -1.1
BZS Buzias 160.54 313 ⇓P PKPdf 15 34 06.1 -1.5
BZS Buzias 160.54 313 ⇓*i*P PKPdf 15 34 06.1 -1.5
CLL Collm 160.69 337⇓ *e*PKIKP PKPdf 15 34 07.0 -0.5
CLL *i* 15 34 48.5
CLL pmax pmax
comp=Z,65nm,1.4s
CLL Collm 160.69 337 *e*PKPdf PKPdf 15 34 07.0 -0.5
CLL ⇓*i*PKPab PKPab 15 34 48.5 -0.9
comp=Z,65nm,1.4s
CLL *e*PP PP 15 38 27.0 -4.8
CLL *e*PPP 15 42 12.0
CLL *e*SKKSac SKKSac 15 45 30.0 +10
CLL *ex* x 15 46 55.0
CLL *e*PSKS 15 48 55.0
CLL *e*PPS 15 52 12.0
CLL *ex* x 15 53 54.0
CLL *e*SS SS 15 58 42.0 -1.7
CLL *ex* x 15 59 12.0
CLL *e*SSS 16 04 54.0
BRG Berggiesshubel 160.74 335 *e*PKP PKPdf 15 34 06.5 -1.2
BRG *i* 15 34 49.4
BRG LR LR
comp=Z,420nm,16.4s
BRG Berggiesshubel 160.74 335 *e*PKIKP PKPdf 15 34 06.4 -1.2
BRG *i* 15 34 49.3
BRG pmax pmax
comp=Z,18nm,1.9s
BRG pmax pmax
comp=Z,39nm,1.5s
BRG MLR MLR
comp=N,231nm,25.2s
BRG MLR MLR
comp=E,181nm,16.3s
BRG MLR MLR
comp=Z,420nm,16.4s
BRG Berggiesshubel 160.74 335 *e*PKPab PKPab 15 34 48.6 -1.0
BRG Berggiesshubel 160.74 335 *e*PKP PKPdf 15 34 06.5 -1.2
comp=Z,31nm,1.9s
BRG *i* 15 34 49.4
comp=Z,65nm,1.5s
BRG
comp=N,386nm,25.2s
BRG
comp=E,302nm,16.3s
BRG
comp=Z,701nm,16.4s
PVCC Panska Ves 160.80 333 *e*PKPDF PKPdf 15 34 07.8 +0.1
PVCC *e*PKPAB PKPab 15 34 50.0 +0.1
VRAC Vranov 160.92 328⇓ *i*P PKPab 15 34 50.4 -0.1
CLZ Clausthal 160.98 342 *e*PKPab PKPab 15 34 49.8 -0.8
IBBN Ibbenburen 161.11 347 *e*PKPab PKPab 15 34 50.1 -1.1
PRU Pruhonice 161.24 332 *e*PKPDF PKPdf 15 34 07.5 -0.7
PRU *e*PKPAB PKPab 15 34 51.3 -0.6
MODS Modra-Piesok 161.27 325 *e*PKP PKPdf 15 34 07.8 -0.5
MODS *e* 15 34 52.6
MODS Modra-Piesok 161.27 325 *e*PKP PKPdf 15 34 07.8 -0.5
MODS *e* 15 34 52.6
MODS *e*pP 17 32 43.2
MODS *e* 17 33 17.6
ZST Bratislava 161.48 325 *e*PKP PKPdf 15 34 08.8 +0.3
ZST *e* 15 34 52.2
ZST Bratislava 161.48 325 *e*PKP PKPdf 15 34 08.8 +0.3
ZST *e* 15 34 52.2
ZST *e*pP 17 32 43.1
ZST *e* 17 33 19.0
WTSB Winterswijk 161.60 349 *e*PKiKP PKPab 15 34 52.4 -0.9
comp=Z,56nm,2.1s
TANN Tannenbergstha 161.63 337 *e*PKPab PKPab 15 34 52.8 -0.7
MOX Moxa 161.71 338 *e*PKP PKPdf 15 34 08.1 -0.5
MOX *e* 15 34 53.5
comp=Z,95nm,1.8s
MOX
comp=Z,500nm,19.0s
MOX Moxa 161.71 338 *e*PKIKP PKPdf 15 34 08.1 -0.5
MOX *e* 15 34 53.5
MOX pmax pmax
comp=Z,21nm,1.8s
MOX MLR MLR
comp=Z,95μm,19.0s
MOX Moxa 161.71 338 *e*PKPab PKPab 15 34 52.9 -0.9
NKC Novy Kostel 161.79 336 *e*PKPDF PKPdf 15 34 09.1 +0.4
NKC *e*PKPAB PKPab 15 34 54.2 -0.1
PKSM Moragy 161.96 318⇑ *i*P PKPdf 15 34 08.1 -1.0
UBBA Unterbreizbach 162.01 342 *e*PKPab PKPab 15 34 54.1 -1.0
MANZ Manzenberg 162.12 336 *e*PKPab PKPab 15 34 54.9 -0.8
ROTZ Rotzenmuhle 162.28 336 *e*PKPab PKPab 15 34 55.9 -0.5
KHC Kasperske Hory 162.31 332 *e*PKIKP PKPdf 15 34 08.7 -0.6
KHC *e* 15 34 56.2
KHC Kasperske Hory 162.31 332 *e*PKPDF PKPdf 15 34 08.7 -0.6
KHC *e*PKPAB PKPab 15 34 56.2 -0.3
KHC *ex* x 15 35 56.0
GEC2 GERESS Array S 162.49 332 *e*PKPdf PKPdf 15 34 08.3 -1.2
GEC2 *e*PKPab PKPab 15 34 56.1 -1.3
GERES GERESS Array B 162.49 332 PKP PKPdf 15 34 10.4 +0.9
comp=Z,0.2nm,0.2s,baz=203,slow=26,SNR=4.4
GERES PKPab PKPab 15 34 57.5 +0.1
comp=Z,1.5nm,0.8s,baz=90,slow=5.3,SNR=9.0
WET Wettzell 162.56 334 *e*PKPdf PKPdf 15 34 08.3 -1.3
WET *e*PKPab PKPab 15 34 57.0 -0.6
GRF Grafenberg Arr 162.66 338 *e*PKPab PKPab 15 34 57.7 -0.4
HGN Heimansgroeve 162.90 350 *e*PKiKP PKPab 15 34 57.7 -1.3
comp=Z,43nm,1.8s
HGN Heimansgroeve 162.90 350 *e*PP PP 15 38 43.2 -0.1
MEM Membach 163.04 349 PKPab PKPab 15 34 59.2 -0.5
SNF Seneffe 163.36 353 PKPab PKPab 15 35 01.5 +0.5
GIVF Givet 163.70 352 *e*PKIKP PKPdf 15 34 11.5 +0.9
DOU Dourbes 163.73 352 PKPab PKPab 15 35 02.6 -0.1
BAIF Baives 163.81 353 *e*PKIKP PKPdf 15 34 11.4 +0.7
WLF Walferdange 163.93 348 PKPab PKPab 15 35 04.4 +0.8
WLF Walferdange 163.93 348 *e*PKPab PKPab 15 35 02.9 -0.7
FUR Furstenfeldbru 163.96 335 *e*PKPab PKPab 15 35 03.1 -0.7
STU Stuttgart 164.09 340 *e*PKPab PKPab 15 35 03.4 -0.9
LANF Langenberg 164.25 344 PKP PKPdf 15 34 10.7 -0.5
BFO Black Forest 164.72 342 *e*PKPab PKPab 15 35 06.1 -1.0
ECH Echery 165.12 344 PKP PKPdf 15 34 11.6 -0.3
FLN La Foliniere 165.21 4 *e*PKIKP PKPdf 15 34 12.4 +0.4
comp=Z,40nm,1.2s
FLN *e*MLR MLR
comp=Z,799nm,19.0s
FLN La Foliniere 165.21 4 *e*PKIKP PKPdf 15 34 12.4 +0.4
FLN MLR MLR
comp=Z,800nm,19.0s
ROSF Rostrenen 165.31 12 *e*PKIKP PKPdf 15 34 12.8 +0.7
LDF La Druitiere 165.40 3 *e*PKIKP PKPdf 15 34 13.5 +1.3
comp=Z,70nm,1.7s
MOF Molkenrain 165.47 344 PKP PKPdf 15 34 11.6 -0.6
SGMF Saint Gilles 165.50 10 *e*PKIKP PKPdf 15 34 12.7 +0.4
comp=Z,45nm,1.3s
GRR Gorron 165.56 5 *e*PKIKP PKPdf 15 34 13.9 +1.6
QUIF Quistinic 165.73 12 *e*PKIKP PKPdf 15 34 13.4 +0.9
LOMF Lomont 166.01 344 PKP PKPdf 15 34 12.7 0.0
MFF Saint Martin d 167.38 4 *e*PKIKP PKPdf 15 34 14.4 +0.6
BGF Bois d'Agland 167.40 355 *e*PKIKP PKPdf 15 34 14.9 +1.1
TCF Toulx Ste Croi 167.71 357⇑ *i*PKIKP PKPdf 15 34 14.8 +0.8
comp=Z,72nm,1.7s
LPL La Plagne 167.75 341 *e*PKIKP PKPdf 15 34 16.2 +2.1
LPG La Plagne 167.76 341 *e*PKIKP PKPdf 15 34 16.1 +2.0
comp=Z,43nm,1.6s
BNI Bardonecchia 168.19 341 *e*PKPdf PKPdf 15 34 13.7 -0.7
BNI *e*PKPab PKPab 15 35 22.3 -0.2
BNI *e*PP PP 15 39 12.9 +2.0
MBDF Montbardon 168.46 340 *e*PKIKP PKPdf 15 34 16.3 +1.7
EPON Pontenova 168.66 32 PKP PKPdf 15 34 12.7 -2.1
LBL Lubilhac 168.68 353 PKP PKPdf 15 34 15.5 +0.8
RJF Les Rejaudoux 168.72 359 *e*PKIKP PKPdf 15 34 15.7 +1.0
RJF *e*MLR MLR
comp=Z,1μm,18.8s
RJF Les Rejaudoux 168.72 359 *e*PKIKP PKPdf 15 34 15.7 +1.0
RJF MLR MLR
comp=Z,1μm,18.8s
SAOF Saorge 168.88 335 PKP PKPdf 15 34 14.9 0.0
AUTN L'Aution 168.91 336 PKP PKPdf 15 34 14.9 0.0
TOUF Mont Tournerai 168.96 337 PKP PKPdf 15 34 14.9 0.0
SBF Sospel 169.03 336 *e*PKIKP PKPdf 15 34 15.3 +0.3
LUCF Luceram 169.03 336 PKP PKPdf 15 34 15.0 0.0
MVIF Mont Vial 169.09 337 PKP PKPdf 15 34 14.9 -0.1
REVF Revere 169.16 335 PKP PKPdf 15 34 14.5 -0.6
ELOB Lobios 169.30 40 PKP PKPdf 15 34 13.3 -1.9
CALN Calern 169.31 337 PKP PKPdf 15 34 15.2 0.0
EARI Arriondas 169.47 26 PKP PKPdf 15 34 14.9 -0.4
PGF Pioggiola 169.49 326 *e*PKIKP PKPdf 15 34 16.0 +0.7
comp=Z,35nm,1.3s
VILF Villemus 169.56 342 PKP PKPdf 15 34 20.1 +4.8
LASF Ste Croix 169.74 349 *e*PKIKP PKPdf 15 34 16.0 +0.6
comp=Z,41nm,1.5s
TREF Trevaresse 169.86 342 PKP PKPdf 15 34 20.1 +4.6
PUYF Puyloubier 169.86 341 PKP PKPdf 15 34 19.6 +4.1
BERF Bertagne 170.07 341 PKP PKPdf 15 34 20.3 +4.7
GELF Grande-Etoile 170.07 342 PKP PKPdf 15 34 20.1 +4.5
PMAFR Mafra 170.25 57 *e*LR LR 16 41 41.0
comp=Z,734nm,16.0s
MVO Moncorvo 170.34 40 *e*PKPdf PKPdf 15 34 16.8 +0.9
MVO Moncorvo 170.34 40 *e*SS SS 16 00 30.7 +7.7
MVO Moncorvo 170.34 40 *e*LQ 16 29 53.9
MVO Moncorvo 170.34 40 *e*LR LR 16 40 12.1
comp=Z,750nm,18.0s
EALK Alkurruntz 170.57 12 PKP PKPdf 15 34 13.0 -2.9
MTE Manteigas 170.57 45 *e*PKPdf PKPdf 15 34 16.1 +0.1
MTE Manteigas 170.57 45 *e*SS SS 16 00 33.6 +8.0
MTE Manteigas 170.57 45 *e*LR LR 16 41 15.9
comp=Z,804nm,18.0s
MTLF Montolieu 170.65 355 *e*PKIKP PKPdf 15 34 15.7 -0.2
comp=Z,30nm,1.7s
SJPF Ste Jean 170.72 11 *e*PKIKP PKPdf 15 34 16.5 +0.5
comp=Z,82nm,1.6s
ECRI Cripan 170.94 18 PKP PKPdf 15 34 15.8 -0.3
PCBR Castelo Branco 170.96 47 *e*PKPdf PKPdf 15 34 16.7 +0.5
EPF Esparros 170.97 4 *e*PKIKP PKPdf 15 34 16.3 +0.2
comp=Z,54nm,1.5s
ETSF Etsaut 171.03 8 *e*PKIKP PKPdf 15 34 16.6 +0.4
EBIE Bielsa 171.30 5 PKP PKPdf 15 34 16.5 +0.2
EVO Evora 171.32 56⇑ *i*PKIKP PKPdf 15 34 16.7 +0.2
comp=Z,61nm,1.4s
EVO *e*MLR MLR
comp=Z,1μm,18.2s
EVO Evora 171.32 56 *e*PKPdf PKPdf 15 34 17.1 +0.6
MORF Marmelete 171.36 65 *e*PKPdf PKPdf 15 34 17.0 +0.5
MORF Marmelete 171.36 65 *e*LR LR 16 40 47.5
comp=Z,799nm,20.0s
PESTR Estremoz 171.44 53 *e*PKPdf PKPdf 15 34 16.8 +0.3
PESTR Estremoz 171.44 53 *e*SS SS 16 00 36.0 +1.4
PESTR Estremoz 171.44 53 *e*LR LR 16 40 41.9
comp=Z,1μm,18.0s
EBAD Badajoz 171.88 52 PKP PKPdf 15 34 15.5 -1.2
PBDV Barranco-do-Ve 171.92 64 *e*PKPdf PKPdf 15 34 17.8 +1.0
PBDV Barranco-do-Ve 171.92 64 *e*LR LR 16 43 17.3
comp=Z,1μm,18.0s
PVAQ Vaqueiros 172.02 62 *e*PKPdf PKPdf 15 34 18.0 +1.2
PVAQ Vaqueiros 172.02 62 *e*LQ 16 32 40.2
PVAQ *e*LR LR 16 41 19.8
comp=Z,895nm,18.0s
EMIR Miracle 172.11 358 PKP PKPdf 15 34 16.3 -0.4
GUD Guadarrama 172.14 31 PKP PKPdf 15 34 16.8 0.0
PBAR Barrancos 172.16 56 *e*PKPdf PKPdf 15 34 17.9 +1.0
PBAR Barrancos 172.16 56 *e*SS SS 16 00 52.2 +10
PBAR Barrancos 172.16 56 *e*LR LR 16 36 17.3
comp=Z,916nm,18.0s
ESAC San Caprasio 172.19 9 PKP PKPdf 15 34 15.9 -0.9
EMIN Mina Concepcio 172.61 57 PKP PKPdf 15 34 16.1 -1.0
EPOB Poblet 172.67 1 PKP PKPdf 15 34 14.8 -2.1
ETOR Torete 172.74 20 PKP PKPdf 15 34 15.6 -1.4
PAB San Pablo 172.92 37 *e*PKPdf PKPdf 15 34 17.9 +0.7
ESBB Sonseca Array 173.01 35 PKP PKPdf 15 34 17.3 +0.1
ESDC Sonseca Array 173.01 35 PKP PKPdf 15 34 17.3 +0.1
ESDC Sonseca Array 173.01 35 PKP PKPdf 15 34 18.1 +0.9
comp=Z,0.2nm,0.3s,baz=343,slow=4.0,SNR=5.2
ESLA Sonseca Array 173.01 35 *e*PKPdf PKPdf 15 34 09.8 -7.3
ESLA LR LR
comp=Z,4μm,20.0s
ERTA Horta de San J 173.04 5 PKP PKPdf 15 34 16.2 -1.0
ECAB El Cabril 173.30 51 PKP PKPdf 15 34 16.4 -0.9
EMOS Mosqueruela 173.53 11 PKP PKPdf 15 34 17.6 +0.2
ESPR Espera 173.59 62 PKP PKPdf 15 34 16.6 -1.0
EADA Adamuz 173.77 47 PKP PKPdf 15 34 14.0 -3.5
ECHE Chera 174.17 17 PKP PKPdf 15 34 14.9 -2.8
ETOB Tobarra 174.88 25 PKP PKPdf 15 34 16.1 -1.8
EQES Quesada 174.89 41 PKP PKPdf 15 34 15.7 -2.2
EMUR La Murta 175.71 26 PKP PKPdf 15 34 16.1 -2.0

*IDC **20** 15:25:47.9±3.0, 3403S×178.74W, h0km, mb4.0/2, mb1 4.3/4, mb1mx3.9/16, mbtmp4.1/4, ML3.9/2, Error ellipse: s-maj=67.4km s-min=32.2km az=115.0*
*NEIC **20** 15:26:04.6±6.5, 3497S×179.14W, h136km±57km, mb4.0/1, Error ellipse: s-maj=76.9km s-min=34.2km az=194.0*

ISC 20 15:25:49.1±1.7, 342S±01×1782W±03, h35km, n18, σ1§08/23, mb4.0/3, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**4.43**	**219**	PN	**Pn**	**15 26 55.5**	**+1.7**
MXZ				SN	**Sn**	**15 27 45.4**	**+1.3**
PUZ	**Puketiti**	**4.85**	**215**	PN	**Pn**	**15 27 00.6**	**+1.0**
PUZ				SN	**Sn**	**15 27 55.3**	**+0.8**
MWZ	**Matawai**	**5.42**	**218**	PN	**Pn**	**15 27 07.8**	**+0.5**
MWZ				SN	**Sn**	**15 28 08.9**	**+0.5**
URZ	**Urewera**	**5.59**	**222**	Pn	**Pn**	**15 27 10.8**	**+1.2**
	8.0nm,0.3s,baz=9.1,slow=0.9,SNR=54						
URZ				Sn	**Sn**	**15 28 13.1**	**+0.6**
	6.6nm,0.3s,baz=162,slow=23,SNR=11						
URZ	**Urewera**	**5.59**	**222**	PN	**Pn**	**15 27 10.8**	**+1.2**
URZ				SN	**Sn**	**15 28 11.6**	**-0.9**
URZ				SN	**Sn**	**15 28 11.9**	**-0.6**
BKZ	**Black Stump Fm**	**6.58**	**219**	PN	**Pn**	**15 27 23.7**	**+0.5**
BKZ				SN	**Sn**	**15 28 36.1**	**-0.9**
BKZ				SN	**Sn**	**15 28 36.2**	**-0.8**
BFZ	**Birch Farm**	**7.87**	**213**	PN	**Pn**	**15 27 41.6**	**+0.6**
BFZ				SN	**Sn**	**15 29 06.4**	**-2.4**
MRZ	**Mangatainoka R**	**8.17**	**216**	PN	**Pn**	**15 27 43.7**	**-1.4**
THZ	**Tophouse**	**10.34**	**220**	PN	**Pn**	**15 28 13.1**	**-1.8**
RPZ	**Rata Peaks**	**12.69**	**218**	Pn	**Pn**	**15 28 45.1**	**-1.7**
	0.3nm,0.3s,baz=0.0,slow=7.1,SNR=3.3						
ASAR	**Alice Springs**	**42.88**	**271**	P	**P**	**15 33 44.6**	**+0.4**
	1.5nm,0.6s,mb3.9,baz=113,slow=7.5,SNR=39						
TAOE	**Nuku Hiva Isla**	**43.04**	**63**	eLR	LR	15 33 44.0	
	44μm,20.8s,baz=232						
WB2	**Warramunga Arr**	**44.20**	**276**	eP	**P**	**15 33 54.4**	**-0.4**
WRAB	**Tennant Creek**	**44.21**	**276**	eP	**P**	**15 33 54.5**	**-0.4**
	3.3nm,0.9s,mb4.1						
WRA	**Warramunga Arr**	**44.21**	**276**	P	**P**	**15 33 54.9**	**0.0**
	1.1nm,0.3s,mb4.0,baz=117,slow=7.7,SNR=41						
JOF	**Joensuu**	**145.82**	**336**	ep	PKPab	15 45 26.1	+2.0
KAF	**Kangasniemi**	**148.00**	**338**	ep	PKPab	15 45 32.7	0.0
FINES	**FINESS Array B**	**148.59**	**338**	PKPbc	PKPbc	15 45 34.6	+3.2
	1.2nm,0.7s,baz=41,slow=6.1,SNR=6.3						

KRSC 20 15:45:34.3±1.6, 5001N×15887E, h31km±31km, ML3.8, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALID	**Alaid**	**2.29**	**293**	P	Pn	15 46 11.0	+1.1
RUS	**Russkaya**	**2.44**	**355**	P	Pn	15 46 13.8	+1.9
RUS				eS	Sn	15 46 42.5	+1.9
MIPR	**Malaya Ipel'ka**	**2.63**	**330**	P	Pn	15 46 17.3	+2.7
PET	**Petropavlovsk**	**3.02**	**358**	S	Sn	15 46 57.3	+2.3
SPN	**Mys Shipunski**	**3.17**	**13**	S	Sn	15 47 01.7	+2.9
SDLR	**Sedlovina**	**3.27**	**0**	P	Pn	15 46 25.2	+1.8
GNL	**Ganaly**	**3.73**	**351**	P	Pn	15 46 33.2	+3.5

IDC 20 15:46:05.8±3.5, 648S×15223E, h0km, mb3.6/3, mb1 3.9/3, mb1mx3.5/14, mbtmp3.7/3, Error ellipse: s-maj=121.6km s-min=49.5km az=126.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.93**	**231**	P	P	15 50 59.8	-1.2
	0.6nm,0.7s,baz=54,slow=9.7,SNR=8.8						
ASAR	**Alice Springs**	**24.54**	**224**	P	P	15 51 27.2	-0.2
	0.6nm,0.5s,baz=56,slow=9.1,SNR=17						
FITZ	**Fitzroy Crossi**	**28.38**	**244**	P	P	15 52 03.6	+1.5
	1.4nm,0.3s,baz=63,slow=6.8,SNR=12						
TORD	**Torodi Ar. Bea**	**150.24**	**285**	PKPbc	PKPbc	16 05 59.2	-0.8
	0.5nm,0.6s,baz=61,slow=2.5,SNR=5.2						

ISC 20 15:56:58.6±5.4, 234N±02×936E±05, h10km, n6, σ0§32/7, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHL	**Shillong**	**2.63**	**325**	ePN	**Pn**	**15 57 41.0**	**-0.1**
SHL				eSN	**Sn**	**15 58 13.0**	**0.0**
JIRN	**Jiri**	**7.88**	**304**	eP	**Pn**	**15 58 53.9**	**+0.7**
	9.4nm,0.3s						
GUN	**Gumba**	**8.24**	**305**	eP	**Pn**	**15 58 57.9**	**-0.3**
	7.5nm,0.2s						
DMN	**Daman**	**8.69**	**300**	eP	**Pn**	**15 59 04.4**	**0.0**
	3.1nm,0.2s						
GKN	**Gorkha**	**9.24**	**302**	eP	**Pn**	**15 59 12.1**	**+0.1**
	6.6nm,0.3s						
KOLN	**Koldanda**	**9.97**	**298**	eP	**Pn**	**15 59 21.6**	**-0.4**
	2.7nm,0.2s						

IDC 20 15:58:08.6±2.3, 151N×12658E, h0km, mb3.2/3, mb1 3.4/3, mb1mx3.3/13, mbtmp3.2/3, Error ellipse: s-maj=194.4km s-min=27.1km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.64**	**161**	P	P	16 03 09.8	-1.5
	0.4nm,0.6s,baz=339,slow=11,SNR=16						
ASAR	**Alice Springs**	**26.02**	**165**	P	P	16 03 45.1	+1.6
	0.1nm,0.4s,baz=347,slow=13,SNR=4.2						
MKAR	**Makanchi Array**	**59.29**	**326**	P	P	16 08 12.2	0.0
	0.3nm,0.5s,baz=115,slow=8.6,SNR=4.0						

*IDC **20** 15:59:25.3±2.9, 3394S×178.79W, h0km, mb3.8/2, mb1 4.1/3, mb1mx3.8/13, mbtmp3.9/3, ML3.7/1, Error ellipse: s-maj=69.3km s-min=35.5km az=120.0*

ISC 20 15:59:25.5±2.9, 342S±02×1781W±05, h35km, n8, σ0§38/8, mb3.7/2, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**4.50**	**220**	PN	**Pn**	**16 00 31.0**	**0.0**
PUZ	**Puketiti**	**4.91**	**216**	PN	**Pn**	**16 00 36.8**	**+0.1**
MWZ	**Matawai**	**5.48**	**219**	ePN	**Pn**	**16 00 44.5**	**-0.1**
URZ	**Urewera**	**5.66**	**222**	Pn	**Pn**	**16 00 48.0**	**+1.1**
	2.7nm,0.3s,baz=71,slow=2.4,SNR=28						
URZ				Sn	**Sn**	**16 01 50.6**	**0.0**
	1.3nm,0.3s,baz=323,slow=24,SNR=4.4						
URZ	**Urewera**	**5.66**	**222**	ePN	**Pn**	**16 00 46.1**	**-0.9**
ASAR	**Alice Springs**	**42.98**	**271**	P	**P**	**16 07 21.6**	**+0.2**
	0.9nm,0.7s,mb3.6,baz=111,slow=7.3,SNR=26						
WRA	**Warramunga Arr**	**44.30**	**276**	P	**P**	**16 07 31.9**	**-0.2**
	1.1nm,0.6s,mb3.8,baz=118,slow=7.4,SNR=31						
FINES	**FINESS Array B**	**148.62**	**338**	PKPbc	PKPbc	16 19 11.7	+3.8
	5.0nm,1.1s,baz=29,slow=4.4,SNR=7.9						

*IDC **20** 15:59:50.5±2.8, 2998N×6887E, h0km, mb3.5/4, mb1 3.7/5, mb1mx3.4/22, mbtmp3.4/5, ML3.2/1, Error ellipse: s-maj=97.9km s-min=30.4km az=82.0*
*NEIC **20** 15:59:51.8±1.1, 3038N×6901E, h10km, mb4.7/1, Error ellipse: s-maj=26.5km s-min=16.3km az=96.0*
*ISCJB **20** 15:59:53.6±1.0, 302N±0.1×687E±0.2, h33km, mb3.6/5, Error ellipse: s-maj=23.7km s-min=18.0km az=5.8*

ISC 20 15:59:55.7±1.0, 304N±01×688E±02, h35km, n12, σ1§61/12, mb3.6/5, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**4.19**	**2**	eP	**Pn**	**16 00 57.2**	**+0.1**
AML	**Almayashu**	**12.39**	**17**	eP	**Pn**	**16 02 46.5**	**-3.1**
	2.4nm,0.4s						
UCH	**Uchtor**	**12.71**	**20**	eP	**Pn**	**16 02 51.5**	**-2.3**
	1.1nm,0.3s						
AAK	**Ala-Archa**	**13.08**	**19**	eP	**Pn**	**16 02 55.8**	**-3.0**
MK31	**Makanchi Array**	**19.46**	**29**	P	**Pn**	**16 04 21.7**	**+1.1**
MKAR	**Makanchi Array**	**19.46**	**29**	P	**Pn**	**16 04 22.2**	**+1.6**
	0.1nm,0.3s,baz=200,slow=10.0,SNR=2.4						
ZALV	**Zalesovo Beam**	**26.27**	**22**	P	**P**	**16 05 30.4**	**+2.9**
	0.5nm,0.4s,mb3.4,baz=240,slow=11,SNR=4.3						
CSS	**Prodhromos**	**30.14**	**288**	P	**P**	**16 06 01.9**	**-0.4**
	6.2nm,0.5s,mb4.6						
WRA	**Warramunga Arr**	**80.40**	**120**	P	**P**	**16 12 03.1**	**-0.8**
	0.2nm,0.6s,mb3.3,baz=322,slow=5.2,SNR=7.0						
ASAR	**Alice Springs**	**82.33**	**123**	P	**P**	**16 12 13.4**	**-0.6**
	0.2nm,0.4s,mb3.4,baz=304,slow=5.7,SNR=13						
YKA	**Yellowknife Ar**	**87.45**	**2**	P	**P**	**16 12 40.9**	**+1.8**
YKA	**Yellowknife Ar**	**87.45**	**2**	P	**P**	**16 12 40.9**	**+1.8**
	0.1nm,0.3s,mb3.5,baz=351,slow=4.8,SNR=4.7						

*CSEM **20** 16:02:46.8±0.2, 3591N×32.12E, h36km±4km, Mw2.8, Error ellipse: s-maj=3.5km s-min=2.4km az=28.0*
*ISK **20** 16:02:46.5, 3586N×32.12E, h28km, MD3.3*
*ISCJB **20** 16:02:47.4±0.4, 3590N±003×32.12E±004, h33km, Error ellipse: s-maj=5.7km s-min=3.4km az=40.1*
*DDA **20** 16:02:48.2, 36.14N×3180E, h6km±2km, Md3.1*
*NIC **20** 16:02:48.7±0.2, 3593N×3233E, h33km, ML3.0, MW2.8*

ISC 20 16:02:48.3±0.4, 3587N±003×3213E±004, h35km, n24, σ1§03/37, 2C, Cyprus region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALFC	**Alevga**	**0.81**	**152**	⇑iP	**Pn**	**16 03 03.2**	**0.0**
	17nm,0.2s						
ALFC				S	**Sn**	**16 03 15.2**	**+1.3**
AKMC	**Akamas**	**0.86**	**169**	P	**Pn**	**16 03 05.1**	**+1.2**
LEF	**Lefka**	**0.97**	**140**	ePG	**Pn**	**16 03 04.4**	**-1.1**
LEF				eSG	**Sn**	**16 03 17.2**	**-0.8**
ERMK	**Ermenek**	**0.99**	**39**	iP	**Pn**	**16 03 06.7**	**+0.9**
ERMK				iS	**Sn**	**16 03 21.4**	**+2.8**
PPCY	**Paphos**	**1.00**	**170**	⇑iP	**Pn**	**16 03 06.6**	**+0.8**
MAMC	**Mammari**	**1.13**	**128**	P	**Pn**	**16 03 07.1**	**-0.5**
SZAC	**Souni-Zanaja**	**1.27**	**151**	P	**Pn**	**16 03 10.0**	**+0.4**
LFK	**Lefkose**	**1.28**	**117**	ePN	**Pn**	**16 03 08.7**	**-1.0**
LFK				eSN	**Sn**	**16 03 25.5**	**-0.2**
IKL	**Isikli**	**1.31**	**73**	ePN	**Pn**	**16 03 09.8**	**-0.3**
IKL				eSN	**Sn**	**16 03 26.6**	**+0.2**
CSS	**Prodhromos**	**1.33**	**132**	P	**Pn**	**16 03 09.6**	**-0.8**
	1.3nm,0.3s						
CSS				S	**Sn**	**16 03 26.4**	**-0.5**
CSS	**Prodhromos**	**1.33**	**132**	ePN	**Pn**	**16 03 10.0**	**-0.5**
CSS				eSN	**Sn**	**16 03 26.9**	**0.0**
CSS	**Prodhromos**	**1.33**	**132**	ePn	**Pn**	**16 03 10.0**	**-0.4**
CSS				S	**Sn**	**16 03 26.4**	**-0.5**
CSS				eSn	**Sn**	**16 03 26.9**	**0.0**
EREN	**Erenkoy**	**1.69**	**101**	ePN	**Pn**	**16 03 15.4**	**0.0**
ELL	**Elmali**	**2.00**	**297**	ePN	**Pn**	**16 03 19.3**	**-0.3**
KONT	**Konya--Tatoy**	**2.08**	**5**	ePN	**Pn**	**16 03 21.0**	**+0.3**
AKAS	**Kas**	**2.08**	**281**	iP	**Pn**	**16 03 19.5**	**-1.2**
AKAS				iS	**Sn**	**16 03 42.5**	**-2.8**
AKAS	**Kas**	**2.08**	**281**	iP	**Pn**	**16 03 19.5**	**-1.2**
AKAS				iS	**Sn**	**16 03 42.5**	**-2.9**
MERS	**Mersin**	**2.17**	**62**	ePN	**Pn**	**16 03 21.9**	**0.0**
GOLH	**Golhisar**	**2.48**	**304**	iP	**Pn**	**16 03 27.9**	**+1.7**
GOLH				iS	**Sn**	**16 03 58.1**	**+2.9**
FETY	**Fethiye**	**2.58**	**288**	ePN	**Pn**	**16 03 27.1**	**-0.5**
KDHN	**Kadinhani**	**2.65**	**360**	iP	**Pn**	**16 03 26.8**	**-1.7**
KDHN				iS	**Sn**	**16 03 57.8**	**-1.5**
YER	**Yerkesik**	**3.35**	**293**	ePN	**Pn**	**16 03 38.6**	**+0.5**
DAT	**Datca**	**3.78**	**284**	ePN	**Pn**	**16 03 44.4**	**+0.3**
BODT	**Bodrum**	**4.07**	**288**	ePN	**Pn**	**16 03 48.4**	**+0.5**

*ISCJB **20** 16:29:56.3±0.3, 5027N±002×755E±003, h6km±4km, Error ellipse: s-maj=3.3km s-min=2.7km az=44.4*
*CSEM **20** 16:29:58.8±0.1, 5031N×746E, h10km, ML2.8/13, Error ellipse: s-maj=1.6km s-min=0.9km az=73.0*
*BGR **20** 16:29:58.5±0.4, 5032N×751E, h5km, ML2.1/3, Error ellipse: s-maj=6.7km s-min=3.3km az=142.0*
*LDG **20** 16:29:58.8±0.1, 5031N×746E, h10km, Md3.0/1, Ml2.8/14, Error ellipse: s-maj=1.9km s-min=1.1km az=74.0*
*NEIC **20** 16:29:58.8, 5031N×746E, h10km, ML2.8(LDG), After LDG.*
*UCC **20** 16:29:59.0±0.6, 5032N×745E, h9km±3km, ML1.6*
*BNS **20** 16:29:59.2±0.5, 5033N×747E, h4km±40km, ML1.7*
*STR **20** 16:30:01.7±1.4, 5017N×751E, h10km, Ml2.2, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*

ISC 20 16:29:57.9±0.3, 5029N±002×748E±003, h18km±2km, n61, σ1§12/125, 1C-4D, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BGG	**Burgeitz**	**0.12**	**229**	⇓ePg	**Pg**	**16 30 02.3**	**+0.6**
BGG				eSg	**Sg**	**16 30 04.3**	**+0.1**
BGG	**Burgeitz**	**0.12**	**229**	Pg	**Pg**	**16 30 02.3**	**+0.6**
BGG				Sg	**Sg**	**16 30 04.3**	**+0.1**
ABH	**Alteburg**	**0.41**	**174**	Pg	**Pg**	**16 30 07.5**	**+1.3**
ABH				Sg	**Sg**	**16 30 12.5**	**+0.7**
STB	**Steinbach**	**0.51**	**307**	ePg	**Pg**	**16 30 08.4**	**+0.3**
HILG	**Hillesheim**	**0.51**	**271**	ePg	**Pg**	**16 30 08.7**	**+0.6**
HILG				eSg	**Sg**	**16 30 15.5**	**+0.5**
	70nm,0.3s						
RUP	**Ruppelstein**	**0.64**	**205**	Pg	**Pg**	**16 30 12.8**	**+2.3**
RUP				Sg	**Sg**	**16 30 20.2**	**+1.1**
HOBG	**Hohbusch**	**0.70**	**353**	ePg	**Pg**	**16 30 11.5**	**-0.2**
BNS	**Bensberg**	**0.71**	**344**	ePg	**Pg**	**16 30 11.7**	**0.0**
KLL	**Kalltalsperre**	**0.83**	**296**	ePg	**Pg**	**16 30 14.3**	**+0.3**
DREG	**Dreilaegerbach**	**0.88**	**296**	ePg	**Pg**	**16 30 15.3**	**+0.3**
DREG				eSg	**Sg**	**16 30 26.4**	**-0.2**
	34nm,0.4s						
MEM	**Membach**	**0.99**	**290**	⇓P	**Pb**	**16 30 17.5**	**+0.9**
MEM				S	**Sb**	**16 30 29.8**	**+0.5**
	comp=E,11nm,0.4s						
MEM	**Membach**	**0.99**	**290**	P	**Pb**	**16 30 17.4**	**+0.9**
MEM				S	**Sb**	**16 30 29.7**	**+0.4**
	comp=E,11nm,0.4s						
WLF	**Walferdange**	**1.06**	**235**	ePg	**Pg**	**16 30 18.8**	**+0.5**
	SNR=7.2						
WLF				eSg	**Sg**	**16 30 33.3**	**+1.1**
	SNR=4.5						
WLF	**Walferdange**	**1.06**	**235**	⇑P	**Pb**	**16 30 18.2**	**+0.6**
WLF				S	**Sb**	**16 30 32.9**	**+1.8**
	comp=E,19nm,0.4s						
WLF	**Walferdange**	**1.06**	**235**	P	**Pb**	**16 30 21.1**	**+3.5**
WLF				S	**Sb**	**16 30 32.9**	**+1.8**
	comp=E,19nm,0.4s						
LANF	**Langenberg**	**1.32**	**171**	Pg	**Pg**	**16 30 24.2**	**+0.8**
BCLA	**Clavier**	**1.40**	**276**	⇓P	**Pn**	**16 30 24.9**	**+2.4**
BCLA				S	**Sn**	**16 30 42.4**	**+2.0**
	comp=N,4.3nm,0.2s						
BCLA	**Clavier**	**1.40**	**276**	P	**Pn**	**16 30 24.8**	**+2.3**
BCLA				S	**Sn**	**16 30 42.4**	**+1.9**
	comp=N,4.3nm,0.2s						
UBBA	**Unterbreizbach**	**1.70**	**71**	ePg	**Pg**	**16 30 29.2**	**-1.3**
	SNR=1.7						
UBBA				eSg	**Sg**	**16 30 50.9**	**-1.6**
	SNR=4.9						
GIVF	**Givet**	**1.72**	**265**	ePg	**Pg**	**16 30 30.6**	**-0.2**
GIVF				eSn	**Sn**	**16 30 47.3**	**-1.0**
GIVF				eSg	**Sg**	**16 30 52.1**	**-1.0**
	comp=N,17nm,0.3s						
GIVF	**Givet**	**1.72**	**265**	ePn	**Pn**	**16 30 27.0**	**+0.2**
GIVF				ePg	**Pg**	**16 30 30.6**	**-0.2**
GIVF				eSn	**Sn**	**16 30 47.3**	**-1.0**
GIVF				eSg	**Sg**	**16 30 52.1**	**-1.0**
GIVF	**Givet**	**1.72**	**265**	ePg	**Pg**	**16 30 30.6**	**-0.2**
GIVF				eSn	**Sn**	**16 30 47.3**	**-1.0**
GIVF				eSg	**Sg**	**16 30 52.1**	**-1.0**
	comp=N,8.3nm,0.3s						
DOU	**Dourbes**	**1.86**	**265**	⇓P	**Pn**	**16 30 32.3**	**+3.4**
DOU				S	**Sn**	**16 30 55.4**	**+3.5**
	comp=E,5.6nm,0.5s						
DOU	**Dourbes**	**1.86**	**265**	P	**Pn**	**16 30 32.2**	**+3.4**
DOU				S	**Sn**	**16 30 55.3**	**+3.4**
	comp=E,5.6nm,0.5s						
CDF	**Champ du Feu**	**1.88**	**184**	ePg	**Pg**	**16 30 33.7**	**-0.3**
CDF				eSg	**Sg**	**16 30 56.6**	**-1.8**
	comp=E,19nm,0.3s						
CDF	**Champ du Feu**	**1.88**	**184**	ePn	**Pn**	**16 30 30.2**	**+1.1**
CDF				ePg	**Pg**	**16 30 33.7**	**-0.3**
CDF				eSg	**Sg**	**16 30 56.6**	**-1.8**
CDF	**Champ du Feu**	**1.88**	**184**	ePg	**Pg**	**16 30 33.7**	**-0.3**
CDF				eSg	**Sg**	**16 30 56.6**	**-1.8**
	comp=E,9.4nm,0.3s						
GTTG	**Gyttingen**	**2.02**	**50**	eSg	**Sg**	**16 31 02.0**	**-0.8**
	SNR=2.2						
IBBN	**Ibbenburen**	**2.03**	**5**	eSg	**Sg**	**16 31 02.3**	**-0.9**
	SNR=2.2						
BFO	**Black Forest**	**2.04**	**164**	ePg	**Pg**	**16 30 38.0**	**+1.1**
	SNR=2.3						
ECH	**Echery**	**2.08**	**186**	Pg	**Pg**	**16 30 40.1**	**+2.3**
RFYF	**Reffroy**	**2.11**	**219**	ePg	**Pg**	**16 30 38.3**	**-0.1**
RFYF				eSg	**Sg**	**16 31 05.8**	**0.0**
	comp=E,20nm,0.3s,baz=40						
RFYF	**Reffroy**	**2.11**	**219**	ePn	**Pn**	**16 30 32.6**	**+0.3**
RFYF				ePg	**Pg**	**16 30 38.3**	**-0.1**
RFYF				eSg	**Sg**	**16 31 05.8**	**0.0**
RFYF	**Reffroy**	**2.11**	**219**	ePg	**Pg**	**16 30 38.3**	**-0.1**
RFYF				eSg	**Sg**	**16 31 05.8**	**0.0**
	comp=E,10nm,0.3s,baz=40						
BAIF	**Baives**	**2.11**	**265**	ePn	**Pn**	**16 30 31.2**	**-1.1**
BAIF				eSn	**Sn**	**16 30 57.4**	**-0.7**
BAIF				eSg	**Sg**	**16 31 04.8**	**-1.1**
	comp=E,12nm,0.3s						
BAIF	**Baives**	**2.11**	**265**	ePn	**Pn**	**16 30 31.2**	**-1.1**
BAIF				eSn	**Sn**	**16 30 57.4**	**-0.7**
BAIF				eSg	**Sg**	**16 31 04.8**	**-1.1**
	comp=E,6.1nm,0.3s						
THEF	**They Montfort**	**2.28**	**206**	Pn	**Pn**	**16 30 37.4**	**+2.8**
MEZF	**Maizieres J'vi**	**2.39**	**223**	ePg	**Pg**	**16 30 43.2**	**-0.4**
	baz=40						
MEZF				eSg	**Sg**	**16 31 14.2**	**-0.4**
	comp=E,6.6nm,0.3s,baz=35						
MEZF	**Maizieres J'vi**	**2.39**	**223**	ePg	**Pg**	**16 30 43.2**	**-0.4**
	baz=40						
MEZF				eSg	**Sg**	**16 31 14.2**	**-0.4**
	comp=E,3.3nm,0.3s,baz=35						
HAU	**Haudompre**	**2.40**	**198**	ePg	**Pg**	**16 30 43.6**	**-0.3**
HAU				eSg	**Sg**	**16 31 14.8**	**-0.2**
	comp=E,9.3nm,0.2s						
HAU	**Haudompre**	**2.40**	**198**	ePn	**Pn**	**16 30 36.7**	**+0.5**
HAU				ePg	**Pg**	**16 30 43.6**	**-0.3**
HAU				eSg	**Sg**	**16 31 14.8**	**-0.2**
HAU	**Haudompre**	**2.40**	**198**	ePg	**Pg**	**16 30 43.6**	**-0.3**
HAU				eSg	**Sg**	**16 31 14.8**	**-0.2**
	comp=E,4.7nm,0.2s						
CLZ	**Clausthal**	**2.40**	**48**	ePg	**Pg**	**16 30 42.3**	**-1.6**
	SNR=2.5						
FELD	**Feldberg im Sc**	**2.44**	**172**	Sg	**Sg**	**16 31 17.5**	**+1.4**
HINF	**Hinteralfeld**	**2.50**	**190**	ePg	**Pg**	**16 30 45.4**	**-0.5**
HINF				eSg	**Sg**	**16 31 17.6**	**-0.7**
	comp=E,12nm,0.4s						
HINF	**Hinteralfeld**	**2.50**	**190**	ePn	**Pn**	**16 30 38.1**	**+0.4**
HINF				ePg	**Pg**	**16 30 45.4**	**-0.5**
HINF				eSg	**Sg**	**16 31 17.6**	**-0.7**
HINF	**Hinteralfeld**	**2.50**	**190**	ePg	**Pg**	**16 30 45.4**	**-0.5**
HINF				eSg	**Sg**	**16 31 17.6**	**-0.7**
	comp=E,5.8nm,0.4s						
SFTF	**Sexfontaines**	**2.62**	**218**	ePg	**Pg**	**16 30 47.6**	**-0.6**
SFTF				eSg	**Sg**	**16 31 21.7**	**-0.5**
	comp=E,6.4nm,0.2s,baz=45						
SFTF	**Sexfontaines**	**2.62**	**218**	ePg	**Pg**	**16 30 47.6**	**-0.6**
SFTF				eSg	**Sg**	**16 31 21.7**	**-0.5**
	comp=E,3.2nm,0.2s,baz=45						
MOX	**Moxa**	**2.67**	**81**	eSg	**Sg**	**16 31 22.9**	**-0.7**
	SNR=1.8						
CLL	**Collm**	**3.65**	**72**	eSg	**Sg**	**16 31 57.0**	**+1.9**
CABF	**La Chapelle**	**3.79**	**195**	ePn	**Pn**	**16 30 56.2**	**+0.8**
CABF				eSg	**Sg**	**16 31 59.0**	**-0.6**
	comp=E,5.4nm,0.6s						
CABF	**La Chapelle**	**3.79**	**195**	ePn	**Pn**	**16 30 56.2**	**+0.8**
CABF				eSg	**Sg**	**16 31 59.0**	**-0.6**
	comp=E,2.7nm,0.6s						
LOR	**Lormes**	**3.85**	**220**	ePn	**Pn**	**16 30 56.2**	**0.0**
	baz=36						
LOR	**Lormes**	**3.85**	**220**	ePg	**Pg**	**16 31 10.1**	**-1.5**
	baz=40						
LOR				eSn	**Sn**	**16 31 39.6**	**-1.4**
	baz=35						
LOR				eSg	**Sg**	**16 32 00.0**	**-1.5**
	comp=E,2.9nm,0.3s,baz=30						
LOR	**Lormes**	**3.85**	**220**	ePn	**Pn**	**16 30 56.2**	**0.0**
LOR				ePg	**Pg**	**16 31 10.1**	**-1.5**
LOR				eSn	**Sn**	**16 31 39.6**	**-1.4**
LOR				eSg	**Sg**	**16 32 00.0**	**-1.5**
LOR	**Lormes**	**3.85**	**220**	ePg	**Pg**	**16 31 10.1**	**-1.5**
	baz=40						
LOR				eSn	**Sn**	**16 31 39.6**	**-1.4**
	baz=35						
LOR				eSg	**Sg**	**16 32 00.0**	**-1.5**
	comp=E,1.5nm,0.3s,baz=30						
SSF	**Saint Saulge**	**4.16**	**221**	ePn	**Pn**	**16 31 00.4**	**-0.1**
SSF				eSn	**Sn**	**16 31 46.6**	**-2.0**
SSF				eSg	**Sg**	**16 32 09.0**	**-2.4**
	comp=E,2.9nm,0.3s						
SSF	**Saint Saulge**	**4.16**	**221**	ePn	**Pn**	**16 31 00.4**	**-0.1**
SSF				eSn	**Sn**	**16 31 46.6**	**-2.0**
SSF				eSg	**Sg**	**16 32 09.0**	**-2.4**
	comp=E,1.5nm,0.3s						
SMF	**Signal de Mont**	**4.37**	**215**	ePn	**Pn**	**16 31 03.1**	**-0.2**
SMF				eSn	**Sn**	**16 31 51.8**	**-2.0**
SMF				eSg	**Sg**	**16 32 16.5**	**-1.7**
	comp=E,2.1nm,0.3s						
SMF	**Signal de Mont**	**4.37**	**215**	ePn	**Pn**	**16 31 03.1**	**-0.2**
SMF				eSn	**Sn**	**16 31 51.8**	**-2.0**
SMF				eSg	**Sg**	**16 32 16.5**	**-1.7**
	comp=E,1.0nm,0.3s						

*LDG **20** 16:34:06.0±1.2, 1562S×16583E, h10km, Mb4.6/4, Error ellipse: s-maj=112.8km s-min=69.4km az=9.0*
*NEIC **20** 16:34:17.0±3.7, 1505S×16752E, h103km±27km, mb4.1/2, Error ellipse: s-maj=34.7km s-min=20.5km az=102.0*
*ISCJB **20** 16:34:19.7±4.4, 152S±02×1673E±02, h129km±35km, mb3.8/6, Error ellipse: s-maj=39.5km s-min=23.8km az=164.4*
*IDC **20** 16:34:22.7±9.0, 1509S×16737E, h146km±66km, mb3.6/5, mb1 3.7/6, mb1mx3.5/16, mbtmp3.7/6, Error ellipse: s-maj=68.7km s-min=24.8km az=108.0*

ISC 20 16:34:19.0±3.7, 151S±02×1674E±02, h115km±29km, n37, σ0§85/15, mb3.9/6, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**9.24**	**307**	Pn	**Pn**	**16 36 27.8**	**-1.6**
HNR				eSn	**Sn**	**16 38 11.1**	**

FRF	La Foret Royal	147.24	334	*e*PKP1	PKPbc	16 53 48.1	-1.0
SMRF	Simiane la Rot	147.35	335	*e*PKP1	PKPbc	16 53 49.0	-0.4
LMR	La Mourre	147.49	334	*e*PKP1	PKPbc	16 53 48.8	-1.0
RJF	Les Rejaudoux 4.1nm,0.6s	147.64	341	*e*PKP1	PKPbc	16 53 49.6	-0.5
CAF	Calviac 5.1nm,0.7s	147.81	340	*e*PKP1	PKPbc	16 53 50.1	-0.5
LASF	Ste Croix	147.93	337	*e*PKP1	PKPbc	16 53 49.8	-1.1
LFF	La Frestale	148.21	342	*e*PKP1	PKPbc	16 53 51.0	-0.6
MTLF	Montolieu 4.2nm,0.7s	149.16	339	*e*PKP1	PKPbc	16 53 53.5	-0.6
TORD	Torodi Ar. Bea 0.5nm,0.6s,baz=58,slow=1.0,SNR=3.9	166.03	264	PKP	PKPdf	16 54 10.6	-0.8

ISCJB ***20*** *16:38:13.7±0.5,38.13N±002×2367E±004,h12km±5km, Error ellipse: s-maj=4.9km s-min=3.6km az=173.1*
NEIC ***20*** *16:38:13.7,38.11N×2370E,h20km,ML3.0(ATH),After ATH.*
ATH ***20*** *16:38:13.7,38.11N×2370E,h20km±1km,MD3.2/7,ML3.0*
CSEM ***20*** *16:38:14.5±0.1,38.12N×2370E,h12km,ML3.0,Error ellipse: s-maj=2.0km s-min=1.5km az=77.0*
THE ***20*** *16:38:15.2,38.14N×2363E,h7km,ML3.3*
ISC 20 16:38:14.4±0.4,3813N±002×2368E±003,h12km±4km,n18, σ0s89/32,Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATH	Athens Observa	0.16	169	*e*PB	Pg	16 38 17.7	-0.3
ATH				SB	Sg	16 38 20.8	+0.3
PTL	Penteli	0.17	118	*e*PB	Pg	16 38 18.0	-0.2
PTL				*e*SB	Sg	16 38 20.8	0.0
KVR	Kavouri	0.31	167	*e*PB	Pg	16 38 20.2	-0.4
NAIG	Nisos Aigina	0.40	202	*e*PB	Pg	16 38 22.0	-0.3
LTK	Loutraki	0.57	260	*e*Pg	Pg	16 38 25.8	+0.2
LTK				*e*Sg	Sg	16 38 34.3	+1.2
DID	Didima	0.71	210	*e*Pg	Pg	16 38 27.6	-0.6
DID				*e*Sg	Sg	16 38 38.6	+1.1
LKR	Lokris	0.75	315	*e*Pg	Pg	16 38 28.5	-0.4
LKR				*e*Sg	Sg	16 38 39.7	+1.0
LKR	Lokris	0.75	315	*e*PN	Pn	16 38 28.5	-2.3
LKR				SN	Sg	16 38 39.8	+1.1
AOS	Alonnisos	1.05	8	*e*Pg	Pg	16 38 34.4	-0.3
AOS				*e*Sg	Sg	16 38 49.3	+0.9
NEO	Neokhori	1.23	343	*e*PN	Pn	16 38 37.9	+0.5
NEO				SN	Sn	16 38 54.1	+0.1
VLX	Vlachokerasia	1.28	234	*e*Pg	Pg	16 38 38.8	-0.1
VLX				*e*Sg	Sg	16 38 54.9	-0.7
VLX	Vlachokerasia	1.28	234	*e*Pg	Pg	16 38 38.8	-0.2
VLX				*e*Sg	Sg	16 38 54.8	-0.8
XOR	Xorichti	1.30	343	*e*Pg	Pg	16 38 39.0	-0.3
XOR				*e*Sg	Sg	16 38 55.7	-0.4
VLI	Veliai	1.52	203	*e*PN	Pn	16 38 41.2	-0.2
ITM	Ithomi	1.68	236	*e*PN	Pn	16 38 44.2	+0.6
APE	Apeiranthos	1.81	125	*e*Pb	Pb	16 38 45.5	-1.9
APE				*e*Sb	Sb	16 39 11.6	+1.5
APE	Apeiranthos	1.81	125	*e*Pn	Pn	16 38 45.8	+0.4
APE				*e*Sb	Sb	16 39 11.6	+1.6
CHOS	Chios island	1.89	81	*e*Pb	Pb	16 38 47.0	-1.8
CHOS				*e*Sb	Sb	16 39 13.9	+1.6

ISCJB ***20*** *16:41:15.6±0.6,228N×006×9902E±007,h150km±5km, mb4.3/37,Error ellipse: s-maj=13.1km s-min=7.9km az=145.1*
BJI ***20*** *16:41:16.4,206N×9885E,h175km,mB4.7,mb4.5*
IDC ***20*** *16:41:16.8±0.6,240N×99.10E,h145km±3km,mb3.8/10, mb1 3.9/10,mb1mx3.6/20,mbtmp3.8/10,MS3.9/1, Ms1 3.9/1,ms1mx3.3/26,Error ellipse: s-maj=32.7km s-min=12.0km az=56.0*
NEIC ***20*** *16:41:17.7±0.7,235N×99.12E,h154km±6km,mb4.2/20, Error ellipse: s-maj=11.0km s-min=5.9km az=52.0*
ISC 20 16:41:17.0±0.6,229N±006×9906E±007,h145km±5km,n54, σ0s85/58,mb4.3/37,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	Prapat	0.53	345	P	Pn	16 41 38.7	+0.7
PSI				S	Sn	16 41 53.3	-0.6
PSI	Prapat 53nm,0.3s,baz=352,slow=8.5,SNR=163	0.53	345	P	Pn	16 41 38.7	+0.7
PSI				S	Sn	16 41 53.3	-0.6
KULM	Kulim 30nm,0.3s,baz=300,slow=22,SNR=9.0	3.38	28	*e*Pn	Pn	16 42 08.7	-0.4
KULM				*e*Sn	Sn	16 42 41.2	-8.2
CM31	Chiang Mai Arr 8.3nm,0.9s	16.07	360	*e*P	Pn	16 44 55.4	+0.5
KKM	Kota Kinabalu	17.51	77	*e*P	Pn	16 45 13.0	+0.6
PALK	Pallekele 3.4nm,0.7s	18.95	286	*e*P	P	16 45 29.1	+2.0
KMI	Kunming comp=Z,5.0nm,1.3s,mb3.8	22.98	9	P	P	16 46 09.6	+0.6
KMI				AMB	AMB		
GYA	Guiyang comp=Z,10.0nm,0.8s,mb4.4	25.12	16	P	P	16 46 29.4	+0.9
GYA				AMB	AMB		
JIRN	Jiri comp=Z,15nm,0.6s,mb4.9	28.07	335	*e*P	P	16 46 54.9	-0.1
LSA	Lhasa comp=Z,3.5nm,0.4s,mb4.4	28.28	345	*e*P	P	16 46 56.6	-0.1
GUN	Gumba comp=Z,14nm,0.5s,mb4.9	28.42	335	*e*P	P	16 46 58.1	0.0
KKN	Kakani comp=Z,4.9nm,0.4s,mb4.6	28.58	334	*e*P	P	16 46 59.0	-0.4
CD2	Chengdu comp=Z,10.0nm,0.6s,mb4.7	28.81	8	*e*P	P	16 47 02.0	+0.5
CD2				AMB	AMB		
GKN	Gorkha comp=Z,20nm,4.8s	29.05	333	*e*P	P	16 47 03.0	-0.6
KOLN	Koldanda comp=Z,5.0nm,0.4s,mb4.6	29.34	331	*e*P	P	16 47 05.5	-0.7
FITZ	Fitzroy Crossi comp=Z,6.9nm,0.6s,mb4.6	33.10	129	*e*P	P	16 47 40.3	+1.0
LZH	Lanzhou comp=Z,20nm,1.1s,mb4.7	33.92	7	*e*P	P	16 47 50.9	+4.7
LZH				AP	pP	16 48 24.6	+7.2
LZH				XP	sP	16 48 43.5	+9.4
LZH				AMB	AMB		
LZH				AMB	AMB		
NJ2	Nanjing comp=Z,68nm,4.5s	34.98	30	*e*P	P	16 47 56.3	+0.9
NJ2				AMB	AMB		
NWAO	Narrogin (SRO) comp=Z,20nm,1.1s,mb4.7	39.01	155	P	P	16 48 27.6	-1.8
HHC	Hu-ho-hao-te	40.02	15	*e*P	P	16 48 38.9	+1.3
HHC				AP	pP	16 49 14.5	+4.9
HHC				XP	sP	16 49 32.1	+6.0
HHC				PP	PP	16 50 17.6	+4.9
HHC				PCP	PcP	16 50 41.0	+1.2
HHC				SCP	ScP	16 54 14.0	-1.5
HHC				PCS	PcS	16 54 30.1	-0.1
HHC				S	S	16 54 33.8	+1.4
HHC				SS	SS	16 57 30.6	-5.1
HHC				AMB	AMB		
HHC	comp=Z,17nm,0.3s,mb5.2			AMB	AMB		
HHC	comp=Z,140nm,6.9s			LR	LR		
HHC	comp=N,153nm,5.9s			LR	LR		
HHC	comp=E,214nm,5.1s			LR	LR		
WRA	comp=Z,197nm,16.9s Warramunga Arr	41.07	124	P	P	16 48 46.6	0.0
WRAB	comp=Z,3.6nm,0.4s,mb4.4,baz=304,slow=8.9,SNR=52 Tennant Creek	41.07	124	*e*P	P	16 48 45.8	-0.8
WB2	comp=Z,3.8nm,0.6s,mb4.2 Warramunga Arr	41.08	124	*e*P	P	16 48 46.7	0.0
WB2	Warramunga Arr	41.08	124	*e*P	P	16 48 46.1	-0.5
KBL	Kabul comp=Z,3.6nm,0.7s,mb4.1	42.56	322	*e*P	P	16 48 58.8	+0.3
WMQ	Urumqi	42.57	348	P	P	16 48 57.5	-0.9
WMQ				AMB	AMB		
WMQ	comp=Z,9.0nm,0.8s,mb4.5			AMB	AMB		
ASAR	comp=Z,213nm,5.2s Alice Springs	42.60	129	P	P	16 48 58.9	-0.1
FORT	comp=Z,1.5nm,0.5s,mb3.9,baz=300,slow=7.7,SNR=50 Forrest	42.95	142	*e*P	P	16 49 02.3	+0.6
UCH	comp=Z,9.5nm,0.5s,mb4.7 Uchtor comp=Z,6.2nm,1.1s,mb4.2	45.44	334	*e*P	P	16 49 22.2	+0.9
TKM2	Tokmak 2 comp=Z,2.8nm,0.3s,mb4.4	45.56	336	*e*P	P	16 49 22.3	+0.1
AML	Almayashu comp=Z,5.1nm,0.5s,mb4.4	45.72	334	*e*P	P	16 49 24.0	+0.5
AAK	Ala-Archa comp=Z,2.3nm,0.8s,mb3.9	45.78	335	*e*P	P	16 49 23.6	-0.4
SONM	Songino Array comp=Z,0.7nm,0.7s,mb3.4,baz=184,slow=9.6,SNR=4.9	45.81	7	P	P	16 49 22.9	-1.3
EKS2	Erkin-Say comp=Z,3.2nm,0.6s,mb4.1	46.11	334	*e*P	P	16 49 27.3	+0.7
MK31	Makanchi Array	46.67	344	*e*P	P	16 49 30.1	-0.7
MKAR	Makanchi Array	46.67	344	P	P	16 49 30.5	-0.4
MKAR	Makanchi Array comp=Z,2.4nm,0.4s,mb4.2,baz=154,slow=9.0,SNR=36	46.67	344	P	P	16 49 30.5	-0.4
MDJ	Mudanjiang	50.03	28	P	P	16 49 57.6	+1.0
MDJ				AMB	AMB		
KURK	comp=Z,51nm,3.4s Kurchatov comp=Z,4.5nm,0.8s,mb4.2	51.26	343	*e*P	P	16 50 04.8	-1.0
STKA	Stephens Creek comp=Z,1.9nm,0.6s,mb4.0	52.73	134	*e*P	P	16 50 16.9	-0.1
STKA	Stephens Creek comp=Z,2.0nm,0.6s,mb4.0	52.73	134	*e*P	P	16 50 16.1	-0.9
STKA	Stephens Creek comp=Z,2.0nm,0.6s,mb4.0,baz=291,slow=5.8,SNR=12	52.73	134	P	P	16 50 17.1	+0.1
ZALV	Zalesovo Beam comp=Z,2.7nm,0.3s,mb4.4,baz=171,slow=6.6,SNR=19	52.81	349	P	P	16 50 16.8	-0.4
ZALV				LR	LR	17 17 29.8	
BVAR	comp=Z,104nm,18.2s,baz=297,slow=41 Borovoye Array comp=Z,4.6nm,0.5s,mb4.5,baz=137,slow=9.2,SNR=30	55.86	340	P	P	16 50 38.3	-0.9
BRVK	Borovoye comp=Z,5.2nm,0.5s,mb4.6	55.93	339	*e*P	P	16 50 38.6	-1.1
HNR	Honiara comp=Z,53nm,1.1s	61.76	102	P	P	16 51 24.6	+3.9
KMBO	Kilima Mbogo comp=Z,2.2nm,0.9s,mb4.0	61.89	268	P	P	16 51 22.9	+1.3
MALT	Malatya comp=Z,2.3nm,0.8s,mb4.1	65.80	311	*e*P	P	16 51 47.3	+0.6
TIXI	Tiksi comp=Z,1.5nm,0.3s,mb4.2	71.81	10	*e*P	P	16 52 22.3	-1.0
AKASG	Malin Array Be comp=Z,0.1nm,0.3s,baz=82,slow=4.1,SNR=4.1	75.54	322	P	P	16 52 44.2	-1.2
BOSA	Boshof comp=Z,1.3nm,0.6s,mb3.7	76.93	240	P	P	16 52 54.9	+1.2
BOSA	Boshof comp=Z,2.1nm,0.9s,mb3.8,baz=68,slow=3.3,SNR=4.4	76.93	240	P	P	16 52 54.7	+0.9
FINES	FINESS Array B	79.91	332	P	P	16 53 08.0	-1.4
FINES	FINESS Array B comp=Z,0.8nm,0.4s,mb3.8,baz=109,slow=6.4,SNR=8.6	79.91	332	P	P	16 53 08.0	-1.4

IDC 20 16:59:08.9±1.4,697S×15658E,h0km,mb4.0/4,mb1 4.0/5, mb1mx3.7/15,mbtmp4.0/5,ML3.6/1,MS3.7/2,Ms1 3.7/2, ms1mx3.3/23,Error ellipse: s-maj=39.7km s-min=32.8km az=71.0,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara 4.0nm,0.3s,baz=263,slow=9.9,SNR=4.5	4.14	127	Pn	Pn	17 00 13.3	0.0
HNR				Sn	Sn	17 01 08.8	+6.3
HNR	15nm,0.3s,baz=98,slow=23,SNR=9.2			LR	LR	17 01 44.4	
WRA	comp=Z,153nm,19.1s,baz=0.4,slow=38 Warramunga Arr 1.9nm,0.7s,baz=62,slow=9.4,SNR=23	25.14	237	P	P	17 04 35.8	0.0
SONM	Songino Array 1.2nm,0.7s,baz=130,slow=5.7,SNR=8.3	70.17	327	P	P	17 10 24.7	+1.4
MKAR	Makanchi Array 1.2nm,0.8s,baz=110,slow=5.3,SNR=11	84.42	318	P	P	17 11 43.3	0.0
ZALV	Zalesovo Beam 0.7nm,0.6s,baz=130,slow=5.8,SNR=3.4	85.04	326	P	P	17 11 45.2	-1.1
BVAR	Borovoye Array comp=Z,221nm,18.5s,baz=41,slow=36	93.22	323	LR	LR	17 54 35.9	

MOS ***20*** *17:20:04.8±0.9,5267N×17606W,h146km,mb4.8/61, MS4.0/4,Error ellipse: s-maj=7.8km s-min=4.8km az=90.0*
BJI ***20*** *17:20:06.5,5286N×17627W,h161km,mB5.1,mb4.8*
NEIC ***20*** *17:20:09.4±0.2,5265N×176.10W,mb4.9/150,Error ellipse: s-maj=5.2km s-min=2.4km az=184.0*
NEIC Felt at Adak.
GCMT ***20*** *17:20:09.4±0.2,5241N×17594W,h178km±1km, MW5.4/104,Moment Tensor Solution. s77,c124; s104,c205; Duration: 1s2 Moment tensor: Scale 10^{17} Nm; M_{rr}0.54±.02; $M_{\theta\theta}$0.82±.03; $M_{\phi\phi}$-1.36±.02; $M_{r\theta}$0.62±.02; $M_{\theta\phi}$-0.54±.02; $M_{\phi r}$-0.57±.02; Best double couple: $M_0$1.55500×10^{17} NP1:ϕ_s52.00000°,δ54.00000°, λ159.00000°. NP2:ϕ_s155.00000°,δ73.00000°,λ38.00000°. Principal axes: T 1.5330, Plg38.0000°, Azm19.0000°; N 0.0480, Plg49.0000°, Azm175.0000°; P -1.5760, Plg12.0000°, Azm280.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISCJB ***20*** *17:20:09.5±0.1,5267N±003×17606W±002,h187km, mb4.8/209 Error ellipse: s-maj=4.4km s-min=1.8km az=8.3*
IDC ***20*** *17:20:09.3±0.3,5259N×17602W,h178km±2km,mb4.4/28, mb1 4.5/28,mb1mx4.5/31,mbtmp4.4/28,MS4.1/7, Ms1 4.1/7,ms1mx3.7/39,Error ellipse: s-maj=10.1km s-min=6.9km az=163.0*
SZGRF ***20*** *17:20:10.7,5187N×17688W,h209km,mb4.9,Andreanof Islands, Aleutian Islands, United States*
ISC 20 17:20:11.3±0.1,5271N±003×17607W±002,h189km, h189km±1.6km:pP-P,n903,σ0s76/882,mb4.8/209, 268C-134D,Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ADK	Adak	0.91	205	P	Pn	17 20 34.5	-4.8
ADK				S	Sn	17 20 53.3	-7.5
ADK	Adak	0.91	205	*e*P	Pn	17 20 34.4	-4.9
ADK				*e*		17 20 53.5	
AMKA	Amchitka	3.16	247	P	Pn	17 20 59.2	-3.0
AMKA				S	Sn	17 21 35.1	-6.7
NIKO	Nikolski	4.38	84	P	Pn	17 21 14.1	-3.3
NIKO				S	Sn	17 22 02.6	-6.7
SPIA	Saint Paul Isl	5.59	34	P	Pn	17 21 34.4	+1.5
UNV	Unalaska Valle	5.85	75	P	Pn	17 21 34.1	-2.2
SMY	Shemya	5.98	274	*e*P	Pn	17 21 36.7	-1.3
SMY	Shemya	5.98	274	*e*P	Pn	17 21 37.1	-0.9
SMY				pmax	pmax		
AKGG	comp=Z,4μm,1.5s Akutan Green G	6.20	72	P	Pn	17 21 39.5	-1.3
AKLV	Akutan Long Va	6.22	72	P	Pn	17 21 39.4	-1.6
AKUT	Akutan	6.32	73	*e*P	Pn	17 21 41.1	-1.3
FALS	False Pass	7.80	69	P	Pn	17 22 00.5	-1.2
SDPT	Sand Point comp=Z,124nm,0.3s	9.55	68	*e*P	Pn	17 22 23.1	-1.4
GAMB	Gambell comp=Z,221nm,0.9s	11.33	10⇑	*i*P	Pn	17 22 49.6	+2.0
GAMB				*e*		17 22 56.8	
TNA	Tin City comp=Z,491nm,1.4s	13.53	15⇑	*i*P	Pn	17 23 17.8	+2.4
SVW2	Sparrevohn	13.94	45⇓	*e*P	Pn	17 23 21.8	+1.3
SVW2				*e*ScP	ScP	17 31 42.3	+0.3
KDAK	Kodiak Island comp=Z,2μm,0.4s,SNR=43	14.29	60	Pn	Pn	17 23 23.0	-1.9
KDAK	Kodiak Island comp=Z,72nm,0.3s,baz=279,slow=5.9,SNR=145	14.29	60	P	Pn	17 23 34.3	+9.4
KDAK				S	Sn	17 26 06.0	+1.9
KDAK	comp=Z,6.5nm,0.3s,baz=190,slow=18,SNR=4.1			LR	LR	17 28 59.2	
TTA	comp=Z,779nm,21.6s,baz=256,slow=37 Tatalina comp=Z,2μm,1.8s	14.72	38	*e*Pn	Pn	17 23 31.5	+1.3
TTA	Tatalina comp=Z,2μm,1.7s	14.72	38	*e*P	Pn	17 23 31.5	+1.3
TTA				pmax	pmax		
PET	Petropavlovsk comp=Z,26nm,0.6s	15.25	281	⇓*i*P	Pn	17 23 36.5	-0.3
PET	Petropavlovsk	15.25	281	*i*P	Pn	17 23 37.2	+0.5
PET				*e*S	S	17 26 21.2	-4.8
PET				pmax	pmax		
PET	comp=Z,2μm,5.2s			pmax	pmax		
PET	comp=Z,1μm,9.8s			pmax	pmax		
PET	comp=Z,58nm,0.6s			MLR	MLR		
PMR	comp=Z,600nm,20.0s Palmer comp=Z,39nm,0.8s	16.99	48	*e*P	Pn	17 23 56.4	-1.1
PMR	Palmer comp=Z,39nm,0.9s	16.99	48	*e*P	Pn	17 23 56.4	-1.1
PMR				pmax	pmax		
SKR	Severo-Kuril's	17.32	274	*e*P	Pn	17 24 02.0	+0.4
SKR				S	S	17 27 10.0	-0.4
SKR	comp=E,50nm,0.5s			pmax	pmax		
SKR	comp=Z,60nm,0.5s			pmax	pmax		
SKR	comp=N,50nm,0.5s			smax			
SKR	comp=E,60nm,0.5s			smax			
SML	Sawmill	17.42	48	*e*P	Pn	17 23 55.1	-7.5
SML				*e*S	S	17 27 10.7	-1.3
SML	Sawmill	17.42	48	P	Pn	17 23 58.0	-4.6
IMA2	Indian Mountai	17.43	31⇑	*i*P	Pn	17 24 03.3	+0.5
IMA2				*e*ScP	ScP	17 31 48.3	-0.3
BILL	Bilibino comp=E,193nm,0.8s	17.56	338⇑	*i*P	Pn	17 24 05.7	+1.4
BILL				*e*pP	sP	17 24 51.3	-6.6
BILL	Bilibino	17.56	338	*c i*P	Pn	17 24 05.6	+1.3
BILL				*i* S	S	17 27 18.3	+3.4
BILL	comp=Z,330nm,1.2s			pmax	pmax		
MCK	McKinley comp=Z,627nm,1.2s	17.89	41⇑	*i*P	Pn	17 24 05.8	-2.3
MCK				*e*pP	pP	17 24 45.1	+7.8
MCK				*e*S	S	17 27 22.6	+1.2
MCK	McKinley	17.89	41⇑	*i*P	Pn	17 24 05.8	-2.3
MCK				*e*S	S	17 27 22.7	+1.3
MCK	comp=Z,627nm,1.2s			pmax	pmax		
EYAK	Cordova Ski Ar	18.29	53	*e*P	P	17 24 10.5	0.0
EYAK				*e*S	S	17 27 24.2	-5.3
COLA	College comp=Z,60nm,0.6s	18.82	39⇑	*e*P	P	17 24 15.4	-0.9
COLA				*e*ScP	ScP	17 31 49.7	-1.8
COLA	College comp=Z,60nm,0.6s	18.82	39⇑	*e*P	P	17 24 15.4	-0.8
COLA				pmax	pmax		
SEY	Seymchan	19.46	314⇑	*e*P	P	17 24 23.4	+0.2
MA2	Magadan comp=Z,78nm,0.9s	19.55	304⇑	*e*P	P	17 24 24.9	+0.7
MA2				*e*pP		17 25 04.1	
MA2	Magadan	19.55	304	*d i*P	P	17 24 26.3	+2.1
MA2				*e*S	S	17 27 54.2	-0.1
MA2	comp=E,90nm,0.9s			pmax	pmax		
MA2	comp=Z,100nm,0.9s			pmax	pmax		
MENT	Mentasta	19.81	46	*e*P	P	17 24 27.3	+0.4
EGAK	Eagle comp=Z,197nm,0.9s,mb5.4	21.43	42⇑	*i*P	P	17 24 43.7	-0.4
EGAK				*e*pP		17 25 20.9	
EGAK				*e*sP	sP	17 25 42.4	+2.1
EGAK				*e*ScP	ScP	17 31 54.7	-3.0
DAWY	Dawson	21.98	45⇑	*i*P	P	17 24 49.1	-0.6
DAWY				*e*pP		17 25 27.1	
SKAG	Skagway comp=Z,67nm,1.0s,mb5.0	23.40	57	*e*P	P	17 25 04.0	+1.3
SIT	Sitka	23.57	63	P	P	17 25 03.4	-0.9
CRAG	Craig comp=Z,36nm,1.0s,mb4.9	25.04	66	P	P	17 25 17.0	-0.7
INK	Inuvik comp=Z,1.2nm,0.6s,mb3.6	25.40	36	*e*P	P	17 25 20.8	+0.1
INK				*e*pP	pP	17 26 02.3	+3.4
INK	Inuvik	25.40	36	P	P	17 25 21.1	+0.4
INK	comp=Z,12nm,0.3s			pmax	pmax		
INK	comp=N,3.0nm,0.6s			pmax	pmax		
INK	Inuvik comp=N,12nm,0.3s,mb4.9,baz=237,slow=7.8,SNR=129	25.40	36	P	P	17 25 21.1	+0.4
INK				ScP	ScP	17 32 08.1	-0.2
DLBC	comp=N,3.3nm,0.6s,baz=282,slow=5.4,SNR=7.1 Dease Lake	26.22	59	*e*P	P	17 25 26.5	-1.7
DLBC	Dease Lake baz=248,slow=5.4	26.22	59	P	P	17 25 28.1	0.0
YSS	Yuzh-Sakhalins comp=N,19nm,0.8s,mb4.8	26.89	274	*e*P	P	17 25 35.1	+0.7
YSS	Yuzh-Sakhalins	26.89	274⇑	*e*P	P	17 25 35.0	+0.7
YSS				*e**SP	sP	17 26 29.0	-5.6
YSS				*e*S	S	17 29 59.0	+2.3
YSS				*e*SS	SS	17 31 26.0	-32
YSS	comp=Z,30nm,0.8s,mb5.0			pmax	pmax		
ASAJ	Asahikawa comp=Z,31nm,0.6s	28.41	269	P	P	17 25 47.2	-0.6
ASAJ				pmax	pmax		
ASAJ	comp=N,7.0nm,0.8s			pmax	pmax		
ASAJ	Asahikawa comp=N,31nm,0.6s,mb5.2,baz=70,slow=6.4,SNR=27	28.41	269	P	P	17 25 47.2	-0.6
ASAJ				ScP	ScP	17 32 17.1	-0.7
BBB	comp=N,7.1nm,0.8s,baz=289,slow=27,SNR=4.9 Bella Bella	28.81	72	P	P	17 25 51.0	-0.2
ERM	comp=N,12nm,0.8s,mb4.7,baz=293,slow=12,SNR=7.6 Erimo	29.24	265	P	P	17 25 55.1	-0.1
ERM	comp=N,413nm,0.6s,mb6.3,SNR=8.8 Erimo	29.24	265	*e*P	P	17 25 55.0	-0.2
ERM	comp=N,45nm,0.6s,mb5.4 Erimo	29.24	265	*e*P	P	17 25 55.0	-0.2
ERM				pmax	pmax		
YAK	comp=Z,45nm,0.6s,mb5.4 Yakutsk	29.84	310	*e*P	P	17 26 00.1	-0.1
YAK	comp=Z,32nm,0.7s,mb5.2			*e*pP	pP	17 26 43.7	+4.7
YAK	Yakutsk	29.84	310	*e*P	P	17 26 00.3	+0.1
YAK				*e**PP	pP	17 26 44.7	+5.7
YAK				*e*		17 27 10.4	
YAK				*e*S	S	17 30 42.1	-0.5
YAK				*e*		17 32 34.0	
YAK				pmax	pmax		
YAK	comp=Z,29nm,1.0s,mb5.0			pmax	pmax		
YAK	comp=N,2.0nm,0.9s			pmax	pmax		
YAK	comp=E,7.0nm,1.0s			pmax	pmax		
YAK	comp=Z,101nm,1.9s,mb5.2			pmax	pmax		
YAK	comp=N,64nm,1.5s			pmax	pmax		
YAK	comp=E,132nm,1.8s			smax			
YAK	comp=E,113nm,1.7s			smax			
YAK	comp=Z,370nm,6.9s			smax			
YAK	comp=N,216nm,3.4s						
TIXI	Tiksi comp=N,14nm,1.0s,mb4.6	30.34	329	*e*P	P	17 26 05.0	+0.5
TIXI				*e*pP	pP	17 26 48.8	+5.5
TIXI				*e*sP	sP	17 27 03.8	-1.4
TIXI				*e*PcP	PcP	17 28 57.6	-1.8
TIXI				*e*ScP	ScP	17 32 22.2	-1.3
TIXI	Tiksi comp=Z,20nm,1.7s,mb4.6	30.34	329⇑	*e*P	P	17 26 04.8	+0.3
TIXI				pmax	pmax		
HABR	Khabarovsk	30.84	282	*e*P	P	17 26 07.7	-1.5
HABR				*e*		17 27 17.5	
HABR				*e*		17 28 58.5	
HABR				*e*S	S	17 30 59.6	+1.1
HABR				*e*		17 33 17.3	
HABR				*e*		17 36 19.2	
KLR	Kul'dur	32.45	285	*e*P	P	17 26 18.2	-5.1
OBC	Olympics--Boni	32.88	77	⇓P	P	17 26 28.4	+1.4
OOW	Octopus West	32.96	77	P	P	17 26 29.2	+1.5
PGC	Sidney comp=Z,42nm,0.6s,mb5.3	32.97	76	*e*P	P	17 26 27.6	-0.1
YKA	Yellowknife Ar	33.09	48	P	P	17 26 28.0	-0.6
YKA						17 29 06.5	
YKA	Yellowknife Ar comp=Z,15nm,0.7s,mb4.8,baz=285,slow=7.9,SNR=118	33.09	48	P	P	17 26 28.0	-0.6
YKA				pP	pP	17 27 06.4	-1.3
YKA	comp=Z,14nm,1.0s,baz=281,slow=9.3,SNR=3.8			PcP	PcP	17 29 06.4	-0.6
YKA	comp=Z,2.6nm,0.4s,baz=280,slow=3.0,SNR=9.0			ScP	ScP	17 32 32.1	-0.9

comp=Z,0.8nm,0.5s,baz=284,slow=3.5,SNR=4.7
OSD Olympics--Snow 33.21 77 P P 17 26 30.9 +1.1
B04A Port Angeles 33.21 77 P P 17 26 30.6 +0.7
baz=33,SNR=9.7
NLWA Neilton Lookou 33.31 78 *e*P **P 17 26 31.5 +0.8**
comp=Z,126nm,1.2s,mb5.5
NLWA *es*P sP 17 27 29.2 -2.4
NLWA Neilton Lookou 33.31 78 ⇓P P 17 26 31.6 +0.9
baz=33
A04A Legoe Bay, Lum 33.37 75 ⇑P P 17 26 31.7 +0.4
baz=33,SNR=7.5
D03A Wishkah Elem. 33.51 78 ⇑P P 17 26 33.4 +1.0
baz=33
BLN Blyn Mountain 33.55 76 P P 17 26 33.7 +0.9
VDB Vedder Mountai 33.59 74 P P 17 26 33.2 +0.1
A05A Maple Falls 33.61 74 ⇑P P 17 26 33.3 0.0
baz=34,SNR=11
HDW Hoodsport 33.67 77 P P 17 26 34.7 +0.8
C04A Brinnon 33.69 77 ⇓P P 17 26 34.4 +0.4
baz=34,SNR=20
MBW Mount Baker 33.82 74 P P 17 26 35.7 +0.6
GNW Green Mountain 33.85 77 P P 17 26 36.1 +0.7
CMW Cultus Mountai 33.86 75 P P 17 26 36.2 +0.7
E03A Lebam 33.91 79 ⇓P P 17 26 36.3 +0.4
baz=34,SNR=8.9
A06A Chilliwack 33.92 74 P P 17 26 36.3 +0.3
baz=34,SNR=7.8
B05A Bryant 33.95 75 ⇑P P 17 26 36.2 0.0
baz=34,SNR=24
JCW Jim Creek 34.08 75 P P 17 26 37.9 +0.6
D04A Dobbs Creek Ra 34.08 78 ⇑P P 17 26 38.3 +0.9
baz=34
B06A Marblemount 34.19 75 ⇓P P 17 26 37.6 -0.7
baz=34,SNR=9.2
F03A Seaside 34.23 80 ⇑P P 17 26 39.1 +0.5
baz=34,SNR=12
HTW Haystack Looko 34.36 76 ⇑P P 17 26 40.3 +0.6
LCW Lucas Creek 34.36 78 P P 17 26 41.0 +1.2
E04A Onalaska 34.39 78 ⇓P P 17 26 41.0 +0.9
baz=34
GHW Garrison Hill 34.43 77 P P 17 26 41.3 +0.9
C05A Tolt Reservoir 34.46 76 P P 17 26 40.8 +0.2
baz=34,SNR=24
RMW Rattlesnake Mo 34.51 76 ⇓P P 17 26 41.8 +0.8
D05A Enumclaw 34.53 77 ⇓P P 17 26 42.2 +1.0
baz=34,SNR=28
A07A Ashnola River, 34.58 73 P P 17 26 41.6 0.0
baz=34,SNR=39
LMW Ladd Mountain 34.61 78 P P 17 26 43.2 +1.2
H02A Toledo 34.62 82 ⇓P P 17 26 43.1 +1.0
baz=34
G03A Yamhill 34.71 81 ⇓P P 17 26 43.2 +0.4
baz=35,SNR=10
REMR Mount Rainier- 34.80 77 P P 17 26 44.7 +1.1
FL2 Flat Top 2 34.81 79 ⇓P P 17 26 44.4 +0.7
C06A Tall Timber Ra 34.82 75 ⇑P P 17 26 43.7 0.0
baz=35
RCS Mount Rainier- 34.84 77 P P 17 26 45.0 +1.1
FMW Mount Fremont 34.84 77 P P 17 26 44.4 +0.5
LON Longmire 34.85 78 ⇑P P 17 26 44.2 +0.2
LON P 17 26 45.0
RCM Mount Rainier- 34.86 77 P P 17 26 45.5 +1.4
F04A Amboy 34.91 79 ⇓P P 17 26 44.9 +0.4
baz=35,SNR=42
E05A Randle 34.98 78 P P 17 26 45.2 +0.1
baz=35,SNR=21
MPOR Mary's Peak 34.98 82 P P 17 26 46.2 +1.1
B07A Winthrop 35.01 74 P P 17 26 45.3 0.0
baz=35,SNR=35
H03A Soap Creek Ran 35.05 82 ⇓P P 17 26 46.5 +0.8
baz=35,SNR=7.5
I02A Mapleton 35.09 83 ⇓P P 17 26 46.9 +0.9
baz=35,SNR=6.3
COR Corvallis 35.09 82 *e*P **P 17 26 46.6 +0.6**
comp=Z,330nm,1.4s,mb5.8
COR *es*P sP 17 27 42.8 -4.4
COR Corvallis 35.09 82 *e*P **P 17 26 46.6 +0.6**
COR pmax pmax
comp=Z,330nm,1.4s,mb5.8
RNO Roman Nose 35.19 83 P P 17 26 48.1 +1.2
D06A Cle Elum 35.20 76 ⇑P P 17 26 47.2 +0.2
baz=35,SNR=27
G04A Mulino 35.25 80 ⇑P P 17 26 47.6 +0.2
baz=35,SNR=6.9
A08A Turner Farm, O 35.27 73 P P 17 26 47.2 -0.3
baz=35,SNR=25
KEBM Edson Butte 35.41 85 *e*P **P 17 26 49.5 +0.7**
C07A Waterville 35.42 75 ⇑P P 17 26 48.2 -0.6
baz=35,SNR=42
I03A Eugene 35.44 83 P P 17 26 50.2 +1.2
baz=35,SNR=9.8
SSOR Sweet Springs 35.45 81 P P 17 26 50.1 +1.0
E06A Yakima 35.45 77 ⇓P P 17 26 49.0 -0.1
baz=35,SNR=49
F05A White Salmon 35.51 79 ⇓P P 17 26 49.5 -0.1
baz=35,SNR=5.4
EBG Ellensburg 35.51 77 ⇑P P 17 26 50.1 +0.5
B08A Colville Reser 35.52 74 ⇑P P 17 26 49.2 -0.5
baz=35,SNR=36
J02A Umpqua 35.59 84 ⇑P P 17 26 51.4 +1.0
baz=36,SNR=19
MAJO Matsushiro 35.66 262 *e*P **P 17 26 50.4 -0.6**
comp=Z,145nm,0.6s,mb5.8
MAJO *e*ScP ScP 17 32 41.7 -1.0
MAJO Matsushiro 35.66 262 P **P 17 26 50.3 -0.7**
MAJO pmax pmax
comp=Z,150nm,0.7s,mb5.7
MAT Matsushiro 35.66 262 P **P 17 26 50.7 -0.3**
MJAR Matsushiro Arr 35.66 262 P **P 17 26 50.9 -0.1**
MJAR ScP ScP 17 32 42.3 -0.4
MJAR Matsushiro Arr 35.66 262 P **P 17 26 50.9 -0.1**
comp=Z,63nm,0.7s,mb5.4,baz=45,slow=6.9,SNR=168
MJAR ScP ScP 17 32 42.3 -0.4
comp=Z,6.2nm,0.8s,baz=41,slow=3.8,SNR=10
A09A Danville 35.66 72 ⇓P P 17 26 50.6 -0.3
baz=36,SNR=11
H04A Detroit Lake 35.71 81 ⇑P P 17 26 51.4 +0.1
baz=36,SNR=85
D07A Quincy 35.72 76 P P 17 26 51.3 -0.1
baz=36,SNR=21
KBO Bosley Butte 35.85 86 *e*P **P 17 26 53.4 +0.8**
G05A Wamic 35.93 79 ⇑P P 17 26 53.4 +0.2
baz=36,SNR=34
J03A Ideyld Park 35.96 83 P P 17 26 54.8 +1.3
baz=36,SNR=24
C08A Higginbotham F 35.97 74 P P 17 26 53.1 -0.4
baz=36,SNR=20
F06A Goldendale 35.97 78 ⇓P P 17 26 53.6 0.0
baz=36,SNR=6.5
K02A Glendale 35.98 84 P P 17 26 54.6 +0.9
baz=36,SNR=12
MDJ Mudanjiang 36.02 279 P P 17 26 52.8 -1.2
MDJ AP pP 17 27 28.8 -4.8
MDJ XP sP 17 27 48.1 -7.1
MDJ PP PP 17 28 17.4 -2.4
MDJ S S **17 32 18.8 +0.4**
MDJ SCP ScP 17 32 45.5 +1.6
MDJ PCS PcS 17 33 03.4 -0.1
MDJ AMB AMB
comp=Z,10.0nm,1.9s,mb4.1
MDJ AMB AMB
comp=Z,59nm,4.4s
MDJ LR LR
comp=N,343nm,25.0s
MDJ LR LR
comp=E,221nm,36.1s
MDJ LR LR
comp=Z,262nm,23.6s
MDJ Mudanjiang 36.02 279 P P 17 26 50.3 -3.7
IRO Indian Ridge 36.04 82 P P 17 26 54.9 +0.8
I04A Tendick Farm, 36.06 82 ⇓P P 17 26 54.9 +0.6
baz=36
VGB Gordon Butte 36.11 79 P P 17 26 55.3 +0.6
E07A Sunnyside 36.11 77 ⇑P P 17 26 54.7 0.0
baz=36,SNR=9.2
M01C Crescent City 36.13 86 ⇑P P 17 26 55.8 +0.9
baz=36
MDW Midway 36.14 77 P P 17 26 55.2 +0.2
B09A Rice 36.18 73 ⇑P P 17 26 55.2 -0.1
baz=36,SNR=22
WAH2 Wahluke Slope 36.18 76 P P 17 26 55.5 +0.2
BENWA Benson Ranch 36.21 77 P P 17 26 56.1 +0.5
GBB Gable Butte 36.22 76 P P 17 26 55.8 +0.2
A10A Northport 36.25 72 ⇓P P 17 26 55.4 -0.5
baz=36
L02A Cave Junction 36.27 85 ⇑P P 17 26 57.0 +0.9
baz=36,SNR=23
SNIWA Snively Ranch 36.27 77 P P 17 26 56.4 +0.3
H05A Madras 36.30 80 ⇑P P 17 26 56.9 +0.5
baz=36,SNR=18
GBL Gable Mountain 36.33 76 P P 17 26 56.5 0.0
G06A Carlson Farm, 36.34 79 P P 17 26 56.9 +0.2
baz=36,SNR=25
RSW Rattlesnake Hi 36.35 77 P P 17 26 57.1 +0.3
OD2 Odessa Site #2 36.36 75 P P 17 26 56.6 -0.3
HAWA Hanford 36.39 77 ⇑*i*P P 17 26 56.9 -0.2
HAWA *es*P sP 17 27 52.5 -5.9
PRW Prosser 36.39 77 ⇓P P 17 26 57.7 +0.6
HUMO Hull Mountain 36.40 84 ⇑*i*P P 17 26 57.9 +0.7
comp=Z,131nm,1.4s,mb5.4
HUMO *e*pP pP 17 27 34.6 -2.2
HUMO *es*P sP 17 27 53.0 -5.5
HUMO *e*PcP PcP 17 29 16.5 -0.6
HUMO Hull Mountain 36.40 84 ⇓P P 17 26 58.1 +0.9
baz=36,SNR=30
D08A Wollman Farm, 36.41 75 ⇓P P 17 26 56.5 -0.8
baz=36,SNR=21
C09A Chrisman Ranch 36.41 74 ⇓P P 17 26 56.3 -0.9
baz=36,SNR=11
F07A Phinny Hill Vi 36.41 78 ⇓P P 17 26 57.1 -0.2
baz=36,SNR=25
VTHM Trough 36.41 79 P P 17 26 57.6 +0.3
KRMB Red Mountain 36.45 87 *e*P **P 17 26 58.5 +0.8**
H2OWA Water 36.45 77 P P 17 26 57.6 0.0
REDWA Red Mountain 36.49 77 P P 17 26 58.4 +0.4
I05A Bend 36.54 81 ⇑P P 17 26 58.7 +0.3
baz=36,SNR=9.1
J04A Umpqua Nationa 36.55 83 ⇑P P 17 26 59.2 +0.7
baz=36,SNR=61
E08A Dider Farm, El 36.62 76 ⇑P P 17 26 58.8 -0.2
baz=36,SNR=5.8
EDM Edmonton 36.70 63 *e*P **P 17 26 57.9 -1.7**
VIPM Ingram Point 36.74 80 P P 17 27 00.6 +0.5
D09A Jones Farm, Ri 36.77 75 P P 17 26 59.5 -0.7
baz=37,SNR=15
B10A Chitwood Farm, 36.78 73 ⇓P P 17 26 59.5 -0.8
baz=37
H06A Lindquist Farm 36.79 80 ⇑P P 17 27 00.2 -0.3
baz=37,SNR=13
JCC Jacoby Creek 36.79 88 ⇓P P 17 27 01.2 +0.7
baz=37
NEW Newport 36.85 73 ⇑*i*P P 17 27 00.0 -0.9
comp=Z,35nm,0.6s,mb5.2
NEW *e*pP pP 17 27 36.9 -3.8
NEW Newport 36.85 73 ⇑*i*P P 17 27 00.0 -1.0
NEW pmax pmax
comp=Z,35nm,0.6s
G07A Ruggs Ranch, H 36.90 78 P P 17 27 01.4 0.0
baz=37,SNR=27
A11A Hall Mountain, 36.95 71 P P 17 27 01.7 -0.1
baz=37,SNR=29
C10A Spilker Farm, 36.97 73 ⇓P P 17 27 00.8 -1.1
baz=37
BUOR Burton Butte 37.02 84 P P 17 27 03.5 +1.1
J05A Fort Rock 37.05 82 ⇓P P 17 27 03.3 +0.6
baz=37,SNR=112
YBH Yreka Blue Hor 37.05 85 ⇑*i*P P 17 27 04.0 +1.2
comp=Z,50nm,0.9s,mb5.2
YBH *e*pP pP 17 27 41.1 -1.4
YBH Yreka Blue Hor 37.05 85 ⇑*i*P P 17 27 04.0 +1.3
YBH pmax pmax
comp=Z,50nm,0.9s
YBH Yreka Blue Hor 37.05 85 ⇑P P 17 27 04.1 +1.4
baz=37,SNR=44
E09A Wood Farm, Sta 37.15 76 ⇓P P 17 27 02.5 -0.9
baz=37,SNR=26
M02C Callahan 37.16 86 ⇓P P 17 27 04.4 +0.8
baz=37,SNR=24
B11A Sandpoint 37.21 72 P P 17 27 03.4 -0.5
baz=37,SNR=15
N02C Big Bar 37.23 87 ⇑P P 17 27 05.3 +1.1
baz=37,SNR=54
L04A Klamath Falls 37.29 84 ⇓P P 17 27 06.0 +1.2
baz=37,SNR=36
I06A Prineville 37.30 81 ⇑P P 17 27 05.3 +0.5
baz=37,SNR=29
G08A Pilot Rock 37.31 78 ⇑P P 17 27 04.5 -0.3
baz=37,SNR=52
H07A Lands Inn, Kim 37.33 79 P P 17 27 04.9 -0.1
baz=37,SNR=43
O01C Eel River Cons 37.33 88 ⇑P P 17 27 06.6 +1.5
baz=37,SNR=11
HOG Hogback Mounta 37.36 84 P P 17 27 06.8 +1.5
A12A Yaak River Ran 37.37 71 ⇓P P 17 27 04.9 -0.5
baz=37
LNOR Lincton Mounta 37.40 77 P P 17 27 05.5 -0.1
LHEM Herd Peak 37.41 85 P P 17 27 06.9 +1.2
M04C Macdoel 37.55 85 ⇓P P 17 27 07.8 +0.8
baz=37,SNR=28
K05A Summer Lake 37.58 83 ⇓P P 17 27 08.1 +1.0
baz=37,SNR=65
B12A Libby 37.64 71 ⇓P P 17 27 07.0 -0.5
baz=38
I07A Izee 37.65 80 ⇓P P 17 27 07.8 +0.1
baz=38,SNR=127
M03C McCloud 37.68 86 ⇓P P 17 27 08.9 +0.9
baz=38,SNR=15
F09A S2 Ranch, Elgi 37.71 77 ⇓P P 17 27 08.1 -0.1
baz=38,SNR=5.3
J06A Christmas Vall 37.72 81 ⇑P P 17 27 08.8 +0.4
baz=38,SNR=113
KIPM Iron Peak 37.74 88 *e*P **P 17 27 09.0 +0.5**
KCPM Cahto Peak 37.75 89 *e*P **P 17 27 08.7 +0.1**
E10A Myers Farm, Un 37.77 75 ⇓P P 17 27 08.2 -0.5
baz=38,SNR=33
RES Resolute Bay 37.83 25 *e*P **P 17 27 09.2 +0.4**
comp=Z,1μm,1.1s
WDC Whiskeytown Da 37.84 87 ⇑*i*P P 17 27 09.9 +0.6
comp=Z,54nm,0.9s,mb5.2
WDC *e*pP pP 17 27 45.9 -3.3
WDC *es*P sP 17 28 03.5 -7.2
WDC Whiskeytown Da 37.84 87 ⇑*i*P P 17 27 09.9 +0.6
WDC *e**PP pP 17 27 45.9 -3.3
WDC *e**SP sP 17 28 03.5 -7.3
WDC pmax pmax
comp=Z,54nm,0.9s,mb5.2
WDC Whiskeytown Da 37.84 87 ⇑P P 17 27 10.1 +0.7
baz=38,SNR=24
H08A Prairie City 37.90 79 P P 17 27 09.9 +0.1
baz=38,SNR=33
K06A Valley Falls 37.92 82 ⇑P P 17 27 10.9 +0.9
baz=38,SNR=57
D11A Klaveano Farm, 37.93 74 ⇓P P 17 27 08.7 -1.3
baz=38,SNR=26
O02C Red Bluff 37.93 87 ⇓P P 17 27 10.7 +0.5
baz=38,SNR=23
F10A Beach Ranch, E 37.97 76 P P 17 27 09.9 -0.5
baz=38,SNR=33
L05A Lakeview 38.00 84 ⇓P P 17 27 11.5 +0.8
baz=38,SNR=31
P01C Double 8 Ranch 38.03 89 ⇑P P 17 27 11.6 +0.6
baz=38,SNR=11
J07A Hines 38.16 81 ⇑P P 17 27 12.2 +0.2
baz=38,SNR=25
M05C Lookout 38.22 85 ⇓P P 17 27 13.1 +0.6
baz=38,SNR=47
GASB Alder Springs 38.30 88 P P 17 27 14.6 +1.4
baz=38,SNR=14
I08A Drewsey 38.30 80 ⇓P P 17 27 13.2 0.0
baz=38,SNR=24
B13A Whitefish 38.33 71 ⇑P P 17 27 12.6 -0.8
baz=38,SNR=6.5
HATC Hat Creek Radi 38.35 86 ⇓P P 17 27 14.5 +0.9
baz=38,SNR=31
E11A Bogner Ranch, 38.37 75 P P 17 27 12.1 -1.6
baz=38,SNR=28
G10A Bishop Farm, J 38.40 77 P P 17 27 13.8 -0.1
baz=38,SNR=111
LBCM Butte Creek Ri 38.41 86 ⇑P P 17 27 14.8 +0.7
MOD Modoc 38.41 83 ⇓*i*P P 17 27 14.3 +0.2
comp=Z,68nm,0.6s,mb5.5
MOD *e*pP pP 17 27 51.0 -3.1
MOD *es*P sP 17 28 12.3 -3.2
MOD *e*ScP ScP 17 32 52.7 -0.2
MOD Modoc 38.41 83 ⇑P P 17 27 14.4 +0.3
baz=38,SNR=70
H09A Durkee 38.42 78 ⇑P P 17 27 14.0 -0.1
baz=38,SNR=27
HOPS Hopland 38.49 89 *e*P **P 17 27 14.8 0.0**
comp=Z,109nm,1.3s,mb5.3
HOPS *e*pP pP 17 27 52.4 -2.3
HOPS Hopland 38.49 89 ⇑P P 17 27 15.5 +0.7
baz=38,SNR=5.3
O03C Acorn Hollow, 38.50 87 ⇓P P 17 27 15.2 +0.3
baz=38
BMO Blue Mountains 38.53 77 ⇑*i*P P 17 27 14.6 -0.5
comp=Z,78nm,1.0s,mb5.3
BMO *e*pP pP 17 27 53.0 -2.1
BMO *e*PcP PcP 17 29 22.4 -1.2
BMO *e*ScP ScP 17 32 50.9 -2.4
BMO Blue Mountains 38.53 77 P **P 17 27 15.0 -0.1**
BMO pmax pmax
comp=Z,78nm,1.0s,mb5.3
BOD Bodaibo 38.55 306 *e*P **P 17 27 14.8 -0.2**
BOD pmax pmax
comp=Z,7.0nm,1.4s,mb4.1
BOD pmax pmax
comp=Z,14nm,1.2s,mb4.5
K07A Rock Creek Ran 38.59 82 ⇓P P 17 27 16.0 +0.4
baz=38,SNR=127
C13A Hot Springs 38.63 72 P P 17 27 15.2 -0.6
baz=38,SNR=19
F11A Grangeville 38.65 75 ⇓P P 17 27 15.1 -0.9
baz=38,SNR=17
J08A Circle Bar Ran 38.67 80 ⇓P P 17 27 16.4 +0.1
baz=38,SNR=47
M06C Likely Place G 38.72 84 ⇑P P 17 27 17.4 +0.7
baz=39,SNR=14
I09A Lost Marbles R 38.76 79 ⇑P P 17 27 16.3 -0.7
baz=39,SNR=7.5
G11A Walters Elk Ra 38.85 76 P P 17 27 16.9 -0.8
baz=39,SNR=50
O04C Chester 38.88 86 ⇑P P 17 27 18.8 +0.8
baz=39,SNR=40
ELFS Eagle Lake Fie 38.92 85 P P 17 27 19.5 +1.2
baz=39,SNR=48
L07A Adell 38.92 83 P P 17 27 19.4 +1.0
baz=39,SNR=79
MNRC McLaughlin Nat 38.94 89 P P 17 27 19.8 +1.2
baz=39,SNR=8.1
D13A Huson 39.00 73 ⇑P P 17 27 17.5 -1.4
baz=39,SNR=23
K08A Mann Creek Ran 39.02 81 P P 17 27 19.8 +0.6
baz=39,SNR=34
ORV Oroville 39.10 87 ⇓P P 17 27 19.4 -0.4
baz=39,SNR=19
WVOR Wild Horse Val 39.10 82 ⇑*i*P P 17 27 20.0 +0.2
comp=Z,88nm,1.0s,mb5.3
WVOR *es*P sP 17 28 13.3 -8.1
WVOR *e*ScP ScP 17 32 54.0 -1.6
WVOR Wild Horse Val 39.10 82 ⇑*i*P P 17 27 20.0 +0.1
WVOR *e**SP sP 17 28 13.3 -8.1
WVOR pmax pmax
comp=Z,87nm,1.0s,mb5.3
J09A Fry Pan Ranch, 39.11 80 ⇑P P 17 27 19.8 -0.1
baz=39,SNR=63
SUTB Sutter Butte 39.12 88 ⇓P P 17 27 19.7 -0.4
baz=39
O05C Quincy 39.20 86 ⇓P P 17 27 21.2 +0.5
baz=39,SNR=19
OHCM Honcut 39.24 88 *e*P **P 17 27 20.7 -0.4**
F12A Elk City 39.25 75 P P 17 27 20.5 -0.5
baz=39,SNR=90
I10A Payette 39.26 78 ⇓P P 17 27 21.2 +0.1
baz=39,SNR=12
CVS Carmenet Viney 39.27 89 ⇓P P 17 27 21.0 -0.3
baz=39,SNR=8.0
FARB Farallon Islan 39.35 91 ⇓P P 17 27 21.8 -0.1
baz=39
Q03C Winters 39.36 89 ⇓P P 17 27 23.3 +1.3
baz=39
HIA Hailar 39.37 292 *e*P **P 17 27 20.8 -1.1**
comp=Z,12nm,0.6s,mb4.7
HIA *es*P sP 17 28 16.4 -7.1
HIA Hailar 39.37 292 *e*P **P 17 27 20.8 -1.1**
HIA pmax pmax
comp=Z,12nm,0.6s
N06A Buffalo Meadow 39.38 85 ⇑P P 17 27 22.7 +0.6
baz=39,SNR=105
H11A Donnelly 39.38 77 P P 17 27 21.8 -0.4
baz=39,SNR=29
M07A Soldier Meadow 39.40 83 ⇓P P 17 27 23.0 +0.7
baz=39,SNR=60
L08A Fields 39.42 82 ⇓P P 17 27 22.6 +0.1
baz=39,SNR=12
MSO Missoula 39.44 73 ⇓*i*P P 17 27 21.5 -1.1
comp=Z,91nm,1.5s,mb5.2
MSO *e*pP pP 17 27 59.3 -3.4
MSO *e*PcP PcP 17 29 25.6 -0.9
K09A Rome 39.50 81 P P 17 27 23.1 0.0
baz=39,SNR=43
E13A Victor 39.50 73 P P 17 27 22.1 -0.9
baz=39,SNR=14
D14A Greenough 39.56 72 P P 17 27 22.5 -1.0
baz=39,SNR=40
BEKR Beckwourth 39.60 86 P P 17 27 24.3 +0.4
baz=39,SNR=32
Q04C Lincoln 39.62 88 ⇑P P 17 27 24.0 -0.1
baz=40
J10A Berg Farm, Mel 39.65 79 ⇑P P 17 27 23.9 -0.4
baz=40
O06A Flanigan 39.74 85 ⇓P P 17 27 25.4 +0.3
baz=40,SNR=35
F13A Darby 39.77 74 P P 17 27 24.7 -0.7
baz=40,SNR=32
P05C Yuba Gap, Truc 39.80 87 P P 17 27 26.0 +0.4
baz=40,SNR=24
M08A Happy Creek Ra 39.84 83 P P 17 27 26.7 +0.8
baz=40,SNR=47
I11A Placerville 39.86 78 ⇓P P 17 27 25.6 -0.5
baz=40,SNR=42
BDM Black Diamond 39.88 89 ⇓P P 17 27 26.0 -0.3
baz=40
N07B Gerlach 39.88 84 P P 17 27 27.0 +0.7
baz=40,SNR=81
E14A Clinton 39.92 73 P P 17 27 25.8 -0.7
baz=40,SNR=30
L09A Wilkinson Ranc 39.93 81 ⇓P P 17 27 27.1 +0.4
baz=40,SNR=34
K10A MacKenzie Ranc 39.97 80 ⇑P P 17 27 26.8 -0.1
baz=40,SNR=109
P06A Stead Airport, 39.99 86 ⇓P P 17 27 27.5 +0.3
baz=40
JRSC Jasper Ridge 40.01 90 ⇑P P 17 27 26.7 -0.6
baz=40
LAVA Lava Cap Winer 40.06 88 P P 17 27 28.1 +0.3
baz=40,SNR=21
D15A Lincoln 40.15 72 P P 17 27 27.4 -1.0
baz=40,SNR=24
H12A Diamond D Ranc 40.15 76 P P 17 27 27.8 -0.7
baz=40,SNR=61
WENL Wente Brothers 40.16 90 ⇓P P 17 27 28.6 0.0
baz=40
G13A Cobalt 40.22 75 P P 17 27 28.5 -0.5
baz=40,SNR=82
MFID Camas Ranch 40.22 78 P P 17 27 28.8 -0.3
baz=40,SNR=33
F14A Wisdom 40.32 74 ⇓P P 17 27 29.1 -0.7
baz=40,SNR=7.9
N08A GE Springer Mi 40.39 83 ⇓P P 17 27 30.4 -0.1
baz=40,SNR=37
E15A Deer Lodge 40.41 73 P P 17 27 29.7 -0.9
baz=40,SNR=27
M09A Marrel Ranch, 40.42 82 ⇓P P 17 27 30.9 +0.2
baz=40,SNR=19
K11A Parker Ranch, 40.47 79 ⇑P P 17 27 31.1 0.0
baz=40,SNR=49
R05C Kirkwood Meado 40.49 87 P P 17 27 32.0 +0.7
baz=40,SNR=35
S04C Ingram Canyon, 40.49 90 ⇓P P 17 27 31.0 -0.3
baz=40
H13A Challis 40.50 76 P P 17 27 30.6 -0.7
baz=40,SNR=43
G14A Jackson 40.59 75 ⇓P P 17 27 31.0 -1.0
baz=40,SNR=26
L10A Juniper Basin 40.62 81 ⇓P P 17 27 32.4 +0.1
baz=40,SNR=62
O08A Rochester Mine 40.67 84 ⇓P P 17 27 33.4 +0.6
baz=40
P07A Fallon 40.69 85 ⇑P P 17 27 33.6 +0.7
baz=40
N09A Rock Creek Ran 40.71 83 ⇓P P 17 27 33.2 +0.1
baz=41,SNR=25
CMB Columbia Colle 40.73 88 ⇑*i*P P 17 27 33.3 +0.1
comp=Z,54nm,1.3s,mb5.0
CMB *e*pP pP 17 28 10.7 -3.0
CMB *es*P sP 17 28 30.1 -4.9
CMB *e*ScP ScP 17 33 01.2 -0.7
CMB Columbia Colle 40.73 88 ⇑*i*P P 17 27 33.3 0.0

CMB e*PP pP 17 28 10.7 -2.9
CMB pmax pmax
comp=Z,54nm,1.3s,mb5.0
CMB Columbia Colle 40.73 88 ⇑P P 17 27 33.3 0.0
baz=41,SNR=18
J12A Stokes Ranch, 40.75 78 P P 17 27 33.5 +0.1
baz=41,SNR=76
F15A Butte 40.82 73 P P 17 27 33.0 -0.9
baz=41,SNR=11
PACP Pacheco Peak 40.84 90 ⇑P P 17 27 34.5 +0.3
baz=41,SNR=10
SAO San Andreas Ge 40.90 91 *eP* **P 17 27 34.3 -0.4**
comp=Z,18nm,0.8s,mb4.7
SAO San Andreas Ge 40.90 91 *eP* **P 17 27 34.3 -0.4**
SAO pmax pmax
comp=Z,18nm,0.8s,mb4.8
M10A I.L. Ranch, Tu 40.90 81 ⇓P P 17 27 34.7 0.0
baz=41,SNR=42
I13A Wildhorse Cree 40.95 77 P P 17 27 34.8 -0.2
baz=41,SNR=142
HLID Hailey 40.98 77⇑*iP* **P 17 27 35.0 -0.2**
comp=Z,190nm,1.4s,mb5.5
HLID *e*pP pP 17 28 13.6 -2.0
HLID *e*sP sP 17 28 30.9 -6.2
HLID *e*PP PP 17 29 17.3 +3.7
HLID *e*PcP PcP 17 29 31.6 +0.1
HLID *e*ScP ScP 17 33 03.0 +0.1
HLID Hailey 40.98 77 ⇓P P 17 27 34.8 -0.5
baz=41
R06C Coleville 40.99 87 ⇓P P 17 27 36.2 +0.8
baz=41,SNR=22
L11A Cat Creek Ranc 40.99 80 P P 17 27 35.8 +0.4
baz=41,SNR=102
DLMT Dillon 41.02 74⇑*iP* **P 17 27 34.2 -1.4**
comp=Z,106nm,1.8s,mb5.2
DLMT *e*PcP PcP 17 29 29.7 -1.9
DLMT *e*ScP ScP 17 33 02.7 -0.3
HAST Hastings Reser 41.08 91 ⇓P P 17 27 35.8 -0.4
baz=41,SNR=9.5
P08A Dixie Valley 41.09 85 ⇓P P 17 27 36.8 +0.6
baz=41,SNR=8.5
Q07A Schurz 41.12 86 ⇑P P 17 27 36.9 +0.5
baz=41
G15A Dillon 41.20 74 P P 17 27 36.0 -1.0
baz=41,SNR=28
S05C Merced 41.20 89 ⇑P P 17 27 37.2 +0.1
baz=41,SNR=5.5
EGMT Eagleton 41.21 69 *eP* **P 17 27 35.1 -2.0**
comp=Z,26nm,1.0s,mb4.8
EGMT *e*pP pP 17 28 16.4 -1.1
EGMT Eagleton 41.21 69 ⇑P P 17 27 35.8 -1.3
baz=41
J13A Cove Ranch, Pi 41.21 77 P P 17 27 37.3 +0.1
baz=41,SNR=78
K12A Draper Farm, C 41.23 79 P P 17 27 37.5 +0.2
baz=41,SNR=72
T05C Eagle Field, D 41.29 90 ⇑P P 17 27 38.0 +0.2
baz=41
KSRS Korea Array 41.30 271 P P 17 27 37.9 -0.1
comp=Z,14nm,0.7s,mb4.7,baz=52,slow=7.7,SNR=45
KSRS pP pP 17 28 15.0 -3.4
comp=Z,16nm,1.1s,baz=62,slow=7.0,SNR=3.1
KSRS sP sP 17 28 36.8 -3.0
comp=Z,12nm,1.0s,baz=58,slow=8.0,SNR=3.6
KSRS ScP ScP 17 33 04.3 +0.1
comp=Z,1.8nm,0.8s,baz=68,slow=4.1,SNR=4.7
O09A Fish Creek Ran 41.33 83 ⇑P P 17 27 38.8 +0.7
baz=41,SNR=13
N10A Dunphy 41.41 82 ⇑P P 17 27 39.0 +0.2
baz=41,SNR=6.6
M11A Holland Ranch, 41.41 81 P P 17 27 39.5 +0.7
baz=41,SNR=57
BOZ Bozeman (W) 41.43 73⇑*iP* **P 17 27 38.2 -0.7**
comp=Z,47nm,1.0s,mb5.1
BOZ *e*pP pP 17 28 16.0 -3.4
BOZ *e*sP sP 17 28 32.2 -8.6
BOZ Bozeman (W) 41.43 73 P P 17 27 38.2 -0.7
BOZ pmax pmax
comp=Z,47nm,1.0s,mb5.1
BOZ Bozeman (W) 41.43 73 ⇑P P 17 27 38.3 -0.6
baz=41
L12A House Creek Ra 41.45 79 ⇑P P 17 27 39.2 +0.2
baz=41,SNR=179
R07C Lee Vining 41.51 87 ⇓P P 17 27 40.2 +0.6
baz=41,SNR=13
U04C Hernandez Rese 41.57 90 ⇓P P 17 27 40.6 +0.5
baz=41,SNR=6.8
O10A Cortez Mining, 41.67 83 ⇑P P 17 27 41.3 +0.3
baz=42,SNR=34
Q08A Gabbs 41.70 85 ⇓P P 17 27 41.1 -0.1
baz=42,SNR=42
K13A Stover Farm, H 41.70 78 ⇓P P 17 27 41.0 -0.1
baz=42,SNR=9.9
NVAR Mina Array Bea 41.74 86 P P 17 27 41.8 +0.3
comp=Z,16nm,0.6s,mb4.8,baz=54,slow=26,SNR=121
NVAR pP pP 17 28 18.7 -3.3
comp=Z,5.9nm,0.9s,baz=299,slow=6.6,SNR=2.1
NVAR sP sP 17 28 40.3 -3.1
comp=Z,19nm,1.0s,baz=305,slow=7.9,SNR=4.2
NVAR PcP PcP 17 29 34.6 +0.6
comp=Z,5.3nm,0.7s,baz=334,slow=1.6,SNR=4.1
NVAR ScP ScP 17 33 06.6 +0.6
comp=Z,9.9nm,1.0s,baz=305,slow=2.0,SNR=16
P09A Austin 41.74 84 ⇓P P 17 27 42.1 +0.6
baz=42,SNR=17
T06C Millerton Lake 41.80 89 ⇑P P 17 27 41.9 -0.1
baz=42,SNR=16
N11A Elko Archery C 41.81 82 ⇑P P 17 27 42.5 +0.4
baz=42
KCC Kaiser Creek 41.83 88 ⇓P P 17 27 42.8 +0.5
baz=42,SNR=25
R08A Mina 41.91 86 ⇑P P 17 27 43.3 +0.4
baz=42,SNR=9.0
MLAC Mammoth Lakes 41.93 88 ⇑P P 17 27 44.0 +0.9
baz=42
M12A Wells 41.94 80 P P 17 27 43.7 +0.6
baz=42,SNR=57
PKD Parkfield 41.99 91 P P 17 27 43.7 +0.2
baz=42,SNR=10
V04C Ramage Ranch, 41.99 91 ⇑P P 17 27 43.8 +0.2
baz=42
FFC Flin Flon 42.00 56 *eP* **P 17 27 40.9 -2.4**
comp=Z,3.4nm,0.7s,mb4.1
FFC *e*pP pP 17 28 22.8 -1.2
FFC Flin Flon 42.00 56 *eP* **P 17 27 40.9 -2.4**
FFC pmax pmax
comp=Z,3.0nm,0.7s,mb4.0
QLMT Earthquake Lak 42.01 74 *eP* **P 17 27 42.6 -1.0**
INCN Inchon 42.07 272 *eP* **P 17 27 43.9 -0.3**
comp=Z,14nm,0.6s,mb4.8
Q09A Carvers 42.17 85 P P 17 27 45.9 +0.9
baz=42,SNR=22
N12A Clover Valley, 42.21 81 P P 17 27 45.9 +0.6
baz=42,SNR=31
O11A Cowboy Ranch, 42.28 82 P P 17 27 46.3 +0.5
baz=42,SNR=56
K14A Jones Ranch, D 42.31 78 P P 17 27 45.9 -0.1
baz=42,SNR=22
S08C White Mtn Res 42.42 87 P P 17 27 48.0 +1.1
baz=42,SNR=34
V05C Boulder Hill, 42.43 90 ⇑P P 17 27 47.7 +0.7
baz=42
HELL Mitchell Peak 42.43 89 P P 17 27 47.1 0.0
baz=42,SNR=40
R09A Tonopah 42.61 85 P P 17 27 48.9 +0.3
baz=42,SNR=159
Q10A Clear Creek Ra 42.65 84 P P 17 27 49.5 +0.7
baz=42,SNR=79
TIN Tinemaha 42.67 88 ⇑P P 17 27 49.6 +0.5
baz=42
N13A Wendover, West 42.71 80 P P 17 27 49.7 +0.4
baz=43,SNR=22
SMMC Simmler 42.74 91 ⇑P P 17 27 49.8 +0.2
baz=43
O12A Currie 42.75 82 P P 17 27 49.7 +0.1
baz=43,SNR=59
LKWY Lake 42.76 74 *eP* **P 17 27 49.8 +0.1**
comp=Z,63nm,1.4s,mb5.0
LKWY Lake 42.76 74 *eP* **P 17 27 45.1 -4.5**
LKWY pmax pmax
comp=Z,63nm,1.4s,mb5.0
M14A Sheep Mountain 42.83 79 P P 17 27 50.3 +0.1
baz=43,SNR=55
IMW Indian Meadow 42.83 75 *eP* **P 17 27 50.0 -0.2**
comp=Z,87nm,1.4s,mb5.2
IMW *e*pP pP 17 28 29.9 -1.1
FLWY Flagg Ranch 42.87 74 *eP* **P 17 27 50.5 0.0**
comp=Z,63nm,0.9s,mb5.2
FLWY *e*pP pP 17 28 31.9 +0.6
VES Vestal, Richgr 42.95 90 ⇑P P 17 27 50.7 -0.6
baz=43,SNR=20
MOOW Moose Ponds 43.03 75 *eP* **P 17 27 51.1 -0.8**
comp=Z,54nm,1.5s,mb5.0
MOOW *e*pP pP 17 28 30.5 -2.1
R10A Warm Springs 43.05 85 ⇓P P 17 27 52.0 0.0
baz=43,SNR=20
TPAW Teton Pass 43.06 75 *eP* **P 17 27 51.8 -0.4**
comp=Z,18nm,0.7s,mb4.8
Q11A Duckwater 43.09 84 P P 17 27 52.6 +0.3
baz=43,SNR=82
RLMT Red Lodge 43.10 72 *eP* **P 17 27 51.6 -0.7**
comp=Z,114nm,1.4s,mb5.3
S10A Tonopah Range, 43.10 86 P P 17 27 52.6 +0.2
baz=43,SNR=78
PKM Peak Mountain 43.13 91 P P 17 27 53.6 +0.8
baz=43,SNR=7.0
P12A McGill 43.14 83 P P 17 27 53.1 +0.4
baz=43,SNR=71
CWC Cottonwood Cre 43.16 88 ⇑P P 17 27 53.1 +0.1
baz=43,SNR=20
LOHW Long Hollow 43.20 75⇑*iP* **P 17 27 52.3 -0.8**
comp=Z,41nm,1.1s,mb5.0
LOHW *e*pP pP 17 28 32.8 -1.2
SNOW Snow King Moun 43.20 75 *eP* **P 17 27 53.3 +0.2**
comp=Z,15nm,0.5s,mb4.9
REDW Red Top Meadow 43.20 75 *eP* **P 17 27 52.6 -0.6**
comp=Z,64nm,1.3s,mb5.1
REDW *e*pP pP 17 28 32.7 -1.3
GRAC Grapevine Rang 43.23 87 P P 17 27 54.1 +0.6
baz=43,SNR=21
O13A Hicks Ranch, I 43.29 81 ⇑P P 17 27 54.0 +0.1
baz=43
N14A Grayback Hills 43.32 80 P P 17 27 54.2 0.0
baz=43,SNR=40
M15A Larsen Ranch, 43.39 79 P P 17 27 54.7 0.0
baz=43,SNR=25
AHID Auburn Hatcher 43.41 76 *eP* **P 17 27 54.4 -0.5**
comp=Z,29nm,0.2s,mb5.6
ISA Isabella 43.43 89 P P 17 27 54.8 -0.4
baz=43,SNR=17
R11A Troy Canyon, C 43.44 84 P P 17 27 55.2 0.0
baz=43,SNR=93
ARVC Arvin 43.57 90 ⇑P P 17 27 55.5 -0.8
baz=43
P13A Bates Ranch, G 43.69 82 P P 17 27 57.2 +0.1
baz=44,SNR=70
N15A Stansbury Isla 43.70 79 ⇓P P 17 27 57.2 0.0
baz=44,SNR=14
MPMC Manual Prospec 43.77 88 P P 17 27 58.1 +0.3
baz=44,SNR=30
S11A Rachel 43.80 85 P P 17 27 58.5 +0.4
baz=44,SNR=30
HWUT Hardware Ranch 43.83 78⇑*iP* **P 17 27 57.8 -0.4**
comp=Z,34nm,0.7s,mb5.1
HWUT *e*ScP ScP 17 33 12.8 -1.6
BSC Santa Cruz Isl 43.85 92 ⇑P P 17 27 58.2 -0.3
baz=44
FURC Furnace Creek, 43.88 87 P P 17 27 59.1 +0.3
baz=44,SNR=27
TPNV Topopah Spring 43.94 86⇑*iP* **P 17 27 59.0 -0.2**
comp=Z,81nm,0.8s,mb5.4
TPNV *e*pP pP 17 28 37.2 -2.9
TPNV *e*sP sP 17 28 57.0 -4.3
TPNV *e*ScP ScP 17 33 14.6 -0.3
TPNV Topopah Spring 43.94 86⇑*iP* **P 17 27 59.0 -0.2**
TPNV pmax pmax
comp=Z,81nm,0.8s,mb5.4
TPNV Topopah Spring 43.94 86 ⇑P P 17 27 59.1 -0.1
baz=44
LAO LASA Array 43.95 69 *eP* **P 17 27 58.1 -1.0**
comp=Z,182nm,1.5s,mb5.5
DUG Dugway 43.95 80⇑*iP* **P 17 27 59.1 -0.1**
comp=Z,131nm,1.0s,mb5.5
DUG *e*pP pP 17 28 37.7 -2.5
DUG *e*sP sP 17 28 58.1 -3.3
DUG *e*ScP ScP 17 33 14.5 -0.4
DUG Dugway 43.95 80⇑*iP* **P 17 27 59.1 -0.1**
DUG pmax pmax
comp=Z,131nm,1.0s,mb5.5
DUG Dugway 43.95 80 ⇓P P 17 27 59.5 +0.2
baz=44
OSI Osito Adit 43.98 91 ⇓P P 17 27 59.6 0.0
baz=44,SNR=5.4
R12A Pony Springs, 44.05 84 P P 17 28 00.1 +0.1
baz=44,SNR=27
DGMT Dagmar 44.08 65 *eP* **P 17 27 59.7 -0.4**
comp=Z,24nm,0.9s,mb4.8
DGMT *e*pP pP 17 28 41.8 +0.8
BLG Laguna Peak 44.12 92 ⇑P P 17 27 60.0 -0.6
baz=44
U10A Ash Meadows, A 44.24 87 P P 17 28 02.1 +0.5
baz=44,SNR=9.3
EDW2 Edwards Air Fo 44.25 90 P P 17 28 01.4 -0.2
baz=44,SNR=9.9
BW06 Boulder Array 44.31 75⇑*iP* **P 17 28 01.3 -0.7**
comp=Z,76nm,0.8s,mb5.4
BW06 *e*pP pP 17 28 40.5 -2.5
BW06 *e*sP sP 17 28 58.1 -6.2
PDAR Pinedale Array 44.31 75 P P 17 28 01.7 -0.4
comp=Z,42nm,0.5s,mb5.4,baz=300,slow=3.9,SNR=556
PDAR pP pP 17 28 40.3 -2.8
comp=Z,27nm,1.1s,baz=305,slow=5.2,SNR=2.4
S12A Delamar Landin 44.36 85 ⇑P P 17 28 02.8 +0.2
baz=44,SNR=40
T11A Corn Creek, Al 44.38 85 P P 17 28 02.9 +0.3
baz=44,SNR=105
SNCC San Nicolas Is 44.42 93 ⇓P P 17 28 02.8 -0.3
baz=44
DECC Green Verdugo 44.47 91 ⇓P P 17 28 03.3 -0.1
baz=44
SHOC Shoshone 44.61 87 ⇓P P 17 28 04.4 -0.1
baz=44,SNR=14
GSC Goldstone 44.69 89 ⇑P P 17 28 05.0 -0.1
baz=44,SNR=49
U11A Corn Creek 44.81 86 ⇑P P 17 28 06.1 0.0
baz=45
BFSC Mount Baldy St 44.88 90 ⇑P P 17 28 06.4 -0.3
baz=45,SNR=19
S13A Holt Ranch, En 44.98 84 P P 17 28 07.7 +0.3
baz=45,SNR=36
CIS Catalina Islan 45.00 92 ⇓P P 17 28 06.8 -0.8
baz=45
T12A Moapa 45.02 85 ⇓P P 17 28 07.5 -0.2
baz=45,SNR=5.4
R14A James Farms, M 45.02 82 ⇓P P 17 28 07.7 0.0
baz=45
TUQ Turquoise Mtn. 45.14 88 P P 17 28 08.7 +0.1
baz=45,SNR=16
V11A Goodsprings 45.17 87 ⇑P P 17 28 08.8 -0.1
baz=45,SNR=9.9
S14A Cedar City 45.28 83 ⇑P P 17 28 09.6 -0.2
baz=45
HEC Hector,Ludlow 45.29 89 P P 17 28 09.9 0.0
baz=45,SNR=24
T13A Saint George 45.32 85 P P 17 28 10.6 +0.5
baz=45,SNR=24
BBRC Big Bear Sol-O 45.32 90 ⇑P P 17 28 09.8 -0.3
baz=45
U12A Valley of Fire 45.32 86 P P 17 28 10.4 +0.4
baz=45,SNR=12
MURC Murrieta 45.60 91 ⇑P P 17 28 11.9 -0.4
baz=45
U13A Pakoon Wash 45.68 85 P P 17 28 13.4 +0.5
baz=46,SNR=23
GMRC Granite Mounta 45.73 88 P P 17 28 13.4 0.0
baz=46,SNR=57
T14A Hurricane 45.79 84 ⇓P P 17 28 13.8 0.0
baz=46
W12A Cal Nev Ari 45.87 87 ⇑P P 17 28 14.5 +0.1
baz=46
PFO Pinyon Flat Ob 46.05 90⇑*iP* **P 17 28 14.2 -1.6**
comp=Z,11nm,0.7s,mb4.6
PFO *e*pP pP 17 28 53.9 -3.2
PFO Pinyon Flat Ob 46.05 90⇑*iP* **P 17 28 14.2 -1.6**
PFO pmax pmax
comp=Z,11nm,0.7s,mb4.6
PFO Pinyon Flat Ob 46.05 90 P P 17 28 15.5 -0.3
baz=46,SNR=5.7
BELC Belle Mtn. 46.06 89 P P 17 28 15.5 -0.4
baz=46,SNR=12
IRK Irkutsk 46.14 303 *eP* **P 17 28 16.5 +0.3**
IRK *e* 17 29 46.5
IRK pmax pmax
comp=Z,22nm,1.5s,mb4.6
109C Camp Elliot, M 46.14 91 ⇓P P 17 28 16.1 -0.4
baz=46
U14A Mt Trumbull 46.15 85 P P 17 28 17.2 +0.6
baz=46,SNR=16
T15A Red Dirt Ranch 46.24 83 P P 17 28 17.8 +0.5
baz=46,SNR=62
RWWY Rawlins 46.35 75 *eP* **P 17 28 16.8 -1.3**
comp=Z,81nm,1.0s,mb5.3
RWWY *e*pP pP 17 28 57.2 -2.2
NEE2 Needles Airpor 46.38 87 ⇑P P 17 28 17.9 -0.5
baz=46
IRM Iron Mountain 46.46 88 P P 17 28 18.9 -0.1
baz=46,SNR=34
MONP Monument Peak 46.56 91 ⇓P P 17 28 19.7 -0.1
baz=46
W13A Hualapai Mount 46.60 86 ⇑P P 17 28 19.8 -0.3
baz=46,SNR=34
BC3 Big Chuckw Mtn 46.62 89 P P 17 28 19.7 -0.6
baz=46,SNR=12
V14A Boquillas Ranc 46.72 85 ⇓P P 17 28 21.0 0.0
baz=47,SNR=43
BJI Beijing 46.74 283 P P 17 28 20.1 -1.0
BJI AP pP 17 28 57.8 -4.7
BJI XP sP 17 29 15.8 -7.8
BJI PCP PcP 17 29 46.3 -4.9
BJI PP PP 17 30 11.5 -1.4
BJI S **S 17 34 51.8 -4.3**
BJI AMB AMB
comp=Z,10.0nm,0.7s,mb4.5
BJI AMB AMB
comp=Z,135nm,4.5s
TLY Talaya 46.77 303 *eP* **P 17 28 21.5 +0.3**
comp=Z,4.5nm,0.8s,mb4.2
TLY Talaya 46.77 303 *eP* **P 17 28 22.6 +1.4**
TLY *e*S **S 17 34 56.6 +0.3**
TLY *e*SS SS 17 38 22.9 -1.7
TLY pmax pmax
comp=Z,16nm,1.4s,mb4.5
TLY MLR MLR
comp=Z,258nm,20.0s
T16A Glen Canyon Da 46.79 83 P P 17 28 21.0 -0.5
baz=47,SNR=8.7
SWSC Sam W. Stewart 46.90 90 ⇓P P 17 28 21.8 -0.6
baz=47
DVTC Desert V Tower 46.91 91 ⇑P P 17 28 22.0 -0.5
baz=47
X13A Yucca 46.97 87 ⇓P P 17 28 22.4 -0.6
baz=47
PDMCI Parker Dam,Lak 46.98 87 P P 17 28 22.6 -0.4
baz=47,SNR=22
W14A Seligman 47.01 86 P P 17 28 23.6 +0.3
baz=47,SNR=34
Y12C Blythe 47.12 88 P P 17 28 24.0 -0.2
baz=47,SNR=19
ULN Ulaanbaatar 47.18 297⇓*eP* **P 17 28 24.1 -0.3**
comp=Z,13nm,0.9s,mb4.6
ULN *e*pP pP 17 29 04.0 -1.8
ULN *e*ScP ScP 17 33 26.7 -1.4
ULN Ulaanbaatar 47.18 297⇓*eP* **P 17 28 24.1 -0.3**
ULN pmax pmax
comp=Z,13nm,0.9s,mb4.6
GLA Glamis 47.42 89 P P 17 28 26.3 -0.1
baz=47,SNR=39
Y13A Salome 47.50 88 P P 17 28 27.0 -0.1
baz=47,SNR=8.9
W15A Williams 47.53 85 ⇓P P 17 28 27.5 +0.2
baz=47,SNR=14
ULM Lac du Bonnet 47.55 59 *eP* **P 17 28 24.9 -2.2**
comp=Z,3.1nm,0.4s,mb4.3
ULM *e*pP pP 17 29 06.5 -2.2
ULM Lac du Bonnet 47.55 59 P P 17 28 25.1 -2.1
comp=Z,3.1nm,0.3s,mb4.4,baz=309,slow=8.3,SNR=14
ULM LR LR 17 47 51.9
comp=Z,183nm,18.4s,baz=282,slow=35
SONM Songino Array 47.56 297 P P 17 28 27.8 +0.5
comp=Z,8.2nm,0.7s,mb4.4,baz=49,slow=9.0,SNR=38
SONM pP pP 17 29 07.8 -1.0
comp=Z,2.7nm,0.8s,baz=65,slow=8.4,SNR=2.1
SONM ScP ScP 17 33 29.0 -0.8
comp=Z,4.8nm,0.8s,baz=39,slow=3.2,SNR=11
PHWY Pilot Hill 47.62 74⇑*iP* **P 17 28 26.4 -1.5**
X14A Yava 47.63 86 P P 17 28 28.2 +0.1
baz=48,SNR=33
ZAK Zakamensk 47.71 301 *eP* **P 17 28 28.7 +0.3**
ZAK *e* 17 29 03.3
ZAK *e* 17 35 08.3
ZAK pmax pmax
comp=Z,8.0nm,1.2s,mb4.2
ZAK pmax pmax
comp=Z,12nm,1.4s,mb4.3
ZAK pmax pmax
comp=Z,3.0nm,1.2s,mb3.8
WUAZ Wupatki 47.84 84⇑*iP* **P 17 28 29.8 +0.2**
comp=Z,64nm,0.8s,mb5.3
WUAZ *e*pP pP 17 29 08.8 -2.4
WUAZ *e*sP sP 17 29 24.9 -7.4
WUAZ *e*ScP ScP 17 33 31.5 +0.3
WUAZ Wupatki 47.84 84 ⇑P P 17 28 29.7 +0.1
baz=48
Y14A Wickenburg 47.92 87 P P 17 28 30.1 -0.2
baz=48,SNR=18
X15A Humboldt 48.01 86 P P 17 28 31.4 +0.4
baz=48,SNR=24
SMCO Snowmass 48.08 77⇑*iP* **P 17 28 30.8 -0.7**
comp=Z,38nm,0.6s,mb5.2
SMCO *e*PcP PcP 17 29 56.1 +0.1
MOY Mondy 48.13 304 *eP* **P 17 28 33.6 +2.0**
Y15A Casa Rosa Ranc 48.32 86 P P 17 28 33.5 +0.1
baz=48,SNR=26
Z14A Wintersburg 48.35 87 ⇓P P 17 28 33.1 -0.5
baz=48
MVCO Mesa Verde 48.45 80⇑*iP* **P 17 28 33.5 -0.9**
comp=Z,34nm,0.5s,mb5.2
MVCO Mesa Verde 48.45 80 ⇓P P 17 28 33.7 -0.6
baz=48
ISCO Idaho Springs 48.49 76⇑*iP* **P 17 28 33.9 -0.7**
comp=Z,25nm,0.8s,mb4.9
ISCO Idaho Springs 48.49 76⇑*iP* **P 17 28 33.9 -0.6**
ISCO pmax pmax
comp=Z,25nm,0.8s,mb4.9
X16A Lo Mia Camp, P 48.54 85 ⇓P P 17 28 35.3 +0.3
baz=48,SNR=36
AGMN Agassiz Refuge 48.71 61⇑*eP* **P 17 28 33.5 -2.6**
comp=Z,63nm,1.2s,mb5.1
Y16A Circle Bar Ran 48.89 86 ⇓P P 17 28 37.6 0.0
baz=49
HHC Hu-ho-hao-te 48.94 286 *eP* **P 17 28 37.9 -0.1**
HHC AP pP 17 29 12.0 -7.7
HHC XP sP 17 29 32.6 -8.2
HHC PCP PcP 17 30 00.8 +1.7
HHC PP PP 17 30 36.9 +4.0
HHC PCS PcS 17 33 54.9 -0.7
HHC S **S 17 35 29.8 +2.7**
HHC XS sS 17 36 32.4 -7.7
HHC AMB AMB
comp=Z,22nm,0.4s,mb5.1
HHC AMB AMB
comp=Z,142nm,5.1s
HHC LR LR
comp=N,392nm,16.3s
HHC LR LR
comp=E,318nm,10.8s
HHC LR LR
comp=Z,395nm,19.4s
SPB4 Spitsbergen Ar 49.16 357 *eP* **P 17 28 39.7 +0.6**
SPB4 *e*pP pP 17 29 24.8 +3.9
115A Sonoran Desert 49.24 88 P P 17 28 40.6 +0.3
baz=49,SNR=20
Z16A Peralta Trail, 49.28 86 ⇑P P 17 28 40.4 -0.3
baz=49
SDCO Great Sand Dun 49.89 78⇑*iP* **P 17 28 45.0 -0.2**
comp=Z,83nm,1.1s,mb5.3
SDCO *e*pP pP 17 29 23.4 -3.7
SDCO *e*ScP ScP 17 33 39.6 -0.2
DAG Danmarks Havn 49.99 7⇓*iP* **P 17 28 46.0 +0.5**
DAG pmax pmax
comp=Z,8.0nm,0.6s,mb4.5
DAG Danmarks Havn 49.99 7⇓*iP* **P 17 28 46.0 +0.5**
comp=Z,8.0nm,0.6s,mb4.5
216A Three Points, 50.19 88 ⇓P P 17 28 46.7 -0.8
baz=50
Z18A Geronimo 50.31 86 ⇓P P 17 28 48.0 -0.3
baz=50
NJ2 Nanjing 50.45 273 *eP* **P 17 28 51.0 +1.6**
NJ2 AP pP 17 29 30.8 -0.7
NJ2 PCP PcP 17 30 06.8 +2.0

NJ2				S	**S**	**17 35 48.0**	**-0.2**
NJ2				XS	sS	17 36 57.0	-4.5
NJ2				AMB	AMB		
	comp=Z,30nm,0.6s,mb5.1						
NJ2				AMB	AMB		
	comp=Z,490nm,5.0s						
NJ2				LR	LR		
	comp=N,580nm,24.6s						
NJ2				LR	LR		
	comp=E,460nm,33.4s						
NJ2				LR	LR		
	comp=Z,470nm,33.3s						
217A	**Green Valley**	**50.74**	**87**	P	**P**	**17 28 51.5**	**-0.2**
	baz=51,SNR=15						
119A	**Ashpeak Ranch,**	**50.97**	**85**	P	**P**	**17 28 53.6**	**+0.3**
	baz=51,SNR=25						
218A	**Dragoon**	**51.07**	**87**	P	**P**	**17 28 54.4**	**+0.3**
	baz=51,SNR=8.7						
ECSD	**EROS,Sioux Fal**	**51.14**	**66⇑**	*iP*	**P**	**17 28 51.6**	**-2.8**
	comp=Z,7.5nm,0.3s,mb4.8						
ECSD				*e*pP	pP	17 29 33.1	-3.5
ECSD				*es*P	sP	17 29 50.1	-7.5
ANMO	**Albuquerque**	**51.19**	**81⇑**	*iP*	**P**	**17 28 54.3**	**-0.7**
	comp=Z,72nm,1.4s,mb5.1						
ANMO				*e*pP	pP	17 29 34.2	-2.9
ANMO				*es*P	sP	17 29 51.3	-6.7
ANMO				*e*PcP	PcP	17 30 07.5	0.0
ANMO				*e*PP	PP	17 30 49.7	-3.7
ANMO	**Albuquerque**	**51.19**	**81⇑**	*iP*	**P**	**17 28 54.3**	**-0.7**
ANMO				*e*		17 30 07.5	
ANMO				*e*		17 30 49.7	
ANMO				pmax	pmax		
	comp=Z,72nm,1.4s						
318A	**Bisbee**	**51.48**	**87**	P	**P**	**17 28 57.0**	**-0.1**
	baz=51,SNR=21						
Y22C	**IRIS PASSCAL I**	**51.51**	**82**	⇓P	**P**	**17 28 58.0**	**+0.7**
	baz=51						
219A	**White Tail Can**	**51.53**	**86**	P	**P**	**17 28 57.6**	**+0.1**
	baz=51,SNR=19						
319A	**Douglas**	**51.95**	**87**	P	**P**	**17 29 00.6**	**0.0**
	baz=52,SNR=11						
CBKS	**Cedar Bluff**	**52.57**	**73⇑**	*iP*	**P**	**17 29 04.0**	**-1.1**
	comp=Z,90nm,0.6s,mb5.7						
CBKS				*e*pP	pP	17 29 45.6	-1.8
CBKS	**Cedar Bluff**	**52.57**	**73⇑**	*iP*	**P**	**17 29 04.0**	**-1.1**
CBKS				pmax	pmax		
	comp=Z,90nm,0.6s,mb5.7						
COWI	**Conover**	**53.66**	**60**	*e*P	**P**	**17 29 10.7**	**-2.2**
	comp=Z,12nm,0.7s,mb4.7						
SFJD	**Kangerlussuaq**	**53.77**	**23⇑**	*e*P	**P**	**17 29 12.8**	**-0.6**
	comp=Z,23nm,0.5s,mb5.2						
SFJD	**Kangerlussuaq**	**53.77**	**23⇑**	*e*P	**P**	**17 29 12.8**	**-0.6**
SFJD				pmax	pmax		
	comp=Z,23nm,0.5s,mb5.2						
MNTX	**Cornudas Mount**	**54.09**	**83⇑**	*iP*	**P**	**17 29 15.7**	**-0.5**
	comp=Z,42nm,0.8s,mb5.2						
MNTX				*e*pP	pP	17 29 55.2	-3.6
MNTX				*es*P	sP	17 30 15.2	-4.5
AMTX	**Amarillo**	**54.09**	**78⇑**	*iP*	**P**	**17 29 15.3**	**-1.0**
	comp=Z,45nm,0.5s,mb5.5						
AMTX				*e*PcP	PcP	17 30 13.4	-5.1
KSU1	**Kansas State U**	**54.19**	**71⇑**	*e*P	**P**	**17 29 14.5**	**-2.4**
	comp=Z,31nm,0.8s,mb5.1						
ZALV	**Zalesovo Beam**	**54.33 314**		P	**P**	**17 29 17.9**	**+0.2**
	comp=Z,0.6nm,0.4s,mb3.7,baz=32,slow=5.8,SNR=4.7						
ZALV				pP	pP	17 29 57.9	-2.3
	comp=Z,1.1nm,0.5s,baz=36,slow=5.5,SNR=2.7						
ZAL	**Zalesovo**	**54.35 314**		P	**P**	**17 29 17.9**	**+0.1**
XAN	**Xi'an**	**55.05 282**		P	**P**	**17 29 22.3**	**-0.8**
XAN				AMB	AMB		
	comp=Z,3.0nm,0.8s,mb4.1						
JFWS	**Jewell Farm**	**55.18**	**63**	*e*P	**P**	**17 29 21.5**	**-2.4**
JFWS				pmax	pmax		
	comp=Z,20nm,0.9s,mb4.8						
WMOK	**Wichita Mounta**	**55.91**	**76⇑**	*e*P	**P**	**17 29 28.0**	**-1.2**
	comp=Z,44nm,0.9s,mb5.3						
WMOK	**Wichita Mounta**	**55.91**	**76⇑**	*e*P	**P**	**17 29 28.0**	**-1.3**
WMOK				pmax	pmax		
	comp=Z,44nm,0.9s,mb5.3						
LZH	**Lanzhou**	**56.62 287**		*e*P	**P**	**17 29 35.0**	**+0.8**
LZH				AP	pP	17 30 12.3	-4.9
LZH				PCP	PcP	17 30 29.3	+1.0
LZH				XP	sP	17 30 31.5	-6.4
LZH				PP	PP	17 31 44.5	+2.5
LZH				SCP	ScP	17 34 11.1	+1.8
LZH				*e*S	**S**	**17 37 11.0**	**-0.1**
LZH				AMB	AMB		
	comp=Z,33nm,1.0s,mb5.1						
LZH				AMB	AMB		
	comp=Z,190nm,4.8s						
GTA	**Gaotai**	**56.63 293**		*e*P	**P**	**17 29 33.8**	**-0.4**
GTA				AP	pP	17 30 14.3	-2.9
GTA				XP	sP	17 30 32.4	-5.5
GTA				PP	PP	17 31 43.3	+1.3
GTA				SCP	ScP	17 34 08.3	-0.9
GTA				PCS	PcS	17 34 28.6	-0.5
GTA				S	**S**	**17 37 11.8**	**+0.7**
GTA				AMB	AMB		
	comp=Z,14nm,0.7s,mb4.9						
GTA				AMB	AMB		
	comp=Z,158nm,5.7s						
GTA				LR	LR		
	comp=N,272nm,15.7s						
GTA				LR	LR		
	comp=E,188nm,16.4s						
GTA				LR	LR		
	comp=Z,327nm,15.7s						
KEV	**Kevo**	**56.70 351**		*ep*	**P**	**17 29 31.8**	**-2.5**
	comp=Z,6.8nm,0.8s,mb4.5						
KEV	**Kevo**	**56.70 351**		*e*P	**P**	**17 29 31.8**	**-2.5**
KEV				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.5						
TXAR	**Lajitas Array**	**56.81**	**84**	P	**P**	**17 29 35.0**	**-0.6**
	comp=Z,30nm,0.7s,mb5.2,baz=298,slow=4.5,SNR=173						
TXAR				pP	pP	17 30 15.2	-3.5
	comp=Z,9.7nm,0.8s,baz=291,slow=4.8,SNR=3.1						
TXAR				ScP	ScP	17 34 10.3	+0.2
	comp=Z,5.0nm,0.8s,baz=289,slow=3.2,SNR=9.1						
ARCES	**ARCESS Array B**	**57.05 351**		P	**P**	**17 29 36.7**	**-0.1**
ARCES	**ARCESS Array B**	**57.05 351**		P	**P**	**17 29 36.7**	**-0.1**
	comp=Z,6.7nm,0.7s,mb4.6,baz=21,slow=7.2,SNR=19						
ARE0	**ARCESS Array S**	**57.05 351**		*e*P	**P**	**17 29 36.4**	**-0.4**
HDIL	**Hopedale**	**57.31**	**65**	*e*P	**P**	**17 29 37.0**	**-2.0**
SCHQ	**Schefferville**	**57.91**	**40⇑**	*iP*	**P**	**17 29 41.8**	**-1.1**
	comp=Z,17nm,0.5s,mb5.1						
SCHQ				*e*pP	pP	17 30 26.4	+0.3
SCHQ	**Schefferville**	**57.91**	**40**	P	**P**	**17 29 42.1**	**-0.8**
	comp=Z,14nm,0.4s,mb5.1,baz=324,slow=7.1,SNR=54						
APA	**Apatity**	**58.03 347⇑**		*iP*	**P**	**17 29 49.0**	**+5.4**
APA				*i*	pP	17 30 30.0	+3.3
JCT	**Junction City**	**58.31**	**80⇑**	*iP*	**P**	**17 29 44.5**	**-1.7**
	comp=Z,49nm,0.6s,mb5.5						
JCT				*e*PcP	PcP	17 30 34.5	-0.5
JCT	**Junction City**	**58.31**	**80⇑**	*iP*	**P**	**17 29 44.5**	**-1.6**
JCT				*e*		17 30 34.5	
JCT				pmax	pmax		
	comp=Z,49nm,0.6s,mb5.5						
MIAR	**Mount Ida**	**59.10**	**73⇑**	*iP*	**P**	**17 29 49.9**	**-1.6**
	comp=Z,55nm,0.8s,mb5.4						
MIAR				*e*pP	pP	17 30 33.3	-1.5
MIAR				*es*P	sP	17 30 51.7	-3.7
MIAR	**Mount Ida**	**59.10**	**73⇑**	*iP*	**P**	**17 29 49.9**	**-1.6**
MIAR				*e**PP	pP	17 30 33.3	-1.5
MIAR				pmax	pmax		
	comp=Z,55nm,0.8s,mb5.4						
KURK	**Kurchatov**	**59.31 315**		P	**P**	**17 29 52.4**	**-0.3**
	comp=Z,70nm,0.8s,mb5.5,SNR=11						
KURK	**Kurchatov**	**59.31 315⇑**		*iP*	**P**	**17 29 51.4**	**-1.3**
	comp=Z,96nm,1.4s,mb5.4						
KURK				*e*pP	pP	17 30 34.4	-1.6
KURK	**Kurchatov**	**59.31 315⇑**		*iP*	**P**	**17 29 51.4**	**-1.3**
KURK				*e**PP	pP	17 30 34.4	-1.6
KURK				pmax	pmax		
	comp=Z,96nm,1.4s,mb5.4						
WMQ	**Urumqi**	**60.02 304**		P	**P**	**17 29 59.3**	**+1.7**
WMQ				AP	pP	17 30 40.0	-1.1
WMQ				PCP	PcP	17 30 46.0	+4.4
WMQ				AMB	AMB		
	comp=Z,30nm,1.1s,mb5.0						
WMQ				AMB	AMB		
	comp=Z,198nm,6.0s						
CD2	**Chengdu**	**60.34 283**		P	**P**	**17 29 59.9**	**-0.1**
CD2				AP	pP	17 30 40.1	-3.4
CD2				XP	sP	17 30 57.0	-7.1
CD2				PP	PP	17 32 17.3	+2.3
CD2				PCS	PcS	17 34 43.9	-2.0
CD2				S	**S**	**17 37 55.3**	**-4.0**
CD2				XS	sS	17 39 08.9	-6.1
CD2				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.6						
CD2				AMB	AMB		
	comp=Z,30nm,9.2s						
NATX	**Nacogdoches**	**60.45**	**76**	*e*P	**P**	**17 30 00.0**	**-0.7**
	comp=Z,55nm,0.6s,mb5.6						
MK31	**Makanchi Array**	**60.51 309**		*e*P	**P**	**17 30 00.4**	**-0.6**
MK31				*e*	pP	17 30 41.9	-2.6
MKAR	**Makanchi Array**	**60.51 309**		P	**P**	**17 30 00.8**	**-0.2**
MKAR				pP	pP	17 30 41.3	-3.2
MKAR	**Makanchi Array**	**60.51 309**		P	**P**	**17 30 00.8**	**-0.2**
	comp=Z,2.3nm,0.3s,mb4.4,baz=49,slow=6.2,SNR=30						
MKAR				pP	pP	17 30 41.3	-3.2
	comp=Z,2.3nm,0.6s,baz=55,slow=6.8,SNR=3.1						
WCI	**Wyandotte Cave**	**60.60**	**65**	*e*P	**P**	**17 29 59.5**	**-2.1**
	comp=Z,36nm,0.9s,mb5.2						
WCI	**Wyandotte Cave**	**60.60**	**65**	*e*P	**P**	**17 29 59.5**	**-2.1**
WCI				pmax	pmax		
	comp=Z,36nm,1.0s,mb5.2						
BVAR	**Borovoye Array**	**60.95 321**		P	**P**	**17 30 04.3**	**+0.6**
	baz=52,slow=6.5						
BVAR				pP	pP	17 30 44.5	-2.8
	comp=Z,5.4nm,0.4s,baz=57,slow=2.5,SNR=1.8						
BRVK	**Borovoye**	**60.96 321**		*e*P	**P**	**17 30 04.0**	**+0.2**
	comp=Z,3.7nm,0.6s,mb4.4						
BRVK				*e*PcP	PcP	17 30 44.0	-1.2
BRVK				*e*pP	pP	17 30 51.0	+3.6
BRVK	**Borovoye**	**60.96 321**		P	**P**	**17 30 04.4**	**+0.5**
BRVK				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.4						
HKT	**Hockley**	**61.07**	**78**	*e*P	**P**	**17 30 03.9**	**-1.0**
	comp=Z,126nm,1.4s,mb5.6						
HKT	**Hockley**	**61.07**	**78**	*e*P	**P**	**17 30 03.9**	**-1.0**
HKT				pmax	pmax		
	comp=Z,130nm,1.4s,mb5.6						
ERPA	**Erie**	**61.16**	**58⇑**	*e*P	**P**	**17 30 04.0**	**-1.4**
	comp=Z,141nm,1.3s,mb5.6						
WVT	**Waverly**	**61.25**	**67**	*e*P	**P**	**17 30 04.1**	**-2.0**
	comp=Z,56nm,1.4s,mb5.2						
WVT	**Waverly**	**61.25**	**67**	*e*P	**P**	**17 30 04.4**	**-1.7**
WVT				pmax	pmax		
	comp=Z,56nm,1.4s,mb5.2						
GYA	**Guiyang**	**61.84 277**		P	**P**	**17 30 09.8**	**-0.4**
GYA				PCP	PcP	17 30 50.4	+1.1
GYA				AP	pP	17 30 52.6	-1.3
GYA				PP	PP	17 32 31.0	+2.6
GYA				SCP	ScP	17 34 33.6	+1.0
GYA				PCS	PcS	17 34 51.8	-0.9
GYA				S	**S**	**17 38 18.0**	**-0.4**
GYA				XS	sS	17 39 30.4	-4.1
GYA				SCS	ScS	17 39 40.9	-2.2
GYA				AMB	AMB		
	comp=Z,20nm,1.0s,mb4.9						
GYA				AMB	AMB		
	comp=Z,130nm,6.8s						
GYA				LR	LR		
	comp=N,600nm,19.1s						
GYA				LR	LR		
	comp=E,520nm,20.5s						
GYA				LR	LR		
	comp=Z,600nm,21.8s						
PLAL	**Pickwick Lake**	**61.94**	**68⇑**	*iP*	**P**	**17 30 08.4**	**-2.3**
	comp=Z,14nm,0.6s,mb5.0						
PLAL				*e*pP	pP	17 30 50.3	-4.1
LONY	**Lake Ozonia**	**62.03**	**52**	*e*P	**P**	**17 30 08.0**	**-3.2**
	comp=Z,4.3nm,0.6s,mb4.5						
ARU	**Arti**	**62.34 329**		*e*P	**P**	**17 30 13.1**	**0.0**
	comp=Z,3.9nm,0.3s,mb4.7						
ARU				*e*pP	pP	17 30 59.8	+3.0
ARU	**Arti**	**62.34 329**		*d iP*	**P**	**17 30 13.3**	**+0.3**
ARU				*e**PP	pP	17 30 59.5	+2.7
ARU				*e*		17 32 31.9	
ARU				*e*PPP		17 34 07.4	
ARU				*e*S	**S**	**17 38 25.9**	**+2.1**
ARU				SS	SS	17 42 33.8	+4.1
ARU				pmax	pmax		
	comp=Z,20nm,1.7s,mb4.7						
JOF	**Joensuu**	**62.72 346**		*ep*	**P**	**17 30 14.1**	**-1.3**
	comp=Z,4.7nm,0.3s,mb4.8						
JOF	**Joensuu**	**62.72 346**		*e*P	**P**	**17 30 14.1**	**-1.3**
JOF				pmax	pmax		
	comp=Z,5.0nm,0.3s,mb4.8						
BINY	**Binghamton**	**63.13**	**55⇑**	*iP*	**P**	**17 30 16.7**	**-1.8**
	comp=Z,32nm,0.7s,mb5.3						
TZTN	**Tazewell**	**63.32**	**64**	*e*P	**P**	**17 30 13.8**	**-6.0**
SSPA	**Standing Stone**	**63.32**	**57⇑**	*iP*	**P**	**17 30 18.3**	**-1.4**
	comp=Z,32nm,1.0s,mb5.1						
SSPA				*e*pP	pP	17 31 01.1	-2.5
LRAL	**Lakeview Retre**	**63.97**	**69**	*e*P	**P**	**17 30 21.5**	**-2.6**
	comp=Z,21nm,0.7s,mb5.1						
PKME	**Peaks-Kenny Pk**	**64.03**	**49**	*e*P	**P**	**17 30 22.8**	**-1.5**
KAF	**Kangasniemi**	**64.16 349**		*ep*	**P**	**17 30 23.5**	**-1.4**
	comp=Z,2.5nm,0.3s,mb4.5,baz=12,slow=6.0						
KAF	**Kangasniemi**	**64.16 349**		*e*P	**P**	**17 30 23.5**	**-1.4**
KAF				pmax	pmax		
	comp=Z,3.0nm,0.3s,mb4.6						
BLA	**Blacksburg**	**64.53**	**62⇑**	*e*P	**P**	**17 30 26.6**	**-1.0**
	comp=Z,134nm,1.6s,mb5.5						
BLA				*e*pP	pP	17 31 08.6	-3.1
BLA	**Blacksburg**	**64.53**	**62⇑**	*e*P	**P**	**17 30 26.6**	**-1.0**
BLA				pmax	pmax		
	comp=Z,134nm,1.6s,mb5.5						
FINES	**FINESS Array B**	**64.84 348**		P	**P**	**17 30 29.0**	**-0.3**
	comp=Z,1.3nm,0.3s,mb4.2,baz=8.4,slow=7.7,SNR=36						
FINES				LR	LR	18 04 46.5	
	comp=Z,74nm,19.3s,baz=2.8,slow=41						
KMI	**Kunming**	**65.20 279**		P	**P**	**17 30 32.3**	**+0.2**
KMI				AP	pP	17 31 16.4	+0.1
KMI				PP	PP	17 32 59.0	+1.3
KMI				S	S	17 38 56.0	-3.9
KMI				AMB	AMB		
	comp=Z,17nm,0.9s,mb4.9						
KMI				LR	LR		
	comp=Z,147nm,36.2s						
NB2	**NORSAR Subarra**	**66.45 356**		P	**P**	**17 30 39.7**	**+0.1**
	comp=Z,2.0nm,0.4s,mb4.3,baz=5.7,slow=6.9						
NOA	**NORSAR Array B**	**66.45 356**		P	**P**	**17 30 39.9**	**+0.3**
NOA				pP	pP	17 31 23.4	-0.4
NOA	**NORSAR Array B**	**66.45 356**		P	**P**	**17 30 39.9**	**+0.3**
	comp=Z,1.8nm,0.4s,mb4.3,baz=5.5,slow=6.7,SNR=9.5						
NOA				pP	pP	17 31 23.4	-0.4
	comp=Z,22nm,0.9s,baz=2.7,slow=6.3,SNR=3.1						
TKM2	**Tokmak 2**	**66.56 311**		*e*P	**P**	**17 30 41.0**	**+0.4**
	comp=Z,9.1nm,1.1s,mb4.5						
TKM2				*e*pP	pP	17 31 23.6	-1.2
TKM2	**Tokmak 2**	**66.56 311**		*e*P	**P**	**17 30 41.0**	**+0.4**
TKM2				pmax	pmax		
	comp=Z,9.0nm,1.1s,mb4.5						
TKM2	**Tokmak 2**	**66.56 311**		P	**P**	**17 30 41.3**	**+0.7**
	SNR=6.1						
ULHL	**Ulahol**	**66.78 310**		P	**P**	**17 30 42.1**	**+0.2**
	SNR=7.0						
USP	**Ospenovka**	**66.79 311**		P	**P**	**17 30 42.6**	**+0.6**
	SNR=8.3						
KBK	**Karagaybulak**	**67.06 311**		P	**P**	**17 30 44.0**	**+0.2**
	SNR=6.1						
FRU	**Bishkek**	**67.08 311**		*e*P	**P**	**17 30 45.0**	**+1.2**
FRU				*e*		17 31 23.5	
FRU				pmax	pmax		
	comp=Z,20nm,2.0s,mb4.6						
HFS	**Hagfors**	**67.24 355**		P	**P**	**17 30 44.4**	**-0.1**
HFS				pP	pP	17 31 28.2	-0.7
HFS	**Hagfors**	**67.24 355**		P	**P**	**17 30 44.4**	**-0.1**
	comp=Z,6.9nm,0.4s,mb4.9,baz=294,slow=1.5,SNR=70						
HFS				pP	pP	17 31 28.2	-0.7
	comp=Z,4.7nm,0.8s,baz=300,slow=1.2,SNR=1.6						
AAK	**Ala-Archa**	**67.29 311**		P	**P**	**17 30 44.5**	**-0.7**
	comp=Z,59nm,0.7s,mb5.5,SNR=8.3						
AAK	**Ala-Archa**	**67.29 311⇑**		*e*P	**P**	**17 30 44.4**	**-0.7**
	comp=Z,8.1nm,0.8s,mb4.6						
AAK				*e*pP	pP	17 31 31.0	+1.4
AAK	**Ala-Archa**	**67.29 311⇑**		*e*P	**P**	**17 30 44.7**	**-0.5**
AAK				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.6						
AAK	**Ala-Archa**	**67.29 311**		P	**P**	**17 30 45.9**	**+0.7**
	SNR=9.4						
KZA	**Kyzart**	**67.38 310**		P	**P**	**17 30 47.1**	**+1.4**
	SNR=5.2						
EKS2	**Erkin-Say**	**67.60 311⇑**		*e*P	**P**	**17 30 47.2**	**+0.2**
	comp=Z,127nm,1.8s,mb5.3						
EKS2				*e*pP	pP	17 31 30.7	-0.9
EKS2	**Erkin-Say**	**67.60 311**		P	**P**	**17 30 48.0**	**+0.9**
	SNR=14						
UCH	**Uchtor**	**67.60 311**		*e*P	**P**	**17 30 47.9**	**+0.8**
	comp=Z,4.8nm,1.2s,mb4.1						
UCH				*e*pP	pP	17 31 30.6	-1.0
AML	**Almayashu**	**68.05 311⇑**		*e*P	**P**	**17 30 50.6**	**+0.6**
	comp=Z,32nm,1.1s,mb5.0						
AML				*e*pP	pP	17 31 33.1	-1.3
AML	**Almayashu**	**68.05 311**		P	**P**	**17 30 51.3**	**+1.4**
	SNR=9.5						
LSA	**Lhasa**	**68.56 291**		P	**P**	**17 30 55.3**	**+2.0**
LSA				AMB	AMB		
	comp=Z,40nm,0.7s,mb5.3						
LSA	**Lhasa**	**68.56 291**		*e*P	**P**	**17 30 54.5**	**+1.1**
	comp=Z,30nm,0.7s,mb5.1						
LSA				*e*pP	pP	17 31 40.8	+2.9
LSA				*es*P	sP	17 32 02.4	+4.2
LSA	**Lhasa**	**68.56 291**		*e*P	**P**	**17 30 54.5**	**+1.2**
LSA				*e**PP	pP	17 31 40.8	+2.9
LSA				pmax	pmax		
	comp=Z,30nm,0.7s,mb5.1						
OBN	**Obninsk**	**69.20 341**		*e*P	**P**	**17 30 55.7**	**-1.1**
OBN				pmax	pmax		
	comp=Z,7.0nm,1.2s,mb4.3						
KDM	**Kudat**	**70.73 256**		⇓P	**P**	**17 31 07.5**	**+0.8**
MYLDM	**Lahad Datu**	**71.15 253**		⇑P	sP	17 31 10.9	-63
MYLDM	**Lahad Datu**	**71.15 253**		⇑P	pP	17 32 14.5	+20
CMIG	**Matias Romero**	**71.28**	**86**	*e*P	**P**	**17 31 04.8**	**-5.2**
SDKM	**Sandakan**	**71.54 255**		⇓P	**P**	**17 31 12.2**	**+0.6**
SDKM	**Sandakan**	**71.54 255**		⇑P	sP	17 32 14.5	-2.2
KKM	**Kota Kinabalu**	**71.80 256**		*e*P	**P**	**17 31 12.9**	**-0.3**
KKM	**Kota Kinabalu**	**71.80 256**		⇓P	**P**	**17 31 13.4**	**+0.3**
KKM	**Kota Kinabalu**	**71.80 256**		⇑P	sP	17 32 14.5	-3.8
EKA	**Eskdalemuir Ar**	**72.17**	**4**	P	**P**	**17 31 15.0**	**+0.3**
	comp=Z,3.0nm,0.4s,mb4.3,baz=356,slow=4.3,SNR=32						
EKA				pP	pP	17 31 58.0	-1.7
	comp=Z,1.6nm,0.9s,baz=94,slow=26,SNR=2.1						
TSM	**Tawau**	**72.23 253**		⇑P	sP	17 31 15.8	-65
TSM	**Tawau**	**72.23 253**		⇑P	pP	17 32 14.5	+14
CHTO	**Chiang Mai**	**72.26 278**		*e*P	**P**	**17 31 14.9**	**-0.9**
	comp=Z,3.8nm,0.7s,mb4.2						
CHTO				*e*pP	pP	17 32 00.2	-0.6
CHTO	**Chiang Mai**	**72.26 278**		*e*P	**P**	**17 31 14.9**	**-0.9**
CHTO				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.3						
VRSR	**Storozhevoye**	**72.28 338**		*c iP*	**P**	**17 31 15.1**	**-0.3**
VRSR				*e**PP	pP	17 32 04.4	+4.0
VRSR				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.1						
VRSR				pmax	pmax		
	comp=N,3.0nm,0.8s						
VRSR				pmax	pmax		
	comp=E,1.0nm,0.7s						
VORD	**Divnogorie**	**72.48 337**		*e*P	**P**	**17 31 15.8**	**-0.9**
VORD				*e**SP	pP	17 32 04.8	+3.1
VORD				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.5						
VORD				pmax	pmax		
	comp=N,10.0nm,0.6s						
VORD				pmax	pmax		
	comp=E,20nm,0.8s						
TEIG	**Tepich**	**72.86**	**79**	*e*P	**P**	**17 31 18.2**	**-1.1**
	comp=E,98nm,1.4s,mb5.3						
GUN	**Gumba**	**72.90 294**		*e*P	**P**	**17 31 19.8**	**+0.3**
	comp=E,60nm,0.6s,mb5.5						
JIRN	**Jiri**	**72.92 293**		*e*P	**P**	**17 31 20.1**	**+0.5**
	comp=E,30nm,0.3s,mb5.5						
KKN	**Kakani**	**73.33 294**		*e*P	**P**	**17 31 21.7**	**-0.3**
	comp=E,24nm,0.8s,mb5.0						
PKI	**Pulchoki**	**73.42 294**		*e*P	**P**	**17 31 22.8**	**+0.2**
	comp=E,14nm,0.4s,mb5.0						
GKN	**Gorkha**	**73.52 294**		*e*P	**P**	**17 31 22.8**	**-0.3**
	comp=E,19nm,0.4s,mb5.2						
DMN	**Daman**	**73.56 294**		*e*P	**P**	**17 31 23.6**	**+0.2**
	comp=E,8.6nm,0.4s,mb4.9						
CCIG	**Comitan**	**73.56**	**85**	*e*P	**P**	**17 31 22.7**	**-0.9**
CCIG				*i* S	pP	17 32 14.7	+6.0
BSEG	**Bad Segeberg**	**73.59 356**		*e*P	**P**	**17 31 23.7**	**+0.6**
BSEG				*e**PP	pP	17 32 13.8	+5.5
BSEG				pmax	pmax		
	comp=Z,26nm,1.2s,mb4.8						
BSEG				pmax	pmax		
	comp=Z,46nm,1.1s,mb5.1						
BSEG	**Bad Segeberg**	**73.59 356**		*e*P	**P**	**17 31 23.7**	**+0.6**
	comp=Z,26nm,1.2s,mb4.8						
BSEG				*e*pP	pP	17 32 13.8	+5.5
	comp=Z,46nm,1.1s						
PPT	**Papeete**	**73.65 154**		LR	LR	18 00 34.1	
	comp=Z,164nm,19.5s,baz=356,slow=33						
KOLN	**Koldanda**	**74.27 295**		*e*P	**P**	**17 31 27.5**	**0.0**
	comp=Z,9.7nm,0.4s,mb4.9						
AKASG	**Malin Array Be**	**74.78 344**		P	**P**	**17 31 29.1**	**-0.9**
	comp=Z,4.9nm,0.3s,mb4.6,baz=18,slow=6.1,SNR=35						
AKASG				pP	pP	17 32 13.7	-1.6
	comp=Z,8.8nm,0.8s,baz=15,slow=5.6,SNR=1.5						
AKBB	**Malin Array Si**	**74.78 344**		*e*P	**P**	**17 31 29.0**	**-1.0**
AKBB				*e*pP	pP	17 32 17.9	+2.6
KIEV	**Kiev**	**74.79 344**		*e*P	**P**	**17 31 28.9**	**-1.2**
	comp=Z,7.2nm,0.3s,mb4.8						
KIEV				*e*	pP	17 32 17.2	+1.9
KIEV	**Kiev**	**74.79 344**		*e*P	**P**	**17 31 28.9**	**-1.2**
KIEV				*e*	pP	17 32 17.2	+1.9
KIEV				pmax	pmax		
	comp=Z,7.0nm,0.4

BRG Berggiesshubel 76.45 353 *eP* **P 17 31 39.3 -0.2**
comp=Z,12nm,1.1s,mb4.4
BRG *i* pP 17 32 29.0 +4.0
comp=Z,36nm,1.5s
UPC Upice 76.66 352 *epP* pP 17 32 30.4 +4.2
UBBA Unterbreizbach 76.72 356 *eP* **P 17 31 41.2 +0.2**
comp=Z,40nm,2.0s,mb4.7
UBBA *epP* pP 17 32 31.0 +4.5
comp=Z,19nm,1.4s
PVCC Panska Ves 76.75 353 *eP* **P 17 31 41.4 +0.2**
PVCC *epP* pP 17 32 32.4 +5.7
DPC Dobruska-Polom 76.78 352 *eP* **P 17 31 41.6 +0.2**
DPC *e*PP* pP 17 32 31.2 +4.3
DPC Dobruska-Polom 76.78 352 *eP* **P 17 31 41.6 +0.2**
DPC *epP* pP 17 32 31.2 +4.3
DPC *ex* x 17 33 08.3
KWP Kalwaria 76.80 348 *eP* **P 17 31 41.1 -0.4**
comp=Z,7.5nm,0.4s,mb4.7
KWP *epP* pP 17 32 31.3 +4.3
KWP Kalwaria 76.80 348 P **P 17 31 41.6 +0.1**
KWP pmax pmax
comp=Z,8.0nm,0.5s,mb4.6
KWP Kalwaria 76.80 348 ⇓*iP* **P 17 31 41.8 +0.3**
MOX Moxa 76.82 355 *eP* **P 17 31 41.6 0.0**
MOX *e* pP 17 32 29.6 +2.5
MOX Moxa 76.82 355 *eP* **P 17 31 41.5 -0.1**
comp=Z,11nm,1.1s,mb4.4
MOX *epP* pP 17 32 31.5 +4.4
comp=Z,20nm,1.2s
HGN Heimansgroeve 76.89 359 *eP* pP 17 32 32.2 +4.7
comp=Z,32nm,1.5s
TANN Tannenbergstha 77.00 354 *eP* **P 17 31 42.7 +0.1**
comp=Z,25nm,1.9s,mb4.5
TANN *epP* pP 17 32 32.8 +4.7
comp=Z,22nm,1.6s
SBUM Sibu 77.03 257 ⇑P **P 17 31 43.9 +0.6**
OKC Ostrava-Krasne 77.12 351 *ex* x 17 33 08.9
SNF Seneffe 77.16 360 P **P 17 31 44.2 +0.7**
NKC Novy Kostel 77.18 354 *eP* **P 17 31 43.3 -0.3**
NKC *e*PP* pP 17 32 32.7 +3.5
NKC Novy Kostel 77.18 354 *eP* **P 17 31 43.3 -0.3**
NKC *epP* pP 17 32 32.7 +3.5
NKC *ex* x 17 33 10.4
STHS Stebnicka Huta 77.20 349 *eP* **P 17 31 43.2 -0.5**
comp=Z,4.8nm,1.3s,mb4.0
STHS *e* pP 17 32 27.9 -1.4
STHS *e* 17 32 34.4
STHS *e* 17 32 43.8
STHS Stebnicka Huta 77.20 349 *eP* **P 17 31 43.2 -0.5**
STHS *e* 17 32 34.4
STHS pmax pmax
comp=Z,5.0nm,1.3s,mb4.0
BCLA Clavier 77.24 359 P **P 17 31 44.2 +0.3**
comp=Z,11nm,2.2s,mb4.1
PRU Pruhonice 77.29 353 *eP* **P 17 31 44.5 +0.3**
PRU *e*PP* pP 17 32 33.8 +4.0
PRU Pruhonice 77.29 353 *eP* **P 17 31 44.5 +0.3**
PRU *epP* pP 17 32 33.8 +4.0
PRU *ex* x 17 33 10.2
MANZ Manzenberg 77.45 355 *eP* **P 17 31 44.9 -0.2**
comp=Z,4.0nm,0.9s,mb4.0
MANZ *epP* pP 17 32 35.2 +4.5
comp=Z,11nm,1.2s
KOLS Kolonicke sedl 77.54 348 *eP* **P 17 31 45.6 0.0**
GIVF Givet 77.56 359 ⇑*iP* **P 17 31 45.8 +0.1**
GIVF *epP* pP 17 32 34.2 +2.9
DOU Dourbes 77.57 360 P **P 17 31 46.0 +0.3**
BAIF Baives 77.61 360 ⇑*iP* **P 17 31 46.2 +0.2**
comp=Z,9.1nm,0.7s,mb4.2
BAIF Baives 77.61 360 ⇑*iP* **P 17 31 46.2 +0.2**
comp=Z,4.6nm,0.7s,mb4.2
BAIF Baives 77.61 360 ⇑*iP* **P 17 31 46.2 +0.2**
BAIF pmax pmax
comp=Z,5.0nm,0.7s,mb4.2
ROTZ Rotzenmuhle 77.66 355 *eP* **P 17 31 46.5 +0.2**
comp=Z,8.0nm,1.2s,mb4.2
ROTZ *epP* pP 17 32 36.7 +4.8
comp=Z,22nm,1.5s
GRA1 Grafenberg Arr 77.79 355 *eP* **P 17 31 47.0 0.0**
comp=Z,18nm,1.1s,mb4.6
GRA1 *epP* pP 17 32 37.2 +4.6
GRF Grafenberg Arr 77.79 355 *eP* **P 17 31 47.0 0.0**
GRF *e*PP* pP 17 32 37.2 +4.6
GRF pmax pmax
comp=Z,18nm,1.1s,mb4.6
GRF pmax pmax
comp=Z,38nm,1.4s,mb4.8
GRF Grafenberg Arr 77.79 355 *eP* **P 17 31 47.0 0.0**
GRF *e*PP* pP 17 32 37.2 +4.6
GRF pmax pmax
comp=Z,18nm,1.1s,mb4.6
GRF Grafenberg Arr 77.79 355 *eP* **P 17 31 47.0 0.0**
comp=Z,18nm,1.1s,mb4.6
GRF *epP* pP 17 32 37.2 +4.6
comp=Z,38nm,1.4s
VRAC Vranov 77.80 352 ⇓P **P 17 31 47.7 +0.7**
VRAC Vranov 77.80 352 P **P 17 31 47.6 +0.6**
VRAC pmax pmax
comp=Z,2.0nm,0.4s
VRAC Vranov 77.80 352 P **P 17 31 47.6 +0.6**
comp=Z,1.9nm,0.4s,mb4.1,baz=18,slow=9.6,SNR=5.1
VRAC Vranov 77.80 352 ⇓*iP* **P 17 31 47.7 +0.7**
TREC Trest 77.90 352 *eP* **P 17 31 47.0 -0.6**
WLF Walferdange 77.99 359 *epP* pP 17 32 38.5 +4.8
comp=Z,20nm,1.1s
KIV Kislovodsk 78.10 332 *eP* **P 17 31 49.1 +0.3**
KIV Kislovodsk 78.10 332 *eP* **P 17 31 48.3 -0.5**
KIV pmax pmax
comp=Z,8.0nm,1.5s,mb4.1
KHC Kasperske Hory 78.21 354 *eP* **P 17 31 49.4 +0.1**
KHC *e*PP* pP 17 32 38.2 +3.2
KHC Kasperske Hory 78.21 354 *eP* **P 17 31 49.4 +0.1**
KHC *epP* pP 17 32 32.0 -3.0
KHC *ex* x 17 32 38.2
KHC *ex* x 17 33 16.0
ABKT Ailbek 78.22 319 P **P 17 31 50.3 +0.7**
comp=Z,78nm,1.1s,mb5.2,SNR=5.1
TGUH Tegucigalpa,Un 78.23 82 *eP* **P 17 31 51.1 +1.2**
comp=Z,128nm,0.9s,mb5.5
WET Wettzell 78.24 354 *eP* **P 17 31 49.6 +0.1**
WET *e*PP* pP 17 32 39.8 +4.7
WET pmax pmax
comp=Z,9.0nm,1.4s,mb4.2
WET pmax pmax
comp=Z,9.0nm,1.3s,mb4.2
WET Wettzell 78.24 354 *eP* **P 17 31 49.6 +0.1**
comp=Z,9.0nm,1.4s,mb4.2
WET *epP* pP 17 32 39.8 +4.7
comp=Z,9.0nm,1.3s
VYHS Vyhne 78.38 350 *eP* **P 17 31 50.1 -0.2**
VYHS *e* pP 17 32 40.0 +4.1
VYHS Vyhne 78.38 350 *eP* **P 17 31 50.1 -0.2**
VYHS *epP* pP 17 32 40.0 +4.1
VYHS *e* 17 33 16.7
KIS Kishinev 78.42 343 *eP* pP 17 32 38.0 +1.8
GEC2 GERESS Array S 78.48 353 *eP* **P 17 31 50.5 -0.3**
GEC2 *e*PP* pP 17 32 40.8 +4.3
GEC2 pmax pmax
comp=Z,9.0nm,1.3s,mb4.2
GEC2 pmax pmax
comp=Z,15nm,1.5s,mb4.4
GEC2 GERESS Array S 78.48 353 *eP* **P 17 31 50.5 -0.3**
comp=Z,9.0nm,1.3s,mb4.2
GEC2 *epP* pP 17 32 40.8 +4.3
comp=Z,15nm,1.5s
GERES GERESS Array B 78.48 353 P **P 17 31 50.7 -0.1**
comp=Z,1.6nm,0.7s,mb3.8,baz=24,slow=4.7,SNR=13
GERES pP pP 17 32 34.3 -2.2
comp=Z,0.7nm,0.7s,baz=20,slow=4.3,SNR=2.2
KAKA Kakadu 78.69 231 *eP* **P 17 31 51.4 -0.9**
comp=Z,29nm,0.8s,mb5.0
KAKA Kakadu 78.69 231 *eP* pP 17 32 29.8 -8.3
comp=Z,55nm,1.0s
STU Stuttgart 78.80 356 *eP* **P 17 31 51.9 -0.6**
comp=Z,12nm,0.9s,mb4.5
STU *epP* pP 17 32 42.9 +4.6
comp=Z,23nm,1.2s
FLN La Foliniere 78.84 3⇑*iP* **P 17 31 52.4 -0.3**
FLN *e*MLR MLR
comp=Z,69nm,20.8s
FLN La Foliniere 78.84 3⇑*iP* **P 17 31 52.4 -0.3**
FLN MLR MLR
comp=Z,70nm,20.8s
KSM Kuching 78.95 258 *eP* **P 17 31 53.7 -0.1**
KSM *epP* pP 17 32 33.4 -6.2
KSM Kuching 78.95 258 ⇓*iP* **P 17 31 54.1 +0.2**
LDF La Druitiere 79.02 3⇑*iP* **P 17 31 53.2 -0.5**
comp=Z,16nm,0.5s,mb4.6
LDF *epP* pP 17 32 41.4 +1.9
LDF La Druitiere 79.02 3⇑*iP* **P 17 31 53.2 -0.5**
comp=Z,8.1nm,0.5s,mb4.6
LDF *epP* pP 17 32 41.4 +1.9
LDF La Druitiere 79.02 3⇑*iP* **P 17 31 53.2 -0.5**
LDF *e*PP* pP 17 32 41.4 +1.9
LDF pmax pmax
comp=Z,8.0nm,0.5s,mb4.6
ROSF Rostrenen 79.15 5⇑*iP* **P 17 31 54.3 -0.1**
comp=Z,18nm,1.0s,mb4.3
ROSF Rostrenen 79.15 5⇑*iP* **P 17 31 54.3 -0.1**
comp=Z,8.8nm,1.0s,mb4.3
ROSF Rostrenen 79.15 5⇑*iP* **P 17 31 54.3 -0.1**
ROSF pmax pmax
comp=Z,9.0nm,1.0s,mb4.3
ONI Oni 79.15 331 P pP 17 32 44.9 +4.6
GRR Gorron 79.20 3⇑*iP* **P 17 31 54.4 -0.3**
comp=Z,25nm,0.9s,mb4.5
GRR *epP* pP 17 32 42.8 +2.3
GRR Gorron 79.20 3⇑*iP* **P 17 31 54.4 -0.3**
comp=Z,12nm,0.9s,mb4.5
GRR *epP* pP 17 32 42.8 +2.3
GRR Gorron 79.20 3⇑*iP* **P 17 31 54.4 -0.3**
GRR *e*PP* pP 17 32 42.8 +2.3
GRR pmax pmax
comp=Z,12nm,0.9s,mb4.5
CDF Champ du Feu 79.22 358⇑*iP* **P 17 31 54.7 -0.1**
comp=Z,12nm,0.6s,mb4.4
CDF *epP* pP 17 32 43.2 +2.6
CDF Champ du Feu 79.22 358⇑*iP* **P 17 31 54.7 -0.1**
comp=Z,5.9nm,0.6s,mb4.4
CDF *epP* pP 17 32 43.2 +2.6
CDF Champ du Feu 79.22 358⇑*iP* **P 17 31 54.7 -0.1**
CDF *e*PP* pP 17 32 43.2 +2.6
CDF pmax pmax
comp=Z,6.0nm,0.6s,mb4.4
SGMF Saint Gilles 79.27 4⇑*iP* **P 17 31 55.0 -0.1**
comp=Z,13nm,0.5s,mb4.5
SGMF *epP* pP 17 32 43.2 +2.4
SGMF Saint Gilles 79.27 4⇑*iP* **P 17 31 55.0 -0.1**
comp=Z,6.6nm,0.5s,mb4.5
SGMF *epP* pP 17 32 43.2 +2.4
SGMF Saint Gilles 79.27 4⇑*iP* **P 17 31 55.0 -0.1**
SGMF *e*PP* pP 17 32 43.2 +2.4
SGMF pmax pmax
comp=Z,7.0nm,0.5s,mb4.5
BFO Black Forest 79.27 357 *eP* **P 17 31 55.0 -0.1**
BFO *e*PP* pP 17 32 45.1 +4.2
BFO pmax pmax
comp=Z,24nm,1.8s,mb4.5
BFO pmax pmax
comp=Z,24nm,1.7s,mb4.5
BFO Black Forest 79.27 357 *eP* **P 17 31 55.0 -0.1**
comp=Z,24nm,1.8s,mb4.5
BFO *epP* pP 17 32 45.1 +4.2
comp=Z,24nm,1.7s
THEF They Montfort 79.43 359 *eP* **P 17 31 55.7 -0.3**
CTA Charters Tower 79.53 216 *eP* **P 17 31 56.2 -0.5**
comp=Z,8.9nm,1.0s,mb4.3
CTA Charters Tower 79.53 216 *eP* pP 17 32 37.7 -4.9
comp=Z,16nm,1.1s
CTA Charters Tower 79.53 216 *eP* **P 17 31 56.2 -0.5**
CTA pmax pmax
comp=Z,9.0nm,1.0s
CTA Charters Tower 79.53 216 LR LR 18 03 36.6
comp=Z,157nm,20.8s,baz=233,slow=33
TBLG Delisi 79.54 330 P pP 17 32 26.4 -16
MTA Mtatsminda 79.56 330 P pP 17 32 46.8 +4.2
QUIF Quistinic 79.57 5 *eP* **P 17 31 56.9 +0.2**
DRGR 79.59 347 ⇓*iP* **P 17 31 56.6 -0.3**
DRGR 79.59 347 ⇓*iP* **P 17 31 56.6 -0.2**
DGRG David-gareji 79.61 330 P pP 17 32 50.2 +7.4
HAU Haudompre 79.64 358⇑*iP* **P 17 31 56.9 -0.2**
comp=Z,9.5nm,0.6s,mb4.3
HAU *e*MLR MLR
comp=Z,134nm,21.8s
HAU Haudompre 79.64 358⇑*iP* **P 17 31 56.9 -0.2**
comp=Z,4.8nm,0.6s,mb4.3
HAU LR LR
comp=Z,130nm,21.8s
HAU Haudompre 79.64 358⇑*iP* **P 17 31 56.9 -0.2**
HAU pmax pmax
comp=Z,5.0nm,0.6s,mb4.3
HAU MLR MLR
comp=Z,130nm,21.8s
HINF Hinteralfeld 79.82 358⇑*iP* **P 17 31 57.7 -0.4**
comp=Z,9.0nm,0.5s,mb4.3
HINF Hinteralfeld 79.82 358⇑*iP* **P 17 31 57.7 -0.4**
comp=Z,4.5nm,0.5s,mb4.3
HINF Hinteralfeld 79.82 358⇑*iP* **P 17 31 57.7 -0.4**
HINF pmax pmax
comp=Z,5.0nm,0.5s,mb4.4
VRI Vrincioaia 79.88 344 ⇑P **P 17 31 59.9 +1.4**
VRI Vrincioaia 79.88 344⇑*iP* **P 17 31 59.9 +1.5**
KTGM Kuala Trenggan 80.21 266 ⇓P **P 17 32 02.0 +1.3**
MLR Muntele Rosu 80.37 344 ⇓P **P 17 32 01.8 +0.8**
MLR Muntele Rosu 80.37 344 LR LR 18 09 10.1
comp=Z,104nm,19.1s,baz=203,slow=36
MLR Muntele Rosu 80.37 344⇓*iP* **P 17 32 01.8 +0.7**
LOR Lormes 80.40 0⇑*iP* **P 17 32 01.1 -0.1**
comp=Z,10nm,0.5s,mb4.4
LOR *epP* pP 17 32 49.4 +2.3
LOR *e*MLR MLR
comp=Z,84nm,18.2s
LOR Lormes 80.40 0⇑*iP* **P 17 32 01.1 -0.1**
comp=Z,5.1nm,0.5s,mb4.4
LOR *epP* pP 17 32 49.4 +2.3
LOR LR LR
comp=Z,80nm,18.3s
LOR Lormes 80.40 0⇑*iP* **P 17 32 01.1 -0.1**
LOR *e*PP* pP 17 32 49.4 +2.3
LOR pmax pmax
comp=Z,5.0nm,0.5s,mb4.4
LOR MLR MLR
comp=Z,80nm,18.3s
VOIR 80.57 345 ⇑P **P 17 32 03.3 +1.2**
VOIR 80.57 345⇑*iP* **P 17 32 03.3 +1.2**
SSF Saint Saulge 80.61 0⇑*iP* **P 17 32 02.2 -0.1**
comp=Z,17nm,0.7s,mb4.5
SSF Saint Saulge 80.61 0⇑*iP* **P 17 32 02.2 -0.1**
comp=Z,8.6nm,0.7s,mb4.5
SSF Saint Saulge 80.61 0⇑*iP* **P 17 32 02.2 -0.1**
SSF pmax pmax
comp=Z,9.0nm,0.7s,mb4.5
DAVOX Davos/Dischmat 80.76 356 P **P 17 32 03.1 0.0**
comp=Z,3.1nm,0.8s,mb4.0,baz=330,slow=18,SNR=4.2
AVF Avril sur Loir 80.88 0⇑*iP* **P 17 32 03.5 -0.2**
comp=Z,10.0nm,0.4s,mb4.5
BZS Buzias 80.89 348 ⇑P **P 17 32 01.9 -1.9**
BZS Buzias 80.89 348⇑*iP* **P 17 32 01.9 -1.9**
GZR Gura Zlata 80.95 347 ⇓*iP* **P 17 32 04.1 0.0**
TIRR Tirgusor 80.95 343 ⇑P **P 17 32 04.6 +0.4**
TIRR Tirgusor 80.95 343⇑*iP* **P 17 32 04.6 +0.5**
BATI Kupang 80.95 240 P **P 17 32 04.2 -0.2**
comp=Z,62nm,0.7s,mb5.4,baz=297,slow=1.4,SNR=17
BATI pP pP 17 32 46.1 -4.4
comp=Z,39nm,0.7s,baz=286,slow=1.0,SNR=4.4
MFF Saint Martin d 81.01 3⇑*iP* **P 17 32 04.3 -0.1**
comp=Z,26nm,0.9s,mb4.5
MFF *epP* pP 17 32 52.6 +2.2
MFF Saint Martin d 81.01 3⇑*iP* **P 17 32 04.3 -0.1**
comp=Z,13nm,0.9s,mb4.6
MFF *epP* pP 17 32 52.6 +2.2
MFF Saint Martin d 81.01 3⇑*iP* **P 17 32 04.3 -0.1**
MFF *e*PP* pP 17 32 52.6 +2.2
MFF pmax pmax
comp=Z,13nm,0.9s,mb4.6
SMF Signal de Mont 81.03 0⇑*iP* **P 17 32 04.3 -0.2**
comp=Z,27nm,0.8s,mb4.6
SMF Signal de Mont 81.03 0⇑*iP* **P 17 32 04.3 -0.2**
comp=Z,14nm,0.8s,mb4.6
SMF Signal de Mont 81.03 0⇑*iP* **P 17 32 04.3 -0.2**
SMF pmax pmax
comp=Z,14nm,0.8s,mb4.6
CABF La Chapelle 81.04 358⇑*iP* **P 17 32 04.9 +0.3**
comp=Z,33nm,1.1s,mb4.6
CABF La Chapelle 81.04 358⇑*iP* **P 17 32 04.9 +0.3**
comp=Z,16nm,1.1s,mb4.6
CABF La Chapelle 81.04 358⇑*iP* **P 17 32 04.9 +0.3**
CABF pmax pmax
comp=Z,17nm,1.1s,mb4.6
BGF Bois d'Agland 81.11 1⇑*iP* **P 17 32 04.8 -0.2**
BGF *epP* pP 17 32 53.2 +2.3
TCF Toulx Ste Croi 81.37 1⇑*iP* **P 17 32 06.1 -0.2**
comp=Z,15nm,1.0s,mb4.3
TCF *epP* pP 17 32 54.4 +2.0
TCF Toulx Ste Croi 81.37 1⇑*iP* **P 17 32 06.1 -0.2**
comp=Z,7.5nm,1.0s,mb4.3
TCF *epP* pP 17 32 54.4 +2.0
TCF Toulx Ste Croi 81.37 1⇑*iP* **P 17 32 06.1 -0.2**
TCF *e*PP* pP 17 32 54.4 +2.0
TCF pmax pmax
comp=Z,8.0nm,1.0s,mb4.3
AGO Saint Agoulin 81.62 1 *eP* **P 17 32 07.9 +0.3**
PLDF La Plantade 81.70 0 *eP* **P 17 32 08.5 +0.4**
KULM Kulim 81.75 268 ⇑P **P 17 32 09.0 +0.2**
PYM Petit Puy Mans 81.92 1 *eP* **P 17 32 09.9 +0.7**
LPL La Plagne 82.13 358 *eP* **P 17 32 11.2 +0.9**
LPG La Plagne 82.14 358⇑*iP* **P 17 32 11.5 +1.1**
LPG *epP* pP 17 33 00.0 +3.5
IPM Ipoh 82.16 267 ⇓P **P 17 32 10.7 -0.2**
RJF Les Rejaudoux 82.35 2⇑*iP* **P 17 32 11.1 -0.3**
RJF *epP* pP 17 32 59.4 +1.9
RJF *e*MLR MLR
comp=Z,123nm,19.5s
RJF Les Rejaudoux 82.35 2⇑*iP* **P 17 32 11.1 -0.3**
RJF *e*PP* pP 17 32 59.4 +1.9
RJF MLR MLR
comp=Z,120nm,19.5s
LBL Lubilhac 82.44 0 *eP* **P 17 32 12.3 +0.4**
MYKOM Kota Tinggi 82.57 263 ⇑P **P 17 32 13.6 +0.6**
BNI Bardonecchia 82.59 358 *eP* **P 17 32 13.9 +1.2**
comp=Z,14nm,1.3s,mb4.5
BNI *epP* pP 17 33 01.4 +2.5
BNI Bardonecchia 82.59 358 *eP* **P 17 32 13.9 +1.2**
BNI pmax pmax
comp=Z,14nm,1.2s,mb4.6
LFF La Frestale 82.69 2⇑*iP* **P 17 32 13.2 0.0**
KGM Kluang 82.71 264 ⇑P **P 17 32 14.5 +0.7**
CAF Calviac 82.73 1⇑*iP* **P 17 32 13.6 +0.2**
ORIF Oris-en-Rattie 82.74 359⇑*iP* **P 17 32 14.2 +0.7**
ORIF *e*MLR MLR
comp=Z,106nm,20.8s
VIVF Saint-Julien-I 82.81 359⇑*iP* **P 17 32 14.1 +0.2**
comp=Z,11nm,0.9s,mb4.3
VIVF *epP* pP 17 33 02.8 +2.8
VIVF Saint-Julien-I 82.81 359⇑*iP* **P 17 32 14.1 +0.2**
comp=Z,5.4nm,0.9s,mb4.3
VIVF *epP* pP 17 33 02.8 +2.8
VIVF Saint-Julien-I 82.81 359⇑*iP* **P 17 32 14.1 +0.2**
VIVF *e*PP* pP 17 33 02.8 +2.8
VIVF pmax pmax
comp=Z,5.0nm,0.9s,mb4.2
MBDF Montbardon 82.92 358⇑*iP* **P 17 32 15.0 +0.6**
LASF Ste Croix 83.60 0⇑*iP* **P 17 32 18.1 +0.2**
comp=Z,14nm,1.1s,mb4.3
TOUF Mont Tournerai 83.62 358 *eP* **P 17 32 18.2 +0.2**
AUTN L'Aution 83.63 357 *eP* **P 17 32 18.0 0.0**
VTS Vitosha 83.63 346 ⇑P **P 17 32 17.8 -0.3**
VTS Vitosha 83.63 346⇑*iP* **P 17 32 17.8 -0.3**
SAOF Saorge 83.64 357 *eP* **P 17 32 18.0 -0.1**
STOF St-Etienne Org 83.66 359 *eP* **P 17 32 18.7 +0.5**
SMRF Simiane la Rot 83.69 359⇑*iP* **P 17 32 19.1 +0.8**
comp=Z,21nm,0.9s,mb4.5
SMRF *epP* pP 17 33 07.5 +2.9
SMRF Simiane la Rot 83.69 359⇑*iP* **P 17 32 19.1 +0.8**
comp=Z,21nm,0.9s,mb4.9
SMRF *epP* pP 17 33 07.5 +2.9
LUCF Luceram 83.73 358 *eP* **P 17 32 18.5 -0.1**
MVIF Mont Vial 83.74 358 *eP* **P 17 32 18.5 -0.1**
SBF Sospel 83.76 357⇑*iP* **P 17 32 18.4 -0.3**
VILF Villemus 83.81 359 *eP* **P 17 32 19.5 +0.5**
PRAF Pradon 83.86 359 *eP* **P 17 32 20.0 +0.8**
EPON Pontenova 83.87 8 P **P 17 32 19.3 0.0**
comp=Z,13nm,1.1s,mb4.6
TAVF Tavernes 84.04 358 *eP* **P 17 32 21.1 +1.0**
TREF Trevaresse 84.04 359 *eP* **P 17 32 21.1 +1.0**
EARI Arriondas 84.05 7 P **P 17 32 19.4 -0.8**
comp=Z,34nm,2.2s,mb4.7
FRF La Foret Royal 84.08 358⇑*iP* **P 17 32 20.0 -0.3**
PUYF Puyloubier 84.13 359 *eP* **P 17 32 21.3 +0.7**
WRAB Tennant Creek 84.13 226 P **P 17 32 19.5 -1.3**
comp=Z,94nm,1.0s,mb5.5,SNR=7.0
WRAB Tennant Creek 84.13 226 *eP* **P 17 32 19.3 -1.5**
comp=Z,17nm,1.0s,mb4.7
WRAB *epP* pP 17 33 01.4 -5.7
WRAB Tennant Creek 84.13 226 *eP* **P 17 32 19.3 -1.5**
WRAB pmax pmax
comp=Z,17nm,1.0s,mb4.7
WB2 Warramunga Arr 84.14 226 *eP* **P 17 32 19.4 -1.4**
WB2 Warramunga Arr 84.14 226 *eP* pP 17 33 01.8 -5.3
WRA Warramunga Arr 84.15 226 P **P 17 32 19.5 -1.3**
comp=Z,11nm,0.8s,mb4.7,baz=31,slow=5.7,SNR=112
WRA pP pP 17 33 01.7 -5.4
comp=Z,25nm,1.1s,baz=35,slow=5.6,SNR=14
ELAN Lanestosa 84.23 5 P **P 17 32 20.6 -0.5**
comp=Z,31nm,1.4s,mb4.8
GELF Grande-Etoile 84.28 359 *eP* **P 17 32 21.7 +0.4**
LMR La Mourre 84.31 358⇑*iP* **P 17 32 21.3 -0.2**
MTLF Montolieu 84.32 1⇑*iP* **P 17 32 21.6 +0.1**
comp=Z,8.2nm,0.7s,mb4.2
MTLF *epP* pP 17 33 10.1 +2.2
MTLF Montolieu 84.32 1⇑*iP* **P 17 32 21.6 +0.1**
comp=Z,4.1nm,0.7s,mb4.3
MTLF *epP* pP 17 33 10.1 +2.2
MTLF Montolieu 84.32 1⇑*iP* **P 17 32 21.6 +0.1**
MTLF *e*PP* pP 17 33 10.1 +2.2
MTLF pmax pmax
comp=Z,4.0nm,0.7s,mb4.3
EALK Alkurruntz 84.34 4 P **P 17 32 20.8 -0.9**
comp=Z,22nm,1.5s,mb4.7
BERF Bertagne 84.35 359 *eP* **P 17 32 22.6 +0.9**
SJPF Ste Jean 84.45 4 *eP* **P 17 32 21.8 -0.4**
comp=Z,11nm,0.6s,mb4.4
SJPF Ste Jean 84.45 4 *eP* **P 17 32 21.8 -0.4**
comp=Z,5.4nm,0.6s,mb4.5
SJPF Ste Jean 84.45 4 *eP* **P 17 32 21.8 -0.4**
SJPF pmax pmax
comp=Z,5.0nm,0.6s,mb4.4
MALT Malatya 84.52 333 *eP* **P 17 32 23.1 +0.4**
comp=Z,16nm,1.5s,mb4.5
MALT Malatya 84.52 333 *eP* **P 17 32 23.1 +0.4**
MALT pmax pmax
comp=Z,16nm,1.5s,mb4.5
EPF Esparros 84.59 3 *eP* **P 17 32 22.3 -0.6**
ETSF Etsaut 84.69 3⇑*iP* **P 17 32 23.7 +0.3**
comp=Z,9.8nm,0.7s,mb4.3
ETSF Etsaut 84.69 3⇑*iP* **P 17 32 23.7 +0.3**
comp=Z,4.9nm,0.7s,mb4.3
EBIE Bielsa 84.93 3 P **P 17 32 25.3 +0.7**
comp=Z,5.8nm,0.7s,mb4.4
AQU L'Aquila 84.96 353 P **P 17 32 24.8 0.0**
AQU *epP* pP 17 33 15.1 +3.9
AQU L'Aquila 84.96 353 *eP* **P 17 32 22.2 -2.6**
PGF Pioggiola 85.02 356⇑*iP* **P 17 32 24.6 -0.5**
comp=Z,38nm,1.1s,mb4.7
PGF *epP* pP 17 33 13.1 +1.6
PGF Pioggiola 85.02 356⇑*iP* **P 17 32 24.6 -0.5**
comp=Z,19nm,1.1s,mb4.7
PGF *epP* pP 17 33 13.1 +1.6
PGF Pioggiola 85.02 356⇑*iP* **P 17 32 24.6 -0.5**
PGF *e*PP* pP 17 33 13.1 +1.6
PGF pmax pmax
comp=Z,19nm,1.1s,mb4.7
HYB Hyderabad 85.30 293 *eP* **P 17 32 26.0 -0.8**
HYB Hyderabad 85.30 293 *i* P **P 17 32 26.0 -0.8**
PBRG Braganca 85.41 8 *eP* **P 17 32 27.1 +0.1**
comp=Z,9.6nm,2.2s,mb4.1
ESAC San Caprasio 85.87 3 P **P 17 32 29.0 -0.3**
comp=Z,11nm,0.5s,mb4.8
MVO Moncorvo 86.03 8 *eP* **P 17 32 29.5 -0.5**
comp=Z,9.7nm,1.8s,mb4.2
MVO *epP* pP 17 33 19.4 +2.9
PVIS Viseu 86.39 9 *eP* **P 17 32 32.9 +1.1**
comp=Z,9.8nm,2.1s,mb4.2
PVIS *epP* pP 17 33 21.0 +2.6
FITZ Fitzroy Crossi 86.61 234 *eP* **P 17 32 31.8 -1.3**
comp=Z,6.4nm,0.7s,mb4.6
FITZ Fitzroy Crossi 86.61 234 *eP* pP 17 33 15.5 -4.2
comp=Z,43nm,0.9s
FITZ Fitzroy Crossi 86.61 234 P **P 17 32 31.8 -1.3**
comp=Z,4.1nm,0.8s,mb4.3,baz=22,slow=2.4,SNR=10
FITZ pP pP 17 33 15.6 -4.1
comp=Z,25nm,0.9s,baz=35,slow=6.8,SNR=23
ETOR Torete 86.71 5 P **P 17 32 31.9 -1.5**
comp=Z,3.5nm,1.0s,mb4.1

ETOR	**Torete**	**86.71**	**5**	P	**P**	**17 32 31.9**	**-1.5**
ETOR				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.2						
PCBR	**Castelo Branco**	**87.30**	**9**	*e*pP	pP	17 33 24.9	+2.0
ARMA	**Armidale**	**87.45**	**208**	*e*P	**P**	**17 32 37.6**	**+0.8**
ARMA	**Armidale**	**87.45**	**208**	*e*P	pP	17 33 19.7	-3.8
ASAR	**Alice Springs**	**87.61**	**225**	P	**P**	**17 32 37.3**	**-0.4**
	comp=Z,12nm,0.7s,mb4.8,baz=26,slow=5.2,SNR=216						
ASAR				pP	pP	17 33 20.0	-4.5
	comp=Z,18nm,0.9s,baz=31,slow=4.5,SNR=14						
ESDC	**Sonseca Array**	**87.74**	**6**	P	**P**	**17 32 37.2**	**-1.1**
	comp=Z,4.7nm,1.1s,mb4.2						
ESDC	**Sonseca Array**	**87.74**	**6**	P	**P**	**17 32 37.4**	**-0.9**
	comp=Z,0.7nm,0.5s,mb3.8,baz=354,slow=4.3,SNR=4.3						
ESDC				pP	pP	17 33 21.0	-4.1
	comp=Z,0.3nm,0.4s,baz=104,slow=29,SNR=2.0						
PMAFR	**Mafra**	**87.99**	**10**	*e*P	**P**	**17 32 44.3**	**+4.8**
	comp=Z,47nm,1.0s,mb5.3						
EVO	**Evora**	**88.54**	**9**	*e*P	**P**	**17 32 40.8**	**-1.3**
EVO				epP	pP	17 33 28.9	0.0
PVAQ	**Vaqueiros**	**89.69**	**9**	epP	pP	17 33 36.9	+2.5
MORF	**Marmelete**	**89.69**	**10**	epP	pP	17 33 28.7	-5.7
PBDV	**Barranco-do-Ve**	**89.83**	**9**	epP	pP	17 33 25.3	-10
STKA	**Stephens Creek**	**91.97**	**215**	*e*P	**P**	**17 32 57.5**	**-0.4**
	comp=Z,3.3nm,0.9s,mb4.4						
STKA	**Stephens Creek**	**91.97**	**215**	*e*P	pP	17 33 39.8	-5.0
	comp=Z,13nm,0.9s						
STKA	**Stephens Creek**	**91.97**	**215**	P	**P**	**17 32 57.9**	**0.0**
	comp=Z,4.0nm,0.8s,mb4.5,baz=1.3,slow=3.2,SNR=7.7						
STKA				pP	pP	17 33 40.0	-4.8
	comp=Z,13nm,0.9s,baz=348,slow=6.3,SNR=12						
STKA				LR	LR	18 16 42.0	
	comp=Z,139nm,18.1s,baz=26,slow=37						
SDV	**Santo Domingo**	**92.19**	**72**	*e*P	**P**	**17 32 58.2**	**-1.2**
	comp=Z,18nm,1.4s,mb4.9						
TORD	**Torodi Ar. Bea**	**114.39**	**2**	PKP	PKiKP	17 38 26.7	-1.8
	comp=Z,0.7nm,0.4s,baz=352,slow=3.3,SNR=12						
TORD				SKP		17 41 45.4	
	comp=Z,0.7nm,0.5s,baz=340,slow=2.3,SNR=7.6						
DBIC	**Dimbokro**	**120.38**	**10**	PKP	PKPdf	17 38 38.3	-1.8
	comp=Z,3.6nm,0.3s,baz=356,slow=3.7,SNR=26						
LIC	**Lamto**	**120.80**	**10**	*e*PKIKP	PKPdf	17 38 38.4	-2.5
	comp=Z,6.8nm,0.5s						
LIC				*e*MLR	MLR		
	comp=Z,86nm,19.2s						
LIC	**Lamto**	**120.80**	**10**	*e*PKPdf	PKPdf	17 38 38.4	-2.5
LIC				LR	LR		
	comp=Z,40nm,19.3s						
BDFB	**Brasilia**	**125.03**	**68**	PKP	PKPdf	17 38 47.8	-1.0
	comp=Z,1.3nm,0.4s,baz=163,slow=25,SNR=5.3						
CPUP	**Villa Florida**	**127.78**	**85**	PKP	PKPdf	17 38 52.7	-1.1
	comp=Z,2.8nm,0.5s,baz=279,slow=0.9,SNR=16						
CPUP				SKPbc		17 41 53.4	
	comp=Z,1.2nm,0.5s,baz=270,slow=2.7,SNR=4.9						
PLCA	**Paso Flores**	**129.75**	**108**	PKP	PKPdf	17 38 56.8	-0.3
	comp=Z,6.0nm,0.8s,baz=281,slow=2.3,SNR=9.4						
PLCA				pPKP	pPKPdf	17 39 42.3	-3.9
	comp=Z,9.5nm,1.0s,baz=316,slow=1.8,SNR=7.5						
PLCA				SKPbc		17 42 00.9	
	comp=Z,6.4nm,0.6s,baz=313,slow=3.9,SNR=17						
LBTB	**Lobatse**	**147.86**	**321**	*e*PKPbc	PKPbc	17 39 32.7	-0.8
MAW	**Mawson**	**148.57**	**219**	*e*P	PKPdf	17 39 33.3	+3.1
	comp=Z,22nm,1.1s						
MAW	**Mawson**	**148.57**	**219**	PKP2	PKPab	17 39 33.6	-4.7
MAW				pmax	pmax		
	comp=Z,9.0nm,0.3s						
MAW				pmax	pmax		
	comp=Z,11nm,0.9s						
MAW	**Mawson**	**148.57**	**219**	PKPbc	PKPbc	17 39 33.6	-0.5
	comp=Z,8.7nm,0.3s,baz=87,slow=2.2,SNR=40						
MAW				pPKP	pPKPdf	17 40 15.9	-3.6
	comp=Z,11nm,0.9s,baz=323,slow=1.8,SNR=3.0						
BOSA	**Boshof**	**151.22**	**318**	PKPbc	PKPbc	17 39 40.9	-0.8
BOSA	**Boshof**	**151.22**	**318**	PKPbc	PKPbc	17 39 40.9	-0.8
	comp=Z,7.6nm,0.5s,baz=32,slow=2.1,SNR=52						
SYO	**Syowa Base**	**156.69**	**212**	‖*e*X		17 40 52.4	
VNA3	**Neumayer Olymp**	**160.43**	**167**	*e*PKPdf	PKPdf	17 39 44.5	-1.9
VNA3				*e*		17 39 47.2	
VNA3				*e*		17 40 30.2	
VNA3				*e*		17 41 11.4	
VNA3				*e*		17 41 14.3	
VNA3				*e*		17 42 59.1	
SNAA	**Sanae**	**160.73**	**174**	PKP	PKPdf	17 39 44.9	-1.8
	comp=Z,0.5nm,0.7s,baz=275,slow=8.5,SNR=3.3						
SNAA				PKPab	PKPab	17 40 28.7	-1.3
	comp=Z,0.6nm,0.7s,baz=201,slow=3.4,SNR=6.1						
VNA2	**Neumayer--Watz**	**161.02**	**169**	*e*PKPdf	PKPdf	17 39 46.1	-0.9
VNA2				*e*		17 39 49.5	
VNA2				*e*		17 40 30.4	
VNA2				*e*		17 41 14.2	
VNA2				*e*		17 41 17.2	
VNA2				*e*		17 43 02.4	

*ISCJB **20** 17:22:17.3±0.6, 3830N±003×39.17E±004, h10km±6km, Error ellipse: s-maj=5.6km s-min=5.0km az=44.8*
*CSEM **20** 17:22:17.3±0.1, 3829N×3914E, h2km, MD3.6, Error ellipse: s-maj=2.7km s-min=2.1km az=143.0*
*ISK **20** 17:22:17.1, 3828N×3914E, h5km, MD3.4*
*DDA **20** 17:22:18.8, 3839N×3926E, h15km±7km, Md3.6*
ISC 20 17:22:17.7±0.6, **3833N**±003×**3918E**±004, **h11**km±6km, **n22**, σ**1§29**/**29**, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ELZG	**Elazig**	**0.22**	**317**	*i* P	**Pg**	**17 22 22.6**	**+0.2**
ELZG				*i* S	**Sg**	**17 22 26.9**	**+1.3**
MALT	**Malatya**	**0.59**	**268**	PG	**Pg**	**17 22 29.0**	**-0.2**
MALT				*e*SG	**Sg**	**17 22 38.4**	**+1.5**
MYA	**Malataya**	**0.59**	**270**	*e*PG	**Pg**	**17 22 28.4**	**-0.8**
DIY	**Diyarbakir**	**0.94**	**118**	*e*PG	**Pg**	**17 22 35.7**	**0.0**
URFA	**Urfa**	**0.94**	**198**	*e*PG	**Pg**	**17 22 35.3**	**-0.4**
KEMA	**Kemaliye**	**1.08**	**330**	*i* P	**Pb**	**17 22 37.5**	**-0.9**
KEMA				*i* S	**Sb**	**17 22 53.2**	**+0.8**
ATAB	**Bozova**	**1.11**	**219**	*i* P	**Pb**	**17 22 39.6**	**+0.7**
ATAB				*e*S	**Sb**	**17 22 56.0**	**+2.7**
ATAB	**Bozova**	**1.11**	**219**	*i* P	**Pb**	**17 22 39.6**	**+0.7**
ATAB				*e*S	**Sb**	**17 22 56.0**	**+2.7**
BINT	**Bingol**	**1.16**	**62**	*e*PN	**Pn**	**17 22 41.5**	**+1.7**
EZC	**Erzincan**	**1.50**	**19**	*e*PN	**Pn**	**17 22 45.9**	**+1.4**
GZT	**Gaziantep**	**1.61**	**233**	*i* P	**Pg**	**17 22 47.2**	**-1.3**
GZT				*i* S	**Sg**	**17 23 11.3**	**+1.9**
MARD	**Mardin**	**1.63**	**128**	*i* P	**Pn**	**17 22 46.4**	**+0.1**
MARD				*i* S	**Sn**	**17 23 08.3**	**+1.1**
BTMT	**Batman**	**1.82**	**94**	*e*PN	**Pn**	**17 22 49.9**	**+0.9**
GAZ	**Gaziantep**	**1.94**	**234**	*e*PN	**Pb**	**17 22 51.4**	**-1.7**
KMRS	**Kahramanmaras**	**1.98**	**246**	*e*PN	**Pb**	**17 22 52.7**	**-1.1**
GUMT	**Gumushane**	**2.14**	**6**	*e*PN	**Pb**	**17 22 56.0**	**-0.4**
EZM	**Erzurum**	**2.31**	**47**	*e*PN	**Pb**	**17 22 58.9**	**-0.5**
SVSK	**Karacayir**	**2.32**	**314**	*e*PN	**Pb**	**17 22 58.1**	**-1.4**
BNN	**Bunyan**	**2.66**	**282**	*e*PN	**Pb**	**17 23 02.2**	**-3.1**
SIRT	**Sirnak**	**2.71**	**107**	*e*PN	**Pb**	**17 23 03.7**	**-2.5**
KOZT	**Kozan**	**2.78**	**253**	*e*PN	**Pb**	**17 23 03.6**	**-3.8**
AGRB	**Hanur-Agry**	**3.22**	**66**	*e*PN	**Pb**	**17 23 11.5**	**-3.4**

*NEIC **20** 17:28:06.5, 1728N×10086W, h15km, MD3.7(MEX), After MEX.*
MEX 20 17:28:06.5±1.3, **1728N**×**10086W**, **h15**km±16km, **MD3.7**, **Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.61**	**112**	*i* P	Pg	17 28 15.8	-2.7
CAIG				*i* S	Sg	17 28 24.3	-2.3
ZIIG	**Zihuatanejo**	**0.67**	**299**	*i* P	Pg	17 28 17.7	-1.8
ZIIG				*i* S	Sg	17 28 25.6	-2.8
ACX	**Acapulco**	**0.99**	**114**	*i* P	Pb	17 28 23.0	-2.3
ACX				*i* S	Sb	17 28 35.0	-3.1
PLIG	**Platanillo**	**1.70**	**49**	*e*P	Pn	17 28 32.9	-2.7
PLIG				*i* S	Sn	17 28 53.1	-4.0
PPM	**Popocatepetl**	**2.77**	**50**	*e*P	Pn	17 28 44.5	-5.8

*BJI **20** 17:29:07.7, 8520N×1200E, h10km, mB4.9, mb4.7, Ms4.7, Msz4.4*
*ISCJB **20** 17:29:09.2±0.3, 8524N±005×121E±07, h10km, mb4.4/35, MS3.9/13, Error ellipse: s-maj=8.3km s-min=6.6km az=176.3*
*IDC **20** 17:29:09.7±0.6, 8531N×1205E, h0km, mb4.1/14, mb1 4.2/15, mb1mx4.1/23, mbtmp4.1/15, ML3.6/1, MS3.6/9, Ms1 3.6/9, ms1mx3.3/32, Error ellipse: s-maj=19.7km s-min=14.1km az=63.0*
*NEIC **20** 17:29:10.7±0.3, 8522N×1199E, h10km, mb4.5/13, Error ellipse: s-maj=8.7km s-min=6.3km az=77.0*
*CSEM **20** 17:29:11.6±0.1, 8532N×1253E, h30km, mb4.7/12, Error ellipse: s-maj=3.8km s-min=2.9km az=66.0*
ISC 20 17:29:11.1±0.3, **8521N**±005×**121E**±07, **h10**km, (**h15**km±8km:**pP-P**), **n81**, σ**1§09**/**82**, **mb4.4**/35, **MS3.9**/13, **North of Svalbard**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBS	**Kingsbay**	**6.33**	**180**	*e*Pn	**Pn**	**17 30 43.3**	**-0.9**
	64nm,0.8s						
KBS				*e*Sn	**Sn**	**17 31 49.8**	**-6.5**
KBS	**Kingsbay**	**6.33**	**180**	*e*Pn	**Pn**	**17 30 43.3**	**-0.9**
	64nm,0.8s						
KBS				*e*Sn	**Sn**	**17 31 49.8**	**-6.5**
SPB4	**Spitsbergen Ar**	**7.10**	**173**	*e*Pn	**Pn**	**17 30 54.5**	**-0.3**
SPB4				*e*Sn	**Sn**	**17 32 08.0**	**-7.4**
SPB4	**Spitsbergen Ar**	**7.10**	**173**	*e*Pn	**Pn**	**17 30 54.5**	**-0.3**
SPB4				*e*Sn	**Sn**	**17 32 07.9**	**-7.5**
KEV	**Kevo**	**15.76**	**161**	*e*Pn	**Pn**	**17 32 50.8**	**-1.8**
KEV	**Kevo**	**15.76**	**161**	*e*Pn	**Pn**	**17 32 50.8**	**-1.8**
ARCES	**ARCESS Array B**	**15.94**	**163**	Pn	**Pn**	**17 32 53.4**	**-1.6**
	0.3nm,0.3s,baz=357,slow=9.3,SNR=6.7						
ARCES				Sn	**Sn**	**17 35 41.1**	**-10**
	0.4nm,0.3s,baz=0.8,slow=19,SNR=5.0						
ARCES				LR	LR	17 38 53.1	
	comp=Z,117nm,21.8s,baz=197,slow=36						
ARCES	**ARCESS Array B**	**15.94**	**163**	Pn	**Pn**	**17 32 53.4**	**-1.6**
ARCES				Sn	**Sn**	**17 35 41.1**	**-10**
TIXI	**Tiksi**	**21.07**	**52**	*e*P	**P**	**17 33 44.5**	**-10**
TIXI	**Tiksi**	**21.07**	**52**	*e*P	**P**	**17 33 44.5**	**-10**
JOF	**Joensuu**	**22.74**	**157**	*e*p	**P**	**17 34 11.2**	**-1.4**
	20nm,0.8s,mb4.6						
KAF	**Kangasniemi**	**23.40**	**163**	*e*p	**P**	**17 34 19.0**	**-0.6**
	baz=356,slow=10						
FIA1	**FINESS Array S**	**24.07**	**163**	*e*P	**P**	**17 34 24.9**	**-1.0**
FIA1	**FINESS Array S**	**24.07**	**163**	*e*P	**P**	**17 34 24.9**	**-1.0**
FINES	**FINESS Array B**	**24.07**	**163**	P	**P**	**17 34 26.7**	**+0.8**
	11nm,1.0s,mb4.3,baz=0.0,slow=13,SNR=8.8						
FINES				LR	LR	17 43 30.6	
	comp=Z,118nm,18.7s,MS3.4,baz=19,slow=36						
NB2	**NORSAR Subarra**	**24.31**	**181**	P	**P**	**17 34 29.3**	**+1.2**
	comp=Z,36nm,1.4s,mb4.6,baz=0.2,slow=10						
NOA	**NORSAR Array B**	**24.31**	**181**	P	**P**	**17 34 28.8**	**+0.7**
NOA	**NORSAR Array B**	**24.31**	**181**	P	**P**	**17 34 28.8**	**+0.7**
	comp=Z,13nm,1.1s,mb4.3,baz=0.1,slow=9.6,SNR=4.3						
HFS	**Hagfors**	**25.22**	**178**	P	**P**	**17 34 37.2**	**+0.9**
	comp=Z,4.5nm,0.7s,mb4.1,baz=62,slow=6.7,SNR=4.0						
HFS				LR	LR	17 45 27.1	
	comp=Z,66nm,19.3s,MS3.2,baz=171,slow=39						
INK	**Inuvik**	**25.94**	**331**	P	**P**	**17 34 42.4**	**-0.5**
	comp=Z,3.5nm,0.8s,mb3.9,baz=25,slow=16,SNR=6.1						
BILL	**Bilibino**	**26.51**	**22**	*e*P	**P**	**17 34 47.1**	**-0.9**
	comp=Z,15nm,1.4s,mb4.3						
BILL	**Bilibino**	**26.51**	**22**	*e*P	**P**	**17 34 47.1**	**-0.9**
	comp=Z,15nm,1.4s,mb4.3						
YAK	**Yakutsk**	**30.64**	**55**	*e*P	**P**	**17 35 23.6**	**-1.2**
	comp=Z,37nm,1.2s,mb5.1						
YKA	**Yellowknife Ar**	**30.77**	**313**	P	**P**	**17 35 25.7**	**-0.3**
YKA				PcP	PcP	17 38 20.9	-1.9
YKA	**Yellowknife Ar**	**30.77**	**313**	P	**P**	**17 35 25.7**	**-0.2**
	comp=Z,0.7nm,0.7s,mb3.6,baz=3.0,slow=8.7,SNR=9.2						
YKA				PcP	PcP	17 38 20.9	-1.9
	comp=Z,0.3nm,0.6s,baz=356,slow=2.2,SNR=3.9						
YKA	**Yellowknife Ar**	**30.77**	**313**	PcP	PcP	17 38 20.9	-1.9
BRVK	**Borovoye**	**34.79**	**116**	*e*P	**P**	**17 36 01.1**	**-0.1**
	comp=Z,9.1nm,1.3s,mb4.5						
BRVK	**Borovoye**	**34.79**	**116**	*e*P	**P**	**17 36 01.1**	**-0.1**
	comp=Z,9.1nm,1.3s,mb4.5						
BVAR	**Borovoye Array**	**34.84**	**116**	P	**P**	**17 36 02.6**	**+1.1**
	comp=Z,1.6nm,0.6s,mb4.1,baz=351,slow=8.2,SNR=6.7						
AKASG	**Malin Array Be**	**34.91**	**161**	P	**P**	**17 36 02.3**	**+0.2**
	comp=Z,1.4nm,0.5s,mb4.1,baz=355,slow=9.0,SNR=8.1						
AKBB	**Malin Array Si**	**34.91**	**161**	*e*P	**P**	**17 36 00.6**	**-1.6**
AKBB	**Malin Array Si**	**34.91**	**161**	*e*P	**P**	**17 36 00.6**	**-1.6**
KIEV	**Kiev**	**34.91**	**161**	*e*P	**P**	**17 35 59.9**	**-2.3**
	comp=Z,16nm,1.3s,mb4.8						
KIEV	**Kiev**	**34.91**	**161**	*e*P	**P**	**17 35 59.9**	**-2.3**
	comp=Z,16nm,1.3s,mb4.8						
ZALV	**Zalesovo Beam**	**35.07**	**101**	P	**P**	**17 36 04.3**	**+0.8**
	comp=Z,1.3nm,0.6s,mb4.1,baz=355,slow=6.3,SNR=4.0						
ZALV				PcP	PcP	17 38 35.3	+0.5
	comp=Z,1.5nm,0.6s,baz=269,slow=1.6,SNR=6.3						
VRAC	**Vranov**	**36.08**	**175**	LR	LR	17 50 38.7	
	comp=Z,87nm,18.0s,MS3.6,baz=186,slow=36						
GERES	**GERESS Array B**	**36.53**	**178**	LR	LR	17 49 28.6	
	comp=Z,72nm,21.9s,MS3.4,baz=180,slow=33						
AKTO	**Aktyubinsk**	**36.54**	**130**	LR	LR	17 54 59.5	
	comp=Z,143nm,20.5s,MS3.7,baz=211,slow=42						
DAVOX	**Davos/Dischmat**	**38.60**	**182**	LR	LR	17 51 05.0	
	comp=Z,73nm,20.9s,MS3.5,baz=258,slow=34						
ULM	**Lac du Bonnet**	**41.64**	**293**	P	**P**	**17 37 01.5**	**+2.7**
	comp=Z,2.1nm,0.8s,mb3.8,baz=0.0,slow=2.0,SNR=3.4						
ULM	**Lac du Bonnet**	**41.64**	**293**	P	**P**	**17 37 01.2**	**+2.4**
	comp=Z,4.8nm,1.1s,mb4.0						
MK31	**Makanchi Array**	**41.96**	**105**	*e*P	**P**	**17 37 01.3**	**-0.1**
MK31	**Makanchi Array**	**41.96**	**105**	*e*P	**P**	**17 37 01.3**	**-0.2**
SONM	**Songino Array**	**42.94**	**81**	P	**P**	**17 37 10.1**	**+0.7**
	comp=Z,2.4nm,0.8s,mb4.0,baz=347,slow=7.7,SNR=9.0						
ULN	**Ulaanbaatar**	**42.96**	**80**	*e*P	**P**	**17 37 10.1**	**+0.5**
	comp=Z,6.6nm,0.8s,mb4.4						
ULN	**Ulaanbaatar**	**42.96**	**80**	*e*P	**P**	**17 37 10.1**	**+0.5**
	comp=Z,6.6nm,0.8s,mb4.4						
AGMN	**Agassiz Refuge**	**43.58**	**293**	*e*P	**P**	**17 37 13.8**	**-0.7**
	comp=Z,20nm,1.3s,mb4.7						
AGMN	**Agassiz Refuge**	**43.58**	**293**	*e*P	**P**	**17 37 13.9**	**-0.7**
	comp=Z,20nm,1.3s,mb4.7						
TKM2	**Tokmak 2**	**45.28**	**112**	*e*P	**P**	**17 37 29.1**	**+0.9**
	comp=Z,5.1nm,1.1s,mb4.3						
TKM2	**Tokmak 2**	**45.28**	**112**	*e*P	**P**	**17 37 29.1**	**+0.9**
	comp=Z,5.1nm,1.1s,mb4.3						
WMQ	**Urumqi**	**45.36**	**100**	*e*P	**P**	**17 37 29.8**	**+1.0**
WMQ				AP	pP	17 37 34.0	+2.0
WMQ				AMB	AMB		
	comp=Z,6.0nm,1.1s,mb4.3						
WMQ				AMB	AMB		
	comp=Z,142nm,7.0s						
WMQ				LR	LR		
	comp=N,408nm,34.0s,MS4.3						
WMQ				LR	LR		
	comp=E,421nm,30.2s,MS4.3						
WMQ				LR	LR		
	comp=Z,288nm,25.0s						
AAK	**Ala-Archa**	**45.48**	**113**	*e*P	**P**	**17 37 30.2**	**+0.4**
	comp=Z,7.6nm,1.1s,mb4.4						
ESDC	**Sonseca Array**	**45.90**	**197**	P	**P**	**17 37 34.3**	**+1.1**
	comp=Z,0.6nm,0.5s,mb3.8,baz=2.1,slow=8.7,SNR=6.8						
ESLA	**Sonseca Array**	**45.90**	**197**	*e*P	**P**	**17 37 34.3**	**+1.1**
	comp=Z,6.8nm,1.7s,mb4.3						
ESLA	**Sonseca Array**	**45.90**	**197**	*e*P	**P**	**17 37 34.3**	**+1.2**
	comp=Z,6.8nm,1.7s,mb4.3						
YSS	**Yuzh-Sakhalins**	**46.49**	**46**	P	**P**	**17 37 36.2**	**-1.6**
YSS	**Yuzh-Sakhalins**	**46.49**	**46**	P	**P**	**17 37 36.2**	**-1.5**
MALT	**Malatya**	**47.59**	**152**	P	**P**	**17 37 48.5**	**+2.1**
MALT	**Malatya**	**47.59**	**152**	P	**P**	**17 37 48.5**	**+2.1**
MDJ	**Mudanjiang**	**47.95**	**59**	P	**P**	**17 37 46.4**	**-2.7**
MDJ				AMB	AMB		
	comp=Z,9.0nm,2.2s,mb4.4						
MDJ				AMB	AMB		
	comp=Z,41nm,4.6s						
RSSD	**Black Hills**	**48.35**	**300**	P	**P**	**17 37 50.0**	**-2.1**
	comp=Z,38nm,1.0s,mb5.4						
RSSD	**Black Hills**	**48.35**	**300**	P	**P**	**17 37 50.0**	**-2.2**
	comp=Z,38nm,1.0s,mb5.4						
CN2	**Changchun**	**48.46**	**63**	*e*P	**P**	**17 37 52.6**	**-0.4**
PDAR	**Pinedale Array**	**50.08**	**305**	P	**P**	**17 38 05.8**	**+0.4**
	comp=Z,0.6nm,0.8s,mb3.7,baz=302,slow=6.8,SNR=4.3						
PDAR				LR	LR	17 57 51.5	
	comp=Z,112nm,19.2s,MS3.9,baz=358,slow=34						
PDAR	**Pinedale Array**	**50.08**	**305**	P	**P**	**17 38 05.8**	**+0.3**
HHC	**Hu-ho-hao-te**	**50.30**	**77**	*e*P	**P**	**17 38 06.5**	**-0.6**
HHC				AP	pP	17 38 11.4	+1.1
HHC				XP	sP	17 38 13.8	+2.3
HHC				PCP	PcP	17 39 26.5	+0.8
HHC				PP	PP	17 40 04.5	+2.3
HHC				AMB	AMB		
	comp=Z,16nm,0.4s,mb5.4						
HHC				AMB	AMB		
	comp=Z,188nm,4.9s						
HHC				LR	LR		
	comp=N,237nm,6.7s						
HHC				LR	LR		
	comp=E,264nm,5.9s						
HHC				LR	LR		
	comp=Z,173nm,15.3s,MS4.2						
GTA	**Gaotai**	**50.75**	**88**	*e*P	**P**	**17 38 11.3**	**+0.7**
GTA				AP	pP	17 38 15.5	+1.8
GTA				XP	sP	17 38 18.5	+3.5
GTA				PCP	PcP	17 39 27.6	+0.2
GTA				PP	PP	17 40 09.0	+2.7
GTA				AMB	AMB		
	comp=Z,5.0nm,1.2s,mb4.3						
GTA				AMB	AMB		
	comp=Z,104nm,6.9s						
GTA				LR	LR		
	comp=N,272nm,15.7s,MS4.5						
GTA				LR	LR		
	comp=E,196nm,14.5s,MS4.5						
GTA				LR	LR		
	comp=Z,327nm,15.3s,MS4.5						
KBL	**Kabul**	**53.11**	**120**	*e*P	**P**	**17 38 28.6**	**+0.4**
	comp=Z,6.2nm,0.8s,mb4.6						
KBL	**Kabul**	**53.11**	**120**	*e*P	**P**	**17 38 28.6**	**+0.4**
	comp=Z,6.2nm,0.8s,mb4.6						
LZH	**Lanzhou**	**54.39**	**85**	*e*P	**P**	**17 38 38.9**	**+1.4**
LZH				AP	pP	17 38 42.6	+1.9
LZH				XP	sP	17 38 44.5	+2.6
LZH				AMB	AMB		
	comp=Z,28nm,1.5s,mb5.0						
LZH				AMB	AMB		
	comp=Z,102nm,4.0s						
MJAR	**Matsushiro Arr**	**56.58**	**51**	P	**P**	**17 38 52.2**	**-1.0**
	comp=Z,5.2nm,1.1s,mb4.5,baz=1.4,slow=7.5,SNR=7.8						
MJAR	**Matsushiro Arr**	**56.58**	**51**	P	**P**	**17 38 52.2**	**-1.1**
CD2	**Chengdu**	**59.52**	**85**	*e*P	**P**	**17 39 14.1**	**+0.1**
CD2				LR	LR		
	comp=N,240nm,15.0s						
CD2				LR	LR		
	comp=Z,270nm,13.2s,MS4.6						
LSA	**Lhasa**	**59.66**	**98**	*e*P	**P**	**17 39 15.9**	**+1.0**
	comp=Z,2.1nm,0.6s,mb4.3						
LSA	**Lhasa**	**59.66**	**98**	*e*P	**P**	**17 39 15.9**	**+0.9**
	comp=Z,2.1nm,0.6s,mb4.3						
TXAR	**Lajitas Array**	**63.01**	**298**	P	**P**	**17 39 38.4**	**+0.8**
	comp=Z,0.3nm,0.7s,mb3.5,baz=344,slow=4.9,SNR=2.4						
TXAR				LR	LR	18 07 08.1	
	comp=Z,100nm,21.6s,MS4.0,baz=280,slow=36						
GYA	**Guiyang**	**64.18**	**83**	P	**P**	**17 39 45.8**	**+0.5**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.9						
GYA				AMB	AMB		
	comp=Z,90nm,4.9s						
GYA				LR	LR		
	comp=N,480nm,19.6s,MS4.8						
GYA				LR	LR		
	comp=E,420nm,20.0s,MS4.8						
GYA				LR	LR		
	comp=Z,460nm,21.2s,MS4.6						
KMI	**Kunming**	**65.17**	**87**	P	**P**	**17 39 52.6**	**+0.8**
KMI				AMB	AMB		
	comp=Z,7.0nm,1.5s,mb4.5						
TOA0	**Torodi Ar. Sit**	**72.20**	**191**	*e*P	**P**	**17 40 36.4**	**+0.6**
TOA0	**Torodi Ar. Sit**	**72.20**	**191**	*e*P	**P**	**17 40 36.4**	**+0.7**
TORD	**Torodi Ar. Bea**	**72.20**	**191**	P	**P**	**17 40 36.7**	**+1.0**
	comp=Z,7.9nm,0.8s,mb4.7,baz=357,slow=6.6,SNR=28						

*BJI **20** 17:32:52.8, 053N×12730E, h79km, mB5.0, mb4.9, Ms4.7, Msz4.5*
*NEIC **20** 17:33:01.2±0.9, 143N×12697E, h79km±8km, mb4.9/30, Error ellipse: s-maj=9.1km s-min=4.2km az=71.0*
*ISCJB **20** 17:33:02.3±1.0, 142N±003×12692E±006, h103km±9km, mb4.7/56, Error ellipse: s-maj=9.5km s-min=5.2km az=162.2*
*MOS **20** 17:33:05.0±1.0, 139N×12683E, h130km, mb4.7/15, Error ellipse: s-maj=16.7km s-min=7.2km az=102.7*
*IDC **20** 17:33:05.1±1.9, 135N×12683E, h114km±16km, mb4.3/15, mb1 4.4/16, mb1mx4.3/20, mbtmp4.3/16, Error ellipse: s-maj=21.7km s-min=8.2km az=75.0*
*MAN **20** 17:33:46, 470N×12574E, h15km, mb5.0, ML3.9, MS4.1*
ISC 20 17:33:03.8±0.8, **134N**±003×**12691E**±005, **h101**km±7km, **h78**km±5.4km:**pP-p**, **n135**, σ**1§09**/**142**, **mb4.7**/**56**, **13C-2D**, **Northern Molucca Sea**

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

KMI AMB AMB
comp=Z,8.0nm,1.3s,mb4.4
KLBR Kellerberrin 33.88 194 *eP* **P 17 39 37.4 +0.5**
comp=Z,27nm,0.5s,mb5.3
MUN Mundaring 34.65 196 *eP* **P 17 39 44.5 +1.0**
NWAO Narrogin (SRO) 35.28 194 *eP* **P 17 39 49.5 +0.6**
comp=Z,17nm,0.6s,mb5.0
NWAO Narrogin (SRO) 35.28 194 *eP* **P 17 39 49.6 +0.7**
NWAO pmax pmax
comp=Z,17nm,0.6s
NWAO Narrogin (SRO) 35.28 194 P **P 17 39 50.0 +1.1**
comp=Z,27nm,0.7s,mb5.2,baz=25,slow=7.8,SNR=23
STKA Stephens Creek 35.85 158 *eP* **P 17 39 54.2 +0.4**
comp=Z,5.2nm,0.6s,mb4.6
STKA Stephens Creek 35.85 158 P **P 17 39 54.2 +0.4**
comp=Z,5.9nm,0.6s,mb4.7,baz=334,slow=9.7,SNR=20
KSRS Korea Array 35.95 1 P **P 17 39 54.5 -0.1**
comp=Z,2.0nm,0.7s,mb4.2,baz=182,slow=9.9,SNR=8.8
MJAR Matsushiro Arr 36.56 15 P **P 17 39 57.9 -2.0**
comp=Z,1.1nm,0.4s,mb4.2,baz=181,slow=9.3,SNR=8.2
CD2 Chengdu 36.69 326 *eP* **P 17 40 02.0 +1.0**
CD2 XP sP 17 40 29.3 -6.4
CD2 PP PP 17 41 29.5 +3.0
CD2 S **S 17 45 40.0 +2.9**
CD2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.8
CD2 AMB AMB
comp=Z,30nm,5.8s
CD2 LR LR
comp=N,240nm,15.0s
CD2 LR LR
comp=Z,270nm,13.2s
ARMA Armidale 39.40 145 *eP* **P 17 40 25.2 +1.4**
BJT Baijiatuau 39.72 347 *eP* **P 17 40 25.9 -0.5**
comp=Z,10.0nm,0.6s,mb4.8
BJT Baijiatuau 39.72 347 *eP* **P 17 40 25.9 -0.4**
BJT pmax pmax
comp=Z,10.0nm,0.6s
BJI Beijing 39.74 347 P **P 17 40 26.3 -0.2**
BJI AMB AMB
comp=Z,20nm,0.6s,mb5.1
LZH Lanzhou 40.65 331 *eP* **P 17 40 35.0 +0.9**
LZH AP pP 17 40 58.0 +0.5
LZH XP sP 17 41 07.9 -1.1
LZH AMB AMB
comp=Z,30nm,1.0s,mb5.1
LZH AMB AMB
comp=Z,150nm,6.2s
LZH LR LR
comp=E,750nm,16.5s
LZH LR LR
comp=Z,968nm,17.6s
HHC Hu-ho-hao-te 41.72 342 *eP* **P 17 40 43.8 +1.1**
HHC AP pP 17 41 02.3 -3.9
HHC XP sP 17 41 11.4 -6.3
HHC PP PP 17 42 27.5 +6.3
HHC PCP PcP 17 42 38.8 +1.3
HHC PCS PcS 17 46 29.6 +0.7
HHC AMB AMB
comp=Z,16nm,0.4s,mb5.1
HHC AMB AMB
comp=Z,170nm,5.7s
HHC LR LR
comp=N,255nm,13.1s
HHC LR LR
comp=E,274nm,9.6s
HHC LR LR
comp=Z,173nm,15.7s
CNB Canberra Magne 42.08 152 *eP* **P 17 40 47.3 +1.6**
comp=Z,6.5nm,1.0s,mb4.3
CN2 Changchun 42.30 358 *eP* **P 17 40 49.6 +2.2**
MDJ Mudanjiang 43.16 3 P **P 17 40 55.0 +0.7**
MDJ AP pP 17 41 12.3 -5.7
MDJ XP sP 17 41 20.5 -9.0
MDJ S **S 17 47 17.3 +4.0**
MDJ AMB AMB
comp=Z,8.0nm,1.0s,mb4.4
MDJ AMB AMB
comp=Z,224nm,6.1s
MDJ LR LR
comp=N,60nm,22.2s
MDJ LR LR
comp=E,62nm,20.2s
MDJ LR LR
comp=Z,91nm,19.7s
LSA Lhasa 44.17 313 P **P 17 41 03.6 +0.9**
LSA Lhasa 44.17 313 *eP* **P 17 41 03.0 +0.3**
comp=Z,4.2nm,0.4s,mb4.5
LSA Lhasa 44.17 313 *eP* **P 17 41 03.0 +0.3**
LSA pmax pmax
comp=Z,4.0nm,0.4s,mb4.5
ASAJ Asahikawa 44.82 16 P **P 17 41 08.7 +1.1**
comp=Z,11nm,1.1s,mb4.5,baz=205,slow=12,SNR=4.6
GTA Gaotai 45.24 330 P **P 17 41 11.8 +0.8**
GTA AP pP 17 41 29.8 -5.0
GTA XP sP 17 41 39.3 -7.0
GTA PCP PcP 17 42 50.4 +1.0
GTA PP PP 17 42 59.8 +1.0
GTA S **S 17 47 46.8 +3.2**
GTA XS sS 17 48 19.6 -5.0
GTA SCS ScS 17 51 00.3 +2.5
GTA AMB AMB
comp=Z,8.0nm,0.9s,mb4.5
GTA AMB AMB
comp=Z,164nm,7.6s
GTA LR LR
comp=N,88nm,12.6s
GTA LR LR
comp=E,170nm,13.4s
GTA LR LR
comp=Z,165nm,12.2s
JIRN Jiri 46.94 308 *eP* **P 17 41 24.2 -0.4**
comp=Z,18nm,0.7s,mb4.9
GUN Gumba 47.29 308 *eP* **P 17 41 27.1 -0.2**
comp=Z,15nm,0.4s,mb5.1
HABR Khabarovsk 47.48 7 *eP* **P 17 41 30.2 +1.8**
HABR *e* 17 43 20.4
HABR *e*S **S 17 48 18.8 +3.5**
HABR *e* 17 51 10.1
PKI Pulchoki 47.52 307 *eP* **P 17 41 28.1 -1.0**
KKN Kakani 47.72 307 *eP* **P 17 41 29.8 -0.8**
comp=Z,7.4nm,0.5s,mb4.8
DMN Daman 47.78 307 *eP* **P 17 41 30.4 -0.7**
comp=Z,17nm,1.0s,mb4.8
HIA Hailar 48.14 354 *eP* **P 17 41 32.8 -0.7**
GKN Gorkha 48.32 307 *eP* **P 17 41 34.2 -1.1**
comp=Z,6.5nm,0.5s,mb4.7
KOLN Koldanda 49.05 306 *eP* **P 17 41 40.6 -0.3**
comp=Z,19nm,0.4s,mb5.4
ULN Ulaanbaatar 49.44 342 *eP* **P 17 41 43.6 +0.2**
comp=Z,6.8nm,0.7s,mb4.7
ULN Ulaanbaatar 49.44 342⇑ *eP* **P 17 41 41.8 -1.6**
SONM Songino Array 49.61 342 P **P 17 41 45.0 +0.3**
comp=Z,4.7nm,0.7s,mb4.5,baz=158,slow=8.3,SNR=19
HYB Hyderabad 50.12 292 *i* P **P 17 41 48.5 -0.6**
ZAK Zakamensk 52.83 341 *eP* **P 17 42 08.2 -0.5**
ZAK *e* 17 43 16.6
ZAK pmax pmax
comp=Z,2.0nm,0.9s,mb4.2
ZAK pmax pmax
comp=Z,2.0nm,0.8s,mb4.2
ZAK pmax pmax
comp=Z,1.0nm,0.8s,mb3.9
ZAK pmax pmax
comp=Z,1.0nm,1.2s,mb3.7
TLY Talaya 53.84 342 *eP* **P 17 42 17.1 +1.0**
comp=Z,4.2nm,0.6s,mb4.7
TLY Talaya 53.84 342 *eP* **P 17 42 18.3 +2.1**
TLY pmax pmax
comp=Z,4.0nm,0.6s,mb4.6
MOY Mondy 54.68 341 *eP* **P 17 42 23.4 +1.2**
WMQ Urumqi 54.78 326⇑ *i*P **P 17 42 24.3 +1.2**
WMQ AMB AMB
comp=Z,27nm,1.0s,mb5.2
WMQ AMB AMB
comp=Z,244nm,5.8s
WMQ LR LR
comp=Z,130nm,17.8s
BOD Bodaibo 57.24 352 *eP* **P 17 42 39.0 -1.4**
MK31 Makanchi Array 59.62 326 *eP* **P 17 42 57.2 +0.1**
MKAR Makanchi Array 59.62 326 P **P 17 42 57.4 +0.3**
comp=Z,11nm,0.4s,mb5.2,baz=119,slow=7.9,SNR=198
YAK Yakutsk 60.58 2 *eP* **P 17 43 02.5 -0.9**
comp=Z,14nm,0.6s,mb5.2
YAK Yakutsk 60.58 2 *eP* **P 17 43 02.2 -1.2**
YAK pmax pmax
comp=Z,14nm,0.8s,mb5.0
YAK pmax pmax
comp=N,3.0nm,1.2s
YAK pmax pmax
comp=E,2.0nm,1.2s
ULHL Ulahol 60.92 319 P **P 17 43 07.4 +1.3**
SNR=16
MA2 Magadan 60.97 14 *eP* **P 17 43 06.5 +0.4**
comp=E,7.3nm,0.8s,mb4.8
MA2 Magadan 60.97 14 *eP* **P 17 43 06.4 +0.3**
MA2 pmax pmax
comp=Z,10.0nm,0.8s,mb4.9
KZA Kyzart 61.50 318 P **P 17 43 11.8 +1.8**
SNR=24
TKM2 Tokmak 2 61.66 319 *eP* **P 17 43 11.2 +0.1**
comp=Z,20nm,0.7s,mb5.2
TKM2 Tokmak 2 61.66 319 *eP* **P 17 43 11.2 +0.2**
TKM2 pmax pmax
comp=Z,20nm,0.7s,mb5.3
TKM2 Tokmak 2 61.66 319 P **P 17 43 12.0 +1.0**
SNR=18
KBK Karagaybulak 61.96 319 P **P 17 43 14.2 +1.1**
SNR=14
UCH Uchtor 62.05 318 *eP* **P 17 43 15.1 +1.4**
comp=Z,636nm,0.8s
UCH Uchtor 62.05 318 P **P 17 43 15.1 +1.4**
SNR=42
CHMS Chumysh 62.24 319 P **P 17 43 15.0 +0.1**
SNR=5.8
AAK Ala-Archa 62.25 319 *eP* **P 17 43 14.5 -0.5**
comp=Z,16nm,1.1s,mb5.0
AAK Ala-Archa 62.25 319⇑ *eP* **P 17 43 14.8 -0.2**
AAK pmax pmax
comp=Z,10.0nm,1.0s,mb4.8
AAK Ala-Archa 62.25 319 P **P 17 43 16.1 +1.0**
SNR=10.0
USP Ospenovka 62.53 319 P **P 17 43 17.4 +0.5**
SNR=32
AML Almayashu 62.56 318 *eP* **P 17 43 18.2 +1.2**
comp=Z,36nm,0.9s,mb5.3
AML Almayashu 62.56 318 P **P 17 43 18.6 +1.5**
SNR=33
EKS2 Erkin-Say 62.73 318 *eP* **P 17 43 18.9 +0.7**
comp=Z,20nm,0.8s,mb5.1
EKS2 Erkin-Say 62.73 318 P **P 17 43 19.3 +1.1**
SNR=26
ZAA0 Zalesovo Array 62.79 334 *eP* **P 17 43 16.9 -1.5**
ZALV Zalesovo Beam 62.79 334 P **P 17 43 17.5 -0.9**
ZALV Zalesovo Beam 62.79 334 P **P 17 43 17.5 -0.8**
comp=Z,2.8nm,0.4s,mb4.6,baz=132,slow=6.2,SNR=15
ZAL Zalesovo 62.79 334 P **P 17 43 17.5 -0.9**
KBL Kabul 63.12 308 *eP* **P 17 43 21.2 +0.3**
comp=Z,20nm,0.7s,mb5.2
KBL Kabul 63.12 308 *eP* **P 17 43 21.3 +0.3**
KBL pmax pmax
comp=Z,20nm,0.7s,mb5.2
KURK Kurchatov 63.85 328 *eP* **P 17 43 25.4 0.0**
comp=Z,62nm,0.8s,mb5.5
KURK Kurchatov 63.85 328⇑ *eP* **P 17 43 25.2 -0.2**
KURK Kurchatov 63.85 328 *eP* **P 17 43 25.4 0.0**
KURK pmax pmax
comp=Z,62nm,0.8s,mb5.5
SEY Seymchan 64.31 13⇑ *eP* **P 17 43 28.1 -0.1**
BVAR Borovoye Array 69.41 327 P **P 17 44 00.3 -0.5**
comp=Z,5.0nm,0.7s,mb4.5,baz=134,slow=6.4,SNR=4.4
TIXI Tiksi 70.22 1 *eP* **P 17 44 03.8 -1.6**
comp=Z,1.8nm,0.3s,mb4.4
TIXI Tiksi 70.22 1⇑ *eP* **P 17 44 03.7 -1.7**
TIXI pmax pmax
comp=Z,3.0nm,1.1s,mb4.0
BILL Bilibino 71.81 15 *eP* **P 17 44 14.3 -0.7**
comp=Z,2.1nm,0.5s,mb4.2
BILL Bilibino 71.81 15 *eP* **P 17 44 14.8 -0.2**
BILL pmax pmax
comp=Z,5.0nm,1.7s,mb4.1
ARU Arti 77.04 328 *d i*P **P 17 44 44.2 -1.4**
ARU *e* 17 44 54.8
ARU *e*PPP 17 49 26.7
ARU *e*S S 17 54 23.5 -2.5
ARU *e*SS SS 17 59 20.8 -4.3
ARU pmax pmax
comp=Z,23nm,1.2s,mb4.8
SBA Scott Base 81.95 172 P **P 17 45 12.4 +0.6**
comp=Z,6.3nm,1.1s,mb4.4
SBA Scott Base 81.95 172 P **P 17 45 12.4 +0.6**
SBA pmax pmax
comp=Z,6.0nm,1.1s,mb4.3
MCK McKinley 86.22 26 P **P 17 45 32.1 -1.5**
comp=Z,12nm,1.3s,mb4.7
MCK McKinley 86.22 26 P **P 17 45 32.1 -1.6**
MCK pmax pmax
comp=Z,12nm,1.3s,mb4.7
VRSR Storozhevoye 87.53 321 *eP* **P 17 45 35.9 -4.4**
VRSR pmax pmax
comp=Z,2.0nm,0.7s,mb4.3
VRSR pmax pmax
comp=N,4.0nm,0.8s
VRSR pmax pmax
comp=E,3.0nm,0.8s
INK Inuvik 92.31 22 P **P 17 46 00.8 -1.6**
comp=E,1.0nm,0.8s,mb4.1,baz=244,slow=2.8,SNR=3.9
ARCES ARCESS Array B 92.74 340 P **P 17 46 02.7 -1.5**
ARCES ARCESS Array B 92.74 340 P **P 17 46 02.7 -1.5**
comp=E,5.7nm,0.9s,mb4.9,baz=75,slow=7.6,SNR=4.8
YKA Yellowknife Ar 101.59 25 P Pdif 17 46 44.2 -0.3
comp=E,0.2nm,0.4s,baz=301,slow=4.7,SNR=4.0
BRG Berggiesshubel 103.25 323 *eP* Pdif 17 46 53.3 +1.4
BRG pmax pmax
comp=Z,2.0nm,0.9s
BRG Berggiesshubel 103.25 323 *eP* Pdif 17 46 53.3 +1.4
comp=Z,3.5nm,0.9s
CLL Collm 103.67 324 *e*Pdif Pdif 17 46 53.0 -0.8
TORD Torodi Ar. Bea 123.80 287 PKP PKPdf 17 51 50.6 -0.3
comp=Z,0.7nm,0.3s,baz=91,slow=1.9,SNR=17
TORD PP PP 17 53 28.9 -6.2
comp=Z,0.6nm,0.7s,baz=77,slow=5.6,SNR=3.5

BJI ***20*** *17:39:29.0, 6030N×6020E, h10km, mB4.7, mb4.4, Ms4.1, Msz4.1*
MOS ***20*** *17:39:29.4±1.5, 6038N×6022E, h10km, mb4.4/16, Error ellipse: s-maj=10.9km s-min=8.1km az=111.5*
ISCJB ***20*** *17:39:29.7±0.3, 6026N±004×6029E±006, h10km, mb4.2/32, Error ellipse: s-maj=5.9km s-min=4.0km az=30.2*
CSEM ***20*** *17:39:30.2±0.2, 6036N×6000E, h10km, mb4.3/15, Error ellipse: s-maj=14.3km s-min=1.9km az=24.0*
NEIC ***20*** *17:39:31.3±0.5, 6033N×6022E, h10km, mb4.3/22, Error ellipse: s-maj=12.9km s-min=6.4km az=202.0*
IDC ***20*** *17:39:32.0±0.8, 6039N×6010E, h0km, mb3.8/8, mb1 4.1/13, mb1mx3.9/25, mbtmp4.0/13, ML3.9/5, MS3.2/1, Ms1 3.2/1, ms1mx2.7/32, Error ellipse: s-maj=15.8km s-min=10.1km az=55.0*
ISC 20 17:39:31.3±0.3, 6036N±003×6030E±006, h10km, (h15km±.5km:pP-P), n125, σ1§31/145, mb4.2/32, 1D, Ural Mountains region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SVE	**Sverdlovsk**	**3.55**	**177**	*eP*	**Pn**	**17 40 27.5**	**+1.1**
SVE				*e*S	**Sn**	**17 41 09.3**	**+1.0**
SVE				pmax	pmax		
	comp=Z,15nm,0.6s						
SVE	**Sverdlovsk**	**3.55**	**177**	*eP*	**Pn**	**17 40 27.5**	**+1.1**
	comp=Z,15nm,0.6s						
SVE				*e*S	**Sn**	**17 41 09.3**	**+1.0**
ARU	**Arti**	**4.05**	**194**	*e*Pn	**Pn**	**17 40 32.5**	**-0.7**
ARU				*e*Sn	**Sn**	**17 41 21.6**	**+1.0**
ARU	**Arti**	**4.05**	**194**	*d i*P	**Pn**	**17 40 32.8**	**-0.4**
ARU				*e*S	**Sn**	**17 41 22.3**	**+1.7**
ARU				pmax	pmax		
	comp=Z,8.0nm,0.6s						
ARU	**Arti**	**4.05**	**194**	*e*Pn	**Pn**	**17 40 32.5**	**-0.7**
ARU				*e*Sn	**Sn**	**17 41 21.6**	**+1.0**
BRVK	**Borovoye**	**9.14**	**139**	*e*Pn	**Pn**	**17 41 43.8**	**+0.7**
	comp=Z,8.1nm,0.6s						
BRVK				*e*Sn	**Sn**	**17 43 18.9**	**-7.0**
BRVK	**Borovoye**	**9.14**	**139**	*e*P	**Pn**	**17 41 43.8**	**+0.7**
BRVK				pmax	pmax		
	comp=Z,8.0nm,0.6s						
BRVK	**Borovoye**	**9.14**	**139**	*e*Pn	**Pn**	**17 41 43.8**	**+0.7**
	comp=Z,8.1nm,0.6s						
BRVK				*e*Sn	**Sn**	**17 43 18.9**	**-7.0**
BVAR	**Borovoye Array**	**9.21**	**139**	Pn	**Pn**	**17 41 45.4**	**+1.5**
	comp=Z,4.5nm,0.3s,baz=324,slow=15,SNR=88						
BVAR				Sn	**Sn**	**17 43 21.3**	**-6.1**
	comp=Z,2.8nm,0.3s,baz=325,slow=25,SNR=7.5						
BVAR				LR	LR	17 45 57.0	
	comp=Z,159nm,21.1s,baz=41,slow=42						
BVAR	**Borovoye Array**	**9.21**	**139**	Pn	**Pn**	**17 41 45.4**	**+1.5**
BVAR				Sn	**Sn**	**17 43 21.3**	**-6.1**
AKTK	**Aktyubinsk**	**10.04**	**188**	Pn	**Pn**	**17 41 54.8**	**-0.5**
AKTK				Sn	**Sn**	**17 43 46.7**	**-1.1**
AKTK	**Aktyubinsk**	**10.04**	**188**	Pn	**Pn**	**17 41 54.8**	**-0.5**
AKTK				Sn	**Sn**	**17 43 46.7**	**-1.1**
AKTO	**Aktyubinsk**	**10.04**	**188**	Pn	**Pn**	**17 41 54.8**	**-0.5**
	comp=Z,0.7nm,0.3s,baz=14,slow=10,SNR=9.4						
AKTO				Sn	**Sn**	**17 43 46.7**	**-1.1**
	comp=Z,0.9nm,0.3s,baz=344,slow=22,SNR=7.7						
NVS	**Novosibirsk**	**13.44**	**104**	*eP*	**Pn**	**17 42 48.5**	**+6.7**
NVS				pmax	pmax		
	comp=Z,17nm,1.5s						
NVS				pmax	pmax		
	comp=E,4.0nm,0.8s						
OBN	**Obninsk**	**13.68**	**258**	Pn	**Pn**	**17 42 37.8**	**-7.2**
OBN	**Obninsk**	**13.68**	**258**	Pn	**Pn**	**17 42 37.8**	**-7.2**
KURK	**Kurchatov**	**14.12**	**125**	*e*Pn	**Pn**	**17 42 49.2**	**-1.9**
	comp=E,62nm,0.8s						
KURK	**Kurchatov**	**14.12**	**125**	*eP*	**Pn**	**17 42 49.2**	**-1.9**
KURK				pmax	pmax		
	comp=Z,62nm,0.8s						
KURK	**Kurchatov**	**14.12**	**125**	*e*Pn	**Pn**	**17 42 49.2**	**-1.9**
	comp=Z,62nm,0.8s						
ZAL	**Zalesovo**	**14.71**	**105**	P	**Pn**	**17 43 01.5**	**+2.4**
ZAL						17 45 38.3	
ZAA0	**Zalesovo Array**	**14.71**	**105**	*e*Pn	**Pn**	**17 42 59.8**	**+0.7**
ZAA0	**Zalesovo Array**	**14.71**	**105**	*e*Pn	**Pn**	**17 42 59.8**	**+0.6**
ZALV	**Zalesovo Beam**	**14.71**	**105**	Pn	**Pn**	**17 43 01.5**	**+2.4**
ZALV				Sn	**Sn**	**17 45 38.3**	**-3.8**
ZALV	**Zalesovo Beam**	**14.71**	**105**	Pn	**Pn**	**17 43 01.5**	**+2.4**
	comp=Z,0.2nm,0.3s,baz=306,slow=14,SNR=3.5						
ZALV				Sn	**Sn**	**17 45 38.3**	**-3.8**
	comp=Z,0.2nm,0.3s,baz=295,slow=20,SNR=3.9						
VRSR	**Storozhevoye**	**14.93**	**242**	*eP*	**Pn**	**17 42 56.3**	**-5.8**
VRSR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
VRSR				pmax	pmax		
	comp=N,4.0nm,0.7s						
VRSR				pmax	pmax		
	comp=E,4.0nm,0.8s						
FIA1	**FINESS Array S**	**16.57**	**289**	*e*Pn	**Pn**	**17 43 18.9**	**-4.4**
FIA1				*e*Sn	**Sn**	**17 46 07.8**	**-19**
FIA1	**FINESS Array S**	**16.57**	**289**	*e*Pn	**Pn**	**17 43 18.9**	**-4.4**
FIA1				*e*Sn	**Sn**	**17 46 07.8**	**-19**
FINES	**FINESS Array B**	**16.57**	**289**	Pn	**Pn**	**17 43 19.5**	**-3.8**
FINES				Sn	**Sn**	**17 46 14.8**	**-12**
FINES	**FINESS Array B**	**16.57**	**289**	Pn	**Pn**	**17 43 19.5**	**-3.8**
	comp=E,0.6nm,0.3s,baz=94,slow=13,SNR=19						
FINES				Sn	**Sn**	**17 46 14.8**	**-12**
	comp=E,0.5nm,0.3s,baz=76,slow=24,SNR=5.0						
KEV	**Kevo**	**16.65**	**318**	*e*Pn	**Pn**	**17 43 20.7**	**-3.6**
	comp=E,43nm,1.4s						
KEV	**Kevo**	**16.65**	**318**	*eP*	**Pn**	**17 43 20.7**	**-3.6**
KEV				pmax	pmax		
	comp=Z,43nm,1.4s						
KEV	**Kevo**	**16.65**	**318**	*e*Pn	**Pn**	**17 43 20.7**	**-3.6**
	comp=Z,42nm,1.4s						
ARCES	**ARCESS Array B**	**17.09**	**317**	Pn	**Pn**	**17 43 27.5**	**-2.3**
	comp=Z,1.0nm,0.3s,baz=101,slow=13,SNR=25						
ARE0	**ARCESS Array S**	**17.09**	**317**	*e*Pn	**Pn**	**17 43 32.5**	**+2.7**
MK31	**Makanchi Array**	**18.71**	**127**	*e*Pn	**Pn**	**17 43 52.5**	**+2.5**
MK31	**Makanchi Array**	**18.71**	**127**	*e*Pn	**Pn**	**17 43 52.5**	**+2.5**
MKAR	**Makanchi Array**	**18.71**	**127**	S	**Sn**	**17 47 13.6**	**-5.5**
	baz=330,slow=24,SNR=6.0						
EKS2	**Erkin-Say**	**19.54**	**149**	*e*Pn	**Pn**	**17 43 58.3**	**-1.6**
	comp=Z,4.3nm,0.7s						
EKS2	**Erkin-Say**	**19.54**	**149**	*e*Pn	**Pn**	**17 43 58.3**	**-1.7**
	comp=Z,4.3nm,0.7s						
AKASG	**Malin Array Be**	**19.88**	**255**	P	**Pn**	**17 44 01.7**	**-2.3**
	comp=Z,2.1nm,0.3s,baz=44,slow=9.8,SNR=33						
AKASG				S	**Sn**	**17 47 30.0**	**-17**
	comp=Z,0.4nm,0.3s,baz=41,slow=21,SNR=4.1						
AKBB	**Malin Array Si**	**19.88**	**255**	*e*Pn	**Pn**	**17 44 01.1**	**-2.9**
AKBB	**Malin Array Si**	**19.88**	**255**	*e*Pn	**Pn**	**17 44 01.1**	**-2.9**
KIEV	**Kiev**	**19.89**	**255**	*e*Pn	**Pn**	**17 44 01.5**	**-2.6**
	comp=Z,5.5nm,0.6s						
KIEV	**Kiev**	**19.89**	**255**	*eP*	**Pn**	**17 44 01.5**	**-2.6**
KIEV				pmax	pmax		
	comp=Z,6.0nm,0.6s						
KIEV	**Kiev**	**19.89**	**255**	*eP*	**Pn**	**17 44 01.5**	**-2.6**
	comp=Z,6.0nm,0.6s						
HFS	**Hagfors**	**22.76**	**290**	P	**P**	**17 44 33.6**	**+0.4**
	comp=Z,4.8nm,0.7s,mb4.0,baz=74,slow=11,SNR=7.9						
WMQ	**Urumqi**	**23.35**	**123**	*eP*	**P**	**17 44 39.0**	**-0.6**
NB2	**NORSAR Subarra**	**23.59**	**293**	P	**P**	**17 44 42.3**	**+0.5**
	comp=Z,1.9nm,0.6s,mb3.7,baz=70,slow=11						
NOA	**NORSAR Array B**	**23.59**	**293**	P	**P**	**17 44 42.5**	**+0.7**
	comp=Z,2.2nm,0.7s,mb3.7,baz=71,slow=11,SNR=8.7						
NAO01	**NORSAR Array S**	**23.80**	**293**	P	**P**	**17 44 43.9**	**+0.1**
	comp=Z,9.4nm,0.8s,mb4.3						
NAO01	**NORSAR Array S**	**23.80**	**293**	P	**P**	**17 44 43.9**	**+0.1**
	comp=Z,9.4nm,0.8s,mb4.3						
KOLS	**Kolonicke sedl**	**24.42**	**259**	*eP*	**P**	**17 44 50.7**	**+1.1**
STHS	**Stebnicka Huta**	**24.61**	**261**	*eP*	**P**	**17 44 51.2**	**-0.1**
	comp=Z,3.2nm,0.7s,mb4.0						
STHS				*e*		17 44 59.3	
STHS				*e*		17 45 10.7	
STHS	**Stebnicka Huta**	**24.61**	**261**	*eP*	**P**	**17 44 51.2**	**-0.1**
STHS				*e*		17 44 59.3	
STHS				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb3.9						
CRVS	**Cervenica-Dubn**	**24.84**	**260**	*eP*	**P**	**17 44 54.0**	**+0.6**
MLR	**Muntele Rosu**	**25.12**	**249**	P	**P**	**17 44 57.0**	**+1.0**
	comp=Z,0.9nm,0.5s,mb3.6,baz=166,slow=8.5,SNR=3.5						
KECS	**Kecovo**	**25.60**	**260**	*eP*	**P**	**17 44 57.6**	**-2.7**
	comp=Z,2.1nm,0.6s,mb3.8						
KECS				*e*		17 45 11.2	
KECS	**Kecovo**	**25.60**	**260**	*eP*	**P**	**17 44 57.6**	**-2.7**
KECS				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb3.8						
KECS	**Kecovo**	**25.60**	**260**	*eP*	**P**	**17 44 57.6**	**-2.7**
KECS				*e*pP	pP	17 45 11.1	+7.8
MORC	**Moravsky Berou**	**26.20**	**265**	*eP*	**P**	**17 45 05.0**	**-0.6**
	comp=Z,2.0nm,0.6s,mb3.8						
MORC	**Moravsky Berou**	**26.20**	**265**	*eP*	**P**	**17 45 05.1**	**-0.6**
MORC				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb3.8						
MORC	**Moravsky Berou**	**26.20**	**265**	*eP*	**P**	**17 45 05.1**	**-0.6**
	comp=Z,2.0nm,0.6s,mb3.8						
MODS	**Modra-Piesok**	**27.25**	**263**	*eP*	**P**	**17 45 13.0**	**-2.2**
CLL	**Collm**	**27.49**	**272**	*i* P	**P**	**17 45 18.5**	**+1.2**
CLL				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.2						
CLL	**Collm**	**27.49**	**272**	*i* P	**P**	**17 45 18.5**	**+1.2**
	comp=Z,6.0nm,0.7s,mb4.2						
KHC	**Kasperske Hory**	**28.58**	**268**	*eP*	**P**	**17 45 28.0**	**+0.9**
GERES	**GERESS Array B**	**28.71**	**268**	P	**P**	**17 45 29.5**	**+1.3**
	comp=Z,1.0nm,0.6s,mb3.7,baz=45,slow=9.6,SNR=9.6						
ULN	**Ulaanbaatar**	**29.45**	**94**	*eP*	**P**	**17 45 33.7**	**-1.1**
	comp=Z,1.3nm,0.7s,mb3.8						
ULN	**Ulaanbaatar**	**29.45**	**94**	*eP*	**P**	**17 45 33.7**	**-1.1**
ULN				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb3.6						
ULN	**Ulaanbaatar**	**29.45**	**94**	*eP*	**P**	**17 45 33.7**	**-1.1**
	comp=Z,1.3nm,0.7s,mb3.8						
EKA	**Eskdalemuir Ar**	**32.96**	**290**	P	**P**	**17 46 07.3**	**+1.7**
	comp=Z,0.8nm,0.6s,mb3.8,baz=57,slow=9.1,SNR=4.0						
EKA	**Eskdalemuir Ar**	**32.96**	**290**	P	**P**	**17 46 07.3**	**+1.7**
TIP	**Timpagrande**	**34.31**	**252**	P	**P**	**17 46 13.3**	**-4.3**
	comp=Z,6.8nm,1.2s,mb4.5						
TIP	**Timpagrande**	**34.31**	**252**	P	**P**	**17 46 13.3**	**-4.2**
	comp=Z,6.8nm,1.2s,mb4.5						
LPL	**La Plagne**	**34.45**	**269**	*eP*	**P**	**17 46 19.4**	**+0.7**
	comp=Z,7.6nm,0.7s,mb4.5						
LPL	**La Plagne**	**34.45**	**269**	*eP*	**P**	**17 46 19.4**	**+0.7**
LPL				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.5						
LPL	**La Plagne**	**34.45**	**269**	*eP*	**P**	**17 46 19.4**	**+0.7**
	comp=Z,3.8nm,0.7s,mb4.5						
LPG	**La Plagne**	**34.46**	**269**	*eP*	**P**	**17 46 19.2**	**+0.5**
	comp=Z,7.1nm,0.7s,mb4.4						
LPG	**La Plagne**	**34.46**	**269**	*eP*	**P**	**17 46 19.2**	**+0.5**
LPG				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.5						
LPG	**La Plagne**	**34.46**	**269**	*eP*	**P**	**17 46 19.2**	**+0.5**
	comp=Z,3.5nm,0.7s,mb4.4						
BNI	**Bardonecchia**	**34.81**	**269**	*eP*	**P**	**17 46 23.4**	**+1.7**
	comp=Z,5.7nm,0.6s,mb4.7						
BNI	**Bardonecchia**	**34.81**	**269**	*eP*	**P**	**17 46 23.5**	**+1.7**
BNI				pmax	pmax		

comp=Z,6.0nm,0.6s,mb4.7
BNI Bardonecchia 34.81 269 *e*P **P** 17 46 23.5 +1.7
comp=Z,5.7nm,0.6s,mb4.7
SSF Saint Saulge 34.98 274 *e*P **P** 17 46 22.7 -0.5
comp=Z,3.3nm,0.6s,mb4.2
SSF Saint Saulge 34.98 274 *e*P **P** 17 46 22.7 -0.5
SSF pmax pmax
comp=Z,2.0nm,0.6s,mb4.2
SSF Saint Saulge 34.98 274 *e*P **P** 17 46 22.7 -0.5
comp=Z,1.6nm,0.6s,mb4.1
MBDF Montbardon 35.00 268 *e*P **P** 17 46 23.9 +0.5
comp=Z,8.0nm,0.6s,mb4.5
MBDF Montbardon 35.00 268 *e*P **P** 17 46 23.9 +0.5
MBDF pmax pmax
comp=Z,4.0nm,0.6s,mb4.5
MBDF Montbardon 35.00 268 *e*P **P** 17 46 23.9 +0.5
comp=Z,4.0nm,0.6s,mb4.5
SBF Sospel 35.29 266 *e*P **P** 17 46 26.5 +0.6
comp=Z,9.0nm,0.7s,mb4.5
SBF Sospel 35.29 266 *e*P **P** 17 46 26.5 +0.6
SBF pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
SBF Sospel 35.29 266 *e*P **P** 17 46 26.5 +0.6
comp=Z,4.5nm,0.7s,mb4.5
ORIF Oris-en-Rattie 35.30 269 *e*P **P** 17 46 26.3 +0.3
comp=Z,6.1nm,0.7s,mb4.3
ORIF Oris-en-Rattie 35.30 269 *e*P **P** 17 46 26.3 +0.3
ORIF pmax pmax
comp=Z,3.0nm,0.7s,mb4.3
ORIF Oris-en-Rattie 35.30 269 *e*P **P** 17 46 26.3 +0.3
comp=Z,3.0nm,0.7s,mb4.3
PGF Pioggiola 35.48 263 *e*P **P** 17 46 28.6 +1.0
comp=Z,7.1nm,0.7s,mb4.4
PGF Pioggiola 35.48 263 *e*P **P** 17 46 28.6 +1.0
PGF pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
PGF Pioggiola 35.48 263 *e*P **P** 17 46 28.6 +1.0
comp=Z,3.5nm,0.7s,mb4.4
FRF La Foret Royal 35.90 267 *e*P **P** 17 46 31.5 +0.3
comp=Z,5.4nm,0.6s,mb4.3
FRF La Foret Royal 35.90 267 *e*P **P** 17 46 31.5 +0.3
FRF pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
FRF La Foret Royal 35.90 267 *e*P **P** 17 46 31.5 +0.3
comp=Z,2.7nm,0.6s,mb4.3
VIVF Saint-Julien-l 35.95 270 *e*P **P** 17 46 31.5 -0.1
comp=Z,5.0nm,0.8s,mb4.2
VIVF Saint-Julien-l 35.95 270 *e*P **P** 17 46 31.5 -0.1
VIVF pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
VIVF Saint-Julien-l 35.95 270 *e*P **P** 17 46 31.5 -0.1
comp=Z,2.5nm,0.8s,mb4.2
SMRF Simiane la Rot 36.13 268 *e*P **P** 17 46 33.0 -0.2
comp=Z,11nm,0.6s,mb4.7
SMRF Simiane la Rot 36.13 268 *e*P **P** 17 46 33.0 -0.2
comp=Z,5.3nm,0.6s,mb4.7
LMR La Mourre 36.14 267 *e*P **P** 17 46 33.1 -0.1
comp=Z,4.0nm,0.6s,mb4.2
LMR La Mourre 36.14 267 *e*P **P** 17 46 33.1 -0.1
LMR pmax pmax
comp=Z,2.0nm,0.6s,mb4.2
LMR La Mourre 36.14 267 *e*P **P** 17 46 33.1 -0.1
comp=Z,2.0nm,0.6s,mb4.2
HHC Hu-ho-hao-te 36.75 98 *e*P **P** 17 46 37.3 -1.1
HHC AP pP 17 46 41.8 +0.3
HHC XP sP 17 46 44.9 +2.1
HHC PP PP 17 48 02.3 +0.4
HHC PCP PcP 17 49 01.9 +1.3
HHC S **S** **17 52 21.0 -0.9**
HHC PCS PcS 17 52 50.4 +2.0
HHC SS SS 17 54 48.1 -14
HHC SCS ScS 17 56 52.1 -1.6
HHC AMB AMB
comp=Z,101nm,3.9s
HHC LR LR
comp=N,151nm,5.9s
HHC LR LR
comp=E,172nm,5.3s
HHC LR LR
comp=Z,123nm,7.2s
LZH Lanzhou 36.81 111 *e*P **P** **17 46 43.0 +4.0**
LZH AP pP 17 46 47.0 +4.9
LZH XP sP 17 46 50.3 +7.0
LZH AMB AMB
comp=Z,13nm,1.0s,mb4.7
LZH AMB AMB
comp=Z,68nm,5.1s
ROSF Rostrenen 37.45 281 *e*P **P** **17 46 44.0 -0.3**
QUIF Quistinic 37.68 280 *e*P **P** **17 46 46.3 0.0**
EPF Esparros 39.42 272 *e*P **P** **17 47 00.7 -0.3**
CD2 Chengdu 41.10 116 *e*P **P** **17 47 14.1 -0.9**
CD2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.5
CD2 AMB AMB
comp=Z,20nm,5.2s
MDJ Mudanjiang 42.87 79 P **P** **17 47 26.8 -2.5**
MDJ SCP ScP 17 53 09.5 -1.2
MDJ S **S** **17 53 50.8 -2.7**
MDJ AMB AMB
comp=Z,6.0nm,1.8s,mb4.0
MDJ AMB AMB
comp=Z,73nm,3.7s
MDJ LR LR
comp=N,36nm,18.2s
MDJ LR LR
comp=E,53nm,20.7s
MDJ LR LR
comp=Z,58nm,18.6s
KMI Kunming 45.66 121 P **P** **17 47 51.9 0.0**
KMI AP pP 17 47 56.1 +1.1
KMI XP sP 17 47 57.5 +1.3
KMI AMB AMB
comp=Z,7.0nm,1.4s,mb4.4
GYA Guiyang 46.21 116 P **P** **17 47 56.4 +0.2**
GYA AMB AMB
comp=Z,10.0nm,0.8s,mb4.8
INK Inuvik 51.24 7 *e*P **P** **17 48 32.9 -1.4**
comp=Z,64nm,1.0s
INK Inuvik 51.24 7 *e*P **P** **17 48 32.9 -1.4**
comp=Z,64nm,1.0s
YKA Yellowknife Ar 57.41 357 P **P** **17 49 22.4 +3.2**
comp=Z,1.2nm,0.7s,mb4.0,baz=0.9,slow=7.5,SNR=37
TORD Torodi Ar. Bea 63.36 248 P **P** **17 50 01.5 +1.0**
TORD Torodi Ar. Bea 63.36 248 P **P** **17 50 01.5 +1.0**
comp=Z,1.8nm,1.0s,mb4.2,baz=34,slow=4.6,SNR=5.9
PDAR Pinedale Array 76.89 352 P **P** **17 51 26.6 +3.4**
comp=Z,0.3nm,0.8s,mb3.3,baz=1.7,slow=3.0,SNR=3.5
ASAR Alice Springs 102.58 116 P Pdif 17 53 28.9 +0.8
comp=Z,0.2nm,0.6s,baz=332,slow=4.5,SNR=4.4

*ISCJB **20** 17:55:08.5±0.4, 41.18N±002×2010E±003, h1km±3km, Error ellipse: s-maj=4.3km s-min=2.2km az=135.3*
*SKO **20** 17:55:08.8, 41.14N×2006E, h2km, M2.2, ML2.5*
*CSEM **20** 17:55:08.8±0.1, 41.26N×2015E, h5km, ML3.1, Error ellipse: s-maj=2.6km s-min=1.0km az=36.0*
*THE **20** 17:55:09.2, 41.18N×2011E, h3km, ML3.1*
*TIR **20** 17:55:09.7±5.7, 41.21N×1989E, h22km±23km, ML2.6*
*NEIC **20** 17:55:10.0, 41.18N×1989E, h11km, MD3.4(ATH), ML2.8(PDG), After PDG.*
*PDG **20** 17:55:10.0±0.2, 41.18N×1989E, h11km, ML2.8/9, Error ellipse: s-maj=1.2km s-min=1.9km az=0.0*
*BEO **20** 17:55:16.7±1.3, 41.75N×2017E, ML2.1/2*
*ATH **20** 17:55:17.3, 40.51N×2038E, h5km, MD3.4/3*

ISC 20 17:55:09.1±0.5, 41.17N±002×2009E±003, h1km±3km, n57, σ1§07/97, 7C-5D, Albania

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
TIR	**Tirane**	**0.24**	**316**	*e*Pg		**Pg**	**17 55 13.1**	**-0.7**
TIR				*e*Sg		**Sg**	**17 55 17.6**	**+0.6**
TIR	**Tirane**	**0.24**	**316**	*i* PG		**Pg**	**17 55 13.2**	**-0.6**
TIR				*i* SG		**Sg**	**17 55 17.7**	**+0.7**
QSH	**Qafa e Shtames**	**0.38**	**338**	*i* PG		**Pg**	**17 55 17.0**	**+0.7**
QSH				*i* SG		**Sg**	**17 55 23.4**	**+2.2**
OHR	**Ohrid**	**0.54**	**96**	*e*Pg		**Pg**	**17 55 18.9**	**-0.5**
OHR				*e*Sg		**Sg**	**17 55 26.7**	**+0.4**
OHR	**Ohrid**	**0.54**	**96**	*e*Pg		**Pg**	**17 55 18.8**	**-0.6**
OHR				*e*Sg		**Sg**	**17 55 26.6**	**+0.3**
OHR				*e*Lg			17 55 27.8	
comp=N,183nm,0.7s
OHR *e*Lg 17 55 28.1
comp=E,270nm,0.6s
OHR Ohrid 0.54 96 *e*Pg **Pg** **17 55 18.8 -0.6**

2007 APR

OHR *e*Sg **Sg** **17 55 26.7 +0.3**
KBN Korca 0.76 136 *i* Pg **Pg** **17 55 24.0 +0.4**
PUK Puka 0.88 350 *i* PG **Pg** **17 55 24.5 -1.5**
KRUS Krusevo 0.90 77 *e*Pg **Pg** **17 55 24.9 -1.3**
KRUS *e*Sg **Sg** **17 55 38.2 +0.4**
KRUS Krusevo 0.90 77 *e*Pg **Pg** **17 55 24.9 -1.3**
KRUS *e*Sg **Sg** **17 55 38.2 +0.4**
BIA Bitola 0.94 99 *e*Pg **Pg** **17 55 26.2 -1.0**
BIA *e*Sg **Sg** **17 55 39.6 +0.1**
BIA Bitola 0.94 99 *e*Pg **Pg** **17 55 26.1 -1.0**
BIA *e*Sg **Sg** **17 55 39.2 -0.2**
BIA *e*Lg 17 55 40.9
comp=E,51nm,0.3s
BIA *e*Lg 17 55 41.5
comp=N,46nm,0.4s
BIA Bitola 0.94 99 *e*Pg **Pg** **17 55 26.1 -1.1**
BIA *e*Sg **Sg** **17 55 39.6 +0.2**
ULC Ulcinj 1.01 322⇑ *i*Pg **Pg** **17 55 27.1 -1.4**
ULC *e*Sg **Sg** **17 55 41.6 0.0**
FNA Florina 1.05 111 *e*Pg **Pg** **17 55 28.4 -0.8**
FNA *e*Sg **Sg** **17 55 44.0 +1.3**
SKO Skopje 1.29 51 *e*Pg **Pg** **17 55 34.3 +0.5**
SKO *e*Sg **Sg** **17 55 53.0 +2.5**
SKO Skopje 1.29 51 *e*Pg **Pg** **17 55 33.3 -0.6**
SKO *e*Sg **Sg** **17 55 47.7 -2.8**
SKO *e*Lg 17 55 51.8
comp=E,118nm,0.7s
SKO *e*Lg 17 55 51.8
comp=N,138nm,0.4s
SKO Skopje 1.29 51 *e*Pg **Pg** **17 55 33.2 -0.6**
SKO *e*Sg **Sg** **17 55 53.0 +2.5**
SRN Sarande 1.29 183 *i* PN **Pn** **17 55 34.0 -0.2**
SRN *i* SN **Sn** **17 55 53.7 +1.6**
PDG Podgorica 1.40 334 *i* PG **Pn** **17 55 33.9 -1.8**
PDG Podgorica 1.40 334⇑ *i*Pg **Pg** **17 55 34.4 -1.6**
PDG *e*Sg **Sg** **17 55 55.4 +1.3**
TTG Podgorica 1.40 334⇑ *i*Pg **Pg** **17 55 34.4 -1.6**
TTG *e*Sg **Sg** **17 55 55.4 +1.3**
PVY Plav 1.43 357⇑ *i*Pg **Pg** **17 55 35.7 -0.7**
PVY *e*Sg **Sg** **17 55 57.8 +2.9**
BUM Brajici-Budva 1.44 322⇓ *i*Pg **Pn** **17 55 34.9 -1.3**
BUM *e*Sg **Sg** **17 55 55.8 +0.5**
KEK Kerkira 1.47 189 PB **Pn** **17 55 34.9 -1.8**
KZN Kozani 1.54 124 PN **Pn** **17 55 37.9 +0.3**
IGT Igoumenitsa 1.65 173 *e*Pb **Pn** **17 55 38.1 -1.0**
IGT *e*Sb **Sb** **17 56 01.8 +0.4**
STIP Stip 1.66 71 *e*Pb **Pn** **17 55 39.0 -0.3**
STIP Stip 1.66 71 *e*Pn **Pn** **17 55 39.2 -0.1**
STIP Stip 1.66 71 *e*Pn **Pn** **17 55 39.1 -0.2**
BEY Berane 1.71 355 *i* PG **Pg** **17 55 45.1 +3.3**
BEY *i* SG **Sn** **17 56 00.7 -1.6**
BEY Berane 1.71 355⇓ *i*Pn **Pn** **17 55 40.7 +0.8**
BEY *e*Sn **Sn** **17 56 05.1 +2.8**
IVA Berane 1.71 355⇓ *i*Pn **Pn** **17 55 40.7 +0.8**
IVA *e*Sn **Sn** **17 56 05.1 +2.8**
HCY Herceg Novi 1.74 318⇑ *i*Pn **Pn** **17 55 39.5 -0.9**
HCY *e*Sn **Sn** **17 56 03.6 +0.3**
GRG Griva 1.76 96 *e*Pb **Pn** **17 55 39.8 -0.8**
NKY Niksic 1.83 334⇑ *i*Pn **Pn** **17 55 41.3 -0.3**
NKY *e*Sn **Sn** **17 56 06.5 +1.1**
NKY Niksic 1.83 334 *i* PG **Pg** **17 55 46.7 +2.5**
NKY *i* SG **Sn** **17 56 03.6 -1.8**
VAY Valandovo 1.88 85 *e*Pb **Pn** **17 55 41.7 -0.6**
VAY *e*Sb **Sb** **17 56 06.2 -1.8**
VAY Valandovo 1.88 85 *e*Pn **Pn** **17 55 42.3 +0.1**
BRY Bratogost 2.08 327⇑ *i*Pn **Pn** **17 55 44.9 -0.1**
BRY *e*Sn **Sn** **17 56 11.8 +0.3**
BARS Barje 2.09 38⇓ *i*Pn **Pn** **17 55 45.8 +0.5**
BARS *e*Sn **Sn** **17 56 08.8 -3.1**
SJES Sjenica 2.10 357 *e*Pn **Pn** **17 55 45.1 -0.2**
SJES *e*Sn **Sn** **17 56 06.8 -5.2**
LIT Litokhoron 2.12 120 *e*Pn **Pn** **17 55 45.1 -0.4**
LIT *e*Sn **Sn** **17 56 12.6 +0.2**
KNT Kendrikon 2.12 89 *e*Pn **Pn** **17 55 45.5 -0.1**
THL Klokotos Trika 2.18 137 *e*Pn **Pn** **17 55 46.9 +0.6**
THL *e*Sn **Sn** **17 56 14.8 +0.8**
THL Klokotos Trika 2.18 137 Pb **Pn** **17 55 47.4 +1.0**
UPM Unac-Piva 2.21 337⇓ *i*Pn **Pn** **17 55 47.3 +0.4**
UPM *e*Sn **Sn** **17 56 15.8 +1.0**
HORT Hortiatis 2.35 103 *e*Pn **Pn** **17 55 49.0 +0.2**
LKD Levkas 2.50 170 *e*Pn **Pn** **17 55 49.3 -1.5**
LKD *e*Sn **Sn** **17 56 22.2 +0.3**
EVR Evrytania 2.61 149 PN **Pn** **17 55 53.8 +1.5**
SRS Serrai 2.65 90 *e*Pn **Pn** **17 55 53.2 +0.4**
SRS *e*Sn **Sn** **17 56 26.5 +1.0**
PLG Polygyros 2.67 106 *e*Pn **Pn** **17 55 53.5 +0.3**
PLG *e*Sn **Sn** **17 56 27.1 +1.0**
AGG Agios Georgios 2.75 141 *e*Pn **Pn** **17 55 54.5 +0.3**
AGG *e*Sn **Sn** **17 56 28.7 +0.6**
DIVS Divibare 2.93 359 *e*Pn **Pn** **17 55 57.0 +0.3**
DIVS Divibare 2.93 359 *e*Pn **Pn** **17 55 56.6 -0.1**
DIVS *e*Sg **Sn** **17 56 30.8 -1.6**
XOR Xorichti 2.98 126 *e*Pn **Pn** **17 55 56.9 -0.5**
PAIG Paliouri 3.00 113 *e*Pn **Pn** **17 55 58.2 +0.4**

IDC 20 17:57:57.9±45.0, 1632S×17508W, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.7/15, mbtmp4.0/3, Error ellipse: s-maj=850.4km s-min=163.4km az=78.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**42.18**	**240**	P		P	18 05 52.9	+0.4
1.8nm,0.9s,baz=90,slow=11,SNR=5.6
WRA Warramunga Arr 48.06 258 P P 18 06 39.5 -0.1
0.4nm,0.3s,baz=94,slow=7.4,SNR=29
ASAR Alice Springs 48.29 253 P P 18 06 40.9 -0.4
2.6nm,0.5s,baz=90,slow=8.1,SNR=61

MEX 20 18:08:09.4±0.4, 1793N×9691W, h83km±13km, MD3.7, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
OXX	**Oaxaca**	**0.86**	**168**	*i* P		Pn	18 08 25.0	-2.1
OXX				*i* S		Sn	18 08 39.0	-1.2
VHO	**Vista Hermosa**	**0.87**	**169**	*i* P		Pn	18 08 26.0	-1.1
VHO				*i* S		Sn	18 08 39.1	-1.3
PPM	**Popocatepetl**	**1.98**	**305**	*i* P		Pn	18 08 41.2	+0.1
PPM				*i* S		Sn	18 09 04.4	-0.9
CMIG	**Matias Romero**	**2.11**	**113**	*i* P		Pn	18 08 41.7	-1.1
CMIG				*i* S		Sn	18 09 06.8	-1.6

MAN 20 18:08:51, 1722N×12220E, h24km, mb4.2, ML3.0, MS2.8, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CVP	**Callao Caves**	**0.60**	**323**	*e*P		Pb	18 09 02.8	0.0
CVP				*e*S		Sb	18 09 10.0	-0.9

*IDC **20** 18:09:19.9±0.8, 4646N×15534E, h0km, mb3.8/8, mb1 4.0/9, mb1mx3.8/23, mbtmp3.8/9, ML3.7/1, Error ellipse: s-maj=27.9km s-min=19.9km az=139.0*
*ISCJB **20** 18:09:20.9±2.4, 466N±0.1×1550E±0.1, h21km±17km, mb3.7/9, Error ellipse: s-maj=25.3km s-min=9.0km az=148.1*
*MOS **20** 18:09:25.9±1.8, 4644N×15492E, h63km, mb3.9/4, Error ellipse: s-maj=24.5km s-min=15.2km az=61.7*

ISC 20 18:09:22.7±3.8, 467N±01×1551E±01, h18km±24km, n20, σ1§24/21, mb3.7/9, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**4.06**	**10**	*e*PN		**Pb**	**18 10 33.0**	**-0.5**
KUR	**Kuril'sk**	**5.22**	**256**	*e*PN		**Pn**	**18 10 38.8**	**-1.0**
KUR				*e*S		**Sn**	**18 11 37.3**	**-2.2**
KUR				pmax		pmax		
comp=Z,80nm,0.5s
KUR smax
comp=N,80nm,0.6s
KUR smax
comp=E,80nm,0.6s
PET Petropavlovsk 6.75 19 *e*PN **Pn** **18 10 59.3 -1.5**
ASAJ Asahikawa 9.14 258 PN **Pn** **18 11 36.1 +2.6**
ASAJ pmax pmax
comp=Z,1.0nm,0.3s
ASAJ Asahikawa 9.14 258 Pn **Pn** **18 11 36.0 +2.5**
comp=Z,0.9nm,0.3s,baz=204,slow=10,SNR=8.9

ERM Erimo 9.72 246 *e*PN **Pn** **18 11 42.4 +0.9**
BILL Bilibino 22.17 11 *e*P **P** **18 14 16.7 -0.6**
BILL pmax pmax
comp=Z,6.0nm,1.7s,mb3.8
YKA Yellowknife Ar 50.17 37 P **P** **18 18 17.0 +0.4**
comp=Z,0.3nm,0.7s,mb3.4,baz=294,slow=7.3,SNR=6.0
BVAR Borovoye Array 51.93 310 P **P** **18 18 32.5 +2.6**
BVAR pmax pmax
comp=Z,1.0nm,0.7s
BVAR Borovoye Array 51.93 310 P **P** **18 18 32.5 +2.6**
comp=Z,0.6nm,0.7s,mb3.6,baz=58,slow=8.7,SNR=3.5
NVAR Mina Array Bea 61.27 63 P **P** **18 19 37.1 +0.5**
comp=Z,0.4nm,0.6s,mb3.8,baz=303,slow=6.7,SNR=4.6
PDAR Pinedale Array 63.69 55 P **P** **18 19 52.6 -0.1**
comp=Z,0.6nm,0.8s,mb3.7,baz=305,slow=5.2,SNR=4.4
FINES FINESS Array B 64.66 336 P **P** **18 20 00.2 +1.5**
FINES pmax pmax
comp=Z,1.0nm,0.4s
FINES FINESS Array B 64.66 336 P **P** **18 20 00.2 +1.5**
comp=Z,0.5nm,0.4s,mb3.9,baz=29,slow=9.8,SNR=4.5
WRA Warramunga Arr 68.91 201 P **P** **18 20 24.8 -1.5**
WRA pmax pmax
comp=Z,1.0nm,0.9s
WRA Warramunga Arr 68.91 201 P **P** **18 20 24.8 -1.4**
comp=Z,0.7nm,0.9s,mb3.6,baz=24,slow=6.4,SNR=4.9
ASAR Alice Springs 72.59 200 P **P** **18 20 48.2 -0.4**
ASAR pmax pmax
comp=Z,1.0nm,0.7s
ASAR Alice Springs 72.59 200 P **P** **18 20 48.2 -0.4**
comp=Z,0.6nm,0.7s,mb3.6,baz=18,slow=5.1,SNR=14
TXAR Lajitas Array 76.35 62 P **P** **18 21 10.5 -0.1**
TXAR pmax pmax
comp=Z,2.0nm,0.6s
TXAR Lajitas Array 76.35 62 P **P** **18 21 10.9 +0.3**
comp=Z,1.7nm,0.6s,mb4.2,baz=304,slow=3.9,SNR=31

*IDC **20** 18:14:45.3±0.6, 4641N×15537E, h0km, mb4.0/13, mb1 4.2/14, mb1mx4.1/23, mbtmp4.0/14, ML3.8/1, MS3.4/5, Ms1 3.4/5, ms1mx3.1/35, Error ellipse: s-maj=19.5km s-min=14.8km az=146.0*
*ISCJB **20** 18:14:46.4±0.5, 4675N±008×15539E±007, h10km, mb4.3/39, MS3.4/6, Error ellipse: s-maj=11.8km s-min=6.0km az=159.1*
*BJI **20** 18:14:48.4, 4698N×15502E, h6km, mB4.6, mb4.6, Ms4.3, Msz4.2*
*NEIC **20** 18:14:48.9±0.5, 4688N×15532E, h10km, mb4.3/12, Error ellipse: s-maj=14.1km s-min=6.9km az=159.0*
*MOS **20** 18:14:49.2±1.8, 4656N×15518E, h36km, mb4.3/12, Error ellipse: s-maj=11.3km s-min=9.1km az=82.3*

ISC 20 18:14:48.9±2.5, 4676N±007×15534E±007, h13km±15km, h14km±1.5km: pP-P, n84, σ1§01/84, mb4.3/39, MS3.4/6, 6C, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.96**	**7**	*e*PN		**Pn**	**18 15 51.5**	**+2.2**
SKR				pmax		pmax		
comp=Z,80nm,0.4s
KUR Kuril'sk 5.43 256 *e*PN **Pn** **18 16 04.0 -5.5**
KUR pmax pmax
comp=Z,110nm,0.6s
PET Petropavlovsk 6.62 18 *e*Pn **Pn** **18 16 24.2 -1.7**
PET *e*Sn **Sn** **18 17 38.1 -3.0**
YSS Yuzh-Sakhalins 8.63 276 *e*Pn **Pn** **18 16 53.4 0.0**
YSS Yuzh-Sakhalins 8.63 276 *e*PN **Pn** **18 16 53.1 -0.3**
ASAJ Asahikawa 9.34 258 PN **Pn** **18 17 01.3 -1.9**
ASAJ pmax pmax
comp=Z,1.0nm,0.3s
ASAJ Asahikawa 9.34 258 Pn **Pn** **18 17 01.2 -1.9**
comp=Z,1.1nm,0.3s,baz=102,slow=22,SNR=9.8
ERM Erimo 9.93 246 *e*PN **Pn** **18 17 10.3 -0.9**
SEY Seymchan 16.29 355 *e*P **Pn** **18 18 30.6 -6.6**
MAJO Matsushiro 16.34 237 *e*P **Pn** **18 18 39.4 +1.4**
comp=Z,12nm,0.9s
MAJO Matsushiro 16.34 237 *e*P **Pn** **18 18 39.4 +1.4**
MAJO pmax pmax
comp=Z,12nm,0.9s
MAT Matsushiro 16.34 237 P **Pn** **18 18 32.7 -5.3**
MJAR Matsushiro Arr 16.34 237 Pn **Pn** **18 18 31.2 -6.8**
comp=Z,0.1nm,0.3s,baz=36,slow=12,SNR=6.6
MDJ Mudanjiang 18.09 273 P **Pn** **18 18 59.3 -0.5**
MDJ AP pP 18 19 02.5 -1.3
MDJ XP sP 18 19 04.0 -1.4
MDJ S **Sn** **18 22 21.3 -0.1**
MDJ SCP ScP 18 27 09.3 +1.0
MDJ AMB AMB
comp=Z,5.0nm,1.5s
MDJ AMB AMB
comp=Z,127nm,4.1s
YAK Yakutsk 21.16 326⇑ *e*P **P** **18 19 32.0 -1.5**
YAK pmax pmax
comp=Z,7.0nm,1.2s,mb3.9
BILL Bilibino 22.06 11 *e*P **P** **18 19 43.0 -0.2**
comp=Z,2.4nm,0.5s,mb3.9
BILL Bilibino 22.06 11 *e*P **P** **18 19 43.9 +0.8**
BILL pmax pmax
comp=Z,6.0nm,1.5s,mb3.8
KSRS Korea Array 22.27 255 P **P** **18 19 45.0 -0.6**
comp=Z,1.3nm,0.6s,mb3.5,baz=55,slow=9.8,SNR=3.5
KSRS LR LR 18 28 50.0
comp=Z,45nm,18.5s,MS2.9,baz=341,slow=38
HIA Hailar 23.81 289 *e*P **P** **18 20 01.9 +0.5**
TIXI Tiksi 27.90 342 *e*P **P** **18 20 38.5 +0.4**
comp=Z,2.1nm,0.2s,mb4.4
TIXI Tiksi 27.90 342⇑ *e*P **P** **18 20 38.8 +0.6**
TIXI pmax pmax
comp=Z,8.0nm,1.8s,mb4.0
HHC Hu-ho-hao-te 31.82 275 *e*P **P** **18 21 13.8 +0.7**
HHC AP pP 18 21 18.4 +1.4
HHC XP sP 18 21 21.0 +2.4
HHC PP PP 18 22 16.1 -8.8
HHC PCP PcP 18 24 06.8 +2.9
HHC S **S** **18 26 21.9 -1.2**
HHC XS sS 18 26 27.3 -2.2
HHC PCS PcS 18 27 48.9 +0.5
HHC SS SS 18 28 10.3 -29
HHC SCS ScS 18 31 50.0 +5.0
HHC AMB AMB
comp=Z,45nm,1.3s,mb5.1
HHC LR LR
comp=N,75nm,5.8s
HHC LR LR
comp=E,104nm,4.6s
HHC LR LR
comp=Z,72nm,11.9s,MS3.6
ULN Ulaanbaatar 32.34 290⇑ *e*P **P** **18 21 17.3 -0.3**
SONM Songino Array 32.77 290 LR LR 18 35 10.6
comp=Z,86nm,18.3s,MS3.5,baz=224,slow=37
ZAK Zakamensk 34.06 296 *e*P **P** **18 21 32.1 -0.5**
ZAK pmax pmax
comp=Z,1.0nm,1.6s,mb3.5
LZH Lanzhou 39.42 273 *e*P **P** **18 22 19.9 +1.5**
LZH AP pP 18 22 23.5 +1.1
LZH XP sP 18 22 25.1 +1.2
LZH AMB AMB
comp=Z,13nm,1.0s,mb4.6
LZH AMB AMB
comp=Z,60nm,4.5s
GTA Gaotai 40.48 280 *e*P **P** **18 22 30.5 +3.3**
GTA AP pP 18 22 35.0 +3.9
GTA XP sP 18 22 39.3 +6.6
GTA AMB AMB
comp=Z,2.0nm,1.2s,mb3.7
CD2 Chengdu 42.41 267 *e*P **P** **18 22 43.1 0.0**
CD2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.5
CD2 AMB AMB
comp=Z,30nm,5.2s
GYA Guiyang 43.22 259 P **P** **18 22 50.9 +1.2**
GYA AMB AMB
comp=Z,10.0nm,1.0s,mb4.5
ZALV Zalesovo Beam 43.84 306 P **P** **18 22 53.5 -0.9**
comp=Z,0.4nm,0.3s,mb3.6,baz=49,slow=4.5,SNR=4.1
ZALV PcP PcP 18 24 39.2 -1.3
comp=Z,0.4nm,0.3s,baz=64,slow=3.4,SNR=4.0
ZALV LR LR 18 40 04.5
comp=Z,31nm,21.3s,MS3.2,baz=21,slow=34
ZAL Zalesovo 43.86 306 P **P** **18 22 53.5 -1.0**
ZAL 18 24 39.3
KMI Kunming 46.75 261 P **P** **18 23 21.1 +3.2**
KMI AP pP 18 23 23.8 +1.9
KMI XP sP 18 23 25.6 +2.2

KMI AMB AMB
comp=Z,8.0nm,0.9s,mb4.7
MKAR Makanchi Array 48.29 298 *i* P **P 18 23 29.3 -0.3**
MKAR pmax pmax
comp=Z,1.0nm,0.8s
MKAR Makanchi Array 48.29 298 P **P 18 23 29.4 -0.2**
comp=Z,1.0nm,0.8s,mb3.9,baz=72,slow=7.8,SNR=6.9
KURK Kurchatov 48.63 304 *e*P **P 18 23 30.7 -1.4**
comp=Z,6.6nm,1.0s,mb4.6
KURK Kurchatov 48.63 304⇑*e*P **P 18 23 32.1 0.0**
YKA Yellowknife Ar 49.99 37 P **P 18 23 43.0 +0.6**
YKA PcP PcP 18 25 01.4 -0.7
YKA Yellowknife Ar 49.99 37 P **P 18 23 43.0 +0.6**
comp=Z,1.4nm,0.9s,mb4.0,baz=294,slow=7.4,SNR=19
YKA PcP PcP 18 25 01.4 -0.7
comp=Z,0.4nm,0.8s,baz=294,slow=3.9,SNR=4.9
LSA Lhasa 51.80 275 *e*P **P 18 23 58.2 +1.7**
comp=Z,3.0nm,0.8s,mb4.3
LSA Lhasa 51.80 275 *e*P **P 18 23 58.2 +1.8**
LSA pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
BVAR Borovoye Array 52.03 310 P **P 18 23 57.9 +0.1**
comp=Z,1.5nm,0.7s,mb4.1,baz=65,slow=8.5,SNR=9.1
BRVK Borovoye 52.07 310 *e*P **P 18 23 58.0 -0.1**
comp=Z,3.4nm,0.8s,mb4.3
BRVK Borovoye 52.07 310 *e*P **P 18 23 58.0 -0.1**
BRVK pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
AAK Ala-Archa 55.20 297 *e*P **P 18 24 20.7 -0.5**
comp=Z,2.2nm,1.0s,mb4.2
AAK Ala-Archa 55.20 297⇑*e*P **P 18 24 21.5 +0.3**
EKS2 Erkin-Say 55.62 298 *e*P **P 18 24 25.0 +0.8**
comp=Z,1.2nm,0.7s,mb4.0
JIRN Jiri 56.47 276 *e*P **P 18 24 31.1 +0.6**
JIRN Jiri 56.47 276 *e*P **P 18 24 31.1 +0.6**
comp=Z,19nm,0.9s,mb5.1
GUN Gumba 56.52 277 *e*P **P 18 24 31.2 +0.3**
comp=Z,26nm,1.1s,mb5.2
GUN Gumba 56.52 277 *e*P **P 18 24 31.3 +0.4**
comp=Z,30nm,1.2s,mb5.2
KKN Kakani 57.01 277 *e*P **P 18 24 34.9 +0.6**
comp=Z,24nm,0.9s,mb5.2
KKN Kakani 57.01 277 *e*P **P 18 24 34.9 +0.6**
comp=Z,24nm,0.9s,mb5.2
PKI Pulchoki 57.06 277 *e*P **P 18 24 35.0 +0.3**
DMN Daman 57.24 277 *e*P **P 18 24 36.6 +0.6**
comp=Z,26nm,0.9s,mb5.2
DMN Daman 57.24 277 *e*P **P 18 24 36.7 +0.7**
comp=Z,26nm,0.9s,mb5.2
GKN Gorkha 57.31 277 *e*P **P 18 24 36.8 +0.3**
comp=Z,28nm,1.0s,mb5.3
GKN Gorkha 57.31 277 *e*P **P 18 24 36.8 +0.3**
comp=Z,28nm,1.0s,mb5.3
KOLN Koldanda 58.17 278 *e*P **P 18 24 43.0 +0.5**
comp=Z,26nm,0.9s,mb5.3
KOLN Koldanda 58.17 278 *e*P **P 18 24 43.0 +0.5**
comp=Z,26nm,0.9s,mb5.3
WVOR Wild Horse Val 58.43 60 *e*P **P 18 24 44.7 +0.5**
comp=Z,1.4nm,0.8s,mb4.0
WVOR Wild Horse Val 58.43 60 *e*P **P 18 24 44.7 +0.5**
WVOR pmax pmax
comp=Z,1.0nm,0.8s,mb3.9
NVAR Mina Array Bea 61.06 64 P **P 18 25 03.0 +0.6**
comp=Z,1.7nm,0.7s,mb4.3,baz=301,slow=6.8,SNR=13
TPNV Topopah Spring 63.26 64 *e*P **P 18 25 16.6 -0.5**
comp=Z,2.7nm,0.9s,mb4.4
TPNV Topopah Spring 63.26 64 *e*P **P 18 25 16.6 -0.5**
TPNV pmax pmax
comp=Z,3.0nm,0.9s,mb4.4
KBL Kabul 63.48 293 *e*P **P 18 25 17.6 -0.9**
comp=Z,4.4nm,1.0s,mb4.5
BW06 Boulder Array 63.49 55 *e*P **P 18 25 18.7 +0.1**
comp=Z,2.0nm,0.8s,mb4.3
PDAR Pinedale Array 63.49 55 P **P 18 25 18.8 +0.2**
comp=Z,2.0nm,0.9s,mb4.3,baz=306,slow=1.7,SNR=13
FINES FINESS Array B 64.67 336 *i* P **P 18 25 29.3 +3.3**
FINES pmax pmax
comp=Z,2.0nm,0.8s
FINES FINESS Array B 64.67 336 P **P 18 25 27.2 +1.2**
comp=Z,2.3nm,0.8s,mb4.3,baz=29,slow=7.1,SNR=9.4
FINES LR LR 18 55 27.7
comp=Z,50nm,20.0s,MS3.7,baz=238,slow=38
ULM Lac du Bonnet 65.50 42 P **P 18 25 29.9 -1.7**
comp=Z,1.0nm,0.7s,mb4.0,baz=268,slow=10,SNR=4.1
CTA Charters Tower 67.04 189 P **P 18 25 37.0 -4.6**
CTA pmax pmax
comp=Z,3.0nm,0.6s
CTA Charters Tower 67.04 189 P **P 18 25 37.0 -4.6**
comp=Z,3.0nm,0.6s,mb4.5,baz=350,slow=6.1,SNR=3.4
NOA NORSAR Array B 68.70 342 LR LR 19 01 33.9
comp=Z,28nm,18.2s,MS3.5,baz=130,slow=41
WRAB Tennant Creek 69.04 201 *e*P **P 18 25 54.3 +0.1**
WRA Warramunga Arr 69.05 201 P **P 18 25 50.6 -3.6**
WRA pmax pmax
comp=Z,2.0nm,0.9s
WRA Warramunga Arr 69.05 201 P **P 18 25 50.6 -3.6**
comp=Z,1.7nm,0.8s,mb4.0,baz=20,slow=6.7,SNR=10
ANMO Albuquerque 70.51 60⇑*e*P **P 18 26 03.1 -0.2**
ASAR Alice Springs 72.73 201 P **P 18 26 13.8 -2.7**
ASAR pmax pmax
comp=Z,2.0nm,0.7s
ASAR Alice Springs 72.73 201 P **P 18 26 13.8 -2.8**
comp=Z,1.5nm,0.7s,mb4.0,baz=17,slow=5.1,SNR=34
TXAR Lajitas Array 76.14 62 P **P 18 26 36.3 -0.3**
TXAR pmax pmax
comp=Z,8.0nm,0.8s
TXAR Lajitas Array 76.14 62 P **P 18 26 36.3 -0.3**
comp=Z,8.0nm,0.8s,mb4.7,baz=302,slow=4.2,SNR=74
KHC Kasperske Hory 78.88 336 *e*P **P 18 26 51.5 0.0**
GERES GERESS Array B 79.10 335 P **P 18 26 52.6 -0.2**
comp=Z,0.4nm,0.6s,mb3.5,baz=39,slow=5.1,SNR=4.5
CPUP Villa Florida 147.11 63 PKPbc PKPbc 18 34 29.9 -1.6
comp=Z,0.4nm,0.3s,baz=305,slow=6.5,SNR=4.0

ISCJB ***20*** *18:50:55.5±0.8, 3839N±002×2045E±006, h3km±4km, Error ellipse: s-maj=7.5km s-min=3.5km az=168.6*
NEIC ***20*** *18:50:55.5, 3833N×2045E, h23km, MD3.5(ATH), After ATH.*
ATH ***20*** *18:50:55.5, 3833N×2045E, h23km±1km, MD3.5/5*
CSEM ***20*** *18:50:56.4±0.2, 3838N×2044E, h8km, MD3.5, Error ellipse: s-maj=4.8km s-min=2.2km az=74.0*
THE ***20*** *18:50:56.6, 3840N×2045E, h3km, ML3.1*
ISC 20 18:50:56.2±0.8, 3838N±002×2045E±006, h6km±4km, n20, σ0:99/36, 1C, Greece

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.23**	**151**		*e*Pg	**Pg**	**18 51 01.0**	**+0.2**
VLS					*e*Sg	**Sg**	**18 51 05.4**	**+1.5**
VLS	**Valsamata**	**0.23**	**151**	⇑*i*PB		**Pg**	**18 51 01.0**	**+0.2**
VLS					*e*SB	**Sg**	**18 51 05.4**	**+1.5**
LKD	**Levkas**	**0.36**	**26**		*e*Pg	**Pg**	**18 51 02.6**	**-0.6**
LKD					*e*Sg	**Sg**	**18 51 08.5**	**+0.6**
KFL	**Anninata**	**0.38**	**135**		*e*Pg	**Pg**	**18 51 03.6**	**0.0**
KFL					*e*Sg	**Sg**	**18 51 09.4**	**+0.8**
RLS	**Riolos of Patr**	**0.87**	**112**		*e*PN	**Pn**	**18 51 12.5**	**-2.5**
IGT	**Igoumenitsa**	**1.15**	**356**		*e*Pg	**Pg**	**18 51 17.9**	**-0.4**
IGT					*e*Sg	**Sg**	**18 51 34.4**	**+1.2**
EVR	**Evrytania**	**1.19**	**63**		*e*PN	**Pn**	**18 51 18.1**	**-1.3**
EVR					*e*SN	**Sn**	**18 51 35.7**	**-0.3**
KEK	**Kerkira**	**1.42**	**339**		*e*PN	**Pn**	**18 51 22.8**	**+0.2**
KEK					*e*SN	**Sn**	**18 51 42.6**	**+1.0**
MEV	**Metsovon**	**1.53**	**23**		*e*Pg	**Pg**	**18 51 24.4**	**-1.0**
MEV					*e*Sg	**Sg**	**18 51 45.5**	**+0.3**
MEV	**Metsovon**	**1.53**	**23**		*e*Pg	**Pg**	**18 51 24.5**	**-1.0**
MEV					*e*Sg	**Sg**	**18 51 45.5**	**+0.3**
AGG	**Agios Georgios**	**1.60**	**66**		*e*Pg	**Pg**	**18 51 25.5**	**-1.4**
AGG					*e*Sg	**Sg**	**18 51 48.2**	**+0.4**
ITM	**Ithomi**	**1.68**	**135**		*e*PN	**Pn**	**18 51 25.0**	**-1.1**
THL	**Klokotos Trika**	**1.70**	**46**		*e*Pb	**Pb**	**18 51 26.0**	**-1.8**
THL					*e*Sb	**Sb**	**18 51 49.2**	**-0.2**
THL	**Klokotos Trika**	**1.70**	**46**		*e*Pn	**Pn**	**18 51 26.3**	**-0.1**
THL					*e*Sb	**Sb**	**18 51 49.2**	**-0.3**
VLX	**Vlachokerasia**	**1.83**	**123**		*e*Pb	**Pb**	**18 51 29.4**	**-0.7**
VLX					*e*Sb	**Sb**	**18 51 52.9**	**-0.5**
LKR	**Lokris**	**2.02**	**82**		*e*Pn	**Pn**	**18 51 31.6**	**+0.7**
LIT	**Litokhoron**	**2.34**	**42**		*e*Pn	**Pn**	**18 51 35.2**	**+0.1**
LIT					*e*Sn	**Sn**	**18 52 05.9**	**+1.7**
LIT	**Litokhoron**	**2.34**	**42**		*e*Pn	**Pn**	**18 51 35.2**	**0.0**
LIT					*e*Sn	**Sn**	**18 52 05.9**	**+1.7**
DID	**Didima**	**2.37**	**111**		*e*Pn	**Pn**	**18 51 37.0**	**+1.3**
DID					*e*Sn	**Sn**	**18 52 06.8**	**+1.7**
VLI	**Veliai**	**2.58**	**129**		*e*PN	**Pn**	**18 51 38.2**	**-0.4**

ISCJB ***20*** *19:01:48.9±0.7, 3707N±004×2211E±004, h2km, Error ellipse: s-maj=6.4km s-min=4.3km az=158.1*
CSEM ***20*** *19:01:49.6±0.1, 3711N×2208E, h2km, ML2.7, Error ellipse: s-maj=3.1km s-min=2.0km az=160.0*
THE ***20*** *19:01:49.0, 3705N×2214E, h3km, ML2.7*
ATH ***20*** *19:01:49.2, 3708N×2208E, h5km, MD3.0/3*
ISC 20 19:01:49.2±0.8, 3707N±005×2210E±004, h3km±8km, n8, σ0:86/14, Southern Greece

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ITM	**Ithomi**	**0.17**	**308**		*e*PG	**Pg**	**19 01 52.4**	**-0.2**
ITM					*e*SG	**Sg**	**19 01 54.9**	**0.0**
PYL	**PYLOS**	**0.34**	**239**		*e*Pg	**Pg**	**19 01 55.6**	**0.0**
PYL					*e*Sg	**Sg**	**19 02 01.0**	**+1.0**
VLX	**Vlachokerasia**	**0.37**	**37**		*e*Pg	**Pg**	**19 01 56.2**	**-0.2**
VLX					*e*Sg	**Sg**	**19 02 01.2**	**0.0**
VLI	**Veliai**	**0.76**	**117**		*e*PB	**Pb**	**19 02 04.5**	**-0.6**
DID	**Didima**	**1.01**	**64**		*e*Pg	**Pg**	**19 02 07.7**	**-0.7**
DID					*e*Sg	**Sg**	**19 02 22.5**	**+1.0**
RLS	**Riolos of Patr**	**1.10**	**333**		*e*PN	**Pn**	**19 02 09.7**	**-1.9**
RLS					*e*SB	**Sb**	**19 02 25.4**	**-0.4**
AGG	**Agios Georgios**	**1.96**	**5**		*e*Pn	**Pn**	**19 02 23.6**	**+0.2**
AGG					*e*Sn	**Sn**	**19 02 50.2**	**+1.8**
AGG	**Agios Georgios**	**1.96**	**5**		*e*Pn	**Pn**	**19 02 23.5**	**+0.2**

IDC ***20*** *19:03:18.5±1.7, 3902N×7264E, h0km, mb3.7/4, mb1 3.8/8, mb1mx3.5/24, mbtmp3.6/8, ML3.3/4, MS2.5/1, Ms1 2.5/1, ms1mx2.1/36, Error ellipse: s-maj=29.7km s-min=20.9km az=33.0*
ISCJB ***20*** *19:03:22.5±1.2, 3928N±009×7226E±008, h33km, mb3.6/4, Error ellipse: s-maj=13.7km s-min=8.0km az=20.0*
NNC ***20*** *19:03:31.6±5.4, 3997N×7253E, h23km±40km, mb3.7, mpv3.4, Error ellipse: s-maj=40.3km s-min=26.5km az=0.0*
ISC 20 19:03:25.7±2.7, 393N±02×724E±01, h47km±20km, n23, σ1:08/26, mb3.6/4, 4C, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**2.97**	**19**		P	**Pn**	**19 04 10.8**	**+0.5**
	SNR=73							
UCH	**Uchtor**	**3.31**	**29**		P	**Pn**	**19 04 15.2**	**+0.1**
	SNR=48							
EKS2	**Erkin-Say**	**3.49**	**17**		P	**Pn**	**19 04 17.7**	**+0.3**
	SNR=17							
KZA	**Kyzart**	**3.51**	**38**		P	**Pn**	**19 04 17.5**	**-0.1**
	SNR=15							
AAK	**Ala-Archa**	**3.66**	**25**		P	**Pn**	**19 04 20.4**	**+0.6**
	SNR=48							
KBK	**Karagaybulak**	**3.85**	**30**		P	**Pn**	**19 04 22.8**	**+0.5**
	SNR=30							
KK31	**Karatay Array**	**4.01**	**340**		Pn	**Pn**	**19 04 27.2**	**+2.6**
	3.4nm,0.3s,baz=102,slow=3.8,SNR=130							
KK31					⇑Sn	**Sn**	**19 05 11.0**	**+0.7**
	15nm,0.4s,baz=158,slow=17,SNR=4.2							
CHMS	**Chumysh**	**4.08**	**25**		P	**Pn**	**19 04 25.8**	**+0.4**
	SNR=7.9							
ULHL	**Ulahol**	**4.13**	**44**		P	**Pn**	**19 04 25.6**	**-0.7**
	SNR=23							
USP	**Ospenovka**	**4.24**	**22**		P	**Pn**	**19 04 28.0**	**+0.3**
	SNR=5.6							
TKM2	**Tokmak 2**	**4.33**	**33**		⇑Pn	**Pn**	**19 04 28.1**	**-0.8**
	6.4nm,0.5s							
TKM2					⇑Lg		19 05 31.0	
	22nm,0.5s							
TKM2	**Tokmak 2**	**4.33**	**33**		P	**Pn**	**19 04 28.7**	**-0.3**
	SNR=7.5							
MKAR	**Makanchi Array**	**10.40**	**41**		Pn	**Pn**	**19 05 51.5**	**-0.6**
	0.1nm,0.3s,baz=221,slow=13,SNR=8.5							
MKAR					Lg		19 08 45.0	
	0.1nm,0.3s,baz=234,slow=32,SNR=2.9							
AB31	**Akbulak array**	**13.30**	**322**		Pn	**Pn**	**19 06 31.1**	**-0.6**
	1.1nm,0.5s,baz=130,slow=12,SNR=19							
AB31					⇑Sn	**Sn**	**19 08 56.9**	**-1.1**
	1.6nm,0.7s,baz=141,slow=23,SNR=3.9							
BVA0	**Borovoye Array**	**13.76**	**355**		P	**Pn**	**19 06 37.0**	**-0.8**
	0.3nm,0.5s,baz=168,slow=12,SNR=13							
BVAR	**Borovoye Array**	**13.76**	**355**		Pn	**Pn**	**19 06 37.9**	**0.0**
	0.1nm,0.3s,baz=163,slow=10,SNR=3.5							
BVAR					Lg		19 10 37.1	
	0.2nm,0.3s,baz=152,slow=28,SNR=3.5							
AKTO	**Aktyubinsk**	**15.02**	**322**		P	**Pn**	**19 06 59.8**	**+5.0**
AKTO	**Aktyubinsk**	**15.02**	**322**		Pn	**Pn**	**19 06 55.6**	**+0.8**
	0.1nm,0.3s,baz=122,slow=15,SNR=5.2							
AKTO					Sn	**Sn**	**19 09 37.4**	**-2.4**
	0.2nm,0.3s,baz=49,slow=11,SNR=3.0							
ZALV	**Zalesovo Beam**	**16.89**	**26**		Pn	**Pn**	**19 07 17.1**	**-1.4**
	0.4nm,0.3s,baz=219,slow=11,SNR=16							
ZALV					LR	LR	19 14 09.2	
	comp=Z,16nm,19.9s,baz=157,slow=38							
FINES	**FINESS Array B**	**35.79**	**324**		P	**P**	**19 10 22.4**	**+2.4**
	1.3nm,0.8s,mb3.9,baz=121,slow=7.4,SNR=3.6							
ARCES	**ARCESS Array B**	**38.97**	**336**		P	**P**	**19 10 48.3**	**+1.5**
	2.5nm,0.8s,mb4.0,baz=102,slow=8.5,SNR=4.3							
YKA	**Yellowknife Ar**	**78.36**	**3**		P	**P**	**19 15 21.5**	**+0.8**
	0.3nm,0.6s,mb3.4,baz=351,slow=5.4,SNR=6.6							
WRA	**Warramunga Arr**	**82.60**	**123**		P	**P**	**19 15 42.1**	**-1.9**
	0.3nm,0.9s,mb3.3,baz=324,slow=5.1,SNR=3.5							

IDC 20 19:15:40.5±1.9, 092N×12635E, h0km, mb3.3/3, mb1 3.6/3, mb1mx3.3/14, mbtmp3.4/3, Error ellipse: s-maj=163.2km s-min=24.7km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.16**	**160**		P	P	19 20 38.4	+0.2
	1.2nm,0.6s,baz=338,slow=11,SNR=20							
ASAR	**Alice Springs**	**25.52**	**164**		P	P	19 21 10.8	0.0
	0.3nm,0.7s,baz=342,slow=7.1,SNR=8.0							
MKAR	**Makanchi Array**	**59.65**	**326**		P	P	19 25 46.6	+0.1
	0.2nm,0.5s,baz=116,slow=7.7,SNR=3.1							

ISCJB ***20*** *19:16:31.1±1.5, 470N±01×1524E±02, h106km±13km, mb3.5/8, Error ellipse: s-maj=31.6km s-min=13.4km az=44.6*
MOS ***20*** *19:16:31.5±1.2, 4700N×15233E, h110km, mb3.9/4, Error ellipse: s-maj=35.3km s-min=16.8km az=61.1*
IDC ***20*** *19:16:32.2±4.5, 4703N×15261E, h99km±42km, mb3.4/8, mb1 3.6/9, mb1mx3.3/23, mbtmp3.4/9, Error ellipse: s-maj=32.0km s-min=21.3km az=112.0*
ISC 20 19:16:33.0±1.4, 470N±01×1525E±02, h106km±13km, n16, σ0:83/16, mb3.5/8, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.64**	**243**		PN	**Pn**	**19 17 24.5**	**-2.9**
SKR	**Severo-Kuril's**	**4.42**	**32**		*e*PN	**Pn**	**19 17 38.5**	**+0.7**
ASAJ	**Asahikawa**	**7.49**	**251**		P	**Pn**	**19 18 20.1**	**+0.7**
	0.4nm,0.3s,baz=78,slow=14,SNR=6.3							
INK	**Inuvik**	**41.70**	**33**		P	**P**	**19 24 10.0**	**-0.6**
INK					pmax	pmax		
	comp=Z,1.0nm,0.6s							
INK	**Inuvik**	**41.70**	**33**		P	**P**	**19 24 10.0**	**-0.6**
	comp=Z,0.8nm,0.6s,mb3.6,baz=270,slow=8.1,SNR=4.6							
FINES	**FINESS Array B**	**63.64**	**334**		P	**P**	**19 26 52.3**	**+0.1**
FINES					pmax	pmax		
	comp=Z,1.0nm,0.6s							
FINES	**FINESS Array B**	**63.64**	**334**		P	**P**	**19 26 52.3**	**+0.1**
	comp=Z,0.7nm,0.6s,mb3.7,baz=0,slow=3.8,SNR=5.6							
PDAR	**Pinedale Array**	**64.97**	**54**		P	**P**	**19 27 00.6**	**-0.6**
	comp=Z,0.5nm,0.8s,mb3.4,baz=22,slow=1.6,SNR=4.0							
NOA	**NORSAR Array B**	**67.86**	**341**		P	**P**	**19 27 19.4**	**+0.1**
NOA					pmax	pmax		
	comp=Z,1.0nm,0.5s							
NOA	**NORSAR Array B**	**67.86**	**341**		P	**P**	**19 27 19.4**	**+0.1**
	comp=Z,0.7nm,0.5s,mb3.7,baz=29,slow=6.5,SNR=3.2							
WRA	**Warramunga Arr**	**68.59**	**198**		P	**P**	**19 27 24.1**	**-0.1**
WRA	**Warramunga Arr**	**68.59**	**198**		P	**P**	**19 27 24.1**	**-0.1**
	comp=Z,0.3nm,0.9s,mb3.1,baz=10,slow=6.2,SNR=3.3							
AKASG	**Malin Array Be**	**71.10**	**326**		P	**P**	**19 27 39.4**	**0.0**
AKASG					pmax	pmax		
	comp=Z,1.0nm,0.4s							
AKASG	**Malin Array Be**	**71.10**	**326**		P	**P**	**19 27 39.4**	**0.0**
	comp=Z,0.7nm,0.4s,mb3.9,baz=33,slow=6.4,SNR=4.2							
ASAR	**Alice Springs**	**72.29**	**198**		P	**P**	**19 27 47.9**	**+1.2**
	comp=Z,0.3nm,0.7s,mb3.2,baz=15,slow=5.9,SNR=4.8							
TXAR	**Lajitas Array**	**77.77**	**60**		P	**P**	**19 28 17.9**	**-0.4**
	comp=Z,0.2nm,0.5s,mb3.1,baz=292,slow=4.8,SNR=4.4							

IDC 20 19:35:09.6±3.1, 3388S×17883W, h0km, mb4.1/3, mb1 4.3/4, mb1mx4.0/15, mbtmp4.1/4, ML4.3/1, Error ellipse: s-maj=68.6km s-min=35.8km az=120.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**5.47**	**216**		Pn	Pn	19 36 32.3	0.0
	9.6nm,0.3s,baz=319,slow=2.9,SNR=8.6							
URZ					Sn	Sn	19 37 34.3	-1.6
	11nm,0.3s,baz=117,slow=21,SNR=8.2							
STKA	**Stephens Creek**	**33.16**	**262**		P	P	19 41 48.8	+1.1
	0.8nm,0.5s,baz=114,slow=11,SNR=5.0							
ASAR	**Alice Springs**	**42.35**	**271**		P	P	19 43 05.3	-0.2
	1.9nm,0.6s,baz=115,slow=7.4,SNR=43							
WB2	**Warramunga Arr**	**43.64**	**276**		*e*P	P	19 43 15.0	-1.0
WRA	**Warramunga Arr**	**43.65**	**276**		P	P	19 43 15.7	-0.4
	2.5nm,0.5s,baz=116,slow=8.0,SNR=77							
FINES	**FINESS Array B**	**148.12**	**337**		PKPbc	PKPbc	19 54 55.8	-0.6
	1.5nm,0.6s,baz=52,slow=3.9,SNR=5.2							

NIED ***20*** *19:37:00, 2740N×12860E, h50km, Mw5.6 Best double couple: M0=2.90000×10^17 NP1:φs=48.00000°, δ70.00000°, λ77.00000°. NP2:φs=262.00000°, δ24.00000°, λ121.00000°.*
ORF ***20*** *19:37:34.6, 2434N×13312E, h30km, mb5.9*
BGS ***20*** *19:37:47.9, 2667N×12912E, h10km, mb5.9, MS5.4*
BJI ***20*** *19:37:51.5, 27.13N×12900E, h42km, mB5.6, mb5.7, Ms5.4, Msz5.2*
CRAAG ***20*** *19:37:57.2, 2751N×12843E, Mw5.7*
ISCJB ***20*** *19:37:57.5±0.1, 2758N±002×12837E±001, h43km, mb5.9/346, MS5.2/228, Error ellipse: s-maj=2.7km s-min=1.6km az=158.3*
IDC ***20*** *19:37:57.8±0.4, 2737N×12844E, h44km±3km, mb5.4/25, mb1 5.5/28, mb1mx5.5/29, mbtmp5.4/28, MS5.1/29, Ms1 5.1/29, ms1mx5.0/35, Error ellipse: s-maj=12.6km s-min=5.5km az=99.0*
MOS ***20*** *19:37:58.7±0.9, 2787N×12838E, h45km, mb6.1/114, MS5.3/48, Error ellipse: s-maj=6.3km s-min=3.7km az=109.9*
NEIC ***20*** *19:37:58.2±0.1, 2747N×12838E, mb5.9/236, MS5.1/153, MW5.7, MW5.6(NIED), Error ellipse: s-maj=3.4km s-min=2.8km az=165.0, Moment Tensor Solution. s45 Moment tensor: Scale 10^17Nm; Mrr=3.95; Mθθ=-2.04; Mφφ=-1.91; Mrθ=1.85; Mθφ=-1.98; Mφr=1.58; Best double couple: M0=4.60000×10^17 NP1:φs=224.00000°, δ29.00000°, λ87.00000°. NP2:φs=48.00000°, δ61.00000°, λ92.00000°. Principal axes: T 4.6500, Plg74.0000°, Azm323.0000°; N 0.0000, Plg2.0000°, Azm227.0000°; P -4.6500, Plg16.0000°, Azm136.0000°;*
NEIC Felt [IV] at Gushikawa and [III] at Chatan, Ginowan, Naha, Okinawa and Yomitan, Okinawa. Also felt at Naze, Amami-oshima; Itoman and Nishihara, Okinawa. Recorded [4 JMA] on Yaron-jima and [3 JMA] in the Amami-oshima and Okinawa areas.
GCMT ***20*** *19:37:58.2±0.1, 2728N×12874E, h47km, MW5.7/108, Moment Tensor Solution. s106, c217; s108, c286; Duration: 1s7 Moment tensor: Scale 10^17Nm; Mrr=4.01±.04; Mθθ=-1.46±.03; Mφφ=-2.55±.04; Mrθ=1.18±.03; Mθφ=-2.14±.03; Mφr=1.37±.03; Best double couple: M0=4.49200×10^17 NP1:φs=217.00000°, δ33.00000°, λ88.00000°. NP2:φs=39.00000°, δ57.00000°, λ91.00000°. Principal axes: T 4.3910, Plg78.0000°, Azm314.0000°; N 0.2010, Plg1.0000°, Azm218.0000°; P -4.5920, Plg12.0000°, Azm128.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
JMA ***20*** *19:37:58.0, 2744N×12860E, h42km±2km, M5.7*
JMA Felt IV J1.
SZGRF ***20*** *19:38:03.1, 2843N×12829E, h46km, mb6.4, MS5.7, Ryukyu Islands, Japan*
ISC 20 19:37:59.1±0.1, 2756N±002×12840E±001, h45km, h45km±.6km: pP-P, n1714, σ0:87/1587, mb5.9/344, MS5.2/228, 377C-131D, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JTK	**Tokunoshima**	**0.54**	**66**		P	**Pn**	**19 38 08.3**	**-2.2**
JTK					S	**Sn**	**19 38 15.4**	**-3.2**
JIH	**Iheya**	**0.65**	**216**		P	**Pn**	**19 38 11.5**	**-0.5**
JIH					S	**Sn**	**19 38 21.3**	**0.0**
JOW	**Kunigami**	**0.74**	**189**		P	**Pn**	**19 38 11.1**	**-2.0**
JOW					S	**Sn**	**19 38 20.1**	**-3.2**
JOW	**Kunigami**	**0.74**	**189**		P	**Pn**	**19 38 11.1**	**-2.0**
	24μm,0.3s,baz=75,slow=13							
JOW					S	**Sn**	**19 38 19.9**	**-3.4**
	67μm,0.3s,baz=218,slow=19,SNR=146							
JAM	**Amami Oshima**	**1.36**	**51**		P	**Pn**	**19 38 20.2**	**-1.4**
JAM					S	**Sn**	**19 38 37.1**	**-1.4**
JAGN	**Aguni-jima**	**1.42**	**227**		P	**Pn**	**19 38 22.2**	**-0.2**
JAGN					*e*S	**Sn**	**19 38 40.4**	**+0.6**
NAH1	**Naha**	**1.50**	**205**		P	**Pn**	**19 38 23.2**	**-0.2**
JJT2	**Tamagusuku 2**	**1.53**	**202**		P	**Pn**	**19 38 23.6**	**-0.4**
JZK	**Kikaishima**	**1.58**	**61**		P	**Pn**	**19 38 23.5**	**-1.1**
JKE	**Kume jima 2**	**1.90**	**230**		P	**Pn**	**19 38 28.8**	**-0.1**
JKE					*e*S	**Sn**	**19 38 53.0**	**+1.4**
JNN	**Nakanoshima**	**2.61**	**29**		P	**Pn**	**19 38 38.6**	**-0.2**
JNN					*e*S	**Sn**	**19 39 08.7**	**-0.6**
JKC	**Kuchinoerabu**	**3.29**	**28**		P	**Pn**	**19 38 48.3**	**+0.3**
JTN	**Tanegashima 3**	**3.82**	**36**		P	**Pn**	**19 38 55.1**	**-0.2**
JTZ	**Takazaki**	**4.91**	**28**		P	**Pn**	**19 39 11.1**	**+0.7**
JZO	**Okuchi**	**4.94**	**22**		P	**Pn**	**19 39 12.6**	**+1.8**
JNU	**Nakatsue**	**5.94**	**21**		P	**Pn**	**19 39 26.3**	**+1.9**
	48nm,0.3s,baz=180,slow=13,SNR=274							
TATO	**Taipei**	**6.72**	**249**		*e*Pn	**Pn**	**19 39 37.8**	**+2.7**
	531nm,0.7s							
TATO	**Taipei**	**6.72**	**249**		P	**Pn**	**19 39 38.5**	**+3.3**
	SNR=22							
YHNB	**Yeheng**	**6.94**	**247**		*e*Pn	**Pn**	**19 39 40.3**	**+2.1**
NACB	**Ninganchiao**	**7.00**	**243**		*e*Pn	**Pn**	**19 39 38.1**	**-0.8**
MRT2	**

MAT	**Matsushiro**	**12.21 40**	P	**Pn**	**19 40 48.0**	**-2.3**
MAT			*e*S	**Sn**	**19 43 03.0**	**-2.0**
MJAR	**Matsushiro Arr**	**12.21 40**	P	**Pn**	**19 40 51.0**	**+0.6**
	comp=Z,0.9nm,0.3s,baz=230,slow=13,SNR=26					
MJAR			LR	LR	19 46 04.6	
	comp=Z,5μm,18.4s,baz=220,slow=39					
CBIJ	**Chichi jima**	**12.27 89**	P	**Pn**	**19 40 50.1**	**-1.0**
	comp=Z,14nm,0.3s,baz=306,slow=2.5,SNR=14					
CBIJ			LR	LR	19 44 52.8	
	comp=Z,8μm,20.2s,baz=298,slow=34					
CBIJ			T		19 53 27.1	
	comp=Z,66nm,0.3s,baz=279,slow=20,SNR=3.9					
WHN	**Wuhan**	**12.64 287**	P	**Pn**	**19 41 00.3**	**+4.1**
WHN			S	**Sn**	**19 43 32.0**	**+16**
WHN			AMB	AMB		
	comp=Z,1μm,1.2s					
WHN			AMB	AMB		
	comp=Z,6μm,7.8s					
WHN			LR	LR		
	comp=Z,23μm,16.4s					
DL2	**Dalian**	**12.64 335**	P	**Pn**	**19 41 01.0**	**+4.8**
DL2			AP		19 41 09.8	
DL2			XP		19 41 16.1	
DL2			S	**Sn**	**19 43 25.0**	**+9.4**
DL2			XS		19 43 42.4	
DL2			AMB	AMB		
	comp=Z,160nm,0.8s					
DL2			AMB	AMB		
	comp=Z,800nm,4.9s					
DL2			LR	LR		
	comp=N,5μm,17.9s					
DL2			LR	LR		
	comp=E,3μm,14.3s					
DL2			LR	LR		
	comp=Z,5μm,19.3s					
TIA	**Tai'an**	**12.88 315**	P	**Pn**	**19 41 04.3**	**+4.9**
TIA			S	**Sn**	**19 43 33.0**	**+12**
TIA			LR	LR		
	comp=N,7μm,12.0s					
TIA			LR	LR		
	comp=E,7μm,12.0s					
BCPH	**Baguio City Da**	**13.28 215**	*e*P	**Pn**	**19 41 05.7**	**+0.7**
PCPH	**Palayan**	**13.73 211⇑**	*e*P	**Pn**	**19 41 19.4**	**+8.2**
HKC	**Hong Kong Obse**	**13.92 251**	P	**Pn**	**19 41 21.0**	**+7.2**
GZH	**Guangzhou**	**14.32 255**	P	**Pn**	**19 41 18.0**	**-1.2**
GZH			S	**Sn**	**19 43 56.3**	**-0.3**
GZH			LR	LR		
	comp=N,6μm,21.0s					
GZH			LR	LR		
	comp=E,7μm,24.1s					
GZH			LR	LR		
	comp=Z,10μm,27.8s					
NBP	**Mount Natib**	**14.76 212⇑**	*i*P	**Pn**	**19 41 29.1**	**+4.0**
NBP					08 12 24.9	
SNY	**Shenyang**	**14.77 346**	⇑P	**Pn**	**19 41 28.6**	**+3.7**
SNY			AP	pP	19 41 31.9	-8.8
SNY			XP	sP	19 41 37.0	-9.4
SNY			S	**Sn**	**19 44 14.3**	**+7.1**
SNY			AMB	AMB		
	comp=Z,89nm,0.9s					
SNY			AMB	AMB		
	comp=Z,2μm,6.7s					
SNY			LR	LR		
	comp=N,9μm,18.0s					
SNY			LR	LR		
	comp=Z,11μm,18.6s					
LBPH	**Los Banos**	**14.94 208⇓**	*i*P	**Pn**	**19 41 26.6**	**-0.8**
VLA	**Vladivostok**	**15.78 9**	*e*P	**Pn**	**19 41 36.0**	**-2.0**
VLA	**Vladivostok**	**15.78 9**	*e*P	**Pn**	**19 41 36.9**	**-1.1**
BJT	**Baijiatuau**	**16.03 324**	*e*P	**Pn**	**19 41 45.4**	**+4.2**
	comp=Z,644nm,0.9s					
BJT	**Baijiatuau**	**16.03 324**	*e*P	**Pn**	**19 41 45.4**	**+4.1**
BJT			pmax	pmax		
	comp=Z,644nm,0.9s					
BJI	**Beijing**	**16.04 324**	P	**Pn**	**19 41 45.8**	**+4.4**
BJI			S	**S**	**19 44 54.3**	**+4.2**
BJI			AMB	AMB		
	comp=Z,609nm,1.1s					
BJI			LR	LR		
	comp=N,10μm,19.6s					
BJI			LR	LR		
	comp=E,8μm,20.2s					
BJI			LR	LR		
	comp=Z,9μm,23.2s					
CN2	**Changchun**	**16.38 352**	⇓P	**Pn**	**19 41 46.5**	**+0.9**
CN2			*e*XP	sP	19 41 59.4	-4.9
CN2			*e*S	**S**	**19 44 47.5**	**-9.4**
CN2			AMB	AMB		
	comp=Z,50nm,1.0s					
CN2			LR	LR		
	comp=N,8μm,15.0s					
CN2			LR	LR		
	comp=E,12μm,15.0s					
TIY	**Taiyuan**	**16.81 311⇑**	*i*P	**Pn**	**19 41 55.4**	**+4.3**
TIY			S	**S**	**19 45 01.5**	**-4.2**
TIY			XS	sS	19 45 14.9	-7.8
TIY			SS		19 45 23.3	
TIY			AMB	AMB		
	comp=Z,9μm,7.8s					
TIY			LR	LR		
	comp=N,9μm,11.9s					
TIY			LR	LR		
	comp=E,14μm,16.2s					
TIY			LR	LR		
	comp=Z,18μm,16.0s					
MDJ	**Mudanjiang**	**17.04 3**	*e*P	**Pn**	**19 41 55.8**	**+1.8**
	comp=Z,449nm,1.4s					
SCPH	**Surigao**	**17.90 189⇑**	*e*P	**Pn**	**19 42 07.1**	**+2.4**
XAN	**Xi'an**	**17.92 296**	P	**Pn**	**19 42 07.3**	**+2.4**
XAN			AP	pP	19 42 19.1	+3.4
XAN			S	**S**	**19 45 22.5**	**-6.0**
XAN			AMB	AMB		
	comp=Z,147nm,1.1s					
XAN			AMB	AMB		
	comp=Z,2μm,4.9s					
XAN			LR	LR		
	comp=N,4μm,14.2s					
XAN			LR	LR		
	comp=E,8μm,16.0s					
XAN			LR	LR		
	comp=Z,12μm,16.6s					
TBP	**Tagbilaran**	**18.29 194**	*e*P	**Pn**	**19 42 11.3**	**+1.8**
ERM	**Erimo**	**18.79 36**	P	**Pn**	**19 42 13.4**	**-2.0**
	comp=Z,1μm,0.9s,SNR=8.9					
ERM	**Erimo**	**18.79 36**	*e*P	**Pn**	**19 42 12.1**	**-3.4**
	comp=Z,165nm,0.8s					
ERM	**Erimo**	**18.79 36**	*e*P	**Pn**	**19 42 13.2**	**-2.2**
QIZ	**Qiongzhong**	**19.03 247**	P	**Pn**	**19 42 17.4**	**-1.0**
QIZ			AP	pP	19 42 26.8	-1.2
QIZ			XP	sP	19 42 33.0	-0.7
QIZ			S	**S**	**19 45 46.3**	**-4.7**
QIZ			XS	sS	19 46 01.3	-6.8
QIZ			SS		19 46 12.5	
QIZ			AMB	AMB		
	comp=Z,43nm,1.0s					
QIZ			AMB	AMB		
	comp=Z,1μm,9.5s					
QIZ			LR	LR		
	comp=E,6μm,21.6s					
QIZ			LR	LR		
	comp=Z,7μm,21.4s					
QIZ	**Qiongzhong**	**19.03 247**	*e*P	**Pn**	**19 42 18.1**	**-0.3**
	comp=Z,144nm,1.4s					
HHC	**Hu-ho-hao-te**	**19.18 318⇑**	*i*P	**Pn**	**19 42 21.3**	**+1.3**
HHC			PP		19 42 39.3	
HHC			S	**S**	**19 45 59.8**	**+6.1**
HHC			AMB	AMB		
	comp=Z,179nm,1.1s					
HHC			AMB	AMB		
	comp=Z,7μm,6.9s					
HHC			LR	LR		
	comp=N,9μm,14.2s					
HHC			LR	LR		
	comp=E,8μm,15.2s					
HHC			LR	LR		
	comp=Z,12μm,19.2s					
CGP	**Cagayan de Oro**	**19.33 191⇓**	*e*P	**Pn**	**19 42 19.7**	**-2.3**
CGP			*i*S		19 42 26.8	
GYA	**Guiyang**	**19.40 272**	P	**Pn**	**19 42 21.6**	**-1.2**
GYA			AP	pP	19 42 30.8	-1.3
GYA			XP	sP	19 42 36.6	-1.2
GYA			PP		19 42 42.8	
GYA			S	**S**	**19 45 57.1**	**-1.3**
GYA			XS	sS	19 46 12.3	-3.3
GYA			SS		19 46 23.4	
GYA			PCP	PcP	19 46 43.0	+1.3
GYA			AMB	AMB		
	comp=Z,110nm,1.2s					
GYA			AMB	AMB		
	comp=Z,1μm,9.8s					
GYA			LR	LR		
	comp=N,4μm,12.2s					
GYA			LR	LR		
	comp=E,4μm,13.2s					
GYA			LR	LR		
	comp=Z,10μm,14.9s					
PPR	**Puerto Princes**	**19.90 209**	*e*P	**Pn**	**19 42 26.8**	**-2.0**
BTO	**Baotou**	**19.97 315**	*i*P	**Pn**	**19 42 29.8**	**+0.3**
BTO			S	**S**	**19 46 16.4**	**+6.8**
BTO			LR	LR		
	comp=N,2μm,12.7s					
BTO			LR	LR		
	comp=E,2μm,16.7s					
ASAJ	**Asahikawa**	**20.08 31**	P	**P**	**19 42 27.2**	**-1.4**
ASAJ			pmax	pmax		
	comp=Z,134nm,0.8s					
ASAJ			MLR	MLR		
	comp=Z,7μm,21.5s					
ASAJ	**Asahikawa**	**20.08 31**	P	**P**	**19 42 27.2**	**-1.4**
	comp=Z,134nm,0.8s,baz=238,slow=13,SNR=26					
ASAJ			LR	LR	19 50 34.0	
	comp=Z,7μm,21.4s,MS5.0,baz=347,slow=37					
DAV	**Davao City (W)**	**20.56 188**	PFAKE		19 42 40.0	+6.0
DAV			LR	LR		
	comp=Z,7μm,22.0s,MS5.0					
DAV	**Davao City (W)**	**20.56 188**	P	**P**	**19 42 43.3**	**+9.3**
	SNR=13					
DAV	**Davao City (W)**	**20.56 188**	P	**P**	**19 42 43.3**	**+9.3**
	SNR=13					
GUMO	**Guam**	**20.73 129**	P	**P**	**19 42 33.1**	**-2.7**
GUMO			LR	LR	19 48 56.3	
GUMO	**Guam**	**20.73 129**	P	**P**	**19 42 33.1**	**-2.7**
GUMO			pmax	pmax		
	comp=Z,789nm,1.0s					
GUMO			MLR	MLR		
	comp=Z,7μm,21.1s,MS5.0					
GUMO	**Guam**	**20.73 129**	P	**P**	**19 42 33.1**	**-2.7**
	comp=Z,788nm,1.0s,baz=172,slow=4.8,SNR=9.2					
GUMO			LR	LR	19 48 56.3	
	comp=Z,7μm,21.1s,MS5.0,baz=246,slow=32					
GUMO			T		20 03 48.9	
	comp=Z,144nm,0.3s,baz=3.6,slow=20,SNR=6.1					
HABR	**Khabarovsk**	**21.51 12⇑**	*e*P	**P**	**19 42 43.1**	**-0.8**
HABR			*e*		19 43 00.3	
HABR			*e*		19 43 04.3	
HABR			*e*S	**S**	**19 46 39.6**	**-0.1**
HABR			*e*		19 46 44.3	
HABR			*e*		19 46 57.5	
HABR			*e*		19 47 06.5	
HABR			*e*		19 54 00.7	
HABR			pmax	pmax		
	comp=Z,41nm,1.0s,mb4.8					
YUK	**Yuzh-Kuril'sk**	**21.62 36⇑**	*i*P	**P**	**19 42 44.5**	**-0.8**
YUK			*e*SP		19 42 57.0	
YUK			*e*		19 43 07.0	
YUK			*e*S	**S**	**19 46 40.0**	**-2.1**
YUK			*e*		19 46 51.0	
YUK			*e*SS		19 47 32.0	
YUK			pmax	pmax		
	comp=N,8μm,4.0s					
YUK			pmax	pmax		
	comp=E,5μm,4.0s					
YUK			pmax	pmax		
	comp=Z,8μm,4.0s					
YUK			pmax	pmax		
	comp=Z,2μm,1.0s,mb6.4					
YUK			pmax	pmax		
	comp=N,750nm,0.8s					
YUK			pmax	pmax		
	comp=E,560nm,0.8s					
YUK			pmax	pmax		
	comp=Z,5μm,2.0s,mb6.6					
YUK			pmax	pmax		
	comp=N,8μm,3.0s					
YUK			pmax	pmax		
	comp=E,3μm,2.5s					
YUK			smax			
	comp=N,5μm,10.0s					
YUK			smax			
	comp=E,5μm,10.0s					
YUK			MLR	MLR		
	comp=N,3μm,16.0s					
YUK			MLR	MLR		
	comp=Z,3μm,16.0s,MS4.8					
CD2	**Chengdu**	**21.75 285⇓**	*i*P	**P**	**19 42 46.8**	**+0.1**
CD2			AP		19 42 58.1	
CD2			XP	sP	19 43 03.6	+0.3
CD2			S	**S**	**19 46 40.1**	**-4.7**
CD2			XS	sS	19 46 58.4	-4.0
CD2			AMB	AMB		
	comp=Z,590nm,1.0s,mb6.0					
CD2			AMB	AMB		
	comp=Z,3μm,10.8s					
CD2			LR	LR		
	comp=N,8μm,14.4s,MS5.5					
CD2			LR	LR		
	comp=E,10μm,14.4s,MS5.5					
CD2			LR	LR		
	comp=Z,10μm,16.8s,MS5.3					
KLR	**Kul'dur**	**21.79 6**	*e*P	**P**	**19 42 40.0**	**-6.9**
KLR			*e*S	**S**	**19 46 38.0**	**-7.2**
KLR			MLR	MLR		
	comp=Z,6μm,12.0s,MS5.2					
YSS	**Yuzh-Sakhalins**	**22.41 26**	*e*P	**P**	**19 42 52.6**	**-0.9**
	comp=Z,155nm,0.8s,mb5.5					
YSS			*e*S	**S**	**19 46 55.5**	**-1.8**
YSS			LR	LR		
	comp=Z,3μm,22.0s,MS4.7					
YSS	**Yuzh-Sakhalins**	**22.41 26**	α *i*P	**P**	**19 42 52.0**	**-1.6**
YSS			*e*'SP	sP	19 43 10.0	-0.2
YSS			*e*S	**S**	**19 46 54.0**	**-3.3**
YSS			*e*		19 47 26.0	
YSS			pmax	pmax		
	comp=Z,140nm,0.9s,mb5.4					
YSS			pmax	pmax		
	comp=Z,1μm,8.0s					
YSS			MLR	MLR		
	comp=Z,3μm,16.0s,MS4.8					
YSS			MLR	MLR		
	comp=N,2μm,18.0s,MS4.8					
YSS			MLR	MLR		
	comp=E,2μm,15.0s,MS4.8					
LZH	**Lanzhou**	**22.48 298**	*e*P	**P**	**19 42 55.3**	**+0.8**
LZH			AP		19 43 07.5	
LZH			XP	sP	19 43 13.0	+1.9
LZH			PP		19 43 24.9	
LZH			S	**S**	**19 46 55.0**	**-3.7**
LZH			AMB	AMB		
	comp=Z,410nm,1.0s,mb5.8					
LZH			AMB	AMB		
	comp=Z,2μm,5.2s					
LZH			LR	LR		
	comp=E,8μm,14.1s					
LZH			LR	LR		
	comp=Z,12μm,16.4s,MS5.4					
HIA	**Hailar**	**22.68 345**	*e*P	**P**	**19 42 56.5**	**+0.1**
	comp=Z,133nm,1.0s,mb5.3					
HIA			*e*		19 43 08.9	
HIA			LR	LR		
	comp=Z,8μm,19.0s,MS5.2					
HIA	**Hailar**	**22.68 345**	*e*P	**P**	**19 42 56.5**	**+0.1**
HIA			*e*		19 43 08.9	
HIA			pmax	pmax		
	comp=Z,133nm,1.0s					
HIA			MLR	MLR		
	comp=Z,8μm,19.0s					
KMI	**Kunming**	**23.11 270**	P	**P**	**19 43 02.5**	**+1.3**
KMI			AP		19 43 13.8	
KMI			PP		19 43 30.8	
KMI			PCP	PcP	19 46 49.9	+1.0
KMI			S	**S**	**19 47 05.5**	**-3.7**
KMI			AMB	AMB		
	comp=Z,386nm,1.1s,mb5.8					
KMI			AMB	AMB		
	comp=Z,1μm,8.1s					
KMI			LR	LR		
	comp=N,6μm,15.7s,MS5.3					
KMI			LR	LR		
	comp=E,7μm,14.7s,MS5.3					
KMI			LR	LR		
	comp=Z,7μm,16.2s,MS5.2					
KDM	**Kudat**	**23.28 210**	⇓P	**P**	**19 43 02.3**	**-0.8**
MYLDM	**Lahad Datu**	**24.17 205**	⇑P	**P**	**19 43 12.3**	**+1.0**
SDKM	**Sandakan**	**24.27 208**	⇑P	**P**	**19 43 11.5**	**-0.6**
KKM	**Kota Kinabalu**	**24.33 211**	*e*P	**P**	**19 43 12.3**	**-0.4**
KKM	**Kota Kinabalu**	**24.33 211**	⇑P	**P**	**19 43 12.4**	**-0.3**
TSM	**Tawau**	**25.23 205**	⇑P	**P**	**19 43 20.6**	**-0.2**
KKTK	**Khon Kaen**	**26.16 250**	⇑PN	**P**	**19 43 30.2**	**+0.9**
ULN	**Ulaanbaatar**	**26.22 326**	*e*P	**P**	**19 43 28.8**	**-0.7**
	comp=Z,299nm,1.2s,mb5.7					
ULN			*e*		19 43 45.4	
ULN			LR	LR		
	comp=Z,5μm,20.0s,MS5.0					
ULN	**Ulaanbaatar**	**26.22 326**	*e*P	**P**	**19 43 28.8**	**-0.8**
ULN			*e*		19 43 45.4	
ULN			pmax	pmax		
	comp=Z,299nm,1.2s,mb5.7					
ULN			MLR	MLR		
	comp=Z,5μm,20.0s,MS5.0					
GTA	**Gaotai**	**26.49 304**	P	**P**	**19 43 32.3**	**+0.2**
GTA			PP		19 44 19.8	
GTA			PCP	PcP	19 46 57.1	+1.0
GTA			S	**S**	**19 48 03.1**	**+0.1**
GTA			SCP	ScP	19 50 32.8	+0.4
GTA			PCS	PcS	19 50 37.4	+0.2
GTA			SCS	ScS	19 54 22.3	-0.4
GTA			AMB	AMB		
	comp=Z,27nm,1.1s,mb4.7					
GTA			AMB	AMB		
	comp=Z,975nm,8.0s					
GTA			LR	LR		
	comp=N,5μm,16.1s,MS5.4					
GTA			LR	LR		
	comp=E,7μm,16.4s,MS5.4					
GTA			LR	LR		
	comp=Z,9μm,16.8s,MS5.4					
SONM	**Songino Array**	**26.53 326**	P	**P**	**19 43 33.1**	**+0.8**
SONM					19 46 56.8	
SONM	**Songino Array**	**26.53 326**	P	**P**	**19 43 33.1**	**+0.8**
	comp=Z,52nm,0.9s,mb5.0,baz=142,slow=9.2,SNR=55					
SONM			PcP	PcP	19 46 56.8	+0.8
	comp=Z,7.4nm,0.7s,baz=157,slow=4.2,SNR=4.1					
SONM			ScP	ScP	19 50 34.8	+2.4
	comp=Z,2.5nm,1.1s,baz=141,slow=4.8,SNR=2.7					
SONM			LR	LR	19 55 21.2	
	comp=Z,6μm,19.5s,MS5.1,baz=138,slow=39					
CHRT	**Chiangrai**	**27.25 260**	⇑P	**P**	**19 43 40.0**	**+0.9**
	comp=Z,947nm,0.7s,mb6.4					
BTM	**Bintulu**	**28.30 214**	⇓P	**P**	**19 43 48.4**	**-0.1**
CHG	**Chiang Mai**	**28.39 258**	⇑P	**P**	**19 43 50.4**	**+1.2**
	comp=Z,150nm,1.2s,mb5.5					
CHTO	**Chiang Mai**	**28.39 258**	*e*P	**P**	**19 43 50.1**	**+0.9**
	comp=Z,430nm,1.2s,mb6.0					
CHTO			*e*PcP	PcP	19 47 01.7	+0.6
CHTO			LR	LR		
	comp=Z,2μm,19.0s,MS4.8					
CHTO	**Chiang Mai**	**28.39 258**	*e*P	**P**	**19 43 50.1**	**+0.9**
CHTO			*e*		19 47 01.7	
CHTO			pmax	pmax		
	comp=Z,430nm,1.2s,mb6.0					
CHTO			MLR	MLR		
	comp=Z,2μm,19.0s,MS4.8					
CHTO	**Chiang Mai**	**28.39 258**	P	**P**	**19 43 49.9**	**+0.7**
	SNR=141					
CHTO	**Chiang Mai**	**28.39 258**	P	**P**	**19 43 49.9**	**+0.7**
	SNR=141					
CM31	**Chiang Mai Arr**	**28.53 258**	*e*P	**P**	**19 43 52.0**	**+1.5**
	comp=Z,118nm,0.9s,mb5.6					
CM31			*e*PcP	PcP	19 47 02.1	+0.7
CM31			LR	LR		
	comp=Z,3μm,19.0s,MS5.0					
NST	**Nakhon Sawan**	**28.74 252**	P	**P**	**19 43 53.5**	**+1.0**
BDT	**Bhumibol Dam**	**28.98 255**	P	**P**	**19 43 56.5**	**+1.9**
	comp=Z,40nm,0.6s,mb5.3					
NRGR	**Nerungri**	**29.19 356**	*e*P	**P**	**19 44 02.4**	**+6.4**
CLNS	**Chul'man**	**29.36 356**	*e*P	**P**	**19 43 57.2**	**-0.3**
CLNS			*e*		19 44 50.2	
CLNS			*e*PPP		19 44 58.0	
CLNS			*e*		19 46 57.2	
CLNS			*e*		19 50 30.4	
CLNS			pmax	pmax		
	comp=Z,15nm,0.9s,mb4.7					
CLNS			pmax	pmax		
	comp=N,13nm,0.8s					
CLNS			pmax	pmax		
	comp=E,8.0nm,1.0s					
CLNS			pmax	pmax		
	comp=Z,17nm,1.0s,mb4.7					
CLNS			pmax	pmax		
	comp=N,21nm,0.9s					
CLNS			pmax	pmax		
	comp=E,12nm,0.9s					
CLNS			MLR	MLR		
	comp=Z,6μm,19.0s,MS5.2					
CLNS			MLR	MLR		
	comp=N,4μm,18.0s,MS5.1					
CLNS			MLR	MLR		
	comp=E,1μm,15.0s,MS5.1					
SBUM	**Sibu**	**29.38 215**	⇓P	**P**	**19 43 58.0**	**-0.1**
ZAK	**Zakamensk**	**29.75 327**	*e*P	**P**	**19 43 59.3**	**-1.7**
ZAK			pmax	pmax		
	comp=Z,13nm,1.2s,mb4.5					
ZAK			pmax	pmax		
	comp=Z,16nm,1.3s,mb4.6					
ZAK			pmax	pmax		
	comp=Z,7.0nm,1.7s					
TLY	**Talaya**	**30.44 329**	P	**P**	**19 44 08.9**	**+1.8**
	comp=Z,145nm,0.8s,mb5.8,SNR=7.8					
TLY	**Talaya**	**30.44 329**	*e*P	**P**	**19 44 07.9**	**+0.8**
	comp=Z,200nm,1.9s,mb5.5					
TLY			LR	LR		
	comp=Z,6μm,20.0s,MS5.2					
TLY	**Talaya**	**30.44 329**	*e*P	**P**	**19 44 07.3**	**+0.2**
TLY			*e*		19 45 25.6	
TLY			*e*S	**S**	**19 49 07.1**	**+2.2**
TLY			pmax	pmax		
	comp=Z,58nm,1.4s,mb5.1					
TLY			MLR	MLR		
	comp=Z,5μm,20.0s,MS5.2					
TLY	**Talaya**	**30.44 329**	P	**P**	**19 44 07.6**	**+0.5**
	SNR=17					
TLY	**Talaya**	**30.44 329**	P	**P**	**19 44 07.6**	**+0.5**
	SNR=17					
IRK	**Irkutsk**	**30.55 330**	*e*P	**P**	**19 44 08.0**	**-0.1**
IRK			*e*	pP	19 44 22.1	+2.0
IRK			*e*		19 47 11.8	
IRK			pmax	pmax		
	comp=Z,63nm,1.0s,mb5.4					
NNT	**Nongplab**	**30.66 247**	P	**P**	**19 44 11.3**	**+1.8**
IMP	**Imphal**	**31.00 273**	*e*P	**P**	**19 44 11.0**	**-1.4**
IMP			*ex*	x	19 47 08.0	
KSM	**Kuching**	**31.20 217**	*e*P	**P**	**19 44 13.8**	**-0.4**
KSM			*e*PcP	PcP	19 47 08.3	0.0
KSM	**Kuching**	**31.20 217**	⇑P	**P**	**19 44 14.1**	**-0.1**
SKR	**Severo-Kuril's**	**31.23 35**	*e*P	**P**	**19 44 12.0**	**-2.1**
SKR			*e*		19 44 30.5	
SKR			pmax	pmax		
	comp=N,130nm,0.9s					
SKR			pmax	pmax		
	comp=E,130nm,0.9s					
SKR			pmax	pmax		
	comp=Z,260nm,0.9s,mb6.1					
SKR			pmax	pmax		
	comp=Z,3μm,6.0s					
SKR			MLR	MLR		
	comp=N,2μm,20.0s					
SKR			MLR	MLR		
	comp=Z,2μm,20.0s,MS4.9					
MOY	**Mondy**	**31.68 327**	*e*P	**P**	**19 44 16.5**	**-1.5**
MOY			pmax	pmax		
	comp=Z,41nm,1.5s,mb5.0					
BOD	**Bodaibo**	**31.89 345**	*e*P	**P**	**19 44 19.1**	**-0.7**
BOD			pmax	pmax		
	comp=Z,14nm,1.0s,mb4.8					
SHL	**Shillong**	**32.65 275**	*e*P	**P**	**19 44 28.0**	**+1.1**
SHL			*i* x	x	19 54 52.5	
KTGM	**Kuala Trenggan**	**32.66 232**	⇑P	**P**	**19 44 28.2**	**+1.1**
LSA	**Lhasa**	**32.67 283**	P	**P**	**19 44 28.6**	**+1.6**
LSA			AP	pP	19 44 36.5	-2.6
LSA			XP	sP	19 44 42.3	-2.2
LSA			PP	PP	19 45 39.8	-1.6
LSA			AMB	AMB		
	comp=Z,120nm,0.8s,mb5.9					
LSA			LR	LR		
	comp=E,4μm,23.6s					
LSA			LR	LR		

comp=Z,5μm,22.2s,MS5.2
LSA Lhasa 32.67 283 *e*P **P** **19 44 28.6 +1.5**
comp=Z,84nm,0.8s,mb5.7
LSA *e*PcP PcP 19 47 13.5 +1.4
LSA *e*ScP ScP 19 50 58.3 +5.9
LSA LR LR
comp=Z,5μm,22.0s,MS5.1
LSA Lhasa 32.67 283 *e*P **P** **19 44 28.6 +1.6**
LSA *e* 19 47 13.5
LSA pmax pmax
comp=Z,85nm,0.8s,mb5.7
LSA MLR MLR
comp=Z,5μm,22.0s,MS5.1
AGT Agartala 33.59 272 *i* P **P** **19 44 35.0 -0.1**
AGT *i* x x 19 44 58.0
PET Petropavlovsk 33.90 33 *e*P **P** **19 44 36.5 -0.9**
comp=Z,827nm,1.5s,mb6.4
PET LR LR
comp=Z,4μm,22.0s,MS5.1
PET Petropavlovsk 33.90 33 *α i*P **P** **19 44 36.6 -0.8**
PET *e**PP pP 19 44 52.4 +2.9
PET *e*S **S** **19 49 54.8 -3.8**
PET pmax pmax
comp=Z,2μm,2.6s,mb6.6
PET pmax pmax
comp=Z,381nm,1.0s,mb6.3
PET pmax pmax
comp=N,196nm,1.0s
PET pmax pmax
comp=E,142nm,0.9s
PET pmax pmax
comp=Z,900nm,5.6s
PET MLR MLR
comp=Z,1μm,17.0s,MS4.8
PET MLR MLR
comp=Z,2μm,20.0s
KULM Kulim 34.46 235 *e*P **P** **19 44 43.1 +0.4**
KULM *e*PcP PcP 19 47 17.6 +0.2
KULM Kulim 34.46 235 ⇑P **P** **19 44 43.9 +1.2**
YAK Yakutsk 34.48 1 *e*P **P** **19 44 40.9 -1.4**
comp=Z,180nm,0.8s,mb6.0
YAK LR LR
comp=Z,2μm,19.0s,MS4.9
YAK Yakutsk 34.48 1 *d i*P **P** **19 44 41.3 -1.0**
YAK *e* 19 45 50.4
YAK *e* 19 47 15.0
YAK *e*S **S** **19 50 02.0 -5.3**
YAK *e**SS sS 19 50 18.6 -9.0
YAK *e* 19 55 00.2
YAK pmax pmax
comp=Z,200nm,1.0s,mb6.0
YAK pmax pmax
comp=N,66nm,1.3s
YAK pmax pmax
comp=E,12nm,0.8s
YAK pmax pmax
comp=Z,90nm,2.0s,mb5.3
YAK pmax pmax
comp=N,110nm,1.9s
YAK pmax pmax
comp=E,52nm,1.8s
YAK smax
comp=N,180nm,2.5s
YAK smax
comp=Z,194nm,4.1s
YAK smax
comp=E,248nm,5.6s
YAK MLR MLR
comp=N,2μm,26.0s
YAK MLR MLR
comp=Z,3μm,26.0s,MS5.0
YAK MLR MLR
comp=E,2μm,16.0s
IPM Ipoh 34.74 234 ⇑P **P** **19 44 45.6 +0.4**
MYKOM Kota Tinggi 34.77 227 ⇓P **P** **19 44 46.1 +0.7**
KGM Kluang 34.95 228 ⇓P **P** **19 44 48.2 +1.3**
MA2 Magadan 35.51 19 *e*P **P** **19 44 49.2 -2.0**
comp=E,52nm,0.8s,mb5.5
MA2 *e*pP pP 19 45 03.8 +0.5
MA2 LR LR
comp=Z,2μm,22.0s,MS4.8
MA2 Magadan 35.51 19 *c i*P **P** **19 44 48.8 -2.4**
MA2 *e**PP pP 19 45 04.4 +1.1
MA2 *e*S **S** **19 50 20.8 -2.5**
MA2 *e*SSS 19 53 12.2
MA2 pmax pmax
comp=Z,100nm,0.9s,mb5.8
MA2 pmax pmax
comp=N,40nm,0.8s
MA2 MLR MLR
comp=Z,2μm,14.7s,MS5.1
WMQ Urumqi 36.41 307 P **P** **19 44 59.8 +0.6**
WMQ AP pP 19 45 12.0 +0.7
WMQ XP sP 19 45 17.5 +0.8
WMQ PP PP 19 46 25.0 +2.4
WMQ PCP PcP 19 47 24.0 +1.3
WMQ S **S** **19 50 38.0 +0.4**
WMQ XS sS 19 50 58.0 +0.1
WMQ PCS PcS 19 51 10.0 -0.3
WMQ AMB AMB
comp=Z,113nm,0.9s,mb5.8
WMQ AMB AMB
comp=Z,482nm,5.1s
WMQ LR LR
comp=N,2μm,16.5s,MS5.4
WMQ LR LR
comp=E,5μm,19.0s,MS5.4
WMQ LR LR
comp=Z,5μm,24.0s,MS5.2
JIRN Jiri 37.27 280 *e*P **P** **19 45 06.1 -0.6**
comp=Z,58nm,0.6s,mb5.6
GUN Gumba 37.50 281 *e*P **P** **19 45 10.3 +1.7**
comp=Z,210nm,0.8s,mb6.0
PKI Pulchoki 37.97 280 *e*P **P** **19 45 11.7 -0.9**
comp=Z,189nm,0.8s,mb5.9
KKN Kakani 38.04 281 *e*P **P** **19 45 13.4 +0.2**
comp=Z,1000nm,1.0s,mb6.5
DMN Daman 38.22 280 *e*P **P** **19 45 14.2 -0.5**
comp=Z,138nm,0.8s,mb5.7
BOK Bokaro 38.36 274 *e*P **P** **19 45 15.7 -0.3**
BOK AMb AMB 19 45 18.9
comp=Z,331nm,0.9s,mb6.0
GKN Gorkha 38.56 281 *e*P **P** **19 45 18.3 +0.7**
comp=Z,366nm,0.8s,mb6.1
SEY Seymchan 38.71 17 ⇑*e*P **P** **19 45 16.7 -1.6**
KOLN Koldanda 39.51 281 *e*P **P** **19 45 25.0 -0.5**
comp=Z,249nm,0.8s,mb6.0
KAKA Kakadu 40.23 174 *e*P **P** **19 45 28.0 -3.4**
comp=Z,14nm,0.6s,mb4.9
KAKA *i* pP pP 19 45 39.7 -4.0
MK31 Makanchi Array 40.77 311 *e*P **P** **19 45 35.5 -0.2**
MK31 *e* pP 19 45 50.4 +2.4
MKAR Makanchi Array 40.77 311 P **P** **19 45 35.3 -0.4**
MKAR PcP PcP 19 47 35.8 -0.4
MKAR Makanchi Array 40.77 311 ⇑*e*P **P** **19 45 35.2 -0.5**
MKAR Makanchi Array 40.77 311 P **P** **19 45 35.3 -0.4**
comp=Z,35nm,0.8s,mb5.1,baz=94,slow=9.5,SNR=152
MKAR PcP PcP 19 47 35.8 -0.4
comp=Z,38nm,0.7s,baz=72,slow=4.0,SNR=10
MKAR PKiKP PKiKP 19 54 43.2 -1.8
comp=Z,1.8nm,0.9s,baz=149,slow=1.4,SNR=3.4
MKAR LR LR 20 05 11.9
comp=Z,2μm,18.1s,MS5.1,baz=92,slow=40
ZAA0 Zalesovo Array 41.29 322 *e*P **P** **19 45 38.8 -1.0**
ZAA0 *e*pP pP 19 45 53.1 +1.0
ZALV Zalesovo Beam 41.29 322 P **P** **19 45 38.5 -1.3**
ZALV PcP PcP 19 47 37.2 -0.6
ZALV ScP ScP 19 51 26.9 +2.9
ZALV Zalesovo Beam 41.29 322 P **P** **19 45 38.5 -1.3**
comp=Z,43nm,0.7s,mb5.2,baz=110,slow=7.3,SNR=163
ZALV PcP PcP 19 47 37.2 -0.6
comp=Z,42nm,0.9s,baz=116,slow=3.5,SNR=9.9
ZALV ScP ScP 19 51 26.9 +2.9
comp=Z,10nm,0.7s,baz=115,slow=3.4,SNR=11
ZALV PKiKP PKiKP 19 54 43.0 -2.2
comp=Z,1.1nm,0.5s,baz=124,slow=2.6,SNR=3.7
ZALV LR LR 20 04 54.4
comp=Z,4μm,18.6s,MS5.3,baz=114,slow=39
ZAL Zalesovo 41.29 322 P **P** **19 45 38.5 -1.4**
ZAL 19 47 37.2
SMY Shemya 42.06 41 *e*P **P** **19 45 45.6 -0.5**
comp=Z,323nm,1.0s,mb5.9
SMY LR LR
comp=Z,1μm,21.0s,MS4.7
SMY Shemya 42.06 41 *e*P **P** **19 45 45.6 -0.5**
SMY pmax pmax
comp=Z,323nm,1.0s,mb5.9
SMY MLR MLR
comp=Z,1μm,21.0s,MS4.7
LGTI Lohaghat 42.12 284 *e*P **P** **19 45 49.0 +2.0**
PTH Pithoragarh 42.13 285 *e*P **P** **19 45 49.0 +1.9**
PTH *ex* x 19 47 41.0
BLSP Bilaspur 42.15 273 *e*P **P** **19 45 48.0 +0.8**
BLSP AMb AMB 19 45 49.4
comp=Z,294nm,0.9s,mb5.9
NVS Novosibirsk 42.48 323 *e*P **P** **19 45 48.7 -0.8**
NVS *e* pP 19 45 59.9 -2.0
NVS *e* 19 47 31.4
NVS pmax pmax
comp=Z,119nm,1.1s,mb5.4
NVS pmax pmax
comp=N,51nm,1.2s
NVS pmax pmax
comp=E,114nm,1.2s
VIS Vishakhapatnam 42.54 266 *e*P **P** **19 45 49.8 -0.7**
VIS AMb AMB 19 45 53.5
comp=Z,258nm,1.1s,mb5.9
JBP Jabalpur 43.75 275 ⇑*e*P **P** **19 46 01.1 +0.8**
JBP *ex* x 19 46 02.9
comp=Z,255nm,1.4s
JBP *e*S **S** **19 52 27.1 -0.6**
DDI Dehra Dun 43.85 286 *i* P **P** **19 46 02.4 +1.4**
DDI *ex* x 19 48 05.0
KURK Kurchatov 43.97 316 P **P** **19 46 00.3 -1.3**
comp=Z,1μm,0.7s,mb6.7
KURK Kurchatov 43.97 316 *e*P **P** **19 46 00.8 -0.8**
comp=Z,117nm,0.7s,mb5.7
KURK *e*PcP PcP 19 47 45.9 -0.8
KURK LR LR
comp=Z,7μm,19.0s,MS5.6
KURK Kurchatov 43.97 316 *e*P **P** **19 46 00.6 -1.0**
KURK *e* 19 47 45.7
KURK pmax pmax
comp=Z,120nm,0.7s,mb5.7
AAA Alma-Ata 44.07 305 *i* P **P** **19 46 03.5 +0.9**
AAA *i* S **S** **19 52 30.2 -1.7**
AAA pmax pmax
comp=Z,1μm,11.0s
AAA smax
comp=E,920nm,12.4s
AAA MLR MLR
comp=Z,3μm,16.7s,MS5.3
TIXI Tiksi 44.13 0 *e*P **P** **19 46 00.8 -1.8**
comp=Z,92nm,1.1s,mb5.4
TIXI *e*PcP PcP 19 47 46.3 -0.6
TIXI LR LR
comp=Z,4μm,19.0s,MS5.4
TIXI Tiksi 44.13 0 *c i*P **P** **19 46 00.7 -1.9**
TIXI pmax pmax
comp=Z,106nm,1.3s,mb5.4
SMLA Simla 44.48 287 *e*P **P** **19 46 06.6 +0.6**
SMLA AMb AMB 19 46 07.9
comp=Z,342nm,0.9s,mb6.1
ULHL Ulahol 44.54 303 P **P** **19 46 08.8 +2.5**
SNR=198
SDNR Sundarnagar 44.59 288 *e*P **P** **19 46 08.0 +1.1**
SDNR *ex* x 19 51 41.0
KSH Kashi 44.73 299 P **P** **19 46 11.0 +3.1**
KSH *e*AP pP 19 46 22.3 +2.0
KSH *e*XP sP 19 46 27.8 +2.2
KSH *e*PCP PcP 19 47 51.6 +2.0
KSH *e*PP PP 19 47 55.1 +2.3
KSH *e*SCP ScP 19 51 39.5 +1.2
KSH PCS PcS 19 51 44.5 +1.4
KSH S **S** **19 52 43.3 +1.8**
KSH XS sS 19 53 04.5 +2.3
KSH SS SS 19 55 56.6 -6.4
KSH SCS ScS 19 56 00.8 -0.8
KSH AMB AMB
comp=Z,564nm,0.9s,mb6.4
KSH AMB AMB
comp=Z,2μm,3.1s
KSH LR LR
comp=N,16μm,19.3s,MS6.0
KSH LR LR
comp=E,8μm,15.3s,MS6.0
KSH LR LR
comp=Z,9μm,17.5s,MS5.7
AMKA Amchitka 44.80 44 *e*P **P** **19 46 07.3 -1.0**
NDI New Delhi 44.87 284 *e*P **P** **19 46 08.4 -0.7**
NDI AMb AMB 19 46 09.8
comp=Z,490nm,1.1s,mb6.2
TKM2 Tokmak 2 45.04 304 *e*P **P** **19 46 12.3 +2.0**
comp=Z,249nm,0.8s,mb6.1
TKM2 *e*pP pP 19 46 25.6 +2.9
TKM2 *e*PcP PcP 19 47 51.0 +0.4
TKM2 LR LR
comp=Z,3μm,19.0s,MS5.3
TKM2 Tokmak 2 45.04 304 *e*P **P** **19 46 12.3 +2.0**
TKM2 *e**PP pP 19 46 25.6 +2.9
TKM2 *e* 19 47 51.0
TKM2 pmax pmax
comp=Z,249nm,0.8s,mb6.1
TKM2 MLR MLR
comp=Z,3μm,19.0s,MS5.3
TKM2 Tokmak 2 45.04 304 P **P** **19 46 12.4 +2.1**
SNR=8.2
NGP Nagpur 45.17 273 ⇑*e*P **P** **19 46 10.8 -0.8**
NGP *ex* x 19 46 12.7
comp=Z,229nm,0.9s
NGP *ex* x 19 52 45.4
KZA Kyzart 45.28 303 P **P** **19 46 15.4 +3.2**
SNR=18
DLH Dalhousie 45.28 290 *e*P **P** **19 46 12.0 -0.4**
FITZ Fitzroy Crossi 45.47 184 *e*P **P** **19 46 11.7 -2.2**
comp=Z,27nm,0.9s,mb5.1
FITZ *i* pP pP 19 46 23.8 -2.5
FITZ *e*S **S** **19 52 46.5 -5.9**
FITZ Fitzroy Crossi 45.47 184 LR LR 20 04 14.7
comp=Z,1μm,21.9s,MS4.7,baz=186,slow=35
THN Thein Dam 45.51 289 *e*P **P** **19 46 13.6 -0.6**
KBK Karagaybulak 45.51 304 P **P** **19 46 14.7 +0.7**
SNR=192
CHMS Chumysh 45.66 304 P **P** **19 46 17.3 +2.1**
SNR=122
FRU Bishkek 45.76 304 *i* P **P** **19 46 17.5 +1.5**
FRU *e* pP 19 46 28.0 -0.4
FRU *e* 19 48 06.0
FRU *e* 19 53 05.0
FRU *e* 19 56 16.0
FRU pmax pmax
comp=Z,250nm,1.3s,mb6.0
FRU MLR MLR
comp=E,4μm,16.0s
FRU MLR MLR
comp=Z,4μm,16.0s,MS5.4
UCH Uchtor 45.83 303 *e*P **P** **19 46 18.0 +1.5**
comp=Z,330nm,0.8s,mb6.3
UCH *e*pP pP 19 46 32.7 +3.7
UCH *e*PcP PcP 19 47 54.2 +0.9
UCH LR LR
comp=Z,4μm,19.0s,MS5.3
UCH Uchtor 45.83 303 P **P** **19 46 19.3 +2.8**
SNR=28
AAK Ala-Archa 45.85 304 P **P** **19 46 17.9 +1.2**
comp=Z,483nm,0.7s,mb6.5,SNR=51
AAK Ala-Archa 45.85 304 *e*P **P** **19 46 16.8 +0.1**
comp=Z,50nm,0.7s,mb5.6
AAK *e*PcP PcP 19 47 52.7 -0.7
AAK LR LR
comp=Z,2μm,20.0s,MS5.2
AAK Ala-Archa 45.85 304 *e*P **P** **19 46 16.8 +0.1**
AAK *e* 19 47 52.7
AAK pmax pmax
comp=Z,50nm,0.7s,mb5.5
AAK MLR MLR
comp=Z,2μm,20.0s,MS5.2
AAK Ala-Archa 45.85 304 P **P** **19 46 17.1 +0.4**
SNR=29
AAK Ala-Archa 45.85 304 P **P** **19 46 17.1 +0.4**
SNR=29
AAK Ala-Archa 45.85 304 P **P** **19 46 18.5 +1.8**
SNR=76
USP Ospenovka 45.86 305 P **P** **19 46 18.6 +1.9**
SNR=96
BHPL Bhopal 45.99 277 *e*P **P** **19 46 18.0 -0.1**
BHPL AMb AMB 19 46 19.6
comp=Z,203nm,1.0s,mb6.0
BILL Bilibino 46.36 19 *e*P **P** **19 46 19.6 -0.8**
comp=Z,194nm,1.3s,mb5.9
BILL *e*PcP PcP 19 47 54.9 +0.2
BILL LR LR
comp=Z,2μm,20.0s,MS5.2
BILL Bilibino 46.36 19 *c i*P **P** **19 46 19.1 -1.3**
BILL *i* 19 47 54.4
BILL *e* 19 48 06.7
BILL *i* S **S** **19 53 01.7 -2.6**
BILL pmax pmax
comp=Z,183nm,1.2s,mb5.9
BILL MLR MLR
comp=Z,2μm,18.0s,MS5.2
EKS2 Erkin-Say 46.38 304 *e*P **P** **19 46 21.4 +0.6**
comp=Z,56nm,0.9s,mb5.5
EKS2 LR LR
comp=Z,3μm,19.0s,MS5.2
EKS2 Erkin-Say 46.38 304 P **P** **19 46 22.9 +2.1**
SNR=88
AML Almayashu 46.43 303 *e*P **P** **19 46 23.1 +1.8**
comp=Z,74nm,0.7s,mb5.7
AML *e*PcP PcP 19 47 56.9 +1.4
AML LR LR
comp=Z,3μm,20.0s,MS5.2
AML Almayashu 46.43 303 P **P** **19 46 23.7 +2.4**
SNR=10.0
HYB Hyderabad 46.88 268 *e*P **P** **19 46 25.5 +0.4**
comp=Z,190nm,1.0s,mb6.0
HYB *e*S **S** **19 53 12.0 -1.0**
HYB Hyderabad 46.88 268 *e*P **P** **19 46 25.5 +0.4**
HYB *e*S **S** **19 53 12.0 -1.0**
HYB pmax pmax
comp=Z,190nm,1.0s,mb6.0
HYB Hyderabad 46.88 268 *i* P **P** **19 46 25.5 +0.4**
comp=Z,190nm,1.0s,mb6.0
HYB *e*S **S** **19 53 12.0 -1.0**
MDRS Chennai 47.11 262 AMb AMB 19 45 05.4
comp=Z,67nm,0.2s,mb6.3
MDRS ⇑*e*P 19 46 27.5
MDRS *e*PP PP 19 48 18.5 +0.4
AKL Akola 47.12 273 *e*P **P** **19 46 28.0 +1.0**
AKL *ex* x 19 46 29.5
comp=Z,391nm,1.0s
ADK Adak 47.35 44 *e*P **P** **19 46 26.6 -1.7**
comp=Z,247nm,1.3s,mb6.0
ADK LR LR
comp=Z,1μm,19.0s,MS4.9
ADK Adak 47.35 44 *e*P **P** **19 46 26.6 -1.7**
ADK pmax pmax
comp=Z,247nm,1.3s,mb6.0
ADK MLR MLR
comp=Z,1μm,19.0s,MS4.9
WRAB Tennant Creek 47.57 172 P **P** **19 46 28.0 -2.3**
comp=Z,190nm,0.8s,mb6.2,SNR=15
WRAB Tennant Creek 47.57 172 *e*P **P** **19 46 27.7 -2.5**
comp=Z,326nm,1.2s,mb6.2
WRAB *e*pP pP 19 46 39.4 -3.3
WRAB *e*S **S** **19 53 17.8 -4.6**
WRAB LR LR
comp=Z,3μm,21.0s,MS5.2
WRAB Tennant Creek 47.57 172 *e*P **P** **19 46 27.7 -2.6**
WRAB *e**PP pP 19 46 39.4 -3.4
WRAB *e*S **S** **19 53 17.8 -4.6**
WRAB pmax pmax
comp=Z,326nm,1.2s,mb6.2
WRAB MLR MLR
comp=Z,3μm,21.0s,MS5.2
WRA Warramunga Arr 47.57 172 P **P** **19 46 28.0 -2.3**
WRA *PP pP 19 46 40.2 -2.6
WRA Warramunga Arr 47.57 172 P **P** **19 46 28.0 -2.4**
comp=Z,32nm,1.0s,mb5.3,baz=353,slow=8.4,SNR=84
WRA pP pP 19 46 40.2 -2.7
comp=Z,145nm,0.9s,baz=353,slow=8.2,SNR=35
WRA S **S** **19 53 17.3 -5.1**
comp=Z,18nm,1.2s,baz=350,slow=14,SNR=17
WRA LR LR 20 05 03.8
comp=Z,2μm,20.5s,MS5.0,baz=10.0,slow=34
WB2 Warramunga Arr 47.58 172 *e*P **P** **19 46 27.9 -2.4**
WB2 *i* pP pP 19 46 40.0 -2.8
WB2 *e*S **S** **19 53 17.6 -4.9**
AJM Ajmer 47.58 282 *e*P **P** **19 46 30.0 -0.5**
HNR Honiara 47.81 136 PFAKE 19 46 40.0 +7.7
HNR LR LR
comp=Z,2μm,21.0s,MS4.9
LATR Latur 48.29 271 *e*P **P** **19 46 36.4 +0.3**
LATR *e*P 19 46 37.2
LATR AMb AMB 19 46 37.9
comp=Z,344nm,1.4s,mb6.2
MBWA Marble Bar 49.16 191 *e*P **P** **19 46 40.6 -1.8**
comp=Z,86nm,1.0s,mb5.7
MBWA *e*ScP ScP 19 51 55.6 -1.3
MBWA LR LR
comp=Z,1μm,21.0s,MS4.9
MBWA Marble Bar 49.16 191 P **P** **19 46 41.0 -1.4**
SNR=5.1
MBWA Marble Bar 49.16 191 P **P** **19 46 41.0 -1.4**
SNR=5.1
BVAR Borovoye Array 49.39 318 PcP PcP 19 48 06.0 +0.2
comp=Z,39nm,0.8s,baz=112,slow=3.1,SNR=4.6
BVAR LR LR 20 09 48.6
comp=Z,13μm,18.0s,MS6.0,baz=93,slow=39
PALK Pallekele 49.41 255 P **P** **19 46 46.1 +1.4**
comp=Z,399nm,1.1s,mb6.4,SNR=20
PALK Pallekele 49.41 255 *e*P **P** **19 46 45.6 +1.0**
comp=Z,104nm,1.2s,mb5.7
PALK LR LR
comp=Z,2μm,22.0s,MS5.0
PALK Pallekele 49.41 255 P **P** **19 46 46.1 +1.4**
SNR=20
PALK Pallekele 49.41 255 P **P** **19 46 46.1 +1.4**
SNR=20
BRVK Borovoye 49.46 318 P **P** **19 46 45.3 +0.8**
comp=Z,2μm,0.8s
BRVK Borovoye 49.46 318 *e*P **P** **19 46 44.9 +0.4**
comp=Z,270nm,0.8s,mb6.3
BRVK *e*PcP PcP 19 48 04.0 -2.1
BRVK LR LR
comp=Z,15μm,20.0s,MS6.0
BRVK Borovoye 49.46 318 *e*P **P** **19 46 44.9 +0.4**
BRVK *e* 19 48 04.0
BRVK pmax pmax
comp=Z,270nm,0.8s,mb6.3
BRVK MLR MLR
comp=Z,15μm,20.0s,MS6.0
CTA Charters Tower 50.43 158 ⇓*i*P **P** **19 46 50.7 -1.5**
comp=Z,18nm,0.9s,mb5.1
CTA *i* pP pP 19 47 01.9 -2.9
CTA *e*S **S** **19 54 01.3 -1.3**
CTA Charters Tower 50.43 158 ⇓*i*P **P** **19 46 50.7 -1.5**
CTA *i* *PP pP 19 47 01.9 -2.9
CTA *e*S **S** **19 54 01.3 -1.3**
CTA pmax pmax
comp=Z,18nm,0.9s
CTA Charters Tower 50.43 158 LR LR 20 08 08.5
comp=Z,1μm,19.6s,MS4.9,baz=337,slow=36
CTAO Charters Tower 50.43 158 *e*P **P** **19 46 50.7 -1.5**
comp=Z,224nm,1.1s,mb6.1
CTAO *e*pP pP 19 47 01.6 -3.2
CTAO LR LR
comp=Z,2μm,22.0s,MS5.0
CTAO Charters Tower 50.43 158 *e*P **P** **19 46 50.7 -1.5**
CTAO *e**PP pP 19 47 01.6 -3.2
CTAO pmax pmax
comp=Z,224nm,1.1s,mb6.1
CTAO MLR MLR
comp=Z,2μm,22.0s,MS5.0
POO Poona 50.66 272 *e*P **P** **19 46 53.9 -0.2**
POO AMb AMB 19 46 56.3
comp=Z,326nm,0.9s,mb6.2
KBL Kabul 50.70 293 *e*P **P** **19 46 55.7 +1.4**
comp=Z,318nm,0.8s,mb6.3
KBL *e*PcP PcP 19 48 11.1 0.0
KAD Karad 50.80 270 *e*P **P** **19 46 55.0 -0.2**
KAD AMb AMB 19 46 57.2
comp=Z,206nm,1.1s,mb6.0
KOD Kodaikanal 50.80 260 *e*P **P** **19 46 55.9 +0.6**
KOD AMb AMB 19 46 58.1
comp=Z,402nm,1.2s,mb6.2
ASAR Alice Springs 51.21 174 P **P** **19 46 56.1 -1.9**
ASAR *PP pP 19 47 08.0 -2.6
ASAR S **S** **19 54 09.1 -4.2**
ASAR Alice Springs 51.21 174 P **P** **19 46 56.1 -1.9**
comp=Z,11nm,0.5s,mb5.0,baz=6.8,slow=12,SNR=113
ASAR pP pP 19 47 08.0 -2.7
comp=Z,69nm,0.8s,baz=5.4,slow=9.4,SNR=32
ASAR S **S** **19 54 09.1 -4.1**
comp=Z,8.5nm,1.2s,baz=7.2,slow=21,SNR=9.2
ASAR PKP2ab 20 18 16.9
comp=Z,1.8nm,1.0s,baz=158,slow=2.7,SNR=2.8

GOA	**Goa**	**51.81 268**	*e*P	**P**	**19 47 02.5**	**-0.3**
GOA			AMb	AMB	19 47 04.8	
	comp=Z,537nm,0.8s,mb6.5					
MNGI	**Mangalore**	**51.95 265**	*i* P	**P**	**19 47 02.8**	**-1.0**
MNGI			AMb	AMB	19 47 06.1	
	comp=Z,344nm,0.5s,mb6.5					
MNGI			*i* x	x	19 52 23.8	
TRD	**Trivandrum**	**52.05 259**	*e*P	**P**	**19 47 03.8**	**-0.7**
TRD			AMb	AMB	19 47 09.3	
	comp=Z,185nm,1.2s,mb5.9					
GAMB	**Gambell**	**52.40 29**	*e*P	**P**	**19 47 06.5**	**+0.1**
	comp=Z,160nm,1.1s,mb5.9					
BHJ	**Bhuj**	**52.82 279**	*e*P	**P**	**19 47 10.6**	**+0.4**
BHJ			AMb	AMB	19 47 12.6	
	comp=Z,342nm,0.9s,mb6.3					
TNA	**Tin City**	**54.38 27**	*e*P	**P**	**19 47 21.1**	**+0.1**
	comp=Z,386nm,1.0s,mb6.3					
TNA			LR	LR		
	comp=Z,910nm,22.0s,MS4.8					
SVE	**Sverdlovsk**	**55.30 322⇑**	*e*P	**P**	**19 47 28.6**	**+0.8**
SVE			pmax	pmax		
	comp=Z,244nm,1.0s,mb6.2					
SVE			MLR	MLR		
	comp=Z,7μm,15.0s,MS5.9					
AB31	**Akbulak array**	**55.85 313⇑**	*e*P	**P**	**19 47 31.4**	**-0.4**
ARU	**Arti**	**56.45 321**	P	**P**	**19 47 36.9**	**+0.9**
	comp=Z,1μm,0.9s,SNR=60					
ARU	**Arti**	**56.45 321**	*e*P	**P**	**19 47 34.9**	**-1.1**
	comp=Z,206nm,0.8s,mb6.2					
ARU			LR	LR		
	comp=Z,4μm,20.0s,MS5.5					
ARU	**Arti**	**56.45 321**	*c i*P	**P**	**19 47 35.3**	**-0.7**
ARU			*e*		19 48 30.7	
ARU			*e*		19 49 37.0	
ARU			*e*PPP		19 50 54.2	
ARU			*e*S	**S**	**19 55 24.0**	**+0.5**
ARU			*e*SS	SS	19 59 10.6	-0.1
ARU			pmax	pmax		
	comp=Z,216nm,0.8s,mb6.2					
ARU			MLR	MLR		
	comp=Z,6μm,16.0s,MS5.8					
FORT	**Forrest**	**58.02 180**	*e*P	**P**	**19 47 45.3**	**-1.9**
	comp=Z,66nm,0.9s,mb5.7					
FORT			*e*pP	pP	19 47 57.9	-2.2
CHGN	**Chignik**	**58.31 39**	*e*P	**P**	**19 47 47.9**	**-1.2**
ABKT	**Ailbek**	**58.76 299**	P	**P**	**19 47 54.6**	**+2.0**
	comp=Z,536nm,0.8s,mb6.6,SNR=32					
TTA	**Tatalina**	**59.31 31**	*e*P	**P**	**19 47 56.4**	**+0.5**
TTA	**Tatalina**	**59.31 31**	*e*P	**P**	**19 47 55.9**	**0.0**
TTA			*e*	pP	19 48 05.9	-2.9
TTA			pmax	pmax		
	comp=Z,170nm,1.3s,mb5.9					
SVW2	**Sparrevohn**	**59.57 33**	*e*P	**P**	**19 47 58.4**	**+0.7**
KLBR	**Kellerberrin**	**59.69 191**	*e*P	**P**	**19 47 57.0**	**-1.9**
	comp=Z,280nm,1.7s,mb6.0					
IMA2	**Indian Mountai**	**60.26 27**	*e*P	**P**	**19 48 01.9**	**-0.5**
MUN	**Mundaring**	**60.34 192**	*e*P	**P**	**19 48 01.5**	**-1.8**
MUN			*e*pP	pP	19 48 13.8	-2.4
STKA	**Stephens Creek**	**60.43 167**	*e*P	**P**	**19 48 01.7**	**-2.2**
	comp=Z,7.3nm,0.7s,mb4.8					
STKA			*i* pP	pP	19 48 14.1	-2.7
STKA	**Stephens Creek**	**60.43 167**	P	**P**	**19 48 01.8**	**-2.1**
	comp=Z,7.8nm,0.6s,mb4.9,baz=342,slow=7.7,SNR=17					
STKA			pP	pP	19 48 14.4	-2.4
	comp=Z,35nm,1.0s,baz=351,slow=8.2,SNR=14					
STKA			LR	LR	20 14 58.0	
	comp=Z,1μm,18.3s,MS5.0,baz=348,slow=37					
FUNA	**Funafuti**	**60.84 119**	PFAKE		19 48 20.0	+13
FUNA			LR	LR		
	comp=Z,6μm,19.0s,MS5.8					
NWAO	**Narrogin (SRO)**	**61.09 191**	*e*P	**P**	**19 48 07.2**	**-1.2**
	comp=Z,181nm,1.4s,mb6.0					
NWAO			*e*pP	pP	19 48 18.4	-2.8
NWAO	**Narrogin (SRO)**	**61.09 191**	*e*P	**P**	**19 48 07.2**	**-1.2**
NWAO			*e**PP	pP	19 48 18.4	-2.9
NWAO			pmax	pmax		
	comp=Z,181nm,1.4s					
NWAO	**Narrogin (SRO)**	**61.09 191**	LR	LR	20 13 23.2	
	comp=Z,627nm,21.1s,MS4.7,baz=168,slow=35					
KDAK	**Kodiak Island**	**61.36 37**	P	**P**	**19 48 09.0**	**-1.0**
	comp=Z,2μm,0.8s,SNR=27					
KDAK	**Kodiak Island**	**61.36 37**	*e*P	**P**	**19 48 09.3**	**-0.7**
	comp=Z,334nm,0.9s,mb6.5					
KDAK	**Kodiak Island**	**61.36 37**	P	**P**	**19 48 09.9**	**-0.1**
	comp=Z,286nm,0.8s,mb6.4,baz=287,slow=2.8,SNR=64					
ARMA	**Armidale**	**61.78 157**	*e*P	**P**	**19 48 12.5**	**-0.6**
	comp=Z,5.0nm,1.4s,mb4.5					
ARMA			*e*pP	pP	19 48 23.6	-2.4
SLKM	**Skilak Lake**	**62.24 34**	*e*P	**P**	**19 48 15.1**	**-0.8**
SLKM	**Skilak Lake**	**62.24 34**	P	**P**	**19 48 15.3**	**-0.6**
WBK	**Wadi Bani Khal**	**62.34 282**	P	**P**	**19 48 18.7**	**+1.4**
	SNR=34					
WBK	**Wadi Bani Khal**	**62.34 282**	P	**P**	**19 48 18.7**	**+1.4**
	SNR=34					
MCK	**McKinley**	**62.44 30**	*e*P	**P**	**19 48 16.5**	**-0.7**
	comp=Z,243nm,1.0s,mb6.3					
MCK			LR	LR		
	comp=Z,740nm,22.0s,MS4.8					
MCK	**McKinley**	**62.44 30**	*e*P	**P**	**19 48 16.5**	**-0.7**
MCK			pmax	pmax		
	comp=Z,243nm,1.0s,mb6.3					
MCK			MLR	MLR		
	comp=Z,740nm,22.0s,MS4.8					
PMR	**Palmer**	**62.62 32**	*e*P	**P**	**19 48 17.7**	**-0.7**
	comp=Z,318nm,1.2s,mb6.3					
PMR			LR	LR		
	comp=Z,500nm,23.0s,MS4.6					
PMR	**Palmer**	**62.62 32**	*e*P	**P**	**19 48 17.7**	**-0.7**
PMR			pmax	pmax		
	comp=Z,318nm,1.2s,mb6.3					
PMR			MLR	MLR		
	comp=Z,500nm,23.0s,MS4.6					
BIDO	**Bidbid**	**62.76 284**	P	**P**	**19 48 20.7**	**+0.7**
	SNR=45					
BIDO	**Bidbid**	**62.76 284**	P	**P**	**19 48 20.7**	**+0.7**
	SNR=45					
COLA	**College**	**62.77 29**	*e*P	**P**	**19 48 19.7**	**+0.3**
	comp=Z,112nm,0.8s,mb6.0					
COLA			*e*pP	pP	19 48 32.3	0.0
COLA			LR	LR		
	comp=Z,701nm,20.0s,MS4.8					
COLA	**College**	**62.77 29**	*e*P	**P**	**19 48 19.7**	**+0.3**
COLA			*e**PP	pP	19 48 32.3	0.0
COLA			pmax	pmax		
	comp=Z,112nm,0.8s,mb6.0					
COLA			MLR	MLR		
	comp=Z,701nm,20.0s,MS4.8					
ADE	**Adelaide**	**62.95 170**	P	**P**	**19 48 19.9**	**-0.9**
SML	**Sawmill**	**62.97 32**	*e*P	**P**	**19 48 20.2**	**-0.5**
SML			*e*pP	pP	19 48 33.0	-0.7
SMDO	**Samad**	**62.98 283**	P	**P**	**19 48 22.4**	**+0.9**
	SNR=64					
SMDO	**Samad**	**62.98 283**	P	**P**	**19 48 22.4**	**+0.9**
	SNR=64					
JMDO	**Jabal Madar**	**63.18 282**	P	**P**	**19 48 23.2**	**+0.4**
	SNR=34					
JMDO	**Jabal Madar**	**63.18 282**	P	**P**	**19 48 23.2**	**+0.4**
	SNR=34					
HOQ	**Hoqain**	**63.44 284**	P	**P**	**19 48 25.0**	**+0.5**
	SNR=78					
HOQ	**Hoqain**	**63.44 284**	P	**P**	**19 48 25.0**	**+0.5**
	SNR=78					
BANOM	**Banah**	**63.52 287**	P	**P**	**19 48 27.0**	**+2.0**
	SNR=9.2					
BANOM	**Banah**	**63.52 287**	P	**P**	**19 48 27.0**	**+2.0**
	SNR=9.2					
BSY	**Bisya**	**63.83 283**	P	**P**	**19 48 27.8**	**+0.8**
	SNR=56					
BSY	**Bisya**	**63.83 283**	P	**P**	**19 48 27.8**	**+0.8**
	SNR=56					
HATD	**Hatta, Dubai**	**64.03 286**	P	**P**	**19 48 29.9**	**+1.6**
	SNR=21					
HATD	**Hatta, Dubai**	**64.03 286**	P	**P**	**19 48 29.9**	**+1.6**
	SNR=21					
ASHO	**Ashiyiah**	**64.14 286**	P	**P**	**19 48 29.9**	**+0.8**
	SNR=43					
ASHO	**Ashiyiah**	**64.14 286**	P	**P**	**19 48 29.9**	**+0.8**
	SNR=43					
EYAK	**Cordova Ski Ar**	**64.41 33**	*e*P	**P**	**19 48 30.2**	**0.0**
	comp=Z,124nm,0.7s,mb6.0					
MENT	**Mentasta**	**64.89 30**	*e*P	**P**	**19 48 33.6**	**+0.3**
MAK	**Makhachkala**	**65.44 307**	*e*P	**P**	**19 48 37.2**	**0.0**
MAK	**Makhachkala**	**65.44 307**	*d i*P	**P**	**19 48 36.8**	**-0.4**
MAK			*e*		19 50 58.1	
MAK			*i* S	S	19 57 14.8	-3.7
MAK			pmax	pmax		
	comp=Z,156nm,1.3s,mb5.9					
MAK			MLR	MLR		
	comp=Z,2μm,16.0s,MS5.5					
CNB	**Canberra Magne**	**65.60 161**	*e*P	**P**	**19 48 36.2**	**-2.0**
	comp=Z,22nm,1.1s,mb5.1					
CNB			*i*	pP	19 48 49.0	-2.2
EGAK	**Eagle**	**65.61 28**	*e*P	**P**	**19 48 37.6**	**-0.4**
	comp=Z,82nm,0.8s,mb5.8					
EGAK			LR	LR		
	comp=Z,617nm,20.0s,MS4.8					
TMCR	**Tamitsa**	**65.71 331⇑**	*i*P	**P**	**19 48 37.9**	**-0.7**
TMCR			*e**PP	pP	19 48 49.2	-2.4
LVZ	**Lovozero**	**66.17 336**	P	**P**	**19 48 41.6**	**+0.1**
	comp=Z,383nm,0.9s,mb6.4,SNR=5.7					
KIP	**Kipapa**	**66.37 77**	PFAKE		19 49 00.0	+16
KIP			LR	LR		
	comp=Z,4μm,19.0s,MS5.6					
DAWY	**Dawson**	**66.53 29**	*e*P	**P**	**19 48 43.7**	**-0.1**
APA	**Apatity**	**66.71 335⇑**	*i*P	**P**	**19 48 44.2**	**-0.8**
APA			*i*		19 49 02.3	
APA			*e*S	S	19 57 34.0	+0.8
APA			*e*		19 58 17.0	
APA			pmax	pmax		
	comp=Z,220nm,1.0s,mb6.1					
APA			MLR	MLR		
	comp=Z,2μm,17.0s,MS5.4					
VRHR	**Novokhopersk**	**67.12 317**	*e*P	**P**	**19 48 47.4**	**-0.5**
VRHR			pmax	pmax		
	comp=Z,170nm,0.7s,mb6.2					
VRHR			pmax	pmax		
	comp=N,30nm,0.8s					
VRHR			pmax	pmax		
	comp=E,40nm,0.8s					
DGRG	**David-gareji**	**67.38 306**	P	**P**	**19 48 50.4**	**+0.7**
SPB4	**Spitsbergen Ar**	**67.56 348**	*e*P	**P**	**19 48 50.0**	**-0.3**
INK	**Inuvik**	**67.61 23**	*e*P	**P**	**19 48 50.1**	**-0.5**
	comp=E,6μm,1.1s					
INK	**Inuvik**	**67.61 23**	P	**P**	**19 48 50.6**	**0.0**
	comp=E,63nm,0.8s,mb5.7,baz=289,slow=6.7,SNR=248					
MTA	**Mtatsminda**	**67.72 306**	P	**P**	**19 48 52.1**	**+0.3**
KBS	**Kingsbay**	**67.97 349**	*e*P	**P**	**19 48 52.5**	**-0.3**
	comp=E,48nm,0.8s,mb5.6					
KBS			LR	LR		
	comp=Z,2μm,21.0s,MS5.3					
KBS	**Kingsbay**	**67.97 349**	*e*P	**P**	**19 48 53.1**	**+0.3**
KBS			*e*S	S	19 57 51.0	+3.0
KBS			*e*		20 02 41.5	
KBS			AMS	AMS	20 19 31.7	
	comp=Z,1μm,18.0s,MS5.1					
KBS	**Kingsbay**	**67.97 349**	*e*P	**P**	**19 48 52.5**	**-0.3**
KBS			pmax	pmax		
	comp=Z,48nm,0.8s,mb5.6					
KBS			MLR	MLR		
	comp=Z,2μm,21.0s,MS5.3					
MOS	**Moscow**	**68.11 322**	*e*P	**P**	**19 48 53.1**	**-0.9**
MOS			*e*	pP	19 49 10.4	+3.3
MOS			*i*		19 51 21.8	
MOS			*e*S	S	19 57 52.0	+1.7
MOS			*e*		19 58 51.0	
MOS			pmax	pmax		
	comp=Z,259nm,0.9s,mb6.3					
MOS			MLR	MLR		
	comp=Z,7μm,17.0s,MS6.0					
MOS			MLR	MLR		
	comp=N,2μm,15.0s,MS5.9					
MOS			MLR	MLR		
	comp=E,5μm,16.0s,MS5.9					
KEV	**Kevo**	**68.25 338**	*e*p	**P**	**19 48 53.1**	**-1.6**
	comp=E,364nm,0.9s,mb6.4					
KEV	**Kevo**	**68.25 338**	P	**P**	**19 48 54.4**	**-0.3**
KEV			pmax	pmax		
	comp=Z,340nm,0.9s,mb6.4					
RBK	**Rabkut**	**68.39 279**	P	**P**	**19 48 57.1**	**+0.7**
	SNR=28					
RBK	**Rabkut**	**68.39 279**	P	**P**	**19 48 57.1**	**+0.7**
	SNR=28					
VOR	**Voronezh**	**68.40 318**	*e*P	**P**	**19 48 56.0**	**+0.1**
VOR			pmax	pmax		
	comp=Z,360nm,1.0s,mb6.4					
ONI	**Oni**	**68.41 308**	P	**P**	**19 48 57.2**	**+1.1**
KIV	**Kislovodsk**	**68.51 309**	P	**P**	**19 48 58.7**	**+1.9**
	comp=Z,2μm,1.2s,SNR=67					
KIV	**Kislovodsk**	**68.51 309**	*e*P	**P**	**19 48 57.7**	**+0.9**
	comp=Z,494nm,1.1s,mb6.3					
KIV			LR	LR		
	comp=Z,1μm,21.0s,MS5.2					
KIV	**Kislovodsk**	**68.51 309**	*e*P	**P**	**19 48 57.1**	**+0.3**
KIV			*i*		19 49 16.5	
KIV			*i* S	S	19 57 53.2	-2.3
KIV			pmax	pmax		
	comp=Z,524nm,1.1s,mb6.4					
KIV			MLR	MLR		
	comp=Z,1μm,19.0s,MS5.2					
KIV	**Kislovodsk**	**68.51 309⇓**	*i*P	**P**	**19 48 56.8**	**0.0**
VRSR	**Storozhevoye**	**68.56 317**	*c i*P	**P**	**19 48 56.2**	**-0.7**
VRSR			*e**PP	pP	19 49 08.7	-1.3
VRSR			*e*S	S	19 57 47.1	-8.7
VRSR			*e*		19 58 49.4	
VRSR			pmax	pmax		
	comp=N,20nm,1.0s					
VRSR			pmax	pmax		
	comp=E,60nm,1.0s					
VRSR			pmax	pmax		
	comp=Z,40nm,1.0s,mb5.3					
VRSR			smax			
	comp=N,70nm,4.9s					
VRSR			smax			
	comp=Z,10.0nm,4.8s					
VRSR			smax			
	comp=E,20nm,4.4s					
VRSR			MLR	MLR		
	comp=Z,880nm,19.0s,MS5.0					
VRSR			MLR	MLR		
	comp=N,250nm,18.0s,MS5.0					
VRSR			MLR	MLR		
	comp=E,770nm,19.0s,MS5.0					
VORD	**Divnogorie**	**68.57 317**	*e*P	**P**	**19 48 55.8**	**-1.2**
VORD			pmax	pmax		
	comp=Z,120nm,1.0s,mb5.8					
VORD			pmax	pmax		
	comp=N,30nm,0.7s					
VORD			pmax	pmax		
	comp=E,80nm,0.8s					
VORD			MLR	MLR		
	comp=N,2μm,19.0s,MS5.6					
VORD			MLR	MLR		
	comp=E,3μm,19.0s,MS5.6					
VORD			MLR	MLR		
	comp=Z,5μm,19.0s,MS5.7					
BJO	**Bjornoya**	**68.60 344**	AMS	AMS	20 22 26.0	
	comp=Z,1μm,21.6s,MS5.2					
WHFO	**Wadi Hawf**	**68.60 280**	P	**P**	**19 48 58.0**	**+0.2**
	SNR=47					
WHFO	**Wadi Hawf**	**68.60 280**	P	**P**	**19 48 58.0**	**+0.2**
	SNR=47					
ARCES	**ARCESS Array B**	**68.83 338**	P	**P**	**19 48 58.4**	**+0.1**
	comp=Z,150nm,0.8s,mb6.0,baz=64,slow=8.2,SNR=174					
ARCES			LR	LR	20 25 01.4	
	comp=Z,2μm,18.9s,MS5.4,baz=294,slow=41					
ARE0	**ARCESS Array S**	**68.83 338**	*e*P	**P**	**19 48 58.3**	**0.0**
OBN	**Obninsk**	**68.87 322**	P	**P**	**19 48 58.2**	**-0.6**
	comp=Z,849nm,0.6s,mb6.8,SNR=11					
OBN	**Obninsk**	**68.87 322**	*e*P	**P**	**19 48 58.4**	**-0.4**
	comp=Z,74nm,0.6s,mb5.8					
OBN			LR	LR		
	comp=Z,6μm,19.0s,MS5.8					
OBN	**Obninsk**	**68.87 322**	*e*P	**P**	**19 48 58.1**	**-0.7**
OBN			*i*		19 49 16.5	
OBN			*i* S	S	19 58 05.4	+6.0
OBN			*e*SS	SS	20 02 20.4	-4.2
OBN			pmax	pmax		
	comp=Z,111nm,0.9s,mb5.8					
OBN			MLR	MLR		
	comp=Z,6μm,17.0s,MS5.9					
JOF	**Joensuu**	**68.95 331**	*e*p	**P**	**19 48 57.6**	**-1.6**
	comp=Z,101nm,0.6s,mb5.9					
JOF	**Joensuu**	**68.95 331**	*e*P	**P**	**19 48 57.6**	**-1.6**
JOF			pmax	pmax		
	comp=Z,101nm,0.6s,mb5.9					
POHA	**Pohakuloa**	**69.15 78**	PFAKE		19 49 10.0	+8.9
POHA			LR	LR		
	comp=Z,862nm,19.0s,MS5.0					
CLDR	**Caldiran**	**69.16 304**	*e*P	**P**	**19 49 02.1**	**+1.2**
DYDN	**Diyadin**	**69.20 305⇑**	*i*P	**P**	**19 49 01.9**	**+0.8**
ABTO	**Aybut**	**69.24 279**	P	**P**	**19 49 02.4**	**+0.7**
	SNR=30					
ABTO	**Aybut**	**69.24 279**	P	**P**	**19 49 02.4**	**+0.7**
	SNR=30					
KARS	**Kars**	**69.28 306**	*e*P	**P**	**19 49 03.0**	**+1.4**
UMR	**Umm Al-Rimmam**	**69.44 293**	*e*P	**P**	**19 49 02.8**	**-0.1**
UMR			AMb	AMB	19 49 04.7	
	comp=Z,505nm,0.9s,mb6.4					
QRN	**Al-Qurain**	**69.56 292**	*e*P	**P**	**19 49 03.2**	**-0.3**
QRN			AMb	AMB	19 49 04.8	
	comp=Z,437nm,0.8s,mb6.5					
KBD	**Kabd**	**69.60 293**	*e*P	**P**	**19 49 03.9**	**+0.1**
KBD			AMb	AMB	19 49 05.2	
	comp=Z,1μm,0.7s,mb6.8					
MIB	**Mutribah**	**69.66 294**	*e*P	**P**	**19 49 04.3**	**+0.1**
MIB			AMb	AMB	19 49 06.0	
	comp=Z,517nm,0.9s,mb6.4					
AGRB	**Hanur-Agry**	**69.69 305**	*e*P	**P**	**19 49 05.5**	**+1.3**
SKAG	**Skagway**	**69.74 33**	*e*P	**P**	**19 49 04.6**	**+0.5**
	comp=Z,217nm,1.0s,mb6.0					
SKAG			LR	LR		
	comp=Z,500nm,21.0s,MS4.7					
RDF	**Al-Radifah**	**69.80 293**	*e*P	**P**	**19 49 05.1**	**+0.1**
RDF			AMb	AMB	19 49 06.3	
	comp=Z,499nm,0.7s,mb6.6					
HKR	**Hakkari**	**69.81 303**	*e*P	**P**	**19 49 05.9**	**+1.0**
HAKT	**HAKKARI**	**69.84 303⇑**	*i*P	**P**	**19 49 04.9**	**-0.2**
TUTA	**Tutak**	**69.88 305⇑**	*i*P	**P**	**19 49 06.2**	**+0.8**
ARTV	**Artvin**	**69.93 307⇑**	*i*P	**P**	**19 49 05.8**	**+0.2**
NAY	**Al-Naaiem**	**69.94 293**	*e*P	**P**	**19 49 05.9**	**0.0**
NAY			AMb	AMB	19 49 07.5	
	comp=Z,369nm,0.8s,mb6.4					
ALE	**Alert**	**70.02 1**	P	**P**	**19 49 05.0**	**-0.5**
	comp=Z,2μm,0.9s,mb6.9					
BCA	**Borcka**	**70.06 307**	*e*P	**P**	**19 49 06.8**	**+0.4**
HOMI	**Horasan**	**70.33 306⇑**	*i*P	**P**	**19 49 09.1**	**+1.1**
PUL	**Pulkovo**	**70.50 328⇑**	*e*P	**P**	**19 49 08.2**	**-0.5**
SIT	**Sitka**	**70.58 35**	*e*P	**P**	**19 49 07.4**	**-1.9**
	comp=Z,254nm,1.4s,mb6.0					
SIT			LR	LR		
	comp=Z,500nm,19.0s,MS4.8					
SIT	**Sitka**	**70.58 35**	*e*P	**P**	**19 49 07.4**	**-1.9**
SIT			pmax	pmax		
	comp=Z,254nm,1.4s,mb6.0					
SIT			MLR	MLR		
	comp=Z,500nm,19.0s,MS4.8					
PZAR	**Pazar-Rize**	**70.66 307**	*e*P	**P**	**19 49 11.5**	**+1.5**
SOC	**Sochi**	**70.67 310**	*c i*P	**P**	**19 49 10.3**	**+0.2**
SOC			*e**PP	pP	19 49 24.0	+0.8
SOC			*e*	pP	19 49 27.8	+4.6
SOC			*e*PPP		19 53 27.1	
SOC			*e*S	S	19 58 12.8	-8.1
SOC			*e**SS	sS	19 58 42.5	-0.3
SOC			*e*		19 59 08.5	
SOC			*e*SS	SS	20 02 53.3	+0.5
SOC			pmax	pmax		
	comp=Z,351nm,1.0s,mb6.2					
SOC			pmax	pmax		
	comp=Z,364nm,2.5s,mb5.9					
SOC			MLR	MLR		
	comp=Z,3μm,19.0s,MS5.5					
MSL	**Mosul**	**70.74 301**	*e*x	x	19 49 11.0	
MSL			*e*x	x	19 58 10.5	
ERZM	**Erzurum**	**70.76 306⇓**	*i*P	**P**	**19 49 12.8**	**+2.1**
EZM	**Erzurum**	**70.77 306**	*e*P	**P**	**19 49 12.6**	**+1.8**
BHD	**Baghdad**	**70.80 298**	*e*x	x	19 49 08.5	
BHD			*e*x	x	19 58 03.0	
SIRT	**Sirnak**	**70.81 303**	*e*P	**P**	**19 49 12.3**	**+1.3**
TRO	**Tromso**	**70.88 340**	*e*P	**P**	**19 49 09.5**	**-1.4**
TRO			*e*S	S	19 58 16.5	-6.0
TRO			AMS	AMS	20 26 08.2	
	comp=Z,3μm,22.5s,MS5.4					
AFI	**Afiamalu**	**71.13 117**	PFAKE		19 49 20.0	+6.8
AFI			LR	LR		
	comp=Z,2μm,20.0s,MS5.4					
BTMT	**Batman**	**71.27 304**	*e*P	**P**	**19 49 15.1**	**+1.3**
KOPT	**Kop Dagi**	**71.35 306⇑**	*i*P	**P**	**19 49 15.5**	**+1.2**
KAF	**Kangasniemi**	**71.41 331**	*e*p	**P**	**19 49 12.6**	**-1.6**
	comp=Z,171nm,0.9s,mb6.0,baz=64,slow=5.7					
KAF	**Kangasniemi**	**71.41 331**	*e*P	**P**	**19 49 12.6**	**-1.6**
KAF			pmax	pmax		
	comp=Z,171nm,0.9s,mb6.0					
KTUT	**Trabzon**	**71.53 307**	*e*P	**P**	**19 49 14.9**	**-0.5**
BINT	**Bingol**	**71.76 305**	*e*P	**P**	**19 49 17.9**	**+1.1**
FIA1	**FINESS Array S**	**71.78 330**	*e*P	**P**	**19 49 16.0**	**-0.4**
FINES	**FINESS Array B**	**71.78 330**	P	**P**	**19 49 16.2**	**-0.3**
FINES			LR	LR	20 24 27.1	
FINES	**FINESS Array B**	**71.78 330**	P	**P**	**19 49 16.2**	**-0.3**
	comp=Z,57nm,0.6s,mb5.7,baz=72,slow=6.2,SNR=354					
FINES			LR	LR	20 24 27.1	
	comp=Z,3μm,19.9s,MS5.6,baz=68,slow=39					
ANN	**Anapa**	**71.78 311**	*i* P	**P**	**19 49 16.7**	**-0.1**
ANN	**Anapa**	**71.78 311⇑**	*i*P	**P**	**19 49 16.3**	**-0.5**
ANN			*e**PP	pP	19 49 28.7	-1.2
ANN			*e*S	S	19 58 33.8	0.0
ANN			pmax	pmax		
	comp=Z,525nm,1.0s,mb6.4					
ANN			MLR	MLR		
	comp=N,3μm,25.0s,MS5.5					
ANN			MLR	MLR		
	comp=E,2μm,25.0s,MS5.5					
ANN			MLR	MLR		
	comp=Z,3μm,25.0s,MS5.4					
GUMT	**Gumushane**	**71.92 307**	*e*P	**P**	**19 49 19.1**	**+1.4**
EZC	**Erzincan**	**71.94 306**	*e*P	**P**	**19 49 21.5**	**+3.7**
MARD	**Mardin**	**72.11 303⇑**	*i*P	**P**	**19 49 19.1**	**+0.3**
TAU	**Tasmania Unive**	**72.26 166**	*e*P	**P**	**19 49 18.3**	**-1.1**
	comp=Z,208nm,1.4s,mb5.9					
TAU			*e*pP	pP	19 49 30.6	-1.9
TAU			LR	LR		
	comp=Z,2μm,21.0s,MS5.4					
TAU	**Tasmania Unive**	**72.26 166**	*e*P	**P**	**19 49 18.3**	**-1.1**
TAU			*e**PP	pP	19 49 30.6	-1.9
TAU			pmax	pmax		
	comp=Z,208nm,1.4s,mb5.9					
TAU			MLR	MLR		
	comp=Z,2μm,21.0s,MS5.4					
ESPY	**Espiye-Giresun**	**72.29 307**	*e*P	**P**	**19 49 18.6**	**-1.4**
DIY	**Diyarbakir**	**72.31 304**	*e*P	**P**	**19 49 21.5**	**+1.4**
CRAG	**Craig**	**72.31 36**	*e*P	**P**	**19 49 19.9**	**+0.2**
	comp=Z,166nm,0.9s,mb6.0					
WRAK	**Wrangell Islan**	**72.34 35**	*e*P	**P**	**19 49 20.3**	**+0.4**
	comp=Z,89nm,0.8s,mb5.8					
DLBC	**Dease Lake**	**72.68 33**	*e*P	**P**	**19 49 22.2**	**+0.4**
VSU	**Vasula**	**72.71 327⇑**	*i*P	**P**	**19 49 21.8**	**-0.2**
VSU	**Vasula**	**72.71 327**	*c i*P	**P**	**19 49 21.7**	**-0.3**
ELZG	**Elazig**	**72.99 305⇑**	*i*P	**P**	**19 49 25.5**	**+1.4**
KEMA	**Kemaliye**	**73.06 306⇑**	*i*P	**P**	**19 49 24.6**	**0.0**
LOF	**Lofoten**	**73.32 339**	*e*P	**P**	**19 49 27.2**	**+1.7**
MYA	**Malataya**	**73.47 305**	*e*P	**P**	**19 49 28.9**	**+2.0**
MALT	**Malatya**	**73.47 305**	*e*P	**P**	**19 49 28.0**	**+1.1**
MALT	**Malatya**	**73.47 305**	*e*P	**P**	**19 49 28.4**	**+1.4**
	comp=Z,258nm,1.0s,mb6.1					
MALT	**Malatya

KVT **Kavak** 74.11 308 *eP* P 19 49 31.1 +0.4
DIKM **Dikmen** 74.44 309 *eP* P 19 49 31.3 -1.2
GZT **Gaziantep** 74.47 304⇑*iP* P 19 49 34.2 +1.4
STOK **Stokkvaagen** 74.48 338 *eP* P 19 49 31.9 -0.4
comp=Z,201nm,1.0s,mb6.0
STOK **Stokkvaagen** 74.48 338 *eP* P 19 49 31.9 -0.4
STOK AMb AMB 19 49 33.5
comp=Z,201nm,1.0s,mb6.0
AKASG **Malin Array Be** 74.62 319 P P 19 49 33.0 -0.4
comp=Z,175nm,0.9s,mb6.0,baz=56,slow=6.1,SNR=401
AKASG LR LR 20 25 12.0
comp=Z,8μm,18.6s,MS6.0,baz=70,slow=38
AKBB **Malin Array Si** 74.62 319 *eP* P 19 49 32.9 -0.5
KIEV **Kiev** 74.63 319 *eP* P 19 49 32.5 -1.0
comp=Z,152nm,0.9s,mb5.9
KIEV LR LR
comp=Z,7μm,19.0s,MS6.0
KIEV **Kiev** 74.63 319 *eP* P 19 49 32.5 -1.0
KIEV pmax pmax
comp=Z,152nm,0.9s,mb5.9
KIEV MLR MLR
comp=Z,7μm,19.0s,MS6.0
BOYT **Boyabat** 74.77 309⇓*iP* P 19 49 35.4 +0.9
GAZ **Gaziantep** 74.80 304 *eP* P 19 49 35.2 +0.5
BYBT **Boyabat** 74.85 309 *eP* P 19 49 35.8 +0.9
KMRS **Kahramanmaras** 74.89 305 *eP* P 19 49 35.2 0.0
BNN **Bunyan** 75.13 306 *eP* P 19 49 36.5 -0.1
CTKT **Corum** 75.17 308⇑*iP* P 19 49 36.9 +0.1
CORM **Corum** 75.46 308 *eP* P 19 49 38.8 +0.3
TOS **Tosya** 75.53 309 *eP* P 19 49 39.8 +1.0
KOZT **Kozan** 75.69 305 *eP* P 19 49 42.6 +2.8
BALT **Daday** 75.77 310⇑*iP* P 19 49 41.4 +1.2
AVNT **Avonos** 75.86 306⇑*iP* P 19 49 41.0 +0.2
CDAG **Cicekdag** 75.86 307⇑*iP* P 19 49 38.6 -2.1
NSS **Namsos** 75.87 336 *eP* P 19 49 38.7 -1.6
NSS AMS AMS 20 29 02.1
comp=Z,2μm,21.0s,MS5.4
CEYT **Ceyhan** 75.94 304 *eP* P 19 49 41.5 +0.3
CANT **Cankiri** 75.99 309 *eP* P 19 49 42.1 +0.6
HTY **Hatay** 76.01 304 *eP* P 19 49 42.4 +0.7
ELDT **Eldivan** 76.17 309⇓*iP* P 19 49 43.3 +0.8
NIG **Nigde** 76.31 306 *eP* P 19 49 44.7 +1.4
KARA **Karaisali** 76.34 305 *eP* P 19 49 43.4 -0.2
RAO **Raoul Island** 76.37 134 PFAKE 19 49 50.0 +6.4
RAO LR LR
comp=Z,2μm,20.0s,MS5.4
RAO **Raoul Island** 76.37 134 LR LR 20 18 06.9
comp=Z,974nm,20.2s,MS5.1,baz=326,slow=32
SAFT **Safranbolu** 76.37 309 *eP* P 19 49 44.2 +0.5
KAMT **Kaman** 76.43 307 *eP* P 19 49 44.8 +0.8
KIS **Kishinev** 76.44 316*α iP* P 19 49 42.0 -1.9
KIS *e* 19 52 42.0
KIS *e* 19 54 24.0
KIS pmax pmax
comp=Z,600nm,1.0s,mb6.5
KIS pmax pmax
comp=Z,400nm,2.0s,mb6.0
KIS MLR MLR
comp=N,2μm,20.0s,MS5.6
KIS MLR MLR
comp=E,2μm,20.0s,MS5.6
KIS MLR MLR
comp=Z,3μm,20.0s,MS5.6
KIS MLR MLR
comp=Z,2μm,20.0s
KIS **Kishinev** 76.44 316⇑*iP* P 19 49 42.0 -1.9
comp=Z,600nm,1.0s,mb6.5
KIS *e*pP sP 19 50 06.0 +3.7
KIS LRM 20 25 50.0
comp=Z,2μm,20.0s
SUW **Suwalki** 76.47 324 *eP* P 19 49 44.2 +0.3
comp=Z,800nm,1.1s,mb6.6
SUW LMZ 20 26 56.3
comp=Z,5μm,17.4s
SUW **Suwalki** 76.47 324 *eP* P 19 49 44.2 +0.3
SUW pmax pmax
comp=Z,800nm,1.1s,mb6.6
SUW MLR MLR
comp=Z,5μm,17.4s,MS5.9
FKH **Fakeheh** 76.58 302 *eP* P 19 49 45.9 +1.0
ANTO **Ankara** 76.87 308 *eP* P 19 49 46.5 0.0
ANTO **Ankara** 76.87 308 *eP* P 19 49 47.0 +0.6
comp=Z,286nm,1.4s,mb6.0
ANTO LR LR
comp=Z,1μm,20.0s,MS5.2
ANTO **Ankara** 76.87 308 P P 19 49 47.1 +0.6
SNR=41
ANTO **Ankara** 76.87 308 P P 19 49 47.1 +0.6
SNR=41
ANTO **Ankara** 76.87 308⇑*iP* P 19 49 46.6 +0.1
ANTO **Ankara** 76.87 308 P P 19 49 46.7 +0.2
LOD **Lodumlu** 76.88 308 *eP* P 19 49 46.5 0.0
MERS **Mersin** 76.89 305 *eP* P 19 49 46.8 +0.2
HWQ **Hawqa** 76.90 302 *eP* P 19 49 46.5 -0.2
JNW **Jan Mayen West** 77.10 347 *eP* P 19 49 48.5 +1.3
IAS **Iasi** 77.13 317 P P 19 49 48.2 +0.4
JMIC **Jan Mayen** 77.15 347 *eP* P 19 49 47.9 +0.5
JMIC AMS AMS 20 23 33.0
comp=Z,721nm,25.6s,MS4.9
JMIC **Jan Mayen** 77.15 347 P P 19 49 48.2 +0.7
comp=Z,317nm,0.8s,mb6.3,baz=130,slow=2.1,SNR=9.9
YKA **Yellowknife Ar** 77.26 25 P P 19 49 47.9 -0.3
YKA pP pP 19 50 01.2 -0.2
YKA PKKPbc PKKPbc 20 08 51.3 -3.4
YKA P'P' 20 16 48.7
YKA LR LR 20 28 16.9
YKA **Yellowknife Ar** 77.26 25 P P 19 49 47.9 -0.3
YKA *PP pP 19 50 01.3 -0.2
YKA **Yellowknife Ar** 77.26 25 P P 19 49 47.9 -0.3
comp=Z,77nm,0.8s,mb5.7,baz=297,slow=5.4,SNR=1074
YKA pP pP 19 50 01.2 -0.2
comp=Z,95nm,0.9s,baz=300,slow=5.5,SNR=19
YKA PKKPbc PKKPbc 20 08 51.3 -3.4
comp=Z,1.1nm,0.6s,baz=126,slow=2.4,SNR=19
YKA PKPPKP 20 16 48.7
comp=Z,0.3nm,0.8s,baz=160,slow=1.7,SNR=3.9
YKA LR LR 20 28 16.9
comp=Z,317nm,19.8s,MS4.6,baz=200,slow=39
BHL **Bhannes** 77.28 302 *eP* P 19 49 48.8 -0.1
RCY **Rachaya** 77.33 301 *eP* P 19 49 49.8 +0.6
CFR **Carcaliu** 77.67 315 P P 19 49 53.6 +2.7
EREN **Erenkoy** 77.71 304 *eP* P 19 49 50.8 -0.5
LBOS 77.73 279⇑*eP* P 19 49 53.0 +1.4
LBOS AMb AMB 19 49 53.8
comp=Z,277nm,1.2s,mb6.1
IKL **Isikli** 77.76 304 *eP* P 19 49 51.1 -0.5
HENT **Hendek** 77.77 310 *iP* P 19 49 51.1 -0.4
TIRR **Tirgusor** 77.82 314 ⇑P P 19 49 51.2 -0.5
TIRR **Tirgusor** 77.82 314 P P 19 49 52.8 +1.1
TIRR **Tirgusor** 77.82 314⇑*iP* P 19 49 51.2 -0.5
KDHN **Kadinhani** 77.92 307⇑*iP* P 19 49 51.9 -0.5
KIZT **Kizilcal** 77.93 308 *eP* P 19 49 52.5 0.0
KONT **Konya--Tatoy** 77.99 307 *eP* P 19 49 52.4 -0.4
LVV **L'vov** 78.00 320*c iP* P 19 49 52.8 +0.2
LVV *e* 19 52 50.3
LVV *e*PPP 19 54 35.0
LVV *e*S S 19 59 44.8 +2.0
LVV *e*SS SS 20 04 37.5 -6.2
LVV *e*SSS 20 08 02.3
LVV MLR MLR
comp=Z,5μm,20.0s,MS5.8
HARR **Harsova** 78.02 314 ⇑P P 19 49 53.4 +0.5
HARR **Harsova** 78.02 314⇑*iP* P 19 49 53.3 +0.5
ERMK **Ermenek** 78.16 305 *iP* P 19 49 53.4 -0.3
DHBB **Dhamar BB** 78.18 280 *eP* P 19 49 55.6 +1.4
NB2 **NORSAR Subarra** 78.19 334 P P 19 49 53.1 -0.3
comp=Z,298nm,0.8s,mb6.3,baz=52,slow=5.6
NOA **NORSAR Array B** 78.19 334 P P 19 49 52.8 -0.6
comp=Z,278nm,0.8s,mb6.2,baz=51,slow=5.5,SNR=643
NOA LR LR 20 29 13.5
comp=Z,2μm,18.1s,MS5.5,baz=20,slow=39
VRI **Vrincioaia** 78.24 316 ⇑P P 19 49 54.6 +0.6
VRI **Vrincioaia** 78.24 316⇑*iP* P 19 49 54.6 +0.6
LFK **Lefkose** 78.28 304 *eP* P 19 49 53.5 -0.9
PLOR **Plostina** 78.30 316⇑*iP* P 19 49 55.4 +1.1
PSN **Preselentsi** 78.31 313 *iP* P 19 49 55.0 +0.5
ESKT **Eskisehir** 78.37 308⇑*iP* P 19 49 54.1 -0.8
DOMB **Dombas** 78.41 335 *eP* P 19 49 54.5 -0.1
comp=Z,362nm,1.0s,mb6.3
DOMB **Dombas** 78.41 335 *eP* P 19 49 54.5 -0.1
DOMB AMb AMB 19 49 56.3
comp=Z,362nm,1.0s,mb6.3
NAO01 **NORSAR Array S** 78.43 334 *eP* P 19 49 54.4 -0.4
comp=Z,135nm,0.9s,mb5.9

WAR **Warsaw** 78.47 323 *eP* P 19 49 56.0 +0.9
comp=Z,1μm,1.2s,mb6.7
WAR LMZ 20 27 50.7
comp=Z,6μm,18.3s
WAR **Warsaw** 78.47 323 *eP* P 19 49 56.0 +0.9
WAR pmax pmax
comp=Z,1μm,1.2s,mb6.7
WAR MLR MLR
comp=Z,6μm,18.3s,MS6.0
MAMC **Mammari** 78.56 304 P P 19 49 56.3 +0.3
CSS **Prodhromos** 78.57 303 *eP* P 19 49 56.4 +0.3
comp=Z,280nm,0.8s,mb6.2
CSS **Prodhromos** 78.57 303 *eP* P 19 49 55.3 -0.7
LEF **Lefka** 78.83 304 *eP* P 19 49 56.5 -1.0
KWP **Kalwaria** 78.84 320 *i P* P 19 49 58.4 +1.1
comp=Z,700nm,0.9s,mb6.6
KWP LMZ 20 27 24.7
comp=Z,8μm,20.4s
KWP **Kalwaria** 78.84 320⇑*iP* P 19 49 58.4 +1.2
KWP pmax pmax
comp=Z,700nm,0.9s,mb6.6
KWP MLR MLR
comp=Z,8μm,20.4s,MS6.0
KWP **Kalwaria** 78.84 320⇑*iP* P 19 49 57.3 +0.1
MLR **Muntele Rosu** 78.90 316 ⇑P P 19 49 57.1 -0.5
MLR **Muntele Rosu** 78.90 316⇑*iP* P 19 49 57.1 -0.6
SZAC **Souni-Zanaja** 78.99 303 P P 19 49 57.9 -0.5
comp=Z,5.9nm,0.8s,mb4.6
TRBA **At Turbah** 79.00 279 *eP* P 19 50 00.0 +1.3
TRBA AMb AMB 19 50 01.1
comp=Z,23nm,0.6s,mb5.2
ALFC **Alevga** 79.03 304⇑*eP* P 19 49 57.8 -0.8
PRD **Provadia** 79.04 313 *i P* P 19 49 59.1 +0.6
OSL **Oslo** 79.04 333 *eP* P 19 49 58.1 0.0
comp=Z,480nm,0.9s,mb6.4
OSL **Oslo** 79.04 333 *eP* P 19 49 58.1 0.0
OSL AMb AMB 19 49 59.6
comp=Z,480nm,0.9s,mb6.4
ELBA **Catalca** 79.30 311⇑*iP* P 19 49 59.4 -0.5
PPCY **Paphos** 79.33 304 ⇑P P 19 49 59.7 -0.5
PPCY **Paphos** 79.33 304⇑*eP* P 19 49 59.7 -0.5
BUC1 **Bucharest** 79.39 315 P P 19 50 01.5 +1.2
TKTP **Tekketepe** 79.40 307⇑*iP* P 19 49 59.1 -1.5
KOLS **Kolonicke sedl** 79.43 320 *eP* P 19 50 00.9 +0.4
KOLS *e* 19 50 03.9
VOIR 79.48 316 ⇓P P 19 50 01.0 +0.2
VOIR 79.48 316⇓*iP* P 19 50 01.0 +0.2
GDZ **Gediz** 79.52 309⇑*iP* P 19 50 00.7 -0.4
UZH **Uzhgorod** 79.57 320*c iP* P 19 50 02.0 +0.8
UZH *e*S S 20 00 02.0 +2.4
UZH MLR MLR
comp=Z,1μm,17.0s,MS5.3
KONO **Kongsberg** 79.67 333 *eP* P 19 50 01.5 0.0
comp=Z,165nm,1.0s,mb5.9
KONO LR LR
comp=Z,3μm,20.0s,MS5.6
KONO **Kongsberg** 79.67 333 *eP* P 19 50 01.2 -0.4
KONO *e*S S 19 59 54.5 -5.8
STHS **Stebnicka Huta** 79.77 321 *i P* P 19 50 03.4 +1.1
comp=Z,58nm,1.0s,mb5.5
STHS **Stebnicka Huta** 79.77 321 *i P* P 19 50 03.4 +1.1
STHS pmax pmax
comp=Z,58nm,1.0s,mb5.5
URZ **Urewera** 79.79 143 LR LR 20 22 41.3
comp=Z,524nm,19.6s,MS4.9,baz=185,slow=34
GKP **Gorka Klasztor** 79.89 325 *i P* P 19 50 03.7 +0.8
comp=Z,300nm,0.7s,mb6.3
GKP LMZ 20 29 35.9
comp=Z,9μm,16.9s
GKP **Gorka Klasztor** 79.89 325⇑*iP* P 19 50 03.7 +0.8
GKP pmax pmax
comp=Z,300nm,0.7s,mb6.3
GKP MLR MLR
comp=Z,9μm,16.9s,MS6.2
CRVS **Cervenica-Dubn** 79.91 320 *eP* P 19 50 04.0 +0.9
CRVS *e* pP 19 50 18.2 +1.8
CRVS *e*S S 20 00 13.1 +10
CRVS **Cervenica-Dubn** 79.91 320 *eP* P 19 50 04.0 +0.9
CRVS *e*pP pP 19 50 18.1 +1.7
CRVS *e*S S 20 00 13.1 +10
JMB **Yambol** 79.91 313 *eP* P 19 50 03.6 +0.4
JMB **Yambol** 79.91 313 *i P* P 19 50 04.3 +1.1
SZH **Strazhica** 79.96 314 *i P* P 19 50 04.2 +0.8
BSD **Bornholm Skovb** 80.01 328⇑*iP* P 19 50 03.4 -0.1
BSD *e*S S 20 00 05.3 +1.3
BSD pmax pmax
comp=Z,410nm,0.9s,mb6.4
BSD MLR MLR
comp=Z,2μm,19.0s,MS5.5
BSD **Bornholm Skovb** 80.01 328⇑*iP* P 19 50 03.4 -0.1
comp=Z,411nm,0.9s,mb6.4
BSD *e* 19 53 14.6
BSD *e*S S 20 00 05.3 +1.3
BSD
comp=Z,2μm,19.0s
ZIMR 80.14 314 P P 19 50 05.2 +0.8
OJC **Ojcow** 80.16 322 *i P* P 19 50 04.8 +0.4
OJC *e*pP pP 19 50 18.4 +0.7
BTOK **Tokmak** 80.21 310⇑*iP* P 19 50 04.5 -0.3
DRGR 80.24 318 ⇑P P 19 50 05.1 +0.2
DRGR 80.24 318⇑*iP* P 19 50 05.1 +0.2
NIE **Niedzica** 80.29 321 *eP* P 19 50 06.3 +1.2
GOLH **Golhisar** 80.30 307⇑*iP* P 19 50 04.2 -1.2
SART **Tekirdag** 80.35 311⇑*iP* P 19 50 05.6 0.0
C03A **Quillayute Air** 80.45 41 ⇑P P 19 50 06.9 +0.9
baz=80
KECS **Kecovo** 80.68 320 *i P* P 19 50 07.9 +0.7
comp=Z,22nm,0.7s,mb5.2
KECS *e*PP PP 19 53 11.4 +0.5
KECS **Kecovo** 80.68 320 *i P* P 19 50 07.9 +0.7
KECS pmax pmax
comp=Z,22nm,0.7s,mb5.2
AKAS **Kas** 80.73 306⇑*iP* P 19 50 06.2 -1.6
PGC **Sidney** 80.73 40 *eP* P 19 50 07.2 -0.3
comp=Z,66nm,0.8s,mb5.6
PGC *e*pP pP 19 50 19.7 -1.1
AKHS **Akhisar** 80.77 309⇑*iP* P 19 50 07.4 -0.5
CRAR **CRAIOVA** 80.80 315 P P 19 50 09.0 +1.1
SNZO **South Karori** 80.83 147 PFAKE 19 50 20.0 +12
SNZO LR LR
comp=Z,1μm,19.0s,MS5.2
COP **Copenhagen** 80.84 329⇑*iP* P 19 50 08.5 +0.6
COP pmax pmax
comp=Z,260nm,0.9s,mb6.2
COP MLR MLR
comp=Z,860nm,19.0s,MS5.1
COP **Copenhagen** 80.84 329⇑*iP* P 19 50 08.5 +0.6
comp=Z,258nm,0.9s,mb6.2
COP
comp=Z,850nm,19.0s
ASK **Askoy** 80.84 335 *eP* P 19 50 08.0 +0.1
comp=Z,270nm,1.1s,mb6.1
ASK **Askoy** 80.84 335 *eP* P 19 50 08.0 +0.1
ASK AMb AMB 19 50 08.9
comp=Z,270nm,1.1s,mb6.1
BER **Bergen** 80.86 335 *eP* P 19 50 08.2 +0.2
comp=Z,210nm,1.4s,mb5.9
BER LR LR
comp=Z,3μm,16.8s,MS5.7
BER **Bergen** 80.86 335 *eP* P 19 50 08.2 +0.2
BER AMb AMB 19 50 09.3
comp=Z,210nm,1.4s,mb5.9
BER *e*PP PP 19 53 05.9 -6.2
BER *e*S S 20 00 08.8 -3.9
BER AMS AMS 20 33 01.5
comp=Z,3μm,16.8s,MS5.7
BER **Bergen** 80.86 335 *eP* P 19 50 08.2 +0.3
BER pmax pmax
comp=Z,210nm,1.4s,mb5.9
BER MLR MLR
comp=Z,3μm,16.8s,MS5.7
STW **Striped Peak** 80.86 40 P P 19 50 10.0 +1.8
GZR **Gura Zlata** 80.90 317 ⇑P P 19 50 09.4 +0.9
GZR **Gura Zlata** 80.90 317⇑*iP* P 19 50 09.4 +0.9
EGD **Espegrend** 80.97 335 *eP* P 19 50 08.7 +0.2
RPZ **Rata Peaks** 81.00 150 P P 19 50 06.5 -2.3
comp=Z,40nm,0.8s,mb5.4,baz=36,slow=0.7,SNR=28
RPZ pP pP 19 50 18.9 -3.2
comp=Z,53nm,1.0s,baz=262,slow=11,SNR=8.5
B04A **Port Angeles** 81.01 40 P P 19 50 09.5 +0.6
baz=81,SNR=11
ALN **Alexandroupoli** 81.01 311 *eP* P 19 50 08.8 -0.3
BLS5 **Blasjo** 81.06 334 *eP* P 19 50 10.4 +1.4
comp=Z,192nm,1.0s,mb6.0

BLS5 **Blasjo** 81.06 334 *eP* P 19 50 10.4 +1.4
BLS5 AMb AMB 19 50 12.3
comp=Z,192nm,1.0s,mb6.0
KDZ **Kurdzhali** 81.07 312 *i* P P 19 50 09.9 +0.5
RGN **Rugen** 81.09 328 *eP* P 19 50 09.7 +0.4
comp=Z,430nm,1.0s,mb6.3
RAC **Raciborz** 81.11 322 *eP* P 19 50 10.2 +0.7
RAC LR LR
comp=Z,5μm,17.5s,MS5.9
A04A **Legoe Bay, Lum** 81.11 39 ⇑P P 19 50 09.7 +0.1
baz=81,SNR=15
NLWA **Neilton Lookou** 81.14 41 *eP* P 19 50 10.2 +0.5
comp=Z,73nm,1.1s,mb5.5
NLWA *e*pP pP 19 50 22.9 -0.1
NLWA LR LR
comp=Z,521nm,20.0s,MS4.9
NLWA **Neilton Lookou** 81.14 41 P P 19 50 10.4 +0.7
baz=81,SNR=18
RDO **Rodhopi** 81.23 312⇑*iP* P 19 50 10.3 0.0
OKC **Ostrava-Krasne** 81.27 322⇑*iP* P 19 50 11.1 +0.8
OKC *e* pP 19 50 27.3 +3.6
OKC **Ostrava-Krasne** 81.27 322⇑*iP* P 19 50 11.1 +0.8
OKC *ex* x 19 50 27.3
OKC AMS AMS 20 29 10.0
comp=Z,4μm,16.6s,MS5.8
VDB **Vedder Mountai** 81.29 39 P P 19 50 11.0 +0.5
AYDN **Tasoluk** 81.29 308⇑*iP* P 19 50 11.2 +0.5
PLD **Plovdiv** 81.31 313 *eP* P 19 50 10.9 +0.2
PSZ **Piszkesteto** 81.31 320 *eP* P 19 50 11.2 +0.6
comp=Z,267nm,1.7s,mb5.9
PSZ **Piszkesteto** 81.31 320⇑*iP* P 19 50 10.7 +0.1
PSZ **Piszkesteto** 81.31 320⇑*eP* P 19 50 11.1 +0.5
A05A **Maple Falls** 81.31 39 ⇓P P 19 50 10.4 -0.2
baz=81,SNR=6.4
AYVA **Ayvalik** 81.34 310⇑*iP* P 19 50 10.4 -0.5
D03A **Wishkah Elem.** 81.34 41 ⇑P P 19 50 11.5 +0.7
baz=81,SNR=12
KDAG **Bornova** 81.37 309⇑*iP* P 19 50 10.7 -0.5
PGB **Panagyurishte** 81.44 314 *i P* P 19 50 11.9 +0.5
SNART **Snartemo** 81.46 333 *eP* P 19 50 11.3 +0.2
SNART AMb AMB 19 50 13.0
comp=Z,290nm,1.1s,mb6.1
HDW **Hoodsport** 81.48 40 P P 19 50 13.0 +1.5
C04A **Brinnon** 81.49 40 P P 19 50 11.9 +0.4
baz=81,SNR=7.6
BZS **Buzias** 81.49 317 ⇑P P 19 50 11.0 -0.6
BZS **Buzias** 81.49 317⇑*iP* P 19 50 11.0 -0.6
RZN **Rozhen** 81.51 313 *i P* P 19 50 12.4 +0.6
BOZC **Bozcaada** 81.51 310⇑*iP* P 19 50 11.2 -0.6
MBW **Mount Baker** 81.53 39 P P 19 50 13.0 +1.3
BLCB **Balcova** 81.53 309 *eP* P 19 50 11.7 -0.3
A06A **Chilliwack** 81.60 39 ⇑P P 19 50 11.7 -0.4
baz=81,SNR=11
CMW **Cultus Mountai** 81.60 39 P P 19 50 14.0 +1.9
VYHS **Vyhne** 81.61 321 *i P* P 19 50 13.1 +0.9
comp=Z,129nm,1.0s,mb5.8
VYHS LR LR
comp=Z,5μm,19.6s,MS5.9
MORC **Moravsky Berou** 81.63 322 *eP* P 19 50 12.8 +0.5
comp=Z,122nm,1.0s,mb5.8
MORC **Moravsky Berou** 81.63 322 *eP* P 19 50 12.8 +0.6
MORC pmax pmax
comp=Z,123nm,1.0s,mb5.8
MORC **Moravsky Berou** 81.63 322⇑*iP* P 19 50 12.1 -0.1
PRK **Paraskevi** 81.65 310⇑*iP* P 19 50 12.4 -0.2
B05A **Bryant** 81.70 40 ⇑P P 19 50 12.7 +0.1
baz=82,SNR=13
KSP **Ksiaz** 81.71 324 *i P* P 19 50 13.9 +1.2
comp=Z,600nm,0.9s,mb6.5
KSP *e*pP pP 19 50 27.1 +1.1
KSP *e*S S 20 00 20.4 -1.6
KSP LMZ 20 30 15.2
comp=Z,10μm,17.3s
KSP **Ksiaz** 81.71 324⇑*iP* P 19 50 13.3 +0.6
KSP *e**PP pP 19 50 26.7 +0.7
KSP *e* 19 53 19.0
KSP MLR MLR
comp=Z,12μm,17.3s,MS6.3
E03A **Lebam** 81.76 42 ⇑P P 19 50 13.2 +0.2
baz=82,SNR=16
ARG **Arkhangelos** 81.79 306⇑*iP* P 19 50 13.3 -0.1
KOLL **Kolacno** 81.81 321 *i P* P 19 50 14.4 +1.2
MUD **Monsted U'grnd** 81.83 331⇑*iP* P 19 50 13.1 0.0
MUD *e*S S 20 00 23.5 +0.6
MUD pmax pmax
comp=Z,330nm,1.0s,mb6.2
MUD MLR MLR
comp=Z,3μm,18.0s,MS5.7
MUD **Monsted U'grnd** 81.83 331⇑*iP* P 19 50 13.1 0.0
comp=Z,329nm,1.0s,mb6.2
MUD *e*S S 20 00 23.5 +0.6
MUD
comp=Z,3μm,18.0s
JCW **Jim Creek** 81.83 40 P P 19 50 15.0 +1.7
URLA **Izmir** 81.85 309⇑*iP* P 19 50 13.1 -0.5
BDRM **Kayabasi** 81.88 308⇑*iP* P 19 50 13.2 -0.7
B06A **Marblemount** 81.91 39 ⇑P P 19 50 13.4 -0.3
baz=82,SNR=14
D04A **Dobbs Creek Ra** 81.91 41 ⇑P P 19 50 14.4 +0.6
baz=82
DPC **Dobruska-Polom** 81.97 323⇑*iP* P 19 50 14.6 +0.6
DPC *e*pP pP 19 50 25.5 -1.9
DPC *e*S S 20 00 23.1 -1.5
DPC *ex* x 20 01 42.8
DPC AMS AMS 20 30 00.0
comp=Z,5μm,17.5s,MS5.9
SMG **Samos** 82.00 308⇑*iP* P 19 50 14.1 -0.3
VTS **Vitosha** 82.03 314 *eP* P 19 50 15.1 +0.6
VTS **Vitosha** 82.03 314⇑*iP* P 19 50 15.2 +0.7
VTS **Vitosha** 82.03 314 *i P* P 19 50 15.3 +0.8
BUD **Budapest** 82.04 320⇑*eP* P 19 50 14.9 +0.4
UPC **Upice** 82.05 323⇑*iP* P 19 50 15.2 +0.8
RUE **Ruedersdorf** 82.07 326 *eP* P 19 50 15.8 +1.3
comp=Z,366nm,1.1s,mb6.2
RUE **Ruedersdorf** 82.07 326 *eP* P 19 50 15.1 +0.6
comp=Z,445nm,1.2s,mb6.3
RUE *e*pP pP 19 50 28.5 +0.6
LIA **Limnos Island** 82.07 311⇑*iP* P 19 50 11.5 -3.3
F03A **Seaside** 82.08 42 ⇑P P 19 50 15.1 +0.4
baz=82,SNR=11
LOS **Limnos** 82.12 311 *eP* P 19 50 14.5 -0.6
HTW **Haystack Looko** 82.13 40 P P 19 50 15.5 +0.6
MMB **Musomiste** 82.20 313 *i P* P 19 50 15.3 -0.1
CHOS **Chios island** 82.21 309 *eP* P 19 50 15.1 -0.5
A07A **Ashnola River,** 82.23 38 P P 19 50 15.3 -0.1
baz=82,SNR=41
NVR **Nevrokopi** 82.23 313⇑*iP* P 19 50 15.3 -0.3
C05A **Tolt Reservoir** 82.23 40 ⇑P P 19 50 15.6 +0.2
baz=82,SNR=24
RMW **Rattlesnake Mo** 82.30 40 P P 19 50 16.6 +0.8
D05A **Enumclaw** 82.34 40 ⇑P P 19 50 16.5 +0.5
baz=82,SNR=11
VRAC **Vranov** 82.41 322 ⇑P P 19 50 16.9 +0.6
VRAC **Vranov** 82.41 322⇑*iP* P 19 50 16.9 +0.6
LMW **Ladd Mountain** 82.44 41 P P 19 50 17.4 +0.9
H02A **Toledo** 82.47 43 ⇑P P 19 50 17.5 +0.7
baz=82
KKB **Krupnik** 82.48 313 *i P* P 19 50 16.8 -0.1
SRS **Serrai** 82.52 313 *eP* P 19 50 16.5 -0.6
MODS **Modra-Piesok** 82.55 321 *i P* P 19 50 18.2 +1.1
comp=Z,47nm,1.1s,mb5.4
MODS *e* pP 19 50 33.3 +2.9
MODS *e*S S 20 00 30.9 +0.3
MODS **Modra-Piesok** 82.55 321 *i P* P 19 50 18.2 +1.1
MODS *e* pP 19 50 33.3 +2.9
MODS *e*S S 20 00 30.9 +0.3
MODS pmax pmax
comp=Z,47nm,1.1s,mb5.4
C06A **Tall Timber Ra** 82.56 39 ⇑P P 19 50 17.2 0.0
baz=82,SNR=5.0
G03A **Yamhill** 82.57 42 ⇑P P 19 50 17.7 +0.4
baz=82
TDL **Tradedollar La** 82.65 41 P P 19 50 19.0 +1.3
RCS **Mount Rainier-** 82.66 41 P P 19 50 18.8 +1.1
FMW **Mount Fremont** 82.66 41 ⇓P P 19 50 18.3 +0.6
FL2 **Flat Top 2** 82.66 41 P P 19 50 19.0 +1.3
OUR **Ouranopolis** 82.66 312 *eP* P 19 50 17.5 -0.3
RCM **Mount Rainier-** 82.67 41 P P 19 50 18.9 +1.2
B07A **Winthrop** 82.70 39 ⇓P P 19 50 17.9 +0.1
baz=82,SNR=27
ZST **Bratislava** 82.74 321 *i P* P 19 50 19.0 +0.9
comp=Z,64nm,0.7s,mb5.8
ZST *e*S S 20 00 30.9 -1.7
ZST LR LR

comp=Z,4µm,17.9s,MS5.9
ZST Bratislava 82.74 321 *i* P **P 19 50 19.0 +0.9**
ZST *e*S S 20 00 30.9 -1.7
F04A Amboy 82.76 42 ⇓P **P 19 50 18.2 0.0**
baz=83,SNR=29
ESD East Dome 82.77 41 P **P 19 50 19.8 +1.5**
NLW Nelson Butte 82.79 39 P **P 19 50 18.9 +0.5**
PVCC Panska Ves 82.80 324 ⇑*i*P **P 19 50 19.3 +1.0**
PVCC *e* pP 19 50 32.4 +0.7
PVCC MLR MLR
comp=Z,5µm,16.8s,MS6.0
PVCC Panska Ves 82.80 324 ⇑*i*P **P 19 50 19.3 +1.0**
PVCC *e*pP pP 19 50 32.4 +0.7
PVCC *e*SKS 20 00 40.6
PVCC AMS AMS 20 30 30.0
comp=Z,5µm,16.8s,MS6.0
KARP Karpathos 82.80 306 ⇑*i*P **P 19 50 18.3 -0.4**
E05A Randle 82.81 41 P **P 19 50 18.3 -0.2**
baz=83,SNR=17
SOH Sokhos 82.83 312 *e*P **P 19 50 17.8 -1.0**
MTMW Mount Mitchell 82.83 41 P **P 19 50 19.4 +0.8**
MPOR Mary's Peak 82.84 43 P **P 19 50 19.8 +1.2**
SLFW Sugar Loaf 82.86 39 P **P 19 50 19.4 +0.7**
BSEG Bad Segeberg 82.87 328 *e*P **P 19 50 19.1 +0.5**
BSEG pmax pmax
comp=Z,505nm,1.0s,mb6.5
BSEG Bad Segeberg 82.87 328 *e*P **P 19 50 19.1 +0.5**
comp=Z,505nm,1.0s,mb6.5
A08A Turner Farm, O 82.89 38 P **P 19 50 18.9 +0.1**
baz=83,SNR=44
H03A Soap Creek Ran 82.90 43 ⇑P **P 19 50 19.6 +0.6**
baz=83,SNR=21
BRG Berggiesshubel 82.92 324 *i* P **P 19 50 19.8 +0.8**
comp=Z,84nm,1.1s,mb5.7
BRG *i* pP pP 19 50 32.5 +0.2
BRG *i* 19 50 43.3
BRG PP PP 19 53 32.0 +2.7
BRG S S 20 00 40.0 +5.7
BRG SS SS 20 06 39.0 +42
BRG LR LR
comp=Z,3µm,16.3s,MS5.8
BRG Berggiesshubel 82.92 324 *i* P **P 19 50 19.8 +0.8**
BRG *i* *PP pP 19 50 32.5 +0.1
BRG 19 53 32.0
BRG S S 20 00 40.0 +5.7
BRG pmax pmax
comp=Z,84nm,1.1s,mb5.7
BRG pmax pmax
comp=Z,49nm,1.1s,mb5.5
BRG pmax pmax
comp=Z,111nm,1.7s,mb5.6
BRG MLR MLR
comp=N,2µm,17.5s,MS5.7
BRG MLR MLR
comp=E,2µm,16.1s,MS5.7
BRG MLR MLR
comp=Z,3µm,16.3s,MS5.8
BRG Berggiesshubel 82.92 324 *e*P **P 19 50 19.2 +0.2**
comp=Z,140nm,1.1s,mb5.9
BRG Berggiesshubel 82.92 324 *i* P **P 19 50 19.8 +0.8**
comp=Z,140nm,1.1s,mb5.9
BRG *i* pP pP 19 50 32.5 +0.2
comp=Z,82nm,1.1s
BRG *i* 19 50 43.3
comp=Z,185nm,1.7s
BRG PP PP 19 53 32.0 +2.7
BRG S S 20 00 40.0 +5.7
BRG SS SS 20 06 39.0 +42
BRG
comp=N,3µm,17.5s
BRG
comp=E,3µm,16.1s
BRG
comp=Z,6µm,16.3s
I02A Mapleton 82.93 44 ⇓P **P 19 50 19.5 +0.4**
baz=83,SNR=8.2
COR Corvallis 82.94 43 *e*P **P 19 50 19.8 +0.6**
comp=Z,119nm,0.8s,mb6.0
COR LR LR
comp=Z,580nm,21.0s,MS4.9
COR Corvallis 82.94 43 *e*P **P 19 50 19.8 +0.6**
COR pmax pmax
comp=Z,119nm,0.8s,mb6.0
COR MLR MLR
comp=Z,580nm,21.0s,MS4.9
PKSM Moragy 82.94 319 ⇑P **P 19 50 19.0 -0.2**
PKSM Moragy 82.94 319 ⇑*i*P **P 19 50 19.0 -0.2**
KNT Kendrikon 82.95 313 *e*P **P 19 50 18.8 -0.6**
D06A Cle Elum 82.99 40 ⇑P **P 19 50 19.4 0.0**
baz=83,SNR=8.4
PLG Polygyros 82.99 312 *e*P **P 19 50 18.5 -1.1**
PLG Polygyros 82.99 312 *e*P **P 19 50 18.9 -0.7**
TWW Teanaway 83.01 40 P **P 19 50 20.4 +0.9**
TREC Trest 83.01 323 ⇑*i*P **P 19 50 20.3 +0.8**
TREC AMS AMS 20 30 30.0
comp=Z,4µm,16.6s,MS5.8
RNO Roman Nose 83.03 44 P **P 19 50 21.1 +1.4**
ETW Entiat 83.05 39 P **P 19 50 20.2 +0.5**
PAIG Paliouri 83.06 311 *e*P **P 19 50 19.2 -0.7**
VAY Valandovo 83.09 313 *e*P **P 19 50 18.8 -1.2**
VAY Valandovo 83.09 313 *e*P **P 19 50 19.2 -0.8**
CBSW Chelan Butte S 83.11 39 P **P 19 50 20.2 +0.2**
HORT Hortiatis 83.11 312 *e*P **P 19 50 19.4 -0.8**
G04A Mulino 83.11 42 ⇑P **P 19 50 20.1 +0.1**
baz=83,SNR=7.8
PRU Pruhonice 83.12 324 ⇑*i*P **P 19 50 20.7 +0.7**
PRU *e* pP 19 50 32.4 -1.0
PRU *e* 20 00 38.8
PRU MLR MLR
comp=Z,5µm,16.8s,MS6.0
PRU Pruhonice 83.12 324 ⇑*i*P **P 19 50 20.7 +0.7**
PRU *e*pP pP 19 50 32.4 -1.0
PRU *e*SKS 20 00 38.8
PRU *e*x x 20 06 51.2
PRU AMS AMS 20 30 50.0
comp=Z,5µm,16.8s,MS6.0
PRA Prague 83.13 324 ⇑P **P 19 50 20.0 -0.1**
PRA pP pP 19 50 35.0 +1.5
STIP Stip 83.14 314 *e*P **P 19 50 19.7 -0.6**
STIP Stip 83.14 314 *e*P **P 19 50 19.7 -0.6**
TBM Table Mountain 83.14 40 P **P 19 50 20.7 +0.5**
CLL Collm 83.15 325 ⇑*i*P **P 19 50 20.6 +0.5**
comp=Z,348nm,1.0s,mb6.3
CLL *i* pP pP 19 50 33.0 -0.5
CLL *e*S S 20 00 38.0 +1.4
CLL LR LR
comp=Z,5µm,17.6s,MS5.9
CLL Collm 83.15 325 ⇑*i*P **P 19 50 20.6 +0.5**
CLL *i* *PP pP 19 50 33.0 -0.5
CLL *e*S S 20 00 38.0 +1.4
CLL pmax pmax
comp=Z,348nm,1.0s,mb6.3
CLL MLR MLR
comp=Z,5µm,17.6s,MS5.9
CLL Collm 83.15 325 *e*P **P 19 50 20.1 0.0**
comp=Z,323nm,1.0s,mb6.3
CLL *e*pP pP 19 50 33.6 +0.1
CLL Collm 83.15 325 ⇑*i*P **P 19 50 20.6 +0.5**
comp=Z,348nm,1.0s,mb6.3
CLL *i* pP pP 19 50 33.0 -0.5
CLL *e*PP PP 19 53 31.0 -0.1
comp=Z,27nm,1.2s
CLL *e*(PPP) 19 55 13.0
CLL *e*(PPPP) 19 57 00.0
CLL *e*S S 20 00 38.0 +1.4
CLL *e*sS sS 20 01 03.0 +4.0
CLL *e*PPS 20 01 51.0
CLL *e*(SS) 20 06 52.0
CLL *e*x x 20 10 57.0
K01A Sixes 83.15 45 ⇓P **P 19 50 20.8 +0.5**
baz=83,SNR=13
C07A Waterville 83.16 39 P **P 19 50 19.8 -0.4**
baz=83,SNR=31
THE Thessaloniki 83.18 312 *e*P **P 19 50 19.3 -1.2**
B08A Colville Reser 83.19 38 P **P 19 50 20.4 0.0**
baz=83,SNR=80
VLMM Larch Mountain 83.19 42 P **P 19 50 21.1 +0.6**
FBE Freiberg 83.19 325 *e*P **P 19 50 20.8 +0.4**
comp=Z,426nm,1.2s,mb6.3
KEBM Edson Butte 83.21 45 *e*P **P 19 50 21.1 +0.5**
KEBM *e*pP pP 19 50 34.4 +0.4
WTV Waterville 83.21 39 P **P 19 50 20.7 +0.1**
APE Apeiranthos 83.22 308 P **P 19 50 19.7 -1.1**
APE Apeiranthos 83.22 308 *e*P **P 19 50 18.8 -2.0**
APE Apeiranthos 83.22 308 *c*P **P 19 50 19.0 -1.8**
APE Apeiranthos 83.22 308 ⇑*i*P **P 19 50 19.0 -1.8**
APE Apeiranthos 83.22 308 ⇑*i*P **P 19 50 19.0 -1.8**
A09A Danville 83.25 38 P **P 19 50 20.8 +0.1**
baz=83,SNR=54
GT2 Goat Mountain 83.26 42 P **P 19 50 22.1 +1.2**
DIVS Divibare 83.27 316 *e*P **P 19 50 20.4 -0.5**
E06A Yakima 83.27 41 ⇑P **P 19 50 21.4 +0.5**
baz=83,SNR=72
I03A Eugene 83.28 44 ⇓P **P 19 50 21.4 +0.4**
baz=83,SNR=19
EBG Ellensburg 83.30 40 ⇓P **P 19 50 21.9 +0.8**
AOS Alonnisos 83.31 311 *e*P **P 19 50 20.8 -0.4**
SSOR Sweet Springs 83.31 43 P **P 19 50 22.4 +1.3**
SOP Sopron 83.33 321 ⇑*e*P **P 19 50 21.9 +0.7**
F05A White Salmon 83.35 41 P **P 19 50 21.6 +0.3**
baz=83,SNR=5.9
LRW Lerwick 83.37 337 *e*P **P 19 50 20.8 -0.3**
LRW AMb AMB 19 50 23.1
comp=Z,281nm,1.2s,mb6.2
EUO Eugene 83.38 44 P **P 19 50 22.2 +0.7**
GRG Griva 83.38 313 *e*P **P 19 50 20.7 -0.8**
EDM Edmonton 83.39 32 *e*P **P 19 50 21.1 -0.2**
EDM *e*pP pP 19 50 33.6 -1.2
J02A Umpqua 83.42 44 ⇓P **P 19 50 22.3 +0.5**
baz=83,SNR=20
TDH Tom, Dick, Har 83.48 42 P **P 19 50 22.6 +0.7**
SKO Skopje 83.48 314 *e*P **P 19 50 23.0 +1.0**
SKO Skopje 83.48 314 *e*P **P 19 50 22.9 +0.9**
D07A Quincy 83.48 40 ⇑P **P 19 50 21.9 -0.1**
baz=83,SNR=18
SAW Saint Andrews 83.52 39 P **P 19 50 23.0 +0.9**
HOOD Mount Hood Mea 83.54 42 P **P 19 50 22.8 +0.5**
H04A Detroit Lake 83.57 43 P **P 19 50 22.3 -0.1**
baz=83,SNR=38
CONA Conrad Observa 83.58 321 *i* P **P 19 50 23.1 +0.7**
comp=Z,956nm,2.3s,mb6.5,SNR=74
EPH Ephrata 83.61 39 P **P 19 50 22.9 +0.3**
THR1 Thera Island 83.61 308 *e*P **P 19 50 22.9 +0.1**
KBO Bosley Butte 83.62 46 *e*P **P 19 50 22.5 -0.3**
BROR Big Rock Looko 83.63 43 P **P 19 50 23.3 +0.5**
HSO Harness Mounta 83.64 44 P **P 19 50 23.9 +1.1**
MXC Moxie City 83.64 40 P **P 19 50 24.0 +1.2**
VFP Flag Point 83.65 42 P **P 19 50 23.7 +0.8**
XOR Xorichti 83.67 311 *e*P **P 19 50 22.1 -1.0**
C08A Higginbotham F 83.67 39 P **P 19 50 22.6 -0.3**
baz=84,SNR=53
GL2 New Goldendale 83.68 41 P **P 19 50 23.8 +0.8**
NEO Neokhori 83.68 311 *e*P **P 19 50 21.9 -1.2**
ZKR Zakros 83.69 306 *e*P **P 19 50 23.1 -0.2**
DBO Dodson Butte 83.76 44 P **P 19 50 21.0 -2.4**
LIT Litokhoron 83.76 312 *e*P **P 19 50 22.6 -0.9**
G05A Wamic 83.78 42 ⇑P **P 19 50 23.7 +0.2**
baz=84,SNR=6.1
K02A Glendale 83.79 45 P **P 19 50 23.9 +0.3**
baz=84,SNR=24
J03A Ideyld Park 83.80 44 ⇓P **P 19 50 24.3 +0.7**
baz=84,SNR=30
A10A Northport 83.80 37 ⇓P **P 19 50 23.7 +0.2**
baz=84,SNR=14
B09A Rice 83.80 38 P **P 19 50 23.8 +0.2**
baz=84,SNR=43
F06A Goldendale 83.81 41 ⇑P **P 19 50 24.0 +0.3**
baz=84,SNR=8.0
HLG Helgoland 83.83 329 *e*P **P 19 50 23.6 0.0**
comp=Z,1µm,1.9s,mb6.7
DESE Dese 83.86 279 *e*P **P 19 50 27.3 +2.8**
NRDL Niedersach Rie 83.86 327 *e*P **P 19 50 24.2 +0.4**
comp=Z,365nm,1.3s,mb6.3
NRDL *e*pP pP 19 50 37.5 +0.3
BRVW Black Rock Val 83.87 40 P **P 19 50 26.0 +2.1**
M01C Crescent City 83.88 46 ⇓P **P 19 50 24.4 +0.3**
baz=84,SNR=7.7
IRO Indian Ridge 83.89 43 P **P 19 50 24.7 +0.6**
E07A Sunnyside 83.91 40 ⇑P **P 19 50 24.1 -0.1**
baz=84,SNR=11
I04A Tendick Farm, 83.91 43 P **P 19 50 24.3 +0.1**
baz=84,SNR=59
KRUS Krusevo 83.91 314 *e*P **P 19 50 24.1 -0.1**
MDW Midway 83.93 40 P **P 19 50 24.9 +0.7**
VGB Gordon Butte 83.95 41 P **P 19 50 25.2 +0.8**
TANN Tannenbergstha 83.95 325 *e*P **P 19 50 24.6 +0.3**
comp=Z,228nm,1.3s,mb6.1
TANN *e*pP pP 19 50 37.9 +0.2
WAH2 Wahluke Slope 83.96 40 P **P 19 50 26.0 +1.6**
IVA Berane 83.98 315 ⇓*i*P **P 19 50 25.6 +1.0**
BENWA Benson Ranch 84.01 40 P **P 19 50 25.4 +0.8**
GBB Gable Butte 84.01 40 P **P 19 50 26.0 +1.4**
WERD Werda 84.01 325 *e*P **P 19 50 24.8 +0.2**
comp=Z,258nm,1.3s,mb6.2
ATH Athens Observa 84.02 310 *e*P **P 19 50 23.6 -1.3**
CRF Corfu 84.02 40 P **P 19 50 25.3 +0.5**
L02A Cave Junction 84.04 45 ⇓P **P 19 50 25.1 +0.2**
baz=84,SNR=25
NPS Neapolis 84.04 307 *e*P **P 19 50 24.5 -0.6**
PLE Pljevlja 84.04 316 ⇓*i*P **P 19 50 26.0 +1.1**
BIA Bitola 84.05 313 *e*P **P 19 50 23.2 -1.7**
BIA Bitola 84.05 313 *e*P **P 19 50 23.4 -1.6**
GUNZ Gunzen 84.05 325 *e*P **P 19 50 25.2 +0.4**
comp=Z,309nm,1.1s,mb6.3
GUNZ *e*pP pP 19 50 38.6 +0.4
LOCW Locke Island 84.06 40 P **P 19 50 25.5 +0.6**
NKC Novy Kostel 84.07 325 ⇑*i*P **P 19 50 25.3 +0.4**
NKC *e* pP 19 50 39.0 +0.7
NKC *e*SKS 20 00 44.7
NKC *e* 20 02 04.2
NKC Novy Kostel 84.07 325 ⇑*i*P **P 19 50 25.3 +0.4**
NKC *e*pP pP 19 50 39.0 +0.7
NKC *e*SKS 20 00 44.7
NKC *e*x x 20 02 04.2
NKC AMS AMS 20 31 40.0
comp=Z,6µm,16.5s,MS6.1
WERN Wernitzgruen 84.07 325 *e*P **P 19 50 25.3 +0.4**
comp=Z,356nm,1.1s,mb6.4
PVY Plav 84.08 315 ⇓*i*P **P 19 50 24.2 -0.9**
OD2 Odessa Site #2 84.08 39 ⇓P **P 19 50 25.2 +0.2**
C09A Chrisman Ranch 84.09 38 P **P 19 50 25.2 +0.1**
baz=84,SNR=15
GBL Gable Mountain 84.11 40 P **P 19 50 25.9 +0.7**
CROR Criterion Ridg 84.12 42 P **P 19 50 26.2 +1.0**
KZN Kozani 84.13 313 ⇑*i*P **P 19 50 24.5 -0.9**
KHC Kasperske Hory 84.13 323 ⇑*i*P **P 19 50 25.5 +0.3**
KHC *e* pP 19 50 35.6 -3.0
KHC *e* 20 00 41.4
KHC MLR MLR
comp=Z,5µm,17.0s,MS6.0
KHC Kasperske Hory 84.13 323 ⇑*i*P **P 19 50 25.5 +0.3**
KHC *e*PCP PcP 19 50 30.0 +1.0
KHC *e*pP pP 19 50 35.6 -3.0
KHC *e*SKS 20 00 41.4
KHC *e*x x 20 07 12.2
KHC AMS AMS 20 31 30.0
comp=Z,5µm,17.0s,MS6.0
CLZ Clausthal 84.13 327 *e*P **P 19 50 25.9 +0.7**
CLZ *e**PP pP 19 50 39.1 +0.5
CLZ pmax pmax
comp=Z,829nm,1.1s,mb6.8
CLZ Clausthal 84.13 327 *e*P **P 19 50 25.9 +0.7**
comp=Z,829nm,1.1s,mb6.8
CLZ *e*pP pP 19 50 39.1 +0.5
FNA Florina 84.14 313 *e*P **P 19 50 24.3 -1.1**
RSW Rattlesnake Hi 84.15 40 P **P 19 50 26.2 +0.8**
ARSA Arzberg 84.15 321 *i* P **P 19 50 25.8 +0.4**
comp=Z,700nm,2.5s,mb6.3,SNR=45
D08A Wollman Farm, 84.16 39 P **P 19 50 25.4 0.0**
baz=84,SNR=46
H05A Madras 84.16 42 ⇑P **P 19 50 25.6 +0.1**
baz=84,SNR=25
LKR Lokris 84.16 311 *e*P **P 19 50 23.9 -1.7**
LKR Lokris 84.16 311 ⇑*i*P **P 19 50 24.1 -1.5**
WRD Warden 84.17 40 P **P 19 50 25.6 +0.1**
KRMB Red Mountain 84.18 46 *e*P **P 19 50 26.3 +0.6**
KRMB *e*pP pP 19 50 38.7 -0.4
HAWA Hanford 84.18 40 *e*P **P 19 50 25.4 -0.2**
comp=Z,165nm,1.4s,mb6.0
HAWA LR LR
comp=Z,485nm,19.0s,MS4.9
G06A Carlson Farm, 84.19 42 P **P 19 50 25.8 +0.2**
baz=84,SNR=44
LAST Lasithi 84.19 307 *e*P **P 19 50 25.6 -0.2**
MJ2 May Junction 2 84.19 40 P **P 19 50 26.2 +0.6**
HUMO Hull Mountain 84.21 45 *e*P **P 19 50 25.7 0.0**
comp=Z,46nm,0.8s,mb5.7
HUMO LR LR
comp=Z,523nm,20.0s,MS4.9
HUMO Hull Mountain 84.21 45 P **P 19 50 26.1 +0.4**
baz=84,SNR=44
BBOR Butler Butte 84.23 44 P **P 19 50 27.0 +1.1**
GEC2 GERESS Array S 84.23 323 *e*P **P 19 50 25.9 +0.2**
GEC2 pmax pmax
comp=Z,191nm,1.3s,mb6.1
GEC2 GERESS Array S 84.23 323 *e*P **P 19 50 25.9 +0.2**
comp=Z,191nm,1.3s,mb6.1
GERES GERESS Array B 84.23 323 P **P 19 50 26.3 +0.6**
comp=Z,56nm,0.9s,mb5.7,baz=57,slow=4.9,SNR=401
GERES PKKPbc PKKPbc 20 08 36.7 -2.0
comp=Z,1.3nm,0.7s,baz=209,slow=2.4,SNR=10.0
GERES LR LR 20 35 12.3
comp=Z,2µm,18.4s,MS5.4,baz=251,slow=41
F07A Phinny Hill Vi 84.23 41 ⇑P **P 19 50 25.9 +0.1**
baz=84,SNR=15
MOX Moxa 84.25 325 ⇓*i*P **P 19 50 26.6 +0.8**
comp=Z,250nm,1.6s,mb6.1
MOX *e* pP 19 50 39.4 +0.2
MOX
comp=Z,4µm,18.0s
MOX Moxa 84.25 325 ⇓*i*P **P 19 50 26.6 +0.8**
MOX *e* pP 19 50 39.4 +0.2
MOX pmax pmax
comp=Z,1.0nm,1.6s
MOX MLR MLR
comp=Z,250µm,18.0s
MOX Moxa 84.25 325 *e*P **P 19 50 26.0 +0.2**
comp=Z,357nm,1.7s,mb6.2
MOX *e*pP pP 19 50 39.5 +0.3
VTHM Trough 84.26 42 P **P 19 50 26.7 +0.7**
REDWA Red Mountain 84.29 40 P **P 19 50 26.8 +0.7**
WIW Wooded Island 84.30 40 P **P 19 50 26.9 +0.7**
KTRM Thompson Ridge 84.32 45 ⇓P **P 19 50 27.4 +1.1**
OHR Ohrid 84.34 314 *e*P **P 19 50 25.1 -1.3**
OHR Ohrid 84.34 314 *e*P **P 19 50 25.2 -1.3**
THL Klokotos Trika 84.35 312 *e*P **P 19 50 24.0 -2.5**
THL Klokotos Trika 84.35 312 ⇑*i*P **P 19 50 24.4 -2.1**
B10A Chitwood Farm, 84.38 38 ⇓P **P 19 50 26.5 0.0**
baz=84
J04A Umpqua Nationa 84.39 44 ⇓P **P 19 50 27.1 +0.4**
baz=84,SNR=94
MANZ Manzenberg 84.39 324 *e*P **P 19 50 26.9 +0.4**
comp=Z,296nm,1.4s,mb6.2
E08A Dider Farm, El 84.40 40 ⇑P **P 19 50 26.8 +0.1**
baz=84,SNR=26
I05A Bend 84.40 43 ⇑P **P 19 50 27.1 +0.3**
baz=84,SNR=9.0
UPM Unac-Piva 84.41 316 ⇓*i*P **P 19 50 26.2 -0.6**
ET3 Eltopia 84.42 40 P **P 19 50 27.4 +0.6**
AGG Agios Georgios 84.42 311 *e*P **P 19 50 24.4 -2.6**
PUK Puka 84.42 315 *i*PN **P 19 50 27.1 +0.3**
GMO Grizzlie Mount 84.44 42 P **P 19 50 27.7 +0.8**
A11A Hall Mountain, 84.45 37 P **P 19 50 27.8 +1.0**
baz=84,SNR=99
NEW Newport 84.45 38 *e*P **P 19 50 27.1 +0.2**
comp=Z,102nm,0.8s,mb6.0
NEW *e*pP pP 19 50 39.6 -0.7
NEW LR LR
comp=Z,673nm,20.0s,MS5.0
NEW Newport 84.45 38 P **P 19 50 26.6 -0.3**
NEW pmax pmax
comp=Z,102nm,0.8s
NEW Newport 84.45 38 P **P 19 50 26.6 -0.3**
comp=Z,102nm,0.8s,mb6.0,baz=303,slow=3.8,SNR=78
ROTZ Rotzenmuhle 84.47 324 *e*P **P 19 50 27.5 +0.6**
comp=Z,398nm,1.2s,mb6.4
ROTZ *e*pP pP 19 50 40.9 +0.5
JCC Jacoby Creek 84.47 47 P **P 19 50 27.6 +0.4**
baz=84,SNR=5.1
WET Wettzell 84.49 323 *e*P **P 19 50 27.5 +0.4**
WET pmax pmax
comp=Z,382nm,1.9s,mb6.2
WET Wettzell 84.49 323 *e*P **P 19 50 27.5 +0.4**
comp=Z,382nm,1.9s,mb6.2
D09A Jones Farm, Ri 84.50 39 ⇑P **P 19 50 27.1 -0.1**
baz=84,SNR=13
LTK Loutraki 84.50 310 *e*P **P 19 50 24.9 -2.4**
MOA Molln 84.51 322 *i* P **P 19 50 27.8 +0.7**
comp=Z,862nm,2.6s,mb6.4,SNR=70
MOA Molln 84.51 322 *i* PcP PcP 19 50 27.8 -2.9
comp=Z,862nm,2.6s,SNR=70
NKY Niksic 84.57 316 ⇓*i*P **P 19 50 26.5 -1.1**
DID Didima 84.58 310 *e*P **P 19 50 24.8 -2.9**
VIPM Ingram Point 84.60 42 P **P 19 50 28.5 +0.8**
TTG Podgorica 84.61 315 ⇓*i*P **P 19 50 27.0 -0.8**
C10A Spilker Farm, 84.61 38 ⇓P **P 19 50 27.8 +0.1**
baz=84,SNR=5.6
H06A Lindquist Farm 84.64 42 P **P 19 50 27.9 0.0**
baz=84,SNR=41
SISC Sisak 84.68 319 P **P 19 50 29.0 +0.9**
RAR Rarotonga 84.68 117 LR LR 20 19 54.4
comp=Z,782nm,20.8s,MS5.1,baz=90,slow=30
QSH Qafa e Shtames 84.69 314 *i*PN **P 19 50 30.0 +1.8**
YPT Yellepit 84.70 40 P **P 19 50 29.0 +0.8**
PERS Pernice 84.73 321 *i* P **P 19 50 28.4 +0.1**
SIVA Sivas 84.74 307 *e*P **P 19 50 27.9 -0.7**
G07A Ruggs Ranch, H 84.74 41 P **P 19 50 28.6 +0.3**
baz=85,SNR=46
MEV Metsovon 84.75 312 *e*P **P 19 50 28.0 -0.5**
B11A Sandpoint 84.76 37 P **P 19 50 29.0 +0.6**
baz=85,SNR=79
BRY Bratogost 84.80 316 ⇓*i*P **P 19 50 28.0 -0.7**
GOLS Golise 84.80 320 *i* P **P 19 50 28.4 -0.3**
TIR Tirane 84.81 314 *e*P **P 19 50 28.7 -0.1**
TIR Tirane 84.81 314 *i*PN **P 19 50 29.1 +0.3**
EVR Evrytania 84.82 311 ⇑*i*P **P 19 50 27.9 -1.0**
YBH Yreka Blue Hor 84.83 45 *e*P **P 19 50 29.0 0.0**
comp=Z,77nm,1.1s,mb5.7
YBH *e*pP pP 19 50 42.4 0.0
YBH LR LR
comp=Z,538nm,21.0s,MS4.9
YBH Yreka Blue Hor 84.83 45 *e*P **P 19 50 29.0 +0.1**
YBH *e**PP pP 19 50 42.4 +0.1
YBH pmax pmax
comp=Z,77nm,1.1s
YBH MLR MLR
comp=Z,538nm,21.0s
YBH Yreka Blue Hor 84.83 45 P **P 19 50 29.2 +0.3**
baz=85,SNR=42
PINOR Pine Mountain 84.83 43 P **P 19 50 29.7 +0.9**
A12A Yaak River Ran 84.84 37 ⇑P **P 19 50 29.6 +0.8**
baz=85,SNR=23
ULC Ulcinj 84.87 315 ⇓*i*P **P 19 50 28.8 -0.3**
GCIS Gornji Cirnik 84.88 320 *i* P **P 19 50 29.1 0.0**
ZAVS Zavodnje 84.90 320 *i* P **P 19 50 28.8 -0.4**
E09A Wood Farm, Sta 84.90 39 P **P 19 50 29.4 +0.2**
baz=85,SNR=34
J05A Fort Rock 84.90 43 P **P 19 50 29.8 +0.6**
baz=85,SNR=97
BUM Brajici-Budva 84.91 315 ⇓*i*P **P 19 50 28.4 -0.9**
M02C Callahan 84.92 46 P **P 19 50 29.8 +0.4**
baz=85,SNR=39
N02C Big Bar 84.94 46 ⇓P **P 19 50 29.5 0.0**
baz=85,SNR=10
UBBA Unterbreizbach 84.95 326 *e*P **P 19 50 29.5 +0.2**
comp=Z,453nm,1.6s,mb6.3
K04A Chilquin 84.97 44 ⇓P **P 19 50 29.8 +0.2**
baz=85
O01C Eel River Cons 84.97 47 ⇓P **P 19 50 29.9 +0.2**
baz=85
VAM Vamos 84.97 307 *e*P **P 19 50 29.1 -0.7**
VSP Spence Mountai 84.98 44 P **P 19 50 30.6 +0.9**
BORG Borgarnes 85.01 347 *e*P **P 19 50 30.6 +1.2**
comp=Z,74nm,1.0s,mb5.8
BORG LR LR
comp=Z,1µm,20.0s,MS5.3
BORG Borgarnes 85.01 347 P **P 19 50 30.8 +1.5**
comp=Z,67nm,0.9s,mb5.8,baz=63,slow=3.3,SNR=6.6
GRA1 Grafenberg Arr 85.03 325 *e*P **P 19 50 30.4 +0.7**
comp=Z,634nm,1.3s,mb6.6
GRA1 *e*pP pP 19 50 43.5 +0.3
GRA1 *e*PP PP 19 53 49.0 +2.5
GRA1 *e*S S 20 00 52.8 -2.7
GRA1 LR LR
comp=Z,3µm,19.6s,MS5.7
GRF Grafenberg Arr 85.03 325 *e*P **P 19 50 30.4 +0.7**
GRF *e**PP pP 19 50 43.5 +0.3
GRF *e* 19 53 49.0
GRF *e*S S 20 00 52.8 -2.7
GRF pmax pmax
comp=Z,634nm,1.3s,mb6.6
GRF MLR MLR

comp=Z,3µm,19.6s,MS5.7
GRF Grafenberg Arr 85.03 325 eP P 19 50 30.4 +0.7
comp=Z,634nm,1.3s,mb6.6
GRF epP pP 19 50 43.5 +0.3
GRF ePP PP 19 53 49.0 +2.5
GRF eS S 20 00 52.8 -2.7
GRF eL 20 32 58.8
comp=Z,3µm,19.6s
GRFO Grafenberg 85.03 325 eP P 19 50 30.5 +0.8
GRFO pmax pmax
comp=Z,594nm,1.3s,mb6.6
GRFO Grafenberg 85.03 325 eP P 19 50 30.5 +0.8
comp=Z,594nm,1.3s,mb6.6
JAN Janina 85.07 312⇑iP P 19 50 29.6 -0.6
HCY Herceg Novi 85.08 316⇓iP P 19 50 29.3 -0.8
IBBN Ibbenburen 85.10 328 eP P 19 50 30.1 +0.1
comp=Z,488nm,1.0s,mb6.6
SELA Sela 85.10 311 eP P 19 50 28.8 -1.5
L04A Klamath Falls 85.11 45 ⇓P P 19 50 30.5 +0.3
baz=85,SNR=25
OBKA Obir 85.13 321⇑iP P 19 50 30.3 0.0
comp=Z,819nm,3.0s,SNR=45
G08A Pilot Rock 85.14 41 P P 19 50 30.6 +0.2
baz=85,SNR=35
B12A Libby 85.16 37 ⇓P P 19 50 30.9 +0.5
baz=85,SNR=6.8
I06A Prineville 85.16 42 P P 19 50 31.1 +0.6
baz=85,SNR=47
KARN Karanos 85.18 307 eP P 19 50 29.8 -1.0
HOG Hogback Mounta 85.18 44 P P 19 50 31.5 +0.8
VLI Veliai 85.19 309⇑iP P 19 50 28.7 -2.1
LNOR Lincton Mounta 85.19 40 P P 19 50 31.3 +0.6
LHEM Herd Peak 85.20 45 ⇓P P 19 50 31.6 +0.9
VLX Vlachokerasia 85.24 310 eP P 19 50 29.5 -1.6
VNDS Vrh nad Dolski 85.28 320 eP P 19 50 30.8 -0.3
BOJS Bojanci 85.31 320 iP P 19 50 31.2 -0.1
STON Ston 85.33 316 P P 19 50 30.2 -1.2
GVD Gavdhos 85.34 307 eP P 19 50 31.4 -0.2
comp=Z,374nm,1.0s,mb6.5
GVD Gavdhos 85.34 307 eP P 19 50 30.9 -0.7
M04C Macdoel 85.35 45 P P 19 50 31.9 +0.4
baz=85,SNR=79
LJU Ljubljana 85.41 320 eP P 19 50 31.5 -0.2
K05A Summer Lake 85.42 44 P P 19 50 32.6 +0.8
baz=85,SNR=59
ORE Reay 85.44 337 eP P 19 50 31.0 -0.6
M03C McCloud 85.45 45 P P 19 50 32.3 +0.3
baz=85,SNR=27
KBA Koelnbreinsper 85.47 322⇑iP P 19 50 32.0 0.0
comp=Z,590nm,2.6s,mb6.3,SNR=51
KBA Koelnbreinsper 85.47 322⇑iPcP PcP 19 50 32.0 -2.9
comp=Z,590nm,2.6s,SNR=51
KBA Koelnbreinsper 85.47 322⇑iP P 19 50 32.0 0.0
KBA pmax pmax
comp=Z,590nm,2.6s,mb6.3
IGT Igoumenitsa 85.47 312 eP P 19 50 30.9 -1.3
MLA1 Latheron 85.48 337 eP P 19 50 31.4 -0.4
A13A Flathead Natio 85.50 36 ⇑P P 19 50 32.5 +0.4
baz=85,SNR=22
RLS Riolos of Patr 85.50 311⇑iP P 19 50 31.7 -0.6
E10A Myers Farm, Un 85.50 39 P P 19 50 32.3 +0.2
baz=85,SNR=30
F09A S2 Ranch, Elgi 85.50 40 P P 19 50 32.7 +0.5
baz=85,SNR=18
I07A Izee 85.50 42 P P 19 50 32.6 +0.4
baz=85,SNR=57
SRN Sarande 85.51 313 iPN pP 19 50 44.7 -1.1
WDC Whiskeytown Da 85.56 46 eP P 19 50 32.0 -0.6
comp=Z,100nm,0.9s,mb6.0
WDC epP pP 19 50 45.1 -1.0
WDC LR LR
comp=Z,524nm,20.0s,MS4.9
WDC Whiskeytown Da 85.56 46 eP P 19 50 32.0 -0.6
WDC e pP 19 50 45.2 -0.8
WDC pmax pmax
comp=Z,100nm,0.9s,mb6.0
WDC Whiskeytown Da 85.56 46 P P 19 50 32.6 0.0
baz=85,SNR=10
MYKA Terra Mystica 85.56 321⇑iP P 19 50 31.8 -0.6
comp=Z,3µm,2.5s
J06A Christmas Vall 85.58 43 P P 19 50 33.0 +0.3
baz=85,SNR=57
D11A Klaveano Farm, 85.60 38 ⇑P P 19 50 32.4 -0.3
baz=85,SNR=14
LASM Arrica Sink 85.62 45 ⇓P P 19 50 33.6 +0.8
O02C Red Bluff 85.62 47 ⇑P P 19 50 33.2 +0.4
baz=85
CEY Cerknica 85.64 320 eP P 19 50 32.4 -0.5
ITM Ithomi 85.65 310⇑iP P 19 50 32.0 -1.1
WALA Waterton Lakes 85.68 36 eP P 19 50 33.0 -0.1
comp=Z,109nm,0.9s,mb6.1
FURI Furi 85.70 278 iP P 19 50 36.5 +2.7
LKD Levkas 85.70 312 eP P 19 50 32.4 -1.0
KEK Kerkira 85.73 313⇑iP P 19 50 32.3 -1.1
SFJD Kangerlussuaq 85.73 360 eP P 19 50 32.0 -0.9
comp=Z,303nm,1.4s,mb6.3
SFJD LR LR
comp=Z,1µm,20.0s,MS5.2
SFJD Kangerlussuaq 85.73 360 eP P 19 50 32.1 -0.8
SFJD pmax pmax
comp=Z,303nm,1.4s,mb6.3
SFJD MLR MLR
comp=Z,1µm,20.0s,MS5.2
F10A Beach Ranch, E 85.73 40 P P 19 50 33.4 +0.1
baz=86,SNR=37
H08A Prairie City 85.75 41 P P 19 50 33.9 +0.5
baz=86,SNR=42
JAVS Javornik 85.76 320 iP P 19 50 32.9 -0.5
WTSB Winterswijk 85.77 328⇑iP P 19 50 33.3 -0.1
comp=Z,207nm,1.8s,mb6.1
K06A Valley Falls 85.77 43 ⇑P P 19 50 34.1 +0.5
baz=86,SNR=94
VOY Vojsko 85.78 321⇑eP P 19 50 32.7 -0.8
VOY e pP 19 50 46.2 -0.8
VOY e 19 51 14.2
B13A Whitefish 85.81 37 P P 19 50 34.4 +0.7
baz=86,SNR=89
G09A Cove 85.83 40 P P 19 50 33.9 +0.1
baz=86,SNR=83
L05A Lakeview 85.83 44 P P 19 50 34.5 +0.6
baz=86,SNR=54
PTCC Patocco-Chiusa 85.86 321 P P 19 50 33.0 -0.9
comp=Z,324nm,2.2s,mb6.2
LTIM Timbered Crate 85.90 45 P P 19 50 34.8 +0.5
PYL PYLOS 85.92 310 eP P 19 50 32.9 -1.6
KFL Anninata 85.93 311 eP P 19 50 33.4 -1.1
FUR Furstenfeldbru 85.93 323 eP P 19 50 35.0 +0.7
FUR pmax pmax
comp=Z,578nm,1.1s,mb6.7
FUR Furstenfeldbru 85.93 323 eP P 19 50 35.0 +0.7
comp=Z,578nm,1.1s,mb6.7
GASB Alder Springs 85.94 47 ⇑P P 19 50 35.0 +0.5
baz=86,SNR=9.9
MCD Coleburn Disti 85.99 336 eP P 19 50 33.4 -0.9
SKDS Skadanscina 85.99 320 iP P 19 50 34.0 -0.6
GMNA Gemona 86.00 321 P P 19 50 33.9 -0.7
comp=Z,622nm,1.5s,mb6.6
J07A Hines 86.02 43 ⇑P P 19 50 35.6 +0.8
baz=86,SNR=23
M05C Lookout 86.02 45 P P 19 50 35.0 +0.2
baz=86,SNR=41
VLS Valsamata 86.02 311 eP P 19 50 33.6 -1.4
VLS Valsamata 86.02 311⇑iP P 19 50 33.5 -1.4
MVH1 Achvaich 86.06 337 eP P 19 50 34.0 -0.7
HOPS Hopland 86.07 48 PFAKE 19 50 50.0 +15
HOPS LR LR
comp=Z,654nm,20.0s,MS5.0
HOPS Hopland 86.07 48 ⇑P P 19 50 34.6 -0.6
baz=86
NVLJ Novalja 86.07 319 P P 19 50 32.0 -3.0
RSC Scourie 86.08 337 eP P 19 50 34.1 -0.6
E11A Bogner Ranch, 86.08 39 P P 19 50 34.7 -0.3
baz=86,SNR=51
HATC Hat Creek Radi 86.12 46 ⇓P P 19 50 35.6 +0.2
baz=86,SNR=30
ABTA Abfaltersbach 86.12 322⇑iP P 19 50 34.0 -1.2
comp=Z,287nm,1.6s,mb6.3,SNR=68
I08A Drewsey 86.16 42 ⇓P P 19 50 35.7 +0.2
baz=86,SNR=16
C13A Hot Springs 86.18 37 P P 19 50 35.9 +0.4
baz=86,SNR=56
LBCM Butte Creek Ri 86.18 46 ⇓P P 19 50 36.2 +0.5
G10A Bishop Farm, J 86.19 40 P P 19 50 35.6 0.0
baz=86,SNR=122
O03C Acorn Hollow, 86.20 47 ⇑P P 19 50 35.2 -0.6
baz=86,SNR=6.7
MOD Modoc 86.24 44 eP P 19 50 36.1 +0.2
comp=Z,139nm,0.9s,mb6.2
MOD epP pP 19 50 49.2 -0.2
MOD LR LR
comp=Z,678nm,21.0s,MS5.0
MOD Modoc 86.24 44 ⇓P P 19 50 36.3 +0.4
baz=86,SNR=48
H09A Durkee 86.25 41 ⇓P P 19 50 36.3 +0.4
baz=86,SNR=7.9
WATA Walderalm 86.28 323⇑iP P 19 50 35.3 -0.7
comp=Z,94nm,1.1s,mb5.9,SNR=33
WATA Walderalm 86.28 323⇑iP P 19 50 35.3 -0.7
WATA pmax pmax
comp=Z,95nm,1.1s,mb5.9
WTTA Wattenberg 86.29 322⇑iP P 19 50 36.0 -0.1
comp=Z,485nm,1.5s,mb6.5,SNR=73
WTTA Wattenberg 86.29 322⇑iPcP PcP 19 50 36.0 -2.6
comp=Z,485nm,1.5s,SNR=73
WTTA Wattenberg 86.29 322⇑iP P 19 50 36.0 0.0
WTTA pmax pmax
comp=Z,485nm,1.5s,mb6.5
REB Eisghbrachaidh 86.29 337⇑eP P 19 50 35.1 -0.7
BMO Blue Mountains 86.35 41 eP P 19 50 36.1 -0.3
comp=Z,75nm,1.1s,mb5.8
BMO LR LR
comp=Z,443nm,20.0s,MS4.9
BMO Blue Mountains 86.35 41 eP P 19 50 36.1 -0.3
BMO pmax pmax
comp=Z,75nm,1.1s,mb5.8
BMO MLR MLR
comp=Z,443nm,20.0s,MS4.9
F11A Grangeville 86.39 39 ⇑P P 19 50 36.2 -0.4
baz=86,SNR=22
RTO Tolsta 86.40 338⇑eP P 19 50 35.7 -0.7
K07A Rock Creek Ran 86.44 43 P P 19 50 37.4 +0.5
baz=86,SNR=90
LCI Lecce 86.48 314 P P 19 50 36.3 -0.8
comp=Z,53nm,0.9s,mb5.8
LCI Lecce 86.48 314 P P 19 50 36.3 -0.8
LCI pmax pmax
comp=Z,53nm,0.9s,mb5.8
MDO Dochfour 86.49 337 eP P 19 50 35.6 -1.2
M06C Likely Place G 86.52 45 ⇓P P 19 50 37.6 +0.2
baz=86,SNR=16
MOTA Moosalm 86.53 323⇓iP P 19 50 36.8 -0.4
comp=Z,81nm,1.0s,mb5.9,SNR=53
MOTA Moosalm 86.53 323⇓iP P 19 50 36.8 -0.4
MOTA pmax pmax
comp=Z,81nm,1.0s,mb5.9
J08A Circle Bar Ran 86.53 42 P P 19 50 37.8 +0.5
baz=86,SNR=68
MNRC McLaughlin Nat 86.54 48 ⇑P P 19 50 37.5 0.0
baz=86,SNR=8.9
SQTA Sankt Quirin 86.54 323⇑iP P 19 50 36.9 -0.4
comp=Z,132nm,1.2s,mb6.0,SNR=25
SQTA Sankt Quirin 86.54 323⇑iP P 19 50 36.9 -0.4
SQTA pmax pmax
comp=Z,132nm,1.2s,mb6.0
D13A Huson 86.60 38 P P 19 50 37.0 -0.5
baz=86,SNR=10
I09A Lost Marbles R 86.61 41 P P 19 50 38.2 +0.5
baz=86,SNR=31
G11A Walters Elk Ra 86.62 40 P P 19 50 37.2 -0.5
baz=86,SNR=91
RETA Reutte 86.62 323⇑iPcP PcP 19 50 37.4 -2.6
comp=Z,537nm,2.4s,SNR=25
NSHM Saint Helena R 86.63 48 eP P 19 50 37.8 -0.1
NSHM epP pP 19 50 50.9 -0.5
O04C Chester 86.63 46 P P 19 50 38.3 +0.4
baz=86,SNR=80
STU Stuttgart 86.64 325 eP P 19 50 37.9 +0.2
comp=Z,289nm,1.6s,mb6.3
MCCM Marconi Confer 86.65 48 eP P 19 50 37.4 -0.6
comp=Z,181nm,1.2s,mb6.2
MCCM epP pP 19 50 50.2 -1.3
MCCM LR LR
comp=Z,731nm,22.0s,MS5.0
MCCM Marconi Confer 86.65 48 ⇑P P 19 50 37.4 -0.7
baz=86
RRR Rubha Reidh 86.67 337⇑eP P 19 50 37.1 -0.6
ELFS Eagle Lake Fie 86.69 45 P P 19 50 38.5 +0.3
baz=86,SNR=32
L07A Adell 86.77 44 P P 19 50 39.4 +0.9
baz=87,SNR=232
SUTB Sutter Butte 86.78 47 ⇑P P 19 50 37.6 -1.0
baz=87
ORV Oroville 86.79 47 ⇓P P 19 50 37.9 -0.7
baz=87,SNR=28
CVS Carmenet Viney 86.82 48 ⇓P P 19 50 38.2 -0.7
baz=87
K08A Mann Creek Ran 86.88 43 P P 19 50 39.5 +0.4
baz=87,SNR=38
OHCM Honcut 86.92 47 eP P 19 50 38.6 -0.7
OHCM epP pP 19 50 50.7 -2.1
RRH Rhenigidale 86.92 338 eP P 19 50 38.2 -0.7
FETA Feichten 86.92 323⇑iPcP PcP 19 50 38.9 -2.4
comp=Z,279nm,1.6s,SNR=45
O05C Quincy 86.94 46 ⇑P P 19 50 39.2 -0.2
baz=87,SNR=20
Q03C Winters 86.96 48 ⇑P P 19 50 39.8 +0.3
baz=87,SNR=9.1
WVOR Wild Horse Val 86.96 43 eP P 19 50 39.3 -0.2
comp=Z,59nm,0.9s,mb5.8
WVOR LR LR
comp=Z,596nm,22.0s,MS5.0
WVOR Wild Horse Val 86.96 43 eP P 19 50 39.3 -0.1
WVOR pmax pmax
comp=Z,59nm,0.9s,mb5.8
WVOR MLR MLR
comp=Z,596nm,22.0s,MS5.0
J09A Fry Pan Ranch, 86.96 42 P P 19 50 40.0 +0.6
baz=87,SNR=57
HGN Heimansgroeve 86.97 328⇑iP P 19 50 39.0 -0.3
comp=Z,110nm,2.4s,mb5.7
HGN Heimansgroeve 86.97 328 ePP PP 19 54 00.8 -1.3
HGN Heimansgroeve 86.97 328 eS S 20 01 01.2 -13
HGN Heimansgroeve 86.97 328 eSS PKKPdf 20 08 11.4 -13
F12A Elk City 86.97 39 ⇑P P 19 50 39.4 0.0
baz=87,SNR=218
APPI Appiano 86.99 322 P P 19 50 39.0 -0.5
ESY Stoneypath 86.99 335⇑eP P 19 50 38.2 -1.1
KPL Plockton 87.02 337 P P 19 50 38.3 -1.1
KPL AMb AMB 19 50 41.1
comp=Z,154nm,2.1s,mb5.9
KPL Plockton 87.02 337 eP P 19 50 38.3 -1.1
KPL AMb AMB 19 50 41.1
comp=Z,154nm,2.1s,mb5.9
KPL AMS AMS 20 34 11.4
comp=Z,1µm,21.3s,MS5.2
CTI Castel Tesino 87.02 321 P P 19 50 38.9 -0.7
comp=Z,63nm,0.8s,mb5.9
CTI Castel Tesino 87.02 321 P P 19 50 38.9 -0.7
CTI pmax pmax
comp=Z,63nm,0.8s,mb5.9
MEM Membach 87.03 327 P P 19 50 39.6 0.0
comp=Z,30nm,1.7s,mb5.2
MSO Missoula 87.04 38 eP P 19 50 39.5 -0.2
comp=Z,78nm,1.3s,mb5.8
MSO LR LR
comp=Z,397nm,22.0s,MS4.8
FCC Fort Churchill 87.04 21 eP P 19 50 38.8 -0.7
comp=Z,186nm,0.9s,mb6.3
FCC epP pP 19 50 50.0 -2.9
FCC Fort Churchill 87.04 21 P P 19 50 38.8 -0.7
FCC pmax pmax
comp=Z,190nm,0.9s,mb6.3
FGMS Monte Sant'Ang 87.06 316 P P 19 50 40.4 +0.5
comp=Z,164nm,1.2s,mb6.1
BEBN Eben Emael 87.07 328 P P 19 50 39.6 -0.2
comp=Z,15nm,1.2s,mb5.1
EBH Black Hill 87.08 335 eP P 19 50 38.9 -0.9
I10A Payette 87.09 41 ⇑P P 19 50 40.2 +0.2
baz=87,SNR=8.5
D14A Greenough 87.12 37 ⇑P P 19 50 39.8 -0.3
baz=87,SNR=63
E13A Victor 87.14 38 P P 19 50 39.8 -0.5
baz=87,SNR=9.3
XSO Sourhope Farm 87.17 334⇑eP P 19 50 39.2 -1.0
H11A Donnelly 87.18 40 P P 19 50 40.1 -0.3
baz=87,SNR=19
N06A Buffalo Meadow 87.18 45 P P 19 50 40.5 0.0
baz=87,SNR=75
LANF Langenberg 87.21 325 eP P 19 50 40.3 -0.2
DAVA Damuels 87.22 323⇑iP P 19 50 40.4 -0.1
comp=Z,281nm,1.4s,mb6.3,SNR=45
DAVA Damuels 87.22 323⇑iPcP PcP 19 50 40.4 -2.2
comp=Z,281nm,1.4s,SNR=45
M07A Soldier Meadow 87.23 44 P P 19 50 41.6 +0.8
baz=87,SNR=25
Q04C Lincoln 87.26 47 ⇓P P 19 50 40.5 -0.5
baz=87
EBL Broad Law 87.26 335⇑eP P 19 50 39.5 -1.1
L08A Fields 87.28 43 P P 19 50 41.6 +0.6
baz=87,SNR=55
FFC Flin Flon 87.33 27 P P 19 50 40.1 -0.9
comp=Z,2µm,0.9s
FFC Flin Flon 87.33 27 eP P 19 50 40.4 -0.6
comp=Z,322nm,0.8s,mb6.6
FFC LR LR
comp=Z,572nm,21.0s,MS5.0
FFC Flin Flon 87.33 27 eP P 19 50 40.4 -0.6
FFC pmax pmax
comp=Z,322nm,0.8s,mb6.6
FFC MLR MLR
comp=Z,572nm,21.0s,MS5.0
BEKR Beckwourth 87.35 46 P P 19 50 41.4 +0.1
baz=87,SNR=46
CHMT Chamberlain Mo 87.36 37 eP P 19 50 41.2 -0.1
CHMT epP pP 19 50 53.6 -1.2
K09A Rome 87.36 42 P P 19 50 41.8 +0.4
baz=87,SNR=61
EAU Auchinoon 87.36 335⇑eP P 19 50 40.2 -0.9
BFO Black Forest 87.36 325 P P 19 50 41.3 0.0
comp=Z,366nm,1.5s,mb6.4,SNR=29
BFO Black Forest 87.36 325 eP P 19 50 41.4 +0.1
BFO pmax pmax
comp=Z,143nm,1.4s,mb6.0
BFO Black Forest 87.36 325 eP P 19 50 41.4 +0.1
comp=Z,143nm,1.4s,mb6.0
BDM Black Diamond 87.43 48 ⇓P P 19 50 41.7 -0.1
baz=87
EAB Aberfoyle 87.43 336⇑eP P 19 50 40.4 -1.0
F13A Darby 87.47 39 P P 19 50 41.0 -0.8
baz=87,SNR=32
JRSC Jasper Ridge 87.48 49 ⇑P P 19 50 41.6 -0.5
baz=87
BCLA Clavier 87.50 328 P P 19 50 41.8 0.0
comp=Z,43nm,2.3s,mb5.3
J10A Berg Farm, Mel 87.50 41 ⇓P P 19 50 41.9 -0.1
baz=87
P05C Yuba Gap, Truc 87.50 46 P P 19 50 42.0 -0.1
baz=87,SNR=12
O06A Flanigan 87.52 45 P P 19 50 42.4 +0.2
baz=87,SNR=114
E14A Clinton 87.54 38 P P 19 50 42.0 -0.1
baz=87,SNR=45
WLF Walferdange 87.59 327 eP P 19 50 42.5 +0.1
comp=Z,59nm,0.8s,mb5.9
WLF Walferdange 87.59 327 eP P 19 50 42.5 +0.2
WLF pmax pmax
comp=Z,59nm,0.8s,mb5.9
WLF Walferdange 87.59 327 P P 19 50 42.9 +0.6
comp=Z,50nm,1.8s,mb5.4
WLF Walferdange 87.59 327 eP P 19 50 42.1 -0.2
comp=Z,70nm,0.9s,mb5.9
XAL Allendale 87.62 334 eP P 19 50 41.5 -0.9
ESK Eskdalemuir 87.67 335 P P 19 50 41.0 -1.6
comp=Z,386nm,0.8s,mb6.7,SNR=12
ESK Eskdalemuir 87.67 335 eP P 19 50 41.6 -1.0
ESK AMb AMB 19 50 45.9
comp=Z,119nm,1.3s,mb6.0
ESK AMS AMS 20 34 12.1
comp=Z,2µm,21.1s,MS5.5
ESK Eskdalemuir 87.67 335 eP P 19 50 41.6 -1.0
comp=Z,58nm,0.9s,mb5.8
ESK LR LR
comp=Z,2µm,20.0s,MS5.5
D15A Lincoln 87.67 37 P P 19 50 42.8 0.0
baz=88,SNR=35
BNLO Ben Lomond (Sa 87.67 49 ⇓P P 19 50 42.3 -0.7
baz=88,SNR=6.0
WENL Wente Brothers 87.68 48 ⇓P P 19 50 42.5 -0.5
baz=88
I11A Placerville 87.68 41 ⇑P P 19 50 43.0 +0.1
baz=88,SNR=21
M08A Happy Creek Ra 87.69 44 P P 19 50 43.5 +0.5
baz=88,SNR=54
UCC Uccle 87.69 328 P P 19 50 42.0 -0.7
comp=Z,78nm,1.7s,mb5.7
N07B Gerlach 87.70 45 P P 19 50 43.7 +0.6
baz=88,SNR=81
LAVA Lava Cap Winer 87.72 47 ⇑P P 19 50 42.7 -0.5
baz=88,SNR=14
ECK Cauldkaine Hil 87.74 335⇑eP P 19 50 42.0 -0.9
CING Cingoli 87.75 319 P P 19 50 43.5 +0.3
P06A Stead Airport, 87.75 46 ⇑P P 19 50 43.3 0.0
baz=88
PGBU Glenifferbraes 87.77 336 eP P 19 50 42.1 -1.0
PGBU AMb AMB 19 50 44.8
comp=Z,166nm,1.3s,mb6.1
L09A Wilkinson Ranc 87.79 43 P P 19 50 44.3 +0.8
baz=88,SNR=42
K10A MacKenzie Ranc 87.82 42 P P 19 50 44.1 +0.6
baz=88,SNR=57
CDF Champ du Feu 87.85 325⇑iP P 19 50 42.8 -0.8
comp=Z,81nm,1.0s,mb5.6
CDF Champ du Feu 87.85 325⇑iP P 19 50 42.8 -0.8
comp=Z,41nm,1.0s,mb5.6
CDF Champ du Feu 87.85 325⇑iP P 19 50 42.8 -0.8
CDF pmax pmax
comp=Z,41nm,1.0s,mb5.6
R04C Big Horse Ranc 87.87 47 ⇓P P 19 50 43.1 -0.9
baz=88
SNF Seneffe 87.92 328 P P 19 50 43.9 +0.1
comp=Z,45nm,1.6s,mb5.5
H12A Diamond D Ranc 87.93 40 P P 19 50 44.2 +0.2
baz=88,SNR=129
GIVF Givet 87.94 328⇑iP P 19 50 43.1 -0.9
comp=Z,183nm,1.5s,mb5.8
GIVF Givet 87.94 328⇑iP P 19 50 43.1 -0.9
comp=Z,92nm,1.5s,mb5.8
GIVF Givet 87.94 328⇑iP P 19 50 43.1 -0.9
GIVF pmax pmax
comp=Z,92nm,1.5s,mb5.8
G13A Cobalt 87.95 39 P P 19 50 43.5 -0.6
baz=88,SNR=38
F14A Wisdom 87.98 38 ⇓P P 19 50 44.3 +0.1
baz=88,SNR=20
TIP Timpagrande 87.99 314 eP P 19 50 44.3 -0.2
comp=Z,48nm,1.1s,mb5.6
E15A Deer Lodge 87.99 37 P P 19 50 44.6 +0.3
baz=88,SNR=74
TUE Stuetta 88.01 323 P P 19 50 44.2 -0.2
S04C Ingram Canyon, 88.03 48 P P 19 50 44.5 -0.1
baz=88,SNR=9.7
ECH Echery 88.04 325 eP P 19 50 43.3 -1.2
DOU Dourbes 88.05 328 P P 19 50 44.0 -0.5
comp=Z,24nm,1.7s,mb5.2
MFID Camas Ranch 88.06 41 P P 19 50 45.1 +0.4
baz=88,SNR=37
MIDA Miranda 88.14 317 P P 19 50 45.0 -0.1
CKE Keswick 88.17 334 eP P 19 50 44.6 -0.4
R05C Kirkwood Meado 88.18 47 P P 19 50 45.2 -0.1
baz=88,SNR=15
MURB Monte Urbino 88.20 319 P P 19 50 46.0 +0.6
N08A GE Springer Mi 88.22 44 P P 19 50 45.9 +0.4
baz=88,SNR=104
AQU L'Aquila 88.23 318 eP P 19 50 46.1 +0.6
comp=Z,223nm,1.3s,mb6.2
AQU L'Aquila 88.23 318 eP P 19 50 44.8 -0.7
AQU pmax pmax
comp=Z,220nm,1.2s,mb6.3
AQU L'Aquila 88.23 318⇑iP P 19 50 46.1 +0.6
BAIF Baives 88.26 328⇑iP P 19 50 44.8 -0.7
comp=Z,82nm,1.2s,mb5.5
BAIF Baives 88.26 328⇑iP P 19 50 44.8 -0.7
comp=Z,41nm,1.3s,mb5.5
BAIF Baives 88.26 328⇑iP P 19 50 44.8 -0.7
BAIF pmax pmax
comp=Z,41nm,1.3s,mb5.5
M09A Marrel Ranch, 88.27 43 ⇑P P 19 50 46.3 +0.6
baz=88,SNR=14
G14A Jackson 88.28 39 P P 19 50 45.5 -0.2
baz=88,SNR=9.5
GCD Castle Douglas 88.29 335⇑eP P 19 50 44.7 -0.8
MOF Molkenrain 88.29 325 eP P 19 50 44.6 -1.1
K11A Parker Ranch, 88.32 42 P P 19 50 46.4 +0.5
baz=88,SNR=28
PACP Pacheco Peak 88.33 49 ⇑P P 19 50 46.1 0.0
baz=88,SNR=12
CMB Columbia Colle 88.35 47 eP P 19 50 45.5 -0.7
comp=Z,43nm,0.9s,mb5.7
CMB epP pP 19 50 58.5 -1.2
CMB LR LR

comp=Z,770nm,22.0s,MS5.1
CMB Columbia Colle 88.35 47 *e*P **P 19 50 45.5 -0.7**
CMB *e**PP pP 19 50 58.5 -1.2
CMB pmax pmax
comp=Z,43nm,0.9s,mb5.7
CMB MLR MLR
comp=Z,770nm,22.0s,MS5.1
CMB Columbia Colle 88.35 47 P **P 19 50 45.7 -0.5**
baz=88,SNR=31
SAO San Andreas Ge 88.36 49 *e*P **P 19 50 45.9 -0.4**
comp=Z,55nm,1.3s,mb5.6
SAO LR LR
comp=Z,580nm,20.0s,MS5.0
SAO San Andreas Ge 88.36 49 *e*P **P 19 50 45.9 -0.3**
SAO pmax pmax
comp=Z,55nm,1.3s,mb5.6
SAO MLR MLR
comp=Z,580nm,20.0s,MS5.0
F15A Butte 88.44 38 P **P 19 50 46.8 +0.3**
baz=88,SNR=90
HINF Hinteralfeld 88.45 325⇑*i*P **P 19 50 45.2 -1.3**
comp=Z,47nm,0.8s,mb5.5
HINF Hinteralfeld 88.45 325⇑*i*P **P 19 50 45.2 -1.3**
comp=Z,24nm,0.8s,mb5.5
HINF Hinteralfeld 88.45 325⇑*i*P **P 19 50 45.2 -1.3**
HINF pmax pmax
comp=Z,24nm,0.8s,mb5.5
LHO Holmfirth 88.45 333⇑*e*P **P 19 50 45.1 -1.2**
FNVD Fontana Vidola 88.46 320 P **P 19 50 47.5 +0.9**
P07A Fallon 88.47 46⇑P **P 19 50 47.0 +0.3**
baz=88
EGMT Eagleton 88.47 35 *e*P **P 19 50 46.4 -0.2**
comp=Z,168nm,1.0s,mb6.2
EGMT LR LR
comp=Z,577nm,19.0s,MS5.0
EGMT Eagleton 88.47 35⇑P **P 19 50 46.5 -0.1**
baz=88
L10A Juniper Basin 88.47 42 P **P 19 50 47.5 +0.8**
baz=88,SNR=40
HAST Hastings Reser 88.49 49⇓P **P 19 50 46.6 -0.3**
baz=88,SNR=15
O08A Rochester Mine 88.49 45⇑P **P 19 50 47.4 +0.6**
baz=88
RFI Roccamonfina 88.50 317 P **P 19 50 46.9 +0.1**
comp=Z,28nm,1.5s,mb5.4
GMK Mull of Kintyr 88.53 336⇑*e*P **P 19 50 45.9 -0.8**
GMK ⇑*e* 19 50 45.9
N09A Rock Creek Ran 88.56 44 P **P 19 50 47.8 +0.6**
baz=88,SNR=30
GAL1 Galloway 88.58 335 P **P 19 50 45.7 -1.1**
GAL1 AMb AMB 19 50 47.3
comp=Z,122nm,2.1s,mb5.9
GAL1 Galloway 88.58 335⇑*e*P **P 19 50 45.7 -1.1**
GAL1 *e*P 19 50 45.7
GAL1 AMb AMB 19 50 47.3
comp=Z,122nm,2.1s,mb5.9
GAL1 AMS AMS 20 36 10.5
comp=Z,1µm,19.1s,MS5.3
J12A Stokes Ranch, 88.58 41 P **P 19 50 47.8 +0.6**
baz=88,SNR=34
HAU Haudompre 88.58 325⇑*i*P **P 19 50 45.9 -1.2**
comp=Z,45nm,1.0s,mb5.5
HAU *e*MLR MLR
comp=Z,3µm,17.8s,MS5.4
HAU Haudompre 88.58 325⇑*i*P **P 19 50 45.9 -1.2**
comp=Z,23nm,1.0s,mb5.5
HAU LR LR
comp=Z,3µm,17.8s,MS5.7
HAU Haudompre 88.58 325⇑*i*P **P 19 50 45.9 -1.2**
HAU pmax pmax
comp=Z,23nm,1.0s,mb5.5
HAU MLR MLR
comp=Z,3µm,17.8s,MS5.7
THEF They Montfort 88.62 326 *e*P **P 19 50 46.4 -0.8**
DLMT Dillon 88.69 38 *e*P **P 19 50 48.1 +0.5**
comp=Z,171nm,0.9s,mb6.4
R06C Coleville 88.69 47⇓P **P 19 50 48.2 +0.4**
baz=88,SNR=20
I13A Wildhorse Cree 88.74 40 P **P 19 50 48.8 +0.9**
baz=88,SNR=182
M10A I.L. Ranch, Tu 88.76 43 P **P 19 50 49.0 +0.9**
baz=89,SNR=27
LOMF Lomont 88.77 325 *e*P **P 19 50 47.0 -1.0**
S05C Merced 88.78 48⇓P **P 19 50 47.6 -0.6**
baz=89,SNR=11
HLID Hailey 88.78 40 *e*P **P 19 50 48.5 +0.4**
comp=Z,75nm,0.9s,mb6.0
HLID LR LR
comp=Z,635nm,22.0s,MS5.0
HLID Hailey 88.78 40⇓P **P 19 50 48.9 +0.8**
baz=89
CSNT Castellina Chi 88.79 320 P **P 19 50 47.1 -1.1**
T05C Eagle Field, D 88.80 48⇓P **P 19 50 48.1 -0.3**
baz=89
CWF Charnwood Fore 88.82 332 *e*P **P 19 50 47.1 -1.0**
CWF AMb AMB 19 50 49.7
comp=Z,112nm,1.7s,mb5.9
L11A Cat Creek Ranc 88.85 42 P **P 19 50 49.4 +0.9**
baz=89,SNR=84
Q07A Schurz 88.86 46⇑P **P 19 50 48.6 0.0**
baz=89
G15A Dillon 88.87 38 P **P 19 50 48.8 +0.3**
baz=89,SNR=198
MENF Mencas 88.87 329 *e*P **P 19 50 47.8 -0.6**
MCMT McKenzie Canyo 88.88 39 *e*P **P 19 50 48.7 +0.1**
VLC Villacollemand 88.89 321 P **P 19 50 48.3 -0.3**
P08A Dixie Valley 88.89 45⇑P **P 19 50 49.3 +0.6**
baz=89
MEZF Maizieres J'vi 88.90 326⇑*i*P **P 19 50 47.8 -0.8**
comp=Z,90nm,1.1s,mb5.7
MEZF Maizieres J'vi 88.90 326⇑*i*P **P 19 50 47.8 -0.8**
comp=Z,90nm,1.1s,mb6.0
V03C Hunter Liggett 88.91 49⇑P **P 19 50 48.7 -0.1**
baz=89,SNR=5.0
GIM North Isle of 88.92 335 *e*P **P 19 50 48.1 -0.4**
GCL Cushendall 88.94 336⇑*e*P **P 19 50 47.8 -0.8**
J13A Cove Ranch, Pi 89.02 40 P **P 19 50 50.4 +1.2**
baz=89,SNR=25
U04C Hernandez Rese 89.03 49⇓P **P 19 50 49.5 +0.1**
baz=89,SNR=8.9
BOB Bobbio (Coli) 89.03 321 P **P 19 50 49.1 -0.1**
BOZ Bozeman (W) 89.03 37 *e*P **P 19 50 49.1 -0.1**
comp=Z,50nm,1.0s,mb5.8
BOZ LR LR
comp=Z,590nm,20.0s,MS5.0
BOZ Bozeman (W) 89.03 37 *e*P **P 19 50 49.1 -0.1**
BOZ pmax pmax
comp=Z,51nm,1.0s,mb5.8
BOZ MLR MLR
comp=Z,590nm,20.0s,MS5.0
BOZ Bozeman (W) 89.03 37⇑P **P 19 50 49.6 +0.4**
baz=89
K12A Draper Farm, C 89.07 41⇑P **P 19 50 50.1 +0.6**
baz=89,SNR=6.2
O09A Fish Creek Ran 89.16 44 P **P 19 50 50.5 +0.6**
baz=89,SNR=33
R07C Lee Vining 89.19 47⇓P **P 19 50 50.2 0.0**
baz=89
TOLF Tolfa 89.24 318 P **P 19 50 49.7 -0.6**
N10A Dunphy 89.26 44⇑P **P 19 50 51.0 +0.6**
baz=89
M11A Holland Ranch, 89.27 43 P **P 19 50 51.8 +1.3**
baz=89,SNR=41
ORO Oropa 89.28 323 P **P 19 50 49.7 -0.7**
comp=Z,32nm,0.6s,mb5.8
ORO Oropa 89.28 323 P **P 19 50 49.7 -0.7**
ORO pmax pmax
comp=Z,32nm,0.6s,mb5.8
L12A House Creek Ra 89.30 42⇑P **P 19 50 51.5 +0.9**
baz=89,SNR=35
SKP1 Kophill 89.35 331 *e*P **P 19 50 49.4 -1.2**
V04C Ramage Ranch, 89.37 50⇓P **P 19 50 51.1 0.0**
baz=89
T06C Millerton Lake 89.38 48⇑P **P 19 50 50.6 -0.5**
baz=89,SNR=11
PKD Parkfield 89.42 49⇑P **P 19 50 50.8 -0.5**
baz=89,SNR=6.1
KCC Kaiser Creek 89.45 48⇑P **P 19 50 51.0 -0.4**
baz=89,SNR=14
Q08A Gabbs 89.46 46 P **P 19 50 51.6 +0.2**
baz=89,SNR=15
U05C Westside ANR, 89.48 49⇓P **P 19 50 51.6 0.0**
baz=89
SBD1 Bryn Du 89.49 333 *e*P **P 19 50 50.7 -0.5**
O10A Cortez Mining, 89.52 44 P **P 19 50 52.6 +1.0**
baz=89,SNR=26
GMM Mts of Mourne 89.52 335 *e*P **P 19 50 50.2 -1.2**

MAON Monte Argentar 89.53 319 P **P 19 50 51.0 -0.6**
K13A Stover Farm, H 89.54 41⇓P **P 19 50 52.6 +0.9**
baz=89,SNR=11
P09A Austin 89.56 45⇓P **P 19 50 52.1 +0.2**
baz=89,SNR=8.0
MLAC Mammoth Lakes 89.59 47⇓P **P 19 50 52.3 +0.2**
baz=89
SSW Stow on the Wo 89.61 332 *e*P **P 19 50 51.3 -0.5**
HLM1 Long Mynd 89.63 333⇑*e*P **P 19 50 50.8 -1.1**
CABF La Chapelle 89.64 324 *e*P **P 19 50 50.9 -1.2**
comp=Z,40nm,1.2s,mb5.3
CABF La Chapelle 89.64 324 *e*P **P 19 50 50.9 -1.2**
comp=Z,20nm,1.2s,mb5.3
CABF La Chapelle 89.64 324 *e*P **P 19 50 50.9 -1.2**
CABF pmax pmax
comp=Z,20nm,1.2s,mb5.3
R08A Mina 89.65 46⇓P **P 19 50 52.4 +0.2**
baz=90
QLMT Earthquake Lak 89.66 38 *e*P **P 19 50 52.8 +0.6**
QLMT *e*pP pP 19 51 05.5 -0.2
N11A Elko Archery C 89.67 43⇑P **P 19 50 53.2 +0.9**
baz=90,SNR=6.2
M12A Wells 89.80 42 P **P 19 50 54.2 +1.3**
baz=90,SNR=22
PTRM Twissleman Ran 89.81 49 *e*P **P 19 50 52.6 -0.4**
HAE Alders End 89.85 332⇑*e*P **P 19 50 52.5 -0.5**
V05C Boulder Hill, 89.89 49⇓P **P 19 50 53.6 +0.1**
baz=90
QLNO Quiliano 89.92 322 P **P 19 50 51.8 -1.6**
MTUM Tungsten Hills 89.93 47 *e*P **P 19 50 53.6 -0.1**
Q09A Carvers 89.95 45⇑P **P 19 50 53.9 +0.2**
baz=90
L13A Double Diamond 89.96 41⇑P **P 19 50 54.6 +0.9**
baz=90,SNR=26
RSL Roselend 89.97 323 *e*P **P 19 50 52.9 -0.7**
GCMT Greyclift 89.98 36 *e*P **P 19 50 53.8 +0.1**
GCMT *e*pP pP 19 51 06.8 -0.4
HELL Mitchell Peak 90.02 48 P **P 19 50 53.2 -0.8**
baz=90,SNR=17
YMR Madison River 90.02 38 *e*P **P 19 50 55.1 +1.2**
comp=Z,251nm,1.6s,mb6.3
YMR *e*pP pP 19 51 08.2 +0.8
YMR LR LR
comp=Z,759nm,19.0s,MS5.2
LPL La Plagne 90.02 323⇑*i*P **P 19 50 53.2 -0.7**
comp=Z,33nm,0.8s,mb5.4
LPL La Plagne 90.02 323⇑*i*P **P 19 50 53.2 -0.7**
comp=Z,17nm,0.8s,mb5.4
LPL La Plagne 90.02 323⇑*i*P **P 19 50 53.2 -0.7**
LPL pmax pmax
comp=Z,17nm,0.8s,mb5.4
LPG La Plagne 90.02 323⇑*i*P **P 19 50 53.4 -0.5**
comp=Z,40nm,0.7s,mb5.5
LPG La Plagne 90.02 323⇑*i*P **P 19 50 53.4 -0.5**
comp=Z,20nm,0.7s,mb5.5
LPG La Plagne 90.02 323⇑*i*P **P 19 50 53.4 -0.5**
LPG pmax pmax
comp=Z,20nm,0.7s,mb5.6
MCH1 Michaelchurch 90.07 332⇑*e*P **P 19 50 53.0 -0.9**
MCH1 *e*P 19 50 53.0
MCH1 AMb AMB 19 50 56.6
comp=Z,178nm,2.0s,mb6.0
FIN Finale Ligure 90.07 322 P **P 19 50 53.0 -1.1**
N12A Clover Valley, 90.07 43 P **P 19 50 55.0 +0.8**
baz=90,SNR=35
S08C White Mtn Res 90.10 47 P **P 19 50 54.9 +0.5**
baz=90,SNR=26
HTR Trewern Hill 90.12 333⇑*e*P **P 19 50 52.8 -1.3**
K14A Jones Ranch, D 90.13 41 P **P 19 50 55.6 +1.2**
baz=90,SNR=37
O11A Cowboy Ranch, 90.13 44 P **P 19 50 55.2 +0.7**
baz=90,SNR=31
SMMC Simmler 90.14 50⇑P **P 19 50 54.8 +0.1**
baz=90
YNR Norris Junctio 90.14 38 *e*P **P 19 50 56.3 +1.8**
YFT Old Faithful 90.23 38 *e*P **P 19 50 57.6 +2.7**
YFT *e*pP pP 19 51 09.1 +0.8
M13A Montello 90.28 42 P **P 19 50 56.0 +0.8**
baz=90,SNR=50
TIN Tinemaha 90.32 47⇑P **P 19 50 55.4 0.0**
baz=90,SNR=8.0
LOR Lormes 90.33 326⇑*i*P **P 19 50 53.8 -1.5**
LOR *e*MLR MLR
comp=Z,2µm,22.8s,MS5.2
LOR Lormes 90.33 326⇑*i*P **P 19 50 53.8 -1.5**
LOR MLR MLR
comp=Z,2µm,22.8s,MS5.5
BNI Bardonecchia 90.35 323 *e*P **P 19 50 54.9 -0.5**
comp=Z,74nm,1.4s,mb5.8
BNI *e*pP pP 19 51 08.8 -0.1
BNI Bardonecchia 90.35 323 *e*P **P 19 50 54.9 -0.5**
BNI *e* pP 19 51 09.4 +0.5
BNI pmax pmax
comp=Z,74nm,1.3s,mb5.9
R09A Tonopah 90.37 46⇓P **P 19 50 55.9 +0.3**
baz=90
LKWY Lake 90.39 38 *e*P **P 19 50 57.7 +2.1**
comp=Z,85nm,1.1s,mb6.0
LKWY *e*pP pP 19 51 11.0 +1.8
LKWY LR LR
comp=Z,683nm,19.0s,MS5.1
LKWY Lake 90.39 38 *e*P **P 19 50 57.7 +2.1**
LKWY *e**PP pP 19 51 11.0 +1.9
LKWY pmax pmax
comp=Z,85nm,1.1s,mb6.0
LKWY MLR MLR
comp=Z,683nm,19.0s,MS5.1
DSB Dublin 90.45 335 *e*P **P 19 50 55.0 -0.7**
comp=Z,23nm,0.8s,mb5.6
Q10A Clear Creek Ra 90.45 45⇑P **P 19 50 56.2 +0.1**
baz=90,SNR=31
VES Vestal, Richgr 90.46 49⇑P **P 19 50 54.9 -1.2**
baz=90,SNR=7.9
PKM Peak Mountain 90.50 50⇓P **P 19 50 56.5 +0.2**
baz=90,SNR=5.8
MBDF Montbardon 90.52 323⇑*i*P **P 19 50 54.9 -1.3**
comp=Z,34nm,0.9s,mb5.4
MBDF Montbardon 90.52 323⇑*i*P **P 19 50 54.9 -1.3**
comp=Z,17nm,0.9s,mb5.4
MBDF Montbardon 90.52 323⇑*i*P **P 19 50 54.9 -1.3**
MBDF pmax pmax
comp=Z,17nm,0.9s,mb5.4
IMW Indian Meadow 90.53 38 *e*P **P 19 50 57.7 +1.4**
comp=Z,84nm,1.1s,mb6.0
FLWY Flagg Ranch 90.54 38 *e*P **P 19 50 57.6 +1.3**
comp=Z,672nm,2.0s,mb6.6
N13A Wendover, West 90.57 42⇑P **P 19 50 57.0 +0.5**
baz=90,SNR=14
SAOF Saorge 90.57 322 *e*P **P 19 50 55.5 -1.0**
S09A Goldfield 90.58 46 P **P 19 50 56.9 +0.3**
baz=90,SNR=33
DCID1 Drake Creek 90.59 39 *e*P **P 19 50 58.1 +1.5**
O12A Currie 90.60 43 P **P 19 50 57.2 +0.5**
baz=90,SNR=108
RLMT Red Lodge 90.64 37 *e*P **P 19 50 57.2 +0.4**
comp=Z,111nm,1.1s,mb6.1
RLMT *e*pP pP 19 51 10.2 -0.1
RLMT LR LR
comp=Z,637nm,21.0s,MS5.0
AUTN L'Aution 90.64 322 *e*P **P 19 50 56.2 -0.6**
SSF Saint Saulge 90.65 326⇑*i*P **P 19 50 55.3 -1.4**
comp=Z,22nm,0.9s,mb5.2
SSF Saint Saulge 90.65 326⇑*i*P **P 19 50 55.3 -1.4**
comp=Z,11nm,0.9s,mb5.2
SSF Saint Saulge 90.65 326⇑*i*P **P 19 50 55.3 -1.4**
SSF pmax pmax
comp=Z,11nm,0.9s,mb5.2
M14A Sheep Mountain 90.68 41 P **P 19 50 58.0 +1.0**
baz=90,SNR=80
PGF Pioggiola 90.68 320⇑*i*P **P 19 50 57.1 +0.1**
comp=Z,201nm,1.1s,mb6.1
PGF Pioggiola 90.68 320⇑*i*P **P 19 50 57.1 +0.1**
comp=Z,101nm,1.1s,mb6.1
PGF Pioggiola 90.68 320⇑*i*P **P 19 50 57.1 +0.1**
PGF pmax pmax
comp=Z,101nm,1.1s,mb6.1
SBF Sospel 90.72 322⇑*i*P **P 19 50 55.9 -1.3**
comp=Z,93nm,0.8s,mb5.9
SBF Sospel 90.72 322⇑*i*P **P 19 50 55.9 -1.3**
comp=Z,47nm,0.8s,mb5.9
SBF Sospel 90.72 322⇑*i*P **P 19 50 55.9 -1.3**
SBF pmax pmax
comp=Z,47nm,0.8s,mb5.9
TOUF Mont Tournerai 90.72 322 *e*P **P 19 50 56.4 -0.8**
MOOW Moose Ponds 90.73 38 *e*P **P 19 50 58.0 +0.8**
comp=Z,108nm,1.6s,mb5.9

LUCF Luceram 90.75 322 *e*P **P 19 50 56.5 -0.8**
SMF Signal de Mont 90.76 325⇑*i*P **P 19 50 55.9 -1.4**
comp=Z,70nm,1.2s,mb5.6
SMF Signal de Mont 90.76 325⇑*i*P **P 19 50 55.9 -1.4**
comp=Z,35nm,1.2s,mb5.6
SMF Signal de Mont 90.76 325⇑*i*P **P 19 50 55.9 -1.4**
SMF pmax pmax
comp=Z,35nm,1.2s,mb5.6
CWC Cottonwood Cre 90.77 48⇑P **P 19 50 57.3 -0.2**
baz=91
TPAW Teton Pass 90.79 39 *e*P **P 19 50 58.8 +1.3**
comp=Z,62nm,1.1s,mb5.8
R10A Warm Springs 90.83 45 P **P 19 50 58.3 +0.5**
baz=91,SNR=26
REVF Revere 90.84 322 *e*P **P 19 50 56.6 -1.1**
HVU Hansel Valley 90.84 41 *e*P **P 19 50 58.6 +0.8**
comp=Z,54nm,0.9s,mb5.9
HVU Hansel Valley 90.84 41 *e*P **P 19 50 58.6 +0.8**
HVU pmax pmax
comp=Z,54nm,0.9s,mb5.9
MVIF Mont Vial 90.85 322 *e*P **P 19 50 56.9 -0.9**
S10A Tonopah Range, 90.86 46 P **P 19 50 58.2 +0.3**
baz=91,SNR=49
ORIF Oris-en-Rattie 90.87 323⇑*i*P **P 19 50 57.1 -0.7**
comp=Z,24nm,0.7s,mb5.3
ORIF *e*MLR MLR
comp=Z,3µm,18.0s,MS5.5
ORIF Oris-en-Rattie 90.87 323⇑*i*P **P 19 50 57.1 -0.7**
comp=Z,12nm,0.7s,mb5.3
ORIF Oris-en-Rattie 90.87 323⇑*i*P **P 19 50 57.1 -0.7**
ORIF pmax pmax
comp=Z,12nm,0.7s,mb5.3
DGMT Dagmar 90.88 32 *e*P **P 19 50 58.0 +0.2**
comp=Z,212nm,1.0s,mb6.4
DGMT LR LR
comp=Z,712nm,22.0s,MS5.1
LOHW Long Hollow 90.90 39 *e*P **P 19 50 58.9 +0.9**
comp=Z,29nm,1.1s,mb5.5
Q11A Duckwater 90.91 45 P **P 19 50 58.5 +0.3**
baz=91,SNR=24
AVF Avril sur Loir 90.91 326⇑*i*P **P 19 50 56.8 -1.2**
comp=Z,19nm,0.8s,mb5.2
AVF Avril sur Loir 90.91 326⇑*i*P **P 19 50 56.8 -1.2**
comp=Z,9.5nm,0.8s,mb5.2
AVF Avril sur Loir 90.91 326⇑*i*P **P 19 50 56.8 -1.2**
AVF pmax pmax
comp=Z,10.0nm,0.8s,mb5.2
GRAC Grapevine Rang 90.91 47 P **P 19 50 58.7 +0.5**
baz=91,SNR=8.1
SNOW Snow King Moun 90.91 39 *e*P **P 19 50 59.4 +1.4**
comp=Z,43nm,0.9s,mb5.8
SNOW *e*pP pP 19 51 12.5 +0.9
REDW Red Top Meadow 90.92 39 *e*P **P 19 50 58.5 +0.4**
comp=Z,96nm,1.4s,mb5.9
HYF Humbligny 90.93 326⇑*i*P **P 19 50 57.4 -0.7**
ISA Isabella 90.96 49 *e*P **P 19 50 57.4 -1.1**
comp=Z,16nm,1.0s,mb5.3
ISA LR LR
comp=Z,571nm,20.0s,MS5.0
ISA Isabella 90.96 49 *e*P **P 19 50 57.4 -1.1**
ISA pmax pmax
comp=Z,16nm,1.0s,mb5.3
ISA MLR MLR
comp=Z,571nm,20.0s,MS5.0
ISA Isabella 90.96 49 P **P 19 50 58.0 -0.5**
baz=91,SNR=9.7
P12A McGill 90.99 44 P **P 19 50 59.0 +0.5**
baz=91,SNR=71
CALN Calern 91.09 322 *e*P **P 19 50 58.3 -0.6**
OG25 Le Caire 91.13 323 *e*P **P 19 50 58.1 -0.9**
BSC Santa Cruz Isl 91.13 50⇓P **P 19 50 59.0 -0.3**
baz=91
LAO LASA Array 91.14 34 *e*P **P 19 50 59.7 +0.6**
comp=Z,145nm,1.0s,mb6.3
LAO *e*pP pP 19 51 11.8 -0.7
LAO LR LR
comp=Z,586nm,21.0s,MS5.0
O13A Hicks Ranch, I 91.15 43⇑P **P 19 51 00.1 +0.8**
baz=91,SNR=8.7
AHID Auburn Hatcher 91.17 39 *e*P **P 19 51 00.1 +0.8**
comp=Z,30nm,0.3s,mb6.1
AHID LR LR
comp=Z,432nm,20.0s,MS4.9
N14A Grayback Hills 91.18 42 P **P 19 51 00.2 +0.8**
baz=91,SNR=39
PPT Papeete 91.18 109 *e*S S 20 01 54.9 +0.1
comp=Z,1µm,27.0s
PPT *e*SS SS 20 08 01.8 +1.3
comp=Z,522nm,30.5s
PPT Papeete 91.18 109 *e*LR LR 20 20 14.6
comp=Z,2µm,24.0s,baz=291
PPT Papeete 91.18 109 LR LR 20 23 49.7
comp=Z,803nm,20.1s,MS5.2,baz=304,slow=30
BGU Big Grassy Mou 91.22 42 *e*P **P 19 50 59.9 +0.3**
M15A Larsen Ranch, 91.23 41⇓P **P 19 51 00.0 +0.5**
baz=91,SNR=29
R11A Troy Canyon, C 91.25 45 P **P 19 50 59.9 +0.1**
baz=91,SNR=73
LDF La Druitiere 91.31 329⇑*i*P **P 19 50 58.6 -1.2**
comp=Z,189nm,1.3s,mb6.0
LDF La Druitiere 91.31 329⇑*i*P **P 19 50 58.6 -1.2**
comp=Z,94nm,1.3s,mb6.0
LDF La Druitiere 91.31 329⇑*i*P **P 19 50 58.6 -1.2**
LDF pmax pmax
comp=Z,94nm,1.3s,mb6.0
BGF Bois d'Agland 91.32 326⇑*i*P **P 19 50 58.5 -1.4**
SPUT South Promonto 91.33 41 *e*P **P 19 51 00.9 +0.9**
PLDF La Plantade 91.34 325 *e*P **P 19 50 59.2 -0.8**
FRF La Foret Royal 91.35 322⇑*i*P **P 19 50 58.9 -1.2**
comp=Z,43nm,0.9s,mb5.5
FRF La Foret Royal 91.35 322⇑*i*P **P 19 50 58.9 -1.2**
comp=Z,22nm,0.9s,mb5.5
FRF La Foret Royal 91.35 322⇑*i*P **P 19 50 58.9 -1.2**
FRF pmax pmax
comp=Z,22nm,0.9s,mb5.5
FLN La Foliniere 91.35 329⇑*i*P **P 19 50 58.8 -1.2**
comp=Z,104nm,1.1s,mb5.8
FLN *e*MLR MLR
comp=Z,4µm,20.5s,MS5.5
FLN La Foliniere 91.35 329⇑*i*P **P 19 50 58.8 -1.2**
comp=Z,52nm,1.1s,mb5.8
FLN LR LR
comp=Z,4µm,20.5s,MS5.8
FLN La Foliniere 91.35 329⇑*i*P **P 19 50 58.8 -1.2**
FLN pmax pmax
comp=Z,52nm,1.1s,mb5.8
FLN MLR MLR
comp=Z,4µm,20.5s,MS5.8
MPMC Manual Prospec 91.38 48⇓P **P 19 51 00.5 +0.1**
baz=91,SNR=28
PMOR Pomariorio Ree 91.40 106 *e*P **P 19 51 01.5 +0.8**
PMOR *e*pP pP 19 51 13.8 -0.4
comp=Z,496nm,1.3s
OSI Osito Adit 91.40 49⇓P **P 19 51 00.5 0.0**
baz=91
OG26 St.-Nazaire-De 91.40 323 *e*P **P 19 50 59.9 -0.4**
HTL Hartland 91.44 332 P **P 19 50 59.8 -0.5**
HTL AMb AMB 19 51 02.5
comp=Z,90nm,1.8s,mb5.8
HTL Hartland 91.44 332 *e*P **P 19 50 59.8 -0.5**
HTL AMb AMB 19 51 02.5
comp=Z,90nm,1.8s,mb5.8
HTL AMS AMS 20 36 41.3
comp=Z,2µm,21.4s,MS5.5
BLG Laguna Peak 91.46 50⇑P **P 19 51 00.3 -0.4**
baz=91
STOF St-Etienne Org 91.46 322 *e*P **P 19 51 00.0 -0.6**
AGO Saint Agoulin 91.53 325 *e*P **P 19 51 00.2 -0.7**
KMBO Kilima Mbogo 91.53 270 *e*P **P 19 51 01.6 +0.2**
comp=Z,25nm,1.0s,mb5.5
KMBO LR LR
comp=Z,340nm,20.0s,MS4.8
KMBO Kilima Mbogo 91.53 270 *e*P **P 19 51 01.6 +0.1**
KMBO pmax pmax
comp=Z,25nm,1.0s
KMBO MLR MLR
comp=Z,340nm,20.0s
KMBO Kilima Mbogo 91.53 270 P **P 19 51 02.4 +0.9**
SNR=15
KMBO Kilima Mbogo 91.53 270 P **P 19 51 02.4 +0.9**
SNR=15
P13A Bates Ranch, G 91.55 43 P **P 19 51 01.4 +0.3**
baz=91,SNR=68
N15A Stansbury Isla 91.55 42 P **P 19 51 01.9 +0.8**
baz=91,SNR=26
VIVF Saint-Julien-l 91.55 324⇑*i*P **P 19 50 59.8 -1.2**
comp=Z,31nm,1.1s,mb5.3

VIVF **Saint-Julien-I** 91.55 324⇑*i*P P 19 50 59.8 -1.2
comp=Z,16nm,1.0s,mb5.3
VIVF **Saint-Julien-I** 91.55 324⇑*i*P P 19 50 59.8 -1.2
VIVF pmax pmax
comp=Z,16nm,1.0s,mb5.3
FURC **Furnace Creek,** 91.55 47 ⇑P P 19 51 01.0 -0.2
baz=91,SNR=18
LMR **La Mourre** 91.57 322⇑*i*P P 19 51 00.2 -0.9
comp=Z,139nm,1.3s,mb5.8
LMR **La Mourre** 91.57 322⇑*i*P P 19 51 00.2 -0.9
comp=Z,69nm,1.3s,mb5.8
LMR **La Mourre** 91.57 322⇑*i*P P 19 51 00.2 -0.9
LMR pmax pmax
comp=Z,69nm,1.3s,mb5.8
LRMC **Laurel Mountai** 91.59 48 ⇓P P 19 51 01.3 -0.1
baz=91
COLF **Collangettes** 91.61 325 *e*P P 19 51 00.3 -0.9
DYA **Yadsworthy** 91.63 332 P P 19 51 00.5 -0.8
DYA AMb AMB 19 51 03.7
comp=Z,147nm,1.9s,mb6.0
DYA **Yadsworthy** 91.63 332 *e*P P 19 51 00.5 -0.8
DYA AMb AMB 19 51 03.7
comp=Z,147nm,1.9s,mb6.0
DYA AMS AMS 20 38 04.8
comp=Z,2µm,18.5s,MS5.6
SNCC **San Nicolas Is** 91.63 51 ⇓P P 19 51 01.5 -0.1
baz=92
TAVF **Tavernes** 91.63 322 *e*P P 19 51 01.0 -0.4
HWUT **Hardware Ranch** 91.65 41 *e*P P 19 51 01.6 +0.1
comp=Z,113nm,1.1s,mb6.1
HWUT LR LR
comp=Z,471nm,19.0s,MS5.0
SMRF **Simiane la Rot** 91.66 323⇑*i*P P 19 51 00.8 -0.7
TPNV **Topopah Spring** 91.66 46 *e*P P 19 51 01.7 +0.1
comp=Z,66nm,0.9s,mb6.0
TPNV LR LR
comp=Z,551nm,20.0s,MS5.0
TPNV **Topopah Spring** 91.66 46 ⇓P P 19 51 01.7 +0.1
baz=92
VILF **Villemus** 91.66 322 *e*P P 19 51 01.2 -0.3
VAH **Vaihoa** 91.73 106 *e*P P 19 51 02.7 +0.4
VAH *e*pP pP 19 51 15.0 -0.8
comp=Z,132nm,1.2s
DGI **Dorgali Grotta** 91.73 318 P P 19 51 01.8 -0.1
EDW2 **Edwards Air Fo** 91.74 49 P P 19 51 02.2 +0.2
baz=92,SNR=16
GRR **Gorron** 91.80 329⇑*i*P P 19 51 01.2 -0.8
comp=Z,130nm,1.1s,mb5.9
GRR **Gorron** 91.80 329⇑*i*P P 19 51 01.2 -0.8
comp=Z,65nm,1.0s,mb5.9
GRR **Gorron** 91.80 329⇑*i*P P 19 51 01.2 -0.8
GRR pmax pmax
comp=Z,65nm,1.0s,mb5.9
PYM **Petit Puy Mans** 91.80 325 *e*P P 19 51 00.7 -1.4
DUG **Dugway** 91.81 42 *e*P P 19 51 02.8 +0.5
comp=Z,77nm,1.0s,mb6.0
DUG LR LR
comp=Z,471nm,20.0s,MS4.9
DUG **Dugway** 91.81 42 ⇑P P 19 51 02.9 +0.6
baz=92
TCF **Toulx Ste Croi** 91.83 326⇑*i*P P 19 51 01.2 -1.0
comp=Z,16nm,0.8s,mb5.1
TCF **Toulx Ste Croi** 91.83 326⇑*i*P P 19 51 01.2 -1.0
comp=Z,8.0nm,0.8s,mb5.1
TCF **Toulx Ste Croi** 91.83 326⇑*i*P P 19 51 01.2 -1.0
TCF pmax pmax
comp=Z,8.0nm,0.8s,mb5.1
R12A **Pony Springs,** 91.87 45 P P 19 51 03.0 +0.3
baz=92,SNR=33
DECC **Green Verdugo** 91.87 50 ⇓P P 19 51 02.0 -0.7
baz=92
PUYF **Puyloubier** 91.89 322 *e*P P 19 51 02.2 -0.4
U10A **Ash Meadows, A** 91.93 47 ⇓P P 19 51 03.3 +0.4
baz=92,SNR=19
NOQ **North Oquirrh** 91.93 42 *e*P P 19 51 03.7 +0.8
comp=Z,99nm,0.9s,mb6.1
PRAF **Pradon** 91.99 323 *e*P P 19 51 02.6 -0.5
TREF **Trevaresse** 92.00 322 *e*P P 19 51 02.9 -0.2
BW06 **Boulder Array** 92.03 39 *e*P P 19 51 02.8 -0.5
comp=Z,39nm,1.0s,mb5.7
BW06 *e*pP pP 19 51 15.9 -0.8
BW06 LR LR
comp=Z,747nm,22.0s,MS5.1
PDAR **Pinedale Array** 92.03 39 P P 19 51 03.0 -0.3
comp=Z,25nm,0.9s,mb5.5,baz=303,slow=0.9,SNR=167
PDAR pP pP 19 51 16.0 -0.8
comp=Z,31nm,1.0s,baz=240,slow=5.0,SNR=14
PDAR PP PP 19 54 47.5 +4.9
comp=Z,2.8nm,0.8s,baz=308,slow=3.3,SNR=4.6
PDAR PKKP PKKPbc 20 08 18.5 -1.2
comp=Z,1.9nm,0.9s,baz=127,slow=3.3,SNR=14
PDAR PKPPKP 20 16 26.8
comp=Z,0.8nm,1.0s,baz=152,slow=6.6,SNR=3.7
LBL **Lubilhac** 92.03 325 *e*P P 19 51 02.6 -0.6
BERF **Bertagne** 92.04 322 *e*P P 19 51 02.5 -0.8
CSA1 **St Austell** 92.09 332⇑*e*P P 19 51 02.7 -0.6
CTU **Camp Tracy** 92.12 41 *e*P P 19 51 04.2 +0.5
comp=Z,33nm,1.0s,mb5.6
GELF **Grande-Etoile** 92.13 322 *e*P P 19 51 03.1 -0.6
T11A **Corn Creek, Al** 92.15 46 P P 19 51 04.3 +0.4
baz=92,SNR=58
S12A **Delamar Landin** 92.16 45 P P 19 51 05.0 +1.0
baz=92,SNR=14
SHOC **Shoshone** 92.27 47 ⇓P P 19 51 04.3 -0.2
baz=92,SNR=10
GSC **Goldstone** 92.28 48 *e*P P 19 51 04.3 -0.3
comp=Z,64nm,0.9s,mb6.0
GSC *e*pP pP 19 51 17.4 -0.7
GSC **Goldstone** 92.28 48 *e*P P 19 51 04.3 -0.3
GSC *e**PP pP 19 51 17.4 -0.7
GSC pmax pmax
comp=Z,64nm,0.9s,mb6.0
GSC **Goldstone** 92.28 48 P P 19 51 04.8 +0.2
baz=92,SNR=26
CIS **Catalina Islan** 92.31 50 ⇑P P 19 51 04.5 -0.2
baz=92
BFSC **Mount Baldy St** 92.33 49 ⇑P P 19 51 04.4 -0.5
baz=92,SNR=8.7
CRQ2 **Rosemanowes 2** 92.35 332 *e*P P 19 51 03.2 -1.4
JLU **Jordanelle** 92.36 41 *e*P P 19 51 05.4 +0.6
CCA1 **Carnmenellis** 92.36 332⇑*e*P P 19 51 03.5 -1.2
VSL **Villasalto** 92.39 317 *e*P P 19 51 04.9 -0.1
comp=Z,134nm,1.3s,mb6.1
CMA1 **Manaccan** 92.40 332 *e*P P 19 51 04.0 -0.8
NLU **North Lily Min** 92.40 42 *e*P P 19 51 05.7 +0.7
LASF **Ste Croix** 92.51 324⇑*i*P P 19 51 04.5 -0.9
comp=Z,60nm,1.4s,mb5.5
U11A **Corn Creek** 92.54 46 ⇓P P 19 51 05.9 +0.2
baz=92
DAU **Daniels Canyon** 92.59 41 *e*P P 19 51 06.5 +0.6
DAU **Daniels Canyon** 92.59 41 P P 19 51 06.7 +0.8
MPU **Maple Canyon** 92.62 42 *e*P P 19 51 07.0 +1.0
comp=Z,51nm,1.0s,mb5.9
MPU LR LR
comp=Z,983nm,19.0s,MS5.3
SGMF **Saint Gilles** 92.67 330⇑*i*P P 19 51 05.3 -0.8
MFF **Saint Martin d** 92.75 327⇑*i*P P 19 51 05.7 -0.8
comp=Z,65nm,1.0s,mb5.7
MFF **Saint Martin d** 92.75 327⇑*i*P P 19 51 05.7 -0.8
comp=Z,32nm,1.0s,mb5.7
MFF **Saint Martin d** 92.75 327⇑*i*P P 19 51 05.7 -0.8
MFF pmax pmax
comp=Z,32nm,1.0s,mb5.7
TUQ **Turquoise Mtn.** 92.78 47 P P 19 51 06.9 0.0
baz=93,SNR=54
S13A **Holt Ranch, En** 92.80 45 P P 19 51 07.5 +0.6
baz=93,SNR=66
BBRC **Big Bear Sol-O** 92.81 49 ⇓P P 19 51 06.8 -0.3
baz=93
CAF **Calviac** 92.85 325⇑*i*P P 19 51 06.2 -0.8
comp=Z,66nm,1.4s,mb5.6
CAF **Calviac** 92.85 325⇑*i*P P 19 51 06.2 -0.8
comp=Z,33nm,1.4s,mb5.6
CAF **Calviac** 92.85 325⇑*i*P P 19 51 06.2 -0.8
CAF pmax pmax
comp=Z,33nm,1.4s,mb5.6
V11A **Goodsprings** 92.86 47 ⇑P P 19 51 07.3 +0.1
baz=93,SNR=30
RJF **Les Rejaudoux** 92.86 326⇑*i*P P 19 51 06.2 -0.8
RJF *e*MLR MLR
comp=Z,3µm,19.2s,MS5.4
RJF **Les Rejaudoux** 92.86 326⇑*i*P P 19 51 06.2 -0.8
RJF MLR MLR
comp=Z,3µm,19.3s,MS5.7
R14A **James Farms, M** 92.87 44 ⇓P P 19 51 07.1 -0.2
baz=93

HEC **Hector,Ludlow** 92.87 48 ⇓P P 19 51 07.2 -0.1
baz=93,SNR=25
ROSF **Rostrenen** 92.92 330⇑*i*P P 19 51 06.5 -0.8
comp=Z,191nm,1.1s,mb6.2
ROSF **Rostrenen** 92.92 330⇑*i*P P 19 51 06.5 -0.8
comp=Z,96nm,1.1s,mb6.1
ROSF **Rostrenen** 92.92 330⇑*i*P P 19 51 06.5 -0.8
ROSF pmax pmax
comp=Z,96nm,1.1s,mb6.1
ARUT **Antelope Range** 92.93 44 *e*P P 19 51 08.1 +0.6
ARUT *e*pP pP 19 51 21.4 +0.4
LCHF **La Chataignera** 92.99 328 *e*P P 19 51 07.1 -0.5
MURC **Murrieta** 93.01 50 ⇑P P 19 51 07.5 -0.5
baz=93,SNR=8.5
U12A **Valley of Fire** 93.07 46 ⇓P P 19 51 08.5 +0.3
baz=93
T13A **Saint George** 93.11 45 ⇓P P 19 51 08.9 +0.5
baz=93,SNR=16
CCUT **Cedar City** 93.12 45 *e*P P 19 51 08.6 +0.2
ULM **Lac du Bonnet** 93.16 27 *e*P P 19 51 07.5 -0.8
comp=Z,112nm,0.9s,mb6.3
ULM LR LR
comp=Z,540nm,19.0s,MS5.0
ULM **Lac du Bonnet** 93.16 27 P P 19 51 07.7 -0.7
comp=Z,118nm,0.9s,mb6.3,baz=320,slow=4.9,SNR=178
ULM PKKP PKKPbc 20 08 11.8 -5.2
comp=Z,0.9nm,0.6s,baz=145,slow=0.7,SNR=4.8
ULM LR LR 20 35 26.5
comp=Z,388nm,19.6s,MS4.9,baz=319,slow=37
QUIF **Quistinic** 93.19 330⇑*i*P P 19 51 07.4 -1.1
comp=Z,64nm,0.9s,mb5.8
QUIF **Quistinic** 93.19 330⇑*i*P P 19 51 07.4 -1.1
comp=Z,32nm,0.9s,mb5.8
QUIF **Quistinic** 93.19 330⇑*i*P P 19 51 07.4 -1.1
QUIF pmax pmax
comp=Z,32nm,0.9s,mb5.8
MSU **Marysvale** 93.25 43 *e*P P 19 51 09.9 +0.9
MSU *e*pP pP 19 51 22.6 +0.1
TMUT **Trail Mountain** 93.34 42 *e*P P 19 51 10.0 +0.7
GMRC **Granite Mounta** 93.34 48 P P 19 51 09.7 +0.2
baz=93,SNR=56
U13A **Pakoon Wash** 93.45 46 ⇓P P 19 51 10.4 +0.5
baz=93,SNR=18
109C **Camp Elliot, M** 93.50 50 ⇑P P 19 51 10.0 -0.2
baz=93
LFF **La Frestale** 93.51 326⇑*i*P P 19 51 09.2 -0.8
comp=Z,40nm,0.9s,mb5.5
LFF **La Frestale** 93.51 326⇑*i*P P 19 51 09.2 -0.8
comp=Z,20nm,0.9s,mb5.5
LFF **La Frestale** 93.51 326⇑*i*P P 19 51 09.2 -0.8
LFF pmax pmax
comp=Z,20nm,0.9s,mb5.5
PFO **Pinyon Flat Ob** 93.51 49 P P 19 51 10.0 -0.3
comp=Z,683nm,0.9s,SNR=23
PFO **Pinyon Flat Ob** 93.51 49 *e*P P 19 51 10.3 0.0
comp=Z,116nm,0.9s,mb6.3
PFO *e*pP pP 19 51 22.4 -1.4
PFO LR LR
comp=Z,944nm,22.0s,MS5.2
PFO **Pinyon Flat Ob** 93.51 49 *e*P P 19 51 10.3 0.0
PFO *e**PP pP 19 51 22.5 -1.3
PFO pmax pmax
comp=Z,116nm,0.9s,mb6.3
PFO MLR MLR
comp=Z,944nm,22.0s,MS5.2
PFO **Pinyon Flat Ob** 93.51 49 ⇑P P 19 51 10.0 -0.3
baz=93,SNR=18
W12A **Cal Nev Ari** 93.55 47 ⇑P P 19 51 10.5 +0.1
baz=93,SNR=8.0
BELC **Belle Mtn.** 93.58 49 ⇑P P 19 51 10.3 -0.3
baz=93,SNR=29
T14A **Hurricane** 93.60 45 ⇓P P 19 51 11.2 +0.6
baz=93
SRU **San Rafael** 93.86 42 *e*P P 19 51 12.0 +0.3
comp=Z,46nm,1.4s,mb5.7
SRU **San Rafael** 93.86 42 *e*P P 19 51 12.0 +0.2
SRU pmax pmax
comp=Z,46nm,1.4s,mb5.7
MTLF **Montolieu** 93.88 324⇑*i*P P 19 51 10.8 -0.9
comp=Z,27nm,1.2s,mb5.2
MTLF **Montolieu** 93.88 324⇑*i*P P 19 51 10.8 -0.9
comp=Z,14nm,1.2s,mb5.2
MTLF **Montolieu** 93.88 324⇑*i*P P 19 51 10.8 -0.9
MTLF pmax pmax
comp=Z,14nm,1.2s,mb5.3
U14A **Mt Trumbull** 93.94 45 ⇓P P 19 51 12.7 +0.5
baz=94,SNR=13
MONP **Monument Peak** 93.96 50 ⇑P P 19 51 12.2 -0.2
baz=94,SNR=7.3
NEE2 **Needles Airpor** 94.03 47 ⇑P P 19 51 12.3 -0.3
baz=94
RSSD **Black Hills** 94.04 35 PFAKE 19 51 20.0 +7.5
RSSD LR LR
comp=Z,855nm,19.0s,MS5.2
IRM **Iron Mountain** 94.05 48 P P 19 51 13.0 +0.2
baz=94,SNR=38
T15A **Red Dirt Ranch** 94.07 44 ⇓P P 19 51 13.1 +0.3
baz=94,SNR=18
EJON **La Jonquera** 94.14 323 P P 19 51 11.4 -1.5
comp=Z,114nm,2.5s,mb5.9
BC3 **Big Chuckw Mtn** 94.15 49 ⇓P P 19 51 13.2 0.0
baz=94,SNR=33
W13A **Hualapai Mount** 94.31 47 P P 19 51 14.3 +0.4
baz=94,SNR=22
DVTC **Desert V Tower** 94.31 50 ⇓P P 19 51 14.1 +0.2
baz=94,SNR=8.4
SWSC **Sam W. Stewart** 94.35 49 ⇑P P 19 51 13.9 -0.2
baz=94,SNR=7.3
V14A **Boquillas Ranc** 94.48 46 P P 19 51 15.2 +0.5
baz=94,SNR=28
PDMCI **Parker Dam,Lak** 94.63 47 ⇓P P 19 51 15.2 -0.2
baz=94,SNR=22
T16A **Glen Canyon Da** 94.63 44 ⇓P P 19 51 14.8 -0.6
baz=94
VALF **Valcebollere** 94.63 323 *e*P P 19 51 14.3 -0.9
X13A **Yucca** 94.65 47 ⇓P P 19 51 15.5 0.0
baz=94,SNR=35
AGMN **Agassiz Refuge** 94.70 28 *e*P P 19 51 14.1 -1.3
comp=Z,26nm,1.0s,mb5.6
AGMN LR LR
comp=Z,602nm,20.0s,MS5.1
Y12C **Blythe** 94.71 48 ⇓P P 19 51 15.9 +0.1
baz=94,SNR=26
MLS **Moulis** 94.73 324 *e*P P 19 51 14.3 -1.4
W14A **Seligman** 94.75 46 ⇓P P 19 51 16.3 +0.4
baz=95,SNR=18
KEST **Kesra** 94.77 314 P P 19 51 16.2 +0.2
comp=Z,3.6nm,0.8s,mb4.9,baz=274,slow=4.1,SNR=15
KEST LR LR 20 39 35.3
comp=Z,434nm,21.6s,MS4.9,baz=176,slow=39
GLA **Glamis** 94.94 49 *e*P P 19 51 17.1 +0.3
comp=Z,80nm,0.9s,mb6.2
GLA *e*pP pP 19 51 30.0 -0.4
GLA **Glamis** 94.94 49 *e*P P 19 51 17.2 +0.4
GLA *e**PP pP 19 51 30.0 -0.4
GLA pmax pmax
comp=Z,80nm,0.9s,mb6.2
GLA **Glamis** 94.94 49 ⇑P P 19 51 17.2 +0.3
baz=95,SNR=32
EPF **Esparros** 95.07 325⇑*i*P P 19 51 15.7 -1.5
Y13A **Salome** 95.13 48 ⇓P P 19 51 17.8 +0.1
baz=95,SNR=19
PHWY **Pilot Hill** 95.27 38 *e*P P 19 51 17.8 -0.4
PHWY *e*pP pP 19 51 30.6 -1.2
W15A **Williams** 95.30 46 ⇑P P 19 51 19.0 +0.6
baz=95,SNR=6.4
TAOE **Nuku Hiva Isla** 95.32 97 *e*LR LR 20 21 57.8
comp=Z,22µm,25.0s
X14A **Yava** 95.34 47 ⇓P P 19 51 19.1 +0.4
baz=95,SNR=12
CMAH **Djebel Manchou** 95.41 316 P P 19 51 20.0 +1.1
EBIE **Bielsa** 95.42 324 P P 19 51 18.6 -0.2
comp=Z,37nm,1.9s,mb5.5
Y14A **Wickenburg** 95.59 47 ⇑P P 19 51 19.7 -0.1
baz=95,SNR=15
ETSF **Etsaut** 95.62 325⇑*i*P P 19 51 19.2 -0.6
WUAZ **Wupatki** 95.65 45 *e*P P 19 51 20.4 +0.4
comp=Z,33nm,1.2s,mb5.6
WUAZ LR LR
comp=Z,471nm,19.0s,MS5.0
WUAZ **Wupatki** 95.65 45 ⇑P P 19 51 20.2 +0.2
baz=96
LARF **Larrau** 95.74 325 *e*P P 19 51 20.1 -0.2
X15A **Humboldt** 95.75 46 ⇑P P 19 51 21.0 +0.5
baz=96,SNR=16
SJPF **Ste Jean** 95.81 325⇑*i*P P 19 51 19.8 -0.8
EALK **Alkurruntz** 95.87 326 P P 19 51 19.2 -1.7
comp=Z,30nm,1.4s,mb5.5
EPOB **Poblet** 95.87 323 P P 19 51 19.9 -1.0
comp=Z,44nm,1.4s,mb5.7
SMCO **Snowmass** 95.88 40 *e*P P 19 51 21.8 +0.8
comp=Z,44nm,1.4s,mb5.7
ELIZ **Elizondo** 95.92 326 P P 19 51 20.9 -0.2
comp=Z,4.8nm,0.6s,mb5.1
ELIZ **Elizondo** 95.92 326 P P 19 51 20.9 -0.2
ELIZ pmax pmax
comp=Z,5.0nm,0.6s,mb5.1
Z14A **Wintersburg** 95.99 48 ⇓P P 19 51 21.5 -0.1
baz=96
ETOS **Mallorca** 96.02 321 P P 19 51 21.3 -0.3
comp=Z,77nm,1.3s,mb6.0
Y15A **Casa Rosa Ranc** 96.02 47 P P 19 51 22.1 +0.3
baz=96,SNR=18
ISCO **Idaho Springs** 96.22 39 *e*P P 19 51 23.3 +0.7
comp=Z,10nm,1.0s,mb5.2
ISCO LR LR
comp=Z,551nm,22.0s,MS5.0
X16A **Lo Mia Camp, P** 96.30 46 ⇑P P 19 51 23.5 +0.5
baz=96,SNR=5.8
MVCO **Mesa Verde** 96.31 42 *e*P P 19 51 23.4 +0.3
comp=Z,27nm,1.2s,mb5.5
MVCO LR LR
comp=Z,542nm,21.0s,MS5.0
MVCO **Mesa Verde** 96.31 42 ⇑P P 19 51 23.1 +0.1
baz=96
DFRA **Djebel Bou Aff** 96.40 317 P P 19 51 25.0 +1.6
ESAC **San Caprasio** 96.42 324 P P 19 51 22.7 -0.8
comp=Z,67nm,1.5s,mb5.8
ERTA **Horta de San J** 96.55 323 P P 19 51 23.0 -1.0
comp=Z,59nm,1.9s,mb5.7
Y16A **Circle Bar Ran** 96.62 46 ⇓P P 19 51 24.5 0.0
baz=96,SNR=7.5
EYMN **Ely** 96.73 26 *e*P P 19 51 24.0 -0.6
comp=Z,33nm,0.8s,mb5.8
EYMN LR LR
comp=Z,625nm,19.0s,MS5.1
ECRI **Cripan** 96.82 326 P P 19 51 24.9 -0.3
comp=Z,3.7nm,0.8s,mb4.9
ECRI **Cripan** 96.82 326 P P 19 51 24.9 -0.3
ECRI pmax pmax
comp=Z,4.0nm,0.8s,mb4.9
115A **Sonoran Desert** 96.87 48 ⇓P P 19 51 25.7 0.0
baz=97
SCHQ **Schefferville** 96.90 9 *e*P P 19 51 24.2 -1.1
comp=Z,25nm,1.0s,mb5.6
SCHQ LR LR
comp=Z,2µm,20.0s,MS5.6
SCHQ **Schefferville** 96.90 9 P P 19 51 24.1 -1.2
comp=Z,21nm,0.9s,mb5.6,baz=7.8,slow=4.9,SNR=22
SCHQ PKKPbc PKKPbc 20 08 03.9 -3.5
comp=Z,0.9nm,0.4s,baz=267,slow=11,SNR=7.2
SCHQ LR LR 20 38 32.1
comp=Z,1µm,20.3s,MS5.4,baz=350,slow=37
SET **Setif** 96.92 317 P P 19 51 26.0 +0.2
Z16A **Peralta Trail,** 96.99 47 ⇓P P 19 51 26.4 +0.2
baz=97
116A **Eloy** 97.30 48 ⇑P P 19 51 27.7 +0.1
baz=97
EIBI **Ibiza** 97.36 321 P P 19 51 27.5 -0.2
comp=Z,39nm,1.0s,mb5.8
EMOS **Mosqueruela** 97.40 323 P P 19 51 27.6 -0.2
comp=Z,28nm,0.9s,mb5.7
MIR **Mirnyy** 97.59 194⇑*i*P pP 19 51 39.0 -2.4
MIR *i* 19 51 48.0
MIR pmax pmax
comp=Z,200nm,1.5s,mb6.4
EARI **Arriondas** 97.61 328 P P 19 51 27.9 -0.9
comp=Z,91nm,2.0s,mb6.0
SDCO **Great Sand Dun** 97.70 40 PFAKE 19 51 40.0 +11
SDCO LR LR
comp=Z,505nm,21.0s,MS5.0
216A **Three Points,** 97.82 48 ⇑P P 19 51 30.0 0.0
baz=98
ETOR **Torete** 97.90 324 P P 19 51 29.6 -0.5
comp=Z,12nm,0.8s,mb5.5
ETOR **Torete** 97.90 324 P P 19 51 29.6 -0.5
ETOR pmax pmax
comp=Z,12nm,0.8s,mb5.5
ECSD **EROS,Sioux Fal** 97.92 31 *e*P P 19 51 29.4 -0.8
comp=Z,9.6nm,0.9s,mb5.3
ECSD LR LR
comp=Z,605nm,20.0s,MS5.1
Z18A **Geronimo** 98.05 46 ⇓P P 19 51 31.2 +0.2
baz=98
ECHE **Chera** 98.22 323 P P 19 51 31.2 -0.3
comp=Z,3.2nm,0.6s,mb5.0
ECHE **Chera** 98.22 323 P P 19 51 31.2 -0.4
ECHE pmax pmax
comp=Z,3.0nm,0.6s,mb5.0
217A **Green Valley** 98.38 48 ⇓P P 19 51 32.8 +0.3
baz=98
EPON **Pontenova** 98.50 329 P P 19 51 31.8 -0.9
comp=Z,53nm,1.6s,mb5.8
119A **Ashpeak Ranch,** 98.73 46 ⇓P P 19 51 34.3 +0.3
baz=98
218A **Dragoon** 98.76 47 ⇓P P 19 51 34.1 0.0
baz=99
ANMO **Albuquerque** 99.05 43 *e*P P 19 51 35.8 +0.5
comp=Z,5.3nm,0.8s,mb5.1
ANMO LR LR
comp=Z,501nm,19.0s,MS5.0
ANMO **Albuquerque** 99.05 43⇑*e*P P 19 51 36.2 +0.8
GUD **Guadarrama** 99.10 325 P P 19 51 35.3 -0.2
comp=Z,8.5nm,0.7s,mb5.4
GUD **Guadarrama** 99.10 325 P P 19 51 35.3 -0.2
GUD pmax pmax
comp=Z,9.0nm,0.7s,mb5.4
318A **Bisbee** 99.14 48 ⇑P P 19 51 36.1 +0.2
baz=99,SNR=5.4
COWI **Conover** 99.16 25 *e*P P 19 51 34.0 -1.7
comp=Z,11nm,1.1s,mb5.3
COWI LR LR
comp=Z,691nm,21.0s,MS5.1
ETOB **Tobarra** 99.21 323 P P 19 51 35.4 -0.6
comp=Z,108nm,2.1s,mb6.0
219A **White Tail Can** 99.25 47 ⇓P P 19 51 36.3 0.0
baz=99,SNR=5.6
ECAL **Calabor** 99.38 328 P P 19 51 35.6 -1.1
comp=Z,8.8nm,0.8s,mb5.3
319A **Douglas** 99.64 47 ⇑P Pdif 19 51 38.2 +0.4
baz=100
ESDC **Sonseca Array** 99.73 325 P Pdif 19 51 37.8 -0.3
comp=Z,8.9nm,0.8s
ESDC **Sonseca Array** 99.73 325 P Pdif 19 51 37.5 -0.6
comp=Z,4.1nm,0.7s,baz=30,slow=4.0,SNR=16
ESDC LR LR 20 42 05.3
comp=Z,2µm,18.6s,MS5.6,baz=50,slow=38
ESLA **Sonseca Array** 99.73 325 *e*Pdif Pdif 19 51 37.8 -0.4
comp=Z,12nm,1.5s
EVIA **Vianos** 99.73 323 P Pdif 19 51 37.8 -0.3
comp=Z,15nm,1.0s
EVIA **Vianos** 99.73 323 P Pdif 19 51 37.8 -0.3
EVIA pmax pmax
comp=Z,15nm,1.0s,mb5.4
PAB **San Pablo** 100.02 325 PFAKE 19 51 50.0 +11
PAB LR LR
comp=Z,2µm,19.0s,MS5.7
CBKS **Cedar Bluff** 100.11 36 PFAKE 19 51 50.0 +10
CBKS LR LR
comp=Z,638nm,21.0s,MS5.1
MVO **Moncorvo** 100.12 327 *e*Pdif Pdif 19 51 39.4 -0.4
MVO **Moncorvo** 100.12 327 *e*PP PP 19 55 48.3 +3.3
MVO **Moncorvo** 100.12 327 *e*LQ 20 30 31.7
MVO *e*LR LR 20 34 04.6
comp=Z,2µm,18.0s
PVRL **Vila Real** 100.36 328 *e*Pdif Pdif 19 51 40.2 -0.7
EQES **Quesada** 100.65 323 P Pdif 19 51 41.9 -0.3
comp=Z,23nm,0.8s
PVIS **Viseu** 100.88 328 *e*Pdif Pdif 19 51 43.5 +0.3
MTE **Manteigas** 100.96 327 *e*Pdif Pdif 19 51 42.9 -0.7
MTE **Manteigas** 100.96 327 *e*PP PP 19 55 51.7 +0.3
MTE *e*SKS 20 02 38.8
MTE **Manteigas** 100.96 327 *e*LQ 20 30 19.2
MTE *e*LR LR 20 33 41.6
comp=Z,3µm,20.0s
EADA **Adamuz** 101.17 324 P Pdif 19 51 44.1 -0.4
comp=Z,63nm,1.5s
JFWS **Jewell Farm** 101.37 28 PFAKE 19 52 00.0 +15
JFWS LR LR
comp=Z,698nm,20.0s,MS5.2
ELUQ **Luque** 101.46 323 P Pdif 19 51 45.8 -0.1
comp=Z,13nm,0.8s
ELUQ **Luque** 101.46 323 P Pdif 19 51 45.8 0.0
ELUQ pmax pmax

	comp=Z,13nm,0.8s						
KSU1	**Kansas State U**	**101.49**	**34**	PFAKE		19 52 00.0	+14
KSU1				LR	LR		
	comp=Z,669nm,20.0s,MS5.2						
ECAB	**El Cabril**	**101.68**	**324**	P	Pdif	19 51 46.7	-0.1
	comp=Z,78nm,1.8s						
ELOJ	**Sierra Loja**	**101.71**	**323**	P	Pdif	19 51 46.1	-0.8
	comp=Z,9.1nm,1.0s						
ELOJ	**Sierra Loja**	**101.71**	**323**	P	Pdif	19 51 46.1	-0.8
ELOJ				pmax	pmax		
	comp=Z,9.0nm,1.0s						
AMTX	**Amarillo**	**101.91**	**40**	PFAKE		19 52 00.0	+12
AMTX				LR	LR		
	comp=Z,658nm,20.0s,MS5.2						
GLMI	**Grayling**	**101.91**	**23**	PFAKE		19 52 00.0	+12
GLMI				LR	LR		
	comp=Z,744nm,20.0s,MS5.2						
MNTX	**Cornudas Mount**	**101.92**	**45**	PFAKE		19 52 00.0	+12
MNTX				LR	LR		
	comp=Z,556nm,20.0s,MS5.1						
EBAD	**Badajoz**	**101.97**	**326**	P	Pdif	19 51 48.7	+0.6
	comp=Z,18nm,1.3s						
PESTR	**Estremoz**	**102.17**	**326**	*e*Pdif	Pdif	19 51 48.6	-0.4
PESTR	**Estremoz**	**102.17**	**326**	*e*PP	PP	19 56 02.4	+1.9
PESTR				*e*SKS		20 02 47.3	
PESTR	**Estremoz**	**102.17**	**326**	*e*LQ		20 31 40.1	
PESTR				*e*LR	LR	20 34 55.8	
	comp=Z,2μm,20.0s						
PBAR	**Barrancos**	**102.43**	**326**	*e*Pdif	Pdif	19 51 50.1	0.0
PBAR	**Barrancos**	**102.43**	**326**	*e*PP	PP	19 56 02.9	+0.4
PBAR				*e*SKS		20 02 49.2	
PBAR	**Barrancos**	**102.43**	**326**	*e*LQ		20 31 05.1	
PBAR				*e*LR	LR	20 36 59.5	
	comp=Z,1μm,20.0s						
EMIJ	**Mijas**	**102.47**	**323**	P	Pdif	19 51 51.0	+0.6
	comp=Z,27nm,1.0s						
EMIN	**Mina Concepcio**	**102.56**	**325**	P	Pdif	19 51 50.4	-0.3
	comp=Z,38nm,1.5s						
EVO	**Evora**	**102.64**	**326**	*e*P	Pdif	19 51 50.1	-0.9
	comp=Z,8.6nm,0.8s						
EVO				*e*MLR	MLR		
	comp=Z,3μm,20.2s,MS5.5						
ESPR	**Espera**	**102.82**	**324**	P	Pdif	19 51 51.9	0.0
	comp=Z,54nm,1.0s						
PMAFR	**Mafra**	**102.92**	**327**	*e*PP	PP	19 56 08.0	+1.8
PMAFR				*e*SKS		20 02 51.8	
PMAFR	**Mafra**	**102.92**	**327**	*e*LQ		20 30 58.7	
PMAFR				*e*LR	LR	20 35 03.5	
	comp=Z,4μm,18.0s						
EJIF	**Jimena Fronter**	**102.93**	**323**	P	Pdif	19 51 55.2	+2.9
	comp=Z,20nm,1.3s						
EJIF	**Jimena Fronter**	**102.93**	**323**	P	Pdif	19 51 55.2	+2.9
EJIF				pmax	pmax		
	comp=Z,20nm,1.3s						
PBEJ	**Beja**	**102.96**	**326**	*e*Pdif	Pdif	19 51 52.4	-0.1
EGRO	**El Granado**	**103.14**	**325**	P	Pdif	19 51 52.0	-1.3
	comp=Z,39nm,1.2s						
PVAQ	**Vaqueiros**	**103.36**	**325**	*e*Pdif	Pdif	19 51 53.9	-0.4
PVAQ	**Vaqueiros**	**103.36**	**325**	*e*PP	PP	19 56 10.3	+0.8
PVAQ				*e*SKS		20 02 54.0	
PVAQ	**Vaqueiros**	**103.36**	**325**	*e*LQ		20 31 25.2	
PVAQ				*e*LR	LR	20 37 26.0	
	comp=Z,2μm,20.0s						
PBDV	**Barranco-do-Ve**	**103.60**	**325**	*e*PP	PP	19 56 13.4	+2.1
PBDV				*e*SKS		20 02 54.5	
PBDV	**Barranco-do-Ve**	**103.60**	**325**	*e*LQ		20 30 27.1	
PBDV				*e*LR	LR	20 37 35.0	
	comp=Z,2μm,18.0s						
WMOK	**Wichita Mounta**	**103.64**	**38**	PFAKE		19 52 10.0	+14
WMOK				LR	LR		
	comp=Z,538nm,19.0s,MS5.1						
HDIL	**Hopedale**	**103.72**	**29**	PFAKE		19 52 10.0	+14
HDIL				LR	LR		
	comp=Z,608nm,21.0s,MS5.1						
PTEO	**Sao Teotonio**	**103.76**	**326**	*e*Pdif	Pdif	19 51 56.0	0.0
MORF	**Marmelete**	**103.91**	**326**	*e*LQ		20 33 19.6	
MORF				*e*LR	LR	20 37 16.0	
	comp=Z,2μm,20.0s						
AAM	**Ann Arbor**	**104.45**	**24**	PFAKE		19 52 10.0	+11
AAM				LR	LR		
	comp=Z,845nm,20.0s,MS5.3						
LTX	**Lajitas**	**104.61**	**45**	PFAKE		19 52 10.0	+10
LTX				LR	LR		
	comp=Z,323nm,20.0s,MS4.9						
TXAR	**Lajitas Array**	**104.61**	**45**	Pdif	Pdif	19 51 58.5	-1.3
TXAR	**Lajitas Array**	**104.61**	**45**	Pdiff	Pdif	19 51 58.5	-1.3
	comp=Z,1.7nm,0.8s,baz=294,slow=2.9,SNR=12						
TXAR				PKiKP	PKiKP	19 56 14.7	-1.2
	comp=Z,1.7nm,0.8s,baz=293,slow=1.6,SNR=5.5						
TXAR				PKKPbc	PKKPbc	20 07 44.7	0.0
	comp=Z,1.1nm,0.8s,baz=111,slow=4.9,SNR=9.1						
TXAR				PKKP	PKKPdf	20 07 57.9	+4.4
	comp=Z,1.5nm,0.9s,baz=138,slow=5.6,SNR=7.4						
CCM	**Cathedral Cave**	**104.90**	**31**	PFAKE		19 52 10.0	+8.9
CCM				LR	LR		
	comp=Z,123nm,19.0s,MS4.5						
LONY	**Lake Ozonia**	**105.16**	**17**	PFAKE		19 56 30.0	+13
LONY				LR	LR		
	comp=Z,551nm,20.0s,MS5.1						
MDT	**Midelt**	**105.17**	**320**	Pdiff	Pdif	19 52 03.0	+0.7
	comp=Z,2.9nm,0.9s,baz=86,slow=8.1,SNR=5.5						
PKME	**Peaks-Kenny Pk**	**105.75**	**13**	PFAKE		19 56 30.0	+12
PKME				LR	LR		
	comp=Z,1μm,20.0s,MS5.5						
LSZ	**Lusaka**	**105.81**	**261**	*e*Pdif	Pdif	19 52 05.2	+0.1
	comp=Z,16nm,1.4s						
LSZ				LR	LR		
	comp=Z,1μm,22.0s,MS5.4						
LSZ	**Lusaka**	**105.81**	**261**	*e*P	Pdif	19 52 05.2	+0.1
LSZ				*e*		19 56 29.4	
LSZ				pmax	pmax		
	comp=Z,16nm,1.4s						
NCB	**Newcomb**	**105.86**	**17**	PFAKE		19 56 30.0	+12
NCB				LR	LR		
	comp=Z,606nm,22.0s,MS5.1						
ERPA	**Erie**	**105.88**	**22**	PFAKE		19 56 30.0	+12
ERPA				LR	LR		
	comp=Z,926nm,19.0s,MS5.3						
RKT	**Rikitea**	**105.91**	**108**	*e*SS	SS	20 11 30.2	+3.1
	comp=Z,445nm,33.2s						
RKT	**Rikitea**	**105.91**	**108**	*e*LR	LR	20 26 55.5	
	comp=Z,2μm,26.8s,baz=294						
LBNH	**Lisbon**	**106.16**	**15**	PFAKE		19 56 30.0	+12
LBNH				LR	LR		
	comp=Z,1μm,22.0s,MS5.3						
JCT	**Junction City**	**106.17**	**42**	*e*PKPdf	PKiKP	19 56 17.4	-1.4
JCT				LR	LR		
	comp=Z,663nm,20.0s,MS5.2						
ACSO	**Alum Creek Sta**	**106.51**	**25**	PFAKE		19 56 30.0	+11
ACSO				LR	LR		
	comp=Z,926nm,20.0s,MS5.3						
MAW	**Mawson**	**106.51**	**201**	PFAKE		19 56 30.0	+12
MAW				LR	LR		
	comp=Z,657nm,21.0s,MS5.2						
MAW	**Mawson**	**106.51**	**201**	PKKPab	PKKPab	20 07 48.3	-3.3
	comp=Z,3.0nm,0.8s,baz=0.0,slow=0.0,SNR=4.4						
MIAR	**Mount Ida**	**106.56**	**35**	PFAKE		19 56 30.0	+11
MIAR				LR	LR		
	comp=Z,675nm,21.0s,MS5.2						
VNDA	**Vanda**	**106.75**	**173**	PP	PP	19 56 35.2	+0.4
	comp=Z,2.1nm,1.0s,baz=299,slow=6.5,SNR=4.6						
VNDA				PKKPbc	PKKPbc	20 07 36.6	-3.1
	comp=Z,5.4nm,0.9s,baz=162,slow=1.5,SNR=15						
VNDA				PKKP	PKKPdf	20 07 50.6	-1.8
	comp=Z,1.8nm,0.9s,baz=180,slow=4.9,SNR=4.5						
WCI	**Wyandotte Cave**	**106.93**	**28**	PFAKE		19 56 30.0	+10
WCI				LR	LR		
	comp=Z,141nm,22.0s,MS4.5						
BINY	**Binghamton**	**107.03**	**19**	PFAKE		19 56 30.0	+10
BINY				LR	LR		
	comp=Z,842nm,20.0s,MS5.3						
SSPA	**Standing Stone**	**107.89**	**21**	PFAKE		19 56 30.0	+8.3
SSPA				LR	LR		
	comp=Z,136nm,20.0s,MS4.5						
HRV	**Adam Dziewonsk**	**107.89**	**15**	PFAKE		19 56 30.0	+8.3
HRV				LR	LR		
	comp=Z,794nm,21.0s,MS5.2						
WVT	**Waverly**	**108.03**	**30**	PFAKE		19 56 30.0	+7.9
WVT				LR	LR		
	comp=Z,423nm,20.0s,MS5.0						
WES	**Weston**	**108.06**	**15**	PFAKE		19 56 30.0	+8.0
WES				LR	LR		
	comp=Z,641nm,21.0s,MS5.2						
MCWV	**Mont Chateau**	**108.13**	**23**	PFAKE		19 56 30.0	+7.8
MCWV				LR	LR		
	comp=Z,955nm,20.0s,MS5.4						
NATX	**Nacogdoches**	**108.15**	**38**	PFAKE		19 56 30.0	+7.6
NATX				LR	LR		
	comp=Z,719nm,21.0s,MS5.2						
HKT	**Hockley**	**108.87**	**40**	PFAKE		19 56 40.0	+16
HKT				LR	LR		
	comp=Z,147nm,19.0s,MS4.6						
PLAL	**Pickwick Lake**	**108.87**	**31**	PFAKE		19 56 30.0	+6.3
PLAL				LR	LR		
	comp=Z,466nm,22.0s,MS5.0						
KVTX	**Kingsville**	**109.45**	**43**	PFAKE		19 56 40.0	+15
KVTX				LR	LR		
	comp=Z,678nm,19.0s,MS5.2						
TZTN	**Tazewell**	**109.50**	**27**	PFAKE		19 56 40.0	+15
TZTN				LR	LR		
	comp=Z,731nm,22.0s,MS5.2						
BLA	**Blacksburg**	**110.11**	**24**	PFAKE		19 56 40.0	+14
BLA				LR	LR		
	comp=Z,919nm,21.0s,MS5.3						
TKL	**Tuckaleechee C**	**110.17**	**28**	PP	PP	19 57 00.8	+1.5
	comp=Z,12nm,0.9s,baz=282,slow=3.0,SNR=4.6						
CBN	**Corbin**	**110.26**	**21**	PFAKE		19 56 40.0	+14
CBN				LR	LR		
	comp=Z,770nm,20.0s,MS5.3						
CMLA	**Cha da Macela**	**110.56**	**338**	PFAKE		19 56 40.0	+13
CMLA				LR	LR		
	comp=Z,798nm,20.0s,MS5.3						
LRAL	**Lakeview Retre**	**110.99**	**31**	PFAKE		19 56 40.0	+12
LRAL				LR	LR		
	comp=Z,520nm,21.0s,MS5.1						
LBTB	**Lobatse**	**111.84**	**252**	PFAKE		19 56 40.0	+11
LBTB				LR	LR		
	comp=Z,1μm,22.0s,MS5.5						
GOGA	**Godfrey**	**112.23**	**28**	PFAKE		19 56 40.0	+10
GOGA				LR	LR		
	comp=Z,669nm,22.0s,MS5.2						
BRAL	**Brewton**	**112.64**	**33**	PFAKE		19 56 40.0	+9.1
BRAL				LR	LR		
	comp=Z,602nm,20.0s,MS5.2						
BOSA	**Boshof**	**113.38**	**249**	PKPdf	PKiKP	19 56 31.2	-1.1
BOSA				LR	LR		
	comp=Z,659nm,22.0s,MS5.2						
BOSA	**Boshof**	**113.38**	**249**	PKiKP	PKiKP	19 56 31.2	-1.1
	comp=Z,4.7nm,0.7s,baz=154,slow=3.1,SNR=11						
NHSC	**New Hope**	**113.84**	**26**	PFAKE		19 56 40.0	+6.8
NHSC				LR	LR		
	comp=Z,534nm,20.0s,MS5.1						
TOA0	**Torodi Ar. Sit**	**114.38**	**301**	*e*PKPdf	PKiKP	19 56 33.1	-1.5
TORD	**Torodi Ar. Bea**	**114.38**	**301**	PKP	PKiKP	19 56 33.5	-1.2
TORD				PP	PP	19 57 20.4	-10
TORD				PKKPbc	PKKPbc	20 07 12.7	-0.5
TORD				PKKPab	PKKPab	20 07 26.0	+4.3
TORD	**Torodi Ar. Bea**	**114.38**	**301**	PKP	PKiKP	19 56 33.5	-1.1
	comp=Z,10nm,0.8s,baz=20,slow=2.6,SNR=37						
TORD				PP	PP	19 57 20.4	-10
	comp=Z,4.0nm,0.7s,baz=41,slow=6.1,SNR=5.7						
TORD				PKKPbc	PKKPbc	20 07 12.7	-0.5
	comp=Z,2.1nm,0.8s,baz=246,slow=2.9,SNR=9.2						
TORD				PKKPab	PKKPab	20 07 26.0	+4.3
	comp=Z,4.8nm,1.0s,baz=243,slow=2.9,SNR=9.5						
SYO	**Syowa Base**	**115.01**	**203**⇑	*e*PKPdf	PKiKP	19 56 33.0	-1.1
SYO	**Syowa Base**	**115.01**	**203**‖	*e*X		19 56 44.8	
QSPA	**South Pole Qui**	**117.34**	**180**	PKP	PKPdf	19 56 36.6	-1.8
QSPA	**South Pole Qui**	**117.34**	**180**	PKP	PKPdf	19 56 36.6	-1.7
	comp=Z,14nm,1.0s,baz=298,slow=0.8,SNR=34						
DWPF	**Disney**	**117.68**	**30**	PFAKE		19 56 50.0	+9.3
DWPF				LR	LR		
	comp=Z,145nm,19.0s,MS4.6						
TEIG	**Tepich**	**120.69**	**41**	PFAKE		19 57 00.0	+13
TEIG				LR	LR		
	comp=Z,495nm,19.0s,MS5.2						
DBIC	**Dimbokro**	**123.45**	**300**	*e*PKPdf	PKPdf	19 56 51.1	-1.0
DBIC				LR	LR		
	comp=Z,759nm,19.0s,MS5.4						
DBIC	**Dimbokro**	**123.45**	**300**	PKIKP	PKPdf	19 56 50.9	-1.2
DBIC						19 58 34.4	
DBIC				pmax	pmax		
	comp=Z,23nm,0.9s						
DBIC				pmax	pmax		
	comp=Z,18nm,1.1s						
DBIC	**Dimbokro**	**123.45**	**300**	PKP	PKPdf	19 56 50.9	-1.3
	comp=Z,23nm,0.9s,baz=45,slow=2.2,SNR=23						
DBIC				PP	PP	19 58 34.4	+1.1
	comp=Z,18nm,1.1s,baz=26,slow=7.9,SNR=4.3						
LIC	**Lamto**	**123.86**	**300**	*e*PKIKP	PKPdf	19 56 51.9	-1.0
	comp=Z,96nm,1.0s						
LIC				*e*MLR	MLR		
	comp=Z,1μm,19.8s,MS5.2						
LIC	**Lamto**	**123.86**	**300**	*e*PKPdf	PKPdf	19 56 51.9	-1.0
LIC				LR	LR		
	comp=Z,520nm,19.8s,MS5.2						
MAIT	**Maitri**	**124.49**	**201**	*e*PKP	PKPdf	19 56 49.1	-3.2
TGUH	**Tegucigalpa,Un**	**126.07**	**44**	PFAKE		19 57 10.0	+13
TGUH				LR	LR		
	comp=Z,672nm,21.0s,MS5.3						
SDDR	**Presa de Saban**	**129.95**	**25**	PFAKE		19 57 20.0	+16
SDDR				LR	LR		
	comp=Z,845nm,22.0s,MS5.4						
VNA2	**Neumayer--Watz**	**130.09**	**197**	*e*PKPdf	PKPdf	19 57 02.2	-0.8
	baz=74,slow=1.0						
VNA2				*e*		19 57 03.5	
VNA2				*e*		19 57 16.8	
VNA2				*e*		19 57 19.3	
JTS	**JuntasAbangare**	**130.40**	**45**	*e*PKPdf	PKPdf	19 57 02.2	-3.1
JTS	**JuntasAbangare**	**130.40**	**45**	*e*PKIKP	PKPdf	19 57 02.2	-3.2
JTS				*e*		19 57 15.1	
JTS	**JuntasAbangare**	**130.40**	**45**	PKP	PKPdf	19 57 02.5	-2.9
	comp=Z,13nm,1.0s,baz=353,slow=5.8,SNR=5.4						
VNA1	**Neumayer--Stat**	**130.48**	**198**	*e*PKPdf	PKPdf	19 57 03.1	-0.7
VNA1				*e*		19 57 04.6	
VNA1				*e*		19 57 17.8	
VNA1				*e*		19 57 20.5	
VNA3	**Neumayer Olymp**	**130.48**	**197**	*e*PKPdf	PKPdf	19 57 02.9	-0.9
VNA3				*e*		19 57 04.3	
VNA3				*e*		19 57 17.6	
VNA3				*e*		19 57 20.5	
SJG	**San Juan**	**132.46**	**19**	PFAKE		19 57 20.0	+11
SJG				LR	LR		
	comp=Z,449nm,22.0s,MS5.1						
SDV	**Santo Domingo**	**139.35**	**30**	*e*PKPpre		19 57 12.3	
SDV				PKP	PKPdf	19 57 21.5	-0.6
SDV				*e*PKPdf	PKPdf	19 57 22.0	-0.1
SDV	**Santo Domingo**	**139.35**	**30**	PKhKP		19 57 12.6	
	comp=Z,8.1nm,0.7s,baz=321,slow=3.9,SNR=13						
SDV				PKP	PKPdf	19 57 21.5	-0.6
	comp=Z,62nm,0.9s,baz=45,slow=4.3,SNR=42						
PCRV	**Puerto La Cruz**	**140.41**	**20**	PKP	PKPdf	19 57 21.6	-2.4
PCRV	**Puerto La Cruz**	**140.41**	**20**	PKhKP		19 57 15.2	
	comp=Z,6.9nm,0.5s,baz=27,slow=4.5,SNR=3.3						
PCRV				PKP	PKPdf	19 57 21.6	-2.4
	comp=Z,11nm,0.7s,baz=342,slow=3.2,SNR=3.8						
ROSC	**El Rosal**	**141.01**	**38**	*e*PKPdf	PKPdf	19 57 21.9	-3.2
ROSC	**El Rosal**	**141.01**	**38**	PKP	PKPdf	19 57 22.2	-2.9
	comp=Z,21nm,0.8s,baz=102,slow=20,SNR=12						
ATAH	**Atahualpa**	**147.39**	**56**	PKPbc	PKPbc	19 57 37.1	-1.6
	comp=Z,80nm,1.1s,baz=5.4,slow=3.1,SNR=44						
USHA	**Ushuaia**	**150.12**	**160**	PKPbc	PKPbc	19 57 44.4	+0.1
	comp=Z,64nm,0.9s,baz=201,slow=1.6,SNR=13						
NNA	**Nana**	**151.73**	**62**	*e*PKPdf	PKPdf	19 57 42.5	-0.5
NNA				*e*PKPbc	PKPbc	19 57 48.2	-1.2
NNA	**Nana**	**151.73**	**62**	PKP	PKPdf	19 57 42.6	-0.4
	comp=Z,21nm,0.9s,baz=291,slow=4.3,SNR=6.7						
NNA				PKPbc	PKPbc	19 57 48.1	-1.2
	comp=Z,140nm,0.8s,baz=313,slow=4.7,SNR=46						
PLCA	**Paso Flores**	**159.60**	**135**	*e*PKPdf	PKPdf	19 57 51.8	-1.0
PLCA				*e*PKPdif		19 58 05.6	
PLCA	**Paso Flores**	**159.60**	**135**	*e*PKIKP	PKPdf	19 57 51.8	-1.0
PLCA				*e*		19 58 06.1	
PLCA	**Paso Flores**	**159.60**	**135**	PKP	PKPdf	19 57 52.4	-0.4
	comp=Z,2.5nm,1.0s,baz=172,slow=7.1,SNR=3.2						
LPAZ	**La Paz**	**161.02**	**57**	*e*PKPdf	PKPdf	19 57 56.0	+1.0
LPAZ	**La Paz**	**161.02**	**57**	PKIKP	PKPdf	19 57 55.9	+0.9
LPAZ						20 02 18.6	
LPAZ				pmax	pmax		
	comp=Z,13nm,1.0s						
LPAZ				pmax	pmax		
	comp=Z,4.0nm,1.1s						
LPAZ	**La Paz**	**161.02**	**57**	PKP	PKPdf	19 57 55.9	+0.8
	comp=Z,13nm,1.0s,baz=19,slow=1.9,SNR=36						
LPAZ				PP	PP	20 02 18.6	-2.2
	comp=Z,4.1nm,1.1s,baz=310,slow=6.1,SNR=3.6						
SIV	**San Ignacio**	**165.52**	**39**	PKP	PKPdf	19 57 59.0	-0.3
	comp=Z,19nm,0.8s,baz=136,slow=0.2,SNR=81						
SIV				PKPab	PKPab	19 58 55.5	-2.2
	comp=Z,6.8nm,0.8s,baz=169,slow=0.3,SNR=8.7						
SIV				PP	PP	20 02 45.0	+1.1
	comp=Z,12nm,0.9s,baz=341,slow=5.6,SNR=10						
BDFB	**Brasilia**	**167.68**	**344**	PKP	PKPdf	19 58 01.0	0.0
	comp=Z,12nm,0.9s,baz=327,slow=2.2,SNR=29						
BDFB				PKPab	PKPab	19 59 05.6	-1.5
	comp=Z,7.7nm,0.9s,baz=44,slow=10,SNR=5.1						
CAM3	**Guarapari**	**167.81**	**302**⇑	*i*P	PKPdf	19 58 00.3	-0.6
CAM3				*i*		19 58 09.8	
CAM3				*i*		19 58 33.5	
CAM3				*i*		19 59 20.8	
CAM4	**Nova Friburgo**	**170.30**	**300**⇑	*i*P	PKPdf	19 58 02.4	-0.1
CAM4				*i*		19 58 07.4	
CAM4				*i*		19 58 22.2	
CAM4				*i*		19 58 27.3	
CAM4				*i*		19 58 40.1	
CAM4				*i*		19 58 56.9	
CAM4				*i*		19 59 19.9	
CPUP	**Villa Florida**	**174.74**	**78**	PKP	PKPdf	19 58 03.3	-1.0
CPUP				PKPab	PKPab	19 59 37.4	-1.2
CPUP				PP	PP	20 03 36.7	+5.2
CPUP	**Villa Florida**	**174.74**	**78**	PKP	PKPdf	19 58 03.3	-1.0
	comp=Z,12nm,0.8s,baz=22,slow=0.6,SNR=32						
CPUP				PKPab	PKPab	19 59 37.4	-1.2
	comp=Z,4.6nm,0.8s,baz=292,slow=5.3,SNR=5.2						
CPUP				PP	PP	20 03 36.7	+5.2
	comp=Z,2.5nm,0.8s,baz=323,slow=4.2,SNR=4.7						

MDD 20 19:44:19.3±1.1, 4291N×138W, h0km, mbLg0.8/2, Error ellipse: s-maj=7.1km s-min=3.2km az=46.0, PRXIMO SIN SOLUCIN, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IZUN	**Zunzarren**	**0.07**	**234**	Pg	Pg	19 44 21.2	+0.5
	1.3nm,0.0s,SNR=7.9						
IZUN				Lg		19 44 21.8	
	2.5nm,0.1s,SNR=7.9						
IPRE	**Itoiz**	**0.10**	**172**	Pg	Pg	19 44 21.2	+0.1
	0.3nm,0.0s,SNR=7.9						
IPRE				Lg		19 44 22.1	
	1.0nm,0.1s,SNR=7.9						
IUSE	**Utxeti**	**0.13**	**288**	Lg		19 44 23.2	
	0.5nm,0.1s,SNR=7.9						
IUNC	**Unciti**	**0.17**	**211**	Pg	Pg	19 44 22.7	+0.1
	2.3nm,0.1s,SNR=7.9						
IUNC				Lg		19 44 24.8	
	5.0nm,0.1s,SNR=6.7						
ELIZ	**Elizondo**	**0.28**	**337**	Pg	Pg	19 44 18.8	-5.9
	0.5nm,0.0s,SNR=7.9						
ELIZ				Lg		19 44 20.6	
	2.1nm,0.1s,SNR=6.5						
EALK	**Alkurruntz**	**0.33**	**343**	Pg	Pg	19 44 19.4	-6.2
	0.9nm,0.1s,SNR=7.9						
EALK				Lg		19 44 21.8	
	2.1nm,0.1s,SNR=12						

*IDC **20** 20:02:39.5±0.6, 1945N×12139E, h0km, mb4.1/13, mb1 4.2/15, mb1mx4.2/23, mbtmp4.1/15, ML4.0/2, Error ellipse: s-maj=34.9km s-min=13.3km az=73.0*
*BJI **20** 20:02:43.0, 1981N×12136E, h5km, mB4.6, mb4.3, ML4.1, Ms4.2, Msz4.1*
*ISCJB **20** 20:02:44.4±0.8, 1958N±004×12162E±008, h47km±8km, mb4.2/22, Error ellipse: s-maj=11.9km s-min=5.9km az=4.4*
*NEIC **20** 20:02:44.2±2.4, 1944N×12142E, h30km±18km, mb4.2/6, Error ellipse: s-maj=10.5km s-min=6.8km az=69.0*
*MAN **20** 20:02:46, 1954N×12124E, h14km, mb4.9, ML3.8, MS3.8*
MAN INTENSITY III - BASCO, BATANES.

ISC 20 20:02:45.9±0.7, 1957N±003×12158E±007, h45km±7km, n45, σ1°01/47, mb4.2/22, 2C-1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PIP	**Pasuquin**	**1.54**	**217**⇑	*i*P	**Pn**	**20 03 10.2**	**-0.7**
PIP				*i* S	**Sn**	**20 03 28.4**	**-1.2**
BCPH	**Baguio City Da**	**3.31**	**197**	*i* P	**Pn**	**20 03 36.5**	**+1.2**
PCPH	**Palayan**	**4.01**	**187**⇑	*e*P	**Pn**	**20 03 48.7**	**+3.8**
NACB	**Ninganchiao**	**4.58**	**0**	*e*Pn	**Pn**	**20 03 52.7**	**+0.1**
NACB				*e*Sn	**Sn**	**20 04 42.3**	**-2.3**
YHNB	**Yeheng**	**5.08**	**358**	*e*Pn	**Pn**	**20 04 00.6**	**+1.1**
YHNB				*e*Sn	**Sn**	**20 04 55.1**	**-1.8**
QZH	**Quanzhou**	**6.02**	**333**	P	**Pn**	**20 04 09.3**	**-3.1**
QZH				S	**Sn**	**20 05 11.9**	**-8.2**
QZH				Smax			
	comp=N,150nm,0.3s						
QZH				Smax			
	comp=E,130nm,0.4s						
JOW	**Kunigami**	**9.49**	**39**	Pn	**Pn**	**20 05 02.1**	**+2.1**
	comp=E,3.8nm,0.3s,baz=222,slow=12,SNR=5.8						
SCPH	**Surigao**	**10.44**	**158**‖	*e*P	PKiKP	20 19 25.5	+10
QIZ	**Qiongzhong**	**11.10**	**269**	*e*Pn	**Pn**	**20 05 18.1**	**-3.9**
KKM	**Kota Kinabalu**	**14.42**	**202**	*e*Pn	**Pn**	**20 06 09.9**	**+2.5**
GYA	**Guiyang**	**15.34**	**299**	P	**Pn**	**20 06 19.8**	**+0.3**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s						
KMI	**Kunming**	**18.28**	**291**	P	**Pn**	**20 06 57.0**	**+0.8**
KMI				AP	pP	20 07 04.8	-1.8
KMI				AMB	AMB		
	comp=Z,9.0nm,1.1s						
KSRS	**Korea Array**	**18.66**	**16**	P	**Pn**	**20 07 01.2**	**+0.5**
	comp=Z,0.4nm,0.3s,baz=197,slow=12,SNR=8

ARU Arti 59.04 325 *eP* **P 20 12 40.9 -0.2**
comp=Z,5.0nm,0.5s,mb4.8
JOF Joensuu 72.90 331 *ep* **P 20 14 09.1 -1.0**
comp=Z,3.9nm,0.6s,mb4.5
MALT Malatya 72.91 305 *eP* **P 20 14 11.3 +0.7**
comp=Z,3.3nm,1.1s,mb4.2
FINES FINESS Array B 75.61 330 P **P 20 14 25.8 -0.1**
FINES FINESS Array B 75.61 330 P **P 20 14 25.8 -0.1**
comp=Z,2.3nm,0.8s,mb4.2,baz=122,slow=6.9,SNR=7.4
AKASG Malin Array Be 76.57 319 P **P 20 14 30.8 -0.8**
comp=Z,1.3nm,0.6s,mb4.0,baz=62,slow=5.6,SNR=6.3
NB2 NORSAR Subarra 82.47 333 P **P 20 15 02.8 -0.6**
comp=Z,0.8nm,0.6s,mb3.8,baz=64,slow=5.3
NOA NORSAR Array B 82.47 333 P **P 20 15 02.7 -0.7**
comp=Z,1.3nm,0.8s,mb3.9,baz=64,slow=5.2,SNR=4.4
CLL Collm 85.95 323 *eP* **P 20 15 21.0 -0.3**
GERES GERESS Array B 86.64 321 P **P 20 15 24.7 0.0**
comp=Z,0.5nm,0.6s,mb3.9,baz=72,slow=4.3,SNR=4.9
YKA Yellowknife Ar 87.06 23 P **P 20 15 26.7 +0.2**
comp=Z,1.0nm,0.6s,mb4.2,baz=311,slow=4.5,SNR=26
VNA2 Neumayer--Watz 120.63 197 *e* PKPdf 20 21 32.4 +0.4
baz=63,slow=0.2
VNA2 *e* 20 21 35.8
VNA3 Neumayer Olymp 121.08 196 *e* PKPdf 20 21 32.7 -0.2
VNA3 *e* 20 21 35.9

IDC 20 20:34:38.3±2.0, 306N×12700E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.5/16, mbtmp3.5/4, Error ellipse: s-maj=187.4km s-min=23.3km az=66.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.96**	**163**	P	P	20 39 53.9	-0.6
	0.8nm,0.4s,baz=342,slow=10,SNR=19						
WB2	**Warramunga Arr**	**23.97**	**163**	*eP*	P	20 39 53.2	-1.4
ASAR	**Alice Springs**	**27.40**	**166**	P	P	20 40 26.9	+1.2
	0.2nm,0.3s,baz=343,slow=11,SNR=9.4						
STKA	**Stephens Creek**	**37.41**	**159**	P	P	20 41 52.9	-0.3
	1.7nm,0.9s,baz=328,slow=7.8,SNR=4.4						
MKAR	**Makanchi Array**	**58.26**	**325**	P	P	20 44 34.5	-0.2
	0.2nm,0.4s,baz=119,slow=7.3,SNR=2.5						

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*ISCJB **20** 20:35:20.0±0.8, 1386N±010×1450E±02, h118km±6km, mb3.7/10, Error ellipse: s-maj=40.0km s-min=16.2km az=2.2*
*IDC **20** 20:35:20.0±0.8, 1389N×14506E, h106km±4km, mb3.5/10, mb1 3.7/10, mb1mx3.6/20, mbtmp3.5/10, MS4.0/1, Ms1 3.9/1, ms1mx3.1/22, Error ellipse: s-maj=34.0km s-min=15.5km az=95.0*
ISC 20 20:35:20.7±0.9, 1388N±010×1451E±03, h112km±6km, n13, σ0§86/12, mb3.7/10, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**0.35**	**213**	P	**Pn**	**20 35 37.2**	**+0.3**
	706nm,0.3s,baz=111,slow=3.1,SNR=649						
GUMO				S	**Sn**	**20 35 49.0**	**-0.2**
	2μm,0.3s,baz=345,slow=20,SNR=62						
MJAR	**Matsushiro Arr**	**23.38**	**346**	P	**P**	**20 40 18.5**	**-0.8**
	1.1nm,0.7s,mb3.3,baz=190,slow=8.9,SNR=4.2						
WRA	**Warramunga Arr**	**35.23**	**198**	P	**P**	**20 42 04.3**	**-0.2**
	0.9nm,0.8s,mb3.7,baz=23,slow=9.6,SNR=5.4						
FITZ	**Fitzroy Crossi**	**37.11**	**212**	P	**P**	**20 42 20.9**	**+0.5**
	1.0nm,0.7s,mb3.9,baz=34,slow=11,SNR=4.4						
ASAR	**Alice Springs**	**38.88**	**196**	P	**P**	**20 42 35.2**	**-0.1**
	0.2nm,0.4s,mb3.3,baz=18,slow=12,SNR=7.2						
STKA	**Stephens Creek**	**45.62**	**184**	P	**P**	**20 43 29.4**	**-0.4**
	1.1nm,0.5s,mb3.8,baz=29,slow=8.2,SNR=3.5						
STKA				LR	LR	21 03 37.3	
	comp=Z,165nm,19.9s,baz=31,slow=37						
SONM	**Songino Array**	**46.60**	**325**	P	**P**	**20 43 38.6**	**+1.2**
	0.3nm,0.7s,mb3.1,baz=98,slow=8.9,SNR=3.0						
SONM				PcP	PcP	20 45 09.6	0.0
	0.3nm,0.5s,baz=132,slow=2.1,SNR=2.9						
MKAR	**Makanchi Array**	**61.41**	**316**	P	**P**	**20 45 25.6**	**+0.6**
	0.5nm,0.3s,mb4.0,baz=94,slow=9.0,SNR=7.2						
YKA	**Yellowknife Ar**	**82.51**	**27**	P	**P**	**20 47 30.0**	**-0.6**
	0.7nm,0.4s,mb3.8,baz=286,slow=5.1,SNR=14						
NVAR	**Mina Array Bea**	**86.59**	**51**	P	**P**	**20 47 53.3**	**+1.6**
	0.7nm,0.6s,mb3.8,baz=265,slow=6.1,SNR=6.4						
FINES	**FINESS Array B**	**90.97**	**335**	P	**P**	**20 48 10.1**	**-1.8**
	2.5nm,0.9s,mb4.4,baz=20,slow=4.4,SNR=4.6						
TORD	**Torodi Ar. Bea**	**134.85**	**305**	PKP	PKPdf	20 54 26.3	-1.0
	0.3nm,0.4s,baz=43,slow=1.5,SNR=11						
DBIC	**Dimbokro**	**143.83**	**302**	PKP	PKPdf	20 54 41.7	-2.0
	2.0nm,0.4s,baz=50,slow=4.0,SNR=15						

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*IDC **20** 20:38:54.2±1.3, 862S×15761E, h0km, mb3.9/4, mb1 4.1/5, mb1mx3.7/15, mbtmp3.9/5, ML4.1/1, MS4.0/1, Ms1 4.0/1, ms1mx2.9/27, Error ellipse: s-maj=34.5km s-min=23.3km az=0.0*
*ISCJB **20** 20:38:57.6±1.2, 87S±02×15758E±007, h33km, mb3.7/4, Error ellipse: s-maj=32.2km s-min=9.2km az=5.2*
ISC 20 20:38:59.1±1.2, 86S±02×15761E±007, h35km, n8, σ0§86/8, mb3.7/4, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.44**	**110**	Pn	**Pn**	**20 39 35.2**	**-1.3**
	39nm,0.3s,baz=285,slow=0.7,SNR=8.3						
HNR				Sn	**Sn**	**20 40 05.8**	**+0.6**
	68nm,0.3s,baz=117,slow=5.6,SNR=4.2						
WB2	**Warramunga Arr**	**25.16**	**241**	*eP*	**P**	**20 44 21.0**	**-0.3**
WRA	**Warramunga Arr**	**25.17**	**241**	P	**P**	**20 44 21.0**	**-0.4**
	2.8nm,0.6s,mb4.0,baz=66,slow=9.4,SNR=23						
WRA				PcP	PcP	20 47 55.9	+1.0
	0.2nm,0.7s,baz=79,slow=3.0,SNR=5.2						
ASAR	**Alice Springs**	**27.18**	**234**	P	**P**	**20 44 39.0**	**-0.6**
	0.8nm,0.9s,mb3.2,baz=65,slow=9.5,SNR=6.5						
ASAR				PcP	PcP	20 48 00.3	+0.8
	0.3nm,0.6s,baz=68,slow=2.6,SNR=4.6						
STKA	**Stephens Creek**	**27.52**	**211**	*eP*	**P**	**20 44 44.5**	**+2.0**
	2.2nm,0.6s,mb4.0						
STKA	**Stephens Creek**	**27.52**	**211**	P	**P**	**20 44 43.2**	**+0.7**
	2.6nm,0.6s,mb4.1,baz=42,slow=14,SNR=13						
RAO	**Raoul Island**	**30.81**	**135**	LR	LR	20 54 50.7	
	comp=Z,265nm,21.6s,baz=138,slow=31						
MKAR	**Makanchi Array**	**86.33**	**318**	P	**P**	**20 51 38.2**	**+0.7**
	0.1nm,0.3s,mb3.5,baz=95,slow=5.7,SNR=2.9						

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*CSEM **20** 20:39:21.3±0.4, 3865N×2911W, h5km±2km, ML2.7, Error ellipse: s-maj=4.9km s-min=2.8km az=22.0, After PDA*
*PDA **20** 20:39:21.3±0.4, 3865N×2911W, h5km±2km, MD3.5, ML2.7, Error ellipse: s-maj=4.9km s-min=2.8km az=22.0*
SVSA 20 20:39:21.3±0.4, 3865N×2911W, h5km±2km, MD3.5, ML2.7, Error ellipse: s-maj=4.9km s-min=2.8km az=22.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CALA	**Caldeira**	**0.32**	**101**	*i* P	Pg	20 39 27.1	-0.5
CALA				*e*S	Sg	20 39 31.8	0.0
CALA	**Caldeira**	**0.32**	**101**	*e*S	Sg	20 39 31.8	0.0
HOR	**Horta**	**0.39**	**107**	*eP*	Pg	20 39 28.2	-0.7
HOR				*e*S	Sg	20 39 33.4	-0.6
PICO	**Pico**	**0.55**	**105**	*eP*	Pg	20 39 30.8	-1.1
PICO				*e*S	Sg	20 39 38.0	-1.1
ROSA	**Rosais**	**0.68**	**83**	*i* P	Pg	20 39 32.8	-1.6
ROSA				*e*S	Sg	20 39 41.0	-2.2
ROSA	**Rosais**	**0.68**	**83**	*e*S	Sg	20 39 41.0	-2.2
PMAN	**Manadas**	**0.80**	**91**	*eP*	Pg	20 39 34.0	-2.6
PMAN				*e*S	Sg	20 39 43.9	-3.0
PMAN				A		20 39 44.5	
	173nm,0.2s						
PMAN	**Manadas**	**0.80**	**91**	*eP*	Pg	20 39 34.0	-2.6
PMAN				*e*S	Sg	20 39 43.9	-3.0
CMLA	**Cha da Macela**	**2.96**	**106**	*eP*	Pn	20 40 04.4	-4.5

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*BJI **20** 20:54:07.7, 6980N×14480W, h5km, mB4.9, mb4.6*
*NEIC **20** 20:54:07.7, 6980N×14478W, h6km, mb4.5/18, ML4.5(AEIC), After AEIC.*
*ISCJB **20** 20:54:09.5±1.7, 6956N±003×1449W±0.1, h10km±11km, mb4.3/47, MS3.9/5, Error ellipse: s-maj=6.3km s-min=4.8km az=167.7*
*MOS **20** 20:54:10.1±1.0, 6961N×14493W, h13km, mb4.6/19, Error ellipse: s-maj=25.4km s-min=6.0km az=89.5*
*IDC **20** 20:54:10.3±0.7, 6975N×14464W, h0km, mb4.0/14, mb1 4.2/16, mb1mx4.1/24, mbtmp4.0/16, ML3.8/2, MS3.8/8, Ms1 3.8/8, ms1mx3.3/37, Error ellipse: s-maj=21.6km s-min=11.5km az=33.0*
ISC 20 20:54:10.9±2.0, 6957N±003×1449W±01, h5km±13km, n127, σ0§98/132, mb4.3/47, MS3.9/5, 7C-1D, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BM3	**Burnt Mountain**	**2.17**	**177**	P	**Pn**	**20 54 47.4**	**0.0**
BM3				S	**Sn**	**20 55 19.3**	**+4.7**
COLD	**Coldfoot**	**3.06**	**222**	P	**Pn**	**20 54 59.8**	**+0.1**
INK	**Inuvik**	**4.31**	**102**	*e*Pn	**Pn**	**20 55 15.9**	**-1.0**
INK	**Inuvik**	**4.31**	**102**	Pn	**Pn**	**20 55 16.0**	**-0.9**
	2.6nm,0.3s,baz=312,slow=14,SNR=69						
INK				Sn	**Sn**	**20 56 03.5**	**-3.9**
	20nm,0.3s,baz=232,slow=31,SNR=8.9						
INK				Lg		20 56 24.4	
	13nm,0.3s,baz=208,slow=18,SNR=5.5						
INK				LR	LR	20 56 40.8	
	comp=Z,402nm,20.7s,baz=102,slow=35						
IMA2	**Indian Mountai**	**4.83**	**227**	P	**Pn**	**20 55 22.9**	**-1.2**
COLA	**College**	**4.85**	**195**	P	**Pn**	**20 55 24.6**	**+0.2**
COLA				S	**Sn**	**20 56 21.4**	**+0.6**
IM3	**Indian Mountai**	**4.92**	**227**	P	**Pn**	**20 55 24.2**	**-1.1**
EGAK	**Eagle**	**5.03**	**161**	P	**Pn**	**20 55 26.4**	**-0.4**
EGAK				S	**Sn**	**20 56 23.6**	**-1.6**
DAWY	**Dawson**	**5.94**	**156**	P	**Pn**	**20 55 38.8**	**-0.5**
DAWY				S	**Sn**	**20 56 44.7**	**-3.0**
DOT	**Dot Lake**	**5.96**	**176**	P	**Pn**	**20 55 39.8**	**+0.3**
MCK	**McKinley**	**6.08**	**197**	P	**Pn**	**20 55 41.6**	**+0.4**
KTH	**Kantishna Hill**	**6.50**	**204**	P	**Pn**	**20 55 47.0**	**+0.1**
TRF	**Thorofare Moun**	**6.51**	**202**	P	**Pn**	**20 55 47.6**	**+0.5**
PAX	**Paxson**	**6.63**	**182**	P	**Pn**	**20 55 49.8**	**+1.0**
BCA3	**Beaver Creek A**	**6.66**	**168**	P	**Pn**	**20 55 49.1**	**0.0**
SML	**Sawmill**	**7.92**	**192**	*e*Pn	**Pn**	**20 56 09.8**	**+3.3**
TTA	**Tatalina**	**8.01**	**219**	*e*Pn	**Pn**	**20 56 10.9**	**+3.2**
	29nm,1.0s						
TTA	**Tatalina**	**8.01**	**219**	*eP*	**Pn**	**20 56 10.9**	**+3.2**
TTA				pmax	pmax		
	comp=Z,29nm,1.0s						
PMR	**Palmer**	**8.20**	**194**	*e*Pn	**Pn**	**20 56 10.9**	**+0.7**
	comp=Z,22nm,0.8s						
PMR	**Palmer**	**8.20**	**194**	*eP*	**Pn**	**20 56 11.0**	**+0.8**
PMR				pmax	pmax		
	comp=Z,22nm,0.8s						
SVW2	**Sparrevohn**	**9.58**	**213**	*e*Pn	**Pn**	**20 56 34.6**	**+5.4**
TNA	**Tin City**	**9.63**	**256**	*e*Pn	**Pn**	**20 56 28.0**	**-1.8**
	comp=Z,10nm,0.7s						
SKAG	**Skagway**	**10.94**	**153**	*e*Pn	**Pn**	**20 56 47.4**	**-0.4**
	comp=Z,38nm,1.1s						
GAMB	**Gambell**	**12.01**	**254**	*e*Pn	**Pn**	**20 57 01.5**	**-0.8**
	comp=Z,8.8nm,0.9s						
KDAK	**Kodiak Island**	**12.30**	**200**	LR	LR	21 02 05.0	
	comp=Z,448nm,19.5s,baz=23,slow=38						
DLBC	**Dease Lake**	**12.89**	**143**	*e*Pn	**Pn**	**20 57 13.6**	**-0.8**
DLBC	**Dease Lake**	**12.89**	**143**	Pn	**Pn**	**20 57 13.9**	**-0.5**
	baz=330,slow=11						
DLBC				Lg		21 00 53.3	
	baz=272,slow=18						
YKA	**Yellowknife Ar**	**14.07**	**105**	Pn	**Pn**	**20 57 25.1**	**-5.3**
YKA				Sn	**Sn**	**20 59 48.8**	**-18**
YKA	**Yellowknife Ar**	**14.07**	**105**	Pn	**Pn**	**20 57 25.1**	**-5.3**
	comp=Z,0.9nm,0.3s,baz=312,slow=13,SNR=54						
YKA				Sn	**Sn**	**20 59 48.8**	**-18**
	comp=Z,0.7nm,0.3s,baz=316,slow=22,SNR=6.2						
RES	**Resolute Bay**	**15.72**	**49**	*eP*	**Pn**	**20 57 47.2**	**-5.3**
	comp=Z,678nm,0.9s						
RES	**Resolute Bay**	**15.72**	**49**	*eP*	**Pn**	**20 57 47.2**	**-5.3**
RES				pmax	pmax		
	comp=Z,678nm,0.9s						
BILL	**Bilibino**	**17.34**	**288**	*eP*	**Pn**	**20 58 12.5**	**-0.6**
	comp=Z,7.4nm,0.8s						
BILL	**Bilibino**	**17.34**	**288**	*eP*	**Pn**	**20 58 11.2**	**-1.9**
BILL				pmax	pmax		
	comp=Z,7.0nm,1.3s						
BILL				MLR	MLR		
	comp=Z,300nm,14.0s						
BBB	**Bella Bella**	**19.14**	**147**	LR	LR	21 05 43.5	
	comp=Z,259nm,20.1s,baz=157,slow=36						
EDM	**Edmonton**	**21.87**	**122**	*eP*	**P**	**20 59 03.6**	**-0.5**
FFC	**Flin Flon**	**24.25**	**106**	*eP*	**P**	**20 59 29.2**	**+1.0**
	comp=Z,7.8nm,0.8s,mb4.2						
FFC	**Flin Flon**	**24.25**	**106**	*eP*	**P**	**20 59 29.2**	**+1.0**
FFC				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.2						
SEY	**Seymchan**	**25.00**	**286**	*eP*	**P**	**20 59 35.5**	**+0.5**
NEW	**Newport**	**25.29**	**133**	LR	LR	21 10 14.2	
	comp=Z,595nm,20.0s,MS4.1,baz=228,slow=38						
TIXI	**Tiksi**	**26.43**	**315**	*eP*	**P**	**20 59 50.0**	**+2.2**
	comp=Z,5.5nm,0.9s,mb4.1						
TIXI	**Tiksi**	**26.43**	**315**	*eP*	**P**	**20 59 49.7**	**+1.9**
TIXI				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb3.8						
MSO	**Missoula**	**27.45**	**130**	*eP*	**P**	**20 59 59.1**	**+1.9**
	comp=Z,3.8nm,0.8s,mb4.0						
BMO	**Blue Mountains**	**28.43**	**136**	*eP*	**P**	**21 00 07.5**	**+1.5**
	comp=Z,1.9nm,0.6s,mb3.9						
MCMT	**McKenzie Canyo**	**29.59**	**130**	*eP*	**P**	**21 00 17.6**	**+1.3**
PDAR	**Pinedale Array**	**32.40**	**127**	P	**P**	**21 00 42.1**	**+1.1**
	comp=Z,3.0nm,0.7s,mb4.2,baz=354,slow=6.0,SNR=7.0						
TPNV	**Topopah Spring**	**36.18**	**139**	*eP*	**P**	**21 01 11.8**	**-2.1**
	comp=Z,6.2nm,0.6s,mb4.7						
TPNV	**Topopah Spring**	**36.18**	**139**	*eP*	**P**	**21 01 11.8**	**-2.1**
TPNV				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.7						
SCHQ	**Schefferville**	**36.33**	**73**	P	**P**	**21 01 14.2**	**-0.7**
	comp=Z,4.3nm,0.8s,mb4.4,baz=310,slow=9.4,SNR=5.9						
SCHQ				LR	LR	21 15 34.0	
	comp=Z,152nm,19.9s,MS3.8,baz=332,slow=36						
PFO	**Pinyon Flat Ob**	**39.34**	**141**	LR	LR	21 18 17.5	
	comp=Z,179nm,20.6s,MS3.9,baz=327,slow=37						
ANMO	**Albuquerque**	**40.55**	**128**	*eP*	**P**	**21 01 51.2**	**+0.5**
	comp=Z,3.4nm,0.8s,mb4.0						
ANMO	**Albuquerque**	**40.55**	**128**	*eP*	**P**	**21 01 50.5**	**-0.2**
ANMO	**Albuquerque**	**40.55**	**128**	P	**P**	**21 01 50.2**	**-0.5**
	comp=Z,2.6nm,0.9s,mb3.9,baz=283,slow=15,SNR=2.5						
KEV	**Kevo**	**40.82**	**4**	*ep*	**P**	**21 01 50.2**	**-2.3**
	comp=Z,4.0nm,0.6s,mb4.2						
KEV	**Kevo**	**40.82**	**4**	*eP*	**P**	**21 01 50.2**	**-2.3**
KEV				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.2						
YSS	**Yuzh-Sakhalins**	**40.96**	**275**	*eP*	**P**	**21 01 52.5**	**-1.4**
YSS				pmax	pmax		
	comp=Z,9.0nm,1.3s,mb4.2						
BOD	**Bodaibo**	**40.98**	**307**	*eP*	**P**	**21 01 52.4**	**-1.6**
BOD				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.3						
ARCES	**ARCESS Array B**	**41.00**	**5**	P	**P**	**21 01 52.3**	**-1.6**
	comp=Z,2.0nm,0.7s,mb3.9,baz=356,slow=1.9,SNR=12						
MIAR	**Mount Ida**	**44.80**	**114**	*eP*	**P**	**21 02 25.8**	**+0.7**
	comp=Z,6.9nm,0.8s,mb4.5						
MIAR	**Mount Ida**	**44.80**	**114**	*eP*	**P**	**21 02 25.8**	**+0.6**
MIAR				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.5						
TXAR	**Lajitas Array**	**46.62**	**128**	P	**P**	**21 02 40.3**	**+0.7**
	comp=Z,0.6nm,0.7s,mb3.6,baz=336,slow=2.7,SNR=7.5						
JOF	**Joensuu**	**47.77**	**2**	*ep*	**P**	**21 02 46.3**	**-1.8**
	comp=Z,7.2nm,0.8s,mb4.8						
KAF	**Kangasniemi**	**48.45**	**5**	*ep*	**P**	**21 02 52.2**	**-1.2**
	comp=Z,1.1nm,0.4s,mb4.2						
KAF	**Kangasniemi**	**48.45**	**5**	*eP*	**P**	**21 02 52.2**	**-1.2**
KAF				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.2						
FINES	**FINESS Array B**	**49.12**	**6**	P	**P**	**21 02 57.4**	**-1.1**
	comp=Z,1.1nm,0.5s,mb4.2,baz=28,slow=8.6,SNR=13						
ZAK	**Zakamensk**	**50.52**	**310**	*eP*	**P**	**21 03 02.6**	**-6.7**
ZAK				pmax	pmax		
	comp=Z,1.0nm,2.1s,mb3.4						
ZAA0	**Zalesovo Array**	**51.60**	**325**	*eP*	**P**	**21 03 18.0**	**+0.6**
ZALV	**Zalesovo Beam**	**51.60**	**325**	P	**P**	**21 03 17.4**	**0.0**
	comp=Z,1.9nm,0.4s,mb4.4,baz=223,slow=8.3,SNR=19						
ZALV				LR	LR	21 25 40.7	
	comp=Z,91nm,19.2s,MS3.8,baz=68,slow=37						
ZAL	**Zalesovo**	**51.62**	**325**	P	**P**	**21 03 17.5**	**0.0**
MJAR	**Matsushiro Arr**	**51.73**	**273**	P	**P**	**21 03 18.9**	**+0.3**
	comp=Z,3.5nm,0.9s,mb4.3,baz=11,slow=7.6,SNR=8.1						
ULN	**Ulaanbaatar**	**51.75**	**305**	*eP*	**P**	**21 03 19.2**	**+0.6**
SONM	**Songino Array**	**51.96**	**306**	P	**P**	**21 03 21.9**	**+1.7**
	comp=Z,1.7nm,0.9s,mb4.0,baz=40,slow=8.1,SNR=11						
ARU	**Arti**	**53.16**	**344**	*d* iP	**P**	**21 03 29.0**	**+0.1**
ARU				*e*		21 04 35.0	
ARU				*e*		21 05 26.8	
ARU				*e*PPP		21 06 32.9	
ARU				*e*S	**S**	**21 10 58.7**	**-0.7**
ARU				*e*SS	SS	21 14 37.2	-0.6
ARU				SSS		21 16 30.3	
ARU				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.5						
KSRS	**Korea Array**	**54.49**	**282**	P	**P**	**21 03 39.0**	**+0.1**
	comp=Z,1.8nm,0.8s,mb4.0,baz=20,slow=7.3,SNR=6.1						
KURK	**Kurchatov**	**55.88**	**328**	*eP*	**P**	**21 03 47.8**	**-1.0**
	comp=Z,15nm,1.5s,mb4.8						
KURK	**Kurchatov**	**55.88**	**328**	*eP*	**P**	**21 03 48.2**	**-0.5**
BAIF	**Baives**	**58.56**	**23**	*eP*	**P**	**21 04 07.7**	**0.0**
	comp=Z,17nm,1.2s,mb4.7						
BAIF	**Baives**	**58.56**	**23**	*eP*	**P**	**21 04 07.7**	**0.0**
	comp=Z,8.4nm,1.2s,mb4.7						
BAIF	**Baives**	**58.56**	**23**	*eP*	**P**	**21 04 07.7**	**0.0**
BAIF				pmax	pmax		
	comp=Z,8.0nm,1.2s,mb4.6						
MKAR	**Makanchi Array**	**58.90**	**324**	P	**P**	**21 04 09.3**	**-0.9**
MKAR				LR	LR	21 29 54.0	
MKAR	**Makanchi Array**	**58.90**	**324**	*eP*	**P**	**21 04 10.1**	**-0.1**
MKAR	**Makanchi Array**	**58.90**	**324**	P	**P**	**21 04 09.3**	**-0.9**
	comp=Z,0.9nm,0.6s,mb4.0,baz=42,slow=7.0,SNR=6.9						
MKAR				LR	LR	21 29 54.0	
	comp=Z,137nm,21.1s,MS4.0,baz=8.5,slow=36						
FLN	**La Foliniere**	**59.13**	**27**	*eP*	**P**	**21 04 12.1**	**+0.4**
QUIF	**Quistinic**	**59.52**	**29**	*eP*	**P**	**21 04 14.6**	**+0.2**
AKASG	**Malin Array Be**	**59.97**	**4**	P	**P**	**21 04 16.0**	**-1.4**
	comp=Z,3.1nm,0.7s,mb4.5,baz=356,slow=6.8,SNR=15						
KHC	**Kasperske Hory**	**60.57**	**16**	*eP*	**P**	**21 04 23.9**	**+2.3**
CDF	**Champ du Feu**	**60.58**	**21**	*eP*	**P**	**21 04 22.5**	**+0.9**
	comp=Z,3.4nm,0.7s,mb4.3						
GERES	**GERESS Array B**	**60.86**	**16**	P	**P**	**21 04 23.2**	**-0.4**
	comp=Z,0.4nm,0.5s,mb3.8,baz=357,slow=6.8,SNR=5.0						
LOR	**Lormes**	**61.24**	**24**	*eP*	**P**	**21 04 26.6**	**+0.4**
	comp=Z,3.0nm,0.7s,mb4.2						
MFF	**Saint Martin d**	**61.29**	**27**	*eP*	**P**	**21 04 26.9**	**+0.4**
	comp=Z,8.7nm,1.0s,mb4.5						
SSF	**Saint Saulge**	**61.39**	**24**	*eP*	**P**	**21 04 27.0**	**-0.2**
	comp=Z,5.8nm,0.8s,mb4.5						
SSF	**Saint Saulge**	**61.39**	**24**	*eP*	**P**	**21 04 27.0**	**-0.2**
	comp=Z,2.9nm,0.8s,mb4.5						
SSF	**Saint Saulge**	**61.39**	**24**	*eP*	**P**	**21 04 27.0**	**-0.2**
SSF				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.5						
GTA	**Gaotai**	**61.58**	**307**	*eP*	**P**	**21 04 30.0**	**+1.4**
GTA				AP	pP	21 04 34.1	+3.8
GTA				XP	sP	21 04 38.0	+7.1
GTA				AMB	AMB		
	comp=Z,4.0nm,0.8s,mb4.6						
AVF	**Avril sur Loir**	**61.64**	**24**	*eP*	**P**	**21 04 29.5**	**+0.6**
	comp=Z,5.9nm,0.9s,mb4.4						
BGF	**Bois d'Agland**	**61.79**	**25**	*eP*	**P**	**21 04 30.3**	**+0.4**
	comp=Z,10nm,0.9s,mb4.7						
SMF	**Signal de Mont**	**61.85**	**24**	*eP*	**P**	**21 04 30.1**	**-0.2**
TCF	**Toulx Ste Croi**	**61.96**	**25**	*eP*	**P**	**21 04 31.1**	**+0.1**
	comp=Z,6.1nm,0.8s,mb4.5						
TCF	**Toulx Ste Croi**	**61.96**	**25**	*eP*	**P**	**21 04 31.1**	**+0.1**
	comp=Z,3.0nm,0.8s,mb4.5						
TCF	**Toulx Ste Croi**	**61.96**	**25**	*eP*	**P**	**21 04 31.1**	**+0.1**
TCF				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.5						
CABF	**La Chapelle**	**62.19**	**22**	*eP*	**P**	**21 04 32.7**	**+0.1**
	comp=Z,7.0nm,0.8s,mb4.5						
CABF	**La Chapelle**	**62.19**	**22**	*eP*	**P**	**21 04 32.7**	**+0.1**
	comp=Z,3.5nm,0.8s,mb4.5						
CABF	**La Chapelle**	**62.19**	**22**	*eP*	**P**	**21 04 32.7**	**+0.1**
CABF				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.6						
NJ2	**Nanjing**	**62.47**	**288**	*eP*	**P**	**21 04 34.4**	**-0.3**
NJ2				PCP	PcP	21 05 14.0	+0.1
NJ2				S	**S**	**21 12 57.0**	**-5.0**
NJ2				AMB	AMB		
	comp=Z,20nm,0.6s,mb5.4						
NJ2				AMB	AMB		
	comp=Z,230nm,5.5s						
CAF	**Calviac**	**63.27**	**26**	*eP*	**P**	**21 04 40.1**	**+0.3**
	comp=Z,4.3nm,0.8s,mb4.3						
CAF	**Calviac**	**63.27**	**26**	*eP*	**P**	**21 04 40.1**	**+0.3**
	comp=Z,2.2nm,0.8s,mb4.3						
CAF	**Calviac**	**63.27**	**26**	*eP*	**P**	**21 04 40.1**	**+0.3**
CAF				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.3						
LPL	**La Plagne**	**63.35**	**22**	*eP*	**P**	**21 04 40.9**	**+0.6**
LPG	**La Plagne**	**63.37**	**22**	*eP*	**P**	**21 04

RLS				*e*SB	**Sg**	**21 20 20.9**	**-0.3**
SELA	**Sela**	**1.21**	**90**	*e*Pg	**Pg**	**21 20 14.4**	**-0.8**
SELA				*e*Sg	**Sg**	**21 20 31.1**	**+0.1**
IGT	**Igoumenitsa**	**1.24**	**359**	*e*Pg	**Pn**	**21 20 13.0**	**-2.5**
IGT				*e*Sg	**Sg**	**21 20 32.2**	**+0.1**
EVR	**Evrytania**	**1.30**	**61**	*e*PN	**Pn**	**21 20 13.9**	**-2.3**
EVR				*e*SB	**Sb**	**21 20 33.5**	**+0.2**
KEK	**Kerkira**	**1.49**	**343**	*e*PB	**Pn**	**21 20 18.3**	**-0.6**
SRN	**Sarande**	**1.61**	**350**	*i* Pn	**Pg**	**21 20 26.5**	**+3.5**
SRN				*i* Sn	**Sg**	**21 20 44.8**	**+0.8**
MEV	**Metsovon**	**1.64**	**24**	*e*Pg	**Pn**	**21 20 21.4**	**+0.5**
MEV				*e*Sg	**Sg**	**21 20 43.7**	**-1.1**
AGG	**Agios Georgios**	**1.71**	**64**	*e*Pb	**Pn**	**21 20 21.1**	**-0.8**
AGG				*e*Sb	**Sb**	**21 20 45.7**	**+0.6**
AGG	**Agios Georgios**	**1.71**	**64**	*e*Pb	**Pn**	**21 20 21.0**	**-0.9**
AGG				*e*Sb	**Sb**	**21 20 45.7**	**+0.6**
PYL	**PYLOS**	**1.77**	**141**	*e*Pb	**Pn**	**21 20 23.2**	**+0.5**
PYL	**PYLOS**	**1.77**	**141**	*e*Pb	**Pn**	**21 20 23.2**	**+0.5**
THL	**Klokotos Trika**	**1.81**	**45**	*e*Pb	**Pn**	**21 20 23.8**	**+0.4**
THL				*e*Sb	**Sb**	**21 20 47.4**	**-0.7**
THL	**Klokotos Trika**	**1.81**	**45**	*e*Pn	**Pn**	**21 20 23.9**	**+0.6**
THL				*e*Sb	**Sb**	**21 20 47.4**	**-0.7**
THL				*e*Sn	**Sn**	**21 20 49.1**	**+2.7**
LKR	**Lokris**	**2.10**	**79**	*e*PN	**Pn**	**21 20 28.8**	**+1.5**
DID	**Didima**	**2.41**	**108**	*e*Pn	**Pn**	**21 20 32.5**	**+1.0**
DID				*e*Sn	**Sn**	**21 21 03.0**	**+2.0**
LIT	**Litokhoron**	**2.45**	**42**	*e*Pn	**Pn**	**21 20 32.9**	**+0.7**
LIT				*e*Sn	**Sn**	**21 21 04.2**	**+2.0**
NEO	**Neokhori**	**2.46**	**65**	*e*PB	**Pn**	**21 20 32.5**	**+0.3**
FNA	**Florina**	**2.61**	**17**	*e*Pn	**Pn**	**21 20 34.7**	**+0.4**
FNA				*e*Sn	**Sn**	**21 21 07.0**	**+0.9**
SOH	**Sokhos**	**3.43**	**42**	*e*Pn	**Pn**	**21 20 46.3**	**+0.8**

NIED ***20*** *21:21:00, 2570N×12500E, h11km, Mw4.1 Best double couple: M0.1 59000×10^15 NP1:φs=203.00000°, δ78.00000°, λ-112.00000°. NP2:φs=86.00000°, δ25.00000°, λ-30.00000°.*
IDC ***20*** *21:21:29.6±0.9, 2564N×125.10E, h0km, mb3.6/6, mb1 3.7/7, mb1mx3.6/20, mbtmp3.6/7, ML3.3/1, MS2.8/2, Ms1 2.8/2, ms1mx2.7/17, Error ellipse: s-maj=32.5km s-min=19.2km az=67.0*
JMA ***20*** *21:21:31.5±0.2, 2567N×12500E, h13km±4km, M3.6*
ISCJB ***20*** *21:21:33.5±0.7, 2563N±005×125.10E±007, h40km±10km, mb3.5/6, Error ellipse: s-maj=12.1km s-min=6.3km az=35.3*

ISC 20 21:21:31.4±2.4, 2564N±004×12503E±007, h10km±17km, n18, σ0°54/22, mb3.5/6, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMJ	**Miyako jima 2**	**0.85**	**164**	P	**Pb**	**21 21 48.2**	**-0.2**
JMJ				S	**Sb**	**21 22 00.2**	**+0.3**
JOGS	**Gusukube**	**0.94**	**159**	P	**Pb**	**21 21 49.6**	**-0.2**
JOGS				*e*S	**Sb**	**21 22 02.4**	**+0.1**
JTJ	**Tarama**	**1.04**	**197**	P	**Pb**	**21 21 50.8**	**-0.7**
JTJ				*e*S	**Sb**	**21 22 05.6**	**+0.4**
JIJ	**Ishigaki jima**	**1.50**	**213**	P	**Pn**	**21 21 58.4**	**-0.1**
JIJ				*e*S	**Sn**	**21 22 18.2**	**0.0**
JKRS	**Kuro-shima**	**1.68**	**214**	P	**Pn**	**21 22 01.4**	**+0.5**
IRIF	**Iriomote-Funau**	**1.75**	**223**	P	**Pn**	**21 22 02.2**	**+0.2**
JAGN	**Aguni-jima**	**2.20**	**64**	P	**Pn**	**21 22 09.2**	**+1.1**
JIH	**Iheya**	**2.98**	**62**	P	**Pn**	**21 22 18.4**	**-0.4**
JOW	**Kunigami**	**3.15**	**67**	Pn	**Pn**	**21 22 20.6**	**-0.5**
	6.8nm,0.3s,baz=264,slow=13,SNR=18						
JOW				LR	LR	21 23 41.8	
	comp=Z,188nm,18.9s,baz=232,slow=43						
JTK	**Tokunoshima**	**4.11**	**58**	P	**Pn**	**21 22 34.4**	**+0.1**
JAM	**Amami Oshima**	**4.93**	**55**	P	**Pn**	**21 22 46.1**	**+0.5**
KSRS	**Korea Array**	**12.03**	**11**	Pn	**Pn**	**21 24 28.6**	**+5.6**
	0.1nm,0.3s,baz=191,slow=13,SNR=6.0						
KSRS				LR	LR	21 29 09.6	
	comp=Z,37nm,19.4s,baz=30,slow=38						
SONM	**Songino Array**	**26.58**	**331**	P	**P**	**21 27 10.7**	**+1.0**
	0.4nm,0.6s,mb3.1,baz=156,slow=11,SNR=3.4						
MKAR	**Makanchi Array**	**39.81**	**313**	P	**P**	**21 29 04.7**	**-0.1**
	0.2nm,0.2s,mb3.4,baz=96,slow=11,SNR=2.8						
ZALV	**Zalesovo Beam**	**41.01**	**324**	P	**P**	**21 29 14.1**	**-0.5**
	0.8nm,0.5s,mb3.6,baz=106,slow=9.4,SNR=5.0						
WRA	**Warramunga Arr**	**46.20**	**168**	P	**P**	**21 29 55.7**	**-1.0**
	0.6nm,0.7s,mb3.7,baz=350,slow=8.7,SNR=10						
ASAR	**Alice Springs**	**49.76**	**169**	P	**P**	**21 30 24.6**	**+0.3**
	0.3nm,0.6s,mb3.5,baz=355,slow=9.4,SNR=10.0						
YKA	**Yellowknife Ar**	**80.25**	**24**	P	**P**	**21 33 41.3**	**-0.8**
	0.9nm,0.9s,mb3.7,baz=306,slow=5.2,SNR=15						

IDC 20 21:25:24.3±3.2, 3410S×17867W, h0km, mb3.6/2, mb1 3.9/3, mb1mx3.7/14, mbtmp3.7/3, ML3.8/1, Error ellipse: s-maj=73.9km s-min=36.4km az=121.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**5.37**	**218**	Pn	Pn	21 26 46.3	+0.6
	2.8nm,0.3s,baz=28,slow=2.8,SNR=50						
URZ				Sn	Sn	21 27 46.4	-1.8
	2.0nm,0.3s,baz=313,slow=23,SNR=8.9						
ASAR	**Alice Springs**	**42.48**	**271**	P	P	21 33 21.8	+0.4
	0.5nm,0.6s,baz=111,slow=7.0,SNR=11						
WRA	**Warramunga Arr**	**43.81**	**276**	P	P	21 33 31.7	-0.3
	0.7nm,0.6s,baz=117,slow=7.7,SNR=14						
FINES	**FINESS Array B**	**148.38**	**337**	PKPbc	PKPbc	21 45 11.1	-0.8
	5.9nm,1.2s,baz=69,slow=4.6,SNR=5.1						

IDC 20 21:30:42.4±11.0, 578S×1143W, h0km, mb3.5/3, mb1 3.6/3, mb1mx3.4/22, mbtmp3.5/3, MS3.2/1, Ms1 3.2/1, ms1mx2.9/16, Error ellipse: s-maj=434.6km s-min=110.7km az=143.0, Ascension Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DBIC	**Dimbokro**	**14.00**	**28**	LR	LR	21 37 15.5	
	comp=Z,84nm,18.0s,baz=306,slow=28						
TORD	**Torodi Ar. Bea**	**22.88**	**35**	P	P	21 35 47.9	+0.1
	1.4nm,0.6s,baz=214,slow=11,SNR=25						
GERES	**GERESS Array B**	**58.67**	**19**	P	P	21 40 41.7	+0.1
	0.3nm,0.7s,baz=213,slow=7.0,SNR=3.8						
AKASG	**Malin Array Be**	**66.25**	**27**	P	P	21 41 32.2	0.0
	0.3nm,0.6s,baz=228,slow=7.7,SNR=4.4						

ISCJB ***20*** *21:33:17.0±0.4, 4295N±003×2252E±004, h3km, Error ellipse: s-maj=4.7km s-min=2.9km az=139.5*
CSEM ***20*** *21:33:18.0±0.4, 4297N×2254E, h10km, ML2.1, Error ellipse: s-maj=12.7km s-min=6.1km az=38.0*
THE ***20*** *21:33:18.4, 4290N×2249E, h3km*
BEO ***20*** *21:33:18.1±0.4, 4301N×2261E, ML2.1/5*
SOF ***20*** *21:33:19.5, 4291N×2270E, h2km, MD2.5*

ISC 20 21:33:18.0±0.5, 4294N±003×2255E±004, h5km±6km, n21, σ1°05/32, 2D, Bulgaria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARS	**Barje**	**0.55**	**258**	*e*Pg	**Pg**	**21 33 29.6**	**+1.1**
BARS				*e*Sg	**Sg**	**21 33 37.0**	**+1.5**
VTS	**Vitosha**	**0.60**	**125**	*e*Pg	**Pg**	**21 33 29.1**	**-0.3**
VTS				*e*Sg	**Sg**	**21 33 38.3**	**+1.1**
VTS	**Vitosha**	**0.60**	**125**	*e*Pg	**Pg**	**21 33 29.2**	**-0.2**
VTS				*e*Sg	**Sg**	**21 33 37.2**	**0.0**
KKB	**Krupnik**	**1.14**	**160**	P	**Pg**	**21 33 41.9**	**+2.0**
PGB	**Panagyurishte**	**1.25**	**107**	P	**Pg**	**21 33 42.5**	**+0.5**
STIP	**Stip**	**1.27**	**192**	*e*Pg	**Pg**	**21 33 41.4**	**-1.0**
STIP				*e*Sg	**Sg**	**21 33 58.1**	**-0.7**
MMB	**Musomiste**	**1.61**	**147**	Pg	**Pg**	**21 33 50.0**	**+1.2**
VAY	**Valandovo**	**1.61**	**179**	*e*Pg	**Pg**	**21 33 47.6**	**-1.4**
VAY				*e*Sg	**Sg**	**21 34 08.5**	**-1.4**
GRUS	**Gruza**	**1.64**	**306**	*e*Pn	**Pn**	**21 33 47.5**	**0.0**
GRUS				*e*Sg	**Sg**	**21 34 09.5**	**-1.2**
KNT	**Kendrikon**	**1.79**	**172**	*e*Pb	**Pb**	**21 33 50.2**	**-1.1**
PLD	**Plovdiv**	**1.80**	**117**	*e*Pb	**Pb**	**21 33 50.6**	**-0.8**
PLD				*e*Sb	**Sb**	**21 34 14.7**	**+0.5**
RZN	**Rozhen**	**2.04**	**127**	P	**Pn**	**21 33 56.0**	**+3.1**
DIVS	**Divibare**	**2.19**	**303**	*e*Pn	**Pn**	**21 33 55.3**	**+0.2**
DIVS				*e*Sn	**Sn**	**21 34 23.0**	**+0.4**
DIVS	**Divibare**	**2.19**	**303**	*e*Pn	**Pn**	**21 33 55.1**	**0.0**
DIVS				*e*Sg	**Sg**	**21 34 28.5**	**+0.1**
DIVS	**Divibare**	**2.19**	**303**	*e*Pn	**Pn**	**21 33 55.3**	**+0.2**
DIVS				*e*Sn	**Sn**	**21 34 23.0**	**+0.4**
DIVS				*e*Sg	**Sg**	**21 34 28.5**	**+0.1**
GZR	**Gura Zlata**	**2.46**	**4**	↓*i*P	**Pn**	**21 33 59.0**	**+0.2**
GZR	**Gura Zlata**	**2.46**	**4**	S	**Sn**	**21 34 27.9**	**-1.3**
KDZ	**Kurdzhali**	**2.49**	**120**	P	**Pn**	**21 34 02.6**	**+3.5**
SZH	**Strazhica**	**2.50**	**81**	P	**Pg**	**21 34 04.8**	**-1.1**
BZS	**Buzias**	**2.76**	**346**	↓*i*P	**Pn**	**21 34 03.0**	**+0.1**
BZS	**Buzias**	**2.76**	**346**	S	**Sg**	**21 34 46.9**	**+0.2**

NIED ***20*** *22:02:00, 2570N×125.10E, h5km, Mw4.0 Best double couple: M0.1 05000×10^15 NP1:φs=222.00000°, δ76.00000°, λ-105.00000°. NP2:φs=90.00000°, δ20.00000°, λ-43.00000°.*
IDC ***20*** *22:02:54.8±0.9, 2571N×125.16E, h0km, mb3.8/6, mb1 3.9/7, mb1mx3.8/20, mbtmp3.8/7, ML3.3/1, Error ellipse: s-maj=32.3km s-min=19.4km az=65.0*
JMA ***20*** *22:02:55.6±0.3, 2569N×12509E, h21km±4km, M3.7*
BJI ***20*** *22:02:56.3, 2556N×12503E, h16km, mB4.1, mb4.3, ML4.1, Ms3.9, Msz3.6*
ISCJB ***20*** *22:02:56.4±1.0, 2565N±005×125.13E±005, h21km±10km, mb3.7/9, Error ellipse: s-maj=9.7km s-min=5.0km az=43.2*
NEIC ***20*** *22:02:56.2±0.6, 2568N×12508E, h10km, mb4.1/1, Error ellipse: s-maj=13.3km s-min=10.0km az=155.0*

ISC 20 22:02:57.1±1.2, 2559N±004×12514E±006, h16km±9km, n31, σ1°06/36, mb3.8/10, 1D, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMJ	**Miyako jima 2**	**0.79**	**170**	P	**Pg**	**22 03 12.0**	**-0.5**
JMJ				S	**Sg**	**22 03 23.4**	**+0.8**
JOGS	**Gusukube**	**0.87**	**164**	P	**Pg**	**22 03 13.3**	**-0.6**
JOGS				S	**Sg**	**22 03 26.0**	**+0.9**
JTJ	**Tarama**	**1.03**	**203**	P	**Pb**	**22 03 15.2**	**-1.3**
JTJ				S	**Sb**	**22 03 30.0**	**+0.2**
JIJ	**Ishigaki jima**	**1.52**	**217**	P	**Pn**	**22 03 22.6**	**-1.0**
JIJ				S	**Sn**	**22 03 42.3**	**-0.8**
JKE	**Kume jima 2**	**1.65**	**64**	P	**Pn**	**22 03 23.2**	**-2.3**
JKRS	**Kuro-shima**	**1.69**	**217**	P	**Pn**	**22 03 25.8**	**-0.2**
JKRS				S	**Sn**	**22 03 47.2**	**-0.2**
IRIF	**Iriomote-Funau**	**1.79**	**226**	P	**Pn**	**22 03 26.8**	**-0.5**
HATJ	**Hateruma jima**	**1.95**	**219**	P	**Pn**	**22 03 31.1**	**+1.5**
JAGN	**Aguni-jima**	**2.14**	**62**	P	**Pn**	**22 03 32.5**	**+0.4**
YOJ	**Yonaguni jima**	**2.23**	**240**	P	**Pn**	**22 03 36.1**	**+2.7**
JIH	**Iheya**	**2.92**	**60**	P	**Pn**	**22 03 42.3**	**-0.5**
JOW	**Kunigami**	**3.08**	**66**	P	**Pn**	**22 03 44.5**	**-0.5**
JOW	**Kunigami**	**3.08**	**66**	Pn	**Pn**	**22 03 44.5**	**-0.5**
	6.8nm,0.3s,baz=228,slow=11,SNR=14						
TATO	**Taipei**	**3.36**	**260**	*e*Pn	**Pn**	**22 03 46.4**	**-2.5**
NACB	**Ninganchiao**	**3.51**	**247**	*e*Pn	**Pn**	**22 03 51.8**	**+0.8**
YHNB	**Yeheng**	**3.53**	**256**	*e*Pn	**Pn**	**22 03 50.7**	**-0.6**
JTK	**Tokunoshima**	**4.05**	**57**	P	**Pn**	**22 03 58.6**	**+0.2**
JAM	**Amami Oshima**	**4.88**	**54**	P	**Pn**	**22 04 10.6**	**+0.8**
KSRS	**Korea Array**	**12.06**	**11**	Pn	**Pn**	**22 05 49.0**	**+0.8**
	0.1nm,0.3s,baz=65,slow=39,SNR=3.4						
CD2	**Chengdu**	**19.55**	**291**	P	**Pn**	**22 07 26.4**	**+0.9**
CD2				AMB	AMB		
	comp=Z,20nm,0.8s						
CD2				AMB	AMB		
	comp=Z,30nm,4.8s						
LZH	**Lanzhou**	**21.02**	**305**	*e*P	**P**	**22 07 43.1**	**+3.0**
LZH				AP		22 07 48.3	
LZH				XP	sP	22 07 50.5	+3.9
LZH				AMB	AMB		
	comp=Z,17nm,1.3s,mb4.2						
LZH				AMB	AMB		
	comp=Z,70nm,4.5s						
GTA	**Gaotai**	**25.31**	**309**	*e*P	**P**	**22 08 23.5**	**+0.5**
GTA				AP	pP	22 08 28.0	+0.2
GTA				XP	sP	22 08 31.5	+1.8
GTA				AMB	AMB		
	comp=Z,3.0nm,0.9s,mb3.8						
ULN	**Ulaanbaatar**	**26.41**	**332**	*e*P	**P**	**22 08 33.3**	**+0.5**
	comp=Z,4.2nm,1.0s,mb3.9						
SONM	**Songino Array**	**26.67**	**331**	P	**P**	**22 08 35.5**	**+0.3**
	comp=Z,0.9nm,0.7s,mb3.4,baz=148,slow=9.1,SNR=6.9						
MKAR	**Makanchi Array**	**39.91**	**313**	P	**P**	**22 10 30.1**	**-0.1**
	comp=Z,0.3nm,0.3s,mb3.5,baz=102,slow=11,SNR=7.3						
ZAA0	**Zalesovo Array**	**41.10**	**324**	*e*P	**P**	**22 10 38.2**	**-1.8**
ZALV	**Zalesovo Beam**	**41.10**	**324**	P	**P**	**22 10 38.9**	**-1.2**
	comp=Z,2.1nm,0.6s,mb4.0,baz=114,slow=9.0,SNR=13						
WRA	**Warramunga Arr**	**46.14**	**168**	P	**P**	**22 11 21.3**	**+0.4**
	comp=Z,1.0nm,0.8s,mb3.8,baz=351,slow=8.4,SNR=9.0						
KK31	**Karatay Array**	**47.52**	**306**	Pn	**P**	**22 11 32.5**	**+1.0**
	comp=Z,0.3nm,0.4s,mb3.7,baz=196,slow=10,SNR=15						
KK31				↓↓Lg		22 12 42.1	
	comp=Z,4.9nm,0.6s,baz=202,slow=30,SNR=6.6						
ASAR	**Alice Springs**	**49.70**	**169**	P	**P**	**22 11 50.2**	**+1.8**
	comp=Z,0.4nm,0.6s,mb3.6,baz=356,slow=12,SNR=6.6						
YKA	**Yellowknife Ar**	**80.26**	**24**	P	**P**	**22 15 06.2**	**-0.6**
	comp=Z,0.9nm,0.6s,mb3.9,baz=302,slow=5.4,SNR=19						

THE ***20*** *22:02:37.0, 3639N×26.18E, h7km*
ISCJB ***20*** *22:03:07.7±0.6, 3777N±005×2362E±005, h10km±4km, Error ellipse: s-maj=9.0km s-min=5.7km az=144.2*
ATH ***20*** *22:03:07.5, 3778N×2364E, h14km±1km, ML2.2*

ISC 20 22:03:08.2±0.6, 3779N±004×2364E±005, h8km±5km, n15, σ0°82/18, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KVR	**Kavouri**	**0.11**	**68**	*e*PG	**Pg**	**22 03 11.0**	**+0.2**
KVR				*e*SG	**Sg**	**22 03 13.0**	**+0.4**
NAIG	**Nisos Aigina**	**0.12**	**257**	*e*PG	**Pg**	**22 03 11.0**	**+0.1**
NAIG				*e*SG	**Sg**	**22 03 13.0**	**+0.2**
ATH	**Athens Observa**	**0.20**	**19**	*e*PG	**Pg**	**22 03 12.1**	**-0.1**
ATH				*e*SG	**Sg**	**22 03 15.4**	**+0.4**
PTL	**Penteli**	**0.32**	**34**	*e*PB	**Pg**	**22 03 14.5**	**0.0**
DID	**Didima**	**0.42**	**229**	*e*Pn	**Pg**	**22 03 17.4**	**+1.0**
LTK	**Loutraki**	**0.58**	**294**	*e*Pn	**Pg**	**22 03 19.6**	**+0.2**
LKR	**Lokris**	**1.00**	**330**	*e*Pn	**Pn**	**22 03 28.7**	**+0.3**
LKR	**Lokris**	**1.00**	**330**	*e*PB	**Pb**	**22 03 26.7**	**-1.0**
VLX	**Vlachokerasia**	**1.08**	**248**	*e*Pn	**Pn**	**22 03 30.5**	**+0.9**
VLI	**Veliai**	**1.20**	**208**	*e*PB	**Pb**	**22 03 30.7**	**-0.4**
ITM	**Ithomi**	**1.49**	**247**	*e*PG	**Pg**	**22 03 35.2**	**-1.5**
NEO	**Neokhori**	**1.55**	**348**	*e*PG	**Pg**	**22 03 35.8**	**-2.2**
AGG	**Agios Georgios**	**1.61**	**321**	*e*Pn	**Pn**	**22 03 37.4**	**+0.6**
XOR	**Xorichti**	**1.62**	**348**	*e*Pn	**Pn**	**22 03 38.2**	**+1.3**
APE	**Apeiranthos**	**1.67**	**115**	*e*PB	**Pb**	**22 03 38.3**	**-0.8**

IDC ***20*** *22:10:50.9±6.5, 3140S×17991W, h340km±63km, mb2.9/3, mb1 3.2/4, mb1mx3.0/14, mbtmp3.0/4, Error ellipse: s-maj=70.1km s-min=30.3km az=12.0*

ISC 20 22:10:59.0±1.9, 321S±02×1800E±05, h431km±40km, n31, σ0°67/30, mb2.9/3, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**5.65**	**193**	PN	**P**	**22 12 29.1**	**+0.2**
MXZ				SN	**S**	**22 13 41.5**	**-0.8**
PUZ	**Puketiti**	**6.16**	**193**	*e*PN	**P**	**22 12 34.7**	**+0.6**
PUZ				SN	**S**	**22 13 52.5**	**+0.6**
MWZ	**Matawai**	**6.57**	**197**	PN	**P**	**22 12 38.7**	**+0.2**
MWZ				SN	**S**	**22 13 60.0**	**+0.1**
URZ	**Urewera**	**6.61**	**200**	P	**P**	**22 12 37.2**	**-1.7**
	4.5nm,0.3s,baz=281,slow=2.6,SNR=70						
URZ				S	**S**	**22 14 00.2**	**-0.4**
	5.6nm,0.3s,baz=76,slow=23,SNR=16						
URZ	**Urewera**	**6.61**	**200**	*e*PN	**P**	**22 12 37.6**	**-1.2**
URZ				SN	**S**	**22 14 00.3**	**-0.4**
KNZ	**Kokohu**	**7.19**	**194**	PN	**P**	**22 12 46.3**	**+1.2**
BKZ	**Black Stump Fm**	**7.63**	**201**	*e*PN	**P**	**22 12 50.9**	**+0.9**
BKZ				SN	**S**	**22 14 21.6**	**+0.7**
TUVZ	**Tukino**	**8.00**	**205**	PN	**P**	**22 12 54.3**	**+0.3**
FWVZ	**Far West T-bar**	**8.02**	**205**	PN	**P**	**22 12 54.2**	**0.0**
WNVZ	**Wahianoa**	**8.07**	**205**	PN	**P**	**22 12 55.1**	**+0.4**
WAZ	**Wanganui**	**8.67**	**206**	PN	**P**	**22 13 01.7**	**+0.4**
BFZ	**Birch Farm**	**9.11**	**198**	PN	**P**	**22 13 06.3**	**+0.2**
MRZ	**Mangatainoka R**	**9.28**	**201**	*e*PN	**P**	**22 13 07.0**	**-1.0**
KIW	**Kapiti Island**	**9.68**	**203**	PN	**P**	**22 13 11.9**	**-0.4**
CAW	**Cannon Point**	**9.85**	**202**	PN	**P**	**22 13 13.6**	**-0.6**
TCW	**Tory Channel**	**10.21**	**205**	PN	**P**	**22 13 17.8**	**-0.4**
TUWZ	**Tuamarina**	**10.52**	**206**	PN	**P**	**22 13 21.4**	**-0.2**
NNZ	**Nelson**	**10.55**	**208**	PN	**P**	**22 13 21.2**	**-0.8**
QRZ	**Quartz Range**	**10.59**	**212**	PN	**P**	**22 13 22.2**	**-0.2**
THZ	**Tophouse**	**11.20**	**208**	PN	**P**	**22 13 28.5**	**-0.6**
KHZ	**Kahutara**	**11.53**	**204**	PN	**P**	**22 13 33.0**	**+0.3**
STKA	**Stephens Creek**	**32.43**	**260**	P	**P**	**22 16 53.1**	**+1.5**
	0.5nm,0.7s,mb3.0,baz=111,slow=14,SNR=2.9						
ASAR	**Alice Springs**	**41.31**	**270**	P	**P**	**22 18 05.4**	**0.0**
	0.2nm,0.6s,mb2.6,baz=106,slow=7.3,SNR=3.3						
WRA	**Warramunga Arr**	**42.45**	**275**	P	**P**	**22 18 13.6**	**-0.8**
	0.3nm,0.2s,mb3.2,baz=111,slow=8.0,SNR=26						
BVAR	**Borovoye Array**	**126.35**	**315**	PKP	PKPdf	22 29 11.5	+0.4
	0.9nm,0.5s,baz=130,slow=2.2,SNR=7.2						
ARCES	**ARCESS Array B**	**139.81**	**346**	PKhKP		22 29 28.9	
	3.5nm,1.0s,baz=89,slow=1.6,SNR=5.1						
ARCES				PKP	PKPdf	22 29 37.3	+1.4
	4.1nm,1.1s,baz=318,slow=1.2,SNR=3.0						
KAF	**Kangasniemi**	**145.49**	**338**	*e*pkp	PKPdf	22 29 44.8	-1.2
FINES	**FINESS Array B**	**146.06**	**338**	PKPbc	PKPbc	22 29 47.8	-1.0
	3.2nm,0.4s,baz=49,slow=4.2,SNR=55						
ASF	**Jabal al Asfar**	**148.81**	**280**	PKPbc	PKPbc	22 29 58.5	+1.6
	0.8nm,0.6s,baz=135,slow=5.7,SNR=3.4						
MMAI	**Mount Meron Ar**	**150.19**	**281**	PKPbc	PKPbc	22 30 02.5	+2.2
	1.6nm,0.6s,baz=84,slow=5.9,SNR=8.5						
AKASG	**Malin Array Be**	**151.49**	**319**	PKPbc	PKPbc	22 30 02.2	-0.4
	0.3nm,0.3s,baz=58,slow=2.4,SNR=4.2						

ISCJB ***20*** *22:25:51.6±0.6, 3780N±003×2903E±005, h0km±10km, Error ellipse: s-maj=7.4km s-min=5.0km az=152.6*
CSEM ***20*** *22:25:51.2±0.3, 3781N×2895E, h10km, MD2.8, Error ellipse: s-maj=8.8km s-min=5.5km az=70.0*
ISK ***20*** *22:25:51.1, 3780N×2890E, h3km, MD2.8*
DDA ***20*** *22:25:51.9, 3786N×2910E, h8km±2km, Md2.7*

ISC 20 22:25:52.2±0.6, 3780N±003×2903E±004, h5km±8km, n11, σ1°09/17, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DENT	**Denizli**	**0.04**	**175**	*e*PG	**Pg**	**22 25 53.9**	**+0.6**
KHL	**Karahalli**	**0.66**	**36**	*e*PG	**Pg**	**22 26 05.7**	**+0.9**
GOLH	**Golhisar**	**0.70**	**143**	*i* P	**Pg**	**22 26 03.7**	**-2.0**
GOLH				*i* S	**Sg**	**22 26 15.4**	**+0.6**
KULA	**Kula-Manisa**	**0.77**	**338**	*e*PG	**Pg**	**22 26 06.2**	**-0.8**
KULA				*e*SG	**Sg**	**22 26 17.1**	**0.0**
MANT	**Manisa**	**0.79**	**332**	*i* P	**Pg**	**22 26 05.8**	**-1.5**
MANT				*i* S	**Sg**	**22 26 17.9**	**+0.3**
AYDN	**Tasoluk**	**0.92**	**262**	*i* P	**Pg**	**22 26 10.4**	**+0.5**
AYDN				*i* S	**Sg**	**22 26 22.8**	**+1.0**
TKTP	**Tekketepe**	**1.05**	**76**	*i* P	**Pg**	**22 26 09.7**	**-2.7**
TKTP				*i* S	**Sg**	**22 26 27.1**	**+1.2**
TKTP	**Tekketepe**	**1.05**	**76**	*i* P	**Pg**	**22 26 09.7**	**-2.7**
TKTP				*i* S	**Sg**	**22 26 27.1**	**+1.1**
FETY	**Fethiye**	**1.16**	**178**	*e*PN	**Pn**	**22 26 14.1**	**-1.0**
ELL	**Elmali**	**1.26**	**146**	*e*PN	**Pn**	**22 26 17.0**	**+0.5**
SHUT	**Suhut-Afyon**	**1.42**	**57**	*e*PN	**Pn**	**22 26 19.9**	**+1.2**

IDC ***20*** *22:25:51.1±3.1, 3574N×7071E, h0km, mb3.4/3, mb1 3.7/3, mb1mx3.3/20, mbtmp3.5/3, Error ellipse: s-maj=115.6km s-min=41.3km az=79.0*
ISCJB ***20*** *22:25:57.4±1.6, 361N±01×715E±04, h33km, mb3.3/2, Error ellipse: s-maj=43.3km s-min=14.9km az=163.7*

ISC 20 22:25:58.7±1.6, 360N±01×713E±04, h35km, n5, σ1°24/6, mb3.3/2, 1C, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**7.16**	**355**	P	**Pn**	**22 27 45.8**	**+4.9**
	1.5nm,0.2s,baz=180,slow=15,SNR=34						
KK31				↑↑S	**Sn**	**22 29 00.2**	**-0.8**
	3.6nm,0.5s,baz=187,slow=26,SNR=10						
AB31	**Akbulak array**	**15.67**	**331**	P	**Pn**	**22 29 37.5**	**+0.8**
	0.3nm,0.3s,baz=139,slow=15,SNR=20						
ZALV	**Zalesovo Beam**	**20.32**	**23**	P	**P**	**22 30 32.8**	**+1.3**
	0.7nm,0.3s,baz=212,slow=9.4,SNR=4.6						
WRA	**Warramunga Arr**	**81.50**	**122**	P	**P**	**22 38 12.1**	**-0.4**
	0.4nm,0

*ROM **20** 22:34:12.8±0.3, 41.14N×1995E, h10km, Ml3.3/32, Error ellipse: s-maj=4.8km s-min=1.5km az=88.0*
*TIR **20** 22:34:12.5±3.6, 41.20N×2013E, h25km±16km, ML2.8*
*THE **20** 22:34:12.6, 41.18N×2014E, h3km, ML3.9*
*BEO **20** 22:34:18.7±0.9, 41.58N×2043E, ML2.8/4*
*IDC **20** 22:34:18.4±5.1, 41.29N×1993E, h70km±34km, mb3.3/5, mb1 3.5/8, mb1mx3.3/24, mbtmp3.4/8, ML3.7/3, Error ellipse: s-maj=48.2km s-min=18.2km az=4.0*
ISC 20 22:34:12.5±0.3, 4116N±001×2004E±002, h8km±2km, n214, σ1°09/288, mb3.5/4, 36C-12D, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIR	**Tirane**	**0.23**	**325**	↓*i*Pg	**Pg**	**22 34 17.8**	**+0.8**
TIR				Sg	**Sg**	**22 34 22.6**	**+2.6**
	11μm,0.6s						
TIR	**Tirane**	**0.23**	**325**	*i* PG	**Pg**	**22 34 17.9**	**+0.9**
TIR	**Tirane**	**0.23**	**325**	P	**Pg**	**22 34 16.9**	**-0.1**
TIR	**Tirane**	**0.23**	**325**	*e*Pg	**Pg**	**22 34 17.5**	**+0.5**
TIR				*e*Sg	**Sg**	**22 34 22.2**	**+2.2**
QSH	**Qafa e Shtames**	**0.37**	**345**	*i* PG	**Pg**	**22 34 21.2**	**+1.5**
QSH				*i* SG	**Sg**	**22 34 30.0**	**+5.4**
OHR	**Ohrid**	**0.58**	**95**	*e*Pg	**Pg**	**22 34 22.0**	**-1.6**
OHR				*e*Sg	**Sg**	**22 34 30.5**	**-0.6**
OHR	**Ohrid**	**0.58**	**95**	*i* Pg	**Pg**	**22 34 22.0**	**-1.6**
OHR				*e*Sg	**Sg**	**22 34 30.6**	**-0.5**
OHR				*e*Lg		22 34 31.6	
	comp=E,974nm,0.5s						
OHR				*e*Lg		22 34 32.0	
	comp=N,941nm,0.3s						
OHR	**Ohrid**	**0.58**	**95**	*e*Pg	**Pg**	**22 34 22.0**	**-1.6**
OHR				*e*Sg	**Sg**	**22 34 30.6**	**-0.6**
KBN	**Korca**	**0.78**	**133**	*i* PG	**Pg**	**22 34 26.5**	**-1.1**
KBN				*i* SG	**Sg**	**22 34 38.5**	**+0.8**
VLO	**Vlora**	**0.81**	**211**	*i* PG	**Pg**	**22 34 29.9**	**+1.9**
TPE	**Tepelena**	**0.87**	**181**	*i* PG	**Pg**	**22 34 29.4**	**+0.3**
TPE				*i* SG	**Sg**	**22 34 43.8**	**+3.4**
PUK	**Puka**	**0.89**	**353**	*i* PG	**Pg**	**22 34 29.7**	**+0.2**
PUK				*i* SG	**Sg**	**22 34 44.1**	**+3.1**
KRUS	**Krusevo**	**0.94**	**77**	*i* Pg	**Pg**	**22 34 29.6**	**-0.9**
SDA	**Shkodra**	**0.97**	**336**	*i* PG	**Pg**	**22 34 30.5**	**-0.7**
SDA				*i* SG	**Sg**	**22 34 47.0**	**+3.1**
BIA	**Bitola**	**0.98**	**98**	*e*Pg	**Pg**	**22 34 29.0**	**-2.3**
BIA				*e*Sg	**Sg**	**22 34 43.3**	**-0.9**
BIA	**Bitola**	**0.98**	**98**	*i* Pg	**Pg**	**22 34 29.5**	**-1.9**
BIA	**Bitola**	**0.98**	**98**	*i* Pg	**Pg**	**22 34 29.4**	**-2.0**
BIA				*e*Sg	**Sg**	**22 34 43.3**	**-0.8**
ULC	**Ulcinj**	**0.99**	**324**	↑*i*Pg	**Pg**	**22 34 30.6**	**-1.0**
ULC				*e*Sg	**Sg**	**22 34 45.8**	**+1.3**
ULC	**Ulcinj**	**0.99**	**324**	*i* PG	**Pg**	**22 34 30.6**	**-1.0**
ULC				*i* SG	**Sg**	**22 34 45.8**	**+1.3**
FNA	**Florina**	**1.08**	**110**	*e*Pg	**Pg**	**22 34 31.2**	**-2.1**
FNA				*e*Sg	**Sg**	**22 34 46.6**	**-0.7**
SRN	**Sarande**	**1.28**	**181**	*i* PN	**Pn**	**22 34 37.4**	**+0.7**
SRN				*i* SN	**Sn**	**22 34 58.4**	**+4.3**
SKO	**Skopje**	**1.33**	**52**	*e*Pg	**Pg**	**22 34 37.5**	**-0.4**
SKO				*e*Sg	**Sg**	**22 34 55.9**	**+0.8**
SKO	**Skopje**	**1.33**	**52**	*i* Pg	**Pg**	**22 34 37.5**	**-0.4**
PDG	**Podgorica**	**1.39**	**336**	*i* PG	**Pg**	**22 34 37.7**	**-1.5**
PDG				*i* SG	**Sg**	**22 34 59.4**	**+2.2**
PDG	**Podgorica**	**1.39**	**336**	↑*i*Pg	**Pg**	**22 34 37.7**	**-1.5**
PDG				*e*Sg	**Sg**	**22 34 59.4**	**+2.2**
TTG	**Podgorica**	**1.39**	**336**	↑*i*Pg	**Pg**	**22 34 37.7**	**-1.5**
TTG				*e*Sg	**Sg**	**22 34 59.4**	**+2.2**
BUM	**Brajici-Budva**	**1.42**	**324**	↑*i*Pg	**Pg**	**22 34 38.8**	**-0.9**
BUM				*e*Sg	**Sg**	**22 35 00.0**	**+1.9**
BUM	**Brajici-Budva**	**1.42**	**324**	*i* PG	**Pg**	**22 34 38.8**	**-0.9**
BUM				*i* SG	**Sg**	**22 34 59.9**	**+1.8**
PVY	**Plav**	**1.43**	**358**	↓*i*Pg	**Pg**	**22 34 38.7**	**-1.2**
PVY				*e*Sg	**Sg**	**22 35 00.7**	**+2.2**
KEK	**Kerkira**	**1.46**	**187**	*e*PN	**Pn**	**22 34 39.2**	**0.0**
KEK				*e*SN	**Sn**	**22 35 00.5**	**+2.0**
KEK	**Kerkira**	**1.46**	**187**	Pn	**Pn**	**22 34 39.3**	**+0.1**
	comp=N,470nm,0.7s						
KEK				*e*S	**Sn**	**22 35 00.5**	**+2.0**
KZN	**Kozani**	**1.57**	**122**	P	**Pn**	**22 34 42.0**	**+1.3**
KZN	**Kozani**	**1.57**	**122**	*e*PN	**Pn**	**22 34 41.0**	**+0.3**
KZN				*e*SN	**Sn**	**22 35 04.6**	**+3.4**
SCTE	**Santa Cesarea**	**1.62**	**228**	Pn	**Pn**	**22 34 40.6**	**-0.7**
	comp=N,274nm,0.5s						
JAN	**Janina**	**1.63**	**157**	P	**Pn**	**22 34 45.0**	**+3.5**
JAN	**Janina**	**1.63**	**157**	*e*PN	**Pn**	**22 34 43.0**	**+1.5**
JAN				*e*SN	**Sn**	**22 35 06.1**	**+3.5**
IGT	**Igoumenitsa**	**1.65**	**172**	*e*Pb	**Pb**	**22 34 42.0**	**-1.0**
IGT				*e*Sb	**Sb**	**22 35 05.4**	**+1.5**
MEV	**Metsovon**	**1.65**	**146**	*e*Pb	**Pb**	**22 34 43.2**	**+0.1**
LCI	**Lecce**	**1.68**	**241**	Pn	**Pn**	**22 34 41.5**	**-0.7**
	comp=N,88nm,0.4s						
STIP	**Stip**	**1.70**	**71**	*e*Pb	**Pb**	**22 34 41.9**	**-2.1**
STIP				*e*Sb	**Sb**	**22 35 03.5**	**-2.1**
STIP	**Stip**	**1.70**	**71**	*e*Pn	**Pn**	**22 34 41.6**	**-0.9**
STIP	**Stip**	**1.70**	**71**	*e*Pn	**Pn**	**22 34 41.5**	**-1.0**
BEY	**Berane**	**1.71**	**357**	↑*i*Pn	**Pn**	**22 34 43.6**	**+1.0**
BEY				*e*Sn	**Sn**	**22 35 07.2**	**+2.5**
IVA	**Berane**	**1.71**	**357**	↑*i*Pn	**Pn**	**22 34 43.6**	**+1.0**
IVA				*e*Sn	**Sn**	**22 35 07.2**	**+2.5**
HCY	**Herceg Novi**	**1.72**	**319**	↑*i*Pn	**Pn**	**22 34 42.9**	**+0.1**
HCY				*e*Sn	**Sg**	**22 35 07.1**	**-0.7**
HCY	**Herceg Novi**	**1.72**	**319**	*i* PG	**Pn**	**22 34 42.9**	**+0.1**
HCY				*i* SG	**Sg**	**22 35 07.1**	**-0.7**
GRG	**Griva**	**1.80**	**96**	*e*Pb	**Pb**	**22 34 43.2**	**-2.5**
NKY	**Niksic**	**1.82**	**335**	↑*i*Pn	**Pn**	**22 34 45.0**	**+0.9**
NKY				*e*Sn	**Sg**	**22 35 09.8**	**-1.2**
NKY	**Niksic**	**1.82**	**335**	*i* PG	**Pn**	**22 34 45.0**	**+0.9**
NKY				*i* SG	**Sg**	**22 35 09.8**	**-1.2**
VAY	**Valandovo**	**1.92**	**84**	*e*Pb	**Pb**	**22 34 44.5**	**-3.2**
VAY				*e*Sb	**Sb**	**22 35 09.2**	**-2.5**
PE1	**Pezze di Greco**	**2.01**	**261**	*e*Pn	**Pn**	**22 34 46.2**	**-0.5**
BRY	**Bratogost**	**2.06**	**328**	↑*i*Pn	**Pn**	**22 34 48.2**	**+0.8**
BRY				*e*Sn	**Sn**	**22 35 15.3**	**+2.0**
SJES	**Sjenica**	**2.10**	**358**	*e*Pn	**Pn**	**22 34 50.3**	**+2.3**
SJES				*e*Sn	**Sn**	**22 35 12.7**	**-1.7**
BARS	**Barje**	**2.12**	**38**	*e*Pn	**Pn**	**22 34 48.5**	**+0.2**
BARS				*e*Sn	**Sn**	**22 35 10.7**	**-4.2**
LIT	**Litokhoron**	**2.15**	**119**	*e*Pn	**Pn**	**22 34 48.1**	**-0.5**
LIT				*e*Sn	**Sn**	**22 35 17.0**	**+1.6**
KNT	**Kendrikon**	**2.16**	**89**	*e*Pn	**Pn**	**22 34 48.0**	**-0.8**
THL	**Klokotos Trika**	**2.20**	**136**	*e*Pn	**Pn**	**22 34 50.5**	**+1.2**
THL				*e*Sn	**Sn**	**22 35 17.6**	**+0.9**
THL	**Klokotos Trika**	**2.20**	**136**	*e*P	**Pn**	**22 34 49.8**	**+0.5**
THL	**Klokotos Trika**	**2.20**	**136**	*e*Pn	**Pn**	**22 34 50.5**	**+1.2**
THL				*e*Sn	**Sn**	**22 35 17.6**	**+0.9**
UPM	**Unac-Piva**	**2.20**	**338**	*e*Pn	**Pn**	**22 34 50.2**	**+0.8**
UPM				*e*Sn	**Sn**	**22 35 19.4**	**+2.6**
PLE	**Pljevlja**	**2.22**	**348**	↑*i*Pn	**Pn**	**22 34 50.5**	**+0.9**
PLE				*e*Sn	**Sn**	**22 35 19.3**	**+2.1**
TA1	**Taranto**	**2.22**	**251**	*e*Pn	**Pn**	**22 34 47.9**	**-1.7**
NOCI	**Noci**	**2.28**	**262**	Pn	**Pn**	**22 34 49.3**	**-1.1**
	comp=N,189nm,0.5s						
BAI	**Bari**	**2.39**	**270**	*e*Pn	**Pn**	**22 34 51.0**	**-0.9**
HORT	**Hortiatis**	**2.39**	**103**	*e*Pn	**Pn**	**22 34 51.5**	**-0.5**
STON	**Ston**	**2.44**	**315**	*e*Pn	**Pn**	**22 34 52.1**	**-0.5**
STON				Sn	**Sn**	**22 35 23.3**	**+0.7**
LKD	**Levkas**	**2.50**	**169**	*e*Pn	**Pn**	**22 34 53.1**	**-0.3**
SOH	**Sokhos**	**2.53**	**97**	*e*Pn	**Pn**	**22 34 53.9**	**-0.1**
SG1	**Sgolgore (BA)**	**2.56**	**264**	*e*Pn	**Pn**	**22 34 54.3**	**0.0**
AMUR	**Altamura**	**2.61**	**265**	Pn	**Pn**	**22 34 54.1**	**-0.9**
	comp=N,75nm,0.5s						
EVR	**Evrytania**	**2.62**	**148**	P	**Pn**	**22 34 58.3**	**+3.1**
EVR	**Evrytania**	**2.62**	**148**	*e*P	**Pn**	**22 34 57.3**	**+2.1**
EVR				*e*S	**Sn**	**22 35 28.1**	**+0.9**
SRS	**Serrai**	**2.69**	**90**	*e*Pn	**Pn**	**22 34 55.2**	**-0.8**
PLG	**Polygyros**	**2.71**	**106**	*e*Pn	**Pn**	**22 34 56.6**	**+0.4**
PLG				*e*Sn	**Sn**	**22 35 30.4**	**+1.1**
PLG	**Polygyros**	**2.71**	**106**	*e*PN	**Pn**	**22 34 55.7**	**-0.6**
PLG				*e*SN	**Sn**	**22 35 29.7**	**+0.5**
PLG	**Polygyros**	**2.71**	**106**	P	**Pn**	**22 34 57.0**	**+0.7**
PLG				*e*S	**Sn**	**22 35 29.7**	**+0.5**
PLG				*e*Sn	**Sn**	**22 35 30.4**	**+1.2**
VTS	**Vitosha**	**2.77**	**58**	⇑P	**Pn**	**22 34 57.7**	**+0.6**
VTS	**Vitosha**	**2.77**	**58**	*e*Pn	**Pn**	**22 34 57.6**	**+0.5**
VTS				*e*Sn	**Sn**	**22 35 30.3**	**-0.4**
VTS	**Vitosha**	**2.77**	**58**	⇑*i*P	**Pn**	**22 34 57.7**	**+0.6**
VTS	**Vitosha**	**2.77**	**58**	*e*Pn	**Pn**	**22 34 57.8**	**+0.7**
VTS				*e*Sn	**Sn**	**22 35 25.9**	**-4.8**
GRUS	**Gruza**	**2.77**	**10**	*e*Pn	**Pn**	**22 34 58.7**	**+1.5**
AGG	**Agios Georgios**	**2.77**	**140**	*e*Pn	**Pn**	**22 34 57.2**	**0.0**
AGG				*e*Sn	**Sn**	**22 35 31.7**	**+0.9**
MIGL	**Miglionico**	**2.78**	**260**	Pn	**Pn**	**22 34 56.7**	**-0.6**
	comp=N,345nm,0.5s						
CDT	**Castel del Mon**	**2.84**	**270**	*e*Pn	**Pn**	**22 34 57.8**	**-0.4**
CRAC	**Craco**	**2.85**	**255**	Pn	**Pn**	**22 34 57.9**	**-0.4**
	comp=N,130nm,0.4s						
NVR	**Nevrokopi**	**2.89**	**85**	*e*PN	**Pn**	**22 34 58.5**	**-0.3**
NVR	**Nevrokopi**	**2.89**	**85**	P	**Pn**	**22 34 59.6**	**+0.8**
DIVS	**Divibare**	**2.93**	**359**	*e*Pn	**Pn**	**22 35 01.0**	**+1.6**
DIVS	**Divibare**	**2.93**	**359**	*e*Pn	**Pn**	**22 35 00.6**	**+1.2**
DIVS				*e*Sg	**Sg**	**22 35 38.6**	**-8.1**
XOR	**Xorichti**	**3.01**	**126**	*e*Pn	**Pn**	**22 35 00.1**	**-0.3**
VLS	**Valsamata**	**3.01**	**172**	*e*Pn	**Pn**	**22 34 59.7**	**-0.8**
VLS	**Valsamata**	**3.01**	**172**	P	**Pn**	**22 35 00.2**	**-0.3**
PAIG	**Paliouri**	**3.04**	**113**	*e*Pn	**Pn**	**22 35 00.1**	**-0.8**
NEO	**Neokhori**	**3.06**	**126**	*e*PN	**Pn**	**22 35 01.0**	**-0.2**
NEO				*e*SN	**Sn**	**22 35 38.1**	**0.0**
NEO	**Neokhori**	**3.06**	**126**	P	**Pn**	**22 35 02.4**	**+1.2**
NEO				*e*S	**Sn**	**22 35 38.1**	**0.0**
PALZ	**Palazzo San Ge**	**3.09**	**267**	Pn	**Pn**	**22 35 01.8**	**+0.2**
	comp=N,292nm,1.1s						
OUR	**Ouranopolis**	**3.11**	**104**	*e*Pn	**Pn**	**22 35 01.2**	**-0.7**
FGMS	**Monte Sant'Ang**	**3.12**	**281**	Pn	**Pn**	**22 35 01.2**	**-0.7**
	comp=N,42nm,0.5s						
MS1	**Monte Sant'Ang**	**3.13**	**281**	*e*Pn	**Pn**	**22 35 01.6**	**-0.5**
MSAG	**Monte S. Angel**	**3.15**	**281**	Pn	**Pn**	**22 35 01.7**	**-0.7**
	comp=N,102nm,0.6s						
SCHR	**S. Chirico Rap**	**3.16**	**254**	Pn	**Pn**	**22 35 02.0**	**-0.6**
	comp=N,31nm,0.6s						
TIP	**Timpagrande**	**3.20**	**233**	P	**Pn**	**22 35 02.9**	**-0.2**
SVIS	**Svilajnac**	**3.25**	**15**	⇑*i*Pn	**Pn**	**22 35 04.6**	**+0.8**
SVIS				*e*Sn	**Sn**	**22 35 38.8**	**-3.8**
SGRT	**San Giovanni R**	**3.28**	**282**	Pn	**Pn**	**22 35 03.3**	**-0.9**
	comp=N,47nm,0.6s						
RLS	**Riolos of Patr**	**3.29**	**160**	*e*PN	**Pn**	**22 35 04.4**	**0.0**
SIRI	**Monte Sirino -**	**3.32**	**254**	Pn	**Pn**	**22 35 04.5**	**-0.2**
	comp=N,50nm,0.7s						
MCEL	**Monticello**	**3.33**	**257**	Pn	**Pn**	**22 35 04.0**	**-0.8**
	comp=N,61nm,0.6s						
VULT	**Monte Vulture**	**3.35**	**268**	Pn	**Pn**	**22 35 05.8**	**+0.7**
	comp=N,93nm,0.5s						
MTSN	**Montesano sull**	**3.38**	**256**	Pn	**Pn**	**22 35 05.7**	**+0.2**
	comp=N,55nm,0.5s						
LKR	**Lokris**	**3.39**	**137**	*e*Pn	**Pn**	**22 35 06.5**	**+0.8**
LKR	**Lokris**	**3.39**	**137**	*e*PN	**Pn**	**22 35 06.2**	**+0.5**
LKR	**Lokris**	**3.39**	**137**	P	**Pn**	**22 35 06.9**	**+1.2**
FG4	**Candela**	**3.41**	**271**	Pn	**Pn**	**22 35 05.9**	**-0.1**
	comp=N,64nm,0.4s						
MRLC	**Muro Lucano**	**3.47**	**265**	Pn	**Pn**	**22 35 07.9**	**+1.1**
	comp=N,11nm,0.4s						
CARO	**Carolei**	**3.49**	**238**	Pn	**Pn**	**22 35 07.7**	**+0.6**
	comp=N,81nm,0.8s						
SGTA	**Sant Agata di**	**3.53**	**271**	Pn	**Pn**	**22 35 07.3**	**-0.3**
	comp=N,48nm,0.8s						
AOS	**Alonnisos**	**3.56**	**123**	*e*Pn	**Pn**	**22 35 07.9**	**-0.1**
MGR	**Morigerati**	**3.56**	**255**	Pn	**Pn**	**22 35 08.5**	**+0.5**
	comp=N,78nm,0.6s						
FG5	**Orsara di Pugl**	**3.60**	**273**	Pn	**Pn**	**22 35 09.1**	**+0.5**
	comp=N,43nm,0.6s						
CAFE	**Carife**	**3.63**	**269**	Pn	**Pn**	**22 35 08.7**	**-0.3**
	comp=N,85nm,1.0s						
SGO	**Sicignano**	**3.64**	**262**	Pn	**Pn**	**22 35 08.8**	**-0.3**
	comp=N,17nm,0.3s						
CDRU	**Civita di Ruta**	**3.65**	**261**	Pn	**Pn**	**22 35 08.7**	**-0.6**
	comp=N,15nm,0.4s						
CMPR	**Campora**	**3.69**	**258**	Pn	**Pn**	**22 35 09.4**	**-0.5**
	comp=N,27nm,0.5s						
MCRV	**Calabrutti - M**	**3.71**	**266**	Pn	**Pn**	**22 35 09.7**	**-0.3**
	comp=N,49nm,0.8s						
FG2	**Serracapriola**	**3.72**	**282**	Pn	**Pn**	**22 35 09.7**	**-0.5**
	comp=N,29nm,0.3s						
CSSN	**Cassano Irpino**	**3.81**	**267**	Pn	**Pn**	**22 35 11.4**	**0.0**
	comp=N,9.0nm,0.4s						
MRB1	**Monte Rocchett**	**3.82**	**271**	Pn	**Pn**	**22 35 11.8**	**+0.1**
	comp=N,82nm,0.8s						
LTK	**Loutraki**	**3.87**	**143**	*e*Pn	**Pn**	**22 35 12.3**	**+0.1**
FGSL	**Fruska Gora**	**4.00**	**358**	*e*Pn	**Pn**	**22 35 14.4**	**+0.4**
SACR	**S. Croce Del S**	**4.02**	**275**	Pn	**Pn**	**22 35 14.6**	**+0.2**
	comp=N,38nm,1.1s						
BSSO	**Busso**	**4.12**	**277**	Pn	**Pn**	**22 35 16.1**	**+0.4**
RDO	**Rodhopi**	**4.15**	**88**	*e*PN	**Pn**	**22 35 15.6**	**-0.6**
PTRJ	**Pietraroja**	**4.16**	**275**	Pn	**Pn**	**22 35 16.2**	**0.0**
	comp=N,30nm,0.3s						
ITM	**Ithomi**	**4.24**	**159**	*e*PN	**Pn**	**22 35 18.1**	**+0.7**
ITM	**Ithomi**	**4.24**	**159**	P	**Pn**	**22 35 19.4**	**+2.0**
SGG	**Gregorio Mates**	**4.27**	**275**	Pn	**Pn**	**22 35 18.1**	**+0.3**
	comp=N,38nm,0.4s						
MIDA	**Miranda**	**4.38**	**278**	Pn	**Pn**	**22 35 18.9**	**-0.3**
	comp=N,19nm,0.5s						
VAGA	**Valle Agricola**	**4.38**	**275**	Pn	**Pn**	**22 35 19.7**	**+0.4**
MOCO	**Biccari - m.te**	**4.44**	**275**	Pn	**Pn**	**22 35 09.8**	**-10**
CERA	**Filignano**	**4.55**	**277**	Pn	**Pn**	**22 35 22.8**	**+1.2**
	comp=N,50nm,0.7s						
ALN	**Alexandroupoli**	**4.55**	**91**	*e*Pn	**Pn**	**22 35 22.4**	**+0.7**
RFI	**Roccamonfina**	**4.57**	**274**	Pn	**Pn**	**22 35 22.6**	**+0.8**
	comp=N,1.0nm,0.3s						
BZS	**Buzias**	**4.60**	**14**	⇑P	**Pn**	**22 35 22.5**	**+0.2**
BZS	**Buzias**	**4.60**	**14**	⇑*i*P	**Pn**	**22 35 22.5**	**+0.2**
INTR	**Introdacqua**	**4.68**	**282**	Pn	**Pn**	**22 35 22.4**	**-1.0**
	comp=N,36nm,0.7s						
GZR	**Gura Zlata**	**4.68**	**24**	⇑*i*P	**Pn**	**22 35 24.4**	**+1.0**
POFI	**Posta Fibreno**	**4.79**	**279**	Pn	**Pn**	**22 35 25.5**	**+0.6**
	comp=N,14nm,0.6s						
VCEL	**Villa Celiera**	**4.79**	**287**	Pn	**Pn**	**22 35 24.9**	**-0.1**
FAGN	**Fagnano**	**4.95**	**285**	Pn	**Pn**	**22 35 27.2**	**0.0**
	comp=N,45nm,0.4s						
VLI	**Veliai**	**4.98**	**152**	*e*PN	**Pn**	**22 35 27.7**	**+0.1**
NVLJ	**Novalja**	**5.09**	**314**	*e*Pn	**Pn**	**22 35 29.0**	**-0.1**
NVLJ				Sn	**Sn**	**22 36 26.3**	**-1.8**
NVLJ	**Novalja**	**5.09**	**314**	*e*Pn	**Pn**	**22 35 28.9**	**-0.2**
NVLJ				Sn	**Sn**	**22 36 26.3**	**-1.8**
PKSM	**Moragy**	**5.15**	**349**	⇑P	**Pn**	**22 35 29.8**	**-0.1**
PKSM	**Moragy**	**5.15**	**349**	⇑*i*P	**Pn**	**22 35 29.8**	**0.0**
FIAM	**Fiamignano**	**5.29**	**284**	Pn	**Pn**	**22 35 32.5**	**+0.6**
CHOS	**Chios island**	**5.40**	**119**	*e*Pn	**Pn**	**22 35 34.6**	**+1.2**
NRCA	**Norcia**	**5.42**	**290**	Pn	**Pn**	**22 35 33.4**	**-0.2**
	comp=N,5.0nm,0.3s						
CING	**Cingoli**	**5.54**	**296**	Pn	**Pn**	**22 35 34.4**	**-0.8**
	comp=N,22nm,0.7s						
BOJS	**Bojanci**	**5.57**	**323**	*i* Pn	**Pn**	**22 35 35.4**	**-0.2**
BOJS				*i* Sn	**Sn**	**22 36 37.9**	**-1.8**
CESI	**CESI - Serrava**	**5.62**	**291**	Pn	**Pn**	**22 35 35.8**	**-0.5**
	comp=N,9.0nm,0.4s						
SNTG	**Esanatoglia**	**5.67**	**294**	Pn	**Pn**	**22 35 36.2**	**-0.8**
	comp=N,7.0nm,0.2s						
GCIS	**Gornji Cirnik**	**5.69**	**327**	*i* Pn	**Pn**	**22 35 37.0**	**-0.3**
CRES	**Cresnjev**	**5.73**	**326**	*i* Pn	**Pn**	**22 35 37.6**	**-0.2**
APE	**Apeiranthos**	**5.91**	**132**	⇑P	**Pn**	**22 35 40.6**	**+0.3**
APE	**Apeiranthos**	**5.91**	**132**	*e*Pn	**Pn**	**22 35 40.5**	**+0.1**
APE	**Apeiranthos**	**5.91**	**132**	⇑*i*P	**Pn**	**22 35 40.7**	**+0.3**
APE	**Apeiranthos**	**5.91**	**132**	*e*P	**Pn**	**22 35 40.9**	**+0.5**
FSSB	**Fossombrone**	**5.94**	**298**	Pn	**Pn**	**22 35 39.7**	**-1.0**
	comp=N,7.0nm,0.3s						
DRGR		**5.95**	**18**	⇓P	**Pn**	**22 35 41.9**	**+1.1**
DRGR		**5.95**	**18**	⇓*i*P	**Pn**	**22 35 41.9**	**+1.1**
MURB	**Monte Urbino**	**5.96**	**293**	Pn	**Pn**	**22 35 41.2**	**+0.2**
	comp=N,41nm,0.3s						
MLR	**Muntele Rosu**	**6.10**	**43**	P	**Pn**	**22 35 46.8**	**+3.8**
	comp=N,0.9nm,0.3s,baz=205,slow=11,SNR=11						
MLR				S	**Sn**	**22 36 55.0**	**+2.0**
	comp=N,0.3nm,0.3s,baz=332,slow=23,SNR=2.4						
MLR	**Muntele Rosu**	**6.10**	**43**	⇑*i*P	**Pn**	**22 35 47.4**	**+4.4**
PDKS	**Podkum**	**6.11**	**325**	*i* Pn	**Pn**	**22 35 42.8**	**-0.3**
SKDS	**Skadanscina**	**6.20**	**317**	*i* Pn	**Pn**	**22 35 43.1**	**-1.2**
VNDS	**Vrh nad Dolski**	**6.27**	**324**	*i* Pn	**Pn**	**22 35 45.0**	**-0.3**
VNDS				*i* Sn	**Sn**	**22 36 55.7**	**-1.3**
JAVS	**Javornik**	**6.42**	**319**	*i* Pn	**Pn**	**22 35 46.6**	**-0.7**
JAVS				*e*Sn	**Sn**	**22 36 58.5**	**-2.2**
CRE	**Caprese Michel**	**6.47**	**295**	Pn	**Pn**	**22 35 47.8**	**-0.2**
	comp=N,3.0nm,0.4s						
PERS	**Pernice**	**6.52**	**329**	*i* Pn	**Pn**	**22 35 48.3**	**-0.4**
VOY	**Vojsko**	**6.60**	**320**	*e*Pn	**Pn**	**22 35 49.2**	**-0.6**
VOY				*e*Sn	**Sn**	**22 37 04.2**	**-0.9**
OBKA	**Obir**	**6.65**	**325**	⇑*i*Sn	**Sn**	**22 36 47.6**	**-19**
OBKA	**Obir**	**6.65**	**325**	↓*i*Pn	**Pn**	**22 35 50.9**	**+0.4**
OBKA				*i* Sn	**Sn**	**22 36 47.6**	**-19**
OBKA	**Obir**	**6.65**	**325**	↓*i*Pn	**Pn**	**22 35 50.9**	**+0.4**
OBKA				↓*i*Sn	**Sn**	**22 37 07.2**	**+0.7**
ARSA	**Arzberg**	**6.89**	**333**	⇑*i*Sn	**Sn**	**22 36 53.0**	**-19**
ARSA	**Arzberg**	**6.89**	**333**	⇑*i*Pn	**Pn**	**22 35 54.1**	**+0.3**
ARSA				*i* Sn	**Sn**	**22 36 53.0**	**-19**
ARSA	**Arzberg**	**6.89**	**333**	⇑*i*Pn	**Pn**	**22 35 54.1**	**+0.3**
ARSA				↓*i*Sn	**Sn**	**22 37 10.9**	**-1.5**
PTCC	**Patocco-Chiusa**	**7.13**	**320**	Pn	**Pn**	**22 35 56.9**	**-0.1**
KECS	**Kecovo**	**7.33**	**2**	*e*PN	**Pn**	**22 36 01.9**	**+2.2**
VYHS	**Vyhne**	**7.38**	**354**	*e*PN	**Pn**	**22 36 02.7**	**+2.2**
VYHS				*e*SN	**Sn**	**22 37 23.6**	**-0.7**
KBA	**Koelnbreinsper**	**7.62**	**323**	⇑*i*Sn	Sx	22 37 09.6	
KBA	**Koelnbreinsper**	**7.62**	**323**	⇑*i*Pn	**Pn**	**22 36 04.0**	**+0.2**
KBA				*i* Sn	Sn	22 37 09.6	-21
KBA	**Koelnbreinsper**	**7.62**	**323**	⇑*i*Pn	**Pn**	**22 36 04.0**	**+0.2**
KBA				↓↓*i*Sn	**Sn**	**22 37 29.7**	**-0.6**
ABTA	**Abfaltersbach**	**7.78**	**318**	⇑*i*Pn	**Pn**	**22 36 05.6**	**-0.4**
CRVS	**Cervenica-Dubn**	**7.80**	**7**	*e*PN	**Pn**	**22 36 07.7**	**+1.4**
MOA	**Molln**	**7.85**	**330**	⇑*i*Pn	**Pn**	**22 36 07.1**	**+0.2**
KOLS	**Kolonicke sedl**	**7.93**	**11**	*e*PN	**Pn**	**22 36 10.3**	**+2.3**
STHS	**Stebnicka Huta**	**8.30**	**5**	*e*PN	**Pn**	**22 36 19.8**	**+6.8**
STHS				*e*SN	**Sn**	**22 37 47.7**	**+0.8**
WTTA	**Wattenberg**	**8.57**	**318**	⇑*i*Pn	**Pn**	**22 36 16.4**	**-0.5**
WATA	**Walderalm**	**8.65**	**318**	↓*i*Pn	**Pn**	**22 36 17.7**	**-0.3**
SQTA	**Sankt Quirin**	**8.76**	**317**	⇑*i*Pn	**Pn**	**22 36 19.2**	**-0.2**
FETA	**Feichten**	**8.89**	**314**	⇑*i*Pn	**Pn**	**22 36 21.8**	**+0.6**
GERES	**GERESS Array B**	**8.89**	**332**	P	**Pn**	**22 36 20.7**	**-0.5**
	comp=N,0.3nm,0.3s,baz=153,slow=14,SNR=12						
GERES				S	**Sn**	**22 38 00.0**	**-1.5**
	comp=N,0.2nm,0.3s,baz=146,slow=24,SNR=3.6						
MOTA	**Moosalm**	**8.90**	**317**

KEK	**Kerkira**	**3.20**	**338**	*e*PN	**Pn**	**23 28 01.7 +0.1**
KEK				*e*SN	**Sn**	**23 28 38.0 -0.5**
SRN	**Sarande**	**3.30**	**342**	*e*Pn	**Pn**	**23 28 02.7 -0.3**
SRN				*i* Sn	**Sn**	**23 28 40.5 -0.5**
APE	**Apeiranthos**	**3.38**	**83**	*e*PN	**Pn**	**23 28 02.8 -1.3**
KZN	**Kozani**	**3.57**	**5**	*e*PN	**Pn**	**23 28 07.9 +1.2**
NPS	**Neapolis**	**3.77**	**112**	*e*PN	**Pn**	**23 28 09.1 -0.3**
PLG	**Polygyros**	**3.98**	**24**	*e*PN	**Pn**	**23 28 12.2 -0.2**
LCI	**Lecce**	**4.38**	**326**	Pn	**Pn**	**23 28 17.6 -0.3**
TA1	**Taranto**	**4.84**	**320**	*e*Pn	**Pn**	**23 28 24.8 +0.6**
KARP	**Karpathos**	**4.87**	**102**	*e*PN	**Pn**	**23 28 25.1 +0.6**
PE1	**Pezze di Greco**	**5.08**	**324**	*e*Pn	**Pn**	**23 28 26.4 -1.0**
PZI	**Palazzolo**	**5.13**	**275**	Pn	**Pn**	**23 28 27.4 -0.7**
MGR	**Morigerati**	**5.66**	**309**	Pn	**Pn**	**23 28 35.5 +0.1**
SGO	**Sicignano** 7.3nm,0.2s	**6.06**	**311**	Pn	**Pn**	**23 28 42.5 +1.6**
FGMS	**Monte Sant'Ang** 3.7nm,0.2s	**6.48**	**322**	Pn	**Pn**	**23 28 46.0 -0.6**
FG5	**Orsara di Pugl** 5.6nm,0.3s	**6.54**	**316**	Pn	**Pn**	**23 28 48.1 +0.6**

*IDC **20** 23:31:28.9±2.4, 322S×1458.3E, h0km, mb4.0/6, mb1 4.2/6, mb1mx3.9/14, mbtmp4.1/6, MS3.3/3, Ms1 3.3/3, ms1mx3.0/21, Error ellipse: s-maj=79.6km s-min=24.3km az=94.0*
*ISCJB **20** 23:31:30.0±1.8, 34S±0.1×146.4E±0.3, h33km, mb3.9/5, MS3.3/2, Error ellipse: s-maj=47.9km s-min=18.2km az=13.3*
*NEIC **20** 23:31:32.6±1.5, 334S×146.21E, h35km, mb4.3/3, Error ellipse: s-maj=41.3km s-min=17.8km az=101.0*
ISC 20 23:31:32.1±1.8, 34S±0.1×146.3E±0.3, h35km, n14, σ0.87/12, mb3.9/5, MS3.3/2, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**14.81**	**115**	LR	LR	23 39 08.3	
	comp=Z,93nm,19.9s,baz=360,slow=30						
KAKA	**Kakadu**	**16.57**	**235**	*e*P	**Pn**	**23 35 22.9**	**+1.0**
	16nm,0.8s						
WRAB	**Tennant Creek**	**20.18**	**214**	*e*P	**P**	**23 36 03.2**	**-0.5**
	16nm,0.8s						
WB2	**Warramunga Arr**	**20.19**	**214**	*e*P	**P**	**23 36 03.5**	**-0.3**
WB2	**Warramunga Arr**	**20.19**	**214**	*e*P	**P**	**23 36 03.3**	**-0.6**
WRA	**Warramunga Arr**	**20.19**	**214**	P	**P**	**23 36 03.7**	**-0.2**
	10.0nm,0.8s,baz=41,slow=11,SNR=76						
ASAR	**Alice Springs**	**23.47**	**210**	P	**P**	**23 36 38.0**	**-0.8**
	2.0nm,0.7s,mb3.7,baz=37,slow=8.0,SNR=25						
FITZ	**Fitzroy Crossi**	**24.99**	**233**	*e*P	**P**	**23 36 52.7**	**-0.1**
	7.4nm,1.0s,mb4.2						
FITZ	**Fitzroy Crossi**	**24.99**	**233**	P	**P**	**23 36 52.5**	**-0.2**
	2.7nm,0.8s,mb3.8,baz=62,slow=13,SNR=7.0						
FITZ				LR	LR	23 46 26.8	
	comp=Z,140nm,21.2s,MS3.4,baz=50,slow=36						
STKA	**Stephens Creek**	**28.70**	**188**	*e*P	**P**	**23 37 28.5**	**+2.6**
STKA	**Stephens Creek**	**28.70**	**188**	P	**P**	**23 37 29.3**	**+3.4**
	2.3nm,0.9s,mb3.9,baz=0.3,slow=12,SNR=5.6						
KSRS	**Korea Array**	**44.08**	**339**	LR	LR	23 53 45.1	
	comp=Z,34nm,21.7s,MS3.2,baz=155,slow=30						
MKAR	**Makanchi Array**	**75.06**	**320**	P	**P**	**23 43 10.9**	**+0.6**
	1.1nm,0.9s,mb3.8,baz=94,slow=5.8,SNR=5.7						
BVAR	**Borovoye Array**	**84.27**	**324**	P	**P**	**23 43 59.5**	**-0.7**
	0.7nm,0.6s,mb4.0,baz=113,slow=6.2,SNR=4.6						

*ISCJB **20** 23:51:31.3±0.5, 43.74N±0.07×143.46E±0.08, h176km±4km, mb3.4/5, Error ellipse: s-maj=10.9km s-min=9.5km az=12.1*
*JMA **20** 23:51:33.1±0.2, 43.78N×143.40E, h167km±2km, M2.8*
*IDC **20** 23:51:33.9±2.5, 44.14N×143.29E, h165km±12km, mb3.2/5, mb1 3.3/5, mb1mx3.0/20, mbtmp3.2/5, Error ellipse: s-maj=96.1km s-min=28.6km az=173.0*
ISC 20 23:51:32.4±0.5, 43.73N±0.07×143.45E±0.08, h172km±4km, n19, σ0.54/28, mb3.4/5, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMP	**Maruseppu**	**0.29**	**347**	P	**Pn**	**23 51 55.5**	**0.0**
JMP				*e*S	**Sn**	**23 52 13.0**	**-0.4**
JTKR	**Abashiri--Toko**	**0.41**	**53**	P	**Pn**	**23 51 56.1**	**+0.2**
JTKR				*e*S	**Sn**	**23 52 13.8**	**-0.1**
JAR	**Ashorobuto**	**0.49**	**152**	P	**Pn**	**23 51 56.8**	**+0.6**
JKK2	**Kamakawa 2**	**0.53**	**286**	P	**Pn**	**23 51 56.5**	**+0.1**
JKK2				*e*S	**Sn**	**23 52 14.4**	**-0.3**
ASAJ	**Asahikawa**	**0.73**	**303**	P	**Pn**	**23 51 57.5**	**+0.1**
ASAJ				*e*S	**Sn**	**23 52 16.1**	**-0.6**
ASAJ	**Asahikawa**	**0.73**	**303**	P	**Pn**	**23 51 57.4**	**-0.1**
	12nm,0.3s,baz=100,slow=5.8,SNR=57						
ASAJ				S	**Sn**	**23 52 15.7**	**-1.0**
	2.2nm,0.3s,baz=142,slow=29,SNR=6.4						
JFR	**Furan**	**0.84**	**228**	P	**Pn**	**23 51 58.7**	**+0.5**
JFR				*e*S	**Sn**	**23 52 18.5**	**+0.7**
JCH	**Churui**	**1.11**	**183**	P	**Pn**	**23 52 00.1**	**-0.1**
JCH				*e*S	**Sn**	**23 52 20.6**	**-0.9**
JAK	**Akkeshi**	**1.16**	**128**	P	**Pn**	**23 52 00.8**	**+0.2**
JAK				*e*S	**Sn**	**23 52 22.5**	**+0.3**
JRA	**Rausu**	**1.23**	**79**	P	**Pn**	**23 52 02.2**	**+1.1**
JHR	**Hokuryu**	**1.25**	**271**	P	**Pn**	**23 52 02.3**	**+1.0**
JNBK	**Urakawa-nobuka**	**1.53**	**200**	P	**Pn**	**23 52 04.1**	**+0.1**
JNBK				*e*S	**Sn**	**23 52 27.7**	**-0.6**
NEM2	**Nemuro 2**	**1.70**	**101**	*e*S	**Sn**	**23 52 30.5**	**-0.9**
JEW	**Eniwo**	**1.71**	**240**	P	**Pn**	**23 52 06.3**	**+0.5**
SONM	**Songino Array**	**26.00**	**292**	P	**P**	**23 56 49.2**	**+0.1**
	0.6nm,0.5s,mb3.5,baz=89,slow=8.5,SNR=4.6						
ZALV	**Zalesovo Beam**	**38.87**	**306**	P	**P**	**23 58 40.5**	**-0.1**
	0.4nm,0.5s,mb3.3,baz=60,slow=8.5,SNR=2.3						
MKAR	**Makanchi Array**	**42.21**	**296**	P	**P**	**23 59 07.5**	**-0.6**
	0.2nm,0.3s,mb3.2,baz=72,slow=9.3,SNR=3.1						
YKA	**Yellowknife Ar**	**57.29**	**33**	P	**P**	**00 01 01.9**	**+0.3**
	0.1nm,0.7s,mb2.8,baz=314,slow=6.6,SNR=4.5						
FINES	**FINESS Array B**	**63.65**	**332**	P	**P**	**00 01 43.8**	**-0.8**
	6.4nm,1.2s,mb4.3,baz=31,slow=6.5,SNR=5.4						

*NIED **20** 23:55:00.41.10N×139.30E, h17km, Mw3.5 Best double couple: M0=2.10000×10^14 NP1:φs=51.00000°, δ76.00000°, λ128.00000°. NP2:φs=159.00000°, δ40.00000°, λ23.00000°.*
JMA 20 23:55:58.8±0.1, 41.09N×139.28E, h24km±2km, M3.6, 2C-2D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIW	**Iwasaki**	**0.74**	**132**	⇓P	Pb	23 56 12.6	-0.4
JIW				S	Sb	23 56 22.7	0.0
JSI2	**Shiura 2**	**0.86**	**92**	⇓P	Pb	23 56 14.5	-0.5
JSI2				S	Sb	23 56 25.9	-0.1
JSR	**Shiriuchi**	**0.96**	**63**	⇑P	Pn	23 56 16.5	-0.3
JSR				*e*S	Sb	23 56 29.6	+0.5
JOSM	**Okushiri--Mats**	**1.00**	**8**	⇑P	Pn	23 56 16.4	-0.9
JOSM				S	Sb	23 56 30.1	-0.1
JYM2	**Yakumo 2**	**1.31**	**38**	P	Pn	23 56 21.6	0.0
JOT	**Ohata**	**1.36**	**77**	P	Pn	23 56 22.3	0.0
JOT				*e*S	Sn	23 56 39.6	0.0
JAH	**Hinai**	**1.37**	**131**	P	Pn	23 56 22.8	+0.4
JAH				*e*S	Sn	23 56 40.6	+0.9
JTM	**Tenmabayashi**	**1.39**	**102**	P	Pn	23 56 22.8	+0.2
JTM				*e*S	Sn	23 56 40.0	-0.2
JKB	**Kayabe**	**1.54**	**58**	P	Pn	23 56 25.4	+0.7

IDC 21 00:13:03.6±3.7, 46.30N×153.97E, h0km, mb3.5/3, mb1 3.8/3, mb1mx3.4/21, mbtmp3.5/3, Error ellipse: s-maj=140.7km s-min=32.6km az=176.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**32.05**	**290**	P	P	00 19 31.8	+0.2
	0.4nm,0.6s,baz=74,slow=5.2,SNR=3.0						
YKA	**Yellowknife Ar**	**50.93**	**37**	P	P	00 22 06.1	-0.1
	0.2nm,0.7s,baz=296,slow=7.9,SNR=3.7						
TXAR	**Lajitas Array**	**77.20**	**61**	P	P	00 24 59.5	+0.2
	0.6nm,0.5s,baz=308,slow=4.2,SNR=9.5						

*NEIC **21** 00:13:29.2, 36.11N×21.68E, h25km, MD3.6(ATH), After ATH.*
*ATH **21** 00:13:29.2, 36.11N×21.68E, h25km±2km, MD3.6/4*
*ISCJB **21** 00:13:30.1±1.1, 36.12N±0.05×21.53E±0.07, h33km, Error ellipse: s-maj=10.3km s-min=5.1km az=139.3*
*CSEM **21** 00:13:30.9±0.2, 36.13N×21.72E, h20km, ML3.3, Error ellipse: s-maj=4.2km s-min=2.0km az=49.0*
*THE **21** 00:13:31.2, 36.14N×21.57E, h29km, ML3.3*
ISC 21 00:13:30.9±1.4, 36.13N±0.05×21.58E±0.08, h27km±9km, n18, σ0.72/27, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYL	**PYLOS**	**0.78**	**9**	*e*Pg	**Pb**	**00 13 44.9**	**-0.9**
PYL				*e*Sg	**Sb**	**00 13 56.8**	**+0.9**
ITM	**Ithomi**	**1.08**	**15**	*e*PN	**Pn**	**00 13 49.9**	**-0.3**
VLI	**Veliai**	**1.24**	**61**	*e*PN	**Pn**	**00 13 52.2**	**-0.2**
VLI				*e*SN	**Sn**	**00 14 08.4**	**+0.2**
VLX	**Vlachokerasia**	**1.40**	**27**	*e*Pg	**Pn**	**00 13 54.4**	**-0.1**
VLX				*e*Sg	**Sn**	**00 14 11.3**	**-0.7**
DID	**Didima**	**1.91**	**44**	*e*Pb	**Pn**	**00 14 00.6**	**-1.0**
DID				*e*Sb	**Sn**	**00 14 25.0**	**+0.3**
RLS	**Riolos of Patr**	**1.93**	**357**	*e*PN	**Pn**	**00 14 03.0**	**+1.2**
KARN	**Karanos**	**2.03**	**110**	*e*Pn	**Pn**	**00 14 02.9**	**-0.4**
KARN				*e*Sn	**Sn**	**00 14 28.8**	**+1.1**
LTK	**Loutraki**	**2.19**	**30**	*e*Pn	**Pn**	**00 14 04.5**	**-0.9**
VAM	**Vamos**	**2.25**	**108**	*e*PN	**Pn**	**00 14 06.0**	**-0.2**
LKD	**Levkas**	**2.68**	**344**	*e*Pn	**Pn**	**00 14 13.3**	**+1.2**
LKD				*e*Sn	**Sn**	**00 14 42.7**	**-1.0**
LKR	**Lokris**	**2.76**	**24**	*e*Pn	**Pn**	**00 14 12.7**	**-0.6**
LKR	**Lokris**	**2.76**	**24**	*e*Pn	**Pn**	**00 14 12.6**	**-0.6**
AGG	**Agios Georgios**	**2.95**	**11**	*e*Pn	**Pn**	**00 14 16.5**	**+0.7**
AGG				*e*Sn	**Sn**	**00 14 50.5**	**+0.2**
APE	**Apeiranthos**	**3.31**	**72**	*e*Pn	**Pn**	**00 14 20.3**	**-0.5**
APE	**Apeiranthos**	**3.31**	**72**	*e*Pn	**Pn**	**00 14 20.5**	**-0.4**
THL	**Klokotos Trika**	**3.45**	**6**	*e*Pn	**Pn**	**00 14 23.1**	**+0.4**
IGT	**Igoumenitsa**	**3.54**	**344**	*e*Pn	**Pn**	**00 14 23.6**	**-0.3**
IGT				*e*Sn	**Sn**	**00 15 04.0**	**-0.8**
MEV	**Metsovon**	**3.66**	**356**	*e*Pn	**Pn**	**00 14 26.5**	**+0.8**
MEV				*e*Sn	**Sn**	**00 15 09.0**	**+1.1**

*NIED **21** 00:32:00, 21.50N×122.60E, h44km, Mw5.7 Best double couple: M0=4.06000×10^17 NP1:φs=34.00000°, δ81.00000°, λ102.00000°. NP2:φs=160.00000°, δ15.00000°, λ37.00000°.*
*BJI **21** 00:32:24.8, 21.31N×122.16E, h10km, mB5.4, mb5.1, ML4.8, Ms5.5, Msz5.3*
*NEIC **21** 00:32:24.9±0.2, 21.14N×122.13E, h10km, mb5.3/90, MS5.1/101, MW5.5, Error ellipse: s-maj=6.4km s-min=5.6km az=97.0, Moment Tensor Solution. s5 Moment tensor: Scale 10^17Nm; Mrr0.62; Mθθ1.45; Mφφ-2.07; Mrθ0.01; Mrφ1.18; Mθφ-0.31; Best double couple: M0=2.10000×10^17 NP1:φs=298.00000°, δ83.00000°, λ-1.00000°. NP2:φs=28.00000°, δ89.00000°, λ-173.00000°. Principal axes: T 1.8200, Plg4.0000°, Azm163.0000°; N 0.6400, Plg83.0000°, Azm38.0000°; P -2.4600, Plg5.0000°, Azm253.0000°;*
*ISCJB **21** 00:32:24.9±0.1, 21.31N±0.02×122.05E±0.02, h10km, mb5.2/168, MS5.1/165 Error ellipse: s-maj=3.3km s-min=2.7km az=155.0*
*GCMT **21** 00:32:24.9±0.1, 21.30N×122.22E, h15km, MW5.5/103, Moment Tensor Solution. s86,c149; s103,c200; Duration: 1s3 Moment tensor: Scale 10^17Nm; Mrr0.27±.03; Mθθ1.67±.02; Mφφ-1.94±.03; Mrθ-0.05±.06; Mθφ0.21±.02; Mφr0.43±.07; Best double couple: M0=1.85900×10^17 NP1:φs=222.00000°, δ82.00000°, λ-173.00000°. NP2:φs=131.00000°, δ83.00000°, λ-8.00000°. Principal axes: T 1.6830, Plg1.0000°, Azm177.0000°; N 0.3520, Plg79.0000°, Azm272.0000°; P -2.0350, Plg11.0000°, Azm87.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*MOS **21** 00:32:25.5±1.3, 21.14N×122.17E, h25km, mb5.6/74, MS5.0/52 Error ellipse: s-maj=8.0km s-min=4.1km az=114.4*
*JMA **21** 00:32:26.2±0.4, 21.52N×122.58E, h0km, M5.5*
*MAN **21** 00:32:28, 20.84N×122.38E, h1km, mb5.4, ML4.4, MS4.7*
*IDC **21** 00:32:31.3±2.4, 21.06N×122.17E, h64km±20km, mb4.7/21, mb1 4.8/22, mb1mx4.7/25, mbtmp4.7/22, MS4.9/26, Ms1 4.9/26, ms1mx4.8/36, Error ellipse: s-maj=16.1km s-min=8.6km az=69.0*
*SZGRF **21** 00:32:34.5, 22.53N×122.42E, h33km, mb5.1, MS5.2, Taiwan region*
ISC 21 00:32:24.9±0.8, 21.32N±0.02×122.11E±0.02, h2km±5km, n756, σ1.9/21/703, mb5.2/168, MS5.1/165, 86C-85D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NACB	**Ninganchiao**	**2.88**	**351**	⇑*i*Pn	**Pn**	**00 33 08.9**	**-3.0**
HATJ	**Hateruma jima**	**3.14**	**30**	P	**Pn**	**00 33 13.0**	**-2.5**
HATJ				*e*S	**Sn**	**00 33 47.5**	**-6.1**
YOJ	**Yonaguni jima**	**3.24**	**15**	P	**Pn**	**00 33 15.9**	**-0.9**
YOJ				*e*S	**Sn**	**00 33 51.3**	**-4.6**
IRIF	**Iriomote-Funau**	**3.35**	**26**	P	**Pn**	**00 33 16.3**	**-2.1**
IRIF				*e*S	**Sn**	**00 33 53.0**	**-5.8**
JKRS	**Kuro-shima**	**3.39**	**31**	P	**Pn**	**00 33 16.7**	**-2.2**
JKRS				*e*S	**Sn**	**00 33 53.8**	**-6.0**
YHNB	**Yeheng**	**3.40**	**349**	⇑*i*Pn	**Pn**	**00 33 17.5**	**-1.6**
JIJ	**Ishigaki jima**	**3.56**	**31**	P	**Pn**	**00 33 18.2**	**-3.1**
JIJ				*e*S	**Sn**	**00 33 56.9**	**-7.1**
TATO	**Taipei**	**3.69**	**351**	*e*Pn	**Pn**	**00 33 22.4**	**-0.6**
TATO	**Taipei** SNR=46	**3.69**	**351**	P	**Pn**	**00 33 22.6**	**-0.3**
JTJ	**Tarama**	**4.08**	**35**	P	**Pn**	**00 33 26.1**	**-2.3**
JTJ				*e*S	**Sn**	**00 34 10.5**	**-6.2**
JMJ	**Miyako jima 2**	**4.55**	**39**	*e*S	**Sn**	**00 34 21.8**	**-6.5**
JOGS	**Gusukube**	**4.58**	**41**	P	**Pn**	**00 33 34.7**	**-0.5**
JOGS				*e*S	**Sn**	**00 34 23.6**	**-5.4**
QZH	**Quanzhou**	**4.85**	**319**	P	**Pn**	**00 33 38.5**	**-0.5**
QZH				S	**Sn**	**00 34 31.6**	**-4.2**
QZH				Smax			
	comp=N,2μm,1.2s						
QZH				Smax			
	comp=E,2μm,0.8s						
QZH				LR	LR		
	comp=N,20μm,7.8s						
QZH				LR	LR		
	comp=E,47μm,12.2s						
QZH				LR	LR		
	comp=Z,46μm,10.6s						
JKE	**Kume jima 2**	**6.57**	**40**	P	**Pn**	**00 33 59.4**	**-3.2**
JAGN	**Aguni-jima**	**7.04**	**41**	P	**Pn**	**00 34 06.2**	**-2.8**
HKC	**Hong Kong Obse**	**7.44**	**279**	⇑*i*P	**Pb**	**00 34 38.0**	**+3.2**
JOW	**Kunigami**	**7.86**	**45**	P	**Pn**	**00 34 17.9**	**-2.5**
JOW				*e*S	**Sn**	**00 35 40.0**	**-10**
JOW	**Kunigami**	**7.86**	**45**	P	**Pn**	**00 34 16.6**	**-3.8**
	comp=Z,32nm,0.3s,baz=205,slow=12,SNR=55						
JOW				S	**Sn**	**00 35 40.7**	**-9.3**
	comp=Z,8.1nm,0.3s,baz=294,slow=28,SNR=5.7						
JOW				LR	LR	00 37 08.3	
	comp=Z,18μm,19.4s,baz=228,slow=35						
JTK	**Tokunoshima**	**8.95**	**43**	P	**Pn**	**00 34 32.3**	**-3.0**
JTK				*e*S	**Sn**	**00 36 06.3**	**-11**
SSE	**Sheshan**	**9.77**	**355**	P	**Pn**	**00 34 45.1**	**-1.5**
SSE				S	**Sn**	**00 36 39.3**	**+2.4**
SSE				AMB	AMB		
	comp=Z,52nm,0.7s						
SSE				AMB	AMB		
	comp=Z,514nm,12.0s						
SSE				LR	LR		
	comp=N,3μm,11.1s						
SSE				LR	LR		
	comp=E,9μm,11.1s						
SSE				LR	LR		
	comp=Z,7μm,12.1s						
JAM	**Amami Oshima**	**9.80**	**42**	P	**Pn**	**00 34 44.4**	**-2.6**
NJ2	**Nanjing**	**11.08**	**345**	*e*P	**Pn**	**00 35 06.3**	**+1.8**
NJ2				AP		00 35 10.3	
NJ2				XP		00 35 12.0	
NJ2				PP		00 35 14.6	
NJ2				S	**Sn**	**00 37 08.3**	**-0.7**
NJ2				AMB	AMB		
	comp=Z,20nm,0.8s						
NJ2				LR	LR		
	comp=N,26μm,12.8s						
NJ2				LR	LR		
	comp=E,30μm,6.0s						
NJ2				LR	LR		
	comp=Z,37μm,7.5s						
WHN	**Wuhan**	**11.54**	**324**	⇓P	**Pn**	**00 35 12.5**	**+1.8**
WHN				S	**Sn**	**00 37 25.3**	**+5.1**
WHN				LR	LR		
	comp=Z,22μm,14.8s						
QIZ	**Qiongzhong**	**11.75**	**261**	P	**Pn**	**00 35 14.4**	**+0.7**
QIZ				AP		00 35 22.3	
QIZ				XP		00 35 26.6	
QIZ				S	**Sn**	**00 37 30.8**	**+5.3**
QIZ				XS		00 37 42.3	
QIZ				SS		00 37 45.1	
QIZ				AMB	AMB		
	comp=Z,27nm,1.4s						
QIZ				LR	LR		
	comp=N,11μm,14.8s						
QIZ				LR	LR		
	comp=Z,11μm,12.1s						
QIZ	**Qiongzhong**	**11.75**	**261**	*e*Pn	**Pn**	**00 35 13.8**	**+0.2**
	comp=Z,50nm,0.6s						
QIZ				*e*Sn	**Sn**	**00 37 20.9**	**-4.5**
JNU	**Nakatsue**	**14.10**	**32**	P	**Pn**	**00 35 43.5**	**-2.2**
JNU	**Nakatsue**	**14.10**	**32**	P	**Pn**	**00 35 42.4**	**-3.3**
	comp=Z,1.2nm,0.3s,baz=160,slow=14,SNR=5.6						
JNU				LR	LR	00 41 45.3	
	comp=Z,8μm,18.1s,baz=204,slow=39						
DAV	**Davao City (W)** SNR=14	**14.56**	**166**	P	**Pn**	**00 35 54.9**	**+2.9**
GYA	**Guiyang**	**15.03**	**293**	P	**Pn**	**00 36 00.9**	**+2.5**
GYA				AP	pP	00 36 09.4	+4.9
GYA				PP		00 36 13.8	
GYA				S	**Sn**	**00 38 48.3**	**+2.8**
GYA				SS		00 39 06.5	
GYA				PCP	PcP	00 41 08.5	+1.1
GYA				AMB	AMB		
	comp=Z,40nm,1.0s						
GYA				AMB	AMB		
	comp=Z,200nm,4.2s						
GYA				LR	LR		
	comp=N,6μm,10.7s						
GYA				LR	LR		
	comp=E,2μm,14.1s						
GYA				LR	LR		
	comp=Z,8μm,15.8s						
KDM	**Kudat**	**15.20**	**200**	⇑P	**Pn**	**00 36 01.5**	**+0.7**
TIA	**Tai'an**	**15.47**	**345**	*e*P	**Pn**	**00 36 05.0**	**+0.8**
TIA				S	**Sn**	**00 39 06.0**	**+10**
TIA				AMB	AMB		
	comp=Z,439nm,5.0s						
TIA				LR	LR		
	comp=N,4μm,11.0s						
TIA				LR	LR		
	comp=E,10μm,11.0s						
KKM	**Kota Kinabalu**	**16.22**	**201**	⇑*e*Pn	**Pn**	**00 36 12.8**	**-1.4**
KKM	**Kota Kinabalu**	**16.22**	**201**	⇓P	**Pn**	**00 36 14.1**	**-0.1**
SDKM	**Sandakan**	**16.30**	**198**	⇑P	**Pn**	**00 36 13.8**	**-1.4**
MYLDM	**Lahad Datu**	**16.42**	**193**	⇓P	**Pn**	**00 36 16.3**	**-0.4**
INCN	**Inchon**	**16.58**	**13**	*e*Pn	**Pn**	**00 36 18.2**	**-0.3**
	comp=E,212nm,0.9s						
INCN	**Inchon** SNR=12	**16.58**	**13**	P	**Pn**	**00 36 18.1**	**-0.5**
KS15	**Wonju Array Si**	**16.83**	**16**	*e*Pn	**Pn**	**00 36 21.1**	**-0.6**
KSRS	**Korea Array**	**16.85**	**16**	P	**Pn**	**00 36 21.0**	**-1.0**
	comp=E,1.1nm,0.3s,baz=201,slow=13,SNR=105						
KSRS				LR	LR	00 42 59.5	
	comp=E,5μm,19.5s,baz=200,slow=37						
XAN	**Xi'an**	**17.21**	**320**	P	**Pn**	**00 36 27.4**	**+0.8**
XAN				AP	pP	00 36 33.4	+4.7
XAN				PP		00 36 42.3	
XAN				S	**Sn**	**00 39 46.4**	**+7.8**
XAN				SS		00 40 01.9	
XAN				AMB	AMB		
	comp=Z,18nm,1.6s						
XAN				AMB	AMB		
	comp=Z,247nm,5.3s						
XAN				LR	LR		
	comp=N,6μm,11.0s						
XAN				LR	LR		
	comp=E,5μm,9.5s						
XAN				LR	LR		
	comp=Z,8μm,16.6s						
TSM	**Tawau**	**17.42**	**194**	⇓P	**Pn**	**00 36 29.2**	**-0.1**
DL2	**Dalian**	**17.53**	**359**	⇑*i*P	**Pn**	**00 36 31.3**	**+0.7**
DL2				AP	pP	00 36 40.8	+8.6
DL2				PP		00 36 45.0	
DL2				S	**Sn**	**00 39 45.3**	**-1.0**
DL2				XS	sS	00 39 57.5	+2.1
DL2				SS		00 40 06.3	
DL2				AMB	AMB		
	comp=Z,90nm,1.2s						
DL2				AMB	AMB		
	comp=Z,1μm,5.9s						
DL2				LR	LR		
	comp=N,2μm,13.4s						
DL2				LR	LR		
	comp=E,4μm,13.3s						
DL2				LR	LR		
	comp=Z,4μm,11.2s						
JWT	**Wachi**	**18.15**	**37**	P	**Pn**	**00 36 40.3**	**+2.1**
KMI	**Kunming**	**18.20**	**286**	P	**Pn**	**00 36 41.3**	**+2.4**
KMI				AP	pP	00 36 48.1	+8.4
KMI				XP	sP	00 36 51.5	+12
KMI				PP		00 36 58.6	
KMI				S	**Sn**	**00 40 07.8**	**+5.1**
KMI				AMB	AMB		
	comp=Z,27nm,2.0s						
KMI				AMB	AMB		
	comp=Z,690nm,4.9s						
KMI				LR	LR		
	comp=N,9μm,13.7s						
KMI				LR	LR		
	comp=E,6μm,14.8s						
KMI				LR	LR		
	comp=Z,6μm,14.8s						
JIE	**Ise**	**18.30**	**42**	P	**Pn**	**00 36 42.0**	**+1.9**
TIY	**Taiyuan**	**18.36**	**335**	⇑*i*P	**Pn**	**00 36 41.9**	**+1.1**
TIY				PP		00 36 58.0	
TIY				S	**Sn**	**00 40 06.5**	**+0.1**
TIY				AMB	AMB		
	comp=Z,3μm,5.3s						
TIY				LR	LR		
	comp=N,21μm,10.7s						
TIY				LR	LR		
	comp=E,10μm,10.3s						
TIY				LR	LR		
	comp=Z,20μm,10.7s						
CD2	**Chengdu**	**19.03**	**304**	⇑*i*P	**Pn**	**00 36 49.8**	**+0.8**
CD2				AP	pP	00 36 57.8	+9.0
CD2				XP	sP	00 37 02.8	+14
CD2				PP		00 37 07.0	
CD2				S	**Sn**	**00 40 16.8**	**-5.8**
CD2				XS	sS	00 40 29.4	+3.6
CD2				SS		00 40 42.4	
CD2				AMB	AMB		
	comp=Z,80nm,1.1s						
CD2				AMB	AMB		
	comp=Z,2μm,5.9s						
CD2				LR	LR		
	comp=N,11μm,8.4s						
CD2				LR	LR		
	comp=E,8μm,9.6s						
CD2				LR	LR		
	comp=Z,10μm,9.6s						
CBIJ	**Chichi jima**	**19.18**	**69**	P	**Pn**	**00 36 44.1**	**-6.7**
CBIJ	**Chichi jima**	**19.18**	**69**	P	**Pn**	**00 36 48.

SNY				AMB	AMB		
	comp=Z,166nm,1.6s						
SNY				AMB	AMB		
	comp=Z,2μm,3.5s						
SNY				LR	LR		
	comp=N,9μm,13.7s						
SNY				LR	LR		
	comp=Z,10μm,14.3s,MS5.3						
MAJO	**Matsushiro**	**20.65**	**39**	*e*Pn	**P**	**00 37 07.6**	**+1.6**
MAJO				LR	LR		
	comp=Z,3μm,19.0s,MS4.6						
MAT	**Matsushiro**	**20.65**	**39**	P	**P**	**00 37 06.3**	**+0.3**
MAT				S	**S**	**00 40 57.0**	**-0.5**
MAT	**Matsushiro**	**20.65**	**39**	P	**P**	**00 37 07.5**	**+1.5**
MJAR	**Matsushiro Arr**	**20.65**	**39**	P	**P**	**00 37 06.1**	**+0.1**
	comp=Z,41nm,0.8s,baz=224,slow=8.4,SNR=73						
MJAR				LR	LR	00 46 13.2	
	comp=Z,3μm,18.1s,MS4.7,baz=240,slow=40						
JRY	**Ryogami san**	**20.72**	**41**	P	**P**	**00 37 07.8**	**+1.0**
CHRT	**Chiangrai**	**20.95**	**270**	⇓P	**P**	**00 37 12.0**	**+2.6**
	comp=Z,229nm,1.5s						
SBUM	**Sibu**	**21.09**	**209**	⇑P	**P**	**00 37 10.8**	**0.0**
HHC	**Hu-ho-hao-te**	**21.43**	**338**	*e*P	**P**	**00 37 14.8**	**+0.5**
HHC				AP		00 37 24.4	
HHC				XP	sP	00 37 28.8	+14
HHC				PP		00 37 40.3	
HHC				S	**S**	**00 41 12.5**	**-0.3**
HHC				PCP	PcP	00 41 15.3	-2.6
HHC				XS	sS	00 41 23.3	+10
HHC				SS		00 41 43.5	
HHC				PCS	PcS	00 44 54.0	-2.0
HHC				AMB	AMB		
	comp=Z,55nm,1.2s,mb4.8						
HHC				AMB	AMB		
	comp=Z,1μm,4.9s						
HHC				LR	LR		
	comp=N,8μm,13.2s,MS5.4						
HHC				LR	LR		
	comp=E,5μm,12.7s,MS5.4						
HHC				LR	LR		
	comp=Z,6μm,18.0s						
NST	**Nakhon Sawan**	**21.58**	**259**	P	**P**	**00 37 20.0**	**+3.9**
	comp=Z,117nm,1.4s,mb5.1						
LZH	**Lanzhou**	**21.70**	**317**	⇑P	**P**	**00 37 19.1**	**+1.8**
LZH				AP		00 37 29.5	
LZH				XP	sP	00 37 32.9	+15
LZH				PP		00 37 45.0	
LZH				*e*S	**S**	**00 41 14.3**	**-3.9**
LZH				SS		00 41 50.0	
LZH				AMB	AMB		
	comp=Z,306nm,1.5s,mb5.5						
LZH				AMB	AMB		
	comp=Z,1μm,6.5s						
LZH				LR	LR		
	comp=E,7μm,12.1s						
LZH				LR	LR		
	comp=Z,8μm,14.0s,MS5.3						
BTO	**Baotou**	**21.80**	**335**	*e*P	**P**	**00 37 18.8**	**+0.5**
BTO				S	**S**	**00 41 23.3**	**+3.2**
BTO				LR	LR		
	comp=N,26μm,19.6s,MS5.8						
BTO				LR	LR		
	comp=E,25μm,20.6s,MS5.8						
CHTO	**Chiang Mai**	**21.90**	**268**	*e*P	**P**	**00 37 21.3**	**+1.7**
CHTO				LR	LR		
	comp=Z,6μm,19.0s,MS5.0						
CHTO	**Chiang Mai**	**21.90**	**268**	P	**P**	**00 37 22.0**	**+2.4**
	SNR=90						
CM31	**Chiang Mai Arr**	**21.97**	**267**	PFAKE		00 37 30.0	+10
CM31				LR	LR		
	comp=Z,4μm,19.0s,MS4.8						
CN2	**Changchun**	**22.59**	**6**	⇑P	**P**	**00 37 26.3**	**-0.4**
CN2				*e*S	**S**	**00 41 28.6**	**-6.7**
CN2				AMB	AMB		
	comp=Z,70nm,1.3s,mb4.9						
CN2				AMB	AMB		
	comp=Z,200nm,4.0s						
CN2				LR	LR		
	comp=N,5μm,12.0s,MS5.4						
CN2				LR	LR		
	comp=E,6μm,12.0s,MS5.4						
CN2				LR	LR		
	comp=Z,6μm,12.0s,MS5.2						
KSM	**Kuching**	**22.84**	**212**	*e*P	**P**	**00 37 27.5**	**-2.1**
KSM	**Kuching**	**22.84**	**212**	⇑P	**P**	**00 37 28.2**	**-1.4**
JYA	**Atsumi**	**22.93**	**37**	P	**P**	**00 37 30.5**	**+0.2**
GUMO	**Guam**	**23.01**	**106**	*e*P	**P**	**00 37 30.5**	**-0.9**
	comp=Z,600nm,1.1s,mb5.9						
GUMO				LR	LR		
	comp=Z,3μm,19.0s,MS4.7						
GUMO	**Guam**	**23.01**	**106**	*e*P	**P**	**00 37 30.5**	**-0.9**
GUMO				pmax	pmax		
	comp=Z,600nm,1.1s,mb5.9						
GUMO				MLR	MLR		
	comp=Z,3μm,19.0s,MS4.7						
GUMO	**Guam**	**23.01**	**106**	P	**P**	**00 37 30.4**	**-1.0**
	comp=Z,509nm,1.1s,mb5.8,baz=224,slow=10,SNR=4.4						
GUMO				LR	LR	00 45 50.3	
	comp=Z,2μm,18.2s,MS4.6,baz=287,slow=35						
JMM	**Marumori**	**23.07**	**40**	P	**P**	**00 37 29.9**	**-2.0**
VLA	**Vladivostok**	**23.23**	**18**	*e*P	**P**	**00 37 33.5**	**+0.1**
VLA	**Vladivostok**	**23.23**	**18**	*e*P	**P**	**00 37 33.4**	**0.0**
VLA				pmax	pmax		
	comp=Z,93nm,1.3s,mb5.0						
VLA				MLR	MLR		
	comp=Z,4μm,17.0s,MS5.0						
MDJ	**Mudanjiang**	**24.04**	**13**	P	**P**	**00 37 41.5**	**+0.1**
MDJ				XP	sP	00 37 54.1	+12
MDJ				S	**S**	**00 41 57.5**	**-1.9**
MDJ				SCS	ScS	00 48 45.8	-3.9
MDJ				AMB	AMB		
	comp=Z,43nm,1.3s,mb4.7						
MDJ				AMB	AMB		
	comp=Z,557nm,4.0s						
MDJ				LR	LR		
	comp=N,6μm,12.6s						
MDJ				LR	LR		
	comp=Z,8μm,13.0s,MS5.4						
MDJ	**Mudanjiang**	**24.04**	**13**	*e*P	**P**	**00 37 41.7**	**+0.3**
	comp=Z,264nm,1.2s,mb5.5						
KTGM	**Kuala Trenggan**	**24.32**	**232**	⇑P	**P**	**00 37 45.0**	**+0.8**
JOM	**Ohasama**	**24.43**	**38**	P	**P**	**00 37 44.3**	**-0.7**
JTM	**Tenmabayashi**	**25.20**	**35**	P	**P**	**00 37 51.5**	**-0.5**
JSH	**Shimam**	**26.04**	**31**	P	**P**	**00 38 02.5**	**+3.0**
KULM	**Kulim**	**26.21**	**236**	*e*P	**P**	**00 38 00.4**	**-1.0**
KULM	**Kulim**	**26.21**	**236**	⇓P	**P**	**00 38 02.0**	**+0.7**
GTA	**Gaotai**	**26.25**	**318**	*e*P	**P**	**00 38 01.9**	**+0.4**
GTA				AP		00 38 11.5	
GTA				XP	sP	00 38 15.6	+13
GTA				PP		00 38 45.3	
GTA				PCP	PcP	00 41 30.6	+2.4
GTA				S	**S**	**00 42 32.0**	**-2.8**
GTA				XS	sS	00 42 48.8	+13
GTA				SS		00 43 45.3	
GTA				SCP	ScP	00 45 05.9	-3.2
GTA				PCS	PcS	00 45 09.8	+0.7
GTA				SCS	ScS	00 48 54.0	-5.0
GTA				AMB	AMB		
	comp=Z,19nm,1.3s,mb4.5						
GTA				AMB	AMB		
	comp=Z,374nm,6.1s						
GTA				LR	LR		
	comp=N,3μm,11.5s,MS5.2						
GTA				LR	LR		
	comp=E,4μm,15.3s,MS5.2						
GTA				LR	LR		
	comp=Z,6μm,14.5s,MS5.3						
MYKOM	**Kota Tinggi**	**26.34**	**225**	⇓P	**P**	**00 38 02.5**	**-0.1**
IPM	**Ipoh**	**26.44**	**234**	⇓P	**P**	**00 38 02.3**	**-1.2**
KGM	**Kluang**	**26.52**	**226**	⇑P	**P**	**00 38 05.6**	**+1.5**
JEW	**Eniwo**	**26.88**	**33**	P	**P**	**00 38 11.7**	**+4.6**
ERM	**Erimo**	**27.19**	**36**	*e*P	**P**	**00 38 12.7**	**+2.8**
	comp=Z,147nm,1.1s,mb5.4						
ERM				LR	LR		
	comp=Z,3μm,19.0s,MS4.9						
ERM	**Erimo**	**27.19**	**36**	*e*P	**P**	**00 38 12.7**	**+2.7**
ERM				pmax	pmax		
	comp=Z,147nm,1.1s,mb5.4						
ERM				MLR	MLR		
	comp=Z,3μm,19.0s,MS4.9						
HIA	**Hailar**	**27.95**	**357**	*e*P	**P**	**00 38 18.1**	**+1.5**
	comp=Z,132nm,1.2s,mb5.4						
HIA				LR	LR		
	comp=Z,4μm,20.0s,MS5.0						
HIA	**Hailar**	**27.95**	**357**	*e*P	**P**	**00 38 18.1**	**+1.4**
HIA				pmax	pmax		
	comp=Z,132nm,1.2s						
HIA				MLR	MLR		
	comp=Z,4μm,20.0s						
SHL	**Shillong**	**28.02**	**285**	*e*P	**P**	**00 38 17.5**	**-0.1**
SHL				*e*x	x	00 49 10.0	
ASAJ	**Asahikawa**	**28.38**	**32**	P	**P**	**00 38 25.0**	**+4.4**
ASAJ	**Asahikawa**	**28.38**	**32**	P	**P**	**00 38 21.1**	**+0.6**
	comp=Z,61nm,0.7s,mb5.3,baz=243,slow=15,SNR=14						
ASAJ				LR	LR	00 51 03.7	
	comp=Z,3μm,18.6s,MS4.9,baz=254,slow=39						
KLR	**Kul'dur**	**28.89**	**13**	*e*P	**P**	**00 38 21.5**	**-3.6**
KLR				*e*S	**S**	**00 43 15.0**	**-1.1**
KLR				pmax	pmax		
	comp=E,100nm,1.8s						
KLR				pmax	pmax		
	comp=Z,200nm,1.8s,mb5.5						
KLR				MLR	MLR		
	comp=Z,26μm,12.0s,MS6.1						
HABR	**Khabarovsk**	**29.01**	**18**	*e*P	**P**	**00 38 28.6**	**+2.5**
HABR				*e**PP		00 38 35.7	
HABR				*e**SP	sP	00 38 41.1	+14
HABR				*e*		00 39 23.5	
HABR				*e*PPP		00 39 31.6	
HABR				*e*S	**S**	**00 43 20.4**	**+2.4**
HABR				*e**SS	sS	00 43 37.0	+18
HABR				*e*SS	SS	00 44 51.2	-30
HABR				*e*		00 49 05.3	
LSA	**Lhasa**	**29.10**	**293**	P	**P**	**00 38 29.3**	**+2.2**
LSA				S	**S**	**00 43 17.1**	**-2.7**
LSA				AMB	AMB		
	comp=Z,20nm,1.0s,mb4.8						
LSA				LR	LR		
	comp=N,2μm,18.0s,MS5.1						
LSA				LR	LR		
	comp=E,4μm,16.0s,MS5.1						
LSA				LR	LR		
	comp=Z,4μm,16.0s,MS5.1						
LSA	**Lhasa**	**29.10**	**293**	*e*P	**P**	**00 38 28.8**	**+1.6**
	comp=Z,183nm,1.7s,mb5.5						
LSA				LR	LR		
	comp=Z,3μm,22.0s,MS4.9						
LSA	**Lhasa**	**29.10**	**293**	*e*P	**P**	**00 38 28.8**	**+1.7**
LSA				pmax	pmax		
	comp=Z,183nm,1.7s,mb5.5						
LSA				MLR	MLR		
	comp=Z,3μm,22.0s,MS4.9						
PSI	**Prapat**	**29.12**	**234**	P	**P**	**00 38 25.6**	**-1.8**
	comp=Z,2.1nm,0.3s,mb4.3,baz=61,slow=10,SNR=6.3						
PSI				LR	LR	00 51 02.7	
	comp=Z,2μm,18.6s,MS4.7,baz=47,slow=38						
ULN	**Ulaanbaatar**	**29.13**	**339**	⇑*e*P	**P**	**00 38 27.2**	**0.0**
ULN	**Ulaanbaatar**	**29.13**	**339**	P	**P**	**00 38 26.8**	**-0.4**
	SNR=59						
SONM	**Songino Array**	**29.33**	**338**	P	**P**	**00 38 29.1**	**+0.1**
	comp=Z,32nm,1.0s,mb5.0,baz=150,slow=8.9,SNR=32						
SONM				LR	LR	00 51 26.2	
	comp=Z,8μm,18.3s,MS5.4,baz=152,slow=38						
YSS	**Yuzh-Sakhalins**	**30.57**	**28**	*e*P	**P**	**00 38 40.4**	**+0.5**
YSS	**Yuzh-Sakhalins**	**30.57**	**28**	*e*P	**P**	**00 38 40.3**	**+0.4**
YSS				*e*		00 38 47.1	
YSS				*e**SP	sP	00 38 53.9	+13
YSS				*e*		00 39 45.0	
YSS				*e*PPP		00 40 03.0	
YSS				*e*S	**S**	**00 43 44.0**	**+1.5**
YSS				pmax	pmax		
	comp=Z,90nm,1.2s,mb5.5						
YSS				MLR	MLR		
	comp=Z,4μm,17.0s,MS5.1						
YSS				MLR	MLR		
	comp=N,4μm,16.0s						
ZAK	**Zakamensk**	**32.58**	**337**	*e*P	**P**	**00 38 56.0**	**-1.6**
ZAK				pmax	pmax		
	comp=Z,20nm,1.2s,mb4.9						
JIRN	**Jiri**	**33.21**	**288**	*e*P	**P**	**00 39 04.7**	**+1.2**
	comp=Z,243nm,1.4s,mb6.0						
BOK	**Bokaro**	**33.49**	**281**	*e*P	**P**	**00 39 06.4**	**+0.5**
BOK				AMb	AMB	00 39 18.8	
	comp=Z,45nm,1.2s,mb5.3						
GUN	**Gumba**	**33.50**	**289**	*e*P	**P**	**00 39 07.0**	**+1.0**
	comp=Z,267nm,1.3s,mb6.0						
TLY	**Talaya**	**33.55**	**339**	*e*P	**P**	**00 39 06.2**	**+0.1**
TLY	**Talaya**	**33.55**	**339**	*e*P	**P**	**00 39 05.8**	**-0.2**
TLY				*e*		00 40 32.7	
TLY				*e*SS	SS	00 46 54.5	+1.2
TLY				pmax	pmax		
	comp=Z,55nm,1.8s,mb5.2						
TLY				MLR	MLR		
	comp=Z,5μm,16.0s,MS5.3						
TLY	**Talaya**	**33.55**	**339**	P	**P**	**00 39 06.3**	**+0.3**
	SNR=18						
IRK	**Irkutsk**	**33.82**	**340**	*e*P	**P**	**00 39 07.1**	**-1.3**
IRK				*e*		00 40 37.4	
IRK				pmax	pmax		
	comp=Z,94nm,1.3s,mb5.6						
PKI	**Pulchoki**	**33.90**	**288**	*e*P	**P**	**00 39 10.2**	**+0.7**
	comp=Z,130nm,1.3s,mb5.7						
KKN	**Kakani**	**34.03**	**288**	*e*P	**P**	**00 39 11.5**	**+0.9**
	comp=Z,73nm,1.0s,mb5.6						
DMN	**Daman**	**34.17**	**288**	*e*P	**P**	**00 39 12.9**	**+1.1**
	comp=Z,215nm,1.4s,mb5.9						
MOY	**Mondy**	**34.47**	**337**	*e*P	**P**	**00 39 13.6**	**-0.4**
MOY				pmax	pmax		
	comp=Z,68nm,1.4s,mb5.4						
GKN	**Gorkha**	**34.60**	**289**	*e*P	**P**	**00 39 16.1**	**+0.5**
	comp=Z,404nm,2.0s,mb6.0						
KAKA	**Kakadu**	**35.30**	**162**	*e*P	**P**	**00 39 15.1**	**-6.5**
	comp=Z,24nm,0.8s,mb5.2						
KAKA	**Kakadu**	**35.30**	**162**	*e*P	**P**	**00 39 12.6**	**-9.1**
NRGR	**Nerungri**	**35.34**	**2**	*e*P	**P**	**00 39 22.9**	**+1.4**
NRGR				S	**S**	**00 45 03.8**	**+7.3**
NRGR				smax			
	comp=N,30nm,0.5s						
KOLN	**Koldanda**	**35.51**	**288**	*e*P	**P**	**00 39 24.5**	**+1.1**
	comp=N,122nm,1.2s,mb5.7						
CLNS	**Chul'man**	**35.53**	**3**	*e*P	**P**	**00 39 22.7**	**-0.5**
CLNS				*e**PP		00 39 30.9	
CLNS				*e*PPP		00 40 50.6	
CLNS				*e*		00 41 55.0	
CLNS				*e*S	**S**	**00 44 55.8**	**-3.6**
CLNS				pmax	pmax		
	comp=Z,14nm,1.1s,mb4.8						
CLNS				pmax	pmax		
	comp=N,10.0nm,1.0s						
CLNS				pmax	pmax		
	comp=E,10.0nm,0.9s						
CLNS				pmax	pmax		
	comp=Z,13nm,0.9s,mb4.9						
CLNS				pmax	pmax		
	comp=N,22nm,1.1s						
CLNS				pmax	pmax		
	comp=E,18nm,0.9s						
CLNS				smax			
	comp=E,431nm,12.8s						
CLNS				smax			
	comp=Z,160nm,12.2s						
CLNS				smax			
	comp=N,323nm,12.8s						
CLNS				MLR	MLR		
	comp=N,3μm,14.0s,MS5.3						
CLNS				MLR	MLR		
	comp=Z,4μm,14.0s,MS5.4						
CLNS				MLR	MLR		
	comp=E,2μm,11.0s,MS5.3						
WMQ	**Urumqi**	**36.28**	**316**	⇑*i*P	**P**	**00 39 30.8**	**+1.0**
WMQ				AP		00 39 40.5	
WMQ				XP	sP	00 39 44.5	+14
WMQ				PP	PP	00 40 57.0	+4.8
WMQ				PCP	PcP	00 41 55.0	+0.2
WMQ				S	**S**	**00 45 09.0**	**-2.2**
WMQ				XS	sS	00 45 25.0	+13
WMQ				SS	SS	00 47 35.0	-14
WMQ				AMB	AMB		
	comp=Z,43nm,1.3s,mb5.2						
WMQ				AMB	AMB		
	comp=Z,311nm,4.0s						
WMQ				LR	LR		
	comp=N,3μm,12.1s,MS5.4						
WMQ				LR	LR		
	comp=E,3μm,12.7s,MS5.4						
WMQ				LR	LR		
	comp=Z,2μm,17.6s,MS4.8						
VIS	**Vishakhapatnam**	**36.67**	**271**	*e*P	**P**	**00 39 33.7**	**+0.3**
VIS				AMb	AMB	00 39 46.2	
	comp=Z,71nm,1.6s,mb5.3						
BOD	**Bodaibo**	**36.94**	**353**	*e*P	**P**	**00 39 33.6**	**-1.5**
BOD				pmax	pmax		
	comp=Z,9.0nm,1.7s,mb4.3						
BLSP	**Bilaspur**	**37.08**	**279**	*e*P	**P**	**00 39 37.3**	**+0.4**
BLSP				AMb	AMB	00 39 49.0	
	comp=Z,47nm,1.0s,mb5.3						
PTH	**Pithoragarh**	**38.55**	**291**	*e*P	**P**	**00 39 51.0**	**+1.8**
FITZ	**Fitzroy Crossi**	**39.33**	**175**	⇑*i*P	**P**	**00 39 50.8**	**-4.9**
	comp=Z,13nm,0.6s,mb4.8						
FITZ	**Fitzroy Crossi**	**39.33**	**175**	P	**P**	**00 39 51.2**	**-4.5**
	comp=Z,7.2nm,0.7s,mb4.5,baz=4.0,slow=7.8,SNR=18						
FITZ				LR	LR	00 55 27.9	
	comp=Z,668nm,21.9s,MS4.4,baz=248,slow=35						
SKR	**Severo-Kuril's**	**39.59**	**34**	*e*P	**P**	**00 40 04.5**	**+6.9**
SKR				pmax	pmax		
	comp=Z,180nm,1.0s,mb5.8						
SKR				MLR	MLR		
	comp=Z,2μm,16.0s,MS5.1						
NGP	**Nagpur**	**40.05**	**278**	*e*P	**P**	**00 40 00.5**	**-1.3**
NGP				*e*x	x	00 40 45.7	
	comp=Z,54nm,1.8s						
NGP				*e*x	x	00 46 11.0	
DDI	**Dehra Dun**	**40.45**	**292**	*e*P	**P**	**00 40 06.0**	**+0.9**
DDI				*e*x	x	00 42 07.0	
MDRS	**Chennai**	**40.73**	**265**	⇓*e*x	x	00 40 12.5	
MDRS				*e*x	x	00 41 12.5	
MK31	**Makanchi Array**	**41.01**	**318**	*e*P	**P**	**00 40 09.2**	**-0.3**
MK31	**Makanchi Array**	**41.01**	**318**	*i* P	**P**	**00 40 09.5**	**+0.1**
MK31				pmax	pmax		
	comp=Z,107nm,0.9s,mb5.5						
MKAR	**Makanchi Array**	**41.01**	**318**	P	**P**	**00 40 09.8**	**+0.4**
	comp=Z,36nm,0.6s,mb5.2,baz=112,slow=9.2,SNR=98						
MKAR				LR	LR	00 58 48.9	
	comp=Z,2μm,19.1s,MS5.1,baz=109,slow=38						
YAK	**Yakutsk**	**41.02**	**5**	*e*P	**P**	**00 40 13.9**	**+4.6**
	comp=Z,191nm,1.2s,mb5.6						
YAK	**Yakutsk**	**41.02**	**5**	*e*P	**P**	**00 40 08.6**	**-0.7**
YAK				*e**PP		00 40 19.9	
YAK				*e*		00 41 43.0	
YAK				*e*		00 42 02.8	
YAK				*e*PPP		00 42 15.4	
YAK				*e*S	**S**	**00 46 23.5**	**+1.3**
YAK				*e*		00 50 09.6	
YAK				pmax	pmax		
	comp=Z,126nm,1.2s,mb5.4						
YAK				pmax	pmax		
	comp=N,81nm,1.3s						
YAK				pmax	pmax		
	comp=E,41nm,1.2s						
YAK				pmax	pmax		
	comp=Z,51nm,1.6s,mb4.9						
YAK				pmax	pmax		
	comp=N,67nm,1.5s						
YAK				pmax	pmax		
	comp=E,59nm,1.9s						
YAK				smax			
	comp=N,552nm,6.7s						
YAK				smax			
	comp=E,71nm,3.2s						
YAK				MLR	MLR		
	comp=N,2μm,15.0s,MS5.3						
YAK				MLR	MLR		
	comp=E,2μm,15.0s,MS5.3						
YAK				MLR	MLR		
	comp=Z,3μm,15.0s,MS5.3						
NDI	**New Delhi**	**41.16**	**290**	*e*P	**P**	**00 40 10.0**	**-0.9**
NDI				AMb	AMB	00 40 12.9	
	comp=Z,22nm,1.3s,mb4.6						
HYB	**Hyderabad**	**41.19**	**272**	*e*P	**P**	**00 40 12.5**	**+1.2**
HYB				*e*S	**S**	**00 46 30.0**	**+4.2**
HYB	**Hyderabad**	**41.19**	**272**	*i* P	**P**	**00 40 11.0**	**-0.3**
HYB				*e*S	**S**	**00 46 24.0**	**-1.8**
SMLA	**Simla**	**41.25**	**293**	*e*P	**P**	**00 40 11.8**	**+0.2**
SMLA				AMb	AMB	00 40 31.2	
	comp=Z,211nm,0.8s,mb5.8						
BHPL	**Bhopal**	**41.28**	**281**	*e*P	**P**	**00 40 11.8**	**-0.2**
BHPL				AMb	AMB	00 40 17.1	
	comp=Z,14nm,0.9s,mb4.6						
AKL	**Akola**	**41.99**	**278**	*e*P	**P**	**00 40 17.0**	**-0.9**
AKL				AMb	AMB	00 40 20.8	
	comp=Z,42nm,0.7s,mb5.2						
AKL				*e*x	x	00 51 21.0	
	comp=Z,21nm,0.7s						
PET	**Petropavlovsk**	**42.22**	**32**	*e*P	**P**	**00 40 19.7**	**+0.4**
PET	**Petropavlovsk**	**42.22**	**32**	*e*P	**P**	**00 40 19.0**	**-0.3**
PET				*e*S	**S**	**00 46 36.1**	**-4.2**
PET				pmax	pmax		
	comp=Z,69nm,1.0s,mb5.2						
PET				MLR	MLR		
	comp=Z,2μm,21.0s,MS4.9						
PET				MLR	MLR		
	comp=Z,2μm,19.0s						
PALK	**Pallekele**	**42.34**	**257**	*e*P	**P**	**00 40 19.5**	**-1.3**
	comp=Z,34nm,1.4s,mb4.8						
PALK				LR	LR		
	comp=Z,850nm,19.0s,MS4.7						
THN	**Thein Dam**	**42.55**	**295**	*e*P	**P**	**00 40 20.6**	**-1.7**
WRAB	**Tennant Creek**	**42.71**	**163**	*e*P	**P**	**00 40 19.0**	**-4.6**
	comp=Z,272nm,1.5s,mb5.8						
WRAB	**Tennant Creek**	**42.71**	**163**	*e*P	**P**	**00 40 19.0**	**-4.6**
WRAB				pmax	pmax		
	comp=Z,272nm,1.5s,mb5.8						
WRA	**Warramunga Arr**	**42.72**	**163**	P	**P**	**00 40 19.1**	**-4.5**
WRA				S	**S**	**00 46 36.4**	**-12**
WRA	**Warramunga Arr**	**42.72**	**163**	P	**P**	**00 40 19.1**	**-4.5**
	comp=Z,26nm,0.6s,mb5.2,baz=343,slow=9.1,SNR=221						
WRA				S	**S**	**00 46 36.4**	**-12**
	comp=Z,5.1nm,1.0s,baz=345,slow=15,SNR=7.2						
WRA				LR	LR	00 56 47.8	
	comp=Z,584nm,19.4s,MS4.5,baz=10.0,slow=34						
WB2	**Warramunga Arr**	**42.72**	**163**	⇑*i*P	**P**	**00 40 19.0**	**-4.7**
WB2	**Warramunga Arr**	**42.72**	**163**	*e*P	**P**	**00 40 18.5**	**-5.1**
LATR	**Latur**	**42.83**	**274**	*e*P	**P**	**00 40 24.0**	**-0.8**
LATR				AMb	AMB	00 40 28.8	
	comp=Z,42nm,1.7s,mb4.9						
ZAA0	**Zalesovo Array**	**43.12**	**328**	*e*P	**P**	**00 40 26.1**	**-0.4**
ZALV	**Zalesovo Beam**	**43.12**	**328**	P	**P**	**00 40 26.5**	**0.0**
ZALV				LR	LR	00 59 37.3	
ZALV	**Zalesovo Beam**	**43.12**	**328**	P	**P**	**00 40 26.5**	**0.0**
	comp=Z,131nm,1.1s,mb5.6,baz=115,slow=7.0,SNR=75						
ZALV				LR	LR	00 59 37.3	
	comp=Z,1μm,19.2s,MS4.8,baz=129,slow=38						
ZAL	**Zalesovo**	**43.12**	**328**	P	**P**	**00 40 26.5**	**-0.1**
KSH	**Kashi**	**43.21**	**305**	*e*P	**P**	**00 40 30.3**	**+2.7**
KSH				*e*AP		00 40 40.3	
KSH				*e*PP	PP	00 42 13.6	+5.8
KSH				*e*PCP	PcP	00 42 19.3	+2.3
KSH				*e*SCP	ScP	00 46 06.5	-2.9
KSH				PCS	PcS	00 46 10.6	+1.2
KSH				S	**S**	**00 46 56.5**	**+1.2**
KSH				SS	SS	00 50 03.3	-4.7
KSH				SCS	ScS	00 50 25.6	-3.7
KSH				AMB	AMB		
	comp=Z,88nm,1.0s,mb5.4						
KSH				AMB	AMB		
	comp=Z,947nm,4.4s						
KSH				LR	LR		
	comp=N,7μm,12.6s,MS6.0						
KSH				LR	LR		
	comp=E,8μm,10.7s,MS6.0						
KSH				LR	LR		
	comp=Z,7μm,15.6s,MS5.7						
MA2	**Magadan**	**43.32**	**21**	*e*P	**P**	**00 40 28.1**	**0.0**
	comp=Z,60nm,1.3s,mb5.2						
MA2				LR	LR		
	comp=Z,2μm,20.0s,MS4.9						
MA2	**Magadan**	**43.32**	**21**	*e*P	**P**	**00 40 29.9**	**+1.8**
MA2				*e*S	**S**	**00 46 55.4**	**-0.9**
MA2				pmax	pmax		
	comp=Z,50nm,1.1s,mb5.2						
MA2				MLR	MLR		
	comp=Z,2μm,18.1s,MS4.9						
AAA	**Alma-Ata**	**43.36**	**311**	*i* P	**P**	**00 40 30.5**	**+1.8**
AAA				pmax	pmax		
	comp=Z,110nm,1.6s,m

TKM2 **Tokmak 2** 44.23 310 *e*P P 00 40 37.3 +1.6
TKM2 pmax pmax
comp=Z,83nm,1.3s,mb5.3
TKM2 **Tokmak 2** 44.23 310 P P 00 40 37.9 +2.2
SNR=27
KZA **Kyzart** 44.28 309 P P 00 40 38.6 +2.5
SNR=34
NVS **Novosibirsk** 44.38 329⇓*i*P P 00 40 36.8 +0.1
NVS *e*S S 00 47 07.2 -4.7
NVS pmax pmax
comp=Z,82nm,1.5s,mb5.2
NVS pmax pmax
comp=N,37nm,1.4s
NVS pmax pmax
comp=E,74nm,1.2s
NVS smax
comp=E,124nm,2.1s
NVS smax
comp=N,39nm,2.5s
KBK **Karagaybulak** 44.63 310 P P 00 40 41.5 +2.6
SNR=18
KURK **Kurchatov** 44.85 322⇑*e*P P 00 40 40.9 +0.4
KURK LR LR
comp=Z,2μm,19.0s,MS5.0
UCH **Uchtor** 44.85 309 *e*P P 00 40 43.0 +2.3
comp=Z,443nm,0.6s,mb6.5
UCH **Uchtor** 44.85 309 P P 00 40 42.7 +2.0
SNR=47
CHMS **Chumysh** 44.85 310 P P 00 40 42.6 +1.9
SNR=8.7
FRU **Bishkek** 44.91 310 *e*P P 00 40 42.0 +0.9
FRU pmax pmax
comp=Z,80nm,1.8s,mb5.2
AAK **Ala-Archa** 44.95 310 *e*P P 00 40 41.1 -0.3
comp=Z,57nm,1.4s,mb5.2
AAK LR LR
comp=Z,2μm,19.0s,MS5.0
AAK **Ala-Archa** 44.95 310 *e*P P 00 40 41.1 -0.4
AAK pmax pmax
comp=Z,57nm,1.4s,mb5.2
AAK MLR MLR
comp=Z,2μm,19.0s,MS5.0
AAK **Ala-Archa** 44.95 310 P P 00 40 42.4 +1.0
SNR=15
AAK **Ala-Archa** 44.95 310 P P 00 40 44.0 +2.5
SNR=6.9
USP **Ospenovka** 45.09 310 P P 00 40 44.4 +1.8
SNR=8.7
KAD **Karad** 45.28 274 *e*P P 00 40 43.4 -1.0
KAD AMb AMB 00 40 55.8
comp=Z,52nm,1.4s,mb5.2
POO **Poona** 45.33 275 *e*P P 00 40 43.8 -0.9
POO AMb AMB 00 40 56.0
comp=Z,43nm,1.0s,mb5.2
AML **Almayashu** 45.42 309 *e*P P 00 40 47.1 +1.9
comp=Z,55nm,1.1s,mb5.3
AML LR LR
comp=Z,2μm,19.0s,MS5.0
AML **Almayashu** 45.42 309 P P 00 40 47.4 +2.2
SNR=33
EKS2 **Erkin-Say** 45.47 309 *e*P P 00 40 46.8 +1.1
comp=Z,22nm,1.1s,mb4.9
EKS2 LR LR
comp=Z,2μm,19.0s,MS5.0
EKS2 **Erkin-Say** 45.47 309 P P 00 40 46.8 +1.2
SNR=12
ASAR **Alice Springs** 46.16 165 P P 00 40 47.3 -3.9
comp=Z,14nm,0.7s,mb5.0,baz=341,slow=7.1,SNR=88
ASAR S S 00 47 28.0 -10
comp=Z,1.5nm,0.9s,baz=358,slow=21,SNR=6.4
SEY **Seymchan** 46.39 19⇑*e*P P 00 40 52.8 +0.3
CTA **Charters Tower** 47.44 149⇓*i*P P 00 40 59.7 -1.6
comp=Z,17nm,0.8s,mb5.0
CTA **Charters Tower** 47.44 149⇓*i*P P 00 40 59.7 -1.6
CTA pmax pmax
comp=Z,17nm,0.8s
CTA **Charters Tower** 47.44 149 P P 00 40 58.8 -2.5
comp=Z,25nm,1.1s,mb5.1,baz=332,slow=9.1,SNR=21
CTA LR LR 01 00 47.1
comp=Z,850nm,19.4s,MS4.7,baz=332,slow=36
CTAO **Charters Tower** 47.44 149 *e*P P 00 40 59.6 -1.7
comp=Z,157nm,1.6s,mb5.7
CTAO LR LR
comp=Z,1μm,19.0s,MS4.8
CTAO **Charters Tower** 47.44 149 *e*P P 00 40 59.6 -1.7
CTAO pmax pmax
comp=Z,157nm,1.6s,mb5.7
CTAO MLR MLR
comp=Z,1μm,19.0s,MS4.8
KK31 **Karatay Array** 47.91 309 *i*P P 00 41 05.2 +0.4
HNR **Honiara** 48.11 126 PFAKE 00 41 20.0 +13
HNR LR LR
comp=Z,895nm,22.0s,MS4.7
KBL **Kabul** 48.21 298 *e*P P 00 41 08.4 +1.3
comp=Z,108nm,1.4s,mb5.7
BVAR **Borovoye Array** 50.44 322 P P 00 41 24.2 +0.3
comp=Z,10nm,0.7s,mb5.0,baz=105,slow=9.2,SNR=26
BVAR LR LR 01 04 13.6
comp=Z,1μm,19.5s,MS4.9,baz=105,slow=38
TIXI **Tiksi** 50.50 3⇑*e*P P 00 41 22.1 -2.0
BRVK **Borovoye** 50.51 322⇑*e*P P 00 41 25.1 +0.7
BRVK LR LR
comp=Z,1μm,20.0s,MS4.9
FORT **Forrest** 52.11 174⇓*i*P P 00 41 33.6 -3.0
comp=Z,35nm,0.8s,mb5.3
KLBR **Kellerberrin** 52.77 185 *e*P P 00 41 36.7 -4.8
comp=Z,23nm,0.6s,mb5.3
MUN **Mundaring** 53.29 186 *e*P P 00 41 41.8 -3.6
BILL **Bilibino** 54.09 19⇑*i*P P 00 41 49.8 -1.0
BILL LR LR
comp=Z,1μm,20.0s,MS5.0
BILL **Bilibino** 54.09 19⇓*i*P P 00 41 50.4 -0.4
BILL *e* 00 43 48.8
BILL *e*S S 00 49 30.2 +2.3
BILL *i*SS SS 00 53 13.2 +4.2
BILL pmax pmax
comp=Z,58nm,1.0s,mb5.5
BILL MLR MLR
comp=Z,1μm,15.0s,MS5.0
NWAO **Narrogin (SRO)** 54.14 185 P P 00 41 49.0 -2.6
comp=Z,28nm,0.7s,mb5.3,baz=3.2,slow=9.3,SNR=26
AB31 **Akbulak array** 56.07 316⇑*e*P P 00 42 05.3 -0.1
STKA **Stephens Creek** 56.09 160 *e*P P 00 42 02.4 -3.3
comp=Z,17nm,0.6s,mb5.2
STKA **Stephens Creek** 56.09 160 *e*P P 00 42 02.5 -3.2
comp=Z,20nm,0.8s,mb5.2
STKA **Stephens Creek** 56.09 160 P P 00 42 03.0 -2.7
comp=Z,11nm,0.6s,mb5.1,baz=336,slow=6.6,SNR=40
SVE **Sverdlovsk** 56.86 325⇓*e*P P 00 42 11.8 +0.9
SVE *e*S S 00 50 17.6 +12
SVE pmax pmax
comp=Z,59nm,1.4s,mb5.4
SVE MLR MLR
comp=Z,2μm,15.0s,MS5.3
ABKT **Ailbek** 57.01 302 P P 00 42 13.1 +0.8
comp=Z,128nm,1.2s,mb5.8,SNR=9.9
AKTK **Aktyubinsk** 57.43 317 P P 00 42 15.2 +0.1
AKTK LR LR 01 08 54.7
AKTO **Aktyubinsk** 57.43 317 P P 00 42 15.2 +0.1
comp=Z,13nm,1.1s,mb4.8,baz=95,slow=6.9,SNR=12
AKTO LR LR 01 08 54.7
comp=Z,2μm,18.7s,MS5.1,baz=101,slow=38
ARU **Arti** 57.91 324⇑*e*P P 00 42 18.0 -0.4
ARU LR LR
comp=Z,2μm,19.0s,MS5.1
ARU **Arti** 57.91 324*c*P P 00 42 17.9 -0.5
ARU *e* 00 43 08.8
ARU *e* 00 44 25.8
ARU *e*PPP 00 45 49.6
ARU *e*S S 00 50 17.1 -1.9
ARU pmax pmax
comp=Z,53nm,1.2s,mb5.5
ARU MLR MLR
comp=Z,1μm,17.0s,MS5.1
HOQ **Hoqain** 59.47 285 P P 00 42 30.9 +1.1
SNR=12
MAK **Makhachkala** 64.72 308 *e*P P 00 43 06.7 +2.0
MAK *e* 00 43 37.1
MAK *i* 00 45 34.4
MAK *e*PPP 00 47 02.6
MAK *e*S S 00 51 46.7 +0.6
MAK *e* 00 52 47.5
MAK *e*SS SS 00 55 58.4 +1.7
MAK pmax pmax
comp=Z,6.0nm,0.2s,mb5.3
DGRG **David-gareji** 66.48 307 P P 00 43 18.8 +2.6

MTA **Mtatsminda** 66.87 307 P P 00 43 27.3 +8.6
MIB **Mutribah** 66.95 294 *e*P P 00 43 18.5 -0.9
MIB AMb AMB 00 43 28.8
comp=Z,33nm,0.9s,mb5.4
RDF **Al-Radifah** 66.95 293 *e*P P 00 43 17.7 -1.7
RDF AMb AMB 00 43 29.1
comp=Z,93nm,1.2s,mb5.7
NAY **Al-Naaiem** 67.15 294 *e*P P 00 43 19.3 -1.3
NAY AMb AMB 00 43 30.1
comp=Z,20nm,0.9s,mb5.1
RST **Umm Al-Ruwaisa** 67.30 294 *e*P P 00 43 20.7 -0.9
RST AMb AMB 00 43 32.4
comp=Z,27nm,1.5s,mb5.1
TTA **Tatalina** 67.56 29 *e*P P 00 43 23.5 +0.9
comp=Z,38nm,1.2s,mb5.3
TTA **Tatalina** 67.56 29 *e*P P 00 43 23.5 +0.9
TTA pmax pmax
comp=Z,38nm,1.2s,mb5.3
ONI **Oni** 67.73 309 P P 00 43 25.4 +1.4
VRHR **Novokhopersk** 67.81 318 *e*P P 00 43 23.7 -0.7
VRHR pmax pmax
comp=N,10.0nm,0.6s
VRHR pmax pmax
comp=Z,20nm,0.6s,mb5.3
VRHR pmax pmax
comp=E,20nm,0.7s
VRHR MLR MLR
comp=Z,6μm,18.0s,MS5.8
SVW2 **Sparrevohn** 67.88 31 *e*P P 00 43 24.4 -0.3
KIV **Kislovodsk** 68.07 310⇓P P 00 43 26.2 +0.1
KIV LR LR
comp=Z,621nm,20.0s,MS4.8
KIV **Kislovodsk** 68.07 310⇑*e*P P 00 43 25.8 -0.4
KIV *i*S S 00 52 30.8 +4.1
KIV pmax pmax
comp=Z,24nm,1.1s,mb5.1
KIV MLR MLR
comp=Z,600nm,17.0s,MS4.9
KIV **Kislovodsk** 68.07 310⇓*i*P P 00 43 26.2 0.0
IMA2 **Indian Mountai** 68.38 26 *e*P P 00 43 28.1 +0.4
HAKT **HAKKARI** 68.39 303 *i*P P 00 43 18.6 -10
TMCR **Tamitsa** 68.47 332 *e*P P 00 43 27.5 -0.8
TUTA **Tutak** 68.74 305 *i*P P 00 43 32.9 +2.4
ARTV **Artvin** 69.08 307 *i*P P 00 43 33.4 +0.8
HOMI **Horasan** 69.31 306 *i*P P 00 43 36.2 +2.2
MOS **Moscow** 69.59 323 *e*P P 00 43 34.6 -0.8
MOS *e* 00 46 06.4
MOS MLR MLR
comp=Z,1μm,18.0s,MS5.2
ERZM **Erzurum** 69.74 306 *i*P P 00 43 37.6 +0.9
APA **Apatity** 70.01 336⇑*i*P P 00 43 39.6 +1.8
APA *i* 00 43 45.6
APA *e*PS 00 53 40.0
APA pmax pmax
comp=Z,39nm,1.3s,mb5.2
SOC **Sochi** 70.25 310 *e*P P 00 43 38.9 -0.8
SOC *e*S S 00 52 47.6 -4.9
SOC *e*SSS 01 00 31.2
OBN **Obninsk** 70.28 323 *e*P P 00 43 39.7 0.0
comp=Z,9.0nm,0.6s,mb4.9
OBN LR LR
comp=Z,1μm,19.0s,MS5.2
OBN **Obninsk** 70.28 323⇓*i*P P 00 43 39.1 -0.6
OBN *e*S S 00 52 52.0 -0.5
OBN pmax pmax
comp=Z,42nm,1.8s,mb5.1
OBN MLR MLR
comp=Z,800nm,18.0s,MS5.0
KOPT **Kop Dagi** 70.37 306 *i*P P 00 43 42.0 +1.4
MARD **Mardin** 70.72 303 *i*P P 00 43 43.4 +0.6
PMR **Palmer** 70.91 30 *e*P P 00 43 41.5 -1.9
comp=Z,81nm,1.4s,mb5.5
PMR **Palmer** 70.91 30 *e*P P 00 43 41.5 -1.9
PMR pmax pmax
comp=Z,81nm,1.4s,mb5.5
COLA **College** 70.94 27 *i*P P 00 43 44.0 +0.5
COLA LR LR
comp=Z,717nm,19.0s,MS5.0
JOF **Joensuu** 71.62 331 *e*p P 00 43 45.7 -2.0
comp=Z,2.8nm,0.4s,mb4.5
ANN **Anapa** 71.62 312 *e*P P 00 43 40.0 -8.0
ANN pmax pmax
comp=Z,104nm,1.3s,mb5.6
ANN MLR MLR
comp=N,1μm,21.0s,MS5.2
ANN MLR MLR
comp=E,689nm,21.0s,MS5.2
ANN MLR MLR
comp=Z,938nm,21.0s,MS5.0
ELZG **Elazig** 71.85 305 *i*P P 00 43 50.8 +1.2
KEV **Kevo** 71.94 339 *e*P P 00 43 45.1 -4.4
comp=Z,1.9nm,0.5s,mb4.3
KEV LR LR
comp=Z,1μm,22.0s,MS5.2
KEV **Kevo** 71.94 339 *e*P P 00 43 45.1 -4.4
KEV pmax pmax
comp=Z,2.0nm,0.5s,mb4.3
KEV MLR MLR
comp=Z,1μm,22.0s,MS5.2
KEMA **Kemaliye** 72.05 306 *i*P P 00 43 49.4 -1.4
MALT **Malatya** 72.31 305 ⇓P P 00 43 53.4 +1.1
MALT **Malatya** 72.31 305 ⇓*i*P P 00 43 53.4 +1.1
SPB4 **Spitsbergen Ar** 72.46 348 *e*P P 00 43 52.6 +0.1
ARCES **ARCESS Array B** 72.51 339 P P 00 43 53.9 +1.0
ARCES LR LR 01 21 32.8
ARCES **ARCESS Array B** 72.51 339 P P 00 43 53.9 +1.0
comp=Z,4.1nm,0.8s,mb4.4,baz=46,slow=8.7,SNR=6.7
ARCES LR LR 01 21 32.8
comp=Z,1μm,18.2s,MS5.2,baz=59,slow=40
ATAB **Bozova** 72.61 304 *i*P P 00 43 54.8 +0.7
KBS **Kingsbay** 73.00 349 *e* P 00 44 05.9 +10
KBS *e*S S 00 53 22.8 -0.4
KBS AMS AMS 01 19 16.2
comp=Z,855nm,21.8s,MS5.0
BJO **Bjornoya** 73.02 344 AMS AMS 01 22 30.1
comp=Z,1μm,19.1s,MS5.2
MENT **Mentasta** 73.12 28 *e*P P 00 43 56.9 +0.3
GZT **Gaziantep** 73.21 304 *i*P P 00 43 58.4 +0.7
EGAK **Eagle** 73.75 26 *e*P P 00 44 00.7 +0.3
comp=Z,26nm,0.9s,mb5.2
EGAK *e*PP PP 00 46 47.8 +3.4
EGAK LR LR
comp=Z,587nm,20.0s,MS4.9
SIM **Simferopol'** 73.88 312 *e*P P 00 44 02.5 +1.0
SIM *e*S S 00 53 39.0 +4.8
SIM pmax pmax
comp=Z,25nm,1.0s,mb5.1
SIM MLR MLR
comp=Z,900nm,19.0s,MS5.1
KAF **Kangasniemi** 74.06 331 *e*p P 00 43 54.3 -7.9
comp=Z,6.7nm,0.8s,mb4.6
KAF **Kangasniemi** 74.06 331 *e*P P 00 43 54.3 -7.9
KAF pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
BOYT **Boyabat** 74.20 309 *i*P P 00 43 53.9 -9.5
FINES **FINESS Array B** 74.34 330 *i*P P 00 44 03.5 -0.4
FINES pmax pmax
comp=Z,13nm,1.1s
FINES **FINESS Array B** 74.34 330 P P 00 44 02.9 -1.0
comp=Z,13nm,1.1s,mb4.8,baz=56,slow=7.4,SNR=12
FINES LR LR 01 19 35.1
comp=Z,1μm,19.6s,MS5.2,baz=80,slow=38
CTKT **Corum** 74.48 308 *i*P P 00 44 05.9 +0.8
TRO **Tromso** 74.69 339 *e*S S 00 53 43.0 +0.5
TRO AMS AMS 01 25 01.2
comp=Z,780nm,17.1s,MS5.1
DAWY **Dawson** 74.69 27 *e*P P 00 44 05.6 -0.2
AVNT **Avonos** 74.91 306 *i*P P 00 44 07.9 +0.3
CDAG **Cicekdag** 75.05 307 *i*P P 00 44 06.4 -2.0
BALT **Daday** 75.27 309 *i*P P 00 44 10.2 +0.6
ELDT **Eldivan** 75.52 308 *i*P P 00 44 11.3 +0.3
AKASG **Malin Array Be** 75.58 319 *i*P P 00 44 09.8 -1.4
AKASG pmax pmax
comp=Z,3.0nm,0.7s
AKASG **Malin Array Be** 75.58 319 P P 00 44 09.4 -1.8
comp=Z,3.2nm,0.7s,mb4.3,baz=62,slow=5.8,SNR=14
AKASG LR LR 01 19 38.0
comp=Z,724nm,19.9s,MS5.0,baz=90,slow=37
AKBB **Malin Array Si** 75.58 319 *e*P P 00 44 09.0 -2.2
KIEV **Kiev** 75.59 319 *e*P P 00 44 09.2 -2.1
comp=Z,9.8nm,0.8s,mb4.8
KIEV LR LR
comp=Z,664nm,19.0s,MS5.0
KIEV **Kiev** 75.59 319 *e*P P 00 44 09.2 -2.1
KIEV pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
KIEV MLR MLR
comp=Z,664nm,19.0s,MS5.0
ANTO **Ankara** 76.16 308 ⇑P P 00 44 15.0 +0.2
ANTO LR LR
comp=Z,365nm,19.0s,MS4.7
ANTO **Ankara** 76.16 308 P P 00 44 15.6 +0.9
SNR=7.9
ANTO **Ankara** 76.16 308⇑*i*P P 00 44 15.0 +0.3
KIS **Kishinev** 76.89 315 *e*P P 00 44 17.0 -1.8
KIS *e* 00 54 14.0
KIS MLR MLR
comp=Z,2μm,16.0s,MS5.4
KIS MLR MLR
comp=Z,1μm,18.0s
CSS **Prodhromos** 77.15 303 *e*P P 00 44 19.7 -0.8
comp=Z,74nm,1.0s,mb5.6
HENT **Hendek** 77.27 309 *i*P P 00 44 19.6 -1.5
ESKT **Eskisehir** 77.69 308 *i*P P 00 44 22.2 -1.2
SKAG **Skagway** 78.04 31 *e*P P 00 44 25.5 +0.6
comp=Z,36nm,1.0s,mb5.3
SKAG LR LR
comp=Z,600nm,17.0s,MS5.0
URZ **Urewera** 78.57 139 LR LR 01 17 20.4
comp=Z,507nm,18.3s,MS4.9,baz=314,slow=34
VRI **Vrincioaia** 78.61 315 ⇑P P 00 44 29.3 +0.9
VRI **Vrincioaia** 78.61 315⇑*i*P P 00 44 29.3 +0.9
PLOR **Plostina** 78.67 315 ⇓P P 00 44 32.4 +3.7
PLOR **Plostina** 78.67 315⇑*i*P P 00 44 32.5 +3.8
GDZ **Gediz** 78.83 308 *i*P P 00 44 28.1 -1.6
SIT **Sitka** 78.94 33 *e*P P 00 44 30.5 +0.6
comp=Z,87nm,1.2s,mb5.6
SIT LR LR
comp=Z,400nm,18.0s,MS4.8
SIT **Sitka** 78.94 33 *e*P P 00 44 30.5 +0.6
SIT pmax pmax
comp=Z,87nm,1.2s,mb5.6
SIT MLR MLR
comp=Z,400nm,18.0s,MS4.8
PRD **Provadia** 79.02 312 *i*P P 00 44 29.1 -1.6
LVV **L'vov** 79.02 319 *e*P P 00 44 32.2 +1.7
LVV *e* 00 44 45.8
LVV *e*S S 00 55 07.4 +37
LVV MLR MLR
comp=Z,560nm,19.4s,MS4.9
LVV MLR MLR
comp=N,250nm,18.0s,MS4.9
LVV MLR MLR
comp=E,500nm,18.3s,MS4.9
NSS **Namsos** 79.22 336 *e*P P 00 44 39.4 +8.1
NSS LR LR
comp=Z,990nm,16.5s,MS5.2
NSS **Namsos** 79.22 336 *e*P P 00 44 30.9 -0.4
NSS AMS AMS 01 23 48.3
comp=Z,991nm,16.5s,MS5.2
MLR **Muntele Rosu** 79.26 315 ⇑P P 00 44 32.3 +0.4
MLR **Muntele Rosu** 79.26 315⇑*i*P P 00 44 32.3 +0.4
DAG **Danmarks Havn** 79.32 351⇑*e*P P 00 44 30.0 -1.7
DAG pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
DAG **Danmarks Havn** 79.32 351⇑*i*P P 00 44 30.0 -1.7
comp=Z,9.7nm,0.8s,mb4.8
GOLH **Golhisar** 79.36 306 *i*P P 00 44 25.9 -6.8
AKAS **Kas** 79.65 305 *i*P P 00 44 34.6 +0.3
BTOK **Tokmak** 79.68 309 *i*P P 00 44 33.9 -0.5
JMB **Yambol** 79.83 312 P P 00 44 37.2 +2.1
KWP **Kalwaria** 79.89 319 *e*P P 00 44 35.6 +0.3
KWP **Kalwaria** 79.89 319 *e*P P 00 44 35.0 -0.3
comp=Z,41nm,1.0s,mb5.3
KWP *e*PP PP 00 47 38.0 +1.6
KWP **Kalwaria** 79.89 319 *e*P P 00 44 35.0 -0.3
KWP *e* 00 47 38.0
KWP pmax pmax
comp=Z,41nm,1.0s,mb5.3
KWP **Kalwaria** 79.89 319⇓*i*P P 00 44 34.8 -0.5
KOLS **Kolonicke sedl** 80.41 319 *e*P P 00 44 37.5 -0.6
AYDN **Tasoluk** 80.49 307 *i*P P 00 44 38.7 0.0
UZH **Uzhgorod** 80.51 318 *e*P P 00 44 38.6 0.0
UZH *i* 00 44 41.6
UZH *i* 00 44 48.4
UZH *e*S S 00 54 45.4 -0.8
UZH *e*PS 00 55 46.0
UZH *e*SS SS 01 00 03.0 +5.5
CRAG **Craig** 80.69 34 *e*P P 00 44 38.4 -1.1
comp=Z,94nm,1.4s,mb5.5
KDAG **Bornova** 80.69 308 *i*P P 00 44 39.4 -0.5
WRAK **Wrangell Islan** 80.70 33 *e*P P 00 44 38.6 -0.8
comp=Z,26nm,0.9s,mb5.2
ARG **Arkhangelos** 80.78 305 *e*P P 00 44 40.0 -0.4
AYVA **Ayvalik** 80.81 309 *i*P P 00 44 39.8 -0.7
STHS **Stebnicka Huta** 80.86 319 *e*P P 00 44 41.1 +0.6
comp=Z,8.6nm,1.1s,mb4.6
STHS *e* 00 45 12.8
STHS **Stebnicka Huta** 80.86 319 *e*P P 00 44 41.1 +0.6
STHS pmax pmax
comp=Z,9.0nm,1.1s,mb4.6
DRGR 80.91 317 ⇓P P 00 44 40.2 -0.6
DRGR 80.91 317⇓*i*P P 00 44 40.3 -0.6
CRVS **Cervenica-Dubn** 80.92 319 *e*P P 00 44 41.8 +1.0
CRVS *e* 00 45 07.4
KDZ **Kurdzhali** 80.92 311 *i*P P 00 44 41.2 +0.2
DLBC **Dease Lake** 80.97 30 *e*P P 00 44 41.4 +0.5
BOZC **Bozcaada** 81.09 309 *i*P P 00 44 41.1 -0.8
NB2 **NORSAR Subarra** 81.15 333 P P 00 44 41.1 -0.7
comp=Z,0.5nm,0.7s,baz=68,slow=6.2
NOA **NORSAR Array B** 81.15 333 P P 00 44 41.5 -0.3
comp=Z,6.9nm,1.0s,mb4.5,baz=60,slow=5.2,SNR=7.8
NOA LR LR 01 24 04.5
comp=Z,2μm,19.4s,MS5.4,baz=45,slow=38
URLA **Izmir** 81.21 308 *i*P P 00 44 33.0 -10
RES **Resolute Bay** 81.34 9 *e*P P 00 44 42.6 0.0
comp=Z,902nm,1.3s,mb6.5
RES **Resolute Bay** 81.34 9 *e*P P 00 44 42.6 0.0
RES pmax pmax
comp=Z,902nm,1.3s,mb6.5
RZN **Rozhen** 81.40 311 *i*P P 00 44 43.4 -0.2
OJC **Ojcow** 81.42 321 *e*P P 00 44 42.8 -0.7
OJC *e*SKSac SKSac 00 54 58.4 -5.6
OJC L 01 26 11.1
comp=Z,0.8nm,21.1s
PGB **Panagyurishte** 81.47 312 *i*P P 00 44 43.8 -0.1
KECS **Kecovo** 81.67 319 *e*P P 00 44 45.0 +0.1
comp=Z,6.1nm,1.2s,mb4.4
KECS *e*PP PP 00 47 52.2 +1.1
KECS **Kecovo** 81.67 319 *e*P P 00 44 45.0 +0.1
KECS *e* 00 47 52.2
KECS pmax pmax
comp=Z,6.0nm,1.2s,mb4.4
KARP **Karpathos** 81.75 305 *e*P P 00 44 45.0 -0.5
JMIC **Jan Mayen** 81.81 345 *e* 00 55 50.0
JMIC AMS AMS 01 22 42.0
comp=Z,638nm,22.1s,MS4.9
MOL **Molde** 81.91 335 AMS AMS 01 25 27.8
comp=Z,1μm,18.5s,MS5.3
BZS **Buzias** 82.06 316 ⇓P P 00 44 46.0 -0.9
BZS **Buzias** 82.06 316⇓*i*P P 00 44 46.0 -0.9
VTS **Vitosha** 82.12 313 ⇑P P 00 44 47.7 +0.3
VTS **Vitosha** 82.12 313⇑*i*P P 00 44 47.7 +0.4
MMB **Musomiste** 82.13 311 *i*P P 00 44 46.4 -1.0
PSZ **Piszkesteto** 82.26 318⇓*e*PcP PcP 00 44 48.4 -4.9
KKB **Krupnik** 82.47 312 *i*P P 00 44 48.6 -0.6
KONO **Kongsberg** 82.53 332 PFAKE 00 45 00.0 +11
KONO LR LR
comp=Z,3μm,19.0s,MS5.7
KONO **Kongsberg** 82.53 332 *e*S S 00 55 07.5 +0.8
KONO AMS AMS 01 25 23.1
comp=Z,4μm,14.5s,MS5.9
OKC **Ostrava-Krasne** 82.55 321 *e*P P 00 44 49.0 -0.4
OKC *e*SKS 00 55 12.9
OKC **Ostrava-Krasne** 82.55 321 *e*P P 00 44 49.0 -0.4
OKC *e*SKS 00 55 12.9
OKC AMS AMS 01 30 00.0
comp=Z,600nm,14.2s,MS5.1
VYHS **Vyhne** 82.68 319 *e*P P 00 44 49.1 -1.0
comp=Z,16nm,1.2s,mb4.9
VYHS *e* 00 45 06.3
VYHS *e*PP PP 00 48 10.7 +11
VYHS **Vyhne** 82.68 319 *e*P P 00 44 49.1 -1.0
VYHS pmax pmax
comp=Z,16nm,1.2s,mb4.9
KOLL **Kolacno** 82.91 319 *e*P P 00 44 52.0 +0.7
KOLL *e* 00 45 06.6
MORC **Moravsky Berou** 82.93 321 *e*P P 00 44 49.2 -2.2
comp=Z,17nm,1.3s,mb4.9

MORC Moravsky Berou 82.93 321 *e*P **P 00 44 49.2 -2.2**
MORC pmax pmax
comp=Z,17nm,1.3s,mb4.9
MORC Moravsky Berou 82.93 321⇑*i*P **P 00 44 56.5 +5.1**
BUD Budapest 82.97 318⇑*e*PcP PcP 00 44 53.0 -3.4
VAY Valandovo 83.03 312 *e*P **P 00 44 50.0 -2.1**
STIP Stip 83.16 312 *e*P **P 00 44 50.7 -2.1**
KSP Ksiaz 83.20 322 *e*P **P 00 44 52.7 -0.1**
KSP Ksiaz 83.20 322 *e*P **P 00 44 52.2 -0.6**
KSP MLR MLR
comp=Z,3µm,18.8s,MS5.6
DPC Dobruska-Polom 83.40 322 *e*P **P 00 44 54.9 +1.1**
DPC *ex* x 00 45 09.4
DPC AMS AMS 01 25 30.0
comp=Z,1µm,16.0s,MS5.3
UPC Upice 83.51 322 *e*P **P 00 44 55.9 +1.5**
UPC *ex* x 00 45 09.9
SKO Skopje 83.57 312 *e*P **P 00 44 52.7 -2.1**
MODS Modra-Piesok 83.67 320 *e*P **P 00 44 54.1 -1.2**
VRAC Vranov 83.69 321⇓*i*P **P 00 44 54.9 -0.4**
PKSM Moragy 83.73 317⇑P **P 00 44 55.6 0.0**
PKSM Moragy 83.73 317⇑*i*P **P 00 44 55.6 0.0**
ZST Bratislava 83.86 319 *e*P **P 00 45 00.1 +3.9**
comp=Z,7.7nm,0.9s,mb4.8
ZST Bratislava 83.86 319 *e*P **P 00 45 00.1 +3.9**
ZST pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
KRUS Krusevo 83.93 312 *e*P **P 00 44 54.3 -2.4**
BER Bergen 83.97 334 *e*SKS 00 55 18.7
BER *e*SS SS 01 00 47.0 -1.2
BER AMS AMS 01 26 24.2
comp=Z,1µm,16.9s,MS5.3
PVCC Panska Ves 84.33 322 *e*P **P 00 44 59.6 +1.0**
PVCC AMS AMS 01 27 20.0
comp=Z,1µm,16.6s,MS5.4
TREC Trest 84.34 321 *e*P **P 00 44 59.4 +0.7**
TREC *ex* x 00 45 14.1
TREC AMS AMS 01 26 50.0
comp=Z,1µm,14.9s,MS5.4
SOP Sopron 84.41 319‖*e*PcP PcP 00 44 59.1 -3.6
VLI Velíai 84.51 307 *e*P **P 00 45 06.0 +6.2**
BRG Berggiesshubel 84.53 323 *e*P **P 00 44 59.5 0.0**
comp=Z,11nm,1.7s,mb4.7
BRG *e*pP 00 45 07.4
BRG *e* 00 45 14.9
BRG S S 00 55 21.0 -6.2
BRG LR LR
comp=Z,1µm,15.8s,MS5.3
BRG Berggiesshubel 84.53 323 *e*P **P 00 44 59.5 -0.1**
BRG *e**PP 00 45 07.4
BRG *e* 00 45 15.0
BRG S S 00 55 21.0 -6.2
BRG pmax pmax
comp=Z,11nm,1.7s,mb4.7
BRG MLR MLR
comp=Z,1µm,15.8s,MS5.3
BRG Berggiesshubel 84.53 323 *e*P **P 00 44 59.3 -0.3**
comp=Z,29nm,1.7s,mb5.1
BRG Berggiesshubel 84.53 323 *e*P **P 00 44 59.5 0.0**
comp=Z,19nm,1.7s,mb5.0
BRG *e*pP 00 45 07.4
comp=Z,29nm,1.7s
BRG *e* 00 45 14.9
BRG S S 00 55 21.0 -6.2
BRG
comp=N,1µm,13.7s
BRG
comp=E,668nm,14.9s
BRG
comp=Z,2µm,15.8s
PRU Pruhonice 84.59 322 *e*P **P 00 44 59.7 -0.2**
PRU *ex* x 00 45 15.3
PRU *e*S S 00 55 29.6 +1.7
PRU AMS AMS 01 24 40.0
comp=Z,1µm,16.0s,MS5.3
CLL Collm 84.85 323 *e*P **P 00 44 59.0 -2.2**
comp=Z,11nm,1.2s,mb4.9
CLL *i* pP 00 45 08.5
CLL *i* 00 45 15.6
CLL *e*S S 00 55 29.0 -1.5
CLL LR LR
comp=Z,2µm,16.9s,MS5.7
CLL Collm 84.85 323 *e*P **P 00 44 59.0 -2.2**
CLL *i* *PP 00 45 08.5
CLL *e*S S 00 55 29.0 -1.5
CLL pmax pmax
comp=Z,11nm,1.2s,mb4.9
CLL MLR MLR
comp=Z,2µm,16.9s,MS5.7
CLL Collm 84.85 323 *e*P **P 00 44 59.0 -2.2**
comp=Z,11nm,1.2s,mb4.9
CLL *i* x x 00 45 08.5
comp=Z,17nm,1.2s
CLL *i* x x 00 45 15.6
CLL *e*PP PP 00 48 18.0 +1.0
comp=Z,10.0nm,1.1s
CLL *e*S S 00 55 29.0 -1.5
CLL *e*(PS) 00 56 20.0
CLL *e*SS SS 01 01 05.0 +3.3
CLL *ex* x 01 05 42.0
BSEG Bad Segeberg 85.02 327 *e*P **P 00 45 02.9 +0.9**
comp=Z,43nm,1.4s,mb5.4
ITM Ithomi 85.08 308 *e*P **P 00 45 00.0 -2.7**
KOGS Kog 85.13 318 *e*P **P 00 45 02.4 -0.3**
YKA Yellowknife Ar 85.27 23 P **P 00 45 02.2 -0.9**
YKA PKKPbc PKKPbc 01 03 03.4 -6.5
YKA LR LR 01 28 34.6
YKA Yellowknife Ar 85.27 23 P **P 00 45 02.2 -0.9**
comp=Z,9.7nm,0.8s,mb5.0,baz=310,slow=4.6,SNR=112
YKA PKKPbc PKKPbc 01 03 03.4 -6.5
comp=Z,0.2nm,0.6s,baz=130,slow=2.4,SNR=9.2
YKA LR LR 01 28 34.6
comp=Z,418nm,18.2s,MS4.9,baz=30,slow=39
KHC Kasperske Hory 85.54 321 *e*P **P 00 45 04.1 -0.6**
KHC *ex* x 00 45 19.6
KHC *e*S S 00 55 42.5 +5.2
KHC AMS AMS 01 26 50.0
comp=Z,900nm,13.0s,MS5.3
TANN Tannenbergstha 85.57 323 *e*P **P 00 45 04.5 -0.3**
comp=Z,39nm,1.8s,mb5.3
GEC2 GERESS Array S 85.60 321 *e*P **P 00 45 04.6 -0.4**
GERES GERESS Array B 85.60 321 P **P 00 45 04.8 -0.1**
comp=Z,1.6nm,0.9s,mb4.2,baz=60,slow=5.3,SNR=13
GERES LR LR 01 26 53.9
comp=Z,808nm,20.1s,MS5.1,baz=281,slow=38
KMBO Kilima Mbogo 85.62 267 *e*P **P 00 45 05.5 -0.2**
comp=Z,14nm,1.2s,mb5.1
KMBO LR LR
comp=Z,485nm,19.0s,MS4.9
KMBO Kilima Mbogo 85.62 267 *e*P **P 00 45 05.5 -0.2**
KMBO pmax pmax
comp=Z,14nm,1.2s
KMBO MLR MLR
comp=Z,485nm,19.0s
NKC Novy Kostel 85.67 323 *e*P **P 00 45 05.2 -0.1**
NKC *e* 00 45 12.6
NKC Novy Kostel 85.67 323 *e*P **P 00 45 05.2 -0.1**
NKC *e*pP 00 45 12.6
NKC AMS AMS 01 28 10.0
comp=Z,1µm,14.4s,MS5.5
PERS Pernice 85.75 319 *e*P **P 00 45 05.0 -0.7**
NRDL Niedersach Rie 85.85 325 *e*P **P 00 45 07.8 +1.6**
comp=Z,20nm,1.2s,mb5.2
WET Wettzell 85.94 322 *e*P **P 00 45 06.6 -0.1**
WET pmax pmax
comp=Z,27nm,1.9s,mb5.2
WET Wettzell 85.94 322 *e*P **P 00 45 06.6 -0.1**
comp=Z,27nm,1.9s,mb5.2
MOX Moxa 85.94 323 *e*P **P 00 45 06.7 +0.1**
comp=Z,40nm,1.8s,mb5.3
MOX
comp=Z,2µm,17.0s
MOX Moxa 85.94 323 *e*P **P 00 45 06.7 +0.1**
MOX pmax pmax
comp=Z,40nm,1.8s,mb5.3
MOX MLR MLR
comp=Z,2µm,17.0s,MS5.6
MOX Moxa 85.94 323 *e*P **P 00 45 06.1 -0.5**
comp=Z,34nm,1.7s,mb5.3
MANZ Manzenberg 85.98 323 *e*P **P 00 45 06.9 0.0**
comp=Z,26nm,1.6s,mb5.2
ROTZ Rotzenmuhle 86.03 322 *e*P **P 00 45 06.9 -0.2**
comp=Z,29nm,1.7s,mb5.2
CLZ Clausthal 86.03 325 *e*P **P 00 45 07.2 +0.1**
CLZ pmax pmax
comp=Z,42nm,1.4s,mb5.5
CLZ Clausthal 86.03 325 *e*P **P 00 45 07.2 +0.1**
comp=Z,42nm,1.4s,mb5.5
BOJS Bojanci 86.17 318 *e*P **P 00 45 06.6 -1.3**
BOJS *e*PP PP 00 48 32.3 +4.4
LJU Ljubljana 86.38 318 *e*P **P 00 45 08.3 -0.7**
CEY Cerknica 86.58 318 *e*P **P 00 45 09.9 0.0**
GRA1 Grafenberg Arr 86.62 323 *e*P **P 00 45 10.1 +0.1**
comp=Z,70nm,2.0s,mb5.5
GRA1 *e*PP PP 00 48 37.9 +6.5
GRA1 *e*S S 00 55 46.5 -1.4
GRA1 LR LR
comp=Z,1µm,20.0s,MS5.3
GRF Grafenberg Arr 86.62 323 *e*P **P 00 45 10.1 +0.1**
GRF *e* 00 48 37.9
GRF *e*S S 00 55 46.5 -1.4
GRF pmax pmax
comp=Z,70nm,2.0s,mb5.5
GRF MLR MLR
comp=Z,1µm,20.0s,MS5.3
GRF Grafenberg Arr 86.62 323 *e*P **P 00 45 10.1 +0.1**
GRF *e* 00 48 37.9
GRF *e*S S 00 55 46.5 -1.4
GRF pmax pmax
comp=Z,70nm,2.0s,mb5.5
GRF MLR MLR
comp=Z,1µm,20.0s,MS5.3
GRF Grafenberg Arr 86.62 323 *e*P **P 00 45 10.1 +0.1**
comp=Z,70nm,2.0s,mb5.5
GRF *e*PP PP 00 48 37.9 +6.5
GRF *e*S S 00 55 46.5 -1.4
GRF *e*L 01 26 28.1
comp=Z,1µm,20.0s
GRFO Grafenberg 86.62 323 PFAKE 00 45 20.0 +10
GRFO LR LR
comp=Z,1µm,20.0s,MS5.2
GRC4 Grafenberg Arr 86.74 322 *e*PP PP 00 48 30.0 -2.4
FSSB Fossombrone 88.58 317 P **P 00 45 20.4 +0.8**
SNTG Esanatoglia 88.68 316 P **P 00 45 21.2 +1.1**
NRCA Norcia 88.77 316 P **P 00 45 19.8 -0.7**
AQU L'Aquila 88.80 315⇑P **P 00 45 21.0 +0.3**
AQU L'Aquila 88.80 315⇑*i*P **P 00 45 21.0 +0.3**
MURB Monte Urbino 88.94 316 P **P 00 45 23.1 +1.8**
comp=Z,139nm,1.9s,mb6.0
BFO Black Forest 88.95 322 PFAKE 00 45 30.0 +8.8
BFO LR LR
comp=Z,1µm,19.0s,MS5.3
SFI Santa Sofia 89.07 317 P **P 00 45 25.7 +3.8**
comp=Z,61nm,1.7s,mb5.7
SFI Santa Sofia 89.07 317 P **P 00 45 25.7 +3.8**
SFI pmax pmax
comp=Z,61nm,1.7s,mb5.7
CRE Caprese Michel 89.14 317 P **P 00 45 23.4 +1.2**
comp=Z,15nm,1.0s,mb5.3
CRE Caprese Michel 89.14 317 P **P 00 45 23.4 +1.2**
CRE pmax pmax
comp=Z,15nm,1.0s,mb5.3
PGC Sidney 89.16 37 *e*P **P 00 45 22.0 -0.1**
comp=Z,62nm,1.0s,mb5.9
VMG Vicchio 89.23 317 P **P 00 45 24.0 +1.4**
comp=Z,24nm,0.8s,mb5.6
B04A Port Angeles 89.44 38⇑P **P 00 45 24.5 +1.0**
baz=89
OSD Olympics--Snow 89.45 38 P **P 00 45 25.4 +1.8**
WLF Walferdange 89.46 324 *e*P **P 00 45 23.3 -0.3**
comp=Z,29nm,1.3s,mb5.5
WLF Walferdange 89.46 324 *e*P **P 00 45 23.3 -0.3**
WLF pmax pmax
comp=Z,29nm,1.3s,mb5.5
WLF Walferdange 89.46 324 P **P 00 45 23.3 -0.2**
comp=Z,17nm,1.4s,mb5.2
CDF Champ du Feu 89.51 323 *e*P **P 00 45 21.5 -2.3**
comp=Z,44nm,1.4s,mb5.3
CDF Champ du Feu 89.51 323 *e*P **P 00 45 21.5 -2.3**
comp=Z,22nm,1.4s,mb5.3
CDF Champ du Feu 89.51 323 *e*P **P 00 45 21.5 -2.3**
CDF pmax pmax
comp=Z,22nm,1.4s,mb5.3
A04A Legoe Bay, Lum 89.54 37⇓P **P 00 45 24.9 +0.9**
baz=89
NLWA Neilton Lookou 89.58 38 *e*P **P 00 45 23.6 -0.6**
comp=Z,12nm,0.9s,mb5.2
NLWA Neilton Lookou 89.58 38⇓P **P 00 45 25.3 +1.1**
baz=90
A05A Maple Falls 89.73 36⇑P **P 00 45 25.3 +0.5**
baz=90
D03A Wishkah Elem. 89.78 39⇓P **P 00 45 26.4 +1.3**
baz=90
C04A Brinnon 89.92 38⇓P **P 00 45 27.2 +1.4**
baz=90
GIVF Givet 89.93 325 *e*P **P 00 45 23.4 -2.4**
comp=Z,21nm,1.1s,mb5.1
GIVF Givet 89.93 325 *e*P **P 00 45 23.4 -2.4**
comp=Z,10nm,1.1s,mb5.1
GIVF Givet 89.93 325 *e*P **P 00 45 23.4 -2.4**
GIVF pmax pmax
comp=Z,10.0nm,1.1s,mb5.1
MBW Mount Baker 89.95 36 P **P 00 45 27.3 +1.4**
GRFL Gerfalco 89.99 317 P **P 00 45 25.7 -0.5**
CMW Cultus Mountai 90.02 37 P **P 00 45 28.2 +1.9**
DOU Dourbes 90.06 325 P **P 00 45 25.8 -0.6**
HINF Hinteralfeld 90.07 322 *e*P **P 00 45 23.8 -2.7**
comp=Z,13nm,1.1s,mb4.9
HINF Hinteralfeld 90.07 322 *e*P **P 00 45 23.8 -2.7**
comp=Z,6.4nm,1.1s,mb4.9
HINF Hinteralfeld 90.07 322 *e*P **P 00 45 23.8 -2.7**
HINF pmax pmax
comp=Z,6.0nm,1.1s,mb4.8
B05A Bryant 90.12 37⇑P **P 00 45 27.8 +1.1**
baz=90
E03A Lebam 90.20 39⇓P **P 00 45 28.3 +1.2**
baz=90
HAU Haudompre 90.25 323 *e*P **P 00 45 24.7 -2.6**
HAU *e*MLR MLR
comp=Z,2µm,17.2s,MS5.2
HAU Haudompre 90.25 323 *e*P **P 00 45 24.7 -2.6**
HAU MLR MLR
comp=Z,2µm,17.3s,MS5.5
JCW Jim Creek 90.26 37 P **P 00 45 28.7 +1.4**
BAIF Baives 90.28 325 *e*P **P 00 45 25.3 -2.1**
B06A Marblemount 90.33 37⇑P **P 00 45 28.8 +1.1**
baz=90
F03A Seaside 90.53 39⇓P **P 00 45 29.4 +0.7**
baz=90
A07A Ashnola River, 90.64 36 P **P 00 45 29.9 +0.8**
baz=90,SNR=9.5
ESK Eskdalemuir 90.66 332 PFAKE 00 45 40.0 +11
ESK LR LR
comp=Z,2µm,19.0s,MS5.6
C05A Tolt Reservoir 90.66 37 P **P 00 45 30.2 +1.0**
baz=91,SNR=9.1
MEZF Maizieres J'vi 90.70 324 *e*P **P 00 45 27.4 -2.0**
comp=Z,82nm,1.4s,mb5.6
MEZF Maizieres J'vi 90.70 324 *e*P **P 00 45 27.4 -2.0**
comp=Z,82nm,1.4s,mb5.9
RMW Rattlesnake Mo 90.73 38 P **P 00 45 31.1 +1.5**
D05A Enumclaw 90.77 38⇓P **P 00 45 30.6 +0.8**
baz=91,SNR=5.8
H02A Toledo 90.92 41⇓P **P 00 45 31.4 +0.9**
baz=91
FMW Mount Fremont 91.09 38 P **P 00 45 32.1 +0.9**
B07A Winthrop 91.11 36⇑P **P 00 45 32.0 +0.7**
baz=91,SNR=9.7
CABF La Chapelle 91.16 322 *e*P **P 00 45 29.1 -2.5**
comp=Z,35nm,1.5s,mb5.2
CABF La Chapelle 91.16 322 *e*P **P 00 45 29.1 -2.5**
comp=Z,18nm,1.5s,mb5.2
CABF La Chapelle 91.16 322 *e*P **P 00 45 29.1 -2.5**
CABF pmax pmax
comp=Z,18nm,1.5s,mb5.2
F04A Amboy 91.20 39 P **P 00 45 32.6 +0.8**
baz=91,SNR=5.5
E05A Randle 91.24 38⇓P **P 00 45 32.3 +0.3**
baz=91
A08A Turner Farm, O 91.29 35⇓P **P 00 45 32.9 +0.8**
baz=91,SNR=13
H03A Soap Creek Ran 91.35 40⇓P **P 00 45 33.7 +1.2**
baz=91,SNR=5.2
LPG La Plagne 91.37 321 *e*P **P 00 45 31.0 -1.6**
comp=Z,44nm,1.3s,mb5.3
LPG La Plagne 91.37 321 *e*P **P 00 45 31.0 -1.6**
comp=Z,22nm,1.3s,mb5.3
LPG La Plagne 91.37 321 *e*P **P 00 45 31.0 -1.6**
LPG pmax pmax
comp=Z,22nm,1.3s,mb5.3
LPL La Plagne 91.38 321 *e*P **P 00 45 30.9 -1.7**
comp=Z,64nm,1.5s,mb5.4
LPL La Plagne 91.38 321 *e*P **P 00 45 30.9 -1.7**
comp=Z,32nm,1.5s,mb5.4
LPL La Plagne 91.38 321 *e*P **P 00 45 30.9 -1.7**
LPL pmax pmax
comp=Z,32nm,1.5s,mb5.4
COR Corvallis 91.39 41 PFAKE 00 45 40.0 +7.3
COR LR LR
comp=Z,377nm,21.0s,MS4.8
D06A Cle Elum 91.42 37⇓P **P 00 45 33.6 +0.8**
baz=91
ETW Entiat 91.48 37 P **P 00 45 34.5 +1.4**
PGF Pioggiola 91.55 317 *e*P **P 00 45 31.6 -1.9**
comp=Z,38nm,0.9s,mb5.4
PGF Pioggiola 91.55 317 *e*P **P 00 45 31.6 -1.9**
comp=Z,19nm,0.9s,mb5.4
PGF Pioggiola 91.55 317 *e*P **P 00 45 31.6 -1.9**
PGF pmax pmax
comp=Z,19nm,0.9s,mb5.4
C07A Waterville 91.58 37⇑P **P 00 45 33.9 +0.4**
baz=92
B08A Colville Reser 91.60 36⇑P **P 00 45 34.1 +0.5**
baz=92,SNR=9.4
WTV Waterville 91.64 37 P **P 00 45 35.2 +1.5**
BNI Bardonecchia 91.66 320 *e*P **P 00 45 33.1 -0.8**
comp=Z,19nm,1.3s,mb5.3
BNI Bardonecchia 91.66 320 *e*P **P 00 45 33.1 -0.8**
BNI pmax pmax
comp=Z,19nm,1.3s,mb5.3
EDM Edmonton 91.67 30 *e*P **P 00 45 33.9 +0.1**
E06A Yakima 91.70 38⇓P **P 00 45 35.0 +0.9**
baz=92
I03A Eugene 91.73 41⇑P **P 00 45 35.2 +0.9**
baz=92
MBDF Montbardon 91.78 320 *e*P **P 00 45 31.8 -2.7**
F05A White Salmon 91.79 39⇑P **P 00 45 35.2 +0.7**
baz=92
SBF Sospel 91.83 319 *e*P **P 00 45 32.2 -2.6**
J02A Umpqua 91.87 42⇓P **P 00 45 35.6 +0.7**
baz=92
D07A Quincy 91.91 37⇓P **P 00 45 35.6 +0.5**
baz=92
TDH Tom, Dick, Har 91.92 39 P **P 00 45 36.4 +1.2**
H04A Detroit Lake 92.02 40⇓P **P 00 45 35.9 +0.3**
baz=92
EPH Ephrata 92.03 37 P **P 00 45 37.2 +1.6**
LOR Lormes 92.06 323 *e*P **P 00 45 33.2 -2.5**
comp=Z,40nm,1.3s,mb5.3
LOR *e*MLR MLR
comp=Z,930nm,17.0s,MS5.0
LOR Lormes 92.06 323 *e*P **P 00 45 33.2 -2.5**
comp=Z,20nm,1.3s,mb5.3
LOR LR LR
comp=Z,930nm,17.0s,MS5.3
LOR Lormes 92.06 323 *e*P **P 00 45 33.2 -2.5**
LOR pmax pmax
comp=Z,20nm,1.3s,mb5.3
LOR MLR MLR
comp=Z,930nm,17.0s,MS5.3
C08A Higginbotham F 92.09 36⇑P **P 00 45 36.4 +0.5**
baz=92,SNR=5.5
ORIF Oris-en-Rattie 92.21 320 *e*P **P 00 45 34.4 -2.1**
comp=Z,17nm,1.2s,mb5.0
ORIF *e*MLR MLR
comp=Z,1µm,23.0s,MS5.1
ORIF Oris-en-Rattie 92.21 320 *e*P **P 00 45 34.4 -2.1**
comp=Z,8.6nm,1.2s,mb5.0
ORIF Oris-en-Rattie 92.21 320 *e*P **P 00 45 34.4 -2.1**
ORIF pmax pmax
comp=Z,9.0nm,1.2s,mb5.0
B09A Rice 92.21 35⇑P **P 00 45 37.1 +0.7**
baz=92
J03A Ideyld Park 92.25 41⇓P **P 00 45 37.1 +0.4**
baz=92
IRO Indian Ridge 92.34 41 P **P 00 45 37.9 +0.8**
I04A Tendick Farm, 92.36 41⇑P **P 00 45 37.4 +0.2**
baz=92,SNR=7.5
SSF Saint Saulge 92.38 323 *e*P **P 00 45 34.8 -2.4**
comp=Z,26nm,1.3s,mb5.1
SSF Saint Saulge 92.38 323 *e*P **P 00 45 34.8 -2.4**
comp=Z,13nm,1.3s,mb5.1
SSF Saint Saulge 92.38 323 *e*P **P 00 45 34.8 -2.4**
SSF pmax pmax
comp=Z,13nm,1.3s,mb5.1
SMF Signal de Mont 92.42 323 *e*P **P 00 45 35.0 -2.4**
comp=Z,56nm,1.4s,mb5.4
SMF Signal de Mont 92.42 323 *e*P **P 00 45 35.0 -2.4**
comp=Z,28nm,1.4s,mb5.4
SMF Signal de Mont 92.42 323 *e*P **P 00 45 35.0 -2.4**
SMF pmax pmax
comp=Z,28nm,1.4s,mb5.4
FRF La Foret Royal 92.48 319 *e*P **P 00 45 35.4 -2.4**
comp=Z,43nm,1.5s,mb5.2
FRF La Foret Royal 92.48 319 *e*P **P 00 45 35.4 -2.4**
comp=Z,21nm,1.5s,mb5.2
FRF La Foret Royal 92.48 319 *e*P **P 00 45 35.4 -2.4**
FRF pmax pmax
comp=Z,21nm,1.5s,mb5.2
H05A Madras 92.61 40⇑P **P 00 45 39.0 +0.7**
baz=92
HAWA Hanford 92.61 38 PFAKE 00 45 50.0 +12
HAWA LR LR
comp=Z,394nm,19.0s,MS4.9
AVF Avril sur Loir 92.62 323 *e*P **P 00 45 35.9 -2.4**
comp=Z,48nm,1.3s,mb5.5
AVF Avril sur Loir 92.62 323 *e*P **P 00 45 35.9 -2.4**
comp=Z,24nm,1.3s,mb5.5
AVF Avril sur Loir 92.62 323 *e*P **P 00 45 35.9 -2.4**
AVF pmax pmax
comp=Z,24nm,1.3s,mb5.5
G06A Carlson Farm, 92.63 39⇑P **P 00 45 39.5 +1.1**
baz=92
LMR La Mourre 92.69 319 *e*P **P 00 45 36.5 -2.2**
comp=Z,52nm,1.5s,mb5.5
LMR La Mourre 92.69 319 *e*P **P 00 45 36.5 -2.2**
comp=Z,26nm,1.5s,mb5.4
LMR La Mourre 92.69 319 *e*P **P 00 45 36.5 -2.2**
LMR pmax pmax
comp=Z,26nm,1.5s,mb5.4
HYF Humbligny 92.74 324 *e*P **P 00 45 37.0 -1.9**
comp=Z,161nm,1.4s,mb6.0
HYF Humbligny 92.74 324 *e*P **P 00 45 37.0 -1.9**
comp=Z,81nm,1.4s,mb6.0
A11A Hall Mountain, 92.84 34⇓P **P 00 45 40.3 +1.0**
baz=93,SNR=12
J04A Umpqua Nationa 92.84 41⇓P **P 00 45 40.3 +0.9**
baz=93,SNR=7.0
NEW Newport 92.85 35 *e*P **P 00 45 39.5 +0.1**
comp=Z,11nm,0.9s,mb5.3
NEW Newport 92.85 35 *e*P **P 00 45 39.5 +0.1**
NEW pmax pmax
comp=Z,11nm,0.9s
SMRF Simiane la Rot 92.91 320 *e*P **P 00 45 37.8 -1.9**
comp=Z,22nm,1.4s,mb5.1
SMRF Simiane la Rot 92.91 320 *e*P **P 00 45 37.8 -1.9**
comp=Z,22nm,1.4s,mb5.4
VIVF Saint-Julien-l 92.95 321 *e*P **P 00 45 37.6 -2.3**
comp=Z,19nm,1.3s,mb5.1
VIVF Saint-Julien-l 92.95 321 *e*P **P 00 45 37.6 -2.3**
comp=Z,9.4nm,1.3s,mb5.1
VIVF Saint-Julien-l 92.95 321 *e*P **P 00 45 37.6 -2.3**
VIVF pmax pmax
comp=Z,9.0nm,1.3s,mb5.0
BGF Bois d'Agland 93.04 323 *e*P **P 00 45 37.8 -2.5**
VIPM Ingram Point 93.05 40⇓P **P 00 45 42.2 +1.9**
H06A Lindquist Farm 93.09 39⇑P **P 00 45 40.9 +0.4**
baz=93
B11A Sandpoint 93.15 35⇓P **P 00 45 41.7 +1.0**
baz=93,SNR=7.5
J05A Fort Rock 93.35 41⇓P **P 00 45 42.6 +0.8**
baz=93,SNR=10
FLN La Foliniere 93.52 326 *e*P **P 00 45 39.3 -3.1**
comp=Z,35nm,1.1s,mb5.4
FLN *e*MLR MLR
comp=Z,2µm,17.5s,MS5.3
FLN La Foliniere 93.52 326 *e*P **P 00 45 39.3 -3.1**
comp=Z,18nm,1.1s,mb5.4
FLN LR LR
comp=Z,2µm,17.5s,MS5.6
FLN La Foliniere 93.52 326 *e*P **P 00 45 39.3 -3.1**
FLN pmax pmax
comp=Z,18nm,1.1s,mb5.4
FLN MLR MLR
comp=Z,2µm,17.5s,MS5.6
TCF Toulx Ste Croi 93.55 323 *e*P **P 00 45 40.4 -2.2**
comp=Z,66nm,1.6s,mb5.5
TCF Toulx Ste Croi 93.55 323 *e*P **P 00 45 40.4 -2.2**

comp=Z,33nm,1.6s,mb5.5
TCF Toulx Ste Croi 93.55 323 *e*P **P 00 45 40.4 -2.2**
TCF pmax pmax
comp=Z,33nm,1.6s,mb5.5
G08A Pilot Rock 93.58 38 ⇓P **P 00 45 43.3 +0.5**
baz=94
I06A Prineville 93.61 40 ⇑P **P 00 45 43.4 +0.4**
baz=94,SNR=6.6
H07A Lands Inn, Kim 93.62 39 ⇑P **P 00 45 43.5 +0.5**
baz=94
M04C Macdoel 93.80 42 ⇓P **P 00 45 44.5 +0.6**
baz=94,SNR=7.6
K05A Summer Lake 93.87 41 ⇑P **P 00 45 45.0 +0.8**
baz=94,SNR=7.5
LASF Ste Croix 93.88 320 *e*P **P 00 45 42.2 -2.0**
comp=Z,45nm,1.8s,mb5.3
M03C McCloud 93.90 43 ⇓P **P 00 45 44.7 +0.4**
baz=94
E10A Myers Farm, Un 93.92 37 ⇑P **P 00 45 44.7 +0.4**
baz=94
GRR Gorron 93.95 326 *e*P **P 00 45 41.6 -2.8**
comp=Z,64nm,1.3s,mb5.6
GRR Gorron 93.95 326 *e*P **P 00 45 41.6 -2.8**
comp=Z,32nm,1.3s,mb5.6
GRR Gorron 93.95 326 *e*P **P 00 45 41.6 -2.8**
GRR pmax pmax
comp=Z,32nm,1.3s,mb5.6
D11A Klaveano Farm, 94.01 36 P **P 00 45 45.2 +0.5**
baz=94,SNR=6.9
J06A Christmas Vall 94.03 40 ⇓P **P 00 45 45.3 +0.3**
baz=94,SNR=9.0
WALA Waterton Lakes 94.04 33 *e*P **P 00 45 45.8 +1.0**
comp=Z,25nm,1.1s,mb5.6
B13A Whitefish 94.19 34 ⇓P **P 00 45 46.5 +0.9**
baz=94,SNR=8.8
H08A Prairie City 94.19 39 ⇓P **P 00 45 45.8 +0.2**
baz=94
K06A Valley Falls 94.22 41 ⇑P **P 00 45 46.4 +0.5**
baz=94,SNR=9.4
G09A Cove 94.26 38 ⇓P **P 00 45 46.5 +0.6**
baz=94
L05A Lakeview 94.28 42 P **P 00 45 46.9 +0.8**
baz=94,SNR=7.3
GASB Alder Springs 94.38 44 ⇓P **P 00 45 47.3 +0.7**
baz=94
CAF Calviac 94.43 322 *e*P **P 00 45 44.9 -1.8**
comp=Z,42nm,1.7s,mb5.3
CAF Calviac 94.43 322 *e*P **P 00 45 44.9 -1.8**
comp=Z,21nm,1.7s,mb5.3
CAF Calviac 94.43 322 *e*P **P 00 45 44.9 -1.8**
CAF pmax pmax
comp=Z,21nm,1.7s,mb5.3
J07A Hines 94.47 40 ⇓P **P 00 45 47.8 +0.9**
baz=94,SNR=8.0
M05C Lookout 94.47 42 ⇓P **P 00 45 47.7 +0.7**
baz=94
E11A Bogner Ranch, 94.50 36 ⇑P **P 00 45 47.1 +0.1**
baz=94
HOPS Hopland 94.50 45 PFAKE 00 46 00.0 +13
HOPS LR LR
comp=Z,568nm,19.0s,MS5.0
RJF Les Rejaudoux 94.52 322 *e*P **P 00 45 45.3 -1.8**
comp=Z,59nm,1.3s,mb5.6
RJF *e*MLR MLR
comp=Z,1μm,18.0s,MS5.1
RJF Les Rejaudoux 94.52 322 *e*P **P 00 45 45.3 -1.8**
comp=Z,30nm,1.3s,mb5.6
RJF LR LR
comp=Z,1μm,18.0s,MS5.4
RJF Les Rejaudoux 94.52 322 *e*P **P 00 45 45.3 -1.8**
RJF pmax pmax
comp=Z,30nm,1.3s,mb5.6
RJF MLR MLR
comp=Z,1μm,18.0s,MS5.4
D12A Red Ives Fores 94.54 35 ⇑P **P 00 45 47.3 +0.2**
baz=94
C13A Hot Springs 94.57 35 ⇑P **P 00 45 48.2 +0.9**
baz=94,SNR=6.2
LBCM Butte Creek Ri 94.62 43 ⇓P **P 00 45 48.1 +0.4**
G10A Bishop Farm, J 94.63 37 P **P 00 45 48.1 +0.5**
baz=94,SNR=6.1
MFF Saint Martin d 94.67 324 *e*P **P 00 45 45.3 -2.5**
H09A Durkee 94.69 38 ⇓P **P 00 45 48.5 +0.6**
baz=95
MOD Modoc 94.69 42 PFAKE 00 46 00.0 +12
MOD LR LR
comp=Z,356nm,20.0s,MS4.8
MOD Modoc 94.69 42 ⇓P **P 00 45 48.3 +0.3**
baz=95
PPT Papeete 94.72 107 *e*S S 00 56 56.6 -6.6
comp=Z,380nm,24.5s
PPT Papeete 94.72 107 *e*PS PS 00 58 19.2 0.0
comp=Z,450nm,25.8s
PPT *e*SS SS 01 03 22.9 -4.3
comp=Z,253nm,26.0s
PPT Papeete 94.72 107 *e*LR LR 01 15 56.7
comp=Z,1μm,31.0s,baz=294
PPT Papeete 94.72 107 LR LR 01 28 32.6
comp=Z,355nm,18.6s,MS4.9,baz=286,slow=36
BMO Blue Mountains 94.78 38 *e*P **P 00 45 48.2 -0.1**
comp=Z,4.0nm,0.9s,mb4.8
BMO LR LR
comp=Z,425nm,19.0s,MS4.9
BMO Blue Mountains 94.78 38 *e*P **P 00 45 48.2 -0.1**
BMO pmax pmax
comp=Z,4.0nm,0.9s,mb4.8
BMO MLR MLR
comp=Z,425nm,19.0s,MS4.9
KEST Kesra 94.79 311 LR LR 01 38 12.3
comp=Z,166nm,18.8s,MS4.5,baz=12,slow=42
F11A Grangeville 94.81 37 ⇓P **P 00 45 48.8 +0.4**
baz=95
K07A Rock Creek Ran 94.89 41 ⇑P **P 00 45 49.4 +0.5**
baz=95,SNR=7.3
SGMF Saint Gilles 94.91 327 *e*P **P 00 45 46.3 -2.5**
comp=Z,37nm,1.3s,mb5.3
SGMF Saint Gilles 94.91 327 *e*P **P 00 45 46.3 -2.5**
comp=Z,18nm,1.3s,mb5.3
SGMF Saint Gilles 94.91 327 *e*P **P 00 45 46.3 -2.5**
SGMF pmax pmax
comp=Z,18nm,1.3s,mb5.3
C14A Swan Lake 94.94 34 P **P 00 45 49.7 +0.7**
baz=95,SNR=5.5
M06C Likely Place G 94.97 42 ⇑P **P 00 45 49.7 +0.4**
baz=95
J08A Circle Bar Ran 94.97 40 ⇓P **P 00 45 49.0 -0.2**
baz=95,SNR=6.0
MNRC McLaughlin Nat 94.98 45 ⇓P **P 00 45 49.7 +0.4**
baz=95
G11A Walters Elk Ra 95.04 37 ⇑P **P 00 45 49.6 +0.1**
baz=95
MCCM Marconi Confer 95.08 46 PFAKE 00 46 00.0 +10
MCCM LR LR
comp=Z,447nm,19.0s,MS5.0
O04C Chester 95.08 43 P **P 00 45 50.4 +0.6**
baz=95,SNR=7.9
ELFS Eagle Lake Fie 95.14 43 ⇑P **P 00 45 50.6 +0.5**
baz=95,SNR=6.5
LFF La Frestale 95.18 322 *e*P **P 00 45 48.4 -1.8**
comp=Z,37nm,1.4s,mb5.3
LFF La Frestale 95.18 322 *e*P **P 00 45 48.4 -1.8**
comp=Z,18nm,1.4s,mb5.3
LFF La Frestale 95.18 322 *e*P **P 00 45 48.4 -1.8**
LFF pmax pmax
comp=Z,18nm,1.4s,mb5.3
L07A Adell 95.22 41 ⇓P **P 00 45 51.4 +1.0**
baz=95,SNR=9.3
ROSF Rostrenen 95.23 327 *e*P **P 00 45 47.6 -2.7**
comp=Z,32nm,1.3s,mb5.3
ROSF Rostrenen 95.23 327 *e*P **P 00 45 47.6 -2.7**
comp=Z,16nm,1.3s,mb5.3
ROSF Rostrenen 95.23 327 *e*P **P 00 45 47.6 -2.7**
ROSF pmax pmax
comp=Z,16nm,1.3s,mb5.3
ORV Oroville 95.23 44 ⇓P **P 00 45 50.0 -0.5**
baz=95
H10A Noah's Angus R 95.26 38 ⇓P **P 00 45 49.7 -0.8**
baz=95
K08A Mann Creek Ran 95.33 40 ⇑P **P 00 45 50.9 0.0**
baz=95
OHCM Honcut 95.36 44 *e*P **P 00 45 50.4 -0.7**
O05C Quincy 95.38 43 ⇑P **P 00 45 51.3 +0.1**
baz=95
F12A Elk City 95.39 36 ⇑P **P 00 45 51.1 0.0**
baz=95
FFC Flin Flon 95.40 24 *e*P **P 00 45 51.4 +0.5**
comp=Z,13nm,1.2s,mb5.2
FFC LR LR
comp=Z,526nm,22.0s,MS5.0
FFC Flin Flon 95.40 24 *e*P **P 00 45 51.4 +0.5**
FFC pmax pmax
comp=Z,13nm,1.2s,mb5.2
FFC MLR MLR
comp=Z,526nm,22.0s,MS5.0
J09A Fry Pan Ranch, 95.41 39 P **P 00 45 52.0 +0.8**
baz=95,SNR=11
MSO Missoula 95.44 35 PFAKE 00 46 00.0 +8.7
MSO LR LR
comp=Z,373nm,21.0s,MS4.8
QUIF Quistinic 95.44 327 *e*P **P 00 45 48.3 -3.0**
comp=Z,30nm,1.2s,mb5.3
QUIF Quistinic 95.44 327 *e*P **P 00 45 48.3 -3.0**
comp=Z,15nm,1.2s,mb5.3
QUIF Quistinic 95.44 327 *e*P **P 00 45 48.3 -3.0**
QUIF pmax pmax
comp=Z,15nm,1.2s,mb5.3
D14A Greenough 95.51 35 ⇓P **P 00 45 51.1 -0.4**
baz=95
N06A Buffalo Meadow 95.63 42 ⇓P **P 00 45 52.7 +0.4**
baz=96,SNR=7.2
L08A Fields 95.73 41 ⇑P **P 00 45 53.5 +0.8**
baz=96
CHMT Chamberlain Mo 95.75 35 *e*P **P 00 45 51.5 -1.2**
BEKR Beckwourth 95.79 43 ⇑P **P 00 45 53.4 +0.3**
baz=96
K09A Rome 95.81 40 ⇓P **P 00 45 52.9 -0.1**
baz=96
E14A Clinton 95.94 35 ⇓P **P 00 45 52.3 -1.3**
baz=96
O06A Flanigan 95.96 43 ⇓P **P 00 45 54.1 +0.3**
baz=96,SNR=13
M08A Happy Creek Ra 96.14 41 ⇓P **P 00 45 55.3 +0.7**
baz=96,SNR=6.0
N07B Gerlach 96.15 42 ⇓P **P 00 45 55.1 +0.4**
baz=96
LAVA Lava Cap Winer 96.16 44 ⇓P **P 00 45 54.6 -0.1**
baz=96
H12A Diamond D Ranc 96.36 37 P **P 00 45 55.1 -0.4**
baz=96,SNR=6.7
E15A Deer Lodge 96.38 35 ⇓P **P 00 45 55.5 -0.1**
baz=96
WCN Washoe City 96.49 44 ⇓P **P 00 45 56.3 +0.1**
baz=96
MFID Camas Ranch 96.50 38 ⇑P **P 00 45 55.4 -0.7**
baz=96,SNR=5.0
R05C Kirkwood Meado 96.62 44 ⇓P **P 00 45 56.7 -0.2**
baz=96
N08A GE Springer Mi 96.67 42 ⇑P **P 00 45 57.6 +0.6**
baz=97,SNR=7.4
H13A Challis 96.68 37 ⇑P **P 00 45 56.7 -0.3**
baz=97
CMB Columbia Colle 96.79 45 *e*P **P 00 45 56.6 -1.0**
comp=Z,6.0nm,1.0s,mb5.0
CMB LR LR
comp=Z,387nm,22.0s,MS4.8
CMB Columbia Colle 96.79 45 *e*P **P 00 45 56.6 -1.0**
CMB pmax pmax
comp=Z,6.0nm,1.0s,mb5.0
CMB MLR MLR
comp=Z,387nm,22.0s,MS4.8
CMB Columbia Colle 96.79 45 ⇓P **P 00 45 56.7 -0.9**
baz=97
EGMT Eagleton 96.81 32 PFAKE 00 46 10.0 +13
EGMT LR LR
comp=Z,495nm,19.0s,MS5.0
F15A Butte 96.84 35 ⇑P **P 00 45 58.2 +0.5**
baz=97
DLMT Dillon 97.09 35 *e*P **P 00 45 57.9 -0.9**
comp=Z,9.6nm,0.9s,mb5.2
R06C Coleville 97.13 44 ⇑P **P 00 45 59.3 +0.1**
baz=97
I13A Wildhorse Cree 97.17 37 ⇑P **P 00 45 59.6 +0.4**
baz=97
HLID Hailey 97.22 38 *e*P **P 00 46 00.1 +0.6**
comp=Z,3.5nm,1.0s,mb4.7
HLID LR LR
comp=Z,562nm,20.0s,MS5.0
HLID Hailey 97.22 38 ⇓P **P 00 45 59.9 +0.5**
baz=97
G15A Dillon 97.28 36 ⇓P **P 00 45 59.7 0.0**
baz=97,SNR=7.6
BOZ Bozeman (W) 97.42 35 PFAKE 00 46 10.0 +10
BOZ LR LR
comp=Z,405nm,19.0s,MS4.9
NVAR Mina Array Bea 97.92 44 P **P 00 46 02.4 -0.3**
comp=Z,2.7nm,0.9s,mb4.8,baz=290,slow=3.5,SNR=17
S08C White Mtn Res 98.54 44 ⇑P **P 00 46 05.2 -0.4**
baz=98
MAW Mawson 98.69 199 LR LR 01 27 08.0
comp=Z,331nm,18.6s,MS4.9,baz=162,slow=33
LSZ Lusaka 98.99 257 PFAKE 00 46 20.0 +12
LSZ LR LR
comp=Z,690nm,19.0s,MS5.2
DGMT Dagmar 99.14 29 PFAKE 00 46 20.0 +12
DGMT LR LR
comp=Z,495nm,19.0s,MS5.0
ISA Isabella 99.39 46 PFAKE 00 46 20.0 +11
ISA LR LR
comp=Z,898nm,21.0s,MS5.2
LAO LASA Array 99.47 31 PFAKE 00 46 20.0 +11
LAO LR LR
comp=Z,534nm,19.0s,MS5.1
AHID Auburn Hatcher 99.59 37 PFAKE 00 46 20.0 +10
AHID LR LR
comp=Z,473nm,19.0s,MS5.0
HWUT Hardware Ranch 100.08 38 PFAKE 00 46 20.0 +7.9
HWUT LR LR
comp=Z,604nm,20.0s,MS5.1
DUG Dugway 100.26 40 PFAKE 00 46 20.0 +7.2
DUG LR LR
comp=Z,455nm,20.0s,MS5.0
BW06 Boulder Array 100.44 36 PFAKE 00 46 20.0 +6.3
BW06 LR LR
comp=Z,468nm,21.0s,MS5.0
PDAR Pinedale Array 100.44 36 P Pdif 00 46 13.4 -0.2
comp=Z,0.4nm,0.5s,baz=93,slow=3.1,SNR=2.9
PDAR PP PP 00 50 19.1 -0.5
comp=Z,0.5nm,0.7s,baz=314,slow=4.4,SNR=3.2
GSC Goldstone 100.71 45 PFAKE 00 46 30.0 +15
GSC LR LR
comp=Z,361nm,20.0s,MS4.9
MPU Maple Canyon 101.07 39 PFAKE 00 46 30.0 +14
MPU LR LR
comp=Z,587nm,20.0s,MS5.1
ESDC Sonseca Array 101.18 321 PP PP 00 50 20.8 -4.6
comp=Z,1.2nm,0.9s,baz=48,slow=9.5,SNR=2.9
ESLA Sonseca Array 101.18 321 PFAKE 00 46 30.0 +13
ESLA LR LR
comp=Z,4μm,19.0s,MS5.9
ULM Lac du Bonnet 101.22 24 P Pdif 00 46 14.8 -2.3
comp=Z,0.4nm,0.3s,baz=18,slow=9.6,SNR=1.9
PFO Pinyon Flat Ob 101.93 47 PFAKE 00 46 30.0 +10
PFO LR LR
comp=Z,515nm,22.0s,MS5.0
AGMN Agassiz Refuge 102.81 25 PFAKE 00 46 30.0 +5.8
AGMN LR LR
comp=Z,664nm,21.0s,MS5.1
GLA Glamis 103.36 46 PFAKE 00 46 40.0 +13
GLA LR LR
comp=Z,313nm,19.0s,MS4.9
LBTB Lobatse 104.36 249 PFAKE 00 46 40.0 +8.9
LBTB LR LR
comp=Z,491nm,19.0s,MS5.1
ISCO Idaho Springs 104.64 36 PFAKE 00 46 40.0 +7.7
ISCO LR LR
comp=Z,344nm,20.0s,MS4.9
EYMN Ely 104.75 23 PFAKE 00 46 40.0 +7.2
EYMN LR LR
comp=Z,774nm,19.0s,MS5.3
BOSA Boshof 105.67 245 PFAKE 00 51 00.0 +9.5
BOSA LR LR
comp=Z,518nm,21.0s,MS5.0
ECSD EROS,Sioux Fal 106.16 28 PFAKE 00 51 00.0 +8.9
ECSD LR LR
comp=Z,573nm,20.0s,MS5.1
COWI Conover 107.16 22 PFAKE 00 51 00.0 +7.1
COWI LR LR
comp=Z,723nm,20.0s,MS5.2
ANMO Albuquerque 107.50 40 PFAKE 00 51 00.0 +6.2
ANMO LR LR
comp=Z,439nm,21.0s,MS5.0
CBKS Cedar Bluff 108.48 33 PFAKE 00 51 10.0 +14
CBKS LR LR
comp=Z,480nm,19.0s,MS5.1
RKT Rikitea 109.45 108 *e*LR LR 01 23 07.2
comp=Z,1μm,36.2s,baz=294
JFWS Jewell Farm 109.47 25 PFAKE 00 51 10.0 +13
JFWS LR LR
comp=Z,601nm,19.0s,MS5.2
GLMI Grayling 109.80 20 PFAKE 00 51 10.0 +12
GLMI LR LR
comp=Z,649nm,21.0s,MS5.2
KSU1 Kansas State U 109.82 31 PFAKE 00 51 10.0 +12
KSU1 LR LR
comp=Z,464nm,20.0s,MS5.0
AMTX Amarillo 110.34 37 PFAKE 00 51 10.0 +11
AMTX LR LR
comp=Z,361nm,20.0s,MS5.0
MNTX Cornudas Mount 110.36 42 PFAKE 00 51 10.0 +11
MNTX LR LR
comp=Z,564nm,20.0s,MS5.1
HDIL Hopedale 111.86 25 PFAKE 00 51 10.0 +8.1
HDIL LR LR
comp=Z,675nm,19.0s,MS5.2
TORD Torodi Ar. Bea 112.22 295 PKiKP PKiKP 00 50 59.9 -3.3
comp=Z,0.5nm,0.5s,baz=56,slow=1.5,SNR=10.0
TORD PKKPbc PKKPbc 01 01 55.1 +1.8
comp=Z,1.0nm,0.8s,baz=241,slow=4.0,SNR=4.5
AAM Ann Arbor 112.37 20 PFAKE 00 51 10.0 +7.2
AAM LR LR
comp=Z,668nm,20.0s,MS5.2
LONY Lake Ozonia 112.63 13 PFAKE 00 51 10.0 +6.8
LONY LR LR
comp=Z,476nm,20.0s,MS5.1
LTX Lajitas 113.06 43 PFAKE 00 51 10.0 +5.5
LTX LR LR
comp=Z,338nm,19.0s,MS5.0
TXAR Lajitas Array 113.06 43 P Pdif 00 47 13.3 +3.6
TXAR 00 51 03.2
TXAR Lajitas Array 113.06 43 Pdiff Pdif 00 47 13.3 +3.6
comp=Z,0.4nm,1.0s,baz=305,slow=5.4,SNR=2.8
TXAR PKiKP PKiKP 00 51 03.2 -1.3
comp=Z,1.0nm,0.8s,baz=218,slow=1.1,SNR=7.7
TXAR PKKPbc PKKPbc 01 01 56.0 +5.1
comp=Z,0.4nm,0.7s,baz=149,slow=10.0,SNR=3.7
CCM Cathedral Cave 113.14 28 PFAKE 00 51 10.0 +5.6
CCM LR LR
comp=Z,480nm,20.0s,MS5.1
NCB Newcomb 113.33 13 PFAKE 00 51 10.0 +5.4
NCB LR LR
comp=Z,431nm,22.0s,MS5.0
LBNH Lisbon 113.51 11 PFAKE 00 51 20.0 +15
LBNH LR LR
comp=Z,829nm,19.0s,MS5.3
ERPA Erie 113.66 18 PFAKE 00 51 20.0 +15
ERPA LR LR
comp=Z,803nm,21.0s,MS5.3
ACSO Alum Creek Sta 114.45 21 PFAKE 00 51 20.0 +13
ACSO LR LR
comp=Z,639nm,19.0s,MS5.2
JCT Junction City 114.62 39 PFAKE 00 51 20.0 +13
JCT LR LR
comp=Z,380nm,19.0s,MS5.0
BINY Binghamton 114.62 15 PFAKE 00 51 20.0 +13
BINY LR LR
comp=Z,707nm,19.0s,MS5.3
HRV Adam Dziewonsk 115.25 11 PFAKE 00 51 20.0 +12
HRV LR LR
comp=Z,654nm,19.0s,MS5.3
MCWV Mont Chateau 115.97 19 PFAKE 00 51 20.0 +10
MCWV LR LR
comp=Z,798nm,20.0s,MS5.3
NATX Nacogdoches 116.54 35 PFAKE 00 51 20.0 +8.9
NATX LR LR
comp=Z,608nm,21.0s,MS5.2
HKT Hockley 117.30 37 PFAKE 00 51 20.0 +7.4
HKT LR LR
comp=Z,556nm,22.0s,MS5.1
KVTX Kingsville 117.90 40 PFAKE 00 51 20.0 +6.2
KVTX LR LR
comp=Z,582nm,19.0s,MS5.2
CBN Corbin 118.03 17 PFAKE 00 51 20.0 +6.2
CBN LR LR
comp=Z,790nm,20.0s,MS5.3
BLA Blacksburg 118.03 20 PFAKE 00 51 20.0 +6.2
BLA LR LR
comp=Z,644nm,19.0s,MS5.3
LRAL Lakeview Retre 119.22 28 PFAKE 00 51 30.0 +14
LRAL LR LR
comp=Z,632nm,20.0s,MS5.2
GOGA Godfrey 120.36 25 PFAKE 00 51 30.0 +12
GOGA LR LR
comp=Z,738nm,22.0s,MS5.3
BRAL Brewton 120.91 29 PFAKE 00 51 30.0 +10
BRAL LR LR
comp=Z,658nm,20.0s,MS5.3
DBIC Dimbokro 121.02 292 PKP PKPdf 00 51 17.7 -2.4
DBIC LR LR
comp=Z,359nm,22.0s,MS5.0
DBIC Dimbokro 121.02 292 PKP PKPdf 00 51 17.7 -2.4
comp=Z,4.4nm,0.8s,baz=111,slow=3.1,SNR=5.8
LIC Lamto 121.38 292 ⇑*i*PKIKP PKPdf 00 51 18.3 -2.6
comp=Z,21nm,0.9s
LIC *e*MLR MLR
comp=Z,596nm,22.5s,MS4.9
LIC Lamto 121.38 292 ⇑*i*PKPdf PKPdf 00 51 18.3 -2.6
LIC LR LR
comp=Z,300nm,22.5s,MS4.9
NHSC New Hope 121.84 22 PFAKE 00 51 30.0 +8.7
NHSC LR LR
comp=Z,594nm,21.0s,MS5.2
VNA2 Neumayer--Watz 122.44 197 *e*PKPdf PKPdf 00 51 19.2 -1.9
baz=63,slow=1.2
VNA2 *e* 00 51 24.1
VNA2 *e* 00 51 27.1
VNA2 *e* 00 51 37.4
VNA3 Neumayer Olymp 122.89 197 *e*PKPdf PKPdf 00 51 19.5 -2.5
VNA3 *e* 00 51 24.2
VNA3 *e* 00 51 27.3
VNA3 *e* 00 51 38.0
DWPF Disney 125.85 26 PFAKE 00 51 40.0 +11
DWPF LR LR
comp=Z,752nm,20.0s,MS5.4
JTS JuntasAbangare 138.85 43 PFAKE 00 52 00.0 +6.1
JTS LR LR
comp=Z,420nm,19.0s,MS5.2
USHA Ushuaia 145.60 169 PKPbc PKPbc 00 52 02.3 -2.5
comp=Z,20nm,1.0s,baz=201,slow=7.2,SNR=4.1
SDV Santo Domingo 147.48 24 *e*PKPdf PKPdf 00 52 07.4 -1.7
ROSC El Rosal 149.40 34 PKPbc PKPbc 00 52 13.8 -2.8
ROSC *e*PKPdf PKPdf 00 52 18.3 +6.1
ROSC El Rosal 149.40 34 PKPbc PKPbc 00 52 13.8 -2.8
baz=270,slow=3.4
LPAZ La Paz 169.09 64 PKP PKPdf 00 52 30.5 -4.2
LPAZ *e*PKPdf PKPdf 00 52 33.3 -1.4
LPAZ *e*PKPab PKPab 00 53 45.8 -0.3
LPAZ *e*PP PP 00 57 33.1 -2.6
LPAZ LR LR
comp=Z,319nm,22.0s
LPAZ La Paz 169.09 64 PKIKP PKPdf 00 52 30.5 -4.2
LPAZ *e* 00 52 33.3
LPAZ *e* 00 57 33.1
LPAZ MLR MLR
comp=Z,319nm,22.0s
LPAZ La Paz 169.09 64 PKP PKPdf 00 52 30.5 -4.2
comp=Z,0.5nm,0.6s,baz=250,slow=12,SNR=2.3
SIV San Ignacio 173.90 30 PKP PKPdf 00 52 34.4 -2.6
comp=Z,7.8nm,1.2s,baz=205,slow=0.7,SNR=8.0
SIV PKPab PKPab 00 54 05.4 -1.9
comp=Z,3.3nm,1.0s,baz=320,slow=5.4,SNR=3.5
CPUP Villa Florida 174.99 186 PKP PKPdf 00 52 34.8 -2.4
comp=Z,0.2nm,0.3s,baz=113,slow=7.7,SNR=1.9
CPUP PKPab PKPab 00 54 07.1 -4.6
comp=Z,1.8nm,0.7s,baz=180,slow=5.2,SNR=4.3

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*ISCJB **21** 01:03:09.0±0.5, 1068N±009×41.18W±008, h10^{km}, mb4.0/19, MS3.4/2, Error ellipse: s-maj=13.8km s-min=10.5km az=155.9*
*IDC **21** 01:03:09.2±0.5, 1067N×4120W, h0^{km}, mb4.0/19, mb1 4.1/19, mb1mx4.0/26, mbtmp4.0/19, MS3.5/2, Ms1 3.4/2, ms1mx3.1/25, Error ellipse: s-maj=16.6km s-min=13.3km az=155.0*
*NEIC **21** 01:03:10.6±0.4, 1067N×41.17W, h10^{km}, mb4.2/3, Error ellipse: s-maj=11.6km s-min=9.7km az=158.0*
ISC 21 01:03:10.9±0.5, 1067N±009×4117W±008, h10^{km}, n24, σ0°90/23, mb4.0/19, MS3.4/2, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJG	**San Juan**	**25.27**	**290**	*e*P	**P**	**01 08 37.4**	**-0.3**
	3.6nm,0.3s,mb4.4						
SJG	**San Juan**	**25.27**	**290**	P	**P**	**01 08 36.5**	**-1.1**
	3.8nm,0.3s,mb4.3,baz=184,slow=19,SNR=2.6						
SJG				LR	LR	01 16 33.8	
	comp=Z,112nm,21.1s,MS3.4,baz=91,slow=32						
BDFB	**Brasilia**	**27.01**	**195**	LR	LR	01 19 01.3	
	comp=Z,100nm,20.1s,MS3.4,baz=155,slow=35						
SDV	**Santo Domingo**	**29.08**	**269**	*e*P	**P**	**01 09 12.0**	**+0.1**
	2.9nm,0.9s,mb4.0						
SDV	**Santo Domingo**	**29.08**	**269**	P	**P**	**01 09 12.7**	**+0.8**
	2.6nm,0.9s,mb4.0,baz=79,slow=7.0,SNR=5.3						
SIV	**San Ignacio**	**33.01**	**217**	P	**P**	**01 09 46.8**	**+0.3**
	0.8nm,0.8s,mb3.7,baz=74,slow=11,SNR=4.2						
DBIC	**Dimbokro**	**36.11**	**93**	P	**P**	**01 10 13.2**	**-0.3**
	4.6nm,0.5s,mb4.6,baz=264,slow=9.2,SNR=21						
LPAZ	**La Paz**	**37.80**	**225**	*e*P	**P**	**01 10 28.4**	**+0.6**
	3.1nm,0.8s,mb4.1						
LPAZ	**La Paz**	**37.80**	**225**	P	**P**	**01 10 28.2**	**+0.5**
	2.6nm,0.8s,mb4.0,baz=47,slow=9.6,SNR=12						
CPUP	**Villa Florida**	**40.00**	**203**	P	**P**	**01 10 45.9**	**-0.1**
	0.3nm,0.4s,mb3.4,baz=360,slow=7.3,SNR=5.3						
ATAH	**Atahualpa**	**41.00**	**246**	P	**P**	**01 10 55.7**	**+1.1**
	7.8nm,0.9s,mb4.3,baz=74,slow=9.2,SNR=4.7						
TOA0	**Torodi Ar. Sit**	**41.98**	**82**	*e*P	**P**	**01 11 02.4**	**-0.2**
TORD	**Torodi Ar. Bea**	**41.98**	**82**	P	**P**	**01 11 01.5**	**-1.1**
	3.9nm,0.7s,mb4.2,baz=278,slow=8.3,SNR=36						
SCHQ	**Schefferville**	**48.49**	**340**	P	**P**	**01 11 54.1**	**+0.4**
	1.8nm,0.7s,mb4.2,baz=202,slow=12,SNR=5.5						
CFAA	**Coronel Fontan**	**49.39**	**211**	P	**P**	**01 12 00.7**	**-0.3**
	0.2nm,0.4s,mb3.5,baz=54,slow=4.9,SNR=4.1						
KEST	**Kesra**	**52.02**	**53**	P	**P**	**01 12 22.4**	**+1.6**
	0.9nm,0.8s,mb3.8,baz=270,slow=5.1,SNR=3.4						
PLCA	**Paso Flores**	**57.91**	**206**	P	**P**	**01 13 03.3**	**+0.1**
	1.6nm,0.8s,mb4.1,baz=1.0,slow=10,SNR=4.1						
ULM	**Lac du Bonnet**	**59.62**	**323**	P	**P**	**01 13 13.4**	**-1.7**
	2.2nm,0.8s,mb4.2,baz=88,slow=6.7,SNR=5.2						
TXAR	**Lajitas Array**	**60.92**	**298**	P	**P**	**01 13 24.0**	**-0.4**
	1.0nm,0.9s,mb4.0,baz=113,slow=7.0,SNR=9.9						
PDAR	**Pinedale Array**	**66.97**	**312**	P	**P**	**01 14 04.2**	**+0.3**
	0.5nm,0.6s,mb3.7,baz=116,slow=5.1,SNR=4.9						
AKASG	**Malin Array Be**	**69.41**	**40**	P	**P**	**01 14 20.1**	**+1.0**
	0.2nm,0.3s,mb3.6,baz=263,slow=5.2,SNR=5.0						
FINES	**FINESS Array B**	**69.88**	**28**	P	**P**	**01 14 23.5**	**+1.7**
	1.4nm,1.0s,mb3.9,baz=310,slow=8.7,SNR=2.0						
YKA	**Yellowknife Ar**	**72.95**	**332**	P	**P**	**01 14 38.9**	**-1.5**
	0.4nm,0.8s,mb3.4,baz=101,slow=6.1,SNR=8.5						
BOSA	**Boshof**	**75.06**	**123**	P	**P**	**01 14 52.1**	**-1.1**
	3.0nm,1.0s,mb4.2,baz=270,slow=3.0,SNR=2.3						

*IDC **21** 01:04:32.5±0.6, 1814S×17123W, h0km, mb4.5/14, mb1 4.6/14, mb1mx4.6/19, mbtmp4.5/14, MS4.0/3, Ms1 3.9/3, ms1mx3.6/24, Error ellipse: s-maj=25.2km s-min=15.2km az=144.0*

*SZGRF **21** 01:04:37.3, 1874S×17057W, h33km, Tonga Islands region*

*ISCJB **21** 01:04:37.5±0.4, 1812S±009×17160W±008, h33km, mb4.7/32, MS4.2/5, Error ellipse: s-maj=15.6km s-min=8.1km az=144.4*

*BJI **21** 01:04:38.2, 1790S×17170W, h35km, mB5.4, mb5.2, Ms5.2, Msz4.8*

*NEIC **21** 01:04:40.2±0.4, 1790S×17171W, h35km, mb4.8/12, Error ellipse: s-maj=20.7km s-min=9.8km az=140.0*

*MOS **21** 01:04:43.6±1.4, 1721S×17259W, h33km, mb5.0/13, Error ellipse: s-maj=15.6km s-min=13.8km az=88.6*

ISC 21 01:04:39.3±0.4, 1810S±009×17157W±008, h35km, (h35km±3.0km:pP-P), n176, σ1$00/71, mb4.7/32, MS4.2/5, 10C-12D, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**4.17**	**357**	*e*Pn	**Pn**	**01 05 36.0**	**-4.5**
AFI				*e*Sn	**Sn**	**01 06 18.6**	**-9.4**
RAR	**Rarotonga**	**11.54**	**107**	Pn	**Pn**	**01 07 09.8**	**-12**
	8.3nm,0.3s,baz=267,slow=9.0,SNR=13						
RAR				Sn	Sx	01 09 06.0	
	4.9nm,0.3s,baz=326,slow=18,SNR=4.2						
URZ	**Urewera**	**22.39**	**204**	P	**P**	**01 09 35.2**	**+0.6**
	5.9nm,0.7s,mb4.1,baz=72,slow=11,SNR=3.4						
HNR	**Honiara**	**28.94**	**284**	LR	LR	01 20 03.8	
	comp=Z,411nm,21.1s,MS4.0,baz=181,slow=32						
CTA	**Charters Tower**	**39.83**	**260**	*e*P	**P**	**01 12 10.4**	**+0.8**
	16nm,0.9s,mb4.8						
CTA	**Charters Tower**	**39.83**	**260**	*e*P	**P**	**01 12 10.4**	**+0.8**
CTA				pmax	pmax		
	comp=Z,16nm,0.9s						
CTA	**Charters Tower**	**39.83**	**260**	P	**P**	**01 12 10.2**	**+0.6**
	comp=Z,21nm,0.9s,mb4.9,baz=88,slow=9.6,SNR=13						
CTAO	**Charters Tower**	**39.83**	**260**	*e*P	**P**	**01 12 10.8**	**+1.2**
STKA	**Stephens Creek**	**44.28**	**243**	*e*P	**P**	**01 12 46.8**	**+1.0**
	comp=Z,12nm,0.9s,mb4.6						
STKA	**Stephens Creek**	**44.28**	**243**	*e*P	**P**	**01 12 46.4**	**+0.6**
STKA	**Stephens Creek**	**44.28**	**243**	P	**P**	**01 12 46.6**	**+0.7**
	comp=Z,13nm,1.0s,mb4.6,baz=70,slow=7.9,SNR=15						
STKA				LR	LR	01 29 54.4	
	comp=Z,88nm,19.2s,MS3.7,baz=205,slow=34						
WB2	**Warramunga Arr**	**50.97**	**259**	*e*P	**P**	**01 13 38.0**	**+0.1**
WRAB	**Tennant Creek**	**50.98**	**259**	*e*P	**P**	**01 13 38.0**	**+0.1**
	comp=Z,33nm,1.1s,mb5.2						
WRAB	**Tennant Creek**	**50.98**	**259**	*e*P	**P**	**01 13 38.0**	**+0.1**
WRAB				pmax	pmax		
	comp=Z,33nm,1.1s,mb5.2						
WRA	**Warramunga Arr**	**50.98**	**259**	P	**P**	**01 13 38.1**	**+0.1**
	comp=Z,17nm,0.9s,mb5.0,baz=95,slow=7.0,SNR=84						
WRA				LR	LR	01 33 30.0	
	comp=Z,172nm,18.5s,MS4.1,baz=195,slow=34						
ASAR	**Alice Springs**	**50.99**	**254**	P	**P**	**01 13 38.8**	**+0.8**
ASAR				pmax	pmax		
	comp=Z,16nm,0.9s						
ASAR	**Alice Springs**	**50.99**	**254**	P	**P**	**01 13 38.8**	**+0.8**
	comp=Z,16nm,0.9s,mb5.0,baz=92,slow=6.9,SNR=50						
KAKA	**Kakadu**	**54.08**	**267**	*e*P	**P**	**01 14 02.1**	**+1.1**
	comp=Z,9.2nm,0.6s,mb4.9						
KAKA	**Kakadu**	**54.08**	**267**	*e*P	**P**	**01 14 00.8**	**-0.2**
FITZ	**Fitzroy Crossi**	**59.40**	**259**	*e*P	**P**	**01 14 39.4**	**+0.6**
	comp=Z,5.5nm,0.7s,mb4.7						
FITZ	**Fitzroy Crossi**	**59.40**	**259**	P	**P**	**01 14 38.7**	**0.0**
	comp=Z,3.1nm,0.7s,mb4.5,baz=136,slow=16,SNR=8.9						
VNDA	**Vanda**	**60.89**	**186**	P	**P**	**01 14 47.5**	**-0.6**
VNDA	**Vanda**	**60.89**	**186**	P	**P**	**01 14 47.5**	**-0.6**
	comp=Z,1.5nm,0.9s,mb4.1,baz=22,slow=2.8,SNR=3.6						
MBWA	**Marble Bar**	**64.32**	**255**	*e*P	**P**	**01 15 10.7**	**-1.1**
	comp=Z,10.0nm,0.9s,mb4.8						
QSPA	**South Pole Qui**	**71.96**	**180**	*e*P	**P**	**01 15 57.5**	**-1.2**
	comp=Z,1.3nm,1.2s,mb4.7						
MJAR	**Matsushiro Arr**	**72.12**	**319**	P	**P**	**01 16 00.1**	**-0.1**
	comp=Z,0.4nm,0.3s,mb3.8,baz=144,slow=4.9,SNR=4.2						
NVAR	**Mina Array Bea**	**75.19**	**41**	P	**P**	**01 16 18.1**	**-0.1**
	comp=Z,2.7nm,0.9s,mb4.2,baz=216,slow=7.5,SNR=11						
YSS	**Yuzh-Sakhalins**	**76.68**	**330**	*e*P	**P**	**01 16 26.4**	**-0.2**
YSS				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.7						
YSS				MLR	MLR		
	comp=Z,100nm,17.0s,MS4.2						
MSU	**Marysvale**	**79.14**	**43**	*e*P	**P**	**01 16 41.4**	**+0.9**
KSM	**Kuching**	**79.17**	**275**	*e*P	**P**	**01 16 40.2**	**-1.1**
KSRS	**Korea Array**	**79.30**	**315**	P	**P**	**01 16 42.8**	**+1.4**
KSRS				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.2						
KSRS	**Korea Array**	**79.30**	**315**	P	**P**	**01 16 42.8**	**+1.4**
	comp=Z,1.8nm,0.7s,mb4.1,baz=128,slow=5.4,SNR=7.5						
SRU	**San Rafael**	**80.55**	**44**	*e*P	**P**	**01 16 50.9**	**+2.8**
TXAR	**Lajitas Array**	**80.68**	**55**	P	**P**	**01 16 45.4**	**-3.7**
	comp=Z,0.4nm,1.0s,baz=224,slow=7.5,SNR=2.3						
ANMO	**Albuquerque**	**81.22**	**49**	*e*P	**P**	**01 16 53.4**	**+1.6**
GDL2	**Guadalupe Moun**	**81.45**	**52**	*e*P	**P**	**01 16 55.8**	**+2.7**
MCMT	**McKenzie Canyo**	**82.27**	**38**	*e*P	**P**	**01 16 57.0**	**-0.1**
REDW	**Red Top Meadow**	**82.65**	**40**	*e*P	**P**	**01 17 01.9**	**+2.8**
	comp=Z,12nm,1.3s,mb4.8						
TPAW	**Teton Pass**	**82.66**	**40**	*e*P	**P**	**01 16 59.9**	**+0.8**
	comp=Z,6.2nm,1.0s,mb4.6						
IMW	**Indian Meadow**	**82.89**	**39**	*e*P	**P**	**01 17 00.3**	**0.0**
	comp=Z,11nm,1.5s,mb4.7						
LOHW	**Long Hollow**	**82.93**	**40**	*e*P	**P**	**01 17 00.5**	**0.0**
SMCO	**Snowmass**	**82.94**	**45**	*e*P	**P**	**01 17 01.2**	**+0.5**
	comp=Z,10nm,1.4s,mb4.7						
LRM	**Limekiln Ridge**	**83.07**	**37**	*e*P	**P**	**01 17 00.9**	**-0.3**
QLMT	**Earthquake Lak**	**83.11**	**38**	*e*P	**P**	**01 17 02.2**	**+0.7**
PDAR	**Pinedale Array**	**83.12**	**41**	P	**P**	**01 16 58.2**	**-3.4**
	comp=Z,3.8nm,0.9s,mb4.4,baz=202,slow=3.2,SNR=11						
FLWY	**Flagg Ranch**	**83.13**	**39**	*e*P	**P**	**01 17 01.2**	**-0.4**
	comp=Z,21nm,1.4s,mb5.0						
NJ2	**Nanjing**	**83.18**	**307**	*e*P	**P**	**01 17 03.6**	**+1.5**
NJ2				AMB	AMB		
	comp=Z,50nm,0.7s						
HRY	**Holter Researc**	**83.93**	**37**	*e*P	**P**	**01 17 05.2**	**-0.4**
RWWY	**Rawlins**	**84.05**	**43**	*e*P	**P**	**01 17 06.7**	**+0.3**
COLA	**College**	**84.69**	**10**	*e*P	**P**	**01 17 07.9**	**-1.1**
	comp=Z,11nm,0.9s,mb5.0						
COLA	**College**	**84.69**	**10**	*e*P	**P**	**01 17 07.9**	**-1.1**
COLA				pmax	pmax		
	comp=Z,11nm,0.9s,mb5.0						
SEY	**Seymchan**	**85.57**	**344**	*e*P	**P**	**01 17 12.1**	**-1.4**
DAWY	**Dawson**	**85.60**	**14**	*e*P	**P**	**01 17 13.6**	**-0.1**
MAW	**Mawson**	**85.80**	**198**	*e*P	**P**	**01 17 13.8**	**-1.0**
	comp=Z,1.8nm,0.6s,mb4.5						
MAW	**Mawson**	**85.80**	**198**	*e*P	**P**	**01 17 13.8**	**-1.0**
MAW				pmax	pmax		
	comp=Z,2.0nm,0.6s						
MAW	**Mawson**	**85.80**	**198**	P	**P**	**01 17 12.4**	**-2.4**
	comp=Z,2.4nm,0.8s,mb4.5,baz=116,slow=4.0,SNR=7.5						
EDM	**Edmonton**	**86.88**	**31**	*e*P	**P**	**01 17 18.9**	**-1.3**
BILL	**Bilibino**	**87.41**	**352**	*e*P	**P**	**01 17 21.8**	**-0.6**
BILL				*e*SS	SS	01 33 35.0	-11
BILL				pmax	pmax		
	comp=Z,16nm,2.5s,mb4.8						
PSI	**Prapat**	**90.39**	**273**	P	**P**	**01 17 37.9**	**+0.1**
PSI				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.8						
PSI	**Prapat**	**90.39**	**273**	P	**P**	**01 17 37.9**	**+0.1**
	comp=Z,4.8nm,0.9s,mb4.8,baz=171,slow=5.9,SNR=5.4						
HIA	**Hailar**	**90.39**	**322**	*e*P	**P**	**01 17 36.0**	**-0.9**
GYA	**Guiyang**	**90.84**	**297**	P	**P**	**01 17 40.0**	**+0.4**
GYA				AP	pP	01 17 52.4	+1.7
GYA				XP	sP	01 17 56.3	+1.6
GYA				SKS		01 28 07.9	
GYA				S	S	01 28 31.8	-2.4
GYA				XS	sS	01 28 49.9	-2.7
GYA				SS	SS	01 34 37.3	-0.4
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb5.2						
GYA				AMB	AMB		
	comp=Z,90nm,6.7s						
GYA				LR	LR		
	comp=N,420nm,20.7s,MS5.0						
GYA				LR	LR		
	comp=E,460nm,22.1s,MS5.0						
GYA				LR	LR		
	comp=Z,400nm,20.8s,MS4.8						
YKA	**Yellowknife Ar**	**91.88**	**23**	P	**P**	**01 17 42.5**	**-0.9**
YKA	**Yellowknife Ar**	**91.88**	**23**	P	**P**	**01 17 42.5**	**-1.0**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.9s						
YKA	**Yellowknife Ar**	**91.88**	**23**	P	**P**	**01 17 42.5**	**-0.9**
	comp=Z,1.1nm,0.9s,mb4.2,baz=235,slow=4.1,SNR=9.7						
KMI	**Kunming**	**93.76**	**295**	P	**P**	**01 17 54.6**	**+1.5**
KMI				AP	pP	01 18 04.9	+0.7
KMI				XP	sP	01 18 09.8	+1.6
KMI				AMB	AMB		
	comp=Z,13nm,1.1s,mb5.3						
CD2	**Chengdu**	**94.70**	**301**	*e*P	**P**	**01 17 56.4**	**-0.9**
CD2				XP	sP	01 18 10.9	-1.5
CD2				PP	PP	01 21 47.0	+0.9
CD2				SKS		01 28 27.6	
CD2				S	S	01 29 03.8	-4.5
CD2				SS	SS	01 35 31.3	-1.6
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb5.3						
CD2				AMB	AMB		
	comp=Z,30nm,9.2s						
ULM	**Lac du Bonnet**	**94.93**	**39**	P	**P**	**01 17 57.9**	**0.0**
	comp=Z,1.4nm,0.8s,mb4.4,baz=211,slow=2.7,SNR=3.1						
LZH	**Lanzhou**	**96.22**	**306**	*e*P	**P**	**01 18 04.0**	**-0.1**
LZH				AP	pP	01 18 13.5	-1.7
LZH				XP	sP	01 18 17.5	-1.7
LZH				AMB	AMB		
	comp=Z,13nm,1.0s,mb5.3						
LZH				AMB	AMB		
	comp=Z,63nm,4.3s						
ULN	**Ulaanbaatar**	**97.60**	**318**	*e*P	**P**	**01 18 08.7**	**-1.3**
TIXI	**Tiksi**	**98.06**	**344**	*e*P	**P**	**01 18 10.6**	**-1.0**
TIXI				pmax	pmax		
	comp=Z,1.0nm,1.0s,mb4.3						
MKAR	**Makanchi Array**	**113.95**	**314**	PKP	PKiKP	01 23 12.6	-2.0
	comp=Z,0.4nm,0.5s,baz=37,slow=2.1,SNR=4.3						
BVAR	**Borovoye Array**	**121.08**	**322**	PKIKP	PKPdf	01 23 27.5	-0.6
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
BVAR	**Borovoye Array**	**121.08**	**322**	PKP	PKPdf	01 23 27.5	-0.5
	comp=Z,0.8nm,0.5s,baz=48,slow=2.2,SNR=8.0						
ARCES	**ARCESS Array B**	**127.50**	**353**	PKIKP	PKPdf	01 23 38.8	-1.1
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.8s						
ARCES	**ARCESS Array B**	**127.50**	**353**	PKP	PKPdf	01 23 38.8	-1.1
	comp=Z,2.3nm,0.8s,baz=29,slow=2.8,SNR=4.4						
OBN	**Obninsk**	**137.27**	**336**	↑*i*PKIKP	PKPdf	01 23 59.3	+0.6
OBN				pmax	pmax		
	comp=Z,26nm,2.4s						
KIV	**Kislovodsk**	**141.38**	**319**	*i* PKIKP	PKPdf	01 24 09.4	+2.8
KIV				*e*		01 27 05.2	
KIV				pmax	pmax		
	comp=Z,14nm,1.9s						
AKASG	**Malin Array Be**	**143.49**	**338**	PKhKP		01 24 04.8	
	comp=Z,0.4nm,0.4s,baz=35,slow=3.9,SNR=4.8						
NRDL	**Niedersach Rie**	**145.65**	**358**	*e*PKPbc	PKPbc	01 24 14.2	+0.1
KMBO	**Kilima Mbogo**	**145.80**	**239**	*e*PKP	PKPdf	01 24 16.5	+1.2
IBBN	**Ibbenburen**	**145.86**	**1**	*e*PKPbc	PKPbc	01 24 14.9	+0.1
CLZ	**Clausthal**	**146.30**	**358**	*e*PKPbc	PKPbc	01 24 16.3	+0.2
KWP	**Kalwaria**	**146.51**	**343**	*e*PKP	PKPbc	01 24 17.0	+0.2
KWP	**Kalwaria**	**146.51**	**343**	↓*i*P	PKPbc	01 24 17.6	+0.8
CLL	**Collm**	**146.67**	**355**	*e*PKPbc	PKPbc	01 24 16.7	-0.5
CLL	**Collm**	**146.67**	**355**	↓*i*PKPbc	PKPbc	01 24 16.9	-0.3
	comp=Z,23nm,1.0s						
CLL				*i* PKPab	PKPab	01 24 20.2	+1.9
	comp=Z,15nm,1.0s						
CLL				*i* pPKPbc	pPKPbc	01 24 27.7	-0.9
OJC	**Ojcow**	**146.68**	**347**	*e*PKP	PKPbc	01 24 17.0	-0.3
KSP	**Ksiaz**	**146.74**	**351**	*e*PKP	PKPbc	01 24 18.0	+0.6
KSP	**Ksiaz**	**146.74**	**351**	*e*PKIKP	PKPbc	01 24 17.6	+0.2
MALT	**Malatya**	**146.99**	**314**	↓P	PKPbc	01 24 19.6	+1.0
MALT	**Malatya**	**146.99**	**314**	↓*i*P	PKPbc	01 24 19.6	+1.0
BRG	**Berggiesshubel**	**147.01**	**354**	*e*PKPbc	PKPbc	01 24 18.0	-0.2
BRG	**Berggiesshubel**	**147.01**	**354**	*e*PKP	PKPbc	01 24 18.2	0.0
	comp=Z,10nm,0.9s						
FBE	**Freiberg**	**147.02**	**354**	*e*PKPbc	PKPbc	01 24 18.5	+0.3
STHS	**Stebnicka Huta**	**147.09**	**345**	*e*PKP	PKPbc	01 24 18.9	+0.4
UPC	**Upice**	**147.10**	**351**	*e*PKP	PKPbc	01 24 18.9	+0.4
DPC	**Dobruska-Polom**	**147.21**	**351**	*e*PKP	PKPbc	01 24 18.9	+0.1
KOLS	**Kolonicke sedl**	**147.26**	**343**	*e*PKP	PKPbc	01 24 19.1	+0.1
PVCC	**Panska Ves**	**147.28**	**353**	*e*PKP	PKPbc	01 24 18.9	-0.1
PVCC				*ex*	x	01 24 22.6	
OKC	**Ostrava-Krasne**	**147.39**	**348**	*e*PKP	PKPbc	01 24 20.0	+0.7
MOX	**Moxa**	**147.43**	**356**	*e*PKP	PKPbc	01 24 18.8	-0.6
CRVS	**Cervenica-Dubn**	**147.51**	**344**	*e*PKP	PKPbc	01 24 18.9	-0.7
UZH	**Uzhgorod**	**147.53**	**343**	↓*i*PKIKP	PKPbc	01 24 20.0	+0.3
UZH				*e*		01 24 28.0	
MORC	**Moravsky Berou**	**147.56**	**349**	↓P	PKPbc	01 24 20.1	+0.4
MORC	**Moravsky Berou**	**147.56**	**349**	↓*i*P	PKPbc	01 24 20.1	+0.3
WERD	**Werda**	**147.58**	**355**	*e*PKPbc	PKPbc	01 24 19.5	-0.3
TANN	**Tannenbergstha**	**147.60**	**355**	*e*PKPbc	PKPbc	01 24 19.5	-0.3
GUNZ	**Gunzen**	**147.66**	**355**	*e*PKPbc	PKPbc	01 24 19.7	-0.3
WERN	**Wernitzgruen**	**147.73**	**355**	*e*PKPbc	PKPbc	01 24 20.2	0.0
NKC	**Novy Kostel**	**147.78**	**355**	*e*PKP	PKPbc	01 24 20.3	0.0
PRU	**Pruhonice**	**147.81**	**353**	*e*PKP	PKPbc	01 24 20.2	-0.2
PRU				*ex*	x	01 24 24.0	
BAIF	**Baives**	**147.94**	**5**	*e*PKP1	PKPbc	01 24 19.6	-1.2
	comp=Z,24nm,1.2s						
GIVF	**Givet**	**147.94**	**4**	*e*PKP1	PKPbc	01 24 20.4	-0.4
MANZ	**Manzenberg**	**148.05**	**356**	*e*PKPbc	PKPbc	01 24 21.2	+0.1
KECS	**Kecovo**	**148.15**	**345**	*e*PKP	PKPbc	01 24 20.5	-0.9
ROTZ	**Rotzenmuhle**	**148.26**	**355**	*e*PKPbc	PKPbc	01 24 21.2	-0.4
TREC	**Trest**	**148.36**	**351**	*e*PKP	PKPbc	01 24 22.0	+0.1
ROSF	**Rostrenen**	**148.37**	**15**	*e*PKP1	PKPbc	01 24 20.8	-1.2
GRA1	**Grafenberg Arr**	**148.41**	**357**	*e*PKPbc	PKPbc	01 24 21.7	-0.3
GRF	**Grafenberg Arr**	**148.41**	**357**	*e*PKPbc	PKPbc	01 24 21.7	-0.3
VYHS	**Vyhne**	**148.52**	**347**	*i* PKP	PKPbc	01 24 22.7	+0.3
KOLL	**Kolacno**	**148.53**	**347**	*e*PKP	PKPbc	01 24 22.7	+0.3
FLN	**La Foliniere**	**148.57**	**11**	*e*PKP1	PKPbc	01 24 21.5	-1.0
	comp=Z,24nm,0.8s						
SGMF	**Saint Gilles**	**148.62**	**14**	*e*PKP1	PKPbc	01 24 21.5	-1.1
	comp=Z,46nm,1.4s						
KHC	**Kasperske Hory**	**148.77**	**353**	*e*PKP	PKPbc	01 24 23.1	+0.1
KHC				*ex*	x	01 24 26.8	
QUIF	**Quistinic**	**148.79**	**15**	*e*PKP1	PKPbc	01 24 22.1	-1.0
LDF	**La Druitiere**	**148.80**	**11**	*e*PKP1	PKPbc	01 24 22.1	-1.0
	comp=Z,16nm,0.8s						
WET	**Wettzell**	**148.82**	**354**	*e*PKPbc	PKPbc	01 24 22.8	-0.3
GRR	**Gorron**	**148.86**	**12**	*e*PKP1	PKPbc	01 24 22.5	-0.7
	comp=Z,20nm,0.9s						
MODS	**Modra-Piesok**	**148.96**	**349**	*e*PKP	PKPbc	01 24 24.2	+0.7
GEC2	**GERESS Array S**	**149.03**	**353**	*e*PKPbc	PKPbc	01 24 23.5	-0.2
GERES	**GERESS Array B**	**149.03**	**353**	PKHKP	PKPbc	01 24 22.0	-1.7
GERES				pmax	pmax		
	comp=Z,2.0nm,0.9s						
GERES	**GERESS Array B**	**149.03**	**353**	PKPbc	PKPbc	01 24 22.0	-1.7
	comp=Z,1.9nm,0.9s,baz=29,slow=3.0,SNR=17						
DRGR		**149.06**	**341**	↑P	PKPbc	01 24 23.9	+0.1
DRGR		**149.06**	**341**	↑*i*P	PKPbc	01 24 23.9	+0.1
ZST	**Bratislava**	**149.16**	**349**	*e*PKP	PKPbc	01 24 24.9	+0.9
MEZF	**Maizieres J'vi**	**149.55**	**4**	*e*PKP1	PKPbc	01 24 24.9	-0.1
CONA	**Conrad Observa**	**149.63**	**350**	↓*i*PKPbc	PKPbc	01 24 25.1	-0.1
	comp=Z,9.7nm,1.2s						
CDF	**Champ du Feu**	**149.75**	**2**	*e*PKP1	PKPbc	01 24 25.1	-0.3
	comp=Z,22nm,1.3s						
BFO	**Black Forest**	**149.85**	**0**	*e*PKPbc	PKPbc	01 24 24.7	-1.0
BFO	**Black Forest**	**149.85**	**0**	*e*PKPbc	PKPbc	01 24 25.2	-0.5
FUR	**Furstenfeldbru**	**149.92**	**356**	*e*PKPbc	PKPbc	01 24 26.0	+0.1
HAU	**Haudompre**	**150.12**	**3**	*e*PKP1	PKPbc	01 24 26.0	-0.4
	comp=Z,32nm,1.1s						
HINF	**Hinteralfeld**	**150.33**	**2**	*e*PKP1	PKPbc	01 24 26.2	-0.7
BZS	**Buzias**	**150.45**	**341**	↑P	PKPbc	01 24 27.1	-0.1
BZS	**Buzias**	**150.45**	**341**	↑*i*P	PKPbc	01 24 27.1	-0.1
HYF	**Humbligny**	**150.52**	**8**	*e*PKP1	PKPbc	01 24 27.1	-0.2
RETA	**Reutte**	**150.63**	**357**	↑*i*PKPbc	PKPbc	01 24 27.5	-0.1
	comp=Z,2.4nm,0.5s						
LOR	**Lormes**	**150.67**	**6**	*e*PKP1	PKPbc	01 24 27.3	-0.4
	comp=Z,23nm,1.0s						
MFF	**Saint Martin d**	**150.71**	**12**	*e*PKP1	PKPbc	01 24 26.9	-0.9
	comp=Z,14nm,0.9s						
PKSM	**Moragy**	**150.72**	**345**	↓P	PKPbc	01 24 27.0	-0.8
PKSM	**Moragy**	**150.72**	**345**	↓*i*P	PKPbc	01 24 27.0	-0.8
MOTA	**Moosalm**	**150.75**	**356**	↑*i*P	PKPbc	01 24 27.7	-0.2
	comp=Z,5.0nm,1.0s						
WTTA	**Wattenberg**	**150.79**	**356**	↑*i*P	PKPbc	01 24 28.1	+0.1
	comp=Z,9.8nm,0.6s						
KBA	**Koelnbreinsper**	**150.82**	**353**	↑*i*P	PKPbc	01 24 27.5	-0.5
	comp=Z,3.4nm,0.6s						
SSF	**Saint Saulge**	**150.83**	**7**	*e*PKP1	PKPbc	01 24 27.8	-0.3
	comp=Z,30nm,0.9s						
DAVA	**Damuels

WKZ	Wanaka	1.30	77	P	Pn	02 25 07.8	-0.1
WKZ	Wanaka	1.30	77	PN	Pn	02 25 07.8	-0.1
WKZ				SN	Sn	02 25 24.2	0.0
EAZ	Earnscleugh	1.47	95	P	Pn	02 25 10.1	-0.1
EAZ	Earnscleugh	1.47	95	⇓PN	Pn	02 25 10.1	-0.1
EAZ				SN	Sn	02 25 27.1	-1.2
JCZ	Jackson Bay	1.52	46	⇑PN	Pn	02 25 10.7	-0.2
JCZ				SN	Sn	02 25 33.2	+3.6
APZ	The Paps	1.78	163	⇑PN	Pn	02 25 14.2	-0.3
TUZ	Tuapeka	1.87	117	PN	Pn	02 25 15.1	-0.6
TUZ				SN	Sn	02 25 36.8	-1.4
SYZ	Scrubby Hill	1.93	137	⇓PN	Pn	02 25 16.1	-0.5
SYZ				SN	Sn	02 25 38.4	-1.3
LBZ	Lake Benmore	2.23	71	PN	Pn	02 25 19.5	-1.1
FOZ	Fox Glacier	2.36	49	PN	Pn	02 25 22.0	-0.4
ODZ	Otahua Downs	2.42	89	⇓PN	Pn	02 25 22.2	-0.9
HHSZ	Highcliff Hill	2.48	109	⇓PN	Pn	02 25 23.6	-0.5
HHSZ				SN	Sn	02 25 49.7	-3.3
RPZ	Rata Peaks	3.08	64	PN	Pn	02 25 30.4	-1.8
WVZ	Waitaha Valley	3.25	52	PN	Pn	02 25 32.9	-1.7
LTZ	Lake Taylor	4.33	59	PN	Pn	02 25 47.0	-2.3
DSZ	Denniston Nort	4.75	46	PN	Pn	02 25 53.2	-1.9
THZ	Tophouse	5.33	53	PN	Pn	02 26 01.2	-1.8
QRZ	Quartz Range	5.79	44	PN	Pn	02 26 07.8	-1.7
NNZ	Nelson	5.96	51	PN	Pn	02 26 11.3	-0.4
DUWZ	D'Urville Isla	6.54	51	PN	Pn	02 26 19.1	-0.6

*IDC **21** 02:33:25.9±1.6, 1342N×12021E, h0km, mb4.0/4, mb1 4.1/4, mb1mx3.7/19, mbtmp4.0/4, Error ellipse: s-maj=155.9km s-min=24.7km az=59.0*
*ISCJB **21** 02:33:28.3±0.7, 138N±0.1×1210E±02, h33km, mb4.1/13, Error ellipse: s-maj=27.0km s-min=9.9km az=149.2*
*NEIC **21** 02:33:34.7±7.2, 1375N×12087E, h75km±69km, mb4.2/10, Error ellipse: s-maj=32.2km s-min=6.8km az=55.0*

ISC 21 02:33:30.5±0.7, 138N±01×1210E±02, h35km, n17, σ0°58/17, mb4.1/13, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHTO	Chiang Mai	21.72	286	eP	P	02 38 19.6	+0.8
	2.4nm,0.3s,mb4.1						
KULM	Kulim	21.75	249	eP	P	02 38 19.1	-0.1
MBWA	Marble Bar	34.77	182	eP	P	02 40 17.3	-0.5
	5.3nm,0.5s,mb4.7						
WRA	Warramunga Arr	36.02	158	P	P	02 40 28.1	-0.4
	1.7nm,0.7s,mb4.1,baz=337,slow=9.4,SNR=26						
WB2	Warramunga Arr	36.02	158	eP	P	02 40 28.3	-0.2
ASAR	Alice Springs	39.33	161	P	P	02 40 56.4	-0.1
	1.1nm,0.7s,mb3.7,baz=335,slow=7.4,SNR=14						
CTA	Charters Tower	41.86	143	P	P	02 41 19.2	+1.8
	3.9nm,0.9s,mb4.0,baz=315,slow=8.6,SNR=4.1						
CTAO	Charters Tower	41.86	143	eP	P	02 41 18.5	+1.0
	1.7nm,0.4s,mb4.0						
FORT	Forrest	44.84	171	eP	P	02 41 41.2	-0.2
	0.7nm,0.6s,mb3.7						
MK31	Makanchi Array	46.11	323	eP	P	02 41 50.9	-0.4
MKAR	Makanchi Array	46.11	323	P	P	02 41 50.8	-0.5
	0.4nm,0.3s,mb3.6,baz=123,slow=8.8,SNR=6.0						
TKM2	Tokmak 2	48.54	316	eP	P	02 42 10.4	+0.1
	1.7nm,0.6s,mb4.2						
UCH	Uchtor	49.03	315	eP	P	02 42 15.0	+1.0
	6.2nm,1.3s,mb4.5						
AAK	Ala-Archa	49.19	315	eP	P	02 42 14.5	-0.7
	0.5nm,0.5s,mb3.8						
KURK	Kurchatov	50.26	326	eP	P	02 42 22.9	-0.2
	3.8nm,0.5s,mb4.7						
BRVK	Borovoye	55.91	326	eP	P	02 43 04.4	-0.4
	1.9nm,0.8s,mb4.2						
MORC	Moravsky Berou	88.04	321	eP	P	02 46 17.8	+0.5
	1.6nm,0.8s,mb4.3						

*NEIC **21** 02:54:51.3, 1721N×10049W, h27km, MD3.8(MEX), After MEX.*

MEX 21 02:54:51.3±0.5, 1721N×10048W, h27km±8km, MD3.8, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	El Cayaco	0.27	129	iP	Pb	02 54 56.5	-1.5
CAIG				iS	Sb	02 55 01.2	-1.3
ACX	Acapulco	0.64	122	iP	Pb	02 55 02.0	-2.0
ACX				iS	Sb	02 55 10.0	-2.6
ZIIG	Zihuatanejo	1.01	293	eP	Pn	02 55 07.1	-2.7
ZIIG				iS	Sn	02 55 20.2	-2.9
PLIG	Platanillo	1.50	38	eP	Pn	02 55 13.9	-2.6
PLIG				iS	Sn	02 55 31.8	-3.3
SZVM	Salazar	2.34	26	eP	Pn	02 55 24.8	-3.3
SZVM				iS	Sn	02 55 55.5	-0.5
PPM	Popocatepetl	2.55	44	iP	Pn	02 55 29.7	-1.3
PPM				iS	Sn	02 56 00.3	-0.8
VHO	Vista Hermosa	3.59	92	eP	Pn	02 55 44.1	-1.1

*IDC **21** 03:01:02.6±11.0, 1850S×16886E, h276km±112km, mb4.0/7, mb1 4.2/7, mb1mx3.9/14, mbtmp4.0/7, Error ellipse: s-maj=53.2km s-min=33.7km az=124.0*
*ISCJB **21** 03:01:03.5±1.0, 186S±02×1688E±01, h300km, mb4.3/14, Error ellipse: s-maj=24.6km s-min=17.1km az=2.5*
*NEIC **21** 03:01:05.9±5.5, 1854S×16877E, h310km±53km, mb4.3/11, Error ellipse: s-maj=23.2km s-min=18.8km az=79.0*

ISC 21 03:01:04.7±1.0, 186S±02×1688E±01, h300km, n26, σ0°63/24, mb4.3/14, 1C-2D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARMA	Armidale	19.58	230	eP	P	03 05 11.7	+0.5
CTA	Charters Tower	21.35	262	⇑iP	P	03 05 30.1	+1.2
	5.3nm,0.4s,mb4.2						
CTA	Charters Tower	21.35	262	P	P	03 05 29.5	+0.6
	6.1nm,0.4s,mb4.3,baz=89,slow=10,SNR=18						
CTAO	Charters Tower	21.35	262	eP	P	03 05 29.8	+0.8
	4.6nm,0.4s,mb4.2						
CNB	Canberra Magne	24.00	222	eP	P	03 05 53.1	+0.2
	7.6nm,0.8s,mb4.1						
STKA	Stephens Creek	27.89	236	⇓iP	P	03 06 27.9	+0.3
	5.5nm,0.6s,mb4.2						
STKA	Stephens Creek	27.89	236	P	P	03 06 28.1	+0.5
	6.9nm,0.6s,mb4.2,baz=73,slow=8.9,SNR=17						
WB2	Warramunga Arr	32.54	262	eP	P	03 07 07.9	-0.6
WB2	Warramunga Arr	32.54	262	eP	P	03 07 07.6	-1.0
WRAB	Tennant Creek	32.55	262	eP	P	03 07 07.4	-1.1
	3.7nm,0.4s,mb4.3						
WRA	Warramunga Arr	32.55	262	P	P	03 07 08.0	-0.7
	4.7nm,0.4s,mb4.4,baz=88,slow=8.4,SNR=200						
ASAR	Alice Springs	32.92	255	P	P	03 07 11.7	-0.1
	37nm,0.5s,mb5.2,baz=82,slow=8.8,SNR=939						
KAKA	Kakadu	35.47	274	eP	P	03 07 33.9	+0.3
	6.6nm,0.8s,mb4.2						
FORT	Forrest	38.79	244	eP	P	03 08 01.0	-0.2
	7.9nm,0.8s,mb4.2						
FORT	Forrest	38.79	244	eP	P	03 08 00.8	-0.4
	1.2nm,0.7s,mb3.4						
FITZ	Fitzroy Crossi	40.92	264	⇓iP	P	03 08 19.6	+0.8
	16nm,0.4s,mb4.6						
FITZ	Fitzroy Crossi	40.92	264	P	P	03 08 19.7	+0.9
	12nm,0.6s,mb4.3,baz=105,slow=6.9,SNR=28						
MBWA	Marble Bar	46.10	258	eP	P	03 09 00.4	+0.5
	11nm,0.3s,mb4.7						
KLBR	Kellerberrin	47.66	244	eP	P	03 09 11.1	-0.6
	23nm,0.8s,mb4.6						
CASY	Casey	60.60	203	eP	P	03 10 43.9	0.0
	48nm,1.3s,mb4.9						
MAW	Mawson	78.92	202	P	P	03 12 35.8	+0.9
	5.6nm,1.2s,mb4.2,baz=119,slow=2.6,SNR=3.9						
NVAR	Mina Array Bea	88.64	49	P	P	03 13 24.7	+0.4
	0.3nm,0.6s,mb3.3,baz=258,slow=7.1,SNR=3.5						
VNA3	Neumayer Olymp	90.43	180	e	P	03 13 31.2	-0.9
VNA3				e		03 13 34.2	
VNA2	Neumayer--Watz	90.72	181	e	P	03 13 32.9	-0.5
	baz=195,slow=4.3						
VNA2				e		03 13 35.6	
YKA	Yellowknife Ar	100.24	27	P	Pdif	03 14 16.7	-0.2
	0.2nm,0.6s,baz=254,slow=4.7,SNR=12						
TORD	Torodi Ar. Bea	166.50	248	PKPab	PKPab	03 21 39.2	+0.2
	0.3nm,0.9s,baz=92,slow=4.5,SNR=6.6						

*ISCJB **21** 03:21:10.6±0.5, 3873N±003×24.18E±003, h6km±5km, Error ellipse: s-maj=4.4km s-min=4.3km az=149.9*
*CSEM **21** 03:21:13.1±0.1, 3876N×2414E, h20km, ML3.0, Error ellipse: s-maj=2.3km s-min=1.9km az=82.0*
*THE **21** 03:21:13.2, 3876N×2412E, h12km, ML3.0*
*NEIC **21** 03:21:13.1, 3874N×2410E, h33km, ML2.7(ATH), After ATH.*
*ATH **21** 03:21:13.1, 3874N×2410E, h33km±4km, MD2.9/6, ML2.7*

ISC 21 03:21:11.6±0.5, 3874N±003×2417E±003, h13km±5km, n18, σ0°85/29, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AOS	Alonnisos	0.49	333	ePg	Pg	03 21 21.8	+0.6
AOS				eSg	Sg	03 21 28.6	+0.9
PTL	Penteli	0.73	199	ePN	Pn	03 21 26.8	-0.7
ATH	Athens Observa	0.84	205	ePN	Pn	03 21 29.0	0.0
LKR	Lokris	0.92	265	ePg	Pg	03 21 29.0	-0.3
LKR				eSg	Sg	03 21 42.1	+0.8
LKR	Lokris	0.92	265	ePn	Pn	03 21 30.1	0.0
LKR				eSn	Sn	03 21 42.1	-1.0
NEO	Neokhori	0.93	308	ePN	Pn	03 21 30.5	+0.2
NEO				eSN	Sn	03 21 42.7	-0.7
XOR	Xorichti	0.98	310	ePg	Pg	03 21 31.4	+0.8
XOR				eSg	Sg	03 21 43.8	+0.4
NAIG	Nisos Aigina	1.11	209	ePN	Pn	03 21 34.0	+1.2
LTK	Loutraki	1.18	233	ePg	Pg	03 21 34.6	+0.3
LTK				eSg	Sg	03 21 50.8	+1.1
LOS	Limnos	1.39	30	ePg	Pg	03 21 37.7	-0.6
LOS				eSg	Sg	03 21 56.5	+0.1
DID	Didima	1.43	211	ePg	Pg	03 21 38.0	-1.1
DID				eSg	Sg	03 21 57.1	-0.6
AGG	Agios Georgios	1.46	282	ePg	Pg	03 21 38.7	-0.9
AGG				eSg	Sg	03 21 57.1	-1.5
CHOS	Chios island	1.52	103	ePg	Pg	03 21 40.4	-0.4
CHOS				eSg	Sg	03 21 59.8	-0.7
CHOS	Chios island	1.52	103	ePg	Pg	03 21 40.3	-0.5
CHOS				eSg	Sg	03 21 59.8	-0.8
PLG	Polygyros	1.73	341	ePb	Pb	03 21 42.7	-0.4
VLX	Vlachokerasia	1.96	227	ePb	Pb	03 21 46.5	-0.6
APE	Apeiranthos	1.98	147	ePN	Pn	03 21 46.8	+2.0
VLI	Veliai	2.24	206	ePN	Pn	03 21 49.7	+1.4

*NEIC **21** 03:55:28.2, 1843N×6899W, h141km, MD3.6(RSPR), After RSPR.*

RSPR 21 03:55:28.2, 1843N×6899W, h141km±3km, MD3.5/10, MD3.5/10, 11C-2D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DR12	Loma Pena Alta	0.51	314	⇓eP	Pn	03 55 48.5	-0.1
DR12				eS	Sn	03 56 02.8	-1.3
SMN1	Samana, DR	0.80	340	⇑eP	Pn	03 55 49.9	-0.6
SMN1	Samana, DR	0.80	340	eS	Sn	03 56 07.9	+0.5
IMO	Isla Mona	1.08	107	⇑eP	Pn	03 55 53.6	+0.8
IMO				eS	Sn	03 56 12.0	+0.4
DR08	Loma La Naviza	1.11	298	⇑eP	Pn	03 55 53.5	+0.4
DR08				eS	Sn	03 56 12.0	-0.1
AGPR	Aguadilla, PR	1.79	89	⇑eP	Pn	03 56 00.4	0.0
AGPR				eS	Sn	03 56 25.1	+0.3
LSP	Las Mesas	1.83	98	⇑eP	Pn	03 56 01.4	+0.6
LSP				eS	Sn	03 56 26.7	+1.0
CRPR	Cabo Rojo, PR	1.84	103	⇑eP	Pn	03 56 00.5	-0.5
CRPR				eS	Sn	03 56 25.7	-0.2
LRS	Lares	2.04	94	⇑eP	Pn	03 56 03.1	-0.2
LRS				eS	Sn	03 56 31.7	+1.5
AOPR	Arecibo Observ	2.13	92	⇑eP	Pn	03 56 03.7	-0.7
AOPR				eS	Sn	03 56 33.2	+1.2
SDDR	Presa de Saban	2.24	284	P	Pn	03 56 08.5	+2.7
SDDR				eS	Sn	03 56 35.3	+0.7
CELP	Cerrillos	2.32	98	⇑eP	Pn	03 56 07.0	+0.3
CELP				eS	Sn	03 56 36.6	+0.4
SJG	San Juan	2.72	96	eS	Sn	03 56 45.9	+0.8
SJG	San Juan	2.72	96	eS	Sn	03 56 45.1	0.0
CPD	Cerro la Pandu	2.95	97	⇑eP	Pn	03 56 14.5	-0.1
CPD				eS	Sn	03 56 49.5	-0.9
CBYP	Canovanas	2.98	93	eS	Sn	03 56 46.7	-4.4
CBYP	Canovanas	2.98	93	⇑eP	Pn	03 56 09.3	-5.7
MTP	Monte Pirata	3.29	95	⇓eP	Pn	03 56 13.1	-5.9
MTP	Monte Pirata	3.29	95	eS	Sn	03 56 53.1	-5.0

*JMA **21** 04:04:27.1±0.3, 2572N×12523E, h22km±4km, M3.6*
*ISCJB **21** 04:04:29.0±0.7, 2564N±006×12533E±007, h37km±11km, mb3.3/3, Error ellipse: s-maj=14.0km s-min=5.1km az=136.3*
*IDC **21** 04:04:33.5±1.2, 2525N×13028E, h0km, mb3.3/3, mb1 3.6/4, mb1mx3.4/19, mbtmp3.3/4, ML3.2/1, Error ellipse: s-maj=43.1km s-min=22.1km az=67.0*

ISC 21 04:04:28.2±1.8, 2566N±008×12529E±008, h19km±13km, n15, σ0°81/22, mb3.3/3, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMJ	Miyako jima 2	0.84	180	P	Pb	04 04 43.4	-0.8
JMJ				eS	Sb	04 04 55.7	+0.6
JOGS	Gusukube	0.90	173	P	Pb	04 04 44.6	-0.6
JOGS				eS	Sb	04 04 57.3	+0.4
JTJ	Tarama	1.15	208	P	Pn	04 04 47.9	-1.3
JTJ				eS	Sb	04 05 03.5	-0.3
JKE	Kume jima 2	1.50	64	P	Pn	04 04 53.4	-0.7
JIJ	Ishigaki jima	1.66	219	P	Pn	04 04 55.6	-0.6
JIJ				eS	Sn	04 05 16.1	-0.8
JKRS	Kuro-shima	1.83	220	P	Pn	04 04 58.5	-0.1
JKRS				eS	Sn	04 05 22.0	+0.8
IRIF	Iriomote-Funau	1.93	227	P	Pn	04 04 59.9	-0.1
IRIF				eS	Sn	04 05 23.6	-0.2
JAGN	Aguni-jima	1.99	62	P	Pn	04 05 01.9	+1.2
HATJ	Hateruma jima	2.09	220	P	Pn	04 05 03.6	+1.4
JIH	Iheya	2.77	60	P	Pn	04 05 12.8	+1.3
JOW	Kunigami	2.92	66	P	Pn	04 05 13.6	-0.1
JOW	Kunigami	2.92	66	Pn	Pn	04 05 14.2	+0.5
	9.6nm,0.3s,baz=241,slow=12,SNR=18						
JOW				Sn	Sn	04 05 46.5	-1.7
	4.8nm,0.3s,baz=87,slow=30,SNR=2.3						
WRA	Warramunga Arr	46.17	168	P	P	04 12 52.0	+0.3
	0.3nm,0.6s,mb3.4,baz=349,slow=8.4,SNR=3.8						
ASAR	Alice Springs	49.74	170	P	P	04 13 19.7	+0.4
	0.1nm,0.5s,mb3.1,baz=359,slow=9.3,SNR=4.2						
YKA	Yellowknife Ar	80.14	24	P	P	04 16 36.7	0.0
	0.3nm,0.7s,mb3.3,baz=304,slow=5.1,SNR=11						

*NEIC **21** 04:08:20.9, 3171S×7207W, h30km, ML3.6(GUC), After GUC.*

GUC 21 04:08:20.9±1.0, 3171S×7207W, h30km±5km, MD3.9, ML3.6, 5C-8D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHNG	Los Chungos	0.52	110	⇑iP	Px	04 08 11.9	
CHNG				iS	Sx	04 08 19.6	
CHNG				AML	AML	04 08 20.3	
	comp=E,2μm,0.5s						
CMCH	Combarbala	1.06	60	⇓iP	Pn	04 08 39.5	-0.2
CMCH				iS	Sn	04 08 54.2	+0.8
CMCH	Combarbala	1.06	60	⇓iP	Pn	04 08 39.5	-0.2
CMCH				iS	Sn	04 08 54.2	+0.8
CMCH				AML	AML	04 08 55.9	
	comp=E,16μm,0.7s						
PTCH	Petorca	1.12	120	⇑iP	Pn	04 08 40.9	+0.5
PTCH				iS	Sn	04 08 55.7	+0.9
PTCH	Petorca	1.12	120	⇑iP	Pn	04 08 40.9	+0.5
PTCH				iS	Sn	04 08 55.7	+0.9
PTCH				AML	AML	04 08 56.1	
	comp=N,1μm,0.2s						
OVCH	Ovalle	1.33	34	eP	Pn	04 08 44.4	+1.0
OVCH				iS	Sn	04 09 01.4	+1.4
OVCH	Ovalle	1.33	34	eP	Pn	04 08 44.4	+1.0
OVCH				iS	Sn	04 09 01.4	+1.4
OVCH				AML	AML	04 09 14.0	
	comp=N,1μm,0.6s						
ROCH	El Roble	1.55	145	iS	Sn	04 09 08.0	+2.6
JACH	Jahuel	1.59	128	⇓iP	Pn	04 08 48.5	+1.6
JACH				iS	Sn	04 09 08.9	+2.5
PEL	Peldehue	1.85	141	⇓iP	Pn	04 08 51.6	+1.0
PEL				iS	Sn	04 09 18.1	+5.2
PEL				AML	AML	04 09 24.3	
	comp=E,1μm,0.4s						
TLL	Tololo Astrono	1.88	36	eP	Pn	04 08 53.5	+2.4
TLL				iS	Sn	04 09 17.1	+3.4
TLL	Tololo Astrono	1.88	36	eP	Pn	04 08 53.5	+2.4
TLL				iS	Sn	04 09 17.1	+3.4
TLL				AML	AML	04 09 25.3	
	comp=E,763nm,0.4s						
RCDM	Rinconada Maip	2.07	149	eP	Pn	04 08 54.8	+1.2
RCDM				iS	Sn	04 09 20.8	+2.5
RCDM	Rinconada Maip	2.07	149	eP	Pn	04 08 54.8	+1.2
RCDM				iS	Sn	04 09 20.8	+2.5
RCDM				AML	AML	04 09 30.0	
	comp=E,333nm,0.6s						
CLCH	Cerro Calan	2.12	143	⇓iP	Pn	04 08 55.7	+1.3
CLCH				AML	AML	04 09 34.2	
	comp=E,868nm,0.9s						
CLCH				AML	AML	04 09 34.8	
	comp=E,1μm,0.6s						
TACH	Talagante	2.16	154	⇓iP	Pn	04 08 56.3	+1.5
FCH	Farellones	2.21	137	⇓iP	Pn	04 08 56.9	+1.5
FCH				iS	Sn	04 09 26.2	+4.5
FCH				AML	AML	04 09 29.9	
	comp=E,335nm,0.4s						
ANTU	Antumapu	2.22	147	AML	AML	04 09 37.9	
	comp=E,487nm,0.8s						
PCH	Pirque	2.32	146	⇑iP	Pn	04 08 58.6	+1.7
CHCH	Chadas Angostu	2.52	152	eP	Pn	04 09 01.6	+1.9
LMEL	Las Melosas	2.65	144	⇓iP	Pn	04 09 03.4	+1.8
LMEL				AML	AML	04 09 49.4	
	comp=N,290nm,0.6s						
CACH	El Canelo	2.70	153	⇑iP	Pn	04 09 04.8	+2.5
LCO	Las Campanas	2.94	24	ePn	Pn	04 09 06.2	+0.7
CICH	Cipreses	2.95	152	eP	Pn	04 09 07.6	+1.9
VNA3	Neumayer Olymp	51.49	159	e	P	04 17 24.7	+1.6
VNA2	Neumayer--Watz	52.13	158	e	P	04 17 30.1	+2.2
	baz=293,slow=9.1						

IDC 21 04:13:24.5±1.7, 747S×15554E, h0km, mb3.9/5, mb1 4.0/5, mb1mx3.8/13, mbtmp3.9/5, MS3.4/4, Ms1 3.4/4, ms1mx3.1/19, Error ellipse: s-maj=64.2km s-min=26.9km az=123.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	4.78	114	LR	LR	04 16 20.1	
	comp=Z,111nm,19.3s,baz=193,slow=37						
CTA	Charters Tower	15.44	215	Pn	Pn	04 17 10.8	+7.0
	0.1nm,0.3s,baz=49,slow=18,SNR=3.8						
CTA				LR	LR	04 21 47.9	
	comp=Z,155nm,19.9s,baz=55,slow=33						
WRA	Warramunga Arr	24.00	237	P	P	04 18 40.4	-0.8
	2.8nm,0.9s,baz=61,slow=9.4,SNR=9.5						
ASAR	Alice Springs	26.27	230	P	P	04 19 01.1	-0.7
	1.0nm,0.9s,baz=59,slow=9.5,SNR=6.2						
STKA	Stephens Creek	27.55	206	P	P	04 19 13.9	+0.8
	2.7nm,0.9s,baz=13,slow=13,SNR=4.8						
STKA				LR	LR	04 30 04.0	
	comp=Z,132nm,21.5s,baz=204,slow=36						
MKAR	Makanchi Array	84.11	319	P	P	04 25 59.5	+2.1
	0.6nm,0.6s,baz=95,slow=6.1,SNR=5.1						
ZALV	Zalesovo Beam	84.87	326	LR	LR	05 04 45.8	
	comp=Z,43nm,18.1s,baz=189,slow=36						
YKA	Yellowknife Ar	96.50	28	P	P	04 26 54.1	-1.5
	0.2nm,0.6s,baz=269,slow=4.7,SNR=6.8						

IDC 21 04:35:54.5±2.2, 692S×15467E, h0km, mb3.5/3, mb1 3.8/3, mb1mx3.5/13, mbtmp3.5/3, Error ellipse: s-maj=131.1km s-min=31.4km az=132.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	23.59	235	P	P	04 41 07.2	-0.2
	1.2nm,0.8s,baz=59,slow=9.8,SNR=6.8						
ASAR	Alice Springs	25.98	228	P	P	04 41 29.1	0.0
	0.1nm,0.5s,baz=58,slow=9.5,SNR=4.9						
YKA	Yellowknife Ar	96.42	28	P	P	04 49 25.2	-0.1
	0.2nm,0.5s,baz=266,slow=4.7,SNR=7.5						
TORD	Torodi Ar. Bea	152.70	285	PKPbc	PKPbc	04 55 54.1	-0.3
	0.7nm,1.2s,baz=68,slow=3.5,SNR=2.5						
TORD				PKPab	PKPab	04 56 04.9	-0.1
	0.5nm,0.8s,baz=80,slow=1.5,SNR=3.3						

*NIED **21** 04:39:00, 3150N×13180E, h23km, Mw4.0 Best double couple: M0 1.18000×10^15 NP1:φ=48.00000°, δ=66.00000°, λ=100.00000°. NP2:φ=204.00000°, δ=26.00000°, λ=69.00000°.*
*ISCJB **21** 04:39:11.5±0.8, 3148N±004×13172E±008, h54km±5km, mb3.7/10, MS3.2/2, Error ellipse: s-maj=12.2km s-min=6.4km az=13.9*
*JMA **21** 04:39:11.4±0.1, 3152N×13177E, h24km±1km, M3.8*
JMA Felt I J1.
*NEIC **21** 04:39:14.8±0.9, 3157N×13150E, h64km±9km, mb3.9/3, Error ellipse: s-maj=13.5km s-min=9.6km az=105.0*
*IDC **21** 04:39:15.0±1.7, 3148N×13145E, h68km±13km, mb3.3/6, mb1 3.5/9, mb1mx3.3/24, mbtmp3.3/9, MS3.3/3, Ms1 3.3/3, ms1mx2.8/18, Error ellipse: s-maj=25.6km s-min=10.4km az=96.0*

ISC 21 04:39:12.3±0.9, 3151N±004×13171E±010, h44km±7km, n24, σ1°22/32, mb3.7/10, MS3.2/2, 2C-4D, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNAR	Kushima--Naru	0.38	273	⇓P	Pn	04 39 20.0	-1.7
JNAR				S	Sn	04 39 26.3	-2.1
JTZ	Takazaki	0.66	307	⇓P	Pn	04 39 24.4	-0.9
JTZ				eS	Sn	04 39 33.6	-1.1
JTSR	Tashiro 2	0.76	244	⇓P	Pn	04 39 26.5	-0.1
JTSR				eS	Sn	04 39 37.8	+0.9
JTSN	Tsuno	0.76	347	⇓P	Pn	04 39 25.7	-0.9
JTSN				S	Sn	04 39 36.5	-0.5
JTN	Tanegashima 3	1.06	217	P	Pn	04 39 31.1	+0.4
JSU	Suzuyama	1.07	270	P	Pn	04 39 31.2	+0.3
JSU				eS	Sn	04 39 46.8	+2.2
JZO	Okuchi	1.14	304	⇑P	Pn	04 39 31.8	0.0
JZO				eS	Sn	04 39 49.0	+2.8
JIU2	Izumi 2	1.28	324	⇑P	Pn	04 39 34.3	+0.5
JNU	Nakatsue	1.76	337	P	Pn	04 39 41.1	+0.9
	25nm,0.3s,baz=140,slow=8.6,SNR=119						
JNU				S	Sn	04 40 04.0	+2.6
	27nm,0.3s,baz=221,slow=20,SNR=8.2						
JOW	Kunigami	5.54	214	P	Pn	04 40 34.2	+2.0
	2.

*ISCJB **21** 05:16:35.4±3.5, 158N±0.1×1194E±02, h38km±32km, mb4.2/16, MS3.1/4, Error ellipse: s-maj=33.7km s-min=12.3km az=157.9*
*NEIC **21** 05:16:38.7±2.1, 1583N×11937E, h53km±20km, mb4.6/5, Error ellipse: s-maj=26.6km s-min=7.3km az=65.0*
ISC 21 05:16:39.2±2.7, 159N±01×1195E±02, h58km±26km, n28, σ0§68/25, mb4.2/16, MS3.1/4, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YHNB	**Yeheng**	**8.95**	**11**	*e*Pn	**Pn**	**05 18 45.9**	**+0.2**
JNU	**Nakatsue**	**20.06**	**29**	LR	LR	05 28 09.3	
	comp=Z,64nm,20.9s,MS3.0,baz=224,slow=35						
KSRS	**Korea Array**	**22.78**	**18**	P	**P**	**05 21 36.0**	**-0.7**
	1.3nm,0.6s,mb3.5,baz=202,slow=10,SNR=6.4						
KSRS				LR	LR	05 30 13.4	
	comp=Z,40nm,18.3s,MS2.9,baz=182,slow=36						
GUMO	**Guam**	**24.68**	**92**	LR	LR	05 31 17.3	
	comp=Z,89nm,18.4s,MS3.3,baz=61,slow=36						
SONM	**Songino Array**	**33.66**	**344**	P	**P**	**05 23 14.7**	**+0.4**
	1.9nm,0.6s,mb4.2,baz=159,slow=10,SNR=5.8						
MBWA	**Marble Bar**	**36.79**	**180**	*e*P	**P**	**05 23 41.9**	**+0.4**
	5.8nm,0.6s,mb4.6						
WRA	**Warramunga Arr**	**38.47**	**157**	P	**P**	**05 23 54.6**	**-1.1**
	3.9nm,0.7s,mb4.2,baz=338,slow=9.3,SNR=40						
ASAR	**Alice Springs**	**41.74**	**160**	P	**P**	**05 24 22.6**	**-0.2**
	4.0nm,0.6s,mb4.2,baz=339,slow=6.9,SNR=71						
MK31	**Makanchi Array**	**43.59**	**323**	*e*P	**P**	**05 24 37.9**	**+0.4**
MKAR	**Makanchi Array**	**43.59**	**323**	P	**P**	**05 24 38.1**	**+0.6**
	1.5nm,0.7s,mb3.8,baz=130,slow=10.0,SNR=15						
CTA	**Charters Tower**	**44.38**	**143**	P	**P**	**05 24 45.4**	**+1.2**
	1.0nm,0.2s,mb4.1,baz=325,slow=6.8,SNR=3.5						
CTAO	**Charters Tower**	**44.38**	**143**	*e*P	**P**	**05 24 44.6**	**+0.5**
	5.6nm,0.9s,mb4.3						
ZALV	**Zalesovo Beam**	**46.60**	**332**	P	**P**	**05 25 00.5**	**-0.8**
ZALV				LR	LR	05 45 37.1	
ZALV	**Zalesovo Beam**	**46.60**	**332**	P	**P**	**05 25 00.5**	**-0.8**
	1.4nm,0.7s,mb4.0,baz=126,slow=7.5,SNR=6.9						
ZALV				LR	LR	05 45 37.1	
	comp=Z,34nm,18.1s,MS3.3,baz=220,slow=38						
EKS2	**Erkin-Say**	**47.21**	**314**	*e*P	**P**	**05 25 06.8**	**+0.6**
KURK	**Kurchatov**	**47.74**	**326**	*e*P	**P**	**05 25 10.2**	**0.0**
	11nm,1.0s,mb4.8						
BVAR	**Borovoye Array**	**53.32**	**325**	P	**P**	**05 25 52.0**	**-0.3**
	0.9nm,0.5s,mb4.0,baz=132,slow=11,SNR=5.7						
BRVK	**Borovoye**	**53.40**	**325**	*e*P	**P**	**05 25 52.6**	**-0.2**
	3.7nm,0.9s,mb4.3						
JOF	**Joensuu**	**75.18**	**332**	*e*p	**P**	**05 28 13.7**	**-1.5**
ARCES	**ARCESS Array B**	**76.65**	**339**	P	**P**	**05 28 24.1**	**+0.6**
	2.1nm,0.8s,mb4.1,baz=71,slow=5.3,SNR=6.0						
KAF	**Kangasniemi**	**77.60**	**331**	*e*p	**P**	**05 28 23.8**	**-5.1**
	7.5nm,0.9s,mb4.6						
FINES	**FINESS Array B**	**77.83**	**331**	P	**P**	**05 28 30.0**	**-0.1**
FINES	**FINESS Array B**	**77.83**	**331**	P	**P**	**05 28 30.0**	**-0.1**
	1.1nm,0.5s,mb4.0,baz=69,slow=6.3,SNR=9.4						
NOA	**NORSAR Array B**	**84.80**	**332**	P	**P**	**05 29 06.8**	**-0.3**
NOA	**NORSAR Array B**	**84.80**	**332**	P	**P**	**05 29 06.8**	**-0.3**
	0.7nm,0.7s,mb3.9,baz=41,slow=5.9,SNR=3.6						
YKA	**Yellowknife Ar**	**91.25**	**22**	P	**P**	**05 29 39.2**	**+1.2**
YKA	**Yellowknife Ar**	**91.25**	**22**	P	**P**	**05 29 39.2**	**+1.3**
	0.3nm,0.8s,mb3.7,baz=314,slow=4.3,SNR=10						
PLCA	**Paso Flores**	**153.74**	**163**	PKPbc	PKPbc	05 36 35.7	+3.8
	1.1nm,0.7s,baz=234,slow=3.5,SNR=4.4						
PLCA				PKPab	PKPab	05 36 48.0	+3.2
	0.6nm,0.7s,baz=255,slow=14,SNR=2.8						

IDC 21 05:29:10.3±7.0, 1920S×17117W, h0km, mb3.3/2, mb1 3.6/2, mb1mx3.4/16, mbtmp3.3/2, Error ellipse: s-maj=392.2km s-min=44.1km az=7.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**51.07**	**255**	P	P	05 38 15.2	+0.5
	0.3nm,1.0s,baz=98,slow=7.1,SNR=4.2						
WRA	**Warramunga Arr**	**51.16**	**260**	P	P	05 38 15.1	-0.4
	0.3nm,0.8s,baz=97,slow=8.1,SNR=8.9						
TORD	**Torodi Ar. Bea**	**170.88**	**130**	PKPab	PKPab	05 50 39.3	-0.4
	1.2nm,1.1s,baz=212,slow=5.3,SNR=3.5						

IDC 21 05:33:32.5±2.1, 690S×15570E, h0km, mb3.6/5, mb1 3.7/5, mb1mx3.6/13, mbtmp3.6/5, Error ellipse: s-maj=81.0km s-min=28.7km az=123.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.44**	**236**	P	P	05 38 53.6	+0.5
	0.5nm,0.5s,baz=62,slow=9.7,SNR=14						
ASAR	**Alice Springs**	**26.75**	**229**	P	P	05 39 14.3	+0.3
	0.2nm,0.6s,baz=57,slow=9.6,SNR=4.9						
SONM	**Songino Array**	**69.64**	**327**	P	P	05 44 44.3	+0.6
	0.6nm,0.5s,baz=113,slow=3.4,SNR=3.5						
MKAR	**Makanchi Array**	**83.80**	**319**	P	P	05 46 04.0	+0.3
	0.4nm,0.8s,baz=100,slow=4.4,SNR=3.0						
YKA	**Yellowknife Ar**	**95.93**	**28**	P	P	05 47 01.3	+0.4
	0.1nm,0.5s,baz=265,slow=4.5,SNR=8.3						
TORD	**Torodi Ar. Bea**	**153.67**	**286**	PKPbc	PKPbc	05 53 33.5	-0.9
	0.2nm,0.4s,baz=82,slow=2.5,SNR=3.1						
TORD				PKPab	PKPab	05 53 45.5	-1.6
	0.4nm,0.7s,baz=74,slow=2.6,SNR=3.7						

*ISCJB **21** 06:15:42.1±0.8, 3766N±004×1647E±004, h32km±6km, Error ellipse: s-maj=7.5km s-min=4.3km az=162.6*
*NEIC **21** 06:15:42.0, 3763N×1638E, h24km, ML3.0(ROM), After ROM.*
*ROM **21** 06:15:42.0±0.3, 3763N×1638E, h24km±4km, Md2.7/22, Ml3.0/14, Error ellipse: s-maj=4.0km s-min=2.8km az=129.0*
*CSEM **21** 06:15:43.5±0.1, 3770N×1632E, h32km±1km, MD2.7/22, Error ellipse: s-maj=2.5km s-min=1.8km az=128.0*
*THE **21** 06:15:50.9, 3781N×1695E, h31km, ML4.3*
ISC 21 06:15:43.2±0.8, 3768N±004×1638E±004, h32km±6km, n37, σ1§13/47, 5C-4D, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MPAZ	**Palizzi**	**0.41**	**313**	⇓*i*Pg	**Pb**	**06 15 52.1**	**-0.2**
MPAZ				Sg	**Sb**	**06 15 58.3**	**-0.3**
	2μm,0.3s						
SOI	**Samo**	**0.47**	**327**	⇓*i*Pg	**Pb**	**06 15 53.0**	**-0.3**
SOI				Sg	**Sb**	**06 16 00.2**	**-0.1**
	783nm,0.4s						
MTTG	**Motta San Giov**	**0.64**	**301**	⇓*i*Pg	**Pn**	**06 15 55.4**	**-0.5**
MTTG				Sg	**Sb**	**06 16 03.5**	**-1.1**
	810nm,0.8s						
PLAC	**Placanica**	**0.77**	**3**	⇑*i*Pg	**Pn**	**06 15 58.1**	**+0.3**
	101nm,0.5s						
SCLL	**Scilla**	**0.79**	**318**	⇓*i*Pg	**Pn**	**06 15 57.6**	**-0.4**
	101nm,0.3s						
MSI	**Messina ING**	**0.84**	**309**	Pg	**Pn**	**06 15 58.8**	**0.0**
	855nm,0.2s						
MSRU	**Castanea**	**0.91**	**311**	Pg	**Pn**	**06 15 59.4**	**-0.3**
	370nm,0.5s						
MMME	**Mongiuffi-Meli**	**0.93**	**287**	Pg	**Pn**	**06 16 00.0**	**0.0**
JOPP	**Joppolo**	**1.01**	**337**	Pg	**Pn**	**06 16 01.1**	**0.0**
	192nm,0.4s						
AGST	**Augusta-Monte**	**1.01**	**246**	⇑*i*Pg	**Pn**	**06 16 00.7**	**-0.4**
AGST				Sg	**Sn**	**06 16 12.4**	**-1.8**
HAGA	**Augusta**	**1.05**	**249**	Pg	**Pn**	**06 16 01.1**	**-0.5**
GRI	**Girifalco**	**1.15**	**1**	Pg	**Pn**	**06 16 03.1**	**+0.2**
	42nm,0.3s						
SSY	**Sortino**	**1.17**	**244**	⇑*i*Pg	**Pn**	**06 16 02.9**	**-0.3**
	927nm,0.3s						
HAVL	**Avola**	**1.23**	**235**	Pg	**Pn**	**06 16 04.2**	**+0.1**
	604nm,0.2s						
PZI	**Palazzolo**	**1.30**	**242**	Pg	**Pn**	**06 16 05.2**	**+0.1**
	160nm,0.1s						
LLI	**Lipari**	**1.37**	**305**	Pg	**Pn**	**06 16 06.1**	**+0.1**
	655nm,0.6s						
SERS	**Sersale**	**1.38**	**10**	Pg	**Pn**	**06 16 07.0**	**+0.8**
	50nm,0.7s						
HMDC	**Modica**	**1.46**	**241**	⇑*i*Pg	**Pn**	**06 16 07.4**	**+0.1**
SLNA	**Salina**	**1.51**	**306**	Pg	**Pn**	**06 16 10.2**	**+2.2**
	80nm,0.4s						
TIP	**Timpagrande**	**1.53**	**11**	Pg	**Pn**	**06 16 08.9**	**+0.7**
	55nm,1.0s						
CARO	**Carolei**	**1.58**	**355**	Pg	**Pn**	**06 16 10.3**	**+1.4**
	135nm,0.6s						
CSLB	**Castelbuono**	**1.86**	**279**	Pg	**Pn**	**06 16 14.1**	**+1.3**
	49nm,0.8s						
MGR	**Morigerati**	**2.54**	**346**	Pg	**Pn**	**06 16 23.0**	**+0.9**
TA1	**Taranto**	**2.82**	**14**	*e*Pn	**Pn**	**06 16 26.2**	**+0.3**
SCTE	**Santa Cesarea**	**2.89**	**34**	Pg	**Pn**	**06 16 26.8**	**-0.2**
	34nm,0.4s						
SG1	**Sgolgore (BA)**	**3.17**	**4**	*e*Pn	**Pn**	**06 16 30.1**	**-0.7**
PE1	**Pezze di Greco**	**3.23**	**14**	*e*Pn	**Pn**	**06 16 30.4**	**-1.2**
KEK	**Kerkira**	**3.36**	**52**	⇑*i*Pg	**Pn**	**06 16 33.0**	**-0.4**
	49nm,0.3s						
CDT	**Castel del Mon**	**3.40**	**359**	*e*Pn	**Pn**	**06 16 33.6**	**-0.4**
BAI	**Bari**	**3.45**	**6**	*e*Pn	**Pn**	**06 16 33.7**	**-0.9**
LKD	**Levkas**	**3.52**	**72**	*e*Pn	**Pn**	**06 16 36.9**	**+1.4**
LKD				*e*Sn	**Sn**	**06 17 13.6**	**-2.4**
IGT	**Igoumenitsa**	**3.61**	**58**	*e*Pn	**Pn**	**06 16 37.9**	**+1.1**
IGT				*e*Sn	**Sn**	**06 17 15.0**	**-3.3**
MS1	**Monte Sant'Ang**	**4.04**	**355**	*e*Pn	**Pn**	**06 16 42.6**	**-0.1**
MEV	**Metsovon**	**4.33**	**59**	*e*Pn	**Pn**	**06 16 49.1**	**+2.3**
MEV				*e*Sn	**Sn**	**06 17 33.8**	**-2.4**
PYL	**PYLOS**	**4.34**	**99**	*e*Pn	**Pn**	**06 16 48.9**	**+2.0**
PYL				*e*Sn	**Sn**	**06 17 34.8**	**-1.7**
AGG	**Agios Georgios**	**4.87**	**72**	*e*Pn	**Pn**	**06 16 56.8**	**+2.7**
AGG				*e*Sn	**Sn**	**06 17 45.9**	**-3.3**
DID	**Didima**	**5.45**	**90**	*e*Pn	**Pn**	**06 17 04.0**	**+1.9**
DID				*e*Sn	**Sn**	**06 18 01.8**	**-1.8**

IDC 21 06:27:39.0±2.4, 762N×9386E, h0km, mb3.7/5, mb1 3.8/5, mb1mx3.5/19, mbtmp3.7/5, MS2.7/1, Ms1 2.7/1, ms1mx2.5/36, Error ellipse: s-maj=133.1km s-min=21.6km az=56.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**6.96**	**133**	LR	LR	06 31 22.0	
	comp=Z,56nm,20.6s,baz=143,slow=32						
MKAR	**Makanchi Array**	**40.27**	**348**	P	P	06 35 17.4	-0.3
	1.4nm,0.7s,baz=171,slow=7.5,SNR=12						
ZALV	**Zalesovo Beam**	**46.77**	**353**	P	P	06 36 10.3	+0.4
	1.0nm,0.4s,baz=186,slow=7.2,SNR=5.9						
WRA	**Warramunga Arr**	**48.34**	**125**	P	P	06 36 22.0	-0.7
	0.3nm,0.8s,baz=304,slow=8.7,SNR=5.8						
ASAR	**Alice Springs**	**49.97**	**130**	P	P	06 36 35.7	+0.6
	0.1nm,0.3s,baz=324,slow=9.2,SNR=3.6						
FINES	**FINESS Array B**	**72.80**	**332**	P	P	06 39 09.1	0.0
	1.5nm,0.9s,baz=90,slow=5.6,SNR=2.8						

*NEIC **21** 06:49:32.3, 1608N×9755W, h16km, MD3.9(MEX), After MEX.*
MEX 21 06:49:32.1±0.9, 1610N×9755W, h15km±10km, MD3.9, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.63**	**298**	*i* P	Pg	06 49 42.1	-2.3
PNIG				*i* S	Sg	06 49 51.0	-1.8
VHO	**Vista Hermosa**	**1.24**	**39**	*i* P	Pn	06 49 51.7	-3.3
VHO				*i* S	Sb	06 50 06.8	-4.4
OXX	**Oaxaca**	**1.26**	**39**	*i* P	Pn	06 49 51.0	-4.2
OXX				*i* S	Sb	06 50 06.0	-5.6
HUIG	**Huatulco**	**1.43**	**103**	*e*P	Pn	06 49 55.4	-2.1
HUIG				*i* S	Sn	06 50 10.2	-5.8
UTMO	**Huajuapan**	**1.74**	**352**	*i* P	Pn	06 49 59.2	-2.6
UTMO				*i* S	Sn	06 50 20.0	-3.8
CMIG	**Matias Romero**	**2.74**	**69**	*e*P	Pn	06 50 12.9	-2.6
CMIG				*i* S	Sn	06 50 46.2	-2.3
PPM	**Popocatepetl**	**3.12**	**341**	*e*P	Pn	06 50 18.9	-2.0
PPM				*i* S	Sn	06 50 55.4	-2.6

IDC 21 07:02:23.8±1.7, 1411N×14528E, h98km±8km, mb3.1/5, mb1 3.3/5, mb1mx3.2/19, mbtmp3.1/5, Error ellipse: s-maj=53.4km s-min=21.9km az=100.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**0.65**	**217**	P	Pn	07 02 42.0	+1.3
	158nm,0.3s,baz=28,slow=3.3,SNR=111						
GUMO				S	Sn	07 02 54.6	+1.4
	598nm,0.3s,baz=149,slow=24,SNR=57						
WRA	**Warramunga Arr**	**35.51**	**198**	P	P	07 09 12.1	+0.8
	0.8nm,0.6s,baz=20,slow=9.3,SNR=11						
FITZ	**Fitzroy Crossi**	**37.41**	**212**	P	P	07 09 26.7	-0.7
	0.6nm,0.4s,baz=46,slow=5.7,SNR=2.9						
ASAR	**Alice Springs**	**39.16**	**197**	P	P	07 09 41.7	-0.4
	0.2nm,0.5s,baz=15,slow=11,SNR=4.3						
MKAR	**Makanchi Array**	**61.39**	**316**	P	P	07 12 29.8	+0.3
	0.3nm,0.3s,baz=102,slow=6.8,SNR=5.1						
YKA	**Yellowknife Ar**	**82.22**	**27**	P	P	07 14 33.2	-0.6
	0.1nm,0.5s,baz=285,slow=5.2,SNR=4.4						

*NIED **21** 07:07:00, 2570N×125.10E, h5km, Mw3.8 Best double couple: M0 5.47000×10^14 NP1:φs214.00000°, δ75.00000°, λ-164.00000°. NP2:φs120.00000°, δ75.00000°, λ-15.00000°.*
*IDC **21** 07:07:02.8±1.0, 2570N×12503E, h0km, mb3.6/5, mb1 3.8/6, mb1mx3.7/20, mbtmp3.6/6, ML3.2/1, MS2.9/1, Ms1 2.9/1, ms1mx2.7/38, Error ellipse: s-maj=33.5km s-min=21.0km az=69.0*
*ISCJB **21** 07:07:03.8±1.3, 2568N±005×125.10E±007, h17km±11km, mb3.6/5, Error ellipse: s-maj=12.2km s-min=5.8km az=41.6*
*JMA **21** 07:07:03.4±0.2, 2571N×12509E, h26km±3km, M3.7*
*NEIC **21** 07:07:04.6±0.6, 2574N×125.11E, h10km, MG3.7(JMA), Error ellipse: s-maj=15.3km s-min=10.2km az=159.0*
ISC 21 07:07:04.3±1.5, 2563N±005×12511E±008, h12km±10km, n20, σ0§95/25, mb3.6/5, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMJ	**Miyako jima 2**	**0.83**	**169**	P	**Pg**	**07 07 20.2**	**-0.1**
JMJ				S	**Sg**	**07 07 31.9**	**+0.7**
JOGS	**Gusukube**	**0.91**	**163**	P	**Pg**	**07 07 21.3**	**-0.5**
JOGS				S	**Sg**	**07 07 34.1**	**+0.5**
JTJ	**Tarama**	**1.05**	**201**	P	**Pb**	**07 07 23.2**	**-1.2**
JTJ				*e*S	**Sb**	**07 07 37.2**	**-0.9**
JIJ	**Ishigaki jima**	**1.54**	**215**	P	**Pn**	**07 07 30.4**	**-1.1**
JIJ				*e*S	**Sn**	**07 07 50.3**	**-1.1**
JKE	**Kume jima 2**	**1.66**	**65**	P	**Pn**	**07 07 31.1**	**-2.1**
JKRS	**Kuro-shima**	**1.71**	**216**	P	**Pn**	**07 07 33.6**	**-0.3**
JKRS				*e*S	**Sn**	**07 07 56.2**	**+0.6**
IRIF	**Iriomote-Funau**	**1.80**	**225**	P	**Pn**	**07 07 34.5**	**-0.6**
IRIF				*e*S	**Sn**	**07 07 57.3**	**-0.5**
HATJ	**Hateruma jima**	**1.96**	**217**	*e*S	**Sn**	**07 08 02.9**	**+1.0**
JIH	**Iheya**	**2.92**	**61**	P	**Pn**	**07 07 50.6**	**+0.1**
JOW	**Kunigami**	**3.08**	**66**	Pn	**Pn**	**07 07 53.5**	**+0.7**
	5.5nm,0.3s,baz=252,slow=12,SNR=7.2						
NACB	**Ninganchiao**	**3.51**	**246**	*e*Pn	**Pn**	**07 08 00.8**	**+2.2**
YHNB	**Yeheng**	**3.52**	**255**	*e*Pn	**Pn**	**07 08 00.1**	**+1.3**
KSRS	**Korea Array**	**12.03**	**11**	LR	LR	07 14 42.5	
	comp=Z,58nm,20.5s,baz=185,slow=38						
MKAR	**Makanchi Array**	**39.87**	**313**	P	**P**	**07 14 37.1**	**-0.6**
	0.3nm,0.4s,mb3.4,baz=99,slow=9.1,SNR=3.1						
ZALV	**Zalesovo Beam**	**41.06**	**324**	P	**P**	**07 14 46.9**	**-0.5**
ZALV	**Zalesovo Beam**	**41.06**	**324**	P	**P**	**07 14 46.9**	**-0.5**
	0.9nm,0.5s,mb3.6,baz=100,slow=8.3,SNR=4.9						
WRA	**Warramunga Arr**	**46.18**	**168**	P	**P**	**07 15 29.6**	**+0.7**
	1.0nm,0.7s,mb3.8,baz=350,slow=8.5,SNR=14						
ASAR	**Alice Springs**	**49.74**	**169**	P	**P**	**07 15 57.9**	**+1.4**
	0.5nm,0.7s,mb3.7,baz=356,slow=13,SNR=9.2						
YKA	**Yellowknife Ar**	**80.23**	**24**	P	**P**	**07 19 14.9**	**+0.5**
YKA	**Yellowknife Ar**	**80.23**	**24**	P	**P**	**07 19 14.9**	**+0.5**
	0.3nm,0.7s,mb3.3,baz=304,slow=5.3,SNR=9.5						

*NIED **21** 07:08:00, 3370N×14130E, h38km, Mw4.0 Best double couple: M0 1.05000×10^15 NP1:φs324.00000°, δ69.00000°, λ59.00000°. NP2:φs204.00000°, δ37.00000°, λ144.00000°.*
*JMA **21** 07:08:27.2±0.2, 3371N×14126E, h62km±3km, M3.8*
ISC 21 07:08:28.1±2.3, 3368N±008×1413E±02, h34km±37km, n17, σ0§67/30, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**1.00**	**346**	P	**Pn**	**07 08 45.0**	**-0.7**
BSO1				*e*S	**Sn**	**07 08 58.6**	**0.0**
BSO2	**Boso 2**	**1.15**	**338**	*e*S	**Sn**	**07 09 02.6**	**+0.3**
BSO3	**Boso 3**	**1.28**	**331**	P	**Pn**	**07 08 49.0**	**-0.6**
BSO3				*e*S	**Sn**	**07 09 05.0**	**-0.5**
JHJ2	**Mitsune**	**1.34**	**245**	P	**Pn**	**07 08 49.9**	**-0.5**
JHJ2				*e*S	**Sn**	**07 09 07.5**	**+0.5**
JMY	**Miyakejima3**	**1.51**	**285**	P	**Pn**	**07 08 52.3**	**-0.4**
JMY				*e*S	**Sn**	**07 09 09.4**	**-1.8**
BSO4	**Boso 4**	**1.51**	**330**	P	**Pn**	**07 08 52.6**	**-0.2**
BSO4				*e*S	**Sn**	**07 09 11.9**	**+0.6**
KTR	**Katsuura**	**1.66**	**332**	*e*S	**Sn**	**07 09 14.7**	**-0.2**
JIM2	**Oshima 3**	**1.84**	**305**	P	**Pn**	**07 08 56.4**	**-0.8**
JIM2				*e*S	**Sn**	**07 09 19.5**	**+0.2**
JKO	**Kozu shima**	**1.84**	**286**	P	**Pn**	**07 08 57.3**	**0.0**
JKO				*e*S	**Sn**	**07 09 19.5**	**+0.1**
JIZS	**Izushimoda**	**2.23**	**298**	P	**Pn**	**07 09 02.9**	**+0.3**
JIZS				S	**Sn**	**07 09 29.3**	**+0.3**
JOD2	**Odawara 2**	**2.39**	**312**	P	**Pn**	**07 09 04.2**	**-0.7**
JOD2				S	**Sn**	**07 09 31.9**	**-1.1**
SHZ3	**Shizuoka 3**	**2.88**	**299**	P	**Pn**	**07 09 12.7**	**+1.1**
JYN	**Shimob**	**2.88**	**310**	P	**Pn**	**07 09 12.2**	**+0.6**
JYN				*e*S	**Sn**	**07 09 45.5**	**+0.4**
TK04	**Tokai 4**	**2.90**	**285**	P	**Pn**	**07 09 12.8**	**+0.9**
JRY	**Ryogami san**	**3.03**	**321**	P	**Pn**	**07 09 13.5**	**-0.2**
JRY				*e*S	**Sn**	**07 09 48.5**	**-0.3**
JAG	**Ashikaga**	**3.11**	**332**	P	**Pn**	**07 09 14.6**	**-0.2**
JAG				S	**Sn**	**07 09 50.8**	**0.0**
MAT	**Matsushiro**	**3.80**	**320**	P	**Pn**	**07 09 25.4**	**+1.2**
MAT				S	**Sn**	**07 10 08.9**	**+1.2**

*CRAAG **21** 07:12:43.5, 349S×15136E, Mb5.6*
*MOS **21** 07:12:44.0±0.9, 346S×15131E, h372km, mb5.9/58, MS5.3/21, Error ellipse: s-maj=7.1km s-min=5.0km az=102.8*
*ISCJB **21** 07:12:46.8±0.1, 358S±002×15131E±002, h406km, mb5.6/157, Error ellipse: s-maj=2.7km s-min=2.2km az=151.4*
*BJI **21** 07:12:46.8, 331S×15176E, h418km, mB5.3, mb5.3*
*IGIL **21** 07:12:47.0, 355S×15132E, h402km*
*NEIC **21** 07:12:48.1±0.1, 355S×15127E, mb5.8/104, MW6.1, Error ellipse: s-maj=3.6km s-min=3.2km az=128.0, Moment Tensor Solution. s43 Moment tensor: Scale 10^18Nm; Mrr1.08; Mθθ-1.42; Mφφ0.35; Mrθ0.80; Mφφ-1.02; Mφr-0.66; Best double couple: M0 1.90000×10^18 NP1:φs212.00000°, δ49.00000°, λ34.00000°. NP2:φs98.00000°, δ65.00000°, λ134.00000°. Principal axes: T 1.9200, Plg50.0000°, Azm57.0000°; N 0.0500, Plg39.0000°, Azm256.0000°; P -1.9600, Plg9.0000°, Azm159.0000°;*
*GCMT **21** 07:12:48.1±0.1, 346S×15146E, h405km, MW6.1/113, Moment Tensor Solution. s113,c268; s100,c147; Duration: 28 Moment tensor: Scale 10^18Nm; Mrr0.81±.01; Mθθ-1.26±.01; Mφφ0.44±.02; Mrθ0.94±.01; Mφφ-0.88±.01; Mφr-0.79±.01; Best double couple: M0 1.86200×10^18 NP1:φs213.00000°, δ47.00000°, λ27.00000°. NP2:φs104.00000°, δ71.00000°, λ134.00000°. Principal axes: T 1.9490, Plg46.0000°, Azm58.0000°; N -0.1770, Plg41.0000°, Azm266.0000°; P -1.7750, Plg15.0000°, Azm163.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to mantle waves, cutoff=125s.*
*BGS **21** 07:12:48.3±1.3, 355S×15127E, h407km, mb5.8(NEIC)*
*IDC **21** 07:12:48.3±0.4, 359S×15123E, h408km±3km, mb5.3/25, mb1 5.5/27, mb1mx5.5/27, mbtmp5.4/27, Error ellipse: s-maj=7.7km s-min=5.0km az=83.0*
ISC 21 07:12:48.3±0.1, 355S±002×15135E±002, h408km, h408km±1.7km: pP-P, n1477, σ0§90/855, mb5.6/155, 234C-195D, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**10.34**	**125**	P	**P**	**07 15 07.8**	**-1.7**
HNR				S	**S**	**07 17 03.7**	**-2.2**
HNR	**Honiara**	**10.34**	**125**	P	**P**	**07 15 07.8**	**-1.7**
HNR				S	**S**	**07 17 03.7**	**-2.2**
HNR				pmax	pmax		
	comp=Z,193nm,0.3s						
HNR				smax			
	comp=N,36nm,0.3s						
HNR	**Honiara**	**10.34**	**125**	P	**P**	**07 15 07.8**	**-1.7**
	comp=N,193nm,0.3s,baz=243,slow=2.2,SNR=28						
HNR				S	**S**	**07 17 03.7**	**-2.2**
	comp=N,36nm,0.3s,baz=198,slow=3.2,SNR=1.5						
CTA	**Charters Tower**	**17.17**	**196**	⇓*i*P	**P**	**07 16 24.5**	**+0.7**
	comp=N,3μm,0.6s						
CTA				*e*S	**S**	**07 19 25.9**	**+3.9**
CTA	**Charters Tower**	**17.17**	**196**	⇓*i*P	**P**	**07 16 24.5**	**+0.7**
CTA				*e*S	**S**	**07 19 25.9**	**+3.9**
CTA				pmax	pmax		
	comp=Z,3μm,0.6s						
CTA	**Charters Tower**	**17.17**	**196**	P	**P**	**07 16 24.6**	**+0.9**
	comp=Z,223nm,0.3s,baz=17,slow=11,SNR=1128						
CTA				S	**S**	**07 19 24.1**	**+2.1**
	baz=243,slow=19,SNR=16						
CTAO	**Charters Tower**	**17.17**	**196**	*e*P	**P**	**07 16 25.1**	**+1.3**
CTAO				*e*S	**S**	**07 19 25.6**	**+3.6**
GUMO	**Guam**	**18.21**	**339**	P	**P**	**07 16 34.3**	**-0.4**
GUMO				S	**S**	**07 19 41.2**	**-0.8**
GUMO				pmax	pmax		
	comp=Z,183nm,0.3s						
GUMO				smax			
	comp=N,4.0nm,0.3s						
GUMO	**Guam**	**18.21**	**339**	P	**P**	**07 16 34.3**	**-0.4**
	comp=N,183nm,0.3s,baz=170,slow=6.3,SNR=68						
GUMO				S	**S**	**07 19 41.2**	**-0.8**
	comp=N,3.9nm,0.3s,baz=15,slow=20,SNR=

ASAR P3KP 07 51 25.1
comp=Z,3.2nm,1.0s,baz=140,slow=3.2,SNR=5.5
ARMA Armidale 26.72 179 *eP* **P 07 17 52.7 0.0**
ARMA *e* 07 19 13.0
ARMA *e*S **S 07 22 00.4 +2.4**
ARMA *e*SCP ScP 07 24 08.1 +3.5
ARMA *e*SCS ScS 07 28 00.6 +4.6
FUNA Funafuti 28.12 101 *eP* **P 07 18 04.7 -0.6**
comp=Z,388nm,1.0s,mb5.7
BATI Kupang 28.25 255 P **P 07 18 07.2 +0.8**
comp=Z,246nm,0.8s,mb5.6,baz=137,slow=1.6,SNR=18
BATI pP 07 19 20.1
comp=Z,600nm,0.9s,baz=157,slow=1.6,SNR=5.4
FITZ Fitzroy Crossi 29.03 238 *eP* **P 07 18 11.2 -2.0**
comp=Z,100nm,0.5s,mb5.4
FITZ *e* 07 18 42.4
FITZ *e*PP PP 07 19 28.2 -1.4
FITZ *e*S **S 07 22 30.9 -3.6**
FITZ Fitzroy Crossi 29.03 238 P **P 07 18 11.1 -2.1**
comp=Z,1.8nm,0.3s,baz=62,slow=11,SNR=3.0
FITZ pP 07 19 27.3
comp=Z,342nm,0.9s,baz=78,slow=8.3,SNR=7.5
FITZ P3KPbc 07 50 14.4
comp=Z,8.0nm,1.0s,baz=227,slow=8.0,SNR=10.0
STKA Stephens Creek 29.63 197 ⇓*iP* **P 07 18 17.0 -1.2**
comp=Z,404nm,0.6s,mb5.9
STKA *e* 07 19 08.2
STKA *e*S **S 07 22 39.6 -3.8**
STKA *e*SCP ScP 07 24 15.7 +2.0
STKA *e*SCS ScS 07 28 09.5 0.0
STKA Stephens Creek 29.63 197 P **P 07 18 17.3 -1.0**
comp=Z,543nm,0.7s,mb6.0,baz=356,slow=7.8,SNR=410
STKA S **S 07 22 40.3 -3.2**
comp=Z,169nm,0.9s,baz=100,slow=16,SNR=5.8
STKA ScP ScP 07 24 16.0 +2.3
comp=Z,178nm,1.1s,baz=62,slow=4.7,SNR=4.3
STKA P3KPbc 07 50 08.6
comp=Z,2.6nm,0.9s,baz=214,slow=3.6,SNR=4.9
RIV Riverview 30.12 180 *eP* **P 07 18 23.1 +0.6**
RIV *e* pP 07 19 42.5 +5.9
RIV *e*SCP ScP 07 24 17.7 +2.4
RIV Riverview 30.12 180 *eP* **P 07 18 23.1 +0.6**
RIV *e* pP 07 19 42.5 +5.9
KAPI Kappang 31.54 266 P **P 07 18 34.6 -0.6**
comp=Z,773nm,0.7s,mb6.1,SNR=9.6
CNB Canberra Magne 31.66 183 ⇓*iP* **P 07 18 35.7 -0.1**
comp=Z,1μm,0.7s,mb6.3
CNB *e*PP PP 07 20 02.3 +4.0
CNB *e*S **S 07 23 20.9 +6.2**
CNB *e*SCP ScP 07 24 23.7 +3.3
CBIJ Chichi jima 31.73 344 P **P 07 18 33.2 -3.4**
comp=Z,82nm,0.4s,mb5.4,baz=95,slow=22,SNR=5.9
ADE Adelaide 33.39 199 ⇓*iP* **P 07 18 50.9 +0.2**
MYLDM Lahad Datu 33.94 285 ⇑P **P 07 18 58.6 +2.8**
TSM Tawau 34.35 283 ⇓P **P 07 19 00.2 +1.0**
FORT Forrest 34.88 217 ⇓*iP* **P 07 19 02.2 -1.2**
comp=Z,796nm,0.6s,mb6.2
FORT *e*S **S 07 24 00.8 -3.4**
FORT *e*SCS ScS 07 28 38.1 +1.5
SDKM Sandakan 35.31 285 ⇓P **P 07 19 08.0 +0.6**
MBWA Marble Bar 35.37 238 *eP* **P 07 19 06.3 -1.4**
comp=Z,178nm,1.2s,mb5.3
MBWA *e*pP pP 07 20 25.1 +1.6
MBWA *e*ScP ScP 07 24 34.8 +1.0
MBWA Marble Bar 35.37 238 P **P 07 19 07.1 -0.6**
SNR=12
KKM Kota Kinabalu 36.36 285 *eP* **P 07 19 16.1 0.0**
KKM Kota Kinabalu 36.36 285 ⇓P **P 07 19 17.2 +1.1**
JOW Kunigami 37.55 325 P **P 07 19 26.2 +0.5**
comp=Z,122nm,0.4s,mb5.6,baz=154,slow=9.7,SNR=57
JOW S **S 07 24 42.2 -2.2**
comp=Z,60nm,1.0s,baz=157,slow=15,SNR=6.7
OUZ Omahuta 37.65 150 PN **P 07 19 27.3 +0.8**
JHJ Hachijo jima 2 38.08 344 P **P 07 19 26.8 -3.2**
comp=Z,143nm,0.4s,mb5.6,baz=233,slow=20,SNR=6.6
WCZ Waipu Caves 38.59 149 PN **P 07 19 34.7 +0.5**
BTM Bintulu 38.83 280 ⇑P **P 07 19 39.0 +2.5**
TAU Tasmania Unive 39.35 185 P **P 07 19 41.5 +1.2**
comp=Z,1μm,0.6s,mb6.3,SNR=59
TAU Tasmania Unive 39.35 185 *eP* **P 07 19 40.7 +0.4**
comp=Z,1μm,1.5s,mb6.0
TAU Tasmania Unive 39.35 185 *eP* **P 07 19 40.7 +0.4**
TAU pmax pmax
comp=Z,1μm,1.5s,mb6.0
SBUM Sibu 39.56 278 ⇑P **P 07 19 44.8 +2.2**
KUZ Kuaotunu 39.92 149 PN **P 07 19 45.8 +0.8**
NACB Ninganchiao 39.98 315 *eP* **P 07 19 45.8 +0.1**
YHNB Yeheng 40.44 316 *eP* **P 07 19 50.1 +0.7**
TATO Taipei 40.56 316 *eP* **P 07 19 50.4 0.0**
comp=Z,66nm,0.7s,mb5.1
TATO *e*pP pP 07 21 08.2 -0.2
TATO *e*ScP ScP 07 24 54.3 +0.8
MYRZ Mayor Island 40.60 149 PN **P 07 19 51.7 +1.2**
HIZ Hauiti 40.87 151 PN **P 07 19 53.8 +1.2**
TGRZ Tauranga 40.95 149 PN **P 07 19 54.0 +0.6**
NWEZ Newall Road 41.02 153 PN **P 07 19 55.9 +2.0**
NEZ North Egmont 41.12 153 PN **P 07 19 56.6 +1.9**
KARZ Kaharoa 41.16 150 PN **P 07 19 55.8 +0.7**
OPRZ Ohinepanea 41.19 149 PN **P 07 19 55.7 +0.5**
RAEZ Rainy Point 41.27 153 PN **P 07 19 58.2 +2.3**
OMRZ Omania 41.30 150 PN **P 07 19 56.9 +0.8**
JNU Nakatsue 41.30 334 P **P 07 19 56.1 -0.1**
comp=Z,184nm,0.8s,mb5.5,baz=122,slow=3.2,SNR=91
JNU pP pP 07 21 15.0 +0.4
comp=Z,164nm,1.2s,baz=155,slow=14,SNR=3.2
JNU ScP ScP 07 24 56.7 +0.4
comp=Z,24nm,0.9s,baz=98,slow=6.1,SNR=3.8
KSM Kuching 41.33 276 *eP* **P 07 19 56.5 -0.3**
KSM *e*pP pP 07 21 14.5 -0.6
KSM Kuching 41.33 276 ⇓P **P 07 19 58.5 +1.7**
MARZ Manawahe 41.36 149 PN **P 07 19 58.0 +1.4**
HRRZ Handcock Road 41.47 150 PN **P 07 19 58.0 +0.5**
KATZ Kakaramea 41.63 151 PN **P 07 19 60.0 +1.2**
WTVZ West Tongariro 41.70 151 PN **P 07 19 59.4 +0.1**
PKVZ Pokaka 41.72 152 PN **P 07 20 00.9 +1.4**
QRZ Quartz Range 41.72 156 PN **P 07 20 00.1 +0.6**
QRZ SN **S 07 25 52.8 +7.2**
MJAR Matsushiro Arr 41.73 344 P **P 07 19 57.7 -1.9**
MJAR pP pP 07 21 18.8 +0.7
MJAR PcP PcP 07 21 47.5 +0.3
MJAR ScP ScP 07 24 59.7 +1.8
MJAR Matsushiro Arr 41.73 344 P **P 07 19 57.7 -1.9**
MJAR 07 21 47.5
MJAR pmax pmax
comp=Z,26nm,0.7s
MJAR pmax pmax
comp=Z,16nm,0.9s
MJAR pmax pmax
comp=Z,24nm,0.5s
MJAR pmax pmax
comp=N,37nm,1.1s
MJAR Matsushiro Arr 41.73 344 P **P 07 19 57.7 -1.9**
comp=N,26nm,0.7s,mb4.7,baz=145,slow=1.5,SNR=62
MJAR pP pP 07 21 18.8 +0.7
comp=N,16nm,0.9s,baz=176,slow=8.8,SNR=3.6
MJAR PcP PcP 07 21 47.5 +0.3
comp=N,24nm,0.5s,baz=173,slow=2.9,SNR=14
MJAR ScP ScP 07 24 59.7 +1.8
comp=N,37nm,1.1s,baz=170,slow=4.5,SNR=9.4
MAJO Matsushiro 41.73 344 *eP* **P 07 19 57.8 -1.9**
comp=N,43nm,0.5s,mb5.0
MAJO *e*pP pP 07 21 19.9 +1.7
MAJO *e* 07 21 47.7
MAJO *e*ScP ScP 07 24 59.1 +1.2
MAJO Matsushiro 41.73 344 *eP* **P 07 19 57.8 -1.8**
MAJO *e* 07 21 47.7
MAJO pmax pmax
comp=Z,43nm,0.5s,mb5.0
MAT Matsushiro 41.73 344 P **P 07 19 57.4 -2.2**
MAT S **S 07 25 44.2 -1.6**
NGZ Ngauruhoe 41.75 151 PN **P 07 20 00.5 +0.8**
OTVZ Oturere 41.77 151 PN **P 07 20 00.7 +0.8**
FWVZ Far West T-bar 41.79 151 PN **P 07 20 01.8 +1.8**
URZ Urewera 41.79 149 P **P 07 19 59.3 -0.7**
comp=Z,425nm,0.6s,mb5.9,baz=324,slow=3.4,SNR=373
URZ ScP ScP 07 24 59.6 +1.4
comp=Z,102nm,0.9s,baz=355,slow=3.8,SNR=12
URZ S **S 07 25 46.3 -0.3**
comp=Z,143nm,0.7s,baz=112,slow=21,SNR=27
URZ Urewera 41.79 149 PN **P 07 19 59.9 -0.1**
TUVZ Tukino 41.84 151 PN **P 07 20 02.4 +1.9**
WNVZ Wahianoa 41.87 151 PN **P 07 20 02.4 +1.7**
MXZ Matakaoa Point 41.90 147 PN **P 07 20 01.0 +0.1**
MXZ SN **S 07 25 48.6 +0.5**

WAZ Wanganui 41.92 152 PN **P 07 20 02.1 +1.0**
MOVZ Moawhango 42.00 151 PN **P 07 20 02.5 +0.8**
MWZ Matawai 42.06 149 PN **P 07 20 02.4 +0.2**
MWZ SN **S 07 25 47.7 -2.8**
KLBR Kellerberrin 42.13 225 *eP* **P 07 20 00.8 -2.1**
comp=Z,72nm,0.6s,mb5.2
KLBR *e*pP pP 07 21 20.8 -0.8
KLBR *e*SCP ScP 07 25 00.7 +1.0
KLBR *e*S **S 07 25 47.2 -4.6**
KLBR *e*SCS ScS 07 29 13.3 -5.8
BKZ Black Stump Fm 42.17 151 PN **P 07 20 03.1 0.0**
BKZ SN **S 07 25 51.4 -0.7**
DSZ Denniston Nort 42.21 157 PN **P 07 20 03.8 +0.4**
PUZ Puketiti 42.24 148 PN **P 07 20 03.2 -0.5**
PUZ SN **S 07 25 52.1 -1.1**
DUWZ D'Urville Isla 42.29 154 PN **P 07 20 04.2 +0.2**
NNZ Nelson 42.40 155 PN **P 07 20 04.8 -0.1**
NNZ SN **S 07 25 56.4 +1.0**
QZH Quanzhou 42.59 313 P **P 07 20 04.0 -2.7**
QZH AP pP 07 21 24.1 -1.5
QZH PP PP 07 21 50.0 -6.0
QZH S **S 07 25 58.0 -0.6**
QZH SS SS 07 29 15.0 -8.4
QZH AMB AMB
comp=Z,400nm,1.0s,mb5.7
TSZ Takapari Road 42.61 152 PN **P 07 20 06.5 -0.1**
TSZ SN **S 07 25 57.5 -0.9**
KNZ Kokohu 42.65 149 PN **P 07 20 06.7 -0.2**
KNZ SN **S 07 25 56.7 -2.3**
THZ Tophouse 42.66 156 PN **P 07 20 06.2 -0.8**
THZ SN **S 07 25 58.0 -1.1**
KIW Kapiti Island 42.77 153 PN **P 07 20 07.8 0.0**
TCW Tory Channel 42.78 154 PN **P 07 20 07.6 -0.3**
TUWZ Tuamarina 42.82 155 PN **P 07 20 07.5 -0.7**
WPHZ Waipukurau 42.85 151 PN **P 07 20 08.1 -0.3**
MRZ Mangatainoka R 42.91 153 PN **P 07 20 07.9 -1.1**
MRZ SN **S 07 26 00.6 -2.2**
WVZ Waitaha Valley 42.96 159 PN **P 07 20 08.4 -0.9**
MRW Makara Radio 42.98 154 PN **P 07 20 09.0 -0.4**
BSWZ Blackbirch Sta 43.02 155 PN **P 07 20 08.2 -1.5**
PXZ Pawanui 43.02 151 PN **P 07 20 09.5 -0.3**
FOZ Fox Glacier 43.03 160 PN **P 07 20 09.7 -0.1**
CAW Cannon Point 43.04 154 PN **P 07 20 09.3 -0.6**
SNZO South Karori 43.05 154 *eP* **P 07 20 09.2 -0.8**
comp=Z,399nm,0.9s,mb5.8
SNZO *e*ScP ScP 07 25 04.6 +1.4
SNZO South Karori 43.05 154 PN **P 07 20 09.0 -1.0**
JCZ Jackson Bay 43.19 162 PN **P 07 20 11.4 +0.3**
BHW Baring Head 43.20 154 PN **P 07 20 10.1 -1.1**
BFZ Birch Farm 43.24 152 PN **P 07 20 10.9 -0.6**
BFZ SN **S 07 26 06.0 -1.4**
NWAO Narrogin (SRO) 43.26 224 *eP* **P 07 20 10.2 -1.7**
comp=Z,19nm,0.7s,mb4.5
NWAO *e*pP pP 07 21 31.9 +0.9
NWAO *e*ScP ScP 07 25 05.3 +1.0
NWAO *e*S **S 07 26 08.5 +0.5**
NWAO Narrogin (SRO) 43.26 224 P **P 07 20 10.2 -1.6**
NWAO 07 21 59.1
NWAO S **S 07 26 07.8 -0.2**
NWAO pmax pmax
comp=Z,14nm,0.5s
NWAO pmax pmax
comp=Z,38nm,0.7s
NWAO pmax pmax
comp=Z,72nm,0.8s
NWAO pmax pmax
comp=N,97nm,1.1s
NWAO smax
comp=N,71nm,1.0s
NWAO Narrogin (SRO) 43.26 224 P **P 07 20 10.2 -1.6**
comp=N,14nm,0.5s,mb4.6,baz=54,slow=7.3,SNR=17
NWAO pP pP 07 21 30.5 -0.5
comp=N,38nm,0.7s,baz=42,slow=6.0,SNR=3.7
NWAO PP PP 07 21 59.1 -2.9
comp=N,72nm,0.8s,baz=58,slow=8.9,SNR=5.9
NWAO ScP ScP 07 25 05.1 +0.8
comp=N,97nm,1.1s,baz=16,slow=2.8,SNR=8.1
NWAO S **S 07 26 07.8 -0.2**
comp=N,71nm,1.0s,baz=60,slow=14,SNR=4.5
LTZ Lake Taylor 43.28 157 PN **P 07 20 11.7 -0.1**
MTW Mount Morrison 43.28 153 PN **P 07 20 10.6 -1.2**
PAWZ Paruwai Farm 43.42 153 PN **P 07 20 12.0 -0.9**
MUN Mundaring 43.44 225 *eP* **P 07 20 11.9 -1.4**
MUN *e*pP pP 07 21 31.0 -1.5
MUN *e*SCP ScP 07 25 05.4 +0.4
MUN *e*S **S 07 26 07.2 -3.5**
KHZ Kahutara 43.47 156 PN **P 07 20 12.1 -1.2**
TRWZ Traveller 43.55 153 PN **P 07 20 13.7 -0.3**
MIDW Midway 43.63 42 *eP* **P 07 20 13.8 -1.0**
comp=N,472nm,0.5s,mb6.1
RPZ Rata Peaks 43.63 159 P **P 07 20 13.8 -0.8**
comp=N,618nm,0.7s,mb6.0,baz=218,slow=1.1,SNR=327
RPZ ScP ScP 07 25 05.8 +0.3
comp=N,46nm,1.0s,baz=22,slow=5.2,SNR=5.4
RPZ S **S 07 26 12.0 -1.1**
comp=N,22nm,0.9s,baz=150,slow=20,SNR=3.0
RPZ Rata Peaks 43.63 159 PN **P 07 20 13.7 -0.9**
LBZ Lake Benmore 43.93 161 PN **P 07 20 15.4 -1.4**
WKZ Wanaka 43.95 162 PN **P 07 20 16.9 -0.1**
MLZ Mavora Lakes 44.16 163 PN **P 07 20 17.5 -1.2**
WHZ Wether Hill Ro 44.59 163 PN **P 07 20 20.9 -1.1**
ODZ Otahua Downs 44.66 161 PN **P 07 20 21.9 -0.6**
SSE Sheshan 44.88 322 P **P 07 20 25.4 +0.9**
SSE AP pP 07 21 49.8 +5.5
SSE PCP PcP 07 21 58.8 +0.8
SSE PP PP 07 22 15.0 -1.9
SSE XP sP 07 22 27.0 -3.3
SSE S **S 07 26 28.3 -2.8**
SSE AMB AMB
comp=Z,56nm,1.0s,mb4.8
SSE AMB AMB
comp=Z,191nm,5.1s
TUZ Tuapeka 45.15 162 PN **P 07 20 25.9 -0.4**
APZ The Paps 45.47 164 PN **P 07 20 27.6 -1.2**
GZH Guangzhou 45.56 307 P **P 07 20 31.5 +1.6**
GZH S **S 07 26 43.4 +2.4**
ERM Erimo 45.96 352 P **P 07 20 33.9 +1.2**
comp=Z,485nm,0.5s,mb6.1,SNR=13
ERM Erimo 45.96 352 *eP* **P 07 20 32.4 -0.3**
comp=Z,42nm,0.6s,mb5.0
ERM *e*pP pP 07 21 51.8 -1.1
ERM Erimo 45.96 352 *eP* **P 07 20 32.4 -0.3**
ERM *e**PP pP 07 21 51.8 -1.2
ERM pmax pmax
comp=Z,42nm,0.6s,mb5.0
KSRS Korea Array 46.25 334 P **P 07 20 34.5 -0.4**
comp=Z,41nm,0.6s,mb5.0,baz=149,slow=7.7,SNR=101
KSRS PcP PcP 07 22 01.0 -1.7
comp=Z,40nm,0.9s,baz=151,slow=8.7,SNR=10
KSRS PP PP 07 22 26.6 -2.7
comp=Z,28nm,0.8s,baz=154,slow=8.8,SNR=4.6
KSRS ScP ScP 07 25 16.1 -0.4
comp=Z,13nm,1.0s,baz=145,slow=4.9,SNR=4.8
KSRS S **S 07 26 51.3 +1.0**
comp=Z,0.7nm,0.4s,baz=148,slow=7.2,SNR=2.2
KS15 Wonju Array Si 46.26 334 *eP* **P 07 20 35.1 +0.1**
QIZ Qiongzhong 46.59 300 P **P 07 20 39.4 +1.5**
QIZ AP pP 07 22 00.1 +1.6
QIZ XP sP 07 22 45.4 +1.1
QIZ S **S 07 26 54.5 -1.3**
QIZ XS sS 07 29 21.5 +0.6
QIZ SCS ScS 07 29 46.0 -2.2
QIZ SS SS 07 30 25.3 -3.1
QIZ AMB AMB
comp=Z,48nm,0.8s,mb4.9
QIZ AMB AMB
comp=Z,235nm,11.8s
QIZ Qiongzhong 46.59 300 *eP* **P 07 20 39.1 +1.2**
comp=Z,46nm,0.9s,mb4.8
QIZ *e*ScP ScP 07 25 19.4 +1.0
INCN Inchon 46.85 333 *eP* **P 07 20 40.1 +0.5**
comp=Z,448nm,1.1s,mb5.7
INCN *e*ScP ScP 07 25 19.4 +0.4
INCN Inchon 46.85 333 P **P 07 20 40.6 +1.0**
SNR=20
NJ2 Nanjing 46.97 321 *eP* **P 07 20 43.0 +2.4**
NJ2 AP pP 07 22 04.6 +3.2
NJ2 PCP PcP 07 22 06.3 +0.9
NJ2 PP PP 07 22 35.5 -0.5
NJ2 XP sP 07 22 44.5 -2.6
NJ2 SCP ScP 07 25 21.0 +1.3
NJ2 S **S 07 27 00.0 -0.7**
NJ2 AMB AMB
comp=Z,70nm,0.9s,mb5.0
NJ2 AMB AMB
comp=Z,860nm,6.8s
MYKOM Kota Tinggi 47.77 276 ⇑P **P 07 20 48.1 +1.0**
ASAJ Asahikawa 48.10 352 P **P 07 20 49.0 +0.1**
ASAJ pP 07 22 08.0 -2.1
ASAJ pmax pmax
comp=Z,191nm,0.6s
ASAJ pmax pmax
comp=Z,47nm,0.8s
ASAJ Asahikawa 48.10 352 P **P 07 20 49.0 0.0**
comp=Z,191nm,0.6s,mb5.6,baz=211,slow=9.2,SNR=82
ASAJ PcP PcP 07 22 08.0 -1.3
comp=Z,47nm,0.8s,baz=212,slow=8.8,SNR=3.8
KGM Kluang 48.33 276 ⇓P **P 07 20 52.7 +1.4**
WHN Wuhan 48.96 316 ⇑P **P 07 20 56.6 +0.9**
WHN AP pP 07 22 14.0 -3.2
WHN S **S 07 27 27.3 -1.1**
WHN XS sS 07 29 55.4 +0.4
KTGM Kuala Trenggan 48.96 280 ⇓P **P 07 20 57.0 +1.1**
VLA Vladivostok 49.67 341 *iP* **P 07 21 00.3 -0.4**
VLA Vladivostok 49.67 341 *diP* **P 07 21 00.2 -0.5**
VLA pmax pmax
comp=Z,366nm,1.7s,mb5.4
DL2 Dalian 50.37 330 ⇑*iP* **P 07 21 06.5 +0.5**
DL2 PCP PcP 07 22 18.4 +0.7
DL2 AP pP 07 22 28.6 +0.5
DL2 PP PP 07 23 12.8 +6.2
DL2 XP sP 07 23 15.3 +1.9
DL2 SCP ScP 07 25 34.9 +0.9
DL2 PCS PcS 07 26 14.4 -1.1
DL2 S **S 07 27 48.8 +1.4**
DL2 SCS ScS 07 30 11.3 -1.7
DL2 SS SS 07 31 23.0 -4.6
DL2 AMB AMB
comp=Z,140nm,1.0s,mb5.2
DL2 AMB AMB
comp=Z,240nm,4.8s
RAR Rarotonga 50.61 115 P **P 07 21 08.9 +0.8**
RAR pmax pmax
comp=Z,27nm,1.0s
RAR Rarotonga 50.61 115 P **P 07 21 08.9 +0.8**
comp=Z,27nm,0.9s,mb4.5,baz=238,slow=3.9,SNR=5.0
YSS Yuzh-Sakhalins 50.86 352 *eP* **P 07 21 09.0 -0.4**
comp=Z,731nm,1.8s,mb5.6
YSS *e*PcP PcP 07 22 19.9 +0.6
YSS Yuzh-Sakhalins 50.86 352*oeP* **P 07 21 08.0 -1.4**
YSS *e* 07 22 19.6
YSS *e**PP pP 07 22 28.0 -3.7
YSS *e**SP sP 07 23 08.8 -8.2
YSS *i* S **S 07 27 52.0 -1.7**
YSS *e**SS sS 07 30 18.0 -3.5
YSS pmax pmax
comp=N,90nm,0.6s
YSS pmax pmax
comp=Z,140nm,0.6s,mb5.4
YSS pmax pmax
comp=Z,1μm,5.0s
YSS smax
comp=N,2μm,8.0s
YSS smax
comp=E,3μm,10.0s
YSS MLR MLR
comp=Z,1μm,16.0s
YSS MLR MLR
comp=N,900nm,17.0s
YSS MLR MLR
comp=E,500nm,16.0s
TIA Tai'an 50.86 324 *eP* **P 07 21 08.4 -1.2**
TIA PCP PcP 07 22 20.0 +0.4
TIA SCP ScP 07 25 36.0 -0.2
TIA S **S 07 27 57.0 +2.8**
IPM Ipoh 50.91 279 ⇓P **P 07 21 11.2 +0.7**
MCQ Macquarie Isla 51.16 174 *eP* **P 07 21 12.5 +1.0**
KULM Kulim 51.40 280 *eP* **P 07 21 13.7 -0.3**
KULM *e*PcP PcP 07 22 23.3 +1.2
KULM *e*pP pP 07 22 38.9 +2.4
KULM *e*ScP ScP 07 25 40.2 +1.1
KULM *e*S **S 07 28 02.6 +0.4**
KULM Kulim 51.40 280 ⇑P **P 07 21 14.7 +0.7**
SNG Songkhla 51.74 282 P **P 07 21 17.0 +0.5**
comp=E,112nm,0.9s,mb5.1
SNY Shenyang 51.75 334 ⇑P **P 07 21 15.8 -0.2**
SNY XP sP 07 23 22.9 -1.0
SNY S **S 07 27 59.3 -6.7**
SNY AMB AMB
comp=Z,53nm,0.6s,mb5.0
SNY AMB AMB
comp=Z,920nm,3.5s
MDJ Mudanjiang 51.76 340 P **P 07 21 16.0 -0.1**
MDJ PCP PcP 07 22 23.0 +0.2
MDJ PP PP 07 23 18.3 -0.7
MDJ S **S 07 28 07.0 +1.0**
MDJ SCS ScS 07 30 22.3 -0.1
MDJ AMB AMB
comp=Z,100nm,1.3s,mb4.9
MDJ AMB AMB
comp=Z,803nm,6.5s
MDJ Mudanjiang 51.76 340 *eP* **P 07 21 15.6 -0.4**
MDJ *e*PcP PcP 07 22 23.4 +0.6
KKTK Khon Kaen 51.87 294 P **P 07 21 18.5 +1.1**
comp=Z,494nm,0.5s,mb6.0
GYA Guiyang 52.49 307 P **P 07 21 22.8 +1.1**
GYA PCP PcP 07 22 27.6 +1.6
GYA AP pP 07 22 45.3 +0.6
GYA PP PP 07 23 28.5 +2.6
GYA SCP ScP 07 25 44.6 +1.1
GYA PCS PcS 07 26 24.8 -0.5
GYA S **S 07 28 18.5 +2.0**
GYA SCS ScS 07 30 27.5 -0.9
GYA XS sS 07 30 43.3 -2.0
GYA SS SS 07 32 03.0 +1.5
GYA AMB AMB
comp=Z,70nm,1.0s,mb4.8
GYA AMB AMB
comp=Z,250nm,5.3s
CN2 Changchun 52.58 337 ⇓P **P 07 21 22.4 +0.4**
CN2 PCP PcP 07 22 25.9 0.0
CN2 *e*AP pP 07 22 41.3 -3.7
CN2 SCP ScP 07 25 43.9 +0.4
CN2 *e*S **S 07 28 09.0 -8.1**
CN2 SCS ScS 07 30 26.1 -2.1
CN2 AMB AMB
comp=Z,200nm,4.0s
PSI Prapat 52.78 276 PKPPKP 07 51 39.2
comp=Z,2.4nm,0.5s,baz=226,slow=6.4,SNR=5.8
HABR Khabarovsk 53.73 347 ⇑*iP* **P 07 21 29.6 -0.6**
HABR *e* 07 22 29.3
HABR *e**PP pP 07 22 51.6 -2.0
HABR *e**SP sP 07 23 37.0 -1.6
HABR *e*S **S 07 28 31.1 -1.2**
HABR *e* 07 30 33.7
HABR *e*SS SS 07 32 17.4 -2.8
HABR pmax pmax
comp=Z,636nm,1.7s,mb5.6
HABR pmax pmax
comp=Z,2μm,3.5s
BJT Baijiatuau 54.05 327 *eP* **P 07 21 32.9 +0.2**
comp=Z,28nm,0.5s,mb4.8
BJT *e*PcP PcP 07 22 32.4 +0.8
BJT Baijiatuau 54.05 327 *eP* **P 07 21 32.9 +0.2**
BJT *e* 07 22 32.4
BJT pmax pmax
comp=Z,28nm,0.5s
NST Nakhon Sawan 54.15 292 P **P 07 21 35.0 +1.2**
SKR Severo-Kuril's 54.18 4 *eP* **P 07 21 28.0 -5.3**
SKR *e* 07 22 43.0
SKR *e* 07 23 28.0
SKR *e*S **S 07 28 36.0 -2.1**
SKR *e* 07 30 52.0
SKR pmax pmax
comp=N,220nm,1.0s
SKR pmax pmax
comp=Z,450nm,1.0s,mb5.7
SKR pmax pmax
comp=Z,2μm,6.0s
SKR pmax pmax
comp=N,1μm,4.0s
SKR pmax pmax
comp=E,2μm,4.0s
SKR smax
comp=N,4μm,10.0s
SKR smax

comp=E,7μm,10.0s
SKR MLR MLR
comp=Z,2μm,18.0s
SKR MLR MLR
comp=N,2μm,20.0s
SKR MLR MLR
comp=E,2μm,20.0s
TIY Taiyuan 54.66 322 P **P 07 21 35.9 -1.2**
TIY S **S 07 28 45.6 +0.6**
XAN Xi'an 54.73 317 P **P 07 21 37.3 -0.3**
XAN S **S 07 28 37.0 -9.0**
XAN AMB AMB
comp=Z,18nm,0.6s,mb4.5
XAN AMB AMB
comp=Z,506nm,9.3s
KMI Kunming 55.10 304 P **P 07 21 41.8 +1.4**
KMI PCP PcP 07 22 37.3 +1.3
KMI AP pP 07 23 05.9 +1.6
KMI PP PP 07 23 53.8 +4.8
KMI SCP ScP 07 25 56.6 +1.7
KMI S **S 07 28 55.0 +3.9**
KMI XS sS 07 31 22.3 +0.9
KMI SS SS 07 32 48.3 +5.8
KMI AMB AMB
comp=Z,71nm,1.3s,mb4.7
KMI AMB AMB
comp=Z,479nm,5.2s
KLR Kul'dur 55.26 344⇓ *i* P **P 07 21 37.0 -4.0**
KLR *e* 07 22 32.5
KLR *e* 07 32 41.0
KLR pmax pmax
comp=N,800nm,8.0s
KLR pmax pmax
comp=Z,2μm,8.0s
KLR pmax pmax
comp=N,92nm,1.8s
KLR pmax pmax
comp=E,230nm,1.8s
KLR pmax pmax
comp=Z,630nm,1.8s,mb5.5
HON Honolulu 55.40 61 *e*P **P 07 21 43.8 +1.2**
HON *e*PcP PcP 07 22 39.6 +2.3
KIP Kipapa 55.42 61 *e*P **P 07 21 43.0 +0.3**
comp=Z,3μm,1.7s,mb6.3
KIP *e*PcP PcP 07 22 39.8 +2.4
KIP Kipapa 55.42 61 *e*P **P 07 21 43.0 +0.3**
KIP *e* 07 22 39.8
KIP pmax pmax
comp=Z,3μm,1.7s,mb6.3
BDT Bhumibol Dam 55.63 294 P **P 07 21 45.0 +0.7**
CHRT Chiangrai 55.73 297⇓P **P 07 21 45.0 +0.1**
comp=Z,647nm,1.0s,mb5.9
CM31 Chiang Mai Arr 56.04 295 *e*P **P 07 21 48.9 +1.8**
comp=Z,60nm,0.9s,mb4.9
CM31 *e*PcP PcP 07 22 41.0 +1.2
CM31 *e*pP pP 07 23 15.3 +3.9
CHG Chiang Mai 56.15 295⇑P **P 07 21 48.7 +0.8**
comp=Z,150nm,0.9s,mb5.3
CHTO Chiang Mai 56.15 295 *e*P **P 07 21 48.0 +0.2**
CHTO Chiang Mai 56.15 295 P **P 07 21 49.3 +1.4**
SNR=38
KKH Kailua Kona 56.61 64 *e*P **P 07 21 51.9 +0.8**
PET Petropavlovsk 56.70 5 *e*P **P 07 21 50.6 -0.4**
comp=Z,418nm,1.2s,mb5.6
PET *e*PcP PcP 07 22 41.3 -0.3
PET Petropavlovsk 56.70 5α *i* P **P 07 21 50.5 -0.5**
PET *i* 07 22 41.9
PET *e**PP pP 07 23 12.1 -3.5
PET *i* *SP sP 07 23 53.7 -6.5
PET *e*S **S 07 29 10.1 -1.0**
PET *e* 07 30 57.2
PET pmax pmax
comp=Z,2μm,6.1s
PET pmax pmax
comp=Z,1μm,17.0s
PET smax
comp=E,70nm,1.9s
PET smax
comp=N,73nm,1.3s
PET smax
comp=E,4μm,9.5s
PET smax
comp=E,4μm,20.6s
PET MLR MLR
comp=Z,1μm,20.0s
CD2 Chengdu 56.83 311⇓ *i* P **P 07 21 53.0 +0.6**
CD2 AP pP 07 23 19.1 +2.1
CD2 SCP ScP 07 26 01.1 -1.4
CD2 S **S 07 29 12.8 -0.8**
CD2 SCS ScS 07 30 56.4 -3.1
CD2 SS SS 07 33 12.4 +2.7
CD2 AMB AMB
comp=Z,330nm,0.8s,mb5.7
CD2 AMB AMB
comp=Z,570nm,5.1s
KHU Kahuku 56.84 64 *e*P **P 07 21 53.0 +0.4**
POHA Pohakuloa 57.08 64 *e*P **P 07 21 55.0 +0.8**
comp=Z,1μm,0.8s,mb6.2
HHC Hu-ho-hao-te 57.20 325 *e*P **P 07 21 54.8 +0.1**
HHC AP pP 07 23 19.0 -0.5
HHC PP PP 07 24 09.5 +2.1
HHC SCP ScP 07 26 00.8 -3.0
HHC PCS PcS 07 26 45.5 +0.1
HHC S **S 07 29 17.8 -0.2**
HHC SCS ScS 07 31 00.0 -1.7
HHC XS sS 07 31 50.3 +0.9
HHC SS SS 07 33 16.9 +1.9
HHC AMB AMB
comp=Z,134nm,1.0s,mb5.2
HHC AMB AMB
comp=Z,790nm,4.9s
BTO Baotou 57.95 324 *e*P **P 07 22 00.3 +0.4**
SMY Shemya 59.27 16 *e*P **P 07 22 08.6 -0.1**
comp=Z,1μm,1.3s,mb6.0
SMY LR LR
comp=Z,600nm,17.0s
SMY Shemya 59.27 16 *e*P **P 07 22 08.6 -0.1**
SMY pmax pmax
comp=Z,1μm,1.3s,mb6.0
SMY MLR MLR
comp=Z,600nm,17.0s
HIA Hailar 59.32 336 *e*P **P 07 22 08.7 -0.3**
comp=Z,300nm,1.1s,mb5.5
HIA *e*PcP PcP 07 22 51.9 -0.3
HIA *e*pP pP 07 23 34.3 -0.2
HIA *e*S **S 07 29 42.0 -2.7**
HIA Hailar 59.32 336 *e*P **P 07 22 08.7 -0.3**
HIA *e* 07 22 51.9
HIA *e*S **S 07 29 42.0 -2.7**
HIA pmax pmax
comp=Z,300nm,1.1s
LZH Lanzhou 59.34 316⇑P **P 07 22 10.6 +1.2**
LZH PCP PcP 07 22 54.5 +1.9
LZH AP pP 07 23 35.5 +0.6
LZH XP sP 07 24 17.0 -2.3
LZH PP PP 07 24 29.5 +3.1
LZH SCP ScP 07 26 13.0 -0.4
LZH PCS PcS 07 26 54.3 -0.8
LZH S **S 07 29 47.0 +1.5**
LZH SCS ScS 07 31 16.5 -1.3
LZH XS sS 07 32 19.0 +0.9
LZH SS SS 07 33 48.0 -0.7
LZH AMB AMB
comp=Z,306nm,1.5s,mb5.4
LZH AMB AMB
comp=Z,1μm,4.0s
PPT Papeete 59.48 108 *e*P **P 07 22 11.9 +1.1**
comp=Z,150nm,1.0s,mb5.3
PPT *e*S **S 07 29 47.2 -0.8**
comp=Z,7μm,23.2s
PPT Papeete 59.48 108 *e*P **P 07 22 12.6 +1.8**
PPT *e* 07 22 54.6
PPT Papeete 59.48 108 P **P 07 22 12.4 +1.6**
comp=Z,149nm,0.5s,mb5.6,baz=247,slow=6.1,SNR=48
PAE Paea 59.49 108 *e*P **P 07 22 11.7 +0.9**
comp=Z,212nm,0.9s,mb5.5
PAE *e*P'P' 07 51 47.0
PAE Paea 59.49 108 *e*P **P 07 22 11.7 +0.9**
PAE pmax pmax
comp=Z,212nm,0.9s,mb5.5
AMKA Amchitka 59.70 20 *e*P **P 07 22 09.5 -2.0**
TVO Taravao 59.81 108 *e*P **P 07 22 14.4 +1.4**
comp=Z,506nm,0.9s,mb6.0
TVO *e*P'P' 07 51 46.6

TVO Taravao 59.81 108 *e*P **P 07 22 14.4 +1.4**
TVO pmax pmax
comp=Z,506nm,0.9s,mb6.0
PMOR Pomariorio Ree 60.85 105 *e*P **P 07 22 20.8 +0.8**
comp=Z,2μm,1.2s,mb6.3
VAH Vaihoa 61.13 105 *e*P **P 07 22 22.3 +0.5**
comp=Z,390nm,1.0s,mb5.8
ADK Adak 61.54 22 *e*P **P 07 22 23.1 -0.7**
comp=Z,268nm,0.7s,mb5.9
ADK *e*PcP PcP 07 23 01.4 +0.3
ADK Adak 61.54 22 *e*P **P 07 22 23.1 -0.7**
ADK *e* 07 23 01.4
ADK pmax pmax
comp=Z,268nm,0.7s,mb5.9
IMP Imphal 62.43 300 *e*P **P 07 22 31.0 +0.8**
IMP *e*x x 07 24 08.0
MA2 Magadan 62.94 360 *e*P **P 07 22 32.1 -0.7**
comp=Z,231nm,0.6s,mb5.9
MA2 *e*PcP PcP 07 23 06.3 -0.3
MA2 Magadan 62.94 360*c i* P **P 07 22 31.4 -1.4**
MA2 *e* 07 23 06.5
MA2 *e**PP pP 07 23 54.9 -4.6
MA2 *e*S **S 07 30 28.2 -1.3**
MA2 *e* 07 30 52.0
MA2 pmax pmax
comp=N,200nm,0.7s
MA2 pmax pmax
comp=Z,400nm,0.7s,mb6.1
DRV Dumont d'Urvil 63.49 185 P **P 07 22 41.0 +4.7**
DRV S **S 07 30 37.0 +0.8**
DRV SS SS 07 35 23.0 +31
DRV L 07 39 00.0
DRV R 07 44 00.0
GTA Gaotai 63.77 317 P **P 07 22 39.5 +0.9**
GTA AP pP 07 24 08.3 +2.7
GTA XP sP 07 24 54.3 +4.8
GTA PP PP 07 25 06.1 +1.0
GTA SCP 07 26 34.4
GTA PCS 07 27 15.5
GTA S **S 07 30 43.3 +2.8**
GTA SCS ScS 07 31 48.1 -3.2
GTA XS sS 07 33 17.3 +1.8
GTA SS SS 07 35 02.3 +4.7
GTA AMB AMB
comp=Z,27nm,0.5s,mb5.0
GTA AMB AMB
comp=Z,1μm,8.8s
NRGR Nerungri 63.81 344 *i* P **P 07 22 40.0 +1.5**
NRGR S **S 07 30 39.7 -0.6**
NRGR smax
comp=N,51nm,0.7s
CLNS Chul'man 63.92 344 *e*P **P 07 22 39.1 -0.1**
CLNS *e* 07 23 11.3
CLNS *e*S **S 07 30 37.8 -3.8**
CLNS *e* 07 31 46.2
CLNS pmax pmax
comp=Z,192nm,0.6s,mb5.8
CLNS pmax pmax
comp=N,90nm,0.7s
CLNS pmax pmax
comp=E,37nm,0.7s
CLNS pmax pmax
comp=Z,50nm,0.8s,mb5.1
CLNS pmax pmax
comp=N,41nm,0.9s
CLNS pmax pmax
comp=E,41nm,1.1s
CLNS smax
comp=N,1μm,11.9s
CLNS smax
comp=Z,933nm,13.2s
CLNS smax
comp=E,926nm,10.0s
SHL Shillong 64.43 300 *e*P **P 07 22 44.0 +0.8**
SHL *e*S **S 07 30 50.0 +0.9**
SONM Songino Array 64.51 328 P **P 07 22 43.7 +0.6**
SONM PcP PcP 07 23 13.8 +0.4
SONM pP pP 07 24 11.1 +0.7
SONM P'P' 07 51 18.6
SONM ⇑*e* 07 51 30.7
SONM Songino Array 64.51 328 P **P 07 22 43.7 +0.5**
SONM 07 23 13.8
SONM pmax pmax
comp=Z,80nm,0.6s
SONM pmax pmax
comp=Z,24nm,0.4s
SONM pmax pmax
comp=Z,6.0nm,0.6s
SONM pmax pmax
comp=Z,2.0nm,0.8s
SONM pmax pmax
comp=Z,11nm,1.2s
SONM Songino Array 64.51 328 P **P 07 22 43.7 +0.6**
comp=Z,80nm,0.6s,mb5.6,baz=143,slow=5.5,SNR=256
SONM PcP PcP 07 23 13.8 +0.4
comp=Z,24nm,0.4s,baz=147,slow=3.7,SNR=12
SONM pP pP 07 24 11.1 +0.7
comp=Z,6.3nm,0.6s,baz=149,slow=7.5,SNR=1.4
SONM PKPPKP 07 51 18.6
comp=Z,1.7nm,0.8s,baz=27,slow=1.7,SNR=5.6
SONM PKP2bc 07 51 30.7
comp=Z,11nm,1.2s,baz=306,slow=1.7,SNR=10
SEY Seymchan 66.31 1⇑ *e*P **P 07 22 53.4 -0.9**
LSA Lhasa 66.35 304 P **P 07 22 56.0 +0.8**
LSA S S 07 31 06.1 -5.8
LSA SCS ScS 07 32 08.1 -3.6
LSA AMB AMB
comp=Z,100nm,1.0s,mb5.4
LSA AMB AMB
comp=Z,370nm,8.0s
LSA Lhasa 66.35 304 *e*P **P 07 22 56.7 +1.5**
comp=Z,78nm,0.9s,mb5.3
LSA *e*S S 07 31 14.6 +2.6
LSA Lhasa 66.35 304 *e*P **P 07 22 56.7 +1.5**
LSA *e*S S 07 31 14.6 +2.7
LSA pmax pmax
comp=Z,78nm,0.9s,mb5.3
YAK Yakutsk 67.48 349 *e*P **P 07 23 01.4 -0.2**
comp=Z,592nm,1.1s,mb6.1
YAK *e*pP pP 07 24 27.9 -1.8
YAK Yakutsk 67.48 349⇑ *i* P **P 07 23 01.4 -0.1**
YAK *e* pP 07 24 27.6 -2.1
YAK *i* S S 07 31 24.2 +0.1
YAK *e* 07 32 14.8
YAK pmax pmax
comp=Z,610nm,1.4s,mb6.0
AKUT Akutan 67.63 26 *e*P **P 07 23 02.2 -0.5**
comp=Z,560nm,0.5s,mb6.5
ZAK Zakamensk 67.69 329 *e*P **P 07 23 03.5 +0.4**
ZAK *e* 07 31 28.9
ZAK pmax pmax
comp=Z,173nm,1.3s,mb5.5
ZAK pmax pmax
comp=Z,38nm,0.9s,mb5.0
BOD Bodaibo 68.12 340⇑ *i* P **P 07 23 04.7 -0.9**
BOD pmax pmax
comp=Z,142nm,1.3s,mb5.4
TAOE Nuku Hiva Isla 68.23 98 *e*P **P 07 23 08.3 +1.1**
comp=Z,18μm,1.3s
TLY Talaya 68.28 330 P **P 07 23 07.0 +0.3**
comp=Z,602nm,1.2s,mb6.1,SNR=22
TLY Talaya 68.28 330 *e*P **P 07 23 06.6 -0.1**
comp=Z,116nm,1.1s,mb5.4
TLY *e*PcP PcP 07 23 29.5 +0.4
TLY *e*pP pP 07 24 37.2 +2.1
TLY Talaya 68.28 330*c i* P **P 07 23 06.1 -0.6**
TLY *e* 07 23 28.8
TLY *e*S S 07 31 36.2 +2.3
TLY *e*PS 07 31 58.1
TLY *e* 07 32 26.2
TLY pmax pmax
comp=Z,182nm,1.3s,mb5.5
TLY Talaya 68.28 330 P **P 07 23 06.8 +0.1**
SNR=82
IRK Irkutsk 68.32 331⇑ *i* P **P 07 23 07.2 +0.3**
IRK *e* 07 23 26.1
IRK *e* 07 25 07.7
IRK *e* 07 27 22.1
IRK *e*S S 07 31 36.3 +1.9
IRK pmax pmax
comp=Z,318nm,2.1s,mb5.6
CASY Casey 68.78 196 *e*P **P 07 23 08.5 -1.0**
CASY *e*pP pP 07 24 35.3 -2.7
FALS False Pass 69.13 26 *e*P **P 07 23 11.3 -0.6**

BOK Bokaro 69.21 297 *e*P **P 07 23 12.7 -0.3**
MOY Mondy 69.61 329 *e*P **P 07 23 16.7 +1.9**
MOY pmax pmax
comp=Z,572nm,1.3s,mb5.9
VIS Vishakhapatnam 70.28 290 *e*P **P 07 23 20.2 +0.6**
SDPT Sand Point 70.75 27 *e*P **P 07 23 20.0 -1.5**
comp=Z,487nm,0.4s,mb6.4
SDPT LR LR
comp=Z,600nm,19.0s
PALK Pallekele 71.31 279 P **P 07 23 26.0 +0.2**
comp=Z,288nm,1.0s,mb5.8,SNR=15
PALK Pallekele 71.31 279 *e*P **P 07 23 26.2 +0.4**
PALK *e*PcP PcP 07 23 44.0 +1.1
PALK *e*pP pP 07 24 55.5 +0.5
PALK Pallekele 71.31 279 P **P 07 23 27.4 +1.7**
SNR=15
BILL Bilibino 72.20 6 *e*P **P 07 23 29.5 -0.3**
comp=Z,488nm,1.2s,mb5.9
BILL *e*pP pP 07 24 58.0 -1.4
BILL Bilibino 72.20 6⇑ *e*P **P 07 23 29.2 -0.6**
BILL *e* 07 26 12.5
BILL *i* S S 07 32 18.2 0.0
BILL pmax pmax
comp=Z,498nm,1.2s,mb5.9
BLSP Bilaspur 72.22 294 *e*P **P 07 23 30.2 -0.7**
CHGN Chignik 72.26 27 *e*P **P 07 23 21.8 -8.6**
GAMB Gambell 72.59 16 *e*P **P 07 23 31.6 -0.6**
RKT Rikitea 73.60 113 *e*P **P 07 23 39.1 +0.2**
comp=Z,296nm,1.3s,mb5.8
RKT *e*S S 07 32 35.6 0.0
comp=Z,2μm,24.5s
RKT Rikitea 73.60 113 *e*P **P 07 23 39.1 +0.2**
RKT *e*S S 07 32 35.6 0.0
RKT pmax pmax
comp=Z,296nm,1.3s,mb5.8
WMQ Urumqi 73.85 318⇑ *i* P **P 07 23 40.8 +0.9**
WMQ PCP PcP 07 23 54.0 +0.9
WMQ AP pP 07 25 11.5 +1.6
WMQ XP sP 07 25 55.0 +1.9
WMQ S S 07 32 38.5 +0.9
WMQ SKS 07 33 00.0
WMQ XS sS 07 35 16.0 -1.7
WMQ AMB AMB
comp=Z,236nm,1.5s,mb5.6
WMQ AMB AMB
comp=Z,1μm,3.6s
VNDA Vanda 74.12 178 P **P 07 23 40.8 -0.1**
VNDA pmax pmax
comp=Z,92nm,0.6s
VNDA Vanda 74.12 178 P **P 07 23 40.8 -0.1**
comp=Z,92nm,0.6s,mb5.6,baz=333,slow=6.5,SNR=256
MIR Mirnyy 74.57 201α *i* P **P 07 23 44.0 +0.5**
MIR *e* 07 28 23.0
MIR *i* S S 07 32 42.0 -2.6
MIR *i* PS 07 33 14.0
MIR pmax pmax
comp=Z,1μm,1.5s,mb6.3
SBA Scott Base 74.69 177 *e*P **P 07 23 45.1 +1.0**
comp=Z,60nm,0.8s,mb5.3
SBA *e*pP pP 07 25 15.3 +1.0
SBA Scott Base 74.69 177 *e*P **P 07 23 45.1 +1.0**
SBA pmax pmax
comp=Z,60nm,0.8s,mb5.3
HYB Hyderabad 74.72 289 *e*P **P 07 23 45.0 -0.4**
comp=Z,155nm,1.0s,mb5.6
HYB *e* pP 07 25 16.0 +0.4
HYB *e*S S 07 32 46.0 -2.1
HYB Hyderabad 74.72 289 *e*P **P 07 23 45.0 -0.4**
HYB *e*S S 07 32 46.0 -2.1
HYB pmax pmax
comp=Z,155nm,1.0s,mb5.6
HYB Hyderabad 74.72 289 *i* P **P 07 23 45.0 -0.4**
comp=Z,155nm,1.0s,mb5.6
HYB *e*pP pP 07 25 16.0 +0.4
HYB *e*S S 07 32 47.0 -1.1
NGP Nagpur 74.86 293 *e*P **P 07 23 45.5 -0.7**
NGP *e*S S 07 32 46.8 -2.7
TRD Trivandrum 75.13 280 *e*P **P 07 23 47.4 -0.5**
LGTI Lohaghat 75.42 301 *e*P **P 07 23 49.3 +0.2**
PTH Pithoragarh 75.46 302 *e*P **P 07 23 50.3 +0.9**
KDAK Kodiak Island 75.73 27 P **P 07 23 50.9 +0.7**
comp=Z,2μm,1.0s,mb6.7,SNR=31
KDAK Kodiak Island 75.73 27 *e*P **P 07 23 50.5 +0.3**
comp=Z,228nm,0.9s,mb5.8
KDAK Kodiak Island 75.73 27 P **P 07 23 50.1 -0.1**
comp=Z,132nm,0.6s,mb5.8,baz=209,slow=3.3,SNR=126
SVW2 Sparrevohn 76.26 24 *e*P **P 07 23 53.1 0.0**
TIXI Tiksi 76.48 353 *e*P **P 07 23 52.8 -1.4**
comp=Z,58nm,0.4s,mb5.6
TIXI Tiksi 76.48 353⇑ *e*P **P 07 23 51.9 -2.3**
TIXI pmax pmax
comp=Z,279nm,1.6s,mb5.6
AKL Akola 76.66 292 *i* P **P 07 23 56.3 +0.1**
BHPL Bhopal 76.70 295 *e*P **P 07 23 55.5 -0.9**
TTA Tatalina 77.15 22 *e*P **P 07 23 58.0 0.0**
comp=Z,796nm,1.3s,mb6.2
TTA Tatalina 77.15 22 *e*P **P 07 23 58.0 0.0**
TTA pmax pmax
comp=Z,796nm,1.3s,mb6.2
DDI Dehra Dun 77.46 302 *e*P **P 07 24 01.0 +0.6**
DDI *e*x x 07 25 32.0
MNGI Mangalore 77.70 284 *i* x x 07 25 28.1
MNGI *i* x x 07 33 15.9
NDI New Delhi 77.86 300 *e*P **P 07 24 02.0 -0.6**
NDI *e*x x 07 33 16.0
SLKM Skilak Lake 78.17 26 *e*P **P 07 24 03.2 -0.4**
MK31 Makanchi Array 78.44 319 *i* P **P 07 24 05.1 -0.3**
MK31 Makanchi Array 78.44 319 *i* P **P 07 24 05.0 -0.4**
MK31 pmax pmax
comp=Z,226nm,1.0s,mb5.8
MKAR Makanchi Array 78.44 319 P **P 07 24 05.1 -0.3**
MKAR pP pP 07 25 37.4 +0.7
MKAR S S 07 33 26.9 0.0
MKAR PKKPbc PKKPbc 07 42 58.9 -2.1
MKAR P'P' 07 50 59.7
MKAR Makanchi Array 78.44 319 P **P 07 24 05.1 -0.3**
MKAR S S 07 33 26.9 0.0
MKAR pmax pmax
comp=Z,59nm,0.6s
MKAR pmax pmax
comp=Z,7.0nm,0.8s
MKAR smax
comp=N,3.0nm,1.1s
MKAR pmax pmax
comp=Z,2.0nm,0.6s
MKAR pmax pmax
comp=Z,2.0nm,0.9s
MKAR Makanchi Array 78.44 319 P **P 07 24 05.1 -0.3**
comp=Z,59nm,0.6s,mb5.4,baz=99,slow=6.3,SNR=250
MKAR pP pP 07 25 37.4 +0.7
comp=Z,6.9nm,0.8s,baz=87,slow=7.7,SNR=1.4
MKAR S S 07 33 26.9 0.0
comp=Z,2.9nm,1.1s,baz=90,slow=12,SNR=6.4
MKAR PKKPbc PKKPbc 07 42 58.9 -2.1
comp=Z,1.6nm,0.6s,baz=262,slow=2.0,SNR=9.0
MKAR PKPPKP 07 50 59.7
comp=Z,1.9nm,0.9s,baz=0.0,slow=2.4,SNR=5.5
SDNR Sundarnagar 78.61 303 *e*P **P 07 24 06.4 -0.2**
SDNR *e*x x 07 25 41.0
KAD Karad 78.84 288 *e*P **P 07 24 07.5 -0.6**
PMR Palmer 79.16 25 *e*P **P 07 24 07.3 -1.6**
comp=Z,424nm,0.9s,mb6.1
PMR LR LR
comp=Z,900nm,18.0s
PMR Palmer 79.16 25 *e*P **P 07 24 07.3 -1.6**
PMR pmax pmax
comp=Z,424nm,0.9s,mb6.1
PMR MLR MLR
comp=Z,900nm,18.0s
POO Poona 79.31 289⇓ *i* P **P 07 24 09.5 -1.2**
comp=Z,330nm,1.0s,mb5.9
POO *e*P 07 24 10.1
ZAA0 Zalesovo Array 79.32 327 *e*P **P 07 24 08.9 -1.1**
ZAA0 Zalesovo Array 79.32 327 *e*PKPdf S 07 33 34.1 -1.7
ZALV Zalesovo Beam 79.32 327 P **P 07 24 09.1 -0.9**
ZALV pP pP 07 25 42.6 +1.2
ZALV S S 07 33 34.2 -1.6
ZALV PKKPbc PKKPbc 07 42 56.1 -3.3
ZALV P'P' 07 50 49.5
ZALV Zalesovo Beam 79.32 327 P **P 07 24 09.1 -0.9**
comp=Z,100nm,0.4s,mb5.8,baz=112,slow=6.1,SNR=450
ZALV pP pP 07 25 42.6 +1.2
comp=Z,11nm,0.7s,baz=100,slow=5.3,SNR=2.7
ZALV S S 07 33 34.2 -1.6

comp=Z,14nm,1.1s,baz=110,slow=8.5,SNR=16
ZALV PKKPbc PKKPbc 07 42 56.1 -3.3
comp=Z,3.4nm,0.4s,baz=299,slow=2.5,SNR=13
ZALV PKPPKP 07 50 49.5
comp=Z,1.3nm,0.6s,baz=290,slow=2.8,SNR=5.1
ZAL Zalesovo 79.33 326 P **P 07 24 09.1 -0.9**
ZAL S S 07 33 34.3 -1.6
DLH Dalhousie 79.64 304 *e*P **P 07 24 11.0 -1.2**
IMA2 Indian Mountai 79.77 20 *e*P **P 07 24 11.1 -1.0**
THN Thein Dam 79.83 304 *e*P **P 07 24 12.5 -0.7**
THN *ex* x 07 25 44.2
BOM Bombay 80.33 290 *e*P **P 07 24 14.1 -2.0**
BOM *ex* x 07 33 01.1
NVS Novosibirsk 80.50 327 *e*P **P 07 24 15.7 -0.5**
NVS *e**PP pP 07 25 46.2 -1.8
NVS *i* S S 07 33 44.2 -3.8
NVS pmax pmax
comp=Z,558nm,1.6s,mb6.0
NVS pmax pmax
comp=N,200nm,1.5s
NVS pmax pmax
comp=E,392nm,1.4s
NVS smax
comp=E,974nm,2.3s
NVS smax
comp=N,713nm,3.1s
KSH Kashi 81.03 311 *e*P **P 07 24 21.3 +2.0**
KSH *e*AP pP 07 25 51.0 -0.2
KSH *e*PP PP 07 27 35.1 +4.0
KSH S S 07 33 57.5 +3.4
KSH SKS 07 33 59.3
KSH SS SS 07 39 26.3 +6.8
COLA College 81.24 22 *e*P **P 07 24 18.4 -1.4**
comp=N,498nm,0.8s,mb6.3
COLA College 81.24 22 *e*P **P 07 24 18.4 -1.4**
COLA pmax pmax
comp=Z,498nm,0.8s,mb6.3
ULHL Ulahol 81.42 313 P **P 07 24 22.6 +1.3**
SNR=6.2
KURK Kurchatov 81.90 322 P **P 07 24 23.2 -0.4**
comp=Z,1μm,1.0s,mb6.6,SNR=38
KURK Kurchatov 81.90 322 *e*P **P 07 24 23.2 -0.4**
comp=Z,379nm,1.2s,mb6.0
KURK Kurchatov 81.90 322 *e*P **P 07 24 23.2 -0.4**
KURK pmax pmax
comp=Z,379nm,1.2s,mb6.0
TKM2 Tokmak 2 82.03 314 *e*P **P 07 24 24.7 +0.3**
comp=Z,71nm,0.5s,mb5.7
TKM2 Tokmak 2 82.03 314 *e*P **P 07 24 24.7 +0.3**
TKM2 pmax pmax
comp=Z,71nm,0.5s,mb5.7
TKM2 Tokmak 2 82.03 314 P **P 07 24 25.6 +1.2**
SNR=11
KZA Kyzart 82.10 313 P **P 07 24 26.2 +1.4**
SNR=279
KBK Karagaybulak 82.44 314 P **P 07 24 28.1 +1.6**
SNR=45
CHMS Chumysh 82.65 314 P **P 07 24 28.1 +0.5**
SNR=72
UCH Uchtor 82.67 313 P **P 07 24 28.8 +1.2**
SNR=285
FRU Bishkek 82.72 314 *oe*P **P 07 24 28.0 +0.1**
FRU *i* S S 07 34 13.0 +2.1
FRU 07 39 50.0
FRU 07 43 14.0
FRU pmax pmax
comp=Z,730nm,1.9s,mb6.1
FRU pmax pmax
comp=Z,1μm,5.0s
FRU smax
comp=E,3μm,12.0s
AAK Ala-Archa 82.77 314 P **P 07 24 27.6 -0.6**
comp=E,816nm,0.7s,mb6.6,SNR=28
AAK Ala-Archa 82.77 314 *e*P **P 07 24 27.6 -0.5**
comp=E,189nm,1.1s,mb5.7
AAK Ala-Archa 82.77 314 *e*P **P 07 24 27.7 -0.5**
AAK pmax pmax
comp=Z,189nm,1.1s,mb5.7
AAK Ala-Archa 82.77 314 P **P 07 24 27.9 -0.2**
SNR=90
AAK Ala-Archa 82.77 314 P **P 07 24 29.6 +1.4**
SNR=16
USP Ospenovka 82.89 314 P **P 07 24 28.8 0.0**
SNR=126
AML Almayashu 83.25 313 *e*P **P 07 24 31.9 +1.2**
comp=Z,778nm,1.1s,mb6.3
AML Almayashu 83.25 313 P **P 07 24 31.6 +1.0**
SNR=457
EKS2 Erkin-Say 83.29 314 *e*P **P 07 24 31.5 +0.7**
comp=Z,550nm,1.4s,mb6.1
EKS2 Erkin-Say 83.29 314 P **P 07 24 31.6 +0.8**
SNR=112
BHJ Bhuj 83.78 294 *e*P **P 07 24 34.1 +0.4**
BHJ AMb AMB 07 24 36.8
comp=Z,441nm,1.3s,mb6.0
EGAK Eagle 83.79 23 *e*P **P 07 24 32.0 -0.8**
comp=Z,433nm,1.0s,mb6.1
SIT Sitka 83.98 32 *e*P **P 07 24 34.3 +0.4**
DAWY Dawson 84.25 24 *e*P **P 07 24 34.6 -0.5**
SKAG Skagway 84.64 29 *e*P **P 07 24 36.6 -0.5**
CRAG Craig 84.75 34 *e*P **P 07 24 38.6 +0.8**
comp=Z,471nm,1.3s,mb6.1
WRAK Wrangell Islan 85.40 33 *e*P **P 07 24 41.1 +0.2**
comp=Z,404nm,1.1s,mb6.1
KBL Kabul 85.67 305 *e*P **P 07 24 42.7 -0.1**
comp=Z,37nm,0.8s,mb5.2
KK31 Karatay Array 85.73 314 *i* P **P 07 24 42.6 -0.3**
MAW Mawson 86.16 203 *e*P **P 07 24 43.3 -1.1**
comp=Z,72nm,0.9s,mb5.4
MAW *e*pP pP 07 26 16.0 -1.6
MAW Mawson 86.16 203 P **P 07 24 43.9 -0.5**
MAW pmax pmax
comp=Z,90nm,0.8s
MAW pmax pmax
comp=Z,113nm,1.1s
MAW pmax pmax
comp=Z,7.0nm,0.8s
MAW Mawson 86.16 203 P **P 07 24 43.9 -0.5**
comp=Z,90nm,0.8s,mb5.6,baz=94,slow=5.4,SNR=132
MAW pP pP 07 26 17.5 -0.1
comp=Z,113nm,1.1s,baz=80,slow=7.6,SNR=8.5
MAW PKKPbc PKKPbc 07 42 41.1 -2.9
comp=Z,6.7nm,0.8s,baz=165,slow=1.4,SNR=7.9
QSPA South Pole Qui 86.40 180 *e*P **P 07 24 45.3 -0.1**
comp=Z,313nm,0.8s,mb6.1
QSPA *e*pP pP 07 26 16.5 -2.1
QSPA South Pole Qui 86.40 180 PKKP PKKPbc 07 42 31.7 -12
comp=Z,1.7nm,0.6s,baz=353,slow=2.8,SNR=7.4
QSPA PKKPbc PKKPbc 07 42 39.4 -4.5
comp=Z,13nm,1.0s,baz=230,slow=0.6,SNR=23
DLBC Dease Lake 87.06 31 *e*P **P 07 24 48.7 -0.2**
BVAR Borovoye Array 87.38 323 P **P 07 24 49.3 -1.2**
BVAR pP pP 07 26 24.8 +0.8
BVAR Borovoye Array 87.38 323 P **P 07 24 49.3 -1.2**
BVAR S SKSac 07 34 34.8 -3.6
BVAR pmax pmax
comp=Z,100nm,0.5s
BVAR pmax pmax
comp=Z,7.0nm,0.8s
BVAR pmax pmax
comp=Z,3.0nm,0.6s
BVAR smax
comp=N,5.0nm,1.0s
BVAR Borovoye Array 87.38 323 P **P 07 24 49.3 -1.2**
comp=N,100nm,0.5s,mb5.8,baz=109,slow=6.0,SNR=310
BVAR pP pP 07 26 24.8 +0.8
comp=N,7.0nm,0.8s,baz=101,slow=7.5,SNR=1.6
BVAR PKiKP PKiKP 07 29 51.0 -0.7
comp=N,2.6nm,0.6s,baz=101,slow=2.2,SNR=4.1
BVAR S 07 34 34.8
comp=N,4.9nm,1.0s,baz=142,slow=4.9,SNR=8.5
BRVK Borovoye 87.45 323 P **P 07 24 49.0 -1.8**
comp=N,1μm,1.1s,mb6.5,SNR=18
BRVK Borovoye 87.45 323 *e*P **P 07 24 49.5 -1.4**
comp=N,150nm,0.9s,mb5.7
BRVK *e*pP pP 07 26 24.8 +0.4
BRVK *e*PP PP 07 28 23.0 +0.6
BRVK Borovoye 87.45 323 *e*P **P 07 24 49.5 -1.3**
BRVK *e* 07 28 23.0
BRVK pmax pmax
comp=Z,150nm,0.9s,mb5.7
INK Inuvik 87.82 21 *e*P **P 07 24 51.2 -1.0**
comp=Z,2μm,1.0s,mb6.8
INK Inuvik 87.82 21 P **P 07 24 50.5 -1.7**
INK pmax pmax
comp=Z,279nm,1.1s
INK pmax pmax
comp=Z,3.0nm,0.6s
INK Inuvik 87.82 21 P **P 07 24 50.5 -1.7**
comp=Z,279nm,1.1s,mb5.9,baz=274,slow=4.1,SNR=587
INK PKiKP PKiKP 07 29 50.6 -1.5
comp=Z,3.1nm,0.6s,baz=263,slow=2.8,SNR=5.2
INK PKPPKP 07 50 44.2
baz=181,slow=0.8
K01A Sixes 88.12 47 ⇑P **P 07 24 54.9 +0.6**
baz=88
KEBM Edson Butte 88.23 47 *e*P **P 07 24 55.5 +0.8**
JCC Jacoby Creek 88.23 49 ⇓P **P 07 24 55.6 +0.8**
baz=88
KBO Bosley Butte 88.23 48 *e*P **P 07 24 55.8 +1.1**
M01C Crescent City 88.27 48 ⇓P **P 07 24 56.2 +1.3**
baz=88,SNR=5.8
O01C Eel River Cons 88.31 50 ⇑P **P 07 24 56.1 +0.9**
baz=88,SNR=14
KRMB Red Mountain 88.39 48 *e*P **P 07 24 56.5 +0.9**
KCPM Cahto Peak 88.45 50 *e*P **P 07 24 56.4 +0.6**
KIPM Iron Peak 88.54 50 *e*P **P 07 24 56.5 +0.2**
P01C Double 8 Ranch 88.61 51 ⇓P **P 07 24 56.9 +0.3**
baz=89,SNR=11
C03A Quillayute Air 88.65 42 ⇓P **P 07 24 57.8 +1.2**
baz=89,SNR=6.7
L02A Cave Junction 88.69 48 ⇓P **P 07 24 57.5 +0.6**
baz=89,SNR=26
I02A Mapleton 88.72 46 ⇑P **P 07 24 57.6 +0.6**
baz=89,SNR=9.2
RNO Roman Nose 88.77 46 P **P 07 24 59.0 +1.8**
HOPS Hopland 88.77 51 *e*P **P 07 24 57.4 0.0**
comp=Z,202nm,1.5s,mb5.6
HOPS Hopland 88.77 51 ⇑P **P 07 24 57.7 +0.3**
baz=89
N02C Big Bar 88.77 49 ⇑P **P 07 24 57.6 +0.3**
baz=89,SNR=32
J02A Umpqua 88.83 47 ⇑P **P 07 24 57.9 +0.3**
baz=89,SNR=28
K02A Glendale 88.83 47 ⇓P **P 07 24 58.0 +0.4**
baz=89,SNR=32
OOW Octopus West 88.88 42 P **P 07 24 59.3 +1.6**
MPOR Mary's Peak 88.97 45 P **P 07 24 59.5 +1.4**
OBC Olympics--Boni 88.98 42 P **P 07 24 59.6 +1.5**
NLWA Neilton Lookou 89.05 43 *e*P **P 07 24 58.8 +0.3**
comp=Z,120nm,1.0s,mb5.6
NLWA Neilton Lookou 89.05 43 ⇑P **P 07 24 58.9 +0.5**
baz=89
ON2 Olympics--Nort 89.06 43 P **P 07 24 59.7 +1.2**
D03A Wishkah Elem. 89.09 43 ⇑P **P 07 24 59.5 +0.8**
baz=89,SNR=18
NSHM Saint Helena R 89.09 52 *e*P **P 07 24 59.2 +0.4**
NSHM *e*PP PP 07 28 34.5 -1.3
O02C Red Bluff 89.10 50 ⇑P **P 07 24 59.8 +0.9**
baz=89,SNR=67
I03A Eugene 89.11 46 ⇓P **P 07 24 59.1 +0.3**
baz=89,SNR=15
F03A Seaside 89.11 44 ⇑P **P 07 24 59.4 +0.6**
baz=89,SNR=26
GASB Alder Springs 89.11 50 ⇑P **P 07 24 59.3 +0.4**
baz=89
COR Corvallis 89.15 45 *e*P **P 07 24 59.8 +0.8**
comp=Z,376nm,1.7s,mb5.8
COR Corvallis 89.15 45 *e*P **P 07 24 59.8 +0.8**
COR pmax pmax
comp=Z,376nm,1.7s,mb5.8
H03A Soap Creek Ran 89.17 45 ⇓P **P 07 24 59.5 +0.4**
baz=89,SNR=40
M02C Callahan 89.17 49 ⇓P **P 07 24 59.9 +0.7**
baz=89,SNR=106
E03A Lebam 89.17 43 ⇑P **P 07 24 59.1 +0.1**
baz=89,SNR=44
CVS Carmenet Viney 89.19 52 ⇓P **P 07 24 59.6 +0.3**
baz=89
HSO Harness Mounta 89.20 46 P **P 07 25 00.4 +1.1**
HUMO Hull Mountain 89.21 47 *e*P **P 07 24 59.2 -0.1**
comp=Z,284nm,1.1s,mb5.9
HUMO Hull Mountain 89.21 47 ⇓P **P 07 24 59.7 +0.4**
baz=89
G03A Yamhill 89.24 45 ⇓P **P 07 24 59.9 +0.6**
baz=89,SNR=12
MNRC McLaughlin Nat 89.25 51 ⇓P **P 07 24 60.0 +0.4**
baz=89
EUO Eugene 89.26 46 P **P 07 25 00.0 +0.5**
J03A Ideyld Park 89.28 47 ⇓P **P 07 25 00.3 +0.7**
baz=89,SNR=32
YBH Yreka Blue Hor 89.31 48 *e*P **P 07 24 59.8 0.0**
comp=Z,159nm,1.0s,mb5.7
YBH Yreka Blue Hor 89.31 48 *e*P **P 07 24 59.8 0.0**
YBH pmax pmax
comp=Z,159nm,1.0s
YBH Yreka Blue Hor 89.31 48 ⇑P **P 07 25 00.5 +0.7**
baz=89
BNLO Ben Lomond (Sa 89.31 53 ⇑P **P 07 25 00.3 +0.4**
baz=89,SNR=7.5
WDC Whiskeytown Da 89.33 49 *e*P **P 07 24 59.8 -0.1**
comp=Z,379nm,1.5s,mb5.9
WDC Whiskeytown Da 89.33 49 *e*P **P 07 24 59.8 -0.1**
WDC pmax pmax
comp=Z,379nm,1.5s,mb5.9
WDC Whiskeytown Da 89.33 49 ⇓P **P 07 25 00.1 +0.2**
baz=89
B04A Port Angeles 89.37 42 ⇑P **P 07 25 00.1 +0.2**
baz=89,SNR=42
BMW Boistfort Moun 89.39 44 P **P 07 25 01.1 +1.0**
BBOR Butler Butte 89.44 47 P **P 07 25 01.3 +0.9**
Q03C Winters 89.56 51 ⇓P **P 07 25 01.4 +0.4**
baz=90
BDM Black Diamond 89.62 52 ⇑P **P 07 25 02.0 +0.6**
baz=90
O03C Acorn Hollow, 89.67 50 ⇑P **P 07 25 01.5 0.0**
baz=90,SNR=42
WENL Wente Brothers 89.68 52 ⇓P **P 07 25 01.1 -0.5**
baz=90
C04A Brinnon 89.69 42 ⇑P **P 07 25 01.7 +0.3**
baz=90,SNR=68
M03C McCloud 89.71 49 P **P 07 25 01.5 -0.1**
baz=90,SNR=136
I04A Tendick Farm, 89.72 46 ⇑P **P 07 25 01.4 -0.2**
baz=90,SNR=42
D04A Dobbs Creek Ra 89.75 43 ⇓P **P 07 25 02.8 +1.1**
baz=90,SNR=8.6
HAST Hastings Reser 89.75 54 ⇑P **P 07 25 02.7 +0.7**
baz=90,SNR=12
E04A Onalaska 89.75 43 ⇑P **P 07 25 02.5 +0.8**
baz=90,SNR=12
GNW Green Mountain 89.78 42 P **P 07 25 02.2 +0.4**
HBO Huckleberry Mo 89.79 46 P **P 07 25 02.8 +0.8**
SUTB Sutter Butte 89.79 51 ⇑P **P 07 25 01.8 -0.3**
baz=90,SNR=22
G04A Mulino 89.80 45 ⇑P **P 07 25 02.0 +0.1**
baz=90,SNR=25
SAO San Andreas Ge 89.86 53 *e*P **P 07 25 02.4 -0.1**
comp=Z,133nm,1.6s,mb5.5
SAO San Andreas Ge 89.86 53 *e*P **P 07 25 02.4 -0.1**
SAO pmax pmax
comp=Z,133nm,1.6s,mb5.5
MCW Mount Constitu 89.88 41 P **P 07 25 04.0 +1.7**
J04A Umpqua Nationa 89.89 47 ⇑P **P 07 25 02.5 0.0**
baz=90,SNR=92
F04A Amboy 89.90 44 ⇓P **P 07 25 02.7 +0.3**
baz=90,SNR=32
VSP Spence Mountai 89.93 48 P **P 07 25 03.4 +0.7**
H04A Detroit Lake 89.95 45 ⇓P **P 07 25 02.4 -0.3**
baz=90,SNR=44
L04A Klamath Falls 89.96 48 ⇑P **P 07 25 03.3 +0.5**
baz=90,SNR=66
M04C Macdoel 89.96 48 ⇑P **P 07 25 03.3 +0.5**
baz=90,SNR=74
A04A Legoe Bay, Lum 89.96 41 P **P 07 25 03.3 +0.6**
baz=90,SNR=94
V03C Hunter Liggett 89.97 54 ⇑P **P 07 25 04.6 +1.6**
baz=90,SNR=16
PACP Pacheco Peak 90.01 53 ⇑P **P 07 25 04.1 +0.9**
baz=90
S04C Ingram Canyon, 90.01 53 ⇓P **P 07 25 04.0 +0.8**
baz=90,SNR=22
OHCM Honcut 90.03 51 *e*P **P 07 25 03.3 0.0**
ORV Oroville 90.04 51 ⇑P **P 07 25 03.0 -0.2**
baz=90
Q04C Lincoln 90.08 51 ⇑P **P 07 25 03.8 +0.3**
baz=90
K04A Chilquin 90.11 47 ⇑P **P 07 25 04.0 +0.5**
baz=90,SNR=30
WIFE Three Sisters- 90.17 46 P **P 07 25 04.6 +0.9**
HATC Hat Creek Radi 90.17 49 ⇑P **P 07 25 04.0 +0.2**
baz=90,SNR=41
V04C Ramage Ranch, 90.24 54 ⇓P **P 07 25 05.1 +0.8**
baz=90,SNR=8.3
D05A Enumclaw 90.31 43 ⇓P **P 07 25 04.6 +0.3**
baz=90,SNR=40
B05A Bryant 90.33 42 ⇑P **P 07 25 04.7 +0.4**
baz=90,SNR=46
U04C Hernandez Rese 90.36 54 ⇑P **P 07 25 06.1 +1.3**
baz=90,SNR=28
R04C Big Horse Ranc 90.38 52 ⇑P **P 07 25 04.9 0.0**
baz=90,SNR=10
LON Longmire 90.39 43 P **P 07 25 04.5 -0.2**
A05A Maple Falls 90.40 41 P **P 07 25 04.8 +0.2**
baz=90,SNR=27
E05A Randle 90.41 44 ⇑P **P 07 25 04.9 +0.1**
baz=90,SNR=39
VBEM Beaver Butte 90.41 45 P **P 07 25 05.3 +0.5**
O04C Chester 90.41 50 ⇓P **P 07 25 04.9 -0.1**
baz=90,SNR=100
JCW Jim Creek 90.43 42 P **P 07 25 05.3 +0.4**
M05C Lookout 90.45 49 ⇑P **P 07 25 04.8 -0.3**
baz=90,SNR=109
T05C Eagle Field, D 90.49 53 ⇓P **P 07 25 06.2 +0.8**
baz=90,SNR=9.7
O05C Quincy 90.52 50 ⇑P **P 07 25 05.7 +0.3**
baz=91,SNR=19
J05A Fort Rock 90.53 47 ⇓P **P 07 25 05.2 -0.1**
baz=91,SNR=181
PKD Parkfield 90.53 54 ⇓P **P 07 25 05.6 0.0**
baz=91
C05A Tolt Reservoir 90.55 42 ⇓P **P 07 25 05.1 -0.3**
baz=91,SNR=19
F05A White Salmon 90.57 44 ⇓P **P 07 25 05.4 -0.1**
baz=91,SNR=20
LAVA Lava Cap Winer 90.57 51 ⇑P **P 07 25 05.7 0.0**
baz=91,SNR=31
I05A Bend 90.57 46 ⇓P **P 07 25 05.9 +0.4**
baz=91,SNR=30
G05A Wamic 90.62 45 ⇑P **P 07 25 06.2 +0.5**
baz=91,SNR=17
H05A Madras 90.63 45 ⇑P **P 07 25 05.6 -0.2**
baz=91,SNR=17
ELFS Eagle Lake Fie 90.71 50 ⇓P **P 07 25 07.4 +1.1**
baz=91
P05C Yuba Gap, Truc 90.71 51 P **P 07 25 06.5 +0.1**
baz=91,SNR=68
L05A Lakeview 90.73 48 ⇓P **P 07 25 06.2 -0.2**
baz=91,SNR=85
K05A Summer Lake 90.73 47 ⇓P **P 07 25 06.2 -0.2**
baz=91,SNR=108
B06A Marblemount 90.75 42 ⇑P **P 07 25 06.3 0.0**
baz=91,SNR=20
PTRM Twissleman Ran 90.78 55 *e*P **P 07 25 07.5 +0.7**
S05C Merced 90.79 53 ⇓P **P 07 25 06.5 -0.3**
baz=91,SNR=47
CMB Columbia Colle 90.80 52 *e*P **P 07 25 06.3 -0.5**
comp=Z,84nm,1.3s,mb5.4
CMB Columbia Colle 90.80 52 *e*P **P 07 25 06.3 -0.5**
CMB pmax pmax
comp=Z,84nm,1.3s,mb5.4
CMB Columbia Colle 90.80 52 ⇓P **P 07 25 06.7 -0.1**
baz=91
A06A Chilliwack 90.80 41 ⇑P **P 07 25 07.0 +0.5**
baz=91,SNR=13
U05C Westside ANR, 90.89 54 ⇑P **P 07 25 07.5 +0.2**
baz=91,SNR=22
SMMC Simmler 90.93 55 ⇑P **P 07 25 08.5 +1.1**
baz=91
M06C Likely Place G 90.94 49 ⇑P **P 07 25 06.9 -0.4**
baz=91,SNR=68
BEKR Beckwourth 90.94 50 ⇑P **P 07 25 07.2 -0.2**
baz=91
E06A Yakima 90.95 44 ⇑P **P 07 25 07.1 -0.1**
baz=91,SNR=67
F06A Goldendale 91.03 44 ⇑P **P 07 25 08.5 +0.8**
baz=91
V05C Boulder Hill, 91.04 54 ⇓P **P 07 25 09.0 +1.0**
baz=91,SNR=6.4
PKM Peak Mountain 91.05 55 ⇑P **P 07 25 08.4 +0.4**
baz=91
VIPM Ingram Point 91.06 46 P **P 07 25 09.3 +1.5**
NAC Naches 91.07 43 P **P 07 25 09.0 +1.2**
TWW Teanaway 91.07 43 P **P 07 25 09.2 +1.4**
R05C Kirkwood Meado 91.08 51 ⇓P **P 07 25 08.1 0.0**
baz=91,SNR=52
D06A Cle Elum 91.09 43 ⇑P **P 07 25 07.8 -0.1**
baz=91,SNR=22
G06A Carlson Farm, 91.10 45 ⇑P **P 07 25 08.3 +0.3**
baz=91,SNR=13
C06A Tall Timber Ra 91.10 42 ⇓P **P 07 25 08.1 +0.2**
baz=91,SNR=5.1
MOD Modoc 91.11 48 *e*P **P 07 25 07.8 -0.3**
comp=Z,266nm,1.3s,mb5.9
MOD Modoc 91.11 48 ⇑P **P 07 25 07.1 -1.1**
baz=91
BSC Santa Cruz Isl 91.15 56 ⇑P **P 07 25 08.3 -0.2**
baz=91
SNCC San Nicolas Is 91.19 57 *e*P **P 07 25 10.2 +1.5**
comp=Z,411nm,1.3s,mb6.1
SNCC San Nicolas Is 91.19 57 ⇑P **P 07 25 08.0 -0.7**
baz=91
K06A Valley Falls 91.21 47 ⇓P **P 07 25 07.2 -1.4**
baz=91,SNR=76
TBM Table Mountain 91.25 43 P **P 07 25 09.3 +0.7**
EBG Ellensburg 91.25 43 P **P 07 25 10.0 +1.3**
T06C Millerton Lake 91.27 53 ⇓P **P 07 25 08.3 -0.7**
baz=91,SNR=101
H06A Lindquist Farm 91.28 45 ⇓P **P 07 25 08.3 -0.5**
baz=91,SNR=68
P06A Stead Airport, 91.28 51 ⇑P **P 07 25 08.6 -0.3**
baz=91,SNR=21
J06A Christmas Vall 91.31 47 ⇓P **P 07 25 08.1 -0.9**
baz=91,SNR=80
I06A Prineville 91.31 46 ⇑P **P 07 25 08.5 -0.5**
baz=91,SNR=83
O06A Flanigan 91.36 50 ⇑P **P 07 25 08.8 -0.5**
baz=91,SNR=93
WCN Washoe City 91.37 51 ⇓P **P 07 25 08.1 -1.3**
baz=91
N06A Buffalo Meadow 91.39 49 ⇑P **P 07 25 08.1 -1.4**
baz=91,SNR=82
MXC Moxie City 91.42 44 P **P 07 25 10.5 +1.0**
A07A Ashnola River, 91.52 41 ⇓P **P 07 25 08.9 -0.9**
baz=92,SNR=109
R06C Coleville 91.56 52 ⇓P **P 07 25 09.6 -0.7**
baz=92,SNR=41
KCC Kaiser Creek 91.60 53 ⇓P **P 07 25 09.9 -0.6**
baz=92
BLG Laguna Peak 91.63 56 ⇓P **P 07 25 10.1 -0.6**
baz=92
F07A Phinny Hill Vi 91.63 44 ⇑P **P 07 25 10.1 -0.4**
baz=92,SNR=13
C07A Waterville 91.65 43 ⇓P **P 07 25 09.3 -1.1**
baz=92,SNR=42
B07A Winthrop 91.66 42 ⇑P **P 07 25 08.7 -1.8**
baz=92,SNR=64
D07A Quincy 91.68 43 ⇑P **P 07 25 10.2 -0.5**
baz=92,SNR=35
VES Vestal, Richgr 91.71 54 ⇓P **P 07 25 10.5 -0.5**
baz=92
E07A Sunnyside 91.72 44 ⇓P **P 07 25 11.1 +0.3**
baz=92,SNR=14
G07A Ruggs Ranch, H 91.78 45 ⇑P **P 07 25 11.3 +0.2**
baz=92,SNR=52
HELL Mitchell Peak 91.80 54 ⇑P **P 07 25 11.2 -0.2**
baz=92,SNR=79
H07A Lands Inn, Kim 91.81 46 ⇑P **P 07 25 11.1 -0.2**
baz=92,SNR=43
I07A Izee 91.83 46 ⇑P **P 07 25 10.6 -0.8**
baz=92,SNR=91
L07A Adell 91.84 48 ⇑P **P 07 25 10.8 -0.7**
baz=92,SNR=163
R07C Lee Vining 91.85 52 ⇑P **P 07 25 11.1 -0.5**
baz=92,SNR=38
ARVC Arvin 91.87 55 ⇓P **P 07 25 11.6 -0.2**
baz=92
M07A Soldier Meadow 91.93 49 ⇓P **P 07 25 11.1 -0.8**
baz=92
J07A Hines 91.93 47 ⇓P **P 07 25 11.4 -0.5**
baz=92,SNR=50
OSI Osito Adit 91.93 56 ⇓P **P 07 25 11.4 -0.7**
baz=92
HAWA Hanford 91.94 44 *e*P **P 07 25 12.1 +0.3**
comp=Z,252nm,1.4s,mb6.0
EPH Ephrata 91.94 43 P **P 07 25 12.1 +0.3**
K07A Rock Creek Ran 91.94 48 ⇑P **P 07 25 11.2 -0.8**
baz=92,SNR=79
MLAC Mammoth Lakes 92.00 53 ⇓P **P 07 25 13.0 +0.6**
baz=92
SCI San Clemente I 92.00 57 ⇓P **P 07 25 13.3 +0.8**

baz=92
N07B Gerlach 92.05 49 ⇓P P 07 25 13.1 +0.6
baz=92,SNR=34
P07A Fallon 92.05 51 ⇑P P 07 25 13.4 +0.9
baz=92,SNR=9.0
Q07A Schurz 92.08 51 ⇑P P 07 25 13.2 +0.5
baz=92
CIS Catalina Islan 92.14 57 ⇑P P 07 25 12.5 -0.6
baz=92
B08A Colville Reser 92.17 42 P P 07 25 12.3 -0.6
baz=92,SNR=94
ISA Isabella 92.19 55 eP P 07 25 13.1 -0.1
comp=Z,108nm,1.3s,mb5.6
ISA Isabella 92.19 55 P P 07 25 13.3 0.0
ISA pmax pmax
comp=Z,110nm,1.2s,mb5.7
ISA Isabella 92.19 55 ⇓P P 07 25 12.6 -0.6
baz=92
DECC Green Verdugo 92.24 56 ⇑P P 07 25 12.7 -0.8
baz=92
A08A Turner Farm, O 92.24 41 ⇓P P 07 25 13.2 0.0
baz=92,SNR=97
FMP Fort Macarthur 92.25 57 ⇓P P 07 25 14.3 +0.8
baz=92
E08A Dider Farm, El 92.27 44 ⇓P P 07 25 13.0 -0.4
baz=92,SNR=28
G08A Pilot Rock 92.28 45 ⇑P P 07 25 12.9 -0.5
baz=92,SNR=68
C08A Higginbotham F 92.34 42 ⇑P P 07 25 13.3 -0.4
baz=92,SNR=60
WVOR Wild Horse Val 92.38 48 eP P 07 25 13.9 -0.1
comp=Z,327nm,1.7s,mb6.0
WVOR Wild Horse Val 92.38 48 eP P 07 25 13.9 -0.1
WVOR pmax pmax
comp=Z,327nm,1.7s,mb6.0
D08A Wollman Farm, 92.39 43 ⇑P P 07 25 13.7 -0.2
baz=92,SNR=32
F08A Pendleton 92.43 44 ⇓P P 07 25 14.3 +0.2
baz=92
H08A Prairie City 92.45 46 ⇓P P 07 25 13.7 -0.6
baz=92,SNR=55
TIN Tinemaha 92.45 53 ⇓P P 07 25 15.0 +0.6
baz=92
NVAR Mina Array Bea 92.45 52 P P 07 25 14.6 +0.2
NVAR PP PP 07 28 56.9 -5.3
NVAR Mina Array Bea 92.45 52 P P 07 25 14.6 +0.2
comp=Z,26nm,0.8s,mb5.2,baz=260,slow=3.7,SNR=92
NVAR PP PP 07 28 56.9 -5.3
comp=Z,4.5nm,1.0s,baz=260,slow=10.0,SNR=3.1
NVAR PKiKP PKiKP 07 30 00.8 0.0
comp=Z,1.7nm,0.9s,baz=250,slow=4.7,SNR=3.2
NVAR PKKPbc PKKPbc 07 42 26.3 -1.0
comp=Z,0.6nm,0.7s,baz=116,slow=2.1,SNR=4.7
NVAR PKPPKP 07 50 31.6
comp=Z,0.3nm,0.6s,baz=57,slow=3.3,SNR=3.0
I08A Drewsey 92.50 46 ⇑P P 07 25 14.2 -0.3
baz=92,SNR=23
K08A Mann Creek Ran 92.50 48 ⇑P P 07 25 13.9 -0.6
baz=93,SNR=35
S08C White Mtn Res 92.52 53 ⇓P P 07 25 14.9 +0.2
baz=93,SNR=77
M08A Happy Creek Ra 92.53 49 ⇑P P 07 25 15.1 +0.4
baz=93
J08A Circle Bar Ran 92.54 47 ⇓P P 07 25 14.1 -0.6
baz=93,SNR=112
CWC Cottonwood Cre 92.55 54 ⇓P P 07 25 14.3 -0.6
baz=93
OD2 Odessa Site #2 92.55 43 P P 07 25 14.9 +0.3
EDW2 Edwards Air Fo 92.55 55 ⇓P P 07 25 15.2 +0.3
baz=93
L08A Fields 92.59 48 ⇓P P 07 25 14.8 -0.1
baz=93,SNR=90
R08A Mina 92.61 52 ⇓P P 07 25 15.3 +0.2
baz=93,SNR=40
P08A Dixie Valley 92.68 51 ⇑P P 07 25 16.2 +0.8
baz=93,SNR=13
N08A GE Springer Mi 92.69 49 ⇓P P 07 25 15.8 +0.4
baz=93,SNR=78
A09A Danville 92.70 41 ⇑P P 07 25 15.1 -0.2
baz=93,SNR=82
Q08A Gabbs 92.76 51 ⇓P P 07 25 15.5 -0.3
baz=93,SNR=46
BFSC Mount Baldy St 92.80 56 ⇑P P 07 25 15.8 -0.3
baz=93
D09A Jones Farm, Ri 92.81 43 ⇓P P 07 25 15.6 -0.2
baz=93,SNR=24
LRMC Laurel Mountai 92.82 55 ⇑P P 07 25 14.5 -1.7
baz=93
C09A Chrisman Ranch 92.86 42 ⇑P P 07 25 15.1 -0.9
baz=93,SNR=12
E09A Wood Farm, Sta 92.90 44 ⇓P P 07 25 15.9 -0.4
baz=93,SNR=31
DPW Davenport 92.91 42 P P 07 25 18.0 +1.7
B09A Rice 92.97 42 P P 07 25 16.2 -0.3
baz=93,SNR=81
MPMC Manual Prospec 93.01 54 ⇓P P 07 25 16.5 -0.5
baz=93
F09A S2 Ranch, Elgi 93.03 45 ⇑P P 07 25 16.5 -0.4
baz=93,SNR=10
K09A Rome 93.06 48 ⇓P P 07 25 17.0 -0.1
baz=93,SNR=52
J09A Fry Pan Ranch, 93.07 47 ⇑P P 07 25 16.2 -0.9
baz=93,SNR=91
L09A Wilkinson Ranc 93.08 48 ⇓P P 07 25 16.7 -0.5
baz=93,SNR=44
I09A Lost Marbles R 93.10 46 ⇓P P 07 25 16.7 -0.5
baz=93,SNR=59
G09A Cove 93.11 45 ⇓P P 07 25 16.5 -0.8
baz=93
GRAC Grapevine Rang 93.14 53 ⇑P P 07 25 17.2 -0.4
baz=93
MURC Murrieta 93.15 57 ⇑P P 07 25 18.4 +0.7
baz=93
N09A Rock Creek Ran 93.15 49 ⇑P P 07 25 17.9 +0.3
baz=93,SNR=41
H09A Durkee 93.17 46 ⇓P P 07 25 17.5 -0.1
baz=93,SNR=27
109C Camp Elliot, M 93.20 57 ⇓P P 07 25 17.6 -0.4
baz=93,SNR=16
M09A Marrel Ranch, 93.23 49 ⇑P P 07 25 18.3 +0.4
baz=93,SNR=53
S09A Goldfield 93.28 53 P P 07 25 18.1 -0.1
baz=93,SNR=118
SVE Sverdlovsk 93.34 327 ⇓eP P 07 25 16.5 -1.5
SVE eS SKSac 07 35 14.5 +2.3
SVE eSS SS 07 42 25.2 +8.4
SVE pmax pmax
comp=Z,141nm,1.6s,mb5.7
Q09A Carvers 93.35 51 ⇑P P 07 25 18.6 +0.1
baz=93,SNR=21
RRX Edison Barstow 93.36 55 ⇑P P 07 25 19.0 +0.3
baz=93
A10A Northport 93.37 41 P P 07 25 18.3 -0.1
baz=93,SNR=56
O09A Fish Creek Ran 93.38 50 ⇑P P 07 25 18.6 0.0
baz=93,SNR=63
P09A Austin 93.40 51 ⇓P P 07 25 18.8 +0.1
baz=93,SNR=14
R09A Tonopah 93.42 52 ⇑P P 07 25 18.4 -0.4
baz=94,SNR=51
BMO Blue Mountains 93.44 45 eP P 07 25 17.9 -0.8
comp=Z,159nm,1.4s,mb5.8
BMO Blue Mountains 93.44 45 P P 07 25 18.0 -0.8
BMO pmax pmax
comp=Z,160nm,1.3s,mb5.8
C10A Spilker Farm, 93.51 42 ⇑P P 07 25 19.6 +0.6
baz=94,SNR=7.9
D10A Wagner Farm, O 93.51 43 ⇓P P 07 25 18.2 -0.9
baz=94,SNR=104
F10A Beach Ranch, E 93.52 44 ⇓P P 07 25 18.1 -1.0
baz=94,SNR=64
FURC Furnace Creek, 93.53 54 ⇓P P 07 25 18.9 -0.5
baz=94
GSC Goldstone 93.54 55 ⇓P P 07 25 19.3 -0.1
baz=94
WBK Wadi Bani Khal 93.55 292 P P 07 25 20.1 +0.3
SNR=13
B10A Chitwood Farm, 93.58 42 ⇓P P 07 25 19.2 -0.2
baz=94,SNR=24
G10A Bishop Farm, J 93.58 45 ⇓P P 07 25 18.3 -1.1
baz=94,SNR=98
AB31 Akbulak array 93.59 319 iP P 07 25 17.4 -2.0
E10A Myers Farm, Un 93.61 44 ⇑P P 07 25 18.9 -0.7
baz=94,SNR=16
NEW Newport 93.64 42 eP P 07 25 19.1 -0.6
comp=Z,228nm,1.4s,mb6.0
NEW ePP PP 07 29 08.7 -2.4
NEW Newport 93.64 42 eP P 07 25 19.1 -0.5
NEW e 07 29 08.7
NEW pmax pmax
comp=Z,228nm,1.4s
K10A MacKenzie Ranc 93.70 48 ⇓P P 07 25 19.2 -0.8
baz=94,SNR=78
PFO Pinyon Flat Ob 93.77 57 P P 07 25 21.2 +0.6
comp=Z,378nm,0.7s,mb6.5,SNR=8.3
PFO Pinyon Flat Ob 93.77 57 eP P 07 25 21.0 +0.4
comp=Z,108nm,1.1s,mb5.8
PFO Pinyon Flat Ob 93.77 57 P P 07 25 21.2 +0.6
PFO pmax pmax
comp=Z,110nm,1.1s,mb5.8
PFO Pinyon Flat Ob 93.77 57 ⇑P P 07 25 20.8 +0.2
baz=94
I10A Payette 93.78 46 ⇓P P 07 25 20.4 0.0
baz=94,SNR=27
MONP Monument Peak 93.78 57 ⇓P P 07 25 21.3 +0.6
baz=94
S10A Tonopah Range, 93.78 52 P P 07 25 20.8 +0.2
baz=94,SNR=84
J10A Berg Farm, Mel 93.79 47 ⇑P P 07 25 20.3 -0.1
baz=94,SNR=23
H10A Noah's Angus R 93.83 46 ⇑P P 07 25 19.0 -1.5
baz=94
HEC Hector,Ludlow 93.91 55 ⇓P P 07 25 21.6 +0.4
baz=94
M10A I.L. Ranch, Tu 93.91 49 ⇑P P 07 25 21.2 +0.2
baz=94,SNR=16
O10A Cortez Mining, 93.92 50 ⇓P P 07 25 21.6 +0.5
baz=94,SNR=19
N10A Dunphy 93.92 50 ⇓P P 07 25 21.7 +0.6
baz=94,SNR=20
P10A Eureka 93.93 51 ⇑P P 07 25 20.6 -0.5
baz=94
U10A Ash Meadows, A 93.95 54 ⇑P P 07 25 21.4 +0.1
baz=94,SNR=25
Q10A Clear Creek Ra 93.96 51 ⇓P P 07 25 21.1 -0.2
baz=94,SNR=17
L10A Juniper Basin 93.98 48 P P 07 25 21.3 0.0
baz=94,SNR=59
SHOC Shoshone 93.98 54 ⇑P P 07 25 21.0 -0.5
baz=94
R10A Warm Springs 94.02 52 ⇑P P 07 25 22.2 +0.6
baz=94,SNR=12
TPNV Topopah Spring 94.03 53 eP P 07 25 21.9 +0.2
comp=Z,96nm,1.0s,mb5.8
TPNV Topopah Spring 94.03 53 eP P 07 25 21.9 +0.2
TPNV pmax pmax
comp=Z,96nm,1.0s,mb5.8
TPNV Topopah Spring 94.03 53 ⇑P P 07 25 15.1 -6.6
baz=94
DVTC Desert V Tower 94.04 58 ⇑P P 07 25 20.3 -1.5
baz=94
B11A Sandpoint 94.15 42 ⇑P P 07 25 21.1 -0.9
baz=94,SNR=77
D11A Klaveano Farm, 94.16 43 ⇓P P 07 25 20.8 -1.2
baz=94,SNR=53
A11A Hall Mountain, 94.16 41 ⇑P P 07 25 21.8 -0.2
baz=94,SNR=162
BELC Belle Mtn. 94.16 56 ⇑P P 07 25 21.8 -0.6
baz=94
G11A Walters Elk Ra 94.18 45 ⇓P P 07 25 21.2 -0.9
baz=94,SNR=52
E11A Bogner Ranch, 94.23 44 ⇑P P 07 25 21.3 -1.1
baz=94,SNR=89
TUQ Turquoise Mtn. 94.26 55 ⇑P P 07 25 21.8 -0.9
baz=94
F11A Grangeville 94.27 44 ⇓P P 07 25 20.9 -1.7
baz=94,SNR=39
SWSC Sam W. Stewart 94.31 57 ⇑P P 07 25 23.2 +0.1
baz=94
K11A Parker Ranch, 94.31 48 ⇓P P 07 25 22.0 -0.9
baz=94,SNR=58
SYO Syowa Base 94.35 200 ⇑eP P 07 25 19.5 -3.0
SYO Syowa Base 94.35 200 ⇓iPcP PcP 07 25 21.0 -1.7
SYO Syowa Base 94.35 200 ⇑epP pP 07 26 52.8 -3.9
H11A Donnelly 94.35 46 ⇑P P 07 25 21.8 -1.1
baz=94,SNR=39
BIDO Bidbid 94.36 293 P P 07 25 23.4 0.0
SNR=8.8
I11A Placerville 94.38 46 ⇓P P 07 25 22.3 -0.8
baz=94,SNR=67
S11A Rachel 94.45 53 ⇓P P 07 25 22.8 -0.8
baz=94,SNR=8.6
GMRC Granite Mounta 94.46 56 ⇓P P 07 25 23.5 -0.2
baz=94
MFID Camas Ranch 94.47 47 ⇓P P 07 25 23.2 -0.4
baz=94,SNR=46
M11A Holland Ranch, 94.47 49 ⇓P P 07 25 22.7 -0.9
baz=94
ARU Arti 94.48 326 P P 07 25 21.2 -2.1
comp=Z,602nm,0.7s,mb6.7,SNR=7.7
ARU Arti 94.48 326 eP P 07 25 20.9 -2.3
comp=Z,127nm,1.0s,mb5.9
ARU Arti 94.48 326 diP P 07 25 21.6 -1.7
ARU e 07 29 15.5
ARU eS SKSac 07 35 15.9 -2.4
ARU eSP SP 07 37 17.5 -0.5
ARU pmax pmax
comp=Z,173nm,1.7s,mb5.8
ARU MLR MLR
comp=Z,1μm,21.0s
N11A Elko Archery C 94.51 49 ⇑P P 07 25 22.6 -1.2
baz=94,SNR=9.0
L11A Cat Creek Ranc 94.51 48 ⇑P P 07 25 23.2 -0.5
baz=95,SNR=35
Q11A Duckwater 94.54 51 ⇑P P 07 25 21.6 -2.4
baz=95,SNR=71
O11A Cowboy Ranch, 94.56 50 ⇓P P 07 25 23.9 -0.1
baz=95,SNR=30
R11A Troy Canyon, C 94.59 52 ⇑P P 07 25 19.3 -4.9
baz=95,SNR=29
BC3 Big Chuckw Mtn 94.61 57 ⇑P P 07 25 25.0 +0.6
baz=95
A12A Yaak River Ran 94.63 41 ⇑P P 07 25 24.5 +0.4
baz=95,SNR=8.4
B12A Libby 94.67 42 ⇓P P 07 25 24.4 +0.1
baz=95,SNR=18
V11A Goodsprings 94.67 54 ⇓P P 07 25 24.7 0.0
baz=95,SNR=32
ABKT Ailbek 94.71 308 P P 07 25 24.8 0.0
comp=Z,102nm,1.1s,mb5.8,SNR=6.3
U11A Corn Creek 94.72 54 ⇓P P 07 25 25.0 +0.1
baz=95,SNR=16
D12A Red Ives Fores 94.83 43 ⇓P P 07 25 24.2 -0.8
baz=95
AKTK Aktyubinsk 94.84 320 P P 07 25 23.1 -2.0
AKTK pP pP 07 26 59.2 -0.1
AKTO Aktyubinsk 94.84 320 P P 07 25 23.1 -2.0
AKTO pmax pmax
comp=Z,18nm,0.8s,mb5.2
AKTO pmax pmax
comp=Z,7.0nm,0.9s,mb4.7
AKTO pmax pmax
comp=Z,3.0nm,0.8s,mb4.4
AKTO Aktyubinsk 94.84 320 P P 07 25 23.1 -2.0
comp=Z,18nm,0.8s,mb5.2,baz=91,slow=5.4,SNR=47
AKTO pP pP 07 26 59.2 -0.1
comp=Z,7.2nm,0.8s,baz=72,slow=7.3,SNR=4.5
AKTO PKiKP PKiKP 07 30 04.7 +0.1
comp=Z,2.9nm,0.8s,baz=112,slow=6.7,SNR=4.3
T11A Corn Creek, Al 94.86 53 ⇓P P 07 25 25.5 0.0
baz=95,SNR=16
IRM Iron Mountain 94.87 56 ⇓P P 07 25 25.2 -0.4
baz=95
F12A Elk City 94.89 45 ⇑P P 07 25 24.1 -1.3
baz=95,SNR=48
J12A Stokes Ranch, 95.00 47 ⇓P P 07 25 25.4 -0.5
baz=95,SNR=54
YKA Yellowknife Ar 95.00 28 P P 07 25 24.2 -1.3
YKA PP PP 07 29 12.9 -8.2
YKA Yellowknife Ar 95.00 28 P P 07 25 24.2 -1.3
YKA pmax pmax
comp=Z,33nm,0.5s
YKA pmax pmax
comp=Z,3.0nm,0.9s
YKA pmax pmax
comp=Z,2.0nm,0.4s
YKA pmax pmax
comp=Z,2.0nm,0.7s
YKA Yellowknife Ar 95.00 28 P P 07 25 24.2 -1.3
comp=Z,33nm,0.5s,mb5.7,baz=271,slow=4.9,SNR=1366
YKA PP PP 07 29 12.9 -8.2
comp=Z,3.1nm,0.8s,baz=267,slow=7.9,SNR=3.5
YKA PKiKP PKiKP 07 30 04.3 -0.1
comp=Z,1.8nm,0.4s,baz=270,slow=1.2,SNR=18
YKA PKKP PKKPbc 07 42 17.9 -3.8
comp=Z,1.9nm,0.7s,baz=90,slow=2.9,SNR=22
N12A Clover Valley, 95.04 49 ⇑P P 07 25 24.7 -1.5
baz=95,SNR=43
L12A House Creek Ra 95.06 48 ⇑P P 07 25 26.2 0.0
baz=95,SNR=29
HOQ Hoqain 95.11 293 P P 07 25 26.7 -0.1
SNR=14
W12A Cal Nev Ari 95.12 55 ⇓P P 07 25 27.1 +0.4
baz=95,SNR=20
GLA Glamis 95.12 57 eP P 07 25 28.5 +1.8
comp=Z,422nm,1.6s,mb6.2
GLA Glamis 95.12 57 eP P 07 25 28.5 +1.7
GLA pmax pmax
comp=Z,422nm,1.6s,mb6.2
GLA Glamis 95.12 57 ⇓P P 07 25 27.4 +0.6
baz=95
P12A McGill 95.13 51 ⇓P P 07 25 22.0 -4.6
baz=95,SNR=40
M12A Wells 95.13 49 ⇓P P 07 25 26.4 -0.2
baz=95,SNR=34
K12A Draper Farm, C 95.14 48 ⇓P P 07 25 26.3 -0.3
baz=95,SNR=24
S12A Delamar Landin 95.16 53 ⇓P P 07 25 27.3 +0.4
baz=95,SNR=13
H12A Diamond D Ranc 95.18 46 ⇓P P 07 25 26.4 -0.3
baz=95,SNR=13
BSY Bisya 95.19 292 P P 07 25 26.7 -0.5
SNR=6.8
O12A Currie 95.26 50 ⇓P P 07 25 24.8 -2.4
baz=95,SNR=36
T12A Moapa 95.26 54 ⇓P P 07 25 28.0 +0.7
baz=95,SNR=7.5
NEE2 Needles Airpor 95.32 56 ⇓P P 07 25 28.4 +0.8
baz=95
C13A Hot Springs 95.36 43 ⇑P P 07 25 26.9 -0.6
baz=95,SNR=26
R12A Pony Springs, 95.36 52 ⇑P P 07 25 27.9 +0.3
baz=95
Y12C Blythe 95.39 57 ⇓P P 07 25 28.6 +0.7
baz=95,SNR=11
U12A Valley of Fire 95.40 54 ⇓P P 07 25 29.0 +1.0
baz=95,SNR=12
B13A Whitefish 95.42 42 ⇓P P 07 25 27.2 -0.5
baz=96,SNR=150
D13A Huson 95.44 43 ⇑P P 07 25 27.6 -0.2
baz=96,SNR=8.5
A13A Flathead Natio 95.44 41 ⇓P P 07 25 27.8 0.0
baz=96
HLID Hailey 95.50 47 eP P 07 25 27.8 -0.4
comp=Z,39nm,1.2s,mb5.4
HLID ePP PP 07 29 21.0 -4.5
HLID Hailey 95.50 47 ⇓P P 07 25 26.9 -1.3
baz=96
F13A Darby 95.54 45 ⇑P P 07 25 27.2 -1.2
baz=96
H13A Challis 95.61 46 ⇓P P 07 25 27.5 -1.2
baz=96,SNR=59
G13A Cobalt 95.62 45 ⇓P P 07 25 27.8 -0.9
baz=96,SNR=24
E13A Victor 95.63 44 ⇓P P 07 25 27.3 -1.4
baz=96,SNR=26
N13A Wendover, West 95.67 49 ⇓P P 07 25 29.8 +0.7
baz=96,SNR=8.8
J13A Cove Ranch, Pi 95.68 47 ⇑P P 07 25 27.4 -1.6
baz=96,SNR=24
M13A Montello 95.70 49 ⇓P P 07 25 27.0 -2.2
baz=96,SNR=35
PDMCI Parker Dam,Lak 95.71 56 ⇓P P 07 25 29.5 +0.1
baz=96
I13A Wildhorse Cree 95.71 46 ⇑P P 07 25 28.5 -0.6
baz=96,SNR=49
K13A Stover Farm, H 95.75 48 ⇑P P 07 25 29.6 +0.3
baz=96,SNR=21
WALA Waterton Lakes 95.77 41 eP P 07 25 29.5 +0.2
comp=Z,250nm,1.4s,mb6.2
WALA ePP PP 07 29 28.4 +1.0
MSO Missoula 95.80 43 eP P 07 25 29.2 -0.3
comp=Z,26nm,1.5s,mb5.1
P13A Bates Ranch, G 95.82 51 ⇓P P 07 25 19.0 -11
baz=96
O13A Hicks Ranch, I 95.84 50 ⇑P P 07 25 29.8 0.0
baz=96,SNR=12
L13A Double Diamond 95.86 48 ⇑P P 07 25 29.2 -0.7
baz=96,SNR=10
U13A Pakoon Wash 95.86 54 ⇓P P 07 25 30.0 -0.1
baz=96,SNR=18
T13A Saint George 95.91 53 ⇑P P 07 25 30.9 +0.7
baz=96,SNR=24
C14A Swan Lake 95.91 43 ⇑P P 07 25 28.7 -1.3
baz=96
W13A Hualapai Mount 95.92 55 ⇑P P 07 25 31.0 +0.7
baz=96,SNR=24
Y13A Salome 95.97 57 ⇓P P 07 25 31.3 +0.8
baz=96,SNR=16
X13A Yucca 95.97 56 ⇓P P 07 25 30.9 +0.3
baz=96,SNR=20
BANOM Banah 96.08 296 P P 07 25 31.4 +0.2
SNR=6.2
D14A Greenough 96.09 43 ⇑P P 07 25 29.6 -1.2
baz=96,SNR=24
E14A Clinton 96.11 44 ⇓P P 07 25 29.6 -1.3
baz=96,SNR=12
G14A Jackson 96.16 45 ⇓P P 07 25 30.5 -0.6
baz=96,SNR=37
HATD Hatta, Dubai 96.21 294 P P 07 25 31.6 -0.3
SNR=9.7
ASHO Ashiyiah 96.28 294 P P 07 25 31.8 -0.3
SNR=9.4
ARUT Antelope Range 96.28 53 eP P 07 25 32.8 +1.0
M14A Sheep Mountain 96.31 49 ⇑P P 07 25 24.8 -7.1
baz=96,SNR=12
CCUT Cedar City 96.34 53 eP P 07 25 32.8 +0.7
K14A Jones Ranch, D 96.42 48 ⇑P P 07 25 29.3 -3.1
baz=96,SNR=30
N14A Grayback Hills 96.44 49 ⇑P P 07 25 21.8 -11
baz=96,SNR=20
S14A Cedar City 96.49 53 ⇑P P 07 25 31.6 -1.3
baz=96,SNR=8.3
U14A Mt Trumbull 96.50 54 ⇓P P 07 25 33.4 +0.5
baz=96,SNR=13
BGU Big Grassy Mou 96.56 49 eP P 07 25 33.1 0.0
V14A Boquillas Ranc 96.56 55 ⇑P P 07 25 33.9 +0.7
baz=97,SNR=18
T14A Hurricane 96.57 53 ⇓P P 07 25 33.7 +0.5
baz=97,SNR=13
W14A Seligman 96.58 55 ⇑P P 07 25 33.6 +0.3
baz=97,SNR=15
R14A James Farms, M 96.60 52 ⇑P P 07 25 34.1 +0.8
baz=97,SNR=8.5
Y14A Wickenburg 96.65 56 ⇑P P 07 25 34.1 +0.4
baz=97,SNR=9.7
Z14A Wintersburg 96.70 57 ⇑P P 07 25 34.8 +0.9
baz=97,SNR=11
E15A Deer Lodge 96.70 44 P P 07 25 32.7 -0.9
baz=97,SNR=53
HVU Hansel Valley 96.73 49 eP P 07 25 33.8 0.0
comp=Z,58nm,1.1s,mb5.6
HVU ePP PP 07 29 35.2 +0.3
HVU Hansel Valley 96.73 49 eP P 07 25 33.8 0.0
HVU e 07 29 35.2
HVU pmax pmax
comp=Z,58nm,1.1s,mb5.6
X14A Yava 96.74 56 ⇑P P 07 25 33.4 -0.7
baz=97,SNR=16
D15A Lincoln 96.77 43 ⇓P P 07 25 32.5 -1.3
baz=97,SNR=27
DLMT Dillon 96.77 45 eP P 07 25 33.6 -0.2
comp=Z,10nm,0.7s,mb5.1
DLMT ePP PP 07 29 28.0 -7.1
F15A Butte 96.83 44 ⇑P P 07 25 32.7 -1.5
baz=97,SNR=21
G15A Dillon 96.85 45 ⇓P P 07 25 33.6 -0.6
baz=97,SNR=19
N15A Stansbury Isla 96.95 49 ⇑P P 07 25 33.9 -0.9
baz=97,SNR=9.6
M15A Larsen Ranch, 96.99 49 ⇓P P 07 25 34.6 -0.4
baz=97,SNR=13
SPUT South Promonto 96.99 49 eP P 07 25 35.0 0.0
T15A Red Dirt Ranch 97.13 53 ⇑P P 07 25 37.0 +1.2
baz=97,SNR=11
Y15A Casa Rosa Ranc 97.21 56 ⇓P P 07 25 37.1 +1.0
baz=97,SNR=8.6
W15A Williams 97.25 55 ⇑P P 07 25 38.1 +1.8
baz=97,SNR=15
NOQ North Oquirrh 97.26 50 eP P 07 25 36.3 +0.1
comp=Z,34nm,1.3s,mb5.3
X15A Humboldt 97.28 56 ⇓P P 07 25 37.6 +1.1
baz=97,SNR=15
115A Sonoran Desert 97.31 58 ⇑P P 07 25 37.5 +0.9

baz=97
NLU North Lily Min 97.31 50 *e*P P **07 25 36.6 +0.2**
BOZ Bozeman (W) 97.44 45 *e*P P **07 25 36.6 -0.3**
comp=Z,7.5nm,0.6s,mb5.0
BOZ *e*PP PP 07 29 39.4 -0.8
BOZ Bozeman (W) 97.44 45 *e*P P **07 25 36.6 -0.3**
BOZ *e* 07 29 39.4
BOZ pmax pmax
comp=Z,7.0nm,0.6s,mb5.0
BOZ Bozeman (W) 97.44 45 ⇓P P **07 25 36.6 -0.3**
baz=98
CTU Camp Tracy 97.54 50 *e*P P **07 25 37.6 +0.2**
comp=Z,18nm,1.0s,mb5.2
HWUT Hardware Ranch 97.64 49 *e*P P **07 25 37.5 -0.4**
comp=Z,9.7nm,0.6s,mb5.2
MPU Maple Canyon 97.65 50 *e*P P **07 25 38.1 +0.1**
comp=Z,19nm,1.0s,mb5.3
116A Eloy 97.75 58 ⇓P P **07 25 39.3 +0.7**
baz=98,SNR=7.8
T16A Glen Canyon Da 97.83 53 ⇓P P **07 25 38.8 0.0**
baz=98,SNR=5.8
DCID1 Drake Creek 97.85 47 *e*P P **07 25 39.5 +0.7**
Y16A Circle Bar Ran 97.92 56 ⇑P P **07 25 40.3 +1.0**
baz=98,SNR=9.9
X16A Lo Mia Camp, P 97.94 56 ⇓P P **07 25 40.2 +0.8**
baz=98
AHID Auburn Hatcher 97.94 47 *e*P P **07 25 39.2 0.0**
comp=Z,20nm,1.0s,mb5.3
YMR Madison River 97.95 46 *e*P P **07 25 40.4 +1.2**
comp=Z,30nm,1.1s,mb5.4
216A Three Points, 97.97 58 ⇓P P **07 25 42.4 +2.8**
baz=98,SNR=9.3
Z16A Peralta Trail, 97.97 57 ⇓P P **07 25 41.3 +1.7**
baz=98,SNR=5.5
WUAZ Wupatki 97.97 55 *e*P P **07 25 41.1 +1.6**
comp=Z,15nm,0.7s,mb5.3
WUAZ *e*PP PP 07 29 42.5 -2.1
WUAZ Wupatki 97.97 55 ⇑P P **07 25 40.9 +1.4**
baz=98
TMUT Trail Mountain 98.00 51 *e*P P **07 25 40.1 +0.6**
IMW Indian Meadow 98.01 46 *e*P P **07 25 40.1 +0.6**
comp=Z,35nm,1.2s,mb5.5
IMW *e*PP PP 07 29 38.8 -5.8
TPAW Teton Pass 98.02 47 *e*P P **07 25 40.4 +0.8**
comp=Z,30nm,1.1s,mb5.4
YFT Old Faithful 98.06 46 *e*P P **07 25 41.1 +1.4**
REDW Red Top Meadow 98.10 47 *e*P P **07 25 40.1 +0.2**
comp=Z,79nm,1.5s,mb5.7
MOOW Moose Ponds 98.16 46 *e*P P **07 25 40.5 +0.3**
comp=Z,20nm,1.3s,mb5.2
SNOW Snow King Moun 98.16 47 *e*P P **07 25 40.4 +0.2**
comp=Z,37nm,1.2s,mb5.5
LOHW Long Hollow 98.27 47 *e*PP PP 07 29 41.2 -5.4
LKWY Lake 98.36 46 P Pdif 07 25 32.9 -8.0
LKWY pmax pmax
comp=Z,19nm,1.2s,mb5.2
217A Green Valley 98.52 59 ⇓P Pdif 07 25 44.0 +2.5
baz=99,SNR=7.8
117A Oracle 98.57 58 ⇑P Pdif 07 25 43.4 +1.7
baz=99
EGMT Eagleton 98.58 42 *e*P Pdif 07 25 41.9 0.0
comp=Z,85nm,1.3s
EGMT *e*PP PP 07 29 47.9 -0.9
EGMT Eagleton 98.58 42 ⇑P Pdif 07 25 41.7 -0.1
baz=99
ABTO Aybut 98.73 287 P Pdif 07 25 43.2 +0.7
SNR=6.2
PDAR Pinedale Array 99.08 47 P Pdif 07 25 43.7 -0.3
PDAR PP PP 07 29 42.5 -10
PDAR Pinedale Array 99.08 47 P Pdif 07 25 43.7 -0.3
comp=Z,21nm,0.5s,baz=191,slow=1.9,SNR=174
PDAR PP PP 07 29 42.5 -10
comp=Z,4.9nm,1.1s,baz=255,slow=4.5,SNR=4.9
PDAR PKiKP PKiKP 07 30 12.9 +0.6
comp=Z,3.0nm,0.7s,baz=106,slow=1.1,SNR=4.6
PDAR PKKPbc PKKPbc 07 42 08.4 -1.4
comp=Z,2.2nm,0.9s,baz=112,slow=5.6,SNR=7.9
PDAR PKPPKP 07 50 23.7
comp=Z,0.7nm,0.9s,baz=82,slow=3.1,SNR=4.3
118A Homack Ranch, 99.21 58 ⇑P Pdif 07 25 46.7 +2.1
baz=99
318A Bisbee 99.23 59 ⇓P Pdif 07 25 47.5 +2.8
baz=99,SNR=7.4
Y19A Nutrioso 99.77 56 ⇓P Pdif 07 25 49.6 +2.4
baz=100
119A Ashpeak Ranch, 99.77 58 ⇓P Pdif 07 25 49.8 +2.6
baz=100,SNR=10
219A White Tail Can 99.84 58 ⇓P Pdif 07 25 50.5 +3.1
baz=100,SNR=11
MVCO Mesa Verde 100.22 53 *e*Pdif Pdif 07 25 49.6 +0.5
comp=Z,31nm,0.5s
MVCO Mesa Verde 100.22 53 ⇓P Pdif 07 25 49.9 +0.8
baz=100
RWWY Rawlins 100.90 48 *e*Pdif Pdif 07 25 51.8 -0.3
comp=Z,81nm,1.3s
NVL N'lazarevskaya 101.16 193 *e* SKSac 07 35 53.2 +1.7
NVL MLR MLR
comp=N,1μm,18.0s
NVL MLR MLR
comp=E,1μm,18.0s
NVL MLR MLR
comp=Z,3μm,18.0s
LAZ Ladron 101.50 56 *e*Pdif Pdif 07 25 56.9 +2.1
SPB4 Spitsbergen Ar 101.88 351 *e*Pdif Pdif 07 25 54.3 -2.1
KBS Kingsbay 101.94 353 *e*PP PP 07 30 08.3 -4.8
ANMO Albuquerque 102.02 55 *e*Pdif Pdif 07 25 57.8 +0.7
comp=Z,26nm,1.4s
ANMO Albuquerque 102.02 55 P Pdif 07 25 58.5 +1.4
ANMO *i* 07 30 17.9
ANMO pmax pmax
comp=Z,6.0nm,0.8s
ANMO pmax pmax
comp=Z,6.0nm,1.2s
ANMO pmax pmax
comp=Z,5.0nm,1.0s
ANMO Albuquerque 102.02 55 P Pdif 07 25 58.5 +1.3
comp=Z,6.4nm,0.8s,baz=266,slow=4.7,SNR=11
ANMO PP PP 07 30 04.8 -10
comp=Z,6.2nm,1.1s,baz=272,slow=8.1,SNR=4.1
ANMO PKiKP PKiKP 07 30 17.9 +0.1
comp=Z,5.1nm,1.0s,baz=333,slow=2.3,SNR=7.3
PHWY Pilot Hill 102.25 49 *e*Pdif Pdif 07 25 58.9 +0.8
OPO Ambohidratompo 102.25 250 PKKPbc PKKPbc 07 41 57.3 -2.6
comp=Z,4.0nm,0.9s,baz=108,slow=3.2,SNR=4.5
ISCO Idaho Springs 102.28 50 *e*Pdif Pdif 07 25 59.0 +0.7
comp=Z,18nm,1.3s
ISCO Idaho Springs 102.28 50 *e*P Pdif 07 25 59.4 +1.1
ISCO pmax pmax
comp=Z,18nm,1.2s
FFC Flin Flon 102.49 35 *e*Pdif Pdif 07 25 59.2 0.0
comp=Z,46nm,1.4s
FFC Flin Flon 102.49 35 *e*P Pdif 07 25 59.2 0.0
FFC pmax pmax
comp=Z,46nm,1.4s
SNAA Sanae 103.06 188 PKKPbc PKKPbc 07 41 52.7 -6.8
comp=Z,3.1nm,1.0s,baz=296,slow=0.7,SNR=2.9
MNTX Cornudas Mount 103.15 58 *e*Pdif Pdif 07 26 04.4 +2.3
comp=Z,17nm,1.4s
TMCR Tamitsa 103.21 336 *e*P Pdif 07 25 58.0 -4.4
TMCR pmax pmax
comp=Z,121nm,1.5s
QRN Al-Qurain 103.48 299 *e*P Pdif 07 26 01.6 -2.0
QRN AMb AMB 07 26 04.2
comp=Z,44nm,0.6s
APA Apatity 103.67 340 ⇓*i*P Pdif 07 26 02.8 -1.7
APA *i* S Sdif 07 37 10.0 -6.8
APA pmax pmax
comp=Z,43nm,1.2s
APA MLR MLR
comp=Z,2μm,17.0s
RDF Al-Radifah 103.79 299 *e*P Pdif 07 26 03.7 -1.3
RDF AMb AMB 07 26 05.4
comp=Z,41nm,1.2s
MIB Mutribah 103.92 300 *e*P Pdif 07 26 03.7 -1.9
MIB AMb AMB 07 26 07.1
comp=Z,42nm,1.4s
NAY Al-Naaiem 104.04 299 *e*P Pdif 07 26 04.7 -1.4
NAY AMb AMB 07 26 06.3
comp=Z,26nm,1.1s
VNA3 Neumayer Olymp 104.31 186 *e*Pdiff Pdif 07 26 06.2 -1.1
VNA3 *e* 07 26 13.4
VNA2 Neumayer--Watz 104.34 187 *e*Pdiff Pdif 07 26 06.8 -0.6
VNA2 *e* 07 26 13.8
KEV Kevo 104.70 343 *e*p Pdif 07 26 06.2 -2.8
comp=Z,9.1nm,0.5s
KEV Kevo 104.70 343 *e*p PKiKP 07 30 20.8 -0.9
comp=Z,6.6nm,0.5s
KEV Kevo 104.70 343 *e*P Pdif 07 26 06.2 -2.8
KEV pmax pmax
comp=Z,9.0nm,0.5s
VNA1 Neumayer--Stat 104.70 187 *e*Pdiff Pdif 07 26 08.3 -0.7
VNA1 *e* 07 26 16.0
TXAR Lajitas Array 104.79 61 Pdif Pdif 07 26 12.6 +3.1
TXAR Lajitas Array 104.79 61 P Pdif 07 26 12.6 +3.2
TXAR pmax pmax
comp=Z,1.0nm,0.5s
TXAR pmax pmax
comp=Z,5.0nm,1.0s
TXAR pmax pmax
comp=Z,2.0nm,0.6s
TXAR pmax pmax
comp=Z,1.0nm,0.7s
TXAR Lajitas Array 104.79 61 Pdiff Pdif 07 26 12.6 +3.1
comp=Z,1.1nm,0.5s,baz=261,slow=3.4,SNR=18
TXAR PKiKP PKiKP 07 30 23.6 +0.5
comp=Z,5.1nm,1.0s,baz=142,slow=1.7,SNR=12
TXAR PKKPbc PKKPbc 07 41 53.5 +0.7
comp=Z,1.6nm,0.6s,baz=121,slow=5.4,SNR=12
TXAR PKKP PKKPab 07 42 08.3 -3.7
comp=Z,1.2nm,0.7s,baz=109,slow=5.4,SNR=5.9
ARCES ARCESS Array B 105.26 343 Pdif Pdif 07 26 09.8 -1.8
ARCES PKPdf PKiKP 07 30 22.6 -0.2
ARCES PKKPbc PKKPbc 07 41 48.3 -4.6
ARCES ARCESS Array B 105.26 343 P Pdif 07 26 09.8 -1.7
ARCES pmax pmax
comp=Z,7.0nm,0.8s
ARCES pmax pmax
comp=Z,8.0nm,0.6s
ARCES pmax pmax
comp=Z,2.0nm,0.4s
ARCES ARCESS Array B 105.26 343 Pdiff Pdif 07 26 09.8 -1.8
comp=Z,7.1nm,0.8s,baz=82,slow=9.5,SNR=25
ARCES PKiKP PKiKP 07 30 22.6 -0.2
comp=Z,7.8nm,0.6s,baz=94,slow=1.4,SNR=28
ARCES PKKPbc PKKPbc 07 41 48.3 -4.6
comp=Z,1.5nm,0.4s,baz=233,slow=2.8,SNR=37
ARE0 ARCESS Array S 105.26 343 *e*Pdif Pdif 07 26 09.5 -2.1
FCC Fort Churchill 105.59 29 *e*PKPdf PKiKP 07 30 22.7 -0.9
BHD Baghdad 106.12 303 *ex* x 07 30 42.0
MOS Moscow 106.14 327 *e*P Pdif 07 26 13.9 -1.5
MOS *i* 07 30 44.3
MOS *i* 07 36 13.5
MOS *e*PS PS 07 40 20.3 +8.1
MOS pmax pmax
comp=Z,79nm,1.4s
MOS MLR MLR
comp=Z,1μm,19.0s
JOF Joensuu 106.47 336 *e*p Pdif 07 26 13.2 -3.7
comp=Z,7.7nm,0.4s
JOF Joensuu 106.47 336 *e*p PKiKP 07 30 10.6 -15
comp=Z,1.6nm,0.6s
MSL Mosul 106.80 307 *ex* x 07 30 27.5
CBKS Cedar Bluff 106.93 51 *e*PKPdf PKiKP 07 30 27.3 +0.6
TRO Tromso 107.06 344 *e*P PKiKP 07 30 23.1 -3.0
TRO Tromso 107.06 344 *e* Pdif 07 26 16.4 -3.1
TRO *e*PP PP 07 30 47.8 -2.9
ULM Lac du Bonnet 107.17 38 Pdif Pdif 07 26 19.6 -0.4
ULM *e*PKPdf PKiKP 07 30 25.5 -1.4
ULM *e*PP PP 07 30 50.1 -2.1
ULM Lac du Bonnet 107.17 38 Pdiff Pdif 07 26 19.6 -0.4
comp=Z,4.1nm,0.5s,baz=286,slow=5.3,SNR=8.4
ULM PKiKP PKiKP 07 30 25.4 -1.4
comp=Z,5.9nm,0.5s,baz=307,slow=3.1,SNR=11
ULM PKKPab PKKPab 07 41 59.4 -1.9
comp=Z,2.6nm,0.8s,baz=74,slow=3.6,SNR=5.9
JCT Junction City 108.02 59 *e*Pdif Pdif 07 26 26.0 +2.2
comp=Z,14nm,1.1s
JCT Junction City 108.02 59 P Pdif 07 26 26.6 +2.8
JCT pmax pmax
comp=Z,14nm,1.1s
SOC Sochi 108.04 315 *e*P Pdif 07 26 29.4 +5.5
SOC *e*PS PS 07 40 22.2 -8.2
WMOK Wichita Mounta 108.32 55 *e*PKPdf PKiKP 07 30 28.9 -0.5
KSU1 Kansas State U 109.28 50 *e*PKPdf PKiKP 07 30 30.9 -0.2
FIA1 FINESS Array S 109.33 335 *e*PKPdf PKiKP 07 30 29.9 -0.6
FINES FINESS Array B 109.33 335 P Pdif 07 26 27.7 -1.9
FINES 07 41 51.4
FINES pmax pmax
comp=Z,5.0nm,0.5s
FINES pmax pmax
comp=Z,4.0nm,0.4s
FINES pmax pmax
comp=Z,3.0nm,0.8s
FINES pmax pmax
comp=Z,3.0nm,0.9s
FINES FINESS Array B 109.33 335 Pdiff Pdif 07 26 27.7 -1.9
comp=Z,5.2nm,0.5s,baz=72,slow=5.0,SNR=46
FINES PKiKP PKiKP 07 30 30.3 -0.2
comp=Z,4.0nm,0.4s,baz=107,slow=3.0,SNR=21
FINES PKKPbc PKKPbc 07 41 36.1 -3.9
comp=Z,3.3nm,0.8s,baz=232,slow=2.7,SNR=8.9
FINES PKKPab PKKPab 07 41 51.4 -0.3
comp=Z,3.0nm,0.9s,baz=194,slow=7.1,SNR=4.0
MALT Malatya 110.11 310 *e*PKPdf PKiKP 07 30 33.0 +0.3
MALT Malatya 110.11 310 *e*P Pdif 07 26 34.9 +1.8
MALT Malatya 110.11 310 ⇓*i*P PKiKP 07 30 31.8 -0.9
EYMN Ely 110.60 40 *e*PKPdf PKiKP 07 30 32.5 -0.9
MOR8 Moi Rana 110.63 343 *e*P PKiKP 07 30 31.6 -1.3
MOR8 Moi Rana 110.63 343 *e* PKiKP 07 30 31.6 -1.3
NSS Namsos 112.53 342 *e*P PKiKP 07 30 34.7 -1.8
AKASG Malin Array Be 112.65 324 Pdif Pdif 07 26 42.5 -1.8
AKASG PKPdf PKiKP 07 30 36.2 -1.0
AKASG PP PP 07 31 29.5 -1.7
AKASG PKKPbc PKKPbc 07 41 26.1 -2.8
AKASG PKKPab PKKPab 07 41 36.0 -0.9
AKASG SKKPbc 07 44 32.2
AKASG Malin Array Be 112.65 324 P Pdif 07 26 42.6 -1.8
AKASG *i* 07 30 36.2
AKASG 07 31 29.5
AKASG 07 41 36.0
AKASG pmax pmax
comp=Z,2.0nm,0.8s
AKASG pmax pmax
comp=Z,16nm,0.6s
AKASG pmax pmax
comp=Z,3.0nm,0.9s
AKASG pmax pmax
comp=Z,1.0nm,0.4s
AKASG pmax pmax
comp=Z,2.0nm,0.6s
AKASG Malin Array Be 112.65 324 Pdiff Pdif 07 26 42.5 -1.8
comp=Z,1.9nm,0.8s,baz=53,slow=4.1,SNR=14
AKASG PKiKP PKiKP 07 30 36.2 -1.0
comp=Z,16nm,0.6s,baz=56,slow=2.6,SNR=54
AKASG PP PP 07 31 29.5 -1.7
comp=Z,2.7nm,0.9s,baz=62,slow=7.0,SNR=5.8
AKASG PKKPbc PKKPbc 07 41 26.1 -2.8
comp=Z,1.4nm,0.4s,baz=260,slow=3.3,SNR=10.0
AKASG PKKPab PKKPab 07 41 36.0 -0.9
comp=Z,1.8nm,0.6s,baz=261,slow=3.9,SNR=6.6
AKASG SKKPbc 07 44 32.2
comp=Z,0.4nm,0.5s,baz=253,slow=3.2,SNR=4.1
AKBB Malin Array Si 112.65 324 *e*PKPdf PKiKP 07 30 36.1 -1.0
KIEV Kiev 112.66 324 *e*PKPdf PKiKP 07 30 36.1 -1.1
COWI Conover 112.73 41 *e*PKPdf PKiKP 07 30 36.7 -0.8
COWI *e*PP PP 07 31 29.2 -2.7
COWI *e*SKPdf SKPdf 07 33 34.6 +1.1
JFWS Jewell Farm 112.99 45 *e*PKPdf PKiKP 07 30 36.9 -1.2
JFWS *e*PP PP 07 31 29.2 -4.7
JFWS *e*SKPdf SKPdf 07 33 34.9 +0.7
USHA Ushuaia 113.17 156 PKiKP PKiKP 07 30 39.2 +1.1
comp=Z,14nm,0.8s,baz=44,slow=13,SNR=5.9
UALR University of 113.52 54 *e*PKPdf PKiKP 07 30 39.0 -0.3
MMAI Mount Meron Ar 113.60 304 PKKPbc PKKPbc 07 41 24.9 -0.2
comp=Z,2.0nm,0.5s,baz=36,slow=1.6,SNR=6.2
CCM Cathedral Cave 113.61 50 *e*PKPdf PKiKP 07 30 38.5 -0.9
CCM *e*PP PP 07 31 35.1 -3.4
CMIG Matias Romero 113.75 73 PKiKP PKiKP 07 30 40.3 +0.1
comp=Z,7.3nm,0.6s,baz=166,slow=3.5,SNR=9.1
CMIG PP PP 07 31 39.6 -0.6
comp=Z,3.5nm,0.7s,baz=242,slow=7.0,SNR=7.4
KMBO Kilima Mbogo 113.97 267 *e*PKPdf PKiKP 07 30 41.5 +0.8
KMBO *e*PP PP 07 31 41.2 -0.7
KMBO Kilima Mbogo 113.97 267 P PKiKP 07 30 42.3 +1.5
SNR=6.6
ANTO Ankara 113.99 312 *e*PKPdf PKiKP 07 30 40.0 -0.1
ANTO Ankara 113.99 312 P PKiKP 07 30 40.8 +0.7
SNR=11
ANTO Ankara 113.99 312 ⇑*i*P PKiKP 07 30 39.8 -0.3
SLM Saint Louis 114.22 49 *e*PKPdf PKiKP 07 30 40.1 -0.4
SLM *e*PP PP 07 31 40.5 -2.2
FVM French Village 114.25 50 *e*PKPdf PKiKP 07 30 40.2 -0.4
HDIL Hopedale 114.37 47 *e*PKPdf PKiKP 07 30 40.8 0.0
HDIL *e*PP PP 07 31 41.2 -2.5
HDIL *e*SKPdf SKPdf 07 33 38.4 +1.4
EIL Elat 114.62 301 PKKPbc PKKPbc 07 41 21.4 -0.1
comp=Z,4.5nm,0.5s,baz=278,slow=0.9,SNR=4.9
CSS Prodhromos 114.85 307 *e*P PKPdf 07 30 41.2 -0.6
SFJD Kangerlussuaq 114.86 9 *e*PKPdf PKPdf 07 30 40.2 -0.7
HFS Hagfors 115.00 338 PKiKP PKPdf 07 30 40.5 -0.9
HFS pmax pmax
comp=Z,8.0nm,0.6s
HFS pmax pmax
comp=Z,3.0nm,0.8s
HFS Hagfors 115.00 338 PKP PKPdf 07 30 40.5 -0.9
comp=Z,7.7nm,0.6s,baz=114,slow=3.7,SNR=17
HFS PKKPbc PKKPbc 07 41 17.7 -3.7
comp=Z,2.7nm,0.8s,baz=134,slow=4.3,SNR=6.9
NB2 NORSAR Subarra 115.26 340 PKPdf PKPdf 07 30 40.7 -1.1
comp=Z,24nm,0.8s,baz=45,slow=1.9
NB2 NORSAR Subarra 115.26 340 PKPdf PKPdf 07 30 40.7 -1.1
baz=45,slow=1.9
NOA NORSAR Array B 115.26 340 PKiKP PKPdf 07 30 41.0 -0.8
NOA pmax pmax
comp=Z,13nm,0.6s
NOA pmax pmax
comp=Z,3.0nm,0.8s
NOA NORSAR Array B 115.26 340 PKP PKPdf 07 30 41.0 -0.8
comp=Z,13nm,0.6s,baz=47,slow=1.9,SNR=48
NOA PKKPab PKKPab 07 41 24.4 -0.9
comp=Z,2.7nm,0.8s,baz=225,slow=4.4,SNR=8.7
MOL Molde 115.31 342 *e*P PKPdf 07 30 42.0 +0.1
NAO01 NORSAR Array S 115.51 340 *e*PKPdf PKPdf 07 30 42.4 +0.1
TIRR Tirgusor 115.57 318 ⇑*i*P PKPdf 07 30 42.8 -0.2
LVV L'vov 116.03 325 ⇓*i*PKiKP PKPdf 07 30 43.4 -0.3
VRI Vrincioaia 116.12 320 ⇑P PKPdf 07 30 43.7 -0.3
VRI Vrincioaia 116.12 320 ⇑*i*P PKPdf 07 30 43.7 -0.3
GLMI Grayling 116.15 41 *e*PKPdf PKPdf 07 30 43.3 -0.7
USIN University of 116.35 49 *e*PKPdf PKPdf 07 30 44.3 -0.4
USIN *e*SKPdf SKPdf 07 33 42.7 +1.9
WVT Waverly 116.75 51 *e*PKPdf PKPdf 07 30 44.3 -1.2
WVT *e*SKPdf SKPdf 07 33 43.1 +1.5
MLR Muntele Rosu 116.78 320 ⇑P PKPdf 07 30 44.7 -0.6
MLR Muntele Rosu 116.78 320 PKiKP PKPdf 07 30 45.4 +0.1
MLR 07 41 11.7
MLR pmax pmax
comp=Z,22nm,0.9s
MLR pmax pmax
comp=Z,4.0nm,0.5s
MLR Muntele Rosu 116.78 320 PKP PKPdf 07 30 45.4 +0.1
comp=Z,22nm,0.9s,baz=318,slow=2.6,SNR=20
MLR PKKPbc PKKPbc 07 41 11.7 -3.0
comp=Z,3.5nm,0.5s,baz=316,slow=5.8,SNR=5.9
MLR Muntele Rosu 116.78 320 ⇑*i*P PKPdf 07 30 44.7 -0.6
KONO Kongsberg 116.81 339 ⇑*e*PKP PKPdf 07 30 43.9 -1.0
BLO Bloomington 116.83 48 *e*PKPdf PKPdf 07 30 45.0 -0.5
PLAL Pickwick Lake 116.87 52 *e*PKPdf PKPdf 07 30 44.0 -1.7
PLAL *e*SKPdf SKPdf 07 33 42.6 +0.7
KWP Kalwaria 116.88 325 *e*PKPdf PKPdf 07 30 45.0 -0.3
KWP Kalwaria 116.88 325 PKiKP PKPdf 07 30 44.9 -0.4
KWP Kalwaria 116.88 325 ⇑*i*P PKPdf 07 30 45.0 -0.3
WCI Wyandotte Cave 117.30 48 *e*PKPdf PKPdf 07 30 45.8 -0.7
WCI *e*SKPdf SKPdf 07 33 43.9 +1.3
VOIR 117.37 320 ⇑P PKPdf 07 30 48.1 +1.7
VOIR 117.37 320 ⇑*i*P PKPdf 07 30 48.2 +1.8
KOLS Kolonicke sedl 117.47 325 *e*PKP PKPdf 07 30 46.7 +0.2
JMB Yambol 117.55 317 *e*P PKPdf 07 30 46.4 -0.5
UZH Uzhgorod 117.60 324 ⇓*i*PKiKP PKPdf 07 30 46.4 -0.3
UZH *i* PS PS 07 41 16.0 -41
BER Bergen 117.68 342 *e*PP PP 07 31 53.4 -12
SZH Strazhica 117.68 318 P PKPdf 07 30 46.7 -0.4
BSD Bornholm Skovb 117.77 333 *i* P PP 07 32 08.5 +2.0
comp=Z,39nm,1.0s
BSD *i* 07 34 17.8
BSD *i* 07 42 19.8
BSD
comp=Z,610nm,18.0s
STHS Stebnicka Huta 117.81 326 *e*PKP PKPdf 07 30 47.5 +0.4
STHS *e* 07 33 35.8
STHS Stebnicka Huta 117.81 326 *e* SKPdf 07 33 35.8 -7.4
CRVS Cervenica-Dubn 117.95 325 *e*PKP PKPdf 07 30 47.5 +0.1
BLS5 Blasjo 118.06 341 *e*P PKPdf 07 30 48.5 +1.2
BLS5 Blasjo 118.06 341 *e* PKPdf 07 30 47.8 +0.5
PVL Pavlikeni 118.11 318 P PKPdf 07 30 48.4 +0.5
OJC Ojcow 118.20 327 *e*Pdiff Pdif 07 27 08.9 -0.1
OJC *e*PKPdf PKPdf 07 30 47.2 -0.6
OJC *e*SKKSac SKKSac 07 38 23.8 -3.6
OJC L 08 22 05.0
comp=Z,0.7nm,21.3s
OJC Ojcow 118.20 327 *e*P Pdif 07 27 08.9 -0.1
OJC *e* 07 30 47.2
OJC MLR MLR
comp=Z,700nm,21.3s
DRGR 118.23 322 ⇓P PKPdf 07 30 47.8 -0.2
DRGR 118.23 322 PKiKP PKPdf 07 30 48.5 +0.5
DRGR 118.23 322 ⇓*i*P PKPdf 07 30 47.8 -0.2
LRAL Lakeview Retre 118.25 54 *e*PKPdf PKPdf 07 30 47.8 -0.7
NIE Niedzica 118.33 326 *e*PKPdf PKPdf 07 30 48.7 +0.6
DIM Dimitrovgrad 118.43 317 P PKPdf 07 30 48.0 -0.6
COP Copenhagen 118.48 335 *i* P PP 07 32 07.9 -3.4
COP *i* 07 34 21.5
COP
comp=Z,230nm,22.0s
ALN Alexandroupoli 118.52 315 *e*P PKPdf 07 30 46.2 -2.5
CRAR CRAIOVA 118.65 320 PKiKP PKPdf 07 30 50.1 +1.2
KDZ Kurdzhali 118.67 316 P PKPdf 07 30 48.3 -0.7
BORG Borgarnes 118.70 356 PKP PKPdf 07 30 48.6 +0.2
comp=Z,20nm,1.0s,baz=0.6,slow=1.9,SNR=6.3
KECS Kecovo 118.72 325 *e*PKP PKPdf 07 30 48.3 -0.6
KECS *e* 07 33 42.0
KECS Kecovo 118.72 325 *e* SKPdf 07 33 42.0 -3.0
GZR Gura Zlata 118.83 321 ⇑P PKPdf 07 30 49.0 -0.2
GZR Gura Zlata 118.83 321 ⇑*i*P PKPdf 07 30 49.0 -0.2
PLD Plovdiv 118.98 317 *e*P PKPdf 07 30 48.2 -1.4
ACSO Alum Creek Sta 119.02 45 *e*PKPdf PKPdf 07 30 49.0 -0.8
RZN Rozhen 119.14 317 P PKPdf 07 30 49.6 -0.3
PGB Panagyurishte 119.16 318 P PKPdf 07 30 49.6 -0.3
BOSA Boshof 119.19 234 *e*PKPdf PKPdf 07 30 50.5 +0.1
BOSA Boshof 119.19 234 PKiKP PKPdf 07 30 50.3 -0.1
BOSA pmax pmax
comp=Z,8.0nm,0.6s
BOSA pmax pmax
comp=Z,5.0nm,0.7s
BOSA Boshof 119.19 234 PKP PKPdf 07 30 50.2 -0.2
comp=Z,7.5nm,0.6s,baz=110,slow=2.8,SNR=20
BOSA PKKPbc PKKPbc 07 41 05.8 +0.1
comp=Z,5.4nm,0.7s,baz=297,slow=5.0,SNR=9.9
MUD Monsted U'grnd 119.27 337 *i* P PP 07 32 17.7 +1.1
MUD *i* 07 34 27.3
OKC Ostrava-Krasne 119.30 327 *e*PKPdf PKPdf 07 30 49.8 -0.2
OKC AMS AMS 08 20 30.0
comp=Z,700nm,17.8s
PSZ Piszkesteto 119.34 325 *e*PKPdf PKPdf 07 30 49.9 -0.2
PSZ *e*SKPdf SKPdf 07 33 48.6 +2.4
PSZ Piszkesteto 119.34 325 ⇑*i*P PKPdf 07 30 48.8 -1.3
PSZ Piszkesteto 119.34 325 ⇑*e* PKPdf 07 30 50.1 0.0
CHOS Chios island 119.42 313 *e*P PKPdf 07 30 49.3 -1.2
BZS Buzias 119.45 322 ⇓P PKPdf 07 30 50.2 -0.2
BZS Buzias 119.45 322 ⇓*i*P PKPdf 07 30 50.2 -0.2
LOS Limnos 119.56 315 *e*P PKPdf 07 30 49.1 -1.7
VYHS Vyhne 119.65 326 *e*PKP PKPdf 07 30 50.2 -0.5
VYHS *e*PP PP 07 32 21.4 +1.8
MORC Moravsky Berou 119.66 327 *e*PKPdf PKPdf 07 30 51.2 +0.5
MORC *e*SKPdf SKPdf 07 33 49.4 +2.6
MORC Moravsky Berou 119.66 327 ⇑*i*P PKPdf 07 30 51.1 +0.4
SOF Sofiya 119.66 318 P PKPdf 07 30 50.7 -0.2
TEIG Tepich 119.67 69 *e*PKPdf PKPdf 07 30 51.4 -0.2
TEIG *e*PP PP 07 32 18.1 -3.0
TEIG Tepich 119.67 69 PKP PKPdf 07 30 51.7 +0.1
comp=Z,21nm,0.7s,baz=5.3,slow=2.4,SNR=3.7
TEIG PP PP 07 32 17.7 -3.3
comp=Z,11nm,1.0s,baz=334,slow=11,SNR=3.8
TEIG SKP SKPdf 07 33 50.0 +2.3
comp=Z,20nm,0.9s,baz=338,slow=10,SNR=4.5
KSP Ksiaz 119.70 329 ⇑*i*PKP PKPdf 07 30 51.2 +0.5
KSP *e*PP PP 07 32 20.5 +0.7
KSP *e* 07 34 21.0
KSP *e*SKS SKSac 07 37 02.0 -6.2
KSP *e*SP SP 07 41 21.0 -6.0
KSP *e* 07 43 16.0
KSP *e*SS SS 07 48 12.0 +0.7
KSP Ksiaz 119.70 329 ⇑*i*PKiKP PKPdf 07 30 51.2 +0.5
KSP *e* 07 32 20.5
KSP *e*SS SS 07 48 12.0 +0.7

LRW	Lerwick	119.77	345	eP	PKPdf	07 30 49.9	-0.7
WAL1	Walls	119.78	345	eP	PKPdf	07 30 50.0	-0.6
VTS	Vitosha	119.78	318	eP	PKPdf	07 30 50.2	-0.9
VTS	Vitosha	119.78	318	⇑iP	PKPdf	07 30 50.8	-0.3
VTS	Vitosha	119.78	318	P	PKPdf	07 30 51.2	+0.1
KOLL	Kolacno	119.84	326	ePKP	PKPdf	07 30 50.9	-0.2
KOLL				e		17 43 22.7	
KOLL				e		17 43 28.1	
MMB	Musomiste	119.85	317	P	PKPdf	07 30 50.3	-1.0
TZTN	Tazewell	119.91	49	ePKPdf	PKPdf	07 30 51.2	-0.4
TZTN				eSKPdf	SKPdf	07 33 50.7	+3.0
RUE	Ruedersdorf	119.95	332	ePKPdf	PKPdf	07 30 51.5	+0.3
RUE				ePP	PP	07 32 22.8	+1.4
RUE	Ruedersdorf	119.95	332	ePKPdf	PKPdf	07 30 51.4	+0.3
RUE				ePP	PP	07 32 22.6	+1.2
DPC	Dobruska-Polom	119.98	328	ePKPdf	PKPdf	07 30 51.3	0.0
DPC				AMS	AMS	08 24 20.0	
	comp=Z,800nm,24.2s						
TKL	Tuckaleechee C	120.03	51	PKIKP	PKPdf	07 30 51.6	-0.2
TKL						07 32 19.4	
TKL				pmax	pmax		
	comp=Z,46nm,0.7s						
TKL				pmax	pmax		
	comp=Z,11nm,1.2s						
TKL				pmax	pmax		
	comp=N,19nm,1.0s						
TKL	Tuckaleechee C	120.03	51	PKP	PKPdf	07 30 51.5	-0.3
	comp=N,46nm,0.7s,baz=156,slow=5.1,SNR=47						
TKL				PP	PP	07 32 19.4	-3.4
	comp=N,11nm,1.2s,baz=333,slow=2.2,SNR=5.5						
TKL				SKP	SKPdf	07 33 50.5	+2.6
	comp=N,19nm,1.0s,baz=216,slow=4.0,SNR=6.5						
UPC	Upice	120.05	329	ePKPdf	PKPdf	07 30 51.6	+0.2
UPC				ex	x	07 32 34.9	
BUD	Budapest	120.07	325	⇑e	PKPdf	07 30 51.2	-0.3
SRS	Serrai	120.14	316	eP	PKPdf	07 30 50.4	-1.4
KKB	Krupnik	120.18	317	P	PKPdf	07 30 51.2	-0.7
OUR	Ouranopolis	120.18	315	eP	PKPdf	07 30 50.5	-1.4
LBTB	Lobatse	120.22	238	ePKPdf	PKPdf	07 30 52.4	-0.1
LBTB	Lobatse	120.22	238	PKKPbc	PKKPbc	07 41 02.3	+0.5
	comp=N,22nm,0.9s,baz=290,slow=4.4,SNR=21						
SCHQ	Schefferville	120.27	24	ePKPdf	PKPdf	07 30 51.5	-0.1
SCHQ	Schefferville	120.27	24	PKP	PKPdf	07 30 51.4	-0.3
	comp=N,22nm,0.7s,baz=343,slow=2.5,SNR=30						
SCHQ				PKKPbc	PKKPbc	07 41 00.2	-2.4
	comp=N,9.0nm,0.8s,baz=116,slow=4.0,SNR=12						
APE	Apeiranthos	120.28	311	eP	PKPdf	07 30 50.3	-2.0
APE	Apeiranthos	120.28	311	PKIKP	PKPdf	07 30 51.0	-1.3
APE	Apeiranthos	120.28	311	⇑iP	PKPdf	07 30 50.3	-2.0
ERPA	Erie	120.33	42	ePKPdf	PKPdf	07 30 51.4	-0.9
ERPA				eSKPdf	SKPdf	07 33 49.8	+1.5
ZKR	Zakros	120.41	309	eP	PKPdf	07 30 52.4	-0.2
SOH	Sokhos	120.42	316	eP	PKPdf	07 30 50.8	-1.6
VRAC	Vranov	120.43	327	⇓P	PKPdf	07 30 52.4	+0.3
VRAC	Vranov	120.43	327	PKIKP	PKPdf	07 30 52.6	+0.4
VRAC				pmax	pmax		
	comp=Z,30nm,1.0s						
VRAC	Vranov	120.43	327	PKP	PKPdf	07 30 52.6	+0.4
	comp=Z,30nm,1.0s,baz=76,slow=1.6,SNR=28						
VRAC	Vranov	120.43	327	⇓iP	PKPdf	07 30 52.4	+0.2
MBAR	Mbarara	120.50	267	i PKP	PKPdf	07 30 53.1	-0.3
PLG	Polygyros	120.54	316	eP	PKPdf	07 30 51.3	-1.3
BSEG	Bad Segeberg	120.57	334	ePKPdf	PKPdf	07 30 52.7	+0.4
MODS	Modra-Piesok	120.58	326	ePKP	PKPdf	07 30 53.1	+0.6
MODS				ePP	PP	07 32 28.6	+2.7
MODS				e		07 33 51.2	
MODS	Modra-Piesok	120.58	326	ePKP	PKPdf	07 30 53.1	+0.6
MODS				ePP	PP	07 32 28.6	+2.7
MODS	Modra-Piesok	120.58	326	e	SKPdf	07 33 51.2	+2.6
KNT	Kendrikon	120.60	317	eP	PKPdf	07 30 51.0	-1.8
HORT	Hortiatis	120.69	316	eP	PKPdf	07 30 51.6	-1.3
AOS	Alonnisos	120.71	314	eP	PKPdf	07 30 51.4	-1.7
LSZ	Lusaka	120.72	250	ePKPdf	PKPdf	07 30 53.6	0.0
LSZ				eSKPdf	SKPdf	07 33 50.3	+0.5
LSZ	Lusaka	120.72	250	P	PKPdf	07 30 54.4	+0.7
	SNR=11						
VAY	Valandovo	120.76	317	eP	PKPdf	07 30 51.5	-1.6
VAY	Valandovo	120.76	317	ePKP	PKPdf	07 30 51.9	-1.1
PVCC	Panska Ves	120.77	329	ePKPdf	PKPdf	07 30 53.1	+0.3
PVCC				AMS	AMS	08 26 30.0	
	comp=Z,700nm,16.7s						
THE	Thessaloniki	120.77	316	eP	PKPdf	07 30 51.7	-1.4
ZST	Bratislava	120.78	326	ePKP	PKPdf	07 30 53.0	+0.1
ZST				ePP	PP	07 32 30.0	+2.8
ZST				e		07 33 51.7	
ZST				eSKKP		07 44 44.9	
ZST	Bratislava	120.78	326	ePKIKP	PKPdf	07 30 53.0	+0.1
ZST				e		07 32 30.0	
ZST	Bratislava	120.78	326	ePKP	PKPdf	07 30 53.0	+0.1
ZST				ePP	PP	07 32 30.0	+2.8
ZST				e		07 44 44.9	
ZST	Bratislava	120.78	326	e	SKPdf	07 33 51.7	+2.7
STIP	Stip	120.86	317	eP	PKPdf	07 30 52.1	-1.1
STIP	Stip	120.86	317	ePKP	PKPdf	07 30 52.1	-1.1
BRG	Berggiesshubel	120.88	330	i PKP	PKPdf	07 30 52.2	-0.7
BRG				i		07 30 53.3	
BRG				epPKP	pPKPdf	07 32 22.2	-10
BRG				i		07 32 31.5	
BRG				i SKP	SKPdf	07 33 51.0	+1.9
BRG				i SKS	SKSac	07 37 11.0	-1.2
BRG				LR	LR		
	comp=Z,550nm,17.8s						
BRG	Berggiesshubel	120.88	330	i PKIKP	PKPdf	07 30 52.2	-0.8
BRG				e		07 32 22.2	
BRG				i		07 32 31.5	
BRG				i		07 37 11.0	
BRG				pmax	pmax		
	comp=Z,3.0nm,0.5s						
BRG				pmax	pmax		
	comp=Z,66nm,1.3s						
BRG				pmax	pmax		
	comp=Z,10.0nm,1.6s						
BRG				pmax	pmax		
	comp=Z,13nm,1.3s						
BRG				pmax	pmax		
	comp=N,17nm,1.3s						
BRG				MLR	MLR		
	comp=N,577nm,21.6s						
BRG				MLR	MLR		
	comp=E,422nm,19.2s						
BRG				MLR	MLR		
	comp=Z,549nm,17.8s						
BRG	Berggiesshubel	120.88	330	ePKPdf	PKPdf	07 30 53.0	0.0
BRG	Berggiesshubel	120.88	330	i PKP	PKPdf	07 30 52.2	-0.7
	comp=Z,4.7nm,0.5s						
BRG				i		07 30 53.3	
	comp=Z,110nm,1.3s						
BRG				epPKP	pPKPdf	07 32 22.2	-10
	comp=Z,16nm,1.6s						
BRG				i		07 32 31.5	
	comp=Z,22nm,1.3s						
BRG				i SKP	SKPdf	07 33 51.0	+1.9
	comp=Z,28nm,1.3s						
BRG				i SKS	SKSac	07 37 11.0	-1.2
BRG							
	comp=N,964nm,21.6s						
BRG							
	comp=E,705nm,19.2s						
BRG							
	comp=Z,917nm,17.8s						
PKSM	Moragy	120.96	323	⇓P	PKPdf	07 30 51.9	-1.4
PKSM	Moragy	120.96	323	PKIKP	PKPdf	07 30 53.0	-0.3
PKSM	Moragy	120.96	323	⇓iP	PKPdf	07 30 51.9	-1.4
LAST	Lasithi	120.97	309	eP	PKPdf	07 30 53.1	-0.5
GOGA	Godfrey	120.98	53	ePKPdf	PKPdf	07 30 53.2	-0.5
TREC	Trest	121.03	328	ePKPdf	PKPdf	07 30 53.2	-0.1
TREC				ex	x	07 32 37.0	
TREC				AMS	AMS	08 20 20.0	
	comp=Z,600nm,18.5s						
CLL	Collm	121.07	331	i PKP	PKPdf	07 30 53.0	-0.3
CLL				eSKP		07 33 51.0	
CLL				ePKS		07 34 29.0	
CLL				eSKS	SKSac	07 37 13.0	+0.2
CLL				ePKKP	PKKPbc	07 40 56.0	-3.5
CLL				i PKKP	PKKPbc	07 40 58.7	-0.8
CLL				LR	LR		
	comp=Z,800nm,20.9s						
CLL	Collm	121.07	331	i PKIKP	PKPdf	07 30 53.0	-0.3
CLL				e		07 37 13.0	
CLL				MLR	MLR		
	comp=Z,800nm,20.9s						
CLL	Collm	121.07	331	ePKPdf	PKPdf	07 30 53.6	+0.3
	comp=Z,92nm,1.2s						
CLL				ePP	PP	07 32 30.4	+1.4
CLL				epPKPdf	pPKPdf	07 32 36.3	+3.5
CLL				eSKPdf	SKPdf	07 33 51.2	+1.8
CLL				ePSdf		07 34 35.1	
CLL				ePPP		07 35 05.4	
CLL				eSKSac	SKSac	07 37 12.9	+0.1
CLL				eSKKSac	SKKSac	07 38 45.5	-0.6
CLL				ePKKPbc	PKKPbc	07 40 56.2	-3.3
CLL				ePKKPab	PKKPab	07 40 58.6	-1.2
CLL				eSKSP		07 41 43.3	
CLL				eSKKPdf		07 44 26.9	
CLL				eSS	SS	07 48 31.2	+2.7
CLL				eSSS		07 53 03.7	
CLL	Collm	121.07	331	i PKPdf	PKPdf	07 30 53.0	-0.3
	comp=Z,90nm,1.2s						
CLL				LmV		07 23 00.0	
	comp=Z,800nm,20.9s						
CLL				ePP	PP	07 32 30.0	+1.0
	comp=Z,200nm,17.8s						
CLL				eSKPdf	SKPdf	07 33 51.0	+1.6
CLL				ePSdf		07 34 29.0	
CLL				esPP		07 34 44.0	
	comp=Z,400nm,26.8s						
CLL				eSKSac	SKSac	07 37 13.0	+0.2
CLL				e(SKKSac)		07 38 30.0	
CLL				ePKKPbc	PKKPbc	07 40 56.0	-3.5
CLL				i PKKPab	PKKPab	07 40 58.7	-1.1
	comp=Z,7.0nm,0.8s						
CLL				esSKKSac		07 41 34.0	
CLL				epSP		07 43 42.0	
CLL				eSKKPbc		07 44 08.0	
CLL				eSKKPdf		07 44 28.0	
CLL				esPSKS		07 44 33.0	
CLL				ex	x	07 45 33.0	
CLL				eSS	SS	07 48 24.0	-4.5
CLL				eSSS		07 53 06.0	
SUR	Sutherland	121.07	229	ePKPdf	PKPdf	07 30 55.4	+1.4
SUR	Sutherland	121.07	229	PKKPbc	PKKPbc	07 40 57.4	-1.6
	comp=Z,20nm,0.9s,baz=300,slow=3.5,SNR=14						
PRU	Pruhonice	121.11	329	ePKPdf	PKPdf	07 30 53.0	-0.5
PRU				epPKP	pPKPdf	07 32 33.7	+0.8
PRU				AMS	AMS	08 24 40.0	
	comp=Z,800nm,19.8s						
PRA	Prague	121.12	329	PKPdf	PKPdf	07 30 54.0	+0.5
XOR	Xorichti	121.13	315	eP	PKPdf	07 30 51.9	-1.9
FBE	Freiberg	121.14	330	ePKPdf	PKPdf	07 30 53.7	+0.2
DIVS	Divibare	121.19	321	eP	PKPdf	07 30 53.6	-0.2
SKO	Skopje	121.24	318	eP	PKPdf	07 30 54.1	+0.2
SKO	Skopje	121.24	318	ePKP	PKPdf	07 30 53.0	-0.9
TGUH	Tegucigalpa,Un	121.28	76	ePKPdf	PKPdf	07 30 54.7	0.0
LIT	Litokhoron	121.32	316	eP	PKPdf	07 30 52.8	-1.4
SOP	Sopron	121.37	326	⇑eP	PKPdf	07 30 54.0	0.0
HLG	Helgoland	121.41	336	ePKPdf	PKPdf	07 30 54.3	+0.4
MCWV	Mont Chateau	121.47	45	ePKPdf	PKPdf	07 30 53.9	-0.5
MCWV				eSKPdf	SKPdf	07 33 52.6	+2.0
SIVA	Sivas	121.53	309	eP	PKPdf	07 30 54.5	-0.2
LKR	Lokris	121.55	314	eP	PKPdf	07 30 53.1	-1.5
CONA	Conrad Observa	121.62	326	⇑iPKiKP	PKiKP	07 30 54.3	-0.3
	comp=Z,95nm,1.7s,SNR=27						
KRUS	Krusevo	121.63	317	ePKP	PKPdf	07 30 53.7	-1.0
PLCA	Paso Flores	121.64	143	ePKPdf	PKPdf	07 30 55.3	+0.5
PLCA	Paso Flores	121.64	143	PKIKP	PKPdf	07 30 55.3	+0.5
PLCA						07 32 31.6	
PLCA				pmax	pmax		
	comp=Z,22nm,0.4s						
PLCA				pmax	pmax		
	comp=Z,3.0nm,0.9s						
PLCA				pmax	pmax		
	comp=N,8.0nm,0.9s						
PLCA				pmax	pmax		
	comp=Z,6.0nm,0.6s						
PLCA	Paso Flores	121.64	143	PKP	PKPdf	07 30 55.3	+0.5
	comp=Z,22nm,0.4s,baz=234,slow=2.2,SNR=145						
PLCA				PP	PP	07 32 31.6	-1.4
	comp=Z,2.8nm,0.9s,baz=256,slow=11,SNR=2.3						
PLCA				SKP		07 33 54.4	
	comp=Z,8.0nm,0.9s,baz=220,slow=4.1,SNR=3.6						
PLCA				PKKPbc	PKKPbc	07 40 55.8	-1.4
	comp=Z,5.5nm,0.6s,baz=44,slow=6.6,SNR=12						
NRDL	Niedersach Rie	121.64	333	ePKPdf	PKPdf	07 30 54.9	+0.5
BIA	Bitola	121.73	317	eP	PKPdf	07 30 53.5	-1.4
BIA	Bitola	121.73	317	ePKP	PKPdf	07 30 54.0	-1.0
ELN	Prospectdale	121.77	48	ePKPdf	PKPdf	07 30 54.3	-0.8
ELN				eSKPdf	SKPdf	07 33 53.6	+2.4
FNA	Florina	121.80	317	eP	PKPdf	07 30 53.5	-1.5
ORE	Reay	121.81	345	eP	PKPdf	07 30 54.1	-0.4
LTK	Loutraki	121.82	313	eP	PKPdf	07 30 53.2	-2.0
DID	Didima	121.82	313	eP	PKPdf	07 30 53.4	-1.8
IVA	Berane	121.84	320	⇑iPKP	PKPdf	07 30 54.3	-0.8
AGG	Agios Georgios	121.88	315	eP	PKPdf	07 30 53.2	-2.1
THL	Klokotos Trika	121.88	315	eP	PKPdf	07 30 53.7	-1.6
TANN	Tannenbergstha	121.90	330	ePKPdf	PKPdf	07 30 55.2	+0.2
TANN				ePP	PP	07 32 34.9	+0.3
PVY	Plav	121.92	319	⇑iPKP	PKPdf	07 30 54.3	-0.9
MLA1	Latheron	121.92	345	eP	PKPdf	07 30 54.2	-0.5
PLE	Pljevlja	121.94	320	⇑iPKP	PKPdf	07 30 55.1	-0.2
WERD	Werda	121.96	330	ePKPdf	PKPdf	07 30 55.2	+0.1
WERD				ePP	PP	07 32 34.9	-0.1
CLZ	Clausthal	121.96	333	ePKPdf	PKPdf	07 30 55.6	+0.6
CLZ				ePP	PP	07 32 37.4	+2.5
GUNZ	Gunzen	122.00	330	ePKPdf	PKPdf	07 30 55.6	+0.5
BLA	Blacksburg	122.02	48	ePKPdf	PKPdf	07 30 55.1	-0.5
NKC	Novy Kostel	122.02	330	ePKPdf	PKPdf	07 30 54.9	-0.3
NKC				ex	x	07 32 39.5	
WERN	Wernitzgruen	122.02	330	ePKPdf	PKPdf	07 30 55.4	+0.2
OHR	Ohrid	122.05	317	eP	PKPdf	07 30 54.6	-1.0
OHR	Ohrid	122.05	317	ePKP	PKPdf	07 30 54.5	-1.0
KARN	Karanos	122.08	310	eP	PKPdf	07 30 55.8	0.0
KHC	Kasperske Hory	122.13	329	ePKIKP	PKPdf	07 30 55.0	-0.4
KHC				e		07 32 39.1	
KHC				MLR	MLR		
	comp=Z,900nm,20.1s						
KHC	Kasperske Hory	122.13	329	ePKPdf	PKPdf	07 30 55.0	-0.4
KHC				ex	x	07 31 03.0	
KHC				ex	x	07 32 39.1	
KHC				eSKP		07 33 53.0	
KHC				AMS	AMS	08 20 50.0	
	comp=Z,900nm,20.1s						
MOX	Moxa	122.17	331	ePKP	PKPdf	07 30 55.0	-0.5
	comp=Z,96nm,1.8s						
MOX				e		07 32 32.0	
MOX							
	comp=Z,700nm,22.0s						
MOX	Moxa	122.17	331	ePKPdf	PKPdf	07 30 55.5	0.0
ARSA	Arzberg	122.19	326	i P	PKPdf	07 30 55.3	-0.3
	comp=Z,125nm,2.6s,SNR=9.6						
MSNY	Massena	122.24	37	ePKPdf	PKPdf	07 30 55.0	-0.8
GEC2	GERESS Array S	122.24	328	ePKPdf	PKPdf	07 30 55.6	-0.1
GEC2				ePP	PP	07 32 35.3	-1.7
GERES	GERESS Array B	122.24	328	PKIKP	PKPdf	07 30 55.4	-0.3
GERES						07 32 34.2	
GERES				pmax	pmax		
	comp=Z,28nm,0.5s						
GERES				pmax	pmax		
	comp=Z,8.0nm,0.9s						
GERES				pmax	pmax		
	comp=N,6.0nm,1.0s						
GERES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
GERES	GERESS Array B	122.24	328	PKP	PKPdf	07 30 55.4	-0.3
	comp=Z,28nm,0.5s,baz=71,slow=1.5,SNR=207						
GERES				pPKP	pPKPdf	07 32 34.2	-0.9
	comp=Z,8.1nm,0.9s,baz=66,slow=3.3,SNR=2.4						
GERES				SKP		07 33 53.5	
	comp=Z,6.0nm,1.0s,baz=173,slow=1.1,SNR=4.8						
GERES				PKKPbc	PKKPbc	07 40 51.8	-3.2
	comp=Z,1.2nm,0.6s,baz=200,slow=2.2,SNR=7.0						
GERES				SKKPbc		07 44 03.6	
	comp=Z,0.8nm,0.7s,baz=230,slow=2.4,SNR=5.3						
UPM	Unac-Piva	122.31	320	⇑iPKP	PKPdf	07 30 54.8	-1.2
MEV	Metsovon	122.33	316	eP	PKPdf	07 30 56.7	+0.6
RSC	Scourie	122.35	346	eP	PKPdf	07 30 55.0	-0.6
MANZ	Manzenberg	122.35	330	ePKPdf	PKPdf	07 30 56.2	+0.4
SSPA	Standing Stone	122.40	43	ePKPdf	PKPdf	07 30 55.5	-0.8
JSC	Jenkinsville	122.44	51	ePKPdf	PKPdf	07 30 56.1	-0.4
JSC				eSKPdf	SKPdf	07 33 56.3	+3.7
ROTZ	Rotzenmuhle	122.44	330	ePKPdf	PKPdf	07 30 56.1	+0.1
ROTZ				ePP	PP	07 32 39.8	+1.6
NKY	Niksic	122.44	320	⇑iPKP	PKPdf	07 30 54.4	-1.8
TTG	Podgorica	122.46	319	⇑iPKP	PKPdf	07 30 54.7	-1.6
MVH1	Achvaich	122.47	345	eP	PKPdf	07 30 55.1	-0.7
WET	Wettzell	122.49	329	ePKPdf	PKPdf	07 30 56.4	+0.3
SELA	Sela	122.50	314	eP	PKPdf	07 30 56.3	-0.2
VLX	Vlachokerasia	122.50	313	eP	PKPdf	07 30 55.9	-0.6
MCD	Coleburn Disti	122.52	344	eP	PKPdf	07 30 55.0	-1.0
MOA	Molln	122.54	327	⇑iP	PKPdf	07 30 55.5	-0.7
	comp=Z,89nm,1.6s,SNR=15						
TIR	Tirane	122.57	318	eP	PKPdf	07 30 56.3	-0.2
REB	Eisghbrachaidh	122.58	346	eP	PKPdf	07 30 55.0	-1.1
LONY	Lake Ozonia	122.61	38	ePKPdf	PKPdf	07 30 55.8	-0.7
ULC	Ulcinj	122.69	319	⇑iPKP	PKPdf	07 30 55.6	-1.1
BRY	Bratogost	122.69	320	⇑iPKP	PKPdf	07 30 55.4	-1.3
SISC	Sisak	122.70	324	P	PKPdf	07 30 56.4	-0.2
BUM	Brajici-Budva	122.76	319	⇑iPKP	PKPdf	07 30 55.8	-1.1
PERS	Pernice	122.77	325	i PKPdf	PKPdf	07 30 56.5	-0.3
PERS				ePP	PP	07 32 36.0	-4.6
IBBN	Ibbenburen	122.81	334	ePKPdf	PKPdf	07 30 56.9	+0.3
UBBA	Unterbreizbach	122.82	332	ePKPdf	PKPdf	07 30 56.8	+0.1
GCIS	Gornji Cirnik	122.91	324	ePdiff	Pdif	07 27 31.6	+1.6
GCIS				ePKPdf	PKPdf	07 30 57.3	+0.3
GCIS				ePKSdf		07 34 31.6	
GCIS				e		07 34 57.6	
GCIS				e		07 40 51.5	
GCIS				e		07 43 24.1	
GCIS				e		07 44 38.6	
GCIS				e		07 48 56.9	
MDO	Dochfour	122.94	345	eP	PKPdf	07 30 56.1	-0.6
RRR	Rubha Reidh	122.94	346	eP	PKPdf	07 30 56.1	-0.7
BINY	Binghamton	122.94	41	ePKPdf	PKPdf	07 30 56.6	-0.6
BINY				eSKPdf	SKPdf	07 33 53.9	+0.6
HCY	Herceg Novi	122.94	320	⇑iPKP	PKPdf	07 30 55.8	-1.4
GRA1	Grafenberg Arr	122.98	330	ePKPdf	PKPdf	07 30 57.0	0.0
GRF	Grafenberg Arr	122.98	330	ePKP	PKPdf	07 30 57.1	+0.1
GRF	Grafenberg Arr	122.98	330	ePKIKP	PKPdf	07 30 57.1	+0.1
GRF	Grafenberg Arr	122.98	330	ePKPdf	PKPdf	07 30 57.0	0.0
GRFO	Grafenberg	122.98	330	ePKPdf	PKPdf	07 30 57.3	+0.2
CRES	Cresnjev	123.04	325	ePKPdf	PKPdf	07 30 57.4	+0.1
IGT	Igoumenitsa	123.07	316	eP	PKPdf	07 30 56.7	-0.9
KAC	Achnashellach	123.13	345	eP	PKPdf	07 30 57.0	-0.1
PYL	PYLOS	123.16	312	eP	PKPdf	07 30 56.2	-1.6
NCB	Newcomb	123.16	38	ePKPdf	PKPdf	07 30 56.8	-0.8
NCB				eSKPdf	SKPdf	07 33 55.1	+1.5
OBKA	Obir	123.17	326	⇑iP	PKPdf	07 30 56.2	-1.3
	comp=Z,82nm,1.6s,SNR=11						
COW	Cow Castle Cre	123.18	52	ePKPdf	PKPdf	07 30 58.9	+0.9
COW				eSKPdf	SKPdf	07 33 57.9	+3.9
LKD	Levkas	123.20	315	eP	PKPdf	07 30 57.4	-0.4
STON	Ston	123.25	321	P	PKPdf	07 30 55.6	-2.1
KPL	Plockton	123.36	345	eP	PKPdf	07 30 56.8	-0.7
KSB	Sheil Bridge	123.42	345	eP	PKPdf	07 30 57.0	-0.7
LJU	Ljubljana	123.45	325	i PKPdf	PKPdf	07 30 58.3	+0.2
LJU				i		07 31 05.8	
LJU				ePP	PP	07 32 38.4	-6.7
LJU				e		07 37 34.2	
WTSB	Winterswijk	123.47	335	⇑iPKiKP	PKiKP	07 30 58.2	0.0
	comp=Z,135nm,1.6s						
VLS	Valsamata	123.47	314	eP	PKPdf	07 30 58.0	-0.4
KBA	Koelnbreinsper	123.50	327	⇑iP	PKPdf	07 30 57.5	-0.6
	comp=Z,90nm,1.4s						
MVL	Millersville	123.74	43	ePKPdf	PKPdf	07 30 58.4	-0.5
MVL				e		07 32 40.2	
EBH	Black Hill	123.74	343	eP	PKPdf	07 30 58.3	0.0
ESY	Stoneypath	123.76	343	eP	PKPdf	07 30 58.3	-0.1
JTS	JuntasAbangare	123.77	80	ePKPdf	PKPdf	07 30 58.5	-1.1
JTS				eSKPdf	SKPdf	07 33 56.3	+0.7
JTS	JuntasAbangare	123.77	80	PKIKP	PKPdf	07 30 59.0	-0.6
JTS				pmax	pmax		
	comp=Z,56nm,0.5s						
JTS				pmax	pmax		
	comp=Z,6.0nm,0.7s						
JTS	JuntasAbangare	123.77	80	PKP	PKPdf	07 30 59.0	-0.5
	comp=Z,56nm,0.5s,baz=18,slow=2.7,SNR=82						
JTS				pPKP	pPKPdf	07 32 38.0	-1.1
	comp=Z,5.9nm,0.7s,baz=225,slow=14,SNR=2.3						
KAR1	Arisaig	123.78	345	eP	PKPdf	07 30 57.9	-0.5
VOY	Vojsko	123.81	325	ePKPdf	PKPdf	07 30 57.3	-1.5
VOY				e		07 31 09.8	
VOY				e		07 31 20.4	
ACCN	Adirondack Com	123.82	38	ePKPdf	PKPdf	07 30 57.9	-0.9
ACCN				eSKPdf	SKPdf	07 33 56.1	+1.2
CBN	Corbin	123.83	45	ePKPdf	PKPdf	07 30 58.6	-0.4
CBN				eSKPdf	SKPdf	07 33 56.4	+1.3
KNDS	Knezji Dol	123.83	325	ePKPdf	PKPdf	07 30 58.7	-0.1
KNDS				e		07 40 07.4	
PTCC	Patocco-Chiusa	123.90	326	P	PKPdf	07 30 58.3	-0.6
FUR	Furstenfeldbru	123.93	329	ePKPdf	PKPdf	07 30 59.0	+0.1
URVA	University of	123.98	46	ePKPdf	PKPdf	07 30 59.0	-0.4
EBL	Broad Law	124.01	343	eP	PKPdf	07 30 58.9	+0.1
EAB	Aberfoyle	124.03	344	eP	PKPdf	07 30 58.8	-0.1
GMNA	Gemona	124.04	326	P	PKPdf	07 30 59.1	-0.1
EAU	Auchinoon	124.07	343	eP	PKPdf	07 30 58.8	-0.1
NVL

GCL Cushendall 125.49 344 eP PKPdf 07 31 01.8 +0.1
LHO Holmfirth 125.53 341 eP PKPdf 07 31 01.0 -0.8
DAVOX Davos/Dischmat 125.55 328 PKP PKPdf 07 31 02.8 +0.8
comp=Z,46nm,0.4s,baz=236,slow=1.5,SNR=3.8
DAVOX pPKP pPKPdf 07 32 42.0 +0.5
comp=Z,16nm,0.9s,baz=226,slow=4.9,SNR=2.1
DAVOX SKP 07 34 00.9
comp=Z,15nm,1.1s,baz=201,slow=4.2,SNR=4.0
HRV Adam Dziewonsk 125.59 38 ePKPdf PKPdf 07 31 02.1 -0.2
SNF Seneffe 125.61 335 PKPdf PKPdf 07 31 02.5 +0.4
SNF aPKPdf 07 32 42.4
MABI Malga Bissina 125.67 327 P PKPdf 07 31 01.8 -0.5
GIVF Givet 125.68 334 ePKIKP PKPdf 07 31 02.2 0.0
comp=Z,315nm,1.2s
TIP Timpagrande 125.69 317 ePKPdf PKPdf 07 31 02.5 -0.1
GIM North Isle of 125.71 343 eP PKPdf 07 31 02.3 +0.2
CING Cingoli 125.75 323 P PKPdf 07 31 01.5 -1.1
CDF Champ du Feu 125.76 331 ePKIKP PKPdf 07 31 02.1 -0.3
comp=Z,154nm,1.3s
DOU Dourbes 125.78 334 PKPdf PKPdf 07 31 02.2 -0.2
DOU aPKPdf 07 32 42.2
WES Weston 125.81 38 ePKPdf PKPdf 07 31 02.4 -0.3
WIM Isle of Man 125.90 343 eP PKPdf 07 31 02.7 +0.2
BRYW Bryant College 125.93 39 ePKPdf PKPdf 07 31 03.0 +0.1
BRYW ePP PP 07 33 00.2 -1.5
ECH Echery 125.95 331 PKP PKPdf 07 31 02.7 -0.1
BAIF Baives 125.98 334 ePKIKP PKPdf 07 31 02.9 +0.1
comp=Z,150nm,1.1s
CWF Charnwood Fore 126.01 340 eP PKPdf 07 31 02.6 -0.1
MGR Morigerati 126.02 319 P PKPdf 07 31 01.8 -1.4
TUE Stuetta 126.02 328 P PKPdf 07 31 03.0 0.0
MIDA Miranda 126.07 321 P PKPdf 07 31 03.1 -0.1
GMM Mts of Mourne 126.18 344 eP PKPdf 07 31 03.0 0.0
AQU L'Aquila 126.21 322 ePKPdf PKPdf 07 31 03.8 +0.3
AQU epPKPdf pPKPdf 07 32 44.4 +1.4
AQU L'Aquila 126.21 322 ⇑iP PKPdf 07 31 03.5 0.0
MOF Molkenrain 126.22 331 PKP PKPdf 07 31 03.4 +0.1
MURB Monte Urbino 126.22 323 P PKPdf 07 31 03.6 +0.1
HINF Hinteralfeld 126.38 331 ePKIKP PKPdf 07 31 03.4 -0.2
comp=Z,317nm,1.2s
RFI Roccamonfina 126.42 321 P PKPdf 07 31 03.8 -0.1
WME Myndd Eilian 126.43 342 eP PKPdf 07 31 03.0 -0.5
MENF Mencas 126.46 336 PKP PKPdf 07 31 04.4 +0.7
HAU Haudompre 126.49 331 ePKIKP PKPdf 07 31 03.7 -0.1
comp=Z,272nm,1.1s
HAU eMLR MLR
comp=Z,819nm,21.5s
HAU Haudompre 126.49 331 ePKIKP PKPdf 07 31 03.7 -0.1
HAU MLR MLR
comp=Z,820nm,21.5s
FNVD Fontana Vidola 126.50 325 P PKPdf 07 31 04.6 +0.6
THEF They Montfort 126.51 332 PKP PKPdf 07 31 04.1 +0.2
SBD1 Bryn Du 126.52 341 eP PKPdf 07 31 03.5 -0.2
SBD1 eP 07 31 03.5
WLF1 Llynfaes 126.55 342 eP PKPdf 07 31 03.7 -0.1
YLL Llanberis 126.61 342 eP PKPdf 07 31 03.5 -0.4
SKP1 Kophill 126.67 339 eP PKPdf 07 31 03.8 -0.3
LOMF Lomont 126.72 331 PKP PKPdf 07 31 04.7 +0.4
HLM1 Long Mynd 126.73 341 eP PKPdf 07 31 03.8 -0.3
MEZF Maizieres J'vi 126.75 333 ePKIKP PKPdf 07 31 04.7 +0.4
DMUB Kingscourt 126.75 344 ⇑iP PKPdf 07 31 04.0 -0.1
MTCE Montecelio 126.80 322 P PKPdf 07 31 03.8 -0.8
CSNT Castellina Chi 126.82 324 P PKPdf 07 31 03.6 -1.0
SSW Stow on the Wo 126.84 340 eP PKPdf 07 31 04.9 +0.5
SCLL Scilla 126.85 317 P PKPdf 07 31 04.5 -0.3
VLC Villacollemand 126.92 325 P PKPdf 07 31 04.4 -0.4
MGV Manicaragua 126.97 65 eP PKPdf 07 31 07.1 +1.6
HAE Alders End 127.02 340 eP PKPdf 07 31 04.4 -0.3
BOB Bobbio (Coli) 127.07 327 P PKPdf 07 31 04.4 -0.6
WOL Wolverton 127.16 339 eP PKPdf 07 31 05.0 0.0
DLF Lyons Farm 127.18 344 ⇑iP PKPdf 07 31 05.0 0.0
SWN1 Swindon 127.20 339 eP PKPdf 07 31 05.0 -0.1
MCH1 Michaelchurch 127.21 340 eP PKPdf 07 31 04.6 -0.4
MCH1 eP 07 31 04.6
HTR Trewern Hill 127.23 341 eP PKPdf 07 31 05.1 0.0
ORO Oropa 127.30 328 P PKPdf 07 31 05.2 -0.2
DCN Croghan 127.34 344 ⇑iP PKPdf 07 31 05.4 +0.1
HGH Gray Hill 127.44 340 eP PKPdf 07 31 05.4 -0.1
OG01 Vacheresse 127.49 330 PKP PKPdf 07 31 05.9 +0.1
CABF La Chapelle 127.59 330 ePKIKP PKPdf 07 31 06.6 +0.6
comp=Z,591nm,1.4s
QLNO Quiliano 127.95 327 P PKPdf 07 31 05.9 -0.8
RSL Roselend 127.96 329 PKP PKPdf 07 31 06.7 0.0
LPL La Plagne 128.02 329 ePKIKP PKPdf 07 31 07.3 +0.5
comp=Z,60nm,0.6s
LPG La Plagne 128.02 329 ePKIKP PKPdf 07 31 07.2 +0.4
comp=Z,72nm,0.6s
LOR Lormes 128.19 332 ePKIKP PKPdf 07 31 07.2 +0.1
comp=Z,313nm,1.3s
LOR eMLR MLR
comp=Z,897nm,22.5s
LOR Lormes 128.19 332 ePKIKP PKPdf 07 31 07.2 +0.1
LOR MLR MLR
comp=Z,900nm,22.5s
HEX Exmoor 128.26 340 eP PKPdf 07 31 06.9 -0.2
LCO Las Campanas 128.28 132 ePKPdf PKPdf 07 31 08.6 +0.8
OG05 Jujurieux 128.30 330 PKP PKPdf 07 31 07.2 -0.2
BNI Bardonecchia 128.36 328 ePKPdf PKPdf 07 31 08.0 +0.5
DOI San Damiano 128.43 328 P PKPdf 07 31 06.2 -1.4
SSF Saint Saulge 128.51 332 ePKIKP PKPdf 07 31 08.0 +0.3
comp=Z,344nm,1.4s
MBDF Montbardon 128.53 328 ePKIKP PKPdf 07 31 07.8 0.0
HTL Hartland 128.55 341 eP PKPdf 07 31 07.9 +0.2
GDM Grand'Maison 128.55 329 PKP PKPdf 07 31 08.3 +0.4
SAOF Saorge 128.61 327 PKP PKPdf 07 31 08.3 +0.3
CFAA Coronel Fontan 128.62 136 PKP PKPdf 07 31 08.5 0.0
CFAA pPKP pPKPdf 07 32 47.6 -0.3
CFAA SKPbc 07 33 52.3
CFAA Coronel Fontan 128.62 136 PKhKP 07 30 51.9
comp=Z,0.3nm,0.4s,baz=213,slow=3.7,SNR=5.4
CFAA PKP PKPdf 07 31 08.5 0.0
comp=Z,4.2nm,0.4s,baz=244,slow=2.5,SNR=60
CFAA pPKP pPKPdf 07 32 47.6 -0.3
comp=Z,1.1nm,0.8s,baz=220,slow=3.4,SNR=3.2
CFAA SKPbc 07 33 52.3
comp=Z,2.2nm,0.9s,baz=241,slow=3.8,SNR=9.4
SMF Signal de Mont 128.66 332 ePKIKP PKPdf 07 31 07.9 -0.1
comp=Z,373nm,1.4s
AUTN L'Aution 128.67 327 PKP PKPdf 07 31 08.3 +0.2
AUTN L'Aution 128.67 327 PKP PKPdf 07 31 09.3 +1.2
SURF Saint Ours 128.68 328 PKP PKPdf 07 31 08.9 +0.8
GRN Grenoble 128.72 329 PKP PKPdf 07 31 08.4 +0.2
GRN Grenoble 128.72 329 PKP PKPdf 07 31 08.5 +0.3
PGF Pioggiola 128.72 325 ePKIKP PKPdf 07 31 08.2 -0.1
comp=Z,299nm,1.0s
HYF Humbligny 128.75 333 ePKIKP PKPdf 07 31 08.8 +0.6
SBF Sospel 128.75 327 ePKIKP PKPdf 07 31 08.1 -0.2
comp=Z,240nm,1.1s
TOUF Mont Tournerai 128.75 327 PKP PKPdf 07 31 08.3 0.0
AVF Avril sur Loir 128.78 332 ePKIKP PKPdf 07 31 08.1 -0.1
LUCF Luceram 128.78 327 PKP PKPdf 07 31 08.4 +0.1
DYA Yadsworthy 128.84 340 eP PKPdf 07 31 07.9 -0.3
BCIP Isla Barro Col 128.86 81 ePKPdf PKPdf 07 31 09.1 -0.2
ORIF Oris-en-Rattie 128.87 329 ePKIKP PKPdf 07 31 08.6 +0.1
comp=Z,50nm,0.7s
ORIF eMLR MLR
comp=Z,840nm,20.0s
REVF Revere 128.87 327 PKP PKPdf 07 31 08.3 -0.2
REVF Revere 128.87 327 PKP PKPdf 07 31 08.3 -0.2
MVIF Mont Vial 128.88 327 PKP PKPdf 07 31 08.5 0.0
LDF La Druitiere 128.92 336 ePKIKP PKPdf 07 31 08.5 +0.1
FLN La Foliniere 128.93 336 ePKIKP PKPdf 07 31 08.7 +0.2
comp=Z,278nm,1.0s
FLN eMLR MLR
comp=Z,835nm,20.8s
FLN La Foliniere 128.93 336 ePKIKP PKPdf 07 31 08.7 +0.2
FLN MLR MLR
comp=Z,840nm,20.8s
CALN Calern 129.12 327 PKP PKPdf 07 31 09.0 0.0
OG25 Le Caire 129.14 328 PKP PKPdf 07 31 08.8 -0.2
BGF Bois d'Agland 129.19 332 ePKIKP PKPdf 07 31 09.0 0.0
comp=Z,95nm,0.8s
PLDF La Plantade 129.25 331 PKP PKPdf 07 31 09.9 +0.7
ATAH Atahualpa 129.25 102 PKP PKPdf 07 31 11.3 +1.3
comp=Z,123nm,0.9s,baz=264,slow=1.4,SNR=54
ATAH SKPbc 07 33 58.3
comp=Z,271nm,0.8s,baz=235,slow=1.9,SNR=61
GRR Gorron 129.38 336 ePKIKP PKPdf 07 31 09.5 +0.2
comp=Z,210nm,1.1s
FRF La Foret Royal 129.38 327 ePKIKP PKPdf 07 31 09.4 -0.1
comp=Z,106nm,0.8s
OG26 St.-Nazaire-De 129.40 329 PKP PKPdf 07 31 10.3 +0.8
AGO Saint Agoulin 129.43 332 PKP PKPdf 07 31 10.3 +0.8

STOF St-Etienne Org 129.48 328 PKP PKPdf 07 31 10.0 +0.3
CRQ2 Rosemanowes 2 129.49 341 eP PKPdf 07 31 09.4 -0.1
CCA1 Carnmenellis 129.49 341 eP PKPdf 07 31 09.5 0.0
VIVF Saint-Julien-l 129.53 330 ePKIKP PKPdf 07 31 09.9 +0.2
comp=Z,216nm,1.3s
CMA1 Manaccan 129.54 341 eP PKPdf 07 31 09.7 +0.1
COLF Collangettes 129.54 331 PKP PKPdf 07 31 10.3 +0.6
LMR La Mourre 129.61 327 ePKIKP PKPdf 07 31 09.8 -0.1
comp=Z,294nm,1.3s
CPZ Penzance 129.63 341 eP PKPdf 07 31 09.3 -0.5
TAVF Tavernes 129.66 328 PKP PKPdf 07 31 10.0 0.0
SMRF Simiane la Rot 129.67 328 ePKIKP PKPdf 07 31 10.0 0.0
comp=Z,330nm,1.3s
TCF Toulx Ste Croi 129.68 332 ePKIKP PKPdf 07 31 10.3 +0.3
comp=Z,324nm,1.3s
VILF Villemus 129.69 328 PKP PKPdf 07 31 10.5 +0.5
PYM Petit Puy Mans 129.71 331 PKP PKPdf 07 31 10.7 +0.7
PUYF Puyloubier 129.91 328 PKP PKPdf 07 31 10.4 -0.1
VERF Verneugheol 129.95 332 PKP PKPdf 07 31 11.3 +0.8
LBL Lubilhac 129.97 331 PKP PKPdf 07 31 11.5 +1.0
PRAF Pradon 130.01 328 PKP PKPdf 07 31 11.3 +0.6
TREF Trevaresse 130.02 328 PKP PKPdf 07 31 11.3 +0.6
BERF Bertagne 130.06 327 PKP PKPdf 07 31 11.3 +0.5
SGMF Saint Gilles 130.16 337 ePKIKP PKPdf 07 31 10.4 -0.4
comp=Z,110nm,0.7s
GELF Grande-Etoile 130.16 328 PKP PKPdf 07 31 10.8 -0.2
VSL Villasalto 130.34 321 ePKPdf PKPdf 07 31 11.7 +0.3
ROSF Rostrenen 130.36 338 ePKIKP PKPdf 07 31 11.1 -0.1
comp=Z,39nm,0.7s
LASF Ste Croix 130.49 329 ePKIKP PKPdf 07 31 11.4 -0.2
comp=Z,238nm,1.2s
MFF Saint Martin d 130.49 334 ePKIKP PKPdf 07 31 11.6 +0.1
comp=Z,170nm,1.1s
QUIF Quistinic 130.67 338 ePKIKP PKPdf 07 31 11.7 -0.1
comp=Z,48nm,0.7s
LCHF La Chataignera 130.70 335 PKP PKPdf 07 31 12.1 +0.2
RJF Les Rejaudoux 130.74 332 ePKIKP PKPdf 07 31 11.9 -0.1
comp=Z,26nm,0.7s
RJF eMLR MLR
comp=Z,918nm,23.0s
RJF Les Rejaudoux 130.74 332 ePKIKP PKPdf 07 31 11.9 -0.1
RJF MLR MLR
comp=Z,920nm,23.0s
CAF Calviac 130.76 331 ePKIKP PKPdf 07 31 12.0 -0.1
LFF La Frestale 131.38 332 ePKIKP PKPdf 07 31 13.3 +0.1
MTLF Montolieu 131.85 330 ePKIKP PKPdf 07 31 14.2 0.0
MOAC Moa 131.85 65 eP PKPdf 07 31 13.7 -1.1
LRDF Laroque-de-Fa 131.98 329 PKP PKPdf 07 31 14.6 +0.2
EJON La Jonquera 132.15 329 PKP PKPdf 07 31 13.5 -1.3
FILF Fillols 132.24 329 PKP PKPdf 07 31 15.2 +0.3
KEST Kesra 132.51 317 PKP PKPdf 07 31 15.8 +0.2
comp=Z,8.3nm,0.5s,baz=340,slow=0.8,SNR=18
KEST SKPbc SKPbc 07 34 04.9 +1.1
comp=Z,43nm,1.2s,baz=301,slow=1.4,SNR=16
VALF Valcebollere 132.63 329 PKP PKPdf 07 31 16.3 +0.6
MLS Moulis 132.69 330 PKP PKPdf 07 31 15.8 0.0
EPF Esparros 133.00 331 ePKIKP PKPdf 07 31 16.4 0.0
LABF Labassere 133.12 331 PKP PKPdf 07 31 17.4 +0.8
RESF Ens 133.17 331 PKP PKPdf 07 31 18.0 +1.3
EMIR Miracle 133.24 329 PKP PKPdf 07 31 13.0 -3.8
VIEF Viey 133.27 331 PKP PKPdf 07 31 18.0 +1.1
CMAH Djebel Manchou 133.28 319 P PKPdf 07 31 18.5 +1.4
REYF Montagne du Re 133.33 332 PKP PKPdf 07 31 17.7 +0.7
ABSA Djebel Ababsia 133.45 319 P PKPdf 07 31 19.5 +2.1
ATE Arette 133.46 332 PKP PKPdf 07 31 17.8 +0.6
ORDF Ordiarp 133.47 332 PKP PKPdf 07 31 17.4 +0.2
ETSF Etsaut 133.54 331 ePKIKP PKPdf 07 31 17.4 0.0
comp=Z,96nm,0.7s
CAEH 'Ain El Ouahch 133.56 320 P PKPdf 07 31 18.5 +0.9
LARF Larrau 133.63 332 PKP PKPdf 07 31 18.5 +1.0
SJPF Ste Jean 133.69 332 ePKIKP PKPdf 07 31 17.7 +0.1
comp=Z,44nm,0.6s
EALK Alkurruntz 133.73 333 PKP PKPdf 07 31 15.1 -2.6
CKFL Kef-Lekhel 133.87 320 P PKPdf 07 31 20.5 +2.3
CASM Ain Smara 134.10 320 P PKPdf 07 31 21.0 +2.4
CTEI Djebel Teioual 134.28 319 P PKPdf 07 31 20.5 +1.5
DFRA Djebel Bou Aff 134.32 320 P PKPdf 07 31 21.5 +2.5
ROSC El Rosal 134.43 87 PKhKP 07 31 17.1
comp=Z,80nm,0.4s,baz=86,slow=1.8,SNR=22
ROSC PKP PKPdf 07 31 20.1 +0.2
comp=Z,80nm,0.4s,baz=326,slow=3.6,SNR=34
ROSC PP PP 07 33 59.0 +1.2
comp=Z,23nm,1.2s,baz=277,slow=12,SNR=6.8
ROSC SKP 07 34 16.2
comp=Z,36nm,1.0s,baz=280,slow=6.1,SNR=5.4
ECRI Cripan 134.67 333 PKP PKPdf 07 31 19.7 +0.2
SET Setif 134.84 320 P PKPdf 07 31 20.0 0.0
CMER Merouana 134.87 319 P PKPdf 07 31 25.0 +4.9
CKHR Kef el Ahmar 134.88 320 P PKPdf 07 31 22.0 +1.9
SDDR Presa de Saban 135.62 66 ePKPdf PKPdf 07 31 16.3 -5.6
SDDR eSKPbc SKPbc 07 34 17.6 +3.3
AKET Djebel Ketaf 135.89 321 P PKPdf 07 31 22.7 +0.7
ABA Alger-Bouzarea 135.93 323 P PKPdf 07 31 24.0 +2.0
ADJB Djebel Djouab 136.10 322 P PKPdf 07 31 23.2 +0.8
LPAZ La Paz 136.28 118 PKP PKPdf 07 31 24.9 +1.7
LPAZ SKP 07 34 20.6
LPAZ La Paz 136.28 118 PKhKP 07 31 11.1
comp=Z,9.3nm,0.6s,baz=285,slow=3.2,SNR=35
LPAZ PKP PKPdf 07 31 24.9 +1.7
comp=Z,46nm,0.6s,baz=278,slow=1.6,SNR=26
LPAZ SKP 07 34 20.6
comp=Z,12nm,0.8s,baz=159,slow=0.8,SNR=5.4
EMHD Djebel Mahouad 136.37 322 P PKPdf 07 31 23.0 +0.1
ESDC Sonseca Array 137.65 331 PKP PKPdf 07 31 25.6 +0.5
ESDC PP PP 07 34 14.9 -1.1
ESDC SKKPbc 07 43 11.0
ESDC Sonseca Array 137.65 331 PKhKP 07 31 15.8
comp=Z,0.8nm,0.4s,baz=17,slow=3.2,SNR=10
ESDC PKP PKPdf 07 31 25.6 +0.5
comp=Z,3.1nm,0.4s,baz=4.5,slow=2.8,SNR=13
ESDC PP PP 07 34 14.9 -1.1
comp=Z,24nm,1.1s,baz=28,slow=6.6,SNR=12
ESDC SKKPbc 07 43 11.0
comp=Z,12nm,1.0s,baz=230,slow=4.0,SNR=13
ESLA Sonseca Array 137.65 331 ePKPdf PKPdf 07 31 18.5 -6.6
EANR 'Ain N'Sour 137.66 323 P PKPdf 07 31 26.5 +1.3
PCAB Cabril 137.75 337 ePKPdf PKPdf 07 31 26.2 +1.0
PCAB Cabril 137.75 337 ePP PP 07 34 19.1 +2.7
MVO Moncorvo 137.81 336 ePKPdf PKPdf 07 31 16.5 -8.9
MVO Moncorvo 137.81 336 ePP PP 07 34 20.8 +4.0
ETRT Tiaret 137.91 323 P PKPdf 07 31 26.7 +1.0
PAB San Pablo 137.94 332 ePKPdf PKPdf 07 31 26.3 +0.7
SDV Santo Domingo 137.95 81 PKP PKPdf 07 31 27.1 +0.7
SDV pPKP pPKPdf 07 33 05.7 -0.3
SDV SKPbc SKPbc 07 34 25.0 +3.6
SDV Santo Domingo 137.95 81 PKhKP 07 31 16.3
comp=Z,24nm,0.4s,baz=136,slow=4.7,SNR=47
SDV PKP PKPdf 07 31 27.1 +0.7
comp=Z,274nm,0.8s,baz=284,slow=5.1,SNR=84
SDV pPKP pPKPdf 07 33 05.7 -0.3
comp=Z,40nm,0.9s,baz=69,slow=1.1,SNR=4.0
SDV SKPbc SKPbc 07 34 25.0 +3.6
comp=Z,45nm,0.9s,baz=145,slow=4.2,SNR=9.5
PVRL Vila Real 138.00 336 ePKPdf PKPdf 07 31 19.4 -6.3
PVRL Vila Real 138.00 336 ePP PP 07 34 21.8 +3.9
PVIS Viseu 138.54 336 ePKPdf PKPdf 07 31 19.6 -7.1
PVIS Viseu 138.54 336 ePP PP 07 34 23.6 +2.3
MTE Manteigas 138.66 335 ePKPdf PKPdf 07 31 18.7 -8.2
MTE Manteigas 138.66 335 ePP PP 07 34 22.4 +0.4
MTE Manteigas 138.66 335 ePKPdf PKPdf 07 31 20.3 -6.6
ENIJ Nijar 138.82 327 PKP PKPdf 07 31 27.0 -0.3
PCBR Castelo Branco 139.10 335 ePKPdf PKPdf 07 31 22.7 -5.1
PCBR epPKPdf pPKPdf 07 33 10.0 +2.7
PCBR Castelo Branco 139.10 335 ePP PP 07 34 24.9 +0.2
CPUP Villa Florida 139.35 139 PKP PKPdf 07 31 29.1 +0.5
CPUP SKPbc SKPbc 07 34 25.6 +0.6
CPUP PKKP 07 40 53.8
CPUP Villa Florida 139.35 139 PKIKP PKPdf 07 31 29.2 +0.6
CPUP 07 34 25.6
CPUP Villa Florida 139.35 139 PKhKP 07 31 19.4
comp=Z,4.1nm,0.5s,baz=248,slow=3.2,SNR=21
CPUP PKP PKPdf 07 31 29.1 +0.5
comp=Z,20nm,0.6s,baz=217,slow=1.0,SNR=24
CPUP SKPbc SKPbc 07 34 25.6 +0.6
comp=Z,11nm,0.6s,baz=262,slow=2.4,SNR=9.6
CPUP PKKP 07 40 53.8
comp=Z,1.0nm,0.4s,baz=80,slow=0.6,SNR=7.6
PTOM Tomar 139.68 336 ePKPdf PKPdf 07 31 21.8 -7.0
PTOM epPKPdf pPKPdf 07 33 09.3 +0.9
PTOM Tomar 139.68 336 ePP PP 07 34 26.7 -1.5
PESTR Estremoz 139.96 334 ePKPdf PKPdf 07 31 28.3 -1.1
PESTR Estremoz 139.96 334 ePP PP 07 34 27.4 -2.6
ALMR Almeirim 140.14 335 eP PKPdf 07 31 27.7 -1.9

PBAR Barrancos 140.29 333 ePKPdf PKPdf 07 31 24.0 -6.0
PBAR Barrancos 140.29 333 ePP PP 07 34 27.7 -4.3
EVO Evora 140.42 334 ePKIKP PKPdf 07 31 29.7 -0.5
comp=Z,259nm,1.5s
EVO eMLR MLR
comp=Z,680nm,21.4s
EVO Evora 140.42 334 ePKPdf PKPdf 07 31 23.4 -6.8
EVO epPKPdf pPKPdf 07 33 09.5 -0.3
EVO Evora 140.42 334 ePP PP 07 34 27.9 -4.9
SJG San Juan 140.54 66 ePKPdf PKPdf 07 31 23.2 -7.8
SJG PKP PKPdf 07 31 31.4 +0.4
SJG SKPbc SKPbc 07 34 29.2 +0.9
SJG San Juan 140.54 66 i PKHKP 07 31 23.1
SJG 07 31 31.4
SJG 07 34 29.2
SJG pmax pmax
comp=Z,62nm,0.8s
SJG pmax pmax
comp=Z,67nm,0.5s
SJG pmax pmax
comp=N,208nm,1.2s
SJG San Juan 140.54 66 PKhKP 07 31 23.1
comp=N,62nm,0.8s,baz=75,slow=1.6,SNR=17
SJG PKP PKPdf 07 31 31.4 +0.4
comp=N,67nm,0.5s,baz=18,slow=6.4,SNR=16
SJG SKPbc SKPbc 07 34 29.2 +0.9
comp=N,208nm,1.2s,baz=306,slow=2.2,SNR=21
PMAFR Mafra 140.60 336 ePKPdf PKPdf 07 31 30.3 -0.2
PMAFR Mafra 140.60 336 ePP PP 07 34 30.7 -3.1
LIS Lisbon 140.75 336 eP PKPdf 07 31 27.6 -3.2
CPD Cerro la Pandu 140.78 66 ePKPdf PKPdf 07 31 23.1 -8.3
PBEJ Beja 140.78 334 ePKPdf PKPdf 07 31 26.0 -4.9
PBEJ Beja 140.78 334 ePP PP 07 34 29.7 -5.3
PVAQ Vaqueiros 141.23 333 ePKPdf PKPdf 07 31 26.8 -4.9
SFS San Fernando 141.27 331 ePKPdf PKPdf 07 31 30.1 -1.7
PBDV Barranco-do-Ve 141.46 333 ePKPdf PKPdf 07 31 28.5 -3.6
PBDV Barranco-do-Ve 141.46 333 ePP PP 07 34 31.1 -8.0
PTEO Sao Teotonio 141.56 334 ePKPdf PKPdf 07 31 28.1 -4.2
PTEO Sao Teotonio 141.56 334 ePP PP 07 34 31.7 -7.9
MORF Marmelete 141.72 334 ePKPdf PKPdf 07 31 28.9 -3.7
SIV San Ignacio 142.51 122 PKhKP 07 31 30.2
comp=N,40nm,0.5s,baz=247,slow=4.2,SNR=259
SIV PKP PKPdf 07 31 34.4 -0.2
comp=N,35nm,0.5s,baz=223,slow=4.4,SNR=40
SIV SKPbc SKPbc 07 34 36.2 +2.9
comp=N,18nm,0.8s,baz=325,slow=3.3,SNR=4.7
SIV SKKPab 07 42 50.0
comp=N,6.2nm,0.9s,baz=87,slow=6.3,SNR=10
MDT Midelt 143.21 325 SKKPab 07 42 50.2
comp=N,10nm,1.1s,baz=235,slow=4.2,SNR=8.7
PCRV Puerto La Cruz 143.70 78 PKP PKPdf 07 31 33.9 -2.8
comp=N,354nm,0.6s,baz=247,slow=1.5,SNR=204
PSCM Serra do Cume 144.99 358 ePKP PKPdf 07 31 39.2 +1.0
LZG Guadaloupe-1 145.12 67 eP PKPdf 07 31 39.7 +0.7
HMG Houelmont 145.24 67 eP PKPdf 07 31 39.5 +0.2
DOG Dongo Capester 145.30 67 eP PKPdf 07 31 40.2 +0.9
TBG Guadaloupe-3 145.32 67 eP PKPdf 07 31 39.7 +0.3
MGG Marie-Galante 145.61 67 eP PKPdf 07 31 40.4 +0.5
DEG La Desirade 145.72 66 ⇓eP PKPdf 07 31 40.2 +0.2
PSET Sete Cidades 145.79 356 ePKP PKPab 07 31 42.0 -0.1
CMLA Cha da Macela 145.83 356 ePKP PKPdf 07 31 41.3 +1.6
CMLA Cha da Macela 145.83 356 ePKPab PKPab 07 31 42.4 +0.1
PDA Ponta Delgada 145.86 356 ePKP PKPab 07 31 44.0 +1.6
FDF Fort de France 146.10 69 eP PKPdf 07 31 41.6 +0.9
GRW Mount Saint Ca 146.23 73 eP PKPdf 07 31 41.0 0.0
GRGR Grenville 146.25 73 ePKPdf PKPdf 07 31 40.6 -0.5
SVB Belmont 146.38 71 eP PKPab 07 31 43.8 -1.3
MVM Montagne Vaucl 146.39 69 eP PKPdf 07 31 41.3 +0.1
SVV Soufriere Volc 146.40 71 eP PKPab 07 31 44.5 -0.7
FCV Fort Charlotte 146.41 72 eP PKPab 07 31 44.1 -1.1
TCE Chacachacare 146.42 76 eP PKPdf 07 31 42.2 +0.9
SSV Crater Summit 146.42 71 eP PKPab 07 31 44.2 -1.1
SFAN Fancy Village 146.43 71 eP PKPab 07 31 45.5 +0.2
SLB Belfond 146.44 70 eP PKPdf 07 31 43.2 +1.8
SLW Petit Monier 146.49 70 eP PKPdf 07 31 43.1 +1.7
BHS Barnard House 146.49 71 eP PKPab 07 31 45.2 -0.3
PSMN Pico do Norte, 146.55 355 ePKP PKPab 07 31 43.7 -1.4
TRN Trinidad (W) 146.77 76 eP PKPab 07 31 44.5 -2.3
TPP Pointe-a-Pierr 146.78 77 eP PKPdf 07 31 43.5 +1.6
TBH Brigand Hill 147.12 76 eP PKPab 07 31 46.4 -1.8
TPR Prospect 147.28 75 eP PKPbc 07 31 45.5 -0.3
BBGH Gun Hill 148.01 71 ePKPab PKPab 07 31 50.5 -1.2
PMPS Porto Santo 148.47 340 ePKPdf PKPdf 07 31 45.3 +1.1
TOA0 Torodi Ar. Sit 148.54 289 ePKPdf PKPdf 07 31 44.2 -0.6
TOA0 ePKPbc PKPbc 07 31 48.8 -0.1
TOA0 ePKPab PKPab 07 31 54.5 +0.6
TORD Torodi Ar. Bea 148.54 289 PKP PKPdf 07 31 44.5 -0.3
comp=N,132nm,0.4s,baz=60,slow=0.7,SNR=631
TORD PKPbc PKPbc 07 31 48.5 -0.4
comp=N,130nm,0.3s,baz=78,slow=2.1,SNR=1179
TORD pPKPbc pPKPbc 07 33 27.1 -0.4
comp=N,37nm,0.9s,baz=122,slow=1.6,SNR=5.4
TORD PKKP 07 40 36.8
comp=N,0.6nm,0.4s,baz=289,slow=1.6,SNR=7.2
PMAR Madeira 148.97 341 ePKPdf PKPdf 07 31 46.6 +1.6
CAM4 Nova Friburgo 150.88 153 ⇑iP PKPdf 07 31 49.5 +1.2
CAM4 i 07 31 55.1
CAM4 i 07 32 04.0
EOSO Osorio 152.61 334 PKP PKPdf 07 31 49.4 -1.4
CCAN Las Canadas 152.92 336 PKP PKPdf 07 31 52.9 +1.7
BDFB Brasilia 152.96 135 PKIKP PKPdf 07 31 52.6 +1.1
BDFB pmax pmax
comp=Z,21nm,0.9s
BDFB pmax pmax
comp=Z,44nm,0.4s
BDFB Brasilia 152.96 135 PKP PKPdf 07 31 52.6 +1.0
comp=Z,21nm,0.9s,baz=202,slow=1.7,SNR=52
BDFB PKPbc PKPbc 07 31 59.2 0.0
comp=Z,44nm,0.4s,baz=243,slow=3.9,SNR=190
CAM3 Guarapari 153.21 155 ⇑iP PKPdf 07 31 52.9 +1.1
CAM3 i 07 31 52.8
CAM3 i 07 32 00.4
CAM3 i 07 32 02.0
CAM3 i 07 32 13.0
CAM3 i 07 32 36.4
DBIC Dimbokro 156.10 278 ePKPdf PKPdf 07 31 55.6 -0.3
DBIC ePKPab PKPab 07 32 26.3 +0.4
DBIC Dimbokro 156.10 278 PKIKP PKPdf 07 31 55.5 -0.5
DBIC 07 32 26.3
DBIC pmax pmax
comp=Z,22nm,1.1s
DBIC pmax pmax
comp=Z,57nm,0.9s
DBIC Dimbokro 156.10 278 PKP PKPdf 07 31 55.5 -0.5
comp=Z,22nm,1.1s,baz=62,slow=3.3,SNR=13
DBIC PKPab PKPab 07 32 26.3 +0.4
comp=Z,56nm,0.9s,baz=76,slow=5.4,SNR=15
LIC Lamto 156.32 277 ⇑iPKIKP PKPdf 07 31 55.5 -0.7
comp=Z,200nm,1.4s
LIC eMLR MLR
comp=Z,719nm,21.2s
LIC Lamto 156.32 277 ⇑iPKPdf PKPdf 07 31 55.5 -0.7
LIC LR LR
comp=Z,360nm,21.3s
RCBR Riachuelo 168.20 142 ePKPdf PKPdf 07 32 07.6 -0.4

*IDC **21** 07:13:02.4±1.4, 72.18N×043E, h0km, mb3.3/4, mb1 3.7/8, mb1mx3.5/24, mbtmp3.5/8, ML3.1/4, MS3.0/4, Ms1 3.0/4, ms1mx2.7/36, Error ellipse: s-maj=35.1km s-min=21.5km az=41.0*
*ISCJB **21** 07:13:03.6±1.1, 72.16N±009×14E±03, h10km, mb3.2/4, Error ellipse: s-maj=15.9km s-min=11.7km az=23.5*
*BER **21** 07:13:04.9±3.5, 72.04N×084E, h0km±127km, ML2.2(NAO)*
*NEIC **21** 07:13:04.5±0.9, 72.18N×080E, h10km, Error ellipse: s-maj=14.8km s-min=11.4km az=87.0*
*NAO **21** 07:13:06.1±11.0, 71.98N×143E, h3km±120km, ML2.2*
ISC 21 07:13:07.0±1.1, 7208N±009×17E±02, h10km, n14, σ0=98/16, mb3.2/4, Norwegian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPA0	Spitsbergen Ar	7.16	25	Pn	Pn	07 14 51.4	-0.1
	baz=211,slow=14						
ARA0	ARCESS Array S	8.21	97	Pn	Pn	07 15 06.4	+0.5
	baz=293,slow=12						
ARA0				Sn	Sn	07 16 38.2	-0.4
	baz=305,slow=22						
ARCES	ARCESS Array B	8.21	97	Pn	Pn	07 15 07.3	+1.4
	0.6nm,0.3s,baz=302,slow=12,SNR=22						
ARCES				Sn	Sn	07 16 37.1	-1.5
	0.2nm,0.3s,baz=280,slow=16,SNR=3.2						

ARCES LR LR 07 18 13.7
comp=Z,54nm,20.9s,baz=181,slow=36
NOA NORSAR Array B 11.69 157 Pn **Pn 07 15 53.8 +0.2**
0.2nm,0.3s,baz=326,slow=13,SNR=2.7
NOA LR LR 07 20 14.3
comp=Z,79nm,18.1s,baz=350,slow=36
HFS Hagfors 12.90 152 Pn **Pn 07 16 10.1 0.0**
baz=324,slow=9.3
HFS Hagfors 12.90 152 Pn **Pn 07 16 09.4 -0.7**
0.2nm,0.3s,baz=341,slow=8.0,SNR=5.0
HFS LR LR 07 21 01.5
comp=Z,78nm,18.1s,baz=126,slow=36
FINES FINESS Array B 14.21 126 Pn **Pn 07 16 29.5 +1.6**
FINES LR LR 07 21 35.7
FINES FINESS Array B 14.21 126 Pn **Pn 07 16 29.5 +1.6**
0.1nm,0.3s,baz=329,slow=7.1,SNR=3.7
FINES LR LR 07 21 35.7
comp=Z,80nm,21.0s,baz=13,slow=35
EKA Eskdalemuir Ar 16.94 190 Pn **Pn 07 17 03.6 -0.1**
0.1nm,0.3s,baz=4.2,slow=11,SNR=3.4
GERES GERESS Array B 23.95 160 P **P 07 18 21.1 +0.1**
1.3nm,0.8s,mb3.4,baz=354,slow=8.3,SNR=8.3
AKASG Malin Array Be 24.71 135 P **P 07 18 28.2 +0.4**
0.2nm,0.3s,mb3.1,baz=340,slow=10,SNR=3.7
YKA Yellowknife Ar 38.88 318 P **P 07 20 25.6 -6.2**
YKA Yellowknife Ar 38.88 318 P **P 07 20 25.6 -6.2**
0.3nm,1.0s,mb3.0,baz=24,slow=9.1,SNR=4.3
TORD Torodi Ar. Bea 58.91 180 P **P 07 23 03.5 -2.3**
0.2nm,0.5s,mb3.4,baz=10,slow=6.0,SNR=2.2

*IDC **21** 07:14:13.3±0.7, 1744S×7271W, h0km, mb4.5/16, mb1 4.5/18, mb1mx4.5/22, mbtmp4.4/18, ML4.4/2, MS4.2/5, Ms1 4.2/5, ms1mx3.7/39, Error ellipse: s-maj=22.6km s-min=15.0km az=52.0*
*BJI **21** 07:14:17.9, 1750S×7280W, h30km, mB5.6, Ms5.6, Msz5.0*
*NEIC **21** 07:14:18.0±0.3, 1748S×7277W, mb4.9/30, Error ellipse: s-maj=10.0km s-min=6.5km az=40.0*
*ISCJB **21** 07:14:18.8±1.5, 1747S±006×7279W±008, h56km±13km, mb4.7/41, MS4.7/2, Error ellipse: s-maj=14.8km s-min=8.3km az=147.7*
ISC 21 07:14:19.7±1.3, 1751S±006×7272W±008, h46km±11km, h32km±1.1km:pP-P, n79, σ0°96/64, mb4.7/41, MS4.7/2, 1C, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
ARE	**Arequipa**	**1.56**	**49**	⇑*i*P		**Pn**	**07 14 44.5**	**-0.5**
ARE				*e*S		**Sn**	**07 15 06.0**	**+1.9**
LPAZ	**La Paz**	**4.55**	**75**	*e*Pn		**Pn**	**07 15 29.2**	**+3.2**
LPAZ	**La Paz**	**4.55**	**75**	Pn		**Pn**	**07 15 29.3**	**+3.2**
	6.0nm,0.3s,baz=255,slow=9.9,SNR=119							
LPAZ				LR		LR	07 17 30.1	
	comp=Z,1μm,19.5s,baz=147,slow=43							
SIV	**San Ignacio**	**11.26**	**84**	Pn		**Pn**	**07 16 56.5**	**-1.4**
	2.7nm,0.3s,baz=267,slow=13,SNR=67							
ATAH	**Atahualpa**	**11.82**	**331**	Pn		**Pn**	**07 17 06.4**	**+0.7**
	0.3nm,0.3s,baz=90,slow=4.0,SNR=2.4							
ATAH				LR		LR	07 21 57.4	
	comp=Z,1μm,18.0s,baz=264,slow=40							
CFAA	**Coronel Fontan**	**14.61**	**165**	LR		LR	07 22 53.1	
	comp=Z,34nm,19.0s,baz=340,slow=35							
CPUP	**Villa Florida**	**16.75**	**124**	Pn		**Pn**	**07 18 09.6**	**-1.5**
	0.2nm,0.3s,baz=314,slow=15,SNR=6.6							
CPUP				LR		LR	07 25 15.4	
	comp=Z,297nm,20.4s,baz=284,slow=40							
ROSC	**El Rosal**	**22.28**	**356**	P		**P**	**07 19 12.9**	**-0.1**
	8.1nm,0.9s,mb4.1,baz=142,slow=10,SNR=10							
TRQA	**Tornquist**	**22.54**	**157**	*e*P		**P**	**07 19 15.5**	**-0.1**
	60nm,1.3s,mb4.9							
TRQA				*e*pP			07 19 24.1	
PLCA	**Paso Flores**	**23.22**	**176**	*e*P		**P**	**07 19 22.8**	**0.0**
	26nm,0.9s,mb4.7							
PLCA				*e*pP			07 19 31.8	
PLCA				*e*sP		sP	07 19 38.1	-1.0
PLCA	**Paso Flores**	**23.22**	**176**	P		**P**	**07 19 22.7**	**-0.1**
	12nm,0.8s,mb4.4,baz=345,slow=10,SNR=24							
BDFB	**Brasilia**	**23.74**	**89**	P		**P**	**07 19 27.0**	**-1.0**
	28nm,0.9s,mb4.7,baz=252,slow=18,SNR=56							
SDV	**Santo Domingo**	**26.30**	**5**	*e*P		**P**	**07 19 50.6**	**-0.5**
	24nm,1.0s,mb4.7							
SDV	**Santo Domingo**	**26.30**	**5**	P		**P**	**07 19 50.8**	**-0.3**
	12nm,0.9s,mb4.4,baz=241,slow=6.1,SNR=15							
PCRV	**Puerto La Cruz**	**28.64**	**17**	P		**P**	**07 20 12.1**	**0.0**
	13nm,0.9s,mb4.7,baz=198,slow=6.1,SNR=3.5							
GRGR	**Grenville**	**31.41**	**21**	*e*P		**P**	**07 20 35.8**	**-0.8**
	128nm,0.9s,mb5.8							
RCBR	**Riachuelo**	**37.79**	**77**	*e*P		**P**	**07 21 32.9**	**+1.0**
	76nm,1.1s,mb5.3							
RCBR				*e*pP		pP	07 21 45.6	+1.5
TKL	**Tuckaleechee C**	**53.90**	**349**	P		**P**	**07 23 36.8**	**-1.6**
	3.5nm,0.9s,mb4.3,baz=173,slow=7.7							
TKL				LR		LR	07 48 37.2	
	comp=Z,243nm,18.1s,MS4.3,baz=299,slow=38							
WVT	**Waverly**	**55.23**	**345**	*e*P		**P**	**07 23 46.1**	**-2.0**
	2.6nm,0.8s,mb4.3							
TXAR	**Lajitas Array**	**55.33**	**327**	P		**P**	**07 23 48.5**	**-0.4**
TXAR	**Lajitas Array**	**55.33**	**327**	P		**P**	**07 23 48.5**	**-0.4**
	0.9nm,0.7s,mb3.9,baz=150,slow=7.7,SNR=9.8							
MIAR	**Mount Ida**	**55.44**	**339**	*e*P		**P**	**07 23 48.8**	**-0.8**
	5.9nm,0.9s,mb4.6							
WCI	**Wyandotte Cave**	**56.88**	**347**	*e*P		**P**	**07 23 58.7**	**-1.1**
	14nm,0.7s,mb5.1							
USIN	**University of**	**56.94**	**346**	*e*P		**P**	**07 23 58.9**	**-1.3**
	18nm,0.8s,mb5.2							
USIN				*e*pP		pP	07 24 07.9	-5.2
SIUC	**Southern Illin**	**57.08**	**344**	*e*P		**P**	**07 24 00.4**	**-0.8**
	8.1nm,0.7s,mb4.9							
SIUC				*e*pP		pP	07 24 09.2	-5.0
ACSO	**Alum Creek Sta**	**58.23**	**351**	*e*P		**P**	**07 24 08.3**	**-0.9**
	14nm,1.1s,mb4.9							
ACSO				*e*pP		pP	07 24 17.5	-4.7
LAZ	**Ladron**	**61.13**	**328**	*e*P		**P**	**07 24 30.1**	**+0.7**
LAZ				*e*pP		pP	07 24 39.8	-2.6
LAZ				*e*sP		sP	07 24 44.3	-3.4
ANMO	**Albuquerque**	**61.23**	**329**	*e*P		**P**	**07 24 30.0**	**0.0**
	6.1nm,1.3s,mb4.6							
ANMO				*e*pP		pP	07 24 39.6	-3.4
ANMO	**Albuquerque**	**61.23**	**329**	P		**P**	**07 24 30.1**	**+0.1**
	1.5nm,0.6s,mb4.3,baz=139,slow=6.9,SNR=4.4							
SDCO	**Great Sand Dun**	**63.02**	**331**	*e*P		**P**	**07 24 42.2**	**+0.3**
	12nm,1.1s,mb4.9							
SDCO				*e*pP		pP	07 24 51.9	-3.1
MVCO	**Mesa Verde**	**64.02**	**329**	*e*P		**P**	**07 24 49.6**	**+1.0**
	1.8nm,0.6s,mb4.3							
MVCO				*e*pP		pP	07 24 57.9	-3.8
ISCO	**Idaho Springs**	**64.74**	**332**	*e*P		**P**	**07 24 53.6**	**+0.3**
	2.4nm,0.8s,mb4.3							
ISCO				*e*pP		pP	07 25 03.2	-3.1
ECSD	**EROS,Sioux Fal**	**64.75**	**341**	*e*P		**P**	**07 24 52.5**	**-0.7**
	16nm,1.3s,mb4.9							
ECSD				*e*pP		pP	07 25 02.4	-4.0
SMCO	**Snowmass**	**64.85**	**331**	*e*P		**P**	**07 24 54.9**	**+1.0**
	8.2nm,1.1s,mb4.7							
SMCO				*e*pP		pP	07 25 04.1	-3.0
VNA3	**Neumayer Olymp**	**64.99**	**161**	*e*Pdiff		**P**	**07 24 54.8**	**+0.3**
VNA3				*e*			07 25 00.4	
VNA3				*e*		pP	07 25 03.1	-4.5
VNA3				*e*		pP	07 25 05.9	-1.7
COWI	**Conover**	**65.03**	**347**	*e*P		**P**	**07 24 54.2**	**-0.7**
	4.1nm,0.5s,mb4.7							
COWI				*e*pP		pP	07 25 03.6	-4.4
VNA1	**Neumayer--Stat**	**65.23**	**161**	*e*Pdiff		**P**	**07 24 56.2**	**+0.2**
VNA1				*e*			07 25 02.7	
VNA1				*e*		pP	07 25 06.5	-2.6
VNA1				*e*		pP	07 25 09.5	+0.4
VNA2	**Neumayer--Watz**	**65.59**	**161**	*e*Pdiff		**P**	**07 24 59.2**	**+0.9**
	baz=286,slow=8.2							
VNA2				*e*			07 25 04.8	
VNA2				*e*		pP	07 25 08.0	-3.5
VNA2				*e*		pP	07 25 10.7	-0.8
SRU	**San Rafael**	**66.50**	**329**	*e*P		**P**	**07 25 05.1**	**+0.5**
	9.4nm,0.5s,mb5.1							
SRU				*e*pP		pP	07 25 15.1	-2.7
MSU	**Marysvale**	**66.88**	**327**	*e*P		**P**	**07 25 08.1**	**+1.0**
EYMN	**Ely**	**67.29**	**346**	*e*P		**P**	**07 25 08.0**	**-1.5**
	13nm,1.2s,mb4.8							
EYMN				*e*pP		pP	07 25 17.9	-4.7
EYMN				*e*sP		sP	07 25 21.3	-6.4
DAU	**Daniels Canyon**	**67.86**	**329**	*e*P		**P**	**07 25 14.4**	**+1.2**
DAU				*e*pP		pP	07 25 23.6	-2.8
DUG	**Dugway**	**68.47**	**328**	*e*P		**P**	**07 25 18.3**	**+1.3**
	25nm,1.1s,mb5.2							
AGMN	**Agassiz Refuge**	**68.69**	**344**	*e*P		**P**	**07 25 17.6**	**-0.6**
	5.1nm,0.8s,mb4.5							
AGMN				*e*pP		pP	07 25 26.9	-4.5
AGMN				*e*sP		sP	07 25 30.6	-6.0
PDAR	**Pinedale Array**	**68.89**	**332**	P		**P**	**07 25 19.6**	**0.0**
	0.5nm,0.7s,mb3.5,baz=142,slow=7.5,SNR=6.1							
LOHW	**Long Hollow**	**70.03**	**332**	*e*P		**P**	**07 25 25.7**	**-0.9**
LOHW				*e*pP		pP	07 25 36.4	-3.4
FLWY	**Flagg Ranch**	**70.44**	**332**	*e*P		**P**	**07 25 30.3**	**+1.2**
	46nm,1.2s,mb5.3							
ULM	**Lac du Bonnet**	**70.48**	**344**	*e*P		**P**	**07 25 28.1**	**-1.1**
	11nm,1.1s,mb4.7							
ULM				*e*pP		pP	07 25 37.6	-4.9
ULM	**Lac du Bonnet**	**70.48**	**344**	P		**P**	**07 25 28.0**	**-1.2**
	3.7nm,0.8s,mb4.3,baz=156,slow=6.9,SNR=8.5							
RLMT	**Red Lodge**	**70.63**	**333**	*e*P		**P**	**07 25 30.9**	**+0.7**
	4.3nm,1.1s,mb4.3							
RLMT				*e*pP		pP	07 25 40.2	-3.3
LAO	**LASA Array**	**70.67**	**336**	*e*P		**P**	**07 25 30.7**	**+0.2**
	18nm,1.5s,mb4.8							
LAO				*e*pP		pP	07 25 40.7	-3.1
LKWY	**Lake**	**70.69**	**332**	*e*Pdif		**P**	**07 25 32.4**	**+1.8**
	19nm,1.2s,mb4.9							
DBIC	**Dimbokro**	**71.17**	**76**	*e*P		**P**	**07 25 34.0**	**-0.2**
	8.5nm,0.8s,mb4.7							
DBIC	**Dimbokro**	**71.17**	**76**	P		**P**	**07 25 34.1**	**-0.1**
	9.6nm,0.8s,mb4.8,baz=230,slow=6.4,SNR=19							
DGMT	**Dagmar**	**71.43**	**338**	*e*P		**P**	**07 25 34.9**	**-0.1**
	136nm,1.6s,mb5.6							
DGMT				*e*pP		pP	07 25 44.7	-3.5
SCHQ	**Schefferville**	**72.22**	**4**	P		**P**	**07 25 39.0**	**-0.6**
SCHQ	**Schefferville**	**72.22**	**4**	P		**P**	**07 25 39.0**	**-0.6**
	2.9nm,0.9s,mb4.2,baz=135,slow=8.6,SNR=3.2							
NEW	**Newport**	**76.52**	**331**	LR		LR	08 06 16.6	
	comp=Z,689nm,18.0s,MS5.0,baz=264,slow=41							
TOA0	**Torodi Ar. Sit**	**79.50**	**73**	*e*P		**P**	**07 26 22.0**	**-0.1**
TORD	**Torodi Ar. Bea**	**79.50**	**73**	P		**P**	**07 26 22.0**	**-0.1**
	8.6nm,0.7s,mb4.8,baz=254,slow=5.2,SNR=49							
PAB	**San Pablo**	**85.27**	**46**	*e*P		**P**	**07 26 53.2**	**+1.5**
	12nm,0.9s,mb5.0							
PAB				*e*pP		pP	07 27 02.3	-2.9
ESDC	**Sonseca Array**	**85.59**	**46**	P		**P**	**07 26 54.9**	**+1.6**
	5.1nm,1.0s,mb4.7,baz=248,slow=5.6,SNR=19							
YKA	**Yellowknife Ar**	**86.27**	**342**	P		**P**	**07 26 56.5**	**+0.4**
YKA	**Yellowknife Ar**	**86.27**	**342**	P		**P**	**07 26 56.5**	**+0.4**
	4.8nm,0.8s,mb4.8,baz=136,slow=5.2,SNR=10							
BOSA	**Boshof**	**88.51**	**119**	P		**P**	**07 27 08.6**	**+0.8**
	3.3nm,0.8s,mb4.7,baz=44,slow=1.9,SNR=6.3							
ASAR	**Alice Springs**	**131.52**	**213**	PKP		PKPdf	07 33 28.2	+0.2
	0.7nm,0.6s,baz=132,slow=2.0,SNR=4.6							
WRA	**Warramunga Arr**	**134.28**	**217**	PKP		PKPdf	07 33 33.5	+0.2
	0.8nm,0.7s,baz=147,slow=1.7,SNR=3.3							
ZALV	**Zalesovo Beam**	**139.68**	**20**	PKP		PKPdf	07 33 43.9	+1.7
	5.5nm,0.7s,baz=348,slow=1.0,SNR=7.5							
EKS2	**Erkin-Say**	**142.07**	**41**	*e*PKPdf		PKPdf	07 33 48.7	+1.8
MKAR	**Makanchi Array**	**144.24**	**30**	PKP		PKPdf	07 33 50.0	-0.5
	3.5nm,0.8s,baz=335,slow=5.4,SNR=6.6							
MJAR	**Matsushiro Arr**	**146.77**	**311**	PKPbc		PKPbc	07 33 57.4	+0.3
	5.5nm,0.7s,baz=54,slow=1.1,SNR=17							
MAJO	**Matsushiro**	**146.77**	**311**	*e*PKPbc		PKPbc	07 33 57.9	+0.8
MAT	**Matsushiro**	**146.77**	**311**	PKP2		PKPab	07 33 57.7	-0.6
SONM	**Songino Array**	**149.74**	**1**	PKPbc		PKPbc	07 34 06.0	+1.5
	2.8nm,0.6s,baz=336,slow=1.5,SNR=7.4							
HYB	**Hyderabad**	**152.60**	**86**	*e*P		PKPdf	07 34 08.0	+3.0
HYB	**Hyderabad**	**152.60**	**86**	*i* PKP		PKPdf	07 34 08.0	+3.0
HYB				*e*			07 34 24.0	
HYB				*e*			07 34 46.0	
KSRS	**Korea Array**	**153.09**	**322**	PKP		PKPdf	07 34 06.7	+1.5
	1.3nm,0.8s,baz=17,slow=1.9,SNR=4.1							
KSRS				PKPbc		PKPbc	07 34 14.1	+1.5
	2.1nm,0.7s,baz=355,slow=1.0,SNR=6.4							
CD2	**Chengdu**	**166.28**	**13**	*e*PKP		PKPdf	07 34 19.3	-1.0
CD2				APKP			07 34 30.0	
CD2				XPKP			07 34 33.6	
CD2				PKP2		PKPab	07 35 22.1	+0.8
CD2				PP		PP	07 39 10.8	+3.1
CD2				SKS		SKSdf	07 41 17.9	-3.0
CD2				SKKS		SKKSac	07 45 52.8	+0.1
CD2				SS		SS	07 59 45.8	+1.3
CD2				PP		PP		
	comp=Z,120nm,10.2s							
CD2				LR		LR		
	comp=N,130nm,24.2s							
CD2				LR		LR		
	comp=E,110nm,22.4s							
CD2				LR		LR		
	comp=Z,120nm,20.0s							
KMI	**Kunming**	**171.32**	**28**	PKP		PKPdf	07 34 23.0	-0.7
KMI				APKP			07 34 29.8	
KMI				XPKP			07 34 32.6	
KMI				LR		LR		
	comp=Z,88nm,27.6s							

*NEIC **21** 07:14:56.5, 2949S×7141W, h68km, MD4.0(GUC), After GUC.*
GUC 21 07:14:56.5±0.9, 2949S×7141W, h68km±5km, MD4.0, ML4.1, 10C-11D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
LSCH	**La Serena**	**0.44**	**161**	⇑*i*P		Pn	07 15 08.8	+0.3
LSCH				*i* S		Sn	07 15 17.8	+0.5
LSCH	**La Serena**	**0.44**	**161**	⇑*i*P		Pn	07 15 08.8	+0.3
LSCH				*i* S		Sn	07 15 17.8	+0.5
LSCH				AML		AML	07 15 18.6	
	comp=E,4μm,0.3s							
LCO	**Las Campanas**	**0.78**	**52**	*e*Pn		Pn	07 15 12.3	+0.1
LCO				*e*Sn		Sn	07 15 24.8	+1.0
TLL	**Tololo Astrono**	**0.85**	**142**	⇑*i*P		Pn	07 15 14.2	+1.1
TLL				*i* S		Sn	07 15 27.1	+1.8
TLL	**Tololo Astrono**	**0.85**	**142**	⇑*i*P		Pn	07 15 14.2	+1.1
TLL				*i* S		Sn	07 15 27.1	+1.8
TLL				AML		AML	07 15 27.6	
	comp=E,4μm,0.5s							
VACH	**Vallenar**	**1.08**	**32**	⇓*i*P		Pn	07 15 16.1	+0.3
VACH				*i* S		Sn	07 15 31.1	+0.9
VACH	**Vallenar**	**1.08**	**32**	⇓*i*P		Pn	07 15 16.1	+0.3
VACH				*i* S		Sn	07 15 31.1	+0.9
VACH				AML		AML	07 15 31.4	
	comp=E,22μm,0.2s							
OVCH	**Ovalle**	**1.13**	**171**	⇓*i*P		Pn	07 15 16.6	+0.2
OVCH				*i* S		Sn	07 15 31.9	+0.5
OVCH	**Ovalle**	**1.13**	**171**	⇓*i*P		Pn	07 15 16.6	+0.2
OVCH				*i* S		Sn	07 15 31.9	+0.5
OVCH				AML		AML	07 15 35.9	
	comp=N,2μm,0.6s							
CMCH	**Combarbala**	**1.71**	**168**	⇓*i*P		Pn	07 15 24.5	+0.3
CMCH				*i* S		Sn	07 15 45.6	+0.4
CMCH	**Combarbala**	**1.71**	**168**	⇓*i*P		Pn	07 15 24.5	+0.3
CMCH				*i* S		Sn	07 15 45.6	+0.4
CMCH				AML		AML	07 15 47.7	
	comp=N,4μm,0.4s							
CPCH	**Copiapo**	**2.32**	**24**	⇑*i*P		Pn	07 15 32.8	+0.3
CPCH				*i* S		Sn	07 16 00.5	+0.6
CPCH	**Copiapo**	**2.32**	**24**	⇑*i*P		Pn	07 15 32.8	+0.3
CPCH				*i* S		Sn	07 16 00.5	+0.6
CPCH				AML		AML	07 16 01.5	
	comp=N,10μm,0.1s							
PTCH	**Petorca**	**2.79**	**172**	*i* P		Pn	07 15 39.7	+0.8
PTCH				*i* S		Sn	07 16 11.2	-0.3
PTCH	**Petorca**	**2.79**	**172**	*i* P		Pn	07 15 39.7	+0.8
PTCH				*i* S		Sn	07 16 11.2	-0.3
PTCH				AML		AML	07 16 13.3	
	comp=N,237nm,0.3s							
PEL	**Peldehue**	**3.69**	**171**	⇑*i*P		Pn	07 15 52.0	+0.9
PEL				*i* S		Sn	07 16 33.5	+0.1
FCH	**Farellones**	**3.94**	**166**	⇓*i*P		Pn	07 15 56.4	+1.9
FCH				*i* S		Sn	07 16 40.8	+1.3
CLCH	**Cerro Calan**	**3.96**	**169**	⇓*i*P		Pn	07 15 56.0	+1.2
CLCH				*i* S		Sn	07 16 41.2	+1.2
CLCH				AML		AML	07 17 02.1	
	comp=E,198nm,0.5s							
RCDM	**Rinconada Maip**	**4.02**	**173**	⇓*i*P		Pn	07 15 56.2	+0.6
RCDM				*i* S		Sn	07 16 41.3	0.0
ANTU	**Antumapu**	**4.12**	**171**	*i* P		Pn	07 15 57.9	+1.0
ANTU				*i* S		Sn	07 16 43.7	-0.1
TACH	**Talagante**	**4.17**	**175**	⇓*i*P		Pn	07 15 58.0	+0.4
TACH				*i* S		Sn	07 16 44.9	-0.2
PCH	**Pirque**	**4.19**	**170**	⇑*i*P		Pn	07 15 59.0	+1.1
PCH				*i* S		Sn	07 16 46.6	+1.1
LMEL	**Las Melosas**	**4.46**	**167**	*i* P		Pn	07 16 03.5	+1.9
LMEL				*i* S		Sn	07 16 54.2	+2.0
CHCH	**Chadas Angostu**	**4.47**	**172**	⇑*i*P		Pn	07 16 02.4	+0.6
CHCH				*i* S		Sn	07 16 52.9	+0.4
CACH	**El Canelo**	**4.66**	**172**	*i* P		Pn	07 16 05.4	+1.0
CICH	**Cipreses**	**4.89**	**170**	⇑*i*P		Pn	07 16 08.7	+1.3
CICH				*i* S		Sn	07 17 03.2	+0.6
SFDO	**San Fernando**	**5.12**	**176**	⇓*i*P		Pn	07 16 11.1	+0.5

*ISK **21** 07:20:36.5, 3919N×3609E, h5km, MD3.2*
*CSEM **21** 07:20:37.5±0.1, 3916N×3607E, h5km, MD3.2, Error ellipse: s-maj=2.0km s-min=1.5km az=47.0*
*DDA **21** 07:20:37.5, 3895N×3598E, h5km±5km, Md3.0*
*ISCJB **21** 07:20:38.5±0.4, 3918N±003×3605E±003, h10km, Error ellipse: s-maj=4.4km s-min=3.7km az=179.5*
ISC 21 07:20:39.0±0.4, 3918N±003×3604E±003, h10km, n29, σ1°29/41, Turkey

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
BNN	**Bunyan**	**0.36**	**205**	*e*PG		**Pg**	**07 20 42.9**	**-3.2**
YOZ	**Yozgat**	**0.72**	**310**	*e*PG		**Pg**	**07 20 51.8**	**-1.3**
AVNT	**Avonos**	**1.01**	**247**	*i* P		**Pg**	**07 20 55.1**	**-3.3**
AVNT				*i* S		**Sg**	**07 21 09.7**	**-1.7**
SVSK	**Karacayir**	**1.04**	**45**	*e*PG		**Pg**	**07 20 56.5**	**-2.6**
SVSK				*e*SG		**Sg**	**07 21 12.2**	**-0.5**
TOKT	**Tokat**	**1.21**	**19**	*e*PN		**Pn**	**07 21 00.1**	**-1.9**
TOKT				*e*SN		**Sn**	**07 21 17.0**	**-1.3**
CDAG	**Cicekdag**	**1.37**	**290**	*i* P		**Pn**	**07 21 01.4**	**-2.8**
CDAG				*i* S		**Sb**	**07 21 21.4**	**-0.8**
CORM	**Corum**	**1.48**	**313**	*e*PN		**Pn**	**07 21 05.8**	**+0.1**
NIG	**Nigde**	**1.55**	**227**	*e*PN		**Pn**	**07 21 06.6**	**0.0**
KOZT	**Kozan**	**1.70**	**186**	*e*PN		**Pn**	**07 21 08.8**	**0.0**
CTKT	**Corum**	**1.73**	**327**	*i* P		**Pn**	**07 21 11.5**	**+2.3**
CTKT				*i* S		**Sn**	**07 21 37.0**	**+5.6**
KMRS	**Kahramanmaras**	**1.80**	**158**	*e*PN		**Pn**	**07 21 09.7**	**-0.4**
KAMT	**Kaman**	**1.82**	**277**	*e*PN		**Pn**	**07 21 11.2**	**+0.9**
KAMT				*e*SN		**Sn**	**07 21 35.4**	**+2.0**
KVT	**Kavak**	**1.90**	**0**	*e*PN		**Pn**	**07 21 11.9**	**+0.4**
KEMA	**Kemaliye**	**1.91**	**86**	*i* P		**Pn**	**07 21 10.9**	**-0.7**
KEMA				*i* S		**Sn**	**07 21 37.8**	**+2.1**
MYA	**Malataya**	**2.05**	**114**	*e*PN		**Pn**	**07 21 13.7**	**+0.1**
MALT	**Malatya**	**2.06**	**114**	*e*PN		**Pn**	**07 21 13.9**	**+0.3**
KARA	**Karaisali**	**2.07**	**202**	*e*PN		**Pn**	**07 21 14.1**	**+0.3**
GZT	**Gaziantep**	**2.18**	**146**	*i* P		**Pn**	**07 21 17.2**	**+1.9**
GZT				*i* S		**Sn**	**07 21 45.9**	**+3.6**
GAZ	**Gaziantep**	**2.20**	**155**	*e*PN		**Pn**	**07 21 15.4**	**-0.3**
CANT	**Cankiri**	**2.35**	**308**	*e*PN		**Pn**	**07 21 18.1**	**+0.4**
ELZG	**Elazig**	**2.40**	**106**	*e*P		**Pn**	**07 21 17.1**	**-1.2**
ELZG				*e*S		**Sn**	**07 21 57.2**	**+9.5**
ELDT	**Eldivan**	**2.40**	**304**	*i* P		**Pn**	**07 21 18.9**	**+0.6**
ELDT				*i* S		**Sn**	**07 21 56.5**	**+8.6**
BOYT	**Boyabat**	**2.40**	**339**	*i* P		**Pn**	**07 21 23.8**	**+5.4**
BOYT				*i* S		**Sn**	**07 21 57.3**	**+9.4**
TOS	**Tosya**	**2.42**	**321**	*e*PN		**Pn**	**07 21 19.3**	**+0.7**
GRSN	**GIRESUNGRSN**	**2.44**	**44**	*i* P		**Pn**	**07 21 11.0**	**-8.0**
GRSN				*i* S		**Sn**	**07 21 56.7**	**+7.9**
MERS	**Mersin**	**2.60**	**208**	*e*PN		**Pn**	**07 21 20.7**	**-0.4**
ANTO	**Ankara**	**2.60**	**286**	*e*PN		**Pn**	**07 21 21.7**	**+0.5**
LOD	**Lodumlu**	**2.63**	**287**	*e*PN		**Pn**	**07 21 22.5**	**+0.9**
BALT	**Daday**	**3.11**	**320**	*i* P		**Pn**	**07 21 30.2**	**+2.1**

*CASC **21** 07:24:16.3±1.1, 1435N×9194W, h80km±8km, MD3.8, mb4.5(NEIC)*
*ISCJB **21** 07:24:17.7±0.6, 1418N±007×9182W±005, h78km±5km, mb4.0/5, Error ellipse: s-maj=13.5km s-min=5.2km az=32.7*
*MEX **21** 07:24:17.4±0.8, 1394N×9176W, h40km, MD4.5*
*IDC **21** 07:24:17.5±2.3, 1432N×9180W, h49km±21km, mb3.5/5, mb1 3.9/8, mb1mx3.8/25, mbtmp3.7/8, ML4.0/4, MS3.6/1, Ms1 3.6/1, ms1mx2.7/28, Error ellipse: s-maj=26.6km s-min=13.9km az=24.0*
*NEIC **21** 07:24:18.8±1.0, 1420N×9175W, h76km±9km, mb4.5/2, Error ellipse: s-maj=18.6km s-min=8.0km az=207.0*
**ISC 21 07:24:19.6±0.5, 1432N±006×9175W±004, h74km±5km, n35, σ1°36/45, mb

KDAK S **Sn** **07 53 47.2 -1.1**
KDAK Kodiak Island 2.33 54 P **Pn** **07 53 20.5 -0.5**
21nm,0.3s,baz=238,slow=6.2,SNR=589
KDAK S **Sn** **07 53 47.6 -0.7**
66nm,0.3s,baz=106,slow=14,SNR=4.8
SDPT Sand Point 2.71 247 P **Pn** **07 53 25.8 -0.5**
FALS False Pass 4.45 252 P **Pn** **07 53 50.0 -0.1**
SVW2 Sparrevohn 4.65 3 P **Pn** **07 53 54.5 +1.7**
SEW Seward 5.06 41 P **Pn** **07 53 57.6 -0.9**
SLKM Skilak Lake 5.09 35 P **Pn** **07 53 58.8 -0.1**
FIB Fire Island 5.62 31 P **Pn** **07 54 06.5 +0.2**
RC01 Rabbit Creek A 5.69 33 P **Pn** **07 54 07.2 0.0**
PMR Palmer 6.27 32 P **Pn** **07 54 14.6 -0.4**
KNK Knik Glacier 6.34 35 P **Pn** **07 54 15.4 -0.7**
GHO Glory Hole Cre 6.47 32 P **Pn** **07 54 17.8 -0.1**
TTA Tatalina 6.48 0 *e*P **Pn** **07 54 20.1 +2.1**
UNV Unalaska Valle 6.51 251 P **Pn** **07 54 18.1 -0.4**
SML Sawmill 6.68 34 P **Pn** **07 54 20.8 +0.1**
MENT Mentasta 9.00 39 *e*P **Pn** **07 54 52.3 -0.2**
EGAK Eagle 11.07 35 *e*Pn **Pn** **07 55 20.8 0.0**
4.8nm,0.5s
SKAG Skagway 11.42 66 *e*P **Pn** **07 55 26.5 +1.0**
6.2nm,0.6s
DLBC Dease Lake 14.14 71 P **Pn** **07 56 03.1 +0.4**
baz=294,slow=14
INK Inuvik 15.69 32 *e*Pn **Pn** **07 56 22.9 0.0**
118nm,0.6s
INK Inuvik 15.69 32 P **Pn** **07 56 22.4 -0.5**
0.6nm,0.3s,baz=216,slow=18,SNR=24
INK LR LR 08 02 46.6
comp=Z,560nm,20.0s,baz=72,slow=38
YKA Yellowknife Ar 21.60 57 P **P** **07 57 30.5 -0.5**
YKA PcP PcP 08 01 30.6 -0.5
YKA Yellowknife Ar 21.60 57 P **P** **07 57 30.5 -0.6**
1.7nm,0.4s,mb3.8,baz=266,slow=9.3,SNR=99
YKA PcP PcP 08 01 30.6 -0.5
0.4nm,0.6s,baz=280,slow=1.8,SNR=8.8
YMR Madison River 30.44 93 *e*P **P** **07 58 54.5 +1.1**
9.6nm,1.2s,mb4.4
NVAR Mina Array Bea 30.76 110 P **P** **07 58 56.5 +0.3**
0.5nm,0.7s,mb3.4,baz=291,slow=10,SNR=3.6
NVAR pP pP 07 59 09.8 +1.9
0.8nm,0.7s,baz=313,slow=7.7,SNR=4.7
NVAR PcP PcP 08 01 52.9 +0.2
0.4nm,0.7s,baz=264,slow=2.6,SNR=3.4
FLWY Flagg Ranch 30.96 94 *e*P **P** **07 58 59.2 +1.2**
4.8nm,0.9s,mb4.3
FLWY *e*pP pP 07 59 10.4 +0.7
PDAR Pinedale Array 32.45 95 P **P** **07 59 11.4 +0.4**
1.5nm,0.8s,mb3.9,baz=319,slow=5.5,SNR=11
PDAR pP pP 07 59 24.8 +2.0
1.2nm,0.9s,baz=311,slow=5.0,SNR=4.9
PDAR PcP PcP 08 01 57.1 -0.1
0.2nm,0.4s,baz=66,slow=3.1,SNR=2.7
SRU San Rafael 34.43 101 *e*P **P** **07 59 29.3 +1.0**
3.1nm,0.7s,mb4.3
ULM Lac du Bonnet 35.44 74 P **P** **07 59 36.6 -0.3**
0.8nm,0.4s,mb4.0,baz=304,slow=11,SNR=4.8
HDIL Hopedale 45.15 81 *e*P **P** **08 00 56.1 -1.1**
15nm,0.7s,mb4.9
TXAR Lajitas Array 45.50 104 P **P** **08 01 00.8 +0.6**
1.7nm,0.8s,mb4.0,baz=310,slow=5.8,SNR=17
TXAR pP pP 08 01 13.8 +1.5
1.6nm,0.8s,baz=309,slow=5.5,SNR=7.6
TXAR PcP PcP 08 02 38.1 -0.3
0.3nm,0.5s,baz=178,slow=0.9,SNR=6.3
SCHQ Schefferville 46.95 52 P **P** **08 01 10.7 -0.6**
1.8nm,0.8s,mb4.1,baz=64,slow=11,SNR=4.4
PLAL Pickwick Lake 49.81 85 *e*P **P** **08 01 32.5 -1.1**
9.7nm,0.9s,mb4.8
KSRS Korea Array 52.35 283 P **P** **08 01 52.9 +0.3**
0.9nm,0.7s,mb3.8,baz=50,slow=7.6,SNR=3.7
ARCES ARCESS Array B 54.29 359 P **P** **08 02 06.3 0.0**
0.9nm,0.5s,mb4.0,baz=4.0,slow=6.7,SNR=8.8
ARCES pP pP 08 02 18.6 -0.1
5.2nm,1.0s,baz=7.4,slow=6.9,SNR=2.2
SONM Songino Array 55.53 306 P **P** **08 02 16.2 +0.6**
2.4nm,0.8s,mb4.3,baz=53,slow=6.7,SNR=8.1
SONM pP pP 08 02 27.8 -0.3
0.9nm,0.5s,baz=41,slow=6.4,SNR=3.6
JOF Joensuu 60.81 356 *e*p **P** **08 02 50.5 -1.7**
2.3nm,0.4s,mb4.7
NB2 NORSAR Subarra 62.41 7 P **P** **08 03 03.2 +0.2**
comp=Z,2.2nm,0.7s,mb4.4,baz=352,slow=6.9
NOA NORSAR Array B 62.41 7 P **P** **08 03 03.5 +0.6**
comp=Z,2.3nm,0.6s,mb4.5,baz=352,slow=6.8,SNR=13
FINES FINESS Array B 62.41 359 P **P** **08 03 02.9 -0.1**
FINES FINESS Array B 62.41 359 P **P** **08 03 02.9 -0.1**
comp=Z,1.3nm,0.6s,mb4.2,baz=12,slow=7.6,SNR=12
BVAR Borovoye Array 64.39 331 P **P** **08 03 16.0 -0.3**
comp=Z,1.2nm,0.5s,mb4.2,baz=44,slow=8.3,SNR=7.9
MKAR Makanchi Array 66.13 320 P **P** **08 03 27.2 -0.4**
comp=Z,0.8nm,0.7s,mb3.9,baz=38,slow=7.2,SNR=7.2
EKA Eskdalemuir Ar 66.40 16 P **P** **08 03 30.1 +0.9**
comp=Z,2.2nm,0.8s,mb4.2,baz=337,slow=5.2,SNR=5.7
AKASG Malin Array Be 73.10 356 P **P** **08 04 10.0 -0.5**
AKASG pP pP 08 04 22.0 -1.3
AKASG Malin Array Be 73.10 356 P **P** **08 04 10.0 -0.5**
comp=Z,3.4nm,0.4s,mb4.6,baz=7.3,slow=5.9,SNR=22
AKASG pP pP 08 04 22.0 -1.3
comp=Z,1.3nm,0.5s,baz=6.3,slow=5.8,SNR=4.3
GERES GERESS Array B 74.71 7 P **P** **08 04 19.8 -0.1**
comp=Z,0.3nm,0.5s,mb3.5,baz=338,slow=4.4,SNR=3.3
GERES pP pP 08 04 31.9 -0.9
comp=Z,0.7nm,0.5s,baz=352,slow=5.4,SNR=5.0
SDV Santo Domingo 80.16 89 P **P** **08 04 49.6 -1.2**
comp=Z,1.6nm,0.5s,mb4.2,baz=2.0,slow=9.8,SNR=5.8
ESDC Sonseca Array 81.36 21 P **P** **08 04 57.9 +1.0**
comp=Z,0.1nm,0.3s,mb3.2,baz=345,slow=4.5,SNR=4.1
QSPA South Pole Qui 146.26 180 PKPbc PKPbc 08 12 18.5 -0.6
comp=Z,5.3nm,0.8s,baz=354,slow=1.0,SNR=37

*IDC **21** 08:04:19.2±3.4, 370N×7557W, h64km±31km, mb3.4/6, mb1 3.7/7, mb1mx3.4/22, mbtmp3.5/7, ML4.0/1, Error ellipse: s-maj=28.8km s-min=16.8km az=69.0*
*ISCJB **21** 08:04:20.6±2.0, 39N±01×754W±01, h94km±18km, mb3.6/6, Error ellipse: s-maj=24.0km s-min=17.2km az=1.2*
ISC 21 08:04:20.6±2.2, 38N±01×754W±02, h77km±21ñ, n10, σ1§10/10, mb3.6/6, Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSC	**El Rosal**	**1.52**	**45**	P	**Pn**	**08 04 45.8**	**-0.3**
	74nm,0.3s,baz=288,slow=3.7,SNR=154						
ROSC				S	**Sn**	**08 05 08.3**	**+3.0**
	122nm,0.3s,baz=89,slow=15,SNR=7.6						
SDV	**Santo Domingo**	**6.95**	**43**	P	**Pn**	**08 05 59.4**	**-0.4**
	2.7nm,0.3s,baz=210,slow=2.8,SNR=19						
SDV				S	**Sn**	**08 07 16.5**	**-0.9**
	1.6nm,0.3s,baz=14,slow=16,SNR=3.3						
LPAZ	**La Paz**	**21.19**	**160**	P	**P**	**08 08 58.5**	**-1.6**
	0.7nm,0.7s,mb3.1,baz=344,slow=17,SNR=3.3						
SIV	**San Ignacio**	**24.22**	**145**	P	**P**	**08 09 31.9**	**+1.5**
	2.6nm,0.6s,mb3.7,baz=326,slow=11,SNR=17						
PDAR	**Pinedale Array**	**49.28**	**327**	P	**P**	**08 13 01.9**	**+0.2**
	0.4nm,0.6s,mb3.6,baz=128,slow=11,SNR=5.4						
NVAR	**Mina Array Bea**	**52.08**	**317**	P	**P**	**08 13 23.7**	**+0.8**
	1.8nm,0.7s,mb4.2,baz=124,slow=7.2,SNR=16						
YKA	**Yellowknife Ar**	**65.36**	**341**	P	**P**	**08 14 53.4**	**-1.1**
	0.4nm,0.4s,mb3.6,baz=135,slow=6.1,SNR=33						
TORD	**Torodi Ar. Bea**	**76.59**	**77**	P	**P**	**08 16 04.1**	**+0.5**
	0.6nm,1.1s,mb3.2,baz=274,slow=5.6,SNR=2.8						
ASAR	**Alice Springs**	**145.48**	**232**	PKPbc	PKPbc	08 23 50.6	-0.3
	0.5nm,0.7s,baz=124,slow=3.6,SNR=8.0						
WRA	**Warramunga Arr**	**146.85**	**239**	PKPbc	PKPbc	08 23 53.7	-1.3
	1.0nm,1.0s,baz=108,slow=3.2,SNR=8.7						

*CSEM **21** 08:47:31.8±0.7, 3676N×4962E, h14km, ML3.8/2, Error ellipse: s-maj=17.2km s-min=8.4km az=160.0, After THR*
THR 21 08:47:31.8±0.7, 3676N×4962E, h14km±9km, ML2.6, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THKV	**Tehran--Karaj**	**1.32**	**129**	*e*Pg	Pg	08 47 56.4	-0.8
THKV				*e*Sg	Sg	08 48 14.4	-0.1
THKV				AML	AML	08 48 15.4	
	comp=N,110nm,0.1s						
CHTH	**Charan**	**1.49**	**125**	*e*Pg	Pg	08 47 59.0	-1.4
DAMV	**Damavand**	**2.21**	**120**	*e*Pg	Pg	08 48 12.2	-2.0
DAMV				*e*Sg	Sg	08 48 41.5	-1.4
DAMV				AML	AML	08 48 42.0	
	comp=E,40nm,0.3s						
DAMV				AML	AML	08 48 43.4	
	comp=N,41nm,0.5s						
ASAO	**Ashtian**	**2.23**	**171**	*e*Pg	Pg	08 48 12.2	-2.4
GHVR	**GHOM**	**2.66**	**149**	*e*Pn	Pn	08 48 16.4	+2.3
GHVR				*e*Sg	Sg	08 48 54.3	-2.8

*TIF **21** 08:48:45.5, 4320N×4677E, h10km±4km*
*ISCJB **21** 08:48:47.3±0.8, 4296N±005×4662E±005, h10km, Error ellipse: s-maj=8.2km s-min=3.8km az=36.4*
*CSEM **21** 08:48:47.8±0.3, 4293N×4671E, h2km, mb4.2, Error ellipse: s-maj=8.4km s-min=2.4km az=39.0*
ISC 21 08:48:46.1±0.8, 4315N±004×4679E±005, h10km, n26, σ1§65/47, 2C-4D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DBC	**Dubki**	**0.13**	**168**	⇑*i*PG	**Pg**	**08 48 45.2**	**-3.8**
DBC				pmax	pmax		
	comp=Z,519nm,0.2s						
DBC	**Dubki**	**0.13**	**168**	*i* Pg	**Pg**	**08 48 45.2**	**-3.8**
	comp=Z,519nm,0.2s						
UNCR	**Uncukul**	**0.43**	**180**	⇓*i*PG	**Pg**	**08 48 52.0**	**-2.5**
UNCR				*e*S	**Sg**	**08 48 56.0**	**-4.2**
UNCR				pmax	pmax		
	comp=Z,174nm,0.3s						
UNCR	**Uncukul**	**0.43**	**180**	*i* Pg	**Pg**	**08 48 52.0**	**-2.5**
	comp=Z,174nm,0.3s						
UNCR				*e*Sg	**Sg**	**08 48 56.0**	**-4.2**
XNZR	**Khunzakh**	**0.61**	**186**	*e*PG	**Pg**	**08 48 58.5**	**+0.7**
XNZR				*e*S	**Sg**	**08 49 08.5**	**+2.8**
XNZR				pmax	pmax		
	comp=Z,203nm,0.3s						
XNZR	**Khunzakh**	**0.61**	**186**	*e*Pg	**Pg**	**08 48 58.5**	**+0.7**
	comp=Z,203nm,0.3s						
XNZR				*e*Sg	**Sg**	**08 49 08.5**	**+2.8**
GNBR	**Gunib**	**0.77**	**171**	⇓*i*PG	**Pg**	**08 48 59.0**	**-1.8**
GNBR				*i* S	**Sg**	**08 49 13.0**	**+2.2**
GNBR				pmax	pmax		
	comp=Z,89nm,0.2s						
GNBR	**Gunib**	**0.77**	**171**	*i* Pg	**Pg**	**08 48 59.0**	**-1.8**
	comp=Z,89nm,0.2s						
GNBR				*i* Sg	**Sg**	**08 49 13.0**	**+2.2**
VLKR	**Vladikavkaz**	**1.55**	**267**	*e*Pg	**Pn**	**08 49 14.2**	**+0.5**
VLKR				*e*Sg	**Sn**	**08 49 35.7**	**+1.8**
TRKR	**Terskaya**	**1.61**	**292**	*e*Pn	**Pn**	**08 49 14.7**	**+0.2**
TRKR				*i* Sg	**Sn**	**08 49 36.3**	**+1.0**
BTKR	**Batakoyurt**	**1.66**	**279**	*e*Pn	**Pn**	**08 49 16.0**	**+0.8**
BTKR				*i* Sg	**Sg**	**08 49 40.1**	**+0.7**
ARNR	**Ardon**	**1.84**	**272**	*e*PN	**Pn**	**08 49 19.2**	**+1.5**
ARNR				*e*S	**Sn**	**08 49 45.0**	**+4.0**
KMSR	**Komsomolskaya**	**1.84**	**278**	*i* Pn	**Pn**	**08 49 20.1**	**+2.4**
KMSR				*e*Sg	**Sg**	**08 49 46.3**	**+1.1**
LACR	**Lac**	**1.86**	**261**	*i* Pn	**Pn**	**08 49 18.0**	**+0.1**
LACR				*i* Sg	**Sg**	**08 49 43.2**	**-2.6**
PRTR	**Priterechnaya**	**1.93**	**289**	*e*Pn	**Pn**	**08 49 20.1**	**+1.2**
PRTR				*e*Sg	**Sg**	**08 49 46.7**	**-1.3**
DGRG	**David-gareji**	**2.00**	**212**	P	**Pn**	**08 49 23.2**	**+3.4**
KORR	**Kora**	**2.00**	**269**	*e*Pn	**Pn**	**08 49 21.2**	**+1.4**
KORR				*e*Sg	**Sg**	**08 49 48.5**	**-1.7**
MTA	**Mtatsminda**	**2.07**	**226**	P	**Pg**	**08 49 23.2**	**-2.6**
MTA				S	**Sg**	**08 49 51.9**	**-0.8**
ZEI	**Tsey**	**2.16**	**261**	*e*PN	**Pn**	**08 49 22.6**	**+0.6**
ZEI				*e*S	**Sn**	**08 49 51.0**	**+2.2**
LSNR	**Lesken**	**2.18**	**274**	*e*Pn	**Pg**	**08 49 24.1**	**-3.8**
LSNR				*e*Sn	**Sg**	**08 49 53.5**	**-2.6**
GOR	**Gori**	**2.30**	**241**	P	**Pn**	**08 49 21.6**	**-2.3**
GOR				S	**Sn**	**08 49 56.9**	**+4.7**
DIGR	**Digorskoe uzhe**	**2.37**	**265**	*e*Pn	**Pg**	**08 49 26.1**	**-5.3**
DIGR				*e*Sn	**Sg**	**08 49 56.8**	**-5.4**
ONI	**Oni**	**2.52**	**258**	P	**Pg**	**08 49 29.6**	**-4.8**
ONI				S	**Sg**	**08 50 05.6**	**-1.5**
KIV	**Kislovodsk**	**3.09**	**287**	*ce*PN	**Pg**	**08 49 45.4**	**+0.1**
KIV				pmax	pmax		
	comp=Z,22nm,0.9s						
KIV	**Kislovodsk**	**3.09**	**287**	*e*Pn	**Pg**	**08 49 45.4**	**+0.1**
	comp=Z,22nm,0.9s						
AB31	**Akbulak array**	**10.96**	**52**	⇓Pn	**Pn**	**08 51 20.1**	**-2.8**
	comp=Z,0.2nm,0.3s,baz=242,slow=12,SNR=15						
AB31				⇓Sn	**Sn**	**08 53 15.2**	**-10**
	comp=Z,0.8nm,0.4s,baz=246,slow=23,SNR=4.6						

IDC 21 08:51:27.2±7.4, 218N×12514E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.3/17, mbtmp3.4/3, Error ellipse: s-maj=182.6km s-min=116.4km az=69.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.77**	**158**	P	P	08 56 41.3	-0.3
	0.5nm,0.6s,baz=338,slow=10,SNR=9.5						
ASAR	**Alice Springs**	**27.07**	**162**	P	P	08 57 10.7	-0.9
	0.1nm,0.5s,baz=338,slow=12,SNR=3.6						
STKA	**Stephens Creek**	**37.30**	**157**	P	P	08 58 42.6	+1.5
	1.4nm,0.8s,baz=319,slow=11,SNR=3.1						

*IDC **21** 08:55:20.1±2.7, 3340N×13643E, h0km, mb3.1/2, mb1 3.4/3, mb1mx3.2/22, mbtmp3.1/3, Error ellipse: s-maj=156.2km s-min=31.2km az=107.0*
*ISCJB **21** 08:55:22.1±1.6, 3330N±006×13698E±006, h26km±13km, mb3.2/2, Error ellipse: s-maj=10.7km s-min=8.0km az=148.4*
*JMA **21** 08:55:22.2±0.1, 3327N×13700E, h40km±4km, M2.8*
ISC 21 08:55:21.8±1.2, 3336N±006×13694E±006, h11km±7km, n13, σ0§78/17, mb3.2/2, Near south coast of western Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TK02	**Tokai 2**	**0.90**	**49**	P	**Pg**	**08 55 38.7**	**-0.5**
JWZ	**Kozaga**	**1.04**	**280**	P	**Pg**	**08 55 41.4**	**-0.4**
JKN2	**Miekihoku**	**1.04**	**328**	P	**Pg**	**08 55 42.0**	**+0.2**
JIE	**Ise**	**1.05**	**350**	P	**Pg**	**08 55 42.5**	**+0.5**
TK04	**Tokai 4**	**1.29**	**37**	P	**Pn**	**08 55 44.7**	**-1.1**
TK04				*e*S	**Sb**	**08 56 01.2**	**-1.5**
JWM	**Minabe**	**1.41**	**291**	P	**Pn**	**08 55 47.4**	**-0.1**
JWM				*e*S	**Sn**	**08 56 04.9**	**-1.2**
JWY	**Kouya**	**1.41**	**308**	P	**Pn**	**08 55 47.8**	**+0.3**
TSUJ	**Tsu 2**	**1.42**	**342**	P	**Pn**	**08 55 47.7**	**+0.1**
TSUJ				*e*S	**Sn**	**08 56 06.0**	**-0.2**
JHE	**Heguri**	**1.66**	**322**	P	**Pn**	**08 55 51.3**	**+0.4**
MAT	**Matsushiro**	**3.34**	**18**	P	**Pn**	**08 56 15.1**	**+1.0**
MAT				*e*S	**Sn**	**08 56 54.7**	**+0.9**
MJAR	**Matsushiro Arr**	**3.34**	**18**	Pn	**Pn**	**08 56 15.1**	**+1.1**
	2.1nm,0.3s,baz=204,slow=14,SNR=18						
WRA	**Warramunga Arr**	**53.06**	**183**	P	**P**	**09 04 38.3**	**-0.8**
	0.2nm,0.5s,mb3.3,baz=357,slow=7.5,SNR=5.2						
ASAR	**Alice Springs**	**56.78**	**183**	P	**P**	**09 05 07.1**	**+1.1**
	0.1nm,0.7s,mb3.0,baz=11,slow=14,SNR=4.3						

*CSEM **21** 09:02:30.6±0.1, 3910N×4038E, h2km, MD3.1, Error ellipse: s-maj=2.7km s-min=2.0km az=104.0*
*ISCJB **21** 09:02:31.5±1.1, 3912N±004×4039E±005, h1km±10km, Error ellipse: s-maj=7.2km s-min=6.2km az=173.2*
*ISK **21** 09:02:32.1, 3908N×4042E, h11km, MD3.1*
*DDA **21** 09:02:32.0, 3907N×4027E, h6km, Md2.9*
ISC 21 09:02:32.8±0.7, 3908N±004×4044E±006, h12km±6km, n14, σ1§05/21, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BINT	**Bingol**	**0.21**	**168**	*e*PG	**Pg**	**09 02 36.7**	**-0.6**
BINT				*e*SG	**Sg**	**09 02 40.4**	**0.0**
EZC	**Erzincan**	**0.82**	**324**	*e*PG	**Pg**	**09 02 53.2**	**+4.5**
KOPT	**Kop Dagi**	**0.94**	**3**	*i* P	**Pg**	**09 02 49.8**	**-1.1**
KOPT				*e*S	**Sg**	**09 03 05.5**	**+2.3**
EZM	**Erzurum**	**1.09**	**41**	*e*PN	**Pn**	**09 02 53.2**	**-0.7**
ERZM	**Erzurum**	**1.09**	**41**	*i* P	**Pb**	**09 02 53.3**	**-0.3**
ERZM				*i* S	**Sb**	**09 03 14.0**	**+6.2**
BTMT	**Batman**	**1.21**	**137**	*e*PN	**Pn**	**09 02 55.6**	**+0.1**
ELZG	**Elazig**	**1.27**	**243**	*i* P	**Pn**	**09 02 52.2**	**-4.1**
ELZG				*i* S	**Sb**	**09 03 14.6**	**+1.6**
KEMA	**Kemaliye**	**1.52**	**278**	*i* P	**Pn**	**09 02 57.4**	**-2.4**
KEMA				*i* S	**Sn**	**09 03 18.7**	**-0.7**
KEMA	**Kemaliye**	**1.52**	**278**	*i* P	**Pn**	**09 02 57.3**	**-2.4**
KEMA				*i* S	**Sn**	**09 03 18.7**	**-0.7**
MYA	**Malataya**	**1.74**	**245**	*e*PN	**Pn**	**09 03 02.7**	**-0.1**
MALT	**Malatya**	**1.75**	**245**	*e*PN	**Pn**	**09 03 03.6**	**+0.8**
MARD	**Mardin**	**1.78**	**171**	*i* P	**Pn**	**09 03 03.7**	**+0.4**
MARD				*i* S	**Sn**	**09 03 30.2**	**+4.3**
AGRB	**Hanur-Agry**	**2.04**	**75**	*e*PN	**Pn**	**09 03 07.8**	**+0.9**
URFA	**Urfa**	**2.07**	**218**	*e*PN	**Pn**	**09 03 07.4**	**+0.1**

*IDC **21** 09:29:29.2±5.7, 894S×12422E, h64km±68km, mb3.4/1, mb1 3.6/4, mb1mx3.3/14, mbtmp3.4/4, ML3.5/3, Error ellipse: s-maj=59.6km s-min=33.6km az=25.0*
*ISCJB **21** 09:29:32.2±1.6, 94S±02×1239E±01, h121km±14km, Error ellipse: s-maj=32.7km s-min=14.6km az=19.2*
ISC 21 09:29:33.5±1.5, 94S±02×12390E±010, h116km±13km, n8, σ1§01/11, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Kupang**	**0.83**	**196**	P	**Pn**	**09 29 52.5**	**-1.1**
	45nm,0.3s,baz=28,slow=3.5,SNR=23						
BATI				S	**Sn**	**09 30 09.6**	**+0.8**
	25nm,0.3s,baz=350,slow=7.8,SNR=6.7						
FITZ	**Fitzroy Crossi**	**8.81**	**169**	*e*P	**Pn**	**09 31 37.2**	**-0.9**
	2.8nm,0.3s						
FITZ				*e*S	Sx	09 33 10.7	
FITZ	**Fitzroy Crossi**	**8.81**	**169**	P	**Pn**	**09 31 37.5**	**-0.6**
	0.6nm,0.3s,baz=0.7,slow=11,SNR=16						
FITZ				S	Sx	09 33 10.6	
	2.1nm,0.3s,baz=276,slow=21,SNR=12						
KAKA	**Kakadu**	**9.01**	**112**	*e*P	**Pn**	**09 31 41.7**	**+1.0**
	10nm,1.2s						
KAKA				*e*S	**Sn**	**09 33 19.7**	**-0.6**
WRA	**Warramunga Arr**	**14.54**	**137**	P	**Pn**	**09 32 53.0**	**-0.8**
	0.2nm,0.3s,baz=310,slow=13,SNR=20						
WRA				S	Sx	09 35 25.6	
	0.2nm,0.3s,baz=308,slow=24,SNR=6.4						
WB2	**Warramunga Arr**	**14.55**	**137**	*e*P	**Pn**	**09 32 54.4**	**+0.5**
WB2				*e*S	**Sn**	**09 35 25.7**	**-9.0**
ASAR	**Alice Springs**	**17.11**	**147**	P	**Pn**	**09 33 28.5**	**+2.9**
	0.1nm,0.3s,baz=324,slow=12,SNR=14						
ASAR				S	Sx	09 36 28.6	
	0.2nm,0.3s,baz=321,slow=23,SNR=15						
MKAR	**Makanchi Array**	**67.11**	**330**	P	**P**	**09 40 14.5**	**0.0**
	0.4nm,0.5s,baz=131,slow=8.0,SNR=3.8						

*ISCJB **21** 09:47:56.4±0.2, 1070N±002×6263W±002, h107km±2km, mb4.4/44, Error ellipse: s-maj=4.2km s-min=2.8km az=137.2*
*TRN **21** 09:47:57.5, 1064N×6257W, h101km, MD4.1*
TRN Felt in Chaguanas and St. Augustine, Trinidad.
*IDC **21** 09:47:58.1±0.5, 1088N×6271W, h107km±4km, mb3.8/18, mb1 4.0/21, mb1mx4.0/26, mbtmp3.9/21, Error ellipse: s-maj=8.7km s-min=6.6km az=137.0*
*NEIC **21** 09:47:58.1±0.2, 1071N×6259W, mb4.6/30, MD4.1(TRN), Error ellipse: s-maj=4.4km s-min=4.1km az=173.0*
NEIC Felt [II] on Trinidad.
*FUNV **21** 09:47:59.1, 1068N×6255W, h84km, MW4.3*
*BJI **21** 09:48:00.1, 1070N×6260W, h109km, mB5.1*
ISC 21 09:47:57.5±0.2, 1069N±002×6262W±002, h100km±2km, h110km±1.3km: pP-P, n157, σ1§07/192, mb4.4/44, 12C-6D, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIV	**Guiria**	**0.39**	**96**	⇑*i*P	**Pn**	**09 48 12.1**	**-0.5**
GUIV				*e*S	**Sn**	**09 48 20.7**	**-3.1**
GUIV	**Guiria**	**0.39**	**96**	*e*P	**Pn**	**09 48 12.0**	**-0.5**
GUIV				*e*S	**Sn**	**09 48 20.7**	**-3.1**
GUIV	**Guiria**	**0.39**	**96**	*e*P	**Pn**	**09 48 12.1**	**-0.5**
GUIV				*e*S	**Sn**	**09 48 20.7**	**-3.1**
CRUV	**Carupano**	**0.61**	**269**	⇓*i*P	**Pn**	**09 48 14.4**	**+0.4**
CRUV	**Carupano**	**0.61**	**269**	*e*P	**Pn**	**09 48 14.5**	**+0.4**
CRUV				*e*S	**Sn**	**09 48 22.5**	**-4.0**
CRUV	**Carupano**	**0.61**	**269**	*e*P	**Pn**	**09 48 14.4**	**+0.4**
GUNV	**Guanoco**	**0.61**	**211**	⇑*i*P	**Pn**	**09 48 15.4**	**+1.3**
GUNV				*e*S	**Sn**	**09 48 26.4**	**-0.2**
ITEV	**Isla Los Testi**	**0.83**	**323**	⇓*i*P	**Pn**	**09 48 16.3**	**+0.1**
ITEV				*e*S	**Sn**	**09 48 29.2**	**-1.0**
ITEV	**Isla Los Testi**	**0.83**	**323**	*e*P	**Pn**	**09 48 16.3**	**+0.1**
ITEV				*e*S	**Sn**	**09 48 28.7**	**-1.5**
ITEV	**Isla Los Testi**	**0.83**	**323**	*e*P	**Pn**	**09 48 16.3**	**+0.1**
ITEV				*e*S	**Sn**	**09 48 29.2**	**-1.0**
TCE	**Chacachacare**	**0.85**	**89**	*e*P	**Pn**	**09 48 16.7**	**+0.3**
TCE				*e*S	**Sn**	**09 48 29.2**	**-1.4**
TCE	**Chacachacare**	**0.85**	**89**	*e*	**Pn**	**09 48 20.4**	**+4.1**
TCE				*e*S	**Sn**	**09 48 29.2**	**-1.4**
TRN	**Trinidad (W)**	**1.20**	**92**	⇓*i*P	**Pn**	**09 48 20.7**	**+0.6**
TPP	**Pointe-a-Pierr**	**1.21**	**108**	*e*P	**Pn**	**09 48 21.5**	**+1.3**
TPP				*e*S	**Sn**	**09 48 35.1**	**-2.3**
TBH	**Brigand Hill**	**1.54**	**97**	*e*P	**Pn**	**09 48 23.8**	**-0.5**
TBH				*e*S	**Sn**	**09 48 41.7**	**-2.8**
GRGR	**Grenville**	**1.72**	**33**	*e*Pn	**Pn**	**09 48 25.7**	**-0.8**
GRGR				*e*Sn	**Sn**	**09 48 46.9**	**-1.6**
GRW	**Mount Saint Ca**	**1.74**	**33**	*e*P	**Pn**	**09 48 27.2**	**+0.5**
ORIV	**Oritupano**	**1.79**	**206**	⇑*i*P	**Pn**	**09 48 28.6**	**+1.3**
ORIV				*e*S	**Sn**	**09 48 49.5**	**-0.6**
ORIV	**Oritupano**	**1.79**	**206**	*e*P	**Pn**	**09 48 28.5**	**+1.2**
ORIV				*e*S	**Sn**	**09 48 49.5**	**-0.6**
TPR	**Prospect**	**1.88**	**75**	⇓*i*P	**Pn**	**09 48 27.7**	**-0.7**
TPR				*e*S	**Sn**	**09 48 48.4**	**-3.6**
TPR	**Prospect**	**1.88**	**75**	*e*	**Pn**	**09 48 31.1**	**+2.7**
TPR				*e*S	**Sn**	**09 48 48.4**	**-3.6**
PCRV	**Puerto La Cruz**	**2.05**	**256**	⇑*i*P	**Pn**	**09 48 32.0**	**+1.3**
PCRV				*e*S	**Sn**	**09 48 55.3**	**-0.7**
PCRV	**Puerto La Cruz**	**2.05**	**256**	*e*P	**Pn**	**09 48 31.9**	**+1.2**
PCRV				*e*S	**Sn**	**09 48 54.2**	**-1.8**
PCRV	**Puerto La Cruz**	**2.05**	**256**	*e*P	**Pn**	**09 48 32.0**	**+1.3**

CURV	Curarigua	7.25	265	eP	Pn	09 49 41.5	+0.7
ELOV	Elorza	7.71	242	eP	Pn	09 49 46.6	-0.4
QARV	Quebrada Arrib	7.79	267	eP	Pn	09 49 48.8	+0.6
SDV	Santo Domingo	8.10	258	ePn	Pn	09 49 51.1	-1.2
SDV				eSn	Sn	09 51 18.5	-3.8
SDV	Santo Domingo	8.10	258	P	Pn	09 49 51.7	-0.6
	2.0nm,0.3s,baz=89,slow=6.0,SNR=22						
SDV				S	Sn	09 51 18.9	-3.3
	36nm,0.3s,baz=47,slow=16,SNR=22						
SJG	San Juan	8.13	336	P	Pn	09 49 52.6	-0.2
	4.6nm,0.3s,baz=123,slow=12,SNR=4.9						
SJG				S	Sn	09 51 15.4	-7.6
	10nm,0.3s,baz=2.0,slow=15,SNR=6.6						
CBYP	Canovanas	8.16	338	ePn	Pn	09 49 49.0	-4.2
IMOV	Isla Los Monje	8.29	282	eP	Pn	09 49 54.7	-0.2
SOCV	Socops	8.47	254	eP	Pn	09 49 56.8	-0.6
MPR	Mayaguez	8.66	330	ePn	Pn	09 50 02.3	+2.3
VIGV	El Vigia	8.81	259	eP	Pn	09 50 01.0	-1.1
VIRV	Villa del Rosa	9.62	270	eP	Pn	09 50 12.5	-0.6
CAPV	Capacho	9.97	254	eP	Pn	09 50 17.3	-0.6
SDDR	Presa de Saban	11.75	316	ePn	Pn	09 50 45.0	+3.2
SDDR				eSn	Sn	09 52 48.6	-2.5
ROSC	El Rosal	12.96	244	P	Pn	09 51 00.5	+2.5
ROSC	El Rosal	12.96	244	P	Pn	09 51 00.5	+2.5
	1.7nm,0.3s,baz=99,slow=20,SNR=4.3						
ROSC				S	Sn	09 53 18.2	-2.5
	1.1nm,0.3s,baz=73,slow=19,SNR=2.6						
SIV	San Ignacio	26.55	177	P	P	09 53 27.9	+1.8
	7.4nm,0.6s,mb4.4,baz=10.0,slow=9.0,SNR=42						
SIV				pP	pP	09 53 51.8	+3.4
	4.2nm,0.7s,baz=18,slow=8.8,SNR=5.4						
LPAZ	La Paz	27.35	192	eP	P	09 53 35.6	+2.3
	3.8nm,0.8s,mb4.0						
LPAZ	La Paz	27.35	192	P	P	09 53 36.0	+2.7
	0.7nm,0.6s,mb3.4,baz=19,slow=14,SNR=4.5						
LHS	Liberty Hill	28.92	328	eP	P	09 53 42.1	-5.1
BDFB	Brasilia	29.89	151	P	P	09 53 57.5	+1.7
	0.7nm,0.5s,mb3.6,baz=307,slow=18,SNR=5.2						
BDFB				pP	pP	09 54 21.8	+3.5
	1.5nm,0.8s,baz=75,slow=14,SNR=2.7						
BLA	Blacksburg	30.90	332	eP	P	09 54 05.5	+1.0
	4.2nm,0.4s,mb4.5						
LRAL	Lakeview Retre	31.57	319	eP	P	09 54 11.7	+1.2
	18nm,1.2s,mb4.7						
TZTN	Tazewell	31.95	327	eP	P	09 54 14.3	+0.6
	8.5nm,1.0s,mb4.4						
SWET	Sewanee	32.34	323	eP	P	09 54 18.2	+1.0
PLAL	Pickwick Lake	33.50	320	eP	P	09 54 27.4	+0.1
	11nm,0.7s,mb4.8						
WVT	Waverly	34.10	322	eP	P	09 54 32.4	-0.1
ACSO	Alum Creek Sta	34.51	332	eP	P	09 54 36.9	+0.8
	19nm,0.9s,mb4.9						
BLO	Bloomington	35.47	327	eP	P	09 54 44.7	+0.4
	13nm,0.5s,mb5.0						
SIUC	Southern Illin	35.98	323	eP	P	09 54 49.0	+0.3
NATX	Nacogdoches	36.27	310	eP	P	09 54 51.6	+0.4
AAM	Ann Arbor	36.47	333	eP	P	09 54 53.5	+0.7
	24nm,0.4s						
FVM	French Village	36.88	322	eP	P	09 54 56.5	+0.2
	27nm,1.7s,mb4.9						
CPUP	Villa Florida	37.15	172	P	P	09 54 59.5	+0.7
	2.9nm,0.5s,mb4.4,baz=336,slow=7.6,SNR=13						
CCM	Cathedral Cave	37.42	322	eP	P	09 55 00.5	-0.4
	4.0nm,0.6s,mb4.5						
HDIL	Hopedale	37.95	326	eP	P	09 55 05.5	+0.2
GLMI	Grayling	38.92	335	eP	P	09 55 14.0	+0.6
	33nm,0.5s,mb5.4						
JCT	Junction City	39.73	305	eP	P	09 55 20.1	-0.3
	4.1nm,0.4s,mb4.6						
JCT				epP	pP	09 55 45.0	+1.6
JFWS	Jewell Farm	40.11	328	eP	P	09 55 23.3	0.0
	12nm,0.4s,mb5.1						
KSU1	Kansas State U	41.42	319	eP	P	09 55 32.7	-1.4
	14nm,0.8s,mb4.8						
COWI	Conover	41.90	332	eP	P	09 55 37.8	-0.1
	6.2nm,0.6s,mb4.5						
CFAA	Coronel Fontan	42.40	187	P	P	09 55 42.1	+0.1
	0.2nm,0.5s,baz=0.0,slow=6.1,SNR=3.9						
TXAR	Lajitas Array	42.52	302	P	P	09 55 43.6	+0.3
	0.5nm,0.3s,mb3.7,baz=116,slow=9.9,SNR=30						
TXAR				pP	pP	09 56 06.1	-0.5
	0.3nm,0.6s,baz=110,slow=7.2,SNR=2.2						
TXAR				PcP	PcP	09 57 33.4	-0.8
	0.4nm,0.6s,baz=125,slow=5.8,SNR=4.8						
TXAR				ScP	ScP	10 01 11.7	-4.4
	0.2nm,0.7s,baz=149,slow=5.8,SNR=3.0						
ECSD	EROS,Sioux Fal	44.14	324	eP	P	09 55 55.1	-0.9
	2.7nm,0.8s,mb4.0						
ECSD				epP	pP	09 56 19.5	0.0
SCHQ	Schefferville	44.16	357	P	P	09 55 55.3	-0.7
	2.4nm,0.5s,mb4.2,baz=178,slow=5.7,SNR=12						
EYMN	Ely	44.35	332	eP	P	09 55 56.7	-1.0
	5.5nm,0.8s,mb4.3						
EYMN				epP	pP	09 56 22.7	+1.5
MNTX	Cornudas Mount	44.65	305	eP	P	09 56 00.3	0.0
ANMO	Albuquerque	46.57	308	eP	P	09 56 16.2	+0.8
AGMN	Agassiz Refuge	46.68	330	eP	P	09 56 14.9	-1.1
	11nm,0.6s,mb4.8						
AGMN				epP	pP	09 56 41.4	+1.8
SDCO	Great Sand Dun	46.90	312	eP	P	09 56 17.9	0.0
	2.0nm,0.7s,mb4.0						
SDCO				epP	pP	09 56 43.4	+1.7
LAZ	Ladron	46.91	307	eP	P	09 56 18.1	0.0
LAZ				epP	pP	09 56 44.9	+3.2
ISCO	Idaho Springs	47.83	315	eP	P	09 56 25.1	0.0
ULM	Lac du Bonnet	48.01	332	eP	P	09 56 24.4	-1.9
	3.5nm,0.4s,mb4.5						
ULM				epP	pP	09 56 50.8	+0.7
ULM	Lac du Bonnet	48.01	332	P	P	09 56 24.5	-1.8
	7.1nm,0.5s,mb4.7,baz=132,slow=8.2,SNR=23						
ULM				pP	pP	09 56 49.7	-0.4
	2.9nm,0.7s,baz=118,slow=9.3,SNR=3.3						
SRU	San Rafael	51.07	312	eP	P	09 56 50.1	+0.4
DGMT	Dagmar	51.18	325	eP	P	09 56 50.9	+0.5
PLCA	Paso Flores	51.68	188	eP	P	09 56 55.3	+1.2
	2.1nm,0.7s,mb4.3						
PLCA				epP	pP	09 57 28.1	+10
PLCA	Paso Flores	51.68	188	P	P	09 56 55.0	+0.8
	3.1nm,0.8s,mb4.4,baz=11,slow=2.6,SNR=8.9						
BW06	Boulder Array	51.77	317	eP	P	09 56 54.1	-0.8
	3.2nm,0.7s,mb4.5						
PDAR	Pinedale Array	51.77	317	P	P	09 56 53.9	-1.0
	3.6nm,0.6s,mb4.6,baz=114,slow=10,SNR=36						
PDAR				pP	pP	09 57 19.6	+0.6
	1.0nm,0.7s,baz=121,slow=8.8,SNR=2.7						
RLMT	Red Lodge	52.57	320	eP	P	09 57 00.1	-0.7
HWUT	Hardware Ranch	52.70	315	eP	P	09 57 01.9	+0.1
	1.6nm,0.6s,mb4.2						
SNOW	Snow King Moun	52.85	317	eP	P	09 57 03.8	+0.9
	3.8nm,0.8s,mb4.5						
TPAW	Teton Pass	52.99	317	eP	P	09 57 03.2	-0.6
	6.4nm,1.3s,mb4.5						
DUG	Dugway	53.10	313	eP	P	09 57 04.7	0.0
	17nm,1.8s,mb4.8						
GCMT	Greycliff	53.11	320	eP	P	09 57 04.3	-0.4
BGU	Big Grassy Mou	53.50	313	eP	P	09 57 07.1	-0.6
BGU				epP	pP	09 57 33.2	+1.4
FCC	Fort Churchill	53.55	340	eP	P	09 57 06.0	-1.6
	4.8nm,0.7s,mb4.6						
FFC	Flin Flon	53.78	333	eP	P	09 57 07.0	-2.4
	36nm,2.5s,mb5.0						
QLMT	Earthquake Lak	53.84	318	eP	P	09 57 10.1	0.0
EGMT	Eagleton	54.17	323	eP	P	09 57 12.2	-0.1
	7.0nm,1.1s,mb4.6						
BOZ	Bozeman (W)	54.30	319	eP	P	09 57 12.8	-0.6
NVAR	Mina Array Bea	56.68	309	P	P	09 57 29.4	-1.2
	0.3nm,0.4s,mb3.7,baz=98,slow=6.5,SNR=4.7						
DBIC	Dimbokro	57.18	89	P	P	09 57 35.1	+0.6
	0.6nm,0.4s,mb4.0,baz=263,slow=8.1,SNR=3.2						
EDM	Edmonton	58.58	327	eP	P	09 57 42.6	-1.0
EDM				epP	pP	09 58 09.7	+1.5
TORD	Torodi Ar. Bea	62.83	81	P	P	09 58 13.6	+0.4
TORD				pP	pP	09 58 40.4	+2.3
TORD	Torodi Ar. Bea	62.83	81	P	P	09 58 13.6	+0.4
	0.8nm,0.5s,mb3.9,baz=293,slow=7.3,SNR=15						
TORD				pP	pP	09 58 40.4	+2.3
	0.5nm,0.4s,baz=284,slow=6.3,SNR=2.5						
YKA	Yellowknife Ar	63.62	336	P	P	09 58 15.2	-2.3
YKA				pP	pP	09 58 42.4	-0.1
YKA	Yellowknife Ar	63.62	336	P	P	09 58 15.2	-2.3
	1.6nm,0.4s,mb4.2,baz=107,slow=7.2,SNR=77						
YKA				pP	pP	09 58 42.4	-0.1
	0.4nm,0.5s,baz=110,slow=7.4,SNR=3.0						
DLBC	Dease Lake	69.19	329	eP	P	09 58 52.6	-0.5
NOA	NORSAR Array B	72.89	29	P	P	09 59 15.7	+0.3
NOA	NORSAR Array B	72.89	29	P	P	09 59 15.7	+0.3
	1.3nm,0.9s,mb3.8,baz=263,slow=6.1,SNR=3.1						
GERES	GERESS Array B	73.03	42	P	P	09 59 16.4	0.0
	0.7nm,0.6s,mb3.6,baz=264,slow=5.4,SNR=7.1						
EGAK	Eagle	75.51	334	eP	P	09 59 29.4	-1.1
	7.1nm,0.9s,mb4.4						
SPB4	Spitsbergen Ar	77.34	12	eP	P	09 59 40.2	-0.5
ARCES	ARCESS Array B	79.41	21	P	P	09 59 51.7	-0.5
	3.0nm,0.9s,mb4.1,baz=268,slow=5.7,SNR=9.5						
FINES	FINESS Array B	80.08	29	P	P	09 59 55.2	-0.7
	1.2nm,0.6s,mb3.9,baz=248,slow=3.0,SNR=9.3						
FINES				pP	pP	10 00 21.6	-0.3
	1.8nm,0.7s,baz=251,slow=4.3,SNR=2.4						
SVW2	Sparrevohn	82.16	331	eP	P	10 00 06.0	-1.0
AKASG	Malin Array Be	82.99	40	P	P	10 00 11.0	-0.5
AKASG	Malin Array Be	82.99	40	P	P	10 00 11.0	-0.5
	0.2nm,0.3s,mb3.4,baz=287,slow=3.1,SNR=4.2						
HHC	Hu-ho-hao-te	128.44	6	ePKP	PKPdf	10 06 51.3	-1.6
HHC				PKS		10 10 25.3	
HHC				SKS	SKSdf	10 13 53.1	-2.6
HHC				SKKS	SKKSac	10 15 41.3	-5.2
HHC				PP	PP		
	comp=Z,146nm,5.6s						
HHC				LR	LR		
	comp=N,129nm,6.1s						
HHC				LR	LR		
	comp=E,110nm,5.5s						
HHC				LR	LR		
	comp=Z,197nm,11.2s						
LZH	Lanzhou	131.76	15	ePKP	PKPdf	10 06 57.5	-1.8
LZH				XPKP		10 07 38.8	
CD2	Chengdu	136.62	17	ePKP	PKPdf	10 07 05.8	-2.8
NJ2	Nanjing	137.48	358	ePKP	PKPdf	10 07 10.4	+0.2
GYA	Guiyang	141.63	16	ePKP	PKPdf	10 07 14.3	-3.6
GYA				XPKP		10 07 57.6	
GYA				PP	PP	10 10 23.4	+2.6
GYA				PKS		10 10 50.3	
GYA				SKS	SKSdf	10 14 12.8	-6.4
GYA				PP	PP		
	comp=Z,110nm,7.9s						
KMI	Kunming	141.65	22	PKP	PKPdf	10 07 16.1	-1.8

*ISCJB **21** 10:00:30.9±2.5, 72S±0.1×1282E±02, h244km±28km, mb3.4/4, Error ellipse: s-maj=28.9km s-min=11.3km az=144.7*

*IDC **21** 10:00:31.4±3.5, 709S×12824E, h226km±39km, mb3.4/4, mb1 3.5/8, mb1mx3.4/15, mbtmp3.4/8, Error ellipse: s-maj=49.7km s-min=16.1km az=67.0*

ISC 21 10:00:29.4±2.5, 71S±0.1×1282E±02, h204km±26km, n8, σ0°92/12, mb3.4/4, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	Kupang	5.47	235	P	Pn	10 01 53.5	+3.5
	12nm,0.3s,baz=213,slow=2.0,SNR=7.0						
BATI				S	Sn	10 02 53.4	-0.2
	50nm,0.3s,baz=92,slow=1.9,SNR=7.7						
FITZ	Fitzroy Crossi	11.24	193	P	Pn	10 03 04.1	-0.4
	4.8nm,0.3s,baz=28,slow=11,SNR=53						
FITZ				S	Sn	10 05 05.0	-5.2
	0.7nm,0.3s,baz=288,slow=20,SNR=3.0						
WRA	Warramunga Arr	14.10	156	P	Pn	10 03 39.5	-0.9
	0.3nm,0.3s,baz=328,slow=14,SNR=43						
WRA				S	S	10 06 10.9	-6.5
	1.6nm,0.3s,baz=331,slow=22,SNR=8.9						
ASAR	Alice Springs	17.38	162	P	P	10 04 19.9	+1.8
	0.5nm,0.3s,baz=337,slow=9.7,SNR=46						
ASAR				S	S	10 07 28.2	-0.2
	0.4nm,0.3s,baz=345,slow=23,SNR=8.1						
KSRS	Korea Array	44.30	360	P	P	10 08 18.5	-0.4
	0.4nm,0.4s,mb3.1,baz=179,slow=9.8,SNR=6.0						
SONM	Songino Array	57.97	343	P	P	10 10 01.4	+1.0
	1.1nm,0.7s,mb3.6,baz=166,slow=7.7,SNR=7.7						
MKAR	Makanchi Array	67.33	328	P	P	10 11 02.0	-0.3
	0.4nm,0.4s,mb3.4,baz=111,slow=6.8,SNR=3.2						
ZALV	Zalesovo Beam	70.88	335	P	P	10 11 23.3	-0.7
	0.9nm,0.6s,mb3.6,baz=104,slow=6.3,SNR=5.0						

*ISCJB **21** 10:04:18.3±0.3, 3270N±002×11600W±002, h14km±2km, Error ellipse: s-maj=3.2km s-min=2.8km az=139.5*

*ECX **21** 10:04:19.7±1.0, 3270N×11604W, h4km±2km, MD3.2, ML3.3*

*NEIC **21** 10:04:19.3, 3268N×11606W, h10km, ML3.3(ECX), ML3.0(PAS), After PAS.*

ISC 21 10:04:18.5±0.3, 3269N±002×11603W±002, h14km±2km, n57, σ0°87/79, 30C-37D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DVTC	Desert V Tower	0.07	245	⇓eP	Pg	10 04 21.4	+0.1
DVTC	Desert V Tower	0.07	245	⇑P	Pg	10 04 21.4	+0.1
	baz=0.0						
DVTC				⇑S	Sg	10 04 22.9	-0.3
	baz=0.0						
RMX	La Rumorosa	0.10	206	⇑P	Pg	10 04 21.9	+0.3
RMX				eS	Sg	10 04 23.8	+0.1
YUH	Yuha Desert	0.10	114	⇑eP	Pg	10 04 21.6	0.0
CRR	Carrizo Plain	0.20	14	⇓eP	Pg	10 04 23.4	+0.3
CRR	Carrizo Plain	0.20	14	⇑eP	Pg	10 04 23.4	+0.3
SGL	Mount Signal	0.26	98	⇑eP	Pg	10 04 24.6	+0.6
WESC	Westside Schoo	0.26	74	⇑eP	Pg	10 04 24.9	+0.8
CBKC	Canebrake	0.28	318	⇑eP	Pg	10 04 25.0	+0.5
COK	Cook Ranch	0.30	58	⇑eP	Pg	10 04 25.7	+0.9
ERPC	Ernies Place	0.31	80	⇑eP	Pg	10 04 26.1	+1.1
SWSC	Sam W. Stewart	0.32	38	⇓eP	Pg	10 04 25.6	+0.4
SWSC	Sam W. Stewart	0.32	38	⇓P	Pg	10 04 25.5	+0.4
	baz=0.3						
SWSC				⇓S	Sg	10 04 30.1	+0.5
	baz=0.3						
MONP	Monument Peak	0.39	302	⇓P	Pg	10 04 26.5	+0.2
	baz=0.4						
MONP				⇓S	Sg	10 04 31.7	+0.1
	baz=0.4						
BAR	Barrett	0.54	269	⇓eP	Pg	10 04 29.3	+0.1
RDX	Rancho Dowling	0.76	175	⇓eP	Pg	10 04 33.1	-0.1
RDX				eS	Sg	10 04 43.1	0.0
RDX				⇓e		10 04 45.9	
	comp=N,819nm,0.5s						
RDX	Rancho Dowling	0.76	175	⇓eP	Pg	10 04 33.1	-0.1
RDX				eS	Sg	10 04 43.1	0.0
109C	Camp Elliot, M	0.93	283	⇑P	Pb	10 04 35.7	-0.7
	baz=0.9						
109C				⇓S	Sb	10 04 47.6	-1.0
	baz=0.9						
ENX	Ensenada	0.97	214	⇓eP	Pb	10 04 36.8	-0.2
ENX				eS	Sb	10 04 49.6	0.0
ENX				⇑e		10 04 50.9	
	comp=E,930nm,0.5s						
ENX	Ensenada	0.97	214	⇓eP	Pb	10 04 36.8	-0.2
ENX				eS	Sb	10 04 49.6	0.0
PFO	Pinyon Flat Ob	0.99	339	ePg	Pg	10 04 36.7	-0.9
PFO				eSg	Sg	10 04 50.2	-0.3
PFO	Pinyon Flat Ob	0.99	339	⇓P	Pb	10 04 36.7	-0.7
	baz=1.0						
PFO				⇓S	Sb	10 04 49.8	-0.4
	baz=1.0						
GLA	Glamis	1.07	70	ePg	Pg	10 04 38.0	-1.3
GLA				eSg	Sg	10 04 52.5	-0.8
GLA	Glamis	1.07	70	⇓P	Pb	10 04 37.9	-1.0
	baz=1.1						
GLA				⇓S	Sb	10 04 51.1	-1.7
	baz=1.1						
BC3	Big Chuckw Mtn	1.08	26	⇑P	Pb	10 04 37.9	-1.1
	baz=1.1						
PBX	Punta Banda	1.11	212	eP	Pb	10 04 39.4	-0.1
PBX				eS	Sb	10 04 54.1	+0.3
ECNX	Esteban Cantu	1.14	205	⇓eP	Pb	10 04 39.8	-0.1
ECNX				⇓eP		10 04 37.1	
ECNX				eS	Sb	10 04 50.2	-4.3
ECNX				eS	Sb	10 04 54.8	+0.3
BELC	Belle Mtn.	1.31	1	⇑P	Pn	10 04 41.4	-1.0
	baz=1.3						
BELC				⇓S	Sb	10 04 57.4	-2.2
	baz=1.3						
MURC	Murrieta	1.34	313	⇑P	Pn	10 04 42.5	-0.3
	baz=1.3						
MURC				⇑S	Sn	10 05 00.2	-0.2
	baz=1.3						
IRM	Iron Mountain	1.64	26	⇑P	Pn	10 04 46.3	-0.6
	baz=1.7						
Y12C	Blythe	1.65	50	⇓P	Pn	10 04 46.2	-0.8
	baz=1.7,SNR=16						
BBRC	Big Bear Sol-O	1.74	335	⇑Pg	Pg	10 04 51.3	-0.6
	baz=1.7						
BBRC				⇑Sb	Sb	10 05 13.1	+1.2
	baz=1.7						
BFSC	Mount Baldy St	2.06	319	⇓Pb	Pb	10 04 55.3	-0.4
	baz=2.1						
BFSC				⇓Sb	Sb	10 05 22.1	+0.9
	baz=2.1						
GMRC	Granite Mounta	2.11	8	⇓Pn	Pn	10 04 53.0	-0.4
	baz=2.1						
CIS	Catalina Islan	2.12	290	⇑Pn	Pn	10 04 53.3	-0.2
	baz=2.1						
CIS				⇓Pb	Pb	10 04 56.4	-0.3
	baz=2.1						
HEC	Hector,Ludlow	2.15	353	⇑Pg	Pg	10 04 59.5	-0.3
	baz=2.2						
FMP	Fort Macarthur	2.16	299	⇑Pb	Pb	10 04 56.9	-0.5
	baz=2.1						
Y13A	Salome	2.16	58	⇓Pn	Pn	10 04 53.0	-1.0
	baz=2.2,SNR=5.9						
X13A	Yucca	2.64	43	⇑Pn	Pn	10 05 00.7	0.0
	baz=2.7,SNR=22						
GSC	Goldstone	2.69	346	ePg	Pg	10 05 09.2	-0.8
EDW2	Edwards Air Fo	2.73	324	⇓Pb	Pb	10 05 07.6	+0.5
	baz=2.7						
EDW2				⇑Sb	Sb	10 05 42.5	+2.1
	baz=2.7						
W13A	Hualapai Mount	2.99	36	⇓Pn	Pn	10 05 05.2	-0.4
	baz=3.0,SNR=19						
X14A	Yava	3.17	55	⇑Pn	Pn	10 05 07.7	-0.2
	baz=3.2,SNR=23						
SHOC	Shoshone	3.21	356	⇓Sb	Sb	10 05 59.3	+5.0
	baz=3.2						
Y15A	Casa Rosa Ranc	3.34	67	⇑Pn	Pn	10 05 10.3	-0.1
	baz=3.4						
ARVC	Arvin	3.37	317	⇓Sb	Sb	10 06 01.9	+3.1
	baz=3.4						
W14A	Seligman	3.51	43	⇑Pn	Pn	10 05 13.5	+0.9
	baz=3.5,SNR=9.2						
ISA	Isabella	3.59	326	ePg	Pg	10 05 24.7	-2.6
ISA	Isabella	3.59	326	⇑Sb	Sb	10 06 09.2	+3.9
	baz=3.6						
X15A	Humboldt	3.64	59	⇑Pn	Pn	10 05 15.3	+0.9
	baz=3.7,SNR=15						
V14A	Boquillas Ranc	3.81	39	⇓Pn	Pn	10 05 17.3	+0.5
	baz=3.8,SNR=30						
U13A	Pakoon Wash	4.09	24	⇓Pn	Pn	10 05 21.7	+1.1
	baz=4.1,SNR=12						
U14A	Mt Trumbull	4.40	31	⇓Pn	Pn	10 05 25.6	+0.7
	baz=4.4,SNR=17						
T13A	Saint George	4.66	21	⇓Pn	Pn	10 05 29.8	+1.4
	baz=4.7,SNR=15						
T14A	Hurricane	4.99	28	⇑Pn	Pn	10 05 34.3	+1.3
	baz=5.0,SNR=8.6						
T15A	Red Dirt Ranch	5.26	34	⇓Pn	Pn	10 05 38.3	+1.6
	baz=5.3,SNR=9.9						
T16A	Glen Canyon Da	5.67	40	⇑Pn	Pn	10 05 44.3	+2.0
	baz=5.7,SNR=13						

*BJI **21** 10:12:42.8, 300S×10120E, h45km, mB5.1, mb4.9, Ms4.6, Msz4.3*

*ISCJB **21** 10:12:43.7±0.3, 304S±004×10105E±004, h42km, mb4.9/72, MS4.1/28, Error ellipse: s-maj=6.6km s-min=4.8km az=43.7*

*NEIC **21** 10:12:45.9±0.2, 296S×10119E, mb5.0/27, Error ellipse: s-maj=8.4km s-min=4.9km az=47.0*

*MOS **21** 10:12:45.9±0.9, 269S×10136E, h53km, mb5.2/38, Error ellipse: s-maj=13.5km s-min=6.5km az=111.7*

*IDC **21** 10:12:46.1±0.6, 290S×10127E, h49km±3km, mb4.4/14, mb1 4.5/15, mb1mx4.3/21, mbtmp4.4/15, MS4.0/18, Ms1 3.9/18, ms1mx3.8/31, Error ellipse: s-maj=23.4km s-min=8.7km az=51.0*

*SZGRF **21** 10:13:13.7, 163N×9879E, h70km, mb4.7, Northern Sumatera, Indonesia*

ISC 21 10:12:45.6±0.3, 305S±004×10106E±004, h44km, h44km±2.0km: pP-P, n204, σ1°16/187, mb4.9/72, MS4.1/28, 24C-10D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSI	Kapahiang	1.65	111	P	Pn	10 13 11.7	-0.4
	3μm,0.9s						
PPI	Padang Panjang	2.66	346	P	Pn	10 13 25.9	-0.1
	2μm,0.8s						
PPI	Padang Panjang	2.66	346	⇑eP	Pn	10 13 26.0	0.0
PPI				eS	Sn	10 13 59.0	+2.0
KGM	Kluang	5.52	24	⇑P	Pn	10 14 06.6	+1.3
MYKOM	Kota Tinggi	5.56	30	⇑P	Pn	10 14 06.6	+0.7
PSI	Prapat	6.19	340	P	Pn	10 14 13.2	-1.3
PSI				pmax	pmax		
	comp=Z,2.0nm,0.3s						
PSI				MLR	MLR		
	comp=Z,2μm,20.5s						
PSI	Prapat	6.19	340	P	Pn	10 14 13.2	-1.3
	comp=Z,1.9nm,0.3s,baz=158,slow=13,SNR=13						
PSI				LR	LR	10 16 59.0	
	comp=Z,2μm,20.5s,baz=148,slow=42						
IPM	Ipoh	7.48	360	⇓P	Pn	10 14 36.0	+3.8
KULM	Kulim	8.29	357	ePn	Pn	10 14 44.4	+1.0
KULM	Kulim	8.29	357	⇑P	Pn	10 14 45.7	+2.3
KTGM	Kuala Trenggan	8.58	14	⇓P	Pn	10 14 49.5	+2.2
SNG	Songkhla	10.17	358	P	Pn	10 15 09.0	-0.1
BSI	Banda Aceh	10.26	326	P	Pn	10 15 09.6	-0.7
	comp=Z,49nm,0.9s						
KSM	Kuching	10.28	64	ePn	Pn	10 15 15.6	+5.0
KSM	Kuching	10.28	64	⇑P	Pn	10

comp=Z,380nm,4.0s
GYA LR LR
comp=N,680nm,17.7s,MS4.5
GYA LR LR
comp=E,620nm,17.1s,MS4.5
GYA LR LR
comp=Z,500nm,18.8s,MS4.2
NACB Ninganchiao 33.64 35 *eP* **P 10 19 21.7 -0.5**
CD2 Chengdu 33.87 4 *eP* **P 10 19 25.4 +1.3**
CD2 AP pP 10 19 35.1 -0.9
CD2 XP sP 10 19 39.3 -1.9
CD2 PP PP 10 20 39.8 -1.7
CD2 S **S 10 24 47.4 +1.9**
CD2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.8
CD2 AMB AMB
comp=Z,30nm,5.2s
CD2 LR LR
comp=N,490nm,21.6s,MS4.5
CD2 LR LR
comp=E,860nm,16.8s,MS4.5
CD2 LR LR
comp=Z,540nm,19.2s,MS4.3
YHNB Yeheng 33.90 35 *eP* **P 10 19 23.8 -0.7**
WRA Warramunga Arr 36.56 120 P **P 10 19 47.0 -0.5**
WRA *PP pP 10 19 58.8 -0.6
WRA 10 22 10.3
WRA S **S 10 25 24.1 -3.1**
WRA pmax pmax
comp=Z,7.0nm,0.3s
WRA pmax pmax
comp=Z,9.0nm,0.9s
WRA pmax pmax
comp=Z,1.0nm,0.5s
WRA smax
comp=N,1.0nm,1.0s
WRA Warramunga Arr 36.56 120 P **P 10 19 47.0 -0.5**
comp=N,6.8nm,0.3s,mb4.9,baz=303,slow=9.0,SNR=150
WRA pP pP 10 19 58.8 -0.6
comp=N,8.6nm,0.9s,baz=302,slow=9.1,SNR=9.0
WRA PcP PcP 10 22 10.3 -0.1
comp=N,1.1nm,0.5s,baz=296,slow=2.6,SNR=4.6
WRA S **S 10 25 24.1 -3.1**
comp=N,0.9nm,1.0s,baz=293,slow=15,SNR=3.7
WRAB Tennant Creek 36.56 120 P **P 10 19 47.0 -0.5**
comp=N,148nm,0.5s,SNR=31
WRAB Tennant Creek 36.56 120 *eP* **P 10 19 47.1 -0.4**
comp=N,20nm,1.0s,mb4.9
WRAB Tennant Creek 36.56 120 *eP* **P 10 19 47.1 -0.4**
WRAB pmax pmax
comp=Z,20nm,1.0s,mb4.9
WB2 Warramunga Arr 36.57 120⇑ *iP* **P 10 19 47.0 -0.5**
ASAR Alice Springs 37.79 126 P **P 10 19 58.2 +0.4**
ASAR *PP pP 10 20 10.0 +0.2
ASAR 10 22 14.6
ASAR S **S 10 25 42.6 -3.2**
ASAR pmax pmax
comp=Z,6.0nm,0.9s
ASAR pmax pmax
comp=Z,4.0nm,0.6s
ASAR pmax pmax
comp=Z,3.0nm,0.9s
ASAR Alice Springs 37.79 126 P **P 10 19 58.1 +0.3**
comp=Z,5.5nm,0.9s,mb4.3,baz=300,slow=8.2,SNR=50
ASAR pP pP 10 20 10.0 +0.2
comp=Z,3.9nm,0.6s,baz=300,slow=8.2,SNR=10.0
ASAR PcP PcP 10 22 14.6 +0.5
comp=Z,2.7nm,0.9s,baz=315,slow=3.1,SNR=7.6
ASAR S **S 10 25 42.6 -3.2**
comp=Z,0.4nm,0.8s,baz=305,slow=14,SNR=6.1
LGTI Lohaghat 37.97 330 *ex* x 10 20 10.0
PTH Pithoragarh 38.07 330 *ex* x 10 20 01.6
NJ2 Nanjing 38.79 24 *eP* **P 10 20 08.1 +2.0**
NJ2 AP pP 10 20 17.3 -0.8
NJ2 XP sP 10 20 21.3 -2.0
NJ2 S **S 10 26 05.0 +4.4**
NJ2 XS sS 10 26 21.0 +0.3
NJ2 AMB AMB
comp=Z,30nm,0.7s,mb5.1
NJ2 AMB AMB
comp=Z,140nm,3.9s
NJ2 LR LR
comp=N,570nm,14.4s,MS4.6
NJ2 LR LR
comp=E,400nm,18.0s,MS4.6
LZH Lanzhou 39.02 4 *eP* **P 10 20 07.5 -0.5**
LZH AP pP 10 20 16.5 -3.5
LZH XP sP 10 20 20.0 -5.2
LZH PP PP 10 21 42.0 +3.9
LZH *eS* **S 10 26 07.0 +3.0**
LZH AMB AMB
comp=Z,15nm,1.0s,mb4.7
LZH AMB AMB
comp=Z,100nm,5.1s
LZH LR LR
comp=N,540nm,15.0s
LZH LR LR
comp=Z,786nm,16.9s,MS4.6
JOW Kunigami 39.67 40 LR LR 10 34 17.3
comp=Z,152nm,21.7s,MS3.8,baz=109,slow=33
DDI Dehra Dun 39.80 328 *ex* x 10 20 15.0
GTA Gaotai 42.27 359 *eP* **P 10 20 33.5 -1.2**
GTA AP pP 10 20 42.6 -4.2
GTA XP sP 10 20 47.1 -4.9
GTA PP PP 10 22 15.3 +2.0
GTA PCP PcP 10 22 28.3 +0.3
GTA SCP ScP 10 26 14.3 -1.0
GTA S **S 10 26 52.3 0.0**
GTA AMB AMB
comp=Z,3.0nm,1.0s,mb3.9
GTA AMB AMB
comp=Z,67nm,6.1s
GTA LR LR
comp=N,154nm,20.6s,MS4.0
GTA LR LR
comp=E,99nm,18.0s,MS4.0
GTA LR LR
comp=Z,290nm,21.4s,MS4.1
HHC Hu-ho-hao-te 44.73 11 *eP* **P 10 20 56.5 +1.9**
HHC AP pP 10 21 06.9 +0.1
HHC XP sP 10 21 11.3 -0.6
HHC PP PP 10 22 42.3 +2.6
HHC S **S 10 27 31.8 +3.5**
HHC XS sS 10 27 48.8 +0.1
HHC AMB AMB
comp=Z,17nm,0.5s,mb5.1
HHC AMB AMB
comp=Z,154nm,5.3s
HHC LR LR
comp=N,224nm,12.8s
HHC LR LR
comp=E,378nm,18.1s
HHC LR LR
comp=Z,199nm,24.9s
JNU Nakatsue 45.71 36 LR LR 10 40 25.9
comp=Z,104nm,20.7s,MS3.8,baz=30,slow=36
CTA Charters Tower 47.20 115 P **P 10 21 14.3 -0.1**
CTA Charters Tower 47.20 115 P **P 10 21 14.3 -0.1**
CTA pmax pmax
comp=Z,5.0nm,0.6s
CTA Charters Tower 47.20 115 P **P 10 21 14.3 -0.1**
comp=Z,5.0nm,0.6s,mb4.7,baz=299,slow=11,SNR=6.5
CTAO Charters Tower 47.20 115 *eP* **P 10 21 14.3 -0.1**
CTAO *ep*P pP 10 21 25.9 -0.8
KSRS Korea Array 47.40 29 P **P 10 21 14.6 -1.0**
KSRS *PP pP 10 21 27.2 -0.7
KSRS pmax pmax
comp=Z,10.0nm,1.1s,mb4.7
KSRS pmax pmax
comp=Z,17nm,1.1s,mb4.9
KSRS MLR MLR
comp=Z,84nm,19.7s,MS3.7
KSRS Korea Array 47.40 29 P **P 10 21 14.6 -1.1**
comp=Z,9.7nm,1.1s,mb4.7,baz=225,slow=7.8,SNR=17
KSRS pP pP 10 21 27.2 -0.7
comp=Z,17nm,1.1s,baz=221,slow=7.6,SNR=14
KSRS LR LR 10 40 50.4
comp=Z,84nm,19.7s,MS3.7,baz=57,slow=36
STKA Stephens Creek 47.67 132 *eP* **P 10 21 18.7 +0.8**
comp=Z,8.7nm,1.0s,mb4.7
STKA Stephens Creek 47.67 132 P **P 10 21 19.0 +1.1**
comp=Z,2.6nm,0.4s,mb4.6,baz=308,slow=6.7,SNR=16
STKA pP pP 10 21 31.1 +0.9
comp=Z,7.2nm,0.5s,baz=306,slow=7.6,SNR=10
STKA LR LR 10 42 27.2
comp=Z,129nm,20.1s,MS3.9,baz=112,slow=37

WMQ Urumqi 48.18 347⇑ *iP* **P 10 21 21.3 -0.3**
WMQ AP pP 10 21 31.0 -2.9
WMQ XP sP 10 21 35.0 -4.0
WMQ PCP PcP 10 22 49.0 +0.6
WMQ S **S 10 28 19.0 +1.4**
WMQ AMB AMB
comp=Z,114nm,0.8s,mb6.0
WMQ AMB AMB
comp=Z,204nm,4.6s
WMQ LR LR
comp=N,340nm,26.4s,MS4.4
WMQ LR LR
comp=E,372nm,23.2s,MS4.4
WMQ LR LR
comp=Z,247nm,25.0s,MS4.1
KZA Kyzart 50.65 335 P **P 10 21 41.2 +0.7**
SNR=11
SONM Songino Array 50.89 5 P **P 10 21 41.9 -0.2**
SONM 10 22 57.2
SONM pmax pmax
comp=Z,32nm,0.9s
SONM pmax pmax
comp=Z,2.0nm,0.5s
SONM pmax pmax
comp=N,1.0nm,0.8s
SONM MLR MLR
comp=Z,118nm,18.5s
SONM Songino Array 50.89 5 P **P 10 21 41.9 -0.2**
comp=Z,32nm,0.9s,mb5.2,baz=183,slow=8.0,SNR=142
SONM PcP PcP 10 22 57.2 -1.0
comp=Z,1.5nm,0.5s,baz=191,slow=3.4,SNR=4.4
SONM ScP ScP 10 26 48.2 -2.9
comp=Z,0.7nm,0.8s,baz=157,slow=4.2,SNR=4.0
SONM LR LR 10 45 13.8
comp=Z,118nm,18.5s,MS3.9,baz=60,slow=38
ULN Ulaanbaatar 50.97 5 *eP* **P 10 21 42.5 -0.3**
comp=Z,19nm,0.9s,mb5.0
ULN *e*PcP PcP 10 22 58.1 -0.4
ULN Ulaanbaatar 50.97 5 *eP* **P 10 21 42.5 -0.3**
ULN *e* 10 22 58.1
ULN pmax pmax
comp=Z,19nm,0.9s,mb5.0
AAK Ala-Archa 51.43 335⇑ *eP* **P 10 21 44.4 -1.9**
AAK pmax pmax
comp=Z,29nm,2.5s,mb4.8
CN2 Changchun 51.53 22 *eP* **P 10 21 44.8 -2.2**
CN2 *e*XP sP 10 21 57.9 -6.7
CN2 *eS* **S 10 29 03.0 -1.4**
CN2 AMB AMB
comp=Z,10.0nm,1.0s,mb4.7
CN2 AMB AMB
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,200nm,15.0s,MS4.4
CN2 LR LR
comp=E,200nm,15.0s,MS4.4
CN2 LR LR
comp=Z,200nm,16.0s,MS4.2
FRU Bishkek 51.54 335 *eP* **P 10 21 47.2 +0.1**
EKS2 Erkin-Say 51.76 335 P **P 10 21 49.5 +0.7**
SNR=21
MK31 Makanchi Array 52.32 344 *eP* **P 10 21 52.1 -0.7**
MKAR Makanchi Array 52.32 344 P **P 10 21 52.2 -0.7**
MKAR pP pP 10 22 05.0 -0.2
MKAR LR LR 10 48 49.2
MKAR Makanchi Array 52.32 344 P **P 10 21 52.2 -0.7**
MKAR *PP pP 10 22 05.1 -0.2
MKAR pmax pmax
comp=Z,20nm,0.7s
MKAR pmax pmax
comp=Z,6.0nm,0.7s
MKAR MLR MLR
comp=Z,68nm,20.8s
MKAR Makanchi Array 52.32 344 P **P 10 21 52.2 -0.7**
comp=Z,20nm,0.7s,mb5.2,baz=146,slow=8.2,SNR=160
MKAR pP pP 10 22 05.0 -0.2
comp=Z,5.5nm,0.7s,baz=146,slow=8.1,SNR=6.3
MKAR LR LR 10 48 49.3
comp=Z,68nm,20.8s,MS3.7,baz=161,slow=41
MAT Matsushiro 52.44 38 P **P 10 21 52.5 -1.4**
MJAR Matsushiro Arr 52.44 38 P **P 10 21 52.2 -1.7**
MJAR *PP pP 10 22 04.4 -1.9
MJAR pmax pmax
comp=Z,5.0nm,1.0s
MJAR pmax pmax
comp=Z,8.0nm,1.0s
MJAR Matsushiro Arr 52.44 38 P **P 10 21 52.2 -1.7**
comp=Z,5.4nm,0.9s,mb4.5,baz=221,slow=7.3,SNR=12
MJAR pP pP 10 22 04.4 -2.0
comp=Z,7.8nm,1.0s,baz=223,slow=7.9,SNR=7.8
MJAR LR LR 10 43 03.0
comp=Z,125nm,20.5s,MS3.9,baz=265,slow=35
ZAK Zakamensk 53.26 2⇑ *iP* **P 10 21 58.9 -0.8**
ZAK pmax pmax
comp=Z,6.0nm,1.1s,mb4.4
MDJ Mudanjiang 53.87 25 P **P 10 22 03.9 -0.4**
MDJ AP pP 10 22 12.9 -3.9
MDJ XP sP 10 22 17.0 -4.9
MDJ AMB AMB
comp=Z,6.0nm,1.3s,mb4.4
MDJ AMB AMB
comp=Z,162nm,4.7s
MOY Mondy 54.51 360 *eP* **P 10 22 07.6 -1.2**
TLY Talaya 54.57 2 *eP* **P 10 22 09.5 +0.2**
comp=Z,12nm,1.0s,mb4.9
TLY Talaya 54.57 2 *c iP* **P 10 22 08.6 -0.6**
TLY pmax pmax
comp=Z,4.0nm,1.3s,mb4.3
IRK Irkutsk 55.15 2 *eP* **P 10 22 12.5 -1.0**
IRK *e* 10 24 09.8
IRK pmax pmax
comp=Z,26nm,1.5s,mb5.0
KURK Kurchatov 56.91 343 *eP* **P 10 22 25.4 -0.6**
comp=Z,18nm,0.8s,mb5.2
KURK *ep*P pP 10 22 38.6 0.0
KURK Kurchatov 56.91 343 *eP* **P 10 22 25.5 -0.5**
KURK *e*PP pP 10 22 38.6 0.0
KURK pmax pmax
comp=Z,19nm,0.8s,mb5.2
ZAL Zalesovo 58.38 349 P **P 10 22 35.4 -1.0**
ZAL pmax pmax
comp=Z,105nm,0.9s
ZALV Zalesovo Beam 58.39 349 P **P 10 22 35.4 -1.1**
comp=Z,105nm,0.9s,mb5.9,baz=165,slow=5.3,SNR=305
KLR Kul'dur 58.47 23 *eP* **P 10 22 32.7 -4.3**
HABR Khabarovsk 59.23 26 *eP* **P 10 22 38.3 -4.1**
HABR *e*PP pP 10 22 52.5 -2.5
HABR *e*SP sP 10 22 58.1 -2.0
HABR *e* 10 23 27.7
HABR *e* 10 24 48.9
HABR *eS* **S 10 30 41.4 -5.8**
HABR *e* 10 32 23.9
HABR *e*SS SS 10 34 38.0 -4.4
NVS Novosibirsk 59.55 348⇑ *iP* **P 10 22 42.6 -1.8**
NVS *e*PP pP 10 22 55.2 -1.8
NVS *eS* **S 10 30 46.2 -4.8**
NVS pmax pmax
comp=N,27nm,1.3s
NVS pmax pmax
comp=E,16nm,1.3s
NVS pmax pmax
comp=Z,43nm,1.3s,mb5.3
NVS smax
comp=N,7.0nm,1.4s
NVS smax
comp=E,8.0nm,1.4s
NAY Al-Naaiem 60.69 306 *eP* **P 10 22 52.3 -0.5**
NAY AMb AMB 10 22 54.1
comp=Z,16nm,0.7s,mb5.2
MIB Mutribah 60.82 307 *eP* **P 10 22 54.0 +0.3**
MIB AMb AMB 10 22 56.0
comp=Z,40nm,1.1s,mb5.5
RST Umm Al-Ruwaisa 60.98 306 *eP* **P 10 22 54.8 +0.1**
RST AMb AMB 10 22 57.0
comp=Z,18nm,0.9s,mb5.2
BOD Bodaibo 61.56 8⇓ *iP* **P 10 22 56.5 -1.6**
BOD pmax pmax
comp=Z,11nm,1.0s,mb4.9
YSS Yuzh-Sakhalins 61.82 31 *eP* **P 10 22 59.5 -0.5**
comp=Z,20nm,0.7s,mb5.3
YSS *ep*P pP 10 23 12.4 -0.3
YSS Yuzh-Sakhalins 61.82 31⇑ *eP* **P 10 22 59.3 -0.7**
YSS pmax pmax
comp=Z,69nm,1.6s,mb5.5
CLNS Chul'man 62.75 14 *eP* **P 10 22 56.1 -10**

CLNS pmax pmax
comp=Z,14nm,0.9s,mb5.1
CLNS pmax pmax
comp=N,4.0nm,1.0s
CLNS pmax pmax
comp=E,11nm,0.9s
SVE Sverdlovsk 68.05 337⇑ *eP* **P 10 23 40.1 -0.3**
SVE *e* pP 10 23 53.7 +0.5
SVE *e* 10 26 11.9
SVE *eS* S 10 32 31.8 -4.7
SVE pmax pmax
comp=Z,39nm,0.9s,mb5.4
YAK Yakutsk 68.49 14 *eP* **P 10 23 41.4 -1.6**
comp=Z,35nm,0.8s,mb5.5
YAK Yakutsk 68.49 14⇑ *eP* **P 10 23 40.7 -2.3**
YAK pmax pmax
comp=Z,75nm,1.3s,mb5.6
ARU Arti 68.58 336 *d iP* **P 10 23 42.1 -1.6**
ARU *e* 10 24 05.2
ARU *e* 10 26 11.4
ARU *eS* S 10 32 40.8 -2.1
ARU *e*SS SS 10 37 07.7 -0.2
ARU pmax pmax
comp=Z,27nm,1.2s,mb5.0
MAW Mawson 69.54 195 LR LR 10 47 23.8
comp=Z,233nm,19.9s,MS4.4,baz=65,slow=30
KIV Kislovodsk 70.02 319 P **P 10 23 53.1 +0.2**
comp=Z,7.2nm,0.4s,mb5.0
KIV Kislovodsk 70.02 319⇑ *eP* **P 10 23 53.0 +0.1**
KIV *eS* S 10 32 58.2 -2.1
KIV pmax pmax
comp=Z,14nm,1.0s,mb4.8
KIV MLR MLR
comp=Z,100nm,18.0s,MS4.1
MALT Malatya 70.82 312 *eP* **P 10 23 56.7 -1.2**
comp=Z,6.1nm,1.0s,mb4.5
MALT Malatya 70.82 312 *eP* **P 10 23 56.7 -1.2**
MALT pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
SOC Sochi 71.84 318 *eP* **P 10 23 54.4 -10**
SOC pmax pmax
comp=Z,74nm,1.5s,mb5.4
MA2 Magadan 73.55 24 *eP* **P 10 24 13.0 -0.7**
comp=Z,23nm,1.0s,mb5.1
MA2 Magadan 73.55 24 *eP* **P 10 24 13.1 -0.6**
MA2 pmax pmax
comp=Z,40nm,1.0s,mb5.3
MA2 pmax pmax
comp=N,10.0nm,0.9s
PET Petropavlovsk 73.67 32 *eP* **P 10 24 12.7 -1.9**
comp=N,18nm,0.8s,mb5.0
PET Petropavlovsk 73.67 32⇑ *eP* **P 10 24 13.2 -1.4**
PET pmax pmax
comp=Z,21nm,0.9s,mb5.1
LBTB Lobatse 75.54 245 LR LR 10 52 33.9
comp=Z,122nm,19.1s,MS4.2,baz=108,slow=32
BOSA Boshof 76.08 241 LR LR 10 49 59.6
comp=Z,158nm,21.0s,MS4.3,baz=141,slow=29
SEY Seymchan 76.20 22⇑ *eP* **P 10 24 28.2 -0.8**
TIXI Tiksi 76.72 9 *eP* **P 10 24 29.6 -2.2**
comp=Z,25nm,1.2s,mb5.0
TIXI Tiksi 76.72 9⇑ *eP* **P 10 24 29.4 -2.4**
TIXI pmax pmax
comp=Z,19nm,1.0s,mb5.0
SYO Syowa Base 77.22 199⇓ *eX* 10 24 39.0
OBN Obninsk 78.24 328 *eP* **P 10 24 39.5 -1.1**
comp=Z,34nm,1.0s,mb5.2
OBN Obninsk 78.24 328⇓ *eP* **P 10 24 40.0 -0.6**
OBN *e* 10 27 33.2
OBN S S 10 34 33.2 +1.1
OBN pmax pmax
comp=Z,40nm,1.2s,mb5.2
OBN MLR MLR
comp=Z,100nm,20.0s,MS4.1
SUR Sutherland 80.14 238 LR LR 10 57 21.7
comp=Z,115nm,18.1s,MS4.3,baz=69,slow=33
AKASG Malin Array Be 80.95 322 P **P 10 24 54.6 -0.8**
AKASG *PP pP 10 25 10.1 +1.6
AKASG 10 27 55.9
AKASG pmax pmax
comp=Z,3.0nm,0.8s
AKASG pmax pmax
comp=Z,3.0nm,0.8s
AKASG Malin Array Be 80.95 322 P **P 10 24 54.6 -0.8**
comp=Z,2.7nm,0.8s,mb4.2,baz=89,slow=4.8,SNR=15
AKASG pP pP 10 25 10.1 +1.5
comp=Z,2.5nm,0.8s,baz=82,slow=5.6,SNR=3.8
AKASG PP PP 10 27 55.9 -4.6
comp=Z,0.3nm,0.4s,baz=84,slow=6.2,SNR=4.7
TMCR Tamitsa 81.31 337 *eP* **P 10 24 55.8 -1.3**
TMCR pmax pmax
comp=Z,49nm,1.4s,mb5.2
TSUM Tsumeb 82.84 251 LR LR 11 01 46.8
comp=Z,140nm,18.2s,MS4.4,baz=138,slow=35
JOF Joensuu 83.61 334 *ep* **P 10 25 07.9 -1.2**
comp=Z,6.1nm,0.7s,mb4.8
BILL Bilibino 83.77 20 *eP* **P 10 25 08.7 -1.1**
comp=Z,2.6nm,0.3s,mb4.8
BILL Bilibino 83.77 20⇑ *eP* **P 10 25 08.3 -1.5**
BILL *eS* S 10 35 17.9 -11
BILL pmax pmax
comp=Z,19nm,2.5s,mb4.8
APA Apatity 84.44 339⇓ *iP* **P 10 25 14.0 +0.8**
APA *i* 10 25 35.0
APA pmax pmax
comp=Z,32nm,1.4s,mb5.3
KOLS Kolonicke sedl 84.93 320 *eP* **P 10 25 17.0 +0.9**
FINES FINESS Array B 85.53 332 *i* P **P 10 25 17.8 -0.9**
FINES pmax pmax
comp=Z,8.0nm,1.0s
FINES FINESS Array B 85.53 332 P **P 10 25 18.6 -0.1**
comp=Z,7.6nm,1.0s,mb4.9,baz=149,slow=4.0,SNR=11
STHS Stebnicka Huta 85.68 320 *eP* **P 10 25 21.0 +1.2**
comp=Z,5.7nm,1.1s,mb4.7
STHS Stebnicka Huta 85.68 320 *eP* **P 10 25 21.0 +1.2**
STHS pmax pmax
comp=Z,6.0nm,1.1s,mb4.7
KECS Kecovo 86.02 319 *eP* **P 10 25 21.4 -0.1**
comp=Z,2.4nm,0.9s,mb4.4
KECS Kecovo 86.02 319 *eP* **P 10 25 21.4 -0.1**
KECS pmax pmax
comp=Z,2.0nm,0.9s,mb4.3
VYHS Vyhne 87.11 319 *eP* **P 10 25 26.4 -0.4**
comp=Z,4.2nm,1.3s,mb4.5
VYHS Vyhne 87.11 319 *eP* **P 10 25 26.4 -0.4**
VYHS pmax pmax
comp=Z,4.0nm,1.3s,mb4.5
OKC Ostrava-Krasne 87.73 320 *eP* **P 10 25 30.7 +0.9**
ARCES ARCESS Array B 87.81 340 P **P 10 25 29.4 -0.4**
ARCES pmax pmax
comp=Z,12nm,0.9s
ARCES MLR MLR
comp=Z,57nm,19.3s
ARCES ARCESS Array B 87.81 340 P **P 10 25 29.4 -0.4**
comp=Z,12nm,0.9s,mb5.1,baz=101,slow=4.3,SNR=21
ARCES LR LR 11 08 35.9
comp=Z,57nm,19.3s,MS4.0,baz=78,slow=38
ZST Bratislava 88.22 318 *eP* **P 10 25 33.1 +1.0**
comp=Z,11nm,1.1s,mb5.0
ZST Bratislava 88.22 318 *eP* **P 10 25 33.1 +1.0**
ZST pmax pmax
comp=Z,11nm,1.1s,mb5.0
DPC Dobruska-Polom 88.96 320 *eP* **P 10 25 36.5 +0.9**
DPC *ep*P pP 10 25 50.9 +2.1
GROS Grobnik 89.12 316 *eP* **P 10 25 37.1 +0.6**
GROS *i* pP 10 25 50.9 +1.2
UPC Upice 89.17 320 *eP* **P 10 25 37.9 +1.3**
UPC *ep*P pP 10 25 49.1 -0.7
BOJS Bojanci 89.21 315 *eP* **P 10 25 37.3 +0.4**
TREC Trest 89.39 319 *eP* **P 10 25 38.0 +0.3**
VNDS Vrh nad Dolski 89.64 316 *i* P **P 10 25 40.0 +1.1**
LJU Ljubljana 89.76 316 *eP* **P 10 25 40.4 +1.0**
PRU Pruhonice 90.07 320 *eP* **P 10 25 41.6 +0.8**
PVCC Panska Ves 90.09 320 *eP* **P 10 25 42.2 +1.3**
BRG Berggiesshubel 90.52 321 *eP* **P 10 25 43.7 +0.8**
comp=Z,4.9nm,0.9s,mb4.8
BRG *e* 10 26 00.6
BRG Berggiesshubel 90.52 321 *eP* **P 10 25 43.7 +0.8**
BRG *e* 10 26 00.6
BRG 10 29 17.1
BRG pmax pmax
comp=Z,5.0nm,0.9s,mb4.8
BRG Berggiesshubel 90.52 321 *eP* **P 10 25 43.3 +0.4**
comp=Z,8.0nm,0.9s,mb5.0
BRG *ep*P pP 10 26 02.9 +6.8

BRG Berggiesshubel 90.52 321 *eP* **P 10 25 43.7 +0.8**
comp=Z,8.2nm,0.9s,mb5.0
BRG *e* 10 26 00.6
comp=Z,11nm,1.4s
GEC2 GERESS Array S 90.53 319 *eP* **P 10 25 43.5 +0.5**
GEC2 *e**PP pP 10 26 02.4 +6.2
GEC2 pmax pmax
comp=Z,15nm,1.4s,mb5.1
GEC2 GERESS Array S 90.53 319 *eP* **P 10 25 43.5 +0.5**
comp=Z,15nm,1.4s,mb5.1
GEC2 *e*pP pP 10 26 02.4 +6.2
GERES GERESS Array B 90.53 319 P **P 10 25 41.7 -1.2**
comp=Z,2.7nm,0.9s,mb4.6,baz=79,slow=6.9,SNR=12
GERES LR LR 11 11 36.1
comp=Z,39nm,18.0s,MS3.9,baz=273,slow=39
KHC Kasperske Hory 90.63 319 *eP* **P 10 25 44.1 +0.7**
FBE Freiberg 90.89 321 *eP* **P 10 25 45.2 +0.6**
comp=Z,10.0nm,1.2s,mb5.0
WET Wettzell 91.09 319 *eP* **P 10 25 46.4 +0.8**
WET pmax pmax
comp=Z,7.0nm,1.0s,mb5.0
WET Wettzell 91.09 319 *eP* **P 10 25 46.4 +0.8**
comp=Z,7.0nm,1.0s,mb5.0
CLL Collm 91.14 321 *i* P **P 10 25 46.4 +0.7**
CLL pmax pmax
comp=Z,7.0nm,1.2s,mb4.9
CLL Collm 91.14 321 *eP* **P 10 25 46.4 +0.7**
comp=Z,7.0nm,1.2s,mb4.9
CLL Collm 91.14 321 *i* P **P 10 25 46.4 +0.7**
comp=Z,7.0nm,1.2s,mb4.9
CLL *i* (sP) sP 10 26 02.3 -1.6
TANN Tannenbergstha 91.43 320 *eP* **P 10 25 48.2 +1.1**
comp=Z,2.0nm,0.7s,mb4.6
WERN Wernitzgruen 91.48 320 *eP* **P 10 25 48.4 +1.1**
comp=Z,6.0nm,1.2s,mb4.8
GUNZ Gunzen 91.51 320 *eP* **P 10 25 48.3 +0.8**
comp=Z,6.0nm,1.1s,mb4.8
GUNZ *e*pP pP 10 26 07.3 +6.5
WERD Werda 91.53 320 *eP* **P 10 25 48.2 +0.6**
comp=Z,6.0nm,1.3s,mb4.8
ROTZ Rotzenmuhle 91.56 320 *eP* **P 10 25 48.7 +1.0**
comp=Z,4.0nm,1.1s,mb4.7
MANZ Manzenberg 91.64 320 *eP* **P 10 25 49.1 +1.0**
comp=Z,12nm,1.2s,mb5.1
MOX Moxa 91.98 320 *eP* **P 10 25 50.9 +1.2**
comp=Z,6.0nm,1.3s,mb4.8
GRA1 Grafenberg Arr 92.20 319 *eP* **P 10 25 51.7 +1.0**
comp=Z,12nm,1.2s,mb5.1
GRA1 *e*pP pP 10 26 11.0 +7.1
GRF Grafenberg Arr 92.20 319 *eP* **P 10 25 51.7 +1.0**
GRF *e**PP pP 10 26 11.0 +7.1
GRF pmax pmax
comp=Z,12nm,1.2s,mb5.1
GRF Grafenberg Arr 92.20 319 *eP* **P 10 25 51.7 +1.0**
GRF *e**PP pP 10 26 11.0 +7.1
GRF pmax pmax
comp=Z,12nm,1.2s,mb5.1
GRF Grafenberg Arr 92.20 319 *eP* **P 10 25 51.7 +1.0**
comp=Z,12nm,1.2s,mb5.1
GRF *e*pP pP 10 26 11.0 +7.1
NOA NORSAR Array B 92.57 331 P **P 10 25 51.9 -0.3**
comp=Z,2.7nm,0.9s,mb4.7,baz=95,slow=5.0,SNR=7.1
NOA LR LR 11 12 08.8
comp=Z,41nm,19.3s,MS3.9,baz=225,slow=38
CLZ Clausthal 92.80 322 *eP* **P 10 25 54.3 +0.9**
CLZ pmax pmax
comp=Z,8.0nm,1.2s,mb5.0
CLZ Clausthal 92.80 322 *eP* **P 10 25 54.3 +0.9**
comp=Z,8.0nm,1.2s,mb5.0
TORD Torodi Ar. Bea 99.80 283 LR LR 11 07 56.1
comp=Z,72nm,19.1s,MS4.2,baz=160,slow=33
BORG Borgarnes 106.09 338 *ePKP* PKiKP 10 31 04.5 -0.1
YKA Yellowknife Ar 115.06 17 PKP PKiKP 10 31 19.4 -2.2
comp=Z,0.4nm,0.9s,baz=320,slow=2.3,SNR=6.6
YKA *e*PKP 10 31 35.3
comp=Z,0.2nm,0.8s,baz=295,slow=2.4,SNR=3.7
NVAR Mina Array Bea 129.73 40 PKP PKPdf 10 31 50.5 +0.1
comp=Z,0.6nm,0.8s,baz=267,slow=1.1,SNR=4.5
NVAR *e*PKP pPKPdf 10 32 05.0 +0.8
comp=Z,0.4nm,0.6s,baz=337,slow=0.7,SNR=4.1
ULM Lac du Bonnet 130.83 14 PKP PKPdf 10 31 50.7 -1.5
ULM *e*PKP pPKPdf 10 32 06.2 +0.3
ULM Lac du Bonnet 130.83 14 PKP PKPdf 10 31 50.7 -1.5
comp=Z,1.7nm,0.7s,baz=332,slow=6.5,SNR=5.5
ULM *e*PKP pPKPdf 10 32 06.2 +0.3
comp=Z,1.3nm,0.7s,baz=35,slow=1.9,SNR=3.6
PDAR Pinedale Array 131.96 30 PKP PKPdf 10 31 55.1 +0.5
comp=Z,0.4nm,0.8s,baz=238,slow=1.7,SNR=3.5
PDAR *e*PKP pPKPdf 10 32 10.0 +1.8
comp=Z,0.1nm,0.4s,baz=66,slow=1.1,SNR=3.2
PDAR SKPbc SKPbc 10 35 15.2 -2.1
comp=Z,2.0nm,1.1s,baz=278,slow=2.2,SNR=7.9
ANMO Albuquerque 139.26 36 ⇑*i*PKIKP PKPdf 10 32 08.9 +0.5
CPUP Villa Florida 144.08 214 PKIKP PKPdf 10 32 17.2 -0.1
CPUP 10 32 32.4
CPUP pmax pmax
comp=Z,5.0nm,0.8s
CPUP Villa Florida 144.08 214 PKP PKPdf 10 32 17.1 -0.2
comp=Z,0.4nm,0.4s,baz=176,slow=1.0,SNR=4.8
CPUP *e*PKP pPKPdf 10 32 32.4 +1.4
comp=Z,5.1nm,0.8s,baz=118,slow=3.8,SNR=6.1
BDFB Brasilia 144.21 238 PKIKP PKPdf 10 32 18.5 +0.7
BDFB 10 32 32.7
BDFB pmax pmax
comp=Z,1.0nm,1.0s
BDFB pmax pmax
comp=Z,3.0nm,0.5s
BDFB Brasilia 144.21 238 PKP PKPdf 10 32 18.5 +0.7
comp=Z,1.1nm,1.0s,baz=90,slow=20,SNR=3.5
BDFB *e*PKP pPKPdf 10 32 32.7 +1.2
comp=Z,2.6nm,0.5s,baz=132,slow=6.2,SNR=7.0
TXAR Lajitas Array 144.87 39 PKIKP PKPdf 10 32 17.7 -0.9
TXAR 10 32 32.0
TXAR pmax pmax
comp=Z,6.0nm,0.7s
TXAR pmax pmax
comp=Z,9.0nm,0.9s
TXAR Lajitas Array 144.87 39 PKP PKPdf 10 32 17.7 -0.9
comp=Z,5.6nm,0.7s,baz=280,slow=1.2,SNR=85
TXAR *e*PKP pPKPdf 10 32 32.0 -0.3
comp=Z,8.8nm,0.8s,baz=270,slow=1.3,SNR=18
URVA University of 145.62 358 *ePKPdf* PKPdf 10 32 19.2 -0.5
MIAR Mount Ida 145.83 22 *ePKPdf* PKPdf 10 32 19.9 -0.2
WVT Waverly 146.07 13 *ePKPdf* PKPdf 10 32 20.0 -0.5
JCT Junction City 146.33 34 *ePKPdf* PKPdf 10 32 21.4 +0.3
PLAL Pickwick Lake 147.12 14 *ePKPdf* PKPdf 10 32 22.4 +0.2
CPCT Cooper Cave 147.35 8 *ePKPbc* PKPbc 10 32 23.8 -1.2
HKT Hockley 148.82 29 *ePKPbc* PKPbc 10 32 29.2 +0.1

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*BJI **21** 10:16:22.5,22.13N×9854E,h15km,mB4.1,mb4.1,ML4.3, Ms3.7,Msz3.8*
ISC 21 10:16:26.6±0.8,2235N±004×9902E±007,h10km,n9, σ1§65/14,1C-1D,Myanmar-China border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHRT	**Chiangrai**	**2.56**	**164**	⇑PN	**Pn**	**10 17 08.0**	**-0.2**
CHRT				PG	**Pg**	**10 17 13.0**	**-2.8**
CHRT				SG	**Sg**	**10 17 50.5**	**+1.5**
CHG	**Chiang Mai**	**3.52**	**181**	⇓P	**Pn**	**10 17 22.8**	**+1.5**
KMI	**Kunming**	**4.39**	**50**	PG	**Pg**	**10 17 48.8**	**-1.9**
KMI				Smax			
KMI	comp=N,196nm,1.1s			Smax			
	comp=E,101nm,1.2s						
BDT	**Bhumibol Dam**	**5.08**	**180**	SG	**Sg**	**10 19 04.0**	**-5.6**
BDT	**Bhumibol Dam**	**5.08**	**180**	SG	**Pg**	**10 18 08.0**	**+4.1**
BDT	**Bhumibol Dam**	**5.08**	**180**	PG	**Sb**	**10 18 58.0**	**+1.4**
IMP	**Imphal**	**5.26**	**298**	*eP*	**Pg**	**10 18 03.0**	**-4.3**
IMP				*eS*	**Sg**	**10 19 15.0**	**-0.5**
NST	**Nakhon Sawan**	**6.72**	**171**	PN	**Pn**	**10 18 08.0**	**+2.6**
NST				PG	**Pg**	**10 18 34.0**	**-1.4**
NST				SG	**Sg**	**10 19 59.0**	**-3.5**
XAN	**Xi'an**	**14.55**	**35**	P	**Pn**	**10 19 53.9**	**+1.4**
XAN				AP	pP	10 20 05.8	+3.9
XAN				AMB	AMB		
	comp=Z,22nm,0.9s						
XAN				AMB	AMB		
	comp=Z,83nm,7.5s						
XAN				LR	LR		
	comp=N,152nm,17.8s						
XAN				LR	LR		
	comp=E,192nm,21.0s						
XAN				LR	LR		
	comp=Z,389nm,16.8s						

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*NEIC **21** 10:17:08.2±1.8,2404N×6675E,h10km,mb3.9/3,Error ellipse: s-maj=55.2km s-min=12.6km az=125.0*
*ISCJB **21** 10:17:09.5±2.1,241N±03×668E±04,h33km,mb4.4/5, Error ellipse: s-maj=62.7km s-min=14.9km az=35.4*
ISC 21 10:17:11.7±2.2,240N±03×668E±04,h35km,n11,σ0§88/11, mb4.4/5,Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UCH	**Uchtor**	**19.23**	**18**	*eP*	**Pn**	**10 21 32.6**	**-1.4**
	7.9nm,0.8s						
AAK	**Ala-Archa**	**19.60**	**17**	*e*Pn	**Pn**	**10 21 38.4**	**+0.1**
	9.0nm,0.9s						
KBK	**Karagaybulak**	**19.75**	**18**	P	**Pn**	**10 21 45.5**	**+5.4**
	SNR=7.2						
TKM2	**Tokmak 2**	**20.18**	**19**	*eP*	**P**	**10 21 44.8**	**+1.7**
	28nm,0.9s						
TKM2	**Tokmak 2**	**20.18**	**19**	P	**P**	**10 21 45.0**	**+1.9**
	SNR=15						
USP	**Ospenovka**	**20.20**	**16**	P	**P**	**10 21 50.0**	**+6.8**
	SNR=15						
BRVK	**Borovoye**	**29.09**	**4**	*eP*	**P**	**10 23 07.9**	**-0.9**
	9.7nm,0.7s,mb4.6						
ARU	**Arti**	**32.91**	**352**	*eP*	**P**	**10 23 42.6**	**+0.3**
	24nm,1.0s,mb5.1						
KMBO	**Kilima Mbogo**	**38.07**	**233**	*eP*	**P**	**10 24 27.6**	**+0.3**
	2.6nm,0.3s,mb4.4						
MORC	**Moravsky Berou**	**45.95**	**317**	*eP*	**P**	**10 25 31.5**	**+0.4**
	6.6nm,1.1s,mb4.5						
MSKU	**Masuku**	**57.60**	**251**	*eP*	**P**	**10 26 57.9**	**-0.6**
	0.3nm,0.6s,mb3.5						

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*IDC **21** 10:33:41.8±0.8,1167N×14276E,h0km,mb4.2/10, mb1 4.4/11,mb1mx4.2/20,mbtmp4.2/11,ML4.1/1,Error ellipse: s-maj=30.9km s-min=17.4km az=105.0*
*ISCJB **21** 10:33:43.9±5.5,1164N±010×1427E±01,h26km±40km, mb4.3/12,Error ellipse: s-maj=25.5km s-min=11.7km az=31.9*
*NEIC **21** 10:33:46.1±0.5,1167N×14275E,h30km,mb4.9/1,Error ellipse: s-maj=19.6km s-min=10.7km az=106.0*
ISC 21 10:33:46.6±5.9,117N±01×1428E±01,h33km±42km,n14, σ0§81/15,mb4.3/12,South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**2.80**	**47**	Pn	**Pn**	**10 34 29.0**	**-0.2**
	28nm,0.3s,baz=179,slow=7.7,SNR=9.0						
GUMO				Sn	**Sn**	**10 35 01.7**	**-0.1**
	25nm,0.3s,baz=28,slow=22,SNR=9.3						
MJAR	**Matsushiro Arr**	**25.10**	**351**	P	**P**	**10 39 08.3**	**0.0**
	0.7nm,0.6s,mb3.4,baz=159,slow=10,SNR=3.4						
WB2	**Warramunga Arr**	**32.49**	**195**	*eP*	**P**	**10 40 14.0**	**-0.2**
WRA	**Warramunga Arr**	**32.49**	**195**	P	**P**	**10 40 14.3**	**0.0**
	2.5nm,0.7s,mb4.1,baz=18,slow=9.7,SNR=27						
ASAR	**Alice Springs**	**36.17**	**194**	P	**P**	**10 40 46.2**	**+0.1**
	0.7nm,0.5s,mb3.9,baz=21,slow=12,SNR=20						
MKAR	**Makanchi Array**	**61.47**	**317**	P	**P**	**10 44 01.6**	**+1.6**
	0.5nm,0.5s,mb3.9,baz=93,slow=9.3,SNR=5.2						
ZALV	**Zalesovo Beam**	**62.01**	**325**	P	**P**	**10 44 04.0**	**+0.6**
	0.4nm,0.3s,mb4.0,baz=110,slow=5.9,SNR=4.2						
YKA	**Yellowknife Ar**	**85.50**	**27**	P	**P**	**10 46 21.4**	**+0.5**
	1.2nm,0.4s,mb4.3,baz=286,slow=5.0,SNR=56						
KEV	**Kevo**	**87.70**	**342**	*ep*	**P**	**10 46 30.8**	**-0.8**
	3.9nm,0.5s,mb4.9						
ARCES	**ARCESS Array B**	**88.26**	**342**	P	**P**	**10 46 34.8**	**+0.5**
	3.2nm,0.6s,mb4.8,baz=72,slow=7.1,SNR=28						
JOF	**Joensuu**	**89.16**	**335**	*ep*	**P**	**10 46 37.4**	**-1.2**
	3.6nm,0.5s,mb5.0						
NVAR	**Mina Array Bea**	**89.72**	**51**	P	**P**	**10 46 43.3**	**+1.5**
	0.7nm,0.6s,mb4.2,baz=266,slow=6.0,SNR=10						
FINES	**FINESS Array B**	**92.02**	**335**	P	**P**	**10 46 51.1**	**-0.8**
	2.1nm,0.6s,mb4.7,baz=59,slow=5.2,SNR=9.9						
NOA	**NORSAR Array B**	**98.09**	**338**	P	**P**	**10 47 18.4**	**-1.2**
	0.7nm,0.9s,mb4.2,baz=48,slow=5.3,SNR=2.7						

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*IDC **21** 10:34:04.2±2.3,986N×10397W,h0km,mb3.3/4,mb1 3.7/6, mb1mx3.6/19,mbtmp3.4/6,ML3.3/1,MS3.4/6,Ms1 3.4/6, ms1mx3.1/18,Error ellipse: s-maj=59.2km s-min=39.3km az=106.0*
*NEIC **21** 10:34:05.5±1.6,982N×10401W,h10km,Error ellipse: s-maj=29.6km s-min=21.5km az=156.0*
ISC 21 10:34:08.2±4.9,97N±06×1039W±02,h35km,n15,σ0§55/9, mb3.2/4,MS3.2/2,Northern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**11.43**	**49**	Pn	**Pn**	**10 36 49.2**	**+0.1**
CMIG	**Matias Romero**	**11.43**	**49**	Pn	**Pn**	**10 36 49.2**	**+0.1**
	0.2nm,0.3s,baz=249,slow=10,SNR=3.6						
CMIG				LR	LR	10 40 08.9	
	comp=Z,252nm,21.4s,baz=352,slow=32						
LPIG	**La Paz**	**15.52**	**338**	LR	LR	10 41 53.7	
	comp=Z,285nm,20.1s,baz=358,slow=30						
TEIG	**Tepich**	**18.34**	**54**	LR	LR	10 44 17.9	
	comp=Z,87nm,20.8s,baz=135,slow=34						
JTS	**JuntasAbangare**	**18.70**	**87**	LR	LR	10 43 49.1	
	comp=Z,111nm,21.7s,baz=267,slow=31						
TXAR	**Lajitas Array**	**19.49**	**1**	P	**Pn**	**10 38 33.2**	**-0.5**
	0.0nm,0.3s,baz=176,slow=13,SNR=8.7						
ANMO	**Albuquerque**	**25.20**	**355**	P	**P**	**10 39 31.5**	**+0.9**
	0.4nm,0.7s,mb3.0,baz=186,slow=9.2,SNR=2.6						
ROSC	**El Rosal**	**29.75**	**97**	LR	LR	10 48 59.8	
	comp=Z,45nm,18.8s,MS3.1,baz=235,slow=30						
NVAR	**Mina Array Bea**	**31.34**	**338**	P	**P**	**10 40 25.9**	**+0.5**
	0.2nm,0.6s,mb3.1,baz=171,slow=6.4,SNR=2.9						
PDAR	**Pinedale Array**	**33.26**	**352**	P	**P**	**10 40 42.1**	**0.0**
	0.2nm,0.4s,mb3.4,baz=159,slow=7.7,SNR=4.0						
LPAZ	**La Paz**	**43.86**	**126**	LR	LR	10 58 38.3	
	comp=Z,35nm,18.9s,MS3.3,baz=309,slow=34						
EDM	**Edmonton**	**44.02**	**352**	*eP*	**P**	**10 42 12.0**	**-0.2**
YKA	**Yellowknife Ar**	**53.22**	**354**	P	**P**	**10 43 21.9**	**-0.9**
YKA	**Yellowknife Ar**	**53.22**	**354**	P	**P**	**10 43 21.9**	**-0.9**
	0.3nm,0.6s,mb3.4,baz=164,slow=7.5,SNR=8.9						
WRA	**Warramunga Arr**	**123.01**	**253**	PKP	PKPdf	10 53 03.6	+1.8
	0.3nm,1.0s,baz=86,slow=2.5,SNR=2.5						

IDC 21 10:59:15.0±3.2,800S×14897E,h0km,mb3.8/2,mb1 4.1/3, mb1mx3.6/12,mbtmp3.8/3,ML3.9/1,Error ellipse: s-maj=98.6km s-min=45.3km az=123.0,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.49**	**229**	P	Pn	11 03 32.9	0.0
	0.4nm,0.3s,baz=54,slow=12,SNR=22						
ASAR	**Alice Springs**	**21.25**	**221**	P	P	11 04 03.4	+0.5
	1.0nm,0.6s,baz=56,slow=9.0,SNR=18						
FITZ	**Fitzroy Crossi**	**24.82**	**244**	P	P	11 04 38.6	-0.5
	2.9nm,0.4s,baz=51,slow=9.3,SNR=17						
TORD	**Torodi Ar. Bea**	**147.45**	**282**	PKPbc	PKPbc	11 19 01.6	-0.5
	1.0nm,0.8s,baz=58,slow=2.8,SNR=8.6						

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*SGS **21** 11:20:50.1,3005N×3636E,h5km*
*ISCJB **21** 11:20:51.6±0.8,2986N±003×3621E±005,h0km,Error ellipse: s-maj=6.0km s-min=3.9km az=5.1*
*GII **21** 11:20:52.5±0.8,2989N×3613E,h0km,mL2.1/8*
*CSEM **21** 11:20:52.8±0.3,2979N×3612E,h2km,ML2.1,Error ellipse: s-maj=5.4km s-min=3.3km az=97.0,Mining explosion.*
ISC 21 11:20:51.5±0.8,2985N±003×3626E±005,h0km,n28, σ0§84/43,2C-1D,Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HRFI	**Mount Harif**	**1.08**	**280**	Pg	**Pg**	**11 21 11.5**	**-0.7**
HRFI				Sg	**Sg**	**11 21 26.5**	**+0.3**
EIL	**Elat**	**1.15**	**261**	Pg	**Pg**	**11 21 13.6**	**0.0**
EIL				Sg	**Sg**	**11 21 28.8**	**+0.2**
ZFRI	**Zfri**	**1.17**	**307**	Pg	**Pg**	**11 21 12.8**	**-1.2**
ZFRI				Sg	**Sg**	**11 21 29.1**	**-0.1**
HQLS		**1.18**	**243**	S	**Sg**	**11 21 31.4**	**+1.9**
HQLS		**1.18**	**243**	P	**Pg**	**11 21 13.7**	**-0.5**
HQLS		**1.18**	**243**	S	**Sg**	**11 21 30.8**	**+1.3**
HQLS		**1.18**	**243**	P	**Pg**	**11 21 13.7**	**-0.5**
HQLS		**1.18**	**243**	P	**Pg**	**11 21 13.7**	**-0.4**
HQLS				S	**Sg**	**11 21 30.8**	**+1.4**
PRNI	**Paran**	**1.20**	**295**	Pg	**Pg**	**11 21 13.7**	**-0.8**
PRNI				Sg	**Sg**	**11 21 30.2**	**+0.1**
JLOS		**1.30**	**211**	P	**Pg**	**11 21 16.5**	**0.0**
JLOS		**1.30**	**211**	S	**Sg**	**11 21 34.0**	**+0.7**
JLOS		**1.30**	**211**	P	**Pg**	**11 21 15.6**	**-0.8**
JLOS		**1.30**	**211**	P	**Pg**	**11 21 16.5**	**+0.1**
JLOS				S	**Sg**	**11 21 35.2**	**+1.9**
KRMI	**Paran Flat**	**1.36**	**282**	Pg	**Pg**	**11 21 16.6**	**-1.0**
KRMI				Sg	**Sg**	**11 21 34.9**	**-0.3**
HBST	**Basata**	**1.48**	**245**	P	**Pn**	**11 21 19.1**	**-0.2**
RMNI	**Mount Ramon**	**1.50**	**300**	Pn	**Pn**	**11 21 19.1**	**-0.5**
RMNI				Sn	**Sn**	**11 21 38.3**	**-1.5**
RMNI	**Mount Ramon**	**1.50**	**300**	Pn	**Pn**	**11 21 19.1**	**-0.5**
RMNI				Sn	**Sn**	**11 21 38.3**	**-1.5**
MZDA	**Masada**	**1.65**	**332**	Pn	**Pn**	**11 21 21.2**	**-0.5**
MZDA				Sn	**Sn**	**11 21 44.3**	**+0.7**
YTIR	**Yattir**	**1.80**	**327**	Pn	**Pn**	**11 21 23.6**	**-0.2**
YTIR				Sn	**Sn**	**11 21 47.7**	**+0.3**
HDHB	**Dhahab**	**1.82**	**232**	P	**Pn**	**11 21 23.9**	**-0.3**
DSI	**Dead Sea**	**1.87**	**336**	Pn	**Pn**	**11 21 25.0**	**+0.2**
DSI				Sn	**Sn**	**11 21 50.1**	**+0.9**
KZIT	**Kziot**	**1.92**	**304**	Pn	**Pn**	**11 21 25.1**	**-0.4**
KZIT				Sn	**Sn**	**11 21 49.6**	**-0.8**
HNKL	**Nakhl**	**1.98**	**273**	⇓P	**Pn**	**11 21 26.7**	**+0.4**
HNKL				S	**Sn**	**11 21 54.6**	**+2.7**
RSHS		**2.01**	**220**	P	**Pn**	**11 21 25.6**	**-1.0**
RSHS		**2.01**	**220**	P	**Pn**	**11 21 25.6**	**-1.1**
HKAT	**Jabal Katrina**	**2.38**	**237**	⇑P	**Pn**	**11 21 31.7**	**-0.2**
HMDT	**Nahal Hemdat**	**2.48**	**345**	Pn	**Pn**	**11 21 34.2**	**+1.1**
HMDT				Sn	**Sn**	**11 22 05.8**	**+1.8**
SUZ		**2.98**	**271**	⇑P	**Pn**	**11 21 40.3**	**+0.3**

MAN 21 11:23:00,918N×12646E,h33km,mb3.9,ML2.7,MS2.3, Mindanao

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*NEIC **21** 11:25:18.2,3224S×6995W,h19km,MD3.5(GUC),After GUC.*
GUC 21 11:25:18.2±0.6,3224S×6995W,h19km±5km,MD3.5, ML2.4,3D,Mendoza Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JACH	**Jahuel**	**0.70**	**231**	*i* P	Pb	11 25 31.2	-0.7
JACH				*i* S	Sb	11 25 41.9	+0.8
FCH	**Farellones**	**1.12**	**195**	⇓*i*P	Pn	11 25 38.2	-0.8
FCH				*i* S	Sb	11 25 54.1	+0.8
FCH				AML	AML	11 25 55.3	
	comp=E,49nm,0.3s						
PCH	**Pirque**	**1.46**	**199**	*i* P	Pn	11 25 44.5	+0.9
PCH				*e*S	Sn	11 26 04.9	+2.7
LNV	**Longovilo**	**2.11**	**215**	*i* P	Pn	11 25 55.1	+2.6
LNV				*i* S	Sn	11 26 23.3	+5.1
CICH	**Cipreses**	**2.11**	**191**	*i* P	Pn	11 25 55.8	+3.2
TLL	**Tololo Astrono**	**2.19**	**340**	⇓*i*P	Pn	11 25 57.7	+4.1
TLL				*i* S	Sn	11 26 26.6	+6.4
TLL	**Tololo Astrono**	**2.19**	**340**	⇓*i*P	Pn	11 25 57.7	+4.1
TLL				*i* S	Sn	11 26 26.6	+6.4
TLL				AML	AML	11 26 31.5	
	comp=N,105nm,0.6s						
SFDO	**San Fernando**	**2.53**	**200**	*eP*	Pn	11 26 02.5	+4.2
SFDO				*i* S	Sn	11 26 37.4	+8.8

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*MOS **21** 13:03:46.2±2.0,4701N×15580E,h10km,mb3.9/5,Error ellipse: s-maj=25.8km s-min=12.8km az=88.3*
*IDC **21** 13:03:47.0±1.0,4663N×156.12E,h0km,mb3.5/6, mb1 3.8/6,mb1mx3.6/21,mbtmp3.5/6,Error ellipse: s-maj=39.4km s-min=21.1km az=153.0*
*ISCJB **21** 13:03:50.2±0.8,470N±01×1559E±02,h33km,mb3.6/9, Error ellipse: s-maj=19.9km s-min=15.8km az=151.9*
ISC 21 13:03:52.1±0.8,469N±01×1558E±02,h35km,n16, σ1§14/18,mb3.6/9,2C-2D,East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.81**	**3**	*e*PN	**Pn**	**13 04 43.4**	**-4.8**
PET	**Petropavlovsk**	**6.42**	**16**	*e*PN	**Pn**	**13 05 17.4**	**-6.7**
ASAJ	**Asahikawa**	**9.66**	**258**	Pn	**Pn**	**13 06 06.3**	**-2.2**
	0.2nm,0.3s,baz=103,slow=22,SNR=3.2						
YAK	**Yakutsk**	**21.23**	**325**	⇑*e*P	**P**	**13 08 33.6**	**-1.0**
YAK				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.0						
BILL	**Bilibino**	**21.89**	**11**	⇓*e*P	**P**	**13 08 40.1**	**-1.5**
BILL				*e*		13 08 59.7	
BILL				*e*S	**S**	**13 12 41.5**	**+0.4**
BILL				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb3.6						
BILL				MLR	MLR		
	comp=Z,100nm,17.0s						
KSRS	**Korea Array**	**22.59**	**255**	P	**P**	**13 08 50.7**	**+1.4**
	comp=Z,0.7nm,0.7s,mb3.2,baz=55,slow=8.7,SNR=3.7						
TIXI	**Tiksi**	**27.88**	**342**	⇓*e*P	**P**	**13 09 39.0**	**+0.9**
TIXI				pmax	pmax		
	comp=Z,2.0nm,1.2s,mb3.6						
MKAR	**Makanchi Array**	**48.49**	**298**	P	**P**	**13 12 34.2**	**+3.1**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
MKAR	**Makanchi Array**	**48.49**	**298**	P	**P**	**13 12 34.2**	**+3.1**
	comp=Z,0.8nm,0.7s,mb3.9,baz=65,slow=7.9,SNR=9.2						
KURK	**Kurchatov**	**48.80**	**305**	⇑*e*P	**P**	**13 12 33.0**	**-0.4**
YKA	**Yellowknife Ar**	**49.72**	**37**	*i* P	**P**	**13 12 40.4**	**+0.1**
YKA	**Yellowknife Ar**	**49.72**	**37**	P	**P**	**13 12 39.9**	**-0.4**
	comp=Z,0.4nm,0.6s,mb3.6,baz=295,slow=7.2,SNR=8.0						
ARU	**Arti**	**56.14**	**318**	*eP*	**P**	**13 13 28.3**	**+0.6**
ARU				*e*		13 15 33.3	
ARU				*e*S	**S**	**13 21 17.7**	**+3.7**
ARU				SS	SS	13 25 00.4	+0.5
NVAR	**Mina Array Bea**	**60.75**	**64**	P	**P**	**13 14 00.7**	**+0.6**
	comp=Z,0.2nm,0.5s,mb3.5,baz=307,slow=6.7,SNR=3.1						
WRA	**Warramunga Arr**	**69.27**	**202**	P	**P**	**13 14 54.9**	**-0.6**
	comp=Z,0.4nm,0.8s,mb3.4,baz=21,slow=6.8,SNR=3.4						
TXAR	**Lajitas Array**	**75.83**	**62**	P	**P**	**13 15 34.5**	**-0.1**
	comp=Z,0.4nm,0.8s,mb3.4,baz=304,slow=4.3,SNR=4.7						

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*ISCJB **21** 13:11:11.7±1.4,271N±02×1415E±02,h86km±17km, mb3.3/3,Error ellipse: s-maj=40.3km s-min=23.4km az=148.5*
*IDC **21** 13:11:11.8±2.2,2719N×14137E,h71km±20km,mb3.1/3, mb1 3.4/4,mb1mx3.2/19,mbtmp3.2/4,Error ellipse: s-maj=41.0km s-min=24.4km az=101.0*
ISC 21 13:11:12.8±1.4,272N±02×1415E±02,h79km±17km,n5, σ1§03/6,mb3.3/3,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**0.66**	**95**	P	**Pn**	**13 11 26.7**	**-1.2**
	145nm,0.3s,baz=276,slow=4.1,SNR=44						
CBIJ				S	**Sn**	**13 11 39.9**	**+0.8**
	242nm,0.3s,baz=291,slow=21,SNR=14						
KSRS	**Korea Array**	**15.35**	**315**	P	**Pn**	**13 14 45.1**	**+0.2**
	baz=121,slow=10,SNR=3.1						
WRA	**Warramunga Arr**	**47.32**

4.3nm,0.8s
CTA Charters Tower 18.95 240 P **Pn 13 20 25.4 -0.2**
0.1nm,0.3s,baz=89,slow=8.7,SNR=4.8
CTA LR LR 13 25 14.4
comp=Z,109nm,20.2s,baz=56,slow=29
CTAO Charters Tower 18.95 240 *eP* **Pn 13 20 24.7 -1.0**
5.8nm,0.9s
ARMA Armidale 22.25 208 *eP* **P 13 21 00.4 +0.2**
0.3nm,1.1s,mb2.6
STKA Stephens Creek 29.02 221 *eP* **P 13 22 04.5 +1.7**
2.8nm,0.9s,mb4.0
STKA Stephens Creek 29.02 221 *eP* **P 13 22 03.9 +1.2**
6.5nm,1.1s,mb4.3
STKA Stephens Creek 29.02 221 P **P 13 22 04.4 +1.6**
4.1nm,0.9s,mb4.2,baz=42,slow=11,SNR=6.4
STKA LR LR 13 32 40.9
comp=Z,216nm,21.5s,MS3.7,baz=20,slow=34
WRAB Tennant Creek 29.49 249 *eP* **P 13 22 06.9 -0.2**
3.0nm,0.8s,mb4.1
WB2 Warramunga Arr 29.49 249 *eP* **P 13 22 06.9 -0.2**
WRA Warramunga Arr 29.50 249 P **P 13 22 07.1 -0.1**
3.7nm,0.9s,mb4.1,baz=80,slow=9.2,SNR=22
GUMO Guam 30.72 322 LR LR 13 32 21.2
comp=Z,92nm,19.8s,MS3.4,baz=72,slow=32
ASAR Alice Springs 30.91 242 P **P 13 22 19.4 -0.2**
2.1nm,1.0s,mb3.9,baz=69,slow=9.6,SNR=11
FITZ Fitzroy Crossi 37.34 255 *eP* **P 13 23 14.6 -0.8**
3.2nm,0.5s,mb4.4
FITZ LR LR 13 36 03.4
FITZ Fitzroy Crossi 37.34 255 P **P 13 23 14.6 -0.7**
1.6nm,0.5s,mb4.1,baz=82,slow=9.9,SNR=6.9
FITZ LR LR 13 36 03.4
comp=Z,104nm,19.5s,MS3.6,baz=92,slow=32
NWAO Narrogin (SRO) 47.71 235 LR LR 13 45 07.0
comp=Z,156nm,21.6s,MS4.0,baz=70,slow=36
KSRS Korea Array 58.70 327 LR LR 13 46 48.2
comp=Z,29nm,20.8s,MS3.4,baz=210,slow=31
ULN Ulaanbaatar 77.07 325 *eP* **P 13 27 54.5 -0.8**
2.3nm,0.4s,mb4.5
SONM Songino Array 77.42 325 P **P 13 27 58.8 +1.5**
SONM Songino Array 77.42 325 P **P 13 27 58.8 +1.5**
0.4nm,0.3s,mb3.8,baz=132,slow=6.4,SNR=3.6
QSPA South Pole Qui 78.96 180 P **P 13 28 05.0 -0.3**
2.0nm,1.0s,mb4.0,baz=350,slow=3.4,SNR=4.0
NVAR Mina Array Bea 87.65 50 P **P 13 28 52.2 +1.5**
0.5nm,0.8s,mb3.8,baz=247,slow=6.5,SNR=3.4
MKAR Makanchi Array 92.08 317 P **P 13 29 11.5 +0.2**
0.2nm,0.4s,mb3.8,baz=87,slow=5.9,SNR=2.6
YKA Yellowknife Ar 95.95 28 P **P 13 29 26.7 -2.0**
YKA LR LR 14 04 25.4
YKA Yellowknife Ar 95.95 28 P **P 13 29 26.7 -2.0**
0.2nm,0.8s,mb3.6,baz=261,slow=4.7,SNR=5.9
YKA LR LR 14 04 25.4
comp=Z,28nm,20.6s,MS3.7,baz=55,slow=30

*ATH **21** 13:29:03.0,3884N×2290E,h5km,ML3.3*
*CSEM **21** 13:29:18.7,3812N×2361E,h5km,ML2.9,After THE*
THE 21 13:29:18.7,3812N×2361E,h5km,ML2.9,1C,Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATH	**Athens Observa**	**0.17**	**149**	⇑*iPG*	Pg	13 29 22.9	+0.9
PTL	**Penteli**	**0.21**	**108**	*e*PN	Pg	13 29 24.0	+1.1
KVR	**Kavouri**	**0.32**	**156**	*e*PN	Pg	13 29 25.5	+0.7
NAIG	**Nisos Aigina**	**0.37**	**195**	*e*PB	Pg	13 29 25.5	-0.3
LTK	**Loutraki**	**0.51**	**260**	*e*Pg	Pg	13 29 28.9	+0.3
LTK				*e*Sg	Sg	13 29 35.8	+0.6
DID	**Didima**	**0.68**	**206**	*e*Pg	Pg	13 29 31.1	-0.6
DID				*e*Sg	Sg	13 29 41.5	+1.1
LKR	**Lokris**	**0.71**	**318**	*e*Pg	Pg	13 29 32.1	-0.3
LKR				*e*Sg	Sg	13 29 42.7	+0.9

IDC 21 13:39:28.8±1.7,717N×9311E,h0km,mb4.0/6,mb1 4.3/6,
mb1mx3.8/22,mbtmp4.0/6,MS3.8/2,Ms1 3.8/2,
ms1mx3.0/35,Error ellipse: s-maj=91.3km
s-min=18.9km az=55.0,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**40.56**	**349**	P	P	13 47 09.3	-0.5
0.4nm,0.5s,baz=171,slow=8.6,SNR=6.9							
FITZ	**Fitzroy Crossi**	**40.76**	**128**	P	P	13 47 11.1	-0.9
2.6nm,0.6s,baz=352,slow=4.9,SNR=5.0							
ZALV	**Zalesovo Beam**	**47.12**	**353**	P	P	13 48 02.8	+0.2
1.9nm,0.4s,baz=170,slow=8.7,SNR=14							
WRA	**Warramunga Arr**	**48.70**	**124**	P	P	13 48 15.4	+0.1
1.7nm,0.5s,baz=303,slow=8.9,SNR=20							
ASAR	**Alice Springs**	**50.26**	**129**	P	P	13 48 27.6	+0.4
3.0nm,0.6s,baz=302,slow=7.9,SNR=56							
GUMO	**Guam**	**51.23**	**78**	LR	LR	14 08 29.5	
comp=Z,71nm,19.3s,baz=73,slow=34							
BOSA	**Boshof**	**74.35**	**238**	LR	LR	14 22 25.8	
comp=Z,82nm,18.8s,baz=325,slow=35							
GERES	**GERESS Array B**	**77.67**	**318**	P	P	13 51 27.5	+0.3
0.4nm,0.5s,baz=72,slow=4.2,SNR=4.9							

*LDG **21** 13:57:17.1±0.1,3156N×9496E,h10km,Mb4.3/11,Ms3.3/6,*
Error ellipse: s-maj=6.2km s-min=3.6km az=140.0
*MOS **21** 13:57:24.4±1.0,3184N×9511E,h54km,mb4.4/17,Error*
ellipse: s-maj=13.1km s-min=7.4km az=95.7
*IDC **21** 13:57:25.4±5.6,3185N×9510E,h45km±54km,mb3.8/13,*
mb1 3.9/15,mb1mx3.8/25,mbtmp3.8/15,ML3.4/2,MS3.4/3,
Ms1 3.4/3,ms1mx3.0/31,Error ellipse: s-maj=28.6km
s-min=14.7km az=37.0
*ISCJB **21** 13:57:25.1±1.0,3182N±005×9514E±005,h62km±10km,*
mb4.2/32,Error ellipse: s-maj=8.6km s-min=7.0km
az=163.9
*NEIC **21** 13:57:26.4±1.5,3188N×9517E,h55km±14km,mb4.1/15,*
Error ellipse: s-maj=9.9km s-min=8.1km az=74.0
*BJI **21** 13:57:27.7,3175N×9515E,h83km,mB5.0,mb4.5,Ms4.0,*
Msz3.6
ISC 21 13:57:26.6±0.8,3186N±005×9512E±005,h58km±8km,n89,
σ0§87/89,mb4.2/32,MS3.5/6,1C-3D,Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSA	**Lhasa**	**4.04**	**239**	*e*Pn	**Pn**	**13 58 26.5**	**+0.6**
LSA				*e*Sn	**Sn**	**13 59 13.4**	**+1.6**
SHL	**Shillong**	**6.88**	**205**	*e*P	**Pn**	**13 59 02.5**	**-2.4**
SHL				*e*x	x	14 00 21.0	
GYA	**Guiyang**	**11.43**	**115**	P	**Pn**	**14 00 05.3**	**-1.9**
GYA				AMB	AMB		
comp=Z,10.0nm,0.7s							
XAN	**Xi'an**	**11.80**	**76**	P	**Pn**	**14 00 13.8**	**+1.7**
XAN				AP		14 00 20.1	
XAN				AMB	AMB		
comp=Z,6.0nm,1.2s							
MK31	**Makanchi Array**	**17.88**	**330**	*e*P	**Pn**	**14 01 29.5**	**-1.6**
MKAR	**Makanchi Array**	**17.88**	**330**	*i* P	**Pn**	**14 01 31.2**	**+0.1**
MKAR				pmax	pmax		
comp=Z,2.0nm,0.7s							
MKAR	**Makanchi Array**	**17.88**	**330**	P	**Pn**	**14 01 31.0**	**-0.1**
comp=Z,0.1nm,0.3s,baz=142,slow=14,SNR=20							
SONM	**Songino Array**	**18.12**	**25**	P	**Pn**	**14 01 33.3**	**-0.7**
comp=Z,0.2nm,0.3s,baz=206,slow=13,SNR=7.0							
ULN	**Ulaanbaatar**	**18.39**	**26**	*e*P	**Pn**	**14 01 37.5**	**+0.2**
comp=Z,1.6nm,0.5s							
ULN	**Ulaanbaatar**	**18.39**	**26**	*e*P	**Pn**	**14 01 37.5**	**+0.2**
ULN				pmax	pmax		
comp=Z,2.0nm,0.5s							
ZAK	**Zakamensk**	**19.48**	**16**	*e*P	**Pn**	**14 01 49.2**	**-1.1**
ZAK				pmax	pmax		
comp=Z,3.0nm,1.2s							
AAK	**Ala-Archa**	**19.58**	**309**	*e*P	**Pn**	**14 01 50.8**	**-0.8**
comp=Z,4.0nm,0.8s							
AAK	**Ala-Archa**	**19.58**	**309**	*e*P	**Pn**	**14 01 50.8**	**-0.8**
AAK				pmax	pmax		
comp=Z,4.0nm,0.8s							
AML	**Almayashu**	**19.90**	**307**	*e*P	**Pn**	**14 01 55.1**	**-0.2**
comp=Z,4.3nm,0.9s							
EKS2	**Erkin-Say**	**20.07**	**309**	*e*P	**P**	**14 01 57.9**	**+2.8**
comp=Z,4.9nm,0.8s							
MOY	**Mondy**	**20.26**	**11**	*e*P	**P**	**14 01 58.7**	**+1.6**
TLY	**Talaya**	**20.77**	**15**⇑	*e*P	**P**	**14 02 02.4**	**-0.2**
KBL	**Kabul**	**21.96**	**284**	*e*P	**P**	**14 02 16.6**	**+1.0**
comp=Z,14nm,0.7s,mb4.5							
KURK	**Kurchatov**	**22.46**	**332**	*e*P	**P**	**14 02 19.0**	**-1.6**
comp=Z,4.9nm,0.7s,mb4.0							
KURK	**Kurchatov**	**22.46**	**332**	*e*P	**P**	**14 02 19.0**	**-1.6**
KURK				pmax	pmax		
comp=Z,5.0nm,0.7s,mb4.0							

ZAL	**Zalesovo**	**23.28**	**344**	P	**P**	**14 02 29.6**	**+0.5**
ZALV	**Zalesovo Beam**	**23.28**	**344**	P	**P**	**14 02 29.6**	**+0.5**
comp=Z,1.7nm,0.8s,mb3.5,baz=151,slow=9.7,SNR=9.0							
NVS	**Novosibirsk**	**24.48**	**343**	*e*P	**P**	**14 02 40.8**	**+0.8**
HIA	**Hailar**	**25.36**	**40**	*e*P	**P**	**14 02 48.5**	**+0.4**
comp=Z,5.0nm,0.9s,mb4.0							
HIA	**Hailar**	**25.36**	**40**	*e*P	**P**	**14 02 48.5**	**+0.3**
HIA				pmax	pmax		
comp=Z,5.0nm,0.9s							
CN2	**Changchun**	**26.61**	**55**	*e*P	**P**	**14 03 00.6**	**+1.1**
CN2				AMB	AMB		
comp=Z,21nm,1.0s,mb4.6							
KSRS	**Korea Array**	**27.47**	**69**	P	**P**	**14 03 07.2**	**-0.1**
comp=Z,2.6nm,0.9s,mb3.8,baz=261,slow=10.0,SNR=6.8							
KSRS				LR	LR	14 14 57.7	
comp=Z,42nm,19.5s,MS3.0,baz=263,slow=38							
BVAR	**Borovoye Array**	**27.69**	**327**	P	**P**	**14 03 08.9**	**-0.1**
BVAR						14 06 25.0	
BVAR				pmax	pmax		
comp=Z,1.0nm,0.6s							
BVAR	**Borovoye Array**	**27.69**	**327**	P	**P**	**14 03 08.9**	**-0.2**
comp=Z,0.9nm,0.6s,mb3.6,baz=135,slow=9.4,SNR=8.6							
BVAR				PcP	PcP	14 06 25.0	+0.4
comp=Z,0.4nm,0.6s,baz=132,slow=4.1,SNR=2.7							
BRVK	**Borovoye**	**27.76**	**327**	*e*P	**P**	**14 03 09.1**	**-0.5**
comp=Z,1.8nm,0.6s,mb3.9							
BRVK	**Borovoye**	**27.76**	**327**	*e*P	**P**	**14 03 09.1**	**-0.6**
BRVK				pmax	pmax		
comp=Z,2.0nm,0.6s,mb3.9							
AKTK	**Aktyubinsk**	**33.09**	**315**	P	**P**	**14 03 57.3**	**+0.6**
AKTO	**Aktyubinsk**	**33.09**	**315**	P	**P**	**14 03 57.3**	**+0.6**
AKTO				pmax	pmax		
comp=Z,1.0nm,0.7s,mb3.9							
AKTO	**Aktyubinsk**	**33.09**	**315**	P	**P**	**14 03 57.3**	**+0.6**
comp=Z,1.0nm,0.7s,mb3.8,baz=115,slow=9.8,SNR=4.3							
YAK	**Yakutsk**	**37.48**	**26**⇓	*e*P	**P**	**14 04 36.8**	**+2.5**
YAK				pmax	pmax		
comp=Z,6.0nm,0.8s,mb4.5							
TIXI	**Tiksi**	**43.75**	**15**	*e*P	**P**	**14 05 25.9**	**0.0**
comp=Z,2.1nm,0.8s,mb3.9							
TIXI	**Tiksi**	**43.75**	**15**⇓	*e*P	**P**	**14 05 25.2**	**-0.7**
TIXI				pmax	pmax		
comp=Z,2.0nm,0.7s,mb4.0							
ANN	**Anapa**	**46.15**	**303**	*e*P	**P**	**14 05 46.0**	**+0.7**
ANN				pmax	pmax		
comp=Z,186nm,1.2s							
AKASG	**Malin Array Be**	**51.22**	**312**	*i* P	**P**	**14 06 26.1**	**+2.0**
AKASG				pmax	pmax		
comp=Z,1.0nm,0.5s							
AKASG	**Malin Array Be**	**51.22**	**312**	P	**P**	**14 06 23.1**	**-1.0**
comp=Z,1.0nm,0.5s,mb4.0,baz=74,slow=7.5,SNR=4.2							
FINES	**FINESS Array B**	**52.63**	**326**	*i* P	**P**	**14 06 40.5**	**+6.0**
FINES				pmax	pmax		
comp=Z,1.0nm,0.8s							
BILL	**Bilibino**	**53.84**	**26**	*e*P	**P**	**14 06 40.6**	**-2.6**
comp=Z,0.9nm,0.6s,mb3.9							
BILL	**Bilibino**	**53.84**	**26**⇓	*e*P	**P**	**14 06 43.7**	**+0.5**
BILL				pmax	pmax		
comp=Z,5.0nm,1.2s,mb4.3							
BILL				MLR	MLR		
comp=Z,100nm,18.0s,MS3.9							
NOA	**NORSAR Array B**	**59.81**	**326**	LR	LR	14 35 44.4	
comp=Z,24nm,19.4s,MS3.4,baz=105,slow=38							
GERES	**GERESS Array B**	**61.43**	**312**	P	**P**	**14 07 36.4**	**-0.4**
GERES				pmax	pmax		
comp=Z,1.0nm,0.7s							
GERES				MLR	MLR		
comp=Z,46nm,18.2s							
GERES	**GERESS Array B**	**61.43**	**312**	P	**P**	**14 07 36.4**	**-0.4**
comp=Z,0.6nm,0.7s,mb3.8,baz=72,slow=5.7,SNR=4.1							
GERES				LR	LR	14 35 23.4	
comp=Z,46nm,18.1s,MS3.7,baz=90,slow=37							
KMBO	**Kilima Mbogo**	**63.75**	**251**	P	**P**	**14 07 53.2**	**+0.4**
KMBO	**Kilima Mbogo**	**63.75**	**251**	P	**P**	**14 07 53.2**	**+0.4**
KMBO				pmax	pmax		
comp=Z,1.0nm,0.5s							
KMBO	**Kilima Mbogo**	**63.75**	**251**	P	**P**	**14 07 53.2**	**+0.4**
comp=Z,1.2nm,0.5s,mb4.2,baz=29,slow=14,SNR=4.9							
WRAB	**Tennant Creek**	**63.76**	**138**	*e*P	**P**	**14 07 52.5**	**-0.2**
comp=Z,3.7nm,0.8s,mb4.5							
WRAB	**Tennant Creek**	**63.76**	**138**	*e*P	**P**	**14 07 52.5**	**-0.1**
WRAB				pmax	pmax		
comp=Z,4.0nm,0.8s,mb4.5							
WRA	**Warramunga Arr**	**63.76**	**138**	P	**P**	**14 07 52.8**	**+0.2**
WRA				pmax	pmax		
comp=Z,3.0nm,0.8s							
WRA	**Warramunga Arr**	**63.76**	**138**	P	**P**	**14 07 52.8**	**+0.2**
comp=Z,3.1nm,0.8s,mb4.4,baz=330,slow=7.2,SNR=18							
ASAR	**Alice Springs**	**66.51**	**141**	P	**P**	**14 08 10.9**	**+0.5**
ASAR				pmax	pmax		
comp=Z,2.0nm,0.9s							
ASAR	**Alice Springs**	**66.51**	**141**	P	**P**	**14 08 10.9**	**+0.5**
comp=Z,2.4nm,0.8s,mb4.2,baz=327,slow=6.2,SNR=19							
PGF	**Pioggiola**	**66.64**	**307**	*e*P	**P**	**14 08 10.8**	**-0.3**
comp=Z,9.4nm,1.1s,mb4.4							
BAIF	**Baives**	**66.87**	**316**	*e*P	**P**	**14 08 12.4**	**0.0**
LPG	**La Plagne**	**67.02**	**310**	*e*P	**P**	**14 08 13.9**	**+0.4**
comp=Z,6.7nm,0.7s,mb4.5							
LPL	**La Plagne**	**67.02**	**310**	*e*P	**P**	**14 08 13.5**	**0.0**
MBDF	**Montbardon**	**67.30**	**309**	*e*P	**P**	**14 08 15.0**	**-0.3**
ORIF	**Oris-en-Rattie**	**67.81**	**310**	*e*P	**P**	**14 08 18.1**	**-0.4**
comp=Z,4.1nm,0.7s,mb4.2							
ORIF				*e*MLR	MLR		
comp=Z,50nm,19.8s,MS3.4							
FRF	**La Foret Royal**	**67.84**	**308**	*e*P	**P**	**14 08 18.1**	**-0.6**
comp=Z,9.6nm,1.0s,mb4.5							
LMR	**La Mourre**	**68.02**	**308**	*e*P	**P**	**14 08 19.2**	**-0.6**
LOR	**Lormes**	**68.17**	**313**	*e*P	**P**	**14 08 20.4**	**-0.3**
comp=Z,2.1nm,0.5s,mb4.1							
LOR				*e*MLR	MLR		
comp=Z,46nm,20.2s,MS3.4							
SMRF	**Simiane la Rot**	**68.39**	**309**	*e*P	**P**	**14 08 21.9**	**-0.2**
SMF	**Signal de Mont**	**68.43**	**312**	*e*P	**P**	**14 08 21.6**	**-0.7**
comp=Z,2.5nm,0.5s,mb4.2							
SSF	**Saint Saulge**	**68.47**	**313**	*e*P	**P**	**14 08 22.4**	**-0.2**
VIVF	**Saint-Julien-l**	**68.62**	**310**	*e*P	**P**	**14 08 23.1**	**-0.5**
LASF	**Ste Croix**	**69.47**	**310**	*e*P	**P**	**14 08 28.5**	**-0.4**
TCF	**Toulx Ste Croi**	**69.60**	**312**	*e*P	**P**	**14 08 29.3**	**-0.3**
LDF	**La Druitiere**	**70.05**	**315**	*e*P	**P**	**14 08 31.9**	**-0.4**
MTLF	**Montolieu**	**70.86**	**310**	*e*P	**P**	**14 08 36.9**	**-0.5**
CTA	**Charters Tower**	**71.19**	**129**	P	**P**	**14 08 39.3**	**-0.2**
CTA				pmax	pmax		
comp=Z,3.0nm,0.6s							
CTA	**Charters Tower**	**71.19**	**129**	P	**P**	**14 08 39.3**	**-0.3**
comp=Z,3.2nm,0.6s,mb4.4,baz=301,slow=8.0,SNR=4.0							
CTAO	**Charters Tower**	**71.19**	**129**	*e*P	**P**	**14 08 39.0**	**-0.5**
comp=Z,3.6nm,0.7s,mb4.4							
CTAO	**Charters Tower**	**71.19**	**129**	*e*P	**P**	**14 08 39.0**	**-0.5**
CTAO				pmax	pmax		
comp=Z,4.0nm,0.7s,mb4.5							
COLA	**College**	**71.95**	**24**	*e*P	**P**	**14 08 44.4**	**+0.8**
comp=Z,3.1nm,0.8s,mb4.3							
COLA	**College**	**71.95**	**24**	*e*P	**P**	**14 08 44.4**	**+0.9**
COLA				pmax	pmax		
comp=Z,3.0nm,0.8s,mb4.3							
ETSF	**Etsaut**	**72.88**	**310**	*e*P	**P**	**14 08 49.0**	**-0.5**
comp=Z,3.2nm,0.7s,mb4.1							
INK	**Inuvik**	**73.83**	**17**	*e*P	**P**	**14 08 55.1**	**+0.6**
comp=Z,157nm,1.0s							
INK	**Inuvik**	**73.83**	**17**	*e*P	**P**	**14 08 55.2**	**+0.6**
INK				pmax	pmax		
comp=Z,157nm,1.0s							
STKA	**Stephens Creek**	**77.14**	**141**	*e*P	**P**	**14 09 14.1**	**+0.1**
comp=Z,3.1nm,0.7s,mb4.3							
STKA	**Stephens Creek**	**77.14**	**141**	P	**P**	**14 09 14.2**	**+0.1**
comp=Z,3.0nm,0.9s,mb4.2,baz=340,slow=6.4,SNR=4.9							
SKAG	**Skagway**	**79.93**	**24**	*e*P	**P**	**14 09 29.1**	**0.0**
comp=Z,6.4nm,1.0s,mb4.5							
EVO	**Evora**	**79.97**	**309**	*e*P	**P**	**14 09 29.2**	**-0.5**
comp=Z,15nm,1.0s,mb4.6							
YKA	**Yellowknife Ar**	**82.99**	**13**	P	**P**	**14 09 45.5**	**+0.4**
YKA	**Yellowknife Ar**	**82.99**	**13**	P	**P**	**14 09 45.5**	**+0.3**
YKA				pmax	pmax		
comp=Z,1.0nm,0.9s							
YKA	**Yellowknife Ar**	**82.99**	**13**	P	**P**	**14 09 45.5**	**+0.4**
comp=Z,0.9nm,0.9s,mb3.8,baz=330,slow=5.0,SNR=15							
TORD	**Torodi Ar. Bea**	**86.03**	**283**	P	**P**	**14 10 01.9**	**+0.5**
comp=Z,3.5nm,0.9s,mb4.6,baz=49,slow=5.0,SNR=23							

*ISCJB **21** 14:10:31.5±0.5,1033N±003×6231W±002,h22km±5km,*
Error ellipse: s-maj=5.4km s-min=3.7km az=160.3
*FUNV **21** 14:10:32.4,1036N×6228W,h16km,MW3.4*
*TRN **21** 14:10:34.1,1049N×6214W,h4km,MD3.5*
*NEIC **21** 14:10:34.1,1049N×6214W,h4km,MD3.5(TRN),After*
TRN.
ISC 21 14:10:31.8±0.6,1034N±003×6230W±002,h18km±4km,n24,
σ1§07/41,2C-1D,Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIV	**Guiria**	**0.32**	**14**⇑	*i P*	**Pg**	**14 10 38.0**	**-0.6**
GUIV				*e*S	**Sg**	**14 10 42.9**	**-0.3**
TCE	**Chacachacare**	**0.65**	**57**⇓	*i P*	**Pg**	**14 10 43.2**	**-1.3**
TCE				*e*S	**Sg**	**14 10 49.0**	**-4.3**
GUNV	**Guanoco**	**0.65**	**254**	*e*P	**Pg**	**14 10 44.7**	**0.0**
GUNV				*e*S	**Sg**	**14 10 54.7**	**+1.3**
TPP	**Pointe-a-Pierr**	**0.84**	**91**	*e*P	**Pb**	**14 10 48.8**	**+1.0**
TPP				*e*S	**Sb**	**14 11 00.1**	**+1.3**
TRN	**Trinidad (W)**	**0.94**	**71**	*e*P	**Pb**	**14 10 47.4**	**-2.1**
TRN				*e*S	**Sb**	**14 10 58.7**	**-2.9**
CRUV	**Carupano**	**0.98**	**290**	*e*P	**Pb**	**14 10 49.8**	**-0.4**
CRUV				*e*S	**Sb**	**14 11 02.0**	**-0.8**
TBH	**Brigand Hill**	**1.22**	**83**	*e*P	**Pn**	**14 10 54.1**	**0.0**
ITEV	**Isla Los Testi**	**1.30**	**321**	*e*P	**Pn**	**14 10 55.1**	**0.0**
ITEV				*e*S	**Sn**	**14 11 12.4**	**+0.4**
ORIV	**Oritupano**	**1.67**	**221**⇑	*e*P	**Pn**	**14 11 01.5**	**+1.4**
ORIV				*e*S	**Sn**	**14 11 22.6**	**+1.5**
TPR	**Prospect**	**1.72**	**61**	*e*P	**Pn**	**14 11 01.7**	**+0.9**
TPR				*e*S	**Sn**	**14 11 22.9**	**+0.5**
GRW	**Mount Saint Ca**	**1.92**	**19**	*e*P	**Pn**	**14 11 05.0**	**+1.5**
GRW				*e*S	**Sn**	**14 11 27.9**	**+0.7**
PCRV	**Puerto La Cruz**	**2.30**	**266**	*e*P	**Pn**	**14 11 08.9**	**+0.1**
PCRV				*e*S	**Sn**	**14 11 35.5**	**-1.3**
RIOV	**Rio Grande**	**2.31**	**168**	*e*P	**Pn**	**14 11 09.4**	**+0.5**
GURV	**El Guri**	**2.68**	**197**	*e*P	**Pn**	**14 11 13.7**	**-0.3**
GURV				*e*S	**Sn**	**14 11 45.7**	**-0.3**
IBAV	**Isla La Blanqu**	**2.68**	**304**	*e*P	**Pn**	**14 11 14.5**	**+0.5**
PRGV	**PARIAGUAN**	**2.79**	**236**	*e*P	**Pn**	**14 11 16.9**	**+1.3**
PRGV				*e*S	**Sn**	**14 11 48.7**	**-0.2**
CUPV	**Cœpira**	**3.44**	**266**	*e*P	**Pn**	**14 11 25.4**	**+0.9**
CUPV				*e*S	**Sn**	**14 12 02.8**	**-2.1**
BIRV	**Birongo**	**3.91**	**272**	*e*P	**Pn**	**14 11 31.8**	**+0.9**
MERV	**Las Mercedes**	**4.08**	**255**	*e*P	**Pn**	**14 11 33.0**	**-0.3**
MERV				*e*S	**Sn**	**14 12 18.1**	**-2.6**
ORCV	**Isla La Orchil**	**4.09**	**291**	*e*P	**Pn**	**14 11 34.0**	**+0.5**
LUEV	**Luepa**	**4.54**	**169**	*e*P	**Pn**	**14 11 38.8**	**-1.0**
LUEV				*e*S	**Sn**	**14 12 28.9**	**-3.2**
CAOV	**Caicara del Or**	**4.97**	**233**	*e*P	**Pn**	**14 11 45.8**	**+0.2**
CAOV				*e*S	**Sn**	**14 12 39.2**	**-3.5**
TURV	**Turiamo**	**5.45**	**272**	*e*P	**Pn**	**14 11 52.5**	**+0.3**
BAUV	**El Baul**	**5.83**	**257**	*e*P	**Pn**	**14 11 57.4**	**0.0**

IDC 21 14:22:14.0±7.7,4630N×15639E,h0km,mb3.7/3,
mb1 4.1/3,mb1mx3.5/21,mbtmp3.7/3,Error ellipse:
s-maj=533.3km s-min=33.1km az=132.0,East of Kuril
Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**68.89**	**202**	P	P	14 33 19.8	-0.6
0.9nm,0.8s,baz=21,slow=7.0,SNR=5.0							
ASAR	**Alice Springs**	**72.56**	**202**	P	P	14 33 43.4	+0.7
0.6nm,0.6s,baz=18,slow=5.3,SNR=12							
TXAR	**Lajitas Array**	**75.72**	**63**	P	P	14 34 01.5	+0.2
0.3nm,0.4s,baz=322,slow=4.3,SNR=7.0							

*NIED **21** 14:34:00,2150N×12080E,h35km,Mw4.6 Best double*
couple: M0 8.46000×10^15 NP1:φ=230.00000°,δ66.00000°,
λ-127.00000°. NP2:φ=111.00000°,δ43.00000°,
λ-37.00000°.
*IDC **21** 14:34:12.3±0.8,2134N×11996E,h0km,mb3.8/9,*
mb1 4.0/10,mb1mx3.9/20,mbtmp3.8/10,ML3.3/1,MS3.7/19,
Ms1 3.7/19,ms1mx3.5/42,Error ellipse: s-maj=36.0km
s-min=16.3km az=71.0
*ISCJB **21** 14:34:16.3±1.5,2147N±007×12084E±0.10,h34km±12km,*
mb3.9/15,MS3.8/20,Error ellipse: s-maj=16.6km
s-min=9.4km az=26.7
*JMA **21** 14:34:17.1±0.3,2154N×12082E,h109km,M3.5*
*MOS **21** 14:34:18.2±1.3,2124N×12104E,h33km,mb4.2/9,Error*
ellipse: s-maj=27.9km s-min=12.1km az=90.0
*BJI **21** 14:34:19.8,2209N×11980E,h15km,mB4.6,mb4.2,ML4.0,*
Ms4.2,Msz3.9
ISC 21 14:34:16.8±2.3,2157N±006×12065E±008,h30km±16km,
n51,σ1§05/43,mb3.9/15,MS3.8/20,5C-2D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**3.61**	**37**	P	**Pn**	**14 35 11.2**	**+0.5**
YOJ				*e*S	**Sn**	**14 35 52.4**	**+0.2**
HATJ	**Hateruma jima**	**3.82**	**49**	*e*S	**Sn**	**14 35 57.0**	**-0.5**
QZH	**Quanzhou**	**3.85**	**331**	P	**Pn**	**14 35 08.1**	**-5.9**
QZH				S	Sn	14 35 40.4	-18
QZH				Smax			
comp=N,370nm,0.7s							
QZH				Smax			
comp=E,490nm,0.8s							
QZH				LR	LR		
comp=N,1μm,6.8s							
QZH				LR	LR		
comp=E,1μm,3.8s							
QZH				LR	LR		
comp=Z,2μm,11.0s							
IRIF

comp=Z,113nm,15.0s,MS3.7
MKAR Makanchi Array 39.91 318 P **P** **14 41 45.6 -2.4**
MKAR pmax pmax
comp=Z,1.0nm,0.7s
MKAR MLR MLR
comp=Z,111nm,18.1s
MKAR Makanchi Array 39.91 318 P **P** **14 41 45.6 -2.4**
comp=Z,1.0nm,0.7s,mb3.6,baz=117,slow=8.9,SNR=11
MKAR LR LR 14 59 57.8
comp=Z,111nm,18.1s,MS3.8,baz=109,slow=39
YAK Yakutsk 40.91 6⇑ *e*P **P** **14 41 59.5 +3.4**
ZALV Zalesovo Beam 42.19 329 P **P** **14 42 05.3 -1.4**
comp=Z,0.7nm,0.6s,mb3.5,baz=103,slow=6.2,SNR=2.6
ZAL Zalesovo 42.19 329 P **P** **14 42 05.3 -1.4**
ZAL pmax pmax
comp=Z,1.0nm,0.6s
PET Petropavlovsk 42.75 33⇑ *e*P **P** **14 42 12.1 +0.9**
PET pmax pmax
comp=Z,33nm,2.5s,mb4.6
WRAB Tennant Creek 43.37 161‖ *e*P **P** **14 42 15.9 -0.7**
WRA Warramunga Arr 43.38 161 P **P** **14 42 16.0 -0.7**
WRA pmax pmax
comp=Z,4.0nm,0.9s
WRA Warramunga Arr 43.38 161 P **P** **14 42 16.0 -0.6**
comp=Z,4.2nm,0.8s,mb4.2,baz=344,slow=8.8,SNR=22
NVS Novosibirsk 43.46 329 *e*P **P** **14 42 23.5 +6.5**
KURK Kurchatov 43.80 322⇑ *e*P **P** **14 42 26.5 +6.7**
ASAR Alice Springs 46.78 163 P **P** **14 42 43.8 +0.1**
ASAR pmax pmax
comp=Z,1.0nm,0.8s
ASAR Alice Springs 46.78 163 P **P** **14 42 43.8 +0.1**
comp=Z,0.9nm,0.8s,mb3.8,baz=342,slow=6.8,SNR=10
BVAR Borovoye Array 49.40 322 LR LR 15 03 54.6
comp=Z,39nm,18.8s,MS3.4,baz=103,slow=36
TIXI Tiksi 50.32 3⇑ *e*P **P** **14 43 14.8 +4.5**
TIXI pmax pmax
comp=Z,6.0nm,1.9s,mb4.3
TIXI MLR MLR
comp=Z,200nm,20.0s,MS4.1
NWAO Narrogin (SRO) 54.29 184 LR LR 15 07 19.2
comp=Z,166nm,21.1s,MS4.1,baz=265,slow=37
BILL Bilibino 54.30 19⇑ *e*P **P** **14 43 43.9 +4.0**
BILL *e* 14 45 45.8
BILL *e*S **S** **14 51 15.5 +0.1**
BILL pmax pmax
comp=Z,4.0nm,1.0s,mb4.3
BILL MLR MLR
comp=Z,100nm,16.0s,MS4.0
STKA Stephens Creek 56.81 159 P **P** **14 43 58.4 0.0**
comp=Z,2.8nm,0.9s,mb4.3,baz=340,slow=5.2,SNR=3.8
ARU Arti 56.91 324*d* *i*P **P** **14 44 06.4 +7.6**
ARU *e* 14 44 56.5
ARU *e* 14 46 16.5
ARU *e*PPP 14 47 29.7
ARU *e*S **S** **14 52 01.9 +11**
ARU *e*SS SS 14 55 52.3 +14
ARU pmax pmax
comp=Z,12nm,2.5s,mb4.5
FINES FINESS Array B 73.44 330 LR LR 15 21 10.0
comp=Z,36nm,18.4s,MS3.7,baz=141,slow=38
ATD Arta Tunnel 74.61 276 LR LR 15 16 31.9
comp=Z,44nm,18.1s,MS3.8,baz=144,slow=34
MMAI Mount Meron Ar 74.75 300 LR LR 15 21 08.3
comp=Z,26nm,20.7s,MS3.5,baz=80,slow=38
INK Inuvik 75.82 22 LR LR 15 23 16.2
comp=Z,62nm,19.9s,MS3.9,baz=285,slow=39
EIL Elat 76.06 297 LR LR 15 25 46.4
comp=Z,44nm,19.4s,MS3.8,baz=101,slow=41
MLR Muntele Rosu 78.10 314 LR LR 15 22 49.2
comp=Z,72nm,18.5s,MS4.0,baz=134,slow=38
HFS Hagfors 79.59 331 LR LR 15 27 25.6
comp=Z,62nm,19.0s,MS4.0,baz=241,slow=40
NOA NORSAR Array B 80.29 332 LR LR 15 22 34.9
comp=Z,38nm,21.4s,MS3.7,baz=85,slow=36
VRAC Vranov 82.62 320 LR LR 15 26 33.9
comp=Z,33nm,20.5s,MS3.7,baz=237,slow=38
GERES GERESS Array B 84.54 321 P **P** **14 46 47.3 +0.2**
comp=Z,0.1nm,0.3s,mb3.5,baz=20,slow=4.4,SNR=3.1
YKA Yellowknife Ar 85.56 22 P **P** **14 46 55.3 +3.4**
comp=Z,0.2nm,0.6s,mb3.5,baz=315,slow=5.4,SNR=3.8
BORG Borgarnes 89.10 345 LR LR 15 31 26.3
comp=Z,161nm,20.2s,MS4.4,baz=36,slow=38

JMA 21 14:37:03.2±0.4, 2535N×12884E, h52km, M3.6, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JJT2	**Tamagusuku 2**	**1.26**	**309**	P	Pn	14 37 25.1	+0.6
JJT2				S	Sn	14 37 40.6	+0.3
NAH1	**Naha**	**1.34**	**310**	P	Pn	14 37 25.9	+0.3
NAH1				S	Sn	14 37 42.0	-0.3
JOW	**Kunigami**	**1.56**	**341**	P	Pn	14 37 29.6	+1.0
JOW				S	Sn	14 37 47.4	-0.3
JIH	**Iheya**	**1.85**	**335**	P	Pn	14 37 33.8	+1.3
JIH				S	Sn	14 37 55.1	+0.3
JAGN	**Aguni-jima**	**1.90**	**311**	P	Pn	14 37 33.9	+0.8
JAGN				S	Sn	14 37 55.7	-0.1
JKE	**Kume jima 2**	**2.09**	**298**	P	Pn	14 37 36.0	+0.2
JKE				S	Sn	14 37 58.7	-1.9
JMZ	**Minamidaito 2**	**2.20**	**77**	P	Pn	14 37 37.4	+0.1
JMZ				S	Sn	14 38 01.7	-1.6
JTK	**Tokunoshima**	**2.43**	**2**	P	Pn	14 37 41.7	+1.3
JTK				S	Sn	14 38 07.9	-1.0
JZK	**Kikaishima**	**3.12**	**19**	P	Pn	14 37 53.1	+3.2
JAM	**Amami Oshima**	**3.12**	**12**	P	Pn	14 37 51.3	+1.3
JAM				S	Sn	14 38 25.9	-0.1
JOGS	**Gusukube**	**3.17**	**260**	P	Pn	14 37 51.2	+0.6
JOGS				*e*S	Sn	14 38 26.4	-0.7

*ISCJB **21** 15:03:29.9±1.2, 3380N×008×731E±0.1, h10km, Error ellipse: s-maj=16.3km s-min=8.1km az=146.7*
*NDI **21** 15:03:31.8±4.7, 3419N×7355E, h10km, MD3.0, ML2.7*
ISC 21 15:03:29.6±1.2, 3402N±007×732E±01, h10km, n8, σ1§11/13, 1C-1D, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THN	**Thein Dam**	**2.66**	**126**	*e*P	**Pn**	**15 04 14.2**	**+1.7**
THN				*e*S	**Sn**	**15 04 45.5**	**+0.7**
DLH	**Dalhousie**	**2.77**	**121**	*e*P	**Pn**	**15 04 15.0**	**+1.0**
DLH				*e*S	**Sn**	**15 04 47.0**	**-0.5**
SDNR	**Sundarnagar**	**4.07**	**127**	*e*PB	**Pb**	**15 04 37.6**	**-3.8**
SDNR				*ex*	x	15 05 11.6	
SMLA	**Simla**	**4.44**	**129**	*e*P	**Pn**	**15 04 37.6**	**+0.6**
SMLA				*e*SB	**Sb**	**15 05 40.1**	**-1.1**
KHET	**Khetri**	**6.34**	**158**	*e*S	**Sn**	**15 06 15.9**	**+0.2**
KHET				AML	AML	15 06 56.2	
comp=E,6.8nm,0.5s							
KHET				AML	AML	15 06 56.7	
comp=N,6.7nm,0.4s							
KUDL	**Kundal**	**6.51**	**153**	*e*P	**Pn**	**15 05 06.0**	**+0.6**
KUDL				*e*S	**Sn**	**15 06 17.8**	**-2.0**
KUDL				AML	AML	15 07 00.2	
comp=E,13nm,0.9s							
KUDL				AML	AML	15 07 02.5	
comp=N,6.4nm,1.0s							
SONA	**Sohna**	**6.66**	**149**	*e*S	**Sn**	**15 06 19.0**	**-4.4**
KK31	**Karatay Array**	**9.31**	**348**	‖Pn	**Pn**	**15 05 49.7**	**+5.9**
comp=N,1.0nm,0.6s,baz=163,slow=12							
KK31				⇑Sn	**Sn**	**15 07 27.6**	**-0.9**
comp=N,0.5nm,0.4s,baz=170,slow=23,SNR=5.2							

KRSC 21 15:06:28.3±1.2, 4936N×15601E, h5km±5km, ML3.8, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALID	**Alaid**	**1.54**	**349**	*e*P	Pn	15 06 56.4	0.0
ALID				*e*S	Sn	15 07 17.0	+0.3
MIPR	**Malaya Ipel'ka**	**2.96**	**9**	P	Pn	15 07 17.2	+1.3
RUS	**Russkaya**	**3.46**	**26**	*e*P	Pn	15 07 25.2	+2.4
RUS				*i* S	Sn	15 08 06.8	+2.7
PET	**Petropavlovsk**	**4.03**	**23**	P	Pn	15 07 34.1	+3.6
PET				*i* S	Sn	15 08 23.2	+5.1
SDLR	**Sedlovina**	**4.32**	**24**	P	Pn	15 07 37.8	+3.3
GNL	**Ganaly**	**4.51**	**15**	*e*P	Pn	15 07 41.2	+4.1
SPN	**Mys Shipunski**	**4.51**	**32**	*e*P	Pn	15 07 40.3	+3.1
SPN				*e*S	Sn	15 08 33.2	+3.2
MKZ	**Mys Kozlova**	**6.29**	**32**	*e*P	Pn	15 08 03.7	+2.1
KBTR	**Krutoberegovo**	**8.00**	**28**	P	Pn	15 08 28.2	+3.1

*NEIC **21** 15:08:31.7, 1837N×9727W, h72km, MD3.9(MEX), After MEX.*
MEX 21 15:08:31.9±0.9, 1837N×9725W, h71km±6km, MD3.9, Central Mexico

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPIG	**Tehuac#an**	**0.12**	**297**	*i* P	Pn	15 08 41.0	-1.3
TPIG				*i* S	Sn	15 08 48.4	-1.5
UTMO	**Huajuapan**	**0.75**	**225**	*i* P	Pn	15 08 46.1	-1.4
UTMO				*i* S	Sn	15 08 57.8	-1.1
OXX	**Oaxaca**	**1.37**	**158**	*i* P	Pn	15 08 54.0	-1.3
OXX				*i* S	Sn	15 09 11.5	-1.3
VHO	**Vista Hermosa**	**1.38**	**159**	*i* P	Pn	15 08 54.4	-1.0
VHO				*i* S	Sn	15 09 11.7	-1.2
PPM	**Popocatepetl**	**1.48**	**298**	*e*P	Pn	15 08 56.5	-0.1
PPM				*i* S	Sn	15 09 15.6	+0.3
YAIG	**Yautepec**	**1.79**	**286**	*e*P	Pn	15 09 00.3	-0.4
YAIG				*i* S	Sn	15 09 19.8	-2.8
IIO	**Organos**	**1.85**	**311**	*e*P	Pn	15 09 02.5	+0.9
IIO				*i* S	Sn	15 09 22.9	-1.1
MZVM		**2.04**	**294**	*e*P	Pn	15 09 03.5	-0.7
MZVM				*i* S	Sn	15 09 26.7	-2.0
PNIG	**Pinotepa**	**2.13**	**203**	*e*P	Pn	15 09 01.3	-4.1
PNIG				*i* S	Sn	15 09 29.0	-2.0
PLIG	**Platanillo**	**2.14**	**271**	*i* P	Pn	15 09 04.7	-0.7
PLIG				*i* S	Sn	15 09 28.6	-2.4
PTVM	**Pico Tres Padr**	**2.14**	**305**	*e*P	Pn	15 09 05.5	0.0
CMIG	**Matias Romero**	**2.59**	**119**	*i* P	Pn	15 09 09.8	-1.7
CMIG				*i* S	Sn	15 09 39.7	-2.3
TUIG	**Tuzandepetl**	**2.71**	**97**	*e*P	Pn	15 09 13.3	+0.1
TUIG				*i* S	Sn	15 09 42.3	-2.6
HUIG	**Huatulco**	**2.81**	**157**	*e*P	Pn	15 09 12.8	-1.7
HUIG				*i* S	Sn	15 09 44.5	-2.8
ACX	**Acapulco**	**2.95**	**240**	*i* P	Pn	15 09 12.0	-4.4
CAIG	**El Cayaco**	**3.16**	**246**	*i* P	Pn	15 09 16.0	-3.3
CAIG				*i* S	Sn	15 09 52.8	-3.1

IDC 21 15:20:59.0±3.9, 2188S×17578W, h0km, mb4.1/2, mb1 4.4/2, mb1mx3.7/15, mbtmp4.1/2, Error ellipse: s-maj=183.1km s-min=54.6km az=149.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**46.24**	**258**	P	P	15 29 26.9	+0.6
1.7nm,0.6s,baz=96,slow=7.6,SNR=33							
ASAR				PcP	PcP	15 31 00.8	-1.2
0.3nm,0.6s,baz=111,slow=3.6,SNR=5.3							
WB2	**Warramunga Arr**	**46.46**	**263**	*e*P	P	15 29 27.2	-0.9
WRA	**Warramunga Arr**	**46.47**	**263**	P	P	15 29 27.3	-0.9
1.4nm,0.3s,baz=97,slow=7.4,SNR=162							
AKASG	**Malin Array Be**	**145.21**	**332**	PKPbc	PKPbc	15 40 38.2	+0.2
1.1nm,0.5s,baz=43,slow=4.4,SNR=7.1							

*IDC **21** 15:27:11.6±0.5, 093N×12614E, h0km, mb4.3/15, mb1 4.4/16, mb1mx4.3/21, mbtmp4.3/16, ML3.8/1, MS3.4/1, Ms1 3.4/1, ms1mx2.9/24, Error ellipse: s-maj=29.4km s-min=12.1km az=72.0*
*BJI **21** 15:27:12.6, 090N×12620E, h10km, mB5.0, mb4.7, Ms4.8, Msz4.4*
*NEIC **21** 15:27:12.7±0.4, 093N×12620E, h10km, mb4.5/9, Error ellipse: s-maj=15.1km s-min=6.8km az=69.0*
*MOS **21** 15:27:17.2±1.1, 092N×12614E, h60km, mb4.4/14, Error ellipse: s-maj=26.4km s-min=10.0km az=107.5*
*ISCJB **21** 15:27:20.8±1.6, 085N±006×12606E±009, h96km±16km, mb4.3/26, Error ellipse: s-maj=16.5km s-min=8.3km az=153.9*
ISC 21 15:27:21.2±1.8, 084N±007×12612E±010, h82km±17km, n66, σ1§10/64, mb4.3/26, 3C-4D, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAI	**Ambon**	**4.95**	**155**	P	**Pn**	**15 28 36.1**	**+3.0**
53nm,0.7s							
PCI	**Palu**	**6.51**	**255**	P	**Pn**	**15 28 55.5**	**+1.1**
114nm,0.8s							
KMMI	**Kalianget**	**14.43**	**237**	P	**Pn**	**15 30 47.0**	**+5.5**
125nm,1.0s							
KAKA	**Kakadu**	**14.85**	**155**	*e*P	**Pn**	**15 30 43.6**	**-3.3**
17nm,0.6s							
KAKA	**Kakadu**	**14.85**	**155**	*e*Pn	**Pn**	**15 30 43.3**	**-3.6**
39nm,0.7s							
KSM	**Kuching**	**15.82**	**272**	*e*P	**Pn**	**15 30 58.3**	**-0.9**
KRKI	**Karangkates**	**16.29**	**236**	P	**Pn**	**15 31 11.3**	**+6.2**
232nm,0.8s							
BJII	**Banjamegara**	**18.27**	**243**	P	**Pn**	**15 31 35.9**	**+6.6**
46nm,1.8s							
FITZ	**Fitzroy Crossi**	**18.83**	**181**	*e*P	**Pn**	**15 31 32.1**	**-3.8**
7.5nm,0.9s							
FITZ	**Fitzroy Crossi**	**18.83**	**181**	P	**Pn**	**15 31 32.5**	**-3.4**
0.2nm,0.3s,baz=32,slow=3.9,SNR=5.8							
WRAB	**Tennant Creek**	**22.16**	**159**	*e*P	**P**	**15 32 09.7**	**-0.8**
31nm,0.6s,mb4.8							
WRAB	**Tennant Creek**	**22.16**	**159**	*e*P	**P**	**15 32 09.7**	**-0.8**
WRAB				pmax	pmax		
comp=Z,31nm,0.6s,mb4.8							
WRA	**Warramunga Arr**	**22.17**	**159**	P	**P**	**15 32 09.8**	**-0.7**
WRA						15 36 07.2	
WRA				pmax	pmax		
comp=Z,36nm,0.8s							
WRA				pmax	pmax		
comp=Z,1.0nm,0.6s							
WRA	**Warramunga Arr**	**22.17**	**159**	P	**P**	**15 32 09.8**	**-0.7**
comp=Z,36nm,0.8s,mb4.8,baz=338,slow=12,SNR=82							
WRA				PcP	PcP	15 36 07.2	+2.4
comp=Z,0.7nm,0.6s,baz=324,slow=2.1,SNR=5.5							
WB2	**Warramunga Arr**	**22.17**	**159**⇑	*i*P	**P**	**15 32 09.9**	**-0.7**
GUMO	**Guam**	**22.48**	**55**	LR	LR	15 39 44.6	
comp=Z,89nm,19.6s,baz=221,slow=34							
MBWA	**Marble Bar**	**22.74**	**196**	*e*P	**P**	**15 32 14.9**	**-1.6**
comp=Z,23nm,1.3s,mb4.3							
KSI	**Kapahiang**	**23.93**	**259**	P	**P**	**15 32 32.5**	**+4.7**
comp=Z,36nm,0.8s,mb4.8							
ASAR	**Alice Springs**	**25.51**	**163**	P	**P**	**15 32 42.8**	**+0.8**
ASAR						15 36 14.1	
ASAR				pmax	pmax		
comp=Z,1.0nm,0.3s							
ASAR				pmax	pmax		
comp=Z,1.0nm,0.5s							
ASAR	**Alice Springs**	**25.51**	**163**	P	**P**	**15 32 42.8**	**+0.8**
comp=Z,0.8nm,0.3s,mb3.7,baz=88,slow=8.1,SNR=4.5							
ASAR				PcP	PcP	15 36 14.1	+2.2
comp=Z,1.4nm,0.5s,baz=348,slow=2.2,SNR=10							
JOW	**Kunigami**	**25.93**	**4**	P	**P**	**15 32 46.6**	**+0.8**
comp=Z,19nm,0.9s,mb4.5,baz=167,slow=30,SNR=4.4							
PSI	**Prapat**	**27.25**	**274**	P	**P**	**15 32 59.7**	**+1.8**
PSI				pmax	pmax		
comp=Z,5.0nm,0.6s,mb4.2							
PSI	**Prapat**	**27.25**	**274**	P	**P**	**15 32 59.6**	**+1.8**
comp=Z,5.0nm,0.6s,mb4.2,baz=57,slow=3.7,SNR=6.7							
FORT	**Forrest**	**31.50**	**177**	*e*P	**P**	**15 33 35.9**	**+0.6**
comp=Z,40nm,0.6s,mb5.3							
FORT	**Forrest**	**31.50**	**177**	*e*P	**P**	**15 33 35.6**	**+0.3**
comp=Z,5.8nm,0.6s,mb4.5							
NJ2	**Nanjing**	**31.79**	**348**	*e*P	**P**	**15 33 38.6**	**+0.7**
NJ2				PP	PP	15 34 45.6	-5.6
NJ2				S	**S**	**15 38 42.0**	**-0.2**
NJ2				AMB	AMB		
comp=Z,50nm,0.8s,mb5.3							
NJ2				AMB	AMB		
comp=Z,202nm,3.8s							
NJ2				LR	LR		
comp=N,800nm,10.3s							
NJ2				LR	LR		
comp=E,690nm,10.2s							
STKA	**Stephens Creek**	**35.69**	**157**	*e*P	**P**	**15 34 12.3**	**+0.6**
comp=E,3.9nm,0.5s,mb4.6							
STKA	**Stephens Creek**	**35.69**	**157**	*e*P	**P**	**15 34 12.4**	**+0.7**
comp=E,5.4nm,0.6s,mb4.7							
STKA	**Stephens Creek**	**35.69**	**157**	P	**P**	**15 34 12.8**	**+1.1**
comp=E,5.2nm,0.5s,mb4.7,baz=330,slow=6.9,SNR=37							
STKA				PcP	PcP	15 36 40.2	+1.8
comp=E,1.7nm,0.5s,baz=315,slow=6.1,SNR=4.0							
KSRS	**Korea Array**	**36.47**	**2**	P	**P**	**15 34 19.0**	**+0.7**
KSRS				pmax	pmax		
comp=Z,1.0nm,0.5s,mb4.0							
KSRS	**Korea Array**	**36.47**	**2**	P	**P**	**15 34 18.9**	**+0.7**
comp=Z,0.9nm,0.5s,mb4.0,baz=178,slow=9.7,SNR=8.2							
MJAR	**Matsushiro Arr**	**37.25**	**16**	P	**P**	**15 34 23.8**	**-1.1**
MJAR	**Matsushiro Arr**	**37.25**	**16**	P	**P**	**15 34 23.8**	**-1.1**
MJAR				pmax	pmax		
comp=Z,1.0nm,0.5s							
MJAR	**Matsushiro Arr**	**37.25**	**16**	P	**P**	**15 34 23.8**	**-1.1**
comp=Z,0.7nm,0.5s,mb3.9,baz=180,slow=9.0,SNR=6.9							
LSA	**Lhasa**	**43.94**	**314**	*e*P	**P**	**15 35 20.5**	**+0.4**
comp=Z,3.0nm,0.6s,mb4.2							
LSA	**Lhasa**	**43.94**	**314**	*e*P	**P**	**15 35 20.5**	**+0.4**
LSA				pmax	pmax		
comp=Z,3.0nm,0.6s,mb4.2							
HIA	**Hailar**	**48.55**	**354**‖	*e*P	**P**	**15 35 56.7**	**+0.7**
ULN	**Ulaanbaatar**	**49.68**	**343**‖	*i*P	**P**	**15 36 04.1**	**-0.5**
SONM	**Songino Array**	**49.84**	**343**	P	**P**	**15 36 05.2**	**-0.6**
SONM				pmax	pmax		
comp=Z,1.0nm,0.6s							
SONM	**Songino Array**	**49.84**	**343**	P	**P**	**15 36 05.2**	**-0.6**
comp=Z,0.6nm,0.6s,mb3.7,baz=169,slow=8.5,SNR=3.3							
TLY	**Talaya**	**54.08**	**343**‖	*e*P	**P**	**15 36 37.3**	**0.0**
BOD	**Bodaibo**	**57.62**	**352**	*e*P	**P**	**15 37 02.5**	**0.0**
BOD				pmax	pmax		
comp=Z,4.0nm,1.6s,mb4.2							
MK31	**Makanchi Array**	**59.59**	**327**	*e*P	**P**	**15 37 15.1**	**-1.2**
MKAR	**Makanchi Array**	**59.59**	**327**	*i* P	**P**	**15 37 15.3**	**-1.0**
MKAR				pmax	pmax		
comp=Z,2.0nm,0.5s							
MKAR	**Makanchi Array**	**59.59**	**327**	P	**P**	**15 37 15.4**	**-0.9**
comp=Z,1.8nm,0.5s,mb4.4,baz=125,slow=7.7,SNR=24							
URZ	**Urewera**	**60.89**	**136**	P	**P**	**15 37 26.3**	**+0.9**
comp=Z,2.4nm,0.3s,mb4.7,baz=249,slow=6.9,SNR=12							
ZALV	**Zalesovo Beam**	**62.88**	**334**	P	**P**	**15 37 37.6**	**-0.9**
comp=Z,0.7nm,0.5s,mb3.9,baz=167,slow=7.3,SNR=3.8							
ZAL	**Zalesovo**	**62.89**	**334**	P	**P**	**15 37 37.6**	**-0.9**
ZAL				pmax	pmax		
comp=Z,1.0nm,0.5s							
KURK	**Kurchatov**	**63.85**	**329**	*e*P	**P**	**15 37 43.4**	**-1.5**
comp=Z,5.1nm,0.8s,mb4.4							
KURK	**Kurchatov**	**63.85**	**329**	*e*P	**P**	**15 37 43.4**	**-1.5**
KURK				pmax	pmax		
comp=Z,5.0nm,0.8s,mb4.4							
SEY	**Seymchan**	**64.97**	**13**⇑	*e*P	**P**	**15 37 54.6**	**+2.7**
BVAR	**Borovoye Array**	**69.41**	**328**	P	**P**	**15 38 20.2**	**0.0**
BVAR				pmax	pmax		
comp=Z,1.0nm,0.4s							
BVAR	**Borovoye Array**	**69.41**	**328**	P	**P**	**15 38 20.2**	**0.0**
comp=Z,0.5nm,0.4s,mb3.7,baz=146,slow=10,SNR=4.4							
TIXI	**Tiksi**	**70.72**	**1**	*e*P	**P**	**15 38 28.1**	**+0.1**
comp=Z,1.8nm,0.4s,mb4.2							
TIXI	**Tiksi**	**70.72**	**1**	*e*P	**P**	**15 38 28.1**	**+0.2**
TIXI				pmax	pmax		
comp=Z,2.0nm,0.4s,mb4.3							
ARU	**Arti**	**77.05**	**328**	*e*P	**P**	**15 39 04.3**	**-0.8**
comp=Z,2.6nm,0.6s,mb4.1							
ARU	**Arti**	**77.05**	**328***c*	*i*P	**P**	**15 39 03.8**	**-1.3**
ARU				*e*S	S	15 48 46.4	-0.7
ARU				pmax	pmax		
comp=Z,10.0nm,2.5s,mb4.1							
VNDA	**Vanda**	**80.66**	**173**	P	**P**	**15 39 26.2**	**+1.6**
VNDA	**Vanda**	**80.66**	**173**	P	**P**	**15 39 26.2**	**+1.7**
VNDA				pmax	pmax		
comp=Z,3.0nm,0.7s							
VNDA	**Vanda**	**80.66**	**173**	P	**P**	**15 39 26.2**	**+1.6**
comp=Z,3.0nm,0.7s,mb4.2,baz=335,slow=5.1,SNR=7.8							
OBN	**Obninsk**	**89.06**	**325**‖	*e*P	**P**	**15 40 06.8**	**-0.3**
OBN				pmax	pmax		
comp=Z,14nm,1.2s,mb4.9							
ARCES	**ARCESS Array B**	**92.93**	**340**	P	**P**	**15 40 25.3**	**+0.5**
ARCES				pmax	pmax		
comp=Z,2.0nm,0.9s							
ARCES	**ARCESS Array B**	**92.93**	**340**	P	**P**	**15 40 25.3**	**+0.6**
comp=Z,2.1nm,0.9s,mb4.5,baz=102,slow=6.5,SNR=3.2							
AKASG	**Malin Array Be**	**93.73**	**321**	P	**P**	**15 40 31.9**	**+3.1**
comp=Z,0.4nm,0.4s,mb4.2,baz=68,slow=5.5,SNR=4.5							
TORD	**Torodi Ar. Bea**	**123.18**	**286**	PKP	PKPdf	15 46 11.5	+2.1
comp=Z,0.6nm,0.7s,baz=52,slow=2.0,SNR=4.6							
CPUP	**Villa Florida**	**154.44**	**173**	PKPbc	PKPbc	15 47 15.4	+2.4
comp=Z,0.2nm,0.3s,baz=28,slow=5.6,SNR=3.2							

IDC 21 15:28:46.1±16.0, 041N×12550E, h0km, mb4.1/3, mb1 4.3/3, mb1mx3.8/16, mbtmp4.2/3, Error ellipse: s-maj=256.0km s-min=174.0km az=159.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.00**	**157**	P	P	15 33 41.4	-0.7
9.3nm,0.8s,baz=335,slow=12,SNR=4.6							
ASAR	**Alice Springs**	**25.28**	**162**	P	P	15 34 15.7	+1.3
1.3nm,0.3s,baz=346,slow=12,SNR=6.2							
STKA	**Stephens Creek**	**35.54**	**156**	P	P	15 35 44.2	-0.8
0.9nm,0.3s,baz=318,slow=9.2,SNR=4.4							

*TEH **21** 15:32:04.6, 2801N×5788E, h33km, ML3.6*
*ISCJB **21** 15:32:11.1±0.6, 2791N±005×5748E±006, h10km, Error ellipse: s-maj=8.2km s-min=6.7km az=150.5*
*CSEM **21** 15:32:11.9±0.1, 2793N×5750E, h20km, ML4.8, Error ellipse: s-maj=3.9km s-min=3.1km az=142.0*
*THR **21** 15:32:13.7±0.3, 2813N×5760E, h15km, ML3.8*
*KISR **21** 15:32:50.2±0.7, 2867N×5406E, h34km, ML3.5*
ISC 21 15:32:13.1±0.6, 2794N±005×5759E±006, h10km, n24, σ1§21/26, 1D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDS	**Bandar-Abbas**	**1.37**	**247**	*e*Pg	**Pg**	**15 32 40.7**	**+1.3**
BNDS				AML	AML	15 33 06.3	
comp=N,2μm,0.4s							
KRBR	**Kerman**	**2.16**	**341**	*e*Pg	**Pb**	**15 32 50.0**	**-2.2**
KRBR				AML	AML	15 33 25.3	
comp=N,586nm,0.1s							
BANOM	**Banah**	**2.32**	**210**	P	**Pn**	**15 32 53.2**	**+1.9**
SNR=41							
ZHSF	**Zahedan**	**3.25**	**58**	*e*Pn	**Pn**	**15 33 05.0**	**+0.8**
IBAF	**Bafgh**	**4.04**	**335**	*e*	**Sg**	**15 34 32.2**	**+9.4**
comp=Z,508nm,0.4s							
IMEH	**Mehriz**	**4.30**	**324**	*e*Pn	**Pn**	**15 33 22.4**	**+3.8**
IMEH				*e*	**Sg**	**15 34 39.7**	**+8.4**
comp=Z,824nm,0.7s							
HOQ	**Hoqain**	**4.35**	**183**	P	**Pn**	**15 33 18.5**	**-0.7**
SNR=7.1							
BIDO	**Bidbid**	**4.43**	**174**	P	**Pn**	**15 33 19.3**	**-1.0**
SNR=13							
IKOO	**Kooshah**	**4.63**	**15**	*e*Pn	**Pn**	**15 33 23.4**	**+0.3**
WBK	**Wadi Bani Khal**	**5.45**	**166**	P	**Pn**	**15 33 33.8**	**-0.6**
SNR=10							
SLWS		**6.97**	**245**	P	**Pn**	**15 33 57.1**	**+1.8**
IPIR	**Pirpir**	**7.47**	**311**‖	*e*Pn	**Pn**

*ISCJB **21** 15:49:28.3±2.0, 2576N±003×12519E±005, h11km±13km, mb3.9/9, MS3.3/4, Error ellipse: s-maj=8.8km s-min=5.1km az=23.7.*
*JMA **21** 15:49:28.9±0.2, 2577N×12522E, h21km±3km, M3.7*
ISC 21 15:49:28.7±1.3, 2573N±005×12519E±006, h5km±8km, n24, σ0§84/27, mb3.9/9, MS3.3/4, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMJ	**Miyako jima 2**	**0.91**	**174**	P	**Pg**	**15 49 46.3**	**+0.1**
JMJ				S	**Sg**	**15 49 58.7**	**+0.6**
JOGS	**Gusukube**	**0.98**	**168**	P	**Pg**	**15 49 47.5**	**-0.1**
JOGS				S	**Sg**	**15 50 00.6**	**+0.3**
JTJ	**Tarama**	**1.17**	**202**	P	**Pg**	**15 49 50.8**	**-0.3**
JTJ				S	**Sg**	**15 50 06.0**	**-0.2**
JKE	**Kume jima 2**	**1.56**	**67**	P	**Pn**	**15 49 55.2**	**-1.8**
JIJ	**Ishigaki jima**	**1.65**	**215**	P	**Pn**	**15 49 57.4**	**-0.9**
JIJ				S	**Sn**	**15 50 18.7**	**-1.2**
JKRS	**Kuro-shima**	**1.83**	**216**	P	**Pn**	**15 50 01.6**	**+0.9**
JKRS				S	**Sn**	**15 50 25.4**	**+1.2**
IRIF	**Iriomote-Funau**	**1.91**	**224**	P	**Pn**	**15 50 01.5**	**-0.4**
JOW	**Kunigami**	**2.98**	**68**	Pn	**Pn**	**15 50 16.5**	**-0.1**
JOW	14nm,0.3s,baz=243,slow=8.7,SNR=30			Sn	**Sn**	**15 50 53.4**	**+0.6**
JNU	**Nakatsue**	**8.88**	**33**	LR	LR	15 55 13.7	
	comp=Z,139nm,19.2s,baz=245,slow=39						
KSRS	**Korea Array**	**11.92**	**11**	Pn	**Pn**	**15 52 24.6**	**+5.4**
KSRS	0.1nm,0.3s,baz=185,slow=14,SNR=5.7			LR	LR	15 57 06.6	
	comp=Z,160nm,19.9s,baz=161,slow=38						
MJAR	**Matsushiro Arr**	**15.49**	**43**	Pn	**Pn**	**15 53 13.5**	**+5.6**
SONM	0.1nm,0.3s,baz=234,slow=8.6,SNR=4.5			LR	LR	16 07 09.3	
	comp=Z,160nm,20.9s,MS3.5,baz=243,slow=40						
GUMO	**Guam**	**22.08**	**119**	LR	LR	16 00 59.4	
	comp=Z,182nm,18.8s,MS3.5,baz=61,slow=31						
ASAJ	**Asahikawa**	**23.16**	**33**	LR	LR	16 02 37.7	
	comp=Z,32nm,21.4s,MS2.8,baz=210,slow=34						
SONM	**Songino Array**	**26.57**	**331**	P	**P**	**15 55 08.8**	**+1.3**
SONM	2.3nm,0.9s,mb3.7,baz=144,slow=9.1,SNR=11			LR	LR	16 07 09.3	
	comp=Z,160nm,20.9s,MS3.5,baz=243,slow=40						
MKAR	**Makanchi Array**	**39.85**	**313**	P	**P**	**15 57 04.7**	**+1.6**
MKAR	0.4nm,0.4s,mb3.5,baz=98,slow=11,SNR=8.6			LR	LR	16 14 44.7	
	comp=Z,40nm,19.9s,MS3.3,baz=251,slow=38						
ZALV	**Zalesovo Beam**	**41.02**	**324**	P	**P**	**15 57 12.4**	**-0.2**
WRA	**Warramunga Arr**	**46.26**	**168**	P	**P**	**15 57 54.6**	**-0.5**
WB2	**Warramunga Arr**	**46.26**	**168**	*e*P	**P**	**15 57 54.8**	**-0.3**
BVAR	**Borovoye Array**	**48.84**	**319**	P	**P**	**15 58 14.3**	**-0.7**
	0.8nm,0.7s,mb3.8,baz=122,slow=11,SNR=4.0						
ASAR	**Alice Springs**	**49.82**	**170**	P	**P**	**15 58 22.9**	**+0.2**
	1.2nm,0.5s,mb4.2,baz=357,slow=13,SNR=30						
INK	**Inuvik**	**70.42**	**23**	P	**P**	**16 00 43.0**	**-0.5**
	1.6nm,0.9s,mb4.0,baz=223,slow=7.1,SNR=6.3						
AKASG	**Malin Array Be**	**74.12**	**319**	P	**P**	**16 01 05.0**	**-0.9**
	0.2nm,0.3s,mb3.6,baz=56,slow=6.1,SNR=4.0						
DLBC	**Dease Lake**	**75.76**	**32**	P	**P**	**16 01 16.9**	**+1.7**
	baz=254,slow=7.5						
YKA	**Yellowknife Ar**	**80.12**	**24**	P	**P**	**16 01 39.1**	**-0.2**
	2.7nm,0.8s,mb4.2,baz=308,slow=5.1,SNR=28						

*ISCJB **21** 15:51:08.1±0.8, 6059N±007×14162W±009, h10km, Error ellipse: s-maj=9.6km s-min=6.5km az=9.6*
*NEIC **21** 15:51:09.1, 6062N×14171W, h13km, ML2.6(AEIC), After AEIC.*
*PGC **21** 15:51:09.3±4.7, 6060N×14152W, h1km, ML2.5/3, 184km Wnw of Yakutat, Ak Southeastern Alaska*
ISC 21 15:51:10.9±2.1, 6051N±006×1418W±01, h34km±19km, n11, σ0§99/16, Southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAGM	**Ragged Mountai**	**1.45**	**266**	P	**Pn**	**15 51 35.3**	**+0.7**
PNL	**Peninsula**	**1.46**	**124**	P	**Pn**	**15 51 33.6**	**-1.1**
BMRM	**Bremner River**	**1.47**	**290**	P	**Pn**	**15 51 34.2**	**-0.7**
HYT	**Haines Junctio**	**2.12**	**80**	P	**Pn**	**15 51 45.0**	**+1.1**
HYT				S	**Sn**	**15 52 11.7**	**+2.7**
BCA3	**Beaver Creek A**	**2.57**	**360**	P	**Pn**	**15 51 49.4**	**-0.6**
MENT	**Mentasta**	**2.61**	**340**	P	**Pn**	**15 51 51.1**	**+0.5**
WHY	**Whitehorse**	**3.40**	**84**	Pn	**Pn**	**15 52 00.7**	**-0.7**
WHY				Sn	**Sn**	**15 52 40.0**	**-0.6**
DAWY	**Dawson**	**3.74**	**16**	*e*Pn	**Pn**	**15 52 05.4**	**-0.7**
DAWY				*e*Sn	**Sn**	**15 52 49.0**	**+0.1**
DAWY	**Dawson**	**3.74**	**16**	Pn	**Pn**	**15 52 05.8**	**-0.3**
DAWY				Sn	**Sn**	**15 52 48.0**	**-0.9**
DAWY				Sg	**Sb**	**15 53 01.2**	**+0.3**
PMR	**Palmer**	**3.74**	**290**	*e*Pn	**Pn**	**15 52 09.5**	**+3.4**
EGAK	**Eagle**	**4.30**	**3**	*e*Pn	**Pn**	**15 52 13.3**	**-0.4**

*IDC **21** 15:58:58.3±2.5, 4333N×105.16W, h0km, mb4.2/1, mb1 3.6/4, mb1mx3.4/24, mbtmp3.4/4, ML2.7/2, MS2.8/2, Ms1 2.7/2, ms1mx2.3/35, Error ellipse: s-maj=51.4km s-min=8.2km az=153.0*
*ISCJB **21** 15:59:00.4±0.5, 4357N±003×10504W±004, h0km, Error ellipse: s-maj=4.9km s-min=3.9km az=35.0*
*NEIC **21** 15:59:01.0±0.8, 4355N×10509W, h0km, ML3.2, Error ellipse: s-maj=10.8km s-min=8.1km az=133.0, Suspected Mining explosion.*
NEIC 80 km [50 miles] WSW of Newcastle.
ISC 21 15:59:01.6±0.5, 4356N±003×10502W±004, h0km, n30, σ1§71/45, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**0.90**	**51**	*e*Pg	**Pg**	**15 59 19.8**	**+0.9**
RSSD				*e*Sg	**Sg**	**15 59 31.5**	**+0.9**
PHWY	**Pilot Hill**	**2.28**	**188**	*e*Pn	**Pn**	**15 59 39.9**	**-0.5**
PHWY				*e*Sn	**Sn**	**16 00 12.3**	**+3.1**
RWWY	**Rawlins**	**2.47**	**222**	*e*Pn	**Pn**	**15 59 42.8**	**-0.3**
RWWY				*e*Sn	**Sn**	**16 00 15.2**	**+1.2**
LAO	**LASA Array**	**3.24**	**345**	*e*Pn	**Pn**	**15 59 53.1**	**-0.5**
LAO				*e*Sn	**Sn**	**16 00 33.7**	**+0.8**
BW06	**Boulder Array**	**3.42**	**258**	*e*Pn	**Pn**	**15 59 53.6**	**-2.4**
BW06				*e*Sn	**Sn**	**16 00 40.3**	**+3.0**
PDAR	**Pinedale Array**	**3.42**	**258**	Pn	**Pn**	**15 59 53.8**	**-2.3**
	3.0nm,0.3s,baz=75,slow=16,SNR=44						
PDAR				Lg		16 00 40.7	
	8.3nm,0.3s,baz=69,slow=36,SNR=17						
RLMT	**Red Lodge**	**3.42**	**299**	*e*Pn	**Pn**	**15 59 53.7**	**-2.5**
RLMT				*e*Sn	**Sn**	**16 00 37.2**	**-0.2**
ISCO	**Idaho Springs**	**3.79**	**187**	*e*Pn	**Pn**	**16 00 01.7**	**+0.6**
ISCO				*e*Sn	**Sn**	**16 00 47.5**	**+1.2**
ISCO				*e*Sg	**Sg**	**16 00 59.8**	**-3.4**
GCMT	**Greycliff**	**4.00**	**306**	*e*Pn	**Pn**	**16 00 01.4**	**-2.6**
GCMT				*e*Sn	**Sn**	**16 00 52.3**	**+0.8**
LOHW	**Long Hollow**	**4.06**	**273**	*e*Pn	**Pn**	**16 00 03.5**	**-1.4**
FLWY	**Flagg Ranch**	**4.14**	**279**	*e*Pn	**Pn**	**16 00 04.3**	**-1.7**
MOOW	**Moose Ponds**	**4.16**	**275**	*e*Pn	**Pn**	**16 00 03.6**	**-2.7**
SNOW	**Snow King Moun**	**4.17**	**271**	*e*Pn	**Pn**	**16 00 12.4**	**+5.9**
YNR	**Norris Junctio**	**4.24**	**288**	*e*Pn	**Pn**	**16 00 08.9**	**+1.6**
REDW	**Red Top Meadow**	**4.25**	**269**	*e*Pn	**Pn**	**16 00 10.0**	**+2.5**
REDW				*e*S	**Sb**	**16 01 07.8**	**-1.3**
YFT	**Old Faithful**	**4.29**	**284**	Pn	**Pn**	**16 00 08.9**	**+0.8**
YFT				*e*S	**Sb**	**16 01 11.4**	**+1.2**
IMW	**Indian Meadow**	**4.30**	**277**	*e*Pn	**Pn**	**16 00 06.2**	**-2.1**
TPAW	**Teton Pass**	**4.32**	**271**	*e*Pn	**Pn**	**16 00 13.2**	**+4.8**
DCID1	**Drake Creek**	**4.48**	**273**	*e*Pn	**Pn**	**16 00 13.4**	**+2.7**
QLMT	**Earthquake Lak**	**4.78**	**288**	Pn	**Pn**	**16 00 18.6**	**+3.8**
DGMT	**Dagmar**	**4.94**	**6**	*e*Pn	**Pn**	**16 00 17.2**	**+0.2**
DGMT				*e*S	**Sb**	**16 01 30.9**	**+2.0**
BOZ	**Bozeman (W)**	**5.16**	**296**	*e*Pn	**Pn**	**16 00 22.0**	**+2.0**
	4.4nm,0.8s						
BOZ				*e*Sn	**Sn**	**16 01 29.1**	**+8.8**
HWUT	**Hardware Ranch**	**5.21**	**250**	*e*Pn	**Pn**	**16 00 18.8**	**-1.9**
	6.7nm,0.5s						
HWUT				*e*S	**Sb**	**16 01 40.3**	**+3.6**
EGMT	**Eagleton**	**5.56**	**325**	*e*Pn	**Pn**	**16 00 21.1**	**-4.4**
	9.1nm,0.5s						
DAU	**Daniels Canyon**	**5.61**	**238**	*e*Pn	**Pn**	**16 00 29.2**	**+3.0**
SRU	**San Rafael**	**6.08**	**225**	*e*Pn	**Pn**	**16 00 30.8**	**-1.8**
	5.1nm,0.5s						
DUG	**Dugway**	**6.72**	**243**	*e*Pn	**Pn**	**16 00 38.2**	**-3.2**
	1.7nm,0.5s						
ULM	**Lac du Bonnet**	**9.16**	**40**	Pn	**Pn**	**16 01 12.8**	**-1.9**
	0.5nm,0.3s,baz=227,slow=13,SNR=7.9						
ULM				Sn	**Sn**	**16 02 53.2**	**-5.3**
	0.3nm,0.3s,baz=185,slow=20,SNR=2.3						
ULM				Lg		16 03 49.6	
	0.5nm,0.3s,baz=129,slow=9.3,SNR=7.2						
ULM				LR	LR	16 05 23.2	
	comp=Z,33nm,20.9s,baz=32,slow=41						
YKA	**Yellowknife Ar**	**19.78**	**347**	P	**Pn**	**16 03 31.6**	**-2.9**
	0.1nm,0.3s,baz=164,slow=14,SNR=2.7						
ARCES	**ARCESS Array B**	**61.53**	**18**	P	**P**	**16 09 19.2**	**-0.5**
	2.6nm,0.9s,baz=334,slow=8.0,SNR=3.6						

*SZGRF **21** 16:11:30.8, 034N×30.85W, h33km, mb4.2, Central Mid-Atlantic Ridge*
*ISCJB **21** 16:11:37.7±0.3, 159N±008×2956W±006, h10km, mb4.3/36, MS3.7/10, Error ellipse: s-maj=11.7km s-min=8.1km az=149.2*
*IDC **21** 16:11:37.6±0.5, 162N×2961W, h0km, mb4.1/19, mb1 4.3/19, mb1mx4.2/24, mbtmp4.1/19, MS3.6/10, Ms1 3.6/10, ms1mx3.4/24, Error ellipse: s-maj=16.6km s-min=13.2km az=138.0*
*BJI **21** 16:11:38.0, 150N×2960W, h10km, mB5.4, Ms5.4, Msz5.0*
*NEIC **21** 16:11:39.1±0.3, 154N×2962W, h10km, mb4.6/18, Error ellipse: s-maj=9.8km s-min=6.6km az=143.0*
ISC 21 16:11:39.4±0.3, 157N±007×2963W±006, h10km, n67, σ1§02/56, mb4.3/36, MS3.7/10, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RCBR	**Riachuelo**	**9.65**	**220**	*e*Pn	**Pn**	**16 13 56.6**	**-1.9**
	71nm,0.8s						
RCBR				*e*Sn	**Sn**	**16 15 34.8**	**-12**
BBTS	**Babate**	**18.35**	**44**	LR	LR	16 20 59.5	
	comp=Z,209nm,20.4s,baz=202,slow=31						
BDFB	**Brasilia**	**24.95**	**226**	P	**P**	**16 17 03.4**	**+0.1**
	1.2nm,0.6s,mb3.6,baz=39,slow=22,SNR=4.8						
BDFB				LR	LR	16 26 00.5	
	comp=Z,107nm,18.2s,MS3.4,baz=222,slow=34						
DBIC	**Dimbokro**	**25.22**	**78**	*e*P	**P**	**16 17 04.4**	**-1.3**
	16nm,1.2s,mb4.4						
DBIC	**Dimbokro**	**25.22**	**78**	P	**P**	**16 17 04.7**	**-1.0**
	4.8nm,0.8s,mb4.1,baz=253,slow=12,SNR=6.3						
DBIC				LR	LR	16 25 04.3	
	comp=Z,125nm,19.1s,MS3.4,baz=210,slow=32						
TOA0	**Torodi Ar. Sit**	**33.07**	**68**	*e*P	**P**	**16 18 14.3**	**-1.3**
TORD	**Torodi Ar. Bea**	**33.07**	**68**	P	**P**	**16 18 15.1**	**-0.6**
	8.9nm,1.0s,mb4.6,baz=254,slow=9.5,SNR=34						
TORD				LR	LR	16 29 54.2	
	comp=Z,196nm,19.0s,MS3.8,baz=225,slow=33						
SIV	**San Ignacio**	**35.63**	**239**	P	**P**	**16 18 37.9**	**+0.1**
	1.6nm,0.8s,mb4.0,baz=84,slow=7.6,SNR=9.5						
CPUP	**Villa Florida**	**38.53**	**222**	P	**P**	**16 19 04.1**	**+1.8**
	0.3nm,0.3s,mb3.5,baz=35,slow=12,SNR=2.7						
CPUP				LR	LR	16 34 24.0	
	comp=Z,130nm,19.6s,MS3.8,baz=36,slow=35						
SDV	**Santo Domingo**	**41.44**	**282**	*e*P	**P**	**16 19 28.8**	**+2.1**
	6.9nm,0.9s,mb4.3						
LPAZ	**La Paz**	**41.95**	**243**	P	**P**	**16 19 32.4**	**+1.6**
LPAZ				LR	LR	16 36 42.4	
LPAZ	**La Paz**	**41.95**	**243**	P	**P**	**16 19 32.4**	**+1.6**
	2.2nm,0.6s,mb3.9,baz=27,slow=5.9,SNR=8.4						
LPAZ				LR	LR	16 36 42.4	
	comp=Z,147nm,20.0s,MS3.9,baz=92,slow=36						
ESDC	**Sonseca Array**	**44.55**	**28**	P	**P**	**16 19 52.2**	**+0.8**
	1.0nm,0.6s,mb3.8,baz=225,slow=8.4,SNR=7.6						
ROSC	**El Rosal**	**44.74**	**275**	LR	LR	16 36 48.9	
	comp=Z,74nm,19.2s,MS3.6,baz=63,slow=34						
KEST	**Kesra**	**49.60**	**42**	P	**P**	**16 20 33.3**	**+2.3**
	1.2nm,0.9s,mb3.9,baz=258,slow=11,SNR=4.1						
KEST				LR	LR	16 40 39.9	
	comp=Z,38nm,20.3s,MS3.4,baz=176,slow=35						
JAVS	**Javornik**	**58.38**	**35**	*e*P	**P**	**16 21 35.7**	**+0.7**
LJU	**Ljubljana**	**58.73**	**35**	*i* P	**P**	**16 21 38.5**	**+1.0**
BOJS	**Bojanci**	**58.84**	**35**	*e*P	**P**	**16 21 39.1**	**+0.9**
GRA1	**Grafenberg Arr**	**59.22**	**30**	*e*P	**P**	**16 21 41.4**	**+0.6**
	6.0nm,1.5s,mb4.4						
GRF	**Grafenberg Arr**	**59.22**	**30**	*e*P	**P**	**16 21 41.4**	**+0.6**
	comp=Z,6.0nm,1.5s,mb4.4						
LSZ	**Lusaka**	**59.55**	**109**	*e*P	**P**	**16 21 43.7**	**-0.1**
	comp=Z,14nm,1.4s,mb4.8						
LBTB	**Lobatse**	**59.61**	**120**	*e*P	**P**	**16 21 42.6**	**-1.3**
	comp=Z,7.9nm,1.1s,mb4.7						
GEC2	**GERESS Array S**	**59.95**	**32**	*e*P	**P**	**16 21 45.5**	**-0.4**
GERES	**GERESS Array B**	**59.95**	**32**	P	**P**	**16 21 46.1**	**+0.2**
	comp=Z,1.5nm,0.7s,mb4.1,baz=224,slow=5.6,SNR=16						
KHC	**Kasperske Hory**	**60.06**	**31**	*e*P	**P**	**16 21 40.0**	**-6.6**
BOSA	**Boshof**	**60.49**	**124**	P	**P**	**16 21 49.1**	**-0.8**
	comp=Z,5.5nm,1.0s,mb4.5,baz=288,slow=4.4,SNR=9.8						
SCHQ	**Schefferville**	**61.13**	**336**	P	**P**	**16 21 52.5**	**-1.3**
SCHQ	**Schefferville**	**61.13**	**336**	P	**P**	**16 21 52.5**	**-1.3**
	comp=Z,3.5nm,0.9s,mb4.5,baz=82,slow=4.3,SNR=4.9						
ZST	**Bratislava**	**61.41**	**34**	*e*P	**P**	**16 21 56.2**	**+0.4**
	comp=Z,9.2nm,1.0s,mb4.9						
MODS	**Modra-Piesok**	**61.60**	**34**	*e*P	**P**	**16 21 57.6**	**+0.5**
MODS	**Modra-Piesok**	**61.60**	**34**	*e*P	**P**	**16 21 57.5**	**+0.4**
MORC	**Moravsky Berou**	**62.53**	**32**	P	**P**	**16 22 02.7**	**-0.7**
	comp=Z,7.2nm,1.3s,mb4.6						
VYHS	**Vyhne**	**62.53**	**34**	*e*P	**P**	**16 22 03.9**	**+0.5**
	comp=Z,1.5nm,1.0s,mb4.1						
PSZ	**Piszkesteto**	**62.83**	**35**	*e*P	**P**	**16 22 06.1**	**+0.8**
	comp=Z,5.3nm,0.8s,mb4.7						
NB2	**NORSAR Subarra**	**66.93**	**20**	P	**P**	**16 22 31.1**	**-0.7**
	comp=Z,1.2nm,0.7s,mb4.0,baz=225,slow=6.5						
NOA	**NORSAR Array B**	**66.93**	**20**	P	**P**	**16 22 31.5**	**-0.4**
	comp=Z,3.3nm,0.9s,mb4.4,baz=224,slow=6.3,SNR=5.6						
NOA				LR	LR	16 49 13.4	
	comp=Z,22nm,19.4s,MS3.4,baz=230,slow=34						
AKASG	**Malin Array Be**	**69.53**	**36**	P	**P**	**16 22 48.4**	**0.0**
	comp=Z,3.7nm,0.7s,mb4.4,baz=244,slow=6.8,SNR=18						
AKBB	**Malin Array Si**	**69.53**	**36**	P	**P**	**16 22 46.7**	**-1.6**
MALT	**Malatya**	**71.90**	**50**	*e*P	**P**	**16 23 04.3**	**+1.2**
	comp=Z,12nm,1.1s,mb4.7						
FINES	**FINESS Array B**	**72.87**	**25**	P	**P**	**16 23 08.6**	**+0.2**
	comp=Z,4.3nm,1.0s,mb4.3,baz=134,slow=5.5,SNR=6.0						
ULM	**Lac du Bonnet**	**73.78**	**322**	*e*P	**P**	**16 23 11.8**	**-2.2**
	comp=Z,3.6nm,1.0s,mb4.3						
ULM	**Lac du Bonnet**	**73.78**	**322**	P	**P**	**16 23 12.7**	**-1.3**
	comp=Z,2.3nm,0.9s,mb4.1,baz=131,slow=5.7,SNR=5.5						
VNA2	**Neumayer--Watz**	**73.83**	**173**	*e*P	**P**	**16 23 15.5**	**+1.7**
	baz=322,slow=6.2						
VNA2				*e*	pP	16 23 17.0	-0.1
VNA2				*e*		16 23 29.6	
SNAA	**Sanae**	**75.14**	**172**	P	**P**	**16 23 21.6**	**+0.2**
	comp=Z,1.1nm,0.8s,mb3.8,baz=344,slow=3.5,SNR=6.2						
TXAR	**Lajitas Array**	**75.33**	**300**	P	**P**	**16 23 23.5**	**+0.1**
TXAR	**Lajitas Array**	**75.33**	**300**	P	**P**	**16 23 23.5**	**+0.1**
	comp=Z,1.9nm,0.8s,mb4.0,baz=122,slow=7.0,SNR=14						
KIV	**Kislovodsk**	**76.22**	**45**	P	**P**	**16 23 29.4**	**+1.2**
	comp=Z,15nm,1.1s,mb4.8						
ARCES	**ARCESS Array B**	**76.91**	**17**	LR	LR	16 51 50.5	
	comp=Z,31nm,19.5s,MS3.6,baz=3.5,slow=31						
SDCO	**Great Sand Dun**	**77.88**	**308**	*e*P	**P**	**16 23 37.7**	**+0.1**
	comp=Z,2.9nm,1.1s,mb4.1						
PDAR	**Pinedale Array**	**81.54**	**313**	P	**P**	**16 23 56.8**	**-0.6**
	comp=Z,0.8nm,0.7s,mb3.8,baz=76,slow=6.3,SNR=7.6						
RES	**Respite Bay**	**82.11**	**346**	P	**P**	**16 23 58.8**	**-1.0**
	comp=Z,49nm,0.8s,mb5.5						
HWUT	**Hardware Ranch**	**82.93**	**312**	*e*P	**P**	**16 24 04.3**	**-0.5**
	comp=Z,1.9nm,0.6s,mb4.3						
HRY	**Holter Researc**	**83.51**	**317**	*e*P	**P**	**16 24 07.7**	**+0.1**
WALA	**Waterton Lakes**	**85.07**	**319**	*e*P	**P**	**16 24 14.4**	**-1.1**
	comp=Z,6.8nm,1.1s,mb4.7						
HLID	**Hailey**	**85.14**	**313**	*e*P	**P**	**16 24 14.6**	**-1.4**
	comp=Z,1.7nm,0.9s,mb4.2						
YKA	**Yellowknife Ar**	**86.29**	**332**	P	**P**	**16 24 20.3**	**-1.0**
	comp=Z,0.5nm,0.8s,mb3.8,baz=100,slow=5.1,SNR=8.6						
NVAR	**Mina Array Bea**	**87.99**	**308**	P	**P**	**16 24 30.2**	**+0.1**
	comp=Z,1.9nm,0.9s,mb4.3,baz=97,slow=6.5,SNR=12						
ISA	**Isabella**	**88.16**	**305**	P	**P**	**16 24 31.2**	**+0.3**
	comp=Z,3.8nm,1.0s,mb4.6						
LZH	**Lanzhou**	**122.76**	**44**	*e*PKP	PKPdf	16 30 29.0	-7.2
LZH				XPKP		16 30 36.5	
HHC	**Hu-ho-hao-te**	**124.98**	**35**	*e*PKP	PKPdf	16 30 39.1	-1.2
HHC				PP	PP	16 32 31.0	+2.9
HHC				PKS		16 34 13.6	
HHC				SKS	SKSdf	16 37 52.8	+0.3
HHC				SKKS	SKKSac	16 39 27.0	-0.5
HHC				SS	SS	16 49 19.5	-4.1
HHC				PP	PP		
	comp=Z,74nm,6.7s						
HHC				LR	LR		
	comp=N,86nm,6.7s						
HHC				LR	LR		
	comp=E,134nm,6.9s						
HHC				LR	LR		
	comp=Z,79nm,4.6s						
CD2	**Chengdu**	**125.19**	**50**	*e*PKP	PKPdf	16 30 38.5	-2.5
CD2				PP	PP	16 32 31.5	+1.4
CD2				PKS		16 34 13.8	
CD2				SKS	SKSdf	16 37 45.3	-8.0
CD2				SKKS	SKKSac	16 39 24.3	-5.1
CD2				SS	SS	16 49 30.6	+3.2
CD2				PP	PP		
	comp=Z,80nm,10.2s						
KMI	**Kunming**	**126.81**	**57**	PKP	PKPdf	16 30 42.9	-1.4
GYA	**Guiyang**	**129.48**	**53**	*e*PDIF	Pdif	16 27 34.8	-1.0
GYA				PKP	PKPdf	16 30 48.6	-0.7
GYA				PP	PP	16 33 01.8	+3.2
GYA				PKS		16 34 23.4	
GYA				SKS	SKSdf	16 37 57.3	-4.1
GYA				SKKS	SKKSac	16 39 52.3	-4.2
GYA				S	Sdif	16 41 01.3	-4.0
GYA				SS	SS	16 50 20.5	-0.6
GYA				PP	PP		
	comp=Z,110nm,7.2s						
GYA				LR	LR		
	comp=N,280nm,20.7s,MS5.0						
GYA				LR	LR		
	comp=E,220nm,20.1s,MS5.0						
GYA				LR	LR		
	comp=Z,300nm,21.8s,MS4.9						
NJ2	**Nanjing**	**135.18**	**39**	*e*PKP	PKPdf	16 30 55.3	-4.6
FITZ	**Fitzroy Crossi**	**150.69**	**126**	PKPbc	PKPbc	16 31 32.6	-0.3
	comp=Z,2.2nm,0.7s,baz=120,slow=4.0,SNR=5.9						
FITZ				PKPab	PKPab	16 31 41.2	+1.5
	comp=Z,2.5nm,1.0s,baz=221,slow=9.4,SNR=4.2						
ASAR	**Alice Springs**	**152.85**	**145**	PKP	PKPdf	16 31 29.7	-0.8
	comp=Z,0.5nm,0.8s,baz=188,slow=0.9,SNR=6.0						
ASAR				PKPbc	PKPbc	16 31 36.4	-1.3
	comp=Z,1.0nm,0.8s,baz=205,slow=1.9,SNR=9.4						
ASAR				PKPab	PKPab	16 31 48.0	-0.6
	comp=Z,3.1nm,0.8s,baz=206,slow=3.1,SNR=7.3						
WRA	**Warramunga Arr**	**155.93**	**140**	PKPab	PKPab	16 32 00.8	-1.0
	comp=Z,2.0nm,0.8s,baz=219,slow=3.9,SNR=14						

*CSEM **21** 16:16:54.5±0.2, 3798N×2918E, h10km, MD2.8, Error ellipse: s-maj=6.9km s-min=4.7km az=111.0*
*ISK **21** 16:16:54.8, 3800N×2918E, h5km, MD2.8*
*DDA **21** 16:16:54.7, 3798N×2894E, h7km±2km, Md2.9*
*ISCJB **21** 16:16:55.2±0.8, 3799N±003×2914E±007, h6km±8km, Error ellipse: s-maj=8.7km s-min=5.8km az=3.8*
ISC 21 16:16:55.6±0.7, 3799N±003×2915E±006, h14km±8km, n8, σ0§63/13, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DENT	**Denizli**	**0.26**	**201**	*e*PG	**Pg**	**16 17 00.7**	**-0.4**
KHL	**Karahalli**	**0.44**	**42**	*e*PG	**Pg**	**16 17 03.6**	**-0.9**
KHL				*e*SG	**Sg**	**16 17 09.8**	**-0.5**
KULA	**Kula-Manisa**	**0.65**	**324**	*e*PG	**Pg**	**16 17 08.9**	**+0.6**
KULA				*e*SG	**Sg**	**16 17 17.2**	**+0.4**
GOLH	**Golhisar**	**0.82**	**157**	*i* P	**Pg**	**16 17 11.1**	**-0.5**
GOLH				*i* S	**Sg**	**16 17 23.3**	**+0.9**
TKTP	**Tekketepe**	**0.93**	**87**	*i* P	**Pg**	**16 17 13.9**	**+0.4**
TKTP				*i* S	**Sg**	**16 17 29.5**	**+3.9**
YER	**Yerkesik**	**1.10**	**219**	*e*PN	**Pn**	**16 17 15.8**	**-0.7**
GDZ	**Gediz**	**1.12**	**13**	*i* P	**Pb**	**16 17 16.4**	**-0.4**
GDZ				*i* S	**Sb**	**16 17 31.6**	**+0.4**
ALT	**Altintas**	**1.30**	**35**	*e*PN	**Pn**	**16 17 19.8**	**+0.4**

*ISCJB **21** 16:38:05.1±0.6, 3988N±004×2550E±004, h10km, Error ellipse: s-maj=5.6km s-min=4.3km az=30.2*
*CSEM **21** 16:38:05.4±0.1, 3997N×2551E, h0km±1km, MD3.1, Error ellipse: s-maj=4.4km s-min=2.6km az=11.0*
*ATH **21** 16:38:05.4, 3987N×2546E, h4km, MD3.0/3*
*ISK **21** 16:38:07.6, 3997N×2570E, h5km, MD3.1*
*DDA **21** 16:38:09.6, 4001N×2582E, h5km±5km, Md3.2*
**ISC 21 16:38:05.6±0.6, 3989N±004×2551E±004, h10km, n20, σ

ANTU	**Antumapu**	**1.52 211**	*i* P		**Pn**	**16 40 04.4**	**-0.3**
ANTU			*i* S		**Sn**	**16 40 26.5**	**0.0**
ANTU	**Antumapu**	**1.52 211**	*i* P		**Pn**	**16 40 04.4**	**-0.3**
ANTU			*i* S		**Sn**	**16 40 26.5**	**0.0**
ANTU			AML	AML		16 40 28.2	
	comp=E,1μm,0.2s						
CMCH	**Combarbala**	**1.54 314**	⇓*i*P		**Pn**	**16 40 04.9**	**-0.1**
CMCH			*i* S		**Sn**	**16 40 27.6**	**+0.8**
CMCH	**Combarbala**	**1.54 314**	⇓*i*P		**Pn**	**16 40 04.9**	**-0.1**
CMCH			*i* S		**Sn**	**16 40 27.6**	**+0.8**
CMCH			AML	AML		16 40 28.6	
	comp=N,9μm,0.5s						
CHNG	**Los Chungos**	**1.57 283**	*i* P		**Pn**	**16 39 46.5**	**-19**
CHNG			*i* S		**Sn**	**16 40 08.5**	**-19**
CHNG			AML	AML		16 40 14.4	
	comp=E,423nm,0.4s						
LMEL	**Las Melosas**	**1.64 195**	⇑*i*P		**Pn**	**16 40 05.6**	**-0.4**
LMEL			AML	AML		16 40 35.7	
	comp=N,587nm,0.2s						
TACH	**Talagante**	**1.73 216**	*i* P		**Pn**	**16 40 06.7**	**-0.4**
TACH			*i* S		**Sn**	**16 40 30.5**	**-0.2**
CHCH	**Chadas Angostu**	**1.85 205**	⇓*i*P		**Pn**	**16 40 08.1**	**-0.4**
CHCH			*i* S		**Sn**	**16 40 33.3**	**+0.1**
LCCH	**Las Cruces**	**1.98 232**	*e*P		**Pn**	**16 40 09.6**	**-0.4**
CACH	**El Canelo**	**2.00 202**	⇓*i*P		**Pn**	**16 40 10.9**	**+0.7**
CACH			*i* S		**Sn**	**16 40 37.5**	**+1.1**
OVCH	**Ovalle**	**2.08 322**	*e*P		**Pn**	**16 40 11.6**	**+0.3**
OVCH			*i* S		**Sn**	**16 40 38.5**	**+0.4**
OVCH	**Ovalle**	**2.08 322**	*e*P		**Pn**	**16 40 11.6**	**+0.3**
OVCH			*i* S		**Sn**	**16 40 38.5**	**+0.4**
OVCH			AML	AML		16 40 42.0	
	comp=N,520nm,0.4s						
CICH	**Cipreses**	**2.14 196**	⇓*i*P		**Pn**	**16 40 12.0**	**0.0**
CICH			*i* S		**Sn**	**16 40 40.6**	**+1.1**
TLL	**Tololo Astrono**	**2.29 335**	⇓*i*P		**Pn**	**16 40 14.4**	**+0.6**
TLL			AML	AML		16 40 54.9	
	comp=N,209nm,0.3s						
SFDO	**San Fernando**	**2.59 205**	⇓*i*P		**Pn**	**16 40 16.8**	**-0.8**
SFDO			*i* S		**Sn**	**16 40 49.2**	**-0.3**
LSCH	**La Serena**	**2.69 330**	*e*P		**Pn**	**16 40 18.5**	**-0.4**
LSCH			*i* S		**Sn**	**16 40 51.3**	**-0.5**
LSCH	**La Serena**	**2.69 330**	*e*P		**Pn**	**16 40 18.5**	**-0.4**
LSCH			*i* S		**Sn**	**16 40 51.3**	**-0.5**
LSCH			AML	AML		16 40 54.4	
	comp=N,100nm,0.3s						
LCO	**Las Campanas**	**3.35 345**	⇑*e*Pn		**Pn**	**16 40 26.8**	**-0.6**
LCO			*e*Sn		**Sn**	**16 41 05.5**	**-1.5**
PLCA	**Paso Flores**	**8.49 184**	P		**Pn**	**16 41 34.4**	**-1.7**
	comp=N,0.3nm,0.3s,baz=354,slow=15,SNR=6.4						
PLCA			LR	LR		16 44 15.4	
	comp=N,44nm,21.1s,baz=7.6,slow=33						
LPAZ	**La Paz**	**15.96 6**	P		**Pn**	**16 43 15.8**	**+2.4**
LPAZ	**La Paz**	**15.96 6**	P		**Pn**	**16 43 15.8**	**+2.4**
	comp=N,0.2nm,0.3s,baz=183,slow=8.2,SNR=18						
TORD	**Torodi Ar. Bea**	**81.77 69**	P		**P**	**16 51 41.7**	**+1.2**
TORD			pP	pP		16 52 10.0	-3.8
TORD	**Torodi Ar. Bea**	**81.77 69**	P		**P**	**16 51 41.7**	**+1.2**
	comp=N,0.2nm,0.6s,baz=247,slow=7.4,SNR=4.2						
TORD			pP	pP		16 52 10.0	-3.8
	comp=N,0.6nm,0.7s,baz=256,slow=5.8,SNR=2.3						
WRA	**Warramunga Arr**	**123.22 207**	PKP	PKPdf		16 58 18.0	+0.2
	comp=N,0.2nm,0.5s,baz=162,slow=1.9,SNR=5.1						
ZALV	**Zalesovo Beam**	**151.71 32**	PKPbc	PKPbc		16 59 16.0	+1.6
ZALV			pPKPbc	pPKPbc		16 59 47.7	-2.0
ZALV	**Zalesovo Beam**	**151.71 32**	PKPbc	PKPbc		16 59 16.0	+1.6
	comp=N,1.4nm,0.5s,baz=293,slow=3.0,SNR=9.5						
ZALV			pPKPbc	pPKPbc		16 59 47.7	-2.0
	comp=N,0.9nm,0.5s,baz=281,slow=4.7,SNR=2.9						

MOS 21 16:45:43.1±0.6, 4291N×4672E, h10km, mb3.7/1, 2C, Error ellipse: s-maj=64.0km s-min=11.1km az=11.4, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VLKR	**Vladikavkaz**	**1.50**	**276**	*e*PG	Pg	16 46 11.1	-0.9
VLKR				*i* S	Sn	16 46 31.9	+2.1
BTKR	**Batakoyurt**	**1.66**	**287**	*e*PN	Pn	16 46 13.9	+1.7
BTKR				*i* S	Sn	16 46 36.3	+2.7
LACR	**Lac**	**1.78**	**268**	⇑*i*PN	Pn	16 46 15.2	+1.3
LACR				*i* S	Sn	16 46 39.0	+2.4
ARNR	**Ardon**	**1.81**	**280**	*e*PN	Pn	16 46 16.2	+1.9
ARNR				*e*S	Sn	16 46 40.3	+3.0
KMSR	**Komsomolskaya**	**1.84**	**285**	*e*PN	Pn	16 46 16.4	+1.8
KMSR				*e*S	Sn	16 46 41.0	+3.1
KORR	**Kora**	**1.95**	**276**	*e*PN	Pn	16 46 18.1	+1.8
KORR				*e*S	Sn	16 46 43.8	+3.0
ZEI	**Tsey**	**2.08**	**267**	*e*PN	Pn	16 46 19.4	+1.4
ZEI				*e*S	Sn	16 46 46.0	+2.1
LSNR	**Lesken**	**2.16**	**281**	*e*PN	Pn	16 46 20.6	+1.5
LSNR				*e*S	Sn	16 46 48.7	+2.8
DIGR	**Digorskoe uzhe**	**2.31**	**271**	*e*PN	Pn	16 46 22.6	+1.5
DIGR				*e*S	Sn	16 46 51.8	+2.3
KIV	**Kislovodsk**	**3.12**	**291**	*ce*PN	Pn	16 46 45.3	+13
KIV				*e*		16 47 07.6	
KIV				pmax	pmax		
	comp=Z,12nm,1.5s						
KIV				smax			
	comp=N,7.0nm,1.0s						

NIED ***21*** *17:08:00, 2160N×12080E, h11km, Mw5.1 Best double couple: M0=4.58000×10^16 NP1:φs=242.00000°, δ=65.00000°, λ=-62.00000°. NP2:φs=10.00000°, δ=37.00000°, λ=-136.00000°.*

ISCJB ***21*** *17:08:26.1±1.1, 2163N±003×12049E±003, h13km±7km, mb4.5/60, MS4.6/14, Error ellipse: s-maj=5.7km s-min=3.9km az=154.7*

IDC ***21*** *17:08:26.1±0.6, 2179N×12058E, h0km, mb4.0/15, mb1 4.2/16, mb1mx4.1/23, mbtmp4.0/16, ML3.0/1, MS4.2/4, Ms1 4.2/4, ms1mx3.6/38, Error ellipse: s-maj=31.6km s-min=12.1km az=67.0*

BJI ***21*** *17:08:26.8, 2174N×12032E, h10km, mB4.8, mb4.4, ML4.4, Ms4.8, Msz4.6*

NEIC ***21*** *17:08:27.1±0.3, 2163N×12041E, h10km, mb4.7/40, Error ellipse: s-maj=6.8km s-min=5.5km az=106.0*

MOS ***21*** *17:08:29.0±1.0, 2172N×12053E, h33km, mb4.8/35, MS4.5/5, Error ellipse: s-maj=11.3km s-min=6.2km az=107.3*

JMA ***21*** *17:08:31.8±0.4, 2165N×12083E, h154km, M3.9*

MAN ***21*** *17:08:34, 2123N×12024E, h61km*

SZGRF ***21*** *17:08:42.1, 2240N×12131E, h33km, mb4.9, Taiwan region*

ISC 21 17:08:29.8±1.1, 2165N±003×12052E±003, h27km±8km, h23km±2.5km: pP-P, n186, σ1º15/197, mb4.5/60, MS4.6/14, 5C-7D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NACB	**Ninganchiao**	**2.70**	**21**	*e*Pn	**Pn**	**17 09 10.0**	**-1.5**
YHNB	**Yeheng**	**3.11**	**15**	*e*Pn	**Pn**	**17 09 16.0**	**-1.1**
TATO	**Taipei**	**3.43**	**15**	*e*Pn	**Pn**	**17 09 23.0**	**+1.5**
YOJ	**Yonaguni jima**	**3.62**	**39**	P	**Pn**	**17 09 25.6**	**+1.5**
YOJ				S	**Sn**	**17 10 07.4**	**+1.4**
QZH	**Quanzhou**	**3.73**	**332**	P	**Pn**	**17 09 22.3**	**-3.3**
QZH				Smax			
	comp=N,2μm,1.3s						
QZH				Smax			
	comp=E,870nm,0.8s						
QZH				LR	LR		
	comp=N,6μm,8.1s						
QZH				LR	LR		
	comp=E,11μm,9.6s						
QZH				LR	LR		
	comp=Z,9μm,10.3s						
HATJ	**Hateruma jima**	**3.86**	**51**	P	**Pn**	**17 09 28.3**	**+0.8**
HATJ				S	**Sn**	**17 10 11.7**	**-0.3**
IRIF	**Iriomote-Funau**	**3.99**	**47**	P	**Pn**	**17 09 29.8**	**+0.6**
IRIF				*e*S	**Sn**	**17 10 13.4**	**-1.6**
JKRS	**Kuro-shima**	**4.12**	**51**	P	**Pn**	**17 09 31.6**	**+0.6**
JKRS				S	**Sn**	**17 10 18.2**	**-0.1**
JIJ	**Ishigaki jima**	**4.29**	**50**	P	**Pn**	**17 09 33.6**	**+0.2**
JIJ				S	**Sn**	**17 10 20.3**	**-2.3**
JTJ	**Tarama**	**4.87**	**51**	P	**Pn**	**17 09 41.5**	**+0.2**
JTJ				S	**Sn**	**17 10 36.1**	**-0.6**
GZH	**Guangzhou**	**6.79**	**284**	P	**Pn**	**17 10 02.3**	**-5.4**
GZH				S	**Sn**	**17 11 14.9**	**-9.3**
GZH				Smax			
	comp=N,233nm,0.9s						
GZH				Smax			
	comp=E,122nm,0.9s						
GZH				LR	LR		
	comp=N,3μm,17.6s						
GZH				LR	LR		
	comp=E,3μm,17.3s						
GZH				LR	LR		
	comp=Z,4μm,16.3s						
JOW	**Kunigami**	**8.76 52**		LR	LR	17 14 07.7	
	comp=Z,2μm,20.8s,baz=277,slow=40						
QIZ	**Qiongzhong**	**10.35 257**		P	**Pn**	**17 10 54.3**	**-2.2**
QIZ				XP		17 10 59.8	
QIZ				S	**Sn**	**17 12 52.5**	**+0.8**
QIZ				XS		17 12 55.6	
QIZ				AMB	AMB		
	comp=Z,13nm,1.3s						
QIZ				LR	LR		
	comp=N,5μm,18.4s						
QIZ				LR	LR		
	comp=Z,3μm,14.5s						
QIZ	**Qiongzhong**	**10.35 257**		*e*Pn	**Pn**	**17 10 53.1**	**-3.5**
	comp=Z,21nm,0.8s						
NJ2	**Nanjing**	**10.47 352**		*e*P	**Pn**	**17 11 00.9**	**+2.8**
NJ2				AP		17 11 04.0	
NJ2				XP		17 11 06.1	
NJ2				PP		17 11 08.5	
NJ2				S	**Sn**	**17 12 56.8**	**+2.3**
NJ2				XS		17 13 01.3	
NJ2				AMB	AMB		
	comp=Z,40nm,0.8s						
NJ2				LR	LR		
	comp=N,5μm,8.2s						
NJ2				LR	LR		
	comp=E,3μm,16.0s						
NJ2				LR	LR		
	comp=Z,4μm,11.0s						
GYA	**Guiyang**	**13.53 293**		⇓*i*P	**Pn**	**17 11 39.8**	**-0.2**
GYA				PP		17 11 51.3	
GYA				S	**Sn**	**17 14 11.6**	**+2.1**
GYA				SS		17 14 27.3	
GYA				AMB	AMB		
	comp=Z,20nm,1.0s						
GYA				AMB	AMB		
	comp=Z,160nm,5.9s						
GYA				LR	LR		
	comp=N,2μm,9.9s						
GYA				LR	LR		
	comp=E,650nm,10.8s						
GYA				LR	LR		
	comp=Z,2μm,13.1s						
XAN	**Xi'an**	**16.03 323**		P	**Pn**	**17 12 11.3**	**-2.1**
XAN				AP	pP	17 12 19.3	-4.6
XAN				AMB	AMB		
	comp=Z,3.0nm,1.7s						
XAN				AMB	AMB		
	comp=Z,116nm,6.6s						
XAN				LR	LR		
	comp=N,2μm,14.1s						
XAN				LR	LR		
	comp=E,2μm,13.2s						
XAN				LR	LR		
	comp=Z,2μm,14.6s						
KKM	**Kota Kinabalu**	**16.06 196**		Pn	**Pn**	**17 12 12.1**	**-1.8**
KMI	**Kunming**	**16.68 285**		P	**Pn**	**17 12 22.3**	**+0.5**
KMI				AP	pP	17 12 25.6	-5.6
KMI				XP	sP	17 12 28.1	-6.5
KMI				PP		17 12 34.3	
KMI				S	**Sn**	**17 15 23.5**	**-2.8**
KMI				XS	sS	17 15 29.0	-19
KMI				SS		17 15 46.1	
KMI				AMB	AMB		
	comp=Z,5.0nm,1.1s						
KMI				AMB	AMB		
	comp=Z,90nm,4.2s						
KMI				LR	LR		
	comp=N,2μm,15.0s						
KMI				LR	LR		
	comp=E,980nm,13.4s						
KMI				LR	LR		
	comp=Z,869nm,14.6s						
KSRS	**Korea Array**	**17.01 21**		Pn	**Pn**	**17 12 22.3**	**-3.4**
	comp=Z,0.1nm,0.3s,baz=245,slow=5.2,SNR=2.6						
TIY	**Taiyuan**	**17.47 338**		P	**Pn**	**17 12 30.8**	**-0.7**
TIY				S	**Sn**	**17 15 49.6**	**+4.4**
TIY				LR	LR		
	comp=N,3μm,9.4s						
TIY				LR	LR		
	comp=E,3μm,12.5s						
TIY				LR	LR		
	comp=Z,4μm,11.6s						
CD2	**Chengdu**	**17.62 305**		P	**Pn**	**17 12 32.3**	**-1.1**
CD2				AP	pP	17 12 36.0	-5.5
CD2				XP	sP	17 12 39.5	-5.4
CD2				PP		17 12 47.0	
CD2				S	**Sn**	**17 15 48.3**	**-0.6**
CD2				XS	sS	17 15 51.9	-16
CD2				SS		17 16 08.3	
CD2				AMB	AMB		
	comp=Z,30nm,1.1s						
CD2				AMB	AMB		
	comp=Z,270nm,6.0s						
CD2				LR	LR		
	comp=N,5μm,13.2s						
CD2				LR	LR		
	comp=E,2μm,12.0s						
CD2				LR	LR		
	comp=Z,2μm,10.8s						
BJT	**Baijiatuan**	**18.68 350**		*e*Pn	**Pn**	**17 12 45.7**	**-0.7**
	comp=Z,8.7nm,0.4s						
BJT	**Baijiatuan**	**18.68 350**		*e*P	**Pn**	**17 12 45.7**	**-0.7**
BJT				pmax	pmax		
	comp=Z,9.0nm,0.4s						
SNY	**Shenyang**	**20.28 7**		⇓P	**P**	**17 13 08.0**	**+4.7**
SNY				AMB	AMB		
	comp=Z,9.0nm,0.8s						
SNY				AMB	AMB		
	comp=Z,160nm,3.7s						
SNY				LR	LR		
	comp=N,2μm,15.5s						
SNY				LR	LR		
	comp=Z,2μm,15.1s,MS4.6						
CHTO	**Chiang Mai**	**20.44 266**		*e*Pn	**P**	**17 13 05.0**	**-0.2**
	comp=Z,30nm,1.4s						
CHTO	**Chiang Mai**	**20.44 266**		*e*P	**P**	**17 13 05.0**	**-0.2**
CHTO				pmax	pmax		
	comp=Z,30nm,1.4s						
LZH	**Lanzhou**	**20.45 318**		⇑P	**P**	**17 13 06.8**	**+1.5**
LZH				AP		17 13 09.8	
LZH				XP	sP	17 13 11.8	-4.2
LZH				PP		17 13 27.8	
LZH				*e*S	**S**	**17 16 50.8**	**-2.1**
LZH				XS	sS	17 16 57.0	-7.6
LZH				SS		17 17 20.0	
LZH				AMB	AMB		
	comp=Z,61nm,1.5s						
LZH				AMB	AMB		
	comp=Z,270nm,6.0s						
LZH				LR	LR		
	comp=N,2μm,13.6s						
LZH				LR	LR		
	comp=Z,3μm,14.0s,MS4.9						
CBIJ	**Chichi jima**	**20.46 70**		LR	LR	17 20 03.7	
	comp=Z,419nm,18.6s,MS3.8,baz=29,slow=34						
CM31	**Chiang Mai Arr**	**20.51 265**		*e*Pn	**P**	**17 13 05.8**	**-0.3**
HHC	**Hu-ho-hao-te**	**20.59 340**		*e*P	**P**	**17 13 08.1**	**+1.4**
HHC				AP		17 13 12.4	
HHC				XP	sP	17 13 17.5	0.0
HHC				PP		17 13 29.1	
HHC				PCP	PcP	17 17 16.8	-0.1
HHC				PCS	PcS	17 20 56.5	+1.9
HHC				AMB	AMB		
	comp=Z,16nm,0.4s						
HHC				AMB	AMB		
	comp=Z,262nm,5.7s						
HHC				LR	LR		
	comp=N,2μm,12.3s,MS4.8						
HHC				LR	LR		
	comp=E,1μm,11.8s,MS4.8						
HHC				LR	LR		
	comp=Z,2μm,12.2s,MS4.7						
BTO	**Baotou**	**20.89 337**		*e*P	**P**	**17 13 15.4**	**+5.4**
MAJO	**Matsushiro**	**21.37 42**		P	**P**	**17 13 17.6**	**+2.4**
	comp=Z,31nm,1.4s,mb4.5						
MAJO	**Matsushiro**	**21.37 42**		P	**P**	**17 13 17.6**	**+2.4**
MAJO				pmax	pmax		
	comp=Z,31nm,1.4s,mb4.5						
MAT	**Matsushiro**	**21.37 42**		P	**P**	**17 13 15.9**	**+0.7**
MAT				*e*S	**S**	**17 17 10.0**	**-1.1**
MJAR	**Matsushiro Arr**	**21.38 42**		P	**P**	**17 13 13.9**	**-1.3**
MJAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
MJAR	**Matsushiro Arr**	**21.38 42**		P	**P**	**17 13 13.9**	**-1.3**
	comp=Z,1.0nm,0.6s,baz=240,slow=7.0,SNR=6.5						
KSM	**Kuching**	**22.39 208**		*e*Pn	**P**	**17 13 24.1**	**-2.0**
CN2	**Changchun**	**22.47 9**		*e*P	**P**	**17 13 25.3**	**-1.5**
CN2				*e*S	**S**	**17 17 30.3**	**-1.9**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.4						
CN2				AMB	AMB		
	comp=Z,200nm,5.0s						
CN2				LR	LR		
	comp=N,2μm,16.0s,MS4.8						
CN2				LR	LR		
	comp=E,2μm,16.0s,MS4.8						
CN2				LR	LR		
	comp=Z,2μm,16.0s,MS4.7						
MDJ	**Mudanjiang**	**24.10 16**		P	**P**	**17 13 44.1**	**+1.0**
MDJ				AP		17 13 47.1	
MDJ				S	**S**	**17 18 03.3**	**+4.2**
MDJ				PCS	PcS	17 21 03.8	+0.3
MDJ				SCS	ScS	17 24 49.8	+2.1
MDJ				AMB	AMB		
	comp=Z,7.0nm,1.1s,mb4.0						
MDJ				AMB	AMB		
	comp=Z,78nm,5.1s						
MDJ				LR	LR		
	comp=N,1μm,13.6s,MS4.7						
MDJ				LR	LR		
	comp=E,496nm,10.3s,MS4.7						
MDJ				LR	LR		
	comp=Z,2μm,13.2s,MS4.8						
GTA	**Gaotai**	**25.03 320**		*e*P	**P**	**17 13 51.3**	**-0.3**
GTA				AP	pP	17 13 55.3	-4.2
GTA				XP	sP	17 13 58.8	-4.0
GTA				PP		17 14 28.1	
GTA				S	**S**	**17 18 14.9**	**+0.8**
GTA				AMB	AMB		
	comp=Z,8.0nm,1.4s,mb4.1						
GTA				AMB	AMB		
	comp=Z,73nm,6.1s						
GTA				LR	LR		
	comp=N,947nm,20.3s,MS4.5						
GTA				LR	LR		
	comp=E,748nm,15.3s,MS4.5						
GTA				LR	LR		
	comp=Z,2μm,13.0s,MS4.7						
SHL	**Shillong**	**26.50 284**		*e*P	**P**	**17 14 06.0**	**+0.9**
HIA	**Hailar**	**27.57 359**		P	**P**	**17 14 14.7**	**+0.3**
	comp=Z,42nm,1.0s,mb5.0						
HIA				*e*		17 14 24.7	
HIA	**Hailar**	**27.57 359**		P	**P**	**17 14 14.7**	**+0.3**
HIA				*e*		17 14 24.7	
HIA				pmax	pmax		
	comp=Z,42nm,1.0s						
LSA	**Lhasa**	**27.60 293**		P	**P**	**17 14 15.8**	**+0.8**
LSA				AMB	AMB		
	comp=Z,20nm,1.0s,mb4.7						
LSA	**Lhasa**	**27.60 293**		*e*P	**P**	**17 14 15.6**	**+0.6**
	comp=Z,7.7nm,0.9s,mb4.3						
LSA	**Lhasa**	**27.60 293**		*e*P	**P**	**17 14 15.6**	**+0.6**
LSA				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.3						
ULN	**Ulaanbaatar**	**28.31 341**		*e*P	**P**	**17 14 20.5**	**-0.6**
	comp=Z,6.6nm,1.0s,mb4.2						
ULN	**Ulaanbaatar**	**28.31 341**		*e*P	**P**	**17 14 20.5**	**-0.6**
ULN				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.2						
SONM	**Songino Array**	**28.49 340**		P	**P**	**17 14 22.0**	**-0.7**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.6s						
SONM	**Songino Array**	**28.49 340**		P	**P**	**17 14 22.0**	**-0.7**
	comp=Z,1.0nm,0.6s,mb3.6,baz=158,slow=10,SNR=6.5						
ASAJ	**Asahikawa**	**28.91 34**		LR	LR	17 27 53.8	
	comp=Z,1μm,18.9s,MS4.5,baz=349,slow=41						
YSS	**Yuzh-Sakhalins**	**31.01 30**		P	**P**	**17 14 43.0**	**-1.9**
	comp=Z,27nm,1.0s,mb5.0						
YSS	**Yuzh-Sakhalins**	**31.01 30**		⇑*e*P	**P**	**17 14 43.0**	**-2.0**
YSS				pmax	pmax		
	comp=Z,76nm,2.1s,mb5.2						
TLY	**Talaya**	**32.72 340**		*e*P	**P**	**17 15 01.2**	**+1.2**
TLY				*e*		17 16 28.5	
TLY				*e*SS	SS	17 22 40.4	+4.3
TLY				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.5						
TLY				MLR	MLR		
	comp=Z,634nm,16.0s,MS4.4						
MOY	**Mondy**	**33.59 338**		*e*P	**P**	**17 15 08.5**	**+1.0**
WMQ	**Urumqi**	**35.02 317**		*e*P	**P**	**17 15 20.5**	**+0.4**
WMQ				AP	pP	17 15 25.0	-3.1
WMQ				XP	sP	17 15 27.5	-3.9
WMQ				PP	PP	17 16 38.8	-0.9
WMQ				S	**S**	**17 20 51.0**	**+0.4**
WMQ				XS	sS	17 20 58.5	-5.3
WMQ				AMB	AMB		
	comp=Z,6.0nm,0.8s,mb4.6						
WMQ				AMB	AMB		
	comp=Z,142nm,4.4s						
WMQ				LR	LR		
	comp=N,775nm,13.0s,MS4.9						
WMQ				LR	LR		
	comp=E,1μm,12.0s,MS4.9						
WMQ				LR	LR		
	comp=Z,714nm,20.6s						
MK31	**Makanchi Array**	**39.77 318**		*e*P	**P**	**17 16 00.3**	**0.0**
MK31				*e*	pP	17 16 08.1	-0.3
MKAR	**Makanchi Array**	**39.77 318**		P	**P**	**17 16 00.1**	**-0.2**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
MKAR				MLR	MLR		
	comp=Z,311nm,20.7s						
MKAR	**Makanchi Array**	**39.77 318**		P	**P**	**17 16 00.1**	**-0.2**
	comp=Z,1.4nm,0.6s,mb3.9,baz=107,slow=6.7,SNR=18						
MKAR				LR	LR	17 33 13.5	
	comp=Z,310nm,20.7s,MS4.1,baz=237,slow=38						
FITZ	**Fitzroy Crossi**	**39.82 172**		P	**P**	**17 16 04.0**	**+3.1**
	comp=Z,2.6nm,1.1s,mb3.9,baz=355,slow=11,SNR=2.4						
YAK	**Yakutsk**	**40.85 7**		*e*P	**P**	**17 16 08.8**	**-0.2**
	comp=Z,33nm,1.0s,mb4.9						
YAK	**Yakutsk**	**40.85 7**		*e*P	**P**	**17 16 08.7**	**-0.3**
YAK				*e*	pP	17 16 16.0	-1.1
YAK				pmax	pmax		
	comp=Z,13nm,0.8s,mb4.6						
YAK				pmax	pmax		
	comp=N,7.0nm,1.1s						
YAK				pmax	pmax		
	comp=E,2.0nm,0.9s						
YAK				pmax	pmax		
	comp=Z,29nm,1.1s,mb4.8						
YAK				pmax	pmax		
	comp=N,24nm,1.5s						
YAK				pmax	pmax		
	comp=E,9.0nm,1.5s						
ZALV	**Zalesovo Beam**	**42.06 329**		P	**P**	**17 16 19.0**	**0.0**
ZALV	**Zalesovo Beam**	**42.06 329**		P	**P**	**17 16 19.0**	**0.0**
	comp=E,3.0nm,0.8s,mb4.0,baz=118,slow=7.4,SNR=15						
ZAL	**Zalesovo**	**42.07 329**		P	**P**	**17 16 19.0**	**-0.1**
ZAL				pmax	pmax		
	comp=Z,3.0nm,0.8s						
PET	**Petropavlovsk**	**42.75 33**		P	**P**	**17 16 25.9**	**+1.2**
	comp=Z,22nm,1.0s,mb4.8						
PET	**Petropavlovsk**	**42.75 33**		P	**P**	**17 16 25.9**	**+1.2**
PET				pmax	pmax		
	comp=Z,22nm,1.0s,mb4.8						
TKM2	**Tokmak 2**	**42.88 310**		*e*P	**P**	**17 16 26.9**	**+1.0**
	comp=Z,5.5nm,1.3s,mb4.1						
TKM2	**Tokmak 2**	**42.88 310**		*e*P	**P**	**17 16 26.9**	**+1.0**
TKM2				pmax	pmax		
	comp=Z,6.0nm,1.3s,mb4.2						
NVS	**Novosibirsk**	**43.34 329**		*e*P	**P**	**17 16 35.2**	**+5.8**
NVS				*e*		17 18 06.5	
NVS				pmax	pmax		
	comp=N,7.0nm,1.3s						
NVS				pmax	pmax		
	comp=E,9.0nm,1.3s						
NVS				pmax	pmax		
	comp=Z,13nm,1.3s,mb4.5						
WRAB	**Tennant Creek**	**43.48 161**		*e*P	**P**	**17 16 30.6**	**-0.3**
	comp=Z,61nm,1.3s,mb5.2						
WRAB				*e*	pP	17 16 38.5	-0.5
WRAB	**Tennant Creek**	**43.48 161**		*e*P	**P**	**17 16 30

WRAB pmax pmax
comp=Z,61nm,1.3s,mb5.2
WRA Warramunga Arr 43.49 161 P **P** **17 16 30.5 -0.4**
WRA pmax pmax
comp=Z,7.0nm,0.7s
WRA Warramunga Arr 43.49 161 P **P** **17 16 30.5 -0.4**
comp=Z,7.0nm,0.7s,mb4.5,baz=343,slow=8.9,SNR=54
UCH Uchtor 43.49 309 *e*P **P** **17 16 32.5 +1.7**
comp=Z,8.0nm,1.3s,mb4.3
UCH *e* pP 17 16 40.6 +1.7
WB2 Warramunga Arr 43.49 161 *e*P **P** **17 16 30.3 -0.7**
MA2 Magadan 43.55 22 P **P** **17 16 30.6 -0.4**
comp=Z,9.0nm,0.9s,mb4.5
MA2 Magadan 43.55 22 *e*P **P** **17 16 30.3 -0.8**
MA2 pmax pmax
comp=Z,10.0nm,0.9s,mb4.5
AAK Ala-Archa 43.60 310 P **P** **17 16 31.3 -0.4**
comp=Z,1.7nm,0.9s,mb3.8
AAK Ala-Archa 43.60 310⇑ *e*P **P** **17 16 30.9 -0.8**
AAK pmax pmax
comp=Z,5.0nm,2.1s,mb3.9
KURK Kurchatov 43.67 322 *e*P **P** **17 16 31.9 -0.2**
comp=Z,2.6nm,1.1s,mb3.9
KURK Kurchatov 43.67 322 *e*P **P** **17 16 31.9 -0.2**
KURK pmax pmax
comp=Z,3.0nm,1.1s,mb3.9
AML Almayashu 44.06 309 *e*P **P** **17 16 34.8 -0.6**
comp=Z,8.7nm,1.1s,mb4.4
EKS2 Erkin-Say 44.12 309 P **P** **17 16 39.2 +3.3**
SEY Seymchan 46.56 19⇓ *e*P **P** **17 16 55.3 +0.4**
KBL Kabul 46.74 298 *e*P **P** **17 16 57.6 +0.8**
comp=Z,8.1nm,1.1s,mb4.6
KBL Kabul 46.74 298 *e*P **P** **17 16 57.6 +0.8**
KBL pmax pmax
comp=Z,8.0nm,1.1s,mb4.6
ASAR Alice Springs 46.89 163 P **P** **17 16 58.2 +0.3**
ASAR pmax pmax
comp=Z,1.0nm,0.5s
ASAR Alice Springs 46.89 163 P **P** **17 16 58.1 +0.3**
comp=Z,0.8nm,0.5s,mb3.9,baz=343,slow=6.8,SNR=13
CTA Charters Tower 48.51 147 P **P** **17 17 13.2 +2.6**
CTA pmax pmax
comp=Z,3.0nm,0.6s
CTA Charters Tower 48.51 147 P **P** **17 17 13.2 +2.6**
comp=Z,2.6nm,0.6s,mb4.4,baz=344,slow=10,SNR=4.0
BVAR Borovoye Array 49.27 322 P **P** **17 17 15.0 -1.0**
BVAR pmax pmax
comp=Z,1.0nm,0.8s
BVAR Borovoye Array 49.27 322 P **P** **17 17 15.0 -1.0**
comp=Z,1.1nm,0.8s,mb4.0,baz=107,slow=13,SNR=5.2
TIXI Tiksi 50.25 3 *e*P **P** **17 17 23.0 -0.2**
comp=Z,19nm,1.4s,mb4.9
TIXI Tiksi 50.25 3⇑ *e*P **P** **17 17 22.5 -0.7**
TIXI pmax pmax
comp=Z,14nm,2.6s,mb4.5
BILL Bilibino 54.27 19 *e*P **P** **17 17 52.8 -0.3**
comp=Z,8.7nm,1.2s,mb4.6
BILL Bilibino 54.27 19⇓ *e*P **P** **17 17 53.3 +0.2**
BILL *e*S **S** **17 25 26.1 -2.6**
BILL *e*SS SS 17 29 01.4 -9.1
BILL pmax pmax
comp=Z,4.0nm,1.0s,mb4.3
BILL MLR MLR
comp=Z,800nm,17.0s,MS4.8
SVE Sverdlovsk 55.74 325⇓ *e*P **P** **17 18 04.7 +0.8**
SVE *e*S **S** **17 25 50.2 +1.5**
SVE *e*SS SS 17 29 31.5 -2.5
SVE pmax pmax
comp=Z,14nm,1.0s,mb5.0
SVE MLR MLR
comp=Z,426nm,16.0s,MS4.6
ARU Arti 56.77 324 *d i*P **P** **17 18 10.2 -1.0**
comp=Z,13nm,1.2s,mb4.8
ARU Arti 56.77 324 *d i*P **P** **17 18 10.5 -0.8**
ARU *e* 17 19 03.2
ARU *e*S **S** **17 25 58.3 -4.2**
ARU pmax pmax
comp=Z,3.0nm,0.9s,mb4.3
STKA Stephens Creek 56.92 159 *e*P **P** **17 18 13.0 +0.4**
comp=Z,5.0nm,0.9s,mb4.5
STKA Stephens Creek 56.92 159 P **P** **17 18 12.8 +0.2**
comp=Z,4.3nm,0.9s,mb4.5,baz=332,slow=1.9,SNR=6.3
CNB Canberra Magne 62.91 154 *e*P **P** **17 18 57.3 +3.6**
comp=Z,20nm,1.2s,mb5.1
KIV Kislovodsk 66.72 310 P **P** **17 19 18.8 +0.3**
comp=Z,14nm,0.9s,mb5.0
KIV Kislovodsk 66.72 310⇓ *e*P **P** **17 19 19.3 +0.8**
KIV *e*S S 17 28 13.1 +4.3
KIV pmax pmax
comp=Z,9.0nm,1.1s,mb4.7
OBN Obninsk 69.11 322⇑ *e*P **P** **17 19 32.2 -1.2**
OBN pmax pmax
comp=Z,2.0nm,0.5s,mb4.3
OBN MLR MLR
comp=Z,300nm,17.0s,MS4.6
JOF Joensuu 70.61 331 *e*p **P** **17 19 41.2 -1.2**
comp=Z,1.1nm,0.5s,mb4.0
MALT Malatya 70.91 304 *e*P **P** **17 19 45.8 +1.0**
comp=Z,11nm,1.1s,mb4.7
MALT Malatya 70.91 304 *e*P **P** **17 19 45.8 +1.1**
MALT pmax pmax
comp=Z,11nm,1.1s,mb4.7
FINES FINESS Array B 73.32 330 P **P** **17 19 59.2 +0.5**
FINES pmax pmax
comp=Z,2.0nm,0.8s
FINES FINESS Array B 73.32 330 P **P** **17 19 59.2 +0.5**
comp=Z,2.2nm,0.8s,mb4.1,baz=86,slow=8.4,SNR=3.3
EGAK Eagle 74.12 26 *e*P **P** **17 20 04.0 +0.7**
comp=Z,5.1nm,0.9s,mb4.5
AKASG Malin Array Be 74.36 319 P **P** **17 20 04.1 -0.9**
AKASG pmax pmax
comp=Z,1.0nm,0.7s
AKASG Malin Array Be 74.36 319 P **P** **17 20 04.1 -0.9**
comp=Z,0.9nm,0.7s,mb3.8,baz=60,slow=6.0,SNR=5.5
DAWY Dawson 75.06 27 *e*P **P** **17 20 10.0 +1.2**
INK Inuvik 75.80 22 *e*P **P** **17 20 13.4 +0.4**
comp=Z,768nm,1.4s
INK Inuvik 75.80 22 *e*P **P** **17 20 13.4 +0.4**
INK pmax pmax
comp=Z,768nm,1.4s
SKAG Skagway 78.51 30 *e*P **P** **17 20 30.0 +1.6**
comp=Z,5.7nm,0.8s,mb4.5
STHS Stebnicka Huta 79.64 319 *e*P **P** **17 20 38.7 +3.9**
comp=Z,4.4nm,1.2s,mb4.3
STHS Stebnicka Huta 79.64 319 *e*P **P** **17 20 38.7 +3.9**
STHS pmax pmax
comp=Z,4.0nm,1.2s,mb4.2
RPZ Rata Peaks 79.85 145 P **P** **17 20 37.6 +1.8**
RPZ Rata Peaks 79.85 145 P **P** **17 20 37.6 +1.8**
baz=294,slow=1.8
NB2 NORSAR Subarra 80.17 332 P **P** **17 20 37.8 +0.4**
comp=Z,3.6nm,1.1s,mb4.2,baz=63,slow=5.9
NOA NORSAR Array B 80.17 332 P **P** **17 20 37.8 +0.4**
NOA pmax pmax
comp=Z,3.0nm,1.1s
NOA NORSAR Array B 80.17 332 P **P** **17 20 37.8 +0.4**
comp=Z,2.8nm,1.1s,mb4.1,baz=63,slow=5.3,SNR=3.0
OJC Ojcow 80.22 320 *e*P **P** **17 20 41.0 +3.1**
RES Resolute Bay 81.25 9 *e*P **P** **17 20 43.4 +0.5**
comp=Z,444nm,1.2s
RES Resolute Bay 81.25 9 *e*P **P** **17 20 43.4 +0.4**
RES pmax pmax
comp=Z,444nm,1.2s
OKC Ostrava-Krasne 81.35 320 *e*P sP 17 20 54.3 -1.4
VYHS Vyhne 81.46 319 *e*P **P** **17 20 45.7 +1.2**
comp=Z,7.2nm,1.3s,mb4.4
VYHS *e* 17 20 51.4
VYHS Vyhne 81.46 319 *e*P **P** **17 20 45.7 +1.2**
VYHS *e* 17 20 51.4
VYHS pmax pmax
comp=Z,7.0nm,1.3s,mb4.4
DPC Dobruska-Polom 82.22 321 *e*P sP 17 20 58.9 -1.4
BRG Berggiesshubel 83.36 322 *e*P sP 17 21 04.6 -1.6
comp=Z,3.5nm,1.0s
PRU Pruhonice 83.41 321 *e*P **P** **17 21 03.9 +9.2**
CLL Collm 83.70 323 *e*P **P** **17 20 57.0 +0.9**
CLL *i* pP pP 17 21 02.6 -2.2
CLL *i* sP sP 17 21 05.9 -2.1
CLL S S 17 30 59.0 -18
CLL Collm 83.70 323 *e*P **P** **17 20 57.0 +0.9**
CLL *i* *SP sP 17 21 05.9 -2.1
CLL Collm 83.70 323 *e*P **P** **17 20 57.0 +0.9**
CLL *i* pP pP 17 21 02.6 -2.2
CLL *i* sP sP 17 21 05.9 -2.1
CLL *ex* x 17 21 24.0

KHC Kasperske Hory 84.35 321 *e*P sP 17 21 09.4 -1.9
GEC2 GERESS Array S 84.40 321 P **P** **17 21 01.8 +2.0**
GERES GERESS Array B 84.40 321 P **P** **17 21 01.2 +1.4**
GERES pmax pmax
comp=Z,1.0nm,0.7s
GERES GERESS Array B 84.40 321 P **P** **17 21 01.2 +1.4**
comp=Z,0.7nm,0.7s,mb3.9,baz=72,slow=4.3,SNR=6.3
NKC Novy Kostel 84.50 322 *e*P sP 17 21 10.7 -1.4
MOX Moxa 84.78 323 *e*P sP 17 21 12.3 -1.2
comp=Z,11nm,1.4s
GRF Grafenberg Arr 85.46 322 *e*P sP 17 21 15.2 -1.7
comp=Z,11nm,1.3s
YKA Yellowknife Ar 85.53 22 P **P** **17 21 04.9 -0.3**
YKA pmax pmax
comp=Z,1.0nm,0.7s
YKA Yellowknife Ar 85.53 22 P **P** **17 21 04.9 -0.2**
comp=Z,0.7nm,0.7s,mb4.0,baz=314,slow=4.6,SNR=25
CDF Champ du Feu 88.34 322 *e*P **P** **17 21 18.5 -0.6**
comp=Z,12nm,1.2s,mb4.7
CDF Champ du Feu 88.34 322 *e*P **P** **17 21 18.5 -0.6**
comp=Z,5.8nm,1.2s,mb4.7
CDF Champ du Feu 88.34 322 *e*P **P** **17 21 18.5 -0.6**
CDF pmax pmax
comp=Z,6.0nm,1.2s,mb4.7
LPG La Plagne 90.17 320 *e*P **P** **17 21 27.7 -0.1**
comp=Z,10nm,0.8s,mb4.9
LPG La Plagne 90.17 320 *e*P **P** **17 21 27.7 -0.1**
comp=Z,5.1nm,0.8s,mb4.9
LPG La Plagne 90.17 320 *e*P **P** **17 21 27.7 -0.1**
LPG pmax pmax
comp=Z,5.0nm,0.8s,mb4.9
LPL La Plagne 90.17 320 *e*P **P** **17 21 27.7 -0.1**
comp=Z,8.2nm,0.9s,mb4.8
LPL La Plagne 90.17 320 *e*P **P** **17 21 27.7 -0.1**
comp=Z,4.1nm,0.9s,mb4.8
LPL La Plagne 90.17 320 *e*P **P** **17 21 27.7 -0.1**
LPL pmax pmax
comp=Z,4.0nm,0.9s,mb4.8
PGF Pioggiola 90.29 317 *e*P **P** **17 21 27.2 -1.2**
comp=Z,15nm,1.0s,mb5.0
PGF Pioggiola 90.29 317 *e*P **P** **17 21 27.2 -1.2**
comp=Z,7.4nm,1.0s,mb5.0
PGF Pioggiola 90.29 317 *e*P **P** **17 21 27.2 -1.2**
PGF pmax pmax
comp=Z,7.0nm,1.0s,mb5.0
SBF Sospel 90.61 318 *e*P **P** **17 21 29.0 -0.8**
comp=Z,18nm,0.9s,mb5.1
SBF Sospel 90.61 318 *e*P **P** **17 21 29.0 -0.8**
comp=Z,8.8nm,0.9s,mb5.1
SBF Sospel 90.61 318 *e*P **P** **17 21 29.0 -0.8**
SBF pmax pmax
comp=Z,9.0nm,0.9s,mb5.1
LOR Lormes 90.90 323 *e*P **P** **17 21 30.0 -1.1**
comp=Z,14nm,1.3s,mb4.9
LOR Lormes 90.90 323 *e*P **P** **17 21 30.0 -1.1**
comp=Z,7.2nm,1.3s,mb4.8
LOR Lormes 90.90 323 *e*P **P** **17 21 30.0 -1.1**
LOR pmax pmax
comp=Z,7.0nm,1.3s,mb4.8
SSF Saint Saulge 91.22 322 *e*P **P** **17 21 32.0 -0.6**
FRF La Foret Royal 91.25 318 *e*P **P** **17 21 32.5 -0.3**
comp=Z,12nm,0.9s,mb4.9
FRF La Foret Royal 91.25 318 *e*P **P** **17 21 32.5 -0.3**
comp=Z,5.9nm,0.9s,mb4.9
FRF La Foret Royal 91.25 318 *e*P **P** **17 21 32.5 -0.3**
FRF pmax pmax
comp=Z,6.0nm,0.9s,mb4.9
SMF Signal de Mont 91.26 322 *e*P **P** **17 21 31.9 -0.9**
comp=Z,16nm,1.2s,mb4.9
SMF Signal de Mont 91.26 322 *e*P **P** **17 21 31.9 -0.9**
comp=Z,7.8nm,1.2s,mb4.9
SMF Signal de Mont 91.26 322 *e*P **P** **17 21 31.9 -0.9**
SMF pmax pmax
comp=Z,8.0nm,1.2s,mb4.9
AVF Avril sur Loir 91.45 322 *e*P **P** **17 21 32.8 -0.9**
comp=Z,16nm,1.3s,mb4.9
AVF Avril sur Loir 91.45 322 *e*P **P** **17 21 32.8 -0.9**
comp=Z,8.1nm,1.3s,mb4.9
AVF Avril sur Loir 91.45 322 *e*P **P** **17 21 32.8 -0.9**
AVF pmax pmax
comp=Z,8.0nm,1.3s,mb4.9
LMR La Mourre 91.46 318 *e*P **P** **17 21 33.3 -0.5**
comp=Z,14nm,1.1s,mb4.9
LMR La Mourre 91.46 318 *e*P **P** **17 21 33.3 -0.5**
comp=Z,6.8nm,1.1s,mb4.9
LMR La Mourre 91.46 318 *e*P **P** **17 21 33.3 -0.5**
LMR pmax pmax
comp=Z,7.0nm,1.1s,mb4.9
EDM Edmonton 92.11 29 *e*P **P** **17 21 34.6 -2.0**
TCF Toulx Ste Croi 92.39 322 *e*P **P** **17 21 37.5 -0.5**
MFF Saint Martin d 93.53 324 *e*P **P** **17 21 42.6 -0.7**
comp=Z,16nm,1.3s,mb5.0
MFF Saint Martin d 93.53 324 *e*P **P** **17 21 42.6 -0.7**
comp=Z,8.1nm,1.3s,mb5.0
MFF Saint Martin d 93.53 324 *e*P **P** **17 21 42.6 -0.7**
MFF pmax pmax
comp=Z,8.0nm,1.3s,mb5.0
FFC Flin Flon 95.69 23 *e*P **P** **17 21 53.5 +0.5**
comp=Z,3.4nm,1.1s,mb4.7
FFC Flin Flon 95.69 23 *e*P **P** **17 21 53.5 +0.5**
FFC pmax pmax
comp=Z,3.0nm,1.1s,mb4.6
SDV Santo Domingo 147.74 21 *e*PKPbc PKPbc 17 28 13.5 +0.6

*IDC **21** 17:15:49.3±1.9, 101N×96.97E, h0km, mb3.6/5, mb1 3.6/6, mb1mx3.4/21, mbtmp3.5/6, ML2.8/1, Error ellipse: s-maj=53.0km s-min=23.1km az=59.0*
*ISCJB **21** 17:15:53.2±1.2, 12N±01×97.1E±02, h33km, mb3.6/6, Error ellipse: s-maj=24.7km s-min=16.2km az=169.4*
*NEIC **21** 17:15:54.7±1.2, 1.16N×97.09E, h30km, mb4.6/1, Error ellipse: s-maj=26.8km s-min=17.5km az=77.0*
ISC 21 17:15:55.7±1.2, 12N±01×972E±02, h35km, n8, σ1§12/8, mb3.6/6, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.38**	**48**	Pn	**Pn**	**17 16 32.6**	**+0.3**
	1.9nm,0.3s,baz=249,slow=8.6,SNR=10.0						
KULM	**Kulim**	**5.36**	**40**	*e*Pn	**Pn**	**17 17 13.0**	**-0.3**
WRA	**Warramunga Arr**	**42.06**	**122**	P	**P**	**17 23 42.9**	**-1.5**
	0.4nm,1.0s,mb3.0,baz=302,slow=9.2,SNR=4.8						
ASAR	**Alice Springs**	**43.42**	**127**	P	**P**	**17 23 55.0**	**-0.4**
	0.4nm,0.8s,mb3.2,baz=348,slow=17,SNR=5.0						
SONM	**Songino Array**	**47.15**	**8**	P	**P**	**17 24 25.1**	**+0.6**
	0.3nm,0.6s,mb3.4,baz=197,slow=9.7,SNR=3.8						
MKAR	**Makanchi Array**	**47.24**	**346**	P	**P**	**17 24 23.7**	**-1.6**
	0.3nm,0.4s,mb3.5,baz=157,slow=6.5,SNR=6.0						
STKA	**Stephens Creek**	**53.38**	**132**	P	**P**	**17 25 14.0**	**+2.0**
	11nm,1.5s,mb4.6						
ZALV	**Zalesovo Beam**	**53.56**	**351**	P	**P**	**17 25 13.9**	**+1.0**
	2.3nm,0.9s,mb4.1,baz=163,slow=5.7,SNR=7.6						

*IDC **21** 17:17:43.9±1.0, 2167N×120.31E, h0km, mb3.6/6, mb1 3.8/6, mb1mx3.6/19, mbtmp3.6/6, Error ellipse: s-maj=42.0km s-min=20.3km az=74.0*
*NEIC **21** 17:17:45.5±0.8, 2165N×120.32E, h10km, Error ellipse: s-maj=23.6km s-min=11.7km az=96.0*
*ISCJB **21** 17:17:48.5±1.6, 217N±0.1×120.48E±009, h45km±16km, mb3.5/6, Error ellipse: s-maj=18.0km s-min=12.3km az=151.4*
*JMA **21** 17:17:49.6±0.5, 2167N×120.59E, h111km, M3.2*
ISC 21 17:17:49.6±1.7, 217N±01×12043E±010, h38km±17km, n15, σ0§86/19, mb3.5/6, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NACB	**Ninganchiao**	**2.70**	**23**	*e*Pn	**Pn**	**17 18 29.1**	**-1.3**
YHNB	**Yeheng**	**3.09**	**16**	*e*Pn	**Pn**	**17 18 35.3**	**-0.6**
TATO	**Taipei**	**3.42**	**16**	Pn	**Pn**	**17 18 41.3**	**+1.0**
YOJ	**Yonaguni jima**	**3.65**	**40**	P	**Pn**	**17 18 43.9**	**+0.4**
YOJ				S	**Sn**	**17 19 26.6**	**+1.4**
HATJ	**Hateruma jima**	**3.91**	**52**	S	**Sn**	**17 19 30.6**	**-1.1**
IRIF	**Iriomote-Funau**	**4.03**	**48**	P	**Pn**	**17 18 49.1**	**+0.4**
IRIF				S	**Sn**	**17 19 35.4**	**+0.8**
JKRS	**Kuro-shima**	**4.16**	**52**	P	**Pn**	**17 18 51.3**	**+0.7**
JKRS				S	**Sn**	**17 19 37.4**	**-0.6**
JIJ	**Ishigaki jima**	**4.34**	**51**	P	**Pn**	**17 18 52.9**	**-0.1**
JIJ				S	**Sn**	**17 19 41.4**	**-0.9**
MJAR	**Matsushiro Arr**	**21.40**	**42**	P	**P**	**17 22 33.9**	**-0.2**
	0.9nm,0.7s,mb3.2,baz=239,slow=8.4,SNR=5.5						
SONM	**Songino Array**	**28.43**	**340**	P	**P**	**17 23 41.3**	**+0.8**
	0.2nm,0.3s,mb3.2,baz=154,slow=10,SNR=4.0						
MKAR	**Makanchi Array**	**39.69**	**318**	P	**P**	**17 25 16.4**	**-1.5**
MKAR	**Makanchi Array**	**39.69**	**318**	P	**P**	**17 25 16.4**	**-1.5**
	0.2nm,0.4s,mb3.2,baz=118,slow=5.2,SNR=1.9						
WRA	**Warramunga Arr**	**43.55**	**161**	P	**P**	**17 25 49.1**	**-0.7**
	1.6nm,0.6s,mb3.9,baz=343,slow=8.9,SNR=17						
ASAR	**Alice Springs**	**46.95**	**163**	P	**P**	**17 26 17.5**	**+0.8**
	0.4nm,0.8s,mb3.4,baz=348,slow=9.2,SNR=6.1						
YKA	**Yellowknife Ar**	**85.53**	**22**	P	**P**	**17 30 24.0**	**+0.7**
	0.9nm,0.7s,mb4.1,baz=314,slow=4.7,SNR=21						

*LDG **21** 17:20:26.8±0.2, 1346S×167.11E, h10km, Mb6.0/4, Ms5.7/2, Error ellipse: s-maj=20.9km s-min=6.7km az=88.0*
*IDC **21** 17:20:26.4±0.3, 1389S×166.77E, h0km, mb5.3/23, mb1 5.3/24, mb1mx5.3/24, mbtmp5.3/24, ML5.6/1, MS5.6/15, Ms1 5.6/15, ms1mx5.3/35, Error ellipse: s-maj=10.5km s-min=10.2km az=100.0*
*GCMT **21** 17:20:31.9±0.1, 1402S×166.67E, h40km, MW6.0/111, Moment Tensor Solution. s111,c255; s105,c336; Duration: ≥≥6 Moment tensor: Scale 10^18Nm; Mrr1.38±.01; Mθθ0.05±.01; Mφφ-1.43±.01; Mrθ0.05±.01; Mθφ0.39±.01; Mφr0.11±.01; Best double couple: M0 1.45800×10^18 NP1:φs163.00000°, δ43.00000°, λ85.00000°. NP2:φs350.00000°, δ47.00000°, λ95.00000°. Principal axes: T 1.3880, Plg86.0000°, Azm318.0000°; N 0.1420, Plg4.0000°, Azm166.0000°; P -1.5280, Plg2.0000°, Azm76.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
*BJI **21** 17:20:31.1, 1364S×166.98E, h39km, mB6.0, mb5.7, Ms5.6, Msz5.4*
*NEIC **21** 17:20:31.9±0.1, 1384S×166.84E, mb5.5/59, MS5.6/1, MW5.9, Error ellipse: s-maj=6.9km s-min=5.6km az=147.0, Moment Tensor Solution. s54 Moment tensor: Scale 10^17Nm; Mrr9.56; Mθθ0.00; Mφφ-9.56; Mrθ0.33; Mθφ1.61; Mφr-0.39; Best double couple: M0 9.70000×10^17 NP1: φs352.00000°, δ44.00000°, λ92.00000°. NP2: φs169.00000°, δ46.00000°, λ88.00000°. Principal axes: T 9.5800, Plg88.0000°, Azm29.0000°; N 0.2600, Plg2.0000°, Azm171.0000°; P -9.8300, Plg1.0000°, Azm261.0000°;*
*CRAAG **21** 17:20:31.2, 1389S×166.85E, Mw5.6*
*ISCJB **21** 17:20:31.5±0.1, 1391S±002×166.69E±002, h41km, mb5.6/122, MS5.5/54, Error ellipse: s-maj=3.5km s-min=3.2km az=169.4*
*MOS **21** 17:20:31.1±1.1, 1380S×166.67E, h36km, mb5.7/59, MS5.5/24, Error ellipse: s-maj=7.5km s-min=6.5km az=121.3*
ISC 21 17:20:33.4±0.1, 1390S±003×16674E±002, h43km, h43km±.7km: pP-P, n793, σ1§00/445, mb5.6/122, MS5.5/54, 157C-80D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**8.00**	**303**	Pn	**Pn**	**17 22 25.3**	**-1.8**
HNR				*e*Pn	**Pn**	**17 22 28.4**	**+1.3**
HNR				*e*Sn	**Sn**	**17 23 56.8**	**+0.5**
HNR				Sn	**Sn**	**17 23 57.1**	**+0.8**
HNR	**Honiara**	**8.00**	**303**	P	**Pn**	**17 22 25.3**	**-1.8**
HNR						17 23 57.1	
HNR				pmax	pmax		
	comp=Z,81nm,0.3s						
HNR				smax			
	comp=N,167nm,0.3s						
HNR	**Honiara**	**8.00**	**303**	Pn	**Pn**	**17 22 25.3**	**-1.8**
	comp=N,81nm,0.3s,baz=219,slow=0.7,SNR=38						
HNR				Sn	**Sn**	**17 23 57.1**	**+0.8**
	comp=N,167nm,0.3s,baz=105,slow=18,SNR=4.5						
DZM	**Mont Dzumac**	**8.14**	**182**	*e*P	**Pn**	**17 22 31.7**	**+2.7**
DZM				*e*S	**Sn**	**17 24 03.0**	**+3.3**
FUNA	**Funafuti**	**13.33**	**68**	*e*Pn	**Pn**	**17 23 37.3**	**-2.8**
	comp=N,759nm,1.5s						
CTA	**Charters Tower**	**20.53**	**250**	*e*P	**P**	**17 25 10.7**	**+2.4**
	comp=N,57nm,0.8s						
CTA				*e*S	**S**	**17 28 52.2**	**-3.6**
CTA				*e*SCP	ScP	17 32 58.5	+6.6
CTA	**Charters Tower**	**20.53**	**250**	*e*P	**P**	**17 25 10.7**	**+2.4**
CTA				*e*S	**S**	**17 28 52.2**	**-3.6**
CTA				pmax	pmax		
	comp=Z,57nm,0.8s						
CTA	**Charters Tower**	**20.53**	**250**	P	**P**	**17 25 08.2**	**-0.1**
	comp=Z,74nm,0.9s,baz=74,slow=13,SNR=37						
CTA				S	**S**	**17 29 00.1**	**+4.3**
	comp=Z,7.9nm,0.8s,baz=278,slow=21,SNR=2.4						
CTA				ScP	ScP	17 32 58.4	+6.4
	comp=Z,14nm,0.9s,baz=42,slow=3.6,SNR=5.5						
CTAO	**Charters Tower**	**20.53**	**250**	*e*P	**P**	**17 25 10.7**	**+2.4**
	comp=Z,323nm,1.3s						
CTAO				*e*S	**S**	**17 28 57.3**	**+1.5**
CTAO				*e*ScP	ScP	17 32 58.1	+6.2
CTAO	**Charters Tower**	**20.53**	**250**	*e*P	**P**	**17 25 10.7**	**+2.4**
CTAO				*e*S	**S**	**17 28 57.3**	**+1.5**
CTAO				pmax	pmax		
	comp=Z,323nm,1.3s						
AFI	**Afiamalu**	**20.85**	**93**	*e*P	**P**	**17 25 13.3**	**+1.5**
	comp=Z,363nm,1.1s						
AFI				*e*pP		17 25 28.4	
AFI	**Afiamalu**	**20.85**	**93**	*e*P	**P**	**17 25 13.3**	**+1.5**
AFI				*e**PP		17 25 28.4	
AFI				pmax	pmax		
	comp=Z,363nm,1.1s						
RAO	**Raoul Island**	**20.87**	**140**	P	**P**	**17 25 12.6**	**+0.7**
RAO				pmax	pmax		
	comp=Z,88nm,0.3s						
RAO	**Raoul Island**	**20.87**	**140**	P	**P**	**17 25 12.6**	**+0.7**
	comp=Z,88nm,0.3s,baz=271,slow=23,SNR=1.8						
ARMA	**Armidale**	**21.55**	**218**	*e*P	**P**	**17 25 20.7**	**+1.5**
ARMA				*e*S	**S**	**17 29 15.4**	**-0.3**
ARMA	**Armidale**	**21.55**	**218**	*e*P	**P**	**17 25 21.0**	**+1.8**
	comp=Z,7.5nm,1.1s						
RIV	**Riverview**	**24.37**	**213⇑**	*i*P	**P**	**17 25 48.9**	**+1.4**
RIV				*e*S	S	17 30 34.7	+30
URZ	**Urewera**	**25.95**	**161**	P	**P**	**17 26 02.0**	**+0.2**
	comp=Z,17nm,0.7s,mb4.7,baz=17,slow=3.9,SNR=14						
URZ				S	**S**	**17 30 33.8**	**+4.4**
	comp=Z,5.3nm,0.6s,baz=222,slow=7.7,SNR=4.7						
URZ				LR	LR	17 34 57.0	
	comp=Z,17μm,19.8s,MS5.6,baz=166,slow=34						
URZ	**Urewera**	**25.95**	**161**	*e*PN	**P**	**17 26 02.5**	**+0.6**
MWZ	**Matawai**	**26.16**	**160**	PN	**P**	**17 26 03.5**	**-0.1**
CNB	**Canberra Magne**	**26.46**	**213**	*e*P	**P**	**17 26 07.3**	**+0.9**
	comp=Z,63nm,1.1s,mb5.1						
CNB				*e*SCP	ScP	17 33 10.9	+3.4
BKZ	**Black Stump Fm**	**26.61**	**163**	PN	**P**	**17 26 05.8**	**-1.9**
MRZ	**Mangatainoka R**	**27.77**	**165**	*e*PN	**P**	**17 26 17.5**	**-0.6**
NNZ	**Nelson**	**27.83**	**169**	*e*PN	**P**	**17 26 19.4**	**+0.7**
SNZO	**South Karori**	**28.18**	**167**	P	**P**	**17 26 22.6**	**+0.8**
	comp=Z,21nm,0.6s,mb4.9						
SNZO				*e*S	**S**	**17 31 12.8**	**+8.4**
THZ	**Tophouse**	**28.28**	**170**	PN	**P**	**17 26 21.9**	**-0.7**
THZ				SN	**S**	**17 31 12.2**	**+6.2**
STKA	**Stephens Creek**	**29.16**	**228⇑**	*i*P	**P**	**17 26 31.3**	**+0.7**
	comp=Z,80nm,0.7s,mb5.6						
STKA				*e*S	**S**	**17 31 17.7**	**-2.3**
STKA				*e*SCP	ScP	17 33 22.5	+6.6
STKA	**Stephens Creek**	**29.16**	**228**	*e*P	**P**	**17 26 31.4**	**+0.7**
	comp=Z,117nm,0.8s,mb5.7						
STKA				*e*pP	pP	17 26 41.9	-0.2
STKA				*e*PcP	PcP	17 29 35.6	-1.9
STKA				*e*ScP	ScP	17 33 18.8	+2.9
STKA	**Stephens Creek**	**29.16**	**228**	P	**P**	**17 26 30.9**	**+0.3**
	comp=Z,81nm,0.9s,mb5.5,baz=40,slow=7.5,SNR=162						
STKA				PcP	PcP	17 29 36.8	-0.7
	comp=Z,29nm,0.9s,baz=44,slow=4.5,SNR=4.0						
STKA				S	**S**	**17 31 15.9**	**-4.1**
	comp=Z,8.0nm,1.0s,baz=276,slow=22,SNR=1.2						
STKA				ScP	ScP	17 33 21.8	+5.8
	comp=Z,9.5nm,0.7s,baz=349,slow=1.5,SNR=11						
STKA				PKiKP	PKiKP	17 37 11.3	-0.2
	comp=Z,2.6nm,0.8s,baz=102,slow=5.8,SNR=3.8						
STKA				LR	LR	17 38 08.0	
	comp=Z,41μm,19.1s,MS6.1,baz=53,slow=36						
LTZ	**Lake Taylor**	**29.18**	**172**	PN	**P**	**17 26 29.9**	**-0.7**
LTZ				pP	pP	17 26 41.0	-1.2
FOZ	**Fox Glacier**	**29.68**	**176**	PN	**P**	**17 26 34.6**	**-0.5**
RPZ	**Rata Peaks**	**29.95**	**174**	P	**P**	**17 26 36.0**	**-1.5**
	comp=Z,58nm,0.8s,mb5.4,baz=114,slow=2.3,SNR=32						
RPZ				ScP	ScP	17 33 24.6	+6.5
	comp=Z,7.2nm,0.8s,baz=335,slow=3.0,SNR=5.3						
RPZ	**Rata Peaks**	**29.95**	**174**	PN	**P**	**17 26 36.9**	**-0.6**
JCZ	**Jackson Bay**	**30.13**	**177**	PN	**P**	**17 26 39.3**	**+0.2**
LBZ	**Lake Benmore**	**30.53**	**175**	PN	**P**	**17 26 40.9**	**-1.7**

MSZ	**Milford Sound**	**30.69 178**	PN	**P**	**17 26 44.1**	**0.0**
MLZ	**Mavora Lakes**	**31.37 178**	PN	**P**	**17 26 49.4**	**-0.6**
DCZ	**Deep Cove**	**31.48 179**	PN	**P**	**17 26 50.5**	**-0.5**
WB2	**Warramunga Arr**	**31.53 255**	*e*P	**P**	**17 26 50.3**	**-1.4**
WB2			*e*S	**S**	**17 31 55.4**	**-2.1**
WB2			*e*SCP	ScP	17 33 31.7	+7.8
WB2	**Warramunga Arr**	**31.53 255⇑**	*e*P	**P**	**17 26 51.0**	**-0.8**
WB2			*e*pP	pP	17 27 01.5	-1.8
WB2			*e*PcP	PcP	17 29 42.8	-1.2
WB2			*e*ScP	ScP	17 33 30.5	+6.6
WRAB	**Tennant Creek**	**31.53 255**	P	**P**	**17 26 51.9**	**+0.1**
	comp=Z,304nm,1.3s,mb6.0,SNR=25					
WRAB	**Tennant Creek**	**31.53 255⇑**	*e*P	**P**	**17 26 49.9**	**-1.8**
	comp=Z,93nm,1.2s,mb5.5					
WRAB			*e*pP	pP	17 27 01.4	-1.9
WRAB			*e*PcP	PcP	17 29 43.5	-0.5
WRAB			*e*ScP	ScP	17 33 23.5	-0.4
WRAB	**Tennant Creek**	**31.53 255⇑**	*e*P	**P**	**17 26 49.9**	**-1.9**
WRAB			*e**PP	pP	17 27 01.4	-1.9
WRAB			*e*		17 29 43.5	
WRAB			pmax	pmax		
	comp=Z,93nm,1.2s,mb5.5					
WRA	**Warramunga Arr**	**31.54 255**	P	**P**	**17 26 50.7**	**-1.2**
WRA			PcP	PcP	17 29 43.4	-0.6
WRA			S	**S**	**17 31 57.1**	**-0.5**
WRA			ScP	ScP	17 33 30.4	+6.5
WRA			LR	LR	17 36 53.0	
WRA	**Warramunga Arr**	**31.54 255**	P	**P**	**17 26 50.7**	**-1.1**
WRA					17 29 43.4	
WRA			S	**S**	**17 31 57.1**	**-0.6**
WRA			*i*		17 37 12.2	
WRA			pmax	pmax		
	comp=Z,25nm,0.7s					
WRA			pmax	pmax		
	comp=Z,16nm,0.9s					
WRA			smax			
	comp=N,7.0nm,1.1s					
WRA			pmax	pmax		
	comp=N,27nm,1.1s					
WRA			MLR	MLR		
	comp=Z,7μm,20.8s					
WRA			pmax	pmax		
	comp=Z,3.0nm,0.6s					
WRA			pmax	pmax		
	comp=Z,1.0nm,0.9s					
WRA	**Warramunga Arr**	**31.54 255**	P	**P**	**17 26 50.7**	**-1.2**
	comp=Z,25nm,0.7s,mb5.2,baz=86,slow=9.4,SNR=123					
WRA			PcP	PcP	17 29 43.4	-0.6
	comp=Z,16nm,0.9s,baz=81,slow=3.0,SNR=5.0					
WRA			S	**S**	**17 31 57.1**	**-0.5**
	comp=Z,7.0nm,1.1s,baz=87,slow=15,SNR=4.2					
WRA			ScP	ScP	17 33 30.4	+6.5
	comp=Z,27nm,1.1s,baz=81,slow=3.5,SNR=17					
WRA			LR	LR	17 36 53.0	
	comp=Z,7μm,20.8s,MS5.3,baz=85,slow=31					
WRA			PKiKP	PKiKP	17 37 12.2	-1.2
	comp=Z,3.2nm,0.6s,baz=57,slow=1.0,SNR=20					
WRA			P3KPbc		17 58 27.0	
	comp=Z,0.5nm,0.9s,baz=262,slow=2.6,SNR=4.6					
WHZ	**Wether Hill Ro**	**31.91 178**	PN	**P**	**17 26 53.5**	**-1.3**
TUZ	**Tuapeka**	**32.05 176**	PN	**P**	**17 26 54.9**	**-1.0**
ASAR	**Alice Springs**	**32.50 248**	P	**P**	**17 26 59.1**	**-1.1**
ASAR					17 29 45.8	
ASAR			pmax	pmax		
	comp=Z,33nm,0.6s					
ASAR			pmax	pmax		
	comp=Z,17nm,0.9s					
ASAR			pmax	pmax		
	comp=N,20nm,1.0s					
ASAR			pmax	pmax		
	comp=Z,2.0nm,0.6s					
ASAR	**Alice Springs**	**32.50 248**	P	**P**	**17 26 59.1**	**-1.1**
	comp=Z,33nm,0.6s,mb5.4,baz=74,slow=9.4,SNR=503					
ASAR			PcP	PcP	17 29 45.8	-0.8
	comp=Z,17nm,0.9s,baz=72,slow=1.6,SNR=6.3					
ASAR			ScP	ScP	17 33 32.0	+4.9
	comp=Z,20nm,1.0s,baz=91,slow=3.2,SNR=16					
ASAR			PKiKP	PKiKP	17 37 13.4	-0.5
	comp=Z,2.0nm,0.6s,baz=96,slow=1.5,SNR=13					
ASAR			P3KPbc		17 58 23.6	
	comp=Z,0.3nm,0.8s,baz=253,slow=4.6,SNR=5.9					
RAR	**Rarotonga**	**32.70 108**	P	**P**	**17 27 02.8**	**+0.8**
RAR			pmax	pmax		
	comp=Z,141nm,1.2s					
RAR			MLR	MLR		
	comp=Z,14μm,20.8s					
RAR	**Rarotonga**	**32.70 108**	P	**P**	**17 27 02.8**	**+0.8**
	comp=Z,141nm,1.2s,mb5.8,baz=264,slow=6.7,SNR=4.3					
RAR			LR	LR	17 37 41.0	
	comp=Z,14μm,20.8s,MS5.7,baz=262,slow=32					
ADE	**Adelaide**	**32.84 225⇑**	*i*P	**P**	**17 27 04.9**	**+1.8**
KAKA	**Kakadu**	**33.38 268⇑**	*i*P	**P**	**17 27 08.6**	**+0.5**
	comp=Z,92nm,0.6s,mb5.9					
KAKA	**Kakadu**	**33.38 268**	*e*P	**P**	**17 27 07.6**	**-0.5**
	comp=Z,189nm,0.7s,mb6.1					
KAKA			*e*pP	pP	17 27 18.5	-1.1
TAU	**Tasmania Unive**	**33.41 206**	P	**P**	**17 27 09.4**	**+1.5**
	comp=Z,373nm,1.1s,mb6.2,SNR=5.2					
TAU	**Tasmania Unive**	**33.41 206**	*e*P	**P**	**17 27 08.0**	**+0.1**
	comp=Z,155nm,1.4s,mb5.7					
TAU	**Tasmania Unive**	**33.41 206**	*e*P	**P**	**17 27 08.0**	**+0.1**
TAU			pmax	pmax		
	comp=Z,155nm,1.4s,mb5.7					
GUMO	**Guam**	**34.85 321**	P	**P**	**17 27 17.8**	**-3.0**
GUMO	**Guam**	**34.85 321**	LR	LR	17 40 06.4	
	comp=Z,12μm,21.6s,MS5.6,baz=327,slow=34					
FORT	**Forrest**	**39.29 238**	*e*P	**P**	**17 27 58.6**	**+0.3**
	comp=Z,206nm,0.8s,mb5.9					
FORT			*e*PP	PP	17 29 43.9	+15
FORT	**Forrest**	**39.29 238**	*e*P	**P**	**17 27 57.8**	**-0.5**
	comp=Z,36nm,0.9s,mb5.1					
FORT			*e*pP	pP	17 28 09.1	-1.0
FITZ	**Fitzroy Crossi**	**39.67 258**	*e*P	**P**	**17 28 00.8**	**-0.8**
	comp=Z,85nm,0.9s,mb5.5					
FITZ			*e*PP	PP	17 29 42.7	+9.4
FITZ	**Fitzroy Crossi**	**39.67 258⇑**	*e*P	**P**	**17 28 01.6**	**-0.1**
	comp=Z,132nm,1.0s,mb5.6					
FITZ			*e*pP	pP	17 28 12.3	-1.1
FITZ			*e*sP	sP	17 28 16.4	-2.0
FITZ			*e*ScP	ScP	17 33 54.5	+1.0
FITZ	**Fitzroy Crossi**	**39.67 258**	P	**P**	**17 28 01.9**	**+0.3**
	comp=Z,23nm,0.7s,mb5.0,baz=90,slow=9.0,SNR=44					
PAE	**Paea**	**42.13 101**	*e*P	**P**	**17 28 23.4**	**+1.5**
PPT	**Papeete**	**42.14 101**	*e*P	**P**	**17 28 23.5**	**+1.5**
PPT			*e*S	**S**	**17 34 40.8**	**+1.7**
	comp=Z,4μm,29.5s					
PPT			*e*LQ		17 38 12.1	
	comp=Z,23μm,30.0s					
PPT			*e*LR	LR	17 40 01.1	
	comp=Z,23μm,26.0s,baz=266					
PPT	**Papeete**	**42.14 101**	P	**P**	**17 28 17.5**	**-4.5**
PPT			P		17 28 22.8	
PPT			LR	LR	17 41 51.3	
PPT	**Papeete**	**42.14 101**	P	**P**	**17 28 22.8**	**+0.8**
	comp=Z,20nm,0.5s,mb5.0,baz=46,slow=13,SNR=4.5					
PPT			LR	LR	17 41 51.3	
	comp=Z,3μm,18.3s,MS5.3,baz=271,slow=30					
BATI	**Kupang**	**42.25 270**	P	**P**	**17 28 24.7**	**+1.8**
	comp=Z,96nm,1.0s,mb5.4,baz=89,slow=0.9,SNR=13					
BATI			S	**S**	**17 34 45.1**	**+4.3**
	comp=Z,19nm,1.0s,baz=55,slow=17,SNR=1.9					
BATI			LR	LR	17 45 30.1	
	comp=Z,23μm,20.1s,MS6.0,baz=338,slow=36					
TVO	**Taravao**	**42.44 101**	*e*P	**P**	**17 28 26.0**	**+1.6**
	comp=Z,80nm,0.7s,mb5.5					
TVO	**Taravao**	**42.44 101**	*e*P	**P**	**17 28 26.0**	**+1.6**
TVO			pmax	pmax		
	comp=Z,80nm,0.7s,mb5.5					
PMOR	**Pomariorio Ree**	**43.89 97**	*e*P	**P**	**17 28 38.2**	**+2.1**
	comp=Z,517nm,1.2s,mb6.1					
VAH	**Vaihoa**	**44.13 98**	*e*P	**P**	**17 28 39.8**	**+1.7**
	comp=Z,288nm,1.1s,mb5.9					
MBWA	**Marble Bar**	**45.27 254**	*e*P	**P**	**17 28 47.0**	**-0.1**
	comp=Z,301nm,1.3s,mb6.0					
MBWA			*e*pP	pP	17 28 58.5	-0.6
MBWA			*e*sP	sP	17 29 02.8	-1.4
KAPI	**Kappang**	**47.10 276**	P	**P**	**17 29 02.0**	**+0.3**
	comp=Z,306nm,1.5s,mb6.0,SNR=11					
CBIJ	**Chichi jima**	**47.21 330**	P	**P**	**17 29 01.1**	**-1.1**
	comp=Z,176nm,0.8s,mb6.0,baz=293,slow=22,SNR=4.5					
KLBR	**Kellerberrin**	**48.07 240⇑**	*i*P	**P**	**17 29 08.4**	**-0.5**
	comp=Z,99nm,0.9s,mb5.8					
NWAO	**Narrogin (SRO)**	**48.74 238**	*e*P	**P**	**17 29 13.5**	**-0.6**
	comp=Z,97nm,0.9s,mb5.8					
NWAO			*e*pP	pP	17 29 24.5	-1.6
NWAO			*e*PP	PP	17 31 00.4	-7.0
NWAO	**Narrogin (SRO)**	**48.74 238**	*e*P	**P**	**17 29 13.5**	**-0.6**
NWAO			*e**PP	pP	17 29 24.5	-1.6
NWAO			*e*		17 31 00.4	
NWAO			pmax	pmax		
	comp=Z,97nm,0.9s					
MUN	**Mundaring**	**49.43 240**	*e*P	**P**	**17 29 18.9**	**-0.5**
MUN			*e*S	**S**	**17 36 22.3**	**-1.4**
MYLDM	**Lahad Datu**	**51.48 288**	⇑P	**P**	**17 29 37.9**	**+2.8**
TSM	**Tawau**	**51.74 287**	⇑P	**P**	**17 29 38.3**	**+1.4**
TAOE	**Nuku Hiva Isla**	**52.23 91**	*e*S	**S**	**17 37 05.1**	**+2.2**
	comp=Z,103μm,28.6s					
TAOE			*e*LR	LR	17 44 37.6	
	comp=Z,454μm,23.9s,baz=265					
SDKM	**Sandakan**	**52.86 288**	⇓P	**P**	**17 29 47.1**	**+1.7**
JHJ	**Hachijo jima 2**	**53.37 332**	LR	LR	17 51 40.4	
	comp=Z,2μm,19.2s,MS5.1,baz=118,slow=35					
KDM	**Kudat**	**53.67 289**	⇑P	**P**	**17 29 53.5**	**+2.2**
KKM	**Kota Kinabalu**	**53.91 288⇑**	*e*P	**P**	**17 29 53.6**	**+0.6**
KKM			*e*pP	pP	17 30 05.0	-0.3
KKM			*e*sP	sP	17 30 08.3	-1.9
KKM	**Kota Kinabalu**	**53.91 288**	⇓P	**P**	**17 29 54.9**	**+1.8**
JOW	**Kunigami**	**55.09 317**	P	**P**	**17 30 02.4**	**+1.1**
	comp=Z,63nm,0.7s,mb5.8,baz=165,slow=6.4,SNR=17					
DRV	**Dumont d'Urvil**	**55.64 193**	P	**P**	**17 30 02.0**	**-2.7**
DRV			S	**S**	**17 37 49.0**	**+1.5**
DRV			SS	SS	17 41 41.0	+8.1
DRV			L		17 44 00.0	
DRV			R		17 47 00.0	
RKT	**Rikitea**	**55.73 109**	*e*P	**P**	**17 30 07.9**	**+1.8**
	comp=Z,31nm,1.2s,mb5.2					
RKT			*e*S	**S**	**17 37 49.9**	**-0.1**
	comp=Z,3μm,25.8s					
RKT			*e*LR	LR	17 46 14.3	
	comp=Z,13μm,28.0s,baz=268					
RKT	**Rikitea**	**55.73 109**	*e*P	**P**	**17 30 07.9**	**+1.8**
	comp=Z,31nm,1.2s,mb5.2					
RKT			*e*S	**S**	**17 37 49.9**	**-0.1**
BTM	**Bintulu**	**55.85 284**	⇑P	**P**	**17 30 08.6**	**+1.5**
SBUM	**Sibu**	**56.43 282**	⇑P	**P**	**17 30 12.8**	**+1.5**
MJAR	**Matsushiro Arr**	**56.93 333**	P	**P**	**17 30 13.7**	**-0.6**
MJAR			pmax	pmax		
	comp=Z,52nm,0.8s					
MJAR			MLR	MLR		
	comp=Z,2μm,19.0s					
MJAR	**Matsushiro Arr**	**56.93 333**	P	**P**	**17 30 13.7**	**-0.6**
	comp=Z,52nm,0.8s,mb5.6,baz=168,slow=8.0,SNR=157					
MJAR			LR	LR	17 54 04.4	
	comp=Z,2μm,19.0s,MS5.1,baz=150,slow=36					
MAJO	**Matsushiro**	**56.93 333**	*e*P	**P**	**17 30 13.4**	**-1.0**
	comp=Z,113nm,1.0s,mb5.8					
MAJO	**Matsushiro**	**56.93 333**	*e*P	**P**	**17 30 13.4**	**-0.9**
MAJO			pmax	pmax		
	comp=Z,113nm,1.0s,mb5.8					
MAT	**Matsushiro**	**56.93 333**	P	**P**	**17 30 13.0**	**-1.3**
MAT			S	**S**	**17 38 04.0**	**-1.4**
JNU	**Nakatsue**	**57.95 325**	P	**P**	**17 30 21.2**	**-0.3**
	comp=Z,114nm,0.9s,mb5.9,baz=101,slow=5.7,SNR=42					
JNU			LR	LR	17 51 44.8	
	comp=Z,4μm,21.9s,MS5.5,baz=138,slow=32					
KSM	**Kuching**	**57.95 281⇑**	*e*P	**P**	**17 30 22.1**	**+0.1**
KSM			*e*pP	pP	17 30 33.4	-0.8
KSM			*e*sP	sP	17 30 38.4	-0.8
KSM	**Kuching**	**57.95 281**	⇑P	**P**	**17 30 22.6**	**+0.6**
NACB	**Ninganchiao**	**58.10 310⇑**	*e*P	**P**	**17 30 22.6**	**-0.2**
NACB			*e*pP	pP	17 30 33.4	-1.7
NACB			*e*sP	sP	17 30 38.3	-1.8
YHNB	**Yeheng**	**58.55 311⇑**	*e*P	**P**	**17 30 25.8**	**-0.2**
YHNB			*e*PP	PP	17 32 33.4	-2.6
TATO	**Taipei**	**58.65 311**	*e*P	**P**	**17 30 26.8**	**+0.2**
	comp=Z,126nm,1.0s,mb5.9					
TATO			*e*pP	pP	17 30 38.3	-0.6
TATO			*e*sP	sP	17 30 42.1	-1.8
QZH	**Quanzhou**	**60.78 309⇑**	*i*P	**P**	**17 30 38.3**	**-3.0**
QZH			S	**S**	**17 38 52.0**	**-3.8**
QZH			AMB	AMB		
	comp=Z,160nm,1.0s,mb6.1					
QZH			AMB	AMB		
	comp=Z,2μm,4.2s					
QZH			LR	LR		
	comp=N,4μm,20.4s,MS5.6					
QZH			LR	LR		
	comp=E,3μm,23.0s,MS5.6					
QZH			LR	LR		
	comp=Z,3μm,26.2s,MS5.4					
ASAJ	**Asahikawa**	**61.79 340**	P	**P**	**17 30 48.2**	**+0.5**
ASAJ			pmax	pmax		
	comp=Z,23nm,0.7s					
ASAJ			MLR	MLR		
	comp=Z,7μm,22.0s					
ASAJ	**Asahikawa**	**61.79 340**	P	**P**	**17 30 48.2**	**+0.5**
	comp=Z,23nm,0.7s,mb5.4,baz=224,slow=9.2,SNR=19					
ASAJ			LR	LR	17 53 15.4	
	comp=Z,7μm,22.0s,MS5.7,baz=203,slow=32					
SSE	**Sheshan**	**62.57 316**	P	**P**	**17 30 52.8**	**-0.4**
SSE			PP	PP	17 33 13.8	+2.4
SSE			S	**S**	**17 39 20.4**	**+2.2**
SSE			AMB	AMB		
	comp=Z,78nm,0.8s,mb5.9					
SSE			AMB	AMB		
	comp=Z,692nm,8.4s					
SSE			LR	LR		
	comp=N,1μm,25.3s,MS5.1					
SSE			LR	LR		
	comp=E,1μm,26.0s,MS5.1					
SSE			LR	LR		
	comp=Z,2μm,26.7s,MS5.1					
KSRS	**Korea Array**	**62.76 326**	P	**P**	**17 30 54.9**	**+0.5**
	comp=Z,30nm,0.9s,mb5.4,baz=140,slow=7.1,SNR=87					
INCN	**Inchon**	**63.49 325⇑**	*e*P	**P**	**17 30 59.2**	**0.0**
	comp=Z,267nm,1.6s,mb6.1					
INCN			*e*pP	pP	17 31 11.5	-0.2
INCN			*e*sP	sP	17 31 18.5	+1.9
VNDA	**Vanda**	**63.68 181**	*e*P	**P**	**17 30 59.4**	**-0.5**
	comp=Z,72nm,1.3s,mb5.5					
VNDA			*e*pP	pP	17 31 10.7	-1.6
VNDA	**Vanda**	**63.68 181**	*e*P	**P**	**17 30 59.4**	**-0.5**
VNDA			*e**PP	pP	17 31 10.7	-1.6
VNDA			pmax	pmax		
	comp=Z,72nm,1.3s					
VNDA	**Vanda**	**63.68 181**	P	**P**	**17 30 59.6**	**-0.3**
	comp=Z,22nm,0.8s,mb5.2,baz=2.9,slow=6.7,SNR=24					
VNDA			PcP	PcP	17 31 33.9	-1.9
	comp=Z,36nm,1.1s,baz=167,slow=2.8,SNR=3.9					
GZH	**Guangzhou**	**63.88 305**	P	**P**	**17 31 04.1**	**+2.0**
GZH			S	**S**	**17 39 40.4**	**+5.5**
GZH			LR	LR		
	comp=N,755nm,20.0s,MS5.2					
GZH			LR	LR		
	comp=E,2μm,22.8s,MS5.2					
GZH			LR	LR		
	comp=Z,3μm,22.2s,MS5.5					
SBA	**Scott Base**	**63.97 180⇑**	*e*P	**P**	**17 31 01.3**	**-0.5**
	comp=Z,88nm,1.0s,mb5.7					
SBA			*e*pP	pP	17 31 13.2	-1.0
SBA	**Scott Base**	**63.97 180⇑**	*e*P	**P**	**17 31 01.3**	**-0.5**
SBA			*e**PP	pP	17 31 13.2	-1.0
SBA			pmax	pmax		
	comp=Z,88nm,1.0s,mb5.7					
CASY	**Casey**	**64.10 202**	*e*P	**P**	**17 31 01.9**	**-0.9**
CASY	**Casey**	**64.10 202⇑**	*e*P	**P**	**17 31 01.9**	**-1.0**
	comp=Z,55nm,0.6s,mb5.8					
CASY			*e*pP	pP	17 31 14.6	-0.7
MYKOM	**Kota Tinggi**	**64.22 279**	⇑P	**P**	**17 31 05.7**	**+1.2**
YSS	**Yuzh-Sakhalins**	**64.28 342⇑**	*e*P	**P**	**17 31 04.5**	**+0.3**
	comp=Z,141nm,1.1s,mb5.9					
YSS	**Yuzh-Sakhalins**	**64.28 342⇑**	*e*P	**P**	**17 31 05.1**	**+0.9**
YSS			pmax	pmax		
	comp=Z,103nm,1.4s,mb5.7					
YSS			MLR	MLR		
	comp=Z,3μm,19.0s,MS5.5					
NJ2	**Nanjing**	**64.72 316**	*e*P	**P**	**17 31 07.5**	**+0.1**
NJ2			AP	pP	17 31 19.8	-0.1
NJ2			XP	sP	17 31 27.3	+2.5
NJ2			S	**S**	**17 39 43.0**	**-2.0**
NJ2			AMB	AMB		
	comp=Z,130nm,0.9s,mb6.0					
NJ2			AMB	AMB		
	comp=Z,402nm,5.4s					
NJ2			LR	LR		
	comp=N,3μm,15.8s,MS5.6					
NJ2			LR	LR		
	comp=E,3μm,20.8s,MS5.6					
NJ2			LR	LR		
	comp=Z,3μm,21.6s,MS5.4					
KGM	**Kluang**	**64.79 279**	⇑P	**P**	**17 31 09.5**	**+1.2**
QIZ	**Qiongzhong**	**64.89 299**	P	**P**	**17 31 09.3**	**+0.6**
QIZ			AP	pP	17 31 21.9	+0.7
QIZ			XP	sP	17 31 27.5	+1.4
QIZ			PP	PP	17 33 33.6	+1.6
QIZ			S	**S**	**17 39 47.1**	**-0.3**
QIZ			XS	sS	17 40 08.4	+0.3
QIZ			SS	SS	17 44 00.4	+0.5
QIZ			AMB	AMB		
	comp=Z,59nm,1.2s,mb5.5					
QIZ			LR	LR		
	comp=E,1μm,24.7s					
QIZ			LR	LR		
	comp=Z,3μm,27.4s,MS5.4					
QIZ	**Qiongzhong**	**64.89 299⇑**	*i*P	**P**	**17 31 10.2**	**+1.5**
	comp=Z,204nm,1.7s,mb5.9					
QIZ			*e*pP	pP	17 31 21.9	+0.8
SKR	**Severo-Kuril's**	**64.97 353**	*e*P	**P**	**17 31 07.0**	**-1.6**
SKR			*e*	pP	17 31 20.5	-0.6
SKR			*e*PPP		17 35 04.0	
SKR			*e*S	**S**	**17 39 49.0**	**+1.8**
SKR			*e*		17 40 22.0	
SKR			pmax	pmax		
	comp=Z,180nm,1.0s,mb6.1					
SKR			pmax	pmax		
	comp=N,1μm,6.0s					
SKR			pmax	pmax		
	comp=E,1μm,6.0s					
SKR			pmax	pmax		
	comp=Z,1μm,6.0s					
SKR			smax			
	comp=N,1μm,10.0s					
SKR			smax			
	comp=E,2μm,10.0s					
SKR			MLR	MLR		
	comp=N,2μm,18.0s,MS5.6					
SKR			MLR	MLR		
	comp=E,3μm,18.0s,MS5.6					
SKR			MLR	MLR		
	comp=Z,3μm,18.0s,MS5.5					
VLA	**Vladivostok**	**65.10 333⇑**	*e*P	**P**	**17 31 10.5**	**+0.9**
VLA	**Vladivostok**	**65.10 333⇑**	*e*P	**P**	**17 31 10.4**	**+0.8**
VLA			pmax	pmax		
	comp=Z,167nm,1.7s,mb5.8					
VLA			MLR	MLR		
	comp=Z,2μm,21.0s,MS5.3					
KTGM	**Kuala Trenggan**	**65.93 282**	⇑P	**P**	**17 31 17.3**	**+1.6**
WHN	**Wuhan**	**67.01 312**	⇓P	**P**	**17 31 22.5**	**+0.3**
WHN			AP	pP	17 31 35.4	+0.7
WHN			S	S	17 40 06.4	-6.4
WHN			XS	sS	17 40 30.3	-3.3
WHN			AMB	AMB		
	comp=Z,96nm,0.8s,mb5.9					
WHN			AMB	AMB		
	comp=Z,2μm,8.8s					
WHN			LR	LR		
	comp=Z,4μm,20.9s,MS5.6					
PET	**Petropavlovsk**	**67.01 355**	*e*P	**P**	**17 31 20.5**	**-1.1**
	comp=Z,19nm,0.8s,mb5.2					
PET	**Petropavlovsk**	**67.01 355**	*ce*P	**P**	**17 31 22.5**	**+0.9**
PET			*e*S	S	17 40 13.8	+1.9
PET			*e*PS		17 40 38.8	
PET			*e*SS	SS	17 44 37.4	+5.7
PET			pmax	pmax		
	comp=Z,31nm,0.8s,mb5.4					
PET			pmax	pmax		
	comp=Z,1μm,17.4s					
PET			pmax	pmax		
	comp=Z,1μm,20.8s					
MDJ	**Mudanjiang**	**67.31 332**	P	**P**	**17 31 24.6**	**+0.9**
MDJ			PCP	PcP	17 31 49.1	-2.1
MDJ			S	S	17 40 18.6	+2.7
MDJ			SS	SS	17 44 35.9	-0.8
MDJ			AMB	AMB		
	comp=Z,85nm,1.1s,mb5.7					
MDJ			AMB	AMB		
	comp=Z,908nm,7.0s					
MDJ			LR	LR		
	comp=N,2μm,23.2s,MS5.3					
MDJ			LR	LR		
	comp=E,1μm,25.6s,MS5.3					
MDJ			LR	LR		
	comp=Z,3μm,23.2s,MS5.4					
MDJ	**Mudanjiang**	**67.31 332⇑**	*e*P	**P**	**17 31 23.9**	**+0.1**
	comp=Z,94nm,1.1s,mb5.7					
MDJ			*e*pP	pP	17 31 35.8	-0.5
MDJ			*e*sP	sP	17 31 40.1	-1.0
DL2	**Dalian**	**67.33 323⇑**	*i*P	**P**	**17 31 24.8**	**+0.8**
DL2			AP	pP	17 31 36.4	-0.1
DL2			S	S	17 40 17.6	+1.2
DL2			SS	SS	17 44 34.1	-3.1
DL2			AMB	AMB		
	comp=Z,100nm,0.7s,mb6.0					
DL2			AMB	AMB		
	comp=Z,500nm,8.1s					
DL2			LR	LR		
	comp=N,1μm,26.0s,MS5.2					
DL2			LR	LR		
	comp=E,2μm,22.6s,MS5.2					
DL2			LR	LR		
	comp=Z,2μm,27.3s,MS5.2					
IPM	**Ipoh**	**67.69 281**	⇑P	**P**	**17 31 27.6**	**+0.8**
HABR	**Khabarovsk**	**68.17 338⇑**	*i*P	**P**	**17 31 29.7**	**+0.6**
HABR			*e**SP	sP	17 31 41.0	-5.5
HABR			*e*		17 31 53.8	
HABR			*e*		17 33 56.5	
HABR			*e*S	S	17 40 28.8	+2.7
HABR			*e**SS	sS	17 40 42.8	-4.2
HABR			*e*SS	SS	17 44 49.7	-0.2
HABR			pmax	pmax		
	comp=Z,169nm,1.6s,mb5.8					
HABR			MLR	MLR		
	comp=Z,1μm,18.2s,MS5.2					
SNY	**Shenyang**	**68.23 327**	⇑P	**P**	**17 31 30.1**	**+0.5**
SNY			AP	pP	17 31 43.3	+1.1
SNY			S	S	17 40 28.4	+1.3
SNY			SS	SS	17 44 52.1	+1.0
SNY			AMB	AMB		
	comp=Z,30nm,0.7s,mb5.4					
SNY			AMB	AMB		
	comp=Z,1μm,6.5s					
SNY			LR	LR		
	comp=N,2μm,19.3s					
SNY			LR	LR		
	comp=Z,2μm,22.6s,MS5.3					
KULM	**Kulim**	**68.28 282⇑**	*i*P	**P**	**17 31 31.1**	**+0.5**
KULM			*e*pP	pP	17 31 42.8	-0.3
KULM			*e*sP	sP	17 31 47.0	-0.9
KULM	**Kulim**	**68.28 282**	⇓P	**P**	**17 31 31.5**	**+0.9**
TIA	**Tai'an**	**68.38 318**	*e*P	**P**	**17 31 30.1**	**-0.6**
TIA			AMB	AMB		
	comp=Z,75nm,0.1s,mb6.7					
CN2	**Changchun**	**68.67 329**	⇑P	**P**	**17 31 32.3**	**0.0**
CN2			*e*S	S	17 40 19.9	-12
CN2			AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.8					
CN2			AMB	AMB		
	comp=Z,200nm,8.0s					
CN2			LR	LR		
	comp=N,2μm,20.0s,MS5.4					
CN2			LR	LR		
	comp=E,2μm,20.0s,MS5.4					
CN2			LR	LR		
	comp=Z,2μm,22.0s,MS5.4					
SNG	**Songkhla**	**68.87 283**	P	**P**	**17 31 36.0**	**+1.7**
PSI	**Prapat**	**69.23 278**	P	**P**	**17 31 35.8**	**-0.7**
PSI			pmax	pmax		
	comp=Z,

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GYA                                  AMB     AMB
     comp=Z,70nm,1.1s,mb5.5
GYA                                  AMB     AMB
     comp=Z,600nm,7.8s
GYA                                  LR      LR
     comp=N,1µm,17.3s,MS5.2
GYA                                  LR      LR
     comp=E,250nm,19.1s,MS5.2
GYA                                  LR      LR
     comp=Z,1µm,20.6s,MS5.1
MIR  Mirnyy          70.88 204b iP           P       17 31 46.0 +0.4
MIR                              i           pP      17 31 59.0 +0.8
MIR                              eS          S       17 41 00.0 +2.4
MIR                              e                   17 41 42.0
MIR                                  pmax    pmax
     comp=Z,400nm,1.5s,mb6.1
MIR                                  MLR     MLR
     comp=Z,3µm,18.0s,MS5.6
BJT  Baijiatuau      71.29 321⇑ iP           P       17 31 48.4 -0.1
     comp=Z,125nm,1.2s,mb5.7
BJT  Baijiatuau      71.29 321⇑ iP           P       17 31 48.4 -0.1
BJT                                  pmax    pmax
     comp=Z,125nm,1.2s
NNT  Nongplab        71.42 289   P           P       17 31 52.0 +2.2
NST  Nakhon Sawan    72.10 292   P           P       17 31 55.0 +1.1
     comp=Z,83nm,1.0s,mb5.6
TIY  Taiyuan         72.30 317⇑ iP           P       17 31 55.6 +1.0
TIY                                  AP      pP      17 32 07.0 -0.3
TIY                                  S       S       17 41 16.5 +1.7
TIY                                  AMB     AMB
     comp=Z,2µm,4.0s
TIY                                  LR      LR
     comp=N,3µm,17.0s,MS5.7
TIY                                  LR      LR
     comp=E,2µm,15.4s,MS5.7
TIY                                  LR      LR
     comp=Z,4µm,17.3s,MS5.8
XAN  Xi'an           72.75 313   P           P       17 31 56.3 -1.1
XAN                                  AP      pP      17 32 07.5 -2.5
XAN                                  S       S       17 41 18.8 -1.3
XAN                                  SS      SS      17 46 01.6 +0.7
XAN                                  AMB     AMB
     comp=Z,21nm,1.1s,mb5.0
XAN                                  LR      LR
     comp=N,931nm,21.9s,MS5.2
XAN                                  LR      LR
     comp=E,1µm,26.2s,MS5.2
XAN                                  LR      LR
     comp=Z,2µm,24.8s,MS5.3
KMI  Kunming         73.43 302   P           P       17 32 03.1 +1.5
KMI                                  AP      pP      17 32 12.8 -1.5
KMI                                  XP      sP      17 32 17.0 -2.1
KMI                                  PP      PP      17 34 50.3 +4.4
KMI                                  S       S       17 41 32.5 +4.3
KMI                                  XS      sS      17 41 49.8 +0.5
KMI                                  SS      SS      17 46 14.8 +3.2
KMI                                  AMB     AMB
     comp=Z,172nm,1.4s,mb5.8
KMI                                  AMB     AMB
     comp=Z,1µm,6.8s
KMI                                  LR      LR
     comp=N,1µm,17.3s,MS5.4
KMI                                  LR      LR
     comp=E,2µm,22.2s,MS5.4
KMI                                  LR      LR
     comp=Z,3µm,22.2s,MS5.5
BDT  Bhumibol Dam    73.66 293   P           P       17 32 05.0 +1.9
     comp=Z,13nm,1.0s,mb4.8
CHRT Chiangrai       73.91 296 ⇑P            P       17 32 05.0 +0.5
     comp=Z,624nm,1.1s,mb6.5
CHG  Chiang Mai      74.27 294 ⇑P            P       17 32 07.4 +0.8
     comp=Z,150nm,1.0s,mb5.9
CHTO Chiang Mai      74.27 294⇑ eP           P       17 32 06.6  0.0
     comp=Z,64nm,0.9s,mb5.5
CHTO                             ePP         PP      17 34 54.9 +1.8
CHTO Chiang Mai      74.27 294⇑ eP           P       17 32 06.6  0.0
CHTO                             e                   17 34 54.9
CHTO                                 pmax    pmax
     comp=Z,64nm,0.9s,mb5.5
MA2  Magadan         74.35 352⇑ eP           P       17 32 04.8 -1.4
     comp=Z,17nm,0.6s,mb5.2
MA2  Magadan         74.35 352c iP           P       17 32 05.1 -1.1
MA2                              ePPP        PP      17 36 45.1
MA2                              eS          S       17 41 34.8 -2.3
MA2                                  pmax    pmax
     comp=Z,30nm,0.7s,mb5.3
MA2                                  MLR     MLR
     comp=Z,4µm,18.6s,MS5.8
HHC  Hu-ho-hao-te    74.62 320⇑ iP           P       17 32 09.8 +1.6
HHC                                  AP      pP      17 32 22.4 +1.5
HHC                                  XP      sP      17 32 28.9 +3.2
HHC                                  PP      PP      17 34 54.8 -0.9
HHC                                  S       S       17 41 44.8 +3.9
HHC                                  SKS             17 42 10.8
HHC                                  SCS     ScS     17 42 15.6 -0.7
HHC                                  AMB     AMB
     comp=Z,89nm,1.2s,mb5.6
HHC                                  AMB     AMB
     comp=Z,2µm,7.1s
HHC                                  LR      LR
     comp=N,2µm,17.3s
HHC                                  LR      LR
     comp=E,2µm,23.9s
HHC                                  LR      LR
     comp=Z,3µm,27.1s
CD2  Chengdu         75.10 308⇓ iP           P       17 32 12.1 +0.9
CD2                                  PP      PP      17 35 03.6 +3.7
CD2                                  S       S       17 41 43.5 -3.1
CD2                                  SKS             17 42 07.3
CD2                                  SS      SS      17 46 36.6 -0.2
CD2                                  AMB     AMB
     comp=Z,40nm,1.1s,mb5.3
CD2                                  AMB     AMB
     comp=Z,2µm,11.4s
CD2                                  LR      LR
     comp=N,1µm,21.6s,MS5.3
CD2                                  LR      LR
     comp=E,1µm,26.4s,MS5.3
CD2                                  LR      LR
     comp=Z,1µm,20.4s
HIA  Hailar          75.31 330⇑ eP           P       17 32 11.7 -0.3
     comp=Z,85nm,1.0s,mb5.6
HIA                              ePcP        PcP     17 32 24.1 -1.1
HIA  Hailar          75.31 330⇑ eP           P       17 32 11.7 -0.3
HIA                              e           pP      17 32 24.1 -0.6
HIA                                  pmax    pmax
     comp=Z,85nm,1.0s
BTO  Baotou          75.46 319   eP          P       17 32 14.5 +1.4
LZH  Lanzhou         77.38 312   eP          P       17 32 25.3 +1.2
LZH                                  AP      pP      17 32 36.9 +0.1
LZH                                  XP      sP      17 32 41.5 -0.1
LZH                                  PP      PP      17 35 22.0 +2.9
LZH                                  S       S       17 42 12.4 +0.9
LZH                                  XS      sS      17 42 32.0 -0.7
LZH                                  SS      SS      17 47 14.0 +2.8
LZH                                  AMB     AMB
     comp=Z,230nm,1.0s,mb6.1
LZH                                  AMB     AMB
     comp=Z,1µm,5.5s
LZH                                  LR      LR
     comp=E,3µm,18.0s
LZH                                  LR      LR
     comp=Z,4µm,19.0s,MS5.8
SEY  Seymchan        77.40 353⇑ eP           P       17 32 22.9 -0.6
SEY  Seymchan        77.40 353⇑ eP           P       17 32 22.8 -0.7
NRGR Nerungri        78.49 338   i P         P       17 32 31.6 +1.9
NRGR                             S           S       17 42 28.7 +6.1
NRGR                                 smax
     comp=N,37nm,0.5s
CLNS Chul'man        78.57 338   eP          P       17 32 29.9 -0.2
CLNS                             e*PP        pP      17 32 37.4 -5.5
CLNS                             e           pP      17 32 42.9  0.0
CLNS                             eS          S       17 42 17.4 -6.0
CLNS                             ePS                 17 42 58.6
CLNS                             ePPS                17 43 14.3
CLNS                             eSS         SS      17 47 33.9 +5.8
CLNS                                 pmax    pmax
     comp=Z,69nm,0.9s,mb5.6
CLNS                                 pmax    pmax
     comp=N,67nm,1.5s
CLNS                                 pmax    pmax
     comp=E,22nm,1.6s
CLNS                                 pmax    pmax
     comp=N,11nm,1.0s
CLNS                                 pmax    pmax
     comp=Z,12nm,1.0s,mb4.8
CLNS                                 pmax    pmax
     comp=E,11nm,0.8s
CLNS                                 smax
     comp=E,880nm,11.9s
CLNS                                 smax
     comp=Z,400nm,13.8s
CLNS                                 smax
     comp=N,626nm,13.9s
CLNS                                 MLR     MLR
     comp=Z,1µm,18.0s,MS5.2
CLNS                                 MLR     MLR
     comp=N,1µm,19.0s,MS5.3
CLNS                                 MLR     MLR
     comp=E,800nm,16.0s,MS5.3
SVW2 Sparrevohn      80.51  18   eP          P       17 32 42.8 +2.2
IMP  Imphal          80.71 298   eP          P       17 32 43.0 +0.5
YAK  Yakutsk         81.09 343⇑ eP           P       17 32 42.4 -1.3
     comp=E,66nm,0.7s,mb5.7
YAK                              epP         pP      17 32 54.5 -2.0
YAK  Yakutsk         81.09 343c iP           P       17 32 42.8 -0.9
YAK                              e*PP        pP      17 32 54.1 -2.4
YAK                              e                   17 35 48.2
YAK                              eS          S       17 42 48.4 -1.4
YAK                              eSSS                17 51 24.3
YAK                                  pmax    pmax
     comp=Z,129nm,1.5s,mb5.6
YAK                                  pmax    pmax
     comp=N,41nm,1.2s
YAK                                  pmax    pmax
     comp=E,35nm,1.6s
YAK                                  pmax    pmax
     comp=Z,83nm,2.9s,mb5.2
YAK                                  pmax    pmax
     comp=N,112nm,2.4s
YAK                                  pmax    pmax
     comp=E,18nm,1.4s
YAK                                  smax
     comp=E,231nm,5.9s
YAK                                  smax
     comp=Z,90nm,3.8s
YAK                                  smax
     comp=N,172nm,5.2s
YAK                                  MLR     MLR
     comp=Z,4µm,20.0s,MS5.8
YAK                                  MLR     MLR
     comp=N,3µm,17.0s,MS5.8
YAK                                  MLR     MLR
     comp=E,2µm,17.0s,MS5.8
ULN  Ulaanbaatar     81.16 324⇑ eP           P       17 32 44.5 +0.1
     comp=E,104nm,1.0s,mb5.7
ULN                              epP         pP      17 32 57.0 -0.2
ULN                              esP         sP      17 33 01.3 -0.7
ULN  Ulaanbaatar     81.16 324⇑ eP           P       17 32 44.5 +0.1
ULN                              e*PP        pP      17 32 57.0 -0.2
ULN                              e*SP        sP      17 33 01.3 -0.7
ULN                                  pmax    pmax
     comp=Z,104nm,1.0s,mb5.7
SONM Songino Array   81.52 324   P           P       17 32 46.5 +0.2
SONM                                 pmax    pmax
     comp=Z,25nm,0.8s
SONM                                 pmax    pmax
     comp=Z,1.0nm,0.8s
SONM                                 MLR     MLR
     comp=Z,2µm,20.5s
SONM Songino Array   81.52 324   P           P       17 32 46.5 +0.2
     comp=Z,25nm,0.8s,mb5.2,baz=134,slow=4.6,SNR=151
SONM                                 PKKPbc  PKKPbc  17 51 21.1 -0.8
     comp=Z,0.5nm,0.8s,baz=272,slow=3.8,SNR=3.6
SONM                                 LR      LR      18 09 04.8
     comp=Z,2µm,20.5s,MS5.4,baz=129,slow=36
BILL Bilibino        81.71 360⇑ iP           P       17 32 45.2 -1.6
     comp=Z,97nm,1.0s,mb5.7
BILL                             epP         pP      17 32 57.7 -2.0
BILL                             esP         sP      17 33 01.5 -3.0
BILL Bilibino        81.71 360⇑ eP           P       17 32 45.4 -1.5
BILL                                 pmax    pmax
     comp=Z,39nm,1.0s,mb5.3
BILL                                 MLR     MLR
     comp=Z,1µm,20.0s,MS5.3
GTA  Gaotai          81.72 314   P           P       17 32 48.6 +1.0
GTA                                  AP      pP      17 33 00.9 +0.5
GTA                                  XP      sP      17 33 06.4 +1.2
GTA                                  PP      PP      17 35 58.8 +3.7
GTA                                  S       S       17 42 57.8 +0.5
GTA                                  SKS             17 43 00.8
GTA                                  XS      sS      17 43 22.3 +3.6
GTA                                  AMB     AMB
     comp=Z,55nm,1.1s,mb5.4
GTA                                  AMB     AMB
     comp=Z,1µm,8.0s
GTA                                  LR      LR
     comp=N,1µm,21.4s,MS5.3
GTA                                  LR      LR
     comp=E,745nm,21.4s,MS5.3
GTA                                  LR      LR
     comp=Z,2µm,19.1s,MS5.4
SLKM Skilak Lake     81.73  20   eP          P       17 32 46.6 -0.5
TTA  Tatalina        81.87  16   eP          P       17 32 48.0 +0.2
     comp=Z,47nm,1.3s,mb5.2
TTA  Tatalina        81.87  16   eP          P       17 32 48.0 +0.2
TTA                                  pmax    pmax
     comp=Z,47nm,1.3s,mb5.3
MAW  Mawson          82.46 202⇓ iP           P       17 32 49.9 -1.1
     comp=Z,18nm,0.8s,mb5.1
MAW  Mawson          82.46 202   P           P       17 32 50.7 -0.3
MAW                                  pmax    pmax
     comp=Z,18nm,0.7s
MAW  Mawson          82.46 202   P           P       17 32 50.7 -0.3
     comp=Z,18nm,0.7s,mb5.1,baz=127,slow=7.4,SNR=26
SHL  Shillong        82.72 298   eP          P       17 32 55.0 +1.9
SHL                              eS          S       17 43 11.0 +2.8
PMR  Palmer          82.89  20   eP          P       17 32 51.9 -1.2
BOD  Bodaibo         83.51 335   eP          P       17 32 54.9 -1.5
BOD                                  pmax    pmax
     comp=Z,42nm,1.7s,mb5.3
VIB  Van Inlet       84.57  32   T                   19 06 13.9
     SNR=6.1
ZAK  Zakamensk       84.58 325⇑ iP           P       17 33 01.5 -0.5
ZAK                              e                   17 43 24.3
ZAK                                  pmax    pmax
     comp=Z,55nm,1.3s,mb5.5
ZAK                                  pmax    pmax
     comp=Z,48nm,1.3s,mb5.5
LSA  Lhasa           84.69 302   P           P       17 33 04.8 +1.7
LSA                                  S       S       17 43 24.5 -3.3
LSA                                  AMB     AMB
     comp=Z,70nm,1.0s,mb5.8
LSA                                  LR      LR
     comp=N,690nm,26.0s,MS5.3
LSA                                  LR      LR
     comp=E,1µm,29.0s,MS5.3
LSA                                  LR      LR
     comp=Z,2µm,26.0s,MS5.3
LSA  Lhasa           84.69 302⇑ eP           P       17 33 04.0 +0.9
     comp=Z,95nm,1.1s,mb5.8
LSA                              epP         pP      17 33 16.6 +0.6
LSA                              esP         sP      17 33 20.7 -0.1
LSA  Lhasa           84.69 302⇑ eP           P       17 33 04.0 +0.9
LSA                              e*PP        pP      17 33 16.6 +0.6
LSA                              e*SP        sP      17 33 20.7 -0.1
LSA                                  pmax    pmax
     comp=Z,95nm,1.1s,mb5.8
WDC  Whiskeytown Da  84.86  46   eP          P       17 33 03.8 +0.1
     comp=Z,32nm,1.4s,mb5.3
WDC  Whiskeytown Da  84.86  46   eP          P       17 33 03.8 +0.1
WDC                                  pmax    pmax
     comp=Z,32nm,1.4s,mb5.3
IRK  Irkutsk         84.96 327   eP          P       17 33 02.4 -1.5
IRK                              e                   17 36 16.9
IRK                                  pmax    pmax
     comp=Z,119nm,1.1s,mb5.9
IMA2 Indian Mountai  84.98  15   eP          P       17 33 02.7 -1.1
IMA2                             epP         pP      17 33 16.1 -0.5
TLY  Talaya          85.02 326   P           P       17 33 04.9 +0.7
     comp=Z,449nm,0.9s,mb6.6,SNR=11
TLY  Talaya          85.02 326⇑ eP           P       17 33 03.3 -0.9
TLY  Talaya          85.02 326c iP           P       17 33 04.3 +0.1
TLY                              e                   17 36 21.4
TLY                              eS          S       17 43 29.5 -0.6
TLY                              ePS                 17 44 33.1
TLY                                  pmax    pmax
     comp=Z,63nm,0.8s,mb5.8
TLY                                  MLR     MLR
     comp=Z,2µm,24.0s,MS5.5
YBH  Yreka Blue Hor  85.19  45   eP          P       17 33 04.7 -0.7
     comp=Z,4.5nm,0.8s,mb4.7
YBH  Yreka Blue Hor  85.19  45   eP          P       17 33 04.7 -0.7
YBH                                  pmax    pmax
     comp=Z,4.0nm,0.8s
YBH  Yreka Blue Hor  85.19  45 ⇑P             P       17 33 05.3 -0.1
     baz=85
M03C McCloud         85.42  46 ⇓P             P       17 33 07.7 +1.2
     baz=86
CMB  Columbia Colle  85.44  49   eP          P       17 33 07.0 +0.3
     comp=Z,27nm,1.5s,mb5.2
CMB  Columbia Colle  85.44  49   eP          P       17 33 07.0 +0.3
CMB                                  pmax    pmax
     comp=Z,27nm,1.5s,mb5.2
CMB  Columbia Colle  85.44  49 ⇓P             P       17 33 07.4 +0.7
     baz=86
LAVA Lava Cap Winer  85.45  48 ⇓P             P       17 33 06.7 -0.1
     baz=86
T06C Millerton Lake  85.58  50 ⇓P             P       17 33 07.2 -0.2
     baz=86
VES  Vestal, Richgr  85.64  52 ⇑P             P       17 33 07.8 +0.1
     baz=86
COLA College         85.68  18   eP          P       17 33 05.1 -2.2
     comp=Z,47nm,0.8s,mb5.8
COLA                             epP         pP      17 33 19.7 -0.4
COLA College         85.68  18   eP          P       17 33 05.1 -2.1
COLA                             e*PP        pP      17 33 19.7 -0.4
COLA                                 pmax    pmax
     comp=Z,47nm,0.8s,mb5.8
P05C Yuba Gap, Truc  85.75  48 ⇓P             P       17 33 09.4 +1.2
     baz=86
O05C Quincy          85.77  47 ⇓P             P       17 33 09.2 +0.9
     baz=86
O04C Chester         85.78  47 ⇑P             P       17 33 09.3 +0.9
     baz=86
M04C Macdoel         85.81  45 ⇓P             P       17 33 09.5 +1.1
     baz=86
R05C Kirkwood Meado  85.92  49 ⇑P             P       17 33 09.8 +0.8
     baz=86
L04A Klamath Falls   85.93  45 ⇑P             P       17 33 10.0 +1.0
     baz=86
HELL Mitchell Peak   85.98  51 ⇓P             P       17 33 09.9 +0.5
     baz=86
KCC  Kaiser Creek    85.98  50 ⇓P             P       17 33 10.0 +0.7
     baz=86
ISA  Isabella        86.04  52   eP          P       17 33 09.1 -0.6
     comp=Z,19nm,1.2s,mb5.2
ISA  Isabella        86.04  52   eP          P       17 33 09.1 -0.6
ISA                                  pmax    pmax
     comp=Z,19nm,1.2s,mb5.2
ISA  Isabella        86.04  52 ⇓P             P       17 33 10.4 +0.6
     baz=86
M05C Lookout         86.13  46 ⇓P             P       17 33 11.0 +1.0
     baz=86
EDW2 Edwards Air Fo  86.15  53 ⇓P             P       17 33 11.1 +0.8
     baz=86
BFSC Mount Baldy St  86.19  54 ⇑P             P       17 33 10.6 +0.1
     baz=86
R06C Coleville       86.31  49 ⇑P             P       17 33 11.7 +0.7
     baz=86
BBB  Bella Bella     86.37  34   LR          LR      18 04 05.8
     comp=Z,4µm,20.6s,MS5.8,baz=126,slow=30
R07C Lee Vining      86.45  50 ⇑P             P       17 33 12.2 +0.6
     baz=86
MOY  Mondy           86.46 325   eP          P       17 33 11.3 -0.1
MOY                                  pmax    pmax
     comp=Z,74nm,2.0s,mb5.6
MTUM Tungsten Hills  86.56  50   eP          P       17 33 11.0 -1.2
O06A Flanigan        86.62  47 ⇑P             P       17 33 12.7 +0.2
     baz=87
SKAG Skagway         86.67  26   eP          P       17 33 09.9 -2.3
     comp=Z,36nm,1.2s,mb5.5
H04A Detroit Lake    86.70  43 ⇓P             P       17 33 13.3 +0.6
     baz=87
NLWA Neilton Lookou  86.72  40   eP          P       17 33 13.6 +0.9
NLWA                             epP         pP      17 33 26.6 +1.0
MONP Monument Peak   86.73  55 ⇓P             P       17 33 13.5 +0.3
     baz=87
J05A Fort Rock       86.80  44 ⇓P             P       17 33 13.8 +0.6
     baz=87
K05A Summer Lake     86.82  45 ⇓P             P       17 33 14.7 +1.4
     baz=87
N06A Buffalo Meadow  86.83  47 ⇓P             P       17 33 14.5 +1.0
     baz=87
S08C White Mtn Res   86.90  50 ⇑P             P       17 33 13.9  0.0
     baz=87
DVTC Desert V Tower  86.91  55 ⇑P             P       17 33 15.0 +0.9
     baz=87
MPMC Manual Prospec  86.93  52 ⇑P             P       17 33 15.1 +1.0
     baz=87
PFO  Pinyon Flat Ob  86.93  54   eP          P       17 33 14.5 +0.4
     comp=Z,3.8nm,0.6s,mb4.8
PFO  Pinyon Flat Ob  86.93  54   eP          P       17 33 14.5 +0.4
PFO                                  pmax    pmax
     comp=Z,4.0nm,0.6s,mb4.8
PFO  Pinyon Flat Ob  86.93  54 ⇑P             P       17 33 14.5 +0.4
     baz=87
NVAR Mina Array Bea  87.12  49   P           P       17 33 15.4 +0.5
     comp=Z,2.6nm,0.7s,mb4.6,baz=228,slow=6.0,SNR=18
NVAR                             PKKPbc  PKKPbc  17 51 06.1 -2.0
     comp=Z,0.4nm,0.6s,baz=140,slow=2.4,SNR=4.6
NVAR                             PKPPKP          17 59 13.3
     comp=Z,1.0nm,0.9s,baz=85,slow=4.2,SNR=6.6
BOK  Bokaro          87.38 295   eP          P       17 33 15.1 -1.4
BOK                                  AMb     AMB     17 33 19.9
     comp=Z,60nm,0.8s,mb5.9
BOK                              ex          x       17 43 56.6
BELC Belle Mtn.      87.42  54 ⇓P             P       17 33 17.3 +0.8
     baz=87
HEC  Hector,Ludlow   87.42  53 ⇑P             P       17 33 16.5  0.0
     baz=87
M07A Soldier Meadow  87.53  46 ⇓P             P       17 33 17.9 +1.1
     baz=88
Q08A Gabbs           87.54  49 ⇑P             P       17 33 17.0  0.0
     baz=88
FURC Furnace Creek,  87.54  52 ⇑P             P       17 33 16.7 -0.3
     baz=88
S09A Goldfield       87.68  50 ⇓P             P       17 33 17.7  0.0
     baz=88
EGAK Eagle           87.71  20   eP          P       17 33 15.7 -1.5
     comp=Z,47nm,1.0s,mb5.7
EGAK                             epP         pP      17 33 28.6 -1.4
I06A Prineville      87.73  44 ⇑P             P       17 33 19.0 +1.2
     baz=88
DAWY Dawson          87.85  21   eP          P       17 33 14.5 -3.4
PALK Pallekele       87.91 278   P           P       17 33 20.9 +1.6
     comp=Z,381nm,1.3s,mb6.5,SNR=12
PALK Pallekele       87.91 278⇑ eP           P       17 33 19.6 +0.3
     comp=Z,92nm,1.2s,mb5.9
PALK                             e           pP      17 33 32.2  0.0
GMRC Granite Mounta  87.93  54 ⇑P             P       17 33 18.3 -0.6
     baz=88
TUQ  Turquoise Mtn.  87.93  53 ⇓P             P       17 33 18.8 -0.1
     baz=88
U10A Ash Meadows, A  87.93  52 ⇓P             P       17 33 19.2 +0.3
     baz=88
K07A Rock Creek Ran  87.94  45 ⇑P             P       17 33 19.6 +0.9
     baz=88
R09A Tonopah         87.97  50 ⇑P             P       17 33 19.2 +0.2
     baz=88
N08A GE Springer Mi  88.05  47 ⇓P             P       17 33 20.2 +0.8
     baz=88
GLA  Glamis          88.05  55   eP          P       17 33 18.6 -1.0
     comp=Z,22nm,0.9s,mb5.4
GLA  Glamis          88.05  55   eP          P       17 33 18.6 -0.9
GLA                                  pmax    pmax
     comp=Z,22nm,0.9s,mb5.4
GLA  Glamis          88.05  55 ⇓P             P       17 33 20.6 +1.1
     baz=88
VIS  Vishakhapatnam  88.05 289   eP          P       17 33 19.2 -0.7
VIS                                  AMb     AMB     17 33 26.9
     comp=Z,53nm,1.0s,mb5.7
VIS                              ex          x       17 43 56.5
IRM  Iron Mountain   88.14  54 ⇑P             P       17 33 19.6 -0.4
     baz=88
TPNV Topopah Spring  88.16  51   eP          P       17 33 20.0  0.0
     comp=Z,8.0nm,0.9s,mb5.0
TPNV Topopah Spring  88.16  51   eP          P       17 33 20.0  0.0
TPNV                                 pmax    pmax
     comp=Z,8.0nm,0.9s,mb5.0
TPNV Topopah Spring  88.16  51 ⇑P             P       17 33 19.8 -0.2
     baz=88
C05A Tolt Reservoir  88.20  40 ⇓P             P       17 33 20.0 +0.1
     baz=88
E06A Yakima          88.20  41 ⇓P             P       17 33 20.5 +0.6
     baz=88
JIRN Jiri            88.21 299   eP          P       17 33 20.7 +0.3
     comp=Z,133nm,0.9s,mb6.2
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S10A Tonopah Range, 88.22 50 ⇓P P 17 33 21.2 +1.0
baz=88,SNR=8.1
I07A Izee 88.26 44 ⇑P P 17 33 21.2 +0.9
baz=88,SNR=5.9
L08A Fields 88.39 46 ⇑P P 17 33 20.8 -0.1
baz=88
H07A Lands Inn, Kim 88.40 43 ⇓P P 17 33 21.5 +0.6
baz=88
O09A Fish Creek Ran 88.52 48 ⇑P P 17 33 21.1 -0.5
baz=89
D06A Cle Elum 88.53 41 ⇑P P 17 33 21.9 +0.5
baz=89
GUN Gumba 88.55 299 *e*P **P 17 33 22.2 +0.2**
comp=Z,219nm,0.9s,mb6.5
G07A Ruggs Ranch, H 88.58 43 ⇓P P 17 33 22.2 +0.4
baz=89
Q10A Clear Creek Ra 88.66 50 P **P 17 33 23.4 +1.1**
baz=89,SNR=6.5
J08A Circle Bar Ran 88.70 45 ⇓P P 17 33 21.5 -0.9
baz=89,SNR=6.5
S11A Rachel 88.76 51 ⇓P P 17 33 21.9 -0.9
baz=89
L09A Wilkinson Ranc 88.80 46 ⇓P P 17 33 22.8 -0.1
baz=89
I08A Drewsey 88.83 44 ⇓P P 17 33 22.8 -0.2
baz=89
PKI Pulchoki 88.85 299 *e*P **P 17 33 23.5 +0.1**
comp=Z,162nm,0.8s,mb6.4
PKIN Phulchoki 88.86 299 *e*P **P 17 33 23.4 -0.1**
comp=Z,125nm,0.7s,mb6.3
P10A Eureka 88.87 49 ⇑P P 17 33 23.0 -0.3
baz=89
PDMCI Parker Dam,Lak 88.97 54 ⇓P P 17 33 23.2 -0.7
baz=89
K09A Rome 88.99 46 ⇑P P 17 33 23.2 -0.5
baz=89,SNR=6.7
KKN Kakani 89.02 299 *e*P **P 17 33 24.2 0.0**
comp=Z,166nm,0.8s,mb6.4
T11A Corn Creek, Al 89.04 51 P **P 17 33 23.6 -0.5**
baz=89,SNR=7.9
G08A Pilot Rock 89.06 43 ⇑P P 17 33 23.6 -0.4
baz=89,SNR=6.9
TIXI Tiksi 89.06 349⇑ *e*P **P 17 33 21.4 -1.9**
comp=Z,15nm,0.8s,mb5.4
TIXI *e* pP 17 33 34.0 -2.4
TIXI Tiksi 89.06 349⇑ *e*P **P 17 33 21.7 -1.7**
TIXI pmax pmax
comp=Z,11nm,0.9s,mb5.2
Y13A Salome 89.08 55 ⇓P P 17 33 24.1 -0.2
baz=89,SNR=8.3
R11A Troy Canyon, C 89.11 50 ⇓P P 17 33 24.1 -0.3
baz=89,SNR=7.8
DMN Daman 89.12 299 *e*P **P 17 33 24.5 -0.2**
comp=Z,262nm,0.8s,mb6.6
J09A Fry Pan Ranch, 89.19 45 ⇑P P 17 33 24.4 -0.3
baz=89,SNR=15
Q11A Duckwater 89.21 50 ⇑P P 17 33 24.8 -0.1
baz=89,SNR=10
X13A Yucca 89.31 54 ⇓P P 17 33 26.0 +0.6
baz=89,SNR=8.8
SYO Syowa Base 89.35 197⇓ *e*P **P 17 33 22.2 -2.8**
SYO Syowa Base 89.35 197⇓ *i*PcP PcP 17 33 24.1 -2.3
I09A Lost Marbles R 89.41 44 ⇓P P 17 33 25.6 -0.1
baz=90
M10A I.L. Ranch, Tu 89.43 47 ⇓P P 17 33 25.7 -0.1
baz=90,SNR=8.5
S12A Delamar Landin 89.43 51 ⇑P P 17 33 26.6 +0.6
baz=89,SNR=7.1
K10A MacKenzie Ranc 89.61 46 ⇓P P 17 33 26.3 -0.3
baz=90,SNR=7.4
O11A Cowboy Ranch, 89.62 48 ⇓P P 17 33 27.0 +0.2
baz=90,SNR=15
GKN Gorkha 89.63 299 *e*P **P 17 33 26.4 -0.7**
comp=Z,162nm,0.8s,mb6.4
L10A Juniper Basin 89.66 46 ⇓P P 17 33 26.4 -0.5
baz=90,SNR=8.7
U13A Pakoon Wash 89.74 52 ⇓P P 17 33 27.5 +0.1
baz=90,SNR=9.8
MDRS Chennai 89.76 283 *e*P **P 17 33 26.3 -1.7**
MDRS AMb AMB 17 33 28.9
comp=Z,80nm,0.2s,mb6.7
MDRS *ex* x 18 16 54.5
Y14A Wickenburg 89.77 55 ⇑P P 17 33 27.3 -0.3
baz=90
R12A Pony Springs, 89.83 50 ⇓P P 17 33 27.3 -0.5
baz=90
B08A Colville Reser 89.91 40 ⇓P P 17 33 28.3 +0.3
baz=90
M11A Holland Ranch, 89.93 47 ⇑P P 17 33 28.3 +0.1
baz=90
P12A McGill 89.96 49 ⇓P P 17 33 28.1 -0.3
baz=90,SNR=6.3
T13A Saint George 89.97 52 ⇑P P 17 33 28.4 0.0
baz=90
BMO Blue Mountains 90.00 44 *e*P **P 17 33 26.8 -1.7**
comp=Z,19nm,1.2s,mb5.3
BMO Blue Mountains 90.00 44 *e*P **P 17 33 26.8 -1.6**
BMO pmax pmax
comp=Z,19nm,1.2s,mb5.3
X14A Yava 90.01 55 ⇑P P 17 33 28.2 -0.5
baz=90,SNR=8.2
115A Sonoran Desert 90.04 56 ⇓P P 17 33 29.4 +0.6
baz=90,SNR=6.4
W14A Seligman 90.07 54 ⇓P P 17 33 28.8 -0.2
baz=90
S13A Holt Ranch, En 90.17 51 ⇑P P 17 33 29.3 -0.1
baz=90,SNR=11
V14A Boquillas Ranc 90.18 53 ⇑P P 17 33 29.3 -0.2
baz=90,SNR=5.4
K11A Parker Ranch, 90.19 46 ⇓P P 17 33 29.1 -0.3
baz=90,SNR=8.4
L11A Cat Creek Ranc 90.19 47 ⇑P P 17 33 29.4 0.0
baz=90,SNR=14
G10A Bishop Farm, J 90.28 43 ⇑P P 17 33 29.1 -0.6
baz=90,SNR=17
H10A Noah's Angus R 90.29 44 ⇑P P 17 33 28.9 -0.9
baz=90
N12A Clover Valley, 90.29 48 ⇓P P 17 33 29.8 -0.1
baz=90,SNR=6.2
Y15A Casa Rosa Ranc 90.31 55 ⇑P P 17 33 30.0 -0.1
baz=90,SNR=7.9
O12A Currie 90.32 49 ⇓P P 17 33 29.6 -0.5
baz=90,SNR=12
U14A Mt Trumbull 90.35 53 ⇑P P 17 33 30.4 +0.1
baz=90,SNR=16
116A Eloy 90.42 57 ⇓P P 17 33 31.1 +0.4
baz=90,SNR=8.0
F10A Beach Ranch, E 90.43 43 ⇑P P 17 33 29.6 -0.8
baz=90,SNR=5.8
KOLN Koldanda 90.45 298 *e*P **P 17 33 30.0 -0.9**
comp=Z,51nm,0.8s,mb5.9
X15A Humboldt 90.53 55 ⇑P P 17 33 31.2 0.0
baz=90,SNR=7.2
CCUT Cedar City 90.54 51 *e*P **P 17 33 30.7 -0.4**
MFID Camas Ranch 90.54 45 ⇓P P 17 33 31.5 +0.5
baz=91
ARUT Antelope Range 90.55 51 P **P 17 33 27.4 -3.8**
M12A Wells 90.56 47 ⇓P P 17 33 30.9 -0.2
baz=91,SNR=9.6
P13A Bates Ranch, G 90.61 50 ⇑P P 17 33 31.3 -0.1
baz=91,SNR=13
L12A House Creek Ra 90.71 47 ⇑P P 17 33 31.8 0.0
baz=91,SNR=15
H11A Donnelly 90.83 44 ⇑P P 17 33 31.6 -0.7
baz=91,SNR=7.0
G11A Walters Elk Ra 90.88 43 ⇑P P 17 33 31.4 -1.1
baz=91,SNR=9.0
217A Green Valley 90.93 58 ⇑P P 17 33 33.1 0.0
baz=91,SNR=8.6
Y16A Circle Bar Ran 90.97 55 ⇑P P 17 33 34.3 +1.1
baz=91,SNR=7.0
J12A Stokes Ranch, 90.99 46 P **P 17 33 32.8 -0.3**
baz=91,SNR=15
M13A Montello 91.08 48 ⇑P P 17 33 33.5 0.0
baz=91,SNR=11
F11A Grangeville 91.11 43 ⇓P P 17 33 33.4 -0.2
baz=91
X16A Lo Mia Camp, P 91.15 55 ⇑P P 17 33 34.9 +0.9
baz=91,SNR=6.5
117A Oracle 91.21 57 ⇓P P 17 33 33.8 -0.6
baz=91,SNR=6.6
E11A Bogner Ranch, 91.23 42 ⇓P P 17 33 33.6 -0.5
baz=91
NEW Newport 91.26 40 P P 17 33 33.8 -0.4
comp=Z,7.2nm,1.3s,mb4.8
NEW Newport 91.26 40 P **P 17 33 33.8 -0.4**
NEW pmax pmax
comp=Z,7.0nm,1.3s

D11A Klaveano Farm, 91.37 42 ⇓P P 17 33 34.8 +0.1
baz=91
WUAZ Wupatki 91.50 54 *e*P **P 17 33 35.2 -0.4**
comp=Z,14nm,1.1s,mb5.2
WUAZ Wupatki 91.50 54 ⇑P P 17 33 35.6 -0.1
baz=92
318A Bisbee 91.52 58 ⇑P P 17 33 35.1 -0.7
baz=92
H12A Diamond D Ranc 91.56 44 ⇓P P 17 33 35.0 -0.7
baz=92,SNR=9.4
HLID Hailey 91.56 46 *e*P **P 17 33 36.4 +0.7**
comp=Z,11nm,1.2s,mb5.0
HLID *e*pP pP 17 33 54.0 +5.4
HLID *e*sP sP 17 34 02.9 +9.5
218A Dragoon 91.62 58 ⇓P P 17 33 37.2 +0.9
baz=92,SNR=5.7
F12A Elk City 91.67 43 ⇑P P 17 33 35.2 -1.0
baz=92,SNR=8.7
MSU Marysvale 91.71 51 *e*P **P 17 33 36.6 +0.1**
DUG Dugway 91.72 49 *e*P **P 17 33 35.7 -0.8**
comp=Z,1.8nm,0.7s,mb4.5
DUG Dugway 91.72 49 *e*P **P 17 33 35.7 -0.8**
DUG pmax pmax
comp=Z,2.0nm,0.7s,mb4.6
WMQ Urumqi 91.78 315 P **P 17 33 36.4 -0.3**
WMQ PP PP 17 37 19.8 +3.6
WMQ SKS 17 44 00.8
WMQ S S 17 44 28.8 -5.7
WMQ SS SS 17 50 40.8 -2.4
WMQ AMB AMB
comp=Z,73nm,1.4s,mb5.8
WMQ AMB AMB
comp=Z,758nm,5.0s
WMQ LR LR
comp=N,1μm,20.0s,MS5.5
WMQ LR LR
comp=E,2μm,24.0s,MS5.5
WMQ LR LR
comp=Z,2μm,22.0s,MS5.5
B11A Sandpoint 91.80 40 ⇑P P 17 33 36.1 -0.6
baz=92
TRD Trivandrum 91.80 278 *e*P **P 17 33 36.2 -1.3**
TRD AMb AMB 17 33 41.8
comp=Z,111nm,1.2s,mb6.1
118A Homack Ranch, 91.85 57 ⇑P P 17 33 37.1 -0.2
baz=92,SNR=6.3
HVU Hansel Valley 92.20 48 *e*P **P 17 33 37.3 -1.4**
comp=Z,22nm,1.3s,mb5.3
HVU Hansel Valley 92.20 48 *e*P **P 17 33 37.3 -1.4**
HVU pmax pmax
comp=Z,22nm,1.3s,mb5.3
INK Inuvik 92.27 19 LR LR 18 09 16.3
comp=Z,6μm,21.8s,MS6.0,baz=234,slow=32
219A White Tail Can 92.27 58 ⇑P P 17 33 37.9 -1.4
baz=92,SNR=7.4
F13A Darby 92.29 43 ⇑P P 17 33 38.4 -0.7
baz=92
HYB Hyderabad 92.39 287 *e*P **P 17 33 40.0 -0.1**
comp=Z,65nm,1.0s,mb5.9
HYB *e* pP 17 33 52.0 -1.1
HYB *e*S SKSac 17 44 08.0 -2.7
HYB Hyderabad 92.39 287 *e*P **P 17 33 40.0 -0.1**
HYB *e* pP 17 33 52.0 -1.1
HYB *e*S SKSac 17 44 08.0 -2.7
HYB pmax pmax
comp=Z,65nm,1.0s,mb5.9
HYB Hyderabad 92.39 287 *i* P **P 17 33 40.0 -0.1**
comp=Z,65nm,1.0s,mb5.9
HYB *e*pP pP 17 33 52.0 -1.1
HYB *e*S S 17 44 38.0 -3.0
NGP Nagpur 92.81 291 *e*P **P 17 33 40.9 -1.1**
DLMT Dillon 93.33 44 *e*P **P 17 33 42.9 -0.9**
comp=Z,4.4nm,1.0s,mb4.8
CHMT Chamberlain Mo 93.34 43 P **P 17 33 45.2 +1.4**
CHMT *e*pP pP 17 34 05.9 +9.1
NVL N'lazarevskaya 93.80 188*c i*P **P 17 33 44.4 -1.2**
NVL *e**PP pP 17 33 54.1 -4.5
NVL S SKSac 17 44 18.7 +2.1
NVL *e* 17 46 08.4
NVL pmax pmax
comp=Z,67nm,1.2s,mb6.0
MAIT Maitri 93.81 188 *e*P **P 17 33 42.3 -3.3**
LATR Latur 94.46 288 *e*P **P 17 33 49.7 0.0**
AKL Akola 94.56 290 *e*P **P 17 33 49.5 -0.6**
BHPL Bhopal 94.76 293 *e*P **P 17 33 50.7 -0.3**
PDAR Pinedale Array 94.76 47 P **P 17 33 49.9 -0.6**
comp=Z,0.8nm,0.5s,mb4.4,baz=215,slow=2.5,SNR=9.1
PDAR PKKPbc PKKPbc 17 50 45.2 -3.6
comp=Z,0.7nm,0.8s,baz=96,slow=4.8,SNR=5.4
VNA3 Neumayer Olymp 95.03 181 *e*P **P 17 33 49.1 -2.2**
VNA3 *e* pP 17 34 01.4 -2.8
VNA3 *e* 17 34 07.6
VNA3 *e* 17 34 17.1
ANMO Albuquerque 95.25 55 *e*P **P 17 33 52.8 -0.2**
VNA2 Neumayer--Watz 95.29 182 *e*P **P 17 33 51.1 -1.3**
VNA2 *e* pP 17 34 03.0 -2.4
VNA2 *e* 17 34 08.3
VNA2 *e* 17 34 18.8
VNA1 Neumayer--Stat 95.59 182 *e*P **P 17 33 52.4 -1.4**
VNA1 *e* pP 17 34 04.7 -2.1
VNA1 *e* 17 34 09.3
VNA1 *e* 17 34 20.3
SMCO Snowmass 95.81 51 P **P 17 33 53.5 -1.9**
comp=Z,2.9nm,0.8s,mb4.8
MK31 Makanchi Array 96.25 317 *e*P **P 17 33 56.5 -0.6**
MK31 *e*PP PP 17 37 44.9 -6.1
MKAR Makanchi Array 96.25 317⇑ *e*P **P 17 33 56.8 -0.4**
MKAR Makanchi Array 96.25 317 P **P 17 33 56.8 -0.4**
MKAR pmax pmax
comp=Z,35nm,0.7s
MKAR pmax pmax
comp=Z,2.0nm,1.0s
MKAR pmax pmax
comp=Z,1.0nm,0.6s
MKAR pmax pmax
comp=Z,1.0nm,0.5s
MKAR MLR MLR
comp=Z,1μm,18.1s
MKAR Makanchi Array 96.25 317 P **P 17 33 56.8 -0.4**
comp=Z,35nm,0.7s,mb5.9,baz=96,slow=6.4,SNR=407
MKAR PP PP 17 37 45.2 -5.8
comp=Z,2.1nm,1.0s,baz=89,slow=15,SNR=3.6
MKAR PKiKP PKiKP 17 38 33.8 -1.4
comp=Z,1.0nm,0.6s,baz=221,slow=2.0,SNR=7.5
MKAR PKKPbc PKKPbc 17 50 41.1 -3.9
comp=Z,0.5nm,0.5s,baz=266,slow=3.9,SNR=10
MKAR LR LR 18 22 15.0
comp=Z,1μm,18.1s,MS5.5,baz=272,slow=38
TXAR Lajitas Array 96.33 61 P **P 17 33 58.1 +0.1**
TXAR PP PP 17 37 49.6 -2.6
TXAR Lajitas Array 96.33 61 P **P 17 33 58.1 +0.1**
TXAR 17 37 49.6
TXAR pmax pmax
comp=Z,1.0nm,0.6s
TXAR pmax pmax
comp=Z,3.0nm,1.1s
TXAR pmax pmax
comp=Z,2.0nm,1.2s
TXAR pmax pmax
comp=Z,1.0nm,0.7s
TXAR Lajitas Array 96.33 61 P **P 17 33 58.1 +0.1**
comp=Z,0.6nm,0.6s,baz=227,slow=4.6,SNR=9.6
TXAR PP PP 17 37 49.6 -2.6
comp=Z,3.3nm,1.1s,baz=243,slow=5.5,SNR=10
TXAR PKiKP PKiKP 17 38 34.0 -1.8
comp=Z,1.8nm,1.2s,baz=219,slow=7.0,SNR=2.0
TXAR PKKPbc PKKPbc 17 50 41.7 -2.3
comp=Z,0.9nm,0.7s,baz=98,slow=4.0,SNR=9.6
ZALV Zalesovo Beam 96.42 324 P **P 17 33 56.3 -1.4**
comp=Z,26nm,0.7s,mb5.8,baz=114,slow=4.8,SNR=136
ZALV PKiKP PKiKP 17 38 35.8 +0.5
comp=Z,1.3nm,0.6s,baz=192,slow=1.3,SNR=2.5
KAD Karad 96.43 286 *e*P **P 17 33 56.3 -2.3**
KAD AMb AMB 17 34 01.1
comp=Z,46nm,1.6s,mb5.7
KAD *ex* x 17 45 17.1
ZAL Zalesovo 96.43 324 P **P 17 33 56.3 -1.5**
SMLA Simla 96.69 300 *e*P **P 17 33 58.8 -0.8**
POO Poona 97.00 287 *e*P **P 17 34 00.1 -1.1**
YKA Yellowknife Ar 97.04 27 P **P 17 33 58.4 -2.0**
comp=Z,1.6nm,0.7s,mb4.6,baz=257,slow=4.7,SNR=32
YKA PKiKP PKiKP 17 38 34.8 -1.3
comp=Z,0.4nm,0.5s,baz=254,slow=1.6,SNR=6.3
YKA PKKPbc PKKPbc 17 50 40.3 -3.0
comp=Z,0.4nm,0.6s,baz=72,slow=2.6,SNR=6.7

YKA PKPPKP 17 58 52.5
comp=Z,0.3nm,1.0s,baz=73,slow=2.4,SNR=4.1
NVS Novosibirsk 97.53 325⇑ *i*P **P 17 34 01.3 -1.5**
NVS *e*S SKSac 17 44 34.9 -1.7
NVS pmax pmax
comp=N,14nm,1.8s
NVS pmax pmax
comp=E,28nm,1.8s
NVS pmax pmax
comp=Z,43nm,1.8s,mb5.7
NVS pmax pmax
comp=Z,34nm,2.1s,mb5.5
NVS pmax pmax
comp=N,13nm,1.6s
NVS pmax pmax
comp=E,28nm,2.1s
NVS smax
comp=N,5.0nm,1.5s
NVS smax
comp=E,29nm,1.7s
KURK Kurchatov 99.44 320⇓ *i*P **P 17 34 09.0 -2.4**
KURK Kurchatov 99.44 320⇓ *i*P **P 17 34 09.9 -1.5**
AAK Ala-Archa 100.90 311⇑ *e*P Pdif 17 34 16.8 -1.2
BHJ Bhuj 101.76 291 *e*P Pdif 17 34 20.7 -1.1
BHJ AMb AMB 17 34 20.9
comp=Z,77nm,1.1s
ULM Lac du Bonnet 105.25 41 PKiKP PKiKP 17 38 49.3 -2.0
comp=Z,0.7nm,0.4s,baz=164,slow=2.1,SNR=3.2
RES Resolute Bay 105.52 16 *e*PKPdf PKiKP 17 38 49.6 -1.5
SVE Sverdlovsk 110.33 326⇓ *i*PKIKP PKiKP 17 39 00.0 -0.5
SVE *e* 17 49 08.4
SVE pmax pmax
comp=Z,23nm,1.5s
ARU Arti 111.51 325 *e*PKPdf PKiKP 17 39 01.2 -1.6
ARU Arti 111.51 325 *i* PKIKP PKiKP 17 39 01.3 -1.5
ARU *e* 17 39 40.9
ARU SP SP 17 49 07.2 -3.8
ARU PS PS 17 49 15.8 -1.1
ARU SS SS 17 55 12.8 -3.0
ARU MLR MLR
comp=Z,2μm,23.0s,MS5.6
KBS Kingsbay 113.83 355 *e*PP PP 17 39 59.1 -1.0
LPAZ La Paz 118.04 117 PKIKP PKPdf 17 39 16.9 +0.4
LPAZ pmax pmax
comp=Z,1.0nm,0.6s
LPAZ pmax pmax
comp=Z,2.0nm,0.7s
LPAZ La Paz 118.04 117 PKP PKPdf 17 39 16.9 +0.3
comp=Z,1.1nm,0.6s,baz=308,slow=5.8,SNR=6.4
LPAZ PKKPbc PKKPbc 17 49 34.7 -1.2
comp=Z,1.8nm,0.7s,baz=18,slow=10,SNR=7.8
APA Apatity 118.43 341⇑ *i*PKIKP PKPdf 17 39 13.8 -2.0
APA *e* 17 40 35.0
APA *e* 17 50 21.0
APA pmax pmax
comp=Z,16nm,1.0s
APA MLR MLR
comp=Z,2μm,20.0s,MS5.8
KEV Kevo 118.79 345 *e*p PKPdf 17 39 14.1 -2.3
comp=Z,14nm,0.7s
ARCES ARCESS Array B 119.32 345 PKIKP PKPdf 17 39 15.9 -1.5
ARCES pmax pmax
comp=Z,16nm,0.6s
ARCES pmax pmax
comp=Z,4.0nm,0.9s
ARCES ARCESS Array B 119.32 345 PKP PKPdf 17 39 15.9 -1.5
comp=Z,16nm,0.6s,baz=87,slow=1.6,SNR=71
ARCES PKKPbc PKKPbc 17 49 29.2 -3.3
comp=Z,3.6nm,0.9s,baz=282,slow=1.1,SNR=10
ARE0 ARCESS Array S 119.32 345 *e*PKPdf PKPdf 17 39 15.1 -2.3
KTK1 Kautokeino 120.26 346 *e*P PKPdf 17 39 17.5 -1.8
KTK1 AMb AMB 17 39 22.6
comp=Z,46nm,1.7s
TRO Tromso 120.75 347 *e*P PKPdf 17 39 17.5 -2.7
TRO *e*PP PP 17 40 47.2 -1.2
CPUP Villa Florida 121.39 133 PKIKP PKPdf 17 39 21.1 -1.7
CPUP pmax pmax
comp=Z,1.0nm,0.5s
CPUP pmax pmax
comp=Z,2.0nm,0.7s
CPUP Villa Florida 121.39 133 PKP PKPdf 17 39 21.1 -1.7
comp=Z,1.1nm,0.5s,baz=297,slow=2.4,SNR=6.2
CPUP PKKPbc PKKPbc 17 49 23.1 -0.7
comp=Z,2.3nm,0.7s,baz=94,slow=3.8,SNR=6.2
QRN Al-Qurain 121.69 295 *e*P PKPdf 17 39 22.3 -0.9
QRN AMb AMB 17 39 28.5
comp=Z,84nm,0.7s
SCHQ Schefferville 121.89 33 *e*PKPdf PKPdf 17 39 19.4 -3.4
SCHQ Schefferville 121.89 33 PKP PKPdf 17 39 20.1 -2.6
comp=Z,3.0nm,0.5s,baz=284,slow=7.8,SNR=8.2
SCHQ PKKPbc PKKPbc 17 49 20.8 -1.8
comp=Z,3.3nm,0.5s,baz=114,slow=3.0,SNR=22
JOF Joensuu 121.92 338 *e*p PKPdf 17 39 20.3 -2.3
comp=Z,15nm,0.6s
RDF Al-Radifah 122.01 296 *e*P PKPdf 17 39 23.0 -0.9
RDF AMb AMB 17 39 28.2
comp=Z,68nm,0.8s
MIB Mutribah 122.17 297 *e*P PKPdf 17 39 22.9 -1.2
MIB AMb AMB 17 39 25.0
comp=Z,49nm,0.8s
NAY Al-Naaiem 122.27 296 *e*P PKPdf 17 39 23.1 -1.2
NAY AMb AMB 17 39 27.8
comp=Z,32nm,1.4s
RST Umm Al-Ruwaisa 122.47 296 *e*P PKPdf 17 39 23.4 -1.3
RST AMb AMB 17 39 29.7
comp=Z,40nm,0.6s
DGRG David-gareji 122.50 310 P PKPdf 17 39 24.4 +0.1
DGRG S PP 17 41 12.4 +11
MTA Mtatsminda 122.89 311 P PKPdf 17 39 24.9 -0.2
MOS Moscow 122.91 328 *e*PKIKP PKPdf 17 39 23.9 -0.8
MOS *e* 17 41 04.4
MOS pmax pmax
comp=Z,53nm,1.0s
MOS MLR MLR
comp=Z,2μm,19.0s,MS5.7
GOR Gori 123.33 311 P PKPdf 17 39 26.3 +0.4
SDV Santo Domingo 123.64 88 *e*PKPdf PKPdf 17 39 24.8 -2.6
SDV *e*SKP 17 43 03.0
BOSA Boshof 123.67 221 *e*PKPdf PKPdf 17 39 25.9 -1.1
BOSA Boshof 123.67 221 PKIKP PKPdf 17 39 25.6 -1.5
BOSA pmax pmax
comp=Z,8.0nm,0.7s
BOSA pmax pmax
comp=Z,3.0nm,1.0s
BOSA Boshof 123.67 221 PKP PKPdf 17 39 25.6 -1.5
comp=Z,8.4nm,0.7s,baz=146,slow=3.2,SNR=17
BOSA PKKP PKKPdf 17 49 52.9 -0.9
comp=Z,2.9nm,1.0s,baz=190,slow=2.8,SNR=3.1
ONI Oni 123.68 312 P PKPdf 17 39 25.2 -1.4
ONI S PP 17 41 13.6 +4.2
OBN Obninsk 123.73 328 *e*PKPdf PKPdf 17 39 24.5 -1.8
OBN Obninsk 123.73 328⇑ *i*PKIKP PKPdf 17 39 25.0 -1.3
OBN *i* 17 41 09.4
OBN *e*SS SS 17 58 07.2 +13
OBN pmax pmax
comp=Z,69nm,1.6s
KIV Kislovodsk 123.90 314 *e*PKPdf PKPdf 17 39 26.0 -1.0
KIV *e*PP PP 17 41 08.2 -2.6
KIV Kislovodsk 123.90 314⇑ *i*PKIKP PKPdf 17 39 26.5 -0.5
KIV *i* 17 41 13.6
KIV *e* 17 46 28.3
KIV pmax pmax
comp=Z,21nm,1.2s
KIV Kislovodsk 123.90 314⇑ *i*P PKPdf 17 39 26.4 -0.6
VORD Divnogorie 123.93 323 *i* PKIKP PKPdf 17 39 25.3 -1.5
VORD pmax pmax
comp=Z,10.0nm,0.8s
VORD pmax pmax
comp=N,10.0nm,0.9s
VORD pmax pmax
comp=E,7.0nm,0.6s
VORD pmax pmax
comp=Z,10.0nm,1.7s
VORD pmax pmax
comp=N,20nm,1.3s
VORD pmax pmax
comp=E,50nm,2.1s
VORD MLR MLR
comp=Z,2μm,22.0s,MS5.8
VORD MLR MLR
comp=N,2μm,29.0s
VORD MLR MLR
comp=E,1μm,29.0s
SDDR Presa de Saban 124.31 76 *e*PKPdf PKPdf 17 39 26.4 -2.1
BHD Baghdad 124.45 301 *ex* x 17 39 26.0

BHD			*ex*	x	17 41 10.0	
BHD			*ex*	x	17 43 23.0	
BHD			*ex*	x	17 46 18.0	
BHD			*ex*	x	17 46 29.0	
MOR8	**Moi Rana**	**124.57 347**	*e*P	PKPdf	17 39 25.6	-2.0
MOR8			AMb	AMB	17 39 28.9	
	comp=Z,36nm,2.4s					
STOK	**Stokkvaagen**	**124.74 347**	*e*P	PKPdf	17 39 27.1	-0.8
FIA1	**FINESS Array S**	**124.76 338**	*e*PKPdf	PKPdf	17 39 26.3	-1.8
FINES	**FINESS Array B**	**124.76 338**	PKP	PKPdf	17 39 26.4	-1.6
FINES	**FINESS Array B**	**124.76 338**	PKhKP		17 39 17.6	
	comp=Z,1.3nm,0.8s,baz=43,slow=8.6,SNR=3.7					
FINES			PKP	PKPdf	17 39 26.4	-1.6
	comp=Z,4.3nm,0.4s,baz=42,slow=2.7,SNR=29					
MSL	**Mosul**	**125.13 305**	*ex*	x	17 39 30.5	
MSL			*ex*	x	17 41 18.5	
MSL			*ex*	x	17 46 35.0	
MSL			*ex*	x	17 51 07.0	
LBTB	**Lobatse**	**125.86 225**	*e*PKPdf	PKPdf	17 39 29.8	-1.6
SOC	**Sochi**	**126.08 314**	*i* PKIKP	PKPdf	17 39 28.0	-3.2
SOC			*e*PPP		17 44 08.8	
SOC			*e*PS	PS	17 51 14.5	-14
SOC			*e*SS	SS	17 58 19.1	-5.5
VSU	**Vasula**	**126.44 335**	⇑*i*PKP	PKPdf	17 39 31.1	-0.3
NSS	**Namsos**	**126.51 347**	*e*P	PKPdf	17 39 28.9	-2.4
ANN	**Anapa**	**127.27 316**	*i* PKIKP	PKPdf	17 39 33.0	-0.4
ANN			*e*		17 41 29.5	
ANN			pmax	pmax		
	comp=Z,134nm,5.5s					
ANN			MLR	MLR		
	comp=N,1μm,20.0s,MS5.7					
ANN			MLR	MLR		
	comp=E,1μm,20.0s,MS5.7					
ANN			MLR	MLR		
	comp=Z,2μm,20.0s,MS5.9					
KMBO	**Kilima Mbogo**	**127.79 258**	PKIKP	PKPdf	17 39 35.7	+0.3
KMBO			pmax	pmax		
	comp=Z,7.0nm,0.9s					
KMBO	**Kilima Mbogo**	**127.79 258**	PKP	PKPdf	17 39 35.7	+0.3
	comp=Z,7.3nm,0.9s,baz=44,slow=5.0,SNR=16					
MNK	**Minsk**	**128.37 331**	*e*PKIKP	PKPdf	17 39 34.0	-1.2
MALT	**Malatya**	**128.38 308**	*e*PKPdf	PKPdf	17 39 35.5	-0.3
MALT			*e*PP	PP	17 41 40.3	-0.5
MALT			*e*		17 41 57.7	
MALT	**Malatya**	**128.38 308**	*e*PKIKP	PKPdf	17 39 35.5	-0.2
MALT			*e*		17 41 40.3	
MALT	**Malatya**	**128.38 308**	⇓*i*P	PKPdf	17 39 35.6	-0.1
SJG	**San Juan**	**129.12 78**	*e*PKPdf	PKPdf	17 39 35.0	-2.7
SJG			*ep*PKPdf	pPKPdf	17 40 00.2	+9.1
MOL	**Molde**	**129.19 348**	*e*P	PKPdf	17 39 36.7	+0.1
SIM	**Simferopol'**	**129.42 317**	PKIKP	PKPdf	17 39 35.0	-2.5
SIM			*e*		17 41 44.0	
SIM			*e*PPS		17 53 33.0	
SIM			*e*SS	SS	17 59 06.0	+0.1
SIM			pmax	pmax		
	comp=Z,200nm,9.6s					
NB2	**NORSAR Subarra**	**129.69 345**	PKPdf	PKPdf	17 39 36.1	-1.4
	comp=Z,11nm,0.8s,baz=29,slow=1.9					
NB2	**NORSAR Subarra**	**129.69 345**	PKPdf	PKPdf	17 39 36.1	-1.4
	baz=29,slow=1.9					
NOA	**NORSAR Array B**	**129.69 345**	PKP	PKPdf	17 39 36.4	-1.1
NOA	**NORSAR Array B**	**129.69 345**	PKIKP	PKPdf	17 39 36.4	-1.1
NOA			pmax	pmax		
	comp=Z,6.0nm,0.6s					
NOA	**NORSAR Array B**	**129.69 345**	PKP	PKPdf	17 39 36.4	-1.1
	comp=Z,6.0nm,0.6s,baz=34,slow=2.0,SNR=28					
AKASG	**Malin Array Be**	**129.76 326**	PKIKP	PKPdf	17 39 35.8	-2.2
AKASG					17 41 45.5	
AKASG			pmax	pmax		
	comp=Z,5.0nm,0.7s					
AKASG			pmax	pmax		
	comp=Z,1.0nm,0.6s					
AKASG	**Malin Array Be**	**129.76 326**	PKP	PKPdf	17 39 35.8	-2.2
	comp=Z,5.1nm,0.7s,baz=60,slow=1.9,SNR=34					
AKASG			PP	PP	17 41 45.5	-3.6
	comp=Z,0.8nm,0.6s,baz=55,slow=6.8,SNR=4.3					
AKBB	**Malin Array Si**	**129.76 326**	*e*PKPdf	PKPdf	17 39 36.7	-1.2
AKBB			*e*SKP		17 43 02.9	
KIEV	**Kiev**	**129.77 326**	*e*PKPdf	PKPdf	17 39 36.6	-1.3
LSZ	**Lusaka**	**129.79 236**	*e*PKPdf	PKPdf	17 39 37.8	-1.2
KONO	**Kongsberg**	**131.30 345**	*e*P	PKPdf	17 39 41.1	+0.5
KONO			*e*PP	PP	17 41 59.3	+0.8
BER	**Bergen**	**131.63 348**	*e*PP	PP	17 42 02.6	+2.0
KIS	**Kishinev**	**131.86 322**	*e*PKIKP	PKPdf	17 39 44.0	+1.9
KIS			*e*		17 42 02.0	
KIS			MLR	MLR		
	comp=Z,2μm,20.0s,MS5.8					
KIS			MLR	MLR		
	comp=Z,2μm,20.0s					
KIS	**Kishinev**	**131.86 322**	*e*PP	PP	17 42 02.0	-0.8
KIS			LRM		18 36 04.0	
	comp=Z,2μm,20.0s					
ANTO	**Ankara**	**132.15 312**	*e*PKPdf	PKPdf	17 39 42.3	-0.6
ANTO			*e*SKP		17 43 13.6	
ANTO	**Ankara**	**132.15 312**	⇑*i*P	PKPdf	17 39 43.0	+0.2
LVV	**L'vov**	**133.02 328**	*e*PKIKP	PKPdf	17 39 39.8	-4.4
LVV			*i*		17 39 45.0	
LVV			*e*		17 42 11.2	
LVV			*e*		17 45 02.8	
LVV			MLR	MLR		
	comp=N,1μm,23.0s,MS5.7					
LVV			MLR	MLR		
	comp=E,1μm,23.0s,MS5.7					
LVV			MLR	MLR		
	comp=Z,2μm,23.0s,MS5.7					
CSS	**Prodhromos**	**133.18 305**	*e*PKPdf	PKPdf	17 39 44.0	-0.9
CSS			*e*SKP		17 43 12.6	
BSD	**Bornholm Skovb**	**133.40 338**	*i* PKIKP	PKPdf	17 39 49.0	+4.3
BSD			*i*		17 42 12.9	
BSD			pmax	pmax		
	comp=Z,31nm,0.9s					
BSD			MLR	MLR		
	comp=Z,12μm,20.0s,MS6.6					
BSD	**Bornholm Skovb**	**133.40 338**	*i* P	PKPdf	17 39 49.0	+4.3
	comp=Z,31nm,0.9s					
BSD			*i*		17 42 12.9	
BSD			*e*		17 55 30.8	
BSD						
	comp=Z,12μm,20.0s					
VRI	**Vrincioaia**	**133.68 322**	⇓P	PKPdf	17 39 45.9	+0.4
VRI	**Vrincioaia**	**133.68 322**	⇓*i*P	PKPdf	17 39 45.9	+0.4
COP	**Copenhagen**	**133.81 340**	*i* PKHKP		17 39 27.6	
COP			*e*		17 59 54.4	
COP			pmax	pmax		
	comp=Z,23nm,0.9s					
COP			MLR	MLR		
	comp=Z,9μm,21.0s,MS6.5					
COP	**Copenhagen**	**133.81 340**	*i* P		17 39 27.6	
	comp=Z,23nm,0.9s					
COP			*i*		17 43 16.7	
COP			*i*		17 43 19.9	
COP			*e*		17 55 25.3	
COP			*e*		17 59 54.4	
COP						
	comp=Z,9μm,21.0s					
CAM4	**Nova Friburgo**	**133.92 141**	*e*P	PKPdf	17 39 46.5	-0.2
CAM4			*i*		17 40 07.4	
CAM4			*i*		17 43 17.4	
CAM4			*i*		17 43 21.8	
MBAR	**Mbarara**	**134.11 255**	*i* PKP	PKPdf	17 39 46.7	-0.6
MUD	**Monsted U'grnd**	**134.17 343**	*i* PKIKP	PKPdf	17 39 40.0	-6.1
MUD			*i*		17 42 16.7	
MUD			*i*		18 00 37.0	
MUD			pmax	pmax		
	comp=Z,20nm,1.2s					
MUD			MLR	MLR		
	comp=Z,19μm,20.0s					
MUD	**Monsted U'grnd**	**134.17 343**	*i* P	PKPdf	17 39 40.0	-6.1
	comp=Z,20nm,1.2s					
MUD			*i*		17 42 16.7	
MUD			*i*		17 43 23.5	
MUD			*i*		18 00 37.0	
MUD						
	comp=Z,19μm,20.0s					
MLR	**Muntele Rosu**	**134.34 322**	⇑P	PKPdf	17 39 46.2	-0.6
MLR	**Muntele Rosu**	**134.34 322**	⇑*i*P	PKPdf	17 39 46.2	-0.6
KOLS	**Kolonicke sedl**	**134.47 328**	*e*PKP	PKPdf	17 39 47.0	+0.1
KOLS			*e*		17 43 20.4	
KOLS			*e*		17 43 28.3	
UZH	**Uzhgorod**	**134.64 327**	⇑*i*PKIKP	PKPdf	17 39 47.0	-0.2
UZH			*i*		17 39 56.2	
UZH			*i*		17 40 00.8	
UZH			*i*		17 42 27.0	
STHS	**Stebnicka Huta**	**134.70 329**	*e*PKP	PKPdf	17 39 46.8	-0.5
STHS			*e*		17 43 18.5	
STHS			*e*		17 43 24.3	
BDFB	**Brasilia**	**134.81 129**	PKIKP	PKPdf	17 39 47.9	-0.6
BDFB			pmax	pmax		
	comp=Z,1.0nm,0.4s					
BDFB			pmax	pmax		
	comp=N,4.0nm,0.9s					
BDFB	**Brasilia**	**134.81 129**	PKP	PKPdf	17 39 47.9	-0.6
	comp=N,0.7nm,0.4s,baz=209,slow=14,SNR=5.4					
BDFB			SKPbc	SKPbc	17 43 19.6	+4.0
	comp=N,3.5nm,0.9s,baz=98,slow=3.5,SNR=6.9					
OJC	**Ojcow**	**134.89 330**	*e*PKPdf	PKPdf	17 39 46.3	-1.3
OJC			*e*PP	PP	17 42 20.9	-0.9
CRVS	**Cervenica-Dubn**	**134.91 328**	*e*PKP	PKPdf	17 39 47.4	-0.3
CRVS			*e*		17 43 16.9	
CRVS			*e*		17 43 24.5	
NIE	**Niedzica**	**135.16 329**	*e*PKPdf	PKPdf	17 39 48.8	+0.6
DRGR		**135.51 325**	P	PKPdf	17 39 49.0	+0.1
DRGR		**135.51 325**	⇑*i*P	PKPdf	17 39 48.5	-0.4
KECS	**Kecovo**	**135.68 328**	*e*PKP	PKPdf	17 39 47.8	-1.4
KECS			*e*		17 43 20.0	
KECS			*e*		17 43 24.7	
OKC	**Ostrava-Krasne**	**135.93 331**	*e*PKIKP	PKPdf	17 39 49.0	-0.6
OKC			*e*		17 42 31.0	
OKC	**Ostrava-Krasne**	**135.93 331**	*e*PKPdf	PKPdf	17 39 49.0	-0.6
OKC			*e*PP	PP	17 42 31.0	+2.6
OKC			*e*SKP		17 43 23.6	
KSP	**Ksiaz**	**136.06 333**	*e*PKP	PKPdf	17 39 49.4	-0.4
KSP			*e*PP	PP	17 42 30.0	+0.9
KSP			*e*PPS		17 54 43.0	
KSP			*e*SS	SS	18 00 11.0	-14
KSP	**Ksiaz**	**136.06 333**	*e*PKIKP	PKPdf	17 39 49.4	-0.4
KSP			*e*		17 42 30.0	
KSP			*e*PPS		17 54 43.0	
MORC	**Moravsky Berou**	**136.26 331**	*e*PKPdf	PKPdf	17 39 48.5	-1.8
MORC			*e*PP	PP	17 42 28.9	-1.5
MORC			*e*SKP		17 43 23.3	
MORC	**Moravsky Berou**	**136.26 331**	*e*PKIKP	PKPdf	17 39 48.5	-1.7
MORC			*e*		17 42 28.9	
MORC	**Moravsky Berou**	**136.26 331**	⇑*i*P	PKPdf	17 39 49.0	-1.2
GZR	**Gura Zlata**	**136.27 323**	P	PKPdf	17 39 50.5	+0.1
GZR	**Gura Zlata**	**136.27 323**	⇓*i*P	PKPdf	17 39 50.5	+0.1
PSZ	**Piszkesteto**	**136.34 328**	*e*PKPdf	PKPdf	17 39 49.1	-1.3
PSZ			*e*PP	PP	17 42 34.9	+3.9
PSZ			*e*SKP		17 43 19.6	
PSZ	**Piszkesteto**	**136.34 328**	*e*PKIKP	PKPdf	17 39 49.1	-1.3
PSZ			*e*		17 42 34.9	
PSZ	**Piszkesteto**	**136.34 328**	⇑*i*P	PKPdf	17 39 49.8	-0.6
PSZ	**Piszkesteto**	**136.34 328**	⇑*e*PKP	PKPdf	17 39 49.9	-0.5
CAM3	**Guarapari**	**136.39 142**	(P)		17 39 36.2	
CAM3			*i*		17 40 07.1	
CAM3			*i*		17 40 39.5	
DPC	**Dobruska-Polom**	**136.41 333**	*e*PKIKP	PKPdf	17 39 51.0	+0.5
DPC			*e*		17 42 29.5	
DPC	**Dobruska-Polom**	**136.41 333**	*e*PKPdf	PKPdf	17 39 51.0	+0.5
DPC			*ex*	x	17 40 13.5	
DPC			*e*PP	PP	17 42 29.5	-1.8
DPC			*e*SKP		17 43 24.8	
UPC	**Upice**	**136.43 333**	*e*PKPdf	PKPdf	17 39 49.0	-1.5
UPC			*ep*PKP	pPKPdf	17 40 06.2	+2.3
UPC			*e*PP	PP	17 42 32.7	+1.3
VYHS	**Vyhne**	**136.50 329**	*e*PKIKP	PKPdf	17 39 50.0	-0.7
VYHS			*e*		17 42 29.3	
VYHS	**Vyhne**	**136.50 329**	*e*PKP	PKPdf	17 39 50.0	-0.7
VYHS			*e*PP	PP	17 42 29.3	-2.7
VYHS			*e*		17 43 17.7	
VYHS			*e*		17 43 26.6	
BZS	**Buzias**	**136.81 324**	⇑P	PKPdf	17 39 50.4	-1.0
BZS	**Buzias**	**136.81 324**	⇑*i*P	PKPdf	17 39 50.4	-1.0
PVCC	**Panska Ves**	**137.04 334**	*e*PKIKP	PKPdf	17 39 51.5	-0.1
PVCC			*e*		17 40 03.6	
PVCC	**Panska Ves**	**137.04 334**	*e*PKPdf	PKPdf	17 39 51.5	-0.1
PVCC			*ep*PKP	pPKPdf	17 40 03.6	-1.4
PVCC			*e*SKP		17 43 23.1	
BRG	**Berggiesshubel**	**137.04 335**	*e*PKIKP	PKPdf	17 39 51.6	0.0
BRG			*e*		17 40 03.7	
BRG	**Berggiesshubel**	**137.04 335**	*e*PKPdf	PKPdf	17 39 51.1	-0.5
BRG	**Berggiesshubel**	**137.04 335**	*e*PKP	PKPdf	17 39 51.6	0.0
	comp=N,16nm,1.2s					
BRG			*e*		17 40 03.7	
	comp=N,3.7nm,0.7s					
BRG			*e*		17 40 19.0	
	comp=N,19nm,1.3s					
BRG			*e*SKP		17 43 25.5	
	comp=N,20nm,0.9s					
BUD	**Budapest**	**137.07 328**	⇑*e*PKP	PKPdf	17 39 54.0	+2.2
CLL	**Collm**	**137.09 336**	*i* PKP	PKPdf	17 39 51.2	-0.5
CLL			*i*		17 39 55.4	
CLL			*e*PP	PP	17 42 38.0	+2.6
CLL			*e*SKP		17 43 30.0	
CLL			LR	LR		
	comp=Z,2μm,24.1s,MS5.8					
CLL	**Collm**	**137.09 336**	*i* PKIKP	PKPdf	17 39 51.2	-0.5
CLL			*e*		17 42 38.0	
CLL			MLR	MLR		
	comp=Z,2μm,24.1s,MS5.8					
CLL	**Collm**	**137.09 336**	*e*PKPdf	PKPdf	17 39 51.2	-0.5
CLL	**Collm**	**137.09 336**	*i* PKPdf	PKPdf	17 39 51.2	-0.5
	comp=Z,25nm,1.3s					
CLL			*i* (PKiKP)		17 39 55.4	
CLL			*e*PP	PP	17 42 38.0	+2.6
	comp=Z,600nm,23.7s					
CLL			*e*PKSbc		17 43 25.0	
CLL			*e*SKPab		17 43 30.0	
	comp=Z,21nm,0.9s					
CLL			*e*PKSab		17 43 34.0	
CLL			*e*(pSKPbc)		17 43 38.0	
CLL			*ex*	x	17 51 24.0	
CLL			*e*PSKS		17 52 50.0	
CLL			*e*PPS		17 54 45.0	
CLL			*e*SKKSacre		17 55 58.0	
CLL			*e*SS	SS	18 00 54.0	+17
CLL			*ex*	x	18 02 02.0	
CLL			*ex*	x	18 03 06.0	
CLL			*ex*	x	18 07 00.0	
CLL			*ex*	x	18 14 48.0	
NRDL	**Niedersach Rie**	**137.21 339**	*e*PKPdf	PKPdf	17 39 51.0	-0.9
MODS	**Modra-Piesok**	**137.35 330**	*e*PKP	PKPdf	17 39 52.1	-0.2
MODS			*e*PP	PP	17 42 33.4	-3.9
MODS			*e*		17 43 22.6	
MODS			*e*		17 43 30.0	
MODS	**Modra-Piesok**	**137.35 330**	*e*PKIKP	PKPdf	17 39 52.1	-0.2
MODS			*e*		17 42 33.4	
MODS	**Modra-Piesok**	**137.35 330**	*e*PKP	PKPdf	17 39 52.0	-0.3
MODS			*e*PP	PP	17 42 33.4	-3.9
MODS			*e*		17 43 22.6	
MODS			*e*		17 43 30.0	
PRU	**Pruhonice**	**137.45 334**	*e*PKIKP	PKPdf	17 39 50.9	-1.5
PRU			*e*		17 42 38.7	
PRU	**Pruhonice**	**137.45 334**	*e*PKPdf	PKPdf	17 39 50.9	-1.5
PRU			*e*PP	PP	17 42 38.7	+0.9
PRU			*e*SKP		17 43 28.9	
VTS	**Vitosha**	**137.53 319**	P	PKPdf	17 39 53.0	+0.2
VTS	**Vitosha**	**137.53 319**	⇓*i*P	PKPdf	17 39 53.4	+0.6
TREC	**Trest**	**137.54 332**	*e*PKPdf	PKPdf	17 39 52.4	-0.2
ZST	**Bratislava**	**137.56 330**	*e*PKP	PKPdf	17 39 52.4	-0.3
ZST			*e*		17 43 30.2	
CLZ	**Clausthal**	**137.66 338**	*e*PKPdf	PKPdf	17 39 52.0	-0.7
TANN	**Tannenbergstha**	**138.00 335**	*e*PKPdf	PKPdf	17 39 52.6	-0.8
PKSM	**Moragy**	**138.09 327**	P	PKPdf	17 39 53.0	-0.7
PKSM	**Moragy**	**138.09 327**	⇓*i*P	PKPdf	17 39 53.2	-0.5
NKC	**Novy Kostel**	**138.15 335**	*e*PKPdf	PKPdf	17 39 55.3	+1.6
MOX	**Moxa**	**138.15 336**	*e*PKP	PKPdf	17 39 54.3	+0.6
	comp=Z,38nm,1.6s					
MOX						
	comp=Z,1μm,20.0s					
MOX	**Moxa**	**138.15 336**	*e*PKPdf	PKPdf	17 39 52.6	-1.1
IBBN	**Ibbenburen**	**138.16 341**	*e*PKPdf	PKPdf	17 39 52.7	-0.9
SOP	**Sopron**	**138.18 330**	⇓*e*PKP	PKPdf	17 39 53.6	-0.2
CONA	**Conrad Observa**	**138.34 330**	⇑*i*PKPdf	PKPdf	17 39 50.8	-3.4
	comp=Z,47nm,1.5s					
MANZ	**Manzenberg**	**138.47 335**	*e*PKPdf	PKPdf	17 39 53.4	-0.9
KHC	**Kasperske Hory**	**138.51 333**	⇑*e*PKP	PKPdf	17 39 53.6	-0.8
KHC	**Kasperske Hory**	**138.51 333**	*e*PKPdf	PKPdf	17 39 50.7	-3.7
KHC			*ep*PKP	pPKPdf	17 40 09.0	+1.2
KHC			*e*SKP		17 43 32.4	
ROTZ	**Rotzenmuhle**	**138.60 335**	*e*PKPdf	PKPdf	17 39 53.7	-0.9
UBBA	**Unterbreizbach**	**138.63 338**	*e*PKPdf	PKPdf	17 39 53.6	-1.0
GEC2	**GERESS Array S**	**138.67 333**	*e*PKPdf	PKPdf	17 39 50.4	-4.3
GEC2			*e*PKPdf	PKPdf	17 39 53.9	-0.8
GEC2			*e*PP	PP	17 42 50.5	+5.1
GEC2			*e*SKP		17 43 27.1	
GEC2	**GERESS Array S**	**138.67 333**	*e*PKPdf	PKPdf	17 39 53.9	-0.8
GERES	**GERESS Array B**	**138.67 333**	PKP	PKPdf	17 39 53.3	-1.4
GERES			SKPbc	SKPbc	17 43 27.6	+1.5
GERES			PKKP		17 49 23.7	
GERES	**GERESS Array B**	**138.67 333**	PKhKP		17 39 43.7	
	comp=Z,0.6nm,0.6s,baz=57,slow=4.9,SNR=6.6					
GERES			PKP	PKPdf	17 39 53.3	-1.4
	comp=Z,6.7nm,0.9s,baz=54,slow=2.3,SNR=14					
GERES			SKPbc	SKPbc	17 43 27.6	+1.5
	comp=Z,5.5nm,0.7s,baz=36,slow=2.5,SNR=4.1					
GERES			PKKP		17 49 23.7	
	comp=Z,0.3nm,0.7s,baz=166,slow=2.8,SNR=3.5					
WTSB	**Winterswijk**	**138.75 341**	*e*PKiKP	PKiKP	17 39 54.1	-2.8
	comp=Z,38nm,1.2s					
WET	**Wettzell**	**138.80 334**	*e*PKPdf	PKPdf	17 39 54.1	-0.8
GRA1	**Grafenberg Arr**	**139.06 336**	*e*PKPdf	PKPdf	17 39 54.8	-0.6
GRA1			*e*PP	PP	17 42 48.4	+0.7
GRF	**Grafenberg Arr**	**139.06 336**	*e*PKPdf	PKPdf	17 39 54.8	-0.6
GRF			*e*PP	PP	17 42 48.4	+0.7
GRFO	**Grafenberg**	**139.06 336**	*e*PKPdf	PKPdf	17 39 54.2	-1.2
PERS	**Pernice**	**139.61 330**	*e*PKPdf	PKPdf	17 39 51.0	-5.5
PERS			*e*		17 39 57.1	
PERS			*e*PP	PP	17 42 51.1	-0.2
PERS			*e*		18 01 37.3	
PERS			*e*		18 05 16.2	
CRES	**Cresnjev**	**140.01 328**	*e*PKPdf	PKPdf	17 39 48.4	-8.8
CRES			*e*		17 39 56.8	
HGN	**Heimansgroeve**	**140.06 341**	*e*PKiKP	PKiKP	17 39 56.1	-3.5
	comp=Z,21nm,1.5s					
MEM	**Membach**	**140.18 341**	PKPdf	PKPdf	17 39 55.8	-1.6
LJU	**Ljubljana**	**140.32 329**	*e*PP	PP	17 42 54.9	-0.7
LJU			*e*		17 43 50.4	
BOJS	**Bojanci**	**140.33 328**	*e*PKPdf	PKPdf	17 39 49.4	-8.5
BOJS			*i*		17 39 57.4	
BOJS			*e*PP	PP	17 42 55.7	-0.1
BOJS			*e*		17 45 53.2	
BOJS			*e*		18 01 30.2	
PTCC	**Patocco-Chiusa**	**140.63 331**	PKP	PKPdf	17 39 52.3	-6.1
VOY	**Vojsko**	**140.64 330**	*e*PKPdf	PKPdf	17 39 50.4	-8.0
VOY			*e*		17 39 56.2	
VOY			*e*		17 40 03.2	
VOY			*e*		17 43 36.9	
VOY			*e*		17 43 39.0	
WTTA	**Wattenberg**	**140.78 333**	⇑*i*P	PKPdf	17 39 52.6	-6.0
	comp=Z,28nm,0.9s					
WTTA	**Wattenberg**	**140.78 333**	⇑*i*PKPdf	PKPdf	17 39 54.2	-4.4
	comp=Z,28nm,0.9s					
GMNA	**Gemona**	**140.78 331**	PKP	PKPdf	17 39 58.2	-0.4
SNF	**Seneffe**	**140.79 342**	PKPdf	PKPdf	17 39 58.1	-0.4
SKDS	**Skadanscina**	**140.93 329**	*e*	PKPdf	17 39 58.0	-0.9
SKDS			*e*PP	PP	17 42 58.4	-0.9
SKDS			*e*		17 47 40.9	
WLF	**Walferdange**	**140.94 340**	*e*PKPdf	PKPdf	17 39 51.4	-7.5
WLF			*e*SKP		17 43 35.9	
LANF	**Langenberg**	**140.95 338**	PKP	PKPdf	17 39 57.9	-0.9
SQTA	**Sankt Quirin**	**141.00 333**	⇑*i*P	PKPdf	17 39 52.1	-6.9
	comp=Z,17nm,1.1s					
DOU	**Dourbes**	**141.06 342**	PKPdf	PKPdf	17 39 57.4	-1.6
BFO	**Black Forest**	**141.29 337**	*e*PKPdf	PKPdf	17 39 53.5	-5.9
BFO			*e*SKP		17 43 33.2	
FETA	**Feichten**	**141.36 334**	⇑*i*PKPdf	PKPdf	17 39 52.9	-6.7
	comp=Z,15nm,0.8s					
DAVA	**Damuels**	**141.51 335**	⇑*i*P	PKPdf	17 39 52.0	-7.9
	comp=Z,22nm,0.8s					
DAVA	**Damuels**	**141.51 335**	⇓*i*PKPdf	PKPdf	17 39 54.3	-5.6
	comp=Z,22nm,0.8s					
DAVA			⇑*i*PKiKP	PKiKP	17 39 59.9	-2.8
CDF	**Champ du Feu**	**141.61 338**	*e*PKP1	PKPdf	17 39 52.5	-7.6
CTI	**Castel Tesino**	**141.69 332**	PKP	PKPdf	17 39 58.5	-1.8
ECH	**Echery**	**141.82 338**	PKP	PKPdf	17 39 53.9	-6.5
BRMO	**Bormio**	**141.94 333**	PKP	PKPdf	17 39 55.8	-4.9
MOF	**Molkenrain**	**142.13 338**	PKP	PKPdf	17 39 57.7	-3.3
THEF	**They Montfort**	**142.23 339**	PKP	PKPdf	17 39 55.1	-6.1
HINF	**Hinteralfeld**	**142.27 338**	*e*PKP1	PKPdf	17 39 54.6	-6.6
HAU	**Haudompre**	**142.29 338**	*e*PKP1	PKPdf	17 39 54.7	-6.6
MEZF	**Maizieres J'vi**	**142.31 340**	*e*PKP1	PKPdf	17 39 55.4	-5.9
TUE	**Stuetta**	**142.38 334**	PKP	PKPdf	17 39 57.0	-4.5
LOMF	**Lomont**	**142.67 337**	PKP	PKPdf	17 39 57.7	-4.3
FG2	**Serracapriola**	**142.85 324**	PKP	PKPdf	17 40 00.5	-2.0
CING	**Cingoli**	**142.87 327**	PKP	PKPdf	17 39 57.8	-4.7
VAI	**Varese**	**143.10 334**	PKP	PKPdf	17 39 58.5	-4.3
FG5	**Orsara di Pugl**	**143.12 323**	PKP	PKPdf	17 40 00.0	-3.0
FNVD	**Fontana Vidola**	**143.34 330**	PKP	PKPdf	17 40 00.4	-2.9
AQU	**L'Aquila**	**143.46 326**	*e*PKPdf	PKPdf	17 40 00.8	-2.8
AQU	**L'Aquila**	**143.46 326**	⇑*i*P	PKPdf	17 40 00.8	-2.7
TIP	**Timpagrande**	**143.49 319**	*e*PKPdf	PKPdf	17 40 00.6	-3.1
CABF	**La Chapelle**	**143.56 337**	*e*PKP1	PKPdf	17 40 00.8	-2.8
	comp=Z,54nm,1.0s					
OG01	**Vacheresse**	**143.57 337**	PKP	PKPdf	17 40 01.3	-2.3
FLN	**La Foliniere**	**143.67 346**	*e*PKP1	PKPdf	17 39 59.9	-3.8
	comp=Z,45nm,0.7s					
BOB	**Bobbio (Coli)**	**143.67 332**	PKP	PKPdf	17 40 01.0	-2.8
VLC	**Villacollemand**	**143.70 331**	*e*PKPdf	PKPdf	17 39 59.8	-4.1
**

HVZN	**Vizzini**	**145.96 318**	PKP	PKPdf	17 40 08.7	+0.7
SMRF	**Simiane la Rot**	**145.96 335**	*e*PKP1	PKPdf	17 40 05.2	-2.6
	comp=Z,139nm,1.0s					
USI	**Ustica**	**145.99 321**	PKP	PKPdf	17 40 07.9	-0.1
LMR	**La Mourre**	**146.10 334**	*e*PKP1	PKPdf	17 40 05.2	-2.9
	comp=Z,129nm,0.7s					
RJF	**Les Rejaudoux**	**146.28 341**	*e*PKP1	PKPbc	17 40 07.5	-2.0
	comp=Z,290nm,1.3s					
MATF	**Mathat**	**146.33 344**	PKP	PKPdf	17 40 09.0	+0.6
CAF	**Calviac**	**146.44 340**	*e*PKP1	PKPdf	17 40 07.6	-1.0
	comp=Z,87nm,1.1s					
LASF	**Ste Croix**	**146.55 337**	*e*PKP1	PKPdf	17 40 07.8	-1.0
	comp=Z,85nm,0.8s					
LFF	**La Frestale**	**146.85 342**	*e*PKP1	PKPdf	17 40 08.8	-0.5
	comp=Z,77nm,0.6s					
VSL	**Villasalto**	**147.64 326**	*e*PKPdf	PKPdf	17 40 09.8	-1.0
MTLF	**Montolieu**	**147.78 339**	*e*PKP1	PKPdf	17 40 09.7	-1.2
LRDF	**Laroque-de-Fa**	**148.01 338**	PKP	PKPdf	17 40 10.9	-0.4
EJON	**La Jonquera**	**148.31 337**	PKP	PKPdf	17 40 09.9	-1.9
FILF	**Fillols**	**148.33 337**	PKP	PKPdf	17 40 13.6	+1.8
CARF	**Carcanieres**	**148.37 338**	PKP	PKPbc	17 40 14.9	-0.4
MLS	**Moulis**	**148.51 340**	PKP	PKPdf	17 40 11.5	-0.6
SALF	**Salau**	**148.65 339**	PKP	PKPbc	17 40 15.1	-1.0
VALF	**Valcebollere**	**148.67 338**	PKP	PKPdf	17 40 12.3	-0.1
EPF	**Esparros**	**148.69 341**	*e*PKP1	PKPdf	17 40 12.0	-0.4
MELF	**Melles**	**148.69 340**	PKP	PKPbc	17 40 15.3	-0.9
LABF	**Labassere**	**148.76 341**	PKP	PKPdf	17 40 12.8	+0.3
REYF	**Montagne du Re**	**148.89 342**	PKP	PKPbc	17 40 15.6	-1.1
RESF	**Ens**	**148.89 340**	PKP	PKPbc	17 40 15.2	-1.5
ORDF	**Ordiarp**	**148.92 342**	PKP	PKPdf	17 40 13.3	+0.5
VIEF	**Viey**	**148.92 341**	PKP	PKPdf	17 40 13.6	+0.8
ATE	**Arette**	**148.97 342**	PKP	PKPdf	17 40 13.2	+0.4
OSSF	**Osses**	**148.97 343**	PKP	PKPbc	17 40 15.0	-1.9
EBIE	**Bielsa**	**149.06 341**	PKP	PKPdf	17 40 12.5	-0.5
EALK	**Alkurruntz**	**149.08 343**	PKP	PKPdf	17 40 12.0	-1.0
ETSF	**Etsaut**	**149.09 342**	*e*PKP1	PKPdf	17 40 12.3	-0.7
LARF	**Larrau**	**149.09 342**	PKP	PKPdf	17 40 13.4	+0.4
SJPF	**Ste Jean**	**149.09 343**	*e*PKP1	PKPdf	17 40 12.1	-0.9
ELIZ	**Elizondo**	**149.13 343**	PKP	PKPdf	17 40 13.1	0.0
EMIR	**Miracle**	**149.27 338**	PKP	PKPdf	17 40 12.1	-1.3
ELAN	**Lanestosa**	**149.57 346**	PKP	PKPdf	17 40 11.7	-2.1
EARI	**Arriondas**	**149.89 348**	PKP	PKPdf	17 40 11.9	-2.4
ECRI	**Cripan**	**149.92 344**	PKP	PKPdf	17 40 14.0	-0.3
EPOB	**Poblet**	**149.93 338**	PKP	PKPdf	17 40 13.3	-1.2
ESAC	**San Caprasio**	**150.13 341**	PKP	PKPdf	17 40 13.3	-1.4
EPON	**Pontenova**	**150.20 351**	PKP	PKPdf	17 40 12.6	-2.2
KEST	**Kesra**	**150.24 321**	PKP	PKPdf	17 40 14.7	-0.4
	comp=Z,3.2nm,1.0s,baz=120,slow=5.0,SNR=4.6					
KEST			PKPbc	PKPbc	17 40 19.8	-0.5
	comp=Z,33nm,0.9s,baz=267,slow=0.9,SNR=60					
ERTA	**Horta de San J**	**150.54 339**	PKP	PKPdf	17 40 13.8	-1.6
ETOS	**Mallorca**	**150.61 334**	PKP	PKPdf	17 40 15.5	-0.1
CMAH	**Djebel Manchou**	**150.77 324**	P	PKPdf	17 40 15.0	-0.9
EMAZ	**Mazaricos**	**150.81 354**	PKP	PKPdf	17 40 14.8	-1.0
STS	**Santiago**	**150.83 353**	PKP	PKPdf	17 40 16.4	+0.6
CAEH	**'Ain El Ouahch**	**150.97 325**	P	PKPdf	17 40 17.5	+1.3
ABSA	**Djebel Ababsia**	**150.98 324**	P	PKPdf	17 40 16.0	-0.2
CKFL	**Kef-Lekhel**	**151.32 325**	P	PKPdf	17 40 17.0	+0.2
EMOS	**Mosqueruela**	**151.35 339**	PKP	PKPdf	17 40 15.5	-1.2
ETOR	**Torete**	**151.44 342**	PKP	PKPdf	17 40 16.5	-0.3
ECAL	**Calabor**	**151.49 350**	PKP	PKPdf	17 40 15.2	-1.6
CASM	**Ain Smara**	**151.55 325**	P	PKPdf	17 40 18.0	+0.9
DFRA	**Djebel Bou Aff**	**151.68 326**	P	PKPdf	17 40 18.0	+0.7
CTEI	**Djebel Teioual**	**151.74 325**	P	PKPdf	17 40 19.0	+1.6
ELOB	**Lobios**	**151.77 352**	PKP	PKPdf	17 40 15.2	-2.0
EIBI	**Ibiza**	**151.84 335**	PKP	PKPdf	17 40 14.3	-3.1
PCAB	**Cabril**	**151.92 352**	*e*PKPbc	PKPbc	17 40 23.3	-0.7
GUD	**Guadarrama**	**152.19 345**	PKP	PKPdf	17 40 17.3	-0.6
SET	**Setif**	**152.19 326**	P	PKPdf	17 40 17.0	-1.1
ECHE	**Chera**	**152.27 339**	PKP	PKPdf	17 40 17.6	-0.4
CKHR	**Kef el Ahmar**	**152.27 326**	P	PKPbc	17 40 22.5	-2.4
MVO	**Moncorvo**	**152.29 350**	*e*PKPdf	PKPdf	17 40 17.0	-1.1
MVO	**Moncorvo**	**152.29 350**	*e*PKPbc	PKPbc	17 40 24.2	-0.6
PVRL	**Vila Real**	**152.30 351**	*e*PKPbc	PKPbc	17 40 24.4	-0.4
CMER	**Merouana**	**152.34 325**	P	PKPbc	17 40 23.0	-2.1
EBEN	**Beniarda**	**152.73 337**	PKP	PKPdf	17 40 19.0	+0.2
PVIS	**Viseu**	**152.87 351**	*e*PKPbc	PKPbc	17 40 25.5	-0.6
ESBB	**Sonseca Array**	**153.05 344**	PKP	PKPdf	17 40 17.6	-1.6
ESDC	**Sonseca Array**	**153.05 344**	PKP	PKPdf	17 40 18.2	-1.1
ESDC	**Sonseca Array**	**153.05 344**	PKPbc	PKPbc	17 40 25.6	-1.0
	comp=Z,4.2nm,0.6s,baz=22,slow=1.8,SNR=19					
ESDC			PKPab	PKPab	17 40 37.5	-0.5
	comp=Z,7.2nm,0.6s,baz=357,slow=3.9,SNR=9.6					
ESLA	**Sonseca Array**	**153.05 344**	*e*PKPdf	PKPdf	17 40 19.2	0.0
ESLA			*e*PKPbc	PKPbc	17 40 25.9	-0.7
MTE	**Manteigas**	**153.12 350**	*e*PKPbc	PKPbc	17 40 26.3	-0.4
MTE	**Manteigas**	**153.12 350**	*e*PKPdf	PKPdf	17 40 18.9	-0.4
MTE			*e*PKPbc	PKPbc	17 40 25.8	-0.9
ETOB	**Tobarra**	**153.26 339**	PKP	PKPdf	17 40 17.2	-2.3
PAB	**San Pablo**	**153.27 345**	*e*PKPbc	PKPbc	17 40 26.4	-0.7
EMHD	**Djebel Mahouad**	**153.45 330**	P	PKPbc	17 40 28.4	+0.8
EVIA	**Vianos**	**153.58 341**	PKP	PKPdf	17 40 19.6	-0.4
PCBR	**Castelo Branco**	**153.66 350**	*e*PKPdf	PKPdf	17 40 19.3	-0.8
PCBR	**Castelo Branco**	**153.66 350**	*e*PKPbc	PKPbc	17 40 26.6	-1.3
EMUR	**La Murta**	**153.86 338**	PKP	PKPdf	17 40 17.6	-2.9
PTOM	**Tomar**	**154.02 351**	*e*PKPdf	PKPdf	17 40 18.7	-1.9
PTOM	**Tomar**	**154.02 351**	*e*PKPbc	PKPbc	17 40 28.7	0.0
EBAN	**Banos Encina**	**154.41 343**	PKP	PKPdf	17 40 20.3	-0.9
EQES	**Quesada**	**154.52 341**	PKP	PKPdf	17 40 18.9	-2.4
EANR	**'Ain N'Sour**	**154.53 332**	P	PKPbc	17 40 31.0	+1.1
EADA	**Adamuz**	**154.63 344**	PKP	PKPdf	17 40 17.6	-3.9
PESTR	**Estremoz**	**154.63 350**	*e*PKPbc	PKPbc	17 40 31.2	+1.2
PESTR	**Estremoz**	**154.63 350**	*e*PKPab	PKPab	17 40 44.8	+0.2
EBAD	**Badajoz**	**154.63 349**	PKP	PKPdf	17 40 19.9	-1.6
PMAFR	**Mafra**	**154.79 353**	*e*PKPdf	PKPdf	17 40 21.8	+0.1
PMAFR	**Mafra**	**154.79 353**	*e*PKPab	PKPab	17 40 46.5	+1.2
ETRT	**Tiaret**	**154.90 331**	P	PKPbc	17 40 26.0	-4.7
ECAB	**El Cabril**	**154.93 345**	PKP	PKPdf	17 40 19.2	-2.7
EVO	**Evora**	**155.03 350**	*e*PKIKP	PKPdf	17 40 19.3	-2.7
	comp=Z,41nm,1.3s					
EVO	**Evora**	**155.03 350**	*e*PKPab	PKPab	17 40 46.2	-0.1
ELUQ	**Luque**	**155.11 343**	PKP	PKPdf	17 40 19.3	-2.9
PBAR	**Barrancos**	**155.19 348**	*e*PKPdf	PKPdf	17 40 23.2	+0.9
PBAR	**Barrancos**	**155.19 348**	*e*PKPab	PKPab	17 40 47.0	-0.1
ERON	**Agron**	**155.47 342**	PKP	PKPdf	17 40 22.7	0.0
PBEJ	**Beja**	**155.49 350**	*e*PKPdf	PKPdf	17 40 23.6	+0.9
PBEJ	**Beja**	**155.49 350**	*e*PKPab	PKPab	17 40 48.8	+0.5
EMIN	**Mina Concepcio**	**155.51 347**	PKP	PKPdf	17 40 21.3	-1.5
PVAQ	**Vaqueiros**	**156.07 349**	*e*PKPab	PKPab	17 40 51.2	+0.4
ESPR	**Espera**	**156.18 345**	PKP	PKPdf	17 40 20.0	-3.7
EJIF	**Jimena Fronter**	**156.48 344**	PKP	PKPdf	17 40 22.0	-2.1
TOA0	**Torodi Ar. Sit**	**165.44 269**	*e*PKPdf	PKPdf	17 40 32.7	-1.6
TOA0			*e*PKPab	PKPab	17 41 32.4	-0.2
TORD	**Torodi Ar. Bea**	**165.44 269**	PKP	PKPdf	17 40 32.9	-1.3
TORD			PKPab	PKPab	17 41 33.2	+0.6
TORD	**Torodi Ar. Bea**	**165.44 269**	PKP	PKPdf	17 40 32.9	-1.3
	comp=Z,9.0nm,0.6s,baz=48,slow=0.8,SNR=45					
TORD			PKPab	PKPab	17 41 33.2	+0.6
	comp=Z,28nm,1.0s,baz=97,slow=2.9,SNR=14					
LIC	**Lamto**	**168.88 228**	*e*PKIKP	PKPdf	17 40 33.6	-3.2
	comp=Z,100nm,1.3s					
DBIC	**Dimbokro**	**169.05 230**	*e*PKPdf	PKPdf	17 40 35.0	-2.0
DBIC			*e*PKPab	PKPab	17 41 44.5	-3.9
DBIC	**Dimbokro**	**169.05 230**	PKP	PKPdf	17 40 36.8	-0.2
	comp=Z,9.4nm,0.7s,baz=14,slow=0.9,SNR=11					

ISCJB ***21*** *17:53:42.2s 1.0, 4523S 003× 7240W 006, h17km± 6km, mb6.0/141, MS6.3/219, Error ellipse: s-maj=6.7km s-min=4.3km az=165.5*

IDC ***21*** *17:53:42.3s 1.2, 4522S× 7264W, h11km± 7km, mb5.5/35, mb1 5.5/36, mb1mx5.5/36, mbtmp5.5/36, ML3.8/1, MS6.2/29, Ms1 6.2/29, ms1mx6.1/38, Error ellipse: s-maj=11.6km s-min=5.6km az=88.0*

MOS ***21*** *17:53:42.3s 1.2, 4515S× 7278W, h13km, mb6.3/50, MS6.3/79, Error ellipse: s-maj=15.1km s-min=6.8km az=92.1*

BJI ***21*** *17:53:46.3, 4520S× 7260W, h36km, mB6.0, Ms6.5, Msz6.5*

GCMT ***21*** *17:53:46.3s 0.1, 4548S× 7295W, h12km, MW6.2/110, Moment Tensor Solution. s110,c232; s109,c410; Duration: 3s2 Moment tensor: Scale 10^18 Nm; Mrr=0.91±.02; Mθθ=0.12±.02; Mφφ=1.03±.02; Mrθ=0.18±.04; Mθφ=2.77±.01; Mφr=0.28±.04; Best double couple: M0=2.84300×10^18 NP1:φs=84.00000°, δ=86.00000°, λ=2.00000°. NP2:φs=354.00000°, δ=88.00000°, λ=176.00000°. Principal axes: T 3.3100, Plg5.0000°, Azm309.0000°; N -0.9380, Plg85.0000°, Azm145.0000°; P -2.3750, Plg1.0000°, Azm39.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

NEIC ***21*** *17:53:46.3s 0.8, 4524S× 7265W, h37km± 6km, mb6.1/127, MS6.3/183, MW6.2 Error ellipse: s-maj=6.5km s-min=4.0km az=73.0, Moment Tensor Solution. s9 Moment tensor: Scale 10^18 Nm; Mrr=0.25; Mθθ=0.40; Mφφ=-0.15; Mrθ=-0.02; Mθφ=2.48; Mφr=0.13; Best double couple: M0=2.50000×10^18 NP1:φs=93.00000°, δ=87.00000°, λ=-1.00000°. NP2:φs=183.00000°, δ=89.00000°, λ=-177.00000°. Principal axes: T 2.6200, Plg1.0000°, Azm318.0000°; N -0.2500, Plg87.0000°, Azm203.0000°; P -2.3700, Plg3.0000°, Azm48.0000°;*

NEIC At least 3 people killed and 7 missing due to a 7.6 meter tsunami caused by rockslides falling into a narrow fjord near Puerto Aisen. Felt [VII] at Puerto Aisen and Puerto Chacabuco, [VI] at Coihaique, [V] at Balmaceda and [IV] at Cochrane.

ISC 21 17:53:45.0± 0.8, 4523S± 003× 7249W± 006, h24km± 5km, n929, σ0=98/549, mb6.0/140, MS6.3/219, 178C-117D, Southern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COYC	**Coyhaique**	**0.45**	**140**	*i* P	**Pb**	**17 53 52.9**	**-1.4**
COYC				*e*S	**Sb**	**17 54 02.6**	**+2.0**
PLCA	**Paso Flores**	**4.71**	**18**	‖*e*Pn	**Pn**	**17 54 56.7**	**+2.1**
PLCA				*e*Pb	**Pb**	**17 55 12.5**	**+5.6**
PLCA				*e*S	Sn	17 56 13.9	+25
PLCA	**Paso Flores**	**4.71**	**18**	Pn	**Pn**	**17 54 55.5**	**+0.9**
	7.8nm,0.3s,baz=198,slow=13,SNR=196						
PLCA				Sn	**Sn**	**17 55 52.7**	**+4.2**
	72nm,0.3s,baz=98,slow=18,SNR=3.4						
PLCA				Lg		17 56 14.9	
	262nm,0.3s,baz=291,slow=24,SNR=5.8						
PLCA				LR	LR	17 57 08.3	
	comp=Z,336μm,19.1s,baz=201,slow=43						
USHA	**Ushuaia**	**9.96**	**166**	Pn	**Pn**	**17 56 07.2**	**+0.8**
	0.8nm,0.3s,baz=304,slow=16,SNR=4.0						
USHA				Lg		17 59 02.5	
	9.6nm,0.3s,baz=234,slow=18,SNR=3.4						
USHA				LR	LR	18 00 02.3	
	comp=Z,297μm,19.0s,baz=318,slow=38						
NICH	**Los Niches**	**10.26**	**6**	*e*P	**Pn**	**17 56 10.2**	**-0.5**
TRQA	**Tornquist**	**10.63**	**51**	‖*e*Pn	**Pn**	**17 56 18.6**	**+2.8**
	519nm,1.1s						
TRQA				*e*Sn	**Sn**	**17 58 25.1**	**+11**
LMEL	**Las Melosas**	**11.50**	**10**	*e*P	**Pn**	**17 56 27.0**	**-0.7**
EFI	**East Falkland**	**11.54**	**129**	⇑*e*Pn	**Pn**	**17 56 28.0**	**0.0**
	360nm,1.0s						
EFI				*e*Sn	**Sn**	**17 58 38.1**	**+2.1**
EFI	**East Falkland**	**11.54**	**129**	⇑*e*P	**Pn**	**17 56 28.0**	**-0.1**
EFI				*e*		17 58 38.1	
EFI				pmax	pmax		
	comp=Z,360nm,1.0s						
CLCH	**Cerro Calan**	**11.91**	**8**	*e*P	**Pn**	**17 56 26.8**	**-6.5**
FCH	**Farellones**	**12.01**	**9**	*e*P	**Pn**	**17 56 33.7**	**-0.9**
CFAA	**Coronel Fontan**	**14.00**	**15**	Pn	**Pn**	**17 57 02.1**	**+0.3**
	comp=Z,0.5nm,0.3s,baz=194,slow=10,SNR=12						
CFAA				Lg		18 01 08.9	
	comp=Z,0.0nm,0.3s,baz=308,slow=22,SNR=3.4						
CFAA				LR	LR	18 02 09.3	
	comp=Z,32μm,20.5s,baz=193,slow=36						
TLL	**Tololo Astrono**	**15.10**	**6**	*e*P	**Pn**	**17 57 16.3**	**-0.3**
LPA	**La Plata**	**15.16**	**52**	*ce*P	**Pn**	**17 57 19.0**	**+1.6**
	comp=Z,1μm,0.9s						
LPA	**La Plata**	**15.16**	**52**	*e*P	**Pn**	**17 57 22.0**	**+4.6**
LPA				*ep*P	pP	17 57 25.6	-3.2
LPA				*ep*P	pP	17 57 30.0	+1.2
LPA				*e*S	**Sn**	**18 00 07.0**	**+2.5**
LPA				*es*S	sS	18 00 17.0	-14
LPA				*e*S	**Sn**	**18 00 23.0**	**+18**
LCO	**Las Campanas**	**16.25**	**6**	*e*Pn	**Pn**	**17 57 33.4**	**+1.7**
	comp=Z,721nm,1.3s						
LCO				*e*S	**Sn**	**18 00 40.5**	**+9.3**
PMSA	**Palmer Station**	**20.14**	**169**	*e*P	**P**	**17 58 16.9**	**-0.2**
	comp=Z,1μm,1.6s						
PMSA				LR	LR		
	comp=Z,92μm,20.0s,MS6.1						
PMSA	**Palmer Station**	**20.14**	**169**	P	**P**	**17 58 18.0**	**+0.9**
	comp=Z,133nm,1.1s,baz=337,slow=9.2,SNR=4.6						
PMSA				S	**S**	**18 02 05.5**	**+3.7**
	comp=Z,30nm,1.0s,baz=262,slow=16,SNR=1.9						
PMSA				LR	LR	18 05 00.8	
	comp=Z,90μm,20.3s,MS6.1,baz=336,slow=34						
CPUP	**Villa Florida**	**22.44**	**38**	*e*P	**P**	**17 58 40.3**	**-1.8**
	comp=Z,0.4nm,0.2s						
CPUP				LR	LR		
	comp=Z,16μm,20.0s,MS5.5						
CPUP	**Villa Florida**	**22.44**	**38**	P	**P**	**17 58 41.2**	**-0.9**
	comp=Z,23nm,0.7s,baz=198,slow=9.5,SNR=24						
CPUP				S	**S**	**18 02 52.1**	**+4.6**
	comp=Z,8.4nm,0.8s,baz=193,slow=14,SNR=2.2						
CPUP				LR	LR	18 08 04.9	
	comp=Z,89μm,20.3s,MS6.2,baz=209,slow=38						
HOPE	**Hope Point**	**24.72**	**124**	PFAKE		17 59 20.0	+16
HOPE				LR	LR		
	comp=Z,4.0nm,22.0s						
ARE	**Arequipa**	**28.69**	**2**	*e*P	**P**	**17 59 40.0**	**-0.1**
LPAZ	**La Paz**	**29.08**	**9**	*e*P	**P**	**17 59 44.0**	**+0.3**
	comp=Z,624nm,1.4s,mb6.2						
LPAZ				*e*PcP	PcP	18 02 51.3	-0.1
LPAZ				*e*S	**S**	**18 04 36.2**	**+2.3**
LPAZ				*e*ScP	ScP	18 06 32.4	+1.2
LPAZ				LR	LR		
	comp=Z,44μm,20.0s,MS6.1						
LPAZ	**La Paz**	**29.08**	**9**	*e*P	**P**	**17 59 44.0**	**+0.4**
LPAZ				*e*		18 02 51.3	
LPAZ				*e*S	**S**	**18 04 36.2**	**+2.3**
LPAZ				pmax	pmax		
	comp=Z,624nm,1.4s						
LPAZ				MLR	MLR		
	comp=Z,44μm,20.0s						
LPAZ	**La Paz**	**29.08**	**9**	P	**P**	**17 59 44.3**	**+0.7**
	comp=Z,355nm,1.2s,mb6.0,baz=166,slow=8.0,SNR=157						
LPAZ				S	**S**	**18 04 36.7**	**+2.8**
	comp=Z,4.2nm,1.0s,baz=313,slow=22,SNR=2.9						
SIV	**San Ignacio**	**30.69**	**22**	P	**P**	**17 59 57.5**	**-0.4**
	comp=Z,75nm,0.9s,mb5.5,baz=208,slow=8.6,SNR=149						
SIV				S	**S**	**18 05 01.9**	**+2.7**
	comp=Z,4.0nm,0.9s,baz=198,slow=20,SNR=1.8						
NNA	**Nana**	**33.34**	**352**	P	**P**	**18 00 21.9**	**+0.8**
	comp=Z,1μm,1.4s,mb6.6,SNR=17						
NNA	**Nana**	**33.34**	**352**	*e*P	**P**	**18 00 20.9**	**-0.2**
	comp=Z,440nm,1.4s,mb6.2						
NNA				*e*PcP	PcP	18 03 03.4	+0.7
NNA				LR	LR		
	comp=Z,29μm,21.0s,MS6.0						
NNA	**Nana**	**33.34**	**352**	P	**P**	**18 00 20.7**	**-0.4**
	comp=Z,144nm,1.1s,mb5.8,baz=193,slow=11,SNR=25						
RPN	**Rapa Nui**	**34.42**	**289**	PFAKE		18 00 40.0	+10
RPN				LR	LR		
	comp=Z,25μm,20.0s,MS6.0						
RPN	**Rapa Nui**	**34.42**	**289**	LR	LR	18 10 07.6	
	comp=Z,16μm,22.0s,MS5.7,baz=114,slow=29						
BDFB	**Brasilia**	**35.98**	**43**	P	**P**	**18 00 43.4**	**-0.5**
BDFB				S	**S**	**18 06 24.9**	**+3.7**
BDFB	**Brasilia**	**35.98**	**43**	P	**P**	**18 00 43.4**	**-0.6**
	comp=Z,8.1nm,0.5s,mb4.9,baz=205,slow=13,SNR=19						
BDFB				S	**S**	**18 06 24.9**	**+3.7**
	comp=Z,2.4nm,0.8s,baz=123,slow=25,SNR=1.5						
BDFB				LR	LR	18 16 43.0	
	comp=Z,70μm,18.3s,MS6.5,baz=188,slow=38						
ATAH	**Atahualpa**	**38.43**	**351**	P	**P**	**18 01 04.5**	**-0.2**
	comp=Z,509nm,1.3s,mb6.1,baz=168,slow=6.9,SNR=65						
ATAH				S	**S**	**18 06 58.4**	**0.0**
	comp=Z,5.5nm,0.9s,baz=160,slow=21,SNR=2.7						
ATAH				LR	LR	18 14 01.4	
	comp=Z,29μm,19.5s,MS6.1,baz=325,slow=32						
VNA1	**Neumayer--Stat**	**39.69**	**152**	*e*P	**P**	**18 01 15.0**	**+0.3**
VNA1				*e*	pP	18 01 21.7	-0.2
VNA1				*e*		18 01 30.2	
VNA1				*e*		18 01 35.8	
VNA2	**Neumayer--Watz**	**40.00**	**152**	*e*P	**P**	**18 01 16.6**	**-0.7**
	baz=278,slow=7.5						
VNA2				*e*	pP	18 01 23.5	-1.0
VNA2				*e*		18 01 33.3	
VNA2				*e*		18 01 39.4	
SNAA	**Sanae**	**41.50**	**153**	P	**P**	**18 01 29.0**	**-0.7**
SNAA				S	**S**	**18 07 43.7**	**+0.3**
SNAA	**Sanae**	**41.50**	**153**	P	**P**	**18 01 29.0**	**-0.6**
	comp=Z,49nm,1.0s,mb5.1,baz=272,slow=6.7,SNR=68						
SNAA				S	**S**	**18 07 43.7**	**+0.3**
	comp=Z,1.0nm,1.1s,baz=77,slow=21,SNR=1.5						
SNAA				LR	LR	18 16 56.7	
	comp=Z,9μm,18.8s,MS5.6,baz=279,slow=34						
QSPA	**South Pole Qui**	**45.02**	**180**	‖*e*P	**P**	**18 01 57.1**	**-0.9**
	comp=Z,276nm,1.1s,mb6.0						
QSPA				LR	LR		
	comp=Z,20μm,20.0s,MS6.0						
QSPA	**South Pole Qui**	**45.02**	**180**	P	**P**	**18 01 57.4**	**-0.6**
	comp=Z,128nm,1.0s,mb5.7,baz=146,slow=5.4,SNR=50						
QSPA				S	**S**	**18 08 36.7**	**+2.0**
	comp=Z,4.1nm,1.1s,baz=174,slow=9.2,SNR=1.6						
QSPA				LR	LR	18 19 57.2	
	comp=Z,26μm,18.3s,MS6.2,baz=153,slow=35						
TRIS	**Tristan da Cun**	**45.11**	**102**	PFAKE		18 02 10.0	+11
TRIS				LR	LR		
	comp=Z,29μm,21.0s,MS6.2						
MAIT	**Maitri**	**46.28**	**153**	*e*P	**P**	**18 02 05.4**	**-2.6**
MAIT				*e*PP	PP	18 03 53.5	-2.9
MAIT				*e*S	**S**	**18 08 51.1**	**-1.9**
MAIT				*e*SS	SS	18 12 15.2	-2.8
NVL	**N'lazarevskaya**	**46.31**	**153**	*c i*P	**P**	**18 02 08.0**	**-0.3**
NVL				*e*		18 04 04.6	
NVL				*e*S	**S**	**18 08 55.2**	**+1.7**
NVL				pmax	pmax		
	comp=Z,202nm,1.2s,mb5.9						
NVL				MLR	MLR		
	comp=Z,16μm,14.0s,MS6.1						
NVL				MLR	MLR		
	comp=N,7μm,9.0s						
NVL				MLR	MLR		
	comp=E,13μm,14.0s						
ROSC	**El Rosal**	**49.89**	**358**	⇑*e*P	**P**	**18 02 37.4**	**+0.9**
ROSC				*e*PP	PP	18 04 32.6	+1.0
ROSC	**El Rosal**	**49.89**	**358**	P	**P**	**18 02 37.3**	**+0.8**
	comp=E,53nm,0.7s,mb5.7,baz=167,slow=1.9,SNR=41						
ROSC				S	**S**	**18 09 50.4**	**+5.3**
	comp=E,3.4nm,0.3s,baz=88,slow=23,SNR=2.8						
ROSC				LR	LR	18 23 29.4	
	comp=E,34μm,19.2s,MS6.4,baz=186,slow=36						
PTCN	**Pitcairn Islan**	**50.10**	**273**	PFAKE		18 02 50.0	+12
PTCN				LR	LR		
	comp=Z,29μm,20.0s,MS6.3						
RCBR	**Riachuelo**	**50.51**	**50**	*e*P	**P**	**18 02 43.1**	**+1.8**
	comp=Z,37nm,1.2s,mb5.2						
RCBR				LR	LR		
	comp=Z,65μm,19.0s,MS6.7						
SBA	**Scott Base**	**52.05**	**193**	*e*P	**P**	**18 02 51.5**	**-0.6**
	comp=Z,333nm,2.0s,mb5.9						
SBA				LR	LR		
	comp=Z,10μm,20.0s,MS5.9						
SBA	**Scott Base**	**52.05**	**193**	*e*P	**P**	**18 02 51.5**	**-0.6**
SBA				pmax	pmax		
	comp=Z,333nm,2.0s,mb5.9						
SBA				MLR	MLR		
	comp=Z,10μm,20.0s,MS5.9						
VNDA	**Vanda**	**53.06**	**193**	‖*e*P	**P**	**18 02 59.0**	**-0.6**
	comp=Z,54nm,1.3s,mb5.3						
VNDA				LR	LR		
	comp=Z,16μm,20.0s,MS6.1						
VNDA	**Vanda**	**53.06**	**193**	‖*e*P	**P**	**18 02 59.0**	**-0.6**
VNDA				pmax	pmax		
	comp=Z,54nm,1.3s						
VNDA				MLR	MLR		
	comp=Z,16μm,20.0s						
VNDA	**Vanda**	**53.06**	**193**	P	**P**	**18 02 59.3**	**-0.3**
	comp=Z,24nm,1.1s,mb5.0,baz=152,slow=6.5,SNR=16						
VNDA				S	**S**	**18 10 32.3**	**+4.7**
	comp=Z,0.7nm,0.9s,baz=106,slow=19,SNR=1.8						
VNDA				LR	LR	18 23 15.3	
	comp=Z,16μm,18.1s,MS6.1,baz=140,slow=33						
VNDA				PKPPKP		18 33 24.7	
	comp=Z,1.9nm,1.1s,baz=335,slow=4.0,SNR=3.6						
SDV	**Santo Domingo

SJG San Juan 63.30 7⇓eP P 18 04 10.3 -1.5
comp=Z,428nm,1.5s,mb6.4
SJG LR LR
comp=Z,33µm,20.0s,MS6.5
SJG San Juan 63.30 7 P **P 18 04 10.8 -0.9**
SJG pmax pmax
comp=Z,430nm,1.5s
SJG San Juan 63.30 7 P **P 18 04 10.3 -1.5**
comp=Z,83nm,1.0s,mb5.8,baz=225,slow=3.2,SNR=29
SJG S **S 18 12 40.3 -2.0**
comp=Z,3.5nm,0.3s,baz=353,slow=21,SNR=2.3
SJG LR LR 18 31 33.9
comp=Z,28µm,22.0s,MS6.4,baz=45,slow=36
CVJ Coleyville 63.31 355⇓eP P 18 04 11.5 -0.4
BBJ Bamboo Saint A 63.45 355⇓eP P 18 04 12.5 -0.2
CCIG Comitan 63.77 339 eP **P 18 04 12.2 -2.7**
SDDR Presa de Saban 63.91 1 eP **P 18 04 15.5 -0.3**
comp=Z,264nm,1.4s,mb6.1
SDDR LR LR
comp=Z,17µm,20.0s,MS6.2
HUIG Huatulco 64.39 335 eP **P 18 04 17.1 -1.8**
RCC Rio Carpintero 64.97 357 eP **P 18 04 21.6 -1.1**
RCC eS **S 18 12 52.8 -10**
comp=N,9µm,23.7s
RCC e
comp=E,12µm,26.6s
CMIG Matias Romero 65.28 336 i P **P 18 04 26.2 +1.4**
CMIG Matias Romero 65.28 336 P **P 18 04 23.4 -1.3**
comp=E,56nm,1.1s,mb5.5,baz=169,slow=5.4,SNR=20
CMIG LR LR 18 26 28.9
comp=E,35µm,20.9s,MS6.5,baz=130,slow=30
PNIG Pinotepa 65.60 333 i P **P 18 04 27.2 +0.4**
MOAC Moa 65.61 357 eP **P 18 04 27.6 +0.8**
DRV SS SS 18 17 56.0 +32
DRV L 18 20 00.0
DRV R 18 25 00.0
DRV Dumont d'Urvil 65.70 194 S S 18 13 16.0 +5.0
VHO Vista Hermosa 65.81 334 i P **P 18 04 31.7 +3.6**
OXX Oaxaca 65.81 335 i P **P 18 04 30.0 +1.8**
TUIG Tuzandepetl 66.05 337 i P **P 18 04 30.2 +0.5**
CCCC Cccc 66.28 355 eP **P 18 04 31.5 +0.4**
ACX Acapulco 66.64 331 i P **P 18 04 34.0 +0.5**
TEIG Tepich 66.71 344 eP **P 18 04 32.7 -1.2**
comp=E,396nm,1.5s,mb6.2
TEIG LR LR
comp=Z,8µm,19.0s,MS6.0
TEIG Tepich 66.71 344 P **P 18 04 33.0 -0.8**
comp=Z,76nm,1.0s,mb5.7,baz=191,slow=4.3,SNR=16
TEIG S S 18 13 22.2 -2.0
comp=Z,6.0nm,1.0s,baz=264,slow=18,SNR=2.0
TEIG LR LR 18 31 03.8
comp=Z,11µm,18.2s,MS6.1,baz=349,slow=34
CAIG El Cayaco 66.92 331 eP **P 18 04 35.1 -0.3**
MGV Manicaragua 67.36 352 eP **P 18 04 36.3 -1.7**
ZIIG Zihuatanejo 67.86 330 i P **P 18 04 41.4 +0.2**
PLIG Platanillo 67.92 332 i P **P 18 04 41.7 +0.1**
MIR Mirnyy 68.00 174⇑iP **P 18 04 41.0 -0.6**
MIR i S S 18 13 40.0 +1.2
MIR i 18 14 40.0
MIR eSS SS 18 18 12.0 +12
MIR pmax pmax
comp=Z,200nm,1.5s,mb5.9
MIR MLR MLR
comp=Z,30µm,20.0s,MS6.5
TAOE Nuku Hiva Isla 68.06 280 eP **P 18 04 43.1 +0.4**
comp=Z,11µm,1.5s
TAOE eS S 18 13 38.4 -2.6
comp=Z,433µm,27.2s
TAOE eLQ 18 22 22.0
comp=Z,748µm,30.1s
TAOE eLR LR 18 25 16.6
comp=Z,600µm,24.6s,baz=133
TAOE Nuku Hiva Isla 68.06 280 eP **P 18 04 43.1 +0.4**
comp=Z,11µm,1.5s
TAOE eS S 18 13 38.4 -2.6
TAOE eLQ 18 22 22.0
PPM Popocatepetl 68.27 333 i P **P 18 04 47.0 +3.2**
TVO Taravao 68.35 266 eP **P 18 04 45.2 +0.7**
comp=Z,297nm,1.3s,mb6.2
TVO Taravao 68.35 266 eP **P 18 04 45.2 +0.7**
TVO pmax pmax
comp=Z,297nm,1.3s,mb6.2
SOR Soroa 68.37 350 eP **P 18 04 43.0 -1.3**
PAE Paea 68.66 266 eP **P 18 04 46.8 +0.3**
comp=Z,122nm,1.2s,mb5.7
PAE Paea 68.66 266 eP **P 18 04 46.8 +0.3**
PAE pmax pmax
comp=Z,123nm,1.2s,mb5.7
PPT Papeete 68.72 266 eP **P 18 04 47.4 +0.6**
comp=Z,165nm,1.5s,mb5.8
PPT eS S 18 13 46.6 -2.2
comp=Z,12µm,26.8s
PPT eSS SS 18 18 12.5 -0.9
comp=Z,4µm,24.5s
PPT eLQ 18 22 42.4
comp=Z,14µm,26.2s
PPT eLR LR 18 25 26.8
comp=Z,20µm,27.5s,baz=134
PPT Papeete 68.72 266⇓iP **P 18 04 48.4 +1.6**
PPT Papeete 68.72 266 P **P 18 04 46.7 -0.1**
comp=Z,39nm,0.7s,mb5.4,baz=119,slow=14,SNR=9.2
PPT LR LR 18 26 48.5
comp=Z,7µm,19.5s,MS5.9,baz=128,slow=29
IIO Organos 68.79 333 i P **P 18 04 48.0 +1.0**
CASY Casey 68.80 181 eP **P 18 04 45.4 -1.2**
PTVM Pico Tres Padr 68.92 333 i P **P 18 04 44.4 -3.5**
VAH Vaihoa 68.92 269 eP **P 18 04 48.5 +0.4**
comp=Z,326nm,1.2s,mb6.2
PMOR Pomariorio Ree 69.26 269 eP **P 18 04 50.4 +0.2**
comp=Z,253nm,1.4s,mb6.0
SUR Sutherland 69.96 116 P **P 18 04 55.3 +1.0**
comp=Z,389nm,1.2s,mb6.2,SNR=5.8
SUR Sutherland 69.96 116 eP **P 18 04 55.1 +0.8**
comp=Z,207nm,1.5s,mb5.8
SUR LR LR
comp=Z,25µm,20.0s,MS6.5
SUR Sutherland 69.96 116 P **P 18 04 55.0 +0.7**
comp=Z,48nm,1.0s,mb5.4,baz=225,slow=6.3,SNR=17
SFJM Santa Fe 71.07 330 i P **P 18 05 01.0 0.0**
RAR Rarotonga 73.40 257 LR LR 18 30 23.6
comp=Z,18µm,18.1s,MS6.4,baz=133,slow=30
DWPF Disney 73.44 352 eP **P 18 05 14.6 -0.5**
comp=Z,514nm,1.4s,mb6.3
DWPF LR LR
comp=Z,17µm,22.0s,MS6.3
SNZO South Karori 74.99 226 PFAKE 18 05 30.0 +5.8
SNZO LR LR
comp=Z,6µm,20.0s,MS5.9
BOSA Boshof 75.32 116 eP **P 18 05 25.6 -0.7**
comp=Z,159nm,1.3s,mb5.8
BOSA LR LR
comp=Z,16µm,20.0s,MS6.3
BOSA Boshof 75.32 116 eP **P 18 05 25.6 -0.7**
BOSA pmax pmax
comp=Z,159nm,1.3s,mb5.8
BOSA MLR MLR
comp=Z,16µm,20.0s,MS6.3
BOSA Boshof 75.32 116 P **P 18 05 26.2 0.0**
comp=Z,70nm,1.0s,mb5.5,baz=231,slow=6.0,SNR=48
BOSA LR LR 18 35 14.0
comp=Z,16µm,20.1s,MS6.3,baz=223,slow=33
URZ Urewera 75.97 230 LR LR 18 31 50.2
comp=Z,10µm,18.8s,MS6.1,baz=148,slow=30
KVTX Kingsville 76.04 337 eP **P 18 05 32.6 +2.5**
comp=Z,345nm,1.3s,mb6.1
KVTX LR LR
comp=Z,13µm,19.0s,MS6.2
TSUM Tsumeb 76.67 104 PFAKE 18 05 50.0 +16
TSUM LR LR
comp=Z,23µm,21.0s,MS6.5
BRAL Brewton 77.03 347 eP **P 18 05 37.0 +1.4**
comp=Z,957nm,1.3s,mb6.6
BRAL LR LR
comp=Z,7µm,19.0s,MS6.0
LPIG La Paz 77.13 325 P **P 18 05 35.5 -0.8**
comp=Z,48nm,0.5s,mb5.7,baz=60,slow=2.0,SNR=15
LPIG LR LR 18 32 08.9
comp=Z,21µm,20.7s,MS6.5,baz=159,slow=30
BBSR BB Station 77.56 7 eP **P 18 05 38.1 -0.4**
comp=Z,110nm,1.3s,mb5.6
BBSR LR LR
comp=Z,15µm,21.0s,MS6.3
HKT Hockley 77.78 339⇑eP **P 18 05 38.8 -1.1**
comp=Z,266nm,1.6s,mb5.9
HKT e 18 05 53.8
HKT LR LR
comp=Z,12µm,19.0s,MS6.2
HKT Hockley 77.78 339⇑eP **P 18 05 38.8 -1.1**
HKT e 18 05 53.8
HKT pmax pmax
comp=Z,266nm,1.6s,mb5.9
HKT MLR MLR
comp=Z,12µm,19.0s,MS6.2
LBTB Lobatse 78.03 113 eP **P 18 05 40.8 -0.8**
comp=Z,227nm,1.2s,mb6.0
LBTB LR LR
comp=Z,15µm,21.0s,MS6.3
LBTB Lobatse 78.03 113 eP **P 18 05 40.8 -0.8**
LBTB pmax pmax
comp=Z,227nm,1.2s,mb6.0
LBTB MLR MLR
comp=Z,15µm,21.0s,MS6.3
LBTB Lobatse 78.03 113 P **P 18 05 40.6 -1.0**
comp=Z,105nm,1.0s,mb5.7,baz=239,slow=5.8,SNR=75
NHSC New Hope 78.28 353 eP **P 18 05 43.1 +0.5**
comp=Z,565nm,1.3s,mb6.3
NHSC ePP PP 18 08 40.6 +0.5
NHSC LR LR
comp=Z,9µm,21.0s,MS6.1
COW Cow Castle Cre 78.59 353 eP **P 18 05 44.3 0.0**
LIC Lamto 78.87 69 eP **P 18 05 46.2 -0.1**
comp=Z,136nm,1.0s,mb5.5,baz=245
LIC eMLR MLR
comp=Z,19µm,19.5s,MS6.1
LIC Lamto 78.87 69 eP **P 18 05 46.2 -0.1**
comp=Z,68nm,1.0s,mb5.5
LIC LR LR
comp=Z,9µm,19.5s,MS6.1
GOGA Godfrey 78.90 351 eP **P 18 05 45.2 -0.8**
comp=Z,466nm,1.3s,mb6.2
GOGA ePP PP 18 08 48.2 +2.9
GOGA LR LR
comp=Z,8µm,20.0s,MS6.1
GOGA Godfrey 78.90 351 eP **P 18 05 45.2 -0.8**
GOGA e 18 08 48.2
GOGA pmax pmax
comp=Z,466nm,1.3s,mb6.2
GOGA MLR MLR
comp=Z,8µm,20.0s,MS6.1
LRAL Lakeview Retre 79.00 348⇑eP **P 18 05 45.7 -0.8**
comp=Z,303nm,1.3s,mb6.1
LRAL LR LR
comp=Z,7µm,19.0s,MS6.0
NATX Nacogdoches 79.23 341⇑eP **P 18 05 46.9 -0.9**
comp=Z,415nm,1.3s,mb6.2
NATX ePP PP 18 08 49.3 +1.2
NATX LR LR
comp=Z,8µm,19.0s,MS6.1
DBIC Dimbokro 79.31 69⇓eP **P 18 05 48.1 -0.6**
comp=Z,53nm,1.0s,mb5.4
DBIC LR LR
comp=Z,13µm,19.0s,MS6.3
DBIC Dimbokro 79.31 69 P **P 18 05 49.6 +0.9**
DBIC pmax pmax
comp=Z,53nm,1.0s
DBIC Dimbokro 79.31 69 P **P 18 05 48.0 -0.8**
comp=Z,36nm,0.9s,mb5.3,baz=200,slow=6.9,SNR=22
JCT Junction City 79.34 336⇑iP **P 18 05 47.5 -1.0**
comp=Z,453nm,1.4s,mb6.2
JCT ePP PP 18 08 45.9 -3.1
JCT LR LR
comp=Z,8µm,21.0s,MS6.0
JCT Junction City 79.34 336⇑iP **P 18 05 47.5 -1.0**
JCT e 18 08 45.9
JCT pmax pmax
comp=Z,453nm,1.4s,mb6.2
JCT MLR MLR
comp=Z,8µm,21.0s,MS6.0
TXAR Lajitas Array 79.45 333 P **P 18 05 48.4 -0.7**
TXAR PKKPbc PKKPbc 18 24 38.9 +0.7
TXAR P'P' 18 32 37.6
TXAR LR LR 18 34 41.1
TXAR Lajitas Array 79.45 333 P **P 18 05 48.4 -0.7**
comp=Z,76nm,1.2s,mb5.5,baz=154,slow=5.9,SNR=58
TXAR PKKPbc PKKPbc 18 24 38.9 +0.7
comp=Z,0.8nm,0.8s,baz=357,slow=2.5,SNR=4.2
TXAR PKPPKP 18 32 37.6
comp=Z,0.4nm,0.8s,baz=151,slow=2.9,SNR=3.6
TXAR LR LR 18 34 41.1
comp=Z,22µm,21.6s,MS6.5,baz=355,slow=31
JSC Jenkinsville 79.54 353 eP **P 18 05 48.8 -0.6**
JSC Jenkinsville 79.54 353 P **P 18 05 49.6 +0.2**
RAO Raoul Island 79.65 239 PFAKE 18 06 00.0 +10
RAO LR LR
comp=Z,5µm,22.0s,MS5.8
RAO Raoul Island 79.65 239 LR LR 18 32 46.4
comp=Z,3µm,22.0s,MS5.6,baz=139,slow=30
SWET Sewanee 80.99 349 eP **P 18 05 56.2 -1.0**
CPCT Cooper Cave 81.04 350⇑eP **P 18 05 55.9 -1.6**
CPCT ePP PP 18 09 06.5 +3.4
PLAL Pickwick Lake 81.08 347 eP **P 18 05 55.9 -1.8**
comp=Z,367nm,1.3s,mb6.2
PLAL LR LR
comp=Z,7µm,20.0s,MS6.0
TKL Tuckaleechee C 81.16 351 P **P 18 05 57.5 -0.6**
comp=Z,92nm,1.1s,mb5.6,baz=173,slow=6.6,SNR=27
MET Memphis--Engin 81.52 346⇑eP **P 18 06 01.6 +1.6**
UALR University of 81.64 344 eP **P 18 05 59.0 -1.7**
comp=Z,175nm,1.5s,mb5.8
MIAR Mount Ida 81.67 343 eP **P 18 05 59.1 -1.7**
comp=Z,305nm,1.8s,mb5.9
MIAR LR LR
comp=Z,8µm,21.0s,MS6.0
MIAR Mount Ida 81.67 343 P **P 18 05 59.3 -1.5**
MIAR pmax pmax
comp=Z,300nm,1.8s,mb5.9
TZTN Tazewell 82.01 351⇑eP **P 18 06 01.0 -1.6**
comp=Z,421nm,1.4s,mb6.2
TZTN LR LR
comp=Z,10µm,21.0s,MS6.2
HBAR Harrisburg 82.07 345 eP **P 18 06 03.0 +0.1**
WVT Waverly 82.16 348⇑eP **P 18 06 01.6 -1.8**
comp=Z,401nm,1.4s,mb6.2
WVT LR LR
comp=Z,7µm,20.0s,MS6.0
WVT Waverly 82.16 348⇑eP **P 18 06 01.6 -1.8**
WVT pmax pmax
comp=Z,401nm,1.4s,mb6.2
WVT MLR MLR
comp=Z,7µm,20.0s,MS6.0
HALT Halls 82.19 346 eP **P 18 06 03.3 -0.2**
MNTX Cornudas Mount 82.19 332⇑eP **P 18 06 01.8 -1.9**
comp=Z,182nm,1.4s,mb5.8
MNTX LR LR
comp=Z,18µm,22.0s,MS6.4
GNAR Gosnell 82.36 346 eP **P 18 06 03.8 -0.7**
comp=Z,17µm,1.4s
BLA Blacksburg 82.37 354 eP **P 18 06 03.9 -0.5**
comp=Z,318nm,1.4s,mb6.1
BLA ePP PP 18 09 10.3 -3.8
BLA LR LR
comp=Z,11µm,21.0s,MS6.2
BLA Blacksburg 82.37 354 eP **P 18 06 03.9 -0.6**
BLA e 18 09 10.3
BLA pmax pmax
comp=Z,318nm,1.4s,mb6.1
BLA MLR MLR
comp=Z,11µm,21.0s,MS6.2
ELN Prospectdale 82.42 353 eP **P 18 06 04.2 -0.5**
ELN ePP PP 18 09 16.0 +1.6
GLAT Glass 82.53 346⇑eP **P 18 06 04.2 -1.1**
UTMT University of 82.53 347 eP **P 18 06 05.2 -0.1**
comp=Z,1µm,1.3s,mb6.8
URVA University of 82.55 356 eP **P 18 06 04.7 -0.7**
PVMO Portageville 82.74 346 eP **P 18 06 07.2 +0.8**
comp=Z,2µm,1.3s,mb7.0
PARMO Parma 83.00 346 eP **P 18 06 08.0 +0.3**
WMOK Wichita Mounta 83.08 338⇑eP **P 18 06 06.9 -1.3**
comp=Z,315nm,1.4s,mb6.2
WMOK LR LR
comp=Z,6µm,19.0s,MS6.0
WMOK Wichita Mounta 83.08 338 eP **P 18 06 07.4 -0.8**
WMOK pmax pmax
comp=Z,310nm,1.4s,mb6.2
CBN Corbin 83.17 356 eP **P 18 06 08.0 -0.6**
comp=Z,194nm,1.2s,mb6.0
CBN LR LR
comp=Z,12µm,19.0s,MS6.3
319A Douglas 83.25 329 ⇓P **P 18 06 09.9 +0.7**
baz=84,SNR=52
318A Bisbee 83.57 328 P **P 18 06 11.1 +0.2**
baz=84,SNR=90
219A White Tail Can 83.81 329 P **P 18 06 12.3 +0.3**
baz=84,SNR=62
SIUC Southern Illin 83.93 347 eP **P 18 06 11.8 -0.7**
comp=Z,328nm,1.2s,mb6.3
USIN University of 83.94 348 eP **P 18 06 10.5 -2.0**
comp=Z,708nm,1.4s,mb6.6
WCI Wyandotte Cave 84.00 349 eP **P 18 06 10.3 -2.6**
comp=Z,114nm,1.1s,mb5.9
WCI ePP PP 18 09 27.6 +0.2
WCI LR LR
comp=Z,9µm,20.0s,MS6.2
WCI Wyandotte Cave 84.00 349 P **P 18 06 11.3 -1.6**
WCI pmax pmax
comp=Z,110nm,1.1s,mb5.9
AMTX Amarillo 84.01 336 eP **P 18 06 12.2 -0.7**
comp=Z,575nm,1.7s,mb6.4
AMTX LR LR
comp=Z,10µm,19.0s,MS6.2
218A Dragoon 84.07 329 P **P 18 06 13.3 -0.1**
baz=84,SNR=66
217A Green Valley 84.18 328 ⇓P **P 18 06 14.3 +0.3**
baz=84,SNR=54
SDMD Soldier's Deli 84.35 357⇑eP **P 18 06 14.0 -0.6**
comp=Z,308nm,1.3s,mb6.3
FVM French Village 84.40 346 eP **P 18 06 13.4 -1.5**
comp=Z,365nm,1.4s,mb6.3
FVM ePP PP 18 09 31.7 +1.1
FVM French Village 84.40 346 eP **P 18 06 13.4 -1.5**
FVM e 18 09 31.7
FVM pmax pmax
comp=Z,365nm,1.4s,mb6.3
119A Ashpeak Ranch, 84.52 330 P **P 18 06 15.8 +0.2**
baz=85,SNR=58
CCM Cathedral Cave 84.61 345⇑iP **P 18 06 14.6 -1.4**
comp=Z,449nm,1.2s,mb6.5
CCM LR LR
comp=Z,6µm,21.0s,MS5.9
CCM Cathedral Cave 84.61 345 P **P 18 06 14.9 -1.1**
CCM pmax pmax
comp=Z,450nm,1.2s,mb6.5
216A Three Points, 84.63 328 ⇓P **P 18 06 16.7 +0.5**
baz=85,SNR=32
118A Homack Ranch, 84.64 329 ⇓P **P 18 06 16.5 +0.3**
baz=85,SNR=102
MCWV Mont Chateau 84.76 354⇑eP **P 18 06 15.4 -1.2**
comp=Z,258nm,1.4s,mb6.2
MCWV ePP PP 18 09 30.5 -3.1
MCWV LR LR
comp=Z,12µm,20.0s,MS6.3
BNM Barren Site 84.85 332 eP **P 18 06 17.5 +0.2**
117A Oracle 84.87 328 ⇓P **P 18 06 17.7 +0.3**
baz=85,SNR=34
MVL Millersville 84.92 357⇑eP **P 18 06 16.9 -0.5**
comp=Z,289nm,1.4s,mb6.2
MVL ePP PP 18 09 33.4 -1.5
BLO Bloomington 84.96 349⇑eP **P 18 06 15.7 -2.0**
comp=Z,337nm,1.3s,mb6.3
BLO ePP PP 18 09 34.2 -1.0
BLO Bloomington 84.96 349 P **P 18 06 16.3 -1.4**
BLO pmax pmax
comp=Z,340nm,1.2s,mb6.3
LENM Lemitar 84.98 332 eP **P 18 06 18.0 0.0**
SLM Saint Louis 85.00 346 eP **P 18 06 17.2 -0.7**
comp=Z,224nm,1.3s,mb6.1
SLM Saint Louis 85.00 346 P **P 18 06 18.3 +0.4**
SLM pmax pmax
comp=Z,220nm,1.3s,mb6.1
LPM Los Pinos Moun 85.00 332 eP **P 18 06 18.3 +0.3**
Z18A Geronimo 85.07 329 ⇓P **P 18 06 19.4 +1.0**
baz=85,SNR=20
116A Eloy 85.22 328 ⇑P **P 18 06 19.6 +0.4**
baz=86,SNR=35
LAZ Ladron 85.25 332 eP **P 18 06 18.5 -0.8**
TAU Tasmania Unive 85.35 208 PFAKE 18 06 30.0 +10
TAU LR LR
comp=Z,7µm,19.0s,MS6.1
ANMO Albuquerque 85.53 333⇑eP **P 18 06 20.1 -0.6**
comp=Z,270nm,1.4s,mb6.3
ANMO LR LR
comp=Z,22µm,22.0s,MS6.5
ANMO Albuquerque 85.53 333 P **P 18 06 20.6 0.0**
ANMO pmax pmax
comp=Z,270nm,1.3s
ANMO Albuquerque 85.53 333 P **P 18 06 20.5 -0.1**
comp=Z,147nm,1.2s,mb6.1,baz=154,slow=7.5,SNR=43
ANMO PKKPbc PKKPbc 18 24 24.1 -0.1
comp=Z,1.3nm,0.5s,baz=280,slow=2.9,SNR=4.1
115A Sonoran Desert 85.54 327 ⇓P **P 18 06 21.1 +0.3**
baz=86,SNR=86
BRNJ Basking Ridge 85.55 358 eP **P 18 06 21.5 +0.9**
comp=Z,322nm,1.6s,mb6.3
Y19A Nutrioso 85.58 330 ⇑P **P 18 06 21.3 +0.4**
baz=86,SNR=104
ACSO Alum Creek Sta 85.60 352 eP **P 18 06 18.9 -1.9**
comp=Z,243nm,1.3s,mb6.3
ACSO LR LR
comp=Z,10µm,21.0s,MS6.2
SSPA Standing Stone 85.62 356 eP **P 18 06 20.3 -0.6**
comp=Z,192nm,1.4s,mb6.1
SSPA ePP PP 18 09 36.8 -3.7
SSPA LR LR
comp=Z,10µm,20.0s,MS6.2
CPNY Central Park 85.65 359 eP **P 18 06 21.5 +0.4**
comp=Z,89nm,1.4s,mb5.8
Z16A Peralta Trail, 85.81 328 ⇑P **P 18 06 22.5 +0.4**
baz=86,SNR=8.2
PAL Palisades 85.86 359 eP **P 18 06 21.3 -0.9**
comp=Z,132nm,1.5s,mb5.9
PAL Palisades 85.86 359 P **P 18 06 23.5 +1.4**
PAL pmax pmax
comp=Z,130nm,1.4s,mb6.0
Y16A Circle Bar Ran 86.31 328 ⇓P **P 18 06 25.0 +0.5**
baz=87,SNR=72
Z14A Wintersburg 86.40 327 ⇓P **P 18 06 25.5 +0.5**
baz=87,SNR=19
LSZ Lusaka 86.62 108⇑iP **P 18 06 27.5 +0.8**
comp=Z,206nm,1.4s,mb6.2
LSZ LR LR
comp=Z,19µm,20.0s,MS6.5
LSZ Lusaka 86.62 108⇑iP **P 18 06 27.5 +0.8**
LSZ pmax pmax
comp=Z,206nm,1.4s,mb6.2
LSZ MLR MLR
comp=Z,19µm,20.0s,MS6.5
LSZ Lusaka 86.62 108 P **P 18 06 27.8 +1.1**
SNR=52
LSZ Lusaka 86.62 108 P **P 18 06 27.8 +1.1**
SNR=52
AFI Afiamalu 86.66 254 eP **P 18 06 26.2 -0.7**
comp=Z,144nm,1.1s,mb6.1
AFI LR LR
comp=Z,5µm,19.0s,MS5.9
AFI Afiamalu 86.66 254 eP **P 18 06 26.2 -0.7**
AFI pmax pmax
comp=Z,144nm,1.1s,mb6.1
AFI MLR MLR
comp=Z,5µm,19.0s,MS5.9
Y15A Casa Rosa Ranc 86.69 328 ⇓P **P 18 06 26.4 0.0**
baz=87,SNR=83
KSU1 Kansas State U 86.71 341⇑eP **P 18 06 25.1 -1.2**
comp=Z,258nm,1.3s,mb6.3
KSU1 LR LR
comp=Z,7µm,21.0s,MS6.0
HDIL Hopedale 86.72 347 eP **P 18 06 25.1 -1.3**
comp=Z,215nm,1.2s,mb6.2
HDIL LR LR
comp=Z,10µm,21.0s,MS6.2
BRYW Bryant College 86.77 1 eP **P 18 06 26.4 -0.2**
comp=Z,921nm,1.5s,mb6.8
X16A Lo Mia Camp, P 86.78 329 ⇑P **P 18 06 27.0 +0.2**
baz=87,SNR=86
GLA Glamis 86.87 325⇑eP **P 18 06 27.0 -0.3**
comp=Z,260nm,1.5s,mb6.2
GLA LR LR
comp=Z,13µm,22.0s,MS6.3
GLA Glamis 86.87 325⇑eP **P 18 06 27.0 -0.3**
GLA pmax pmax
comp=Z,261nm,1.5s,mb6.2
GLA MLR MLR
comp=Z,13µm,22.0s,MS6.3
GLA Glamis 86.87 325 ⇑P **P 18 06 27.4 +0.1**
baz=87
Y14A Wickenburg 86.94 327 ⇑P **P 18 06 27.6 0.0**
baz=87,SNR=18
DVTC Desert V Tower 87.04 324 ⇑P **P 18 06 28.4 +0.2**
baz=87
BINY Binghamton 87.10 357 eP **P 18 06 26.8 -1.3**

comp=Z,266nm,1.3s,mb6.3
BINY *e*PP PP 18 09 46.8 -5.6
BINY LR LR
comp=Z,11µm,19.0s,MS6.3
QUA2 Belchertown 87.12 0 *e*P **P 18 06 27.8 -0.4**
comp=Z,626nm,1.4s,mb6.7
X15A Humboldt 87.13 328 P **P 18 06 28.9 +0.4**
baz=88,SNR=111
Y13A Salome 87.14 327 ⇓P **P 18 06 29.3 +0.6**
baz=88,SNR=22
SWSC Sam W. Stewart 87.16 325 ⇑P **P 18 06 28.9 +0.2**
baz=88
CBKS Cedar Bluff 87.18 339 *e*P **P 18 06 27.8 -0.9**
comp=Z,450nm,1.3s,mb6.5
CBKS LR LR
comp=Z,6µm,19.0s,MS6.0
CBKS Cedar Bluff 87.18 339 *e*P **P 18 06 27.8 -0.9**
CBKS pmax pmax
comp=Z,450nm,1.3s,mb6.5
CBKS MLR MLR
comp=Z,6µm,19.0s,MS6.0
ERPA Erie 87.22 354 *e*P **P 18 06 27.7 -1.0**
comp=Z,377nm,1.4s,mb6.4
ERPA *e*PP PP 18 09 51.1 -2.4
ERPA LR LR
comp=Z,12µm,19.0s,MS6.3
WES Weston 87.23 1 *e*P **P 18 06 28.6 -0.2**
comp=Z,463nm,1.4s,mb6.5
WES LR LR
comp=Z,10µm,21.0s,MS6.2
WES Weston 87.23 1 *e*P **P 18 06 28.6 -0.2**
WES pmax pmax
comp=Z,463nm,1.4s,mb6.5
WES MLR MLR
comp=Z,10µm,21.0s,MS6.2
HRV Adam Dziewonsk 87.35 1 *e*P **P 18 06 28.6 -0.8**
comp=Z,208nm,1.4s,mb6.2
HRV LR LR
comp=Z,9µm,20.0s,MS6.2
HRV Adam Dziewonsk 87.35 1 *e*P **P 18 06 28.6 -0.8**
HRV pmax pmax
comp=Z,208nm,1.4s,mb6.2
HRV MLR MLR
comp=Z,9µm,20.0s,MS6.2
Y12C Blythe 87.36 326 ⇓P **P 18 06 30.3 +0.7**
baz=88,SNR=48
X14A Yava 87.36 328 ⇑P **P 18 06 30.3 +0.6**
baz=88,SNR=31
MONP Monument Peak 87.38 324 ⇓P **P 18 06 30.1 +0.4**
baz=88
BC3 Big Chuckw Mtn 87.65 325 ⇑P **P 18 06 30.9 -0.1**
baz=88
109C Camp Elliot, M 87.66 324 ⇓P **P 18 06 32.0 +0.8**
baz=88,SNR=5.8
PDMCI Parker Dam,Lak 87.69 327 ⇓P **P 18 06 31.0 -0.2**
baz=88
AAM Ann Arbor 87.71 352 *e*P **P 18 06 30.4 -0.7**
comp=Z,241nm,1.4s,mb6.2
AAM LR LR
comp=Z,11µm,21.0s,MS6.2
AAM Ann Arbor 87.71 352 *e*P **P 18 06 30.4 -0.7**
AAM pmax pmax
comp=Z,241nm,1.4s,mb6.2
AAM MLR MLR
comp=Z,11µm,21.0s,MS6.2
WUAZ Wupatki 87.73 329 *e*P **P 18 06 31.5 +0.1**
comp=Z,349nm,1.6s,mb6.3
WUAZ *e*PP PP 18 09 51.5 -6.2
WUAZ LR LR
comp=Z,18µm,22.0s,MS6.5
WUAZ Wupatki 87.73 329 ⇓P **P 18 06 31.7 +0.3**
baz=88
W15A Williams 87.76 328 ⇓P **P 18 06 32.0 +0.4**
baz=88,SNR=34
SDCO Great Sand Dun 87.80 334⇑*e*P **P 18 06 31.0 -0.6**
comp=Z,103nm,1.4s,mb5.9
SDCO *e*PP PP 18 09 55.1 -3.0
SDCO LR LR
comp=Z,10µm,22.0s,MS6.2
X13A Yucca 87.83 327 P **P 18 06 32.1 +0.2**
baz=88,SNR=134
IRM Iron Mountain 87.97 326 ⇓P **P 18 06 32.5 -0.1**
baz=88
PFO Pinyon Flat Ob 88.02 325 P **P 18 06 33.5 +0.7**
comp=Z,1µm,1.3s,mb7.0,SNR=34
PFO Pinyon Flat Ob 88.02 325⇑*e*P **P 18 06 33.2 +0.4**
comp=Z,446nm,1.4s,mb6.5
PFO LR LR
comp=Z,13µm,19.0s,MS6.4
PFO Pinyon Flat Ob 88.02 325⇑*e*P **P 18 06 33.2 +0.4**
PFO pmax pmax
comp=Z,445nm,1.4s,mb6.5
PFO MLR MLR
comp=Z,13µm,19.0s,MS6.4
PFO Pinyon Flat Ob 88.02 325 P **P 18 06 32.9 0.0**
comp=Z,237nm,1.2s,mb6.3,baz=141,slow=3.6,SNR=34
PFO Pinyon Flat Ob 88.02 325 ⇓P **P 18 06 33.1 +0.3**
baz=88
W14A Seligman 88.10 328 ⇓P **P 18 06 33.5 +0.3**
baz=88,SNR=64
BELC Belle Mtn. 88.17 325 ⇑P **P 18 06 34.2 +0.7**
baz=88
ACCN Adirondack Com 88.23 359⇑*e*P **P 18 06 32.6 -1.0**
comp=Z,254nm,1.4s,mb6.3
ACCN *e*PP PP 18 09 58.8 -2.8
MVCO Mesa Verde 88.26 332⇑*e*P **P 18 06 33.4 -0.5**
comp=Z,299nm,1.5s,mb6.3
MVCO LR LR
comp=Z,28µm,22.0s,MS6.6
MVCO Mesa Verde 88.26 332 ⇑P **P 18 06 33.9 0.0**
baz=89
W13A Hualapai Mount 88.30 327 ⇑P **P 18 06 35.0 +0.9**
baz=89,SNR=87
MURC Murrieta 88.31 324 ⇓P **P 18 06 34.8 +0.6**
baz=89
SCI San Clemente I 88.35 323 ⇑P **P 18 06 35.3 +0.9**
baz=89
TOA0 Torodi Ar. Sit 88.41 70⇑*e*P **P 18 06 33.5 -1.6**
TORD Torodi Ar. Bea 88.41 70 P **P 18 06 34.6 -0.5**
TORD PKKPbc PKKPbc 18 24 16.9 +0.9
TORD Torodi Ar. Bea 88.41 70 P **P 18 06 34.6 -0.5**
comp=Z,22nm,0.9s,mb5.4,baz=232,slow=3.7,SNR=51
TORD PKKPbc PKKPbc 18 24 16.9 +0.9
comp=Z,1.1nm,0.9s,baz=60,slow=1.3,SNR=4.3
V14A Boquillas Ranc 88.48 328 ⇑P **P 18 06 35.7 +0.7**
baz=89,SNR=84
HNH Hanover 88.55 0 *e*P **P 18 06 34.8 -0.2**
comp=Z,366nm,1.4s,mb6.5
CIS Catalina Islan 88.65 323 ⇓P **P 18 06 36.3 +0.4**
baz=89
GMRC Granite Mounta 88.71 326 ⇑P **P 18 06 36.5 +0.4**
baz=89
NCB Newcomb 88.83 359 *e*P **P 18 06 35.2 -1.2**
comp=Z,191nm,1.6s,mb6.2
NCB *e*PP PP 18 10 00.7 -5.6
NCB LR LR
comp=Z,12µm,21.0s,MS6.3
W12A Cal Nev Ari 88.86 327 ⇑P **P 18 06 37.1 +0.3**
baz=89,SNR=10.0
SNCC San Nicolas Is 89.00 322 PFAKE 18 06 50.0 +13
SNCC LR LR
comp=Z,15µm,19.0s,MS6.4
HEC Hector,Ludlow 89.03 325 ⇑P **P 18 06 37.9 +0.3**
baz=89
BFSC Mount Baldy St 89.06 324 ⇓P **P 18 06 37.8 +0.1**
baz=89
LBNH Lisbon 89.08 0⇑*e*P **P 18 06 36.4 -1.1**
comp=Z,121nm,1.4s,mb6.0
LBNH *e*PP PP 18 10 00.2 -8.2
LBNH LR LR
comp=Z,17µm,22.0s,MS6.4
LBNH Lisbon 89.08 0⇑*e*P **P 18 06 36.4 -1.2**
LBNH pmax pmax
comp=Z,121nm,1.4s,mb6.0
LBNH MLR MLR
comp=Z,17µm,22.0s,MS6.4
T16A Glen Canyon Da 89.09 330 ⇑P **P 18 06 38.8 +1.0**
baz=89,SNR=8.7
JFWS Jewell Farm 89.18 347⇑*e*P **P 18 06 36.8 -1.2**
comp=Z,366nm,1.2s,mb6.6
JFWS LR LR
comp=Z,13µm,20.0s,MS6.4
JFWS Jewell Farm 89.18 347⇑*e*P **P 18 06 36.8 -1.2**
JFWS pmax pmax
comp=Z,365nm,1.2s,mb6.6
JFWS MLR MLR
comp=Z,13µm,20.0s,MS6.4

U14A Mt Trumbull 89.20 328 ⇓P **P 18 06 38.5 +0.2**
baz=90,SNR=64
TUQ Turquoise Mtn. 89.39 326 ⇓P **P 18 06 40.0 +0.8**
baz=90
T15A Red Dirt Ranch 89.44 329 P **P 18 06 39.9 +0.4**
baz=90,SNR=84
LONY Lake Ozonia 89.48 359 *e*P **P 18 06 38.7 -0.7**
comp=Z,206nm,1.4s,mb6.3
LONY LR LR
comp=Z,10µm,22.0s,MS6.2
U13A Pakoon Wash 89.49 328 ⇑P **P 18 06 40.2 +0.5**
baz=90,SNR=57
V11A Goodsprings 89.55 326 ⇓P **P 18 06 40.4 +0.4**
baz=90,SNR=67
SMCO Snowmass 89.57 334⇑*e*P **P 18 06 40.4 +0.4**
comp=Z,372nm,1.4s,mb6.5
GSC Goldstone 89.63 325⇓*e*P **P 18 06 40.5 +0.2**
comp=Z,236nm,1.4s,mb6.3
GSC LR LR
comp=Z,12µm,19.0s,MS6.3
GSC Goldstone 89.63 325⇓*e*P **P 18 06 40.5 +0.2**
GSC pmax pmax
comp=Z,236nm,1.4s,mb6.3
GSC MLR MLR
comp=Z,12µm,19.0s,MS6.3
GSC Goldstone 89.63 325 ⇑P **P 18 06 40.5 +0.1**
baz=90
FRNY Flat Rock 89.68 359⇑*e*P **P 18 06 39.0 -1.4**
comp=Z,169nm,1.5s,mb6.2
ISCO Idaho Springs 89.72 335 *e*P **P 18 06 39.8 -0.9**
comp=Z,146nm,1.5s,mb6.1
ISCO *e*PP PP 18 10 10.7 -2.9
ISCO LR LR
comp=Z,8µm,19.0s,MS6.2
ISCO Idaho Springs 89.72 335 *e*P **P 18 06 39.8 -0.9**
ISCO *e* 18 10 10.7
ISCO pmax pmax
comp=Z,146nm,1.5s,mb6.1
ISCO MLR MLR
comp=Z,8µm,19.0s,MS6.2
U12A Valley of Fire 89.72 327 ⇓P **P 18 06 41.7 +0.9**
baz=90,SNR=16
T14A Hurricane 89.73 329 ⇑P **P 18 06 41.6 +0.8**
baz=90,SNR=20
EDW2 Edwards Air Fo 89.75 324 ⇑P **P 18 06 40.8 -0.1**
baz=90
SADO Sadowa 89.81 355 P **P 18 06 40.4 -0.5**
baz=194,slow=7.0
SADO PP PP 18 10 10.2 -3.9
baz=198,slow=10
OSI Osito Adit 89.83 323 ⇑P **P 18 06 42.0 +0.7**
baz=90
MSNY Massena 89.87 358 *e*P **P 18 06 41.1 -0.1**
MSNY *e*PP PP 18 10 11.3 -3.3
SHOC Shoshone 89.94 326 ⇑P **P 18 06 42.2 +0.4**
baz=90
T13A Saint George 90.00 328 P **P 18 06 43.0 +0.9**
baz=90,SNR=40
U11A Corn Creek 90.04 327 ⇑P **P 18 06 43.2 +0.9**
baz=90,SNR=9.8
T12A Moapa 90.05 327 ⇓P **P 18 06 44.5 +2.2**
baz=90,SNR=6.5
LRMC Laurel Mountai 90.14 325 ⇑P **P 18 06 43.7 +1.0**
baz=90
PKME Peaks-Kenny Pk 90.15 2 *e*P **P 18 06 37.9 -4.6**
comp=Z,50nm,1.4s,mb5.7
PKME *e*PP PP 18 10 05.6 -11
PKME LR LR
comp=Z,16µm,21.0s,MS6.4
CCUT Cedar City 90.27 329 *e*P **P 18 06 43.6 +0.3**
GLMI Grayling 90.31 351 *e*P **P 18 06 43.6 +0.3**
comp=Z,298nm,1.2s,mb6.5
GLMI LR LR
comp=Z,11µm,20.0s,MS6.3
S14A Cedar City 90.38 329 ⇑P **P 18 06 44.3 +0.4**
baz=91,SNR=22
U10A Ash Meadows, A 90.41 326 ⇑P **P 18 06 44.7 +0.7**
baz=91,SNR=47
S13A Holt Ranch, En 90.48 328 ⇑P **P 18 06 44.3 0.0**
baz=91,SNR=88
ARUT Antelope Range 90.51 329 *e*P **P 18 06 43.9 -0.5**
MPMC Manual Prospec 90.56 325 ⇓P **P 18 06 45.1 +0.4**
baz=91
ISA Isabella 90.62 324⇑*e*P **P 18 06 44.7 -0.3**
comp=Z,144nm,1.4s,mb6.1
ISA LR LR
comp=Z,10µm,20.0s,MS6.2
ISA Isabella 90.62 324⇑*e*P **P 18 06 44.7 -0.3**
ISA pmax pmax
comp=Z,144nm,1.4s,mb6.1
ISA MLR MLR
comp=Z,10µm,20.0s,MS6.2
ISA Isabella 90.62 324 ⇑P **P 18 06 45.9 +1.0**
baz=91
SRU San Rafael 90.66 331 *e*P **P 18 06 43.3 -1.8**
comp=Z,83nm,1.5s,mb5.8
SRU San Rafael 90.66 331 P **P 18 06 44.8 -0.3**
SRU pmax pmax
comp=Z,83nm,1.5s,mb5.8
FURC Furnace Creek, 90.66 326 ⇓P **P 18 06 45.8 +0.6**
baz=91
T11A Corn Creek, Al 90.69 327 P **P 18 06 45.8 +0.5**
baz=91,SNR=122
MSU Marysvale 90.70 330 *e*P **P 18 06 45.2 -0.1**
MSU *e*PP PP 18 10 17.7 -3.6
R14A James Farms, M 90.81 329 ⇓P **P 18 06 47.2 +1.4**
baz=91,SNR=9.9
TPNV Topopah Spring 90.84 326 PFAKE 18 07 00.0 +14
TPNV LR LR
comp=Z,12µm,21.0s,MS6.3
TPNV Topopah Spring 90.84 326 ⇓P **P 18 06 46.0 +0.1**
baz=91
S12A Delamar Landin 90.88 328 ⇑P **P 18 06 47.1 +1.0**
baz=91,SNR=68
VES Vestal, Richgr 91.03 324 ⇑P **P 18 06 47.7 +0.9**
baz=91
TMUT Trail Mountain 91.06 331⇑*e*P **P 18 06 45.8 -1.2**
PHWY Pilot Hill 91.06 336 *e*P **P 18 06 45.8 -1.1**
PHWY *e*PP PP 18 10 25.6 +1.4
ECSD EROS,Sioux Fal 91.14 343 *e*P **P 18 06 45.5 -1.7**
comp=Z,210nm,1.4s,mb6.3
ECSD *e*PP PP 18 10 22.7 -2.0
ECSD LR LR
comp=Z,12µm,21.0s,MS6.3
S11A Rachel 91.25 327 ⇓P **P 18 06 48.1 +0.2**
baz=92,SNR=28
GRAC Grapevine Rang 91.33 326 ⇓P **P 18 06 49.4 +1.1**
baz=92
CNB Canberra Magne 91.34 213 *e*P **P 18 06 47.6 -1.1**
comp=Z,27nm,1.1s,mb5.5
PTRM Twissleman Ran 91.34 323 *e*P **P 18 06 48.2 -0.2**
R12A Pony Springs, 91.42 328 ⇑P **P 18 06 49.4 +0.8**
baz=92,SNR=44
HELL Mitchell Peak 91.72 324 ⇓P **P 18 06 51.3 +1.2**
baz=92,SNR=14
R11A Troy Canyon, C 91.80 327 ⇑P **P 18 06 50.8 +0.4**
baz=92,SNR=74
S10A Tonopah Range, 91.82 327 ⇑P **P 18 06 50.5 0.0**
baz=92,SNR=27
MPU Maple Canyon 91.85 331 *e*P **P 18 06 51.1 +0.6**
comp=Z,97nm,1.4s,mb5.9
MPU LR LR
comp=Z,26µm,19.0s,MS6.7
S09A Goldfield 91.89 326 ⇑P **P 18 06 51.0 +0.2**
baz=92,SNR=50
RWWY Rawlins 91.94 335 *e*P **P 18 06 50.1 -0.8**
comp=Z,426nm,1.5s,mb6.5
NLU North Lily Min 91.95 331 *e*P **P 18 06 50.8 -0.2**
NLU *e*PP PP 18 10 29.1 -2.1
R10A Warm Springs 92.02 327 ⇓P **P 18 06 51.6 +0.2**
baz=92,SNR=21
DAU Daniels Canyon 92.08 331 *e*P **P 18 06 51.3 -0.3**
DAU *e*PP PP 18 10 34.0 +1.8
S08C White Mtn Res 92.08 325 ⇑P **P 18 06 52.9 +1.2**
baz=92,SNR=9.6
MTUM Tungsten Hills 92.11 325 *e*P **P 18 06 52.5 +0.6**
COWI Conover 92.12 348 *e*P **P 18 06 50.5 -1.1**
comp=Z,122nm,1.4s,mb6.0
COWI *e*PP PP 18 10 32.3 -0.2
COWI LR LR
comp=Z,11µm,22.0s,MS6.3
U04C Hernandez Rese 92.19 323 ⇓P **P 18 06 53.4 +1.2**
baz=92,SNR=9.9
P13A Bates Ranch, G 92.19 329 ⇓P **P 18 06 52.2 +0.1**
baz=92,SNR=39
Q11A Duckwater 92.26 328 ⇑P **P 18 06 52.3 -0.2**
baz=93,SNR=28

R09A Tonopah 92.28 326 ⇑P **P 18 06 52.5 -0.1**
baz=93,SNR=57
T06C Millerton Lake 92.28 324 ⇓P **P 18 06 53.0 +0.3**
baz=93,SNR=8.4
JLU Jordanelle 92.31 331 *e*P **P 18 06 52.7 0.0**
DUG Dugway 92.42 330 *e*P **P 18 06 52.7 -0.5**
comp=Z,85nm,1.4s,mb5.9
DUG *e*PP PP 18 10 35.3 +0.5
DUG LR LR
comp=Z,17µm,21.0s,MS6.5
DUG Dugway 92.42 330 *e*P **P 18 06 52.7 -0.5**
DUG *e* 18 10 35.3
DUG pmax pmax
comp=Z,85nm,1.4s,mb5.9
DUG MLR MLR
comp=Z,17µm,21.0s,MS6.5
DUG Dugway 92.42 330 ⇓P **P 18 06 53.1 -0.1**
baz=93
CTU Camp Tracy 92.49 331 *e*P **P 18 06 52.2 -1.3**
comp=Z,10nm,1.1s,mb5.1
Q10A Clear Creek Ra 92.53 327 ⇑P **P 18 06 54.0 +0.2**
baz=93,SNR=38
P12A McGill 92.53 328 ⇑P **P 18 06 53.7 -0.1**
baz=93,SNR=17
HAST Hastings Reser 92.54 322 ⇓P **P 18 06 55.0 +1.1**
baz=93,SNR=5.6
NOQ North Oquirrh 92.58 331 *e*P **P 18 06 54.1 +0.1**
comp=Z,83nm,1.4s,mb6.0
PDA Ponta Delgada 92.75 35 *i* LR LR 18 37 06.0
SAO San Andreas Ge 92.81 323 *e*P **P 18 06 55.2 +0.1**
comp=Z,32nm,1.3s,mb5.6
SAO LR LR
comp=Z,15µm,20.0s,MS6.4
SAO San Andreas Ge 92.81 323 *e*P **P 18 06 55.2 +0.1**
SAO pmax pmax
comp=Z,32nm,1.3s,mb5.6
SAO MLR MLR
comp=Z,15µm,20.0s,MS6.4
CMLA Cha da Macela 92.82 35 PFAKE 18 07 10.0 +15
CMLA LR LR
comp=Z,19µm,20.0s,MS6.5
Q09A Carvers 92.84 327 ⇑P **P 18 06 57.7 +2.5**
baz=93,SNR=5.9
NVAR Mina Array Bea 92.93 326 P **P 18 06 55.6 0.0**
comp=Z,12nm,1.1s,mb5.2,baz=150,slow=5.9,SNR=32
NVAR PP PP 18 10 36.6 -2.3
comp=Z,8.0nm,1.2s,baz=173,slow=7.8,SNR=3.5
NVAR PKKP PKKPbc 18 24 04.7 -1.0
comp=Z,1.6nm,0.8s,baz=342,slow=1.6,SNR=8.6
N15A Stansbury Isla 92.93 331 ⇓P **P 18 06 55.0 -0.5**
baz=93
R07C Lee Vining 92.94 325 ⇑P **P 18 06 56.8 +1.1**
baz=93,SNR=8.4
N14A Grayback Hills 93.13 330 P **P 18 06 55.9 -0.6**
baz=94,SNR=32
BGU Big Grassy Mou 93.14 330 *e*P **P 18 06 55.4 -1.1**
BGU *e*PP PP 18 10 34.9 -5.7
Q08A Gabbs 93.16 326 ⇑P **P 18 06 56.9 +0.3**
baz=94,SNR=25
O12A Currie 93.17 329 ⇓P **P 18 06 56.0 -0.7**
baz=94,SNR=13
P10A Eureka 93.25 328 ⇓P **P 18 06 57.3 +0.2**
baz=94,SNR=28
HWUT Hardware Ranch 93.25 332⇑*e*P **P 18 06 55.4 -1.6**
comp=Z,151nm,1.3s,mb6.3
HWUT LR LR
comp=Z,17µm,22.0s,MS6.5
RSSD Black Hills 93.28 338 PFAKE 18 07 10.0 +13
RSSD LR LR
comp=Z,2µm,19.0s,MS5.7
SPUT South Promonto 93.28 331⇑*e*P **P 18 06 55.7 -1.4**
O11A Cowboy Ranch, 93.39 328 ⇑P **P 18 06 58.0 +0.3**
baz=94,SNR=32
M15A Larsen Ranch, 93.42 331 ⇑P **P 18 06 57.3 -0.5**
baz=94,SNR=25
CMB Columbia Colle 93.44 324 *e*P **P 18 06 54.0 -4.0**
comp=Z,31nm,1.4s,mb5.5
CMB LR LR
comp=Z,10µm,20.0s,MS6.2
CMB Columbia Colle 93.44 324 *e*P **P 18 06 54.0 -4.0**
CMB pmax pmax
comp=Z,31nm,1.4s,mb5.5
CMB MLR MLR
comp=Z,10µm,20.0s,MS6.2
CMB Columbia Colle 93.44 324 ⇓P **P 18 06 59.1 +1.1**
baz=94
R06C Coleville 93.47 325 ⇓P **P 18 06 58.9 +0.8**
baz=94,SNR=11
N13A Wendover, West 93.49 330 ⇑P **P 18 06 58.4 +0.3**
baz=94,SNR=12
BW06 Boulder Array 93.64 334⇑*e*P **P 18 06 57.3 -1.5**
comp=Z,107nm,1.4s,mb6.1
BW06 LR LR
comp=Z,17µm,20.0s,MS6.5
PDAR Pinedale Array 93.64 334 P **P 18 06 57.9 -0.9**
comp=Z,53nm,1.3s,mb5.8,baz=135,slow=3.7,SNR=44
PDAR PP PP 18 10 44.7 +0.3
comp=Z,2.4nm,1.1s,baz=119,slow=9.4,SNR=3.4
PDAR PKKP PKKPbc 18 24 02.6 -1.4
comp=Z,0.8nm,0.9s,baz=172,slow=1.0,SNR=4.4
PDAR LR LR 18 44 16.0
comp=Z,14µm,18.9s,MS6.5,baz=146,slow=32
JRSC Jasper Ridge 93.69 322 ⇑P **P 18 07 00.7 +1.5**
baz=94
M14A Sheep Mountain 93.76 330 P **P 18 06 58.8 -0.5**
baz=94,SNR=93
N12A Clover Valley, 93.79 329 ⇑P **P 18 07 00.5 +1.0**
baz=94,SNR=20
HVU Hansel Valley 93.81 331⇑*e*P **P 18 06 58.1 -1.5**
comp=Z,30nm,0.9s,mb5.7
HVU Hansel Valley 93.81 331 *e*P **P 18 06 58.7 -0.9**
HVU pmax pmax
comp=Z,30nm,0.9s,mb5.7
O10A Cortez Mining, 93.84 328 ⇑P **P 18 07 01.6 +1.9**
baz=94
R05C Kirkwood Meado 93.88 325 ⇑P **P 18 07 02.6 +2.6**
baz=94,SNR=12
M13A Montello 93.92 330 ⇑P **P 18 07 01.4 +1.3**
baz=94
P08A Dixie Valley 93.93 326 ⇑P **P 18 07 02.4 +2.2**
baz=94,SNR=5.3
N11A Elko Archery C 94.02 329 ⇑P **P 18 07 01.6 +1.0**
baz=94
P07A Fallon 94.12 326 ⇑P **P 18 07 01.4 +0.4**
baz=94
AHID Auburn Hatcher 94.13 333 *e*P **P 18 07 01.3 +0.3**
comp=Z,110nm,1.5s,mb6.1
AHID LR LR
comp=Z,11µm,20.0s,MS6.3
LAVA Lava Cap Winer 94.20 324 ⇓P **P 18 07 01.4 0.0**
baz=94,SNR=8.8
M12A Wells 94.24 329 ⇑P **P 18 07 01.9 +0.3**
baz=95,SNR=20
EYMN Ely 94.28 347 PFAKE 18 07 10.0 +8.5
EYMN LR LR
comp=Z,11µm,22.0s,MS6.3
L13A Double Diamond 94.49 330 ⇑P **P 18 07 03.5 +0.8**
baz=95,SNR=13
M11A Holland Ranch, 94.57 329 ⇑P **P 18 07 02.8 -0.3**
baz=95,SNR=54
MCCM Marconi Confer 94.59 322 PFAKE 18 07 10.0 +6.8
MCCM LR LR
comp=Z,18µm,21.0s,MS6.5
MCCM Marconi Confer 94.59 322 ⇑P **P 18 07 02.9 -0.3**
baz=95
REDW Red Top Meadow 94.59 333 *e*P **P 18 07 02.7 -0.4**
REDW *e*PP PP 18 10 48.0 -3.8
P05C Yuba Gap, Truc 94.61 325 ⇓P **P 18 07 03.5 +0.2**
baz=95,SNR=6.3
K14A Jones Ranch, D 94.63 331 ⇑P **P 18 07 02.7 -0.6**
baz=95,SNR=27
SNOW Snow King Moun 94.64 333 *e*P **P 18 07 02.3 -1.1**
comp=Z,58nm,1.4s,mb5.8
ARMA Armidale 94.69 217 *e*P **P 18 07 03.0 -1.2**
N09A Rock Creek Ran 94.72 327 ⇓P **P 18 07 03.4 -0.3**
baz=95,SNR=7.7
LOHW Long Hollow 94.73 333 *e*P **P 18 07 01.9 -1.8**
comp=Z,73nm,1.5s,mb5.9
TPAW Teton Pass 94.73 333 *e*P **P 18 07 02.2 -1.6**
TPAW *e*PP PP 18 10 52.0 -0.9
NSHM Saint Helena R 94.78 323 *e*P **P 18 07 05.9 +1.8**
N08A GE Springer Mi 94.89 327 ⇓P **P 18 07 04.3 -0.2**
baz=95,SNR=29
MOOW Moose Ponds 94.90 333 *e*P **P 18 07 03.9 -0.6**
DCID1 Drake Creek 94.90 333⇑*e*P **P 18 07 03.5 -1.0**
L12A House Creek Ra 94.92 330 ⇑P **P 18 07 04.1 -0.6**
baz=95,SNR=13

M10A **I.L. Ranch, Tu** 94.93 328 ⇓P P 18 07 04.0 -0.7
baz=95,SNR=12
BEKR **Beckwourth** 94.98 325 ⇑P P 18 07 05.9 +0.9
baz=95
MNRC **McLaughlin Nat** 95.02 323 ⇓P P 18 07 06.8 +1.7
baz=95
O06A **Flanigan** 95.03 326 ⇑P P 18 07 06.6 +1.4
baz=95,SNR=6.3
K13A **Stover Farm, H** 95.03 331 ⇓P P 18 07 05.6 +0.5
baz=95,SNR=6.8
IMW **Indian Meadow** 95.09 333 eP P 18 07 04.2 -1.2
comp=Z,138nm,1.4s,mb6.2
FLWY **Flagg Ranch** 95.19 333⇑eP P 18 07 04.0 -1.8
ORV **Oroville** 95.19 324 ⇑P P 18 07 07.3 +1.4
baz=96
L11A **Cat Creek Ranc** 95.20 329 ⇑P P 18 07 05.5 -0.4
baz=96,SNR=39
N07B **Gerlach** 95.21 326 ⇑P P 18 07 07.3 +1.3
baz=96,SNR=15
K12A **Draper Farm, C** 95.31 330 ⇓P P 18 07 06.0 -0.4
baz=96,SNR=17
AGMN **Agassiz Refuge** 95.37 345 eP P 18 07 04.4 -2.1
comp=Z,49nm,1.3s,mb5.8
AGMN LR LR
comp=Z,9µm,19.0s,MS6.3
HOPS **Hopland** 95.38 323 PFAKE 18 07 20.0 +13
HOPS LR LR
comp=Z,22µm,21.0s,MS6.6
HOPS **Hopland** 95.38 323 ⇓P P 18 07 06.7 -0.1
baz=96
L10A **Juniper Basin** 95.38 329 ⇓P P 18 07 06.1 -0.7
baz=96,SNR=28
LKWY **Lake** 95.53 334 eP P 18 07 07.5 +0.2
comp=Z,37nm,1.4s,mb5.6
LKWY LR LR
comp=Z,21µm,21.0s,MS6.6
LKWY **Lake** 95.53 334 eP P 18 07 07.5 +0.1
LKWY pmax pmax
comp=Z,37nm,1.4s,mb5.6
LKWY MLR MLR
comp=Z,21µm,21.0s,MS6.6
N06A **Buffalo Meadow** 95.53 326 ⇓P P 18 07 09.1 +1.7
baz=96,SNR=25
M08A **Happy Creek Ra** 95.56 327 ⇑P P 18 07 08.4 +0.8
baz=96,SNR=12
YFT **Old Faithful** 95.56 333 eP P 18 07 08.5 +1.0
RLMT **Red Lodge** 95.68 335 eP P 18 07 06.7 -1.3
comp=Z,96nm,1.4s,mb6.0
RLMT LR LR
comp=Z,8µm,21.0s,MS6.2
J13A **Cove Ranch, Pi** 95.72 331 ⇑P P 18 07 08.2 -0.1
baz=96,SNR=48
YNR **Norris Junctio** 95.75 334 eP P 18 07 09.0 +0.7
L09A **Wilkinson Ranc** 95.78 328 ⇓P P 18 07 08.0 -0.6
baz=96
YMR **Madison River** 95.80 333 eP P 18 07 08.2 -0.4
comp=Z,211nm,1.6s,mb6.3
YMR LR LR
comp=Z,12µm,21.0s,MS6.4
M07A **Soldier Meadow** 95.81 327 ⇑P P 18 07 09.8 +1.1
baz=96
K11A **Parker Ranch,** 95.83 329 ⇓P P 18 07 08.5 -0.3
baz=96,SNR=13
P01C **Double 8 Ranch** 95.89 323 ⇓P P 18 07 09.7 +0.6
baz=96
J12A **Stokes Ranch,** 95.92 330 ⇑P P 18 07 08.7 -0.5
baz=96,SNR=28
HLID **Hailey** 95.95 331 eP P 18 07 08.7 -0.6
comp=Z,48nm,1.4s,mb5.7
HLID ePP PP 18 10 52.1 -10
HLID LR LR
comp=Z,13µm,21.0s,MS6.4
HLID **Hailey** 95.95 331 ⇑P P 18 07 09.0 -0.3
baz=96
QLMT **Earthquake Lak** 96.09 333 eP P 18 07 09.4 -0.6
K10A **MacKenzie Ranc** 96.14 329 ⇑P P 18 07 10.3 +0.1
baz=96,SNR=9.4
I13A **Wildhorse Cree** 96.16 331 ⇓P P 18 07 09.6 -0.6
baz=96,SNR=34
L08A **Fields** 96.18 328 ⇓P P 18 07 10.6 +0.2
baz=96,SNR=8.3
OPO **Ambohidratompo** 96.19 124 P P 18 07 11.6 +0.3
comp=Z,2.1nm,0.8s,baz=153,slow=4.5,SNR=3.6
LAO **LASA Array** 96.24 337 PFAKE 18 07 20.0 +9.5
LAO LR LR
comp=Z,8µm,22.0s,MS6.2
MFID **Camas Ranch** 96.32 330 ⇑P P 18 07 11.2 +0.2
baz=97,SNR=11
K09A **Rome** 96.39 328 ⇓P P 18 07 11.7 +0.4
baz=97,SNR=13
GCMT **Greycliff** 96.41 335 eP P 18 07 08.9 -2.4
L07A **Adell** 96.42 327 ⇓P P 18 07 13.6 +2.1
baz=97,SNR=8.0
WDC **Whiskeytown Da** 96.48 324 PFAKE 18 07 20.0 +8.2
WDC LR LR
comp=Z,8µm,21.0s,MS6.2
WDC **Whiskeytown Da** 96.48 324 ⇑P P 18 07 14.4 +2.5
baz=97
WVOR **Wild Horse Val** 96.50 327 eP P 18 07 13.8 +1.9
comp=Z,65nm,1.6s,mb5.8
WVOR LR LR
comp=Z,10µm,22.0s,MS6.3
WVOR **Wild Horse Val** 96.50 327 eP P 18 07 13.8 +1.9
WVOR pmax pmax
comp=Z,65nm,1.6s,mb5.8
WVOR MLR MLR
comp=Z,10µm,22.0s,MS6.3
MCMT **McKenzie Canyo** 96.54 332 eP P 18 07 12.7 +0.7
FUNA **Funafuti** 96.63 251 PFAKE 18 07 20.0 +6.7
FUNA LR LR
comp=Z,7µm,19.0s,MS6.2
MOD **Modoc** 96.69 326 PFAKE 18 07 20.0 +7.3
MOD LR LR
comp=Z,13µm,19.0s,MS6.4
K08A **Mann Creek Ran** 96.70 328 ⇑P P 18 07 14.7 +1.9
baz=97,SNR=7.2
G15A **Dillon** 96.73 333 ⇑P P 18 07 13.5 +0.7
baz=97,SNR=19
H13A **Challis** 96.78 331 ⇓P P 18 07 13.1 +0.1
baz=97,SNR=30
I11A **Placerville** 96.80 330 ⇓P P 18 07 12.9 -0.3
baz=97,SNR=7.1
BOZ **Bozeman (W)** 96.88 334 eP P 18 07 11.4 -2.1
comp=Z,34nm,1.5s,mb5.5
BOZ LR LR
comp=Z,14µm,22.0s,MS6.4
BOZ **Bozeman (W)** 96.88 334 eP P 18 07 11.4 -2.1
BOZ pmax pmax
comp=Z,34nm,1.5s,mb5.6
BOZ MLR MLR
comp=Z,14µm,22.0s,MS6.4
BOZ **Bozeman (W)** 96.88 334 ⇑P P 18 07 12.9 -0.6
baz=97
M03C **McCloud** 96.89 325 ⇑P P 18 07 14.4 +0.8
baz=97
DLMT **Dillon** 96.94 333 eP P 18 07 13.9 +0.1
comp=Z,112nm,1.7s,mb6.0
K07A **Rock Creek Ran** 96.95 327 ⇑P P 18 07 15.1 +1.2
baz=97,SNR=13
J09A **Fry Pan Ranch,** 96.96 329 ⇑P P 18 07 14.1 +0.2
baz=97,SNR=28
H12A **Diamond D Ranc** 96.97 331 ⇓P P 18 07 14.5 +0.6
baz=97,SNR=17
G14A **Jackson** 97.11 332 ⇓P P 18 07 16.2 +1.6
baz=98
J08A **Circle Bar Ran** 97.23 328 ⇑P P 18 07 15.6 +0.5
baz=98,SNR=8.9
G13A **Cobalt** 97.24 332 ⇑P P 18 07 15.2 +0.1
baz=98,SNR=24
STKA **Stephens Creek** 97.24 209 P P 18 07 13.4 -2.4
comp=Z,3.7nm,0.4s,mb5.1,baz=168,slow=5.1,SNR=8.4
STKA LR LR 18 45 12.6
comp=Z,7µm,18.8s,MS6.2,baz=178,slow=32
ULM **Lac du Bonnet** 97.24 345 eP P 18 07 12.6 -2.4
comp=Z,32nm,1.3s,mb5.6
ULM LR LR
comp=Z,14µm,20.0s,MS6.4
ULM **Lac du Bonnet** 97.24 345 P P 18 07 12.4 -2.6
comp=Z,17nm,1.1s,mb5.4,baz=181,slow=3.1,SNR=17
ULM PP PP 18 11 13.7 +1.5
comp=Z,20nm,1.1s,baz=155,slow=7.2,SNR=8.5
ULM PKKPbc PKKPbc 18 23 52.6 -2.0
comp=Z,2.5nm,0.9s,baz=1.0,slow=4.7,SNR=4.9
F15A **Butte** 97.33 333 ⇓P P 18 07 16.3 +0.8
baz=98,SNR=25
DGMT **Dagmar** 97.36 339 eP P 18 07 15.4 -0.1
comp=Z,38nm,1.1s,mb5.7
DGMT LR LR
comp=Z,5µm,20.0s,MS6.0
I09A **Lost Marbles R** 97.49 329 ⇓P P 18 07 16.5 +0.2
baz=98,SNR=8.0
H11A **Donnelly** 97.51 330 ⇓P P 18 07 15.9 -0.5
baz=98,SNR=19
YBH **Yreka Blue Hor** 97.52 325 PFAKE 18 07 30.0 +14
YBH LR LR
comp=Z,9µm,21.0s,MS6.2
F14A **Wisdom** 97.58 332 ⇓P P 18 07 19.0 +2.3
baz=98
K05A **Summer Lake** 97.62 326 ⇑P P 18 07 19.6 +2.6
baz=98,SNR=7.6
H10A **Noah's Angus R** 97.67 330 ⇓P P 18 07 17.9 +0.8
baz=98
J06A **Christmas Vall** 97.78 327 ⇑P P 18 07 19.0 +1.4
baz=98,SNR=7.2
F13A **Darby** 97.88 332 ⇑P P 18 07 18.1 +0.1
baz=98
E15A **Deer Lodge** 97.89 333 ⇑P P 18 07 18.7 +0.7
baz=98,SNR=12
H09A **Durkee** 98.06 329 ⇑P P 18 07 20.4 +1.5
baz=98,SNR=5.8
BMO **Blue Mountains** 98.09 330 PFAKE 18 07 30.0 +11
BMO LR LR
comp=Z,15µm,19.0s,MS6.5
E14A **Clinton** 98.16 333 ⇑P P 18 07 19.6 +0.4
baz=98,SNR=9.8
F12A **Elk City** 98.16 331 ⇓P P 18 07 17.8 -1.5
baz=98,SNR=19
G11A **Walters Elk Ra** 98.20 330 ⇓P P 18 07 18.8 -0.7
baz=98,SNR=17
I07A **Izee** 98.24 328 ⇓P P 18 07 19.1 -0.6
baz=99,SNR=8.1
HUMO **Hull Mountain** 98.35 325 PFAKE 18 07 30.0 +10
HUMO LR LR
comp=Z,11µm,21.0s,MS6.3
D15A **Lincoln** 98.40 334 P P 18 07 20.9 +0.6
baz=99,SNR=21
G10A **Bishop Farm, J** 98.41 330 ⇑P P 18 07 21.5 +1.1
baz=99,SNR=7.4
E13A **Victor** 98.41 332 ⇑P P 18 07 20.4 +0.1
baz=99,SNR=13
EGMT **Eagleton** 98.45 336 eP P 18 07 18.1 -2.4
comp=Z,38nm,1.5s,mb5.7
EGMT LR LR
comp=Z,5µm,20.0s,MS6.0
EGMT **Eagleton** 98.45 336 ⇑P P 18 07 21.0 +0.6
baz=99
CHMT **Chamberlain Mo** 98.52 333 eP P 18 07 21.4 +0.6
F11A **Grangeville** 98.59 331 ⇓P P 18 07 21.5 +0.3
baz=99
MSO **Missoula** 98.67 333 PFAKE 18 07 30.0 +8.5
MSO LR LR
comp=Z,9µm,19.0s,MS6.3
H07A **Lands Inn, Kim** 98.69 328 ⇓P P 18 07 22.4 +0.7
baz=99
D14A **Greenough** 98.75 333 ⇓P P 18 07 22.8 +0.9
baz=99,SNR=17
E11A **Bogner Ranch,** 99.01 331 ⇓P P 18 07 23.1 +0.1
baz=99,SNR=7.8
POHA **Pohakuloa** 99.04 289 PFAKE 18 07 30.0 +6.1
POHA LR LR
comp=Z,13µm,22.0s,MS6.4
MDT **Midelt** 99.06 52 LR LR 18 52 28.4
comp=Z,21µm,19.6s,MS6.6,baz=237,slow=36
G08A **Pilot Rock** 99.07 329 ⇑P P 18 07 23.2 -0.1
baz=99,SNR=8.2
D13A **Huson** 99.07 332 ⇓P P 18 07 23.5 +0.2
baz=99,SNR=12
H06A **Lindquist Farm** 99.11 328 ⇓P P 18 07 24.1 +0.5
baz=99,SNR=6.2
D12A **Red Ives Fores** 99.33 332 ⇑P P 18 07 24.2 -0.3
baz=100
C14A **Swan Lake** 99.44 333 ⇓P P 18 07 24.7 -0.2
baz=100
SCHQ **Schefferville** 99.80 3 ePdif Pdif 18 07 26.6 -0.6
comp=Z,8.6nm,1.1s
SCHQ LR LR
comp=Z,13µm,21.0s,MS6.4
SCHQ **Schefferville** 99.80 3 P Pdif 18 07 27.2 0.0
comp=Z,7.1nm,1.1s,baz=214,slow=7.1,SNR=4.8
SCHQ PP PP 18 11 27.7 -4.0
comp=Z,9.8nm,1.0s,baz=164,slow=6.0,SNR=6.5
SCHQ LR LR 18 52 40.7
comp=Z,10µm,21.9s,MS6.3,baz=1.5,slow=36
D10A **Wagner Farm, O** 99.98 331 ⇑P Pdif 18 07 27.8 -0.3
baz=100
COR **Corvallis** 100.13 326 PFAKE 18 07 40.0 +11
COR LR LR
comp=Z,12µm,20.0s,MS6.4
B13A **Whitefish** 100.20 333 ⇓P Pdif 18 07 28.6 -0.4
baz=101,SNR=6.1
HAWA **Hanford** 100.22 329 PFAKE 18 07 40.0 +11
HAWA LR LR
comp=Z,11µm,21.0s,MS6.3
WALA **Waterton Lakes** 100.62 334 ePdif Pdif 18 07 30.1 -0.9
comp=Z,68nm,1.5s
NEW **Newport** 100.98 331 ePdif Pdif 18 07 31.9 -0.6
NEW LR LR
comp=Z,8µm,22.0s,MS6.2
NEW **Newport** 100.98 331 P Pdif 18 07 31.7 -0.8
comp=Z,1.7nm,0.8s,baz=174,slow=4.0,SNR=4.0
NEW PP PP 18 11 38.4 -2.4
comp=Z,3.9nm,1.0s,baz=147,slow=8.5,SNR=4.4
EVO **Evora** 101.54 46 eP Pdif 18 07 31.1 -3.9
comp=Z,43nm,1.5s
EVO eMLR MLR
comp=Z,22µm,22.2s,MS6.3
NWAO **Narrogin (SRO)** 101.71 188 PFAKE 18 07 50.0 +14
NWAO LR LR
comp=Z,7µm,19.0s,MS6.2
KIP **Kipapa** 101.86 288 PFAKE 18 07 50.0 +14
KIP LR LR
comp=Z,12µm,22.0s,MS6.4
NLWA **Neilton Lookou** 102.68 327 PFAKE 18 07 50.0 +10
NLWA LR LR
comp=Z,12µm,19.0s,MS6.4
FFC **Flin Flon** 102.68 343 PFAKE 18 07 50.0 +10
FFC LR LR
comp=Z,10µm,20.0s,MS6.3
KMBO **Kilima Mbogo** 102.99 105 PFAKE 18 07 50.0 +8.6
KMBO LR LR
comp=Z,14µm,19.0s,MS6.5
EDM **Edmonton** 104.12 336 ePdif Pdif 18 07 44.3 -2.2
EDM **Edmonton** 104.12 336 eP Pdif 18 07 45.5 -1.0
PAB **San Pablo** 104.20 48 PFAKE 18 08 00.0 +13
PAB LR LR
comp=Z,13µm,20.0s,MS6.5
ESDC **Sonseca Array** 104.49 48 Pdiff Pdif 18 07 48.2 +0.1
comp=Z,1.7nm,0.8s,baz=227,slow=5.9,SNR=7.0
ESDC PP PP 18 12 08.8 +1.4
comp=Z,0.8nm,0.9s,baz=189,slow=7.5,SNR=3.1
ESLA **Sonseca Array** 104.49 48 ePdif Pdif 18 07 46.3 -1.8
ESLA LR LR
comp=Z,65µm,20.0s,MS7.2
FCC **Fort Churchill** 105.16 349 ePKPdf PKiKP 18 12 03.6 -0.6
CTAO **Charters Tower** 106.05 218 PFAKE 18 12 20.0 +13
CTAO LR LR
comp=Z,7µm,19.0s,MS6.2
ASAR **Alice Springs** 107.34 205 Pdiff Pdif 18 07 59.0 -1.7
comp=Z,0.9nm,1.0s,baz=158,slow=6.0,SNR=5.9
ASAR PKiKP PKiKP 18 12 07.5 -2.1
comp=Z,1.8nm,0.9s,baz=136,slow=1.4,SNR=15
ASAR PKKPbc PKKPbc 18 23 22.6 -0.9
comp=Z,1.0nm,0.8s,baz=344,slow=2.4,SNR=13
ASAR PKKPab PKKPab 18 23 38.4 -4.2
comp=Z,1.6nm,0.9s,baz=349,slow=2.8,SNR=4.2
HNR **Honiara** 108.05 235 PFAKE 18 12 20.0 +8.9
HNR LR LR
comp=Z,4µm,19.0s,MS6.0
SJPF **Ste Jean** 108.40 47 ePKIKP PKiKP 18 12 05.7 -5.0
EPF **Esparros** 109.15 48 ePKIKP PKiKP 18 12 06.9 -5.2
MTLF **Montolieu** 110.36 49 ePKIKP PKiKP 18 12 09.2 -5.2
WB2 **Warramunga Arr** 110.69 207 eP PKiKP 18 12 13.4 -2.5
WRA **Warramunga Arr** 110.69 207 P Pdif 18 08 14.6 -1.1
WRA 18 12 13.4
WRA 18 12 51.7
WRA **Warramunga Arr** 110.69 207 Pdiff Pdif 18 08 14.6 -1.1
comp=Z,0.8nm,1.0s,baz=168,slow=3.9,SNR=3.2
WRA PKiKP PKiKP 18 12 13.4 -2.6
comp=Z,4.3nm,1.0s,baz=163,slow=1.5,SNR=23
WRA PP PP 18 12 51.7 +0.1
comp=Z,1.3nm,1.0s,baz=151,slow=7.1,SNR=5.4
WRA PKKPbc PKKPbc 18 23 11.4 -1.6
comp=Z,0.4nm,0.6s,baz=341,slow=3.3,SNR=5.5
WRAB **Tennant Creek** 110.70 207⇑ePKP PKiKP 18 12 13.9 -2.0
WRAB LR LR
comp=Z,9µm,20.0s,MS6.3
QUIF **Quistinic** 110.83 42 ePKIKP PKiKP 18 12 10.3 -4.8
RJF **Les Rejaudoux** 111.34 47 ePKIKP PKiKP 18 12 11.5 -4.7
RJF eMLR MLR
comp=Z,35µm,20.2s,MS6.6
RJF **Les Rejaudoux** 111.34 47 ePKIKP PKiKP 18 12 11.5 -4.7
RJF MLR MLR
comp=Z,35µm,20.3s,MS6.9
CAF **Calviac** 111.36 47 ePKIKP PKiKP 18 12 11.6 -4.6
MFF **Saint Martin d** 111.39 45 ePKIKP PKiKP 18 12 11.2 -5.0
LASF **Ste Croix** 111.73 49 ePKIKP PKiKP 18 12 12.4 -4.6
GRR **Gorron** 112.27 43 ePKIKP PKiKP 18 12 13.2 -4.6
comp=Z,14nm,0.9s
TCF **Toulx Ste Croi** 112.36 46 ePKIKP PKiKP 18 12 13.5 -4.6
YKA **Yellowknife Ar** 112.54 340 Pdif Pdif 18 08 22.8 -1.1
YKA PKPdf PKiKP 18 12 15.9 -2.0
YKA PKKPbc PKKPbc 18 23 06.6 -1.3
YKA **Yellowknife Ar** 112.54 340 P Pdif 18 08 22.8 -1.1
YKA 18 12 15.9
YKA **Yellowknife Ar** 112.54 340 Pdiff Pdif 18 08 22.8 -1.1
comp=Z,0.9nm,0.9s,baz=145,slow=4.7,SNR=14
YKA PKiKP PKiKP 18 12 15.9 -2.0
comp=Z,6.2nm,1.1s,baz=145,slow=2.4,SNR=25
YKA PKKPbc PKKPbc 18 23 06.6 -1.3
comp=Z,1.3nm,0.9s,baz=330,slow=3.3,SNR=12
BGF **Bois d'Agland** 112.87 46 ePKIKP PKiKP 18 12 14.1 -5.0
MBWA **Marble Bar** 113.00 192 PFAKE 18 12 30.0 +10
MBWA LR LR
comp=Z,11µm,19.0s,MS6.5
WRAK **Wrangell Islan** 113.02 329 PFAKE 18 12 30.0 +11
WRAK LR LR
comp=Z,9µm,20.0s,MS6.3
SFJD **Kangerlussuaq** 113.13 9 PFAKE 18 12 30.0 +11
SFJD LR LR
comp=Z,9µm,20.0s,MS6.3
AVF **Avril sur Loir** 113.28 46 ePKIKP PKiKP 18 12 15.2 -4.6
ORIF **Oris-en-Rattie** 113.37 49 ePKIKP PKiKP 18 12 15.5 -4.6
ORIF eMLR MLR
comp=Z,11µm,20.0s,MS6.1
SMF **Signal de Mont** 113.44 47 ePKIKP PKiKP 18 12 15.5 -4.6
SSF **Saint Saulge** 113.54 46 ePKIKP PKiKP 18 12 15.6 -4.7
DLBC **Dease Lake** 113.72 331 ePKPdf PKiKP 18 12 21.5 +1.2
MBDF **Montbardon** 113.72 50 ePKIKP PKiKP 18 12 16.1 -4.7
LOR **Lormes** 113.86 46 ePKIKP PKiKP 18 12 16.4 -4.5
comp=Z,26nm,1.2s
LOR eMLR MLR
comp=Z,22µm,20.2s,MS6.5
LOR **Lormes** 113.86 46 ePKIKP PKiKP 18 12 16.4 -4.5
LOR MLR MLR
comp=Z,22µm,20.3s,MS6.8
LPG **La Plagne** 114.22 49 ePKIKP PKiKP 18 12 17.2 -4.5
comp=Z,16nm,1.1s
LPL **La Plagne** 114.22 49 ePKIKP PKiKP 18 12 17.4 -4.3
comp=Z,11nm,0.9s
CABF **La Chapelle** 114.58 48 ePKIKP PKiKP 18 12 17.8 -4.5
comp=Z,12nm,1.1s
SIT **Sitka** 114.60 328 PFAKE 18 12 30.0 +8.0
SIT LR LR
comp=Z,11µm,19.0s,MS6.5
FITZ **Fitzroy Crossi** 114.85 199 eP PKiKP 18 12 23.2 -0.7
comp=Z,8.4nm,1.4s
FITZ **Fitzroy Crossi** 114.85 199 PKP PKiKP 18 12 21.4 -2.4
comp=Z,3.9nm,0.8s,baz=160,slow=1.6,SNR=3.9
MEZF **Maizieres J'vi** 115.28 46 ePKIKP PKPdf 18 12 19.1 -4.5
HINF **Hinteralfeld** 115.76 47 ePKIKP PKPdf 18 12 20.0 -4.5
comp=Z,36nm,1.5s
BAIF **Baives** 115.86 44 ePKIKP PKPdf 18 12 20.2 -4.5
comp=Z,40nm,1.4s
ESK **Eskdalemuir** 115.95 36 PFAKE 18 12 40.0 +15
ESK LR LR
comp=Z,17µm,21.0s,MS6.6
EKA **Eskdalemuir Ar** 115.98 36 PKP PKPdf 18 12 24.2 -0.5
comp=Z,2.9nm,1.0s,baz=262,slow=3.7,SNR=3.5
DOU **Dourbes** 116.07 44 PKP PKPdf 18 12 26.7 +1.6
CDF **Champ du Feu** 116.36 47 ePKIKP PKPdf 18 12 21.3 -4.4
comp=Z,19nm,1.4s
BORG **Borgarnes** 116.68 22 PFAKE 18 12 40.0 +14
BORG LR LR
comp=Z,11µm,19.0s,MS6.5
DAVOX **Davos/Dischmat** 116.71 50 PKP PKPdf 18 12 26.5 +0.1
comp=Z,7.2nm,0.9s,baz=251,slow=9.7,SNR=7.4
BFO **Black Forest** 116.85 48 ePKPdf PKPdf 18 12 27.3 +0.7
BFO LR LR
comp=Z,14µm,21.0s,MS6.5
DAVA **Damuels** 117.02 49⇑ iP PKPdf 18 12 27.4 +0.4
comp=Z,12nm,1.4s
MEM **Membach** 117.10 45 PKP PKPdf 18 12 27.6 +0.6
HGN **Heimansgroeve** 117.16 44 ePKiKP PKiKP 18 12 24.9 -2.3
comp=Z,16nm,1.3s
STU **Stuttgart** 117.58 48 ePKPdf PKPdf 18 12 29.7 +1.7
RETA **Reutte** 117.62 49 i PKiKP PKiKP 18 12 29.5 +1.3
comp=Z,23nm,1.2s,SNR=10
WTTA **Wattenberg** 117.96 50 i P PKPdf 18 12 30.2 +1.4
comp=Z,26nm,1.4s,SNR=9.8
KAKA **Kakadu** 118.08 208 ePKPdf PKPdf 18 12 29.7 -0.4
ABTA **Abfaltersbach** 118.12 51⇑iPKPdf PKPdf 18 12 28.5 -0.7
comp=Z,10nm,1.2s,SNR=6.5
WTSB **Winterswijk** 118.33 44 ePKiKP PKiKP 18 12 30.3 +0.9
comp=Z,32nm,1.3s
CEY **Cerknica** 118.58 53 ePKPdf PKPdf 18 12 31.0 +1.0
CEY e 18 23 44.2
KBA **Koelnbreinsper** 118.78 51⇑iP PKPdf 18 12 31.4 +1.0
comp=Z,9.1nm,1.2s
LJU **Ljubljana** 118.82 53 ePKIKP PKPdf 18 12 31.3 +0.8
LJU e 18 23 40.8
LJU **Ljubljana** 118.82 53 ePKPdf PKPdf 18 12 31.3 +0.8
LJU e 18 23 40.8
LJU e 18 25 11.4
PDKS **Podkum** 119.09 53 ePKPdf PKPdf 18 12 31.9 +0.9
GRFO **Grafenberg** 119.19 48 ePKPdf PKPdf 18 12 31.7 +0.6
GRFO LR LR
comp=Z,12µm,21.0s,MS6.5
GRA1 **Grafenberg Arr** 119.19 48 ePKPdf PKPdf 18 12 32.8 +1.7
GRA1 ePKKP PKKPdf 18 23 15.8 +0.3
GRA1 eSP SP 18 23 57.3 +20
GRA1 eSS SS 18 30 47.2 +35
GRA1 LR LR
comp=Z,12µm,21.8s,MS6.5
GRF **Grafenberg Arr** 119.19 48 ePKPdf PKPdf 18 12 32.8 +1.7
GRF ePKKPdf PKKPdf 18 23 15.8 +0.3
GRF eSP SP 18 23 57.3 +20
GRF eSS SS 18 30 47.2 +35
GRF eL 19 01 42.9
comp=Z,13µm,21.8s
UBBA **Unterbreizbach** 119.23 46 ePKPdf PKPdf 18 12 32.9 +1.8
MIDW **Midway** 119.53 281 PFAKE 18 12 40.0 +7.5
MIDW LR LR
comp=Z,10µm,19.0s,MS6.5
GROS **Grobnik** 119.61 53 ePKPdf PKPdf 18 12 33.1 +1.1
WET **Wettzell** 119.74 49 ePKPdf PKPdf 18 12 32.7 +0.5
ROTZ **Rotzenmuhle** 119.75 48 ePKPdf PKPdf 18 12 32.9 +0.7
MANZ **Manzenberg** 119.83 48 ePKPdf PKPdf 18 12 33.0 +0.7
MOX **Moxa** 119.96 47 ePKP PKPdf 18 12 33.7 +1.2
comp=Z,36nm,1.5s
MOX
comp=Z,13µm,22.0s
MOX **Moxa** 119.96 47 ePKPdf PKPdf 18 12 33.4 +0.9
GEC2 **GERESS Array S** 120.01 50 ePKPdf PKPdf 18 12 33.1 +0.4
GERES **GERESS Array B** 120.01 50 PKP PKPdf 18 12 31.8 -0.9
comp=Z,5.5nm,0.8s,baz=207,slow=1.5,SNR=36
GERES PKKPbc PKKPbc 18 22 40.4 -0.8
comp=Z,0.6nm,0.8s,baz=32,slow=4.1,SNR=4.3
CLZ **Clausthal** 120.03 45 ePKPdf PKPdf 18 12 34.0 +1.4
ARSA **Arzberg** 120.08 52⇑iP PKPdf 18 12 32.7 -0.1
comp=Z,15nm,1.1s,SNR=8.1
KHC **Kasperske Hory** 120.11 49 ePKPdf PKPdf 18 12 33.2 +0.3
KHC ePS PS 18 23 50.9 +2.6
KHC AMS AMS 19 01 10.0
comp=Z,8µm,21.7s,MS6.3
WERN **Wernitzgruen** 120.15 48 ePKPdf PKPdf 18 12 33.9 +1.0
NKC **Novy Kostel** 120.15 48 ePKP PKPdf 18 12 34.3 +1.4
NKC e 18 23 32.0
NKC **Novy Kostel** 120.15 48 ePKPdf PKPdf 18 12 34.3 +1.4
NKC ex x 18 23 32.0
NKC AMS AMS 19 02 40.0
comp=Z,14µm,19.9s,MS6.6
GUNZ **Gunzen** 120.17 48 ePKPdf PKPdf 18 12 34.0 +1.1
WERD **Werda** 120.20 47 ePKPdf PKPdf 18 12 33.8 +0.8
TANN **Tannenbergstha** 120.27 48 ePKPdf PKPdf 18 12 34.2 +1.1
NRDL **Niedersach Rie** 120.28 45 ePKPdf PKPdf 18 12 34.2 +1.1
RES **Resolute Bay** 120.56 353 ePKPdf PKPdf 18 12 30.9 -2.2
RES ePP PP 18 13 56.0 -5.4
DAWY **Dawson** 120.90 332 ePKPdf PKPdf 18 12 31.6 -2.4
DAWY ePP PP 18 14 02.7 -1.2

SOP	**Sopron**	**120.91**	**52**	⇑*e*PKP	PKPdf	18 12 34.9	+0.4
FBE	**Freiberg**	**121.02**	**47**	*e*PKPdf	PKPdf	18 12 35.0	+0.4
CLL	**Collm**	**121.06**	**47**	*i* PKP	PKPdf	18 12 34.9	+0.3
CLL				*i*		18 12 40.0	
CLL				LR	LR		
	comp=Z,19μm,20.1s,MS6.7						
CLL	**Collm**	**121.06**	**47**	*e*PKPdf	PKPdf	18 12 35.4	+0.8
CLL	**Collm**	**121.06**	**47**	*i* PKPdf	PKPdf	18 12 34.9	+0.3
	comp=Z,25nm,1.3s						
CLL				*i* x	x	18 12 40.0	
CLL				*e*PS	PS	18 23 53.0	-3.7
CLL				*e*SS	SS	18 30 24.0	-12
CLL				Lm		19 03 00.0	
	comp=N,6μm,19.6s						
CLL				Lm		19 03 00.0	
	comp=E,13μm,20.4s						
CLL				Lm		19 03 00.0	
	comp=Z,19μm,20.1s						
PRU	**Pruhonice**	**121.12**	**49**	*e*PKPdf	PKPdf	18 12 35.2	+0.4
PRU				*ex*	x	18 24 06.7	
PRU				AMS	AMS	18 59 30.0	
	comp=Z,8μm,23.5s,MS6.3						
BSEG	**Bad Segeberg**	**121.22**	**43**	*e*PKPdf	PKPdf	18 12 35.9	+1.1
TREC	**Trest**	**121.23**	**50**	*e*PKPdf	PKPdf	18 12 35.9	+0.9
TREC				AMS	AMS	19 09 00.0	
	comp=Z,8μm,16.7s,MS6.5						
PKSM	**Moragy**	**121.25**	**54**	⇑P	PKPdf	18 12 35.2	0.0
PKSM	**Moragy**	**121.25**	**54**	PKIKP	PKPdf	18 12 36.2	+1.0
PKSM	**Moragy**	**121.25**	**54**	⇑*i*P	PKPdf	18 12 35.2	0.0
BRG	**Berggiesshubel**	**121.30**	**48**	*e*PKP	PKPdf	18 12 35.6	+0.5
BRG				*e*PP	PP	18 14 18.9	+12
BRG				*e*		18 19 49.7	
BRG				*e*		18 22 53.9	
BRG				SS	SS	18 31 12.0	+32
BRG				LR	LR		
	comp=Z,4μm,27.4s,MS6.0						
BRG	**Berggiesshubel**	**121.30**	**48**	*e*PKIKP	PKPdf	18 12 35.7	+0.6
BRG				*e*		18 19 49.7	
BRG				MLR	MLR		
	comp=Z,4μm,27.4s,MS6.0						
BRG	**Berggiesshubel**	**121.30**	**48**	*e*PKPdf	PKPdf	18 12 36.1	+1.0
BRG	**Berggiesshubel**	**121.30**	**48**	*e*PKP	PKPdf	18 12 35.6	+0.5
	comp=Z,28nm,1.4s						
BRG				*e*PP	PP	18 14 18.9	+12
	comp=Z,15nm,1.7s						
BRG				*e*		18 19 49.7	
	comp=Z,20nm,1.9s						
BRG				*e*		18 22 53.9	
	comp=Z,3.8nm,1.2s						
BRG				SS	SS	18 31 12.0	+32
BRG							
	comp=N,2μm,20.9s						
BRG							
	comp=E,6μm,29.5s						
BRG							
	comp=Z,7μm,27.4s						
PVCC	**Panska Ves**	**121.44**	**48**	*e*PKPdf	PKPdf	18 12 36.0	+0.6
PVCC				AMS	AMS	19 03 20.0	
	comp=Z,10μm,19.9s,MS6.5						
MODS	**Modra-Piesok**	**121.69**	**52**	*e*PKP	PKPdf	18 12 36.4	+0.5
MODS				*e*PP	PP	18 14 06.5	-3.2
VRAC	**Vranov**	**121.84**	**50**	⇑P	PKPdf	18 12 37.9	+1.7
VRAC	**Vranov**	**121.84**	**50**	PKP	PKPdf	18 12 36.3	+0.1
	comp=Z,2.3nm,0.3s,baz=287,slow=0.8,SNR=9.7						
VRAC	**Vranov**	**121.84**	**50**	⇑*i*P	PKPdf	18 12 37.9	+1.7
VTS	**Vitosha**	**121.93**	**60**	P	PKPdf	18 12 38.0	+1.4
EGAK	**Eagle**	**121.95**	**332**	*e*PKPdf	PKPdf	18 12 34.8	-1.2
EGAK				*e*PP	PP	18 14 08.6	-2.4
EGAK				LR	LR		
	comp=Z,9μm,20.0s,MS6.4						
INK	**Inuvik**	**121.98**	**337**	*e*PKPdf	PKPdf	18 12 35.4	-0.5
INK				*e*PP	PP	18 14 11.2	+0.1
INK	**Inuvik**	**121.98**	**337**	PKP	PKPdf	18 12 34.9	-1.0
	comp=Z,15nm,1.1s,baz=120,slow=2.1,SNR=18						
INK				PP	PP	18 14 11.1	-0.1
	comp=Z,16nm,1.3s,baz=131,slow=9.5,SNR=6.3						
INK				PKKPbc	PKKPbc	18 22 31.1	-3.0
	comp=Z,1.7nm,0.9s,baz=311,slow=6.3,SNR=5.0						
RUE	**Ruedersdorf**	**122.12**	**46**	*e*PKPdf	PKPdf	18 12 36.5	-0.1
RUE	**Ruedersdorf**	**122.12**	**46**	*e*PKPdf	PKPdf	18 12 37.3	+0.7
KDAK	**Kodiak Island**	**122.16**	**321**	PFAKE		18 12 50.0	+13
KDAK				LR	LR		
	comp=Z,3μm,21.0s,MS5.9						
BUD	**Budapest**	**122.18**	**53**	⇓*e*PKP	PKPdf	18 12 39.3	+2.4
UPC	**Upice**	**122.19**	**49**	*e*PKPdf	PKPdf	18 12 37.7	+0.9
EIL	**Elat**	**122.19**	**79**	PKP	PKPdf	18 12 38.1	+0.6
	comp=Z,15nm,1.0s,baz=334,slow=5.8,SNR=9.0						
DPC	**Dobruska-Polom**	**122.27**	**49**	*e*PKPdf	PKPdf	18 12 37.6	+0.6
DPC				AMS	AMS	19 03 00.0	
	comp=Z,7μm,20.6s,MS6.3						
KSP	**Ksiaz**	**122.52**	**49**	*e*PKP	PKPdf	18 12 38.3	+0.8
KSP				*e*SP	SP	18 24 12.0	+5.4
KSP				LR	LR		
	comp=Z,16μm,25.4s,MS6.6						
MORC	**Moravsky Berou**	**122.61**	**50**	*e*PKPdf	PKPdf	18 12 37.3	-0.3
MORC	**Moravsky Berou**	**122.61**	**50**	PKIKP	PKPdf	18 12 38.7	+1.0
MORC	**Moravsky Berou**	**122.61**	**50**	⇑*i*P	PKPdf	18 12 38.4	+0.7
VYHS	**Vyhne**	**122.63**	**52**	*e*PKP	PKPdf	18 12 37.5	-0.2
VYHS				LR	LR		
	comp=Z,4μm,20.6s,MS6.1						
BZS	**Buzias**	**122.65**	**56**	⇓P	PKPdf	18 12 37.6	-0.2
BZS	**Buzias**	**122.65**	**56**	PKIKP	PKPdf	18 12 39.0	+1.1
BZS	**Buzias**	**122.65**	**56**	⇓*i*P	PKPdf	18 12 37.7	-0.2
SLKM	**Skilak Lake**	**122.72**	**325**	*e*PKPdf	PKPdf	18 12 36.7	-0.8
PSZ	**Piszkesteto**	**122.91**	**53**	*e*PKPdf	PKPdf	18 12 37.8	-0.5
PSZ	**Piszkesteto**	**122.91**	**53**	⇓*i*P	PKPdf	18 12 42.4	+4.1
PSZ	**Piszkesteto**	**122.91**	**53**	⇓*e*PKP	PKPdf	18 12 38.6	+0.3
PMR	**Palmer**	**122.91**	**326**	*e*PKPdf	PKPdf	18 12 37.6	-0.3
PMR				LR	LR		
	comp=Z,7μm,19.0s,MS6.3						
OKC	**Ostrava-Krasne**	**122.97**	**51**	*e*PKPdf	PKPdf	18 12 38.1	-0.3
OKC				AMS	AMS	19 10 40.0	
	comp=Z,4μm,17.8s,MS6.2						
KECS	**Kecovo**	**123.55**	**53**	*e*PKP	PKPdf	18 12 40.6	+1.1
DRGR		**123.92**	**56**	⇓P	PKPdf	18 12 40.9	+0.6
DRGR		**123.92**	**56**	PKIKP	PKPdf	18 12 41.1	+0.8
DRGR		**123.92**	**56**	⇓*i*P	PKPdf	18 12 40.9	+0.6
KONO	**Kongsberg**	**124.06**	**37**	⇑*e*PKP	PKPdf	18 12 40.0	-0.1
KONO				LR	LR		
	comp=Z,19μm,22.0s,MS6.7						
OJC	**Ojcow**	**124.08**	**51**	*e*PKPdf	PKPdf	18 12 42.0	+1.5
OJC				*e*SKSac	SKSac	18 19 44.7	+3.6
OJC				L		19 07 51.6	
	comp=Z,4.6nm,24.2s						
CSS	**Prodhromos**	**124.18**	**73**	*e*PKPdf	PKPdf	18 12 40.7	-0.5
COLA	**College**	**124.30**	**330**	*e*PKPdf	PKPdf	18 12 38.3	-2.2
COLA				LR	LR		
	comp=Z,6μm,22.0s,MS6.2						
COLA	**College**	**124.30**	**330**	⇓*i*PKIKP	PKPdf	18 12 38.9	-1.5
CRVS	**Cervenica-Dubn**	**124.32**	**53**	*e*PKP	PKPdf	18 12 41.5	+0.5
STHS	**Stebnicka Huta**	**124.46**	**52**	*e*PKP	PKPdf	18 12 41.9	+0.7
MMAI	**Mount Meron Ar**	**124.48**	**76**	PKP	PKPdf	18 12 41.4	-0.4
	comp=Z,6.6nm,0.8s,baz=236,slow=5.9,SNR=7.6						
VOIR		**124.59**	**58**	⇑P	PKPdf	18 12 42.6	+1.0
VOIR		**124.59**	**58**	⇑*i*P	PKPdf	18 12 42.7	+1.1
UZH	**Uzhgorod**	**124.65**	**53**	*e*PKIKP	PKPdf	18 12 42.2	+0.6
UZH				*i*		18 25 58.0	
UZH				MLR	MLR		
	comp=Z,5μm,18.0s,MS6.2						
KOLS	**Kolonicke sedl**	**124.79**	**53**	*e*PKP	PKPdf	18 12 42.6	+0.7
KOLS				*e*		18 12 53.0	
KOLS	**Kolonicke sedl**	**124.79**	**53**	*e*PKP	PKPdf	18 12 42.5	+0.6
KOLS				*e*		18 12 53.0	
ASF	**Jabal al Asfar**	**125.02**	**78**	PKP	PKPdf	18 12 43.0	+0.1
	comp=Z,18nm,1.2s,baz=120,slow=1.2,SNR=9.5						
MLR	**Muntele Rosu**	**125.16**	**58**	P	PKPdf	18 12 43.6	+0.9
MLR	**Muntele Rosu**	**125.16**	**58**	PKP	PKPdf	18 12 41.2	-1.5
	comp=Z,20nm,1.1s,baz=114,slow=1.4,SNR=15						
NAO01	**NORSAR Array S**	**125.24**	**37**	*e*PKPdf	PKPdf	18 12 42.2	-0.2
NAO01				LR	LR		
	comp=Z,19μm,22.0s,MS6.7						
SVW2	**Sparrevohn**	**125.25**	**324**	*e*PKPdf	PKPdf	18 12 40.8	-1.5
KWP	**Kalwaria**	**125.39**	**53**	*e*PKP	PKPdf	18 12 43.4	+0.4
NB2	**NORSAR Subarra**	**125.48**	**36**	PKPdf	PKPdf	18 12 42.0	-0.8
	comp=Z,50nm,1.2s,baz=240,slow=2.0						
NB2	**NORSAR Subarra**	**125.48**	**36**	PKPdf	PKPdf	18 12 42.0	-0.8
	baz=240,slow=2.0						
NOA	**NORSAR Array B**	**125.48**	**36**	PKP	PKPdf	18 12 42.1	-0.7
	comp=Z,17nm,1.0s,baz=239,slow=2.0,SNR=16						
PLOR	**Plostina**	**125.77**	**58**	PKIKP	PKPdf	18 12 44.3	+0.5
VRI	**Vrincioaia**	**125.82**	**58**	⇑P	PKPdf	18 12 43.8	-0.1
VRI	**Vrincioaia**	**125.82**	**58**	PKIKP	PKPdf	18 12 44.4	+0.4
VRI	**Vrincioaia**	**125.82**	**58**	⇑*i*P	PKPdf	18 12 43.8	-0.2
HFS	**Hagfors**	**126.09**	**38**	PKP	PKPdf	18 12 42.3	-1.7
	comp=Z,14nm,0.9s,baz=116,slow=3.4,SNR=10.0						
TIRR	**Tirgusor**	**126.12**	**61**	⇓P	PKPdf	18 12 45.1	+0.5
TIRR	**Tirgusor**	**126.12**	**61**	⇓*i*P	PKPdf	18 12 45.1	+0.5
LVV	**L'vov**	**126.23**	**53**	*i* PKIKP	PKPdf	18 12 45.6	+1.0
LVV				MLR	MLR		
	comp=Z,8μm,23.0s,MS6.4						
LVV				MLR	MLR		
	comp=N,2μm,21.0s,MS6.3						
LVV				MLR	MLR		
	comp=E,7μm,22.0s,MS6.3						
DAG	**Danmarks Havn**	**126.33**	**13**	⇑*e*PKIKP	PKPdf	18 12 42.9	-1.2
DAG				pmax	pmax		
	comp=Z,16nm,1.0s						
DAG				MLR	MLR		
	comp=Z,14μm,20.0s,MS6.6						
DAG	**Danmarks Havn**	**126.33**	**13**	⇑*i*P	PKPdf	18 12 42.9	-1.2
	comp=Z,16nm,1.0s						
DAG							
	comp=Z,14μm,20.0s						
TTA	**Tatalina**	**126.35**	**326**	*e*PKPdf	PKPdf	18 12 43.5	-0.9
ANTO	**Ankara**	**126.52**	**67**	*e*PKPdf	PKPdf	18 12 45.5	0.0
ANTO				LR	LR		
	comp=Z,5μm,22.0s,MS6.2						
ANTO	**Ankara**	**126.52**	**67**	PKPdf	PKPdf	18 12 47.1	+1.6
	SNR=10						
ANTO	**Ankara**	**126.52**	**67**	P	PKPdf	18 12 47.1	+1.6
	SNR=10						
ANTO	**Ankara**	**126.52**	**67**	⇓*i*P	PKPdf	18 12 46.2	+0.7
IMA2	**Indian Mountai**	**127.01**	**330**	*e*PKPdf	PKPdf	18 12 44.6	-1.0
ABTO	**Aybut**	**127.19**	**103**	PKPdf	PKPdf	18 12 47.8	+0.4
	SNR=6.5						
ABTO	**Aybut**	**127.19**	**103**	P	PKPdf	18 12 47.8	+0.4
	SNR=6.5						
KIS	**Kishinev**	**127.64**	**58**	*e*PKIKP	PKPdf	18 12 46.0	-1.4
KIS				*e*		18 19 54.0	
KIS				*e*PS	PS	18 25 00.0	+5.1
KIS				MLR	MLR		
	comp=N,3μm,20.0s,MS6.3						
KIS				MLR	MLR		
	comp=E,6μm,20.0s,MS6.3						
KIS				MLR	MLR		
	comp=Z,7μm,20.0s,MS6.3						
KIS				MLR	MLR		
	comp=Z,8μm,20.0s						
KIS	**Kishinev**	**127.64**	**58**	*e*PS	PS	18 25 00.0	+5.1
KIS				LRM		19 08 48.0	
	comp=Z,8μm,20.0s						
SUW	**Suwalki**	**127.76**	**48**	*e*PKP	PKPdf	18 12 47.8	+0.4
WHFO	**Wadi Hawf**	**127.90**	**103**	⇑PKPdf	PKPdf	18 12 48.2	-0.6
	SNR=6.1						
WHFO	**Wadi Hawf**	**127.90**	**103**	⇑P	PKPdf	18 12 48.2	-0.6
	SNR=6.1						
MALT	**Malatya**	**129.44**	**72**	*e*PKPdf	PKPdf	18 12 51.2	+0.1
MALT				*e*SKP		18 16 15.9	
MALT	**Malatya**	**129.44**	**72**	PKIKP	PKPdf	18 12 51.7	+0.6
MALT	**Malatya**	**129.44**	**72**	⇓*i*P	PKPdf	18 12 51.5	+0.4
KIEV	**Kiev**	**129.58**	**54**	*e*PKPpre		18 12 43.1	
KIEV				*e*PKPdf	PKPdf	18 12 49.8	-1.2
KIEV				LR	LR		
	comp=Z,6μm,21.0s,MS6.2						
AKASG	**Malin Array Be**	**129.59**	**54**	PKP	PKPdf	18 12 49.9	-1.1
AKASG	**Malin Array Be**	**129.59**	**54**	PKP	PKPdf	18 12 49.9	-1.1
	comp=Z,6.8nm,0.8s,baz=261,slow=2.7,SNR=35						
AKBB	**Malin Array Si**	**129.59**	**54**	*e*PKPdf	PKPdf	18 12 47.9	-3.0
SIM	**Simferopol'**	**129.91**	**63**	*ce*PKIKP	PKPdf	18 12 53.3	+1.5
SIM				pmax	pmax		
	comp=Z,32nm,1.3s						
SIM				MLR	MLR		
	comp=Z,6μm,20.0s,MS6.3						
MNK	**Minsk**	**130.43**	**49**	*e*PKIKP	PKPdf	18 12 52.0	-0.5
MNK				pmax	pmax		
	comp=Z,140nm,1.0s						
MNK				MLR	MLR		
	comp=N,21μm,21.0s,MS7.1						
MNK				MLR	MLR		
	comp=E,36μm,20.0s,MS7.1						
MNK				MLR	MLR		
	comp=Z,43μm,20.0s,MS7.2						
BHD	**Baghdad**	**130.84**	**81**	*i* x	x	18 12 50.0	
BHD				*ex*	x	18 16 03.0	
BHD				*ex*	x	18 18 23.0	
BHD				*ex*	x	18 19 25.0	
ADK	**Adak**	**131.50**	**307**	PFAKE		18 13 10.0	+15
ADK				LR	LR		
	comp=Z,8μm,21.0s,MS6.4						
MSL	**Mosul**	**131.56**	**77**	*ex*	x	18 12 57.5	
MSL				*ex*	x	18 16 23.5	
MSL				*ex*	x	18 20 07.0	
ANN	**Anapa**	**131.94**	**64**	*i* PKIKP	PKPdf	18 12 52.9	-2.7
ANN				*e*		18 20 00.1	
ANN				pmax	pmax		
	comp=Z,151nm,1.3s						
FINES	**FINESS Array B**	**132.15**	**40**	PKP	PKPdf	18 12 55.1	-0.4
	comp=Z,9.9nm,1.0s,baz=242,slow=12,SNR=8.4						
SOC	**Sochi**	**132.85**	**67**	*i* PKIKP	PKPdf	18 12 51.4	-6.0
SOC				*e*PPP		18 18 24.0	
KBS	**Kingsbay**	**132.92**	**15**	*i* PKP	PKPdf	18 12 57.2	+0.6
KBS				LR	LR		
	comp=Z,7μm,20.0s,MS6.4						
SPB4	**Spitsbergen Ar**	**133.58**	**17**	*e*PKPdf	PKPdf	18 12 57.8	-0.1
JMDO	**Jabal Madar**	**133.90**	**103**	PKPdf	PKPdf	18 13 00.8	+0.8
	SNR=6.0						
JMDO	**Jabal Madar**	**133.90**	**103**	P	PKPdf	18 13 00.8	+0.8
	SNR=6.0						
ARCES	**ARCESS Array B**	**134.18**	**29**	PKP	PKPdf	18 12 57.8	-1.4
	comp=Z,7.6nm,1.0s,baz=290,slow=5.0,SNR=6.0						
SMDO	**Samad**	**134.31**	**102**	PKPdf	PKPdf	18 13 01.5	+0.7
	SNR=8.4						
SMDO	**Samad**	**134.31**	**102**	P	PKPdf	18 13 01.5	+0.7
	SNR=8.4						
WBK	**Wadi Bani Khal**	**134.65**	**103**	PKPdf	PKPdf	18 13 02.9	+1.4
	SNR=7.2						
WBK	**Wadi Bani Khal**	**134.65**	**103**	P	PKPdf	18 13 02.9	+1.4
	SNR=7.2						
KEV	**Kevo**	**134.74**	**29**	PFAKE		18 13 10.0	+10
KEV				LR	LR		
	comp=Z,9μm,20.0s,MS6.5						
JOF	**Joensuu**	**134.93**	**39**	*ep*		18 12 49.9	
	comp=Z,3.7nm,0.7s						
JOF	**Joensuu**	**134.93**	**39**	*e*PKHKP		18 12 49.9	
JOF				pmax	pmax		
	comp=Z,4.0nm,0.7s						
KIV	**Kislovodsk**	**134.95**	**67**	*e*PKPdf	PKPdf	18 13 01.7	+0.4
KIV				LR	LR		
	comp=Z,3μm,20.0s,MS6.0						
KIV	**Kislovodsk**	**134.95**	**67**	⇑*i*P	PKPdf	18 13 02.4	+1.1
GUMO	**Guam**	**135.35**	**237**	PFAKE		18 13 10.0	+7.0
GUMO				LR	LR		
	comp=Z,2μm,19.0s,MS5.9						
OBN	**Obninsk**	**135.37**	**51**	*e*PKPdf	PKPdf	18 13 00.7	-1.1
OBN				LR	LR		
	comp=Z,14μm,20.0s,MS6.7						
OBN	**Obninsk**	**135.37**	**51**	⇓*i*PKIKP	PKPdf	18 13 01.8	+0.1
OBN				*e*		18 15 36.3	
OBN				*e*PS	PS	18 26 06.3	+4.9
OBN				*e*SS	SS	18 33 42.5	+8.8
OBN				pmax	pmax		
	comp=Z,85nm,1.4s						
OBN				MLR	MLR		
	comp=Z,15μm,21.0s,MS6.7						
PALK	**Pallekele**	**135.62**	**140**	PFAKE		18 13 10.0	+6.4
PALK				LR	LR		
	comp=Z,8μm,22.0s,MS6.4						
GOF	**Gofitskoye**	**135.64**	**66**	*e*PKHKP		18 12 45.7	
GOF				pmax	pmax		
	comp=Z,64nm,1.0s						
MOS	**Moscow**	**136.13**	**50**	*e*PKIKP	PKPdf	18 13 03.9	+0.8
MOS				pmax	pmax		
	comp=Z,119nm,1.1s						
MOS				MLR	MLR		
	comp=E,10μm,20.0s						
MOS				MLR	MLR		
	comp=Z,12μm,20.0s,MS6.6						
KOD	**Kodaikanal**	**136.63**	**134**	*e*P	PKPdf	18 13 06.5	+1.0
APA	**Apatity**	**136.69**	**33**	⇓*i*PKIKP	PKPdf	18 13 06.3	+2.5
APA				pmax	pmax		
	comp=Z,18nm,1.0s						
APA				MLR	MLR		
	comp=Z,12μm,20.0s,MS6.6						
PSI	**Prapat**	**137.08**	**167**	PKP	PKPdf	18 13 05.0	-1.3
	comp=Z,18nm,1.0s,baz=196,slow=9.5,SNR=12						
MNGI	**Mangalore**	**137.50**	**129**	*i* P	PKPdf	18 13 07.7	+0.8
MNGI				*ex*	x	18 13 14.0	
	comp=Z,82nm,1.6s						
TMCR	**Tamitsa**	**138.12**	**38**	*e*PKIKP	PKPdf	18 13 03.1	-3.5
DAV	**Davao City (W)**	**138.88**	**208**	PFAKE		18 13 20.0	+10
DAV				LR	LR		
	comp=Z,3μm,21.0s,MS6.0						
KULM	**Kulim**	**139.77**	**169**	*e*PKPdf	PKPdf	18 13 10.5	-0.7
MDRS	**Chennai**	**140.45**	**135**	*e*P	PKPdf	18 13 13.1	+0.7
MDRS				*ex*	x	18 13 48.5	
KAD	**Karad**	**140.65**	**124**	*e*P	PKPdf	18 13 13.3	+0.6
POO	**Poona**	**141.40**	**123**	*e*P	PKPdf	18 13 14.8	+0.9
SNG	**Songkhla**	**141.62**	**169**	P	PKPdf	18 13 10.0	-4.6
BHJ	**Bhuj**	**142.27**	**113**	*e*P	PKPdf	18 13 16.9	+1.4
BILL	**Bilibino**	**142.51**	**328**	*e*PKPpre		18 13 09.1	
BILL				LR	LR		
	comp=Z,8μm,22.0s,MS6.5						
BILL	**Bilibino**	**142.51**	**328**	⇓*i*PKIKP	PKPdf	18 13 10.7	-3.7
BILL				*e*SS	SS	18 34 59.1	+2.1
BILL				pmax	pmax		
	comp=Z,81nm,1.4s						
LATR	**Latur**	**142.90**	**126**	*e*P	PKPdf	18 13 13.8	-2.8
HYB	**Hyderabad**	**143.21**	**129**	*i* PKP	PKPdf	18 13 16.0	-1.2
HYB				*ep*PKP	pPKPdf	18 13 34.0	+8.8
HYB				*e*PKS		18 16 51.0	
AKL	**Akola**	**144.96**	**124**	*i* P	PKPdf	18 13 20.1	-0.1
AKL				*ex*	x	18 13 22.0	
	comp=Z,362nm,1.3s						
VIS	**Vishakhapatnam**	**145.94**	**136**	*e*P	PKPdf	18 13 23.2	+1.3
PET	**Petropavlovsk**	**146.27**	**302**	*e*PKPdf	PKPdf	18 13 20.3	-1.1
PET				LR	LR		
	comp=Z,5μm,20.0s,MS6.3						
PET	**Petropavlovsk**	**146.27**	**302**	*i* PKP2	PKPab	18 13 22.1	-1.3
PET				*e*PPS		18 29 28.8	
PET				*e*SSS		18 41 15.2	
PET				pmax	pmax		
	comp=Z,181nm,1.5s						
PET				MLR	MLR		
	comp=Z,4μm,18.0s,MS6.2						
NGP	**Nagpur**	**146.48**	**126**	*i* P	PKPdf	18 13 22.2	-0.5
NGP				*ex*	x	18 23 36.8	
NNT	**Nongplab**	**146.80**	**166**	P	PKPdf	18 13 24.0	+0.5
AKTO	**Aktyubinsk**	**146.87**	**63**	PKPbc	PKPbc	18 13 23.3	-1.1
	comp=Z,119nm,1.0s,baz=228,slow=2.3,SNR=67						
BHPL	**Bhopal**	**147.14**	**122**	*e*P	PKPdf	18 13 25.0	+1.2
SKR	**Severo-Kuril's**	**147.48**	**297**	*e*PKIKP	PKPdf	18 13 23.0	-0.5
SKR				pmax	pmax		
	comp=Z,450nm,1.0s						
SKR				pmax	pmax		
	comp=N,640nm,1.5s						
SKR				pmax	pmax		
	comp=E,640nm,1.5s						
SKR				pmax	pmax		
	comp=N,1μm,4.0s						
SKR				pmax	pmax		
	comp=E,2μm,4.0s						
SKR				pmax	pmax		
	comp=Z,4μm,4.0s						
SKR				MLR	MLR		
	comp=E,1μm,16.0s						
SKR				MLR	MLR		
	comp=Z,2μm,16.0s,MS5.9						
ARU	**Arti**	**147.79**	**52**	*e*PKPdf	PKPdf	18 13 23.8	0.0
ARU				LR	LR		
	comp=Z,17μm,21.0s,MS6.8						
ARU	**Arti**	**147.79**	**52**	*i* PKIKP	PKPdf	18 13 24.2	+0.4
ARU				MLR	MLR		
	comp=Z,17μm,20.0s,MS6.8						
KBL	**Kabul**	**148.88**	**96**	*e*PKPdf	PKPdf	18 13 26.9	+0.5
SVE	**Sverdlovsk**	**148.94**	**51**	*d*PKIKP	PKPdf	18 13 26.8	+1.1
SVE				*e*SS	SS	18 37 03.1	+52
SVE				pmax	pmax		
	comp=Z,251nm,1.5s						
SVE				MLR	MLR		
	comp=Z,16μm,18.0s,MS6.8						
SEY	**Seymchan**	**149.12**	**321**	⇑*i*PKP2	PKPbc	18 13 31.7	+1.7
NST	**Nakhon Sawan**	**149.89**	**166**	P	PKPdf	18 13 28.0	-0.5
	comp=Z,83nm,1.2s						
UBT	**Ubonrachathani**	**150.04**	**175**	P	PKPbc	18 13 34.5	+0.8
MA2	**Magadan**	**150.57**	**315**	*e*PKPdf	PKPdf	18 13 28.0	-0.2
MA2				LR	LR		
	comp=Z,5μm,20.0s,MS6.3						
MA2	**Magadan**	**150.57**	**315**	*i* PKIKP	PKPdf	18 13 27.6	-0.6
MA2				*e*		18 17 11.3	
MA2				pmax	pmax		
	comp=Z,200nm,1.4s						
NDI	**New Delhi**	**150.92**	**114**	*e*P	PKPdf	18 13 30.1	+0.3
KKTK	**Khon Kaen**	**150.93**	**171**	PN	PKPdf	18 13 30.0	-0.1
KKTK				PG	PKPbc	18 13 34.0	-1.8
KKTK				SG	PKPab	18 13 40.0	-3.1
BDT	**Bhumibol Dam**	**151.20**	**163**	P	PKPdf	18 13 31.0	+0.5
	comp=Z,49nm,0.8s						
TIXI	**Tiksi**	**151.59**	**346**	*e*PKPdf	PKPdf	18 13 26.0	-3.5
TIXI				*e*PKPbc	PKPbc	18 13 34.0	-1.7
TIXI				LR	LR		
	comp=Z,6μm,20.0s,MS6.4						
THN	**Thein Dam**	**152.32**	**106**	*ex*	PKPbc	18 13 37.2	-1.4
BOK	**Bokaro**	**152.32**	**133**

comp=Z,11μm,21.0s,MS6.7
AML Almayashu 155.45 85 P PKPdf 18 13 37.4 +1.5
SNR=8.9
GUN Gumba 155.62 128 *e*PKIKP PKPdf 18 13 35.7 -0.9
GUN Gumba 155.62 128 *e*PKP2 PKPab 18 14 03.5 +0.8
YSS Yuzh-Sakhalins 155.62 287 *e*PKPdf PKPdf 18 13 36.3 +0.4
YSS *e*PKPab PKPab 18 14 01.3 -0.9
YSS LR LR
comp=Z,7μm,21.0s,MS6.5
YSS Yuzh-Sakhalins 155.62 287 *i* PKIKP PKPdf 18 13 34.0 -1.9
YSS *e*SS SS 18 37 30.0 +4.9
YSS pmax pmax
comp=Z,320μm,1.5s
YSS MLR MLR
comp=E,2μm,20.0s
YSS MLR MLR
comp=Z,4μm,20.0s,MS6.2
EKS2 Erkin-Say 155.68 84 *e*PKPdf PKPdf 18 13 35.7 -0.4
EKS2 *e*PKPab PKPab 18 14 02.8 +0.2
EKS2 LR LR
comp=Z,10μm,21.0s,MS6.6
EKS2 Erkin-Say 155.68 84 P PKPdf 18 13 37.5 +1.4
SNR=19
UCH Uchtor 156.06 85 *e*PKPdf PKPdf 18 13 36.7 +0.1
UCH *e*PKPab PKPab 18 14 05.5 +1.2
UCH LR LR
comp=Z,6μm,21.0s,MS6.4
UCH Uchtor 156.06 85 P PKPdf 18 13 37.4 +0.7
SNR=30
KSH Kashi 156.11 93 *e*PKP PKPdf 18 13 38.3 +1.5
KSH *e*APKP 18 13 48.3
KSH *e*XPKP 18 13 52.8
KSH *e*PKP2 PKPab 18 14 11.5 +6.9
KSH *e*PKS 18 17 10.9
KSH *e*PP PP 18 17 50.0 +7.4
KSH *e*SKS SKSdf 18 20 38.5 -2.9
KSH PP PP
comp=Z,831nm,5.8s
KSH LR LR
comp=N,17μm,18.1s,MS7.0
KSH LR LR
comp=E,15μm,18.3s,MS7.0
KSH LR LR
comp=Z,18μm,24.2s
AAK Ala-Archa 156.17 84 *e*PKPdf PKPdf 18 13 35.5 -1.3
AAK *e*PKPab PKPab 18 14 04.6 -0.2
AAK LR LR
comp=Z,10μm,21.0s,MS6.6
AAK Ala-Archa 156.17 84 PKPdf PKPdf 18 13 37.4 +0.6
SNR=21
AAK Ala-Archa 156.17 84 P PKPdf 18 13 37.4 +0.6
SNR=21
AAK Ala-Archa 156.17 84 P PKPdf 18 13 36.6 -0.3
SNR=13
FRU Bishkek 156.32 84 *e*PKIKP PKPdf 18 13 36.5 -0.5
FRU *e* 18 17 45.0
FRU *e* 18 37 39.0
FRU pmax pmax
comp=Z,380nm,3.1s
USP Ospenovka 156.36 83 P PKPdf 18 13 38.0 +0.9
SNR=11
CHMS Chumysh 156.46 84 P PKPdf 18 13 38.1 +1.0
SNR=10
KBK Karagaybulak 156.50 85 P PKPdf 18 13 38.5 +1.2
SNR=7.8
KZA Kyzart 156.53 86 P PKPdf 18 13 39.0 +1.7
SNR=22
SHL Shillong 156.69 142 *e*P PKPdf 18 13 37.0 -1.0
SHL *ex* PKPab 18 14 09.0 +1.7
IMP Imphal 156.83 147 *e*P PKPdf 18 13 40.0 +1.7
TATO Taipei 156.85 214 PFAKE 18 13 50.0 +12
TATO LR LR
comp=Z,12μm,22.0s,MS6.7
TKM2 Tokmak 2 157.03 84 *e*PKPdf PKPdf 18 13 37.3 -0.6
TKM2 *e*PKPab PKPab 18 14 09.3 +0.9
TKM2 *e*SKP 18 17 03.8
TKM2 LR LR
comp=Z,6μm,20.0s,MS6.4
TKM2 Tokmak 2 157.03 84 P PKPdf 18 13 38.8 +0.8
SNR=20
QZH Quanzhou 157.86 208 *i* PKP PKPdf 18 13 40.5 +0.9
QZH PKP2 PKPab 18 14 12.1 -0.3
QZH SS SS 18 37 44.0 -3.5
QZH PP PP
comp=Z,2μm,5.6s
QZH LR LR
comp=N,3μm,19.5s,MS6.4
QZH LR LR
comp=E,4μm,18.6s,MS6.4
QZH LR LR
comp=Z,4μm,21.5s,MS6.2
YAK Yakutsk 158.83 330 *e*PKPdf PKPdf 18 13 36.3 -3.2
YAK *e*PKPab PKPab 18 14 14.3 -1.2
YAK *e*PP PP 18 17 58.2 +1.6
YAK LR LR
comp=Z,6μm,19.0s,MS6.5
YAK Yakutsk 158.83 330 *e*PKIKP PKPdf 18 13 36.4 -3.1
YAK *e* 18 13 43.7
YAK *e* 18 17 55.6
YAK *e*PPP 18 21 36.3
YAK *e*SS SS 18 37 53.7 -4.1
YAK *e*SSS 18 44 00.6
YAK pmax pmax
comp=N,3.0nm,1.2s
YAK pmax pmax
comp=E,3.0nm,1.2s
YAK pmax pmax
comp=Z,19nm,1.2s
YAK pmax pmax
comp=N,344nm,5.5s
YAK pmax pmax
comp=Z,344nm,5.5s
YAK pmax pmax
comp=E,253nm,4.2s
KMI Kunming 159.57 168 PKP PKPdf 18 13 42.5 +0.9
KMI APKP 18 13 53.9
KMI XPKP 18 13 57.8
LSA Lhasa 159.84 135 PKP PKPdf 18 13 42.4 +0.7
LSA Lhasa 159.84 135 *e*PKIKP PKPdf 18 13 42.4 +0.7
LSA *e* 18 14 20.3
LSA *e* 18 18 04.2
LSA MLR MLR
comp=Z,6μm,20.0s,MS6.4
KURK Kurchatov 159.97 64 PKPdf PKPdf 18 13 40.5 -0.7
KURK *e*PKPab PKPab 18 14 21.1 +0.2
KURK *e*PP PP 18 18 01.7 -1.8
KURK LR LR
comp=Z,12μm,21.0s,MS6.7
HABR Khabarovsk 160.93 290 *e*PKIKP PKPdf 18 13 41.4 -0.9
HABR *i* 18 14 24.3
HABR *e* 18 18 08.6
HABR *e* 18 20 39.9
HABR *e*SS SS 18 38 21.9 +0.4
HABR *e*SSS 18 44 35.9
HABR MLR MLR
comp=Z,3μm,25.0s
GYA Guiyang 161.26 178 *i* PKP PKPdf 18 13 42.9 -0.5
GYA APKP 18 13 52.6
GYA XPKP 18 13 55.8
GYA PKP2 PKPab 18 14 27.4 +0.4
GYA PKS 18 17 15.6
GYA PP PP 18 18 13.4 +4.0
GYA SKS SKSdf 18 20 44.0 -2.9
GYA SS SS 18 38 24.0 +1.2
GYA PP PP
comp=Z,5μm,9.7s
GYA LR LR
comp=N,10μm,23.3s
GYA LR LR
comp=E,12μm,24.1s
GYA LR LR
comp=Z,24μm,22.6s
NVS Novosibirsk 161.76 49⇑ *i* PKIKP PKPdf 18 13 42.4 -0.6
NVS *e* 18 14 26.5
NVS pmax pmax
comp=N,15nm,1.6s
NVS pmax pmax
comp=E,62nm,1.6s
NVS pmax pmax
comp=Z,121nm,1.6s
SSE Sheshan 162.30 222 PKP PKPdf 18 13 41.1 -3.2
MK31 Makanchi Array 162.43 76 *e*PKPdf PKPdf 18 13 42.8 -1.2
MK31 *e*PKPab PKPab 18 14 30.7 -1.1
MKAR Makanchi Array 162.43 76 PKIKP PKPdf 18 13 43.1 -0.8
MKAR 18 14 31.4
MKAR Makanchi Array 162.43 76 PKP PKPdf 18 13 43.1 -0.8
comp=Z,16nm,1.1s,baz=282,slow=1.1,SNR=56
MKAR PKPab PKPab 18 14 31.4 -0.4
comp=Z,19nm,1.0s,baz=260,slow=4.8,SNR=11
MKAR PKKP 18 21 46.9
comp=Z,0.6nm,0.4s,baz=119,slow=8.1,SNR=21
KSRS Korea Array 162.85 250 PKP PKPdf 18 13 42.5 -2.1
comp=Z,8.8nm,1.1s,baz=225,slow=0.4,SNR=15
KSRS PKPab PKPab 18 14 31.9 -2.0
comp=Z,3.3nm,0.9s,baz=122,slow=4.5,SNR=4.7
ZAL Zalesovo 162.95 51 PKIKP PKPdf 18 13 42.6 -1.6
ZAL 18 14 34.1
ZAL 18 18 18.4
ZALV Zalesovo Beam 162.96 51 PKP PKPdf 18 13 42.6 -1.6
comp=Z,32nm,1.2s,baz=264,slow=1.5,SNR=62
ZALV PKPab PKPab 18 14 34.1 +0.2
comp=Z,23nm,1.1s,baz=298,slow=3.2,SNR=8.2
ZALV PP PP 18 18 18.4 -0.8
comp=Z,1.8nm,1.0s,baz=64,slow=9.8,SNR=3.9
KLR Kul'dur 163.08 292 *e*PKIKP PKPdf 18 13 38.4 -6.1
KLR *e*S 18 18 21.2
INCN Inchon 163.72 248 PFAKE 18 14 00.0 +15
INCN LR LR
comp=Z,5μm,20.0s
CLNS Chul'man 164.10 323 *e*PKIKP PKPdf 18 13 39.5 -5.7
CLNS pmax pmax
comp=Z,49nm,1.3s
CLNS pmax pmax
comp=N,10.0nm,0.9s
CLNS pmax pmax
comp=E,10.0nm,0.8s
NJ2 Nanjing 164.16 218 *e*PKP PKPdf 18 13 46.6 +0.5
NJ2 APKP 18 13 56.3
NJ2 XPKP 18 14 00.8
NJ2 PKS 18 17 21.0
NJ2 SS SS 18 38 57.0 +3.2
NJ2 PP PP
comp=Z,500nm,10.2s
NJ2 LR LR
comp=N,9μm,26.8s
NJ2 LR LR
comp=E,3μm,22.5s
NJ2 LR LR
comp=Z,3μm,22.4s
NRGR Nerungri 164.29 323 *e*PKIKP PKPdf 18 13 43.4 -1.9
MDJ Mudanjiang 164.35 276 PKP PKPdf 18 13 43.8 -2.0
MDJ SS SS 18 38 56.1 -1.1
MDJ PP PP
comp=Z,972nm,7.3s
MDJ LR LR
comp=N,2μm,17.9s
MDJ LR LR
comp=E,4μm,20.0s
MDJ LR LR
comp=Z,7μm,20.2s
MDJ Mudanjiang 164.35 276 *e*PKPdf PKPdf 18 13 42.6 -3.3
MDJ *e*PKPab PKPab 18 14 38.4 -2.0
MDJ LR LR
comp=Z,7μm,22.0s
WHN Wuhan 164.39 202 PKPR 18 13 44.9
WHN PKP2 PKPab 18 14 40.1 -0.6
WHN PP PP
comp=Z,2μm,5.2s
WHN LR LR
comp=Z,18μm,18.9s
ENH Enshi 164.99 187 PFAKE 18 14 00.0 +13
ENH LR LR
comp=Z,4.0nm,19.0s
CD2 Chengdu 165.41 167 PKP PKPdf 18 13 47.4 +0.2
CD2 APKP 18 13 58.3
CD2 XPKP 18 14 01.8
CD2 PKP2 PKPab 18 14 47.6 +2.5
CD2 PP PP 18 18 35.6 +4.2
CD2 SKS SKSdf 18 20 46.3 -3.5
CD2 SKKS SKKSac 18 25 15.9 -2.1
CD2 SS SS 18 39 03.3 -2.5
CD2 PP PP
comp=Z,800nm,8.4s
CD2 LR LR
comp=N,8μm,22.8s
CD2 LR LR
comp=Z,9μm,20.4s
WMQ Urumqi 165.79 89 PKP PKPdf 18 13 47.8 +0.7
WMQ APKP 18 13 59.0
WMQ XPKP 18 14 02.5
WMQ PKP2 PKPab 18 14 49.0 +2.3
WMQ PKS 18 17 19.0
WMQ PP PP 18 18 38.0 +3.4
WMQ SKS SKSdf 18 20 46.0 -3.4
WMQ SKKS SKKSac 18 25 19.0 -0.8
WMQ SS SS 18 39 10.0 -2.0
WMQ PP PP
comp=Z,855nm,6.4s
WMQ LR LR
comp=N,9μm,18.8s
WMQ LR LR
comp=E,9μm,20.6s
WMQ LR LR
comp=Z,9μm,25.8s
BOD Bodaibo 166.77 345 *e*PKIKP PKPdf 18 13 43.1 -4.3
BOD pmax pmax
comp=Z,31nm,1.4s
CN2 Changchun 167.12 270 *e*PKP PKPdf 18 13 49.8 +1.7
CN2 PKP2 PKPab 18 14 49.8 -2.8
CN2 PP PP 18 18 45.9 +4.4
CN2 PP PP
comp=Z,200nm,7.0s
CN2 LR LR
comp=N,4μm,22.0s
CN2 LR LR
comp=E,3μm,22.0s
CN2 LR LR
comp=Z,4μm,22.0s
DL2 Dalian 167.76 244 PKPR 18 13 46.4
DL2 PKP2 PKPab 18 14 54.9 -0.6
DL2 PP PP 18 18 41.3 -3.2
DL2 SS SS 18 39 31.6 +0.1
DL2 PP PP
comp=Z,570nm,7.6s
DL2 LR LR
comp=N,2μm,20.3s
DL2 LR LR
comp=E,1μm,20.8s
DL2 LR LR
comp=Z,3μm,23.4s
SNY Shenyang 167.85 259 ⇓PKP PKPdf 18 13 45.4 -3.3
SNY PP PP
comp=Z,960nm,10.8s
SNY LR LR
comp=N,4μm,21.2s
SNY LR LR
comp=Z,7μm,21.2s
XAN Xi'an 168.77 186 PKP PKPdf 18 13 49.0 -0.6
XAN LR LR
comp=N,3μm,20.1s
XAN LR LR
comp=E,5μm,20.1s
XAN LR LR
comp=Z,7μm,17.8s
LZH Lanzhou 170.45 162 *e*PKP PKPdf 18 13 50.8 +0.3
LZH APKP 18 14 01.0
LZH XPKP 18 14 06.1
LZH SKKS SKKSac 18 25 44.0 +1.3
LZH SS SS 18 39 59.1 +2.5
LZH PP PP
comp=Z,2μm,5.8s
LZH LR LR
comp=E,7μm,18.2s
LZH LR LR
comp=Z,11μm,20.0s
HIA Hailar 170.75 300 *e*PKPdf PKPdf 18 13 48.3 -1.9
HIA *e*PKPab PKPab 18 15 07.5 -1.0
HIA *e*PP PP 18 18 56.4 -3.2
HIA LR LR
comp=Z,15μm,22.0s
TIY Taiyuan 171.63 208 *i* PKP PKPdf 18 13 51.0 -0.1
TIY PKP2 PKPab 18 15 13.3 +0.7
TIY SKKS SKKSac 18 25 43.3 -5.2
TIY PP PP
comp=Z,1μm,6.4s
TIY LR LR
comp=N,19μm,20.4s
TIY LR LR
comp=E,2μm,16.0s
TIY LR LR
comp=Z,23μm,22.2s
BJT Baijiatuau 171.77 234 PFAKE 18 14 00.0 +9.0
BJT LR LR
comp=Z,12μm,20.0s
GTA Gaotai 171.86 133 PKP PKPdf 18 13 50.9 -0.2
GTA APKP 18 14 01.4
GTA XPKP 18 14 05.6
GTA PKS 18 17 23.0
GTA PP PP 18 19 04.1 -0.7
GTA SKS SKSdf 18 20 50.9 -1.8
GTA PP PP
comp=Z,426nm,9.9s
GTA LR LR
comp=N,3μm,26.8s
GTA LR LR
comp=E,3μm,27.1s
GTA LR LR
comp=Z,5μm,30.2s
MOY Mondy 172.24 32 *e*PKIKP PKPdf 18 13 49.8 -1.1
MOY *e* 18 19 08.6
MOY pmax pmax
comp=Z,156nm,1.9s
IRK Irkutsk 172.66 16 *e*PKIKP PKPdf 18 13 50.0 -1.0
IRK *e* 18 15 16.8
IRK *e* 18 19 10.7
IRK pmax pmax
comp=Z,141nm,1.5s
TLY Talaya 173.05 20 *e*PKPdf PKPdf 18 13 50.3 -0.9
TLY *e*PKPab PKPab 18 15 19.7 +1.3
TLY *e*PP PP 18 19 10.5 +0.4
TLY LR LR
comp=Z,6μm,21.0s
TLY Talaya 173.05 20 *i* PKIKP PKPdf 18 13 49.6 -1.6
TLY *e* 18 19 15.2
TLY *e*SS SS 18 40 15.9 -6.2
TLY pmax pmax
comp=Z,116nm,1.4s
TLY MLR MLR
comp=Z,8μm,24.0s
TLY Talaya 173.05 20 PKPdf PKPdf 18 13 50.1 -1.1
SNR=45
TLY Talaya 173.05 20 P PKPdf 18 13 50.1 -1.1
SNR=45
ZAK Zakamensk 174.11 27 *e*PKIKP PKPdf 18 13 49.6 -2.0
ZAK pmax pmax
comp=Z,13nm,1.6s
HHC Hu-ho-hao-te 174.71 216 *e*PKP PKPdf 18 13 52.3 +0.1
HHC APKP 18 14 03.1
HHC XPKP 18 14 08.3
HHC PKP2 PKPab 18 15 25.5 -0.7
HHC PKS 18 17 22.9
HHC PP PP 18 19 18.0 -0.5
HHC SKS SKSdf 18 20 49.8 -3.7
HHC SKKS SKKSac 18 25 59.6 -3.5
HHC PP PP
comp=Z,839nm,7.9s
HHC LR LR
comp=N,3μm,27.5s
HHC LR LR
comp=E,4μm,21.6s
HHC LR LR
comp=Z,6μm,29.9s
BTO Baotou 175.03 203 *e*PKP PKPdf 18 13 52.4 +0.1
SONM Songino Array 177.28 16 PKP PKPdf 18 13 50.9 -1.6
comp=Z,12nm,1.2s,baz=202,slow=0.5,SNR=36
SONM PKPab PKPab 18 15 39.0 +1.7
comp=Z,27nm,1.1s,baz=325,slow=3.3,SNR=23
SONM PP PP 18 19 29.1 -1.3
comp=Z,17nm,1.2s,baz=3.3,slow=3.0,SNR=15
ULN Ulaanbaatar 177.34 7 *e*PKPdf PKPdf 18 13 51.0 -1.5
ULN *e*PKPab PKPab 18 15 37.8 +0.2
ULN *e*SKP 18 17 17.4
ULN *e*PP PP 18 19 31.2 +0.7
ULN LR LR
comp=Z,11μm,19.0s
ULN Ulaanbaatar 177.34 7 *e*PKIKP PKPdf 18 13 51.0 -1.5
ULN *e* 18 15 37.8
ULN *e* 18 19 31.2
ULN MLR MLR
comp=Z,11μm,19.0s

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*IDC **21** 18:04:46.9±3.4, 40.40N×51.50E, h0^km^, mb3.7/3, mb1 3.8/6, mb1mx3.5/24, mbtmp3.8/6, ML4.0/3, MS3.8/1, Ms1 3.8/1, ms1mx3.4/46, Error ellipse: s-maj=51.2km s-min=28.5km az=2.0*

*CSEM **21** 18:04:51.6±0.1, 40.58N×51.98E, h10^km^, mb3.8, Error ellipse: s-maj=5.3km s-min=1.7km az=155.0*

*NEIC **21** 18:04:51.1±1.5, 40.82N×51.55E, h10^km^, Error ellipse: s-maj=29.6km s-min=11.5km az=178.0*

*ISCJB **21** 18:04:55.7±0.5, 41.25N±0.06×51.72E±0.06, h33^km^, mb3.5/3, Error ellipse: s-maj=10.8km s-min=3.2km az=145.6*

*MOS **21** 18:04:56.5±1.4, 41.29N×51.61E, h33^km^, mb3.8/2, Error ellipse: s-maj=23.3km s-min=18.3km az=70.8*

*NNC **21** 18:05:02.5±9.6, 41.17N×53.02E, h0^km^, mb3.6, Error ellipse: s-maj=76.5km s-min=57.8km az=39.0*

ISC 21 18:04:57.0±0.5, 41.09N±0.07×51.77E±0.06, h35^km^, n35, σ1.9±04/47, mb3.5/3, 10C, Caspian Sea

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
NDR	**Nardaran**	**1.44**	**250**	P	**Pn**	**18 05 21.6**	**+1.1**
	SNR=6.6						
GOBA	**Gobu**	**1.69**	**247**	S	**Sn**	**18 05 44.8**	**+0.5**
SIZA	**Siyzn**	**2.17**	**271**	P	**Pn**	**18 05 31.8**	**+1.3**
	SNR=43						
ALIB	**Ii-Bayraml**	**2.39**	**243**	P	**Pn**	**18 05 31.1**	**-2.4**
ALIB				S	**Sn**	**18 06 01.4**	**-0.2**
PQL	**Pirkuli**	**2.42**	**264**	P	**Pn**	**18 05 34.5**	**+0.5**
	SNR=12						
SEKA	**Sheki**	**3.45**	**273**	P	**Pn**	**18 05 48.4**	**+0.3**
	SNR=27						
SEKA				S	**Sn**	**18 06 28.0**	**+0.2**
BRDA	**Brd**	**3.58**	**258**	P	**Pn**	**18 05 49.6**	**-0.4**
GANJ	**Ganja**	**4.15**	**266**	P	**Pn**	**18 05 56.4**	**-1.4**
	SNR=3.2						
NAX	**Nakhchivan**	**5.17**	**250**	P	**Pn**	**18 06 11.4**	**-0.4**
NAX				S	**Sn**	**18 07 07.3**	**-2.9**
KIV	**Kislovodsk**	**7.29**	**296**	*e*P	**Pn**	**18 06 41.9**	**+1.0**
KIV				pmax	pmax		
	comp=Z,6.0nm,0.9s						
KIV	**Kislovodsk**	**7.29**	**296**	*e*P	**Pn**	**18 06 41.9**	**+1.0**
	comp=Z,6.0nm,0.9s						
AB31	**Akbulak array**	**9.99**	**32**	Pn	**Pn**	**18 07 18.5**	**+0.6**
	comp=Z,0.5nm,0.4s,baz=207,slow=14,SNR=12						
AB31				⇑Sn	**Sn**	**18 09 07.2**	**-1.5**
	comp=Z,1.8nm,0.5s,baz=196,slow=22,SNR=3.9						
AKTK	**Aktyubinsk**	**10.31**	**23**	Pn	**Pn**	**18 07 23.5**	**+1.3**
AKTK				Sn	**Sn**	**18 09 15.7**	**-0.8**
AKTK	**Aktyubinsk**	**10.31**	**23**	Pn	**Pn**	**18 07 23.5**	**+1.3**
AKTK				Sn	**Sn**	**18 09 15.7**	**-0.7**
AKTO	**Aktyubinsk**	**10.31**	**23**	P	**Pn**	**18 07 23.5**	**+1.3**
AKTO						18 09 15.7	
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.3s						
AKTO				smax			
	comp=N,1.0nm,0.3s						
AKTO	**Aktyubinsk**	**10.31**	**23**	Pn	**Pn**	**18 07 23.5**	**+1.3**
	comp=N,0.9nm,0.3s,baz=202,slow=11,SNR=15						
AKTO				Sn	**Sn**	**18 09 15.7**	**-0.8**
	comp=N,0.9nm,0.3s,baz=15,slow=22,SNR=9.5						
KK31	**Karatay Array**	**14.07**	**76**	Pn	**Pn**	**18 08 12.9**	**-0.7**
	comp=N,0.7nm,0.5s,baz=278,slow=15,SNR=9.0						
KK31				⇑Sn	**Sn**	**18 10 44.0**	**-4.3**
	comp=N,6.0nm,1.1s,baz=269,slow=24,SNR=4.8						
ZRNK	**Zerenda**	**16.65**	**39**	⇑Pn	**Pn**	**18 08 46.0**	**-1.3**
	comp=N,1.0nm,0.8s						
ZRNK				⇑Sn	**Sn**	**18 11 47.7**	**-3.2**
	comp=N,1.5nm,0.8s						
BVA0	**Borovoye Array**	**17.36**	**40**	Pn	**Pn**	**18 08 56.1**	**-0.1**
	comp=N,0.2nm,0.7s,baz=221,slow=12,SNR=9.8						
BVA0				⇑Sn	**Sn**	**18 12 01.8**	**-6.4**
	comp=N,0.6nm,0.9s,baz=231,slow=24,SNR=5.7						
BVA0	**Borovoye Array**	**17.36**	**40**	Sn	**Sn**	**18 12 01.8**	**-6.3**
	SNR=5.7						
BVAR	**Borovoye Array**	**17.36**	**40**	P	**Pn**	**18 08 56.8**	**+0.6**
	comp=N,0.2nm,0.3s,baz=233,slow=12,SNR=12						
BVAR				S	**S**	**18 12 05.4**	**-10**
	comp=N,0.3nm,0.3s,baz=230,slow=23,SNR=8.0						
VOSK	**Vostochnaya**	**17.48**	**42**	⇑Pn	**Pn**	**18 08 58.5**	**+0.8**
	comp=N,2.0nm,0.8s						
VOSK				⇑Sn	**Sn**	**18 12 12.5**	**+1.5**

comp=N,1.5nm,0.8s
EIL Elat 17.79 235 LR LR 18 15 14.4
comp=N,333nm,21.6s,baz=94,slow=36
CHKZ Chkalovo 17.86 39 ⇑Pn **Pn 18 09 02.5 +0.2**
comp=N,4.9nm,1.5s
CHKZ ⇑Sn **Sn 18 12 15.1 -5.0**
comp=N,4.8nm,2.2s
AKASG Malin Array Be 18.33 309 P **Pn 18 09 04.7 -3.5**
AKASG Malin Array Be 18.33 309 P **Pn 18 09 04.7 -3.5**
AKASG pmax pmax
comp=Z,1.0nm,0.3s
AKASG Malin Array Be 18.33 309 P **Pn 18 09 04.7 -3.5**
comp=Z,1.2nm,0.3s,baz=112,slow=10,SNR=12
MK31 Makanchi Array 22.62 65 *e*Pn **P 18 09 54.6 +0.1**
MKAR Makanchi Array 22.62 65 P **P 18 09 54.8 +0.3**
MKAR pmax pmax
comp=Z,1.0nm,0.7s
MKAR Makanchi Array 22.62 65 P **P 18 09 54.8 +0.3**
comp=Z,1.2nm,0.7s,mb3.4,baz=261,slow=9.2,SNR=16
ZAL Zalesovo 25.48 49 P **P 18 10 21.9 +0.3**
ZALV Zalesovo Beam 25.50 48 P **P 18 10 21.9 +0.2**
comp=Z,0.6nm,0.5s,mb3.4,baz=272,slow=8.8,SNR=4.5
FINES FINESS Array B 25.64 331 P **P 18 10 23.3 +0.3**
FINES FINESS Array B 25.64 331 P **P 18 10 23.3 +0.4**
FINES pmax pmax
comp=Z,2.0nm,0.8s
FINES FINESS Array B 25.64 331 P **P 18 10 23.3 +0.3**
comp=Z,1.5nm,0.8s,mb3.5,baz=135,slow=14,SNR=3.5

IDC 21 18:11:45.9±3.4, 159N×12647E, h0km, mb3.9/3, mb1 4.0/4, mb1mx3.7/16, mbtmp3.9/4, ML3.6/1, Error ellipse: s-maj=105.5km s-min=57.1km az=79.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**19.58**	**182**	P	Pn	18 16 15.8	-1.0
0.1nm,0.3s,baz=14,slow=7.6,SNR=4.1							
WRA	**Warramunga Arr**	**22.75**	**161**	P	P	18 16 48.9	-0.8
3.3nm,0.5s,baz=339,slow=11,SNR=50							
WB2	**Warramunga Arr**	**22.75**	**161**	*e*P	P	18 16 49.1	-0.7
ASAR	**Alice Springs**	**26.12**	**164**	P	P	18 17 21.8	+0.1
0.6nm,0.5s,baz=345,slow=7.4,SNR=21							
ASAR				PcP	PcP	18 20 48.9	-0.6
0.2nm,0.7s,baz=350,slow=2.1,SNR=4.4							
STKA	**Stephens Creek**	**36.24**	**158**	P	P	18 18 51.8	+1.0
1.0nm,0.4s,baz=306,slow=19,SNR=2.8							

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*IDC **21** 18:29:49.0±5.0, 2567N×12660E, h0km, mb3.2/3, mb1 3.5/3, mb1mx3.2/19, mbtmp3.2/3, Error ellipse: s-maj=369.2km s-min=33.1km az=94.0*
*JMA **21** 18:29:48.5±0.2, 2576N×12520E, h23km±3km, M3.1*
*ISCJB **21** 18:29:49.4±1.9, 2571N±009×1252E±01, h27km±14km, mb3.2/3, Error ellipse: s-maj=20.7km s-min=6.2km az=41.7*
ISC 21 18:29:48.3±2.1, 2572N±008×1252E±01, h11km±12km, n12, σ0°63/18, mb3.2/3, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMJ	**Miyako jima 2**	**0.91**	**173**	P	**Pg**	**18 30 05.7**	**-0.2**
JMJ				S	**Sg**	**18 30 18.0**	**+0.2**
JOGS	**Gusukube**	**0.98**	**168**	P	**Pg**	**18 30 06.9**	**-0.4**
JOGS				S	**Sg**	**18 30 20.1**	**+0.1**
JTJ	**Tarama**	**1.16**	**202**	P	**Pb**	**18 30 09.7**	**-0.7**
JTJ				*e*S	**Sg**	**18 30 26.0**	**+0.3**
JKE	**Kume jima 2**	**1.57**	**67**	P	**Pn**	**18 30 14.9**	**-1.3**
JIJ	**Ishigaki jima**	**1.65**	**215**	P	**Pn**	**18 30 16.9**	**-0.3**
JIJ				*e*S	**Sn**	**18 30 37.2**	**-1.2**
JKRS	**Kuro-shima**	**1.82**	**216**	P	**Pn**	**18 30 20.1**	**+0.5**
JKRS				*e*S	**Sn**	**18 30 43.7**	**+1.1**
IRIF	**Iriomote-Funau**	**1.90**	**224**	P	**Pn**	**18 30 21.1**	**+0.3**
IRIF				*e*S	**Sn**	**18 30 44.7**	**-0.1**
JIH	**Iheya**	**2.83**	**62**	P	**Pn**	**18 30 34.3**	**+0.8**
JOW	**Kunigami**	**3.00**	**68**	P	**Pn**	**18 30 36.5**	**+0.7**
WRA	**Warramunga Arr**	**46.26**	**168**	P	**P**	**18 38 13.4**	**-0.5**
0.2nm,0.6s,mb3.2,baz=351,slow=8.4,SNR=5.0							
ASAR	**Alice Springs**	**49.82**	**170**	P	**P**	**18 38 42.0**	**+0.6**
0.1nm,0.5s,mb3.1,baz=353,slow=8.1,SNR=7.1							
YKA	**Yellowknife Ar**	**80.13**	**24**	P	**P**	**18 41 58.0**	**-0.2**
0.2nm,0.6s,mb3.2,baz=298,slow=6.0,SNR=4.4							

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*NEIC **21** 18:32:29.7, 16.14N×95.42W, h51km, MD4.2(MEX), After MEX.*
MEX 21 18:32:29.7±0.9, 1614N×9542W, h51km±21km, MD4.2, 2C, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.76**	**241**	⇑*i*P	Pn	18 32 42.5	-1.7
HUIG				*i*S	Sn	18 32 53.1	-1.7
CMIG	**Matias Romero**	**1.08**	**28**	⇑*i*P	Pn	18 32 47.4	-1.1
CMIG				*i*S	Sn	18 33 00.1	-2.3
OXX	**Oaxaca**	**1.56**	**307**	*i*P	Pn	18 32 53.5	-1.6
OXX				*i*S	Sn	18 33 12.0	-2.2
VHO	**Vista Hermosa**	**1.56**	**307**	*i*P	Pn	18 32 53.7	-1.4
VHO				*i*S	Sn	18 33 12.6	-1.6
TUIG	**Tuzandepetl**	**2.11**	**27**	*i*P	Pn	18 33 00.8	-1.8
TUIG				*i*S	Sn	18 33 26.0	-1.7
PNIG	**Pinotepa**	**2.61**	**276**	*e*P	Pn	18 33 07.0	-2.4
PNIG				*i*S	Sn	18 33 33.9	-6.1
SCX	**San Cristobal**	**2.74**	**77**	*i*P	Pn	18 33 09.0	-2.2
SCX				*i*S	Sn	18 33 42.5	-0.6
UTMO	**Huajuapan**	**2.83**	**307**	*e*P	Pn	18 33 11.9	-0.6
UTMO				*i*S	Sn	18 33 42.6	-2.8
CCIG	**Comitan**	**3.16**	**87**	*e*P	Pn	18 33 16.0	-0.9
CCIG				*i*S	Sn	18 33 51.8	-1.6
PPM	**Popocatepetl**	**4.22**	**314**	*e*P	Pn	18 33 31.6	+0.1
PPM				*i*S	Sn	18 34 22.4	+2.8
IIO	**Organos**	**4.66**	**318**	*e*P	Pn	18 33 34.1	-3.4
IIO				*i*S	Sn	18 34 32.5	+2.2
MZVM		**4.73**	**310**	*i*P	Pn	18 33 42.2	+3.7
MZVM				*i*S	Sn	18 34 32.5	+0.3
PTVM	**Pico Tres Padr**	**4.92**	**315**	*e*P	Pn	18 33 39.0	-2.0
PTVM				*i*S	Sn	18 34 34.1	-2.6

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*ISCJB **21** 18:37:16.8±0.8, 19.1N±0.1×462W±0.1, h10km, mb4.1/14, Error ellipse: s-maj=20.6km s-min=16.9km az=156.0*
*IDC **21** 18:37:16.9±1.0, 1909N×4624W, h0km, mb3.9/9, mb1 4.2/9, mb1mx3.8/27, mbtmp3.9/9, Error ellipse: s-maj=27.2km s-min=23.0km az=83.0*
*NEIC **21** 18:37:18.4±0.7, 1904N×46.18W, h10km, mb4.5/5, Error ellipse: s-maj=18.5km s-min=15.0km az=67.0*
ISC 21 18:37:18.7±0.8, 190N±01×462W±01, h10km, n19, σ0°86/19, mb4.1/14, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDV	**Santo Domingo**	**25.75**	**250**	P	**P**	**18 42 49.8**	**0.0**
SDV	**Santo Domingo**	**25.75**	**250**	P	**P**	**18 42 49.8**	**0.0**
4.5nm,0.8s,mb4.0,baz=105,slow=5.9,SNR=11							
LPAZ	**La Paz**	**41.21**	**213**	P	**P**	**18 45 04.1**	**+0.1**
LPAZ	**La Paz**	**41.21**	**213**	P	**P**	**18 45 04.1**	**+0.1**
0.8nm,0.7s,mb3.4,baz=18,slow=12,SNR=4.5							
TORD	**Torodi Ar. Bea**	**46.27**	**90**	P	**P**	**18 45 45.1**	**+0.4**
0.6nm,0.7s,mb3.6,baz=298,slow=7.7,SNR=4.6							
CPUP	**Villa Florida**	**46.38**	**194**	P	**P**	**18 45 44.9**	**-0.5**
0.7nm,0.5s,mb3.9,baz=28,slow=5.1,SNR=4.6							
JCT	**Junction City**	**49.60**	**294**	*e*P	**P**	**18 46 10.3**	**-0.2**
7.4nm,1.0s,mb4.7							
TXAR	**Lajitas Array**	**52.98**	**293**	P	**P**	**18 46 35.4**	**-0.5**
1.2nm,0.8s,mb3.9,baz=106,slow=9.2,SNR=8.1							
PDAR	**Pinedale Array**	**57.89**	**309**	P	**P**	**18 47 10.3**	**-0.6**
2.4nm,1.0s,mb4.2,baz=102,slow=6.8,SNR=11							
LOHW	**Long Hollow**	**58.70**	**310**	*e*P	**P**	**18 47 17.3**	**+0.7**
6.7nm,1.4s,mb4.5							
DAU	**Daniels Canyon**	**59.08**	**306**	P	**P**	**18 47 18.2**	**-1.1**
WUAZ	**Wupatki**	**59.24**	**300**	*e*P	**P**	**18 47 22.3**	**+1.7**
11nm,1.1s,mb4.8							
BOZ	**Bozeman (W)**	**59.54**	**312**	*e*P	**P**	**18 47 23.1**	**+0.7**
1.2nm,0.9s,mb3.9							
DUG	**Dugway**	**60.27**	**306**	P	**P**	**18 47 28.4**	**+0.9**
4.2nm,1.2s,mb4.3							
YKA	**Yellowknife Ar**	**63.34**	**331**	P	**P**	**18 47 45.4**	**-2.3**
YKA	**Yellowknife Ar**	**63.34**	**331**	P	**P**	**18 47 45.4**	**-2.3**
0.2nm,0.5s,mb3.5,baz=97,slow=6.9,SNR=5.8							
NEW	**Newport**	**63.40**	**315**	P	**P**	**18 47 48.7**	**+0.2**
NEW	**Newport**	**63.40**	**315**	P	**P**	**18 47 48.7**	**+0.2**
4.6nm,0.9s,mb4.6,baz=104,slow=6.7,SNR=6.5							

INK	**Inuvik**	**71.49**	**337**	P	**P**	**18 48 39.3**	**0.0**
0.6nm,0.4s,mb3.8,baz=114,slow=3.1,SNR=5.3							

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*ISCJB **21** 18:43:42.9±0.6, 1400N±008×1447E±02, h199km±6km, mb3.6/13, Error ellipse: s-maj=26.5km s-min=12.2km az=176.6*
*IDC **21** 18:43:43.7±0.4, 1402N×14473E, h192km±4km, mb3.4/12, mb1 3.6/13, mb1mx3.6/22, mbtmp3.5/13, Error ellipse: s-maj=22.0km s-min=10.7km az=91.0*
*NEIC **21** 18:43:44.3±0.9, 1399N×14483E, h200km±8km, mb4.6/1, Error ellipse: s-maj=19.8km s-min=10.7km az=87.0*
ISC 21 18:43:44.0±0.6, 1402N±008×1448E±02, h196km±6km, n19, σ0°79/19, mb3.6/13, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**0.44**	**165**	P	**Pn**	**18 44 11.1**	**+0.6**
142nm,0.3s,baz=279,slow=0.9,SNR=110							
GUMO				S	**Sn**	**18 44 30.6**	**-0.3**
173nm,0.3s,baz=138,slow=3.7,SNR=7.7							
JHJ	**Hachijo jima 2**	**19.55**	**347**	P	**P**	**18 47 56.5**	**-0.3**
15nm,0.3s,baz=60,slow=20,SNR=5.2							
JOW	**Kunigami**	**20.00**	**312**	P	**P**	**18 48 04.6**	**+2.9**
1.1nm,0.3s,baz=151,slow=13,SNR=4.4							
JNU	**Nakatsue**	**22.83**	**329**	P	**P**	**18 48 30.9**	**+0.7**
12nm,0.9s,mb4.4,baz=180,slow=18,SNR=4.6							
MJAR	**Matsushiro Arr**	**23.18**	**347**	P	**P**	**18 48 31.2**	**-2.1**
4.9nm,0.8s,mb4.1,baz=171,slow=10.0,SNR=16							
MAJO	**Matsushiro**	**23.18**	**347**	*e*P	**P**	**18 48 33.2**	**-0.2**
11nm,0.6s,mb4.6							
MAT	**Matsushiro**	**23.18**	**347**	P	**P**	**18 48 32.6**	**-0.7**
KSRS	**Korea Array**	**27.74**	**330**	P	**P**	**18 49 13.8**	**-0.5**
1.4nm,0.8s,mb3.6,baz=131,slow=8.5,SNR=5.0							
WRA	**Warramunga Arr**	**35.27**	**197**	P	**P**	**18 50 19.7**	**-0.5**
1.1nm,0.8s,mb3.5,baz=16,slow=9.4,SNR=13							
FITZ	**Fitzroy Crossi**	**37.07**	**211**	P	**P**	**18 50 35.6**	**+0.1**
1.4nm,0.8s,mb3.5,baz=41,slow=16,SNR=3.8							
ASAR	**Alice Springs**	**38.93**	**196**	P	**P**	**18 50 50.4**	**-0.6**
0.4nm,0.6s,mb3.1,baz=18,slow=9.6,SNR=8.0							
STKA	**Stephens Creek**	**45.73**	**184**	P	**P**	**18 51 45.8**	**+0.1**
1.2nm,0.6s,mb3.4,baz=2.8,slow=9.3,SNR=4.3							
SONM	**Songino Array**	**46.32**	**325**	P	**P**	**18 51 50.4**	**+0.2**
1.1nm,1.0s,mb3.1,baz=139,slow=6.1,SNR=6.7							
MKAR	**Makanchi Array**	**61.11**	**316**	P	**P**	**18 53 37.8**	**+0.4**
1.0nm,0.6s,mb3.6,baz=92,slow=8.7,SNR=12							
DLBC	**Dease Lake**	**75.69**	**33**	P	**P**	**18 55 07.9**	**+0.3**
baz=15,slow=20							
YKA	**Yellowknife Ar**	**82.53**	**27**	P	**P**	**18 55 44.4**	**-0.2**
0.3nm,0.5s,mb3.3,baz=286,slow=5.0,SNR=6.5							
NVAR	**Mina Array Bea**	**86.74**	**51**	P	**P**	**18 56 07.1**	**+0.9**
0.9nm,0.6s,mb3.7,baz=272,slow=4.7,SNR=8.1							
PDAR	**Pinedale Array**	**91.74**	**45**	P	**P**	**18 56 30.0**	**+0.5**
2.2nm,0.6s,mb3.3,baz=226,slow=2.4,SNR=3.5							
TORD	**Torodi Ar. Bea**	**134.53**	**305**	PKP	PKPdf	19 02 39.9	0.0
0.5nm,0.9s,baz=203,slow=1.1,SNR=2.7							

MAN 21 18:46:39, 1775N×12227E, h7km, mb3.7, ML2.5, MS2.0, Luzon

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IDC 21 19:02:05.3±1.7, 274N×12641E, h0km, mb3.5/5, mb1 3.7/5, mb1mx3.5/17, mbtmp3.6/5, Error ellipse: s-maj=107.3km s-min=22.5km az=68.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**20.72**	**182**	P	P	19 06 47.7	+0.2
1.2nm,0.5s,baz=23,slow=0.8,SNR=4.5							
WRA	**Warramunga Arr**	**23.85**	**161**	P	P	19 07 20.8	+0.2
0.5nm,0.3s,baz=340,slow=10,SNR=17							
ASAR	**Alice Springs**	**27.24**	**165**	P	P	19 07 51.3	0.0
0.2nm,0.6s,baz=339,slow=7.6,SNR=4.9							
STKA	**Stephens Creek**	**37.33**	**158**	P	P	19 09 19.3	-0.2
0.7nm,0.4s,baz=339,slow=8.6,SNR=3.2							
MKAR	**Makanchi Array**	**58.19**	**326**	P	P	19 12 01.1	-0.1
0.2nm,0.4s,baz=121,slow=8.8,SNR=4.1							

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*ISCJB **21** 19:02:23.0±8.4, 1237S±010×1670E±02, h195km±75km, mb4.0/22, Error ellipse: s-maj=30.4km s-min=13.9km az=162.9*
*IDC **21** 19:02:26.8±0.9, 1242S×16697E, h218km±7km, mb3.7/14, mb1 3.8/14, mb1mx3.7/20, mbtmp3.7/14, Error ellipse: s-maj=16.5km s-min=12.4km az=118.0*
*BJI **21** 19:02:28.8, 1240S×16690E, h233km, mb4.2, mB4.4*
*NEIC **21** 19:02:28.8±5.7, 1237S×16687E, h234km±52km, mb4.3/9, Error ellipse: s-maj=25.1km s-min=11.5km az=71.0*
ISC 21 19:02:26.6±6.7, 1239S±009×1670E±02, h213km±61km, h219km±.8km: pP-P, n65, σ0°90/29, mb4.0/22, 15C, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**21.28**	**246**	P	**P**	**19 06 57.5**	**+0.8**
9.1nm,0.7s,mb4.4,baz=78,slow=12,SNR=14							
CTAO	**Charters Tower**	**21.28**	**246**	*e*P	**P**	**19 06 57.3**	**+0.6**
8.6nm,0.8s,mb4.3							
RPZ	**Rata Peaks**	**31.41**	**174**	P	**P**	**19 08 28.7**	**+1.0**
4.2nm,0.6s,mb4.2,baz=346,slow=6.2,SNR=3.8							
WRAB	**Tennant Creek**	**32.16**	**252**	*e*P	**P**	**19 08 33.5**	**-1.1**
18nm,1.5s,mb4.4							
WRA	**Warramunga Arr**	**32.17**	**252**	P	**P**	**19 08 33.5**	**-1.1**
1.6nm,0.5s,mb3.8,baz=84,slow=9.1,SNR=15							
ASAR	**Alice Springs**	**33.28**	**246**	P	**P**	**19 08 43.6**	**-0.6**
2.0nm,0.6s,mb3.8,baz=70,slow=9.7,SNR=29							
ASAR				pP	pP	19 09 28.1	+0.3
1.5nm,0.7s,baz=71,slow=9.4,SNR=5.5							
FITZ	**Fitzroy Crossi**	**40.20**	**257**	P	**P**	**19 09 42.7**	**+0.1**
2.4nm,0.7s,mb3.7,baz=86,slow=13,SNR=5.0							
MJAR	**Matsushiro Arr**	**55.71**	**332**	P	**P**	**19 11 40.4**	**-0.6**
2.6nm,0.7s,mb3.9,baz=169,slow=8.0,SNR=12							
MAJO	**Matsushiro**	**55.71**	**332**	*e*P	**P**	**19 11 40.1**	**-0.9**
5.5nm,0.7s,mb4.2							
ASAJ	**Asahikawa**	**60.45**	**340**	P	**P**	**19 12 14.3**	**+0.6**
6.3nm,0.6s,mb4.5,baz=226,slow=27,SNR=7.4							
KSRS	**Korea Array**	**61.65**	**325**	P	**P**	**19 12 21.8**	**-0.2**
0.4nm,0.4s,mb3.4,baz=121,slow=8.1,SNR=4.4							
NJ2	**Nanjing**	**63.80**	**315**	*e*P	**P**	**19 12 37.8**	**+1.5**
VNDA	**Vanda**	**65.18**	**181**	P	**P**	**19 12 44.3**	**-0.1**
0.9nm,0.8s,mb3.5							
VNDA	**Vanda**	**65.18**	**181**	P	**P**	**19 12 44.3**	**-0.1**
0.7nm,0.7s,mb3.4,baz=317,slow=7.4,SNR=3.0							
SBA	**Scott Base**	**65.46**	**180**	*e*P	**P**	**19 12 46.6**	**+0.4**
3.4nm,0.8s,mb4.0							
KMI	**Kunming**	**72.83**	**301**	P	**P**	**19 13 36.8**	**+4.4**
KMI				AMB	AMB		
comp=Z,6.0nm,1.4s,mb4.0							
KMI				LR	LR		
comp=N,2μm,17.3s							
KMI				LR	LR		
comp=E,2μm,18.7s							
KMI				LR	LR		
comp=Z,3μm,20.2s							
CD2	**Chengdu**	**74.36**	**307**	*e*P	**P**	**19 13 44.1**	**+3.0**
CD2				AMB	AMB		
comp=Z,10.0nm,0.8s,mb4.5							
CD2				AMB	AMB		
comp=Z,30nm,8.4s							
QSPA	**South Pole Qui**	**77.62**	**180**	*e*P	**P**	**19 13 58.9**	**+0.2**
comp=Z,3.8nm,0.8s,mb4.1							
QSPA	**South Pole Qui**	**77.62**	**180**	P	**P**	**19 13 58.0**	**-0.8**
comp=Z,2.1nm,0.7s,mb3.9,baz=60,slow=3.2,SNR=10							
QSPA				pP	pP	19 14 50.4	+0.8
comp=Z,1.5nm,0.9s,baz=14,slow=2.1,SNR=1.9							
YAK	**Yakutsk**	**79.72**	**343**	*e*P	**P**	**19 14 10.0**	**-0.3**
comp=Z,9.4nm,0.6s,mb4.6							
ULN	**Ulaanbaatar**	**80.08**	**324**	*e*P	**P**	**19 14 13.3**	**+0.7**
comp=Z,1.4nm,0.7s,mb3.7							
BILL	**Bilibino**	**80.22**	**360**	*e*P	**P**	**19 14 12.7**	**-0.2**
comp=Z,9.3nm,1.0s,mb4.4							
SONM	**Songino Array**	**80.45**	**323**	P	**P**	**19 14 14.1**	**-0.4**
comp=Z,0.5nm,0.6s,mb3.3,baz=155,slow=6.8,SNR=4.8							
LSA	**Lhasa**	**84.07**	**302**	P	**P**	**19 14 35.1**	**+1.4**
NVAR	**Mina Array Bea**	**85.99**	**49**	P	**P**	**19 14 43.5**	**+0.5**
comp=Z,0.3nm,0.6s,mb3.2,baz=231,slow=5.8,SNR=3.8							
NVAR				pP	pP	19 15 36.6	+1.6
comp=Z,0.2nm,0.4s,baz=250,slow=4.8,SNR=2.6							
MKAR	**Makanchi Array**	**95.31**	**317**	P	**P**	**19 15 26.1**	**-0.2**
comp=Z,1.4nm,0.6s,mb4.3,baz=95,slow=6.2,SNR=12							
YKA	**Yellowknife Ar**	**95.62**	**27**	P	**P**	**19 15 25.3**	**-2.1**
comp=Z,0.6nm,0.5s,mb4.1,baz=258,slow=4.7,SNR=15							

VNA2	**Neumayer--Watz**	**96.79**	**182**	*e*	**P**	**19 15 32.6**	**0.0**
baz=192,slow=3.5							
VNA2				*e*		19 15 33.8	
VNA2				*e*		19 15 40.9	
VNA1	**Neumayer--Stat**	**97.09**	**182**	*e*	**P**	**19 15 33.5**	**-0.5**
VNA1				*e*		19 15 34.6	
VNA1				*e*		19 15 42.0	
ARCES	**ARCESS Array B**	**117.93**	**346**	PKP	PKPdf	19 20 46.4	-0.8
comp=Z,4.0nm,0.5s,baz=82,slow=2.1,SNR=65							
SCHQ	**Schefferville**	**120.52**	**33**	PKP	PKPdf	19 20 51.5	-1.1
comp=Z,0.9nm,0.7s,baz=280,slow=3.0,SNR=4.2							
JOF	**Joensuu**	**120.62**	**338**	*e*p	PKPdf	19 20 51.0	-1.5
comp=Z,1.3nm,0.4s							
FINES	**FINESS Array B**	**123.45**	**339**	PKP	PKPdf	19 20 56.3	-1.6
comp=Z,0.9nm,0.5s,baz=96,slow=1.9,SNR=10.0							
NB2	**NORSAR Subarra**	**128.30**	**345**	PKPdf	PKPdf	19 21 07.4	+0.1
comp=Z,2.3nm,0.8s,baz=30,slow=2.0							
NOA	**NORSAR Array B**	**128.30**	**345**	PKP	PKPdf	19 21 06.7	-0.5
comp=Z,1.1nm,0.6s,baz=30,slow=2.0,SNR=5.3							
GERES	**GERESS Array B**	**137.43**	**334**	PKP	PKPdf	19 21 25.4	+0.6
comp=Z,0.5nm,0.6s,baz=29,slow=3.0,SNR=6.4							
LDF	**La Druitiere**	**142.34**	**346**	*e*PKP1	PKPdf	19 21 33.3	-0.4
LOR	**Lormes**	**142.44**	**341**	*e*PKP1	PKPdf	19 21 30.7	-3.3
comp=Z,2.5nm,0.6s							
SSF	**Saint Saulge**	**142.74**	**341**	*e*PKP1	PKPdf	19 21 31.4	-3.1
comp=Z,2.3nm,0.5s							
LPL	**La Plagne**	**142.94**	**337**	*e*PKP1	PKPdf	19 21 33.1	-1.8
comp=Z,5.1nm,0.6s							
LPG	**La Plagne**	**142.95**	**337**	*e*PKP1	PKPdf	19 21 33.2	-1.7
comp=Z,4.1nm,0.7s							
SGMF	**Saint Gilles**	**143.19**	**348**	*e*PKP1	PKPdf	19 21 32.8	-2.4
comp=Z,7.3nm,0.6s							
ROSF	**Rostrenen**	**143.25**	**349**	*e*PKP1	PKPdf	19 21 33.0	-2.3
BGF	**Bois d'Agland**	**143.39**	**342**	*e*PKP1	PKPdf	19 21 33.4	-2.3
comp=Z,6.2nm,0.5s							
MBDF	**Montbardon**	**143.59**	**336**	⇑*i*PKP1	PKPdf	19 21 33.9	-2.1
comp=Z,5.9nm,0.7s							
QUIF	**Quistinic**	**143.63**	**349**	*e*PKP1	PKPdf	19 21 33.0	-3.0
comp=Z,2.7nm,0.5s							
ORIF	**Oris-en-Rattie**	**143.77**	**337**	⇑*i*PKP1	PKPdf	19 21 35.1	-1.3
comp=Z,22nm,0.6s							
TCF	**Toulx Ste Croi**	**143.83**	**342**	*e*PKP1	PKPdf	19 21 34.8	-1.6
comp=Z,9.0nm,0.9s							
SBF	**Sospel**	**144.02**	**334**	⇑*i*PKP1	PKPdf	19 21 35.1	-1.7
comp=Z,39nm,0.7s							
MFF	**Saint Martin d**	**144.20**	**345**	⇑*i*PKP1	PKPdf	19 21 35.9	-1.2
comp=Z,15nm,0.7s							
VIVF	**Saint-Julien-l**	**144.27**	**338**	⇑*i*PKP1	PKPdf	19 21 36.5	-0.7
comp=Z,15nm,0.9s							
PGF	**Pioggiola**	**144.38**	**332**	⇑*i*PKP1	PKPdf	19 21 36.5	-1.0
comp=Z,35nm,0.7s							
FRF	**La Foret Royal**	**144.60**	**335**	⇑*i*PKP1	PKPdf	19 21 37.2	-0.7
comp=Z,34nm,0.9s							
SMRF	**Simiane la Rot**	**144.69**	**336**	⇑*i*PKP1	PKPdf	19 21 38.0	0.0
comp=Z,17nm,0.8s							
LMR	**La Mourre**	**144.84**	**335**	⇑*i*PKP1	PKPdf	19 21 37.9	-0.4
comp=Z,10nm,0.5s							
RJF	**Les Rejaudoux**	**144.93**	**342**	⇑*i*PKP1	PKPdf	19 21 38.5	+0.1
CAF	**Calviac**	**145.10**	**341**	⇑*i*PKP1	PKPbc	19 21 39.2	+0.6
comp=Z,5.0nm,0.8s							
LASF	**Ste Croix**	**145.24**	**338**	⇑*i*PKP1	PKPbc	19 21 39.7	+0.6
comp=Z,13nm,0.9s							
LFF	**La Frestale**	**145.49**	**343**	⇑*i*PKP1	PKPbc	19 21 40.2	+0.4
comp=Z,16nm,0.6s							
MTLF	**Montolieu**	**146.46**	**340**	⇑*i*PKP1	PKPbc	19 21 43.2	+0.5
comp=Z,12nm,0.7s							
EPF	**Esparros**	**147.34**	**342**	⇑*i*PKP1	PKPbc	19 21 45.8	+0.6
comp=Z,5.5nm,0.8s							
SJPF	**Ste Jean**	**147.72**	**344**	*e*PKP1	PKPbc	19 21 46.8	+0.6
ETSF	**Etsaut**	**147.74**	**343**	*e*PKP1	PKPbc	19 21 47.0	+0.7
comp=Z,8.0nm,0.7s							
KEST	**Kesra**	**149.20**	**323**	PKPbc	PKPbc	19 21 50.3	+0.1
comp=Z,2.1nm,0.7s,baz=203,slow=0.7,SNR=11							
ESDC	**Sonseca Array**	**151.66**	**345**	PKPbc	PKPbc	19 21 56.0	0.0
comp=Z,2.1nm,0.6s,baz=7.4,slow=3.0,SNR=19							
ESDC				PKPab	PKPab	19 22 06.1	+0.7
comp=Z,2.2nm,0.6s,baz=11,slow=4.1,SNR=11							

IDC 21 19:04:42.2±1.4, 2503S×7014E, h0km, mb3.7/6, mb1 3.9/6, mb1mx3.6/21, mbtmp3.7/6, Error ellipse: s-maj=54.2km s-min=26.6km az=28.0, Mid-Indian Ridge

| Code | Station Name | Δ° | AZ° | Phase ID Op |

USI	Ustica	0.22 329	∥iPg		Pg	19 41 31.9	-0.4
USI				Sg	Sg	19 41 37.1	+1.2
72μm,0.4s							
CORL	Corleone	0.63 181	Pn		Pn	19 41 39.1	-2.0
8μm,0.6s							
ERC	Erice	0.76 230	Pn		Pn	19 41 41.7	-1.1
GIB	Gibilmanna	0.77 134	Pn		Pn	19 41 41.4	-1.6
8μm,0.4s							
CSLB	Castelbuono	0.82 135	Pn		Pn	19 41 42.3	-1.4
SLNA	Salina	1.18 88	Pn		Pn	19 41 47.2	-1.5
GALF	Gagliano Caste	1.27 129	Pn		Pn	19 41 50.7	+0.8
3μm,0.6s							
LLI	Lipari	1.28 93	Pn		Pn	19 41 48.4	-1.6
5μm,0.7s							
VPL	Vulcano Piano	1.31 96	Pn		Pn	19 41 48.6	-1.9
1μm,0.5s							
VAE	Valguarnera	1.35 140	Pn		Pn	19 41 53.6	+2.5
11nm,0.3s,baz=34,slow=11,SNR=35							
VAE				Sn	Sn	19 42 13.1	+4.7
46nm,0.3s,baz=349,slow=9.2,SNR=9.0							
RAFF	Raffo Rosso	1.54 147	Pn		Pn	19 41 55.6	+2.0
2μm,0.6s							
MMME	Mongiuffi-Meli	1.63 110	Pn		Pn	19 41 55.4	+0.5
573nm,0.5s							
HVZN	Vizzini	1.74 140	Pn		Pn	19 41 57.3	+1.0
2μm,0.4s							
MSRU	Castanea	1.74 98	Pn		Pn	19 41 54.5	-1.8
446nm,0.6s							
MSI	Messina ING	1.78 100	Pn		Pn	19 41 56.4	-0.6
1μm,0.6s							
SCLL	Scilla	1.90 97	Pn		Pn	19 41 56.8	-1.7
96nm,0.8s							
HAGA	Augusta	1.90 130	Pn		Pn	19 41 59.0	+0.4
419nm,0.7s							
MTTG	Motta San Giov	1.94 105	Pn		Pn	19 41 59.8	+0.7
182nm,0.6s							
HMDC	Modica	1.94 143	Pn		Pn	19 42 00.3	+1.1
HMDC			Sn		Sn	19 42 25.1	+2.0
662nm,0.4s							
SSY	Sortino	1.94 134	Pn		Pn	19 42 00.1	+0.9
1μm,0.2s							
PZI	Palazzolo	1.95 138	Pn		Pn	19 42 00.2	+1.0
120nm,0.1s							
AGST	Augusta-Monte	1.97 129	Pn		Pn	19 41 59.6	+0.1
98nm,0.2s							
JOPP	Joppolo	2.01 87	Pn		Pn	19 41 58.6	-1.5
72nm,0.5s							
HAVL	Avola	2.11 137	Pn		Pn	19 42 02.6	+1.1
483nm,0.3s							
MPAZ	Palizzi	2.19 104	Pn		Pn	19 42 03.2	+0.7
205nm,0.5s							
SOI	Samo	2.20 101	Pn		Pn	19 42 01.6	-1.0
CMPR	Campora	2.36 40	Pn		Pn	19 42 03.7	-1.2
37nm,0.7s							
MGR	Morigerati	2.37 46	Pn		Pn	19 42 03.4	-1.6
62nm,0.6s							
CARO	Carolei	2.38 71	Pn		Pn	19 42 03.8	-1.3
178nm,0.4s							
GRI	Girifalco	2.44 82	Pn		Pn	19 42 06.1	+0.1
2μm,4.2s							
PLAC	Placanica	2.44 91	Pn		Pn	19 42 05.3	-0.8
50nm,0.7s							
CDRU	Civita di Ruta	2.49 37	Pn		Pn	19 42 06.2	-0.5
20nm,0.3s							
MTSN	Montesano sull	2.56 46	Pn		Pn	19 42 07.8	+0.1
60nm,0.8s							
SIRI	Monte Sirino -	2.58 49	Pn		Pn	19 42 07.5	-0.4
49nm,0.8s							
MCEL	Monticello	2.63 46	Pn		Pn	19 42 08.1	-0.5
MCRV	Calabrutti - M	2.67 32	Pn		Pn	19 42 09.0	-0.2
17nm,0.3s							
SERS	Sersale	2.68 78	Pn		Pn	19 42 08.6	-0.7
37nm,0.6s							
SCHR	S. Chirico Rap	2.71 51	Pn		Pn	19 42 10.0	+0.2
26nm,1.0s							
TIP	Timpagrande	2.76 75	Pn		Pn	19 42 09.9	-0.5
94nm,1.6s							
VAGA	Valle Agricola	2.97 13	Pn		Pn	19 42 14.2	+0.9
19nm,0.7s							
SGG	Gregorio Mates	2.97 15	Pn		Pn	19 42 14.7	+1.4
PTRJ	Pietraroja	2.99 18	Pn		Pn	19 42 13.8	+0.3
12nm,0.7s							
CERA	Filignano	3.12 10	Pn		Pn	19 42 16.4	+1.1
MIGL	Miglionico	3.18 48	Pn		Pn	19 42 17.2	+1.0
489nm,1.7s							
VSL	Villasalto	3.22 289	ePn		Pn	19 42 14.8	-2.0
VSL	Villasalto	3.22 289	ePn		Pn	19 42 14.8	-2.0
CERT	Cerreto	3.43 356	Pn		Pn	19 42 20.6	+0.9
11nm,0.6s							
SG1	Sgolgore (BA)	3.47 47	ePn		Pn	19 42 20.7	+0.5
AMUR	Altamura	3.48 46	Pn		Pn	19 42 20.6	+0.4
23nm,0.5s							
TA1	Taranto	3.60 57	ePn		Pn	19 42 22.7	+0.8
SGRT	San Giovanni R	3.72 29	Pn		Pn	19 42 24.0	+0.3
MSAG	Monte S. Angel	3.75 31	Pn		Pn	19 42 24.7	+0.7
22nm,0.5s							
KEST	Kesra	4.23 230	Pn		Pn	19 42 33.6	+3.0
0.4nm,0.3s,baz=39,slow=6.5,SNR=21							
KEST				Sn	Sn	19 43 18.7	-0.7
0.3nm,0.3s,baz=224,slow=19,SNR=2.8							
PGF	Pioggiola	5.20 322	ePn		Pn	19 42 44.6	+0.7
PGF			eSn		Sn	19 43 38.2	-5.2
20nm,0.4s							
PGF	Pioggiola	5.20 322	ePn		Pn	19 42 44.6	+0.7
PGF			eSn		Sn	19 43 38.2	-5.2
10nm,0.4s							
MAIM		5.79 339	P		Pn	19 42 53.9	+1.8
GRAM		6.45 339	P		Pn	19 43 04.0	+3.0
IMI	Imperia	6.76 324	P		Pn	19 43 04.8	-0.6
NEGI	Negi	6.80 323	P		Pn	19 43 05.0	-0.9
RORO		6.84 326	P		Pn	19 43 06.9	+0.4
FIN	Finale Ligure	6.86 328	P		Pn	19 43 06.8	+0.1
SBF	Sospel	6.94 322	ePn		Pn	19 43 06.5	-1.3
SBF			eSn		Sn	19 44 19.8	-6.5
15nm,0.5s							
SBF	Sospel	6.94 322	ePn		Pn	19 43 06.5	-1.3
SBF			eSn		Sn	19 44 19.8	-6.5
7.7nm,0.5s							
MONE	Monesi	6.96 325	P		Pn	19 43 07.8	-0.2
PCP	Pian Castagno	7.00 331	P		Pn	19 43 09.9	+1.3
LMR	La Mourre	7.05 315	ePn		Pn	19 43 07.7	-1.6
LMR			eSn		Sn	19 44 22.2	-6.8
2.7nm,0.3s							
LMR	La Mourre	7.05 315	ePn		Pn	19 43 07.7	-1.6
LMR			eSn		Sn	19 44 22.2	-6.8
1.4nm,0.3s							
ROB	Roburent	7.07 326	P		Pn	19 43 10.2	+0.5
FRF	La Foret Royal	7.13 317	ePn		Pn	19 43 09.1	-1.3
FRF			eSn		Sn	19 44 24.5	-6.3
1.4nm,0.3s							
FRF	La Foret Royal	7.13 317	ePn		Pn	19 43 09.1	-1.3
FRF			eSn		Sn	19 44 24.5	-6.3
0.7nm,0.3s							
ENR	Entracque	7.22 324	P		Pn	19 43 12.2	+0.5
PZZ	Prazzo	7.58 324	P		Pn	19 43 16.6	0.0
MBDF	Montbardon	7.90 324	ePn		Pn	19 43 23.5	+2.5
MBDF			eSn		Sn	19 44 43.4	-6.6
3.3nm,0.4s							
MBDF	Montbardon	7.90 324	ePn		Pn	19 43 23.5	+2.5
MBDF			eSn		Sn	19 44 43.4	-6.6
1.6nm,0.4s							
SMRF	Simiane la Rot	7.98 315	ePn		Pn	19 43 20.5	-1.6
SMRF			eSn		Sn	19 44 45.4	-6.5
1.1nm,0.4s							
ORIF	Oris-en-Rattie	8.47 321	ePn		Pn	19 43 29.9	+1.1
LPG	La Plagne	8.51 327	eP		Pn	19 43 32.7	+3.3
LPL	La Plagne	8.54 327	eP		Pn	19 43 33.0	+3.3
DAVOX	Davos/Dischmat	8.63 344	Pn		Pn	19 43 35.3	+4.3
0.1nm,0.3s,baz=163,slow=20,SNR=4.3							
LASF	Ste Croix	9.03 311	ePn		Pn	19 43 34.1	-2.3
LASF			eSn		Sn	19 45 09.7	-7.9
1.6nm,0.4s							
VIVF	Saint-Julien-I	9.05 317	ePn		Pn	19 43 35.3	-1.4
VIVF			eSn		Sn	19 45 09.9	-8.2
0.8nm,0.4s							
MTLF	Montolieu	9.68 303	ePn		Pn	19 43 43.1	-2.3
MTLF			eSn		Sn	19 45 25.7	-8.0
3.6nm,0.5s							
GERES	GERESS Array B	10.32 1	Pn		Pn	19 43 54.3	+0.1
0.1nm,0.3s,baz=174,slow=13,SNR=6.0							
VRAC	Vranov	11.04 11	LR		LR	19 48 24.2	
comp=Z,1μm,19.2s,baz=57,slow=38							
AKASG	Malin Array Be	16.58 38	Pn		Pn	19 45 18.8	+0.3
0.2nm,0.3s,baz=231,slow=11,SNR=3.2							
HFS	Hagfors	21.63 1	P		P	19 46 16.0	-0.1
2.6nm,0.7s,mb3.8,baz=170,slow=9.0,SNR=6.0							
NB2	NORSAR Subarra	22.58 357	P		P	19 46 26.2	+0.1
comp=Z,2.5nm,0.9s,mb3.6,baz=174,slow=11							
NOA	NORSAR Array B	22.58 357	P		P	19 46 26.2	+0.1
comp=Z,1.2nm,0.7s,mb3.4,baz=173,slow=11,SNR=4.3							
NOA	NORSAR Array B	22.58 357	P		P	19 46 26.2	+0.1
FINES	FINESS Array B	24.28 15	P		P	19 46 42.6	-0.3
comp=Z,1.7nm,0.6s,mb3.7,baz=185,slow=10,SNR=9.0							
TORD	Torodi Ar. Bea	27.30 205	P		P	19 47 12.0	+1.3
comp=Z,0.5nm,1.0s,mb3.0,baz=22,slow=7.3,SNR=4.0							
BVAR	Borovoye Array	41.24 50	P		P	19 49 12.2	+1.5
comp=Z,0.6nm,0.6s,mb3.4,baz=243,slow=6.3,SNR=3.1							
ZALV	Zalesovo Beam	49.65 47	P		P	19 50 17.4	+0.1
comp=Z,0.5nm,0.4s,mb3.9,baz=280,slow=8.3,SNR=3.0							
MKAR	Makanchi Array	49.90 57	P		P	19 50 19.6	+0.2
comp=Z,1.4nm,0.5s,mb4.2,baz=284,slow=6.7,SNR=23							
YKA	Yellowknife Ar	71.01 337	P		P	19 52 43.7	+0.5
comp=Z,0.3nm,0.7s,mb3.3,baz=42,slow=5.4,SNR=5.6							
PDAR	Pinedale Array	83.91 322	P		P	19 53 57.2	+1.4
comp=Z,0.2nm,0.6s,mb3.5,baz=4.6,slow=2.3,SNR=3.0							

IDC 21 19:43:32.8±5.9, 775S×12894E, h147km±62km, mb3.1/1, mb1 3.4/5, mb1mx3.1/15, mbtmp3.2/5, Error ellipse: s-maj=53.7km s-min=19.6km az=42.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	Kupang	5.76 244		P	Pn	19 44 57.8	+1.5
1.8nm,0.3s,baz=116,slow=15,SNR=8.2							
BATI				S	Sn	19 46 01.3	-0.2
4.7nm,0.3s,baz=12,slow=22,SNR=10							
FITZ	Fitzroy Crossi	10.78 197		P	Pn	19 46 03.3	0.0
0.8nm,0.3s,baz=30,slow=12,SNR=27							
FITZ				S	Sn	19 48 00.2	-2.3
0.5nm,0.3s,baz=319,slow=19,SNR=3.6							
WRA	Warramunga Arr	13.21 157		P	Pn	19 46 35.6	+0.9
1.0nm,0.3s,baz=343,slow=13,SNR=58							
WRA				S	Sn	19 48 58.2	-2.7
0.6nm,0.3s,baz=332,slow=22,SNR=7.3							
ASAR	Alice Springs	16.53 164		P	Pn	19 47 17.5	+1.3
0.2nm,0.3s,baz=346,slow=14,SNR=22							
ASAR				S	S	19 50 22.5	+2.2
0.1nm,0.3s,baz=348,slow=23,SNR=4.5							
MKAR	Makanchi Array	68.28 327		P	P	19 54 17.4	-0.3
0.3nm,0.5s,baz=126,slow=7.3,SNR=4.0							

IDC 21 19:52:51.0±5.3, 5570S×2937W, h0km, mb3.7/2, mb1 3.9/2, mb1mx3.5/16, mbtmp3.7/2, Error ellipse: s-maj=169.6km s-min=50.7km az=176.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	La Paz	49.18 307		P	P	20 01 41.4	+0.6
1.0nm,0.5s,baz=148,slow=6.9,SNR=4.9							
TORD	Torodi Ar. Bea	73.38 32		P	P	20 04 24.6	+0.1
0.6nm,1.0s,baz=202,slow=6.6,SNR=3.7							
YKA	Yellowknife Ar	135.09 319		PKP	PKPdf	20 12 10.3	-0.4
0.1nm,0.4s,baz=139,slow=2.5,SNR=4.1							

IDC 21 19:56:26.7±1.3, 466S×12359E, h0km, mb3.6/3, mb1 3.7/5, mb1mx3.6/17, mbtmp3.7/5, ML3.9/1, Error ellipse: s-maj=96.1km s-min=20.9km az=66.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	Kupang	5.51 179		Pn	Pn	19 57 51.4	+1.3
3.6nm,0.3s,baz=225,slow=2.5,SNR=8.7							
BATI				Sn	Sn	19 58 47.0	-7.2
0.8nm,0.3s,baz=324,slow=17,SNR=3.0							
WRA	Warramunga Arr	18.45 146		P	Pn	20 00 44.4	+0.4
0.1nm,0.3s,baz=315,slow=13,SNR=9.6							
ASAR	Alice Springs	21.36 153		P	P	20 01 15.0	-0.6
0.8nm,0.7s,baz=342,slow=15,SNR=12							
MKAR	Makanchi Array	62.88 329		P	P	20 06 54.9	+0.4
0.9nm,0.6s,baz=130,slow=8.4,SNR=12							
ZALV	Zalesovo Beam	66.78 336		P	P	20 07 19.3	-0.5
0.4nm,0.5s,baz=149,slow=3.5,SNR=3.7							

IDC 21 20:13:48.7±9.1, 812S×14740E, h149km±85km, mb3.1/2, mb1 3.4/3, mb1mx3.0/13, mbtmp3.2/3, Error ellipse: s-maj=71.6km s-min=37.5km az=132.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WB2	Warramunga Arr	17.25 226		eP	Pn	20 17 40.5	-0.2
WRA	Warramunga Arr	17.26 226		P	Pn	20 17 39.6	-1.2
0.3nm,0.3s,baz=53,slow=11,SNR=22							
WRA				S	S	20 20 52.6	+0.5
0.1nm,0.3s,baz=43,slow=21,SNR=4.3							
ASAR	Alice Springs	20.15 218		P	P	20 18 10.8	-0.6
0.5nm,0.4s,baz=55,slow=8.7,SNR=28							
FITZ	Fitzroy Crossi	23.37 243		eP	P	20 18 44.6	+0.6
4.1nm,0.6s							
FITZ	Fitzroy Crossi	23.37 243		P	P	20 18 45.2	+1.2
1.9nm,0.5s,baz=53,slow=9.8,SNR=13							
TORD	Torodi Ar. Bea	145.94 281		PKPbc	PKPbc	20 33 10.2	-1.6
0.5nm,0.8s,baz=77,slow=4.6,SNR=3.3							

IDC 21 20:24:17.2±1.2, 483S×12346E, h0km, mb3.9/5, mb1 3.9/6, mb1mx3.7/16, mbtmp3.8/6, ML3.5/1, Error ellipse: s-maj=202.3km s-min=19.0km az=62.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	18.38 146		P	Pn	20 28 32.1	-1.6
0.2nm,0.3s,baz=316,slow=13,SNR=10							
ASAR	Alice Springs	21.26 153		P	P	20 29 06.0	+0.8
1.9nm,0.7s,baz=346,slow=17,SNR=20							
STKA	Stephens Creek	31.83 150		P	P	20 30 44.1	+0.3
1.5nm,0.6s,baz=322,slow=7.4,SNR=3.7							
SONM	Songino Array	54.55 346		P	P	20 33 47.9	+0.9
0.3nm,0.6s,baz=158,slow=6.9,SNR=4.3							
MKAR	Makanchi Array	62.96 329		P	P	20 34 45.8	+0.2
1.5nm,0.6s,baz=129,slow=7.6,SNR=24							
ZALV	Zalesovo Beam	66.88 336		P	P	20 35 10.3	-0.7
0.7nm,0.5s,baz=136,slow=5.1,SNR=5.6							

CASC 21 20:33:20.6±2.3, 1209N×8779W, h23km±8km, MD3.7, ML3.4, 2C-3D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TEL3	Telica 3	1.04	62∥	eP	Pn	20 33 39.5	-0.3
TELN	Telica	1.06	61	eP	Pn	20 33 39.6	-0.6
COPN	Copaltepe	1.17	86∥	eP	Pn	20 33 41.2	-0.4
COPN				eS	Sn	20 33 58.4	+1.4
MOMJ	Momotombo	1.26	75	eP	Pn	20 33 42.5	-0.3
MOMJ				eS	Sn	20 33 59.5	+0.4
CSAN		1.34	86∥	eP	Pn	20 33 44.2	+0.3
VSM	San Miguel	1.41	340	eP	x	20 33 54.7	
VSM				eS	x	20 34 15.4	
APYN	Apoyeque	1.41	84∥	eP	Pn	20 33 45.0	0.0
APYN				eS	Sn	20 34 04.0	+1.1
BLLM	Bellamira	1.41	342	eP	x	20 33 53.7	
BLLM				eS	x	20 34 13.5	
XAVN	Gruta Xavier	1.43	88	eP	Pn	20 33 45.6	+0.4
TISN	Laguna Tiscapa	1.49	88	eP	Pn	20 33 45.7	-0.2
MGAN	Managua	1.51	88	eS	Sn	20 34 06.3	+1.1
MGAN				i		20 34 10.5	
comp=N,560nm,0.4s							
TICN	Ticuantepe	1.52	92∥	eP	Pn	20 33 47.3	+0.9
HUEN		1.60	81	eP	Pn	20 33 47.8	+0.3
HUEN				eS	Sn	20 34 07.6	+0.2
APON	Apoyo	1.69	96	eP	Pn	20 33 46.8	-2.0
LCBS	La Ceiba	1.94	323	eP	x	20 34 01.8	
LCBS				eS	x	20 34 26.0	
LFRS	El Faro	1.97	321	eP	x	20 34 02.2	
LFRS				eS	x	20 34 25.9	

*IDC **21** 21:09:02.9±2.7, 3015N×6773E, h0km, mb3.5/7, mb1 3.7/7, mb1mx3.4/25, mbtmp3.6/7, Error ellipse: s-maj=69.5km s-min=28.1km az=136.0*
*NEIC **21** 21:09:03.5±2.2, 3016N×6800E, h10km, Error ellipse: s-maj=49.6km s-min=19.8km az=132.0*
ISC 21 21:09:03.5±2.1, 302N±02×681E±03, h10km, n12, σ1°04/13, mb3.6/6, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	Kabul	4.45	10	ePn	Pn	21 10 11.7	+0.7
AML	Almayashu	12.77	19	ePn	Pn	21 12 03.7	-1.4
8.6nm,0.5s							
AML				eSn	Sn	21 14 22.5	-4.8
UCH	Uchtor	13.11	21	ePn	Pn	21 12 03.4	-6.3
2.6nm,0.5s							
MKAR	Makanchi Array	19.93	30	P	Pn	21 13 36.4	-0.6
MKAR	Makanchi Array	19.93	30	P	Pn	21 13 36.4	-0.6
0.3nm,0.4s,baz=211,slow=10,SNR=6.5							
AKTK	Aktyubinsk	21.63	342	P	P	21 13 53.9	+0.2
AKTO	Aktyubinsk	21.63	342	P	P	21 13 53.9	+0.2
1.0nm,0.7s,mb3.4,baz=180,slow=9.6,SNR=4.1							
BVAR	Borovoye Array	22.92	4	P	P	21 14 08.7	+1.3
0.5nm,0.5s,mb3.2,baz=178,slow=7.2,SNR=4.4							
ZALV	Zalesovo Beam	26.69	22	P	P	21 14 45.8	+3.3
1.6nm,0.6s,mb3.8,baz=226,slow=11,SNR=9.8							
ARCES	ARCESS Array B	46.21	341	P	P	21 17 27.4	-0.7
1.6nm,0.8s,mb4.0,baz=124,slow=6.5,SNR=3.7							
TORD	Torodi Ar. Bea	63.22	270	P	P	21 19 31.3	-1.0
0.4nm,0.8s,mb3.6,baz=66,slow=5.8,SNR=5.1							
YKA	Yellowknife Ar	87.66	1	P	P	21 21 52.8	+1.0
0.2nm,0.5s,mb3.6,baz=351,slow=4.9,SNR=8.8							

*IDC **21** 21:10:42.1±0.9, 2189N×12048E, h0km, mb3.7/8, mb1 3.9/8, mb1mx3.8/19, mbtmp3.7/8, MS4.3/1, Ms1 4.3/1, ms1mx3.0/35, Error ellipse: s-maj=38.7km s-min=18.4km az=69.0*
*BJI **21** 21:10:43.5, 2190N×12040E, h10km, mB4.3, mb4.3*
*NEIC **21** 21:10:43.6±0.5, 2186N×12045E, h10km, Error ellipse: s-maj=14.3km s-min=8.4km az=96.0*
*ISCJB **21** 21:10:46.7±1.4, 2192N±009×12061E±007, h46km±13km, mb3.6/8, Error ellipse: s-maj=15.1km s-min=10.7km az=163.1*
*JMA **21** 21:10:48.0±0.4, 2177N×12088E, h126km, M3.4*
ISC 21 21:10:47.8±1.5, 2190N±009×12057E±008, h39km±15km, n19, σ0°61/25, mb3.6/8, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NACB	Ninganchiao	2.45	22	ePn	Pn	21 11 24.5	-0.8
YHNB	Yeheng	2.85	15	ePn	Pn	21 11 30.6	-0.3
TATO	Taipei	3.17	15	Pn	Pn	21 11 34.6	-0.6
YOJ	Yonaguni jima	3.39	41	P	Pn	21 11 39.6	+1.3
YOJ				S	Sn	21 12 18.4	+1.1
HATJ	Hateruma jima	3.67	54	P	Pn	21 11 42.1	0.0
HATJ				S	Sn	21 12 23.6	-0.5
IRIF	Iriomote-Funau	3.78	50	P	Pn	21 11 43.7	+0.1
IRIF				S	Sn	21 12 27.8	+0.9
JKRS	Kuro-shima	3.93	53	P	Pn	21 11 45.9	+0.3
JKRS				eS	Sn	21 12 30.4	0.0
JIJ	Ishigaki jima	4.10	53	P	Pn	21 11 47.8	-0.2
JIJ				S	Sn	21 12 33.6	-1.1
JTJ	Tarama	4.67	54	P	Pn	21 11 56.1	+0.2
JTJ				S	Sn	21 12 48.1	-0.8
LZH	Lanzhou	20.30	318	eP	P	21 15 21.1	+0.8
LZH				AP		21 15 24.0	
LZH				XP	sP	21 15 26.0	-9.2
LZH				AMB	AMB		
comp=Z,15nm,1.0s							
LZH				AMB	AMB		
comp=Z,78nm,5.1s							
MJAR	Matsushiro Ar	21.15	43	P	P	21 15 30.3	+0.8
comp=Z,0.6nm,0.6s,mb3.1,baz=231,slow=9.1,SNR=3.2							
SONM	Songino Array	28.27	340	P	P	21 16 36.9	-0.4
comp=Z,0.5nm,0.7s,mb3.3,baz=151,slow=9.4,SNR=5.2							
MKAR	Makanchi Array	39.62	318	P	P	21 18 15.2	-0.3
comp=Z,0.6nm,0.7s,mb3.4,baz=117,slow=9.0,SNR=6.1							
ZALV	Zalesovo Beam	41.87	329	P	P	21 18 33.6	-0.4
comp=Z,2.6nm,0.8s,mb3.9,baz=113,slow=7.8,SNR=12							
WRA	Warramunga Arr	43.71	161	P	P	21 18 48.8	-0.5
comp=Z,1.2nm,0.8s,mb3.7,baz=343,slow=9.0,SNR=7.7							
ASAR	Alice Springs	47.12	163	P	P	21 19 16.5	+0.3
comp=Z,0.5nm,0.4s,mb3.8,baz=344,slow=6.9,SNR=20							
GERES	GERESS Array B	84.24	321	P	P	21 23 15.4	+0.1
comp=Z,0.5nm,0.7s,mb3.7,baz=72,slow=5.7,SNR=6.0							
YKA	Yellowknife Ar	85.28	22	P	P	21 23 20.2	-0.1
YKA	Yellowknife Ar	85.28	22	P	P	21 23 20.2	-0.1
comp=Z,0.3nm,0.7s,mb3.5,baz=314,slow=4.8,SNR=6.9							

IDC 21 21:11:56.0±3.0, 433N×9437E, h0km, mb3.5/4, mb1 3.5/5, mb1mx3.3/22, mbtmp3.4/5, ML3.0/1, Error ellipse: s-maj=120.9km s-min=22.1km az=54.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	Prapat	4.79 108		Pn	Pn	21 13 10.7	+1.1
0.7nm,0.3s,baz=318,slow=11,SNR=6.1							
PSI				Sn	Sn	21 14 00.2	-5.5
0.8nm,0.3s,baz=334,slow=23,SNR=4.1							
MKAR	Makanchi Array	43.58 348		P	P	21 20 01.9	+0.1
0.5nm,0.4s,baz=169,slow=7.9,SNR=8.3							
WRA	Warramunga Arr	46.09 123		P	P	21 20 20.8	-1.4
0.4nm,0.9s,baz=300,slow=9.4,SNR=2.8							
ASAR	Alice Springs	47.53 128		P	P	21 20 34.6	+1.1
0.2nm,0.5s,baz=302,slow=7.7,SNR=2.7							
ZALV	Zalesovo Beam	50.08 353		P	P	21 20 52.4	-0.2
0.6nm,0.5s,baz=176,slow=6.7,SNR=4.6							

*SZGRF **21** 21:24:40.7, 5226N×16938W, h33km, mb4.3, Fox Islands, Aleutian Islands, United States*
*MOS **21** 21:24:43.7±0.8, 5276N×17032W, h75km, mb4.6/37, Error ellipse: s-maj=10.8km s-min=7.3km az=80.6*
*BJI **21** 21:24:43.0, 5270N×17040W, h56km, mB5.0, mb4.6, Ms4.8, Msz4.6*
*NEIC **21** 21:24:43.1±0.3, 5268N×17036W, mb4.6/55, ML4.4(AEIC), Error ellipse: s-maj=8.2km s-min=4.2km az=174.0*
*IDC **21** 21:24:43.4±0.5, 5262N×17033W, h56km±3km, mb4.1/21, mb1 4.3/21, mb1mx4.1/27, mbtmp4.1/21, MS3.8/2, Ms1 3.8/2, ms1mx3.0/39, Error ellipse: s-maj=15.7km s-min=9.4km az=168.0*
*ISCJB **21** 21:24:44.0±0.6, 5274N±005×17039W±003, h77km±5km, mb4.4/80, Error ellipse: s-maj=7.7km s-min=3.4km az=2.4*
**ISC 21 21:24:45.4±0.5, 5275N±005×17041W±003, h74km±4km, h61km±1.9km: pP-P, n337, σ0

comp=Z,4.0nm,0.5s
BILL MLR MLR
comp=Z,200nm,21.0s
EGAK Eagle 19.14 40 *e*Pn **Pn 21 29 01.5 -2.4**
comp=Z,16nm,0.6s
DAWY Dawson 19.57 43 *e*P **Pn 21 29 05.4 -3.5**
SIT Sitka 20.47 64 *e*P **P 21 29 11.8 -4.9**
comp=Z,22nm,0.9s
SIT Sitka 20.47 64 *e*P **P 21 29 11.8 -4.9**
SIT pmax pmax
comp=Z,22nm,0.9s
SKAG Skagway 20.49 57 *e*P **P 21 29 16.7 -0.2**
comp=Z,32nm,0.6s
CRAG Craig 21.85 68 P **P 21 29 34.5 +2.9**
SEY Seymchan 21.95 312⇓*e*P **P 21 29 32.8 +0.4**
DLBC Dease Lake 23.24 60 *e*P **P 21 29 47.8 +2.1**
DLBC Dease Lake 23.24 60 P **P 21 29 47.5 +1.8**
baz=257,slow=6.7
INK Inuvik 23.38 34 *e*P **P 21 29 44.8 -2.3**
comp=Z,297nm,0.5s
INK *e*pP 21 30 03.5
INK *e*sP sP 21 30 12.9 +0.5
INK Inuvik 23.38 34 *e*P **P 21 29 44.8 -2.2**
INK *e**PP 21 30 03.5
INK *e**SP sP 21 30 12.9 +0.5
INK pmax pmax
comp=Z,297nm,0.5s
INK Inuvik 23.38 34 P **P 21 29 45.5 -1.5**
comp=Z,9.5nm,0.5s,mb4.4,baz=249,slow=7.6,SNR=48
INK LR LR 21 40 13.9
comp=Z,126nm,20.3s,baz=231,slow=40
BBB Bella Bella 25.51 74 P **P 21 30 07.7 +1.2**
comp=Z,6.7nm,0.7s,mb4.2,baz=12,slow=0.7,SNR=4.3
YKA Yellowknife Ar 30.47 49 P **P 21 30 50.1 -0.5**
YKA 21 33 48.2
YKA 21 37 25.4
YKA pmax pmax
comp=Z,1.0nm,0.4s
YKA pmax pmax
comp=Z,1.0nm,0.7s
YKA Yellowknife Ar 30.47 49 P **P 21 30 50.1 -0.5**
comp=Z,1.1nm,0.4s,mb3.8,baz=273,slow=8.2,SNR=40
YKA PcP PcP 21 33 48.2 +0.3
comp=Z,0.5nm,0.7s,baz=281,slow=2.8,SNR=4.5
YKA ScP ScP 21 37 25.4 +1.9
comp=Z,0.2nm,0.5s,baz=282,slow=3.4,SNR=5.7
B05A Bryant 30.58 79⇓P **P 21 30 54.0 +2.2**
baz=30
C05A Tolt Reservoir 31.09 79⇓P **P 21 30 57.1 +0.9**
baz=31
D05A Enumclaw 31.15 81⇓P **P 21 30 58.7 +2.0**
baz=31
A07A Ashnola River, 31.25 76⇓P **P 21 30 58.6 +0.9**
baz=31
F04A Amboy 31.50 83⇓P **P 21 31 00.4 +0.5**
baz=31
A08A Turner Farm, O 31.95 76⇓P **P 21 31 04.4 +0.7**
baz=32
TIXI Tiksi 32.08 329⇓*e*P **P 21 31 05.9 +1.2**
TIXI pmax pmax
comp=Z,4.0nm,2.2s,mb3.8
B08A Colville Reser 32.18 77⇑P **P 21 31 06.5 +0.7**
baz=32,SNR=12
H04A Detroit Lake 32.29 85⇑P **P 21 31 07.7 +0.9**
baz=32
A09A Danville 32.34 76⇑P **P 21 31 08.2 +1.0**
baz=32
D07A Quincy 32.35 79⇓P **P 21 31 08.2 +0.9**
baz=32
B09A Rice 32.85 76⇑P **P 21 31 12.7 +1.0**
baz=33
HAWA Hanford 33.01 80 *e*P **P 21 31 12.3 -0.8**
comp=Z,16nm,1.1s,mb4.8
C09A Chrisman Ranch 33.07 77⇓P **P 21 31 14.3 +0.7**
baz=33
H06A Lindquist Farm 33.38 83⇓P **P 21 31 16.8 +0.5**
baz=33
NEW Newport 33.53 76 *e*P **P 21 31 17.4 -0.2**
comp=Z,9.7nm,0.8s,mb4.7
NEW Newport 33.53 76 *e*P **P 21 31 17.4 -0.2**
NEW pmax pmax
comp=Z,10.0nm,0.8s
EDM Edmonton 33.57 66 *e*P **P 21 31 18.1 +0.3**
A11A Hall Mountain, 33.65 74⇓P **P 21 31 19.9 +1.2**
baz=34,SNR=12
G08A Pilot Rock 33.92 82⇑P **P 21 31 21.0 +0.1**
baz=34
K05A Summer Lake 34.15 87⇓P **P 21 31 24.1 +1.1**
baz=34
HABR Khabarovsk 34.17 285 *e*P **P 21 31 23.3 +0.2**
HABR *e**PP pP 21 31 40.5 -0.3
HABR *e* 21 32 38.6
HABR *e* 21 33 56.7
HABR *e*S **S 21 36 45.3 +1.4**
HABR *e**SS sS 21 37 14.3 +0.1
HABR *e*SS SS 21 39 01.3 -13
HABR *e* 21 41 41.0
I07A Izee 34.23 84 P **P 21 31 24.6 +0.9**
baz=34,SNR=5.5
J06A Christmas Vall 34.30 86 P **P 21 31 25.4 +1.1**
baz=34,SNR=6.0
F09A S2 Ranch, Elgi 34.33 80⇑P **P 21 31 25.5 +0.9**
baz=34
E10A Myers Farm, Un 34.41 79⇓P **P 21 31 25.7 +0.5**
baz=34
D11A Klaveano Farm, 34.59 77⇑P **P 21 31 26.3 -0.4**
baz=34
G09A Cove 34.63 81⇑P **P 21 31 27.4 +0.3**
baz=34
I08A Drewsey 34.89 83⇑P **P 21 31 29.9 +0.5**
baz=35
E11A Bogner Ranch, 35.01 78⇓P **P 21 31 29.9 -0.5**
baz=35
G10A Bishop Farm, J 35.02 80⇑P **P 21 31 31.0 +0.5**
baz=35,SNR=6.8
WALA Waterton Lakes 35.04 73 *e*P **P 21 31 29.8 -0.8**
comp=Z,9.6nm,1.0s,mb4.6
B13A Whitefish 35.04 74⇑P **P 21 31 31.2 +0.6**
baz=35
D12A Red Ives Fores 35.17 77⇓P **P 21 31 31.7 0.0**
baz=35
J08A Circle Bar Ran 35.26 84 P **P 21 31 33.2 +0.7**
baz=35,SNR=5.6
F11A Grangeville 35.28 79⇓P **P 21 31 32.1 -0.6**
baz=35
C13A Hot Springs 35.31 75⇓P **P 21 31 33.0 +0.1**
baz=35
G11A Walters Elk Ra 35.47 80⇑P **P 21 31 34.8 +0.4**
baz=35
K08A Mann Creek Ran 35.60 85⇑P **P 21 31 36.2 +0.7**
baz=35
H10A Noah's Angus R 35.62 81⇓P **P 21 31 36.1 +0.4**
baz=35
WVOR Wild Horse Val 35.68 86 *e*P **P 21 31 35.4 -0.7**
comp=Z,10nm,0.8s,mb4.8
WVOR Wild Horse Val 35.68 86 *e*P **P 21 31 35.4 -0.8**
WVOR pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
J09A Fry Pan Ranch, 35.70 84⇑P **P 21 31 36.5 +0.2**
baz=36,SNR=6.9
C14A Swan Lake 35.76 75⇓P **P 21 31 36.9 +0.1**
baz=36
F12A Elk City 35.89 79⇓P **P 21 31 38.1 +0.2**
baz=36,SNR=12
N06A Buffalo Meadow 35.94 89⇑P **P 21 31 39.2 +0.8**
baz=36
M07A Soldier Meadow 35.96 87⇑P **P 21 31 39.9 +1.3**
baz=36
H11A Donnelly 36.00 81⇓P **P 21 31 38.8 0.0**
baz=36
L08A Fields 36.00 86⇓P **P 21 31 39.0 +0.1**
baz=36
K09A Rome 36.08 85⇓P **P 21 31 39.7 +0.1**
baz=36
MSO Missoula 36.11 76 *e*P **P 21 31 37.9 -2.0**
comp=Z,9.5nm,1.1s,mb4.6
D14A Greenough 36.24 76⇑P **P 21 31 40.4 -0.5**
baz=36,SNR=18
M08A Happy Creek Ra 36.41 87⇓P **P 21 31 43.1 +0.7**
baz=36
F13A Darby 36.42 78⇓P **P 21 31 42.6 +0.2**
baz=36
I11A Placerville 36.46 82⇓P **P 21 31 43.1 +0.2**
baz=36
CHMT Chamberlain Mo 36.48 76 *e*P **P 21 31 42.3 -0.6**
L09A Wilkinson Ranc 36.51 85⇑P **P 21 31 43.7 +0.5**
baz=36

K10A MacKenzie Ranc 36.55 84⇑P **P 21 31 44.0 +0.4**
baz=36,SNR=12
E14A Clinton 36.59 77⇓P **P 21 31 44.3 +0.4**
baz=36,SNR=7.6
H12A Diamond D Ranc 36.77 80⇑P **P 21 31 45.3 -0.2**
baz=37
D15A Lincoln 36.84 75⇓P **P 21 31 46.2 +0.2**
baz=37,SNR=15
G13A Cobalt 36.85 79⇑P **P 21 31 45.9 -0.3**
baz=37,SNR=6.7
N08A GE Springer Mi 36.95 87⇓P **P 21 31 47.6 +0.5**
baz=37
F14A Wisdom 36.98 77⇓P **P 21 31 47.2 0.0**
baz=37
K11A Parker Ranch, 37.06 83 P **P 21 31 48.2 +0.3**
baz=37,SNR=9.0
E15A Deer Lodge 37.09 76⇑P **P 21 31 48.2 +0.1**
baz=37,SNR=12
H13A Challis 37.13 80⇑P **P 21 31 48.4 -0.1**
baz=37
L10A Juniper Basin 37.20 85⇑P **P 21 31 49.3 +0.2**
baz=37,SNR=6.8
G14A Jackson 37.23 78⇑P **P 21 31 49.3 -0.1**
baz=37
N09A Rock Creek Ran 37.28 87⇓P **P 21 31 50.0 +0.2**
baz=37
J12A Stokes Ranch, 37.35 82⇑P **P 21 31 50.8 +0.5**
baz=37
M10A I.L. Ranch, Tu 37.48 85⇓P **P 21 31 52.0 +0.5**
baz=37
I13A Wildhorse Cree 37.57 80⇑P **P 21 31 51.7 -0.5**
baz=37,SNR=7.9
L11A Cat Creek Ranc 37.58 84⇑P **P 21 31 52.8 +0.5**
baz=37,SNR=13
HLID Hailey 37.59 81 *e*P **P 21 31 52.3 -0.1**
comp=Z,4.6nm,1.0s,mb4.3
HLID Hailey 37.59 81⇑P **P 21 31 52.5 +0.1**
baz=37
K12A Draper Farm, C 37.82 83⇓P **P 21 31 54.6 +0.2**
baz=38
MCMT McKenzie Canyo 37.82 78 *e*P **P 21 31 54.2 -0.1**
J13A Cove Ranch, Pi 37.83 81⇓P **P 21 31 54.4 +0.1**
baz=38,SNR=7.6
G15A Dillon 37.85 78⇑P **P 21 31 54.5 -0.1**
baz=38,SNR=11
EGMT Eagleton 37.95 72 *e*P **P 21 31 55.9 +0.5**
comp=Z,16nm,0.9s,mb4.9
EGMT Eagleton 37.95 72⇑P **P 21 31 56.4 +1.0**
baz=38
M11A Holland Ranch, 37.99 85⇓P **P 21 31 56.5 +0.7**
baz=38
L12A House Creek Ra 38.04 83 P **P 21 31 56.9 +0.7**
baz=38,SNR=16
BOZ Bozeman (W) 38.10 76 *e*P **P 21 31 56.2 -0.5**
comp=Z,7.7nm,1.0s,mb4.5
BOZ Bozeman (W) 38.10 76 *e*P **P 21 31 56.2 -0.4**
BOZ pmax pmax
comp=Z,8.0nm,1.0s,mb4.5
BOZ Bozeman (W) 38.10 76⇑P **P 21 31 56.7 +0.1**
baz=38
Q08A Gabbs 38.26 90⇑P **P 21 31 58.2 +0.2**
baz=38
NVAR Mina Array Bea 38.30 91 P **P 21 31 58.9 +0.5**
comp=Z,3.3nm,0.8s,mb4.2,baz=304,slow=7.4,SNR=20
NVAR PcP PcP 21 34 11.6 +0.7
comp=Z,0.6nm,0.5s,baz=316,slow=2.5,SNR=5.9
T06C Millerton Lake 38.36 94⇑P **P 21 31 58.7 -0.3**
baz=38
M12A Wells 38.53 84⇓P **P 21 32 00.6 +0.3**
baz=38
P10A Eureka 38.68 88⇑P **P 21 32 01.7 +0.1**
baz=38
N12A Clover Valley, 38.79 85⇓P **P 21 32 03.0 +0.5**
baz=39,SNR=9.5
MTUM Tungsten Hills 38.83 92 *e*P **P 21 32 02.4 -0.5**
O11A Cowboy Ranch, 38.85 86⇑P **P 21 32 03.1 +0.1**
baz=39
S08C White Mtn Res 38.98 92⇓P **P 21 32 05.0 +0.9**
baz=39
HELL Mitchell Peak 38.99 93⇑P **P 21 32 04.2 0.0**
baz=39,SNR=5.5
M13A Montello 39.01 84⇓P **P 21 32 04.6 +0.3**
baz=39,SNR=5.9
FFC Flin Flon 39.07 59 *e*P **P 21 32 04.7 +0.1**
comp=Z,4.5nm,0.6s,mb4.5
FFC Flin Flon 39.07 59 *e*P **P 21 32 04.7 +0.1**
FFC pmax pmax
comp=Z,4.0nm,0.6s,mb4.4
MAJO Matsushiro 39.08 266 *e*P **P 21 32 05.2 +0.1**
comp=Z,6.4nm,0.8s,mb4.5
MAJO Matsushiro 39.08 266 *e*P **P 21 32 05.2 +0.2**
MAJO pmax pmax
comp=Z,6.0nm,0.8s,mb4.5
MJAR Matsushiro Arr 39.08 266 P **P 21 32 05.6 +0.6**
MJAR *PP pP 21 32 19.3 -3.7
MJAR pmax pmax
comp=Z,2.0nm,0.5s
MJAR pmax pmax
comp=Z,2.0nm,0.6s
MJAR Matsushiro Arr 39.08 266 P **P 21 32 05.6 +0.6**
comp=Z,2.3nm,0.5s,mb4.2,baz=40,slow=6.4,SNR=14
MJAR pP pP 21 32 19.3 -3.6
comp=Z,1.5nm,0.6s,baz=48,slow=7.4,SNR=4.2
R09A Tonopah 39.17 90⇓P **P 21 32 05.6 -0.1**
baz=39,SNR=6.4
YNR Norris Junctio 39.17 77 *e*P **P 21 32 05.2 -0.5**
GCMT Greycliff 39.18 75 *e*P **P 21 32 04.5 -1.1**
Q10A Clear Creek Ra 39.21 89⇑P **P 21 32 06.5 +0.5**
baz=39,SNR=13
O12A Currie 39.32 86⇓P **P 21 32 06.9 0.0**
baz=39,SNR=12
MDJ Mudanjiang 39.39 283 P **P 21 32 07.9 +0.4**
MDJ AMB AMB
comp=Z,7.0nm,2.1s,mb4.1
MDJ AMB AMB
comp=Z,111nm,4.4s
S09A Goldfield 39.41 91⇓P **P 21 32 07.9 +0.2**
baz=39,SNR=5.5
LKWY Lake 39.42 77 *e*P **P 21 32 08.6 +0.9**
comp=Z,4.5nm,0.6s,mb4.5
LKWY Lake 39.42 77 *e*P **P 21 32 08.6 +0.9**
LKWY pmax pmax
comp=Z,4.0nm,0.6s,mb4.4
M14A Sheep Mountain 39.42 83⇓P **P 21 32 08.2 +0.4**
baz=39
IMW Indian Meadow 39.48 78 *e*P **P 21 32 08.0 -0.2**
comp=Z,12nm,1.0s,mb4.7
FLWY Flagg Ranch 39.51 78 *e*P **P 21 32 07.5 -0.9**
comp=Z,13nm,1.1s,mb4.7
HVU Hansel Valley 39.60 82 *e*P **P 21 32 09.2 -0.1**
comp=Z,7.5nm,0.8s,mb4.6
HVU Hansel Valley 39.60 82 *e*P **P 21 32 09.2 -0.1**
HVU pmax pmax
comp=Z,7.0nm,0.8s,mb4.5
Q11A Duckwater 39.65 88⇑P **P 21 32 09.8 +0.1**
baz=40,SNR=6.8
S10A Tonopah Range, 39.66 90⇓P **P 21 32 09.5 -0.3**
baz=40,SNR=10.0
P12A McGill 39.71 87⇑P **P 21 32 10.0 -0.1**
baz=40,SNR=5.8
RLMT Red Lodge 39.78 76 *e*P **P 21 32 10.9 +0.3**
comp=Z,18nm,1.1s,mb4.8
LOHW Long Hollow 39.84 78 *e*P **P 21 32 11.0 -0.2**
comp=Z,2.7nm,0.8s,mb4.1
N14A Grayback Hills 39.91 84⇑P **P 21 32 12.1 +0.3**
baz=40
BGU Big Grassy Mou 39.96 84 *e*P **P 21 32 11.9 -0.4**
M15A Larsen Ranch, 39.99 82⇑P **P 21 32 12.1 -0.4**
baz=40
R11A Troy Canyon, C 40.01 89⇑P **P 21 32 12.3 -0.3**
baz=40,SNR=12
P13A Bates Ranch, G 40.26 86⇓P **P 21 32 14.6 -0.2**
baz=40,SNR=7.9
N15A Stansbury Isla 40.29 83⇑P **P 21 32 14.8 -0.1**
baz=40,SNR=6.0
HWUT Hardware Ranch 40.44 82 *e*P **P 21 32 15.6 -0.6**
comp=Z,3.8nm,0.9s,mb4.2
DUG Dugway 40.54 84 *e*P **P 21 32 16.7 -0.3**
comp=Z,17nm,1.1s,mb4.8
DUG Dugway 40.54 84 *e*P **P 21 32 16.7 -0.3**
DUG pmax pmax
comp=Z,17nm,1.1s,mb4.8
DUG Dugway 40.54 84⇓P **P 21 32 17.0 0.0**
baz=40
LAO LASA Array 40.70 72 *e*P **P 21 32 19.0 +0.8**
comp=Z,8.2nm,0.6s,mb4.7
CTU Camp Tracy 40.88 83 P **P 21 32 18.9 -0.9**
comp=Z,4.8nm,0.7s,mb4.4

S12A Delamar Landin 40.92 89⇓P **P 21 32 20.1 -0.1**
baz=41
T11A Corn Creek, Al 40.94 90⇓P **P 21 32 20.4 +0.1**
baz=41,SNR=12
PDAR Pinedale Array 40.95 79 P **P 21 32 20.4 0.0**
comp=Z,5.6nm,0.6s,mb4.6,baz=299,slow=3.4,SNR=50
PDAR pP pP 21 32 34.5 -3.9
comp=Z,2.1nm,0.6s,baz=296,slow=3.9,SNR=3.6
FCC Fort Churchill 41.18 50 *e*P **P 21 32 21.9 -0.2**
comp=Z,11nm,0.8s,mb4.7
FCC Fort Churchill 41.18 50 *e*P **P 21 32 21.9 -0.2**
FCC pmax pmax
comp=Z,11nm,0.8s,mb4.7
GSC Goldstone 41.25 93 *e*P **P 21 32 22.6 -0.3**
comp=Z,9.6nm,0.8s,mb4.7
GSC Goldstone 41.25 93 *e*P **P 21 32 22.6 -0.3**
GSC pmax pmax
comp=Z,10.0nm,0.8s,mb4.7
GSC Goldstone 41.25 93⇓P **P 21 32 23.0 +0.1**
baz=41
BOD Bodaibo 41.26 308 *e*P **P 21 32 22.4 -0.3**
BOD *e* pP 21 32 36.8 -4.0
BOD pmax pmax
comp=Z,2.0nm,0.7s,mb4.1
BOD pmax pmax
comp=Z,5.0nm,0.9s,mb4.3
DAU Daniels Canyon 41.34 83 *e*P **P 21 32 23.9 +0.3**
MPU Maple Canyon 41.36 84 *e*P **P 21 32 23.5 -0.2**
comp=Z,6.3nm,0.8s,mb4.5
S13A Holt Ranch, En 41.54 88⇑P **P 21 32 25.6 +0.3**
baz=41,SNR=10
HEC Hector,Ludlow 41.85 93⇑P **P 21 32 27.3 -0.5**
baz=42
CCUT Cedar City 41.87 88 *e*P **P 21 32 27.4 -0.5**
T13A Saint George 41.88 89⇑P **P 21 32 28.2 +0.2**
baz=42,SNR=6.7
MSU Marysvale 41.97 86 *e*P **P 21 32 28.8 0.0**
TMUT Trail Mountain 42.06 84 *e*P **P 21 32 28.5 -1.0**
U13A Pakoon Wash 42.24 90⇓P **P 21 32 31.4 +0.5**
baz=42,SNR=5.9
GMRC Granite Mounta 42.29 93⇑P **P 21 32 31.3 -0.2**
baz=42
T14A Hurricane 42.35 88⇑P **P 21 32 32.3 +0.4**
baz=42
HIA Hailar 42.52 294⇑*e*P **P 21 32 32.9 -0.2**
SRU San Rafael 42.59 84 *e*P **P 21 32 33.2 -0.6**
comp=Z,7.4nm,0.8s,mb4.5
SRU San Rafael 42.59 84 *e*P **P 21 32 33.2 -0.6**
SRU pmax pmax
comp=Z,7.0nm,0.8s,mb4.4
PFO Pinyon Flat Ob 42.61 95⇓P **P 21 32 33.5 -0.4**
baz=42
BELC Belle Mtn. 42.62 94⇓P **P 21 32 33.5 -0.5**
baz=42
U14A Mt Trumbull 42.71 89⇑P **P 21 32 34.5 -0.3**
baz=42
T15A Red Dirt Ranch 42.80 88⇑P **P 21 32 34.8 -0.8**
baz=43
W13A Hualapai Mount 43.16 91⇑P **P 21 32 37.7 -0.7**
baz=43,SNR=7.6
BC3 Big Chuckw Mtn 43.18 94⇑P **P 21 32 38.1 -0.5**
baz=43
V14A Boquillas Ranc 43.27 90⇑P **P 21 32 39.0 -0.4**
baz=43,SNR=6.2
Y12C Blythe 43.68 93⇓P **P 21 32 41.9 -0.7**
baz=44
X14A Yava 44.19 91⇑P **P 21 32 46.5 -0.2**
baz=44,SNR=6.2
Y14A Wickenburg 44.48 91⇑P **P 21 32 48.2 -0.8**
baz=44
ULM Lac du Bonnet 44.53 62 *e*P **P 21 32 49.0 -0.2**
comp=Z,6.3nm,0.6s,mb4.5
ULM Lac du Bonnet 44.53 62 P **P 21 32 49.7 +0.5**
comp=Z,6.4nm,0.5s,mb4.6,baz=299,slow=8.1,SNR=19
SMCO Snowmass 44.69 81 P **P 21 32 50.1 -0.6**
comp=Z,1.8nm,0.5s,mb4.1
KSRS Korea Array 44.74 276 P **P 21 32 52.6 +1.6**
comp=Z,1.5nm,0.7s,mb3.9,baz=57,slow=7.3,SNR=6.0
KSRS pP pP 21 33 05.9 -3.4
comp=Z,1.5nm,0.7s,baz=48,slow=7.1,SNR=3.4
MVCO Mesa Verde 45.03 85 *e*P **P 21 32 52.5 -0.9**
comp=Z,3.7nm,0.6s,mb4.3
MVCO Mesa Verde 45.03 85⇑P **P 21 32 52.5 -0.9**
baz=45
X16A Lo Mia Camp, P 45.10 90⇓P **P 21 32 54.2 +0.2**
baz=45,SNR=5.5
AGMN Agassiz Refuge 45.63 64 *e*P **P 21 32 57.5 -0.5**
comp=Z,11nm,0.8s,mb4.7
JNU Nakatsue 45.84 269 P **P 21 33 00.7 +0.9**
comp=Z,8.1nm,0.7s,mb4.5,baz=28,slow=7.0,SNR=4.5
SDCO Great Sand Dun 46.50 82 *e*P **P 21 33 04.4 -0.5**
comp=Z,4.5nm,0.9s,mb4.2
117A Oracle 46.79 91⇓P **P 21 33 07.5 +0.2**
baz=47
118A Homack Ranch, 47.21 90⇑P **P 21 33 10.4 -0.1**
baz=47,SNR=5.6
217A Green Valley 47.30 92⇓P **P 21 33 10.9 -0.3**
baz=47
119A Ashpeak Ranch, 47.53 90⇑P **P 21 33 13.2 +0.1**
baz=47,SNR=5.3
218A Dragoon 47.63 91⇑P **P 21 33 13.9 +0.1**
baz=47,SNR=7.1
ANMO Albuquerque 47.77 85⇓*e*P **P 21 33 14.7 -0.1**
ECSD EROS,Sioux Fal 47.93 70 *e*P **P 21 33 14.4 -1.6**
comp=Z,6.4nm,0.6s,mb4.6
LPM Los Pinos Moun 48.09 86 *e*P **P 21 33 14.7 -2.6**
EYMN Ely 48.21 62 *e*P **P 21 33 18.4 +0.3**
comp=Z,6.5nm,0.5s,mb4.7
ULN Ulaanbaatar 50.20 300 P **P 21 33 31.1 -2.1**
SONM Songino Array 50.56 300 P **P 21 33 37.7 +1.7**
SONM *PP pP 21 33 51.8 -2.8
SONM 21 34 53.8
SONM pmax pmax
comp=Z,1.0nm,0.5s
SONM pmax pmax
comp=Z,1.0nm,0.6s
SONM pmax pmax
comp=N,2.0nm,0.7s
SONM Songino Array 50.56 300 P **P 21 33 37.7 +1.7**
comp=N,0.3nm,0.5s,mb3.6,baz=64,slow=6.6,SNR=3.6
SONM pP pP 21 33 51.8 -2.8
comp=N,0.6nm,0.5s,baz=64,slow=6.5,SNR=3.2
SONM PcP PcP 21 34 53.8 +1.2
comp=N,1.1nm,0.6s,baz=51,slow=2.7,SNR=5.3
SONM ScP ScP 21 38 45.4 +3.5
comp=N,2.1nm,0.7s,baz=38,slow=4.3,SNR=17
MNTX Cornudas Mount 50.66 88 *e*P **P 21 33 36.4 -0.5**
comp=N,3.6nm,0.6s,mb4.6
JFWS Jewell Farm 52.05 67 P **P 21 33 45.6 -1.5**
comp=N,7.7nm,0.6s,mb4.9
JFWS Jewell Farm 52.05 67 P **P 21 33 45.6 -1.5**
JFWS pmax pmax
comp=Z,8.0nm,0.6s,mb4.9
HHC Hu-ho-hao-te 52.20 290 *e*P **P 21 33 50.5 +2.2**
HHC AP pP 21 34 06.3 -0.7
HHC XP sP 21 34 14.5 -0.9
HHC PCP PcP 21 34 59.9 +1.0
HHC PP PP 21 35 46.8 -0.2
HHC SCP ScP 21 38 48.1 -0.9
HHC PCS PcS 21 38 56.9 -0.3
HHC S **S 21 41 09.3 +2.2**
HHC XS sS 21 41 35.0 -3.9
HHC SCS ScS 21 43 31.8 +1.0
HHC SS SS 21 44 41.9 -2.9
HHC AMB AMB
comp=Z,8.0nm,0.5s,mb5.0
HHC AMB AMB
comp=Z,103nm,4.9s
HHC LR LR
comp=N,96nm,6.5s
HHC LR LR
comp=E,150nm,5.1s
HHC LR LR
comp=Z,133nm,4.7s
TXAR Lajitas Array 53.37 88 P **P 21 33 56.5 -0.6**
TXAR pP pP 21 34 11.0 -4.9
TXAR PcP PcP 21 35 03.7 +0.2
TXAR Lajitas Array 53.37 88 P **P 21 33 56.5 -0.6**
TXAR *PP pP 21 34 11.0 -4.8
TXAR 21 35 03.7
TXAR pmax pmax
comp=Z,7.0nm,0.8s
TXAR pmax pmax
comp=Z,2.0nm,0.7s
TXAR pmax pmax
comp=Z,2.0nm,0.6s

TXAR Lajitas Array 53.37 88 P **P** **21 33 56.5 -0.6**
comp=Z,6.6nm,0.8s,mb4.7,baz=297,slow=5.5,SNR=43
TXAR pP pP 21 34 11.0 -4.9
comp=Z,2.0nm,0.7s,baz=305,slow=4.4,SNR=4.0
TXAR PcP PcP 21 35 03.7 +0.2
comp=Z,1.7nm,0.6s,baz=280,slow=1.1,SNR=4.6
NJ2 Nanjing 53.87 277 *eP* **P** **21 34 04.3 +3.6**
NJ2 AMB AMB
comp=Z,50nm,0.6s
JCT Junction City 54.90 84 *eP* **P** **21 34 06.7 -1.5**
comp=Z,4.2nm,0.3s,mb5.0
JCT Junction City 54.90 84 *eP* **P** **21 34 06.7 -1.5**
JCT pmax pmax
comp=Z,4.0nm,0.3s,mb4.9
SCHQ Schefferville 55.59 43 *eP* **P** **21 34 12.3 -0.5**
comp=Z,8.7nm,0.9s,mb4.8
SCHQ Schefferville 55.59 43 P **P** **21 34 12.6 -0.2**
comp=Z,8.7nm,0.9s,mb4.8,baz=302,slow=7.6,SNR=16
SCHQ LR LR 21 59 59.3
comp=Z,141nm,19.5s,baz=117,slow=38
MIAR Mount Ida 55.77 76 *eP* **P** **21 34 13.2 -1.2**
comp=Z,7.9nm,0.9s,mb4.7
MIAR Mount Ida 55.77 76 *eP* **P** **21 34 13.2 -1.2**
MIAR pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
ARCES ARCESS Array B 57.48 353 P **P** **21 34 26.8 +0.9**
ARCES pmax pmax
comp=Z,1.0nm,0.6s
ARCES ARCESS Array B 57.48 353 P **P** **21 34 26.8 +0.8**
comp=Z,1.1nm,0.6s,mb4.1,baz=7.8,slow=9.8,SNR=8.8
WHN Wuhan 57.65 279 P **P** **21 34 33.4 +5.6**
PLAL Pickwick Lake 58.68 72 *eP* **P** **21 34 32.7 -2.1**
comp=Z,6.3nm,0.6s,mb4.8
MSNY Massena 58.81 56 *eP* **P** **21 34 37.1 +1.5**
LZH Lanzhou 59.86 291 *eP* **P** **21 34 44.1 +1.1**
LZH AP pP 21 35 01.0 -1.1
LZH XP sP 21 35 08.0 -2.4
LZH AMB AMB
comp=Z,15nm,1.0s,mb5.0
LZH AMB AMB
comp=Z,67nm,4.1s
BINY Binghamton 60.23 59 *eP* **P** **21 34 44.8 -0.6**
comp=Z,12nm,0.5s,mb5.2
SSPA Standing Stone 60.34 61 *eP* **P** **21 34 45.9 -0.3**
comp=Z,11nm,0.5s,mb5.2
BLA Blacksburg 61.43 65 *eP* **P** **21 34 53.2 -0.5**
comp=Z,13nm,0.7s,mb5.1
BLA Blacksburg 61.43 65 *eP* **P** **21 34 53.2 -0.4**
BLA pmax pmax
comp=Z,13nm,0.7s,mb5.1
KURK Kurchatov 61.67 318⇑ *eP* **P** **21 34 54.8 -0.2**
WMQ Urumqi 62.80 307 *eP* **P** **21 35 07.0 +4.3**
BVAR Borovoye Array 63.02 324 P **P** **21 35 04.9 +0.9**
BVAR *PP pP 21 35 20.1 -3.2
BVAR pmax pmax
comp=Z,2.0nm,0.4s
BVAR pmax pmax
comp=Z,2.0nm,0.5s
BVAR Borovoye Array 63.02 324 P **P** **21 35 04.9 +0.9**
comp=Z,1.9nm,0.4s,mb4.3,baz=52,slow=7.2,SNR=11
BVAR pP pP 21 35 20.1 -3.2
comp=Z,1.8nm,0.5s,baz=56,slow=7.9,SNR=5.3
MKAR Makanchi Array 63.09 313 pP pP 21 35 20.7 -3.1
comp=Z,0.5nm,0.4s,baz=53,slow=6.2,SNR=2.5
JOF Joensuu 63.42 349 *ep* **P** **21 35 05.9 -0.6**
CD2 Chengdu 63.66 287 *eP* **P** **21 35 09.8 +1.2**
CD2 XP sP 21 35 32.9 -3.2
CD2 PP PP 21 37 31.8 +2.8
CD2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.7
CD2 AMB AMB
comp=Z,20nm,5.8s
CD2 LR LR
comp=N,250nm,13.2s
CD2 LR LR
comp=E,290nm,9.6s
CD2 LR LR
comp=Z,270nm,8.4s
GYA Guiyang 65.23 282⇑ *iP* **P** **21 35 20.4 +1.5**
GYA AP pP 21 35 39.8 +1.5
GYA XP sP 21 35 46.8 +0.3
GYA PCP PcP 21 35 52.9 +2.1
GYA PP PP 21 37 47.3 +4.4
GYA SCP 21 39 48.5
GYA S S 21 43 57.0 +0.6
GYA XS sS 21 44 28.0 -1.3
GYA SKS 21 45 06.0
GYA SS SS 21 48 12.3 +2.5
GYA AMB AMB
comp=Z,10.0nm,1.0s,mb4.6
GYA AMB AMB
comp=Z,80nm,5.4s
GYA LR LR
comp=N,460nm,19.9s
GYA LR LR
comp=E,450nm,20.8s
GYA LR LR
comp=Z,480nm,19.1s
FINES FINESS Array B 65.40 351 P **P** **21 35 19.7 +0.3**
FINES *PP pP 21 35 37.0 -1.8
FINES pmax pmax
comp=Z,2.0nm,0.7s
FINES pmax pmax
comp=Z,2.0nm,0.8s
FINES FINESS Array B 65.40 351 P **P** **21 35 19.7 +0.3**
comp=Z,2.0nm,0.7s,mb4.0,baz=15,slow=7.9,SNR=11
FINES pP pP 21 35 37.0 -1.8
comp=Z,1.9nm,0.8s,baz=360,slow=6.2,SNR=2.2
NB2 NORSAR Subarra 66.56 359 P **P** **21 35 27.2 +0.4**
comp=Z,0.7nm,0.5s,mb3.8,baz=1.3,slow=6.9
NOA NORSAR Array B 66.56 359 P **P** **21 35 27.5 +0.7**
NOA *PP pP 21 35 44.1 -2.1
NOA pmax pmax
comp=Z,1.0nm,0.6s
NOA pmax pmax
comp=Z,1.0nm,0.7s
NOA NORSAR Array B 66.56 359 P **P** **21 35 27.5 +0.6**
comp=Z,0.9nm,0.6s,mb3.8,baz=0.5,slow=6.4,SNR=4.7
NOA pP pP 21 35 44.1 -2.2
comp=Z,0.7nm,0.7s,baz=2.1,slow=6.2,SNR=2.7
KMI Kunming 68.56 283 P **P** **21 35 39.0 -1.1**
KMI AP pP 21 36 00.6 +1.0
KMI XP sP 21 36 07.3 -0.5
KMI AMB AMB
comp=Z,5.0nm,0.9s,mb4.3
KMI LR LR
comp=Z,64nm,26.1s
OBN Obninsk 70.21 344⇑ *eP* **P** **21 35 47.1 -2.6**
OBN *eS* S 21 44 54.7 -0.3
OBN pmax pmax
comp=Z,6.0nm,0.4s,mb4.8
LSA Lhasa 71.72 295 *eP* **P** **21 36 01.3 +2.1**
AKASG Malin Array Be 75.60 347 P **P** **21 36 21.6 -0.1**
AKASG *PP pP 21 36 36.9 -4.6
AKASG pmax pmax
comp=Z,1.0nm,0.4s
AKASG pmax pmax
comp=Z,1.0nm,0.5s
AKASG Malin Array Be 75.60 347 P **P** **21 36 21.6 -0.1**
comp=Z,0.0nm,0.4s,mb3.6,baz=15,slow=5.8,SNR=5.6
AKASG pP pP 21 36 36.9 -4.5
comp=Z,0.6nm,0.5s,baz=15,slow=5.6,SNR=3.3
CLL Collm 76.28 358 P PcP 21 36 35.0 -2.2
CLL Collm 76.28 358 *e*(PcP) PcP 21 36 35.0 -2.2
DPC Dobruska-Polom 77.12 356 *eP* **P** **21 36 32.0 +1.7**
GRA1 Grafenberg Arr 77.93 359 *eP* **P** **21 36 36.5 +1.7**
comp=Z,3.0nm,1.2s,mb3.9
GRF Grafenberg Arr 77.93 359 *eP* **P** **21 36 36.5 +1.7**
comp=Z,3.0nm,1.2s,mb3.9
GRF Grafenberg Arr 77.93 359 *eP* **P** **21 36 36.5 +1.7**
GRF pmax pmax
comp=Z,3.0nm,1.2s,mb3.9
GRF Grafenberg Arr 77.93 359 *eP* **P** **21 36 36.5 +1.7**
comp=Z,3.0nm,1.2s,mb3.9
KHC Kasperske Hory 78.44 357 *iP* **P** **21 36 38.5 +0.9**
KHC Kasperske Hory 78.44 357 *eP* **P** **21 36 39.7 +2.1**
FLN La Foliniere 78.50 7 *eP* **P** **21 36 37.2 -0.8**
LDF La Druitiere 78.70 7 *eP* **P** **21 36 38.4 -0.6**
comp=Z,2.6nm,0.5s,mb4.0
LDF La Druitiere 78.70 7 *eP* **P** **21 36 38.4 -0.6**
comp=Z,1.3nm,0.5s,mb4.0
LDF La Druitiere 78.70 7 *eP* **P** **21 36 38.4 -0.6**
LDF pmax pmax
comp=Z,1.0nm,0.5s,mb3.9
GERES GERESS Array B 78.72 357 P **P** **21 36 40.5 +1.3**
GERES *PP pP 21 36 56.8 -2.3
GERES pmax pmax
comp=Z,1.0nm,0.8s
GERES pmax pmax
comp=Z,1.0nm,0.6s
GERES GERESS Array B 78.72 357 P **P** **21 36 40.5 +1.3**
comp=Z,0.6nm,0.8s,mb3.5,baz=340,slow=7.1,SNR=5.6
GERES pP pP 21 36 56.8 -2.3
comp=Z,0.6nm,0.6s,baz=355,slow=4.4,SNR=4.3
SGMF Saint Gilles 78.84 8 *eP* **P** **21 36 39.3 -0.6**
comp=Z,9.4nm,0.9s,mb4.3
SGMF Saint Gilles 78.84 8 *eP* **P** **21 36 39.3 -0.6**
comp=Z,4.7nm,0.9s,mb4.3
SGMF Saint Gilles 78.84 8 *eP* **P** **21 36 39.3 -0.6**
SGMF pmax pmax
comp=Z,5.0nm,0.9s,mb4.3
GRR Gorron 78.85 7 *eP* **P** **21 36 39.0 -0.9**
KIV Kislovodsk 79.55 336⇓ *eP* **P** **21 36 42.1 -1.7**
KIV *eS* S 21 46 51.0 +12
KIV pmax pmax
comp=Z,5.0nm,1.2s,mb4.2
LOR Lormes 80.24 4 *eP* **P** **21 36 46.5 -1.0**
comp=Z,4.5nm,0.8s,mb4.0
LOR Lormes 80.24 4 *eP* **P** **21 36 46.5 -1.0**
comp=Z,2.3nm,0.8s,mb4.1
LOR Lormes 80.24 4 *eP* **P** **21 36 46.5 -1.0**
LOR pmax pmax
comp=Z,2.0nm,0.8s,mb4.0
SSF Saint Saulge 80.43 4 *eP* **P** **21 36 47.8 -0.7**
comp=Z,2.4nm,0.5s,mb4.0
SSF Saint Saulge 80.43 4 *eP* **P** **21 36 47.8 -0.7**
comp=Z,1.2nm,0.5s,mb4.0
SSF Saint Saulge 80.43 4 *eP* **P** **21 36 47.8 -0.7**
SSF pmax pmax
comp=Z,1.0nm,0.5s,mb3.9
MFF Saint Martin d 80.68 7 *eP* **P** **21 36 48.8 -1.0**
AVF Avril sur Loir 80.70 4 *eP* **P** **21 36 49.2 -0.7**
comp=Z,1.6nm,0.6s,mb3.8
AVF Avril sur Loir 80.70 4 *eP* **P** **21 36 49.2 -0.7**
comp=Z,0.8nm,0.6s,mb3.7
AVF Avril sur Loir 80.70 4 *eP* **P** **21 36 49.2 -0.7**
AVF pmax pmax
comp=Z,1.0nm,0.6s,mb3.8
SMF Signal de Mont 80.86 4 *eP* **P** **21 36 49.8 -1.0**
BGF Bois d'Agland 80.90 5 *eP* **P** **21 36 49.7 -1.3**
CABF La Chapelle 80.97 2 *eP* **P** **21 36 50.7 -0.7**
comp=Z,5.7nm,0.9s,mb4.1
CABF La Chapelle 80.97 2 *eP* **P** **21 36 50.7 -0.7**
comp=Z,2.8nm,0.9s,mb4.1
CABF La Chapelle 80.97 2 *eP* **P** **21 36 50.7 -0.7**
CABF pmax pmax
comp=Z,3.0nm,0.9s,mb4.1
LPL La Plagne 82.08 2 *eP* **P** **21 36 56.7 -0.6**
LPG La Plagne 82.10 2 *eP* **P** **21 36 56.7 -0.7**
CAF Calviac 82.49 5 *eP* **P** **21 36 58.3 -1.1**
comp=Z,2.5nm,0.7s,mb3.8
CAF Calviac 82.49 5 *eP* **P** **21 36 58.3 -1.1**
comp=Z,1.3nm,0.7s,mb3.9
CAF Calviac 82.49 5 *eP* **P** **21 36 58.3 -1.1**
CAF pmax pmax
comp=Z,1.0nm,0.7s,mb3.8
ORIF Oris-en-Rattie 82.66 3 *eP* **P** **21 36 59.2 -1.1**
SMRF Simiane la Rot 83.59 3 *eP* **P** **21 37 04.1 -1.0**
BATI Kupang 84.02 245 P **P** **21 37 06.8 -0.8**
comp=Z,16nm,0.5s,mb5.2,baz=161,slow=20,SNR=4.8
FRF La Foret Royal 84.04 2 *eP* **P** **21 37 06.1 -1.3**
MTLF Montolieu 84.08 5 *eP* **P** **21 37 06.4 -1.2**
LMR La Mourre 84.26 2 *eP* **P** **21 37 07.0 -1.5**
EPF Esparros 84.27 7 *eP* **P** **21 37 07.5 -1.0**
PGF Pioggiola 85.08 0 *eP* **P** **21 37 11.6 -1.0**
comp=Z,9.6nm,1.0s,mb4.4
PGF Pioggiola 85.08 0 *eP* **P** **21 37 11.6 -1.0**
comp=Z,4.8nm,1.0s,mb4.4
PGF Pioggiola 85.08 0 *eP* **P** **21 37 11.6 -1.0**
PGF pmax pmax
comp=Z,5.0nm,1.0s,mb4.4
WRA Warramunga Arr 86.75 231 P **P** **21 37 19.3 -1.7**
WRA *PP pP 21 37 36.9 -4.3
WRA pmax pmax
comp=Z,1.0nm,0.5s
WRA Warramunga Arr 86.75 231 P **P** **21 37 19.3 -1.7**
comp=Z,1.1nm,0.5s,mb4.1,baz=32,slow=5.6,SNR=9.3
WRA pP pP 21 37 36.9 -4.4
comp=Z,0.4nm,0.5s,baz=35,slow=5.9,SNR=2.4
ESDC Sonseca Array 87.20 10 P **P** **21 37 23.5 +0.3**
comp=Z,0.3nm,0.5s,mb3.4,baz=332,slow=4.5,SNR=4.6
ESDC pP pP 21 37 39.2 -4.1
comp=Z,0.7nm,0.7s,baz=346,slow=3.7,SNR=4.6
PSI Prapat 88.20 272 P **P** **21 37 29.2 +1.0**
PSI pmax pmax
comp=Z,10.0nm,0.5s,mb5.1
PSI Prapat 88.20 272 P **P** **21 37 29.2 +1.0**
comp=Z,10.0nm,0.5s,mb5.1,baz=236,slow=9.6,SNR=12
ASAR Alice Springs 90.16 229 P **P** **21 37 36.3 -0.8**
ASAR *PP pP 21 37 53.3 -4.1
ASAR pmax pmax
comp=Z,5.0nm,0.7s
ASAR pmax pmax
comp=Z,2.0nm,0.5s
ASAR Alice Springs 90.16 229 P **P** **21 37 36.2 -0.8**
comp=Z,5.2nm,0.7s,mb4.8,baz=23,slow=4.9,SNR=32
ASAR pP pP 21 37 53.3 -4.1
comp=Z,1.7nm,0.5s,baz=24,slow=5.0,SNR=4.6
CPUP Villa Florida 124.34 89 PKIKP PKPdf 21 43 34.7 -0.6
CPUP pmax pmax
comp=Z,1.0nm,0.5s
CPUP Villa Florida 124.34 89 PKP PKPdf 21 43 34.7 -0.6
comp=Z,1.1nm,0.5s,baz=265,slow=2.8,SNR=6.3
PLCA Paso Flores 126.53 111 PKIKP PKPdf 21 43 38.6 -0.5
PLCA pmax pmax
comp=Z,3.0nm,0.9s
PLCA Paso Flores 126.53 111 PKP PKPdf 21 43 38.6 -0.5
comp=Z,3.4nm,0.9s,baz=259,slow=11,SNR=5.4
LBTB Lobatse 149.78 330 *e*PKPbc PKPbc 21 44 27.3 +0.9
LBTB *ep*PKPbc pPKPbc 21 44 42.4 -5.1
MAW Mawson 150.77 219 *e*PKPbc PKPbc 21 44 26.9 -0.6
MAW Mawson 150.77 219 PKIKP PKPbc 21 44 27.0 -0.5
MAW pmax pmax
comp=Z,7.0nm,0.5s
MAW Mawson 150.77 219 PKPbc PKPbc 21 44 27.0 -0.5
comp=Z,6.5nm,0.5s,baz=132,slow=1.5,SNR=23
BOSA Boshof 153.24 328 PKIKP PKPbc 21 44 35.3 +1.0
BOSA pmax pmax
comp=Z,1.0nm,0.5s
BOSA Boshof 153.24 328 PKPbc PKPbc 21 44 35.3 +1.0
comp=Z,1.3nm,0.5s,baz=177,slow=11,SNR=7.9

NIED ***21*** *21:27:00,2740N×12860E,h47km,Mw4.1 Best double couple: M0 1.58000×10^15 NP1:φ=50.00000°,δ72.00000°, λ95.00000°. NP2:φ=214.00000°,δ19.00000°,λ75.00000°.*
BJI ***21*** *21:27:14.4,2655N×129.11E,h36km,mB3.8,mb4.2,Ms3.7, Msz3.5*
MOS ***21*** *21:27:21.9±1.1,2734N×12825E,h62km,mb4.4/9,Error ellipse: s-maj=22.2km s-min=10.7km az=112.4*
JMA ***21*** *21:27:21.6±0.1,2743N×12862E,h40km±2km,M3.9*
JMA Felt II J1.
ISCJB ***21*** *21:27:21.2±0.4,2746N±005×12858E±007,h54km±4km, mb4.2/24,Error ellipse: s-maj=12.9km s-min=3.8km az=41.3*
IDC ***21*** *21:27:22.0±1.0,2733N×12843E,h51km±11km,mb3.6/10, mb1 3.8/12,mb1mx3.7/22,mbtmp3.6/12,ML3.5/2,MS3.0/1, Ms1 3.0/1,ms1mx2.5/30,Error ellipse: s-maj=32.5km s-min=16.9km az=90.0*
NEIC ***21*** *21:27:22.1±1.1,2739N×12863E,h56km±10km,mb4.4/6, Error ellipse: s-maj=19.0km s-min=12.5km az=111.0*
NEIC Recorded [2 JMA] on Tokuno-shima and [1 JMA] on Okino-erabu-shima and Yoron-jima.

ISC 21 21:27:22.1±0.4,2742N±005×12861E±007,h49km±4km, n59,σ0.99/69,mb4.2/24,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
JTK	**Tokunoshima**	**0.47**	**40**	P	**Pn**		**21 27 31.8**	**-1.2**
JTK				*eS*	**Sn**		**21 27 38.7**	**-2.0**
JOW	**Kunigami**	**0.66**	**207**	P	**Pn**		**21 27 34.5**	**-0.8**
JOW				S	**Sn**		**21 27 43.9**	**-0.8**
JOW	**Kunigami**	**0.66**	**207**	P	**Pn**		**21 27 34.5**	**-0.8**
	946nm,0.3s,baz=85,slow=18,SNR=2883							
JOW				S	**Sn**		**21 27 44.0**	**-0.7**
	1μm,0.3s,baz=130,slow=21,SNR=113							
JIH	**Iheya**	**0.69**	**236**	P	**Pn**		**21 27 35.1**	**-0.6**
JIH				S	**Sn**		**21 27 44.8**	**-0.7**
JAM	**Amami Oshima**	**1.32**	**42**	P	**Pn**		**21 27 43.8**	**-0.4**
JAM				*eS*	**Sn**		**21 28 00.9**	**+0.2**
JAGN	**Aguni-jima**	**1.48**	**236**	P	**Pn**		**21 27 45.8**	**-0.4**
JAGN				*eS*	**Sn**		**21 28 05.0**	**+0.6**
JJT2	**Tamagusuku 2**	**1.49**	**211**	P	**Pn**		**21 27 47.0**	**+0.5**
JJT2				*eS*	**Sn**		**21 28 06.9**	**+2.1**
JZK	**Kikaishima**	**1.50**	**53**	P	**Pn**		**21 27 46.9**	**+0.3**
JZK				S	**Sn**		**21 28 06.6**	**+1.6**
JKE	**Kume jima 2**	**1.96**	**237**	P	**Pn**		**21 27 52.9**	**0.0**
JNN	**Nakanoshima**	**2.66**	**24**	P	**Pn**		**21 28 01.8**	**-0.6**
JNN				S	**Sn**		**21 28 33.6**	**+0.2**
JTN	**Tanegashima 3**	**3.83**	**32**	P	**Pn**		**21 28 19.1**	**+0.5**
JTN				S	**Sn**		**21 29 03.3**	**+1.0**
JNU	**Nakatsue**	**6.01**	**18**	P	**Pn**		**21 28 50.6**	**+2.2**
	2.1nm,0.3s,baz=130,slow=11,SNR=17							
YHNB	**Yeheng**	**7.06**	**249**	*e*Pn	**Pn**		**21 29 03.6**	**+0.8**
KSRS	**Korea Array**	**10.02**	**357**	P	**Pn**		**21 29 45.2**	**+1.9**
	0.1nm,0.3s,baz=177,slow=14,SNR=3.6							
KSRS				LR	LR		21 33 52.7	
	comp=Z,74nm,19.4s,baz=165,slow=39							
MJAR	**Matsushiro Arr**	**12.20**	**39**	P	**Pn**		**21 30 19.7**	**+6.5**
	baz=228,slow=9.3,SNR=3.1							
BJT	**Baijiatuau**	**16.26**	**324**	P	**Pn**		**21 31 05.3**	**-1.8**
	6.0nm,0.6s							
BJT	**Baijiatuau**	**16.26**	**324**	P	**Pn**		**21 31 05.3**	**-1.7**
BJT				pmax	pmax			
	comp=Z,6.0nm,0.6s							
CD2	**Chengdu**	**21.96**	**285**	*eP*	**P**		**21 32 12.9**	**+1.1**
CD2				XP	sP		21 32 23.4	-6.0
CD2				PP			21 32 38.9	
CD2				AMB	AMB			
	comp=Z,10.0nm,0.6s,mb4.4							
CD2				AMB	AMB			
	comp=Z,20nm,4.2s							
CD2				LR	LR			
	comp=N,120nm,12.4s							
CD2				LR	LR			
	comp=Z,100nm,11.2s							
KMI	**Kunming**	**23.30**	**270**	P	**P**		**21 32 25.8**	**-0.1**
KMI				AP			21 32 31.5	
KMI				XP	sP		21 32 34.3	-9.4
KMI				AMB	AMB			
	comp=Z,6.0nm,0.8s,mb4.1							
GTA	**Gaotai**	**26.73**	**304**	*eP*	**P**		**21 32 57.6**	**+0.7**
GTA				AP	pP		21 33 14.0	+4.5
GTA				AMB	AMB			
	comp=Z,5.0nm,0.7s,mb4.2							
SONM	**Songino Array**	**26.75**	**326**	P	**P**		**21 32 58.5**	**+1.4**
SONM				pmax	pmax			
	comp=Z,1.0nm,1.1s							
SONM	**Songino Array**	**26.75**	**326**	P	**P**		**21 32 58.5**	**+1.4**
	comp=Z,1.2nm,1.1s,mb3.4,baz=124,slow=7.5,SNR=4.6							
GUN	**Gumba**	**37.71**	**281**	*eP*	**P**		**21 34 34.1**	**+1.0**
	comp=Z,5.2nm,0.3s,mb4.7							
KKN	**Kakani**	**38.25**	**281**	*eP*	**P**		**21 34 38.0**	**+0.3**
	comp=Z,5.7nm,0.3s,mb4.7							
DMN	**Daman**	**38.43**	**281**	*eP*	**P**		**21 34 39.4**	**+0.2**
	comp=Z,12nm,1.0s,mb4.5							
GKN	**Gorkha**	**38.77**	**281**	*eP*	**P**		**21 34 42.2**	**+0.1**
	comp=Z,14nm,0.4s,mb5.0							
KOLN	**Koldanda**	**39.72**	**281**	*eP*	**P**		**21 34 50.4**	**+0.5**
	comp=Z,5.6nm,0.4s,mb4.6							
MKAR	**Makanchi Array**	**41.01**	**311**	P	**P**		**21 34 59.8**	**-0.5**
	comp=Z,0.3nm,0.2s,mb3.5,baz=89,slow=12,SNR=4.2							
ZALV	**Zalesovo Beam**	**41.51**	**322**	P	**P**		**21 35 02.9**	**-1.5**
	comp=Z,0.7nm,0.4s,mb3.7,baz=102,slow=8.3,SNR=4.5							
ZAL	**Zalesovo**	**41.52**	**322**	P	**P**		**21 35 02.9**	**-1.5**
ZAL				pmax	pmax			
	comp=Z,1.0nm,0.4s							
KURK	**Kurchatov**	**44.20**	**316**	*eP*	**P**		**21 35 25.2**	**-0.9**
	comp=Z,2.7nm,0.6s,mb4.2							
KURK	**Kurchatov**	**44.20**	**316**	*eP*	**P**		**21 35 25.2**	**-1.0**
KURK				pmax	pmax			
	comp=Z,3.0nm,0.6s,mb4.2							
TKM2	**Tokmak 2**	**45.28**	**304**	*eP*	**P**		**21 35 35.0**	**+0.1**
	comp=Z,2.3nm,0.6s,mb4.2							
TKM2	**Tokmak 2**	**45.28**	**304**	*eP*	**P**		**21 35 35.0**	**+0.1**
TKM2				pmax	pmax			
	comp=Z,2.0nm,0.6s,mb4.1							
UCH	**Uchtor**	**46.06**	**303**	*eP*	**P**		**21 35 42.7**	**+1.6**
	comp=Z,5.3nm,0.8s,mb4.5							
AAK	**Ala-Archa**	**46.08**	**304**	P	**P**		**21 35 40.2**	**-1.0**
BILL	**Bilibino**	**46.44**	**18**	P	**P**		**21 35 41.2**	**-2.5**
BILL	**Bilibino**	**46.44**	**18**	P	**P**		**21 35 41.2**	**-2.4**
EKS2	**Erkin-Say**	**46.61**	**304**	P	**P**		**21 35 46.1**	**+0.8**
AML	**Almayashu**	**46.67**	**303**	*eP*	**P**		**21 35 46.8**	**+1.0**
WRA	**Warramunga Arr**	**47.41**	**173**	P	**P**		**21 35 51.5**	**-0.2**
WRA	**Warramunga Arr**	**47.41**	**173**	P	**P**		**21 35 51.5**	**-0.2**
	comp=Z,0.4nm,0.6s,mb3.5,baz=355,slow=8.4,SNR=3.2							
KBL	**Kabul**	**50.93**	**294**	*eP*	**P**		**21 36 19.2**	**+0.5**
	comp=Z,4.0nm,0.6s,mb4.5							
KIV	**Kislovodsk**	**68.75**	**309**	P	**P**		**21 38 19.7**	**-1.2**
	comp=Z,6.1nm,1.1s,mb4.4							
KIV	**Kislovodsk**	**68.75**	**309**	P	**P**		**21 38 19.7**	**-1.2**
KIV				pmax	pmax			
	comp=Z,6.0nm,1.1s,mb4.4							
ARCES	**ARCESS Array B**	**69.03**	**338**	P	**P**		**21 38 21.4**	**-0.8**
ARCES				pmax	pmax			
	comp=Z,2.0nm,0.7s							
ARCES	**ARCESS Array B**	**69.03**	**338**	P	**P**		**21 38 21.4**	**-0.8**
	comp=Z,2.1nm,0.7s,mb4.2,baz=60,slow=7.5,SNR=5.1							
JOF	**Joensuu**	**69.17**	**331**	*ep*	**P**		**21 38 22.1**	**-1.0**
	comp=Z,1.2nm,0.4s,mb4.2							
FINES	**FINESS Array B**	**72.00**	**330**	P	**P**		**21 38 39.9**	**-0.5**
FINES				pmax	pmax			
	comp=Z,2.0nm,0.6s							
FINES	**FINESS Array B**	**72.00**	**330**	P	**P**		**21 38 39.9**	**-0.5**
	comp=Z,1.6nm,0.6s,mb4.1,baz=65,slow=6.0,SNR=15							
AKASG	**Malin Array Be**	**74.85**	**319**	P	**P**		**21 38 56.6**	**-0.8**
	comp=Z,0.4nm,0.3s,mb3.8,baz=56,slow=6.1,SNR=9.7							
YKA	**Yellowknife Ar**	**77.31**	**25**	P	**P**		**21 39 11.5**	**+0.4**
YKA				pmax	pmax			
	comp=Z,1.0nm,0.7s							
YKA	**Yellowknife Ar**	**77.31**	**25**	P	**P**		**21 39 11.5**	**+0.4**
	comp=Z,0.6nm,0.7s,mb3.7,baz=297,slow=5.4,SNR=13							
NB2	**NORSAR Subarra**	**78.40**	**334**	P	**P**		**21 39 16.5**	**-0.7**
	comp=Z,1.3nm,0.6s,mb4.0,baz=51,slow=5.9							
NOA	**NORSAR Array B**	**78.40**	**334**	P	**P**		**21 39 16.5**	**-0.7**
NOA				pmax	pmax			
	comp=Z,3.0nm,0.8s							
NOA	**NORSAR Array B**	**78.40**	**334**	P	**P**		**21 39 16.5**	**-0.7**
	comp=Z,3.2nm,0.8s,mb4.3,baz=52,slow=5.7,SNR=9.0							
CLL	**Collm**	**83.37**	**325**	*i* P	**P**		**21 39 43.9**	**0.0**
GERES	**GERESS Array B**	**84.46**	**323**	P	**P**		**21 39 50.0**	**+0.5**
GERES				pmax	pmax			
	comp=Z,1.0nm,0.7s							
GERES	**GERESS Array B**	**84.46**	**323**	P	**P**		**21 39 50.0**	**+0.5**
	comp=Z,0.5nm,0.7s,mb3.8,baz=29,slow=3.0,SNR=4.4							

IDC ***21*** *21:27:40.5±0.8,2332S×17108E,h0km,mb4.5/14, mb1 4.6/15,mb1mx4.5/20,mbtmp4.6/15,ML4.7/1,MS4.1/8, Ms1 4.1/8,ms1mx3.7/21,Error ellipse: s-maj=22.0km s-min=20.1km az=89.0*
BJI ***21*** *21:27:41.8,23.12S×17108E,h8km,mB5.3,mb4.9,Ms5.3, Msz4.8*
LDG ***21*** *21:27:42.5±0.3,2281S×17134E,h10km,Mb4.9/4,Ms4.2/6, Error ellipse: s-maj=30.0km s-min=6.1km az=179.0*
SZGRF ***21*** *21:27:45.4,2347S×17150E,h33km,mb4.5,Southeast of Loyalty Islands*
ISCJB ***21*** *21:27:45.6±2.4,2340S±007×17101E±009,h43km±21km, mb4.8/33,MS4.2/11,Error ellipse: s-maj=14.0km s-min=10.2km az=152.3*
NEIC ***21*** *21:27:46.4±4.2,2342S×17092E,h29km±27km,mb5.0/19, Error ellipse: s-maj=14.6km s-min=10.2km az=46.0*
MOS ***21*** *21:27:50.3±2.0,2247S×16989E,h33km,mb5.1/12,Error ellipse: s-maj=15.4km s-min=13.2km az=28.8*

ISC 21 21:27:48.1±2.1,2339S±007×17102E±009,h52km±18km, h30km±7.4km:pP-P,n199,σ1.9/21/74,mb4.8/33,MS4.2/11, 17C-17D,Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
RAO	**Raoul Island**	**11.51**	**123**	LR	LR		21 33 48.8	
	comp=Z,1μm,18.9s,baz=97,slow=32							
URZ	**Urewera**	**15.71**	**162**	**Pn**	**Pn**		**21 31 27.1**	**+1.1**
	0.2nm,0.3s,baz=347,slow=9.1,SNR=4.0							
HNR	**Honiara**	**17.46**	**321**	*eP*	**Pn**		**21 31 48.2**	**+0.1**
	161nm,1.1s							
HNR	**Honiara**	**17.46**	**321**	*eP*	**Pn**		**21 31 48.2**	**+0.1**
HNR				pmax	pmax			
	comp=Z,161nm,1.1s							
HNR	**Honiara**	**17.46**	**321**	P	**Pn**		**21 31 47.1**	**-1.0**
	comp=Z,2.9nm,0.3s,baz=238,slow=4.6,SNR=4.2							

SNZO South Karori 18.13 171 *eP* **Pn 21 31 53.7 -2.4**
comp=Z,243nm,1.8s
ARMA Armidale 18.65 244 *eP* **Pn 21 32 03.9 +1.5**
ARMA Armidale 18.65 244 *eP* **Pn 21 32 02.5 0.0**
comp=Z,5.0nm,2.0s
AFI Afiamalu 18.81 63 *eP* **Pn 21 31 59.9 -4.6**
comp=Z,60nm,1.0s
RIV Riverview 20.27 235 *eP* **P 21 32 22.0 +2.6**
RPZ Rata Peaks 20.27 180 P **P 21 32 19.3 0.0**
comp=Z,6.0nm,0.3s,baz=50,slow=9.6,SNR=4.2
RPZ LR LR 21 38 44.2
comp=Z,570nm,19.9s,MS3.9,baz=344,slow=33
CNB Canberra Magne 22.25 233 *eP* **P 21 32 42.5 +1.9**
comp=Z,50nm,1.1s,mb4.9
CTA Charters Tower 23.23 273 *eP* **P 21 32 51.7 +0.6**
comp=Z,20nm,0.9s,mb4.5
CTA Charters Tower 23.23 273 *eP* **P 21 32 51.7 +0.6**
CTA pmax pmax
comp=Z,20nm,0.9s
CTA Charters Tower 23.23 273 P **P 21 32 51.9 +0.8**
comp=Z,22nm,0.9s,mb4.6,baz=97,slow=11,SNR=17
CTA LR LR 21 40 58.8
comp=Z,392nm,21.6s,MS3.8,baz=93,slow=34
CTAO Charters Tower 23.23 273 *eP* **P 21 32 51.4 +0.3**
comp=Z,78nm,1.4s,mb5.0
CTAO Charters Tower 23.23 273 *eP* **P 21 32 51.4 +0.3**
CTAO pmax pmax
comp=Z,78nm,1.4s,mb5.0
STKA Stephens Creek 27.34 246 *eP* **P 21 33 28.5 +0.2**
comp=Z,18nm,1.4s,mb4.4
STKA Stephens Creek 27.34 246 *eP* **P 21 33 28.6 +0.3**
comp=Z,70nm,1.4s,mb5.0
STKA Stephens Creek 27.34 246 P **P 21 33 28.8 +0.5**
comp=Z,22nm,1.1s,mb4.6,baz=84,slow=8.5,SNR=17
STKA LR LR 21 42 10.8
comp=Z,278nm,21.2s,MS3.8,baz=234,slow=32
ASAR Alice Springs 33.97 262 P **P 21 34 26.2 -0.6**
comp=Z,21nm,1.1s,mb5.0,baz=85,slow=8.6,SNR=67
WB2 Warramunga Arr 34.20 269 *eP* **P 21 34 27.7 -1.1**
WRAB Tennant Creek 34.20 269 *eP* **P 21 34 27.2 -1.6**
comp=Z,4.1nm,0.9s,mb4.4
WRAB Tennant Creek 34.20 269 *eP* **P 21 34 27.2 -1.7**
WRAB pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
WRA Warramunga Arr 34.21 269 P **P 21 34 27.7 -1.2**
comp=Z,3.8nm,1.2s,mb4.2,baz=96,slow=8.3,SNR=15
PPT Papeete 37.28 89 *e*LR LR 21 45 03.9
comp=Z,206nm,27.2s
PPT Papeete 37.28 89 LR LR 21 46 59.5
comp=Z,138nm,18.6s,MS3.8,baz=199,slow=31
FORT Forrest 38.77 250 *eP* **P 21 35 07.6 -0.1**
comp=Z,56nm,0.8s,mb5.3
FORT Forrest 38.77 250 *eP* **P 21 35 06.9 -0.8**
comp=Z,10nm,0.8s,mb4.6
FITZ Fitzroy Crossi 42.64 268 *eP* **P 21 35 39.6 -0.1**
comp=Z,22nm,1.0s,mb4.8
FITZ Fitzroy Crossi 42.64 268 *eP* **P 21 35 39.3 -0.4**
comp=Z,51nm,1.2s,mb5.1
FITZ Fitzroy Crossi 42.64 268 P **P 21 35 39.7 0.0**
comp=Z,15nm,1.0s,mb4.7,baz=107,slow=8.9,SNR=15
FITZ LR LR 21 54 20.8
comp=Z,362nm,19.1s,MS4.3,baz=7.4,slow=38
MBWA Marble Bar 47.32 262 *eP* **P 21 36 16.6 -0.3**
KLBR Kellerberrin 47.57 248 *eP* **P 21 36 17.9 -0.8**
comp=Z,113nm,1.2s,mb5.8
NWAO Narrogin (SRO) 47.93 246 *eP* **P 21 36 20.6 -0.9**
comp=Z,36nm,0.9s,mb5.4
NWAO Narrogin (SRO) 47.93 246 *eP* **P 21 36 20.6 -0.9**
NWAO pmax pmax
comp=Z,36nm,0.9s
NWAO Narrogin (SRO) 47.93 246 P **P 21 36 20.9 -0.6**
comp=Z,36nm,0.8s,mb5.4,baz=98,slow=8.4,SNR=13
NWAO LR LR 21 54 17.9
comp=Z,282nm,21.9s,MS4.2,baz=356,slow=33
MUN Mundaring 48.85 247 *eP* **P 21 36 28.6 -0.1**
VNDA Vanda 54.37 182 P **P 21 37 02.3 -6.8**
SBA Scott Base 54.56 181 *eP* **P 21 37 11.3 +0.8**
comp=Z,33nm,1.6s,mb5.1
CASY Casey 57.04 205 *eP* **P 21 37 25.4 -2.9**
comp=Z,13nm,1.1s,mb4.9
KSM Kuching 63.95 284 *eP* **P 21 38 16.0 -0.4**
QSPA South Pole Qui 66.69 180 *eP* **P 21 38 33.5 +0.6**
comp=Z,6.9nm,1.0s,mb4.6
QSPA South Pole Qui 66.69 180 P **P 21 38 33.9 +0.9**
comp=Z,5.5nm,1.1s,mb4.5,baz=37,slow=3.8,SNR=7.7
MJAR Matsushiro Arr 67.18 332 P **P 21 38 35.7 -0.9**
comp=Z,36nm,1.0s,mb4.3,baz=170,slow=7.2,SNR=5.9
MAJO Matsushiro 67.18 332 *eP* **P 21 38 36.0 -0.7**
comp=Z,46nm,1.6s,mb5.3
MAJO Matsushiro 67.18 332 *eP* **P 21 38 36.0 -0.7**
MAJO pmax pmax
comp=Z,46nm,1.6s,mb5.3
KSRS Korea Array 72.85 325 P **P 21 39 09.5 -2.0**
comp=Z,1.1nm,0.7s,mb3.9,baz=143,slow=5.4,SNR=4.5
KULM Kulim 74.27 283 P **P 21 39 20.2 -0.1**
NJ2 Nanjing 74.33 316 *eP* **P 21 39 21.9 +1.6**
NJ2 AMB AMB
comp=Z,20nm,0.8s,mb5.1
YSS Yuzh-Sakhalins 74.53 340 *eP* **P 21 39 21.9 +0.9**
comp=Z,17nm,0.8s,mb5.0
YSS Yuzh-Sakhalins 74.53 340⇑ *eP* **P 21 39 18.5 -2.5**
YSS pmax pmax
comp=Z,14nm,1.5s,mb4.7
PSI Prapat 74.76 280 P **P 21 39 22.7 -0.5**
comp=Z,5.6nm,0.8s,mb4.6,baz=156,slow=9.7,SNR=7.7
MAW Mawson 75.23 202 *eP* **P 21 39 24.7 -0.2**
MAW Mawson 75.23 202 P **P 21 39 24.6 -0.3**
comp=Z,5.2nm,1.0s,mb4.4,baz=123,slow=5.1,SNR=5.0
MAW LR LR 22 10 01.6
comp=Z,181nm,19.3s,MS4.4,baz=75,slow=34
HABR Khabarovsk 78.45 336 *eP* **P 21 39 40.3 -2.9**
HABR *e* 21 39 49.4
HABR *e**SP sP 21 39 54.9 -9.0
HABR *e* 21 42 34.2
HABR *e*S S 21 49 32.2 -2.8
HABR *e**SS sS 21 49 48.7 -11
CN2 Changchun 78.85 328 *eP* **P 21 39 49.4 +3.9**
CN2 AMB AMB
comp=Z,10.0nm,0.9s,mb4.8
KMI Kunming 81.86 302 P **P 21 40 04.5 +2.4**
KMI AP pP 21 40 14.8 -2.3
KMI AMB AMB
comp=Z,18nm,1.5s,mb4.8
CHTO Chiang Mai 81.88 294 *eP* **P 21 40 04.2 +1.8**
comp=Z,25nm,1.1s,mb5.0
CHTO Chiang Mai 81.88 294 *eP* **P 21 40 04.2 +1.9**
CHTO pmax pmax
comp=Z,25nm,1.1s,mb5.1
XAN Xi'an 82.12 312 P **P 21 40 04.6 +1.3**
XAN AP pP 21 40 10.6 -7.7
XAN AMB AMB
comp=Z,9.0nm,1.7s,mb4.4
CD2 Chengdu 84.06 307 *eP* **P 21 40 14.4 +1.0**
CD2 AP pP 21 40 20.8 -7.6
CD2 XP sP 21 40 23.5 -11
CD2 PP PP 21 43 31.3 +3.0
CD2 SKS 21 50 33.4
CD2 S S 21 50 38.1 +4.0
CD2 XS sS 21 50 48.8 -11
CD2 AMB AMB
comp=Z,10.0nm,0.8s,mb5.0
CD2 AMB AMB
comp=Z,30nm,4.2s
CD2 LR LR
comp=N,210nm,12.8s,MS5.0
CD2 LR LR
comp=E,350nm,14.4s,MS5.0
CD2 LR LR
comp=Z,250nm,13.4s,MS4.8
VNA3 Neumayer Olymp 85.62 180 *eP* **P 21 40 19.8 -0.8**
VNA3 *e* pP 21 40 31.5 -4.2
VNA3 *e* pP 21 40 34.9 -0.8
VNA2 Neumayer--Watz 85.94 181 *eP* **P 21 40 21.5 -0.7**
baz=156,slow=2.9
VNA2 *e* 21 40 24.6
VNA2 *e* pP 21 40 32.7 -4.5
VNA2 *e* pP 21 40 36.1 -1.1
VNA1 Neumayer--Stat 86.22 180 *eP* **P 21 40 23.6 0.0**
VNA1 *e* 21 40 26.2
VNA1 *e* pP 21 40 34.1 -4.5
VNA1 *e* pP 21 40 38.6 0.0
LZH Lanzhou 86.72 312 *eP* **P 21 40 28.0 +1.5**
LZH AP pP 21 40 33.5 -8.1
LZH XP sP 21 40 36.0 -11
LZH AMB AMB
comp=Z,42nm,1.5s,mb5.5
LZH AMB AMB
comp=Z,205nm,5.1s
SEY Seymchan 87.29 352⇓ *eP* **P 21 40 28.5 -0.1**
CMB Columbia Colle 88.70 47 *eP* **P 21 40 36.0 0.0**
comp=Z,5.9nm,1.1s,mb4.8
CMB Columbia Colle 88.70 47 *eP* **P 21 40 36.0 0.0**
CMB pmax pmax
comp=Z,6.0nm,1.1s,mb4.8
NVAR Mina Array Bea 90.31 48 P **P 21 40 44.1 +0.6**
comp=Z,0.8nm,0.5s,mb4.3,baz=254,slow=11,SNR=5.5
GTA Gaotai 91.16 313 *eP* **P 21 40 49.6 +2.2**
GTA AP pP 21 40 54.0 -8.6
GTA XP sP 21 40 57.3 -11
GTA AMB AMB
comp=Z,4.0nm,1.4s,mb4.6
BILL Biiibino 91.22 358⇑ *eP* **P 21 40 47.1 +0.1**
BILL *e* 21 44 20.4
BILL *e*S S 21 51 13.6 -27
BILL pmax pmax
comp=Z,9.0nm,1.7s,mb4.8
YAK Yakutsk 91.31 342⇓ *eP* **P 21 40 47.7 +0.2**
YAK pmax pmax
comp=Z,2.0nm,0.6s,mb4.6
SONM Songino Array 91.52 322 P **P 21 40 49.8 +0.9**
comp=Z,1.0nm,0.8s,mb4.2,baz=139,slow=4.6,SNR=6.7
LSA Lhasa 93.10 301 P **P 21 40 58.0 +1.4**
ZAK Zakamensk 94.61 324 *eP* **P 21 41 01.9 -1.2**
ZAK pmax pmax
comp=Z,2.0nm,1.2s,mb4.4
TLY Talaya 95.10 325⇑ *eP* **P 21 41 02.6 -2.6**
KIV Kislovodsk 133.21 309⇑ *i*PKIKP PKPdf 21 46 56.9 -1.2
KIV *e* 21 49 22.9
KIV *e*PS PS 21 59 28.8 -15
KIV pmax pmax
comp=Z,4.0nm,1.2s
OBN Obninsk 133.85 325⇓ *i*PKIKP PKPdf 21 46 58.8 -0.1
OBN *i* 21 49 23.8
OBN pmax pmax
comp=Z,25nm,1.5s
AKASG Malin Array Be 139.80 322 PKP PKPdf 21 47 09.7 -0.4
comp=Z,0.3nm,0.5s,baz=61,slow=1.6,SNR=5.4
PLOR Plostina 143.54 317⇓ *i*P PKPdf 21 47 25.2 +8.3
MLR Muntele Rosu 144.14 317 ⇓P PKPdf 21 47 18.1 +0.1
MLR Muntele Rosu 144.14 317⇓ *i*P PKPdf 21 47 18.1 +0.1
KOLS Kolonicke sedl 144.56 324 *e*PKP PKPdf 21 47 20.0 +1.4
UZH Uzhgorod 144.72 323 *i* PKIKP PKPdf 21 47 18.4 -0.5
UZH *i* 21 47 27.0
STHS Stebnicka Huta 144.83 325 *e*PKP PKPdf 21 47 20.9 +1.9
JMB Yambol 144.94 311 *e*P PKPdf 21 47 19.8 +0.3
JMB Yambol 144.94 311 *e*P PKPdf 21 47 19.8 +0.3
CRVS Cervenica-Dubn 145.02 324 *e*PKP PKPdf 21 47 20.0 +0.6
SZH Strazhica 145.08 313 *e*P PKPbc 21 47 19.8 +0.6
SZH Strazhica 145.08 313 *e*P PKPbc 21 47 19.8 +0.6
DRGR 145.49 320 ⇓P PKPdf 21 47 21.5 +1.2
DRGR 145.49 320⇓ *i*P PKPdf 21 47 21.5 +1.2
PVL Pavlikeni 145.50 313 *e*P PKPdf 21 47 21.6 +1.2
PVL Pavlikeni 145.50 313 *e*P PKPdf 21 47 21.6 +1.2
KECS Kecovo 145.79 324 *e*PKP PKPdf 21 47 22.6 +1.9
KECS *e* 21 47 34.5
OKC Ostrava-Krasne 146.13 328 *e*PKP PKPdf 21 47 22.2 +0.9
GZR Gura Zlata 146.16 318 ⇓P PKPab 21 47 23.8 +0.6
GZR Gura Zlata 146.16 318⇓ *i*P PKPab 21 47 23.8 +0.5
BSEG Bad Segeberg 146.21 339 *e*PKPbc PKPbc 21 47 22.5 +0.1
KSJ2 Ksiaz 146.31 331 *e*PKP PKPab 21 47 23.8 +0.2
PSZ Piszkesteto 146.44 324 *e*PKPbc PKPbc 21 47 23.8 +0.6
PSZ Piszkesteto 146.44 324⇑ *i*P PKPab 21 47 24.0 -0.2
PSZ Piszkesteto 146.44 324⇑ *e*PKP PKPab 21 47 24.4 +0.2
MORC Moravsky Berou 146.46 328 *e*PKPdf PKPdf 21 47 22.5 +0.7
MORC Moravsky Berou 146.46 328⇑ *i*P PKPab 21 47 23.9 -0.4
PGB Panagyurishte 146.56 313 *e*P PKPab 21 47 24.4 -0.5
PGB Panagyurishte 146.56 313 *e*P PKPab 21 47 24.4 -0.5
DPC Dobruska-Polom 146.64 330 *e*PKP PKPab 21 47 24.9 0.0
DPC *e*pPKP pPKPdf 21 47 36.1 -1.7
VYHS Vyhne 146.65 326 *i* PKP PKPab 21 47 25.0 0.0
UPC Upice 146.67 331 *e*PKP PKPab 21 47 24.7 -0.3
BZS Buzias 146.75 319 ⇑P PKPbc 21 47 24.5 +0.3
BZS Buzias 146.75 319⇑ *i*P PKPbc 21 47 24.5 +0.3
KOLL Kolacno 146.82 326 *i* PKP PKPab 21 47 25.8 +0.1
KOLL *e* 21 47 41.1
SOF Sofiya 147.06 314 *e*P PKPbc 21 47 25.1 -0.1
SOF Sofiya 147.06 314 *e*P PKPbc 21 47 25.1 -0.1
BUD Budapest 147.17 324⇑ *e*PKP PKPab 21 47 28.1 +1.0
VTS Vitosha 147.18 313 ⇑P PKPab 21 47 26.8 -0.5
VTS Vitosha 147.18 313⇑ *i*P PKPab 21 47 26.8 -0.5
VTS Vitosha 147.18 313 P PKPdf 21 47 24.8 +1.5
VTS Vitosha 147.18 313 P PKPdf 21 47 24.8 +1.5
VRAC Vranov 147.24 329 ⇑P PKPbc 21 47 26.1 +0.6
VRAC Vranov 147.24 329⇑ *i*P PKPbc 21 47 26.1 +0.6
MMB Musomiste 147.25 311 *e*P PKPbc 21 47 26.2 +0.4
MMB Musomiste 147.25 311 *e*P PKPbc 21 47 26.2 +0.4
PVCC Panska Ves 147.30 332 *e*PKP PKPdf 21 47 24.6 +1.4
BRG Berggiesshubel 147.31 333 *e*PKPbc PKPbc 21 47 26.0 +0.4
BRG Berggiesshubel 147.31 333 *e*PKP PKPbc 21 47 26.2 +0.5
comp=Z,22nm,1.6s
CLL Collm 147.36 334 *i* PKP PKPbc 21 47 25.4 -0.4
CLL *i* pPKP pPKPdf 21 47 31.8 -7.2
CLL Collm 147.36 334 *e*PKPbc PKPbc 21 47 25.3 -0.5
CLL Collm 147.36 334 *i* PKPbc PKPbc 21 47 25.4 -0.4
comp=Z,10.0nm,1.3s
CLL *i* (PKiKP) 21 47 31.8
CLL *es*PKiKP 21 47 42.0
NRDL Niedersach Rie 147.49 338 *e*PKPbc PKPbc 21 47 26.3 +0.2
MODS Modra-Piesok 147.52 327 *e*PKP PKPab 21 47 27.6 -0.9
KKB Krupnik 147.57 312 *e*P PKPbc 21 47 26.9 +0.2
KKB Krupnik 147.57 312 *e*P PKPbc 21 47 26.9 +0.2
PRU Pruhonice 147.70 331 *e*PKP PKPbc 21 47 27.0 +0.3
ZST Bratislava 147.73 327 *e*PKP PKPab 21 47 28.7 -0.6
TREC Trest 147.77 329 *e*PKP PKPbc 21 47 27.2 +0.3
CLZ Clausthal 147.93 337 *e*PKPbc PKPbc 21 47 27.2 -0.1
PKSM Moragy 148.14 322 ⇓P PKPdf 21 47 26.4 +1.7
PKSM Moragy 148.14 322⇓ *i*P PKPdf 21 47 26.5 +1.8
TANN Tannenbergstha 148.27 334 *e*PKPbc PKPbc 21 47 28.5 +0.3
SOP Sopron 148.34 326⇑ *e*PKP PKPbc 21 47 29.6 +1.1
IBBN Ibbenburen 148.41 340 *e*PKPbc PKPbc 21 47 29.1 +0.6
NKC Novy Kostel 148.41 333 *e*PKP PKPbc 21 47 29.3 +0.7
MOX Moxa 148.43 335 *e*PKP PKPdf 21 47 26.1 +1.0
comp=Z,19nm,1.8s
MOX Moxa 148.43 335 *e*PKPbc PKPbc 21 47 28.8 +0.2
CONA Conrad Observa 148.53 327⇑ *i*PKPbc PKPbc 21 47 29.3 +0.4
comp=Z,20nm,1.6s,SNR=5.4
MANZ Manzenberg 148.75 333 *e*PKPbc PKPbc 21 47 30.0 +0.5
KHC Kasperske Hory 148.76 331 *e*PKP PKPdf 21 47 25.7 0.0
KHC *ex* PKPbc 21 47 29.7 +0.2
KHC *ep*PKP pPKPdf 21 47 39.9 -1.5
ROTZ Rotzenmuhle 148.87 333 *e*PKPbc PKPbc 21 47 29.8 0.0
UBBA Unterbreizbach 148.90 336 *e*PKPbc PKPbc 21 47 30.3 +0.5
GEC2 GERESS Array S 148.91 330 *e*PKPdf PKPdf 21 47 25.6 -0.3
GEC2 *e*PKPbc PKPbc 21 47 30.6 +0.7
GEC2 GERESS Array S 148.91 330 *e*PKPbc PKPbc 21 47 30.4 +0.5
GERES GERESS Array B 148.91 330 PKP PKPdf 21 47 25.9 0.0
comp=Z,2.2nm,0.9s,baz=64,slow=3.1,SNR=6.2
GERES PKPbc PKPbc 21 47 30.6 +0.6
comp=Z,3.9nm,0.9s,baz=45,slow=2.9,SNR=27
WET Wettzell 149.06 332 *e*PKPbc PKPbc 21 47 30.7 +0.4
KOGS Kog 149.30 325 *e*PKPbc PKPbc 21 47 30.9 0.0
GRA1 LR LR
comp=Z,100nm,20.7s,MS4.6
GRA1 Grafenberg Arr 149.34 334 *e*PKPbc PKPbc 21 47 31.7 +0.7
GRF Grafenberg Arr 149.34 334 *e*PKP PKPbc 21 47 31.7 +0.7
GRF Grafenberg Arr 149.34 334 *e*PKPbc PKPbc 21 47 31.7 +0.7
GRF *e*L 22 43 48.4
comp=Z,75nm,20.7s
KBA Koelnbreinsper 150.35 328⇓ *i*P PKPbc 21 47 33.1 -0.4
comp=Z,19nm,1.2s,SNR=9.6
BEBN Eben Emael 150.37 341 PKP PKPbc 21 47 34.5 +1.0
MEM Membach 150.43 340 PKP PKPbc 21 47 34.1 +0.6
BOJS Bojanci 150.44 324 *e*PKPdf PKPdf 21 47 28.9 +0.5
BOJS *i* PKPbc PKPbc 21 47 34.4 +0.6
BOJS *e* 21 47 43.3
BOJS *e* 21 47 50.6
BOJS *i* 21 49 11.5
LJU Ljubljana 150.47 326 *e*PKPdf PKPdf 21 47 28.7 +0.2
LJU *e*PKPbc PKPbc 21 47 34.2 +0.4
FUR Furstenfeldbru 150.49 332 *e*PKPbc PKPbc 21 47 34.5 +0.7
CEY Cerknica 150.73 325 *e*PKPbc PKPbc 21 47 34.8 +0.3
CEY *e* 21 47 50.8
CEY *i* 21 49 11.8
UCC Uccle 150.74 343 PKP PKPbc 21 47 35.0 +0.6
BCLA Clavier 150.81 341 PKP PKPbc 21 47 35.4 +0.9
STU Stuttgart 150.87 335 *e*PKPbc PKPbc 21 47 35.1 +0.4
WATA Walderalm 150.99 331⇓ *i*P PKPbc 21 47 35.0 0.0
comp=Z,13nm,1.2s,SNR=5.8
WTTA Wattenberg 151.01 330⇓ *i*P PKPbc 21 47 35.4 +0.3
comp=Z,28nm,1.2s,SNR=7.9
SNF Seneffe 151.02 342 PKP PKPbc 21 47 36.1 +1.1
MOTA Moosalm 151.19 331⇓ *i*P PKPbc 21 47 35.4 -0.1
comp=Z,15nm,1.1s,SNR=9.0
WLF Walferdange 151.21 339 PKP PKPbc 21 47 36.4 +1.0
WLF Walferdange 151.21 339 *e*PKPbc PKPbc 21 47 36.0 +0.6
GIVF Givet 151.23 341 *e*PKP1 PKPbc 21 47 35.2 -0.3
comp=Z,39nm,1.2s
SQTA Sankt Quirin 151.24 331⇑ *i*P PKPbc 21 47 36.1 +0.5
comp=Z,17nm,1.1s
DOU Dourbes 151.31 342 PKP PKPbc 21 47 36.2 +0.6
BAIF Baives 151.45 342 *e*PKP1 PKPbc 21 47 35.8 -0.2
comp=Z,64nm,1.6s
BFO Black Forest 151.57 335 *e*PKPbc PKPbc 21 47 36.5 +0.2
BFO Black Forest 151.57 335 *e*PKPbc PKPbc 21 47 36.3 0.0
FETA Feichten 151.61 331⇓ *i*PKPbc PKPbc 21 47 36.9 +0.5
comp=Z,18nm,1.1s,SNR=8.5
CDF Champ du Feu 151.89 337 *e*PKP1 PKPbc 21 47 36.6 -0.5
comp=Z,22nm,1.2s
HINF Hinteralfeld 152.55 336 *e*PKP1 PKPbc 21 47 38.0 -0.5
HAU Haudompre 152.57 337 *e*PKP1 PKPbc 21 47 38.0 -0.6
comp=Z,14nm,1.1s
HAU *e*MLR MLR
comp=Z,82nm,22.5s,MS4.2
MEZF Maizieres J'vi 152.58 340 *e*PKP1 PKPbc 21 47 38.7 +0.1
comp=Z,38nm,1.2s
CABF La Chapelle 153.84 336 *e*PKP1 PKPbc 21 47 41.5 +0.1
comp=Z,59nm,1.9s
LOR Lormes 154.04 340 *e*PKP1 PKPbc 21 47 41.5 -0.3
LOR *e*MLR MLR
comp=Z,89nm,21.0s,MS4.3
SSF Saint Saulge 154.34 340 *e*PKP1 PKPbc 21 47 41.9 -0.6
comp=Z,16nm,1.4s
LPL La Plagne 154.50 334 *e*PKP1 PKPbc 21 47 42.9 0.0
LPG La Plagne 154.51 334 *e*PKP1 PKPbc 21 47 43.0 +0.1
comp=Z,14nm,1.3s
SMF Signal de Mont 154.60 339 *e*PKP1 PKPbc 21 47 42.5 -0.5
AVF Avril sur Loir 154.63 340 *e*PKP1 PKPbc 21 47 42.3 -0.8
SGMF Saint Gilles 154.67 350 *e*PKP1 PKPbc 21 47 43.0 -0.1
comp=Z,38nm,1.4s
TCF Toulx Ste Croi 155.43 341 *e*PKP1 PKPdf 21 47 45.3 +10
SMRF Simiane la Rot 156.23 333 *e*PKP1 PKPdf 21 47 45.6 +8.8
comp=Z,14nm,1.3s
TORD Torodi Ar. Bea 165.64 227 PKP PKPdf 21 47 46.9 -0.9
TORD PKPab PKPab 21 48 45.7 -1.0
TORD Torodi Ar. Bea 165.64 227 PKP PKPdf 21 47 46.9 -0.9
comp=Z,0.8nm,0.9s,baz=236,slow=0.2,SNR=4.4
TORD PKPab PKPab 21 48 45.7 -1.0
comp=Z,2.1nm,1.0s,baz=135,slow=3.3,SNR=7.5

IDC 21 21:28:17.1±55.0, 2165S×17860E, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.8/14, mbtmp4.0/3, MS4.0/3, Ms1 4.0/3, ms1mx3.5/21, Error ellipse: s-maj=974.3km s-min=156.1km az=83.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**34.43**	**245**	P	P	21 35 05.5	-0.9
	3.4nm,0.7s,baz=90,slow=12,SNR=4.4						
ASAR	**Alice Springs**	**41.17**	**258**	P	P	21 36 03.5	0.0
	2.8nm,0.9s,baz=91,slow=8.6,SNR=4.1						
WRA	**Warramunga Arr**	**41.31**	**264**	P	P	21 36 05.4	+0.7
	0.6nm,0.5s,baz=96,slow=8.5,SNR=4.8						
JHJ	**Hachijo jima 2**	**65.86**	**325**	LR	LR	22 04 25.3	
	comp=Z,180nm,19.9s,baz=48,slow=33						
KSRS	**Korea Array**	**75.69**	**321**	LR	LR	22 10 44.6	
	comp=Z,43nm,18.2s,baz=135,slow=34						
YKA	**Yellowknife Ar**	**98.89**	**26**	LR	LR	22 20 47.8	
	comp=Z,85nm,20.6s,baz=100,slow=32						

NIED ***21*** *21:50:00, 2970N×13000E, h8km, Mw4.1 Best double couple: M0 1.80000×10^15 NP1:φ0=291.00000°, δ47.00000°, λ-68.00000°. NP2:φ0=81.00000°, δ47.00000°, λ-112.00000°.*

JMA ***21*** *21:50:46.8±0.1, 2974N×12999E, h17km±2km, M4.1*

JMA Felt III J1.

ISCJB ***21*** *21:50:46.4±0.6, 2971N±003×12996E±006, h23km±4km, mb4.0/13, Error ellipse: s-maj=9.9km s-min=3.5km az=25.8*

BJI ***21*** *21:50:49.7, 2970N×12990E, h35km, mB4.5, mb4.0, Ms3.9, Msz3.6*

NEIC ***21*** *21:50:49.8±1.0, 2971N×12987E, h36km±11km, mb3.8/2, Error ellipse: s-maj=15.0km s-min=8.7km az=95.0*

NEIC Recorded [3 JMA] on Nakano-shima and [1 JMA] on Yaku-shima.

IDC ***21*** *21:50:50.2±2.7, 2973N×12996E, h38km±24km, mb3.7/8, mb1 3.8/12, mb1mx3.7/25, mbtmp3.7/12, ML3.8/4, MS3.0/1, Ms1 3.0/1, ms1mx2.6/29, Error ellipse: s-maj=27.1km s-min=13.9km az=83.0*

ISC 21 21:50:46.8±0.9, 2970N±003×13001E±006, h17km±5km, n30, σ1°09/43, mb4.0/13, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNN	**Nakanoshima**	**0.18**	**320**	P	**Pg**	**21 50 50.8**	**-0.6**
JNN				S	**Sg**	**21 50 53.7**	**+0.8**
JKC	**Kuchinoerabu**	**0.78**	**12**	P	**Pb**	**21 51 01.3**	**-0.6**
JKC				*e*S	**Sb**	**21 51 11.1**	**-1.0**
JTN	**Tanegashima 3**	**1.27**	**41**	P	**Pn**	**21 51 09.0**	**-0.8**
JTN				*e*S	**Sb**	**21 51 25.6**	**-0.7**
JAM	**Amami Oshima**	**1.33**	**196**	P	**Pn**	**21 51 09.7**	**-1.0**
JAM				*e*S	**Sn**	**21 51 26.7**	**-1.3**
JZK	**Kikaishima**	**1.38**	**181**	P	**Pn**	**21 51 12.7**	**+1.4**
JTSR	**Tashiro 2**	**1.66**	**28**	P	**Pn**	**21 51 14.5**	**-0.6**
JTSR				S	**Sn**	**21 51 34.9**	**-1.2**
JTK	**Tokunoshima**	**2.12**	**206**	P	**Pn**	**21 51 21.2**	**-0.3**
JTK				S	**Sn**	**21 51 46.8**	**-0.7**
JIH	**Iheya**	**3.21**	**215**	P	**Pn**	**21 51 37.0**	**+0.5**
JIH				S	**Sn**	**21 52 12.8**	**-1.5**
JOW	**Kunigami**	**3.24**	**209**	P	**Pn**	**21 51 37.2**	**+0.3**
JOW				*e*S	**Sn**	**21 52 13.7**	**-1.5**
JOW	**Kunigami**	**3.24**	**209**	Pn	**Pn**	**21 51 37.1**	**+0.2**
	44nm,0.3s,baz=67,slow=11,SNR=64						
JOW				Sn	**Sn**	**21 52 13.4**	**-1.8**
	19nm,0.3s,baz=127,slow=20,SNR=4.1						
JOW				LR	LR	21 53 01.1	
	comp=Z,269nm,22.0s,baz=135,slow=40						
JNU	**Nakatsue**	**3.49**	**12**	Pn	**Pn**	**21 51 42.0**	**+1.6**
	16nm,0.3s,baz=217,slow=14,SNR=136						
JNU				Sn	**Sn**	**21 52 20.5**	**-0.7**
	2.7nm,0.3s,baz=233,slow=20,SNR=2.4						
JAGN	**Aguni-jima**	**3.95**	**219**	P	**Pn**	**21 51 47.8**	**+1.2**
JAGN				S	**Sn**	**21 52 32.9**	**+0.3**
JKE	**Kume jima 2**	**4.41**	**221**	P	**Pn**	**21 51 54.5**	**+1.5**
JKE				*e*S	**Sn**	**21 52 43.3**	**-0.6**
KSRS	**Korea Array**	**7.92**	**348**	Pn	**Pn**	**21 52 43.3**	**+2.1**
	0.1nm,0.3s,baz=167,slow=11,SNR=2.7						
MAT	**Matsushiro**	**9.68**	**43**	P	**Pn**	**21 53 10.4**	**+5.1**
MAT				S	**Sn**	**21 55 02.6**	**+8.9**
MJAR	**Matsushiro Arr**	**9.68**	**43**	Pn	**Pn**	**21 53 07.9**	**+2.6**
	0.5nm,0.3s,baz=250,slow=13,SNR=7.1						
XAN	**Xi'an**	**18.42**	**289**	P	**Pn**	**21 55 04.1**	**+2.7**
XAN				AP	pP	21 55 12.3	+6.3
XAN				AMB	AMB		
	comp=Z,14nm,0.7s						
CD2	**Chengdu**	**22.68**	**280**	*e*P	**P**	**21 55 46.6**	**-0.9**
CD2				AMB	AMB		
	comp=Z,20nm,1.3s,mb4.4						
LZH	**Lanzhou**	**22.84**	**293**	*e*P	**P**	**21 55 49.5**	**+0.4**
LZH				AP		21 55 56.3	
LZH				XP	sP	21 55 59.1	+3.0
LZH				AMB	AMB		
	comp=Z,18nm,1.3s,mb4.3						
LZH				AMB	AMB		
	comp=Z,81nm,4.5s						
ULN	**Ulaanbaatar**	**25.32**	**322**	*e*P	**P**	**21 56 12.2**	**-0.4**
	comp=Z,1.5nm,0.6s,mb3.7						
SONM	**Songino Array**	**25.66**	**321**	P	**P**	**21 56 16.2**	**+0.6**
	comp=Z,1.6nm,0.7s,mb3.6,baz=141,slow=10.0,SNR=18						
GTA	**Gaotai**	**26.58**	**299**	*e*P	**P**	**21 56 25.3**	**+1.2**
GTA				AP	pP	21 56 30.9	+1.7
GTA				XP	sP	21 56 34.8	+3.5
GTA				AMB	AMB		
	comp=Z,5.0nm,1.3s,mb3.9						
MKAR	**Makanchi Array**	**40.51**	**308**	P	**P**	**21 58 26.1**	**+1.4**
	comp=Z,0.4nm,0.4s,mb3.4,baz=97,slow=9.6,SNR=4.8						
KURK	**Kurchatov**	**43.48**	**314**	*e*P	**P**	**21 58 47.7**	**-1.3**
	comp=Z,1.9nm,0.8s,mb3.9						
BVAR	**Borovoye Array**	**48.80**	**316**	P	**P**	**21 59 30.4**	**-0.5**

comp=Z,0.9nm,0.6s,mb4.0,baz=93,slow=10,SNR=8.9
WRA Warramunga Arr 49.53 175 P **P 21 59 36.9 +0.2**
comp=Z,4.4nm,0.7s,mb4.6,baz=354,slow=8.2,SNR=31
ASAR Alice Springs 53.19 176 P **P 22 00 05.9 +1.8**
comp=Z,1.2nm,0.6s,mb4.0,baz=8.8,slow=13,SNR=19
ASAR PcP PcP 22 01 12.7 +0.7
comp=Z,0.8nm,0.7s,baz=1.8,slow=3.4,SNR=6.2
STKA Stephens Creek 62.22 169 P **P 22 01 07.6 +0.1**
comp=Z,2.3nm,1.1s,mb4.2,baz=333,slow=11,SNR=3.3
FINES FINESS Array B 70.63 330 P **P 22 02 00.4 -0.6**
comp=Z,1.0nm,0.7s,mb3.9,baz=69,slow=6.3,SNR=5.3
YKA Yellowknife Ar 74.73 26 P **P 22 02 25.5 +0.1**
comp=Z,0.6nm,0.7s,mb3.6,baz=302,slow=5.6,SNR=16

MAN 21 21:59:15,730N×12343E,h2km,mb4.6,ML3.5,MS3.4, Mindanao

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*CSEM **21** 22:01:16.6±0.3,2666N×6086E,h15km,Ms3.4,Error ellipse: s-maj=12.4km s-min=3.5km az=168.0*
*IDC **21** 22:01:17.2±1.0,2689N×6060E,h0km,mb3.8/16, mb1 3.9/16,mb1mx3.8/27,mbtmp3.8/16,Error ellipse: s-maj=23.3km s-min=17.8km az=2.0*
*MOS **21** 22:01:20.3±0.7,2691N×6042E,h33km,mb4.2/25,Error ellipse: s-maj=16.3km s-min=7.5km az=128.0*
*ISCJB **21** 22:01:23.9±1.5,270N±01×6045E±007,h66km±10km, mb4.0/40,Error ellipse: s-maj=17.8km s-min=8.7km az=162.3*
*NEIC **21** 22:01:25.2,2701N×6057E,h18km,mb4.2/19, MN4.0(TEH),After TEH.*
*TEH **21** 22:01:46.3,2700N×6055E,h7km,ML4.0*
ISC 21 22:01:24.9±1.3,269N±01×6051E±007,h61km±8km,n121, σ1§00/123,mb4.0/40,2D,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBND	**Bandar-abas**	**3.57**	**279**	*e*Pn	**Pn**	**22 02 19.9**	**+2.0**
IDAH	**Dahanechah**	**5.82**	**355**	*e*Pn	**Pn**	**22 02 49.4**	**+0.8**
IBAF	**Bafgh**	**6.34**	**318**	Pn	**Pn**	**22 02 56.9**	**+1.1**
IBAF	**Bafgh**	**6.34**	**318**	*e*Pn	**Pn**	**22 02 57.0**	**+1.2**
IBAF				*e*		22 03 45.0	
comp=Z,133nm,0.2s							
ISRV	**Sarvestan**	**6.97**	**292**	*e*	**Pn**	**22 03 06.6**	**+2.2**
comp=Z,903nm,0.1s							
ISRV				*e*Sn	**Sn**	**22 04 21.1**	**-1.2**
ISRV	**Sarvestan**	**6.97**	**292**	Pn	**Pn**	**22 03 05.4**	**+1.0**
ISRV				*e*Sn	**Sn**	**22 04 21.1**	**-1.2**
IPAR	**Pars**	**7.18**	**296**	Pn	**Pn**	**22 03 09.0**	**+1.7**
IPAR	**Pars**	**7.18**	**296**	‖*e*Pn	**Pn**	**22 03 08.9**	**+1.6**
IPAR				*e*		22 03 09.6	
comp=Z,560nm,0.1s							
IMOK	**Mouk**	**7.21**	**289**	Pn	**Pn**	**22 03 08.6**	**+1.0**
IMOK	**Mouk**	**7.21**	**289**	‖*e*Pn	**Pn**	**22 03 08.7**	**+1.1**
IMOK				*e*		22 03 12.3	
comp=Z,762nm,0.1s							
SHI	**Shiraz**	**7.55**	**293**	*e*	**Pn**	**22 03 14.2**	**+1.9**
comp=Z,698nm,0.1s							
SHI	**Shiraz**	**7.55**	**293**	Pn	**Pn**	**22 03 13.6**	**+1.3**
QRN	**Al-Qurain**	**11.29**	**282**	*e*P	**Pn**	**22 04 01.5**	**-1.9**
KBD	**Kabd**	**11.54**	**284**	*e*P	**Pn**	**22 04 05.3**	**-1.6**
KBD				AML	AML	22 06 05.9	
comp=Z,13nm,0.2s							
RDF	**Al-Radifah**	**11.63**	**283**	*e*P	**Pn**	**22 04 06.6**	**-1.5**
RDF				AML	AML	22 06 09.7	
comp=Z,8.7nm,0.4s							
NAY	**Al-Naaiem**	**11.94**	**284**	*e*P	**Pn**	**22 04 11.0**	**-1.4**
NAY				AML	AML	22 06 19.1	
comp=Z,3.6nm,0.4s							
MIB	**Mutribah**	**11.95**	**287**	*e*P	**Pn**	**22 04 10.9**	**-1.5**
MIB				AML	AML	22 06 18.8	
comp=Z,9.9nm,0.5s							
MIB	**Mutribah**	**11.95**	**287**	*e*P	**Pn**	**22 04 10.9**	**-1.5**
RST	**Umm Al-Ruwaisa**	**12.19**	**285**	*e*P	**Pn**	**22 04 13.7**	**-2.1**
RST				AML	AML	22 06 24.4	
comp=Z,5.1nm,0.4s							
AML	**Almayashu**	**18.62**	**32**	*e*P	**Pn**	**22 05 35.5**	**-2.8**
EKS2	**Erkin-Say**	**19.07**	**31**	*e*P	**Pn**	**22 05 41.4**	**-2.3**
comp=Z,6.2nm,1.3s							
EKS2	**Erkin-Say**	**19.07**	**31**	*e*P	**Pn**	**22 05 41.4**	**-2.3**
ASF	**Jabal al Asfar**	**21.18**	**290**	P	**P**	**22 06 06.1**	**+0.8**
ASF				pmax	pmax		
comp=Z,3.0nm,0.8s							
ASF	**Jabal al Asfar**	**21.18**	**290**	P	**P**	**22 06 06.1**	**+0.8**
comp=Z,3.3nm,0.8s,mb3.7,baz=18,slow=6.4,SNR=6.2							
MALT	**Malatya**	**21.73**	**307**	*e*P	**P**	**22 06 14.9**	**+3.8**
comp=Z,1.5nm,0.7s,mb3.5							
MALT	**Malatya**	**21.73**	**307**	*e*P	**P**	**22 06 14.9**	**+3.7**
MALT				pmax	pmax		
comp=Z,2.0nm,0.7s,mb3.7							
KIV	**Kislovodsk**	**22.27**	**324**	*e*P	**P**	**22 06 18.9**	**+2.2**
comp=Z,4.3nm,0.7s,mb4.0							
KIV	**Kislovodsk**	**22.27**	**324**	*e*P	**P**	**22 06 19.0**	**+2.2**
KIV				pmax	pmax		
comp=Z,4.0nm,0.7s,mb4.0							
MMAI	**Mount Meron Ar**	**22.55**	**292**	P	**P**	**22 06 21.6**	**+1.7**
comp=Z,0.4nm,0.5s,mb3.1,baz=110,slow=12,SNR=2.3							
EIL	**Elat**	**22.66**	**283**	P	**P**	**22 06 22.3**	**+1.3**
comp=Z,3.5nm,0.8s,mb3.8,baz=141,slow=14,SNR=3.1							
AKTK	**Aktyubinsk**	**23.55**	**356**	P	**P**	**22 06 30.4**	**+0.7**
AKTK	**Aktyubinsk**	**23.55**	**356**	P	**P**	**22 06 30.4**	**+0.7**
AKTO	**Aktyubinsk**	**23.55**	**356**	P	**P**	**22 06 30.4**	**+0.7**
AKTO				pmax	pmax		
comp=Z,2.0nm,0.4s,mb3.9							
AKTO	**Aktyubinsk**	**23.55**	**356**	P	**P**	**22 06 30.4**	**+0.7**
comp=Z,2.0nm,0.4s,mb3.9,baz=179,slow=8.2,SNR=5.3							
MK31	**Makanchi Array**	**26.25**	**35**	*e*P	**P**	**22 06 54.4**	**+0.2**
MK31	**Makanchi Array**	**26.25**	**35**	*e*P	**P**	**22 06 54.4**	**+0.2**
MKAR	**Makanchi Array**	**26.25**	**35**	P	**P**	**22 06 54.4**	**+0.2**
MKAR	**Makanchi Array**	**26.25**	**35**	P	**P**	**22 06 54.4**	**+0.2**
MKAR				pmax	pmax		
comp=Z,1.0nm,0.4s							
MKAR	**Makanchi Array**	**26.25**	**35**	P	**P**	**22 06 54.4**	**+0.2**
comp=Z,0.6nm,0.3s,mb3.5,baz=224,slow=10,SNR=7.5							
BVAR	**Borovoye Array**	**27.09**	**13**	P	**P**	**22 07 02.1**	**+0.4**
BVAR				pmax	pmax		
comp=Z,2.0nm,0.6s							
BVAR	**Borovoye Array**	**27.09**	**13**	P	**P**	**22 07 02.1**	**+0.4**
comp=Z,2.0nm,0.6s,mb3.8,baz=188,slow=9.7,SNR=15							
ZAL	**Zalesovo**	**32.39**	**27**	P	**P**	**22 07 48.6**	**0.0**
ZALV	**Zalesovo Beam**	**32.41**	**27**	P	**P**	**22 07 48.6**	**-0.1**
comp=Z,0.8nm,0.4s,mb3.9,baz=236,slow=9.9,SNR=6.3							
AKASG	**Malin Array Be**	**33.61**	**323**	P	**P**	**22 07 59.4**	**+0.1**
AKASG				pmax	pmax		
comp=Z,1.0nm,0.5s							
AKASG	**Malin Array Be**	**33.61**	**323**	P	**P**	**22 07 59.4**	**+0.1**
comp=Z,0.7nm,0.5s,mb3.9,baz=124,slow=7.8,SNR=6.9							
AKASG	**Malin Array Be**	**33.61**	**323**	P	**P**	**22 07 59.3**	**0.0**
PSZ	**Piszkesteto**	**37.89**	**315**	*e*P	**P**	**22 08 40.9**	**+4.9**
comp=Z,3.1nm,0.8s,mb4.1							
PSZ	**Piszkesteto**	**37.89**	**315**	*e*P	**P**	**22 08 40.9**	**+4.9**
PSZ				pmax	pmax		
comp=Z,3.0nm,0.8s,mb4.1							
JOF	**Joensuu**	**40.78**	**340**	*e*p	**P**	**22 08 58.1**	**-1.7**
comp=Z,1.1nm,0.3s,mb4.0							
FINES	**FINESS Array B**	**41.51**	**336**	P	**P**	**22 09 05.9**	**+0.1**
FINES				pmax	pmax		
comp=Z,1.0nm,0.4s							
FINES	**FINESS Array B**	**41.51**	**336**	P	**P**	**22 09 05.8**	**0.0**
comp=Z,0.9nm,0.4s,mb3.8,baz=130,slow=8.3,SNR=18							
FINES	**FINESS Array B**	**41.51**	**336**	P	**P**	**22 09 05.8**	**0.0**
GERES	**GERESS Array B**	**42.11**	**314**	P	**P**	**22 09 11.0**	**+0.1**
GERES				pmax	pmax		
comp=Z,1.0nm,0.7s							
GERES	**GERESS Array B**	**42.11**	**314**	P	**P**	**22 09 11.0**	**0.0**
comp=Z,1.2nm,0.7s,mb3.6,baz=104,slow=8.5,SNR=12							
SBF	**Sospel**	**45.65**	**306**	*e*P	**P**	**22 09 39.1**	**-0.3**
comp=Z,16nm,0.9s,mb4.7							
SBF	**Sospel**	**45.65**	**306**	*e*P	**P**	**22 09 39.1**	**-0.3**
comp=Z,8.2nm,0.9s,mb4.7							
MBDF	**Montbardon**	**46.19**	**307**	*e*P	**P**	**22 09 43.0**	**-0.6**
FRF	**La Foret Royal**	**46.21**	**306**	*e*P	**P**	**22 09 43.2**	**-0.6**
comp=Z,3.9nm,0.8s,mb4.1							
FRF	**La Foret Royal**	**46.21**	**306**	*e*P	**P**	**22 09 43.2**	**-0.6**
FRF				pmax	pmax		
comp=Z,2.0nm,0.8s,mb4.1							
FRF	**La Foret Royal**	**46.21**	**306**	*e*P	**P**	**22 09 43.2**	**-0.6**
comp=Z,2.0nm,0.8s,mb4.1							
LPG	**La Plagne**	**46.26**	**308**	*e*P	**P**	**22 09 43.7**	**-0.4**
comp=Z,3.3nm,0.7s,mb4.1							
LPG	**La Plagne**	**46.26**	**308**	*e*P	**P**	**22 09 43.7**	**-0.4**
LPG				pmax	pmax		
comp=Z,2.0nm,0.7s,mb4.2							
LPG	**La Plagne**	**46.26**	**308**	*e*P	**P**	**22 09 43.7**	**-0.4**
comp=Z,1.6nm,0.7s,mb4.0							
LPL	**La Plagne**	**46.27**	**308**	*e*P	**P**	**22 09 43.9**	**-0.4**
CABF	**La Chapelle**	**46.81**	**310**	*e*P	**P**	**22 09 48.4**	**-0.1**
comp=Z,5.0nm,0.7s,mb4.2							
CABF	**La Chapelle**	**46.81**	**310**	*e*P	**P**	**22 09 48.4**	**-0.1**
CABF				pmax	pmax		
comp=Z,3.0nm,0.7s,mb4.3							
CABF	**La Chapelle**	**46.81**	**310**	*e*P	**P**	**22 09 48.4**	**-0.1**
comp=Z,2.5nm,0.7s,mb4.2							
ORIF	**Oris-en-Rattie**	**46.83**	**307**	*e*P	**P**	**22 09 47.7**	**-0.9**
ARCES	**ARCESS Array B**	**47.25**	**344**	P	**P**	**22 09 51.6**	**+0.1**
ARCES				pmax	pmax		
comp=Z,4.0nm,0.8s							
ARCES	**ARCESS Array B**	**47.25**	**344**	P	**P**	**22 09 51.6**	**+0.1**
comp=Z,3.5nm,0.8s,mb4.3,baz=135,slow=8.5,SNR=17							
NOA	**NORSAR Array B**	**47.40**	**330**	P	**P**	**22 09 52.5**	**-0.3**
NOA				pmax	pmax		
comp=Z,1.0nm,0.7s							
NOA	**NORSAR Array B**	**47.40**	**330**	P	**P**	**22 09 52.5**	**-0.4**
comp=Z,1.0nm,0.7s,mb3.8,baz=110,slow=7.7,SNR=3.5							
VIVF	**Saint-Julien-l**	**47.68**	**307**	*e*P	**P**	**22 09 54.8**	**-0.5**
LASF	**Ste Croix**	**48.24**	**306**	*e*P	**P**	**22 09 59.5**	**-0.1**
comp=Z,2.2nm,0.7s,mb4.0							
LASF	**Ste Croix**	**48.24**	**306**	*e*P	**P**	**22 09 59.5**	**-0.1**
comp=Z,1.1nm,0.7s,mb4.0							
SMF	**Signal de Mont**	**48.36**	**310**	*e*P	**P**	**22 10 00.1**	**-0.4**
comp=Z,13nm,0.7s,mb4.7							
SMF	**Signal de Mont**	**48.36**	**310**	*e*P	**P**	**22 10 00.1**	**-0.4**
SMF				pmax	pmax		
comp=Z,6.0nm,0.7s,mb4.7							
SMF	**Signal de Mont**	**48.36**	**310**	*e*P	**P**	**22 10 00.1**	**-0.4**
comp=Z,6.3nm,0.7s,mb4.7							
BAIF	**Baives**	**48.42**	**314**	*e*P	**P**	**22 10 01.9**	**+1.0**
comp=Z,6.1nm,0.9s,mb4.3							
BAIF	**Baives**	**48.42**	**314**	*e*P	**P**	**22 10 01.9**	**+1.0**
comp=Z,3.0nm,0.9s,mb4.3							
SSF	**Saint Saulge**	**48.61**	**310**	*e*P	**P**	**22 10 02.1**	**-0.3**
comp=Z,3.5nm,0.6s,mb4.3							
SSF	**Saint Saulge**	**48.61**	**310**	*e*P	**P**	**22 10 02.1**	**-0.3**
SSF				pmax	pmax		
comp=Z,2.0nm,0.6s,mb4.3							
SSF	**Saint Saulge**	**48.61**	**310**	*e*P	**P**	**22 10 02.1**	**-0.3**
comp=Z,1.8nm,0.6s,mb4.3							
AVF	**Avril sur Loir**	**48.70**	**310**	*e*P	**P**	**22 10 02.5**	**-0.6**
comp=Z,2.0nm,0.6s,mb4.0							
AVF	**Avril sur Loir**	**48.70**	**310**	*e*P	**P**	**22 10 02.5**	**-0.6**
AVF				pmax	pmax		
comp=Z,1.0nm,0.6s,mb4.0							
AVF	**Avril sur Loir**	**48.70**	**310**	*e*P	**P**	**22 10 02.5**	**-0.6**
comp=Z,1.0nm,0.6s,mb4.0							
BGF	**Bois d'Agland**	**49.04**	**309**	*e*P	**P**	**22 10 05.4**	**-0.3**
comp=Z,5.0nm,0.6s,mb4.4							
BGF	**Bois d'Agland**	**49.04**	**309**	*e*P	**P**	**22 10 05.4**	**-0.3**
BGF				pmax	pmax		
comp=Z,3.0nm,0.6s,mb4.5							
BGF	**Bois d'Agland**	**49.04**	**309**	*e*P	**P**	**22 10 05.4**	**-0.3**
comp=Z,2.5nm,0.6s,mb4.4							
MTLF	**Montolieu**	**49.43**	**305**	*e*P	**P**	**22 10 09.2**	**+0.5**
comp=Z,2.8nm,0.8s,mb4.1							
MTLF	**Montolieu**	**49.43**	**305**	*e*P	**P**	**22 10 09.2**	**+0.5**
MTLF				pmax	pmax		
comp=Z,1.0nm,0.8s,mb3.9							
MTLF	**Montolieu**	**49.43**	**305**	*e*P	**P**	**22 10 09.2**	**+0.5**
comp=Z,1.4nm,0.8s,mb4.1							
TCF	**Toulx Ste Croi**	**49.47**	**309**	*e*P	**P**	**22 10 08.9**	**-0.1**
comp=Z,1.7nm,0.6s,mb4.0							
TCF	**Toulx Ste Croi**	**49.47**	**309**	*e*P	**P**	**22 10 08.9**	**-0.1**
TCF				pmax	pmax		
comp=Z,1.0nm,0.6s,mb4.0							
TCF	**Toulx Ste Croi**	**49.47**	**309**	*e*P	**P**	**22 10 08.9**	**-0.1**
comp=Z,0.9nm,0.6s,mb4.0							
CAF	**Calviac**	**49.54**	**307**	*e*P	**P**	**22 10 09.7**	**+0.2**
comp=Z,3.2nm,0.8s,mb4.1							
CAF	**Calviac**	**49.54**	**307**	*e*P	**P**	**22 10 09.7**	**+0.2**
CAF				pmax	pmax		
comp=Z,2.0nm,0.8s,mb4.2							
CAF	**Calviac**	**49.54**	**307**	*e*P	**P**	**22 10 09.7**	**+0.2**
comp=Z,1.6nm,0.8s,mb4.1							
RJF	**Les Rejaudoux**	**49.93**	**308**	*e*P	**P**	**22 10 12.9**	**+0.4**
comp=Z,2.6nm,0.6s,mb4.1							
RJF	**Les Rejaudoux**	**49.93**	**308**	*e*P	**P**	**22 10 12.9**	**+0.4**
RJF				pmax	pmax		
comp=Z,1.0nm,0.6s,mb4.0							
RJF	**Les Rejaudoux**	**49.93**	**308**	*e*P	**P**	**22 10 12.9**	**+0.4**
comp=Z,1.3nm,0.6s,mb4.1							
LFF	**La Frestale**	**50.48**	**307**	*e*P	**P**	**22 10 17.1**	**+0.5**
comp=Z,8.8nm,0.8s,mb4.5							
LFF	**La Frestale**	**50.48**	**307**	*e*P	**P**	**22 10 17.1**	**+0.5**
LFF				pmax	pmax		
comp=Z,4.0nm,0.8s,mb4.5							
LFF	**La Frestale**	**50.48**	**307**	*e*P	**P**	**22 10 17.1**	**+0.5**
comp=Z,4.4nm,0.8s,mb4.5							
LDF	**La Druitiere**	**51.13**	**312**	*e*P	**P**	**22 10 21.0**	**-0.5**
comp=Z,7.3nm,0.7s,mb4.4							
LDF	**La Druitiere**	**51.13**	**312**	*e*P	**P**	**22 10 21.0**	**-0.5**
LDF				pmax	pmax		
comp=Z,4.0nm,0.7s,mb4.5							
LDF	**La Druitiere**	**51.13**	**312**	*e*P	**P**	**22 10 21.0**	**-0.5**
comp=Z,3.7nm,0.7s,mb4.5							
FLN	**La Foliniere**	**51.38**	**312**	*e*P	**P**	**22 10 23.0**	**-0.3**
comp=Z,6.8nm,0.8s,mb4.3							
FLN	**La Foliniere**	**51.38**	**312**	*e*P	**P**	**22 10 23.0**	**-0.3**
FLN				pmax	pmax		
comp=Z,3.0nm,0.8s,mb4.3							
FLN	**La Foliniere**	**51.38**	**312**	*e*P	**P**	**22 10 23.0**	**-0.3**
comp=Z,3.4nm,0.8s,mb4.3							
GRR	**Gorron**	**51.62**	**312**	*e*P	**P**	**22 10 24.4**	**-0.7**
SGMF	**Saint Gilles**	**52.75**	**312**	*e*P	**P**	**22 10 34.3**	**+0.8**
QUIF	**Quistinic**	**53.16**	**311**	*e*P	**P**	**22 10 36.8**	**+0.3**
comp=Z,9.3nm,0.9s,mb4.4							
QUIF	**Quistinic**	**53.16**	**311**	*e*P	**P**	**22 10 36.8**	**+0.3**
QUIF				pmax	pmax		
comp=Z,5.0nm,0.9s,mb4.4							
QUIF	**Quistinic**	**53.16**	**311**	*e*P	**P**	**22 10 36.8**	**+0.3**
comp=Z,4.7nm,0.9s,mb4.4							
ESDC	**Sonseca Array**	**54.31**	**301**	P	**P**	**22 10 46.1**	**+1.0**
comp=Z,0.1nm,0.3s,mb3.2,baz=62,slow=7.2,SNR=6.3							
TORD	**Torodi Ar. Bea**	**56.48**	**268**	P	**P**	**22 11 01.6**	**+0.5**
comp=Z,0.2nm,0.5s,mb3.5,baz=56,slow=7.5,SNR=9.7							
EVO	**Evora**	**57.60**	**300**	*e*P	**P**	**22 11 08.4**	**-0.2**
comp=Z,44nm,1.5s,mb5.0							
EVOP	**Sao Brissos**	**57.69**	**300**	*e*P	**P**	**22 11 08.4**	**-0.8**
comp=Z,22nm,1.5s,mb5.0							
WRA	**Warramunga Arr**	**85.34**	**115**	P	**P**	**22 13 56.0**	**+0.2**
comp=Z,0.2nm,0.4s,mb3.6,baz=311,slow=3.9,SNR=9.1							
ASAR	**Alice Springs**	**86.90**	**118**	P	**P**	**22 14 04.0**	**+0.6**
comp=Z,0.3nm,0.4s,mb3.8,baz=304,slow=5.3,SNR=5.5							

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*ISCJB **21** 22:09:29.5±1.0,4109N±005×2242E±009,h12km±16km, Error ellipse: s-maj=12.9km s-min=5.8km az=155.0*
*SKO **21** 22:09:29.6,4104N×2245E,h15km*
*CSEM **21** 22:09:29.9±0.1,4113N×2239E,h2km,ML2.8,Error ellipse: s-maj=1.5km s-min=1.2km az=39.0*
*THE **21** 22:09:30.8,4109N×2246E,h1km,ML2.8*
ISC 21 22:09:29.7±1.1,4110N±004×224E±01,h10km±18km,n13, σ0§39/22,Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VAY	**Valandovo**	**0.26**	**31**	*e*Pg	**Pg**	**22 09 35.0**	**-0.1**
VAY				*e*Sg	**Sg**	**22 09 38.8**	**+0.1**
VAY	**Valandovo**	**0.26**	**31**	*e*Pg	**Pg**	**22 09 34.9**	**-0.2**
VAY				*e*Sg	**Sg**	**22 09 38.7**	**+0.1**
VAY	**Valandovo**	**0.26**	**31**	*i* Pg	**Pg**	**22 09 35.1**	**+0.1**
VAY				*e*Sg	**Sg**	**22 09 38.8**	**+0.2**
KNT	**Kendrikon**	**0.39**	**80**	*e*Pg	**Pg**	**22 09 37.7**	**+0.4**
KNT				*e*Sg	**Sg**	**22 09 42.4**	**-0.1**
THE	**Thessaloniki**	**0.64**	**137**	*e*Pg	**Pg**	**22 09 42.1**	**+0.2**
THE				*e*Sg	**Sg**	**22 09 50.0**	**-0.2**
HORT	**Hortiatis**	**0.73**	**133**	*e*Pg	**Pg**	**22 09 43.8**	**0.0**
HORT				*e*Sg	**Sg**	**22 09 53.8**	**+0.5**
SOH	**Sokhos**	**0.78**	**110**	*e*Pg	**Pg**	**22 09 44.8**	**+0.1**
SOH				*e*Sg	**Sg**	**22 09 54.8**	**0.0**
KRUS	**Krusevo**	**0.90**	**288**	*e*Pn	**Pn**	**22 09 48.7**	**+0.3**
KRUS	**Krusevo**	**0.90**	**288**	*e*Pn	**Pn**	**22 09 48.6**	**+0.2**
KRUS	**Krusevo**	**0.90**	**288**	*e*Pn	**Pn**	**22 09 48.5**	**+0.1**
SRS	**Serrai**	**0.91**	**88**	*e*Pg	**Pg**	**22 09 47.0**	**-0.2**
SRS				*e*Sg	**Sg**	**22 09 58.8**	**-0.1**
PLG	**Polygyros**	**1.08**	**132**	*e*Pg	**Pg**	**22 09 49.2**	**-1.2**
PLG				*e*Sg	**Sg**	**22 10 05.0**	**+0.6**
OUR	**Ouranopolis**	**1.43**	**122**	*e*Pg	**Pg**	**22 09 56.9**	**-0.2**

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*IDC **21** 22:16:04.5±1.1,599S×15455E,h0km,mb3.8/9,mb1 4.0/9, mb1mx3.9/14,mbtmp3.8/9,MS3.3/2,Ms1 3.3/2, ms1mx2.9/20,Error ellipse: s-maj=41.3km s-min=21.0km az=109.0*
*NEIC **21** 22:16:07.2±2.4,591S×15442E,h10km,mb3.7/1,Error ellipse: s-maj=67.7km s-min=18.6km az=99.0*
*ISCJB **21** 22:16:09.0±0.9,60S±01×1545E±02,h33km,mb3.8/11, Error ellipse: s-maj=31.8km s-min=14.8km az=24.9*
ISC 21 22:16:10.8±0.9,60S±01×1545E±02,h35km,n13,σ0§54/11, mb3.8/11,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.42**	**123**	LR	LR	22 19 56.9	
comp=Z,124nm,20.9s,baz=353,slow=37							
WRAB	**Tennant Creek**	**23.98**	**233**	*e*P	**P**	**22 21 22.7**	**+0.4**
1.2nm,0.6s,mb3.5							
WRA	**Warramunga Arr**	**24.00**	**233**	P	**P**	**22 21 22.1**	**-0.3**
0.9nm,0.6s,mb3.4,baz=59,slow=9.9,SNR=14							
WRA				PcP	PcP	22 25 01.9	-2.1
0.4nm,0.6s,baz=63,slow=2.6,SNR=5.3							
ASAR	**Alice Springs**	**26.48**	**226**	P	**P**	**22 21 44.2**	**-0.7**
0.5nm,0.7s,mb3.2,baz=57,slow=9.0,SNR=8.2							
ASAR				PcP	PcP	22 25 08.2	-1.4
0.9nm,0.5s,baz=59,slow=2.5,SNR=14							
STKA	**Stephens Creek**	**28.45**	**203**	P	**P**	**22 22 02.8**	**+0.3**
1.8nm,0.9s,mb3.7,baz=66,slow=12,SNR=2.1							
STKA				LR	LR	22 31 51.6	
comp=Z,130nm,20.7s,baz=25,slow=33							
KSRS	**Korea Array**	**49.80**	**332**	P	**P**	**22 24 59.8**	**-0.4**
1.1nm,0.5s,mb4.2,baz=146,slow=8.2,SNR=6.5							
SONM	**Songino Array**	**68.20**	**327**	P	**P**	**22 27 07.6**	**-0.1**
0.9nm,0.5s,mb4.1,baz=145,slow=5.2,SNR=11							
LSA	**Lhasa**	**70.27**	**304**	*e*P	**P**	**22 27 21.2**	**+0.3**
2.5nm,0.7s,mb4.2							
MKAR	**Makanchi Array**	**82.30**	**319**	P	**P**	**22 28 28.6**	**-0.2**
0.4nm,0.6s,mb3.5,baz=91,slow=6.5,SNR=4.6							
ZALV	**Zalesovo Beam**	**83.05**	**326**	P	**P**	**22 28 33.5**	**+1.0**
0.3nm,0.3s,mb3.7,baz=128,slow=9.7,SNR=3.5							
NVAR	**Mina Array Bea**	**91.50**	**52**	P	**P**	**22 29 14.4**	**+0.5**
0.8nm,0.8s,mb4.1,baz=268,slow=8.6,SNR=4.5							
YKA	**Yellowknife Ar**	**95.68**	**28**	P	**P**	**22 29 31.7**	**-0.9**
0.1nm,0.3s,mb3.7,baz=272,slow=4.5,SNR=4.0							
TORD	**Torodi Ar. Bea**	**152.25**	**287**	PKPbc	PKPbc	22 36 01.6	-2.3
0.8nm,0.6s,baz=46,slow=2.4,SNR=11							
TORD				PKPab	PKPab	22 36 12.1	-1.7
0.8nm,0.7s,baz=71,slow=3.5,SNR=6.7							

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*ISCJB **21** 22:18:29.7±1.4,1949N±003×7791W±007,h3km±9km, Error ellipse: s-maj=10.8km s-min=5.3km az=11.0*
*JSN **21** 22:18:32.6±0.9,1947N×7791W,h11km±5km,MD3.7*
*SSNC **21** 22:18:33.8,1953N×7803W,h25km,MD3.2,ML2.2*
ISC 21 22:18:30.5±1.2,1948N±003×7790W±007,h8km±6km,n11, σ0§85/20,1C-6D,Cuba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LMGC	**Las Mercedes**	**1.03**	**55**	‖*i*PG	**Pg**	**22 18 49.6**	**-0.6**
LMGC				*i* SG	**Sg**	**22 19 03.0**	**-0.6**
comp=N,346nm,0.1s							
LMGC				*e*			
comp=E,540nm,0.2s							
MBJ	**Montego Bay**	**1.07**	**178**	*e*P	**Pg**	**22 18 50.9**	**-0.2**
MBJ				*e*S	**Sg**	**22 19 04.7**	**-0.3**
BBJ	**Bamboo Saint A**	**1.25**	**151**	‖*i*P	**Pn**	**22 18 54.7**	**+0.4**
BBJ				‖*e*S	**Sg**	**22 19 11.0**	**+0.4**
CVJ	**Coleyville**	**1.29**	**164**	‖*e*P	**Pn**	**22 18 54.9**	**0.0**
MCJ	**Malvern**	**1.56**	**172**	‖*e*P	**Pn**	**22 18 58.9**	**+0.3**
MCJ				*e*S	**Sn**	**22 19 18.7**	**-0.3**
CCCC	**Cccc**	**1.72**	**4**	*e*P	**Pn**	**22 19 01.5**	**+0.7**
CCCC				*e*S	**Sn**	**22 19 21.6**	**-1.3**
comp=N,3.9nm,0.3s							
CCCC

EKS2				*e*Sn	Sg	23 12 16.6	0.0
EKS2	**Erkin-Say**	**2.75**	**7**	P	**Pn**	**23 11 36.9**	**+4.5**
	SNR=44						
AAK	**Ala-Archa**	**2.83**	**17**	*e*Pn	**Pn**	**23 11 37.0**	**+3.4**
AAK				*e*Sn	**Sg**	**23 12 17.1**	**-2.2**
AAK	**Ala-Archa**	**2.83**	**17**	P	**Pn**	**23 11 38.3**	**+4.7**
	SNR=77						
KBK	**Karagaybulak**	**2.98**	**23**	P	**Pn**	**23 11 40.0**	**+4.4**
	SNR=16						
ULHL	**Ulahol**	**3.18**	**42**	P	**Pn**	**23 11 42.1**	**+3.7**
	SNR=10.0						
CHMS	**Chumysh**	**3.24**	**19**	P	**Pn**	**23 11 43.4**	**+4.2**
	SNR=18						
TKM2	**Tokmak 2**	**3.43**	**29**	⇓Pn	**Pn**	**23 11 45.8**	**+4.0**
	comp=E,21nm,0.4s						
TKM2				Pg	**Pg**	**23 11 53.0**	**-1.0**
TKM2				⇑Lg		23 12 41.8	
	comp=E,114nm,0.7s						
TKM2	**Tokmak 2**	**3.43**	**29**	*e*Pn	**Pn**	**23 11 45.3**	**+3.5**
TKM2				*e*Pg	**Pg**	**23 11 53.1**	**-1.0**
TKM2				*e*Sn	**Sg**	**23 12 42.3**	**+3.8**
TKM2	**Tokmak 2**	**3.43**	**29**	*e*PN	**Pn**	**23 11 45.3**	**+3.5**
TKM2				*e*		23 11 53.1	
TKM2	**Tokmak 2**	**3.43**	**29**	P	**Pn**	**23 11 45.8**	**+3.9**
	SNR=17						
USP	**Ospenovka**	**3.44**	**14**	P	**Pn**	**23 11 46.0**	**+4.0**
	SNR=11						
KK31	**Karatay Array**	**3.82**	**327**	Pn	**Pn**	**23 11 50.1**	**+3.0**
	comp=E,2.4nm,0.3s,baz=130,slow=11,SNR=496						
KK31				⇓Pg	**Pg**	**23 11 59.5**	**-2.0**
	comp=E,16nm,0.4s,baz=137,slow=17,SNR=43						
KK31				⇓Sn	**Sb**	**23 12 41.7**	**-0.3**
	comp=E,21nm,0.3s,baz=135,slow=21,SNR=4.1						
KK31				⇑Lg		23 12 51.6	
	comp=E,14nm,0.3s,baz=132,slow=28						
KNDC	**Almaty**	**4.26**	**38**	⇓Pg	**Pg**	**23 12 09.4**	**-0.5**
	comp=E,36nm,0.5s						
KNDC				⇓Lg		23 13 07.4	
	comp=E,166nm,0.5s						
KBL	**Kabul**	**6.38**	**214**	*e*Pn	**Pn**	**23 12 21.5**	**-0.9**
	comp=E,7.2nm,0.5s						
KBL				*e*Sn	**Sn**	**23 13 36.7**	**+1.5**
DLH	**Dalhousie**	**7.67**	**163**	*e*P	**Pn**	**23 12 36.0**	**-4.1**
DLH				*e*S	**Sn**	**23 14 05.0**	**-2.0**
MK31	**Makanchi Array**	**9.45**	**41**	⇓Pn	**Pn**	**23 13 08.9**	**+4.5**
	comp=E,0.6nm,0.5s						
MK31				⇓Lg		23 15 50.7	
	comp=E,9.1nm,1.1s,baz=222,slow=29,SNR=5.0						
MK31	**Makanchi Array**	**9.45**	**41**	P	**Pn**	**23 13 02.1**	**-2.4**
MKAR	**Makanchi Array**	**9.45**	**41**	Pn	**Pn**	**23 13 03.9**	**-0.6**
MKAR				Lg		23 15 49.2	
MKAR	**Makanchi Array**	**9.45**	**41**	Pn	**Pn**	**23 13 03.9**	**-0.6**
	comp=E,0.1nm,0.3s,baz=234,slow=14,SNR=2.5						
MKAR				Lg		23 15 49.2	
	comp=E,0.2nm,0.3s,baz=224,slow=27,SNR=6.8						
KURBB	**Kurchatov Arra**	**11.29**	**17**	⇑Pn	**Pn**	**23 13 29.9**	**+0.3**
	comp=E,0.3nm,0.7s						
KURBB				⇑Lg		23 16 49.5	
	comp=E,5.5nm,1.1s						
KURK	**Kurchatov**	**11.40**	**17**	⇑Lg		23 16 50.5	
	comp=E,24nm,1.1s						
VOSK	**Vostochnaya**	**12.90**	**354**	⇓Pn	**Pn**	**23 13 56.3**	**+4.7**
	comp=E,7.3nm,2.4s						
VOSK				⇓Lg		23 17 36.1	
	comp=E,13nm,1.4s						
BVA0	**Borovoye Array**	**13.25**	**352**	Pn	**Pn**	**23 13 56.5**	**+0.1**
	comp=E,0.5nm,1.1s,baz=167,slow=13,SNR=3.9						
BVA0				⇑Lg		23 17 49.9	
	comp=E,1.4nm,1.4s						
BVAR	**Borovoye Array**	**13.25**	**352**	Pn	**Pn**	**23 13 56.6**	**+0.2**
	comp=E,0.2nm,0.3s,baz=158,slow=12,SNR=9.0						
BVAR				Lg		23 17 58.1	
	comp=E,0.2nm,0.3s,baz=147,slow=28,SNR=4.4						
AB31	**Akbulak array**	**13.33**	**319**	⇓Pn	**Pn**	**23 13 57.0**	**-0.4**
	comp=E,0.9nm,0.5s,baz=124,slow=14,SNR=17						
AB31				⇑Sn	**Sn**	**23 16 23.1**	**-2.5**
	comp=E,3.0nm,0.8s,baz=134,slow=21,SNR=5.2						
ZRNK	**Zerenda**	**13.36**	**349**	⇑Pn	**Pn**	**23 13 58.2**	**+0.4**
	comp=E,2.5nm,1.1s						
ZRNK				⇓Lg		23 17 51.3	
	comp=E,1.8nm,0.8s						
AKTK	**Aktyubinsk**	**15.04**	**319**	Pn	**Pn**	**23 14 20.6**	**-0.2**
AKTK				Sn	**Sn**	**23 17 03.2**	**-4.1**
AKTO	**Aktyubinsk**	**15.04**	**319**	Pn	**Pn**	**23 14 20.6**	**-0.2**
	comp=E,0.2nm,0.3s,baz=133,slow=13,SNR=3.9						
AKTO				Sn	**Sn**	**23 17 03.2**	**-4.1**
	comp=E,0.1nm,0.3s,baz=274,slow=10,SNR=2.8						
ZAL	**Zalesovo**	**16.01**	**25**	P	**Pn**	**23 14 32.9**	**-0.5**
ZALV	**Zalesovo Beam**	**16.03**	**25**	Pn	**Pn**	**23 14 32.9**	**-0.8**
	comp=E,0.1nm,0.3s,baz=187,slow=8.6,SNR=2.5						
ZALV				Lg		23 19 20.6	
	comp=E,0.1nm,0.3s,baz=209,slow=23,SNR=3.3						
SONM	**Songino Array**	**24.95**	**61**	P	**P**	**23 16 06.6**	**-5.0**
	comp=E,0.1nm,0.4s,mb2.7,baz=263,slow=7.5,SNR=2.5						
AKASG	**Malin Array Be**	**32.39**	**304**	P	**P**	**23 17 19.0**	**+1.1**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
AKASG	**Malin Array Be**	**32.39**	**304**	P	**P**	**23 17 18.9**	**+1.0**
	comp=Z,0.5nm,0.4s,mb3.7,baz=81,slow=7.3,SNR=4.3						
FINES	**FINESS Array B**	**35.77**	**323**	P	**P**	**23 17 47.7**	**+0.6**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
FINES	**FINESS Array B**	**35.77**	**323**	P	**P**	**23 17 47.7**	**+0.6**
	comp=Z,1.3nm,0.6s,mb4.0,baz=112,slow=11,SNR=11						
GERES	**GERESS Array B**	**42.55**	**303**	P	**P**	**23 18 44.8**	**+0.9**
	comp=Z,0.2nm,0.5s,mb3.1,baz=62,slow=6.8,SNR=4.0						
NOA	**NORSAR Array B**	**42.83**	**321**	P	**P**	**23 18 48.1**	**+2.1**
	comp=Z,0.3nm,0.4s,mb3.4,baz=92,slow=8.4,SNR=2.8						
TORD	**Torodi Ar. Bea**	**67.65**	**269**	P	**P**	**23 21 42.0**	**-3.8**
	comp=Z,0.4nm,0.5s,mb3.7,baz=52,slow=5.4,SNR=10						
YKA	**Yellowknife Ar**	**77.72**	**4**	P	**P**	**23 22 44.7**	**-0.2**
	comp=Z,0.3nm,0.6s,mb3.4,baz=350,slow=5.4,SNR=6.1						

*IDC **21** 23:12:21.9±1.5, 699S×15589E, h0km, mb4.1/6, mb1 4.2/6, mb1mx4.0/15, mbtmp4.1/6, Error ellipse: s-maj=48.8km s-min=25.7km az=115.0*
*NEIC **21** 23:12:23.0±1.0, 701S×15601E, h10km, mb4.3/3, Error ellipse: s-maj=28.9km s-min=16.6km az=123.0*
ISC 21 23:12:26.1±2.8, 71S±02×1561E±05, h35km, n14, σ0=52/11, mb4.1/8, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**23.98**	**255**	*e*P	**P**	**23 17 37.8**	**+0.2**
	4.9nm,0.5s,mb4.2						
WRAB	**Tennant Creek**	**24.66**	**237**	*e*P	**P**	**23 17 43.8**	**0.0**
	3.2nm,0.7s,mb4.0						
WB2	**Warramunga Arr**	**24.67**	**237**	*e*P	**P**	**23 17 44.2**	**+0.3**
WRA	**Warramunga Arr**	**24.68**	**237**	P	**P**	**23 17 44.2**	**+0.2**
	2.4nm,0.5s,mb4.0,baz=62,slow=9.4,SNR=29						
ASAR	**Alice Springs**	**26.94**	**230**	P	**P**	**23 18 04.2**	**-0.3**
	0.4nm,0.4s,mb3.3,baz=59,slow=9.3,SNR=11						
FITZ	**Fitzroy Crossi**	**31.63**	**247**	*e*P	**P**	**23 18 45.9**	**-0.3**
	2.9nm,0.6s,mb4.3						
FITZ	**Fitzroy Crossi**	**31.63**	**247**	P	**P**	**23 18 45.9**	**-0.3**
	1.3nm,0.5s,mb4.0,baz=94,slow=13,SNR=6.2						
KKM	**Kota Kinabalu**	**41.92**	**287**	*e*P	**P**	**23 20 13.4**	**-0.4**
SONM	**Songino Array**	**70.06**	**327**	P	**P**	**23 23 35.6**	**+1.1**
	2.9nm,0.6s,mb4.4,baz=145,slow=5.9,SNR=32						
MKAR	**Makanchi Array**	**84.25**	**318**	P	**P**	**23 24 54.4**	**+0.2**
	2.1nm,0.7s,mb4.4,baz=99,slow=6.1,SNR=27						
ZALV	**Zalesovo Beam**	**84.92**	**326**	P	**P**	**23 24 56.4**	**-1.0**
	0.9nm,0.4s,mb4.2,baz=122,slow=6.0,SNR=6.0						
BDFB	**Brasilia**	**147.08**	**134**	PKPbc	PKPab	23 32 09.1	+1.1
	0.9nm,0.5s,baz=176,slow=13,SNR=5.4						
TORD	**Torodi Ar. Bea**	**154.14**	**285**	PKPbc	PKPbc	23 32 22.4	-1.0
TORD				PKPab	PKPab	23 32 36.2	-1.0
TORD	**Torodi Ar. Bea**	**154.14**	**285**	PKPbc	PKPbc	23 32 22.4	-1.0
	0.3nm,0.5s,baz=54,slow=1.8,SNR=7.1						
TORD				PKPab	PKPab	23 32 36.2	-1.0
	0.2nm,0.5s,baz=75,slow=3.1,SNR=6.9						

*NEIC **21** 23:21:47.3, 1478N×9319W, h105km, mb4.8/1, MD4.3(MEX), After MEX.*
MEX 21 23:21:47.3±0.6, 1478N×9319W, h108km±125km, MD4.3, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCIG	**Comitan**	**1.80**	**34**	*i* P	Pn	23 22 17.0	-0.6
CCIG				*i* S	Sn	23 22 39.2	-1.7
SCX	**San Cristobal**	**2.01**	**15**	*i* P	Pn	23 22 19.0	-1.4
SCX				*i* S	Sn	23 22 45.0	-0.6
CMIG	**Matias Romero**	**2.82**	**325**	*i* P	Pn	23 22 29.2	-1.6
CMIG				*i* S	Sn	23 23 03.3	-1.0
OXX	**Oaxaca**	**4.10**	**304**	*i* P	Pn	23 22 47.0	-1.0
OXX				*i* S	Sn	23 23 34.0	-1.0
VHO	**Vista Hermosa**	**4.10**	**304**	*i* P	Pn	23 22 47.0	-1.0
VHO				*i* S	Sn	23 23 33.8	-1.3
UTMO	**Huajuapan**	**5.37**	**305**	*e*P	Pn	23 23 05.0	-0.1
UTMO				*i* S	Sn	23 24 04.2	-1.5
PPM	**Popocatepetl**	**6.73**	**310**	*e*P	Pn	23 23 23.9	+0.4
PPM				*i* S	Sn	23 24 43.2	+4.5
TEIG	**Tepich**	**7.16**	**40**	*e*Pn	Pn	23 23 27.2	-2.2
	11nm,0.4s						
TEIG				*e*Sn	Sn	23 24 42.6	-6.5

*BJI **21** 23:33:28.1, 3650N×7090E, h180km, mB4.7, mb4.6*
*MOS **21** 23:33:29.8±0.6, 3642N×7085E, h206km, mb4.4/17, Error ellipse: s-maj=15.1km s-min=6.6km az=83.7*
*ISCJB **21** 23:33:31.3±0.3, 3652N±002×7096E±003, h216km±3km, mb4.4/36, Error ellipse: s-maj=4.6km s-min=3.0km az=163.0*
*NEIC **21** 23:33:32.1±0.5, 3647N×7093E, h213km±4km, mb4.7/16, Error ellipse: s-maj=6.4km s-min=5.5km az=98.0*
*IDC **21** 23:33:33.8±0.9, 3643N×7087E, h230km±8km, mb4.0/14, mb1 4.1/16, mb1mx3.8/23, mbtmp4.0/16, Error ellipse: s-maj=13.8km s-min=10.9km az=40.0*
*NNC **21** 23:33:34.8±5.0, 3684N×7072E, h196km±39km, mb3.3, mpv4.5, Error ellipse: s-maj=41.4km s-min=27.6km az=16.0*
ISC 21 23:33:32.2±0.3, 3650N±002×7091E±004, h210km±3km, h222km±5.8km; pP-P, n148, σ0=85/158, mb4.4/36, 12C-12D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**2.48**	**218**	*e*Pn	**Pn**	**23 34 18.1**	**+1.6**
KBL				*e*S		23 34 52.5	
CHCP	**Chirah Chowk**	**3.43**	**145**	⇓P	**Pn**	**23 34 30.1**	**+2.6**
CHCP				S		23 35 08.0	
THW	**Thamme Wali**	**3.76**	**169**	⇑P	**Pn**	**23 34 33.6**	**+2.1**
DRP	**Derazinda**	**4.78**	**187**	P	**Pn**	**23 34 46.6**	**+2.4**
DRP				S		23 35 40.0	
JMU	**Jammu**	**5.01**	**138**	*i* P	**Pn**	**23 34 44.5**	**-2.5**
THN	**Thein Dam**	**5.68**	**134**	*e*P	**Pn**	**23 34 56.1**	**+0.6**
THN				*ex*	x	23 36 00.7	
DLH	**Dalhousie**	**5.75**	**132**	*e*P	**Pn**	**23 34 57.0**	**+0.6**
DLH				*ex*	x	23 36 04.0	
AML	**Almayashu**	**6.02**	**20**	⇓*i*Pn	**Pn**	**23 35 00.2**	**+0.4**
	252nm,0.5s						
AML				*e*S		23 36 06.3	
AML	**Almayashu**	**6.02**	**20**	P	**Pn**	**23 35 00.1**	**+0.4**
	SNR=390						
UCH	**Uchtor**	**6.36**	**25**	⇓*i*Pn	**Pn**	**23 35 04.9**	**+0.7**
	94nm,0.5s						
UCH				*e*S		23 36 13.8	
UCH	**Uchtor**	**6.36**	**25**	P	**Pn**	**23 35 04.9**	**+0.8**
	SNR=210						
KZA	**Kyzart**	**6.50**	**30**	P	**Pn**	**23 35 06.0**	**+0.1**
	SNR=101						
EKS2	**Erkin-Say**	**6.54**	**19**	⇓*e*Pn	**Pn**	**23 35 06.7**	**+0.3**
	22nm,0.5s						
EKS2				*e*S		23 36 17.7	
EKS2	**Erkin-Say**	**6.54**	**19**	P	**Pn**	**23 35 06.9**	**+0.5**
	SNR=50						
KK31	**Karatay Array**	**6.60**	**357**	P	**Pn**	**23 35 06.9**	**-0.3**
	4.0nm,0.3s,baz=175,slow=13,SNR=256						
KK31				S		23 36 17.8	
	99nm,0.6s,baz=183,slow=24,SNR=13						
AAK	**Ala-Archa**	**6.72**	**23**	*e*Pn	**Pn**	**23 35 08.4**	**-0.3**
AAK				*e*S		23 36 24.5	
AAK	**Ala-Archa**	**6.72**	**23**	P	**Pn**	**23 35 09.3**	**+0.6**
	SNR=171						
BHK	**Bhakra**	**6.83**	**136**	*e*P	**Pn**	**23 35 09.0**	**-1.3**
BHK				*ex*	x	23 36 15.0	
KBK	**Karagaybulak**	**6.89**	**26**	P	**Pn**	**23 35 11.9**	**+0.9**
	SNR=39						
FRU	**Bishkek**	**6.94**	**23**	⇓*e*PN	**Pn**	**23 35 12.0**	**+0.4**
FRU				pmax	pmax		
	comp=Z,80nm,0.7s						
ULHL	**Ulahol**	**7.06**	**34**	P	**Pn**	**23 35 13.4**	**+0.2**
	SNR=81						
SDNR	**Sundarnagar**	**7.08**	**133**	*e*P	**Pn**	**23 35 13.6**	**0.0**
SDNR				*e*S		23 36 28.0	
CHMS	**Chumysh**	**7.13**	**23**	P	**Pn**	**23 35 13.9**	**-0.1**
	SNR=36						
USP	**Ospenovka**	**7.29**	**21**	P	**Pn**	**23 35 15.7**	**-0.5**
	SNR=40						
TKM2	**Tokmak 2**	**7.35**	**28**	⇑P	**Pn**	**23 35 16.9**	**-0.1**
	comp=Z,78nm,0.6s						
TKM2				⇑S		23 36 37.1	
	comp=Z,60nm,0.8s						
TKM2	**Tokmak 2**	**7.35**	**28**	⇓*i*Pn	**Pn**	**23 35 17.3**	**+0.3**
	comp=Z,104nm,0.6s						
TKM2				*e*S		23 36 32.1	
TKM2	**Tokmak 2**	**7.35**	**28**	⇓*i*PN	**Pn**	**23 35 17.3**	**+0.3**
TKM2				pmax	pmax		
	comp=Z,104nm,0.6s						
TKM2	**Tokmak 2**	**7.35**	**28**	P	**Pn**	**23 35 17.4**	**+0.4**
	SNR=116						
SMLA	**Simla**	**7.47**	**134**	*e*P	**Pn**	**23 35 19.5**	**+0.9**
SMLA				AMb	AMB	23 35 20.5	
	comp=Z,316nm,0.3s						
SMLA				*e*S		23 36 39.6	
DDI	**Dehra Dun**	**8.58**	**134**	*ex*	x	23 37 11.0	
KHET	**Khetri**	**9.37**	**152**	*e*P	**Pn**	**23 35 42.6**	**-0.6**
KHET				*e*S		23 37 19.6	
NDI	**New Delhi**	**9.44**	**144**	*e*P	**Pn**	**23 35 43.0**	**-1.1**
NDI				*e*P		23 35 43.2	
NDI				AMb	AMB	23 35 44.7	
	comp=Z,60nm,0.4s						
NDI				*e*S		23 37 20.7	
AYAN	**Aya Nagar**	**9.56**	**145**	*e*P	**Pn**	**23 35 46.0**	**+0.3**
AYAN				AMb	AMB	23 35 46.2	
	comp=Z,76nm,0.8s						
AYAN				*e*S		23 37 25.3	
KUDL	**Kundal**	**9.57**	**149**	*e*P	**Pn**	**23 35 44.5**	**-1.4**
KUDL				*e*S		23 37 25.1	
SONA	**Sohna**	**9.74**	**146**	*e*P	**Pn**	**23 35 47.3**	**-0.7**
SONA				AMb	AMB	23 35 49.2	
	comp=Z,25nm,0.1s						
SONA				*e*S		23 37 28.4	
PTH	**Pithoragarh**	**10.44**	**129**	*e*P	**Pn**	**23 35 57.8**	**+0.8**
PTH				*ex*	x	23 37 48.2	
LGTI	**Lohaghat**	**10.53**	**129**	*e*P	**Pn**	**23 35 57.0**	**-1.1**
LGTI				*ex*	x	23 37 50.0	
MK31	**Makanchi Array**	**13.33**	**36**	P	**Pn**	**23 36 32.5**	**-0.7**
	comp=Z,3.3nm,0.5s,baz=219,slow=16,SNR=44						
MK31	**Makanchi Array**	**13.33**	**36**	*e*P	**Pn**	**23 36 32.5**	**-0.8**
MKAR	**Makanchi Array**	**13.33**	**36**	P	**Pn**	**23 36 32.4**	**-0.9**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.3s						
MKAR	**Makanchi Array**	**13.33**	**36**	P	**Pn**	**23 36 32.4**	**-0.9**
	comp=Z,1.9nm,0.3s,baz=220,slow=18,SNR=49						
KOLN	**Koldanda**	**13.82**	**125**	*e*P	**Pn**	**23 36 39.8**	**+0.2**
	comp=Z,42nm,0.4s						
KOLN				*e*S	**S**	**23 39 06.7**	**-6.7**
GKN	**Gorkha**	**14.36**	**122**	*e*P	**Pn**	**23 36 46.6**	**+0.4**
	comp=Z,76nm,0.3s						
GKN				*e*S	**S**	**23 39 17.2**	**-8.7**
WMQ	**Urumqi**	**14.75**	**55**	P	**Pn**	**23 36 51.4**	**+0.6**
WMQ				S	**S**	**23 39 36.0**	**+1.6**
WMQ				AMB	AMB		
	comp=Z,27nm,0.8s						
WMQ				AMB	AMB		
	comp=Z,193nm,4.2s						
DMN	**Daman**	**14.94**	**122**	*e*P	**Pn**	**23 36 53.7**	**+0.5**
	comp=Z,44nm,0.3s						
DMN				*e*S	**S**	**23 39 30.8**	**-8.1**
KKN	**Kakani**	**14.94**	**121**	*e*P	**Pn**	**23 36 53.2**	**-0.1**
	comp=Z,55nm,0.4s						
KKN				*e*S	**S**	**23 39 31.0**	**-8.0**
AB31	**Akbulak array**	**15.05**	**331**	P	**Pn**	**23 36 53.0**	**-1.4**
	comp=Z,1.4nm,0.3s,baz=143,slow=12,SNR=36						
AB31				⇓S	**S**	**23 39 34.6**	**-6.5**
	comp=Z,5.8nm,0.7s,baz=150,slow=24,SNR=5.2						
KURBB	**Kurchatov Arra**	**15.14**	**19**	P	**Pn**	**23 36 54.4**	**-1.1**
PKIN	**Phulchoki**	**15.15**	**122**	*e*P	**Pn**	**23 36 56.9**	**+1.0**
	comp=Z,115nm,0.5s						
PKI	**Pulchoki**	**15.16**	**122**	*e*P	**Pn**	**23 36 56.6**	**+0.6**
	comp=Z,130nm,0.6s						
KURK	**Kurchatov**	**15.25**	**19**	⇑P	**Pn**	**23 36 55.6**	**-1.1**
KURK	**Kurchatov**	**15.25**	**19**	*e*Pn	**Pn**	**23 36 56.0**	**-0.7**
KURK	**Kurchatov**	**15.25**	**19**	⇑*e*P	**Pn**	**23 36 56.5**	**-0.3**
GUN	**Gumba**	**15.28**	**120**	*e*P	**Pn**	**23 36 58.1**	**+0.7**
	comp=Z,66nm,0.4s						
JIRN	**Jiri**	**15.65**	**120**	*e*P	**Pn**	**23 37 02.9**	**+1.0**
	comp=Z,48nm,0.3s						
ZRNK	**Zerenda**	**16.50**	**356**	⇑P	**P**	**23 37 11.4**	**+0.7**
	comp=Z,6.5nm,0.7s						
BVA0	**Borovoye Array**	**16.52**	**359**	P	**P**	**23 37 11.6**	**+0.6**
	comp=Z,0.4nm,0.4s,baz=159,slow=10,SNR=71						
BVA0				S	**S**	**23 40 13.1**	**+0.3**
	comp=Z,1.6nm,1.4s,baz=172,slow=26,SNR=7.0						
BVAR	**Borovoye Array**	**16.52**	**359**	P	**P**	**23 37 11.6**	**+0.6**
BVAR				pmax	pmax		
	comp=Z,2.0nm,0.3s						
BVAR	**Borovoye Array**	**16.52**	**359**	P	**P**	**23 37 11.6**	**+0.6**
	comp=Z,1.7nm,0.3s,baz=161,slow=10.0,SNR=42						
BRVK	**Borovoye**	**16.56**	**359**	*e*Pn	**Pn**	**23 37 12.1**	**-0.3**
AKTK	**Aktyubinsk**	**16.74**	**330**	P	**P**	**23 37 13.7**	**+0.3**
AKTO	**Aktyubinsk**	**16.74**	**330**	P	**P**	**23 37 13.7**	**+0.3**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.3s						
AKTO	**Aktyubinsk**	**16.74**	**330**	P	**P**	**23 37 13.7**	**+0.3**
	comp=Z,0.9nm,0.3s,baz=138,slow=10,SNR=27						
CHKZ	**Chkalovo**	**17.17**	**359**	⇑P	**P**	**23 37 18.0**	**0.0**
	comp=Z,5.0nm,0.8s						
LSA	**Lhasa**	**18.25**	**106**	P	**P**	**23 37 35.4**	**+5.4**
LSA				AMB	AMB		
	comp=Z,20nm,0.9s						
LSA	**Lhasa**	**18.25**	**106**	*e*P	**P**	**23 37 35.1**	**+5.1**
	comp=Z,13nm,0.6s						
LSA	**Lhasa**	**18.25**	**106**	*e*P	**P**	**23 37 35.1**	**+5.1**
LSA				pmax	pmax		
	comp=Z,13nm,0.6s						
ZAL	**Zalesovo**	**19.92**	**25**	P	**P**	**23 37 47.9**	**+0.1**
ZALV	**Zalesovo Beam**	**19.94**	**25**	P	**P**	**23 37 47.9**	**-0.1**
	comp=Z,12nm,0.4s,baz=216,slow=10,SNR=56						
HYB	**Hyderabad**	**20.18**	**158**	*i* P	**P**	**23 37 55.0**	**+4.2**
NVS	**Novosibirsk**	**20.20**	**21**	⇓*i*P	**P**	**23 37 51.1**	**+0.4**
NVS				*e*S	**S**	**23 41 23.3**	**-2.2**
NVS				pmax	pmax		
	comp=N,10.0nm,0.7s						
NVS				pmax	pmax		
	comp=E,5.0nm,0.7s						
NVS				pmax	pmax		
	comp=Z,9.0nm,0.7s						
NVS				smax			
	comp=N,22nm,1.2s						
NVS				smax			
	comp=E,33nm,1.3s						
MIB	**Mutribah**	**20.81**	**258**	*e*P	**P**	**23 37 57.5**	**0.0**
MIB				AMb	AMB	23 38 00.8	
	comp=Z,20nm,0.6s						
QRN	**Al-Qurain**	**20.82**	**255**	*e*P	**P**	**23 37 57.5**	**-0.2**
QRN				AMb	AMB	23 38 03.3	
	comp=Z,38nm,0.5s						
RDF	**Al-Radifah**	**21.03**	**256**	*e*P	**P**	**23 37 59.9**	**+0.1**
RDF				AMb	AMB	23 38 04.9	
	comp=Z,62nm,1.2s,mb5.0						
NAY	**Al-Naaiem**	**21.12**	**257**	*e*P	**P**	**23 38 00.8**	**+0.1**
NAY				AMb	AMB	23 38 09.8	
	comp=Z,13nm,0.7s,mb4.5						
RST	**Umm Al-Ruwaisa**	**21.21**	**258**	*e*P	**P**	**23 38 01.2**	**-0.4**
RST				AMb	AMB	23 38 04.0	
	comp=Z,28nm,0.6s,mb5.0						
ARU	**Arti**	**21.61**	**341**	*e*P	**P**	**23 38 05.8**	**+0.3**
	comp=Z,6.8nm,0.7s,mb4.3						
ARU	**Arti**	**21.61**	**341**	*d*P	**P**	**23 38 05.5**	**0.0**
ARU				*e*S	**S**	**23 41 50.2**	**+0.2**
ARU				pmax	pmax		
	comp=Z,11nm,1.2s,mb4.3						
KIV	**Kislovodsk**	**22.73**	**298**	*e*P	**P**	**23 38 16.3**	**+0.3**
	comp=Z,12nm,0.8s,mb4.5						
KIV	**Kislovodsk**	**22.73**	**298**	⇓*e*P	**P**	**23 38 20.1**	**+4.1**
KIV				*e*S	**S**	**23 42 09.0**	**+0.6**
KIV				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.1						
GTA	**Gaotai**	**22.93**	**74**	*e*P	**P**	**23 38 19.8**	**+1.9**
GTA				AP		23 38 56.8	
GTA				S	**S**	**23 42 14.0**	**+2.2**
GTA				SCP	ScP	23 45 20.8	+1.9
GTA				AMB	AMB		
	comp=Z,3.0nm,1.1s,mb3.7						
GTA				AMB	AMB		
	comp=Z,115nm,6.9s						
GTA				LR	LR		
	comp=N,97nm,8.0s						
GTA				LR	LR		
	comp=E,59nm,9.9s						
GTA				LR	LR		
	comp=Z,80nm,9.6s						
CD2	**Chengdu**	**27.80**	**92**	*e*P	**P**	**23 39 02.0**	**+0.2**
CD2				PP	PP	23 40 02.0	-7.0
CD2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.6						
CD2				AMB	AMB		
	comp=Z,20nm,6.2s						
SONM	**Songino Array**	**28.39**	**55**	P	**P**	**23 39 08.7**	**+1.9**
SONM				*PP	pP	23 39 54.7	+5.5
SONM				pmax	pmax

comp=Z,5.0nm,0.3s,mb4.4
ARCES ARCESS Array B 41.12 338 P **P** **23 40 55.8 +0.7**
ARCES pmax pmax
comp=Z,8.0nm,0.4s
ARCES ARCESS Array B 41.12 338 P **P** **23 40 55.8 +0.7**
comp=Z,7.5nm,0.4s,mb4.5,baz=113,slow=7.8,SNR=103
PSI Prapat 42.33 136 P **P** **23 41 05.5 -0.2**
PSI pmax pmax
comp=Z,3.0nm,0.3s,mb4.2
PSI Prapat 42.33 136 P **P** **23 41 05.5 -0.2**
comp=Z,2.5nm,0.3s,mb4.1,baz=291,slow=6.9,SNR=5.8
YAK Yakutsk 44.00 35⇓ *iP* **P** **23 41 18.3 -0.2**
YAK pmax pmax
comp=Z,8.0nm,0.6s,mb4.2
NB2 NORSAR Subarra 44.34 323 P **P** **23 41 20.6 -0.5**
comp=Z,2.3nm,0.5s,mb3.8,baz=97,slow=7.9
NOA NORSAR Array B 44.34 323 P **P** **23 41 20.8 -0.3**
NOA pP pP 23 42 10.4 +4.4
NOA NORSAR Array B 44.34 323 P **P** **23 41 20.8 -0.3**
NOA *PP pP 23 42 10.5 +4.4
NOA pmax pmax
comp=Z,5.0nm,0.7s
NOA pmax pmax
comp=Z,1.0nm,0.7s
NOA NORSAR Array B 44.34 323 P **P** **23 41 20.8 -0.3**
comp=Z,4.6nm,0.7s,mb3.9,baz=97,slow=7.7,SNR=15
NOA pP pP 23 42 10.4 +4.4
comp=Z,1.1nm,0.7s,baz=96,slow=8.1,SNR=2.4
TIXI Tiksi 45.80 22 *eP* **P** **23 41 32.8 +0.3**
comp=Z,17nm,0.9s,mb4.4
TIXI Tiksi 45.80 22⇑ *eP* **P** **23 41 32.6 +0.2**
TIXI pmax pmax
comp=Z,10.0nm,0.6s,mb4.3
SEY Seymchan 54.45 34⇑ *eP* **P** **23 42 36.9 -0.6**
ESDC Sonseca Array 57.39 298 P **P** **23 42 58.2 -0.5**
ESDC Sonseca Array 57.39 298 P **P** **23 42 58.2 -0.5**
comp=Z,0.1nm,0.5s,baz=53,slow=7.6,SNR=4.7
BILL Bilibino 58.64 26 *eP* **P** **23 43 07.5 +0.7**
comp=Z,11nm,1.1s,mb4.4
BILL Bilibino 58.64 26⇑ *eP* **P** **23 43 07.3 +0.5**
BILL *e*PP pP 23 43 54.6 +0.3
BILL *e* 23 45 18.3
BILL *e*S **S** **23 50 53.5 -0.4**
BILL pmax pmax
comp=Z,8.0nm,1.0s,mb4.3
TOA0 Torodi Ar. Sit 65.65 269 *eP* **P** **23 43 52.3 -1.9**
TORD Torodi Ar. Bea 65.65 269 P **P** **23 43 52.4 -1.8**
comp=Z,2.4nm,0.5s,mb4.1,baz=50,slow=5.8,SNR=70
IMA2 Indian Mountai 72.14 18 *eP* **P** **23 44 33.1 -0.2**
INK Inuvik 73.91 9 *eP* **P** **23 44 44.3 +0.6**
COLA College 74.49 16⇑ *eP* **P** **23 44 47.3 +0.2**
FITZ Fitzroy Crossi 74.95 126 *eP* **P** **23 44 50.3 -0.1**
comp=Z,6.0nm,0.7s,mb4.3
MCK McKinley 75.22 17 *eP* **P** **23 44 51.3 0.0**
comp=Z,78nm,2.7s,mb4.9
MCK McKinley 75.22 17 *eP* **P** **23 44 51.3 +0.1**
MCK pmax pmax
comp=Z,78nm,2.7s,mb4.9
KAKA Kakadu 75.80 118 *eP* **P** **23 44 54.8 -0.5**
comp=Z,6.5nm,0.6s,mb4.4
DAWY Dawson 76.94 13 *eP* **P** **23 45 01.5 +0.6**
BOSA Boshof 77.70 220 P **P** **23 45 05.5 -0.1**
BOSA pmax pmax
comp=Z,4.0nm,0.8s,mb4.1
BOSA Boshof 77.70 220 P **P** **23 45 05.5 -0.1**
comp=Z,4.3nm,0.8s,mb4.1,baz=35,slow=4.0,SNR=12
YKW3 Yellowknife Ar 81.18 3 *eP* **P** **23 45 24.0 +0.1**
YKA Yellowknife Ar 81.25 3 P **P** **23 45 24.2 -0.1**
YKA pP pP 23 46 18.5 +3.6
YKA Yellowknife Ar 81.25 3 P **P** **23 45 24.2 -0.1**
YKA *PP pP 23 46 18.5 +3.6
YKA pmax pmax
comp=Z,4.0nm,0.4s
YKA pmax pmax
comp=Z,1.0nm,0.6s
YKA Yellowknife Ar 81.25 3 P **P** **23 45 24.2 -0.1**
comp=Z,4.4nm,0.4s,mb4.5,baz=351,slow=5.4,SNR=204
YKA pP pP 23 46 18.5 +3.6
comp=Z,0.8nm,0.6s,baz=347,slow=5.4,SNR=4.6
WRA Warramunga Arr 82.05 122 P **P** **23 45 28.1 -1.0**
WRA pmax pmax
comp=Z,5.0nm,0.7s
WRA Warramunga Arr 82.05 122 P **P** **23 45 28.1 -1.1**
comp=Z,4.7nm,0.7s,mb4.2,baz=323,slow=5.0,SNR=94
WRAB Tennant Creek 82.05 122 *eP* **P** **23 45 28.2 -0.9**
comp=Z,153nm,2.7s,mb5.2
WRAB Tennant Creek 82.05 122 *eP* **P** **23 45 28.2 -0.9**
WRAB pmax pmax
comp=Z,153nm,2.7s,mb5.2
WB2 Warramunga Arr 82.06 122 *eP* **P** **23 45 28.1 -1.1**
ASAR Alice Springs 84.31 125 P **P** **23 45 39.7 -0.9**
ASAR pmax pmax
comp=Z,4.0nm,0.5s
ASAR Alice Springs 84.31 125 P **P** **23 45 39.6 -0.9**
comp=Z,4.2nm,0.5s,mb4.4,baz=311,slow=4.9,SNR=97
FORT Forrest 85.72 134 *eP* **P** **23 45 47.0 -0.4**
comp=Z,14nm,0.6s,mb4.9
FFC Flin Flon 88.93 356 *eP* **P** **23 46 02.6 +0.1**
comp=Z,50nm,2.8s,mb4.8
FFC Flin Flon 88.93 356 *eP* **P** **23 46 02.7 +0.2**
FFC pmax pmax
comp=Z,50nm,2.8s,mb4.8
EDM Edmonton 90.57 3 *eP* **P** **23 46 10.6 +0.4**
CTA Charters Tower 90.61 115 P **P** **23 46 10.1 -0.7**
CTA pmax pmax
comp=Z,3.0nm,0.7s
CTA Charters Tower 90.61 115 P **P** **23 46 10.1 -0.7**
comp=Z,3.2nm,0.7s,mb4.4,baz=315,slow=4.7,SNR=5.2
ULM Lac du Bonnet 92.84 352 P **P** **23 46 20.6 -0.2**
comp=Z,1.4nm,0.9s,mb4.0,baz=334,slow=4.5,SNR=4.1
STKA Stephens Creek 94.85 126 P **P** **23 46 28.9 -1.2**
comp=Z,2.1nm,0.9s,mb4.3,baz=184,slow=14,SNR=3.3
LHS Liberty Hill 104.62 336 *e*Pdif Pdif 23 47 19.9 +6.1
PLCA Paso Flores 149.76 250 PKPbc PKPbc 23 52 57.7 +0.8
PLCA Paso Flores 149.76 250 PKP2 PKPbc 23 52 57.7 +0.8
PLCA pmax pmax
comp=Z,3.0nm,0.8s
PLCA Paso Flores 149.76 250 PKPbc PKPbc 23 52 57.7 +0.8
comp=Z,2.9nm,0.8s,baz=92,slow=1.4,SNR=8.5

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*IDC **21** 23:52:45.4±6.4, 3637N×7102E, h202km±58km, mb3.1/6, mb1 3.1/9, mb1mx2.9/24, mbtmp3.0/9, Error ellipse: s-maj=32.8km s-min=22.6km az=20.0*
*MOS **21** 23:52:46.1±0.7, 3646N×7102E, h216km, mb3.8/3, Error ellipse: s-maj=24.9km s-min=11.3km az=88.1*
*ISCJB **21** 23:52:48.0±0.5, 3664N±003×7105E±006, h230km±6km, mb3.4/8, Error ellipse: s-maj=8.3km s-min=5.4km az=0.8*
*NEIC **21** 23:52:48.7±0.7, 3655N×7115E, h230km±6km, mb4.0/6, Error ellipse: s-maj=12.6km s-min=8.3km az=122.0*
*NNC **21** 23:52:55.5±15.0, 3723N×7084E, h277km±225km, mb2.0, mpv3.4, Error ellipse: s-maj=175.4km s-min=81.7km az=4.0*

ISC 21 23:52:49.0±0.5, 3663N±003×7109E±006, h223km±5km, n40, σ1°09/48, mb3.4/8, 3C-2D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**2.67**	**219**	*e*P	**Pn**	**23 53 36.9**	**+0.7**
KBL				*e*S	**S**	**23 54 12.3**	**-0.9**
THN	**Thein Dam**	**5.67**	**136**	*e*P	**Pn**	**23 54 13.6**	**+1.1**
THN				*e*S	**S**	**23 55 15.7**	**-3.0**
AML	**Almayashu**	**5.85**	**19**	*e*Pn	**Pn**	**23 54 15.3**	**+0.7**
AML				*e*S	**S**	**23 55 20.1**	**-2.6**
AML	**Almayashu**	**5.85**	**19**	P	**Pn**	**23 54 15.5**	**+1.0**
UCH	**Uchtor**	**6.18**	**24**	*e*Pn	**Pn**	**23 54 19.9**	**+1.0**
UCH				*e*S	**S**	**23 55 28.8**	**-1.6**
UCH	**Uchtor**	**6.18**	**24**	P	**Pn**	**23 54 20.1**	**+1.2**
KZA	**Kyzart**	**6.32**	**29**	P	**Pn**	**23 54 21.3**	**+0.7**
KK31	**Karatay Array**	**6.48**	**356**	⇓P	**Pn**	**23 54 24.0**	**+1.4**
KK31				⇓S	**S**	**23 55 33.3**	**-3.9**
AAK	**Ala-Archa**	**6.54**	**23**	*e*Pn	**Pn**	**23 54 22.8**	**-0.6**
AAK				*e*S	**S**	**23 55 38.6**	**-0.1**
AAK	**Ala-Archa**	**6.54**	**23**	*e*PN	**Pn**	**23 54 22.8**	**-0.6**
AAK				*e*S	**S**	**23 55 38.6**	**-0.1**
AAK				pmax	pmax		
AAK	**Ala-Archa**	**6.54**	**23**	P	**Pn**	**23 54 25.2**	**+1.8**
ULHL	**Ulahol**	**6.88**	**34**	P	**Pn**	**23 54 28.4**	**+0.7**
TKM2	**Tokmak 2**	**7.17**	**28**	⇑P	**Pn**	**23 54 32.3**	**+0.8**
TKM2				⇑S	**S**	**23 55 51.7**	**-1.7**
TKM2	**Tokmak 2**	**7.17**	**28**	*e*Pn	**Pn**	**23 54 32.3**	**+0.8**
TKM2	**Tokmak 2**	**7.17**	**28**	*e*PN	**Pn**	**23 54 32.3**	**+0.8**
TKM2				pmax	pmax		
TKM2	**Tokmak 2**	**7.17**	**28**	P	**Pn**	**23 54 32.5**	**+1.0**
MKAR	**Makanchi Array**	**13.14**	**36**	P	**Pn**	**23 55 47.2**	**-0.1**
MKAR	**Makanchi Array**	**13.14**	**36**	P	**Pn**	**23 55 47.2**	**-0.1**
KOLN	**Koldanda**	**13.79**	**126**	*e*P	**Pn**	**23 55 55.6**	**+0.1**
GKN	**Gorkha**	**14.32**	**123**	*e*P	**Pn**	**23 56 02.8**	**+0.8**
DMN	**Daman**	**14.89**	**123**	*e*P	**Pn**	**23 56 09.2**	**+0.3**
KKN	**Kakani**	**14.89**	**122**	*e*P	**Pn**	**23 56 08.9**	**0.0**
AB31	**Akbulak array**	**15.00**	**331**	⇑P	**Pn**	**23 56 07.0**	**-3.0**
GUN	**Gumba**	**15.22**	**121**	*e*P	**Pn**	**23 56 13.8**	**+0.8**
BVAR	**Borovoye Array**	**16.40**	**359**	P	**P**	**23 56 26.6**	**+1.1**
AKTK	**Aktyubinsk**	**16.70**	**330**	P	**P**	**23 56 29.6**	**+0.7**
AKTO	**Aktyubinsk**	**16.70**	**330**	P	**P**	**23 56 29.6**	**+0.7**
ZAL	**Zalesovo**	**19.75**	**25**	P	**P**	**23 57 02.3**	**+0.5**
ZALV	**Zalesovo Beam**	**19.77**	**25**	P	**P**	**23 57 02.3**	**+0.3**
ARU	**Arti**	**21.53**	**341**	*e*P	**P**	**23 57 20.0**	**-0.5**
ARU	**Arti**	**21.53**	**341**	*e*P	**P**	**23 57 20.0**	**-0.6**
KIV	**Kislovodsk**	**22.79**	**298**	P	**P**	**23 57 31.9**	**-0.3**
KIV	**Kislovodsk**	**22.79**	**298**	P	**P**	**23 57 31.9**	**-0.3**
JOF	**Joensuu**	**35.79**	**330**	*e*p	**P**	**23 59 26.8**	**+0.3**
ARCES	**ARCESS Array B**	**41.05**	**338**	P	**P**	**00 00 10.8**	**+0.6**
ARCES	**ARCESS Array B**	**41.05**	**338**	P	**P**	**00 00 10.8**	**+0.6**
TORD	**Torodi Ar. Bea**	**65.79**	**269**	P	**P**	**00 03 08.5**	**-2.0**
YKA	**Yellowknife Ar**	**81.11**	**3**	P	**P**	**00 04 38.9**	**0.0**
WRA	**Warramunga Arr**	**82.00**	**122**	P	**P**	**00 04 42.6**	**-1.6**
ASAR	**Alice Springs**	**84.27**	**125**	P	**P**	**00 04 54.5**	**-1.2**

IDC 21 23:57:33.6±5.0, 3139S×17988E, h382km±46km, mb2.6/1, mb1 3.0/2, mb1mx2.7/14, mbtmp2.9/2, Error ellipse: s-maj=56.1km s-min=35.7km az=45.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.86**	**42**	S	S	23 59 17.9	-5.3
	72nm,0.3s,baz=288,slow=20,SNR=3.1						
URZ	**Urewera**	**7.22**	**198**	P	Pn	23 59 20.6	+1.4
	1.7nm,0.3s,baz=107,slow=18,SNR=19						
URZ				S	S	00 00 43.9	-1.5
	5.0nm,0.3s,baz=116,slow=23,SNR=16						
WRA	**Warramunga Arr**	**42.33**	**274**	P	P	00 04 51.8	-0.2
	0.3nm,0.5s,baz=111,slow=8.1,SNR=7.9						
VNA3	**Neumayer Olymp**	**77.43**	**177**	*e*	P	00 08 47.4	+0.2
VNA2	**Neumayer--Watz**	**77.84**	**178**	*e*	P	00 08 50.6	+1.2
	baz=180,slow=3.0						
FINES	**FINESS Array B**	**145.41**	**338**	PKPbc	PKPbc	00 16 25.5	-1.2
	2.4nm,0.5s,baz=49,slow=4.0,SNR=44						
MMAI	**Mount Meron Ar**	**149.98**	**283**	PKPbc	PKPbc	00 16 40.4	+0.8
	1.3nm,0.3s,baz=84,slow=7.8,SNR=10						
AKASG	**Malin Array Be**	**150.93**	**320**	PKPbc	PKPbc	00 16 40.4	-0.8
	0.1nm,0.3s,baz=66,slow=2.8,SNR=6.0						
TORD	**Torodi Ar. Bea**	**161.77**	**186**	PKPab	PKPab	00 17 37.2	-0.5
	0.4nm,0.8s,baz=159,slow=4.8,SNR=5.6						

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*ISCJB **21** 23:58:08.7±2.0, 2362S±010×1776W±0.1, h151km±20km, mb4.2/14, Error ellipse: s-maj=21.0km s-min=13.5km az=31.5*
*NEIC **21** 23:58:10.0±1.5, 2369S×17749W, h155km±16km, mb4.6/11, Error ellipse: s-maj=15.4km s-min=9.4km az=129.0*
*IDC **21** 23:58:13.4±3.6, 2383S×17744W, h183km±31km, mb3.7/8, mb1 3.9/9, mb1mx3.7/18, mbtmp3.7/9, MS3.2/1, Ms1 3.2/1, ms1mx2.7/27, Error ellipse: s-maj=23.9km s-min=15.6km az=122.0*

ISC 21 23:58:10.2±1.8, 2371S±010×1775W±01, h155km±19km, n28, σ0°82/27, mb4.2/14, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**5.54**	**184**	LR	LR	00 01 07.5	
	comp=Z,212nm,19.6s,baz=60,slow=32						
AFI	**Afiamalu**	**11.15**	**30**	*e*Pn	**Pn**	**00 00 44.4**	**-1.0**
	34nm,0.4s						
AFI				*e*Sn	**Sn**	**00 02 40.1**	**-8.8**
URZ	**Urewera**	**15.22**	**196**	P	**Pn**	**00 01 37.5**	**+0.5**
	0.1nm,0.3s,baz=350,slow=18,SNR=2.8						
URZ				S	**S**	**00 04 16.2**	**-10**
	2.4nm,0.3s,baz=100,slow=22,SNR=11						
RPZ	**Rata Peaks**	**22.07**	**202**	P	**P**	**00 02 52.6**	**0.0**
	2.7nm,0.4s,mb4.0,baz=6.3,slow=18,SNR=4.7						
RPZ				S	**S**	**00 06 42.9**	**-1.9**
	1.8nm,0.4s,baz=348,slow=9.3,SNR=3.3						
CTA	**Charters Tower**	**33.76**	**269**	*e*P	**P**	**00 04 39.3**	**+2.0**
	7.6nm,0.3s,mb4.9						
CTA	**Charters Tower**	**33.76**	**269**	P	**P**	**00 04 39.4**	**+2.1**
	9.0nm,0.3s,mb5.0,baz=94,slow=11,SNR=34						
CTAO	**Charters Tower**	**33.76**	**269**	*e*P	**P**	**00 04 37.9**	**+0.6**
	9.7nm,0.4s,mb4.9						
STKA	**Stephens Creek**	**36.91**	**248**	*e*P	**P**	**00 05 05.2**	**+1.1**
STKA	**Stephens Creek**	**36.91**	**248**	*e*P	**P**	**00 05 03.6**	**-0.5**
	4.8nm,1.0s,mb4.1						
STKA	**Stephens Creek**	**36.91**	**248**	P	**P**	**00 05 05.3**	**+1.2**
	1.3nm,0.4s,mb3.9,baz=95,slow=10,SNR=6.2						
ASAR	**Alice Springs**	**44.31**	**260**	P	**P**	**00 06 05.1**	**+0.1**
	3.1nm,0.7s,mb4.1,baz=93,slow=6.6,SNR=26						
WB2	**Warramunga Arr**	**44.68**	**265**	*e*P	**P**	**00 06 08.0**	**+0.1**
WB2	**Warramunga Arr**	**44.68**	**265**	*e*P	**P**	**00 06 07.4**	**-0.5**
WRAB	**Tennant Creek**	**44.69**	**265**	*e*P	**P**	**00 06 07.5**	**-0.4**
	2.3nm,0.4s,mb4.2						
WRA	**Warramunga Arr**	**44.70**	**265**	P	**P**	**00 06 07.9**	**-0.1**
	2.3nm,0.4s,mb4.1,baz=96,slow=8.4,SNR=50						
FORT	**Forrest**	**48.51**	**249**	*e*P	**P**	**00 06 36.9**	**-0.7**
	7.1nm,0.5s,mb4.5						
KAKA	**Kakadu**	**48.57**	**274**	*e*P	**P**	**00 06 38.1**	**-0.1**
	18nm,1.2s,mb4.6						
FITZ	**Fitzroy Crossi**	**53.12**	**265**	*e*P	**P**	**00 07 13.4**	**+1.2**
	3.6nm,0.5s,mb4.4						
FITZ	**Fitzroy Crossi**	**53.12**	**265**	P	**P**	**00 07 13.4**	**+1.2**
	1.8nm,0.5s,mb4.1,baz=130,slow=8.1,SNR=7.8						
KLBR	**Kellerberrin**	**57.16**	**247**	*e*P	**P**	**00 07 39.9**	**-1.1**
	75nm,1.5s,mb5.3						
MBWA	**Marble Bar**	**57.65**	**259**	*e*P	**P**	**00 07 43.6**	**-0.9**
	5.2nm,0.7s,mb4.5						
QSPA	**South Pole Qui**	**66.38**	**180**	*e*P	**P**	**00 08 42.4**	**+0.5**
	3.1nm,0.7s,mb4.2						
NVAR	**Mina Array Bea**	**83.05**	**43**	P	**P**	**00 10 19.1**	**+0.8**
NVAR	**Mina Array Bea**	**83.05**	**43**	P	**P**	**00 10 19.1**	**+0.8**
	0.3nm,0.6s,mb3.2,baz=233,slow=7.4,SNR=4.3						
PDAR	**Pinedale Array**	**90.98**	**43**	P	**P**	**00 10 56.8**	**+0.3**
	0.1nm,0.3s,mb3.3,baz=270,slow=2.7,SNR=3.7						
AKASG	**Malin Array Be**	**146.01**	**329**	PKPbc	PKPbc	00 17 30.5	-1.0
	1.2nm,0.4s,baz=43,slow=4.3,SNR=11						
MMAI	**Mount Meron Ar**	**149.69**	**295**	PKPbc	PKPbc	00 17 42.1	+0.2
	0.4nm,0.3s,baz=74,slow=8.8,SNR=4.9						
TORD	**Torodi Ar. Bea**	**169.47**	**176**	PKPab	PKPab	00 19 12.9	-0.5
	0.7nm,0.9s,baz=173,slow=5.0,SNR=3.5						

MAN 22 00:00:57, 973N×12675E, h34km, mb4.5, ML3.4, MS3.3, Mindanao

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*IDC **22** 00:03:55.8±0.8, 1.11N×12751E, h0km, mb4.1/10, mb1 4.2/10, mb1mx4.1/17, mbtmp4.1/10, MS3.2/3, Ms1 3.2/3, ms1mx2.8/33, Error ellipse: s-maj=54.4km s-min=15.0km az=73.0*
*ISCJB **22** 00:03:59.0±0.4, 1.13N±008×1277E±02, h33km, mb4.4/18, MS3.2/2, Error ellipse: s-maj=27.7km s-min=8.5km az=162.8*
*MOS **22** 00:03:59.4±0.8, 1.12N×12761E, h37km, mb4.4/12, Error ellipse: s-maj=36.3km s-min=10.7km az=104.9*
*BJI **22** 00:03:59.6, 128N×12771E, h28km, mB5.2, mb4.8*
*NEIC **22** 00:04:00.9±0.4, 1.18N×12778E, h35km, mb4.6/3, Error ellipse: s-maj=31.8km s-min=6.7km az=70.0*
NEIC Felt [III] on Ternate.

ISC 22 00:04:01.3±0.4, 111N±008×1277E±02, h35km, n40, σ0°92/38, mb4.4/18, MS3.2/2, 4C-1D, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Kupang**	**11.92**	**199**	LR	LR	00 11 50.5	
	comp=Z,78nm,20.0s,baz=72,slow=40						
GUMO	**Guam**	**21.07**	**53**	LR	LR	00 16 12.0	
	comp=Z,131nm,20.1s,MS3.3,baz=114,slow=35						
WRAB	**Tennant Creek**	**21.91**	**163**	*e*P	**P**	**00 08 51.3**	**-0.4**
	6.5nm,0.6s,mb4.2						
WRAB	**Tennant Creek**	**21.91**	**163**	*e*P	**P**	**00 08 51.3**	**-0.4**
WRAB				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.3						
WRA	**Warramunga Arr**	**21.92**	**163**	P	**P**	**00 08 51.7**	**0.0**
WRA				pmax	pmax		
	comp=Z,4.0nm,0.5s						
WRA	**Warramunga Arr**	**21.92**	**163**	P	**P**	**00 08 51.7**	**0.0**
	comp=Z,4.3nm,0.5s,mb4.1,baz=339,slow=10,SNR=24						
WB2	**Warramunga Arr**	**21.92**	**163**	*e*P	**P**	**00 08 52.1**	**+0.3**
ASAR	**Alice Springs**	**25.36**	**167**	P	**P**	**00 09 25.1**	**-0.2**
ASAR				pmax	pmax		
	comp=Z,7.0nm,0.7s						
ASAR	**Alice Springs**	**25.36**	**167**	P	**P**	**00 09 25.1**	**-0.2**
	comp=Z,6.5nm,0.7s,mb4.2,baz=342,slow=8.8,SNR=23						
NJ2	**Nanjing**	**31.88**	**346**	*e*P	**P**	**00 10 19.1**	**-4.2**
NJ2				AMB	AMB		
	comp=Z,20nm,0.6s,mb5.1						
STKA	**Stephens Creek**	**35.36**	**159**	*e*P	**P**	**00 10 54.4**	**+0.8**
	comp=Z,4.1nm,0.9s,mb4.4						
STKA	**Stephens Creek**	**35.36**	**159**	*e*P	**P**	**00 10 54.1**	**+0.5**
STKA	**Stephens Creek**	**35.36**	**159**	P	**P**	**00 10 53.7**	**+0.1**
	comp=Z,4.4nm,0.8s,mb4.4,baz=320,slow=11,SNR=6.2						
KSRS	**Korea Array**	**36.17**	**0**	P	**P**	**00 11 00.7**	**+0.2**
KSRS				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.0						
KSRS				MLR	MLR		
	comp=Z,26nm,18.9s,MS3.0						
KSRS	**Korea Array**	**36.17**	**0**	P	**P**	**00 11 00.7**	**+0.2**
	comp=Z,2.3nm,0.9s,mb4.1,baz=178,slow=10,SNR=4.7						
KSRS				LR	LR	00 25 33.6	
	comp=Z,26nm,18.9s,MS3.0,baz=175,slow=36						
MJAR	**Matsushiro Arr**	**36.59**	**14**	P	**P**	**00 11 02.9**	**-1.2**
MJAR				pmax	pmax		
	comp=Z,3.0nm,0.9s						
MJAR	**Matsushiro Arr**	**36.59**	**14**	P	**P**	**00 11 02.9**	**-1.2**
	comp=Z,2.8nm,0.8s,mb4.1,baz=190,slow=9.7,SNR=4.4						
LZH	**Lanzhou**	**41.22**	**330**	*e*P	**P**	**00 11 45.0**	**+2.1**
LZH				AP	pP	00 11 51.5	-1.7
LZH				XP	sP	00 11 54.3	-3.1
LZH				AMB	AMB		
	comp=Z,18nm,1.2s,mb4.6						
LZH				AMB	AMB		
	comp=Z,83nm,4.5s						
ULN	**Ulaanbaatar**	**49.88**	**342**	*e*P	**P**	**00 12 51.8**	**+0.6**
ULN	**Ulaanbaatar**	**49.88**	**342⇑**	*e*P	**P**	**00 12 51.0**	**-0.2**
SONM	**Songino Array**	**50.06**	**341**	P	**P**	**00 12 52.5**	**-0.1**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.8s						
SONM	**Songino Array**	**50.06**	**341**	P	**P**	**00 12 52.5**	**-0.1**
	comp=Z,1.3nm,0.8s,mb4.0,baz=144,slow=8.6,SNR=10.0						
MK31	**Makanchi Array**	**60.23**	**326**	*e*P	**P**	**00 14 06.4**	**+0.4**
MKAR	**Makanchi Array**	**60.23**	**326**	P	**P**	**00 14 05.8**	**-0.2**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
MKAR	**Makanchi Array**	**60.23**	**326**	P	**P**	**00 14 05.8**	**-0.2**
	comp=Z,2.3nm,0.6s,mb4.4,baz=122,slow=8.2,SNR=25						
YAK	**Yakutsk**	**60.79**	**1**	*e*P	**P**	**00 14 09.6**	**+0.1**
YAK				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.8						
MA2	**Magadan**	**61.02**	**13⇓**	*e*P	**P**	**00 14 12.1**	**+1.0**
MA2				pmax	pmax		
	comp=Z,13nm,1.3s,mb4.9						
AAK	**Ala-Archa**	**62.92**	**318⇑**	*i*P	**P**	**00 14 26.3**	**+2.1**
AAK				*i* *PP	pP	00 15 00.0	+25
AML	**Almayashu**	**63.24**	**318**	*e*P	**P**	**00 14 27.4**	**+1.1**
	comp=Z,6.5nm,1.1s,mb4.7						
ZALV	**Zalesovo Beam**	**63.33**	**333**	P	**P**	**00 14 25.6**	**-1.1**
	comp=Z,1.9nm,0.9s,mb4.2,baz=122,slow=7.2,SNR=7.1						
ZAL	**Zalesovo**	**63.34**	**333**	P	**P**	**00 14 25.7**	**-1.0**
SEY	**Seymchan**	**64.37**	**12⇑**	*e*P	**P**	**00 14 34.6**	**+1.2**
KURK	**Kurchatov**	**64.44**	**328**	*e*P	**P**	**00 14 33.8**	**-0.3**
	comp=Z,9.0nm,0.8s,mb4.8						
KURK	**Kurchatov**	**64.44**	**328**	*e*P	**P**	**00 14 33.8**	**-0.3**
KURK				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.8						
BVAR	**Borovoye Array**	**70.01**	**327**	P	**P**	**00 15 08.3**	**-1.1**
BVAR				pmax	pmax		
	comp=Z,3.0nm,0.9s						
BVAR	**Borovoye Array**	**70.01**	**327**	P	**P**	**00 15 08.3**	**-1.0**
	comp=Z,2.6nm,0.9s,mb4.2,baz=123,slow=7.6,SNR=10						
TIXI	**Tiksi**	**70.44**	**0⇑**	*e*P	**P**	**00 15 11.1**	**-0.5**
TIXI				pmax	pmax		
	comp=Z,10.0nm,2.8s,mb4.2						
AKTK	**Aktyubinsk**	**76.28**	**322**	P	**P**	**00 15 45.3**	**-1.2**
AKTO	**Aktyubinsk**	**76.28**	**322**	P	**P**	**00 15 45.3**	**-1.2**
AKTO				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.0						
AKTO	**Aktyubinsk**	**76.28**	**322**	P	**P**	**00 15 45.3**	**-1.2**
	comp=Z,1.8nm,0.9s,mb4.0,baz=121,slow=4.7,SNR=4.9						

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*ISCJB **22** 00:08:21.9±0.2, 46.14N±001×660E±002, h4km±2km, Error ellipse: s-maj=2.1km s-min=1.7km az=144.6*
*CSEM **22** 00:08:23.9±0.0, 46.11N×672E, h5km, ML2.5/24, Error ellipse: s-maj=0.8km s-min=0.8km az=90.0*
*GEN **22** 00:08:23.7, 46.13N×674E, h2km, ML2.0*
*ZUR **22** 00:08:23.8, 46.14N×671E, h0km±3km, ML2.0/9*
*NEIC **22** 00:08:24.2, 46.15N×671E, h2km, MD2.4(ROM), ML2.5(LDG), ML2.5(STR), After LDG.*
*LDG **22** 00:08:24.2±0.1, 46.15N×671E, h2km, Md2.8/3, Ml2.5/27, Error ellipse: s-maj=1.2km s-min=1.0km az=80.0*
*ROM **22** 00:08:24.9±0.5, 4609N×682E, h9km±1km, Md2.4/5, Ml1.7/3, Error ellipse: s-maj=6.2km s-min=3.0km az=97.0*
*STR **22** 00:08:27.1±0.4, 46.10N×641E, h5km, Ml2.5, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*

ISC 22 00:08:23.2±0.2, 4614N±001×666E±002, h10km±2km, n125, σ0°85/272, 12C-8D, Switzerland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMV	**Vieux Emosson**	**0.18**	**114⇑**	*i*Pg	**Pg**	**00 08 26.9**	**-0.2**
EMV				Sg	**Sg**	**00 08 29.3**	**-0.4**
EMV	**Vieux Emosson**	**0.18**	**114**	*i* Sg	**Pg**	**00 08 27.0**	**-0.1**
	1μm,0.5s						
EMV	**Vieux Emosson**	**0.18**	**114⇑**	*i*Pg	**Sg**	**00 08 29.3**	**-0.4**
	1μm,0.5s						
EMV	**Vieux Emosson**	**0.18**	**114⇑**	*i*Pg	**Pg**	**00 08

55nm,0.3s
GIMEL St. Georges / 0.48 326⇓ *i*Pg Pg 00 08 34.0 +1.5
147nm,0.5s
SENIN Lac Senin/Sane 0.50 63⇑ *i*Pg Pg 00 08 32.9 0.0
165nm,0.3s
SENIN *i* Sg Sg 00 08 39.6 +0.1
165nm,0.3s
DIX Grande Dixence 0.53 96 *i* Sg Pg 00 08 33.4 0.0
290nm,0.3s
DIX Grande Dixence 0.53 96⇓ *i*Pg Sg 00 08 40.0 -0.3
290nm,0.3s
DIX Grande Dixence 0.53 96⇓ *i*Pg Pg 00 08 33.5 +0.1
DIX Sg Sg 00 08 40.0 -0.3
CABF La Chapelle 0.62 320 *e*P Pg 00 08 37.2 +2.1
CABF La Chapelle 0.62 320 *e*Pn Pg 00 08 38.9 +3.8
SNR=1.0
CABF *e*Sg Sg 00 08 43.7 +0.5
89nm,0.5s,SNR=1.0
CABF *e*Sn Sg 00 08 48.0 +4.8
SNR=1.0
CABF La Chapelle 0.62 320 *e*Pg Pg 00 08 36.2 +1.1
CABF *e*P 00 08 37.2
CABF *e*Pn Pg 00 08 38.9 +3.8
CABF *e*Sg Sg 00 08 43.7 +0.5
CABF *e*Sn Sg 00 08 48.0 +4.8
CABF La Chapelle 0.62 320 *e*P Pg 00 08 37.2 +2.1
CABF La Chapelle 0.62 320 *e*Pn Pg 00 08 38.9 +3.8
SNR=1.0
CABF *e*Sg Sg 00 08 43.7 +0.5
44nm,0.5s,SNR=1.0
CABF *e*Sn Sg 00 08 48.0 +4.8
SNR=1.0
LPL La Plagne 0.62 175 *e*Pg Pg 00 08 35.5 +0.3
SNR=1.0
LPL *e*Sg Sg 00 08 44.2 +0.8
18nm,0.2s,SNR=1.0
LPL La Plagne 0.62 175 *e*Pg Pg 00 08 35.5 +0.3
SNR=1.0
LPL *e*Sg Sg 00 08 44.2 +0.8
9.1nm,0.2s,SNR=1.0
LPG La Plagne 0.64 174 *e*Pg Pg 00 08 36.0 +0.4
SNR=1.0
LPG *e*Sg Sg 00 08 44.6 +0.6
27nm,0.3s
LPG La Plagne 0.64 174 *e*Pg Pg 00 08 36.0 +0.4
SNR=1.0
LPG *e*Sg Sg 00 08 44.6 +0.6
14nm,0.3s
TORNY Torny/Romont 0.67 18⇑ *i*Pg Pg 00 08 37.1 +1.0
94nm,0.5s
LKBD2 Leukerbad 2 0.72 71⇓ *i*Pg Pg 00 08 37.2 0.0
25nm,0.3s
LSD Ceresole Reale 0.77 153 P Pg 00 08 37.7 -0.2
LSD S Sg 00 08 47.5 -0.4
MMK Mattmark 0.91 95 Pg Pg 00 08 40.4 -0.4
TRAV 0.99 129⇑ *i*Pg Pg 00 08 41.6 -0.5
20nm,0.5s
TRAV S Sg 00 08 53.4 -1.5
ORX Oropa 1.05 118 P Pg 00 08 42.6 -0.8
ORX S Sg 00 08 55.4 -1.7
RSP Reno Superiore 1.07 157 Pg Pg 00 08 43.6 -0.2
16nm,0.2s
RSP S Sg 00 08 56.9 -0.8
RRL Cesana Torines 1.22 176 P Pn 00 08 46.6 +0.3
ORIF Oris-en-Rattie 1.34 204 *e*Pg Pg 00 08 49.9 +1.1
ORIF *e*Sg Sg 00 09 06.9 +0.8
14nm,0.2s,SNR=1.0
ORIF Oris-en-Rattie 1.34 204 *e*Pn Pn 00 08 48.7 +0.8
ORIF *e*Pg Pg 00 08 49.9 +1.1
ORIF *e*Sg Sg 00 09 06.9 +0.8
ORIF Oris-en-Rattie 1.34 204 *e*Pg Pg 00 08 49.9 +1.1
ORIF *e*Sg Sg 00 09 06.9 +0.8
7.2nm,0.2s,SNR=1.0
MBDF Montbardon 1.41 177 *e*Pg Pg 00 08 51.1 +0.8
MBDF *e*Sg Sg 00 09 09.7 +1.1
13nm,0.5s,SNR=1.0
MBDF Montbardon 1.41 177 *e*Pn Pn 00 08 49.9 +0.9
MBDF *e*Pg Pg 00 08 51.1 +0.8
MBDF *e*Sg Sg 00 09 09.7 +1.1
MBDF Montbardon 1.41 177 *e*Pg Pg 00 08 51.1 +0.8
MBDF *e*Sg Sg 00 09 09.7 +1.1
6.5nm,0.5s,SNR=1.0
PZZ Prazzo 1.66 169 Pg Pg 00 08 55.0 -0.1
PZZ Prazzo 1.66 169 P Pn 00 08 52.6 +0.2
PZZ Prazzo 1.66 169 Pg Pg 00 08 55.0 -0.1
HINF Hinteralfeld 1.69 4 *e*Pg Pg 00 08 55.9 +0.4
HINF *e*Sn Sn 00 09 14.1 -0.3
HINF *e*Sg Sg 00 09 17.8 +0.5
5.5nm,0.2s,SNR=1.0
HINF Hinteralfeld 1.69 4 *e*Pn Pn 00 08 52.8 +0.1
HINF *e*Pg Pg 00 08 55.9 +0.4
HINF *e*Sn Sn 00 09 14.1 -0.3
HINF *e*Sg Sg 00 09 17.8 +0.5
HINF Hinteralfeld 1.69 4 *e*Pg Pg 00 08 55.9 +0.4
HINF *e*Sn Sn 00 09 14.1 -0.3
HINF *e*Sg Sg 00 09 17.8 +0.5
2.8nm,0.2s,SNR=1.0
MOF Molkenrain 1.75 11 Pn Pg 00 08 58.3 +1.7
HAU Haudompre 1.88 354 *e*Pg Pg 00 08 59.5 +0.3
HAU *e*Sg Sg 00 09 23.1 -0.5
9.4nm,0.3s
HAU Haudompre 1.88 354 *e*Pn Pn 00 08 55.8 +0.4
HAU *e*Pg Pg 00 08 59.5 +0.3
HAU *e*Sg Sg 00 09 23.1 -0.5
HAU Haudompre 1.88 354 *e*Pg Pg 00 08 59.5 +0.3
HAU *e*Sg Sg 00 09 23.1 -0.5
4.7nm,0.3s
VIVF Saint-Julien-I 1.90 228 *e*Pg Pg 00 08 59.9 +0.4
VIVF *e*Sn Sn 00 09 19.5 0.0
VIVF *e*Sg Sg 00 09 24.1 0.0
14nm,0.3s,SNR=1.0
VIVF Saint-Julien-I 1.90 228 *e*Pn Pn 00 08 56.5 +0.9
VIVF *e*Pg Pg 00 08 59.9 +0.4
VIVF *e*Sn Sn 00 09 19.5 0.0
VIVF *e*Sg Sg 00 09 24.1 0.0
VIVF Saint-Julien-I 1.90 228 *e*Pg Pg 00 08 59.9 +0.4
VIVF *e*Sn Sn 00 09 19.5 0.0
VIVF *e*Sg Sg 00 09 24.1 0.0
6.8nm,0.3s,SNR=1.0
ENR Entracque 1.99 164 P Pn 00 08 56.8 0.0
SMF Signal de Mont 2.01 286 *e*Pg Pg 00 09 02.3 +0.5
SMF *e*Sn Sn 00 09 21.9 -0.6
SMF *e*Sg Sg 00 09 28.1 +0.2
6.9nm,0.2s
SMF Signal de Mont 2.01 286 *e*Pn Pn 00 08 57.7 +0.5
SMF *e*Pg Pg 00 09 02.3 +0.5
SMF *e*Sn Sn 00 09 21.9 -0.6
SMF *e*Sg Sg 00 09 28.1 +0.2
SMF Signal de Mont 2.01 286 *e*Pg Pg 00 09 02.3 +0.5
SMF *e*Sn Sn 00 09 21.9 -0.6
SMF *e*Sg Sg 00 09 28.1 +0.2
3.5nm,0.2s
ROB Roburent 2.03 155 P Pn 00 08 57.2 -0.3
PLDF La Plantade 2.12 267 Pn Pn 00 08 59.4 +0.7
TOUF Mont Tournerai 2.17 169 Pn Pn 00 09 03.0 +3.7
FIN Finale Ligure 2.22 150 P Pn 00 08 58.6 -1.4
LOR Lormes 2.23 301 *e*Pn Pn 00 09 01.5 +1.3
baz=128,SNR=1.0
LOR Lormes 2.23 301 *e*Pg Pg 00 09 06.2 +0.2
baz=120
LOR *e*Sn Sn 00 09 27.5 -0.4
baz=134
LOR *e*Sg Sg 00 09 35.3 +0.4
5.0nm,0.2s,baz=135,SNR=1.0
LOR Lormes 2.23 301 *e*Pn Pn 00 09 01.5 +1.3
LOR *e*Pg Pg 00 09 06.2 +0.2
LOR *e*Sn Sn 00 09 27.5 -0.4
LOR *e*Sg Sg 00 09 35.3 +0.4
LOR Lormes 2.23 301 *e*Pg Pg 00 09 06.2 +0.2
LOR *e*Sn Sn 00 09 27.5 -0.4
LOR *e*Sg Sg 00 09 35.3 +0.4
2.5nm,0.2s,SNR=1.0
SMRF Simiane la Rot 2.29 200 *e*Pg Pg 00 09 08.0 +0.9
SNR=1.0
SMRF *e*Sn Sn 00 09 29.0 -0.4
1.6nm,0.2s,SNR=1.0
SMRF Simiane la Rot 2.29 200 *e*Pn Pn 00 09 02.5 +1.4
SMRF *e*Pg Pg 00 09 08.0 +0.9
SMRF *e*Sn Sn 00 09 29.0 -0.4
SMRF Simiane la Rot 2.29 200 *e*Pg Pg 00 09 08.0 +0.9
SNR=1.0
SMRF *e*Sn Sn 00 09 29.0 -0.4
0.8nm,0.2s,SNR=1.0
LUCF Luceram 2.30 167 Pn Pn 00 09 03.7 +2.6

CDF Champ du Feu 2.31 10 *e*Pg Pg 00 09 07.7 +0.2
SNR=1.0
CDF *e*Sg Sg 00 09 37.2 -0.3
3.6nm,0.4s,SNR=1.0
CDF Champ du Feu 2.31 10 *e*Pn Pn 00 09 01.0 -0.4
CDF *e*Pg Pg 00 09 07.7 +0.2
CDF *e*Sg Sg 00 09 37.2 -0.3
CDF Champ du Feu 2.31 10 *e*Pg Pg 00 09 07.7 +0.2
SNR=1.0
CDF *e*Sg Sg 00 09 37.2 -0.3
1.8nm,0.4s,SNR=1.0
SBF Sospel 2.34 166 *e*P Pn 00 09 04.6 +2.9
SBF Sospel 2.34 166 *e*Pg Pg 00 09 08.1 +0.1
SBF *e*Sn Sn 00 09 29.9 -0.6
SBF *e*S Sn 00 09 34.6 +4.1
SBF *e*Sg Sg 00 09 38.5 +0.1
3.0nm,0.2s
SBF Sospel 2.34 166 *e*Pn Pn 00 09 02.2 +0.5
SBF *e*P 00 09 04.6
SBF *e*Pg Pg 00 09 08.1 +0.1
SBF *e*Sn Sn 00 09 29.9 -0.6
SBF *e*S Sn 00 09 34.6 +4.1
SBF *e*Sg Sg 00 09 38.5 +0.1
SBF Sospel 2.34 166 *e*P Pn 00 09 04.6 +2.9
SBF Sospel 2.34 166 *e*Pg Pg 00 09 08.1 +0.1
SBF *e*Sn Sn 00 09 29.9 -0.6
SBF *e*S Sn 00 09 34.6 +4.1
SBF *e*Sg Sg 00 09 38.5 +0.1
1.5nm,0.2s
SFTF Sexfontaines 2.34 332 *e*Pn Pn 00 09 02.7 +0.9
baz=147
SFTF Sexfontaines 2.34 332 *e*Pg Pg 00 09 07.5 -0.6
baz=155
SFTF *e*Sn Sn 00 09 29.7 -0.9
baz=148
SFTF *e*Sg Sg 00 09 38.3 -0.2
5.0nm,0.3s,baz=146
SFTF Sexfontaines 2.34 332 *e*Pn Pn 00 09 02.7 +0.9
SFTF *e*Pg Pg 00 09 07.5 -0.6
SFTF *e*Sn Sn 00 09 29.7 -0.9
SFTF *e*Sg Sg 00 09 38.3 -0.2
SFTF Sexfontaines 2.34 332 *e*Pg Pg 00 09 07.5 -0.6
SFTF *e*Sn Sn 00 09 29.7 -0.9
SFTF *e*Sg Sg 00 09 38.3 -0.2
2.5nm,0.3s
SSF Saint Saulge 2.36 294 *e*Pg Pg 00 09 08.7 +0.3
SNR=1.0
SSF *e*Sg Sg 00 09 38.8 -0.2
2.7nm,0.2s
SSF Saint Saulge 2.36 294 *e*Pn Pn 00 09 03.0 +1.0
SSF *e*Pg Pg 00 09 08.7 +0.3
SSF *e*Sg Sg 00 09 38.8 -0.2
SSF Saint Saulge 2.36 294 *e*Pg Pg 00 09 08.7 +0.3
SNR=1.0
SSF *e*Sg Sg 00 09 38.8 -0.2
1.4nm,0.2s
AVF Avril sur Loir 2.38 287 *e*Pg Pg 00 09 08.8 +0.1
SNR=1.0
AVF *e*Sn Sn 00 09 31.1 -0.3
SNR=1.0
AVF *e*Sg Sg 00 09 38.7 -0.8
3.2nm,0.3s,SNR=1.0
AVF Avril sur Loir 2.38 287 *e*Pn Pn 00 09 03.0 +0.8
AVF *e*Pg Pg 00 09 08.8 +0.1
AVF *e*Sn Sn 00 09 31.1 -0.3
AVF *e*Sg Sg 00 09 38.7 -0.8
AVF Avril sur Loir 2.38 287 *e*Pg Pg 00 09 08.8 +0.1
SNR=1.0
AVF *e*Sn Sn 00 09 31.1 -0.3
SNR=1.0
AVF *e*Sg Sg 00 09 38.7 -0.8
1.6nm,0.3s,SNR=1.0
IMI Imperia 2.39 158 P Pn 00 09 01.3 -1.1
AGO Saint Agoulin 2.46 269 Pn Pn 00 09 03.9 +0.6
DAVA Damuels 2.50 61⇑ *i*Pn Pn 00 09 08.8 +4.9
DAVA ⇓ *i*Sn Sn 00 09 39.8 +5.4
DAVA Damuels 2.50 61⇓ *e*Pg Pg 00 09 11.1 +0.1
DAVA ⇓ *i*Sn Sn 00 09 39.8 +5.4
DAVA Damuels 2.50 61 Pg Pg 00 09 11.1 +0.1
DAVA Sn Sn 00 09 39.8 +5.4
LBL Lubilhac 2.56 250 Pn Pn 00 09 07.1 +2.4
PYM Petit Puy Mans 2.58 263 Pn Pn 00 09 08.1 -0.8
PYM Sg Sg 00 09 45.5 -0.4
FRF La Foret Royal 2.58 180 *e*Pg Pg 00 09 12.1 -0.5
SNR=1.0
FRF *e*Sn Sn 00 09 35.8 -0.6
SNR=1.0
FRF *e*Sg Sg 00 09 45.9 0.0
3.6nm,0.3s,SNR=1.0
FRF La Foret Royal 2.58 180 *e*Pn Pn 00 09 06.0 +1.0
FRF *e*Pg Pg 00 09 12.1 -0.5
FRF *e*Sn Sn 00 09 35.8 -0.6
FRF *e*Sg Sg 00 09 45.9 0.0
FRF La Foret Royal 2.58 180 *e*Pg Pg 00 09 12.1 -0.5
SNR=1.0
FRF *e*Sn Sn 00 09 35.8 -0.6
SNR=1.0
FRF *e*Sg Sg 00 09 45.9 0.0
1.8nm,0.3s,SNR=1.0
MEZF Maizieres J'vi 2.60 336 *e*Pg Pg 00 09 12.9 -0.2
baz=161,SNR=1.0
MEZF *e*Sn Sn 00 09 36.1 -1.0
baz=141
MEZF *e*Sg Sg 00 09 46.3 -0.5
5.9nm,0.4s,baz=156,SNR=1.0
MEZF Maizieres J'vi 2.60 336 *e*Pg Pg 00 09 12.9 -0.2
SNR=1.0
MEZF *e*Sn Sn 00 09 36.1 -1.0
MEZF *e*Sg Sg 00 09 46.3 -0.5
3.0nm,0.4s,SNR=1.0
BGF Bois d'Agland 2.67 280 *e*Pg Pg 00 09 14.4 0.0
SNR=1.0
BGF *e*Sn Sn 00 09 37.6 -1.1
SNR=1.0
BGF *e*Sg Sg 00 09 49.2 +0.2
7.3nm,0.3s,SNR=1.0
BGF Bois d'Agland 2.67 280 *e*Pn Pn 00 09 07.4 +1.1
BGF *e*Pg Pg 00 09 14.4 0.0
BGF *e*Sn Sn 00 09 37.6 -1.1
BGF *e*Sg Sg 00 09 49.2 +0.2
BGF Bois d'Agland 2.67 280 *e*Pg Pg 00 09 14.4 0.0
SNR=1.0
BGF *e*Sn Sn 00 09 37.6 -1.1
SNR=1.0
BGF *e*Sg Sg 00 09 49.2 +0.2
3.7nm,0.3s,SNR=1.0
LMR La Mourre 2.81 182 *e*Pg Pg 00 09 16.6 -0.3
LMR *e*Sn Sn 00 09 40.9 -1.1
LMR *e*Sg Sg 00 09 52.1 -1.2
1.5nm,0.2s,SNR=1.0
LMR La Mourre 2.81 182 *e*Pn Pn 00 09 08.7 +0.6
LMR *e*Pg Pg 00 09 16.6 -0.3
LMR *e*Sn Sn 00 09 40.9 -1.1
LMR *e*Sg Sg 00 09 52.1 -1.2
LMR La Mourre 2.81 182 *e*Pg Pg 00 09 16.6 -0.3
LMR *e*Sn Sn 00 09 40.9 -1.1
LMR *e*Sg Sg 00 09 52.1 -1.2
0.8nm,0.2s,SNR=1.0
LASF Ste Croix 2.86 225 *e*Pg Pg 00 09 16.0 -2.0
SNR=1.0
LASF *e*Sn Sn 00 09 42.2 -1.1
SNR=1.0
LASF *e*Sg Sg 00 09 53.7 -1.3
3.3nm,0.2s,SNR=1.0
LASF Ste Croix 2.86 225 *e*Pn Pn 00 09 09.8 +0.9
LASF *e*Pg Pg 00 09 16.0 -2.0
LASF *e*Sn Sn 00 09 42.2 -1.1
LASF *e*Sg Sg 00 09 53.7 -1.3
LASF Ste Croix 2.86 225 *e*Pg Pg 00 09 16.0 -2.0
SNR=1.0
LASF *e*Sn Sn 00 09 42.2 -1.1
SNR=1.0
LASF *e*Sg Sg 00 09 53.7 -1.3
1.6nm,0.2s,SNR=1.0
HYF Humbligny 2.99 294 *e*Pg Pg 00 09 20.2 -0.2
TCF Toulx Ste Croi 3.09 274 *e*Pn Pn 00 09 13.1 +1.1
SNR=1.0
TCF *e*Sn Sn 00 09 48.2 -0.8
SNR=1.0
TCF *e*Sg Sg 00 10 02.3 -0.1
2.6nm,0.3s,SNR=1.0
TCF Toulx Ste Croi 3.09 274 *e*Pn Pn 00 09 13.1 +1.1
SNR=1.0
TCF *e*Sn Sn 00 09 48.2 -0.8
SNR=1.0
TCF *e*Sg Sg 00 10 02.3 -0.1
1.3nm,0.3s,SNR=1.0
CAF Calviac 3.45 251 *e*Pn Pn 00 09 17.5 +0.6
SNR=1.0
CAF *e*Sg Sg 00 10 13.0 -0.9
1.8nm,0.3s,SNR=1.0
CAF Calviac 3.45 251 *e*Pn Pn 00 09 17.5 +0.6
SNR=1.0
CAF *e*Sg Sg 00 10 13.0 -0.9
0.9nm,0.3s,SNR=1.0
RJF Les Rejaudoux 3.70 259 *e*Pn Pn 00 09 21.1 +0.8
RJF *e*Sg Sg 00 10 21.0 -0.8
1.3nm,0.2s,SNR=1.0
RJF Les Rejaudoux 3.70 259 *e*Pn Pn 00 09 21.1 +0.8
RJF *e*Sg Sg 00 10 21.0 -0.8
0.6nm,0.2s,SNR=1.0
GIVF Givet 4.15 343 *e*Sg Sg 00 10 34.4 -2.1
2.8nm,0.3s
GIVF Givet 4.15 343 *e*Sg Sg 00 10 34.4 -2.1
1.4nm,0.3s
MTLF Montolieu 4.22 230 *e*Pg Pg 00 09 42.4 -1.6
MTLF *e*Sg Sg 00 10 37.1 -1.6
0.7nm,0.2s
MTLF Montolieu 4.22 230 *e*Pn Pn 00 09 28.2 +0.6
MTLF *e*Pg Pg 00 09 42.4 -1.6
MTLF *e*Sg Sg 00 10 37.1 -1.6
MTLF Montolieu 4.22 230 *e*Pg Pg 00 09 42.4 -1.6
MTLF *e*Sg Sg 00 10 37.1 -1.6
0.3nm,0.2s
BAIF Baives 4.25 338 *e*Pn Pn 00 09 27.1 -0.9
SNR=1.0
BAIF *e*Sn Sn 00 10 15.4 -2.3
1.6nm,0.6s,SNR=1.0
BAIF Baives 4.25 338 *e*Pn Pn 00 09 27.1 -0.9
SNR=1.0
BAIF *e*Sn Sn 00 10 15.4 -2.3
0.8nm,0.6s,SNR=1.0
MFF Saint Martin d 4.73 278 *e*Pn Pn 00 09 35.1 +0.5
SNR=1.0
MFF *e*Sn Sn 00 10 26.8 -2.7
1.0nm,0.3s
MFF Saint Martin d 4.73 278 *e*Pn Pn 00 09 35.1 +0.5
SNR=1.0
MFF *e*Sn Sn 00 10 26.8 -2.7
0.5nm,0.3s
SGMF Saint Gilles 6.63 292 *e*Pn Pn 00 10 01.4 +0.8
SNR=1.0

CSEM ***22*** *00:36:16.2±1.2,3860N×29.11W,h6km±5km,ML3.2,Error ellipse: s-maj=10.4km s-min=7.2km az=11.0,After PDA*
PDA ***22*** *00:36:16.2±1.2,3860N×29.11W,h6km±5km,MD3.6,ML3.2, Error ellipse: s-maj=10.4km s-min=7.2km az=11.0*
SVSA 22 00:36:16.2±1.2,3860N×2911W,h6km±5km,MD3.6,ML3.2, Error ellipse: s-maj=10.4km s-min=7.2km az=11.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CALA	**Caldeira**	**0.32**	**92**	*e*P	Pg	00 36 22.1	-0.4
CALA				*e*S	Sg	00 36 26.4	-0.3
HOR	**Horta**	**0.39**	**100**	*e*P	Pg	00 36 23.3	-0.3
HOR				*e*S	Sg	00 36 28.5	-0.2
PICO	**Pico**	**0.55**	**100**	*e*P	Pg	00 36 26.1	-0.6
PICO				*e*S	Sg	00 36 33.2	-0.7
ROSA	**Rosais**	**0.69**	**79**	*i* P	Pg	00 36 27.6	-1.9
ROSA				*e*S	Sg	00 36 36.3	-2.3
ROSA	**Rosais**	**0.69**	**79**	*e*S	Sg	00 36 36.3	-2.3
PMAN	**Manadas**	**0.80**	**87**	*e*P	Pg	00 36 29.1	-2.5
PMAN				*e*S	Sg	00 36 39.1	-3.0
PMAN				A		00 36 39.6	
703nm,0.3s							
PMAN	**Manadas**	**0.80**	**87**	*e*P	Pg	00 36 29.1	-2.5
PMAN				*e*S	Sg	00 36 39.1	-3.0
PSCM	**Serra do Cume**	**1.57**	**86**	*e*P	Pn	00 36 39.8	-4.8
PSCM				*e*S	Sn	00 36 57.5	-7.7
PSCM				A		00 37 02.2	
246nm,0.3s							
PSCM	**Serra do Cume**	**1.57**	**86**	*e*P	Pn	00 36 39.8	-4.8
PSCM				*e*S	Sn	00 36 57.5	-7.7
PSET	**Sete Cidades**	**2.78**	**105**	*e*P	Pn	00 36 57.9	-3.4
CMLA	**Cha da Macela**	**2.95**	**105**	*e*P	Pn	00 36 59.1	-4.5
CMLA				*e*S	Sn	00 37 30.8	-8.5
CMLA				A		00 37 37.1	
42nm,0.4s							
CMLA	**Cha da Macela**	**2.95**	**105**	*e*P	Pn	00 36 59.1	-4.5
CMLA				*e*S	Sn	00 37 30.8	-8.5

ISCJB ***22*** *00:46:15.3±0.4,2673S±008×141.1W±0.1,h10km,mb4.3/26, Error ellipse: s-maj=13.8km s-min=11.3km az=179.2*
IDC ***22*** *00:46:15.4±0.6,2675S×14089W,h0km,mb4.1/11, mb1 4.4/11,mb1mx4.3/16,mbtmp4.1/11,Error ellipse: s-maj=24.2km s-min=19.2km az=121.0*
NEIC ***22*** *00:46:16.9±0.3,2673S×14108W,h10km,mb4.6/15,Error ellipse: s-maj=12.2km s-min=10.5km az=79.0*
ISC 22 00:46:17.3±0.4,2672S±008×14109W±010,h10km,n81, σ1§04/47,mb4.3/26,South Pacific Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RKT	**Rikitea**	**6.61**	**58**	*e*Pn	Pn	**00 47 49.0**	**-5.6**
2.9nm,0.1s							
RKT				*e*Sn	Sn	**00 48 58.0**	**-12**
1.2nm,0.1s							
RKT				*e*T		00 54 07.7	
4.7nm,0.2s							
TVO	**Taravao**	**11.67**	**318**	*e*Pn	Pn	**00 49 02.6**	**-1.3**
21nm,0.2s							
TVO				*e*Sn	Sn	**00 51 05.5**	**-8.8**
TVO				*e*T		01 00 47.0	
7.2nm,0.3s							
PAE	**Paea**	**11.96**	**317**	*e*Pn	Pn	**00 49 05.7**	**-2.2**
38nm,0.3s							
PAE				*e*Sn	Sn	**00 51 03.9**	**-18**
PPT	**Papeete**	**12.03**	**318**	*e*LR	LR	00 51 51.4	
153nm,26.2s							
VAH	**Vaihoa**	**12.95**	**331**	*e*T		01 02 56.1	
7.6nm,0.2s							
VNDA	**Vanda**	**57.16**	**193**	P	P	**00 56 03.8**	**+0.1**
1.5nm,0.9s,mb4.0,baz=50,slow=4.9,SNR=4.9							
PLCA	**Paso Flores**	**58.86**	**123**	P	P	**00 56 15.5**	**-0.8**
PLCA	**Paso Flores**	**58.86**	**123**	P	P	**00 56 15.5**	**-0.8**
1.4nm,0.7s,mb4.1,baz=267,slow=6.1,SNR=5.7							
QSPA	**South Pole Qui**	**63.41**	**180**	P	P	**00 56 47.5**	**+1.0**
QSPA	**South Pole Qui**	**63.41**	**180**	P	P	**00 56 47.5**	**+1.0**
3.0nm,1.0s,mb4.4,baz=266,slow=1.0,SNR=4.3							
TRQA	**Tornquist**	**65.93**	**122**	*e*P	P	**00 57 02.2**	**-1.5**
5.0nm,1.1s,mb4.5							
TXAR	**Lajitas Array**	**66.28**	**35**	P	P	**00 57 05.8**	**-0.1**
1.9nm,0.7s,mb4.2,baz=204,slow=8.2,SNR=12							
LPAZ	**La Paz**	**67.89**	**98**	*e*P	P	**00 57 15.3**	**-1.1**
4.4nm,0.9s,mb4.5							
LPAZ	**La Paz**	**67.89**	**98**	P	P	**00 57 15.2**	**-1.3**
3.5nm,0.9s,mb4.4,baz=247,slow=3.6,SNR=12							
NVAR	**Mina Array Bea**	**68.23**	**19**	P	P	**00 57 18.3**	**+0.3**
0.9nm,0.7s,mb3.9,baz=197,slow=7.3,SNR=8.1							
JCT	**Junction City**	**69.24**	**38**	*e*P	P	**00 57 23.3**	**-1.2**
6.3nm,0.9s,mb4.5							
YBH	**Yreka Blue Hor**	**70.20**	**15**	*e*P	P	**00 57 28.8**	**-1.3**
4.6nm,0.9s,mb4.4							
MSU	**Marysvale**	**70.31**	**24**	*e*P	P	**00 57 32.3**	**+1.3**
SRU	**San Rafael**	**71.45**	**25**	*e*P	P	**00 57 37.0**	**-0.8**
DUG	**Dugway**	**71.59**	**22**	*e*P	P	**00 57 40.0**	**+1.4**
WVOR	**Wild Horse Val**	**71.86**	**17**	*e*P	P	**00 57 39.2**	**-1.0**
7.2nm,1.2s,mb4.5							
SMCO	**Snowmass**	**72.89**	**27**	*e*P	P	**00 57 48.0**	**+1.5**
8.3nm,1.4s,mb4.5							
CPUP	**Villa Florida**	**73.47**	**111**	P	P	**00 57 48.1**	**-2.3**
0.8nm,0.7s,mb3.8,baz=230,slow=7.1,SNR=3.2							
HLID	**Hailey**	**74.11**	**20**	*e*P	P	**00 57 52.8**	**-0.7**
5.1nm,1.0s,mb4.4							
BMO	**Blue Mountains**	**74.47**	**17**	*e*P	P	**00 57 56.2**	**+0.6**
PDAR	**Pinedale Array**	**75.00**	**23**	P	P	**00 57 58.8**	**0.0**
1.5nm,0.8s,mb4.0,baz=190,slow=4.5,SNR=14							
REDW	**Red Top Meadow**	**75.08**	**22**	*e*P	P	**00 57 59.9**	**+0.8**
6.2nm,1.2s,mb4.4							
TPAW	**Teton Pass**	**75.15**	**22**	*e*P	P	**00 58 00.8**	**+1.2**
6.3nm,1.2s,mb4.4							
MOOW	**Moose Ponds**	**75.45**	**22**	*e*P	P	**00 58 02.0**	**+0.7**
ASAR	**Alice Springs**	**75.53**	**251**	P	P	**00 58 02.7**	**+0.3**
1.0nm,0.7s,mb3.9,baz=114,slow=5.8,SNR=8.2							
FLWY	**Flagg Ranch**	**75.76**	**22**	*e*P	P	**00 58 03.8**	**+0.7**
15nm,1.3s,mb4.8							

FLWY *e*PcP PcP 00 58 12.0 -3.7
WB2 Warramunga Arr 76.62 254 P **P** **00 58 09.6 +1.0**
WRA Warramunga Arr 76.63 254 P **P** **00 58 09.3 +0.6**
1.3nm,1.0s,mb3.8,baz=114,slow=4.6,SNR=6.6
LRM Limekiln Ridge 76.75 20 *e*P **P** **00 58 10.0 +1.3**
MSO Missoula 77.22 19 *e*P **P** **00 58 12.0 +0.8**
4.1nm,0.8s,mb4.4
NEW Newport 77.68 16 *e*P **P** **00 58 14.3 +0.5**
3.9nm,0.8s,mb4.4
HRY Holter Researc 77.74 20 *e*P **P** **00 58 14.5 +0.3**
WALA Waterton Lakes 79.25 18 *e*P **P** **00 58 23.2 +0.7**
EGMT Eagleton 79.55 21 *e*P **P** **00 58 25.6 +1.5**
8.5nm,1.2s,mb4.5
LAO LASA Array 79.58 24 P **P** **00 58 24.3 0.0**
1.2nm,0.5s,mb4.1
ECSD EROS,Sioux Fal 81.11 31 *e*P **P** **00 58 32.0 -0.6**
4.3nm,0.9s,mb4.4
EDM Edmonton 83.19 16 *e*P **P** **00 58 42.5 -0.7**
AGMN Agassiz Refuge 84.97 28 *e*P **P** **00 58 52.2 -0.3**
ULM Lac du Bonnet 86.47 27 P **P** **00 58 56.8 -3.1**
3.6nm,0.9s,mb4.6,baz=228,slow=5.6,SNR=7.1
YKA Yellowknife Ar 91.40 12 P **P** **00 59 22.7 -0.2**
YKA Yellowknife Ar 91.40 12 P **P** **00 59 22.7 -0.2**
1.2nm,0.8s,mb4.3,baz=201,slow=4.5,SNR=31
SONM Songino Array 124.14 311 PKhKP 01 05 10.0
0.2nm,0.7s,baz=91,slow=10,SNR=2.3
SONM PKP PKPdf 01 05 15.8 -0.1
0.5nm,0.7s,baz=107,slow=2.0,SNR=3.9
ZALV Zalesovo Beam 136.77 322 PKhKP 01 05 31.0
0.3nm,0.3s,baz=126,slow=3.7,SNR=2.5
ZALV PKP PKPdf 01 05 39.9 +0.3
0.7nm,0.6s,baz=126,slow=2.0,SNR=5.0
MKAR Makanchi Array 140.50 312 PKhKP 01 05 41.0
0.1nm,0.3s,baz=135,slow=1.0,SNR=2.9
MKAR PKP PKPdf 01 05 48.6 +1.9
0.6nm,0.8s,baz=57,slow=4.5,SNR=3.6
TORD Torodi Ar. Bea 142.65 104 PKhKP 01 05 43.0
0.5nm,1.0s,baz=264,slow=2.8,SNR=2.6
TORD PKP PKPdf 01 05 48.1 -3.4
1.1nm,1.0s,baz=263,slow=2.8,SNR=4.6
FINES FINESS Array B 144.22 11 PKP PKPdf 01 05 50.2 -2.6
4.2nm,0.8s,baz=318,slow=2.6,SNR=9.2
EPF Esparros 144.78 52 *e*PKP1 PKPdf 01 05 53.0 -1.4
BVAR Borovoye Array 144.80 327 PKP PKPdf 01 05 53.4 -0.7
4.1nm,0.7s,baz=71,slow=2.6,SNR=29
BRVK Borovoye 144.84 327 *e*PKPdf PKPdf 01 05 53.0 -1.2
RJF Les Rejaudoux 144.92 48 *e*PKP1 PKPdf 01 05 52.8 -1.8
17nm,1.0s
TCF Toulx Ste Croi 145.04 46 *e*PKP1 PKPbc 01 05 52.9 -1.2
13nm,1.4s
BGF Bois d'Agland 145.35 46 *e*PKP1 PKPbc 01 05 53.9 -1.2
34nm,1.5s
SSF Saint Saulge 145.57 44 *e*PKP1 PKPbc 01 05 54.8 -1.0
14nm,1.1s
AVF Avril sur Loir 145.58 45 *e*PKP1 PKPbc 01 05 54.4 -1.5
8.4nm,1.0s
LOR Lormes 145.71 44 *e*PKP1 PKPbc 01 05 55.4 -0.8
13nm,1.1s
MEZF Maizieres J'vi 145.89 41 *e*PKP1 PKPbc 01 05 56.2 -0.6
32nm,1.4s
SMF Signal de Mont 145.95 45 *e*PKP1 PKPbc 01 05 55.8 -1.2
8.8nm,1.1s
MTLF Montolieu 146.01 51 *e*PKP1 PKPbc 01 05 56.8 -0.5
12nm,1.2s
HAU Haudompre 146.89 41 *e*PKP1 PKPbc 01 05 58.9 -0.8
LASF Ste Croix 146.91 49 *e*PKP1 PKPbc 01 05 59.8 -0.1
27nm,1.6s
AAK Ala-Archa 146.99 308 *e*PKPdf PKPdf 01 05 59.2 +1.0
UCH Uchtor 147.10 307 *e*PKPbc PKPbc 01 06 01.6 +1.1
CDF Champ du Feu 147.24 40 *e*PKP1 PKPbc 01 06 00.0 -0.7
3.8nm,0.8s
CABF La Chapelle 147.37 44 *e*PKP1 PKPbc 01 06 00.7 -0.4
18nm,1.3s
EKS2 Erkin-Say 147.49 308 *e*PKPdf PKPdf 01 05 56.0 -3.1
EKS2 *e*PKPab PKPab 01 06 02.7 -0.9
AML Almayashu 147.71 307 *e*PKPdf PKPdf 01 05 59.8 +0.5
LPL La Plagne 148.25 45 *e*PKP1 PKPbc 01 06 03.9 +0.4
LPG La Plagne 148.27 45 *e*PKP1 PKPbc 01 06 04.1 +0.5
14nm,1.4s
CLL Collm 148.56 32 *e*PKPbc PKPbc 01 06 04.0 -0.1
MBDF Montbardon 148.60 47 *e*PKP1 PKPbc 01 06 04.3 -0.2
GRA1 Grafenberg Arr 148.70 36 *e*PKPbc PKPbc 01 06 05.3 +0.8
GRF Grafenberg Arr 148.70 36 *e*PKP PKPbc 01 06 05.3 +0.8
BRG Berggiesshubel 149.29 32 *e*P PKPbc 01 06 06.0 0.0
6.3nm,1.3s
KHC Kasperske Hory 150.26 35 *e*PKP PKPbc 01 06 06.0 -2.4
GERES GERESS Array B 150.50 35 PKPbc PKPbc 01 06 08.5 -0.5
0.4nm,0.9s,baz=309,slow=4.3,SNR=4.9
AKASG Malin Array Be 154.94 15 PKP PKPdf 01 06 10.1 0.0
0.1nm,0.2s,baz=314,slow=1.8,SNR=3.9
AKASG PKPbc PKPbc 01 06 18.1 -0.7
0.5nm,0.5s,baz=332,slow=2.2,SNR=5.7

IDC 22 00:50:50.3±2.1, 160N×12515E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.4/17, mbtmp3.4/3, Error ellipse: s-maj=229.5km s-min=25.9km az=64.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.23**	**158**	P	P	00 56 00.7	+1.4
0.6nm,0.4s,baz=341,slow=12,SNR=28							
ASAR	**Alice Springs**	**26.52**	**162**	P	P	00 56 28.9	-0.8
0.2nm,0.6s,baz=336,slow=9.6,SNR=2.9							
MKAR	**Makanchi Array**	**58.42**	**327**	P	P	01 00 47.5	-0.2
0.3nm,0.4s,baz=122,slow=7.9,SNR=4.9							

*NEIC **22** 01:00:13.9±0.5, 676S×15565E, h10km, mb4.5/4, Error ellipse: s-maj=12.8km s-min=12.7km az=73.0*
*ISCJB **22** 01:00:17.7±2.6, 687S±009×15570E±009, h49km±27km, mb4.1/17, Error ellipse: s-maj=16.7km s-min=13.6km az=142.8*
*IDC **22** 01:00:19.1±0.6, 685S×15571E, h48km±6km, mb3.9/14, mb1 4.0/15, mb1mx3.9/19, mbtmp3.9/15, MS3.0/1, Ms1 3.0/1, ms1mx2.6/23, Error ellipse: s-maj=14.9km s-min=12.1km az=61.0*
ISC 22 01:00:19.9±2.3, 689S±010×15568E±010, h54km±25km, h51km±2.5km: pP-P, n31, σ0§68/24, mb4.1/17, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.92**	**121**	P	**Pn**	**01 01 31.2**	**-0.2**
12nm,0.3s,baz=127,slow=5.1,SNR=3.0							
HNR				S	**Sn**	**01 02 27.2**	**+0.1**
18nm,0.3s,baz=84,slow=18,SNR=2.6							
CTA	**Charters Tower**	**15.99**	**214**	LR	LR	01 08 31.5	
comp=Z,62nm,20.6s,baz=49,slow=31							
KAKA	**Kakadu**	**23.61**	**254**	*e*P	**P**	**01 05 27.1**	**+0.8**
11nm,0.9s,mb4.3							
WRAB	**Tennant Creek**	**24.42**	**236**	*e*P	**P**	**01 05 32.0**	**-1.7**
4.0nm,0.6s,mb4.0							
WB2	**Warramunga Arr**	**24.43**	**236**	*e*P	**P**	**01 05 34.5**	**+0.8**
WRA	**Warramunga Arr**	**24.44**	**236**	P	**P**	**01 05 34.3**	**+0.6**
2.7nm,0.5s,mb3.9,baz=62,slow=10,SNR=37							
WRA				PcP	PcP	01 09 11.7	0.0
0.9nm,0.7s,baz=58,slow=2.4,SNR=6.6							
WRA				pPcP		01 09 25.8	
0.7nm,0.6s,baz=62,slow=2.3,SNR=6.1							
ASAR	**Alice Springs**	**26.75**	**229**	P	**P**	**01 05 54.5**	**-0.2**
0.5nm,0.4s,mb3.4,baz=59,slow=9.7,SNR=14							
ASAR				PcP	PcP	01 09 17.1	+0.2
0.7nm,0.7s,baz=72,slow=2.4,SNR=5.8							
ASAR				pPcP		01 09 31.1	
0.8nm,0.7s,baz=54,slow=2.4,SNR=7.0							
STKA	**Stephens Creek**	**28.12**	**206**	P	**P**	**01 06 06.7**	**-0.2**
1.1nm,0.6s,mb3.7,baz=312,slow=18,SNR=2.5							
STKA				pP	pP	01 06 21.0	+0.4
2.5nm,0.7s,baz=16,slow=12,SNR=3.2							
FITZ	**Fitzroy Crossi**	**31.32**	**246**	*e*P	**P**	**01 06 35.1**	**-0.3**
7.9nm,0.7s,mb4.7							
FITZ	**Fitzroy Crossi**	**31.32**	**246**	P	**P**	**01 06 35.2**	**-0.1**
2.6nm,0.4s,mb4.4,baz=56,slow=12,SNR=16							
FITZ				pP	pP	01 06 48.3	-0.8
3.7nm,0.6s,baz=99,slow=6.9,SNR=5.1							
RPZ	**Rata Peaks**	**39.08**	**162**	P	**P**	**01 07 42.0**	**+0.2**
3.6nm,0.6s,mb4.3,baz=355,slow=6.4,SNR=5.2							
KKM	**Kota Kinabalu**	**41.42**	**287**	*e*P	**P**	**01 08 00.9**	**-0.6**
MJAR	**Matsushiro Arr**	**46.20**	**340**	P	**P**	**01 08 39.1**	**-0.5**
MJAR	**Matsushiro Arr**	**46.20**	**340**	P	**P**	**01 08 39.1**	**-0.5**
1.0nm,0.7s,mb3.9,baz=103,slow=1.5,SNR=4.6							
KSRS	**Korea Array**	**51.16**	**332**	P	**P**	**01 09 19.0**	**+1.3**
0.7nm,0.5s,mb3.9,baz=145,slow=7.9,SNR=3.4							

ASAJ Asahikawa 52.13 348 P **P** **01 09 24.2 -0.4**
2.2nm,0.5s,mb4.3,baz=245,slow=17,SNR=2.3
SONM Songino Array 69.61 327 P **P** **01 11 24.6 +1.1**
1.2nm,0.6s,mb4.0,baz=136,slow=5.9,SNR=6.9
PALK Pallekele 76.09 279 *e*P **P** **01 12 02.0 -0.6**
5.8nm,0.9s,mb4.5
MKAR Makanchi Array 83.77 319 P **P** **01 12 43.9 +0.5**
1.2nm,0.6s,mb4.2,baz=111,slow=6.6,SNR=6.3
ZALV Zalesovo Beam 84.47 326 P **P** **01 12 46.1 -0.7**
3.0nm,0.3s,mb4.8,baz=122,slow=6.4,SNR=16
MAW Mawson 84.75 203 P **P** **01 12 48.3 +0.3**
2.8nm,0.8s,mb4.4,baz=72,slow=19,SNR=4.6
BVAR Borovoye Array 92.62 323 P **P** **01 13 25.3 -0.3**
0.2nm,0.4s,mb3.9,baz=101,slow=7.5,SNR=3.4
BVAR pP pP 01 13 38.9 -2.5
1.1nm,0.4s,baz=120,slow=8.4,SNR=12
YKA Yellowknife Ar 95.93 28 P **P** **01 13 40.2 -0.4**
YKA pP pP 01 13 54.4 -2.0
YKA Yellowknife Ar 95.93 28 P **P** **01 13 40.2 -0.4**
0.4nm,0.6s,mb4.0,baz=266,slow=4.6,SNR=15
YKA pP pP 01 13 54.3 -2.0
0.1nm,0.4s,baz=117,slow=37,SNR=2.8
FINES FINESS Array B 114.12 336 PKiKP PKiKP 01 18 51.6 -1.2
1.7nm,1.0s,baz=81,slow=4.8,SNR=5.2
HFS Hagfors 119.65 339 PKP PKPdf 01 19 01.9 -1.6
2.2nm,0.9s,baz=67,slow=11,SNR=4.1
NOA NORSAR Array B 119.82 341 PKP PKPdf 01 19 02.8 -1.1
0.9nm,1.0s,baz=26,slow=3.3,SNR=2.2
NOA pPKP pPKPdf 01 19 16.8 -3.3
0.5nm,0.7s,baz=315,slow=26,SNR=2.0
GERES GERESS Array B 127.31 329 PKP PKPdf 01 19 18.5 -0.1
0.5nm,0.5s,baz=67,slow=1.7,SNR=5.8
GERES pPKP pPKPdf 01 19 33.0 -1.9
0.3nm,0.5s,baz=48,slow=2.0,SNR=3.2
TORD Torodi Ar. Bea 153.65 286 PKP PKPdf 01 20 05.0 -0.9
TORD PKPbc PKPbc 01 20 12.7 -1.1
TORD PKPab PKPab 01 20 26.9 +0.3
TORD pPKPab pPKPab 01 20 39.7 -2.7
TORD Torodi Ar. Bea 153.65 286 PKP PKPdf 01 20 05.1 -0.9
0.6nm,1.0s,baz=100,slow=2.2,SNR=3.3
TORD PKPbc PKPbc 01 20 12.7 -1.1
0.5nm,0.5s,baz=34,slow=2.1,SNR=12
TORD PKPab PKPab 01 20 26.9 +0.3
0.7nm,0.5s,baz=71,slow=3.5,SNR=13
TORD pPKPab pPKPab 01 20 39.7 -2.7
0.5nm,0.4s,baz=75,slow=4.0,SNR=2.8
DBIC Dimbokro 160.67 271 PKPab PKPab 01 20 56.5 -0.4
1.8nm,0.6s,baz=120,slow=2.8,SNR=7.6

*BJI **22** 01:04:04.5, 1370N×12070E, h35km, mb4.4*
*NEIC **22** 01:04:04.5±0.5, 1366N×12070E, h35km, mb4.6/6, Error ellipse: s-maj=23.8km s-min=9.3km az=59.0*
*MOS **22** 01:04:07.6±0.9, 1368N×12084E, h81km, mb4.3/13, Error ellipse: s-maj=32.1km s-min=10.3km az=114.9*
*ISCJB **22** 01:04:08.8±5.9, 137N±01×1209E±02, h92km±55km, mb4.2/21, Error ellipse: s-maj=32.0km s-min=10.6km az=153.7*
*IDC **22** 01:04:14.9±9.0, 1363N×12077E, h131km±85km, mb3.6/10, mb1 3.8/10, mb1mx3.6/22, mbtmp3.6/10, Error ellipse: s-maj=52.3km s-min=15.9km az=64.0*
ISC 22 01:04:10.8±5.8, 137N±01×1209E±02, h94km±55km, n43, σ0§77/44, mb4.2/21, 4C-1D, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QIZ	**Qiongzhong**	**11.86**	**298**	*e*Pn	**Pn**	**01 06 47.4**	**-9.3**
239nm,2.3s							
XAN	**Xi'an**	**22.99**	**334**	P	**P**	**01 09 07.4**	**-0.1**
XAN				AP		01 09 14.3	
XAN				AMB	AMB		
comp=Z,5.0nm,0.8s,mb3.9							
LSA	**Lhasa**	**31.77**	**305**	*e*P	**P**	**01 10 25.9**	**-0.3**
comp=Z,4.7nm,0.4s,mb4.6							
LSA	**Lhasa**	**31.77**	**305**	*e*P	**P**	**01 10 25.9**	**-0.3**
LSA				pmax	pmax		
comp=Z,5.0nm,0.4s,mb4.6							
WRAB	**Tennant Creek**	**35.94**	**158**	*e*P	**P**	**01 11 01.8**	**-0.6**
comp=Z,1.7nm,0.7s,mb4.1							
WRAB	**Tennant Creek**	**35.94**	**158**	*e*P	**P**	**01 11 01.8**	**-0.6**
WRAB				pmax	pmax		
comp=Z,2.0nm,0.7s,mb4.2							
WRA	**Warramunga Arr**	**35.95**	**158**	P	**P**	**01 11 02.4**	**0.0**
WRA				*PP	pP	01 11 26.2	+2.2
WRA				pmax	pmax		
comp=Z,1.0nm,0.6s							
WRA	**Warramunga Arr**	**35.95**	**158**	P	**P**	**01 11 02.4**	**0.0**
comp=Z,0.4nm,0.4s,mb3.7,baz=336,slow=9.6,SNR=7.8							
WRA				pP	pP	01 11 26.2	+2.2
comp=Z,0.8nm,0.6s,baz=335,slow=9.6,SNR=3.8							
WB2	**Warramunga Arr**	**35.95**	**158**	*e*P	**P**	**01 11 02.2**	**-0.3**
ULN	**Ulaanbaatar**	**35.97**	**344**	*ce*P	**P**	**01 11 03.2**	**+0.9**
SONM	**Songino Array**	**36.12**	**343**	P	**P**	**01 11 04.3**	**+0.7**
SONM				pmax	pmax		
comp=Z,3.0nm,0.7s							
SONM	**Songino Array**	**36.12**	**343**	P	**P**	**01 11 04.3**	**+0.7**
comp=Z,3.1nm,0.7s,mb4.3,baz=162,slow=10,SNR=25							
ASAR	**Alice Springs**	**39.25**	**161**	P	**P**	**01 11 31.0**	**+0.7**
ASAR				*PP	pP	01 11 56.5	+4.4
ASAR				pmax	pmax		
comp=Z,1.0nm,0.6s							
ASAR	**Alice Springs**	**39.25**	**161**	P	**P**	**01 11 30.9**	**+0.7**
comp=Z,0.2nm,0.3s,mb3.4,baz=336,slow=6.6,SNR=7.3							
ASAR				pP	pP	01 11 56.5	+4.4
comp=Z,0.8nm,0.6s,baz=338,slow=6.9,SNR=5.8							
ZAK	**Zakamensk**	**39.31**	**342**	*e*P	**P**	**01 11 29.1**	**-1.3**
ZAK				*e*		01 12 00.7	
ZAK				pmax	pmax		
comp=Z,1.0nm,0.9s,mb3.6							
ZAK				pmax	pmax		
comp=Z,1.0nm,0.9s,mb3.6							
MK31	**Makanchi Array**	**46.15**	**324**	*e*P	**P**	**01 12 26.6**	**+0.8**
MKAR	**Makanchi Array**	**46.15**	**324**	P	**P**	**01 12 26.6**	**+0.8**
MKAR				pmax	pmax		
comp=Z,3.0nm,0.7s							
MKAR	**Makanchi Array**	**46.15**	**324**	P	**P**	**01 12 26.6**	**+0.8**
comp=Z,3.4nm,0.7s,mb4.2,baz=131,slow=9.1,SNR=33							
ZAL	**Zalesovo**	**49.15**	**333**	P	**P**	**01 12 46.1**	**-2.8**
AAK	**Ala-Archa**	**49.20**	**315**	⇑*i*P	**P**	**01 12 50.4**	**+0.9**
STKA	**Stephens Creek**	**49.47**	**157**	*e*P	**P**	**01 12 51.7**	**+0.1**
comp=Z,0.7nm,0.3s,mb4.1							
KURK	**Kurchatov**	**50.30**	**326**	*e*P	**P**	**01 12 58.2**	**+0.5**
comp=Z,19nm,0.6s,mb5.2							
KURK	**Kurchatov**	**50.30**	**326**	*e*P	**P**	**01 12 58.2**	**+0.5**
KURK				pmax	pmax		
comp=Z,19nm,0.6s,mb5.2							
MA2	**Magadan**	**50.85**	**19**	*e*P	**P**	**01 12 58.0**	**-3.6**
comp=Z,12nm,1.1s,mb4.8							
MA2	**Magadan**	**50.85**	**19**	*e*P	**P**	**01 12 58.0**	**-3.6**
MA2				pmax	pmax		
comp=Z,12nm,1.1s,mb4.8							
TIXI	**Tiksi**	**58.13**	**3**	⇑*e*P	**P**	**01 13 53.9**	**-0.3**
TIXI				pmax	pmax		
comp=Z,5.0nm,1.6s,mb4.3							
BILL	**Bilibino**	**61.66**	**18**	*e*P	**P**	**01 14 18.6**	**+0.2**
comp=Z,2.2nm,0.3s,mb4.7							
BILL	**Bilibino**	**61.66**	**18**	*e*P	**P**	**01 14 18.6**	**+0.2**
BILL				pmax	pmax		
comp=Z,2.0nm,0.3s,mb4.6							
AKTK	**Aktyubinsk**	**62.34**	**320**	P	**P**	**01 14 23.2**	**-0.1**
AKTO	**Aktyubinsk**	**62.34**	**320**	P	**P**	**01 14 23.2**	**-0.1**
AKTO				pmax	pmax		
comp=Z,2.0nm,0.5s,mb4.4							
AKTO	**Aktyubinsk**	**62.34**	**320**	P	**P**	**01 14 23.2**	**-0.1**
comp=Z,1.8nm,0.5s,mb4.4,baz=98,slow=8.2,SNR=9.1							
ARU	**Arti**	**63.49**	**327**	*c i*P	**P**	**01 14 29.8**	**-1.0**
ARU				*e*		01 15 02.1	
ARU				*e*		01 16 48.5	
ARU				*e*PPP		01 18 19.3	
ARU				*e*S	**S**	**01 22 47.0**	**-10**
ARU				pmax	pmax		
comp=Z,2.0nm,0.3s,mb4.5							
KIV	**Kislovodsk**	**72.17**	**312**	*d i*P	**P**	**01 15 25.6**	**+0.1**
KIV				pmax	pmax		
comp=Z,4.0nm,0.6s,mb4.4							
ARCES	**ARCESS Array B**	**79.16**	**339**	P	**P**	**01 16 04.8**	**-0.1**
ARCES				pmax	pmax		
comp=Z,1.0nm,0.5s							
ARCES	**ARCESS Array B**	**79.16**	**339**	P	**P**	**01 16 04.8**	**-0.1**
comp=Z,1.1nm,0.5s,mb4.0,baz=74,slow=6.9,SNR=16							
INK	**Inuvik**	**83.04**	**21**	P	**P**	**01 16 26.1**	**+0.6**
INK				pmax	pmax		
comp=Z,1.0nm,0.8s							
INK	**Inuvik**	**83.04**	**21**	P	**P**	**01 16 26.1**	**+0.7**
comp=Z,1.0nm,0.8s,mb3.7,baz=247,slow=5.9,SNR=4.6							

MLR Muntele Rosu 83.79 315 P **P** **01 16 30.0 +0.2**
MLR pmax pmax
comp=Z,1.0nm,0.5s
MLR Muntele Rosu 83.79 315 P **P** **01 16 30.0 +0.2**
comp=Z,0.8nm,0.5s,mb3.8,baz=183,slow=20,SNR=3.6
NOA NORSAR Array B 87.35 333 P **P** **01 16 46.1 -1.0**
NOA pmax pmax
comp=Z,1.0nm,0.7s
NOA NORSAR Array B 87.35 333 P **P** **01 16 46.1 -1.1**
comp=Z,0.8nm,0.7s,mb3.8,baz=70,slow=4.7,SNR=3.5
YKA Yellowknife Ar 92.71 23 P **P** **01 17 12.8 +0.7**
YKA Yellowknife Ar 92.71 23 P **P** **01 17 12.8 +0.7**
comp=Z,0.2nm,0.5s,mb3.7,baz=308,slow=4.3,SNR=6.4

GUC 22 01:12:40.6±0.6, 3150S×7162W, h23km±4km, MD3.7, ML2.7, 2C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHNG	**Los Chungos**	**0.40**	**165**	⇑*i*P	Pb	01 12 30.4	-19
CHNG				*i* S	Sb	01 12 36.7	-18
CHNG				AML	AML	01 12 37.3	
comp=E,753nm,0.4s							
CMCH	**Combarbala**	**0.62**	**59**	⇑*i*P	Pb	01 12 52.5	-0.2
CMCH				*i* S	Sb	01 13 01.5	+0.5
CMCH				AML	AML	01 13 05.2	
comp=N,896nm,0.3s							
OVCH	**Ovalle**	**0.96**	**22**	*i* S	Sb	01 13 10.7	0.0
OVCH				AML	AML	01 13 12.5	
comp=N,327nm,0.3s							
TLL	**Tololo Astrono**	**1.50**	**28**	⇓*i*P	Pn	01 13 06.8	+0.7
TLL				*i* S	Sn	01 13 26.7	+1.8
TLL				AML	AML	01 13 31.6	
comp=N,183nm,0.4s							
PEL	**Peldehue**	**1.82**	**155**	*e*P	Pn	01 13 11.6	+1.1
PEL				*i* S	Sn	01 13 34.8	+1.9
PEL				AML	AML	01 13 39.0	
comp=E,163nm,0.3s							
FCH	**Farellones**	**2.14**	**149**	*e*P	Pn	01 13 17.1	+2.1
FCH				*i* S	Sn	01 13 44.2	+3.4
FCH				AML	AML	01 13 46.9	
comp=E,52nm,0.2s							
LMEL	**Las Melosas**	**2.63**	**153**	*e*P	Pn	01 13 23.0	+1.4
LMEL				*i* S	Sn	01 13 56.1	+3.3
LMEL				AML	AML	01 14 03.0	
comp=N,66nm,0.3s							

*NEIC **22** 01:13:25.3±0.8, 4656N×15579E, h10km, Error ellipse: s-maj=28.3km s-min=20.8km az=132.0*
IDC 22 01:13:23.7±0.8, 4654N×15582E, h0km, mb3.6/8, mb1 3.9/8, mb1mx3.6/22, mbtmp3.6/8, Error ellipse: s-maj=30.5km s-min=22.1km az=131.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YKA	**Yellowknife Ar**	**49.97**	**37**	P	P	01 22 18.8	-0.1
0.1nm,0.6s,baz=293,slow=7.1,SNR=3.0							
BVAR	**Borovoye Array**	**52.42**	**311**	P	P	01 22 35.9	-1.6
0.8nm,0.5s,baz=63,slow=10,SNR=7.0							
NVAR	**Mina Array Bea**	**60.87**	**64**	P	P	01 23 38.8	+1.0
0.2nm,0.6s,baz=265,slow=7.0,SNR=4.1							
PDAR	**Pinedale Array**	**63.35**	**55**	P	P	01 23 53.7	-0.7
0.4nm,0.8s,baz=308,slow=4.4,SNR=3.0							
FINES	**FINESS Array B**	**65.01**	**336**	P	P	01 24 06.7	+1.7
1.4nm,0.9s,baz=46,slow=9.9,SNR=6.2							
WRA	**Warramunga Arr**	**68.97**	**202**	P	P	01 24 29.8	-0.7
0.8nm,0.8s,baz=22,slow=6.6,SNR=4.9							
ASAR	**Alice Springs**	**72.64**	**201**	P	P	01 24 53.9	+1.0
0.6nm,0.7s,baz=14,slow=5.5,SNR=7.0							
TXAR	**Lajitas Array**	**75.95**	**62**	P	P	01 25 12.6	+0.2
TXAR	**Lajitas Array**	**75.95**	**62**	P	P	01 25 12.6	+0.2
1.0nm,0.7s,baz=310,slow=4.4,SNR=8.4							

*NEIC **22** 01:17:02.7, 1870N×6460W, h47km, MD3.6(RSPR), After RSPR.*
RSPR 22 01:17:02.7, 1870N×6460W, h47km±1km, MD3.5/14, MD3.5/14, 11C-3D, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TBVI	**Tortola**	**0.28**	**183**	⇑*i*P	Pn	01 17 10.7	-0.6
TBVI				*e*S	Sn	01 17 16.6	-0.9
STVI	**Saint Thomas**	**0.48**	**224**	⇓*i*P	Pn	01 17 12.7	-0.8
STVI				*e*S	Sn	01 17 20.6	-0.6
CDVI	**St. Croix**	**0.95**	**189**	⇓*i*P	Pn	01 17 18.8	-1.0
CDVI				*e*S	Sn	01 17 31.2	-1.0
SJG	**San Juan**	**1.58**	**249**	⇓*e*P	Pn	01 17 27.3	-1.0
CELP	**Cerrillos**	**1.98**	**252**	⇑*e*P	Pn	01 17 33.3	-0.4
CELP				*e*S	Sn	01 17 55.9	-1.4
ICM	**Isla Caja Muer**	**1.99**	**247**	⇑*e*P	Pn	01 17 34.2	+0.3
ICM				*e*S	Sn	01 17 57.0	-0.6
OBIP	**Obispado Ponce**	**2.01**	**251**	⇑*e*P	Pn	01 17 33.9	-0.2
OBIP				*e*S	Sn	01 17 57.1	-1.0
AOPR	**Arecibo Observ**	**2.07**	**261**	⇑*e*P	Pn	01 17 34.2	-0.8
AOPR				*e*S	Sn	01 17 58.9	-0.7
LRS	**Lares**	**2.17**	**260**	⇑*e*P	Pn	01 17 35.6	-0.7
GBPR	**Guanica, Bosqu**	**2.28**	**252**	⇑*e*P	Pn	01 17 39.0	+1.2
GBPR	**Guanica, Bosqu**	**2.28**	**252**	*e*S	Sn	01 18 05.3	+0.6
AGPR	**Aguadilla, PR**	**2.39**	**265**	⇑*e*P	Pn	01 17 38.7	-0.7
AGPR				*e*S	Sn	01 18 05.9	-1.6
LSP	**Las Mesas**	**2.41**	**258**	⇑*e*P	Pn	01 17 39.4	-0.3
LSP				*e*S	Sn	01 18 07.7	-0.3
CRPR	**Cabo Rojo, PR**	**2.48**	**254**	⇑*e*P	Pn	01 17 40.3	-0.3
CRPR				*e*S	Sn	01 18 08.3	-1.3
SMN1	**Samana, DR**	**4.45**	**277**	⇑*e*P	Pn	01 18 07.6	-0.1

*IDC **22** 01:29:07.8±0.9, 3893N×7151E, h0km, mb3.9/12, mb1 4.0/16, mb1mx3.9/27, mbtmp3.9/16, ML4.0/4, MS3.1/2, Ms1 3.1/2, ms1mx2.6/38, Error ellipse: s-maj=16.6km s-min=14.8km az=173.0*
*BJI **22** 01:29:08.0, 3902N×7107E, h32km, mb3.9, ML3.5*
*NNC **22** 01:29:11.3±3.1, 3915N×7130E, h3km±15km, mb4.2, mpv4.2, Error ellipse: s-maj=21.8km s-min=13.3km az=7.0*
*NEIC **22** 01:29:12.7±0.7, 3934N×7130E, h10km, mb4.2/12, Error ellipse: s-maj=13.2km s-min=6.4km az=149.0*
*ISCJB **22** 01:29:15.2±0.7, 3932N±004×7142E±006, h52km±8km, mb3.9/25, Error ellipse: s-maj=8.3km s-min=5.6km az=26.6*
*MOS **22** 01:29:19.7±1.0, 3978N×7140E, h68km, mb4.2/17, Error ellipse: s-maj=10.1km s-min=7.4km az=98.9*
ISC 22 01:29:16.9±0.6, 3933N±004×7137E±005, h45km±7km, n99, σ1§19/115, mb3.9/25, 9C-7D, Tajikistan

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SNR=53
ULHL Ulahol 4.71 50 P **Pn 01 30 25.4 +0.1**
SNR=13
TKM2 Tokmak 2 4.80 40 ⇑Pn **Pn 01 30 27.7 +1.1**
comp=E,13nm,0.4s
TKM2 ⇓Pg **Pn 01 30 42.8 +16**
comp=E,20nm,0.5s
TKM2 ⇑Sn **Sn 01 31 26.5 +5.6**
comp=E,32nm,0.6s
TKM2 ⇓Lg 01 31 48.5
comp=E,26nm,0.6s
TKM2 Tokmak 2 4.80 40 *e*Pn **Pn 01 30 27.4 +0.9**
TKM2 *e*Sn **Sn 01 31 19.8 -1.1**
TKM2 Tokmak 2 4.80 40 P **Pn 01 30 27.9 +1.3**
SNR=44
KBL Kabul 5.13 202 *e*Pn **Pn 01 30 29.9 -1.2**
comp=E,27nm,0.4s
KBL *e*Sn **Sn 01 31 28.2 -0.8**
MK31 Makanchi Array 10.92 43 ⇑Pn **Pn 01 31 50.2 -0.2**
comp=E,1.6nm,0.7s,baz=232,slow=15,SNR=11
MK31 ⇑Lg 01 35 03.5
comp=E,1.8nm,0.6s
MK31 Makanchi Array 10.92 43 *e*P **Pn 01 31 50.0 -0.4**
MKAR Makanchi Array 10.92 43 Pn **Pn 01 31 49.5 -0.9**
comp=E,0.4nm,0.3s,baz=234,slow=14,SNR=9.4
KURK Kurchatov 12.48 22⇓*e*P **Pn 01 32 07.1 -4.5**
AB31 Akbulak array 12.85 324 Pn **Pn 01 32 13.1 -3.6**
comp=E,1.7nm,0.4s,baz=137,slow=12,SNR=113
AB31 ⇓Sn **Sn 01 34 37.1 -1.1**
comp=E,5.9nm,0.5s
VOSK Vostochnaya 13.40 359 ⇓Pn **Pn 01 32 25.1 +0.9**
comp=E,6.7nm,2.1s
VOSK ⇑Sn **Sn 01 34 58.1 +6.6**
comp=E,2.9nm,0.8s
VOSK ⇓Lg 01 36 22.4
comp=E,7.7nm,1.2s
BVA0 Borovoye Array 13.72 357 Pn **Pn 01 32 28.9 +0.4**
comp=E,0.3nm,0.5s,baz=150,slow=11,SNR=18
BVA0 ⇑Lg 01 36 33.9
comp=E,1.4nm,0.9s,baz=178,slow=27,SNR=4.0
BVAR Borovoye Array 13.72 357 P **Pn 01 32 25.8 -2.7**
BVAR 01 34 59.5
BVAR pmax pmax
comp=Z,1.0nm,0.3s
BVAR MLR MLR
comp=Z,47nm,20.4s
BVAR Borovoye Array 13.72 357 Pn **Pn 01 32 25.8 -2.7**
comp=Z,0.7nm,0.3s,baz=156,slow=11,SNR=13
BVAR Sn **Sn 01 34 59.5 +0.2**
comp=Z,0.2nm,0.3s,baz=169,slow=24,SNR=6.8
BVAR LR LR 01 38 12.9
comp=Z,47nm,20.4s,baz=347,slow=39
BRVK Borovoye 13.76 357 *e*Pn **Pn 01 32 26.0 -3.0**
comp=Z,4.0nm,0.8s
BRVK *e*Sn **Sn 01 35 01.2 +1.0**
BRVK Borovoye 13.76 357 *e*P **Pn 01 32 26.0 -3.0**
BRVK *e* 01 35 01.2
BRVK pmax pmax
comp=Z,4.0nm,0.8s
AKTK Aktyubinsk 14.57 324 Pn **Pn 01 32 36.5 -3.5**
AKTK Sn **Sn 01 35 18.1 -1.9**
AKTO Aktyubinsk 14.57 324 P **Pn 01 32 36.5 -3.5**
AKTO 01 35 18.1
AKTO pmax pmax
comp=Z,1.0nm,0.3s
AKTO Aktyubinsk 14.57 324 Pn **Pn 01 32 36.5 -3.5**
comp=Z,0.7nm,0.3s,baz=137,slow=13,SNR=12
AKTO Sn **Sn 01 35 18.1 -1.9**
comp=Z,0.3nm,0.3s,baz=360,slow=21,SNR=7.1
ZAL Zalesovo 17.23 28 P **Pn 01 33 12.5 -1.5**
ZALV Zalesovo Beam 17.25 28 P **Pn 01 33 12.5 -1.7**
comp=Z,1.1nm,0.3s,baz=209,slow=9.3,SNR=16
ARU Arti 19.09 338 *e*P **Pn 01 33 31.2 -5.5**
comp=Z,4.0nm,0.6s
ARU Arti 19.09 338*c i*P **Pn 01 33 31.4 -5.2**
ARU *e*S **S 01 36 56.0 -13**
ARU pmax pmax
comp=Z,33nm,5.0s
ONI Oni 21.30 288 P **P 01 34 01.0 +1.4**
KIV Kislovodsk 21.88 292 *e*P **P 01 34 05.3 -0.4**
comp=Z,5.2nm,0.7s,mb4.1
KIV *e* 01 38 03.7
KIV Kislovodsk 21.88 292 *e*P **P 01 34 07.9 +2.2**
KIV *e* 01 34 27.9
KIV pmax pmax
comp=Z,4.0nm,0.6s,mb4.0
GTA Gaotai 21.95 81 *e*P **P 01 34 01.8 -4.8**
GTA AP 01 34 07.8
GTA AMB AMB
comp=Z,3.0nm,1.2s,mb3.6
ZAK Zakamensk 24.98 53 *e*P **P 01 34 35.2 -0.9**
ZAK pmax pmax
comp=Z,1.0nm,1.4s,mb3.1
MALT Malatya 25.61 278 *e*P **P 01 34 44.1 +2.2**
comp=Z,1.8nm,0.8s,mb3.6
MALT Malatya 25.61 278 *e*P **P 01 34 44.1 +2.2**
MALT pmax pmax
comp=Z,2.0nm,0.8s,mb3.7
SONM Songino Array 26.57 60 P **P 01 34 48.6 -1.9**
SONM pmax pmax
comp=Z,1.0nm,0.7s
SONM Songino Array 26.57 60 P **P 01 34 48.6 -1.8**
comp=Z,0.8nm,0.7s,mb3.3,baz=257,slow=9.0,SNR=6.0
AKASG Malin Array Be 31.48 305 P **P 01 35 33.4 -0.7**
comp=Z,0.3nm,0.4s,mb3.5,baz=81,slow=7.7,SNR=3.5
BOD Bodaibo 33.01 42 *e*P **P 01 35 45.8 -1.6**
JOF Joensuu 33.60 328 *e*p **P 01 35 54.3 +1.8**
FINES FINESS Array B 35.34 324 P **P 01 36 07.5 0.0**
FINES pmax pmax
comp=Z,1.0nm,0.5s
FINES FINESS Array B 35.34 324 P **P 01 36 07.5 0.0**
comp=Z,0.9nm,0.5s,mb4.0,baz=116,slow=9.8,SNR=10
ARCES ARCESS Array B 38.66 336 P **P 01 36 36.4 +0.8**
ARCES pmax pmax
comp=Z,2.0nm,0.7s
ARCES MLR MLR
comp=Z,34nm,19.1s
ARCES ARCESS Array B 38.66 336 P **P 01 36 36.4 +0.7**
comp=Z,2.1nm,0.7s,mb4.0,baz=110,slow=9.5,SNR=7.2
ARCES LR LR 01 53 54.8
comp=Z,34nm,19.1s,baz=63,slow=38
HFS Hagfors 41.06 320 P **P 01 36 55.5 -0.1**
HFS pmax pmax
comp=Z,2.0nm,0.4s
HFS Hagfors 41.06 320 P **P 01 36 55.5 -0.1**
comp=Z,2.0nm,0.4s,mb4.1,baz=107,slow=8.1,SNR=18
GERES GERESS Array B 41.59 303 P **P 01 37 01.0 +0.8**
comp=Z,0.4nm,0.5s,mb3.3,baz=63,slow=9.1,SNR=5.6
NB2 NORSAR Subarra 42.33 321 P **P 01 37 05.3 -0.7**
comp=Z,0.5nm,0.6s,mb3.3,baz=107,slow=7.9
NOA NORSAR Array B 42.33 321 P **P 01 37 05.6 -0.4**
NOA pmax pmax
comp=Z,2.0nm,1.0s
NOA NORSAR Array B 42.33 321 P **P 01 37 05.6 -0.4**
comp=Z,1.9nm,1.0s,mb3.7,baz=92,slow=8.1,SNR=3.6
TIXI Tiksi 43.05 23 *e*P **P 01 37 10.6 -1.1**
comp=Z,4.7nm,0.8s,mb4.3
TIXI Tiksi 43.05 23⇓*i*P **P 01 37 11.3 -0.4**
TIXI pmax pmax
comp=Z,5.0nm,1.0s,mb4.2
DAVOX Davos/Dischmat 44.53 301 P **P 01 37 23.4 -0.5**
DAVOX Davos/Dischmat 44.53 301 P **P 01 37 23.4 -0.5**
comp=Z,0.7nm,0.4s,mb3.9,baz=112,slow=8.5,SNR=7.5
LPG La Plagne 46.96 300 *e*P **P 01 37 44.6 +1.5**
LPL La Plagne 46.97 300 *e*P **P 01 37 44.1 +0.9**
comp=Z,3.3nm,0.6s,mb4.1
LPL La Plagne 46.97 300 *e*P **P 01 37 44.1 +0.9**
comp=Z,1.6nm,0.6s,mb4.1
LPL La Plagne 46.97 300 *e*P **P 01 37 44.1 +0.9**
LPL pmax pmax
comp=Z,2.0nm,0.6s,mb4.2
CABF La Chapelle 47.09 301 *e*P **P 01 37 45.3 +1.2**
SMF Signal de Mont 48.57 302 *e*P **P 01 37 55.4 -0.2**
comp=Z,1.8nm,0.6s,mb4.0
SMF Signal de Mont 48.57 302 *e*P **P 01 37 55.4 -0.2**
comp=Z,0.9nm,0.6s,mb4.0
SMF Signal de Mont 48.57 302 *e*P **P 01 37 55.4 -0.2**
SMF pmax pmax
comp=Z,1.0nm,0.6s,mb4.0
SSF Saint Saulge 48.67 303 *e*P **P 01 37 57.2 +0.9**
AVF Avril sur Loir 48.85 302 *e*P **P 01 37 57.7 0.0**
comp=Z,3.3nm,0.7s,mb4.2
AVF Avril sur Loir 48.85 302 *e*P **P 01 37 57.7 0.0**
comp=Z,1.6nm,0.7s,mb4.2
AVF Avril sur Loir 48.85 302 *e*P **P 01 37 57.7 0.0**
AVF pmax pmax
comp=Z,2.0nm,0.7s,mb4.3
BGF Bois d'Agland 49.25 302 *e*P **P 01 38 01.3 +0.5**
TCF Toulx Ste Croi 49.75 302 *e*P **P 01 38 05.0 +0.4**
comp=Z,2.7nm,0.7s,mb4.1
TCF Toulx Ste Croi 49.75 302 *e*P **P 01 38 05.0 +0.4**
comp=Z,1.4nm,0.7s,mb4.1
TCF Toulx Ste Croi 49.75 302 *e*P **P 01 38 05.0 +0.4**
TCF pmax pmax
comp=Z,1.0nm,0.7s,mb4.0
LDF La Druitiere 50.55 305 *e*P **P 01 38 11.0 +0.4**
comp=Z,3.2nm,0.5s,mb4.2
LDF La Druitiere 50.55 305 *e*P **P 01 38 11.0 +0.4**
comp=Z,1.6nm,0.5s,mb4.2
LDF La Druitiere 50.55 305 *e*P **P 01 38 11.0 +0.4**
LDF pmax pmax
comp=Z,2.0nm,0.5s,mb4.3
GRR Gorron 51.08 305 *e*P **P 01 38 14.1 -0.5**
comp=Z,3.5nm,0.5s,mb4.2
GRR Gorron 51.08 305 *e*P **P 01 38 14.1 -0.5**
comp=Z,1.8nm,0.5s,mb4.3
GRR Gorron 51.08 305 *e*P **P 01 38 14.1 -0.5**
GRR pmax pmax
comp=Z,2.0nm,0.5s,mb4.3
MFF Saint Martin d 51.19 303 *e*P **P 01 38 16.1 +0.6**
SGMF Saint Gilles 52.19 306 *e*P **P 01 38 23.5 +0.6**
comp=Z,5.6nm,0.7s,mb4.3
SGMF Saint Gilles 52.19 306 *e*P **P 01 38 23.5 +0.6**
comp=Z,2.8nm,0.7s,mb4.3
SGMF Saint Gilles 52.19 306 *e*P **P 01 38 23.5 +0.6**
SGMF pmax pmax
comp=Z,3.0nm,0.7s,mb4.3
ROSF Rostrenen 52.62 306 *e*P **P 01 38 25.9 -0.1**
QUIF Quistinic 52.69 305 *e*P **P 01 38 27.3 +0.7**
comp=Z,3.9nm,0.7s,mb4.2
QUIF Quistinic 52.69 305 *e*P **P 01 38 27.3 +0.7**
comp=Z,2.0nm,0.7s,mb4.2
QUIF Quistinic 52.69 305 *e*P **P 01 38 27.3 +0.7**
QUIF pmax pmax
comp=Z,2.0nm,0.7s,mb4.2
ESDC Sonseca Array 56.44 296 P **P 01 38 53.2 -0.6**
comp=Z,0.5nm,0.5s,mb3.8,baz=57,slow=7.2,SNR=5.8
TORD Torodi Ar. Bea 66.11 268 P **P 01 39 57.7 -2.0**
TORD Torodi Ar. Bea 66.11 268 P **P 01 39 57.7 -1.9**
comp=Z,2.0nm,0.6s,mb4.3,baz=47,slow=5.0,SNR=52
YKA Yellowknife Ar 78.41 3 P **P 01 41 11.8 -0.5**
YKA pmax pmax
comp=Z,1.0nm,0.6s
YKA Yellowknife Ar 78.41 3 P **P 01 41 11.8 -0.5**
comp=Z,0.5nm,0.6s,mb3.7,baz=351,slow=5.7,SNR=18
WRA Warramunga Arr 83.24 122 P **P 01 41 35.1 -3.6**
WRA pmax pmax
comp=Z,1.0nm,0.7s
WRA Warramunga Arr 83.24 122 P **P 01 41 35.1 -3.6**
comp=Z,0.5nm,0.7s,mb3.6,baz=330,slow=5.2,SNR=6.6

MOS 22 01:47:01.8±0.1, 4229N×4700E, h132km, mb3.5/1, Error ellipse: s-maj=99.9km s-min=16.7km az=27.1, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
VLKR	**Vladikavkaz**	**1.87**	**295**	*e*P		Pn	01 47 34.8	+0.5
VLKR				*e*S		Sn	01 47 59.0	-0.2
LACR	**Lac**	**2.07**	**286**	*e*P		Pn	01 47 37.3	+0.7
LACR				*e*S		Sn	01 48 03.3	-0.1
BTKR	**Batakoyurt**	**2.11**	**302**	*e*P		Pn	01 47 37.8	+0.7
BTKR				*e*S		Sn	01 48 04.2	0.0
KORR	**Kora**	**2.30**	**291**	*e*P		Pn	01 47 40.3	+0.8
KORR				*e*S		Sn	01 48 08.4	-0.2
ZEI	**Tsey**	**2.34**	**283**	*e*P		Pn	01 47 40.8	+0.8
ZEI				*e*S		Sn	01 48 09.2	-0.2
LSNR	**Lesken**	**2.54**	**294**	*e*P		Pn	01 47 43.4	+0.9
LSNR				*e*S		Sn	01 48 13.8	-0.1
DIGR	**Digorskoe uzhe**	**2.60**	**285**	*e*P		Pn	01 47 44.1	+0.9
DIGR				*e*S		Sn	01 48 14.9	-0.3

CSEM 22 01:48:46.4, 4294N×4703E, h10km, mb3.9, After OBN

MOS 22 01:48:46.4±2.3, 4294N×4703E, h10km, mb3.9/1, 1C-1D, Error ellipse: s-maj=17.7km s-min=9.2km az=10.3, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
DBC	**Dubki**	**0.17**	**297**	⇑*i*PG		Pg	01 48 48.0	-2.0
DBC					pmax	pmax		
	comp=Z,346nm,0.1s							
DBC	**Dubki**	**0.17**	**297**	*i* Pg		Pg	01 48 48.0	-2.0
	comp=Z,346nm,0.1s							
UNCR	**Uncukul**	**0.29**	**217**	*i* PG		Pg	01 48 52.7	+0.5
UNCR				*i* S		Sg	01 49 00.7	+4.6
UNCR					pmax	pmax		
	comp=Z,64nm,0.3s							
UNCR	**Uncukul**	**0.29**	**217**	*i* Pg		Pg	01 48 52.7	+0.5
	comp=Z,64nm,0.3s							
UNCR				*i* Sg		Sg	01 49 00.7	+4.6
DLMR	**Dylym**	**0.32**	**293**	⇓*i*PG		Pg	01 48 50.2	-2.6
DLMR				*i* S		Sg	01 48 57.8	+0.7
DLMR					pmax	pmax		
	comp=Z,246nm,0.3s							
DLMR	**Dylym**	**0.32**	**293**	*i* Pg		Pg	01 48 50.2	-2.6
	comp=Z,246nm,0.3s							
DLMR				*i* Sg		Sg	01 48 57.8	+0.7
BTLR	**Botlikh**	**0.66**	**245**	*e*PG		Pg	01 48 59.5	+0.4
BTLR				*i* S		Sg	01 49 13.0	+5.2
BTLR					pmax	pmax		
	comp=Z,29nm,0.3s							
BTLR	**Botlikh**	**0.66**	**245**	*e*Pg		Pg	01 48 59.5	+0.4
	comp=Z,29nm,0.3s							
BTLR				*i* Sg		Sg	01 49 13.0	+5.2
SNJR	**Sundja**	**1.63**	**275**	*e*Pn		Pn	01 49 18.2	+3.0
SNJR				*i* Sg		Sg	01 49 42.2	+3.3
TRKR	**Terskaya**	**1.85**	**296**	*e*Pn		Pn	01 49 20.6	+2.4
TRKR				*i* Sg		Sg	01 49 46.6	+0.7
BTKR	**Batakoyurt**	**1.87**	**284**	*e*Pn		Pn	01 49 22.0	+3.5
BTKR				*e*Sg		Sg	01 49 48.7	+2.1
LACR	**Lac**	**2.02**	**268**	*i* Pn		Pn	01 49 21.8	+1.4
ARNR	**Ardon**	**2.03**	**278**	*e*PN		Pn	01 49 23.3	+2.6
ARNR				*e*S		Sn	01 49 51.0	+4.9
PRTR	**Priterechnaya**	**2.16**	**293**	*e*Pn		Pn	01 49 26.4	+4.0
PRTR				*i* Sb		Sb	01 49 56.3	+3.8
KORR	**Kora**	**2.18**	**275**	*e*Pn		Pn	01 49 24.8	+2.1
KORR				*e*Sn		Sn	01 49 53.7	+4.0
ZEI	**Tsey**	**2.31**	**267**	*i* Pn		Pn	01 49 25.3	+0.8
ZEI				*i* Sn		Sn	01 49 54.6	+1.6
DIGR	**Digorskoe uzhe**	**2.54**	**270**	*e*Pn		Pn	01 49 28.5	+0.9
DIGR				*e*Sn		Sn	01 50 00.3	+1.8

IDC 22 01:58:17.9±1.9, 3546S×7849E, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.6/16, mbtmp3.7/4, MS3.9/12, Ms1 3.9/12, ms1mx3.7/24, Error ellipse: s-maj=97.5km s-min=32.6km az=11.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
NWAO	**Narrogin (SRO)**	**32.01**	**97**	LR		LR	02 13 45.4	
	comp=Z,158nm,20.7s,baz=201,slow=29							
MAW	**Mawson**	**33.42**	**191**	LR		LR	02 16 38.7	
	comp=Z,138nm,21.3s,baz=251,slow=33							
BOSA	**Boshof**	**45.19**	**263**	LR		LR	02 22 24.5	
	comp=Z,157nm,18.4s,baz=145,slow=32							
ASAR	**Alice Springs**	**49.05**	**92**	P		P	02 07 06.3	-0.5
	1.2nm,0.8s,baz=242,slow=7.8,SNR=4.6							
WRA	**Warramunga Arr**	**51.17**	**88**	P		P	02 07 23.7	+0.8
	2.0nm,0.8s,baz=238,slow=7.5,SNR=5.7							
WRA				LR		LR	02 28 02.6	
	comp=Z,173nm,19.6s,baz=145,slow=35							
STKA	**Stephens Creek**	**51.85**	**105**	LR		LR	02 23 54.1	
	comp=Z,98nm,21.1s,baz=205,slow=30							
SNAA	**Sanae**	**54.08**	**203**	LR		LR	02 27 04.3	
	comp=Z,35nm,21.5s,baz=129,slow=32							
VNDA	**Vanda**	**54.26**	**165**	LR		LR	02 29 10.9	
	comp=Z,142nm,18.6s,baz=72,slow=34							
QSPA	**South Pole Qui**	**54.70**	**180**	LR		LR	02 29 50.2	
	comp=Z,274nm,21.7s,baz=120,slow=35							
HNR	**Honiara**	**77.66**	**93**	LR		LR	02 42 13.5	
	comp=Z,70nm,18.7s,baz=359,slow=34							
SONM	**Songino Array**	**86.59**	**18**	P		P	02 11 02.6	0.0
	0.5nm,0.9s,baz=194,slow=5.5,SNR=3.4							
SONM				LR		LR	02 48 16.9	
	comp=Z,68nm,18.7s,baz=359,slow=35							
TORD	**Torodi Ar. Bea**	**87.07**	**288**	P		P	02 11 06.1	+0.4
	0.8nm,1.0s,baz=110,slow=5.2,SNR=3.9							
TORD				LR		LR	02 49 46.1	
	comp=Z,64nm,18.6s,baz=120,slow=36							
DBIC	**Dimbokro**	**88.44**	**279**	LR		LR	02 45 42.3	
	comp=Z,60nm,20.3s,baz=100,slow=32							
YKA	**Yellowknife Ar**	**151.72**	**13**	PKPbc		PKPbc	02 18 12.6	-0.8
	0.2nm,0.8s,baz=336,slow=1.4,SNR=3.9							

ISCJB 22 01:59:04.8±0.4, 4055N±002×34.10E±003, h11km±4km, Error ellipse: s-maj=3.9km s-min=3.4km az=160.1
CSEM 22 01:59:04.4±0.1, 4057N×3409E, h16km, MD3.4, Error ellipse: s-maj=1.7km s-min=1.5km az=175.0
ISK 22 01:59:04.7, 4058N×34.10E, h16km, MD3.4
DDA 22 01:59:05.3, 4049N×34.13E, h13km±1km, Md3.5

ISC 22 01:59:05.3±0.4, 4056N±002×3411E±003, h11km±4km, n33, σ0§80/46, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CANT	**Cankiri**	**0.38**	**277**	PG		**Pg**	**01 59 12.8**	**+0.1**
CANT				*e*SG		**Sg**	**01 59 19.1**	**+1.3**
TOS	**Tosya**	**0.48**	**352**	PG		**Pg**	**01 59 14.5**	**-0.1**
TOS				*e*SG		**Sg**	**01 59 21.4**	**+0.3**
CTKT	**Corum**	**0.52**	**83**	*i* P		**Pg**	**01 59 15.3**	**-0.1**
CTKT				*i* S		**Sg**	**01 59 22.9**	**+0.5**
ELDT	**Eldivan**	**0.53**	**262**	*i* P		**Pg**	**01 59 15.5**	**-0.1**
ELDT				*i* S		**Sg**	**01 59 22.8**	**+0.3**
CORM	**Corum**	**0.55**	**134**	*e*PG		**Pg**	**01 59 16.1**	**0.0**
CORM				*e*SG		**Sg**	**01 59 25.3**	**+1.9**
CDAG	**Cicekdag**	**0.96**	**168**	*i* P		**Pg**	**01 59 20.4**	**-3.4**
CDAG				*i* S		**Sg**	**01 59 33.7**	**-2.6**
BYBT	**Boyabat**	**1.03**	**29**	*e*PG		**Pg**	**01 59 24.6**	**-0.6**
BYBT				*e*SG		**Sg**	**01 59 38.8**	**+0.2**
BOYT	**Boyabat**	**1.05**	**35**	*i* P		**Pb**	**01 59 24.7**	**-0.7**
BOYT				*i* S		**Sg**	**01 59 39.0**	**-0.1**
BALT	**Daday**	**1.11**	**331**	*i* P		**Pb**	**01 59 26.1**	**-0.5**
BALT				*i* S		**Sb**	**01 59 42.1**	**+1.0**
ANTO	**Ankara**	**1.22**	**236**	*e*PN		**Pn**	**01 59 28.2**	**-0.2**
ANTO				*e*SN		**Sn**	**01 59 44.9**	**0.0**
KAMT	**Kaman**	**1.23**	**194**	*e*PN		**Pn**	**01 59 27.2**	**-1.2**
LOD	**Lodumlu**	**1.23**	**237**	*e*PN		**Pn**	**01 59 27.1**	**-1.3**
SAFT	**Safranbolu**	**1.27**	**303**	*e*PN		**Pn**	**01 59 28.1**	**-0.9**
YOZ	**Yozgat**	**1.31**	**134**	*e*PN		**Pn**	**01 59 29.3**	**-0.2**
DIKM	**Dikmen**	**1.39**	**38**	*e*PN		**Pn**	**01 59 30.8**	**+0.1**
BZK	**Bozkurt**	**1.40**	**357**	*e*PN		**Pn**	**01 59 30.1**	**-0.6**
KVT	**Kavak**	**1.56**	**70**	*e*PN		**Pn**	**01 59 32.8**	**-0.2**
AVNT	**Avonos**	**1.87**	**162**	*i* P		**Pn**	**01 59 38.0**	**+0.7**
AVNT				*i* S		**Sn**	**02 00 04.3**	**+3.4**
BNN	**Bunyan**	**2.17**	**141**	*e*PN		**Pn**	**01 59 41.4**	**0.0**
SVSK	**Karacayir**	**2.30**	**105**	*e*PN		**Pn**	**01 59 43.4**	**+0.2**
KIZT	**Kizilcal**	**2.40**	**226**	*e*PN		**Pn**	**01 59 44.2**	**-0.4**
NIG	**Nigde**	**2.48**	**171**	*e*PN		**Pn**	**01 59 45.7**	**0.0**
KDHN	**Kadinhani**	**2.56**	**218**	*i* P		**Pn**	**01 59 47.0**	**+0.4**
KDHN				*i* S		**Sn**	**02 00 19.6**	**+1.9**
ESKT	**Eskisehir**	**2.71**	**248**	*i* P		**Pn**	**01 59 48.9**	**+0.1**
ESKT				*i* S		**Sg**	**02 00 32.0**	**-0.3**
ESKT	**Eskisehir**	**2.71**	**248**	*e*Pn		**Pn**	**01 59 48.2**	**-0.6**
SEYT	**Eskypehyr**	**2.71**	**248**	*i* P		**Pn**	**01 59 48.9**	**+0.1**
GULT	**Gulveren**	**2.74**	**268**	*e*PN		**Pn**	**01 59 48.9**	**-0.3**
GPA	**Golpazari**	**2.91**	**266**	*e*PN		**Pn**	**01 59 51.3**	**-0.3**
KONT	**Konya--Tatoy**	**2.94**	**208**	*e*PN		**Pn**	**01 59 51.9**	**-0.1**
ALT	**Altintas**	**3.43**	**245**	*e*PN		**Pn**	**01 59 58.5**	**-0.2**
ESPY	**Espiye-Giresun**	**3.53**	**83**	*e*PN		**Pn**	**02 00 00.6**	**+0.6**
IZI	**Iznik**	**3.54**	**268**	*e*PN		**Pn**	**02 00 00.2**	**0.0**
YLV	**Yalova**	**3.61**	**272**	*e*PN		**Pn**	**02 00 02.1**	**+1.0**

ISCJB 22 02:11:06.7±0.7, 697N±008×7308W±009, h165km±7km, mb3.3/2, Error ellipse: s-maj=18.4km s-min=7.1km az=39.5
NEIC 22 02:11:07.8±0.8, 670N×7296W, h171km±9km, Error ellipse: s-maj=31.9km s-min=11.6km az=140.0
IDC 22 02:11:07.2±0.7, 674N×7292W, h163km±7km, mb3.1/2, mb1 3.4/5, mb1mx3.1/23, mbtmp3.3/5, Error ellipse: s-maj=30.9km s-min=7.6km az=133.0
FUNV 22 02:11:09.3, 698N×73.12W, h162km, MW3.4

ISC 22 02:11:07.8±0.7, 693N±008×7304W±009, h160km±7km, n16, σ1§12/23, mb3.3/2, 1C-1D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**1.18**	**38**	⇑*i*P		**Pn**	**02 11 36.3**	**+1.2**
CAPV				*e*S		**Sn**	**02 11 56.2**	**+0.3**
ROSC	**El Rosal**	**2.42**	**212**	P		**Pn**	**02 11 47.9**	**-0.7**
	11nm,0.3s,baz=286,slow=22,SNR=73							
ROSC				S		**Sn**	**02 12 19.0**	**-1.0**
	43nm,0.3s,baz=102,slow=19,SNR=16							
VIGV	**El Vigia**	**2.52**	**41**	⇓*i*P		**Pn**	**02 11 50.9**	**+1.2**
VIGV				*e*S		**Sn**	**02 12 21.1**	**-1.0**
SOCV	**Socops**	**2.55**	**58**	*e*P		**Pn**	**02 11 51.1**	**+1.1**
SOCV				*e*S		**Sn**	**02 12 22.1**	**-0.6**
SDV	**Santo Domingo**	**3.08**	**51**	P		**Pn**	**02 11 58.0**	**+1.4**
	15nm,0.3s,baz=232,slow=1.7,SNR=37							
SDV				S		**Sn**	**02 12 35.0**	**+0.6**
	13nm,0.3s,baz=270,slow=17,SNR=23							
ELOV	**Elorza**	**3.54**	**89**	*e*P		**Pn**	**02 12 02.9**	**+0.5**
VIRV	**Villa del Rosa**	**3.61**	**10**	*e*P		**Pn**	**02 12 03.0**	**-0.3**
VIRV				*e*S		**Sn**	**02 12 42.3**	**-4.2**
QARV	**Quebrada Arrib**	**4.10**	**37**	*e*P		**Pn**	**02 12 10.3**	**+0.7**
QARV				*e*S		**Sn**	**02 12 54.5**	**-3.4**
SANV	**Sanarito**	**4.31**	**53**	*e*P		**Pn**	**02 12 12.6**	**+0.2**
SANV				*e*S		**Sn**	**02 12 59.8**	**-2.9**
CURV	**Curarigua**	**4.32**	**45**	*e*P		**Pn**	**02 12 13.1**	**+0.5**
CURV				*e*S		**Sn**	**02 13 00.0**	**-3.0**
SIQV	**Siquisique**	**4.89**	**41**	*e*P		**Pn**	**02 12 20.3**	**+0.4**
PCRV	**Puerto La Cruz**	**8.92**	**68**	P		**Pn**	**02 13 14.2**	**+0.8**
	0.4nm,0.3s,baz=194,slow=4.2,SNR=3.7							
YKA	**Yellowknife Ar**	**63.19**	**340**	P		**P**	**02 21 19.1**	**+0.6**
	0.4nm,0.5s,mb3.5,baz=132,slow=6.6,SNR=29							
TORD	**Torodi Ar. Bea**	**73.64**	**78**	P		**P**	**02 22 22.7**	**-1.8**
	0.5nm,1.1s,mb3.2,baz=292,slow=6.2,SNR=3.2							
ASAR	**Alice Springs**	**149.24**	**234**	PKPbc		PKPbc	02 30 37.0	-1.3
	0.6nm,0.5s,baz=116,slow=3.5,SNR=15							
WRA	**Warramunga Arr**	**150.46**	**241**	PKPbc		PKPbc	02 30 40.3	-1.1
	0.6nm,0.4s,baz=108,slow=2.8,SNR=27							

IDC 22 02:48:01.0±1.4, 314N×12691E, h0km, mb3.4/4, mb1 3.6/4, mb1mx3.5/17, mbtmp3.5/4, Error ellipse: s-maj=149.0km s-min=20.4km az=70.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.07**	**163**	P		P	02 53 17.4	-0.9
	0.7nm,0.5s,baz=342,slow=9.1,SNR=14							
ASAR	**Alice Springs**	**27.50**	**166**	P		P	02 53 49.0	-0.3
	0.2nm,0.4s,baz=345,slow=7.4,SNR=9.2							
SONM	**Songino Array**	**47.91**	**341**	P		P	02 56 41.7	+0.8
	0.3nm,0.6s,baz=153,slow=9.7,SNR=2.9							
MKAR	**Makanchi Array**	**58.14**	**325**	P		P	02 57 57.1	+0.6
	0.2nm,0.4s,baz=132,slow=7.7,SNR=4.3							

ISCJB 22 02:49:05.2±0.5, 103S±007×767W±0.1, h33km, mb3.7/12, Error ellipse: s-maj=21.1km s-min=8.3km az=162.3
NEIC 22 02:49:07.3±1.1, 106S×7672W, h36km±12km, mb4.0/4, Error ellipse: s-maj=20.6km s-min=7.4km az=62.0
*IDC 22 02:49:14.7±

0.1nm,0.6s,mb2.7,baz=126,slow=6.4,SNR=3.6
ANMO Albuquerque 45.37 325 *e*P **P 02 57 23.2 +1.1**
0.9nm,0.6s,mb3.8
SDCO Great Sand Dun 46.92 329 *e*P **P 02 57 35.3 +1.1**
1.8nm,0.6s,mb4.2
PDAR Pinedale Array 52.73 330 P **P 02 58 18.5 +0.3**
0.2nm,0.3s,mb3.5,baz=122,slow=8.0,SNR=2.5
HWUT Hardware Ranch 52.93 328 *e*P **P 02 58 19.8 0.0**
0.9nm,0.6s,mb3.9
ULM Lac du Bonnet 53.81 345 P **P 02 58 25.4 -0.6**
3.2nm,0.5s,mb4.5,baz=152,slow=7.8,SNR=16
LOHW Long Hollow 53.87 330 *e*P **P 02 58 26.5 -0.1**
0.9nm,0.6s,mb3.9
SCHQ Schefferville 56.54 7 P **P 02 58 45.0 -0.6**
2.4nm,1.1s,mb4.2,baz=150,slow=8.2,SNR=5.6
YKA Yellowknife Ar 69.62 342 P **P 03 00 10.7 -1.6**
YKA Yellowknife Ar 69.62 342 P **P 03 00 10.7 -1.6**
0.2nm,0.5s,mb3.3,baz=140,slow=6.1,SNR=12
TORD Torodi Ar. Bea 79.28 76 P **P 03 01 07.8 -1.8**
0.4nm,0.9s,mb3.3,baz=281,slow=5.1,SNR=3.2

KRSC 22 02:49:56.4±1.5, 5320N×15733E, h309km±49km, ML3.7, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GNL	**Ganaly**	**0.62**	**36**	*e*P	Pn	02 50 37.5	+1.3
PET	**Petropavlovsk**	**0.82**	**102**	*e*P	Pn	02 50 38.7	+1.8
AVH	**Avacha**	**0.85**	**85**	*e*P	Pn	02 50 39.1	+2.1
MIPR	**Malaya Ipel'ka**	**0.99**	**201**	*e*P	Pn	02 50 38.6	+0.9
RUS	**Russkaya**	**1.05**	**136**	*e*P	Pn	02 50 39.1	+1.1
RUS				*i*S	S	02 51 10.3	-0.8
NLC	**Nalytchevo**	**1.21**	**91**	*e*P	Pn	02 50 40.5	+1.8
NLC				*i*S	S	02 51 12.7	+0.3
KII	**Karymskiy**	**1.52**	**56**	*e*P	Pn	02 50 42.5	+2.1
KII				*i*S	S	02 51 16.0	+0.5
SPN	**Mys Shipunski**	**1.62**	**93**	*e*P	Pn	02 50 42.6	+1.4
SPN				*i*S	S	02 51 16.0	-0.9
MKZ	**Mys Kozlova**	**2.94**	**61**	*e*P	Pn	02 50 53.6	+1.6
MKZ				*i*S	S	02 51 34.7	-1.8
KBTR	**Krutoberegovo**	**4.38**	**44**	*e*P	Pn	02 51 08.4	+1.3
KBTR				*i*S	S	02 52 00.8	-3.1

*NEIC **22** 03:21:36.8, 38.16N×2030E, h13km, ML4.0(THE), ML3.9(ATH), After ATH.*
*ATH **22** 03:21:36.6, 38.16N×2029E, h12km±2km, MD3.7/13, ML3.9*
*IDC **22** 03:21:36.3±1.5, 38.41N×2051E, h0km, mb3.5/4, mb1 3.5/6, mb1mx3.4/25, mbtmp3.5/6, ML3.0/2, Error ellipse: s-maj=38.3km s-min=18.6km az=134.0*
*ISCJB **22** 03:21:37.6±0.5, 38.28N±002×2033E±003, h6km±3km, mb3.4/4, Error ellipse: s-maj=3.9km s-min=3.0km az=144.5*
*CSEM **22** 03:21:39.3±0.1, 38.30N×2040E, h5km, ML4.0, Error ellipse: s-maj=1.9km s-min=1.5km az=30.0*
*THE **22** 03:21:39.0, 38.32N×2040E, h3km, ML4.0*
ISC 22 03:21:38.3±0.6, 3828N±002×2035E±003, h3km±3km, n78, σ1§15/110, mb3.4/4, 2C-9D, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.21**	**119**	*e*Pg	**Pg**	03 21 42.2	-0.2
VLS				*e*Sg	**Sg**	03 21 45.7	+0.5
VLS	**Valsamata**	**0.21**	**119**	⇑*i*PG	**Pg**	03 21 42.2	-0.2
VLS				*e*SG	**Sg**	03 21 45.9	+0.6
KFL	**Anninata**	**0.39**	**117**	*e*Pg	**Pg**	03 21 45.1	-0.6
LKD	**Levkas**	**0.48**	**29**	*e*Pg	**Pg**	03 21 45.8	-1.8
LKD				*e*Sg	**Sg**	03 21 54.1	+0.2
RLS	**Riolos of Patr**	**0.91**	**104**	⇓*i*PG	**Pg**	03 21 54.2	-1.5
RLS				*e*SB	**Sg**	03 22 07.1	-0.3
IGT	**Igoumenitsa**	**1.25**	**359**	*e*Pg	**Pn**	03 22 01.4	-1.2
IGT				*e*Sg	**Sg**	03 22 18.9	+0.5
EVR	**Evrytania**	**1.30**	**61**	⇓*i*PG	**Pn**	03 22 02.6	-0.7
EVR				*e*SB	**Sg**	03 22 23.4	+3.2
JAN	**Janina**	**1.43**	**16**	⇓*i*PG	**Pb**	03 22 05.0	-0.5
JAN				*e*SB	**Sg**	03 22 27.0	+2.9
KEK	**Kerkira**	**1.49**	**343**	*e*PB	**Pb**	03 22 07.2	+0.6
SRN	**Sarande**	**1.62**	**350**	*i*PN	**Pb**	03 22 09.1	+0.4
SRN				*i*SN	**Sg**	03 22 33.4	+3.1
MEV	**Metsovon**	**1.65**	**24**	*e*Pg	**Pn**	03 22 07.9	-0.2
MEV				*e*Sg	**Sn**	03 22 29.2	-0.5
ITM	**Ithomi**	**1.67**	**131**	⇓*i*PB	**Pn**	03 22 07.0	-1.3
AGG	**Agios Georgios**	**1.71**	**64**	*e*Pb	**Pb**	03 22 08.8	-1.6
AGG				*e*Sb	**Sb**	03 22 31.6	-0.7
AGG	**Agios Georgios**	**1.71**	**64**	*e*Pb	**Pb**	03 22 08.8	-1.6
AGG				S	**Sn**	03 22 31.6	+0.2
PYL	**PYLOS**	**1.77**	**141**	*e*Pb	**Pb**	03 22 10.4	-0.9
PYL				*e*Sb	**Sb**	03 22 34.1	+0.1
PYL	**PYLOS**	**1.77**	**141**	*e*Pb	**Pb**	03 22 10.4	-1.0
PYL				*e*Sb	**Sb**	03 22 34.1	+0.2
THL	**Klokotos Trika**	**1.82**	**45**	*e*Pb	**Pb**	03 22 10.8	-1.4
THL				*e*Sb	**Sb**	03 22 33.5	-1.8
THL	**Klokotos Trika**	**1.82**	**45**	⇓*i*PN	**Pn**	03 22 11.2	+0.8
THL	**Klokotos Trika**	**1.82**	**45**	⇓Pn	**Pn**	03 22 11.2	+0.8
THL				*e*Sb	**Sb**	03 22 33.5	-1.9
VLX	**Vlachokerasia**	**1.85**	**119**	*e*Pb	**Pb**	03 22 11.1	-1.5
LTK	**Loutraki**	**2.08**	**96**	*e*Pn	**Pn**	03 22 14.5	+0.5
LKR	**Lokris**	**2.11**	**79**	*e*Pn	**Pn**	03 22 14.7	+0.3
LKR				*e*Sn	**Sn**	03 22 41.8	+0.7
LKR	**Lokris**	**2.11**	**79**	⇑*i*PN	**Pn**	03 22 15.3	+0.9
KZN	**Kozani**	**2.30**	**28**	⇓*i*PN	**Pb**	03 22 19.7	-0.7
KZN	**Kozani**	**2.30**	**28**	⇓*e*Pn	**Pb**	03 22 19.7	-0.7
KBN	**Korca**	**2.36**	**8**	*i*PN	**Pg**	03 22 24.4	+0.8
KBN				*i*SN	**Sg**	03 23 00.0	+5.8
DID	**Didima**	**2.41**	**108**	*e*Pn	**Pn**	03 22 19.5	+0.9
DID				*e*Sn	**Sn**	03 22 49.9	+1.4
LIT	**Litokhoron**	**2.46**	**42**	*e*Pn	**Pn**	03 22 19.5	+0.3
LIT				*e*Sn	**Sn**	03 22 50.4	+0.6
NEO	**Neokhori**	**2.46**	**65**	⇓*i*PB	**Pn**	03 22 20.0	+0.7
XOR	**Xorichti**	**2.47**	**63**	*e*Pn	**Pn**	03 22 19.6	+0.3
XOR	**Xorichti**	**2.47**	**63**	*e*Pn	**Pn**	03 22 19.6	+0.3
FNA	**Florina**	**2.62**	**17**	*e*Pn	**Pn**	03 22 21.4	-0.1
FNA				*e*Sn	**Sn**	03 22 53.9	+0.2
ATH	**Athens Observa**	**2.67**	**96**	*e*PB	**Pn**	03 22 22.5	+0.4
LCI	**Lecce**	**2.69**	**320**	Pn	**Pn**	03 22 23.5	+1.2
PTL	**Penteli**	**2.78**	**94**	*e*PB	**Pn**	03 22 24.0	+0.4
BIA	**Bitola**	**2.83**	**15**	*e*Pn	**Pn**	03 22 24.9	+0.5
BIA	**Bitola**	**2.83**	**15**	*i*Pn	**Pn**	03 22 24.9	+0.5
OHR	**Ohrid**	**2.84**	**7**	*e*Pn	**Pn**	03 22 25.0	+0.5
OHR				*e*Sn	**Sn**	03 23 00.8	+1.5
OHR	**Ohrid**	**2.84**	**7**	*e*Pn	**Pn**	03 22 25.1	+0.5
OHR				*i*Sn	**Sn**	03 23 01.2	+2.0
AOS	**Alonnisos**	**2.90**	**71**	*e*Pn	**Pn**	03 22 25.1	-0.1
TIP	**Timpagrande**	**2.95**	**289**	P	**Pn**	03 22 28.0	+2.0
TIR	**Tirane**	**3.08**	**353**	*e*Pn	**Pn**	03 22 27.8	0.0
TIR	**Tirane**	**3.08**	**353**	*i*PN	**Pn**	03 22 26.6	-1.2
GRG	**Griva**	**3.10**	**30**	*e*Pn	**Pn**	03 22 28.7	+0.6
HORT	**Hortiatis**	**3.14**	**42**	*e*Pn	**Pn**	03 22 29.3	+0.7
KRUS	**Krusevo**	**3.16**	**12**	*i*Pn	**Pn**	03 22 28.9	+0.1
KRUS				*i*Sn	**Sn**	03 23 06.7	-0.2
PLG	**Polygyros**	**3.18**	**48**	*e*Pn	**Pn**	03 22 28.8	-0.3
PLG				*e*Sn	**Sn**	03 23 08.3	+0.8
PLG	**Polygyros**	**3.18**	**48**	*e*PN	**Pn**	03 22 30.0	+0.9
QSH	**Qafa e Shtames**	**3.25**	**354**	*i*PN	**Pn**	03 22 33.0	+2.9
QSH				*i*SN	**Sn**	03 23 07.0	-2.3
SOH	**Sokhos**	**3.44**	**42**	*e*Pn	**Pn**	03 22 32.4	-0.3
SOH				*e*Sn	**Sn**	03 23 14.6	+0.8
OUR	**Ouranopolis**	**3.48**	**53**	*e*Pn	**Pn**	03 22 33.4	+0.1
VAY	**Valandovo**	**3.48**	**29**	*e*Pn	**Pn**	03 22 38.5	+5.2
VAY				*i*Sn	**Sn**	03 23 17.2	+2.3
STIP	**Stip**	**3.69**	**22**	*e*Pn	**Pn**	03 22 36.6	+0.5
STIP	**Stip**	**3.69**	**22**	*i*Pn	**Pn**	03 22 36.2	+0.2
PUK	**Puka**	**3.77**	**355**	*i*PN	**Pn**	03 22 36.4	-0.8
PUK				*i*SN	**Sn**	03 23 20.0	-2.1
SG1	**Sgolgore (BA)**	**3.82**	**313**	*e*Pn	**Pn**	03 22 37.6	-0.3
KARN	**Karanos**	**4.05**	**134**	*e*Pn	**Pn**	03 22 41.9	+0.8
KKB	**Krupnik**	**4.15**	**29**	*i*P	**Pn**	03 22 42.8	+0.4
MGR	**Morigerati**	**4.16**	**298**	Pn	**Pn**	03 22 43.6	+1.0
MMB	**Musomiste**	**4.20**	**37**	*i*P	**Pn**	03 22 44.6	+1.5
APE	**Apeiranthos**	**4.28**	**105**	*e*Pn	**Pn**	03 22 45.8	+1.5
SLNA	**Salina**	**4.34**	**275**	Pn	**Pn**	03 22 45.2	+0.1
CHOS	**Chios island**	**4.49**	**87**	*e*Pn	**Pn**	03 22 46.8	-0.2
VAE	**Valguarnera**	**4.77**	**262**	Pn	**Pn**	03 22 51.8	+0.8
0.2nm,0.3s,baz=95,slow=16,SNR=2.6
VAE Sn **Sn 03 23 52.3 +5.6**
0.7nm,0.3s,baz=196,slow=23,SNR=4.9
VTS Vitosha 4.82 26 *i*P **Pn 03 22 49.5 -2.2**
MRB1 Monte Rocchett 5.03 306 Pn **Pn 03 22 56.2 +1.7**
27nm,0.5s

ALN Alexandroupoli 5.11 58 P **Pn 03 22 55.9 +0.2**
ALN Alexandroupoli 5.11 58 P **Pn 03 22 55.9 +0.2**
KDZ Kurdzhali 5.14 48 *i*P **Pn 03 22 55.0 -1.1**
NRCA Norcia 7.14 312 Pn **Pn 03 23 24.8 +1.3**
4.1nm,0.5s
BOJS Bojanci 8.15 334 *i*Pn **Pn 03 23 36.2 -1.3**
BOJS *i*Sn **Sn 03 25 06.5 -3.6**
MLR Muntele Rosu 8.32 28 Pn **Pn 03 23 38.0 -1.7**
0.1nm,0.3s,baz=139,slow=20,SNR=2.0
VNDS Vrh nad Dolski 8.86 334 *i*Pn **Pn 03 23 46.0 -1.2**
VNDS *i*Sn **Sn 03 25 24.6 -2.8**
PERS Pernice 9.20 337 *i*Pn **Pn 03 23 49.4 -2.4**
PERS *i*Sn **Sn 03 25 27.1 -8.5**
HFS Hagfors 22.28 351 P **P 03 26 34.0 -2.2**
1.6nm,0.7s,mb3.5,baz=179,slow=12,SNR=4.1
FINES FINESS Array B 23.46 7 P **P 03 26 44.9 -3.8**
1.6nm,0.8s,mb3.5,baz=173,slow=13,SNR=3.6
TORD Torodi Ar. Bea 30.03 219 P **P 03 27 48.8 +0.3**
0.2nm,0.7s,mb3.0,baz=25,slow=10,SNR=4.4
MKAR Makanchi Array 45.36 58 P **P 03 29 54.6 -2.9**
0.3nm,0.4s,mb3.4,baz=287,slow=6.9,SNR=3.0

MEX 22 03:30:50.2±0.5, 1724N×10031W, h45km±9km, MD3.7, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.20**	**168**	*i*P	Pn	03 30 56.5	-1.5
CAIG				*i*S	Sn	03 31 01.6	-1.8
ACX	**Acapulco**	**0.53**	**135**	*i*P	Pn	03 31 00.0	-1.5
ACX				*i*S	Sn	03 31 08.0	-1.6
MZVM		**2.19**	**28**	*e*P	Pn	03 31 23.5	-0.6
MZVM				*i*S	Sn	03 31 48.6	-1.4
PPM	**Popocatepetl**	**2.42**	**41**	*e*P	Pn	03 31 27.7	+0.5
PPM				*i*S	Sn	03 31 53.3	-2.3
UTMO	**Huajuapan**	**2.46**	**76**	*e*P	Pn	03 31 26.1	-1.7
UTMO				*i*S	Sn	03 31 54.1	-2.6

*IDC **22** 03:40:43.8±6.2, 5392N×16378W, h0km, mb3.8/6, mb1 3.9/6, mb1mx3.6/25, mbtmp3.8/6, Error ellipse: s-maj=162.7km s-min=31.5km az=175.0*
*ISCJB **22** 03:40:45.8±1.5, 536N±0.1×16327W±0.10, h45km±10km, mb3.8/6, Error ellipse: s-maj=19.2km s-min=8.0km az=161.3*
*NEIC **22** 03:40:46.2, 5369N×16330W, h10km, ML3.5(AEIC), After AEIC.*
ISC 22 03:40:46.4±2.6, 537N±01×16330W±009, h30km±20km, n15, σ0§73/19, mb3.8/6, Unimak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FALS	**False Pass**	**1.21**	**357**	P	**Pn**	**03 41 06.1**	**-1.1**
FALS				S	**Sn**	**03 41 22.5**	**0.0**
AKUT	**Akutan**	**1.54**	**289**	*e*P	**Pn**	**03 41 11.7**	**-0.1**
AKLV	**Akutan Long Va**	**1.66**	**289**	P	**Pn**	**03 41 13.2**	**-0.1**
AKLV				S	**Sn**	**03 41 34.0**	**+0.5**
AKGG	**Akutan Green G**	**1.69**	**290**	P	**Pn**	**03 41 13.9**	**+0.2**
AKGG				S	**Sn**	**03 41 35.4**	**+1.1**
UNV	**Unalaska Valle**	**1.92**	**277**	P	**Pn**	**03 41 16.7**	**-0.2**
UNV				S	**Sn**	**03 41 39.4**	**-0.5**
SDPT	**Sand Point**	**2.36**	**43**	P	**Pn**	**03 41 23.1**	**0.0**
CHGN	**Chignik**	**3.87**	**45**	*e*P	**Pn**	**03 41 44.5**	**+0.8**
YKA	**Yellowknife Ar**	**26.60**	**51**	P	**P**	**03 46 24.6**	**+3.0**
YKA	**Yellowknife Ar**	**26.60**	**51**	P	**P**	**03 46 24.6**	**+3.0**
0.4nm,0.6s,mb3.1,baz=270,slow=9.1,SNR=14
SONM Songino Array 53.73 303 P **P 03 50 05.2 0.0**
0.5nm,0.4s,mb3.8,baz=42,slow=8.1,SNR=8.1
BVAR Borovoye Array 64.70 327 P **P 03 51 21.0 0.0**
1.7nm,0.6s,mb4.2,baz=46,slow=8.5,SNR=11
FINES FINESS Array B 65.01 355 P **P 03 51 21.9 -1.0**
0.5nm,0.5s,mb3.8,baz=351,slow=9.8,SNR=5.3
MKAR Makanchi Array 65.50 317 P **P 03 51 25.4 -0.9**
0.3nm,0.5s,mb3.6,baz=45,slow=5.3,SNR=4.7
AKTK Aktyubinsk 70.62 333 P **P 03 51 58.5 +0.1**
AKTO Aktyubinsk 70.62 333 P **P 03 51 58.5 +0.1**
2.4nm,0.8s,mb4.2,baz=44,slow=5.7,SNR=9.5

*TEH **22** 03:40:26.4, 2774N×5247E, h13km, ML3.8*
*IDC **22** 03:40:43.2±2.1, 2774N×5244E, h0km, mb3.6/6, mb1 3.7/6, mb1mx3.4/22, mbtmp3.6/6, Error ellipse: s-maj=57.5km s-min=26.7km az=153.0*
*KISR **22** 03:40:45.9±0.8, 2811N×5254E, h34km±252km, ML3.3*
*CSEM **22** 03:40:46.1±0.1, 2778N×5248E, h25km, ML3.8, Error ellipse: s-maj=2.6km s-min=1.6km az=154.0*
*NEIC **22** 03:40:46.5, 2774N×5247E, h13km, MN3.8(TEH), After TEH.*
*ISCJB **22** 03:40:47.8±0.7, 2787N±004×5244E±004, h44km±9km, mb3.6/6, Error ellipse: s-maj=8.0km s-min=5.1km az=152.4*
*THR **22** 03:41:00.5±0.4, 2908N×5326E, h14km±9km, ML3.0*
ISC 22 03:40:49.2±0.6, 2781N±004×5248E±004, h40km±8km, n48, σ0§88/71, mb3.6/6, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IMOK	**Mouk**	**1.25**	**9**	Pg	**Pn**	**03 41 09.7**	**-0.4**
IMOK				Sg	**Sn**	**03 41 28.2**	**+2.5**
IMOK	**Mouk**	**1.25**	**9**	*e*Pg	**Pn**	**03 41 09.7**	**-0.4**
IMOK				*e*		03 41 10.7
comp=Z,43μm,0.1s
IMOK *e*Sg **Sn 03 41 28.3 +2.6**
ISRV Sarvestan 1.66 19 *e*Pn **Pn 03 41 16.8 +1.0**
ISRV *e* 03 41 45.9
comp=Z,9μm,0.2s
SHI Shiraz 1.82 1 Pn **Pn 03 41 20.4 +2.4**
SHI Shiraz 1.82 1 *e*Pn **Pn 03 41 20.5 +2.5**
SHI *e* 03 41 53.7
comp=Z,6μm,0.2s
IPAR Pars 2.08 14 Pn **Pn 03 41 21.9 +0.3**
IPAR Pars 2.08 14 *e*Pn **Pn 03 41 22.0 +0.4**
IPAR *e* 03 42 10.4
comp=Z,2μm,0.4s
IMEH Mehriz 4.02 27 *e*Pn **Pn 03 41 48.7 +0.5**
IMEH *e* 03 41 50.0
comp=Z,886nm,0.1s
KRBR Kerman 4.33 59 *e*Pn **Pn 03 41 52.5 0.0**
KRBR AML AML 03 43 10.2
comp=N,43nm,0.5s
KBD Kabd 4.43 289 *e*P **Pn 03 41 54.2 +0.4**
KBD *e*S **Sn 03 42 45.2 +1.1**
KBD AML AML 03 42 47.0
comp=Z,57nm,0.3s
KBD Kabd 4.43 289 *e*P **Pn 03 41 54.2 +0.4**
KBD *e*S **Sn 03 42 45.2 +1.1**
comp=Z,57nm,0.3s
RDF Al-Radifah 4.48 285 *e*P **Pn 03 41 54.5 -0.1**
IBAF Bafgh 4.62 35 Pn **Pn 03 41 56.4 -0.1**
IBAF Sn **Sn 03 42 48.4 -0.5**
IBAF Bafgh 4.62 35 *e*Pn **Pn 03 41 56.5 0.0**
IBAF *e* 03 41 57.3
comp=Z,1μm,0.1s
IBAF *e*Sn **Sn 03 42 48.5 -0.4**
ICHK Chekchek 4.72 20 Pn **Pn 03 41 58.4 +0.5**
ICHK Chekchek 4.72 20 *e*Pn **Pn 03 41 58.5 +0.6**
ICHK *e* 03 42 00.7
comp=Z,546nm,0.2s
NAY Al-Naaiem 4.83 288 *e*P **Pn 03 41 59.9 +0.5**
NAY AML AML 03 42 54.6
comp=Z,14nm,0.5s
NAY *e*S **Sn 03 42 54.8 +0.8**
NAY Al-Naaiem 4.83 288 *e*P **Pn 03 41 59.8 +0.5**
NAY *e*S **Sn 03 42 54.8 +0.9**
MIB Mutribah 4.93 295 *e*P **Pn 03 42 00.8 +0.1**
MIB *e*S **Sn 03 42 56.2 -0.3**
MIB AML AML 03 43 00.7
comp=Z,26nm,0.5s
MIB Mutribah 4.93 295 *e*P **Pn 03 42 00.8 +0.1**
MIB *e*S **Sn 03 42 56.2 -0.3**
NASN Na'in 4.98 3 *e*PN5 **Pn 03 42 00.1 -1.2**
NASN *e*Sg **Sn 03 42 56.5 -1.2**
NASN AML AML 03 42 58.4
comp=N,15nm,0.4s
NASN AML AML 03 42 58.7
comp=E,21nm,0.3s
IPIR Pirpir 5.04 345 *e*Pn **Pn 03 42 02.6 +0.3**
IPIR *e*Sn **Sn 03 42 58.8 -0.5**
IPIR *e* 03 43 05.2
comp=Z,315nm,0.2s

IPIR Pirpir 5.04 345 *e*Pn **Pn 03 42 02.6 +0.3**
IPIR *e*Sn **Sn 03 42 58.8 -0.5**
IZEF Zefreh 5.07 359 Pn **Pn 03 42 02.5 -0.1**
IZEF Zefreh 5.07 359 *e*Pn **Pn 03 42 02.6 0.0**
IZEF *e* 03 43 03.9
comp=Z,250nm,0.1s
RST Umm Al-Ruwaisa 5.10 291 *e*P **Pn 03 42 03.2 +0.1**
RST *e*S **Sn 03 43 01.8 +1.0**
RST AML AML 03 43 04.5
comp=Z,14nm,0.4s
RST Umm Al-Ruwaisa 5.10 291 *e*P **Pn 03 42 03.2 +0.1**
RST *e*S **Sn 03 43 01.8 +1.0**
comp=Z,14nm,0.4s
IKLH Kolahrood 5.54 352 Pn **Pn 03 42 08.2 -0.9**
IKLH Sn **Sn 03 43 10.0 -1.6**
IKLH Kolahrood 5.54 352 *e*Pn **Pn 03 42 08.2 -0.9**
IKLH *e*Sn **Sn 03 43 10.1 -1.5**
IKLH *e* 03 43 15.5
comp=Z,271nm,0.1s
IKLH Kolahrood 5.54 352 *e*Pn **Pn 03 42 08.2 -0.9**
IKLH *e*Sn **Sn 03 43 10.1 -1.5**
HRDDS 5.58 210 S **Sn 03 43 10.6 -1.9**
HRDDS 5.58 210 P **Pn 03 42 10.3 +0.6**
GHVR GHOM 6.72 352 *e*PN5 03 42 26.2
ASYS 7.22 269 P **Pn 03 42 30.9 -1.4**
LYLS 7.46 221 P **Pn 03 42 35.9 +0.4**
IGHG Ghaleghazi 8.24 323 *e*Pn **Pn 03 42 45.3 -0.8**
IGHG *e* 03 43 09.6
comp=Z,157nm,0.1s
ILIN Lien 8.51 328 Pn **Pn 03 42 49.2 -0.6**
ILIN Sn **Sn 03 44 20.0 -4.5**
ILIN Lien 8.51 328 *e*Pn **Pn 03 42 49.3 -0.5**
ILIN *e*Sn **Sn 03 44 20.1 -4.4**
ILIN *e* 03 44 26.9
comp=Z,311nm,0.2s
ILIN Lien 8.51 328 *e*Pn **Pn 03 42 49.3 -0.5**
ILIN *e*Sn **Sn 03 44 20.1 -4.4**
IDHR Dehrash 8.62 324 Pn **Pn 03 42 50.9 -0.4**
IDHR Sn **Sn 03 44 23.4 -3.8**
IDHR Dehrash 8.62 324 *e*Pn **Pn 03 42 51.0 -0.3**
IDHR *e*Sn **Sn 03 44 23.4 -3.8**
IDHR *e* 03 44 31.1
comp=Z,661nm,0.2s
IDHR Dehrash 8.62 324 *e*Pn **Pn 03 42 51.0 -0.3**
IDHR *e*Sn **Sn 03 44 23.4 -3.8**
ZALV Zalesovo Beam 35.24 33 P **P 03 47 39.5 -0.1**
comp=Z,0.5nm,0.4s,mb3.8,baz=248,slow=9.5,SNR=3.0
FINES FINESS Array B 37.98 340 P **P 03 48 02.5 -0.2**
comp=Z,1.1nm,0.7s,mb3.7,baz=142,slow=9.5,SNR=5.7
ARCES ARCESS Array B 44.59 347 P **P 03 48 57.6 +0.7**
comp=Z,1.0nm,0.7s,mb3.7,baz=156,slow=6.9,SNR=3.4
SONM Songino Array 46.01 49 P **P 03 49 09.2 +0.7**
comp=Z,0.1nm,0.4s,mb3.1,baz=232,slow=9.6,SNR=3.0
TORD Torodi Ar. Bea 49.43 264 P **P 03 49 34.9 -0.6**
comp=Z,0.5nm,0.5s,mb3.8,baz=61,slow=8.0,SNR=16
YKA Yellowknife Ar 89.42 354 P **P 03 53 41.6 +0.3**
comp=Z,0.1nm,0.5s,mb3.4,baz=7.5,slow=5.5,SNR=5.0

*NEIC **22** 03:49:01.9±2.1, 697S×12894E, h169km±24km, mb3.9/2, Error ellipse: s-maj=34.1km s-min=15.0km az=60.0*
*ISCJB **22** 03:49:02.7±2.0, 7.1S±0.1×12906E±0.10, h197km±22km, mb3.4/5, Error ellipse: s-maj=23.6km s-min=10.0km az=34.9*
*IDC **22** 03:49:05.0±4.0, 709S×12892E, h199km±39km, mb3.2/4, mb1 3.5/8, mb1mx3.4/16, mbtmp3.4/8, Error ellipse: s-maj=41.7km s-min=17.9km az=61.0*
ISC 22 03:49:02.8±1.4, 703S±008×12907E±009, h182km±14km, n16, σ0§98/21, mb3.5/5, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Kupang**	**6.21**	**239**	P	**Pn**	**03 50 33.8**	**+1.2**
21nm,0.3s,baz=104,slow=3.1,SNR=19
BATI S **Sn 03 51 42.8 -0.5**
16nm,0.3s,baz=205,slow=21,SNR=8.1
KAKA Kakadu 6.55 150 *e*Pn **Pn 03 50 38.2 +1.1**
32nm,0.3s
KAKA *e*Sn **Sn 03 51 48.3 -3.3**
FITZ Fitzroy Crossi 11.51 197 P **Pn 03 51 42.2 +0.3**
0.7nm,0.3s,baz=24,slow=8.6,SNR=21
FITZ S **Sn 03 53 41.4 -8.4**
0.9nm,0.3s,baz=272,slow=22,SNR=5.0
WRAB Tennant Creek 13.82 159 *e*Pn **Pn 03 52 10.9 -0.3**
2.2nm,0.4s
WRA Warramunga Arr 13.82 159 P **Pn 03 52 11.2 -0.1**
WRA S **Sn 03 54 39.8 -5.5**
WRA Warramunga Arr 13.82 159 P **Pn 03 52 11.2 -0.1**
0.7nm,0.3s,baz=329,slow=14,SNR=20
WRA S **Sn 03 54 39.8 -5.5**
1.1nm,0.3s,baz=337,slow=23,SNR=7.1
WB2 Warramunga Arr 13.83 159 *e*Pn **Pn 03 52 10.9 -0.4**
ASAR Alice Springs 17.19 165 P **Pn 03 52 53.8 +1.5**
1.3nm,0.3s,baz=338,slow=9.6,SNR=92
ASAR pP 03 53 23.7
0.3nm,0.3s,baz=346,slow=11,SNR=6.0
ASAR S **S 03 56 00.3 -0.4**
0.3nm,0.3s,baz=350,slow=26,SNR=5.5
KKM Kota Kinabalu 18.25 315 *e*P **P 03 53 00.3 -2.4**
SONM Songino Array 58.18 342 P **P 03 58 38.8 +1.2**
SONM Songino Array 58.18 342 P **P 03 58 38.8 +1.2**
0.5nm,0.9s,mb3.3,baz=130,slow=4.5,SNR=3.0
MKAR Makanchi Array 67.74 327 P **P 03 59 40.4 -0.4**
0.3nm,0.3s,mb3.4,baz=133,slow=7.7,SNR=5.3
ZALV Zalesovo Beam 71.20 334 P **P 04 00 01.4 -0.3**
0.7nm,0.5s,mb3.7,baz=134,slow=6.2,SNR=2.0
BVAR Borovoye Array 77.59 328 P **P 04 00 39.0 +0.4**
0.2nm,0.3s,mb3.2,baz=119,slow=5.1,SNR=2.4
BRVK Borovoye 77.66 328 *e*P **P 04 00 38.9 -0.2**
1.8nm,0.8s,mb3.8
TORD Torodi Ar. Bea 127.91 281 PKP PKPdf 04 07 47.7 -0.3
0.4nm,0.8s,baz=94,slow=2.1,SNR=4.6

*CSEM **22** 03:55:43.9±0.1, 4059N×3411E, h2km, MD3.0, Error ellipse: s-maj=2.3km s-min=2.0km az=19.0*
*ISCJB **22** 03:55:45.0±0.5, 4058N±002×3412E±003, h7km±5km, Error ellipse: s-maj=4.3km s-min=4.1km az=35.6*
*ISK **22** 03:55:44.7, 4058N×3412E, h9km, MD3.0*
*DDA **22** 03:55:45.5, 4050N×3413E, h19km±3km, Md3.1*
ISC 22 03:55:45.2±0.5, 4057N±003×3411E±003, h5km±5km, n18, σ0§97/29, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CANT	**Cankiri**	**0.38**	**275**	*e*PG	**Pg**	**03 55 52.6**	**+0.1**
CANT *e*SG **Sg** **03 55 58.5 +1.1**
TOS Tosya 0.47 352 *e*PG **Pg** **03 55 54.2 0.0**
TOS *e*SG **Sg** **03 56 01.1 +0.7**
CTKT Corum 0.52 84 *i*P **Pg** **03 55 55.3 +0.1**
CTKT *i*S **Sg** **03 56 02.7 +0.8**
ELDT Eldivan 0.53 261 *i*P **Pg** **03 55 55.3 -0.1**
ELDT *i*S **Sg** **03 56 02.1 -0.2**
CORM Corum 0.56 135 *e*PG **Pg** **03 55 56.1 +0.2**
CORM *e*SG **Sg** **03 56 04.5 +1.3**
CDAG Cicekdag 0.97 168 *i*P **Pg** **03 56 00.5 -3

*NEIC **22** 04:24:38.0±1.9, 1312N×9019W, h108km±23km, mb3.8/3, Error ellipse: s-maj=27.5km s-min=22.6km az=210.0*
*IDC **22** 04:24:38.1±4.3, 1316N×9017W, h106km±75km, mb3.3/6, mb1 3.5/7, mb1mx3.2/22, mbtmp3.2/7, ML3.1/1, Error ellipse: s-maj=83.7km s-min=34.8km az=9.0*
ISC 22 04:24:38.2±2.3, 131N±02×902W±02, h109km±28km, n19, σ0°69/13, mb3.6/7, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBLS	**San Blas**	**0.89**	**37**	*e*P	x	04 24 56.9	
SNJE	**San Jose**	**0.92**	**36**	*e*P	x	04 24 57.4	
RTR	**El Retiro**	**0.92**	**33**	*e*P	x	04 24 57.5	
RTR				*e*S	x	04 25 19.0	
BOQS	**Boqueron**	**1.05**	**55**	*e*P	x	04 25 00.9	
LFRS	**El Faro**	**1.18**	**65**	*e*P	x	04 25 01.9	
LFRS				*e*S	x	04 25 27.7	
LCBS	**La Ceiba**	**1.27**	**65**	*e*P	x	04 25 03.4	
TGUH	**Tegucigalpa,Un**	**2.96**	**71**	*e*Pn	**Pn**	**04 25 23.7**	**0.0**
JTS	**JuntasAbangare**	**5.83**	**118**	P	**Pn**	**04 26 02.4**	**0.0**
	0.5nm,0.3s,baz=324,slow=18,SNR=3.6						
TXAR	**Lajitas Array**	**20.42**	**324**	P	**P**	**04 29 06.9**	**+0.1**
	0.6nm,0.6s,baz=147,slow=12,SNR=5.4						
WVT	**Waverly**	**23.00**	**5**	*e*P	**P**	**04 29 33.4**	**-0.3**
	1.9nm,0.8s,mb3.5						
TKL	**Tuckaleechee C**	**23.16**	**13**	P	**P**	**04 29 36.5**	**+1.3**
TKL	**Tuckaleechee C**	**23.16**	**13**	P	**P**	**04 29 36.5**	**+1.3**
	1.2nm,0.5s,mb3.5,baz=165,slow=7.0,SNR=4.1						
WCI	**Wyandotte Cave**	**25.24**	**7**	*e*P	**P**	**04 29 54.0**	**+0.1**
	3.1nm,0.8s,mb3.8						
NVAR	**Mina Array Bea**	**35.47**	**320**	P	**P**	**04 31 24.7**	**+0.5**
	0.5nm,0.6s,mb3.5,baz=134,slow=7.7,SNR=3.1						
ULM	**Lac du Bonnet**	**37.31**	**354**	*e*P	**P**	**04 31 38.1**	**-1.6**
	1.4nm,0.8s,mb3.9						
ULM	**Lac du Bonnet**	**37.31**	**354**	P	**P**	**04 31 37.9**	**-1.8**
	0.6nm,0.5s,mb3.8,baz=175,slow=11,SNR=4.6						
SCHQ	**Schefferville**	**45.45**	**19**	P	**P**	**04 32 46.1**	**0.0**
	1.6nm,0.5s,mb4.0,baz=218,slow=9.8,SNR=8.0						
YKA	**Yellowknife Ar**	**52.29**	**346**	P	**P**	**04 33 38.2**	**0.0**
YKA	**Yellowknife Ar**	**52.29**	**346**	P	**P**	**04 33 38.2**	**0.0**
	0.2nm,0.5s,mb3.4,baz=142,slow=7.6,SNR=9.8						

IDC 22 04:53:50.9±2.0, 296N×9561E, h0km, mb3.5/3, mb1 3.7/4, mb1mx3.4/21, mbtmp3.5/4, ML3.4/1, Error ellipse: s-maj=59.3km s-min=26.6km az=43.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**3.31**	**93**	Pn	Pn	04 54 44.0	-0.1
	3.8nm,0.3s,baz=321,slow=10,SNR=22						
PSI				Sn	Sn	04 55 26.4	+2.2
	5.3nm,0.3s,baz=154,slow=21,SNR=5.9						
WRA	**Warramunga Arr**	**44.31**	**123**	P	P	05 02 02.8	-0.2
	0.8nm,0.6s,baz=300,slow=9.3,SNR=11						
MKAR	**Makanchi Array**	**45.17**	**347**	P	P	05 02 09.4	0.0
	0.3nm,0.4s,baz=154,slow=8.7,SNR=5.3						
ASAR	**Alice Springs**	**45.72**	**127**	P	P	05 02 14.4	+0.2
	0.3nm,0.7s,baz=302,slow=8.1,SNR=5.6						

*NEIC **22** 04:53:57.8, 1890N×6771W, h40km, MD3.5(RSPR), After RSPR.*
RSPR 22 04:53:57.8, 1890N×6771W, h40km±13km, MD3.5/15, MD3.5/15, 11C-5D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGPR	**Aguadilla, PR**	**0.71**	**127⇑**	*e*P	Pn	04 54 09.2	-2.3
AGPR				*e*S	Sn	04 54 20.0	-1.2
IMO	**Isla Mona**	**0.81**	**194⇑**	*e*P	Pn	04 54 11.1	-1.7
IMO				*e*S	Sn	04 54 22.6	-1.1
MPR	**Mayaguez**	**0.87**	**142⇑**	*e*P	Pn	04 54 11.9	-1.7
MPR				*e*S	Sn	04 54 23.6	-1.6
LSP	**Las Mesas**	**0.93**	**141⇑**	*e*P	Pn	04 54 12.5	-2.0
LRS	**Lares**	**1.02**	**127⇑**	*e*P	Pn	04 54 13.6	-2.1
LRS				*e*S	Sn	04 54 28.2	-0.5
CRPR	**Cabo Rojo, PR**	**1.06**	**147⇓**	*e*P	Pn	04 54 14.5	-1.7
CRPR				*e*S	Sn	04 54 28.4	-1.3
AOPR	**Arecibo Observ**	**1.06**	**121⇑**	*e*P	Pn	04 54 14.1	-2.1
AOPR				*e*S	Sn	04 54 30.1	+0.3
GBPR	**Guanica, Bosqu**	**1.21**	**139⇑**	*e*P	Pn	04 54 17.8	-0.6
GBPR	**Guanica, Bosqu**	**1.21**	**139**	*e*S	Sn	04 54 33.0	-0.5
CELP	**Cerrillos**	**1.35**	**127⇓**	*e*P	Pn	04 54 19.2	-1.0
OBIP	**Obispado Ponce**	**1.35**	**129⇑**	*e*P	Pn	04 54 18.9	-1.3
OBIP				*e*S	Sn	04 54 37.4	+0.4
SMN1	**Samana, DR**	**1.51**	**281⇑**	*e*P	Pn	04 54 20.7	-1.7
SMN1	**Samana, DR**	**1.51**	**281**	*e*S	Sn	04 54 40.9	+0.1
ICM	**Isla Caja Muer**	**1.51**	**132⇑**	*e*P	Pn	04 54 22.4	+0.1
DR12	**Loma Pena Alta**	**1.59**	**266⇓**	*e*P	Pn	04 54 23.1	-0.3
SJG	**San Juan**	**1.68**	**118⇓**	*e*P	Pn	04 54 23.7	-0.9
STVI	**Saint Thomas**	**2.67**	**101⇓**	*e*P	Pn	04 54 37.7	-0.6
TBVI	**Tortola**	**2.97**	**99⇑**	*e*P	Pn	04 54 41.7	-0.8
SDDR	**Presa de Saban**	**3.39**	**272**	*e*Pn	Pn	04 54 53.2	+5.0
SDDR				*e*Sn	Sn	04 55 38.8	+12

BJI 22 05:07:46.4, 4618N×12038E, h12km, ML3.8, Northeastern China

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CN2	**Changchun**	**4.31**	**122**	PG	Pg	05 09 03.6	-5.3
CN2				SG	Sg	05 10 05.3	+0.6
CN2				Smax			
	comp=N,100nm,0.7s						
CN2				Smax			
	comp=E,100nm,0.7s						
LZH	**Lanzhou**	**16.00**	**237**	*e*P	Pn	05 11 33.5	+2.4
LZH				AP	pP	05 11 37.1	-0.9
LZH				XP	sP	05 11 40.5	+0.9
LZH				*e*PP		05 11 46.8	

MEX 22 05:28:54.6±0.9, 1922N×10558W, h10km±48km, MD4.0, 1C, Near coast of Jalisco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CJM	**Chamela**	**0.58**	**61⇑**	*i*P	Pg	05 29 04.6	-1.2
CJM				*i* S	Sg	05 29 12.2	-1.2
ANIG	**Ahuacatlan**	**2.08**	**29**	*i* P	Pn	05 29 26.2	-3.3
ANIG				*i* S	Sn	05 29 52.8	-2.7
MMIG	**Aquila**	**2.31**	**113**	*i* P	Pn	05 29 30.1	-2.7
MMIG				*i* S	Sn	05 29 56.2	-5.1
SFJM	**Santa Fe**	**2.70**	**62**	*i* P	Pn	05 29 36.0	-2.1
SFJM				*i* S	Sn	05 30 09.0	-1.9
UTMO	**Huajuapan**	**7.51**	**99**	*i* P	Pn	05 30 43.1	-1.1

NEIC 22 05:47:47.4, 3867S×17577E, h149km, MG4.1(WEL), After WEL., North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WATZ	**Wairara**	**0.05**	**216**	P	Pn	05 48 07.5	+0.2
WATZ				S	Sn	05 48 23.5	+1.0
RATZ	**Rangitukua**	**0.20**	**180**	P	Pn	05 48 07.5	0.0
KATZ	**Kakaramea**	**0.31**	**191**	P	Pn	05 48 07.9	+0.1
RITZ	**Rihia Road**	**0.32**	**167**	P	Pn	05 48 08.1	+0.3
HATZ	**Hinemaiaia**	**0.34**	**132**	P	Pn	05 48 07.9	0.0
WTVZ	**West Tongariro**	**0.47**	**197**	P	Pn	05 48 08.4	0.0
TWVZ	**Taurewa**	**0.48**	**213**	P	Pn	05 48 08.5	0.0
TWVZ				S	Sn	05 48 24.1	-0.5
NGZ	**Ngauruhoe**	**0.52**	**195**	P	Pn	05 48 08.6	-0.1
WPVZ	**Whakapapa**	**0.56**	**198**	P	Pn	05 48 08.8	-0.1
TUVZ	**Tukino**	**0.60**	**189**	P	Pn	05 48 09.4	+0.3
TUVZ				S	Sn	05 48 25.6	-0.2
FWVZ	**Far West T-bar**	**0.61**	**196**	P	Pn	05 48 09.2	0.0
WNVZ	**Wahianoa**	**0.67**	**191**	P	Pn	05 48 09.9	+0.3
HIZ	**Hauiti**	**0.73**	**282**	P	Pn	05 48 09.8	-0.2
MOVZ	**Moawhango**	**0.74**	**181**	P	Pn	05 48 09.9	-0.1
MOVZ				S	Sn	05 48 25.7	-1.6
BKZ	**Black Stump Fm**	**0.75**	**132**	P	Pn	05 48 10.3	+0.2
URZ	**Urewera**	**1.13**	**69**	P	Pn	05 48 12.8	-0.4
WAZ	**Wanganui**	**1.24**	**209**	P	Pn	05 48 14.0	-0.2
TSZ	**Takapari Road**	**1.40**	**174**	P	Pn	05 48 15.7	0.0
MWZ	**Matawai**	**1.42**	**77**	P	Pn	05 48 16.0	0.0
KNZ	**Kokohu**	**1.53**	**104**	P	Pn	05 48 17.6	+0.5
MRZ	**Mangatainoka R**	**2.00**	**184**	P	Pn	05 48 21.2	-1.1
BFZ	**Birch Farm**	**2.04**	**170**	P	Pn	05 48 22.1	-0.8
PUZ	**Puketiti**	**2.04**	**74**	P	Pn	05 48 22.8	-0.1
MXZ	**Matakaoa Point**	**2.29**	**62**	P	Pn	05 48 26.0	+0.2
KIW	**Kapiti Island**	**2.29**	**197**	P	Pn	05 48 24.1	-1.7
CAW	**Cannon Point**	**2.50**	**192**	P	Pn	05 48 26.5	-1.8
MTW	**Mount Morrison**	**2.50**	**185**	P	Pn	05 48 26.6	-1.7
MRW	**Makara Radio**	**2.69**	**197**	P	Pn	05 48 28.6	-2.1
PAWZ	**Paruwai Farm**	**2.72**	**185**	P	Pn	05 48 29.0	-2.1
WEL	**Wellington**	**2.72**	**196**	P	Pn	05 48 29.0	-2.2
SNZO	**South Karori**	**2.76**	**197**	P	Pn	05 48 29.3	-2.3
MSWZ	**Moikau Station**	**2.77**	**188**	P	Pn	05 48 29.6	-2.2
TCW	**Tory Channel**	**2.79**	**204**	P	Pn	05 48 29.8	-2.2
BHW	**Baring Head**	**2.82**	**194**	P	Pn	05 48 30.1	-2.3
NNZ	**Nelson**	**3.14**	**215**	P	Pn	05 48 33.8	-2.6
QRZ	**Quartz Range**	**3.30**	**228**	*e*P	Pn	05 48 35.3	-3.1
BSWZ	**Blackbirch Sta**	**3.37**	**205**	P	Pn	05 48 36.8	-2.5
THZ	**Tophouse**	**3.79**	**214**	*e*P	Pn	05 48 42.1	-2.7
LTZ	**Lake Taylor**	**4.89**	**212**	*e*P	Pn	05 48 55.8	-3.5
MQZ	**McQueen's Vall**	**5.55**	**204**	*e*P	Pn	05 49 03.1	-4.9

*GUC **22** 06:05:24.9±1.0, 3158S×7223W, h23km±6km, MD4.3, ML4.6*
*MOS **22** 06:05:25.1±1.1, 3154S×7191W, h18km, mb4.9/20, MS4.3/5, Error ellipse: s-maj=16.9km s-min=8.7km az=99.9*
*ISCJB **22** 06:05:26.9±0.9, 3158S±002×7201W±005, h29km±6km, mb4.8/42, MS4.4/15, Error ellipse: s-maj=6.8km s-min=3.5km az=179.7*
*BJI **22** 06:05:28.5, 3150S×7190W, h29km, mB4.9, Ms5.0, Msz4.7*
*GCMT **22** 06:05:28.5±0.3, 3159S×7234W, h28km±1km, MW5.1/56, Moment Tensor Solution. s31,c36; s56,c76; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}3.47±.22; $M_{\theta\theta}$0.56±.15; $M_{\phi\phi}$-4.03±.16; $M_{r\theta}$-1.50±.28; $M_{\theta\phi}$-0.45±.12; $M_{\phi r}$-2.79±.26; Best double couple: $M_0$4.94600×10^{16} NP1:ϕ_s348.00000°, δ28.00000°, λ61.00000°. NP2: ϕ_s201.00000°, δ66.00000°, λ105.00000°. Principal axes: T 4.7900, Plg66.0000°, Azm137.0000°; N 0.3160, Plg13.0000°, Azm15.0000°; P -5.1020, Plg19.0000°, Azm280.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **22** 06:05:28.5±0.2, 3153S×7186W, mb4.9/32 Error ellipse: s-maj=8.2km s-min=5.8km az=59.0*
*IDC **22** 06:05:33.5±3.5, 3103S×7178W, h59km±29km, mb4.2/10, mb1 4.3/14, mb1mx4.2/17, mbtmp4.1/14, ML4.1/4, MS4.4/16, Ms1 4.4/16, ms1mx4.2/25, Error ellipse: s-maj=24.5km s-min=19.3km az=66.0*
ISC 22 06:05:28.2±1.0, 3158S±002×7193W±005, h27km±7km, h31km±.6km: pP-P, n295, σ0°87/247, mb4.8/41, MS4.4/15, 49C-55D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHNG	**Los Chungos**	**0.47**	**130⇓**	*i*P	Px	06 05 17.9	
CHNG				*i* S	Sx	06 05 27.0	
CHNG				AML	AML	06 05 33.3	
	comp=E,13μm,0.5s						
CMCH	**Combarbala**	**0.89**	**63⇑**	*i*P	**Pn**	**06 05 43.0**	**-1.9**
CMCH				*i* S	**Sn**	**06 05 58.4**	**+1.5**
CMCH				AML	AML	06 06 10.9	
	comp=E,61μm,0.6s						
PACH	**Papudo**	**1.04**	**157⇑**	*i*P	**Pn**	**06 05 45.9**	**-1.1**
PTCH	**Petorca**	**1.09**	**129⇓**	*i*P	**Pn**	**06 05 47.0**	**-0.7**
PTCH				*i* S	**Sb**	**06 06 03.9**	**+1.7**
PTCH				AML	AML	06 06 05.2	
	comp=N,5μm,0.2s						
OVCH	**Ovalle**	**1.15**	**33⇓**	*i*P	**Pn**	**06 05 47.4**	**-1.2**
OVCH				*i* S	**Sn**	**06 06 04.8**	**+1.4**
OVCH				AML	AML	06 06 12.8	
	comp=N,16μm,0.7s						
IHA	**Instituto Hidr**	**1.46**	**171⇑**	*i*P	**Pn**	**06 05 51.1**	**-1.7**
JACH	**Jahuel**	**1.58**	**135⇓**	*i*P	**Pn**	**06 05 55.0**	**+0.6**
ROCH	**El Roble**	**1.59**	**151**	*i* P	**Pn**	**06 05 54.5**	**-0.1**
TLL	**Tololo Astrono**	**1.71**	**35**	*e*P	**Pn**	**06 05 56.0**	**-0.3**
TLL				*i* S	**Sb**	**06 06 21.4**	**+1.5**
TLL				AML	AML	06 06 31.7	
	comp=N,7μm,0.4s						
LSCH	**La Serena**	**1.77**	**20⇓**	*i*P	**Pn**	**06 05 55.9**	**-1.1**
LSCH				AML	AML	06 06 30.9	
	comp=N,2μm,0.6s						
PEL	**Peldehue**	**1.88**	**146⇓**	*i*P	**Pn**	**06 05 58.7**	**+0.1**
PEL				*i* S	**Sb**	**06 06 25.6**	**+0.7**
PEL				AML	AML	06 06 33.0	
	comp=E,23μm,0.5s						
LCCH	**Las Cruces**	**1.91**	**171**	*i* P	**Pn**	**06 05 57.7**	**-1.3**
DSCH	**Colegio Aleman**	**2.15**	**148⇑**	*i*P	**Pn**	**06 06 02.0**	**-0.2**
DSCH				AML	AML	06 06 38.1	
	comp=E,2μm,0.3s						
STL	**Santa Lucia**	**2.15**	**150**	AML	AML	06 06 41.6	
	comp=E,1μm,0.6s						
CLCH	**Cerro Calan**	**2.16**	**147⇑**	*i*P	**Pn**	**06 06 02.6**	**+0.2**
CLCH				*i* S	**Sb**	**06 06 33.5**	**+0.5**
CLCH				AML	AML	06 06 41.6	
	comp=N,16μm,0.6s						
CLCH				AML	AML	06 06 42.1	
	comp=N,19μm,0.4s						
FCH	**Farellones**	**2.22**	**142⇑**	*i*P	**Pn**	**06 06 03.8**	**+0.5**
FCH				⇑*i*P		06 06 04.1	
FCH				AML	AML	06 06 44.2	
	comp=E,5μm,0.4s						
TACH	**Talagante**	**2.23**	**158⇓**	*i*P	**Pn**	**06 06 03.4**	**0.0**
FSR	**Penalolen**	**2.23**	**148⇓**	*i*P	**Pn**	**06 06 03.9**	**+0.5**
FSR				AML	AML	06 06 48.2	
	comp=E,9μm,0.5s						
ANTU	**Antumapu**	**2.26**	**152⇓**	*i*P	**Pn**	**06 06 03.8**	**0.0**
ANTU				AML	AML	06 06 45.2	
	comp=N,8μm,0.6s						
PCH	**Pirque**	**2.36**	**150**	*i* P	**Pn**	**06 06 05.1**	**-0.1**
SJCH	**San Jose de Ma**	**2.45**	**148**	AML	AML	06 06 48.3	
	comp=E,4μm,0.3s						
CHCH	**Chadas Angostu**	**2.58**	**156⇓**	*i*P	**Pn**	**06 06 08.4**	**+0.2**
LMEL	**Las Melosas**	**2.69**	**148⇑**	*i*P	**Pn**	**06 06 10.3**	**+0.6**
LMEL				AML	AML	06 07 00.5	
	comp=N,4μm,0.4s						
CACH	**El Canelo**	**2.77**	**157**	*i* P	**Pn**	**06 06 11.6**	**+0.8**
LCO	**Las Campanas**	**2.77**	**23**	*e*Pn	**Pn**	**06 06 09.8**	**-1.1**
LCO				*e*Sg	**Sb**	**06 06 50.2**	**-0.3**
CICH	**Cipreses**	**3.01**	**156**	*e*P	**Pn**	**06 06 14.6**	**+0.4**
SFDO	**San Fernando**	**3.12**	**166**	*i*P	**Pn**	**06 06 15.2**	**-0.5**
CFAA	**Coronel Fontan**	**3.15**	**91**	P	**Pn**	**06 06 19.2**	**+3.2**
	comp=N,4.7nm,0.3s,baz=264,slow=10,SNR=94						
CFAA				S	**Sb**	**06 07 00.6**	**-0.7**
	comp=N,12nm,0.3s,baz=106,slow=4.4,SNR=10						
CFAA				LR	LR	06 07 24.1	
	comp=N,388nm,20.1s,baz=284,slow=36						
NICH	**Los Niches**	**3.46**	**171**	*i* P	**Pn**	**06 06 19.7**	**-0.6**
COCH	**Cobquecura**	**4.60**	**189**	*i* P	**Pn**	**06 06 33.3**	**-2.6**
PLCA	**Paso Flores**	**9.20**	**173**	*e*Pn	**Pn**	**06 07 38.3**	**-0.8**
	comp=N,15nm,0.5s						
PLCA	**Paso Flores**	**9.20**	**173**	P	**Pn**	**06 07 38.6**	**-0.6**
	comp=N,4.2nm,0.3s,baz=336,slow=13,SNR=114						
PLCA				S	Sn	06 09 50.5	+29
	comp=N,0.3nm,0.3s,baz=30,slow=14,SNR=2.2						
PLCA				LR	LR	06 11 31.2	
	comp=N,2μm,19.6s,baz=351,slow=37						
TRQA	**Tornquist**	**10.42**	**131**	*e*Pn	**Pn**	**06 07 56.0**	**+0.2**
	comp=N,112nm,1.2s						
CPUP	**Villa Florida**	**13.80**	**71**	P	**Pn**	**06 08 41.5**	**-0.7**
CPUP				S	**Sn**	**06 11 20.1**	**+5.5**
CPUP				LR	LR	06 14 20.1	
CPUP	**Villa Florida**	**13.80**	**71**	P	**Pn**	**06 08 41.5**	**-0.7**
CPUP				S	**Sn**	**06 11 20.1**	**+5.5**
CPUP				pmax	pmax		
	comp=Z,1.0nm,0.3s						
CPUP				smax			
	comp=N,1.0nm,0.3s						
CPUP				MLR	MLR		
	comp=Z,1μm,18.6s						
CPUP	**Villa Florida**	**13.80**	**71**	P	**Pn**	**06 08 41.5**	**-0.7**
	comp=Z,1.0nm,0.3s,baz=226,slow=12,SNR=12						
CPUP				S	**Sn**	**06 11 20.1**	**+5.5**
	comp=Z,0.6nm,0.3s,baz=298,slow=18,SNR=2.2						
CPUP				LR	LR	06 14 20.1	
	comp=Z,1μm,18.6s,baz=232,slow=39						
ARE	**Arequipa**	**15.05**	**2**	*e*P	**Pn**	**06 09 05.0**	**+5.8**
LPAZ	**La Paz**	**15.61**	**14**	*e*Pn	**Pn**	**06 09 05.8**	**-0.7**
	comp=Z,16nm,0.9s						
LPAZ	**La Paz**	**15.61**	**14**	*e*P	**Pn**	**06 09 05.8**	**-0.7**
LPAZ				pmax	pmax		
	comp=Z,15nm,0.9s						
LPAZ	**La Paz**	**15.61**	**14**	P	**Pn**	**06 09 04.2**	**-2.2**
	comp=Z,0.2nm,0.3s,baz=179,slow=11,SNR=13						
SIV	**San Ignacio**	**18.40**	**35**	P	**Pn**	**06 09 38.5**	**-3.0**
	comp=Z,0.5nm,0.3s,baz=228,slow=12,SNR=37						
USHA	**Ushuaia**	**23.38**	**175**	P	**P**	**06 10 34.0**	**-0.6**
	comp=Z,26nm,0.9s,mb4.7,baz=330,slow=4.4,SNR=6.4						
USHA				LR	LR	06 20 16.9	
	comp=Z,1μm,18.4s,MS4.4,baz=338,slow=37						
ATAH	**Atahualpa**	**25.19**	**345**	LR	LR	06 19 39.9	
	comp=Z,426nm,18.0s,MS4.0,baz=2.5,slow=34						
BDFB	**Brasilia**	**26.96**	**59**	P	**P**	**06 11 06.5**	**-1.2**
BDFB				LR	LR	06 23 00.0	
BDFB	**Brasilia**	**26.96**	**59**	P	**P**	**06 11 06.5**	**-1.2**
BDFB				pmax	pmax		
	comp=Z,18nm,1.0s						
BDFB				MLR	MLR		
	comp=Z,1μm,18.4s						
BDFB	**Brasilia**	**26.96**	**59**	P	**P**	**06 11 06.5**	**-1.2**
	comp=Z,18nm,1.0s,mb4.5,baz=218,slow=14,SNR=36						
BDFB				LR	LR	06 23 00.0	
	comp=Z,1μm,18.4s,MS4.5,baz=49,slow=39						
CAM3	**Guarapari**	**30.09**	**77⇓**	*i*P	**P**	**06 11 38.0**	**+2.5**
CAM3				*i*		06 11 41.1	
CAM3				*i*		06 11 48.4	
CAM3				*i*		06 11 53.7	
CAM3				*i*		06 11 56.9	
CAM3				*i*		06 12 04.0	
CAM3				*i*		06 12 28.0	
RPN	**Rapa Nui**	**32.80**	**268**	LR	LR	06 21 15.2	
	comp=Z,457nm,19.4s,MS4.2,baz=339,slow=29						
ROSC	**El Rosal**	**36.30**	**356**	*e*P	**P**	**06 12 33.1**	**+3.4**
ROSC	**El Rosal**	**36.30**	**356**	P	**P**	**06 12 32.2**	**+2.5**
	comp=Z,3.0nm,0.6s,mb4.4,baz=104,slow=19,SNR=7.5						
ROSC				LR	LR	06 28 02.4	
	comp=Z,369nm,19.4s,MS4.2,baz=187,slow=38						
SDV	**Santo Domingo**	**40.25**	**2**	*e*P	**P**	**06 13 01.3**	**-1.6**
	comp=Z,24nm,0.9s,mb4.9						
SDV	**Santo Domingo**	**40.25**	**2**	P	**P**	**06 13 02.0**	**-0.9**
	comp=Z,5.7nm,0.8s,mb4.4,baz=192,slow=4.8,SNR=7.9						
BCIP	**Isla Barro Col**	**41.22**	**348**	*e*pP	**P**	**06 13 10.6**	**-0.2**
JTS	**JuntasAbangare**	**43.46**	**341**	*e*P	**P**	**06 13 29.1**	**0.0**
	comp=Z,4.1nm,0.7s,mb4.3						
JTS	**JuntasAbangare**	**43.46**	**341**	*e*P	**P**	**06 13 29.1**	**-0.1**
JTS				pmax	pmax		
	comp=Z,4.0nm,0.7s						
TGUH	**Tegucigalpa,Un**	**47.70**	**340**	*e*P	**P**	**06 14 02.5**	**-0.2**
	comp=Z,41nm,1.0s,mb5.4						
TGUH				*e*pP	pP	06 14 11.4	+0.6
MPR	**Mayaguez**	**49.72**	**6**	*e*P	**P**	**06 14 17.3**	**-0.8**
VNA3	**Neumayer Olymp**	**51.56**	**159**	*e*P	**P**	**06 14 31.5**	**0.0**
VNA3				*e*		06 14 37.0	
VNA3				*e*	pP	06 14 40.7	+1.0
VNA3				*e*		06 14 47.4	
VNA3				*e*		06 14 50.7	
VNA3				*e*		06 14 55.0	
VNA1	**Neumayer--Stat**	**51.86**	**158**	*e*P	**P**	**06 14 34.5**	**+0.8**
VNA1				*e*		06 14 39.7	
VNA1				*e*	pP	06 14 43.4	+1.5
VNA1				*e*		06 14 50.5	
VNA1				*e*		06 14 54.2	
VNA1				*e*		06 14 58.2	
VNA2	**Neumayer--Watz**	**52.21**	**158**	*e*P	**P**	**06 14 36.0**	**-0.3**
	baz=284,slow=9.3						
VNA2				*e*	pP	06 14 41.7	-2.8
VNA2				*e*	pP	06 14 45.3	+0.8
VNA2				*e*		06 14 52.0	
VNA2				*e*		06 14 55.7	
VNA2				*e*		06 15 00.0	
TEIG	**Tepich**	**53.84**	**341**	*e*P	**P**	**06 14 48.0**	**-0.9**
TEIG				*e*pP	pP	06 14 57.0	-0.1
RKT	**Rikitea**	**55.97**	**262**	*e*T		07 15 41.1	
	comp=Z,2.2nm,0.3s						
SBA				*e*pP	pP	06 16 18.6	+1.9
SBA	**Scott Base**	**65.46**	**191**	P	**P**	**06 16 09.0**	**+0.7**
	comp=Z,16nm,1.3s,mb4.9						
SBA				*e*PP	pP	06 16 18.6	+2.0
SBA	**Scott Base**	**65.46**	**191**	P	**P**	**06 16 09.0**	**+0.7**
SBA				pmax	pmax		
	comp=Z,17nm,1.3s,mb4.9						
GOGA	**Godfrey**	**65.55**	**349**	*e*pP	pP	06 16 17.2	-0.5
VNDA	**Vanda**	**66.49**	**191**	P	**P**	**06 16 20.0**	**+5.1**
VNDA				pmax	pmax		
	comp=Z,7.0nm,1.2s						
VNDA	**Vanda**	**66.49**	**191**	P	**P**	**06 16 20.0**	**+5.1**
	comp=Z,6.5nm,1.2s,mb4.5,baz=151,slow=7.0,SNR=7.0						
JCT	**Junction City**	**67.15**	**334**	*e*P	**P**	**06 16 18.8**	**-0.8**
TXAR	**Lajitas Array**	**67.68**	**330**	P	**P**	**06 16 22.6**	**-0.4**
	comp=Z,2.7nm,1.0s,mb4.2,baz=156,slow=8.2,SNR=15						
TXAR				LR	LR	06 41 40.4	
	comp=Z,211nm,18.6s,MS4.4,baz=125,slow=32						
CPCT	**Cooper Cave**	**67.72**	**349**	*e*P	**P**	**06 16 22.2**	**-0.9**
SWET	**Sewanee**	**67.73**	**348**	*e*P	**P**	**06 16 22.3**	**-0.9**
PLAL	**Pickwick Lake**	**67.93**	**346**	*e*P	**P**	**06 16 23.4**	**-1.0**
	comp=Z,9.2nm,1.0s,mb4.8						
SYO	**Syowa Base**	**68.08**	**159⇓**	*e*P	**P**	**06

CBKS Cedar Bluff 74.67 338 P P 06 17 03.7 -1.4
comp=Z,34nm,1.0s,mb5.2
CBKS Cedar Bluff 74.67 338 P P 06 17 03.7 -1.4
CBKS pmax pmax
comp=Z,33nm,1.0s,mb5.2
Z15A Gila River Ind 74.87 326 ⇑P P 06 17 06.7 +0.3
baz=75
Y16A Circle Bar Ran 75.03 327 ⇓P P 06 17 07.6 +0.3
baz=75
X17A Forest Lakes 75.10 327 ⇓P P 06 17 08.5 +0.8
baz=75
NCB Newcomb 75.22 358 *e*P **P 06 17 07.7 -0.4**
NCB *ep*P pP 06 17 16.6 +0.1
LBNH Lisbon 75.45 360 *e*P **P 06 17 11.4 +1.9**
comp=Z,9.8nm,0.9s,mb4.7
LBNH Lisbon 75.45 360 *e*P **P 06 17 11.4 +1.9**
LBNH pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
X16A Lo Mia Camp, P 75.46 327 ⇑P P 06 17 10.4 +0.6
baz=76
MAW Mawson 75.47 164 P P 06 17 09.5 0.0
MAW pmax pmax
comp=Z,2.0nm,0.7s
MAW MLR MLR
comp=Z,397nm,18.3s
MAW Mawson 75.47 164 P P 06 17 09.5 0.0
comp=Z,1.9nm,0.7s,mb4.1,baz=227,slow=9.1,SNR=6.8
MAW LR LR 06 50 06.9
comp=Z,397nm,18.3s,MS4.8,baz=237,slow=35
Y15A Casa Rosa Ranc 75.49 326 ⇓P P 06 17 09.9 0.0
baz=76,SNR=10
SDCO Great Sand Dun 75.76 333 *e*P **P 06 17 11.4 0.0**
comp=Z,6.7nm,0.9s,mb4.6
SDCO *ep*P pP 06 17 20.4 +0.6
Y14A Wickenburg 75.80 326 ⇓P P 06 17 11.7 0.0
baz=76
LONY Lake Ozonia 75.87 358 *e*P **P 06 17 11.5 -0.4**
comp=Z,14nm,1.1s,mb4.8
LONY *ep*P pP 06 17 20.7 +0.3
X15A Humboldt 75.88 327 P P 06 17 12.9 +0.7
baz=76,SNR=12
GLA Glamis 75.98 324 *e*P **P 06 17 12.4 -0.4**
JFWS Jewell Farm 76.01 346 *e*P **P 06 17 11.7 -1.0**
FRNY Flat Rock 76.06 359 *e*P **P 06 17 13.6 +0.6**
Y13A Salome 76.10 325 ⇑P P 06 17 14.2 +0.8
baz=76
X14A Yava 76.18 326 ⇑P P 06 17 14.3 +0.4
baz=76
WUAZ Wupatki 76.33 328 *e*P **P 06 17 15.6 +0.9**
comp=Z,15nm,1.0s,mb4.9
Y12C Blythe 76.39 325 ⇑P P 06 17 16.0 +0.9
baz=77
W15A Williams 76.47 327 ⇑P P 06 17 16.2 +0.7
baz=77
MVCO Mesa Verde 76.50 331 *e*P **P 06 17 15.7 +0.1**
MVCO *ep*P pP 06 17 25.0 +0.8
MVCO Mesa Verde 76.50 331 ⇑P P 06 17 15.9 +0.3
baz=77
X13A Yucca 76.73 326 ⇓P P 06 17 17.9 +0.9
baz=77,SNR=11
W14A Seligman 76.88 326 ⇓P P 06 17 18.9 +1.1
baz=77
W13A Hualapai Mount 77.17 326 ⇑P P 06 17 20.4 +1.0
baz=78
V14A Boquillas Ranc 77.23 327 ⇑P P 06 17 20.7 +0.9
baz=78
PFO Pinyon Flat Ob 77.25 323 *e*P **P 06 17 20.3 +0.4**
comp=Z,12nm,1.0s,mb4.8
PFO *ep*P pP 06 17 29.8 +1.4
PFO Pinyon Flat Ob 77.25 323 *e*P **P 06 17 20.3 +0.3**
PFO *e**PP pP 06 17 29.8 +1.3
PFO pmax pmax
comp=Z,12nm,1.0s,mb4.8
PFO Pinyon Flat Ob 77.25 323 ⇓P P 06 17 20.4 +0.5
baz=78
RAR Rarotonga 77.45 253 LR LR 06 44 54.6
comp=Z,149nm,18.1s,MS4.3,baz=272,slow=30
SMCO Snowmass 77.57 333 *e*P **P 06 17 22.2 +0.7**
ISCO Idaho Springs 77.59 334 *e*P **P 06 17 22.2 +0.5**
comp=Z,11nm,1.0s,mb4.8
ISCO Idaho Springs 77.59 334 *e*P **P 06 17 22.2 +0.5**
ISCO pmax pmax
comp=Z,11nm,1.0s,mb4.7
GMRC Granite Mounta 77.78 324 ⇓P P 06 17 23.6 +0.7
baz=78
V13A Grand Canyon W 77.82 326 ⇓P P 06 17 22.5 -0.6
baz=78
U14A Mt Trumbull 77.91 327 P P 06 17 24.1 +0.6
baz=78,SNR=11
T15A Red Dirt Ranch 78.03 328 ⇑P P 06 17 24.9 +0.7
baz=78
U13A Pakoon Wash 78.27 327 ⇓P P 06 17 25.7 +0.2
baz=79
ECSD EROS,Sioux Fal 78.28 342 *e*P **P 06 17 24.5 -0.9**
T14A Hurricane 78.39 327 ⇑P P 06 17 26.6 +0.4
baz=79
TUQ Turquoise Mtn. 78.43 325 ⇑P P 06 17 27.2 +0.8
baz=79
T13A Saint George 78.73 327 ⇑P P 06 17 28.6 +0.5
baz=79
GSC Goldstone 78.76 324 *e*P **P 06 17 32.4 +4.1**
GSC Goldstone 78.76 324 ⇓P P 06 17 28.9 +0.6
baz=79
PHWY Pilot Hill 78.85 335 *e*P **P 06 17 28.8 +0.2**
PHWY *e* pP 06 17 37.9 +0.8
CCUT Cedar City 78.91 328 *e*P **P 06 17 29.9 +0.8**
CCUT *e* pP 06 17 38.9 +1.3
SRU San Rafael 78.96 330 *e*P **P 06 17 29.8 +0.5**
ARUT Antelope Range 79.14 328 *e*P **P 06 17 31.2 +0.8**
ARUT *e* pP 06 17 39.8 +0.9
S13A Holt Ranch, En 79.17 327 ⇓P P 06 17 31.1 +0.6
baz=80
MSU Marysvale 79.17 329 *e*P **P 06 17 31.2 +0.7**
T11A Corn Creek, Al 79.53 326 ⇓P P 06 17 32.9 +0.5
baz=80
MPMC Manual Prospec 79.70 324 ⇓P P 06 17 33.4 0.0
baz=80
ISA Isabella 79.89 323 *e*P **P 06 17 35.1 +0.7**
ISA Isabella 79.89 323 ⇓P P 06 17 34.6 +0.2
baz=80
R12A Pony Springs, 80.12 327 ⇑P P 06 17 36.0 +0.4
baz=80
MPU Maple Canyon 80.18 330 *e*P **P 06 17 42.1 +6.2**
NLU North Lily Min 80.32 330 *e*P **P 06 17 37.0 +0.3**
VES Vestal, Richgr 80.34 323 ⇓P P 06 17 36.7 -0.1
baz=81
DAU Daniels Canyon 80.35 331 *e*P **P 06 17 37.6 +0.8**
R11A Troy Canyon, C 80.59 327 ⇓P P 06 17 38.5 +0.4
baz=81
JLU Jordanelle 80.59 331 *e*P **P 06 17 39.7 +1.6**
P13A Bates Ranch, G 80.76 328 ⇑P P 06 17 39.0 0.0
baz=81
DUG Dugway 80.84 329 *e*P **P 06 17 40.5 +1.1**
comp=Z,14nm,1.4s,mb4.7
DUG Dugway 80.84 329 *e*P **P 06 17 40.5 +1.1**
DUG pmax pmax
comp=Z,14nm,1.4s,mb4.7
HELL Mitchell Peak 80.96 323 ⇑P P 06 17 40.3 +0.2
baz=81
Q11A Duckwater 81.02 327 ⇓P P 06 17 39.9 -0.5
baz=81
BOSA Boshof 81.11 118 P P 06 17 40.9 -0.5
comp=Z,13nm,1.0s,mb4.8,baz=246,slow=6.7,SNR=14
BOSA LR LR 06 51 54.7
comp=Z,197nm,18.4s,MS4.5,baz=149,slow=34
R09A Tonopah 81.21 326 ⇓P P 06 17 41.4 -0.1
baz=82
HWUT Hardware Ranch 81.48 331 *e*P **P 06 17 42.8 0.0**
comp=Z,11nm,1.1s,mb4.7
N14A Grayback Hills 81.54 330 ⇓P P 06 17 42.9 -0.3
baz=82
BW06 Boulder Array 81.65 333 *e*P **P 06 17 44.1 +0.4**
PDAR Pinedale Array 81.65 333 P P 06 17 41.7 -1.9
comp=Z,0.5nm,0.6s,baz=134,slow=4.3,SNR=5.2
PDAR LR LR 06 50 31.9
comp=Z,166nm,18.2s,MS4.4,baz=268,slow=33
O12A Currie 81.75 328 ⇑P P 06 17 44.4 +0.1
baz=82
NVAR Mina Array Bea 81.96 325 P P 06 17 45.0 -0.4
comp=Z,1.5nm,0.8s,mb4.0,baz=145,slow=7.1,SNR=6.4
O11A Cowboy Ranch, 82.05 328 ⇑P P 06 17 46.2 +0.3
baz=82,SNR=8.9
Q08A Gabbs 82.11 325 ⇓P P 06 17 45.8 -0.5
baz=82
S05C Merced 82.14 323 ⇑P P 06 17 46.4 +0.1
baz=82

AGMN Agassiz Refuge 82.36 344 *e*P **P 06 17 46.2 -1.0**
CASY Casey 82.44 181 *e*P **P 06 17 48.2 +0.5**
comp=Z,84nm,2.0s,mb5.3
CASY *e* pP 06 17 57.0 +0.8
REDW Red Top Meadow 82.66 332 *e*P **P 06 17 50.9 +1.9**
comp=Z,17nm,1.4s,mb4.9
CMB Columbia Colle 82.69 323 *e*P **P 06 17 49.8 +0.6**
comp=Z,2.1nm,0.9s,mb4.2
CMB Columbia Colle 82.69 323 *e*P **P 06 17 49.8 +0.5**
CMB pmax pmax
comp=Z,2.0nm,0.9s,mb4.2
SNOW Snow King Moun 82.71 333 *e*P **P 06 17 50.4 +1.1**
M12A Wells 82.75 329 ⇓P P 06 17 49.3 -0.2
baz=83
LOHW Long Hollow 82.78 333 *e*P **P 06 17 49.9 +0.4**
TPAW Teton Pass 82.81 332 *e*P **P 06 17 51.9 +2.2**
L13A Double Diamond 82.88 330 ⇓P P 06 17 50.0 -0.1
baz=83
MOOW Moose Ponds 82.94 333 *e*P **P 06 17 52.0 +1.6**
IMW Indian Meadow 83.15 333 *e*P **P 06 17 51.9 +0.4**
M11A Holland Ranch, 83.16 328 P **P 06 17 51.7 +0.1**
baz=84,SNR=13
FLWY Flagg Ranch 83.21 333 *e*P **P 06 17 53.3 +1.6**
TOA0 Torodi Ar. Sit 83.30 70 *e*P **P 06 17 52.4 -0.5**
TOA0 *ep*P pP 06 18 02.3 +0.8
TORD Torodi Ar. Bea 83.30 70 P P 06 17 52.1 -0.9
comp=Z,17nm,0.8s,mb5.1,baz=245,slow=9.7,SNR=3.6
TORD LR LR 06 52 33.0
comp=Z,313nm,18.7s,MS4.7,baz=225,slow=34
L12A House Creek Ra 83.39 329 ⇓P P 06 17 52.4 -0.3
baz=84
L11A Cat Creek Ranc 83.73 329 ⇑P P 06 17 54.8 +0.2
baz=84
YMR Madison River 83.81 333 *e*P **P 06 17 55.5 +0.7**
comp=Z,22nm,1.3s,mb5.1
L10A Juniper Basin 83.98 328 ⇑P P 06 17 55.1 -0.6
baz=84
J13A Cove Ranch, Pi 84.05 330 ⇑P P 06 17 55.1 -1.0
baz=84
N07B Gerlach 84.11 326 ⇑P P 06 17 56.6 +0.1
baz=84
ULM Lac du Bonnet 84.19 345 P P 06 17 55.4 -1.2
ULM Lac du Bonnet 84.19 345 P P 06 17 55.4 -1.2
comp=Z,3.6nm,1.0s,mb4.4,baz=126,slow=7.3,SNR=4.7
HLID Hailey 84.28 330 *e*P **P 06 17 58.2 +0.9**
comp=Z,0.3nm,1.2s
HLID Hailey 84.28 330 ⇑P P 06 17 56.8 -0.5
baz=85
J12A Stokes Ranch, 84.32 330 ⇓P P 06 17 56.7 -0.8
baz=85
M08A Happy Creek Ra 84.35 327 ⇓P P 06 17 58.1 +0.4
baz=85
I13A Wildhorse Cree 84.44 331 ⇑P P 06 17 57.5 -0.6
baz=85
N06A Buffalo Meadow 84.50 326 ⇑P P 06 17 58.0 -0.5
baz=85
MCMT McKenzie Canyo 84.68 332 *e*P **P 06 17 59.6 +0.4**
M07A Soldier Meadow 84.68 326 ⇓P P 06 17 59.2 -0.1
baz=85
K10A MacKenzie Ranc 84.71 329 ⇓P P 06 17 59.3 -0.2
baz=85
DGMT Dagmar 84.76 339 *e*P **P 06 17 59.9 +0.3**
comp=Z,14nm,0.9s,mb5.1
MFID Camas Ranch 84.77 330 ⇓P P 06 17 59.6 -0.1
baz=85
G15A Dillon 84.81 332 ⇓P P 06 17 59.8 -0.1
baz=85
DLMT Dillon 85.02 333 *e*P **P 06 18 02.2 +1.3**
comp=Z,9.4nm,1.2s,mb4.8
H13A Challis 85.03 331 ⇓P P 06 18 01.0 -0.1
baz=85
F15A Butte 85.38 333 ⇓P P 06 18 02.5 -0.3
baz=86
G13A Cobalt 85.45 331 ⇑P P 06 18 02.5 -0.7
baz=86
HRY Holter Researc 85.85 334 *e*P **P 06 18 06.8 +1.7**
H11A Donnelly 85.88 330 ⇓P P 06 18 04.8 -0.4
baz=86,SNR=6.2
J08A Circle Bar Ran 85.89 328 ⇑P P 06 18 04.3 -1.1
baz=86
I09A Lost Marbles R 86.05 329 ⇑P P 06 18 06.0 -0.2
baz=86
F13A Darby 86.06 332 ⇑P P 06 18 05.3 -0.9
baz=86
H10A Noah's Angus R 86.10 330 ⇑P P 06 18 06.2 -0.2
baz=86
SCHQ Schefferville 86.17 3 *e*P **P 06 18 04.8 -1.6**
comp=Z,16nm,1.3s,mb5.1
G11A Walters Elk Ra 86.55 330 ⇑P P 06 18 08.1 -0.4
baz=87,SNR=5.8
BMO Blue Mountains 86.55 330 *e*P **P 06 18 10.2 +1.7**
D13A Huson 87.18 332 ⇓P P 06 18 11.6 0.0
baz=88
C14A Swan Lake 87.45 333 ⇑P P 06 18 11.3 -1.6
baz=88
D12A Red Ives Fores 87.50 332 ⇓P P 06 18 11.8 -1.4
baz=88
D10A Wagner Farm, O 88.29 331 ⇑P P 06 18 15.9 -1.0
baz=89
WALA Waterton Lakes 88.58 334 *e*P **P 06 18 18.6 +0.4**
comp=Z,12nm,1.3s,mb5.0
A13A Flathead Natio 88.67 334 ⇑P P 06 18 18.1 -0.6
baz=89
NEW Newport 89.19 332 *e*P **P 06 18 20.4 -0.7**
comp=Z,2.9nm,1.0s,mb4.6
NEW Newport 89.19 332 *e*P **P 06 18 20.4 -0.7**
NEW pmax pmax
comp=Z,3.0nm,1.0s
A11A Hall Mountain, 89.44 333 ⇓P P 06 18 21.8 -0.4
baz=90
LSZ Lusaka 90.47 108 *e*P **P 06 18 29.1 +1.1**
comp=Z,26nm,1.5s,mb5.3
LSZ *ep*P pP 06 18 39.1 +2.4
LSZ Lusaka 90.47 108 *e*P **P 06 18 29.1 +1.1**
LSZ *e**PP pP 06 18 39.1 +2.5
LSZ pmax pmax
comp=Z,26nm,1.5s,mb5.3
YKA Yellowknife Ar 99.80 341 P Pdif 06 19 06.9 -3.1
YKA PP PP 06 23 17.5 +2.9
YKA LR LR 07 01 46.6
YKA Yellowknife Ar 99.80 341 P Pdif 06 19 06.9 -3.1
comp=Z,0.3nm,1.0s,baz=140,slow=4.4,SNR=4.3
YKA PP PP 06 23 17.5 +2.9
comp=Z,0.7nm,1.1s,baz=139,slow=8.5,SNR=6.1
YKA LR LR 07 01 46.6
comp=Z,86nm,19.7s,MS4.3,baz=10.0,slow=34
PMR Palmer 111.55 330 *e*PKP PKiKP 06 23 58.6 -0.7
ASAR Alice Springs 119.76 207 PKhKP 06 24 14.0
comp=Z,0.4nm,0.8s,baz=156,slow=2.3,SNR=3.0
AKASG Malin Array Be 120.47 46 PKP PKPdf 06 24 14.9 -1.8
comp=Z,0.3nm,0.4s,baz=263,slow=3.0,SNR=8.5
WRA Warramunga Arr 122.91 210 PKhKP 06 24 20.6
comp=Z,0.2nm,0.5s,baz=162,slow=1.7,SNR=8.3
MALT Malatya 123.73 62 *e*PKPdf PKPdf 06 24 23.4 -0.1
OBN Obninsk 125.60 42 *i* PKIKP PKPdf 06 24 25.8 -0.7
OBN pmax pmax
comp=Z,7.0nm,1.1s
KIV Kislovodsk 128.11 57 *e*PKIKP PKPdf 06 24 31.2 -0.4
KIV pmax pmax
comp=Z,5.0nm,1.2s
BILL Bilibino 130.70 335 *e*PKIKP PKPdf 06 24 31.4 -4.4
BILL pmax pmax
comp=Z,2.0nm,1.2s
BILL MLR MLR
comp=Z,100nm,18.0s,MS4.6
ARU Arti 137.83 39 *i* PKIKP PKPdf 06 24 48.7 -0.8
SEY Seymchan 137.97 331 *i* PKIKP PKPdf 06 24 48.8 -0.8
TIXI Tiksi 138.33 350 *e*PKPdf PKPdf 06 24 49.9 -0.1
TIXI *ep*PKPdf pPKPdf 06 24 59.5 +0.6
TIXI Tiksi 138.33 350 ⇑*i* PKIKP PKPdf 06 24 49.5 -0.5
BRVK Borovoye 145.34 41 *e*PKPbc PKPbc 06 25 03.2 +0.3
BVAR Borovoye Array 145.42 41 PKIKP PKPdf 06 25 03.2 0.0
BVAR pmax pmax
comp=Z,15nm,0.6s
BVAR Borovoye Array 145.42 41 PKP PKPdf 06 25 03.2 +0.1
comp=Z,15nm,0.6s,baz=282,slow=2.9,SNR=50
KAD Karad 146.19 107 *e*P PKPdf 06 25 05.5 -0.1
YAK Yakutsk 146.48 342 *e*PKPdf PKPdf 06 25 03.6 -1.1
YAK Yakutsk 146.48 342 *e*PKP2 PKPdf 06 25 04.4 -0.3
YAK pmax pmax
comp=Z,70nm,1.4s
POO Poona 146.53 105 *e*P PKPdf 06 25 07.0 +0.9
YSS Yuzh-Sakhalins 149.37 310 *e*PKP2 PKPab 06 25 21.0 +1.9
YSS pmax pmax
comp=Z,20nm,1.0s
HYB Hyderabad 149.78 111 *i* PKP PKPbc 06 25 16.5 +0.3

KSM Kuching 149.98 184 *e*PKPbc PKPbc 06 25 16.6 -0.3
KSM *e*PKPab PKPab 06 25 22.8 +0.3
PSI Prapat 150.10 161 PKP PKPbc 06 25 15.2 -2.0
comp=Z,14nm,0.9s,baz=194,slow=3.3,SNR=14
PSI PKPbc PKPab 06 25 20.7 -2.3
comp=Z,26nm,0.9s,baz=217,slow=4.0,SNR=11
NVS Novosibirsk 150.82 30 *e*PKIKP PKPbc 06 25 15.8 -1.8
NVS pmax pmax
comp=N,8.0nm,1.5s
NVS pmax pmax
comp=E,25nm,1.5s
NVS pmax pmax
comp=Z,79nm,1.5s
KURK Kurchatov 151.01 40 *e*PKPbc PKPbc 06 25 17.5 -0.7
KURK Kurchatov 151.01 40 ⇑*i* PKIKP PKPbc 06 25 16.9 -1.3
AAK Ala-Archa 151.21 58 ⇑*i* PKIKP PKPab 06 25 26.7 -0.2
ZAL Zalesovo 152.11 30 PKIKP PKPdf 06 25 13.3 -0.7
ZAL 06 25 20.2
ZAL 06 25 29.4
ZAL pmax pmax
comp=Z,1.0nm,0.7s
ZAL pmax pmax
comp=Z,29nm,0.8s
ZAL pmax pmax
comp=Z,37nm,0.7s
ZAA0 Zalesovo Array 152.11 30 *e*PKPbc PKPbc 06 25 20.0 -0.6
ZAA0 *e*PKPab PKPab 06 25 29.5 -0.7
ZALV Zalesovo Beam 152.11 30 PKP PKPdf 06 25 13.3 -0.6
ZALV PKPbc PKPbc 06 25 20.2 -0.4
ZALV PKPab PKPab 06 25 29.4 -0.9
ZALV Zalesovo Beam 152.11 30 PKP PKPdf 06 25 13.3 -0.6
comp=Z,1.3nm,0.7s,baz=222,slow=2.0,SNR=4.4
ZALV PKPbc PKPbc 06 25 20.2 -0.4
comp=Z,28nm,0.8s,baz=297,slow=3.2,SNR=54
ZALV PKPab PKPab 06 25 29.4 -0.9
comp=Z,37nm,0.7s,baz=307,slow=3.1,SNR=13
BOD Bodaibo 153.45 353 *e*PKIKP PKPbc 06 25 21.4 -2.0
BOD pmax pmax
comp=Z,7.0nm,1.0s
TLY Talaya 159.65 8 *e*PKP2 PKPab 06 26 03.1 +0.6
TLY pmax pmax
comp=Z,5.0nm,1.1s
CN2 Changchun 161.66 317 *e*PKP PKPdf 06 25 26.1 -0.4
KSRS Korea Array 162.64 295 PKPab PKPab 06 26 15.4 -0.8
comp=Z,1.3nm,0.6s,baz=69,slow=6.7,SNR=5.4
SONM Songino Array 163.72 4 PKPab PKPab 06 26 18.8 -1.6
comp=Z,0.8nm,0.8s,baz=305,slow=5.1,SNR=3.6
BJI Beijing 169.30 324 PKP PKPdf 06 25 34.3 +1.4
BJI SKS SKSdf 06 32 35.0 +0.3
BJI SS SS 06 51 24.5 -4.2
BJI LR LR
comp=N,108nm,5.8s
BJI LR LR
comp=E,194nm,5.5s
GTA Gaotai 169.69 38 PKP PKPdf 06 25 33.1 -0.1
GTA APKP 06 25 42.6
GTA XPKP 06 25 47.3
GTA PP PP
comp=Z,1μm,10.7s
GTA LR LR
comp=N,158nm,17.5s
GTA LR LR
comp=E,227nm,17.5s
GTA LR LR
comp=Z,129nm,16.7s
NJ2 Nanjing 170.81 276 *e*PKP PKPdf 06 25 33.1 -1.0
KMI Kunming 172.03 143 PKP PKPdf 06 25 32.1 -2.8
KMI APKP 06 25 42.1
KMI XPKP 06 25 47.8
KMI PP PP 06 30 52.5 +4.1
KMI SS SS 06 51 55.3 -0.5
KMI LR LR
comp=Z,57nm,26.8s
LZH Lanzhou 174.29 37 *e*PKP PKPdf 06 25 35.3 -0.1
LZH SKS SKSdf 06 32 33.4 -3.3
LZH SKKS SKKSac 06 37 43.1 -1.3
LZH *e*SS SS 06 52 15.5 -2.1
LZH PP PP
comp=Z,83nm,9.1s
LZH LR LR
comp=E,207nm,18.3s
LZH LR LR
comp=Z,312nm,20.2s
GYA Guiyang 174.75 166 *e*PKP PKPdf 06 25 34.0 -1.9
GYA APKP 06 25 45.5
GYA XPKP 06 25 49.6
GYA PKP2 PKPab 06 27 11.8 +2.0
GYA PKS 06 29 06.4
GYA PP PP 06 31 04.8 +3.7
GYA SKS SKSdf 06 32 33.8 -3.5
GYA SKKS SKKSac 06 37 46.8 +0.1
GYA SS SS 06 52 21.5 +0.6
GYA PP PP
comp=Z,110nm,8.9s
GYA LR LR
comp=N,260nm,22.7s
GYA LR LR
comp=E,270nm,22.1s
GYA LR LR
comp=Z,320nm,21.8s
CD2 Chengdu 176.24 99 *e*PKP PKPdf 06 25 34.1 -2.0
CD2 APKP 06 25 45.0
CD2 XPKP 06 25 49.0
CD2 PKP2 PKPab 06 27 15.4 -1.3
CD2 PP PP 06 31 09.8 -0.3
CD2 SKS SKSdf 06 32 31.8 -5.6
CD2 SKKS SKKSac 06 37 50.6 -3.7
CD2 SS SS 06 52 30.8 -7.8
CD2 PP PP
comp=Z,90nm,10.8s
CD2 LR LR
comp=N,180nm,24.2s
CD2 LR LR
comp=Z,150nm,22.4s

ISCJB ***22*** *06:19:15.9±0.4, 37.19N±003×7936E±006, h10km, mb4.0/23, MS3.4/4, Error ellipse: s-maj=6.9km s-min=3.9km az=7.8*
LDG ***22*** *06:19:15.4±0.1, 3706N×79.15E, h10km, Mb4.3/10, Ms3.7/7, Error ellipse: s-maj=3.2km s-min=2.3km az=53.0*
NEIC ***22*** *06:19:15.4±1.5, 3698N×7953E, h10km, Error ellipse: s-maj=21.5km s-min=10.2km az=138.0*
IDC ***22*** *06:19:16.3±0.8, 3720N×7921E, h0km, mb3.7/12, mb1 3.9/15, mb1mx3.8/24, mbtmp3.7/15, ML3.6/3, MS3.0/5, Ms1 3.0/5, ms1mx2.8/32, Error ellipse: s-maj=26.7km s-min=17.8km az=48.0*
BJI ***22*** *06:19:20.9, 3745N×7947E, h15km, mB4.5, mb4.4, ML4.0, Ms4.1, Msz3.9*
MOS ***22*** *06:19:20.2±1.5, 3726N×7907E, h33km, mb4.1/7, Error ellipse: s-maj=20.1km s-min=8.8km az=99.2*
NNC ***22*** *06:19:28.1±3.5, 3776N×7906E, h22km±14km, mb3.8, mpv3.9, Error ellipse: s-maj=24.2km s-min=18.1km az=152.0*
SZGRF ***22*** *06:19:38.6, 3849N×7834E, h33km, mb4.3, Southern Xinjiang, China*
ISC 22 06:19:18.1±0.3, 3722N±003×7941E±006, h10km, n77, σ1§24/92, mb4.0/23, MS3.4/4, 6C-7D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**3.54**	**311**	*e*P	**Pn**	**06 20 15.0**	**+1.8**
KSH				S	**Sn**	**06 20 56.9**	**+1.8**
DLH	**Dalhousie**	**5.45**	**212**	*ex*	**Pg**	**06 21 09.0**	**+6.4**
DLH				*e*S	**Sn**	**06 21 45.0**	**+2.8**
THN	**Thein Dam**	**5.65**	**214**	*e*P	**Pn**	**06 20 45.0**	**+2.8**
THN				*e*S	**Sn**	**06 21 46.2**	**-1.0**
SDNR	**Sundarnagar**	**6.05**	**200**	*e*P	**Pn**	**06 20 47.5**	**-0.1**
SDNR				*ex*	**Sn**	**06 22 01.5**	**+4.6**
UCH	**Uchtor**	**6.27**	**325**	*e*Pn	**Pn**	**06 20 51.7**	**+1.1**
	42nm,0.8s						
KNDC	**Almaty**	**6.28**	**343**	⇑Pg	**Pb**	**06 21 11.6**	**+4.1**
	47nm,0.8s						
KNDC				⇑Lg		06 22 29.7	
	196nm,0.6s						
AAA	**Alma-Ata**	**6.33**	**343**	P	**Pb**	**06 21 09.1**	**+0.7**
SMLA	**Simla**	**6.35**	**198**	*e*P	**Pn**	**06 20 55.2**	**+3.5**
SMLA				*e*S	**Sn**	**06 22 04.8**	**+0.4**
TKM2	**Tokmak 2**	**6.40**	**334**	⇓Pn	**Pn**	**06 20 53.8**	**+1.4**
	3.8nm,0.6s						
TKM2				⇑Pg	**Pb**	**06 21 12.6**	**+3.1**
	21nm,0.8s						

TKM2				⇓Lg			06 22 33.3
	89nm,0.9s						
TKM2	**Tokmak 2**	**6.40**	**334**	*e*Pn	**Pn**	**06 20 54.7**	**+2.2**
	19nm,0.7s						
TKM2	**Tokmak 2**	**6.40**	**334**	*e*P	**Pn**	**06 20 54.7**	**+2.3**
TKM2				pmax	pmax		
	comp=Z,19nm,0.7s						
AML	**Almayashu**	**6.59**	**320**	*e*Pn	**Pn**	**06 20 55.8**	**+0.7**
	comp=Z,38nm,0.6s						
AAK	**Ala-Archa**	**6.60**	**327**	*e*Pn	**Pn**	**06 20 55.7**	**+0.6**
	comp=Z,31nm,0.6s						
AAK	**Ala-Archa**	**6.60**	**327**	*e*P	**Pn**	**06 20 55.7**	**+0.6**
AAK				pmax	pmax		
	comp=Z,31nm,0.6s						
FRU	**Bishkek**	**6.71**	**328**	*e*P	**Pb**	**06 21 15.0**	**+0.2**
FRU				pmax	pmax		
	comp=Z,80nm,1.4s						
EKS2	**Erkin-Say**	**6.95**	**323**	*e*Pn	**Pn**	**06 21 01.4**	**+1.4**
	comp=Z,14nm,0.6s						
NDI	**New Delhi**	**8.71**	**193**	*e*P	**Pn**	**06 21 26.5**	**+2.4**
NDI				*e*S	**Sn**	**06 22 58.0**	**-4.3**
KBL	**Kabul**	**8.82**	**255**	*e*Pn	**Pn**	**06 21 24.5**	**-1.2**
	comp=Z,12nm,0.6s						
KK31	**Karatay Array**	**8.99**	**314**	⇑Pn	**Pn**	**06 21 27.9**	**-0.1**
	comp=Z,0.5nm,0.3s,baz=120,slow=14,SNR=16						
KK31				⇓Pg	Pn	06 22 01.3	+33
	comp=Z,1.8nm,0.5s,baz=118,slow=14,SNR=5.3						
KK31				⇓Sn	**Sn**	**06 23 02.8**	**-6.5**
	comp=Z,4.4nm,0.5s,baz=134,slow=25						
KK31				⇓Lg		06 23 56.3	
	comp=Z,18nm,0.8s,baz=128,slow=27						
WMQ	**Urumqi**	**9.13**	**41**	*e*P	**Pn**	**06 21 33.5**	**+3.7**
WMQ				S	**Sn**	**06 23 12.8**	**+0.2**
WMQ				Smax			
	comp=N,43nm,1.0s						
WMQ				Smax			
	comp=E,38nm,0.8s						
WMQ				LR	LR		
	comp=N,300nm,4.0s						
WMQ				LR	LR		
	comp=E,266nm,4.1s						
SONA	**Sohna**	**9.15**	**193**	*e*P	**Pn**	**06 21 30.2**	**0.0**
SONA				*e*S	**Sn**	**06 23 05.8**	**-7.5**
SONA				AML	AML	06 23 16.1	
	comp=E,23nm,0.3s						
SONA				AML	AML	06 23 19.5	
	comp=N,14nm,0.3s						
KUDL	**Kundal**	**9.37**	**196**	*e*P	**Pn**	**06 21 33.6**	**+0.3**
KUDL				*e*S	**Sn**	**06 23 11.4**	**-7.3**
KUDL				AML	AML	06 23 19.4	
	comp=E,28nm,0.8s						
KUDL				AML	AML	06 23 21.0	
	comp=N,19nm,0.8s						
KHET	**Khetri**	**9.61**	**199**	*e*P	**Pn**	**06 21 35.9**	**-0.6**
KHET				*e*S	**Sn**	**06 23 16.5**	**-8.0**
KHET				AML	AML	06 23 28.1	
	comp=E,14nm,0.4s						
KHET				AML	AML	06 23 28.4	
	comp=N,13nm,0.4s						
MK31	**Makanchi Array**	**9.81**	**12**	⇑P	**Pn**	**06 21 39.9**	**+0.8**
	comp=N,6.5nm,0.7s,baz=190,slow=13,SNR=30						
MK31				⇓S	**Sn**	**06 23 26.5**	**-2.7**
	comp=N,31nm,1.0s,baz=196,slow=24						
MK31	**Makanchi Array**	**9.81**	**12**	*e*Pn	**Pn**	**06 21 40.5**	**+1.4**
MK31				*e*Sn	**Sn**	**06 23 27.3**	**-1.9**
MKAR	**Makanchi Array**	**9.81**	**12**	Pn	**Pn**	**06 21 40.5**	**+1.3**
MKAR				Sn	**Sn**	**06 23 26.5**	**-2.7**
MKAR	**Makanchi Array**	**9.81**	**12**	P	**Pn**	**06 21 40.5**	**+1.4**
MKAR						06 23 26.5	
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MKAR				smax			
	comp=N,3.0nm,0.3s						
MKAR	**Makanchi Array**	**9.81**	**12**	Pn	**Pn**	**06 21 40.5**	**+1.3**
	comp=N,0.7nm,0.3s,baz=184,slow=13,SNR=21						
MKAR				Sn	**Sn**	**06 23 26.5**	**-2.7**
	comp=N,2.9nm,0.3s,baz=191,slow=18,SNR=10						
BVA0	**Borovoye Array**	**17.02**	**341**	⇓P	**Pn**	**06 23 18.7**	**+2.7**
	comp=N,1.3nm,1.4s,baz=0.0,slow=0.1,SNR=9.0						
BVAR	**Borovoye Array**	**17.02**	**341**	Pn	**Pn**	**06 23 15.2**	**-0.8**
	comp=N,0.2nm,0.3s,baz=143,slow=14,SNR=2.7						
BVAR				LR	LR	06 30 46.7	
	comp=N,28nm,21.4s,baz=261,slow=41						
ZAL	**Zalesovo**	**17.13**	**11**	P	**Pn**	**06 23 16.5**	**-1.0**
ZAA0	**Zalesovo Array**	**17.15**	**11**	*e*Pn	**Pn**	**06 23 17.2**	**-0.4**
ZALV	**Zalesovo Beam**	**17.15**	**11**	P	**Pn**	**06 23 16.5**	**-1.1**
ZALV				LR	LR	06 31 04.0	
ZALV	**Zalesovo Beam**	**17.15**	**11**	P	**Pn**	**06 23 16.5**	**-1.1**
	comp=N,0.1nm,0.3s,baz=195,slow=10,SNR=6.3						
ZALV				LR	LR	06 31 04.0	
	comp=N,27nm,21.6s,baz=158,slow=41						
AB31	**Akbulak array**	**18.53**	**317**	P	**Pn**	**06 23 37.9**	**+3.1**
	comp=N,1.1nm,0.6s,baz=126,slow=14,SNR=11						
LZH	**Lanzhou**	**19.63**	**86**	*e*P	**Pn**	**06 23 49.5**	**+1.3**
LZH				AP	pP	06 23 58.1	+8.5
LZH				XP	sP	06 24 02.5	+12
LZH				PP		06 24 08.8	
LZH				AMB	AMB		
	comp=Z,26nm,1.2s						
LZH				AMB	AMB		
	comp=Z,115nm,4.8s						
LZH				LR	LR		
	comp=N,475nm,10.5s						
LZH				LR	LR		
	comp=Z,687nm,14.7s						
AKTK	**Aktyubinsk**	**20.22**	**318**	P	**P**	**06 23 52.5**	**-0.6**
AKTO	**Aktyubinsk**	**20.22**	**318**	⇑P	**P**	**06 23 55.4**	**+2.3**
	comp=Z,0.1nm,1.2s						
AKTO	**Aktyubinsk**	**20.22**	**318**	P	**P**	**06 23 52.5**	**-0.6**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.5s						
AKTO	**Aktyubinsk**	**20.22**	**318**	P	**P**	**06 23 52.5**	**-0.6**
	comp=Z,0.6nm,0.5s,baz=120,slow=15,SNR=2.7						
ZAK	**Zakamensk**	**21.57**	**45**	*e*P	**P**	**06 24 12.8**	**+5.2**
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.4s,mb3.4						
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.3s,mb3.4						
SONM	**Songino Array**	**22.43**	**53**	P	**P**	**06 24 21.6**	**+4.7**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.8s						
SONM	**Songino Array**	**22.43**	**53**	P	**P**	**06 24 21.6**	**+4.7**
	comp=Z,1.0nm,0.8s,mb3.3,baz=226,slow=7.7,SNR=8.5						
SVE	**Sverdlovsk**	**23.28**	**333**	*e*P	**P**	**06 24 31.7**	**+6.0**
AKASG	**Malin Array Be**	**37.83**	**307**	P	**P**	**06 26 33.3**	**-1.3**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
AKASG	**Malin Array Be**	**37.83**	**307**	P	**P**	**06 26 33.3**	**-1.3**
	comp=Z,0.5nm,0.4s,mb3.6,baz=78,slow=9.1,SNR=6.1						
FINES	**FINESS Array B**	**40.78**	**324**	P	**P**	**06 26 58.6**	**-0.5**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
FINES				MLR	MLR		
	comp=Z,23nm,21.8s						
FINES	**FINESS Array B**	**40.78**	**324**	P	**P**	**06 26 58.6**	**-0.5**
	comp=Z,1.0nm,0.5s,mb3.7,baz=99,slow=12,SNR=13						
FINES				LR	LR	06 44 27.6	
	comp=Z,23nm,21.8s,MS3.0,baz=132,slow=37						
ARCES	**ARCESS Array B**	**43.18**	**335**	P	**P**	**06 27 17.0**	**-1.6**
ARCES				pmax	pmax		
	comp=Z,4.0nm,1.0s						
ARCES	**ARCESS Array B**	**43.18**	**335**	P	**P**	**06 27 17.0**	**-1.6**
	comp=Z,3.5nm,1.0s,mb4.0,baz=96,slow=9.4,SNR=3.3						
NB2	**NORSAR Subarra**	**47.90**	**322**	P	**P**	**06 27 55.2**	**-0.9**
	comp=Z,1.8nm,0.7s,mb4.2,baz=89,slow=7.9						
NOA	**NORSAR Array B**	**47.90**	**322**	P	**P**	**06 27 54.8**	**-1.3**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
NOA				MLR	MLR		
	comp=Z,7.0nm,18.7s						
NOA	**NORSAR Array B**	**47.90**	**322**	P	**P**	**06 27 54.8**	**-1.3**
	comp=Z,0.7nm,0.7s,mb3.8,baz=91,slow=7.6,SNR=2.6						
NOA				LR	LR	06 50 16.1	
	comp=Z,7.0nm,18.7s,MS2.7,baz=285,slow=39						
GERES	**GERESS Array B**	**48.00**	**306**	P	**P**	**06 27 57.0**	**-0.1**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.8s						
GERES	**GERESS Array B**	**48.00**	**306**	P	**P**	**06 27 57.0**	**0.0**
	comp=Z,1.0nm,0.8s,mb3.9,baz=79,slow=6.9,SNR=7.9						
GRF	**Grafenberg Arr**	**49.41**	**307**	*e*P	**P**	**06 28 13.3**	**+5.4**
GRF				pmax	pmax		
	comp=Z,2.0nm,1.0s,mb4.1						
GRF	**Grafenberg Arr**	**49.41**	**307**	*e*P	**P**	**06 28 13.3**	**+5.4**
	comp=Z,2.0nm,1.0s,mb4.1						
LPG	**La Plagne**	**53.45**	**303**	*e*P	**P**	**06 28 38.0**	**-0.2**
	comp=Z,7.4nm,0.8s,mb4.4						
LPL	**La Plagne**	**53.46**	**303**	*e*P	**P**	**06 28 38.0**	**-0.3**
	comp=Z,9.8nm,0.8s,mb4.5						
SBF	**Sospel**	**53.52**	**301**	*e*P	**P**	**06 28 38.0**	**-0.7**
	comp=Z,15nm,0.8s,mb4.7						
FRF	**La Foret Royal**	**54.16**	**301**	*e*P	**P**	**06 28 42.2**	**-1.2**
ORIF	**Oris-en-Rattie**	**54.22**	**303**	*e*P	**P**	**06 28 43.2**	**-0.7**
	comp=Z,2.2nm,0.6s,mb3.9						
ORIF				*e*MLR	MLR		
	comp=Z,312nm,21.0s,MS4.0						
VIVF	**Saint-Julien-l**	**55.05**	**303**	*e*P	**P**	**06 28 49.0**	**-0.9**
	comp=Z,4.5nm,0.7s,mb4.3						
LASF	**Ste Croix**	**55.87**	**303**	*e*P	**P**	**06 28 55.1**	**-0.7**
	comp=Z,5.3nm,0.9s,mb4.2						
TCF	**Toulx Ste Croi**	**56.18**	**306**	*e*P	**P**	**06 28 57.2**	**-0.8**
	comp=Z,3.7nm,0.8s,mb4.2						
CAF	**Calviac**	**56.76**	**304**	*e*P	**P**	**06 29 01.6**	**-0.5**
MTLF	**Montolieu**	**57.25**	**302**	*e*P	**P**	**06 29 04.7**	**-0.9**
	comp=Z,1.7nm,0.6s,mb4.0						
SGMF	**Saint Gilles**	**58.49**	**309**	*e*P	**P**	**06 29 13.3**	**-1.0**
ETSF	**Etsaut**	**59.29**	**303**	*e*P	**P**	**06 29 19.2**	**-0.7**
	comp=Z,2.9nm,0.5s,mb4.2						
BATI	**Kupang**	**62.82**	**129**	LR	LR	06 59 04.8	
	comp=Z,101nm,20.9s,MS4.0,baz=148,slow=38						
ESDC	**Sonseca Array**	**62.99**	**301**	P	**P**	**06 29 43.7**	**-1.3**
	comp=Z,0.5nm,0.4s,mb4.0,baz=59,slow=5.6,SNR=8.3						
INK	**Inuvik**	**71.94**	**12**	P	**P**	**06 30 40.8**	**-0.4**
	comp=Z,0.4nm,0.5s,mb3.6,baz=25,slow=8.4,SNR=6.5						
TORD	**Torodi Ar. Bea**	**72.44**	**273**	P	**P**	**06 30 43.2**	**-1.9**
	comp=Z,1.4nm,0.7s,mb4.0,baz=47,slow=4.8,SNR=10.0						
WRA	**Warramunga Arr**	**76.86**	**128**	P	**P**	**06 31 11.5**	**+1.0**
WRA				pmax	pmax		
	comp=Z,2.0nm,1.0s						
WRA	**Warramunga Arr**	**76.86**	**128**	P	**P**	**06 31 11.5**	**+1.1**
	comp=Z,1.7nm,0.9s,mb4.0,baz=324,slow=5.5,SNR=8.5						
ASAR	**Alice Springs**	**79.36**	**131**	P	**P**	**06 31 24.9**	**+0.7**
	comp=Z,0.4nm,0.8s,mb3.4,baz=213,slow=25,SNR=5.9						
YKA	**Yellowknife Ar**	**79.99**	**7**	P	**P**	**06 31 27.3**	**+0.1**
	comp=Z,0.3nm,0.6s,mb3.4,baz=341,slow=5.6,SNR=11						

*NEIC **22** 06:39:02.1±0.7, 727S×1560 7E, h10km, Error ellipse: s-maj=27.0km s-min=15.6km az=122.0*

IDC 22 06:39:00.2±1.3, 726S×15614E, h0km, mb4.0/8, mb1 4.0/8, mb1mx3.9/16, mbtmp3.9/8, MS3.5/1, Ms1 3.5/1, ms1mx2.8/22, Error ellipse: s-maj=44.0km s-min=24.2km az=116.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.61**	**237**	P	P	06 44 23.0	+0.7
	2.4nm,0.7s,baz=61,slow=9.8,SNR=38						
ASAR	**Alice Springs**	**26.86**	**230**	P	P	06 44 42.2	-0.5
	0.4nm,0.6s,baz=62,slow=9.0,SNR=5.8						
FITZ	**Fitzroy Crossi**	**31.59**	**247**	P	P	06 45 24.4	-0.5
	1.1nm,0.7s,baz=73,slow=7.0,SNR=5.2						
FITZ				LR	LR	06 58 42.9	
	comp=Z,77nm,18.9s,baz=42,slow=37						
SONM	**Songino Array**	**70.17**	**327**	P	P	06 50 14.3	-0.4
	0.6nm,0.4s,baz=141,slow=5.3,SNR=6.0						
QSPA	**South Pole Qui**	**82.72**	**180**	P	P	06 51 26.1	+0.7
	0.4nm,0.3s,baz=37,slow=17,SNR=5.9						
MK31	**Makanchi Array**	**84.35**	**318**	*e*P	P	06 51 35.3	+1.0
MKAR	**Makanchi Array**	**84.35**	**318**	P	P	06 51 35.5	+1.1
	2.5nm,0.7s,baz=102,slow=6.5,SNR=22						
ZALV	**Zalesovo Beam**	**85.03**	**326**	P	P	06 51 37.7	+0.1
	1.3nm,0.4s,baz=106,slow=5.4,SNR=5.7						
YKA	**Yellowknife Ar**	**96.04**	**28**	P	P	06 52 28.8	-0.5
	0.1nm,0.7s,baz=261,slow=4.7,SNR=3.1						
JCT	**Junction City**	**105.75**	**60**	*e*PKP	PKiKP	06 57 27.8	+1.4
TORD	**Torodi Ar. Bea**	**154.19**	**285**	PKPbc	PKPbc	06 59 03.0	-0.2
	0.8nm,1.1s,baz=75,slow=1.6,SNR=2.7						

*NEIC **22** 07:15:32.6, 1835N×6603W, h116km, MD3.5(RSPR), After RSPR.*

RSPR 22 07:15:32.6, 1835N×6603W, h116km, MD3.5/12, MD3.5/12, 6C-5D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJG	**San Juan**	**0.26**	**206**	⇓*i*P	Pn	07 15 48.6	-0.4
SJG				*e*S	Sn	07 16 00.9	-0.3
CELP	**Cerrillos**	**0.59**	**242**	⇑*i*P	Pn	07 15 50.6	-0.1
CELP				*e*S	Sn	07 16 04.0	-0.4
OBIP	**Obispado Ponce**	**0.63**	**241**	⇑*e*P	Pn	07 15 50.7	-0.3
OBIP				*e*S	Sn	07 16 04.7	-0.2
ICM	**Isla Caja Muer**	**0.65**	**226**	⇑*i*P	Pn	07 15 50.7	-0.5
ICM				*e*S	Sn	07 16 04.5	-0.7
AOPR	**Arecibo Observ**	**0.69**	**270**	⇑*i*P	Pn	07 15 51.0	-0.5
AOPR				*e*S	Sn	07 16 05.5	-0.2
LRS	**Lares**	**0.78**	**266**	⇑*i*P	Pn	07 15 51.8	-0.4
LRS				*e*S	Sn	07 16 07.2	+0.2
GBPR	**Guanica, Bosqu**	**0.89**	**245**	⇓*e*P	Pn	07 15 52.9	-0.3
GBPR	**Guanica, Bosqu**	**0.89**	**245**	*e*S	Sn	07 16 08.6	-0.2
LSP	**Las Mesas**	**1.02**	**260**	⇓*e*P	Pn	07 15 54.5	0.0
STVI	**Saint Thomas**	**1.02**	**90**	⇑*e*P	Pn	07 15 54.2	-0.3
STVI				*e*S	Sn	07 16 11.7	+0.6
AGPR	**Aguadilla, PR**	**1.03**	**277**	⇑*e*P	Pn	07 15 54.1	-0.5
CRPR	**Cabo Rojo, PR**	**1.08**	**252**	⇑*e*P	Pn	07 15 54.6	-0.6
CRPR				*e*S	Sn	07 16 12.2	0.0
TBVI	**Tortola**	**1.34**	**87**	⇓*e*P	Pn	07 15 57.5	-0.5
TBVI				*e*S	Sn	07 16 17.3	0.0
SMN1	**Samana, DR**	**3.18**	**286**	⇓*e*P	Pn	07 16 20.6	-0.6
SMN1	**Samana, DR**	**3.18**	**286**	*e*S	Sn	07 16 56.7	-2.0

*IDC **22** 07:16:57.4±3.3, 5789N×1590 8W, h0km, mb3.4/4, mb1 3.7/5, mb1mx3.5/22, mbtmp3.5/5, ML4.0/1, Error ellipse: s-maj=75.4km s-min=31.9km az=35.0*

*ISCJB **22** 07:17:06.1±1.0, 563N±02×1614W±02, h176km±12km, mb3.5/3, Error ellipse: s-maj=31.8km s-min=15.3km az=156.7*

*NEIC **22** 07:17:07.9, 5590N×161.19W, h198km, MG3.3(AEIC), After AEIC.*

ISC 22 07:17:07.2±1.0, 564N±02×1614W±02, h168km±12km, n7, σ0°79/10, mb3.5/3, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDPT	**Sand Point**	**1.15**	**153**	P	**Pn**	**07 17 34.6**	**-0.4**
SDPT				S	**Sn**	**07 17 55.3**	**-0.9**
SDPT				*e*Sn	**Sn**	**07 17 56.0**	**-0.2**
CHGN	**Chignik**	**1.67**	**91**	P	**Pn**	**07 17 41.3**	**+1.5**
FALS	**False Pass**	**1.90**	**218**	P	**Pn**	**07 17 41.9**	**-0.4**
FALS				S	**Sn**	**07 18 09.8**	**+0.4**
RAGM	**Ragged Mountai**	**9.65**	**58**	P	**Pn**	**07 19 21.4**	**-0.7**
PDAR	**Pinedale Array**	**35.38**	**90**	P	**P**	**07 23 45.5**	**-0.9**
	0.5nm,0.6s,mb3.3,baz=308,slow=4.3,SNR=5.2						
TXAR	**Lajitas Array**	**48.37**	**99**	P	**P**	**07 25 32.9**	**+1.1**
	0.6nm,0.9s,mb3.2,baz=308,slow=6.2,SNR=3.6						
FINES	**FINESS Array B**	**62.38**	**356**	P	**P**	**07 27 11.2**	**-0.1**
	2.5nm,1.0s,mb4.0,baz=352,slow=8.4,SNR=5.7						

IDC 22 07:39:04.9±3.5, 2656S×13300E, h0km, mb1 3.3/3, mb1mx3.2/13, mbtmp3.1/3, ML3.1/3, Error ellipse: s-maj=34.8km s-min=21.7km az=73.0, South Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**3.00**	**16**	Pn	Pn	07 39 54.4	+0.7
	0.3nm,0.3s,baz=196,slow=12,SNR=28						
ASAR				Pg	Pg	07 40 01.1	-1.2
	1.2nm,0.3s,baz=194,slow=14,SNR=25						
ASAR				Lg		07 40 39.1	
	8.5nm,0.3s,baz=199,slow=26,SNR=32						
WRA	**Warramunga Arr**	**6.70**	**11**	Pn	Pn	07 40 44.1	-0.6
	0.3nm,0.3s,baz=188,slow=13,SNR=17						
WRA				Sn	Sn	07 42 00.8	-0.9
	1.2nm,0.3s,baz=194,slow=24,SNR=16						
WRA				Lg		07 42 38.6	
	1.1nm,0.3s,baz=186,slow=28,SNR=7.1						
STKA	**Stephens Creek**	**9.19**	**127**	Pn	Pn	07 41 18.1	-0.6
	0.3nm,0.3s,baz=304,slow=12,SNR=5.8						
STKA				Sn	Sn	07 42 57.0	-5.8
	0.6nm,0.3s,baz=63,slow=16,SNR=6.8						

*ISCJB **22** 07:44:55.0±0.6, 2315N±006×10172E±008, h10km, mb3.5/6, Error ellipse: s-maj=13.1km s-min=4.4km az=33.5*

*BJI **22** 07:44:55.5, 2304N×1014 1E, h20km, ML3.9, Ms3.9, Msz3.5*

*IDC **22** 07:44:57.1±1.3, 2332N×1015 9E, h0km, mb3.6/6, mb1 3.7/6, mb1mx3.5/21, mbtmp3.6/6, MS3.4/1, Ms1 3.4/1, ms1mx2.4/29, Error ellipse: s-maj=82.8km s-min=19.0km az=61.0*

ISC 22 07:44:58.1±0.6, 2327N±006×10155E±008, h10km, n12, σ1°25/16, mb3.5/6, Yunnan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMI	**Kunming**	**2.14**	**30**	PG	**Pg**	**07 45 38.4**	**-0.8**
KMI				SG	**Sg**	**07 46 07.3**	**+0.3**
KMI				Smax			
	comp=N,506nm,1.0s						
KMI				Smax			
	comp=E,343nm,0.8s						
CHRT	**Chiangrai**	**3.76**	**206**	PG	**Pg**	**07 46 06.0**	**-4.2**
CHRT				SG	**Sg**	**07 46 59.0**	**+0.1**
CHG	**Chiang Mai**	**5.06**	**209**	PG	**Pg**	**07 46 32.1**	**-2.9**
GYA	**Guiyang**	**5.63**	**55**	P	**Pn**	**07 46 21.0**	**-0.9**
GYA				PG	**Pg**	**07 46 44.3**	**-1.7**
GYA				S	**Sn**	**07 47 35.1**	**+8.5**
GYA				SG	**Sg**	**07 48 00.3**	**+1.4**
GYA				Smax			
	comp=N,50nm,0.8s						
GYA				Smax			
	comp=E,60nm,0.9s						
GYA				LR	LR		
	comp=N,540nm,5.8s						
GYA				LR	LR		
	comp=E,340nm,5.4s						
GYA				LR	LR		
	comp=Z,190nm,4.3s						
BDT	**Bhumibol Dam**	**6.45**	**202**	P	**Pg**	**07 47 03.5**	**+1.7**
JOW	**Kunigami**	**24.46**	**76**	LR	LR	08 00 22.7	
	comp=Z,93nm,20.9s,baz=117,slow=38						
SONM	**Songino Array**	**24.82**	**8**	P	**P**	**07 50 20.9**	**+0.5**
	comp=Z,0.4nm,0.6s,mb3.1,baz=181,slow=7.6,SNR=4.6						
MKAR	**Makanchi Array**	**28.12**	**331**	P	**P**	**07 50 51.2**	**+1.0**
	comp=Z,1.1nm,0.7s,mb3.6,baz=138,slow=9.1,SNR=12						
ZALV	**Zalesovo Beam**	**33.13**	**342**	P	**P**	**07 51 34.2**	**-0.1**
	comp=Z,0.5nm,0.4s,mb3.8,baz=152,slow=9.8,SNR=4.1						
BVAR	**Borovoye Array**	**37.96**	**329**	P	**P**	**07 52 15.5**	**-0.3**
	comp=Z,0.3nm,0.4s,mb3.3,baz=130,slow=8.5,SNR=2.3						
WRA	**Warramunga Arr**	**53.55**	**141**	P	**P**	**07 54 18.2**	**-1.2**
	comp=Z,0.4nm,0.8s,mb3.4,baz=328,slow=7.7,SNR=3.2						
ASAR	**Alice Springs**	**56.26**	**144**	P	**P**	**07 54 41.5**	**+2.6**
	comp=Z,1.1nm,1.1s,mb3.8,baz=325,slow=6.2,SNR=6.0						

*CSEM **22** 08:08:58.9±0.1, 3510N×2728E, h8km, MD3.4, Error ellipse: s-maj=3.5km s-min=2.6km az=158.0*

*ISCJB **22** 08:08:59.1±1.7, 3515N±008×2718E±007, h1km±17km, Error ellipse: s-maj=12.9km s-min=8.9km az=172.1*

*ISK **22** 08:09:00.9, 3508N×2734E, h22km, MD3.6*

*NEIC **22** 08:09:01.0, 3525N×2708E, h23km, MD3.4(ATH), After ATH.*

*ATH **22** 08:09:01.0, 3525N×2708E, h23km±3km, MD3.4/5*

ISC 22 08:08:59.9±1.3, 3514N±005×2714E±007, h4km±8km, n24, σ0°72/29, 2D, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.41**	**2**	⇓*i*PB	**Pg**	**08 09 07.4**	**-0.5**
KARP				*e*SB	**Sg**	**08 09 13.1**	**-0.1**
XRY	**Khrisi**	**1.22**	**258**	*e*PN	**Pn**	**08 09 23.5**	**-0.2**
NPS	**Neapolis**	**1.26**	**276**	⇓*i*PN	**Pn**	**08 09 24.3**	**0.0**
ARG	**Arkhangelos**	**1.34**	**36**	*e*PN	**Pn**	**08 09 25.7**	**+0.2**
ARG				*e*SN	**Sn**	**08 09 43.4**	**-0.4**
DAT	**Datca**	**1.63**	**12**	*e*PN	**Pn**	**08 09 29.7**	**+0.3**
DAT				*e*SN	**Sn**	**08 09 50.5**	**-0.4**
BODT	**Bodrum**	**1.93**	**4**	*e*PN	**Pn**	**08 09 34.2**	**+0.7**
BODT				*e*SN	**Sn**	**08 09 58.3**	**+0.1**
BDRM	**Kayabasi**	**1.94**	**7**	*i* P	**Pn**	**08 09 33.7**	**0.0**
BDRM	**Kayabasi**	**1.94**	**7**	*i* P	**Pn**	**08 09 33.7**	**0.0**
BDRM				*i* S	**Sn**	**08 09 58.0**	**-0.5**
FETY	**Fethiye**	**2.17**	**46**	*e*PN	**Pn**	**08 09 36.5**	**-0.4**
YER	**Yerkesik**	**2.20**	**25**	*e*PN	**Pn**	**08 09 36.7**	**-0.5**
MLSB	**Milas**	**2.21**	**13**	*e*PN	**Pn**	**08 09 37.6**	**+0.2**
APE	**Apeiranthos**	**2.33**	**326**	*e*PN	**Pn**	**08 09 38.0**	**-1.0**
AYDN	**Tasoluk**	**2.59**	**13**	*i* P	**Pn**	**08 09 42.9**	**+0.3**
ELL	**Elmali**	**2.76**	**54**	*e*PN	**Pn**	**08 09 43.5**	**-1.5**
GOLH	**Golhisar**	**2.87**	**42**	*i* P	**Pn**	**08 09 48.2**	**+1.8**
DENT	**Denizli**	**3.03**	**30**	*e*PN	**Pn**	**08 09 49.0**	**+0.4**
URLA	**Izmir**	**3.25**	**352**	*i* P	**Pn**	**08 09 50.8**	**-0.8**
KDAG	**Bornova**	**3.26**	**2**	*i* P	**Pn**	**08 09 53.7**	**+1.9**
KULA	**Kula-Manisa**	**3.59**	**19**	*e*PN	**Pn**	**08 09 57.0**	**+0.7**
BCK	**Bucak**	**3.62**	**49**	*e*PN	**Pn**	**08 09 56.2**	**-0.7**
GDZ	**Gediz**	**4.37**	**25**	*i* P	**Pn**	**08 10 07.8**	**+0.8**
KONT	**Konya--Tatoy**	**5.05**	**55**	*e*PN	**Pn**	**08 10 16.4**	**-0.1**
KIZT	**Kizilcal**	**5.32**	**44**	*e*PN	**Pn**	**08 10 20.9**	**+0.8**
IKL	**Isikli**	**5.44**	**76**	*e*PN	**Pn**	**08 10 21.1**	**-0.7**

*NEIC **22** 08:28:08.3, 2949S×7156W, h37km

comp=E,1.0nm,0.3s,baz=187,slow=18,SNR=9.6
FINES FINESS Array B 40.82 324 P **P 08 37 52.2 +2.2**
comp=E,0.9nm,0.7s,mb3.5,baz=116,slow=11,SNR=4.3
ARCES ARCESS Array B 43.18 335 P **P 08 38 07.1 -2.2**
comp=E,3.2nm,1.1s,mb4.0,baz=96,slow=8.3,SNR=3.2
TORD Torodi Ar. Bea 72.64 273 P **P 08 41 31.8 -4.9**
comp=E,0.3nm,0.5s,mb3.5,baz=54,slow=5.9,SNR=3.6
WRA Warramunga Arr 76.76 128 P **P 08 42 00.1 -0.3**
comp=E,0.5nm,1.0s,mb3.4,baz=314,slow=7.3,SNR=4.0
YKA Yellowknife Ar 79.88 7 P **P 08 42 15.7 -1.3**
comp=E,0.1nm,0.4s,mb3.1,baz=339,slow=5.2,SNR=5.6

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*NEIC **22** 08:34:29.7, 3337S×7165W, h15km, MD3.5(GUC), After GUC.*
GUC 22 08:34:29.7±0.7, 3337S×7165W, h15km±8km, MD3.5, ML2.1, 2C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**0.61**	**161**	⇓*i*P	Pg	08 34 41.1	-0.6
LNV				*i* S	Sg	08 34 49.8	-0.2
TACH	**Talagante**	**0.66**	**115**	⇓*i*P	Pg	08 34 42.1	-0.5
TACH				*i* S	Sg	08 34 51.0	-0.3
PEL	**Peldehue**	**0.84**	**74**	⇑*i*P	Pb	08 34 44.9	-1.1
PEL				*i* S	Sb	08 34 56.8	-0.3
PEL				AML	AML	08 35 00.4	
	comp=N,99nm,0.5s						
ANTU	**Antumapu**	**0.87**	**103**	*e*P	Pb	08 34 45.7	-0.8
ANTU				*i* S	Sb	08 34 57.5	-0.4
ANTU	**Antumapu**	**0.87**	**103**	*e*P	Pb	08 34 45.7	-0.8
ANTU				*i* S	Sb	08 34 57.5	-0.4
ANTU				AML	AML	08 35 00.5	
	comp=E,124nm,0.3s						
CLCH	**Cerro Calan**	**0.93**	**92**	*e*P	Pb	08 34 46.8	-0.7
CLCH				*i* S	Sb	08 34 59.2	-0.5
CLCH				AML	AML	08 35 02.5	
	comp=N,75nm,0.5s						
PCH	**Pirque**	**0.98**	**105**	*e*P	Pb	08 34 47.5	-0.9
PCH				*i* S	Sb	08 35 00.7	-0.4
CHCH	**Chadas Angostu**	**1.00**	**124**	*i* S	Sb	08 35 01.3	-0.4
JACH	**Jahuel**	**1.12**	**52**	*e*P	Pb	08 34 49.1	-1.7
JACH				*i* S	Sb	08 35 04.6	-0.6
FCH	**Farellones**	**1.14**	**88**	*i* P	Pb	08 34 49.9	-1.1
FCH				*i* S	Sb	08 35 05.2	-0.4
FCH				AML	AML	08 35 10.3	
	comp=N,104nm,0.1s						
CACH	**El Canelo**	**1.15**	**131**	*i* S	Sb	08 35 07.0	+1.1
LMEL	**Las Melosas**	**1.30**	**112**	*e*P	Pn	08 34 52.5	-0.7
LMEL				*i* S	Sb	08 35 10.1	-0.1
LMEL	**Las Melosas**	**1.30**	**112**	*e*P	Pn	08 34 52.5	-0.7
LMEL				*i* S	Sb	08 35 10.1	-0.1
LMEL				AML	AML	08 35 12.1	
	comp=N,145nm,0.2s						
SFDO	**San Fernando**	**1.35**	**157**	⇑*i*P	Pn	08 34 53.4	-0.5
SFDO				*i* S	Sn	08 35 10.5	-1.0
CICH	**Cipreses**	**1.39**	**133**	*e*P	Pn	08 34 53.5	-1.0
CICH				*i* S	Sn	08 35 11.7	-1.0

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*IDC **22** 08:37:37.4±4.0, 5504N×16249E, h0km, mb3.6/6, mb1 3.8/6, mb1mx3.5/23, mbtmp3.6/6, Error ellipse: s-maj=92.8km s-min=43.2km az=19.0*
*NEIC **22** 08:37:39.7±0.7, 5517N×16253E, h10km, Error ellipse: s-maj=35.6km s-min=13.1km az=140.0*
*ISCJB **22** 08:37:41.8±0.6, 5514N±003×16236E±008, h44km±8km, mb3.6/6, Error ellipse: s-maj=7.9km s-min=3.8km az=14.6*
*MOS **22** 08:37:41.1±0.4, 5511N×16250E, h35km, mb4.2/1, Error ellipse: s-maj=23.7km s-min=10.3km az=72.8*
*KRSC **22** 08:37:41.5±0.4, 5515N×16220E, h24km±24km, ML4.2*
ISC 22 08:37:41.8±0.8, 5518N±002×16235E±007, h24km±7km, n35, σ0°77/51, mb3.6/6, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**0.72**	**210**	*e*P	**Pb**	**08 37 54.5**	**-1.1**
MKZ				*i* S	**Sb**	**08 38 04.1**	**-0.8**
KBTR	**Krutoberegovo**	**1.07**	**14**	*e*P	**Pn**	**08 38 00.9**	**-0.3**
KBTR				*i* S	**Sb**	**08 38 14.9**	**-0.2**
ZLN	**Zelenaya**	**1.22**	**315**	*e*P	**Pn**	**08 38 02.9**	**-0.3**
ZLN				*i* S	**Sn**	**08 38 18.6**	**-0.3**
TUMR	**Tumrok**	**1.26**	**276**	*e*P	**Pn**	**08 38 03.6**	**-0.3**
TUMR				*i* S	**Sn**	**08 38 19.5**	**-0.6**
BZMR	**Bezymyannaya**	**1.30**	**307**	*e*P	**Pn**	**08 38 04.8**	**+0.4**
BZMR				*i* S	**Sn**	**08 38 20.9**	**-0.1**
KMNR	**Kamenistaya**	**1.33**	**297**	*e*P	**Pn**	**08 38 04.9**	**+0.1**
KMNR				*i* S	**Sn**	**08 38 21.7**	**-0.1**
KIRR	**Kirishev**	**1.38**	**305**	*e*P	**Pn**	**08 38 05.4**	**-0.1**
KPT	**Kopyto**	**1.44**	**304**	*e*P	**Pn**	**08 38 06.8**	**+0.5**
KRSR	**Krestovskiy**	**1.45**	**317**	*e*P	**Pn**	**08 38 07.8**	**+1.4**
KLY	**Klyuchi**	**1.49**	**321**	*e*P	**Pn**	**08 38 06.3**	**-0.7**
KLY				*i* S	**Sn**	**08 38 24.5**	**-1.1**
SMKR	**Semkarok**	**1.49**	**341**	*e*P	**Pn**	**08 38 07.5**	**+0.5**
BDR	**Baidarnaya**	**1.54**	**336**	*e*P	**Pn**	**08 38 08.6**	**+1.0**
SRKR	**Sorokina**	**1.62**	**336**	*e*P	**Pn**	**08 38 09.5**	**+0.7**
KOZR	**Kozyr**	**1.65**	**304**	PN	**Pn**	**08 38 09.4**	**+0.2**
KOZR				S	**Sn**	**08 38 29.2**	**-0.4**
KOZ	**Kozyrevsk**	**1.66**	**303**	*e*P	**Pn**	**08 38 09.4**	**+0.1**
KOZ				*i* S	**Sn**	**08 38 29.2**	**-0.6**
SRDR	**Sredinnyy**	**1.88**	**309**	*e*P	**Pn**	**08 38 12.5**	**+0.2**
KII	**Karymskiy**	**2.04**	**237**	*e*P	**Pn**	**08 38 14.6**	**+0.1**
KII				*i* S	**Sn**	**08 38 39.0**	**-0.1**
SPN	**Mys Shipunski**	**2.49**	**214**	*e*P	**Pn**	**08 38 19.1**	**-1.6**
SPN				*i* S	**Sn**	**08 38 46.8**	**-3.5**
NLC	**Nalytchevo**	**2.67**	**222**	*e*P	**Pn**	**08 38 23.5**	**+0.3**
NLC				*i* S	**Sn**	**08 38 53.8**	**-1.0**
AVH	**Avacha**	**2.85**	**229**	*e*P	**Pn**	**08 38 26.4**	**+0.7**
AVH				*i* S	**Sn**	**08 39 00.1**	**+0.8**
GNL	**Ganaly**	**2.97**	**242**	*e*P	**Pn**	**08 38 27.8**	**+0.5**
PET	**Petropavlovsk**	**3.06**	**227**	*e*Pn	**Pn**	**08 38 29.1**	**+0.5**
PET	**Petropavlovsk**	**3.06**	**227**	*e*P	**Pn**	**08 38 29.4**	**+0.8**
PET				*i* S	**Sn**	**08 39 04.8**	**+0.4**
RUS	**Russkaya**	**3.56**	**221**	*e*P	**Pn**	**08 38 35.9**	**+0.4**
RUS				*i* S	**Sn**	**08 39 16.0**	**-0.8**
GRL	**Gorelyy**	**3.65**	**226**	*e*P	**Pn**	**08 38 38.0**	**+1.4**
GRL				*i* S	**Sn**	**08 39 19.5**	**+0.7**
MIPR	**Malaya Ipel'ka**	**4.41**	**231**	*e*P	**Pn**	**08 38 49.3**	**+2.2**
INK	**Inuvik**	**31.41**	**40**	P	**P**	**08 44 00.5**	**+0.1**
INK	**Inuvik**	**31.41**	**40**	P	**P**	**08 44 00.5**	**+0.1**
	comp=E,269nm,6.6s,SNR=5.7						
YKA	**Yellowknife Ar**	**40.74**	**45**	P	**P**	**08 45 19.7**	**-0.4**
YKA	**Yellowknife Ar**	**40.74**	**45**	P	**P**	**08 45 19.7**	**-0.4**
	comp=E,300nm,8.0s,SNR=13						
PDAR	**Pinedale Array**	**55.38**	**63**	P	**P**	**08 47 13.8**	**+0.3**
	comp=E,341nm,3.2s,SNR=4.0						
ULM	**Lac du Bonnet**	**56.44**	**49**	P	**P**	**08 47 19.0**	**-2.0**
	comp=E,329nm,5.9s,SNR=2.7						
FINES	**FINESS Array B**	**58.72**	**337**	P	**P**	**08 47 37.3**	**+0.4**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.8s						
FINES	**FINESS Array B**	**58.72**	**337**	P	**P**	**08 47 37.3**	**+0.5**
	comp=Z,1.1nm,0.8s,mb3.9,baz=46,slow=8.0,SNR=3.8						
TXAR	**Lajitas Array**	**68.63**	**69**	P	**P**	**08 48 42.4**	**-0.3**
	comp=Z,0.3nm,0.8s,mb3.3,baz=312,slow=5.9,SNR=3.1						

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*IDC **22** 08:43:55.8±1.2, 3710N×7902E, h0km, mb3.4/5, mb1 3.6/8, mb1mx3.4/23, mbtmp3.5/8, ML3.4/3, Error ellipse: s-maj=29.2km s-min=25.3km az=61.0*
*NNC **22** 08:43:55.9±4.3, 3888N×8154E, h0km, mb3.7, mpv3.5, Error ellipse: s-maj=36.2km s-min=26.0km az=146.0*
*ISCJB **22** 08:43:56.7±1.0, 372N±0.1×793E±0.1, h10km, mb3.4/6, Error ellipse: s-maj=15.9km s-min=10.9km az=26.2*
*NEIC **22** 08:43:57.3±0.9, 3707N×7910E, h10km, Error ellipse: s-maj=16.7km s-min=13.1km az=219.0*
*BJI **22** 08:44:04.4, 3751N×7949E, h24km, ML3.5*
ISC 22 08:43:58.0±1.0, 3721N±010×7910E±009, h10km, n17, σ1°18/18, mb3.3/5, 4C-2D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**3.37**	**314**	*e*P	**Pb**	**08 44 59.3**	**+1.5**
KSH				S	**Sg**	**08 45 44.8**	**-1.5**
KSH				Smax			
	comp=N,992nm,0.6s						
KSH				Smax			
	comp=E,1μm,0.8s						
UCH	**Uchtor**	**6.13**	**326**	*e*Pn	**Pn**	**08 45 30.3**	**+1.7**
	comp=E,9.5nm,0.8s						
TKM2	**Tokmak 2**	**6.31**	**336**	⇑Pg	**Pb**	**08 45 46.1**	**-1.7**
	comp=E,6.3nm,0.9s						
TKM2				⇑Lg		08 47 08.5	
	comp=E,14nm,0.8s						
AML	**Almayashu**	**6.45**	**321**	*e*Pn	**Pn**	**08 45 35.9**	**+2.9**
	comp=E,11nm,0.7s						
KK31	**Karatay Array**	**8.82**	**315**	⇑Pn	**Pn**	**08 46 11.9**	**+6.4**
	comp=E,0.2nm,0.3s,baz=134,slow=12,SNR=3.7						
KK31				⇓Lg		08 48 51.4	
	comp=E,4.7nm,0.8s						
WMQ	**Urumqi**	**9.29**	**42**	*e*P	**Pn**	**08 46 10.3**	**-1.7**
MK31	**Makanchi Array**	**9.87**	**13**	⇓Pg	**Pn**	**08 46 20.1**	**+0.3**
	comp=E,0.9nm,0.5s						
MK31				⇑Lg		08 48 08.1	
MKAR	**Makanchi Array**	**9.87**	**13**	Pn	**Pn**	**08 46 20.4**	**+0.6**
	comp=E,0.3nm,0.3s,baz=190,slow=14,SNR=6.3						
MKAR				Sn	**Sn**	**08 48 05.9**	**-4.7**
	comp=E,1.1nm,0.3s,baz=190,slow=18,SNR=11						
BVAR	**Borovoye Array**	**16.95**	**342**	Pn	**Pn**	**08 47 54.9**	**-0.2**
	comp=E,0.1nm,0.3s,baz=169,slow=8.1,SNR=3.0						
ZALV	**Zalesovo Beam**	**17.20**	**11**	P	**Pn**	**08 47 59.4**	**+1.1**
	comp=E,0.2nm,0.3s,baz=204,slow=13,SNR=2.8						
SONM	**Songino Array**	**22.64**	**53**	P	**P**	**08 48 59.9**	**+0.9**
	comp=E,0.2nm,0.3s,mb3.0,baz=243,slow=10.0,SNR=2.9						
FINES	**FINESS Array B**	**40.64**	**324**	P	**P**	**08 51 37.7**	**-0.2**
	comp=E,2.5nm,1.1s,mb3.8,baz=76,slow=5.9,SNR=2.9						
TORD	**Torodi Ar. Bea**	**72.20**	**273**	P	**P**	**08 55 22.3**	**-1.2**
	comp=E,0.3nm,0.5s,mb3.5,baz=35,slow=5.3,SNR=4.4						
NIKO	**Nikolski**	**72.65**	**36**	*e*P	**P**	**08 55 25.6**	**0.0**
WRA	**Warramunga Arr**	**77.05**	**128**	P	**P**	**08 55 51.0**	**-0.4**
	comp=E,0.4nm,0.8s,mb3.4,baz=329,slow=5.9,SNR=8.9						
YKA	**Yellowknife Ar**	**80.03**	**6**	P	**P**	**08 56 06.4**	**-0.8**
	comp=E,0.1nm,0.4s,mb3.1,baz=339,slow=5.6,SNR=6.6						
PDAR	**Pinedale Array**	**100.02**	**6**	P	Pdif	08 57 44.9	+1.4
	comp=E,0.2nm,0.6s,baz=79,slow=4.7,SNR=2.5						

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*CSEM **22** 08:44:33.6±0.1, 4037N×2610E, h2km, MD2.7, Error ellipse: s-maj=1.3km s-min=1.0km az=84.0*
*ISCJB **22** 08:44:34.1±0.6, 4041N±003×2599E±005, h18km±6km, Error ellipse: s-maj=6.7km s-min=5.1km az=9.5*
*ISK **22** 08:44:34.5, 4038N×2612E, h5km, MD2.7*
*NEIC **22** 08:44:34.0, 4039N×2595E, h23km, MD3.1(ATH), After ATH.*
*ATH **22** 08:44:34.0, 4039N×2595E, h23km±2km, MD3.1/4*
ISC 22 08:44:34.1±0.5, 4041N±003×2601E±005, h18km±4km, n11, σ1°08/18, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GADA	**Gvkgeada**	**0.23**	**201**	PG	**Pg**	**08 44 40.4**	**+0.9**
GADA				*e*SG	**Sg**	**08 44 43.9**	**+0.7**
ENEZ	**Enez**	**0.35**	**18**	*e*PG	**Pg**	**08 44 41.8**	**+0.4**
ENEZ				*e*SG	**Sg**	**08 44 47.4**	**+1.0**
LPK	**Lapseki**	**0.57**	**93**	*e*PG	**Pg**	**08 44 44.6**	**-0.9**
LPK				*e*SG	**Sg**	**08 44 51.8**	**-1.4**
EZN	**Ezine**	**0.63**	**157**	*e*PG	**Pg**	**08 44 45.7**	**-0.8**
EZN				*e*SG	**Sg**	**08 44 54.4**	**-0.6**
LIA	**Limnos Island**	**0.81**	**231**	*e*PB	**Pb**	**08 44 48.3**	**-1.4**
LIA				*e*SN	**Sn**	**08 45 00.3**	**-1.9**
RDO	**Rodhopi**	**0.82**	**334**	*e*PN	**Pn**	**08 44 50.0**	**-0.8**
RDO				*e*SN	**Sn**	**08 45 01.6**	**-0.8**
RKY	**Sarkoy-Tekirda**	**0.93**	**72**	*e*PG	**Pg**	**08 44 51.5**	**-0.7**
PRK	**Paraskevi**	**1.18**	**170**	*e*PN	**Pn**	**08 44 56.4**	**+0.7**
PRK				*e*SN	**Sn**	**08 45 12.7**	**+1.5**
BNT	**Bandirma**	**1.46**	**91**	*e*PN	**Pn**	**08 45 00.7**	**+1.1**
BALB	**Balikesir**	**1.63**	**117**	*e*PN	**Pn**	**08 45 03.3**	**+1.4**
NVR	**Nevrokopi**	**1.88**	**301**	*e*PN	**Pn**	**08 45 06.6**	**+1.3**

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*ISCJB **22** 08:56:40.6±1.2, 2131S±005×6860W±006, h63km±10km, mb4.5/29, Error ellipse: s-maj=10.2km s-min=7.0km az=150.5*
*BJI **22** 08:56:47.1, 2130S×6850W, h77km, mB4.9, Ms5.7*
*NEIC **22** 08:56:47.1±0.3, 2130S×6851W, mb4.5/20, Error ellipse: s-maj=10.1km s-min=6.8km az=47.0*
*IDC **22** 08:56:47.1±0.6, 2129S×6858W, h108km±4km, mb4.0/12, mb1 4.1/15, mb1mx4.0/19, mbtmp3.9/15, MS3.0/1, Ms1 3.0/1, ms1mx2.3/26, Error ellipse: s-maj=15.6km s-min=14.5km az=49.0*
ISC 22 08:56:42.8±0.9, 2134S±005×6862W±006, h66km±8km, h108km±2.0km: pP-P, n79, σ0°84/72, mb4.3/29, 1C, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**5.05**	**5**	*e*Pn	**Pn**	**08 58 02.9**	**+6.9**
	20nm,0.7s						
LPAZ	**La Paz**	**5.05**	**5**	P	**Pn**	**08 58 02.0**	**+6.0**
	3.1nm,0.3s,baz=166,slow=6.7,SNR=71						
LPAZ				S	**Sn**	**08 58 51.1**	**-1.9**
	2.3nm,0.3s,baz=210,slow=18,SNR=5.9						
ARE	**Arequipa**	**5.56**	**330**	*e*P	**Pn**	**08 58 04.0**	**+1.0**
ARE				*e*S	**Sn**	**08 59 05.0**	**-0.6**
SIV	**San Ignacio**	**8.91**	**55**	P	**Pn**	**08 58 51.1**	**+2.2**
	3.8nm,0.3s,baz=243,slow=13,SNR=162						
SIV				S	**Sn**	**09 00 28.1**	**+0.2**
	0.1nm,0.3s,baz=246,slow=18,SNR=2.7						
CFAA	**Coronel Fontan**	**10.23**	**178**	P	**Pn**	**08 59 05.8**	**-1.1**
	0.1nm,0.3s,baz=358,slow=14,SNR=7.5						
CFAA				S	**Sn**	**09 00 52.6**	**-7.3**
	0.2nm,0.3s,baz=240,slow=18,SNR=6.0						
CPUP	**Villa Florida**	**11.47**	**118**	P	**Pn**	**08 59 24.4**	**+0.7**
CPUP				LR	LR	09 04 13.6	
CPUP	**Villa Florida**	**11.47**	**118**	P	**Pn**	**08 59 24.4**	**+0.7**
	0.4nm,0.3s,baz=279,slow=12,SNR=10						
CPUP				LR	LR	09 04 13.6	
	comp=Z,67nm,18.2s,baz=325,slow=39						
PLCA	**Paso Flores**	**19.40**	**184**	*e*P	**Pn**	**09 01 04.9**	**-0.4**
	7.8nm,1.3s						
PLCA	**Paso Flores**	**19.40**	**184**	P	**Pn**	**09 01 03.6**	**-1.7**
	0.2nm,0.3s,baz=9.7,slow=12,SNR=6.8						
BDFB	**Brasilia**	**20.34**	**77**	P	**P**	**09 01 14.9**	**+0.9**
	3.4nm,0.4s,baz=249,slow=16,SNR=27						
WVT	**Waverly**	**59.98**	**342**	*e*P	**P**	**09 06 40.8**	**-1.7**
	3.4nm,0.6s,mb4.5						
VNA1	**Neumayer--Stat**	**60.35**	**161**	*e*P	**P**	**09 06 44.7**	**+0.1**
VNA1				*e*		09 06 48.4	
TXAR	**Lajitas Array**	**60.65**	**325**	P	**P**	**09 06 45.9**	**-1.3**
TXAR				pP	pP	09 07 13.0	+8.5
TXAR	**Lajitas Array**	**60.65**	**325**	P	**P**	**09 06 45.9**	**-1.3**
	0.6nm,0.7s,mb3.7,baz=146,slow=7.7,SNR=8.0						
TXAR				pP	pP	09 07 13.0	+8.5
	0.4nm,0.8s,baz=156,slow=6.9,SNR=2.6						
TXAR				sP	sP	09 07 25.1	+13
	0.5nm,0.9s,baz=157,slow=6.8,SNR=4.0						
VNA2	**Neumayer--Watz**	**60.71**	**161**	*e*P	**P**	**09 06 46.9**	**-0.2**
	baz=287,slow=7.3						
VNA2				*e*		09 06 50.4	
WCI	**Wyandotte Cave**	**61.53**	**344**	*e*P	**P**	**09 06 51.6**	**-1.4**
MCWV	**Mont Chateau**	**61.58**	**350**	*e*P	**P**	**09 06 52.0**	**-1.2**
	7.2nm,0.6s,mb4.9						
FVM	**French Village**	**62.47**	**341**	*e*P	**P**	**09 06 57.8**	**-1.4**
	7.7nm,0.6s,mb4.9						
ERPA	**Erie**	**64.00**	**351**	*e*P	**P**	**09 07 08.1**	**-1.2**
	4.2nm,0.4s,mb4.6						
LENM	**Lemitar**	**66.17**	**326**	*e*P	**P**	**09 07 16.9**	**-6.6**
ANMO	**Albuquerque**	**66.52**	**327**	*e*P	**P**	**09 07 25.8**	**+0.1**
SDCO	**Great Sand Dun**	**68.25**	**329**	*e*P	**P**	**09 07 37.2**	**+0.6**
	7.4nm,1.2s,mb4.4						
DBIC	**Dimbokro**	**68.43**	**73**	P	**P**	**09 07 38.0**	**-0.4**
	6.9nm,0.8s,mb4.5,baz=244,slow=6.1,SNR=9.2						
MVCO	**Mesa Verde**	**69.31**	**327**	*e*P	**P**	**09 07 43.5**	**+0.3**
	4.6nm,0.7s,mb4.4						
WUAZ	**Wupatki**	**69.56**	**324**	*e*P	**P**	**09 07 45.8**	**+1.0**
	8.9nm,1.0s,mb4.5						
SMCO	**Snowmass**	**70.08**	**329**	*e*P	**P**	**09 07 48.4**	**+0.4**
	4.1nm,0.9s,mb4.3						
SRU	**San Rafael**	**71.79**	**327**	*e*P	**P**	**09 07 58.7**	**+0.4**
CCUT	**Cedar City**	**72.14**	**324**	*e*P	**P**	**09 08 01.7**	**+1.3**
MSU	**Marysvale**	**72.20**	**325**	*e*P	**P**	**09 08 01.7**	**+0.9**
ARUT	**Antelope Range**	**72.35**	**324**	*e*P	**P**	**09 08 02.7**	**+1.0**
GSC	**Goldstone**	**72.52**	**320**	*e*P	**P**	**09 08 03.6**	**+0.9**
MPU	**Maple Canyon**	**73.03**	**327**	*e*P	**P**	**09 08 06.1**	**+0.4**
JLU	**Jordanelle**	**73.38**	**327**	*e*P	**P**	**09 08 08.6**	**+0.9**
ISA	**Isabella**	**73.77**	**320**	*e*P	**P**	**09 08 10.8**	**+0.7**
DUG	**Dugway**	**73.77**	**326**	*e*P	**P**	**09 08 10.5**	**+0.5**
BW06	**Boulder Array**	**74.10**	**330**	*e*P	**P**	**09 08 11.9**	**0.0**
PDAR	**Pinedale Array**	**74.10**	**330**	P	**P**	**09 08 11.7**	**-0.2**
	1.1nm,0.7s,mb3.7,baz=135,slow=7.5,SNR=10.0						
HWUT	**Hardware Ranch**	**74.19**	**328**	*e*P	**P**	**09 08 12.4**	**0.0**
	5.6nm,0.8s,mb4.3						
REDW	**Red Top Meadow**	**75.17**	**330**	*e*P	**P**	**09 08 18.3**	**+0.2**
	5.1nm,0.8s,mb4.3						
SNOW	**Snow King Moun**	**75.20**	**330**	*e*P	**P**	**09 08 17.5**	**-0.7**
	6.3nm,0.8s,mb4.4						
ULM	**Lac du Bonnet**	**75.24**	**342**	P	**P**	**09 08 16.8**	**-1.5**
ULM	**Lac du Bonnet**	**75.24**	**342**	P	**P**	**09 08 16.8**	**-1.5**
	1.7nm,0.5s,mb4.0,baz=171,slow=7.6,SNR=8.3						
TPAW	**Teton Pass**	**75.31**	**330**	*e*P	**P**	**09 08 19.3**	**+0.4**
	6.2nm,0.8s,mb4.4						
MOOW	**Moose Ponds**	**75.41**	**330**	*e*P	**P**	**09 08 19.9**	**+0.4**
DCID1	**Drake Creek**	**75.50**	**329**	*e*P	**P**	**09 08 20.6**	**+0.6**
NVAR	**Mina Array Bea**	**75.53**	**322**	P	**P**	**09 08 20.7**	**+0.4**
NVAR	**Mina Array Bea**	**75.53**	**322**	P	**P**	**09 08 20.7**	**+0.4**
	2.2nm,0.9s,mb3.9,baz=186,slow=6.6,SNR=13						
IMW	**Indian Meadow**	**75.62**	**330**	*e*P	**P**	**09 08 20.7**	**+0.1**
	6.3nm,0.7s,mb4.5						
FLWY	**Flagg Ranch**	**75.65**	**330**	*e*P	**P**	**09 08 21.2**	**+0.4**
RLMT	**Red Lodge**	**75.80**	**332**	*e*P	**P**	**09 08 22.0**	**+0.3**
SCHQ	**Schefferville**	**75.87**	**1**	P	**P**	**09 08 21.1**	**-0.8**
	3.9nm,0.8s,mb4.2,baz=186,slow=2.1,SNR=5.5						
SYO	**Syowa Base**	**76.56**	**159**	⇑*e*P	**P**	**09 08 30.0**	**+4.3**
HLID	**Hailey**	**77.05**	**328**	*e*P	**P**	**09 08 29.6**	**+0.9**
	9.1nm,0.9s,mb4.5						
TOA0	**Torodi Ar. Sit**	**77.05**	**70**	*e*P	**P**	**09 08 28.7**	**-0.7**
TORD	**Torodi Ar. Bea**	**77.05**	**70**	P	**P**	**09 08 28.6**	**-0.8**
	5.0nm,0.7s,mb4.4,baz=255,slow=5.5,SNR=48						
TORD				pP	pP	09 08 56.1	+8.8
	6.0nm,0.8s,baz=252,slow=5.2,SNR=9.2						
VNDA	**Vanda**	**77.05**	**190**	P	**P**	**09 08 28.8**	**+0.4**
	1.1nm,0.8s,mb3.6,baz=70,slow=3.1,SNR=4.4						
MCMT	**McKenzie Canyo**	**77.22**	**329**	*e*P	**P**	**09 08 30.2**	**+0.5**
DLMT	**Dillon**	**77.50**	**330**	*e*P	**P**	**09 08 31.4**	**+0.2**
HRY	**Holter Researc**	**78.17**	**331**	*e*P	**P**	**09 08 35.1**	**+0.3**
MOD	**Modoc**	**79.00**	**323**	*e*P	**P**	**09 08 40.0**	**+0.4**
	5.5nm,0.9s,mb4.4						
BMO	**Blue Mountains**	**79.42**	**327**	*e*P	**P**	**09 08 42.1**	**+0.3**
	7.2nm,0.9s,mb4.5						
WALA	**Waterton Lakes**	**80.85**	**332**	*e*P	**P**	**09 08 49.5**	**+0.1**
	4.3nm,0.8s,mb4.3						
HAWA	**Hanford**	**81.62**	**327**	*e*P	**P**	**09 08 54.0**	**+0.5**
	8.2nm,0.9s,mb4.6						
BOSA	**Boshof**	**83.29**	**118**	P	**P**	**09 09 02.3**	**-0.5**
	1.9nm,0.7s,mb4.0,baz=313,slow=12,SNR=3.6						
EDM	**Edmonton**	**83.73**	**335**	*e*P	**P**	**09 09 03.0**	**-1.3**
MAW	**Mawson**	**84.41**	**163**	P	**P**	**09 09 06.9**	**-0.9**
	2.5nm,0.6s,mb4.3,baz=263,slow=8.1,SNR=4.6						
YKA	**Yellowknife Ar**	**91.12**	**340**	P	**P**	**09 09 38.9**	**-1.0**
YKA				pP	pP	09 10 06.7	+8.6
YKA	**Yellowknife Ar**	**91.12**	**340**	P	**P**	**09 09 38.8**	**-1.0**
	3.3nm,0.7s,mb4.6,baz=134,slow=4.5,SNR=102						
YKA				pP	pP	09 10 06.7	+8.6
	0.8nm,0.8s,baz=134,slow=4.4,SNR=3.7						
ASAR	**Alice Springs**	**130.18**	**207**	PKP	PKPdf	09 15 44.7	-1.5
	1.5nm,1.0s,baz=145,slow=2.9,SNR=8.1						
ASAR				pPKP	pPKPdf	09 16 15.2	+10
	0.4nm,0.7s,baz=86,slow=2.7,SNR=3.3						
WRA	**Warramunga Arr**	**133.23**	**210**	PKP	PKPdf	09 15 51.1	-0.9
	0.7nm,0.6s,baz=156,slow=1.7,SNR=15						
WRA				pPKP	pPKPdf	09 16 19.9	+8.9
	0.5nm,0.7s,baz=169,slow=1.8,SNR=3.1						
YAK	**Yakutsk**	**137.42**	**347**	*e*PKPdf	PKPdf	09 15 57.6	-0.9
ZALV	**Zalesovo Beam**	**141.69**	**25**	PKP	PKPdf	09 16 06.2	-0.2
	1.8nm,0.7s,baz=312,slow=2.3,SNR=7.1						
MK31	**Makanchi Array**	**145.35**	**36**	*e*PKPdf	PKPdf	09 16 13.0	-0.1
MKAR	**Makanchi Array**	**145.35**	**36**	PKPbc	PKPbc	09 16 12.8	-0.3
MKAR				pPKPbc	pPKPbc	09 16 41.1	+9.2
MKAR	**Makanchi Array**	**145.35**	**36**	PKPbc	PKPbc	09 16 12.8	-0.3
	4.4nm,0.9s,baz=316,slow=3.3,SNR=29				

1.2nm,0.7s,mb3.4,baz=156,slow=5.6,SNR=3.8
BVAR Borovoye Array 121.06 318 PKP PKPdf 09 35 43.1 +1.6
0.5nm,0.3s,baz=150,slow=2.8,SNR=4.7
ARCES ARCESS Array B 132.55 348 PKP PKPdf 09 36 05.2 +2.3
0.9nm,0.6s,baz=85,slow=2.2,SNR=8.6
FINES FINESS Array B 139.11 341 PKP PKPdf 09 36 08.3 -7.0
FINES PKP PKPdf 09 36 18.4 +3.0
FINES SKPbc SKPbc 09 39 03.4 +5.7
FINES FINESS Array B 139.11 341 PKhKP 09 36 08.3
0.6nm,0.6s,baz=35,slow=4.7,SNR=4.9
FINES PKP PKPdf 09 36 18.4 +3.0
1.4nm,0.8s,baz=357,slow=2.8,SNR=5.6
FINES SKPbc SKPbc 09 39 03.4 +5.7
0.9nm,0.9s,baz=48,slow=5.7,SNR=4.6
HFS Hagfors 143.21 349 PKP PKPdf 09 36 22.5 -0.2
4.0nm,0.4s,baz=64,slow=3.4,SNR=37
AKASG Malin Array Be 145.62 327 PKPbc PKPbc 09 36 30.2 +1.5
0.9nm,0.3s,baz=47,slow=4.0,SNR=10
MMAI Mount Meron Ar 148.17 294 PKPbc PKPbc 09 36 38.5 +2.4
4.1nm,0.4s,baz=64,slow=6.6,SNR=6.0
EKA Eskdalemuir Ar 149.13 4 PKPbc PKPbc 09 36 40.0 +2.3
0.8nm,0.6s,baz=351,slow=2.4,SNR=6.1
CLL Collm 151.52 343 *i* PKPbc PKPbc 09 36 45.8 +2.4
comp=Z,4.0nm,0.7s

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*CSEM **22** 09:18:22.7±0.4, 3725N×2828E, h25km, MD2.8, Error ellipse: s-maj=9.4km s-min=6.8km az=63.0*
*ISK **22** 09:18:23.1, 3725N×2826E, h21km, MD2.8*
*ISCJB **22** 09:18:24.1±2.3, 3720N±007×283E±0.1, h22km±13km, Error ellipse: s-maj=19.9km s-min=11.4km az=167.7*
ISC 22 09:18:24.0±2.3, 3720N±007×283E±02, h22km±13km, n8, σ0§51/11, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YER	**Yerkesik**	**0.07**	**172**	PG	**Pb**	**09 18 27.9**	**-0.2**
YER				*e*SG	**Sb**	**09 18 30.9**	**+0.2**
MLSB	**Milas**	**0.41**	**283**	*e*PG	**Pb**	**09 18 31.4**	**-1.1**
MLSB				*e*SG	**Sb**	**09 18 38.1**	**-0.2**
AYDN	**Tasoluk**	**0.55**	**326**	*i* P	**Pb**	**09 18 34.6**	**-0.4**
AYDN	**Tasoluk**	**0.55**	**326**	*i* P	**Pb**	**09 18 34.6**	**-0.4**
AYDN				*i* S	**Sb**	**09 18 43.2**	**+0.7**
BDRM	**Kayabasi**	**0.68**	**258**	*i* P	**Pb**	**09 18 37.4**	**+0.3**
BDRM	**Kayabasi**	**0.68**	**258**	*i* P	**Pb**	**09 18 37.3**	**+0.2**
DAT	**Datca**	**0.73**	**230**	*e*PG	**Pb**	**09 18 38.1**	**+0.1**
BODT	**Bodrum**	**0.78**	**260**	*e*PG	**Pb**	**09 18 39.5**	**+0.6**

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*NNC **22** 09:20:14.2±4.8, 3891N×8165E, h0km, mb3.7, mpv3.3, Error ellipse: s-maj=37.0km s-min=18.9km az=165.0*
BJI 22 09:20:20.9, 3751N×7959E, h31km, ML3.2, 2C-2D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**3.47**	**306**	*e*PG	Pn	09 21 23.3	+11
KSH				S	Sn	09 22 02.0	+9.2
TKM2	**Tokmak 2**	**6.21**	**332**	⇓Pg	Pn	09 22 05.4	+15
2.2nm,0.5s
TKM2 ⇓Lg 09 23 27.9
6.4nm,0.7s
KK31 Karatay Array 8.90 312 ⇑Lg 09 25 12.8
1.5nm,0.6s
MK31 Makanchi Array 9.49 11 Pg Pn 09 22 38.0 +2.7
0.4nm,0.3s,baz=189,slow=13,SNR=5.4
MK31 ⇑Lg 09 24 25.2
7.8nm,1.1s

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*NEIC **22** 09:26:38.2, 1696N×9996W, h9km, MD3.8(MEX), After MEX.*
MEX 22 09:26:38.2±0.5, 1696N×9996W, h9km±51km, MD3.8, 1D, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.31**	**287**	⇓*i*P	Pg	09 26 43.8	-0.5
CAIG				*i* S	Sg	09 26 48.5	+0.1
MEIG	**Mezcala**	**1.02**	**19**	*i* P	Pg	09 26 54.8	-3.0
MEIG				*i* S	Sg	09 27 07.3	-3.7
PLIG	**Platanillo**	**1.49**	**17**	*e*P	Pn	09 27 02.2	-2.9
PLIG				*i* S	Sn	09 27 20.6	-4.1
UTMO	**Huajuapan**	**2.24**	**67**	*i* P	Pn	09 27 12.6	-2.8
UTMO				*i* S	Sn	09 27 38.9	-4.3
MZVM		**2.33**	**17**	*e*P	Pn	09 27 13.1	-3.5
MZVM				*i* S	Sn	09 27 41.0	-4.4
PPM	**Popocatepetl**	**2.45**	**31**	*e*P	Pn	09 27 15.2	-3.2
PPM				*i* S	Sn	09 27 45.0	-3.5
IIO	**Organos**	**2.87**	**24**	*e*P	Pn	09 27 23.4	-0.7
IIO				*i* S	Sn	09 27 59.2	+0.3
VHO	**Vista Hermosa**	**3.09**	**87**	*e*P	Pn	09 27 22.0	-5.2
VHO				*i* S	Sn	09 28 02.3	-2.0

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*IDC **22** 09:40:42.1±1.5, 3736N×142.10E, h0km, mb3.1/2, mb1 3.4/3, mb1mx3.2/21, mbtmp3.0/3, ML2.9/1, Error ellipse: s-maj=45.6km s-min=27.8km az=141.0*
*ISCJB **22** 09:40:44.4±1.5, 3751N±005×14193E±008, h18km±8km, mb3.3/2, Error ellipse: s-maj=11.9km s-min=6.5km az=26.4*
*JMA **22** 09:40:46.2±0.1, 3750N×14185E, h35km±3km, M3.1*
ISC 22 09:40:44.6±1.3, 3754N±004×14188E±007, h10km±5km, n13, σ0§87/23, mb3.3/2, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.81**	**258**	P	**Pg**	**09 41 00.8**	**+0.5**
JFK				S	**Sg**	**09 41 10.9**	**0.0**
JMM	**Marumori**	**0.92**	**291**	P	**Pg**	**09 41 02.8**	**+0.5**
JMM				S	**Sg**	**09 41 14.5**	**+0.2**
ONAJ	**Iwakimizuishiy**	**0.96**	**244**	P	**Pg**	**09 41 02.7**	**-0.4**
ONAJ				S	**Sg**	**09 41 14.0**	**-1.6**
JIO	**Ouri**	**1.01**	**336**	P	**Pg**	**09 41 04.4**	**+0.4**
JIO				S	**Sg**	**09 41 16.6**	**-0.5**
JFT	**Otama**	**1.22**	**270**	P	**Pn**	**09 41 07.7**	**0.0**
JFT				S	**Sb**	**09 41 22.9**	**-0.7**
JOU	**Okura**	**1.27**	**311**	P	**Pn**	**09 41 09.0**	**+0.7**
JOU				S	**Sb**	**09 41 24.3**	**-0.5**
JMK	**Ichinoseki**	**1.50**	**340**	P	**Pn**	**09 41 12.0**	**+0.4**
JMK				*e*S	**Sn**	**09 41 30.4**	**-0.8**
JFY	**Yanaizu**	**1.73**	**266**	P	**Pn**	**09 41 14.8**	**+0.1**
JFY				S	**Sn**	**09 41 35.9**	**-0.9**
JYK	**Kaneyama**	**1.82**	**320**	P	**Pn**	**09 41 16.6**	**+0.6**
MJAR	**Matsushiro Arr**	**3.10**	**252**	Pn	**Pn**	**09 41 34.1**	**+0.7**
1.2nm,0.3s,baz=70,slow=13,SNR=11
MJAR Sn **Sn** **09 42 12.7** **+2.3**
0.8nm,0.3s,baz=92,slow=26,SNR=3.2
MAT Matsushiro 3.10 252 P **Pn** **09 41 34.7** **+1.2**
MAT *e*S **Sn** **09 42 16.7** **+6.2**
WRA Warramunga Arr 57.61 188 P **P** **09 50 32.7** **-2.0**
0.2nm,0.7s,mb3.2,baz=5.7,slow=7.3,SNR=4.1
YKA Yellowknife Ar 63.19 30 P **P** **09 51 12.0** **-0.4**
0.2nm,0.8s,mb3.3,baz=304,slow=6.7,SNR=4.0

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*GRAL **22** 09:53:21.2±0.9, 3323N×3553E, h0km±331km, MD2.7*
*CSEM **22** 09:53:22.0±0.2, 3347N×3558E, h1km, ML1.8, Error ellipse: s-maj=4.0km s-min=2.1km az=105.0, Mining explosion.*
*GII **22** 09:53:23.0±0.7, 3342N×3564E, h0km, ML1.8/1*
*ISCJB **22** 09:53:24.9±0.5, 3342N±002×3565E±005, h0km, Error ellipse: s-maj=6.2km s-min=2.9km az=20.8*
ISC 22 09:53:25.4±0.5, 3341N±002×3566E±005, h0km, n11, σ1§13/19, Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RCY	**Rachaya**	**0.15**	**61**	*e*Pg	**Pg**	**09 53 27.9**	**-0.4**
RCY				*e*Sg	**Sg**	**09 53 31.8**	**+1.6**
HRI	**Mount Hermon**	**0.16**	**157**	Pg	**Pg**	**09 53 27.2**	**-1.1**
KSDI	**Kefar Szold**	**0.22**	**181**	Pg	**Pg**	**09 53 28.1**	**-1.5**
KSDI				Sg	**Sg**	**09 53 32.4**	**0.0**
MMC3	**Mount Meron ar**	**0.44**	**208**	Sg	**Sg**	**09 53 40.2**	**+0.6**
KSHT	**Keshet**	**0.45**	**164**	Pg	**Pg**	**09 53 33.3**	**-0.6**
KSHT				Sg	**Sg**	**09 53 40.9**	**+1.2**
MMC7	**Mount Meron ar**	**0.45**	**210**	Sg	**Sg**	**09 53 40.6**	**+0.9**
MMA4	**Mount Meron ar**	**0.45**	**209**	Pg	**Pg**	**09 53 33.1**	**-0.9**
MMA4				Sg	**Sg**	**09 53 40.8**	**+0.8**
BHL	**Bhannes**	**0.49**	**359**	*e*Pg	**Pg**	**09 53 33.0**	**-1.8**
BHL				*e*Sg	**Sg**	**09 53 42.4**	**+1.2**
HNTI	**Hanita**	**0.52**	**231**	Pg	**Pg**	**09 53 34.9**	**-0.5**
HNTI				Sg	**Sg**	**09 53 43.0**	**+0.8**
HWQ	**Hawqa**	**0.90**	**15**	*e*Pg	**Pg**	**09 53 41.1**	**-1.5**
HWQ				*e*Sg	**Sg**	**09 53 56.0**	**+1.8**
MMLI	**Mount Malkishu**	**0.99**	**192**	Pg	**Pg**	**09 53 42.9**	**-1.5**
MMLI				Sg	**Sg**	**09 53 58.3**	**+1.1**

GII 22 09:56:25.2±0.8, 3113N×3520E, h0km, ML1.6/1, Dead Sea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MZDA	**Masada**	**0.23**	**38**	T		09 57 43.6	
MZDA	**Masada**	**0.23**	**38**	Pg	Pg	09 56 30.4	+0.7
MZDA				Sg	Sg	09 56 34.7	+2.1
MZDA	**Masada**	**0.23**	**38**	T		09 57 43.5	
MZDA	**Masada**	**0.23**	**38**	Pg	Pg	09 56 30.8	+1.1
MZDA				Sg	Sg	09 56 34.3	+1.7
YTIR	**Yattir**	**0.24**	**343**	Pg	Pg	09 56 30.9	+1.0
YTIR	**Yattir**	**0.24**	**343**	Pg	Pg	09 56 30.8	+0.8
DSI	**Dead Sea**	**0.47**	**19**	Pg	Pg	09 56 35.6	+1.4
DSI	**Dead Sea**	**0.47**	**19**	Pg	Pg	09 56 35.6	+1.4
ZFRI	**Zfri**	**0.57**	**182**	Pg	Pg	09 56 37.0	+0.8
ZFRI				Sg	Sg	09 56 46.5	+2.9
ZFRI	**Zfri**	**0.57**	**182**	Pg	Pg	09 56 37.5	+1.3
ZFRI				Sg	Sg	09 56 46.6	+3.0
KZIT	**Kziot**	**0.72**	**252**	Sg	Sg	09 56 51.4	+3.0
PRNI	**Paran**	**0.79**	**192**	Pg	Pg	09 56 41.1	+0.7
PRNI				Sg	Sg	09 56 53.8	+3.1
PRNI	**Paran**	**0.79**	**192**	Pg	Pg	09 56 41.6	+1.2
PRNI				Sg	Sg	09 56 53.5	+2.9
KRMI	**Paran Flat**	**1.09**	**202**	Sn	Sn	09 57 01.4	-2.0
KRMI	**Paran Flat**	**1.09**	**202**	Sg	Sg	09 57 03.0	+2.9
HRFI	**Mount Harif**	**1.10**	**187**	Pg	Pg	09 56 46.0	-0.2
HRFI				Sg	Sg	09 57 02.5	+2.1
HRFI	**Mount Harif**	**1.10**	**187**	Pg	Pg	09 56 46.8	+0.6
HRFI				Sg	Sg	09 57 03.7	+3.3
SLTI	**Sal'it**	**1.12**	**353**	Sg	Sg	09 57 04.0	+2.9
SLTI	**Sal'it**	**1.12**	**353**	Sg	Sg	09 57 04.2	+3.0
HMDT	**Nahal Hemdat**	**1.16**	**14**	Pg	Pg	09 56 47.1	-0.3
HMDT	**Nahal Hemdat**	**1.16**	**14**	Pg	Pg	09 56 48.2	+0.9
MMLI	**Mount Malkishu**	**1.32**	**8**	Pn	Pn	09 56 50.9	0.0
MMLI				Sn	Sn	09 57 09.5	+0.3
MMLI	**Mount Malkishu**	**1.32**	**8**	Sn	Sn	09 57 09.4	+0.2
MMA3	**Mount Meron ar**	**1.89**	**5**	Pn	Pn	09 56 59.3	+0.6
MMA3				Sn	Sn	09 57 25.1	+1.9

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*SKHL **22** 10:03:57.9±1.1, 4860N×13352E, h14km±4km, mb4.7/10, Ms4.1/6*
*ISCJB **22** 10:03:57.8±0.3, 4895N±003×13373E±004, h10km, mb3.9/14, Error ellipse: s-maj=3.8km s-min=3.5km az=21.6*
*IDC **22** 10:03:59.0±0.8, 4885N×13342E, h0km, mb3.8/11, mb1 3.9/14, mb1mx3.8/25, mbtmp3.7/14, ML3.3/3, MS2.9/1, Ms1 2.9/1, ms1mx2.4/39, Error ellipse: s-maj=22.7km s-min=17.2km az=75.0*
*MOS **22** 10:03:58.5±1.7, 4881N×13357E, h10km, mb4.1/11, Error ellipse: s-maj=12.5km s-min=7.6km az=103.2*
*NEIC **22** 10:04:00.3±0.6, 4877N×13342E, h10km, mb4.6/2, Error ellipse: s-maj=15.9km s-min=11.0km az=83.0*
NEIC Felt [III] at Khabarovsk.
*BJI **22** 10:04:01.2, 4880N×13340E, h10km, mb4.3, ML4.6, Ms4.2, Msz3.8*
ISC 22 10:03:59.6±0.3, 4886N±002×13358E±003, h10km, n60, σ1§42/88, mb3.9/14, 8D, Priamurye-Northeastern China border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HABR	**Khabarovsk**	**1.05**	**111**	⇓*i*P	**Pg**	**10 04 17.9**	**-1.8**
HABR				pmax	pmax		
comp=Z,6μm,0.4s
HABR Khabarovsk 1.05 111 ⇓*i*Pg **Pg** **10 04 17.9** **-1.8**
HABR AMB AMB 10 04 18.4
comp=Z,6μm,0.4s
HABR *e*Sg **Sg** **10 04 30.0** **-3.3**
KLR Kul'dur 1.26 288 *e*P **Pn** **10 04 20.3** **-2.9**
KLR *e*S **Sb** **10 04 38.5** **-1.2**
KLR Kul'dur 1.26 288 *e*Pg **Pn** **10 04 20.3** **-2.9**
KLR *e*Sg **Sb** **10 04 38.5** **-1.2**
KLR AMS AMS 10 04 58.0
comp=Z,17μm,13.0s
GRNR Gornyy 2.66 43 ⇓*i*Pn **Pn** **10 04 44.3** **+1.9**
GRNR *e*Pg **Pg** **10 04 50.9** **+0.5**
GRNR *e*Sg **Sg** **10 05 28.3** **+3.5**
GRNR A 10 05 30.0
comp=Z,4μm,0.4s
EKMR Ekimchan 4.24 355 *e*Pn **Pn** **10 05 03.5** **-0.6**
EKMR sPn 10 05 11.3
EKMR *e*Pg **Pg** **10 05 19.4** **-1.3**
EKMR AMB AMB 10 05 22.2
comp=Z,65nm,0.5s
EKMR AMB AMB 10 05 22.2
comp=Z,42nm,0.5s
EKMR AMB AMB 10 05 22.2
comp=Z,99nm,0.5s
EKMR *e*Sn **Sn** **10 05 59.5** **+5.9**
EKMR *e*Sg **Sg** **10 06 19.8** **+4.3**
EKMR A 10 06 28.5
comp=Z,580nm,0.5s
EKMR A 10 06 28.5
comp=Z,350nm,0.5s
EKMR A 10 06 28.5
comp=Z,570nm,0.5s
TEY Ternei 4.35 150 ⇓*e*Pn **Pn** **10 05 01.0** **-4.6**
TEY sPn 10 05 09.5
TEY *e*Pg **Pb** **10 05 12.4** **-3.6**
TEY AMB AMB 10 05 19.6
comp=Z,150nm,0.5s
TEY *e*Sg **Sb** **10 06 08.0** **-0.5**
TEY A 10 06 10.0
comp=Z,1μm,2.0s
TEY A 10 06 10.0
comp=Z,1μm,2.0s
TEY A 10 06 19.0
comp=Z,990nm,0.7s
TEY A 10 06 19.0
comp=Z,440nm,0.7s
TEY AMS AMS 10 07 54.0
comp=Z,2μm,20.0s
TEY AMS AMS 10 07 54.0
comp=Z,1μm,20.0s
MDJ Mudanjiang 5.05 214 P **Pn** **10 05 12.3** **-3.0**
MDJ PG **Pb** **10 05 27.3** **-0.7**
MDJ SG **Sb** **10 06 31.3** **+2.6**
MDJ Smax
comp=N,546nm,0.7s
MDJ Smax
comp=E,701nm,0.9s
MDJ Mudanjiang 5.05 214 *e*Pn **Pn** **10 05 11.9** **-3.4**
MDJ *e*Pg **Pb** **10 05 27.1** **-0.9**
MDJ *e*S **Sb** **10 06 31.1** **+2.3**
UGL Uglegorsk 5.59 85 *e*Pg **Pg** **10 05 42.5** **-4.1**
UGL AMB AMB 10 05 47.0
comp=E,102nm,0.8s
UGL *e*Sg **Sg** **10 06 53.0** **-6.0**
UGL A 10 07 05.0
comp=E,482nm,0.8s
UGL A 10 07 05.0
comp=E,627nm,0.8s
UGL AMS AMS 10 08 00.0
comp=E,1μm,10.0s
UGL AMS AMS 10 08 00.0
comp=E,2μm,10.0s
UGL AMS AMS 10 08 00.0
comp=E,1μm,9.0s
YASR Yasnyy 5.67 324 ⇓*i*Pn **Pn** **10 05 22.2** **-1.6**
YASR AMB AMB 10 05 23.0
comp=E,16nm,0.5s
YASR AMB AMB 10 05 23.0
comp=E,20nm,0.5s
YASR AMB AMB 10 05 23.0
comp=E,40nm,0.5s
YASR pPn 10 05 25.7
YASR *i* Sg **Sg** **10 06 58.5** **-2.9**
YASR A 10 07 12.8
comp=E,60nm,0.7s
YASR A 10 07 12.8
comp=E,200nm,0.7s
YASR A 10 07 12.8
comp=E,110nm,0.7s
VLA Vladivostok 5.86 192 P **Pn** **10 05 30.2** **+3.8**
TYV Tymovskoe 6.20 68 *e*Pn **Pn** **10 05 31.0** **-0.1**
TYV *e*Pg **Pg** **10 05 53.0** **-5.3**
TYV AMB AMB 10 05 58.8
comp=E,44nm,0.8s
TYV *e*Sg **Sg** **10 07 17.5** **-1.0**
TYV A 10 07 30.0
comp=E,800nm,3.0s
TYV A 10 07 30.0
comp=E,600nm,3.0s
TYV A 10 07 41.8
comp=E,210nm,0.9s
TYV AMS AMS 10 08 16.0
comp=E,600nm,12.0s
TYV AMS AMS 10 08 16.0
comp=E,800nm,10.0s
NKL Nikolayevsk 6.21 44 *e*Pn **Pn** **10 05 29.5** **-1.6**
NKL sPn 10 05 37.0
NKL *e*Pg **Pg** **10 05 52.2** **-6.2**
NKL AMB AMB 10 05 54.2
comp=E,100nm,0.5s
NKL AMB AMB 10 05 54.2
comp=E,150nm,0.5s
NKL *e*Sg **Sg** **10 07 17.0** **-1.7**
NKL A 10 07 30.0
comp=E,440nm,0.7s
NKL AMS AMS 10 07 58.0
comp=E,1μm,8.0s
ZEA Zeya 6.29 323 ⇓*e*Pn **Pn** **10 05 32.0** **-0.3**
ZEA AMB AMB 10 05 32.4
comp=E,29nm,0.4s
ZEA pPn 10 05 35.2
ZEA *e*Pg **Pg** **10 05 56.0** **-4.0**
ZEA *e*Sg **Sg** **10 07 21.1** **-0.4**
ZEA A 10 07 25.4
comp=E,610nm,0.9s
ZEA AMS AMS 10 07 56.0
comp=E,600nm,7.0s
YSS Yuzh-Sakhalins 6.46 104 *e*P **Pn** **10 05 36.0** **+1.4**
YSS *e* 10 06 43.9
YSS MLR MLR
comp=Z,200nm,12.0s
YSS Yuzh-Sakhalins 6.46 104 *e*Pn **Pn** **10 05 36.0** **+1.4**
YSS *e*Pg **Pb** **10 05 52.0** **+0.1**
YSS *e*rx rx 10 06 43.9
YSS *e*Sg **Sg** **10 07 17.0** **-10**
YSS AMS AMS 10 08 08.0
comp=Z,200nm,12.0s
BMKR Bomnak 6.56 335 ⇓*i*Pn **Pn** **10 05 35.5** **-0.4**
BMKR sPn 10 05 43.0
BMKR *e*Pg **Pg** **10 06 00.5** **-4.5**
BMKR AMB AMB 10 06 01.5
comp=Z,35nm,0.5s
BMKR *e*Sg **Sg** **10 07 28.1** **-1.7**
BMKR A 10 07 33.5
comp=Z,54nm,0.5s
BMKR A 10 07 33.5
comp=Z,180nm,0.5s
KROS Kirovskiy 6.93 326 ⇓*i*Pn **Pn** **10 05 40.3** **-0.8**
KROS AMB AMB 10 05 48.5
comp=Z,23nm,0.5s
OKH Okha 7.52 48 *e*Pg **Pg** **10 06 22.3** **-1.1**
OKH *e*Sg **Sg** **10 08 01.9** **+1.2**
OKH AMS AMS 10 09 05.0
comp=Z,1μm,11.0s
CN2 Changchun 7.56 231 *e*P **Pn** **10 05 48.3** **-1.5**
CN2 S **Sn** **10 07 14.5** **-1.0**
CN2 SG **Sb** **10 07 47.5** **+6.5**
CN2 Smax
comp=N,100nm,0.8s
CN2 Smax
comp=E,100nm,0.8s
NRGR Nerungri 9.47 329 *e*P **Pn** **10 06 16.6** **+0.7**
CLNS Chul'man 9.56 330 *e*P **Pn** **10 06 20.7** **+3.6**
CLNS pmax pmax
comp=Z,12nm,0.6s
CLNS pmax pmax
comp=N,6.0nm,0.9s
CLNS pmax pmax
comp=E,3.0nm,0.5s
CLNS pmax pmax
comp=N,9.0nm,0.9s
CLNS pmax pmax
comp=E,2.0nm,0.9s
CLNS pmax pmax
comp=Z,8.0nm,0.9s
CLNS MLR MLR
comp=Z,100nm,14.0s
CLNS MLR MLR
comp=N,100nm,11.0s
CLNS MLR MLR
comp=E,200nm,12.0s
KSRS Korea Array 12.12 202 Pn **Pn** **10 06 50.7** **-1.5**
comp=E,0.2nm,0.3s,baz=19,slow=15,SNR=3.4
MJAR Matsushiro Arr 12.77 163 Pn **Pn** **10 07 01.1** **+0.1**
comp=E,0.2nm,0.3s,baz=355,slow=13,SNR=4.2
MA2 Magadan 14.65 36 *i* P **Pn** **10 07 27.2** **+0.5**
JNU Nakatsue 15.85 188 LR LR 10 12 59.1
comp=E,43nm,19.0s,baz=101,slow=34
SEY Seymchan 17.50 29 *i* P **Pn** **10 08 05.3** **+1.9**
ULN Ulaanbaatar 17.63 277 *e*P **Pn** **10 08 11.9** **+6.8**
SONM Songino Array 18.07 277 P **Pn** **10 08 12.1** **+1.6**
comp=E,0.1nm,0.3s,baz=81,slow=9.3,SNR=3.2
TLY Talaya 19.28 290 *e*P **Pn** **10 08 28.8** **+3.6**
ZAK Zakamensk 19.63 286 *e*P **Pn** **10 08 30.1** **+0.7**
ZAK pmax pmax
comp=Z,6.0nm,1.0s
TIXI Tiksi 22.97 356 *e*P **P** **10 09 05.4** **+1.7**
comp=Z,7.6nm,0.7s,mb4.2
TIXI Tiksi 22.97 356 *i* P **P** **10 09 06.3** **+2.5**
TIXI pmax pmax
comp=Z,8.0nm,0.8s,mb4.2
TIXI MLR MLR
comp=Z,100nm,16.0s
BILL Bilibino 25.20 28 *i* P **P** **10 09 27.7** **+2.8**
BILL pmax pmax
comp=Z,5.0nm,1.2s,mb3.9
ZALV Zalesovo Beam 30.34 298 P **P** **10 10 12.3** **+1.3**
comp=Z,0.3nm,0.3s,mb3.5,baz=81,slow=8.9,SNR=2.6
ZAL Zalesovo 30.36 298 P **P** **10 10 12.4** **+1.2**
KMI Kunming 33.79 237 P **P** **10 10 48.3** **+6.7**
KMI AMB AMB
comp=Z,9.0nm,1.1s,mb4.6
MKAR Makanchi Array 33.97 286 *i* P **P** **10 10 48.2** **+5.3**
MKAR Makanchi Array 33.97 286 P **P** **10 10 43.8** **+0.9**
comp=Z,0.3nm,0.2s,mb3.8,baz=82,slow=10,SNR=3.6
BVAR Borovoye Array 38.89 301 P **P** **10 11 23.4** **-1.5**
comp=Z,0.3nm,0.4s,mb3.3,baz=64,slow=13,SNR=2.6
BVAR PcP PcP 10 13 35.2 -0.2
comp=Z,0.4nm,0.6s,baz=69,slow=4.8,SNR=2.5
INK Inuvik 46.79 31 *e*P **P** **10 12 30.4** **+1.7**
comp=Z,5.8nm,0.5s,mb4.8
INK Inuvik 46.79 31 P **P** **10 12 30.6** **+1.9**
INK pmax pmax
comp=Z,1.0nm,0.7s
INK Inuvik 46.79 31 P **P** **10 12 30.6** **+1.9**
comp=Z,0.9nm,0.7s,mb3.8,baz=321,slow=5.8,SNR=7.5
ARCES ARCESS Array B 50.89 334 P **P** **10 13 00.0** **-0.1**
ARCES pmax pmax
comp=Z,4.0nm,1.0s
ARCES ARCESS Array B 50.89 334 P **P** **10 13 00.0** **-0.1**
comp=Z,3.5nm,1.0s,mb4.2,baz=54,slow=12,SNR=4.7
FINES FINESS Array B 55.73 326 P **P** **10 13 37.0** **+1.2**
FINES pmax pmax
comp=Z,1.0nm,0.7s
FINES FINESS Array B 55.73 326 P **P** **10 13 37.0** **+1.2**
comp=Z,0.9nm,0.7s,mb3.9,baz=38,slow=7.2,SNR=7.0
YKA Yellowknife Ar 56.56 31 P **P** **10 13 43.0** **+1.3**
YKA Yellowknife Ar 56.56 31 P **P** **10 13 43.0** **+1.3**
YKA pmax pmax
comp=Z,1.0nm,0.8s
YKA Yellowknife Ar 56.56 31 P **P** **10 13 43.0** **+1.4**
comp=Z,0.5nm,0.8s,mb3.6,baz=307,slow=6.5,SNR=14
NB2 NORSAR Subarra 61.06 332 P **P** **10 14 12.8** **-0.2**
comp=Z,0.9nm,0.6s,mb4.1,baz=38,slow=6.9
NOA NORSAR Array B 61.06 332 P **P** **10 14 13.4** **+0.4**
NOA pmax pmax
comp=Z,1.0nm,0.6s
NOA NORSAR Array B 61.06 332 P **P** **10 14 13.4** **+0.4**
comp=Z,1.0nm,0.6s,mb4.1,baz=39,slow=6.8,SNR=5.4
AKASG Malin Array Be 61.62 316 P **P** **10 14 17.1** **+0.2**
AKASG pmax pmax
comp=Z,1.0nm,0.5s
AKASG Malin Array Be 61.62 316 P **P** **10 14 17.1** **+0.1**

comp=Z,1.1nm,0.5s,mb4.2,baz=41,slow=8.3,SNR=8.0
WRA Warramunga Arr 68.49 179 P P 10 15 03.3 +1.5
WRA pmax pmax
comp=Z,1.0nm,0.8s
WRA Warramunga Arr 68.49 179 P P 10 15 03.3 +1.5
comp=Z,1.2nm,0.8s,mb4.0,baz=354,slow=6.9,SNR=10
ASAR Alice Springs 72.19 180 P P 10 15 25.9 +1.5
ASAR pmax pmax
comp=Z,1.0nm,1.0s
ASAR Alice Springs 72.19 180 P P 10 15 25.9 +1.5
comp=Z,0.7nm,1.0s,mb3.5,baz=2.0,slow=6.2,SNR=4.3

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*IDC **22** 10:10:23.6±0.6, 1503S×17376W, h0km, mb4.4/12, mb1 4.6/12, mb1mx4.4/18, mbtmp4.4/12, MS3.8/3, Ms1 3.8/3, ms1mx3.3/27, Error ellipse: s-maj=30.4km s-min=15.5km az=128.0*
*NEIC **22** 10:10:25.8±0.3, 1509S×17375W, h10km, mb4.7/19, Error ellipse: s-maj=17.0km s-min=7.3km az=133.0*
*ISCJB **22** 10:10:27.6±0.3, 1507S±009×1739W±01, h33km, mb4.4/28, MS3.7/3, Error ellipse: s-maj=18.8km s-min=8.4km az=39.2*
ISC 22 10:10:29.5±0.3, 1508S±009×1738W±01, h35km, n89, σ0°71/47, mb4.4/28, MS3.7/3, 3C-5D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.31**	**60**	*e*Pn		**Pn**	**10 10 58.2**	**-6.8**
AFI				*e*Sn		**Sn**	**10 11 18.8**	**-14**
URZ	**Urewera**	**24.44**	**197**	P		**P**	**10 15 43.1**	**-1.8**
	3.7nm,0.3s,mb4.3,baz=352,slow=7.3,SNR=11							
URZ				LR		LR	10 24 29.3	
	comp=Z,264nm,18.2s,MS3.8,baz=35,slow=34							
HNR	**Honiara**	**26.21**	**279**	LR		LR	10 24 42.2	
	comp=Z,131nm,18.5s,MS3.5,baz=180,slow=33							
CTA	**Charters Tower**	**38.30**	**257**	LR		LR	10 30 37.3	
	comp=Z,122nm,19.1s,MS3.7,baz=236,slow=32							
STKA	**Stephens Creek**	**43.83**	**240**	*e*P		**P**	**10 18 33.1**	**+0.7**
	3.1nm,0.6s,mb4.2							
STKA	**Stephens Creek**	**43.83**	**240**	P		**P**	**10 18 32.4**	**0.0**
	3.1nm,0.7s,mb4.1,baz=90,slow=8.3,SNR=5.9							
WB2	**Warramunga Arr**	**49.49**	**257**	*e*P		**P**	**10 19 17.2**	**+0.4**
WRAB	**Tennant Creek**	**49.49**	**257**	*e*P		**P**	**10 19 17.2**	**+0.4**
	3.5nm,0.8s,mb4.4							
WRA	**Warramunga Arr**	**49.50**	**257**	P		**P**	**10 19 16.9**	**0.0**
	1.8nm,0.6s,mb4.2,baz=97,slow=7.8,SNR=51							
ASAR	**Alice Springs**	**49.81**	**252**	P		**P**	**10 19 19.2**	**0.0**
	9.9nm,0.6s,mb5.0,baz=86,slow=8.1,SNR=194							
SBA	**Scott Base**	**63.54**	**185**	*e*P		**P**	**10 20 56.9**	**+1.0**
	6.4nm,0.8s,mb4.7							
VNDA	**Vanda**	**63.65**	**186**	P		**P**	**10 20 57.4**	**+0.8**
VNDA	**Vanda**	**63.65**	**186**	P		**P**	**10 20 57.4**	**+0.8**
	3.7nm,0.8s,mb4.4,baz=355,slow=6.5,SNR=13							
NVAR	**Mina Array Bea**	**74.38**	**42**	P		**P**	**10 22 03.3**	**-0.5**
	2.7nm,0.8s,mb4.2,baz=235,slow=12,SNR=19							
QSPA	**South Pole Qui**	**74.97**	**180**	*e*P		**P**	**10 22 06.7**	**+0.1**
	16nm,0.8s,mb5.0							
QSPA	**South Pole Qui**	**74.97**	**180**	P		**P**	**10 22 07.0**	**+0.5**
	14nm,0.8s,mb4.9,baz=39,slow=1.8,SNR=46							
MOD	**Modoc**	**75.13**	**38**	*e*P		**P**	**10 22 08.2**	**+0.1**
	10nm,1.2s,mb4.6							
CCUT	**Cedar City**	**77.21**	**45**	*e*P		**P**	**10 22 19.7**	**-0.2**
MSU	**Marysvale**	**78.50**	**45**	*e*P		**P**	**10 22 26.8**	**-0.4**
DUG	**Dugway**	**78.92**	**43**	*e*P		**P**	**10 22 28.7**	**-0.7**
	3.7nm,1.0s,mb4.3							
TMUT	**Trail Mountain**	**79.54**	**44**	*e*P		**P**	**10 22 33.9**	**+1.0**
HLID	**Hailey**	**79.65**	**40**	*e*P		**P**	**10 22 32.9**	**-0.4**
	7.2nm,1.0s,mb4.6							
SRU	**San Rafael**	**79.92**	**45**	*e*P		**P**	**10 22 35.0**	**+0.1**
HWUT	**Hardware Ranch**	**80.44**	**42**	*e*P		**P**	**10 22 37.5**	**-0.2**
	2.8nm,0.9s,mb4.2							
TXAR	**Lajitas Array**	**80.79**	**56**	P		**P**	**10 22 38.9**	**-0.9**
	2.9nm,1.1s,mb4.1,baz=230,slow=5.9,SNR=15							
MCK	**McKinley**	**80.89**	**11**	*e*P		**P**	**10 22 38.7**	**-0.8**
	6.9nm,0.8s,mb4.6							
ANMO	**Albuquerque**	**80.92**	**50**	*e*P		**P**	**10 22 40.5**	**+0.1**
	2.1nm,1.0s,mb4.0							
DCID1	**Drake Creek**	**81.68**	**41**	*e*P		**P**	**10 22 45.0**	**+0.8**
TPAW	**Teton Pass**	**81.77**	**41**	*e*P		**P**	**10 22 44.9**	**+0.2**
	10nm,1.1s,mb4.7							
SNOW	**Snow King Moun**	**81.88**	**41**	*e*P		**P**	**10 22 46.0**	**+0.7**
	9.4nm,1.0s,mb4.7							
IMW	**Indian Meadow**	**81.98**	**41**	*e*P		**P**	**10 22 45.7**	**-0.1**
	12nm,1.3s,mb4.7							
CHMT	**Chamberlain Mo**	**82.12**	**37**	*e*P		**P**	**10 22 46.8**	**+0.3**
COLA	**College**	**82.13**	**11**	*e*P		**P**	**10 22 45.4**	**-0.7**
	6.0nm,0.8s,mb4.6							
QLMT	**Earthquake Lak**	**82.14**	**40**	*e*P		**P**	**10 22 48.0**	**+1.3**
FLWY	**Flagg Ranch**	**82.22**	**40**	*e*P		**P**	**10 22 48.0**	**+1.0**
	13nm,1.1s,mb4.8							
PDAR	**Pinedale Array**	**82.31**	**42**	P		**P**	**10 22 47.0**	**-0.5**
	2.4nm,0.8s,mb4.2,baz=222,slow=2.6,SNR=21							
SMCO	**Snowmass**	**82.39**	**46**	*e*P		**P**	**10 22 48.2**	**+0.2**
	3.9nm,1.0s,mb4.3							
LKWY	**Lake**	**82.65**	**40**	*e*P		**P**	**10 22 51.3**	**+2.0**
	6.8nm,1.0s,mb4.6							
SDCO	**Great Sand Dun**	**82.81**	**48**	*e*P		**P**	**10 22 50.4**	**+0.1**
	3.8nm,1.4s,mb4.2							
HRY	**Holter Researc**	**82.85**	**38**	*e*P		**P**	**10 22 49.7**	**-0.5**
DAWY	**Dawson**	**83.22**	**15**	*e*P		**P**	**10 22 51.9**	**+0.2**
MAW	**Mawson**	**87.96**	**199**	*e*P		**P**	**10 23 15.1**	**-0.4**
	9.7nm,0.8s,mb5.1							
MAW	**Mawson**	**87.96**	**199**	P		**P**	**10 23 15.4**	**-0.1**
	6.8nm,0.6s,mb5.0,baz=133,slow=5.0,SNR=9.8							
INK	**Inuvik**	**88.06**	**14**	P		**P**	**10 23 15.1**	**-0.7**
	0.4nm,0.7s,mb3.8,baz=217,slow=7.6,SNR=4.8							
YKA	**Yellowknife Ar**	**89.97**	**24**	P		**P**	**10 23 23.5**	**-1.3**
	0.3nm,0.7s,mb3.8,baz=238,slow=4.6,SNR=12							
VNA3	**Neumayer Olymp**	**93.21**	**175**	*e*PKPdf		**P**	**10 23 38.8**	**-1.1**
VNA3				*e*			10 23 40.1	
VNA3				*e*			10 23 42.3	
VNA2	**Neumayer--Watz**	**93.71**	**176**	*e*PKPdf		**P**	**10 23 42.0**	**-0.2**
	baz=199,slow=2.5							
VNA2				*e*			10 23 43.0	
VNA2				*e*			10 23 45.6	
VNA1	**Neumayer--Stat**	**93.91**	**175**	*e*PKPdf		**P**	**10 23 43.4**	**+0.3**
VNA1				*e*			10 23 44.5	
VNA1				*e*			10 23 46.9	
ARCES	**ARCESS Array B**	**124.23**	**352**	PKP		PKPdf	10 29 23.5	-0.4
	2.3nm,0.8s,baz=36,slow=2.3,SNR=6.7							
DPC	**Dobruska-Polom**	**143.87**	**349**	*e*PKP		PKPdf	10 29 59.8	-1.2
DPC				*ex*		x	10 30 14.4	
PRU	**Pruhonice**	**144.52**	**351**	*e*PKP		PKPdf	10 30 02.0	-0.2
KECS	**Kecovo**	**144.66**	**343**	*e*PKP		PKPdf	10 30 01.8	-0.6
KECS				*e*			10 30 13.2	
GIVF	**Givet**	**145.05**	**2**	*e*PKP1		PKPbc	10 30 02.3	-0.2
BAIF	**Baives**	**145.08**	**2**	*e*PKP1		PKPbc	10 30 02.0	-0.6
	8.7nm,0.9s							
VYHS	**Vyhne**	**145.08**	**345**	*e*PKP		PKPdf	10 30 03.5	+0.3
VYHS				*e*			10 30 16.1	
GRF	**Grafenberg Arr**	**145.23**	**354**	*e*PKP		PKPdf	10 30 03.8	+0.4
MLR	**Muntele Rosu**	**145.40**	**335**	⇑P		PKPbc	10 30 05.3	+1.5
MLR	**Muntele Rosu**	**145.40**	**335**	⇑*i*P		PKPbc	10 30 05.3	+1.5
DRGR		**145.49**	**340**	⇑*i*P		PKPdf	10 30 04.4	+0.5
KHC	**Kasperske Hory**	**145.50**	**351**	*e*PKP		PKPdf	10 30 04.5	+0.6
KHC				*ex*		x	10 30 17.3	
GERES	**GERESS Array B**	**145.76**	**351**	PKPbc		PKPbc	10 30 04.3	-0.4
	1.1nm,0.8s,baz=29,slow=3.0,SNR=11							
VOIR		**145.80**	**336**	⇓P		PKPab	10 30 06.7	+1.3
VOIR		**145.80**	**336**	⇓*i*P		PKPab	10 30 06.7	+1.3
ROSF	**Rostrenen**	**145.94**	**11**	*e*PKP1		PKPbc	10 30 04.5	-0.8
	8.0nm,1.0s							
FLN	**La Foliniere**	**145.97**	**8**	*e*PKP1		PKPbc	10 30 04.8	-0.6
SGMF	**Saint Gilles**	**146.14**	**10**	*e*PKP1		PKPbc	10 30 05.3	-0.7
	7.0nm,0.7s							
LDF	**La Druitiere**	**146.18**	**7**	*e*PKP1		PKPbc	10 30 05.3	-0.8
	4.7nm,0.6s							
GRR	**Gorron**	**146.28**	**8**	*e*PKP1		PKPbc	10 30 05.9	-0.5
GZR	**Gura Zlata**	**146.69**	**338**	⇓*i*P		PKPab	10 30 08.7	-0.1
CDF	**Champ du Feu**	**146.75**	**359**	*e*PKP1		PKPbc	10 30 07.8	+0.1
	11nm,1.0s							
BFO	**Black Forest**	**146.79**	**357**	*e*PKPdf		PKPdf	10 30 07.9	+1.8
BZS	**Buzias**	**146.89**	**340**	⇓P		PKPab	10 30 09.0	-0.6
BZS	**Buzias**	**146.89**	**340**	⇓*i*P		PKPab	10 30 09.0	-0.6
HAU	**Haudompre**	**147.17**	**360**	*e*PKP1		PKPbc	10 30 09.1	+0.2
HINF	**Hinteralfeld**	**147.35**	**359**	*e*PKP1		PKPbc	10 30 08.4	-1.1
SSF	**Saint Saulge**	**148.03**	**3**	*e*PKP1		PKPbc	10 30 10.8	-0.5
	7.9nm,1.0s							
MFF	**Saint Martin d**	**148.13**	**8**	*e*PKP1		PKPbc	10 30 11.1	-0.5
AVF	**Avril sur Loir**	**148.30**	**4**	*e*PKP1		PKPbc	10 30 11.5	-0.5
SMF	**Signal de Mont**	**148.47**	**3**	*e*PKP1		PKPbc	10 30 12.4	-0.1
CABF	**La Chapelle**	**148.56**	**0**	*e*PKP1		PKPbc	10 30 12.6	-0.1
	16nm,1.0s							
LPL	**La Plagne**	**149.65**	**359**	*e*PKP1		PKPbc	10 30 15.9	+0.4
LPG	**La Plagne**	**149.67**	**359**	*e*PKP1		PKPbc	10 30 16.1	+0.5
	12nm,0.9s							
CAF	**Calviac**	**150.05**	**6**	*e*PKP1		PKPbc	10 30 15.8	-0.7
BNI	**Bardonecchia**	**150.12**	**359**	*e*PKPbc		PKPbc	10 30 18.2	+1.6
ORIF	**Oris-en-Rattie**	**150.25**	**0**	*e*PKP1		PKPbc	10 30 16.7	-0.3
VIVF	**Saint-Julien-l**	**150.29**	**2**	*e*PKP1		PKPbc	10 30 16.7	-0.4
	6.5nm,0.9s							
MBDF	**Montbardon**	**150.44**	**359**	*e*PKP1		PKPbc	10 30 17.2	-0.2
	6.8nm,0.8s							
LASF	**Ste Croix**	**151.03**	**3**	*e*PKP1		PKPbc	10 30 18.5	-0.4
	12nm,1.1s							
SMRF	**Simiane la Rot**	**151.19**	**1**	*e*PKP1		PKPbc	10 30 19.2	0.0
	8.6nm,0.9s							

PLV 22 10:19:54.7±1.8, 2058N×10309E, h10km±16km, MD2.7, Laos

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SLVN	**Son La**	**1.07**	**45**	*e*PN		Pn	10 20 15.4	-0.3
SLVN				*e*Pg		Pg	10 20 16.5	+1.3
SLVN				*e*Sg		Sg	10 20 29.9	+0.6
LCVN	**Lai Chau**	**1.46**	**2**	*e*Pg		Pg	10 20 23.0	+0.3
LCVN				*e*Sg		Sg	10 20 40.8	-0.8
MCVV	**Moc Chau**	**1.47**	**81**	*e*Pg		Pg	10 20 22.2	-0.8
MCVV				*e*Sg		Sg	10 20 41.6	-0.5

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*BJI **22** 10:22:02.2, 3240S×7140W, h25km, mB5.3, Ms5.3, Msz5.0*
*MOS **22** 10:22:02.8±1.0, 3233S×7126W, h28km, mb5.5/39, Error ellipse: s-maj=14.4km s-min=6.4km az=99.2*
*GUC **22** 10:22:02.6±0.8, 3241S×7143W, h20km±3km, ML5.5*
*ISCJB **22** 10:22:02.4±0.5, 3239S±002×7145W±004, h25km±3km, mb5.2/125, MS4.3/12, Error ellipse: s-maj=5.4km s-min=2.6km az=164.7*
*NEIC **22** 10:22:02.2, 3239S×7145W, h26km, mb5.3/112, ML5.6(GUC), After GUC.*
NEIC Felt [V] at Papudo; [IV] at La Ligua, Melipilla, Petorca, Quintero, San Antonio, Santiago, Valparaiso, Vina del Mar and Zapallar; [III] at Los Andes, Rancagua, Quillota and San Felipe; [II] at Los Vilos, Pichilemu and San Fernando.
*IDC **22** 10:22:06.8±2.1, 3238S×7128W, h49km±19km, mb4.7/16, mb1 4.8/20, mb1mx4.8/21, mbtmp4.7/20, ML4.6/4, MS4.2/13, Ms1 4.2/13, ms1mx4.1/21, Error ellipse: s-maj=17.7km s-min=12.2km az=90.0*
ISC 22 10:22:02.7±0.6, 3242S±002×7140W±003, h16km±3km, n347, σ0°83/286, mb5.2/125, MS4.3/12, 18C-16D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PACH	**Papudo**	**0.12**	**193**	⇓*i*P		**Pg**	**10 22 07.2**	**+0.7**
PTCH	**Petorca**	**0.43**	**70**	⇑*i*P		**Pg**	**10 22 11.8**	**+0.5**
PTCH				*i* S		**Sg**	**10 22 18.5**	**+1.3**
IHA	**Instituto Hidr**	**0.64**	**198**	⇓*i*P		**Pg**	**10 22 14.5**	**-0.9**
ROCH	**El Roble**	**0.65**	**149**	⇑*i*P		**Pg**	**10 22 15.2**	**-0.2**
JACH	**Jahuel**	**0.73**	**111**	⇓*i*P		**Pg**	**10 22 16.6**	**-0.4**
PEL	**Peldehue**	**0.95**	**140**	⇑*i*P		**Pb**	**10 22 20.1**	**-0.6**
PEL				*i* S		**Sb**	**10 22 33.1**	**+0.1**
PEL				AML		AML	10 22 34.6	
	comp=N,508μm,0.3s							
LCCH	**Las Cruces**	**1.07**	**187**	⇓*i*P		**Pb**	**10 22 21.4**	**-1.3**
STL	**Santa Lucia**	**1.20**	**148**	*e*P		**Pn**	**10 22 23.6**	**-1.2**
STL				*i* S		**Sb**	**10 22 40.0**	**-0.4**
DSCH	**Colegio Aleman**	**1.21**	**145**	⇓*i*P		**Pn**	**10 22 23.6**	**-1.3**
DSCH				*i* S		**Sb**	**10 22 40.1**	**-0.4**
DSCH				AML		AML	10 22 40.6	
	comp=E,127μm,0.6s							
SAN	**Santiago**	**1.21**	**149**	⇑*i*P		**Pn**	**10 22 24.2**	**-0.7**
CLCH	**Cerro Calan**	**1.22**	**144**	⇓*i*P		**Pn**	**10 22 24.7**	**-0.4**
CLCH				*i* S		**Sb**	**10 22 41.3**	**+0.4**
CLCH				AML		AML	10 22 42.1	
	comp=N,354μm,0.4s							
CMCH	**Combarbala**	**1.28**	**16**	⇑*i*P		**Pn**	**10 22 24.8**	**-1.1**
CMCH				*i* S		**Sb**	**10 22 41.6**	**-1.1**
CMCH				AML		AML	10 22 43.3	
	comp=E,305μm,0.9s							
FSR	**Penalolen**	**1.29**	**145**	⇑*i*P		**Pn**	**10 22 25.9**	**-0.2**
FSR				*i* S		**Sb**	**10 22 43.2**	**+0.3**
FSR	**Penalolen**	**1.29**	**145**	⇑*i*P		**Pn**	**10 22 25.9**	**-0.2**
FSR				*i* S		**Sb**	**10 22 43.2**	**+0.3**
FSR				AML		AML	10 22 46.1	
	comp=E,270μm,0.6s							
TACH	**Talagante**	**1.30**	**163**	⇑*i*P		**Pn**	**10 22 25.2**	**-0.9**
FCH	**Farellones**	**1.31**	**134**	⇓*i*P		**Pn**	**10 22 25.9**	**-0.3**
FCH				*i* S		**Sn**	**10 22 43.4**	**+0.1**
FCH				AML		AML	10 22 44.2	
	comp=E,209μm,0.2s							
ANTU	**Antumapu**	**1.32**	**151**	*e*P		**Pn**	**10 22 25.9**	**-0.6**
ANTU				*i* S		**Sn**	**10 22 43.7**	**0.0**
ANTU	**Antumapu**	**1.32**	**151**	*e*P		**Pn**	**10 22 25.9**	**-0.6**
ANTU				*i* S		**Sn**	**10 22 43.7**	**0.0**
ANTU				AML		AML	10 22 45.3	
	comp=N,114μm,0.4s							
PCH	**Pirque**	**1.42**	**148**	⇑*i*P		**Pn**	**10 22 27.1**	**-0.7**
SJCH	**San Jose de Ma**	**1.51**	**144**	*i* P		**Pn**	**10 22 28.2**	**-0.8**
SJCH				*i* S		**Sn**	**10 22 47.8**	**-0.6**
SJCH				AML		AML	10 22 51.3	
	comp=E,53μm,0.4s							
LNV	**Longovilo**	**1.54**	**180**	⇓*i*P		**Pn**	**10 22 28.9**	**-0.5**
YECH	**El Yeso**	**1.67**	**139**	⇑*i*P		**Pn**	**10 22 32.0**	**+0.7**
YECH				*i* S		**Sn**	**10 22 54.1**	**+1.8**
YECH				AML		AML	10 22 59.0	
	comp=N,56μm,0.7s							
LMEL	**Las Melosas**	**1.75**	**145**	⇓*i*P		**Pn**	**10 22 32.5**	**+0.2**
LMEL				S		**Sn**	**10 22 55.2**	**+0.9**
LMEL	**Las Melosas**	**1.75**	**145**	⇓*i*P		**Pn**	**10 22 32.5**	**+0.2**
LMEL				*i* S		**Sn**	**10 22 55.2**	**+0.9**
LMEL				AML		AML	10 22 57.1	
	comp=N,60μm,0.2s							
OVCH	**Ovalle**	**1.81**	**6**	⇓*i*P		**Pn**	**10 22 33.5**	**+0.3**
OVCH				*e*S		**Sn**	**10 22 56.9**	**+1.2**
OVCH				AML		AML	10 23 07.5	
	comp=N,52μm,0.6s							
SFDO	**San Fernando**	**2.22**	**172**	⇑*i*P		**Pn**	**10 22 39.4**	**+0.6**
TLL	**Tololo Astrono**	**2.30**	**13**	⇓*i*P		**Pn**	**10 22 41.1**	**+1.2**
TLL				*i* S		**Sn**	**10 23 11.3**	**+3.5**
TLL				AML		AML	10 23 21.5	
	comp=N,17μm,0.5s							
LSCH	**La Serena**	**2.50**	**3**	*e*P		**Pn**	**10 22 43.1**	**+0.4**
LSCH				*i* S		**Sn**	**10 23 14.2**	**+1.3**
NICH	**Los Niches**	**2.58**	**177**	⇓*i*P		**Pn**	**10 22 44.9**	**+1.0**
NICH				*e*S		**Sn**	**10 23 16.0**	**+1.1**
CFAA	**Coronel Fontan**	**2.81**	**74**	P		**Pn**	**10 22 49.0**	**+2.1**
	comp=N,25nm,0.3s,baz=248,slow=12,SNR=576							
CFAA				S		**Sb**	**10 23 28.4**	**+1.8**
	comp=N,58nm,0.3s,baz=350,slow=23,SNR=9.7							
CFAA				LR		LR	10 24 09.1	
	comp=N,361nm,21.1s,baz=158,slow=45							
LCO	**Las Campanas**	**3.45**	**10**	⇓*e*Pn		**Pn**	**10 22 56.5**	**+0.8**
LCO				*e*Sn		**Sn**	**10 23 34.4**	**-1.8**
VACH	**Vallenar**	**3.87**	**8**	*e*P		**Pn**	**10 23 01.9**	**+0.4**
VACH				*i* S		**Sn**	**10 23 47.5**	**+1.0**
PLCA	**Paso Flores**	**8.33**	**176**	*e*Pn		**Pn**	**10 24 03.4**	**+0.6**
	comp=N,62nm,0.8s							
PLCA	**Paso Flores**	**8.33**	**176**	*e*P		**Pn**	**10 24 03.4**	**+0.7**
PLCA				pmax		pmax		
	comp=Z,62nm,0.8s							
PLCA	**Paso Flores**	**8.33**	**176**	P		**Pn**	**10 24 03.5**	**+0.8**
	comp=Z,2.7nm,0.3s,baz=336,slow=13,SNR=57							
PLCA				LR		LR	10 27 44.3	
	comp=Z,1μm,19.6s,baz=354,slow=40							
TRQA	**Tornquist**	**9.54**	**129**	*e*Pn		**Pn**	**10 24 19.7**	**+0.3**
CPUP	**Villa Florida**	**13.68**	**67**	P		**Pn**	**10 25 13.6**	**-2.5**
	comp=Z,1.0nm,0.3s,baz=218,slow=12,SNR=16							
ARE	**Arequipa**	**15.88**	**360**	*e*P		**Pn**	**10 25 46.0**	**+0.4**
LPAZ	**La Paz**	**16.33**	**11**	*e*P		**Pn**	**10 25 51.8**	**+0.5**
	comp=Z,53nm,1.1s							
LPAZ	**La Paz**	**16.33**	**11**	*e*P		**Pn**	**10 25 51.8**	**+0.5**
LPAZ				pmax		pmax		
	comp=Z,53nm,1.1s							
LPAZ	**La Paz**	**16.33**	**11**	P		**Pn**	**10 25 52.1**	**+0.8**
	comp=Z,0.8nm,0.3s,baz=185,slow=6.4,SNR=64							
SIV	**San Ignacio**	**18.85**	**32**	P		**Pn**	**10 26 20.7**	**-1.9**
	comp=Z,1.4nm,0.3s,baz=224,slow=13,SNR=48							
USHA	**Ushuaia**	**22.51**	**176**	P		**P**	**10 27 02.0**	**+0.7**
	comp=Z,42nm,0.8s,mb4.9,baz=333,slow=7.7,SNR=14							
USHA				LR		LR	10 37 25.9	
	comp=Z,902nm,18.7s,MS4.2,baz=334,slow=41							
ATAH	**Atahualpa**	**26.11**	**344**	P		**P**	**10 27 35.7**	**-0.2**
	comp=Z,7.0nm,0.7s,mb4.3,baz=124,slow=14,SNR=4.4							
ATAH				LR		LR	10 36 26.0	
	comp=Z,418nm,20.2s,MS4.0,baz=335,slow=33							
BDFB	**Brasilia**	**27.02**	**57**	P		**P**	**10 27 42.9**	**-1.2**
	comp=Z,49nm,1.0s,mb5.0,baz=221,slow=13,SNR=92							
BDFB				LR		LR	10 39 39.3	
	comp=Z,596nm,18.4s,MS4.2,baz=220,slow=39							
CAM3	**Guarapari**	**29.86**	**75**	⇓*i*P		**P**	**10 28 15.9**	**+6.4**
CAM3				*i*			10 28 16.8	
CAM3				*i*		pP	10 28 19.9	+5.4
CAM3				*i*		pP	10 28 22.0	+7.5
CAM3				*i*			10 28 27.6	
ROSC	**El Rosal**	**37.17**	**355**	*e*P		**P**	**10 29 15.8**	**+2.8**
ROSC	**El Rosal**	**37.17**	**355**	P		**P**	**10 29 14.8**	**+1.8**
	comp=Z,14nm,0.9s,mb4.8,baz=128,slow=2.7,SNR=10							
SDV	**Santo Domingo**	**41.07**	**1**	*e*P		**P**	**10 29 45.0**	**-0.7**
	comp=Z,9.5nm,1.0s,mb4.4							
JTS	**JuntasAbangare**	**44.39**	**341**	*e*P		**P**	**10 30 12.3**	**-0.3**
	comp=Z,6.2nm,1.1s,mb4.2							
JTS	**JuntasAbangare**	**44.39**	**341**	*e*P		**P**	**10 30 12.3**	**-0.3**
JTS				pmax		pmax		
	comp=Z,6.0nm,1.1s							
TGUH	**Tegucigalpa,Un**	**48.64**	**339**	*e*P		**P**	**10 30 45.9**	**0.0**
	comp=Z,81nm,1.4s,mb5.6							
VNA3	**Neumayer Olymp**	**50.63**	**158**	*e*P		**P**	**10 31 01.7**	**+1.2**
VNA3				*e*			10 31 12.1	
VNA3				*e*			10 31 17.0	
VNA1	**Neumayer--Stat**	**50.92**	**157**	*e*P		**P**	**10 31 06.2**	**+3.5**
VNA1				*e*			10 31 14.1	
VNA1				*e*			10 31 19.3	
VNA1				*e*			10 32 18.9	
VNA2	**Neumayer--Watz**	**51.27**	**158**	*e*P		**P**	**10 31 05.9**	**+0.6**
VNA2				*e*		pP	10 31 11.8	+1.4
VNA2				*e*			10 31 17.1	
VNA2				*e*			10 31 21.1	
VNA2				*e*			10 32 19.2	
TEIG	**Tepich**	**54.78**	**341**	*e*P		**P**	**10 31 30.8**	**-0.9**
	comp=Z,40nm,0.6s,mb5.6							
MAIT	**Maitri**	**57.53**	**157**	*e*P		**P**	**10 31 48.1**	**-2.7**
QSPA	**South Pole Qui**	**57.82**	**180**	*e*P		**P**	**10 31 53.6**	**+0.9**
	comp=Z,46nm,0.8s,mb5.6							
SBA	**Scott Base**	**64.73**	**191**	*e*P		**P**	**10 32 40.7**	**+1.1**
	comp=Z,12nm,1.1s,mb4.8							
SBA	**Scott Base**	**64.73**	**191**	*e*P		**P**	**10 32 40.7**	**+1.1**
SBA				pmax		pmax		
	comp=Z,12nm,1.1s,mb4.8							
BRAL	**Brewton**	**64.80**	**345**	*e*P		**P**	**10 32 40.6**	**+0.1**
	comp=Z,117nm,1.3s,mb5.8							
NHSC	**New Hope**	**65.69**	**352**	*e*P		**P**	**10 32 46.0**	**-0.2**
	comp=Z,49nm,0.8s,mb5.6							
VNDA	**Vanda**	**65.76**	**191**	P		**P**	**10 32 47.1**	**+0.9**
	comp=Z,3.1nm,0.7s,mb4.4,baz=137,slow=5.3,SNR=13							
GOGA	**Godfrey**	**66.45**	**349**	*e*P		**P**	**10 32 50.1**	**-1.0**
	comp=Z,29nm,0.9s,mb5.3							
GOGA	**Godfrey**	**66.45**	**349**	*e*P		**P**	**10 32 50.1**	**-1.0**
GOGA				pmax		pmax		
	comp=Z,29nm,0.9s,mb5.3							
LRAL	**Lakeview Retre**	**66.74**	**346**	*e*P		**P**	**10 32 52.2**	**-0.8**
	comp=Z,32nm,1.3s,mb5.2							
JSC	**Jenkinsville**	**66.99**	**351**	*e*P		**P**	**10 32 53.6**	**-0.9**
**N

comp=Z,40nm,0.8s
DBIC Dimbokro 74.17 71 P **P 10 33 38.1 -0.7**
comp=Z,42nm,0.7s,mb5.5,baz=211,slow=6.2,SNR=71
DBIC LR LR 11 02 36.4
comp=Z,173nm,20.8s,MS4.3,baz=335,slow=33
LPM Los Pinos Moun 74.18 330 *e*P **P 10 33 39.2 +0.8**
LENM Lemitar 74.20 330 *e*P **P 10 33 39.8 +1.2**
QUA2 Belchertown 74.33 359 *e*P **P 10 33 39.0 0.0**
comp=Z,42nm,1.0s,mb5.3
BINY Binghamton 74.37 356 *e*P **P 10 33 39.1 -0.2**
comp=Z,15nm,0.8s,mb5.0
WES Weston 74.43 0 *e*P **P 10 33 39.6 0.0**
comp=Z,13nm,0.9s,mb4.9
WES Weston 74.43 0 *e*P **P 10 33 39.6 -0.1**
WES pmax pmax
comp=Z,13nm,0.9s,mb4.9
HDIL Hopedale 74.47 346 *e*P **P 10 33 38.9 -1.0**
comp=Z,56nm,1.0s,mb5.5
LAZ Ladron 74.47 330 *e*P **P 10 33 40.5 +0.4**
MAW Mawson 74.55 163 P **P 10 33 40.5 +0.3**
comp=Z,10nm,0.6s,mb4.9,baz=216,slow=7.4,SNR=14
MAW LR LR 11 07 03.9
comp=Z,401nm,18.4s,MS4.8,baz=5.3,slow=36
HRV Adam Dziewonsk 74.55 360 *e*P **P 10 33 40.5 +0.2**
comp=Z,19nm,0.9s,mb5.0
HRV Adam Dziewonsk 74.55 360 *e*P **P 10 33 40.5 +0.1**
HRV pmax pmax
comp=Z,19nm,0.9s,mb5.0
ERPA Erie 74.58 353 *e*P **P 10 33 40.0 -0.6**
comp=Z,37nm,0.8s,mb5.4
ANMO Albuquerque 74.66 331 *e*P **P 10 33 41.3 +0.1**
comp=Z,32nm,1.3s,mb5.1
ANMO Albuquerque 74.66 331 *e*P **P 10 33 41.3 +0.1**
ANMO pmax pmax
comp=Z,32nm,1.3s
KSU1 Kansas State U 74.91 340 *e*P **P 10 33 41.8 -0.7**
comp=Z,20nm,0.6s,mb5.2
SUR Sutherland 75.13 119 P **P 10 33 45.8 +1.6**
comp=Z,160nm,0.6s,mb6.1,SNR=14
SUR Sutherland 75.13 119 *e*P **P 10 33 45.2 +1.0**
comp=Z,20nm,0.7s,mb5.2
AAM Ann Arbor 75.20 351 *e*P **P 10 33 42.6 -1.5**
comp=Z,29nm,1.2s,mb5.1
AAM Ann Arbor 75.20 351 *e*P **P 10 33 42.6 -1.5**
AAM pmax pmax
comp=Z,29nm,1.2s,mb5.1
ACCN Adirondack Com 75.46 358 *e*P **P 10 33 45.6 +0.1**
comp=Z,18nm,0.9s,mb5.0
CBKS Cedar Bluff 75.60 337 *e*P **P 10 33 46.8 +0.3**
comp=Z,73nm,0.9s,mb5.6
CBKS Cedar Bluff 75.60 337 *e*P **P 10 33 46.8 +0.3**
CBKS pmax pmax
comp=Z,73nm,0.9s,mb5.6
HNH Hanover 75.76 359 *e*P **P 10 33 47.9 +0.6**
comp=Z,27nm,0.8s,mb5.2
NCB Newcomb 76.06 358 *e*P **P 10 33 48.4 -0.6**
comp=Z,15nm,0.8s,mb5.0
LBNH Lisbon 76.29 360 *e*P **P 10 33 50.0 -0.3**
comp=Z,26nm,0.8s,mb5.2
LBNH Lisbon 76.29 360 *e*P **P 10 33 50.0 -0.3**
LBNH pmax pmax
comp=Z,26nm,0.8s,mb5.2
SDCO Great Sand Dun 76.70 333 *e*P **P 10 33 53.6 +0.8**
comp=Z,18nm,0.8s,mb5.1
LONY Lake Ozonia 76.72 358 *e*P **P 10 33 52.5 -0.2**
comp=Z,25nm,0.9s,mb5.1
EMMW East Machias 76.84 3 *e*P **P 10 33 53.9 +0.5**
comp=Z,45nm,0.9s,mb5.4
FRNY Flat Rock 76.91 358 *e*P **P 10 33 53.6 -0.2**
comp=Z,27nm,0.8s,mb5.2
GLA Glamis 76.92 324 *e*P **P 10 33 54.9 +0.8**
comp=Z,19nm,0.9s,mb5.0
GLA Glamis 76.92 324 *e*P **P 10 33 54.9 +0.8**
GLA pmax pmax
comp=Z,19nm,0.9s,mb5.0
JFWS Jewell Farm 76.93 346 *e*P **P 10 33 53.3 -0.6**
comp=Z,46nm,1.0s,mb5.4
JFWS Jewell Farm 76.93 346 *e*P **P 10 33 53.3 -0.6**
JFWS pmax pmax
comp=Z,45nm,1.0s,mb5.3
MSNY Massena 77.11 357 *e*P **P 10 33 54.5 -0.4**
WUAZ Wupatki 77.28 328 *e*P **P 10 33 57.0 +1.0**
comp=Z,38nm,0.9s,mb5.3
PKME Peaks-Kenny Pk 77.33 2 *e*P **P 10 33 56.3 +0.2**
comp=Z,27nm,0.9s,mb5.2
MVCO Mesa Verde 77.44 330 *e*P **P 10 33 57.8 +0.8**
comp=Z,21nm,0.7s,mb5.2
BAR Barrett 77.56 322 *e*P **P 10 33 58.9 +1.1**
PFO Pinyon Flat Ob 78.18 323 P **P 10 34 02.9 +1.7**
comp=Z,140nm,0.9s,mb5.9,SNR=7.5
PFO Pinyon Flat Ob 78.18 323 *e*P **P 10 34 02.1 +0.9**
comp=Z,26nm,1.0s,mb5.1
PFO Pinyon Flat Ob 78.18 323 *e*P **P 10 34 02.1 +0.9**
PFO pmax pmax
comp=Z,26nm,1.0s,mb5.1
SMCO Snowmass 78.52 333 *e*P **P 10 34 04.3 +1.4**
comp=Z,64nm,0.9s,mb5.5
ISCO Idaho Springs 78.53 334 *e*P **P 10 34 03.8 +0.8**
comp=Z,23nm,0.8s,mb5.2
ISCO Idaho Springs 78.53 334 *e*P **P 10 34 03.8 +0.8**
ISCO pmax pmax
comp=Z,23nm,0.8s,mb5.2
LDFC Landfair 78.68 325 *e*P **P 10 34 05.8 +1.9**
TSUM Tsumeb 79.13 106 *e*P **P 10 34 06.7 -0.2**
comp=Z,28nm,0.9s,mb5.2
TSUM Tsumeb 79.13 106 LR LR 11 03 08.0
comp=Z,152nm,21.0s,MS4.3,baz=153,slow=31
ECSD EROS,Sioux Fal 79.21 342 *e*P **P 10 34 06.1 -0.5**
comp=Z,64nm,1.0s,mb5.5
MWC Mount Wilson 79.49 322 *e*P **P 10 34 09.7 +1.3**
GSC Goldstone 79.70 324 *e*P **P 10 34 10.4 +0.9**
comp=Z,14nm,0.8s,mb5.0
GSC Goldstone 79.70 324 *e*P **P 10 34 10.4 +0.9**
GSC pmax pmax
comp=Z,14nm,0.8s,mb4.9
COWI Conover 79.78 348 *e*P **P 10 34 08.8 -0.9**
comp=Z,32nm,1.4s,mb5.0
PHWY Pilot Hill 79.79 335 *e*P **P 10 34 10.4 +0.6**
CCUT Cedar City 79.85 327 *e*P **P 10 34 11.5 +1.3**
SRU San Rafael 79.90 330 *e*P **P 10 34 10.9 +0.4**
comp=Z,14nm,0.7s,mb5.0
SRU San Rafael 79.90 330 *e*P **P 10 34 10.9 +0.4**
SRU pmax pmax
comp=Z,14nm,0.7s,mb5.0
ARUT Antelope Range 80.08 327 *e*P **P 10 34 12.3 +0.8**
MSU Marysvale 80.11 329 *e*P **P 10 34 12.5 +0.9**
BOSA Boshof 80.33 118 *e*P **P 10 34 12.9 -0.4**
comp=Z,30nm,0.8s,mb5.3
BOSA Boshof 80.33 118 *e*P **P 10 34 12.9 -0.4**
BOSA pmax pmax
comp=Z,30nm,0.8s,mb5.3
BOSA Boshof 80.33 118 P **P 10 34 13.0 -0.3**
comp=Z,29nm,0.8s,mb5.3,baz=245,slow=4.0,SNR=55
BOSA LR LR 11 09 45.7
comp=Z,185nm,18.4s,MS4.5,baz=141,slow=36
TMUT Trail Mountain 80.34 330 *e*P **P 10 34 13.2 +0.4**
TPNV Topopah Spring 80.73 325 *e*P **P 10 34 16.0 +1.1**
comp=Z,26nm,1.4s,mb5.0
TPNV Topopah Spring 80.73 325 *e*P **P 10 34 16.0 +1.0**
TPNV pmax pmax
comp=Z,26nm,1.4s,mb5.0
RWWY Rawlins 80.78 334 *e*P **P 10 34 15.8 +0.6**
comp=Z,43nm,0.9s,mb5.4
ISA Isabella 80.82 323 *e*P **P 10 34 16.7 +1.2**
comp=Z,15nm,0.7s,mb5.0
ISA Isabella 80.82 323 *e*P **P 10 34 16.7 +1.2**
ISA pmax pmax
comp=Z,15nm,0.7s,mb5.0
MPU Maple Canyon 81.12 330 *e*P **P 10 34 17.6 +0.5**
comp=Z,38nm,1.1s,mb5.2
NLU North Lily Min 81.26 330 *e*P **P 10 34 18.6 +0.8**
DAU Daniels Canyon 81.30 330 *e*P **P 10 34 18.7 +0.7**
JLU Jordanelle 81.54 330 *e*P **P 10 34 19.7 +0.5**
CASY Casey 81.61 181 *e*P **P 10 34 19.0 -0.4**
comp=Z,24nm,0.9s,mb5.1
CTU Camp Tracy 81.74 330 *e*P **P 10 34 20.3 0.0**
comp=Z,8.5nm,0.8s,mb4.7
DUG Dugway 81.78 329 *e*P **P 10 34 21.0 +0.6**
comp=Z,37nm,1.4s,mb5.1
DUG Dugway 81.78 329 *e*P **P 10 34 21.0 +0.5**
DUG pmax pmax
comp=Z,37nm,1.4s,mb5.1
RSSD Black Hills 81.78 337 *e*P **P 10 34 20.5 +0.1**
comp=Z,18nm,0.9s,mb5.0
RSSD Black Hills 81.78 337 *e*P **P 10 34 20.5 +0.1**
RSSD pmax pmax
comp=Z,18nm,0.9s,mb5.0

EYMN Ely 82.00 347 *e*P **P 10 34 19.6 -1.8**
comp=Z,34nm,1.2s,mb5.2
MTUM Tungsten Hills 82.18 324 *e*P **P 10 34 22.9 +0.3**
HWUT Hardware Ranch 82.42 331 *e*P **P 10 34 23.9 +0.1**
comp=Z,33nm,1.1s,mb5.2
LBTB Lobatse 82.48 115 *e*P **P 10 34 24.1 -0.7**
comp=Z,37nm,0.6s,mb5.5
LBTB Lobatse 82.48 115 *e*P **P 10 34 24.1 -0.7**
LBTB pmax pmax
comp=Z,37nm,0.6s,mb5.5
PDAR Pinedale Array 82.60 333 P **P 10 34 23.8 -0.9**
PDAR PKKPbc PKKPbc 10 52 49.2 -2.3
PDAR LR LR 11 09 33.1
PDAR Pinedale Array 82.60 333 P **P 10 34 23.8 -0.9**
comp=Z,5.4nm,0.9s,mb4.6,baz=153,slow=5.0,SNR=40
PDAR PKKPbc PKKPbc 10 52 49.2 -2.3
comp=Z,0.4nm,0.7s,baz=118,slow=1.4,SNR=4.7
PDAR LR LR 11 09 33.1
comp=Z,62nm,19.6s,MS4.0,baz=82,slow=34
NVAR Mina Array Bea 82.89 325 P **P 10 34 27.1 +0.7**
comp=Z,8.5nm,0.8s,mb4.8,baz=141,slow=6.3,SNR=48
HVU Hansel Valley 83.07 330 *e*P **P 10 34 27.1 -0.1**
comp=Z,16nm,0.8s,mb5.1
HVU Hansel Valley 83.07 330 *e*P **P 10 34 27.1 -0.1**
HVU pmax pmax
comp=Z,16nm,0.8s,mb5.1
TOA0 Torodi Ar. Sit 83.17 70 *e*P **P 10 34 27.6 -0.7**
TORD Torodi Ar. Bea 83.17 70 P **P 10 34 27.6 -0.8**
comp=Z,57nm,0.8s,mb5.7,baz=261,slow=4.6,SNR=287
TORD LR LR 11 08 25.0
comp=Z,140nm,19.1s,MS4.3,baz=225,slow=33
AHID Auburn Hatcher 83.20 332 *e*P **P 10 34 27.8 -0.1**
comp=Z,7.4nm,0.8s,mb4.8
AGMN Agassiz Refuge 83.28 344 *e*P **P 10 34 26.9 -1.2**
comp=Z,13nm,0.7s,mb5.1
REDW Red Top Meadow 83.61 332 *e*P **P 10 34 29.8 -0.1**
comp=Z,9.6nm,0.9s,mb4.9
CMB Columbia Colle 83.63 323 *e*P **P 10 34 30.0 -0.1**
comp=Z,11nm,1.3s,mb4.8
CMB Columbia Colle 83.63 323 *e*P **P 10 34 30.0 -0.1**
CMB pmax pmax
comp=Z,11nm,1.3s,mb4.8
SNOW Snow King Moun 83.65 332 *e*P **P 10 34 30.2 0.0**
comp=Z,14nm,0.9s,mb5.1
LOHW Long Hollow 83.72 332 *e*P **P 10 34 30.2 -0.3**
comp=Z,14nm,1.1s,mb5.0
TPAW Teton Pass 83.75 332 *e*P **P 10 34 30.7 +0.1**
comp=Z,18nm,0.9s,mb5.2
MOOW Moose Ponds 83.89 332 *e*P **P 10 34 31.1 -0.2**
comp=Z,10.0nm,1.1s,mb4.9
DCID1 Drake Creek 83.93 332 *e*P **P 10 34 32.0 +0.5**
IMW Indian Meadow 84.09 332 *e*P **P 10 34 32.5 +0.1**
comp=Z,18nm,1.0s,mb5.1
FLWY Flagg Ranch 84.15 333 *e*P **P 10 34 33.1 +0.5**
comp=Z,26nm,0.9s,mb5.4
LKWY Lake 84.44 333 *e*P **P 10 34 35.6 +1.5**
comp=Z,3.1nm,0.7s,mb4.5
LKWY Lake 84.44 333 *e*P **P 10 34 35.6 +1.5**
LKWY pmax pmax
comp=Z,3.0nm,0.7s,mb4.5
RLMT Red Lodge 84.49 334 *e*P **P 10 34 34.4 0.0**
comp=Z,6.5nm,0.5s,mb5.0
YFT Old Faithful 84.52 333 *e*P **P 10 34 36.2 +1.7**
YMR Madison River 84.75 333 *e*P **P 10 34 36.1 +0.5**
comp=Z,51nm,1.0s,mb5.6
LAO LASA Array 84.77 337 *e*P **P 10 34 35.5 -0.3**
comp=Z,29nm,1.0s,mb5.4
QLMT Earthquake Lak 85.06 333 *e*P **P 10 34 38.0 +0.7**
ULM Lac du Bonnet 85.11 345 *e*P **P 10 34 35.7 -1.7**
comp=Z,7.7nm,0.8s,mb4.9
ULM Lac du Bonnet 85.11 345 P **P 10 34 36.0 -1.3**
comp=Z,10nm,0.8s,mb5.0,baz=164,slow=4.7,SNR=21
OHCM Honcut 85.17 323 *e*P **P 10 34 37.7 -0.2**
RPZ Rata Peaks 85.19 220 P **P 10 34 38.6 +0.4**
comp=Z,9.7nm,0.9s,mb4.9,baz=177,slow=5.1,SNR=5.8
GCMT Greycliff 85.21 334 *e*P **P 10 34 37.3 -0.6**
HLID Hailey 85.22 330 *e*P **P 10 34 38.5 +0.4**
comp=Z,27nm,1.3s,mb5.2
MCMT McKenzie Canyo 85.62 332 *e*P **P 10 34 40.5 +0.4**
DGMT Dagmar 85.70 339 *e*P **P 10 34 40.1 -0.2**
comp=Z,98nm,1.3s,mb5.9
BOZ Bozeman (W) 85.82 333 *e*P **P 10 34 40.8 -0.3**
comp=Z,7.1nm,0.9s,mb4.9
BOZ Bozeman (W) 85.82 333 *e*P **P 10 34 40.8 -0.2**
BOZ pmax pmax
comp=Z,7.0nm,0.9s,mb4.9
DLMT Dillon 85.96 332 *e*P **P 10 34 42.0 +0.3**
comp=Z,37nm,1.3s,mb5.5
LRM Limekiln Ridge 86.29 333 *e*P **P 10 34 43.6 +0.2**
MOD Modoc 86.55 326 *e*P **P 10 34 45.2 +0.4**
comp=Z,8.0nm,0.7s,mb5.1
HRY Holter Researc 86.79 333 *e*P **P 10 34 45.4 -0.4**
SCHQ Schefferville 86.98 3 *e*P **P 10 34 44.7 -1.7**
comp=Z,41nm,1.4s,mb5.5
SCHQ Schefferville 86.98 3 P **P 10 34 45.3 -1.1**
comp=Z,22nm,1.1s,mb5.3,baz=176,slow=4.9,SNR=13
EGMT Eagleton 87.14 335 *e*P **P 10 34 46.5 -1.0**
comp=Z,26nm,1.2s,mb5.3
BMO Blue Mountains 87.50 329 *e*P **P 10 34 48.9 -0.4**
comp=Z,5.3nm,0.6s,mb5.0
CHMT Chamberlain Mo 87.50 333 *e*P **P 10 34 49.0 -0.3**
MSO Missoula 87.70 332 *e*P **P 10 34 50.0 -0.2**
comp=Z,10nm,1.4s,mb4.9
KTRM Thompson Ridge 88.06 324 ⇓P **P 10 34 53.2 +1.2**
VIPM Ingram Point 88.70 327 P **P 10 34 56.0 +1.0**
WALA Waterton Lakes 89.52 334 *e*P **P 10 34 58.4 -0.3**
comp=Z,20nm,1.0s,mb5.4
REDWA Red Mountain 89.56 329 P **P 10 34 59.8 +0.8**
HAWA Hanford 89.67 329 *e*P **P 10 34 59.0 -0.5**
comp=Z,28nm,1.3s,mb5.4
LSZ Lusaka 89.79 108 *e*P **P 10 35 01.8 +0.9**
comp=Z,17nm,0.9s,mb5.4
LSZ Lusaka 89.79 108 *e*P **P 10 35 01.8 +0.9**
LSZ pmax pmax
comp=Z,17nm,0.9s,mb5.4
OD2 Odessa Site #2 90.10 330 P **P 10 35 01.6 +0.1**
NEW Newport 90.13 331 *e*P **P 10 35 00.7 -0.9**
comp=Z,5.7nm,1.2s,mb4.8
NEW Newport 90.13 331 *e*P **P 10 35 00.7 -0.9**
NEW pmax pmax
comp=Z,6.0nm,1.2s
MDT Midelt 90.40 51 LR LR 11 14 26.5
comp=Z,125nm,19.8s,MS4.3,baz=42,slow=35
EBG Ellensburg 90.53 329 P **P 10 35 03.8 +0.4**
WTV Waterville 90.87 330 P **P 10 35 04.9 -0.1**
EDM Edmonton 92.75 336 *e*P **P 10 35 11.9 -1.7**
ESDC Sonseca Array 95.09 46 P **P 10 35 23.7 -1.1**
comp=Z,0.2nm,0.3s,mb4.0,baz=247,slow=3.4,SNR=5.6
SJPF Ste Jean 98.81 44 *e*P **P 10 35 41.2 -0.3**
ETSF Etsaut 99.08 45 *e*P **P 10 35 42.5 -0.2**
comp=Z,11nm,1.1s,mb5.0
ETSF Etsaut 99.08 45 *e*P **P 10 35 42.5 -0.2**
comp=Z,5.6nm,1.1s,mb5.0
ETSF Etsaut 99.08 45 *e*P **P 10 35 42.5 -0.2**
ETSF pmax pmax
comp=Z,6.0nm,1.1s,mb5.0
EPF Esparros 99.70 45 *e*P Pdif 10 35 44.9 -0.8
YKA Yellowknife Ar 100.73 341 P Pdif 10 35 47.6 -2.6
YKA PP PP 10 39 51.8 -5.8
YKA PKKPbc PKKPbc 10 52 01.4 -3.6
YKA Yellowknife Ar 100.73 341 P Pdif 10 35 47.6 -2.6
comp=Z,0.8nm,0.6s,baz=146,slow=4.4,SNR=27
YKA PP PP 10 39 51.8 -5.8
comp=Z,0.3nm,0.8s,baz=142,slow=8.1,SNR=5.1
YKA PKKPbc PKKPbc 10 52 01.4 -3.6
comp=Z,0.3nm,0.5s,baz=324,slow=3.5,SNR=18
MFF Saint Martin d 101.48 42 *e*P Pdif 10 35 52.3 -1.3
RJF Les Rejaudoux 101.69 44 *e*P Pdif 10 35 53.5 -1.0
CAF Calviac 101.80 44 *e*P Pdif 10 35 54.1 -0.9
LASF Ste Croix 102.40 46 *e*P Pdif 10 35 57.0 -0.7
LDF La Druitiere 102.63 40 *e*P Pdif 10 35 58.0 -0.7
SKAG Skagway 105.59 332 *e*PKPdf PKiKP 10 40 21.6 -2.7
SNF Seneffe 106.08 40 P Pdif 10 36 13.1 -1.0
BCLA Clavier 106.59 41 P Pdif 10 36 15.4 -1.0
WLF Walferdange 106.68 41 P Pdif 10 36 15.3 -1.4
comp=Z,12nm,2.7s
GERES GERESS Array B 110.66 45 PKiKP PKiKP 10 40 33.2 -1.0
comp=Z,0.5nm,0.8s,baz=191,slow=2.0,SNR=4.6
VRI Vrincioaia 117.72 51 ⇑P PKPdf 10 40 46.5 -1.2
VRI Vrincioaia 117.72 51 ⇑*i*P PKPdf 10 40 46.5 -1.3
ASAR Alice Springs 119.22 207 PKP PKPdf 10 40 49.5 -2.0
comp=Z,2.4nm,0.8s,baz=128,slow=1.7,SNR=7.9
ASAR PKKPbc PKKPbc 10 51 03.0 -0.9
comp=Z,0.5nm,0.7s,baz=329,slow=2.6,SNR=5.4
ARCES ARCESS Array B 122.36 24 PKP PKPdf 10 40 54.7 -1.3
comp=Z,1.5nm,0.7s,baz=94,slow=3.6,SNR=4.6

WRA Warramunga Arr 122.40 209 PKP PKPdf 10 40 56.1 -1.6
comp=Z,5.8nm,0.6s,baz=162,slow=1.7,SNR=40
WRAB Tennant Creek 122.41 209 *i*PKIKP PKPdf 10 40 54.9 -2.8
APA Apatity 125.14 27 *e*PKIKP PKPdf 10 41 00.0 -1.3
APA pmax pmax
comp=Z,16nm,1.0s
OBN Obninsk 125.91 42 *e*PKIKP PKPdf 10 40 59.7 -3.5
OBN pmax pmax
comp=Z,17nm,1.4s
FITZ Fitzroy Crossi 127.19 200 PKP PKPdf 10 41 05.5 -1.3
comp=Z,2.6nm,0.7s,baz=250,slow=11,SNR=4.0
BILL Bilibino 131.64 335 *i*PKIKP PKPdf 10 41 13.1 -0.6
BILL pmax pmax
comp=Z,12nm,1.3s
AKTK Aktyubinsk 138.90 49 PKP PKPdf 10 41 27.1 -0.7
AKTO Aktyubinsk 138.90 49 PKP PKPdf 10 41 27.1 -0.7
comp=Z,3.8nm,0.9s,baz=178,slow=2.5,SNR=4.2
SEY Seymchan 138.91 331 *i*PKIKP PKPdf 10 41 26.9 -0.5
TIXI Tiksi 139.23 350 *i*PKIKP PKPdf 10 41 28.4 +0.6
PALK Pallekele 143.97 128 *e*PKPdf PKPdf 10 41 35.0 -3.0
KAD Karad 145.52 108 *e*P PKPdf 10 41 40.0 -0.6
BRVK Borovoye 145.68 42 *e*PKPdf PKPdf 10 41 39.6 -0.1
BVAR Borovoye Array 145.75 42 PKPbc PKPbc 10 41 39.6 -0.7
comp=Z,14nm,0.7s,baz=283,slow=3.8,SNR=38
POO Poona 145.88 105 *e*P PKPdf 10 41 40.0 -1.2
KBL Kabul 147.08 75 *e*PKPdf PKPdf 10 41 42.6 -0.1
YAK Yakutsk 147.41 342 *e*PKPbc PKPbc 10 41 43.9 -0.9
YAK Yakutsk 147.41 342 *c i*PKP2 PKPdf 10 41 43.8 +1.4
YAK pmax pmax
comp=Z,114nm,1.1s
YAK pmax pmax
comp=N,12nm,1.3s
YAK pmax pmax
comp=E,11nm,1.1s
HYB Hyderabad 149.06 112 *e*P PKPbc 10 41 50.0 -0.6
HYB Hyderabad 149.06 112 *i*PKP PKPbc 10 41 50.0 -0.6
comp=E,50nm,1.0s
KSM Kuching 149.18 183 *e*PKPdf PKPdf 10 41 45.1 -1.8
KSM *e*PKPbc PKPbc 10 41 50.0 -1.1
KSM *e*PKPab PKPab 10 41 55.4 +0.1
YSS Yuzh-Sakhalins 150.24 309 *e*PKPbc PKPbc 10 41 51.6 -1.0
YSS *e*PKPab PKPab 10 41 58.4 -0.4
YSS Yuzh-Sakhalins 150.24 309⇑ *e*PKIKP PKPbc 10 41 51.0 -1.6
YSS pmax pmax
comp=Z,30nm,0.8s
EKS2 Erkin-Say 150.74 60 *e*PKPdf PKPdf 10 41 48.8 +0.4
EKS2 *e*PKPbc PKPbc 10 41 54.4 +0.4
EKS2 Erkin-Say 150.74 60 P PKPbc 10 41 54.0 +0.1
SNR=8.9
AML Almayashu 150.75 61 *e*PKPdf PKPdf 10 41 48.4 0.0
AML *e*PKPbc PKPbc 10 41 54.4 +0.4
AML Almayashu 150.75 61 P PKPdf 10 41 49.3 +0.9
SNR=8.0
ASAJ Asahikawa 151.06 304 PKPbc PKPbc 10 41 54.2 -0.4
comp=Z,20nm,0.9s,baz=236,slow=12,SNR=11
USP Ospenovka 151.16 58 P PKPbc 10 41 54.9 0.0
SNR=16
AAK Ala-Archa 151.26 59 *e*PKPdf PKPdf 10 41 48.7 -0.5
AAK *e*PKPbc PKPbc 10 41 54.3 -0.8
AAK Ala-Archa 151.26 59 P PKPdf 10 41 49.9 +0.7
SNR=5.8
NVS Novosibirsk 151.31 31⇑ *i*PKIKP PKPbc 10 41 54.0 -0.9
NVS pmax pmax
comp=Z,93nm,1.6s
NVS pmax pmax
comp=E,14nm,1.2s
UCH Uchtor 151.34 60 *e*PKPdf PKPdf 10 41 50.3 +1.0
UCH *e*PKPbc PKPbc 10 41 55.8 +0.5
UCH Uchtor 151.34 60 P PKPdf 10 41 49.8 +0.5
SNR=7.6
KURK Kurchatov 151.35 41 *e*PKPbc PKPbc 10 41 54.4 -0.7
KURK *e*PKPab PKPab 10 42 01.4 -1.9
CHMS Chumysh 151.39 59 P PKPbc 10 41 55.4 0.0
SNR=9.4
KBK Karagaybulak 151.59 59 P PKPbc 10 41 56.4 +0.5
SNR=7.1
KZA Kyzart 151.91 60 P PKPbc 10 41 57.4 +0.7
SNR=12
KULM Kulim 152.01 163 *e*PKPbc PKPbc 10 41 56.4 -1.4
TKM2 Tokmak 2 152.01 58 *e*PKPdf PKPdf 10 41 50.2 -0.1
TKM2 *e*PKPbc PKPbc 10 41 56.7 -0.1
TKM2 Tokmak 2 152.01 58 P PKPbc 10 41 56.8 -0.1
SNR=11
ZAL Zalesovo 152.60 31 PKIKP PKPdf 10 41 50.0 -0.8
ZAL 10 41 56.8
ZAA0 Zalesovo Array 152.60 31 *e*PKPdf PKPdf 10 41 49.9 -0.9
ZAA0 *e*PKPbc PKPbc 10 41 55.9 -1.9
ZALV Zalesovo Beam 152.60 31 PKP PKPdf 10 41 50.0 -0.8
ZALV PKPbc PKPbc 10 41 56.8 -1.0
ZALV Zalesovo Beam 152.60 31 PKP PKPdf 10 41 50.0 -0.8
comp=E,3.2nm,0.8s,baz=304,slow=2.7,SNR=7.7
ZALV PKPbc PKPbc 10 41 56.8 -1.0
comp=E,30nm,0.7s,baz=306,slow=3.1,SNR=59
ULHL Ulahol 152.61 60 P PKPbc 10 41 58.7 +0.5
SNR=12
CLNS Chul'man 153.11 340 *e*PKIKP PKPbc 10 42 03.7 +4.9
CLNS pmax pmax
comp=Z,13nm,1.0s
CLNS pmax pmax
comp=N,12nm,0.8s
CLNS pmax pmax
comp=E,9.0nm,0.8s
BOD Bodaibo 154.33 353 *e*PKIKP PKPbc 10 42 04.2 +2.8
BOD pmax pmax
comp=Z,12nm,1.0s
MJAR Matsushiro Arr 155.29 288 PKPbc PKPdf 10 42 05.8 +11
comp=Z,1.5nm,0.6s,baz=88,slow=2.8,SNR=4.7
MJAR PKPab PKPab 10 42 20.3 -0.1
comp=Z,3.1nm,0.7s,baz=111,slow=2.7,SNR=7.6
MK31 Makanchi Array 155.31 47 *e*PKPdf PKPdf 10 41 54.0 -0.8
MK31 *e*PKPbc PKPdf 10 42 03.0 +8.2
MKAR Makanchi Array 155.31 47 PKIKP PKPdf 10 41 54.1 -0.8
MKAR 10 42 02.6
MKAR 10 45 56.8
MKAR Makanchi Array 155.31 47 PKP PKPdf 10 41 54.0 -0.8
comp=Z,2.9nm,0.9s,baz=338,slow=1.3,SNR=7.7
MKAR PKPbc PKPdf 10 42 02.6 +7.7
comp=Z,6.2nm,1.0s,baz=306,slow=2.9,SNR=12
MKAR PKPab PKPab 10 42 19.6 -0.6
comp=Z,7.1nm,0.7s,baz=293,slow=4.0,SNR=14
MKAR PP PP 10 45 56.8 +0.1
comp=Z,1.9nm,0.8s,baz=298,slow=5.2,SNR=4.7
WMQ Urumqi 160.06 49 *e*PKP PKPdf 10 42 01.5 +0.6
WMQ LR LR
comp=Z,132nm,23.4s
TLY Talaya 160.41 9 *e*PKIKP PKPdf 10 42 07.8 +6.8
TLY pmax pmax
comp=Z,6.0nm,0.9s
CN2 Changchun 162.57 316 *e*PKP PKPdf 10 42 04.3 +0.8
KSRS Korea Array 163.38 293 PKP PKPdf 10 42 03.5 -1.1
comp=Z,2.3nm,0.9s,baz=91,slow=1.2,SNR=6.6
KSRS PKPab PKPab 10 42 56.6 +1.1
comp=Z,4.8nm,1.0s,baz=90,slow=5.1,SNR=7.9
SONM Songino Array 164.51 6 PKP PKPdf 10 42 04.5 -0.7
comp=Z,0.7nm,0.8s,baz=252,slow=1.3,SNR=3.8
SONM PKPab PKPab 10 42 59.4 -0.6
comp=Z,3.2nm,1.1s,baz=340,slow=4.8,SNR=9.8
SONM PP PP 10 46 45.9 +0.4
comp=Z,0.8nm,0.5s,baz=104,slow=0.6,SNR=5.0
KMI Kunming 171.10 143 PKP PKPdf 10 42 09.4 -1.2
KMI LR LR
comp=Z,65nm,20.9s
HHC Hu-ho-hao-te 171.25 345 *e*PKP PKPdf 10 42 10.9 +0.8
HHC APKP 10 42 21.9
HHC PKS 10 45 43.8
HHC PP PP 10 47 22.8 +2.8
HHC SKS SKSdf 10 49 07.8 -5.0
HHC SKKS SKKSac 10 54 09.8 +3.2
HHC PP PP
comp=Z,872nm,10.1s
HHC LR LR
comp=N,176nm,12.2s
HHC LR LR
comp=E,214nm,25.5s
HHC LR LR
comp=Z,88nm,4.8s
NJ2 Nanjing 171.30 270 *e*PKP PKPdf 10 42 10.3 -0.1
GYA Guiyang 173.83 164 PKP PKPdf 10 42 10.3 -1.4
GYA PKP2 PKPab 10 43 43.3 +1.5
GYA PKS 10 45 41.8
GYA PP PP 10 47 35.9 +3.1
GYA SKS SKSdf 10 49 08.3 -6.0
GYA SKKS SKKSac 10 54 17.3 -2.3
GYA SS SS 11 08 47.4 -1.9
GYA PP PP

comp=Z,140nm,8.4s
GYA LR LR
comp=N,560nm,21.9s
GYA LR LR
comp=E,650nm,20.8s
GYA LR LR
comp=Z,580nm,22.1s
LZH Lanzhou 174.62 46 *e*PKP PKPdf 10 42 13.5 +1.8
LZH *e*PP PP 10 47 43.1 +5.6
LZH SKS SKSdf 10 49 10.4 -3.7
LZH *e*SS SS 11 08 56.3 -2.2
LZH PP PP
comp=Z,236nm,8.8s
LZH LR LR
comp=E,476nm,18.5s
LZH LR LR
comp=Z,615nm,20.2s
CD2 Chengdu 175.61 109 *e*PKP PKPdf 10 42 11.3 -0.8
CD2 APKP 10 42 21.3
CD2 XPKP 10 42 25.3
CD2 PKP2 PKPab 10 43 49.9 0.0
CD2 SKS SKSdf 10 49 08.8 -5.7
CD2 SKKS SKKSac 10 54 24.9 -3.6
CD2 SS SS 11 09 02.9 -6.4
CD2 PP PP
comp=Z,280nm,10.8s
CD2 LR LR
comp=N,250nm,26.2s
CD2 LR LR
comp=E,310nm,24.4s
CD2 LR LR
comp=Z,280nm,25.4s

NIED ***22*** *10:28:00,2570N×125.10E,h5km,Mw5.0 Best double couple: M0=4.00000×10^16 NP1:φs=31.00000°,δ65.00000°, λ-133.00000°. NP2:φs=277.00000°,δ49.00000°, λ-34.00000°.*
BJI ***22*** *10:28:48.4,2536N×12533E,h10km,mB5.2,mb4.9,ML5.2, Ms5.2,Msz4.9*
IDC ***22*** *10:28:50.0±0.4,2563N×12490E,h0km,mb4.7/25, mb1 4.7/29,mb1mx4.7/33,mbtmp4.6/29,ML3.5/4,MS4.5/25, Ms1 4.5/25,ms1mx4.3/36,Error ellipse: s-maj=17.2km s-min=10.3km az=76.0*
NEIC ***22*** *10:28:51.6±0.2,2564N×125.10E,h10km,mb5.0/73, MS5.1/6,MW5.0(NIED),Error ellipse: s-maj=5.3km s-min=4.5km az=133.0*
NEIC Recorded [2 JMA] on Miyako-jima and [1 JMA] on Tarama-shima.
GCMT ***22*** *10:28:51.7±0.2,2559N×125.16E,h12km,MW5.1/89, Moment Tensor Solution. s47,c70; s89,c165; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-2.00±.12; Mθθ3.40±.10; Mφφ-1.40±.10; Mrθ0.77±.24; Mθφ3.20±.08; Mφr-1.89±.32; Best double couple: M=4.80000×10^16 NP1:φs282.00000°,δ63.00000°,λ-28.00000°. NP2: φs25.00000°,δ65.00000°,λ-150.00000°. Principal axes: T 5.0040, Plg1.0000°, Azm153.0000°; N -0.4070, Plg52.0000°, Azm61.0000°; P -4.5970, Plg38.0000°, Azm244.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISCJB ***22*** *10:28:51.6±0.1,2564N±002×125.16E±002,h19km, mb5.0/127,MS4.8/53 Error ellipse: s-maj=2.9km s-min=2.2km az=34.4*
JMA ***22*** *10:28:51.2±0.2,2570N×125.13E,h22km±3km,M5.5 JMA Felt II J1.*
MOS ***22*** *10:28:53.4±1.2,2558N×12498E,h33km,mb5.2/66, MS4.8/31,Error ellipse: s-maj=8.3km s-min=4.4km az=108.8*
SZGRF ***22*** *10:28:54.4,2538N×12521E,h33km,mb5.0,MS4.9, Southwestern Ryukyu Islands, Japan*
ISC 22 10:28:53.3±0.1,2561N±002×12517E±002,h20km, h20km±2.1km:pP-P,n401,σ1§12/404,mb5.0/127,MS4.8/53, 17C-19D,Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMJ	**Miyako jima 2**	**0.80**	**172**	P	**Pb**	**10 29 07.6**	**-0.9**
JMJ				*e*S	**Sb**	**10 29 19.0**	**+0.1**
JOGS	**Gusukube**	**0.87**	**166**	P	**Pb**	**10 29 08.9**	**-0.8**
JOGS				*e*S	**Sb**	**10 29 21.4**	**+0.4**
JTJ	**Tarama**	**1.06**	**204**	P	**Pb**	**10 29 11.4**	**-1.5**
JTJ				S	**Sb**	**10 29 25.4**	**-0.8**
JIJ	**Ishigaki jima**	**1.56**	**217**	P	**Pn**	**10 29 18.3**	**-1.4**
JIJ				S	**Sn**	**10 29 37.8**	**-1.5**
JKE	**Kume jima 2**	**1.62**	**64**	P	**Pn**	**10 29 18.8**	**-1.8**
JKRS	**Kuro-shima**	**1.73**	**218**	P	**Pn**	**10 29 21.9**	**-0.2**
JKRS				*e*S	**Sn**	**10 29 44.5**	**+0.9**
IRIF	**Iriomote-Funau**	**1.82**	**226**	P	**Pn**	**10 29 22.2**	**-1.3**
HATJ	**Hateruma jima**	**1.98**	**219**	*e*S	**Sn**	**10 29 50.3**	**+0.4**
JAGN	**Aguni-jima**	**2.10**	**62**	P	**Pn**	**10 29 26.1**	**-1.2**
YOJ	**Yonaguni jima**	**2.27**	**240**	P	**Pn**	**10 29 29.6**	**0.0**
YOJ				S	**Sn**	**10 29 55.9**	**-1.1**
NAH1	**Naha**	**2.34**	**75**	P	**Pn**	**10 29 28.8**	**-1.8**
JJT2	**Tamagusuku 2**	**2.38**	**77**	P	**Pn**	**10 29 31.2**	**+0.1**
JIH	**Iheya**	**2.88**	**60**	P	**Pn**	**10 29 38.1**	**+0.1**
JOW	**Kunigami**	**3.04**	**66**	P	**Pn**	**10 29 40.2**	**0.0**
JOW	**Kunigami**	**3.04**	**66**	Pn	**Pn**	**10 29 40.4**	**+0.2**
	25nm,0.3s,baz=255,slow=11,SNR=43						
JOW				Sn	**Sn**	**10 30 15.7**	**-0.3**
	71nm,0.3s,baz=340,slow=11,SNR=4.1						
TATO	**Taipei**	**3.40**	**260**	*e*Pn	**Pn**	**10 29 46.2**	**+1.1**
NACB	**Ninganchiao**	**3.55**	**247**	*e*Pn	**Pn**	**10 29 48.2**	**+1.0**
YHNB	**Yeheng**	**3.57**	**256**	*e*Pn	**Pn**	**10 29 48.2**	**+0.8**
JTK	**Tokunoshima**	**4.01**	**57**	P	**Pn**	**10 29 54.0**	**+0.4**
JAM	**Amami Oshima**	**4.84**	**54**	P	**Pn**	**10 30 05.9**	**+1.0**
JMZ	**Minamidaito 2**	**5.46**	**87**	P	**Pn**	**10 30 10.7**	**-2.8**
QZH	**Quanzhou**	**5.99**	**265**	*i* PNR	**Pn**	**10 30 21.0**	**+0.2**
QZH				S	**Sn**	**10 31 29.6**	**+0.7**
QZH				Smax			
	comp=N,1μm,1.1s						
QZH				Smax			
	comp=E,1μm,1.3s						
QZH				LR	LR		
	comp=N,6μm,8.7s						
QZH				LR	LR		
	comp=E,5μm,7.2s						
QZH				LR	LR		
	comp=Z,7μm,10.9s						
SSE	**Sheshan**	**6.49**	**328**	P	**Pn**	**10 30 27.1**	**-0.6**
SSE				Smax			
	comp=N,514nm,1.2s						
SSE				Smax			
	comp=E,705nm,1.2s						
SSE				LR	LR		
	comp=N,5μm,8.2s						
SSE				LR	LR		
	comp=E,2μm,8.3s						
SSE				LR	LR		
	comp=Z,6μm,8.2s						
NJ2	**Nanjing**	**8.48**	**321**	*e*P	**Pn**	**10 30 59.1**	**+4.2**
NJ2				S	**Sn**	**10 32 33.3**	**+3.4**
NJ2				AMB	AMB		
	comp=Z,20nm,0.5s						
NJ2				Smax			
	comp=N,1μm,0.8s						
NJ2				Smax			
	comp=E,910nm,1.0s						
NJ2				LR	LR		
	comp=N,12μm,10.6s						
NJ2				LR	LR		
	comp=E,9μm,11.7s						
NJ2				LR	LR		
	comp=Z,71μm,12.0s						
JNU	**Nakatsue**	**8.99**	**32**	Pn	**Pn**	**10 31 03.7**	**+1.9**
	comp=Z,0.3nm,0.3s,baz=223,slow=11,SNR=3.4						
GZH	**Guangzhou**	**11.07**	**259**	P	**Pn**	**10 31 26.8**	**-3.7**
GZH				S	**Sn**	**10 33 29.1**	**-4.7**
GZH				LR	LR		
	comp=N,2μm,14.8s						
GZH				LR	LR		
	comp=E,2μm,8.7s						
GZH				LR	LR		
	comp=Z,3μm,12.3s						
KS15	**Wonju Array Si**	**12.02**	**10**	*e*Pn	**Pn**	**10 31 47.2**	**+3.9**
KSRS	**Korea Array**	**12.04**	**11**	Pn	**Pn**	**10 31 43.5**	**0.0**
	comp=Z,0.1nm,0.3s,baz=191,slow=13,SNR=24						
KSRS				LR	LR	10 36 32.0	
	comp=Z,3μm,18.9s,baz=194,slow=38						
DL2	**Dalian**	**13.59**	**348**	P	**Pn**	**10 32 07.9**	**+3.1**
DL2				S	**Sn**	**10 34 42.8**	**+7.6**
DL2				SS		10 34 57.1	
DL2				AMB	AMB		
	comp=Z,30nm,1.0s						
DL2				AMB	AMB		
	comp=Z,140nm,7.2s						
DL2				LR	LR		
	comp=N,1μm,11.2s						
DL2				LR	LR		
	comp=E,2μm,12.2s						
DL2				LR	LR		
	comp=Z,1μm,12.6s						
JHJ	**Hachijo jima 2**	**14.76**	**56**	LR	LR	10 37 49.4	
	comp=Z,929nm,19.0s,baz=75,slow=36						
CBIJ	**Chichi jima**	**15.32**	**81**	LR	LR	10 37 43.9	
	comp=Z,677nm,18.2s,baz=205,slow=34						
MAJO	**Matsushiro**	**15.59**	**43**	*e*P	**Pn**	**10 32 32.4**	**+0.7**
	comp=Z,4.9nm,0.7s						
MAJO	**Matsushiro**	**15.59**	**43**	*e*P	**Pn**	**10 32 32.4**	**+0.7**
MAJO				pmax	pmax		
	comp=Z,5.0nm,0.7s						
MAT	**Matsushiro**	**15.59**	**43**	P	**Pn**	**10 32 31.3**	**-0.4**
MAT				S	**Sn**	**10 35 27.0**	**+3.2**
MJAR	**Matsushiro Arr**	**15.59**	**43**	Pn	**Pn**	**10 32 34.6**	**+2.9**
	comp=Z,0.1nm,0.3s,baz=230,slow=11,SNR=10						
MJAR				LR	LR	10 39 01.3	
	comp=Z,2μm,19.1s,baz=230,slow=39						
QIZ	**Qiongzhong**	**15.62**	**248**	P	**Pn**	**10 32 34.0**	**+1.8**
QIZ				AP	pP	10 32 39.4	-2.6
QIZ				S	**Sn**	**10 35 27.9**	**+3.1**
QIZ				LR	LR		
	comp=N,1μm,10.5s						
QIZ				LR	LR		
	comp=E,1μm,10.1s						
QIZ				LR	LR		
	comp=Z,1μm,16.8s						
QIZ	**Qiongzhong**	**15.62**	**248**	*e*P	**Pn**	**10 32 33.8**	**+1.6**
	comp=Z,143nm,1.1s						
TIY	**Taiyuan**	**16.20**	**321**	*i* P	**Pn**	**10 32 46.8**	**+7.1**
TIY				S	**Sn**	**10 35 51.5**	**+13**
TIY				AMB	AMB		
	comp=Z,2μm,5.8s						
TIY				LR	LR		
	comp=N,7μm,8.6s						
TIY				LR	LR		
	comp=E,5μm,8.1s						
TIY				LR	LR		
	comp=Z,6μm,8.1s						
BJT	**Baijiatuau**	**16.22**	**335**	*e*P	**Pn**	**10 32 42.0**	**+2.0**
	comp=Z,75nm,1.3s						
BJT	**Baijiatuau**	**16.22**	**335**	*e*P	**Pn**	**10 32 42.0**	**+2.1**
BJT				pmax	pmax		
	comp=Z,75nm,1.3s						
SNY	**Shenyang**	**16.23**	**356**	⇑P	**Pn**	**10 32 40.9**	**+0.9**
SNY				S	**Sn**	**10 35 45.5**	**+6.1**
SNY				AMB	AMB		
	comp=Z,16nm,1.6s						
SNY				LR	LR		
	comp=N,3μm,16.8s						
SNY				LR	LR		
	comp=E,8μm,15.6s						
SNY				LR	LR		
	comp=Z,2μm,19.2s						
BJI	**Beijing**	**16.24**	**335**	P	**Pn**	**10 32 43.0**	**+2.9**
BJI				AMB	AMB		
	comp=Z,10.0nm,1.6s						
BJI				AMB	AMB		
	comp=Z,699nm,6.1s						
BJI				LR	LR		
	comp=N,3μm,12.1s						
BJI				LR	LR		
	comp=E,3μm,13.0s						
BJI				LR	LR		
	comp=Z,2μm,21.1s						
XAN	**Xi'an**	**16.40**	**305**	P	**Pn**	**10 32 45.8**	**+3.6**
XAN				S	**Sn**	**10 35 55.0**	**+11**
XAN				AMB	AMB		
	comp=Z,17nm,2.1s						
XAN				AMB	AMB		
	comp=Z,200nm,6.7s						
XAN				LR	LR		
	comp=N,5μm,10.0s						
XAN				LR	LR		
	comp=E,5μm,13.3s						
XAN				LR	LR		
	comp=Z,6μm,12.5s						
GYA	**Guiyang**	**16.66**	**277**	P	**Pn**	**10 32 47.0**	**+1.4**
GYA				PP		10 33 01.3	
GYA				S	**Sn**	**10 35 51.4**	**+1.3**
GYA				SS		10 36 11.3	
GYA				PCP	PcP	10 37 37.8	+2.9
GYA				AMB	AMB		
	comp=Z,140nm,1.0s						
GYA				AMB	AMB		
	comp=Z,320nm,4.9s						
GYA				LR	LR		
	comp=N,2μm,8.8s						
GYA				LR	LR		
	comp=E,980nm,8.2s						
GYA				LR	LR		
	comp=Z,3μm,9.6s						
CN2	**Changchun**	**18.15**	**1**	*e*P	**Pn**	**10 33 05.9**	**+1.9**
CN2				*e*S	**Sn**	**10 36 34.9**	**+9.0**
CN2				AMB	AMB		
	comp=Z,20nm,1.1s						
CN2				AMB	AMB		
	comp=Z,200nm,6.0s						
CN2				LR	LR		
	comp=N,3μm,14.0s						
CN2				LR	LR		
	comp=E,5μm,14.0s						
CN2				LR	LR		
	comp=Z,2μm,14.0s						
VLA	**Vladivostok**	**18.31**	**16**	*e*P	**Pn**	**10 33 09.9**	**+3.9**
VLA				pmax	pmax		
	comp=Z,93nm,2.1s						
HHC	**Hu-ho-hao-te**	**18.95**	**327**	*e*P	**Pn**	**10 33 17.3**	**+3.6**
HHC				AP	pP	10 33 20.8	+2.1
HHC				XP	sP	10 33 24.5	+3.1
HHC				PP		10 33 33.8	
HHC				S	**Sn**	**10 36 55.5**	**+10**
HHC				XS	sS	10 36 57.8	+1.3
HHC				AMB	AMB		
	comp=Z,72nm,1.5s						
HHC				AMB	AMB		
	comp=Z,1μm,5.3s						
HHC				LR	LR		
	comp=N,3μm,8.8s						
HHC				LR	LR		
	comp=E,2μm,10.2s						
HHC				LR	LR		
	comp=Z,3μm,13.2s						
MDJ	**Mudanjiang**	**19.30**	**10**	P	**Pn**	**10 33 18.1**	**+0.2**
MDJ				AP	pP	10 33 20.0	-2.5
MDJ				S	**Sn**	**10 36 58.0**	**+4.4**
MDJ				XS	sS	10 37 01.3	-2.1
MDJ				PCP	PcP	10 37 39.1	+0.2
MDJ				AMB	AMB		
	comp=Z,7.0nm,0.9s						
MDJ				AMB	AMB		
	comp=Z,287nm,5.1s						
MDJ				LR	LR		
	comp=N,535nm,14.9s						
MDJ				LR	LR		
	comp=E,3μm,14.9s						
MDJ				LR	LR		
	comp=Z,3μm,11.6s						
MDJ	**Mudanjiang**	**19.30**	**10**	*e*P	**Pn**	**10 33 18.5**	**+0.7**
	comp=Z,42nm,1.3s						
BTO	**Baotou**	**19.57**	**324**	*e*P	**Pn**	**10 33 22.3**	**+1.1**
CD2	**Chengdu**	**19.58**	**291**	⇓*i*P	**Pn**	**10 33 21.3**	**-0.1**
CD2				AP	pP	10 33 25.1	-0.6
CD2				XP	sP	10 33 28.9	+0.5
CD2				PP		10 33 39.3	
CD2				S	**Sn**	**10 36 57.8**	**-2.9**
CD2				SS		10 37 25.3	
CD2				AMB	AMB		
	comp=Z,440nm,0.9s						
CD2				AMB	AMB		
	comp=Z,370nm,4.0s						
CD2				LR	LR		
	comp=N,9μm,14.3s						
CD2				LR	LR		
	comp=E,6μm,13.2s						
CD2				LR	LR		
	comp=Z,8μm,12.0s						
KDM	**Kudat**	**20.23**	**205**	⇑P	**P**	**10 33 30.3**	**+3.2**
KMI	**Kunming**	**20.28**	**273**	P	**P**	**10 33 30.1**	**+2.5**
KMI				AP		10 33 37.8	
KMI				XP	sP	10 33 40.3	+4.3
KMI				PP		10 33 53.0	
KMI				S	**S**	**10 37 15.8**	**+1.6**
KMI				AMB	AMB		
	comp=Z,99nm,1.1s						
KMI				LR	LR		
	comp=N,1μm,10.0s,MS4.9						
KMI				LR	LR		
	comp=E,2μm,11.4s,MS4.9						
KMI				LR	LR		
	comp=Z,2μm,10.9s,MS4.8						
LZH	**Lanzhou**	**21.04**	**305**	⇓P	**P**	**10 33 37.8**	**+2.0**
LZH				AP		10 33 41.8	
LZH				XP	sP	10 33 44.9	+0.7
LZH				PP		10 34 00.3	
LZH				S	**S**	**10 37 26.8**	**-2.4**
LZH				AMB	AMB		
	comp=Z,159nm,1.2s,mb5.2						
LZH				AMB	AMB		
	comp=Z,734nm,5.9s						
LZH				LR	LR		
	comp=N,4μm,11.9s						
LZH				LR	LR		
	comp=Z,4μm,14.2s,MS5.0						
KKM	**Kota Kinabalu**	**21.26**	**205**	*e*P	**P**	**10 33 39.3**	**+1.0**
KKM	**Kota Kinabalu**	**21.26**	**205**	⇓P	**P**	**10 33 39.9**	**+1.5**
SDKM	**Sandakan**	**21.28**	**202**	⇑P	**P**	**10 33 39.4**	**+0.9**
MYLDM	**Lahad Datu**	**21.30**	**199**	⇓P	**P**	**10 33 41.7**	**+3.0**
GUMO	**Guam**	**22.04**	**119**	LR	LR	10 40 23.7	
	comp=Z,838nm,21.5s,MS4.1,baz=309,slow=31						
TSM	**Tawau**	**22.32**	**199**	⇑P	**P**	**10 33 51.3**	**+1.6**
ASAJ	**Asahikawa**	**23.26**	**33**	P	**P**	**10 34 01.7**	**+2.2**
ASAJ				pmax	pmax		
	comp=Z,5.0nm,0.8s						
ASAJ	**Asahikawa**	**23.26**	**33**	P	**P**	**10 34 01.7**	**+2.2**
	comp=Z,5.1nm,0.8s,mb4.0,baz=245,slow=14,SNR=3.0						
HIA	**Hailar**	**23.99**	**351**	*e*P	**P**	**10 34 06.1**	**-0.2**
	comp=Z,112nm,1.6s,mb5.0						
HIA	**Hailar**	**23.99**	**351**	*e*P	**P**	**10 34 06.1**	**-0.2**
HIA				pmax	pmax		
	comp=Z,112nm,1.6s						
CHRT	**Chiangrai**	**24.08**	**261**	⇑P	**P**	**10 34 08.0**	**+0.5**
HABR	**Khabarovsk**	**24.10**	**16**	*e*P	**P**	**10 34 08.7**	**+1.3**
HABR				*e**PP		10 34 18.2	
HABR				*e**SS	sP	10 34 22.7	+6.7
HABR				*e*		10 34 39.9	
HABR				*e*PPP		10 34 49.7	
HABR				*e*		10 37 47.0	
HABR				*e*S	**S**	**10 38 27.0**	**+3.1**
HABR				*e**SS	sS	10 38 43.2	+9.2
HABR				*e*SS		10 39 12.7	
HABR				*e*		10 45 10.1	
KLR	**Kul'dur**	**24.13**	**11**	*e*P	**P**	**10 34 06.0**	**-1.6**
KLR				*e*S	**S**	**10 38 19.0**	**-5.3**
KLR				MLR	MLR		
	comp=N,1μm,12.0s						
KLR				MLR	MLR		
	comp=Z,5μm,12.0s,MS5.2						
BTM	**Bintulu**	**25.13**	**209**	⇓P	**P**	**10 34 17.3**	**+0.3**
CHG	**Chiang Mai**	**25.18**	**260**	⇓P	**P**	**10 34 17.6**	**+0.1**
CHTO	**Chiang Mai**	**25.18**	**260**	*e*P	**P**	**10 34 17.5**	**+0.1**
	comp=Z,34nm,0.9s,mb4.9						
CHTO	**Chiang Mai**	**25.18**	**260**	*e*P	**P**	**10 34 17.5**	**0.0**
CHTO				pmax	pmax		
	comp=Z,34nm,0.9s,mb4.9						
CM31	**Chiang Mai Arr**	**25.30**	**259**	*e*P	**P**	**10 34 18.7**	**+0.1**
	comp=Z,10.0nm,0.7s,mb4.5						
GTA	**Gaotai**	**25.32**	**309**	*e*P	**P**	**10 34 18.5**	**-0.1**
GTA				AP	pP	10 34 23.3	-1.4
GTA				XP	sP	10 34 25.4	-1.9
GTA				PP		10 34 58.8	
GTA				PCP	PcP	10 37 50.4	-0.8
GTA				S	**S**	**10 38 43.3**	**-0.4**
GTA				XS	sS	10 38 57.6	+3.7
GTA				AMB	AMB		
	comp=Z,97nm,1.0s,mb5.3						
GTA				AMB	AMB		
	comp=Z,455nm,7.2s						
GTA				LR	LR		
	comp=N,5μm,15.6s,MS5.2						
GTA				LR	LR		
	comp=E,3μm,16.0s,MS5.2						
GTA				LR	LR		
	comp=Z,3μm,11.8s,MS5.0						
NST	**Nakhon Sawan**	**25.39**	**252**	P	**P**	**10 34 20.0**	**+0.6**
YSS	**Yuzh-Sakhalins**	**25.47**	**29**	*e*P	**P**	**10 34 24.7**	**+4.9**
YSS				pmax	pmax		
	comp=Z,16nm,1.3s,mb4.4						
BDT	**Bhumibol Dam**	**25.71**	**256**	P	**P**	**10 34 22.0**	**-0.3**
SBUM	**Sibu**	**26.19**	**210**	⇓P	**P**	**10 34 27.5**	**+0.9**
ULN	**Ulaanbaatar**	**26.41**	**332**	*e*P	**P**	**10 34 28.6**	**+0.3**
	comp=Z,96nm,1.4s,mb5.1						
ULN	**Ulaanbaatar**	**26.41**	**332**	*e*P	**P**	**10 34 28.6**	**+0.3**
ULN				pmax	pmax		
	comp=Z,96nm,1.4s,mb5.1						
SONM	**Songino Array**	**26.67**	**331**	P	**P**	**10 34 31.1**	**+0.4**
SONM				pmax	pmax		
	comp=Z,13nm,0.9s						
SONM				MLR	MLR		
	comp=Z,2μm,19.5s						
SONM	**Songino Array**	**26.67**	**331**	P	**P**	**10 34 31.1**	**+0.5**
	comp=Z,13nm,0.9s,mb4.5,baz=148,slow=7.6,SNR=37						
SONM				LR	LR	10 46 30.9	
	comp=Z,2μm,19.5s,MS4.7,baz=160,slow=40						
KSM	**Kuching**	**27.95**	**213**	*e*P	**P**	**10 34 42.6**	**+0.2**
KSM	**Kuching**	**27.95**	**213**	⇓P	**P**	**10 34 43.4**	**+0.9**
KTGM	**Kuala Trenggan**	**29.19**	**230**	⇑P	**P**	**10 34 54.6**	**+1.0**
ZAK	**Zakamensk**	**29.93**	**331**	*e*P	**P**	**10 34 58.7**	**-1.1**
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.4s,mb4.0						
LSA	**Lhasa**	**30.34**	**286**	P	**P**	**10 35 05.0**	**+1.3**
LSA				AP	pP	10 35 12.0	+2.1
LSA				XP	sP	10 35 15.0	+2.6
LSA				S	**S**	**10 40 05.5**	**+2.5**
LSA				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.5						
LSA				AMB	AMB		
	comp=Z,120nm,8.0s						
LSA				LR	LR		
	comp=N,1μm,15.0s,MS4.9						
LSA				LR	LR		
	comp=E,2μm,14.0s,MS4.9						
LSA				LR	LR		
	comp=Z,2μm,14.0s,MS5.0						
LSA	**Lhasa**	**30.34**	**286**	*e*P	**P**	**10 35 04.3**	**+0.6**
	comp=Z,15nm,1.0s,mb4.7						
LSA	**Lhasa**	**30.34**	**286**	*e*P	**P**	**10 35 04.3**	**+0.6**
LSA				pmax	pmax		
	comp=Z,15nm,1.0s,mb4.7						
TLY	**Talaya**	**30.76**	**333**	*e*P	**P**	**10 35 07.0**	**-0.1**
	comp=Z,17nm,1.2s,mb4.8						
TLY	**Talaya**	**30.76**	**333**	*e*P	**P**	**10 35 07.5**	**+0.5**
TLY				pmax	pmax		
	comp=Z,12nm,1.0s,mb4.7						
TLY				MLR	MLR		
	comp=Z,2μm,14.0s,MS4.9						
IRK	**Irkutsk**	**30.94**	**335**	*e*P	**P**	**10 35 08.4**	**-0.3**
IRK				*e*		10 36 25.5	
IRK				pmax	pmax		
	comp=Z,28nm,1.1s,mb5.0						
KULM	**Kulim**	**30.98**	**233**	*e*P	**P**	**10 35 09.7**	**+0.3**
KULM	**Kulim**	**30.98**	**233**	⇓P	**P**	**10 35 10.3**	**+0.9**
NRGR	**Nerungri**	**31.02**	**360**	*e*P	**P**	**10 35 15.0**	**+5.7**
IPM	**Ipoh**	**31.27**	**232**	⇓P	**P**	**10 35 12.4**	**+0.5**
MYKOM	**Kota Tinggi**	**31.35**	**224**	⇑P	**P**	**10 35 13.2**	**+0.6**
KGM	**Kluang**	**31.52**	**225**	⇑P	**P**	**10 35 14.9**	**+0.8**
FRIM	**Kepong**	**31.73**	**229**	⇑P	**P**	**10 35 16.4**	**+0.4**
MOY	**Mondy**	**31.86**	**331**	*e*P	**P**	**10 35 16.7**	**0.0**
MOY				pmax	pmax		
	comp=Z,71nm,2.1s,mb5.1						
BOD	**Bodaibo**	**33.15**	**349**	*e*P	**P**	**10 35 26.0**	**-2.0**
GUN	**Gumba**	**35.06**	**283**	*e*P	**P**	**10 35 45.4**	**+0.5**
	comp=Z,32nm,0.8s,mb5.3						
WMQ	**Urumqi**	**35.39**	**310**	⇑*i*P	**P**	**10 35 48.0**	**+0.5**
WMQ				AP	pP	10 35 52.5	-1.3
WMQ				XP	sP	10 35 55.0	-1.3
WMQ				PP	PP	10 37 10.0	+2.1
WMQ				*e*S	**S**	**10 41 21.0**	**-0.1**
WMQ				AMB	AMB		
	comp=Z,31nm,1.9s,mb4.9						
WMQ				AMB	AMB		

comp=Z,163nm,3.5s
WMQ LR LR
comp=N,4µm,15.6s,MS5.3
WMQ LR LR
comp=E,2µm,17.8s,MS5.3
WMQ LR LR
comp=Z,3µm,18.4s,MS5.0
PKI Pulchoki 35.51 282 *e*P **P 10 35 48.8 0.0**
comp=Z,26nm,0.7s,mb5.3
KKN Kakani 35.60 283 *e*P **P 10 35 49.6 0.0**
comp=Z,35nm,0.7s,mb5.4
BATI Kupang 35.63 183 P **P 10 35 50.8 +0.9**
comp=Z,17nm,0.6s,mb5.1,baz=91,slow=3.8,SNR=4.7
BOK Bokaro 35.65 276 *e*P **P 10 35 51.6 +1.5**
BOK AMb AMB 10 35 52.4
comp=Z,50nm,1.1s,mb5.3
DMN Daman 35.77 282 *e*P **P 10 35 51.1 0.0**
comp=Z,32nm,0.8s,mb5.3
GKN Gorkha 36.14 283 *e*P **P 10 35 54.1 -0.1**
comp=Z,38nm,0.8s,mb5.4
YAK Yakutsk 36.54 4 *e*P **P 10 36 00.4 +3.3**
YAK pmax pmax
comp=Z,18nm,1.2s,mb4.8
KOLN Koldanda 37.08 283 *e*P **P 10 36 02.4 +0.2**
comp=Z,23nm,0.8s,mb5.0
PET Petropavlovsk 37.11 34 *e*P **P 10 36 06.6 +4.5**
PET pmax pmax
comp=Z,96nm,1.8s,mb5.3
MA2 Magadan 38.33 21 *e*P **P 10 36 15.0 +2.7**
MA2 pmax pmax
comp=Z,10.0nm,1.3s,mb4.4
KAKA Kakadu 38.74 169 *e*P **P 10 36 15.3 -1.0**
comp=Z,34nm,1.0s,mb5.0
BLSP Bilaspur 39.39 274 *e*P **P 10 36 21.0 -0.7**
BLSP AMb AMB 10 36 24.7
comp=Z,54nm,1.4s,mb5.1
PTH Pithoragarh 39.85 286 *e*P **P 10 36 26.4 +0.8**
MK31 Makanchi Array 39.92 313 *e*P **P 10 36 25.5 -0.3**
MK31 Makanchi Array 39.92 313 *i*P **P 10 36 25.4 -0.5**
MK31 pmax pmax
comp=Z,47nm,1.1s,mb5.1
MKAR Makanchi Array 39.92 313 P **P 10 36 25.4 -0.5**
MKAR pmax pmax
comp=Z,16nm,1.0s
MKAR MLR MLR
comp=Z,724nm,22.0s
MKAR Makanchi Array 39.92 313 P **P 10 36 25.4 -0.5**
comp=Z,16nm,1.0s,mb4.7,baz=99,slow=7.5,SNR=63
MKAR LR LR 10 54 17.4
comp=Z,724nm,22.0s,MS4.5,baz=108,slow=38
ZAA0 Zalesovo Array 41.11 324 *e*P **P 10 36 34.4 -1.2**
ZALV Zalesovo Beam 41.11 324 P **P 10 36 33.9 -1.6**
ZALV LR LR 10 54 20.0
ZALV Zalesovo Beam 41.11 324 P **P 10 36 33.9 -1.6**
comp=Z,17nm,0.8s,mb4.8,baz=112,slow=8.3,SNR=77
ZALV LR LR 10 54 20.0
comp=Z,603nm,20.3s,MS4.5,baz=313,slow=37
ZAL Zalesovo 41.11 324 P **P 10 36 33.9 -1.7**
SEY Seymchan 41.44 18 *e*P **P 10 36 40.9 +2.7**
NVS Novosibirsk 42.34 325⇑*i*P **P 10 36 43.3 -2.3**
NVS *e* 10 38 26.3
NVS pmax pmax
comp=N,30nm,1.8s
NVS pmax pmax
comp=Z,49nm,1.8s,mb4.8
NVS pmax pmax
comp=E,39nm,1.6s
SMLA Simla 42.34 289 *e*P **P 10 36 46.1 +0.1**
NGP Nagpur 42.41 274 *e*P **P 10 36 46.0 -0.7**
NGP AMb AMB 10 36 47.9
comp=Z,75nm,1.7s,mb5.0
SDNR Sundarnagar 42.48 289 *e*x x 10 36 57.4
SDNR *e*S **S 10 43 08.0 -0.2**
NDI New Delhi 42.56 285 *e*P **P 10 36 46.9 -0.9**
KSH Kashi 43.21 301 *e*P **P 10 36 54.9 +1.9**
KSH *e*AP pP 10 36 59.5 +0.2
KSH *e*XP sP 10 37 02.3 +0.5
KSH *e*PP PP 10 38 38.3 +4.9
KSH *e*PCP PcP 10 38 44.4 +2.3
KSH *e*SCP ScP 10 42 34.1 +1.8
KSH PCS PcS 10 42 35.6 +1.1
KSH S **S 10 43 22.8 +4.0**
KSH XS sS 10 43 30.8 +1.6
KSH SS SS 10 46 29.4 -2.6
KSH SCS ScS 10 46 52.8 +0.5
KSH LR LR
comp=N,7µm,13.2s,MS5.9
KSH LR LR
comp=E,6µm,12.1s,MS5.9
KSH LR LR
comp=Z,4µm,11.9s,MS5.5
ULHL Ulahol 43.25 305 P **P 10 36 53.9 +0.7**
SNR=20
BHPL Bhopal 43.36 277 *e*P **P 10 36 53.7 -0.7**
BHPL AMb AMB 10 36 55.1
comp=Z,32nm,1.0s,mb5.0
KURK Kurchatov 43.40 318 *e*P **P 10 36 54.2 0.0**
comp=Z,85nm,1.4s,mb5.3
KURK Kurchatov 43.40 318 *e*P **P 10 36 54.3 0.0**
KURK pmax pmax
comp=Z,85nm,1.4s,mb5.3
FITZ Fitzroy Crossi 43.45 179 *e*P **P 10 36 54.4 -0.6**
comp=Z,26nm,1.0s,mb4.9
FITZ Fitzroy Crossi 43.45 179 P **P 10 36 54.3 -0.7**
comp=Z,9.1nm,0.8s,mb4.5,baz=5.7,slow=8.1,SNR=15
FITZ LR LR 10 53 45.8
comp=Z,111nm,21.0s,MS3.7,baz=245,slow=34
THN Thein Dam 43.47 291 *e*P **P 10 36 53.8 -1.3**
TKM2 Tokmak 2 43.80 306 *e*P **P 10 36 58.0 +0.4**
comp=Z,71nm,1.3s,mb5.2
TKM2 Tokmak 2 43.80 306 *e*P **P 10 36 58.0 +0.4**
TKM2 pmax pmax
comp=Z,71nm,1.3s,mb5.2
TKM2 Tokmak 2 43.80 306 P **P 10 36 58.2 +0.6**
SNR=26
HYB Hyderabad 43.95 269 *e*P **P 10 36 59.5 +0.3**
comp=Z,400nm,1.4s,mb6.0
HYB Hyderabad 43.95 269 *e*P **P 10 36 59.5 +0.3**
HYB pmax pmax
comp=Z,400nm,1.4s,mb6.0
HYB Hyderabad 43.95 269 *i*P **P 10 36 59.5 +0.3**
comp=Z,400nm,1.4s,mb6.0
KZA Kyzart 43.96 305 P **P 10 37 01.0 +2.0**
SNR=9.6
AKL Akola 44.36 274 *e*P **P 10 37 03.3 +0.9**
CHMS Chumysh 44.42 306 P **P 10 37 03.3 +0.7**
SNR=6.8
FRU Bishkek 44.51 306 *e*P **P 10 37 04.0 +0.7**
FRU *e* 10 37 15.0
FRU pmax pmax
comp=Z,60nm,1.6s,mb5.2
FRU MLR MLR
comp=Z,2µm,14.0s,MS5.1
UCH Uchtor 44.52 305 *e*P **P 10 37 04.7 +1.2**
comp=Z,55nm,1.2s,mb5.3
UCH Uchtor 44.52 305 P **P 10 37 04.4 +1.0**
SNR=14
AAK Ala-Archa 44.58 306 *e*P **P 10 37 03.0 -0.9**
comp=Z,9.9nm,1.0s,mb4.6
AAK Ala-Archa 44.58 306 *e*P **P 10 37 03.0 -0.9**
AAK pmax pmax
comp=Z,10.0nm,1.0s,mb4.6
USP Ospenovka 44.64 306 P **P 10 37 04.6 +0.3**
SNR=8.7
AML Almayashu 45.12 305 *e*P **P 10 37 09.2 +1.0**
comp=Z,8.7nm,0.9s,mb4.6
LATR Latur 45.43 271 *e*P **P 10 37 11.7 +0.7**
PALK Pallekele 46.11 255 *e*P **P 10 37 17.6 +1.2**
comp=Z,25nm,1.1s,mb5.1
TIXI Tiksi 46.12 2 *e*P **P 10 37 16.1 +0.4**
comp=Z,13nm,1.4s,mb4.7
TIXI Tiksi 46.12 2 *e*P **P 10 37 18.8 +3.1**
TIXI pmax pmax
comp=Z,12nm,1.6s,mb4.6
WRAB Tennant Creek 46.14 168 *e*P **P 10 37 16.1 -0.3**
comp=Z,26nm,0.9s,mb5.2
WRAB Tennant Creek 46.14 168 *e*P **P 10 37 16.1 -0.3**
WRAB pmax pmax
comp=Z,26nm,0.9s,mb5.2
WRA Warramunga Arr 46.15 168 P **P 10 37 16.5 0.0**
WRA pmax pmax
comp=Z,11nm,0.7s
WRA MLR MLR
comp=Z,348nm,19.3s
WRA Warramunga Arr 46.15 168 P **P 10 37 16.5 0.0**
comp=Z,11nm,0.7s,mb4.9,baz=350,slow=8.8,SNR=102
WRA LR LR 10 56 04.1
comp=Z,348nm,19.3s,MS4.3,baz=10.0,slow=35
WB2 Warramunga Arr 46.15 168 *e*P **P 10 37 16.6 +0.1**
KK31 Karatay Array 47.53 306 *i*P **P 10 37 26.4 -0.7**
KK31 pmax pmax
comp=Z,12nm,0.9s,mb4.9
KOD Kodaikanal 47.63 260 *e*P **P 10 37 29.6 +1.4**
POO Poona 47.84 272 *e*P **P 10 37 30.1 +0.2**
KAD Karad 47.93 271 *e*P **P 10 37 30.7 +0.2**
KAD AMb AMB 10 37 31.8
comp=Z,42nm,1.6s,mb5.2
KBL Kabul 48.85 294 *e*P **P 10 37 38.4 +0.9**
comp=Z,154nm,1.5s,mb5.8
GOA Goa 48.87 269 *e*P **P 10 37 38.4 +0.6**
BVAR Borovoye Array 48.92 319 P **P 10 37 36.6 -1.1**
BVAR 10 39 01.0
BVAR pmax pmax
comp=Z,5.0nm,0.9s
BVAR pmax pmax
comp=Z,6.0nm,1.0s
BVAR MLR MLR
comp=Z,382nm,19.1s
BVAR Borovoye Array 48.92 319 P **P 10 37 36.6 -1.1**
comp=Z,4.8nm,0.8s,mb4.5,baz=97,slow=8.1,SNR=26
BVAR PcP PcP 10 39 01.0 -0.8
comp=Z,5.9nm,0.9s,baz=99,slow=4.7,SNR=4.9
BVAR LR LR 11 00 44.3
comp=Z,382nm,19.1s,MS4.4,baz=98,slow=39
BRVK Borovoye 48.99 319 P **P 10 37 37.7 -0.5**
comp=Z,113nm,1.3s,mb5.7,SNR=13
BRVK Borovoye 48.99 319 *e*P **P 10 37 38.2 0.0**
comp=Z,35nm,1.3s,mb5.2
BRVK Borovoye 48.99 319 *e*P **P 10 37 38.2 0.0**
BRVK pmax pmax
comp=Z,35nm,1.3s,mb5.2
BILL Bilibino 49.14 19 *e*P **P 10 37 42.7 +3.6**
BILL *e* 10 39 03.8
BILL pmax pmax
comp=Z,5.0nm,1.3s,mb4.4
BILL MLR MLR
comp=Z,400nm,17.0s,MS4.5
ASAR Alice Springs 49.71 169 P **P 10 37 44.8 +0.8**
ASAR pmax pmax
comp=Z,8.0nm,0.8s
ASAR Alice Springs 49.71 169 P **P 10 37 44.8 +0.8**
comp=Z,7.9nm,0.8s,mb4.8,baz=355,slow=7.2,SNR=131
CTA Charters Tower 49.83 154 *e*P **P 10 37 45.2 +0.2**
comp=Z,8.6nm,1.1s,mb4.7
CTA Charters Tower 49.83 154 P **P 10 37 46.3 +1.3**
CTA pmax pmax
comp=Z,8.0nm,0.9s
CTA MLR MLR
comp=Z,646nm,19.5s
CTA Charters Tower 49.83 154 P **P 10 37 46.3 +1.3**
comp=Z,7.6nm,0.9s,mb4.7,baz=335,slow=9.9,SNR=3.2
CTA LR LR 10 58 39.8
comp=Z,646nm,19.5s,MS4.6,baz=346,slow=36
CTAO Charters Tower 49.83 154 *e*P **P 10 37 45.2 +0.2**
comp=Z,30nm,1.4s,mb5.1
CTAO Charters Tower 49.83 154 *e*P **P 10 37 45.2 +0.2**
CTAO pmax pmax
comp=Z,30nm,1.4s,mb5.1
SVE Sverdlovsk 55.07 323⇓*e*P **P 10 38 22.3 -1.2**
SVE *e*S **S 10 45 52.6 -12**
SVE pmax pmax
comp=Z,46nm,1.0s,mb5.5
SVE MLR MLR
comp=Z,2µm,19.0s,MS5.2
ARU Arti 56.18 322 *e*P **P 10 38 30.1 -1.3**
comp=Z,27nm,1.0s,mb5.2
ARU Arti 56.18 322 *c i*P **P 10 38 30.7 -0.7**
ARU *e* 10 39 27.0
ARU *e* 10 40 35.0
ARU *e*PPP 10 41 47.9
ARU *e*S **S 10 46 17.5 -2.1**
ARU *e*SS SS 10 50 00.6 -5.2
ARU pmax pmax
comp=Z,40nm,1.2s,mb5.3
ARU MLR MLR
comp=Z,1µm,19.0s,MS5.0
AKTK Aktyubinsk 56.31 315 P **P 10 38 31.3 -1.2**
AKTO Aktyubinsk 56.31 315 P **P 10 38 31.3 -1.2**
AKTO pmax pmax
comp=Z,2.0nm,0.9s,mb4.2
AKTO Aktyubinsk 56.31 315 P **P 10 38 31.3 -1.2**
comp=Z,2.1nm,0.9s,mb4.2,baz=67,slow=5.5,SNR=7.3
KLBR Kellerberrin 57.32 188 *e*P **P 10 38 39.8 +0.1**
comp=Z,43nm,1.0s,mb5.4
MUN Mundaring 57.90 189 *e*P **P 10 38 43.1 -0.7**
NWAO Narrogin (SRO) 58.70 188 *e*P **P 10 38 50.1 +0.8**
comp=Z,25nm,1.0s,mb5.2
NWAO Narrogin (SRO) 58.70 188 *e*P **P 10 38 50.1 +0.7**
NWAO pmax pmax
comp=Z,25nm,1.0s
NWAO Narrogin (SRO) 58.70 188 P **P 10 38 49.9 +0.5**
comp=Z,20nm,0.9s,mb5.2,baz=350,slow=6.1,SNR=3.6
STKA Stephens Creek 59.28 164 *e*P **P 10 38 53.6 +0.2**
comp=Z,7.4nm,0.9s,mb4.7
STKA Stephens Creek 59.28 164 P **P 10 38 53.8 +0.4**
comp=Z,9.0nm,0.9s,mb4.8,baz=350,slow=8.6,SNR=10
STKA LR LR 11 02 36.2
comp=Z,285nm,21.3s,MS4.4,baz=131,slow=34
TTA Tatalina 62.46 30 *e*P **P 10 39 14.9 +0.2**
SVW2 Sparrevohn 62.77 32 *e*P **P 10 39 18.0 +1.2**
IMA2 Indian Mountai 63.31 27 *e*P **P 10 39 20.0 -0.3**
KDAK Kodiak Island 64.64 36 P **P 10 39 31.6 +2.4**
comp=Z,33nm,0.9s,mb5.4,baz=146,slow=1.6,SNR=6.1
MCK McKinley 65.56 29 *e*P **P 10 39 35.0 -0.1**
comp=Z,14nm,0.9s,mb5.0
MCK McKinley 65.56 29 *e*P **P 10 39 35.0 -0.1**
MCK pmax pmax
comp=Z,15nm,0.9s,mb5.0
PMR Palmer 65.80 32 *e*P **P 10 39 35.9 -0.7**
comp=Z,13nm,1.0s,mb4.9
PMR Palmer 65.80 32 *e*P **P 10 39 35.9 -0.8**
PMR pmax pmax
comp=Z,13nm,1.0s,mb4.9
COLA College 65.85 28 *e*P **P 10 39 37.1 +0.1**
comp=Z,6.1nm,0.8s,mb4.7
COLA College 65.85 28 *e*P **P 10 39 37.1 +0.1**
COLA pmax pmax
comp=Z,6.0nm,0.8s,mb4.7
TMCR Tamitsa 66.03 331 *e*P **P 10 39 36.8 -1.3**
SML Sawmill 66.14 31 *e*P **P 10 39 38.6 -0.2**
APA Apatity 67.28 335⇑*e*P **P 10 39 45.0 -1.0**
APA *i* 10 39 59.0
APA *e*S S 10 48 35.0 -4.7
APA *e* 10 49 34.0
APA pmax pmax
comp=Z,22nm,1.2s,mb5.1
APA MLR MLR
comp=Z,3µm,15.0s,MS5.7
ONI Oni 67.31 308 P **P 10 39 47.1 +0.4**
KIV Kislovodsk 67.50 309 *e*P **P 10 39 48.3 +0.4**
comp=Z,26nm,0.9s,mb5.3
KIV Kislovodsk 67.50 309 *d i*P **P 10 39 46.9 -1.0**
KIV *e* 10 40 11.4
KIV *e*S S 10 48 47.9 +4.7
KIV pmax pmax
comp=Z,49nm,1.1s,mb5.5
KIV MLR MLR
comp=Z,400nm,16.0s,MS4.7
MOS Moscow 67.89 322 *e*P **P 10 39 47.5 -2.6**
MOS *e* 10 40 14.7
MOS pmax pmax
comp=Z,65nm,1.3s,mb5.5
MOS MLR MLR
comp=Z,700nm,19.0s,MS4.9
OBN Obninsk 68.62 322 *e*P **P 10 39 53.7 -1.0**
OBN *e* 10 40 19.3
OBN *e*S S 10 48 51.0 -5.2
OBN pmax pmax
comp=Z,38nm,1.4s,mb5.1
OBN MLR MLR
comp=Z,400nm,16.0s,MS4.8
EGAK Eagle 68.67 27 *e*P **P 10 39 54.8 0.0**
comp=Z,9.7nm,0.7s,mb4.8
ARCES ARCESS Array B 69.57 338 P **P 10 39 58.4 -1.9**
ARCES 10 40 23.0
ARCES pmax pmax
comp=Z,3.0nm,0.8s
ARCES pmax pmax
comp=Z,3.0nm,0.8s
ARCES MLR MLR
comp=Z,586nm,20.7s
ARCES ARCESS Array B 69.57 338 P **P 10 39 58.4 -1.9**
comp=Z,3.0nm,0.8s,mb4.3,baz=56,slow=18,SNR=4.7
ARCES PcP PcP 10 40 22.9 -0.3
comp=Z,2.8nm,0.8s,baz=63,slow=5.6,SNR=3.9
ARCES LR LR 11 13 07.9
comp=Z,586nm,20.7s,MS4.8,baz=74,slow=38
DAWY Dawson 69.61 28 *e*P **P 10 40 00.4 -0.3**
SOC Sochi 69.68 309 *e*P **P 10 39 59.5 -2.0**
SOC *e*S S 10 49 07.0 -2.1
SOC *e* 10 49 48.9
SOC *e*SS SS 10 53 32.9 -4.0
SOC pmax pmax
comp=Z,21nm,1.4s,mb4.9
SOC MLR MLR
comp=Z,650nm,16.0s,MS5.0
INK Inuvik 70.53 23 *e*P **P 10 40 05.9 -0.3**
comp=Z,282nm,1.0s,mb6.2
INK Inuvik 70.53 23 *e*P **P 10 40 05.9 -0.4**
INK pmax pmax
comp=Z,282nm,1.0s
ANN Anapa 70.90 311 *e*P **P 10 40 06.6 -2.3**
ANN *e*S S 10 49 21.7 -1.6
ANN pmax pmax
comp=Z,40nm,1.1s,mb5.3
ANN MLR MLR
comp=N,804nm,19.0s,MS5.0
ANN MLR MLR
comp=E,290nm,19.0s,MS5.0
ANN MLR MLR
comp=Z,428nm,19.0s,MS4.7
FINES FINESS Array B 72.03 330 P **P 10 40 14.4 -1.0**
FINES pmax pmax
comp=Z,4.0nm,0.9s
FINES MLR MLR
comp=Z,364nm,18.7s
FINES FINESS Array B 72.03 330 P **P 10 40 14.3 -1.1**
comp=Z,4.0nm,0.9s,mb4.4,baz=60,slow=11,SNR=9.2
FINES LR LR 11 14 11.1
comp=Z,364nm,18.7s,MS4.7,baz=199,slow=38
MALT Malatya 72.20 304 *e*P **P 10 40 17.2 +0.3**
comp=Z,29nm,1.3s,mb5.0
MALT Malatya 72.20 304 *e*P **P 10 40 17.2 +0.3**
MALT pmax pmax
comp=Z,29nm,1.3s,mb5.0
MALT Malatya 72.20 304⇑*i*P **P 10 40 17.8 +0.9**
SKAG Skagway 72.93 32 *e*P **P 10 40 20.6 -0.2**
comp=Z,17nm,0.7s,mb5.1
SIM Simferopol' 73.09 312 P **P 10 40 22.0 -0.1**
SIM pmax pmax
comp=Z,11nm,0.8s,mb4.8
SIM MLR MLR
comp=Z,360nm,17.7s,MS4.7
AKASG Malin Array Be 74.20 319 P **P 10 40 26.7 -1.8**
AKASG LR LR 11 13 56.6
AKASG Malin Array Be 74.20 319 P **P 10 40 26.7 -1.8**
AKASG pmax pmax
comp=Z,8.0nm,0.9s
AKASG MLR MLR
comp=Z,542nm,19.5s
AKASG Malin Array Be 74.20 319 P **P 10 40 26.7 -1.8**
comp=Z,7.8nm,0.8s,mb4.7,baz=57,slow=5.8,SNR=41
AKASG LR LR 11 13 56.6
comp=Z,542nm,19.5s,MS4.8,baz=55,slow=37
AKBB Malin Array Si 74.20 319 *e*P **P 10 40 26.8 -1.7**
KIEV Kiev 74.21 319 *e*P **P 10 40 26.9 -1.6**
comp=Z,13nm,1.1s,mb4.8
KIEV Kiev 74.21 319 *e*P **P 10 40 26.9 -1.6**
KIEV pmax pmax
comp=Z,13nm,1.1s,mb4.8
ASF Jabal al Asfar 75.47 299 LR LR 11 18 48.2
comp=Z,212nm,18.8s,MS4.5,baz=301,slow=40
DLBC Dease Lake 75.86 32 *e*P **P 10 40 38.6 +0.7**
MMAI Mount Meron Ar 76.34 300 LR LR 11 19 02.4
comp=Z,202nm,19.1s,MS4.5,baz=15,slow=40
RES Resolute Bay 76.65 10 *e*P **P 10 40 40.2 -2.0**
comp=Z,219nm,1.0s,mb6.0
RES Resolute Bay 76.65 10 *e*P **P 10 40 40.2 -1.9**
RES pmax pmax
comp=Z,219nm,1.0s,mb6.0
JMIC Jan Mayen 78.36 346 LR LR 11 17 41.9
comp=Z,225nm,18.2s,MS4.5,baz=50,slow=38
NB2 NORSAR Subarra 78.63 333 P **P 10 40 51.3 -2.1**
comp=Z,6.4nm,0.9s,mb4.5,baz=56,slow=5.6
NOA NORSAR Array B 78.63 333 P **P 10 40 52.0 -1.4**
NOA LR LR 11 19 35.0
NOA NORSAR Array B 78.63 333 P **P 10 40 52.0 -1.4**
NOA pmax pmax
comp=Z,3.0nm,0.8s
NOA MLR MLR
comp=Z,897nm,19.3s
NOA NORSAR Array B 78.63 333 P **P 10 40 52.0 -1.4**
comp=Z,3.3nm,0.8s,mb4.3,baz=55,slow=5.5,SNR=8.5
NOA LR LR 11 19 35.0
comp=Z,897nm,19.3s,MS5.1,baz=45,slow=39
KOLS Kolonicke sedl 79.03 319 *e*P **P 10 40 54.9 -0.9**
UZH Uzhgorod 79.15 319 *e*P **P 10 41 05.0 +8.5**
UZH *e*S S 10 51 06.0 +11
STHS Stebnicka Huta 79.42 320 *e*P **P 10 40 57.5 -0.4**
comp=Z,6.0nm,1.3s,mb4.4
STHS Stebnicka Huta 79.42 320 *e*P **P 10 40 57.5 -0.4**
STHS pmax pmax
comp=Z,6.0nm,1.3s,mb4.4
CRVS Cervenica-Dubn 79.53 319 *e*P **P 10 40 58.3 -0.2**
OJC Ojcow 79.88 321 *e*P **P 10 40 59.7 -0.7**
NIE Niedzica 79.96 320 *e*P **P 10 41 01.0 +0.1**
YKW3 Yellowknife Ar 80.18 24 *e*P **P 10 41 01.2 -0.6**
YKA Yellowknife Ar 80.23 24 P **P 10 41 01.4 -0.7**
YKA PKKPbc PKKPbc 10 59 42.7 -3.4
YKA Yellowknife Ar 80.23 24 P **P 10 41 01.4 -0.7**
YKA 10 59 42.7
YKA pmax pmax
comp=Z,12nm,0.8s
YKA Yellowknife Ar 80.23 24 P **P 10 41 01.4 -0.7**
comp=Z,12nm,0.8s,mb4.9,baz=303,slow=5.1,SNR=86
YKA PKKPbc PKKPbc 10 59 42.7 -3.4
comp=Z,0.2nm,0.5s,baz=130,slow=2.4,SNR=8.6
KECS Kecovo 80.29 319 *e*P **P 10 41 03.4 +0.7**
comp=Z,3.2nm,1.3s,mb4.1
KECS Kecovo 80.29 319 *e*P **P 10 41 03.4 +0.7**
KECS pmax pmax
comp=Z,3.0nm,1.3s,mb4.1
RPZ Rata Peaks 80.81 148 P **P 10 41 04.7 -0.6**
comp=Z,24nm,1.1s,mb5.0,baz=14,slow=7.1,SNR=8.3
OKC Ostrava-Krasne 81.00 321 *e*P **P 10 41 05.3 -1.1**
OKC AMS AMS 11 18 40.0
comp=Z,400nm,17.6s,MS4.8
VYHS Vyhne 81.25 320 *i*P **P 10 41 07.8 0.0**
comp=Z,5.5nm,1.0s,mb4.4
VYHS Vyhne 81.25 320 *i*P **P 10 41 07.8 0.0**
VYHS pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
VTS Vitosha 81.28 313⇓*i*P **P 10 41 07.9 -0.2**
VTS Vitosha 81.28 313⇓*i*P **P 10 41 07.9 -0.2**
MORC Moravsky Berou 81.37 321 *e*P **P 10 41 08.0 -0.5**
comp=Z,8.2nm,1.0s,mb4.6
MORC Moravsky Berou 81.37 321 *e*P **P 10 41 08.0 -0.4**
MORC pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
MORC Moravsky Berou 81.37 321⇑*i*P **P 10 41 06.8 -1.6**
KOLL Kolacno 81.47 320 *e*P **P 10 41 08.9 0.0**
DPC Dobruska-Polom 81.77 322 *e*P **P 10 41 10.1 -0.4**
DPC *ex* x 10 41 21.4
DPC AMS AMS 11 20 30.0
comp=Z,700nm,16.3s,MS5.1
VRAC Vranov 82.14 321⇑*i*P **P 10 41 12.6 +0.1**
VRAC Vranov 82.14 321⇑*i*P **P 10 41 12.6 +0.1**
MODS Modra-Piesok 82.22 320 *e*P **P 10 41 09.0 -3.9**
PKSM Moragy 82.47 318⇓*i*P **P 10 41 12.6 -1.7**
PKSM Moragy 82.47 318⇓*i*P **P 10 41 12.6 -1.7**
PVCC Panska Ves 82.64 323 *e*P **P 10 41 14.3 -0.8**
PVCC AMS AMS 11 22 20.0
comp=Z,700nm,17.0s,MS5.1
TREC Trest 82.77 322 AMS AMS 11 19 50.0
comp=Z,700nm,18.5s,MS5.1
BRG Berggiesshubel 82.79 323 *e*P **P 10 41 14.9 -1.0**
comp=Z,8.0nm,1.3s,mb4.6
BRG Berggiesshubel 82.79 323 *e*P **P 10 41 14.3 -1.6**
comp=Z,7.7nm,1.3s,mb4.6
BRG
comp=N,543nm,19.8s
BRG
comp=E,371nm,18.8s
BRG
comp=Z,643nm,13.9s
PRU Pruhonice 82.93 323 *e*P **P 10 41 16.0 -0.6**
PRU AMS AMS 11 21 00.0
comp=Z,600nm,15.5s,MS5.1

CLL	**Collm**	**83.06**	**324**	⇓*i*P	**P**	**10 41 15.9**	**-1.3**
	comp=Z,8.0nm,1.1s,mb4.7						
CLL				LR	LR		
	comp=Z,900nm,18.7s,MS5.2						
CLL	**Collm**	**83.06**	**324**	⇓*i*P	**P**	**10 41 15.9**	**-1.3**
CLL				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb4.7						
CLL				MLR	MLR		
	comp=Z,900nm,18.7s,MS5.2						
CLL	**Collm**	**83.06**	**324**	*e*P	**P**	**10 41 15.9**	**-1.3**
	comp=Z,8.0nm,1.1s,mb4.7						
CLL	**Collm**	**83.06**	**324**	⇓*i*PP	**P**	**10 41 15.9**	**-1.3**
	comp=Z,8.0nm,1.1s,mb4.7						
CLL				*e*x	PP	10 44 28.0	+0.3
CLL				*e*PPS		10 51 42.0	
CLL				*e*SS	SS	10 57 12.0	+13
CLL				*e*(SSS)		11 01 30.0	
KHC	**Kasperske Hory**	**83.92**	**322**	*e*P	**P**	**10 41 21.0**	**-0.7**
KHC				*e*pP	pP	10 41 28.8	+0.4
KHC				AMS	AMS	11 21 30.0	
	comp=Z,600nm,16.0s,MS5.1						
NKC	**Novy Kostel**	**83.94**	**323**	*e*P	**P**	**10 41 21.1**	**-0.7**
NKC				AMS	AMS	11 23 00.0	
	comp=Z,900nm,17.4s,MS5.2						
GEC2	**GERESS Array S**	**84.01**	**322**	*e*P	**P**	**10 41 21.7**	**-0.5**
GEC2				pmax	pmax		
	comp=Z,8.0nm,1.3s,mb4.7						
GEC2	**GERESS Array S**	**84.01**	**322**	*e*P	**P**	**10 41 21.7**	**-0.5**
	comp=Z,8.0nm,1.3s,mb4.7						
GERES	**GERESS Array B**	**84.01**	**322**	P	**P**	**10 41 20.7**	**-1.5**
GERES				pmax	pmax		
	comp=Z,3.0nm,1.0s						
GERES				MLR	MLR		
	comp=Z,666nm,18.3s						
GERES	**GERESS Array B**	**84.01**	**322**	P	**P**	**10 41 20.7**	**-1.5**
	comp=Z,2.9nm,1.0s,mb4.4,baz=57,slow=4.9,SNR=12						
GERES				LR	LR	11 22 38.4	
	comp=Z,666nm,18.3s,MS5.1,baz=60,slow=38						
MOX	**Moxa**	**84.16**	**324**	*e*P	**P**	**10 41 23.3**	**+0.4**
MOX							
	comp=Z,900nm,19.0s						
GRA1	**Grafenberg Arr**	**84.90**	**323**	*e*P	**P**	**10 41 26.2**	**-0.5**
	comp=Z,24nm,1.4s,mb5.1						
GRA1				LR	LR		
	comp=Z,500nm,18.1s,MS4.9						
GRF	**Grafenberg Arr**	**84.90**	**323**	*e*P	**P**	**10 41 26.2**	**-0.5**
GRF				pmax	pmax		
	comp=Z,24nm,1.4s,mb5.1						
GRF				MLR	MLR		
	comp=Z,500nm,18.1s,MS4.9						
GRF	**Grafenberg Arr**	**84.90**	**323**	*e*P	**P**	**10 41 26.2**	**-0.5**
GRF				pmax	pmax		
	comp=Z,24nm,1.4s,mb5.1						
GRF				MLR	MLR		
	comp=Z,500nm,18.1s,MS4.9						
GRF	**Grafenberg Arr**	**84.90**	**323**	*e*P	**P**	**10 41 26.2**	**-0.5**
	comp=Z,24nm,1.4s,mb5.1						
GRF				*e*L		11 24 03.6	
	comp=Z,477nm,18.1s						
UBBA	**Unterbreizbach**	**84.91**	**325**	*e*P	**P**	**10 41 24.7**	**-2.0**
	comp=Z,19nm,1.7s,mb5.0						
IBBN	**Ibbenburen**	**85.18**	**327**	*e*P	**P**	**10 41 27.7**	**-0.3**
	comp=Z,19nm,1.1s,mb5.1						
FUR	**Furstenfeldbru**	**85.73**	**322**	*e*P	**P**	**10 41 30.8**	**0.0**
FUR				pmax	pmax		
	comp=Z,53nm,1.5s,mb5.5						
FUR	**Furstenfeldbru**	**85.73**	**322**	*e*P	**P**	**10 41 30.8**	**0.0**
	comp=Z,53nm,1.5s,mb5.5						
STU	**Stuttgart**	**86.52**	**323**	*e*P	**P**	**10 41 34.1**	**-0.6**
	comp=Z,14nm,1.0s,mb5.2						
EDM	**Edmonton**	**86.56**	**31**	*e*P	**P**	**10 41 35.1**	**+0.2**
BFO	**Black Forest**	**87.24**	**323**	*e*P	**P**	**10 41 37.4**	**-0.9**
BFO				pmax	pmax		
	comp=Z,10.0nm,1.3s,mb4.9						
BFO	**Black Forest**	**87.24**	**323**	*e*P	**P**	**10 41 37.4**	**-0.9**
	comp=Z,10.0nm,1.3s,mb4.9						
WLF	**Walferdange**	**87.58**	**325**	*e*P	**P**	**10 41 39.9**	**0.0**
	comp=Z,17nm,1.5s,mb5.0						
NEW	**Newport**	**87.74**	**36**	*e*P	**P**	**10 41 43.0**	**+2.3**
	comp=Z,4.0nm,0.9s,mb4.7						
NEW	**Newport**	**87.74**	**36**	*e*P	**P**	**10 41 43.0**	**+2.3**
NEW				pmax	pmax		
	comp=Z,4.0nm,0.9s						
CDF	**Champ du Feu**	**87.76**	**324**	*e*P	**P**	**10 41 40.1**	**-0.6**
	comp=Z,41nm,1.4s,mb5.2						
CDF	**Champ du Feu**	**87.76**	**324**	*e*P	**P**	**10 41 40.1**	**-0.6**
	comp=Z,20nm,1.4s,mb5.2						
CDF	**Champ du Feu**	**87.76**	**324**	*e*P	**P**	**10 41 40.1**	**-0.6**
CDF				pmax	pmax		
	comp=Z,20nm,1.4s,mb5.2						
ECH	**Echery**	**87.94**	**324**	*e*P	**P**	**10 41 40.7**	**-0.9**
BAIF	**Baives**	**88.32**	**326**	*e*P	**P**	**10 41 43.0**	**-0.4**
	comp=Z,34nm,1.7s,mb5.0						
BAIF	**Baives**	**88.32**	**326**	*e*P	**P**	**10 41 43.0**	**-0.4**
	comp=Z,17nm,1.7s,mb5.0						
BAIF	**Baives**	**88.32**	**326**	*e*P	**P**	**10 41 43.0**	**-0.4**
BAIF				pmax	pmax		
	comp=Z,17nm,1.7s,mb5.0						
HINF	**Hinteralfeld**	**88.34**	**324**	*e*P	**P**	**10 41 42.1**	**-1.4**
HAU	**Haudompre**	**88.50**	**324**	*e*P	**P**	**10 41 43.4**	**-0.9**
HAU				*e*MLR	MLR		
	comp=Z,800nm,19.2s,MS4.8						
HAU	**Haudompre**	**88.50**	**324**	*e*P	**P**	**10 41 43.4**	**-0.9**
HAU				MLR	MLR		
	comp=Z,800nm,19.3s,MS5.2						
KMBO	**Kilima Mbogo**	**88.60**	**268**	*e*P	**P**	**10 41 46.1**	**+0.7**
	comp=Z,5.2nm,0.8s,mb4.9						
KMBO	**Kilima Mbogo**	**88.60**	**268**	P	**P**	**10 41 46.1**	**+0.7**
KMBO				pmax	pmax		
	comp=Z,5.0nm,0.8s						
KMBO	**Kilima Mbogo**	**88.60**	**268**	P	**P**	**10 41 46.1**	**+0.7**
	comp=Z,4.8nm,0.8s,mb4.9,baz=48,slow=7.4,SNR=18						
WALA	**Waterton Lakes**	**88.93**	**34**	*e*P	**P**	**10 41 46.9**	**+0.6**
	comp=Z,6.3nm,0.9s,mb5.0						
MOD	**Modoc**	**89.64**	**43**	*e*P	**P**	**10 41 50.1**	**+0.4**
	comp=Z,6.2nm,1.3s,mb4.8						
BMO	**Blue Mountains**	**89.69**	**39**	*e*P	**P**	**10 41 50.7**	**+0.8**
	comp=Z,2.4nm,0.8s,mb4.6						
LPG	**La Plagne**	**89.81**	**322**	*e*P	**P**	**10 41 50.2**	**-0.3**
	comp=Z,29nm,1.2s,mb5.2						
LPG	**La Plagne**	**89.81**	**322**	*e*P	**P**	**10 41 50.2**	**-0.3**
	comp=Z,14nm,1.2s,mb5.2						
LPG	**La Plagne**	**89.81**	**322**	*e*P	**P**	**10 41 50.2**	**-0.3**
LPG				pmax	pmax		
	comp=Z,14nm,1.2s,mb5.2						
LPL	**La Plagne**	**89.81**	**322**	*e*P	**P**	**10 41 50.2**	**-0.3**
BNI	**Bardonecchia**	**90.12**	**321**	*e*P	**P**	**10 41 51.4**	**-0.6**
	comp=Z,13nm,1.1s,mb5.2						
BNI	**Bardonecchia**	**90.12**	**321**	*e*P	**P**	**10 41 51.4**	**-0.5**
BNI				pmax	pmax		
	comp=Z,13nm,1.1s,mb5.2						
SAOF	**Saorge**	**90.26**	**320**	*e*P	**P**	**10 41 51.5**	**-1.1**
MBDF	**Montbardon**	**90.27**	**321**	*e*P	**P**	**10 41 51.3**	**-1.3**
MSO	**Missoula**	**90.33**	**36**	*e*P	**P**	**10 41 53.5**	**+0.6**
	comp=Z,2.7nm,1.0s,mb4.5						
AUTN	**L'Aution**	**90.33**	**320**	*e*P	**P**	**10 41 51.9**	**-1.0**
WVOR	**Wild Horse Val**	**90.34**	**42**	*e*P	**P**	**10 41 53.9**	**+0.9**
	comp=Z,6.8nm,1.5s,mb4.8						
WVOR	**Wild Horse Val**	**90.34**	**42**	*e*P	**P**	**10 41 53.9**	**+0.9**
WVOR				pmax	pmax		
	comp=Z,7.0nm,1.5s,mb4.8						
FFC	**Flin Flon**	**90.34**	**25**	P	**P**	**10 41 52.3**	**-0.5**
	comp=Z,11nm,0.8s,mb6.2,SNR=12						
FFC	**Flin Flon**	**90.34**	**25**	*e*P	**P**	**10 41 52.4**	**-0.3**
	comp=Z,21nm,1.0s,mb5.4						
FFC	**Flin Flon**	**90.34**	**25**	*e*P	**P**	**10 41 52.4**	**-0.4**
FFC				pmax	pmax		
	comp=Z,21nm,1.0s,mb5.4						
SBF	**Sospel**	**90.41**	**320**	*e*P	**P**	**10 41 52.2**	**-1.1**
	comp=Z,26nm,0.9s,mb5.3						
SBF	**Sospel**	**90.41**	**320**	*e*P	**P**	**10 41 52.2**	**-1.1**
	comp=Z,13nm,0.9s,mb5.3						
SBF	**Sospel**	**90.41**	**320**	*e*P	**P**	**10 41 52.2**	**-1.1**
SBF				pmax	pmax		
	comp=Z,13nm,0.9s,mb5.3						
TOUF	**Mont Tournerai**	**90.42**	**320**	*e*P	**P**	**10 41 52.5**	**-0.9**
LUCF	**Luceram**	**90.44**	**320**	*e*P	**P**	**10 41 52.4**	**-1.1**
MVIF	**Mont Vial**	**90.55**	**320**	*e*P	**P**	**10 41 52.7**	**-1.3**
SSF	**Saint Saulge**	**90.59**	**324**	*e*P	**P**	**10 41 53.1**	**-1.0**
ORIF	**Oris-en-Rattie**	**90.65**	**322**	*e*P	**P**	**10 41 53.9**	**-0.5**
ORIF				*e*MLR	MLR		
	comp=Z,567nm,21.2s,MS4.7						
AVF	**Avril sur Loir**	**90.84**	**324**	*e*P	**P**	**10 41 53.5**	**-1.8**
FRF	**La Foret Royal**	**91.05**	**320**	*e*P	**P**	**10 41 55.3**	**-1.0**
	comp=Z,27nm,1.2s,mb5.2						
FRF	**La Foret Royal**	**91.05**	**320**	*e*P	**P**	**10 41 55.3**	**-1.0**
	comp=Z,13nm,1.2s,mb5.2						
FRF	**La Foret Royal**	**91.05**	**320**	*e*P	**P**	**10 41 55.3**	**-1.0**
FRF				pmax	pmax		
	comp=Z,13nm,1.2s,mb5.1						
LMR	**La Mourre**	**91.26**	**320**	*e*P	**P**	**10 41 56.5**	**-0.8**
	comp=Z,32nm,1.1s,mb5.2						
LMR	**La Mourre**	**91.26**	**320**	*e*P	**P**	**10 41 56.5**	**-0.8**
	comp=Z,16nm,1.1s,mb5.3						
LMR	**La Mourre**	**91.26**	**320**	*e*P	**P**	**10 41 56.5**	**-0.8**
LMR				pmax	pmax		
	comp=Z,16nm,1.1s,mb5.3						
VIVF	**Saint-Julien-l**	**91.36**	**322**	*e*P	**P**	**10 41 57.0**	**-0.7**
	comp=Z,17nm,1.3s,mb4.9						
VIVF	**Saint-Julien-l**	**91.36**	**322**	*e*P	**P**	**10 41 57.0**	**-0.7**
	comp=Z,8.4nm,1.3s,mb4.9						
VIVF	**Saint-Julien-l**	**91.36**	**322**	*e*P	**P**	**10 41 57.0**	**-0.7**
VIVF				pmax	pmax		
	comp=Z,8.0nm,1.3s,mb4.9						
VILF	**Villemus**	**91.40**	**321**	*e*P	**P**	**10 41 57.7**	**-0.2**
SMRF	**Simiane la Rot**	**91.40**	**321**	*e*P	**P**	**10 41 57.5**	**-0.4**
	comp=Z,19nm,1.3s,mb5.0						
SMRF	**Simiane la Rot**	**91.40**	**321**	*e*P	**P**	**10 41 57.5**	**-0.4**
	comp=Z,19nm,1.3s,mb5.3						
HRY	**Holter Researc**	**91.51**	**35**	*e*P	**P**	**10 41 58.8**	**+0.4**
EGMT	**Eagleton**	**91.70**	**33**	*e*P	**P**	**10 42 00.6**	**+1.3**
	comp=Z,7.8nm,1.1s,mb5.0						
PRAF	**Pradon**	**91.74**	**321**	*e*P	**P**	**10 41 59.3**	**-0.2**
LRM	**Limekiln Ridge**	**91.76**	**36**	*e*P	**P**	**10 42 02.5**	**+3.0**
DLMT	**Dillon**	**91.98**	**37**	*e*P	**P**	**10 42 01.8**	**+1.2**
	comp=Z,15nm,1.0s,mb5.3						
HLID	**Hailey**	**92.12**	**39**	*e*P	**P**	**10 42 03.1**	**+1.8**
	comp=Z,10nm,1.0s,mb5.1						
LASF	**Ste Croix**	**92.31**	**322**	*e*P	**P**	**10 42 01.7**	**-0.4**
	comp=Z,34nm,1.5s,mb5.2						
BOZ	**Bozeman (W)**	**92.31**	**36**	*e*P	**P**	**10 42 02.9**	**+0.8**
	comp=Z,6.0nm,1.5s,mb4.7						
BOZ	**Bozeman (W)**	**92.31**	**36**	*e*P	**P**	**10 42 02.9**	**+0.8**
BOZ				pmax	pmax		
	comp=Z,6.0nm,1.5s,mb4.7						
CAF	**Calviac**	**92.74**	**323**	*e*P	**P**	**10 42 03.4**	**-0.7**
	comp=Z,7.4nm,1.1s,mb4.7						
CAF	**Calviac**	**92.74**	**323**	*e*P	**P**	**10 42 03.4**	**-0.7**
	comp=Z,3.7nm,1.1s,mb4.7						
CAF	**Calviac**	**92.74**	**323**	*e*P	**P**	**10 42 03.4**	**-0.7**
CAF				pmax	pmax		
	comp=Z,4.0nm,1.1s,mb4.8						
RJF	**Les Rejaudoux**	**92.78**	**324**	*e*P	**P**	**10 42 03.4**	**-0.9**
	comp=Z,17nm,1.3s,mb5.0						
RJF				*e*MLR	MLR		
	comp=Z,597nm,21.0s,MS4.7						
RJF	**Les Rejaudoux**	**92.78**	**324**	*e*P	**P**	**10 42 03.4**	**-0.9**
	comp=Z,8.4nm,1.3s,mb5.0						
RJF				LR	LR		
	comp=Z,600nm,21.0s,MS5.0						
RJF	**Les Rejaudoux**	**92.78**	**324**	*e*P	**P**	**10 42 03.4**	**-0.9**
RJF				pmax	pmax		
	comp=Z,8.0nm,1.3s,mb5.0						
RJF				MLR	MLR		
	comp=Z,600nm,21.0s,MS5.0						
NVAR	**Mina Array Bea**	**92.90**	**45**	P	**P**	**10 42 06.2**	**+1.3**
NVAR	**Mina Array Bea**	**92.90**	**45**	P	**P**	**10 42 06.2**	**+1.3**
	comp=Z,1.2nm,0.7s,mb4.4,baz=289,slow=6.3,SNR=8.3						
QLMT	**Earthquake Lak**	**92.96**	**37**	*e*P	**P**	**10 42 06.8**	**+1.7**
PPT	**Papeete**	**93.31**	**108**	*e*LQ		11 08 13.3	
	comp=Z,540nm,30.0s						
PPT				*e*LR	LR	11 12 09.7	
	comp=Z,365nm,30.5s						
PPT	**Papeete**	**93.31**	**108**	LR	LR	11 15 54.2	
	comp=Z,113nm,21.8s,MS4.3,baz=288,slow=30						
LKWY	**Lake**	**93.68**	**36**	*e*P	**P**	**10 42 11.1**	**+2.6**
	comp=Z,6.4nm,1.1s,mb5.0						
LKWY	**Lake**	**93.68**	**36**	*e*P	**P**	**10 42 11.1**	**+2.7**
LKWY				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.9						
IMW	**Indian Meadow**	**93.84**	**37**	*e*P	**P**	**10 42 11.7**	**+2.6**
	comp=Z,5.2nm,1.1s,mb4.9						
FLWY	**Flagg Ranch**	**93.84**	**37**	*e*P	**P**	**10 42 10.6**	**+1.4**
	comp=Z,6.1nm,1.0s,mb5.0						
PDAR	**Pinedale Array**	**95.34**	**37**	P	**P**	**10 42 18.7**	**+2.6**
	comp=Z,0.7nm,1.0s,mb4.1,baz=272,slow=3.7,SNR=4.3						
ULM	**Lac du Bonnet**	**96.17**	**25**	P	**P**	**10 42 19.3**	**-0.4**
ULM				LR	LR	11 29 12.3	
ULM	**Lac du Bonnet**	**96.17**	**25**	P	**P**	**10 42 19.3**	**-0.4**
	comp=Z,2.1nm,0.8s,mb4.6,baz=318,slow=4.2,SNR=5.9						
ULM				LR	LR	11 29 12.3	
	comp=Z,58nm,20.5s,MS4.0,baz=56,slow=38						
SCHQ	**Schefferville**	**99.22**	**7**	LR	LR	11 31 49.0	
	comp=Z,273nm,18.2s,MS4.8,baz=163,slow=38						
ESDC	**Sonseca Array**	**99.58**	**323**	LR	LR	11 36 07.7	
	comp=Z,237nm,18.4s,MS4.7,baz=125,slow=41						
EVO	**Evora**	**102.59**	**324**	*e*P	Pdif	10 42 46.7	-1.7
	comp=Z,15nm,1.2s						
EVO				*e*MLR	MLR		
	comp=Z,412nm,21.2s,MS4.6						
LSZ	**Lusaka**	**102.62**	**259**	*e*Pdif	Pdif	10 42 47.9	-0.7
	comp=Z,3.7nm,0.9s						
LSZ	**Lusaka**	**102.62**	**259**	*e*P	Pdif	10 42 47.9	-0.7
LSZ				pmax	pmax		
	comp=Z,4.0nm,0.9s						
TORD	**Torodi Ar. Bea**	**112.83**	**298**	PKiKP	PKiKP	10 47 28.0	-1.4
	comp=Z,0.5nm,0.7s,baz=25,slow=3.2,SNR=3.6						
TORD				PP	PP	10 48 07.8	-9.2
	comp=Z,0.9nm,0.9s,baz=54,slow=5.3,SNR=4.7						
DBIC	**Dimbokro**	**121.82**	**296**	PKIKP	PKPdf	10 47 45.1	-1.6
DBIC				pmax	pmax		
	comp=Z,1.0nm,0.6s						
DBIC	**Dimbokro**	**121.82**	**296**	PKP	PKPdf	10 47 45.0	-1.7
	comp=Z,1.3nm,0.6s,baz=97,slow=2.7,SNR=3.8						
VNA2	**Neumayer--Watz**	**127.36**	**198**	*e*PKPdf	PKPdf	10 47 56.2	+0.6
	baz=110,slow=1.5						
VNA2				*e*		10 47 59.3	
VNA2				*e*		10 48 02.3	
VNA1	**Neumayer--Stat**	**127.75**	**198**	*e*PKPdf	PKPdf	10 47 57.2	+0.9
VNA1				*e*		10 48 00.4	
VNA1				*e*		10 48 03.0	
SDV	**Santo Domingo**	**142.42**	**26**	*e*PKPdf	PKPdf	10 48 20.7	-4.6
ROSC	**El Rosal**	**144.28**	**35**	*e*PKPdf	PKPdf	10 48 30.4	+1.7
ROSC	**El Rosal**	**144.28**	**35**	PKP	PKPdf	10 48 30.7	+2.0
	comp=Z,9.5nm,0.6s,baz=102,slow=20,SNR=8.1						
ATAH	**Atahualpa**	**150.87**	**55**	PKPbc	PKPbc	10 48 46.2	+1.0
	comp=Z,16nm,0.9s,baz=26,slow=16,SNR=6.6						
PLCA	**Paso Flores**	**160.03**	**143**	PKP2	PKPab	10 49 33.2	+2.5
PLCA				pmax	pmax		
	comp=Z,3.0nm,0.9s						
PLCA	**Paso Flores**	**160.03**	**143**	PKPab	PKPab	10 49 33.1	+2.4
	comp=Z,2.5nm,0.9s,baz=174,slow=1.5,SNR=4.8						
LPAZ	**La Paz**	**164.50**	**56**	*e*PKPdf	PKPdf	10 48 57.8	+1.6
LPAZ	**La Paz**	**164.50**	**56**	PKIKP	PKPdf	10 48 57.8	+1.6
LPAZ				pmax	pmax		
	comp=Z,2.0nm,1.1s						
LPAZ	**La Paz**	**164.50**	**56**	PKP	PKPdf	10 48 57.8	+1.6
	comp=Z,2.4nm,1.1s,baz=1.5,slow=5.9,SNR=6.0						

GUC 22 10:30:58.3±0.8, 3242S×7139W, h18km±6km, MD3.5, ML2.2, 2C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PACH	**Papudo**	**0.13**	**200**	⇓*i*P	Pg	10 31 02.6	+0.4
PACH				*i* S	Sg	10 31 05.6	+0.7
CHNG	**Los Chungos**	**0.54**	**350**	⇑*i*P	Pg	10 30 49.1	-20
CHNG				*i* S	Sg	10 30 56.6	-20
CHNG				AML	AML	10 30 57.2	
	comp=E,146nm,0.3s						
JACH	**Jahuel**	**0.72**	**112**	⇓*i*P	Pb	10 31 12.0	-0.3
JACH				*i* S	Sb	10 31 22.2	+0.4
STL	**Santa Lucia**	**1.19**	**149**	*e*P	Pn	10 31 19.3	-0.8
STL				*i* S	Sb	10 31 35.3	-0.2
STL				AML	AML	10 31 36.0	
	comp=N,32nm,0.2s						
DSCH	**Colegio Aleman**	**1.20**	**145**	⇑*i*P	Pn	10 31 19.0	-1.1
DSCH				*i* S	Sb	10 31 34.8	-0.7
DSCH				AML	AML	10 31 35.6	
	comp=E,99nm,0.3s						
TACH	**Talagante**	**1.29**	**163**	*i* P	Pn	10 31 20.7	-0.7
TACH				*i* S	Sn	10 31 37.1	-1.1
FCH	**Farellones**	**1.29**	**135**	⇓*i*P	Pn	10 31 21.1	-0.4
FCH				*i* S	Sn	10 31 38.3	0.0
FCH				AML	AML	10 31 38.9	
	comp=E,195nm,0.2s						
ANTU	**Antumapu**	**1.31**	**151**	⇓*i*P	Pn	10 31 21.3	-0.4
ANTU				*i* S	Sn	10 31 38.6	-0.2
ANTU				AML	AML	10 31 40.2	
	comp=N,181nm,0.3s						
PCH	**Pirque**	**1.41**	**149**	*i* P	Pn	10 31 22.9	-0.1
PCH				*i* S	Sn	10 31 41.5	+0.4
LNV	**Longovilo**	**1.54**	**181**	*e*P	Pn	10 31 24.4	-0.4
LNV				*i* S	Sn	10 31 44.3	0.0
CICH	**Cipreses**	**2.06**	**157**	*e*P	Pn	10 31 32.6	+0.5

*ISK **22** 10:46:08.7, 3941N×4076E, h5km, MD3.3, ML3.4*
*NEIC **22** 10:46:08.6, 3941N×4077E, h5km, MD3.5(ISK), After ISK.*
*ISCJB **22** 10:46:09.9±0.7, 3939N×002×4082E±003, h2km±5km, Error ellipse: s-maj=4.8km s-min=3.6km az=42.3*
*DDA **22** 10:46:10.7, 3939N×4081E, h8km±2km, Md3.5*
*CSEM **22** 10:46:10.0±0.1, 3940N×4079E, h10km, MD3.3, Error ellipse: s-maj=2.3km s-min=1.6km az=126.0*

ISC 22 10:46:10.4±0.6, 3938N±003×4084E±003, h2km±5km, n33, σ0:82/47, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BINT	**Bingol**	**0.57**	**208**	PG	**Pg**	**10 46 21.1**	**-0.3**
BINT				*e*SG	**Sg**	**10 46 30.0**	**+1.1**
BINT	**Bingol**	**0.57**	**208**	Pg	**Pg**	**10 46 20.8**	**-0.6**
BINT				Sg	**Sg**	**10 46 29.8**	**+0.9**
EZM	**Erzurum**	**0.66**	**38**	PG	**Pg**	**10 46 22.7**	**-0.3**
EZM				*e*SG	**Sg**	**10 46 33.6**	**+2.0**
EZM	**Erzurum**	**0.66**	**38**	Pn	**Pg**	**10 46 22.7**	**-0.3**
EZM				Sg	**Sg**	**10 46 32.7**	**+1.1**
ERZM	**Erzurum**	**0.66**	**38**	*i* P	**Pg**	**10 46 22.6**	**-0.5**
ERZM				*i* S	**Sg**	**10 46 33.8**	**+2.1**
KOPT	**Kop Dagi**	**0.69**	**338**	*i* P	**Pg**	**10 46 22.6**	**-1.0**
KOPT				*i* S	**Sg**	**10 46 32.7**	**+0.3**
EZC	**Erzincan**	**0.87**	**295**	*e*PN	**Pn**	**10 46 31.3**	**+1.7**
EZC				*e*SN	**Sn**	**10 46 48.4**	**+5.5**
EZC	**Erzincan**	**0.87**	**295**	Pn	**Pn**	**10 46 31.6**	**+2.0**
HOMI	**Horasan**	**1.06**	**51**	*i* P	**Pg**	**10 46 29.3**	**-1.3**
HOMI				*i* S	**Sg**	**10 46 44.4**	**+0.1**
BTMT	**Batman**	**1.29**	**157**	*e*PN	**Pn**	**10 46 35.8**	**+0.3**
GUMT	**Gumushane**	**1.50**	**316**	*e*PN	**Pn**	**10 46 37.2**	**-1.1**
GUMT	**Gumushane**	**1.50**	**316**	Pn	**Pn**	**10 46 37.0**	**-1.3**
TUTA	**Tutak**	**1.53**	**89**	*i* P	**Pn**	**10 46 37.7**	**-1.0**
TUTA				*i* S	**Sn**	**10 46 58.7**	**-0.5**
DIY	**Diyarbakir**	**1.56**	**198**	*e*PN	**Pn**	**10 46 38.9**	**-0.2**
DIY	**Diyarbakir**	**1.56**	**198**	Pn	**Pn**	**10 46 38.6**	**-0.5**
AGRB	**Hanur-Agry**	**1.68**	**83**	*e*PN	**Pn**	**10 46 41.0**	**+0.2**
ELZG	**Elazig**	**1.69**	**239**	*i* P	**Pn**	**10 46 40.7**	**-0.2**
ELZG				*i* S	**Sn**	**10 46 58.2**	**-5.0**
PZAR	**Pazar-Rize**	**1.79**	**1**	*e*PN	**Pn**	**10 46 42.0**	**-0.3**
KTUT	**Trabzon**	**1.80**	**333**	*e*PN	**Pn**	**10 46 41.1**	**-1.3**
KEMA	**Kemaliye**	**1.82**	**267**	*i* P	**Pn**	**10 46 42.2**	**-0.5**
KEMA				*i* S	**Sn**	**10 47 07.6**	**+1.3**
ARTV	**Artvin**	**1.98**	**25**	*i* P	**Pn**	**10 46 45.3**	**+0.4**
ARTV				*i* S	**Sn**	**10 47 14.4**	**+4.1**
MARD	**Mardin**	**2.07**	**181**	*i* P	**Pn**	**10 46 45.9**	**-0.1**
MARD				*i* S	**Sn**	**10 47 12.7**	**+0.4**
KARS	**Kars**	**2.12**	**54**	*e*PN	**Pn**	**10 46 46.8**	**0.0**
VANB	**Van**	**2.14**	**111**	*e*PN	**Pn**	**10 46 48.2**	**+1.1**
BCA	**Borcka**	**2.15**	**16**	*e*PN	**Pn**	**10 46 46.5**	**-0.7**
MYA	**Malataya**	**2.16**	**241**	*e*PN	**Pn**	**10 46 46.5**	**-0.9**
MALT	**Malatya**	**2.16**	**241**	*e*PN	**Pn**	**10 46 47.2**	**-0.2**
ESPY	**Espiye-Giresun**	**2.23**	**314**	*e*PN	**Pn**	**10 46 47.7**	**-0.6**
GRSN	**GIRESUNGRSN**	**2.50**	**309**	*i* P	**Pn**	**10 46 52.4**	**+0.4**
GRSN				*i* S	**Sn**	**10 47 23.8**	**+0.7**
URFA	**Urfa**	**2.50**	**220**	*e*PN	**Pn**	**10 46 52.0**	**-0.1**
SVSK	**Karacayir**	**3.01**	**281**	*e*PN	**Pn**	**10 46 58.8**	**-0.3**
GAZ	**Gaziantep**	**3.61**	**233**	*e*PN	**Pn**	**10 47 07.6**	**+0.4**
KMRS	**Kahramanmaras**	**3.62**	**240**	*e*PN	**Pn**	**10 47 07.6**	**+0.3**

*NNC **22** 10:46:39.1±7.4, 3708N×6930E, h0km, mb4.3, mpv4.0, Error ellipse: s-maj=74.4km s-min=60.7km az=76.0*
*IDC **22** 10:46:52.0±3.3, 3793N×7064E, h0km, mb3.6/3, mb1 3.6/7, mb1mx3.4/25, mbt

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**3.06**	**21**	Pn	Pn	11 12 16.9	+0.7
	0.3nm,0.3s,baz=198,slow=12,SNR=27						
ASAR				Pg	Pg	11 12 24.1	-1.3
	1.3nm,0.3s,baz=197,slow=15,SNR=37						
ASAR				Lg		11 13 02.2	
	6.2nm,0.3s,baz=199,slow=26,SNR=29						
WRA	**Warramunga Arr**	**6.74**	**13**	Pn	Pn	11 13 06.6	-0.2
	0.3nm,0.3s,baz=195,slow=14,SNR=17						
WRA				Sn	Sn	11 14 22.2	-2.2
	1.0nm,0.3s,baz=196,slow=24,SNR=14						
WRA				Lg		11 14 59.4	
	0.8nm,0.3s,baz=198,slow=27,SNR=5.7						
STKA	**Stephens Creek**	**9.39**	**127**	Pn	Pn	11 13 41.7	-1.5
	0.3nm,0.3s,baz=304,slow=14,SNR=4.9						
STKA				Sn	Sn	11 15 19.6	-10
	0.4nm,0.3s,baz=25,slow=20,SNR=5.4						
FITZ	**Fitzroy Crossi**	**10.66**	**321**	Pn	Pn	11 14 01.8	+1.1
	0.1nm,0.3s,baz=151,slow=8.7,SNR=5.2						
FITZ				Sn	Sn	11 15 55.8	-5.1
	0.1nm,0.3s,baz=254,slow=20,SNR=3.0						

KRSC 22 11:16:24.9±0.6, 5249N×15946E, h24km±23km, ML3.7, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUS	**Russkaya**	**0.58**	**265**	*e*P	Pb	11 16 36.9	+0.5
RUS				*i* S	Sb	11 16 45.3	+1.0
NLC	**Nalytchevo**	**0.69**	**354**	*e*P	Pb	11 16 38.4	+0.2
NLC				*i* S	Sb	11 16 48.0	+0.8
SPN	**Mys Shipunski**	**0.70**	**29**	*e*P	Pb	11 16 39.0	+0.6
SPN				*i* S	Sb	11 16 49.3	+1.7
PET	**Petropavlovsk**	**0.73**	**318**	*i* P	Pb	11 16 39.2	+0.3
PET				*i* S	Sb	11 16 49.0	+0.6
GRL	**Gorelyy**	**0.85**	**275**	*e*P	Pb	11 16 41.5	+0.6
GRL				*i* S	Sb	11 16 53.2	+1.3
AVH	**Avacha**	**0.89**	**331**	*e*P	Pb	11 16 42.0	+0.3
AVH				*i* S	Sb	11 16 54.4	+1.3
GNL	**Ganaly**	**1.52**	**323**	*e*P	Pn	11 16 51.2	+0.7
GNL				*i* S	Sn	11 17 10.1	+0.7
KII	**Karymskiy**	**1.55**	**360**	*e*P	Pn	11 16 52.8	+1.9
KII				*i* S	Sn	11 17 12.8	+2.6
MIPR	**Malaya Ipel'ka**	**1.67**	**264**	*e*P	Pn	11 16 53.7	+1.1
MIPR				*i* S	Sn	11 17 14.7	+1.5
MKZ	**Mys Kozlova**	**2.47**	**32**	*e*P	Pn	11 17 03.1	-0.5
MKZ				*i* S	Sn	11 17 30.7	-2.3
TUMR	**Tumrok**	**2.83**	**8**	*e*P	Pn	11 17 11.3	+2.8
TUMR				*i* S	Sn	11 17 46.2	+4.4
ALID	**Alaid**	**2.93**	**238**	P	Pn	11 17 12.4	+2.6
KMNR	**Kamenistaya**	**3.31**	**8**	P	Pn	11 17 18.0	+3.0
KBTR	**Krutoberegovo**	**4.21**	**26**	*e*P	Pn	11 17 30.1	+2.6
KBTR				*i* S	Sn	11 18 18.4	+2.5

IDC 22 11:17:23.6±1.7, 322N×12732E, h0km, mb3.8/5, mb1 4.0/5, mb1mx3.7/18, mbtmp3.9/5, Error ellipse: s-maj=94.3km s-min=22.8km az=68.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**21.25**	**184**	*e*P	P	11 22 11.0	-0.5
	4.2nm,1.0s						
FITZ	**Fitzroy Crossi**	**21.25**	**184**	P	P	11 22 11.2	-0.3
	1.2nm,0.4s,baz=4.5,slow=15,SNR=8.3						
WRA	**Warramunga Arr**	**24.03**	**164**	P	P	11 22 40.1	-0.3
	1.9nm,0.3s,baz=344,slow=11,SNR=66						
WB2	**Warramunga Arr**	**24.03**	**164**	*e*P	P	11 22 39.7	-0.7
ASAR	**Alice Springs**	**27.48**	**167**	P	P	11 23 12.1	+0.4
	0.6nm,0.3s,baz=347,slow=12,SNR=24						
STKA	**Stephens Creek**	**37.45**	**160**	P	P	11 24 39.5	+0.7
	1.3nm,0.4s,baz=342,slow=9.7,SNR=4.9						
MKAR	**Makanchi Array**	**58.31**	**325**	P	P	11 27 19.8	-0.4
	0.5nm,0.4s,baz=128,slow=8.3,SNR=6.8						

*ISCJB **22** 11:19:12.7±0.6, 3812N±002×2284E±005, h14km±4km, Error ellipse: s-maj=7.0km s-min=3.8km az=166.1*
*ATH **22** 11:19:12.8, 3811N×2278E, h28km±1km, MD3.2/8, ML3.0*
*THE **22** 11:19:13.7, 3811N×2280E, h11km, ML3.2*
*NEIC **22** 11:19:13.0, 3811N×2278E, h30km, ML3.0(ATH), After ATH.*
*CSEM **22** 11:19:13.6±0.1, 3813N×2279E, h10km, ML3.2, Error ellipse: s-maj=2.3km s-min=1.4km az=78.0*

ISC 22 11:19:13.4±0.6, 3811N±003×2282E±005, h17km±4km, n21, σ0§94/35, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LTK	**Loutraki**	**0.15**	**127**	*e*Pg	**Pg**	11 19 17.1	-0.2
LKR	**Lokris**	**0.56**	**15**	*e*Pn	**Pg**	11 19 24.0	-0.4
LKR				*e*Sn	**Sg**	11 19 33.6	+1.7
LKR	**Lokris**	**0.56**	**15**	*e*Pg	**Pg**	11 19 24.2	-0.2
LKR				*e*Sg	**Sg**	11 19 33.0	+1.1
LKR	**Lokris**	**0.56**	**15**	*e*Pg	**Pg**	11 19 24.2	-0.2
LKR				*e*Sg	**Sg**	11 19 33.0	+1.1
LKR				*e*Sn	**Sg**	11 19 33.6	+1.7
NAIG	**Nisos Aigina**	**0.64**	**123**	*e*PN	**Pn**	11 19 26.0	-1.6
NAIG				*e*SN	**Sg**	11 19 35.3	+1.0
DID	**Didima**	**0.69**	**151**	*e*Pg	**Pg**	11 19 26.2	-0.6
DID				*e*Sg	**Sg**	11 19 37.5	+1.5
ATH	**Athens Observa**	**0.72**	**101**	*e*PN	**Pn**	11 19 28.0	-0.8
ATH				*e*SN	**Sn**	11 19 38.4	-1.1
ATH	**Athens Observa**	**0.72**	**101**	*e*Pn	**Pn**	11 19 28.7	-0.1
ATH				*e*Sn	**Sn**	11 19 38.4	-1.1
VLX	**Vlachokerasia**	**0.82**	**205**	*e*Pg	**Pg**	11 19 29.1	-0.2
PTL	**Penteli**	**0.83**	**94**	*e*PN	**Pn**	11 19 29.3	-0.9
PTL				*e*SN	**Sn**	11 19 41.5	-0.6
PTL	**Penteli**	**0.83**	**94**	*e*Pn	**Pn**	11 19 30.0	-0.2
AGG	**Agios Georgios**	**0.99**	**337**	*e*Pg	**Pg**	11 19 31.7	-0.8
AGG				*e*Sg	**Sg**	11 19 46.9	+1.4
EVR	**Evrytania**	**1.13**	**316**	*e*PN	**Pn**	11 19 34.0	-0.4
NEO	**Neokhori**	**1.23**	**15**	*e*PN	**Pn**	11 19 35.9	0.0
NEO				*e*SN	**Sn**	11 19 52.8	+0.7
XOR	**Xorichti**	**1.29**	**13**	*e*Pg	**Pg**	11 19 37.4	-0.8
XOR				*e*Sg	**Sg**	11 19 54.5	-0.5
AOS	**Alonnisos**	**1.34**	**38**	*e*Pg	**Pg**	11 19 37.8	-1.5
AOS				*e*Sg	**Sg**	11 19 56.3	-0.5
VLI	**Veliai**	**1.39**	**176**	*e*PN	**Pn**	11 19 38.3	+0.3
THL	**Klokotos Trika**	**1.58**	**337**	*e*PN	**Pn**	11 19 41.0	+0.4
THL	**Klokotos Trika**	**1.58**	**337**	*e*Pn	**Pn**	11 19 42.0	+1.4
APE	**Apeiranthos**	**2.39**	**115**	*e*Pn	**Pn**	11 19 52.1	+0.4
CHOS	**Chios island**	**2.56**	**83**	*e*Pn	**Pn**	11 19 55.1	+1.0
CHOS				*e*Sn	**Sn**	11 20 27.0	+2.1

*HLW **22** 11:23:57.5, 3135N×3395E, h22km, Mb3.0*
*ISCJB **22** 11:24:03.5±0.7, 3068N±003×3376E±004, h0km, Error ellipse: s-maj=5.8km s-min=4.5km az=32.9*
*GII **22** 11:24:03.0±1.5, 3071N×3376E, h0km, ML2.3/1*
*CSEM **22** 11:24:03.7±0.1, 3055N×3377E, h2km, ML2.3, Error ellipse: s-maj=2.6km s-min=1.8km az=176.0, Mining explosion.*

ISC 22 11:24:03.9±0.7, 3068N±004×3374E±004, h0km, n17, σ1§21/23, 2C-2D, Egypt

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMAG	**Maghara**	**0.46**	**265**	↑*e*P	**Pg**	11 24 14.4	+1.8
AMAG	**Maghara**	**0.46**	**265**	P	**Pg**	11 24 14.4	+1.7
KZIT	**Kziot**	**0.61**	**69**	Pg	**Pg**	11 24 15.5	-0.1
KZIT				Sg	**Sg**	11 24 24.9	+1.3
HNKL	**Nakhl**	**0.78**	**164**	↑*e*P	**Pg**	11 24 20.6	+1.6
HNKL				S	**Sg**	11 24 38.1	+9.1
HNKL	**Nakhl**	**0.78**	**164**	P	**Pg**	11 24 20.5	+1.6
KRMI	**Paran Flat**	**1.02**	**123**	Pn	**Pn**	11 24 24.3	-1.3
KRMI				Sn	**Sn**	11 24 37.3	-3.3
PRNI	**Paran**	**1.14**	**106**	Pg	**Pg**	11 24 25.4	-0.5
SUZ		**1.15**	**223**	↓*e*P	**Pg**	11 24 25.8	-0.2
SUZ		**1.15**	**223**	P	**Pg**	11 24 25.8	-0.2
	3μm,1.5s						
ZFRI	**Zfri**	**1.25**	**96**	Sg	**Sg**	11 24 45.1	+1.0
HRFI	**Mount Harif**	**1.30**	**120**	Pg	**Pg**	11 24 28.1	-0.7
HRFI				Sg	**Sg**	11 24 47.7	+2.1
MZDA	**Masada**	**1.53**	**66**	Pn	**Pn**	11 24 30.9	-1.6
MZDA				Sn	**Sn**	11 24 51.7	-1.4
DSI	**Dead Sea**	**1.66**	**58**	Sn	**Sn**	11 24 57.2	+0.8
HBST	**Basata**	**1.70**	**149**	↓*e*P	**Pn**	11 24 32.5	-2.3
HBST				S	**Sn**	11 24 57.3	0.0

SLTI	**Sal'it**	**1.91**	**35**	Sn	**Sn**	**11 25 03.0**	**+0.5**
HMDT	**Nahal Hemdat**	**2.19**	**44**	Sn	**Sn**	**11 25 08.9**	**-0.5**
MMLI	**Mount Malkishu**	**2.27**	**39**	Sn	**Sn**	**11 25 11.5**	**+0.3**

MEX 22 11:29:33.6±1.1, 1681N×9917W, h16km±20km, MD3.9, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	**Acapulco**	**0.71**	**275**	*i* P	Pg	11 29 46.0	-1.6
ACX				*i* S	Sg	11 29 52.0	-5.1
MEIG	**Mezcala**	**1.19**	**339**	*i* P	Pn	11 29 52.0	-3.6
MEIG				*i* S	Sb	11 30 06.3	-4.8
UTMO	**Huajuapan**	**1.66**	**52**	*i* P	Pn	11 29 58.4	-3.6
UTMO				*i* S	Sn	11 30 18.2	-4.8
PPM	**Popocatepetl**	**2.31**	**13**	*e*P	Pn	11 30 08.3	-2.7
PPM				*i* S	Sn	11 30 35.7	-3.4
VHO	**Vista Hermosa**	**2.35**	**83**	*i* P	Pn	11 30 08.0	-3.5
VHO				*i* S	Sn	11 30 35.4	-4.7
MZVM		**2.37**	**359**	*e*P	Pn	11 30 09.1	-2.7
MZVM				*i* S	Sn	11 30 36.7	-3.9
IIO	**Organos**	**2.80**	**9**	*e*P	Pn	11 30 19.7	+1.9
IIO				*i* S	Sn	11 30 53.0	+1.7

IDC 22 11:39:54.9±3.7, 084S×1282W, h0km, mb3.8/3, mb1 3.9/4, mb1mx3.5/24, mbtmp3.8/4, ML3.6/1, Error ellipse: s-maj=87.2km s-min=35.8km az=89.0, North of Ascension Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DBIC	**Dimbokro**	**10.89**	**47**	Pn	Pn	11 42 32.5	+0.2
	0.4nm,0.3s,baz=207,slow=13,SNR=7.3						
DBIC				Sn	Sn	11 44 27.4	-7.6
	0.4nm,0.3s,baz=122,slow=19,SNR=4.2						
TORD	**Torodi Ar. Bea**	**20.00**	**46**	P	P	11 44 29.2	-0.1
	3.2nm,0.9s,baz=231,slow=12,SNR=16						
BOSA	**Boshof**	**45.66**	**131**	P	P	11 48 17.6	+0.1
	2.6nm,0.7s,baz=329,slow=8.7,SNR=4.6						
GERES	**GERESS Array B**	**54.54**	**21**	P	P	11 49 24.8	+0.1
	0.5nm,0.7s,baz=198,slow=5.1,SNR=4.7						
ASAR	**Alice Springs**	**139.52**	**129**	PKhKP		11 59 15.3	
	0.3nm,0.8s,baz=234,slow=2.3,SNR=5.3						

NEIC 22 11:49:10.8, 3791S×17674E, h5km, ML4.0(WEL), 5C-6D, After WEL., North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARZ	**Manawahe**	**0.09**	**214**	↑P	Pg	11 49 13.2	+0.4
MARZ				S	Sg	11 49 15.5	+1.4
EDRZ	**Edgecumbe**	**0.20**	**180**	↑P	Pg	11 49 15.1	+0.4
LIRZ	**Lichensteins R**	**0.30**	**251**	↓P	Pg	11 49 17.1	+0.5
MKRZ	**Makatiti**	**0.32**	**223**	↓P	Pg	11 49 17.7	+0.8
TAZ	**Tarawera**	**0.37**	**210**	↑P	Pg	11 49 18.9	+0.9
KARZ	**Kaharoa**	**0.41**	**254**	↓P	Pg	11 49 19.1	+0.4
TGRZ	**Tauranga**	**0.42**	**295**	↓P	Pg	11 49 19.3	+0.4
URZ	**Urewera**	**0.46**	**140**	↑P	Pg	11 49 19.8	+0.2
UTU	**Utuhina**	**0.51**	**238**	↓P	Pg	11 49 21.2	+0.6
WIZ	**White Island**	**0.52**	**43**	P	Pg	11 49 21.6	+0.8
MWZ	**Matawai**	**0.75**	**125**	↑P	Pg	11 49 25.4	+0.1
PUZ	**Puketiti**	**1.21**	**98**	↓P	Pg	11 49 33.5	-0.5

*MOS **22** 11:57:39.9±0.8, 363S×8117W, h38km, mb5.0/47, MS4.7/8, Error ellipse: s-maj=12.2km s-min=5.9km az=109.0*
*ISCJB **22** 11:57:39.6±0.2, 373S±004×8128W±005, h39km, mb4.8/100, MS4.7/32, Error ellipse: s-maj=7.8km s-min=4.2km az=148.3*
*NEIC **22** 11:57:41.2±0.2, 374S×8123W, mb4.9/90, Error ellipse: s-maj=6.5km s-min=3.4km az=54.0*
NEIC Felt [II] at Talara.
*GCMT **22** 11:57:41.2±0.2, 399S×8160W, h16km, MW5.4/91, Moment Tensor Solution. s81,c137; s91,c159; Duration: 1§3 Moment tensor: Scale 10^{17}Nm; M_{rr}0.55±.03; $M_{\theta\theta}$-0.42±.02; $M_{\phi\phi}$-0.13±.03; $M_{r\theta}$-0.55±.06; $M_{\theta\phi}$1.48±.02; $M_{\phi r}$-0.39±.07; Best double couple: $M_0$1.69600×10^{17} NP1:ϕ=173.00000°, δ65.00000°, λ159.00000°. NP2:ϕ=272.00000°, δ71.00000°, λ26.00000°. Principal axes: T 1.6190, Plg32.0000°, Azm134.0000°; N 0.1540, Plg58.0000°, Azm305.0000°; P -1.7730, Plg4.0000°, Azm41.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*BJI **22** 11:57:41.6, 300S×8191W, h27km, mB5.2, Ms5.2, Msz5.0*
*SZGRF **22** 11:57:42.8, 392S×8125W, h33km, mb4.9, Near coast of northern Peru*
*IDC **22** 11:57:44.2±0.6, 377S×8130W, h67km±4km, mb4.2/20, mb1 4.3/23, mb1mx4.3/29, mbtmp4.3/23, MS4.6/20, Ms1 4.6/20, ms1mx4.4/33, Error ellipse: s-maj=18.6km s-min=8.2km az=60.0*

ISC 22 11:57:41.6±0.2, 375S±004×8122W±005, h41km, h41km±1.4km: pP-P, n270, σ0§86/229, mb4.8/100, MS4.7/32, 1C, Near coast of northern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATAH	**Atahualpa**	**4.29**	**139**	P	**Pn**	**11 58 48.0**	**+3.7**
	56nm,0.3s,baz=313,slow=10,SNR=192						
ATAH				S	**Sn**	**11 59 39.6**	**+6.5**
	72nm,0.3s,baz=0.6,slow=16,SNR=4.2						
ROSC	**El Rosal**	**10.97**	**39**	P	**Pn**	**12 00 16.7**	**+0.6**
	3.3nm,0.3s,baz=90,slow=15,SNR=3.5						
BCIP	**Isla Barro Col**	**12.90**	**6**	*e*Pn	**Pn**	**12 00 44.0**	**+1.6**
BCIP				*e*Sn	**Sn**	**12 03 06.0**	**+1.2**
JTS	**JuntasAbangare**	**14.43**	**345**	*e*Pn	**Pn**	**12 01 03.7**	**+0.3**
JTS	**JuntasAbangare**	**14.43**	**345**	P	**Pn**	**12 01 02.5**	**-0.8**
	0.4nm,0.3s,baz=153,slow=7.4,SNR=22						
JTS				LR	LR	12 04 50.7	
	comp=Z,2μm,20.6s,baz=171,slow=30						
ARE	**Arequipa**	**15.84**	**144**	*e*P	**Pn**	**12 01 24.0**	**+2.2**
SDV	**Santo Domingo**	**16.40**	**40**	*e*P	**Pn**	**12 01 28.4**	**-0.5**
	240nm,1.2s						
SDV	**Santo Domingo**	**16.40**	**40**	P	**Pn**	**12 01 29.6**	**+0.7**
	6.0nm,0.3s,baz=255,slow=10,SNR=34						
LPAZ	**La Paz**	**17.91**	**135**	*e*P	**Pn**	**12 01 48.2**	**+0.5**
	8.9nm,0.7s						
LPAZ	**La Paz**	**17.91**	**135**	*e*P	**Pn**	**12 01 48.2**	**+0.5**
LPAZ				pmax	pmax		
	comp=Z,9.0nm,0.7s						
LPAZ	**La Paz**	**17.91**	**135**	P	**Pn**	**12 01 48.0**	**+0.3**
	comp=Z,1.5nm,0.3s,baz=322,slow=13,SNR=42						
LPAZ				LR	LR	12 10 03.0	
	comp=Z,3μm,19.1s,baz=294,slow=41						
TGUH	**Tegucigalpa,Un**	**18.68**	**341**	*e*P	**Pn**	**12 01 57.8**	**+0.7**
	comp=Z,41nm,0.9s						
PCRV	**Puerto La Cruz**	**21.54**	**50**	P	**P**	**12 02 28.7**	**+1.1**
	comp=Z,80nm,0.5s,mb5.4,baz=231,slow=3.4,SNR=78						
PCRV				LR	LR	12 11 57.5	
	comp=Z,3μm,20.9s,MS4.6,baz=209,slow=39						
SIV	**San Ignacio**	**23.25**	**123**	P	**P**	**12 02 46.0**	**+0.3**
	comp=Z,54nm,0.8s,mb5.0,baz=300,slow=9.7,SNR=129						
RCC	**Rio Carpintero**	**24.21**	**13**	*e*P	**P**	**12 02 53.5**	**-1.0**
SDDR	**Presa de Saban**	**24.61**	**23**	*e*P	**P**	**12 03 03.4**	**+5.2**
	comp=Z,58nm,1.0s,mb5.1						
CMIG	**Matias Romero**	**24.71**	**327**	P	**P**	**12 02 58.0**	**-1.2**
	comp=Z,2.1nm,0.7s,mb3.8,baz=123,slow=7.2,SNR=7.6						
CMIG				LR	LR	12 10 50.4	
	comp=Z,2μm,19.2s,MS4.6,baz=131,slow=32						
TEIG	**Tepich**	**24.81**	**344**	*e*P	**P**	**12 03 00.4**	**+0.4**
	comp=Z,32nm,1.2s,mb4.7						
TEIG	**Tepich**	**24.81**	**344**	P	**P**	**12 03 00.6**	**+0.6**
	comp=Z,5.7nm,0.6s,mb4.3,baz=125,slow=14,SNR=7.5						
TEIG				LR	LR	12 11 50.3	
	comp=Z,2μm,18.1s,MS4.7,baz=345,slow=34						
MGV	**Manicaragua**	**25.73**	**3**	*e*P	**P**	**12 03 11.2**	**+2.9**
MPR	**Mayaguez**	**25.86**	**32**	*e*P	**P**	**12 03 11.3**	**+1.8**
LCO	**Las Campanas**	**27.04**	**159**	*e*P	**P**	**12 03 19.5**	**-0.6**
	comp=Z,21nm,0.9s,mb4.7						
HMG	**Houelmont**	**27.52**	**44**	*e*P	**P**	**12 03 27.7**	**+3.2**
CFAA	**Coronel Fontan**	**30.28**	**158**	P	**P**	**12 03 49.1**	**+0.2**
	comp=Z,1.3nm,0.9s,mb3.6,baz=0.7,slow=7.9,SNR=12						
CPUP	**Villa Florida**	**32.07**	**137**	P	**P**	**12 04 04.9**	**+0.1**
CPUP				pmax	pmax		
	comp=Z,5.0nm,0.8s						
CPUP				pmax	pmax		
	comp=Z,10.0nm,0.7s						
CPUP				MLR	MLR		
	comp=Z,3μm,21.0s						
CPUP	**Villa Florida**	**32.07**	**137**	P	**P**	**12 04 04.9**	**+0.1**
	comp=Z,5.3nm,0.8s,mb4.4,baz=290,slow=9.0,SNR=16						
CPUP				sP	sP	12 04 29.9	+8.9
	comp=Z,10nm,0.7s,baz=306,slow=9.1,SNR=12						
CPUP				LR	LR	12 19 17.6	
	comp=Z,3μm,21.0s,MS4.9,baz=299,slow=40						
BDFB	**Brasilia**	**34.73**	**112**	P	**P**	**12 04 28.9**	**+0.8**
BDFB				pmax	pmax		
	comp=Z,7.0nm,0.9s						
BDFB	**Brasilia**	**34.73**	**112**	P	**P**	**12 04 28.9**	**+0.8**
	comp=Z,6.8nm,0.9s,mb4.6,baz=260,slow=16,SNR=19						
HKT	**Hockley**	**36.31**	**338**	*e*P	**P**	**12 04 42.1**	**+0.6**
	comp=Z,21nm,1.3s,mb4.9						
HKT	**Hockley**	**36.31**	**338**	*e*P	**P**	**12 04 42.1**	**+0.7**
HKT				pmax	pmax		
	comp=Z,21nm,1.3s,mb4.9						
LRAL	**Lakeview Retre**	**36.99**	**352**	*e*P	**P**	**12 04 46.9**	**-0.2**
	comp=Z,22nm,1.0s,mb4.9						
LRAL				*e*pP	pP	12 04 56.5	-2.0
GOGA	**Godfrey**	**37.02**	**357**	*e*P	**P**	**12 04 46.0**	**-1.4**
	comp=Z,6.1nm,0.5s,mb4.7						
GOGA				*e*pP	pP	12 04 56.5	-2.3
GOGA	**Godfrey**	**37.02**	**357**	*e*P	**P**	**12 04 46.0**	**-1.4**
GOGA				*e**PP	pP	12 04 56.5	-2.3
GOGA				pmax	pmax		
	comp=Z,6.0nm,0.5s,mb4.7						
LPA	**La Plata**	**37.79**	**148**	*c*eP	**P**	**12 04 53.0**	**-1.0**
PLCA	**Paso Flores**	**38.06**	**167**	*e*P	**P**	**12 04 55.8**	**-0.3**
	comp=Z,8.7nm,0.5s,mb4.7						
PLCA				*e*pP	pP	12 05 09.1	+1.6
PLCA	**Paso Flores**	**38.06**	**167**	P	**P**	**12 04 56.3**	**+0.2**
PLCA						12 07 10.8	
PLCA				pmax	pmax		
	comp=Z,11nm,0.5s						
PLCA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
PLCA	**Paso Flores**	**38.06**	**167**	P	**P**	**12 04 56.2**	**+0.1**
	comp=Z,11nm,0.5s,mb4.8,baz=337,slow=9.5,SNR=71						
PLCA				PcP	PcP	12 07 10.8	-0.1
	comp=Z,2.5nm,0.8s,baz=34,slow=4.6,SNR=3.7						
JCT	**Junction City**	**38.39**	**334**	*e*P	**P**	**12 04 59.0**	**-0.1**
	comp=Z,58nm,1.6s,mb5.1						
JCT	**Junction City**	**38.39**	**334**	*e*P	**P**	**12 04 59.0**	**-0.1**
JCT				pmax	pmax		
	comp=Z,57nm,1.6s,mb5.0						
TRQA	**Tornquist**	**38.41**	**155**	*e*P	**P**	**12 04 58.9**	**-0.2**
	comp=Z,9.6nm,0.8s,mb4.6						
TRQA				*e*pP	pP	12 05 10.1	-0.5
SWET	**Sewanee**	**39.01**	**354**	*e*P	**P**	**12 05 03.2**	**-1.0**
SWET				*e*pP	pP	12 05 13.8	-1.8
PLAL	**Pickwick Lake**	**39.06**	**351**	*e*P	**P**	**12 05 03.5**	**-1.1**
	comp=Z,27nm,1.4s,mb4.8						
PLAL				*e*pP	pP	12 05 13.8	-2.2
CPCT	**Cooper Cave**	**39.11**	**356**	*e*P	**P**	**12 05 04.4**	**-0.6**
CPCT				*e*pP	pP	12 05 14.8	-1.7
TXAR	**Lajitas Array**	**39.31**	**328**	P	**P**	**12 05 06.5**	**-0.3**
TXAR						12 07 15.7	
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
TXAR				pmax	pmax		
	comp=Z,3.0nm,0.9s						
TXAR	**Lajitas Array**	**39.31**	**328**	P	**P**	**12 05 06.5**	**-0.3**
	comp=Z,1.1nm,0.8s,mb3.6,baz=151,slow=9.5,SNR=9.8						
TXAR				PcP	PcP	12 07 15.7	+0.7
	comp=Z,2.5nm,0.9s,baz=156,slow=6.8,SNR=6.7						
TXAR				LR	LR	12 19 48.1	
	comp=Z,662nm,19.7s,MS4.5,baz=180,slow=34						
LPIG	**La Paz**	**39.60**	**316**	LR	LR	12 18 23.8	
	comp=Z,559nm,18.9s,MS4.4,baz=103,slow=31						
UALR	**University of**	**39.72**	**346**	*e*P	**P**	**12 05 10.2**	**+0.1**
	comp=Z,41nm,1.3s,mb5.0						
UALR				*e*pP	pP	12 05 20.3	-1.3
UALR				*e*sP	sP	12 05 27.6	+1.1
MIAR	**Mount Ida**	**39.82**	**344**	*e*P	**P**	**12 05 11.0**	**0.0**
	comp=Z,36nm,1.5s,mb4.9						
MIAR				*e*pP	pP	12 05 21.7	-0.7
MIAR				*e*sP	sP	12 05 28.9	+1.5
MIAR	**Mount Ida**	**39.82**	**344**	*e*P	**P**	**12 05 11.0**	**0.0**
MIAR				*e**PP	pP	12 05 21.7	-0.8
MIAR				*e**SP	sP	12 05 28.9	+1.6
MIAR				pmax	pmax		
	comp=Z,36nm,1.5s,mb4.9						
TZTN	**Tazewell**	**40.14**	**357**	*e*P	**P**	**12 05 12.3**	**-1.3**
	comp=Z,35nm,1.1s,mb5.0						
TZTN				*e*pP	pP	12 05 23.2	-1.8
WVT	**Waverly**	**40.15**	**352**	*e*P	**P**	**12 05 12.1**	**-1.5**
	comp=Z,4.1nm,0.5s,mb4.4						
WVT				*e*pP	pP	12 05 22.9	-2.2
WVT				*e*sP	sP	12 05 30.9	+0.9
WVT	**Waverly**	**40.15**	**352**	*e*P	**P**	**12 05 12.1**	**-1.6**
WVT				*e**PP	pP	12 05 22.9	-2.2
WVT				*e**SP	sP	12 05 30.9	+0.9
WVT				pmax	pmax		
	comp=Z,4.0nm,0.5s,mb4.4						
BLA	**Blacksburg**	**40.75**	**1**	*e*P	**P**	**12 05 18.0**	**-0.7**
	comp=Z,17nm,1.1s,mb4.6						
BLA				*e*pP	pP	12 05 28

MVCO Mesa Verde 48.01 331 *eP* **P 12 06 17.6 +0.9**
comp=Z,23nm,1.3s,mb5.0
WUAZ Wupatki 48.21 327 *eP* **P 12 06 19.2 +1.0**
comp=Z,46nm,1.4s,mb5.3
LONY Lake Ozonia 48.51 6 *eP* **P 12 06 19.6 -0.8**
comp=Z,19nm,1.6s,mb4.9
LONY *epP* pP 12 06 30.2 -1.9
ISCO Idaho Springs 48.79 335 *eP* **P 12 06 23.4 +0.7**
comp=Z,35nm,1.7s,mb5.1
ISCO Idaho Springs 48.79 335 *eP* **P 12 06 23.4 +0.7**
ISCO pmax pmax
comp=Z,35nm,1.7s,mb5.1
MSNY Massena 48.86 6 *eP* **P 12 06 22.7 -0.4**
SMCO Snowmass 48.87 333 *eP* **P 12 06 22.4 -0.9**
comp=Z,36nm,1.5s,mb5.2
ECSD EROS,Sioux Fal 49.26 345 *eP* **P 12 06 25.0 -1.2**
comp=Z,9.0nm,0.7s,mb4.9
PFO Pinyon Flat Ob 49.87 321 LR LR 12 26 18.2
comp=Z,520nm,18.0s,MS4.6,baz=143,slow=34
SRU San Rafael 50.49 330 *eP* **P 12 06 36.1 +0.5**
comp=Z,4.5nm,1.1s,mb4.4
SRU San Rafael 50.49 330 *eP* **P 12 06 36.1 +0.5**
SRU pmax pmax
comp=Z,5.0nm,1.1s,mb4.5
CCUT Cedar City 50.79 327 *eP* **P 12 06 38.8 +0.9**
MSU Marysvale 50.87 329 *eP* **P 12 06 39.1 +0.6**
ARUT Antelope Range 51.00 327 *eP* **P 12 06 40.6 +1.1**
RWWY Rawlins 51.04 335 *eP* **P 12 06 38.5 -1.1**
comp=Z,32nm,1.2s,mb5.1
GSC Goldstone 51.21 322 *eP* **P 12 06 42.9 +1.7**
comp=Z,23nm,1.4s,mb4.9
GSC Goldstone 51.21 322 *eP* **P 12 06 42.9 +1.8**
GSC pmax pmax
comp=Z,23nm,1.4s,mb4.9
MWC Mount Wilson 51.29 320 *eP* **P 12 06 41.8 +0.1**
DAU Daniels Canyon 51.85 331 *eP* **P 12 06 47.5 +1.7**
RSSD Black Hills 51.87 339 *eP* **P 12 06 46.0 +0.1**
comp=Z,9.4nm,1.2s,mb4.6
RSSD Black Hills 51.87 339 *eP* **P 12 06 46.0 +0.1**
RSSD pmax pmax
comp=Z,9.0nm,1.2s,mb4.6
JLU Jordanelle 52.09 331 *eP* **P 12 06 48.9 +1.3**
CTU Camp Tracy 52.31 331 *eP* **P 12 06 49.3 +0.1**
comp=Z,14nm,1.1s,mb4.8
DUG Dugway 52.46 330 *eP* **P 12 06 50.9 +0.6**
comp=Z,44nm,1.8s,mb5.1
DUG Dugway 52.46 330 *eP* **P 12 06 50.9 +0.6**
DUG pmax pmax
comp=Z,44nm,1.8s,mb5.1
NOQ North Oquirrh 52.46 330 *eP* **P 12 06 50.8 +0.6**
comp=Z,42nm,1.4s,mb5.2
HWUT Hardware Ranch 52.92 332 *eP* **P 12 06 53.7 0.0**
comp=Z,27nm,1.2s,mb5.0
BW06 Boulder Array 52.92 334 *eP* **P 12 06 53.4 -0.3**
comp=Z,19nm,1.5s,mb4.8
PDAR Pinedale Array 52.92 334 P **P 12 06 53.4 -0.3**
comp=Z,1.3nm,0.8s,mb3.9,baz=126,slow=7.5,SNR=9.3
PDAR LR LR 12 29 12.7
comp=Z,580nm,18.1s,MS4.7,baz=316,slow=36
BGU Big Grassy Mou 53.11 330 *eP* **P 12 06 54.8 -0.4**
BGU *epP* pP 12 07 07.9 +0.9
AGMN Agassiz Refuge 53.39 348 *eP* **P 12 06 56.6 -0.4**
comp=Z,13nm,0.6s,mb5.0
MTUM Tungsten Hills 53.63 323 *eP* **P 12 06 59.5 +0.5**
REDW Red Top Meadow 53.97 334 *eP* **P 12 07 01.3 -0.1**
comp=Z,146nm,2.1s,mb5.5
REDW *epP* pP 12 07 13.5 +0.3
SNOW Snow King Moun 54.01 334 *eP* **P 12 07 02.6 +1.0**
comp=Z,20nm,1.4s,mb4.9
LOHW Long Hollow 54.06 334 *eP* **P 12 07 02.1 +0.1**
comp=Z,15nm,1.3s,mb4.8
TPAW Teton Pass 54.12 334 *eP* **P 12 07 03.3 +0.9**
comp=Z,19nm,1.1s,mb4.9
MOOW Moose Ponds 54.23 334 *eP* **P 12 07 02.2 -1.0**
comp=Z,11nm,1.4s,mb4.6
IMW Indian Meadow 54.43 334 *eP* **P 12 07 04.9 +0.2**
comp=Z,6.9nm,1.1s,mb4.5
FLWY Flagg Ranch 54.48 334 *eP* **P 12 07 05.4 +0.4**
comp=Z,9.5nm,1.0s,mb4.7
RLMT Red Lodge 54.71 336 *eP* **P 12 07 06.4 -0.3**
comp=Z,14nm,1.3s,mb4.8
LKWY Lake 54.73 335 *eP* **P 12 07 09.0 +2.1**
comp=Z,55nm,2.3s,mb5.2
LKWY Lake 54.73 335 *eP* **P 12 07 09.0 +2.1**
LKWY pmax pmax
comp=Z,55nm,2.3s,mb5.2
YFT Old Faithful 54.83 334 *eP* **P 12 07 09.4 +1.9**
LAO LASA Array 54.87 339 *eP* **P 12 07 07.8 0.0**
comp=Z,24nm,1.3s,mb5.1
ULM Lac du Bonnet 55.25 349 *eP* **P 12 07 09.3 -1.2**
comp=Z,23nm,1.2s,mb5.1
ULM Lac du Bonnet 55.25 349 P **P 12 07 09.3 -1.1**
comp=Z,6.7nm,0.8s,mb4.7,baz=155,slow=7.2,SNR=12
RKT Rikitea 55.35 244 *eS* **S 12 15 01.6 +8.0**
comp=Z,750nm,28.0s
RKT *eLQ* 12 21 04.4
comp=Z,1μm,32.0s
RKT *eLR* LR 12 23 22.4
comp=Z,959nm,32.5s
QLMT Earthquake Lak 55.39 334 *eP* **P 12 07 13.1 +1.5**
GCMT Greycliff 55.42 336 *eP* **P 12 07 12.2 +0.4**
HLID Hailey 55.77 331 *eP* **P 12 07 15.0 +0.6**
comp=Z,25nm,1.4s,mb5.0
BOZ Bozeman (W) 56.12 335 *eP* **P 12 07 16.9 0.0**
comp=Z,44nm,1.8s,mb5.2
BOZ Bozeman (W) 56.12 335 *eP* **P 12 07 16.9 +0.1**
BOZ pmax pmax
comp=Z,44nm,1.8s,mb5.2
DLMT Dillon 56.31 334 *eP* **P 12 07 18.3 0.0**
comp=Z,18nm,1.2s,mb5.0
LRM Limekiln Ridge 56.61 334 *eP* **P 12 07 20.2 -0.2**
HRY Holter Researc 57.05 335 *eP* **P 12 07 23.3 -0.2**
WVOR Wild Horse Val 57.10 328 *eP* **P 12 07 23.4 -0.6**
comp=Z,26nm,1.4s,mb5.1
WVOR Wild Horse Val 57.10 328 *eP* **P 12 07 23.4 -0.5**
WVOR pmax pmax
comp=Z,26nm,1.4s,mb5.1
EGMT Eagleton 57.29 338 *eP* **P 12 07 25.1 0.0**
comp=Z,16nm,1.0s,mb5.0
MOD Modoc 57.65 326 *eP* **P 12 07 27.8 0.0**
comp=Z,36nm,1.3s,mb5.2
MSO Missoula 58.04 334 *eP* **P 12 07 31.5 +1.1**
comp=Z,19nm,1.1s,mb5.0
BMO Blue Mountains 58.13 330 *eP* **P 12 07 31.1 0.0**
comp=Z,11nm,1.4s,mb4.7
SCHQ Schefferville 59.58 10 *eP* **P 12 07 41.5 +0.6**
comp=Z,11nm,1.2s,mb4.8
SCHQ Schefferville 59.58 10 P **P 12 07 39.7 -1.2**
comp=Z,1nm,0.7s,mb4.3,baz=164,slow=10,SNR=7.8
WALA Waterton Lakes 59.77 336 *eP* **P 12 07 42.0 -0.3**
comp=Z,11nm,0.9s,mb4.9
NEW Newport 60.54 333 *eP* **P 12 07 48.4 +0.7**
comp=Z,14nm,1.1s,mb5.0
NEW Newport 60.54 333 *eP* **P 12 07 48.4 +0.7**
NEW pmax pmax
comp=Z,14nm,1.1s
FFC Flin Flon 60.76 346 *eP* **P 12 07 48.4 -0.7**
comp=Z,9.3nm,1.3s,mb4.8
FFC Flin Flon 60.76 346 *eP* **P 12 07 48.4 -0.6**
FFC pmax pmax
comp=Z,9.0nm,1.3s,mb4.7
PPT Papeete 68.25 253 *eS* S 12 17 40.3 +3.4
comp=Z,595nm,27.2s
PPT Papeete 68.25 253 *eLR* LR 12 29 13.6
comp=Z,1μm,30.5s
YKA Yellowknife Ar 70.77 344 P **P 12 08 52.2 -1.2**
YKA *PP pP 12 09 12.1 +6.5
YKA Yellowknife Ar 70.77 344 P **P 12 08 52.1 -1.2**
comp=Z,2.2nm,0.9s,mb4.1,baz=145,slow=6.1,SNR=32
YKA pP pP 12 09 12.1 +6.5
comp=Z,3.0nm,0.9s,baz=137,slow=6.2,SNR=11
YKA LR LR 12 42 05.5
comp=Z,345nm,21.4s,MS4.6,baz=135,slow=38
YKW3 Yellowknife Ar 70.83 344 *eP* **P 12 08 52.6 -1.1**
DLBC Dease Lake 73.11 336 *eP* **P 12 09 07.7 +0.2**
LIC Lamto 76.72 83 *eP* **P 12 09 28.0 -1.3**
comp=Z,21nm,1.1s,mb4.7
LIC *eMLR* MLR
comp=Z,960nm,22.5s,MS4.8
LIC Lamto 76.72 83 *eP* **P 12 09 28.0 -1.3**
comp=Z,10nm,1.1s,mb4.7
LIC LR LR
comp=Z,480nm,22.5s,MS4.8
DBIC Dimbokro 76.93 82 *eP* **P 12 09 31.0 +0.5**
comp=Z,11nm,0.8s,mb4.8
DBIC Dimbokro 76.93 82 P **P 12 09 31.3 +0.8**
DBIC pmax pmax
comp=Z,8.0nm,0.7s
DBIC MLR MLR
comp=Z,478nm,18.4s
DBIC Dimbokro 76.93 82 P **P 12 09 31.2 +0.8**
comp=Z,7.6nm,0.7s,mb4.8,baz=233,slow=5.6,SNR=13
DBIC LR LR 12 44 00.7
comp=Z,478nm,18.4s,MS4.8,baz=243,slow=36
EVO Evora 79.29 50 *eP* **P 12 09 42.5 -0.6**
comp=Z,34nm,1.3s,mb4.8
EVO *eMLR* MLR
comp=Z,385nm,20.8s,MS4.4
INK Inuvik 80.41 343 *eP* **P 12 09 48.2 -0.3**
comp=Z,286nm,1.2s
INK Inuvik 80.41 343 *eP* **P 12 09 48.2 -0.3**
INK pmax pmax
comp=Z,286nm,1.2s
MDT Midelt 80.81 56 P **P 12 09 53.5 +2.0**
comp=Z,3.9nm,0.9s,mb4.4,baz=264,slow=6.0,SNR=3.2
VNA1 Neumayer--Stat 80.87 161 *eP* **P 12 09 50.6 -0.4**
VNA1 *e* 12 09 52.8
VNA1 *e* 12 09 57.7
VNA1 *e* 12 10 06.7
EGAK Eagle 81.05 338 *eP* **P 12 09 51.7 -0.3**
comp=Z,20nm,1.4s,mb4.8
VNA2 Neumayer--Watz 81.22 161 *eP* **P 12 09 52.5 -0.3**
VNA2 *e* 12 09 54.2
VNA2 *e* 12 09 58.2
VNA2 *e* 12 10 08.4
ESDC Sonseca Array 82.61 49 P **P 12 10 01.7 +1.0**
comp=Z,2.3nm,0.9s,mb4.2,baz=270,slow=3.5,SNR=4.7
SNAA Sanae 82.81 162 P **P 12 10 01.0 -0.1**
SNAA *PP pP 12 10 17.8 +4.2
SNAA pmax pmax
comp=Z,4.0nm,0.9s
SNAA pmax pmax
comp=Z,3.0nm,0.9s
SNAA Sanae 82.81 162 P **P 12 10 01.0 -0.2**
comp=Z,3.9nm,0.9s,mb4.4,baz=293,slow=5.3,SNR=17
SNAA pP pP 12 10 17.8 +4.2
comp=Z,2.7nm,0.8s,baz=276,slow=7.5,SNR=5.2
COLA College 83.67 337 *eP* **P 12 10 05.7 +0.1**
comp=Z,2.6nm,0.9s,mb4.4
COLA *epP* pP 12 10 16.2 -1.9
COLA College 83.67 337 *eP* **P 12 10 05.7 +0.1**
COLA *e*PP pP 12 10 16.2 -1.9
COLA pmax pmax
comp=Z,3.0nm,0.9s,mb4.4
MCK McKinley 83.67 336 *eP* **P 12 10 05.3 -0.4**
comp=Z,19nm,1.6s,mb5.0
MCK McKinley 83.67 336 *eP* **P 12 10 05.3 -0.4**
MCK pmax pmax
comp=Z,19nm,1.6s,mb5.0
TOA0 Torodi Ar. Sit 83.96 76 *eP* **P 12 10 10.2 +2.0**
TORD Torodi Ar. Bea 83.96 76 P **P 12 10 08.5 +0.3**
TORD pP pP 12 10 27.4 +6.8
TORD LR LR 12 45 58.1
TORD Torodi Ar. Bea 83.96 76 P **P 12 10 08.5 +0.3**
comp=Z,2.1nm,0.6s,mb4.4,baz=273,slow=5.4,SNR=18
TORD pP pP 12 10 27.4 +6.8
comp=Z,2.8nm,0.7s,baz=283,slow=4.3,SNR=5.9
TORD LR LR 12 45 58.1
comp=Z,528nm,21.6s,MS4.9,baz=230,slow=34
QUIF Quistinic 84.78 41 *eP* **P 12 10 11.6 -0.1**
comp=Z,5.1nm,0.8s,mb4.4
QUIF Quistinic 84.78 41 *eP* **P 12 10 11.6 -0.1**
comp=Z,2.5nm,0.8s,mb4.4
QUIF Quistinic 84.78 41 *eP* **P 12 10 11.6 -0.1**
QUIF pmax pmax
comp=Z,3.0nm,0.8s,mb4.5
SJPF Ste Jean 85.25 46 *eP* **P 12 10 13.9 -0.2**
QSPA South Pole Qui 86.33 180 *eP* **P 12 10 18.7 0.0**
comp=Z,15nm,0.8s,mb5.3
QSPA *epP* pP 12 10 32.7 +1.4
QSPA South Pole Qui 86.33 180 P **P 12 10 18.8 0.0**
comp=Z,12nm,0.9s,mb5.1,baz=158,slow=1.7,SNR=35
GRR Gorron 86.39 41 *eP* **P 12 10 19.5 -0.1**
MFF Saint Martin d 86.58 43 *eP* **P 12 10 20.2 -0.4**
comp=Z,8.3nm,0.9s,mb4.7
MFF Saint Martin d 86.58 43 *eP* **P 12 10 20.2 -0.4**
comp=Z,4.2nm,0.9s,mb4.7
MFF Saint Martin d 86.58 43 *eP* **P 12 10 20.2 -0.4**
MFF pmax pmax
comp=Z,4.0nm,0.9s,mb4.7
FLN La Foliniere 86.70 41 *eP* **P 12 10 20.8 -0.4**
comp=Z,6.7nm,0.7s,mb4.7
FLN *eMLR* MLR
comp=Z,360nm,21.5s,MS4.4
FLN La Foliniere 86.70 41 *eP* **P 12 10 20.8 -0.4**
comp=Z,3.3nm,0.7s,mb4.7
FLN LR LR
comp=Z,360nm,21.5s,MS4.7
FLN La Foliniere 86.70 41 *eP* **P 12 10 20.8 -0.4**
FLN pmax pmax
comp=Z,3.0nm,0.7s,mb4.6
FLN MLR MLR
comp=Z,360nm,21.5s,MS4.7
LDF La Druitiere 86.91 41 *eP* **P 12 10 22.1 -0.1**
comp=Z,35nm,1.3s,mb5.1
LDF La Druitiere 86.91 41 *eP* **P 12 10 22.1 -0.1**
comp=Z,18nm,1.3s,mb5.1
LDF La Druitiere 86.91 41 *eP* **P 12 10 22.1 -0.1**
LDF pmax pmax
comp=Z,18nm,1.3s,mb5.1
RJF Les Rejaudoux 87.53 44 *eP* **P 12 10 25.0 -0.3**
RJF *eMLR* MLR
comp=Z,264nm,22.2s,MS4.3
RJF Les Rejaudoux 87.53 44 *eP* **P 12 10 25.0 -0.3**
RJF MLR MLR
comp=Z,260nm,22.3s,MS4.6
MTLF Montolieu 87.78 46 *eP* **P 12 10 25.7 -0.8**
comp=Z,11nm,1.2s,mb4.6
MTLF Montolieu 87.78 46 *eP* **P 12 10 25.7 -0.8**
comp=Z,5.5nm,1.3s,mb4.6
MTLF Montolieu 87.78 46 *eP* **P 12 10 25.7 -0.8**
MTLF pmax pmax
comp=Z,6.0nm,1.3s,mb4.7
CAF Calviac 87.87 45 *eP* **P 12 10 26.5 -0.4**
JMIC Jan Mayen 87.94 18 LR LR 12 46 19.6
comp=Z,379nm,20.0s,MS4.8,baz=254,slow=33
TCF Toulx Ste Croi 88.14 44 *eP* **P 12 10 28.0 -0.2**
BGF Bois d'Agland 88.61 43 *eP* **P 12 10 30.1 -0.3**
AVF Avril sur Loir 88.99 43 *eP* **P 12 10 31.6 -0.5**
SSF Saint Saulge 89.12 43 *eP* **P 12 10 32.3 -0.5**
SMF Signal de Mont 89.30 43 *eP* **P 12 10 33.2 -0.4**
comp=Z,1.8nm,0.5s,mb4.4
SMF Signal de Mont 89.30 43 *eP* **P 12 10 33.2 -0.4**
comp=Z,0.9nm,0.5s,mb4.4
SMF Signal de Mont 89.30 43 *eP* **P 12 10 33.2 -0.4**
SMF pmax pmax
comp=Z,1.0nm,0.5s,mb4.4
LOR Lormes 89.38 43 *eP* **P 12 10 33.8 -0.2**
comp=Z,3.0nm,0.8s,mb4.4
LOR *eMLR* MLR
comp=Z,311nm,20.0s,MS4.4
LOR Lormes 89.38 43 *eP* **P 12 10 33.8 -0.2**
comp=Z,1.5nm,0.8s,mb4.4
LOR LR LR
comp=Z,310nm,20.0s,MS4.7
LOR Lormes 89.38 43 *eP* **P 12 10 33.8 -0.2**
LOR pmax pmax
comp=Z,2.0nm,0.8s,mb4.5
LOR MLR MLR
comp=Z,310nm,20.0s,MS4.7
VIVF Saint-Julien-l 89.70 45 *eP* **P 12 10 34.9 -0.6**
BAIF Baives 89.91 40 *eP* **P 12 10 36.0 -0.4**
SMRF Simiane la Rot 90.27 46 *eP* **P 12 10 37.6 -0.6**
MEZF Maizieres J'vi 90.31 42 *eP* **P 12 10 37.9 -0.4**
comp=Z,7.8nm,0.7s,mb4.8
MEZF Maizieres J'vi 90.31 42 *eP* **P 12 10 37.9 -0.4**
comp=Z,7.8nm,0.7s,mb5.2
ORIF Oris-en-Rattie 90.56 45 *eP* **P 12 10 38.8 -0.8**
ORIF *eMLR* MLR
comp=Z,264nm,20.2s,MS4.4
CABF La Chapelle 90.84 44 *eP* **P 12 10 40.7 -0.1**
comp=Z,2.2nm,0.6s,mb4.4
CABF La Chapelle 90.84 44 *eP* **P 12 10 40.7 -0.1**
comp=Z,1.1nm,0.6s,mb4.4
CABF La Chapelle 90.84 44 *eP* **P 12 10 40.7 -0.1**
CABF pmax pmax
comp=Z,1.0nm,0.6s,mb4.3
LMR La Mourre 90.89 47 *eP* **P 12 10 40.1 -1.0**
comp=Z,11nm,1.1s,mb4.8
LMR La Mourre 90.89 47 *eP* **P 12 10 40.1 -1.0**
comp=Z,5.5nm,1.0s,mb4.8
LMR La Mourre 90.89 47 *eP* **P 12 10 40.1 -1.0**
LMR pmax pmax
comp=Z,6.0nm,1.0s,mb4.9
FRF La Foret Royal 91.01 47 *eP* **P 12 10 40.9 -0.8**
comp=Z,5.8nm,0.9s,mb4.6
FRF La Foret Royal 91.01 47 *eP* **P 12 10 40.9 -0.8**
comp=Z,2.9nm,0.9s,mb4.6
FRF La Foret Royal 91.01 47 *eP* **P 12 10 40.9 -0.8**
FRF pmax pmax
comp=Z,3.0nm,0.9s,mb4.6
CDF Champ du Feu 91.77 42 *eP* **P 12 10 44.9 -0.2**
VNDA Vanda 92.00 191 LR LR 12 44 40.7
comp=Z,183nm,20.8s,MS4.5,baz=116,slow=31
KEST Kesra 92.62 55 LR LR 12 48 45.7
comp=Z,112nm,21.5s,MS4.3,baz=95,slow=33
PGF Pioggiola 92.67 48 *eP* **P 12 10 48.4 -1.0**
comp=Z,37nm,1.6s,mb5.3
PGF Pioggiola 92.67 48 *eP* **P 12 10 48.4 -1.0**
comp=Z,19nm,1.6s,mb5.3
PGF Pioggiola 92.67 48 *eP* **P 12 10 48.4 -1.0**
PGF pmax pmax
comp=Z,19nm,1.6s,mb5.3
GRA1 Grafenberg Arr 94.41 41 *eP* **P 12 11 00.4 +3.2**
comp=Z,8.0nm,1.6s,mb4.9
GRF Grafenberg Arr 94.41 41 *eP* **P 12 11 00.4 +3.2**
GRF pmax pmax
comp=Z,8.0nm,1.6s,mb4.9
GRF Grafenberg Arr 94.41 41 *eP* **P 12 11 00.4 +3.2**
GRF pmax pmax
comp=Z,8.0nm,1.6s,mb4.9
GRF Grafenberg Arr 94.41 41 *eP* **P 12 11 00.4 +3.2**
comp=Z,8.0nm,1.6s,mb4.9
NOA NORSAR Array B 94.44 29 LR LR 12 49 34.2
comp=Z,234nm,21.5s,MS4.6,baz=290,slow=33
CLL Collm 95.55 39 *eP* **P 12 11 04.0 +1.6**
CLL *e*SKS 12 21 39.0
CLL *e*S S 12 22 22.0 +5.9
CLL Collm 95.55 39 *eP* **P 12 11 04.0 +1.6**
CLL *e*SKSac SKSac 12 21 39.0 +3.8
CLL *e*S S 12 22 22.0 +5.9
CLL *e*PS PS 12 23 40.0 +0.8
CLL *e*SS SS 12 28 42.0 -2.9
CLL *e*SSS 12 32 30.0
CLL Lm 12 54 00.0
comp=Z,200nm,20.9s
HFS Hagfors 95.68 30 LR LR 12 50 32.4
comp=Z,348nm,21.1s,MS4.8,baz=275,slow=33
GERES GERESS Array B 96.04 41 LR LR 12 48 60.0
comp=Z,181nm,19.5s,MS4.6,baz=271,slow=32
ARCES ARCESS Array B 99.31 20 LR LR 12 53 17.7
comp=Z,257nm,22.0s,MS4.7,baz=280,slow=34
KIV Kislovodsk 116.55 42 *e*PKIKP PKPdf 12 16 19.1 -2.3
KIV pmax pmax
comp=Z,3.0nm,1.4s
ARU Arti 118.51 24 *i* PKIKP PKPdf 12 16 18.7 -6.1
NVS Novosibirsk 127.52 11 *e*PKIKP PKPdf 12 16 37.4 -4.7
ZAA0 Zalesovo Array 128.67 11 *e*PKPdf PKPdf 12 16 44.2 -0.1
ZALV Zalesovo Beam 128.67 11 PKP PKPdf 12 16 43.5 -0.8
comp=Z,4.3nm,1.0s,baz=338,slow=1.6,SNR=8.0
ZAL Zalesovo 128.67 11 PKIKP PKPdf 12 16 43.5 -0.8
ZAL pmax pmax
comp=Z,4.0nm,1.0s
KURK Kurchatov 130.21 17 *i* PKIKP PKPdf 12 16 45.9 -1.5
TLY Talaya 132.06 356 *i* PKIKP PKPdf 12 16 58.2 +7.4
TLY pmax pmax
comp=Z,2.0nm,0.6s
TLY MLR MLR
comp=Z,176nm,20.0s,MS4.8
ZAK Zakamensk 133.37 356 *e*PKIKP PKPdf 12 16 56.4 +3.0
ZAK pmax pmax
comp=Z,2.0nm,1.8s
MKAR Makanchi Array 134.80 16 PKP PKPdf 12 16 56.4 +0.2
comp=Z,0.4nm,0.4s,baz=16,slow=1.8,SNR=6.0
EKS2 Erkin-Say 135.31 26 *e*PKPdf PKPdf 12 16 59.1 +1.9
ULN Ulaanbaatar 135.47 352 *i* PKIKP PKPdf 12 16 56.0 -1.4
SONM Songino Array 135.59 353 PKIKP PKPdf 12 16 57.2 -0.4
SONM pmax pmax
comp=Z,2.0nm,0.9s
SONM Songino Array 135.59 353 PKP PKPdf 12 16 57.2 -0.4
comp=Z,1.5nm,0.9s,baz=21,slow=0.9,SNR=8.8
AAK Ala-Archa 135.65 26 *i* PKIKP PKPdf 12 16 57.3 -0.6
AAK MLR MLR
comp=Z,300nm,26.0s,MS4.9
ASAR Alice Springs 136.26 230 PKP PKPdf 12 16 59.0 -0.6
ASAR pPKP pPKPdf 12 17 17.9 +5.4
ASAR Alice Springs 136.26 230 PKhKP 12 16 51.5
comp=Z,0.4nm,0.7s,baz=125,slow=4.5,SNR=4.8
ASAR PKP PKPdf 12 16 59.0 -0.6
comp=Z,1.1nm,0.9s,baz=153,slow=2.8,SNR=7.9
ASAR pPKP pPKPdf 12 17 17.9 +5.4
comp=Z,1.2nm,0.7s,baz=109,slow=2.4,SNR=6.1
KSRS Korea Array 137.13 325 PKIKP PKPdf 12 17 01.1 +0.3
KSRS pmax pmax
comp=Z,3.0nm,1.0s
KSRS Korea Array 137.13 325 PKP PKPdf 12 17 01.1 +0.3
comp=Z,2.6nm,1.0s,baz=352,slow=2.3,SNR=4.5
WB2 Warramunga Arr 137.87 235 *eP* PKPdf 12 17 03.1 +0.5
WRA Warramunga Arr 137.88 235 PKhKP 12 16 58.0
comp=Z,0.4nm,0.6s,baz=114,slow=1.8,SNR=8.0
WRA PKP PKPdf 12 17 03.2 +0.6
comp=Z,0.4nm,0.6s,baz=114,slow=2.0,SNR=8.1
WMQ Urumqi 138.90 12 *e*PKP PKPdf 12 17 04.3 +0.5
WMQ *e*PP PP 12 20 00.0 +5.2
WMQ PKS 12 20 39.0
WMQ PP PP
comp=Z,165nm,5.6s
WMQ LR LR
comp=N,424nm,23.6s,MS5.3
WMQ LR LR
comp=E,597nm,28.4s,MS5.3
WMQ LR LR
comp=Z,372nm,21.0s
BJI Beijing 140.59 339 PKP PKPdf 12 17 04.8 -2.2
BJI SKS SKSdf 12 24 14.4 +0.2
BJI LR LR
comp=E,163nm,20.1s
BJI LR LR
comp=Z,512nm,26.4s
HHC Hu-ho-hao-te 141.31 344 *e*PKP PKPdf 12 17 07.6 -0.7
HHC PP PP 12 20 13.8 +4.2
HHC PKS 12 20 43.8
HHC SKS SKSdf 12 24 13.8 -1.5
HHC SKKS SKKSac 12 27 01.9 +0.9
HHC PP PP
comp=Z,60nm,5.8s
HHC LR LR
comp=N,127nm,6.7s
HHC LR LR
comp=E,109nm,6.7s
HHC LR LR
comp=Z,105nm,5.3s
GTA Gaotai 144.49 359 PKP PKPdf 12 17 12.3 -1.7
GTA SKS SKSdf 12 24 16.3 -4.0
GTA PP PP
comp=Z,203nm,8.8s
GTA LR LR
comp=N,185nm,24.3s,MS4.9
GTA LR LR
comp=E,190nm,22.4s,MS4.9
GTA LR LR
comp=Z,284nm,21.3s,MS5.0
FITZ Fitzroy Crossi 145.76 230 *eP* PKPdf 12 17 15.9 -0.8
comp=Z,24nm,1.5s
NJ2 Nanjing 146.12 328 *e*PKP PKPdf 12 17 16.5 -0.5
LZH Lanzhou 147.48 352 *e*PKP PKPdf 12 17 22.3 +3.1
LZH APKP 12 17 32.0
LZH *e*PP PP 12 20 52.5 +6.1
LZH SKS SKSdf 12 24 25.4 +0.6
LZH PP PP
comp=Z,81nm,8.9s
LZH LR LR
comp=E,197nm,18.4s
LZH LR LR
comp=Z,236nm,20.5s,MS5.0
NDI New Delhi 147.82 37 *ex* x 12 17 27.0
CD2 Chengdu 152.58 351 *e*PKP PKPdf 12 17 26.3 -1.0
CD2 APKP 12 17 37.1
CD2 PKP2 PKPab 12 17 45.0 +0.3
CD2 PP PP 12 21 17.3 +1.5
CD2 SKS SKSdf 12 24 28.4 -3.2
CD2 SKKS SKKSac 12 28 01.3 -3.3
CD2 PP PP
comp=Z,210nm,10.4s
CD2 LR LR
comp=N,210nm,24.2s
CD2 LR LR
comp=Z,180nm,22.8s,MS4.8

GYA	**Guiyang**	**156.19 342**	PKP	PKPdf	12 17 29.6	-2.9
GYA			PKP2	PKPab	12 18 01.4	+1.3
GYA			PKS		12 21 03.6	
GYA			PP	PP	12 21 39.3	+3.1
GYA			SKS	SKSdf	12 24 31.3	-4.6
GYA			SKKS	SKKSac	12 28 22.4	-1.8
GYA			PP	PP		
	comp=Z,120nm,8.0s					
GYA			LR	LR		
	comp=N,360nm,21.4s,MS5.4					
GYA			LR	LR		
	comp=E,450nm,20.2s,MS5.4					
GYA			LR	LR		
	comp=Z,480nm,22.4s,MS5.3					
KMI	**Kunming**	**158.41 350**	PKP	PKPdf	12 17 36.4	+1.1
KMI			APKP		12 17 47.0	
KMI			PP	PP	12 21 52.5	+4.2
KMI			PP	PP		
	comp=Z,101nm,7.9s					
KMI			LR	LR		
	comp=N,200nm,26.7s,MS4.9					
KMI			LR	LR		
	comp=E,150nm,26.7s,MS4.9					
KMI			LR	LR		
	comp=Z,320nm,29.0s,MS5.0					

ISCJB ***22*** *12:02:12.0± 1.3, 37.32N± 004×1368E± 0.1, h9km± 11km, Error ellipse: s-maj=14.0km s-min=6.7km az=10.3*
JMA ***22*** *12:02:12.4, 37.30N× 136.77E, h9km, M2.7*
JMA Felt I J1.
ISC 22 12:02:12.3± 1.3, 37.31N± 004×1368E± 01, h12km± 9km, n4, σ0.38/8, Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JJH	**Hakui**	**0.39**	**177**	P	**Pg**	**12 02 20.0**	**0.0**
JJH				S	**Sg**	**12 02 25.3**	**+0.1**
JSZ	**Suzu**	**0.50**	**74**	P	**Pg**	**12 02 21.9**	**-0.3**
JSZ				S	**Sg**	**12 02 28.9**	**0.0**
JHG	**Hegura jima**	**0.55**	**14**	P	**Pg**	**12 02 23.1**	**0.0**
JHG				*e*S	**Sg**	**12 02 30.7**	**+0.3**
MAT	**Matsushiro**	**1.39**	**123**	P	**Pn**	**12 02 37.1**	**-0.5**
MAT				S	**Sn**	**12 02 56.3**	**+0.4**

IDC ***22*** *12:23:38.8± 0.6, 53.53N× 35.39W, h0km, mb3.8/17, mb1 4.0/19, mb1mx3.9/28, mbtmp3.9/19, ML3.1/2, MS3.8/3, Ms1 3.8/3, ms1mx3.2/36, Error ellipse: s-maj=20.9km s-min=12.3km az=6.0*
MOS ***22*** *12:23:39.6± 0.8, 53.56N× 35.35W, h10km, mb4.5/34, Error ellipse: s-maj=11.0km s-min=9.2km az=178.0*
BJI ***22*** *12:23:39.3, 53.50N× 35.40W, h10km, mB5.1, mb4.9, Ms4.8, Msz4.4*
ISCJB ***22*** *12:23:39.7± 0.3, 53.56N± 007× 35.38W± 005, h10km, mb4.4/67, MS4.0/9, Error ellipse: s-maj=10.9km s-min=4.1km az=8.1*
NEIC ***22*** *12:23:41.3± 0.2, 53.53N× 35.37W, h10km, mb4.5/41, Error ellipse: s-maj=10.8km s-min=3.7km az=188.0*
CSEM ***22*** *12:23:42.7± 0.1, 53.67N× 35.36W, h33km, mb4.5/42, Ms3.5, Error ellipse: s-maj=5.6km s-min=1.7km az=11.0*
ISC 22 12:23:41.5± 0.3, 53.54N± 007× 35.36W± 005, h10km, (h18km± 1.8km: pP-P), n187, σ0.99/180, mb4.4/67, MS4.0/9, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFJD	**Kangerlussuaq**	**15.40**	**337**	*e*P	**Pn**	**12 27 22.5**	**+3.9**
	4.6nm,0.6s						
SFJD	**Kangerlussuaq**	**15.40**	**337**	*e*P	**Pn**	**12 27 22.5**	**+4.0**
SFJD				pmax	pmax		
	comp=Z,5.0nm,0.6s						
SCHQ	**Schefferville**	**18.39**	**287**	*e*P	**Pn**	**12 27 54.8**	**-1.5**
	comp=Z,5.7nm,0.9s						
SCHQ	**Schefferville**	**18.39**	**287**	P	**Pn**	**12 27 53.8**	**-2.4**
	comp=Z,0.2nm,0.3s,baz=102,slow=7.5,SNR=9.0						
SCHQ	**Schefferville**	**18.39**	**287**	*e*P	**Pn**	**12 27 54.8**	**-1.5**
	comp=Z,5.7nm,0.9s						
EKA	**Eskdalemuir Ar**	**18.73**	**71**	P	**Pn**	**12 27 59.6**	**-0.7**
	comp=Z,0.1nm,0.3s,baz=280,slow=9.2,SNR=4.8						
ROSF	**Rostrenen**	**20.77**	**91**	*e*P	**P**	**12 28 22.6**	**+0.4**
	comp=Z,55nm,1.4s						
ROSF	**Rostrenen**	**20.77**	**91**	*e*P	**P**	**12 28 22.6**	**+0.4**
ROSF				pmax	pmax		
	comp=Z,27nm,1.4s						
ROSF	**Rostrenen**	**20.77**	**91**	*e*P	**P**	**12 28 22.6**	**+0.4**
	comp=Z,27nm,1.4s						
QUIF	**Quistinic**	**21.02**	**92**	*e*P	**P**	**12 28 25.4**	**+0.4**
	comp=Z,51nm,1.3s,mb4.4						
QUIF	**Quistinic**	**21.02**	**92**	*e*P	**P**	**12 28 25.4**	**+0.4**
QUIF				pmax	pmax		
	comp=Z,25nm,1.3s,mb4.4						
QUIF	**Quistinic**	**21.02**	**92**	*e*P	**P**	**12 28 25.4**	**+0.4**
	comp=Z,25nm,1.3s,mb4.4						
JMIC	**Jan Mayen**	**21.16**	**24**	LR	LR	12 34 51.8	
	comp=Z,143nm,20.5s,MS3.3,baz=264,slow=32						
SGMF	**Saint Gilles**	**21.23**	**91**	*e*P	**P**	**12 28 27.5**	**+0.2**
	comp=Z,16nm,0.8s,mb4.1						
SGMF	**Saint Gilles**	**21.23**	**91**	*e*P	**P**	**12 28 27.5**	**+0.2**
SGMF				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.1						
SGMF	**Saint Gilles**	**21.23**	**91**	*e*P	**P**	**12 28 27.5**	**+0.2**
	comp=Z,8.2nm,0.8s,mb4.1						
GRR	**Gorron**	**22.18**	**89**	*e*P	**P**	**12 28 37.7**	**+0.2**
FLN	**La Foliniere**	**22.24**	**88**	*e*P	**P**	**12 28 38.4**	**+0.3**
	comp=Z,56nm,1.6s,mb4.5						
FLN				*e*MLR	MLR		
	comp=Z,442nm,22.8s,MS3.5						
FLN	**La Foliniere**	**22.24**	**88**	*e*P	**P**	**12 28 38.4**	**+0.3**
	comp=Z,28nm,1.6s,mb4.5						
FLN				LR	LR		
	comp=Z,440nm,22.8s,MS3.8						
FLN	**La Foliniere**	**22.24**	**88**	*e*P	**P**	**12 28 38.4**	**+0.3**
FLN				pmax	pmax		
	comp=Z,28nm,1.6s,mb4.4						
FLN				MLR	MLR		
	comp=Z,440nm,22.8s,MS3.8						
LDF	**La Druitiere**	**22.53**	**88**	*e*P	**P**	**12 28 41.1**	**-0.1**
	comp=Z,24nm,1.1s,mb4.2						
LDF	**La Druitiere**	**22.53**	**88**	*e*P	**P**	**12 28 41.1**	**-0.1**
LDF				pmax	pmax		
	comp=Z,12nm,1.1s,mb4.2						
LDF	**La Druitiere**	**22.53**	**88**	*e*P	**P**	**12 28 41.1**	**-0.1**
	comp=Z,12nm,1.1s,mb4.2						
MFF	**Saint Martin d**	**23.46**	**93**	*e*P	**P**	**12 28 49.9**	**-1.1**
	comp=Z,63nm,1.7s,mb4.5						
MFF	**Saint Martin d**	**23.46**	**93**	*e*P	**P**	**12 28 49.9**	**-1.1**
MFF				pmax	pmax		
	comp=Z,31nm,1.7s,mb4.5						
MFF	**Saint Martin d**	**23.46**	**93**	*e*P	**P**	**12 28 49.9**	**-1.1**
	comp=Z,32nm,1.7s,mb4.5						
BAIF	**Baives**	**24.49**	**82**	*e*P	**P**	**12 29 00.1**	**-0.4**
TCF	**Toulx Ste Croi**	**25.02**	**91**	*e*P	**P**	**12 29 05.3**	**0.0**
	comp=Z,38nm,1.4s,mb4.4						
TCF	**Toulx Ste Croi**	**25.02**	**91**	*e*P	**P**	**12 29 05.3**	**0.0**
TCF				pmax	pmax		
	comp=Z,19nm,1.4s,mb4.4						
TCF	**Toulx Ste Croi**	**25.02**	**91**	*e*P	**P**	**12 29 05.3**	**0.0**
	comp=Z,19nm,1.4s,mb4.4						
RJF	**Les Rejaudoux**	**25.12**	**94**	*e*P	**P**	**12 29 06.3**	**0.0**
	comp=Z,41nm,1.5s,mb4.4						
RJF				*e*MLR	MLR		
	comp=Z,418nm,23.0s,MS3.6						
RJF	**Les Rejaudoux**	**25.12**	**94**	*e*P	**P**	**12 29 06.3**	**0.0**
	comp=Z,21nm,1.5s,mb4.4						
RJF				LR	LR		
	comp=Z,420nm,23.0s,MS3.9						
RJF	**Les Rejaudoux**	**25.12**	**94**	*e*P	**P**	**12 29 06.3**	**0.0**
RJF				pmax	pmax		
	comp=Z,21nm,1.5s,mb4.5						
RJF				MLR	MLR		
	comp=Z,420nm,23.0s,MS3.9						
BGF	**Bois d'Agland**	**25.26**	**90**	*e*P	**P**	**12 29 07.4**	**-0.1**
	comp=Z,29nm,1.0s,mb4.5						
BGF	**Bois d'Agland**	**25.26**	**90**	*e*P	**P**	**12 29 07.4**	**-0.1**
BGF				pmax	pmax		
	comp=Z,15nm,1.0s,mb4.5						
BGF	**Bois d'Agland**	**25.26**	**90**	*e*P	**P**	**12 29 07.4**	**-0.1**
	comp=Z,15nm,1.0s,mb4.5						
ESDC	**Sonseca Array**	**25.39**	**110**	P	**P**	**12 29 08.2**	**-0.6**
	comp=Z,3.1nm,1.0s,mb3.8,baz=316,slow=8.7,SNR=12						
ESLA	**Sonseca Array**	**25.39**	**110**	*e*P	**P**	**12 29 10.7**	**+2.0**
	comp=Z,9.0nm,1.8s,mb4.0						
ESLA	**Sonseca Array**	**25.39**	**110**	*e*P	**P**	**12 29 10.7**	**+2.0**
	comp=Z,9.0nm,1.8s,mb4.0						
SSF	**Saint Saulge**	**25.41**	**89**	*e*P	**P**	**12 29 09.1**	**+0.3**
	comp=Z,35nm,1.3s,mb4.4						
SSF	**Saint Saulge**	**25.41**	**89**	*e*P	**P**	**12 29 09.1**	**+0.3**
SSF				pmax	pmax		
	comp=Z,17nm,1.3s,mb4.4						
SSF	**Saint Saulge**	**25.41**	**89**	*e*P	**P**	**12 29 09.1**	**+0.3**
	comp=Z,18nm,1.3s,mb4.4						
AVF	**Avril sur Loir**	**25.45**	**90**	*e*P	**P**	**12 29 08.7**	**-0.5**
	comp=Z,36nm,1.3s,mb4.5						
AVF	**Avril sur Loir**	**25.45**	**90**	*e*P	**P**	**12 29 08.7**	**-0.5**
AVF				pmax	pmax		
	comp=Z,18nm,1.3s,mb4.4						
AVF	**Avril sur Loir**	**25.45**	**90**	*e*P	**P**	**12 29 08.7**	**-0.5**
	comp=Z,18nm,1.3s,mb4.5						
LOR	**Lormes**	**25.52**	**88**	*e*P	**P**	**12 29 10.0**	**+0.2**
	comp=Z,21nm,1.1s,mb4.3						
LOR				*e*MLR	MLR		
	comp=Z,243nm,20.8s,MS3.4						
LOR	**Lormes**	**25.52**	**88**	*e*P	**P**	**12 29 10.0**	**+0.2**
	comp=Z,10nm,1.1s,mb4.3						
LOR				LR	LR		
	comp=Z,240nm,20.8s,MS3.7						
LOR	**Lormes**	**25.52**	**88**	*e*P	**P**	**12 29 10.0**	**+0.2**
LOR				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.3						
LOR				MLR	MLR		
	comp=Z,240nm,20.8s,MS3.7						
MEZF	**Maizieres J'vi**	**25.66**	**85**	*e*P	**P**	**12 29 11.4**	**+0.3**
	comp=Z,44nm,1.2s,mb4.6						
MEZF	**Maizieres J'vi**	**25.66**	**85**	*e*P	**P**	**12 29 11.4**	**+0.3**
	comp=Z,22nm,1.2s,mb4.6						
NOA	**NORSAR Array B**	**25.76**	**54**	P	**P**	**12 29 10.6**	**-1.3**
NOA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
NOA	**NORSAR Array B**	**25.76**	**54**	P	**P**	**12 29 10.6**	**-1.4**
	comp=Z,2.1nm,0.9s,mb3.7,baz=276,slow=9.8,SNR=3.8						
SMF	**Signal de Mont**	**25.81**	**89**	*e*P	**P**	**12 29 12.7**	**+0.2**
MTLF	**Montolieu**	**26.64**	**97**	*e*P	**P**	**12 29 20.3**	**+0.3**
HINF	**Hinteralfeld**	**27.04**	**85**	*e*P	**P**	**12 29 24.0**	**+0.4**
CLL	**Collm**	**29.13**	**75**	*e*P	**P**	**12 29 42.0**	**-0.2**
LMR	**La Mourre**	**29.20**	**93**	*e*P	**P**	**12 29 43.3**	**+0.5**
GERES	**GERESS Array B**	**30.60**	**79**	P	**P**	**12 29 56.0**	**+0.7**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.9s						
GERES	**GERESS Array B**	**30.60**	**79**	P	**P**	**12 29 56.0**	**+0.7**
	comp=Z,0.9nm,0.9s,mb3.6,baz=299,slow=9.0,SNR=6.0						
RES	**Resolute Bay**	**31.36**	**334**	*e*P	**P**	**12 30 01.7**	**0.0**
	comp=Z,382nm,1.5s						
RES	**Resolute Bay**	**31.36**	**334**	*e*P	**P**	**12 30 01.7**	**0.0**
RES				pmax	pmax		
	comp=Z,382nm,1.5s						
RES	**Resolute Bay**	**31.36**	**334**	*e*P	**P**	**12 30 01.7**	**0.0**
	comp=Z,382nm,1.5s						
MORC	**Moravsky Berou**	**32.40**	**75**	*e*P	**P**	**12 30 13.1**	**+2.0**
	comp=Z,1.3nm,0.6s,mb3.9						
MORC	**Moravsky Berou**	**32.40**	**75**	*e*P	**P**	**12 30 13.1**	**+2.0**
MORC				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.8						
MORC	**Moravsky Berou**	**32.40**	**75**	*e*P	**P**	**12 30 13.1**	**+2.0**
	comp=Z,1.3nm,0.6s,mb3.9						
FINES	**FINESS Array B**	**32.78**	**51**	P	**P**	**12 30 12.6**	**-1.7**
FINES	**FINESS Array B**	**32.78**	**51**	P	**P**	**12 30 12.6**	**-1.6**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
FINES	**FINESS Array B**	**32.78**	**51**	P	**P**	**12 30 12.6**	**-1.7**
	comp=Z,1.3nm,0.7s,mb4.0,baz=343,slow=4.0,SNR=4.0						
EYMN	**Ely**	**35.16**	**284**	*e*P	**P**	**12 30 34.8**	**-0.3**
	comp=Z,12nm,1.2s,mb4.7						
KEST	**Kesja**	**35.74**	**102**	P	**P**	**12 30 39.8**	**-0.4**
	comp=Z,1.0nm,0.8s,mb3.8,baz=244,slow=9.4,SNR=4.1						
ULM	**Lac du Bonnet**	**36.51**	**290**	*e*P	**P**	**12 30 45.4**	**-1.2**
	comp=Z,9.9nm,1.6s,mb4.4						
ULM	**Lac du Bonnet**	**36.51**	**290**	P	**P**	**12 30 45.3**	**-1.3**
	comp=Z,1.4nm,0.7s,mb3.9,baz=71,slow=9.5,SNR=3.5						
ULM				LR	LR	12 45 36.4	
	comp=Z,182nm,20.0s,MS3.9,baz=58,slow=36						
ULM	**Lac du Bonnet**	**36.51**	**290**	*e*P	**P**	**12 30 45.4**	**-1.2**
	comp=Z,9.9nm,1.6s,mb4.4						
TZTN	**Tazewell**	**37.24**	**263**	*e*P	**P**	**12 30 52.1**	**-0.9**
	comp=Z,22nm,1.3s,mb4.8						
TZTN	**Tazewell**	**37.24**	**263**	*e*P	**P**	**12 30 52.1**	**-0.9**
	comp=Z,22nm,1.3s,mb4.8						
FFC	**Flin Flon**	**37.73**	**300**	*e*P	**P**	**12 30 56.6**	**-0.2**
	comp=Z,16nm,1.7s,mb4.5						
FFC	**Flin Flon**	**37.73**	**300**	*e*P	**P**	**12 30 56.6**	**-0.3**
FFC				pmax	pmax		
	comp=Z,16nm,1.7s,mb4.5						
FFC	**Flin Flon**	**37.73**	**300**	*e*P	**P**	**12 30 56.6**	**-0.3**
	comp=Z,16nm,1.7s,mb4.5						
AKASG	**Malin Array Be**	**38.55**	**67**	P	**P**	**12 31 02.7**	**-1.1**
AKASG	**Malin Array Be**	**38.55**	**67**	*i* P	**P**	**12 31 04.1**	**+0.3**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.7s						
AKASG	**Malin Array Be**	**38.55**	**67**	P	**P**	**12 31 02.7**	**-1.1**
	comp=Z,1.3nm,0.7s,mb3.8,baz=303,slow=8.2,SNR=6.5						
AKASG	**Malin Array Be**	**38.55**	**67**	*i* P	**P**	**12 31 04.1**	**+0.3**
	comp=Z,1.0nm,0.7s,mb3.6						
YKA	**Yellowknife Ar**	**40.33**	**315**	P	**P**	**12 31 16.8**	**-1.8**
YKA						12 33 19.8	
YKA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
YKA				pmax	pmax		
	comp=Z,1.0nm,1.0s						
YKA	**Yellowknife Ar**	**40.33**	**315**	P	**P**	**12 31 16.8**	**-1.8**
	comp=Z,1.5nm,0.9s,mb3.7,baz=62,slow=9.2,SNR=19						
YKA				PcP	PcP	12 33 19.8	-1.9
	comp=Z,0.7nm,0.9s,baz=61,slow=3.7,SNR=6.7						
YKA	**Yellowknife Ar**	**40.33**	**315**	PcP	PcP	12 33 19.8	-1.9
ECSD	**EROS,Sioux Fal**	**40.47**	**282**	*e*P	**P**	**12 31 20.7**	**+0.8**
	comp=Z,14nm,1.5s,mb4.5						
ECSD	**EROS,Sioux Fal**	**40.47**	**282**	*e*P	**P**	**12 31 20.7**	**+0.8**
	comp=Z,14nm,1.5s,mb4.5						
INK	**Inuvik**	**44.49**	**328**	*e*P	**P**	**12 31 51.6**	**-0.8**
	comp=Z,120nm,1.2s,mb5.5						
INK	**Inuvik**	**44.49**	**328**	*e*P	**P**	**12 31 51.6**	**-0.8**
INK				pmax	pmax		
	comp=Z,120nm,1.2s						
INK	**Inuvik**	**44.49**	**328**	*e*P	**P**	**12 31 51.6**	**-0.8**
	comp=Z,120nm,1.2s,mb5.5						
MIAR	**Mount Ida**	**44.57**	**269**	*e*P	**P**	**12 31 53.0**	**-0.3**
	comp=Z,13nm,1.2s,mb4.7						
MIAR	**Mount Ida**	**44.57**	**269**	*e*P	**P**	**12 31 53.1**	**-0.3**
MIAR				pmax	pmax		
	comp=Z,13nm,1.2s,mb4.6						
MIAR	**Mount Ida**	**44.57**	**269**	*e*P	**P**	**12 31 53.1**	**-0.3**
	comp=Z,13nm,1.2s,mb4.6						
EGMT	**Eagleton**	**45.38**	**295**	*e*P	**P**	**12 31 59.4**	**-0.3**
	comp=Z,3.8nm,0.7s,mb4.3						
EGMT	**Eagleton**	**45.38**	**295**	*e*P	**P**	**12 31 59.4**	**-0.2**
	comp=Z,3.8nm,0.7s,mb4.3						
RLMT	**Red Lodge**	**46.86**	**291**	*e*P	**P**	**12 32 11.8**	**+0.4**
	comp=Z,16nm,1.6s,mb4.7						
RLMT	**Red Lodge**	**46.86**	**291**	*e*P	**P**	**12 32 11.8**	**+0.4**
	comp=Z,16nm,1.6s,mb4.7						
WALA	**Waterton Lakes**	**46.98**	**298**	*e*P	**P**	**12 32 10.7**	**-1.5**
	comp=Z,5.8nm,1.0s,mb4.5						
WALA	**Waterton Lakes**	**46.98**	**298**	*e*P	**P**	**12 32 10.7**	**-1.6**
	comp=Z,5.8nm,1.0s,mb4.5						
HRY	**Holter Researc**	**47.29**	**294**	*e*P	**P**	**12 32 14.9**	**+0.2**
HRY	**Holter Researc**	**47.29**	**294**	*e*P	**P**	**12 32 14.9**	**+0.2**
WMOK	**Wichita Mounta**	**47.54**	**273**	*e*P	**P**	**12 32 16.3**	**-0.5**
	comp=Z,7.5nm,1.4s,mb4.5						
WMOK	**Wichita Mounta**	**47.54**	**273**	*e*P	**P**	**12 32 16.3**	**-0.5**
WMOK				pmax	pmax		
	comp=Z,8.0nm,1.4s,mb4.6						
WMOK	**Wichita Mounta**	**47.54**	**273**	*e*P	**P**	**12 32 16.3**	**-0.5**
	comp=Z,7.5nm,1.4s,mb4.5						
BOZ	**Boman (W)**	**47.84**	**293**	*e*P	**P**	**12 32 19.7**	**+0.7**
	comp=Z,4.2nm,1.3s,mb4.3						
BOZ	**Bozeman (W)**	**47.84**	**293**	*e*P	**P**	**12 32 19.7**	**+0.7**
BOZ				pmax	pmax		
	comp=Z,4.0nm,1.3s,mb4.3						
BOZ	**Bozeman (W)**	**47.84**	**293**	*e*P	**P**	**12 32 19.7**	**+0.7**
	comp=Z,4.2nm,1.3s,mb4.3						
ISCO	**Idaho Springs**	**48.17**	**283**	*e*P	**P**	**12 32 22.4**	**+0.8**
	comp=Z,8.5nm,1.4s,mb4.6						
ISCO	**Idaho Springs**	**48.17**	**283**	*e*P	**P**	**12 32 22.4**	**+0.8**
ISCO				pmax	pmax		
	comp=Z,8.0nm,1.4s,mb4.6						
ISCO	**Idaho Springs**	**48.17**	**283**	*e*P	**P**	**12 32 22.4**	**+0.8**
	comp=Z,8.5nm,1.4s,mb4.6						
BW06	**Boulder Array**	**48.51**	**289**	*e*P	**P**	**12 32 24.1**	**-0.1**
	comp=Z,4.6nm,1.2s,mb4.4						
BW06	**Boulder Array**	**48.51**	**289**	*e*P	**P**	**12 32 24.1**	**-0.1**
	comp=Z,4.6nm,1.2s,mb4.4						
PDAR	**Pinedale Array**	**48.51**	**289**	P	**P**	**12 32 22.8**	**-1.4**
	comp=Z,1.4nm,0.6s,mb4.2,baz=64,slow=6.8,SNR=9.8						
DAWY	**Dawson**	**48.93**	**326**	*e*P	**P**	**12 32 25.8**	**-1.4**
DAWY	**Dawson**	**48.93**	**326**	*e*P	**P**	**12 32 25.8**	**-1.3**
TORD	**Torodi Ar. Bea**	**49.81**	**130**	P	**P**	**12 32 32.3**	**-2.1**
	comp=Z,2.1nm,0.8s,mb4.2,baz=334,slow=7.4,SNR=14						
HWUT	**Hardware Ranch**	**50.40**	**289**	*e*P	**P**	**12 32 39.2**	**+0.6**
	comp=Z,7.4nm,1.0s,mb4.7						
HWUT	**Hardware Ranch**	**50.40**	**289**	*e*P	**P**	**12 32 39.2**	**+0.6**
	comp=Z,7.3nm,1.0s,mb4.7						
HLID	**Hailey**	**50.70**	**293**	*e*P	**P**	**12 32 42.0**	**+1.1**
	comp=Z,4.6nm,1.2s,mb4.3						
HLID	**Hailey**	**50.70**	**293**	*e*P	**P**	**12 32 42.0**	**+1.1**
	comp=Z,4.6nm,1.2s,mb4.3						
COLA	**College**	**51.10**	**330**	*e*P	**P**	**12 32 44.7**	**+1.1**
IMA2	**Indian Mountai**	**51.90**	**333**	*e*P	**P**	**12 32 49.9**	**+0.4**
IMA2	**Indian Mountai**	**51.90**	**333**	*e*P	**P**	**12 32 49.9**	**+0.3**
ANMO	**Albuquerque**	**51.95**	**279**	*e*P	**P**	**12 32 51.6**	**+1.2**
	comp=Z,9.7nm,1.6s,mb4.5						
ANMO	**Albuquerque**	**51.95**	**279**	*e*P	**P**	**12 32 51.6**	**+1.2**
ANMO				pmax	pmax		
	comp=Z,10.0nm,1.6s						
ANMO	**Albuquerque**	**51.95**	**279**	*e*P	**P**	**12 32 51.6**	**+1.2**
	comp=Z,9.7nm,1.6s,mb4.5						
DUG	**Dugway**	**52.04**	**289**	*e*P	**P**	**12 32 51.1**	**+0.2**
	comp=Z,2.7nm,0.9s,mb4.2						
DUG	**Dugway**	**52.04**	**289**	*e*P	**P**	**12 32 51.1**	**+0.1**
DUG				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.2						
DUG	**Dugway**	**52.04**	**289**	*e*P	**P**	**12 32 51.1**	**+0.1**
	comp=Z,2.7nm,0.9s,mb4.2						
MCK	**McKinley**	**52.24**	**329**	*e*P	**P**	**12 32 52.3**	**+0.2**
	comp=Z,13nm,1.2s,mb4.8						
MCK	**McKinley**	**52.24**	**329**	*e*P	**P**	**12 32 52.3**	**+0.2**
MCK				pmax	pmax		
	comp=Z,13nm,1.2s,mb4.7						
MCK	**McKinley**	**52.24**	**329**	*e*P	**P**	**12 32 52.3**	**+0.2**
	comp=Z,13nm,1.2s,mb4.8						
MSU	**Marysvale**	**52.82**	**287**	*e*P	**P**	**12 32 57.7**	**+0.9**
MSU	**Marysvale**	**52.82**	**287**	*e*P	**P**	**12 32 57.7**	**+0.9**
DBIC	**Dimbokro**	**52.88**	**141**	P	**P**	**12 32 56.0**	**-1.5**
DBIC	**Dimbokro**	**52.88**	**141**	P	**P**	**12 32 56.0**	**-1.5**
DBIC				pmax	pmax		
	comp=Z,4.0nm,1.0s						
DBIC	**Dimbokro**	**52.88**	**141**	P	**P**	**12 32 56.0**	**-1.5**
	comp=Z,3.8nm,1.0s,mb4.3,baz=292,slow=5.4,SNR=3.9						
MNTX	**Cornudas Mount**	**53.61**	**276**	*e*P	**P**	**12 33 06.2**	**+3.5**
	comp=Z,4.4nm,1.4s,mb4.2						
TXAR	**Lajitas Array**	**54.29**	**272**	P	**P**	**12 33 07.0**	**-0.7**
TXAR				PcP	PcP	12 34 10.6	-1.1
TXAR				LR	LR	12 56 42.1	
TXAR	**Lajitas Array**	**54.29**	**272**	P	**P**	**12 33 07.0**	**-0.7**
TXAR						12 34 10.6	
TXAR				pmax	pmax		
	comp=Z,1.0nm,1.1s						
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
TXAR				MLR	MLR		
	comp=Z,151nm,18.2s						
TXAR	**Lajitas Array**	**54.29**	**272**	P	**P**	**12 33 07.0**	**-0.7**
	comp=Z,1.1nm,1.1s,mb3.7,baz=68,slow=6.9,SNR=5.7						
TXAR				PcP	PcP	12 34 10.6	-1.1
	comp=Z,0.5nm,0.8s,baz=70,slow=4.1,SNR=4.5						
TXAR				LR	LR	12 56 42.1	
	comp=Z,151nm,18.2s,MS4.1,baz=25,slow=36						
TXAR	**Lajitas Array**	**54.29**	**272**	PcP	PcP	12 34 10.6	-1.1
TIXI	**Tiksi**	**54.62**	**6**	*e*P	**P**	**12 33 10.4**	**+0.9**
	comp=Z,4.9nm,0.9s,mb4.5						
TIXI	**Tiksi**	**54.62**	**6**	*e*P	**P**	**12 33 10.6**	**+1.1**
TIXI				pmax	pmax		
	comp=Z,9.0nm,1.3s,mb4.6						
TIXI	**Tiksi**	**54.62**	**6**	*e*P	**P**	**12 33 10.4**	**+0.9**
	comp=Z,4.8nm,0.9s,mb4.5						
NVAR	**Mina Array Bea**	**56.34**	**291**	P	**P**	**12 33 23.4**	**+1.0**
	comp=Z,1.0nm,0.9s,mb3.8,baz=74,slow=5.8,SNR=6.2						
BILL	**Bilibino**	**57.68**	**351**	*e*P	**P**	**12 33 31.3**	**-0.1**
BILL				pmax	pmax		
	comp=Z,3.0nm,1.2s,mb4.2						
BILL	**Bilibino**	**57.68**	**351**	*e*P	**P**	**12 33 31.3**	**-0.1**
	comp=Z,3.0nm,1.2s,mb4.2						
GSC	**Goldstone**	**57.71**	**287**	*e*P	**P**	**12 33 34.6**	**+2.5**
	comp=Z,5.3nm,1.3s,mb4.4						
GSC	**Goldstone**	**57.71**	**287**	*e*P	**P**	**12 33 34.6**	**+2.5**
GSC				pmax	pmax		
	comp=Z,5.0nm,1.3s,mb4.4						
GSC	**Goldstone**	**57

comp=N,115nm,5.7s
HHC LR LR
comp=E,130nm,5.0s
HHC LR LR
comp=Z,102nm,10.8s,MS4.5
BJI Beijing 83.61 22 P **P** **12 36 09.4 -0.3**
BJI PP PP 12 39 20.4 -1.0
BJI AMB AMB
comp=Z,5.0nm,0.4s,mb5.0
BJI AMB AMB
comp=Z,146nm,6.6s
BJI LR LR
comp=N,158nm,10.0s
BJI LR LR
comp=E,266nm,19.4s
BJI LR LR
comp=Z,207nm,27.4s
LZH Lanzhou 84.00 32 *e*P **P** **12 36 13.0 +1.2**
LZH AP pP 12 36 16.8 +1.7
LZH XP sP 12 36 20.5 +4.2
LZH *e*PP PP 12 39 27.8 +3.1
LZH AMB AMB
comp=Z,19nm,1.3s,mb5.1
LZH AMB AMB
comp=Z,143nm,7.8s
LZH LR LR
comp=E,237nm,17.6s
LZH LR LR
comp=Z,415nm,19.5s,MS4.8
CD2 Chengdu 88.73 34 *e*P **P** **12 36 35.3 +0.2**
CD2 AMB AMB
comp=Z,20nm,0.8s,mb5.5
CD2 AMB AMB
comp=Z,40nm,5.8s
NJ2 Nanjing 91.87 22 *e*P **P** **12 36 52.5 +2.8**
NJ2 AMB AMB
comp=Z,10.0nm,0.8s,mb5.2
KMI Kunming 93.67 37 P **P** **12 36 58.3 +0.2**
KMI AP pP 12 37 04.8 +3.3
KMI XP sP 12 37 07.4 +4.8
KMI AMB AMB
comp=Z,4.0nm,1.3s,mb4.7
GYA Guiyang 93.80 34 P **P** **12 37 01.3 +2.6**
GYA AMB AMB
comp=Z,10.0nm,0.8s,mb5.3
WRA Warramunga Arr 145.54 17 PKP2 PKPbc 12 43 17.6 -2.2
WRA pmax pmax
comp=Z,1.0nm,0.8s
WRA Warramunga Arr 145.54 17 PKPbc PKPbc 12 43 17.6 -2.2
comp=Z,0.8nm,0.8s,baz=346,slow=3.6,SNR=7.2
ASAR Alice Springs 149.09 19 PKIKP PKPbc 12 43 27.3 -2.3
ASAR pmax pmax
comp=Z,2.0nm,0.7s
ASAR Alice Springs 149.09 19 PKPbc PKPbc 12 43 27.3 -2.3
comp=Z,1.5nm,0.7s,baz=347,slow=2.3,SNR=28

IDC 22 12:25:02.9±1.9,936N×12153E,h0km,mb3.4/3,mb1 3.7/3, mb1mx3.4/19,mbtmp3.4/3,Error ellipse: s-maj=411.4km s-min=24.3km az=71.0,Sulu Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**31.73**	**157**	P	P	12 31 28.6	0.0
	0.5nm,0.3s,baz=336,slow=9.4,SNR=17						
ASAR	**Alice Springs**	**34.98**	**160**	P	P	12 31 57.1	+0.1
	0.2nm,0.3s,baz=333,slow=8.0,SNR=12						
SONM	**Songino Array**	**40.43**	**344**	P	P	12 32 43.0	+0.1
	0.2nm,0.4s,baz=151,slow=9.9,SNR=2.4						

IDC 22 12:27:41.1±0.9,5364N×3525W,h0km,mb3.6/6, mb1 3.9/7,mb1mx3.6/27,mbtmp3.6/7,ML2.4/1,Error ellipse: s-maj=40.0km s-min=19.2km az=21.0, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCHQ	**Schefferville**	**18.42**	**287**	P	Pn	12 31 57.4	-0.3
	0.1nm,0.3s,baz=101,slow=12,SNR=4.5						
ESDC	**Sonseca Array**	**25.36**	**111**	P	P	12 33 10.7	+1.0
	1.7nm,1.0s,baz=322,slow=8.0,SNR=4.2						
YKA	**Yellowknife Ar**	**40.31**	**315**	P	P	12 35 20.0	+0.4
	0.8nm,0.9s,baz=61,slow=9.0,SNR=7.2						
PDAR	**Pinedale Array**	**48.54**	**289**	P	P	12 36 25.7	0.0
	0.4nm,0.3s,baz=55,slow=7.8,SNR=3.2						
TORD	**Torodi Ar. Bea**	**49.82**	**130**	P	P	12 36 35.1	-0.7
	1.0nm,1.1s,baz=334,slow=6.9,SNR=2.3						
TXAR	**Lajitas Array**	**54.35**	**272**	P	P	12 37 09.4	0.0
	0.4nm,0.9s,baz=95,slow=5.4,SNR=3.2						
SONM	**Songino Array**	**73.80**	**26**	P	P	12 39 16.5	-0.5
	0.8nm,0.9s,baz=343,slow=4.5,SNR=4.0						
WRA	**Warramunga Arr**	**145.43**	**17**	PKPbc	PKPbc	12 47 20.7	-0.1
	0.5nm,1.0s,baz=335,slow=1.4,SNR=3.4						
ASAR	**Alice Springs**	**148.97**	**20**	PKPbc	PKPbc	12 47 30.4	-0.3
	0.3nm,0.6s,baz=350,slow=2.5,SNR=11						

*NEIC **22** 12:52:00.0,3563N×2993E,h14km,ML3.9(ATH), ML3.9(ISK),After ISK.*
*ISK **22** 12:52:02.9,3559N×2993E,h40km,MD4.0*
*DDA **22** 12:52:05.0,3578N×3006E,h7km±5km,Md3.8*
*ISCJB **22** 12:52:05.6±0.2,3574N±002×2999E±002,h48km±4km, mb4.0/14,Error ellipse: s-maj=3.5km s-min=2.1km az=43.6*
*CSEM **22** 12:52:06.3±0.1,3588N×2996E,h30km,Mw3.3,Error ellipse: s-maj=2.0km s-min=1.1km az=45.0*
*MOS **22** 12:52:06.7±1.5,3581N×2995E,h53km,mb4.4/8,Error ellipse: s-maj=11.1km s-min=8.5km az=90.8*
*IDC **22** 12:52:08.8±2.4,3573N×3009E,h58km±27km,mb3.9/11, mb1 3.8/17,mb1mx3.7/27,mbtmp3.8/17,ML3.8/6,MS3.5/1, Ms1 3.5/1,ms1mx2.7/34,Error ellipse: s-maj=18.4km s-min=15.0km az=8.0*
*NIC **22** 12:52:09.6±0.4,3605N×3021E,h41km,mb4.2,ML3.7, MW3.3*
*ATH **22** 12:52:10.3,3614N×2959E,h33km±2km,MD3.9/9*
*GII **22** 12:52:11.8±0.0,3549N×3026E,h15km±1km,ML3.5/7*
*HLW **22** 12:52:11.4,3539N×3000E,h33km,Mb4.1*

ISC 22 12:52:07.4±0.2,3578N±002×2996E±002,h44km±4km, n158,σ§19/187,mb4.0/14,2C-1D,Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSL	**Kastellorizon**	**0.48**	**320**	*e*PB	Pn	12 52 16.0	-2.0
AKAS	**Kas**	**0.54**	**328**	*i* P	Pn	12 52 17.3	-1.4
AKAS				*i* S	Sn	12 52 24.6	-2.2
ELL	**Elmali**	**0.97**	**358**	*e*PN	Pn	12 52 24.1	-0.4
ELL				*e*SN	Sn	12 52 37.8	+0.8
FETY	**Fethiye**	**1.11**	**320**	*e*PN	Pn	12 52 25.3	-1.1
ANTB	**Antalya**	**1.25**	**26**	*e*PN	Pn	12 52 27.4	-1.0
GOLH	**Golhisar**	**1.49**	**348**	*i* P	Pn	12 52 32.7	+1.1
GOLH				*i* S	Sn	12 52 55.2	+5.3
ARG	**Arkhangelos**	**1.55**	**287**	*e*PN	Pn	12 52 32.1	-0.3
BCK	**Bucak**	**1.75**	**17**	*e*PN	Pn	12 52 35.2	0.0
YER	**Yerkesik**	**1.91**	**315**	*e*PN	Pn	12 52 35.4	-2.0
YER				*e*SN	Sn	12 53 00.6	+0.4
AKMC	**Akamas**	**2.08**	**111**	P	Pn	12 52 40.6	+0.9
DENT	**Denizli**	**2.10**	**340**	*e*PN	Pn	12 52 40.0	0.0
DAT	**Datca**	**2.15**	**297**	*e*PN	Pn	12 52 37.7	-2.9
DAT				*e*SN	Sn	12 53 04.9	-1.1
PPCY	**Paphos**	**2.15**	**114**	P	Pn	12 52 42.7	+2.1
ALFC	**Alevga**	**2.24**	**105**	P	Pn	12 52 42.8	+0.8
	18nm,0.2s						
ALFC				S	Sn	12 53 09.3	+0.9
TKTP	**Tekketepe**	**2.27**	**7**	*i* P	Pn	12 52 43.4	+1.0
TKTP				*i* S	Sn	12 52 57.2	-12
KARP	**Karpathos**	**2.29**	**265**	*e*PN	Pn	12 52 44.3	+1.7
KARP				*e*SN	Sn	12 53 10.1	+0.5
MLSB	**Milas**	**2.32**	**311**	*e*PN	Pn	12 52 42.0	-1.0
LEF	**Lefka**	**2.48**	**105**	*e*PN	Pn	12 52 40.8	-4.5
BODT	**Bodrum**	**2.49**	**302**	*e*PN	Pn	12 52 43.1	-2.3
BODT				*e*SN	Sn	12 53 12.7	-1.8
AYDN	**Tasoluk**	**2.51**	**319**	*i* P	Pn	12 52 45.7	+0.1
AYDN				*i* S	Sn	12 53 21.8	+6.7
KHL	**Karahalli**	**2.56**	**352**	*e*PN	Pn	12 52 46.2	-0.1
SZAC	**Souni-Zanaja**	**2.60**	**112**	P	Pn	12 52 49.0	+2.1
	24nm,0.2s						
SZAC				S	Sn	12 53 19.2	+2.0
MAMC	**Mammari**	**2.73**	**102**	P	Pn	12 52 52.2	+3.6
SHUT	**Suhut-Afyon**	**2.81**	**10**	*e*PN	Pn	12 52 48.8	-0.9
CSS	**Prodhromos**	**2.87**	**106**	⇑P	Pn	12 52 52.4	+1.8
	4.3nm,0.1s						
CSS				S	Sn	12 53 25.2	+1.3
CSS	**Prodhromos**	**2.87**	**106**	P	Pn	12 52 52.5	+1.9
KONT	**Konya--Tatoy**	**2.89**	**41**	*e*PN	Pn	12 52 50.7	-0.2
KULA	**Kula-Manisa**	**2.92**	**340**	*e*PN	Pn	12 52 50.9	-0.3
LFK	**Lefkose**	**2.96**	**99**	*e*PN	Pn	12 52 49.5	-2.3
IKL	**Isikli**	**3.06**	**80**	*e*PN	Pn	12 52 52.1	-1.0
ZKR	**Zakros**	**3.13**	**259**	P	Pn	12 52 55.4	+1.3
SMG	**Samos**	**3.16**	**308**	*e*PN	Pn	12 52 53.7	-0.9
KDHN	**Kadinhani**	**3.23**	**32**	*i* P	Pn	12 52 56.8	+1.3
KDHN				*i* S	Sn	12 53 35.2	+2.5
ALT	**Altintas**	**3.27**	**2**	*e*PN	Pn	12 52 55.6	-0.4
EREN	**Erenkoy**	**3.44**	**93**	*e*PN	Pn	12 52 56.3	-2.1
KIZT	**Kizilcal**	**3.45**	**26**	*e*PN	Pn	12 52 58.8	+0.3
BLCB	**Balcova**	**3.49**	**319**	*e*PN	Pn	12 52 57.7	-1.4
AKS	**Akhisar**	**3.53**	**332**	*e*PN	Pn	12 52 59.1	-0.5
NPS	**Neapolis**	**3.58**	**263**	*e*PN	Pn	12 53 02.7	+2.3
XRY	**Khrisi**	**3.60**	**257**	*e*PN	Pn	12 53 03.5	+2.9
APE	**Apeiranthos**	**3.80**	**291**	*e*PN	Pn	12 53 04.1	+0.8
ESKT	**Eskisehir**	**3.80**	**10**	*e*PN	Pn	12 53 03.1	-0.2
MERS	**Mersin**	**3.84**	**72**	*e*PN	Pn	12 53 02.7	-1.2
DST	**Dursunbey**	**3.96**	**345**	*e*PN	Pn	12 53 06.4	+0.8
IDI	**Anoyia**	**4.16**	**265**	P	Pn	12 53 09.5	+1.2
BALB	**Balikesir**	**4.19**	**337**	*e*PN	Pn	12 53 08.2	-0.5
SIVA	**Sivas**	**4.28**	**261**	P	Pn	12 53 12.6	+2.7
KARA	**Karaisali**	**4.36**	**69**	*e*PN	Pn	12 53 10.5	-0.6
NIG	**Nigde**	**4.39**	**57**	*e*PN	Pn	12 53 11.1	-0.3
IZI	**Iznik**	**4.56**	**355**	*e*PN	Pn	12 53 14.2	+0.4
ANTO	**Ankara**	**4.66**	**28**	*e*PN	Pn	12 53 15.1	0.0
ANTO	**Ankara**	**4.66**	**28**	*e*P	Pn	12 53 15.5	+0.4
KAMT	**Kaman**	**4.66**	**39**	*e*PN	Pn	12 53 16.3	+1.1
LOD	**Lodumlu**	**4.66**	**28**	*e*PN	Pn	12 53 15.4	+0.3
GEMT	**Gemlik**	**4.69**	**353**	*e*PN	Pn	12 53 15.9	+0.4
YLV	**Yalova**	**4.80**	**355**	*e*PN	Pn	12 53 17.4	+0.3
CEYT	**Ceyhan**	**4.83**	**74**	*e*PN	Pn	12 53 16.0	-1.4
GVD	**Gavdhos**	**4.89**	**261**	*e*PN	Pn	12 53 21.0	+2.6
KOZT	**Kozan**	**5.01**	**69**	*e*PN	Pn	12 53 19.1	-0.9
HTY	**Hatay**	**5.02**	**84**	*e*PN	Pn	12 53 19.1	-1.0
BHL	**Bhannes**	**5.04**	**110**	*e*Pn	Pn	12 53 23.6	+3.2
HNTI	**Hanita**	**5.08**	**121**	Pn	Pn	12 53 22.6	+1.7
HNTI				Sn	Sn	12 54 17.5	-0.8
HNTI	**Hanita**	**5.08**	**121**	Pn	Pn	12 53 22.6	+1.7
HNTI				Sn	Sn	12 54 17.5	-0.8
HWQ	**Hawqa**	**5.14**	**105**	*e*Pn	Pn	12 53 22.1	+0.4
OFRI	**'Ofer**	**5.22**	**126**	Pn	Pn	12 53 23.7	+0.8
HMAT	**Matruh**	**5.25**	**208**	P	Pn	12 53 23.5	+0.2
MMA3	**Mount Meron ar**	**5.28**	**120**	Pn	Pn	12 53 24.1	+0.4
MMA3				Sn	Sn	12 54 21.7	-1.5
MMAI	**Mount Meron Ar**	**5.28**	**120**	P	Pn	12 53 24.1	+0.4
	18nm,0.3s,baz=307,slow=11,SNR=27						
MMAI				S	Sn	12 54 22.4	-0.8
	33nm,0.3s,baz=312,slow=24,SNR=11						
RCY	**Rachaya**	**5.35**	**114**	*e*Pn	Pn	12 53 25.4	+0.9
RKY	**Sarkoy-Tekirda**	**5.37**	**337**	*e*PN	Pn	12 53 25.0	+0.2
KSDI	**Kefar Szold**	**5.37**	**117**	Pn	Pn	12 53 25.5	+0.6
KSDI				Sn	Sn	12 54 24.1	-1.3
HRI	**Mount Hermon**	**5.39**	**116**	Pn	Pn	12 53 27.0	+1.8
GADA	**Gvkgeada**	**5.45**	**325**	*e*PN	Pn	12 53 26.0	+0.1
SLTI	**Sal'it**	**5.50**	**128**	Sn	Sn	12 54 26.5	-2.2
KSHT	**Keshet**	**5.59**	**118**	Pn	Pn	12 53 29.7	+1.8
MMLI	**Mount Malkishu**	**5.62**	**125**	Pn	Pn	12 53 29.7	+1.3
MMLI				Sn	Sn	12 54 30.3	-1.4
CORM	**Corum**	**5.73**	**39**	*e*PN	Pn	12 53 30.2	+0.4
YOZ	**Yozgat**	**5.73**	**46**	*e*PN	Pn	12 53 30.3	+0.4
VLI	**Veliai**	**5.75**	**281**	*e*PN	Pn	12 53 32.0	+1.9
HMDT	**Nahal Hemdat**	**5.81**	**126**	Pn	Pn	12 53 31.9	+1.0
HMDT				Sn	Sn	12 54 35.3	-1.0
SLUM		**5.83**	**224**	P	Pn	12 53 32.4	+1.1
SLUM		**5.83**	**224**	P	Pn	12 53 32.3	+1.1
KMRS	**Kahramanmaras**	**5.84**	**71**	*e*PN	Pn	12 53 31.5	+0.2
SQR		**5.97**	**170**	P	Pn	12 53 32.2	-1.0
KOT	**Kottamia**	**6.05**	**164**	P	Pn	12 53 33.6	-0.6
HHAG	**Hagoal**	**6.08**	**162**	P	Pn	12 53 34.4	-0.3
HHAG				S	Sn	12 54 34.6	-8.4
KZIT	**Kziot**	**6.12**	**141**	Pn	Pn	12 53 35.8	+0.6
KZIT				Sn	Sn	12 54 41.4	-2.4
TOS	**Tosya**	**6.14**	**30**	*e*PN	Pn	12 53 35.8	+0.4
HNAT	**Natroun**	**6.16**	**175**	P	Pn	12 53 35.0	-0.7
YTIR	**Yattir**	**6.16**	**134**	Pn	Pn	12 53 37.1	+1.4
YTIR				Sn	Sn	12 54 43.4	-1.4
DSI	**Dead Sea**	**6.17**	**131**	Pn	Pn	12 53 36.5	+0.6
DSI				Sn	Sn	12 54 43.5	-1.6
HSAF	**As Saff**	**6.29**	**167**	P	Pn	12 53 37.2	-0.3
HSAF	**As Saff**	**6.29**	**167**	P	Pn	12 53 37.2	-0.4
MZDA	**Masada**	**6.34**	**133**	Pn	Pn	12 53 39.4	+1.1
MZDA				Sn	Sn	12 54 48.4	-1.0
MZDA	**Masada**	**6.34**	**133**	Pn	Pn	12 53 39.3	+1.0
MZDA				Sn	Sn	12 54 48.4	-1.0
EDRB	**Edirne**	**6.56**	**338**	*e*PN	Pn	12 53 42.0	+0.9
HNKL	**Nakhl**	**6.74**	**149**	P	Pn	12 53 43.6	-0.2
ASF	**Jabal al Asfar**	**6.79**	**120**	P	Pn	12 53 45.4	+0.9
ASF				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ASF	**Jabal al Asfar**	**6.79**	**120**	P	Pn	12 53 45.4	+0.9
	comp=Z,2.1nm,0.3s,baz=190,slow=6.6,SNR=8.6						
PRNI	**Paran**	**6.87**	**141**	Pn	Pn	12 53 46.7	+1.1
PRNI				Sn	Sn	12 55 01.1	-1.3
KRMI	**Paran Flat**	**6.92**	**143**	Pn	Pn	12 53 46.6	+0.4
SVSK	**Karacayir**	**6.93**	**51**	*e*PN	Pn	12 53 46.0	-0.2
HRFI	**Mount Harif**	**7.14**	**142**	Pn	Pn	12 53 49.8	+0.6
HRFI				Sn	Sn	12 55 07.0	-2.1
MALT	**Malatya**	**7.23**	**67**	*e*PN	Pn	12 53 49.6	-0.8
EIL	**Elat**	**7.40**	**144**	P	Pn	12 53 51.9	-0.9
	comp=Z,2.3nm,0.3s,baz=312,slow=6.2,SNR=15						
EIL				S	Sn	12 55 12.0	-3.5
	comp=Z,3.4nm,0.3s,baz=313,slow=17,SNR=8.7						
SWA2		**7.55**	**212**	P	Pn	12 53 55.1	+0.3
HBST	**Basata**	**7.69**	**147**	P	Pn	12 53 56.7	-0.1
HKAT	**Jabal Katrina**	**8.00**	**154**	P	Pn	12 54 01.1	0.0
HDHB	**Dhahab**	**8.07**	**149**	P	Pn	12 54 01.9	0.0
TR1		**8.46**	**155**	P	Pn	12 54 07.4	+0.1
HHRG	**Al Ghardaqah**	**9.07**	**159**	P	Pn	12 54 15.3	-0.4
HSFG		**9.79**	**159**	P	Pn	12 54 25.9	+0.3
MLR	**Muntele Rosu**	**10.16**	**344**	P	Pn	12 54 39.3	+8.7
	comp=Z,0.3nm,0.3s,baz=155,slow=22,SNR=3.9						
TIP	**Timpagrande**	**11.02**	**292**	*e*Pn	Pn	12 54 40.1	-2.3
	comp=Z,6.0nm,0.4s						
TIP				*e*Sn	Sn	12 56 33.2	-11
SG1	**Sgolgore (BA)**	**11.59**	**300**	*e*Pn	Pn	12 54 49.9	-0.2
KIV	**Kislovodsk**	**12.72**	**46**	*e*P	Pn	12 55 13.2	+7.6
KIV				pmax	pmax		
	comp=Z,12nm,0.9s						
KIV				MLR	MLR		
	comp=Z,52nm,10.0s						
AKASG	**Malin Array Be**	**14.92**	**358**	*i* P	Pn	12 55 40.5	+5.3
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.7s						
AKASG	**Malin Array Be**	**14.92**	**358**	P	Pn	12 55 37.8	+2.6
	comp=Z,0.3nm,0.3s,baz=167,slow=8.3,SNR=7.5						
VORD	**Divnogorie**	**16.60**	**21**	*e*P	Pn	12 55 59.2	+2.4
VORD				pmax	pmax		
	comp=Z,7.0nm,0.6s						
VORD				pmax	pmax		
	comp=N,10.0nm,0.9s						
VORD				pmax	pmax		
	comp=E,10.0nm,0.6s						
VRAC	**Vranov**	**16.69**	**328**	LR	LR	13 02 21.6	
	comp=E,157nm,19.0s,baz=242,slow=36						
KEST	**Kesra**	**16.74**	**276**	P	Pn	12 56 02.0	+3.5
	comp=E,0.1nm,0.3s,baz=187,slow=10,SNR=5.4						
PGF	**Pioggiola**	**17.58**	**299**	*e*P	Pn	12 56 06.9	-2.1
GERES	**GERESS Array B**	**17.70**	**323**	P	Pn	12 56 12.8	+2.4
	comp=E,0.2nm,0.3s,baz=113,slow=10,SNR=6.7						
KHC	**Kasperske Hory**	**17.95**	**323**	*e*P	Pn	12 56 10.4	-3.1
KHC	**Kasperske Hory**	**17.95**	**323**	*e*P	Pn	12 56 14.5	+1.0
CLL	**Collm**	**19.72**	**327**	*e*P	Pn	12 56 35.0	+0.2
CLL	**Collm**	**19.72**	**327**	*es*P	Pn	12 56 35.0	+0.2
MBDF	**Montbardon**	**19.77**	**304**	*e*P	Pn	12 56 34.3	-1.1
	comp=E,4.2nm,0.7s						
OBN	**Obninsk**	**19.86**	**11**	*e*P	Pn	12 56 34.0	-2.4
OBN				pmax	pmax		
	comp=Z,6.0nm,1.0s						
ORIF	**Oris-en-Rattie**	**20.43**	**304**	*e*P	P	12 56 41.0	+0.2
CABF	**La Chapelle**	**20.89**	**309**	*e*P	P	12 56 44.7	-1.0
	comp=Z,3.0nm,0.8s						
CDF	**Champ du Feu**	**20.94**	**314**	*e*P	P	12 56 46.0	-0.3
	comp=Z,2.2nm,0.5s						
SSF	**Saint Saulge**	**22.70**	**308**	*e*P	P	12 57 04.2	-0.9
AVF	**Avril sur Loir**	**22.71**	**307**	*e*P	P	12 57 04.0	-1.2
AKTK	**Aktyubinsk**	**24.99**	**45**	P	P	12 57 26.6	-0.1
AKTO	**Aktyubinsk**	**24.99**	**45**	P	P	12 57 26.7	0.0
AKTO				pmax	pmax		
	comp=Z,15nm,0.8s,mb4.6						
AKTO	**Aktyubinsk**	**24.99**	**45**	P	P	12 57 26.6	-0.1
	comp=Z,15nm,0.8s,mb4.6,baz=245,slow=9.2,SNR=56						
FINES	**FINESS Array B**	**25.80**	**356**	P	P	12 57 33.5	-0.5
FINES				pmax	pmax		
	comp=Z,2.0nm,0.6s						
FINES	**FINESS Array B**	**25.80**	**356**	P	P	12 57 33.5	-0.5
	comp=Z,1.5nm,0.6s,mb3.7,baz=158,slow=13,SNR=9.9						
HFS	**Hagfors**	**26.54**	**342**	P	P	12 57 41.7	+1.0
HFS				pmax	pmax		
	comp=Z,6.0nm,1.0s						
HFS	**Hagfors**	**26.54**	**342**	P	P	12 57 41.7	+1.1
	comp=Z,5.5nm,1.0s,mb4.1,baz=115,slow=10.0,SNR=4.2						
ARU	**Arti**	**28.29**	**34**	*c i* P	P	12 57 58.6	+2.3
ARU				*e*		12 58 50.5	
ARU				*e*SS	SS	13 04 16.7	-23
ARU				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.3						
ARCES	**ARCESS Array B**	**33.90**	**357**	P	P	12 58 45.7	+0.1
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.8s						
ARCES	**ARCESS Array B**	**33.90**	**357**	P	P	12 58 45.7	+0.1
	comp=Z,2.4nm,0.8s,mb4.2,baz=174,slow=8.4,SNR=12						
TORD	**Torodi Ar. Bea**	**33.98**	**236**	P	P	12 58 48.8	+1.9
	comp=Z,2.6nm,0.8s,mb4.2,baz=33,slow=9.0,SNR=16						
AAK	**Ala-Archa**	**34.86**	**65**	*e*P	P	12 58 55.3	+1.1
AAK				pmax	pmax		
	comp=Z,5.0nm,2.3s,mb4.0						
KURK	**Kurchatov**	**37.74**	**51**	*d i* P	P	12 59 19.4	+0.7
MKAR	**Makanchi Array**	**40.15**	**58**	P	P	12 59 38.9	0.0
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.6s						
MKAR	**Makanchi Array**	**40.15**	**58**	P	P	12 59 38.9	-0.1
	comp=Z,3.4nm,0.6s,mb4.3,baz=276,slow=7.2,SNR=38						
NVS	**Novosibirsk**	**40.88**	**45**	*e*P	P	12 59 43.2	-1.6
ZAL	**Zalesovo**	**41.73**	**47**	P	P	12 59 51.7	-0.1
ZALV	**Zalesovo Beam**	**41.74**	**47**	P	P	12 59 51.7	-0.2
ZALV	**Zalesovo Beam**	**41.74**	**47**	P	P	12 59 51.7	-0.2
	comp=Z,3.0nm,0.3s,mb4.3,baz=264,slow=9.2,SNR=17						
SONM	**Songino Array**	**56.04**	**52**	P	P	13 01 42.4	+0.8
	comp=Z,0.3nm,0.5s,mb3.6,baz=298,slow=8.1,SNR=3.1						
SCHQ	**Schefferville**	**65.22**	**321**	P	P	13 02 44.1	+0.1
	comp=Z,2.1nm,0.8s,mb4.2,baz=51,slow=11,SNR=3.1						
BILL	**Bilibino**	**71.45**	**16**	*e*P	P	13 03 20.7	-2.0
BILL				pmax	pmax		
	comp=Z,2.0nm,1.2s,mb3.9						
YKA	**Yellowknife Ar**	**78.00**	**344**	P	P	13 04 00.9	+0.2
	comp=Z,0.3nm,0.7s,mb3.3,baz=27,slow=5.3,SNR=7.6						
ULM	**Lac du Bonnet**	**81.91**	**328**	P	P	13 04 20.5	-1.6
	comp=Z,1.1nm,0.6s,mb4.0,baz=93,slow=5.3,SNR=3.8						

*ISCJB **22** 12:52:17.6±0.4,5347N±010×3543W±007,h10km, mb4.0/30,MS3.8/22,Error ellipse: s-maj=14.2km s-min=5.7km az=5.1*
*IDC **22** 12:52:17.7±0.6,5351N×3543W,h0km,mb3.7/14, mb1 3.9/16,mb1mx3.8/29,mbtmp3.7/16,ML3.2/2,MS3.9/21, Ms1 3.9/21,ms1mx3.7/43,Error ellipse: s-maj=21.1km s-min=13.9km az=176.0*
*NEIC **22** 12:52:19.2±0.2,5347N×3544W,h10km,mb4.5/16,Error ellipse: s-maj=10.5km s-min=4.0km az=185.0*
*CSEM **22** 12:52:20.3±0.1,5349N×3544W,h33km,mb4.4/15,Ms3.6, Error ellipse: s-maj=5.5km s-min=1.4km az=9.0*

ISC 22 12:52:19.4±0.4,5347N±010×3541W±007,h10km,n78, σ0§68/61,mb4.0/30,MS3.8/22,Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BORG	**Borgarnes**	**13.38**	**27**	LR	LR	12 58 55.1	
	comp=Z,191nm,19.3s,baz=202,slow=30						
SCHQ	**Schefferville**	**18.38**	**287**	P	Pn	12 56 33.4	-0.7
	0.3nm,0.3s,baz=111,slow=8.1,SNR=9.5						
EKA	**Eskdalemuir Ar**	**18.78**	**71**	P	Pn	12 56 39.6	+0.7
	0.1nm,0.3s,baz=277,slow=8.3,SNR=5.9						
ROSF	**Rostrenen**	**20.80**	**91**	*e*P	P	12 57 01.1	+0.6
QUIF	**Quistinic**	**21.05**	**92**	*e*P	P	12 57 04.4	+1.1
	32nm,1.2s,mb4.2						
QUIF	**Quistinic**	**21.05**	**92**	*e*P	P	12 57 04.4	+1.1
	16nm,1.2s,mb4.2						
JMIC	**Jan Mayen**	**21.24**	**24**	LR	LR	13 03 09.0	
	comp=Z,259nm,20.8s,MS3.6,baz=39,slow=31						
SGMF	**Saint Gilles**	**21.26**	**91**	*e*P	P	12 57 04.9	-0.6
	64nm,1.4s,mb4.5						
SGMF	**Saint Gilles**	**21.26**	**91**	*e*P	P	12 57 04.9	-0.6
	32nm,1.4s,mb4.5						
FLN	**La Foliniere**	**22.28**	**88**	*e*P	P	12 57 16.1	-0.3
	59nm,1.4s,mb4.5						
FLN				*e*MLR	MLR		
	comp=Z,387nm,22.2s,MS3.5						
FLN	**La Foliniere**	**22.28**	**88**	*e*P	P	12 57 16.1	-0.3
	comp=Z,29nm,1.4s,mb4.5						
FLN				LR	LR		
	comp=Z,390nm,22.3s,MS3.8						
LDF	**La Druitiere**	**22.57**	**88**	*e*P	P	12 57 18.9	-0.6
	comp=Z,29nm,1.3s,mb4.2						
LDF	**La Druitiere**	**22.57**	**88**	*e*P	P	12 57 18.9

comp=Z,4.1nm,1.0s,mb4.0
LRAL Lakeview Retre 41.67 262 *e*P **P 13 00 06.5 -1.4**
comp=Z,4.1nm,1.0s,mb4.0
MIAR Mount Ida 44.53 269 *e*P **P 13 00 30.3 -0.8**
comp=Z,11nm,1.2s,mb4.6
MIAR Mount Ida 44.53 269 *e*P **P 13 00 30.3 -0.8**
comp=Z,11nm,1.2s,mb4.6
INK Inuvik 44.54 328 LR LR 13 19 00.8
comp=Z,111nm,21.1s,MS3.8,baz=178,slow=36
EGMT Eagleton 45.38 295 *e*P **P 13 00 41.3 +3.7**
comp=Z,6.8nm,1.1s,mb4.4
WALA Waterton Lakes 46.98 298 *e*P **P 13 00 51.1 +0.9**
comp=Z,4.6nm,1.1s,mb4.3
WALA Waterton Lakes 46.98 298 *e*P **P 13 00 51.1 +0.9**
comp=Z,4.6nm,1.1s,mb4.3
HRY Holter Researc 47.29 294 *e*P **P 13 00 53.6 +0.9**
HRY Holter Researc 47.29 294 *e*P **P 13 00 53.6 +0.9**
PDAR Pinedale Array 48.50 289 P **P 13 01 01.7 -0.4**
comp=Z,0.8nm,0.7s,mb3.9,baz=63,slow=7.2,SNR=8.5
PDAR LR LR 13 22 40.7
comp=Z,114nm,18.6s,MS3.9,baz=353,slow=38
DAWY Dawson 48.97 326 *e*P **P 13 01 05.2 -0.2**
DAWY Dawson 48.97 326 *e*P **P 13 01 05.2 -0.2**
TORD Torodi Ar. Bea 49.79 130 P **P 13 01 11.7 -0.5**
comp=Z,0.7nm,0.8s,mb3.7,baz=327,slow=6.5,SNR=12
TORD LR LR 13 20 39.0
comp=Z,152nm,18.2s,MS4.0,baz=35,slow=34
HWUT Hardware Ranch 50.39 289 *e*P **P 13 01 16.5 0.0**
comp=Z,3.5nm,0.8s,mb4.4
HWUT Hardware Ranch 50.39 289 *e*P **P 13 01 16.5 0.0**
comp=Z,3.5nm,0.8s,mb4.4
HLID Hailey 50.70 293 *e*P **P 13 01 19.0 +0.2**
comp=Z,1.4nm,0.9s,mb3.9
HLID Hailey 50.70 293 *e*P **P 13 01 19.0 +0.2**
comp=Z,1.4nm,0.9s,mb3.9
DBIC Dimbokro 52.85 141 LR LR 13 20 57.8
comp=Z,136nm,20.0s,MS4.0,baz=8.6,slow=32
AKTK Aktyubinsk 53.60 52 P **P 13 01 40.5 +0.2**
AKTK Aktyubinsk 53.60 52 P **P 13 01 40.5 +0.2**
AKTO Aktyubinsk 53.60 52 P **P 13 01 40.5 +0.2**
comp=Z,0.9nm,0.7s,mb3.8,baz=276,slow=10,SNR=3.3
AKTO LR LR 13 22 27.5
comp=Z,140nm,21.9s,MS4.0,baz=142,slow=34
TXAR Lajitas Array 54.26 272 P **P 13 01 45.5 +0.1**
comp=Z,0.4nm,0.9s,mb3.4,baz=31,slow=7.6,SNR=4.1
TXAR LR LR 13 24 24.2
comp=Z,160nm,18.5s,MS4.1,baz=80,slow=36
TIXI Tiksi 54.69 6 *e*P **P 13 01 48.4 +0.5**
comp=Z,5.3nm,1.1s,mb4.5
TIXI Tiksi 54.69 6 *e*P **P 13 01 48.4 +0.5**
comp=Z,5.3nm,1.1s,mb4.5
NVAR Mina Array Bea 56.34 291 P **P 13 02 01.2 +0.9**
comp=Z,0.3nm,0.6s,mb3.5,baz=58,slow=8.6,SNR=3.2
LPIG La Paz 62.10 273 LR LR 13 29 38.0
comp=Z,148nm,19.4s,MS4.2,baz=172,slow=36
MKAR Makanchi Array 66.95 41 P **P 13 03 10.4 -1.4**
comp=Z,0.2nm,0.2s,mb3.7,baz=353,slow=5.8,SNR=3.1
BDFB Brasilia 69.67 193 P **P 13 03 29.7 +0.7**
comp=Z,0.5nm,0.4s,mb3.8,baz=187,slow=24,SNR=3.4
SONM Songino Array 73.99 26 P **P 13 03 53.7 -1.0**
comp=Z,1.0nm,0.9s,mb3.7,baz=331,slow=5.6,SNR=5.4
LPAZ La Paz 74.95 213 P **P 13 04 01.9 +1.4**
comp=Z,1.1nm,0.9s,mb3.8,baz=48,slow=2.9,SNR=5.2
KMBO Kilima Mbogo 80.65 105 LR LR 13 38 13.0
comp=Z,94nm,19.1s,MS4.2,baz=100,slow=34
WRA Warramunga Arr 145.61 17 PKPbc PKPbc 13 11 57.0 -1.0
comp=Z,0.9nm,1.0s,baz=337,slow=3.6,SNR=3.1
ASAR Alice Springs 149.16 19 PKPbc PKPbc 13 12 06.8 -0.9
comp=Z,0.6nm,0.7s,baz=356,slow=2.5,SNR=11
ASAR Alice Springs 149.16 19 PKPbc PKPbc 13 12 06.8 -1.0

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*IDC **22** 13:10:14.7±1.5,4702N×15282E,h0km,mb3.8/11, mb1 4.0/12,mb1mx3.8/25,mbtmp3.8/12,ML3.5/1,MS3.2/1, Ms1 3.2/1,ms1mx2.7/37,Error ellipse: s-maj=40.6km s-min=19.2km az=166.0*
*ISCJB **22** 13:10:22.5±2.7,468N±02×1528E±02,h86km±27km, mb3.8/10,Error ellipse: s-maj=31.6km s-min=20.9km az=159.4*
*MOS **22** 13:10:24.1±0.8,4668N×15268E,h108km,mb4.1/6,Error ellipse: s-maj=21.7km s-min=18.5km az=54.7*
ISC 22 13:10:24.7±2.3,469N±02×1528E±02,h84km±23km,n22, σ0:50/22,mb3.8/10,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
YSS	**Yuzh-Sakhalins**	**6.87**	**274**	PN		**Pn**	**13 12 03.0**	**+0.3**
ASAJ	**Asahikawa**	**7.68**	**253**	PN		**Pn**	**13 12 13.5**	**-0.2**
ASAJ				pmax		pmax		
	comp=Z,1.0nm,0.3s							
ASAJ				MLR		MLR		
	comp=Z,183nm,22.0s							
ASAJ	**Asahikawa**	**7.68**	**253**	Pn		**Pn**	**13 12 13.4**	**-0.2**
	comp=Z,1.0nm,0.3s,baz=74,slow=12,SNR=11							
ASAJ				LR		LR	13 15 10.9	
	comp=Z,183nm,22.0s,baz=339,slow=38							
MJAR	**Matsushiro Arr**	**14.99**	**232**	Pn		**Pn**	**13 13 48.0**	**-3.8**
	comp=Z,0.2nm,0.3s,baz=28,slow=8.3,SNR=4.0							
KSRS	**Korea Array**	**20.63**	**252**	P		**P**	**13 14 57.9**	**+0.7**
	comp=Z,0.9nm,0.5s,baz=51,slow=11,SNR=3.1							
INK	**Inuvik**	**41.66**	**32**	P		**P**	**13 18 04.6**	**+0.3**
INK				pmax		pmax		
	comp=Z,1.0nm,0.7s							
INK	**Inuvik**	**41.66**	**32**	P		**P**	**13 18 04.6**	**+0.3**
	comp=Z,1.3nm,0.7s,mb3.8,baz=281,slow=6.0,SNR=17							
MKAR	**Makanchi Array**	**46.68**	**297**	P		**P**	**13 18 45.0**	**+0.4**
	comp=Z,0.3nm,0.5s,mb3.2,baz=69,slow=7.9,SNR=3.6							
BVAR	**Borovoye Array**	**50.60**	**309**	P		**P**	**13 19 13.8**	**-0.7**
	comp=Z,0.2nm,0.3s,mb3.6,baz=59,slow=3.7,SNR=2.2							
YKA	**Yellowknife Ar**	**50.95**	**37**	P		**P**	**13 19 16.4**	**-0.6**
YKA				pmax		pmax		
	comp=Z,1.0nm,0.7s							
YKA	**Yellowknife Ar**	**50.95**	**37**	P		**P**	**13 19 16.4**	**-0.7**
	comp=Z,0.6nm,0.7s,mb3.7,baz=297,slow=7.2,SNR=11							
FINES	**FINESS Array B**	**63.82**	**335**	P		**P**	**13 20 47.4**	**-0.1**
FINES				pmax		pmax		
	comp=Z,1.0nm,0.4s							
FINES	**FINESS Array B**	**63.82**	**335**	P		**P**	**13 20 47.4**	**-0.1**
	comp=Z,1.1nm,0.4s,mb4.0,baz=40,slow=6.9,SNR=17							
PDAR	**Pinedale Array**	**64.85**	**54**	P		**P**	**13 20 54.8**	**+0.3**
	comp=Z,0.4nm,0.8s,mb3.3,baz=318,slow=2.0,SNR=3.5							
NB2	**NORSAR Subarra**	**68.03**	**341**	P		**P**	**13 21 14.5**	**0.0**
	comp=Z,1.1nm,0.6s,mb3.9,baz=27,slow=6.5							
NOA	**NORSAR Array B**	**68.03**	**341**	P		**P**	**13 21 14.6**	**+0.1**
NOA				pmax		pmax		
	comp=Z,2.0nm,0.8s							
NOA	**NORSAR Array B**	**68.03**	**341**	P		**P**	**13 21 14.6**	**+0.1**
	comp=Z,2.3nm,0.8s,mb4.0,baz=28,slow=6.5,SNR=5.8							
HFS	**Hagfors**	**68.25**	**339**	P		**P**	**13 21 15.7**	**-0.2**
HFS				pmax		pmax		
	comp=Z,2.0nm,0.4s							
HFS	**Hagfors**	**68.25**	**339**	P		**P**	**13 21 15.7**	**-0.2**
	comp=Z,2.2nm,0.4s,mb4.3,baz=53,slow=5.7,SNR=17							
AKASG	**Malin Array Be**	**71.31**	**326**	P		**P**	**13 21 34.9**	**+0.1**
AKASG				pmax		pmax		
	comp=Z,1.0nm,0.4s							
AKASG	**Malin Array Be**	**71.31**	**326**	P		**P**	**13 21 34.9**	**0.0**
	comp=Z,1.4nm,0.4s,mb4.2,baz=34,slow=6.2,SNR=8.0							
TXAR	**Lajitas Array**	**77.62**	**60**	P		**P**	**13 22 12.1**	**+0.3**
	comp=Z,0.4nm,0.5s,mb3.4,baz=291,slow=4.0,SNR=15							

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*MOS **22** 13:40:56.4±1.1,635S×146.19E,h109km,mb4.5/16,Error ellipse: s-maj=12.8km s-min=8.2km az=89.3*
*IDC **22** 13:40:56.3±3.1,639S×14624E,h99km±27km,mb4.3/17, mb1 4.5/20,mb1mx4.5/21,mbtmp4.4/20,Error ellipse: s-maj=15.7km s-min=10.4km az=98.0*
*ISCJB **22** 13:40:57.1±0.3,648S±004×14628E±006,h118km, mb4.6/46,Error ellipse: s-maj=7.9km s-min=5.2km az=0.8*
*BJI **22** 13:40:58.5,609S×14600E,h95km,mB5.1,mb4.9*
*GCMT **22** 13:40:58.3±0.3,651S×14620E,h126km±3km,MW5.0/68, Moment Tensor Solution. s14,c15; s68,c99; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.38±.14; $M_{\theta\theta}$2.39±.12; $M_{\phi\phi}$-2.01±.15; $M_{r\theta}$-1.17±.09; $M_{\theta\phi}$-1.63±.11; $M_{r\phi}$/2.18±.10; Best double couple: $M_0$3.70100×10^{16} NP1:ϕ_s244.00000°,δ48.00000°,λ-175.00000°. NP2: ϕ_s151.00000°,δ86.00000°,λ-43.00000°. Principal axes: T 3.7950, Plg26.0000°, Azm206.0000°; N -0.1840, Plg47.0000°, Azm327.0000°; P -3.6070, Plg32.0000°, Azm99.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **22** 13:40:58.3±0.3,642S×14628E,mb4.7/26 Error ellipse: s-maj=8.6km s-min=6.3km az=101.0*
ISC 22 13:40:58.8±0.3,651S±004×14630E±006,h120km, h120km±2.2km;pP-P,n165,σ1:06/105,mb4.6/45,1C, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**13.49**	**180**	*e*P		**Pn**	**13 44 07.5**	**+2.0**
	58nm,0.5s							
CTA	**Charters Tower**	**13.49**	**180**	P		**Pn**	**13 44 06.8**	**+1.3**
CTA				S		**Sn**	**13 46 31.8**	**-2.5**
CTA				pmax		pmax		
	comp=Z,8.0nm,0.3s							
CTA				smax				
	comp=N,1.0nm,0.3s							
CTA	**Charters Tower**	**13.49**	**180**	P		**Pn**	**13 44 06.8**	**+1.3**
	comp=N,8.0nm,0.3s,baz=360,slow=14,SNR=115							
CTA				S		**Sn**	**13 46 31.8**	**-2.5**
	comp=N,0.8nm,0.3s,baz=270,slow=20,SNR=2.3							
CTAO	**Charters Tower**	**13.49**	**180**	*e*Pn		**Pn**	**13 44 08.1**	**+2.6**
	comp=N,75nm,0.6s							
CTAO				*e*Sn		**Sn**	**13 46 34.1**	**-0.2**
CTAO	**Charters Tower**	**13.49**	**180**	*e*P		**Pn**	**13 44 08.1**	**+2.6**
CTAO				*e*			13 46 34.1	
CTAO				pmax		pmax		
	comp=Z,75nm,0.6s							
HNR	**Honiara**	**13.82**	**103**	*e*Pn		**Pn**	**13 44 10.9**	**+1.2**
	comp=Z,278nm,0.8s							
HNR	**Honiara**	**13.82**	**103**	*e*P		**Pn**	**13 44 10.9**	**+1.2**
HNR				pmax		pmax		
	comp=Z,279nm,0.8s							
HNR	**Honiara**	**13.82**	**103**	P		**Pn**	**13 44 10.6**	**+0.9**
	comp=Z,6.8nm,0.3s,baz=96,slow=9.2,SNR=5.8							
KAKA	**Kakadu**	**14.99**	**245**	*e*P		**Pn**	**13 44 23.7**	**-0.9**
	comp=Z,277nm,0.4s							
WRAB	**Tennant Creek**	**17.68**	**220**	*e*P		**Pn**	**13 44 56.7**	**-0.9**
	comp=Z,39nm,0.5s							
WRAB	**Tennant Creek**	**17.68**	**220**	*e*P		**Pn**	**13 44 56.7**	**-0.9**
WRAB				pmax		pmax		
	comp=Z,39nm,0.5s							
WB2	**Warramunga Arr**	**17.69**	**220**	*e*P		**Pn**	**13 44 56.8**	**-0.9**
WB2				*e*S		**S**	**13 48 25.1**	**+11**
WRA	**Warramunga Arr**	**17.70**	**220**	P		**Pn**	**13 44 56.6**	**-1.2**
WRA				pmax		pmax		
	comp=Z,7.0nm,0.3s							
WRA	**Warramunga Arr**	**17.70**	**220**	P		**Pn**	**13 44 56.6**	**-1.2**
	comp=Z,7.0nm,0.3s,baz=44,slow=12,SNR=459							
WRA	**Warramunga Arr**	**17.70**	**220**	P		pP	13 45 20.9	+2.3
	comp=Z,1.7nm,0.3s,baz=40,slow=11,SNR=4.8							
ASAR	**Alice Springs**	**20.81**	**214**	P		**P**	**13 45 30.5**	**-0.2**
ASAR				S		**S**	**13 49 18.9**	**+2.5**
ASAR				pmax		pmax		
	comp=Z,28nm,0.5s							
ASAR				smax				
	comp=N,7.0nm,0.7s							
ASAR	**Alice Springs**	**20.81**	**214**	P		**P**	**13 45 30.4**	**-0.3**
	comp=N,28nm,0.5s,baz=52,slow=6.7,SNR=144							
ASAR				S		**S**	**13 49 18.9**	**+2.5**
	comp=N,6.8nm,0.7s,baz=25,slow=18,SNR=5.2							
ASAR	**Alice Springs**	**20.81**	**214**	P		pP	13 45 58.5	+5.6
	comp=N,16nm,0.8s,baz=42,slow=11,SNR=6.8							
BATI	**Kupang**	**22.70**	**259**	P		**P**	**13 45 50.6**	**-0.1**
	comp=N,32nm,0.5s,mb4.9,baz=160,slow=1.7,SNR=12							
BATI	**Kupang**	**22.70**	**259**	P		pP	13 46 18.2	+4.8
	comp=N,64nm,0.9s,baz=156,slow=3.1,SNR=6.5							
FITZ	**Fitzroy Crossi**	**23.21**	**238**	*e*P		**P**	**13 45 53.3**	**-2.1**
	comp=N,84nm,0.5s,mb5.3							
FITZ	**Fitzroy Crossi**	**23.21**	**238**	P		**P**	**13 45 53.4**	**-2.0**
	comp=N,64nm,0.7s,mb5.0,baz=62,slow=10,SNR=104							
FITZ	**Fitzroy Crossi**	**23.21**	**238**	P		pP	13 46 21.8	+2.8
	comp=N,26nm,1.0s,baz=58,slow=7.5,SNR=6.3							
ARMA	**Armidale**	**24.30**	**169**	*e*P		**P**	**13 46 06.7**	**+1.5**
STKA	**Stephens Creek**	**25.62**	**189**	*e*P		**P**	**13 46 17.2**	**+0.1**
	comp=N,31nm,0.4s,mb5.1							
STKA	**Stephens Creek**	**25.62**	**189**	P		**P**	**13 46 17.2**	**+0.1**
	comp=N,35nm,0.4s,mb5.1,baz=359,slow=7.8,SNR=130							
CNB	**Canberra Magne**	**28.80**	**175**	*e*P		**P**	**13 46 49.7**	**+4.2**
	comp=N,23nm,1.3s,mb4.7							
FORT	**Forrest**	**29.59**	**213**	*e*P		**P**	**13 46 52.5**	**-0.1**
	comp=N,18nm,0.7s,mb4.8							
KLBR	**Kellerberrin**	**36.53**	**223**	*e*P		**P**	**13 47 52.1**	**-0.8**
	comp=N,29nm,0.4s,mb5.6							
KSM	**Kuching**	**36.80**	**281**	*e*P		**P**	**13 47 55.6**	**+0.3**
MUN	**Mundaring**	**37.82**	**224**	*e*P		**P**	**13 48 04.0**	**+0.3**
URZ	**Urewera**	**42.16**	**143**	P		**P**	**13 48 40.9**	**+1.4**
	comp=N,6.0nm,0.6s,mb4.5,baz=314,slow=6.1,SNR=9.7							
RPZ	**Rata Peaks**	**42.95**	**154**	P		**P**	**13 48 46.5**	**+0.7**
	comp=N,10.0nm,0.6s,mb4.7,baz=287,slow=4.4,SNR=16							
MJAR	**Matsushiro Arr**	**43.49**	**351**	P		**P**	**13 48 47.0**	**-3.2**
MJAR				pmax		pmax		
	comp=Z,3.0nm,0.9s							
MJAR	**Matsushiro Arr**	**43.49**	**351**	P		**P**	**13 48 47.0**	**-3.3**
	comp=Z,3.4nm,0.9s,mb4.1,baz=182,slow=8.9,SNR=7.9							
MJAR	**Matsushiro Arr**	**43.49**	**351**	P		pP	13 49 17.9	+0.3
	comp=Z,1.5nm,0.8s,baz=171,slow=9.7,SNR=4.2							
NJ2	**Nanjing**	**46.43**	**327**	*e*P		**P**	**13 49 14.6**	**+1.0**
NJ2				AMB		AMB		
	comp=Z,30nm,0.5s,mb5.3							
KSRS	**Korea Array**	**46.99**	**340**	P		**P**	**13 49 17.4**	**-0.4**
KSRS				pmax		pmax		
	comp=Z,2.0nm,0.8s,mb3.9							
KSRS	**Korea Array**	**46.99**	**340**	P		**P**	**13 49 17.4**	**-0.5**
	comp=Z,1.8nm,0.8s,mb3.9,baz=151,slow=8.9,SNR=6.2							
KSRS	**Korea Array**	**46.99**	**340**	P		pP	13 49 46.2	+0.6
	comp=Z,2.4nm,0.8s,baz=154,slow=9.5,SNR=5.7							
KULM	**Kulim**	**47.05**	**283**	*e*P		**P**	**13 49 18.7**	**-0.1**
GYA	**Guiyang**	**50.51**	**312**	P		**P**	**13 49 45.3**	**+0.4**
GYA				PCP		PcP	13 51 02.8	+1.5
GYA				PP		PP	13 51 44.5	+2.6
GYA				SCP		ScP	13 54 46.3	-0.1
GYA				PCS		PcS	13 54 58.8	-0.1
GYA				S		**S**	**13 56 50.6**	**+0.6**
GYA				SCS		ScS	13 59 22.4	-1.9
GYA				AMB		AMB		
	comp=Z,10.0nm,1.0s,mb4.8							
GYA				AMB		AMB		
	comp=Z,80nm,5.4s							
KMI	**Kunming**	**52.77**	**308**	P		**P**	**13 50 02.6**	**+0.8**
KMI				AP		pP	13 50 31.3	+1.2
KMI				XP		sP	13 50 42.9	-0.5
KMI				AMB		AMB		
	comp=Z,9.0nm,1.2s,mb4.7							
CM31	**Chiang Mai Arr**	**52.88**	**299**	*e*P		**P**	**13 50 04.0**	**+1.3**
	comp=Z,3.3nm,0.6s,mb4.5							
CM31				*e*pP		pP	13 50 31.5	+0.4
CHTO	**Chiang Mai**	**53.03**	**299**	*e*P		**P**	**13 50 04.2**	**+0.4**
	comp=Z,5.9nm,1.0s,mb4.6							
CHTO				*e*pP		pP	13 50 33.6	+1.5
CHTO	**Chiang Mai**	**53.03**	**299**	*e*P		**P**	**13 50 04.2**	**+0.4**
CHTO				*e**PP		pP	13 50 33.6	+1.5
CHTO				pmax		pmax		
	comp=Z,6.0nm,1.0s,mb4.6							
CD2	**Chengdu**	**55.14**	**315**	*e*P		**P**	**13 50 20.5**	**+1.6**
CD2				PP		PP	13 52 26.9	+3.3
CD2				S		**S**	**13 57 53.3**	**+0.5**
CD2				AMB		AMB		
	comp=Z,10.0nm,0.6s,mb5.0							
CD2				AMB		AMB		
	comp=Z,20nm,4.2s							
CD2				LR		LR		
	comp=N,150nm,13.4s							
CD2				LR		LR		
	comp=E,120nm,12.4s							
HHC	**Hu-ho-hao-te**	**56.91**	**329**	*e*P		**P**	**13 50 34.3**	**+3.0**
HHC				AP		pP	13 51 01.3	+1.3
HHC				PP		PP	13 52 43.8	+4.6
HHC				SCP		ScP	13 55 14.3	+0.2
HHC				PCS		PcS	13 55 28.4	+2.1
HHC				S		**S**	**13 58 19.8**	**+3.9**
HHC				SCS		ScS	14 00 10.0	+1.0
HHC				SS		SS	14 02 06.1	-0.2
HHC				AMB		AMB		
	comp=Z,19nm,0.4s,mb5.5							
HHC				AMB		AMB		
	comp=Z,116nm,4.3s							
HHC				LR		LR		
	comp=N,114nm,14.9s							
HHC				LR		LR		
	comp=E,271nm,27.7s							
HHC				LR		LR		
	comp=Z,56nm,5.0s							
LZH	**Lanzhou**	**58.15**	**320**	*e*P		**P**	**13 50 40.3**	**+0.2**
LZH				AP		pP	13 51 08.8	-0.1
LZH				AMB		AMB		
	comp=Z,25nm,1.2s,mb5.1							
LZH				AMB		AMB		
	comp=Z,163nm,6.7s							
LZH				LR		LR		
	comp=N,398nm,16.5s							
LZH				LR		LR		
	comp=Z,603nm,18.7s							
GTA	**Gaotai**	**62.69**	**321**	*e*P		**P**	**13 51 11.6**	**+0.6**
GTA				AP		pP	13 51 38.8	-1.4
GTA				PCP		PcP	13 51 49.8	+1.2
GTA				XP		sP	13 51 52.1	-1.2
GTA				PP		PP	13 53 33.4	+3.0
GTA				S		**S**	**13 59 31.1**	**+0.9**
GTA				SS		SS	14 03 39.1	+1.9
GTA				AMB		AMB		
	comp=Z,4.0nm,1.0s,mb4.3							
GTA				AMB		AMB		
	comp=Z,150nm,5.7s							
GTA				LR		LR		
	comp=N,76nm,18.6s							
GTA				LR		LR		
	comp=E,80nm,19.8s							
GTA				LR		LR		
	comp=Z,80nm,17.5s							
LSA	**Lhasa**	**64.00**	**307**	P		**P**	**13 51 21.8**	**+2.0**
LSA				AMB		AMB		
	comp=Z,20nm,1.0s,mb4.9							
LSA	**Lhasa**	**64.00**	**307**	*e*P		**P**	**13 51 21.8**	**+2.0**
	comp=Z,9.7nm,0.8s,mb4.7							
LSA	**Lhasa**	**64.00**	**307**	*e*P		**P**	**13 51 21.8**	**+2.0**
LSA				pmax		pmax		
	comp=Z,10.0nm,0.8s,mb4.7							
ULN	**Ulaanbaatar**	**64.23**	**332**	*e*P		**P**	**13 51 21.1**	**+0.2**
SONM	**Songino Array**	**64.52**	**331**	P		**P**	**13 51 22.9**	**+0.1**
	comp=Z,0.4nm,0.7s,mb3.4,baz=144,slow=4.0,SNR=6.8							
SONM	**Songino Array**	**64.52**	**331**	P		pP	13 51 54.3	+2.2
	comp=Z,3.8nm,1.0s,baz=152,slow=5.8,SNR=6.2							
ZAK	**Zakamensk**	**67.76**	**332**	*e*P		**P**	**13 51 42.9**	**-0.5**
ZAK				*e*			13 52 17.4	
ZAK				pmax		pmax		
	comp=Z,1.0nm,1.2s,mb3.5							
ZAK				pmax		pmax		
	comp=Z,3.0nm,1.1s,mb4.0							
ZAK				pmax		pmax		
	comp=Z,7.0nm,1.0s,mb4.5							
BOD	**Bodaibo**	**69.25**	**342**	*e*P		**P**	**13 51 51.0**	**-1.5**
BOD				pmax		pmax		
	comp=Z,7.0nm,1.5s,mb4.3							
SEY	**Seymchan**	**69.40**	**3**	*e*P		**P**	**13 51 53.3**	**-0.1**
YAK	**Yakutsk**	**69.54**	**352**	*e*P		**P**	**13 51 54.2**	**0.0**
YAK				pmax		pmax		
	comp=Z,8.0nm,1.1s,mb4.5							
VNDA	**Vanda**	**71.44**	**176**	*e*P		**P**	**13 52 05.8**	**+0.1**
	comp=Z,3.5nm,1.0s,mb4.1							
VNDA	**Vanda**	**71.44**	**176**	P		**P**	**13 52 06.0**	**+0.3**
VNDA				pmax		pmax		
	comp=Z,3.0nm,1.0s							
VNDA	**Vanda**	**71.44**	**176**	P		**P**	**13 52 06.0**	**+0.3**
	comp=Z,2.8nm,1.0s,mb4.1,baz=336,slow=7.2,SNR=8.7							
WMQ	**Urumqi**	**72.73**	**320**	*e*P		**P**	**13 52 15.5**	**+1.6**
WMQ				AMB		AMB		
	comp=Z,7.0nm,0.8s,mb4.5							
WMQ				AMB		AMB		
	comp=Z,138nm,5.0s							
NDI	**New Delhi**	**75.06**	**302**	*ex*		x	13 52 33.0	
BILL	**Bilibino**	**75.71**	**8**	*e*P		**P**	**13 52 30.2**	**-0.4**
	comp=Z,2.8nm,0.8s,mb4.0							
BILL	**Bilibino**	**75.71**	**8**	*e*P		**P**	**13 52 30.2**	**-0.4**
BILL				pmax		pmax		
	comp=Z,3.0nm,0.8s,mb4.1							
MK31	**Makanchi Array**	**77.45**	**321**	*e*P		**P**	**13 52 40.4**	**-0.5**
MKAR	**Makanchi Array**	**77.45**	**321**	P		**P**	**13 52 40.9**	**0.0**
MKAR				pmax		pmax		
	comp=Z,3.0nm,0.7s							
MKAR	**Makanchi Array**	**77.45**	**321**	P		**P**	**13 52 40.9**	**0.0**
	comp=Z,3.0nm,0.7s,mb4.2,baz=106,slow=6.8,SNR=34							
MKAR	**Makanchi Array**	**77.45**	**321**	P		pP	13 53 12.0	+0.8
	comp=Z,1.5nm,0.6s,baz=123,slow=6.1,SNR=4.7							
TIXI	**Tiksi**	**78.85**	**354**	*e*P		**P**	**13 52 46.3**	**-1.8**
	comp=Z,3.1nm,0.8s,mb4.2							
TIXI				*e*pP		pP	13 53 20.4	+2.0
TIXI	**Tiksi**	**78.85**	**354**	*e*P		**P**	**13 52 46.2**	**-1.9**
TIXI				pmax		pmax		
	comp=Z,5.0nm,2.0s,mb4.0							
ZALV	**Zalesovo Beam**	**79.08**	**328**	P		**P**	**13 52 48.2**	**-1.5**
ZALV	**Zalesovo Beam**	**79.08**	**328**	P		**P**	**13 52 48.2**	**-1.5**
	comp=Z,1.2nm,0.5s,mb4.0,baz=102,slow=6.0,SNR=9.6							
ZALV	**Zalesovo Beam**	**79.08**	**328**	P		pP	13 53 21.1	+1.1
	comp=Z,4.7nm,0.9s,baz=121,slow=4.1,SNR=6.0							
ZAL	**Zalesovo**	**79.08**	**328**	P		**P**	**13 52 48.2**	**-1.5**
ZAL				pmax		pmax		
	comp=Z,1.0nm,0.5s							
TKM2	**Tokmak 2**	**80.52**	**315**	*e*P		**P**	**13 52 58.0**	**+0.2**
	comp=Z,2.2nm,0.4s,mb4.3							
TKM2				*e*pP		pP	13 53 27.6	-0.6
TKM2	**Tokmak 2**	**80.52**	**315**	*e*P		**P**	**13 52 58.0**	**+0.3**
TKM2				*e**PP		pP	13 53 27.7	-0.5
TKM2				pmax		pmax		
	comp=Z,2.0nm,0.4s,mb4.3							
KDAK	**Kodiak Island**	**80.68**	**28**	P		**P**	**13 52 56.0**	**-2.2**
	comp=Z,16nm,0.8s,mb4.9,baz=195,slow=17,SNR=5.4							
UCH	**Uchtor**	**81.07**	**314**	*e*P		**P**	**13 53 01.8**	**+1.1**
	comp=Z,6.6nm,0.9s,mb4.5							
UCH				*e*pP		pP	13 53 31.0	-0.2
AAK	**Ala-Archa**	**81.21**	**315**	*e*P		**P**	**13 53 00.9**	**-0.5**
	comp=Z,4.3nm,1.0s,mb4.2							
AAK				*e*pP		pP	13

comp=Z,1.3nm,0.9s,baz=276,slow=4.7,SNR=16
ECSD EROS,Sioux Fal 113.92 45 *e*PKPdf PKiKP 13 59 22.5 -1.3
VYHS Vyhne 119.09 323 *e*PKPdf PKPdf 13 59 32.2 -1.4
BRG Berggiesshubel 120.75 327 *i* PKIKP PKPdf 13 59 37.1 +0.4
BRG pmax pmax
comp=Z,2.0nm,0.8s
BRG Berggiesshubel 120.75 327 *e*PKPdf PKPdf 13 59 36.9 +0.2
BRG Berggiesshubel 120.75 327 *i* PKP PKPdf 13 59 37.1 +0.4
comp=Z,2.5nm,0.8s
CLL Collm 121.03 328 *i* PKIKP PKPdf 13 59 37.6 +0.4
CLL pmax pmax
comp=Z,8.0nm,0.7s
CLL Collm 121.03 328 *e*PKPdf PKPdf 13 59 37.5 +0.3
CLL Collm 121.03 328 *i* PKPdf PKPdf 13 59 37.6 +0.4
comp=Z,4.0nm,0.7s
TANN Tannenbergstha 121.80 327 *e*PKPdf PKPdf 13 59 38.7 0.0
KHC Kasperske Hory 121.86 325 *e*PKPDF PKPdf 13 59 39.0 +0.1
GEC2 GERESS Array S 121.93 325 *e*PKPdf PKPdf 13 59 39.3 +0.3
GERES GERESS Array B 121.93 325 PKIKP PKPdf 13 59 39.0 0.0
GERES pmax pmax
comp=Z,3.0nm,0.5s
GERES GERESS Array B 121.93 325 PKP PKPdf 13 59 39.0 -0.1
comp=Z,2.5nm,0.5s,baz=82,slow=1.2,SNR=33
WET Wettzell 122.24 326 *e*PKPdf PKPdf 13 59 39.6 0.0
GRF Grafenberg Arr 122.86 327 *e*PKPdf PKPdf 13 59 41.1 +0.3
SCHQ Schefferville 124.98 23 PKP PKPdf 13 59 44.5 -0.1
comp=Z,3.1nm,0.9s,baz=288,slow=3.2,SNR=3.3
MEM Membach 125.03 330 PKP PKPdf 13 59 43.9 -1.0
TZTN Tazewell 125.64 49 *e*PKPdf PKPdf 13 59 46.4 -0.1
CDF Champ du Feu 125.72 327 *e*PKIKP PKPdf 13 59 46.5 +0.2
SNF Seneffe 125.93 331 PKP PKPdf 13 59 46.8 +0.2
DOU Dourbes 126.05 330 PKP PKPdf 13 59 46.0 -0.9
BAIF Baives 126.26 331 *e*PKIKP PKPdf 13 59 47.0 -0.3
HINF Hinteralfeld 126.31 327 *e*PKIKP PKPdf 13 59 47.2 -0.3
comp=Z,8.1nm,0.8s
HAU Haudompre 126.46 328 *e*PKIKP PKPdf 13 59 47.8 +0.1
MEZF Maizieres J'vi 126.84 329 *e*PKIKP PKPdf 13 59 48.2 -0.2
comp=Z,8.1nm,0.8s
CABF La Chapelle 127.45 326 *e*PKIKP PKPdf 13 59 50.0 +0.3
comp=Z,12nm,1.0s
LPG La Plagne 127.73 325 *e*PKIKP PKPdf 13 59 50.5 +0.3
LPL La Plagne 127.73 325 *e*PKIKP PKPdf 13 59 50.5 +0.3
PGF Pioggiola 127.99 321 *e*PKIKP PKPdf 13 59 50.5 -0.3
LOR Lormes 128.24 328 *e*PKIKP PKPdf 13 59 51.2 0.0
comp=Z,2.3nm,0.5s
SSF Saint Saulge 128.56 328 *e*PKIKP PKPdf 13 59 51.8 0.0
ORIF Oris-en-Rattie 128.57 325 *e*PKIKP PKPdf 13 59 51.8 -0.1
comp=Z,3.4nm,0.7s
SMF Signal de Mont 128.65 327 *e*PKIKP PKPdf 13 59 51.2 -0.8
comp=Z,2.6nm,0.5s
AVF Avril sur Loir 128.81 328 *e*PKIKP PKPdf 13 59 52.1 -0.2
FRF La Foret Royal 128.90 323 *e*PKIKP PKPdf 13 59 52.4 -0.1
comp=Z,5.3nm,0.7s
BGF Bois d'Agland 129.23 328 *e*PKIKP PKPdf 13 59 53.1 0.0
SMRF Simiane la Rot 129.29 324 *e*PKIKP PKPdf 13 59 53.1 -0.2
comp=Z,6.3nm,0.8s
LDF La Drutiere 129.34 332 *e*PKIKP PKPdf 13 59 53.0 -0.2
FLN La Foliniere 129.39 332 *e*PKIKP PKPdf 13 59 53.2 -0.1
comp=Z,7.8nm,0.8s
TCF Toulx Ste Croi 129.74 328 *e*PKIKP PKPdf 13 59 54.1 +0.1
comp=Z,7.5nm,0.7s
LASF Ste Croix 130.23 325 *e*PKIKP PKPdf 13 59 55.1 0.0
SGMF Saint Gilles 130.71 333 *e*PKIKP PKPdf 13 59 55.7 -0.1
comp=Z,4.0nm,0.4s
ROSF Rostrenen 130.97 333 *e*PKIKP PKPdf 13 59 56.2 -0.1
ETSF Etsaut 133.46 326 *e*PKIKP PKPdf 14 00 01.1 -0.1
SJPF Ste Jean 133.68 327 *e*PKIKP PKPdf 14 00 01.4 -0.2
LPAZ La Paz 139.08 124 *e*PKPdf PKPdf 14 00 10.3 -2.0
SDV Santo Domingo 143.33 84 *e*PKPdf PKPdf 14 00 17.1 -3.0
TOA0 Torodi Ar. Sit 144.54 283 *e*PKPdf PKPdf 14 00 20.9 -1.2
TORD Torodi Ar. Bea 144.54 283 PKP PKPdf 14 00 21.3 -0.9
comp=Z,4.7nm,0.6s,baz=64,slow=3.1,SNR=56
TORD Torodi Ar. Bea 144.54 283 PKP pPKPdf 14 00 53.1 -1.5
comp=Z,6.2nm,0.9s,baz=82,slow=3.3,SNR=6.4
SIV San Ignacio 144.86 130 PKP PKPdf 14 00 22.2 -0.5
comp=Z,13nm,0.8s,baz=242,slow=3.8,SNR=24
DBIC Dimbokro 151.35 272 *e*PKPbc PKPbc 14 00 39.8 +0.3
DBIC Dimbokro 151.35 272 PKPbc PKPbc 14 00 39.9 +0.3
comp=Z,5.1nm,0.5s,baz=61,slow=3.5,SNR=22
DBIC Dimbokro 151.35 272 PKPbc pPKPdf 14 01 11.3 +5.5
comp=Z,6.9nm,0.9s,baz=108,slow=3.2,SNR=5.5
LIC Lamto 151.51 271 ⇑*i* PKP1 PKPbc 14 00 40.2 +0.3
comp=Z,13nm,0.3s
BDFB Brasilia 153.82 147 PKIKP PKPbc 14 00 45.3 +0.4
BDFB pmax pmax
comp=Z,4.0nm,0.6s
BDFB Brasilia 153.82 147 PKPbc PKPbc 14 00 45.3 +0.4
comp=Z,3.9nm,0.6s,baz=352,slow=1.1,SNR=9.1

ISCJB ***22*** *13:50:43.0±2.1, 49S×02×1510E±03, h10km, mb4.2/6, Error ellipse: s-maj=45.1km s-min=23.3km az=9.9*
IDC ***22*** *13:50:44.6±2.2, 491S×1503E, h0km, mb4.3/4, mb1 4.5/4, mb1mx3.9/13, mbtmp4.4/4, Error ellipse: s-maj=67.7km s-min=25.4km az=100.0*
NEIC ***22*** *13:50:45.2±1.2, 497S×15106E, h10km, mb4.4/4, Error ellipse: s-maj=33.9km s-min=16.5km az=112.0*
ISC 22 13:50:45.6±1.9, 49S±02×1509E±03, h10km, n16, σ0°39/13, mb4.2/6, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KAKA	**Kakadu**	**19.78**	**246**	*e*P	**Pn**	**13 55 17.4**	**-0.3**
	4.4nm,0.6s						
WRAB	**Tennant Creek**	**21.94**	**226**	*e*P	**P**	**13 55 39.1**	**-0.4**
WB2	**Warramunga Arr**	**21.95**	**226**	*e*P	**P**	**13 55 39.6**	**0.0**
WB2	**Warramunga Arr**	**21.95**	**226**	*e*P	**P**	**13 55 39.4**	**-0.2**
WRA	**Warramunga Arr**	**21.96**	**226**	P	**P**	**13 55 39.7**	**-0.1**
	4.2nm,0.5s,mb4.2,baz=50,slow=10,SNR=44						
WRA				pP		13 55 55.3	
	3.7nm,0.5s,baz=52,slow=11,SNR=9.7						
ASAR	**Alice Springs**	**24.80**	**220**	P	**P**	**13 56 08.5**	**+0.5**
	4.1nm,0.5s,mb4.2,baz=56,slow=8.8,SNR=68						
ASAR				pP		13 56 23.9	
	1.4nm,0.7s,baz=57,slow=10,SNR=4.2						
FITZ	**Fitzroy Crossi**	**27.93**	**240**	*e*P	**P**	**13 56 37.3**	**+1.0**
	6.0nm,0.6s,mb4.4						
FITZ	**Fitzroy Crossi**	**27.93**	**240**	P	**P**	**13 56 36.9**	**+0.6**
	3.6nm,0.6s,mb4.2,baz=74,slow=11,SNR=9.1						
STKA	**Stephens Creek**	**28.19**	**197**	*e*P	**P**	**13 56 38.4**	**-0.1**
	2.1nm,0.5s,mb4.0						
STKA	**Stephens Creek**	**28.19**	**197**	*e*P	**P**	**13 56 38.1**	**-0.5**
	3.0nm,0.6s,mb4.1						
STKA	**Stephens Creek**	**28.19**	**197**	P	**P**	**13 56 38.2**	**-0.4**
	3.5nm,0.7s,mb4.1,baz=8.8,slow=10,SNR=9.4						
FORT	**Forrest**	**33.51**	**217**	*e*P	**P**	**13 57 25.6**	**+0.1**
	15nm,0.7s,mb5.0						
SONM	**Songino Array**	**65.41**	**329**	P	**P**	**14 01 28.4**	**-0.2**
	0.1nm,0.4s,mb3.2,baz=104,slow=6.1,SNR=2.1						
TSUM	**Tsumeb**	**128.16**	**241**	*e*PKPdf	PKPdf	14 09 51.7	-1.5
TORD	**Torodi Ar. Bea**	**148.51**	**287**	PKPbc	PKPbc	14 10 35.2	+1.4
TORD	**Torodi Ar. Bea**	**148.51**	**287**	PKPbc	PKPbc	14 10 35.2	+1.4
	0.5nm,0.6s,baz=29,slow=2.7,SNR=3.4						

ISCJB ***22*** *13:54:42.5±0.3, 3347S±003×70.14W±006, h111km±2km, mb4.0/15, Error ellipse: s-maj=7.7km s-min=4.9km az=178.9*
GUC ***22*** *13:54:43.2±0.8, 3349S×70.18W, h107km±2km, ML4.4*
IDC ***22*** *13:54:43.6±1.7, 3347S×7009W, h109km±14km, mb3.8/10, mb1 3.8/14, mb1mx3.8/20, mbtmp3.7/14, MS2.5/1, Ms1 2.5/1, ms1mx2.3/24, Error ellipse: s-maj=21.3km s-min=12.7km az=99.0*
NEIC ***22*** *13:54:43.3, 3348S×70.18W, h105km, mb4.1/7, After GUC.*
NEIC Felt [II] at Santiago.
ISC 22 13:54:43.6±0.3, 3347S±003×7015W±006, h106km±2km, n60, σ0°61/83, mb4.0/15, 13C-10D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FCH	**Farellones**	**0.18**	**322**	*e*P	**Pn**	**13 54 58.2**	**-0.2**
FCH				*i* S	**Sn**	**13 55 10.7**	**+1.2**
FCH				AML	AML	13 55 11.6	
	comp=E,32μm,0.2s						
YECH	**El Yeso**	**0.20**	**163**	||*i* P	**Pn**	**13 54 58.7**	**+0.3**
YECH				*i* S	**Sn**	**13 55 10.6**	**+1.0**
SJCH	**San Jose de Ma**	**0.24**	**225**	||*i* P	**Pn**	**13 54 58.0**	**-0.6**
SJCH				*i* S	**Sn**	**13 55 09.7**	**0.0**
FSR	**Penalolen**	**0.31**	**269**	||*i* P	**Pn**	**13 54 59.0**	**+0.1**
FSR				*i* S	**Sn**	**13 55 10.7**	**+0.4**
CLCH	**Cerro Calan**	**0.33**	**283**	||*i* P	**Pn**	**13 54 58.9**	**0.0**
CLCH				*i* S	**Sn**	**13 55 10.7**	**+0.2**
CLCH				AML	AML	13 55 12.1	
	comp=E,25μm,0.8s						
PCH	**Pirque**	**0.34**	**244**	⇑||*i* P	**Pn**	**13 54 59.0**	**+0.1**
DSCH	**Colegio Aleman**	**0.35**	**282**	⇑||*i* P	**Pn**	**13 54 58.6**	**-0.4**
DSCH				*i* S	**Sn**	**13 55 10.4**	**-0.2**
LMEL	**Las Melosas**	**0.38**	**186**	*e*P	**Pn**	**13 54 59.1**	**-0.1**
LMEL				*i* S	**Sn**	**13 55 11.0**	**+0.1**
LMEL	**Las Melosas**	**0.38**	**186**	*e*P	**Pn**	**13 54 59.1**	**-0.1**
LMEL				*i* S	**Sn**	**13 55 11.0**	**+0.1**
LMEL				AML	AML	13 55 15.9	
	comp=N,10μm,0.2s						
STL	**Santa Lucia**	**0.41**	**275**	⇑||*i* P	**Pn**	**13 54 59.0**	**-0.3**
STL				*i* S	**Sn**	**13 55 10.8**	**-0.4**
ANTU	**Antumapu**	**0.41**	**256**	⇑||*i* P	**Pn**	**13 54 59.3**	**-0.1**
ANTU				*i* S	**Sn**	**13 55 11.4**	**+0.2**
ANTU				AML	AML	13 55 12.0	
	comp=E,40μm,0.2s						
SAN	**Santiago**	**0.42**	**272**	*e*P	**Pn**	**13 54 59.5**	**0.0**
SAN				*i* S	**Sn**	**13 55 11.2**	**-0.1**
SAN	**Santiago**	**0.42**	**272**	*e*P	**Pn**	**13 54 59.5**	**0.0**
SAN				*i* S	**Sn**	**13 55 11.2**	**-0.1**
SAN				AML	AML	13 55 12.7	
	comp=E,10μm,0.8s						
PEL	**Peldehue**	**0.55**	**306**	*e*P	**Pn**	**13 55 00.1**	**-0.3**
PEL				*i* S	**Sn**	**13 55 13.0**	**+0.1**
PEL				AML	AML	13 55 14.2	
	comp=N,78μm,0.3s						
TACH	**Talagante**	**0.68**	**254**	||*i* P	**Pn**	**13 55 00.9**	**-0.4**
CACH	**El Canelo**	**0.74**	**210**	⇑||*i* P	**Pn**	**13 55 02.3**	**+0.4**
CACH				*i* S	**Sn**	**13 55 16.7**	**+1.1**
JACH	**Jahuel**	**0.87**	**335**	⇑||*i* P	**Pn**	**13 55 03.2**	**+0.1**
CICH	**Cipreses**	**0.87**	**195**	||*i* P	**Pn**	**13 55 03.4**	**+0.3**
ROCH	**El Roble**	**0.88**	**305**	*e*P	**Pn**	**13 55 03.1**	**0.0**
ROCH				*i* S	**Sn**	**13 55 18.1**	**+0.2**
LNV	**Longovilo**	**1.15**	**245**	⇑||*i* P	**Pn**	**13 55 05.1**	**-1.0**
LCCH	**Las Cruces**	**1.18**	**269**	||*i* P	**Pn**	**13 55 06.0**	**-0.4**
IHA	**Instituto Hidr**	**1.32**	**289**	⇑||*i* P	**Pn**	**13 55 07.8**	**-0.2**
IHA				*i* S	**Sn**	**13 55 25.9**	**-0.6**
SFDO	**San Fernando**	**1.34**	**212**	||*i* P	**Pn**	**13 55 08.2**	**0.0**
PTCH	**Petorca**	**1.37**	**331**	⇑||*i* P	**Pn**	**13 55 08.8**	**+0.2**
PTCH				*i* S	**Sn**	**13 55 28.0**	**+0.5**
PTCH	**Petorca**	**1.37**	**331**	⇑||*i* P	**Pn**	**13 55 08.8**	**+0.2**
PTCH				*i* S	**Sn**	**13 55 28.0**	**+0.5**
PTCH				AML	AML	13 55 29.4	
	comp=E,3μm,0.2s						
NICH	**Los Niches**	**1.77**	**210**	⇑||*i* P	**Pn**	**13 55 13.1**	**-0.3**
NICH				*i* S	**Sn**	**13 55 35.4**	**-0.7**
CHNG	**Los Chungos**	**1.95**	**324**	||*i* P	**Pn**	**13 54 56.8**	**-19**
CHNG				*i* S	**Sn**	**13 55 20.8**	**-19**
CMCH	**Combarbala**	**2.40**	**342**	⇑||*i* P	**Pn**	**13 55 20.8**	**-0.8**
CMCH				*i* S	**Sn**	**13 55 50.2**	**-0.5**
CFAA	**Coronel Fontan**	**2.47**	**42**	P	**Pn**	**13 55 22.7**	**+0.3**
CFAA				S	**Sn**	**13 55 52.2**	**0.0**
CFAA	**Coronel Fontan**	**2.47**	**42**	P	**Pn**	**13 55 22.7**	**+0.3**
	comp=E,8.0nm,0.3s,baz=213,slow=13,SNR=496						
CFAA				S	**Sn**	**13 55 52.2**	**0.0**
	comp=E,9.9nm,0.3s,baz=96,slow=18,SNR=31						
LCO	**Las Campanas**	**4.47**	**354**	*e*Pn	**Pn**	**13 55 48.4**	**-0.8**
LCO				*e*Sn	**Sn**	**13 56 25.0**	**-15**
PLCA	**Paso Flores**	**7.25**	**182**	*e*Pn	**Pn**	**13 56 25.8**	**-1.0**
	comp=E,4.1nm,0.8s						
PLCA	**Paso Flores**	**7.25**	**182**	P	**Pn**	**13 56 26.2**	**-0.6**
	comp=E,0.5nm,0.3s,baz=356,slow=13,SNR=12						
TRQA	**Tornquist**	**8.06**	**127**	*e*Pn	**Pn**	**13 56 36.9**	**-1.0**
CPUP	**Villa Florida**	**13.20**	**61**	P	**Pn**	**13 57 41.2**	**-5.7**
CPUP				S	**Sn**	**14 00 21.3**	**+9.2**
CPUP				LR	LR	14 02 59.3	
CPUP	**Villa Florida**	**13.20**	**61**	P	**Pn**	**13 57 41.2**	**-5.6**
	comp=E,0.3nm,0.3s,baz=215,slow=13,SNR=4.6						
CPUP				S	**Sn**	**14 00 21.3**	**+9.2**
	comp=E,0.6nm,0.3s,baz=289,slow=12,SNR=3.3						
CPUP				LR	LR	14 02 59.3	
	comp=E,24nm,21.0s,baz=342,slow=38						
LPAZ	**La Paz**	**17.21**	**7**	*e*P	**Pn**	**13 58 38.0**	**+0.6**
	comp=E,3.2nm,0.9s						
LPAZ	**La Paz**	**17.21**	**7**	P	**Pn**	**13 58 38.5**	**+1.1**
	comp=E,0.2nm,0.3s,baz=182,slow=9.7,SNR=11						
SIV	**San Ignacio**	**19.24**	**27**	P	**P**	**13 58 58.9**	**-0.8**
	comp=E,0.6nm,0.3s,baz=217,slow=12,SNR=27						
USHA	**Ushuaia**	**21.39**	**177**	P	**P**	**13 59 23.0**	**+0.6**
	comp=E,12nm,0.8s,mb4.3,baz=343,slow=12,SNR=4.9						
BDFB	**Brasilia**	**26.75**	**54**	P	**P**	**14 00 12.3**	**-1.1**
	comp=E,5.8nm,0.7s,mb4.2,baz=219,slow=14,SNR=23						
VNA3	**Neumayer Olymp**	**49.26**	**158**	*e*	**P**	**14 03 24.9**	**+4.0**
VNA3				*e*		14 03 27.9	
VNA2	**Neumayer--Watz**	**49.89**	**158**	*e*	**P**	**14 03 26.4**	**+0.6**
	baz=286,slow=8.0						
VNA2				*e*		14 03 29.7	
SNAA	**Sanae**	**51.48**	**158**	P	**P**	**14 03 37.6**	**-0.1**
	comp=E,0.4nm,0.5s,mb3.7,baz=300,slow=4.3,SNR=8.8						
QSPA	**South Pole Qui**	**56.76**	**180**	*e*P	**P**	**14 04 17.2**	**+1.3**
	comp=E,11nm,1.0s,mb4.8						
SYO	**Syowa Base**	**65.78**	**158**	||*e*P	**P**	**14 05 15.4**	**-1.4**
SYO	**Syowa Base**	**65.78**	**158**	||*e*pP	pP	14 05 37.4	-5.6
TXAR	**Lajitas Array**	**70.06**	**329**	P	**P**	**14 05 44.2**	**+0.2**
	comp=E,0.9nm,0.7s,mb3.7,baz=154,slow=8.6,SNR=13						
WVT	**Waverly**	**71.19**	**345**	*e*P	**P**	**14 05 50.3**	**-0.4**
	comp=E,5.9nm,1.1s,mb4.3						
DBIC	**Dimbokro**	**73.52**	**70**	P	**P**	**14 06 05.1**	**-0.1**
	comp=E,6.1nm,1.1s,mb4.2,baz=203,slow=7.7,SNR=3.7						
SDCO	**Great Sand Dun**	**78.12**	**332**	*e*P	**P**	**14 06 32.0**	**+1.2**
	comp=E,0.8nm,0.5s,mb3.7						
BOSA	**Boshof**	**78.92**	**117**	P	**P**	**14 06 35.1**	**-0.5**
	comp=E,1.9nm,0.9s,mb3.9,baz=210,slow=8.1,SNR=2.5						
TORD	**Torodi Ar. Bea**	**82.55**	**69**	P	**P**	**14 06 55.0**	**0.0**
	comp=E,1.4nm,0.8s,mb3.9,baz=239,slow=4.5,SNR=7.3						
HWUT	**Hardware Ranch**	**83.86**	**330**	*e*P	**P**	**14 07 02.4**	**+1.2**
	comp=E,1.7nm,0.6s,mb4.0						
PDAR	**Pinedale Array**	**84.02**	**332**	P	**P**	**14 07 02.0**	**+0.1**
	comp=E,0.4nm,0.6s,mb3.4,baz=142,slow=5.6,SNR=4.5						
NVAR	**Mina Array Bea**	**84.36**	**324**	P	**P**	**14 07 04.6**	**+0.8**
	comp=E,0.7nm,0.7s,mb3.6,baz=144,slow=5.7,SNR=6.9						
ULM	**Lac du Bonnet**	**86.41**	**344**	P	**P**	**14 07 12.9**	**-0.7**
	comp=E,1.1nm,0.6s,mb3.9,baz=186,slow=1.0,SNR=3.4						
HLID	**Hailey**	**86.66**	**329**	*e*P	**P**	**14 07 16.3**	**+1.3**
	comp=E,1.5nm,0.8s,mb4.0						
WRA	**Warramunga Arr**	**121.97**	**207**	PKP	PKPdf	14 13 24.5	-1.6
	comp=E,0.2nm,0.4s,baz=163,slow=1.6,SNR=11						
ZALV	**Zalesovo Beam**	**152.93**	**33**	PKPbc	PKPbc	14 14 27.6	-0.1
	comp=E,2.5nm,0.7s,baz=299,slow=3.2,SNR=11						

IDC ***22*** *13:58:14.9±1.6, 2417S×6692W, h179km±14km, mb3.4/7, mb1 3.7/11, mb1mx3.5/20, mbtmp3.5/11, Error ellipse: s-maj=19.9km s-min=10.9km az=88.0*
ISCJB ***22*** *13:58:15.2±1.1, 2415S±006×670W±0.1, h194km±11km, mb3.5/7, Error ellipse: s-maj=21.5km s-min=9.2km az=177.8*
ISC 22 13:58:16.0±1.0, 2412S±006×670W±01, h184km±11km, n19, σ0°87/17, mb3.5/7, Salta Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CFAA	**Coronel Fontan**	**7.54**	**188**	P	**Pn**	**14 00 02.9**	**-0.3**
	0.1nm,0.3s,baz=18,slow=12,SNR=17						
CFAA				S	**Sn**	**14 01 22.5**	**-5.5**
	0.7nm,0.3s,baz=234,slow=17,SNR=11						
LPAZ	**La Paz**	**7.87**	**352**	P	**Pn**	**14 00 08.8**	**+1.2**
	0.9nm,0.3s,baz=158,slow=10,SNR=21						
LPAZ				S	**Sn**	**14 01 34.9**	**-1.2**
	0.3nm,0.3s,baz=320,slow=17,SNR=3.5						
SIV	**San Ignacio**	**9.81**	**36**	P	**Pn**	**14 00 34.1**	**+1.1**
	2.0nm,0.3s,baz=226,slow=12,SNR=9.3						
PLCA	**Paso Flores**	**16.83**	**189**	P	**Pn**	**14 02 00.1**	**-0.8**
	0.4nm,0.3s,baz=356,slow=8.7,SNR=8.7						
BDFB	**Brasilia**	**19.71**	**68**	P	**P**	**14 02 30.7**	**-0.8**
	1.0nm,0.3s,baz=234,slow=17,SNR=22						
VNA3	**Neumayer Olymp**	**57.03**	**161**	*e*	**P**	**14 07 42.8**	**+0.6**
VNA3				*e*		14 07 44.6	
VNA3				*e*		14 07 48.5	
VNA1	**Neumayer--Stat**	**57.23**	**160**	*e*	**P**	**14 07 44.9**	**+1.4**
VNA1				*e*		14 07 49.9	
VNA2	**Neumayer--Watz**	**57.60**	**160**	*e*	**P**	**14 07 46.8**	**+0.7**
	baz=288,slow=7.2						
VNA2				*e*		14 07 48.7	
VNA2				*e*		14 07 51.7	
SNAA	**Sanae**	**59.23**	**161**	P	**P**	**14 07 57.5**	**+0.1**
	0.5nm,0.5s,mb3.6,baz=283,slow=8.1,SNR=13						
TXAR	**Lajitas Array**	**63.79**	**324**	P	**P**	**14 08 28.8**	**+0.3**
	0.1nm,0.5s,mb3.0,baz=147,slow=8.6,SNR=3.6						
TORD	**Torodi Ar. Bea**	**76.59**	**69**	P	**P**	**14 09 45.5**	**-1.1**
	1.0nm,0.5s,mb3.7,baz=261,slow=5.9,SNR=20						
PDAR	**Pinedale Array**	**77.26**	**329**	P	**P**	**14 09 50.3**	**+0.6**
	0.2nm,0.5s,mb3.0,baz=116,slow=10,SNR=3.6						
ULM	**Lac du Bonnet**	**78.35**	**342**	P	**P**	**14 09 55.3**	**-0.2**
	0.6nm,0.3s,mb3.7,baz=131,slow=9.3,SNR=2.8						
MAW	**Mawson**	**81.31**	**163**	P	**P**	**14 10 09.9**	**-1.5**
	2.5nm,0.6s,mb4.0,baz=292,slow=11,SNR=4.3						
YKA	**Yellowknife Ar**	**94.25**	**340**	P	**P**	**14 11 13.4**	**-0.2**
	0.3nm,0.5s,mb3.7,baz=132,slow=4.6,SNR=11						
ASAR	**Alice Springs**	**128.35**	**205**	PKP	PKPdf	14 17 00.6	-0.7
	0.5nm,0.5s,baz=133,slow=1.8,SNR=15						
WRA	**Warramunga Arr**	**131.53**	**207**	PKP	PKPdf	14 17 07.3	0.0
	0.6nm,0.4s,baz=156,slow=1.8,SNR=25						
ZALV	**Zalesovo Beam**	**143.49**	**28**	PKP	PKPdf	14 17 26.2	-2.0
	0.3nm,0.3s,baz=236,slow=1.6,SNR=3.4						
MKAR	**Makanchi Array**	**146.60**	**40**	PKPbc	PKPbc	14 17 33.9	-1.8
	0.7nm,0.4s,baz=292,slow=3.8,SNR=8.1						

NEIC ***22*** *14:00:08.2, 1704N×9984W, h20km, MD3.6(MEX), After MEX.*
MEX 22 14:00:08.2±1.1, 1704N×9984W, h20km±21km, MD3.6, 1C, Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ACX	**Acapulco**	**0.18**	**203**	*i* P	Pb	14 00 11.5	-1.6
ACX				*i* S	Sb	14 00 16.0	-0.4
CAIG	**El Cayaco**	**0.41**	**272**	⇑||*i* P	Pb	14 00 15.1	-1.7
CAIG				*i* S	Sb	14 00 21.5	-1.0
MEIG	**Mezcala**	**0.91**	**13**	*i* P	Pb	14 00 22.8	-2.5
MEIG				*i* S	Sb	14 00 33.6	-3.5
UTMO	**Huajuapan**	**2.10**	**68**	*i* P	Pn	14 00 41.0	-1.3
UTMO				*i* S	Sn	14 01 06.2	-1.6
MZVM		**2.22**	**15**	*i* P	Pn	14 00 39.7	-4.2
PPM	**Popocatepetl**	**2.33**	**30**	*e*P	Pn	14 00 42.4	-3.0
PPM				*i* S	Sn	14 01 11.3	-2.1
IIO	**Organos**	**2.76**	**23**	*e*P	Pn	14 00 48.9	-2.4
IIO				*i* S	Sn	14 01 25.5	+1.5

MAN 22 14:08:28, 1846N×12090E, h1km, mb3.9, ML2.7, MS2.3, Luzon

CSEM ***22*** *14:15:44.8±0.3, 2988N×5100E, h30km, ML4.1, Error ellipse: s-maj=8.2km s-min=3.5km az=29.0*
ISC 22 14:15:46.5±1.4, 2965N±007×5086E±008, h10km, n22, σ0°98/36, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
QRN	**Al-Qurain**	**2.72**	**251**	*e*P	**Pn**	**14 16 30.5**	**+0.2**
QRN				*e*S	**Sn**	**14 17 05.4**	**+2.1**
QRN				AML	AML	14 17 06.3	
	comp=Z,78nm,0.3s						
UMR	**Umm Al-Rimmam**	**2.73**	**269**	*e*P	**Pn**	**14 16 29.9**	**-0.6**
UMR				*e*S	**Sn**	**14 17 03.4**	**-0.3**
UMR				AML	AML	14 17 04.3	
	comp=Z,62nm,0.3s						
UMR	**Umm Al-Rimmam**	**2.73**	**269**	*e*P	**Pn**	**14 16 29.9**	**-0.6**
UMR				*e*S	**Sn**	**14 17 03.3**	**-0.3**
KBD	**Kabd**	**2.80**	**261**	*e*P	**Pn**	**14 16 31.2**	**-0.1**
KBD				*e*S	**Sn**	**14 17 06.4**	**+1.2**
KBD				AML	AML	14 17 08.4	
	comp=Z,150nm,0.2s						
KBD	**Kabd**	**2.80**	**261**	*e*P	**Pn**	**14 16 31.2**	**-0.2**
KBD				*e*S	**Sn**	**14 17 06.4**	**+1.2**
KFJS		**2.94**	**241**	P	**Pn**	**14 16 33.5**	**+0.2**
KFJS		**2.94**	**241**	P	**Pn**	**14 16 33.5**	**+0.2**
KFJS				S	**Sn**	**14 17 07.4**	**-1.2**
RDF	**Al-Radifah**	**2.98**	**257**	*e*P	**Pn**	**14 16 33.8**	**0.0**
RDF				*e*S	**Sn**	**14 17 10.8**	**+1.2**
RDF				AML	AML	14 17 12.7	
	comp=Z,49nm,0.2s						
RDF	**Al-Radifah**	**2.98**	**257**	*e*P	**Pn**	**14 16 33.8**	**0.0**
RDF				*e*S	**Sn**	**14 17 10.8**	**+1.3**
	comp=Z,49nm,0.2s						
MIB	**Mutribah**	**3.06**	**274**	*e*P	**Pn**	**14 16 33.7**	**-1.3**
MIB				*e*S	**Sn**	**14 17 10.6**	**-1.1**
MIB				AML	AML	14 17 12.2	
	comp=Z,31nm,0.5s						
MIB	**Mutribah**	**3.06**	**274**	*e*P	**Pn**	**14 16 33.7**	**-1.3**
MIB				*e*S	**Sn**	**14 17 10.6**	**-1.1**
NAY	**Al-Naaiem**	**3.18**	**264**	*e*P	**Pn

*CSEM **22** 15:37:38.2±0.0,3467N×3301E,h46km,mb3.9/14,Mw3.7, Error ellipse: s-maj=1.5km s-min=0.8km az=63.0*
*NEIC **22** 15:37:39.5±0.4,3474N×3310E,h45km±4km,mb3.9/16, Error ellipse: s-maj=7.6km s-min=4.3km az=187.0*
*NIC **22** 15:37:39.4±0.1,3469N×3315E,h41km,ML3.4,MW3.7*
NIC Felt earthquake; Maximum Intensity 2; Felt I=II MM at Limassol.
*GII **22** 15:37:40.2±0.6,3455N×3325E,h9km,ML3.4/11*
*HLW **22** 15:37:41.1,3456N×3304E,h33km,Mb3.9*
*NSSC **22** 15:37:47.0,3473N×3389E,h29km±5km*
ISC 22 15:37:40.0±0.1,3466N±001×3310E±002,h53km±3km, n190,σ0°95/237,mb3.7/22,7C-21D,Cyprus region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SZAC	Souni-Zanaja	0.20	299	⇓iP	Pn	15 37 47.1	-1.5
CSS	Prodhromos	0.36	32	P	Pn	15 37 47.9	-2.0
	32nm,0.3s						
CSS				S	Sn	15 37 54.4	-2.6
CSS	Prodhromos	0.36	32	ePg	Pn	15 37 47.6	-2.3
CSS				Sg	Sn	15 37 52.1	-4.9
CSS	Prodhromos	0.36	32	ePg	Pn	15 37 47.7	-2.2
CSS	Prodhromos	0.36	32	P	Pn	15 37 47.9	-2.0
	32nm,0.3s						
CSS				Sg	Sn	15 37 52.1	-4.9
LEF	Lefka	0.49	340	ePG	Pn	15 37 49.8	-1.5
MAMC	Mammari	0.52	11	P	Pn	15 37 50.2	-1.5
MAMC				S	Sn	15 37 59.9	-0.2
ALFC	Alevga	0.64	321	⇑P	Pn	15 37 52.2	-0.9
ALFC				S	Sn	15 38 01.8	-0.9
ALFC	Alevga	0.64	321	⇑iP	Pn	15 37 52.2	-0.9
ALFC				S	Sn	15 38 01.8	-0.9
PPCY	Paphos	0.66	290	P	Pn	15 37 52.7	-0.6
LFK	Lefkose	0.72	30	ePG	Pn	15 37 53.2	-0.8
LFK				eSG	Sn	15 38 05.9	+1.6
AKMC	Akamas	0.73	301	P	Pn	15 37 53.7	-0.5
PHNC	Paralimni	0.84	66	P	Pn	15 37 55.4	-0.3
	59nm,0.4s						
PHNC				S	Sn	15 38 08.8	+1.6
EREN	Erenkoy	1.24	45	ePN	Pn	15 37 60.0	-1.0
IKL	Isikli	1.65	17	ePN	Pn	15 38 06.2	-0.3
ERMK	Ermenek	1.98	356	iP	Pn	15 38 12.6	+1.5
ERMK				iS	Sn	15 38 37.3	+2.5
BHL	Bhannes	2.25	109	ePn	Pn	15 38 13.9	-0.8
HNTI	Hanita	2.34	132	Pn	Pn	15 38 15.5	-0.4
HNTI				Sn	Sn	15 38 42.7	-0.7
HWQ	Hawqa	2.38	98	ePn	Pn	15 38 18.6	+2.1
HWQ	Hawqa	2.38	98	ePn	Pn	15 38 18.6	+2.0
MERS	Mersin	2.49	27	ePn	Pn	15 38 18.7	+0.7
MMA0	Mount Meron ar	2.52	130	Pn	Pn	15 38 18.5	0.0
MMA0				Sn	Sn	15 38 47.3	-0.7
MMAI	Mount Meron Ar	2.52	130	Pn	Pn	15 38 18.3	-0.2
	146nm,0.3s,baz=313,slow=12,SNR=623						
MMAI				Sn	Sn	15 38 48.3	+0.3
	136nm,0.3s,baz=343,slow=11,SNR=8.8						
RCY	Rachaya	2.54	117	ePn	Pn	15 38 18.4	-0.3
OFRI	'Ofer	2.57	142	Pn	Pn	15 38 18.5	-0.6
KSDI	Kefar Szold	2.58	124	Pn	Pn	15 38 19.0	-0.3
KSDI				Sn	Sn	15 38 48.5	-1.0
HRI	Mount Hermon	2.59	122	Pn	Pn	15 38 19.3	-0.2
ARNB	Al Arnab	2.64	62	⇓P	Pn	15 38 19.2	-0.9
ARNB				⇑S	Sn	15 38 45.0	-5.9
ARNB	Al Arnab	2.64	62	⇓iP	Pn	15 38 19.2	-0.9
BIDA	Albida	2.68	81	⇑P	Pn	15 38 19.7	-0.8
BIDA				⇑S	Sn	15 38 44.5	-7.3
BIDA	Albida	2.68	81	⇑iP	Pn	15 38 19.7	-0.9
BRBR	Barbar	2.68	117	⇑P	Pn	15 38 21.0	+0.4
BRBR				⇑S	Sn	15 38 48.2	-3.6
BRBR	Barbar	2.68	117	⇑iP	Pn	15 38 21.0	+0.4
SLNF	Slenfeh	2.73	69	⇓P	Pn	15 38 20.1	-1.2
SLNF				⇑S	Sn	15 38 46.6	-6.4
SLNF	Slenfeh	2.73	69	⇓iP	Pn	15 38 20.1	-1.2
FKH	Fakeheh	2.76	98	ePn	Pn	15 38 22.3	+0.5
KSHT	Keshet	2.81	126	Pn	Pn	15 38 22.9	+0.5
WRDH	Warideh	2.85	72	⇓P	Pn	15 38 22.0	-0.9
WRDH				⇓S	Sn	15 38 48.3	-7.7
WRDH	Warideh	2.85	72	⇓iP	Pn	15 38 22.0	-0.9
QASN	Qassioun	2.87	112	⇓P	Pn	15 38 23.2	0.0
QASN				⇑S	Sn	15 38 51.0	-5.5
QASN	Qassioun	2.87	112	⇓iP	Pn	15 38 23.2	0.0
MARH	Ras Al Marh	2.87	102	⇑P	Pn	15 38 22.5	-0.7
MARH				⇓S	Sn	15 38 49.8	-6.7
MARH	Ras Al Marh	2.87	102	⇑iP	Pn	15 38 22.5	-0.7
HTY	Hatay	2.88	59	ePN	Pn	15 38 22.1	-1.2
SLTI	Sal'it	2.91	145	Pn	Pn	15 38 23.9	+0.1
SLTI				Sn	Sn	15 38 57.1	-0.3
MMLI	Mount Malkishu	2.94	138	Pn	Pn	15 38 24.1	-0.1
MMLI				Sn	Sn	15 38 57.8	-0.6
ANTB	Antalya	2.99	319	ePN	Pn	15 38 24.8	0.0
KARA	Karaisali	3.04	31	ePN	Pn	15 38 26.5	+0.9
TOTH	TOTAH	3.06	114	⇑P	Pn	15 38 26.6	+0.8
TOTH				⇑S	Sn	15 38 57.0	-4.1
TOTH	TOTAH	3.06	114	⇑iP	Pn	15 38 26.6	+0.8
BTCH	Batrach	3.08	62	⇑P	Pn	15 38 24.9	-1.1
BTCH				⇑S	Sn	15 38 55.3	-6.2
BTCH	Batrach	3.08	62	⇑iP	Pn	15 38 24.9	-1.1
TCHB	Talchebab	3.11	129	⇑P	Pn	15 38 28.1	+1.5
TCHB				⇓S	Sn	15 39 00.9	-1.6
TCHB	Talchebab	3.11	129	⇑iP	Pn	15 38 28.1	+1.6
TCHB				⇓iS	Sn	15 39 00.9	-1.5
HMDT	Nahal Hemdat	3.14	139	Pn	Pn	15 38 27.2	+0.3
HMDT				Sn	Sn	15 39 03.4	+0.1
CEYT	Ceyhan	3.19	42	ePN	Pn	15 38 27.8	+0.2
AKAS	Kas	3.25	300	iP	Pn	15 38 27.2	-1.3
AKAS				iS	Sn	15 39 08.3	+2.3
ELL	Elmali	3.33	310	ePN	Pn	15 38 28.9	-0.6
KONT	Konya--Tatoy	3.33	350	ePN	Pn	15 38 30.8	+1.2
BCK	Bucak	3.46	325	ePN	Pn	15 38 31.9	+0.7
ROOS	tl_alroos	3.50	97	⇓P	Pn	15 38 31.4	-0.4
ROOS				⇑S	Sn	15 39 05.3	-6.8
ROOS	tl_alroos	3.50	97	⇓iP	Pn	15 38 31.4	-0.5
KOZT	Kozan	3.58	37	ePN	Pn	15 38 34.0	+1.0
SALA	Sala	3.60	122	⇑P	Pn	15 38 34.5	+1.3
SALA				⇑S	Sn	15 39 11.1	-3.4
SALA	Sala	3.60	122	⇑iP	Pn	15 38 34.5	+1.3
DSI	Dead Sea	3.63	147	Pn	Pn	15 38 34.2	+0.6
DSI				Sn	Sn	15 39 15.2	+0.1
NIG	Nigde	3.66	19	ePN	Pn	15 38 35.1	+1.1
YTIR	Yattir	3.70	152	Pn	Pn	15 38 35.6	+1.0
FETY	Fethiye	3.82	302	ePN	Pn	15 38 35.4	-0.8
MZDA	Masada	3.84	150	Pn	Pn	15 38 37.5	+0.9
MZDA				Sn	Sn	15 39 20.6	+0.1
GOLH	Golhisar	3.85	313	iP	Pn	15 38 38.4	+1.8
GOLH				iS	Sn	15 39 22.8	+2.1
KZIT	Kziot	3.90	163	Pn	Pn	15 38 37.7	+0.3
KZIT				Sn	Sn	15 39 21.6	-0.2
KDHN	Kadinhani	3.94	349	iP	Pn	15 38 37.8	0.0
KDHN				iS	Sn	15 39 23.9	+1.2
AMAG	Maghara	4.00	179	P	Pn	15 38 39.0	+0.3
AMAG	Maghara	4.00	179	P	Pn	15 38 39.0	+0.2
ASF	Jabal al Asfar	4.03	127	Pn	Pn	15 38 40.5	+1.3
	7.0nm,0.3s,baz=184,slow=5.7,SNR=49						
ASF				Sn	Sn	15 39 24.8	-0.3
	4.4nm,0.3s,baz=342,slow=19,SNR=10						
TKTP	Tekketepe	4.05	327	iP	Pn	15 38 41.1	+1.7
TKTP				iS	Sn	15 39 28.4	+2.9
GAZ	Gaziantep	4.18	52	ePN	Pn	15 38 41.0	-0.1
KMRS	Kahramanmaras	4.19	46	ePN	Pn	15 38 41.4	+0.1
RMNI	Mount Ramon	4.29	160	Pn	Pn	15 38 43.2	+0.6
RMNI	Mount Ramon	4.29	160	Pn	Pn	15 38 43.2	+0.5
KIZT	Kizilcal	4.33	347	ePN	Pn	15 38 44.6	+1.5
ARG	Arkhangelos	4.34	292	P	Pn	15 38 42.7	-0.7
ZFRI	Zfri	4.45	156	Pn	Pn	15 38 46.0	+1.1
DENT	Denizli	4.51	314	ePN	Pn	15 38 45.7	0.0
PRNI	Paran	4.59	159	Pn	Pn	15 38 47.5	+0.7
YER	Yerkesik	4.62	304	ePN	Pn	15 38 47.2	0.0
KHL	Karahalli	4.65	323	ePN	Pn	15 38 48.4	+0.7
KAMT	Kaman	4.73	6	ePN	Pn	15 38 50.8	+2.2
KRMI	Paran Flat	4.73	163	Pn	Pn	15 38 49.4	+0.7
KRMI				Sn	Sn	15 39 43.0	+0.7
HHAG	Hagoal	4.77	190	eP	Pn	15 38 49.5	+0.3
HHAG				S	Sn	15 39 39.9	-3.2
HNKL	Nakhl	4.77	171	⇓eP	Pn	15 38 49.7	+0.4
HNKL				S	Sn	15 39 39.3	-4.0
SUZ		4.81	183	P	Pn	15 38 50.4	+0.6
KOT	Kottamia	4.84	193	⇑eP	Pn	15 38 50.3	+0.1
HRFI	Mount Harif	4.89	160	Pn	Pn	15 38 51.5	+0.5
HRFI				Sn	Sn	15 39 46.8	+0.5
AYDN	Tasoluk	5.18	307	iP	Pn	15 38 54.2	-0.6
AYDN				iS	Sn	15 39 51.2	-2.0
BDRM	Kayabasi	5.18	299	iP	Pn	15 38 54.0	-0.9
BDRM				iS	Sn	15 39 51.1	-2.2
HSAF	As Saff	5.19	195	⇑eP	Pn	15 38 55.1	+0.1
GLL	Jalalah	5.20	193	eP	Pn	15 38 55.4	+0.2
AYT	Al 'Ayyat	5.21	199	⇓eP	Pn	15 38 55.5	+0.2
EIL	Elat	5.22	162	Pn	Pn	15 38 54.8	-0.6
	1.9nm,0.3s,baz=3.7,slow=10,SNR=31						
EIL				Sn	Sn	15 39 52.8	-1.5
	19nm,0.3s,baz=69,slow=15,SNR=17						
EIL	Elat	5.22	162	Pn	Pn	15 38 56.1	+0.7
EIL				Sn	Sn	15 39 54.4	+0.2
EIL	Elat	5.22	162	Pn	Pn	15 38 56.1	+0.7
EIL				Sn	Sn	15 39 52.8	-1.4
HMYD	Mayadein	5.22	202	⇑eP	Pn	15 38 55.7	+0.2
ZNM		5.27	182	P	Pn	15 38 56.5	+0.4
GDZ	Gediz	5.29	328	iP	Pn	15 38 56.8	+0.5
ZAF		5.38	185	⇓eP	Pn	15 38 57.9	+0.3
HNAT	Natroun	5.43	203	P	Pn	15 38 58.7	+0.3
HQLS		5.60	162	S	Sn	15 40 00.1	-3.5
HQLS		5.60	162	P	Pn	15 39 00.3	-0.3
HBST	Basata	5.60	165	P	Pn	15 39 01.9	+1.2
MALT	Malatya	5.63	48	ePn	Pn	15 38 59.8	-1.3
	4.3nm,0.5s						
MALT	Malatya	5.63	48	Pn	Pn	15 39 04.1	+3.0
HRDS	Abu Rudays	5.93	178	eP	Pn	15 39 05.9	+0.7
HDHB	Dhahab	6.06	167	⇓eP	Pn	15 39 07.5	+0.6
HKAT	Jabal Katrina	6.16	173	P	Pn	15 39 09.2	+0.8
HMAT	Matruh	6.17	237	⇓eP	Pn	15 39 08.5	0.0
HMAT				S	Sn	15 40 13.3	-4.4
NPS	Neapolis	6.17	278	P	Pn	15 39 09.0	+0.5
JLOS		6.25	160	S	Sn	15 40 15.1	-4.5
JLOS		6.25	160	P	Pn	15 39 09.0	-0.6
RSHS		6.50	167	S	Sn	15 40 22.8	-3.1
RSHS		6.50	167	P	Pn	15 39 12.2	-0.9
APE	Apeiranthos	6.60	294	P	Pn	15 39 14.0	-0.3
TR1		6.67	173	P	Pn	15 39 15.9	+0.6
IDI	Anoyia	6.77	278	P	Pn	15 39 16.2	-0.4
SHRM		6.80	172	⇓eP	Pn	15 39 17.5	+0.4
GVD	Gavdhos	7.42	274	Pn	Pn	15 39 24.9	-0.7
GVD	Gavdhos	7.42	274	Pn	Pn	15 39 24.9	-0.7
HHRG	Al Ghardaqah	7.43	177	⇑eP	Pn	15 39 26.5	+0.8
HSFG		8.10	175	⇑eP	Pn	15 39 35.6	+0.7
SWA2		8.44	232	P	Pn	15 39 40.8	+1.2
VLI	Veliai	8.52	287	P	Pn	15 39 39.6	-1.0
ITM	Ithomi	9.40	289	P	Pn	15 39 52.5	-0.2
TIP	Timpagrande	13.82	294	eP	Pn	15 40 47.1	-6.0
AKASG	Malin Array Be	16.28	351	Pn	Pn	15 41 24.9	+0.1
	0.7nm,0.3s,baz=175,slow=10.0,SNR=18						
VRAC	Vranov	19.04	325	P	Pn	15 41 56.6	-2.1
	0.6nm,0.3s,baz=111,slow=8.6,SNR=3.2						
VRAC	Vranov	19.04	325	P	Pn	15 41 56.5	-2.2
KEST	Kesra	19.43	280	P	Pn	15 42 04.2	+0.7
	0.1nm,0.3s,baz=164,slow=6.7,SNR=3.7						
GEC2	GERESS Array S	20.18	321	eP	P	15 42 09.8	-0.1
	comp=Z,3.0nm,0.8s						
GERES	GERESS Array B	20.18	321	P	P	15 42 09.9	0.0
	comp=Z,1.3nm,0.4s,baz=119,slow=11,SNR=17						
GERES				LR	LR	15 51 21.5	
	comp=Z,23nm,18.5s,baz=125,slow=41						
PGF	Pioggiola	20.37	300	eP	P	15 42 11.6	-0.4
	comp=Z,18nm,0.6s						
PGF	Pioggiola	20.37	300	eP	P	15 42 11.6	-0.4
	comp=Z,9.1nm,0.6s						
KHC	Kasperske Hory	20.41	321	eP	P	15 42 12.0	-0.5
WET	Wettzell	20.79	320	eP	P	15 42 16.0	-0.5
	comp=Z,5.0nm,1.1s						
DAVOX	Davos/Dischmat	21.27	312	P	P	15 42 22.2	+0.5
	comp=Z,1.9nm,0.5s,mb3.7,baz=159,slow=14,SNR=4.3						
SBF	Sospel	21.82	303	eP	P	15 42 27.5	-0.1
	comp=Z,5.6nm,0.5s,mb3.9						
SBF	Sospel	21.82	303	eP	P	15 42 27.5	-0.1
	comp=Z,2.8nm,0.5s,mb3.9						
FRF	La Foret Royal	22.29	301	eP	P	15 42 31.8	-0.9
	comp=Z,3.1nm,0.5s,mb3.7						
FRF	La Foret Royal	22.29	301	eP	P	15 42 31.8	-0.9
	comp=Z,1.5nm,0.5s,mb3.7						
MBDF	Montbardon	22.53	304	eP	P	15 42 34.6	-0.5
	comp=Z,3.3nm,0.6s,mb3.7						
MBDF	Montbardon	22.53	304	eP	P	15 42 34.6	-0.5
	comp=Z,1.6nm,0.6s,mb3.7						
LPG	La Plagne	22.78	306	eP	P	15 42 38.4	+0.6
	comp=Z,6.8nm,0.7s,mb3.9						
LPG	La Plagne	22.78	306	eP	P	15 42 38.4	+0.6
	comp=Z,3.4nm,0.7s,mb3.9						
LPL	La Plagne	22.80	306	eP	P	15 42 38.3	+0.3
BFO	Black Forest	22.91	314	eP	P	15 42 38.7	-0.4
	comp=Z,6.0nm,1.0s,mb4.0						
SMRF	Simiane la Rot	23.15	302	eP	P	15 42 40.7	-1.0
ORIF	Oris-en-Rattie	23.19	304	eP	P	15 42 41.4	-0.7
CDF	Champ du Feu	23.57	313	eP	P	15 42 45.1	-0.5
	comp=Z,4.1nm,0.8s,mb3.6						
CDF	Champ du Feu	23.57	313	eP	P	15 42 45.1	-0.5
	comp=Z,2.0nm,0.8s,mb3.6						
HINF	Hinteralfeld	23.58	312	eP	P	15 42 44.7	-1.0
	comp=Z,2.9nm,0.5s,mb3.6						
HINF	Hinteralfeld	23.58	312	eP	P	15 42 44.7	-1.0
	comp=Z,1.5nm,0.5s,mb3.6						
CABF	La Chapelle	23.60	309	eP	P	15 42 45.1	-0.8
	comp=Z,12nm,0.9s,mb4.0						
CABF	La Chapelle	23.60	309	eP	P	15 42 45.1	-0.8
	comp=Z,5.8nm,0.9s,mb4.0						
HAU	Haudompre	23.96	312	eP	P	15 42 48.1	-1.1
	comp=Z,4.4nm,0.6s,mb3.8						
HAU	Haudompre	23.96	312	eP	P	15 42 48.1	-1.1
	comp=Z,2.2nm,0.6s,mb3.8						
AKTK	Aktyubinsk	24.04	41	P	P	15 42 49.4	-0.5
AKTK	Aktyubinsk	24.04	41	P	P	15 42 49.3	-0.5
AKTO	Aktyubinsk	24.04	41	P	P	15 42 49.4	-0.5
	comp=Z,0.9nm,0.5s,mb3.4,baz=214,slow=13,SNR=4.2						
LASF	Ste Croix	24.38	301	eP	P	15 42 52.8	-0.2
	comp=Z,3.6nm,0.6s,mb3.6						
LASF	Ste Croix	24.38	301	eP	P	15 42 52.8	-0.2
	comp=Z,1.8nm,0.6s,mb3.6						
MEZF	Maizieres J'vi	24.96	312	eP	P	15 42 57.5	-0.7
	comp=Z,7.5nm,0.5s,mb4.2						
MEZF	Maizieres J'vi	24.96	312	eP	P	15 42 57.5	-0.7
	comp=Z,3.8nm,0.5s,mb4.2						
SMF	Signal de Mont	25.07	307	eP	P	15 42 59.3	0.0
	comp=Z,7.8nm,0.8s,mb4.0						
SMF	Signal de Mont	25.07	307	eP	P	15 42 59.3	0.0
	comp=Z,3.9nm,0.8s,mb4.0						
MTLF	Montolieu	25.40	299	eP	P	15 43 04.0	+1.7
	comp=Z,5.0nm,0.6s,mb3.9						
MTLF	Montolieu	25.40	299	eP	P	15 43 04.0	+1.7
	comp=Z,2.5nm,0.6s,mb3.9						
SSF	Saint Saulge	25.42	308	eP	P	15 43 00.9	-1.5
AVF	Avril sur Loir	25.43	307	eP	P	15 43 02.9	+0.3
BAIF	Baives	26.10	315	eP	P	15 43 07.6	-1.0
	comp=Z,5.6nm,0.7s,mb3.9						
BAIF	Baives	26.10	315	eP	P	15 43 07.6	-1.0
	comp=Z,2.8nm,0.7s,mb3.9						
RJF	Les Rejaudoux	26.28	303	eP	P	15 43 10.5	+0.3
FINES	FINESS Array B	27.18	353	P	P	15 43 17.1	-1.1
	comp=Z,1.0nm,0.7s,mb3.5,baz=154,slow=13,SNR=6.1						
MFF	Saint Martin d	27.70	306	eP	P	15 43 24.5	+1.5
SGMF	Saint Gilles	29.68	308	eP	P	15 43 41.7	+1.1
QUIF	Quistinic	30.00	307	eP	P	15 43 44.1	+0.7
ARCES	ARCESS Array B	35.18	355	P	P	15 44 27.2	-1.2
	comp=Z,1.8nm,0.9s,mb4.0,baz=155,slow=6.7,SNR=5.1						
MKAR	Makanchi Array	38.61	56	P	P	15 44 58.4	+0.6
	comp=Z,0.9nm,0.8s,mb3.6,baz=269,slow=5.9,SNR=6.2						
ZALV	Zalesovo Beam	40.67	45	P	P	15 45 14.8	0.0
	comp=Z,0.6nm,0.4s,mb3.6,baz=262,slow=10,SNR=3.3						
SONM	Songino Array	54.70	52	P	P	15 47 03.5	0.0
	comp=Z,0.2nm,0.7s,mb3.3,baz=336,slow=3.2,SNR=2.7						
YKA	Yellowknife Ar	79.76	345	P	P	15 49 42.9	+1.0
	comp=Z,0.1nm,0.6s,mb3.0,baz=24,slow=5.2,SNR=3.0						

*IDC **22** 15:49:04.3±1.1,2829N×1049 5E,h0km,mb3.4/6, mb1 3.6/7,mb1mx3.5/21,mbtmp3.4/7,ML3.7/1,Error ellipse: s-maj=42.7km s-min=19.8km az=65.0*
*ISCJB **22** 15:49:08.9±3.2,283N±0.1×105.1E±0.2,h48km±30km, mb3.4/6,Error ellipse: s-maj=34.6km s-min=18.5km az=152.0*
*BJI **22** 15:49:08.9,2838N×10509E,h31km,ML3.2*
*NEIC **22** 15:49:09.5±0.8,2826N×10481E,h35km,Error ellipse: s-maj=47.4km s-min=13.3km az=67.0*
ISC 22 15:49:11.2±3.0,284N±01×1051E±02,h49km±29km,n10, σ0°83/13,mb3.4/6,Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CD2	Chengdu	2.77	336	P	Pn	15 49 52.6	-0.4
CD2				PG	Pn	15 50 00.4	+7.4
CD2				S	Sn	15 50 26.3	+1.1
CD2				SG	Sn	15 50 38.0	+13
CD2				Smax			
	comp=N,480nm,0.7s						
CD2				Smax			
	comp=E,370nm,0.7s						
SONM	Songino Array	19.44	3	P	Pn	15 53 34.4	-0.6
	comp=E,0.2nm,0.3s,baz=186,slow=12,SNR=5.9						
KSRS	Korea Array	21.16	59	P	P	15 53 52.0	-0.2
	comp=E,0.4nm,0.4s,mb3.1,baz=245,slow=8.6,SNR=5.6						
MKAR	Makanchi Array	25.61	322	P	P	15 54 34.0	-1.8
MKAR	Makanchi Array	25.61	322	P	P	15 54 34.0	-1.8
	comp=E,0.3nm,0.4s,mb3.2,baz=127,slow=12,SNR=4.4						
ZALV	Zalesovo Beam	29.53	335	P	P	15 55 12.1	+1.3
	comp=E,0.3nm,0.4s,mb3.4,baz=157,slow=7.8,SNR=2.3						
WRA	Warramunga Arr	55.75	146	P	P	15 58 42.7	-0.4
	comp=E,0.5nm,0.5s,mb3.8,baz=338,slow=8.2,SNR=9.0						
WB2	Warramunga Arr	55.76	146	eP	P	15 58 43.5	+0.4
ASAR	Alice Springs	58.73	149	P	P	15 59 04.5	+0.4
	comp=E,0.3nm,0.5s,mb3.6,baz=332,slow=7.1,SNR=7.6						
YKA	Yellowknife Ar	84.03	17	P	P	16 01 36.4	+0.3
	comp=E,0.1nm,0.5s,mb3.2,baz=324,slow=4.7,SNR=4.6						

*MAN **22** 16:02:10,1367N×12048E,h92km,mb3.4,ML2.1,MS1.5*
IDC 22 16:01:57.6±1.3,1355N×12037E,h0km,mb3.4/4, mb1 3.5/4,mb1mx3.3/19,mbtmp3.4/4,Error ellipse: s-maj=162.9km s-min=21.3km az=67.0,Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	36.01	157	P	P	16 09 00.4	-0.2
	0.2nm,0.5s,baz=331,slow=10.0,SNR=8.4						
SONM	Songino Array	36.11	344	P	P	16 09 00.7	-0.5
	0.4nm,0.6s,baz=160,slow=8.3,SNR=4.5						
ASAR	Alice Springs	39.28	160	P	P	16 09 28.6	+0.2
	0.2nm,0.5s,baz=341,slow=7.4,SNR=6.5						
MKAR	Makanchi Array	45.96	324	P	P	16 10 22.9	+0.5
	0.7nm,0.7s,baz=134,slow=8.3,SNR=5.7						

*ISCJB **22** 16:15:57.3±0.4,6956N±003×1444W±0.1,h10km,mb3.6/11, Error ellipse: s-maj=5.9km s-min=5.0km az=2.8*
*NEIC **22** 16:15:57.9,6968N×14474W,h10km,mb4.0/1, ML3.8(AEIC),ML3.7(PGC),After AEIC.*
*IDC **22** 16:15:59.5±0.9,6990N×14401W,h0km,mb3.6/10, mb1 3.9/12,mb1mx3.7/23,mbtmp3.6/12,ML3.7/2,Error ellipse: s-maj=29.9km s-min=11.3km az=43.0*
*PGC **22** 16:16:00.8±7.2,6973N×14398W,h1km,ML3.7/1,175km east of Prudhoe Bay, Ak Alaska*
ISC 22 16:15:59.4±0.4,6958N±003×1444W±01,h10km,n44, σ1°15/59,mb3.6/11,Northern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BM3	Burnt Mountain	2.17	182	P	Pn	16 16 35.7	+0.2
BM3				S	Sn	16 17 05.8	+3.4
COLD	Coldfoot	3.20	225	P	Pn	16 16 48.9	-0.7
INK	Inuvik	4.12	103	ePn	Pn	16 17 02.9	+0.7
INK				Sn	Sn	16 17 51.1	+0.7
INK				Lg		16 18 08.4	
INK	Inuvik	4.12	103	Pn	Pn	16 17 02.9	+0.6
	2.5nm,0.3s,baz=289,slow=19,SNR=72						
INK				Sn	Sn	16 17 51.1	+0.7
	5.5nm,0.3s,baz=14,slow=18,SNR=6.1						
INK				Lg		16 18 08.4	
	5.2nm,0.3s,baz=184,slow=23,SNR=4.3						
INK	Inuvik	4.12	103	Pn	Pn	16 17 03.3	+1.0
INK				Sn	Sn	16 17 51.3	+0.9
COLA	College	4.91	198	P	Pn	16 17 12.5	-0.7
IL1	Eielson Array	4.93	193	P	Pn	16 17 12.8	-0.6
EGAK	Eagle	4.98	164	ePn	Pn	16 17 14.1	0.0
	61nm,0.6s						
IMA2	Indian Mountai	4.98	229	eP	Pn	16 17 13.3	-0.8
IM3	Indian Mountai	5.06	229	P	Pn	16 17 14.6	-0.7
DAWY

APE			*e*Sb	**Sb**	**16 23 38.1**	**-0.1**
ALN	**Alexandroupoli**	**2.94 340**	*e*Pn	**Pn**	**16 23 29.5**	**-0.1**
ALN			*e*Sn	**Sn**	**16 24 05.9**	**+0.3**

*ISCJB **22** 16:28:55.8±0.4, 6958N±004×1445W±0.1, h10km, mb3.7/10, Error ellipse: s-maj=5.7km s-min=5.2km az=135.9*
*NEIC **22** 16:28:55.8, 6972N×14475W, h10km, mb3.6/1, ML4.0(AEIC), ML4.0(PGC), After AEIC.*
*PGC **22** 16:28:56.9±7.3, 6973N×14466W, h1km, ML4.0/1, 151km east of Prudhoe Bay, Ak Alaska*
*IDC **22** 16:28:57.3±0.8, 6967N×14459W, h0km, mb3.6/10, mb1 3.9/12, mb1mx3.8/23, mbtmp3.7/12, ML3.7/2, MS3.1/2, Ms1 3.1/2, ms1mx2.7/29, Error ellipse: s-maj=24.4km s-min=11.2km az=38.0*

ISC 22 16:28:58.0±0.4, 6959N±004×1446W±01, h10km, n45, σ1°11/59, mb3.7/10, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BM3	**Burnt Mountain**	**2.18**	**181**	P	**Pn**	**16 29 34.1**	**-0.1**
BM3				S	**Sn**	**16 30 05.8**	**+4.6**
COLD	**Coldfoot**	**3.16**	**224**	P	**Pn**	**16 29 45.6**	**-2.1**
COLD				S	**Sn**	**16 30 27.1**	**+1.7**
INK	**Inuvik**	**4.18**	**103**	*e*Pn	**Pn**	**16 30 01.4**	**-0.4**
INK				Sn	**Sn**	**16 30 50.2**	**-0.4**
INK				Lg		16 31 12.8	
INK				LR	LR	16 32 09.9	
INK	**Inuvik**	**4.18**	**103**	Pn	**Pn**	**16 30 02.2**	**+0.4**
2.6nm,0.3s,baz=308,slow=11,SNR=64							
INK				Sn	**Sn**	**16 30 50.2**	**-0.4**
2.9nm,0.3s,baz=256,slow=25,SNR=5.6							
INK				Lg		16 31 12.8	
5.4nm,0.3s,baz=39,slow=30,SNR=5.4							
INK				LR	LR	16 32 09.9	
comp=Z,227nm,19.5s,baz=87,slow=46							
INK	**Inuvik**	**4.18**	**103**	Pn	**Pn**	**16 30 01.9**	**+0.1**
INK				Sn	**Sn**	**16 30 50.4**	**-0.2**
COLA	**College**	**4.91**	**197**	*e*Pn	**Pn**	**16 30 10.8**	**-0.8**
COLA				S	**Sn**	**16 31 10.5**	**+2.1**
IL1	**Eielson Array**	**4.92**	**192**	P	**Pn**	**16 30 11.2**	**-0.8**
IMA2	**Indian Mountai**	**4.94**	**229**	*e*Pn	**Pn**	**16 30 09.6**	**-2.6**
EGAK	**Eagle**	**5.01**	**163**	P	**Pn**	**16 30 13.1**	**0.0**
IM3	**Indian Mountai**	**5.03**	**228**	P	**Pn**	**16 30 12.3**	**-1.0**
DAWY	**Dawson**	**5.91**	**157**	P	**Pn**	**16 30 25.6**	**+0.1**
DAWY	**Dawson**	**5.91**	**157**	Pn	**Pn**	**16 30 25.8**	**+0.3**
DAWY				Sn	**Sn**	**16 31 31.8**	**-1.4**
DOT	**Dot Lake**	**5.97**	**178**	P	**Pn**	**16 30 26.3**	**0.0**
MCK	**McKinley**	**6.13**	**199**	*e*Pn	**Pn**	**16 30 26.8**	**-1.7**
KTH	**Kantishna Hill**	**6.57**	**206**	P	**Pn**	**16 30 33.7**	**-0.8**
TRF	**Thorofare Moun**	**6.58**	**203**	P	**Pn**	**16 30 34.0**	**-0.5**
BCA3	**Beaver Creek A**	**6.65**	**169**	P	**Pn**	**16 30 35.9**	**+0.3**
PAX	**Paxson**	**6.66**	**184**	P	**Pn**	**16 30 36.4**	**+0.7**
MENT	**Mentasta**	**6.69**	**177**	P	**Pn**	**16 30 36.4**	**+0.2**
PMR	**Palmer**	**8.25**	**195**	*e*Pn	**Pn**	**16 30 57.9**	**+0.3**
8.9nm,0.7s							
HYT	**Haines Junctio**	**9.28**	**158**	Pn	**Pn**	**16 31 14.5**	**+2.9**
SVW2	**Sparrevohn**	**9.67**	**214**	*e*Pn	**Pn**	**16 31 18.1**	**+1.2**
WHY	**Whitehorse**	**9.83**	**151**	Pn	**Pn**	**16 31 19.4**	**+0.2**
WHY				Sn	**Sn**	**16 33 03.8**	**-5.7**
DLBC	**Dease Lake**	**12.82**	**144**	Pn	**Pn**	**16 31 59.7**	**-0.4**
DLBC				Sn	**Sn**	**16 34 18.2**	**-4.4**
DLBC				Lg		16 35 43.2	
DLBC	**Dease Lake**	**12.82**	**144**	Pn	**Pn**	**16 31 59.7**	**-0.4**
baz=344,slow=9.8							
DLBC				Sn	**Sn**	**16 34 18.2**	**-4.4**
baz=252,slow=20							
DLBC				Lg		16 35 43.2	
baz=245,slow=11							
DLBC	**Dease Lake**	**12.82**	**144**	Pn	**Pn**	**16 32 00.4**	**+0.3**
YKW3	**Yellowknife Ar**	**13.90**	**106**	Pn	**Pn**	**16 32 11.3**	**-3.4**
YKW3				Sn	**Sn**	**16 34 36.0**	**-13**
YKA	**Yellowknife Ar**	**13.95**	**106**	Pn	**Pn**	**16 32 11.4**	**-3.9**
YKA				Sn	**Sn**	**16 34 38.6**	**-11**
YKA	**Yellowknife Ar**	**13.95**	**106**	Pn	**Pn**	**16 32 11.4**	**-3.9**
0.6nm,0.3s,baz=312,slow=13,SNR=46							
YKA				Sn	**Sn**	**16 34 38.6**	**-11**
0.7nm,0.3s,baz=316,slow=23,SNR=6.0							
RES	**Resolute Bay**	**15.61**	**49**	*e*Pn	**Pn**	**16 32 33.4**	**-4.3**
197nm,0.6s							
RES	**Resolute Bay**	**15.61**	**49**	Pn	**Pn**	**16 32 33.7**	**-3.9**
RES				Sn	**Sn**	**16 35 18.9**	**-11**
BILL	**Bilibino**	**17.46**	**288**	*e*P	**Pn**	**16 32 59.8**	**-1.4**
2.1nm,0.4s							
EDM	**Edmonton**	**21.77**	**123**	P	**P**	**16 33 50.5**	**+1.1**
PDAR	**Pinedale Array**	**32.31**	**128**	P	**P**	**16 35 28.3**	**+1.6**
0.5nm,0.5s,mb3.6,baz=349,slow=7.8,SNR=6.7							
NVAR	**Mina Array Bea**	**34.23**	**142**	P	**P**	**16 35 44.2**	**+0.7**
NVAR	**Mina Array Bea**	**34.23**	**142**	P	**P**	**16 35 44.2**	**+0.7**
0.2nm,0.3s,mb3.5,baz=340,slow=5.9,SNR=4.4							
SCHQ	**Schefferville**	**36.20**	**73**	P	**P**	**16 36 00.8**	**+0.5**
SCHQ	**Schefferville**	**36.20**	**73**	P	**P**	**16 36 00.8**	**+0.6**
2.4nm,0.8s,mb4.2,baz=280,slow=11,SNR=2.4							
ARCES	**ARCESS Array B**	**40.97**	**5**	P	**P**	**16 36 40.3**	**+0.2**
2.1nm,0.9s,mb3.8,baz=356,slow=11,SNR=3.9							
TXAR	**Lajitas Array**	**46.53**	**128**	P	**P**	**16 37 26.4**	**+1.1**
0.1nm,0.4s,mb3.1,baz=351,slow=3.8,SNR=5.9							
ZALV	**Zalesovo Beam**	**51.66**	**325**	P	**P**	**16 38 04.8**	**+0.5**
0.3nm,0.5s,mb3.5,baz=342,slow=9.1,SNR=2.8							
ZALV				LR	LR	17 02 34.1	
comp=Z,21nm,19.6s,baz=186,slow=39							
MJAR	**Matsushiro Arr**	**51.86**	**273**	P	**P**	**16 38 06.4**	**+0.4**
0.6nm,0.6s,mb3.7,baz=13,slow=8.5,SNR=5.3							
SONM	**Songino Array**	**52.06**	**306**	P	**P**	**16 38 09.3**	**+1.9**
0.9nm,0.8s,mb3.8,baz=12,slow=7.6,SNR=5.9							
MKAR	**Makanchi Array**	**58.97**	**324**	P	**P**	**16 38 56.6**	**-0.4**
0.2nm,0.2s,mb3.7,baz=20,slow=6.4,SNR=3.1							
AKASG	**Malin Array Be**	**59.94**	**5**	P	**P**	**16 39 03.6**	**0.0**
0.8nm,0.5s,mb4.0,baz=355,slow=6.9,SNR=6.8							

*GRAL **22** 16:33:45.7±0.4, 3352N×3572E, h24km±5km, MD2.9*
*ISCJB **22** 16:33:46.5±0.8, 3363N±002×3595E±007, h0km, Error ellipse: s-maj=8.5km s-min=3.3km az=7.2*
*GII **22** 16:33:46.6±0.7, 3361N×3587E, h0km, ML2.0/7*
*CSEM **22** 16:33:47.1±0.2, 3362N×3584E, h2km, ML2.0, Error ellipse: s-maj=6.4km s-min=2.3km az=97.0, Mining explosion.*

ISC 22 16:33:46.8±0.8, 3364N±003×3598E±007, h0km, n15, σ0°81/28, Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RCY	**Rachaya**	**0.20**	**222**	*i*Pg	**Pg**	**16 33 50.0**	**-0.6**
BHL	**Bhannes**	**0.38**	**315**	*i*Pg	**Pg**	**16 33 53.5**	**-0.5**
BHL				*i*Sg	**Sg**	**16 33 59.0**	**0.0**
HRI	**Mount Hermon**	**0.42**	**209**	Pg	**Pg**	**16 33 54.4**	**-0.4**
HRI				Sg	**Sg**	**16 34 00.8**	**+0.5**
KSDI	**Kefar Szold**	**0.52**	**211**	Pg	**Pg**	**16 33 56.4**	**-0.2**
KSDI				Sg	**Sg**	**16 34 04.6**	**+1.2**
HWQ	**Hawqa**	**0.64**	**358**	*i*Pg	**Pg**	**16 33 59.4**	**+0.4**
HWQ				*e*Sg	**Sg**	**16 34 09.9**	**+2.5**
KSHT	**Keshet**	**0.67**	**192**	Pg	**Pg**	**16 34 00.0**	**+0.5**
KSHT				Sg	**Sg**	**16 34 09.8**	**+1.7**
MMA1	**Mount Meron ar**	**0.78**	**218**	Pg	**Pg**	**16 34 01.0**	**-0.7**
MMA1				Sg	**Sg**	**16 34 13.2**	**+1.4**
MMC7	**Mount Meron ar**	**0.79**	**219**	Pg	**Pg**	**16 34 01.2**	**-0.6**
MMC7				Sg	**Sg**	**16 34 12.6**	**+0.6**
HNTI	**Hanita**	**0.87**	**231**	Pg	**Pg**	**16 34 02.6**	**-0.8**
HNTI				Sg	**Sg**	**16 34 14.7**	**0.0**
MMLI	**Mount Malkishu**	**1.28**	**202**	Pg	**Pg**	**16 34 10.3**	**-1.0**
MMLI				Sg	**Sg**	**16 34 28.2**	**+0.2**
OFRI	**'Ofer**	**1.31**	**220**	Pg	**Pg**	**16 34 10.9**	**-1.0**
OFRI				Sg	**Sg**	**16 34 28.6**	**-0.3**
HMDT	**Nahal Hemdat**	**1.43**	**196**	Pn	**Pn**	**16 34 13.3**	**-0.6**
HMDT				Sn	**Sn**	**16 34 33.7**	**+0.3**
HMDT	**Nahal Hemdat**	**1.43**	**196**	Pn	**Pn**	**16 34 13.3**	**-0.7**
HMDT				Sn	**Sn**	**16 34 33.7**	**+0.2**
SLTI	**Sal'it**	**1.60**	**210**	Pn	**Pn**	**16 34 15.6**	**-0.7**
SLTI				Sn	**Sn**	**16 34 37.4**	**-0.2**
DSI	**Dead Sea**	**2.12**	**194**	Pn	**Pn**	**16 34 23.1**	**-0.3**

*MOS **22** 17:18:40.8±0.8, 4899N×15504E, h88km, mb4.1/1, Error ellipse: s-maj=39.4km s-min=16.7km az=60.5*
*NEIC **22** 17:19:09.9±2.6, 4879N×15162E, h294km±28km, Error ellipse: s-maj=43.7km s-min=21.2km az=109.0*
*ISCJB **22** 17:19:10.8±1.0, 488N±02×1514E±03, h319km±12km, mb3.0/5, Error ellipse: s-maj=36.5km s-min=13.6km az=45.0*
*IDC **22** 17:19:10.2±3.6, 4886N×15152E, h296km±37km, mb2.8/5, mb1 3.1/6, mb1mx2.8/22, mbtmp2.8/6, Error ellipse: s-maj=43.5km s-min=19.9km az=113.0*

ISC 22 17:19:11.7±1.0, 488N±02×1514E±03, h312km±13km, n13, σ0°91/13, mb3.1/5, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YSS	**Yuzh-Sakhalins**	**6.08**	**256**	P	**Pn**	**17 20 43.1**	**+0.9**
PET	**Petropavlovsk**	**6.26**	**45**	*e*S	**Pn**	**17 20 44.7**	**+0.5**
PET				smax			
comp=N,40nm,0.9s							
ASAJ	**Asahikawa**	**7.65**	**236**	PN	**Pn**	**17 21 01.1**	**0.0**
ASAJ				pmax	pmax		
comp=Z,1.0nm,0.3s							
ASAJ	**Asahikawa**	**7.65**	**236**	P	**Pn**	**17 21 01.1**	**0.0**
comp=Z,1.0nm,0.3s,baz=76,slow=14,SNR=17							
ERM	**Erimo**	**8.90**	**223**	P	**Pn**	**17 21 14.7**	**-1.6**
YKA	**Yellowknife Ar**	**50.00**	**37**	P	**P**	**17 27 32.8**	**-1.7**
YKA	**Yellowknife Ar**	**50.00**	**37**	P	**P**	**17 27 32.8**	**-1.7**
comp=Z,0.1nm,0.4s,mb2.5,baz=296,slow=7.6,SNR=4.0							
FINES	**FINESS Array B**	**61.68**	**334**	P	**P**	**17 28 56.7**	**0.0**
FINES	**FINESS Array B**	**61.68**	**334**	P	**P**	**17 28 56.7**	**0.0**
FINES				pmax	pmax		
comp=Z,1.0nm,0.9s							
FINES	**FINESS Array B**	**61.68**	**334**	P	**P**	**17 28 56.7**	**0.0**
comp=Z,1.2nm,0.9s,mb3.5,baz=39,slow=9.0,SNR=4.3							
WRA	**Warramunga Arr**	**70.09**	**197**	P	**P**	**17 29 50.7**	**+0.3**
comp=Z,0.2nm,0.5s,mb3.1,baz=17,slow=6.6,SNR=4.9							
ASAR	**Alice Springs**	**73.80**	**197**	P	**P**	**17 30 13.2**	**+1.0**
comp=Z,0.3nm,0.6s,mb3.1,baz=5.1,slow=5.1,SNR=6.9							
TXAR	**Lajitas Array**	**77.50**	**60**	P	**P**	**17 30 33.7**	**+0.5**
comp=Z,0.2nm,0.5s,mb3.1,baz=324,slow=4.5,SNR=3.7							

*ISCJB **22** 17:21:50.2±0.9, 539S±01×137.1W±03, h10km, mb4.0/5, MS4.2/18, Error ellipse: s-maj=24.3km s-min=19.2km az=147.8*
*IDC **22** 17:21:50.1±0.9, 5387S×13688W, h0km, mb4.0/5, mb1 4.1/5, mb1mx3.9/16, mbtmp4.0/5, MS4.2/18, Ms1 4.2/18, ms1mx4.0/28, Error ellipse: s-maj=42.0km s-min=24.6km az=177.0*
*NEIC **22** 17:21:51.2±0.7, 5381S×13679W, h10km, mb4.7/1, Error ellipse: s-maj=30.1km s-min=18.7km az=190.0*

ISC 22 17:21:52.2±0.9, 539S±01×1371W±03, h10km, n30, σ0°69/9, mb4.0/5, MS4.2/18, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RKT	**Rikitea**	**30.78**	**4**	*e*LQ		17 34 47.3	
310nm,36.8s							
RKT				*e*LR	LR	17 36 07.1	
867nm,27.8s,baz=179							
VNDA	**Vanda**	**31.89**	**201**	LR	LR	17 37 31.5	
comp=Z,370nm,19.1s,MS4.1,baz=325,slow=30							
URZ	**Urewera**	**34.74**	**278**	LR	LR	17 39 41.8	
comp=Z,353nm,20.1s,MS4.1,baz=14,slow=31							
RPZ	**Rata Peaks**	**34.91**	**265**	LR	LR	17 39 25.6	
comp=Z,406nm,20.4s,MS4.2,baz=48,slow=30							
QSPA	**South Pole Qui**	**36.26**	**180**	P	**P**	**17 28 55.6**	**+0.8**
QSPA				LR	LR	17 41 39.2	
QSPA	**South Pole Qui**	**36.26**	**180**	P	**P**	**17 28 55.6**	**+0.8**
2.2nm,1.0s,mb4.0,baz=66,slow=9.7,SNR=2.8							
QSPA				LR	LR	17 41 39.3	
comp=Z,717nm,19.8s,MS4.5,baz=76,slow=33							
PMSA	**Palmer Station**	**36.64**	**137**	LR	LR	17 39 59.1	
comp=Z,350nm,20.8s,MS4.1,baz=51,slow=30							
RAR	**Rarotonga**	**36.94**	**323**	LR	LR	17 39 23.3	
comp=Z,251nm,20.5s,MS4.0,baz=180,slow=28							
PPT	**Papeete**	**37.54**	**340**	*e*S	**S**	**17 34 56.5**	**+1.2**
61nm,25.0s							
PPT				*e*LR	LR	17 39 20.8	
1μm,25.8s,baz=175							
PPT	**Papeete**	**37.54**	**340**	LR	LR	17 40 02.4	
comp=Z,642nm,19.1s,MS4.4,baz=192,slow=29							
RAO	**Raoul Island**	**38.46**	**293**	*e*P	**P**	**17 29 13.4**	**-0.6**
PLCA	**Paso Flores**	**45.32**	**101**	LR	LR	17 44 02.0	
comp=Z,262nm,19.9s,MS4.2,baz=223,slow=30							
SNAA	**Sanae**	**50.65**	**163**	LR	LR	17 49 27.9	
comp=Z,106nm,21.1s,MS3.8,baz=25,slow=33							
STKA	**Stephens Creek**	**60.03**	**256**	P	**P**	**17 31 59.5**	**+0.6**
3.8nm,0.9s,mb4.4,baz=153,slow=9.0,SNR=4.0							
STKA				LR	LR	17 52 04.2	
comp=Z,168nm,20.8s,MS4.2,baz=41,slow=30							
CPUP	**Villa Florida**	**63.24**	**99**	LR	LR	17 55 15.2	
comp=Z,212nm,18.7s,MS4.3,baz=202,slow=32							
LPAZ	**La Paz**	**64.60**	**83**	*e*P	**P**	**17 32 29.0**	**-0.7**
9.4nm,1.6s,mb4.6							
LPAZ				LR	LR	17 54 25.7	
LPAZ	**La Paz**	**64.60**	**83**	P	**P**	**17 32 29.5**	**-0.2**
0.6nm,0.7s,mb3.7,baz=188,slow=4.9,SNR=5.5							
LPAZ				LR	LR	17 54 25.7	
comp=Z,50nm,20.9s,MS3.7,baz=265,slow=30							
ASAR	**Alice Springs**	**70.67**	**256**	P	**P**	**17 33 07.0**	**-0.9**
0.8nm,0.7s,mb3.8,baz=128,slow=5.4,SNR=4.7							
NWAO	**Narrogin (SRO)**	**72.45**	**238**	LR	LR	17 57 11.3	
comp=Z,169nm,20.7s,MS4.3,baz=284,slow=29							
WRA	**Warramunga Arr**	**73.32**	**259**	P	**P**	**17 33 23.8**	**0.0**
1.2nm,0.8s,mb3.9,baz=147,slow=5.2,SNR=11							
BDFB	**Brasília**	**76.98**	**99**	LR	LR	18 03 07.9	
comp=Z,88nm,21.3s,MS4.0,baz=18,slow=32							
ROSC	**El Rosal**	**78.33**	**65**	LR	LR	18 01 24.0	
comp=Z,69nm,18.1s,MS4.0,baz=214,slow=30							
FITZ	**Fitzroy Crossi**	**79.77**	**253**	LR	LR	18 05 40.6	
comp=Z,178nm,18.3s,MS4.5,baz=194,slow=33							
BOSA	**Boshof**	**96.41**	**164**	LR	LR	18 16 51.3	
comp=Z,187nm,18.2s,MS4.6,baz=159,slow=34							
PDAR	**Pinedale Array**	**99.14**	**20**	LR	LR	18 10 36.9	
comp=Z,102nm,19.6s,MS4.3,baz=341,slow=30							
TORD	**Torodi Ar. Bea**	**128.00**	**125**	PKP	PKPdf	17 40 56.4	-1.9
0.6nm,0.8s,baz=217,slow=2.5,SNR=3.8							
SONM	**Songino Array**	**140.70**	**288**	PKhKP		17 41 17.3	
0.3nm,0.9s,baz=104,slow=4.6,SNR=4.5							
ESDC	**Sonseca Array**	**145.56**	**95**	PKPbc	PKPbc	17 41 27.9	-2.1
0.5nm,0.7s,baz=228,slow=2.8,SNR=3.9							
MKAR	**Makanchi Array**	**154.17**	**270**	PKPab	PKPab	17 42 06.4	+1.3
1.3nm,0.9s,baz=123,slow=4.5,SNR=7.6							
ZALV	**Zalesovo Beam**	**155.59**	**287**	PKPab	PKPab	17 42 12.2	+1.1
1.6nm,0.8s,baz=114,slow=3.7,SNR=6.8							

THE 22 17:29:15.0, 3830N×2088E, h8km, ML2.6, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.26**	**242**	*e*Pg	Pg	17 29 20.2	+0.1
VLS				*e*Sg	Sg	17 29 23.9	+0.4
LKD	**Levkas**	**0.45**	**337**	*e*Pg	Pg	17 29 23.3	-0.3
LKD				*e*Sg	Sg	17 29 30.2	+0.7
AGG	**Agios Georgios**	**1.35**	**57**	*e*Pg	Pg	17 29 47.2	+6.3
AGG				*e*Sg	Sg	17 29 56.6	-1.8
LKR	**Lokris**	**1.70**	**77**	*e*Pg	Pg	17 29 45.1	-2.6
LKR				*e*Sg	Sn	17 29 55.8	-11

*MOS **22** 17:34:39.5±0.8, 5453N×161.19W, h19km, mb5.1/103, MS4.1/20, Error ellipse: s-maj=9.5km s-min=4.0km az=89.6*
*BJI **22** 17:34:40.8, 5493N×16146W, h18km, mB5.1, mb5.0, Ms4.7, Msz4.5*
*ISCJB **22** 17:34:42.3±0.5, 5451N±004×161.15W±004, h39km±4km, mb4.8/203, MS4.2/37, Error ellipse: s-maj=6.1km s-min=3.5km az=173.3*
*NEIC **22** 17:34:44.3±0.2, 5453N×161.10W, mb4.8/125, MS4.2/5, ML5.1(PMR), ML4.4(AEIC), Error ellipse: s-maj=4.2km s-min=2.6km az=178.0*
*SZGRF **22** 17:34:44.9, 5496N×16158W, h46km, mb5.0, Alaska Peninsula, United States*
*IDC **22** 17:34:44.0±0.7, 5455N×161.16W, h39km±6km, mb4.5/24, mb1 4.5/26, mb1mx4.5/30, mbtmp4.4/26, ML3.9/2, MS4.0/18, Ms1 4.0/18, ms1mx3.8/40, Error ellipse: s-maj=17.2km s-min=10.3km az=176.0*

ISC 22 17:34:44.6±0.5, 5452N±004×16115W±004, h44km±3km, h40km±1.7km: pP-P, n511, σ0°82/509, mb4.8/203, MS4.2/37, 133C-14D, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDPT	**Sand Point**	**0.92**	**25**	P	**Pn**	**17 34 59.8**	**-1.2**
SDPT				S	**Sn**	**17 35 13.3**	**+0.3**
FALS	**False Pass**	**1.36**	**285**	P	**Pn**	**17 35 07.9**	**+1.0**
FALS				S	**Sn**	**17 35 27.1**	**+3.3**
CHGN	**Chignik**	**2.37**	**40**	P	**Pn**	**17 35 21.2**	**+0.4**
CHGN				S	**Sn**	**17 35 49.1**	**+0.5**
AKUT	**Akutan**	**2.73**	**264**	P	**Pn**	**17 35 27.1**	**+1.3**
AKUT				S	**Sn**	**17 36 00.2**	**+2.6**
AKLV	**Akutan Long Va**	**2.84**	**265**	P	**Pn**	**17 35 27.9**	**+0.6**
AKGG	**Akutan Green G**	**2.85**	**265**	P	**Pn**	**17 35 27.9**	**+0.5**
UNV	**Unalaska Valle**	**3.22**	**260**	P	**Pn**	**17 35 32.6**	**+0.2**
UNV				S	**Sn**	**17 36 14.8**	**+5.3**
KDAK	**Kodiak Island**	**5.79**	**52**	*e*Pn	**Pn**	**17 36 05.6**	**-2.2**
220nm,1.0s							
KDAK	**Kodiak Island**	**5.79**	**52**	Pn	**Pn**	**17 36 04.5**	**-3.3**
3.4nm,0.3s,baz=230,slow=8.2,SNR=17							
KDAK				Sn	**Sn**	**17 37 06.8**	**-6.1**
baz=280,slow=6.1,SNR=2.8							
SVW2	**Sparrevohn**	**7.23**	**22**	P	**Pn**	**17 36 27.7**	**+0.2**
SEW	**Seward**	**8.44**	**44**	P	**Pn**	**17 36 43.2**	**-0.9**
TT01	**Tatalina**	**8.82**	**15**	P	**Pn**	**17 36 49.0**	**-0.3**
TTA	**Tatalina**	**8.84**	**15**	*e*P	**Pn**	**17 36 50.1**	**+0.6**
PMR	**Palmer**	**9.52**	**37**	*e*P	**Pn**	**17 36 58.1**	**-0.7**
5.3nm,0.6s							
PMR	**Palmer**	**9.52**	**37**	*e*P	**Pn**	**17 36 58.1**	**-0.7**
PMR				pmax	pmax		
comp=Z,5.0nm,0.6s							
ADK	**Adak**	**9.69**	**261**	*e*Pn	**Pn**	**17 37 01.0**	**-0.2**
SML	**Sawmill**	**9.94**	**38**	*e*Pn	**Pn**	**17 37 02.8**	**-1.8**
MCK	**McKinley**	**11.14**	**29**	*e*Pn	**Pn**	**17 37 20.1**	**-0.8**
comp=Z,46nm,1.0s							
MCK	**McKinley**	**11.14**	**29**	*e*P	**Pn**	**17 37 20.2**	**-0.8**
MCK				pmax	pmax		
comp=Z,46nm,1.0s							
TNA	**Tin City**	**11.57**	**346**	*e*P	**Pn**	**17 37 27.8**	**+1.0**
comp=Z,28nm,0.7s							
IMA2	**Indian Mountai**	**12.15**	**15**	*e*P	**Pn**	**17 37 35.6**	**+0.9**
AMKA	**Amchitka**	**12.20**	**263**	*e*P	**Pn**	**17 37 34.2**	**-1.2**
COLA	**College**	**12.33**	**27**	*e*P	**Pn**	**17 37 33.9**	**-3.3**
comp=Z,18nm,0.9s							
COLA	**College**	**12.33**	**27**	*i*P	**Pn**	**17 37 38.6**	**+1.4**
EGAK	**Eagle**	**14.33**	**36**	*e*P	**Pn**	**17 38 01.0**	**-3.5**
comp=Z,22nm,0.9s							
DAWY	**Dawson**	**14.58**	**40**	*e*P	**Pn**	**17 38 05.9**	**-1.8**
DAWY				*e*		17 38 15.2	
SKAG	**Skagway**	**14.86**	**60**	*e*P	**Pn**	**17 38 10.6**	**-0.9**
comp=Z,27nm,0.6s							
WRAK	**Wrangell Islan**	**16.39**	**72**	*e*P	**Pn**	**17 38 34.5**	**+3.4**
comp=Z,26nm,0.9s							
DLBC	**Dease Lake**	**17.54**	**64**	*e*P	**Pn**	**17 38 46.1**	**+0.7**
DLBC	**Dease Lake**	**17.54**	**64**	P	**Pn**	**17 38 45.4**	**-0.1**
baz=262,slow=8.1							
INK	**Inuvik**	**18.87**	**32**	*e*P	**Pn**	**17 38 58.1**	**-3.4**
comp=Z,598nm,0.8s							
INK	**Inuvik**	**18.87**	**32**	P	**Pn**	**17 38 58.7**	**-2.9**
comp=Z,0.3nm,0.3s,baz=231,slow=14,SNR=36							
INK				LR	LR	17 47 07.9	
comp=Z,801nm,19.9s,baz=232,slow=40							
BBB	**Bella Bella**	**19.76**	**83**	LR	LR	17 45 47.5	
comp=Z,303nm,18.5s,baz=271,slow=34							
BILL	**Bilibino**	**20.35**	**324**	*e*P	**P**	**17 39 15.2**	**-1.6**
comp=Z,55nm,1.3s							
BILL	**Bilibino**	**20.35**	**324**	*e*P	**P**	**17 39 15.5**	**-1.3**
BILL				pmax	pmax		
comp=Z,23nm,1.2s							
BILL				MLR	MLR		
comp=Z,1μm,16.0s,MS4.3							
PET	**Petropavlovsk**	**23.58**	**283**	*e*P	**P**	**17 39 48.8**	**-2.2**
comp=Z,146nm,1.1s,mb5.3							
PET	**Petropavlovsk**	**23.58**	**283**	⇓*i*P	**P**	**17 39 50.8**	**-0.2**
PET				*e*S	**S**	**17 43 58.9**	**-2.8**
PET				pmax	pmax		
comp=Z,109nm,0.8s,mb5.3							
PET				pmax	pmax		
comp=Z,200nm,6.1s							
PET				MLR	MLR		
comp=Z,400nm,19.0s,MS3.9							
SEY	**Seymchan**	**25.02**	**308**	*e*P	**P**	**17 40 02.7**	**-1.3**
YKA	**Yellowknife Ar**	**25.07**	**53**	P	**P**	**17 40 04.0**	**-0.5**
YKA				PcP	PcP	17 43 37.0	-0.6
YKA				ScP	ScP	17 47 12.4	-0.4
YKA				LR	LR	17 49 50.7	
YKA	**Yellowknife Ar**	**25.07**	**53**	P	**P**	**17 40 04.0**	**-0.5**
YKA						17 43 37.0	
YKA				pmax	pmax		
comp=Z,2.0nm,0.7s							
YKA				pmax	pmax		
comp=Z,1.0nm,0.8s							
YKA				pmax	pmax		
comp=N,1.0nm,1.0s							
YKA				MLR	MLR		
comp=Z,95nm,19.3s							
YKA	**Yellowknife Ar**	**25.07**	**53**	P	**P**	**17 40 04.0**	**-0.5**
comp=Z,2.3nm,0.7s,mb3.8,baz=273,slow=9.7,SNR=51							
YK

YAK MLR MLR
comp=E,463nm,22.0s,MS4.3
NLU North Lily Min 35.59 94 *eP* **P 17 41 37.7 +0.1**
DAU Daniels Canyon 35.77 92 *eP* **P 17 41 40.6 +1.6**
TMUT Trail Mountain 36.52 94 *eP* **P 17 41 46.1 +0.6**
SRU San Rafael 37.04 93 *eP* **P 17 41 50.2 +0.2**
comp=E,18nm,0.9s,mb4.9
SRU San Rafael 37.04 93 *eP* **P 17 41 50.2 +0.2**
SRU pmax pmax
comp=Z,18nm,0.9s,mb4.9
ASAJ Asahikawa 37.17 278 P **P 17 41 50.6 -0.4**
ASAJ pmax pmax
comp=Z,21nm,1.1s
ASAJ MLR MLR
comp=Z,181nm,20.3s
ASAJ Asahikawa 37.17 278 P **P 17 41 50.5 -0.4**
comp=Z,21nm,1.1s,mb4.9,baz=24,slow=5.6,SNR=9.4
ASAJ LR LR 17 55 23.2
comp=Z,181nm,20.3s,MS3.9,baz=359,slow=33
ULM Lac du Bonnet 38.79 69 *eP* **P 17 42 03.3 -1.3**
comp=Z,9.9nm,1.1s,mb4.5
ULM Lac du Bonnet 38.79 69 P **P 17 42 04.2 -0.3**
comp=Z,6.3nm,0.9s,mb4.3,baz=299,slow=9.9,SNR=13
ULM LR LR 17 58 06.2
comp=Z,165nm,21.9s,MS3.8,baz=260,slow=36
HABR Khabarovsk 38.95 288⇑ *iP* **P 17 42 04.2 -1.7**
HABR 17 43 34.5
HABR *e* 17 44 13.2
HABR *eS* **S 17 47 59.4 -1.7**
HABR *eSSS* 17 51 16.0
HABR *e* 17 52 08.2
HABR pmax pmax
comp=Z,74nm,1.1s,mb5.3
WUAZ Wupatki 39.01 98 *eP* **P 17 42 06.7 +0.1**
comp=Z,2.8nm,0.7s,mb4.1
SMCO Snowmass 39.07 90 *eP* **P 17 42 06.3 -0.7**
comp=Z,7.9nm,1.0s,mb4.4
MVCO Mesa Verde 39.50 94 *eP* **P 17 42 10.1 -0.6**
comp=Z,15nm,0.9s,mb4.7
AGMN Agassiz Refuge 39.87 71 *eP* **P 17 42 12.4 -1.2**
comp=Z,9.3nm,0.8s,mb4.6
CLNS Chul'man 39.89 305 *eP* **P 17 42 12.2 -1.4**
CLNS pmax pmax
comp=Z,21nm,0.9s,mb4.9
CLNS pmax pmax
comp=N,11nm,0.8s
CLNS pmax pmax
comp=E,15nm,0.8s
KLR Kul'dur 40.34 291 *eP* **P 17 42 12.7 -4.7**
SDCO Great Sand Dun 40.88 91 *eP* **P 17 42 22.1 0.0**
comp=E,9.4nm,1.0s,mb4.4
LAZ Ladron 42.25 96 P **P 17 42 34.6 +1.3**
LAZ *e* pP 17 42 44.9 -0.4
ANMO Albuquerque 42.26 95 *eP* **P 17 42 33.6 +0.2**
EYMN Ely 42.46 69 *eP* **P 17 42 34.0 -0.9**
comp=E,17nm,0.8s,mb4.7
BNM Barren Site 42.73 96 *eP* **P 17 42 37.4 +0.2**
VLA Vladivostok 43.91 284 *c iP* **P 17 42 46.4 -0.2**
VLA pmax pmax
comp=Z,32nm,1.3s,mb4.9
MDJ Mudanjiang 44.26 287 P **P 17 42 48.0 -1.4**
MDJ AMB AMB
comp=Z,9.0nm,0.9s,mb4.5
MDJ LR LR
comp=N,46nm,21.9s,MS3.9
MDJ LR LR
comp=E,128nm,18.8s,MS3.9
MDJ LR LR
comp=Z,176nm,17.6s,MS4.0
BOD Bodaibo 44.41 310 *eP* **P 17 42 48.6 -1.8**
BOD pmax pmax
comp=Z,8.0nm,1.1s,mb4.4
MAJO Matsushiro 44.62 272 *eP* **P 17 42 52.0 -0.4**
comp=Z,25nm,0.8s,mb5.1
MAJO Matsushiro 44.62 272 *eP* **P 17 42 52.0 -0.3**
MAJO pmax pmax
comp=Z,25nm,0.8s,mb5.1
MAT Matsushiro 44.62 272 P **P 17 42 52.0 -0.3**
MAT *eS* **S 17 49 29.6 +4.5**
MJAR Matsushiro Arr 44.62 272 P **P 17 42 52.1 -0.2**
MJAR pmax pmax
comp=Z,9.0nm,0.9s
MJAR Matsushiro Arr 44.62 272 P **P 17 42 52.1 -0.2**
comp=Z,8.8nm,0.9s,mb4.6,baz=39,slow=6.7,SNR=18
MNTX Cornudas Mount 45.22 97 *eP* **P 17 42 57.0 -0.2**
comp=Z,16nm,1.0s,mb4.8
MNTX *e* pP 17 43 08.8 -0.4
DAG Danmarks Havn 46.83 11⇑ *iP* **P 17 43 09.1 -0.2**
DAG pmax pmax
comp=Z,6.0nm,0.7s,mb4.6
DAG Danmarks Havn 46.83 11⇑ *iP* **P 17 43 09.1 -0.2**
comp=Z,5.5nm,0.7s,mb4.6
WMOK Wichita Mounta 46.88 88 *eP* **P 17 43 09.3 -0.9**
comp=Z,8.4nm,0.9s,mb4.7
WMOK Wichita Mounta 46.88 88 *eP* **P 17 43 09.3 -0.9**
WMOK pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
CN2 Changchun 47.08 289 *eP* **P 17 43 11.0 -0.7**
CN2 *eAP* pP 17 43 23.5 -0.3
CN2 *eS* **S 17 49 58.0 -2.4**
CN2 AMB AMB
comp=Z,40nm,0.9s,mb5.3
CN2 AMB AMB
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,200nm,19.0s,MS4.4
CN2 LR LR
comp=E,300nm,19.0s,MS4.4
CN2 LR LR
comp=Z,200nm,19.0s,MS4.1
SPB4 Spitsbergen Ar 47.55 1 *eP* **P 17 43 15.4 +0.5**
TXAR Lajitas Array 47.96 98 P **P 17 43 18.5 -0.2**
TXAR pP pP 17 43 29.1 -1.8
TXAR LR LR 18 02 51.8
TXAR Lajitas Array 47.96 98 P **P 17 43 18.5 -0.2**
TXAR *PP pP 17 43 29.1 -1.7
TXAR pmax pmax
comp=Z,2.0nm,0.6s
TXAR pmax pmax
comp=Z,10.0nm,0.7s
TXAR MLR MLR
comp=Z,170nm,21.2s
TXAR Lajitas Array 47.96 98 P **P 17 43 18.5 -0.2**
comp=Z,1.6nm,0.6s,mb4.2,baz=304,slow=5.8,SNR=24
TXAR pP pP 17 43 29.1 -1.8
comp=Z,10.0nm,0.7s,baz=310,slow=5.6,SNR=31
TXAR LR LR 18 02 51.8
comp=Z,170nm,21.1s,MS4.0,baz=5.0,slow=35
SFJD Kangerlussuaq 48.18 30 *eP* **P 17 43 19.9 0.0**
comp=Z,27nm,1.1s,mb5.2
SFJD Kangerlussuaq 48.18 30 *eP* **P 17 43 19.9 0.0**
SFJD pmax pmax
comp=Z,27nm,1.1s,mb5.2
HDIL Hopedale 48.35 76 *eP* **P 17 43 19.9 -1.7**
comp=Z,31nm,0.9s,mb5.3
CBIJ Chichi jima 49.18 260 LR LR 18 00 35.5
comp=Z,169nm,21.3s,MS4.0,baz=87,slow=32
JCT Junction City 49.35 93 P **P 17 43 28.6 -0.8**
comp=Z,27nm,1.0s,mb5.2
JCT Junction City 49.35 93 P **P 17 43 28.6 -0.8**
JCT pmax pmax
comp=Z,27nm,1.0s,mb5.2
KSRS Korea Array 49.94 281 P **P 17 43 34.3 +0.6**
KSRS pmax pmax
comp=Z,16nm,1.0s,mb5.0
KSRS MLR MLR
comp=Z,59nm,19.7s,MS3.6
KSRS Korea Array 49.94 281 P **P 17 43 34.2 +0.5**
comp=Z,16nm,1.0s,mb5.0,baz=53,slow=6.9,SNR=31
KSRS LR LR 18 03 51.1
comp=Z,59nm,19.7s,MS3.6,baz=55,slow=35
MIAR Mount Ida 50.05 85 P **P 17 43 33.0 -1.6**
comp=Z,14nm,1.1s,mb4.9
MIAR Mount Ida 50.05 85 P **P 17 43 33.0 -1.6**
MIAR pmax pmax
comp=Z,14nm,1.1s,mb4.9
SCHQ Schefferville 50.41 48 P **P 17 43 37.0 0.0**
comp=Z,1.9nm,0.6s,mb4.3,baz=342,slow=6.8,SNR=8.5
SCHQ LR LR 18 05 54.1
comp=Z,205nm,18.8s,MS4.2,baz=71,slow=37
USIN University of 51.04 77 *eP* **P 17 43 40.3 -1.8**
comp=Z,29nm,0.7s,mb5.3
JNU Nakatsue 51.29 275 P **P 17 43 43.7 -0.3**
comp=Z,11nm,1.0s,mb4.8,baz=75,slow=10,SNR=3.9
JNU LR LR 18 04 55.7
comp=Z,140nm,19.8s,MS4.0,baz=66,slow=35

WVT Waverly 52.24 79 *eP* **P 17 43 49.3 -1.7**
comp=Z,33nm,1.0s,mb5.2
WVT *e* pP 17 43 58.2 -5.0
WVT Waverly 52.24 79 *eP* **P 17 43 49.3 -1.7**
WVT *e* pP 17 43 58.2 -5.1
WVT pmax pmax
comp=Z,33nm,1.0s,mb5.2
IRK Irkutsk 52.26 309 *eP* **P 17 43 50.1 -0.8**
IRK pmax pmax
comp=Z,21nm,1.0s,mb5.0
TLY Talaya 52.92 309 *eP* **P 17 43 55.9 +0.1**
comp=Z,12nm,0.9s,mb4.8
TLY Talaya 52.92 309 *eP* **P 17 43 56.2 +0.3**
TLY pmax pmax
comp=Z,16nm,1.0s,mb4.9
TLY MLR MLR
comp=Z,156nm,18.0s,MS4.1
ULN Ulaanbaatar 53.96 304 *eP* **P 17 44 03.4 -0.1**
comp=Z,11nm,1.1s,mb4.7
ULN Ulaanbaatar 53.96 304 *eP* **P 17 44 03.4 -0.1**
ULN pmax pmax
comp=Z,11nm,1.1s,mb4.7
ZAK Zakamensk 53.99 308⇑ *iP* **P 17 44 03.6 -0.1**
ZAK *e* 17 45 08.3
ZAK pmax pmax
comp=Z,3.0nm,1.1s,mb4.1
ZAK pmax pmax
comp=Z,3.0nm,1.1s,mb4.1
MOY Mondy 54.12 310 *eP* **P 17 44 05.4 +0.8**
MOY pmax pmax
comp=Z,16nm,1.4s,mb4.8
NCB Newcomb 54.22 63 *eP* **P 17 44 04.3 -1.1**
comp=Z,21nm,1.2s,mb5.0
SONM Songino Array 54.30 304 P **P 17 44 06.3 +0.3**
SONM 17 45 09.9
SONM pmax pmax
comp=Z,8.0nm,0.8s
SONM pmax pmax
comp=Z,6.0nm,0.8s
SONM MLR MLR
comp=Z,379nm,18.1s
SONM Songino Array 54.30 304 P **P 17 44 06.3 +0.3**
comp=Z,7.8nm,0.8s,mb4.7,baz=46,slow=6.9,SNR=61
SONM PcP PcP 17 45 09.9 +0.4
comp=Z,6.0nm,0.8s,baz=49,slow=2.2,SNR=8.5
SONM LR LR 18 09 44.9
comp=Z,379nm,18.1s,MS4.5,baz=44,slow=39
SSPA Standing Stone 54.61 68 *eP* **P 17 44 06.7 -1.7**
comp=Z,18nm,1.1s,mb5.0
LRAL Lakeview Retre 54.93 81 P **P 17 44 08.7 -2.1**
comp=Z,13nm,1.3s,mb4.8
KEV Kevo 55.89 357 *ep* **P 17 44 16.3 -0.8**
comp=Z,10nm,0.6s,mb5.0
KEV Kevo 55.89 357 *eP* **P 17 44 16.3 -0.8**
KEV pmax pmax
comp=Z,10.0nm,0.6s,mb5.0
ARCES ARCESS Array B 56.16 357 P **P 17 44 18.3 -0.7**
ARCES pmax pmax
comp=Z,5.0nm,0.8s
ARCES MLR MLR
comp=Z,80nm,18.4s
ARCES ARCESS Array B 56.16 357 P **P 17 44 18.3 -0.7**
comp=Z,5.0nm,0.8s,mb4.6,baz=353,slow=6.4,SNR=26
ARCES LR LR 18 12 40.1
comp=Z,80nm,18.4s,MS3.9,baz=184,slow=41
HHC Hu-ho-hao-te 56.61 295 *eP* **P 17 44 23.5 +0.8**
HHC AP pP 17 44 36.3 +1.2
HHC PP PP 17 46 31.6 +3.0
HHC SCP ScP 17 49 14.6 +0.4
HHC PCS PcS 17 49 20.5 +1.2
HHC S **S 17 52 11.3 0.0**
HHC SCS ScS 17 54 09.4 +1.5
HHC SS SS 17 55 56.6 -2.1
HHC AMB AMB
comp=Z,26nm,0.5s,mb5.5
HHC AMB AMB
comp=Z,92nm,3.8s
HHC LR LR
comp=N,153nm,15.5s,MS4.4
HHC LR LR
comp=E,163nm,12.0s,MS4.4
HHC LR LR
comp=Z,215nm,14.3s,MS4.4
BTO Baotou 57.60 296 *eP* **P 17 44 28.1 -1.6**
NVS Novosibirsk 58.87 322 *eP* **P 17 44 36.1 -2.2**
NVS pmax pmax
comp=Z,16nm,1.1s,mb5.0
NVS pmax pmax
comp=N,8.0nm,1.3s
NVS pmax pmax
comp=E,14nm,1.2s
NJ2 Nanjing 59.00 283 *eP* **P 17 44 40.4 +0.9**
NJ2 AMB AMB
comp=Z,30nm,0.8s,mb5.4
ZAA0 Zalesovo Array 59.00 321 *eP* **P 17 44 39.1 -0.1**
ZALV Zalesovo Beam 59.00 321 P **P 17 44 39.2 0.0**
comp=Z,6.3nm,0.6s,mb4.8,baz=33,slow=5.9,SNR=32
ZALV LR LR 18 12 34.8
comp=Z,394nm,18.5s,MS4.6,baz=31,slow=38
ZAL Zalesovo 59.02 321 P **P 17 44 39.3 -0.1**
ZAL pmax pmax
comp=Z,6.0nm,0.6s
ZAL MLR MLR
comp=Z,394nm,18.5s
TMCR Tamitsa 60.72 350 *eP* **P 17 44 49.6 -1.3**
TMCR pmax pmax
comp=Z,60nm,1.1s,mb5.6
JOF Joensuu 62.49 354 *ep* **P 17 45 02.0 -0.8**
comp=Z,7.3nm,0.6s,mb5.0
GTA Gaotai 63.72 301 *eP* **P 17 45 11.0 -0.3**
GTA AP pP 17 45 24.3 +0.4
GTA PP PP 17 47 33.3 +2.0
GTA S **S 17 53 41.0 -1.4**
GTA AMB AMB
comp=Z,19nm,1.3s,mb5.0
GTA AMB AMB
comp=Z,141nm,7.6s
GTA LR LR
comp=N,197nm,21.7s,MS4.4
GTA LR LR
comp=E,165nm,20.5s,MS4.4
GTA LR LR
comp=Z,264nm,20.9s,MS4.4
KURK Kurchatov 63.86 322 *eP* **P 17 45 11.8 -0.3**
comp=Z,34nm,1.1s,mb5.3
KURK Kurchatov 63.86 322 *eP* **P 17 45 11.8 -0.3**
KURK pmax pmax
comp=Z,34nm,1.1s,mb5.3
LZH Lanzhou 64.20 296⇑ *iP* **P 17 45 14.5 0.0**
LZH AP pP 17 45 27.3 +0.2
LZH PP PP 17 47 37.5 +1.8
LZH *eS* **S 17 53 46.0 -2.5**
LZH AMB AMB
comp=Z,32nm,1.3s,mb5.2
LZH AMB AMB
comp=Z,97nm,7.2s
LZH LR LR
comp=N,598nm,15.3s
LZH LR LR
comp=Z,799nm,18.7s,MS4.9
FIA1 FINESS Array S 64.24 356 *eP* **P 17 45 13.1 -1.3**
FINES FINESS Array B 64.24 356 *i P* **P 17 45 13.6 -0.8**
FINES pmax pmax
comp=Z,15nm,0.8s
FINES FINESS Array B 64.24 356 P **P 17 45 13.7 -0.7**
comp=Z,15nm,0.8s,mb5.1,baz=23,slow=7.2,SNR=55
FINES LR LR 18 11 11.8
comp=Z,72nm,20.5s,MS3.9,baz=263,slow=34
NB2 NORSAR Subarra 64.62 4 P **P 17 45 16.8 -0.1**
comp=Z,32nm,0.9s,mb5.3,baz=356,slow=6.5
NOA NORSAR Array B 64.62 4 P **P 17 45 16.8 -0.1**
NOA pmax pmax
comp=Z,24nm,0.9s
NOA NORSAR Array B 64.62 4 P **P 17 45 16.8 -0.2**
comp=Z,24nm,0.9s,mb5.2,baz=355,slow=6.6,SNR=57
BVAR Borovoye Array 64.63 328 P **P 17 45 17.2 +0.1**
BVAR pmax pmax
comp=Z,18nm,0.7s
BVAR MLR MLR
comp=Z,187nm,20.9s
BVAR Borovoye Array 64.63 328 P **P 17 45 17.2 +0.1**
comp=Z,18nm,0.7s,mb5.2,baz=43,slow=6.5,SNR=124
BVAR LR LR 18 16 25.2
comp=Z,187nm,20.9s,MS4.3,baz=35,slow=39
BRVK Borovoye 64.63 329 *eP* **P 17 45 16.8 -0.3**
comp=Z,26nm,0.9s,mb5.2

BRVK Borovoye 64.63 329 *eP* **P 17 45 16.8 -0.3**
BRVK pmax pmax
comp=Z,26nm,0.9s,mb5.3
ARU Arti 64.76 337 *eP* **P 17 45 16.8 -1.1**
comp=Z,21nm,1.0s,mb5.1
ARU Arti 64.76 337 *c iP* **P 17 45 17.3 -0.6**
ARU *eS* **S 17 53 52.9 -1.9**
ARU pmax pmax
comp=Z,31nm,1.2s,mb5.2
ZRNK Zerenda 65.11 329 *i P* **P 17 45 19.6 -0.6**
ZRNK pmax pmax
comp=Z,34nm,1.0s,mb5.3
TAOE Nuku Hiva Isla 65.57 157 *eT* 18 56 29.0
comp=Z,1μm,0.3s
MK31 Makanchi Array 65.72 318 *eP* **P 17 45 23.5 -0.7**
MK31 Makanchi Array 65.72 318 *i P* **P 17 45 23.2 -1.0**
MK31 pmax pmax
comp=Z,18nm,1.0s,mb5.1
MKAR Makanchi Array 65.72 318 P **P 17 45 23.6 -0.6**
MKAR pmax pmax
comp=Z,6.0nm,0.7s
MKAR MLR MLR
comp=Z,235nm,20.1s
MKAR Makanchi Array 65.72 318 P **P 17 45 23.6 -0.7**
comp=Z,6.0nm,0.7s,mb4.7,baz=45,slow=6.2,SNR=47
MKAR LR LR 18 15 56.0
comp=Z,235nm,20.1s,MS4.4,baz=3.2,slow=38
WMQ Urumqi 65.90 312 P **P 17 45 26.3 +0.8**
WMQ AP pP 17 45 39.0 +0.9
WMQ PCP PcP 17 45 57.0 +0.9
WMQ *eS* S 17 54 08.0 -1.2
WMQ AMB AMB
comp=Z,21nm,1.1s,mb5.1
WMQ AMB AMB
comp=Z,121nm,3.7s
WMQ LR LR
comp=N,272nm,23.7s,MS4.5
WMQ LR LR
comp=E,250nm,25.8s,MS4.5
WMQ LR LR
comp=Z,344nm,20.3s
KONO Kongsberg 65.94 5 *eP* **P 17 45 25.7 +0.3**
comp=Z,63nm,1.5s,mb5.4
KONO Kongsberg 65.94 5 *eP* **P 17 45 25.7 +0.3**
KONO pmax pmax
comp=Z,63nm,1.5s,mb5.4
VSU Vasula 67.19 356 *eP* **P 17 45 33.1 -0.3**
CD2 Chengdu 68.23 293⇑ *iP* **P 17 45 40.3 -0.2**
CD2 AP pP 17 45 53.3 +0.1
CD2 PP PP 17 48 12.6 +1.6
CD2 S S 17 54 35.8 -1.8
CD2 AMB AMB
comp=Z,40nm,0.6s,mb5.6
CD2 AMB AMB
comp=Z,120nm,5.2s
CD2 LR LR
comp=N,150nm,12.4s,MS4.6
CD2 LR LR
comp=E,210nm,14.4s,MS4.6
CD2 LR LR
comp=Z,160nm,16.2s,MS4.3
MOS Moscow 69.03 349 *eP* **P 17 45 43.8 -1.2**
ESK Eskdalemuir 69.03 13 *eP* **P 17 45 44.5 -0.6**
comp=Z,10nm,0.8s,mb4.8
ESK Eskdalemuir 69.03 13 *eP* **P 17 45 44.5 -0.6**
ESK pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
OBN Obninsk 69.76 349 *eP* **P 17 45 48.8 -0.7**
OBN *i* pP 17 46 00.1 -2.2
OBN pmax pmax
comp=Z,54nm,1.5s,mb5.3
OBN MLR MLR
comp=Z,100nm,18.0s,MS4.1
GYA Guiyang 70.12 288 P **P 17 45 51.9 -0.3**
GYA AP pP 17 46 05.8 +0.9
GYA PCP PcP 17 46 15.3 +1.3
GYA PP PP 17 48 30.0 +2.7
GYA S S 17 54 58.8 -1.1
GYA XS sS 17 55 18.9 -2.3
GYA SKS 17 55 46.3
GYA SCS ScS 17 55 48.3 -2.7
GYA SS SS 17 59 30.3 +0.7
GYA AMB AMB
comp=Z,20nm,1.0s,mb5.0
GYA AMB AMB
comp=Z,90nm,6.4s
GYA LR LR
comp=N,460nm,20.9s,MS4.8
GYA LR LR
comp=E,450nm,21.8s,MS4.8
GYA LR LR
comp=Z,480nm,19.8s,MS4.8
PMOR Pomariorio Rede 70.16 166 *eT* 19 02 14.2
comp=Z,122nm,0.2s
AKTK Aktyubinsk 70.39 335 P **P 17 45 53.5 0.0**
AKTO Aktyubinsk 70.39 335 P **P 17 45 53.5 0.0**
AKTO pmax pmax
comp=Z,17nm,0.9s,mb5.0
AKTO Aktyubinsk 70.39 335 P **P 17 45 53.5 0.0**
comp=Z,17nm,0.9s,mb5.0,baz=19,slow=5.8,SNR=45
VAH Vaihoa 70.43 166 *eT* 19 02 34.4
comp=Z,24nm,0.4s
TKM2 Tokmak 2 71.55 320 *eP* **P 17 46 01.1 +0.5**
comp=Z,36nm,1.1s,mb5.2
TKM2 Tokmak 2 71.55 320 *eP* **P 17 46 01.1 +0.4**
TKM2 pmax pmax
comp=Z,36nm,1.1s,mb5.2
TKM2 Tokmak 2 71.55 320 P **P 17 46 01.5 +0.9**
SNR=25
USP Ospenovka 71.66 321 P **P 17 46 02.1 +0.8**
SNR=24
BSEG Bad Segeberg 71.68 5 *eP* **P 17 46 01.7 +0.5**
comp=Z,15nm,0.9s,mb4.9
SUW Suwalki 71.77 357 *eP* **P 17 46 01.1 -0.7**
CHMS Chumysh 71.80 320 P **P 17 46 03.0 +0.9**
SNR=20
FRU Bishkek 71.99 320 *i P* **P 17 46 04.0 +0.7**
FRU *e* 17 46 25.0
FRU pmax pmax
comp=Z,120nm,1.2s,mb5.7
KBK Karagaybulak 72.02 320 P **P 17 46 04.5 +1.0**
SNR=35
AAK Ala-Archa 72.21 320 *eP* **P 17 46 04.2 -0.4**
comp=Z,34nm,1.0s,mb5.2
AAK Ala-Archa 72.21 320 *eP* **P 17 46 04.2 -0.4**
AAK pmax pmax
comp=Z,34nm,1.0s,mb5.2
AAK Ala-Archa 72.21 320 P **P 17 46 05.6 +1.0**
SNR=25
KZA Kyzart 72.41 319 P **P 17 46 07.1 +1.3**
SNR=20
EKS2 Erkin-Say 72.45 321 *eP* **P 17 46 06.7 +0.7**
comp=Z,30nm,1.0s,mb5.2
EKS2 Erkin-Say 72.45 321 P **P 17 46 07.0 +1.0**
SNR=26
PPT Papeete 72.48 168 *eLR* LR 18 08 15.3
comp=Z,187nm,24.8s,baz=354
PPT Papeete 72.48 168 *eT* 19 05 08.0
comp=Z,7.9nm,0.3s
PPT Papeete 72.48 168 LR LR 18 12 52.0
comp=Z,206nm,18.7s,MS4.4,baz=82,slow=32
UCH Uchtor 72.55 320 *eP* **P 17 46 07.8 +1.1**
comp=Z,7.6nm,0.9s,mb4.6
UCH Uchtor 72.55 320 P **P 17 46 07.8 +1.2**
SNR=9.7
TVO Taravao 72.73 168 *eT* 19 05 26.6
comp=Z,13nm,0.3s
AML Almayashu 72.94 320 *eP* **P 17 46 10.0 +1.0**
comp=Z,19nm,0.5s,mb5.3
AML Almayashu 72.94 320 P **P 17 46 10.5 +1.5**
SNR=20
NRDL Niedersach Rie 73.11 6 *eP* **P 17 46 10.0 +0.3**
comp=Z,15nm,1.0s,mb4.9
IBBN Ibbenburen 73.14 7 *eP* **P 17 46 10.3 +0.3**
comp=Z,25nm,1.3s,mb5.0
KK31 Karatay Array 73.24 323 *i P* **P 17 46 10.7 0.0**
KK31 pmax pmax
comp=Z,23nm,0.8s,mb5.2
VRSR Storozhevoye 73.27 347 *eP* **P 17 46 10.1 -0.6**
VRSR pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
VRSR pmax pmax
comp=N,8.0nm,0.9s
VRSR pmax pmax
comp=E,3.0nm,1.0s
RUE Ruedersdorf 73.28 3 *eP* **P 17 46 11.1 +0.3**

comp=Z,45nm,1.3s,mb5.2
KMI Kunming 73.33 290 P P 17 46 11.4 -0.1
KMI AP pP 17 46 20.6 -3.7
KMI XP sP 17 46 24.3 -5.0
KMI PP PP 17 48 58.3 +3.4
KMI AMB AMB
comp=Z,7.0nm,1.0s,mb4.5
KMI AMB AMB
comp=Z,101nm,3.5s
KMI LR LR
comp=N,185nm,18.8s,MS4.5
KMI LR LR
comp=E,150nm,19.7s,MS4.5
KMI LR LR
comp=Z,137nm,29.1s
WTSB Winterswijk 73.41 8 eP P 17 46 11.1 -0.5
comp=Z,21nm,0.9s,mb5.1
CLL Collm 74.43 4⇑iP P 17 46 17.1 -0.4
comp=Z,16nm,1.1s,mb4.9
CLL ipP pP 17 46 30.4 +0.1
CLL Collm 74.43 4⇑iP P 17 46 17.1 -0.4
CLL i*PP pP 17 46 30.4 +0.1
CLL pmax pmax
comp=Z,16nm,1.1s,mb4.9
CLL Collm 74.43 4 eP P 17 46 17.3 -0.2
comp=Z,16nm,1.1s,mb4.9
CLL epP pP 17 46 30.5 +0.2
CLL Collm 74.43 4⇑iP P 17 46 17.1 -0.4
comp=Z,16nm,1.1s,mb4.9
CLL ipP pP 17 46 30.4 +0.1
CLL e(sP) sP 17 46 38.0 +2.7
HGN Heimansgroeve 74.53 8 eP P 17 46 17.6 -0.5
comp=Z,12nm,1.8s,mb4.5
SNF Seneffe 74.63 10 P P 17 46 18.6 -0.1
comp=Z,8.2nm,1.6s,mb4.4
MEM Membach 74.69 8 P P 17 46 19.1 +0.1
comp=Z,9.0nm,1.3s,mb4.5
AKASG Malin Array Be 74.79 353 P P 17 46 18.9 -0.7
AKASG pmax pmax
comp=Z,30nm,0.7s
AKASG MLR MLR
comp=Z,127nm,19.0s
AKASG Malin Array Be 74.79 353 P P 17 46 18.9 -0.8
comp=Z,30nm,0.7s,mb5.3,baz=8.7,slow=5.7,SNR=36
AKASG LR LR 18 25 22.6
comp=Z,127nm,19.0s,MS4.2,baz=350,slow=41
AKBB Malin Array Si 74.79 353 eP P 17 46 18.8 -0.8
KIEV Kiev 74.80 353 eP P 17 46 18.7 -0.9
comp=Z,36nm,0.8s,mb5.3
KIEV Kiev 74.80 353 eP P 17 46 18.7 -1.0
KIEV pmax pmax
comp=Z,36nm,0.8s,mb5.3
BCLA Clavier 74.81 9 P P 17 46 20.0 +0.2
FBE Freiberg 74.83 4 eP P 17 46 20.1 +0.3
comp=Z,25nm,1.1s,mb5.1
FBE epP pP 17 46 33.0 +0.3
BRG Berggiesshubel 74.90 3 iP P 17 46 20.2 0.0
BRG pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
BRG Berggiesshubel 74.90 3 eP P 17 46 20.3 +0.1
comp=Z,12nm,1.0s,mb4.8
BRG epP pP 17 46 33.3 +0.2
BRG Berggiesshubel 74.90 3 iP P 17 46 20.2 -0.1
comp=Z,12nm,1.1s,mb4.8
MOX Moxa 75.03 5 eP P 17 46 21.2 +0.2
comp=Z,22nm,1.1s,mb5.0
MOX Moxa 75.03 5 eP P 17 46 21.2 +0.2
MOX pmax pmax
comp=Z,22nm,1.1s,mb5.0
BAIF Baives 75.07 10⇑iP P 17 46 21.4 +0.2
comp=Z,8.6nm,0.7s,mb4.5
BAIF Baives 75.07 10⇑iP P 17 46 21.4 +0.2
comp=Z,4.3nm,0.7s,mb4.5
BAIF Baives 75.07 10⇑iP P 17 46 21.4 +0.2
BAIF pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
DOU Dourbes 75.07 9 P P 17 46 21.5 +0.2
GIVF Givet 75.08 9⇑iP P 17 46 21.5 +0.2
WERD Werda 75.26 4 eP P 17 46 22.1 -0.2
comp=Z,6.0nm,1.1s,mb4.4
PVCC Panska Ves 75.26 3⇑iP P 17 46 22.8 +0.5
TANN Tannenbergstha 75.30 4 eP P 17 46 23.1 +0.5
comp=Z,14nm,1.7s,mb4.6
UPC Upice 75.31 2⇑eP P 17 46 22.7 0.0
UPC ex x 17 46 27.7
GUNZ Gunzen 75.34 4 eP P 17 46 23.3 +0.5
comp=Z,19nm,1.7s,mb4.8
WERN Wernitzgruen 75.42 4 eP P 17 46 23.8 +0.5
comp=Z,11nm,1.2s,mb4.7
DPC Dobruska-Polom 75.48 2⇑iP P 17 46 24.1 +0.5
NKC Novy Kostel 75.48 4⇑iP P 17 46 24.1 +0.5
OJC Ojcow 75.63 359 eP P 17 46 24.5 +0.1
WLF Walferdange 75.64 8 P P 17 46 25.1 +0.5
comp=Z,6.0nm,1.1s,mb4.4
WLF Walferdange 75.64 8 eP P 17 46 25.2 +0.7
comp=Z,16nm,1.2s,mb4.8
LSA Lhasa 75.74 301 P P 17 46 27.1 +1.6
LSA AMB AMB
comp=Z,40nm,1.0s,mb5.3
LSA Lhasa 75.74 301 eP P 17 46 26.7 +1.2
comp=Z,23nm,0.8s,mb5.2
LSA Lhasa 75.74 301 eP P 17 46 26.7 +1.2
LSA pmax pmax
comp=Z,23nm,0.8s,mb5.2
PRU Pruhonice 75.80 3⇑iP P 17 46 25.7 +0.3
FLN La Foliniere 75.81 13⇑iP P 17 46 25.3 -0.2
comp=Z,23nm,1.0s,mb4.8
FLN eMLR MLR
comp=Z,93nm,19.0s,MS3.8
FLN La Foliniere 75.81 13⇑iP P 17 46 25.3 -0.2
comp=Z,12nm,1.0s,mb4.8
FLN LR LR
comp=Z,90nm,19.0s,MS4.1
FLN La Foliniere 75.81 13⇑iP P 17 46 25.3 -0.2
FLN pmax pmax
comp=Z,12nm,1.0s,mb4.8
FLN MLR MLR
comp=Z,90nm,19.0s,MS4.1
ROSF Rostrenen 75.83 15⇑iP P 17 46 26.0 +0.4
comp=Z,20nm,1.0s,mb4.7
ROSF Rostrenen 75.83 15⇑iP P 17 46 26.0 +0.4
comp=Z,10nm,1.0s,mb4.7
ROSF Rostrenen 75.83 15⇑iP P 17 46 26.0 +0.4
ROSF pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
LVV L'vov 75.94 357 eP P 17 46 25.8 -0.4
GRA1 Grafenberg Arr 75.96 5 eP P 17 46 27.0 +0.6
comp=Z,12nm,0.9s,mb4.8
GRF Grafenberg Arr 75.96 5 eP P 17 46 27.0 +0.6
GRF pmax pmax
comp=Z,12nm,0.9s,mb4.8
GRF Grafenberg Arr 75.96 5 eP P 17 46 27.0 +0.6
GRF pmax pmax
comp=Z,12nm,0.9s,mb4.8
GRF Grafenberg Arr 75.96 5 eP P 17 46 27.0 +0.6
comp=Z,12nm,0.9s,mb4.8
GRFO Grafenberg 75.96 5 eP P 17 46 26.6 +0.2
comp=Z,8.0nm,0.8s,mb4.7
GRFO Grafenberg 75.96 5 eP P 17 46 26.6 +0.2
GRFO pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
OKC Ostrava-Krasne 76.01 0⇑eP P 17 46 27.2 +0.6
SGMF Saint Gilles 76.02 15⇑iP P 17 46 26.8 +0.1
comp=Z,36nm,1.1s,mb4.9
SGMF Saint Gilles 76.02 15⇑iP P 17 46 26.8 +0.1
comp=Z,18nm,1.1s,mb4.9
SGMF Saint Gilles 76.02 15⇑iP P 17 46 26.8 +0.1
SGMF pmax pmax
comp=Z,18nm,1.1s,mb4.9
LDF La Druitiere 76.02 13⇑iP P 17 46 26.4 -0.3
comp=Z,29nm,1.2s,mb4.8
LDF La Druitiere 76.02 13⇑iP P 17 46 26.4 -0.3
comp=Z,14nm,1.2s,mb4.8
LDF La Druitiere 76.02 13⇑iP P 17 46 26.4 -0.3
LDF pmax pmax
comp=Z,14nm,1.2s,mb4.8
MORC Moravsky Berou 76.07 1 eP P 17 46 26.8 -0.2
comp=Z,11nm,1.0s,mb4.7
MORC Moravsky Berou 76.07 1 eP P 17 46 26.8 -0.2
MORC pmax pmax
comp=Z,11nm,1.0s,mb4.7
MORC Moravsky Berou 76.07 1⇑iP P 17 46 27.0 0.0
GRR Gorron 76.12 13⇑iP P 17 46 27.1 -0.2
KWP Kalwaria 76.17 357 eP P 17 46 28.2 +0.7
KWP Kalwaria 76.17 357⇑iP P 17 46 28.1 +0.6
QUIF Quistinic 76.25 15 eP P 17 46 28.3 +0.2

STHS Stebnicka Huta 76.42 358 eP P 17 46 29.9 +1.0
comp=Z,18nm,0.7s,mb5.1
STHS Stebnicka Huta 76.42 358 eP P 17 46 29.9 +1.0
STHS pmax pmax
comp=Z,18nm,0.7s,mb5.1
NIE Niedzica 76.42 359 eP P 17 46 29.8 +0.8
LANF Langenberg 76.45 7 eP P 17 46 29.3 +0.1
TREC Trest 76.52 2⇑eP P 17 46 29.8 +0.3
VRAC Vranov 76.53 2⇑P P 17 46 29.9 +0.4
VRAC Vranov 76.53 2⇑iP P 17 46 30.0 +0.4
WET Wettzell 76.58 4 eP P 17 46 30.5 +0.6
WET pmax pmax
comp=Z,9.0nm,1.1s,mb4.6
WET Wettzell 76.58 4 eP P 17 46 30.5 +0.6
comp=Z,9.0nm,1.1s,mb4.6
KHC Kasperske Hory 76.62 4⇑iP P 17 46 30.7 +0.6
KHC ex x 17 46 35.5
KHC AMS AMS 18 26 30.0
comp=Z,100nm,21.6s,MS4.1
MEZF Maizieres J'vi 76.69 9⇑iP P 17 46 30.7 +0.2
comp=Z,17nm,1.0s,mb4.6
MEZF Maizieres J'vi 76.69 9⇑iP P 17 46 30.7 +0.2
comp=Z,17nm,1.0s,mb4.9
STU Stuttgart 76.76 7 eP P 17 46 31.0 +0.1
comp=Z,11nm,0.6s,mb5.0
KOLS Kolonicke sedl 76.88 358 eP P 17 46 32.0 +0.4
GEC2 GERESS Array S 76.92 3 eP P 17 46 32.1 +0.3
GEC2 pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
GEC2 GERESS Array S 76.92 3 eP P 17 46 32.1 +0.3
comp=Z,8.0nm,0.9s,mb4.7
GERES GERESS Array B 76.92 3 P P 17 46 32.0 +0.2
GERES pmax pmax
comp=Z,4.0nm,0.8s
GERES GERESS Array B 76.92 3 P P 17 46 32.0 +0.2
comp=Z,3.8nm,0.8s,mb4.4,baz=0.0,slow=5.3,SNR=40
CRVS Cervenica-Dubn 76.93 358 eP P 17 46 32.2 +0.4
CRVS e 17 46 34.7
CRVS Cervenica-Dubn 76.93 358 eP P 17 46 32.2 +0.4
CRVS e 17 46 34.6
CDF Champ du Feu 76.98 8⇑iP P 17 46 32.1 0.0
comp=Z,14nm,0.9s,mb4.6
CDF Champ du Feu 76.98 8⇑iP P 17 46 32.1 0.0
comp=Z,7.3nm,0.9s,mb4.6
CDF Champ du Feu 76.98 8⇑iP P 17 46 32.1 0.0
CDF pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
THEF They Montfort 77.05 9 eP P 17 46 32.6 +0.1
BFO Black Forest 77.14 7 eP P 17 46 33.2 +0.2
BFO pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
BFO Black Forest 77.14 7 eP P 17 46 33.2 +0.2
comp=Z,6.0nm,0.9s,mb4.5
ECH Echery 77.16 8 eP P 17 46 32.9 -0.3
UZH Uzhgorod 77.18 358⇑iP P 17 46 33.6 +0.3
KOLL Kolacno 77.27 0 eP P 17 46 34.4 +0.6
HAU Haudompre 77.30 9⇑iP P 17 46 34.1 +0.1
comp=Z,22nm,0.9s,mb4.8
HAU eMLR MLR
comp=Z,128nm,21.8s,MS3.9
HAU Haudompre 77.30 9⇑iP P 17 46 34.1 +0.1
comp=Z,11nm,0.9s,mb4.8
HAU LR LR
comp=Z,130nm,21.8s,MS4.2
HAU Haudompre 77.30 9⇑iP P 17 46 34.1 +0.1
HAU pmax pmax
comp=Z,11nm,0.9s,mb4.8
HAU MLR MLR
comp=Z,130nm,21.8s,MS4.2
VYHS Vyhne 77.36 0 iP P 17 46 34.7 +0.4
comp=Z,10nm,1.2s,mb4.6
VYHS Vyhne 77.36 0 iP P 17 46 34.7 +0.4
VYHS pmax pmax
comp=Z,10.0nm,1.2s,mb4.6
KECS Kecovo 77.36 359 iP P 17 46 34.9 +0.6
comp=Z,8.1nm,1.1s,mb4.6
KECS Kecovo 77.36 359 iP P 17 46 34.9 +0.6
KECS pmax pmax
comp=Z,8.0nm,1.1s,mb4.6
MODS Modra-Piesok 77.47 1 iP P 17 46 35.9 +1.0
MODS ePP PP 17 49 26.9 -2.1
FUR Furstenfeldbru 77.49 5 eP P 17 46 35.5 +0.5
FUR pmax pmax
comp=Z,13nm,0.9s,mb4.9
FUR Furstenfeldbru 77.49 5 eP P 17 46 35.5 +0.5
comp=Z,13nm,0.9s,mb4.9
MOF Molkenrain 77.52 8 eP P 17 46 35.1 -0.1
HINF Hinteralfeld 77.53 8⇑iP P 17 46 35.1 -0.2
comp=Z,12nm,0.9s,mb4.5
HINF Hinteralfeld 77.53 8⇑iP P 17 46 35.1 -0.2
comp=Z,6.2nm,0.9s,mb4.5
HINF Hinteralfeld 77.53 8⇑iP P 17 46 35.1 -0.2
HINF pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
ZST Bratislava 77.64 1 eP P 17 46 36.8 +0.9
comp=Z,14nm,0.7s,mb5.0
ZST Bratislava 77.64 1 eP P 17 46 36.8 +0.9
ZST pmax pmax
comp=Z,14nm,0.7s,mb5.0
LOR Lormes 77.79 10⇑iP P 17 46 36.7 0.0
comp=Z,20nm,1.1s,mb4.7
LOR eMLR MLR
comp=Z,117nm,21.0s,MS3.9
LOR Lormes 77.79 10⇑iP P 17 46 36.7 0.0
comp=Z,10nm,1.1s,mb4.7
LOR LR LR
comp=Z,120nm,21.0s,MS4.2
LOR Lormes 77.79 10⇑iP P 17 46 36.7 0.0
LOR pmax pmax
comp=Z,10.0nm,1.1s,mb4.7
LOR MLR MLR
comp=Z,120nm,21.0s,MS4.2
CONA Conrad Observa 77.89 2 iP P 17 46 38.0 +0.8
comp=Z,20nm,1.2s,mb4.9,SNR=16
PSZ Piszkesteto 77.93 359 eP P 17 46 38.0 +0.5
comp=Z,14nm,1.0s,mb4.9
PSZ Piszkesteto 77.93 359 eP P 17 46 38.0 +0.5
PSZ pmax pmax
comp=Z,14nm,1.0s,mb4.8
PSZ Piszkesteto 77.93 359⇑iP P 17 46 38.3 +0.8
SSF Saint Saulge 77.96 11⇑iP P 17 46 37.5 -0.1
comp=Z,16nm,1.0s,mb4.6
SSF Saint Saulge 77.96 11⇑iP P 17 46 37.5 -0.1
comp=Z,7.8nm,1.0s,mb4.6
SSF Saint Saulge 77.96 11⇑iP P 17 46 37.5 -0.1
SSF pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
MFF Saint Martin d 77.97 13⇑iP P 17 46 37.8 +0.1
comp=Z,34nm,1.0s,mb4.9
MFF Saint Martin d 77.97 13⇑iP P 17 46 37.8 +0.1
comp=Z,17nm,1.0s,mb4.9
MFF Saint Martin d 77.97 13⇑iP P 17 46 37.8 +0.1
MFF pmax pmax
comp=Z,17nm,1.0s,mb4.9
AVF Avril sur Loir 78.21 11⇑iP P 17 46 38.8 -0.2
comp=Z,17nm,1.0s,mb4.6
AVF Avril sur Loir 78.21 11⇑iP P 17 46 38.8 -0.2
comp=Z,8.4nm,1.0s,mb4.6
AVF Avril sur Loir 78.21 11⇑iP P 17 46 38.8 -0.2
AVF pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
MOTA Moosalm 78.30 5⇑iP P 17 46 39.8 +0.3
comp=Z,10nm,1.0s,mb4.7,SNR=9.6
MOTA Moosalm 78.30 5⇑iP P 17 46 39.8 +0.3
MOTA pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
WATA Walderalm 78.33 5⇑iP P 17 46 40.3 +0.6
comp=Z,10.0nm,1.0s,mb4.7
WATA Walderalm 78.33 5⇑iP P 17 46 40.3 +0.6
WATA pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
BGF Bois d'Agland 78.39 11 eP P 17 46 40.2 +0.2
WTTA Wattenberg 78.41 5 iP P 17 46 40.9 +0.8
comp=Z,14nm,1.0s,mb4.8,SNR=12
WTTA Wattenberg 78.41 5 iP P 17 46 40.9 +0.8
WTTA pmax pmax
comp=Z,14nm,1.0s,mb4.8
SMF Signal de Mont 78.41 10⇑iP P 17 46 40.0 -0.1
comp=Z,27nm,1.0s,mb4.8
SMF Signal de Mont 78.41 10⇑iP P 17 46 40.0 -0.1
comp=Z,13nm,1.0s,mb4.8
SMF Signal de Mont 78.41 10⇑iP P 17 46 40.0 -0.1
SMF pmax pmax
comp=Z,13nm,1.0s,mb4.8
SQTA Sankt Quirin 78.43 5⇑iP P 17 46 41.0 +0.8
comp=Z,13nm,1.0s,mb4.8,SNR=12

SQTA Sankt Quirin 78.43 5⇑iP P 17 46 41.0 +0.8
SQTA pmax pmax
comp=Z,13nm,1.0s,mb4.8
ARSA Arzberg 78.56 2⇑iP P 17 46 41.6 +0.6
comp=Z,24nm,2.1s,mb4.7
TCF Toulx Ste Croi 78.58 12⇑iP P 17 46 41.0 -0.1
comp=Z,9.6nm,0.9s,mb4.4
TCF Toulx Ste Croi 78.58 12⇑iP P 17 46 41.0 -0.1
comp=Z,4.8nm,0.9s,mb4.4
TCF Toulx Ste Croi 78.58 12⇑iP P 17 46 41.0 -0.1
TCF pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
FETA Feichten 78.60 6⇑iP P 17 46 41.9 +0.7
comp=Z,13nm,1.2s,mb4.7
CABF La Chapelle 78.66 9⇑iP P 17 46 41.8 +0.3
comp=Z,20nm,1.0s,mb4.7
CABF La Chapelle 78.66 9⇑iP P 17 46 41.8 +0.3
comp=Z,9.9nm,1.0s,mb4.7
CABF La Chapelle 78.66 9⇑iP P 17 46 41.8 +0.3
CABF pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
KBA Koelnbreinsper 78.67 4 iP P 17 46 42.6 +1.1
comp=Z,18nm,1.2s,mb4.9,SNR=12
KBA Koelnbreinsper 78.67 4 iP P 17 46 42.7 +1.1
KBA pmax pmax
comp=Z,18nm,1.2s,mb4.9
AGO Saint Agoulin 78.92 11 eP P 17 46 42.0 -0.9
ABTA Abfaltersbach 78.96 4⇑iP P 17 46 43.3 +0.2
comp=Z,22nm,1.7s,mb4.8,SNR=6.4
DRGR 79.01 357⇑P P 17 46 43.8 +0.4
DRGR 79.01 357⇑iP P 17 46 43.8 +0.4
BRMO Bormio 79.12 6 P P 17 46 45.5 +1.5
comp=Z,7.0nm,1.0s,mb4.5
PYM Petit Puy Mans 79.20 11 eP P 17 46 43.7 -0.8
OBKA Obir 79.28 3⇓iP P 17 46 45.3 +0.4
comp=Z,21nm,0.9s,mb5.1,SNR=19
RJF Les Rejaudoux 79.46 12⇑iP P 17 46 45.6 -0.3
RJF eMLR MLR
comp=Z,190nm,19.5s,MS4.1
RJF Les Rejaudoux 79.46 12⇑iP P 17 46 45.6 -0.3
RJF MLR MLR
comp=Z,190nm,19.5s,MS4.4
PKSM Moragy 79.64 0 ⇓P P 17 46 47.0 +0.1
PKSM Moragy 79.64 0⇓iP P 17 46 47.0 +0.1
LFF La Frestale 79.72 13⇑iP P 17 46 47.2 -0.1
PLOR Plostina 79.78 354⇓iP P 17 46 46.9 -0.8
LPL La Plagne 79.81 9⇑iP P 17 46 48.1 +0.3
GUN Gumba 79.81 304 eP P 17 46 48.5 +0.4
KIV Kislovodsk 79.81 343 eP P 17 46 48.4 +0.6
comp=Z,22nm,0.9s,mb5.1
KIV Kislovodsk 79.81 343 eP P 17 46 48.4 +0.5
KIV pmax pmax
comp=Z,23nm,0.9s,mb5.1
KIV Kislovodsk 79.81 343⇓iP P 17 46 49.0 +1.1
LPG La Plagne 79.83 9⇑iP P 17 46 48.6 +0.7
JIRN Jiri 79.86 304 eP P 17 46 49.4 +1.0
comp=Z,13nm,0.5s,mb5.1
CAF Calviac 79.90 12⇑iP P 17 46 48.2 -0.1
comp=Z,9.6nm,0.9s,mb4.4
CAF Calviac 79.90 12⇑iP P 17 46 48.2 -0.1
comp=Z,4.8nm,0.9s,mb4.4
CAF Calviac 79.90 12⇑iP P 17 46 48.2 -0.1
CAF pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
EPON Pontenova 80.03 19 P P 17 46 48.8 -0.2
comp=Z,5.6nm,0.7s,mb4.6
EMAZ Mazaricos 80.04 20 P P 17 46 48.9 -0.2
comp=Z,8.6nm,0.8s,mb4.7
MLR Muntele Rosu 80.18 355 ⇑P P 17 46 50.5 +0.7
MLR Muntele Rosu 80.18 355⇑iP P 17 46 50.5 +0.7
KKN Kakani 80.19 305 eP P 17 46 50.3 +0.1
comp=Z,49nm,0.8s,mb5.5
BZS Buzias 80.21 358 ⇑P P 17 46 50.0 0.0
BZS Buzias 80.21 358 P P 17 46 50.2 +0.2
BZS Buzias 80.21 358⇑iP P 17 46 50.0 0.0
BNI Bardonecchia 80.26 9 eP P 17 46 51.6 +1.3
comp=Z,11nm,1.0s,mb4.8
BNI Bardonecchia 80.26 9 eP P 17 46 51.6 +1.3
BNI pmax pmax
comp=Z,11nm,1.0s,mb4.7
VIVF Saint-Julien-l 80.26 10⇑iP P 17 46 50.4 +0.1
comp=Z,12nm,1.0s,mb4.5
VIVF Saint-Julien-l 80.26 10⇑iP P 17 46 50.4 +0.1
comp=Z,5.8nm,1.0s,mb4.5
VIVF Saint-Julien-l 80.26 10⇑iP P 17 46 50.4 +0.1
VIVF pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
VOIR 80.28 356 ⇑P P 17 46 51.0 +0.7
VOIR 80.28 356⇑iP P 17 46 51.0 +0.7
PKI Pulchoki 80.32 304 eP P 17 46 51.1 +0.2
ORIF Oris-en-Rattie 80.32 9⇑iP P 17 46 50.8 +0.2
ORIF eMLR MLR
comp=Z,110nm,20.5s,MS3.9
GKN Gorkha 80.33 305 eP P 17 46 50.8 -0.1
comp=Z,73nm,0.8s,mb5.6
SNX Sinaia 80.34 355⇓iP P 17 46 48.8 -1.9
GZR Gura Zlata 80.40 357 ⇓P P 17 46 51.6 +0.6
GZR Gura Zlata 80.40 357⇓iP P 17 46 51.6 +0.6
EARI Arriondas 80.41 18 P P 17 46 51.8 +0.7
comp=Z,7.1nm,0.9s,mb4.6
DMN Daman 80.43 305 eP P 17 46 51.6 +0.1
comp=Z,38nm,0.7s,mb5.5
RKT Rikitea 80.53 156 eT 19 15 09.7
comp=Z,2.0nm,0.3s
MBDF Montbardon 80.59 9⇑iP P 17 46 52.3 +0.3
comp=Z,18nm,0.9s,mb4.7
MBDF Montbardon 80.59 9⇑iP P 17 46 52.3 +0.3
comp=Z,9.1nm,0.9s,mb4.7
MBDF Montbardon 80.59 9⇑iP P 17 46 52.3 +0.3
MBDF pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
SOC Sochi 80.66 345c iP P 17 46 50.7 -1.7
SOC eS S 17 56 57.5 +1.3
SOC eSS SS 18 02 11.8 +3.7
SOC pmax pmax
comp=Z,16nm,0.7s,mb5.1
ELAN Lanestosa 80.78 16 P P 17 46 53.0 0.0
comp=Z,16nm,1.0s,mb4.9
LASF Ste Croix 80.95 11⇑iP P 17 46 53.8 -0.2
KOLN Koldanda 81.01 306 eP P 17 46 54.5 -0.1
comp=Z,43nm,0.8s,mb5.4
TIRR Tirgusor 81.06 353⇓iP P 17 46 54.8 +0.3
SMLA Simla 81.06 312 eP P 17 46 55.1 +0.3
EALK Alkurruntz 81.09 15 P P 17 46 53.9 -0.8
comp=Z,2.7nm,0.7s,mb4.3
SMRF Simiane la Rot 81.23 10⇑iP P 17 46 55.4 0.0
comp=Z,15nm,1.1s,mb4.5
SMRF Simiane la Rot 81.23 10⇑iP P 17 46 55.4 0.0
comp=Z,15nm,1.1s,mb4.8
SJPF Ste Jean 81.24 15⇑iP P 17 46 55.4 -0.1
ELOB Lobios 81.26 20 P P 17 46 57.0 +1.3
comp=Z,7.1nm,1.0s,mb4.5
TOUF Mont Tournerai 81.34 8 eP P 17 46 56.6 +0.6
KBL Kabul 81.34 320 eP P 17 46 55.4 -0.8
comp=Z,19nm,0.8s,mb5.1
KBL Kabul 81.34 320 eP P 17 46 55.4 -0.8
KBL pmax pmax
comp=Z,19nm,0.8s,mb5.1
AUTN L'Aution 81.38 8 eP P 17 46 55.9 -0.3
SAOF Saorge 81.39 8 eP P 17 46 56.3 0.0
MVIF Mont Vial 81.45 9 eP P 17 46 56.9 +0.3
LUCF Luceram 81.47 8 eP P 17 46 57.0 +0.3
MTLF Montolieu 81.48 12⇑iP P 17 46 56.7 -0.1
comp=Z,14nm,1.0s,mb4.5
MTLF Montolieu 81.48 12⇑iP P 17 46 56.7 -0.1
comp=Z,7.1nm,1.0s,mb4.5
MTLF Montolieu 81.48 12⇑iP P 17 46 56.7 -0.1
MTLF pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
SBF Sospel 81.51 8⇑iP P 17 46 57.2 +0.3
comp=Z,30nm,1.0s,mb4.9
SBF Sospel 81.51 8⇑iP P 17 46 57.2 +0.3
comp=Z,15nm,1.0s,mb4.9
SBF Sospel 81.51 8⇑iP P 17 46 57.2 +0.3
SBF pmax pmax
comp=Z,15nm,1.0s,mb4.9
ECRI Cripan 81.53 16 P P 17 46 58.7 +1.6
comp=Z,4.5nm,0.9s,mb4.4
ECRI Cripan 81.53 16 P P 17 46 58.7 +1.6
ECRI pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
EPF Esparros 81.54 14⇑iP P 17 46 56.7 -0.4
comp=Z,6.0nm,0.9s,mb4.2
EPF Esparros 81.54 14⇑iP P 17 46 56.7 -0.4
comp=Z,3.0nm,0.9s,mb4.2

EPF	**Esparros**	**81.54**	**14**⇑	*i*P		**P**	**17 46 56.7**	**-0.4**
EPF					pmax	pmax		
comp=Z,3.0nm,0.9s,mb4.2								
ETSF	**Etsaut**	**81.55**	**14**⇑	*i*P		**P**	**17 46 57.0**	**-0.2**
SEI	**Scarperia**	**81.59**	**5**	P		**P**	**17 46 59.4**	**+2.0**
comp=Z,120nm,0.9s,mb5.8								
REVF	**Revere**	**81.62**	**8**	*e*P		**P**	**17 46 57.7**	**+0.2**
VMG	**Vicchio**	**81.69**	**5**	P		**P**	**17 46 59.9**	**+2.0**
comp=Z,22nm,1.0s,mb5.0								
FRF	**La Foret Royal**	**81.74**	**9**⇑	*i*P		**P**	**17 46 57.8**	**-0.4**
comp=Z,17nm,1.0s,mb4.6								
FRF	**La Foret Royal**	**81.74**	**9**⇑	*i*P		**P**	**17 46 57.8**	**-0.4**
comp=Z,8.5nm,1.0s,mb4.6								
FRF	**La Foret Royal**	**81.74**	**9**⇑	*i*P		**P**	**17 46 57.8**	**-0.4**
FRF					pmax	pmax		
comp=Z,9.0nm,1.0s,mb4.7								
SFI	**Santa Sofia**	**81.77**	**5**	P		**P**	**17 46 59.8**	**+1.5**
comp=Z,10.0nm,0.9s,mb4.8								
SFI	**Santa Sofia**	**81.77**	**5**	P		**P**	**17 46 59.8**	**+1.5**
SFI					pmax	pmax		
comp=Z,10.0nm,0.9s,mb4.8								
EBIE	**Bielsa**	**81.85**	**14**	P		**P**	**17 46 59.3**	**+0.5**
comp=Z,2.5nm,0.7s,mb4.2								
PVRL	**Vila Real**	**81.90**	**20**	*e*P		**P**	**17 47 00.1**	**+1.1**
comp=Z,21nm,1.5s,mb4.8								
PVRL				*e*pP		pP	17 47 09.3	-2.7
LMR	**La Mourre**	**81.95**	**9**⇑	*i*P		**P**	**17 46 58.9**	**-0.4**
comp=Z,6.7nm,0.9s,mb4.3								
LMR	**La Mourre**	**81.95**	**9**⇑	*i*P		**P**	**17 46 58.9**	**-0.4**
comp=Z,3.3nm,0.9s,mb4.3								
LMR	**La Mourre**	**81.95**	**9**⇑	*i*P		**P**	**17 46 58.9**	**-0.4**
LMR					pmax	pmax		
comp=Z,3.0nm,0.9s,mb4.2								
ZIMR		**82.04**	**355**⇑	P		**P**	**17 47 00.1**	**+0.4**
ZIMR		**82.04**	**355**⇑	*i*P		**P**	**17 47 00.1**	**+0.4**
MVO	**Moncorvo**	**82.14**	**19**	*e*P		**P**	**17 47 01.2**	**+0.9**
comp=Z,17nm,1.2s,mb4.8								
PVIS	**Viseu**	**82.40**	**20**	*e*P		**P**	**17 47 02.7**	**+1.0**
comp=Z,31nm,1.2s,mb5.1								
PVIS				*e*pP		pP	17 47 12.4	-2.3
SNTG	**Esanatoglia**	**82.47**	**4**	P		**P**	**17 47 02.9**	**+0.9**
MTE	**Manteigas**	**82.78**	**20**	*e*P		**P**	**17 47 04.6**	**+1.0**
comp=Z,39nm,1.1s,mb5.3								
MTE	**Manteigas**	**82.78**	**20**	*e*P		**P**	**17 47 04.0**	**+0.4**
comp=Z,22nm,1.0s,mb5.1								
NRCA	**Norcia**	**82.89**	**4**	P		**P**	**17 47 05.2**	**+1.0**
PGF	**Pioggiola**	**82.94**	**7**⇑	*i*P		**P**	**17 47 04.8**	**+0.4**
comp=Z,25nm,0.9s,mb5.0								
PGF	**Pioggiola**	**82.94**	**7**⇑	*i*P		**P**	**17 47 04.8**	**+0.4**
comp=Z,13nm,0.9s,mb5.0								
PGF	**Pioggiola**	**82.94**	**7**⇑	*i*P		**P**	**17 47 04.8**	**+0.4**
PGF					pmax	pmax		
comp=Z,13nm,0.9s,mb5.0								
NDI	**New Delhi**	**83.15**	**311**	*e*P		**P**	**17 47 05.1**	**-0.7**
GUD	**Guadarrama**	**83.18**	**17**	P		**P**	**17 47 06.6**	**+0.9**
comp=Z,5.5nm,0.8s,mb4.6								
GUD	**Guadarrama**	**83.18**	**17**	P		**P**	**17 47 06.6**	**+0.9**
GUD					pmax	pmax		
comp=Z,6.0nm,0.8s,mb4.7								
VTS	**Vitosha**	**83.19**	**357**⇓	P		**P**	**17 47 06.6**	**+0.9**
VTS	**Vitosha**	**83.19**	**357**⇓	*i*P		**P**	**17 47 06.6**	**+0.9**
BOK	**Bokaro**	**83.25**	**302**	*e*P		**P**	**17 47 05.3**	**-1.1**
BOK					AMb	AMB	17 47 08.0	
comp=Z,19nm,0.9s,mb5.1								
EPOB	**Poblet**	**83.29**	**13**	P		**P**	**17 47 06.7**	**+0.4**
comp=Z,9.5nm,1.1s,mb4.7								
PCBR	**Castelo Branco**	**83.33**	**20**	*e*P		**P**	**17 47 07.1**	**+0.6**
comp=Z,19nm,1.0s,mb5.1								
PCBR				*e*pP		pP	17 47 16.4	-3.1
ETOR	**Torete**	**83.35**	**16**	P		**P**	**17 47 07.3**	**+0.7**
comp=Z,6.1nm,1.0s,mb4.6								
ETOR	**Torete**	**83.35**	**16**	P		**P**	**17 47 07.3**	**+0.7**
ETOR					pmax	pmax		
comp=Z,6.0nm,1.0s,mb4.6								
PTOM	**Tomar**	**83.35**	**21**	*e*P		**P**	**17 47 07.7**	**+1.1**
comp=Z,24nm,1.1s,mb5.2								
PTOM				*e*pP		pP	17 47 16.6	-3.0
PMAFR	**Mafra**	**83.81**	**22**	*e*P		**P**	**17 47 09.9**	**+0.9**
comp=Z,67nm,1.1s,mb5.7								
PMAFR				*e*pP		pP	17 47 20.0	-2.0
EMOS	**Mosqueruela**	**84.04**	**15**	P		**P**	**17 47 10.8**	**+0.6**
comp=Z,5.0nm,0.9s,mb4.6								
ESDC	**Sonseca Array**	**84.15**	**18**	P		**P**	**17 47 11.4**	**+0.6**
comp=Z,7.6nm,0.9s,mb4.8								
ESDC	**Sonseca Array**	**84.15**	**18**	P		**P**	**17 47 11.0**	**+0.3**
comp=Z,6.9nm,0.9s,mb4.8,baz=345,slow=4.9,SNR=24								
ESLA	**Sonseca Array**	**84.15**	**18**	*e*P		**P**	**17 47 11.0**	**+0.3**
comp=Z,2.9nm,1.0s,mb4.4								
PESTR	**Estremoz**	**84.25**	**20**	*e*P		**P**	**17 47 11.5**	**+0.3**
comp=Z,17nm,1.4s,mb5.0								
PESTR				*e*pP		pP	17 47 21.5	-2.7
EBAD	**Badajoz**	**84.47**	**20**	P		**P**	**17 47 12.5**	**+0.2**
comp=Z,5.1nm,0.9s,mb4.7								
ANTO	**Ankara**	**85.22**	**349**	*e*P		**P**	**17 47 15.3**	**-0.8**
comp=Z,5.6nm,0.6s,mb4.9								
ANTO	**Ankara**	**85.22**	**349**	*e*P		**P**	**17 47 15.3**	**-0.8**
ANTO					pmax	pmax		
comp=Z,6.0nm,0.6s,mb4.9								
ANTO	**Ankara**	**85.22**	**349**⇑	*i*P		**P**	**17 47 15.3**	**-0.8**
EMIN	**Mina Concepcio**	**85.49**	**20**	P		**P**	**17 47 18.3**	**+0.8**
comp=Z,5.2nm,1.0s,mb4.6								
PVAQ	**Vaqueiros**	**85.63**	**21**	*e*P		**P**	**17 47 19.2**	**+1.0**
MALT	**Malatya**	**86.01**	**345**	*e*P		**P**	**17 47 21.4**	**+1.3**
comp=Z,4.4nm,1.0s,mb4.6								
MALT				*e*		pP	17 47 32.6	-0.5
MALT	**Malatya**	**86.01**	**345**	*e*P		**P**	**17 47 21.4**	**+1.3**
MALT				*e*		pP	17 47 32.6	-0.5
MALT					pmax	pmax		
comp=Z,4.0nm,1.0s,mb4.6								
MALT	**Malatya**	**86.01**	**345**⇓	*i*P		**P**	**17 47 21.6**	**+1.5**
BLSP	**Bilaspur**	**86.49**	**304**	*e*P		**P**	**17 47 21.0**	**-1.6**
BLSP					AMb	AMB	17 47 23.1	
comp=Z,21nm,1.2s,mb5.2								
ESPR	**Espera**	**86.52**	**20**	P		**P**	**17 47 23.1**	**+0.5**
comp=Z,6.2nm,1.0s,mb4.8								
TIP	**Timpagrande**	**86.65**	**2**	*e*P		**P**	**17 47 21.4**	**-1.8**
comp=Z,6.3nm,0.9s,mb4.8								
BHPL	**Bhopal**	**87.75**	**308**	*e*P		**P**	**17 47 27.5**	**-1.3**
NGP	**Nagpur**	**88.80**	**306**	*e*P		**P**	**17 47 32.7**	**-1.0**
HYB	**Hyderabad**	**92.24**	**304**	*e*P		**P**	**17 47 50.0**	**+0.2**
HYB	**Hyderabad**	**92.24**	**304**	*i*P		**P**	**17 47 50.0**	**+0.2**
WRAB	**Tennant Creek**	**92.25**	**238**	*e*P		**P**	**17 47 48.0**	**-1.6**
WRA	**Warramunga Arr**	**92.26**	**238**	P		**P**	**17 47 48.8**	**-0.8**
WRA					pmax	pmax		
comp=Z,3.0nm,1.0s								
WRA	**Warramunga Arr**	**92.26**	**238**	P		**P**	**17 47 48.8**	**-0.8**
comp=Z,3.1nm,1.0s,mb4.6,baz=37,slow=5.6,SNR=18								
LATR	**Latur**	**92.32**	**307**	*ex*		x	17 48 26.6	
FITZ	**Fitzroy Crossi**	**95.21**	**246**	*e*P		**P**	**17 48 01.5**	**-1.7**
comp=Z,5.7nm,1.0s,mb5.0								
FITZ	**Fitzroy Crossi**	**95.21**	**246**	P		**P**	**17 48 01.5**	**-1.7**
comp=Z,2.8nm,0.8s,mb4.7,baz=69,slow=4.3,SNR=5.9								
ASAR	**Alice Springs**	**95.62**	**237**	P		**P**	**17 48 04.2**	**-0.8**
ASAR					pmax	pmax		
comp=Z,2.0nm,0.8s								
ASAR	**Alice Springs**	**95.62**	**237**	P		**P**	**17 48 04.2**	**-0.9**
comp=Z,1.5nm,0.8s,mb4.5,baz=34,slow=4.6,SNR=14								
KMBO	**Kilima Mbogo**	**124.67**	**337**	*e*P		PKPdf	17 53 39.6	+0.3
KMBO	**Kilima Mbogo**	**124.67**	**337**	PKIKP		PKPdf	17 53 40.2	+0.8
KMBO					pmax	pmax		
comp=Z,4.0nm,1.0s								
KMBO	**Kilima Mbogo**	**124.67**	**337**	PKP		PKPdf	17 53 40.2	+0.8
comp=Z,3.5nm,1.0s,baz=14,slow=3.6,SNR=9.2								
LBTB	**Lobatse**	**150.10**	**348**	*e*PKPbc		PKPbc	17 54 29.8	-0.3
BOSA	**Boshof**	**153.69**	**347**	PKPbc		PKPbc	17 54 37.6	-0.6
comp=Z,2.5nm,0.7s,baz=312,slow=2.3,SNR=7.6								

IDC 22 17:47:04.9±2.0, 167N×12633E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.4/15, mbtmp3.4/3, Error ellipse: s-maj=176.6km s-min=23.6km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.87**	**160**	P	P	17 52 10.1	-0.1
0.6nm,0.5s,baz=338,slow=10,SNR=24							
ASAR	**Alice Springs**	**26.24**	**164**	P	P	17 52 41.9	+0.1
0.3nm,0.6s,baz=352,slow=7.6,SNR=13							
MKAR	**Makanchi Array**	**59.02**	**326**	P	P	17 57 06.8	+0.2
0.3nm,0.4s,baz=115,slow=7.9,SNR=11							

BJI 22 17:48:43.0, 138N×9663E, h30km, mB5.0, mb4.6, Ms4.3, Msz4.1

IDC 22 17:48:45.0±1.0, 191N×9651E, h0km, mb4.1/12, mb1 4.2/12, mb1mx4.0/21, mbtmp4.1/12, Error ellipse: s-maj=43.0km s-min=16.0km az=54.0
ISCJB 22 17:48:48.1±2.1, 198N±008×9661E±008, h30km±15km, mb4.3/27, MS4.1/5, Error ellipse: s-maj=15.7km s-min=11.0km az=139.9
NEIC 22 17:48:50.0±0.6, 201N×9659E, h30km, mb4.3/10, Error ellipse: s-maj=15.2km s-min=8.1km az=222.0
ISC 22 17:48:51.0±1.4, 196N±007×9662E±008, h38km±12km, h33km±1.9km: pP-P, n39, σ1§01/43, mb4.3/27, MS4.1/5, 1C, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.20**	**50**⇑	*i*Pn	**Pn**	**17 50 05.8**	**-0.6**
KSM	**Kuching**	**13.69**	**92**	*e*P	**Pn**	**17 52 04.5**	**+1.8**
CHTO	**Chiang Mai**	**16.90**	**8**	P	**Pn**	**17 52 41.8**	**-3.0**
3.5nm,1.0s							
KKM	**Kota Kinabalu**	**19.96**	**78**	*e*P	**Pn**	**17 53 20.8**	**-1.3**
QIZ	**Qiongzhong**	**21.34**	**36**	P	**P**	**17 53 35.3**	**+0.3**
QIZ				S	**S**	**17 57 31.3**	**+1.3**
QIZ				LR	LR		
comp=N,272nm,18.3s,MS3.8							
QIZ				LR	LR		
comp=E,219nm,18.3s,MS3.8							
QIZ				LR	LR		
comp=Z,241nm,15.0s,MS3.7							
KMI	**Kunming**	**23.77**	**14**	P	**P**	**17 54 00.6**	**+0.5**
KMI				AP		17 54 08.1	
KMI				AMB	AMB		
comp=Z,12nm,0.9s,mb4.3							
LSA	**Lhasa**	**28.07**	**350**	P	**P**	**17 54 40.0**	**+1.0**
LSA				AMB	AMB		
comp=Z,30nm,0.9s,mb4.9							
LSA	**Lhasa**	**28.07**	**350**	*e*P	**P**	**17 54 39.6**	**+0.6**
comp=Z,5.2nm,0.8s,mb4.2							
CD2	**Chengdu**	**29.57**	**12**	*e*P	**P**	**17 54 53.8**	**+1.5**
CD2				PP	PP	17 55 50.5	-9.1
CD2				S	**S**	**17 59 45.5**	**+0.6**
CD2				AMB	AMB		
comp=Z,10.0nm,0.8s,mb4.6							
CD2				AMB	AMB		
comp=Z,20nm,4.2s							
XAN	**Xi'an**	**33.92**	**18**	P	**P**	**17 55 28.8**	**-1.7**
XAN				AP	pP	17 55 36.5	-4.8
XAN				AMB	AMB		
comp=Z,199nm,6.7s							
LZH	**Lanzhou**	**34.61**	**10**	*e*P	**P**	**17 55 40.8**	**+4.4**
LZH				AP	pP	17 55 50.3	+3.1
LZH				XP	sP	17 55 54.4	+2.6
LZH				AMB	AMB		
comp=Z,21nm,1.5s,mb4.8							
LZH				AMB	AMB		
comp=Z,129nm,6.7s							
LZH				LR	LR		
comp=N,315nm,13.2s							
LZH				LR	LR		
comp=Z,573nm,17.5s,MS4.4							
GTA	**Gaotai**	**37.38**	**4**	*e*P	**P**	**17 55 59.5**	**-0.7**
GTA				AP	pP	17 56 09.4	-1.6
GTA				XP	sP	17 56 13.1	-2.5
GTA				PP	PP	17 57 28.1	+2.1
GTA				S	**S**	**18 01 43.3**	**-2.4**
GTA				XS	sS	18 02 04.1	+0.4
GTA				AMB	AMB		
comp=Z,9.0nm,0.9s,mb4.6							
GTA				AMB	AMB		
comp=Z,88nm,8.7s							
GTA				LR	LR		
comp=N,195nm,16.7s,MS4.1							
GTA				LR	LR		
comp=E,188nm,16.3s,MS4.1							
GTA				LR	LR		
comp=Z,246nm,20.9s,MS4.0							
HHC	**Hu-ho-hao-te**	**41.00**	**17**	*e*P	**P**	**17 56 31.8**	**+1.4**
HHC				AP	pP	17 56 41.8	+0.5
HHC				XP	sP	17 56 45.3	-0.5
HHC				PP	PP	17 58 11.0	+5.5
HHC				PCP	PcP	17 58 31.1	+1.1
HHC				SCP	ScP	18 02 17.5	+0.6
HHC				S	**S**	**18 02 40.3**	**+0.3**
HHC				XS	sS	18 02 56.9	-1.2
HHC				SS	SS	18 05 41.9	-1.3
HHC				SCS	ScS	18 06 32.1	0.0
HHC				AMB	AMB		
comp=Z,10.0nm,0.4s,mb4.8							
HHC				AMB	AMB		
comp=Z,150nm,5.9s							
HHC				LR	LR		
comp=N,129nm,14.9s,MS4.2							
HHC				LR	LR		
comp=E,163nm,12.0s,MS4.2							
HHC				LR	LR		
comp=Z,215nm,17.6s							
WMQ	**Urumqi**	**42.43**	**350**	*e*P	**P**	**17 56 42.3**	**+0.3**
WMQ				AP	pP	17 56 52.0	-0.9
WMQ				*e*S	**S**	**18 03 02.0**	**+0.9**
WMQ				AMB	AMB		
comp=Z,7.0nm,0.8s,mb4.3							
WMQ				AMB	AMB		
comp=Z,92nm,3.9s							
WMQ				LR	LR		
comp=N,198nm,22.3s,MS4.1							
WMQ				LR	LR		
comp=E,210nm,21.5s,MS4.1							
WMQ				LR	LR		
comp=Z,207nm,20.0s,MS4.0							
WRA	**Warramunga Arr**	**42.93**	**122**	P	**P**	**17 56 46.9**	**+0.4**
comp=Z,3.4nm,0.7s,mb4.2,baz=300,slow=9.2,SNR=21							
WB2	**Warramunga Arr**	**42.94**	**122**	*e*P	**P**	**17 56 46.8**	**+0.3**
ASAR	**Alice Springs**	**44.31**	**127**	P	**P**	**17 56 58.1**	**+0.6**
comp=Z,1.2nm,1.1s,mb3.6,baz=298,slow=7.4,SNR=9.6							
UCH	**Uchtor**	**44.72**	**337**	*e*P	**P**	**17 57 01.3**	**+0.8**
comp=Z,4.6nm,0.9s,mb4.3							
AML	**Almayashu**	**44.97**	**336**	*e*P	**P**	**17 57 03.4**	**+0.9**
comp=Z,5.4nm,0.9s,mb4.4							
AAK	**Ala-Archa**	**45.07**	**337**	*e*P	**P**	**17 57 04.8**	**+1.6**
comp=Z,6.0nm,1.4s,mb4.2							
EKS2	**Erkin-Say**	**45.38**	**336**	*e*P	**P**	**17 57 06.1**	**+0.3**
comp=Z,2.1nm,0.8s,mb4.0							
KSRS	**Korea Array**	**45.56**	**35**	P	**P**	**17 57 06.5**	**-0.7**
comp=Z,3.8nm,1.0s,mb4.3,baz=222,slow=11,SNR=8.7							
MK31	**Makanchi Array**	**46.37**	**346**	*e*P	**P**	**17 57 13.0**	**-0.4**
MKAR	**Makanchi Array**	**46.37**	**346**	P	**P**	**17 57 13.2**	**-0.2**
comp=Z,5.0nm,0.7s,mb4.6,baz=160,slow=7.7,SNR=43							
SONM	**Songino Array**	**46.47**	**9**	P	**P**	**17 57 14.8**	**+0.6**
comp=Z,1.7nm,0.3s,mb4.4,baz=193,slow=9.3,SNR=14							
ULN	**Ulaanbaatar**	**46.61**	**10**	*e*P	**P**	**17 57 15.7**	**+0.5**
comp=Z,3.7nm,1.0s,mb4.3							
KURK	**Kurchatov**	**50.91**	**345**	*e*P	**P**	**17 57 48.1**	**-0.2**
comp=Z,3.0nm,0.9s,mb4.2							
ZAA0	**Zalesovo Array**	**52.72**	**351**	*e*P	**P**	**17 58 01.4**	**-0.3**
ZALV	**Zalesovo Beam**	**52.72**	**351**	P	**P**	**17 58 01.5**	**-0.2**
comp=Z,3.8nm,0.4s,mb4.7,baz=179,slow=6.0,SNR=46							
STKA	**Stephens Creek**	**54.29**	**132**	P	**P**	**17 58 12.3**	**-1.4**
STKA	**Stephens Creek**	**54.29**	**132**	P	**P**	**17 58 12.3**	**-1.4**
comp=Z,1.5nm,0.8s,mb4.0,baz=340,slow=12,SNR=3.2							
BVAR	**Borovoye Array**	**55.34**	**341**	P	**P**	**17 58 20.1**	**-0.8**
comp=Z,2.2nm,0.7s,mb4.3,baz=144,slow=9.1,SNR=4.8							
YAK	**Yakutsk**	**64.86**	**17**	*e*P	**P**	**17 59 23.5**	**-2.4**
comp=Z,14nm,0.9s,mb5.0							
TIXI	**Tiksi**	**72.54**	**10**	*e*P	**P**	**18 00 12.7**	**-1.0**
comp=Z,1.7nm,0.8s,mb4.0							
AKASG	**Malin Array Be**	**74.30**	**322**	P	**P**	**18 00 23.1**	**-1.3**
comp=Z,0.2nm,0.4s,mb3.4,baz=89,slow=5.3,SNR=5.4							
FINES	**FINESS Array B**	**79.06**	**333**	P	**P**	**18 00 50.6**	**-0.4**
comp=Z,1.1nm,0.7s,mb3.9,baz=102,slow=8.4,SNR=4.3							
ARCES	**ARCESS Array B**	**81.63**	**340**	P	**P**	**18 01 05.0**	**+0.3**
comp=Z,1.3nm,0.7s,mb4.0,baz=99,slow=6.4,SNR=9.8							
GERES	**GERESS Array B**	**83.86**	**319**	P	**P**	**18 01 17.5**	**+0.8**
comp=Z,0.3nm,0.5s,mb3.7,baz=96,slow=5.4,SNR=7.2							
TXAR	**Lajitas Array**	**143.32**	**30**	PKP	PKPdf	18 08 23.1	+1.0
comp=Z,0.2nm,0.7s,baz=172,slow=2.5,SNR=3.5							

NEIC 22 18:23:44.6±2.3, 2026S×16862E, Error ellipse: s-maj=70.1km s-min=29.8km az=142.0
IDC 22 18:23:45.0±3.8, 2017S×16857E, h33km±8km, mb4.0/4, mb1 4.1/4, mb1mx3.8/14, mbtmp4.0/4, MS3.2/2, Ms1 3.2/2, ms1mx2.8/24, Error ellipse: s-maj=102.3km s-min=44.6km az=139.0
ISC 22 18:23:41.3±3.7, 202S±06×1690E±04, h34km, h34km±.8km: pP-P, n11, σ0§47/9, mb4.0/4, MS3.1/2, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**21.38**	**266**	LR	LR	18 35 01.8	
comp=Z,47nm,19.6s,MS2.9,baz=58,slow=32							
STKA	**Stephens Creek**	**27.16**	**239**	*e*P	**P**	**18 29 21.8**	**+0.2**
STKA				LR	LR	18 38 27.6	
STKA	**Stephens Creek**	**27.16**	**239**	P	**P**	**18 29 21.8**	**+0.1**
2.5nm,0.7s,mb3.8,baz=46,slow=6.2,SNR=4.4							
STKA				LR	LR	18 38 27.6	
comp=Z,82nm,20.2s,MS3.3,baz=180,slow=33							
WB2	**Warramunga Arr**	**32.53**	**264**	P	**P**	**18 30 09.1**	**-0.2**
WRAB	**Tennant Creek**	**32.54**	**264**	*e*P	**P**	**18 30 09.1**	**-0.3**
WRA	**Warramunga Arr**	**32.55**	**264**	P	**P**	**18 30 09.0**	**-0.5**
0.7nm,0.7s,mb3.7,baz=91,slow=8.4,SNR=15							
WRA				pP	pP	18 30 18.8	-0.5
0.4nm,0.6s,baz=91,slow=8.6,SNR=2.3							
ASAR	**Alice Springs**	**32.71**	**257**	P	**P**	**18 30 10.8**	**-0.1**
3.0nm,0.8s,mb4.3,baz=85,slow=8.8,SNR=35							
ASAR				pP	pP	18 30 20.6	-0.1
1.6nm,0.8s,baz=83,slow=9.2,SNR=6.4							
FITZ	**Fitzroy Crossi**	**40.96**	**265**	*e*P	**P**	**18 31 22.1**	**+1.0**
FITZ				pP	pP	18 31 31.9	+0.8
FITZ	**Fitzroy Crossi**	**40.96**	**265**	P	**P**	**18 31 22.2**	**+1.1**
3.4nm,0.9s,mb4.0,baz=100,slow=6.8,SNR=8.9							
FITZ				pP	pP	18 31 31.9	+0.8
1.8nm,0.6s,baz=120,slow=9.6,SNR=3.1							
VNA2	**Neumayer--Watz**	**89.06**	**181**	*e*	**P**	**18 36 32.5**	**-0.1**
baz=197,slow=1.9							
VNA2				*e*		18 36 34.2	
VNA2				*e*	pP	18 36 42.1	-1.3
GERES	**GERESS Array B**	**145.26**	**331**	PKPbc	PKPbc	18 43 18.0	+2.9
0.8nm,0.7s,baz=40,slow=4.4,SNR=11							

ISK 22 18:53:32.2, 3757N×44.18E, h5km, MD3.1
CSEM 22 18:53:33.9±0.8, 3771N×4406E, h5km, MD3.1, Error ellipse: s-maj=21.2km s-min=5.6km az=108.0
DDA 22 18:53:36.9, 3769N×4394E, h5km±32km, Md3.1
ISC 22 18:53:28.6±2.3, 3740N±009×444E±01, h3km±10km, n10, σ1§24/15, Turkey-Iran border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HKR	**Hakkari**	**0.52**	**290**	*e*PG	**Pg**	**18 53 39.6**	**+1.1**
HKR				*e*SG	**Sg**	**18 53 45.1**	**-0.1**
HAKT	**HAKKARI**	**0.54**	**287**	*i* P	**Pg**	**18 53 39.8**	**+1.0**
HAKT				*i* S	**Sg**	**18 53 45.8**	**0.0**
VANT	**Van**	**1.29**	**324**	*e*PN	**Pn**	**18 53 54.1**	**+0.5**
TVAN	**Van**	**1.35**	**327**	*i* P	**Pg**	**18 53 53.3**	**-1.2**
TVAN				*i* S	**Sg**	**18 54 17.7**	**+5.8**
VANB	**Van**	**1.41**	**328**	*e*PN	**Pn**	**18 53 55.4**	**+0.2**
VANB				*e*SN	**Sn**	**18 54 12.6**	**-1.7**
MSL	**Mosul**	**1.50**	**223**	*ex*	x	18 54 02.0	
MSL				*ex*	x	18 54 22.5	
MSL				*i* x	x	18 54 23.0	
TUTA	**Tutak**	**2.33**	**329**	*i* P	**Pg**	**18 54 11.4**	**-1.9**
TUTA				*i* S	**Sg**	**18 54 45.0**	**+1.4**
BTMT	**Batman**	**2.40**	**290**	*e*PN	**Pn**	**18 54 12.6**	**+3.8**
AGRB	**Hanur-Agry**	**2.42**	**334**	*e*PN	**Pn**	**18 54 10.7**	**+1.7**
MARD	**Mardin**	**2.85**	**269**	*i* P	**Pg**	**18 54 21.1**	**-2.1**
MARD				*i* S	**Sg**	**18 55 00.3**	**+0.2**

ISK 22 19:11:48.7, 3983N×4057E, h6km, MD2.9
CSEM 22 19:11:49.1±0.1, 3984N×4051E, h20km, MD2.9, Error ellipse: s-maj=3.6km s-min=2.3km az=6.0
ISCJB 22 19:11:50.5±0.7, 3982N±005×4060E±005, h17km±11km, Error ellipse: s-maj=7.7km s-min=6.8km az=164.7
DDA 22 19:11:51.9, 3997N×4069E, h5km±4km, Md2.9
ISC 22 19:11:50.5±0.7, 3979N±004×4063E±005, h14km±6km, n10, σ1§10/17, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOPT	**Kop Dagi**	**0.25**	**336**	*i* P	**Pg**	**19 11 55.4**	**-0.5**
KOPT				*i* S	**Sg**	**19 12 01.5**	**+2.0**
EZM	**Erzurum**	**0.58**	**78**	*e*PG	**Pg**	**19 12 00.7**	**-1.1**
EZM				*e*SG	**Sg**	**19 12 10.2**	**+0.7**
ERZM	**Erzurum**	**0.58**	**78**	*i* P	**Pg**	**19 12 00.1**	**-1.7**
ERZM				*i* S	**Sg**	**19 12 09.8**	**+0.2**
EZC	**Erzincan**	**0.63**	**267**	*e*PG	**Pg**	**19 12 07.4**	**+4.6**
EZC				*e*SG	**Sg**	**19 12 20.6**	**+9.4**
BINT	**Bingol**	**0.92**	**187**	*e*PG	**Pg**	**19 12 08.1**	**-0.2**
BINT				*e*SG	**Sg**	**19 12 20.9**	**+0.6**
HOMI	**Horasan**	**1.01**	**75**	*i* P	**Pb**	**19 12 08.8**	**-1.1**
HOMI				*i* S	**Sb**	**19 12 23.8**	**+0.8**
GUMT	**Gumushane**	**1.11**	**308**	*e*PG	**Pg**	**19 12 08.8**	**-3.0**
TUTA	**Tutak**	**1.73**	**102**

YKA	Yellowknife Ar	21.88	55	P	P	19 52 50.7	+0.5
YKA	Yellowknife Ar	21.88	55	P	P	19 52 50.7	+0.5
	0.6nm,0.6s,mb3.2,baz=273,slow=9.9,SNR=16						
SONM	Songino Array	56.07	306	P	P	19 57 36.4	-0.1
	0.5nm,0.6s,mb3.7,baz=54,slow=7.3,SNR=5.8						
FINES	FINESS Array B	63.13	359	P	P	19 58 23.2	-1.7
	0.4nm,0.6s,mb3.7,baz=34,slow=11,SNR=4.6						

ISCJB ***22*** *19:51:22.5±0.7, 3827N±003×2208E±003, h7km±5km, Error ellipse: s-maj=6.0km s-min=4.1km az=153.7*
THE ***22*** *19:51:23.5, 3829N×2208E, h3km, ML3.1*
NEIC ***22*** *19:51:23.4, 3831N×2205E, h26km, MD3.2(ATH), After ATH.*
ATH ***22*** *19:51:23.4, 3831N×2205E, h26km±3km, MD3.2/7*
CSEM ***22*** *19:51:23.3±0.1, 3826N×2206E, h2km, MD3.2, Error ellipse: s-maj=2.1km s-min=1.9km az=138.0*

ISC 22 19:51:23.5±0.6, 3828N±003×2210E±003, h13km±5km, n19, σ0°98/32, 1C, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RLS	Riolos of Patr	0.54	246	⇑iPN	Pg	19 51 34.5	+0.4
EVR	Evrytania	0.68	341	ePB	Pb	19 51 35.6	-1.5
EVR				eSN	Sg	19 51 45.8	+0.2
AGG	Agios Georgios	0.77	14	ePg	Pg	19 51 37.1	-1.3
AGG				eSg	Sg	19 51 48.6	+0.2
LKR	Lokris	0.80	62	ePg	Pg	19 51 39.2	+0.1
LKR				eSg	Sg	19 51 50.6	+1.0
LKR	Lokris	0.80	62	ePB	Pb	19 51 38.8	-0.5
LKR				eSN	Sn	19 51 51.5	-0.7
LKR	Lokris	0.80	62	ePg	Pg	19 51 39.2	+0.2
LKR				eSg	Sg	19 51 50.6	+1.1
LKR				eSn	Sn	19 51 51.5	-0.7
ITM	Ithomi	1.10	187	ePN	Pn	19 51 45.2	+0.6
VLS	Valsamata	1.19	266	ePg	Pg	19 51 45.1	-1.3
VLS				eSg	Sg	19 52 03.5	+1.6
VLS	Valsamata	1.19	266	ePN	Pn	19 51 45.3	-0.5
LKD	Levkas	1.21	291	ePg	Pg	19 51 45.4	-1.5
LKD				eSg	Sg	19 52 03.4	+0.8
THL	Klokotos Trika	1.29	357	ePg	Pg	19 51 47.5	-0.7
THL				eSg	Sg	19 52 05.8	+0.8
THL	Klokotos Trika	1.29	357	ePn	Pn	19 51 47.7	+0.6
THL				eSg	Sg	19 52 05.8	+0.8
XOR	Xorichti	1.38	38	ePg	Pg	19 51 49.3	-0.8
XOR				eSg	Sg	19 52 09.6	+1.5
MEV	Metsovon	1.65	336	ePb	Pb	19 51 52.4	-1.3
MEV				eSb	Sb	19 52 15.3	+0.9
AOS	Alonnisos	1.66	57	ePb	Pb	19 51 52.8	-1.1
VLI	Veliai	1.69	156	ePN	Pn	19 51 54.1	+1.4
LIT	Litokhoron	1.85	9	ePb	Pb	19 51 55.7	-1.4
LIT				eSb	Sb	19 52 21.0	+0.9
OUR	Ouranopolis	2.52	35	ePn	Pn	19 52 04.8	+0.6
FNA	Florina	2.56	348	ePn	Pn	19 52 05.6	+0.9

IDC ***22*** *20:04:36.6±1.9, 566S×14199E, h0km, mb3.9/6, mb1 4.1/7, mb1mx4.0/11, mbtmp4.0/7, ML4.4/1, MS3.5/4, Ms1 3.5/4, ms1mx3.3/14, Error ellipse: s-maj=73.7km s-min=21.2km az=93.0*
ISCJB ***22*** *20:04:39.8±0.7, 580S±006×1418E±01, h33km, mb4.1/9, Error ellipse: s-maj=17.1km s-min=7.1km az=22.2*
NEIC ***22*** *20:04:42.0±1.1, 583S×14189E, h35km, mb4.3/7, Error ellipse: s-maj=32.6km s-min=11.8km az=99.0*

ISC 22 20:04:43.8±1.7, 605S±007×1420E±01, h69km±14km, n24, σ1°11/27, mb3.9/9, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	Kakadu	11.52	234	eP	Pn	20 07 25.6	0.0
	33nm,0.5s						
KAKA	Kakadu	11.52	234	ePn	Pn	20 07 26.0	+0.5
KAKA				eSn	Sn	20 09 33.4	+0.7
CTA	Charters Tower	14.56	164	Lg		20 12 33.2	
	baz=238,slow=22,SNR=6.4						
CTA				LR	LR	20 13 44.4	
	comp=Z,130nm,18.1s,baz=212,slow=37						
WRAB	Tennant Creek	15.68	208	eP	Pn	20 08 21.4	+0.7
	13nm,0.6s						
WB2	Warramunga Arr	15.69	208	eP	Pn	20 08 19.6	-1.2
WB2				eS	S	20 11 10.1	-15
WB2	Warramunga Arr	15.69	208	eP	Pn	20 08 21.6	+0.8
WB2				eS	S	20 11 10.1	-15
WRA	Warramunga Arr	15.69	208	Pn	Pn	20 08 19.7	-1.2
	1.1nm,0.3s,baz=27,slow=13,SNR=58						
WRA				Sn	Sn	20 11 11.8	-2.2
	0.6nm,0.3s,baz=29,slow=22,SNR=4.1						
WRA				Lg		20 13 00.3	
	0.5nm,0.3s,baz=26,slow=23,SNR=4.9						
WRA				LR	LR	20 15 19.3	
	comp=Z,432nm,19.1s,baz=25,slow=40						
HNR	Honiara	18.10	102	LR	LR	20 15 37.0	
	comp=Z,97nm,19.0s,baz=177,slow=36						
ASAR	Alice Springs	19.18	203	P	Pn	20 09 05.3	+1.8
	1.0nm,0.3s,baz=32,slow=11,SNR=84						
ASAR				S	S	20 12 36.2	+0.4
	0.2nm,0.3s,baz=16,slow=28,SNR=3.9						
ASAR				Lg		20 14 54.6	
	0.2nm,0.3s,baz=20,slow=30,SNR=5.1						
FITZ	Fitzroy Crossi	19.97	232	eP	Pn	20 09 12.7	-0.2
	7.2nm,0.5s						
FITZ	Fitzroy Crossi	19.97	232	eP	Pn	20 09 12.7	-0.2
	11nm,0.8s						
FITZ	Fitzroy Crossi	19.97	232	P	Pn	20 09 13.0	+0.1
	5.4nm,0.7s,baz=59,slow=13,SNR=9.9						
FITZ				S	S	20 12 51.0	-0.6
	1.3nm,0.6s,baz=187,slow=17,SNR=2.0						
FITZ				Lg		20 15 21.7	
	14nm,0.8s,baz=134,slow=16,SNR=4.8						
FITZ				LR	LR	20 17 52.7	
	comp=Z,166nm,21.6s,baz=21,slow=39						
STKA	Stephens Creek	25.70	181	eP	P	20 10 11.7	+4.1
	2.0nm,0.7s,mb3.7						
STKA	Stephens Creek	25.70	181	P	P	20 10 11.8	+4.2
	1.6nm,0.8s,mb3.5,baz=358,slow=13,SNR=3.4						
KSRS	Korea Array	45.23	344	P	P	20 12 52.7	-1.5
	1.7nm,0.6s,mb3.9,baz=164,slow=8.5,SNR=6.9						
LSA	Lhasa	60.35	309	eP	P	20 14 48.5	+2.5
	2.3nm,0.7s,mb4.3						
ULN	Ulaanbaatar	61.86	334	eP	P	20 14 55.5	-0.3
	1.6nm,0.8s,mb4.1						
SONM	Songino Array	62.13	334	P	P	20 14 56.8	-0.8
	0.4nm,0.7s,mb3.6,baz=158,slow=5.7,SNR=3.9						
MKAR	Makanchi Array	74.42	322	P	P	20 16 15.2	+0.8
	1.2nm,0.6s,mb3.8,baz=97,slow=8.7,SNR=8.6						
ZALV	Zalesovo Beam	76.45	329	P	P	20 16 25.3	-0.7
ZALV	Zalesovo Beam	76.45	329	P	P	20 16 25.3	-0.7
	0.6nm,0.5s,mb3.6,baz=107,slow=5.0,SNR=3.7						
QSPA	South Pole Qui	83.92	180	eP	P	20 17 10.9	+5.2
	3.7nm,0.6s,mb4.4						
BRVK	Borovoye	83.98	325	eP	P	20 17 07.0	+0.5
	2.6nm,1.0s,mb4.0						
DBIC	Dimbokro	147.06	273	PKPbc	PKPbc	20 24 23.8	+3.7
	2.4nm,0.8s,baz=98,slow=1.7,SNR=3.5						

ISK ***22*** *20:08:34.6, 3838N×3918E, h5km, MD3.1*
NEIC ***22*** *20:08:34.6, 3837N×3917E, h5km, MD3.1(ISK), After ISK.*
ISCJB ***22*** *20:08:35.7±0.5, 3833N±004×3923E±004, h5km, Error ellipse: s-maj=6.0km s-min=3.7km az=20.9*
CSEM ***22*** *20:08:35.3±0.1, 3836N×3919E, h5km, MD3.0, Error ellipse: s-maj=2.7km s-min=2.4km az=11.0*
DDA ***22*** *20:08:36.9, 3841N×3927E, h7km±4km, Md3.0*

ISC 22 20:08:35.7±0.8, 3835N±004×3926E±004, h2km±7km, n19, σ0°94/27, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ELZG	Elazig	0.27	305	iP	Pg	20 08 40.5	-0.4
ELZG				iS	Sg	20 08 45.2	+0.9
MALT	Malatya	0.66	267	PG	Pg	20 08 47.0	-1.3
MALT				eSG	Sg	20 08 57.4	+0.5
MALT	Malatya	0.66	267	Pg	Pg	20 08 46.9	-1.5
MALT				Sg	Sg	20 08 56.9	0.0
MALT	Malatya	0.66	267	iPg	Pg	20 08 47.0	-1.3
MALT				Sg	Sg	20 08 56.9	0.0
MYA	Malataya	0.66	269	PG	Pg	20 08 47.2	-1.1
MYA				eSG	Sg	20 08 56.6	-0.3
DIY	Diyarbakir	0.88	120	PG	Pg	20 08 53.8	+1.2
DIY	Diyarbakir	0.88	120	Pn	Pn	20 08 53.7	-1.4
URFA	Urfa	0.97	201	ePG	Pg	20 08 54.6	+0.4
BINT	Bingol	1.10	61	ePN	Pn	20 08 57.9	-0.2
KEMA	Kemaliye	1.10	327	iP	Pg	20 08 57.1	+0.3
KEMA				iS	Sg	20 09 13.5	+2.4
EZC	Erzincan	1.47	17	ePN	Pn	20 09 02.3	-0.9
MARD	Mardin	1.58	130	iP	Pn	20 09 05.0	+0.3
MARD				iS	Sn	20 09 27.0	+1.2
GZT	Gaziantep	1.67	234	iP	Pn	20 09 05.5	-0.5
GZT				iS	Sn	20 09 30.4	+2.5
BTMT	Batman	1.76	94	ePN	Pn	20 09 06.7	-0.5
GAZ	Gaziantep	2.00	235	ePN	Pn	20 09 10.5	-0.1
KMRS	Kahramanmaras	2.05	247	ePN	Pn	20 09 10.9	-0.3
SVSK	Karacayir	2.36	312	ePN	Pn	20 09 15.2	-0.3
BNN	Bunyan	2.73	282	ePN	Pn	20 09 19.8	-0.8
KOZT	Kozan	2.85	253	ePN	Pn	20 09 22.5	+0.3

NEIC 22 20:32:55.6, 3949S×17439E, h213km, MG4.1(WEL), After WEL., North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEZ	North Egmont	0.32	314	P	Pn	20 33 23.9	+0.2
PKE	Pukeiti	0.43	313	P	Pn	20 33 23.8	-0.2
VRZ	Vera Road	0.46	38	P	Pn	20 33 23.4	-0.7
VRZ				S	S	20 33 44.7	-1.4
WAZ	Wanganui	0.53	120	P	Pn	20 33 24.8	+0.6
WAZ				S	S	20 33 46.0	-0.6
TWVZ	Taurewa	0.91	63	P	Pn	20 33 25.7	-0.5
FWVZ	Far West T-bar	0.93	76	P	Pn	20 33 26.2	0.0
DRZ	Dome Shelter	0.94	77	P	Pn	20 33 27.0	+0.7
WPVZ	Whakapapa	0.94	73	P	Pn	20 33 26.2	-0.1
WNVZ	Wahianoa	0.95	81	P	Pn	20 33 26.5	+0.2
NGZ	Ngauruhoe	0.99	72	P	Pn	20 33 26.5	-0.1
WTVZ	West Tongariro	1.00	69	P	Pn	20 33 26.6	-0.1
TUVZ	Tukino	1.00	78	P	Pn	20 33 26.9	+0.2
HIZ	Hauiti	1.04	21	P	Pn	20 33 26.1	-0.9
MOVZ	Moawhango	1.06	86	P	Pn	20 33 26.7	-0.3
KATZ	Kakaramea	1.14	64	P	Pn	20 33 27.7	+0.1
WATZ	Wairara	1.30	54	P	Pn	20 33 28.7	-0.1
WATZ				S	S	20 33 45.4	-9.3
TSZ	Takapari Road	1.34	116	P	Pn	20 33 29.1	0.0
KIW	Kapiti Island	1.43	164	P	Pn	20 33 29.7	-0.1
MRZ	Mangatainoka R	1.48	142	P	Pn	20 33 30.1	-0.1
BKZ	Black Stump Fm	1.66	79	P	Pn	20 33 31.4	-0.4
CAW	Cannon Point	1.70	162	P	Pn	20 33 32.0	-0.1
TCW	Tory Channel	1.72	183	P	Pn	20 33 32.5	+0.2
MRW	Makara Radio	1.75	172	P	Pn	20 33 32.5	-0.1
WEL	Wellington	1.82	171	P	Pn	20 33 33.1	-0.1
SNZO	South Karori	1.83	173	P	Pn	20 33 33.1	-0.3
BFZ	Birch Farm	1.86	130	P	Pn	20 33 33.5	-0.1
MTW	Mount Morrison	1.87	153	P	Pn	20 33 33.4	-0.3
NNZ	Nelson	1.89	204	P	Pn	20 33 33.7	-0.2
BHW	Baring Head	1.95	169	P	Pn	20 33 34.0	-0.5
QRZ	Quartz Range	1.95	226	P	Pn	20 33 33.6	-0.9
MSWZ	Moikau Station	2.03	161	P	Pn	20 33 34.9	-0.4
PAWZ	Paruwai Farm	2.05	158	P	Pn	20 33 35.2	-0.3
BSWZ	Blackbirch Sta	2.26	190	P	Pn	20 33 37.8	+0.2
URZ	Urewera	2.45	61	P	Pn	20 33 38.2	-1.6
THZ	Tophouse	2.54	206	P	Pn	20 33 40.4	-0.2
WTAZ	Waiatarua	2.56	3	P	Pn	20 33 39.1	-1.8
KNZ	Kokohu	2.59	81	P	Pn	20 33 40.7	-0.6
MWZ	Matawai	2.71	66	P	Pn	20 33 41.3	-1.2
DSZ	Denniston Nort	2.99	220	P	Pn	20 33 44.9	-0.8
PUZ	Puketiti	3.34	66	P	Pn	20 33 48.4	-1.4
LTZ	Lake Taylor	3.66	205	P	Pn	20 33 52.8	-0.8
MQZ	McQueen's Vall	4.41	197	eP	Pn	20 34 01.1	-1.7
RPZ	Rata Peaks	4.91	210	P	Pn	20 34 07.4	-1.6
FOZ	Fox Glacier	5.39	219	eP	Pn	20 34 12.3	-2.8
LBZ	Lake Benmore	5.81	211	eP	Pn	20 34 18.3	-2.2
ODZ	Otahua Downs	6.21	205	P	Pn	20 34 24.5	-1.1
JCZ	Jackson Bay	6.22	221	eP	Pn	20 34 23.2	-2.5
WKZ	Wanaka	6.66	215	eP	Pn	20 34 28.5	-2.9
EAZ	Earnscleugh	6.86	212	eP	Pn	20 34 31.8	-2.2
TUZ	Tuapeka	7.35	207	eP	Pn	20 34 39.2	-1.1

IDC 22 20:33:51.4±2.8, 629S×15175E, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.6/13, mbtmp3.8/4, Error ellipse: s-maj=72.1km s-min=45.0km az=112.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	21.69	230	P	P	20 38 44.1	0.0
	0.4nm,0.5s,baz=56,slow=10,SNR=5.2						
ASAR	Alice Springs	24.35	223	P	P	20 39 11.2	0.0
	2.1nm,0.7s,baz=56,slow=9.0,SNR=24						
STKA	Stephens Creek	27.17	199	P	P	20 39 37.0	+0.3
	1.1nm,0.7s,baz=23,slow=7.7,SNR=3.8						
FITZ	Fitzroy Crossi	28.04	243	P	P	20 39 44.7	+0.1
	1.0nm,0.6s,baz=50,slow=11,SNR=2.5						
TORD	Torodi Ar. Bea	149.73	285	PKPbc	PKPbc	20 53 43.8	-0.6
	0.4nm,0.7s,baz=104,slow=2.7,SNR=7.9						

IDC 22 20:49:12.5±46.0, 1555S×17132W, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.7/17, mbtmp3.9/3, Error ellipse: s-maj=912.8km s-min=188.9km az=79.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	45.70	241	P	P	20 57 36.1	+0.6
	2.1nm,0.9s,baz=91,slow=12,SNR=4.2						
WRA	Warramunga Arr	51.76	257	P	P	20 58 21.7	-0.6
	0.3nm,0.5s,baz=96,slow=6.9,SNR=11						
ASAR	Alice Springs	51.97	252	P	P	20 58 23.9	0.0
	2.7nm,0.5s,baz=89,slow=8.2,SNR=54						

ISCJB ***22*** *20:52:58.8±0.7, 1076N±005×6253W±003, h106km±6km, Error ellipse: s-maj=7.7km s-min=4.9km az=172.2*
FUNV ***22*** *20:52:58.4, 1095N×6237W, h100km, MW3.0*
TRN ***22*** *20:53:02.1, 1094N×6244W, h88km, MD3.3*
NEIC ***22*** *20:53:02.1, 1094N×6244W, h88km, MD3.3(TRN), After TRN.*

ISC 22 20:52:59.7±0.7, 1077N±004×6254W±003, h100km±7km, n21, σ1°16/35, 3C-5D, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIV	Guiria	0.33	111	⇑iP	Pn	20 53 13.5	-0.9
GUIV				eS	Sn	20 53 24.3	-1.2
CRUV	Carupano	0.69	262	↓iP	Pn	20 53 16.8	-0.2
CRUV				eS	Sn	20 53 30.6	+0.5
GUNV	Guanoco	0.72	213	↓eP	Pn	20 53 18.3	+0.9
GUNV				eS	Sn	20 53 33.0	+2.4
TCE	Chacachacare	0.78	95	eP	Pn	20 53 18.4	+0.6
TCE				eS	Sn	20 53 31.0	-0.4
ITEV	Isla Los Testi	0.82	315	↓eP	Pn	20 53 16.7	-1.7
ITEV				eS	Sn	20 53 29.9	-2.4
TRN	Trinidad (W)	1.12	96	eP	Pn	20 53 22.1	+0.6
TRN				eS	Sn	20 53 36.8	-1.1
TPP	Pointe-a-Pierr	1.16	113	eP	Pn	20 53 24.6	+2.7
TPP				eS	Sn	20 53 40.0	+1.3
TBH	Brigand Hill	1.47	101	eP	Pn	20 53 26.4	+0.7
TBH				eS	Sn	20 53 45.4	+0.1
GRW	Mount Saint Ca	1.63	32	eP	Pn	20 53 27.6	0.0
GRW				eS	Sn	20 53 50.1	+1.4
TPR	Prospect	1.78	76	eP	Pn	20 53 29.5	0.0
TPR				eS	Sn	20 53 50.7	-1.4
ORIV	Oritupano	1.89	207	eP	Pn	20 53 32.1	+1.1
PCRV	Puerto La Cruz	2.15	254	↓iP	Pn	20 53 35.1	+0.9
PCRV				eS	Sn	20 54 01.6	+1.1
RIOV	Rio Grande	2.78	165	eS	Sn	20 54 14.7	-0.8
PRGV	PARIAGUAN	2.88	226	eP	Pn	20 53 44.4	+0.5
GURV	El Guri	3.04	190	⇑eP	Pn	20 53 46.3	+0.3
CUPV	Cœpira	3.27	258	⇑iP	Pn	20 53 50.0	+0.8
BIRV	Birongo	3.68	266	eP	Pn	20 53 55.4	+0.8
MERV	Las Mercedes	4.00	248	eP	Pn	20 53 58.8	-0.1
LUEV	Luepa	5.01	168	eP	Pn	20 54 11.3	-1.3
LUEV				eS	Sn	20 55 05.8	-3.5
CAOV	Caicara del Or	5.07	228	eP	Pn	20 54 13.2	-0.2
CAOV				eS	Sn	20 55 08.8	-1.9
BAUV	El Baul	5.72	252	↓eP	Pn	20 54 21.9	-0.4
BAUV				eS	Sn	20 55 23.7	-2.9

ISCJB ***22*** *21:42:55.4±1.6, 3828N±005×204E±0.1, h14km±6km, Error ellipse: s-maj=16.7km s-min=6.7km az=158.0*
ATH ***22*** *21:42:55.5, 3831N×2036E, h15km, MD3.2/3*
THE ***22*** *21:42:57.2, 3834N×2045E, h3km, ML2.9*
CSEM ***22*** *21:42:57.3±0.2, 3832N×2047E, h10km, ML2.9, Error ellipse: s-maj=4.5km s-min=2.0km az=80.0*

ISC 22 21:42:56.0±1.8, 3827N±006×204E±01, h16km±6km, n7, σ0°81/12, 1D, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	Valsamata	0.18	120	ePg	Pg	21 43 00.9	+0.4
VLS				eSg	Sg	21 43 03.9	+0.4
VLS	Valsamata	0.18	120	↓iPB	Pg	21 43 00.8	+0.3
LKD	Levkas	0.48	25	ePg	Pg	21 43 04.8	-0.9
LKD				eSg	Sg	21 43 10.9	-1.4
RLS	Riolos of Patr	0.88	104	ePN	Pn	21 43 12.8	-0.7
RLS				eSN	Sn	21 43 25.4	-0.5
IGT	Igoumenitsa	1.26	358	ePg	Pg	21 43 20.2	-0.2
IGT				eSg	Sg	21 43 38.1	+1.3
EVR	Evrytania	1.29	59	ePN	Pn	21 43 19.8	+0.6
AGG	Agios Georgios	1.70	63	ePb	Pb	21 43 26.5	-0.2
AGG				eSb	Sb	21 43 49.0	+1.2

IDC 22 21:49:15.8±7.3, 1889S×17660W, h0km, mb3.5/2, mb1 3.8/2, mb1mx3.5/15, mbtmp3.5/2, Error ellipse: s-maj=297.7km s-min=116.8km az=153.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	46.15	260	P	P	21 57 42.5	+0.1
	0.2nm,0.3s,baz=96,slow=7.5,SNR=20						
ASAR	Alice Springs	46.19	255	P	P	21 57 42.4	-0.3
	0.4nm,0.5s,baz=96,slow=7.6,SNR=5.8						
AKASG	Malin Array Be	142.21	333	PKP	PKPdf	22 08 49.4	-0.6
	0.4nm,0.4s,baz=39,slow=3.5,SNR=5.3						

IDC ***22*** *21:49:48.4±0.7, 464N×96.17E, h0km, mb4.0/14, mb1 4.1/14, mb1mx4.0/22, mbtmp4.0/14, MS3.5/4, Ms1 3.5/4, ms1mx3.2/23, Error ellipse: s-maj=27.4km s-min=14.4km az=54.0*
ISCJB ***22*** *21:49:51.6±6.0, 47N±01×962E±01, h33km±42km, mb4.1/19, MS3.5/4, Error ellipse: s-maj=26.0km s-min=11.0km az=146.1*
NEIC ***22*** *21:49:52.6±0.5, 463N×96.10E, h30km, mb4.4/5, Error ellipse: s-maj=16.0km s-min=8.1km az=219.0*
BJI ***22*** *21:49:52.6, 460N×96.10E, h30km, mb4.3*

ISC 22 21:49:54.2±2.3, 47N±01×962E±01, h39km±20km, n29, σ0°88/29, mb4.1/19, MS3.5/4, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	Kulim	4.44	82	ePn	Pn	21 50 58.7	-0.4
SNG	Songkhla	5.01	60	P	Pn	21 51 06.0	-0.9
KSM	Kuching	14.42	102	Pn	Pn	21 53 17.6	+1.8
KMI	Kunming	21.25	16	P	P	21 54 44.8	+7.7
KMI				AP		21 54 51.5	
KMI				AMB	AMB		
	comp=Z,12nm,0.9s,mb4.2						
HYB	Hyderabad	21.44	308	eP	P	21 54 36.0	-3.2
HYB	Hyderabad	21.44	308	iP	P	21 54 40.0	+0.8
LSA	Lhasa	25.33	350	eP	P	21 55 17.6	+0.1
	comp=Z,4.2nm,0.6s,mb4.2						
GTA	Gaotai	34.71	5	eP	P	21 56 44.9	+4.5
GTA				AP	pP	21 56 52.3	+1.0
GTA				XP	sP	21 56 55.4	-0.5
GTA				AMB	AMB		
	comp=Z,5.0nm,1.0s,mb4.4						
FITZ	Fitzroy Crossi	36.80	129	eP	P	21 56 57.9	-0.7
	comp=Z,5.4nm,0.7s,mb4.5						
FITZ	Fitzroy Crossi	36.80	129	P	P	21 56 57.6	-1.1
	comp=Z,2.8nm,0.7s,mb4.2,baz=336,slow=3.9,SNR=6.8						
NWAO	Narrogin (SRO)	42.39	153	P	P	21 57 45.5	+0.5
NWAO	Narrogin (SRO)	42.39	153	P	P	21 57 45.5	+0.5
	comp=Z,5.5nm,0.9s,mb4.2,baz=284,slow=11,SNR=4.0						
NWAO				LR	LR	22 13 28.6	
	comp=Z,63nm,20.0s,MS3.5,baz=157,slow=34						
KSRS	Korea Array	43.60	37	P	P	21 57 54.2	-0.5
	comp=Z,1.1nm,0.6s,mb3.7,baz=219,slow=10,SNR=4.4						
MKAR	Makanchi Array	43.64	346	P	P	21 57 55.6	+0.7
	comp=Z,0.3nm,0.4s,mb3.3,baz=159,slow=6.6,SNR=3.6						
MKAR				LR	LR	22 16 14.8	
	comp=Z,48nm,20.8s,MS3.4,baz=177,slow=36						
SONM	Songino Array	43.86	10	P	P	21 57 57.4	+0.8
	comp=Z,2.8nm,0.7s,mb4.1,baz=191,slow=8.8,SNR=24						
WRA	Warramunga Arr	44.75	124	P	P	21 58 03.9	-0.3
	comp=Z,1.9nm,0.7s,mb4.0,baz=302,slow=9.4,SNR=23						
WRAB	Tennant Creek	44.75	124	eP	P	21 58 03.5	-0.7
	comp=Z,3.6nm,0.5s,mb4.5						
WB2	Warramunga Arr	44.76	124	eP	P	21 58 04.0	-0.2
ASAR	Alice Springs	46.30	129	P	P	21 58 16.4	0.0
	comp=Z,6.8nm,0.7s,mb4.7,baz=297,slow=8.0,SNR=72						
FORT	Forrest	46.57	141	eP	P	21 58 19.4	+1.0
	comp=Z,25nm,0.7s,mb5.2						
ZALV	Zalesovo Beam	49.98	351	P	P	21 58 43.1	-1.2
	comp=Z,0.7nm,0.6s,mb3.9,baz=184,slow=9.8,SNR=4.4						
ZALV				LR	LR	22 26 00.2	
	comp=Z,27nm,18.0s,MS3.3,baz=276,slow=43						
STKA	Stephens Creek	56.42	133	eP	P	21 59 32.2	0.0
	comp=Z,2.6nm,0.6s,mb4.4						
STKA	Stephens Creek	56.42	133	P	P	21 59 32.0	-0.1
	comp=Z,2.4nm,0.7s,mb4.4,baz=329,slow=9.0,SNR=5.9						
STKA				LR	LR	22 24 01.8	
	comp=Z,71nm,19.9s,MS3.8,baz=25,slow=36						
KMBO	Kilima Mbogo	59.20	266	eP	P	21 59 51.2	-0.8
	comp=Z,1.9nm,0.9s,mb4.1						
KMBO	Kilima Mbogo	59.20	266	P	P	21 59 51.8	-0.2
	comp=Z,1.6nm,0.8s,mb4.1,baz=63,slow=11,SNR=7.0						
FINES	FINESS Array B	76.47	332	P	P	22 01 40.3	+0.5
	comp=Z,0

ms1mx3.2/24, Error ellipse: s-maj=30.7km s-min=28.1km az=113.0
NEIC ***22*** *22:15:42.7±0.6, 10.14S×161.72E, h10km, mb4.3/2, Error ellipse: s-maj=14.7km s-min=13.6km az=105.0*
ISCJB ***22*** *22:15:44.5±0.8, 102S±0.1×161.7E±0.1, h33km, mb4.1/8, MS3.9/2, Error ellipse: s-maj=17.2km s-min=15.7km az=172.2*

ISC 22 22:15:46.5±0.8, 101S±01×1617E±01, h35km, n21, σ0§96/21, mb4.1/8, MS3.9/2, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.84**	**292**	Pn	**Pn**	**22 16 13.6**	**-2.0**
HNR				*e*Sn	**Sn**	**22 16 29.5**	**-8.2**
HNR				Sn	**Sn**	**22 16 31.3**	**-6.4**
HNR	**Honiara**	**1.84**	**292**	Pn	**Pn**	**22 16 13.6**	**-2.0**
	408nm,0.3s,baz=114,slow=2.3,SNR=61						
HNR				Sn	**Sn**	**22 16 31.3**	**-6.4**
	275nm,0.3s,baz=75,slow=13,SNR=8.8						
WRAB	**Tennant Creek**	**28.09**	**247**	P	**P**	**22 21 36.0**	**+0.9**
WRA	**Warramunga Arr**	**28.10**	**247**	P	**P**	**22 21 36.4**	**+1.2**
	0.8nm,0.5s,mb3.6,baz=75,slow=8.8,SNR=14						
ASAR	**Alice Springs**	**29.70**	**240**	P	**P**	**22 21 50.6**	**+1.1**
	0.3nm,0.6s,mb3.2,baz=64,slow=11,SNR=4.1						
URZ	**Urewera**	**31.24**	**156**	LR	LR	22 31 35.0	
	comp=Z,143nm,19.2s,MS3.6,baz=204,slow=31						
TAU	**Tasmania Unive**	**34.97**	**199**	*e*P	**P**	**22 22 34.3**	**-1.0**
FITZ	**Fitzroy Crossi**	**35.78**	**253**	*e*P	**P**	**22 22 43.2**	**+0.6**
	1.3nm,0.4s,mb4.2						
NWAO	**Narrogin (SRO)**	**46.70**	**234**	*e*P	**P**	**22 24 12.7**	**+0.5**
	40nm,1.5s,mb5.1						
KKM	**Kota Kinabalu**	**48.05**	**288**	P	**P**	**22 24 22.5**	**-0.4**
KULM	**Kulim**	**62.68**	**281**	P	**P**	**22 26 08.3**	**-0.1**
VNDA	**Vanda**	**67.36**	**180**	P	**P**	**22 26 36.0**	**-1.7**
VNDA	**Vanda**	**67.36**	**180**	P	**P**	**22 26 36.0**	**-1.7**
	1.1nm,0.6s,mb4.1,baz=18,slow=5.8,SNR=6.1						
SBA	**Scott Base**	**67.75**	**179**	*e*P	**P**	**22 26 39.5**	**-0.6**
SONM	**Songino Array**	**75.61**	**325**	P	**P**	**22 27 27.5**	**-0.3**
	1.4nm,0.6s,mb4.1,baz=138,slow=5.5,SNR=13						
MCK	**McKinley**	**82.62**	**20**	*e*P	**P**	**22 28 05.8**	**+0.1**
	3.1nm,0.8s,mb4.4						
KURK	**Kurchatov**	**93.40**	**321**	P	**P**	**22 28 58.3**	**+0.2**
YKA	**Yellowknife Ar**	**96.02**	**28**	P	**P**	**22 29 11.2**	**+1.4**
YKA	**Yellowknife Ar**	**96.02**	**28**	P	**P**	**22 29 11.2**	**+1.4**
	0.2nm,0.5s,mb3.8,baz=265,slow=4.8,SNR=6.1						
TXAR	**Lajitas Array**	**98.92**	**62**	LR	LR	23 05 09.3	
	comp=Z,69nm,21.2s,MS4.1,baz=225,slow=30						
ARCES	**ARCESS Array B**	**114.43**	**344**	PKP	PKiKP	22 34 22.9	+0.7
	1.5nm,1.0s,baz=48,slow=1.8,SNR=5.6						

IDC 22 22:20:40.2±65.0, 039S×9604E, h0km, mb3.7/3, mb1 3.7/3, mb1mx3.4/20, mbtmp3.7/3, Error ellipse: s-maj=1269.0km s-min=174.3km az=176.0, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**48.51**	**347**	P	P	22 29 24.9	+0.1
	0.3nm,0.3s,baz=167,slow=8.9,SNR=4.3						
SONM	**Songino Array**	**48.87**	**9**	P	P	22 29 27.7	+0.1
	0.4nm,0.6s,baz=197,slow=9.2,SNR=3.8						
ZALV	**Zalesovo Beam**	**54.95**	**352**	P	P	22 30 12.7	-0.1
	0.6nm,0.5s,baz=171,slow=6.8,SNR=4.2						

NIED ***22*** *22:50:00, 2580N×12530E, h8km, Mw4.2 Best double couple: M0=2.26000×10^15 NP1:φ=113.00000°, δ=61.00000°, λ=-41.00000°. NP2:φ=226.00000°, δ=55.00000°, λ=-143.00000°.*
JMA ***22*** *22:50:42.8±0.2, 2575N×12527E, h21km±3km, M4.4*
NEIC ***22*** *22:50:44.0±0.7, 2556N×12547E, h10km, mb4.1/3, Error ellipse: s-maj=14.0km s-min=13.1km az=148.0*
ISCJB ***22*** *22:50:45.6±0.5, 2559N±004×12542E±005, h33km±7km, mb3.9/12, MS3.7/7, Error ellipse: s-maj=9.8km s-min=4.3km az=43.5*
MOS ***22*** *22:50:49.1±1.2, 2557N×12544E, h70km, mb4.1/9, Error ellipse: s-maj=28.6km s-min=12.0km az=111.4*
IDC ***22*** *22:50:49.4±3.2, 2561N×12549E, h56km±30km, mb3.5/8, mb1 3.8/11, mb1mx3.6/25, mbtmp3.7/11, ML3.6/3, MS3.5/11, Ms1 3.5/11, ms1mx3.3/26, Error ellipse: s-maj=32.2km s-min=16.8km az=70.0*
BJI ***22*** *22:50:52.6, 2634N×12507E, h5km, mB4.5, mb3.9, Ms4.2, Msz3.8*

ISC 22 22:50:45.4±1.5, 2552N±004×12544E±005, h20km±13km, n58, σ1§25/59, mb3.9/12, MS3.7/7, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMJ	**Miyako jima 2**	**0.72**	**191**	P	**Pn**	**22 50 59.9**	**-0.5**
JMJ				S	**Sn**	**22 51 12.4**	**+1.6**
JOGS	**Gusukube**	**0.76**	**182**	P	**Pn**	**22 51 00.9**	**-0.1**
JOGS				S	**Sn**	**22 51 14.0**	**+2.1**
JTJ	**Tarama**	**1.10**	**217**	P	**Pn**	**22 51 04.3**	**-1.4**
JTJ				*e*S	**Sn**	**22 51 19.6**	**-0.8**
JKE	**Kume jima 2**	**1.45**	**56**	P	**Pn**	**22 51 08.4**	**-2.1**
JIJ	**Ishigaki jima**	**1.65**	**226**	P	**Pn**	**22 51 12.0**	**-1.2**
JIJ				S	**Sn**	**22 51 33.3**	**-0.5**
JKRS	**Kuro-shima**	**1.82**	**226**	P	**Pn**	**22 51 15.1**	**-0.5**
JKRS				*e*S	**Sn**	**22 51 39.3**	**+1.2**
JAGN	**Aguni-jima**	**1.94**	**56**	P	**Pn**	**22 51 16.2**	**-1.0**
IRIF	**Iriomote-Funau**	**1.95**	**233**	P	**Pn**	**22 51 16.3**	**-1.1**
HATJ	**Hateruma jima**	**2.08**	**226**	P	**Pn**	**22 51 18.0**	**-1.2**
NAH1	**Naha**	**2.14**	**71**	P	**Pn**	**22 51 20.0**	**+0.1**
JJT2	**Tamagusuku 2**	**2.17**	**73**	P	**Pn**	**22 51 20.8**	**+0.4**
YOJ	**Yonaguni jima**	**2.44**	**245**	P	**Pn**	**22 51 23.1**	**-1.0**
JIH	**Iheya**	**2.72**	**56**	P	**Pn**	**22 51 27.7**	**-0.3**
JOW	**Kunigami**	**2.86**	**62**	P	**Pn**	**22 51 29.9**	**0.0**
JOW	**Kunigami**	**2.86**	**62**	P	**Pn**	**22 51 30.2**	**+0.3**
	40nm,0.3s,baz=235,slow=10,SNR=26						
JOW				LR	LR	22 52 37.3	
	comp=Z,342nm,19.5s,baz=161,slow=39						
TATO	**Taipei**	**3.62**	**262**	*e*Pn	**Pn**	**22 51 45.4**	**+5.1**
NACB	**Ninganchiao**	**3.74**	**250**	*e*Pn	**Pn**	**22 51 43.1**	**+1.1**
NACB				*e*Sn	**Sn**	**22 52 34.0**	**+8.6**
YHNB	**Yeheng**	**3.78**	**258**	*e*Pn	**Pn**	**22 51 45.8**	**+3.2**
JTK	**Tokunoshima**	**3.87**	**54**	P	**Pn**	**22 51 43.8**	**+0.1**
JAM	**Amami Oshima**	**4.70**	**51**	P	**Pn**	**22 51 55.1**	**-0.1**
JNU	**Nakatsue**	**8.93**	**31**	P	**Pn**	**22 52 55.6**	**+2.3**
	0.3nm,0.3s,baz=185,slow=19,SNR=4.7						
JNU				LR	LR	22 57 01.2	
	comp=Z,149nm,18.0s,baz=214,slow=42						
KSRS	**Korea Array**	**12.08**	**9**	P	**Pn**	**22 53 38.8**	**+2.4**
	0.3nm,0.3s,baz=188,slow=14,SNR=11						
KSRS				LR	LR	22 58 20.1	
	comp=Z,182nm,19.6s,baz=185,slow=38						
JHJ	**Hachijo jima 2**	**14.61**	**55**	LR	LR	22 59 35.3	
	comp=Z,38nm,20.2s,baz=85,slow=36						
ENH	**Enshi**	**14.87**	**292**	*e*P	**Pn**	**22 54 23.0**	**+8.4**
MJAR	**Matsushiro Arr**	**15.49**	**42**	LR	LR	23 00 51.5	
	comp=Z,178nm,18.6s,baz=200,slow=39						
MDJ	**Mudanjiang**	**19.34**	**9**	P	**Pn**	**22 55 09.2**	**-1.4**
GTA	**Gaotai**	**25.57**	**309**	P	**P**	**22 56 16.4**	**+3.4**
GTA				AP	pP	22 56 24.3	+5.2
GTA				XP	sP	22 56 28.0	+6.4
GTA				PP		22 56 55.8	
GTA				S	**S**	**23 00 38.4**	**-1.3**
GTA				XS	sS	23 00 48.9	-0.9
GTA				AMB	AMB		
	comp=Z,5.0nm,1.3s,mb3.9						
GTA				AMB	AMB		
	comp=Z,64nm,5.3s						
GTA				LR	LR		
	comp=N,316nm,15.2s,MS4.0						
GTA				LR	LR		
	comp=E,203nm,16.4s,MS4.0						
GTA				LR	LR		
	comp=Z,204nm,12.9s,MS3.8						
ULN	**Ulaanbaatar**	**26.60**	**332**	*e*P	**P**	**22 56 24.3**	**+2.1**
	comp=Z,3.4nm,1.0s,mb3.8						
ULN	**Ulaanbaatar**	**26.60**	**332**	*e*P	**P**	**22 56 24.3**	**+2.1**
ULN				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb3.8						
SONM	**Songino Array**	**26.86**	**331**	P	**P**	**22 56 25.5**	**+0.9**
SONM				pmax	pmax		
	comp=Z,2.0nm,1.0s						
SONM				MLR	MLR		
	comp=Z,125nm,19.3s						
SONM	**Songino Array**	**26.86**	**331**	P	**P**	**22 56 25.5**	**+0.9**
	comp=Z,1.6nm,0.9s,mb3.5,baz=141,slow=9.6,SNR=5.9						
SONM				LR	LR	23 08 13.6	
	comp=Z,125nm,19.3s,MS3.5,baz=137,slow=39						
LSA	**Lhasa**	**30.60**	**286**	P	**P**	**22 56 59.5**	**+1.4**
TLY	**Talaya**	**30.94**	**333**	*e*P	**P**	**22 57 03.0**	**+2.2**
	comp=Z,0.6nm,0.4s,mb3.8						
TLY	**Talaya**	**30.94**	**333**	*e*P	**P**	**22 57 03.0**	**+2.2**
TLY				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.0						
BATI	**Kupang**	**35.56**	**183**	LR	LR	23 12 49.3	
	comp=Z,108nm,20.0s,MS3.6,baz=121,slow=37						
MKAR	**Makanchi Array**	**40.16**	**313**	P	**P**	**22 58 19.3**	**-0.7**
	comp=Z,0.3nm,0.2s,mb3.6,baz=95,slow=10.0,SNR=2.6						
ZAA0	**Zalesovo Array**	**41.32**	**324**	*e*P	**P**	**22 58 31.4**	**+1.9**
ZALV	**Zalesovo Beam**	**41.32**	**324**	P	**P**	**22 58 28.2**	**-1.3**
	comp=Z,0.6nm,0.4s,mb3.6,baz=104,slow=7.0,SNR=4.6						
ZALV				LR	LR	23 16 24.0	
	comp=Z,46nm,18.7s,MS3.4,baz=90,slow=37						
ZAL	**Zalesovo**	**41.33**	**324**	P	**P**	**22 58 28.2**	**-1.3**
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ZAL				MLR	MLR		
	comp=Z,46nm,18.7s						
KURK	**Kurchatov**	**43.63**	**318**	P	**P**	**22 58 46.7**	**-1.6**
WRA	**Warramunga Arr**	**46.01**	**168**	P	**P**	**22 59 07.9**	**+0.3**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
WRA	**Warramunga Arr**	**46.01**	**168**	P	**P**	**22 59 07.9**	**+0.3**
	comp=Z,1.1nm,0.6s,mb3.9,baz=350,slow=8.8,SNR=13						
BVAR	**Borovoye Array**	**49.14**	**319**	P	**P**	**22 59 30.6**	**-1.0**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
BVAR	**Borovoye Array**	**49.14**	**319**	P	**P**	**22 59 30.6**	**-0.9**
	comp=Z,1.1nm,0.6s,mb4.0,baz=239,slow=40,SNR=2.4						
BRVK	**Borovoye**	**49.21**	**319**	P	**P**	**22 59 31.5**	**-0.6**
ASAR	**Alice Springs**	**49.58**	**170**	P	**P**	**22 59 36.1**	**+0.9**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ASAR	**Alice Springs**	**49.58**	**170**	P	**P**	**22 59 36.1**	**+0.9**
	comp=Z,0.6nm,0.6s,mb3.8,baz=356,slow=14,SNR=9.0						
CTA	**Charters Tower**	**49.65**	**154**	LR	LR	23 19 51.9	
	comp=Z,86nm,18.1s,MS3.8,baz=52,slow=35						
STKA	**Stephens Creek**	**59.13**	**164**	LR	LR	23 26 56.4	
	comp=Z,62nm,18.3s,MS3.8,baz=27,slow=37						
INK	**Inuvik**	**70.52**	**23**	P	**P**	**23 01 57.4**	**-0.9**
INK	**Inuvik**	**70.52**	**23**	P	**P**	**23 01 57.4**	**-0.9**
INK				pmax	pmax		
	comp=Z,3.0nm,1.2s						
INK	**Inuvik**	**70.52**	**23**	P	**P**	**23 01 57.4**	**-0.9**
	comp=Z,2.5nm,1.1s,mb4.0,baz=252,slow=7.8,SNR=4.2						
NOA	**NORSAR Array B**	**78.82**	**333**	LR	LR	23 41 17.4	
	comp=Z,58nm,19.0s,MS3.9,baz=65,slow=38						
YKA	**Yellowknife Ar**	**80.21**	**24**	P	**P**	**23 02 53.2**	**-0.9**
YKA	**Yellowknife Ar**	**80.21**	**24**	P	**P**	**23 02 53.2**	**-0.9**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
YKA	**Yellowknife Ar**	**80.21**	**24**	P	**P**	**23 02 53.2**	**-0.9**
	comp=Z,1.4nm,0.7s,mb4.0,baz=302,slow=5.5,SNR=33						
FFC	**Flin Flon**	**90.32**	**25**	P	**P**	**23 03 35.8**	**-9.0**
	comp=Z,3.2nm,1.0s,mb4.6						
FFC	**Flin Flon**	**90.32**	**25**	P	**P**	**23 03 35.8**	**-9.0**
FFC				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.6						

NEIC ***22*** *22:56:32.2, 1638N×10076W, h20km, mb3.9/2, MD4.0(MEX), After MEX.*
MEX ***22*** *22:56:32.2±0.6, 1637N×10076W, h20km±20km, MD4.0*
IDC ***22*** *22:56:42.0±7.8, 17.15N×9996W, h47km±61km, mb3.6/4, mb1 3.7/6, mb1mx3.4/22, mbtmp3.5/6, ML2.8/2, Error ellipse: s-maj=143.2km s-min=37.4km az=16.0*

ISC 22 22:56:32.4±1.3, 1645N±006×10058W±006, h16km±6km, n25, σ0§77/37, mb3.8/6, 2C, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.67**	**27**	*i*P	**Pg**	**22 56 44.7**	**-0.8**
CAIG				*i*S	**Sg**	**22 56 55.4**	**-0.9**
ACX	**Acapulco**	**0.76**	**57**	*i*P	**Pb**	**22 56 47.0**	**-0.3**
ZIIG	**Zihuatanejo**	**1.43**	**324**	*i*P	**Pn**	**22 56 53.7**	**-4.0**
ZIIG				*i*S	**Sn**	**22 57 09.9**	**-6.2**
MEIG	**Mezcala**	**1.74**	**32**	*i*P	**Pn**	**22 57 01.0**	**-0.8**
MEIG				*i*S	**Sn**	**22 57 24.1**	**+0.4**
UTMO	**Huajuapan**	**2.99**	**62**	*i*P	**Pn**	**22 57 19.1**	**-0.1**
UTMO				*i*S	**Sn**	**22 57 55.5**	**+0.8**
MZVM		**3.02**	**25**	*i*P	**Pn**	**22 57 19.3**	**-0.2**
MZVM				*i*S	**Sn**	**22 57 54.2**	**-1.1**
SZVM	**Salazar**	**3.08**	**22**	*i*P	**Pn**	**22 57 20.5**	**+0.1**
SZVM				*i*S	**Sn**	**22 57 57.4**	**+0.5**
PPM	**Popocatepetl**	**3.21**	**35**	*i*P	**Pn**	**22 57 21.8**	**-0.3**
PPM				*i*S	**Sn**	**22 58 00.9**	**+1.0**
PTVM	**Pico Tres Padr**	**3.43**	**24**	*e*P	**Pn**	**22 57 22.0**	**-3.1**
PTVM				*i*S	**Sn**	**22 58 04.3**	**-1.1**
IIO	**Organos**	**3.59**	**29**	*i*P	**Pn**	**22 57 27.9**	**+0.5**
IIO				*i*S	**Sn**	**22 58 09.0**	**-0.5**
VHO	**Vista Hermosa**	**3.74**	**80**	*e*P	**Pn**	**22 57 29.6**	**+0.1**
VHO				*i*S	**Sn**	**22 58 12.8**	**-0.4**
CMIG	**Matias Romero**	**5.50**	**82**	P	**Pn**	**22 57 53.5**	**-0.1**
CMIG				S	**Sn**	**22 58 47.4**	**-9.1**
CMIG	**Matias Romero**	**5.50**	**82**	P	**Pn**	**22 57 53.5**	**-0.1**
	0.4nm,0.3s,baz=270,slow=12,SNR=5.1						
CMIG				S	**Sn**	**22 58 47.4**	**-9.1**
	0.3nm,0.3s,baz=265,slow=8.8,SNR=4.3						
NATX	**Nacogdoches**	**16.17**	**18**	Pn	**Pn**	**23 00 20.0**	**+1.1**
ANMO	**Albuquerque**	**19.16**	**345**	P	**Pn**	**23 00 56.5**	**+0.5**
ANMO	**Albuquerque**	**19.16**	**345**	P	**Pn**	**23 00 56.9**	**+0.8**
	0.0nm,0.3s,baz=159,slow=12,SNR=3.6						
LRAL	**Lakeview Retre**	**20.58**	**34**	*e*P	**P**	**23 01 11.1**	**+0.5**
PLAL	**Pickwick Lake**	**21.59**	**29**	*e*P	**P**	**23 01 22.0**	**+0.6**
	4.8nm,0.9s,mb3.9						
SDCO	**Great Sand Dun**	**21.66**	**349**	*e*P	**P**	**23 01 21.5**	**-0.7**
SMCO	**Snowmass**	**23.33**	**347**	P	**P**	**23 01 40.5**	**+0.6**
	6.5nm,1.4s,mb3.9						
PDAR	**Pinedale Array**	**27.33**	**346**	P	**P**	**23 02 17.8**	**+1.3**
	1.1nm,0.9s,mb3.4,baz=140,slow=9.7,SNR=7.9						
ULM	**Lac du Bonnet**	**33.93**	**5**	P	**P**	**23 03 14.1**	**-0.5**
	3.0nm,0.7s,mb4.3,baz=186,slow=10,SNR=6.1						
SCHQ	**Schefferville**	**46.28**	**26**	P	**P**	**23 04 57.2**	**+0.2**
SCHQ	**Schefferville**	**46.28**	**26**	P	**P**	**23 04 57.2**	**+0.3**
	1.7nm,0.7s,mb4.1,baz=221,slow=17,SNR=3.8						
YKA	**Yellowknife Ar**	**47.04**	**351**	P	**P**	**23 05 02.1**	**-0.7**
	0.3nm,0.8s,mb3.3,baz=160,slow=7.6,SNR=4.4						

NEIC ***22*** *23:09:35.0, 3160S×7177W, h34km, ML3.1(GUC), After GUC.*

GUC 22 23:09:35.0±0.9, 3160S×7177W, h34km±5km, MD3.9, ML3.1, 5C-5D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHNG	**Los Chungos**	**0.37**	**141**	*i*P	Pb	23 09 23.5	-20
CHNG				*i*S	Sb	23 09 29.9	-20
CHNG				AML	AML	23 09 30.4	
	comp=N,3μm,0.3s						
CMCH	**Combarbala**	**0.78**	**58**	*i*P	Pn	23 09 49.2	-0.4
CMCH				*i*S	Sn	23 10 00.7	+0.6
CMCH	**Combarbala**	**0.78**	**58**	*i*P	Pn	23 09 49.2	-0.4
CMCH				*i*S	Sn	23 10 00.7	+0.6
CMCH				AML	AML	23 10 01.3	
	comp=E,2μm,0.6s						
PTCH	**Petorca**	**0.98**	**133**	*i*P	Pn	23 09 52.4	+0.1
PTCH				*i*S	Sn	23 10 05.8	+0.9
PTCH	**Petorca**	**0.98**	**133**	*i*P	Pn	23 09 52.4	+0.1
PTCH				*i*S	Sn	23 10 05.8	+0.9
PTCH				AML	AML	23 10 06.8	
	comp=N,482nm,0.2s						
OVCH	**Ovalle**	**1.10**	**26**	*i*P	Pn	23 09 54.5	+0.5
OVCH				*i*S	Sn	23 10 10.0	+2.0
OVCH	**Ovalle**	**1.10**	**26**	*i*P	Pn	23 09 54.5	+0.5
OVCH				*i*S	Sn	23 10 10.0	+2.0
OVCH				AML	AML	23 10 15.4	
	comp=N,506nm,0.3s						
JACH	**Jahuel**	**1.47**	**138**	*i*P	Pn	23 10 00.8	+1.6
JACH				*i*S	Sn	23 10 20.4	+3.2
TLL	**Tololo Astrono**	**1.65**	**30**	*e*P	Pn	23 10 03.9	+2.3
TLL				S	Sn	23 10 26.6	+5.0
TLL	**Tololo Astrono**	**1.65**	**30**	*e*P	Pn	23 10 03.9	+2.3
TLL				*i*S	Sn	23 10 26.6	+5.0
TLL				AML	AML	23 10 29.0	
	comp=E,302nm,0.4s						
PEL	**Peldehue**	**1.79**	**150**	*i*P	Pn	23 10 06.2	+2.6
PEL				*i*S	Sn	23 10 27.8	+2.6
PEL				AML	AML	23 10 35.6	
	comp=E,430nm,0.4s						
CLCH	**Cerro Calan**	**2.08**	**150**	*e*P	Pn	23 10 08.8	+1.4
CLCH				*i*S	Sn	23 10 34.6	+2.5
CLCH				AML	AML	23 10 43.0	
	comp=N,309nm,0.6s						
FCH	**Farellones**	**2.13**	**144**	*i*P	Pn	23 10 11.0	+2.8
FCH				*i*S	Sn	23 10 37.2	+3.7
FCH				AML	AML	23 10 43.7	
	comp=E,126nm,0.3s						
TACH	**Talagante**	**2.17**	**161**	*e*P	Pn	23 10 09.8	+1.1
LMEL	**Las Melosas**	**2.60**	**150**	*i*P	Pn	23 10 16.6	+1.9
LMEL				*i*S	Sn	23 10 48.3	+3.1
LMEL	**Las Melosas**	**2.60**	**150**	*i*P	Pn	23 10 16.6	+1.9
LMEL				*i*S	Sn	23 10 48.3	+3.1
LMEL				AML	AML	23 11 00.6	
	comp=N,150nm,0.5s						

IDC 22 23:20:55.3±2.4, 628S×15476E, h0km, mb3.5/3, mb1 3.8/3, mb1mx3.5/14, mbtmp3.5/3, MS4.2/2, Ms1 4.2/2, ms1mx3.1/23, Error ellipse: s-maj=170.7km s-min=34.2km az=134.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.03**	**234**	P	P	23 26 12.7	+0.5
	0.8nm,0.6s,baz=59,slow=9.0,SNR=14						
ASAR	**Alice Springs**	**26.47**	**227**	P	P	23 26 33.6	-0.7
	0.3nm,0.6s,baz=58,slow=9.7,SNR=4.8						
JHJ	**Hachijo jima 2**	**41.69**	**341**	LR	LR	23 41 17.3	
	comp=Z,633nm,21.5s,baz=39,slow=29						
KDAK	**Kodiak Island**	**76.63**	**26**	LR	LR	00 02 10.5	
	comp=Z,76nm,20.4s,baz=132,slow=32						
YKA	**Yellowknife Ar**	**95.82**	**28**	P	P	23 34 23.5	+0.2
	0.1nm,0.6s,baz=271,slow=4.5,SNR=4.1						

ISCJB ***22*** *23:31:07.4±1.1, 3694N±005×2149E±007, h3km±7km, Error ellipse: s-maj=11.5km s-min=4.8km az=44.9*
NEIC ***22*** *23:31:07.0, 3679N×2142E, h11km, ML3.7(ATH), After ATH.*
ATH ***22*** *23:31:07.3, 3685N×2145E, h8km±3km, MD3.6/8, ML3.6*
CSEM ***22*** *23:31:09.2±0.3, 3679N×2153E, h20km, ML3.7, Error ellipse: s-maj=9.0km s-min=4.1km az=47.0*
THE ***22*** *23:31:10.9, 3686N×2156E, h15km, ML3.3*

ISC 22 23:31:07.7±1.2, 3686N±005×2147E±006, h7km±6km, n25, σ1§15/34, 1D, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ITM	**Ithomi**	**0.48**	**49**	*e*PB	**Pg**	**23 31 17.7**	**+0.7**
ITM				*e*SB	**Sg**	**23 31 23.5**	**+0.2**
VLI	**Veliai**	**1.19**	**97**	*e*PN	**Pn**	**23 31 29.7**	**-1.0**
VLI				*e*SB	**Sb**	**23 31 47.0**	**+1.0**
RLS	**Riolos of Patr**	**1.19**	**360**	*i*PB	**Pb**	**23 31 30.7**	**+0.1**
RLS	**Riolos of Patr**	**1.19**	**360**	*i* Pb	**Pb**	**23 31 31.7**	**+1.1**
KYTH	**Kithira**	**1.39**	**114**	*e*PB	**Pb**	**23 31 34.0**	**+0.1**
KYTH				*e*SB	**Sb**	**23 31 52.0**	**+0.2**
VLS	**Valsamata**	**1.49**	**332**	*e*Pg	**Pg**	**23 31 35.6**	**-0.6**
VLS	**Valsamata**	**1.49**	**332**	*e*PG	**Pg**	**23 31 35.3**	**-0.9**
NAIG	**Nisos Aigina**	**1.84**	**60**	*e*PG	**Pg**	**23 31 41.8**	**-1.1**
NAIG	**Nisos Aigina**	**1.84**	**60**	*e*Pb	**Pb**	**23 31 40.5**	**-1.1**
LKD	**Levkas**	**1.95**	**341**	*e*Pb	**Pb**	**23 31 42.5**	**-1.0**
LKD				*e*Sb	**Sb**	**23 32 05.3**	**-2.8**
EVR	**Evrytania**	**2.07**	**7**	*e*PN	**Pn**	**23 31 45.0**	**+2.2**
EVR	**Evrytania**	**2.07**	**7**	*e*Pg	**Pg**	**23 31 46.5**	**-0.8**
ATH	**Athens Observa**	**2.10**	**58**	*e*PN	**Pn**	**23 31 45.5**	**+2.2**
LKR	**Lokris**	**2.16**	**34**	*e*Pn	**Pn**	**23 31 44.0**	**0.0**
LKR				*e*Sn	**Sn**	**23 32 09.4**	**-1.6**
PTL	**Penteli**	**2.24**	**57**	*e*PN	**Pn**	**23 31 47.0**	**+1.8**
AGG	**Agios Georgios**	**2.26**	**17**	*e*Pn	**Pn**	**23 31 46.3**	**+0.8**
AGG				*e*Sn	**Sn**	**23 32 11.4**	**-2.1**
KARN	**Karanos**	**2.46**	**126**	*e*Pn	**Pn**	**23 31 47.2**	**-1.0**
KARN				*e*Sn	**Sn**	**23 32 16.7**	**-1.8**
THL	**Klokotos Trika**	**2.73**	**9**	*e*PB	**Pb**	**23 31 53.2**	**-3.6**
IGT	**Igoumenitsa**	**2.81**	**342**	*e*Pn	**Pn**	**23 31 53.2**	**+0.2**
IGT				*e*Sn	**Sn**	**23 32 27.2**	**+0.1**
XOR	**Xorichti**	**2.84**	**28**	*e*Pn	**Pn**	**23 31 54.4**	**+0.9**
MEV	**Metsovon**	**2.92**	**356**	*e*Pn	**Pn**	**23 31 55.3**	**+0.7**
AOS	**Alonnisos**	**2.99**	**39**	*e*Pn	**Pn**	**23 31 55.5**	**0.0**
LIT	**Litokhoron**	**3.33**	**14**	*e*Pn	**Pn**	**23 32 01.4**	**+1.2**
FNA	**Florina**	**3.92**	**359**	*e*Pn	**Pn**	**23 32 08.5**	**+0.3**
FNA				*e*Sn	**Sn**	**23 32 54.9**	**+0.6**
KNT	**Kendrikon**	**4.43**	**14**	*e*Pn	**Pn**	**23 32 16.2**	**+0.9**

**MAN 22 23:44:45, 889N×12395E, h1km, mb4.6, ML3

GULT	Gulveren	1.48	23	ePN	Pn	23 50 50.8 -0.4
BTOK	Tokmak	1.51	298	*i* P	Pn	23 50 52.3 +0.8
BTOK				*i* S	Sg	23 51 13.8 +1.9
AKHS	Akhisar	1.53	264	*i* P	Pn	23 50 51.1 -0.7
AKHS				*i* S	Sn	23 51 11.6 -0.6
YLV	Yalova	1.53	349	ePN	Pn	23 50 52.3 +0.5
BALB	Balikesir	1.56	292	ePN	Pn	23 50 52.5 +0.2
KCT	Karacabey	1.61	318	ePN	Pn	23 50 53.0 0.0
KIZT	Kizilcal	1.67	96	ePN	Pn	23 50 53.7 0.0
BCK	Bucak	1.73	158	ePN	Pn	23 50 54.6 0.0
HRT	Hereke	1.75	358	ePN	Pn	23 50 55.1 +0.2
ISK	Istanbul-Kandi	2.07	345	ePN	Pn	23 50 59.7 +0.4
BLCB	Balcova	2.23	253	ePN	Pn	23 51 01.8 +0.3
KLYT	Kilyos	2.25	346	ePN	Pn	23 51 02.2 +0.5
YER	Yerkesik	2.25	212	ePN	Pn	23 51 02.0 +0.3
CTT	Catalca	2.31	334	ePN	Pn	23 51 03.0 +0.3
ELL	Elmali	2.32	177	ePN	Pn	23 51 03.1 +0.4
KONT	Konya--Tatoy	2.33	118	ePN	Pn	23 51 02.8 0.0
MLSB	Milas	2.36	222	ePN	Pn	23 51 03.5 +0.3
LOD	Lodumlu	2.47	70	ePN	Pn	23 51 05.5 +0.7

BJI ***22*** *23:56:38.7, 4787N×15364E, h43km, mB5.0, mb4.8, Ms4.6, Msz4.2*
SZGRF ***22*** *23:56:40.7, 4724N×15391E, h33km, mb4.8, Kuril Islands, Russia*
ISCJB ***22*** *23:56:49.8±0.6, 4785N±006×15264E±008, h97km±5km, mb4.5/96, Error ellipse: s-maj=12.4km s-min=4.5km az=139.2*
MOS ***22*** *23:56:52.6±0.7, 4809N×15244E, h110km, mb4.5/48, Error ellipse: s-maj=9.9km s-min=5.0km az=101.8*
IDC ***22*** *23:56:53.6±0.6, 4760N×15288E, h137km±5km, mb3.9/16, mb1 4.0/18, mb1mx4.0/22, mbtmp3.9/18, Error ellipse: s-maj=15.1km s-min=10.5km az=145.0*
NEIC ***22*** *23:56:55.6±0.9, 4778N×15273E, h144km±7km, mb4.3/53, Error ellipse: s-maj=8.3km s-min=4.9km az=143.0*
ISC 22 23:56:50.9±0.5, 4771N±006×15284E±008, h102km±4km, h137km±2.3km; pP-P, n334, σ0s89/346, mb4.5/96, 31C-6D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	3.67	35	ePN	Pn	23 57 46.7	+1.1
SKR				*e*S	Sn	23 58 28.5	+0.6
SKR				pmax	pmax		
	comp=Z,70nm,0.3s						
SKR				smax			
	comp=N,210nm,0.4s						
SKR				smax			
	comp=E,240nm,0.2s						
KUR	Kuril'sk	4.24	236	ePN	Pn	23 57 57.0	+3.8
KUR				*e*S	Sn	23 58 42.0	+0.4
KUR				pmax	pmax		
	comp=Z,100nm,0.7s						
KUR				smax			
	comp=N,520nm,0.7s						
KUR				smax			
	comp=E,430nm,0.7s						
KUR				smax			
	comp=N,3μm,2.0s						
YUK	Yuzh-Kuril'sk	6.10	236	ePN	Pn	23 58 23.0	+4.5
YUK				*e*S	Sn	23 59 26.5	-0.3
YUK				pmax	pmax		
	comp=Z,350nm,0.4s						
YUK				smax			
	comp=E,180nm,0.4s						
YUK				smax			
	comp=N,380nm,0.5s						
YUK				smax			
	comp=N,2μm,0.8s						
YUK				smax			
	comp=E,1μm,0.8s						
NEM2	Nemuro 2	6.61	231	P	Pn	23 58 23.7	-1.7
NEM2				*e*S	Sn	23 59 32.7	-6.5
YSS	Yuzh-Sakhalins	6.89	267	*e*Pn	Pn	23 58 35.9	+6.7
YSS	Yuzh-Sakhalins	6.89	267⇑	*e*PN	Pn	23 58 35.5	+6.3
YSS				*e*		23 59 49.0	
YSS				pmax	pmax		
	comp=Z,30nm,1.0s						
JNK	Nakash	7.03	237	P	Pn	23 58 31.4	+0.4
JTKR	Abashiri--Toko	7.27	242	P	Pn	23 58 35.6	+1.2
JAK	Akkeshi	7.42	234	P	Pn	23 58 34.4	-2.0
JAK				*e*S	Sn	23 59 51.9	-7.1
JAR	Ashorobuto	7.75	239	P	Pn	23 58 41.3	+0.5
JWK2	Keihoku	7.92	256	P	Pn	23 58 48.8	+5.7
JOB	Onbets	7.96	236	P	Pn	23 58 43.3	-0.4
JOB				*e*S	Sn	00 00 06.2	-5.8
ASAJ	Asahikawa	7.99	247	P	Pn	23 58 47.3	+3.1
ASAJ	Asahikawa	7.99	247	PN	Pn	23 58 46.9	+2.7
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ASAJ	Asahikawa	7.99	247	P	Pn	23 58 46.9	+2.7
	comp=Z,2.1nm,0.3s,baz=72,slow=14,SNR=18						
JKK2	Kamakawa 2	8.03	245	P	Pn	23 58 46.4	+1.8
JCH	Churui	8.41	236	P	Pn	23 58 48.7	-1.2
JCH				*e*S	Sn	00 00 15.5	-7.5
JBT2	Biratori 2	8.88	240	P	Pn	23 58 56.4	+0.2
ERM	Erimo	8.92	234	*e*PN	Pn	23 58 56.3	-0.5
JEM	Erimo	8.92	234	P	Pn	23 58 56.1	-0.7
JNBK	Urakawa-nobuka	8.97	236	P	Pn	23 58 55.7	-1.8
JNB	Noboribetsu	9.85	242	P	Pn	23 59 09.1	-0.3
JNB				*e*S	Sn	00 00 52.7	-5.3
JKB	Kayabe	10.21	240	P	Pn	23 59 12.4	-1.9
JKB				*e*S	Sn	00 00 57.2	-9.5
JSH	Shimam	10.35	245	P	Pn	23 59 17.3	+1.1
JSR	Shiriuchi	10.79	240	P	Pn	23 59 20.4	-1.8
JTM	Tenmabayashi	10.91	235	P	Pn	23 59 20.0	-3.8
OFUJ	Ofunato	11.84	227	*e*S	Sn	00 01 33.4	-13
MA2	Magadan	11.95	355	Pn	Pn	23 59 31.6	-5.9
	comp=Z,15nm,1.2s						
MA2	Magadan	11.95	355	Pn	Pn	23 59 39.1	+1.6
JRG	Rokugo	12.13	231	P	Pn	23 59 37.1	-3.0
JRG				*e*S	Sn	00 01 42.3	-11
JIO	Ouri	12.48	226	*e*S	Sn	00 01 47.4	-15
KLR	Kul'dur	14.07	284	*e*P	Pn	00 00 09.4	+4.0
SEY	Seymchan	15.26	359	*e*P	Pn	00 00 24.7	+4.3
MAJO	Matsushiro	15.54	229	Pn	Pn	00 00 21.8	-2.3
	comp=Z,47nm,1.8s						
MAJO	Matsushiro	15.54	229	*e*Pn	Pn	00 00 26.2	+2.1
	comp=Z,6.6nm,0.5s						
MAJO	Matsushiro	15.54	229	*e*P	Pn	00 00 26.2	+2.1
MAJO				pmax	pmax		
	comp=Z,7.0nm,0.5s						
MAT	Matsushiro	15.54	229	P	Pn	00 00 26.5	+2.4
MJAR	Matsushiro Arr	15.54	229	P	Pn	00 00 25.9	+1.7
	comp=Z,0.7nm,0.3s,baz=27,slow=10,SNR=12						
CLNS	Chul'man	19.26	309	*e*P	P	00 01 11.3	+4.3
CLNS				pmax	pmax		
	comp=Z,19nm,0.6s						
CLNS				pmax	pmax		
	comp=N,17nm,0.8s						
CLNS				pmax	pmax		
	comp=E,12nm,0.8s						
YAK	Yakutsk	19.41	326	P	P	00 01 07.6	-1.0
	comp=E,34nm,0.5s						
YAK	Yakutsk	19.41	326	*e*P	P	00 01 07.2	-1.4
YAK				pmax	pmax		
	comp=Z,14nm,0.8s						
YAK				pmax	pmax		
	comp=N,6.0nm,1.3s						
YAK				pmax	pmax		
	comp=E,6.0nm,1.3s						
CN2	Changchun	19.46	269	*e*P	P	00 01 08.4	-0.9
CN2				*e*XP		00 01 21.0	
CN2				AMB	AMB		
	comp=Z,10.0nm,0.7s						
KSRS	Korea Array	20.93	250	P	P	00 01 26.1	+0.9
	comp=Z,20nm,0.8s,baz=55,slow=10,SNR=57						
KS15	Wonju Array Si	20.96	250	*e*P	P	00 01 26.5	+0.9
BILL	Bilibino	21.50	14	*e*P	P	00 01 31.6	+0.7
	comp=Z,6.1nm,0.6s,mb4.1						
BILL	Bilibino	21.50	14	*e*P	P	00 01 34.0	+3.0
BILL				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb3.9						
INCN	Inchon	21.73	252	P	P	00 01 36.2	+2.5
JNU	Nakatsue	22.07	237	P	P	00 01 38.0	+0.7
	comp=Z,7.1nm,0.8s,mb4.1,baz=31,slow=5.9,SNR=3.6						
DL2	Dalian	24.22	260	P	P	00 01 58.3	+0.4
DL2				AMB	AMB		
	comp=Z,20nm,0.7s,mb4.6						
BOD	Bodaibo	25.24	308	*e*P	P	00 02 05.9	-1.0
BOD				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.2						
TIXI	Tiksi	26.49	343	*e*P	P	00 02 17.4	-0.7
TIXI	Tiksi	26.49	343	*e*P	P	00 02 17.1	-1.0
TIXI				*e*		00 02 51.5	
TIXI				pmax	pmax		
	comp=Z,13nm,1.6s,mb4.1						
HHC	Hu-ho-hao-te	30.05	272	*e*P	P	00 02 50.3	+0.2
HHC				AP	pP	00 03 00.4	-12
HHC				XP	sP	00 03 05.0	-20
HHC				S	S	00 07 43.4	+2.7
HHC				SCS	ScS	00 13 24.6	+7.0
HHC				AMB	AMB		
	comp=Z,14nm,0.4s,mb4.9						
HHC				AMB	AMB		
	comp=Z,127nm,4.5s						
HHC				LR	LR		
	comp=N,102nm,4.6s						
HHC				LR	LR		
	comp=E,74nm,6.1s						
HHC				LR	LR		
	comp=Z,103nm,4.7s						
NJ2	Nanjing	30.11	251	*e*P	P	00 02 54.1	+3.4
NJ2				AMB	AMB		
	comp=Z,130nm,1.1s,mb5.5						
ULN	Ulaanbaatar	30.42	288	*e*P	P	00 02 52.9	-0.2
	comp=Z,2.1nm,0.7s,mb3.9						
ULN	Ulaanbaatar	30.42	288	*e*P	P	00 02 52.9	-0.3
ULN				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb3.9						
SONM	Songino Array	30.85	288	P	P	00 02 57.0	0.0
	comp=Z,2.5nm,0.7s,mb4.1,baz=60,slow=9.1,SNR=22						
SONM				PcP	PcP	00 05 49.9	-1.4
	comp=Z,0.7nm,0.8s,baz=61,slow=0.5,SNR=4.1						
TLY	Talaya	31.58	296	*e*P	P	00 03 03.8	+0.4
	comp=Z,3.3nm,0.6s,mb4.2						
TLY	Talaya	31.58	296	*e*P	P	00 03 03.8	+0.4
TLY				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.2						
IMA2	Indian Mountai	33.14	37	*e*P	P	00 03 17.7	+0.9
GUMO	Guam	34.66	194	P	P	00 03 36.6	+6.2
MCK	McKinley	35.05	41	P	P	00 03 33.7	+0.4
COLA	College	35.51	39	*e*P	P	00 03 38.7	+1.4
	comp=Z,3.4nm,0.6s,mb4.5						
COLA	College	35.51	39	*e*P	P	00 03 38.7	+1.5
COLA				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.4						
LZH	Lanzhou	37.68	270	*e*P	P	00 03 57.3	+1.2
LZH				AP	pP	00 04 07.8	-12
LZH				XP	sP	00 04 11.5	-20
LZH				PP	PP	00 05 25.4	+1.5
LZH				*e*S	S	00 09 43.0	+4.5
LZH				AMB	AMB		
	comp=Z,36nm,1.5s,mb5.0						
LZH				AMB	AMB		
	comp=Z,137nm,5.2s						
LZH				LR	LR		
	comp=N,665nm,13.3s						
LZH				LR	LR		
	comp=Z,1μm,16.9s						
EGAK	Eagle	38.37	39	*e*P	P	00 04 01.6	+0.2
GTA	Gaotai	38.65	278	*e*P	P	00 04 05.0	+0.9
GTA				AP	pP	00 04 14.3	-13
GTA				XP	sP	00 04 18.3	-21
GTA				PCP	PcP	00 06 13.1	-1.0
GTA				AMB	AMB		
	comp=Z,9.0nm,1.0s,mb4.5						
CD2	Chengdu	40.78	264	*e*P	P	00 04 22.3	+0.4
CD2				AP	pP	00 04 32.1	-13
CD2				PP	PP	00 06 00.1	+2.3
CD2				PCS	PcS	00 10 14.3	+2.2
CD2				S	S	00 10 27.5	+2.5
CD2				SCS	ScS	00 14 24.0	+7.7
CD2				AMB	AMB		
	comp=Z,60nm,0.8s,mb5.5						
CD2				AMB	AMB		
	comp=Z,100nm,5.4s						
CD2				LR	LR		
	comp=E,110nm,10.8s						
CD2				LR	LR		
	comp=Z,180nm,9.6s						
INK	Inuvik	40.95	33	*e*P	P	00 04 23.8	+1.0
INK	Inuvik	40.95	33	P	P	00 04 23.9	+1.1
	comp=Z,3.4nm,0.6s,mb4.3,baz=302,slow=6.8,SNR=40						
GYA	Guiyang	41.75	256	P	P	00 04 31.4	+1.5
GYA				AP	pP	00 04 42.8	-11
GYA				XP	sP	00 04 46.6	-19
GYA				PP	PP	00 06 11.8	+3.6
GYA				S	S	00 10 45.3	+5.9
GYA				SCS	ScS	00 14 30.4	+8.1
GYA				AMB	AMB		
	comp=Z,30nm,1.0s,mb5.0						
GYA				AMB	AMB		
	comp=Z,140nm,6.8s						
GYA				LR	LR		
	comp=N,760nm,17.9s						
GYA				LR	LR		
	comp=E,650nm,18.8s						
GYA				LR	LR		
	comp=Z,680nm,17.8s						
ZAA0	Zalesovo Array	41.90	305	*e*P	P	00 04 30.0	-0.8
ZALV	Zalesovo Beam	41.90	305	P	P	00 04 30.0	-0.7
ZALV				pP	pP	00 05 02.0	+7.6
ZALV				PcP	PcP	00 06 23.0	-1.4
ZALV	Zalesovo Beam	41.90	305	P	P	00 04 30.0	-0.7
	comp=Z,8.8nm,0.6s,mb4.7,baz=65,slow=6.9,SNR=52						
ZALV				pP	pP	00 05 02.0	+7.6
	comp=Z,1.8nm,0.6s,baz=55,slow=7.8,SNR=3.4						
ZALV				PcP	PcP	00 06 23.0	-1.4
	comp=Z,1.1nm,0.4s,baz=77,slow=3.2,SNR=5.5						
ZAL	Zalesovo	41.92	305	P	P	00 04 30.0	-0.9
ZAL						00 06 23.0	
NVS	Novosibirsk	42.46	307	*e*P	P	00 04 34.0	-1.3
NVS				pmax	pmax		
	comp=Z,25nm,1.9s,mb4.6						
NVS				pmax	pmax		
	comp=N,6.0nm,1.6s						
NVS				pmax	pmax		
	comp=E,14nm,1.5s						
WMQ	Urumqi	44.41	290	*e*P	P	00 04 51.5	+0.4
WMQ				AMB	AMB		
	comp=Z,9.0nm,0.6s,mb4.7						
WMQ				AMB	AMB		
	comp=Z,94nm,4.0s						
WMQ				LR	LR		
	comp=Z,187nm,29.0s						
DLBC	Dease Lake	45.06	46	P	P	00 04 58.0	+1.9
KMI	Kunming	45.24	258	P	P	00 04 57.9	0.0
KMI				S	S	00 11 34.9	+4.6
KMI				AMB	AMB		
	comp=Z,12nm,0.9s,mb4.6						
KMI				LR	LR		
	comp=Z,23nm,14.9s						
MK31	Makanchi Array	46.34	296	*i* P	P	00 05 05.4	-0.9
MK31				pmax	pmax		
	comp=Z,8.0nm,0.5s,mb4.7						
MKAR	Makanchi Array	46.34	296	P	P	00 05 05.8	-0.5
	comp=Z,4.5nm,0.5s,mb4.5,baz=68,slow=8.0,SNR=33						
MKAR				PcP	PcP	00 06 38.5	-1.1
	comp=Z,0.7nm,0.4s,baz=64,slow=4.7,SNR=3.7						
KURK	Kurchatov	46.68	303	P	P	00 05 08.3	-0.6
	comp=Z,227nm,0.6s,SNR=20						
KURK	Kurchatov	46.68	303	*e*P	P	00 05 08.4	-0.5
	comp=Z,24nm,0.7s,mb5.0						
KURK	Kurchatov	46.68	303	*e*P	P	00 05 08.4	-0.5
KURK				pmax	pmax		
	comp=Z,24nm,0.7s,mb5.0						
CHKZ	Chkalovo	49.67	309	*i* P	P	00 05 31.1	-0.7
CHKZ				pmax	pmax		
	comp=Z,16nm,0.4s,mb5.3						
RES	Resolute Bay	49.99	19	*e*P	P	00 05 34.7	+0.7
LSA	Lhasa	50.04	272	P	P	00 05 37.1	+2.1
LSA				AMB	AMB		
	comp=Z,30nm,1.0s,mb5.2						
BRVK	Borovoye	50.15	309	P	P	00 05 35.1	-0.3
	comp=Z,128nm,0.5s,SNR=8.9						
BRVK	Borovoye	50.15	309	*e*P	P	00 05 35.2	-0.2
YKA	Yellowknife Ar	50.27	37	P	P	00 05 36.3	+0.1
YKA				pP	pP	00 06 07.1	+6.5
YKA				PcP	PcP	00 06 52.1	-1.4
YKA	Yellowknife Ar	50.27	37	P	P	00 05 36.3	+0.1
	comp=Z,1.0nm,0.8s,mb3.8,baz=296,slow=7.1,SNR=17						
YKA				pP	pP	00 06 07.1	+6.5
	comp=Z,0.7nm,0.5s,baz=298,slow=7.0,SNR=4.5						
YKA				PcP	PcP	00 06 52.1	-1.4
	comp=Z,0.4nm,0.6s,baz=305,slow=3.7,SNR=4.7						
CHTO	Chiang Mai	52.17	256	*e*P	P	00 05 51.2	+0.3
ULHL	Ulahol	52.39	294	P	P	00 05 52.7	+0.4
	SNR=5.4						
TKM2	Tokmak 2	52.41	295	*e*P	P	00 05 52.3	-0.2
	comp=Z,2.0nm,0.4s,mb4.5						
TKM2	Tokmak 2	52.41	295	*e*P	P	00 05 52.3	-0.2
TKM2				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.5						
USP	Ospenovka	52.89	296	P	P	00 05 56.1	+0.1
	SNR=6.7						
KBK	Karagaybulak	52.96	295	P	P	00 05 56.7	+0.2
	SNR=5.2						
SVE	Sverdlovsk	53.00	317	*e*P	P	00 05 54.2	-2.4
AAK	Ala-Archa	53.25	296	*e*P	P	00 05 55.5	-3.1
AAK	Ala-Archa	53.25	296	*e*P	P	00 05 57.6	-1.0
AAK				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.7						
AAK	Ala-Archa	53.25	296	P	P	00 05 58.8	+0.1
	SNR=7.6						
UCH	Uchtor	53.46	295	*e*P	P	00 06 00.8	+0.6
	comp=Z,0.6nm,0.5s,mb3.9						
EKS2	Erkin-Say	53.67	296	*e*P	P	00 06 02.0	+0.3
	comp=Z,5.0nm,0.5s,mb4.8						
EKS2	Erkin-Say	53.67	296	P	P	00 06 02.2	+0.5
	SNR=8.0						
AML	Almayashu	54.02	295	*e*P	P	00 06 04.7	+0.5
	comp=Z,1.8nm,0.5s,mb4.4						
ARU	Arti	54.18	317	P	P	00 06 04.7	-0.5
	comp=Z,176nm,0.4s,SNR=9.4						
ARU	Arti	54.18	317	*e*P	P	00 06 04.0	-1.2
	comp=Z,19nm,0.8s,mb5.2						
ARU	Arti	54.18	317	*c i* P	P	00 06 04.6	-0.6
ARU				*e*		00 07 04.5	
ARU				*e*S	S	00 13 34.1	+0.1
ARU				*e*SS	SS	00 17 11.5	-4.8
ARU				pmax	pmax		
	comp=Z,18nm,0.7s,mb5.2						
JIRN	Jiri	54.69	274	*e*P	P	00 06 10.3	+1.0
GUN	Gumba	54.74	274	*e*P	P	00 06 10.4	+0.7
KKN	Kakani	55.22	274	*e*P	P	00 06 13.9	+0.8
PKI	Pulchoki	55.27	274	*e*P	P	00 06 14.1	+0.6
KK31	Karatay Array	55.38	298	*i* P	P	00 06 13.2	-0.8
KK31				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.2						
DMN	Daman	55.45	274	*e*P	P	00 06 15.9	+1.1
GKN	Gorkha	55.51	275	*e*P	P	00 06 16.0	+0.8
	comp=Z,120nm,0.6s						
KOLN	Koldanda	56.36	276	*e*P	P	00 06 22.1	+0.8
	comp=Z,65nm,0.7s						
KEV	Kevo	56.38	340	*e*p	P	00 06 18.8	-2.0
	comp=Z,2.3nm,0.4s,mb4.6						
KEV	Kevo	56.38	340	*e*P	P	00 06 18.8	-2.0
KEV				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.5						
ARCES	ARCESS Array B	56.88	340	P	P	00 06 24.3	0.0
	comp=Z,1.7nm,0.3s,mb4.5,baz=19,slow=7.2,SNR=63						
NDI	New Delhi	60.03	281	*e*P	P	00 06 45.5	-1.3
JOF	Joensuu	60.39	333	*e*p	P	00 06 47.2	-1.5
	comp=Z,4.6nm,0.4s,mb4.9						
KBL	Kabul	61.54	291	*e*P	P	00 06 56.3	-0.7
FIA1	FINESS Array S	63.09	334	*e*P	P	00 07 06.7	-0.1
FINES	FINESS Array B	63.09	334	P	P	00 07 06.5	-0.4
	comp=Z,10nm,0.4s,mb5.2,baz=38,slow=7.4,SNR=277						
PDAR	Pinedale Array	64.33	54	P	P	00 07 14.8	-0.5
	comp=Z,0.5nm,0.7s,mb3.5,baz=20,slow=2.9,SNR=3.2						
PDAR				pP	pP	00 07 47.4	+6.6
	comp=Z,1.0nm,0.8s,baz=298,slow=4.4,SNR=3.5						
TPNV	Topopah Spring	64.36	63	*e*P	P	00 07 19.3	+3.7
	comp=Z,1.9nm,0.4s,mb4.3						
TPNV	Topopah Spring	64.36	63	*e*P	P	00 07 19.3	+3.7
TPNV				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.3						
OBN	Obninsk	64.41	325	*e*P	P	00 07 15.1	-0.5
	comp=Z,7.9nm,0.4s,mb4.9						
OBN	Obninsk	64.41	325	*e*P	P	00 07 15.7	+0.1
OBN				pmax	pmax		
	comp=Z,12nm,0.7s,mb4.8						
RSSD	Black Hills	66.35	50	P	P	00 07 34.4	+6.1
NB2	NORSAR Subarra	67.26	341	P	P	00 07 33.9	+0.1
	comp=Z,21nm,0.6s,mb5.2,baz=26,slow=6.5						
NOA	NORSAR Array B	67.26	341	P	P	00 07 33.8	0.0
	comp=Z,22nm,0.6s,mb5.2,baz=27,slow=6.3,SNR=90						
HFS	Hagfors	67.49	339	P	P	00 07 35.1	-0.2
	comp=Z,41nm,0.4s,mb5.6,baz=56,slow=5.6,SNR=400						
NAO01	NORSAR Array S	67.51	341	*e*P	P	00 07 35.6	+0.3
PHWY	Pilot Hill	67.56	53	*e*P	P	00 07 41.2	+5.2
WRAB	Tennant Creek	69.35	199	*e*P	P	00 07 52.2	+5.0
	comp=Z,1.2nm,0.7s,mb3.8						
WRAB	Tennant Creek	69.35	199	*e*P	P	00 07 52.2	+5.0
WRAB				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb3.8						
WRA	Warramunga Arr	69.36	199	P	P	00 07 45.6	-1.7
	comp=Z,0.4nm,0.6s,baz=14,slow=6.7,SNR=3.3						
KIV	Kislovodsk	70.00	314	*e*P	P	00 07 51.9	+0.8
	comp=Z,7.3nm,0.8s,mb4.6						
KIV	Kislovodsk	70.00	314	*e*P	P	00 07 51.0	-0.1
KIV				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.6						
AKASG	Malin Array Be	70.64	326	P	P	00 07 54.2	-0.8
AKASG	Malin Array Be	70.64	326	P	P	00 07 54.2	-0.7
	comp=Z,18nm,0.5s,mb5.2,baz=34,slow=6.3,SNR=136						
AKBB	Malin Array Si	70.64	326	*e*P	P	00 07 54.0	-1.0
KIEV	Kiev	70.66	326	*e*P	P	00 07 54.1	-0.9
	comp=Z,20nm,0.6s,mb5.1						
KIEV	Kiev	70.66	326	*e*P	P	00 07 54.1	-0.9
KIEV				pmax	pmax		
	comp=Z,20nm,0.6s,mb5.1						
BSD	Bornholm Skovb	71.60	336	*i* P	P	00 08 00.6	0.0
BSD				pmax	pmax		
	comp=Z,18nm,0.5s,mb5.2						
BSD	Bornholm Skovb	71.60	336	*i* P	P	00 08 00.6	0.0
	comp=Z,18nm,0.5s,mb5.2						
SCHQ	Schefferville	72.50	23	P	P	00 08 05.2	-0.7
	comp=Z,2.2nm,0.7s,mb4.1,baz=340,slow=7.7,SNR=5.6						
ASAR	Alice Springs	73.06	198	P	P	00 08 08.2	-1.3
	comp=Z,0.7nm,0.9s,mb3.5,baz=6.7,slow=5.6,SNR=5.6						
ASAR				pP	pP	00 08 41.5	+6.0
	comp=Z,0.6nm,0.7s,baz=12,slow=5.9,SNR=2.8						
SIM	Simferopol'	73.21	319	*c i* P	P	00 08 11.0	+0.6
SIM				pmax	pmax		
	comp=Z,17nm,0.9s,mb4.9						
BSEG	Bad Segeberg	73.87	338	*e*P	P	00 08 14.9	+0.9
BSEG	Bad Segeberg	73.87	338	*e*P	P	00 08 14.9	+0.9
	comp=Z,4.0nm,0.7s,mb4.3						
KWP	Kalwaria	73.90	329	⇑P	P	00 08 14.6	+0.3
KWP	Kalwaria	73.90	329	⇑*i* P	P	00 08 14.6	+0.3
IAS	Iasi	74.13	325	P	P	00 08 15.9	+0.2
OJC	Ojcow	74.39	331	*e*P	P	00 08 17.0	-0.1
STHS	Stebnicka Huta	74.59	330	*i* P	P	00 08 19.4	+1.1
STHS				pmax

KECS Kecovo 75.65 330 *eP* **P 00 08 24.8 +0.4**
KECS pmax pmax
comp=Z,6.0nm,1.0s,mb4.3
KECS Kecovo 75.65 330 *eP* **P 00 08 24.8 +0.4**
CLZ Clausthal 75.75 337 *eP* **P 00 08 26.1 +1.2**
comp=Z,13nm,1.0s,mb4.6
CLZ Clausthal 75.75 337 *eP* **P 00 08 26.1 +1.2**
CLZ pmax pmax
comp=Z,13nm,1.0s,mb4.6
CLZ Clausthal 75.75 337 *eP* **P 00 08 26.1 +1.2**
comp=Z,13nm,1.0s,mb4.6
PVCC Panska Ves 75.75 334 *eP* **P 00 08 24.5 -0.5**
TIRR Tirgusor 76.03 323 ⇑P **P 00 08 27.3 +0.6**
TIRR Tirgusor 76.03 323 ⇑*iP* **P 00 08 27.3 +0.6**
HARR Harsova 76.04 323 P **P 00 08 27.3 +0.6**
MLR Muntele Rosu 76.17 325 ⇓P **P 00 08 28.1 +0.7**
MLR Muntele Rosu 76.17 325 ⇓*iP* **P 00 08 28.1 +0.7**
VYHS Vyhne 76.20 330 *eP* **P 00 08 27.8 +0.3**
VYHS pmax pmax
comp=Z,4.0nm,0.8s,mb4.2
VYHS Vyhne 76.20 330 *eP* **P 00 08 27.8 +0.3**
VRAC Vranov 76.21 332 ⇓*iP* **P 00 08 28.9 +1.3**
PRU Pruhonice 76.24 334 *eP* **P 00 08 28.0 +0.3**
KOLL Kolacno 76.27 331 *eP* **P 00 08 28.6 +0.7**
KOLL Kolacno 76.27 331 *eP* **P 00 08 28.6 +0.7**
DRGR 76.30 327 ⇑P **P 00 08 28.9 +0.8**
DRGR 76.30 327 ⇑*iP* **P 00 08 28.9 +0.7**
PSZ Piszkesteto 76.34 330 *eP* **P 00 08 28.7 +0.3**
PSZ Piszkesteto 76.34 330 ⇑*iP* **P 00 08 29.5 +1.2**
MALT Malatya 76.36 313 ⇑P **P 00 08 30.1 +1.5**
MALT Malatya 76.36 313 *eP* **P 00 08 30.0 +1.3**
MALT Malatya 76.36 313 ⇑*iP* **P 00 08 30.1 +1.5**
MOX Moxa 76.50 336 *eP* **P 00 08 29.8 +0.6**
MOX Moxa 76.50 336 *eP* **P 00 08 29.4 +0.2**
comp=Z,11nm,1.3s,mb4.4
VOIR 76.56 325 ⇓*iP* **P 00 08 29.5 -0.2**
TREC Trest 76.57 333 *eP* **P 00 08 29.4 -0.2**
ROTZ Rotzenmuhle 77.12 335 *eP* **P 00 08 33.5 +0.8**
comp=Z,8.0nm,1.3s,mb4.3
TXAR Lajitas Array 77.18 61 P **P 00 08 32.5 -0.9**
TXAR pP pP 00 09 06.0 +6.4
TXAR Lajitas Array 77.18 61 P **P 00 08 32.5 -0.9**
comp=Z,1.3nm,0.7s,mb3.8,baz=299,slow=5.9,SNR=10
TXAR pP pP 00 09 06.0 +6.4
comp=Z,1.1nm,0.6s,baz=297,slow=5.0,SNR=3.3
KHC Kasperske Hory 77.29 334 *eP* **P 00 08 33.8 +0.1**
GZR Gura Zlata 77.47 326 ⇑P **P 00 08 34.9 +0.2**
GZR Gura Zlata 77.47 326 ⇑*iP* **P 00 08 34.8 +0.1**
GRA1 Grafenberg Arr 77.47 336 *eP* **P 00 08 35.4 +0.8**
comp=Z,10.0nm,0.6s,mb4.7
GRF Grafenberg Arr 77.47 336 *eP* **P 00 08 35.4 +0.8**
comp=Z,10.0nm,0.6s,mb4.7
GRF Grafenberg Arr 77.47 336 *eP* **P 00 08 35.4 +0.8**
GRF pmax pmax
comp=Z,10.0nm,0.6s,mb4.7
GRF Grafenberg Arr 77.47 336 *eP* **P 00 08 35.4 +0.8**
GRF pmax pmax
comp=Z,10.0nm,0.6s,mb4.7
GRF Grafenberg Arr 77.47 336 *eP* **P 00 08 35.4 +0.8**
comp=Z,10.0nm,0.6s,mb4.7
WET Wettzell 77.49 334 *eP* **P 00 08 35.4 +0.7**
comp=Z,8.0nm,1.0s,mb4.4
WET Wettzell 77.49 334 *eP* **P 00 08 35.4 +0.7**
WET pmax pmax
comp=Z,8.0nm,1.0s,mb4.4
WET Wettzell 77.49 334 *eP* **P 00 08 35.4 +0.7**
comp=Z,8.0nm,1.0s,mb4.4
GEC2 GERESS Array S 77.51 334 *eP* **P 00 08 35.7 +0.8**
comp=Z,4.0nm,0.8s,mb4.2
GEC2 GERESS Array S 77.51 334 *eP* **P 00 08 35.7 +0.8**
GEC2 pmax pmax
comp=Z,4.0nm,0.8s,mb4.2
GEC2 GERESS Array S 77.51 334 *eP* **P 00 08 35.7 +0.8**
comp=Z,4.0nm,0.8s,mb4.2
GERES GERESS Array B 77.51 334 P **P 00 08 34.8 -0.1**
comp=Z,2.0nm,0.5s,mb4.1,baz=38,slow=5.5,SNR=28
CONA Conrad Observa 77.66 332 ⇑*iP* **P 00 08 36.3 +0.6**
comp=Z,5.1nm,0.6s,mb4.4
BZS Buzias 77.70 327 ⇑P **P 00 08 36.3 +0.3**
BZS Buzias 77.70 327 ⇑*iP* **P 00 08 36.3 +0.3**
ANTO Ankara 77.84 317 ⇑P **P 00 08 37.6 +0.8**
ANTO Ankara 77.84 317 *eP* **P 00 08 36.8 -0.1**
comp=Z,20nm,1.1s,mb4.8
ANTO Ankara 77.84 317 *eP* **P 00 08 36.8 -0.1**
ANTO pmax pmax
comp=Z,20nm,1.1s,mb4.8
ANTO Ankara 77.84 317 ⇑*iP* **P 00 08 37.7 +0.8**
UMR Umm Al-Rimmam 77.97 301 *eP* **P 00 08 37.8 0.0**
UMR AMb AMB 00 08 39.0
comp=Z,72nm,0.8s,mb5.5
MIB Mutribah 78.00 301 *eP* **P 00 08 38.0 0.0**
MIB AMb AMB 00 08 39.3
comp=Z,111nm,0.7s
PKSM Moragy 78.24 329 ⇑*iP* **P 00 08 38.1 -0.9**
QRN Al-Qurain 78.45 300 *eP* **P 00 08 40.5 +0.1**
QRN AMb AMB 00 08 41.4
comp=Z,86nm,0.5s
NAY Al-Naaiem 78.47 301 *eP* **P 00 08 40.4 -0.2**
NAY AMb AMB 00 08 41.8
comp=Z,27nm,0.7s,mb5.1
RDF Al-Radifah 78.53 300 *eP* **P 00 08 41.1 +0.2**
RDF AMb AMB 00 08 42.0
comp=Z,87nm,0.5s
BAIF Baives 78.92 340 *eP* **P 00 08 42.3 -0.3**
PERS Pernice 79.04 332 *iP* **P 00 08 43.5 +0.1**
GROS Grobnik 79.07 332 *iP* **P 00 08 43.7 +0.2**
KBA Koelnbreinsper 79.20 333 ⇓*iP* **P 00 08 45.1 +0.9**
comp=Z,9.1nm,0.6s,mb4.8
KBA Koelnbreinsper 79.20 333 ⇓*iP* **P 00 08 45.1 +0.9**
KBA pmax pmax
comp=Z,9.0nm,0.6s,mb4.8
OBKA Obir 79.33 332 ⇑*iP* **P 00 08 44.7 -0.3**
comp=Z,3.1nm,0.6s,mb4.3
BFO Black Forest 79.50 337 *eP* **P 00 08 45.9 +0.1**
comp=Z,5.0nm,1.0s,mb4.3
BFO Black Forest 79.50 337 *eP* **P 00 08 45.9 +0.1**
BFO pmax pmax
comp=Z,5.0nm,1.0s,mb4.3
BFO Black Forest 79.50 337 *eP* **P 00 08 45.9 +0.1**
comp=Z,5.0nm,1.0s,mb4.3
WTTA Wattenberg 79.54 334 ⇑*iP* **P 00 08 46.6 +0.5**
comp=Z,5.8nm,0.5s,mb4.7
WTTA Wattenberg 79.54 334 ⇑*iP* **P 00 08 46.6 +0.5**
WTTA pmax pmax
comp=Z,6.0nm,0.5s,mb4.7
GCIS Gornji Cirnik 79.56 331 *iP* **P 00 08 46.4 +0.2**
LEGS Legarje 79.58 331 *iP* **P 00 08 45.6 -0.7**
MOTA Moosalm 79.62 335 ⇑*iP* **P 00 08 46.7 +0.2**
comp=Z,5.0nm,1.1s,mb4.2
MOTA Moosalm 79.62 335 ⇑*iP* **P 00 08 46.7 +0.2**
MOTA pmax pmax
comp=Z,5.0nm,1.1s,mb4.3
VTS Vitosha 79.68 325 ⇑P **P 00 08 47.0 +0.1**
VTS Vitosha 79.68 325 ⇑*iP* **P 00 08 47.0 +0.1**
CDF Champ du Feu 79.70 337 *eP* **P 00 08 46.6 -0.3**
comp=Z,4.4nm,0.6s,mb4.2
CDF Champ du Feu 79.70 337 *eP* **P 00 08 46.6 -0.3**
comp=Z,2.2nm,0.6s,mb4.2
CDF Champ du Feu 79.70 337 *eP* **P 00 08 46.6 -0.3**
CDF pmax pmax
comp=Z,2.0nm,0.6s,mb4.1
DAVA Damuels 80.03 335 ⇑*iP* **P 00 08 48.9 +0.2**
comp=Z,4.0nm,0.9s,mb4.2
HAU Haudompre 80.31 338 *eP* **P 00 08 49.7 -0.5**
HINF Hinteralfeld 80.36 338 *eP* **P 00 08 49.8 -0.6**
comp=Z,5.3nm,0.9s,mb4.1
HINF Hinteralfeld 80.36 338 *eP* **P 00 08 49.8 -0.6**
comp=Z,2.7nm,0.9s,mb4.1
HINF Hinteralfeld 80.36 338 *eP* **P 00 08 49.8 -0.6**
HINF pmax pmax
comp=Z,3.0nm,0.9s,mb4.1
FLN La Foliniere 81.16 343 *eP* **P 00 08 54.2 -0.5**
comp=Z,7.3nm,0.9s,mb4.2
FLN La Foliniere 81.16 343 *eP* **P 00 08 54.2 -0.5**
comp=Z,3.7nm,0.9s,mb4.2
FLN La Foliniere 81.16 343 *eP* **P 00 08 54.2 -0.5**
FLN pmax pmax
comp=Z,4.0nm,0.9s,mb4.2
LDF La Druitiere 81.25 342 *eP* **P 00 08 54.7 -0.5**
GRR Gorron 81.59 343 *eP* **P 00 08 56.4 -0.6**
comp=Z,5.1nm,0.6s,mb4.2
GRR Gorron 81.59 343 *eP* **P 00 08 56.4 -0.6**
comp=Z,2.5nm,0.6s,mb4.2
GRR Gorron 81.59 343 *eP* **P 00 08 56.4 -0.6**
GRR pmax pmax
comp=Z,3.0nm,0.6s,mb4.3
LOR Lormes 81.61 339 *eP* **P 00 08 56.7 -0.4**
comp=Z,7.0nm,0.6s,mb4.3
LOR Lormes 81.61 339 *eP* **P 00 08 56.7 -0.4**
comp=Z,3.5nm,0.6s,mb4.4
LOR Lormes 81.61 339 *eP* **P 00 08 56.7 -0.4**
LOR pmax pmax
comp=Z,4.0nm,0.6s,mb4.4
CABF La Chapelle 81.67 338 *eP* **P 00 08 57.1 -0.3**
SSF Saint Saulge 81.89 339 *eP* **P 00 08 58.2 -0.4**
comp=Z,5.6nm,0.8s,mb4.2
SSF Saint Saulge 81.89 339 *eP* **P 00 08 58.2 -0.4**
comp=Z,2.8nm,0.8s,mb4.1
SSF Saint Saulge 81.89 339 *eP* **P 00 08 58.2 -0.4**
SSF pmax pmax
comp=Z,3.0nm,0.8s,mb4.2
SGMF Saint Gilles 82.05 344 *eP* **P 00 08 58.6 -0.8**
comp=Z,12nm,0.7s,mb4.5
SGMF Saint Gilles 82.05 344 *eP* **P 00 08 58.6 -0.8**
comp=Z,5.8nm,0.7s,mb4.5
SGMF Saint Gilles 82.05 344 *eP* **P 00 08 58.6 -0.8**
SGMF pmax pmax
comp=Z,6.0nm,0.7s,mb4.5
ROSF Rostrenen 82.11 344 *eP* **P 00 08 59.1 -0.6**
comp=Z,11nm,0.7s,mb4.5
ROSF Rostrenen 82.11 344 *eP* **P 00 08 59.1 -0.6**
comp=Z,5.7nm,0.7s,mb4.5
ROSF Rostrenen 82.11 344 *eP* **P 00 08 59.1 -0.6**
ROSF pmax pmax
comp=Z,6.0nm,0.7s,mb4.5
AVF Avril sur Loir 82.18 339 *eP* **P 00 08 59.2 -0.9**
comp=Z,6.4nm,0.7s,mb4.2
AVF Avril sur Loir 82.18 339 *eP* **P 00 08 59.2 -0.9**
comp=Z,3.2nm,0.7s,mb4.3
AVF Avril sur Loir 82.18 339 *eP* **P 00 08 59.2 -0.9**
AVF pmax pmax
comp=Z,3.0nm,0.7s,mb4.2
SMF Signal de Mont 82.20 339 *eP* **P 00 08 59.7 -0.5**
comp=Z,16nm,1.0s,mb4.5
SMF Signal de Mont 82.20 339 *eP* **P 00 08 59.7 -0.5**
comp=Z,8.3nm,1.0s,mb4.5
SMF Signal de Mont 82.20 339 *eP* **P 00 08 59.7 -0.5**
SMF pmax pmax
comp=Z,8.0nm,1.0s,mb4.5
QUIF Quistinic 82.49 344 *eP* **P 00 09 01.1 -0.6**
LPL La Plagne 82.52 337 *eP* **P 00 09 01.6 -0.3**
comp=Z,5.8nm,0.8s,mb4.2
LPL La Plagne 82.52 337 *eP* **P 00 09 01.6 -0.3**
comp=Z,2.9nm,0.8s,mb4.2
LPL La Plagne 82.52 337 *eP* **P 00 09 01.6 -0.3**
LPL pmax pmax
comp=Z,3.0nm,0.8s,mb4.2
BGF Bois d'Agland 82.52 340 *eP* **P 00 09 01.3 -0.6**
comp=Z,4.8nm,0.5s,mb4.3
BGF Bois d'Agland 82.52 340 *eP* **P 00 09 01.3 -0.6**
comp=Z,2.4nm,0.5s,mb4.3
BGF Bois d'Agland 82.52 340 *eP* **P 00 09 01.3 -0.6**
BGF pmax pmax
comp=Z,2.0nm,0.5s,mb4.2
LPG La Plagne 82.53 337 *eP* **P 00 09 01.8 -0.1**
comp=Z,4.2nm,0.7s,mb4.1
LPG La Plagne 82.53 337 *eP* **P 00 09 01.8 -0.1**
comp=Z,2.1nm,0.7s,mb4.1
LPG La Plagne 82.53 337 *eP* **P 00 09 01.8 -0.1**
LPG pmax pmax
comp=Z,2.0nm,0.7s,mb4.1
TCF Toulx Ste Croi 82.92 340 *eP* **P 00 09 03.3 -0.7**
comp=Z,5.2nm,0.8s,mb4.1
TCF Toulx Ste Croi 82.92 340 *eP* **P 00 09 03.3 -0.7**
comp=Z,2.6nm,0.8s,mb4.1
TCF Toulx Ste Croi 82.92 340 *eP* **P 00 09 03.3 -0.7**
TCF pmax pmax
comp=Z,3.0nm,0.8s,mb4.2
MFF Saint Martin d 83.15 342 *eP* **P 00 09 04.5 -0.6**
MBDF Montbardon 83.23 336 *eP* **P 00 09 04.9 -0.7**
ORIF Oris-en-Rattie 83.30 337 *eP* **P 00 09 05.3 -0.6**
comp=Z,5.4nm,0.6s,mb4.3
ORIF Oris-en-Rattie 83.30 337 *eP* **P 00 09 05.3 -0.6**
comp=Z,2.7nm,0.6s,mb4.2
ORIF Oris-en-Rattie 83.30 337 *eP* **P 00 09 05.3 -0.6**
ORIF pmax pmax
comp=Z,3.0nm,0.6s,mb4.3
VIVF Saint-Julien-l 83.67 338 *eP* **P 00 09 07.1 -0.7**
comp=Z,5.4nm,0.8s,mb4.2
VIVF Saint-Julien-l 83.67 338 *eP* **P 00 09 07.1 -0.7**
comp=Z,2.7nm,0.8s,mb4.1
VIVF Saint-Julien-l 83.67 338 *eP* **P 00 09 07.1 -0.7**
VIVF pmax pmax
comp=Z,3.0nm,0.8s,mb4.2
SBF Sospel 83.85 336 *eP* **P 00 09 08.2 -0.6**
comp=Z,9.3nm,0.6s,mb4.5
SBF Sospel 83.85 336 *eP* **P 00 09 08.2 -0.6**
comp=Z,4.7nm,0.6s,mb4.5
SBF Sospel 83.85 336 *eP* **P 00 09 08.2 -0.6**
SBF pmax pmax
comp=Z,5.0nm,0.6s,mb4.5
RJF Les Rejaudoux 84.01 340 *eP* **P 00 09 08.9 -0.7**
CAF Calviac 84.24 340 *eP* **P 00 09 10.2 -0.5**
comp=Z,8.0nm,0.8s,mb4.3
CAF Calviac 84.24 340 *eP* **P 00 09 10.2 -0.5**
comp=Z,4.0nm,0.8s,mb4.3
CAF Calviac 84.24 340 *eP* **P 00 09 10.2 -0.5**
CAF pmax pmax
comp=Z,4.0nm,0.8s,mb4.3
SMRF Simiane la Rot 84.25 337 *eP* **P 00 09 09.9 -0.9**
comp=Z,3.0nm,0.6s,mb4.0
SMRF Simiane la Rot 84.25 337 *eP* **P 00 09 09.9 -0.9**
comp=Z,3.0nm,0.6s,mb4.3
FRF La Foret Royal 84.35 336 *eP* **P 00 09 10.5 -0.8**
comp=Z,5.8nm,1.0s,mb4.1
FRF La Foret Royal 84.35 336 *eP* **P 00 09 10.5 -0.8**
comp=Z,2.9nm,1.0s,mb4.1
FRF La Foret Royal 84.35 336 *eP* **P 00 09 10.5 -0.8**
FRF pmax pmax
comp=Z,3.0nm,1.0s,mb4.1
LMR La Mourre 84.59 336 *eP* **P 00 09 11.9 -0.7**
LASF Ste Croix 84.60 338 *eP* **P 00 09 11.7 -0.9**
PGF Pioggiola 84.61 334 *eP* **P 00 09 12.0 -0.6**
MTLF Montolieu 85.70 339 *eP* **P 00 09 17.2 -0.8**
EPF Esparros 86.44 340 *eP* **P 00 09 21.1 -0.6**
SJPF Ste Jean 86.70 341 *eP* **P 00 09 22.1 -0.9**
ESDC Sonseca Array 90.58 342 P **P 00 09 37.7 -3.6**
comp=Z,0.8nm,1.0s,mb3.8,baz=35,slow=5.4,SNR=4.2
KEST Kesra 90.74 331 P **P 00 09 46.1 +3.9**
comp=Z,0.7nm,0.6s,mb4.0,baz=0.1,slow=3.5,SNR=6.5
JTS JuntasAbangare 102.91 59 Pdif Pdif 00 10 40.9 +3.5
TORD Torodi Ar. Bea 114.17 329 PKP PKiKP 00 15 15.4 -3.0
comp=Z,0.6nm,1.0s,baz=12,slow=2.7,SNR=5.3
TORD pPKP 00 15 53.8
comp=Z,0.6nm,0.9s,baz=15,slow=8.5,SNR=2.2
BOSA Boshof 135.52 276 PKP PKPdf 00 15 55.0 -3.7
comp=Z,0.8nm,0.5s,baz=338,slow=5.4,SNR=3.5
BDFB Brasilia 143.67 35 PKP PKPdf 00 16 09.6 -4.2
comp=Z,0.3nm,0.4s,baz=179,slow=25,SNR=3.3

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*ISCJB **23** 00:10:11.0±0.9, 3668N±006×3043E±005, h10km±6km, Error ellipse: s-maj=9.8km s-min=5.3km az=157.6*
*CSEM **23** 00:10:10.3±0.2, 3669N×3043E, h8km, MD3.2, Error ellipse: s-maj=4.8km s-min=2.4km az=147.0*
*ISK **23** 00:10:10.6, 3668N×3041E, h11km, MD3.2*
*DDA **23** 00:10:12.4, 3664N×3046E, h23km±18km, Md3.2*
ISC 23 00:10:11.6±0.8, 3669N±005×3041E±005, h11km±5km, n19, σ0§49/26, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANTB	**Antalya**	**0.29**	**42**	*e*PG	**Pg**	**00 10 17.7**	**+0.2**
ANTB				*e*SG	**Sg**	**00 10 22.1**	**+0.6**
ELL	**Elmali**	**0.41**	**279**	*e*PG	**Pg**	**00 10 19.0**	**-0.7**
ELL				*e*SG	**Sg**	**00 10 25.3**	**+0.1**
BCK	**Bucak**	**0.79**	**10**	*e*PG	**Pg**	**00 10 25.5**	**-1.4**
BCK				*e*SG	**Sg**	**00 10 37.6**	**+0.4**
AKAS	**Kas**	**0.79**	**236**	*i* P	**Pg**	**00 10 27.1**	**+0.1**
AKAS				*i* S	**Sg**	**00 10 48.0**	**+11**
AKAS	**Kas**	**0.79**	**236**	*i* P	**Pg**	**00 10 27.0**	**+0.1**
GOLH	**Golhisar**	**0.88**	**309**	*i* P	**Pg**	**00 10 28.6**	**0.0**
GOLH				*i* S	**Sg**	**00 10 46.5**	**+6.6**
GOLH	**Golhisar**	**0.88**	**309**	*i* P	**Pg**	**00 10 28.6**	**+0.1**
GOLH				*i* S	**Sg**	**00 10 46.5**	**+6.5**
FETY	**Fethiye**	**1.07**	**268**	*e*PG	**Pg**	**00 10 32.4**	**+0.2**
DENT	**Denizli**	**1.53**	**314**	*e*PN	**Pn**	**00 10 38.3**	**-0.6**
YER	**Yerkesik**	**1.77**	**285**	*e*PN	**Pn**	**00 10 42.5**	**+0.4**
KHL	**Karahalli**	**1.78**	**337**	*e*PN	**Pn**	**00 10 42.5**	**+0.1**
SHUT	**Suhut-Afyon**	**1.87**	**3**	*e*PN	**Pn**	**00 10 43.6**	**+0.1**
KONT	**Konya--Tatoy**	**2.00**	**50**	*e*PN	**Pn**	**00 10 44.8**	**-0.5**
KDHN	**Kadinhani**	**2.28**	**36**	*i* P	**Pn**	**00 10 49.3**	**+0.1**
KDHN				*i* S	**Sn**	**00 11 23.3**	**+6.1**
DAT	**Datca**	**2.28**	**272**	*e*PN	**Pn**	**00 10 49.8**	**+0.6**
KULA	**Kula-Manisa**	**2.30**	**323**	*e*PN	**Pn**	**00 10 49.8**	**+0.4**
KIZT	**Kizilcal**	**2.48**	**27**	*e*PN	**Pn**	**00 10 51.7**	**-0.2**
IKL	**Isikli**	**2.67**	**99**	*e*PN	**Pn**	**00 10 54.3**	**-0.3**
EREN	**Erenkoy**	**3.25**	**110**	*e*PN	**Pn**	**00 11 02.9**	**+0.3**

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*ISCJB **23** 00:18:53.0±0.8, 77N±02×1263E±04, h33km, mb3.6/8, MS3.4/3, Error ellipse: s-maj=58.5km s-min=13.6km az=162.6*
*NEIC **23** 00:18:55.2±1.1, 780N×12651E, h35km, mb3.5/1, Error ellipse: s-maj=93.8km s-min=10.9km az=70.0*
*MAN **23** 00:18:57, 773N×12668E, h25km, mb4.4, ML3.3, MS3.1*
*IDC **23** 00:19:00.3±9.9, 771N×12637E, h83km±90km, mb3.4/7, mb1 3.6/7, mb1mx3.4/20, mbtmp3.4/7, MS3.5/3, Ms1 3.5/3, ms1mx3.0/22, Error ellipse: s-maj=76.0km s-min=17.9km az=68.0*
ISC 23 00:18:55.3±0.8, 78N±02×1265E±04, h35km, n12, σ0§25/8, mb3.6/8, MS3.4/3, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**24.29**	**36**	LR	LR	00 31 47.5	
	comp=Z,253nm,19.0s,MS3.7,baz=136,slow=31						
FITZ	**Fitzroy Crossi**	**25.74**	**182**	P	**P**	**00 24 22.5**	**-0.2**
	2.6nm,1.0s,mb3.7,baz=12,slow=3.5,SNR=3.3						
WRAB	**Tennant Creek**	**28.62**	**164**	*e*P	**P**	**00 24 48.7**	**+0.2**
	0.7nm,0.5s,mb3.6						
WRA	**Warramunga Arr**	**28.62**	**164**	P	**P**	**00 24 48.5**	**0.0**
	0.2nm,0.5s,mb3.1,baz=343,slow=10,SNR=7.1						
WRA				PcP	PcP	00 27 58.3	-0.9
	0.4nm,0.9s,baz=328,slow=2.6,SNR=4.6						
KSRS	**Korea Array**	**29.55**	**2**	LR	LR	00 37 08.3	
	comp=Z,13nm,20.0s,MS2.5,baz=160,slow=37						
ASAR	**Alice Springs**	**32.09**	**167**	P	**P**	**00 25 19.2**	**0.0**
	0.4nm,0.3s,mb3.7,baz=343,slow=7.4,SNR=10						
HNR	**Honiara**	**37.46**	**117**	LR	LR	00 39 02.9	
	comp=Z,195nm,19.6s,MS3.9,baz=180,slow=32						
MKAR	**Makanchi Array**	**54.13**	**324**	P	**P**	**00 28 17.2**	**+0.4**
	1.2nm,0.5s,mb4.1,baz=127,slow=8.3,SNR=8.8						
ZALV	**Zalesovo Beam**	**56.90**	**332**	P	**P**	**00 28 36.1**	**-0.5**
	0.5nm,0.5s,mb3.8,baz=111,slow=7.9,SNR=2.8						
BVAR	**Borovoye Array**	**63.82**	**326**	P	**P**	**00 29 24.1**	**+0.1**
	0.3nm,0.5s,mb3.6,baz=106,slow=7.7,SNR=2.4						
YKA	**Yellowknife Ar**	**95.92**	**24**	P	**P**	**00 32 18.2**	**0.0**
	0.2nm,0.7s,mb3.7,baz=300,slow=4.5,SNR=6.1						
TORD	**Torodi Ar. Bea**	**121.36**	**290**	PKP	PKPdf	00 37 44.2	-1.7
	0.3nm,0.9s,baz=66,slow=2.0,SNR=3.0						

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*ISCJB **23** 00:19:17.1±0.5, 4129N±003×2243E±003, h10km, Error ellipse: s-maj=4.9km s-min=3.4km az=12.0*
*CSEM **23** 00:19:17.6±0.1, 4132N×2245E, h10km, ML2.6, Error ellipse: s-maj=1.6km s-min=1.2km az=22.0*
*THE **23** 00:19:17.4, 4130N×2246E, h15km, ML2.6*
*SKO **23** 00:19:17.2, 4129N×2243E, h15km, M0.4, ML0.8*
ISC 23 00:19:17.4±0.8, 4130N±004×2244E±004, h14km±9km, n13, σ0§60/26, 2D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VAY	**Valandovo**	**0.10**	**76**	*e*Pg	**Pg**	**00 19 19.9**	**-0.6**
VAY				*e*Sg	**Sg**	**00 19 22.4**	**-0.4**
VAY	**Valandovo**	**0.10**	**76**	⇓*i*Pg	**Pg**	**00 19 20.3**	**-0.2**
VAY				*i* Sg	**Sg**	**00 19 22.4**	**-0.4**
VAY				*e*Lg		00 19 22.5	
	comp=E,30nm,0.2s						
VAY				*e*Lg		00 19 22.5	
	comp=N,79nm,0.3s						
VAY	**Valandovo**	**0.10**	**76**	⇓*i*Pg	**Pg**	**00 19 20.3**	**-0.3**
VAY				*e*Lg		00 19 22.4	
	comp=N,30nm,0.2s						
VAY				*i* Sg	**Sg**	**00 19 22.4**	**-0.4**
GRG	**Griva**	**0.34**	**185**	*e*Pg	**Pg**	**00 19 24.4**	**0.0**
GRG				*e*Sg	**Sg**	**00 19 29.4**	**+0.3**
KNT	**Kendrikon**	**0.37**	**111**	*e*Pg	**Pg**	**00 19 25.4**	**+0.5**
KNT				*e*Sg	**Sg**	**00 19 30.9**	**+0.9**
STIP	**Stip**	**0.44**	**334**	*e*Pg	**Pg**	**00 19 26.1**	**-0.1**
STIP				*e*Sg	**Sg**	**00 19 33.1**	**+1.0**
STIP	**Stip**	**0.44**	**334**	*i* Pg	**Pg**	**00 19 26.1**	**-0.1**
STIP				*i* Sg	**Sg**	**00 19 33.0**	**+0.8**
STIP				*e*Lg		00 19 33.0	
	comp=E,4.0nm,0.2s						
STIP				*e*Lg		00 19 33.1	
	comp=N,5.8nm,0.2s						
STIP	**Stip**	**0.44**	**334**	*i* Pg	**Pg**	**00 19 26.1**	**-0.1**
STIP				*e*Sg	**Sg**	**00 19 33.1**	**+0.9**
SOH	**Sokhos**	**0.84**	**124**	*e*Pg	**Pg**	**00 19 33.4**	**-0.2**
SOH				*e*Sg	**Sg**	**00 19 45.3**	**+0.7**
SRS	**Serrai**	**0.89**	**101**	*e*Pg	**Pg**	**00 19 34.2**	**-0.3**
SRS				*e*Sg	**Sg**	**00 19 44.7**	**-1.5**
KRUS	**Krusevo**	**0.90**	**275**	*i* Pg	**Pg**	**00 19 35.2**	**+0.3**
KRUS				*i* Sg	**Sg**	**00 19 46.1**	**-0.6**
KRUS	**Krusevo**	**0.90**	**275**	*i* Pg	**Pg**	**00 19 35.2**	**+0.3**
KRUS				*i* Sg	**Sg**	**00 19 46.0**	**-0.7**
FNA	**Florina**	**0.96**	**238**	*e*Pg	**Pg**	**00 19 35.8**	**-0.1**
FNA				*e*Sg	**Sg**	**00 19 48.2**	**-0.3**

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*IDC **23** 00:31:45.4±1.2, 102S×127.10E, h0km, mb3.9/5, mb1 4.1/6, mb1mx3.9/17, mbtmp3.9/6, ML3.3/1, MS4.1/1, Ms1 4.1/1, ms1mx3.0/28, Error ellipse: s-maj=95.4km s-min=18.8km az=70.0*
*ISCJB **23** 00:31:47.8±0.9, 1.1S±02×1272E±04, h33km, mb4.0/4, Error ellipse: s-maj=54.3km s-min=13.0km az=160.5*
*NEIC **23** 00:31:50.3±0.8, 1.13S×12702E, h35km, mb4.2/2, Error ellipse: s-maj=49.9km s-min=11.7km az=70.0*
ISC 23 00:31:50.4±0.9, 11S±02×1270E±04, h35km, n12, σ0§81/11, mb4.0/4, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**12.69**	**155**	*e*P	**Pn**	**00 34 48.6**	**+0.1**
	7.0nm,0.5s						
FITZ	**Fitzroy Crossi**	**16.91**	**185**	Pn	**Pn**	**00 35 44.6**	**+0.2**
	0.1nm,0.3s,baz=23,slow=10,SNR=2.9						
WRAB	**Tennant Creek**	**20.01**	**159**	*e*P	**P**	**00 36 20.1**	**-0.1**
	1.9nm,0.4s						
WRA	**Warramunga Arr**	**20.01**	**159**	P	**P**	**00 36 20.2**	**-0.1**
	3.1nm,0.7s,baz=340,slow=11,SNR=37						
WB2	**Warramunga Arr**	**20.02**	**159**	*e*P	**P**	**00 36 18.5**	**-1.8**
ASAR	**Alice Springs**	**23.37**	**164**	P	**P**	**00 36 56.3**	**+0.2**
	5.0nm,0.9s,mb4.0,baz=345,slow=11,SNR=28						
STKA	**Stephens Creek**	**33.53**	**157**	*e*P	**P**	**00 38 28.6**	**+1.8**
	4.8nm,0.7s,mb4.5						
STKA	**Stephens Creek**	**33.53**	**157**	P	**P**	**00 38 28.4**	**+1.6**
	7.7nm,0.8s,mb4.7,baz=323,slow=9.8,SNR=12						
SONM	**Songino Array**	**51.98**	**342**	P	**P**	**00 40 56.2**	**+0.2**
	0.4nm,0.5s,mb3.6,baz=154,slow=8.5,SNR=4.3						
RPZ	**Rata Peaks**	**57.67**	**143**	LR	LR	01 08 59.6	
	comp=Z,165nm,18.5s,baz=351,slow=39						
MKAR	**Makanchi Array**	**61.72**	**327**	P	**P**	**00 42 04.8**	**-0.4**
MKAR	**Makanchi Array**	**61.72**	**327**	P	**P**	**00 42 04.8**	**-0.4**
	0.4nm,0.3s,mb4.0,baz=118,slow=7.8,SNR=7.7						

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*ISK **23** 00:32:26.4, 3546N×2826E, h31km, MD3.6*
*CSEM **23** 00:32:26.3±0.2, 3564N×2834E, h10km, MD3.5, Error ellipse: s-maj=4.4km s-min=1.9km az=27.0*
*ISCJB **23** 00:32:27.0±0.9, 3564N±004×2839E±004, h9km±7km, Error ellipse: s-maj=7.2km s-min=4.8km az=24.9*
*NEIC **23** 00:32:28.4, 3585N×2850E, h40km, MD3.5(ATH), After ATH.*
*ATH **23** 00:32:29.2, 3584N×2839E, h42km±2km, MD3.5/5*
*DDA **23** 00:32:32.2, 3602N×2841E, h11km±1km, Md3.4*
**ISC 23 00:32:28.3±0.

DAT	Datca	1.24	328	*e*PN	Pn	00 32 50.3	-1.3
DAT				*e*SN	Sn	00 33 07.0	-1.2
YER	Yerkesik	1.46	357	*e*PN	Pn	00 32 54.2	-0.3
YER				*e*SN	Sn	00 33 13.8	+0.1
BDRM	Kayabasi	1.58	332	*i* P	Pn	00 32 55.0	-1.2
BDRM				*i* S	Sn	00 33 15.3	-1.4
ELL	Elmali	1.63	49	*e*PN	Pn	00 32 56.1	-0.8
BODT	Bodrum	1.63	328	*e*PN	Pn	00 32 55.4	-1.6
MLSB	Milas	1.69	343	*e*PN	Pn	00 32 57.0	-0.7
MLSB				*e*SN	Sn	00 33 19.1	-0.3
GOLH	Golhisar	1.82	31	*i* P	Pn	00 32 59.8	+0.2
GOLH				*i* S	Sn	00 33 22.6	-0.1
AYDN	Tasoluk	2.02	349	*i* P	Pn	00 33 01.4	-0.9
AYDN				*i* S	Sn	00 33 29.2	+1.7
DENT	Denizli	2.14	14	*e*PN	Pn	00 33 04.4	+0.5
ANTB	Antalya	2.20	56	*e*PN	Pn	00 33 05.5	+0.7
NPS	Neapolis	2.30	260	*e*P	Pn	00 33 07.7	+1.6
NPS	Neapolis	2.30	260	*e*P	Pn	00 33 07.0	+0.9
SMG	Samos	2.38	329	*e*P	Pn	00 33 05.4	-1.8
BCK	Bucak	2.51	44	*e*PN	Pn	00 33 09.2	+0.2
KHL	Karahalli	2.79	19	*e*PN	Pn	00 33 14.2	+1.3
KULA	Kula-Manisa	2.84	4	*e*PN	Pn	00 33 14.1	+0.5
BLCB	Balcova	2.91	339	*e*PN	Pn	00 33 14.4	-0.1
SHUT	Suhut-Afyon	3.35	30	*e*PN	Pn	00 33 21.9	+1.2
LEF	Lefka	3.72	97	*e*PN	Pn	00 33 23.3	-2.4
BALB	Balikesir	3.98	354	*e*PN	Pn	00 33 30.8	+1.6
CSS	Prodhromos	4.11	99	*e*PN	Pn	00 33 29.4	-1.6
LFK	Lefkose	4.22	94	*e*PN	Pn	00 33 31.4	-1.1
IKL	Isikli	4.34	81	*e*PN	Pn	00 33 34.0	-0.1
VLI	Veliai	4.53	285	*e*P	Pn	00 33 36.8	0.0
VLI	Veliai	4.53	285	*e*P	Pn	00 33 38.8	+2.0
EREN	Erenkoy	4.72	90	*e*PN	Pn	00 33 39.1	-0.3
KARA	Karaisali	5.60	72	*e*PN	Pn	00 33 53.0	+1.5
KOZT	Kozan	6.25	71	*e*PN	Pn	00 34 02.2	+1.7

CSEM ***23*** *00:45:36.7±0.1, 3904N×2974E, h2km, MD2.9, Error ellipse: s-maj=2.0km s-min=1.7km az=66.0*
ISK ***23*** *00:45:36.4, 3904N×2973E, h5km, MD3.0*
ISCJB ***23*** *00:45:37.6±0.4, 3905N±003×2973E±003, h2km, Error ellipse: s-maj=4.1km s-min=3.3km az=176.1*
DDA ***23*** *00:45:37.5, 3904N×2979E, h5km±5km, Md2.9*
ISC 23 00:45:37.9±0.6, 3907N±003×2973E±003, h1km±7km, n22, σ0°63/30, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GDZ	Gediz	0.20	276	*i* P	Pg	00 45 41.1	-0.6
GDZ				*i* S	Sg	00 45 44.4	+0.2
ALT	Altintas	0.30	92	*e*PG	Pg	00 45 42.9	-0.7
ALT				*e*SG	Sg	00 45 48.6	+1.2
KHL	Karahalli	0.76	192	*e*PG	Pg	00 45 51.5	-1.0
KHL				*e*SG	Sg	00 46 02.5	+0.1
SHUT	Suhut-Afyon	0.82	128	*e*PG	Pg	00 45 53.3	-0.3
SHUT				*e*SG	Sg	00 46 05.2	+0.9
ESKT	Eskisehir	0.98	62	*i* P	Pg	00 45 56.1	-0.5
ESKT				*i* S	Sg	00 46 13.6	+4.2
ESKT	Eskisehir	0.98	62	*e*Pg	Pg	00 45 56.8	+0.1
SEYT	Eskypehyr	0.98	62	*i* P	Pg	00 45 56.1	-0.6
SEYT				*i* S	Sg	00 46 13.6	+4.2
KULA	Kula-Manisa	1.00	237	*e*PG	Pg	00 45 56.0	-1.1
KULA				*e*SG	Sg	00 46 10.9	+0.8
DST	Dursunbey	1.01	302	*e*PG	Pg	00 45 58.0	+0.8
IZI	Iznik	1.28	351	*e*PN	Pn	00 46 02.3	-0.7
GPA	Golpazari	1.30	20	*e*PN	Pn	00 46 02.7	-0.6
ADVT	Abdulvahap	1.36	0	*e*PN	Pn	00 46 03.7	-0.4
GEMT	Gemlik	1.43	343	*e*PN	Pn	00 46 05.3	+0.3
GULT	Gulveren	1.49	24	*e*PN	Pn	00 46 06.4	+0.5
AKHS	Akhisar	1.51	263	*i* P	Pn	00 46 06.2	+0.1
AKHS				*i* S	Sb	00 46 27.3	+1.1
YLV	Yalova	1.52	350	*e*PN	Pn	00 46 06.9	+0.6
BALB	Balikesir	1.54	292	*e*PN	Pn	00 46 06.5	-0.1
KCT	Karacabey	1.60	319	*e*PN	Pn	00 46 07.0	-0.4
BCK	Bucak	1.74	157	*e*PN	Pn	00 46 08.9	-0.3
ISK	Istanbul-Kandi	2.06	346	*e*PN	Pn	00 46 13.8	+0.1
ELL	Elmali	2.32	176	*e*PN	Pn	00 46 17.2	-0.1
MLSB	Milas	2.35	222	*e*PN	Pn	00 46 17.5	-0.1

CSEM ***23*** *00:50:44.6±0.2, 3926N×4426E, h12km, MD3.2, Error ellipse: s-maj=5.7km s-min=3.0km az=72.0*
ISK ***23*** *00:50:44.6, 3925N×4427E, h8km, MD3.2*
ISCJB ***23*** *00:50:45.2±0.9, 3922N±003×4430E±006, h5km±6km, Error ellipse: s-maj=7.5km s-min=5.5km az=5.1*
DDA ***23*** *00:50:45.4, 3921N×4432E, h4km±2km, Md3.2*
ISC 23 00:50:46.0±1.0, 3921N±003×4428E±006, h6km±6km, n14, σ1°34/23, Iran-Armenia-Azerbaijan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DYDN	Diyadin	0.56	306	*i* P	Pg	00 50 56.7	-0.2
DYDN				*i* S	Sg	00 51 06.7	+2.5
VANB	Van	0.93	229	*e*PG	Pg	00 51 03.5	-0.3
VANB				*e*SG	Sg	00 51 16.7	+1.0
TVAN	Van	0.96	225	*i* P	Pg	00 51 03.1	-1.3
TVAN				*i* S	Sg	00 51 17.1	+0.1
VANT	Van	1.03	223	*e*PN	Pg	00 51 06.7	+0.9
AGRB	Hanur-Agry	1.06	291	*e*PG	Pg	00 51 05.0	-1.4
AGRB				*e*SG	Sg	00 51 19.9	-0.2
TUTA	Tutak	1.15	280	*i* P	Pg	00 51 06.6	-1.5
TUTA				*i* S	Sg	00 51 23.0	0.0
KARS	Kars	1.67	327	*e*PN	Pn	00 51 14.0	-1.9
HKR	Hakkari	1.68	195	*e*PN	Pn	00 51 15.7	-0.3
HAKT	HAKKARI	1.71	195	*i* P	Pn	00 51 15.4	-1.0
HAKT				*i* S	Sn	00 51 40.9	+2.3
HOMI	Horasan	2.01	295	*i* P	Pg	00 51 24.5	-0.1
HOMI				*i* S	Sg	00 51 55.3	+4.6
ERZM	Erzurum	2.35	288	*i* P	Pn	00 51 28.6	+3.3
ERZM				*i* S	Sn	00 51 54.4	-0.1
EZM	Erzurum	2.36	288	*e*PN	Pn	00 51 24.6	-0.7
DGRG	David-gareji	2.39	20	P	Pg	00 51 29.4	-2.5
DGRG				S	Sg	00 52 06.0	+3.2
BTMT	Batman	2.41	246	*e*PN	Pn	00 51 28.1	+2.2

IDC ***23*** *00:55:30.4±0.9, 1579S×1761W, h0km, mb4.2/8, mb1 4.4/8, mb1mx4.2/17, mbtmp4.2/8, ML5.7/1, Error ellipse: s-maj=32.9km s-min=19.0km az=135.0*
NEIC ***23*** *00:55:35.2±0.7, 1584S×1761W, h35km, mb4.9/10, Error ellipse: s-maj=17.1km s-min=14.9km az=125.0*
ISCJB ***23*** *00:55:41.1±5.2, 1613S±02×1762W±01, h101km±46km, mb4.6/16, Error ellipse: s-maj=28.6km s-min=18.8km az=175.5*
ISC 23 00:55:40.9±4.3, 1605S±02×1762W±01, h85km±38km, n23, σ0°94/23, mb4.6/16, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	13.27	187	Pn	Pn	00 58 45.2	-0.6
	42nm,0.3s,baz=146,slow=22,SNR=1.9						
URZ	Urewera	22.93	194	P	P	01 00 37.6	-0.3
	8.0nm,0.3s,mb4.5,baz=347,slow=2.9,SNR=14						
RPZ	Rata Peaks	29.67	199	P	P	01 01 40.2	+1.7
	2.9nm,0.5s,mb4.2,baz=1.2,slow=15,SNR=2.9						
CTA	Charters Tower	35.89	258	P	P	01 02 34.6	+1.5
	1.9nm,0.3s,mb4.5,baz=92,slow=11,SNR=3.6						
CTAO	Charters Tower	35.89	258	*e*P	P	01 02 32.4	-0.7
	2.5nm,0.3s,mb4.6						
CNB	Canberra Magne	36.26	231	*e*P	P	01 02 36.6	+0.6
	19nm,0.6s,mb5.2						
STKA	Stephens Creek	41.41	240	*e*P	P	01 03 20.1	+1.0
	3.9nm,0.5s,mb4.5						
STKA	Stephens Creek	41.41	240	P	P	01 03 20.2	+1.1
	4.7nm,0.5s,mb4.6,baz=101,slow=10,SNR=21						
WB2	Warramunga Arr	47.08	258	*e*P	P	01 04 04.8	+0.3
WRAB	Tennant Creek	47.08	258	*e*P	P	01 04 04.0	-0.6
	4.3nm,0.4s,mb4.5						
WRA	Warramunga Arr	47.09	258	P	P	01 04 05.0	+0.4
	6.7nm,0.5s,mb4.6,baz=91,slow=6.9,SNR=112						
ASAR	Alice Springs	47.37	252	P	P	01 04 07.0	+0.2
ASAR	Alice Springs	47.37	252	P	P	01 04 07.0	+0.3
	38nm,0.5s,mb5.4,baz=87,slow=8.1,SNR=599						
KAKA	Kakadu	49.78	267	*e*P	P	01 04 26.4	+1.0
	17nm,0.4s,mb5.3						
FORT	Forrest	52.74	243	*e*P	P	01 04 46.3	-1.0
	15nm,0.5s,mb5.3						
FITZ	Fitzroy Crossi	55.46	259	*e*P	P	01 05 07.2	0.0
	6.7nm,0.6s,mb4.8						
KLBR	Kellerberrin	61.58	242	*e*P	P	01 05 47.8	-1.8
	79nm,1.6s,mb5.5						
NWAO	Narrogin (SRO)	61.98	241	*e*P	P	01 05 50.8	-1.5
	4.3nm,0.7s,mb4.6						
SBA	Scott Base	62.44	184	*e*P	P	01 05 55.4	+0.9
	3.3nm,0.6s,mb4.5						
QSPA	South Pole Qui	74.03	180	*e*P	P	01 07 05.9	-1.0
TXAR	Lajitas Array	83.19	57	P	P	01 07 59.1	+1.1
	0.4nm,0.9s,baz=217,slow=4.3,SNR=4.2						
PDAR	Pinedale Array	84.53	43	P	P	01 08 04.6	0.0
	0.4nm,0.9s,mb3.3,baz=213,slow=3.1,SNR=3.2						
YKA	Yellowknife Ar	91.74	24	P	P	01 08 37.7	-0.9
	0.2nm,0.9s,mb3.4,baz=242,slow=4.2,SNR=4.1						

GUC 23 00:58:22.7±0.6, 3033S×6947W, h5km±16km, MD3.7, ML2.8, 1C-1D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TLL	Tololo Astrono	1.17	278	⇓*i*P	Pg	00 58 44.9	-0.2
TLL				*i* S	Sg	00 59 01.2	+1.0
TLL				AML	AML	00 59 02.8	
	comp=E,176nm,0.3s						
CMCH	Combarbala	1.56	237	⇑*i*P	Pn	00 58 50.5	-0.6
CMCH				*i* S	Sn	00 59 11.7	0.0
CMCH				AML	AML	00 59 12.2	
	comp=N,671nm,0.1s						
CHNG	Los Chungos	2.33	228	*i* P	Pn	00 58 42.2	-19
CHNG				*e*S	Sn	00 59 12.8	-18
CHNG				AML	AML	00 59 26.6	
	comp=E,47nm,0.2s						
FCH	Farellones	3.06	193	*e*P	Pn	00 59 13.6	+1.8
FCH				AML	AML	00 59 58.2	
	comp=E,24nm,0.4s						

GUC 23 01:06:01.4±0.9, 3158S×7168W, h36km±6km, MD3.5, ML2.5, 1C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHNG	Los Chungos	0.33	153	⇓*i*P	Px	01 05 49.0	
CHNG				*i* S	Sx	01 05 55.3	
CHNG				AML	AML	01 05 55.8	
	comp=N,530nm,0.3s						
CMCH	Combarbala	0.71	55	⇓*i*P	Pn	01 06 14.9	0.0
CMCH				*i* S	Sn	01 06 25.8	+1.2
CMCH				AML	AML	01 06 28.0	
	comp=E,544nm,0.5s						
TLL	Tololo Astrono	1.60	28	*e*P	Pn	01 06 29.0	+1.9
TLL				*e*S	Sn	01 06 50.2	+3.7
TLL				AML	AML	01 06 57.7	
	comp=N,70nm,0.4s						
PEL	Peldehue	1.77	152	⇑*i*P	Pn	01 06 31.6	+2.1
PEL				*i* S	Sn	01 06 53.1	+2.4
PEL				AML	AML	01 06 57.3	
	comp=E,106nm,0.4s						
FCH	Farellones	2.10	146	⇓*i*P	Pn	01 06 36.0	+2.0
FCH				*i* S	Sn	01 07 02.7	+3.8
FCH				AML	AML	01 07 15.4	
	comp=E,35nm,0.3s						
LMEL	Las Melosas	2.58	152	*e*P	Pn	01 06 42.1	+1.5
LMEL				*i* S	Sn	01 07 14.4	+3.7
LMEL				AML	AML	01 07 27.0	
	comp=N,47nm,0.2s						

ISCJB ***23*** *02:00:54.6±4.5, 4760N±02×1546E±02, h15km±28km, mb3.5/6, Error ellipse: s-maj=35.3km s-min=9.1km az=146.8*
MOS ***23*** *02:00:57.2±1.1, 4772N×1545E0, h33km, mb3.9/1, Error ellipse: s-maj=42.6km s-min=16.3km az=58.7*
IDC ***23*** *02:01:04.8±6.6, 4784N×1541E, h91km±68km, mb3.2/6, mb1 3.6/7, mb1mx3.3/22, mbtmp3.3/7, ML3.8/1, Error ellipse: s-maj=84.0km s-min=21.4km az=134.0*
ISC 23 02:00:54.5±5.8, 4760N±02×1546E±02, h1km±36km, n12, σ0°98/13, mb3.6/6, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	3.20	17	*e*PN	Pn	02 01 44.5	-1.4
SKR				pmax	pmax		
	comp=N,80nm,0.5s						
SKR				pmax	pmax		
	comp=Z,80nm,0.5s						
KUR	Kuril'sk	5.26	245	*e*PN	Pn	02 02 14.0	-0.2
KUR				*e*S	Sn	02 03 15.8	+0.4
KUR				pmax	pmax		
	comp=Z,100nm,0.7s						
KUR				smax			
	comp=N,280nm,1.0s						
KUR				smax			
	comp=E,260nm,1.0s						
PET	Petropavlovsk	5.98	24	*e*PN	Pn	02 02 25.4	+1.4
ASAJ	Asahikawa	9.10	252	PN	Pn	02 03 10.2	+3.3
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ	Asahikawa	9.10	252	P	Pn	02 03 10.2	+3.2
	comp=Z,1.1nm,0.3s,baz=87,slow=14,SNR=14						
KSRS	Korea Array	22.05	252	P	P	02 05 49.3	-1.3
	comp=Z,1.1nm,0.7s,mb3.4,baz=55,slow=11,SNR=5.7						
YKA	Yellowknife Ar	49.59	38	P	P	02 09 46.3	-0.5
	comp=Z,0.1nm,0.5s,mb3.0,baz=299,slow=7.0,SNR=4.1						
NVAR	Mina Array Bea	61.11	64	P	P	02 11 10.3	+0.2
	comp=Z,0.5nm,0.6s,mb3.8,baz=289,slow=6.2,SNR=3.1						
PDAR	Pinedale Array	63.39	55	P	P	02 11 25.6	+0.2
	comp=Z,0.2nm,0.3s,mb3.7,baz=307,slow=3.3,SNR=1.9						
WRA	Warramunga Arr	69.69	200	P	P	02 12 05.1	-0.6
WRA				pmax	pmax		
	comp=Z,1.0nm,1.1s						
WRA	Warramunga Arr	69.69	200	P	P	02 12 05.1	-0.7
	comp=Z,0.7nm,1.1s,mb3.7,baz=18,slow=6.1,SNR=2.7						
TXAR	Lajitas Array	76.16	62	P	P	02 12 44.9	+0.7
	comp=Z,0.4nm,0.6s,mb3.8,baz=308,slow=4.8,SNR=9.8						

IDC 23 02:13:41.4±2.0, 5726S×14801E, h0km, mb4.1/6, mb1 4.3/6, mb1mx4.1/13, mbtmp4.1/6, MS3.4/5, Ms1 3.3/5, ms1mx3.2/13, Error ellipse: s-maj=139.1km s-min=18.5km az=79.0, West of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPZ	Rata Peaks	19.83	57	LR	LR	02 24 44.9	
	comp=Z,176nm,19.6s,baz=356,slow=34						
VNDA	Vanda	20.91	172	P	P	02 18 26.5	+1.6
	2.0nm,1.0s,baz=342,slow=10,SNR=3.7						
VNDA				LR	LR	02 26 08.6	
	comp=Z,13nm,19.2s,baz=345,slow=36						
STKA	Stephens Creek	25.76	347	P	P	02 19 13.9	+0.4
	6.3nm,1.1s,baz=169,slow=10,SNR=3.0						
URZ	Urewera	26.94	58	LR	LR	02 29 47.4	
	comp=Z,193nm,18.0s,baz=33,slow=36						
QSPA	South Pole Qui	32.85	180	P	P	02 20 15.2	-0.9
	3.0nm,1.0s,baz=278,slow=3.9,SNR=3.0						
ASAR	Alice Springs	35.08	337	P	P	02 20 36.4	+0.4
	2.2nm,0.8s,baz=164,slow=9.5,SNR=11						
WRA	Warramunga Arr	38.61	339	P	P	02 21 05.4	-0.6
	4.7nm,0.8s,baz=166,slow=7.2,SNR=16						
WRA				LR	LR	02 35 18.5	
	comp=Z,74nm,19.6s,baz=205,slow=34						
FITZ	Fitzroy Crossi	42.50	328	P	P	02 21 38.0	-0.3
	2.5nm,0.9s,baz=186,slow=12,SNR=5.2						
FITZ				LR	LR	02 37 27.8	
	comp=Z,42nm,20.0s,baz=177,slow=34						
KEST	Kesra	145.09	250	PKPbc	PKPbc	02 33 20.2	+0.7
	1.8nm,1.0s,baz=110,slow=1.9,SNR=4.4						
FINES	FINESS Array B	150.96	303	PKPbc	PKPbc	02 33 34.3	-0.2
	2.0nm,0.8s,baz=96,slow=3.8,SNR=6.6						
GERES	GERESS Array B	151.76	272	PKPbc	PKPbc	02 33 36.2	-0.6
	0.6nm,0.8s,baz=145,slow=3.3,SNR=5.5						

MOS ***23*** *02:31:04.5±1.6, 3588N×7068E, h92km, mb3.8/2, Error ellipse: s-maj=31.3km s-min=11.1km az=81.2*
IDC ***23*** *02:31:06.3±5.1, 3589N×7085E, h93km±43km, mb3.4/6, mb1 3.7/10, mb1mx3.3/25, mbtmp3.6/10, Error ellipse: s-maj=35.3km s-min=27.0km az=13.0*
ISCJB ***23*** *02:31:09.8±0.7, 3627N±006×7090E±010, h126km±7km, mb3.4/5, Error ellipse: s-maj=15.1km s-min=6.1km az=32.1*
NEIC ***23*** *02:31:10.6±1.0, 3616N×7092E, h124km±9km, mb4.8/5, Error ellipse: s-maj=20.3km s-min=9.6km az=125.0*
NNC ***23*** *02:31:16.9±2.5, 3681N×7054E, h120km±32km, mb3.5, mpv4.2, Error ellipse: s-maj=23.9km s-min=16.6km az=9.0*
ISC 23 02:31:10.9±0.6, 3625N±005×7089E±009, h122km±7km, n43, σ1°32/51, mb3.4/5, 2C-4D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	Kabul	2.27	222	*e*Pn	Pn	02 31 48.1	+0.2
KBL				*e*Sn	Sn	02 32 15.7	-0.5
AML	Almayashu	6.27	19	*e*Pn	Pn	02 32 41.4	+0.5
	60nm,0.5s						
AML				*e*Sn	Sn	02 33 49.2	-1.9
AML	Almayashu	6.27	19	P	Pn	02 32 41.5	+0.6
	SNR=51						
UCH	Uchtor	6.60	24	*e*Pn	Pn	02 32 45.8	+0.4
	22nm,0.6s						
UCH				*e*Sn	Sn	02 33 57.2	-2.0
UCH	Uchtor	6.60	24	P	Pn	02 32 47.2	+1.9
	SNR=9.0						
KZA	Kyzart	6.74	29	P	Pn	02 32 49.1	+1.9
	SNR=10						
EKS2	Erkin-Say	6.78	18	*e*Pn	Pn	02 32 48.2	+0.4
	16nm,0.5s						
EKS2				*e*Sn	Sn	02 34 03.4	-0.1
EKS2	Erkin-Say	6.78	18	P	Pn	02 32 48.5	+0.7
	SNR=12						
KK31	Karatay Array	6.86	358	P	Pn	02 32 47.9	-0.9
	3.9nm,0.3s,baz=191,slow=15,SNR=143						
KK31				⇑S	Sn	02 33 59.9	-5.4
	14nm,0.6s,baz=188,slow=23,SNR=10						
SDNR	Sundarnagar	6.92	131	*e*P	x	02 33 01.0	
SDNR				*e*S	Sn	02 34 04.0	-3.1
AAK	Ala-Archa	6.96	22	P	Pn	02 32 50.1	-0.1
	6.7nm,0.3s,baz=188,slow=6.4,SNR=38						
AAK				S	Sn	02 34 04.6	-3.3
	3.6nm,0.3s,baz=323,slow=20,SNR=13						
AAK	Ala-Archa	6.96	22	P	Pn	02 32 51.2	+1.0
	SNR=18						
KBK	Karagaybulak	7.13	25	P	Pn	02 32 54.2	+1.8
	SNR=9.3						
CHMS	Chumysh	7.37	23	P	Pn	02 32 57.2	+1.4
	SNR=9.5						
USP	Ospenovka	7.54	20	P	Pn	02 32 58.1	0.0
	SNR=8.0						
TKM2	Tokmak 2	7.59	27	⇓P	Pn	02 32 59.9	+1.2
	17nm,0.6s						
TKM2				⇓S	Sn	02 34 21.3	-1.7
	14nm,1.0s						
TKM2	Tokmak 2	7.59	27	*e*Pn	Pn	02 32 59.9	+1.1
	18nm,0.6s						
TKM2	Tokmak 2	7.59	27	*e*PN	Pn	02 32 59.9	+1.2
TKM2				pmax	pmax		
	comp=Z,18nm,0.6s						
TKM2	Tokmak 2	7.59	27	P	Pn	02 33 02.4	+3.7
	SNR=21						
MKAR	Makanchi Array	13.55	35	P	Pn	02 34 20.4	+2.5
	comp=Z,0.3nm,0.3s,baz=221,slow=14,SNR=8.4						
AB31	Akbulak array	15.27	332	⇓P	Pn	02 34 38.0	-1.7
	comp=Z,2.7nm,0.5s,baz=150,slow=12,SNR=100						
AB31				S	S	02 37 17.4	-19
	comp=Z,1.3nm,0.4s,baz=150,slow=20,SNR=7.5						
KURK	Kurchatov	15.50	19	*e*Pn	Pn	02 34 42.2	-0.4
	comp=Z,4.7nm,0.8s						
KURK	Kurchatov	15.50	19	*e*P	Pn	02 34 42.2	-0.4
KURK				pmax	pmax		
	comp=Z,5.0nm,0.8s						
VOSK	Vostochnaya	16.48	0	⇑P	Pn	02 35 00.8	+6.2
	comp=Z,8.1nm,1.1s						
ZRNK	Zerenda	16.76	356	⇓P	Pn	02 34 56.9	-1.1
	comp=Z,3.7nm,0.6s						
BVA0	Borovoye Array	16.78	359	P	Pn	02 34 58.3	0.0
	comp=Z,0.5nm,0.7s,baz=140,slow=10,SNR=18						
BVAR	Borovoye Array	16.78	359	P	Pn	02 34 58.4	+0.1
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
BVAR	Borovoye Array	16.78	359	P	Pn	02 34 58.4	+0.1
	comp=Z,0.8nm,0.3s,baz=165,slow=12,SNR=14						
AKTK	Aktyubinsk	16.96	331	P	Pn	02 35 00.8	+0.3
AKTO	Aktyubinsk	16.96	331	P	Pn	02 35 00.8	+0.3
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.3s						
AKTO	Aktyubinsk	16.96	331	P	Pn	02 35 00.8	+0.3
	comp=Z,1.2nm,0.3s,baz=135,slow=9.7,SNR=42						
ZAL	Zalesovo	20.16	24	P	P	02 35 36.7	+1.3
ZAA0	Zalesovo Array	20.18	24	*e*P	P	02 35 36.4	+0.9
ZALV	Zalesovo Beam	20.18	24	P	P	02 35 36.7	+1.2
	comp=Z,1.1nm,0.5s,baz=218,slow=11,SNR=48						
NVS	Novosibirsk	20.45	21	*e*P	P	02 35 36.0	-2.4
ARCES	ARCESS Array B	41.35	338	P	P	02 38 46.4	+2.2
ARCES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ARCES	ARCESS Array B	41.35	338	P	P	02 38 46.4	+2.3
	comp=Z,0.9nm,0.7s,mb3.7,baz=97,slow=8.7,SNR=4.5						
NOA	NORSAR Array B	44.53	323	P	P	02 39 10.1	+0.1
NOA	NORSAR Array B	44.53	323	P	P	02 39 10.1	+0.2
NOA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
NOA	NORSAR Array B	44.53	323	P	P	02 39 10.1	+0.2
	comp=Z,0.8nm,0.8s,mb3.5,baz=96,slow=7.8,SNR=2.9						
TORD	Torodi Ar. Bea	65.63	269	P	P	02 41 40.5	-1.6
	comp=Z,0.2nm,0.3s,mb3.4,baz=50,slow=6.2,SNR=10						
YKA	Yellowknife Ar	81.50	3	P	P	02 43 14.4	+0.2
	comp=Z,0.1nm,0.4s,mb3.0,baz=351,slow=5.3,SNR=8.3						
WRA	Warramunga Arr	81.93	122	P	P	02 43 15.1	-1.9
	comp=Z,0.3nm,0.7s,mb3.2,baz=326,slow=4.7,SNR=4.5						

IDC 23 03:06:40.2±2.1, 2264S×6437W, h0km, mb3.5/2, mb1 3.7/4, mb1mx3.5/18, mbtmp3.5/4, ML3.6/2, Error ellipse: s-maj=43.5km s-min=30.8km az=31.0, Salta Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	La Paz	7.25	330	Pn	Pn	03 08 28.3	+0.9
	0.1nm,0.3s,baz=150,slow=12,SNR=4.5						
LPAZ				Sn	Sn	03 09 51.9	+1.5
	0.1nm,0.3s,baz=196,slow=17,SNR=2.1						
SIV	San Ignacio

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	2.36	223	*e*Pn	**Pn**		03 16 26.2	+0.4
KBL				*e*Sn	**Sn**		03 16 54.0	-0.2
THN	**Thein Dam**	5.49	133	*e*P	**Pn**		03 17 09.5	+1.4
DLH	**Dalhousie**	5.57	131	*e*P	**Pn**		03 17 10.0	+0.9
DLH				*e*S	**Sn**		03 18 14.0	+2.2
AML	**Almayashu**	6.19	19	⇑*i*Pn	**Pn**		03 17 19.6	+2.1
	comp=Z,24nm,0.6s							
AML				*e*Sn	**Sn**		03 18 26.1	-0.8
UCH	**Uchtor**	6.52	24	*e*Pn	**Pn**		03 17 22.8	+0.7
	comp=Z,6.1nm,0.7s							
UCH				*e*Sn	**Sn**		03 18 34.9	-0.1
EKS2	**Erkin-Say**	6.71	18	*e*Pn	**Pn**		03 17 25.7	+1.1
	comp=Z,5.8nm,0.6s							
EKS2				*e*Sn	**Sn**		03 18 38.9	-0.7
KK31	**Karatay Array**	6.81	357	P	**Pn**		03 17 26.2	+0.2
	comp=Z,4.6nm,0.3s,baz=180,slow=12,SNR=110							
KK31				S	**Sn**		03 18 39.4	-2.5
	comp=Z,8.4nm,0.5s,baz=194,slow=41,SNR=9.4							
AAK	**Ala-Archa**	6.88	22	P	**Pn**		03 17 28.1	+1.1
	comp=Z,2.8nm,0.3s,baz=162,slow=5.9,SNR=17							
AAK				S	**Sn**		03 18 42.5	-1.3
	comp=Z,2.9nm,0.3s,baz=121,slow=23,SNR=10							
SDNR	**Sundarnagar**	6.90	132	*e*P	**Pn**		03 17 27.6	+0.3
SDNR				*e*S	**Sn**		03 18 40.5	-3.8
KHET	**Khetri**	9.16	152	*e*P	**Pn**		03 17 55.5	-2.6
KHET				AMb	AMB		03 17 57.5	
	comp=Z,12nm,0.3s							
KHET				*e*S	**Sn**		03 19 30.4	-9.0
KHET				AML	AML		03 19 35.5	
	comp=E,17nm,0.5s							
KHET				AML	AML		03 19 35.7	
	comp=N,18nm,0.3s							
SONA	**Sohna**	9.54	146	*e*S	**Sn**		03 19 38.1	-11
SONA				AML	AML		03 19 46.8	
	comp=E,34nm,0.4s							
SONA				AML	AML		03 19 46.9	
	comp=N,18nm,0.3s							
AB31	**Akbulak array**	15.26	332	P	**Pn**		03 19 16.6	-2.3
	comp=N,1.3nm,0.2s,baz=146,slow=13,SNR=111							
AB31				⇑S	S		03 21 53.6	-24
	comp=N,0.6nm,0.4s,baz=155,slow=22,SNR=4.6							
AKTK	**Aktyubinsk**	16.95	331	P	**Pn**		03 19 40.0	+0.1
AKTO	**Aktyubinsk**	16.95	331	P	**Pn**		03 19 40.0	+0.1
AKTO				pmax	pmax			
	comp=Z,1.0nm,0.3s							
AKTO	**Aktyubinsk**	16.95	331	P	**Pn**		03 19 40.0	+0.1
	comp=Z,0.6nm,0.3s,baz=150,slow=14,SNR=11							
ZAL	**Zalesovo**	20.09	24	P	**P**		03 20 15.3	+0.6
ZALV	**Zalesovo Beam**	20.11	24	P	**P**		03 20 15.3	+0.4
	comp=Z,2.1nm,0.5s,baz=219,slow=12,SNR=11							
AKASG	**Malin Array Be**	33.06	309	P	**P**		03 22 15.7	+0.4
	comp=Z,0.4nm,0.4s,mb3.6,baz=79,slow=7.6,SNR=2.7							
ARCES	**ARCESS Array B**	41.33	338	P	**P**		03 23 25.4	+0.5
ARCES				pmax	pmax			
	comp=Z,2.0nm,1.0s							
ARCES	**ARCESS Array B**	41.33	338	P	**P**		03 23 25.4	+0.5
	comp=Z,1.9nm,0.9s,mb3.9,baz=106,slow=8.5,SNR=6.3							
NOA	**NORSAR Array B**	44.53	323	P	**P**		03 23 51.2	+0.4
NOA				pmax	pmax			
	comp=Z,1.0nm,0.7s							
NOA	**NORSAR Array B**	44.53	323	P	**P**		03 23 51.2	+0.3
	comp=Z,0.6nm,0.7s,mb3.4,baz=97,slow=7.7,SNR=2.9							
TORD	**Torodi Ar. Bea**	65.70	269	P	**P**		03 26 20.2	-3.5
	comp=Z,0.6nm,0.3s,mb3.8,baz=48,slow=5.9,SNR=27							
INK	**Inuvik**	74.11	9	P	**P**		03 27 14.5	+0.1
INK				pmax	pmax			
	comp=Z,1.0nm,0.5s							
INK	**Inuvik**	74.11	9	P	**P**		03 27 14.4	+0.1
	comp=Z,0.5nm,0.5s,mb3.5,baz=341,slow=6.6,SNR=9.9							
YKA	**Yellowknife Ar**	81.45	3	P	**P**		03 27 54.8	-0.3
	comp=Z,0.3nm,0.6s,mb3.3,baz=352,slow=5.6,SNR=15							

NIED ***23*** *03:20:00, 30.80N×142.20E, h26km, Mw4.4 Best double couple: M0=4.37000×10^15 NP1:φ=136.00000°, δ=86.00000°, λ=-83.00000°. NP2:φ=257.00000°, δ=8.00000°, λ=-149.00000°.*
IDC ***23*** *03:20:44.1±0.6, 30.76N×142.08E, h0km, mb4.1/16, mb1 4.2/20, mb1mx4.2/25, mbtmp4.1/20, ML3.7/4, MS3.5/8, Ms1 3.5/8, ms1mx3.3/24, Error ellipse: s-maj=21.4km s-min=14.1km az=73.0*
JMA ***23*** *03:20:45.7±0.2, 30.81N×142.24E, h57km, M4.2*
MOS ***23*** *03:20:46.1±0.9, 30.75N×142.02E, h27km, mb4.5/19, Error ellipse: s-maj=21.2km s-min=8.0km az=112.4*
BJI ***23*** *03:20:46.5, 30.74N×141.94E, h28km, mB4.6, mb4.5, Ms4.0, Msz3.8*
ISCJB ***23*** *03:20:47.4±0.4, 30.85N±0.04×142.00E±0.09, h33km, mb4.3/26, MS3.6/4, Error ellipse: s-maj=11.5km s-min=4.4km az=154.6*
NEIC ***23*** *03:20:49.3±0.3, 30.71N×141.99E, h35km, mb4.7/6, MW4.4(NIED), Error ellipse: s-maj=12.5km s-min=7.0km az=70.0*

ISC 23 03:20:46.5±2.0, 30.82N±0.04×142.01E±0.09, h14km±12km, n73, σ0§88/80, mb4.3/26, MS3.6/4, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	2.95	321	P	**Pn**		03 21 32.8	-0.1
JHJ2				S	**Sn**		03 22 08.3	+0.1
JHJ	**Hachijo jima 2**	2.97	321	Pn	**Pn**		03 21 32.6	-0.6
	13nm,0.3s,baz=92,slow=20,SNR=12							
JHJ				Sn	**Sn**		03 22 06.7	-2.1
	18nm,0.3s,baz=73,slow=23,SNR=5.7							
JHJ				LR	LR		03 22 46.2	
	comp=Z,898nm,18.0s,baz=152,slow=40							
CBIJ	**Chichi jima**	3.71	178	*e*S	**Sn**		03 22 22.6	-4.3
CBIJ	**Chichi jima**	3.71	178	Pn	**Pn**		03 21 42.2	-1.1
	7.2nm,0.3s,baz=291,slow=21,SNR=8.5							
CBIJ				Sn	**Sn**		03 22 22.8	-4.1
	22nm,0.3s,baz=284,slow=23,SNR=9.8							
CBIJ				LR	LR		03 23 13.8	
	comp=Z,820nm,18.5s,baz=20,slow=41							
BSO1	**Boso 1**	3.92	348	P	**Pn**		03 21 45.4	-0.9
BSO3	**Boso 3**	4.17	343	P	**Pn**		03 21 50.4	+0.7
JOD2	**Odawara 2**	5.07	332	P	**Pn**		03 22 01.2	-0.8
JOD2				S	**Sn**		03 22 58.5	-1.8
JRY	**Ryogami san**	5.80	334	P	**Pn**		03 22 12.3	+0.2
JRY				S	**Sn**		03 23 18.3	-0.1
MJAR	**Matsushiro Arr**	6.53	332	P	**Pn**		03 22 23.3	+1.2
MJAR							03 23 35.3	
MJAR				pmax	pmax			
	comp=Z,4.0nm,0.3s							
MJAR	**Matsushiro Arr**	6.53	332	Pn	**Pn**		03 22 23.2	+1.2
	comp=Z,3.9nm,0.3s,baz=152,slow=11,SNR=93							
MJAR				Sn	**Sn**		03 23 35.3	-1.1
	comp=Z,0.4nm,0.3s,baz=155,slow=14,SNR=2.8							
MAJO	**Matsushiro**	6.53	332	*e*Pn	**Pn**		03 22 22.9	+0.8
	comp=Z,50nm,0.7s							
MAJO				*e*Sn	**Sn**		03 23 37.6	+1.2
MAJO	**Matsushiro**	6.53	332	*e*P	**Pn**		03 22 22.9	+0.8
MAJO				*e*			03 23 37.6	
MAJO				pmax	pmax			
	comp=Z,50nm,0.7s							
MAT	**Matsushiro**	6.53	332	P	**Pn**		03 22 23.0	+0.9
MAT				S	**Sn**		03 23 35.9	-0.5
JMK	**Ichinoseki**	8.14	356	P	**Pn**		03 22 43.2	-1.0
JMK				S	**Sn**		03 24 08.1	-8.0
JNU	**Nakatsue**	9.73	287	LR	LR		03 26 44.0	
	comp=Z,212nm,19.1s,baz=274,slow=37							
ASAJ	**Asahikawa**	13.29	2	P	**Pn**		03 23 52.9	-1.7
ASAJ				pmax	pmax			
	comp=Z,1.0nm,0.3s							
ASAJ				MLR	MLR			
	comp=Z,212nm,19.2s							
ASAJ	**Asahikawa**	13.29	2	Pn	**Pn**		03 23 52.9	-1.7
	comp=Z,0.5nm,0.3s,baz=74,slow=26,SNR=4.2							
ASAJ				LR	LR		03 29 51.2	
	comp=Z,212nm,19.2s,baz=327,slow=41							
KSRS	**Korea Array**	13.41	303	Pn	**Pn**		03 23 59.8	+3.5
	comp=Z,0.2nm,0.3s,baz=113,slow=13,SNR=12							
KSRS				LR	LR		03 29 03.0	
	comp=Z,187nm,19.1s,baz=286,slow=37							
YSS	**Yuzh-Sakhalins**	16.12	2	*e*P	**Pn**		03 24 32.0	-0.6
CN2	**Changchun**	18.43	319	*e*P	**Pn**		03 25 01.3	-0.2
CN2				*e*XP	sP		03 25 12.8	+5.7
CN2				AMB	AMB			
	comp=Z,10.0nm,0.8s							
CN2				LR	LR			
	comp=Z,390nm,18.0s							
KLR	**Kul'dur**	19.96	340	*e*P	**Pn**		03 25 13.8	-6.1
KLR				MLR	MLR			
	comp=Z,700nm,14.0s							
HIA	**Hailar**	24.95	324	*e*P	**P**		03 26 09.8	+0.6
	comp=Z,10nm,0.9s,mb4.3							
HIA	**Hailar**	24.95	324	*e*P	**P**		03 26 09.8	+0.6
HIA				pmax	pmax			
	comp=Z,10.0nm,0.9s							
SONM	**Songino Array**	32.01	312	P	**P**		03 27 14.0	+1.7
SONM				pmax	pmax			
	comp=Z,5.0nm,1.0s							
SONM	**Songino Array**	32.01	312	P	**P**		03 27 14.0	+1.7
	comp=Z,4.6nm,0.9s,mb4.3,baz=118,slow=8.4,SNR=18							
BOD	**Bodaibo**	33.16	333	*e*P	**P**		03 27 21.7	-0.6
ZAK	**Zakamensk**	34.79	315	*e*P	**P**		03 27 37.8	+1.3
ZAK				pmax	pmax			
	comp=Z,6.0nm,1.3s,mb4.4							
GTA	**Gaotai**	35.30	296	*e*P	**P**		03 27 40.8	-0.2
GTA				AP	pP		03 27 53.0	+7.7
GTA				XP	sP		03 27 57.9	+11
GTA				AMB	AMB			
	comp=Z,6.0nm,0.8s,mb4.6							
GTA				AMB	AMB			
	comp=Z,86nm,8.8s							
GTA				LR	LR			
	comp=N,90nm,17.5s,MS3.8							
GTA				LR	LR			
	comp=E,130nm,20.2s,MS3.8							
GTA				LR	LR			
	comp=Z,171nm,17.9s,MS3.9							
BILL	**Bilibino**	39.89	14	*e*P	**P**		03 28 20.0	+0.6
BILL				pmax	pmax			
	comp=Z,2.0nm,0.8s,mb3.9							
ZALV	**Zalesovo Beam**	46.63	317	P	**P**		03 29 14.7	+0.6
	comp=Z,1.9nm,0.7s,mb4.1,baz=98,slow=7.7,SNR=8.4							
ZALV				PcP	PcP		03 30 47.4	-0.4
	comp=Z,0.8nm,0.5s,baz=90,slow=4.3,SNR=3.3							
ZAL	**Zalesovo**	46.64	317	P	**P**		03 29 14.7	+0.5
ZAL							03 30 47.4	
NVS	**Novosibirsk**	47.64	318	*e*P	**P**		03 29 22.2	+0.2
MK31	**Makanchi Array**	48.05	307	*e*P	**P**		03 29 25.8	+0.5
MKAR	**Makanchi Array**	48.05	307	P	**P**		03 29 26.2	+0.9
MKAR				LR	LR		03 50 50.0	
MKAR	**Makanchi Array**	48.05	307	P	**P**		03 29 26.2	+0.9
MKAR				pmax	pmax			
	comp=Z,5.0nm,0.6s							
MKAR				MLR	MLR			
	comp=Z,64nm,18.2s							
MKAR	**Makanchi Array**	48.05	307	P	**P**		03 29 26.2	+0.9
	comp=Z,4.9nm,0.6s,mb4.7,baz=90,slow=9.4,SNR=27							
MKAR				LR	LR		03 50 50.0	
	comp=Z,64nm,18.2s,MS3.6,baz=176,slow=38							
KURK	**Kurchatov**	50.32	312	*e*P	**P**		03 29 42.4	-0.2
	comp=Z,7.1nm,0.8s,mb4.8							
KURK	**Kurchatov**	50.32	312	*e*P	**P**		03 29 42.4	-0.2
KURK				pmax	pmax			
	comp=Z,7.0nm,0.8s,mb4.7							
WRAB	**Tennant Creek**	50.99	189	*e*P	**P**		03 29 47.0	-0.9
	comp=Z,12nm,1.0s,mb4.8							
WRAB	**Tennant Creek**	50.99	189	*e*P	**P**		03 29 47.0	-0.9
WRAB				pmax	pmax			
	comp=Z,12nm,1.0s,mb4.8							
WB2	**Warramunga Arr**	51.00	189	*e*P	**P**		03 29 44.8	-3.1
WRA	**Warramunga Arr**	51.00	189	P	**P**		03 29 46.8	-1.2
	comp=Z,4.2nm,0.8s,mb4.4,baz=8.2,slow=8.0,SNR=17							
WRA				LR	LR		03 50 34.3	
	comp=Z,49nm,19.7s,MS3.5,baz=265,slow=35							
ASAR	**Alice Springs**	54.73	189	P	**P**		03 30 14.2	-1.2
ASAR				pmax	pmax			
	comp=Z,1.0nm,0.9s							
ASAR	**Alice Springs**	54.73	189	P	**P**		03 30 14.2	-1.2
	comp=Z,1.2nm,0.9s,mb3.9,baz=18,slow=4.4,SNR=6.8							
BVAR	**Borovoye Array**	55.24	316	P	**P**		03 30 19.7	+0.8
BVAR				pmax	pmax			
	comp=Z,3.0nm,0.6s							
BVAR	**Borovoye Array**	55.24	316	P	**P**		03 30 19.7	+0.7
	comp=Z,2.8nm,0.6s,mb4.5,baz=95,slow=8.6,SNR=20							
BRVK	**Borovoye**	55.30	316	*e*P	**P**		03 30 19.9	+0.5
	comp=Z,2.5nm,0.6s,mb4.4							
BRVK	**Borovoye**	55.30	316	*e*P	**P**		03 30 19.9	+0.5
BRVK				pmax	pmax			
	comp=Z,2.0nm,0.6s,mb4.3							
INK	**Inuvik**	59.73	25	P	**P**		03 30 50.2	-0.2
INK				pmax	pmax			
	comp=Z,1.0nm,1.0s							
INK	**Inuvik**	59.73	25	P	**P**		03 30 50.1	-0.2
	comp=Z,1.3nm,1.0s,mb3.9,baz=284,slow=4.4,SNR=3.6							
ARU	**Arti**	61.42	321	*e*P	**P**		03 31 02.7	+0.7
	comp=Z,17nm,1.0s,mb5.1							
ARU	**Arti**	61.42	321	P	**P**		03 31 02.2	+0.2
STKA	**Stephens Creek**	62.35	180	P	**P**		03 31 08.8	+0.3
STKA	**Stephens Creek**	62.35	180	P	**P**		03 31 08.8	+0.3
	comp=Z,0.9nm,0.5s,mb4.2,baz=165,slow=17,SNR=4.5							
AKTK	**Aktyubinsk**	63.29	315	P	**P**		03 31 14.8	+0.1
AKTO	**Aktyubinsk**	63.29	315	P	**P**		03 31 14.8	+0.1
AKTO				pmax	pmax			
	comp=Z,4.0nm,0.7s,mb4.7							
AKTO	**Aktyubinsk**	63.29	315	P	**P**		03 31 14.8	+0.1
	comp=Z,4.1nm,0.7s,mb4.7,baz=75,slow=12,SNR=12							
YKA	**Yellowknife Ar**	68.96	29	P	**P**		03 31 50.6	-0.3
YKA				pmax	pmax			
	comp=Z,1.0nm,1.1s							
YKA	**Yellowknife Ar**	68.96	29	P	**P**		03 31 50.6	-0.2
	comp=Z,1.3nm,1.1s,mb3.8,baz=292,slow=5.8,SNR=9.5							
OBN	**Obninsk**	73.40	325	*e*P	**P**		03 32 18.3	+0.4
OBN				pmax	pmax			
	comp=Z,6.0nm,1.3s,mb4.4							
FINES	**FINESS Array B**	74.56	333	P	**P**		03 32 25.0	+0.5
FINES				pmax	pmax			
	comp=Z,2.0nm,0.8s							
FINES	**FINESS Array B**	74.56	333	P	**P**		03 32 24.9	+0.4
	comp=Z,1.5nm,0.8s,mb4.0,baz=60,slow=4.6,SNR=4.7							
NVAR	**Mina Array Bea**	78.36	52	P	**P**		03 32 47.0	+0.5
	comp=Z,0.4nm,0.5s,mb3.6,baz=284,slow=6.2,SNR=4.4							
AKASG	**Malin Array Be**	79.54	323	P	**P**		03 32 52.9	+0.1
AKASG				pmax	pmax			
	comp=Z,1.0nm,0.5s							
AKASG	**Malin Array Be**	79.54	323	P	**P**		03 32 52.9	+0.1
	comp=Z,1.3nm,0.5s,mb4.1,baz=48,slow=5.6,SNR=14							
NB2	**NORSAR Subarra**	80.11	338	P	**P**		03 32 55.8	+0.1
	comp=Z,1.0nm,0.8s,mb3.8,baz=41,slow=5.6							
NOA	**NORSAR Array B**	80.11	338	P	**P**		03 32 55.9	+0.2
	comp=Z,1.7nm,0.8s,mb4.0,baz=42,slow=5.9,SNR=5.5							
NOA				LR	LR		04 15 09.0	
	comp=Z,24nm,20.8s,MS3.5,baz=200,slow=41							
PDAR	**Pinedale Array**	81.69	45	P	**P**		03 33 04.7	+0.2
	comp=Z,1.9nm,1.2s,mb3.9,baz=292,slow=4.7,SNR=4.2							
KWP	**Kalwaria**	83.48	325	*e*P	**P**		03 33 14.7	+1.0
	comp=Z,5.6nm,0.9s,mb4.6							
KWP	**Kalwaria**	83.48	325	*e*P	**P**		03 33 14.7	+1.0
KWP				pmax	pmax			
	comp=Z,6.0nm,0.9s,mb4.6							
TXAR	**Lajitas Array**	93.50	53	P	**P**		03 34 02.9	+0.8
TXAR				pmax	pmax			
	comp=Z,1.0nm,1.0s							
TXAR	**Lajitas Array**	93.50	53	P	**P**		03 34 02.9	+0.7
	comp=Z,1.2nm,1.0s,mb4.3,baz=299,slow=2.6,SNR=6.9							
LPAZ	**La Paz**	148.94	69	PKPbc	PKPbc		03 40 36.0	+1.4
	comp=Z,1.2nm,1.0s,baz=27,slow=7.0,SNR=4.6							

MOS ***23*** *03:51:29.5±1.7, 50.27N×156.86E, h10km, mb4.2/1, Error ellipse: s-maj=37.0km s-min=11.5km az=76.0*
KRSC ***23*** *03:51:29.5±1.2, 50.27N×156.86E, h10km±10km, ML4.1*

ISC 23 03:51:29.2±1.5, 50.22N±0.09×156.74E±0.06, h10km, n14, σ1§19/24, 1C, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	0.61	320	⇑*i*PN	**Pg**		03 51 41.1	+0.1
SKR				*i* S	**Sg**		03 51 50.5	+1.4
SKR				pmax	pmax			
	comp=Z,1μm,0.3s							
SKR				pmax	pmax			
	comp=N,650nm,0.4s							
SKR				pmax	pmax			
	comp=E,280nm,0.3s							
SKR				smax				
	comp=N,3μm,0.3s							
SKR				smax				
	comp=E,2μm,0.2s							
SKR				smax				
	comp=Z,620nm,0.5s							
ALID	**Alaid**	1.00	311	*e*P	**Pg**		03 51 47.3	-1.1
ALID				*i* S	**Sg**		03 52 00.2	-1.2
MIPR	**Malaya Ipel'ka**	2.06	0	*e*P	**Pn**		03 52 03.0	-0.8
GRL	**Gorelyy**	2.48	19	*e*P	**Pn**		03 52 10.4	+0.8
GRL				*i* S	**Sn**		03 52 40.6	+0.6
RUS	**Russkaya**	2.48	26	*e*P	**Pn**		03 52 09.0	-0.6
RUS				*i* S	**Sn**		03 52 37.6	-2.3
PET	**Petropavlovsk**	3.05	22	*e*PN	**Pn**		03 52 19.6	+2.1
PET				*e*S	**Sn**		03 52 53.8	-0.2
PET				smax				
	comp=E,90nm,0.4s							
PET				smax				
	comp=N,51nm,0.5s							
PET	**Petropavlovsk**	3.05	22	*e*P	**Pn**		03 52 17.7	+0.2
PET				*i* S	**Sn**		03 52 53.4	-0.6
AVH	**Avacha**	3.30	21	*e*P	**Pn**		03 52 22.8	+2.0
AVH				*i* S	**Sn**		03 53 01.1	+1.1
NLC	**Nalytchevo**	3.37	28	*e*P	**Pn**		03 52 20.8	-1.1
SPN	**Mys Shipunski**	3.54	34	*e*P	**Pn**		03 52 24.3	+0.2
SPN				*i* S	**Sn**		03 53 04.2	-1.7
GNL	**Ganaly**	3.56	12	*e*P	**Pn**		03 52 25.2	+0.8
KII	**Karymskiy**	4.17	23	*e*P	**Pn**		03 52 35.4	+2.6
KII				*i* S	**Sn**		03 53 22.4	+0.8
MKZ	**Mys Kozlova**	5.31	33	*e*P	**Pn**		03 52 47.5	-1.0
MKZ				*i* S	**Sn**		03 53 45.3	-4.4
KBTR	**Krutoberegovo**	7.02	29	*e*P	**Pn**		03 53 11.5	-0.4

NEIC ***23*** *03:51:45.3, 14.61N×92.56W, h20km, MD4.1(MEX), After MEX.*

MEX 23 03:51:45.2±0.8, 14.60N×92.55W, h25km±103km, MD4.1, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
CCIG	**Comitan**	1.72	13	*i* P	**Pn**		03 52 11.1	-2.5
CCIG				*i* S	**Sn**		03 52 31.3	-3.4
SCX	**San Cristobal**	2.12	358	*i* P	**Pn**		03 52 18.0	-1.1
SCX				*i* S	**Sn**		03 52 42.0	-2.7
CMIG	**Matias Romero**	3.34	318	*e*P	**Pn**		03 52 32.6	-3.3
CMIG				*i* S	**Sn**		03 53 13.0	-1.8
VHO	**Vista Hermosa**	4.71	302	*e*P	**Pn**		03 52 54.3	-0.5
VHO				*i* S	**Sn**		03 53 46.1	-2.6
UTMO	**Huajuapan**	5.98	303	*i* P	**Pn**		03 53 10.3	-1.8
TEIG	**Tepich**	6.92	36	*e*Pn	**Pn**		03 53 19.2	-6.0
	17nm,0.5s							
TEIG				*e*Sn	**Sn**		03 54 30.6	-13
JTS	**JuntasAbangare**	8.57	119	*e*Pn	**Pn**		03 53 47.6	-0.2
	1.3nm,0.3s							

ISCJB ***23*** *04:12:09.8±3.5, 47.50S±0.2×129.3E±0.3, h194km±39km, Error ellipse: s-maj=48.9km s-min=13.5km az=150.5*
NEIC ***23*** *04:12:09.4±5.5, 49.00S×128.55E, h164km±66km, mb4.0/2, Error ellipse: s-maj=46.5km s-min=25.3km az=59.0*
IDC ***23*** *04:12:30.8±3.2, 59.99S×127.69E, h395km±33km, mb3.0/1, mb1 3.3/5, mb1mx3.0/17, mbtmp3.2/5, Error ellipse: s-maj=48.9km s-min=16.1km az=66.0*

ISC 23 04:12:16.0±2.4, 50S±0.1×129E±0.2, h247km±28km, n11, σ1§05/12, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
BATI	**Kupang**	7.30	225	P	**Pn**		04 14 01.7	+1.2
	8.4nm,0.3s,baz=11,slow=2.8,SNR=4.8							
BATI				S	Sx		04 15 14.0	
	5.5nm,0.3s,baz=302,slow=18,SNR=6.5							
FITZ	**Fitzroy Crossi**	13.38	193	*e*P	**Pn**		04 15 13.4	-3.3
	4.8nm,0.6s							
FITZ	**Fitzroy Crossi**	13.38	193	*e*Pn	**Pn**		04 15 13.5	-3.3
	6.0nm,0.7s							
FITZ	**Fitzroy Crossi**	13.38	193	P	**Pn**		04 15 13.8	-2.9
	0.4nm,0.3s,baz=16,slow=9.3,SNR=9.2							
WRAB	**Tennant Creek**	15.75	161	*e*P	**Pn**		04 15 45.3	0.0
	1.8nm,0.4s							
WRA	**Warramunga Arr**	15.76	161	P	**Pn**		04 15 46.1	+0.7
	0.5nm,0.3s,baz=333,slow=11,SNR=35							
WRA				S	Sx		04 18 26.4	
	0.1nm,0.3s,baz=332,slow=18,SNR=4.8							
WB2	**Warramunga Arr**	15.76	161	*e*P	**Pn**		04 15 45.8	+0.4
WB2	**Warramunga Arr**	15.76	161	*e*Pn	**Pn**		04 15 45.6	+0.2
WB2				Sn	**S**		04 18 37.4	-0.1
ASAR	**Alice Springs**	19.16	166	P	**P**		04 16 21.6	+0.3
	1.0nm,0.3s,baz=343,slow=12,SNR=51							
ASAR				S	Sx		04 19 32.9	
	0.1nm,0.3s,baz=342,slow=26,SNR=6.9							
YHNB	**Yeheng**	30.40	346	P	**P**		04 18 04.0	-1.4
MKAR	**Makanchi Array**	65.97	327	P	**P**		04 22 37.2	+1.4
	0.1nm,0.3s,baz=121,slow=7.4,SNR=4.7							

CSEM ***23*** *04:29:23.7±0.8, 36.86N×21.26E, h5km±4km, MD3.5, Error ellipse: s-maj=18.6km s-min=8.5km az=38.0*
ISCJB ***23*** *04:29:24.7±1.6, 37.0N±0.1×21.32E±0.09, h11km±11km, Error ellipse: s-maj=19.4km s-min=9.5km az=29.5*
NEIC ***23*** *04:29:24.2, 36.93N×21.33E, h24km, MD3.5(ATH), After ATH.*
ATH ***23*** *04:29:25.9, 37.04N×21.41E, h33km±6km, MD3.4/5*

ISC 23 04:29:25.1±2.1, 36.9N±0.1×21.3E±0.1, h12km±10km, n8, σ0§45/11, Southern Greece

| Code

WRAB	**Tennant Creek**	**13.66 162**	*e*P		**Pn**	**05 17 03.0 -1.6**
WRAB			*e*S		**Sn**	**05 19 29.1 -7.0**
WRAB	**Tennant Creek**	**13.66 162**	*d i*P		**Pn**	**05 17 03.0 -1.6**
WRA	**Warramunga Arr**	**13.66 162**	P		**Pn**	**05 17 03.9 -0.8**
	9.4nm,0.3s,baz=340,slow=13,SNR=204					
WRA			S		**Sn**	**05 19 27.8 -8.4**
	13nm,0.3s,baz=342,slow=22,SNR=10					
WB2	**Warramunga Arr**	**13.67 162**	*e*P		**Pn**	**05 17 02.9 -1.8**
WB2			*e*S		**Sn**	**05 19 28.6 -7.7**
MTNI	**Mataram**	**13.82 262**	P		**Pn**	**05 17 07.4 +0.7**
	0.0nm,0.0s					
SMKI	**Samarinda**	**14.27 296**	P		**Pn**	**05 17 15.3 +2.9**
	0.0nm,0.0s					
KHKI	**Kahang-Kahang**	**14.35 263**	P		**Pn**	**05 17 12.7 -0.7**
	0.0nm,0.0s					
BBKI	**Banjar Baru**	**15.48 282**	P		**Pn**	**05 17 28.7 +1.4**
	0.0nm,0.0s					
KMMI	**Kalianget**	**15.93 268**	P		**Pn**	**05 17 34.4 +1.6**
	157nm,1.1s					
TSM	**Tawau**	**16.42 312**	⇓P		**Pn**	**05 17 38.2 -0.6**
MYLDM	**Lahad Datu**	**16.59 316**	⇓P		**Pn**	**05 17 41.5 +0.7**
PLKI	**Palangkaraya**	**16.66 285**	P		**Pn**	**05 17 40.8 -0.9**
	634nm,0.9s					
ASAR	**Alice Springs**	**17.12 168**	P		**Pn**	**05 17 48.0 +0.8**
	14nm,0.3s,baz=353,slow=12,SNR=627					
ASAR			S		**S**	**05 20 54.5 -2.0**
	5.0nm,0.3s,baz=354,slow=24,SNR=6.8					
KRKI	**Karangkates**	**17.45 265**	P		**Pn**	**05 17 50.3 -0.9**
	256nm,0.8s					
SDKM	**Sandakan**	**17.83 314**	⇓P		**Pn**	**05 17 55.4 -0.2**
PBKI	**Pangkalan Bun**	**18.73 282**	P		**P**	**05 18 04.8 +0.8**
	808nm,1.0s					
KKM	**Kota Kinabalu**	**18.81 313**	*e*P		**P**	**05 18 04.0 -0.9**
KKM	**Kota Kinabalu**	**18.81 313**	⇑P		**P**	**05 18 04.2 -0.7**
KDM	**Kudat**	**18.98 316**	⇑P		**P**	**05 18 07.5 +0.8**
BTM	**Bintulu**	**19.63 300**	⇓P		**P**	**05 18 14.4 +0.6**
STKI	**Sintang**	**19.73 290**	P		**P**	**05 18 14.3 -0.5**
	82nm,0.9s					
SBUM	**Sibu**	**20.02 297**	⇓P		**P**	**05 18 17.9 -0.1**
BJII	**Banjamegara**	**20.15 267**	P		**P**	**05 18 22.3 +3.0**
	70nm,1.0s					
CTA	**Charters Tower**	**20.52 131**	*e*P		**P**	**05 18 27.6 +4.3**
	17nm,0.9s					
CTA	**Charters Tower**	**20.52 131**	*e*P		**P**	**05 18 27.6 +4.3**
CTA			pmax		pmax	
	comp=Z,17nm,0.9s					
CTA	**Charters Tower**	**20.52 131**	P		**P**	**05 18 26.9 +3.6**
	comp=Z,18nm,0.8s,baz=297,slow=12,SNR=14					
CTAO	**Charters Tower**	**20.52 131**	*e*P		**P**	**05 18 27.7 +4.5**
KSM	**Kuching**	**21.33 292**	*e*P		**P**	**05 18 29.8 -2.2**
KSM	**Kuching**	**21.33 292**	⇑P		**P**	**05 18 31.8 -0.2**
JCJI	**Jatiwangi**	**21.59 270**	P		**P**	**05 18 36.4 +1.7**
	comp=Z,147nm,1.3s,mb5.2					
TPI	**Tanjungpandan**	**22.64 279**	P		**P**	**05 18 47.1 +2.0**
	comp=Z,47nm,0.9s,mb4.9					
CBJI	**Citeko**	**23.01 270**	P		**P**	**05 18 45.8 -2.7**
	comp=Z,646nm,0.5s					
FORT	**Forrest**	**23.86 184**	*e*P		**P**	**05 18 58.1 +2.1**
	comp=Z,87nm,0.6s,mb5.5					
PPBI	**Pangkal Pinang**	**24.25 280**	P		**P**	**05 18 58.7 -1.1**
	comp=Z,118nm,0.3s,mb5.9					
STKA	**Stephens Creek**	**27.14 158**	*e*P		**P**	**05 19 28.0 +2.4**
	comp=Z,6.9nm,0.5s,mb4.5					
STKA			*e*			05 19 54.5
STKA	**Stephens Creek**	**27.14 158**	P		**P**	**05 19 28.2 +2.6**
	comp=Z,10nm,0.6s,mb4.6,baz=330,slow=7.9,SNR=2.8					
STKA			LR		LR	05 31 51.9
	comp=Z,162nm,19.5s,baz=204,slow=39					
KLBR	**Kellerberrin**	**27.14 203**	*e*P		**P**	**05 19 26.7 +1.1**
	comp=Z,70nm,1.4s,mb5.1					
MYKOM	**Kota Tinggi**	**27.49 287**	⇑P		**P**	**05 19 30.3 +1.3**
KGM	**Kluang**	**28.06 287**	⇑P		**P**	**05 19 35.9 +1.8**
MUN	**Mundaring**	**28.11 205**	*e*P		**P**	**05 19 33.6 -0.6**
NWAO	**Narrogin (SRO)**	**28.52 203**	*e*P		**P**	**05 19 38.9 +1.0**
	comp=Z,5.9nm,0.6s,mb4.5					
NWAO	**Narrogin (SRO)**	**28.52 203**	*e*P		**P**	**05 19 38.9 +1.0**
NWAO			pmax		pmax	
	comp=Z,6.0nm,0.6s					
NWAO	**Narrogin (SRO)**	**28.52 203**	P		**P**	**05 19 39.0 +1.1**
	comp=Z,2.8nm,0.3s,mb4.5,baz=31,slow=5.8,SNR=7.8					
NWAO			LR		LR	05 31 48.1
	comp=Z,57nm,19.4s,baz=301,slow=38					
ADE	**Adelaide**	**29.09 165**	P		**P**	**05 19 46.9 +4.0**
KTGM	**Kuala Trenggan**	**29.43 294**	⇓P		**P**	**05 19 48.1 +2.0**
FRIM	**Kepong**	**30.06 289**	⇑P		**P**	**05 19 52.8 +1.1**
PPI	**Padang Panjang**	**30.21 281**	P		**P**	**05 19 51.8 -1.3**
	comp=Z,57nm,1.1s,mb5.2					
IPM	**Ipoh**	**31.05 290**	⇓P		**P**	**05 20 00.8 +0.4**
KULM	**Kulim**	**31.69 292**	*e*P		**P**	**05 20 03.5 -2.6**
KULM	**Kulim**	**31.69 292**	⇑P		**P**	**05 20 06.1 0.0**
BSI	**Banda Aceh**	**36.75 289**	P		**P**	**05 20 50.6 +0.9**
	comp=Z,36nm,1.0s,mb5.0					
CHTO	**Chiang Mai**	**39.86 310**	*e*P		**P**	**05 21 13.5 -2.1**
CHTO	**Chiang Mai**	**39.86 310**	P		**P**	**05 21 15.1 -0.5**
	SNR=5.5					
CHTO	**Chiang Mai**	**39.86 310**	P		**P**	**05 21 15.1 -0.5**
	SNR=5.5					
CHTO	**Chiang Mai**	**39.86 310**	P		**P**	**05 21 15.1 -0.5**
	SNR=5.5					
CHTO	**Chiang Mai**	**39.86 310**	P		**P**	**05 21 15.1 -0.5**
	SNR=5.5					
WHN	**Wuhan**	**40.11 339**	⇓P		**P**	**05 21 17.3 -0.1**
GYA	**Guiyang**	**40.13 327**	P		**P**	**05 21 16.4 -1.2**
GYA			PP		PP	05 22 53.0 -0.4
GYA			S		**S**	**05 27 22.4 +10**
GYA			SS		SS	05 30 12.3 -4.5
GYA			AMB		AMB	
	comp=Z,30nm,1.0s,mb4.9					
GYA			AMB		AMB	
	comp=Z,140nm,6.6s					
GYA			LR		LR	
	comp=N,760nm,17.6s					
GYA			LR		LR	
	comp=E,750nm,18.9s					
GYA			LR		LR	
	comp=Z,580nm,17.5s					
NJ2	**Nanjing**	**40.13 345**	*e*P		**P**	**05 21 18.0 +0.4**
NJ2			AMB		AMB	
	comp=Z,70nm,1.2s,mb5.2					
KMI	**Kunming**	**41.42 321**	P		**P**	**05 21 27.8 -0.4**
KMI			AMB		AMB	
	comp=Z,10.0nm,0.9s,mb4.5					
MJAR	**Matsushiro Arr**	**43.86 10**	P		**P**	**05 21 47.1 -0.6**
	comp=Z,1.8nm,0.5s,mb4.0,baz=188,slow=10,SNR=4.6					
KSRS	**Korea Array**	**44.13 358**	P		**P**	**05 21 49.9 0.0**
	comp=Z,1.0nm,0.4s,baz=174,slow=9.5,SNR=5.8					
CD2	**Chengdu**	**45.19 328**	*e*P		**P**	**05 21 57.0 -1.4**
CD2			PP		PP	05 23 44.1 -3.4
CD2			S		**S**	**05 28 34.5 +8.3**
CD2			SS		SS	05 31 47.8 -4.1
CD2			AMB		AMB	
	comp=Z,20nm,0.7s,mb4.9					
CD2			AMB		AMB	
	comp=Z,30nm,6.8s					
CD2			LR		LR	
	comp=N,160nm,12.8s					
CD2			LR		LR	
	comp=Z,210nm,13.4s					
BJI	**Beijing**	**48.39 346**	P		**P**	**05 22 22.3 -0.7**
BJI			AP		pP	05 22 52.3 -6.8
BJI			PP		PP	05 24 18.3 +1.0
BJI			XS		sS	05 30 05.9 -8.0
BJI			SS		SS	05 32 49.5 +6.2
BJI			AMB		AMB	
	comp=Z,14nm,0.7s,mb4.7					
BJI			LR		LR	
	comp=N,197nm,4.8s					
BJI			LR		LR	
	comp=E,138nm,4.8s					
LZH	**Lanzhou**	**49.29 332**	⇑P		**P**	**05 22 29.8 -0.2**
LZH			AP		pP	05 22 58.1 -8.1
LZH			XP		sP	05 23 12.5 -11
LZH			PP		PP	05 24 25.9 +0.3
LZH			*e*S		**S**	**05 29 24.5 +0.5**
LZH			XS		sS	05 30 15.8 -11
LZH			*e*SS		SS	05 32 55.0 -2.9
LZH			AMB		AMB	
	comp=Z,29nm,1.4s,mb4.7					
LZH			AMB		AMB	
	comp=Z,115nm,6.9s					
LZH			LR		LR	
	comp=N,615nm,14.8s					
LZH			LR		LR	
	comp=Z,803nm,18.2s					
HHC	**Hu-ho-hao-te**	**50.42 342**	*e*P		**P**	**05 22 36.4 -2.0**
HHC			PCP		PcP	05 23 55.3 +0.9
HHC			PCS		PcS	05 27 51.3 -0.5
HHC			S		**S**	**05 29 52.1 +13**
HHC			SS		SS	05 33 19.3 +3.6
HHC			AMB		AMB	
	comp=Z,19nm,0.4s,mb5.1					
HHC			AMB		AMB	
	comp=Z,77nm,4.2s					
HHC			LR		LR	
	comp=N,119nm,4.1s					
HHC			LR		LR	
	comp=E,114nm,3.8s					
HHC			LR		LR	
	comp=Z,98nm,6.7s					
CN2	**Changchun**	**50.60 356**	*e*P		**P**	**05 22 43.5 +3.8**
PALK	**Pallekele**	**51.15 285**	*e*P		**P**	**05 22 41.9 -2.5**
	comp=Z,8.5nm,0.8s,mb4.4					
MDJ	**Mudanjiang**	**51.24 360**	P		**P**	**05 22 46.5 +2.0**
MDJ			AMB		AMB	
	comp=Z,4.0nm,1.4s,mb3.9					
MDJ			AMB		AMB	
	comp=Z,102nm,4.8s					
RPZ	**Rata Peaks**	**51.34 142**	P		**P**	**05 22 49.3 +4.0**
	comp=Z,9.9nm,0.7s,mb4.6,baz=201,slow=3.2,SNR=8.8					
LSA	**Lhasa**	**52.11 316**	*e*P		**P**	**05 22 51.6 +0.3**
	comp=Z,12nm,0.7s,mb4.7					
LSA	**Lhasa**	**52.11 316**	*e*P		**P**	**05 22 51.6 +0.4**
LSA			pmax		pmax	
	comp=Z,12nm,0.7s,mb4.6					
GTA	**Gaotai**	**53.86 331**	*e*P		**P**	**05 23 03.8 -0.1**
GTA			PP		PP	05 25 09.3 +2.4
GTA			S		**S**	**05 30 29.9 +3.4**
GTA			XS		sS	05 31 17.6 -13
GTA			SS		SS	05 34 14.4 +4.3
GTA			AMB		AMB	
	comp=Z,21nm,0.7s,mb5.0					
GTA			AMB		AMB	
	comp=Z,79nm,6.5s					
GTA			LR		LR	
	comp=N,99nm,20.9s					
GTA			LR		LR	
	comp=E,138nm,20.5s					
GTA			LR		LR	
	comp=Z,65nm,15.6s					
JIRN	**Jiri**	**54.50 311**	*e*P		**P**	**05 23 07.7 -1.1**
	comp=Z,3.6nm,0.2s,mb4.8					
GUN	**Gumba**	**54.87 311**	*e*P		**P**	**05 23 10.4 -1.0**
	comp=Z,86nm,0.7s,mb5.6					
PKI	**Pulchoki**	**55.04 310**	*e*P		**P**	**05 23 11.5 -1.2**
	comp=Z,17nm,0.6s,mb5.0					
PKIN	**Phulchoki**	**55.06 310**	*e*P		**P**	**05 23 11.2 -1.6**
PKIN	**Phulchoki**	**55.06 310**	*e*P		**P**	**05 23 12.1 -0.7**
	comp=Z,21nm,0.5s,mb5.1					
PKIN	**Phulchoki**	**55.06 310**	*e*P		**P**	**05 23 13.0 +0.2**
KKN	**Kakani**	**55.26 311**	*e*P		**P**	**05 23 13.0 -1.2**
	comp=Z,24nm,0.6s,mb5.1					
DMN	**Daman**	**55.29 310**	*e*P		**P**	**05 23 13.4 -1.0**
	comp=Z,17nm,0.6s,mb4.9					
GKN	**Gorkha**	**55.85 311**	*e*P		**P**	**05 23 17.0 -1.4**
	comp=Z,40nm,0.5s,mb5.5					
HYB	**Hyderabad**	**56.26 296**	*e*P		**P**	**05 23 19.5 -2.0**
HYB	**Hyderabad**	**56.26 296**	*i* P		**P**	**05 23 22.0 +0.5**
KOLN	**Koldanda**	**56.52 310**	*e*P		**P**	**05 23 22.1 -1.1**
	comp=Z,36nm,0.7s,mb5.3					
ULN	**Ulaanbaatar**	**58.14 342**	*e*P		**P**	**05 23 34.8 +0.7**
	comp=Z,15nm,0.7s,mb4.9					
ULN	**Ulaanbaatar**	**58.14 342**	*e*P		**P**	**05 23 34.8 +0.7**
ULN			pmax		pmax	
	comp=Z,15nm,0.7s,mb4.9					
SONM	**Songino Array**	**58.31 342**	P		**P**	**05 23 35.4 +0.1**
	comp=Z,3.5nm,0.5s,mb4.4,baz=156,slow=6.8,SNR=20					
ZAK	**Zakamensk**	**61.54 341**	*e*P		**P**	**05 23 56.9 -0.4**
ZAK			pmax		pmax	
	comp=Z,3.0nm,1.1s,mb4.0					
TLY	**Talaya**	**62.55 342**	*e*P		**P**	**05 24 03.5 -0.4**
TLY	**Talaya**	**62.55 342**	⇓*e*P		**P**	**05 24 02.8 -1.2**
TLY			pmax		pmax	
	comp=Z,1.0nm,0.8s					
WMQ	**Urumqi**	**63.28 327**	P		**P**	**05 24 09.3 +0.3**
WMQ			AMB		AMB	
	comp=Z,26nm,0.9s,mb5.1					
WMQ			AMB		AMB	
	comp=Z,131nm,5.0s					
MOY	**Mondy**	**63.39 340**	*e*P		**P**	**05 24 10.5 +1.0**
MOY			pmax		pmax	
	comp=Z,22nm,2.0s,mb4.6					
PET	**Petropavlovsk**	**64.42 19**	⇓*e*P		**P**	**05 24 15.6 -0.6**
PET			pmax		pmax	
	comp=Z,35nm,0.9s,mb5.2					
BOD	**Bodaibo**	**65.76 351**	*e*P		**P**	**05 24 24.4 -0.4**
BOD			pmax		pmax	
	comp=Z,5.0nm,1.0s,mb4.3					
MK31	**Makanchi Array**	**68.12 327**	*e*P		**P**	**05 24 40.0 +0.1**
MK31	**Makanchi Array**	**68.12 327**	*i* P		**P**	**05 24 39.6 -0.3**
MK31			pmax		pmax	
	comp=Z,25nm,0.4s,mb5.3					
MKAR	**Makanchi Array**	**68.12 327**	P		**P**	**05 24 40.1 +0.2**
	comp=Z,63nm,0.7s,mb5.5,baz=121,slow=8.0,SNR=297					
MA2	**Magadan**	**68.26 11**	*e*P		**P**	**05 24 41.9 +1.4**
MA2			pmax		pmax	
	comp=Z,30nm,1.2s,mb4.9					
YAK	**Yakutsk**	**68.69 360**	⇓*e*P		**P**	**05 24 43.4 +0.3**
YAK			pmax		pmax	
	comp=Z,47nm,0.9s,mb5.2					
KZA	**Kyzart**	**69.68 320**	P		**P**	**05 24 50.8 +1.1**
	SNR=11					
TKM2	**Tokmak 2**	**69.88 320**	*e*P		**P**	**05 24 50.8 -0.1**
	comp=Z,15nm,0.8s,mb4.8					
TKM2	**Tokmak 2**	**69.88 320**	*i* P		**P**	**05 24 51.1 +0.2**
TKM2			pmax		pmax	
	comp=Z,13nm,0.7s,mb4.8					
TKM2	**Tokmak 2**	**69.88 320**	P		**P**	**05 24 51.1 +0.2**
	SNR=9.7					
KBK	**Karagaybulak**	**70.16 320**	P		**P**	**05 24 53.3 +0.7**
	SNR=6.4					
UCH	**Uchtor**	**70.23 319**	*e*P		**P**	**05 24 52.4 -0.6**
	comp=Z,17nm,0.9s,mb4.8					
UCH	**Uchtor**	**70.23 319**	P		**P**	**05 24 54.5 +1.5**
	SNR=17					
AAK	**Ala-Archa**	**70.44 320**	P		**P**	**05 24 54.1 -0.2**
	comp=Z,116nm,1.0s,mb5.6,SNR=9.6					
AAK	**Ala-Archa**	**70.44 320**	*e*P		**P**	**05 24 54.0 -0.3**
AAK	**Ala-Archa**	**70.44 320**	*c i* P		**P**	**05 24 53.6 -0.7**
AAK			pmax		pmax	
	comp=Z,21nm,1.0s,mb4.8					
AAK	**Ala-Archa**	**70.44 320**	P		**P**	**05 24 54.7 +0.4**
	SNR=5.6

LPAZ					PKPbc	PKPab	05 33 35.1	-4.3
	comp=Z,3.8nm,0.4s,baz=58,slow=2.8,SNR=50								
SDV	**Santo Domingo**	**159.46**	**83**	*e*PKPdf	PKPdf		05 33 39.4	+1.6

NEIC ***23*** *05:19:59.0, 3827N×2656E, h4km, ML3.5(ISK), ML4.1(THE), ML4.0(ATH), After ISK.*
NEIC Felt at Cesme.
ISK ***23*** *05:20:00.4, 3827N×2661E, h5km, MD3.5, ML3.7*
ATH ***23*** *05:20:00.7, 3841N×2688E, h33km±2km, MD3.8/10, ML4.0*
THE ***23*** *05:20:01.9, 3823N×2665E, h3km, ML4.1*
ISCJB ***23*** *05:20:01.6±0.5, 3831N±002×2661E±003, h12km±4km, Error ellipse: s-maj=3.5km s-min=3.0km az=163.5*
DDA ***23*** *05:20:01.7, 3832N×2656E, h14km, Md3.6*
CSEM ***23*** *05:20:01.6±0.1, 3827N×2663E, h15km, MD3.6, Error ellipse: s-maj=2.2km s-min=1.3km az=82.0*

ISC 23 05:20:02.1±0.4, 3831N±002×2662E±003, h10km±2km, n68, σ1§26/85, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URLA	**Izmir**	**0.05**	**342**	*i* P	**Pg**	**05 20 04.3**	**+0.2**
URLA				*i* S	**Sg**	**05 20 06.5**	**+0.9**
BLCB	**Balcova**	**0.34**	**78**	*e*PG	**Pg**	**05 20 08.5**	**-0.4**
BLCB				*e*SG	**Sg**	**05 20 13.4**	**-0.1**
CHOS	**Chios island**	**0.45**	**280**	*e*Pg	**Pg**	**05 20 11.2**	**+0.4**
CHOS				*e*Sg	**Sg**	**05 20 17.9**	**+1.2**
KDAG	**Bornova**	**0.52**	**80**	*i* P	**Pg**	**05 20 11.6**	**-0.6**
KDAG				*i* S	**Sg**	**05 20 19.7**	**+0.7**
SMG	**Samos**	**0.63**	**164**	*e*PN	**Pg**	**05 20 14.9**	**+0.7**
SMG				*e*SN	**Sg**	**05 20 25.1**	**+2.6**
PRK	**Paraskevi**	**0.97**	**344**	*e*PN	**Pn**	**05 20 19.2**	**-2.5**
PRK				*e*SN	**Sn**	**05 20 32.8**	**-2.7**
AYVA	**Ayvalik**	**0.99**	**3**	*i* P	**Pg**	**05 20 19.0**	**-2.2**
AYVA				*i* S	**Sg**	**05 20 33.3**	**-0.8**
AKS	**Akhisar**	**1.09**	**59**	*e*PN	**Pn**	**05 20 21.6**	**-1.9**
AKS				*e*SN	**Sn**	**05 20 37.6**	**-1.0**
AKHS	**Akhisar**	**1.10**	**59**	*i* P	**Pg**	**05 20 20.9**	**-2.2**
AKHS				*i* S	**Sg**	**05 20 36.6**	**-0.8**
AYDN	**Tasoluk**	**1.19**	**123**	*i* P	**Pb**	**05 20 23.6**	**-1.1**
AYDN				*i* S	**Sb**	**05 20 39.4**	**-0.8**
BODT	**Bodrum**	**1.37**	**156**	*e*PN	**Pn**	**05 20 26.1**	**-1.0**
BODT				*e*SN	**Sn**	**05 20 45.3**	**0.0**
MLSB	**Milas**	**1.37**	**138**	*e*PN	**Pn**	**05 20 26.4**	**-0.8**
BDRM	**Kayabasi**	**1.41**	**152**	*i* P	**Pn**	**05 20 26.6**	**-1.1**
BDRM				*i* S	**Sb**	**05 20 50.1**	**+3.7**
APE	**Apeiranthos**	**1.51**	**215**	*e*Pg	**Pg**	**05 20 27.9**	**-3.2**
APE				*e*Sg	**Sg**	**05 20 46.9**	**-3.8**
EZN	**Ezine**	**1.53**	**352**	*e*PN	**Pn**	**05 20 29.3**	**-0.1**
BOZC	**Bozcaada**	**1.59**	**344**	*i* P	**Pn**	**05 20 28.4**	**-1.7**
BOZC				*i* S	**Sn**	**05 20 51.3**	**+0.6**
KULA	**Kula-Manisa**	**1.62**	**82**	*e*PN	**Pn**	**05 20 30.8**	**+0.1**
BALB	**Balikesir**	**1.65**	**36**	*e*PN	**Pn**	**05 20 31.7**	**+0.6**
DAT	**Datca**	**1.76**	**154**	*e*PN	**Pn**	**05 20 31.3**	**-1.2**
YER	**Yerkesik**	**1.77**	**131**	*e*PN	**Pn**	**05 20 32.0**	**-0.7**
LIA	**Limnos Island**	**1.94**	**325**	*e*PN	**Pn**	**05 20 33.6**	**-1.4**
GADA	**Gvkgeada**	**1.96**	**344**	*e*PN	**Pn**	**05 20 35.0**	**-0.3**
DENT	**Denizli**	**1.99**	**106**	*e*PN	**Pn**	**05 20 35.4**	**-0.3**
DST	**Dursunbey**	**2.03**	**50**	*e*PN	**Pn**	**05 20 37.2**	**+1.0**
SANT	**Santorini**	**2.15**	**206**	*e*Pn	**Pn**	**05 20 36.4**	**-1.5**
SANT				*i* Pg	**Pg**	**05 20 43.1**	**-0.1**
SANT				*e*Sg	**Sg**	**05 21 13.5**	**+2.5**
SANT	**Santorini**	**2.15**	**206**	*e*Pn	**Pn**	**05 20 43.0**	**+5.1**
SANT	**Santorini**	**2.15**	**206**	*i* Pg	**Pg**	**05 20 43.1**	**-0.1**
EDC	**Edincik**	**2.25**	**25**	*e*PN	**Pn**	**05 20 40.0**	**+0.7**
BNT	**Bandirma**	**2.28**	**26**	*e*PN	**Pn**	**05 20 40.2**	**+0.5**
KHL	**Karahalli**	**2.29**	**89**	*e*PN	**Pn**	**05 20 39.6**	**-0.2**
KVR	**Kavouri**	**2.30**	**259**	*e*PN	**Pn**	**05 20 42.0**	**+2.0**
ATH	**Athens Observa**	**2.31**	**262**	*e*PN	**Pn**	**05 20 41.5**	**+1.4**
KCT	**Karacabey**	**2.37**	**34**	*e*PN	**Pn**	**05 20 41.6**	**+0.6**
MRMT	**Marmara Adasi**	**2.41**	**18**	*e*PN	**Pn**	**05 20 42.5**	**+1.0**
RKY	**Sarkoy-Tekirda**	**2.41**	**10**	*e*PN	**Pn**	**05 20 41.9**	**+0.4**
ARG	**Arkhangelos**	**2.42**	**150**	*e*PN	**Pn**	**05 20 40.2**	**-1.4**
ENEZ	**Enez**	**2.44**	**352**	*e*PN	**Pn**	**05 20 42.5**	**+0.5**
MFT	**Murefte**	**2.52**	**12**	*e*PN	**Pn**	**05 20 43.5**	**+0.4**
NAIG	**Nisos Aigina**	**2.53**	**258**	*e*PN	**Pn**	**05 20 45.0**	**+1.9**
FETY	**Fethiye**	**2.58**	**130**	*e*PN	**Pn**	**05 20 43.2**	**-0.6**
ALN	**Alexandroupoli**	**2.62**	**351**	*e*Pn	**Pn**	**05 20 42.9**	**-1.5**
ALN				*e*Sn	**Sn**	**05 21 22.9**	**+6.7**
KARP	**Karpathos**	**2.80**	**171**	*e*PN	**Pn**	**05 20 46.7**	**-0.1**
ALT	**Altintas**	**2.83**	**74**	*e*PN	**Pn**	**05 20 46.9**	**-0.4**
XOR	**Xorichti**	**2.87**	**293**	*e*Pn	**Pn**	**05 20 50.0**	**+2.1**
GEMT	**Gemlik**	**2.91**	**42**	*e*PN	**Pn**	**05 20 49.5**	**+1.1**
RDO	**Rodhopi**	**2.95**	**344**	*e*PN	**Pn**	**05 20 46.9**	**-2.0**
IZI	**Iznik**	**3.00**	**47**	*e*PN	**Pn**	**05 20 50.9**	**+1.3**
ELL	**Elmali**	**3.05**	**120**	*e*PN	**Pn**	**05 20 50.6**	**+0.3**
SHUT	**Suhut-Afyon**	**3.10**	**84**	*e*PN	**Pn**	**05 20 51.5**	**+0.5**
YLV	**Yalova**	**3.10**	**43**	*e*PN	**Pn**	**05 20 52.6**	**+1.5**
NPS	**Neapolis**	**3.15**	**195**	P	**Pn**	**05 20 51.7**	**0.0**
CTT	**Catalca**	**3.16**	**26**	*e*PN	**Pn**	**05 20 53.0**	**+1.2**
BADT	**Buyukada**	**3.19**	**37**	*e*PN	**Pn**	**05 20 53.1**	**+0.9**
ADVT	**Abdulvahap**	**3.21**	**48**	*e*PN	**Pn**	**05 20 54.2**	**+1.7**
BCK	**Bucak**	**3.26**	**104**	*e*PN	**Pn**	**05 20 53.8**	**+0.7**
ISK	**Istanbul-Kandi**	**3.33**	**34**	*e*PN	**Pn**	**05 20 55.7**	**+1.5**
HRT	**Hereke**	**3.44**	**42**	*e*PN	**Pn**	**05 20 57.1**	**+1.4**
KDZ	**Kurdzhali**	**3.46**	**345**	*i* P	**Pn**	**05 20 54.5**	**-1.4**
GPA	**Golpazari**	**3.48**	**54**	*e*PN	**Pn**	**05 20 58.1**	**+1.9**
KLYT	**Kilyos**	**3.48**	**32**	*e*PN	**Pn**	**05 20 57.7**	**+1.4**
VAM	**Vamos**	**3.49**	**214**	*e*PN	**Pn**	**05 20 57.5**	**+1.2**
ESKT	**Eskisehir**	**3.52**	**69**	*e*PN	**Pn**	**05 20 58.6**	**+1.9**
EDRB	**Edirne**	**3.53**	**2**	*e*PN	**Pn**	**05 20 57.5**	**+0.7**
RZN	**Rozhen**	**3.67**	**337**	*i* P	**Pn**	**05 20 56.2**	**-2.6**
GULT	**Gulveren**	**3.69**	**54**	*e*PN	**Pn**	**05 21 00.4**	**+1.3**
MMB	**Musomiste**	**3.95**	**327**	*i* P	**Pn**	**05 21 01.1**	**-1.6**
KKB	**Krupnik**	**4.46**	**324**	*i* P	**Pn**	**05 21 08.0**	**-1.7**
VTS	**Vitosha**	**5.00**	**330**	*i* P	**Pn**	**05 21 15.0**	**-2.1**

ISCJB ***23*** *05:30:25.5±0.9, 3644N±006×2879E±004, h4km±6km, Error ellipse: s-maj=10.6km s-min=4.9km az=3.2*
CSEM ***23*** *05:30:25.5±0.1, 3655N×2880E, h2km, MD3.2, Error ellipse: s-maj=4.4km s-min=1.9km az=11.0*
ISK ***23*** *05:30:25.9, 3651N×2880E, h12km, MD3.2*
DDA ***23*** *05:30:28.2, 3662N×2888E, h9km±1km, Md3.1, Ml3.2*

ISC 23 05:30:26.3±0.9, 3646N±006×2880E±004, h11km±5km, n14, σ0§85/21, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FETY	**Fethiye**	**0.29**	**53**	PG	**Pg**	**05 30 31.7**	**-0.5**
FETY				*e*SG	**Sg**	**05 30 36.4**	**+0.3**
AKAS	**Kas**	**0.69**	**109**	*i* P	**Pg**	**05 30 40.9**	**+1.2**
AKAS				*i* S	**Sg**	**05 30 55.5**	**+6.9**
YER	**Yerkesik**	**0.79**	**329**	*e*PG	**Pg**	**05 30 40.7**	**-0.9**
YER				*e*SG	**Sg**	**05 30 51.8**	**-0.1**
ELL	**Elmali**	**0.94**	**72**	*e*PG	**Pg**	**05 30 44.1**	**-0.3**
GOLH	**Golhisar**	**0.99**	**38**	*i* P	**Pg**	**05 30 43.7**	**-1.6**
GOLH				*i* S	**Sg**	**05 31 00.8**	**+2.6**
DAT	**Datca**	**1.02**	**286**	*e*PG	**Pg**	**05 30 45.5**	**-0.4**
DAT				*e*SG	**Sg**	**05 31 00.1**	**+1.0**
MLSB	**Milas**	**1.17**	**316**	*e*PN	**Pn**	**05 30 47.5**	**-1.1**
BDRM	**Kayabasi**	**1.24**	**299**	*i* P	**Pn**	**05 30 49.7**	**0.0**
BDRM				*i* S	**Sb**	**05 31 06.5**	**+0.7**
DENT	**Denizli**	**1.30**	**8**	*e*PN	**Pn**	**05 30 49.5**	**-1.0**
BODT	**Bodrum**	**1.34**	**297**	*e*PN	**Pn**	**05 30 50.8**	**-0.1**
AYDN	**Tasoluk**	**1.41**	**329**	*i* P	**Pn**	**05 30 51.9**	**0.0**
AYDN				*i* S	**Sn**	**05 31 11.3**	**+0.9**
BCK	**Bucak**	**1.75**	**55**	*e*PN	**Pn**	**05 30 56.8**	**+0.2**
KHL	**Karahalli**	**1.95**	**17**	*e*PN	**Pn**	**05 30 59.5**	**+0.2**
KULA	**Kula-Manisa**	**2.05**	**357**	*e*PN	**Pn**	**05 31 00.7**	**-0.1**

ISK ***23*** *05:54:17.4, 3836N×2653E, h5km, MD3.3*
ISCJB ***23*** *05:54:18.6±0.7, 3833N±003×2653E±005, h14km±3km, Error ellipse: s-maj=6.1km s-min=4.5km az=168.5*
CSEM ***23*** *05:54:18.4±0.2, 3836N×2658E, h14km±1km, MD3.0, Error ellipse: s-maj=2.2km s-min=1.4km az=81.0*
ATH ***23*** *05:54:19.0, 3834N×2662E, h38km±2km, MD3.3/3*
DDA ***23*** *05:54:20.6, 3836N×2661E, h10km±1km, Md3.0*

ISC 23 05:54:18.9±0.6, 3834N±003×2653E±005, h13km±3km, n25, σ0§76/36, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URLA	**Izmir**	**0.05**	**72**	*i* P	**Pg**	**05 54 22.1**	**+0.6**
URLA				*i* S	**Sg**	**05 54 24.2**	**+1.0**
BLCB	**Balcova**	**0.40**	**84**	PG	**Pg**	**05 54 26.4**	**-0.5**
BLCB				*e*SG	**Sg**	**05 54 31.3**	**-1.0**
KDAG	**Bornova**	**0.58**	**84**	*i* P	**Pg**	**05 54 28.9**	**-1.3**
KDAG				*i* S	**Sg**	**05 54 37.3**	**-0.6**
SMG	**Samos**	**0.68**	**159**	*e*PN	**Pn**	**05 54 32.5**	**-1.6**
SMG				*e*SN	**Sg**	**05 54 42.5**	**+1.5**
PRK	**Paraskevi**	**0.92**	**347**	*e*PN	**Pn**	**05 54 37.1**	**-0.5**
PRK				*e*SN	**Sn**	**05 54 50.3**	**-0.4**
AYVA	**Ayvalik**	**0.97**	**7**	*i* P	**Pb**	**05 54 37.2**	**-0.3**
AYVA				*i* S	**Sb**	**05 54 51.1**	**+0.8**
AKHS	**Akhisar**	**1.14**	**62**	*i* P	**Pb**	**05 54 39.1**	**-1.3**
AKHS				*i* S	**Sb**	**05 54 55.2**	**+0.2**
AKS	**Akhisar**	**1.14**	**62**	*e*PN	**Pn**	**05 54 39.4**	**-1.1**
AKS				*e*SN	**Sn**	**05 54 55.4**	**-0.5**
AYDN	**Tasoluk**	**1.26**	**122**	*i* P	**Pn**	**05 54 42.8**	**+0.6**
AYDN				*i* S	**Sb**	**05 54 58.3**	**-0.3**
BODT	**Bodrum**	**1.42**	**154**	*e*PN	**Pn**	**05 54 44.3**	**-0.1**
MLSB	**Milas**	**1.44**	**136**	*e*PN	**Pn**	**05 54 44.7**	**+0.1**
EZN	**Ezine**	**1.49**	**354**	*e*PN	**Pn**	**05 54 45.0**	**-0.3**
APE	**Apeiranthos**	**1.50**	**212**	*e*PB	**Pb**	**05 54 45.7**	**-0.9**
BALB	**Balikesir**	**1.67**	**39**	*e*PN	**Pn**	**05 54 47.8**	**0.0**
BALB				*e*SN	**Sn**	**05 55 10.0**	**+1.0**
KULA	**Kula-Manisa**	**1.68**	**84**	*e*PN	**Pn**	**05 54 47.8**	**-0.2**
KULA				*e*SN	**Sn**	**05 55 11.0**	**+1.7**
DAT	**Datca**	**1.81**	**152**	*e*PN	**Pn**	**05 54 50.5**	**+0.8**
YER	**Yerkesik**	**1.84**	**131**	*e*PN	**Pn**	**05 54 50.2**	**+0.1**
DST	**Dursunbey**	**2.06**	**52**	*e*PN	**Pn**	**05 54 53.1**	**-0.1**
EDC	**Edincik**	**2.25**	**27**	*e*PN	**Pn**	**05 54 56.1**	**+0.3**
BNT	**Bandirma**	**2.28**	**28**	*e*PN	**Pn**	**05 54 56.5**	**+0.4**
KHL	**Karahalli**	**2.35**	**90**	*e*PN	**Pn**	**05 54 57.9**	**+0.7**
RKY	**Sarkoy-Tekirda**	**2.39**	**12**	*e*PN	**Pn**	**05 54 57.9**	**+0.2**
MFT	**Murefte**	**2.51**	**13**	*e*PN	**Pn**	**05 54 59.4**	**+0.1**
IZI	**Iznik**	**3.02**	**48**	*e*PN	**Pn**	**05 55 06.9**	**+0.4**
YLV	**Yalova**	**3.12**	**44**	*e*PN	**Pn**	**05 55 08.3**	**+0.5**

NEIC ***23*** *06:00:33.6±4.7, 2035S×17826W, h431km±52km, Error ellipse: s-maj=34.9km s-min=24.3km az=173.0*
ISCJB ***23*** *06:00:38.6±0.6, 205S±01×1784W±02, h500km, mb3.6/8, Error ellipse: s-maj=23.4km s-min=13.9km az=136.6*
IDC ***23*** *06:00:43.4±4.6, 2055S×17843W, h548km±53km, mb3.2/8, mb1 3.5/9, mb1mx3.3/16, mbtmp3.2/9, Error ellipse: s-maj=25.3km s-min=20.5km az=178.0*

ISC 23 06:00:39.5±0.6, 205S±02×1784W±02, h500km, n23, σ0§58/12, mb3.6/8, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**18.11**	**192**	P	**P**	**06 04 20.0**	**-0.7**
0.6nm,0.3s,baz=343,slow=6.6,SNR=4.3							
CTA	**Charters Tower**	**33.15**	**264**	P	**P**	**06 06 34.5**	**+0.5**
2.3nm,0.2s,mb4.2,baz=93,slow=10,SNR=5.5							
ASAR	**Alice Springs**	**44.19**	**257**	P	**P**	**06 08 03.8**	**+0.2**
0.6nm,0.5s,mb3.2,baz=97,slow=8.1,SNR=10							
ASAR				PcP	PcP	06 09 36.6	-1.1
0.9nm,0.5s,baz=100,slow=3.9,SNR=9.4							
WRA	**Warramunga Arr**	**44.26**	**262**	P	**P**	**06 08 04.1**	**-0.2**
0.4nm,0.3s,mb3.4,baz=97,slow=7.4,SNR=53							
VNDA	**Vanda**	**57.86**	**185**	P	**P**	**06 09 42.8**	**+0.5**
0.5nm,0.6s,mb3.0,baz=6.1,slow=4.8,SNR=3.3							
NVAR	**Mina Array Bea**	**81.27**	**44**	P	**P**	**06 12 03.5**	**+0.5**
2.5nm,0.8s,mb3.8,baz=214,slow=6.5,SNR=11							
TXAR	**Lajitas Array**	**87.35**	**57**	P	**P**	**06 12 33.8**	**+0.6**
1.8nm,0.9s,mb3.8,baz=218,slow=6.3,SNR=20							
MCMT	**McKenzie Canyo**	**88.19**	**40**	*e*P	**P**	**06 12 37.3**	**+0.6**
IMA2	**Indian Mountai**	**88.33**	**10**	*e*P	**P**	**06 12 36.3**	**-0.5**
PDAR	**Pinedale Array**	**89.21**	**43**	P	**P**	**06 12 41.3**	**-0.2**
2.2nm,0.6s,mb4.2,baz=214,slow=3.4,SNR=23							
YKA	**Yellowknife Ar**	**96.67**	**25**	P	**P**	**06 13 14.0**	**-1.2**
YKA	**Yellowknife Ar**	**96.67**	**25**	P	**P**	**06 13 14.0**	**-1.2**
0.2nm,0.6s,mb3.5,baz=238,slow=4.3,SNR=6.8							
ZALV	**Zalesovo Beam**	**110.30**	**321**	PKiKP	PKiKP	06 18 11.6	-2.4
0.4nm,0.3s,baz=107,slow=1.5,SNR=4.2							
ARCES	**ARCESS Array B**	**128.88**	**349**	PKP	PKPdf	06 18 47.1	-2.1
1.0nm,0.4s,baz=84,slow=2.0,SNR=15							
FINES	**FINESS Array B**	**135.70**	**343**	PKP	PKPdf	06 19 00.8	-1.4
0.8nm,0.6s,baz=114,slow=4.6,SNR=4.8							
AKASG	**Malin Array Be**	**142.87**	**331**	PKP		06 19 10.8	
AKASG	**Malin Array Be**	**142.87**	**331**	PKhKP		06 19 10.8	
5.9nm,0.4s,baz=43,slow=4.2,SNR=59							
CLL	**Collm**	**148.01**	**347**	*i* PKPbc	PKPbc	06 19 27.0	-1.1
comp=Z,13nm,1.0s							
CLL				*i* PKPab	PKPab	06 19 31.6	-1.0
comp=Z,5.0nm,0.7s							
DPC	**Dobruska-Polom**	**148.05**	**342**	*e*PKP	PKPbc	06 19 27.3	-0.9
BRG	**Berggiesshubel**	**148.20**	**345**	*e*P	PKPbc	06 19 27.5	-1.1
comp=Z,5.5nm,0.8s							
BRG				*e*		06 19 32.5	
comp=Z,4.2nm,0.8s							
PRU	**Pruhonice**	**148.86**	**344**	*e*PKP	PKPbc	06 19 29.0	-1.2
KHC	**Kasperske Hory**	**149.90**	**344**	*e*PKP	PKPbc	06 19 34.8	+2.0
KHC				*ex*	PKPab	06 19 39.5	-0.9
GERES	**GERESS Array B**	**150.13**	**344**	PKPbc	PKPbc	06 19 32.1	-1.2
comp=Z,1.6nm,0.5s,baz=5.7,slow=2.7,SNR=13							

ISCJB ***23*** *06:30:25.7±0.6, 3166S±003×7218W±006, h33km, mb3.6/3, Error ellipse: s-maj=8.0km s-min=3.8km az=173.1*
GUC ***23*** *06:30:25.4±1.0, 3166S×7207W, h31km±5km, MD4.0, ML3.8*
NEIC ***23*** *06:30:25.4, 3166S×7207W, h31km, ML3.8(GUC), After GUC.*
IDC ***23*** *06:30:27.3±1.1, 3165S×7222W, h28km±5km, mb3.6/3, mb1 3.7/8, mb1mx3.6/20, mbtmp3.5/8, ML3.8/5, MS2.9/1, Ms1 2.8/1, ms1mx2.2/28, Error ellipse: s-maj=33.3km s-min=28.9km az=34.0*

ISC 23 06:30:27.4±0.7, 3166S±003×7211W±007, h35km, n38, σ1§04/50, mb3.5/2, 8C-7D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHNG	**Los Chungos**	**0.57**	**113**	⇓*i* P	Px	06 30 16.7	
CHNG				*i* S	Sx	06 30 24.5	
CHNG				AML	AML	06 30 24.9	
comp=E,4μm,0.3s							
CMCH	**Combarbala**	**1.07**	**63**	⇑*i* P	**Pn**	**06 30 43.7**	**-2.0**
CMCH				*i* S	**Sn**	**06 30 58.0**	**-1.3**
CMCH	**Combarbala**	**1.07**	**63**	⇑*i* P	**Pn**	**06 30 43.7**	**-2.0**
CMCH				*i* S	**Sn**	**06 30 58.0**	**-1.3**
CMCH				AML	AML	06 31 00.5	
comp=N,17μm,0.7s							
PTCH	**Petorca**	**1.17**	**121**	⇑*i* P	**Pn**	**06 30 45.6**	**-1.6**
PTCH				*i* S	**Sn**	**06 31 00.9**	**-1.1**
PTCH	**Petorca**	**1.17**	**121**	⇑*i* P	**Pn**	**06 30 45.6**	**-1.6**
PTCH				*i* S	**Sn**	**06 31 00.9**	**-1.1**
PTCH				AML	AML	06 31 03.7	
comp=N,3μm,0.2s							
OVCH	**Ovalle**	**1.31**	**37**	P	**Pn**	**06 30 48.6**	**-0.5**
OVCH				*i* S	**Sn**	**06 31 04.5**	**-0.9**
OVCH	**Ovalle**	**1.31**	**37**	*e*P	**Pn**	**06 30 48.6**	**-0.5**
OVCH				*i* S	**Sn**	**06 31 04.5**	**-0.9**
OVCH				AML	AML	06 31 14.2	
comp=N,2μm,0.6s							
IHA	**Instituto Hidr**	**1.42**	**164**	⇓*i* P	**Pn**	**06 30 49.4**	**-1.3**
ROCH	**El Roble**	**1.61**	**145**	⇓*i* P	**Pn**	**06 30 52.8**	**-0.5**
JACH	**Jahuel**	**1.64**	**129**	⇑*i* P	**Pn**	**06 30 53.5**	**-0.3**
JACH				*i* S	**Sn**	**06 31 13.8**	**+0.1**
TLL	**Tololo Astrono**	**1.86**	**37**	*e*P	**Pn**	**06 30 57.2**	**+0.4**
TLL				AML	AML	06 31 26.9	
comp=N,1μm,0.7s							
LSCH	**La Serena**	**1.90**	**23**	AML	AML	06 31 33.2	
comp=N,188nm,0.6s							
PEL	**Peldehue**	**1.91**	**141**	⇓*i* P	**Pn**	**06 30 56.8**	**-0.6**
PEL				*i* S	**Sn**	**06 31 20.2**	**0.0**
PEL				AML	AML	06 31 27.8	
comp=E,4μm,0.3s							
STL	**Santa Lucia**	**2.17**	**145**	AML	AML	06 31 41.1	
comp=N,297nm,0.6s							
DSCH	**Colegio Aleman**	**2.17**	**143**	*e*P	**Pn**	**06 31 00.0**	**-1.0**
DSCH				*i* S	**Sn**	**06 31 27.2**	**+0.6**
DSCH	**Colegio Aleman**	**2.17**	**143**	*e*P	**Pn**	**06 31 00.0**	**-1.0**
DSCH				*i* S	**Sn**	**06 31 27.2**	**+0.6**
DSCH				AML	AML	06 31 35.5	
comp=E,338nm,0.3s							
CLCH	**Cerro Calan**	**2.19**	**143**	⇑*i* P	**Pn**	**06 31 00.7**	**-0.5**
CLCH				*i* S	**Sn**	**06 31 30.9**	**+3.9**
CLCH				AML	AML	06 31 39.0	
comp=N,2μm,0.6s							
CLCH				AML	AML	06 31 39.6	
comp=N,3μm,0.6s							
TACH	**Talagante**	**2.22**	**154**	⇑*i* P	**Pn**	**06 31 01.6**	**-0.1**
FSR	**Penalolen**	**2.25**	**144**	*e*P	**Pn**	**06 31 01.2**	**-0.9**
FSR				AML	AML	06 31 39.5	
comp=E,2μm,0.5s							
FCH	**Farellones**	**2.27**	**138**	⇑*i* P	**Pn**	**06 31 02.0**	**-0.3**
FCH				*e*S	**Sn**	**06 31 30.6**	**+1.5**
FCH				AML	AML	06 31 35.9	
comp=E,902nm,0.2s							
ANTU	**Antumapu**	**2.28**	**147**	*e*P	**Pn**	**06 31 02.3**	**-0.1**
ANTU				*i* S	**Sn**	**06 31 30.4**	**+1.1**
ANTU	**Antumapu**	**2.28**	**147**	*e*P	**Pn**	**06 31 02.3**	**-0.1**
ANTU				*i* S	**Sn**	**06 31 30.4**	**+1.1**
ANTU				AML	AML	06 31 39.6	
comp=E,1μm,0.4s							
LMEL	**Las Melosas**	**2.71**	**144**	⇓*i* P	**Pn**	**06 31 08.6**	**+0.1**
LMEL				S	**Sn**	**06 31 42.2**	**+2.2**
LMEL	**Las Melosas**	**2.71**	**144**	⇓*i* P	**Pn**	**06 31 08.6**	**+0.1**
LMEL				*i* S	**Sn**	**06 31 42.2**	**+2.2**
LMEL				AML	AML	06 31 55.1	
comp=N,702nm,0.4s							
LCO	**Las Campanas**	**2.91**	**25**	*e*P	**Pn**	**06 31 11.8**	**+0.7**
LCO				*e*S	**Sn**	**06 31 48.0**	**+3.2**
SFDO	**San Fernando**	**3.09**	**163**	⇓*i* P	**Pn**	**06 31 13.2**	**-0.4**
CFAA	**Coronel Fontan**	**3.31**	**90**	Pn	**Pn**	**06 31 19.1**	**+2.5**
CFAA				Sn	**Sn**	**06 32 02.9**	**+8.3**
CFAA	**Coronel Fontan**	**3.31**	**90**	Pn	**Pn**	**06 31 19.1**	**+2.5**
comp=N,1.1nm,0.3s,baz=256,slow=10,SNR=84							
CFAA				Sn	**Sn**	**06 32 02.9**	**+8.3**
comp=N,4.1nm,0.3s,baz=352,slow=14,SNR=11							
PLCA	**Paso Flores**	**9.14**	**173**	Pn	**Pn**	**06 32 36.5**	**-0.2**
comp=N,0.6nm,0.3s,baz=336,slow=11,SNR=7.9							
CPUP	**Villa Florida**	**13.98**	**71**	Pn	**Pn**	**06 33 44.5**	**+1.6**
comp=N,0.5nm,0.3s,baz=223,slow=10,SNR=5.2							
LPAZ	**La Paz**	**15.72**	**14**	Pn	**Pn**	**06 34 06.9**	**+0.7**
comp=N,0.0nm,0.3s,baz=48,slow=1.9,SNR=5.1							
SIV	**San Ignacio**	**18.56**	**35**	P	**Pn**	**06 34 41.4**	**-0.2**
comp=N,0.1nm,0.3s,baz=220,slow=12,SNR=5.2							
BDFB	**Brasilia**	**27.14**	**60**	LR	LR	06 47 40.9	
comp=N,26nm,21.1s,baz=2.8,slow=38							
TXAR	**Lajitas Array**	**67.67**	**330**	P	**P**	**06 41 21.4**	**+0.5**
comp=N,0.2nm,0.6s,mb3.3,baz=151,slow=8.9,SNR=4.6							
TORD	**Torodi Ar. Bea**	**83.48**	**70**	P	**P**	**06 42 52.8**	**+1.0**
comp=N,0.6nm,0.6s,mb3.8,baz=274,slow=7.8,SNR=4.3							
TORD				pP	pP	06 43 01.3	-1.5
comp=N,2.1nm,0.7s,baz=262,slow=4.8,SNR=12							
YKA	**Yellowknife Ar**	**99.82**	**341**	P	Pdif	06 44 07.1	-1.0
comp=N,0.1nm,0.5s,baz=148,slow=4.7,SNR=3.9							
BVAR	**Borovoye Array**	**145.58**	**41**	PKPbc	PKPbc	06 50 03.1	+1.5
comp=N,0.9nm,0.7s,baz=304,slow=3.4,SNR=5.1							
BVAR				pPKPbc	pPKPbc	06 50 12.0	-0.9
comp=N,2.4nm,0.5s,baz=297,slow=3.9,SNR=12							
ZALV	**Zalesovo Beam**	**152.26**	**30**	PKPbc	PKPbc	06 50 19.9	+1.1
comp=N,0.7nm,0.5s,baz=313,slow=5.1,SNR=3.5							
ZALV				pPKPbc	pPKPbc

RAR Sn Sn 07 08 14.6 -27
1.7nm,0.3s,baz=90,slow=20,SNR=4.6
RAR LR LR 07 10 25.4
comp=Z,805nm,20.1s,baz=291,slow=33
URZ Urewera 18.31 202 Pn **Pn 07 07 09.7 -0.1**
0.8nm,0.3s,baz=25,slow=2.6,SNR=12
URZ Sn **Sn 07 10 18.7 -14**
0.3nm,0.3s,baz=162,slow=20,SNR=4.7
PPT Papeete 23.76 85 LR LR 07 15 52.9
comp=Z,610nm,18.5s,MS4.1,baz=258,slow=33
RPZ Rata Peaks 25.30 205 P **P 07 08 20.9 -0.9**
5.6nm,0.9s,mb4.1,baz=12,slow=8.0,SNR=3.4
HNR Honiara 27.34 292 LR LR 07 18 03.7
comp=Z,305nm,18.9s,MS3.9,baz=175,slow=33
CTA Charters Tower 36.70 265 P **P 07 10 01.9 -0.6**
CTA pmax pmax
comp=Z,3.0nm,0.6s
CTA Charters Tower 36.70 265 P **P 07 10 01.9 -0.6**
comp=Z,3.3nm,0.6s,mb4.3,baz=47,slow=5.4,SNR=3.7
CTAO Charters Tower 36.70 265 *eP* **P 07 10 02.7 +0.2**
STKA Stephens Creek 40.41 246 *eP* **P 07 10 31.0 -2.5**
comp=Z,4.5nm,0.9s,mb4.2
STKA *eP* 07 10 32.9
STKA Stephens Creek 40.41 246 P **P 07 10 31.1 -2.3**
comp=Z,2.4nm,0.7s,mb4.0,baz=100,slow=14,SNR=4.1
STKA LR LR 07 26 21.9
comp=Z,236nm,18.9s,MS4.1,baz=208,slow=35
ASAR Alice Springs 47.54 257 P **P 07 11 29.4 -1.4**
ASAR pmax pmax
comp=Z,6.0nm,0.9s
ASAR Alice Springs 47.54 257 P **P 07 11 29.4 -1.4**
comp=Z,6.1nm,0.8s,mb4.7,baz=91,slow=8.2,SNR=51
WB2 Warramunga Arr 47.74 262 *eP* **P 07 11 30.8 -1.6**
WB2 *eP* 07 11 31.7
WRAB Tennant Creek 47.75 262 *eP* **P 07 11 32.2 -0.3**
comp=Z,7.9nm,0.9s,mb4.7
WRAB Tennant Creek 47.75 262 *eP* **P 07 11 32.2 -0.3**
WRAB pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
WRA Warramunga Arr 47.76 262 P **P 07 11 30.7 -1.8**
WRA pmax pmax
comp=Z,1.0nm,0.4s
WRA MLR MLR
comp=Z,286nm,18.5s
WRA Warramunga Arr 47.76 262 P **P 07 11 30.7 -1.8**
comp=Z,1.4nm,0.4s,mb4.4,baz=94,slow=7.9,SNR=122
WRA LR LR 07 31 37.1
comp=Z,286nm,18.5s,MS4.3,baz=105,slow=36
MIDW Midway 49.41 357 P **P 07 11 44.8 -0.1**
SBA Scott Base 57.22 185 *eP* **P 07 12 44.5 +2.7**
comp=Z,20nm,1.3s,mb5.0
SBA Scott Base 57.22 185 *eP* **P 07 12 44.5 +2.7**
SBA pmax pmax
comp=Z,20nm,1.3s,mb5.0
VNDA Vanda 57.33 186 *eP* **P 07 12 44.5 +1.9**
comp=Z,4.7nm,1.0s,mb4.5
VNDA Vanda 57.33 186 P **P 07 12 43.2 +0.6**
VNDA pmax pmax
comp=Z,3.0nm,1.0s
VNDA Vanda 57.33 186 P **P 07 12 43.2 +0.6**
comp=Z,3.1nm,1.0s,mb4.3,baz=357,slow=7.1,SNR=8.6
BATI Kupang 60.25 270 LR LR 07 35 50.5
comp=Z,241nm,21.3s,MS4.3,baz=117,slow=33
NWAO Narrogin (SRO) 60.92 243 LR LR 07 36 25.1
comp=Z,166nm,21.7s,MS4.2,baz=187,slow=33
QSPA South Pole Qui 68.67 180 *eP* **P 07 13 59.0 +1.1**
QSPA *eP* 07 13 59.2
MJAR Matsushiro Arr 72.93 322 P **P 07 14 23.8 -0.5**
MJAR Matsushiro Arr 72.93 322 P **P 07 14 23.8 -0.5**
MJAR pmax pmax
comp=Z,8.0nm,0.9s
MJAR Matsushiro Arr 72.93 322 P **P 07 14 23.8 -0.5**
comp=Z,7.9nm,0.9s,mb4.6,baz=156,slow=6.3,SNR=12
MAJO Matsushiro 72.93 322 *eP* **P 07 14 24.0 -0.3**
MAT Matsushiro 72.93 322 P **P 07 14 21.6 -2.7**
CMB Columbia Colle 77.93 41 *eP* **P 07 14 52.2 -0.8**
comp=Z,11nm,1.4s,mb4.6
CMB Columbia Colle 77.93 41 *eP* **P 07 14 52.2 -0.7**
CMB pmax pmax
comp=Z,11nm,1.4s,mb4.6
YSS Yuzh-Sakhalins 78.22 332 *eP* **P 07 14 54.0 -0.3**
YSS *e* pP 07 15 05.8 0.0
YSS pmax pmax
comp=Z,30nm,1.0s,mb5.2
NVAR Mina Array Bea 79.45 42 P **P 07 15 00.9 -0.4**
comp=Z,1.8nm,0.7s,mb4.1,baz=217,slow=6.0,SNR=9.7
KSRS Korea Array 79.78 317 P **P 07 15 04.2 +1.0**
comp=Z,4.2nm,0.9s,mb4.3,baz=140,slow=6.4,SNR=14
KSRS LR LR 07 43 58.8
comp=Z,57nm,19.4s,MS3.9,baz=315,slow=31
WVOR Wild Horse Val 81.74 38 *eP* **P 07 15 12.8 -0.7**
comp=Z,7.2nm,1.2s,mb4.5
WVOR Wild Horse Val 81.74 38 *eP* **P 07 15 12.8 -0.7**
WVOR pmax pmax
comp=Z,7.0nm,1.2s,mb4.5
ARUT Antelope Range 82.16 44 *eP* **P 07 15 18.1 +2.2**
GNW Green Mountain 82.83 32 *eP* **P 07 15 18.8 -0.3**
NJ2 Nanjing 83.02 308 *eP* **P 07 15 22.3 +1.9**
NJ2 AMB AMB
comp=Z,40nm,0.9s,mb5.5
MDJ Mudanjiang 83.18 323 P **P 07 15 22.8 +1.8**
MDJ AP pP 07 15 32.1 -0.4
MDJ XP sP 07 15 35.9 -0.8
MDJ PP PP 07 18 38.9 +6.0
MDJ S S 07 25 41.6 +3.3
MDJ AMB AMB
comp=Z,8.0nm,0.8s,mb4.8
MDJ LR LR
comp=N,87nm,17.2s,MS4.5
MDJ LR LR
comp=E,151nm,20.7s,MS4.5
MDJ LR LR
comp=Z,184nm,15.3s
MDJ Mudanjiang 83.18 323 P **P 07 15 23.2 +2.3**
comp=Z,9.1nm,0.9s,mb4.8
MSU Marysvale 83.39 44 *eP* **P 07 15 22.5 +0.3**
HAWA Hanford 83.75 35 *eP* **P 07 15 24.0 +0.1**
comp=Z,14nm,1.3s,mb5.0
BMO Blue Mountains 84.00 37 *eP* **P 07 15 26.1 +1.0**
TMUT Trail Mountain 84.45 44 *eP* **P 07 15 27.8 +0.2**
TXAR Lajitas Array 84.78 56 P **P 07 15 28.8 -0.7**
TXAR pmax pmax
comp=Z,1.0nm,1.0s
TXAR Lajitas Array 84.78 56 P **P 07 15 28.8 -0.7**
comp=Z,1.0nm,1.0s,mb3.9,baz=212,slow=4.4,SNR=8.2
SRU San Rafael 84.80 45 *eP* **P 07 15 28.6 -0.7**
comp=Z,6.1nm,1.1s,mb4.6
SRU San Rafael 84.80 45 *eP* **P 07 15 28.6 -0.7**
SRU pmax pmax
comp=Z,6.0nm,1.1s,mb4.6
HLID Hailey 84.89 39 *eP* **P 07 15 28.9 -0.8**
CN2 Changchun 85.06 321 *eP* **P 07 15 31.8 +1.3**
CN2 *e*AP pP 07 15 42.3 +0.2
CN2 *e*S S 07 25 57.3 +0.2
CN2 AMB AMB
comp=Z,20nm,0.8s,mb5.3
CN2 AMB AMB
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,610nm,17.0s,MS5.2
CN2 LR LR
comp=E,470nm,17.0s,MS5.2
CN2 LR LR
comp=Z,560nm,18.0s,MS5.0
PMR Palmer 85.17 12 *eP* **P 07 15 29.4 -1.3**
TTA Tatalina 85.31 8 *eP* **P 07 15 31.0 -0.3**
ANMO Albuquerque 85.42 50 *eP* **P 07 15 32.1 -0.5**
WHN Wuhan 85.66 305 *eP* **P 07 15 35.0 +1.2**
PLCA Paso Flores 86.24 132 LR LR 07 45 48.9
comp=Z,117nm,18.0s,MS4.3,baz=194,slow=30
MCMT McKenzie Canyo 86.54 39 *eP* **P 07 15 37.7 -0.1**
SKAG Skagway 86.72 19 *eP* **P 07 15 39.0 +0.6**
MCK McKinley 87.17 11 *eP* **P 07 15 40.0 -0.4**
comp=Z,22nm,1.0s,mb5.3
MCK McKinley 87.17 11 *eP* **P 07 15 40.0 -0.5**
MCK pmax pmax
comp=Z,22nm,1.0s,mb5.3
PDAR Pinedale Array 87.38 42 P **P 07 15 40.6 -1.4**
comp=Z,0.8nm,1.0s,mb3.9,baz=214,slow=5.0,SNR=4.0
SEY Seymchan 88.03 346⇓ *eP* **P 07 15 44.3 -0.3**
COLA College 88.41 11 *eP* **P 07 15 45.5 -0.9**
comp=Z,14nm,1.3s,mb5.0
COLA College 88.41 11 *eP* **P 07 15 45.5 -0.9**
COLA pmax pmax
comp=Z,14nm,1.3s,mb5.0
BJI Beijing 88.87 314 P **P 07 15 48.8 -0.4**
BJI S S 07 26 26.3 -7.9
BJI AMB AMB
comp=Z,7.0nm,0.8s,mb5.0
BJI AMB AMB
comp=Z,203nm,5.0s
BJI LR LR
comp=N,179nm,4.3s
BJI LR LR
comp=E,141nm,3.9s
BJI LR LR
comp=Z,55nm,20.7s,MS4.0
DAWY Dawson 89.45 15 *eP* **P 07 15 51.4 +0.1**
EGAK Eagle 89.66 14 *eP* **P 07 15 52.0 -0.2**
GYA Guiyang 89.98 298 P **P 07 15 55.3 +0.6**
GYA AP pP 07 16 07.8 +1.5
GYA XP sP 07 16 12.0 +1.5
GYA PP PP 07 19 31.8 +3.6
GYA SKS 07 26 22.0
GYA S S 07 26 44.4 -0.7
GYA AMB AMB
comp=Z,10.0nm,1.0s,mb5.1
GYA AMB AMB
comp=Z,80nm,5.4s
GYA LR LR
comp=N,460nm,22.9s,MS5.0
GYA LR LR
comp=E,450nm,24.8s,MS5.0
GYA LR LR
comp=Z,430nm,13.8s
BILL Bilibino 90.30 353⇓ *eP* **P 07 15 54.7 -0.5**
BILL *i* pP 07 16 07.3 +0.5
BILL *e* 07 26 22.1
BILL *e*SS SS 07 32 44.4 -2.8
BILL pmax pmax
comp=Z,2.0nm,0.8s,mb4.5
BILL MLR MLR
comp=Z,100nm,15.0s,MS4.4
EDM Edmonton 91.10 32 *eP* **P 07 16 02.2 +3.0**
HHC Hu-ho-hao-te 92.36 313 *eP* **P 07 16 07.4 +2.0**
HHC AP pP 07 16 18.3 +1.3
HHC XP sP 07 16 22.8 +1.6
HHC PP PP 07 19 48.5 +1.7
HHC SKS 07 26 39.3
HHC S S 07 27 06.9 +0.7
HHC XS sS 07 27 22.8 -2.8
HHC SS SS 07 33 20.1 +2.0
HHC AMB AMB
comp=Z,19nm,0.3s,mb5.9
HHC AMB AMB
comp=Z,76nm,3.7s
HHC LR LR
comp=N,115nm,6.6s
HHC LR LR
comp=E,108nm,4.2s
HHC LR LR
comp=Z,146nm,18.8s,MS4.5
KMI Kunming 92.71 296 P **P 07 16 09.9 +2.5**
KMI S S 07 27 12.3 +2.3
KMI AMB AMB
comp=Z,5.0nm,1.0s,mb4.9
KMI LR LR
comp=N,160nm,19.6s,MS4.7
KMI LR LR
comp=E,183nm,16.7s,MS4.7
KMI LR LR
comp=Z,211nm,16.0s,MS4.7
CHTO Chiang Mai 93.66 289 *eP* **P 07 16 13.5 +1.6**
CD2 Chengdu 94.07 301 *eP* **P 07 16 13.9 +0.4**
CD2 AP pP 07 16 24.5 -0.6
CD2 XP sP 07 16 28.4 -0.9
CD2 PP PP 07 20 03.1 +2.7
CD2 SKS 07 26 44.6
CD2 S S 07 27 18.9 -2.8
CD2 XS sS 07 27 36.8 -4.3
CD2 AMB AMB
comp=Z,10.0nm,0.9s,mb5.2
CD2 AMB AMB
comp=Z,30nm,9.2s
CD2 LR LR
comp=N,310nm,14.4s
CD2 LR LR
comp=Z,110nm,12.0s,MS4.5
INK Inuvik 94.31 14 *eP* **P 07 16 12.9 -0.7**
LZH Lanzhou 95.95 306 *eP* **P 07 16 23.6 +1.6**
LZH AP pP 07 16 33.8 +0.1
LZH XP sP 07 16 37.8 -0.1
LZH AMB AMB
comp=Z,23nm,1.5s,mb5.4
LZH AMB AMB
comp=Z,105nm,5.2s
LZH LR LR
comp=N,365nm,17.3s
LZH LR LR
comp=Z,617nm,19.8s,MS5.1
YKA Yellowknife Ar 95.97 24 P **P 07 16 20.2 -1.2**
comp=Z,0.6nm,1.0s,mb4.0,baz=236,slow=4.5,SNR=7.2
YKA LR LR 07 50 48.9
comp=Z,30nm,20.7s,MS3.8,baz=240,slow=30
LPAZ La Paz 98.66 111 LR LR 07 54 07.2
comp=Z,147nm,18.4s,MS4.5,baz=38,slow=31
WMQ Urumqi 110.02 310 *e*PKP PKiKP 07 21 25.5 -0.8
WMQ XPKP 07 21 40.0
WMQ *e*PP PP 07 22 04.0 +3.9
WMQ PP PP
comp=Z,134nm,4.2s
WMQ LR LR
comp=N,196nm,22.0s,MS5.0
WMQ LR LR
comp=E,406nm,22.7s,MS5.0
WMQ LR LR
comp=Z,234nm,24.0s,MS4.7
ARU Arti 127.81 326 PKIKP PKPdf 07 22 00.3 +0.3
AKASG Malin Array Be 145.35 333 PKIKP PKPdf 07 22 31.1 -1.4
AKASG pmax pmax
comp=Z,4.0nm,0.7s
AKASG Malin Array Be 145.35 333 PKPbc PKPbc 07 22 31.1 -1.2
comp=Z,3.5nm,0.7s,baz=40,slow=3.7,SNR=27
KIEV Kiev 145.37 333 *e*PKPbc PKPbc 07 22 31.4 -1.0
ELZG Elazig 146.62 308 *i* P PKPbc 07 22 38.2 +1.6
KEMA Kemaliye 146.69 310 *i* P PKPbc 07 22 37.9 +1.1
MALT Malatya 147.09 308 *e*PKPbc PKPbc 07 22 38.8 +0.8
LVV L'vov 148.09 337 *e*PKIKP PKPdf 07 22 35.6 -1.5
KSP Ksiaz 149.43 347 *e*PKP PKPbc 07 22 43.5 -0.2
CLL Collm 149.59 351 *i* PKP PKPbc 07 22 43.6 -0.5
CLL *i* PKP PKPab 07 22 47.1 -2.0
CLL Collm 149.59 351 *i* PKPbc PKPbc 07 22 43.6 -0.5
comp=Z,13nm,1.4s
CLL *i* PKPab PKPab 07 22 47.1 -2.0
comp=Z,6.0nm,0.8s
CLL *e*sPKPbc 07 22 57.0
UZH Uzhgorod 149.71 338 *e*PKP2 PKPbc 07 22 44.0 -0.4
UPC Upice 149.81 347 *e*PKPbc PKPbc 07 22 44.8 +0.2
BRG Berggiesshubel 149.86 349 *e*P PKPbc 07 22 44.5 -0.2
comp=Z,7.3nm,1.3s
DPC Dobruska-Polom 149.88 346 *e*PKPbc PKPbc 07 22 45.0 +0.2
DPC *e*PKPab PKPab 07 22 50.5 +0.1
PVCC Panska Ves 150.08 348 *e*PKPbc PKPbc 07 22 45.8 +0.5
PRU Pruhonice 150.60 348 *e*PKPbc PKPbc 07 22 46.4 -0.1
PRU *ep*PKP pPKPdf 07 22 58.6 +5.5
NKC Novy Kostel 150.72 351 *e*PKPab PKPab 07 22 53.6 -0.2
GRA1 Grafenberg Arr 151.41 352 *e*PKP PKPab 07 22 56.6 -0.1
GRF Grafenberg Arr 151.41 352 *e*PKP PKPab 07 22 56.6 -0.1
KDHN Kadinhani 151.49 313 *i* P PKPbc 07 22 49.0 0.0
KHC Kasperske Hory 151.60 349 *e*PKPbc PKPbc 07 22 48.6 -0.3
KHC *e*PKPab PKPab 07 22 57.2 -0.3
GERES GERESS Array B 151.85 349 PKIKP PKPbc 07 22 47.9 -1.6
GERES pmax pmax
comp=Z,1.0nm,0.4s
GERES GERESS Array B 151.85 349 PKPbc PKPbc 07 22 47.9 -1.6
comp=Z,0.5nm,0.4s,baz=52,slow=6.4,SNR=5.3

GUC 23 07:22:04.1±0.9,3166S×7213W,h22km±6km,MD3.5, ML2.7,2C-1D,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHNG	**Los Chungos**	**0.58**	**113**⇑	*i* P	Pb	07 21 55.8	-20
CHNG				*i* S	Sb	07 22 03.9	-20
CHNG				AML	AML	07 22 05.7	
comp=N,216nm,0.3s							
CMCH	**Combarbala**	**1.07**	**64**⇓	*i* P	Pn	07 22 23.3	-0.5
CMCH				*i* S	Sb	07 22 37.5	-0.1
CMCH				AML	AML	07 22 39.6	
comp=N,820nm,0.8s							
PTCH	**Petorca**	**1.19**	**121**	*e*P	Pn	07 22 24.8	-0.5
PTCH				*i* S	Sb	07 22 40.1	-0.7
PTCH				AML	AML	07 22 42.8	
comp=N,227nm,0.1s							
PEL	**Peldehue**	**1.92**	**141**	*e*P	Pn	07 22 36.2	+0.8
PEL				*i* S	Sn	07 23 01.8	+2.8
PEL				AML	AML	07 23 07.1	
comp=N,177nm,0.3s							
CLCH	**Cerro Calan**	**2.19**	**143**	*e*P	Pn	07 22 40.3	+1.0
CLCH				*e*S	Sn	07 23 08.8	+3.1
CLCH				AML	AML	07 23 18.0	
comp=N,116nm,0.6s							
FCH	**Farellones**	**2.28**	**138**	*e*P	Pn	07 22 41.5	+1.1
FCH				*i* S	Sn	07 23 11.5	+3.7
FCH				AML	AML	07 23 22.4	
comp=E,38nm,0.4s							
LMEL	**Las Melosas**	**2.72**	**144**⇑	*i* P	Pn	07 22 47.7	+1.2
LMEL				*i* S	Sn	07 23 21.4	+2.7
LMEL				AML	AML	07 23 31.8	
comp=N,44nm,0.4s							

*IDC **23** 07:24:50.6±2.0,883S×13078E,h0km,mb3.7/1,mb1 3.8/4, mb1mx3.6/14,mbtmp3.6/4,ML3.6/3,Error ellipse: s-maj=73.1km s-min=24.0km az=76.0*
*ISCJB **23** 07:24:52.6±4.4,894S±010×1307E±0.1,h27km±35km, Error ellipse: s-maj=23.6km s-min=15.3km az=165.0*
ISC 23 07:24:54.7±4.7,887S±009×1307E±01,h26km±38km,n4, σ1§15/7,Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**10.42**	**208**	Pn	**Pn**	**07 27 23.9**	**+1.4**
0.3nm,0.3s,baz=34,slow=13,SNR=13							
FITZ				Sn	**Sn**	**07 29 17.7**	**-0.8**
0.4nm,0.3s,baz=3.6,slow=13,SNR=4.3							
WRA	**Warramunga Arr**	**11.55**	**163**	Pn	**Pn**	**07 27 37.5**	**-0.4**
0.4nm,0.3s,baz=342,slow=12,SNR=20							
WRA				Sn	**Sn**	**07 29 46.0**	**-0.1**
0.5nm,0.3s,baz=343,slow=23,SNR=6.2							
ASAR	**Alice Springs**	**15.02**	**169**	Pn	**Pn**	**07 28 24.3**	**-1.0**
0.3nm,0.3s,baz=11,slow=14,SNR=17							
ASAR				Sn	**Sn**	**07 31 11.9**	**+0.9**
0.1nm,0.3s,baz=356,slow=26,SNR=5.0							
MKAR	**Makanchi Array**	**70.18**	**327**	P	**P**	**07 36 05.1**	**+0.1**
0.5nm,0.7s,baz=127,slow=4.3,SNR=2.8							

*IDC **23** 07:44:29.8±1.0,5392N×15951E,h0km,mb4.0/16, mb1 4.1/16,mb1mx4.1/25,mbtmp4.0/16,Error ellipse: s-maj=29.5km s-min=15.3km az=171.0*
*NEIC **23** 07:44:41.4±5.4,5390N×15942E,h95km±55km,Error ellipse: s-maj=20.7km s-min=9.6km az=174.0*
*MOS **23** 07:44:42.1±1.0,5354N×15978E,h150km,mb3.9/15,Error ellipse: s-maj=16.2km s-min=7.8km az=90.7*
*ISCJB **23** 07:44:43.8±0.4,5375N±004×1596E±0.1,h142km±2km, mb3.8/19,Error ellipse: s-maj=11.2km s-min=4.0km az=27.5*
*KRSC **23** 07:44:44.6±0.6,5372N×15996E,h125km±44km,ML4.4*
ISC 23 07:44:44.9±0.4,5374N±004×15965E±010,h137km±2km, n69,σ1§03/85,mb3.8/19,2C-2D,Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KII	**Karymskiy**	**0.32**	**338**	*e*P	**Pn**	**07 45 03.8**	**-0.1**
KII				*i* S	**Sn**	**07 45 17.5**	**-0.9**
NLC	**Nalytchevo**	**0.60**	**198**	*i* P	**Pn**	**07 45 04.9**	**-0.4**
NLC				*i* S	**Sn**	**07 45 19.6**	**-1.1**
SPN	**Mys Shipunski**	**0.68**	**161**	*i* P	**Pn**	**07 45 04.5**	**-1.3**
SPN				*i* S	**Sn**	**07 45 18.7**	**-3.0**
AVH	**Avacha**	**0.72**	**229**	*e*P	**Pn**	**07 45 06.9**	**+0.8**
AVH				*i* S	**Sn**	**07 45 22.9**	**+0.7**
PET	**Petropavlovsk**	**0.93**	**220**	*e*P	**Pn**	**07 45 08.0**	**+0.2**
PET				*i* S	**Sn**	**07 45 25.1**	**-0.1**
GNL	**Ganaly**	**1.02**	**268**	*e*P	**Pn**	**07 45 09.8**	**+1.3**
MKZ	**Mys Kozlova**	**1.47**	**55**	*e*P	**Pn**	**07 45 11.6**	**-1.5**
MKZ				*i* S	**Sn**	**07 45 30.9**	**-3.8**
GRL	**Gorelyy**	**1.52**	**219**	*e*P	**Pn**	**07 45 14.8**	**+1.1**
GRL				*i* S	**Sn**	**07 45 37.3**	**+1.7**
TUMR	**Tumrok**	**1.58**	**10**	*i* P	**Pn**	**07 45 15.0**	**+0.8**
TUMR				*i* S	**Sn**	**07 45 36.7**	**0.0**
KMNR	**Kamenistaya**	**2.05**	**9**	*e*P	**Pn**	**07 45 20.3**	**+0.6**
KMNR				*i* S	**Sn**	**07 45 46.1**	**-0.5**
BZMR	**Bezymyannaya**	**2.25**	**12**	*e*P	**Pn**	**07 45 23.1**	**+0.9**
KIRR	**Kirishev**	**2.26**	**10**	*e*P	**Pn**	**07 45 22.7**	**+0.5**
KPT	**Kopyto**	**2.26**	**8**	*e*P	**Pn**	**07 45 22.7**	**+0.4**
MIPR	**Malaya Ipel'ka**	**2.28**	**231**	*e*P	**Pn**	**07 45 24.4**	**+1.8**
KOZ	**Kozyrevsk**	**2.33**	**3**	*e*P	**Pn**	**07 45 23.7**	**+0.6**
KOZR	**Kozyr**	**2.34**	**3**	PN	**Pn**	**07 45 23.7**	**+0.5**
ZLN	**Zelenaya**	**2.38**	**16**	*e*P	**Pn**	**07 45 24.9**	**+1.1**
KRSR	**Krestovskiy**	**2.54**	**12**	*e*P	**Pn**	**07 45 26.0**	**+0.2**
SRDR	**Sredinnyy**	**2.59**	**1**	*e*P	**Pn**	**07 45 26.6**	**+0.3**
KLY	**Klyuchi**	**2.65**	**12**	*e*P	**Pn**	**07 45 27.9**	**+0.8**
KLY				*i* S	**Sn**	**07 45 59.9**	**+0.2**
BDR	**Baidarnaya**	**2.97**	**17**	*e*P	**Pn**	**07 45 31.7**	**+0.4**
BDR				*i* S	**Sn**	**07 46 06.2**	**-1.0**
SMKR	**Semkarok**	**3.04**	**19**	*e*P	**Pn**	**07 45 32.1**	**0.0**
SMKR				*i* S	**Sn**	**07 46 07.3**	**-1.3**
SRKR	**Sorokina**	**3.05**	**16**	*e*P	**Pn**	**07 45 32.8**	**+0.6**
SRKR				*i* S	**Sn**	**07 46 08.7**	**-0.2**
KBTR	**Krutoberegovo**	**3.08**	**35**	*e*P	**Pn**	**07 45 31.9**	**-0.7**
KBTR				*i* S	**Sn**	**07 46 06.1**	**-3.4**
SKR	**Severo-Kuril's**	**3.75**	**217**	*e*PN	**Pn**	**07 45 40.0**	**-1.5**
SKR				*e*S	**Sn**	**07 46 22.7**	**-2.6**
SKR				pmax	pmax		
comp=Z,170nm,0.5s							
SKR				pmax	pmax		
comp=N,120nm,0.2s							
SKR				pmax	pmax		
comp=E,120nm,0.2s							
SKR				smax			
comp=N,500nm,0.2s							
SKR				smax			
comp=E,330nm,0.2s							
ALID	**Alaid**	**3.82**	**223**	*e*P	**Pn**	**07 45 44.3**	**+2.0**
MA2	**Magadan**	**7.62**	**324**	*e*PN	**Pn**	**07 46 35.1**	**+2.1**
MA2				pmax	pmax		
comp=Z,10.0nm,0.6s							
BILL	**Bilibino**	**14.69**	**10**⇑	*e*P	**Pn**	**07 48 05.9**	**+0.3**
BILL				*e*S	**Sn**	**07 50 52.8**	**+4.8**
BILL				pmax	pmax		
comp=Z,6.0nm,0.9s							
ERM	**Erimo**	**16.07**	**230**	*i* P	**Pn**	**07 48 18.6**	**-4.3**
YAK	**Yakutsk**	**17.82**	**310**⇑	*e*P	**Pn**	**07 48 43.0**	**-0.8**
YAK				pmax	pmax		
comp=Z,27nm,0.7s							
TIXI	**Tiksi**	**22.39**	**335**	*i* P	**P**	**07 49 30.7**	**-0.8**
TIXI				pmax	pmax		
comp=Z,2.0nm,0.6s,mb3.7							
MJAR	**Matsushiro Arr**	**22.75**	**230**	P	**P**	**07 49 35.4**	**+0.2**
MJAR				pmax	pmax		
comp=Z,4.0nm,0.7s							
MJAR	**Matsushiro Arr**	**22.75**	**230**	P	**P**	**07 49 35.4**	**+0.2**
comp=Z,3.9nm,0.7s,mb4.0,baz=18,slow=12,SNR=7.7							
HIA	**Hailar**	**25.00**	**276**⇓	*e*P	**P**	**07 49 55.2**	**-0.4**
BOD	**Bodaibo**	**25.61**	**298**	*e*P	**P**	**07 50 00.2**	**-0.7**
BOD				pmax	pmax		
comp=Z,5.0nm,0.9s,mb4.1							
SONM	**Songino Array**	**33.50**	**282**	P	**P**	**07 51 11.4**	**+0.6**
SONM						07 53 49.4	
SONM				pmax	pmax		
comp=Z,1.0nm,0.4s							
SONM				pmax	pmax		
comp=Z,1.0nm,0.5s							
SONM	**Songino Array**	**33.50**	**282**	P	**P**	**07 51 11.4**	**+0.6**
comp=Z,0.7nm,0.4s,mb3.7,baz=59,slow=8.6,SNR=3.5							
SONM				PcP	PcP	07 53 49.4	+1.2
comp=Z,0.6nm,0.5s,baz=48,slow=2.2,SNR=4.1							
INK	**Inuvik**	**33.52**	**38**	P	**P**	**07 51 11.2**	**+0.5**
INK				PcP	PcP	07 53 48.9	+1.0
INK	**Inuvik**	**33.52**	**38**	P	**P**	**07 51 11.3**	**+0.6**
INK						07 53 48.9	
INK				pmax	pmax		
comp=Z,1.0nm,0.4s							
INK				pmax	pmax		
comp=Z,1.0nm,0.6s							
INK	**Inuvik**	**33.52**	**38**	P	**P**	**07 51 11.2**	**+0.5**
comp=Z,1.0nm,0.4s,mb3.9,baz=298,slow=7.4,SNR=20							
INK				PcP	PcP	07 53 48.9	+1.0
comp=Z,0.6nm,0.6s,baz=289,slow=5.0,SNR=5.4							
ZALV	**Zalesovo Beam**	**42.21**	**302**	P	**P**	**07 52 22.4**	**-1.3**

comp=Z,0.6nm,0.5s,mb3.5,baz=72,slow=9.3,SNR=3.7
ZAL Zalesovo 42.23 302 P **P 07 52 22.4 -1.4**
NVS Novosibirsk 42.53 304 *eP* **P 07 52 23.3 -3.0**
YKA Yellowknife Ar 42.87 43 P **P 07 52 29.4 +0.5**
YKA PcP PcP 07 54 18.3 +1.2
YKA Yellowknife Ar 42.87 43 P **P 07 52 29.4 +0.5**
YKA 07 54 18.3
YKA pmax pmax
comp=Z,1.0nm,0.6s
YKA Yellowknife Ar 42.87 43 P **P 07 52 29.4 +0.5**
comp=Z,0.8nm,0.6s,mb3.5,baz=299,slow=7.3,SNR=16
YKA PcP PcP 07 54 18.3 +1.2
comp=Z,0.2nm,0.7s,baz=300,slow=3.3,SNR=3.8
KURK Kurchatov 47.17 301⇓ *eP* **P 07 53 01.9 -1.1**
MKAR Makanchi Array 47.64 295 P **P 07 53 05.8 -0.9**
MKAR Makanchi Array 47.64 295 *i* P **P 07 53 06.5 -0.2**
MKAR pmax pmax
comp=Z,1.0nm,0.5s
MKAR Makanchi Array 47.64 295 P **P 07 53 05.8 -0.9**
comp=Z,1.1nm,0.5s,mb3.8,baz=50,slow=7.1,SNR=6.7
BVAR Borovoye Array 49.78 308 P **P 07 53 21.9 -1.1**
BVAR pmax pmax
comp=Z,1.0nm,0.4s
BVAR Borovoye Array 49.78 308 P **P 07 53 21.9 -1.0**
comp=Z,1.0nm,0.4s,mb3.8,baz=61,slow=7.3,SNR=9.1
ARCES ARCESS Array B 52.59 341 P **P 07 53 42.8 -0.9**
ARCES pmax pmax
comp=Z,2.0nm,0.8s
ARCES ARCESS Array B 52.59 341 P **P 07 53 42.8 -0.8**
comp=Z,1.5nm,0.8s,mb3.8,baz=35,slow=7.2,SNR=7.7
JOF Joensuu 56.87 335 *ep* **P 07 54 13.4 -1.1**
comp=Z,0.6nm,0.3s,mb3.9
JOF Joensuu 56.87 335 *eP* **P 07 54 13.4 -1.1**
JOF pmax pmax
comp=Z,1.0nm,0.3s,mb4.1
AKTK Aktyubinsk 57.19 312 P **P 07 54 16.9 -0.1**
AKTO Aktyubinsk 57.19 312 P **P 07 54 16.9 -0.1**
AKTO pmax pmax
comp=Z,1.0nm,0.8s,mb3.7
AKTO Aktyubinsk 57.19 312 P **P 07 54 16.9 -0.1**
comp=Z,0.9nm,0.8s,mb3.7,baz=68,slow=10.0,SNR=4.1
PDAR Pinedale Array 57.44 61 P **P 07 54 20.4 +1.6**
comp=Z,0.9nm,0.6s,mb3.8,baz=337,slow=2.8,SNR=6.9
ULM Lac du Bonnet 58.57 47 P **P 07 54 28.1 +1.5**
comp=Z,0.7nm,0.6s,mb3.6,baz=321,slow=6.5,SNR=3.0
FINES FINESS Array B 59.42 336 P **P 07 54 32.3 0.0**
FINES pmax pmax
comp=Z,1.0nm,0.4s
FINES FINESS Array B 59.42 336 P **P 07 54 32.3 0.0**
comp=Z,0.6nm,0.4s,mb3.8,baz=41,slow=8.1,SNR=6.4
NOA NORSAR Array B 62.85 343 P **P 07 54 55.6 +0.2**
comp=Z,0.3nm,0.5s,mb3.4,baz=23,slow=6.9,SNR=2.5
AKASG Malin Array Be 67.92 329 P **P 07 55 27.9 -0.3**
AKASG pmax pmax
comp=Z,1.0nm,0.4s
AKASG Malin Array Be 67.92 329 P **P 07 55 27.9 -0.3**
comp=Z,0.7nm,0.4s,mb3.7,baz=28,slow=6.8,SNR=3.1
TXAR Lajitas Array 70.63 67 P **P 07 55 46.6 +1.4**
TXAR pmax pmax
comp=Z,1.0nm,0.5s
TXAR Lajitas Array 70.63 67 P **P 07 55 46.5 +1.4**
comp=Z,0.8nm,0.5s,mb3.7,baz=297,slow=4.9,SNR=21
ESDC Sonseca Array 85.89 347 P **P 07 57 10.1 +1.2**
comp=Z,2.1nm,0.7s,mb4.0,baz=8.0,slow=6.1,SNR=6.0

IDC 23 07:51:06.9±3.2, 444S×15207E, h0km, mb3.8/3, mb1 4.1/3, mb1mx3.7/15, mbtmp3.8/3, Error ellipse: s-maj=112.7km s-min=44.7km az=121.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WB2	**Warramunga Arr**	**23.14**	**227**	*eP*	P	07 56 15.0	+0.1
WRA	**Warramunga Arr**	**23.15**	**227**	P	P	07 56 15.3	+0.2
	1.9nm,0.4s,baz=52,slow=9.9,SNR=52						
ASAR	**Alice Springs**	**25.93**	**221**	P	P	07 56 40.9	-0.1
	0.4nm,0.3s,baz=52,slow=9.7,SNR=11						
FITZ	**Fitzroy Crossi**	**29.20**	**240**	P	P	07 57 10.7	+0.3
	0.7nm,0.5s,baz=62,slow=7.5,SNR=2.8						
TORD	**Torodi Ar. Bea**	**149.51**	**288**	PKPbc	PKPbc	08 10 58.6	-0.7
	0.6nm,0.5s,baz=88,slow=2.2,SNR=8.8						

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*ISCJB **23** 07:55:24.8±0.6, 2782S±003×6676W±006, h160km±6km, mb3.9/17, Error ellipse: s-maj=8.1km s-min=5.4km az=1.3*
*IDC **23** 07:55:24.6±1.4, 2775S×6670W, h144km±13km, mb3.8/10, mb1 3.8/15, mb1mx3.7/22, mbtmp3.7/15, Error ellipse: s-maj=17.6km s-min=11.4km az=104.0*
*GUC **23** 07:55:25.3±0.8, 2787S×6683W, h163km±84km, MD3.8*
*NEIC **23** 07:55:25.3, 2787S×6683W, h163km, mb4.2/7, MD3.8(GUC), After GUC.*

ISC 23 07:55:25.6±0.5, 2781S±003×6673W±006, h151km±6km, n54, σ0°90/59, mb3.9/17, 7C-4D, Catamarca Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPCH	**Copiapo**	**3.25**	**277**	⇑*iP*	**Pn**	**07 56 17.3**	**+1.1**
CPCH				*i* S	**Sn**	**07 56 55.7**	**+0.5**
VACH	**Vallenar**	**3.64**	**257**	⇑*iP*	**Pn**	**07 56 21.6**	**+0.5**
VACH				*i* S	**Sn**	**07 57 03.5**	**-0.7**
LCO	**Las Campanas**	**3.70**	**250**	*eP*	**Pn**	**07 56 22.8**	**+0.9**
LCO				*eS*	**Sn**	**07 57 06.2**	**+0.6**
CDCH	**Caldera**	**3.71**	**280**	⇑*iP*	**Pn**	**07 56 22.2**	**0.0**
CDCH				*i* S	**Sn**	**07 57 03.0**	**-3.0**
CFAA	**Coronel Fontan**	**4.00**	**199**	P	**Pn**	**07 56 26.6**	**+0.8**
	6.5nm,0.3s,baz=13,slow=12,SNR=391						
CFAA				S	**Sn**	**07 57 12.2**	**-0.6**
	17nm,0.3s,baz=288,slow=20,SNR=26						
TLL	**Tololo Astrono**	**4.27**	**236**	⇑*iP*	**Pn**	**07 56 30.3**	**+0.9**
TLL				*i* S	**Sn**	**07 57 20.4**	**+1.3**
LSCH	**La Serena**	**4.48**	**241**	*eP*	**Pn**	**07 56 31.5**	**-0.6**
LSCH				*i* S	**Sn**	**07 57 21.9**	**-2.0**
CPN1	**Cerro Paranal**	**4.58**	**313**	*eP*	**Pn**	**07 56 34.8**	**+1.4**
OVCH	**Ovalle**	**4.80**	**233**	*i* S	**Sn**	**07 57 29.6**	**-1.9**
CMCH	**Combarbala**	**5.01**	**227**	⇓*iP*	**Pn**	**07 56 38.0**	**-1.1**
CMCH				*i* S	**Sn**	**07 57 35.3**	**-1.2**
ANCH	**Antofagasta**	**5.28**	**320**	⇑*iP*	**Pn**	**07 56 43.6**	**+0.9**
CEN1	**Los Morros**	**5.40**	**324**	⇑*iP*	**Pn**	**07 56 44.5**	**+0.1**
CHNG	**Los Chungos**	**5.80**	**224**	*eP*	Px	07 56 29.6	
CHNG				*i* S	Sx	07 57 33.2	
JACH	**Jahuel**	**5.89**	**214**	⇑*iP*	**Pn**	**07 56 51.6**	**+0.8**
FCH	**Farellones**	**6.30**	**208**	⇓*iP*	**Pn**	**07 56 57.0**	**+0.8**
FCH				*i* S	**Sn**	**07 58 07.9**	**+0.7**
CLCH	**Cerro Calan**	**6.46**	**210**	*eP*	**Pn**	**07 56 58.5**	**0.0**
PCH	**Pirque**	**6.65**	**208**	*i* P	**Pn**	**07 57 01.1**	**+0.3**
LMEL	**Las Melosas**	**6.72**	**206**	*eP*	**Pn**	**07 57 02.4**	**+0.6**
CHCH	**Chadas Angostu**	**6.97**	**208**	⇓*iP*	**Pn**	**07 57 05.0**	**-0.3**
CHCH				*i* S	**Sn**	**07 58 22.3**	**-1.1**
CICH	**Cipreses**	**7.22**	**205**	⇓*iP*	**Pn**	**07 57 09.1**	**+0.6**
CPUP	**Villa Florida**	**8.51**	**82**	P	**Pn**	**07 57 25.3**	**-0.5**
	0.8nm,0.3s,baz=247,slow=11,SNR=30						
TRQA	**Tornquist**	**10.97**	**160**	*ePn*	**Pn**	**07 57 57.2**	**-1.0**
LPAZ	**La Paz**	**11.54**	**353**	P	**Pn**	**07 58 05.7**	**-0.1**
LPAZ	**La Paz**	**11.54**	**353**	P	**Pn**	**07 58 05.7**	**-0.1**
	0.6nm,0.3s,baz=150,slow=8.1,SNR=26						
SIV	**San Ignacio**	**12.88**	**25**	P	**Pn**	**07 58 22.4**	**-0.8**
	0.3nm,0.3s,baz=217,slow=14,SNR=41						
PLCA	**Paso Flores**	**13.27**	**193**	P	**Pn**	**07 58 28.4**	**+0.4**
PLCA	**Paso Flores**	**13.27**	**193**	P	**Pn**	**07 58 28.4**	**+0.4**
	0.0nm,0.3s,baz=21,slow=2.8,SNR=2.2						
BDFB	**Brasilia**	**21.15**	**59**	P	**P**	**07 59 57.6**	**-1.2**
	2.7nm,0.7s,mb3.7,baz=210,slow=16,SNR=12						
VNA1	**Neumayer--Stat**	**53.71**	**159**	*e*PKPdf	**P**	**08 04 31.6**	**+0.2**
VNA1				*e*		08 04 33.1	
VNA2	**Neumayer--Watz**	**54.07**	**160**	*e*PKPdf	**P**	**08 04 34.1**	**+0.1**
	baz=296,slow=7.7						
VNA2				*e*		08 04 35.9	
SNAA	**Sanae**	**55.70**	**160**	P	**P**	**08 04 45.8**	**+0.1**
	0.5nm,0.5s,mb3.6,baz=282,slow=8.0,SNR=14						
QSPA	**South Pole Qui**	**62.41**	**180**	*eP*	**P**	**08 05 32.6**	**+0.8**
	6.7nm,0.8s,mb4.5						
WVT	**Waverly**	**66.63**	**341**	*eP*	**P**	**08 05 58.3**	**-1.4**
	8.9nm,0.9s,mb4.6						
TXAR	**Lajitas Array**	**66.92**	**325**	P	**P**	**08 06 01.8**	**+0.1**
TXAR	**Lajitas Array**	**66.92**	**325**	P	**P**	**08 06 01.8**	**+0.1**
	0.5nm,0.6s,mb3.5,baz=151,slow=9.1,SNR=8.1						
VNDA	**Vanda**	**71.01**	**190**	P	**P**	**08 06 27.7**	**+1.5**
	1.1nm,0.7s,mb3.7,baz=146,slow=11,SNR=6.3						
ANMO	**Albuquerque**	**72.84**	**327**	*eP*	**P**	**08 06 38.5**	**+0.8**
	1.1nm,0.7s,mb3.7						
TORD	**Torodi Ar. Bea**	**77.74**	**68**	P	**P**	**08 07 05.0**	**-1.1**
	1.4nm,0.5s,mb3.8,baz=266,slow=5.4,SNR=19						
MAW	**Mawson**	**77.75**	**162**	P	**P**	**08 07 05.8**	**+0.5**
	4.2nm,0.7s,mb4.2,baz=205,slow=12,SNR=4.6						
BOSA	**Boshof**	**78.81**	**116**	P	**P**	**08 07 11.7**	**-0.2**
	8.6nm,0.9s,mb4.4,baz=261,slow=4.8,SNR=14						
PDAR	**Pinedale Array**	**80.53**	**330**	P	**P**	**08 07 20.7**	**0.0**
	1.0nm,0.7s,mb3.5,baz=132,slow=6.6,SNR=6.0						
HWUT	**Hardware Ranch**	**80.56**	**328**	*eP*	**P**	**08 07 20.6**	**-0.2**
	1.0nm,0.5s,mb3.7						
LBTB	**Lobatse**	**80.65**	**113**	*eP*	**P**	**08 07 21.6**	**-0.4**
	6.9nm,0.9s,mb4.3						
ULM	**Lac du Bonnet**	**81.90**	**342**	P	**P**	**08 07 26.3**	**-1.4**
ULM	**Lac du Bonnet**	**81.90**	**342**	P	**P**	**08 07 26.3**	**-1.4**
	2.5nm,0.9s,mb3.9,baz=65,slow=2.8,SNR=5.7						
HLID	**Hailey**	**83.41**	**327**	*eP*	**P**	**08 07 36.0**	**+0.4**
	1.8nm,0.8s,mb3.9						
LSZ	**Lusaka**	**87.24**	**106**	*eP*	**P**	**08 07 57.2**	**+1.7**
	3.8nm,0.7s,mb4.3						
WALA	**Waterton Lakes**	**87.33**	**331**	*eP*	**P**	**08 07 55.1**	**+0.1**
YKA	**Yellowknife Ar**	**97.77**	**340**	P	**P**	**08 08 41.9**	**-0.9**
YKA	**Yellowknife Ar**	**97.77**	**340**	P	**P**	**08 08 41.9**	**-0.9**
	0.3nm,0.7s,mb3.8,baz=131,slow=4.7,SNR=10						
WRA	**Warramunga Arr**	**128.34**	**206**	PKP	PKPdf	08 14 14.1	-0.7
	1.6nm,0.5s,baz=181,slow=2.5,SNR=2.5						
AAK	**Ala-Archa**	**145.37**	**54**	PKPbc	PKPbc	08 14 45.4	-0.2
	16nm,0.8s,baz=221,slow=2.8,SNR=35						
ZALV	**Zalesovo Beam**	**146.58**	**31**	PKPbc	PKPbc	08 14 46.9	-1.9
	4.1nm,0.5s,baz=302,slow=3.7,SNR=10						
MKAR	**Makanchi Array**	**149.20**	**44**	PKPbc	PKPbc	08 14 55.6	-0.3
	3.8nm,0.7s,baz=304,slow=2.9,SNR=20						

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*IDC **23** 08:04:05.7±6.4, 9045S×13089E, h0km, mb3.8/1, mb1 3.9/4, mb1mx3.6/14, mbtmp3.7/4, ML3.5/2, MS3.3/2, Ms1 3.3/2, ms1mx2.8/24, Error ellipse: s-maj=77.8km s-min=43.5km az=159.0*

ISC 23 08:04:07.2±3.8, 88S±02×1309E±01, h25km±44km, n9, σ1°64/14, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**4.14**	**159**	*eP*	**Pn**	**08 05 11.9**	**+3.0**
	22nm,0.5s						
KAKA				*eS*	**Sn**	**08 06 07.0**	**+10**
KNA	**Kununurra**	**7.19**	**197**	*eP*	**Pn**	**08 05 53.6**	**+2.7**
	20nm,0.5s						
KNA				*eS*	**Sn**	**08 07 14.5**	**+2.7**
FITZ	**Fitzroy Crossi**	**10.55**	**209**	*eP*	**Pn**	**08 06 36.8**	**-0.1**
	2.3nm,0.3s						
FITZ				*eS*	**Sn**	**08 08 31.0**	**-3.3**
FITZ	**Fitzroy Crossi**	**10.55**	**209**	Pn	**Pn**	**08 06 35.3**	**-1.6**
	0.4nm,0.3s,baz=6.6,slow=16,SNR=14						
FITZ				Sn	**Sn**	**08 08 31.5**	**-2.8**
	0.4nm,0.3s,baz=192,slow=16,SNR=3.5						
WRA	**Warramunga Arr**	**11.54**	**164**	Pn	**Pn**	**08 06 49.7**	**-0.8**
	0.3nm,0.3s,baz=340,slow=14,SNR=27						
WRA				Sn	**Sn**	**08 08 59.6**	**+1.0**
	0.5nm,0.3s,baz=346,slow=23,SNR=6.6						
WB2	**Warramunga Arr**	**11.54**	**164**	*eP*	**Pn**	**08 06 50.1**	**-0.4**
WB2				*eS*	**Sn**	**08 08 56.9**	**-1.8**
ASAR	**Alice Springs**	**15.03**	**169**	Pn	**Pn**	**08 07 36.8**	**-1.3**
	0.3nm,0.3s,baz=6.6,slow=14,SNR=12						
CTA	**Charters Tower**	**18.59**	**129**	LR	LR	08 16 20.5	
	comp=Z,73nm,18.1s,baz=17,slow=40						
STKA	**Stephens Creek**	**24.99**	**158**	P	**P**	**08 09 29.5**	**+0.4**
	1.6nm,0.8s,baz=323,slow=16,SNR=3.0						
STKA				LR	LR	08 20 46.5	
	comp=Z,82nm,20.4s,baz=25,slow=40						

IDC 23 08:10:03.2±1.2, 327N×12747E, h0km, mb4.1/9, mb1 4.2/9, mb1mx4.1/18, mbtmp4.1/9, Error ellipse: s-maj=163.6km s-min=15.7km az=69.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.04**	**164**	P	P	08 15 20.3	+0.2
	3.7nm,0.5s,baz=345,slow=11,SNR=9.7						
ASAR	**Alice Springs**	**27.50**	**167**	P	P	08 15 51.5	0.0
	0.6nm,0.5s,baz=356,slow=8.1,SNR=3.4						
STKA	**Stephens Creek**	**37.45**	**160**	P	P	08 17 18.5	+0.1
	3.0nm,0.6s,baz=335,slow=11,SNR=10						
SONM	**Songino Array**	**47.97**	**341**	P	P	08 18 45.2	+1.5
	0.7nm,0.6s,baz=154,slow=7.9,SNR=4.6						
MKAR	**Makanchi Array**	**58.35**	**325**	P	P	08 20 00.1	-0.2
	2.0nm,0.6s,baz=120,slow=8.0,SNR=11						
ZALV	**Zalesovo Beam**	**61.33**	**333**	P	P	08 20 20.1	-0.5
	0.7nm,0.5s,baz=125,slow=7.8,SNR=4.2						
BVAR	**Borovoye Array**	**68.10**	**327**	P	P	08 21 05.3	+0.4
	1.3nm,0.6s,baz=128,slow=9.6,SNR=7.6						
VNDA	**Vanda**	**82.88**	**173**	P	P	08 22 29.3	0.0
	0.8nm,0.9s,baz=330,slow=1.5,SNR=4.1						
ARCES	**ARCESS Array B**	**91.13**	**340**	P	P	08 23 08.3	-1.3
	3.3nm,1.0s,baz=45,slow=8.3,SNR=3.4						
TORD	**Torodi Ar. Bea**	**123.76**	**288**	PKP	PKPdf	08 29 04.5	+0.3
	0.8nm,0.7s,baz=41,slow=1.9,SNR=5.5						

IGQ 23 08:17:42.8, 301S×7952W, h12km±9km, Mb4.0, Ms3.8, 6C-12D, Error ellipse: s-maj=9.8km s-min=8.4km az=64.1, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGUA	**Igualata**	**1.74**	**30**	P	Pn	08 18 14.3	+1.4
IGUA	**Igualata**	**1.74**	**30**	S	Sn	08 18 37.0	+2.0
ARRY	**Arrayan**	**1.83**	**36**	⇑P	Pn	08 18 16.0	+1.9
ARRY	**Arrayan**	**1.83**	**36**	⇑S	Sn	08 18 39.2	+2.1
PATA	**Patacocha**	**1.84**	**36**	P	Pn	08 18 16.8	+2.6
PATA	**Patacocha**	**1.84**	**36**	S	Sn	08 18 41.7	+4.2
RETU	**Refugio**	**1.88**	**35**	P	Pn	08 18 17.5	+2.8
RETU	**Refugio**	**1.88**	**35**	S	Sn	08 18 42.4	+4.0
ULBA	**Ulba**	**1.90**	**36**	P	Pn	08 18 18.4	+3.4
ULBA	**Ulba**	**1.90**	**36**	S	Sn	08 18 43.2	+4.2
RUN5	**Runtun**	**1.92**	**35**	⇓P	Pn	08 18 18.0	+2.7
RUN5	**Runtun**	**1.92**	**35**	⇓S	Sn	08 18 43.8	+4.4
PISA	**Pisayambo**	**2.24**	**30**	⇑P	Pn	08 18 23.1	+3.3
PISA	**Pisayambo**	**2.24**	**30**	⇑S	Sn	08 18 52.7	+5.4
TAMB	**Tambo**	**2.57**	**27**	⇓P	Pn	08 18 28.1	+3.9
TAMB	**Tambo**	**2.57**	**27**	⇓S	Sn	08 18 59.5	+4.1
VC1	**Cotopaxi 1**	**2.60**	**25**	⇓P	Pn	08 18 28.5	+3.9
VC1	**Cotopaxi 1**	**2.60**	**25**	⇓S	Sn	08 19 01.7	+5.6
ANTI	**Antisana**	**2.88**	**28**	P	Pn	08 18 33.6	+5.1
ANTI	**Antisana**	**2.88**	**28**	S	Sn	08 19 12.8	+10
JUA2	**San Juan 2**	**2.92**	**18**	⇓P	Pn	08 18 32.4	+3.4
JUA2	**San Juan 2**	**2.92**	**18**	⇓S	Sn	08 19 07.0	+2.9
TERV	**Terraza Guagua**	**2.96**	**18**	P	Pn	08 18 32.0	+2.5
TERV	**Terraza Guagua**	**2.96**	**18**	S	Sn	08 19 08.9	+3.9
GGP	**Refugio Guagua**	**2.96**	**18**	⇓P	Pn	08 18 32.1	+2.5
GGP	**Refugio Guagua**	**2.96**	**18**	⇓S	Sn	08 19 08.1	+3.0
PINO	**Pino**	**2.97**	**18**	⇑P	Pn	08 18 32.0	+2.3
PINO	**Pino**	**2.97**	**18**	⇑S	Sn	08 19 07.6	+2.2
YANA	**Yana**	**3.02**	**18**	⇓P	Pn	08 18 32.8	+2.4
YANA	**Yana**	**3.02**	**18**	⇓S	Sn	08 19 11.2	+4.7
CAYR	**Refugio Cayamb**	**3.36**	**27**	P	Pn	08 18 42.0	+6.9
COTA	**Cotacachi**	**3.52**	**20**	P	Pn	08 18 42.8	+5.5
COTA	**Cotacachi**	**3.52**	**20**	S	Sn	08 19 28.0	+9.1

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*ISCJB **23** 08:19:32.3±0.9, 3650N±008×2877E±004, h4km±9km, Error ellipse: s-maj=13.5km s-min=5.3km az=178.9*
*CSEM **23** 08:19:32.4±0.3, 3650N×2883E, h15km, MD2.9, Error ellipse: s-maj=10.4km s-min=4.6km az=4.0*
*ISK **23** 08:19:32.5, 3674N×2883E, h17km, MD2.9*
*DDA **23** 08:19:34.8, 3662N×2882E, h7km±6km, Md2.9*

ISC 23 08:19:33.3±0.7, 3660N±008×2881E±004, h15km±7km, n10, σ1°30/16, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FETY	**Fethiye**	**0.22**	**82**	PG	**Pg**	**08 19 38.0**	**-0.3**
FETY				*e*SG	**Sg**	**08 19 42.3**	**+0.6**
YER	**Yerkesik**	**0.68**	**321**	*e*PG	**Pg**	**08 19 44.7**	**-1.9**
AKAS	**Kas**	**0.74**	**120**	*i* P	**Pg**	**08 19 47.1**	**-0.6**
AKAS				*i* S	**Sg**	**08 19 60.0**	**+2.5**
GOLH	**Golhisar**	**0.87**	**43**	*i* P	**Pb**	**08 19 50.2**	**+0.1**
GOLH				*i* S	**Sg**	**08 20 06.4**	**+4.7**
ELL	**Elmali**	**0.89**	**80**	*e*PG	**Pg**	**08 19 49.8**	**-0.9**
DAT	**Datca**	**1.00**	**278**	*e*PG	**Pg**	**08 19 52.4**	**-0.3**
DAT				*e*SG	**Sg**	**08 20 06.9**	**+1.1**
DENT	**Denizli**	**1.16**	**9**	*e*PG	**Pn**	**08 19 52.6**	**-2.4**
BDRM	**Kayabasi**	**1.19**	**293**	*i* P	**Pn**	**08 19 56.0**	**+0.6**
BDRM				*i* S	**Sb**	**08 20 10.0**	**-0.8**
BODT	**Bodrum**	**1.29**	**291**	*e*PN	**Pn**	**08 19 55.5**	**-1.3**
AYDN	**Tasoluk**	**1.29**	**325**	*i* P	**Pn**	**08 19 58.4**	**+1.6**
AYDN				*i* S	**Sb**	**08 20 16.9**	**+3.2**

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*NIED **23** 08:27:00, 44.10N×141.70E, h5km, Mw4.4 Best double couple: M0 3.86000×10^15 NP1:φ=186.00000°, δ=56.00000°, λ=78.00000°. NP2:φ=26.00000°, δ=36.00000°, λ=107.00000°.*
*IDC **23** 08:27:18.8±0.6, 44.17N×141.64E, h0km, mb4.0/15, mb1 4.2/15, mb1mx4.1/22, mbtmp4.0/15, MS3.5/12, Ms1 3.6/12, ms1mx3.4/33, Error ellipse: s-maj=18.5km s-min=11.4km az=12.0*
*ISCJB **23** 08:27:21.5±0.5, 44.16N±003×141.78E±005, h24km±3km, mb4.3/38, MS3.7/14, Error ellipse: s-maj=6.3km s-min=4.8km az=178.7*
*BJI **23** 08:27:21.2, 44.53N×141.55E, h5km, mB4.8, mb4.4, Ms4.3, Msz4.2*
*JMA **23** 08:27:21.0±0.1, 44.10N×141.71E, h10km±2km, M4.6*
JMA Felt III J1.
*NEIC **23** 08:27:21.0, 44.10N×141.71E, h10km, mb4.6/11, MW4.3(NIED), After JMA.*
NEIC Recorded [3 JMA] in northern Hokkaido.
*MOS **23** 08:27:23.0±1.4, 44.16N×141.85E, h38km, mb4.6/18, Error ellipse: s-maj=11.7km s-min=6.8km az=97.3*

ISC 23 08:27:21.7±0.5, 4422N±003×14185E±005, h15km±3km, n118, σ1°29/117, mb4.3/38, MS3.7/14, 7C-5D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSS	**Shosan**	**0.18**	**2**	⇑P	**Pg**	**08 27 27.7**	**+1.6**
JSS				*e*S	**Sg**	**08 27 33.4**	**+4.3**
JYG	**Yagishiri**	**0.37**	**305**	⇓P	**Pg**	**08 27 28.3**	**-0.9**
JYG				*e*S	**Sg**	**08 27 34.6**	**+0.4**
JHR	**Hokuryu**	**0.48**	**190**	⇑P	**Pg**	**08 27 28.3**	**-3.0**
ASAJ	**Asahikawa**	**0.55**	**100**	⇓P	**Pg**	**08 27 32.7**	**+0.1**
ASAJ	**Asahikawa**	**0.55**	**100**	Pg	**Pg**	**08 27 32.8**	**+0.2**
	1μm,0.3s,baz=278,slow=12,SNR=1065						
JKK2	**Kamakawa 2**	**0.74**	**118**	⇓P	**Pg**	**08 27 35.4**	**-0.7**
JAB	**Ashibetsu**	**0.76**	**159**	⇑P	**Pg**	**08 27 34.5**	**-2.1**
JSE	**Soyaes**	**0.91**	**35**	⇑P	**Pb**	**08 27 40.1**	**+0.8**
ERM	**Erimo**	**2.40**	**156**	*e*Pn	**Pn**	**08 28 00.8**	**+0.3**
ERM	**Erimo**	**2.40**	**156**	*d*PN	**Pn**	**08 28 01.2**	**+0.7**
YSS	**Yuzh-Sakhalins**	**2.81**	**13**	*e*Pn	**Pn**	**08 28 08.8**	**+2.7**
YSS	**Yuzh-Sakhalins**	**2.81**	**13**	⇑*i*PN	**Pn**	**08 28 08.9**	**+2.8**
YSS				*i* S	**Sn**	**08 28 43.0**	**+3.2**
YSS				pmax	pmax		
	comp=Z,80nm,0.9s						
YSS				smax			
	comp=E,460nm,0.9s						
YSS				MLR	MLR		
	comp=Z,2μm,9.0s						
KUR	**Kuril'sk**	**4.41**	**75**	*e*PN	**Pn**	**08 28 30.5**	**+2.4**
KUR				pmax	pmax		
	comp=Z,350nm,1.1s						
UGL	**Uglegorsk**	**4.87**	**2**	PN	**Pn**	**08 28 43.0**	**+8.6**
UGL				*e*		08 29 42.0	
UGL				pmax	pmax		
	comp=Z,56nm,0.7s						
UGL				MLR	MLR		
	comp=N,1μm,10.0s						
UGL				MLR	MLR		
	comp=E,1μm,10.0s						
UGL				MLR	MLR		
	comp=Z,1μm,10.0s						
MAJO	**Matsushiro**	**8.15**	**201**	*e*Pn	**Pn**	**08 29 21.8**	**+2.3**
	comp=Z,34nm,1.0s						
MAJO	**Matsushiro**	**8.15**	**201**	*e*PN	**Pn**	**08 29 21.8**	**+2.3**
MAJO				pmax	pmax		
	comp=Z,35nm,1.0s						
MAT	**Matsushiro**	**8.15**	**201**	P	**Pn**	**08 29 21.4**	**+1.9**
MAT				S	**Sn**	**08 30 54.0**	**+2.6**
MJAR	**Matsushiro Arr**	**8.15**	**201**	PN	**Pn**	**08 29 20.9**	**+1.4**
MJAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MJAR	**Matsushiro Arr**	**8.15**	**201**	Pn	**Pn**	**08 29 20.9**	**+1.4**
	comp=Z,0.5nm,0.3s,baz=10,slow=12,SNR=9.9						
KLR	**Kul'dur**	**8.55**	**309**	*e*PN	**Pn**	**08 29 22.0**	**-3.0**
KLR				MLR	MLR		
	comp=E,800nm,11.0s						
KLR				MLR	MLR		
	comp=Z,2μm,11.0s						
SKR	**Severo-Kuril's**	**11.62**	**51**	*e*PN	**Pn**	**08 30 13.0**	**+6.1**
KSRS	**Korea Array**	**12.51**	**242**	Pn	**Pn**	**08 30 20.2**	**+1.0**
	comp=Z,0.4nm,0.3s,baz=54,slow=17,SNR=5.3						
KSRS				LR	LR	08 34 21.7	
	comp=Z,221nm,19.2s,baz=9.8,slow=34						
JNU	**Nakatsue**	**13.99**	**221**	LR	LR	08 35 41.2	
	comp=Z,48nm,19.8s,baz=235,slow=36						
PET	**Petropavlovsk**	**14.16**	**46**	*eP*	**Pn**	**08 30 38.9**	**-2.6**
PET			

comp=Z,12nm,0.9s,mb4.8
TKM2 Tokmak 2 46.82 293 *e*P **P 08 35 51.9 +1.1**
TKM2 pmax pmax
comp=Z,12nm,0.9s,mb4.8
AAK Ala-Archa 47.68 293⇑ *e*P **P 08 35 59.4 +2.0**
AAK pmax pmax
comp=Z,7.0nm,1.7s,mb4.4
UCH Uchtor 47.84 292 *e*P **P 08 36 04.2 +5.4**
comp=Z,4.4nm,1.1s,mb4.4
INK Inuvik 47.92 30 P **P 08 35 58.7 -0.3**
INK Inuvik 47.92 30 P **P 08 35 58.7 -0.3**
INK pmax pmax
comp=Z,1.0nm,0.7s
INK Inuvik 47.92 30 P **P 08 35 58.7 -0.3**
comp=Z,0.7nm,0.7s,mb3.8,baz=247,slow=13,SNR=4.2
EKS2 Erkin-Say 48.14 293 *e*P **P 08 36 03.8 +2.7**
comp=Z,3.7nm,0.9s,mb4.4
AML Almayashu 48.43 293 *e*P **P 08 36 09.2 +5.9**
comp=Z,5.3nm,1.0s,mb4.5
ARU Arti 51.35 315 *d i*P **P 08 36 27.7 +2.5**
ARU *e* 08 38 21.3
ARU *e*S **S 08 43 43.8 +0.1**
ARU *e*SS SS 08 47 18.2 -0.6
ARU pmax pmax
comp=Z,10.0nm,1.7s,mb4.5
TMCR Tamitsa 56.67 329 *e*P **P 08 37 07.2 +3.2**
ARCES ARCESS Array B 57.43 338 LR LR 09 04 27.8
comp=Z,55nm,19.3s,MS3.7,baz=266,slow=39
YKA Yellowknife Ar 57.50 32 P **P 08 37 08.8 -1.0**
YKA LR LR 09 05 08.0
YKA Yellowknife Ar 57.50 32 P **P 08 37 08.8 -1.0**
comp=Z,0.4nm,0.8s,mb3.5,baz=305,slow=7.0,SNR=8.4
YKA LR LR 09 05 08.0
comp=Z,40nm,19.0s,MS3.5,baz=215,slow=39
JOF Joensuu 59.84 330 *e*p **P 08 37 24.1 -2.0**
comp=Z,1.8nm,0.6s,mb4.3
JOF Joensuu 59.84 330 *e*P **P 08 37 24.1 -2.0**
JOF pmax pmax
comp=Z,2.0nm,0.6s,mb4.3
FINES FINESS Array B 62.66 331 *i*P **P 08 37 44.4 -0.9**
FINES pmax pmax
comp=Z,1.0nm,0.5s
FINES FINESS Array B 62.66 331 P **P 08 37 44.0 -1.3**
comp=Z,1.4nm,0.5s,mb4.3,baz=61,slow=9.0,SNR=8.9
WRA Warramunga Arr 64.21 188 P **P 08 37 54.2 -1.7**
WRA pmax pmax
comp=Z,2.0nm,0.8s
WRA Warramunga Arr 64.21 188 P **P 08 37 54.2 -1.7**
comp=Z,2.2nm,0.8s,mb4.2,baz=5.8,slow=6.8,SNR=22
KIV Kislovodsk 66.55 309 *e*P **P 08 38 13.8 +2.9**
KIV pmax pmax
comp=Z,11nm,1.0s,mb4.8
KIV MLR MLR
comp=Z,68nm,19.0s,MS3.9
NB2 NORSAR Subarra 67.72 336 P **P 08 38 16.3 -1.8**
comp=Z,0.8nm,0.6s,mb3.9,baz=34,slow=6.5
NOA NORSAR Array B 67.72 336 P **P 08 38 15.8 -2.2**
NOA LR LR 09 13 01.4
NOA NORSAR Array B 67.72 336 P **P 08 38 15.8 -2.3**
NOA pmax pmax
comp=Z,2.0nm,0.9s
NOA MLR MLR
comp=Z,35nm,20.5s
NOA NORSAR Array B 67.72 336 P **P 08 38 15.8 -2.2**
comp=Z,1.6nm,0.8s,mb4.1,baz=35,slow=6.2,SNR=4.7
NOA LR LR 09 13 01.4
comp=Z,35nm,20.5s,MS3.6,baz=235,slow=40
ASAR Alice Springs 67.94 188 P **P 08 38 19.1 -0.7**
ASAR pmax pmax
comp=Z,2.0nm,0.7s
ASAR Alice Springs 67.94 188 P **P 08 38 19.1 -0.8**
comp=Z,1.7nm,0.7s,mb4.2,baz=12,slow=6.9,SNR=15
HRY Holter Researc 68.58 45 *e*P **P 08 38 24.9 +1.2**
AKASG Malin Array Be 68.87 321 P **P 08 38 25.0 -0.5**
AKASG pmax pmax
comp=Z,3.0nm,0.8s
AKASG Malin Array Be 68.87 321 P **P 08 38 24.9 -0.5**
comp=Z,2.8nm,0.8s,mb4.3,baz=42,slow=6.2,SNR=10
NVAR Mina Array Bea 70.52 55 P **P 08 38 36.6 +0.8**
comp=Z,0.3nm,0.5s,mb3.5,baz=318,slow=5.0,SNR=4.0
PDAR Pinedale Array 72.46 47 P **P 08 38 48.2 +0.7**
comp=Z,2.0nm,0.7s,mb4.2,baz=302,slow=1.7,SNR=12
MSU Marysvale 74.00 52 *e*P **P 08 38 58.3 +1.6**
CLL Collm 75.05 330 *e*P **P 08 39 01.0 -1.5**
CLL Collm 75.05 330 *e*P **P 08 39 03.0 +0.5**
KHC Kasperske Hory 76.61 328 *e*P **P 08 39 12.0 +0.5**
GERES GERESS Array B 76.80 328 LR LR 09 13 35.5
comp=Z,52nm,18.2s,MS3.9,baz=98,slow=36
LOR Lormes 81.66 333 *e*P **P 08 39 38.6 -0.5**
comp=Z,8.4nm,0.6s,mb4.5
LOR *e*MLR MLR
comp=Z,87nm,20.2s,MS3.8
LOR Lormes 81.66 333 *e*P **P 08 39 38.6 -0.5**
comp=Z,4.2nm,0.6s,mb4.5
LOR LR LR
comp=Z,90nm,20.3s,MS4.1
LOR Lormes 81.66 333 *e*P **P 08 39 38.6 -0.5**
LOR pmax pmax
comp=Z,4.0nm,0.6s,mb4.5
LOR MLR MLR
comp=Z,90nm,20.3s,MS4.1
LPL La Plagne 82.19 330 *e*P **P 08 39 41.9 0.0**
comp=Z,10.0nm,0.8s,mb4.5
LPL La Plagne 82.19 330 *e*P **P 08 39 41.9 0.0**
comp=Z,5.0nm,0.8s,mb4.5
LPL La Plagne 82.19 330 *e*P **P 08 39 41.9 0.0**
LPL pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
LPG La Plagne 82.19 330 *e*P **P 08 39 42.2 +0.2**
SMF Signal de Mont 82.21 332 *e*P **P 08 39 41.3 -0.7**
comp=Z,13nm,0.8s,mb4.6
AVF Avril sur Loir 82.25 333 *e*P **P 08 39 41.4 -0.8**
comp=Z,12nm,0.8s,mb4.6
BNI Bardonecchia 82.60 330 *e*P **P 08 39 44.2 0.0**
comp=Z,3.2nm,0.8s,mb4.4
BNI Bardonecchia 82.60 330 *e*P **P 08 39 44.2 +0.1**
BNI pmax pmax
comp=Z,3.0nm,0.8s,mb4.4
ROSF Rostrenen 82.88 337 *e*P **P 08 39 45.1 -0.4**
TCF Toulx Ste Croi 83.06 333 *e*P **P 08 39 45.9 -0.6**
VIVF Saint-Julien-l 83.49 331 *e*P **P 08 39 48.3 -0.4**
comp=Z,7.3nm,0.7s,mb4.5
MFF Saint Martin d 83.53 335 *e*P **P 08 39 48.6 -0.3**
LMR La Mourre 84.14 329 *e*P **P 08 39 51.3 -0.8**
comp=Z,16nm,1.0s,mb4.8
LMR La Mourre 84.14 329 *e*P **P 08 39 51.3 -0.8**
comp=Z,8.2nm,1.0s,mb4.8
LMR La Mourre 84.14 329 *e*P **P 08 39 51.3 -0.8**
LMR pmax pmax
comp=Z,8.0nm,1.0s,mb4.8
RJF Les Rejaudoux 84.16 333 *e*P **P 08 39 51.7 -0.4**
RJF *e*MLR MLR
comp=Z,72nm,18.2s,MS3.8
CAF Calviac 84.31 333 *e*P **P 08 39 52.5 -0.4**
comp=Z,11nm,0.8s,mb4.7
LASF Ste Croix 84.45 331 *e*P **P 08 39 53.2 -0.4**
comp=Z,3.3nm,0.5s,mb4.5
TXAR Lajitas Array 85.50 53 P **P 08 39 59.7 +0.5**
TXAR Lajitas Array 85.50 53 P **P 08 39 59.7 +0.5**
TXAR pmax pmax
comp=Z,2.0nm,0.9s
TXAR Lajitas Array 85.50 53 P **P 08 39 59.7 +0.5**
comp=Z,2.0nm,0.9s,mb4.3,baz=284,slow=3.6,SNR=20
EPF Esparros 86.57 333 *e*P **P 08 40 03.7 -0.5**
comp=Z,9.6nm,0.9s,mb4.7
EPF Esparros 86.57 333 *e*P **P 08 40 03.7 -0.5**
comp=Z,4.8nm,0.9s,mb4.7
EPF Esparros 86.57 333 *e*P **P 08 40 03.7 -0.5**
EPF pmax pmax
comp=Z,5.0nm,0.9s,mb4.7
ETSF Etsaut 86.98 333 *e*P **P 08 40 06.1 -0.1**
comp=Z,19nm,0.9s,mb5.0
ETSF Etsaut 86.98 333 *e*P **P 08 40 06.1 -0.1**
comp=Z,9.3nm,0.9s,mb5.0
ETSF Etsaut 86.98 333 *e*P **P 08 40 06.1 -0.1**
ETSF pmax pmax
comp=Z,9.0nm,0.9s,mb5.0
SJPF Ste Jean 87.00 334 *e*P **P 08 40 05.3 -1.0**
PPT Papeete 87.59 117 LR LR 09 12 11.2
comp=Z,119nm,20.1s,MS4.3,baz=210,slow=31
ESDC Sonseca Array 90.98 334 P **P 08 40 24.8 -0.3**
comp=Z,0.8nm,0.6s,mb4.2,baz=27,slow=5.0,SNR=4.5
CPUP Villa Florida 156.36 47 PKP PKPdf 08 47 13.4 -2.5
comp=Z,0.4nm,0.3s,baz=358,slow=3.8,SNR=3.1

IDC 23 09:00:42.6±10.0, 144N×10026W, h0km, mb3.9/5, mb1 4.3/5, mb1mx3.9/16, mbtmp3.9/5, MS3.6/9, Ms1 3.6/9, ms1mx3.3/24, Error ellipse: s-maj=194.0km s-min=127.0km az=4.0, Galapagos Triple Junction region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**16.43**	**18**	LR	LR	09 09 22.1	
	comp=Z,254nm,20.3s,baz=203,slow=32						
JTS	**JuntasAbangare**	**17.57**	**59**	LR	LR	09 09 56.5	
	comp=Z,137nm,21.0s,baz=267,slow=32						
TEIG	**Tepich**	**22.04**	**31**	LR	LR	09 13 00.6	
	comp=Z,173nm,19.6s,baz=314,slow=34						
LPIG	**La Paz**	**24.54**	**337**	LR	LR	09 12 55.8	
	comp=Z,169nm,20.0s,baz=209,slow=30						
TXAR	**Lajitas Array**	**27.93**	**354**	P	P	09 06 35.1	+0.5
	1.0nm,1.0s,baz=172,slow=7.3,SNR=8.0						
TXAR				LR	LR	09 16 37.6	
	comp=Z,129nm,20.5s,baz=170,slow=34						
NVAR	**Mina Array Bea**	**40.36**	**338**	P	P	09 08 22.1	-0.1
	0.6nm,0.8s,baz=153,slow=6.1,SNR=3.6						
PDAR	**Pinedale Array**	**41.98**	**350**	P	P	09 08 35.5	+0.1
	3.5nm,1.0s,baz=159,slow=7.7,SNR=12						
PDAR				LR	LR	09 25 33.0	
	comp=Z,63nm,19.6s,baz=342,slow=36						
ULM	**Lac du Bonnet**	**48.77**	**4**	P	P	09 09 29.7	+0.5
	1.8nm,0.8s,baz=194,slow=7.3,SNR=5.0						
PLCA	**Paso Flores**	**49.94**	**151**	LR	LR	09 26 16.9	
	comp=Z,87nm,18.7s,baz=230,slow=31						
YKA	**Yellowknife Ar**	**61.85**	**353**	P	P	09 11 03.1	-0.2
	2.2nm,1.0s,baz=161,slow=6.6,SNR=18						
YKA				LR	LR	09 37 32.1	
	comp=Z,63nm,20.9s,baz=195,slow=36						
NOA	**NORSAR Array B**	**98.99**	**27**	LR	LR	09 56 10.3	
	comp=Z,19nm,18.9s,baz=130,slow=34						

*ISCJB **23** 09:00:53.9±1.4, 460N±02×1502E±03, h205km±17km, mb3.3/6, Error ellipse: s-maj=43.5km s-min=15.9km az=142.6*
*IDC **23** 09:00:55.7±6.4, 4664N×14999E, h200km±75km, mb3.2/6, mb1 3.5/7, mb1mx3.2/21, mbtmp3.1/7, Error ellipse: s-maj=126.6km s-min=16.9km az=122.0*
ISC 23 09:00:54.4±1.6, 462N±02×1501E±03, h190km±20km, n23, σ1§29/25, mb3.4/6, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**4.19**	**230**	P	**Pn**	**09 01 57.7**	**-0.5**
NEM2				*e*S	**Sn**	**09 02 46.6**	**-1.6**
JNK	**Nakash**	**4.63**	**238**	P	**Pn**	**09 02 04.9**	**+1.1**
JTKR	**Abashiri--Toko**	**4.92**	**246**	P	**Pn**	**09 02 09.4**	**+1.9**
JAK	**Akkeshi**	**5.01**	**233**	P	**Pn**	**09 02 08.6**	**0.0**
JAK				*e*S	**Sn**	**09 03 06.0**	**-1.0**
JAR	**Ashorobuto**	**5.36**	**240**	P	**Pn**	**09 02 15.0**	**+1.8**
JAR				*e*S	**Sn**	**09 03 17.0**	**+1.8**
JOB	**Onbets**	**5.55**	**236**	P	**Pn**	**09 02 16.6**	**+0.9**
JOB				*e*S	**Sn**	**09 03 20.3**	**+0.6**
ASAJ	**Asahikawa**	**5.71**	**252**	P	**Pn**	**09 02 20.1**	**+2.4**
	0.5nm,0.3s,baz=67,slow=16,SNR=3.8						
JCH	**Churui**	**6.01**	**236**	P	**Pn**	**09 02 21.7**	**+0.1**
JCH				*e*S	**Sn**	**09 03 29.2**	**-1.1**
JEM	**Erimo**	**6.51**	**233**	*e*S	**Sn**	**09 03 40.6**	**-1.5**
JNBK	**Urakawa-nobuka**	**6.57**	**236**	P	**Pn**	**09 02 28.8**	**-0.1**
JNB	**Noboribetsu**	**7.49**	**244**	*e*S	**Sn**	**09 04 03.8**	**-1.6**
JKB	**Kayabe**	**7.82**	**240**	P	**Pn**	**09 02 44.5**	**-0.8**
JKB				*e*S	Sx	09 04 08.8	
JSR	**Shiriuchi**	**8.41**	**240**	P	**Pn**	**09 02 53.1**	**+0.2**
JSR				*e*S	Sx	09 04 21.3	
JTM	**Tenmabayashi**	**8.50**	**234**	P	**Pn**	**09 02 53.2**	**-0.9**
JTM				*e*S	Sx	09 04 22.8	
JANG	**Nango**	**8.54**	**230**	*e*S	Sx	09 04 24.2	
JTH	**Tanohata**	**8.67**	**227**	*e*S	Sx	09 04 29.0	
JRG	**Rokugo**	**9.71**	**229**	*e*S	Sx	09 04 54.6	
YKA	**Yellowknife Ar**	**52.62**	**36**	P	**P**	**09 09 46.1**	**-2.2**
	0.6nm,0.5s,mb3.6,baz=299,slow=6.9,SNR=18						
NVAR	**Mina Array Bea**	**64.53**	**60**	P	**P**	**09 11 10.6**	**-0.3**
	0.6nm,0.7s,mb3.6,baz=297,slow=8.0,SNR=4.5						
PDAR	**Pinedale Array**	**66.75**	**52**	P	**P**	**09 11 24.2**	**-0.8**
	0.8nm,0.4s,mb3.9,baz=289,slow=0.7,SNR=5.3						
WRA	**Warramunga Arr**	**67.33**	**196**	P	**P**	**09 11 31.2**	**+2.5**
	0.3nm,0.9s,mb3.1,baz=12,slow=6.5,SNR=4.9						
ASAR	**Alice Springs**	**71.04**	**196**	P	**P**	**09 11 55.0**	**+3.5**
	0.3nm,0.7s,mb3.2,baz=12,slow=5.8,SNR=5.8						
TXAR	**Lajitas Array**	**79.57**	**58**	P	**P**	**09 12 39.5**	**-0.8**
	0.5nm,0.6s,mb3.3,baz=292,slow=3.8,SNR=9.7						

*THR **23** 09:04:53.5±0.3, 3066N×4905E, h34km±4km, ML3.0*
*ISCJB **23** 09:04:56.3±2.4, 3094N±007×4941E±009, h6km±17km, Error ellipse: s-maj=14.5km s-min=9.4km az=37.3*
*CSEM **23** 09:04:56.7±0.3, 3099N×4939E, h10km, ML2.6, Error ellipse: s-maj=9.1km s-min=4.8km az=115.0*
*KISR **23** 09:04:57.2±1.0, 3045N×4894E, h34km±48km, ML2.6*
ISC 23 09:04:57.5±2.7, 3094N±007×4940E±010, h10km±19km, n12, σ1§19/20, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHGR	**Shooshtar-Gavs**	**1.27**	**336**	*e*Pg	**Pn**	**09 05 19.9**	**-1.4**
SHGR				*e*Sg	**Sg**	**09 05 39.1**	**+0.7**
SHGR				AML	AML	09 05 45.4	
	comp=E,213nm,0.3s						
SHGR				AML	AML	09 05 46.1	
	comp=N,309nm,0.4s						
SHGR	**Shooshtar-Gavs**	**1.27**	**336**	*e*Pg	**Pn**	**09 05 19.9**	**-1.4**
	SNR=97						
SHGR				*e*Sg	**Sg**	**09 05 39.1**	**+0.7**
	SNR=97						
UMR	**Umm Al-Rimmam**	**2.01**	**227**	*e*P	**Pn**	**09 05 31.7**	**+0.2**
UMR				*e*S	**Sn**	**09 05 58.3**	**+1.6**
UMR				AML	AML	09 06 00.4	
	comp=Z,50nm,0.3s						
UMR	**Umm Al-Rimmam**	**2.01**	**227**	*e*P	**Pn**	**09 05 31.7**	**+0.2**
UMR				*e*S	**Sn**	**09 05 58.3**	**+1.6**
MIB	**Mutribah**	**2.11**	**238**	*e*P	**Pn**	**09 05 33.0**	**+0.1**
MIB				*e*S	**Sn**	**09 06 00.6**	**+1.4**
MIB				AML	AML	09 06 03.8	
	comp=Z,15nm,0.4s						
MIB	**Mutribah**	**2.11**	**238**	*e*P	**Pn**	**09 05 33.0**	**+0.1**
MIB				*e*S	**Sn**	**09 06 00.6**	**+1.4**
	comp=Z,15nm,0.4s						
KBD	**Kabd**	**2.30**	**220**	*e*P	**Pn**	**09 05 35.1**	**-0.3**
KBD				*e*S	**Sn**	**09 06 02.4**	**-1.4**
KBD				AML	AML	09 06 03.5	
	comp=Z,51nm,0.3s						
KBD	**Kabd**	**2.30**	**220**	*e*P	**Pn**	**09 05 35.2**	**-0.3**
KBD				*e*S	**Sn**	**09 06 02.4**	**-1.4**
	comp=Z,51nm,0.3s						
QRN	**Al-Qurain**	**2.54**	**211**	*e*P	**Pn**	**09 05 37.4**	**-1.4**
QRN				AML	AML	09 06 05.2	
	comp=Z,16nm,0.3s						
NASN	**Na'in**	**3.44**	**57**	*e*Pn	**Pn**	**09 05 52.8**	**+1.7**
ASAO	**Ashtian**	**3.63**	**8**	*e*Pn	**Pn**	**09 05 54.3**	**+0.5**
ASAO				AML	AML	09 07 07.2	
	comp=N,10nm,0.6s						
SNGE	**Sanandaj**	**4.48**	**338**	*e*Pn	**Pn**	**09 06 03.6**	**-1.8**

*CSEM **23** 09:18:49.4±0.2, 3006N×5277E, h10km, ML3.2, Error ellipse: s-maj=3.9km s-min=2.3km az=60.0*
*THR **23** 09:18:50.0±1.2, 3014N×5273E, h14km±11km, ML3.2*
*ISCJB **23** 09:18:51.0±2.8, 2997N±005×5278E±007, h17km±30km, Error ellipse: s-maj=9.7km s-min=8.1km az=179.4*
*KISR **23** 09:18:52.4±0.5, 3010N×5257E, h20km±322km, ML3.0*
ISC 23 09:18:51.7±1.4, 3003N±005×5281E±007, h12km±12km, n20, σ0§99/31, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GHIR	**Ghir-Karzin**	**1.75**	**175**	*e*Pg	**Pg**	**09 19 23.8**	**-1.4**
GHIR				*e*Sg	**Sg**	**09 19 48.8**	**+0.9**
GHIR				AML	AML	09 19 57.7	
	comp=N,146nm,0.5s						
GHIR				AML	AML	09 20 00.1	
	comp=E,208nm,0.4s						
GHIR	**Ghir-Karzin**	**1.75**	**175**	*e*Pg	**Pg**	**09 19 23.8**	**-1.4**
	SNR=90						
GHIR				*e*Sg	**Sg**	**09 19 48.8**	**+0.9**
	SNR=90						
NASN	**Na'in**	**2.76**	**0**	*e*Pn	**Pn**	**09 19 34.5**	**-1.4**
NASN				*e*Sg	**Sg**	**09 20 12.7**	**-7.8**
KRBR	**Kerman**	**3.43**	**90**	*e*Pn	**Pn**	**09 19 46.7**	**+1.6**
KRBR				AML	AML	09 20 51.0	
	comp=N,56nm,0.7s						
UMR	**Umm Al-Rimmam**	**4.45**	**265**	*e*P	**Pn**	**09 20 00.0**	**+1.0**
UMR				*e*S	**Sn**	**09 20 50.6**	**-0.2**
UMR				AML	AML	09 20 54.1	
	comp=Z,26nm,0.4s						
UMR	**Umm Al-Rimmam**	**4.45**	**265**	*e*P	**Pn**	**09 20 00.0**	**+1.0**
UMR				*e*S	**Sn**	**09 20 50.6**	**-0.2**
QRN	**Al-Qurain**	**4.45**	**254**	*e*P	**Pn**	**09 20 00.4**	**+1.3**
QRN				*e*S	**Sn**	**09 20 51.2**	**+0.3**
QRN				AML	AML	09 20 53.4	
	comp=Z,12nm,0.2s						
KBD	**Kabd**	**4.53**	**260**	*e*P	**Pn**	**09 20 01.4**	**+1.3**
KBD				*e*S	**Sn**	**09 20 52.9**	**+0.1**
KBD				AML	AML	09 20 56.0	
	comp=Z,29nm,0.3s						
KBD	**Kabd**	**4.53**	**260**	*e*P	**Pn**	**09 20 01.5**	**+1.3**
KBD				*e*S	**Sn**	**09 20 52.9**	**+0.1**
KFJS		**4.63**	**248**	S	**Sn**	**09 20 49.6**	**-5.8**
MIB	**Mutribah**	**4.75**	**269**	*e*P	**Pn**	**09 20 03.9**	**+0.7**
MIB				*e*S	**Sn**	**09 20 58.2**	**0.0**
MIB				AML	AML	09 20 59.0	
	comp=Z,6.7nm,0.5s						
MIB	**Mutribah**	**4.75**	**269**	*e*P	**Pn**	**09 20 03.9**	**+0.7**
MIB				*e*S	**Sn**	**09 20 58.2**	**0.0**
ASAO	**Ashtian**	**5.08**	**333**	*e*Pn	**Pn**	**09 20 07.2**	**-0.6**
SLWS		**5.55**	**201**	P	**Pn**	**09 20 14.2**	**0.0**
BTHS		**6.21**	**197**	P	**Pn**	**09 20 23.5**	**+0.3**
BTHS		**6.21**	**197**	P	**Pn**	**09 20 23.5**	**+0.2**
BTHS				S	**Sn**	**09 21 33.2**	**-1.0**
HRDDS		**7.68**	**204**	P	**Pn**	**09 20 43.7**	**+0.2**
ASYS		**7.84**	**253**	P	**Pn**	**09 20 43.8**	**-1.9**
LYLS		**9.39**	**213**	S	**Sn**	**09 22 47.2**	**-5.5**
LYLS		**9.39**	**213**	P	**Pn**	**09 21 05.7**	**-1.3**

IDC 23 09:22:22.2±2.0, 540N×12589E, h0km, mb3.9/4, mb1 4.0/4, mb1mx3.7/17, mbtmp3.9/4, Error ellipse: s-maj=159.8km s-min=26.5km az=64.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**26.52**	**162**	P	P	09 28 01.2	-0.5
	0.5nm,0.4s,baz=342,slow=10,SNR=13						
ASAR	**Alice Springs**	**29.93**	**165**	P	P	09 28 32.5	+0.4
	1.4nm,0.5s,baz=344,slow=7.1,SNR=31						
STKA	**Stephens Creek**	**39.98**	**159**	P	P	09 29 58.9	+0.2
	2.6nm,0.8s,baz=319,slow=11,SNR=8.4						
MKAR	**Makanchi Array**	**55.71**	**325**	P	P	09 32 00.6	0.0
	0.5nm,0.4s,baz=127,slow=7.4,SNR=3.7						

*ISCJB **23** 09:33:51.2±0.6, 565S±008×10582E±007, h192km±5km, mb4.2/26, Error ellipse: s-maj=15.3km s-min=6.6km az=38.4*
*NEIC **23** 09:33:52.1±1.2, 561S×10587E, h181km±10km, mb4.4/7, Error ellipse: s-maj=14.1km s-min=6.4km az=50.0*
*IDC **23** 09:33:56.2±2.3, 555S×10599E, h215km±20km, mb3.8/16, mb1 3.9/16, mb1mx3.9/21, mbtmp3.8/16, Error ellipse: s-maj=17.6km s-min=8.1km az=53.0*
ISC 23 09:33:52.2±0.6, 566S±008×10582E±007, h184km±5km, n59, σ1§01/47, mb4.4/26, 2C, Sunda Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBJI	**Serang**	**0.55**	**145**	P	**Pn**	**09 34 15.7**	**-2.0**
	4μm,0.7s						
KLI	**Kotabumi**	**1.24**	**310**	P	**Pn**	**09 34 22.3**	**+0.1**
	2μm,0.8s						
TPI	**Tanjungpandan**	**3.42**	**32**	P	**Pn**	**09 34 49.7**	**+3.5**
	71nm,0.9s						
KSI	**Kapahiang**	**3.78**	**302**	P	**Pn**	**09 34 52.0**	**+1.3**
	1μm,0.8s						
BJII	**Banjamegara**	**4.21**	**113**	P	**Pn**	**09 34 55.8**	**-0.3**
	182nm,1.2s						
KRKI	**Karangkates**	**7.04**	**111**	P	**Pn**	**09 35 36.7**	**+3.8**
	298nm,0.4s						
PPI	**Padang Panjang**	**7.48**	**314**	P	**Pn**	**09 35 38.0**	**-0.8**
	97nm,0.8s						
KMMI	**Kalianget**	**8.22**	**100**	P	**Pn**	**09 35 49.6**	**+1.2**
	64nm,1.2s						
KSM	**Kuching**	**8.39**	**32**	P	**Pn**	**09 35 50.6**	**-0.1**
PSI	**Prapat**	**10.87**	**321**	P	**Pn**	**09 36 20.5**	**-2.5**
	1.7nm,0.3s,baz=131,slow=15,SNR=9.6						
KULM	**Kulim**	**12.04**	**335**	*e*P	**Pn**	**09 36 39.0**	**+0.8**
BATI	**Kupang**	**18.24**	**105**	P	**P**	**09 37 53.4**	**+1.5**
	18nm,0.3s,baz=279,slow=3.6,SNR=19						
FITZ	**Fitzroy Crossi**	**22.97**	**124**	*e*P	**P**	**09 38 40.5**	**-0.3**
	23nm,0.8s,mb4.7						
FITZ	**Fitzroy Crossi**	**22.97**	**124**	P	**P**	**09 38 40.7**	**-0.2**
	14nm,0.8s,mb4.4,baz=295,slow=5.7,SNR=28						
KAKA	**Kakadu**	**27.18**	**107**	*e*P	**P**	**09 39 17.9**	**-1.0**
	8.1nm,0.6s,mb4.5						
WRA	**Warramunga Arr**	**31.15**	**120**	P	**P**	**09 39 53.6**	**-0.3**
	3.1nm,0.3s,mb4.5,baz=309,slow=8.9,SNR=76						
WRA				PcP	PcP	09 42 45.1	+0.5
	1.7nm,0.4s,baz=301,slow=2.1,SNR=13						
WRA				S	**S**	**09 44 44.0**	**-2.2**
	0.7nm,0.8s,baz=294,slow=18,SNR=5.5						
WRAB	**Tennant Creek**	**31.15**	**120**	*e*P	**P**	**09 39 53.6**	**-0.3**
	5.8nm,0.5s,mb4.6						
WRAB				*e*PcP	PcP	09 42 44.8	+0.1
WB2	**Warramunga Arr**	**31.16**	**120⇑**	*i*P	**P**	**09 39 53.6**	**-0.4**
ASAR	**Alice Springs**	**32.42**	**126**	P	**P**	**09 40 05.2**	**+0.2**
	2.0nm,0.4s,mb4.2,baz=299,slow=7.8,SNR=58						
ASAR				PcP	PcP	09 42 48.9	+0.9
	1.8nm,0.7s,baz=316,slow=2.5,SNR=13						
ASAR				S	**S**	**09 45 03.4**	**-2.6**
	1.1nm,0.6s,baz=297,slow=17,SNR=8.7						
STKA	**Stephens Creek**	**42.41**	**132⇑**	*i*P	**P**	**09 41 29.3**	**+0.5**
	4.3nm,0.3s,mb4.6						
STKA	**Stephens Creek**	**42.41**	**132**	P	**P**	**09 41 29.4**	**+0.6**
	6.2nm,0.4s,mb4.6,baz=309,slow=7.7,SNR=39						
KSRS	**Korea Array**	**47.59**	**24**	P	**P**	**09 42 10.2**	**+0.7**
	1.3nm,0.7s,mb3.7,baz=187,slow=8.8,SNR=6.8						
MJAR	**Matsushiro Arr**	**51.78**	**33**	P	**P**	**09 42 40.6**	**-0.6**
	1.5nm,0.5s,mb3.9,baz=200,slow=8.5,SNR=5.4						
SONM	**Songino Array**	**53.27**	**0**	P	**P**	**09 42 53.3**	**+1.5**
	1.8nm,0.5s,mb4.0,baz=176,slow=9.8,SNR=10						
ULN	**Ulaanbaatar**	**53.31**	**1**	*e*P	**P**	**09 42 52.9**	**+0.8**
	2.1nm,0.6s,mb4.0						
TKM2	**Tokmak 2**	**55.58**	**333**	*e*P	**P**	**09 43 08.2**	**-0.5**
	1.8nm,0.3s,mb4.4						
MKAR	**Makanchi Array**	**56.24**	**341**	P	**P**	**09 43 13.0**	**-0.2**
MKAR	**Makanchi Array**	**56.24**	**341**	P	**P**	**09 43 13.0**	**-0.2**
	1.5nm,0.5s,mb4.1,baz=145,slow=8.8,SNR=9.6						
ZALV	**Zalesovo Beam**	**61.96**	**346**	P	**P**	**09 43 51.5**	**-0.8**
	2.1nm,0.3s,mb4.4,baz=158,slow=6.2,SNR=12						
QRN	**Al-Qurain**	**65.32**	**305**	*e*P	**P**	**09 44 15.8**	**+0.8**
QRN				AMb	AMB	09 44 18.9	
	comp=Z,18nm,0.3s,mb5.3						
KBD	**Kabd**	**65.66**	**305**	*e*P	**P**	**09 44 17.6**	**+0.5**
KBD				AMb	AMB	09 44 18.4	
	comp=Z,50nm,0.5s,mb5.6						
BVAR	**Borovoye Array**	**65.69**	**337**	P	**P**	**09 44 16.3**	**-0.4**
	comp=Z,1.8nm,0.5s,mb4.2,baz=128,slow=9.6,SNR=5.8						
RDF	**Al-Radifah**	**65.69**

YKA	**Yellowknife Ar**	**116.01**	**20**	PKP	PKPdf	09 52 12.5	-0.3
	comp=Z,0.5nm,0.6s,baz=351,slow=1.9,SNR=22						
EGMT	**Eagleton**	**128.03**	**30**	*e*PKPdf	PKPdf	09 52 37.3	+1.0
NVAR	**Mina Array Bea**	**128.45**	**44**	PKP	PKPdf	09 52 39.6	+2.2
	comp=Z,0.3nm,0.4s,baz=346,slow=1.4,SNR=4.3						
SCHQ	**Schefferville**	**130.62**	**354**	PKP	PKPdf	09 52 42.3	+1.2
	comp=Z,2.3nm,0.5s,baz=346,slow=1.5,SNR=8.5						
PDAR	**Pinedale Array**	**131.60**	**35**	PKP	PKPdf	09 52 44.8	+1.5
	comp=Z,0.5nm,0.6s,baz=47,slow=1.1,SNR=6.1						
ULM	**Lac du Bonnet**	**131.97**	**19**	PKP	PKPdf	09 52 44.3	+0.5
	comp=Z,1.8nm,0.6s,baz=331,slow=3.2,SNR=6.3						
TXAR	**Lajitas Array**	**143.53**	**46**	PKP	PKPdf	09 53 04.9	-0.8
	comp=Z,1.3nm,0.5s,baz=315,slow=1.2,SNR=37						
CPUP	**Villa Florida**	**144.24**	**206**	PKP	PKPdf	09 53 07.2	+0.2
	comp=Z,2.7nm,0.6s,baz=131,slow=2.5,SNR=16						
MIAR	**Mount Ida**	**146.12**	**29**	*e*PKPbc	PKPbc	09 53 11.4	+0.2
BDFB	**Brasilia**	**146.54**	**230**	PKPbc	PKPbc	09 53 14.4	+1.5
	comp=Z,1.5nm,0.6s,baz=135,slow=4.3,SNR=4.5						
WVT	**Waverly**	**147.19**	**21**	*e*PKPbc	PKPbc	09 53 14.4	+0.2
WVT				*e*PKPab	PKPab	09 53 15.4	-0.8
TZTN	**Tazewell**	**148.09**	**14**	*e*PKPbc	PKPbc	09 53 16.1	-0.5
TZTN				*e*PKPab	PKPab	09 53 19.4	-0.4
PLAL	**Pickwick Lake**	**148.13**	**22**	*e*PKPbc	PKPbc	09 53 16.1	-0.7
LRAL	**Lakeview Retre**	**150.26**	**22**	*e*PKPbc	PKPbc	09 53 22.2	+0.1

*LDG **23** 09:45:15.6±0.1,2028S×16927E,h10km,Mb4.9/4,Ms4.4/9, Error ellipse: s-maj=15.2km s-min=2.8km az=137.0*
*MOS **23** 09:45:17.9±1.1,2074S×16934E,h33km,mb5.1/20, MS4.4/6, Error ellipse: s-maj=12.2km s-min=10.7km az=129.6*
*ISCJB **23** 09:45:19.5±1.7,2072S±006×16926E±005,h46km±15km, mb4.9/43,MS4.4/38, Error ellipse: s-maj=10.0km s-min=7.9km az=169.3*
*IDC **23** 09:45:21.1±2.3,2062S×16934E,h47km±20km,mb4.4/16, mb1 4.6/18,mb1mx4.6/19,mbtmp4.5/18,ML4.5/2,MS4.3/24, Ms1 4.3/24,ms1mx4.3/27, Error ellipse: s-maj=16.7km s-min=15.5km az=95.0*
*BJI **23** 09:45:24.4,2079S×16930E,h83km,mB4.9,mb4.9,Ms4.9, Msz4.6*
*GCMT **23** 09:45:25.8±0.3,2069S×169.14E,h40km±1km,MW5.1/71, Moment Tensor Solution. s50,c67; s71,c106; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr3.50±.19; Mθθ1.42±.14; Mφφ-4.93±.13; Mrθ-0.78±.14; Mθφ-0.02±.12; Mφr-3.04±.16; Best double couple: M=5.28600×10^16 NP1:φ=344.00000°,δ29.00000°,λ65.00000°. NP2: φ=192.00000°,δ64.00000°,λ103.00000°. Principal axes: T 4.6510, Plg68.0000°, Azm127.0000°; N 1.2600, Plg12.0000°, Azm6.0000°; P -5.9210, Plg18.0000°, Azm272.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **23** 09:45:25.8±2.2,2063S×16922E,h90km±18km,mb4.9/14 Error ellipse: s-maj=10.9km s-min=10.1km az=89.0*
*SZGRF **23** 09:45:25.1,2122S×170.11E,h96km, Southeast of Loyalty Islands*
*BGS **23** 09:45:26.3±2.1,2063S×16922E,h90km,mb4.9(NEIC)*

ISC 23 09:45:21.8±1.6,2069S±006×16931E±005,h52km±14km, h83km±3.1km:pP-P,n414,σ0=58/272,mb4.9/43,MS4.4/38, 94C-98D,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.00**	**242**	*e*P	**Pn**		**09 46 04.7**	**-2.2**
DZM				*e*S	**Sn**		**09 46 37.7**	**-3.9**
HNR	**Honiara**	**14.37**	**320**	*e*P	**Pn**		**09 48 43.0**	**+0.5**
	115nm,1.0s							
HNR	**Honiara**	**14.37**	**320**	*e*P	**Pn**		**09 48 43.0**	**+0.5**
HNR				pmax	pmax			
	comp=Z,115nm,1.0s							
HNR	**Honiara**	**14.37**	**320**	P	**Pn**		**09 48 42.5**	**0.0**
	comp=Z,2.9nm,0.3s,baz=272,slow=4.7,SNR=6.6							
HNR				LR	LR		09 53 20.8	
	comp=Z,906nm,19.8s,baz=174,slow=33							
RAO	**Raoul Island**	**14.38**	**129**	LR	LR		09 53 03.4	
	comp=Z,2μm,21.5s,baz=108,slow=32							
ARMA	**Armidale**	**18.64**	**235**	↑*i*P	**Pn**		**09 49 38.3**	**+2.2**
URZ	**Urewera**	**18.77**	**161**	P	**Pn**		**09 49 38.9**	**+1.3**
	comp=Z,1.0nm,0.3s,baz=3.8,slow=5.9,SNR=22							
URZ				LR	LR		09 55 44.1	
	comp=Z,1μm,19.6s,baz=218,slow=33							
CTA	**Charters Tower**	**21.61**	**268**	↓*i*P	**P**		**09 50 08.8**	**+1.1**
	comp=Z,25nm,0.8s,mb4.7							
CTA	**Charters Tower**	**21.61**	**268**	↓*i*P	**P**		**09 50 08.8**	**+1.1**
CTA				*i*S	**S**		**09 54 09.3**	**+5.1**
CTA	**Charters Tower**	**21.61**	**268**	↓*i*P	**P**		**09 50 08.8**	**+1.1**
CTA				*i*S	**S**		**09 54 09.3**	**+5.1**
CTA				pmax	pmax			
	comp=Z,25nm,0.8s							
CTA	**Charters Tower**	**21.61**	**268**	P	**P**		**09 50 09.0**	**+1.4**
	comp=Z,29nm,0.7s,mb4.8,baz=94,slow=11,SNR=25							
CTAO	**Charters Tower**	**21.61**	**268**	*e*P	**P**		**09 50 08.9**	**+1.2**
CNB	**Canberra Magne**	**22.80**	**226**	↓*i*P	**P**		**09 50 21.1**	**+1.1**
	comp=Z,66nm,1.3s,mb4.9							
RPZ	**Rata Peaks**	**23.01**	**177**	P	**P**		**09 50 24.0**	**+1.8**
RPZ				LR	LR		09 58 52.7	
RPZ	**Rata Peaks**	**23.01**	**177**	P	**P**		**09 50 24.0**	**+1.8**
	comp=Z,9.0nm,0.6s,mb4.4,baz=310,slow=4.7,SNR=8.4							
RPZ				LR	LR		09 58 52.7	
	comp=Z,1μm,18.1s,MS4.4,baz=15,slow=35							
STKA	**Stephens Creek**	**27.16**	**240**	↓*i*P	**P**		**09 51 00.9**	**+0.6**
	comp=Z,21nm,0.7s,mb4.8							
STKA	**Stephens Creek**	**27.16**	**240**	P	**P**		**09 51 01.1**	**+0.8**
	comp=Z,25nm,0.7s,mb4.8,baz=74,slow=8.8,SNR=48							
STKA				PcP	PcP		09 54 19.0	-0.8
	comp=Z,3.2nm,0.6s,baz=78,slow=3.7,SNR=3.0							
STKA				LR	LR		10 01 48.4	
	comp=Z,940nm,18.1s,MS4.4,baz=160,slow=36							
RAR	**Rarotonga**	**28.86**	**97**	LR	LR		10 00 19.2	
	comp=Z,883nm,18.2s,MS4.4,baz=322,slow=31							
WB2	**Warramunga Arr**	**32.75**	**265**	↓*i*P	**P**		**09 51 48.5**	**-1.5**
WB2				*e*P			09 51 49.1	
WRAB	**Tennant Creek**	**32.76**	**265**	P	**P**		**09 51 49.9**	**-0.1**
	comp=Z,91nm,0.6s,mb5.9,SNR=9.4							
WRAB	**Tennant Creek**	**32.76**	**265**	*e*P	**P**		**09 51 49.1**	**-0.9**
	comp=Z,30nm,1.2s,mb5.1							
WRAB	**Tennant Creek**	**32.76**	**265**	*e*P	**P**		**09 51 49.1**	**-0.9**
WRAB				pmax	pmax			
	comp=Z,30nm,1.2s,mb5.1							
WRA	**Warramunga Arr**	**32.76**	**265**	P	**P**		**09 51 48.8**	**-1.3**
WRA				pmax	pmax			
	comp=Z,13nm,0.9s							
WRA				pmax	pmax			
	comp=N,4.0nm,1.1s							
WRA				MLR	MLR			
	comp=Z,1μm,19.2s							
WRA	**Warramunga Arr**	**32.76**	**265**	P	**P**		**09 51 48.8**	**-1.3**
	comp=Z,13nm,0.9s,mb4.8,baz=91,slow=8.5,SNR=81							
WRA				ScP	ScP		09 58 15.6	+1.3
	comp=Z,3.5nm,1.1s,baz=89,slow=3.7,SNR=8.0							
WRA				LR	LR		10 05 18.4	
	comp=Z,1μm,19.1s,MS4.6,baz=95,slow=36							
ASAR	**Alice Springs**	**32.87**	**258**	P	**P**		**09 51 50.3**	**-0.6**
ASAR							09 54 34.3	
ASAR				pmax	pmax			
	comp=Z,30nm,0.8s							
ASAR				pmax	pmax			
	comp=Z,3.0nm,0.8s							
ASAR				pmax	pmax			
	comp=N,2.0nm,0.9s							
ASAR	**Alice Springs**	**32.87**	**258**	P	**P**		**09 51 50.3**	**-0.6**
	comp=N,30nm,0.8s,mb5.3,baz=85,slow=8.8,SNR=207							
ASAR				PcP	PcP		09 54 34.2	-0.5
	comp=N,3.4nm,0.8s,baz=91,slow=3.3,SNR=7.2							
ASAR				ScP	ScP		09 58 16.9	+2.2
	comp=N,1.5nm,0.9s,baz=97,slow=2.8,SNR=5.0							
KAKA	**Kakadu**	**36.12**	**277**	*e*P	**P**		**09 52 16.8**	**-2.4**
	comp=N,10nm,0.6s,mb4.9							
PPT	**Papeete**	**38.90**	**93**	*e*S	**S**		**09 58 50.9**	**+13**
	comp=N,218nm,26.8s							
PPT				*e*LQ			10 01 51.0	
	comp=N,615nm,25.8s							
PPT				*e*LR	LR		10 03 25.8	
	comp=N,1μm,26.2s,baz=258							
PPT	**Papeete**	**38.90**	**93**	LR	LR		10 05 29.0	
	comp=N,314nm,18.7s,MS4.2,baz=258,slow=31							
FITZ	**Fitzroy Crossi**	**41.18**	**266**	↓*i*P	**P**		**09 53 01.5**	**0.0**
	comp=N,50nm,0.8s,mb5.2							
FITZ	**Fitzroy Crossi**	**41.18**	**266**	P	**P**		**09 53 01.8**	**+0.2**
	comp=N,30nm,0.8s,mb5.0,baz=114,slow=8.8,SNR=58							
FITZ				LR	LR		10 10 01.3	
	comp=N,846nm,20.0s,MS4.6,baz=108,slow=36							
GUMO	**Guam**	**41.68**	**323**	LR	LR		10 08 19.5	
	comp=N,382nm,19.6s,MS4.3,baz=127,slow=33							
BATI	**Kupang**	**45.07**	**276**	LR	LR		10 12 13.0	
	comp=N,1μm,21.2s,MS4.8,baz=129,slow=36							
KLBR	**Kellerberrin**	**47.16**	**246**	*e*P	**P**		**09 53 48.5**	**-0.8**
	comp=N,49nm,0.7s,mb5.5							
NWAO	**Narrogin (SRO)**	**47.62**	**244**	*e*P	**P**		**09 53 52.6**	**-0.3**
	comp=N,29nm,0.9s,mb5.3							
NWAO	**Narrogin (SRO)**	**47.62**	**244**	P	**P**		**09 53 52.6**	**-0.2**
NWAO				pmax	pmax			
	comp=Z,34nm,0.8s							
NWAO				MLR	MLR			
	comp=Z,897nm,19.7s							
NWAO	**Narrogin (SRO)**	**47.62**	**244**	P	**P**		**09 53 52.6**	**-0.3**
	comp=Z,34nm,0.8s,mb5.4,baz=102,slow=6.6,SNR=18							
NWAO				LR	LR		10 13 51.0	
	comp=Z,897nm,19.7s,MS4.7,baz=97,slow=36							
MUN	**Mundaring**	**48.48**	**245**	*e*P	**P**		**09 53 58.3**	**-1.2**
RKT	**Rikitea**	**51.49**	**104**	*e*S	**S**		**10 01 50.5**	**+11**
	comp=Z,266nm,28.5s							
RKT				*e*LR	LR		10 09 20.2	
	comp=Z,645nm,27.0s							
CBIJ	**Chichi jima**	**54.28**	**330**	LR	LR		10 15 28.4	
	comp=Z,175nm,20.8s,MS4.1,baz=120,slow=33							
VNDA	**Vanda**	**57.00**	**182**	*e*P	**P**		**09 55 01.0**	**-0.7**
	comp=Z,6.8nm,1.2s,mb4.5							
VNDA				P			09 55 01.1	
VNDA	**Vanda**	**57.00**	**182**	P	**P**		**09 55 01.1**	**-0.5**
VNDA				pmax	pmax			
	comp=Z,2.0nm,1.0s							
VNDA	**Vanda**	**57.00**	**182**	P	**P**		**09 55 01.1**	**-0.5**
	comp=Z,1.9nm,0.9s,mb4.1,baz=347,slow=7.8,SNR=6.8							
SBA	**Scott Base**	**57.23**	**181**	*e*P	**P**		**09 55 03.8**	**+0.5**
	comp=Z,26nm,0.9s,mb5.2							
SBA	**Scott Base**	**57.23**	**181**	*e*P	**P**		**09 55 03.8**	**+0.5**
SBA				pmax	pmax			
	comp=Z,26nm,0.9s,mb5.3							
JHJ	**Hachijo jima**	**60.48**	**332**	LR	LR		10 17 26.6	
	comp=Z,99nm,20.2s,MS4.0,baz=163,slow=32							
JOW	**Kunigami**	**61.74**	**318**	LR	LR		10 19 29.5	
	comp=Z,116nm,20.8s,MS4.0,baz=118,slow=33							
KSM	**Kuching**	**61.76**	**283**	*e*P	**P**		**09 55 36.3**	**+0.8**
MJAR	**Matsushiro Arr**	**64.05**	**332**	P	**P**		**09 55 50.0**	**-0.2**
MJAR				pmax	pmax			
	comp=Z,2.0nm,0.5s							
MJAR				MLR	MLR			
	comp=Z,160nm,18.1s							
MJAR	**Matsushiro Arr**	**64.05**	**332**	P	**P**		**09 55 50.0**	**-0.2**
	comp=Z,2.4nm,0.5s,mb4.5,baz=172,slow=7.2,SNR=8.6							
MJAR				LR	LR		10 24 04.2	
	comp=Z,160nm,18.1s,MS4.2,baz=170,slow=36							
MAT	**Matsushiro**	**64.06**	**332**	P	**P**		**09 55 49.9**	**-0.3**
JNU	**Nakatsue**	**64.88**	**325**	LR	LR		10 21 50.7	
	comp=Z,128nm,19.8s,MS4.1,baz=313,slow=34							
QSPA	**South Pole Qui**	**69.38**	**180**	*e*P	**P**		**09 56 23.5**	**-0.1**
QSPA	**South Pole Qui**	**69.38**	**180**	LR	LR		10 24 47.4	
	comp=Z,181nm,19.6s,MS4.3,baz=201,slow=34							
KSRS	**Korea Array**	**69.73**	**326**	P	**P**		**09 56 27.2**	**+0.9**
	comp=Z,2.3nm,0.8s,mb4.2,baz=118,slow=38,SNR=4.9							
KSRS				LR	LR		10 25 27.8	
	comp=Z,112nm,19.2s,MS4.1,baz=142,slow=34							
NJ2	**Nanjing**	**71.29**	**316**	*e*P	**P**		**09 56 36.8**	**+0.9**
NJ2				AMB	AMB			
	comp=Z,20nm,0.7s,mb5.2							
YSS	**Yuzh-Sakhalins**	**71.46**	**341**	↓*e*P	**P**		**09 56 37.9**	**+1.3**
YSS				pmax	pmax			
	comp=Z,27nm,1.2s,mb5.0							
PSI	**Prapat**	**72.72**	**280**	LR	LR		10 30 22.1	
	comp=Z,238nm,19.2s,MS4.5,baz=141,slow=37							
WHN	**Wuhan**	**73.36**	**313**	*e*P	**P**		**09 56 49.3**	**+0.9**
MDJ	**Mudanjiang**	**74.42**	**332**	P	**P**		**09 56 55.0**	**+0.8**
MDJ				AP	pP		09 57 15.9	+6.9
MDJ				XP	sP		09 57 24.4	+10
MDJ				PP	PP		09 59 42.3	+1.0
MDJ				S	S		10 06 21.3	-3.5
MDJ				SS	SS		10 11 11.4	-1.2
MDJ				AMB	AMB			
	comp=Z,10.0nm,1.1s,mb4.7							
MDJ				AMB	AMB			
	comp=Z,58nm,5.4s							
MDJ				LR	LR			
	comp=N,117nm,21.5s,MS4.3							
MDJ				LR	LR			
	comp=E,104nm,21.5s,MS4.3							
MDJ				LR	LR			
	comp=Z,197nm,20.2s,MS4.4							
HABR	**Khabarovsk**	**75.35**	**337**	*e*P	**P**		**09 57 00.2**	**+0.7**
HABR				*e*	pP		09 57 11.9	-2.4
HABR				*e**PP	pP		09 57 19.1	+4.8
HABR				*e*S	S		10 06 32.4	-2.6
CN2	**Changchun**	**75.72**	**329**	*e*P	**P**		**09 57 02.1**	**+0.4**
CN2				*e*AP	pP		09 57 24.9	+8.4
CN2				*e*S	S		10 06 37.3	-2.0
CN2				AMB	AMB			
	comp=Z,10.0nm,0.8s,mb4.8							
CN2				LR	LR			
	comp=Z,170nm,20.0s,MS4.3							
GYA	**Guiyang**	**76.69**	**305**	P	**P**		**09 57 07.9**	**+0.2**
GYA				PCP	PcP		09 57 20.4	+1.5
GYA				AP	pP		09 57 31.6	+9.1
GYA				XP	sP		09 57 40.3	+12
GYA				PP	PP		10 00 04.0	+3.0
GYA				S	S		10 06 47.9	-2.9
GYA				SKS			10 07 08.3	
GYA				SCS	ScS		10 07 14.9	-5.0
GYA				XS	sS		10 07 26.0	+10
GYA				SS	SS		10 11 48.0	+0.2
GYA				AMB	AMB			
	comp=Z,20nm,1.0s,mb5.0							
GYA				AMB	AMB			
	comp=Z,130nm,5.2s							
GYA				LR	LR			
	comp=N,720nm,19.6s,MS5.1							
GYA				LR	LR			
	comp=E,740nm,20.9s,MS5.1							
GYA				LR	LR			
	comp=Z,540nm,20.5s,MS4.8							
MAW	**Mawson**	**77.12**	**202**	P	**P**		**09 57 10.1**	**+0.7**
MAW				pmax	pmax			
	comp=Z,4.0nm,0.8s							
MAW	**Mawson**	**77.12**	**202**	P	**P**		**09 57 10.1**	**+0.6**
	comp=Z,4.3nm,0.8s,mb4.4,baz=102,slow=5.2,SNR=10							
KLR	**Kul'dur**	**77.21**	**336**	*e*P	**P**		**09 57 06.8**	**-3.2**
BJI	**Beijing**	**78.09**	**321**	P	**P**		**09 57 21.1**	**+5.9**
BJI				AMB	AMB			
	comp=Z,9.0nm,0.7s,mb4.8							
BJI				LR	LR			
	comp=N,128nm,24.4s,MS4.4							
BJI				LR	LR			
	comp=E,169nm,24.9s,MS4.4							
BJI				LR	LR			
	comp=Z,153nm,37.4s							
KMI	**Kunming**	**79.09**	**302**	P	**P**		**09 57 22.8**	**+1.8**
KMI				S	S		10 07 14.3	-2.3
KMI				AMB	AMB			
	comp=Z,17nm,0.7s,mb5.1							
KMI				LR	LR			
	comp=Z,117nm,21.4s,MS4.2							
CD2	**Chengdu**	**81.16**	**308**	*e*P	**P**		**09 57 32.5**	**+0.5**
CD2				AP	pP		09 57 55.0	+8.0
CD2				XP	sP		09 58 04.5	+12
CD2				PP	PP		10 00 41.0	+2.9
CD2				S	S		10 07 35.0	-3.2
CD2				XS	sS		10 08 10.1	+6.7
CD2				SS	SS		10 12 54.5	-0.3
CD2				AMB	AMB			
	comp=Z,20nm,0.6s,mb5.2							
CD2				AMB	AMB			
	comp=Z,40nm,5.8s							
CD2				LR	LR			
	comp=N,310nm,18.0s							
CD2				LR	LR			
	comp=Z,230nm,20.4s,MS4.5							
HHC	**Hu-ho-hao-te**	**81.35**	**320**	*e*P	**P**		**09 57 35.3**	**+2.5**
HHC				AP	pP		09 57 53.4	+5.6
HHC				XP	sP		09 58 04.0	+10
HHC				PP	PP		10 00 44.3	+4.8
HHC				S	S		10 07 41.8	+2.0
HHC				SKS			10 07 43.8	
HHC				XS	sS		10 08 12.4	+7.4
HHC				AMB	AMB			
	comp=Z,11nm,0.4s,mb5.1							
HHC				AMB	AMB			
	comp=Z,101nm,5.1s							
HHC				LR	LR			
	comp=N,73nm,7.6s							
HHC				LR	LR			
	comp=E,136nm,7.8s							
HHC				LR	LR			
	comp=Z,149nm,19.4s,MS4.4							
SYO	**Syowa Base**	**83.57**	**196**	↑*e*P	**P**		**09 57 41.8**	**-2.2**
SYO	**Syowa Base**	**83.57**	**196**	↓*e*PcP	PcP		09 57 45.4	-2.8
LZH	**Lanzhou**	**83.74**	**312**	*e*P	**P**		**09 57 45.6**	**+0.2**
LZH				AP	pP		09 58 07.5	+7.1
LZH				XP	sP		09 58 15.8	+10
LZH				PP	PP		10 01 01.8	+2.6
LZH				SKS			10 07 56.6	
LZH				*e*S	S		10 08 00.8	-3.5
LZH				XS	sS		10 08 37.5	+7.9
LZH				*e*SS	SS		10 13 32.3	-0.6
LZH				AMB	AMB			
	comp=Z,23nm,1.5s,mb5.1							
LZH				AMB	AMB			
	comp=Z,113nm,8.3s							
LZH				LR	LR			
	comp=E,315nm,18.5s							
LZH				LR	LR			
	comp=Z,576nm,20.0s,MS5.0							
SEY	**Seymchan**	**84.40**	**352**	↑*e*P	**P**		**09 57 48.8**	**+0.7**
PMSA	**Palmer Station**	**85.54**	**160**	LR	LR		10 30 10.8	
	comp=Z,276nm,20.4s,MS4.6,baz=248,slow=31							
CLNS	**Chul'man**	**85.74**	**337**	*e*P	**P**		**09 57 54.9**	**0.0**
CLNS				pmax	pmax			
	comp=N,14nm,1.0s							
CLNS				pmax	pmax			
	comp=E,9.0nm,1.0s							
CLNS				pmax	pmax			
	comp=Z,35nm,1.0s,mb5.5							
PACP	**Pacheco Peak**	**86.95**	**49**	↑P	**P**		**09 58 01.8**	**+0.4**
	baz=87							
U04C	**Hernandez Rese**	**87.00**	**49**	↓P	**P**		**09 58 01.8**	**+0.2**
	baz=87							
PKM	**Peak Mountain**	**87.01**	**51**	↓P	**P**		**09 58 01.8**	**+0.1**
	baz=87							
MNRC	**McLaughlin Nat**	**87.06**	**47**	↑P	**P**		**09 58 02.3**	**+0.5**
	baz=87							
Q03C	**Winters**	**87.23**	**47**	↓P	**P**		**09 58 03.7**	**+1.0**
	baz=87							
GASB	**Alder Springs**	**87.26**	**46**	↓P	**P**		**09 58 03.7**	**+0.9**
	baz=87							
T05C	**Eagle Field, D**	**87.33**	**49**	↓P	**P**		**09 58 04.0**	**+0.8**
	baz=88							
N02C	**Big Bar**	**87.45**	**45**	↓P	**P**		**09 58 04.2**	**+0.5**
	baz=88							
O02C	**Red Bluff**	**87.47**	**45**	↑P	**P**		**09 58 04.4**	**+0.6**
	baz=88							
S05C	**Merced**	**87.79**	**49**	↓P	**P**		**09 58 05.4**	**0.0**
	baz=88							
ARVC	**Arvin**	**87.84**	**51**	↓P	**P**		**09 58 05.6**	**-0.1**
	baz=88							
L02A	**Cave Junction**	**87.93**	**43**	↑P	**P**		**09 58 06.3**	**+0.4**
	baz=88							
OHCM	**Honcut**	**87.93**	**47**	*e*P	**P**		**09 58 06.0**	**0.0**
VES	**Vestal, Richgr**	**87.98**	**50**	↑P	**P**		**09 58 06.4**	**+0.1**
	baz=88							
M02C	**Callahan**	**88.03**	**44**	↑P	**P**		**09 58 06.6**	**+0.2**
	baz=88							
ORV	**Oroville**	**88.03**	**46**	↓P	**P**		**09 58 05.9**	**-0.5**
	baz=88							
ULN	**Ulaanbaatar**	**88.06**	**323**	*e*P	**P**		**09 58 06.9**	**+0.5**
	comp=Z,2.1nm,0.4s,mb4.7							
ULN	**Ulaanbaatar**	**88.06**	**323**	*e*P	**P**		**09 58 06.9**	**+0.5**
ULN				pmax	pmax			
	comp=Z,2.0nm,0.4s,mb4.7							
T06C	**Milleton Lake**	**88.07**	**49**	↓P	**P**		**09 58 06.2**	**-0.5**
	baz=88							
CMB	**Columbia Colle**	**88.07**	**48**	*e*P	**P**		**09 58 06.5**	**-0.2**
	comp=Z,5.7nm,0.8s,mb4.8							
CMB	**Columbia Colle**	**88.07**	**48**	*e*P	**P**		**09 58 06.5**	**-0.2**
CMB				pmax	pmax			
	comp=Z,6.0nm,0.8s,mb4.9							
CMB	**Columbia Colle**	**88.07**	**48**	↑P	**P**		**09 58 06.4**	**-0.3**
	baz=88							
109C	**Camp Elliot, M**	**88.12**	**54**	↑P	**P**		**09 58 06.4**	**-0.6**
	baz=88							
GTA	**Gaotai**	**88.16**	**313**	*e*P	**P**		**09 58 07.8**	**+0.7**
GTA				AP	pP		09 58 31.0	+8.7
GTA				XP	sP		09 58 43.6	+16
GTA				PP	PP		10 01 38.4	+3.4
GTA				SKS			10 08 25.6	
GTA				S	S		10 08 42.8	-4.6
GTA				XS	sS		10 09 26.1	+13
GTA				SS	SS		10 14 34.1	-3.6
GTA				AMB	AMB			
	comp=Z,3.0nm,1.1s,mb4.4							
GTA				AMB	AMB			
	comp=Z,104nm,5.7s							
GTA				LR	LR			
	comp=N,84nm,16.0s,MS4.5							
GTA				LR	LR			
	comp=E,119nm,15.6s,MS4.5							
GTA				LR	LR			
	comp=Z,94nm,16.4s,MS4.3							
LAVA	**Lava Cap Winer**	**88.17**	**47**	↓P	**P**		**09 58 06.6**	**-0.6**
	baz=88							
YAK	**Yakutsk**	**88.26**	**342**	↓*e*P	**P**		**09 58 06.8**	**-0.2**
YAK				pmax	pmax			
	comp=Z,20nm,0.8s,mb5.4							
YAK				MLR	MLR			
	comp=Z,100nm,20.0s,MS4.2							
YBH	**Yreka Blue Hor**	**88.29**	**44**	↓P	**P**		**09 58 07.4**	**-0.2**
	baz=88							
BFSC	**Mount Baldy St**	**88.30**	**52**	↓P	**P**		**09 58 07.5**	**-0.4**
	baz=88							
ISA	**Isabella**	**88.34**	**51**	*e*P	**P**		**09 58 07.7**	**-0.3**
ISA	**Isabella**	**88.34**	**51**	↓P	**P**		**09 58 07.6**	**-0.4**
	baz=88							
EDW2	**Edwards Air Fo**	**88.34**	**52**	↑P	**P**		**09 58 07.6**	**-0.5**
	baz=88							
MURC	**Murrieta**	**88.36**	**53**	↑P	**P**		**09 58 07.7**	**-0.5**
	baz=88							
HELL	**Mitchell Peak**	**88.40**	**50**	↑P	**P**		**09 58 07.8**	**-0.5**
	baz=89							
SONM	**Songino Array**	**88.41**	**323**	P	**P**		**09 58 08.3**	**+0.2**
	comp=Z,2.0nm,0.8s,mb4.4,baz=141,slow=5.0,SNR=8.1							
SONM				LR	LR		10 32 58.3	
	comp=Z,134nm,20.3s,MS4.3,baz=218,slow=32							

BELC **Belle Mtn.** 89.44 53 ⇑P P 09 58 13.2 0.0
baz=90
O06A **Flanigan** 89.45 46 ⇓P P 09 58 13.3 +0.2
baz=90
I04A **Tendick Farm,** 89.50 42 ⇑P P 09 58 12.5 -0.8
baz=90
M06C **Likely Place G** 89.50 45 ⇓P P 09 58 13.3 0.0
baz=90
L05A **Lakeview** 89.67 44 ⇑P P 09 58 14.2 +0.1
baz=90
BC3 **Big Chuckw Mtn** 89.70 54 ⇑P P 09 58 14.4 0.0
baz=90
NVAR **Mina Array Bea** 89.71 48 P P 09 58 14.4 0.0
comp=Z,3.3nm,0.7s,mb4.8,baz=217,slow=5.6,SNR=18
N06A **Buffalo Meadow** 89.72 46 ⇓P P 09 58 14.0 -0.4
baz=90
GRAC **Grapevine Rang** 89.73 50 ⇑P P 09 58 14.1 -0.4
baz=90
R08A **Mina** 89.81 49 ⇓P P 09 58 14.7 -0.1
baz=90
FURC **Furnace Creek,** 89.87 51 ⇑P P 09 58 15.0 -0.2
baz=90
GLA **Glamis** 89.92 55 *e*P P 09 58 16.2 +0.6
GLA **Glamis** 89.92 55 ⇑P P 09 58 15.5 -0.1
baz=90
K05A **Summer Lake** 89.95 44 ⇑P P 09 58 15.4 0.0
baz=90
J05A **Fort Rock** 90.00 43 ⇑P P 09 58 15.3 -0.3
baz=90
GMRC **Granite Mounta** 90.02 53 ⇑P P 09 58 15.7 -0.3
baz=90
SHOC **Shoshone** 90.04 51 ⇓P P 09 58 15.9 -0.1
baz=90
H04A **Detroit Lake** 90.08 42 ⇑P P 09 58 15.5 -0.4
baz=90
TUQ **Turquoise Mtn.** 90.11 52 ⇑P P 09 58 16.2 -0.1
baz=90
IRM **Iron Mountain** 90.14 53 ⇓P P 09 58 15.9 -0.6
baz=90
G04A **Mulino** 90.16 41 ⇑P P 09 58 16.4 +0.1
baz=90
S09A **Goldfield** 90.16 49 ⇓P P 09 58 16.1 -0.4
baz=90
Q08A **Gabbs** 90.16 48 P P 09 58 16.2 -0.3
baz=90,SNR=9.5
E03A **Lebam** 90.17 39 ⇓P P 09 58 16.6 +0.3
baz=90
U10A **Ash Meadows, A** 90.23 51 ⇑P P 09 58 16.9 0.0
baz=90
N07B **Gerlach** 90.31 46 ⇑P P 09 58 17.4 +0.2
baz=90
I05A **Bend** 90.40 42 ⇓P P 09 58 17.3 -0.2
baz=91
K06A **Valley Falls** 90.40 44 ⇑P P 09 58 17.3 -0.3
baz=91
Y12C **Blythe** 90.44 54 ⇓P P 09 58 17.9 -0.1
baz=91
M07A **Soldier Meadow** 90.46 46 ⇑P P 09 58 17.9 +0.1
baz=91
R09A **Tonopah** 90.49 49 P P 09 58 17.8 -0.2
baz=91,SNR=7.0
TPNV **Topopah Spring** 90.52 51 ⇓P P 09 58 17.6 -0.6
baz=91
F04A **Amboy** 90.55 40 ⇓P P 09 58 17.9 -0.3
baz=91
L07A **Adell** 90.64 45 ⇓P P 09 58 18.2 -0.4
baz=91
V11A **Goodsprings** 90.64 52 ⇓P P 09 58 18.7 -0.1
baz=91
BOD **Bodaibo** 90.65 334 *e*P P 09 58 16.5 -1.8
BOD pmax pmax
comp=Z,8.0nm,1.1s,mb5.0
H05A **Madras** 90.66 42 ⇓P P 09 58 18.2 -0.4
baz=91
J06A **Christmas Vall** 90.68 44 ⇓P P 09 58 18.2 -0.6
baz=91
S10A **Tonopah Range,** 90.69 50 P P 09 58 18.9 -0.1
baz=91,SNR=18
W12A **Cal Nev Ari** 90.83 52 ⇑P P 09 58 19.9 +0.2
baz=91
N08A **GE Springer Mi** 90.88 46 ⇓P P 09 58 19.7 -0.1
baz=91
U11A **Corn Creek** 90.92 51 ⇓P P 09 58 19.9 -0.2
baz=91
PDMCI **Parker Dam,Lak** 90.96 54 ⇓P P 09 58 20.2 -0.2
baz=91
I06A **Prineville** 90.97 43 ⇓P P 09 58 20.0 -0.1
baz=91
Y13A **Salome** 91.00 54 P P 09 58 20.9 +0.4
baz=91,SNR=6.5
K07A **Rock Creek Ran** 91.01 44 ⇓P P 09 58 20.1 -0.3
baz=91
M08A **Happy Creek Ra** 91.02 46 ⇓P P 09 58 20.1 -0.3
baz=91
R10A **Warm Springs** 91.06 49 ⇑P P 09 58 20.4 -0.3
baz=91
C04A **Brinnon** 91.11 39 ⇓P P 09 58 20.7 0.0
baz=91
GNW **Green Mountain** 91.12 39 *e*P P 09 58 20.8 0.0
S11A **Rachel** 91.18 50 ⇓P P 09 58 21.2 -0.1
baz=91
Q10A **Clear Creek Ra** 91.22 49 ⇓P P 09 58 21.3 -0.2
baz=91
O09A **Fish Creek Ran** 91.25 47 ⇑P P 09 58 21.6 0.0
baz=91
E05A **Randle** 91.26 40 ⇓P P 09 58 21.4 0.0
baz=91
H06A **Lindquist Farm** 91.26 42 ⇓P P 09 58 21.3 -0.2
baz=91
J07A **Hines** 91.28 44 ⇓P P 09 58 21.7 +0.1
baz=91
WVOR **Wild Horse Val** 91.29 45 *e*P P 09 58 21.7 0.0
comp=Z,10nm,1.0s,mb5.1
WVOR **Wild Horse Val** 91.29 45 *e*P P 09 58 21.7 0.0
WVOR pmax pmax
comp=Z,10.0nm,1.0s,mb5.1
G06A **Carlson Farm,** 91.31 42 ⇑P P 09 58 21.6 -0.1
baz=92
X13A **Yucca** 91.31 53 P P 09 58 22.1 +0.2
baz=92,SNR=5.1
N09A **Rock Creek Ran** 91.33 47 ⇓P P 09 58 21.8 -0.1
baz=92
L08A **Fields** 91.37 45 ⇑P P 09 58 22.1 +0.1
baz=92
T11A **Corn Creek, Al** 91.39 51 P P 09 58 22.4 +0.2
baz=92,SNR=6.7
COLA **College** 91.40 17 *i* P P 09 58 21.3 -0.3
D05A **Enumclaw** 91.42 39 ⇓P P 09 58 22.5 +0.4
baz=92
W13A **Hualapai Mount** 91.48 53 ⇓P P 09 58 22.6 -0.2
baz=92,SNR=6.5
I07A **Izee** 91.48 43 ⇓P P 09 58 22.4 -0.1
baz=92
Z14A **Wintersburg** 91.48 55 ⇑P P 09 58 22.7 -0.1
baz=92
ZAK **Zakamensk** 91.50 324⇑ *i*P P 09 58 22.4 0.0
ZAK pmax pmax
comp=Z,3.0nm,1.4s,mb4.4
K08A **Mann Creek Ran** 91.52 45 ⇓P P 09 58 22.7 0.0
baz=92
R11A **Troy Canyon, C** 91.59 49 ⇑P P 09 58 23.0 -0.2
baz=92
M09A **Marrel Ranch,** 91.63 46 ⇓P P 09 58 23.3 0.0
baz=92
Y14A **Wickenburg** 91.67 54 ⇓P P 09 58 23.1 -0.6
baz=92
H07A **Lands Inn, Kim** 91.68 43 ⇑P P 09 58 23.3 -0.1
baz=92
L09A **Wilkinson Ranc** 91.75 45 ⇓P P 09 58 23.7 -0.1
baz=92
Q11A **Duckwater** 91.75 49 ⇑P P 09 58 24.0 +0.1
baz=92
115A **Sonoran Desert** 91.77 56 ⇓P P 09 58 23.4 -0.8
baz=92
O10A **Cortez Mining,** 91.78 47 ⇓P P 09 58 23.5 -0.5
baz=92
S12A **Delamar Landin** 91.81 50 ⇑P P 09 58 23.9 -0.3
baz=92,SNR=6.8
J08A **Circle Bar Ran** 91.81 44 ⇑P P 09 58 23.7 -0.4
baz=92
C05A **Tolt Reservoir** 91.85 39 ⇑P P 09 58 24.4 +0.2
baz=92
B05A **Bryant** 91.89 38 ⇑P P 09 58 24.5 +0.2
baz=92
G07A **Ruggs Ranch, H** 91.93 42 ⇑P P 09 58 24.6 0.0
baz=92
U13A **Pakoon Wash** 91.96 52 ⇓P P 09 58 24.7 -0.3
baz=92

X14A **Yava** 91.97 54 P P 09 58 25.6 +0.6
baz=92,SNR=7.7
I08A **Drewsey** 92.00 43 ⇓P P 09 58 24.9 0.0
baz=92
K09A **Rome** 92.01 45 ⇑P P 09 58 24.9 -0.1
baz=92
216A **Three Points,** 92.10 57 ⇑P P 09 58 25.8 +0.1
baz=92
D06A **Cle Elum** 92.11 40 ⇑P P 09 58 25.8 +0.5
baz=92
116A **Eloy** 92.12 56 ⇑P P 09 58 25.5 -0.3
baz=92
W14A **Seligman** 92.12 53 ⇓P P 09 58 25.7 -0.1
baz=92,SNR=6.4
Y15A **Casa Rosa Ranc** 92.19 55 P P 09 58 26.1 0.0
baz=92,SNR=7.6
H08A **Prairie City** 92.22 43 ⇑P P 09 58 26.5 +0.6
baz=92
T13A **Saint George** 92.25 51 ⇑P P 09 58 26.2 0.0
baz=92
A05A **Maple Falls** 92.25 38 ⇓P P 09 58 25.6 -0.4
baz=92
V14A **Boquillas Ranc** 92.28 53 P P 09 58 27.1 +0.6
baz=92,SNR=7.9
J09A **Fry Pan Ranch,** 92.28 44 ⇓P P 09 58 26.4 +0.2
baz=92
R12A **Pony Springs,** 92.28 50 ⇑P P 09 58 26.4 0.0
baz=92
M10A **I.L. Ranch, Tu** 92.29 46 ⇑P P 09 58 26.6 +0.3
baz=92
O11A **Cowboy Ranch,** 92.30 48 ⇑P P 09 58 26.4 0.0
baz=92
G08A **Pilot Rock** 92.38 42 ⇑P P 09 58 26.9 +0.3
baz=92
X15A **Humboldt** 92.47 54 P P 09 58 27.9 +0.6
baz=93,SNR=7.3
S13A **Holt Ranch, En** 92.51 51 ⇓P P 09 58 27.6 +0.1
baz=93
217A **Green Valley** 92.51 57 ⇑P P 09 58 27.4 -0.2
baz=93
U14A **Mt Trumbull** 92.54 52 ⇑P P 09 58 27.8 +0.2
baz=93,SNR=6.9
L10A **Juniper Basin** 92.57 46 ⇓P P 09 58 27.6 0.0
baz=93
K10A **MacKenzie Ranc** 92.61 45 ⇑P P 09 58 27.3 -0.5
baz=93
Z16A **Peralta Trail,** 92.64 55 ⇓P P 09 58 28.0 -0.1
baz=93
W15A **Williams** 92.72 53 ⇑P P 09 58 28.8 +0.3
baz=93
M11A **Holland Ranch,** 92.76 47 ⇓P P 09 58 28.4 -0.1
baz=93
Y16A **Circle Bar Ran** 92.81 55 P P 09 58 29.4 +0.5
baz=93,SNR=7.4
C07A **Waterville** 92.81 40 ⇓P P 09 58 28.7 +0.1
baz=93
T14A **Hurricane** 92.87 51 ⇓P P 09 58 28.8 -0.3
baz=93
117A **Oracle** 92.88 56 ⇑P P 09 58 29.5 +0.2
baz=93
O12A **Currie** 92.99 48 ⇑P P 09 58 29.7 +0.1
baz=93
N12A **Clover Valley,** 93.03 47 ⇑P P 09 58 30.0 +0.2
baz=93
318A **Bisbee** 93.04 58 ⇑P P 09 58 29.9 -0.1
baz=93
X16A **Lo Mia Camp, P** 93.05 54 P P 09 58 30.6 +0.6
baz=93,SNR=5.6
B07A **Winthrop** 93.14 39 ⇓P P 09 58 30.5 +0.5
baz=93
P13A **Bates Ranch, G** 93.17 49 ⇓P P 09 58 30.8 +0.4
baz=93
218A **Dragon** 93.19 57 P P 09 58 31.3 +0.5
baz=93,SNR=5.8
A07A **Ashnola River,** 93.26 38 ⇓P P 09 58 31.6 +1.0
baz=93
EGAK **Eagle** 93.26 19 *e*P P 09 58 29.3 -0.9
comp=Z,5.7nm,1.0s,mb5.0
M12A **Wells** 93.35 47 ⇓P P 09 58 31.8 +0.6
baz=94
H10A **Noah's Angus R** 93.48 43 ⇑P P 09 58 31.8 +0.1
baz=94
118A **Homack Ranch,** 93.51 57 ⇑P P 09 58 31.9 -0.3
baz=94
WUAZ **Wupatki** 93.53 53 ⇓P P 09 58 31.8 -0.3
baz=94
G10A **Bishop Farm, J** 93.55 43 ⇑P P 09 58 31.6 -0.4
baz=94
319A **Douglas** 93.58 58 ⇑P P 09 58 32.5 0.0
baz=94
I11A **Placerville** 93.70 44 ⇓P P 09 58 32.1 -0.7
baz=94
F10A **Beach Ranch, E** 93.78 42 ⇓P P 09 58 32.7 -0.4
baz=94
219A **White Tail Can** 93.82 57 ⇑P P 09 58 33.0 -0.6
baz=94
M13A **Montello** 93.84 47 ⇑P P 09 58 33.4 0.0
baz=94
K12A **Draper Farm, C** 93.86 46 ⇓P P 09 58 33.9 +0.4
baz=94
A08A **Turner Farm, O** 93.86 39 ⇑P P 09 58 33.5 +0.1
baz=94
J12A **Stokes Ranch,** 93.99 45 ⇓P P 09 58 34.1 0.0
baz=94
H11A **Donnelly** 94.00 44 ⇓P P 09 58 34.1 -0.1
baz=94
119A **Ashpeak Ranch,** 94.08 57 ⇓P P 09 58 34.6 -0.2
baz=94
G11A **Walters Elk Ra** 94.13 43 ⇑P P 09 58 34.7 -0.1
baz=94
M14A **Sheep Mountain** 94.46 47 ⇓P P 09 58 36.9 +0.6
baz=95
H12A **Diamond D Ranc** 94.69 44 ⇑P P 09 58 37.4 +0.1
baz=95
I13A **Wildhorse Cree** 94.91 45 ⇑P P 09 58 38.4 +0.1
baz=95
F12A **Elk City** 94.93 43 ⇓P P 09 58 38.6 +0.3
baz=95
K14A **Jones Ranch, D** 94.99 46 ⇓P P 09 58 38.5 -0.2
baz=95
TIXI **Tiksi** 96.16 348⇑ *e*P P 09 58 41.9 -1.5
TIXI pmax pmax
comp=Z,2.0nm,0.5s,mb4.8
TXAR **Lajitas Array** 97.40 62 P P 09 58 49.8 -0.3
comp=Z,0.8nm,0.9s,mb4.2,baz=235,slow=4.4,SNR=7.8
TXAR LR LR 10 36 34.8
comp=Z,160nm,20.0s,MS4.5,baz=5.0,slow=32
PLCA **Paso Flores** 97.42 138 P P 09 58 49.2 -0.7
comp=Z,3.1nm,1.0s,mb4.7,baz=294,slow=7.5,SNR=3.4
PLCA LR LR 10 32 55.2
comp=Z,130nm,20.5s,MS4.4,baz=86,slow=29
PDAR **Pinedale Array** 97.55 47 P P 09 58 50.5 +0.2
comp=Z,0.4nm,0.8s,mb4.0,baz=248,slow=4.8,SNR=3.6
WMQ **Urumqi** 98.24 314 *e*P P 09 58 53.5 +0.1
WMQ AMB AMB
comp=Z,7.0nm,0.7s,mb5.3
WMQ AMB AMB
comp=Z,99nm,4.0s
WMQ LR LR
comp=Z,251nm,24.3s,MS4.6
YKA **Yellowknife Ar** 101.92 27 P Pdif 09 59 06.8 -2.9
YKA **Yellowknife Ar** 101.92 27 P Pdif 09 59 06.8 -3.0
YKA 10 03 30.1
YKA **Yellowknife Ar** 101.92 27 P Pdif 09 59 06.8 -2.9
comp=Z,0.3nm,0.7s,baz=257,slow=4.9,SNR=5.3
YKA PKiKP PKiKP 10 03 30.1 -1.8
comp=Z,0.2nm,0.8s,baz=270,slow=1.3,SNR=3.6
BVAR **Borovoye Array** 111.56 320 *i* PKiKP PKiKP 10 03 49.0 -1.1
BVAR pmax pmax
comp=Z,1.0nm,0.6s
BVAR **Borovoye Array** 111.56 320 PKiKP PKiKP 10 03 49.0 -1.1
comp=Z,0.9nm,0.6s,baz=186,slow=1.5,SNR=5.0
ARCES **ARCESS Array B** 126.47 345 PKIKP PKPdf 10 04 16.8 -1.5
ARCES pmax pmax
comp=Z,3.0nm,0.6s
ARCES **ARCESS Array B** 126.47 345 PKP PKPdf 10 04 16.8 -1.5
comp=Z,3.2nm,0.6s,baz=61,slow=1.1,SNR=26
JOF **Joensuu** 129.10 337 *ep* PKPdf 10 04 21.5 -1.9
comp=Z,1.6nm,0.4s
OBN **Obninsk** 130.73 326 *e*PKIKP PKPdf 10 04 26.9 +0.1
OBN pmax pmax
comp=Z,5.0nm,1.0s
AKASG **Malin Array Be** 136.69 323 *i* PKIKP PKPdf 10 04 37.9 -0.2
AKASG **Malin Array Be** 136.69 323 PKP PKPdf 10 04 36.4 -1.8
comp=Z,0.2nm,0.3s,baz=57,slow=2.3,SNR=6.3
NB2 **NORSAR Subarra** 136.85 345 PKPdf PKPdf 10 04 38.2 +0.1
comp=Z,1.4nm,0.6s,baz=31,slow=1.9
NOA **NORSAR Array B** 136.85 345 PKP PKPdf 10 04 38.4 +0.3
comp=Z,0.3nm,0.4s,baz=32,slow=2.0,SNR=4.4
AYDN **Tasoluk** 142.62 305 *i* P Pdif 10 02 08.8 -2.0
BDRM **Kayabasi** 143.11 305 *i* P Pdif 10 02 05.8 -7.1
DPC **Dobruska-Polom** 143.51 331 *e*PKP PKPdf 10 04 47.8 -2.7
VYHS **Vyhne** 143.53 327 *e*PKP PKPdf 10 04 47.2 -3.4
VYHS *e*PKSDF 10 08 25.3
UPC **Upice** 143.55 331 *e*PKP PKPdf 10 04 47.7 -2.8
KOLL **Kolacno** 143.69 327 *e*PKP PKPdf 10 04 48.8 -2.0
PVCC **Panska Ves** 144.17 332 *e*PKP PKPdf 10 04 49.6 -2.0
BRG **Berggiesshubel** 144.19 333 *e*PKPbc PKPdf 10 04 49.4 -2.2
BRG *e* 10 04 59.1
BRG **Berggiesshubel** 144.19 333 *i* P PKPdf 10 04 49.4 -2.3
comp=Z,44nm,1.2s
BRG *e* 10 08 26.6
comp=Z,11nm,1.1s
CLL **Collm** 144.25 334 *e*PKPbc PKPdf 10 04 49.2 -2.5
CLL **Collm** 144.25 334 *i* PKPdf PKPdf 10 04 49.3 -2.4
comp=Z,46nm,1.3s
CLL *i* PKSdf 10 08 26.5
comp=Z,10.0nm,1.1s
FBE **Freiberg** 144.40 334 *e*PKPbc PKPdf 10 04 50.2 -1.8
MODS **Modra-Piesok** 144.40 328 *e*PKP PKPdf 10 04 51.1 -1.0
MODS *e*PP PP 10 08 28.3 +21
MODS **Modra-Piesok** 144.40 328 *e*PKP PKPdf 10 04 51.0 -1.1
MODS *e*PKSDF 10 08 28.3
EAU **Auchinoon** 144.47 353 *e*P PKPdf 10 04 49.7 -2.3
EBL **Broad Law** 144.50 353 *e*P PKPdf 10 04 49.7 -2.3
PRU **Pruhonice** 144.58 332 *e*PKP PKPdf 10 04 50.5 -1.8
PRU *ex* x 10 05 00.3
ZST **Bratislava** 144.60 327 *e*PKP PKPdf 10 04 52.0 -0.4
ZST LR LR
comp=Z,100nm,22.1s,MS4.5
TREC **Trest** 144.64 330 *e*PKP PKPdf 10 04 51.0 -1.5
XSO **Sourhope Farm** 144.67 352 *e*P PKPdf 10 04 50.0 -2.3
CLZ **Clausthal** 144.83 337 *e*PKPbc PKPdf 10 04 51.8 -0.9
CLZ *e* 10 05 01.8
ESK **Eskdalemuir** 144.96 353 *e*P PKPdf 10 04 50.5 -2.3
ESK **Eskdalemuir** 144.96 353 *e*PKP2 PKPdf 10 04 50.7 -2.1
ECK **Cauldkaine Hil** 145.09 352 *e*P PKPbc 10 04 51.0 -1.5
TANN **Tannenbergstha** 145.15 334 *e*PKPbc PKPbc 10 04 52.8 -0.1
TANN *ep*PKPbc pPKPbc 10 05 19.0 +11
WERD **Werda** 145.19 334 *e*PKPbc PKPbc 10 04 53.1 0.0
SOP **Sopron** 145.22 327⇑ *e* PKPbc 10 04 53.4 +0.1
GUNZ **Gunzen** 145.24 334 *e*PKPbc PKPbc 10 04 53.4 +0.1
GUNZ *e* 10 05 03.2
GUNZ *ep*PKPbc pPKPbc 10 05 19.5 +11
XAL **Allendale** 145.28 351 *e*P PKPbc 10 04 52.0 -1.2
WERN **Wernitzgruen** 145.28 334 *e*PKPbc PKPbc 10 04 53.4 0.0
WERN *e* 10 05 03.4
WERN *ep*PKPbc pPKPbc 10 05 19.4 +11
NKC **Novy Kostel** 145.29 334 *e*PKP PKPdf 10 04 53.1 -0.5
NKC *ex* x 10 05 02.6
MOX **Moxa** 145.31 335 *e*PKP PKPdf 10 04 53.0 -0.6
comp=Z,60nm,1.4s
MOX **Moxa** 145.31 335 *e*PKPbc PKPbc 10 04 53.1 -0.4
MOX *e* 10 05 03.1
CONA **Conrad Observa** 145.40 328 *i* PKPab PKPab 10 04 53.8 -0.2
comp=Z,70nm,1.4s,SNR=23
GAL1 **Galloway** 145.57 354 *e*P PKPdf 10 04 52.7 -1.2
MANZ **Manzenberg** 145.62 334 *e*PKPbc PKPbc 10 04 54.1 -0.4
KHC **Kasperske Hory** 145.63 331 *e*PKP PKPdf 10 04 53.6 -0.6
KHC *ex* x 10 05 02.8
CKE **Keswick** 145.66 352⇑ *e*P PKPdf 10 04 53.3 -0.8
ROTZ **Rotzenmuhle** 145.75 333 *e*PKPbc PKPbc 10 04 54.7 -0.2
ROTZ *e* 10 05 04.8
GEC2 **GERESS Array S** 145.78 331 *e*PKPbc PKPbc 10 04 54.6 -0.4
GEC2 *e* 10 05 04.8
GERES **GERESS Array B** 145.78 331 PKP2 PKPab 10 04 54.1 -1.3
GERES pmax pmax
comp=Z,11nm,0.6s
GERES **GERESS Array B** 145.78 331 PKPbc PKPbc 10 04 54.1 -0.9
comp=Z,10nm,0.6s,baz=46,slow=3.9,SNR=50
UBBA **Unterbreizbach** 145.80 336 *e*PKPbc PKPbc 10 04 54.4 -0.6
WET **Wettzell** 145.93 332 *e*PKPbc PKPbc 10 04 55.3 -0.1
WTSB **Winterswijk** 145.93 341 *e*PKiKP PKiKP 10 04 53.4 -5.4
comp=Z,46nm,1.2s
HPK **Haverah Park** 146.07 350 *e*P PKPdf 10 04 54.6 -0.2
GRF **Grafenberg Arr** 146.22 334 *e*PKPbc PKPbc 10 04 56.1 -0.2
MOA **Molln** 146.23 329⇑ *i*P PKPdf 10 04 56.0 +0.8
comp=Z,20nm,1.5s,SNR=7.3
LHO **Holmfirth** 146.50 350⇑ *e*P PKPdf 10 04 55.8 +0.3
PERS **Pernice** 146.65 327 *e*PKPbc PKPbc 10 04 56.7 -0.9
GCIS **Gornji Cirnik** 146.89 325 *i* PKPbc PKPbc 10 04 58.0 -0.4
GCIS *e* 10 08 34.3
KWE **Weaver Farm** 147.01 350 *e*P PKPdf 10 04 56.1 -0.3
PDKS **Podkum** 147.09 326 *i* PKPbc PKPbc 10 04 58.3 -0.7
KBA **Koelnbreinsper** 147.22 329⇓ *i*P PKPdf 10 04 58.2 +1.2
comp=Z,10nm,0.8s,SNR=5.8
HGN **Heimansgroeve** 147.25 340 *e*PKiKP PKiKP 10 04 58.6 -2.9
comp=Z,23nm,1.0s
BOJS **Bojanci** 147.32 325 *e*PKPbc PKPbc 10 04 59.3 -0.3
LJU **Ljubljana** 147.35 327 *i* PKPbc PKPbc 10 04 59.2 -0.5
MEM **Membach** 147.36 340 PKP PKPdf 10 04 58.9 +1.8
CEY **Cerknica** 147.60 326 *e*PKPbc PKPbc 10 04 59.6 -0.7
CEY *i* 10 08 34.6
PTCC **Patocco-Chiusa** 147.69 328 PKP PKPbc 10 04 59.6 -1.0
BCLA **Clavier** 147.74 341 PKP PKPdf 10 05 02.8 +5.1
STU **Stuttgart** 147.76 335 *e*PKPbc PKPbc 10 05 00.3 -0.4
WTTA **Wattenberg** 147.89 331⇓ *i*P PKPbc 10 05 00.4 -0.6
comp=Z,29nm,1.5s
SNF **Seneffe** 147.97 342 PKP PKPdf 10 05 00.4 +2.4
MOTA **Moosalm** 148.07 331⇑ *i*P PKPbc 10 05 00.7 -0.9
comp=Z,12nm,1.0s,SNR=7.3
SQTA **Sankt Quirin** 148.11 331⇑ *i*P PKPbc 10 05 01.1 -0.6
comp=Z,12nm,1.0s
WLF **Walferdange** 148.13 339 *e*PKPbc PKPbc 10 05 01.1 -0.5
WLF **Walferdange** 148.13 339 PKP PKPbc 10 05 01.0 -0.6
WLF **Walferdange** 148.13 339 *e*PKPbc PKPbc 10 05 01.5 -0.1
GIVF **Givet** 148.17 341 *e*PKP1 PKPbc 10 05 00.2 -1.5
comp=Z,48nm,1.1s
MCH1 **Michaelchurch** 148.18 351 *e*P PKPdf 10 04 57.6 -0.7
DOU **Dourbes** 148.25 341 PKP PKPdf 10 05 01.2 +2.7
BAIF **Baives** 148.39 342 *e*PKP1 PKPbc 10 05 01.0 -1.3
comp=Z,51nm,1.2s
BFO **Black Forest** 148.46 335 *e*PKPdf PKPdf 10 04 58.3 -0.6
BFO *e*PKPbc PKPbc 10 05 01.7 -0.9
BFO *e*PKPab PKPab 10 05 06.0 +0.1
BFO **Black Forest** 148.46 335 *e*PKP2 PKPab 10 05 05.8 -0.1
BFO **Black Forest** 148.46 335 *e*PKPbc PKPbc 10 05 01.6 -0.9
BFO *e*PKPab PKPab 10 05 05.8 -0.1
FETA **Feichten** 148.48 331⇓ *i*PKiKP PKiKP 10 05 02.2 -2.0
comp=Z,36nm,1.4s,SNR=8.6
DAVA **Damuels** 148.65 333⇑ *i*P PKPab 10 05 06.6 -0.1
comp=Z,33nm,1.4s,SNR=5.8
CDF **Champ du Feu** 148.79 337 *e*PKP1 PKPbc 10 05 02.4 -1.0
comp=Z,25nm,1.0s
BRMO **Bormio** 149.05 331 PKP PKPbc 10 05 03.7 -0.4
HINF **Hinteralfeld** 149.44 336 *e*PKP1 PKPbc 10 05 03.8 -1.2
comp=Z,24nm,1.0s
HAU **Haudompre** 149.47 337 *e*PKP1 PKPbc 10 05 04.1 -1.0
comp=Z,34nm,1.0s
HAU *e*MLR MLR
comp=Z,118nm,22.2s,MS4.3
HAU **Haudompre** 149.47 337 *e*PKP2 PKPbc 10 05 04.1 -1.0
HAU MLR MLR
comp=Z,120nm,22.3s,MS4.6
MEZF **Maizieres J'vi** 149.50 339 *e*PKP1 PKPbc 10 05 04.1 -1.0
TIP **Timpagrande** 150.08 314 *e*PKPbc PKPbc 10 05 05.7 -1.2
VAI **Varese** 150.23 332 PKP PKPbc 10 05 05.6 -1.4
CABF **La Chapelle** 150.74 336 *e*PKP1 PKPbc 10 05 07.5 -0.7
comp=Z,25nm,0.8s
FLN **La Foiniere** 150.81 346 *e*PKP1 PKPbc 10 05 07.0 -1.3
comp=Z,32nm,0.7s
FLN *e*MLR MLR
comp=Z,132nm,21.5s,MS4.4
LDF **La Druitiere** 150.89 346 *e*PKP1 PKPbc 10 05 07.1 -1.4
comp=Z,24nm,0.8s
LOR **Lormes** 150.97 339 *e*PKP1 PKPbc 10 05 07.6 -1.1
comp=Z,20nm,0.8s
LOR *e*MLR MLR
comp=Z,172nm,22.5s,MS4.5
GRR **Gorron** 151.25 346 *e*PKP1 PKPbc 10 05 08.1 -1.2
comp=Z,22nm,0.6s
SSF **Saint Saulge** 151.26 340 *e*PKP1 PKPbc 10 05 08.5 -0.9
comp=Z,21nm,0.8s
LPL **La Plagne** 151.38 334 *e*PKP1 PKPbc 10 05 08.9 -0.8
comp=Z,11nm,0.6s
LPG **La Plagne** 151.39 334 *e*PKP1 PKPbc 10 05 09.0 -0.8
SMF **Signal de Mont** 151.52 339 *e*PKP1 PKPbc 10 05 09.0 -1.0
AVF **Avril sur Loir** 151.55 340 *e*PKP1 PKPbc 10 05 08.8 -1.3
SGMF **Saint Gilles** 151.72 348 *e*PKP1 PKPbc 10 05 08.9 -1.5
comp=Z,20nm,0.6s
ROSF **Rostrenen** 151.77 350 *e*PKP1 PKPbc 10 05 09.1 -1.4

comp=Z,15nm,0.6s
BNI Bardonecchia 151.78 333 *e*PKPdf PKPdf 10 05 03.9 -0.4
BNI *e*PKPbc PKPbc 10 05 10.2 -0.5
BNI *e*PKPab PKPab 10 05 18.0 -1.6
BGF Bois d'Agland 151.92 340 *e*PKP1 PKPbc 10 05 09.9 -1.0
comp=Z,19nm,0.7s
MBDF Montbardon 152.00 333 *e*PKP1 PKPbc 10 05 10.2 -1.0
comp=Z,6.5nm,0.7s
QUIF Quistinic 152.16 349 *e*PKP1 PKPbc 10 05 10.0 -1.4
ORIF Oris-en-Rattie 152.22 334 *e*PKP1 PKPbc 10 05 10.5 -1.2
comp=Z,17nm,0.6s
ORIF *e*MLR MLR
comp=Z,99nm,21.0s,MS4.3
TCF Toulx Ste Croi 152.36 340 *e*PKP1 PKPbc 10 05 10.9 -1.0
comp=Z,12nm,0.8s
SBF Sospel 152.39 331 *e*PKP1 PKPbc 10 05 10.5 -1.6
PGF Pioggiola 152.63 327 *e*PKP1 PKPbc 10 05 11.2 -1.5
comp=Z,26nm,0.9s
VIVF Saint-Julien-l 152.75 336 *e*PKP1 PKPbc 10 05 11.9 -0.9
comp=Z,12nm,0.9s
MFF Saint Martin d 152.75 344 *e*PKP1 PKPbc 10 05 11.4 -1.4
comp=Z,13nm,0.8s
FRF La Foret Royal 152.98 332 *e*PKP1 PKPbc 10 05 12.0 -1.4
SMRF Simiane la Rot 153.11 333 *e*PKP1 PKPbc 10 05 12.6 -1.1
comp=Z,7.2nm,0.7s
LMR La Mourre 153.22 331 *e*PKP1 PKPbc 10 05 12.6 -1.3
comp=Z,11nm,0.8s
RJF Les Rejaudoux 153.46 340 *e*PKP1 PKPbc 10 05 12.7 -1.7
RJF *e*MLR MLR
comp=Z,142nm,23.0s,MS4.4
LASF Ste Croix 153.72 336 *e*PKP1 PKPbc 10 05 14.1 -0.9
MTLF Montolieu 154.96 337 *e*PKP1 PKPbc 10 05 16.0 -1.7
ESDC Sonseca Array 160.21 345 PKPab PKPab 10 05 56.2 +0.4
comp=Z,0.6nm,0.4s,baz=10,slow=4.0,SNR=5.8
DBIC Dimbokro 164.96 203 PKP2 PKPab 10 06 17.4 +0.1
DBIC pmax pmax
comp=Z,5.0nm,1.2s
DBIC Dimbokro 164.96 203 PKPab PKPab 10 06 17.4 +0.1
comp=Z,5.4nm,1.2s,baz=133,slow=7.5,SNR=4.2
TORD Torodi Ar. Bea 165.98 240 PKP PKPdf 10 05 19.3 -2.5
TORD PKPab PKPab 10 06 21.5 -0.5
TORD Torodi Ar. Bea 165.98 240 PKP PKPdf 10 05 19.3 -2.5
comp=Z,0.5nm,0.7s,baz=18,slow=1.3,SNR=4.2
TORD PKPab PKPab 10 06 21.5 -0.5
comp=Z,0.8nm,0.6s,baz=100,slow=4.3,SNR=7.6

*ISCJB **23** 09:51:13.5±0.5, 4043N±003×2361E±004, h12km±5km, Error ellipse: s-maj=5.5km s-min=4.5km az=156.1*
*THE **23** 09:51:13.9, 4044N×2363E, h9km, ML2.3*
*CSEM **23** 09:51:14.3±0.1, 4043N×2362E, h2km, ML2.3, Error ellipse: s-maj=2.2km s-min=1.7km az=62.0*
*NEIC **23** 09:51:14.2, 4045N×2355E, h18km, MD2.8(ATH), ML2.3(THE), After ATH.*
*ATH **23** 09:51:14.2, 4045N×2355E, h18km, MD2.8/3*
ISC 23 09:51:13.9±0.6, 4044N±003×2361E±005, h11km±8km, n13, σ0°65/20, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLG	**Polygyros**	**0.14**	**245**	*e*Pg	**Pg**	**09 51 17.3**	**0.0**
PLG				*e*Sg	**Sg**	**09 51 20.0**	**+0.4**
PLG	**Polygyros**	**0.14**	**245**	*e*PB	**Pg**	**09 51 17.6**	**+0.3**
PLG				*e*SB	**Sg**	**09 51 20.0**	**+0.4**
OUR	**Ouranopolis**	**0.30**	**109**	*e*Pg	**Pg**	**09 51 19.9**	**-0.1**
OUR				*e*Sg	**Sg**	**09 51 24.2**	**+0.2**
HORT	**Hortiatis**	**0.42**	**293**	*e*Pg	**Pg**	**09 51 23.1**	**+0.8**
SOH	**Sokhos**	**0.43**	**333**	*e*Pg	**Pg**	**09 51 22.0**	**-0.5**
SOH				*e*Sg	**Sg**	**09 51 28.1**	**-0.2**
PAIG	**Paliouri**	**0.51**	**174**	*e*Pg	**Pg**	**09 51 23.4**	**-0.4**
PAIG				*e*Sg	**Sg**	**09 51 30.5**	**-0.1**
THE	**Thessaloniki**	**0.53**	**292**	*e*Pg	**Pg**	**09 51 24.3**	**0.0**
THE				*e*Sg	**Sg**	**09 51 31.4**	**0.0**
SRS	**Serrai**	**0.68**	**359**	*e*Pg	**Pg**	**09 51 26.5**	**-0.7**
SRS				*e*Sg	**Sg**	**09 51 36.2**	**+0.1**
KNT	**Kendrikon**	**0.91**	**324**	*e*Pg	**Pg**	**09 51 31.8**	**+0.4**
NVR	**Nevrokopi**	**0.93**	**12**	*e*PN	**Pn**	**09 51 31.9**	**-1.1**
XOR	**Xorichti**	**1.11**	**197**	*e*Pg	**Pg**	**09 51 34.9**	**-0.5**
XOR	**Xorichti**	**1.11**	**197**	*e*Pg	**Pg**	**09 51 34.8**	**-0.6**
RDO	**Rodhopi**	**1.63**	**63**	*e*PN	**Pn**	**09 51 44.6**	**+2.1**

*ISCJB **23** 10:10:51.9±0.3, 4807N±005×14650E±006, h473km±4km, mb4.1/38, Error ellipse: s-maj=7.9km s-min=5.3km az=145.8*
*JMA **23** 10:10:51.7±0.4, 4765N×14690E, h510km, M3.9*
*MOS **23** 10:10:52.5±0.9, 4812N×14645E, h482km, mb4.0/9, Error ellipse: s-maj=16.6km s-min=9.2km az=72.8*
*BJI **23** 10:10:52.1, 4790N×14626E, h451km, mB4.5, mb4.4*
*NEIC **23** 10:10:53.6±0.4, 4809N×14641E, h481km±7km, mb4.2/10, Error ellipse: s-maj=10.0km s-min=6.2km az=141.0*
*IDC **23** 10:10:53.2±1.5, 4817N×14641E, h476km±19km, mb3.5/15, mb1 3.7/19, mb1mx3.5/28, mbtmp3.5/19, Error ellipse: s-maj=15.0km s-min=9.4km az=127.0*
ISC 23 10:10:52.8±0.3, 4804N±005×14647E±006, h470km±4km, n112, σ0°98/125, mb4.1/38, 4C-2D, Sea of Okhotsk

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YSS	**Yuzh-Sakhalins**	**2.75**	**248**	*e*P	**P**	**10 12 02.1**	**+2.5**
YSS	**Yuzh-Sakhalins**	**2.75**	**248**	α *i*PN	**P**	**10 12 02.0**	**+2.4**
YSS				*i* S	**S**	**10 12 55.3**	**+1.4**
YSS				pmax	pmax		
comp=Z,460nm,0.7s
YSS smax
comp=N,90nm,1.0s
KUR Kuril'sk 2.97 161 PN **P** **10 12 08.5 +7.3**
KUR *e*S **S** **10 12 54.5 -2.3**
KUR smax
comp=N,190nm,1.0s
KUR smax
comp=E,270nm,1.0s
JSE Soyaes 4.09 222 P **P** **10 12 11.4 +1.4**
JWK2 Keihoku 4.17 231 P **P** **10 12 13.0 +2.4**
JWK2 *e*S **S** **10 13 17.5 +3.5**
JRA Rausu 4.21 193 P **P** **10 12 11.1 0.0**
JTKR Abashiri--Toko 4.45 205 P **P** **10 12 13.5 +0.3**
JTKR *e*S **S** **10 13 18.5 -0.1**
NEM2 Nemuro 2 4.71 187 P **P** **10 12 13.3 -2.2**
NEM2 *e*S **S** **10 13 17.6 -5.3**
ASAJ Asahikawa 4.76 216 PN **P** **10 12 17.0 +1.0**
ASAJ pmax pmax
comp=Z,2.0nm,0.3s
ASAJ Asahikawa 4.76 216 P **P** **10 12 17.0 +1.0**
comp=Z,1.6nm,0.3s,baz=10,slow=5.4,SNR=25
JKK2 Kamakawa 2 4.91 213 P **P** **10 12 17.8 +0.4**
JAR Ashorobuto 5.11 203 P **P** **10 12 19.0 -0.3**
JAK Akkeshi 5.20 195 P **P** **10 12 18.2 -1.9**
JAK *e*S **S** **10 13 26.6 -4.7**
JHR Hokuryu 5.43 219 *e*S **S** **10 13 35.7 +0.4**
JFR Furan 5.59 211 P **P** **10 12 24.0 +0.8**
JFR *e*S **S** **10 13 37.9 -0.2**
JCH Churui 5.85 203 P **P** **10 12 25.0 -1.5**
JCH *e*S **S** **10 13 37.2 -5.7**
JEW Eniwo 6.29 216 P **P** **10 12 31.2 +0.4**
JEW *e*S **S** **10 13 48.5 -2.4**
JNBK Urakawa-nobuka 6.33 206 P **P** **10 12 29.9 -1.4**
JNBK *e*S **S** **10 13 46.6 -5.1**
ERM Erimo 6.47 202 *e*P **P** **10 12 32.5 -0.1**
comp=Z,29nm,0.4s
ERM Erimo 6.47 202 *e*PN **P** **10 12 32.5 -0.1**
ERM pmax pmax
comp=Z,29nm,0.4s
SKR Severo-Kuril's 6.83 64 *e*PN **P** **10 12 36.6 +0.5**
JKB Kayabe 7.26 214 P **P** **10 12 39.6 -1.2**
JKB *e*S **S** **10 14 03.2 -6.1**
HABR Khabarovsk 7.64 277 ⇑ *i*PN **P** **10 12 46.5 +1.9**
HABR pmax pmax
comp=Z,55nm,1.3s
JOT Ohata 7.70 212 P **P** **10 12 44.8 -0.6**
JOT *e*S **S** **10 14 11.2 -6.4**
JOSM Okushiri--Mats 7.75 222 P **P** **10 12 45.4 -0.5**
JANG Nango 8.45 207 *e*S **S** **10 14 27.1 -5.3**
JOM Ohasama 9.35 205 P **P** **10 13 04.0 +1.0**
JOM *e*S **S** **10 14 48.0 -2.0**
KLR Kul'dur 9.82 282 *e*PN **P** **10 13 05.2 -2.7**
KLR *e*S **S** **10 14 56.8 -2.3**
KLR smax
comp=E,45nm,1.6s
JMK Ichinoseki 9.85 205 *e*S **S** **10 14 59.7 -0.3**
MA2 Magadan 11.83 11 *e*P **P** **10 12 02.1 +2.5**
MA2 Magadan 11.83 11 *e*PN **P** **10 13 29.6 +0.3**
MA2 pmax pmax
comp=Z,20nm,0.7s
MAJO Matsushiro 13.01 211 *e*P **P** **10 13 43.5 +1.1**
MAT Matsushiro 13.01 211 P **P** **10 13 43.5 +1.2**
MJAR Matsushiro Arr 13.01 211 PN **P** **10 13 43.6 +1.3**
MJAR pmax pmax
comp=Z,3.0nm,0.3s
MJAR Matsushiro Arr 13.01 211 P **P** **10 13 43.6 +1.3**
comp=Z,3.2nm,0.3s,baz=25,slow=11,SNR=57
SEY Seymchan 15.28 10 ⇓ *e*P **P** **10 14 06.8 +0.7**
KSRS Korea Array 17.21 239 P **P** **10 14 27.5 +0.9**
comp=Z,0.9nm,0.3s,baz=45,slow=10,SNR=23
KS15 Wonju Array Si 17.24 239 *e*P **P** **10 14 26.2 -0.8**
JNU Nakatsue 18.98 224 P **P** **10 14 44.9 +1.2**
comp=Z,1.2nm,0.3s,baz=21,slow=18,SNR=9.8
BILL Bilibino 22.41 20 *e*P **P** **10 15 13.2 -1.2**
BILL pmax pmax
comp=Z,2.0nm,1.0s,mb3.6
ULN Ulaanbaatar 26.21 284 ⇑ *e*P **P** **10 15 48.8 +0.4**
ZAK Zakamensk 28.02 291 *e*P **P** **10 16 04.5 +0.1**
ZAK pmax pmax
comp=Z,2.0nm,1.1s,mb3.5
ZAK pmax pmax
comp=Z,2.0nm,1.2s,mb3.4
LZH Lanzhou 33.41 265 *e*P **P** **10 16 52.0 +0.9**
LZH AMB AMB
comp=Z,18nm,1.3s,mb4.3
LZH AMB AMB
comp=Z,73nm,4.3s
GTA Gaotai 34.35 273 *e*P **P** **10 16 59.9 +0.9**
GTA AMB AMB
comp=Z,4.0nm,0.8s,mb3.9
IMA2 Indian Mountai 35.47 37 *e*P **P** **10 17 07.3 -0.6**
KDAK Kodiak Island 36.81 51 P **P** **10 17 18.9 -0.4**
comp=Z,16nm,0.8s,mb4.5,baz=194,slow=7.8,SNR=5.7
COLA College 37.96 39 *d i*P **P** **10 17 28.4 -0.2**
MK31 Makanchi Array 42.31 293 *e*P **P** **10 18 03.8 -0.1**
MKAR Makanchi Array 42.31 293 P **P** **10 18 03.6 -0.2**
MKAR pmax pmax
comp=Z,2.0nm,0.5s
MKAR Makanchi Array 42.31 293 P **P** **10 18 03.6 -0.3**
comp=Z,2.0nm,0.5s,mb3.8,baz=68,slow=7.4,SNR=13
KURK Kurchatov 42.85 300 *e*P **P** **10 18 07.4 -0.6**
comp=Z,4.6nm,0.5s,mb4.2
KURK Kurchatov 42.85 300 *e*P **P** **10 18 07.4 -0.6**
KURK pmax pmax
comp=Z,5.0nm,0.5s,mb4.2
INK Inuvik 42.98 32 *e*P **P** **10 18 07.9 -0.9**
comp=Z,169nm,0.4s
INK Inuvik 42.98 32 P **P** **10 18 08.0 -0.8**
INK pmax pmax
comp=Z,5.0nm,0.3s
INK Inuvik 42.98 32 P **P** **10 18 08.0 -0.9**
comp=Z,5.1nm,0.3s,mb4.4,baz=292,slow=6.3,SNR=135
BVAR Borovoye Array 46.50 306 P **P** **10 18 35.8 -0.4**
BVAR pmax pmax
comp=Z,1.0nm,0.5s
BVAR Borovoye Array 46.50 306 P **P** **10 18 35.8 -0.5**
comp=Z,1.0nm,0.5s,mb3.5,baz=72,slow=8.7,SNR=6.8
JIRN Jiri 50.40 269 *e*P **P** **10 19 06.6 +0.8**
GUN Gumba 50.45 269 *e*P **P** **10 19 06.6 +0.5**
comp=Z,9.9nm,0.3s,mb4.6
PKIN Phulchoki 50.99 269 *e*P **P** **10 19 10.1 +0.1**
comp=Z,7.7nm,0.4s,mb4.3
RES Resolute Bay 51.00 17 *e*P **P** **10 19 08.4 -1.1**
comp=Z,319nm,0.6s
RES Resolute Bay 51.00 17 *e*P **P** **10 19 08.4 -1.1**
RES pmax pmax
comp=Z,319nm,0.6s
DMN Daman 51.16 270 *e*P **P** **10 19 12.0 +0.7**
comp=Z,19nm,0.7s,mb4.6
GKN Gorkha 51.22 270 *e*P **P** **10 19 12.3 +0.6**
comp=Z,24nm,0.5s,mb4.8
DANN Dangsing 51.58 271 *e*P **P** **10 19 15.3 +0.9**
comp=Z,39nm,0.6s,mb4.9
KOLN Koldanda 52.07 271 *e*P **P** **10 19 18.3 +0.4**
comp=Z,19nm,0.7s,mb4.5
YKA Yellowknife Ar 52.53 35 P **P** **10 19 19.6 -1.1**
YKA 10 20 23.0
YKA pmax pmax
comp=Z,2.0nm,0.5s
YKA Yellowknife Ar 52.53 35 P **P** **10 19 19.6 -1.0**
comp=Z,2.3nm,0.5s,mb3.8,baz=304,slow=7.1,SNR=72
YKA PcP PcP 10 20 23.0 -0.4
comp=Z,0.3nm,0.5s,baz=310,slow=3.6,SNR=9.0
EDM Edmonton 58.59 44 *e*P **P** **10 20 02.9 -0.2**
HOOD Mount Hood Mea 59.34 55 *e*P **P** **10 20 08.9 +0.6**
FINES FINESS Array B 60.85 332 P **P** **10 20 16.9 -1.2**
FINES pmax pmax
comp=Z,1.0nm,0.7s
FINES FINESS Array B 60.85 332 P **P** **10 20 16.9 -1.2**
comp=Z,0.7nm,0.7s,mb3.2,baz=23,slow=12,SNR=3.1
FFC Flin Flon 62.55 37 *e*P **P** **10 20 28.3 -1.1**
comp=Z,4.0nm,0.8s,mb4.0
FFC Flin Flon 62.55 37 *e*P **P** **10 20 28.3 -1.0**
FFC pmax pmax
comp=Z,4.0nm,0.8s,mb4.0
HRY Holter Researc 63.62 49 *e*P **P** **10 20 36.8 +0.4**
EGMT Eagleton 63.75 47 *e*P **P** **10 20 37.3 +0.1**
LRM Limekiln Ridge 63.91 50 *e*P **P** **10 20 38.5 +0.3**
BOZ Bozeman (W) 64.45 50 *e*P **P** **10 20 42.5 +0.8**
comp=Z,3.5nm,0.8s,mb3.9
BOZ Bozeman (W) 64.45 50 *e*P **P** **10 20 42.5 +0.8**
BOZ pmax pmax
comp=Z,3.0nm,0.8s,mb3.9
NVAR Mina Array Bea 65.74 59 P **P** **10 20 50.9 +0.9**
comp=Z,2.7nm,0.7s,mb4.0,baz=318,slow=4.9,SNR=17
IMW Indian Meadow 66.01 51 *e*P **P** **10 20 51.9 +0.3**
comp=Z,9.6nm,1.6s,mb4.2
DCID1 Drake Creek 66.10 51 *e*P **P** **10 20 52.4 +0.3**
MOOW Moose Ponds 66.22 51 *e*P **P** **10 20 53.6 +0.8**
TPAW Teton Pass 66.29 51 *e*P **P** **10 20 53.7 +0.4**
comp=Z,5.7nm,0.9s,mb4.2
LOHW Long Hollow 66.39 51 *e*P **P** **10 20 54.2 +0.3**
REDW Red Top Meadow 66.43 51 *e*P **P** **10 20 54.5 +0.3**
comp=Z,10nm,1.5s,mb4.2
HWUT Hardware Ranch 67.29 53 *e*P **P** **10 21 00.3 +0.8**
comp=Z,3.9nm,0.9s,mb4.0
BW06 Boulder Array 67.52 51 *e*P **P** **10 21 01.1 +0.1**
comp=Z,5.3nm,1.0s,mb4.1
PDAR Pinedale Array 67.52 51 P **P** **10 21 01.1 +0.2**
comp=Z,4.0nm,0.7s,mb4.2,baz=319,slow=1.3,SNR=26
AKASG Malin Array Be 67.86 322 P **P** **10 21 01.6 -1.3**
comp=Z,0.1nm,0.3s,baz=40,slow=6.2,SNR=4.1
ULM Lac du Bonnet 68.38 38 P **P** **10 21 05.2 -0.9**
comp=Z,1.9nm,0.6s,mb3.9,baz=313,slow=7.4,SNR=6.6
FITZ Fitzroy Crossi 68.43 201 P **P** **10 21 07.4 +0.7**
comp=Z,1.5nm,0.9s,mb3.6,baz=240,slow=1.3,SNR=4.3
WRA Warramunga Arr 68.54 192 P **P** **10 21 07.5 +0.2**
WRA pmax pmax
comp=Z,2.0nm,0.6s
WRA Warramunga Arr 68.54 192 P **P** **10 21 07.5 +0.1**
comp=Z,1.8nm,0.6s,mb3.8,baz=6.2,slow=6.4,SNR=20
SRU San Rafael 69.62 54 *e*P **P** **10 21 14.2 +0.5**
PHWY Pilot Hill 70.69 49 *e*P **P** **10 21 20.4 +0.3**
SMCO Snowmass 71.47 52 *e*P **P** **10 21 25.3 +0.6**
EYMN Ely 71.97 37 *e*P **P** **10 21 26.4 -1.1**
comp=Z,5.5nm,0.8s,mb4.1
ASAR Alice Springs 72.27 192 P **P** **10 21 30.4 +1.0**
ASAR pmax pmax
comp=Z,3.0nm,0.6s
ASAR Alice Springs 72.27 192 P **P** **10 21 30.4 +1.0**
comp=Z,2.8nm,0.6s,mb4.0,baz=3.0,slow=5.3,SNR=46
ECSD EROS,Sioux Fal 73.11 42 *e*P **P** **10 21 33.7 -0.5**
SDCO Great Sand Dun 73.30 52 *e*P **P** **10 21 35.8 +0.4**
SCHQ Schefferville 73.73 19 P **P** **10 21 36.2 -1.3**
comp=Z,2.1nm,0.9s,mb3.7,baz=218,slow=15,SNR=5.9
MIB Mutribah 74.10 297 *e*P **P** **10 21 39.5 -0.5**
MIB AMb AMB 10 21 40.5
comp=Z,11nm,0.6s,mb4.5
QRN Al-Qurain 74.51 296 *e*P **P** **10 21 40.9 -1.6**
QRN AMb AMB 10 21 46.5
comp=Z,18nm,0.5s,mb4.8
RST Umm Al-Ruwaisa 74.52 297 *e*P **P** **10 21 41.7 -0.8**
RST AMb AMB 10 21 42.7
comp=Z,12nm,0.7s,mb4.6
NAY Al-Naaiem 74.56 297 *e*P **P** **10 21 41.7 -1.0**
NAY AMb AMB 10 21 43.2
comp=Z,6.4nm,0.9s,mb4.2
RDF Al-Radifah 74.60 296 *e*P **P** **10 21 42.0 -0.9**
RDF AMb AMB 10 21 43.3
comp=Z,21nm,0.7s,mb4.8
ANMO Albuquerque 74.87 54 *e*P **P** **10 21 45.3 +0.9**
TXAR Lajitas Array 80.66 56 P **P** **10 22 16.2 +0.3**
TXAR pmax pmax
comp=Z,2.0nm,0.5s
TXAR Lajitas Array 80.66 56 P **P** **10 22 16.2 +0.4**
comp=Z,2.1nm,0.5s,mb3.9,baz=286,slow=3.6,SNR=49
PLCA Paso Flores 152.75 88 PKPbc PKPbc 10 29 54.2 -0.9
comp=Z,1.8nm,1.0s,baz=330,slow=3.5,SNR=4.6

NEIC 23 10:13:20.7, 3604S×17808E, h204km, MG4.0(WEL), After WEL., Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.53**	**173**	P	Pn	10 13 55.1	+0.1
MXZ				S	Sn	10 14 21.0	-0.8
PUZ	**Puketiti**	**2.03**	**176**	P	Pn	10 14 00.0	+0.2
MWZ	**Matawai**	**2.33**	**191**	P	Pn	10 14 03.3	+0.4
MWZ				S	Sn	10 14 36.5	+0.4
URZ	**Urewera**	**2.35**	**199**	P	Pn	10 14 03.2	+0.1
KNZ	**Kokohu**	**2.99**	**186**	P	Pn	10 14 10.1	-0.3
BKZ	**Black Stump Fm**	**3.37**	**202**	*e*P	Pn	10 14 14.3	-0.5
NGZ	**Ngauruhoe**	**3.70**	**211**	P	Pn	10 14 19.6	+0.8
FWVZ	**Far West T-bar**	**3.79**	**211**	*e*P	Pn	10 14 20.6	+0.7
WNVZ	**Wahianoa**	**3.83**	**210**	P	Pn	10 14 20.8	+0.4
MOVZ	**Moawhango**	**3.83**	**208**	P	Pn	10 14 19.8	-0.7
TSZ	**Takapari Road**	**4.35**	**202**	P	Pn	10 14 25.6	-1.2
BFZ	**Birch Farm**	**4.85**	**197**	*e*P	Pn	10 14 31.4	-1.8
KIW	**Kapiti Island**	**5.42**	**206**	P	Pn	10 14 37.9	-2.5
MTW	**Mount Morrison**	**5.50**	**201**	P	Pn	10 14 39.0	-2.4
CAW	**Cannon Point**	**5.58**	**204**	P	Pn	10 14 39.5	-3.0
MSWZ	**Moikau Station**	**5.81**	**202**	P	Pn	10 14 42.5	-2.9
SNZO	**South Karori**	**5.89**	**206**	P	Pn	10 14 43.1	-3.3
TCW	**Tory Channel**	**5.96**	**209**	P	Pn	10 14 44.7	-2.7
NNZ	**Nelson**	**6.34**	**214**	*e*P	Pn	10 14 58.0	+5.7
THZ	**Tophouse**	**7.00**	**214**	*e*P	Pn	10 14 58.1	-2.7
KHZ	**Kahutara**	**7.28**	**208**	*e*P	Pn	10 15 00.8	-3.6

*IDC **23** 10:17:21.2±5.3, 194S×13337E, h24km±36km, mb4.0/6, mb1 4.2/8, mb1mx4.0/18, mbtmp4.1/8, ML4.5/2, MS3.5/4, Ms1 3.4/4, ms1mx3.2/28, Error ellipse: s-maj=51.7km s-min=13.7km az=76.0*
*NEIC **23** 10:17:22.1±0.7, 2025S×13329E, h30km, mb4.2/1, Error ellipse: s-maj=27.7km s-min=9.6km az=78.0*
*ISCJB **23** 10:17:23.2±2.5, 2195S±006×1330E±02, h50km±23km, mb4.0/6, MS3.6/2, Error ellipse: s-maj=28.6km s-min=10.3km az=176.1*
ISC 23 10:17:25.9±3.5, 22S±01×1331E±02, h60km±33km, n15, σ1°06/19, mb4.0/6, MS3.6/2, 1D, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**10.45**	**184**	⇓ *i*P	**Pn**	**10 19 53.2**	**+0.2**
36nm,0.6s
KAKA *e*S **Sn** **10 21 49.1** **+0.5**
FITZ Fitzroy Crossi 17.41 204 *e*P **Pn** **10 21 26.3** **+1.6**
37nm,1.8s
FITZ *e*S **Sn** **10 24 31.3** **-6.5**
FITZ Fitzroy Crossi 17.41 204 P **Pn** **10 21 27.4** **+2.6**
0.8nm,0.3s,baz=24,slow=11,SNR=16
FITZ S **Sn** **10 24 34.5** **-3.3**
0.6nm,0.3s,baz=110,slow=18,SNR=7.6
WRAB Tennant Creek 17.65 176 *e*Pn **Pn** **10 21 27.6** **-0.1**
10nm,0.5s
WRA Warramunga Arr 17.66 176 P **Pn** **10 21 27.9** **+0.1**
2.1nm,0.3s,baz=356,slow=12,SNR=76
WRA S **Sn** **10 24 42.2** **-1.8**
0.4nm,0.3s,baz=354,slow=23,SNR=5.4
WRA LR LR 10 28 33.3
comp=Z,84nm,21.7s,baz=170,slow=38
WB2 Warramunga Arr 17.66 176 *e*P **Pn** **10 21 27.2** **-0.6**
WB2 *e*S **Sn** **10 24 38.6** **-5.4**
GUMO Guam 19.56 36 LR LR 10 29 10.1
comp=Z,64nm,18.0s,baz=172,slow=37
ASAR Alice Springs 21.34 178 P **P** **10 22 10.4** **+2.3**
6.8nm,0.5s,mb4.2,baz=7.4,slow=12,SNR=92
ASAR S **S** **10 26 08.8** **+7.0**
2.0nm,0.8s,baz=2.7,slow=21,SNR=4.6
CTA Charters Tower 21.92 145 P **P** **10 22 14.1** **-0.3**
1.7nm,0.4s,mb3.8,baz=306,slow=11,SNR=3.2
CTA LR LR 10 31 53.8
comp=Z,196nm,19.6s,MS3.5,baz=130,slow=40
STKA Stephens Creek 30.57 166 LR LR 10 37 21.8
comp=Z,144nm,19.1s,MS3.6,baz=198,slow=39
MKAR Makanchi Array 66.05 324 P **P** **10 28 05.0** **-1.4**
1.2nm,0.6s,mb4.0,baz=123,slow=5.5,SNR=7.5
VNDA Vanda 76.82 174 P **P** **10 29 11.6** **+0.9**
0.9nm,0.7s,mb3.8,baz=348,slow=5.6,SNR=6.5
AKTK Aktyubinsk 82.25 321 P **P** **10 29 40.4** **-0.3**
AKTO Aktyubinsk 82.25 321 P **P** **10 29 40.4** **-0.3**
1.2nm,0.8s,mb3.9,baz=128,slow=12,SNR=3.9

IDC 23 10:23:13.4±1.8, 085N×9733E, h0km, mb3.8/5, mb1 3.9/6, mb1mx3.6/21, mbtmp3.8/6, ML3.1/1, Error ellipse: s-maj=54.5km s-min=22.5km az=60.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.51**	**39**	Pn	Pn	10 23 55.6	+0.1
4.0nm,0.3s,baz=204,slow=12,SNR=8.2
WRA Warramunga Arr 41.74 122 P P 10 31 04.1 -0.6
0.4nm,0.6s,baz=304,slow=9.0,SNR=5.3
ASAR Alice Springs 43.08 127 P P 10 31 15.9 +0.4
0.5nm,0.7s,baz=300,slow=7.8,SNR=5.3
SONM Songino Array 47.46 8 P P 10 31 49.4 -0.5
1.1nm,0.7s,baz=196,slow=10,SNR=3.6
MKAR Makanchi Array 47.61 346 P P 10 31 51.5 +0.4
1.3nm,0.5s,baz=154,slow=8.5,SNR=7.8
ZALV Zalesovo Beam 53.92 351 P P 10 32 38.4 -0.2
1.6nm,0.4s,baz=182,slow=6.8,SNR=9.2

*LDG **23** 10:45:55.6±0.1, 2043S×16938E, h10km, Mb4.4/2, Ms4.3/8, Error ellipse: s-maj=17.1km s-min=12.7km az=38.0*
*SZGRF **23** 10:45:57.4, 2132S×16992E, h33km, Southeast of Loyalty Islands*
*NEIC **23** 10:45:59.0±0.4, 2055S×16940E, mb4.8/8, MS4.5/2, Error ellipse: s-maj=12.3km s-min=11.4km az=130.0*
*GCMT **23** 10:45:59.0±0.3, 2076S×16920E, h37km±1km, MW5.1/61, Moment Tensor Solution. s36,c46; s61,c83; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}3.17±.20; $M_{\theta\theta}$1.03±.13; $M_{\phi\phi}$-4.19±.13; $M_{r\theta}$-1.38±.15; $M_{\theta\phi}$1.38±.10; $M_{\phi r}$-2.33±.15; Best double couple: $M_0$4.84500×10^{16} NP1:ϕ_s318.00000°, δ39.00000°, λ43.00000°. NP2: ϕ_s192.00000°, δ65.00000°, λ121.00000°. Principal axes: T 4.6700, Plg58.0000°, Azm146.0000°; N 0.3610, Plg28.0000°, Azm358.0000°; P -5.0200, Plg14.0000°, Azm260.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*ISCJB **23** 10:46:00.3±2.6, 2077S±009×1692E±01, h50km±20km, mb4.6/19, MS4.3/15 Error ellipse: s-maj=18.5km s-min=12.4km az=136.6*
*BJI **23** 10:46:01.9, 2050S×16940E, h31km, mB5.2, mb4.7, Ms4.6, Msz4.4*
*IDC **23** 10:46:02.8±5.7, 2075S×16924E, h57km±49km, mb4.2/12, mb1 4.4/13, mb1mx4.3/16, mbtmp4.2/13, ML4.4/1, MS4.2/13, Ms1 4.2/13, ms1mx4.1/17, Error ellipse: s-maj=24.5km s-min=18.0km az=54.0*
ISC 23 10:46:00.9±2.1, 2077S±009×16926E±008, h41km±17km, h30km±1.6km: pP-P, n123, σ0°97/34, mb4.6/19, MS4.3/15, 6C-4D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**2.93**	**243**	*e*P	**Pn**	**10 46 44.6**	**-0.4**
DZM *e*S **Sn** **10 47 17.8** **-1.2**
RAO Raoul Island 14.36 129 LR LR 10 53 42.4
comp=Z,1μm,19.9s,baz=12,slow=32
HNR Honiara 14.41 320 LR LR 10 54 21.6
comp=Z,662nm,19.3s,baz=179,slow=35
ARMA Armidale 18.56 235 *e*P **Pn** **10 50 18.6** **+3.7**
URZ Urewera 18.71 160 P **Pn** **10 50 17.3** **+0.7**
1.1nm,0.3s,baz=349,slow=6.0,SNR=40
URZ LR LR 10 56 25.1
comp=Z,1μm,19.5s,baz=231,slow=33
CTA Charters Tower 21.57 268 *e*P **P** **10 50 48.3** **+1.1**
26nm,0.9s,mb4.7
CTA *e*S **S** **10 54 45.1** **+1.0**

CTA	**Charters Tower**	21.57 268	P	P	10 50 48.0	+0.8	
	18nm,0.9s,mb4.5,baz=92,slow=13,SNR=16						
CTAO	**Charters Tower**	21.57 268	*e*P	P	10 50 48.9	+1.8	
	58nm,1.1s,mb4.9						
RPZ	**Rata Peaks**	22.93 177	P	P	10 51 02.5	+1.1	
	13nm,0.7s,mb4.5,baz=12,slow=6.3,SNR=10						
RPZ			LR	LR	10 59 05.2		
	comp=Z,1µm,19.9s,MS4.3,baz=14,slow=34						
STKA	**Stephens Creek**	27.08 240	*e*P	P	10 51 40.7	+0.9	
	10nm,0.9s,mb4.4						
STKA	**Stephens Creek**	27.08 240	P	P	10 51 41.5	+1.7	
	7.4nm,0.8s,mb4.3,baz=88,slow=8.3,SNR=10						
STKA			PcP	PcP	10 55 00.0	-0.2	
	5.0nm,1.0s,baz=81,slow=5.7,SNR=2.9						
STKA			LR	LR	11 02 21.5		
	comp=Z,739nm,18.2s,MS4.3,baz=50,slow=36						
RAR	**Rarotonga**	28.89 96	LR	LR	11 01 08.5		
	comp=Z,445nm,18.5s,MS4.1,baz=270,slow=31						
WB2	**Warramunga Arr**	32.71 265	*e*P	P	10 52 28.5	-1.3	
WRAB	**Tennant Creek**	32.71 265	*e*P	P	10 52 29.0	-0.8	
	19nm,1.1s,mb4.9						
WRAB			*e*pP	pP	10 52 38.2	-2.8	
WRA	**Warramunga Arr**	32.72 265	P	P	10 52 29.1	-0.8	
	3.7nm,0.6s,mb4.5,baz=92,slow=8.5,SNR=99						
WRA			LR	LR	11 06 08.7		
	comp=Z,714nm,18.8s,MS4.4,baz=95,slow=37						
ASAR	**Alice Springs**	32.81 258	P	P	10 52 30.8	+0.2	
	14nm,0.9s,mb4.9,baz=83,slow=9.0,SNR=107						
ASAR			PcP	PcP	10 55 14.8	-0.3	
	2.2nm,0.8s,baz=99,slow=3.3,SNR=5.7						
PPT	**Papeete**	38.94 93	*e*S	S	10 59 16.1	-3.0	
	208nm,28.0s						
PPT			*e*LR	LR	11 03 52.5		
	951nm,26.2s,baz=253						
PPT	**Papeete**	38.94 93	LR	LR	11 05 01.4		
	comp=Z,447nm,20.1s,MS4.3,baz=255,slow=29						
FITZ	**Fitzroy Crossi**	41.13 266	⇓*i*P	P	10 53 41.5	+0.1	
	18nm,0.8s,mb4.8						
FITZ			*e*	pP	10 53 50.9	-1.9	
RKT	**Rikitea**	51.51 104	*e*LR	LR	11 09 40.0		
	372nm,26.0s						
VNDA	**Vanda**	56.91 182	P	P	10 55 41.7	+0.3	
VNDA	**Vanda**	56.91 182	P	P	10 55 41.7	+0.3	
	4.3nm,1.1s,mb4.4,baz=360,slow=8.2,SNR=9.5						
SBA	**Scott Base**	57.15 181	*e*P	P	10 55 44.0	+1.0	
	36nm,1.0s,mb5.4						
MJAR	**Matsushiro Arr**	64.11 332	P	P	10 56 30.3	-0.6	
	1.1nm,0.7s,mb4.0,baz=161,slow=6.4,SNR=4.8						
MJAR			LR	LR	11 20 29.9		
	comp=Z,93nm,18.6s,MS4.0,baz=115,slow=32						
QSPA	**South Pole Qui**	69.30 180	*e*P	P	10 57 03.7	+0.2	
	81nm,0.9s,mb5.7						
KSRS	**Korea Array**	69.77 326	P	P	10 57 07.7	+0.7	
	0.4nm,0.5s,mb3.6,baz=122,slow=4.5,SNR=4.2						
KSRS			LR	LR	11 26 48.3		
	comp=Z,74nm,18.9s,MS4.0,baz=314,slow=35						
MDJ	**Mudanjiang**	74.47 332	P	P	10 57 35.3	+0.4	
MDJ			AMB	AMB			
	comp=Z,7.0nm,0.8s,mb4.6						
MAW	**Mawson**	77.04 202	P	P	10 57 50.3	+1.0	
	comp=Z,11nm,0.8s,mb4.8,baz=120,slow=7.5,SNR=10						
CHTO	**Chiang Mai**	79.31 295	*e*P	P	10 58 04.1	+1.4	
	comp=Z,9.2nm,1.0s,mb4.7						
CHTO			*e*pP	pP	10 58 13.9	-1.1	
SYO	**Syowa Base**	83.48 196	⇓*e*P	P	10 58 21.8	-2.2	
GTA	**Gaotai**	88.19 313	*e*P	P	10 58 56.6	+8.9	
GTA			AP	pP	10 59 04.8	+4.7	
GTA			XP	sP	10 59 09.0	+4.3	
GTA			AMB	AMB			
	comp=Z,4.0nm,0.7s,mb4.8						
VNA3	**Neumayer Olymp**	88.23 180	*e*	P	10 58 46.5	-0.9	
VNA3			*e*		10 58 49.8		
VNA3			*e*	pP	10 58 55.6	-4.3	
SONM	**Songino Array**	88.45 323	P	P	10 58 48.7	+0.1	
	comp=Z,2.4nm,1.1s,mb4.3,baz=134,slow=6.4,SNR=6.5						
SONM			LR	LR	11 34 41.6		
	comp=Z,110nm,21.5s,MS4.2,baz=63,slow=33						
VNA2	**Neumayer--Watz**	88.53 181	*e*	P	10 58 48.1	-0.7	
	baz=182,slow=4.5						
VNA2			*e*		10 58 51.8		
VNA2			*e*		10 58 57.0		
VNA1	**Neumayer--Stat**	88.82 181	*e*	P	10 58 48.9	-1.3	
VNA1			*e*		10 58 52.8		
VNA1			*e*		10 58 57.6		
NVAR	**Mina Array Bea**	89.79 48	P	P	10 58 55.0	-0.3	
	comp=Z,2.1nm,0.8s,mb4.5,baz=213,slow=5.9,SNR=10						
PLCA	**Paso Flores**	97.38 139	LR	LR	11 32 06.3		
	comp=Z,92nm,19.3s,MS4.3,baz=192,slow=28						
TXAR	**Lajitas Array**	97.47 62	P	P	10 59 30.8	+0.1	
	comp=Z,0.2nm,0.7s,mb3.6,baz=214,slow=4.2,SNR=4.9						
TXAR			LR	LR	11 37 13.7		
	comp=Z,131nm,18.2s,MS4.5,baz=335,slow=32						
ARCES	**ARCESS Array B**	126.54 345	PKP	PKPdf	11 04 57.1	-1.8	
	comp=Z,2.4nm,0.7s,baz=81,slow=1.5,SNR=9.5						
AKASG	**Malin Array Be**	136.73 323	PKP	PKPdf	11 05 19.3	+0.6	
	comp=Z,0.2nm,0.2s,baz=55,slow=2.0,SNR=5.0						
NOA	**NORSAR Array B**	136.91 345	PKP	PKPdf	11 05 18.8	+0.1	
NOA	**NORSAR Array B**	136.91 345	PKP	PKPdf	11 05 18.8	+0.1	
	comp=Z,1.2nm,0.8s,baz=38,slow=2.1,SNR=3.5						
DPC	**Dobruska-Polom**	143.56 331	*e*PKP	PKPdf	11 05 28.0	-3.1	
DPC			*ep*PKP	pPKPdf	11 05 37.5	-6.5	
VYHS	**Vyhne**	143.57 326	*e*P	PKPdf	11 05 28.9	-2.2	
UPC	**Upice**	143.60 331	*e*PKP	PKPdf	11 05 28.1	-3.0	
VRAC	**Vranov**	144.16 329	PKP	PKPdf	11 05 30.1	-2.0	
	comp=Z,5.7nm,0.7s,baz=250,slow=14,SNR=4.4						
PVCC	**Panska Ves**	144.22 332	*e*PKP	PKPdf	11 05 29.8	-2.4	
BRG	**Berggiesshubel**	144.24 333	*e*PKPbc	PKPdf	11 05 29.7	-2.5	
BRG	**Berggiesshubel**	144.24 333	*i* P	PKPdf	11 05 29.9	-2.3	
	comp=Z,24nm,1.1s						
BRG			*e*		11 05 39.5		
	comp=Z,17nm,1.0s						
CLL	**Collm**	144.30 334	*e*PKPbc	PKPdf	11 05 29.8	-2.5	
CLL			*ep*PKPbc		11 05 39.7		
CLL	**Collm**	144.30 334	⇑*i*PKPdf	PKPdf	11 05 29.7	-2.6	
	comp=Z,19nm,0.9s						
CLL			*i* pPKPdf	pPKPdf	11 05 39.1	-6.1	
CLL			*i* x	x	11 05 55.8		
MODS	**Modra-Piesok**	144.44 327	*e*P	PKPdf	11 05 30.2	-2.5	
FBE	**Freiberg**	144.45 334	*e*PKPbc	PKPdf	11 05 30.6	-2.0	
PRU	**Pruhonice**	144.63 332	*e*PKP	PKPdf	11 05 31.1	-1.8	
PRU			*ep*PKP	pPKPdf	11 05 40.8	-5.0	
ZST	**Bratislava**	144.65 327	*e*P	PKPdf	11 05 32.2	-0.8	
TREC	**Trest**	144.69 330	*e*PKP	PKPdf	11 05 31.4	-1.7	
TREC			*ep*PKP	pPKPdf	11 05 41.5	-4.5	
CLZ	**Clausthal**	144.89 337	*e*PKPbc	PKPdf	11 05 32.1	-1.2	
EKA	**Eskdalemuir Ar**	145.01 352	PKPbc	PKPbc	11 05 31.1	-1.7	
	comp=Z,9.8nm,0.7s,baz=349,slow=2.9,SNR=23						
TANN	**Tannenbergstha**	145.20 334	*e*PKPbc	PKPbc	11 05 33.3	-0.3	
TANN			*ep*PKPbc	pPKPbc	11 05 43.2	-3.2	
WERD	**Werda**	145.24 334	*e*PKPbc	PKPbc	11 05 33.4	-0.3	
WERD			*ep*PKPbc	pPKPbc	11 05 43.3	-3.2	
SOP	**Sopron**	145.26 327	⇑*e*PKP	PKPdf	11 05 33.8	-0.3	
GUNZ	**Gunzen**	145.30 334	*e*PKPbc	PKPbc	11 05 33.6	-0.3	
GUNZ			*ep*PKPbc	pPKPbc	11 05 43.8	-2.9	
WERN	**Wernitzgruen**	145.34 334	*e*PKPbc	PKPbc	11 05 34.0	0.0	
WERN			*ep*PKPbc	pPKPbc	11 05 43.6	-3.2	
NKC	**Novy Kostel**	145.35 334	*e*PKP	PKPdf	11 05 33.5	-0.7	
NKC			*ep*PKP	pPKPdf	11 05 43.6	-3.5	
MOX	**Moxa**	145.37 335	*e*PKP	PKPdf	11 05 33.8	-0.4	
	comp=Z,27nm,1.3s						
MOX			*e*		11 05 43.4		
MOX	**Moxa**	145.37 335	*e*PKPbc	PKPbc	11 05 33.7	-0.4	
MOX			*ep*PKPbc	pPKPbc	11 05 43.5	-3.4	
CONA	**Conrad Observa**	145.45 328	⇓*i*PKPdf	PKPdf	11 05 35.0	+0.6	
	comp=Z,23nm,1.0s						
MANZ	**Manzenberg**	145.68 334	*e*PKPbc	PKPbc	11 05 34.5	-0.6	
KHC	**Kasperske Hory**	145.68 331	*e*PKP	PKPdf	11 05 34.2	-0.6	
KHC			*ep*PKP	pPKPdf	11 05 44.5	-3.2	
KHC			*ex*	x	11 05 59.5		
ROTZ	**Rotzenmuhle**	145.80 333	*e*PKPbc	PKPbc	11 05 35.1	-0.4	
ROTZ			*ep*PKPbc	pPKPbc	11 05 45.0	-3.3	
GEC2	**GERESS Array S**	145.84 331	*e*PKPbc	PKPbc	11 05 35.2	-0.4	
GEC2			*ep*PKPbc	pPKPbc	11 05 45.0	-3.4	
GERES	**GERESS Array B**	145.84 331	PKPbc	PKPbc	11 05 35.1	-0.5	
	comp=Z,7.6nm,0.8s,baz=29,slow=3.0,SNR=40						
UBBA	**Unterbreizbach**	145.86 336	*ep*PKPbc	pPKPbc	11 05 44.7	-3.7	
WET	**Wettzell**	145.98 332	*e*PKPbc	PKPbc	11 05 35.8	-0.3	
WET			*ep*PKPbc	pPKPbc	11 05 45.7	-3.2	
GRA1	**Grafenberg Arr**	146.27 334	*e*PKPbc	PKPbc	11 05 36.5	-0.4	
GRF	**Grafenberg Arr**	146.27 334	*e*PKPbc	PKPbc	11 05 36.5	-0.4	
KBA	**Koelnbreinsper**	147.27 329	⇑*i*P	PKPbc	11 05 38.5	-1.3	
	comp=Z,7.4nm,0.9s						
ABTA	**Abfaltersbach**	147.90 329	⇓*i*PKPbc	PKPbc	11 05 39.5	-2.1	
	comp=Z,5.5nm,0.7s						
WTTA	**Wattenberg**	147.94 331	⇑*i*P	PKPbc	11 05 40.9	-0.8	
	comp=Z,13nm,1.1s						
MOTA	**Moosalm**	148.12 331	⇑*i*P	PKPbc	11 05 41.2	-1.0	
	comp=Z,7.5nm,1.0s						
WLF	**Walferdange**	148.19 339	*e*PKPbc	PKPbc	11 05 42.0	-0.3	
GIVF	**Givet**	148.23 341	*e*PKP1	PKPbc	11 05 41.3	-1.1	
BAIF	**Baives**	148.46 341	*e*PKP1	PKPbc	11 05 41.8	-1.2	
	comp=Z,14nm,0.9s						
BFO	**Black Forest**	148.51 335	*e*PKPbc	PKPbc	11 05 42.3	-0.9	
BFO			*e*PKPab	PKPab	11 05 46.3	-0.3	
FETA	**Feichten**	148.53 331	⇑*i*PKPbc	PKPbc	11 05 42.5	-0.7	
	comp=Z,11nm,0.9s						
CDF	**Champ du Feu**	148.84 337	*e*PKP1	PKPbc	11 05 42.9	-1.1	
	comp=Z,9.7nm,0.8s						
DAVOX	**Davos/Dischmat**	149.09 332	PKPbc	PKPbc	11 05 44.1	-0.6	
	comp=Z,8.0nm,0.7s,baz=41,slow=4.3,SNR=8.8						
HAU	**Haudompre**	149.53 337	*e*PKP1	PKPbc	11 05 44.5	-1.2	
HAU			*e*MLR	MLR			
	comp=Z,62nm,21.0s,MS4.1						
HAU	**Haudompre**	149.53 337	*e*PKP	PKPbc	11 05 44.5	-1.2	
HAU			LR	LR			
	comp=Z,60nm,21.0s,MS4.4						
MEZF	**Maizieres J'vi**	149.56 339	*e*PKP1	PKPbc	11 05 45.1	-0.7	
	comp=Z,57nm,1.2s						
TIP	**Timpagrande**	150.11 314	*e*PKPbc	PKPbc	11 05 47.0	-0.5	
CABF	**La Chapelle**	150.79 336	*e*PKP1	PKPbc	11 05 48.1	-0.7	
	comp=Z,15nm,0.8s						
FLN	**La Foliniere**	150.88 346	*e*PKP1	PKPbc	11 05 47.3	-1.7	
	comp=Z,22nm,0.7s						
FLN			*e*MLR	MLR			
	comp=Z,105nm,19.2s,MS4.3						
FLN	**La Foliniere**	150.88 346	*e*PKP	PKPbc	11 05 47.3	-1.7	
FLN			LR	LR			
	comp=Z,110nm,19.3s,MS4.7						
LDF	**La Druitiere**	150.95 345	*e*PKP1	PKPbc	11 05 47.4	-1.7	
	comp=Z,17nm,0.9s						
LOR	**Lormes**	151.03 339	*e*PKP1	PKPbc	11 05 48.0	-1.4	
	comp=Z,19nm,1.0s						
LOR			*e*MLR	MLR			
	comp=Z,170nm,22.8s,MS4.5						
LOR	**Lormes**	151.03 339	*e*PKP	PKPbc	11 05 48.0	-1.4	
LOR			LR	LR			
	comp=Z,170nm,22.8s,MS4.8						
GRR	**Gorron**	151.32 346	*e*PKP1	PKPbc	11 05 48.5	-1.5	
	comp=Z,22nm,0.9s						
SSF	**Saint Saulge**	151.32 339	*e*PKP1	PKPbc	11 05 48.8	-1.3	
	comp=Z,22nm,1.0s						
LPL	**La Plagne**	151.43 334	*e*PKP1	PKPbc	11 05 49.5	-0.9	
	comp=Z,17nm,1.0s						
LPG	**La Plagne**	151.44 334	*e*PKP1	PKPbc	11 05 49.7	-0.7	
	comp=Z,15nm,0.9s						
SMF	**Signal de Mont**	151.57 339	*e*PKP1	PKPbc	11 05 49.1	-1.5	
	comp=Z,18nm,1.1s						
AVF	**Avril sur Loir**	151.61 339	*e*PKP1	PKPbc	11 05 49.1	-1.6	
SGMF	**Saint Gilles**	151.79 348	*e*PKP1	PKPbc	11 05 49.3	-1.8	
	comp=Z,22nm,0.9s						
ROSF	**Rostrenen**	151.84 349	*e*PKP1	PKPbc	11 05 49.3	-1.9	
	comp=Z,60nm,1.4s						
BGF	**Bois d'Agland**	151.98 340	*e*PKP1	PKPbc	11 05 50.2	-1.4	
	comp=Z,6.5nm,0.6s						
MBDF	**Montbardon**	152.05 333	*e*PKP1	PKPbc	11 05 50.4	-1.4	
QUIF	**Quistinic**	152.23 349	*e*PKP1	PKPbc	11 05 50.0	-2.1	
ORIF	**Oris-en-Rattie**	152.27 334	*e*PKP1	PKPbc	11 05 51.1	-1.2	
ORIF			*e*MLR	MLR			
	comp=Z,82nm,21.0s,MS4.2						
TCF	**Toulx Ste Croi**	152.42 340	*e*PKP1	PKPbc	11 05 51.2	-1.4	
	comp=Z,15nm,1.0s						
SBF	**Sospel**	152.44 331	*e*PKP1	PKPbc	11 05 50.9	-1.8	
PGF	**Pioggiola**	152.67 327	*e*PKP1	PKPbc	11 05 51.9	-1.4	
	comp=Z,17nm,0.9s						
VIVF	**Saint-Julien-l**	152.80 336	*e*PKP1	PKPbc	11 05 52.2	-1.3	
MFF	**Saint Martin d**	152.81 344	*e*PKP1	PKPbc	11 05 51.9	-1.5	
	comp=Z,6.2nm,0.7s						
SMRF	**Simiane la Rot**	153.16 333	*e*PKP1	PKPbc	11 05 53.3	-1.0	
	comp=Z,7.6nm,1.0s						
LMR	**La Mourre**	153.27 331	*e*PKP1	PKPbc	11 05 53.0	-1.6	
	comp=Z,11nm,0.9s						
RJF	**Les Rejaudoux**	153.52 340	*e*PKP1	PKPbc	11 05 53.7	-1.3	
RJF			*e*MLR	MLR			
	comp=Z,156nm,23.0s,MS4.5						
RJF	**Les Rejaudoux**	153.52 340	*e*PKP	PKPbc	11 05 53.7	-1.3	
RJF			LR	LR			
	comp=Z,160nm,23.0s,MS4.8						
LASF	**Ste Croix**	153.77 336	*e*PKP1	PKPbc	11 05 54.5	-1.1	
	comp=Z,8.5nm,0.9s						
LFF	**La Frestale**	154.09 341	*e*PKP1	PKPbc	11 05 54.8	-1.5	
LIC	**Lamto**	164.52 202	*e*PKP2	PKPab	11 06 55.7	-0.1	
	comp=Z,36nm,1.2s						
LIC			*e*MLR	MLR			
	comp=Z,92nm,21.8s						
DBIC	**Dimbokro**	164.87 203	PKPab	PKPab	11 06 57.6	+0.2	
	comp=Z,6.5nm,0.9s,baz=126,slow=6.5,SNR=4.1						
TORD	**Torodi Ar. Bea**	165.91 239	PKPab	PKPab	11 07 01.4	-0.7	
	comp=Z,1.0nm,0.9s,baz=136,slow=5.3,SNR=3.6						

*ISCJB **23** 10:46:00.9±0.2,35.10N±002×2781E±002,h10km, mb3.9/23,Error ellipse: s-maj=3.7km s-min=2.2km az=34.4*
*IDC **23** 10:46:01.5±0.9,35.29N×2772E,h0km,mb3.9/12, mb1 4.0/16,mb1mx3.9/25,mbtmp3.9/16,ML3.9/4,Error ellipse: s-maj=20.5km s-min=16.2km az=13.0*
*CSEM **23** 10:46:03.5±0.1,35.08N×2774E,h30km,mb4.1/5,Error ellipse: s-maj=2.4km s-min=1.4km az=38.0*
*ATH **23** 10:46:03.2,36.04N×2673E,h29km,MD3.9/4*
*NEIC **23** 10:46:03.9±1.1,35.18N×2778E,h17km±7km,mb4.0/17, Error ellipse: s-maj=7.1km s-min=4.7km az=181.0*
*HLW **23** 10:46:03.4,35.39N×2801E,h27km,Mb2.9*
*MOS **23** 10:46:05.8±1.0,35.38N×2777E,h33km,mb4.2/18,Error ellipse: s-maj=11.1km s-min=5.3km az=127.9*
*GII **23** 10:46:06.3±1.0,34.77N×2801E,h5km±29km,ML3.4/4*

ISC 23 10:46:03.0±0.2,35.14N±002×2779E±002,h10km,n161,
σ1§00/176,mb3.9/23,6C-4D,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	0.66	308	*e*PN		Pg		10 46 15.6	-0.1
ARG	**Arkhangelos**	1.11	14	*e*PN		Pn		10 46 24.5	0.0
XRY	**Khrisi**	1.74	262	*e*PB		Pb		10 46 36.0	+0.9
KSL	**Kastellorizon**	1.77	55	*e*PB		Pg		10 46 42.5	+5.5
NPS	**Neapolis**	1.79	275	*e*PB		Pb		10 46 37.0	+1.1
AKAS	**Kas**	1.83	53	*i* P		Pn		10 46 35.6	+1.1
SANT	**Santorini**	2.26	304	*e*Pn		Pn		10 46 41.5	+1.1
SANT	**Santorini**	2.26	304	*e*Pn		Pn		10 46 41.5	+1.1
AKHS	**Akhisar**	3.73	0	*i* P		Pn		10 47 00.7	+0.1
KYTH	**Kithira**	4.03	288	*e*PG		Pn		10 47 05.5	+0.7
HMAT	**Matruh**	4.08	188	P		Pn		10 47 07.1	+1.7
HMAT				S		Sn		10 47 53.7	+0.5
GDZ	**Gediz**	4.17	18	*i* P		Pn		10 47 07.5	+1.0
SLUM		4.23	211	P		Pn		10 47 09.8	+2.3
VLI	**Veliai**	4.24	293	*e*PB		Pn		10 47 08.5	+0.8
ERMK	**Ermenek**	4.42	69	*i* P		Pn		10 47 12.5	+2.4
ERMK	**Ermenek**	4.42	69	*i* P		Pn		10 47 12.5	+2.4
ERMK				*i* S		Sn		10 48 02.3	+0.7
CSS	**Prodhromos**	4.55	91	*e*Pn		Pn		10 47 12.5	+0.6
CSS	**Prodhromos**	4.55	91	*e*Pn		Pn		10 47 12.5	+0.7
KDHN	**Kadinhani**	4.84	45	*i* P		Pn		10 47 17.1	+1.3
KDHN	**Kadinhani**	4.84	45	*i* P		Pn		10 47 17.1	+1.3
KDHN				*i* S		Sn		10 48 14.1	+2.2
HNAT	**Natroun**	5.99	156	⇓*e*P		Pn		10 47 32.1	+0.4
FYM	**Al Fayyum**	6.09	152	⇑*e*P		Pn		10 47 33.0	-0.1
SWA1		6.12	197	P		Pn		10 47 35.3	+1.9
SWA1				S		Sn		10 48 43.1	-0.4
SWA2		6.20	199	P		Pn		10 47 36.6	+2.0
KOT	**Kottamia**	6.21	146	⇑*e*P		Pn		10 47 34.7	-0.1
HSAF	**As Saff**	6.36	149	⇑*e*P		Pn		10 47 36.8	+0.1
AMAG	**Maghara**	6.39	133	⇑*e*P		Pn		10 47 35.9	-1.3
HNTI	**Hanita**	6.46	106	Pn		Pn		10 47 39.4	+1.3
HNTI				Sn		Sn		10 48 51.5	-0.3
HNTI	**Hanita**	6.46	106	Pn		Pn		10 47 39.3	+1.2
GLL	**Jalalah**	6.46	148	⇓*i*P		Pn		10 47 38.0	-0.2
MMAI	**Mount Meron Ar**	6.66	106	Pn		Pn		10 47 41.9	+1.0
	2.8nm,0.3s,baz=280,slow=15,SNR=3.8								
MMAI				Sn		Sn		10 49 01.8	+4.9
	6.5nm,0.3s,baz=342,slow=21,SNR=3.9								
MMB1	**Mount Meron ar**	6.67	106	Pn		Pn		10 47 42.7	+1.8
SUZ		6.79	140	⇓*e*P		Pn		10 47 42.1	-0.5
SUZ				S		Sn		10 48 54.0	-5.9
KSDI	**Kefar Szold**	6.80	104	Pn		Pn		10 47 43.1	+0.3
KSDI				Sn		Sn		10 49 00.3	0.0
MMLI	**Mount Malkishu**	6.90	111	Pn		Pn		10 47 45.5	+1.4
MMLI				Sn		Sn		10 49 01.4	-1.3
KZIT	**Kziot**	6.97	125	Pn		Pn		10 47 45.7	+0.6
KZIT				Sn		Sn		10 49 01.9	-2.5
HMDT	**Nahal Hemdat**	7.06	112	Pn		Pn		10 47 46.9	+0.5
HMDT				Sn		Sn		10 49 06.1	-0.5
ZAF		7.09	144	P		Pn		10 47 46.8	-0.1
ZNM		7.18	142	P		Pn		10 47 47.8	-0.2
YTIR	**Yattir**	7.20	120	Pn		Pn		10 47 48.3	+0.1
YTIR				Sn		Sn		10 49 08.6	-1.5
ZFRI	**Zfri**	7.71	124	Sn		Sn		10 49 20.5	-2.3
PRNI	**Paran**	7.72	126	Pn		Pn		10 47 55.4	-0.1
PRNI				Sn		Sn		10 49 20.5	-2.5
HRFI	**Mount Harif**	7.95	128	Pn		Pn		10 47 58.9	+0.3
HRFI				Sn		Sn		10 49 26.8	-1.9
EIL	**Elat**	8.14	130	Pn		Pn		10 48 01.7	+0.5
EIL				Sn		Sn		10 49 33.7	+0.3
EIL	**Elat**	8.14	130	Pn		Pn		10 48 01.7	+0.5
	1.1nm,0.3s,baz=341,slow=17,SNR=14								
EIL				Sn		Sn		10 49 33.7	+0.3
	3.1nm,0.3s,baz=316,slow=22,SNR=5.7								
ASF	**Jabal al Asfar**	8.15	109	Sn		Sn		10 49 44.1	+11
	0.4nm,0.3s,baz=72,slow=21,SNR=4.3								
HKAT	**Jabal Katrina**	8.44	140	⇓*e*P		Pn		10 48 05.3	-0.1
HDHB	**Dhahab**	8.63	136	⇑*e*P		Pn		10 48 07.3	-0.6
HDK1	**Dakhla**	9.67	171	⇑*e*P		Pn		10 48 24.0	+1.8
TIP	**Timpagrande**	9.68	298	*e*Pn		Pn		10 48 21.1	-1.2
	8.3nm,0.4s								
TIP	**Timpagrande**	9.68	298	*e*Pn		Pn		10 48 21.1	-1.2
	8.3nm,0.4s								
HAVL	**Avola**	10.42	284	Pg		Pn		10 48 31.3	-1.1
	50nm,0.3s								
MLR	**Muntele Rosu**	10.43	353	Pn		Pn		10 48 31.3	-1.3
	0.2nm,0.3s,baz=129,slow=13,SNR=3.0								
PZI	**Palazzolo**	10.57	284	Pg		Pn		10 48 33.6	-0.9
	40nm,0.2s								
PZI	**Palazzolo**	10.57	284	P		Pn		10 48 33.6	-0.9
PZI				pmax		pmax			
	comp=Z,40nm,0.2s								
HMDC	**Modica**	10.69	284	Pg		Pn		10 48 35.1	-1.0
	comp=Z,60nm,0.5s								
RAFF	**Raffo Rosso**	11.05	285	Pg		Pn		10 48 40.7	-0.4
	comp=Z,314nm,2.7s								
KEST	**Kesra**	15.05	278	Pn		Pn		10 49 42.7	+7.0
	comp=Z,0.1nm,0.3s,baz=219,slow=4.8,SNR=4.8								
AKASG	**Malin Array Be**	15.59	3	Pn		Pn		10 49 43.9	+1.3
AKASG	**Malin Array Be**	15.59	3	P		Pn		10 49 43.9	+1.3
AKASG				pmax		pmax			
	comp=Z,1.0nm,0.3s								
AKASG	**Malin Array Be**	15.59	3	Pn		Pn		10 49 43.9	+1.3
	comp=Z,0.5nm,0.3s,baz=195,slow=11,SNR=4.4								
PGF	**Pioggiola**	16.39	302	*e*P		Pn		10 49 52.2	-0.8
	comp=Z,2.6nm,0.4s								
PGF	**Pioggiola**	16.39	302	*e*P		Pn		10 49 52.2	-0.8
PGF				pmax		pmax			
	comp=Z,1.0nm,0.4s								
PGF	**Pioggiola**	16.39	302	*e*P		Pn		10 49 52.2	-0.8
	comp=Z,1.3nm,0.4s								
GEC2	**GERESS Array

comp=Z,10.0nm,0.6s,mb4.2
FLN La Foliniere 24.88 312 *e*P **P 10 51 25.3 -0.4**
comp=Z,5.0nm,0.6s,mb4.2
FLN La Foliniere 24.88 312 *e*P **P 10 51 25.3 -0.4**
FLN pmax pmax
comp=Z,5.0nm,0.6s,mb4.2
GRR Gorron 24.97 311 *e*P **P 10 51 26.1 -0.4**
comp=Z,8.3nm,0.5s,mb4.2
GRR Gorron 24.97 311 *e*P **P 10 51 26.1 -0.4**
comp=Z,4.2nm,0.5s,mb4.2
GRR Gorron 24.97 311 *e*P **P 10 51 26.1 -0.4**
GRR pmax pmax
comp=Z,4.0nm,0.5s,mb4.2
ESDC Sonseca Array 25.55 290 P **P 10 51 32.1 +0.2**
comp=Z,0.5nm,0.4s,mb3.4,baz=86,slow=11,SNR=4.1
SGMF Saint Gilles 25.99 310 *e*P **P 10 51 35.7 0.0**
QUIF Quistinic 26.27 309 *e*P **P 10 51 38.7 +0.4**
comp=Z,12nm,0.8s,mb4.2
QUIF Quistinic 26.27 309 *e*P **P 10 51 38.7 +0.4**
comp=Z,5.9nm,0.8s,mb4.2
QUIF Quistinic 26.27 309 *e*P **P 10 51 38.7 +0.4**
QUIF pmax pmax
comp=Z,6.0nm,0.8s,mb4.2
FINES FINESS Array B 26.34 358 P **P 10 51 38.5 -0.4**
FINES FINESS Array B 26.34 358 P **P 10 51 38.5 -0.3**
FINES pmax pmax
comp=Z,2.0nm,0.8s
FINES FINESS Array B 26.34 358 P **P 10 51 38.5 -0.4**
comp=Z,1.5nm,0.8s,mb3.6,baz=180,slow=21,SNR=3.1
ROSF Rostrenen 26.47 309 *e*P **P 10 51 40.2 +0.1**
comp=Z,13nm,0.8s,mb4.2
ROSF Rostrenen 26.47 309 *e*P **P 10 51 40.2 +0.1**
comp=Z,6.3nm,0.8s,mb4.2
ROSF Rostrenen 26.47 309 *e*P **P 10 51 40.2 +0.1**
ROSF pmax pmax
comp=Z,6.0nm,0.8s,mb4.2
HFS Hagfors 26.63 344 P **P 10 51 39.3 -2.1**
HFS pmax pmax
comp=Z,3.0nm,0.8s
HFS Hagfors 26.63 344 P **P 10 51 39.3 -2.2**
comp=Z,3.4nm,0.8s,mb3.9,baz=157,slow=8.0,SNR=5.3
AKTK Aktyubinsk 26.70 46 P **P 10 51 43.1 +1.0**
AKTK Aktyubinsk 26.70 46 P **P 10 51 43.1 +0.9**
AKTO Aktyubinsk 26.70 46 P **P 10 51 43.1 +0.9**
AKTO pmax pmax
comp=Z,3.0nm,0.6s,mb4.0
AKTO Aktyubinsk 26.70 46 P **P 10 51 43.1 +1.0**
comp=Z,3.0nm,0.6s,mb4.0,baz=241,slow=11,SNR=11
NB2 NORSAR Subarra 28.01 343 P **P 10 51 51.3 -2.5**
comp=Z,0.8nm,0.7s,mb3.5,baz=151,slow=9.3
NOA NORSAR Array B 28.01 343 P **P 10 51 51.4 -2.4**
NOA NORSAR Array B 28.01 343 P **P 10 51 51.4 -2.4**
NOA pmax pmax
comp=Z,1.0nm,0.7s
NOA NORSAR Array B 28.01 343 P **P 10 51 51.4 -2.4**
comp=Z,0.6nm,0.7s,mb3.3,baz=147,slow=10,SNR=3.9
TORD Torodi Ar. Bea 32.17 234 P **P 10 52 31.8 +0.8**
comp=Z,2.3nm,0.6s,mb4.2,baz=34,slow=9.4,SNR=17
ARCES ARCESS Array B 34.47 359 P **P 10 52 49.1 -1.5**
ARCES pmax pmax
comp=Z,3.0nm,1.1s
ARCES ARCESS Array B 34.47 359 P **P 10 52 49.1 -1.5**
comp=Z,2.9nm,1.1s,mb4.1,baz=180,slow=8.5,SNR=6.8
LIC Lamto 41.72 234 *e*P **P 10 53 52.2 0.0**
MKAR Makanchi Array 41.98 57 P **P 10 53 54.6 +0.5**
comp=Z,0.4nm,0.4s,mb3.4,baz=274,slow=6.9,SNR=2.9
ZAL Zalesovo 43.45 46 P **P 10 54 06.0 +0.1**
ZALV Zalesovo Beam 43.46 46 P **P 10 54 06.0 0.0**
comp=Z,0.5nm,0.4s,mb3.6,baz=274,slow=5.6,SNR=2.3
ZAK Zakamensk 55.13 49 *e*P **P 10 55 42.5 +7.2**
ZAK pmax pmax
comp=Z,2.0nm,0.9s,mb4.2
ZAK pmax pmax
comp=Z,3.0nm,1.3s,mb4.2
SONM Songino Array 57.82 51 P **P 10 55 53.0 -1.5**
SONM pmax pmax
comp=Z,1.0nm,0.6s
SONM Songino Array 57.82 51 P **P 10 55 53.0 -1.4**
comp=Z,0.6nm,0.6s,mb3.8,baz=298,slow=9.3,SNR=3.1
BOD Bodaibo 59.13 38 *e*P **P 10 56 02.5 -1.0**
SCHQ Schefferville 64.59 320 P **P 10 56 39.1 -1.1**
comp=Z,3.7nm,0.7s,mb4.5,baz=40,slow=7.3,SNR=10
YKA Yellowknife Ar 78.11 343 P **P 10 58 00.1 -1.6**
YKA Yellowknife Ar 78.11 343 P **P 10 58 00.1 -1.6**
comp=Z,0.2nm,0.6s,mb3.2,baz=31,slow=6.0,SNR=7.7
YKA Yellowknife Ar 78.11 343 P **P 10 58 00.1 -1.7**

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*TEH **23** 11:35:07.7,2966N∝5153E,h5km,ML4.1*
*ISCJB **23** 11:36:28.8±0.2,2964N±002∝5151E±002,h10km, mb4.0/28,Error ellipse: s-maj=2.9km s-min=2.8km az=153.7*
*THR **23** 11:36:29.4±1.7,2963N∝5152E,h15km±17km,ML3.9*
*NEIC **23** 11:36:30.8,2966N∝5151E,h3km,mb4.2/8,ML4.0(THR), MN4.0(TEH),After TEH.*
*CSEM **23** 11:36:30.4±0.1,2960N∝5153E,h25km,mb4.3/10,Error ellipse: s-maj=1.9km s-min=1.3km az=96.0*
*MOS **23** 11:36:31.6±1.6,2962N∝5150E,h33km,mb4.2/20,Error ellipse: s-maj=11.0km s-min=7.8km az=105.6*
*IDC **23** 11:36:38.1±4.8,2967N∝5138E,h79km±43km, mb3.7/19, mb1 3.8/20,mb1mx3.7/27,mbtmp3.7/20,ML3.9/1,MS3.4/2, Ms1 3.4/2,ms1mx2.8/37,Error ellipse: s-maj=24.6km s-min=13.6km az=166.0*

ISC 23 11:36:31.5±0.7,2963N±002∝5154E±003,h17km±5km, n157,σ1§06/181,mb4.0/28,5C-1D,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHI	**Shiraz**	**0.85**	**89**	Pg	**Pg**	**11 36 46.2**	**-1.9**
SHI				Sg	**Sg**	**11 36 58.0**	**-1.3**
SHI	**Shiraz**	**0.85**	**89**	*e*Pg	**Pg**	**11 36 46.3**	**-1.8**
SHI				*e*Sg	**Sg**	**11 36 58.0**	**-1.3**
SHI				*e*		11 37 03.1	
comp=Z,77μm,0.3s							
IMOK	**Mouk**	**1.18**	**119**	Pg	**Pg**	**11 36 53.4**	**-1.0**
IMOK	**Mouk**	**1.18**	**119**	*e*Pg	**Pg**	**11 36 53.5**	**-0.9**
IPAR	**Pars**	**1.33**	**81**	*e*Pg	**Pn**	**11 36 54.2**	**-1.1**
IPAR				*e*Sg	**Sg**	**11 37 13.2**	**-1.4**
ISRV	**Sarvestan**	**1.40**	**100**	Pn	**Pn**	**11 36 56.7**	**+0.5**
ISRV				Sn	**Sg**	**11 37 17.6**	**+0.9**
ISRV	**Sarvestan**	**1.40**	**100**	*e*Pn	**Pn**	**11 36 56.8**	**+0.6**
ISRV				*e*Sn	**Sg**	**11 37 17.6**	**+0.9**
ISRV				*e*		11 37 27.6	
comp=Z,42μm,0.3s							
GHIR	**Ghir-Karzin**	**1.85**	**136**	*e*Pg	**Pn**	**11 37 03.4**	**+1.0**
GHIR	**Ghir-Karzin**	**1.85**	**136**	*e*Pg	**Pn**	**11 37 03.3**	**+0.9**
GHIR				AML	AML	11 37 46.6	
comp=N,1μm,0.7s							
GHIR				AML	AML	11 37 49.5	
comp=E,954nm,0.7s							
IGAR	**Gharneh**	**2.79**	**9**	*e*Pn	**Pn**	**11 37 15.4**	**0.0**
IGAR				*e*Sn	**Sn**	**11 37 49.0**	**+0.3**
IGAR				*e*		11 37 57.2	
comp=Z,9μm,0.3s							
ISAD	**Sadrabad**	**2.93**	**39**	*e*Pn	**Pn**	**11 37 18.6**	**+1.3**
ISAD				*e*Sn	**Sn**	**11 37 52.3**	**+0.2**
ISAD				*e*		11 38 12.0	
comp=N,5μm,0.3s							
ISAD	**Sadrabad**	**2.93**	**39**	*e*Pn	**Pn**	**11 37 18.6**	**+1.3**
ISAD				*e*Sn	**Sn**	**11 37 52.3**	**+0.2**
IPIR	**Pirpir**	**3.09**	**350**	Pn	**Pn**	**11 37 21.0**	**+1.5**
IPIR	**Pirpir**	**3.09**	**350**	*e*Pn	**Pn**	**11 37 21.1**	**+1.6**
IPIR				*e*Sn	**Sn**	**11 37 56.0**	**0.0**
IPIR				*e*		11 38 37.3	
comp=Z,7μm,0.6s							
IPIR	**Pirpir**	**3.09**	**350**	*e*Pn	**Pn**	**11 37 21.1**	**+1.6**
IPIR				*e*Sn	**Sn**	**11 37 56.0**	**0.0**
IMEH	**Mehriz**	**3.18**	**56**	*e*Pn	**Pn**	**11 37 22.5**	**+1.8**
IMEH				*e*		11 38 31.1	
comp=Z,2μm,0.4s							
QRN	**Al-Qurain**	**3.29**	**255**	*e*P	**Pn**	**11 37 22.7**	**+0.6**
QRN				AML	AML	11 38 05.6	
comp=Z,265nm,0.3s							
IZEF	**Zefreh**	**3.32**	**12**	*e*Pn	**Pn**	**11 37 24.2**	**+1.6**
IZEF				*e*		11 37 39.4	
comp=Z,2μm,0.3s							
IZEF				*e*Sn	**Sn**	**11 38 02.0**	**+0.3**
UMR	**Umm Al-Rimmam**	**3.33**	**270**	*e*P	**Pn**	**11 37 23.0**	**+0.3**
UMR				AML	AML	11 38 04.4	
comp=Z,170nm,0.4s							
NASN	**Na'in**	**3.34**	**19**	*e*Pn	**Pn**	**11 37 23.1**	**+0.3**
NASN	**Na'in**	**3.34**	**19**	*e*Pn	**Pn**	**11 37 23.0**	**+0.1**
KBD	**Kabd**	**3.38**	**263**	*e*P	**Pn**	**11 37 23.9**	**+0.4**
KBD				AML	AML	11 38 06.0	
comp=Z,744nm,0.3s							
SHGR	**Shooshtar-Gavs**	**3.41**	**317**	*e*Pn	**Pn**	**11 37 23.7**	**-0.2**
SHGR	**Shooshtar-Gavs**	**3.41**	**317**	*e*Pn	**Pn**	**11 37 23.2**	**-0.6**
SHGR				Sn	**Sn**	**11 38 04.3**	**+0.5**
SHGR	**Shooshtar-Gavs**	**3.41**	**317**	*e*Pn	**Pn**	**11 37 23.2**	**-0.6**
SNR=42							
SHGR				Sn	**Sn**	**11 38 04.3**	**+0.5**
SNR=42							
RDF	**Al-Radifah**	**3.55**	**260**	*e*P	**Pn**	**11 37 26.4**	**+0.5**
RDF				AML	AML	11 38 11.1	
comp=Z,334nm,0.3s							
ICHK	**Chekchek**	**3.59**	**43**	Pn	**Pn**	**11 37 27.3**	**+1.0**
ICHK	**Chekchek**	**3.59**	**43**	*e*Pn	**Pn**	**11 37 27.4**	**+1.1**
ICHK				*e*		11 37 37.5	
comp=Z,3μm,0.4s							
ICHK				*e*Sn	**Sn**	**11 38 07.6**	**-0.6**
MIB	**Mutribah**	**3.66**	**274**	*e*P	**Pn**	**11 37 27.9**	**+0.6**
MIB				AML	AML	11 38 12.5	
comp=Z,265nm,0.5s							
IKLH	**Kolahrood**	**3.67**	**1**	*e*Pn	**Pn**	**11 37 28.8**	**+1.3**
IKLH				*e*Sn	**Sn**	**11 38 10.7**	**+0.3**
IKLH				*e*		11 38 53.1	
comp=Z,7μm,0.5s							
IKLH	**Kolahrood**	**3.67**	**1**	*e*Pn	**Pn**	**11 37 28.8**	**+1.3**
IKLH				*e*Sn	**Sn**	**11 38 10.7**	**+0.3**
NAY	**Al-Naaiem**	**3.77**	**265**	*e*P	**Pn**	**11 37 28.9**	**+0.2**
NAY				AML	AML	11 38 18.5	
comp=Z,191nm,0.6s							
IBAF	**Bafgh**	**3.98**	**60**	*e*Pn	**Pn**	**11 37 32.8**	**+1.0**
IBAF				*e*		11 37 44.6	
comp=Z,1μm,0.3s							
IBAF				*e*Sn	**Sn**	**11 38 17.5**	**-0.6**
BOQSS		**4.21**	**208**	P	**Pn**	**11 37 34.6**	**-0.3**
KRBR	**Kerman**	**4.55**	**84**	*e*Pn	**Pn**	**11 37 41.6**	**+2.0**
KRBR				AML	AML	11 39 05.8	
comp=N,94nm,0.7s							
BNDS	**Bandar-Abbas**	**4.65**	**118**	*e*Pn	**Pn**	**11 37 42.0**	**+1.1**
BNDS	**Bandar-Abbas**	**4.65**	**118**	*e*Pn	**Pn**	**11 37 41.7**	**+0.9**
BNDS				AML	AML	11 39 09.9	
comp=N,95nm,0.4s							
ISFB	**Sefidab**	**4.74**	**7**	Pn	**Pn**	**11 37 42.1**	**-0.1**
ISFB	**Sefidab**	**4.74**	**7**	*e*Pn	**Pn**	**11 37 42.2**	**0.0**
ISFB				*e*Sn	**Sn**	**11 38 35.5**	**-1.2**
ISFB				*e*		11 39 15.6	
comp=Z,1μm,0.6s							
ISFB	**Sefidab**	**4.74**	**7**	*e*Pn	**Pn**	**11 37 42.2**	**0.0**
ISFB				*e*Sn	**Sn**	**11 38 35.5**	**-1.2**
GHVR	**GHOM**	**4.84**	**358**	*e*Pn	**Pn**	**11 37 43.8**	**+0.4**
GHVR				AML	AML	11 38 47.5	
comp=N,78nm,0.6s							
GHVR				AML	AML	11 39 18.8	
comp=E,68nm,1.0s							
SLWS		**4.88**	**190**	P	**Pn**	**11 37 43.9**	**-0.2**
ASAO	**Ashtian**	**5.07**	**346**	*e*Pn	**Pn**	**11 37 47.1**	**+0.5**
ASAO	**Ashtian**	**5.07**	**346**	*e*Pn	**Pn**	**11 37 47.6**	**+1.0**
ASAO				Sn	**Sn**	**11 38 44.6**	**-0.1**
ASAO				AML	AML	11 39 03.2	
comp=E,80nm,0.5s							
ASAO				AML	AML	11 39 26.8	
comp=N,73nm,0.8s							
ASAO	**Ashtian**	**5.07**	**346**	*e*Pn	**Pn**	**11 37 47.6**	**+1.0**
SNR=42							
ASAO				Sn	**Sn**	**11 38 44.6**	**-0.1**
SNR=42							
BTHS		**5.60**	**186**	P	**Pn**	**11 37 53.9**	**-0.1**
BTHS		**5.60**	**186**	P	**Pn**	**11 37 53.9**	**-0.1**
BTHS				S	**Sn**	**11 38 58.5**	**+0.6**
ILAS	**Lasjerd**	**5.86**	**11**	*e*Pn	**Pn**	**11 37 54.5**	**-3.0**
ILAS				*e*		11 38 00.6	
comp=Z,444nm,0.1s							
ILAS				*e*Sn	**Sn**	**11 39 01.1**	**-3.1**
ILAS	**Lasjerd**	**5.86**	**11**	*e*Sn	**Sn**	**11 39 01.1**	**-3.1**
IRAZ	**Razeghan**	**5.91**	**347**	*e*Pn	**Pn**	**11 37 58.1**	**-0.1**
IRAZ				*e*		11 39 23.2	
comp=N,459nm,0.3s							
IDMV	**Damavand**	**5.94**	**4**	Pn	**Pn**	**11 37 59.0**	**+0.4**
IDMV	**Damavand**	**5.94**	**4**	*e*Pn	**Pn**	**11 37 59.1**	**+0.5**
IDMV				*e*		11 39 24.0	
comp=N,950nm,0.5s							
DAMV	**Damavand**	**5.99**	**3**	*e*Pn	**Pn**	**11 37 59.7**	**+0.4**
DAMV	**Damavand**	**5.99**	**3**	*e*Pn	**Pn**	**11 37 58.8**	**-0.5**
IFIR	**Firoozkooh**	**6.08**	**9**	*e*Pn	**Pn**	**11 38 00.3**	**-0.2**
IFIR				*e*		11 38 05.8	
comp=Z,559nm,0.1s							
IFIR				*e*Sn	**Sn**	**11 39 06.7**	**-3.0**
IANJ	**Anjilo**	**6.15**	**18**	*e*Pn	**Pn**	**11 38 01.3**	**-0.3**
IANJ				*e*Sn	**Sn**	**11 39 09.2**	**-2.3**
IANJ				*e*		11 40 07.7	
comp=Z,551nm,0.6s							
IANJ	**Anjilo**	**6.15**	**18**	*e*Pn	**Pn**	**11 38 01.3**	**-0.3**
IANJ				*e*Sn	**Sn**	**11 39 09.2**	**-2.3**
CHTH	**Charan**	**6.27**	**357**	*e*Pn	**Pn**	**11 38 03.5**	**+0.4**
CHTH	**Charan**	**6.27**	**357**	*e*Pn	**Pn**	**11 38 03.5**	**+0.4**
SNR=42							
ISHM	**Shahmirzad**	**6.33**	**13**	Pn	**Pn**	**11 38 03.9**	**-0.1**
ISHM	**Shahmirzad**	**6.33**	**13**	*e*Pn	**Pn**	**11 38 04.0**	**0.0**
ISHM				*e*		11 38 07.8	
comp=Z,1μm,0.2s							
IALA	**Alasht**	**6.52**	**9**	*e*Pn	**Pn**	**11 38 06.3**	**-0.3**
IALA				*e*		11 38 13.2	
comp=Z,1μm,0.2s							
IPRN	**Peran**	**6.62**	**6**	*e*Pn	**Pn**	**11 38 08.9**	**+0.9**
IPRN				*e*		11 38 22.8	
comp=Z,668nm,0.2s							
ASYS		**6.67**	**253**	S	**Sn**	**11 39 18.2**	**-6.2**
IDHR	**Dehrash**	**6.67**	**320**	*e*Pn	**Pn**	**11 38 08.2**	**-0.5**
HRDDS		**6.93**	**196**	S	**Sn**	**11 39 30.4**	**-0.4**
HRDDS		**6.93**	**196**	P	**Pn**	**11 38 12.4**	**+0.1**
BHD	**Baghdad**	**7.11**	**302**	*ex*	x	11 38 20.0	
BHD				*ex*	x	11 39 47.0	
BHD				*ex*	x	11 40 34.0	
IGLO	**Ghaloghah**	**7.12**	**15**	*e*Pn	**Pn**	**11 38 15.9**	**+1.1**
IGLO				*e*		11 38 19.3	
comp=Z,1μm,0.2s							
ZHSF	**Zahedan**	**8.04**	**88**	*e*Pn	**Pn**	**11 38 28.4**	**+0.9**
LYLS		**8.49**	**208**	S	**Sn**	**11 40 05.2**	**-4.0**
LYLS		**8.49**	**208**	P	**Pn**	**11 38 32.1**	**-1.6**
IAKL	**Akhelmad**	**9.21**	**39**	*e*Pn	**Pn**	**11 38 44.0**	**+0.4**
MSL	**Mosul**	**9.71**	**315**	*ex*	x	11 39 23.0	
MSL				*ex*	x	11 41 40.0	
ASF	**Jabal al Asfar**	**12.82**	**285**	P	**Pn**	**11 39 36.8**	**+3.8**
ASF				S	**Sn**	**11 41 50.4**	**-4.9**
ASF				pmax	pmax		
comp=Z,1.0nm,0.3s							
ASF				smax			
comp=N,1.0nm,0.3s							
ASF	**Jabal al Asfar**	**12.82**	**285**	P	**Pn**	**11 39 36.8**	**+3.8**
comp=N,0.6nm,0.3s,baz=308,slow=12,SNR=3.6							
ASF				S	**Sn**	**11 41 50.4**	**-4.9**
comp=N,0.8nm,0.3s,baz=172,slow=10.0,SNR=4.4							
MALT	**Malatya**	**13.89**	**312**	*e*Pn	**Pn**	**11 39 45.1**	**-2.4**
KIV	**Kislovodsk**	**15.94**	**336**	*e*Pn	**Pn**	**11 40 16.0**	**+1.1**
comp=N,35nm,0.9s							
KIV	**Kislovodsk**	**15.94**	**336**	*e*P	**Pn**	**11 40 17.0**	**+2.1**
KIV				pmax	pmax		
comp=Z,41nm,1.0s							
KIV				MLR	MLR		
comp=Z,43nm,14.0s							
KIV	**Kislovodsk**	**15.94**	**336**	*e*P	**Pn**	**11 40 17.0**	**+2.1**
comp=Z,43nm,14.0s							
ATD	**Arta Tunnel**	**19.75**	**206**	LR	LR	11 49 33.2	
comp=Z,88nm,20.3s,baz=12,slow=39							
AKTK	**Aktyubinsk**	**21.34**	**11**	P	**P**	**11 41 17.9**	**+0.3**
AKTO	**Aktyubinsk**	**21.34**	**11**	P	**P**	**11 41 17.9**	**+0.3**
AKTO				pmax	pmax		
comp=Z,2.0nm,0.4s,mb3.8							
AKTO	**Aktyubinsk**	**21.34**	**11**	P	**P**	**11 41 17.9**	**+0.3**
comp=Z,1.5nm,0.4s,mb3.7,baz=200,slow=12,SNR=8.1							
AML	**Almayashu**	**21.79**	**49**	*e*P	**P**	**11 41 23.2**	**+0.8**
comp=Z,4.0nm,0.6s,mb4.0							
AML	**Almayashu**	**21.79**	**49**	*e*P	**P**	**11 41 23.2**	**+0.8**
comp=Z,4.0nm,0.6s,mb4.0							
AAK	**Ala-Archa**	**22.54**	**49**	*e*P	**P**	**11 41 31.2**	**+0.7**
comp=Z,6.7nm,1.2s,mb4.0							
AAK	**Ala-Archa**	**22.54**	**49**	*e*P	**P**	**11 41 31.2**	**+0.7**
AAK				pmax	pmax		
comp=Z,7.0nm,1.2s,mb4.0							
AAK	**Ala-Archa**	**22.54**	**49**	P	**P**	**11 41 33.8**	**+3.3**
comp=Z,1.4nm,0.5s,mb3.7,baz=193,slow=10,SNR=4.9							
AAK	**Ala-Archa**	**22.54**	**49**	*e*P	**P**	**11 41 31.2**	**+0.7**
comp=Z,6.7nm,1.2s,mb4.0							
VORD	**Divnogorie**	**23.20**	**340**	*e*P	**P**	**11 41 36.3**	**-1.1**
VORD				pmax	pmax		
comp=Z,10.0nm,0.4s,mb4.6							
VORD				pmax	pmax		
comp=N,60nm,0.6s							
VORD				pmax	pmax		
comp=E,40nm,0.6s							
VORD	**Divnogorie**	**23.20**	**340**	*e*P	**P**	**11 41 36.3**	**-1.1**
comp=E,10.0nm,0.4s,mb4.6							
TIRR	**Tirgusor**	**25.55**	**315**	*i*P	**P**	**11 41 39.9**	**-1.1**
VRI	**Vrincioaia**	**25.29**	**317**	*i*P	**P**	**11 41 57.5**	**+0.6**
MLR	**Muntele Rosu**	**25.58**	**315**	P	**P**	**11 42 00.4**	**+0.9**
MLR				pmax	pmax		
comp=Z,8.0nm,0.9s							
MLR	**Muntele Rosu**	**25.58**	**315**	P	**P**	**11 42 00.4**	**+0.9**
comp=Z,8.1nm,0.9s,mb4.2,baz=0.4,slow=7.4,SNR=6.0							
MLR	**Muntele Rosu**	**25.58**	**315**	*i*P	**P**	**11 42 00.6**	**+1.1**
VOIR		**26.11**	**314**	*i*P	**P**	**11 42 06.4**	**+2.1**
AKASG	**Malin Array Be**	**26.89**	**328**	P	**P**	**11 42 10.7**	**-0.6**
AKASG				pmax	pmax		
comp=Z,1.0nm,0.4s							
AKASG	**Malin Array Be**	**26.89**	**328**	P	**P**	**11 42 10.7**	**-0.6**
comp=Z,1.1nm,0.4s,mb3.8,baz=131,slow=9.7,SNR=10							
BRVK	**Borovoye**	**27.15**	**25**	P	**P**	**11 42 15.9**	**+2.3**
BVAR	**Borovoye Array**	**27.16**	**25**	P	**P**	**11 42 13.7**	**0.0**
BVAR				pmax	pmax		
comp=Z,2.0nm,0.5s							
BVAR	**Borovoye Array**	**27.16**	**25**	P	**P**	**11 42 13.7**	**0.0**
comp=Z,1.7nm,0.5s,mb3.8,baz=217,slow=7.1,SNR=11							
OBN	**Obninsk**	**27.64**	**341**	*e*P	**P**	**11 42 18.5**	**+0.5**
OBN				*e*		11 45 29.2	
OBN				pmax	pmax		
comp=Z,5.0nm,0.8s,mb4.2							
OBN	**Obninsk**	**27.64**	**341**	*e*P	**P**	**11 42 18.5**	**+0.5**
comp=Z,5.0nm,0.8s,mb4.2							
DRGR		**28.17**	**315**	*i*P	**P**	**11 42 22.6**	**-0.3**
KURK	**Kurchatov**	**29.25**	**36**	*e*P	**P**	**11 42 32.6**	**+0.2**
comp=Z,5.6nm,1.0s,mb4.2							
KURK	**Kurchatov**	**29.25**	**36**	*e*P	**P**	**11 42 32.6**	**+0.2**
KURK				pmax	pmax		
comp=Z,6.0nm,1.0s,mb4.3							
KURK	**Kurchatov**	**29.25**	**36**	*e*P	**P**	**11 42 32.6**	**+0.2**
comp=Z,5.6nm,1.0s,mb4.2							
MKAR	**Makanchi Array**	**29.37**	**46**	P	**P**	**11 42 34.7**	**+1.2**
MKAR	**Makanchi Array**	**29.37**	**46**	P	**P**	**11 42 34.7**	**+1.2**
MKAR				pmax	pmax		
comp=Z,1.0nm,0.7s							
MKAR	**Makanchi Array**	**29.37**	**46**	P	**P**	**11 42 34.7**	**+1.2**
comp=Z,1.3nm,0.7s,mb3.8,baz=230,slow=9.4,SNR=5.0							
ZAL	**Zalesovo**	**34.19**	**35**	P	**P**	**11 43 16.1**	**+0.4**
ZAA0	**Zalesovo Array**	**34.21**	**35**	*e*P	**P**	**11 43 16.6**	**+0.7**
ZAA0	**Zalesovo Array**	**34.21**	**35**	*e*P	**P**	**11 43 16.6**	**+0.7**
ZALV	**Zalesovo Beam**	**34.21**	**35**	P	**P**	**11 43 16.1**	**+0.2**
comp=Z,4.1nm,0.7s,mb4.5,baz=239,slow=7.9,SNR=22							
GERES	**GERESS Array B**	**34.56**	**314**	P	**P**	**11 43 19.1**	**+0.1**
GERES				pmax	pmax		
comp=Z,1.0nm,0.4s							
GERES	**GERESS Array B**	**34.56**	**314**	P	**P**	**11 43 19.1**	**+0.1**
comp=Z,0.6nm,0.4s,mb3.8,baz=91,slow=6.7,SNR=4.1							
KHC	**Kasperske Hory**	**34.73**	**315**	*e*P	**P**	**11 43 19.6**	**-0.9**
KHC	**Kasperske Hory**	**34.73**	**315**	P	**P**	**11 43 19.6**	**-0.9**
BRG	**Berggiesshubel**	**35.15**	**318**	*e*P	**P**	**11 43 24.3**	**+0.2**
BRG				pmax	pmax		
comp=Z,4.0nm,1.1s,mb4.3							
BRG	**Berggiesshubel**	**35.15**	**318**	*e*(P)	**P**	**11 43 24.3**	**+0.2**
comp=Z,7.2nm,1.1s,mb4.5							
JOF	**Joensuu**	**35.78**	**344**	*e*p	**P**	**11 43 26.4**	**-2.9**
CLL	**Collm**	**35.86**	**318**	*i* P	**P**	**11 43 30.9**	**+0.7**
CLL				pmax	pmax		
comp=Z,7.0nm,1.0s,mb4.5							
CLL	**Collm**	**35.86**	**318**	*i* P	**P**	**11 43 30.9**	**+0.7**
comp=Z,7.0nm,1.0s,mb4.5							
FINES	**FINESS Array B**	**35.99**	**339**	P	**P**	**11 43 29.1**	**-2.0**
FINES				pmax	pmax		
comp=Z,2.0nm,0.9s							
FINES	**FINESS Array B**	**35.99**	**339**	P	**P**	**11 43 29.1**	**-2.0**
comp=Z,2.0nm,0.9s,mb4.0,baz=157,slow=10,SNR=3.9							
BNI	**Bardonecchia**	**38.33**	**306**	*e*P	**P**	**11 43 52.7**	**+1.5**
comp=Z,4.9nm,0.8s,mb4.3							
BNI	**Bardonecchia**	**38.33**	**306**	*e*P	**P**	**11 43 52.7**	**+1.5**
BNI				pmax	pmax		
comp=Z,5.0nm,0.8s,mb4.3							
NB2	**NORSAR Subarra**	**41.17**	**331**	P	**P**	**11 44 13.8**	**-0.8**
comp=Z,0.6nm,0.6s,mb3.4,baz=121,slow=8.6							
NOA	**NORSAR Array B**	**41.17**	**331**	P	**P**	**11 44 12.8**	**-1.8**
NOA	**NORSAR Array B**	**41.17**	**331**	P	**P**	**11 44 12.8**	**-1.8**
NOA				pmax	pmax		
comp=Z,1.0nm,0.8s							
NOA	**NORSAR Array B**	**41.17**	**331**	P	**P**	**11 44 12.8**	**-1.8**
comp=Z,1.0nm,0.8s,mb3.5,baz=122,slow=8.4,SNR=4.7							
ARCES	**ARCESS Array B**	**42.64**	**347**	P	**P**	**11 44 25.0**	**-1.5**
ARCES				pmax	pmax		
comp=Z,1.0nm,0.7s							
ARCES	**ARCESS Array B**	**42.64**	**347**	P	**P**	**11 44 25.0**	**-1.5**
comp=Z,0.8nm,0.7s,mb3.6,baz=147,slow=6.8,SNR=8.2							
SONM	**Songino Array**	**45.48**	**51**	P	**P**	**11 44 49.6**	**0.0**
SONM				pmax	pmax		
comp=Z,1.0nm,0.8s							
SONM	**Songino Array**	**45.48**	**51**	P	**P**	**11 44 49.6**	**-0.1**
comp=Z,0.6nm,0.8s,mb3.5,baz=264,slow=8.6,SNR=4.9							
ULN	**Ulaanbaatar**	**45.92**	**51**	*e*P	**P**	**11 44 53.3**	**+

YKA Yellowknife Ar 90.76 23 P P 12 24 40.6 +1.2
0.3nm,0.8s,baz=237,slow=4.5,SNR=3.6

TEH ***23*** *12:10:48.5,2930N×5212E,h1km,ML3.5*
CSEM ***23*** *12:12:01.3±0.1,2924N×5200E,h2km,ML3.5,Error ellipse: s-maj=3.4km s-min=1.9km az=139.0*
IDC ***23*** *12:12:01.1±2.2,2915N×5211E,h0km,mb3.7/8,mb1 3.8/8, mb1mx3.6/24,mbtmp3.8/8,MS3.1/1,Ms1 3.1/1, ms1mx2.4/32,Error ellipse: s-maj=54.2km s-min=23.7km az=150.0*
ISCJB ***23*** *12:12:03.6±0.9,2926N±003×5203E±005,h19km±9km, mb3.7/8,Error ellipse: s-maj=8.3km s-min=4.7km az=24.0*
THR ***23*** *12:12:04.1±0.6,2941N×5202E,h14km±17km,ML3.6*
NEIC ***23*** *12:12:05.2,2930N×5212E,h1km,MN3.5(TEH),After TEH.*
ISC 23 12:12:04.9±0.9,2930N±003×5209E±006,h11km±7km,n50, σ1§27/55,mb3.7/8,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHI	**Shiraz**	**0.50**	**47**	Pg	**Pg**	**12 12 13.6**	**-1.2**
SHI				Sg	**Sg**	**12 12 20.4**	**-1.0**
SHI	**Shiraz**	**0.50**	**47**	*e*Pg	**Pg**	**12 12 13.7**	**-1.1**
SHI				*e*Sg	**Sg**	**12 12 20.5**	**-0.9**
SHI				*e*		12 12 21.6	
	comp=Z,80μm,0.2s						
SHI	**Shiraz**	**0.50**	**47**	Pg	**Pg**	**12 12 13.6**	**-1.2**
SHI				*e*Sg	**Sg**	**12 12 20.5**	**-0.9**
ISRV	**Sarvestan**	**0.90**	**84**	*e*Pg	**Pg**	**12 12 20.9**	**-1.3**
ISRV				*e*		12 12 42.1	
	comp=Z,23μm,0.2s						
ISRV	**Sarvestan**	**0.90**	**84**	Pg	**Pg**	**12 12 20.8**	**-1.4**
IPAR	**Pars**	**1.00**	**57**	*e*Sg	**Sg**	**12 12 35.5**	**-1.6**
IPAR				*e*		12 12 36.1	
	comp=Z,18μm,0.3s						
GHIR	**Ghir-Karzin**	**1.28**	**142**	*e*Pg	**Pg**	**12 12 30.1**	**+0.6**
GHIR				*e*Sg	**Sg**	**12 12 49.3**	**+3.2**
GHIR				AML	AML	12 12 54.4	
	comp=E,1μm,0.5s						
ISAD	**Sadrabad**	**2.95**	**27**	*e*Pn	**Pn**	**12 12 52.8**	**+1.2**
ISAD				*e*		12 13 41.2	
	comp=N,2μm,0.3s						
IMEH	**Mehriz**	**3.02**	**46**	*e*Pn	**Pn**	**12 12 54.0**	**+1.5**
IMEH				*e*		12 13 49.4	
	comp=Z,1μm,0.3s						
IGAR	**Gharneh**	**3.10**	**359**	*e*Pn	**Pn**	**12 12 55.5**	**+1.9**
IGAR				*e*		12 13 47.9	
	comp=Z,2μm,0.1s						
IPIR	**Pirpir**	**3.53**	**343**	*e*Pn	**Pn**	**12 13 01.9**	**+2.3**
IPIR	**Pirpir**	**3.53**	**343**	Pn	**Pn**	**12 13 01.8**	**+2.2**
NASN	**Na'in**	**3.54**	**10**	*e*Pn	**Pn**	**12 12 59.5**	**-0.3**
NASN				Sn	**Sn**	**12 13 40.5**	**-1.2**
ICHK	**Chekchek**	**3.55**	**34**	Pn	**Pn**	**12 13 00.4**	**+0.5**
ICHK	**Chekchek**	**3.55**	**34**	*e*Pn	**Pn**	**12 13 00.5**	**+0.6**
ICHK				*e*		12 14 03.4	
	comp=Z,837nm,0.3s						
IZEF	**Zefreh**	**3.59**	**3**	*e*Pn	**Pn**	**12 13 01.4**	**+0.9**
IZEF				*e*		12 13 16.2	
	comp=Z,501nm,0.2s						
KFJS		**3.81**	**254**	P	**Pn**	**12 13 03.6**	**+0.2**
KFJS		**3.81**	**254**	P	**Pn**	**12 13 03.6**	**+0.2**
KFJS				S	**Sn**	**12 13 43.5**	**-4.6**
SHGR	**Shooshtar-Gavs**	**3.98**	**316**	*e*Pn	**Pn**	**12 13 05.2**	**-0.6**
SHGR				AML	AML	12 13 56.5	
	comp=N,103nm,0.3s						
IKLH	**Kolahrood**	**4.03**	**354**	Pn	**Pn**	**12 13 07.5**	**+1.0**
IKLH	**Kolahrood**	**4.03**	**354**	*e*Pn	**Pn**	**12 13 07.6**	**+1.1**
BNDS	**Bandar-Abbas**	**4.06**	**117**	AML	AML	12 13 56.6	
	comp=N,68nm,0.4s						
KRBR	**Kerman**	**4.12**	**79**	*e*Pn	**Pn**	**12 13 09.4**	**+1.7**
KRBR				AML	AML	12 14 28.9	
	comp=N,51nm,0.7s						
BOQSS		**4.18**	**216**	P	**Pn**	**12 13 10.5**	**+2.0**
ISFB	**Sefidab**	**5.04**	**1**	*e*Pn	**Pn**	**12 13 20.6**	**+0.2**
BTHS		**5.35**	**192**	P	**Pn**	**12 13 25.3**	**+0.7**
BTHS		**5.35**	**192**	P	**Pn**	**12 13 25.3**	**+0.7**
BTHS				S	**Sn**	**12 14 23.4**	**-2.7**
ASAO	**Ashtian**	**5.52**	**342**	*e*Pn	**Pn**	**12 13 26.3**	**-0.6**
IANJ	**Anjilo**	**6.34**	**14**	Pn	**Pn**	**12 13 38.7**	**+0.5**
IANJ	**Anjilo**	**6.34**	**14**	*e*Pn	**Pn**	**12 13 38.8**	**+0.6**
IANJ				*e*		12 14 26.5	
	comp=Z,96nm,0.2s						
HRDDS		**6.77**	**201**	S	**Sn**	**12 15 00.7**	**-0.5**
HRDDS		**6.77**	**201**	P	**Pn**	**12 13 44.2**	**+0.1**
ASYS		**7.05**	**257**	S	**Sn**	**12 15 03.1**	**-5.1**
ASYS		**7.05**	**257**	P	**Pn**	**12 13 47.0**	**-1.0**
IDHR	**Dehrash**	**7.24**	**319**	*e*Pn	**Pn**	**12 13 51.3**	**+0.7**
LYLS		**8.45**	**212**	S	**Sn**	**12 15 36.0**	**-6.5**
LYLS		**8.45**	**212**	P	**Pn**	**12 14 06.6**	**-0.5**
EIL	**Elat**	**14.94**	**276**	LR	LR	12 22 33.3	
	comp=Z,64nm,18.8s,baz=120,slow=42						
AKTK	**Aktyubinsk**	**21.58**	**10**	P	**P**	**12 16 55.5**	**+1.1**
AKTK	**Aktyubinsk**	**21.58**	**10**	P	**P**	**12 16 55.5**	**+1.1**
AKTO	**Aktyubinsk**	**21.58**	**10**	P	**P**	**12 16 55.5**	**+1.1**
	comp=Z,2.0nm,0.8s,mb3.6,baz=28,slow=23,SNR=4.4						
BVAR	**Borovoye Array**	**27.26**	**24**	P	**P**	**12 17 50.0**	**+1.1**
	comp=Z,0.5nm,0.5s,mb3.3,baz=242,slow=31,SNR=2.3						
MKAR	**Makanchi Array**	**29.26**	**45**	P	**P**	**12 18 05.6**	**-1.2**
MKAR	**Makanchi Array**	**29.26**	**45**	P	**P**	**12 18 05.6**	**-1.2**
	comp=Z,1.2nm,0.7s,mb3.8,baz=228,slow=6.4,SNR=6.1						
ZALV	**Zalesovo Beam**	**34.20**	**35**	P	**P**	**12 18 48.1**	**-2.1**
	comp=Z,0.9nm,0.4s,mb4.1,baz=244,slow=8.4,SNR=5.2						
HFS	**Hagfors**	**40.17**	**331**	P	**P**	**12 19 38.5**	**-2.2**
	comp=Z,0.5nm,0.4s,mb3.6,baz=145,slow=10,SNR=2.8						
NOA	**NORSAR Array B**	**41.69**	**331**	P	**P**	**12 19 52.7**	**-0.5**
	comp=Z,0.3nm,0.5s,mb3.2,baz=109,slow=6.3,SNR=2.3						
TORD	**Torodi Ar. Bea**	**49.27**	**262**	P	**P**	**12 20 52.7**	**-1.2**
TORD	**Torodi Ar. Bea**	**49.27**	**262**	P	**P**	**12 20 52.7**	**-1.2**
	comp=Z,1.6nm,0.6s,mb4.2,baz=60,slow=8.0,SNR=24						
YKA	**Yellowknife Ar**	**87.91**	**354**	P	**P**	**12 24 51.5**	**-2.7**
	comp=Z,0.3nm,0.6s,mb3.7,baz=10,slow=5.5,SNR=7.5						

ISCJB ***23*** *12:18:10.8±0.7,4966N×002×14234E±007,h7km±4km, mb4.1/25,MS3.2/3,Error ellipse: s-maj=7.7km s-min=3.8km az=178.1*
MOS ***23*** *12:18:10.8±1.5,4970N×14263E,h10km,mb4.4/18,Error ellipse: s-maj=14.4km s-min=7.2km az=99.8*
MOS Felt (IV-V) at Boshnyakovo; (II-III) at Shakhtersk, Uglegorsk.
IDC ***23*** *12:18:11.3±0.6,4964N×14236E,h0km,mb4.0/16, mb1 4.1/17,mb1mx4.1/24,mbtmp4.0/17,ML3.7/1,MS3.0/3, Ms1 3.0/3,ms1mx2.6/30,Error ellipse: s-maj=16.8km s-min=15.9km az=148.0*
SKHL ***23*** *12:18:11.3±0.1,4967N×14222E,h10km,mb4.4/7,Ms3.3/1*
SKHL Felt (IV-V) at Boshnyakovo, (II-III) at Shakhtersk, Uglegorsk.
NEIC ***23*** *12:18:17.8±1.5,4969N×14240E,h47km±17km,mb4.1/2, Error ellipse: s-maj=14.4km s-min=11.2km az=220.0*
NEIC Felt [V] at Boshnyakovo and [III] at Shakhtersk and Uglegorsk.
ISC 23 12:18:12.2±0.7,4966N±002×14247E±005,h6km±4km,n69, σ1§18/85,mb4.1/25,MS3.2/3,3C-8D,Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UGL	**Uglegorsk**	**0.64**	**205**	*i*PN	**Pg**	**12 18 23.8**	**-0.6**
UGL				*e*		12 18 40.5	
UGL				pmax	pmax		
	comp=Z,500nm,0.5s						
UGL	**Uglegorsk**	**0.64**	**205**	⇓*i*Pg	**Pg**	**12 18 23.5**	**-0.9**
UGL				⇓*i*Pg	**Pg**	**12 18 23.5**	**-0.9**
UGL				AMB	AMB	12 18 24.2	
	comp=Z,500nm,0.5s						
UGL				*e*Sg	**Sg**	**12 18 32.0**	**-0.6**
UGL				A		12 18 35.0	
	comp=Z,5μm,0.5s						
UGL				A		12 18 35.0	
	comp=Z,10μm,0.5s						
UGL				A		12 18 35.0	
	comp=Z,4μm,0.5s						
UGL				AMS	AMS	12 18 44.0	
	comp=Z,18μm,3.0s						
TYV	**Tymovskoe**	**1.22**	**6**	*e*Pg	**Pg**	**12 18 35.2**	**-0.3**
TYV				AMB	AMB	12 18 37.0	
	comp=Z,233nm,0.7s						
TYV				AMB	AMB	12 18 37.0	
	comp=Z,185nm,0.7s						
TYV				AMB	AMB	12 18 37.0	
	comp=Z,361nm,0.7s						
TYV				AMB	AMB	12 18 39.0	
	comp=Z,700nm,3.0s						
TYV				AMB	AMB	12 18 39.0	
	comp=Z,800nm,3.0s						
TYV				AMB	AMB	12 18 39.0	
	comp=Z,1μm,3.0s						
TYV				*e*Sg	**Sg**	**12 18 52.0**	**+0.7**
TYV				A		12 18 59.5	
	comp=Z,717nm,0.8s						
TYV				A		12 19 08.0	
	comp=Z,6μm,6.0s						
TYV				A		12 19 08.0	
	comp=Z,5μm,6.0s						
YSS	**Yuzh-Sakhalins**	**2.71**	**176**	⇓*e*P	**Pn**	**12 18 56.4**	**+0.2**
YSS	**Yuzh-Sakhalins**	**2.71**	**176**	⇓*i*PN	**Pn**	**12 18 56.2**	**0.0**
YSS				*e*		12 19 29.0	
YSS				pmax	pmax		
	comp=Z,60nm,0.8s						
YSS				smax			
	comp=N,250nm,0.7s						
YSS				smax			
	comp=E,210nm,0.6s						
YSS				smax			
	comp=E,470nm,0.8s						
YSS				smax			
	comp=N,350nm,0.7s						
YSS				MLR	MLR		
	comp=Z,500nm,8.0s						
YSS	**Yuzh-Sakhalins**	**2.71**	**176**	⇓*i*P	**Pn**	**12 18 56.5**	**+0.3**
YSS				AMB	AMB	12 18 58.5	
	comp=Z,60nm,0.8s						
YSS				*e*Pg	**Pg**	**12 19 06.0**	**+1.9**
YSS				AMB	AMB	12 19 07.0	
	comp=Z,203nm,0.5s						
YSS				*e*S	**Sn**	**12 19 29.0**	**-0.2**
YSS				A		12 19 33.0	
	comp=Z,250nm,0.7s						
YSS				A		12 19 33.0	
	comp=Z,210nm,0.7s						
YSS				*e*Sg	**Sg**	**12 19 40.0**	**+0.8**
YSS				A		12 19 41.0	
	comp=Z,350nm,0.7s						
YSS				AMS	AMS	12 20 20.0	
	comp=Z,500nm,8.0s						
NKL	**Nikolayevsk**	**3.68**	**343**	*i*P	**Pn**	**12 19 05.0**	**-4.5**
NKL				AMB	AMB	12 19 05.5	
	comp=Z,19nm,0.5s						
NKL				AMB	AMB	12 19 05.5	
	comp=Z,10.0nm,0.5s						
NKL				AMB	AMB	12 19 05.5	
	comp=Z,50nm,0.5s						
NKL				*e*Pg	**Pg**	**12 19 18.3**	**-4.3**
NKL				*e*S	**Sn**	**12 19 48.0**	**-5.1**
NKL				*e*Sg	**Sg**	**12 20 07.4**	**-2.8**
NKL				A		12 20 26.0	
	comp=Z,280nm,0.6s						
OKH	**Okha**	**3.91**	**4**	*e*P	**Pn**	**12 19 12.0**	**-0.7**
OKH				*e*S	**Sn**	**12 19 58.2**	**-0.7**
HABR	**Khabarovsk**	**5.02**	**259**	*e*PN	**Pb**	**12 19 45.0**	**+4.6**
HABR				*e*S	**Sb**	**12 20 41.9**	**+1.0**
HABR				pmax	pmax		
	comp=Z,51nm,0.7s						
HABR				smax			
	comp=E,206nm,0.4s						
ASAJ	**Asahikawa**	**5.54**	**179**	Pn	**Pn**	**12 19 35.4**	**+0.2**
	comp=E,1.9nm,0.3s,baz=8.7,slow=7.5,SNR=26						
ASAJ				Sn	**Sn**	**12 20 36.1**	**-3.0**
	comp=E,1.2nm,0.3s,baz=88,slow=31,SNR=2.5						
KUR	**Kuril'sk**	**5.74**	**138**	*e*P	**Pn**	**12 19 35.0**	**-2.8**
KUR				AMB	AMB	12 19 36.0	
	comp=E,156nm,0.9s						
KUR				*e*S	**Sn**	**12 20 42.8**	**-1.1**
KUR				A		12 20 44.8	
	comp=E,172nm,0.7s						
KUR				A		12 20 44.8	
	comp=E,86nm,0.7s						
TEY	**Ternei**	**6.10**	**223**	*e*P	**Pn**	**12 19 42.0**	**-0.8**
TEY				AMB	AMB	12 19 43.0	
	comp=E,18nm,0.5s						
TEY				*e*S	**Sn**	**12 20 49.0**	**-3.9**
EKMR	**Ekimchan**	**6.87**	**303**	*e*P	**Pn**	**12 19 53.8**	**+0.5**
EKMR				*e*Pg	**Pg**	**12 20 24.7**	**+1.0**
EKMR				AMB	AMB	12 20 26.3	
	comp=E,5.0nm,0.5s						
EKMR				*e*S	**Sn**	**12 21 08.5**	**-3.3**
EKMR				*e*Sg	**Sg**	**12 21 50.5**	**-2.1**
EKMR				A		12 21 53.5	
	comp=E,90nm,0.6s						
EKMR				A		12 21 53.5	
	comp=E,19nm,0.6s						
EKMR				A		12 21 53.5	
	comp=E,58nm,0.6s						
KLR	**Kul'dur**	**7.00**	**271**	*e*PN	**Pn**	**12 19 51.0**	**-4.2**
KLR				MLR	MLR		
	comp=N,700nm,10.0s						
KLR				MLR	MLR		
	comp=Z,2μm,10.0s						
ERM	**Erimo**	**7.66**	**176**	*e*P	**Pn**	**12 20 08.4**	**+4.3**
YASR	**Yasnyy**	**9.75**	**297**	*e*S	**Sn**	**12 22 23.0**	**+0.6**
YASR				A		12 22 24.0	
	comp=Z,58nm,0.9s						
YASR				A		12 22 24.0	
	comp=Z,19nm,0.9s						
BMKR	**Bomnak**	**9.78**	**306**	*e*P	**Pn**	**12 20 31.5**	**-1.7**
BMKR				*e*Sg	Sn	12 23 20.5	+57
BMKR				A		12 23 27.5	
	comp=Z,18nm,0.7s						
ZEA	**Zeya**	**10.29**	**299**	*e*Sg	Sx	12 23 33.5	
KROS	**Kirovskiy**	**10.67**	**303**	*e*rx	rx	12 20 53.6	
KROS				*e*Sg	Sx	12 23 56.6	
MJAR	**Matsushiro Arr**	**13.47**	**195**	Pn	**Pn**	**12 21 28.0**	**+4.3**
	comp=Z,0.1nm,0.3s,baz=150,slow=12,SNR=3.7						
YAK	**Yakutsk**	**14.29**	**335**	*e*P	**Pn**	**12 21 35.5**	**+0.7**
YAK				*e*S	**Sn**	**12 24 14.9**	**+1.4**
YAK				pmax	pmax		
	comp=Z,6.0nm,1.0s						
YAK				pmax	pmax		
	comp=N,4.0nm,1.2s						
YAK				pmax	pmax		
	comp=E,2.0nm,1.2s						
YAK				pmax	pmax		
	comp=Z,99nm,4.6s						
YAK				pmax	pmax		
	comp=N,16nm,1.6s						
YAK				pmax	pmax		
	comp=E,47nm,3.4s						
YAK				smax			
	comp=N,105nm,4.1s						
YAK				smax			
	comp=E,72nm,4.0s						
YAK				MLR	MLR		
	comp=Z,107nm,14.0s						
YAK				MLR	MLR		
	comp=N,109nm,13.0s						
YAK				MLR	MLR		
	comp=E,115nm,11.0s						
HIA	**Hailar**	**14.78**	**277**	*i*P	**Pn**	**12 21 43.8**	**+2.3**
JNU	**Nakatsue**	**18.63**	**212**	LR	LR	12 27 58.0	
	comp=E,25nm,21.0s,baz=237,slow=32						
TIXI	**Tiksi**	**22.93**	**349**	*e*P	**P**	**12 23 16.6**	**+0.1**
	comp=E,5.1nm,0.6s,mb4.1						
TIXI	**Tiksi**	**22.93**	**349**	⇑*e*P	**P**	**12 23 16.5**	**0.0**
TIXI				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.1						
ULN	**Ulaanbaatar**	**23.29**	**279**	⇑*e*P	**P**	**12 23 22.4**	**+1.9**
SONM	**Songino Array**	**23.72**	**280**	P	**P**	**12 23 25.6**	**+0.8**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.9s						
SONM				MLR	MLR		
	comp=Z,109nm,19.2s						
SONM	**Songino Array**	**23.72**	**280**	P	**P**	**12 23 25.6**	**+0.8**
	comp=Z,0.8nm,0.9s,mb3.1,baz=72,slow=9.5,SNR=6.1						
SONM				LR	LR	12 33 16.3	
	comp=Z,109nm,19.2s,MS3.3,baz=44,slow=38						
TLY	**Talaya**	**24.50**	**290**	*i*P	**P**	**12 23 33.1**	**+1.2**
ZAK	**Zakamensk**	**25.00**	**287**	*e*P	**P**	**12 23 36.6**	**+0.2**
ZAK				*e*		12 27 12.0	
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb3.8						
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.8s,mb3.0						
ZALV	**Zalesovo Beam**	**35.06**	**300**	P	**P**	**12 25 04.7**	**-0.8**
	comp=Z,0.5nm,0.4s,mb3.8,baz=92,slow=4.6,SNR=3.3						
ZALV				PcP	PcP	12 27 36.4	-0.7
	comp=Z,0.9nm,0.6s,baz=4.4,slow=1.9,SNR=5.8						
ZAL	**Zalesovo**	**35.07**	**300**	P	**P**	**12 25 04.7**	**-0.9**
ZAL						12 27 36.4	
MKAR	**Makanchi Array**	**39.26**	**290**	P	**P**	**12 25 41.4**	**+0.2**
MKAR				pmax	pmax		
	comp=Z,5.0nm,0.8s						
MKAR				MLR	MLR		
	comp=Z,14nm,19.9s						
MKAR	**Makanchi Array**	**39.26**	**290**	P	**P**	**12 25 41.4**	**+0.2**
	comp=Z,5.2nm,0.8s,mb4.3,baz=64,slow=8.6,SNR=22						
MKAR				LR	LR	12 44 42.9	
	comp=Z,14nm,19.9s,MS2.8,baz=358,slow=41						
KURK	**Kurchatov**	**39.76**	**297**	*e*P	**P**	**12 25 44.6**	**-0.8**
	comp=Z,2.0nm,0.7s,mb4.0						
KURK	**Kurchatov**	**39.76**	**297**	*e*P	**P**	**12 25 44.6**	**-0.7**
KURK				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.0						
INK	**Inuvik**	**43.05**	**33**	P	**P**	**12 26 12.8**	**+0.7**
INK				pmax	pmax		
	comp=Z,1.0nm,0.8s						
INK	**Inuvik**	**43.05**	**33**	P	**P**	**12 26 12.8**	**+0.7**
	comp=Z,0.9nm,0.8s,mb3.5,baz=298,slow=3.6,SNR=5.5						
BVAR	**Borovoye Array**	**43.41**	**303**	P	**P**	**12 26 15.6**	**+0.4**
BVAR						12 28 04.0	
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
BVAR	**Borovoye Array**	**43.41**	**303**	P	**P**	**12 26 15.6**	**+0.3**
	comp=Z,0.3nm,0.4s,mb3.4,baz=74,slow=11,SNR=4.3						
BVAR				PcP	PcP	12 28 04.0	+0.5
	comp=Z,0.9nm,0.6s,baz=46,slow=4.3,SNR=4.7						
AAK	**Ala-Archa**	**46.15**	**288**	⇑*e*P	**P**	**12 26 37.2**	**0.0**
AAK				pmax	pmax		
	comp=Z,3.0nm,1.4s,mb4.0						
ARU	**Arti**	**47.91**	**312**	*d*iP	**P**	**12 26 51.0**	**+0.2**
ARU				*e*		12 28 38.1	
ARU				*e*PPP		12 29 25.9	
ARU				*e*S	**S**	**12 33 46.2**	**-2.0**
ARU				*e*SS	SS	12 37 11.9	-4.3
ARU				pmax	pmax		
	comp=Z,13nm,1.7s,mb4.7						
YKA	**Yellowknife Ar**	**52.73**	**35**	P	**P**	**12 27 27.1**	**0.0**
YKA				PcP	PcP	12 28 36.7	0.0
YKA	**Yellowknife Ar**	**52.73**	**35**	P	**P**	**12 27 27.1**	**0.0**
YKA						12 28 36.7	
YKA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
YKA	**Yellowknife Ar**	**52.73**	**35**	P	**P**	**12 27 27.1**	**0.0**
	comp=Z,0.8nm,0.7s,mb3.8,baz=307,slow=7.1,SNR=18						
YKA				PcP	PcP	12 28 36.7	0.0
	comp=Z,0.3nm,0.8s,baz=321,slow=4.2,SNR=5.1						
JOF	**Joensuu**	**55.37**	**329**	*e*p	**P**	**12 27 45.6**	**-0.8**
	comp=Z,2.8nm,0.4s,mb4.7						
JOF	**Joensuu**	**55.37**	**329**	*e*P	**P**	**12 27 45.6**	**-0.8**
JOF				pmax	pmax		
	comp=Z,3.0nm,0.4s,mb4.7						
FINES	**FINESS Array B**	**58.15**	**330**	P	**P**	**12 28 05.3**	**-0.8**
FINES	**FINESS Array B**	**58.15**	**330**	P	**P**	**12 28 05.3**	**-0.9**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.6s						
FINES	**FINESS Array B**	**58.15**	**330**	P	**P**	**12 28 05.3**	**-0.8**
	comp=Z,1.8nm,0.6s,mb4.3,baz=47,slow=8.4,SNR=9.0						
OBN	**Obninsk**	**58.69**	**320**	*e*P	**P**	**12 28 10.3**	**+0.3**
OBN				*e*		12 29 00.8	
OBN				*e*		12 30 17.0	
OBN				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.7						
NOA	**NORSAR Array B**	**62.91**	**336**	P	**P**	**12 28 38.5**	**-0.2**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
NOA	**NORSAR Array B**	**62.91**	**336**	P	**P**	**12 28 38.5**	**-0.2**
	comp=Z,1.0nm,0.8s,mb4.0,baz=35,slow=6.3,SNR=2.9						
HFS	**Hagfors**	**62.98**	**334**	P	**P**	**12 28 38.2**	**-1.0**
HFS				pmax	pmax		
	comp=Z,2.0nm,0.7s						
HFS	**Hagfors**	**62.98**	**334**	P	**P**	**12 28 38.2**	**-0.9**
	comp=Z,1.6nm,0.7s,mb4.3,baz=82,slow=11,SNR=4.1						
KIV	**Kislovodsk**	**63.52**	**307**	*e*P	**P**	**12 28 45.1**	**+2.1**
KIV				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.7						
KIV				MLR	MLR		
	comp=Z,27nm,17.0s,MS3.5						
AKASG	**Malin Array Be**	**64.95**	**320**	*i*P	**P**	**12 28 52.2**	**0.0**
AKASG				pmax	pmax		
	comp=Z,4.0nm,0.7s						
AKASG	**Malin Array Be**	**64.95**	**320**	P	**P**	**12 28 51.8**	**-0.5**
	comp=Z,3.7nm,0.7s,mb4.5,baz=40,slow=6.6,SNR=18						
ANN	**Anapa**	**65.57**	**311**	*e*P	**P**	**12 28 49.3**	**-7.0**
ANN				*e*		12 29 22.5	
ANN				pmax	pmax		
	comp=Z,15nm,0.7s,mb5.1						
NVAR	**Mina Array Bea**	**67.13**	**57**	P	**P**	**12 29 08.6**	**+2.1**
	comp=Z,0.9nm,0.7s,mb3.9,baz=326,slow=5.3,SNR=6.2						
PDAR	**Pinedale Array**	**68.50**	**49**	P	**P**	**12 29 16.5**	**+1.5**
	comp=Z,1.2nm,0.7s,mb4.1,baz=339,slow=2.1,SNR=8.4						
ULM	**Lac du Bonnet**	**68.67**	**36**	P	**P**	**12 29 14.6**	**-1.4**
ULM	**Lac du Bonnet**	**68.67**	**36**	P	**P**	**12 29 14.6**	**-1.4**
	comp=Z,2.9nm,0.6s,mb4.4,baz=314,slow=5.4,SNR=9.3						
WRA	**Warramunga Arr**	**69.66**	**188**	P	**P**	**12 29 21.2**	**-1.1**
WRA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
WRA	**Warramunga Arr**	**69.66**	**188**	P	**P**	**12 29 21.2**	**-1.1**
	comp=Z,1.6nm,0.9s,mb4.0,baz=1.5,slow=6.7,SNR=20						
ASAR	**Alice Springs**	**73.39**	**188**	P	**P**	**12 29 44.9**	**+0.2**
ASAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
ASAR	**Alice Springs**	**73.39**	**188**	P	**P**	**12 29 44.9**	**+0.2**
	comp=Z,1.8nm,0.7s,mb4.1,baz=3.8,slow=5.5,SNR=32						
TXAR	**Lajitas Array**	**81.90**	**54**	P	**P**	**12 30 34.3**	**+1.8**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
TXAR	**Lajitas Array**	**81.90**	**54**	P	**P**	**12 30 34.3**	**+1.9**
	comp=Z,1.0nm,0.8s,mb3.8,baz=287,slow=4.1,SNR=13						

ISCJB ***23*** *12:21:49.0±0.5,4970N±002×14182E±005,h13km±4km, mb3.6/6,Error ellipse: s-maj=5.3km s-min=3.2km az=167.6*
SKHL ***23*** *12:21:48.7±0.4,4972N×14181E,h10km,mb4.1/8*
MOS ***23*** *12:21:49.1±1.5,4969N×14222E,h10km,mb4.1/4,Error ellipse: s-maj=43.9km s-min=17.7km az=96.1*
IDC ***23*** *12:21:49.5±1.1,4957N×14260E,h0km,mb3.6/6, mb1 3.7/6,mb1mx3.5/20,mbtmp3.6/6,Error ellipse: s-maj=39.7km s-min=23.8km az=82.0*
ISC 23 12:21:51.0±0.6,4969N±002×14205E±006,h13km±4km, n23,σ1§28/38,mb3.6/6,2D,Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UGL	**Uglegorsk**	**0.61**	**179**	⇓*i*PN	**Pg**	**12 22 02.0**	**-0.9**
UGL				*e*S	**

YSS				*e*S	**Sn**	**12 23 08.0**	**-0.4**
YSS				*e*Sg	**Sg**	**12 23 23.8**	**+3.7**
YSS				A		12 23 27.0	
	comp=Z,68nm,0.5s						
YSS				A		12 23 27.0	
	comp=Z,113nm,0.5s						
NKL	**Nikolayevsk**	**3.57**	**347**	*e*P	**Pn**	**12 22 44.5**	**-1.6**
NKL				*e*Pg	**Pg**	**12 22 58.5**	**-1.0**
NKL				AMB	AMB	12 23 02.5	
	comp=Z,34nm,0.6s						
NKL				*e*S	**Sn**	**12 23 21.0**	**-7.2**
NKL				*e*Sb	**Sb**	**12 23 27.0**	**-10**
NKL				*e*Sg	**Sg**	**12 23 46.0**	**+0.3**
NKL				A		12 23 48.0	
	comp=Z,43nm,0.4s						
GRNR	**Gornyy**	**3.77**	**289**	*e*Pg	**Pg**	**12 23 00.5**	**-2.7**
GRNR				AMB	AMB	12 23 01.0	
	comp=Z,23nm,0.3s						
GRNR				*e*S	**Sn**	**12 23 28.1**	**-4.9**
GRNR				*e*Sg	**Sg**	**12 23 50.1**	**-2.0**
GRNR				A		12 23 50.8	
	comp=Z,57nm,0.5s						
GRNR				A		12 23 50.8	
	comp=Z,48nm,0.5s						
OKH	**Okha**	**3.91**	**8**	*e*P	**Pn**	**12 22 51.0**	**+0.3**
OKH				AMB	AMB	12 22 56.0	
	comp=Z,68nm,0.5s						
OKH				*e*S	**Sn**	**12 23 36.2**	**-0.2**
TEY	**Ternei**	**5.94**	**221**	*e*P	**Pn**	**12 23 18.0**	**-0.6**
TEY				AMB	AMB	12 23 19.0	
	comp=Z,18nm,0.5s						
TEY				*e*S	**Sn**	**12 24 24.0**	**-2.5**
TEY				A		12 24 29.0	
	comp=Z,15nm,0.6s						
TEY				A		12 24 29.0	
	comp=Z,19nm,0.6s						
TEY				*e*Sg	**Sg**	**12 25 04.0**	**+2.4**
TEY				A		12 25 05.0	
	comp=Z,13nm,0.6s						
TEY				A		12 25 05.0	
	comp=Z,19nm,0.6s						
TEY				A		12 25 05.0	
	comp=Z,22nm,0.6s						
EKMR	**Ekimchan**	**6.63**	**304**	*e*Pg	**Pg**	**12 23 58.5**	**+0.7**
EKMR				AMB	AMB	12 24 04.5	
	comp=Z,8.0nm,0.6s						
EKMR				*e*Sg	**Sg**	**12 25 25.8**	**+2.3**
EKMR				A		12 25 26.5	
	comp=Z,16nm,0.5s						
EKMR				A		12 25 26.5	
	comp=Z,12nm,0.5s						
YASR	**Yasnyy**	**9.49**	**298**	*e*S	**Sn**	**12 25 54.0**	**+0.4**
YASR				A		12 26 02.2	
	comp=Z,9.0nm,0.8s						
KROS	**Kirovskiy**	**10.42**	**303**	*e*Sb	Sx	12 26 43.7	
CLNS	**Chul'man**	**12.50**	**311**	*e*PN	**Pn**	**12 24 48.9**	**+0.5**
CLNS				pmax	pmax		
	comp=N,45nm,1.0s						
CLNS				pmax	pmax		
	comp=Z,20nm,0.8s						
CLNS				pmax	pmax		
	comp=E,32nm,0.9s						
MKAR	**Makanchi Array**	**38.99**	**289**	P	**P**	**12 29 19.7**	**+2.9**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
MKAR	**Makanchi Array**	**38.99**	**289**	P	**P**	**12 29 19.7**	**+2.9**
	comp=Z,0.5nm,0.4s,mb3.6,baz=51,slow=9.6,SNR=4.3						
YKA	**Yellowknife Ar**	**52.86**	**35**	P	**P**	**12 31 04.9**	**-0.9**
YKA	**Yellowknife Ar**	**52.86**	**35**	P	**P**	**12 31 04.9**	**-0.9**
	comp=Z,0.2nm,0.7s,mb3.2,baz=307,slow=7.1,SNR=5.2						
FINES	**FINESS Array B**	**57.99**	**329**	P	**P**	**12 31 46.7**	**+3.9**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
FINES	**FINESS Array B**	**57.99**	**329**	P	**P**	**12 31 46.7**	**+3.9**
	comp=Z,1.4nm,0.7s,mb4.1,baz=181,slow=34,SNR=3.1						
AKASG	**Malin Array Be**	**64.75**	**320**	P	**P**	**12 32 30.5**	**+1.8**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.5s						
AKASG	**Malin Array Be**	**64.75**	**320**	P	**P**	**12 32 30.5**	**+1.9**
	comp=Z,0.9nm,0.5s,mb4.0,baz=39,slow=7.9,SNR=5.7						
WRA	**Warramunga Arr**	**69.65**	**188**	P	**P**	**12 32 60.0**	**0.0**
	comp=Z,0.2nm,0.8s,mb3.1,baz=19,slow=6.3,SNR=4.1						
ASAR	**Alice Springs**	**73.38**	**188**	P	**P**	**12 33 23.3**	**+0.9**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ASAR	**Alice Springs**	**73.38**	**188**	P	**P**	**12 33 23.3**	**+0.9**
	comp=Z,0.5nm,0.7s,mb3.5,baz=4.6,slow=5.8,SNR=6.6						

IDC 23 12:28:10.4±6.4, 1797S×17804W, h460km±67km, mb3.5/7, mb1 3.6/7, mb1mx3.3/18, mbtmp3.5/7, Error ellipse: s-maj=37.8km s-min=24.8km az=46.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**20.65**	**191**	P	P	12 32 16.9	-0.1
	6.6nm,0.5s,baz=293,slow=3.8,SNR=22						
CTA	**Charters Tower**	**33.78**	**261**	P	P	12 34 12.7	-0.1
	3.0nm,0.9s,baz=133,slow=6.5,SNR=3.6						
STKA	**Stephens Creek**	**38.91**	**241**	P	P	12 34 55.5	+0.3
	2.4nm,1.0s,baz=62,slow=5.2,SNR=3.5						
WB2	**Warramunga Arr**	**44.95**	**260**	*e*P	P	12 35 42.7	-0.7
WRA	**Warramunga Arr**	**44.97**	**260**	P	P	12 35 42.9	-0.6
	1.9nm,0.4s,baz=96,slow=6.8,SNR=114						
WRA				PcP	PcP	12 37 14.7	-0.6
	0.3nm,0.4s,baz=97,slow=3.6,SNR=3.6						
ASAR	**Alice Springs**	**45.11**	**254**	P	P	12 35 44.9	+0.3
	14nm,0.6s,baz=88,slow=8.3,SNR=341						
ASAR				PcP	PcP	12 37 15.1	-0.7
	0.5nm,0.5s,baz=102,slow=3.5,SNR=4.3						
KAKA	**Kakadu**	**47.93**	**269**	*e*P	P	12 36 05.5	-0.7
	24nm,1.5s						
FITZ	**Fitzroy Crossi**	**53.37**	**261**	*e*P	P	12 36 46.1	+0.1
	4.0nm,1.3s						
FITZ	**Fitzroy Crossi**	**53.37**	**261**	P	P	12 36 46.2	+0.3
	0.7nm,0.5s,baz=230,slow=7.9,SNR=4.6						
MJAR	**Matsushiro Arr**	**68.17**	**323**	P	P	12 38 23.3	-0.3
	3.5nm,0.6s,baz=154,slow=6.2,SNR=9.5						
ARCES	**ARCESS Array B**	**126.44**	**350**	PKP	PKPdf	12 46 18.7	-0.8
	0.8nm,0.7s,baz=38,slow=0.8,SNR=11						
FINES	**FINESS Array B**	**133.35**	**344**	PKP	PKPdf	12 46 33.4	+0.6
	0.5nm,0.5s,baz=58,slow=3.4,SNR=3.0						
BRG	**Berggiesshubel**	**145.81**	**346**	*e*(P)	PKPdf	12 46 47.2	-8.4
	3.2nm,0.9s						
VYHS	**Vyhne**	**146.60**	**339**	*e*	PKPdf	12 46 59.6	+2.6
KHC	**Kasperske Hory**	**147.53**	**346**	*e*P	PKPdf	12 47 02.0	+3.5
GERES	**GERESS Array B**	**147.76**	**345**	PKPbc	PKPbc	12 47 02.7	+0.2
	2.2nm,0.5s,baz=28,slow=3.0,SNR=13						

*BJI **23** 12:31:56.6, 1790S×16800E, h10km, mB5.0, mb4.8*
*NEIC **23** 12:31:58.6±0.4, 1790S×16804E, h10km, mb4.7/5, Error ellipse: s-maj=16.1km s-min=14.7km az=118.0*
*ISCJB **23** 12:32:01.1±2.1, 1797S±007×1679E±0.1, h46km±17km, mb4.4/16, MS3.5/7, Error ellipse: s-maj=17.8km s-min=11.1km az=166.9*
*MOS **23** 12:32:01.7±2.2, 1788S×16772E, h33km, mb4.6/11, Error ellipse: s-maj=18.1km s-min=14.2km az=40.7*
*IDC **23** 12:32:04.2±3.9, 1789S×16794E, h65km±33km, mb4.0/11, mb1 4.2/12, mb1mx4.1/17, mbtmp4.1/12, ML5.1/1, MS3.6/8, Ms1 3.6/8, ms1mx3.4/18, Error ellipse: s-maj=21.0km s-min=20.5km az=19.0*

ISC 23 12:32:03.1±1.7, 1797S±007×1679E±01, h50km±14km, n105, σ1⁝02/39, mb4.4/15, MS3.5/7, 5C-1D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.32**	**199**	*e*P	**Pn**	**12 33 06.6**	**+0.3**
DZM				*e*S	**Sn**	**12 33 53.9**	**-1.5**
HNR	**Honiara**	**11.50**	**316**	P	**Pn**	**12 34 44.7**	**0.0**
HNR				S	**Sn**	**12 36 46.5**	**-5.2**
HNR				pmax	pmax		
	comp=Z,12nm,0.3s						
HNR				smax			
	comp=N,6.0nm,0.3s						
HNR				MLR	MLR		
	comp=Z,160nm,20.1s						
HNR	**Honiara**	**11.50**	**316**	P	**Pn**	**12 34 44.7**	**0.0**
	comp=Z,12nm,0.3s,baz=150,slow=0.4,SNR=17						
HNR				S	**Sn**	**12 36 46.5**	**-5.3**
	comp=Z,6.3nm,0.3s,baz=93,slow=12,SNR=3.3						
HNR				LR	LR	12 38 13.0	
	comp=Z,160nm,20.1s,baz=181,slow=32						
ARMA	**Armidale**	**19.34**	**227**	*e*P	**Pn**	**12 36 26.4**	**+0.6**
	comp=Z,1.6nm,1.6s						
CTA	**Charters Tower**	**20.61**	**261**	P	**P**	**12 36 39.9**	**+1.6**
CTA				pmax	pmax		
	comp=Z,5.0nm,0.8s						
CTA				MLR	MLR		
	comp=Z,187nm,19.6s						
CTA	**Charters Tower**	**20.61**	**261**	P	**P**	**12 36 39.9**	**+1.5**
	comp=Z,5.0nm,0.8s,baz=89,slow=15,SNR=4.3						
CTA				LR	LR	12 43 44.2	
	comp=Z,187nm,19.6s,MS3.5,baz=75,slow=34						
URZ	**Urewera**	**21.75**	**160**	P	**P**	**12 36 51.5**	**+1.2**
	comp=Z,15nm,0.7s,mb4.6,baz=18,slow=1.6,SNR=16						
URZ				LR	LR	12 44 21.9	
	comp=Z,204nm,18.1s,MS3.6,baz=298,slow=34						
RIV	**Riverview**	**21.80**	**220**	*e*P	pP	12 37 09.3	+6.6
CNB	**Canberra Magne**	**23.90**	**220**	*e*P	sP	12 37 38.9	+7.9
	comp=Z,15nm,0.8s						
RPZ	**Rata Peaks**	**25.80**	**175**	LR	LR	12 46 25.5	
	comp=Z,174nm,19.4s,MS3.6,baz=42,slow=33						
STKA	**Stephens Creek**	**27.53**	**235**	*e*P	**P**	**12 37 46.2**	**+1.1**
	comp=Z,6.0nm,0.8s,mb4.3						
STKA	**Stephens Creek**	**27.53**	**235**	*e*P	**P**	**12 37 46.5**	**+1.4**
	comp=Z,3.4nm,0.7s,mb4.1						
STKA	**Stephens Creek**	**27.53**	**235**	P	**P**	**12 37 45.4**	**+0.2**
	comp=Z,2.8nm,0.6s,mb4.1,baz=109,slow=14,SNR=9.1						
STKA				PcP	PcP	12 41 02.1	-0.1
	comp=Z,3.1nm,0.8s,baz=355,slow=8.4,SNR=3.7						
STKA				LR	LR	12 48 31.4	
	comp=Z,123nm,20.3s,MS3.5,baz=22,slow=36						
WRA	**Warramunga Arr**	**31.82**	**261**	P	**P**	**12 38 21.3**	**-1.9**
WRA						12 41 12.9	
WRA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
WRA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
WRA	**Warramunga Arr**	**31.82**	**261**	P	**P**	**12 38 21.3**	**-2.0**
	comp=Z,1.5nm,0.7s,mb3.9,baz=83,slow=5.9,SNR=15						
WRA				PcP	PcP	12 41 12.9	-0.6
	comp=Z,0.6nm,0.5s,baz=91,slow=3.2,SNR=49						
ASAR	**Alice Springs**	**32.27**	**254**	P	**P**	**12 38 26.6**	**-0.6**
ASAR						12 41 13.7	
ASAR				pmax	pmax		
	comp=Z,3.0nm,0.5s						
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ASAR	**Alice Springs**	**32.27**	**254**	P	**P**	**12 38 26.6**	**-0.6**
	comp=Z,3.1nm,0.5s,mb4.4,baz=79,slow=9.1,SNR=23						
ASAR				PcP	PcP	12 41 13.7	-1.0
	comp=Z,1.4nm,0.8s,baz=109,slow=2.4,SNR=8.0						
GUMO	**Guam**	**38.75**	**322**	LR	LR	12 53 47.6	
	comp=Z,30nm,22.0s,MS3.1,baz=111,slow=34						
FITZ	**Fitzroy Crossi**	**40.16**	**263**	*e*P	**P**	**12 39 35.1**	**+0.5**
	comp=Z,8.6nm,0.8s,mb4.5						
FITZ	**Fitzroy Crossi**	**40.16**	**263**	P	**P**	**12 39 35.0**	**+0.3**
	comp=Z,5.4nm,0.9s,mb4.3,baz=87,slow=6.9,SNR=10						
PPT	**Papeete**	**40.39**	**96**	*e*LR	LR	12 51 30.8	
	comp=Z,164nm,25.0s						
TAOE	**Nuku Hiva Isla**	**51.16**	**87**	*e*LR	LR	12 56 25.4	
	comp=Z,4μm,24.4s						
VNDA	**Vanda**	**59.66**	**182**	P	**P**	**12 42 01.9**	**+0.2**
VNDA	**Vanda**	**59.66**	**182**	P	**P**	**12 42 01.9**	**+0.2**
VNDA				pmax	pmax		
	comp=Z,2.0nm,1.1s						
VNDA	**Vanda**	**59.66**	**182**	P	**P**	**12 42 01.9**	**+0.2**
	comp=Z,2.3nm,1.1s,mb4.1,baz=10,slow=6.8,SNR=5.1						
KSRS	**Korea Array**	**66.77**	**326**	LR	LR	13 12 13.6	
	comp=Z,25nm,18.1s,MS3.5,baz=90,slow=36						
QSPA	**South Pole Qui**	**72.08**	**180**	*e*P	**P**	**12 43 22.7**	**+1.1**
	comp=Z,16nm,0.9s,mb5.0						
KLR	**Kul'dur**	**74.21**	**336**	*e*P	**P**	**12 43 30.4**	**-4.0**
ULN	**Ulaanbaatar**	**85.11**	**324**	*e*P	**P**	**12 44 34.2**	**+0.6**
	comp=Z,5.4nm,0.8s,mb4.7						
ULN	**Ulaanbaatar**	**85.11**	**324**	*e*P	**P**	**12 44 34.2**	**+0.6**
ULN				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.7						
GTA	**Gaotai**	**85.36**	**314**	*e*P	**P**	**12 44 36.4**	**+1.4**
GTA				AMB	AMB		
	comp=Z,3.0nm,0.9s,mb4.4						
SONM	**Songino Array**	**85.47**	**324**	P	**P**	**12 44 35.5**	**+0.2**
SONM				pmax	pmax		
	comp=Z,3.0nm,0.9s						
SONM	**Songino Array**	**85.47**	**324**	P	**P**	**12 44 35.5**	**+0.2**
	comp=Z,3.4nm,0.8s,mb4.5,baz=157,slow=8.7,SNR=23						
BILL	**Bilibino**	**85.77**	**359**	*e*P	**P**	**12 44 36.2**	**-0.1**
BILL				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.8						
BOD	**Bodaibo**	**87.66**	**334**	*e*P	**P**	**12 44 43.7**	**-2.1**
ZAK	**Zakamensk**	**88.55**	**325**	*e*P	**P**	**12 44 49.7**	**-0.5**
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.2s,mb4.3						
NVAR	**Mina Array Bea**	**88.89**	**49**	P	**P**	**12 44 51.6**	**-0.5**
	comp=Z,1.1nm,0.7s,mb4.3,baz=217,slow=6.1,SNR=4.4						
VNA3	**Neumayer Olymp**	**91.01**	**181**	*e*	**P**	**12 45 01.6**	**+0.1**
VNA3				*e*		12 45 03.8	
VNA3				*e*		12 45 08.9	
VNA2	**Neumayer--Watz**	**91.28**	**182**	*e*	**P**	**12 45 03.0**	**+0.2**
	baz=180,slow=4.5						
VNA2				*e*		12 45 05.6	
VNA2				*e*		12 45 10.5	
VNA1	**Neumayer--Stat**	**91.58**	**181**	*e*	**P**	**12 45 02.3**	**-1.9**
VNA1				*e*		12 45 05.2	
VNA1				*e*		12 45 10.2	
SRU	**San Rafael**	**94.79**	**51**	*e*P	**P**	**12 45 20.4**	**+1.0**
	comp=Z,3.1nm,0.8s,mb4.8						
SRU	**San Rafael**	**94.79**	**51**	*e*P	**P**	**12 45 20.5**	**+1.0**
SRU				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.8						
PDAR	**Pinedale Array**	**96.66**	**47**	LR	LR	13 22 18.7	
	comp=Z,71nm,18.7s,MS4.2,baz=159,slow=31						
TXAR	**Lajitas Array**	**97.24**	**62**	P	**P**	**12 45 29.8**	**-1.0**
	comp=Z,0.3nm,0.7s,mb3.8,baz=251,slow=3.8,SNR=2.2						
MKAR	**Makanchi Array**	**99.97**	**316**	P	Pdif	12 45 42.2	-0.5
	comp=Z,0.4nm,0.4s,baz=76,slow=7.1,SNR=2.5						
YKA	**Yellowknife Ar**	**100.11**	**27**	P	Pdif	12 45 41.6	-1.6
YKA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
YKA	**Yellowknife Ar**	**100.11**	**27**	P	Pdif	12 45 41.6	-1.6
	comp=Z,0.5nm,0.5s,baz=256,slow=4.8,SNR=22						
ARCES	**ARCESS Array B**	**123.53**	**345**	PKIKP	PKPdf	12 50 52.7	-1.5
ARCES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ARCES	**ARCESS Array B**	**123.53**	**345**	PKP	PKPdf	12 50 52.6	-1.5
	comp=Z,1.0nm,0.4s,baz=69,slow=1.9,SNR=21						
SCHQ	**Schefferville**	**124.59**	**35**	PKP	PKPdf	12 50 55.3	-1.4
	comp=Z,3.2nm,1.0s,baz=241,slow=19,SNR=3.4						
FINES	**FINESS Array B**	**128.95**	**338**	PKIKP	PKPdf	12 51 04.2	-0.6
FINES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
FINES	**FINESS Array B**	**128.95**	**338**	PKP	PKPdf	12 51 04.2	-0.6
	comp=Z,0.5nm,0.5s,baz=101,slow=4.4,SNR=3.2						
NB2	**NORSAR Subarra**	**133.90**	**345**	PKPdf	PKPdf	12 51 13.9	-0.2
	comp=Z,1.2nm,0.8s,baz=30,slow=1.9						
NOA	**NORSAR Array B**	**133.90**	**345**	PKIKP	PKPdf	12 51 12.8	-1.3
NOA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
NOA	**NORSAR Array B**	**133.90**	**345**	PKP	PKPdf	12 51 12.8	-1.3
	comp=Z,0.8nm,0.7s,baz=34,slow=2.1,SNR=4.3						
GERES	**GERESS Array B**	**142.79**	**332**	PKHKP		12 51 26.0	
	comp=Z,0.4nm,0.3s,baz=29,slow=3.0,SNR=3.6						
ABTA	**Abfaltersbach**	**144.87**	**330**	⇑*i*PKPbc	PKPdf	12 51 32.7	-1.8
	comp=Z,11nm,0.7s						
MOTA	**Moosalm**	**145.07**	**332**	⇑*i*P	PKPbc	12 51 34.1	-0.3
	comp=Z,13nm,1.0s						
RETA	**Reutte**	**145.12**	**333**	⇑*i*PKPbc	PKPbc	12 51 34.2	-0.3
	comp=Z,8.0nm,0.6s						
SQTA	**Sankt Quirin**	**145.12**	**332**	⇑*i*P	PKPbc	12 51 34.3	-0.2
	comp=Z,11nm,0.9s						
WLF	**Walferdange**	**145.14**	**339**	*e*PKPbc	PKPbc	12 51 35.1	+0.6
GIVF	**Givet**	**145.19**	**341**	*e*PKP1	PKPbc	12 51 34.1	-0.6
BAIF	**Baives**	**145.42**	**341**	*e*PKP1	PKPbc	12 51 35.1	-0.3
	comp=Z,47nm,1.2s						
BFO	**Black Forest**	**145.46**	**336**	*e*PKPbc	PKPbc	12 51 35.3	-0.3
FETA	**Feichten**	**145.49**	**332**	⇓*i*PKPbc	PKPbc	12 51 35.5	-0.2
	comp=Z,26nm,0.9s						
DAVA	**Damuels**	**145.65**	**333**	⇑*i*P	PKPdf	12 51 36.0	+0.1
	comp=Z,24nm,1.0s						
CDF	**Champ du Feu**	**145.79**	**337**	*e*PKP1	PKPbc	12 51 36.3	-0.3
	comp=Z,12nm,0.6s						
HINF	**Hinteralfeld**	**146.45**	**337**	*e*PKP1	PKPbc	12 51 37.9	-0.7
HAU	**Haudompre**	**146.48**	**337**	*e*PKP1	PKPbc	12 51 38.2	-0.5
	comp=Z,22nm,0.9s						
MEZF	**Maizieres J'vi**	**146.51**	**339**	*e*PKP1	PKPbc	12 51 38.8	+0.1
TIP	**Timpagrande**	**147.26**	**316**	*e*PKPdf	PKPbc	12 51 40.4	-0.8
CABF	**La Chapelle**	**147.74**	**336**	*e*PKP1	PKPbc	12 51 41.9	-0.4
	comp=Z,46nm,1.0s						
FLN	**La Foliniere**	**147.87**	**346**	*e*PKP1	PKPbc	12 51 41.7	-0.8
	comp=Z,16nm,0.7s						
LDF	**La Druitiere**	**147.94**	**345**	*e*PKP1	PKPbc	12 51 41.9	-0.8
	comp=Z,7.7nm,0.6s						
LOR	**Lormes**	**147.98**	**339**	*e*PKP1	PKPbc	12 51 42.5	-0.4
	comp=Z,22nm,0.9s						
SSF	**Saint Saulge**	**148.28**	**340**	*e*PKP1	PKPbc	12 51 43.4	-0.3
	comp=Z,41nm,0.9s						
GRR	**Gorron**	**148.31**	**346**	*e*PKP1	PKPbc	12 51 43.1	-0.6
LPL	**La Plagne**	**148.38**	**334**	*e*PKP1	PKPbc	12 51 44.2	+0.2
	comp=Z,19nm,0.9s						
LPG	**La Plagne**	**148.39**	**334**	*e*PKP1	PKPbc	12 51 44.3	+0.3
	comp=Z,18nm,0.8s						
SMF	**Signal de Mont**	**148.53**	**339**	*e*PKP1	PKPbc	12 51 43.7	-0.6
	comp=Z,21nm,1.1s						
AVF	**Avril sur Loir**	**148.57**	**340**	*e*PKP1	PKPbc	12 51 43.7	-0.7
	comp=Z,12nm,0.9s						
BNI	**Bardonecchia**	**148.78**	**334**	*e*PKPbc	PKPbc	12 51 45.4	+0.3
SGMF	**Saint Gilles**	**148.81**	**348**	*e*PKP1	PKPbc	12 51 44.0	-1.0
ROSF	**Rostrenen**	**148.87**	**349**	*e*PKP1	PKPbc	12 51 44.3	-0.9
BGF	**Bois d'Agland**	**148.94**	**340**	*e*PKP1	PKPbc	12 51 44.8	-0.6
	comp=Z,21nm,0.8s						
MBDF	**Montbardon**	**149.00**	**333**	*e*PKP1	PKPbc	12 51 45.1	-0.5
	comp=Z,7.9nm,0.7s						
ORIF	**Oris-en-Rattie**	**149.22**	**335**	*e*PKP1	PKPbc	12 51 45.9	-0.2
	comp=Z,21nm,0.8s						
QUIF	**Quistinic**	**149.25**	**348**	*e*PKP1	PKPbc	12 51 45.1	-1.0
TCF	**Toulx Ste Croi**	**149.38**	**340**	*e*PKP1	PKPbc	12 51 45.9	-0.6
SBF	**Sospel**	**149.40**	**332**	*e*PKP1	PKPbc	12 51 45.8	-0.8
	comp=Z,42nm,1.0s						
PGF	**Pioggiola**	**149.65**	**328**	*e*PKP1	PKPbc	12 51 46.8	-0.5
	comp=Z,53nm,1.0s						
VIVF	**Saint-Julien-l**	**149.75**	**336**	*e*PKP1	PKPbc	12 51 47.2	-0.3
	comp=Z,23nm,1.0s						
MFF	**Saint Martin d**	**149.79**	**344**	*e*PKP1	PKPbc	12 51 46.7	-0.8
	comp=Z,31nm,1.0s						
FRF	**La Foret Royal**	**149.99**	**332**	*e*PKP1	PKPbc	12 51 47.4	-0.7
SMRF	**Simiane la Rot**	**150.12**	**334**	*e*PKP1	PKPbc	12 51 48.4	0.0
	comp=Z,36nm,1.0s						
LMR	**La Mourre**	**150.23**	**332**	*e*PKP1	PKPbc	12 51 48.0	-0.7
	comp=Z,34nm,1.0s						
RJF	**Les Rejaudoux**	**150.48**	**340**	*e*PKP1	PKPbc	12 51 48.5	-0.7
	comp=Z,16nm,0.8s						
CAF	**Calviac**	**150.64**	**339**	*e*PKP1	PKPbc	12 51 49.3	-0.3
	comp=Z,7.8nm,0.8s						
LASF	**Ste Croix**	**150.72**	**336**	*e*PKP1	PKPbc	12 51 49.6	-0.2
	comp=Z,34nm,0.9s						
LFF	**La Frestale**	**151.05**	**341**	*e*PKP1	PKPbc	12 51 50.2	-0.4
	comp=Z,24nm,0.8s						
MTLF	**Montolieu**	**151.97**	**337**	*e*PKP1	PKPbc	12 51 52.3	-0.4
	comp=Z,13nm,0.9s						
EPF	**Esparros**	**152.89**	**340**	*e*PKP1	PKPbc	12 51 55.6	+0.8
ETSF	**Etsaut**	**153.30**	**341**	*e*PKP1	PKPbc	12 51 55.7	0.0
	comp=Z,11nm,0.8s						
SJPF	**Ste Jean**	**153.30**	**342**	*e*PKP1	PKPbc	12 51 56.2	+0.5
TORD	**Torodi Ar. Bea**	**165.91**	**252**	PKP	PKPdf	12 52 01.7	-1.6
	comp=Z,1.3nm,0.9s,baz=22,slow=0.6,SNR=5.7						
TORD				PKPab	PKPab	12 53 02.6	-0.8
	comp=Z,1.2nm,0.9s,baz=90,slow=3.4,SNR=5.1						

IDC 23 13:08:52.9±1.7, 041N×9836E, h0km, mb3.8/7, mb1 3.9/8, mb1mx3.7/21, mbtmp3.8/8, Error ellipse: s-maj=54.7km s-min=19.9km az=61.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.44**	**13**	Pn	Pn	13 09 34.0	-0.1
WRA	**Warramunga Arr**	**40.64**	**122**	P	P	13 16 35.0	0.0
	0.2nm,0.7s,baz=308,slow=9.2,SNR=3.9						
ASAR	**Alice Springs**	**42.00**	**127**	P	P	13 16 46.6	+0.4
	0.5nm,0.9s,baz=258,slow=5.0,SNR=3.4						
KSRS	**Korea Array**	**45.85**	**33**	P	P	13 17 15.7	-1.3
	1.4nm,0.7s,baz=221,slow=9.2,SNR=8.8						
SONM	**Songino Array**	**47.75**	**7**	P	P	13 17 32.0	+0.4
	1.0nm,0.8s,baz=188,slow=9.0,SNR=7.8						
MKAR	**Makanchi Array**	**48.29**	**345**	P	P	13 17 36.5	+0.7
	1.6nm,0.5s,baz=158,slow=8.6,SNR=14						
ZALV	**Zalesovo Beam**	**54.52**	**350**	P	P	13 18 22.1	-0.3
	1.8nm,0.5s,baz=176,slow=6.1,SNR=8.5						
ARCES	**ARCESS Array B**	**83.66**	**340**	P	P	13 21 22.6	-0.5
	2.5nm,1.0s,baz=69,slow=4.0,SNR=4.6

ms1mx3.1/21, Error ellipse: s-maj=76.1km s-min=18.9km az=77.0
NEIC ***23*** *13:46:02.4±1.2, 3.10N×12725E, h10km, mb3.9/2, Error ellipse: s-maj=66.7km s-min=16.7km az=69.0*
ISCJB ***23*** *13:46:04.5±0.9, 30N±0.1×1268E±0.4, h33km, mb3.8/6, MS3.6/3, Error ellipse: s-maj=60.6km s-min=13.9km az=166.6*

ISC 23 13:46:06.7±0.9,**30N**±01×**1270E**±0.4,**h35**km,**n12**,σ0§**62**/9,
mb3.8/6,**MS3.6**/3,**Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**20.55**	**58**	LR	LR	13 58 21.6	
	comp=Z,98nm,18.6s,MS3.2,baz=107,slow=36						
FITZ	**Fitzroy Crossi**	**20.97**	**184**	*e*P	**P**	**13 50 47.7**	**+0.7**
	5.8nm,1.2s						
FITZ	**Fitzroy Crossi**	**20.97**	**184**	P	**P**	**13 50 47.4**	**+0.5**
	1.4nm,0.4s,baz=7.2,slow=11,SNR=8.0						
WRAB	**Tennant Creek**	**23.86**	**163**	*e*P	**P**	**13 51 17.0**	**0.0**
	2.0nm,0.4s,mb3.9						
WRA	**Warramunga Arr**	**23.86**	**163**	P	**P**	**13 51 15.8**	**-1.2**
	2.0nm,0.4s,mb3.9,baz=341,slow=11,SNR=42						
WB2	**Warramunga Arr**	**23.87**	**163**	*e*P	**P**	**13 51 16.6**	**-0.5**
ASAR	**Alice Springs**	**27.30**	**166**	P	**P**	**13 51 48.5**	**+0.3**
	0.4nm,0.3s,mb3.4,baz=353,slow=6.6,SNR=15						
KSRS	**Korea Array**	**34.34**	**1**	P	**P**	**13 52 50.5**	**+0.4**
	0.7nm,0.6s,mb3.8,baz=191,slow=10,SNR=4.8						
STKA	**Stephens Creek**	**37.31**	**159**	P	**P**	**13 53 16.4**	**+0.7**
	1.6nm,0.6s,mb4.0,baz=354,slow=9.5,SNR=3.6						
MKAR	**Makanchi Array**	**58.35**	**325**	P	**P**	**13 55 58.0**	**-0.5**
	0.8nm,0.7s,mb3.9,baz=133,slow=7.9,SNR=4.6						
KMBO	**Kilima Mbogo**	**89.83**	**269**	LR	LR	14 37 19.2	
	comp=Z,71nm,19.9s,MS4.1,baz=98,slow=34						
NOA	**NORSAR Array B**	**99.61**	**334**	LR	LR	14 51 16.8	
	comp=Z,14nm,18.5s,MS3.5,baz=135,slow=39						

SKO ***23*** *14:11:25.3, 4445N×2058E, h0km, M3.2, ML4.0*
ISCJB ***23*** *14:11:29.9±0.3, 4393N±001×2033E±002, h5km±2km, Error ellipse: s-maj=2.6km s-min=2.0km az=3.2*
NEIC ***23*** *14:11:30.7, 4390N×2029E, h3km, ML3.7(PDG), ML3.6(ROM), ML3.4(BUC), After PDG.*
NEIC Felt at Belgrade.
PDG ***23*** *14:11:30.7±1.8, 4390N×2029E, h3km±4km, MD3.6/10, ML3.7/7, Error ellipse: s-maj=2.0km s-min=3.1km az=0.0*
LDG ***23*** *14:11:30.6±0.1, 4393N×2034E, h10km, Ml3.4/2, Error ellipse: s-maj=2.4km s-min=1.9km az=32.0*
BEO ***23*** *14:11:31.8±0.2, 4387N×2025E, h7km±2km, ML3.9/8*
CSEM ***23*** *14:11:32.2±0.0, 4380N×2051E, h10km, ML3.9, Error ellipse: s-maj=1.1km s-min=1.1km az=78.0*
PRU ***23*** *14:11:33.1, 4403N×2021E, h0km*
ROM ***23*** *14:11:35.3±0.8, 4380N×2001E, h10km, Ml3.6/23, Error ellipse: s-maj=12.6km s-min=4.7km az=125.0*

ISC 23 14:11:31.5±0.3,**4393N**±001×**2033E**±002,**h5**km±3km,**n187**,
σ1§**15**/247,**33C-17D**,**Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GRUS	**Gruza**	**0.28**	**98**	*e*Pg	**Pg**	**14 11 36.9**	**0.0**
GRUS				*e*Sg	**Sg**	14 11 43.9	+3.4
DIVS	**Divibare**	**0.30**	**305**	*e*Pg	**Pg**	**14 11 37.2**	**-0.1**
DIVS				*e*Sg	**Sg**	14 11 42.2	+1.0
SJES	**Sjenica**	**0.72**	**204**	*e*Pg	**Pg**	**14 11 43.6**	**-1.6**
SJES				*e*Sg	**Sg**	14 11 52.1	-2.4
SVIS	**Svilajnac**	**0.74**	**60**	*e*Pg	**Pg**	**14 11 46.4**	**+0.7**
SVIS				*e*Sg	**Sg**	14 11 59.8	+4.5
BEO	**Beograd**	**0.90**	**6**	*e*Pg	**Pg**	**14 11 49.7**	**+1.0**
PLE	**Pljevlja**	**0.91**	**229**	⇓*i*Pg	**Pg**	**14 11 46.5**	**-2.3**
PLE				*e*Sg	**Sg**	14 11 59.4	-1.2
BEY	**Berane**	**1.10**	**197**	⇓*i*Pg	**Pg**	**14 11 50.2**	**-2.4**
BEY				*e*Sg	**Sg**	14 12 06.5	-0.3
IVA	**Berane**	**1.10**	**197**	⇓*i*Pg	**Pg**	**14 11 50.2**	**-2.4**
IVA				*e*Sg	**Sg**	14 12 06.5	-0.3
UPM	**Unac-Piva**	**1.26**	**236**	⇓*i*Pg	**Pn**	**14 11 53.1**	**-2.6**
UPM				*e*Sg	**Sg**	14 12 11.8	-0.2
FGSL	**Fruska Gora**	**1.29**	**343**	*e*Pg	**Pg**	**14 11 55.5**	**-0.6**
PVY	**Plav**	**1.36**	**191**	⇑*i*Pg	**Pn**	**14 11 54.9**	**-2.1**
PVY				*e*Sg	**Sg**	14 12 14.8	-0.2
NKY	**Niksic**	**1.48**	**222**	⇓*i*Pg	**Pn**	**14 11 56.7**	**-2.0**
NKY				*e*Sg	**Sg**	14 12 19.2	+0.2
BARS	**Barje**	**1.55**	**135**	*e*Pg	**Pg**	**14 12 00.6**	**-0.6**
BARS				*e*Sg	**Sg**	14 12 21.8	+0.5
BRY	**Bratogost**	**1.66**	**232**	⇓*i*Pn	**Pn**	**14 11 59.8**	**-1.4**
BRY				*e*Sn	**Sn**	14 12 24.7	+1.9
PDG	**Podgorica**	**1.69**	**208**	⇓*i*Pn	**Pn**	**14 12 00.1**	**-1.5**
TTG	**Podgorica**	**1.69**	**208**	⇓*i*Pn	**Pn**	**14 12 00.1**	**-1.5**
TTG				*e*Sn	**Sn**	14 12 25.1	+1.5
PUK	**Puka**	**1.91**	**190**	*i*PN	**Pn**	**14 12 04.7**	**+0.1**
PUK				*i*SN	**Sn**	14 12 33.8	+4.8
BZS	**Buzias**	**1.92**	**28**	⇑P	**Pn**	**14 12 04.5**	**-0.3**
BZS	**Buzias**	**1.92**	**28**	⇑*i*P	**Pn**	**14 12 04.4**	**-0.4**
BZS	**Buzias**	**1.92**	**28**	S	**Sg**	**14 12 35.5**	**+2.3**
BUM	**Brajici-Budva**	**1.94**	**213**	⇑*i*Pn	**Pn**	**14 12 05.3**	**+0.3**
BUM				*e*Sn	**Sn**	14 12 31.1	+1.5
HCY	**Herceg Novi**	**2.00**	**223**	⇑*i*Pn	**Pn**	**14 12 05.7**	**-0.1**
HCY				*e*Sn	**Sn**	14 12 33.1	+1.9
SKO	**Skopje**	**2.12**	**157**	*e*P	**Pn**	**14 12 08.0**	**+0.5**
SKO	**Skopje**	**2.12**	**157**	*e*Pn	**Pn**	**14 12 07.1**	**-0.4**
SKO	**Skopje**	**2.12**	**157**	*i*Pn	**Pn**	**14 12 07.2**	**-0.3**
SKO	**Skopje**	**2.12**	**157**	*i*Pn	**Pn**	**14 12 07.1**	**-0.4**
SKO	**Skopje**	**2.12**	**157**	P	**Pn**	**14 12 08.0**	**+0.5**
ULC	**Ulcinj**	**2.12**	**202**	⇑*i*Pn	**Pn**	**14 12 07.2**	**-0.3**
ULC				*e*Sn	**Sn**	14 12 36.0	+1.9
STON	**Ston**	**2.19**	**242**	*e*Pn	**Pn**	**14 12 09.0**	**+0.6**
STON				Sn	**Sn**	14 12 36.9	+0.9
STON	**Ston**	**2.19**	**242**	*e*Pn	**Pn**	**14 12 09.0**	**+0.5**
STON				Sn	**Sn**	14 12 36.8	+0.9
PHP	**Peshkopia**	**2.24**	**178**	*i*PN	**Pn**	**14 12 08.9**	**-0.3**
PHP				*i*SN	**Sn**	14 12 41.5	+4.3
GZR	**Gura Zlata**	**2.28**	**49**	⇑P	**Pn**	**14 12 09.6**	**-0.1**
GZR	**Gura Zlata**	**2.28**	**49**	⇑*i*P	**Pn**	**14 12 09.6**	**-0.1**
GZR	**Gura Zlata**	**2.28**	**49**	S	**Sg**	**14 12 45.8**	**+1.2**
QSH	**Qafa e Shtames**	**2.42**	**188**	*i*PN	**Pg**	**14 12 18.0**	**+0.1**
QSH				*i*SN	**Sg**	14 12 49.0	-0.3
RHK3	**Tenkes**	**2.46**	**324**	⇑*e*P	**Pn**	**14 12 11.7**	**-0.4**
VTS	**Vitosha**	**2.49**	**121**	*e*P	**Pn**	**14 12 12.1**	**-0.5**
VTS	**Vitosha**	**2.49**	**121**	⇑*i*P	**Pn**	**14 12 11.4**	**-1.2**
VTS	**Vitosha**	**2.49**	**121**	*e*Pn	**Pn**	**14 12 12.1**	**-0.5**
PKSM	**Moragy**	**2.58**	**333**	⇑P	**Pn**	**14 12 13.3**	**-0.6**
PKSM	**Moragy**	**2.58**	**333**	⇑*i*P	**Pn**	**14 12 13.3**	**-0.6**
PKSM	**Moragy**	**2.58**	**333**	*e*Pn	**Pn**	**14 12 16.3**	**-0.6**
TIR	**Tirane**	**2.60**	**188**	*e*P	**Pn**	**14 12 16.2**	**+2.1**
TIR	**Tirane**	**2.60**	**188**	Pn	**Pn**	**14 12 16.5**	**+2.4**
	415nm,0.7s						
TIR	**Tirane**	**2.60**	**188**	*i*PN	**Pn**	**14 12 16.2**	**+2.1**
TIR	**Tirane**	**2.60**	**188**	*e*Pn	**Pn**	**14 12 15.2**	**+1.1**
TIR	**Tirane**	**2.60**	**188**	P	**Pn**	**14 12 16.2**	**+2.1**
STIP	**Stip**	**2.62**	**148**	*i*Pn	**Pn**	**14 12 12.5**	**-1.8**
STIP				*i*Sn	**Sg**	14 12 57.1	+1.7
STIP	**Stip**	**2.62**	**148**	*e*P	**Pn**	**14 12 12.7**	**-1.6**
STIP	**Stip**	**2.62**	**148**	*e*Pn	**Pn**	**14 12 13.0**	**-1.3**
KRUS	**Krusevo**	**2.64**	**165**	*i*Pn	**Pn**	**14 12 14.7**	**0.0**
KRUS	**Krusevo**	**2.64**	**165**	*i*Pn	**Pn**	**14 12 14.6**	**-0.1**
OHR	**Ohrid**	**2.83**	**173**	*e*Pn	**Pn**	**14 12 17.3**	**0.0**
OHR				*e*Sg	**Sg**	14 13 01.0	-1.5
OHR	**Ohrid**	**2.83**	**173**	*i*Pn	**Pn**	**14 12 16.5**	**-0.8**
OHR				*i*Sn	**Sg**	14 13 00.4	-2.1
OHR				*e*Lg		14 13 04.8	
	comp=N,382nm,0.9s						
BIA	**Bitola**	**3.00**	**166**	*e*P	**Pn**	**14 12 20.2**	**+0.6**
BIA	**Bitola**	**3.00**	**166**	*i*Pn	**Pn**	**14 12 20.2**	**+0.6**
BIA	**Bitola**	**3.00**	**166**	*i*Pn	**Pn**	**14 12 20.1**	**+0.5**
PKS9	**Tamasi**	**3.03**	**332**	⇓*e*P	**Pn**	**14 12 19.9**	**-0.1**
VAY	**Valandovo**	**3.08**	**147**	*e*P	**Pn**	**14 12 19.5**	**-1.3**
VAY	**Valandovo**	**3.08**	**147**	*i*Pn	**Pn**	**14 12 19.5**	**-1.3**
VAY				*e*Lg		14 13 15.1	
	comp=N,171nm,0.8s						
VAY	**Valandovo**	**3.08**	**147**	*i*Pn	**Pn**	**14 12 19.4**	**-1.4**
SISC	**Sisak**	**3.22**	**300**	*e*Pn	**Pn**	**14 12 22.6**	**-0.1**
SISC				Sn	**Sn**	14 13 03.4	+2.1
SISC	**Sisak**	**3.22**	**300**	*e*Pn	**Pn**	**14 12 22.5**	**-0.1**
SISC				Sn	**Sn**	14 13 03.4	+2.1
KBN	**Korca**	**3.32**	**174**	*i*PN	**Pg**	**14 12 33.4**	**-1.6**
KBN				*i*SN	**Sg**	14 13 20.2	+2.2
DRGR		**3.32**	**29**	⇑P	**Pn**	**14 12 24.0**	**0.0**
DRGR		**3.32**	**29**	⇑*i*P	**Pn**	**14 12 24.0**	**0.0**
GRG	**Griva**	**3.34**	**152**	*e*P	**Pn**	**14 12 24.1**	**-0.2**
GRG	**Griva**	**3.34**	**152**	P	**Pn**	**14 12 24.0**	**-0.3**
KNT	**Kendrikon**	**3.35**	**145**	*e*P	**Pn**	**14 12 23.7**	**-0.7**
NVR	**Nevrokopi**	**3.66**	**133**	⇑*e*PB	**Pb**	**14 12 28.7**	**-7.9**
BUD	**Budapest**	**3.67**	**346**	⇑*e*Pn	**Pn**	**14 12 28.9**	**0.0**
BUD				*e*Sn	**Sn**	14 13 13.9	+1.4
PLD	**Plovdiv**	**3.69**	**118**	*e*P	**Pg**	**14 12 38.8**	**-3.3**
VOIR		**3.69**	**64**	⇑*i*P	**Pn**	**14 12 30.3**	**+1.2**
SRS	**Serrai**	**3.70**	**138**	*e*P	**Pg**	**14 12 42.2**	**-0.1**
PKSG		**3.72**	**339**	⇓*e*P	**Pn**	**14 12 29.5**	**-0.1**
PKSG				*e*S	**Sn**	14 13 13.9	+0.1
KZN	**Kozani**	**3.77**	**163**	*e*PN	**Pn**	**14 12 29.5**	**-0.7**
SOH	**Sokhos**	**3.83**	**143**	*e*P	**Pg**	**14 12 45.6**	**+0.8**
KOGS	**Kog**	**3.83**	**313**	*e*Pn	**Pn**	**14 12 30.8**	**-0.3**
FGMS	**Monte Sant'Ang**	**3.91**	**237**	Pn	**Pn**	**14 12 32.6**	**+0.5**
	comp=N,50nm,0.6s						
PENC	**Penc**	**3.93**	**350**	⇑*e*P	**Pn**	**14 12 33.1**	**+0.7**
PENC				*e*S	**Sn**	14 13 20.6	+1.7
MSAG	**Monte S. Angel**	**3.94**	**237**	Pn	**Pn**	**14 12 31.9**	**-0.6**
	comp=N,167nm,0.7s						
BOJS	**Bojanci**	**3.95**	**295**	*i*Pn	**Pn**	**14 12 33.0**	**+0.4**
NOCI	**Noci**	**3.96**	**219**	Pn	**Pn**	**14 12 32.8**	**0.0**
	comp=N,124nm,0.4s						
NVLJ	**Novalja**	**3.98**	**281**	*e*Pn	**Pn**	**14 12 33.9**	**+0.9**
NVLJ				Sn	**Sn**	14 13 21.9	+1.9
NVLJ	**Novalja**	**3.98**	**281**	*e*Pn	**Pn**	**14 12 33.8**	**+0.8**
NVLJ				Sn	**Sn**	14 13 21.8	+1.8
PSZ	**Piszkesteto**	**4.00**	**356**	⇑P	**Pn**	**14 12 33.3**	**-0.1**
PSZ	**Piszkesteto**	**4.00**	**356**	⇑*i*P	**Pn**	**14 12 33.3**	**-0.1**
PSZ	**Piszkesteto**	**4.00**	**356**	⇑*e*Pn	**Pn**	**14 12 33.4**	**0.0**
PSZ				*e*Sn	**Sn**	14 13 18.3	-2.4
SGRT	**San Giovanni R**	**4.01**	**239**	Pn	**Pn**	**14 12 33.9**	**+0.4**
AMUR	**Altamura**	**4.09**	**224**	Pn	**Pn**	**14 12 33.7**	**-0.9**
DOBS	**Dobrina**	**4.10**	**305**	*i*Pn	**Pn**	**14 12 34.3**	**-0.4**
DOBS				*i*Sn	**Sn**	14 13 19.4	-3.7
LIT	**Litokhoron**	**4.15**	**156**	*e*P	**Pn**	**14 12 34.9**	**-0.5**
RGNG	**Rignano Grg**	**4.16**	**239**	Pn	**Pn**	**14 12 35.8**	**+0.3**
KEK	**Kerkira**	**4.23**	**186**	*e*PB	**Pb**	**14 12 45.0**	**-1.3**
PLG	**Polygyros**	**4.24**	**146**	*e*P	**Pn**	**14 12 36.2**	**-0.4**
PLG	**Polygyros**	**4.24**	**146**	⇑*e*PB	**Pb**	**14 12 36.6**	**-10**
JAN	**Janina**	**4.28**	**175**	*e*PN	**Pn**	**14 12 39.5**	**+2.2**
MLR	**Muntele Rosu**	**4.29**	**67**	⇓P	**Pn**	**14 12 38.9**	**+1.5**
MLR	**Muntele Rosu**	**4.29**	**67**	*e*Pn	**Pn**	**14 12 39.2**	**+1.8**
MLR	**Muntele Rosu**	**4.29**	**67**	⇓*i*P	**Pn**	**14 12 38.9**	**+1.5**
OUR	**Ouranopolis**	**4.50**	**142**	*e*P	**Pn**	**14 12 39.5**	**-0.7**
THL	**Klokotos Trika**	**4.54**	**163**	*e*P	**Pn**	**14 12 40.8**	**+0.1**
THL	**Klokotos Trika**	**4.54**	**163**	⇑*e*PN	**Pn**	**14 12 41.2**	**+0.5**
KECS	**Kecovo**	**4.56**	**1**	*e*PN	**Pn**	**14 12 41.8**	**+0.8**
KECS				*e*SN	**Sn**	14 13 31.6	-2.7
FG5	**Orsara di Pugl**	**4.58**	**236**	Pn	**Pn**	**14 12 41.9**	**+0.6**
	comp=N,32nm,0.4s						
SOP	**Sopron**	**4.59**	**326**	⇑*e*Pn	**Pn**	**14 12 41.2**	**-0.3**
SOP				*e*Sn	**Sn**	14 13 34.5	-0.6
CIGN	**Sant'Elia a Pi**	**4.59**	**242**	Pn	**Pn**	**14 12 42.5**	**+1.0**
	comp=N,23nm,0.6s						
SGTA	**Sant Agata di**	**4.61**	**234**	Pn	**Pn**	**14 12 42.6**	**+0.8**
	comp=N,69nm,0.7s						
VYHS	**Vyhne**	**4.69**	**348**	*e*PN	**Pn**	**14 12 43.5**	**+0.7**
VYHS				*e*SN	**Sn**	14 13 33.4	-4.0
PAIG	**Paliouri**	**4.71**	**147**	*e*P	**Pn**	**14 12 42.5**	**-0.6**
ARSA	**Arzberg**	**4.74**	**316**	⇓*i*Pn	**Pn**	**14 12 42.9**	**-0.6**
	SNR=56						
ARSA				⇓*i*Sn	**Sn**	14 13 36.1	-2.7
ARSA	**Arzberg**	**4.74**	**316**	⇓*i*Pn	**Pn**	**14 12 42.8**	**-0.7**
ARSA				Sn	**Sn**	14 13 36.1	-2.6
RDO	**Rodhopi**	**4.74**	**124**	*e*PN	**Pn**	**14 12 42.5**	**-1.1**
MRLC	**Muro Lucano**	**4.79**	**230**	Pn	**Pn**	**14 12 44.9**	**+0.7**
	comp=N,14nm,0.6s						
JMB	**Yambol**	**4.80**	**106**	*e*P	**Pn**	**14 12 43.9**	**-0.4**
ZST	**Bratislava**	**4.83**	**333**	*e*PN	**Pn**	**14 12 45.2**	**+0.5**
ZST				*e*SN	**Sn**	14 13 36.4	-4.5
OBKA	**Obir**	**4.83**	**304**	*i*P	**Pn**	**14 12 45.9**	**+1.0**
	SNR=11						
OBKA				⇑*i*Sn	**Sn**	14 13 39.6	-1.5
OBKA	**Obir**	**4.83**	**304**	*i*P	**Pn**	**14 12 45.8**	**+1.0**
OBKA				Sn	**Sn**	14 13 39.6	-1.5
KOLL	**Kolacno**	**4.84**	**345**	*e*PN	**Pn**	**14 12 45.3**	**+0.4**
KOLL				*e*SN	**Sn**	14 13 38.9	-2.4
JAVS	**Javornik**	**4.87**	**296**	*i*Pn	**Pn**	**14 12 45.3**	**+0.1**
SCHR	**S. Chirico Rap**	**4.89**	**222**	Pn	**Pn**	**14 12 45.4**	**-0.2**
	comp=N,22nm,0.7s						
MODS	**Modra-Piesok**	**4.93**	**336**	*e*PN	**Pn**	**14 12 46.6**	**+0.5**
MODS				*e*SN	**Sn**	14 13 39.2	-4.2
VRI	**Vrincioaia**	**4.94**	**65**	⇑P	**Pn**	**14 12 47.3**	**+1.0**
VRI	**Vrincioaia**	**4.94**	**65**	⇑*i*P	**Pn**	**14 12 47.3**	**+1.0**
MCRV	**Calabrutti - M**	**4.95**	**232**	Pn	**Pn**	**14 12 46.1**	**-0.3**
	comp=N,35nm,0.5s						
PTRJ	**Pietraroja**	**4.99**	**241**	Pn	**Pn**	**14 12 47.4**	**+0.5**
	comp=N,37nm,0.5s						
MTSN	**Montesano sull**	**5.00**	**225**	Pn	**Pn**	**14 12 47.2**	**+0.1**
	comp=N,39nm,0.5s						
SIRI	**Monte Sirino -**	**5.00**	**223**	Pn	**Pn**	**14 12 48.8**	**+1.6**
	comp=N,39nm,0.6s						
MIDA	**Miranda**	**5.02**	**245**	Pn	**Pn**	**14 12 48.0**	**+0.6**
	comp=N,35nm,0.6s						
VOY	**Vojsko**	**5.03**	**297**	*e*Pn	**Pn**	**14 12 47.7**	**+0.2**
VOY				*e*		14 12 49.0	
VOY				*e*Sn	**Sn**	14 13 43.9	-2.1
CRVS	**Cervenica-Dubn**	**5.04**	**9**	*e*PN	**Pn**	**14 12 47.2**	**-0.4**
CRVS				*e*SN	**Sn**	14 13 44.3	-1.8
RNI2	**Rionero Sannit**	**5.06**	**246**	Pn	**Pn**	**14 12 49.6**	**+1.7**
SGG	**Gregorio Mates**	**5.07**	**242**	Pn	**Pn**	**14 12 48.9**	**+0.8**
	comp=N,70nm,0.6s						
CDRU	**Civita di Ruta**	**5.07**	**229**	Pn	**Pn**	**14 12 47.5**	**-0.6**
	comp=N,21nm,0.5s						
CONA	**Conrad Observa**	**5.07**	**324**	*i*Pn	**Pn**	**14 12 47.9**	**-0.2**
	SNR=16						
CONA				⇑*i*Sn	**Sn**	14 13 46.2	-0.8
EVR	**Evrytania**	**5.13**	**167**	*e*PN	**Pn**	**14 12 44.0**	**-4.9**
VAGA	**Valle Agricola**	**5.15**	**243**	Pn	**Pn**	**14 12 51.3**	**+2.2**
	comp=N,52nm,0.6s						
KOLS	**Kolonicke sedl**	**5.18**	**14**	*e*PN	**Pn**	**14 12 50.9**	**+1.3**
KOLS				*e*SG	**Sg**	14 14 29.0	+11
CMPR	**Campora**	**5.20**	**228**	Pn	**Pn**	**14 12 49.1**	**-0.7**
	comp=N,46nm,0.9s						
LIKS	**Likavka**	**5.20**	**351**	*e*PN	**Pn**	**14 12 55.3**	**+5.5**
MGR	**Morigerati**	**5.20**	**225**	Pn	**Pn**	**14 12 49.9**	**+0.1**
	comp=N,69nm,0.6s						
CING	**Cingoli**	**5.21**	**266**	Pn	**Pn**	**14 12 50.4**	**+0.4**
	comp=N,26nm,0.7s						
MOCO	**Biccari - m.te**	**5.22**	**243**	Pn	**Pn**	**14 12 41.9**	**-8.2**
	comp=N,46nm,0.9s						
BULG	**Bulgheria - Ca**	**5.33**	**226**	Pn	**Pn**	**14 12 51.7**	**+0.1**
VVLD	**Villa Vallelon**	**5.34**	**250**	Pn	**Pn**	**14 12 52.0**	**+0.2**
	comp=N,91nm,0.9s						
POFI	**Posta Fibreno**	**5.35**	**248**	Pn	**Pn**	**14 12 52.9**	**+1.0**
	comp=N,29nm,0.7s						
NRCA	**Norcia**	**5.37**	**261**	Pn	**Pn**	**14 12 52.5**	**+0.3**
	comp=N,14nm,0.7s						
SNTG	**Esanatoglia**	**5.41**	**265**	Pn	**Pn**	**14 12 52.9**	**+0.2**
	comp=N,7.0nm,0.2s						
TIP	**Timpagrande**	**5.45**	**211**	*e*Pn	**Pn**	**14 12 52.0**	**-1.3**
	comp=N,12nm,0.4s						
TIP	**Timpagrande**	**5.45**	**211**	Pn	**Pn**	**14 12 52.4**	**-0.9**
CESI	**CESI - Serrava**	**5.49**	**263**	Pn	**Pn**	**14 12 53.5**	**-0.3**
	comp=N,21nm,0.7s						
LNSS	**Leonessa**	**5.49**	**259**	Pn	**Pn**	**14 12 55.6**	**+1.8**
	comp=N,102nm,0.6s						
HARR	**Harsova**	**5.51**	**79**	⇑*i*P	**Pn**	**14 12 51.1**	**-2.9**
PTCC	**Patocco-Chiusa**	**5.52**	**299**	Pn	**Pn**	**14 12 55.0**	**+0.7**
	comp=N,20nm,0.6s						
STHS	**Stebnicka Huta**	**5.53**	**6**	*e*PN	**Pn**	**14 12 55.3**	**+1.0**
GMNA	**Gemona**	**5.54**	**298**	Pn	**Pn**	**14 12 57.0**	**+2.4**
	comp=N,99nm,0.6s						
PIEI	**Pieia**	**5.66**	**269**	Pn	**Pn**	**14 12 56.5**	**+0.3**
	comp=N,25nm,0.7s						
MURB	**Monte Urbino**	**5.71**	**266**	Pn	**Pn**	**14 12 57.4**	**+0.6**
	comp=N,76nm,0.8s						
VLS	**Valsamata**	**5.75**	**178**	*e*PN	**Pn**	**14 12 56.0**	**-1.4**
MOA	**Molln**	**5.77**	**315**	*i*P	**Pn**	**14 12 58.3**	**+0.6**
	SNR=9.8						
MOA				⇓*i*Sn	**Sn**	14 14 03.1	-1.1
TIRR	**Tirgusor**	**5.83**	**82**	⇑P	**Pn**	**14 12 58.5**	**-0.1**
TIRR	**Tirgusor**	**5.83**	**82**	⇑*i*P	**Pn**	**14 12 58.5**	**-0.1**
KWP	**Kalwaria**	**5.94**	**15**	⇑*i*P	**Pn**	**14 12 52.5**	**-7.4**
VRAC	**Vranov**	**5.97**	**336**	⇑P	**Pn**	**14 13 00.3**	**0.0**
VRAC	**Vranov**	**5.97**	**336**	⇑*i*P	**Pn**	**14 13 00.3**	**-0.1**
VRAC	**Vranov**	**5.97**	**336**	*e*Pn	**Pn**	**14 13 00.3**	**-0.1**
VRAC				*e*Sn	**Sn**	14 14 05.4	-3.6
CRE	**Caprese Michel**	**6.08**	**270**	Pn	**Pn**	**14 13 03.5**	**+1.6**
	comp=N,5.0nm,0.4s						
SFI	**Santa Sofia**	**6.13**	**273**	Pn	**Pn**	**14 13 04.4**	**+1.8**
	comp=N,15nm,0.9s						
MORC	**Moravsky Berou**	**6.16**	**343**	⇓P	**Pn**	**14 13 03.0**	**+0.1**
MORC	**Moravsky Berou**	**6.16**	**343**	⇓*i*P	**Pn**	**14 13 03.0**	**0.0**
MORC	**Moravsky Berou**	**6.16**	**343**	*e*Pn	**Pn**	**14 13 03.2**	**+0.2**
MORC				*e*Sn	**Sn**	14 14 09.6	-4.1
GEC2	**GERESS Array S**	**6.72**	**319**	*e*Pn	**Pn**	**14 13 10.7**	**-0.1**
GEC2	**GERESS Array S**	**6.72**	**319**	*e*Pn	**Pn**	**14 13 10.6**	**-0.1**
WTTA	**Wattenberg**	**6.95**	**302**	⇑*i*Pn	**Pn**	**14 13 13.5**	**-0.4**
DPC	**Dobruska-Polom**	**6.98**	**338**	*e*PN	**Pn**	**14 13 15.5**	**+1.2**
DPC				*e*SN	**Sn**	14 14 30.5	-3.5
KHC	**Kasperske Hory**	**6.98**	**321**	*e*PN	**Pn**	**14 13 15.0**	**+0.7**
KHC				*e*SN	**Sn**	14 14 31.1	-3.0
KHC				*ex*	x	14 14 44.5	
KHC	**Kasperske Hory**	**6.98**	**321**	*e*Pn	**Pn**	**14 13 15.0**	**+0.7**
KHC				*e*Sn	**Sn**	14 14 31.1	-3.0
PRU	**Pruhonice**	**7.24**	**329**	*e*PN	**Pn**	**14 13 17.0**	**-0.8**
PRU				*e*SN	**Sn**	14 14 38.4	-2.0
PGF	**Pioggiola**	**8.39**	**264**	*e*Pn	**Pn**	**14 13 30.4**	**-3.2**
PGF				*e*Sn	**Sn**	14 14 59.5	-9.2
	comp=N,1.3nm,0.3s						
PGF	**Pioggiola**	**8.39**	**264**	*e*Pn	**Pn**	**14 13 30.4**	**-3.2**
PGF				*e*Sn	**Sn**	14 14 59.5	-9.2
	comp=N,0.6nm,0.3s						
CLL	**Collm**	**8.89**	**329**	*e*Pn	**Pn**	**14 13 41.0**	**+0.6**
CLL				*e*(Sn)	**Sn**	14 15 01.0	-20
CLL				*e*Sb	Sn	14 15 41.0	+20
CLL				*e*Sg	Sn	14 16 25.0	+64
SBF	**Sospel**	**9.31**	**274**	*e*Pn	**Pn**	**14 13 41.2**	**-5.1**
LPG	**La Plagne**	**9.80**	**284**	*e*Pn	**Pn**	**14 13 49.2**	**-3.7**
LPL	**La Plagne**	**9.81**	**284**	*e*Pn	**Pn**	**14 13 49.6**	**-3.5**
LPL				*e*Sn	**Sn**	14 15 33.7	-10
	comp=N,1.2nm,0.2s						
LPL	**La Plagne**	**9.81**	**284**	*e*Pn	**Pn**	**14 13 49.6**	**-3.5**
LPL				*e*Sn	**

n27,σ1°39/35, mb3.6/5, 3C, Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEN1	**Los Morros**	**3.49**	**226**	⇑*i*P	**Pn**	**14 51 36.1**	**+3.5**
CEN1				*i* S	**Sn**	**14 52 18.0**	**+3.3**
CEN1				AML	AML	14 52 23.6	
	comp=N,485nm,0.7s						
ANCH	**Antofagasta**	**3.83**	**225**	⇑*i*P	**Pn**	**14 51 37.5**	**+0.6**
ANCH				*i* S	**Sn**	**14 52 20.6**	**-1.9**
ANCH	**Antofagasta**	**3.83**	**225**	⇑*i*P	**Pn**	**14 51 37.5**	**+0.6**
ANCH				*i* S	**Sn**	**14 52 20.6**	**-1.9**
ANCH				AML	AML	14 52 22.9	
	comp=E,1μm,0.2s						
CPN1	**Cerro Paranal**	**4.53**	**216**	*e*P	**Pn**	**14 51 46.8**	**+0.9**
CPN1				*i* S	**Sn**	**14 52 36.4**	**-2.4**
LPAZ	**La Paz**	**4.70**	**352**	*e*Pn	**Pn**	**14 51 51.3**	**+3.0**
LPAZ				S	**Sn**	**14 52 44.8**	**+2.1**
LPAZ				*e*Sn	**Sn**	**14 52 46.1**	**+3.4**
LPAZ	**La Paz**	**4.70**	**352**	P	**Pn**	**14 51 51.3**	**+3.1**
	comp=E,17nm,0.3s,baz=159,slow=8.0,SNR=369						
LPAZ				S	**Sn**	**14 52 44.8**	**+2.1**
	comp=E,2.2nm,0.3s,baz=340,slow=14,SNR=5.7						
ARE	**Arequipa**	**5.88**	**319**	*e*P	**Pn**	**14 52 02.0**	**-1.7**
ARE				*e*S	**Sn**	**14 53 05.0**	**-5.6**
CPCH	**Copiapo**	**6.88**	**202**	*i* S	**Sn**	**14 53 27.9**	**-6.5**
SIV	**San Ignacio**	**7.84**	**52**	P	**Pn**	**14 52 29.5**	**-0.2**
	comp=E,44nm,0.3s,baz=252,slow=11,SNR=823						
SIV				S	**Sn**	**14 53 54.7**	**-2.7**
	baz=151,slow=22,SNR=5.1						
CFAA	**Coronel Fontan**	**10.62**	**184**	P	**Pn**	**14 53 06.8**	**+0.6**
CFAA				S	**Sn**	**14 54 56.0**	**-7.9**
CFAA	**Coronel Fontan**	**10.62**	**184**	P	**Pn**	**14 53 06.8**	**+0.6**
	comp=E,0.2nm,0.3s,baz=1.6,slow=12,SNR=14						
CFAA				S	**Sn**	**14 54 56.0**	**-7.9**
	comp=E,0.4nm,0.3s,baz=249,slow=20,SNR=9.7						
CPUP	**Villa Florida**	**10.72**	**122**	P	**Pn**	**14 53 09.1**	**+1.4**
CPUP	**Villa Florida**	**10.72**	**122**	P	**Pn**	**14 53 09.1**	**+1.4**
	comp=E,3.0nm,0.3s,baz=281,slow=10,SNR=17						
ATAH	**Atahualpa**	**17.45**	**321**	P	**Pn**	**14 54 31.6**	**-0.4**
	comp=E,0.4nm,0.3s,baz=209,slow=9.1,SNR=4.2						
PLCA	**Paso Flores**	**19.88**	**187**	*e*P	**P**	**14 54 57.8**	**+1.0**
	comp=E,4.2nm,0.6s						
PLCA	**Paso Flores**	**19.88**	**187**	P	**P**	**14 54 58.1**	**+1.3**
	comp=E,0.5nm,0.3s,baz=11,slow=12,SNR=12						
RCBR	**Riachuelo**	**34.10**	**68**	*e*P	**P**	**14 57 07.7**	**+0.1**
SRU	**San Rafael**	**72.07**	**326**	*e*P	**P**	**15 01 45.9**	**+1.4**
	comp=E,2.2nm,0.6s,mb4.1						
PDAR	**Pinedale Array**	**74.33**	**329**	P	**P**	**15 01 57.7**	**0.0**
	comp=E,0.1nm,0.4s,mb2.9,baz=110,slow=8.0,SNR=2.9						
NVAR	**Mina Array Bea**	**75.91**	**321**	P	**P**	**15 02 07.0**	**+0.2**
	comp=E,0.4nm,0.4s,mb3.4,baz=165,slow=3.7,SNR=3.8						
TOA0	**Torodi Ar. Sit**	**75.92**	**70**	*e*P	**P**	**15 02 06.5**	**-0.8**
TORD	**Torodi Ar. Bea**	**75.92**	**70**	P	**P**	**15 02 06.5**	**-0.9**
	comp=E,1.3nm,0.5s,mb3.9,baz=254,slow=5.5,SNR=17						
YKA	**Yellowknife Ar**	**91.14**	**340**	P	**P**	**15 03 22.8**	**-1.1**
YKA				pP	pP	15 04 11.0	+5.5
YKA	**Yellowknife Ar**	**91.14**	**340**	P	**P**	**15 03 22.8**	**-1.1**
	comp=E,0.4nm,0.5s,mb3.7,baz=133,slow=4.3,SNR=11						
YKA				pP	pP	15 04 11.0	+5.5
	comp=E,0.6nm,0.7s,baz=133,slow=4.6,SNR=3.0						
ASAR	**Alice Springs**	**130.99**	**206**	PKP	PKPdf	15 09 30.9	-0.2
	comp=E,0.3nm,0.5s,baz=127,slow=1.5,SNR=8.1						
WRA	**Warramunga Arr**	**134.08**	**209**	PKP	PKPdf	15 09 36.5	-0.5
	comp=E,0.7nm,0.8s,baz=162,slow=1.8,SNR=8.9						
MKAR	**Makanchi Array**	**144.42**	**36**	PKP	PKPdf	15 09 54.2	-0.6
	comp=E,0.2nm,0.3s,baz=343,slow=3.5,SNR=2.6						

IDC 23 15:17:32.3±7.4, 1991S×6685W, h241km±147km, mb3.2/2, mb1 3.3/3, mb1mx3.0/18, mbtmp3.2/3, Error ellipse: s-maj=251.1km s-min=21.7km az=106.0, Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**3.80**	**341**	P	Pn	15 18 35.2	+1.8
	1.2nm,0.3s,baz=141,slow=8.2,SNR=37						
LPAZ				S	S	15 19 22.8	+0.9
	0.5nm,0.3s,baz=285,slow=15,SNR=7.0						
PLCA	**Paso Flores**	**21.00**	**188**	P	P	15 21 57.3	0.0
	1.1nm,0.5s,baz=5.8,slow=10,SNR=4.4						
TORD	**Torodi Ar. Bea**	**75.00**	**70**	P	P	15 28 48.0	+0.1
	0.6nm,0.4s,baz=248,slow=5.6,SNR=13						

*ISCJB **23** 15:45:49.5±0.7, 3866N±003×2395E±007, h27km±6km, Error ellipse: s-maj=9.1km s-min=5.0km az=0.4*
*CSEM **23** 15:45:49.5±0.2, 3863N×2397E, h5km, ML3.1, Error ellipse: s-maj=5.3km s-min=2.3km az=90.0*
*THE **23** 15:45:49.6, 3864N×2391E, h11km, ML3.1*
*NEIC **23** 15:45:49.5, 3866N×2387E, h29km, ML2.6(ATH), After ATH.*
*ATH **23** 15:45:49.4, 3865N×2387E, h29km±4km, MD2.8/6, ML2.6*

ISC 23 15:45:49.5±0.8, 3866N±003×2395E±007, h25km±6km, n13, σ0°95/21, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AOS	**Alonnisos**	**0.51**	**354**	*e*Pg	**Pb**	**15 45 59.5**	**-0.5**
AOS				*e*Sg	**Sb**	**15 46 07.6**	**+0.5**
PTL	**Penteli**	**0.61**	**186**	*e*PB	**Pb**	**15 46 01.0**	**-0.6**
ATH	**Athens Observa**	**0.71**	**195**	*e*PB	**Pb**	**15 46 02.5**	**-0.8**
ATH				*e*SN	**Sn**	**15 46 14.1**	**+0.1**
LKR	**Lokris**	**0.74**	**270**	*e*Pg	**Pb**	**15 46 02.4**	**-1.4**
LKR				*e*Sg	**Sb**	**15 46 13.3**	**-0.2**
LKR	**Lokris**	**0.74**	**270**	*e*Pn	**Pn**	**15 46 02.7**	**-1.6**
LKR				*e*Sn	**Sn**	**15 46 13.1**	**-1.7**
KVR	**Kavouri**	**0.84**	**190**	*e*PN	**Pn**	**15 46 06.0**	**+0.3**
NEO	**Neokhori**	**0.86**	**319**	*e*PN	**Pn**	**15 46 06.0**	**0.0**
NEO				*e*SN	**Sn**	**15 46 17.7**	**0.0**
XOR	**Xorichti**	**0.92**	**321**	*e*Pg	**Pb**	**15 46 07.5**	**+0.7**
XOR				*e*Sg	**Sb**	**15 46 20.5**	**+1.9**
NAIG	**Nisos Aigina**	**0.97**	**202**	*e*PN	**Pn**	**15 46 08.0**	**+0.5**
LTK	**Loutraki**	**1.00**	**231**	*e*Pg	**Pn**	**15 46 07.8**	**-0.1**
LTK				*e*Sg	**Sb**	**15 46 22.4**	**+1.6**
DID	**Didima**	**1.28**	**206**	*e*Pg	**Pn**	**15 46 12.1**	**+0.3**
DID				*e*Sg	**Sn**	**15 46 29.3**	**+1.2**
PAIG	**Paliouri**	**1.28**	**351**	*e*Pg	**Pn**	**15 46 12.7**	**+0.9**
OUR	**Ouranopolis**	**1.67**	**1**	*e*Pb	**Pb**	**15 46 18.4**	**-1.2**

MAN 23 16:04:17, 1926N×12195E, h22km, mb4.5, ML3.4, MS3.3, Philippine Islands region

IDC 23 16:24:46.6±6.8, 3101S×17845W, h0km, mb3.6/2, mb1 3.9/2, mb1mx3.6/14, mbtmp3.6/2, Error ellipse: s-maj=278.9km s-min=56.7km az=156.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**42.69**	**268**	P	P	16 32 45.1	-0.3
	0.5nm,0.6s,baz=108,slow=7.2,SNR=16						
WRA	**Warramunga Arr**	**43.73**	**273**	P	P	16 32 54.1	+0.2
	0.6nm,0.5s,baz=111,slow=8.1,SNR=19						
FINES	**FINESS Array B**	**145.58**	**339**	PKPbc	PKPbc	16 44 25.5	-0.8
	0.5nm,0.5s,baz=60,slow=4.6,SNR=6.0						

*IDC **23** 16:47:54.3±4.5, 3624N×7087E, h156km±40km, mb3.5/9, mb1 3.7/13, mb1mx3.4/25, mbtmp3.5/13, Error ellipse: s-maj=30.6km s-min=15.9km az=29.0*
*NEIC **23** 16:47:57.9±0.6, 3643N×7099E, h187km±5km, mb4.2/9, Error ellipse: s-maj=9.6km s-min=6.7km az=116.0*
*MOS **23** 16:47:57.1±1.2, 3647N×7079E, h186km, mb4.0/8, Error ellipse: s-maj=19.0km s-min=7.8km az=88.2*
*ISCJB **23** 16:47:57.2±0.4, 3650N±003×7087E±005, h186km±5km, mb4.0/13, Error ellipse: s-maj=6.7km s-min=4.3km az=158.5*
*BJI **23** 16:47:58.4, 3660N×7093E, h188km, mB4.6, mb4.3*
*NNC **23** 16:48:12.6±7.0, 3774N×7061E, h177km±81km, mb3.1, mpv4.0, Error ellipse: s-maj=66.5km s-min=35.2km az=23.0*

ISC 23 16:47:58.1±0.4, 3649N±003×7088E±005, h180km±4km, h190km±2.0km: pP-P, n79, σ1°02/98, mb4.0/13, 3C-4D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**2.46**	**218**	*e*Pn	**Pn**	**16 48 41.6**	**+1.3**
KBL				*e*Sn	**Sn**	**16 49 13.4**	**+0.4**
KSH	**Kashi**	**5.03**	**52**	*e*P	**Pn**	**16 49 14.0**	**+1.7**
KSH				S	**Sn**	**16 50 09.5**	**-1.1**
KSH				Smax			
	comp=N,218nm,0.9s						
KSH				Smax			
	comp=E,378nm,1.2s						
THN	**Thein Dam**	**5.69**	**134**	*e*P	**Pn**	**16 49 21.1**	**+0.1**
THN				*e*S	**Sn**	**16 50 24.9**	**-1.3**
DLH	**Dalhousie**	**5.76**	**132**	*e*P	**Pn**	**16 49 23.0**	**+1.1**
DLH				*e*S	**Sn**	**16 50 28.0**	**+0.2**
AML	**Almayashu**	**6.04**	**20**	*e*Pg	**Pn**	**16 49 25.8**	**+0.4**
	comp=E,50nm,0.4s						
AML				*e*Sg	**Sn**	**16 50 19.8**	**-15**
AML	**Almayashu**	**6.04**	**20**	P	**Pn**	**16 49 26.1**	**+0.7**
	SNR=74						
UCH	**Uchtor**	**6.38**	**25**	*e*Pg	**Pn**	**16 49 30.5**	**+0.6**
	comp=E,12nm,0.7s						
UCH				*e*S	**Sn**	**16 50 39.8**	**-2.6**
UCH	**Uchtor**	**6.38**	**25**	P	**Pn**	**16 49 30.7**	**+0.7**
	SNR=21						
EKS2	**Erkin-Say**	**6.55**	**19**	*e*Pg	**Pn**	**16 49 32.2**	**0.0**
	comp=E,8.2nm,0.4s						
EKS2				*e*S	Sn	16 50 25.4	-21
EKS2	**Erkin-Say**	**6.55**	**19**	P	**Pn**	**16 49 33.0**	**+0.7**
	SNR=13						
KK31	**Karatay Array**	**6.61**	**358**	P	**Pn**	**16 49 33.0**	**+0.1**
	comp=E,9.0nm,0.6s,baz=182,slow=15,SNR=99						
KK31				⇓S	**Sn**	**16 50 32.1**	**-16**
	comp=E,4.5nm,0.6s,baz=174,slow=16,SNR=5.1						
KK31	**Karatay Array**	**6.61**	**358**	*i* PN	**Pn**	**16 49 33.0**	**+0.1**
KK31				pmax	pmax		
	comp=Z,8.0nm,0.1s						
AAK	**Ala-Archa**	**6.74**	**23**	*e*P	**Pn**	**16 49 34.1**	**-0.5**
	comp=Z,5.5nm,0.4s						
AAK	**Ala-Archa**	**6.74**	**23**	P	**Pn**	**16 49 34.5**	**-0.1**
	comp=Z,3.0nm,0.3s,baz=175,slow=4.4,SNR=24						
AAK				S	**Sn**	**16 50 47.1**	**-3.8**
	comp=Z,1.8nm,0.3s,baz=218,slow=11,SNR=4.4						
AAK	**Ala-Archa**	**6.74**	**23**	P	**Pn**	**16 49 35.6**	**+0.9**
	SNR=10						
KBK	**Karagaybulak**	**6.91**	**26**	P	**Pn**	**16 49 37.5**	**+0.6**
	SNR=9.8						
SDNR	**Sundarnagar**	**7.09**	**133**	*e*P	**Pn**	**16 49 38.0**	**-1.5**
SDNR				*e*S	**Sn**	**16 50 56.0**	**-3.5**
USP	**Ospenovka**	**7.32**	**21**	P	**Pn**	**16 49 42.8**	**+0.6**
	SNR=6.6						
TKM2	**Tokmak 2**	**7.38**	**28**	⇑P	**Pn**	**16 49 43.5**	**+0.5**
	comp=Z,9.7nm,0.6s						
TKM2				⇑S	**Sn**	**16 51 00.6**	**-5.4**
	comp=Z,8.7nm,0.8s						
TKM2	**Tokmak 2**	**7.38**	**28**	*e*Pn	**Pn**	**16 49 43.2**	**+0.2**
	comp=Z,12nm,0.6s						
TKM2	**Tokmak 2**	**7.38**	**28**	*i* PN	**Pn**	**16 49 43.4**	**+0.4**
TKM2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
TKM2	**Tokmak 2**	**7.38**	**28**	P	**Pn**	**16 49 43.5**	**+0.4**
	SNR=15						
KLP	**Kalpa**	**7.87**	**127**	*e*P	**Pn**	**16 49 49.9**	**+0.3**
KLP				*e*S	**Sn**	**16 51 11.9**	**-6.0**
KLP				AML	AML	16 51 19.5	
	comp=E,227nm,0.6s						
KLP				AML	AML	16 51 22.2	
	comp=N,292nm,0.8s						
JOSI	**Joshimath**	**9.35**	**127**	*e*P	**Pn**	**16 50 09.1**	**-0.1**
JOSI				*e*S	**Sn**	**16 51 47.8**	**-5.6**
JOSI				AML	AML	16 51 50.7	
	comp=E,114nm,0.7s						
JOSI				AML	AML	16 51 51.5	
	comp=N,109nm,0.7s						
KHET	**Khetri**	**9.37**	**152**	*e*P	**Pn**	**16 50 08.3**	**-1.1**
KHET				*e*S	**Sn**	**16 51 45.9**	**-8.0**
KHET				AML	AML	16 51 50.2	
	comp=E,20nm,0.4s						
KHET				AML	AML	16 51 50.4	
	comp=N,23nm,0.3s						
NDI	**New Delhi**	**9.44**	**144**	*e*S	**Sn**	**16 51 46.5**	**-9.1**
SONA	**Sohna**	**9.75**	**146**	*e*S	**Sn**	**16 51 53.6**	**-9.3**
MKAR	**Makanchi Array**	**13.35**	**36**	P	**Pn**	**16 51 00.4**	**-0.1**
	comp=N,0.1nm,0.3s,baz=197,slow=3.8,SNR=4.2						
DANN	**Dangsing**	**13.56**	**123**	*e*P	**Pn**	**16 51 03.2**	**-0.1**
	comp=N,15nm,0.3s						
KOLN	**Koldanda**	**13.84**	**125**	*e*P	**Pn**	**16 51 05.8**	**-1.0**
KOLN				*e*S	**Sn**	**16 53 29.4**	**-11**
GKN	**Gorkha**	**14.38**	**122**	*e*P	**Pn**	**16 51 14.1**	**+0.6**
	comp=N,34nm,0.5s						
WMQ	**Urumqi**	**14.78**	**55**	*e*P	**Pn**	**16 51 19.5**	**+1.2**
WMQ				AMB	AMB		
	comp=Z,9.0nm,0.9s						
WMQ				AMB	AMB		
	comp=Z,103nm,4.2s						
DMN	**Daman**	**14.95**	**122**	*e*P	**Pn**	**16 51 21.1**	**+0.5**
	comp=Z,26nm,0.7s						
KKN	**Kakani**	**14.96**	**121**	*e*P	**Pn**	**16 51 20.5**	**-0.1**
	comp=Z,39nm,0.9s						
AB31	**Akbulak array**	**15.04**	**331**	P	**Pn**	**16 51 20.1**	**-1.4**
	comp=Z,2.8nm,0.5s,baz=145,slow=12,SNR=38						
AB31				S	**S**	**16 53 58.5**	**-10**
	comp=Z,2.1nm,0.7s,baz=154,slow=21,SNR=3.8						
KURK	**Kurchatov**	**15.27**	**19**	Pn	**Pn**	**16 51 25.1**	**+0.9**
	comp=Z,2.4nm,1.0s						
KURK	**Kurchatov**	**15.27**	**19**	⇓*e*P	**Pn**	**16 51 25.9**	**+1.7**
GUN	**Gumba**	**15.30**	**120**	*e*P	**Pn**	**16 51 26.6**	**+1.8**
ZRNK	**Zerenda**	**16.51**	**356**	⇓P	**Pn**	**16 51 39.4**	**+0.1**
	comp=Z,3.3nm,0.5s						
BVA0	**Borovoye Array**	**16.54**	**359**	⇓P	**Pn**	**16 51 38.1**	**-1.4**
	comp=Z,0.7nm,0.9s,baz=160,slow=11,SNR=18						
BVAR	**Borovoye Array**	**16.54**	**359**	P	**Pn**	**16 51 39.1**	**-0.4**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
BVAR	**Borovoye Array**	**16.54**	**359**	P	**Pn**	**16 51 39.1**	**-0.5**
	comp=Z,0.7nm,0.3s,baz=163,slow=11,SNR=20						
BRVK	**Borovoye**	**16.57**	**359**	*e*Pn	**Pn**	**16 51 39.9**	**-0.1**
	comp=Z,6.8nm,0.9s						
BRVK	**Borovoye**	**16.57**	**359**	*e*P	**Pn**	**16 51 39.9**	**-0.1**
BRVK				pmax	pmax		
	comp=Z,7.0nm,0.9s						
AKTK	**Aktyubinsk**	**16.74**	**330**	P	**Pn**	**16 51 42.3**	**+0.3**
AKTO	**Aktyubinsk**	**16.74**	**330**	P	**Pn**	**16 51 42.3**	**+0.3**
AKTO				pmax	pmax		
	comp=Z,2.0nm,0.3s						
AKTO	**Aktyubinsk**	**16.74**	**330**	P	**Pn**	**16 51 42.3**	**+0.3**
	comp=Z,1.7nm,0.3s,baz=140,slow=11,SNR=38						
CHKZ	**Chkalovo**	**17.18**	**359**	*i* P	**Pn**	**16 51 46.0**	**-1.3**
CHKZ				pmax	pmax		
	comp=Z,2.0nm,0.5s						
LSA	**Lhasa**	**18.27**	**106**	*e*P	**P**	**16 52 01.9**	**+3.8**
	comp=Z,4.1nm,0.8s						
LSA	**Lhasa**	**18.27**	**106**	*e*P	**P**	**16 52 02.0**	**+3.9**
LSA				pmax	pmax		
	comp=Z,4.0nm,0.8s						
ZAL	**Zalesovo**	**19.95**	**25**	P	**P**	**16 52 15.7**	**-0.3**
ZAA0	**Zalesovo Array**	**19.96**	**25**	*e*P	**P**	**16 52 15.7**	**-0.4**
ZALV	**Zalesovo Beam**	**19.96**	**25**	P	**P**	**16 52 15.7**	**-0.5**
	comp=Z,4.5nm,0.5s,baz=220,slow=11,SNR=26						
NVS	**Novosibirsk**	**20.22**	**21**	*i* P	**P**	**16 52 18.8**	**-0.1**
NVS				pmax	pmax		
	comp=N,4.0nm,1.0s						
NVS				pmax	pmax		
	comp=Z,10.0nm,1.0s						
ARU	**Arti**	**21.61**	**341**	*e*P	**P**	**16 52 33.4**	**-0.2**
	comp=Z,8.6nm,1.0s,mb4.1						
ARU	**Arti**	**21.61**	**341**	*c i*P	**P**	**16 52 34.1**	**+0.5**
ARU				*e*S	**S**	**16 56 21.2**	**+0.5**
ARU				pmax	pmax		
	comp=Z,11nm,1.2s,mb4.2						
LZH	**Lanzhou**	**26.50**	**81**	P	**P**	**16 53 20.5**	**+1.7**
LZH				AP	pP	16 53 58.6	+3.1
LZH				PP	PP	16 54 13.8	-8.4
LZH				XP	sP	16 54 21.3	+4.9
LZH				AMB	AMB		
	comp=Z,15nm,1.4s,mb4.4						
LZH				AMB	AMB		
	comp=Z,93nm,5.9s						
CD2	**Chengdu**	**27.83**	**92**	*e*P	**P**	**16 53 32.3**	**+1.7**
CD2				PP	PP	16 54 30.5	-6.5
CD2				XP	sP	16 54 33.6	+5.2
CD2				S	**S**	**16 58 00.9**	**+0.6**
CD2				SS	SS	16 59 40.9	-25
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.6						
CD2				AMB	AMB		
	comp=Z,20nm,4.2s						
CD2				LR	LR		
	comp=N,80nm,12.2s						
CD2				LR	LR		
	comp=Z,100nm,11.2s						
KMI	**Kunming**	**29.49**	**104**	P	**P**	**16 53 49.0**	**+3.6**
KMI				AP	pP	16 54 26.8	+4.3
KMI				XP	sP	16 54 48.6	+5.3
KMI				PP	PP	16 54 53.1	-2.5
KMI				S	**S**	**16 58 28.9**	**+2.4**
KMI				XS	sS	16 59 37.3	+4.9
KMI				SS	SS	17 00 18.1	-21
KMI				AMB	AMB		
	comp=Z,6.0nm,0.7s,mb4.4						
KMI				AMB	AMB		
	comp=Z,86nm,4.7s						
KMI				LR	LR		
	comp=N,122nm,7.4s						
KMI				LR	LR		
	comp=E,92nm,8.8s						
KMI				LR	LR		
	comp=Z,85nm,10.1s						
HHC	**Hu-ho-hao-te**	**31.86**	**70**	*e*P	**P**	**16 54 07.3**	**+1.3**
HHC				AP	pP	16 54 47.0	+3.6
HHC				XP	sP	16 55 08.9	+4.8
HHC				PP	PP	16 55 20.9	-0.7
HHC				PCP	PcP	16 56 54.8	+2.6
HHC				S	**S**	**16 59 02.1**	**-1.0**
HHC				XS	sS	17 00 12.6	+3.4
HHC				PCS	PcS	17 00 40.3	+3.3
HHC				AMB	AMB		
	comp=Z,10.0nm,0.2s,mb5.2						
HHC				AMB	AMB		
	comp=Z,106nm,4.5s						
HHC				LR	LR		
	comp=N,82nm,10.2s						
HHC				LR	LR		
	comp=E,142nm,10.2s						
HHC				LR	LR		
	comp=Z,92nm,9.2s						
AKASG	**Malin Array Be**	**32.88**	**309**	P	**P**	**16 54 15.0**	**+0.3**
AKASG	**Malin Array Be**	**32.88**	**309**	P	**P**	**16 54 15.0**	**+0.3**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.6s						
AKASG	**Malin Array Be**	**32.88**	**309**	P	**P**	**16 54 15.0**	**+0.3**
	comp=Z,1.4nm,0.6s,mb3.9,baz=80,slow=7.3,SNR=12						
FINES	**FINESS Array B**	**37.44**	**326**	P	**P**	**16 54 54.1**	**+0.6**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
FINES	**FINESS Array B**	**37.44**	**326**	P	**P**	**16 54 54.1**	**+0.5**
	comp=Z,1.3nm,0.6s,mb3.7,baz=115,slow=13,SNR=6.0						
ARCES	**ARCESS Array B**	**41.12**	**338**	P	**P**	**16 55 24.6**	**+0.7**
ARCES				pmax	pmax		
	comp=Z,5.0nm,0.9s						
ARCES	**ARCESS Array B**	**41.12**	**338**	P	**P**	**16 55 24.6**	**+0.7**
	comp=Z,4.6nm,0.8s,mb4.1,baz=109,slow=7.8,SNR=16						
NB2	**NORSAR Subarra**	**44.33**	**323**	P	**P**	**16 55 49.6**	**-0.2**
	comp=Z,1.9nm,0.6s,mb3.9,baz=97,slow=7.9						
NOA	**NORSAR Array B**	**44.33**	**323**	P	**P**	**16 55 49.6**	**-0.2**
NOA				pmax	pmax		
	comp=Z,3.0nm,0.7s						
NOA	**NORSAR Array B**	**44.33**	**323**	P	**P**	**16 55 49.5**	**-0.3**
	comp=Z,2.5nm,0.7s,mb4.0,baz=97,slow=7.8,SNR=13						
TORD	**Torodi Ar. Bea**	**65.62**	**269**	P	**P**	**16 58 21.2**	**-1.9**
	comp=Z,0.6nm,0.5s,mb3.7,baz=52,slow=5.6,SNR=11						
YKA	**Yellowknife Ar**	**81.26**	**3**	P	**P**	**16 59 53.7**	**+0.2**
YKA	**Yellowknife Ar**	**81.26**	**3**	*i* P	**P**	**16 59 54.2**	**+0.6**
YKA	**Yellowknife Ar**	**81.26**	**3**	P	**P**	**16 59 53.7**	**+0.2**
	comp=Z,0.2nm,0.5s,mb3.0,baz=348,slow=5.2,SNR=4.1						
WRA	**Warramunga Arr**	**82.07**	**122**	P	**P**	**16 59 56.9**	**-1.5**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
WRA	**Warramunga Arr**	**82.07**	**122**	P	**P**	**16 59 56.9**	**-1.5**
	comp=Z,1.3nm,0.7s,mb3.7,baz=324,slow=5.0,SNR=26						
WB2	**Warramunga Arr**	**82.08**	**122**	*e*P	**P**	**16 59 57.0**	**-1.4**
ASAR	**Alice Springs**	**84.33**	**125**	P	**P**	**17 00 08.5**	**-1.4**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ASAR	**Alice Springs**	**84.33**	**125**	P	**P**	**17 00 08.4**	**-1.5**
	comp=Z,1.0nm,0.6s,mb3.7,baz=310,slow=5.0,SNR=27						

*ISCJB **23** 16:52:48.4±0.2, 4456N±001×685E±002, h11km±2km, Error ellipse: s-maj=2.3km s-min=1.7km az=153.5*
*GEN **23** 16:52:49.7, 4450N×684E, h7km, ML2.0*
*CSEM **23** 16:52:50.0±0.0, 4451N×693E, h5km, ML3.0/25, Error ellipse: s-maj=0.9km s-min=0.6km az=60.0*
*LDG **23** 16:52:50.3±0.1, 4452N×692E, h2km, Md3.0/2, Ml3.0/25, Error ellipse: s-maj=1.2km s-min=0.8km az=66.0*
*STR **23** 16:52:50.9±0.1, 4448N×691E, h5km, Ml2.9, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
*NEIC **23** 16:52:50.3, 4454N×692E, h10km, ML3.0(LDG), ML2.9(STR), ML2.4(ROM), After ROM.*
*ROM **23** 16:52:50.3±0.3, 4454N×692E, h10km±3km, Md2.9/15, Ml2.4/10, Error ellipse: s-maj=5.1km s-min=3.1km az=172.0*

ISC 23 16:52:49.5±0.2, 4454N±001×688E±002, h13km±1km, n107, σ1°00/238, 3C-2D, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SURF	**Saint Ours**	**0.08**	**220**	Pg	**Pg**	**16 52 51.9**	**-0.3**
PZZ	**Prazzo**	**0.16**	**103**	⇓*i*Pg	**Pg**	**16 52 54.0**	**+0.7**
MBDF	**Montbardon**	**0.20**	**337**	*e*Pg	**Pg**	**16 52 54.7**	**+0.7**
	SNR=1.0						
MBDF				*e*Sg	**Sg**	**16 52 58.1**	**+1.0**
	2μm,0.2s						
MBDF	**Montbardon**	**0.20**	**337**	*e*Pg	**Pg**	**16 52 54.7**	**+0.7**
	SNR=1.0						
MBDF				*e*Sg	**Sg**	**16 52 58.1**	**+1.0**
	769nm,0.2s						
DOI	**San Damiano**	**0.26**	**98**	⇑*i*Pg	**Pg**	**16 52 55.5**	**+0.5**
DOI				Sg	**Sg**	**16 53 00.2**	**+1.5**
	2μm

LPL La Plagne 0.98 354 *e*Pg **Pg 16 53 08.9 +0.5**
SNR=1.0
LPL *e*Sg **Sg 16 53 21.9 +0.6**
176nm,0.6s,SNR=1.0
LPL La Plagne 0.98 354 *e*Pg **Pg 16 53 08.9 +0.5**
SNR=1.0
LPL *e*Sg **Sg 16 53 21.9 +0.6**
88nm,0.6s,SNR=1.0
FRF La Foret Royal 0.99 190 *e*Pn **Pn 16 53 09.2 +0.1**
SNR=1.0
FRF *e*Sg **Sg 16 53 20.3 -1.3**
176nm,0.2s,SNR=1.0
FRF *e*Sn **Sn 16 53 22.8 -0.1**
SNR=1.0
FRF La Foret Royal 0.99 190 *e*Pg **Pg 16 53 08.1 -0.5**
FRF *e*Pn **Pn 16 53 09.2 +0.1**
FRF *e*Sg **Sg 16 53 20.3 -1.3**
FRF *e*Sn **Sn 16 53 22.8 -0.1**
FRF La Foret Royal 0.99 190 *e*Pn **Pn 16 53 09.2 +0.1**
SNR=1.0
FRF *e*Sg **Sg 16 53 20.3 -1.3**
88nm,0.2s,SNR=1.0
FRF *e*Sn **Sn 16 53 22.8 -0.1**
SNR=1.0
FIN Finale Ligure 1.01 109 Pg **Pg 16 53 08.3 -0.6**
FIN S **Sb 16 53 19.5 -2.4**
QLNO Quiliano 1.07 101 Pg **Pg 16 53 09.7 -0.4**
59nm,0.4s
VILF Villemus 1.08 231 Pn **Pn 16 53 11.6 +1.3**
VILF Sg **Sg 16 53 26.6 +2.1**
SMRF Simiane la Rot 1.09 239 *e*Pg **Pg 16 53 10.9 +0.3**
SNR=1.0
SMRF *e*Sg **Sg 16 53 25.8 +1.0**
104nm,0.2s,SNR=1.0
SMRF Simiane la Rot 1.09 239 *e*Pg **Pg 16 53 10.9 +0.3**
SNR=1.0
SMRF *e*Sg **Sg 16 53 25.8 +1.0**
52nm,0.2s,SNR=1.0
TAVF Tavernes 1.10 213 Pn **Pn 16 53 11.1 +0.6**
TRAV 1.15 32 Pg **Pg 16 53 10.3 -1.3**
42nm,0.4s
TRAV S **Sb 16 53 25.1 -0.9**
PCP Pian Castagno 1.19 89⇑ *i*Pg **Pg 16 53 11.3 -1.1**
92nm,0.4s
PCP Pian Castagno 1.19 89 P **Pn 16 53 11.7 -0.1**
PCP S **Sb 16 53 26.7 -0.4**
LMR La Mourre 1.24 193 *e*Pg **Pg 16 53 12.8 -0.4**
LMR *e*Sg **Sg 16 53 28.2 -1.1**
132nm,0.3s,SNR=1.0
LMR La Mourre 1.24 193 *e*Pn **Pn 16 53 12.2 -0.2**
LMR *e*Pg **Pg 16 53 12.8 -0.4**
LMR *e*Sg **Sg 16 53 28.2 -1.1**
LMR La Mourre 1.24 193 *e*Pg **Pg 16 53 12.8 -0.4**
LMR *e*Sg **Sg 16 53 28.2 -1.1**
66nm,0.3s,SNR=1.0
MRGE Morge 1.24 6 Pg **Pg 16 53 13.5 +0.2**
85nm,1.0s
PUYF Puyloubier 1.32 221 Pn **Pn 16 53 14.6 +1.0**
ORO Oropa 1.34 35 Pg **Pg 16 53 13.8 -1.4**
23nm,0.2s
PRAF Pradon 1.44 240 Pn **Pn 16 53 16.7 +1.6**
PRAF Sg **Sg 16 53 36.9 +1.2**
EMV Vieux Emosson 1.52 0 Pg **Pg 16 53 19.1 +0.4**
DIX Grande Dixence 1.58 13 Pg **Pg 16 53 20.2 +0.3**
VIVF Saint-Julien-l 1.61 282 *e*Pg **Pg 16 53 20.7 +0.4**
VIVF *e*Sn **Sn 16 53 38.9 +0.8**
SNR=1.0
VIVF *e*Sg **Sg 16 53 42.0 +0.8**
30nm,0.3s
VIVF Saint-Julien-l 1.61 282 *e*Pn **Pn 16 53 18.4 +0.9**
VIVF *e*Pg **Pg 16 53 20.7 +0.4**
VIVF *e*Sn **Sn 16 53 38.9 +0.8**
VIVF *e*Sg **Sg 16 53 42.0 +0.8**
VIVF Saint-Julien-l 1.61 282 *e*Pg **Pg 16 53 20.7 +0.4**
VIVF *e*Sn **Sn 16 53 38.9 +0.8**
SNR=1.0
VIVF *e*Sg **Sg 16 53 42.0 +0.8**
15nm,0.3s
MMK Mattmark 1.69 26 Pg **Pg 16 53 20.4 -1.6**
CABF La Chapelle 2.15 345 *e*Pg **Pg 16 53 30.8 +0.2**
CABF *e*Sn **Sn 16 53 50.7 -0.7**
CABF *e*Sg **Sg 16 53 59.2 +0.8**
14nm,0.4s,SNR=1.0
CABF La Chapelle 2.15 345 *e*P **Pn 16 53 27.9 +3.0**
CABF *e*Pg **Pg 16 53 30.8 +0.2**
CABF *e*Sn **Sn 16 53 50.7 -0.7**
CABF *e*Sg **Sg 16 53 59.2 +0.8**
CABF La Chapelle 2.15 345 *e*Pg **Pg 16 53 30.8 +0.2**
CABF *e*Sn **Sn 16 53 50.7 -0.7**
CABF *e*Sg **Sg 16 53 59.2 +0.8**
7.2nm,0.4s,SNR=1.0
LASF Ste Croix 2.22 259 *e*Pg **Pg 16 53 31.5 -0.5**
SNR=1.0
LASF *e*Sn **Sn 16 53 52.4 -0.8**
4.5nm,0.2s,SNR=1.0
LASF Ste Croix 2.22 259 *e*Pn **Pn 16 53 26.1 +0.2**
LASF *e*Pg **Pg 16 53 31.5 -0.5**
LASF *e*Sn **Sn 16 53 52.4 -0.8**
LASF Ste Croix 2.22 259 *e*Pg **Pg 16 53 31.5 -0.5**
SNR=1.0
LASF *e*Sn **Sn 16 53 52.4 -0.8**
2.2nm,0.2s,SNR=1.0
GROG Isola di Gorgo 2.44 116 Pg **Pg 16 53 31.2 -5.1**
27nm,1.3s
COLF Collangettes 2.46 295 Pn **Pn 16 53 30.3 +1.0**
PGF Pioggiola 2.52 142 *e*Pn **Pn 16 53 30.3 +0.3**
SNR=1.0
PGF *e*Sn **Sn 16 53 59.8 -0.7**
18nm,0.2s,SNR=1.0
PGF Pioggiola 2.52 142 *e*Pn **Pn 16 53 30.3 +0.3**
SNR=1.0
PGF *e*Sn **Sn 16 53 59.8 -0.7**
9.0nm,0.2s,SNR=1.0
LBL Lubilhac 2.67 286 Pn **Pn 16 53 33.6 +1.4**
PLDF La Plantade 2.71 303 Pn **Pn 16 53 34.7 +2.0**
PYM Petit Puy Mans 3.00 295 Pn **Pn 16 53 38.3 +1.7**
SMF Signal de Mont 3.00 316 *e*Pg **Pg 16 53 46.5 -0.4**
SNR=1.0
SMF *e*Sn **Sn 16 54 12.0 -0.4**
SMF *e*Sg **Sg 16 54 25.2 -0.5**
16nm,0.4s,SNR=1.0
SMF Signal de Mont 3.00 316 *e*Pn **Pn 16 53 38.4 +1.8**
SMF *e*Pg **Pg 16 53 46.5 -0.4**
SMF *e*Sn **Sn 16 54 12.0 -0.4**
SMF *e*Sg **Sg 16 54 25.2 -0.5**
SMF Signal de Mont 3.00 316 *e*Pg **Pg 16 53 46.5 -0.4**
SNR=1.0
SMF *e*Sn **Sn 16 54 12.0 -0.4**
SMF *e*Sg **Sg 16 54 25.2 -0.5**
7.9nm,0.4s,SNR=1.0
AGO Saint Agoulin 3.05 301 Pn **Pn 16 53 39.1 +1.8**
HINF Hinteralfeld 3.28 360 *e*Pg **Pg 16 53 51.3 -0.9**
HINF *e*Sn **Sn 16 54 18.5 -0.8**
SNR=1.0
HINF *e*Sg **Sg 16 54 33.7 -1.0**
6.7nm,0.4s
HINF Hinteralfeld 3.28 360 *e*Pn **Pn 16 53 41.0 +0.5**
HINF *e*Pg **Pg 16 53 51.3 -0.9**
HINF *e*Sn **Sn 16 54 18.5 -0.8**
HINF *e*Sg **Sg 16 54 33.7 -1.0**
HINF Hinteralfeld 3.28 360 *e*Pg **Pg 16 53 51.3 -0.9**
HINF *e*Sn **Sn 16 54 18.5 -0.8**
SNR=1.0
HINF *e*Sg **Sg 16 54 33.7 -1.0**
3.3nm,0.4s
AVF Avril sur Loir 3.34 314 *e*Pg **Pg 16 53 52.8 -0.7**
SNR=1.0
AVF *e*Sn **Sn 16 54 20.4 -0.5**
AVF *e*Sg **Sg 16 54 35.6 -1.2**
7.1nm,0.4s,SNR=1.0
AVF Avril sur Loir 3.34 314 *e*Pn **Pn 16 53 43.0 +1.6**
AVF *e*Pg **Pg 16 53 52.8 -0.7**
AVF *e*Sn **Sn 16 54 20.4 -0.5**
AVF *e*Sg **Sg 16 54 35.6 -1.2**
AVF Avril sur Loir 3.34 314 *e*Pg **Pg 16 53 52.8 -0.7**
SNR=1.0
AVF *e*Sn **Sn 16 54 20.4 -0.5**
AVF *e*Sg **Sg 16 54 35.6 -1.2**
3.5nm,0.4s,SNR=1.0
LOR Lormes 3.45 323 *e*Pg **Pg 16 53 54.0 -1.5**
SNR=1.0
LOR *e*Sn **Sn 16 54 23.6 +0.1**
SNR=1.0
LOR *e*Sg **Sg 16 54 39.6 -0.6**
8.5nm,0.3s,SNR=1.0
LOR Lormes 3.45 323 *e*Pg **Pn 16 53 43.5 +0.7**
LOR *e*Pg **Pg 16 54 54.0 -1.5**
LOR *e*Sn **Sn 16 54 23.6 +0.1**
LOR *e*Sg **Sg 16 54 39.6 -0.6**
LOR Lormes 3.45 323 *e*Pg **Pg 16 53 54.0 -1.5**
SNR=1.0
LOR *e*Sn **Sn 16 54 23.6 +0.1**
SNR=1.0
LOR *e*Sg **Sg 16 54 39.6 -0.6**
4.2nm,0.3s,SNR=1.0
SSF Saint Saulge 3.45 318 *e*Pg **Pg 16 53 54.7 -0.9**
SNR=1.0
SSF *e*Sn **Sn 16 54 22.5 -1.1**
SSF *e*Sg **Sg 16 54 40.2 -0.2**
12nm,0.4s
SSF Saint Saulge 3.45 318 *e*Pn **Pn 16 53 45.5 +2.6**
SSF *e*Pg **Pg 16 53 54.7 -0.9**
SSF *e*Sn **Sn 16 54 22.5 -1.1**
SSF *e*Sg **Sg 16 54 40.2 -0.2**
SSF Saint Saulge 3.45 318 *e*Pg **Pg 16 53 54.7 -0.9**
SNR=1.0
SSF *e*Sn **Sn 16 54 22.5 -1.1**
SSF *e*Sg **Sg 16 54 40.2 -0.2**
5.8nm,0.4s
CAF Calviac 3.46 278 *e*Pn **Pn 16 53 44.2 +1.3**
SNR=1.0
CAF *e*Sn **Sn 16 54 22.8 -0.8**
1.6nm,0.2s
CAF Calviac 3.46 278 *e*Pn **Pn 16 53 44.2 +1.3**
SNR=1.0
CAF *e*Sn **Sn 16 54 22.8 -0.8**
0.8nm,0.2s
BGF Bois d'Agland 3.48 307 *e*Pg **Pg 16 53 55.2 -0.9**
SNR=1.0
BGF *e*Sn **Sn 16 54 23.1 -1.2**
BGF *e*Sg **Sg 16 54 40.1 -1.1**
20nm,0.4s,SNR=1.0
BGF Bois d'Agland 3.48 307 *e*Pn **Pn 16 53 44.6 +1.4**
BGF *e*Pg **Pg 16 53 55.2 -0.9**
BGF *e*Sn **Sn 16 54 23.1 -1.2**
BGF *e*Sg **Sg 16 54 40.1 -1.1**
BGF Bois d'Agland 3.48 307 *e*Pg **Pg 16 53 55.2 -0.9**
SNR=1.0
BGF *e*Sn **Sn 16 54 23.1 -1.2**
BGF *e*Sg **Sg 16 54 40.1 -1.1**
10nm,0.4s,SNR=1.0
HAU Haudompre 3.49 354 *e*Pg **Pg 16 53 55.3 -0.9**
HAU *e*Sn **Sn 16 54 22.7 -1.7**
7.6nm,0.3s
HAU Haudompre 3.49 354 *e*Pn **Pn 16 53 43.6 +0.3**
HAU *e*Pg **Pg 16 53 55.3 -0.9**
HAU *e*Sn **Sn 16 54 22.7 -1.7**
HAU Haudompre 3.49 354 *e*Pg **Pg 16 53 55.3 -0.9**
HAU *e*Sn **Sn 16 54 22.7 -1.7**
3.8nm,0.3s
MTLF Montolieu 3.58 252 *e*Pg **Pg 16 53 56.7 -1.3**
MTLF *e*Sn **Sn 16 54 24.9 -1.7**
MTLF *e*Sg **Sg 16 54 42.6 -1.7**
5.7nm,0.6s,SNR=1.0
MTLF Montolieu 3.58 252 *e*Pn **Pn 16 53 45.1 +0.5**
MTLF *e*Pg **Pg 16 53 56.7 -1.3**
MTLF *e*Sn **Sn 16 54 24.9 -1.7**
MTLF *e*Sg **Sg 16 54 42.6 -1.7**
MTLF Montolieu 3.58 252 *e*Pg **Pg 16 53 56.7 -1.3**
MTLF *e*Sn **Sn 16 54 24.9 -1.7**
MTLF *e*Sg **Sg 16 54 42.6 -1.7**
2.8nm,0.6s,SNR=1.0
TCF Toulx Ste Croi 3.73 300 *e*Pg **Pg 16 53 59.4 -1.4**
TCF *e*Sg **Sg 16 54 48.6 -0.5**
4.2nm,0.4s
TCF Toulx Ste Croi 3.73 300 *e*Pn **Pn 16 53 48.2 +1.6**
TCF *e*Pg **Pg 16 53 59.4 -1.4**
TCF *e*Sg **Sg 16 54 48.6 -0.5**
TCF Toulx Ste Croi 3.73 300 *e*Pg **Pg 16 53 59.4 -1.4**
TCF *e*Sg **Sg 16 54 48.6 -0.5**
2.1nm,0.4s
SFTF Sexfontaines 3.88 341 *e*Pg **Pg 16 54 02.9 -0.9**
SFTF *e*Sg **Sg 16 54 53.1 -1.0**
9.0nm,0.4s
SFTF Sexfontaines 3.88 341 *e*Pg **Pg 16 54 02.9 -0.9**
SFTF *e*Sg **Sg 16 54 53.1 -1.0**
4.5nm,0.4s
CDF Champ du Feu 3.88 4 *e*Pn **Pn 16 53 50.0 +1.2**
SNR=1.0
CDF *e*Sn **Sn 16 54 33.5 -0.7**
2.6nm,0.2s,SNR=1.0
CDF Champ du Feu 3.88 4 *e*Pn **Pn 16 53 50.0 +1.2**
SNR=1.0
CDF *e*Sn **Sn 16 54 33.5 -0.7**
1.3nm,0.2s,SNR=1.0
RJF Les Rejaudoux 3.89 283 *e*Pn **Pn 16 53 49.5 +0.7**
SNR=1.0
RJF *e*Sn **Sn 16 54 32.8 -1.5**
RJF *e*Sg **Sg 16 54 51.8 -2.4**
6.4nm,0.5s,SNR=1.0
RJF Les Rejaudoux 3.89 283 *e*Pn **Pn 16 53 49.5 +0.7**
SNR=1.0
RJF *e*Sn **Sn 16 54 32.8 -1.5**
RJF *e*Sg **Sg 16 54 51.8 -2.4**
3.2nm,0.5s,SNR=1.0
HYF Humbligny 4.03 314 *e*Pg **Pg 16 54 04.7 -1.9**
HYF *e*Sn **Sn 16 54 36.6 -1.1**
MEZF Maizieres J'vi 4.16 343 *e*Pg **Pg 16 54 07.9 -1.2**
SNR=1.0
MEZF *e*Sg **Sg 16 55 01.8 -1.2**
11nm,0.4s
MEZF Maizieres J'vi 4.16 343 *e*Pg **Pg 16 54 07.9 -1.2**
SNR=1.0
MEZF *e*Sg **Sg 16 55 01.8 -1.2**
5.6nm,0.4s
RFYF Reffroy 4.20 347 *e*Pn **Pn 16 53 53.8 +0.6**
MFF Saint Martin d 5.35 295 *e*Pn **Pn 16 54 10.2 +1.3**
GIVF Givet 5.74 347 *e*Pn **Pn 16 54 14.6 +0.3**
BAIF Baives 5.81 343 *e*Sn **Sn 16 55 16.9 -4.8**
4.6nm,0.2s,SNR=1.0
BAIF Baives 5.81 343 *e*Sn **Sn 16 55 16.9 -4.8**
2.3nm,0.2s,SNR=1.0

IDC ***23*** *16:59:48.6±1.3,2823N×10495E,h0km,mb3.5/4, mb1 3.6/5,mb1mx3.4/21,mbtmp3.4/5,Error ellipse: s-maj=44.3km s-min=22.5km az=68.0*
MOS ***23*** *16:59:51.1±0.9,2824N×10494E,h33km,mb3.9/2,Error ellipse: s-maj=37.6km s-min=18.1km az=106.6*
BJI ***23*** *16:59:53.5,2839N×10490E,h37km,ML3.3*
NEIC ***23*** *16:59:53.8±0.8,2820N×10487E,h35km,mb3.8/1,Error ellipse: s-maj=40.8km s-min=13.3km az=62.0*
ISCJB ***23*** *16:59:54.6±1.0,2846N±005×105.16E±0.10,h59km±11km, mb3.5/5,Error ellipse: s-maj=15.2km s-min=7.2km az=157.1*
ISC 23 16:59:55.7±1.0,**2842N**±006×**1051E**±01,**h52**km±12km,**n13,** σ0§**81**/16,**mb3.5/5,Sichuan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GYA	**Guiyang**	**2.41**	**144**	P	**Pn**	**17 00 31.6**	**-1.0**
GYA				S	**Sn**	**17 01 02.4**	**+1.5**
GYA				Smax			
	comp=N,360nm,0.7s						
GYA				Smax			
	comp=E,240nm,0.6s						
CD2	**Chengdu**	**2.73**	**335**	P	**Pn**	**17 00 35.8**	**-1.3**
CD2				S	**Sn**	**17 01 09.9**	**+1.0**
CD2				Smax			
	comp=N,370nm,0.8s						
CD2				Smax			
	comp=E,290nm,0.7s						
XAN	**Xi'an**	**6.49**	**29**	P	**Pn**	**17 01 28.3**	**-0.3**
XAN				S	**Sn**	**17 02 40.8**	**-0.4**
XAN				Smax			
	comp=N,50nm,1.0s						
XAN				Smax			
	comp=E,39nm,1.1s						
SONM	**Songino Array**	**19.41**	**3**	P	**Pn**	**17 04 19.5**	**+0.5**
	baz=183,slow=9.4,SNR=3.1						
KSRS	**Korea Array**	**21.13**	**59**	P	**P**	**17 04 37.0**	**+0.8**
	comp=E,0.9nm,0.7s,mb3.2,baz=240,slow=9.9,SNR=5.3						
ZAK	**Zakamensk**	**21.97**	**357**	*e*P	**P**	**17 04 45.0**	**0.0**
MK31	**Makanchi Array**	**25.59**	**322**	*e*P	**P**	**17 05 21.0**	**+1.1**
MKAR	**Makanchi Array**	**25.59**	**322**	P	**P**	**17 05 19.6**	**-0.3**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
MKAR	**Makanchi Array**	**25.59**	**322**	P	**P**	**17 05 19.6**	**-0.3**
	comp=Z,0.9nm,0.7s,mb3.4,baz=124,slow=11,SNR=5.3						
KURK	**Kurchatov**	**29.91**	**325**	*e*P	**P**	**17 05 58.4**	**-0.2**
	comp=Z,1.2nm,0.7s,mb3.7						
KURK	**Kurchatov**	**29.91**	**325**	*e*P	**P**	**17 05 58.4**	**-0.1**
KURK				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb3.6						
WRA	**Warramunga Arr**	**55.78**	**146**	P	**P**	**17 09 26.7**	**-0.8**
	comp=Z,0.4nm,0.5s,mb3.7,baz=337,slow=8.3,SNR=12						
ASAR	**Alice Springs**	**58.76**	**149**	P	**P**	**17 09 48.1**	**-0.5**
	comp=Z,0.3nm,0.6s,mb3.5,baz=335,slow=6.8,SNR=13						

CSEM ***23*** *17:01:09.7±0.3,4379N×1695E,h10km,MD3.0/5,Error ellipse: s-maj=14.4km s-min=0.1km az=45.0,After ROM*
ROM ***23*** *17:01:09.7±0.3,4379N×1695E,h10km,Md3.0/5,Ml3.1/3, Error ellipse: s-maj=14.4km s-min=0.1km az=45.0*
ISCJB ***23*** *17:01:20.3±0.5,4307N±003×16.12E±006,h10km,Error ellipse: s-maj=6.6km s-min=4.3km az=161.5*
NEIC ***23*** *17:01:22.2±0.7,4306N×1563E,h10km,ML3.1(ROM), Error ellipse: s-maj=14.8km s-min=6.7km az=86.0*
ISC 23 17:01:21.5±0.5,**4306N**±003×**1610E**±006,**h10**km,**n13,** σ0§**84**/19,**2C-3D,Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STON	**Ston**	**1.19**	**99**	*e*Pg	**Pg**	**17 01 44.0**	**-0.4**
STON				Sg	**Sg**	**17 01 59.9**	**+0.1**
SGRT	**San Giovanni R**	**1.33**	**191**	Pg	**Pg**	**17 01 46.7**	**-0.4**
105nm,0.4s							
MSAG	**Monte S. Angel**	**1.36**	**186**	Pg	**Pg**	**17 01 46.7**	**-0.8**
160nm,0.3s							
FGMS	**Monte Sant'Ang**	**1.36**	**185**	Pg	**Pg**	**17 01 47.9**	**+0.3**
32nm,0.2s							
RGNG	**Rignano Grg**	**1.44**	**195**	Pg	**Pg**	**17 01 49.4**	**+0.3**
NVLJ	**Novalja**	**1.74**	**330**	*e*Pn	**Pn**	**17 01 51.8**	**0.0**
NVLJ				Sn	**Sn**	**17 02 14.3**	**+0.3**
VAGA	**Valle Agricola**	**2.15**	**221**	Pg	**Pn**	**17 01 59.4**	**+2.0**
24nm,0.4s							
NRCA	**Norcia**	**2.20**	**265**	Pg	**Pn**	**17 01 57.4**	**-0.7**
LEGS	**Legarje**	**2.94**	**349**	*i* Pn	**Pn**	**17 02 08.3**	**+0.1**
LEGS				*i* Sn	**Sn**	**17 02 50.2**	**+6.6**
VOY	**Vojsko**	**3.36**	**333**	*e*Pn	**Pn**	**17 02 13.7**	**-0.3**
VOY				*e*		17 02 17.2	
VOY				*e*Sn	**Sn**	**17 02 51.7**	**-2.2**
OBKA	**Obir**	**3.62**	**343**⇓	*i*Pn	**Pn**	**17 02 18.0**	**+0.5**
OBKA				⇓ *i*Sn	**Sn**	**17 03 00.8**	**+0.6**
ARSA	**Arzberg**	**4.21**	**355**⇑	*i*Pn	**Pn**	**17 02 24.6**	**-1.0**
ARSA				⇑ *i*Sn	**Sn**	**17 03 16.0**	**+1.2**
MOA	**Molln**	**4.96**	**346**⇓	*i*Pn	**Pn**	**17 02 36.2**	**+0.3**

NEIC ***23*** *17:11:13.1,1606N×9754W,h18km,MD3.8(MEX),After MEX.*
MEX 23 17:11:13.1±0.4,**1606N×9754W,h18**km±20km,**MD3.8, Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.65**	**300**	*i* P	Pb	17 11 23.4	-2.5
PNIG				*i* S	Sb	17 11 32.2	-2.3
VHO	**Vista Hermosa**	**1.27**	**38**	*i* P	Pn	17 11 32.7	-3.2
VHO				*i* S	Sb	17 11 48.0	-4.5
OXX	**Oaxaca**	**1.28**	**38**	*i* P	Pn	17 11 32.5	-3.6
OXX				*i* S	Sn	17 11 48.0	-4.8
HUIG	**Huatulco**	**1.41**	**102**	*e*P	Pn	17 11 35.1	-2.7
HUIG				*i* S	Sn	17 11 50.8	-5.2
MEIG	**Mezcala**	**2.71**	**313**	*e*P	Pn	17 11 55.6	-0.2
MEIG				*i* S	Sn	17 12 25.1	-3.1
CMIG	**Matias Romero**	**2.75**	**68**	*e*P	Pn	17 11 53.6	-2.6
CMIG				*i* S	Sn	17 12 25.3	-3.7
PPM	**Popocatepetl**	**3.16**	**341**	*e*P	Pn	17 12 00.1	-1.8
PPM				*i* S	Sn	17 12 36.4	-2.8

ISCJB ***23*** *17:12:45.9±0.7,292N±02×430W±0.1,h10km,mb3.7/10, Error ellipse: s-maj=23.3km s-min=15.7km az=166.6*
IDC ***23*** *17:12:46.0±0.9,2918N×4305W,h0km,mb3.7/10, mb1 3.9/10,mb1mx3.7/27,mbtmp3.7/10,Error ellipse: s-maj=30.9km s-min=19.8km az=159.0*
NEIC ***23*** *17:12:47.4±0.7,2920N×4301W,h10km,Error ellipse: s-maj=24.0km s-min=16.6km az=165.0*
ISC 23 17:12:47.8±0.7,**292N**±02×**430W**±01,**h10**km,**n13,** σ0§**89**/13, **mb3.7**/10,**Northern Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEST	**Kesra**	**44.20**	**68**	P	**P**	**17 20 57.3**	**+0.2**
1.1nm,0.8s,mb3.6,baz=163,slow=4.7,SNR=3.7							
TOA0	**Torodi Ar. Sit**	**44.36**	**101**	P	**P**	**17 20 58.9**	**+0.3**
TORD	**Torodi Ar. Bea**	**44.36**	**101**	P	**P**	**17 20 58.3**	**-0.3**
3.5nm,1.1s,mb4.0,baz=318,slow=2.0,SNR=8.9							
KHC	**Kasperske Hory**	**46.96**	**49**	*e*P	**P**	**17 21 16.1**	**-2.6**
GERES	**GERESS Array B**	**47.02**	**49**	P	**P**	**17 21 19.7**	**+0.5**
0.9nm,1.0s,mb3.7,baz=243,slow=7.3,SNR=5.6							
NOA	**NORSAR Array B**	**47.69**	**32**	P	**P**	**17 21 25.9**	**+1.7**
2.4nm,1.1s,mb4.1,baz=253,slow=7.5,SNR=2.5							
LPAZ	**La Paz**	**51.35**	**211**	P	**P**	**17 21 52.7**	**0.0**
0.7nm,0.6s,mb3.8,baz=33,slow=4.8,SNR=3.5							
TXAR	**Lajitas Array**	**52.35**	**286**	P	**P**	**17 22 00.8**	**+0.7**
0.1nm,0.4s,mb3.1,baz=82,slow=9.0,SNR=4.4							
PDAR	**Pinedale Array**	**54.20**	**304**	P	**P**	**17 22 12.6**	**-1.0**
1.3nm,1.1s,mb3.8,baz=95,slow=9.1,SNR=6.8							
AKASG	**Malin Array Be**	**57.00**	**46**	P	**P**	**17 22 33.0**	**-0.6**
0.2nm,0.3s,mb3.6,baz=274,slow=6.2,SNR=8.8							
AKTK	**Aktyubinsk**	**74.53**	**41**	P	**P**	**17 24 26.4**	**-0.2**
AKTO	**Aktyubinsk**	**74.53**	**41**	P	**P**	**17 24 26.4**	**-0.2**
0.3nm,0.3s,mb3.7,baz=294,slow=11,SNR=2.5							
BVAR	**Borovoye Array**	**79.77**	**34**	P	**P**	**17 24 56.7**	**+0.7**
0.6nm,0.9s,mb3.5,baz=285,slow=5.8,SNR=4.3							

ISCJB ***23*** *17:14:21.4±1.1,293N±02×427W±02,h10km,mb3.6/6, MS4.2/6,Error ellipse: s-maj=35.4km s-min=18.6km az=11.9*
IDC ***23*** *17:14:21.5±1.7,2927N×4271W,h0km,mb3.6/6,mb1 3.8/6, mb1mx3.6/25,mbtmp3.6/6,MS4.1/6,Ms1 4.1/6, ms1mx3.4/39,Error ellipse: s-maj=51.2km s-min=25.7km az=1.0*
NEIC ***23*** *17:14:22.9±1.2,2926N×4269W,h10km,Error ellipse: s-maj=38.2km s-min=19.7km az=191.0*
ISC 23 17:14:23.3±1.1,**293N**±02×**427W**±02,**h10**km,**n13,** σ1§**01**/8, **mb3.6**/6,**MS4.2**/6,**Northern Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TEIG	**Tepich**	**42.16**	**268**	LR	LR	17 38 24.3	
comp=Z,601nm,21.1s,MS4.5,baz=294,slow=34							
TOA0	**Torodi Ar. Sit**	**44.09**	**102**	*e*P	**P**	**17 22 32.0**	**+0.2**
TORD	**Torodi Ar. Bea**	**44.09**	**102**	P	**P**	**17 22 31.7**	**-0.2**
TORD	**Torodi Ar. Bea**	**44.09**	**102**	P	**P**	**17 22 31.7**	**-0.2**
1.9nm,1.0s,mb3.8,baz=297,slow=9.2,SNR=5.5							
ULM	**Lac du Bonnet**	**44.83**	**313**	LR	LR	17 40 45.0	
comp=Z,146nm,18.3s,MS3.9,baz=109,slow=35							
NOA	**NORSAR Array B**	**47.48**	**32**	P	**P**	**17 22 58.9**	**+0.8**
0.7nm,0.8s,mb3.6,baz=253,slow=7.8,SNR=2.2							
LPAZ	**La Paz**	**51.55**	**212**	LR	LR	17 44 58.7	
comp=Z,196nm,18.1s,MS4.2,baz=129,slow=36							
TXAR	**Lajitas Array**	**52.61**	**286**	P	**P**	**17 23 38.9**	**+1.4**
0.3nm,0.8s,mb3.3,baz=93,slow=5.3,SNR=4.0							
PDAR	**Pinedale Array**	**54.41**	**304**	P	**P**	**17 23 48.8**	**-1.8**
0.3nm,0.7s,mb3.4,baz=81,slow=5.6,SNR=4.0							
FINES	**FINESS Array B**	**54.62**	**33**	P	**P**	**17 23 52.3**	**+0.6**
1.0nm,0.7s,mb4.0,baz=248,slow=9.9,SNR=2.6							
ARCES	**ARCESS Array B**	**55.26**	**23**	LR	LR	17 43 25.8	
comp=Z,66nm,19.7s,MS3.7,baz=28,slow=32							
AKASG	**Malin Array Be**	**56.75**	**46**	P	**P**	**17 24 06.2**	**-1.1**
0.5nm,0.4s,mb3.9,baz=266,slow=6.6,SNR=4.6							
AKASG				LR	LR	17 47 03.9	
comp=Z,237nm,19.0s,MS4.3,baz=275,slow=35							
NEW	**Newport**	**58.75**	**311**	LR	LR	17 46 06.6	
comp=Z,228nm,20.5s,MS4.3,baz=61,slow=32							

NEIC ***23*** *17:15:13.2,3223S×7181W,h2km,ML3.0(GUC),After GUC.*
GUC 23 17:15:13.2±1.1,**3223S×7181W,h2**km±11km,**MD3.8, ML3.0,5C-3D,Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHNG	**Los Chungos**	**0.43**	**37**⇓	*i*P	Pg	17 15 05.0	-17
CHNG				*i* S	Sg	17 15 12.8	-14
CHNG				AML	AML	17 15 13.3	

comp=E,815nm,0.5s
ROCH El Roble 1.00 138 *e*P Pg 17 15 33.3 +0.9
ROCH *i* S Sg 17 15 48.1 +2.7
JACH Jahuel 1.12 114⇑*i*P Pg 17 15 34.6 -0.1
JACH *i* S Sg 17 15 50.6 +1.3
CMCH Combarbala 1.25 33⇓*i*P Pg 17 15 36.6 -0.7
CMCH *i* S Sg 17 15 54.4 +0.9
CMCH Combarbala 1.25 33⇓*i*P Pg 17 15 36.6 -0.7
CMCH *i* S Sg 17 15 54.4 +0.9
CMCH AML AML 17 16 03.3
comp=N,1μm,0.9s
PEL Peldehue 1.32 134⇑*i*P Pg 17 15 37.4 -1.0
PEL *i* S Sg 17 15 56.2 +0.7
PEL AML AML 17 15 58.5
comp=E,1μm,0.3s
CLCH Cerro Calan 1.58 138⇑*i*P Pn 17 15 42.2 -0.1
CLCH *i* S Sn 17 16 03.7 +0.3
CLCH AML AML 17 16 06.4
comp=N,256nm,0.3s
FCH Farellones 1.69 131 *e*P Pn 17 15 43.5 -0.2
FCH *i* S Sn 17 16 06.9 +1.0
FCH AML AML 17 16 09.1
comp=E,191nm,0.3s
LNV Longovilo 1.76 169 *i*P Pn 17 15 44.5 -0.1
PCH Pirque 1.77 142 *e*P Pn 17 15 44.9 0.0
LMEL Las Melosas 2.10 141⇑*i*P Pn 17 15 49.9 +0.4
LMEL *i* S Sn 17 16 17.8 +1.5
LMEL Las Melosas 2.10 141⇑*i*P Pn 17 15 49.9 +0.4
LMEL *i* S Sn 17 16 17.8 +1.5
LMEL AML AML 17 16 27.6
comp=N,122nm,0.3s
TLL Tololo Astrono 2.23 23 AML AML 17 16 30.6
comp=E,122nm,0.5s
CICH Cipreses 2.39 151 *e*P Pn 17 15 54.7 +1.3
CICH *e*S Sn 17 16 27.0 +3.8

*ISCJB **23** 17:15:53.1±0.8,291N±02×426W±01,h10km,mb3.8/9, MS3.9/6, Error ellipse: s-maj=23.7km s-min=16.7km az=154.3*
*IDC **23** 17:15:53.3±1.0,2907N×4256W,h0km,mb3.8/9,mb1 4.0/9, mb1mx3.8/26,mbtmp3.8/9,MS3.9/6,Ms1 3.9/6, ms1mx3.4/39,Error ellipse: s-maj=29.0km s-min=23.0km az=151.0*
*NEIC **23** 17:15:54.8±0.7,2905N×4256W,h10km,Error ellipse: s-maj=20.5km s-min=14.4km az=154.0*
ISC 23 17:15:55.2±0.8,291N±02×426W±01,h10km,n23,σ0°69/18, mb3.8/9,MS3.9/6,Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCRV	**Puerto La Cruz**	**27.95**	**232**	LR	LR	17 31 19.0	
comp=Z,141nm,19.7s,MS3.5,baz=57,slow=33							
BORG	**Borgarnes**	**38.11**	**15**	LR	LR	17 33 24.4	
comp=Z,144nm,21.4s,MS3.8,baz=61,slow=28							
TORD	**Torodi Ar. Bea**	**43.94**	**102**	P	**P**	**17 24 03.5**	**+0.9**
TORD	**Torodi Ar. Bea**	**43.94**	**102**	P	**P**	**17 24 03.5**	**+0.9**
3.0nm,1.0s,mb4.0,baz=300,slow=5.2,SNR=7.7							
DAVOX	**Davos/Dischmat**	**44.10**	**52**	LR	LR	17 39 37.3	
comp=Z,161nm,19.5s,MS4.0,baz=266,slow=32							
KHC	**Kasperske Hory**	**46.76**	**48**	*e*P	**P**	**17 24 25.1**	**+0.6**
KHC				*e*x	x	17 24 32.6	
GERES	**GERESS Array B**	**46.82**	**49**	P	**P**	**17 24 23.4**	**-1.6**
0.7nm,0.8s,mb3.6,baz=282,slow=6.7,SNR=5.6							
NB2	**NORSAR Subarra**	**47.60**	**32**	P	**P**	**17 24 31.2**	**+0.3**
comp=Z,0.8nm,0.8s,mb3.8,baz=253,slow=7.9							
NOA	**NORSAR Array B**	**47.60**	**32**	P	**P**	**17 24 30.1**	**-0.8**
comp=Z,1.2nm,0.8s,mb4.0,baz=254,slow=8.0,SNR=4.2							
UPC	**Upice**	**48.42**	**47**	*e*P	**P**	**17 24 38.3**	**+0.9**
UPC				*e*pP	pP	17 24 41.8	+1.2
MODS	**Modra-Piesok**	**49.18**	**50**	*e*P	**P**	**17 24 42.2**	**-1.1**
VYHS	**Vyhne**	**50.21**	**49**	*e*P	**P**	**17 24 51.4**	**+0.2**
LPAZ	**La Paz**	**51.44**	**212**	P	**P**	**17 25 00.2**	**-0.5**
LPAZ	**La Paz**	**51.44**	**212**	P	**P**	**17 25 00.2**	**-0.5**
comp=Z,0.8nm,0.6s,mb3.8,baz=352,slow=7.1,SNR=3.3							
PDAR	**Pinedale Array**	**54.62**	**304**	P	**P**	**17 25 23.9**	**-0.1**
comp=Z,0.4nm,0.8s,mb3.5,baz=87,slow=6.4,SNR=3.5							
FINES	**FINESS Array B**	**54.73**	**33**	P	**P**	**17 25 24.4**	**0.0**
FINES				LR	LR	17 44 17.9	
FINES	**FINESS Array B**	**54.73**	**33**	P	**P**	**17 25 24.4**	**0.0**
comp=Z,1.7nm,0.9s,mb4.1,baz=201,slow=10,SNR=4.7							
FINES				LR	LR	17 44 17.9	
comp=Z,78nm,21.0s,MS3.8,baz=208,slow=31							
YKA	**Yellowknife Ar**	**56.39**	**328**	P	**P**	**17 25 37.1**	**+0.8**
comp=Z,0.1nm,0.4s,mb3.2,baz=95,slow=6.9,SNR=3.3							
AKASG	**Malin Array Be**	**56.82**	**46**	P	**P**	**17 25 39.4**	**-0.2**
comp=Z,1.5nm,0.6s,mb4.2,baz=273,slow=6.3,SNR=6.9							
PLCA	**Paso Flores**	**74.16**	**202**	LR	LR	18 02 24.3	
comp=Z,216nm,20.4s,MS4.4,baz=272,slow=38							
AKTK	**Aktyubinsk**	**74.39**	**41**	P	**P**	**17 27 33.2**	**+0.1**
AKTO	**Aktyubinsk**	**74.39**	**41**	P	**P**	**17 27 33.2**	**+0.1**
comp=Z,1.1nm,0.7s,mb3.9,baz=306,slow=8.0,SNR=6.0							
BVAR	**Borovoye Array**	**79.67**	**34**	LR	LR	18 00 41.9	
comp=Z,116nm,19.7s,MS4.2,baz=128,slow=34							

*ISCJB **23** 17:16:41.2±0.6,293N±01×4309W±008,h10km,mb4.1/21, MS4.3/13,Error ellipse: s-maj=18.7km s-min=10.5km az=172.9*
*MOS **23** 17:16:41.3±1.0,2920N×4304W,h10km,mb4.4/12, MS4.1/8,Error ellipse: s-maj=22.5km s-min=11.4km az=52.8*
*IDC **23** 17:16:41.0±0.9,2934N×4318W,h0km,mb3.9/13, mb1 4.1/13,mb1mx3.9/27,mbtmp3.9/13,MS4.1/1, Ms1 4.1/1,ms1mx2.6/36,Error ellipse: s-maj=28.4km s-min=18.2km az=174.0*
*NEIC **23** 17:16:42.4±0.5,2927N×4317W,h10km,mb4.4/3,MS4.1/3, Error ellipse: s-maj=15.8km s-min=9.4km az=173.0*
ISC 23 17:16:43.0±0.6,293N±01×4309W±009,h10km,n49, σ0°80/46,mb4.1/21,MS4.3/13,4C-5D,Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEST	**Kesra**	**44.26**	**68**	P	**P**	**17 24 52.5**	**-0.2**
0.5nm,0.6s,mb3.4,baz=119,slow=23,SNR=3.7							
TOA0	**Torodi Ar. Sit**	**44.43**	**101**	*e*P	**P**	**17 24 53.8**	**-0.6**
TORD	**Torodi Ar. Bea**	**44.43**	**101**	P	**P**	**17 24 54.0**	**-0.4**
7.3nm,1.2s,mb4.3,baz=302,slow=7.9,SNR=7.9							
ULM	**Lac du Bonnet**	**44.59**	**313**	P	**P**	**17 24 53.1**	**-2.1**
0.7nm,0.4s,mb3.9,baz=89,slow=8.0,SNR=3.5							
NKC	**Novy Kostel**	**46.34**	**47**	*e*P	**P**	**17 25 09.7**	**+0.6**
NKC				AMS	AMS	17 39 30.0	
comp=Z,500nm,17.3s,MS4.5							
CLL	**Collm**	**46.80**	**46**⇓*i*P		**P**	**17 25 12.2**	**-0.5**
comp=Z,4.0nm,1.0s,mb4.3							
CLL				LR	LR		
comp=Z,200nm,21.7s,MS4.0							
CLL	**Collm**	**46.80**	**46**⇓*i*P		**P**	**17 25 12.2**	**-0.5**
CLL				pmax	pmax		
comp=Z,4.0nm,1.0s,mb4.3							
CLL				MLR	MLR		
comp=Z,200nm,21.7s,MS4.0							
CLL	**Collm**	**46.80**	**46**⇓*i*P		**P**	**17 25 12.2**	**-0.5**
comp=Z,4.0nm,1.0s,mb4.3							
KHC	**Kasperske Hory**	**46.99**	**49**	*e*P	**P**	**17 25 14.5**	**+0.3**
KHC				AMS	AMS	17 45 50.0	
comp=Z,200nm,19.1s,MS4.1							
WMOK	**Wichita Mounta**	**47.04**	**292**	P	**P**	**17 25 14.5**	**-0.4**
GERES	**GERESS Array B**	**47.06**	**49**	P	**P**	**17 25 14.8**	**+0.1**
GERES				pmax	pmax		
comp=Z,1.0nm,0.7s							
GERES	**GERESS Array B**	**47.06**	**49**	P	**P**	**17 25 14.8**	**+0.1**
comp=Z,0.7nm,0.7s,mb3.7,baz=262,slow=9.2,SNR=5.1							
PRU	**Pruhonice**	**47.67**	**48**	*e*P	**P**	**17 25 20.2**	**+0.7**
PRU				AMS	AMS	17 40 30.0	
comp=Z,300nm,18.1s,MS4.3							
NB2	**NORSAR Subarra**	**47.70**	**32**	P	**P**	**17 25 19.9**	**+0.4**
comp=Z,1.0nm,0.8s,mb3.9,baz=253,slow=7.9							
NOA	**NORSAR Array B**	**47.70**	**32**	P	**P**	**17 25 20.1**	**+0.6**
NOA				pmax	pmax		
comp=Z,2.0nm,0.8s							
NOA	**NORSAR Array B**	**47.70**	**32**	P	**P**	**17 25 20.1**	**+0.6**
comp=Z,1.6nm,0.8s,mb4.1,baz=254,slow=7.9,SNR=4.4							
PVCC	**Panska Ves**	**47.72**	**47**	AMS	AMS	17 40 30.0	
comp=Z,500nm,19.4s,MS4.5							
TREC	**Trest**	**48.25**	**48**	AMS	AMS	17 46 50.0	
comp=Z,200nm,14.9s,MS4.2							
UPC	**Upice**	**48.64**	**47**	*e*P	**P**	**17 25 26.7**	**-0.3**
DPC	**Dobruska-Polom**	**48.83**	**47**	AMS	AMS	17 41 20.0	
comp=Z,300nm,15.5s,MS4.4							
OKC	**Ostrava-Krasne**	**49.99**	**48**	AMS	AMS	17 44 30.0	
comp=Z,200nm,12.6s,MS4.3							

VYHS	**Vyhne**	**50.45**	**50**	*e*P	**P**	**17 25 40.6**	**-0.2**
comp=Z,10nm,2.2s,mb4.5							
VYHS	**Vyhne**	**50.45**	**50**	*e*P	**P**	**17 25 40.6**	**-0.2**
VYHS				pmax	pmax		
comp=Z,11nm,2.2s,mb4.5							
LPAZ	**La Paz**	**51.34**	**211**	*e*P	**P**	**17 25 48.0**	**+0.2**
comp=Z,4.7nm,1.2s,mb4.3							
LPAZ	**La Paz**	**51.34**	**211**	P	**P**	**17 25 48.2**	**+0.4**
LPAZ				pmax	pmax		
comp=Z,4.0nm,1.1s							
LPAZ	**La Paz**	**51.34**	**211**	P	**P**	**17 25 48.1**	**+0.4**
comp=Z,3.9nm,1.1s,mb4.2,baz=29,slow=9.0,SNR=4.5							
TXAR	**Lajitas Array**	**52.28**	**286**	P	**P**	**17 25 55.1**	**+0.3**
TXAR				LR	LR	17 47 13.0	
TXAR	**Lajitas Array**	**52.28**	**286**	P	**P**	**17 25 55.1**	**+0.3**
TXAR				pmax	pmax		
comp=Z,1.0nm,0.8s							
TXAR				MLR	MLR		
comp=Z,210nm,21.1s							
TXAR	**Lajitas Array**	**52.28**	**286**	P	**P**	**17 25 55.1**	**+0.3**
comp=Z,0.5nm,0.8s,mb3.5,baz=108,slow=7.1,SNR=4.9							
TXAR				LR	LR	17 47 13.0	
comp=Z,210nm,21.1s,MS4.2,baz=285,slow=35							
ANMO	**Albuquerque**	**53.20**	**293**	*i*P	**P**	**17 26 04.1**	**+2.5**
PDAR	**Pinedale Array**	**54.13**	**304**	P	**P**	**17 26 07.5**	**-0.8**
comp=Z,1.4nm,0.7s,mb4.0,baz=82,slow=6.5,SNR=6.4							
FINES	**FINESS Array B**	**54.84**	**33**	P	**P**	**17 26 12.9**	**-0.2**
FINES				pmax	pmax		
comp=Z,1.0nm,0.7s							
FINES	**FINESS Array B**	**54.84**	**33**	P	**P**	**17 26 12.9**	**-0.2**
comp=Z,1.4nm,0.7s,mb4.1,baz=251,slow=5.8,SNR=5.2							
YKA	**Yellowknife Ar**	**55.99**	**328**⇑*e*P		**P**	**17 26 20.8**	**-0.6**
YKA	**Yellowknife Ar**	**55.99**	**328**	P	**P**	**17 26 18.5**	**-2.8**
comp=Z,0.2nm,0.5s,mb3.5,baz=83,slow=8.2,SNR=4.1							
AKASG	**Malin Array Be**	**57.03**	**46**	P	**P**	**17 26 28.3**	**-0.7**
AKASG				pmax	pmax		
comp=Z,2.0nm,0.6s							
AKASG	**Malin Array Be**	**57.03**	**46**	P	**P**	**17 26 28.3**	**-0.7**
comp=Z,1.8nm,0.6s,mb4.3,baz=277,slow=6.5,SNR=7.6							
OBN	**Obninsk**	**60.78**	**40**⇑*e*P		**P**	**17 26 55.2**	**+0.3**
OBN				*e*		17 27 37.9	
OBN				*e*		17 29 07.9	
OBN				*e*S	**S**	**17 35 05.4**	**-6.5**
OBN				pmax	pmax		
comp=Z,41nm,1.9s,mb5.2							
OBN				MLR	MLR		
comp=Z,200nm,23.0s,MS4.2							
ANN	**Anapa**	**63.64**	**52**	*e*P	**P**	**17 27 03.7**	**-11**
ANN				*e*		17 27 44.6	
ANN				pmax	pmax		
comp=Z,17nm,0.8s,mb5.1							
ANN				MLR	MLR		
comp=Z,135nm,16.0s,MS4.2							
ARU	**Arti**	**72.16**	**35***c i*P		**P**	**17 28 08.9**	**+1.2**
ARU				*e*		17 28 26.5	
ARU				*e*		17 30 44.3	
ARU				*e*S	S	17 37 25.6	-4.3
ARU				pmax	pmax		
comp=Z,5.0nm,1.0s,mb4.4							
ARU				MLR	MLR		
comp=Z,87nm,16.0s,MS4.1							
AKTK	**Aktyubinsk**	**74.56**	**41**	P	**P**	**17 28 21.2**	**-0.7**
AKTO	**Aktyubinsk**	**74.56**	**41**	P	**P**	**17 28 21.3**	**-0.7**
AKTO				pmax	pmax		
comp=Z,3.0nm,0.8s,mb4.3							
AKTO	**Aktyubinsk**	**74.56**	**41**	P	**P**	**17 28 21.2**	**-0.7**
comp=Z,2.6nm,0.8s,mb4.2,baz=308,slow=5.8,SNR=7.7							
TIXI	**Tiksi**	**79.21**	**3**⇑*i*P		**P**	**17 28 48.4**	**+0.6**
TIXI				pmax	pmax		
comp=Z,11nm,2.0s,mb4.4							
BVAR	**Borovoye Array**	**79.79**	**34**	P	**P**	**17 28 51.8**	**+0.5**
BVAR				pmax	pmax		
comp=Z,1.0nm,0.7s							
BVAR	**Borovoye Array**	**79.79**	**34**	P	**P**	**17 28 51.8**	**+0.5**
comp=Z,0.8nm,0.7s,mb3.8,baz=270,slow=2.8,SNR=4.3							
BILL	**Bilibino**	**80.55**	**349**	*e*P	**P**	**17 28 56.4**	**+1.3**
BILL				*e*	pP	17 29 00.5	+2.0
BILL				pmax	pmax		
comp=Z,1.0nm,1.0s,mb3.7							
KURK	**Kurchatov**	**85.21**	**33**⇓*e*P		**P**	**17 29 19.7**	**0.0**
AAK	**Ala-Archa**	**88.30**	**41**⇓*e*P		**P**	**17 29 34.9**	**0.0**
AAK				pmax	pmax		
comp=Z,5.0nm,2.0s,mb4.4							
AAK				MLR	MLR		
comp=Z,100nm,18.0s,MS4.3							

IDC 23 17:20:56.5±16.0,2909N×4364W,h0km,mb3.7/4, mb1 3.8/4,mb1mx3.5/25,mbtmp3.7/4,Error ellipse: s-maj=331.7km s-min=66.6km az=69.0,Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEST	**Kesra**	**44.77**	**67**	P	P	17 29 12.2	+0.2
0.5nm,0.8s,baz=261,slow=13,SNR=3.7							
TORD	**Torodi Ar. Bea**	**44.87**	**101**	P	P	17 29 12.8	-0.2
2.2nm,1.1s,baz=312,slow=8.9,SNR=3.9							
GERES	**GERESS Array B**	**47.54**	**49**	P	P	17 29 33.3	-0.3
0.3nm,0.5s,baz=260,slow=8.0,SNR=3.6							
AKASG	**Malin Array Be**	**57.50**	**46**	P	P	17 30 47.5	+0.1
0.2nm,0.3s,baz=274,slow=5.7,SNR=4.3							

IDC 23 17:21:33.2±28.0,2887N×4432W,h0km,mb3.8/3, mb1 3.9/3,mb1mx3.4/25,mbtmp3.8/3,Error ellipse: s-maj=602.0km s-min=63.3km az=69.0,Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TORD	**Torodi Ar. Bea**	**45.42**	**100**	P	P	17 29 54.0	-0.1
2.9nm,1.1s,baz=290,slow=8.3,SNR=5.4							
GERES	**GERESS Array B**	**48.13**	**49**	P	P	17 30 14.9	0.0
0.3nm,0.6s,baz=265,slow=6.6,SNR=4.4							
AKASG	**Malin Array Be**	**58.08**	**46**	P	P	17 31 28.1	0.0
0.4nm,0.4s,baz=270,slow=6.8,SNR=7.0							

*ISCJB **23** 17:22:10.7±0.8,294N±02×433W±01,h10km,mb3.9/11, MS3.9/2,Error ellipse: s-maj=24.8km s-min=17.2km az=164.0*
*IDC **23** 17:22:10.8±1.0,2938N×4328W,h0km,mb3.8/11, mb1 4.0/11,mb1mx3.8/26,mbtmp3.8/11,MS3.9/2, Ms1 3.8/2,ms1mx3.2/27,Error ellipse: s-maj=29.8km s-min=21.1km az=168.0*
*NEIC **23** 17:22:12.3±0.7,2935N×4327W,h10km,Error ellipse: s-maj=21.2km s-min=14.8km az=166.0*
ISC 23 17:22:12.6±0.8,294N±02×433W±01,h10km,n14,σ0°82/12, mb3.9/11,MS3.9/2,Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TORD	**Torodi Ar. Bea**	**44.61**	**101**	P	**P**	**17 30 24.1**	**-1.3**
4.2nm,1.1s,mb4.2,baz=296,slow=6.8,SNR=7.4							
BDFB	**Brasilia**	**45.02**	**186**	LR	LR	17 48 56.0	
comp=Z,120nm,18.9s,MS3.9,baz=288,slow=36							
GERES	**GERESS Array B**	**47.08**	**49**	P	**P**	**17 30 45.5**	**+1.0**
0.3nm,0.3s,mb3.6,baz=267,slow=12,SNR=6.2							
LPAZ	**La Paz**	**51.38**	**211**	P	**P**	**17 31 18.3**	**+0.6**
3.1nm,1.1s,mb4.1,baz=24,slow=7.0,SNR=5.1							
TXAR	**Lajitas Array**	**52.10**	**286**	P	**P**	**17 31 22.2**	**-0.8**
0.4nm,0.8s,mb3.4,baz=111,slow=9.5,SNR=3.9							
PDAR	**Pinedale Array**	**53.93**	**303**	P	**P**	**17 31 37.3**	**+0.9**
0.7nm,0.7s,mb3.7,baz=76,slow=6.3,SNR=4.5							
FINES	**FINESS Array B**	**54.81**	**33**	P	**P**	**17 31 42.1**	**-0.3**
4.5nm,1.1s,mb4.4,baz=231,slow=12,SNR=4.6							
YKA	**Yellowknife Ar**	**55.79**	**328**	P	**P**	**17 31 48.2**	**-1.3**
YKA	**Yellowknife Ar**	**55.79**	**328**	P	**P**	**17 31 48.2**	**-1.3**
0.1nm,0.4s,mb3.2,baz=215,slow=29,SNR=3.0							
CPUP	**Villa Florida**	**57.04**	**195**	LR	LR	17 53 15.3	
comp=Z,109nm,20.2s,MS4.0,baz=22,slow=33							
AKASG	**Malin Array Be**	**57.04**	**46**	P	**P**	**17 31 58.4**	**-0.3**
1.7nm,0.7s,mb4.2,baz=274,slow=6.2,SNR=8.6							
BVAR	**Borovoye Array**	**79.75**	**34**	P	**P**	**17 34 21.0**	**+0.3**
0.8nm,0.8s,mb3.7,baz=225,slow=1.9,SNR=5.0							
ZALV	**Zalesovo Beam**	**85.65**	**28**	P	**P**	**17 34 52.3**	**+1.0**
0.3nm,0.3s,mb4.0,baz=308,slow=7.3,SNR=3.7							
MKAR	**Makanchi Array**	**89.64**	**34**	P	**P**	**17 35 10.9**	**+0.2**
0.2nm,0.3s,mb3.9,baz=5.5,slow=4.5,SNR=3.6							

*BJI **23** 17:22:27.5,4267N×8689E,h28km,ML2.9*
*IDC **23** 17:22:30.7±5.1,4265N×8698E,h0km,mb1 3.2/3, mb1mx3.1/24,mbtmp3.2/3,ML3.0/3,Error ellipse: s-maj=55.7km s-min=31.5km az=32.0*
ISC 23 17:22:33.6±1.9,428N±01×870E±01,h10km,n5,σ1°32/9, 1C-2D,Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMQ	**Urumqi**	**1.13**	**27**⇓*i*PG		**Pg**	**17 22 50.8**	**-4.6**
WMQ				SG	**Sg**	**17 23 08.8**	**-1.2**
WMQ				Smax			
comp=N,342nm,0.6s							
WMQ				Smax			
comp=E,275nm,0.4s							
MK31	**Makanchi Array**	**5.19**	**322**	Pn	**Pn**	**17 23 50.3**	**-1.0**
comp=E,1.9nm,0.8s,baz=138,slow=14,SNR=7.5							
MK31				⇓Sn	**Sn**	**17 24 50.4**	**-0.7**
comp=E,2.3nm,0.5s							
MK31				⇑Lg		17 25 06.7	
comp=E,2.9nm,0.6s,baz=136,slow=29,SNR=6.2							
MKAR	**Makanchi Array**	**5.19**	**322**	Pn	**Pn**	**17 23 50.6**	**-0.7**
comp=E,0.5nm,0.3s,baz=141,slow=14,SNR=12							
MKAR				Sn	**Sn**	**17 24 55.6**	**+4.4**
comp=E,0.6nm,0.3s,baz=135,slow=19,SNR=3.8							
MKAR				Lg		17 25 19.5	
comp=E,1.0nm,0.3s,baz=133,slow=32,SNR=5.5							
ZALV	**Zalesovo Beam**	**11.23**	**353**	Pn	**Pn**	**17 25 16.0**	**+1.9**
comp=E,0.2nm,0.3s,baz=171,slow=16,SNR=4.4							
ZALV				Sn	**Sn**	**17 27 22.1**	**+2.6**
comp=E,0.1nm,0.3s,baz=170,slow=24,SNR=5.1							
ZALV				Lg		17 28 33.7	
baz=228,slow=5.8,SNR=4.2							
SONM	**Songino Array**	**14.54**	**63**	Pn	**Pn**	**17 25 59.4**	**+0.1**
comp=E,0.0nm,0.3s,baz=261,slow=12,SNR=4.6							

*ISCJB **23** 17:29:56.0±0.6,6065N±007×1656E±01,h10km,mb3.8/11, Error ellipse: s-maj=10.2km s-min=8.6km az=149.8*
*MOS **23** 17:29:56.1±1.1,6071N×16554E,h10km,mb4.0/5,Error ellipse: s-maj=25.4km s-min=15.6km az=106.3*
*IDC **23** 17:29:56.7±1.0,6078N×16555E,h0km,mb3.7/9, mb1 3.9/9,mb1mx3.7/25,mbtmp3.7/9,Error ellipse: s-maj=40.1km s-min=17.5km az=169.0*
*NEIC **23** 17:29:58.5±0.9,6083N×16562E,h10km,mb4.2/3,Error ellipse: s-maj=23.7km s-min=10.0km az=175.0*
ISC 23 17:29:57.9±0.6,6065N±007×1656E±01,h10km,n26, σ0°93/27,mb3.8/11,1D,Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SEY	**Seymchan**	**6.67**	**296**	*i*PN	**Pn**	**17 31 36.0**	**+0.2**
BILL	**Bilibino**	**7.42**	**2**	*e*Pn	**Pn**	**17 31 44.8**	**-1.3**
4.8nm,0.6s							
BILL				Sg	**Sb**	**17 33 35.4**	**+0.4**
BILL	**Bilibino**	**7.42**	**2**	*e*PN	**Pn**	**17 31 45.3**	**-0.7**
BILL				pmax	pmax		
comp=Z,1.0nm,0.7s							
MA2	**Magadan**	**7.49**	**268**	*e*PN	**Pn**	**17 31 45.9**	**-1.1**
MA2				pmax	pmax		
comp=Z,20nm,0.8s							
YAK	**Yakutsk**	**17.15**	**290**	*e*P	**Pn**	**17 33 58.3**	**+1.1**
comp=Z,4.6nm,0.5s							
YAK	**Yakutsk**	**17.15**	**290***d i*P		**Pn**	**17 33 57.9**	**+0.7**
YAK				pmax	pmax		
comp=Z,10.0nm,1.2s							
YAK				MLR	MLR		
comp=Z,100nm,14.0s							
TIXI	**Tiksi**	**18.11**	**322**	*i*P	**Pn**	**17 34 10.1**	**+1.1**
TIXI				MLR	MLR		
comp=Z,100nm,18.0s							
EGAK	**Eagle**	**24.13**	**57**	*e*P	**P**	**17 35 12.1**	**-1.3**
comp=Z,6.0nm,0.7s,mb4.1							
INK	**Inuvik**	**26.23**	**47**	P	**P**	**17 35 32.0**	**-0.4**
INK				pmax	pmax		
comp=Z,2.0nm,0.9s							
INK	**Inuvik**	**26.23**	**47**	P	**P**	**17 35 32.0**	**-0.4**
comp=Z,2.4nm,0.9s,mb3.8,baz=278,slow=9.8,SNR=8.6							
SONM	**Songino Array**	**35.61**	**276**	P	**P**	**17 36 56.3**	**+1.1**
comp=Z,0.3nm,0.6s,mb3.4,baz=61,slow=8.9,SNR=3.1							
YKA	**Yellowknife Ar**	**35.78**	**51**	P	**P**	**17 36 55.0**	**-1.5**
YKA	**Yellowknife Ar**	**35.78**	**51**	P	**P**	**17 36 56.7**	**+0.2**
YKA	**Yellowknife Ar**	**35.78**	**51**	P	**P**	**17 36 55.0**	**-1.5**
comp=Z,0.2nm,0.6s,mb3.2,baz=304,slow=8.6,SNR=5.2							
KURK	**Kurchatov**	**46.51**	**299**	*e*P	**P**	**17 38 23.5**	**-1.3**
comp=Z,3.3nm,1.1s,mb4.2							
KURK	**Kurchatov**	**46.51**	**299**	*e*P	**P**	**17 38 23.5**	**-1.3**
KURK				pmax	pmax		
comp=Z,3.0nm,1.1s,mb4.1							
MKAR	**Makanchi Array**	**47.80**	**293**	P	**P**	**17 38 34.7**	**-0.3**
comp=Z,0.3nm,0.2s,mb3.9,baz=47,slow=8.5,SNR=3.2							
BVAR	**Borovoye Array**	**48.20**	**306**	P	**P**	**17 38 37.3**	**-0.7**
BVAR				pmax	pmax		
comp=Z,1.0nm,0.6s							
BVAR	**Borovoye Array**	**48.20**	**306**	P	**P**	**17 38 37.3**	**-0.7**
comp=Z,1.4nm,0.6s,mb4.2,baz=60,slow=6.6,SNR=9.7							
PDAR	**Pinedale Array**	**51.58**	**69**	P	**P**	**17 39 04.8**	**+1.1**
comp=Z,0.9nm,0.7s,mb3.8,baz=298,slow=4.0,SNR=6.7							
ULM	**Lac du Bonnet**	**51.66**	**54**	P	**P**	**17 39 04.7**	**+0.5**
ULM	**Lac du Bonnet**	**51.66**	**54**	P	**P**	**17 39 04.7**	**+0.5**
comp=Z,0.6nm,0.3s,mb4.0,baz=304,slow=11,SNR=3.4							
TXAR	**Lajitas Array**	**65.25**	**74**	P	**P**	**17 40 40.8**	**+1.4**
TXAR				pmax	pmax		
comp=Z,1.0nm,0.9s							
TXAR	**Lajitas Array**	**65.25**	**74**	P	**P**	**17 40 40.8**	**+1.4**
comp=Z,0.5nm,0.9s,mb3.5,baz=298,slow=3.9,SNR=3.6							
WRA	**Warramunga Arr**	**84.20**	**209**	P	**P**	**17 42 29.3**	**+0.3**
WRA				pmax	pmax		
comp=Z,1.0nm,1.1s							
WRA	**Warramunga Arr**	**84.20**	**209**	P	**P**	**17 42 29.3**	**+0.3**
comp=Z

LBTB Lg 17 43 21.7
comp=Z,368nm,0.3s,baz=57,slow=20,SNR=65
LBTB Rg 17 43 32.1
comp=Z,309nm,0.4s,baz=28,slow=11,SNR=27
KSD Kokstad 4.24 147 *eP* **Pn 17 43 21.0 +1.1**
KSD *eS* **Sn 17 44 08.7 -0.8**
KSD AML AML 17 44 28.9
comp=Z,228nm,0.6s
PKA Prieska 4.42 232 *eP* **Pn 17 43 22.4 +0.1**
PKA *eS* **Sn 17 44 13.2 -0.7**
PKA AML AML 17 44 34.4
comp=Z,238nm,1.0s
UPI Upington 5.06 253 *eP* **Pn 17 43 31.9 +0.7**
UPI *eS* **Sn 17 44 28.9 -0.9**
UPI AML AML 17 44 59.4
comp=Z,123nm,0.4s
GRM Grahamstown 6.31 182 *eP* **Pn 17 43 48.9 +0.6**
GRM *eS* **Sn 17 44 58.1 -2.3**
GRM AML AML 17 45 41.9
comp=Z,61nm,0.5s
SUR Sutherland 7.45 222 *eP* **Pn 17 44 04.6 +0.6**
SUR *eS* **Sn 17 45 26.0 -2.6**
SUR Sutherland 7.45 222 *eP* **Pn 17 44 05.2 +1.2**
SUR Sn **Sn 17 45 26.9 -1.7**
SUR Lg 17 46 11.0
SUR Sutherland 7.45 222 Pn **Pn 17 44 05.4 +1.4**
comp=Z,7.4nm,0.3s,baz=64,slow=14,SNR=43
SUR Sn **Sn 17 45 26.9 -1.7**
comp=Z,6.6nm,0.3s,baz=332,slow=23,SNR=7.9
SUR Lg 17 46 11.0
comp=Z,22nm,0.3s,baz=136,slow=20,SNR=10
KOMG Komaggas 8.63 249 *eP* **Pn 17 44 20.8 +0.6**
KOMG *eS* **Sn 17 45 53.7 -3.9**
ELIM Elim 9.68 217 *eP* **Pn 17 44 35.5 +0.9**
ELIM *eS* **Sn 17 46 19.1 -4.3**
TSUM Tsumeb 11.45 311 *eP* **Pn 17 44 58.6 -0.2**
LSZ Lusaka 11.73 7 *eP* **Pn 17 45 00.8 -1.9**
LSZ Sn **Sn 17 47 05.0 -8.8**
LSZ Lg 17 48 19.8
LSZ Lusaka 11.73 7 Pn **Pn 17 45 00.9 -1.8**
comp=Z,1.6nm,0.3s,baz=191,slow=13,SNR=21
LSZ Sn **Sn 17 47 05.0 -8.8**
comp=Z,0.7nm,0.3s,baz=261,slow=18,SNR=4.0
LSZ Lg 17 48 19.7
comp=Z,1.2nm,0.3s,baz=88,slow=16,SNR=8.0
TOA0 Torodi Ar. Sit 46.73 325 *eP* **P 17 50 43.6 -1.1**
TORD Torodi Ar. Bea 46.73 325 P **P 17 50 45.0 +0.3**
comp=Z,1.4nm,0.6s,mb4.1,baz=155,slow=7.5,SNR=14
BDFB Brasilia 69.70 262 P **P 17 53 27.0 +1.3**
comp=Z,0.4nm,0.3s,mb3.9,baz=126,slow=20,SNR=3.8
TRQA Tornquist 72.98 236 *eP* **P 17 53 45.9 +0.8**
GERES GERESS Array B 76.39 351 P **P 17 54 05.9 +1.5**
comp=Z,0.1nm,0.3s,mb3.2,baz=205,slow=2.8,SNR=4.3
AKASG Malin Array Be 77.38 2 P **P 17 54 10.5 +0.5**
comp=Z,0.7nm,0.5s,mb3.9,baz=181,slow=5.4,SNR=6.5
ASAR Alice Springs 93.50 119 P **P 17 55 33.2 +1.6**
comp=Z,0.4nm,0.9s,mb3.8,baz=226,slow=5.1,SNR=6.9
NVAR Mina Array Bea 148.64 300 PKPbc PKPbc 18 02 05.4 +2.7
comp=Z,0.9nm,0.5s,baz=64,slow=2.1,SNR=8.3

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*ISCJB **23** 17:51:07.8±1.3,292N±03×43.1W±0.1,h10km,mb4.1/13, MS3.7/4,Error ellipse: s-maj=36.3km s-min=16.4km az=0.8*
*MOS **23** 17:51:07.9±1.1,2920N×4314W,h10km,mb4.3/7,Error ellipse: s-maj=34.6km s-min=17.6km az=59.1*
*IDC **23** 17:51:07.7±1.6,2932N×4314W,h0km,mb3.7/8,mb1 4.0/8, mb1mx3.7/26,mbtmp3.7/8,MS3.6/3,Ms1 3.6/3, ms1mx2.8/38,Error ellipse: s-maj=47.8km s-min=21.6km az=3.0*

ISC 23 17:51:09.6±1.3,292N±03×431W±01,h10km,n24,σ0°77/22, mb4.1/13,MS3.7/4,4C-1D,Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
TKL	**Tuckaleechee C**	**34.72**	**291**	LR	LR	LR	18 09 02.8	
	comp=Z,134nm,19.4s,MS3.7,baz=77,slow=31							
TEIG	**Tepich**	**41.77**	**268**	LR	LR	LR	18 14 16.8	
	comp=Z,120nm,19.3s,MS3.8,baz=126,slow=33							
TORD	**Torodi Ar. Bea**	**44.46**	**101**	P	P	**P**	**17 59 20.9**	**-0.3**
	1.9nm,1.0s,mb3.8,baz=302,slow=6.4,SNR=7.5							
KHC	**Kasperske Hory**	**47.05**	**49⇑**	*eP*	P	**P**	**17 59 41.2**	**-0.1**
GERES	**GERESS Array B**	**47.12**	**49**	P	P	**P**	**17 59 41.4**	**-0.4**
GERES				pmax	pmax			
	comp=Z,1.0nm,0.9s							
GERES	**GERESS Array B**	**47.12**	**49**	P	P	**P**	**17 59 41.4**	**-0.3**
	comp=Z,0.6nm,0.8s,mb3.5,baz=263,slow=5.4,SNR=7.5							
NB2	**NORSAR Subarra**	**47.76**	**32**	P	P	**P**	**17 59 46.8**	**+0.2**
	comp=Z,0.8nm,0.8s,mb3.8,baz=254,slow=7.9							
NOA	**NORSAR Array B**	**47.76**	**32**	P	P	**P**	**17 59 46.9**	**+0.3**
NOA				pmax	pmax			
	comp=Z,2.0nm,1.0s							
NOA	**NORSAR Array B**	**47.76**	**32**	P	P	**P**	**17 59 46.9**	**+0.3**
	comp=Z,2.2nm,1.0s,mb4.2,baz=255,slow=8.0,SNR=4.8							
HFS	**Hagfors**	**48.71**	**34**	P	P	**P**	**17 59 54.0**	**0.0**
HFS				pmax	pmax			
	comp=Z,3.0nm,0.9s							
HFS				MLR	MLR			
	comp=Z,38nm,20.9s							
HFS	**Hagfors**	**48.71**	**34**	P	P	**P**	**17 59 54.0**	**0.0**
	comp=Z,3.0nm,0.9s,mb4.3,baz=258,slow=7.4,SNR=4.2							
HFS				LR	LR	LR	18 17 23.7	
	comp=Z,38nm,20.9s,MS3.4,baz=124,slow=32							
TXAR	**Lajitas Array**	**52.26**	**286**	P	P	**P**	**18 00 21.4**	**+0.1**
TXAR				pmax	pmax			
	comp=Z,1.0nm,0.9s							
TXAR	**Lajitas Array**	**52.26**	**286**	P	P	**P**	**18 00 21.4**	**+0.1**
	comp=Z,0.6nm,0.9s,mb3.5,baz=113,slow=8.3,SNR=4.8							
PDAR	**Pinedale Array**	**54.13**	**304**	P	P	**P**	**18 00 34.4**	**-0.4**
	comp=Z,2.3nm,1.1s,mb4.0,baz=85,slow=6.3,SNR=9.4							
YKA	**Yellowknife Ar**	**56.01**	**328⇑**	*iP*	P	**P**	**18 00 47.7**	**-0.4**
YKA	**Yellowknife Ar**	**56.01**	**328**	P	P	**P**	**18 00 45.4**	**-2.7**
	comp=Z,0.1nm,0.3s,mb3.3,baz=95,slow=7.7,SNR=4.0							
AKASG	**Malin Array Be**	**57.09**	**46**	*iP*	P	**P**	**18 00 55.2**	**-0.8**
AKASG	**Malin Array Be**	**57.09**	**46**	P	P	**P**	**18 00 53.5**	**-2.5**
	comp=Z,0.2nm,0.3s,mb3.6,baz=271,slow=6.5,SNR=11							
OBN	**Obninsk**	**60.84**	**40⇓**	*eP*	P	**P**	**18 01 22.1**	**+0.2**
OBN				*e*			18 02 06.6	
OBN				pmax	pmax			
	comp=Z,6.0nm,0.6s,mb4.9							
ANN	**Anapa**	**63.70**	**52**	*eP*	P	**P**	**18 01 33.2**	**-8.1**
ANN				*e*			18 02 12.9	
ANN				pmax	pmax			
	comp=Z,23nm,1.1s,mb5.1							
ANN				MLR	MLR			
	comp=Z,112nm,17.0s,MS4.1							
ARU	**Arti**	**72.22**	**35**	*c iP*	P	**P**	**18 02 34.8**	**+0.1**
ARU				*e*			18 02 51.6	
ARU				*eS*	S		18 11 51.9	-5.3
ARU				pmax	pmax			
	comp=Z,10.0nm,1.7s,mb4.5							
TIXI	**Tiksi**	**79.26**	**3**	*eP*	P	**P**	**18 03 15.0**	**+0.3**
TIXI				pmax	pmax			
	comp=Z,5.0nm,1.3s,mb4.3							
BILL	**Bilibino**	**80.59**	**349**	*eP*	P	**P**	**18 03 22.9**	**+1.0**
BILL				*eS*	S		18 13 22.6	-6.0
BILL				pmax	pmax			
	comp=Z,2.0nm,1.0s,mb4.0							
AAK	**Ala-Archa**	**88.36**	**41⇑**	*eP*	P	**P**	**18 04 03.2**	**+1.4**

IDC 23 18:01:08.8±2.4,2907N×4355W,h0km,mb3.5/3, mb1 3.7/3,mb1mx3.3/25,mbtmp3.5/3,Error ellipse: s-maj=91.5km s-min=33.0km az=16.0,Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
TORD	**Torodi Ar. Bea**	**44.79**	**101**	P	P	P	18 09 24.4	-0.1
	1.0nm,0.8s,baz=307,slow=9.8,SNR=4.6							
PDAR	**Pinedale Array**	**53.90**	**304**	P	P	P	18 10 34.1	+0.2
	0.5nm,0.9s,baz=81,slow=11,SNR=4.9							
AKASG	**Malin Array Be**	**57.46**	**46**	P	P	P	18 10 59.3	0.0
	0.6nm,0.7s,baz=276,slow=6.4,SNR=4.1							

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*SZGRF **23** 18:03:58.1,2725N×4466W,h33km,mb4.7,Northern Mid-Atlantic Ridge*
*ISCJB **23** 18:04:10.6±0.5,2925N±0.10×43.12W±008,h10km, mb4.3/30,MS3.6/9,Error ellipse: s-maj=14.6km s-min=9.4km az=158.4*
*MOS **23** 18:04:10.7±0.9,2927N×4311W,h10km,mb4.6/24,Error ellipse: s-maj=22.8km s-min=8.0km az=50.8*
*IDC **23** 18:04:10.4±0.7,2929N×4310W,h0km,mb4.0/15, mb1 4.2/15,mb1mx4.0/29,mbtmp4.0/15,MS3.6/8, Ms1 3.6/8,ms1mx3.3/27,Error ellipse: s-maj=22.8km s-min=15.8km az=159.0*
*NEIC **23** 18:04:12.0±0.3,2924N×4314W,h10km,mb4.5/12,Error ellipse: s-maj=9.6km s-min=6.4km az=152.0*

ISC 23 18:04:12.5±0.5,2924N±010×4310W±008,h10km,n82, σ0°75/78,mb4.3/30,MS3.6/9,8C-2D,Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PCRV	**Puerto La Cruz**	**27.67**	**231**	LR	LR	LR	18 18 55.7	
	comp=Z,98nm,18.7s,MS3.4,baz=220,slow=32							
BBTS	**Babate**	**28.50**	**115**	LR	LR	LR	18 18 36.4	
	comp=Z,169nm,21.4s,MS3.6,baz=311,slow=30							
SCHQ	**Schefferville**	**30.77**	**333**	LR	LR	LR	18 20 42.9	
	comp=Z,97nm,18.2s,MS3.5,baz=89,slow=32							
ESDC	**Sonseca Array**	**33.68**	**61**	LR	LR	LR	18 21 06.7	
	comp=Z,66nm,18.7s,MS3.4,baz=300,slow=30							
BFO	**Black Forest**	**43.49**	**49**	*eP*		**P**	**18 12 16.1**	**+0.3**
BFO				pmax	pmax			
	comp=Z,11nm,1.2s,mb4.5							
BFO	**Black Forest**	**43.49**	**49**	*eP*		**P**	**18 12 16.1**	**+0.3**
	comp=Z,11nm,1.2s,mb4.5							
KEST	**Kesra**	**44.28**	**68**	P		**P**	**18 12 21.6**	**-0.7**
	comp=Z,2.4nm,1.1s,mb3.9,baz=202,slow=6.5,SNR=4.5							
TOA0	**Torodi Ar. Sit**	**44.44**	**101**	*eP*		**P**	**18 12 23.8**	**-0.1**
TORD	**Torodi Ar. Bea**	**44.44**	**101**	P		**P**	**18 12 23.2**	**-0.7**
TORD	**Torodi Ar. Bea**	**44.44**	**101**	P		**P**	**18 12 23.2**	**-0.7**
	comp=Z,5.1nm,1.1s,mb4.2,baz=299,slow=8.1,SNR=16							
CLZ	**Clausthal**	**45.26**	**45**	*eP*		**P**	**18 12 30.4**	**+0.4**
CLZ				pmax	pmax			
	comp=Z,7.0nm,1.1s,mb4.4							
CLZ	**Clausthal**	**45.26**	**45**	*eP*		**P**	**18 12 30.4**	**+0.4**
	comp=Z,7.0nm,1.1s,mb4.4							
GRA1	**Grafenberg Arr**	**45.53**	**48**	*eP*		**P**	**18 12 32.7**	**+0.6**
	comp=Z,5.0nm,1.0s,mb4.4							
GRF	**Grafenberg Arr**	**45.53**	**48**	*eP*		**P**	**18 12 32.7**	**+0.6**
GRF				pmax	pmax			
	comp=Z,5.0nm,1.0s,mb4.4							
GRF	**Grafenberg Arr**	**45.53**	**48**	*eP*		**P**	**18 12 32.7**	**+0.6**
GRF				pmax	pmax			
	comp=Z,5.0nm,1.0s,mb4.4							
GRF	**Grafenberg Arr**	**45.53**	**48**	*eP*		**P**	**18 12 32.7**	**+0.6**
	comp=Z,5.0nm,1.0s,mb4.4							
BSEG	**Bad Segeberg**	**45.58**	**42**	*eP*		**P**	**18 12 33.1**	**+0.6**
	comp=Z,32nm,1.3s,mb5.1							
NKC	**Novy Kostel**	**46.37**	**47**	*eP*		**P**	**18 12 38.9**	**+0.2**
KONO	**Kongsberg**	**46.56**	**34⇑**	*eP*		**P**	**18 12 41.5**	**+1.4**
WET	**Wettzell**	**46.56**	**49**	*eP*		**P**	**18 12 40.1**	**-0.1**
WET				pmax	pmax			
	comp=Z,10.0nm,1.6s,mb4.5							
WET	**Wettzell**	**46.56**	**49**	*eP*		**P**	**18 12 40.1**	**-0.1**
	comp=Z,10.0nm,1.6s,mb4.5							
CLL	**Collm**	**46.82**	**46**	*eP*		**P**	**18 12 42.0**	**-0.3**
CLL				*e*			18 12 48.0	
CLL				pmax	pmax			
	comp=Z,5.0nm,1.2s,mb4.3							
CLL	**Collm**	**46.82**	**46**	*eP*		**P**	**18 12 42.0**	**-0.3**
	comp=Z,5.0nm,1.2s,mb4.3							
CLL				*e*(sP)		sP	18 12 48.0	+1.3
KHC	**Kasperske Hory**	**47.02**	**49**	*eP*		**P**	**18 12 44.1**	**+0.3**
GEC2	**GERESS Array S**	**47.08**	**49**	*eP*		**P**	**18 12 44.3**	**0.0**
GEC2				pmax	pmax			
	comp=Z,8.0nm,1.3s,mb4.5							
GEC2	**GERESS Array S**	**47.08**	**49**	*eP*		**P**	**18 12 44.3**	**0.0**
	comp=Z,8.0nm,1.3s,mb4.5							
GERES	**GERESS Array B**	**47.08**	**49**	P		**P**	**18 12 43.7**	**-0.6**
GERES				pmax	pmax			
	comp=Z,2.0nm,1.1s							
GERES	**GERESS Array B**	**47.08**	**49**	P		**P**	**18 12 43.7**	**-0.6**
	comp=Z,2.4nm,1.1s,mb4.0,baz=271,slow=7.3,SNR=11							
PRU	**Pruhonice**	**47.70**	**48**	*eP*		**P**	**18 12 49.4**	**+0.3**
NB2	**NORSAR Subarra**	**47.73**	**32**	P		**P**	**18 12 49.3**	**+0.1**
	comp=Z,7.3nm,1.1s,mb4.6,baz=254,slow=7.9							
NOA	**NORSAR Array B**	**47.73**	**32**	P		**P**	**18 12 48.4**	**-0.8**
NOA				pmax	pmax			
	comp=Z,3.0nm,1.0s							
NOA				MLR	MLR			
	comp=Z,24nm,21.3s							
NOA	**NORSAR Array B**	**47.73**	**32**	P		**P**	**18 12 48.4**	**-0.8**
	comp=Z,3.4nm,1.0s,mb4.3,baz=254,slow=7.7,SNR=5.8							
NOA				LR	LR	LR	18 28 26.1	
	comp=Z,24nm,21.3s,MS3.1,baz=100,slow=30							
PDKS	**Podkum**	**47.90**	**53**	*iP*		**P**	**18 12 51.0**	**+0.2**
BOJS	**Bojanci**	**48.09**	**54**	*eP*		**P**	**18 12 52.7**	**+0.5**
SIV	**San Ignacio**	**48.20**	**203**	P		**P**	**18 12 52.9**	**-0.4**
	comp=Z,0.7nm,0.6s,mb3.9,baz=70,slow=9.4,SNR=4.4							
CRES	**Cresnjev**	**48.23**	**53**	*iP*		**P**	**18 12 52.6**	**-0.7**
TREC	**Trest**	**48.28**	**48**	*eP*		**P**	**18 12 53.6**	**0.0**
UPC	**Upice**	**48.66**	**47**	*eP*		**P**	**18 12 56.9**	**+0.3**
HFS	**Hagfors**	**48.68**	**34**	P		**P**	**18 12 55.3**	**-1.2**
HFS				pmax	pmax			
	comp=Z,3.0nm,0.8s							
HFS	**Hagfors**	**48.68**	**34**	P		**P**	**18 12 55.3**	**-1.2**
	comp=Z,3.3nm,0.8s,mb4.4,baz=262,slow=3.0,SNR=5.1							
DPC	**Dobruska-Polom**	**48.86**	**47**	*eP*		**P**	**18 12 58.3**	**+0.3**
MODS	**Modra-Piesok**	**49.44**	**50**	*eP*		**P**	**18 13 03.0**	**+0.4**
VYHS	**Vyhne**	**50.48**	**50**	*eP*		**P**	**18 13 09.6**	**-0.9**
	comp=Z,2.5nm,1.2s,mb4.1							
VYHS	**Vyhne**	**50.48**	**50**	*eP*		**P**	**18 13 09.6**	**-0.9**
VYHS				pmax	pmax			
	comp=Z,3.0nm,1.2s,mb4.2							
LPAZ	**La Paz**	**51.31**	**211**	P		**P**	**18 13 17.8**	**+0.8**
LPAZ				pmax	pmax			
	comp=Z,3.0nm,1.1s							
LPAZ	**La Paz**	**51.31**	**211**	P		**P**	**18 13 17.8**	**+0.8**
	comp=Z,2.8nm,1.1s,mb4.1,baz=31,slow=8.6,SNR=5.7							
STHS	**Stebnicka Huta**	**52.04**	**48**	*eP*		**P**	**18 13 20.4**	**-1.7**
TXAR	**Lajitas Array**	**52.27**	**286**	P		**P**	**18 13 23.6**	**-0.6**
TXAR				pmax	pmax			
	comp=Z,1.0nm,0.9s							
TXAR	**Lajitas Array**	**52.27**	**286**	P		**P**	**18 13 23.6**	**-0.6**
	comp=Z,1.2nm,0.9s,mb3.8,baz=99,slow=7.7,SNR=9.4							
BZS	**Buzias**	**52.55**	**53⇑**	*iP*		**P**	**18 13 26.9**	**+0.9**
DRGR		**53.19**	**52⇑**	*iP*		**P**	**18 13 31.1**	**+0.4**
ANMO	**Albuquerque**	**53.20**	**294**	*iP*		**P**	**18 13 33.0**	**+2.1**
LVV	**L'vov**	**53.83**	**48**	*eP*		**P**	**18 13 41.8**	**+6.5**
PDAR	**Pinedale Array**	**54.13**	**304**	P		**P**	**18 13 37.4**	**-0.3**
	comp=Z,2.8nm,1.0s,mb4.1,baz=77,slow=6.4,SNR=18							
PDAR				LR	LR	LR	18 34 36.0	
	comp=Z,166nm,19.9s,MS4.1,baz=92,slow=34							
FINES	**FINESS Array B**	**54.87**	**33**	P		**P**	**18 13 42.4**	**-0.3**
FINES	**FINESS Array B**	**54.87**	**33**	P		**P**	**18 13 42.4**	**-0.3**
FINES				pmax	pmax			
	comp=Z,3.0nm,1.0s							
FINES	**FINESS Array B**	**54.87**	**33**	P		**P**	**18 13 42.4**	**-0.3**
	comp=Z,2.7nm,1.0s,mb4.2,baz=300,slow=7.9,SNR=4.8							
ARCES	**ARCESS Array B**	**55.46**	**23**	LR	LR	LR	18 33 54.4	
	comp=Z,31nm,21.6s,MS3.4,baz=21,slow=32							
MLR	**Muntele Rosu**	**55.58**	**53⇑**	*iP*		**P**	**18 13 49.3**	**+1.2**
YKA	**Yellowknife Ar**	**56.00**	**328**	P		**P**	**18 13 49.7**	**-1.2**
YKA				LR	LR	LR	18 37 24.4	
YKA	**Yellowknife Ar**	**56.00**	**328**	P		**P**	**18 13 49.7**	**-1.2**
YKA				pmax	pmax			
	comp=Z,1.0nm,1.0s							
YKA				MLR	MLR			
	comp=Z,52nm,19.3s							
YKA	**Yellowknife Ar**	**56.00**	**328**	P		**P**	**18 13 49.7**	**-1.2**
	comp=Z,0.9nm,1.0s,mb3.8,baz=89,slow=7.8,SNR=8.7							
YKA				LR	LR	LR	18 37 24.4	
	comp=Z,52nm,19.3s,MS3.6,baz=160,slow=36							
AKASG	**Malin Array Be**	**57.06**	**46**	P		**P**	**18 13 58.0**	**-0.6**
AKASG				pmax	pmax			
	comp=Z,5.0nm,0.9s							
AKASG	**Malin Array Be**	**57.06**	**46**	P		**P**	**18 13 58.0**	**-0.6**
	comp=Z,4.8nm,0.9s,mb4.5,baz=273,slow=6.3,SNR=14							
OBN	**Obninsk**	**60.80**	**40⇓**	*eP*		**P**	**18 14 24.6**	**+0.1**
OBN				*e*			18 16 37.3	
OBN				*eS*		**S**	**18 22 36.0**	**-5.7**
OBN				pmax	pmax			
	comp=Z,8.0nm,0.6s,mb5.0							
NVAR	**Mina Array Bea**	**61.57**	**300**	P		**P**	**18 14 29.6**	**-0.3**
	comp=Z,0.3nm,0.4s,mb3.8,baz=74,slow=5.4,SNR=4.7							
ANN	**Anapa**	**63.67**	**52**	*eP*		**P**	**18 14 34.7**	**-9.2**
ANN				*e*			18 15 14.2	
ANN				pmax	pmax			
	comp=Z,21nm,1.2s,mb5.0							
KIV	**Kislovodsk**	**67.51**	**51⇓**	*eP*		**P**	**18 15 11.9**	**+3.1**
KIV				pmax	pmax			
	comp=Z,6.0nm,1.0s,mb4.6							
KIV				MLR	MLR			
	comp=Z,100nm,27.0s,MS3.9							
ARU	**Arti**	**72.19**	**35**	*d iP*		**P**	**18 15 38.1**	**+0.8**
ARU				*e*			18 15 58.4	
ARU				*e*			18 18 15.3	
ARU				*eS*	S		18 24 55.1	-4.5
ARU				pmax	pmax			
	comp=Z,7.0nm,1.7s,mb4.3							
AKTK	**Aktyubinsk**	**74.58**	**41**	P		**P**	**18 15 50.6**	**-0.9**
AKTO	**Aktyubinsk**	**74.58**	**41**	P		**P**	**18 15 50.6**	**-0.9**
AKTO				pmax	pmax			
	comp=Z,2.0nm,0.9s,mb4.0							
AKTO	**Aktyubinsk**	**74.58**	**41**	P		**P**	**18 15 50.6**	**-0.9**
	comp=Z,2.4nm,0.9s,mb4.1,baz=309,slow=5.3,SNR=7.6							
TIXI	**Tiksi**	**79.23**	**3**	*eP*		**P**	**18 16 17.4**	**0.0**
	comp=Z,8.2nm,1.3s,mb4.5							
TIXI	**Tiksi**	**79.23**	**3**	*eP*		**P**	**18 16 16.5**	**-0.9**
TIXI				pmax	pmax			
	comp=Z,8.0nm,1.1s,mb4.6							
BVAR	**Borovoye Array**	**79.81**	**34**	P		**P**	**18 16 20.4**	**-0.5**
BVAR				pmax	pmax			
	comp=Z,2.0nm,1.0s							
BVAR	**Borovoye Array**	**79.81**	**34**	P		**P**	**18 16 20.4**	**-0.5**
	comp=Z,1.6nm,1.0s,mb3.9,baz=292,slow=4.0,SNR=5.6							
BILL	**Bilibino**	**80.57**	**349⇑**	*eP*		**P**	**18 16 24.9**	**+0.2**
BILL				*e*			18 19 23.2	
BILL				pmax	pmax			
	comp=Z,5.0nm,1.8s,mb4.1							
LSZ	**Lusaka**	**81.76**	**113**	P		**P**	**18 16 31.6**	**-0.2**
	comp=Z,6.6nm,1.4s,mb4.4							
LSZ	**Lusaka**	**81.76**	**113**	P		**P**	**18 16 31.7**	**-0.1**
LSZ				pmax	pmax			
	comp=Z,7.0nm,1.4s,mb4.4							
KURK	**Kurchatov**	**85.24**	**33⇑**	*eP*		**P**	**18 16 49.7**	**+0.5**
AAK	**Ala-Archa**	**88.33**	**41**	*eP*		**P**	**18 17 04.2**	**-0.2**
	comp=Z,3.9nm,1.4s,mb4.4							
AAK	**Ala-Archa**	**88.33**	**41⇑**	*eP*		**P**	**18 17 04.9**	**+0.5**
AAK				pmax	pmax			
	comp=Z,5.0nm,1.7s,mb4.5							

NEIC 23 18:34:18.0,3538S×17858E,h216km,mb3.9/1,After WEL.,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**2.19**	**186**	P		Pn	18 34 59.8	+0.2
MXZ				S		S	18 35 31.3	-1.0
KUZ	**Kuaotunu**	**2.69**	**239**	*eP*		Pn	18 35 04.9	0.0
PUZ	**Puketiti**	**2.70**	**185**	P		Pn	18 35 05.3	+0.3
MWZ	**Matawai**	**3.07**	**196**	P		Pn	18 35 05.8	-3.4
MWZ				S		S	18 35 51.9	+2.4
URZ	**Urewera**	**3.11**	**202**	P		Pn	18 35 10.0	+0.4
KNZ	**Kokohu**	**3.71**	**191**	P		Pn	18 35 16.4	-0.3
BKZ	**Black Stump Fm**	**4.13**	**203**	P		Pn	18 35 22.1	+0.2
BKZ				S		S	18 36 13.9	+1.5
NGZ	**Ngauruhoe**	**4.47**	**211**	P		Pn	18 35 27.0	+0.9
TUVZ	**Tukino**	**4.53**	**210**	P		Pn	18 35 27.3	+0.5
WNVZ	**Wahianoa**	**4.60**	**210**	P		Pn	18 35 27.9	+0.2
MOVZ	**Moawhango**	**4.61**	**208**	P		Pn	18 35 27.1	-0.7
TSZ	**Takapari Road**	**5.11**	**203**	P		Pn	18 35 33.1	-1.0
WAZ	**Wanganui**	**5.22**	**212**	*eP*		Pn	18 35 36.0	+0.6
BFZ	**Birch Farm**	**5.60**	**198**	*eP*		Pn	18 35 38.8	-1.5
KIW	**Kapiti Island**	**6.19**	**207**	P		Pn	18 35 45.7	-2.1
MTW	**Mount Morrison**	**6.26**	**202**	P		Pn	18 35 46.2	-2.5
MSWZ	**Moikau Station**	**6.57**	**202**	P		Pn	18 35 50.4	-2.3
MRW	**Makara Radio**	**6.59**	**206**	P		Pn	18 35 49.2	-3.7
TCW	**Tory Channel**	**6.74**	**209**	P		Pn	18 35 52.3	-2.5
BSWZ	**Blackbirch Sta**	**7.32**	**209**	P		Pn	18 35 59.9	-2.4
KHZ	**Kahutara**	**8.05**	**208**	*eP*		Pn	18 36 09.3	-2.4
LTZ	**Lake Taylor**	**8.87**	**212**	*eP*		Pn	18 36 19.7	-2.6
MQZ	**McQueen's Vall**	**9.49**	**207**	*eP*		Pn	18 36 26.3	-4.0
ODZ	**Otahua Downs**	**11.39**	**210**	*eP*		Pn	18 36 52.8	-1.8
WB2	**Warramunga Arr**	**41.73**	**280**	*eP*		P	18 41 46.4	+0.4
WB2	**Warramunga Arr**	**41.73**	**280**	*eP*		P	18 41 46.3	+0.2
WRAB	**Tennant Creek**	**41.73**	**280**	*eP*		P	18 41 46.3	+0.2
	2.0nm,0.5s							

IDC 23 18:53:32.3±1.6,2918N×4318W,h0km,mb3.4/5, mb1 3.7/5,mb1mx3.5/25,mbtmp3.4/5,MS3.5/8,Ms1 3.5/8, ms1mx3.2/28,Error ellipse: s-maj=62.0km s-min=23.8km az=4.0,Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
SCHQ	**Schefferville**	**30.79**	**333**	LR	LR	LR	19 11 08.7	
	comp=Z,91nm,19.2s,baz=85,slow=34							
ESDC	**Sonseca Array**	**33.77**	**61**	LR	LR	LR	19 11 02.8	
	comp=Z,39nm,18.6s,baz=225,slow=31							
ROSC	**El Rosal**	**38.13**	**237**	LR	LR	LR	19 14 44.5	
	comp=Z,40nm,21.4s,baz=196,slow=33							
TEIG	**Tepich**	**41.72**	**268**	LR	LR	LR	19 14 07.5	
	comp=Z,110nm,21.8s,baz=31,slow=30							
DBIC

BBTS Babate 28.51 115 LR LR 19 40 21.7
comp=Z,263nm,18.7s,baz=24,slow=32
SCHQ Schefferville 30.88 333 LR LR 19 42 55.4
comp=Z,116nm,21.0s,baz=73,slow=34
ESDC Sonseca Array 33.83 61 LR LR 19 42 34.7
comp=Z,112nm,18.9s,baz=215,slow=31
ROSC El Rosal 38.07 237 LR LR 19 47 32.2
comp=Z,104nm,18.2s,baz=205,slow=35
DBIC Dimbokro 42.45 114 LR LR 19 47 44.5
comp=Z,224nm,20.3s,baz=249,slow=32
KEST Kesra 44.42 67 P P 19 33 30.9 +1.5
1.0nm,0.8s,baz=256,slow=11,SNR=2.7
TORD Torodi Ar. Bea 44.49 101 P P 19 33 29.7 -0.5
1.1nm,0.9s,baz=310,slow=7.2,SNR=4.4
TORD LR LR 19 49 55.0
comp=Z,162nm,20.5s,baz=260,slow=33
GERES GERESS Array B 47.25 49 P P 19 33 49.8 -1.8
0.4nm,0.7s,baz=251,slow=6.9,SNR=4.4
GERES LR LR 19 49 42.1
comp=Z,59nm,20.1s,baz=104,slow=31
NOA NORSAR Array B 47.91 32 P P 19 33 55.3 -1.3
1.3nm,0.9s,baz=255,slow=7.7,SNR=2.9
LPAZ La Paz 51.13 211 LR LR 19 54 38.4
comp=Z,72nm,19.8s,baz=258,slow=34
TXAR Lajitas Array 52.24 286 P P 19 34 30.0 0.0
0.7nm,0.9s,baz=105,slow=7.9,SNR=5.0
TXAR LR LR 19 52 58.0
comp=Z,78nm,20.7s,baz=185,slow=32
ANMO Albuquerque 53.19 294 LR LR 19 55 06.5
comp=Z,94nm,18.1s,baz=18,slow=34
PDAR Pinedale Array 54.16 304 P P 19 34 42.5 -1.3
1.5nm,1.0s,baz=78,slow=6.8,SNR=6.9
PDAR LR LR 19 56 03.7
comp=Z,230nm,20.8s,baz=106,slow=34
FINES FINESS Array B 55.05 33 LR LR 19 55 03.5
comp=Z,34nm,18.9s,baz=337,slow=32
YKA Yellowknife Ar 56.10 328 P P 19 34 59.4 +1.8
0.2nm,0.7s,baz=89,slow=7.1,SNR=6.1
NEW Newport 58.56 311 LR LR 19 59 26.2
comp=Z,129nm,18.4s,baz=225,slow=35
LPIG La Paz 59.51 282 LR LR 20 04 21.3
comp=Z,85nm,18.8s,baz=66,slow=39
PFO Pinyon Flat Ob 61.53 295 LR LR 19 59 07.3
comp=Z,159nm,21.3s,baz=86,slow=33
KMBO Kilima Mbogo 82.19 96 LR LR 20 16 15.6
comp=Z,144nm,18.0s,baz=88,slow=37
ZALV Zalesovo Beam 85.91 28 P P 19 37 59.8 +1.3
0.3nm,0.3s,baz=317,slow=5.9,SNR=2.7
BOSA Boshof 87.00 125 LR LR 20 13 44.8
comp=Z,96nm,19.8s,baz=152,slow=33

IDC 23 19:54:47.4±1.6, 2948N×4346W, h0km, mb3.6/7, mb1 3.8/7, mb1mx3.6/25, mbtmp3.6/7, MS3.5/5, Ms1 3.5/5, ms1mx3.1/25, Error ellipse: s-maj=54.4km s-min=23.7km az=5.0, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TKL	**Tuckaleechee C**	**34.35**	**291**	LR	LR	20 12 15.8	
	comp=Z,98nm,21.7s,baz=5.1,slow=30						
DBIC	**Dimbokro**	**42.83**	**114**	LR	LR	20 19 10.0	
	comp=Z,146nm,18.6s,baz=354,slow=34						
JTS	**JuntasAbangare**	**43.14**	**252**	LR	LR	20 18 48.3	
	comp=Z,52nm,20.3s,baz=254,slow=33						
TORD	**Torodi Ar. Bea**	**44.80**	**101**	P	P	20 03 03.2	-0.1
	1.2nm,1.0s,baz=316,slow=7.9,SNR=4.1						
TORD				LR	LR	20 21 10.7	
	comp=Z,67nm,18.1s,baz=255,slow=35						
NOA	**NORSAR Array B**	**47.69**	**32**	P	P	20 03 24.7	-0.7
	0.5nm,0.8s,baz=128,slow=18,SNR=2.4						
NOA				LR	LR	20 18 49.6	
	comp=Z,18nm,19.3s,baz=115,slow=30						
TXAR	**Lajitas Array**	**51.91**	**286**	P	P	20 03 56.5	-1.5
	0.3nm,0.7s,baz=235,slow=39,SNR=3.4						
ANMO	**Albuquerque**	**52.81**	**293**	P	P	20 04 06.7	+2.0
	0.7nm,0.4s,baz=44,slow=3.1,SNR=4.0						
PDAR	**Pinedale Array**	**53.74**	**303**	P	P	20 04 11.8	+0.4
	1.2nm,0.9s,baz=79,slow=7.7,SNR=11						
YKA	**Yellowknife Ar**	**55.63**	**328**	P	P	20 04 24.6	-0.1
	0.1nm,0.4s,baz=86,slow=7.6,SNR=4.8						
ZALV	**Zalesovo Beam**	**85.66**	**28**	P	P	20 07 28.7	+0.9
	0.3nm,0.3s,baz=308,slow=7.3,SNR=3.6						

IDC 23 19:55:43.0±1.8, 2943N×4289W, h0km, mb3.5/4, mb1 3.8/4, mb1mx3.5/24, mbtmp3.5/4, Error ellipse: s-maj=105.9km s-min=27.1km az=22.0, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TORD	**Torodi Ar. Bea**	**44.30**	**102**	P	P	20 03 54.7	-0.1
	0.6nm,0.7s,baz=302,slow=8.4,SNR=3.1						
TXAR	**Lajitas Array**	**52.40**	**286**	P	P	20 04 58.5	+1.2
	0.2nm,0.8s,baz=69,slow=7.0,SNR=3.6						
PDAR	**Pinedale Array**	**54.18**	**304**	P	P	20 05 08.6	-1.6
	0.6nm,0.8s,baz=82,slow=6.5,SNR=4.5						
YKA	**Yellowknife Ar**	**55.94**	**328**	P	P	20 05 23.4	+0.9
	0.1nm,0.3s,baz=83,slow=3.2,SNR=3.5						

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*IDC **23** 20:20:02.9±2.0, 2836S×178.13W, h0km, mb4.1/3, mb1 4.3/3, mb1mx4.0/12, mbtmp4.1/3, Error ellipse: s-maj=45.5km s-min=11.0km az=66.0*

NEIC 23 20:20:03.3±1.3, 2837S×17795W, h10km, mb4.1/1, Error ellipse: s-maj=29.8km s-min=14.1km az=71.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.88**	**178**	Pg	Pg	20 20 20.4	+0.2
RAO				Lg		20 20 33.1	
RAO	**Raoul Island**	**0.88**	**178**	Pg	Pg	20 20 20.4	+0.2
	789nm,0.3s,baz=67,slow=23,SNR=37						
RAO				Lg		20 20 33.1	
	2um,0.3s,baz=86,slow=18,SNR=11						
STKA	**Stephens Creek**	**35.02**	**254**	*eP*	P	20 26 54.6	-1.6
STKA	**Stephens Creek**	**35.02**	**254**	P	P	20 26 55.0	-1.1
	1.3nm,0.5s,baz=84,slow=11,SNR=9.1						
ASAR	**Alice Springs**	**43.30**	**265**	P	P	20 28 04.9	-0.5
	0.4nm,0.3s,baz=105,slow=7.5,SNR=9.9						
WB2	**Warramunga Arr**	**44.09**	**270**	*eP*	P	20 28 12.5	+0.7
WRAB	**Tennant Creek**	**44.09**	**270**	*eP*	P	20 28 12.5	+0.7
	1.7nm,0.5s						
WRA	**Warramunga Arr**	**44.10**	**270**	P	P	20 28 13.0	+1.1
	1.5nm,0.3s,baz=110,slow=8.1,SNR=160						
FINES	**FINESS Array B**	**143.25**	**341**	PKP	PKPdf	20 39 36.2	-0.8
FINES	**FINESS Array B**	**143.25**	**341**	PKP	PKPdf	20 39 36.2	-0.8
	0.7nm,0.3s,baz=62,slow=4.1,SNR=18						
AKASG	**Malin Array Be**	**149.69**	**325**	PKPbc	PKPbc	20 39 53.5	+0.6
	0.2nm,0.3s,baz=46,slow=3.0,SNR=3.8						

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*ISCJB **23** 20:47:06.9±0.4, 2914N±009×4320W±006, h10km, mb4.4/56, MS4.0/38, Error ellipse: s-maj=13.9km s-min=6.2km az=165.3*

*IDC **23** 20:47:06.9±0.7, 2918N×4322W, h0km, mb4.0/18, mb1 4.1/18, mb1mx4.0/28, mbtmp4.0/18, MS4.0/25, Ms1 4.0/25, ms1mx3.9/32, Error ellipse: s-maj=21.5km s-min=14.4km az=154.0*

*MOS **23** 20:47:07.1±0.8, 2924N×4326W, h10km, mb4.7/32, MS3.9/18, Error ellipse: s-maj=15.5km s-min=5.1km az=135.0*

*NEIC **23** 20:47:08.6±0.3, 2917N×4321W, h10km, mb4.7/28, Error ellipse: s-maj=9.8km s-min=4.7km az=163.0*

*SZGRF **23** 20:47:12.8, 2890N×4279W, h33km, mb5.0, Northern Mid-Atlantic Ridge*

ISC 23 20:47:08.7±0.4, 2914N±009×4318W±006, h10km, n168, σ0=72/157, mb4.4/56, MS4.0/38, 2C-4D, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCRV	**Puerto La Cruz**	**27.55**	**231**	LR	LR	21 01 42.9	
	comp=Z,131nm,20.2s,MS3.5,baz=76,slow=32						
BBTS	**Babate**	**28.52**	**115**	LR	LR	21 01 43.1	
	comp=Z,480nm,19.7s,MS4.1,baz=134,slow=31						
SCHQ	**Schefferville**	**30.82**	**333**	LR	LR	21 04 34.8	
	comp=Z,282nm,18.3s,MS4.0,baz=318,slow=34						
SDV	**Santo Domingo**	**32.71**	**237**	*eP*	**P**	**20 53 42.8**	**+1.2**
	6.1nm,1.0s,mb4.5						
SDV	**Santo Domingo**	**32.71**	**237**	P	**P**	**20 53 43.1**	**+1.5**
	3.7nm,0.8s,mb4.3,baz=55,slow=6.2,SNR=4.9						
MDT	**Midelt**	**33.14**	**74**	LR	LR	21 03 50.9	
	comp=Z,399nm,21.3s,MS4.1,baz=297,slow=30						
ESDC	**Sonseca Array**	**33.78**	**61**	P	**P**	**20 53 50.6**	**-0.1**
	0.5nm,0.5s,mb3.7,baz=269,slow=8.8,SNR=4.7						
ESDC				LR	LR	21 04 05.7	
	comp=Z,133nm,20.3s,MS3.6,baz=185,slow=30						
QUIF	**Quistinic**	**35.98**	**47**	*eP*	**P**	**20 54 09.8**	**+0.1**
ROSF	**Rostrenen**	**36.04**	**47**	*eP*	**P**	**20 54 10.4**	**+0.3**
SJPF	**Ste Jean**	**36.26**	**56**	*eP*	**P**	**20 54 12.1**	**0.0**
	47nm,1.5s,mb4.9						
SJPF	**Ste Jean**	**36.26**	**56**	*eP*	**P**	**20 54 12.1**	**0.0**
	23nm,1.5s,mb4.9						
SJPF	**Ste Jean**	**36.26**	**56**	*eP*	**P**	**20 54 12.1**	**0.0**
SJPF				pmax	pmax		
	comp=Z,23nm,1.5s,mb4.9						
SGMF	**Saint Gilles**	**36.47**	**47**	*eP*	**P**	**20 54 14.0**	**+0.2**
	comp=Z,19nm,1.0s,mb4.7						
SGMF	**Saint Gilles**	**36.47**	**47**	*eP*	**P**	**20 54 14.0**	**+0.2**
	comp=Z,9.6nm,1.0s,mb4.7						
SGMF	**Saint Gilles**	**36.47**	**47**	*eP*	**P**	**20 54 14.0**	**+0.2**
SGMF				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.7						
ETSF	**Etsaut**	**36.71**	**56**	*eP*	**P**	**20 54 16.3**	**+0.3**
EPF	**Esparros**	**37.38**	**56**	*eP*	**P**	**20 54 21.6**	**-0.1**
GRR	**Gorron**	**37.60**	**47**	*eP*	**P**	**20 54 23.2**	**-0.2**
MFF	**Saint Martin d**	**37.65**	**50**	*eP*	**P**	**20 54 23.6**	**-0.2**
	comp=Z,18nm,1.0s,mb4.4						
MFF	**Saint Martin d**	**37.65**	**50**	*eP*	**P**	**20 54 23.6**	**-0.2**
	comp=Z,8.8nm,1.0s,mb4.4						
MFF	**Saint Martin d**	**37.65**	**50**	*eP*	**P**	**20 54 23.6**	**-0.2**
MFF				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.5						
FLN	**La Foliniere**	**37.94**	**47**	*eP*	**P**	**20 54 26.6**	**+0.3**
FLN				*e*MLR	MLR		
	comp=Z,271nm,20.5s,MS3.7						
FLN	**La Foliniere**	**37.94**	**47**	*eP*	**P**	**20 54 26.6**	**+0.3**
FLN				MLR	MLR		
	comp=Z,270nm,20.5s,MS4.0						
LFF	**La Frestale**	**37.95**	**53**	*eP*	**P**	**20 54 26.1**	**-0.3**
	comp=Z,86nm,1.7s,mb4.9						
LFF	**La Frestale**	**37.95**	**53**	*eP*	**P**	**20 54 26.1**	**-0.3**
	comp=Z,43nm,1.7s,mb4.9						
LFF	**La Frestale**	**37.95**	**53**	*eP*	**P**	**20 54 26.1**	**-0.3**
LFF				pmax	pmax		
	comp=Z,43nm,1.7s,mb4.9						
ROSC	**El Rosal**	**38.12**	**237**	LR	LR	21 09 23.9	
	comp=Z,205nm,19.3s,MS4.0,baz=9.2,slow=35						
LDF	**La Druitiere**	**38.12**	**47**	*eP*	**P**	**20 54 28.0**	**+0.2**
	comp=Z,36nm,1.4s,mb4.6						
LDF	**La Druitiere**	**38.12**	**47**	*eP*	**P**	**20 54 28.0**	**+0.2**
	comp=Z,18nm,1.4s,mb4.6						
LDF	**La Druitiere**	**38.12**	**47**	*eP*	**P**	**20 54 28.0**	**+0.2**
LDF				pmax	pmax		
	comp=Z,18nm,1.4s,mb4.6						
RJF	**Les Rejaudoux**	**38.55**	**53**	*eP*	**P**	**20 54 31.2**	**-0.2**
RJF				*e*MLR	MLR		
	comp=Z,373nm,20.0s,MS3.9						
RJF	**Les Rejaudoux**	**38.55**	**53**	*eP*	**P**	**20 54 31.2**	**-0.2**
RJF				MLR	MLR		
	comp=Z,370nm,20.0s,MS4.2						
MTLF	**Montolieu**	**38.78**	**56**	*eP*	**P**	**20 54 33.2**	**-0.3**
	comp=Z,25nm,1.4s,mb4.5						
MTLF	**Montolieu**	**38.78**	**56**	*eP*	**P**	**20 54 33.2**	**-0.3**
	comp=Z,12nm,1.4s,mb4.5						
MTLF	**Montolieu**	**38.78**	**56**	*eP*	**P**	**20 54 33.2**	**-0.3**
MTLF				pmax	pmax		
	comp=Z,12nm,1.4s,mb4.4						
CAF	**Calviac**	**38.87**	**53**	*eP*	**P**	**20 54 33.9**	**-0.3**
TCF	**Toulx Ste Croi**	**39.19**	**51**	*eP*	**P**	**20 54 36.4**	**-0.4**
LASF	**Ste Croix**	**40.04**	**55**	*eP*	**P**	**20 54 43.5**	**-0.5**
	comp=Z,6.1nm,0.9s,mb4.0						
AVF	**Avril sur Loir**	**40.05**	**51**	*eP*	**P**	**20 54 43.7**	**-0.3**
SSF	**Saint Saulge**	**40.20**	**50**	*eP*	**P**	**20 54 45.0**	**-0.2**
	comp=Z,10.0nm,1.0s,mb4.2						
SSF	**Saint Saulge**	**40.20**	**50**	*eP*	**P**	**20 54 45.0**	**-0.2**
	comp=Z,5.0nm,1.0s,mb4.2						
SSF	**Saint Saulge**	**40.20**	**50**	*eP*	**P**	**20 54 45.0**	**-0.2**
SSF				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.2						
SMF	**Signal de Mont**	**40.36**	**51**	*eP*	**P**	**20 54 46.5**	**0.0**
	comp=Z,23nm,1.0s,mb4.6						
SMF	**Signal de Mont**	**40.36**	**51**	*eP*	**P**	**20 54 46.5**	**0.0**
	comp=Z,12nm,1.0s,mb4.6						
SMF	**Signal de Mont**	**40.36**	**51**	*eP*	**P**	**20 54 46.5**	**0.0**
SMF				pmax	pmax		
	comp=Z,12nm,1.0s,mb4.6						
LOR	**Lormes**	**40.47**	**50**	*eP*	**P**	**20 54 47.2**	**-0.2**
LOR				*e*MLR	MLR		
	comp=Z,160nm,22.2s,MS3.5						
LOR	**Lormes**	**40.47**	**50**	*eP*	**P**	**20 54 47.2**	**-0.2**
LOR				MLR	MLR		
	comp=Z,160nm,22.3s,MS3.8						
VIVF	**Saint-Julien-l**	**40.70**	**54**	*eP*	**P**	**20 54 49.3**	**-0.1**
BAIF	**Baives**	**41.22**	**46**	*eP*	**P**	**20 54 53.3**	**-0.3**
SMRF	**Simiane la Rot**	**41.27**	**55**	*eP*	**P**	**20 54 53.7**	**-0.4**
	comp=Z,34nm,1.6s,mb4.4						
SMRF	**Simiane la Rot**	**41.27**	**55**	*eP*	**P**	**20 54 53.7**	**-0.4**
	comp=Z,34nm,1.6s,mb4.7						
MEZF	**Maizieres J'vi**	**41.47**	**49**	*eP*	**P**	**20 54 55.5**	**-0.1**
	comp=Z,17nm,0.8s,mb4.4						
MEZF	**Maizieres J'vi**	**41.47**	**49**	*eP*	**P**	**20 54 55.5**	**-0.1**
	comp=Z,17nm,0.8s,mb4.7						
ORIF	**Oris-en-Rattie**	**41.56**	**54**	*eP*	**P**	**20 54 56.4**	**-0.1**
ORIF				*e*MLR	MLR		
	comp=Z,217nm,19.8s,MS3.7						
CABF	**La Chapelle**	**41.88**	**51**	*eP*	**P**	**20 54 59.0**	**-0.1**
LMR	**La Mourre**	**41.91**	**56**	*eP*	**P**	**20 54 58.9**	**-0.4**
FRF	**La Foret Royal**	**42.02**	**56**	*eP*	**P**	**20 54 59.8**	**-0.4**
	comp=Z,9.5nm,1.0s,mb4.1						
FRF	**La Foret Royal**	**42.02**	**56**	*eP*	**P**	**20 54 59.8**	**-0.4**
	comp=Z,4.8nm,1.0s,mb4.1						
FRF	**La Foret Royal**	**42.02**	**56**	*eP*	**P**	**20 54 59.8**	**-0.4**
FRF				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.1						
BNI	**Bardonecchia**	**42.14**	**54**	*eP*	**P**	**20 55 02.7**	**+1.5**
	comp=Z,30nm,1.9s,mb4.6						
BNI	**Bardonecchia**	**42.14**	**54**	*eP*	**P**	**20 55 02.7**	**+1.5**
BNI				pmax	pmax		
	comp=Z,30nm,1.9s,mb4.6						
MBDF	**Montbardon**	**42.18**	**54**	*eP*	**P**	**20 55 01.6**	**0.0**
LPL	**La Plagne**	**42.22**	**53**	*eP*	**P**	**20 55 02.7**	**+0.9**
LPG	**La Plagne**	**42.23**	**53**	*eP*	**P**	**20 55 03.0**	**+1.1**
HAU	**Haudompre**	**42.24**	**49**	*eP*	**P**	**20 55 01.7**	**-0.3**
HAU				*e*MLR	MLR		
	comp=Z,155nm,21.8s,MS3.5						
HAU	**Haudompre**	**42.24**	**49**	*eP*	**P**	**20 55 01.7**	**-0.3**
HAU				MLR	MLR		
	comp=Z,160nm,21.8s,MS3.9						
DBIC	**Dimbokro**	**42.47**	**114**	LR	LR	21 10 27.9	
	comp=Z,453nm,18.9s,MS4.4,baz=268,slow=33						
HINF	**Hinteralfeld**	**42.55**	**50**	*eP*	**P**	**20 55 04.3**	**-0.2**
CDF	**Champ du Feu**	**42.91**	**49**	*eP*	**P**	**20 55 07.4**	**-0.1**
BFO	**Black Forest**	**43.60**	**49**	*eP*	**P**	**20 55 13.2**	**+0.2**
BFO				pmax	pmax		
	comp=Z,31nm,1.8s,mb4.7						
BFO	**Black Forest**	**43.60**	**49**	*eP*	**P**	**20 55 13.2**	**+0.2**
	comp=Z,31nm,1.8s,mb4.7						
PGF	**Pioggiola**	**43.71**	**58**	*eP*	**P**	**20 55 13.5**	**-0.5**
	comp=Z,4.7nm,0.8s,mb4.0						
PGF	**Pioggiola**	**43.71**	**58**	*eP*	**P**	**20 55 13.5**	**-0.5**
	comp=Z,2.3nm,0.8s,mb4.0						
PGF	**Pioggiola**	**43.71**	**58**	*eP*	**P**	**20 55 13.5**	**-0.5**
PGF				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb3.9						
KEST	**Kesra**	**44.38**	**67**	P	**P**	**20 55 18.2**	**-1.2**
	comp=Z,1.4nm,0.7s,mb3.8,baz=230,slow=3.3,SNR=5.3						
KEST				LR	LR	21 11 34.2	
	comp=Z,62nm,20.2s,MS3.5,baz=217,slow=33						
TORD	**Torodi Ar. Bea**	**44.49**	**101**	P	**P**	**20 55 20.1**	**-0.5**
	comp=Z,1.3nm,0.8s,mb3.7,baz=303,slow=7.5,SNR=8.9						
TORD				LR	LR	21 11 34.0	
	comp=Z,324nm,20.4s,MS4.2,baz=275,slow=33						
ULM	**Lac du Bonnet**	**44.62**	**313**	P	**P**	**20 55 19.4**	**-1.7**
	comp=Z,1.0nm,0.6s,mb3.8,baz=68,slow=11,SNR=2.4						
ULM				LR	LR	21 11 48.9	
	comp=Z,123nm,21.2s,MS3.8,baz=350,slow=33						
FCC	**Fort Churchill**	**45.50**	**325**	*eP*	**P**	**20 55 28.4**	**+0.4**
GRA1	**Grafenberg Arr**	**45.64**	**48**	*eP*	**P**	**20 55 30.0**	**+0.7**
	comp=Z,73nm,2.5s,mb5.2						
GRF	**Grafenberg Arr**	**45.64**	**48**	*eP*	**P**	**20 55 30.0**	**+0.7**
GRF				pmax	pmax		
	comp=Z,73nm,2.5s,mb5.2						
GRF	**Grafenberg Arr**	**45.64**	**48**	*eP*	**P**	**20 55 30.0**	**+0.7**
GRF				pmax	pmax		
	comp=Z,73nm,2.5s,mb5.2						
GRF	**Grafenberg Arr**	**45.64**	**48**	*eP*	**P**	**20 55 30.0**	**+0.7**
	comp=Z,73nm,2.5s,mb5.2						
BSEG	**Bad Segeberg**	**45.70**	**42**	*eP*	**P**	**20 55 30.5**	**+0.8**
	comp=Z,59nm,1.7s,mb5.2						
MOX	**Moxa**	**46.00**	**46**	*eP*	**P**	**20 55 32.4**	**+0.3**
	comp=Z,20nm,1.9s,mb4.7						
MOX							
	comp=Z,200nm,18.0s						
MOX	**Moxa**	**46.00**	**46**	*eP*	**P**	**20 55 32.4**	**+0.3**
MOX				pmax	pmax		
	comp=Z,20nm,1.9s,mb4.7						
MOX				MLR	MLR		
	comp=Z,200nm,18.0s,MS4.1						
MOX	**Moxa**	**46.00**	**46**	*eP*	**P**	**20 55 32.6**	**+0.5**
	comp=Z,35nm,2.1s,mb4.9						
MANZ	**Manzenberg**	**46.29**	**47**	*eP*	**P**	**20 55 34.9**	**+0.9**
	comp=Z,29nm,2.2s,mb4.8						
ROTZ	**Rotzenmuhle**	**46.29**	**48**	*eP*	**P**	**20 55 34.5**	**+0.1**
	comp=Z,26nm,2.1s,mb4.8						
WERD	**Werda**	**46.41**	**47**	*eP*	**P**	**20 55 35.7**	**+0.3**
	comp=Z,36nm,2.2s,mb4.9						
NKC	**Novy Kostel**	**46.48**	**47**	*eP*	**P**	**20 55 36.6**	**+0.7**
NKC				AMS	AMS	21 12 30.0	
	comp=Z,300nm,16.8s,MS4.3						
WET	**Wettzell**	**46.67**	**48**	*eP*	**P**	**20 55 37.8**	**+0.4**
WET				pmax	pmax		
	comp=Z,21nm,2.0s,mb4.7						
WET	**Wettzell**	**46.67**	**48**	*eP*	**P**	**20 55 37.8**	**+0.4**
	comp=Z,21nm,2.0s,mb4.7						
CLL	**Collm**	**46.94**	**46**	*eP*	**P**	**20 55 39.0**	**-0.5**
	comp=Z,29nm,2.1s,mb4.8						
CLL				*e*S	S	21 01 27.0	-63
CLL				LR	LR		
	comp=Z,200nm,21.3s,MS4.0						
CLL	**Collm**	**46.94**	**46**	*eP*	**P**	**20 55 39.0**	**-0.5**
CLL				pmax	pmax		
	comp=Z,29nm,2.1s,mb4.8						
CLL				MLR	MLR		
	comp=Z,200nm,21.3s,MS4.0						
CLL	**Collm**	**46.94**	**46**	*eP*	**P**	**20 55 39.0**	**-0.5**
	comp=Z,29nm,2.1s,mb4.8						
CLL				*e*(S)	**S**	**21 02 42.0**	**+12**
CLL				*e*SSSS		21 07 12.0	
CLL				Lm		21 11 00.0	
	comp=Z,200nm,21.3s						
KHC	**Kasperske Hory**	**47.13**	**49**	*eP*	**P**	**20 55 41.7**	**+0.7**
KHC				AMS	AMS	21 16 50.0	
	comp=Z,200nm,14.1s,MS4.2						
GEC2	**GERESS Array S**	**47.20**	**49**	*eP*	**P**	**20 55 41.8**	**+0.3**
GEC2				pmax	pmax		
	comp=Z,23nm,2.0s,mb4.8						
GEC2	**GERESS Array S**	**47.20**	**49**	*eP*	**P**	**20 55 41.8**	**+0.3**
	comp=Z,23nm,2.0s,mb4.8						
GERES	**GERESS Array B**	**47.20**	**49**	P	**P**	**20 55 41.7**	**+0.2**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
GERES				MLR	MLR		
	comp=Z,65nm,18.6s						
GERES	**GERESS Array B**	**47.20**	**49**	P	**P**	**20 55 41.7**	**+0.2**
	comp=Z,0.9nm,0.7s,mb3.8,baz=262,slow=7.9,SNR=11						
GERES				LR	LR	21 12 04.8	
	comp=Z,65nm,18.6s,MS3.6,baz=172,slow=32						
BRG	**Berggiesshubel**	**47.49**	**46**	P	**P**	**20 55 40.4**	**-3.4**
BRG				pmax	pmax		
	comp=Z,4.0nm,1.4s,mb4.2						
BRG	**Berggiesshubel**	**47.49**	**46**	*e*(P)	**P**	**20 55 40.4**	**-3.4**
	comp=Z,7.0nm,1.4s,mb4.4						
KNDS	**Knezji Dol**	**47.59**	**53**	*eP*	**P**	**20 55 45.2**	**+0.6**
PRU	**Pruhonice**	**47.81**	**47**	*eP*	**P**	**20 55 47.0**	**+0.7**
PRU				AMS	AMS	21 12 10.0	
	comp=Z,200nm,13.8s,MS4.2						
NB2	**NORSAR Subarra**	**47.85**	**32**	P	**P**	**20 55 46.8**	**+0.4**
	comp=Z,32nm,1.7s,mb5.1,baz=254,slow=7.9						
NOA	**NORSAR Array B**	**47.85**	**32**	P	**P**	**20 55 47.1**	**+0.7**
NOA				pmax	pmax		
	comp=Z,3.0nm,0.9s						
NOA				MLR	MLR		
	comp=Z,30nm,18.7s						
NOA	**NORSAR Array B**	**47.85**	**32**	P	**P**	**20 55 47.1**	**+0.7**
	comp=Z,2.5nm,0.9s,mb4.2,baz=255,slow=7.9,SNR=6.5						
NOA				LR	LR	21 14 31.5	
	comp=Z,30nm,18.7s,MS3.3,baz=180,slow=34						
PVCC	**Panska Ves**	**47.86**	**47**	AMS	AMS	21 13 20.0	
	comp=Z,300nm,19.1s,MS4.3						
SIV	**San Ignacio**	**48.08**	**203**	P	**P**	**20 55 48.6**	**-0.1**
	comp=Z,1.3nm,0.7s,mb4.1,baz=36,slow=6.1,SNR=7.1						
PERS	**Pernice**	**48.10**	**52**	*eP*	**P**	**20 55 47.9**	**-0.6**
BOJS	**Bojanci**	**48.20**	**53**	*eP*	**P**	**20 55 48.3**	**-1.1**
TREC	**Trest**	**48.39**	**48**	*eP*	**P**	**20 55 50.9**	**+0.1**
TREC				AMS	AMS	21 15 50.0	
	comp=Z,100nm,15.2s,MS3.9						
JCT	**Junction City**	**48.70**	**286**	*eP*	**P**	**20 55 53.8**	**+0.4**
	comp=Z,10nm,1.0s,mb4.8						
JCT	**Junction City**	**48.70**	**286**	*eP*	**P**	**20 55 53.8**	**+0.3**
JCT				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.8						
UPC	**Upice**	**48.78**	**47**	*eP*	**P**	**20 55 54.2**	**+0.5**
DPC	**Dobruska-Polom**	**48.97**	**47**	*eP*	**P**	**20 55 55.5**	**+0.3**
DPC				AMS	AMS	21 13 50.0	
	comp=Z,200nm,15.8s,MS4.2						
MODS	**Modra-Piesok**	**49.56**	**50**	*eP*	**P**	**20 55 58.8**	**-0.9**
MODS	**Modra-Piesok**	**49.56**	**50**	*eP*	**P**	**20 55 58.8**	**-0.9**
OKC	**Ostrava-Krasne**	**50.13**	**48**	*eP*	**P**	**20 56 04.6**	**+0.5**
OKC	**Ostrava-

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AKASG Malin Array Be     57.17  46 i P      P      20 56 54.9 -0.8
AKASG Malin Array Be     57.17  46   P      P      20 56 55.1 -0.6
      comp=Z,0.1nm,0.3s,mb3.4,baz=271,slow=6.8,SNR=16
AKASG                           LR     LR         21 19 36.9
      comp=Z,129nm,18.0s,MS4.1,baz=265,slow=34
OBN   Obninsk            60.92  40 i P      P      20 57 22.1 +0.5
OBN                             e      pP         20 57 27.0 +2.2
OBN                             e                 20 58 05.4
OBN                             eSS    SS         21 09 33.9 -4.3
OBN                             pmax   pmax
      comp=Z,24nm,1.4s,mb5.1
OHCM Honcut              63.68 302 eP       P      20 57 41.2 +0.8
CFAA Coronel Fontan      64.94 204   LR     LR     21 24 42.2
      comp=Z,18nm,20.2s,MS3.3,baz=198,slow=35
KIV  Kislovodsk          67.63  51 eP       P      20 58 06.5 +0.7
KIV                             pmax   pmax
      comp=Z,7.0nm,1.2s,mb4.6
COLA College             69.91 334⇓eP       P      20 58 19.7 +0.1
ARU  Arti                72.31  35d i P     P      20 58 34.2 -0.1
ARU                             e                 21 01 12.3
ARU                             ePPP              21 02 53.3
ARU                             eS     S          21 07 53.6 -3.7
ARU                             pmax   pmax
      comp=Z,11nm,1.7s,mb4.5
AKTK Aktyubinsk          74.70  41   P      P      20 58 49.2 +0.7
AKTO Aktyubinsk          74.70  41   P      P      20 58 49.2 +0.7
AKTO                            pmax   pmax
      comp=Z,2.0nm,0.7s,mb4.2
AKTO Aktyubinsk          74.70  41   P      P      20 58 49.2 +0.7
      comp=Z,2.4nm,0.7s,mb4.2,baz=310,slow=6.0,SNR=9.2
RST  Umm Al-Ruwaisa      76.41  64 eP       P      20 58 58.6 -0.1
RST                             AMb    AMB        20 59 00.1
      comp=Z,6.6nm,1.0s,mb4.5
MIB  Mutribah            76.54  63 eP       P      20 58 59.2 -0.3
MIB                             AMb    AMB        20 59 00.8
      comp=Z,8.6nm,0.9s,mb4.7
NAY  Al-Naaiem           76.71  64 eP       P      20 59 00.3 -0.1
NAY                             AMb    AMB        20 59 01.3
      comp=Z,5.6nm,0.9s,mb4.5
TIXI Tiksi               79.33   3 eP       P      20 59 15.1 +0.8
      comp=Z,9.0nm,1.1s,mb4.6
TIXI Tiksi               79.33   3 i P      P      20 59 14.7 +0.5
TIXI                            pmax   pmax
      comp=Z,14nm,1.5s,mb4.7
BVAR Borovoye Array      79.93  34   P      P      20 59 18.7 +0.9
BVAR                            pmax   pmax
      comp=Z,2.0nm,0.7s
BVAR Borovoye Array      79.93  34   P      P      20 59 18.7 +1.0
      comp=Z,1.5nm,0.7s,mb4.0,baz=295,slow=4.6,SNR=8.1
BILL Bilibino            80.66 349⇑eP       P      20 59 20.4 -1.0
BILL                            e                 20 59 27.3
BILL                            pmax   pmax
      comp=Z,13nm,2.4s,mb4.4
KMBO Kilima Mbogo        82.19  96   LR     LR     21 34 11.6
      comp=Z,273nm,21.2s,MS4.6,baz=305,slow=34
RPN  Rapa Nui            84.52 235   LR     LR     21 33 01.1
      comp=Z,193nm,18.9s,MS4.5,baz=303,slow=33
KURK Kurchatov           85.36  33⇓eP       P      20 59 46.5 +0.4
ZAL  Zalesovo            85.85  28   P      P      20 59 47.2 -1.2
ZAL                             pmax   pmax
      comp=Z,1.0nm,0.7s
ZAL                             MLR    MLR
      comp=Z,30nm,18.4s
ZALV Zalesovo Beam       85.85  28   P      P      20 59 47.1 -1.3
      comp=Z,1.0nm,0.7s,mb4.1,baz=287,slow=7.6,SNR=4.7
ZALV                            LR     LR         21 36 44.8
      comp=Z,30nm,18.4s,MS3.7,baz=64,slow=35
SUR  Sutherland          86.19 130   LR     LR     21 31 49.7
      comp=Z,148nm,18.7s,MS4.4,baz=18,slow=31
AAK  Ala-Archa           88.45  41⇑eP       P      21 00 02.0 +0.7
AAK                             pmax   pmax
      comp=Z,2.0nm,1.1s,mb4.3
MKAR Makanchi Array      89.81  34   P      P      21 00 05.7 -2.0
      comp=Z,0.2nm,0.3s,mb3.9,baz=334,slow=7.0,SNR=3.7
MKAR                            LR     LR         21 37 04.1
      comp=Z,90nm,19.4s,MS4.2,baz=356,slow=33
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*ISCJB **23** 20:47:30.5±0.5, 3614N±004×8130E±005, h10km, mb4.1/25, Error ellipse: s-maj=6.5km s-min=6.1km az=0.9*
*LDG **23** 20:47:30.2±0.2, 3606N×8102E, h10km, Mb4.3/8, Error ellipse: s-maj=10.8km s-min=6.4km az=61.0*
*IDC **23** 20:47:31.1±0.7, 3608N×8110E, h0km, mb4.0/12, mb1 4.2/15, mb1mx4.0/24, mbtmp4.0/15, ML3.8/3, Error ellipse: s-maj=23.6km s-min=15.2km az=51.0*
*NEIC **23** 20:47:32.8±0.7, 3611N×8125E, h10km, mb3.9/1, Error ellipse: s-maj=12.2km s-min=9.7km az=214.0*
*MOS **23** 20:47:34.7±1.4, 3625N×8125E, h33km, mb4.2/16, Error ellipse: s-maj=16.1km s-min=6.8km az=103.8*
*BJI **23** 20:47:35.5, 3643N×8139E, h15km, mb3.9, ML4.4, Ms3.9, Msz3.7*
*NNC **23** 20:47:39.7±2.4, 3679N×8112E, h0km, mb3.9, mpv4.1, Error ellipse: s-maj=21.7km s-min=15.9km az=125.0*

ISC 23 20:47:32.4±0.5, 3608N±004×8131E±005, h10km, n84, σ1§34/91, mb4.1/25, 5C-8D, Southern Xinjiang

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Code Station Name        Δ°   AZ°  Phase ID          Time      Res
                                  Op    ISC         h m s     ISC
KSH  Kashi               5.44 311 eP       Pn     20 48 55.3 +1.8
KSH                             S      Sn     20 49 55.8 -0.3
KSH                             Smax
      comp=N,3μm,0.7s
KSH                             Smax
      comp=E,3μm,0.4s
THN  Thein Dam           5.89 233 eP       Pn     20 49 06.9 +7.2
UCH  Uchtor              8.09 321 eP       Pn     20 49 31.3 +1.4
      comp=E,23nm,0.7s
UCH  Uchtor              8.09 321   P      Pn     20 49 31.7 +1.9
      SNR=19
TKM2 Tokmak 2            8.13 329 ⇓Pn      Pn     20 49 31.5 +1.1
      comp=E,7.3nm,0.6s
TKM2                            ⇓Lg            20 51 37.8
      comp=E,74nm,0.9s
TKM2 Tokmak 2            8.13 329 eP       Pn     20 49 32.2 +1.8
      comp=E,19nm,0.7s
TKM2 Tokmak 2            8.13 329 eP       Pn     20 49 32.2 +1.8
TKM2                            pmax   pmax
      comp=Z,19nm,0.7s
TKM2 Tokmak 2            8.13 329   P      Pn     20 49 32.5 +2.1
      SNR=8.6
AAK  Ala-Archa           8.40 323 eP       Pn     20 49 34.8 +0.6
      comp=Z,20nm,0.8s
AAK  Ala-Archa           8.40 323 eP       Pn     20 49 34.8 +0.7
AAK                             pmax   pmax
      comp=Z,20nm,0.8s
AAK  Ala-Archa           8.40 323   Pn     Pn     20 49 35.6 +1.4
      comp=Z,0.7nm,0.3s,baz=137,slow=14,SNR=7.0
AAK                             Lg             20 51 49.3
      comp=Z,4.3nm,0.3s,baz=213,slow=18,SNR=3.6
AML  Almayashu           8.45 318 eP       Pn     20 49 36.3 +1.4
      comp=Z,48nm,0.5s
AML  Almayashu           8.45 318   P      Pn     20 49 37.0 +2.2
      SNR=16
FRU  Bishkek             8.49 325 eP       Pn     20 49 37.5 +2.1
FRU                             pmax   pmax
      comp=E,228nm,1.8s
CHMS Chumysh             8.56 326   P      Pn     20 49 38.5 +2.1
      SNR=5.9
EKS2 Erkin-Say           8.78 321 eP       Pn     20 49 41.1 +1.7
      comp=E,25nm,0.9s
EKS2 Erkin-Say           8.78 321   P      Pn     20 49 41.5 +2.2
      SNR=9.5
WMQ  Urumqi              9.15  30 eP       Pn     20 49 44.3 -0.1
WMQ                             S      Sn     20 51 29.0 +1.6
WMQ                             Smax
      comp=N,88nm,0.8s
WMQ                             Smax
      comp=E,96nm,0.8s
KBL  Kabul               10.14 265 eP       Pn     20 49 57.7 -0.3
      comp=E,4.6nm,0.4s
MK31 Makanchi Array      10.73   4 ⇑Pn      Pn     20 50 06.8 +0.8
      comp=E,3.0nm,0.3s,baz=184,slow=13
MK31                            ⇑Sn            20 52 04.7 -1.3
      comp=E,7.0nm,0.5s,baz=193,slow=24,SNR=3.1
MK31 Makanchi Array      10.73   4 eP       Pn     20 50 05.9 -0.1
MKAR Makanchi Array      10.73   4   P      Pn     20 50 06.2 +0.2
MKAR                            pmax   pmax           20 52 03.1
MKAR
      comp=Z,3.0nm,0.3s
MKAR                            smax
      comp=N,3.0nm,0.3s
MKAR Makanchi Array      10.73   4   Pn     Pn     20 50 06.2 +0.2
      comp=N,2.9nm,0.3s,baz=181,slow=12,SNR=39
MKAR                            Sn     Sn     20 52 03.1 -2.9
      comp=N,3.4nm,0.3s,baz=192,slow=24,SNR=3.9
KK31 Karatay Array       10.88 313   Pn     Pn     20 50 10.6 +2.5
      comp=N,0.7nm,0.3s,baz=129,slow=13,SNR=16
KK31                            ⇓Pg            20 50 47.2 +39
      comp=N,2.8nm,0.9s,baz=126,slow=18,SNR=3.6
KK31                            Sn     Sn     20 52 11.5 +1.7
      comp=N,2.0nm,0.4s,baz=84,slow=18,SNR=4.4
KK31                            ⇓Lg            20 53 02.7
      comp=N,22nm,1.0s
KURBB Kurchatov Arra     14.67 353 ⇑Pn      Pn     20 50 58.3 -1.5
      comp=N,0.7nm,0.8s
KURBB                           ⇑Lg            20 55 02.2
      comp=N,5.7nm,1.1s
KURK Kurchatov           14.75 353 ⇓Pn      Pn     20 50 59.4 -1.5
KURK                            ⇑Lg            20 55 04.9
      comp=N,28nm,1.8s
KURK Kurchatov           14.75 353 eP       Pn     20 50 58.3 -2.7
      comp=N,8.7nm,0.9s
KURK Kurchatov           14.75 353 eP       Pn     20 50 58.3 -2.6
KURK                            pmax   pmax
      comp=Z,9.0nm,0.9s
GTA  Gaotai              15.01  72   P      Pn     20 51 12.0 +7.4
GTA                             AMB    AMB
      comp=Z,1.0nm,0.7s
ZAL  Zalesovo            18.02   7   P      Pn     20 51 40.2 -2.5
ZAA0 Zalesovo Array      18.03   7 eP       Pn     20 51 39.8 -3.0
ZALV Zalesovo Beam       18.03   7   P      Pn     20 51 40.1 -2.7
      comp=Z,0.6nm,0.3s,baz=184,slow=12,SNR=14
VOSK Vostochnaya         18.17 340 ⇓P       Pn     20 51 51.9 +7.4
      comp=Z,4.6nm,1.0s
BVA0 Borovoye Array      18.60 339   P      Pn     20 51 50.6 +0.7
      comp=Z,0.7nm,0.7s,baz=149,slow=11,SNR=14
BVAR Borovoye Array      18.60 339   P      Pn     20 51 49.6 -0.3
      comp=Z,0.4nm,0.3s,baz=142,slow=11,SNR=9.1
NVS  Novosibirsk         18.80   3 i P      Pn     20 51 49.8 -2.5
NVS                             i S    Sn     20 55 22.8 +0.2
NVS                             pmax   pmax
      comp=Z,8.0nm,1.1s
NVS                             pmax   pmax
      comp=N,7.0nm,1.6s
NVS                             smax
      comp=N,15nm,1.8s
NVS                             smax
      comp=E,9.0nm,2.0s
ZRNK Zerenda             18.96 337 ⇓P       Pn     20 51 53.8 -0.5
      comp=E,7.7nm,1.6s
AB31 Akbulak array       20.41 317   P      P      20 52 11.0 +1.7
      comp=E,2.9nm,0.6s,baz=113,slow=9.6,SNR=35
ZAK  Zakamensk           21.35  41 eP       P      20 52 20.4 +0.8
ZAK                             pmax   pmax
      comp=Z,2.0nm,0.8s,mb3.5
SONM Songino Array       21.94  50   P      P      20 52 27.9 +2.0
SONM                            pmax   pmax
      comp=Z,2.0nm,0.7s
SONM Songino Array       21.94  50   P      P      20 52 27.9 +2.0
      comp=Z,2.4nm,0.7s,mb3.7,baz=243,slow=12,SNR=20
AKTK Aktyubinsk          22.09 318   P      P      20 52 27.1 -0.3
AKTO Aktyubinsk          22.09 318   P      P      20 52 27.1 -0.4
AKTO                            pmax   pmax
      comp=Z,4.0nm,0.6s,mb4.0
AKTO Aktyubinsk          22.09 318   P      P      20 52 27.1 -0.3
      comp=Z,3.9nm,0.6s,mb4.0,baz=119,slow=12,SNR=11
ULN  Ulaanbaatar         22.36  50 eP       P      20 52 31.9 +1.5
      comp=Z,4.8nm,1.1s,mb3.8
ULN  Ulaanbaatar         22.36  50 eP       P      20 52 31.9 +1.5
ULN                             pmax   pmax
      comp=Z,5.0nm,1.1s,mb3.9
ARU  Arti                25.50 330d i P     P      20 53 01.6 +1.0
ARU                             ePPP              20 53 41.6
ARU                             eS     S          20 57 25.9 -1.8
ARU                             eSS               20 58 17.2
ARU                             pmax   pmax
      comp=Z,2.0nm,0.7s,mb3.8
OBN  Obninsk             35.85 316 eP       P      20 54 32.0  0.0
OBN                             e                 20 55 52.0
OBN                             pmax   pmax
      comp=Z,3.0nm,0.7s,mb4.3
AKASG Malin Array Be     39.73 308   P      P      20 55 02.1 -2.7
AKASG                           pmax   pmax
      comp=Z,1.0nm,0.4s
AKASG Malin Array Be     39.73 308   P      P      20 55 02.1 -2.7
      comp=Z,0.5nm,0.4s,mb3.6,baz=89,slow=7.1,SNR=7.0
JOF  Joensuu             40.56 327 ep       P      20 55 10.5 -1.1
      comp=Z,2.6nm,0.4s,mb4.2
JOF  Joensuu             40.56 327 eP       P      20 55 10.5 -1.1
JOF                             pmax   pmax
      comp=Z,3.0nm,0.4s,mb4.3
FINES FINESS Array B     42.59 324   P      P      20 55 28.1 -0.1
FINES                           pmax   pmax
      comp=Z,2.0nm,0.5s
FINES FINESS Array B     42.59 324   P      P      20 55 28.1 -0.1
      comp=Z,1.6nm,0.5s,mb4.0,baz=108,slow=10,SNR=11
ARCES ARCESS Array B     44.84 336   P      P      20 55 46.6 +0.4
ARCES                           pmax   pmax
      comp=Z,2.0nm,0.7s
ARCES ARCESS Array B     44.84 336   P      P      20 55 46.6 +0.3
      comp=Z,2.0nm,0.7s,mb4.1,baz=104,slow=9.4,SNR=9.2
NB2  NORSAR Subarra      49.72 323   P      P      20 56 23.8 -0.6
      comp=Z,2.3nm,0.8s,mb4.3,baz=87,slow=7.9
NOA  NORSAR Array B      49.72 323   P      P      20 56 23.9 -0.5
NOA                             pmax   pmax
      comp=Z,2.0nm,0.8s
NOA  NORSAR Array B      49.72 323   P      P      20 56 23.9 -0.5
      comp=Z,1.8nm,0.8s,mb4.1,baz=87,slow=7.5,SNR=6.3
GERES GERESS Array B     49.90 307   P      P      20 56 26.1 +0.2
GERES                           pmax   pmax
      comp=Z,1.0nm,0.7s
GERES GERESS Array B     49.90 307   P      P      20 56 26.1 +0.1
      comp=Z,1.1nm,0.7s,mb4.0,baz=69,slow=7.3,SNR=10
PGF  Pioggiola           54.76 300 eP       P      20 56 59.5 -2.6
      comp=Z,3.2nm,0.8s,mb4.1
LPG  La Plagne           55.35 305 eP       P      20 57 06.3  0.0
      comp=Z,9.1nm,0.9s,mb4.5
LPL  La Plagne           55.36 305 eP       P      20 57 06.3 -0.1
      comp=Z,4.9nm,0.7s,mb4.4
FRF  La Foret Royal      56.05 302 eP       P      20 57 10.4 -1.0
SMRF Simiane la Rot      56.64 303 eP       P      20 57 14.7 -0.9
VIVF Saint-Julien-l      56.95 304 eP       P      20 57 17.7 -0.1
      comp=Z,10nm,1.3s,mb4.4
SSF  Saint Saulge        56.98 307 eP       P      20 57 16.3 -1.6
      comp=Z,3.7nm,0.8s,mb4.2
AVF  Avril sur Loir      57.17 307 eP       P      20 57 18.5 -0.8
      comp=Z,4.6nm,0.9s,mb4.2
LASF Ste Croix           57.77 304 eP       P      20 57 22.9 -0.7
TCF  Toulx Ste Croi      58.08 307 eP       P      20 57 25.2 -0.5
      comp=Z,4.3nm,0.8s,mb4.2
LDF  La Druitiere        58.76 310 eP       P      20 57 29.4 -1.0
      comp=Z,4.9nm,0.8s,mb4.3
GRR  Gorron              59.29 310 eP       P      20 57 33.1 -1.0
QUIF Quistinic           60.90 310 eP       P      20 57 44.1 -1.0
TORD Torodi Ar. Bea      74.05 275   P      P      20 59 09.1 +0.3
      comp=Z,0.5nm,0.6s,mb3.6,baz=44,slow=4.3,SNR=7.0
WRA  Warramunga Arr      74.96 129   P      P      20 59 15.3 +1.4
WRA                             pmax   pmax
      comp=Z,3.0nm,0.8s
WRA  Warramunga Arr      74.96 129   P      P      20 59 15.3 +1.4
      comp=Z,2.9nm,0.8s,mb4.3,baz=326,slow=5.6,SNR=28
WB2  Warramunga Arr      74.97 129 eP       P      20 59 15.3 +1.3
ASAR Alice Springs       77.46 132   P      P      20 59 29.5 +1.5
ASAR                            pmax   pmax
      comp=Z,1.0nm,0.7s
ASAR Alice Springs       77.46 132   P      P      20 59 29.4 +1.4
      comp=Z,1.3nm,0.7s,mb4.0,baz=321,slow=6.0,SNR=14
YKA  Yellowknife Ar      80.93   7   P      P      20 59 46.2 -0.3
YKA  Yellowknife Ar      80.93   7   P      P      20 59 46.2 -0.3
YKA                             pmax   pmax
      comp=Z,1.0nm,0.6s
YKA  Yellowknife Ar      80.93   7   P      P      20 59 46.2 -0.3
      comp=Z,0.9nm,0.6s,mb3.9,baz=342,slow=5.4,SNR=19
BOSA Boshof              83.20 227   P      P      20 59 56.9 -1.9
      comp=Z,3.4nm,1.0s,mb4.3,baz=0.5,slow=6.5,SNR=3.1
```

IDC 23 21:11:43.9±5.8, 5021S×13955E, h0km, mb3.7/2, mb1 3.9/2, mb1mx3.7/9, mbtmp3.7/2, MS3.7/1, Ms1 3.7/1, ms1mx3.1/27, Error ellipse: s-maj=431.0km s-min=48.5km az=68.0, Western Indian-Antarctic Ridge

```
Code Station Name        Δ°   AZ°  Phase ID          Time      Res
                                  Op    ISC         h m s     ISC
ASAR Alice Springs       26.86 348   P      P      21 17 27.0 +0.9
      0.6nm,1.0s,baz=165,slow=9.9,SNR=5.0
WRA  Warramunga Arr      30.48 350   P
      0.5nm,0.4s,baz=175,slow=7.6,SNR=4.8
HNR  Honiara             44.03  30   LR     LR     21 38 01.9
      comp=Z,90nm,18.1s,baz=359,slow=36
TXAR Lajitas Array       128.77  89 PKP    PKPdf   21 30 52.8 -0.1
      0.6nm,0.5s,baz=212,slow=3.2,SNR=4.8
```

IDC 23 21:32:06.8±2.0, 402N×12686E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.4/16, mbtmp3.6/3, Error ellipse: s-maj=170.7km s-min=26.1km az=64.0, Talaud Islands

```
Code Station Name        Δ°   AZ°  Phase ID          Time      Res
                                  Op    ISC         h m s     ISC
WRA  Warramunga Arr      24.92 163   P      P      21 37 31.6 -0.2
      1.2nm,0.7s,baz=343,slow=11,SNR=9.8
STKA Stephens Creek      38.35 160   P      P      21 39 29.9 +0.2
      2.3nm,0.8s,baz=350,slow=13,SNR=3.4
MKAR Makanchi Array      57.39 325   P      P      21 41 57.2 +0.1
      0.2nm,0.5s,baz=117,slow=8.3,SNR=2.4
```

IDC 23 21:38:33.8±1.8, 989S×12458E, h0km, mb3.7/1, mb1 3.8/4, mb1mx3.6/14, mbtmp3.6/4, ML3.7/3, MS4.4/2, Ms1 4.4/2, ms1mx3.4/20, Error ellipse: s-maj=28.4km s-min=21.6km az=176.0, Timor region

```
Code Station Name        Δ°   AZ°  Phase ID          Time      Res
                                  Op    ISC         h m s     ISC
BATI Kupang              0.95 250   Pg     Pg     21 38 51.9 -0.3
      192nm,0.3s,baz=114,slow=5.6,SNR=84
FITZ Fitzroy Crossi      8.23 173   Pn     Pn     21 40 34.9 +0.3
      1.0nm,0.3s,baz=9.8,slow=12,SNR=19
FITZ                            Sn     Sn     21 42 01.8 -6.6
      0.7nm,0.3s,baz=86,slow=17,SNR=8.9
WRA  Warramunga Arr      13.74 138   Pn     Pn     21 41 49.2 -0.8
      0.3nm,0.3s,baz=315,slow=13,SNR=27
WRA                             Sn     Sn     21 44 17.7 -5.8
      0.4nm,0.3s,baz=305,slow=24,SNR=4.9
ASAR Alice Springs       16.34 148   Pn     Pn     21 42 25.3 +0.5
      0.2nm,0.3s,baz=322,slow=12,SNR=11
ASAR                            Sn     Sn     21 45 20.4 -6.5
      0.2nm,0.3s,baz=312,slow=19,SNR=3.4
JNU  Nakatsue            43.19   8   LR     LR     22 01 45.3
      comp=Z,713nm,21.6s,baz=342,slow=32
MJAR Matsushiro Arr      47.93  15   LR     LR     22 06 17.8
      comp=Z,312nm,18.2s,baz=270,slow=35
MKAR Makanchi Array      67.86 330   P      P      21 49 34.2 +0.3
      0.4nm,0.4s,baz=143,slow=8.0,SNR=4.8
```

*ISCJB **23** 21:39:24.3±0.5, 292N±0.1×43.17W±005, h10km, mb4.5/58, MS3.9/26, Error ellipse: s-maj=14.6km s-min=5.8km az=171.3*
*MOS **23** 21:39:24.3±0.8, 2915N×43.17W, h10km, mb4.8/29, MS4.0/12, Error ellipse: s-maj=15.2km s-min=5.2km az=45.3*
*IDC **23** 21:39:24.1±0.7, 2918N×4322W, h0km, mb3.8/16, mb1 4.0/16, mb1mx3.9/26, mbtmp3.8/16, MS3.9/16, Ms1 3.9/16, ms1mx3.7/28, Error ellipse: s-maj=21.5km s-min=15.8km az=165.0*
*NEIC **23** 21:39:25.8±0.4, 2912N×43.15W, h10km, mb4.7/32, Error ellipse: s-maj=11.3km s-min=4.4km az=170.0*
*SZGRF **23** 21:39:27.2, 2866N×4306W, h33km, mb4.9, Northern Mid-Atlantic Ridge*

ISC 23 21:39:26.2±0.5, 291N±01×4313W±005, h10km, n169, σ0§76/167, mb4.5/58, MS3.9/26, 3C-2D, Northern Mid-Atlantic Ridge

```
Code Station Name        Δ°   AZ°  Phase ID          Time      Res
                                  Op    ISC         h m s     ISC
PCRV Puerto La Cruz      27.59 231   LR     LR     21 53 47.2
      comp=Z,90nm,21.2s,MS3.3,baz=64,slow=31
BBTS Babate              28.48 115   LR     LR     21 54 19.8
      comp=Z,342nm,19.0s,MS4.0,baz=24,slow=31
EVO  Evora               30.48  63 eP       P      21 45 38.5 -0.8
      3.6nm,0.8s,mb3.9
EVO                             eMLR   MLR
      comp=Z,395nm,21.0s,MS3.7
SCHQ Schefferville       30.84 333   LR     LR     21 56 42.2
      comp=Z,143nm,20.7s,MS3.6,baz=319,slow=34
ESDC Sonseca Array       33.74  61   P      P      21 46 06.4 -1.5
      comp=Z,0.8nm,0.7s,mb3.7,baz=266,slow=8.1,SNR=4.6
ESDC                            LR     LR         21 56 12.6
      comp=Z,113nm,20.3s,MS3.6,baz=225,slow=30
QUIF Quistinic           35.95  47 eP       P      21 46 26.7 -0.1
      comp=Z,132nm,1.9s,mb5.2
QUIF Quistinic           35.95  47 eP       P      21 46 26.7 -0.1
      comp=Z,66nm,1.9s,mb5.2
QUIF Quistinic           35.95  47 eP       P      21 46 26.7 -0.1
QUIF                            pmax   pmax
      comp=Z,66nm,1.9s,mb5.2
ROSF Rostrenen           36.01  47 eP       P      21 46 27.8 +0.5
SJPF Ste Jean            36.23  56 eP       P      21 46 29.3  0.0
SGMF Saint Gilles        36.44  47 eP       P      21 46 30.6 -0.4
EPF  Esparros            37.35  56 eP       P      21 46 38.8  0.0
GRR  Gorron              37.57  47 eP       P      21 46 40.3 -0.3
MFF  Saint Martin d      37.61  50 eP       P      21 46 40.8 -0.2
      comp=Z,59nm,1.4s,mb4.8
MFF  Saint Martin d      37.61  50 eP       P      21 46 40.8 -0.2
      comp=Z,30nm,1.4s,mb4.8
MFF  Saint Martin d      37.61  50 eP       P      21 46 40.8 -0.2
MFF                             pmax   pmax
      comp=Z,30nm,1.4s,mb4.8
FLN  La Foliniere        37.91  47 eP       P      21 46 43.4 -0.1
FLN                             eMLR   MLR
      comp=Z,224nm,20.2s,MS3.7
FLN  La Foliniere        37.91  47 eP       P      21 46 43.4 -0.1
FLN                             MLR    MLR
      comp=Z,220nm,20.3s,MS4.0
LFF  La Frestale         37.91  53 eP       P      21 46 43.4 -0.2
      comp=Z,36nm,1.3s,mb4.6
LFF  La Frestale         37.91  53 eP       P      21 46 43.4 -0.2
      comp=Z,18nm,1.3s,mb4.6
LFF  La Frestale         37.91  53 eP       P      21 46 43.4 -0.2
LFF                             pmax   pmax
      comp=Z,18nm,1.3s,mb4.6
LDF  La Druitiere        38.09  47 eP       P      21 46 44.9 -0.1
      comp=Z,87nm,1.7s,mb4.9
LDF  La Druitiere        38.09  47 eP       P      21 46 44.9 -0.1
      comp=Z,43nm,1.7s,mb4.9
LDF  La Druitiere        38.09  47 eP       P      21 46 44.9 -0.1
LDF                             pmax   pmax
      comp=Z,43nm,1.7s,mb4.9
ROSC El Rosal            38.15 237   LR     LR     21 59 52.7
      comp=Z,174nm,20.1s,MS3.9,baz=5.4,slow=32
RJF  Les Rejaudoux       38.51  53 eP       P      21 46 48.1 -0.5
RJF                             eMLR   MLR
      comp=Z,308nm,19.5s,MS3.8
RJF  Les Rejaudoux       38.51  53 eP       P      21 46 48.1 -0.5
RJF                             MLR    MLR
      comp=Z,310nm,19.5s,MS4.1
MTLF Montolieu           38.75  56 eP       P      21 46 50.4 -0.2
      comp=Z,17nm,1.3s,mb4.3
MTLF Montolieu           38.75  56 eP       P      21 46 50.4 -0.2
      comp=Z,8.6nm,1.3s,mb4.3
MTLF Montolieu           38.75  56 eP       P      21 46 50.4 -0.2
MTLF                            pmax   pmax
      comp=Z,9.0nm,1.3s,mb4.3
CAF  Calviac             38.84  53 eP       P      21 46 51.0 -0.4
      comp=Z,24nm,1.4s,mb4.4
CAF  Calviac             38.84  53 eP       P      21 46 51.0 -0.4
      comp=Z,12nm,1.4s,mb4.4
CAF  Calviac             38.84  53 eP       P      21 46 51.0 -0.4
CAF                             pmax   pmax
      comp=Z,12nm,1.4s,mb4.4
TCF  Toulx Ste Croi      39.15  51 eP       P      21 46 53.7 -0.3
      comp=Z,9.6nm,1.0s,mb4.2
TCF  Toulx Ste Croi      39.15  51 eP       P      21 46 53.7 -0.3
      comp=Z,4.8nm,1.0s,mb4.2
TCF  Toulx Ste Croi      39.15  51 eP       P      21 46 53.7 -0.3
TCF                             pmax   pmax
      comp=Z,5.0nm,1.0s,mb4.2
BGF  Bois d'Agland       39.63  51 eP       P      21 46 57.7 -0.3
      comp=Z,11nm,0.8s,mb4.3
BGF  Bois d'Agland       39.63  51 eP       P      21 46 57.7 -0.3
      comp=Z,5.4nm,0.8s,mb4.3
BGF  Bois d'Agland       39.63  51 eP       P      21 46 57.7 -0.3
BGF                             pmax   pmax
      comp=Z,5.0nm,0.8s,mb4.3
LASF Ste Croix           40.01  55 eP       P      21 47 00.8 -0.3
AVF  Avril sur Loir      40.02  51 eP       P      21 47 00.8 -0.3
      comp=Z,23nm,1.3s,mb4.4
AVF  Avril sur Loir      40.02  51 eP       P      21 47 00.8 -0.3
      comp=Z,12nm,1.3s,mb4.5
AVF  Avril sur Loir      40.02  51 eP       P      21 47 00.8 -0.3
AVF                             pmax   pmax
      comp=Z,12nm,1.3s,mb4.5
SSF  Saint Saulge        40.16  50 eP       P      21 47 01.8 -0.6
```

comp=Z,13nm,1.0s,mb4.3
SSF Saint Saulge 40.16 50 *e*P **P 21 47 01.8 -0.6**
comp=Z,6.3nm,1.0s,mb4.3
SSF Saint Saulge 40.16 50 *e*P **P 21 47 01.8 -0.6**
SSF pmax pmax
comp=Z,6.0nm,1.0s,mb4.3
SMF Signal de Mont 40.32 51 *e*P **P 21 47 03.2 -0.5**
comp=Z,22nm,1.1s,mb4.5
SMF Signal de Mont 40.32 51 *e*P **P 21 47 03.2 -0.5**
comp=Z,11nm,1.1s,mb4.5
SMF Signal de Mont 40.32 51 *e*P **P 21 47 03.2 -0.5**
SMF pmax pmax
comp=Z,11nm,1.1s,mb4.5
LOR Lormes 40.44 50 *e*P **P 21 47 04.1 -0.5**
LOR *e*MLR MLR
comp=Z,131nm,21.0s,MS3.5
LOR Lormes 40.44 50 *e*P **P 21 47 04.1 -0.5**
LOR MLR MLR
comp=Z,130nm,21.0s,MS3.8
VIVF Saint-Julien-l 40.67 54 *e*P **P 21 47 07.1 +0.5**
BAIF Baives 41.19 46 *e*P **P 21 47 10.2 -0.6**
SMRF Simiane la Rot 41.23 55 *e*P **P 21 47 10.9 -0.4**
comp=Z,25nm,1.4s,mb4.4
SMRF Simiane la Rot 41.23 55 *e*P **P 21 47 10.9 -0.4**
comp=Z,25nm,1.4s,mb4.7
MEZF Maizieres J'vi 41.43 49 *e*P **P 21 47 12.3 -0.5**
comp=Z,24nm,1.0s,mb4.5
MEZF Maizieres J'vi 41.43 49 *e*P **P 21 47 12.3 -0.5**
comp=Z,24nm,1.0s,mb4.8
CABF La Chapelle 41.85 51 *e*P **P 21 47 15.9 -0.4**
LMR La Mourre 41.87 56 *e*P **P 21 47 15.1 -1.4**
FRF La Foret Royal 41.98 56 *e*P **P 21 47 16.5 -0.9**
LPL La Plagne 42.18 53 *e*P **P 21 47 20.1 +1.1**
LPG La Plagne 42.20 53 *e*P **P 21 47 20.4 +1.3**
HAU Haudompre 42.21 49 *e*P **P 21 47 18.6 -0.6**
HAU *e*MLR MLR
comp=Z,122nm,21.0s,MS3.5
HAU Haudompre 42.21 49 *e*P **P 21 47 18.6 -0.6**
HAU MLR MLR
comp=Z,120nm,21.0s,MS3.8
WLF Walferdange 42.35 47 *e*P **P 21 47 20.6 +0.3**
comp=Z,26nm,1.5s,mb4.6
DBIC Dimbokro 42.43 114 LR LR 22 02 35.4
comp=Z,347nm,19.7s,MS4.2,baz=268,slow=33
HINF Hinteralfeld 42.52 50 *e*P **P 21 47 21.3 -0.4**
CDF Champ du Feu 42.88 49 *e*P **P 21 47 24.1 -0.6**
comp=Z,10nm,0.9s,mb4.3
CDF Champ du Feu 42.88 49 *e*P **P 21 47 24.1 -0.6**
comp=Z,5.2nm,0.9s,mb4.3
CDF Champ du Feu 42.88 49 *e*P **P 21 47 24.1 -0.6**
CDF pmax pmax
comp=Z,5.0nm,0.9s,mb4.2
BFO Black Forest 43.57 49 *e*P **P 21 47 30.6 +0.4**
BFO pmax pmax
comp=Z,27nm,1.7s,mb4.7
BFO Black Forest 43.57 49 *e*P **P 21 47 30.6 +0.4**
comp=Z,27nm,1.7s,mb4.7
PGF Pioggiola 43.68 58 *e*P **P 21 47 30.5 -0.7**
comp=Z,10nm,1.0s,mb4.2
PGF Pioggiola 43.68 58 *e*P **P 21 47 30.5 -0.7**
comp=Z,5.2nm,1.0s,mb4.2
PGF Pioggiola 43.68 58 *e*P **P 21 47 30.5 -0.7**
PGF pmax pmax
comp=Z,5.0nm,1.0s,mb4.2
KEST Kesra 44.34 67 P **P 21 47 37.7 +1.1**
comp=Z,1.4nm,0.8s,mb3.7,baz=170,slow=6.9,SNR=4.5
KEST LR LR 22 03 05.6
comp=Z,46nm,19.4s,MS3.4,baz=171,slow=32
TORD Torodi Ar. Bea 44.45 101 P **P 21 47 37.5 -0.2**
comp=Z,3.7nm,1.0s,mb4.1,baz=298,slow=5.3,SNR=9.1
TORD LR LR 22 05 58.3
comp=Z,202nm,18.3s,MS4.1,baz=285,slow=36
ULM Lac du Bonnet 44.65 313 P **P 21 47 36.6 -2.2**
ULM LR LR 22 04 26.6
ULM Lac du Bonnet 44.65 313 P **P 21 47 36.6 -2.2**
comp=Z,1.6nm,0.7s,mb4.0,baz=55,slow=9.4,SNR=3.0
ULM LR LR 22 04 26.6
comp=Z,87nm,19.9s,MS3.7,baz=68,slow=34
GRA1 Grafenberg Arr 45.61 48 *e*P **P 21 47 47.0 +0.5**
comp=Z,33nm,2.0s,mb4.9
GRF Grafenberg Arr 45.61 48 *e*P **P 21 47 47.0 +0.5**
GRF pmax pmax
comp=Z,33nm,2.0s,mb4.9
GRF Grafenberg Arr 45.61 48 *e*P **P 21 47 47.0 +0.5**
GRF pmax pmax
comp=Z,33nm,2.0s,mb4.9
GRF Grafenberg Arr 45.61 48 *e*P **P 21 47 47.0 +0.5**
comp=Z,33nm,2.0s,mb4.9
BSEG Bad Segeberg 45.67 42 *e*P **P 21 47 47.8 +0.9**
comp=Z,60nm,1.7s,mb5.2
MOX Moxa 45.97 46 *e*P **P 21 47 49.8 +0.5**
MOX
comp=Z,200nm,19.0s
MOX Moxa 45.97 46 *e*P **P 21 47 49.6 +0.3**
comp=Z,21nm,2.0s,mb4.7
NKC Novy Kostel 46.45 47 *e*P **P 21 47 54.7 +1.6**
NKC Novy Kostel 46.45 47 *e*P **P 21 47 54.7 +1.6**
NKC AMS AMS 22 04 30.0
comp=Z,200nm,19.9s,MS4.1
CLL Collm 46.91 46 *i*P **P 21 47 56.7 0.0**
comp=Z,4.0nm,1.0s,mb4.3
CLL *e* 21 48 06.0
CLL *e*S **S 21 54 59.0 +11**
CLL Collm 46.91 46 *i*P **P 21 47 56.7 0.0**
CLL *e*S **S 21 54 59.0 +11**
CLL pmax pmax
comp=Z,4.0nm,1.0s,mb4.3
CLL Collm 46.91 46 *e*P **P 21 47 56.9 +0.2**
comp=Z,14nm,1.8s,mb4.6
CLL Collm 46.91 46 *i*P **P 21 47 56.7 0.0**
comp=Z,4.0nm,1.0s,mb4.3
CLL *e*x x 21 48 06.0
CLL *e*S **S 21 54 59.0 +11**
CLL *e*SS SS 21 58 24.0 +10
CLL *e*SSSS 21 59 42.0
AQU L'Aquila 46.94 58 *e*P **P 21 47 58.0 +0.9**
comp=Z,8.7nm,0.8s,mb4.7
AQU L'Aquila 46.94 58 *e*P **P 21 47 58.0 +0.9**
AQU pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
ROBS Robic 46.95 52 *e*P **P 21 47 57.1 0.0**
KHC Kasperske Hory 47.10 49 *e*P **P 21 47 58.8 +0.6**
KHC *e* 21 48 04.0
KHC MLR MLR
comp=Z,200nm,14.6s,MS4.2
KHC Kasperske Hory 47.10 49 *e*P **P 21 47 58.8 +0.6**
KHC *e*pP pP 21 48 04.0 +2.6
KHC *e*x x 21 54 38.4
KHC AMS AMS 22 08 40.0
comp=Z,200nm,14.6s,MS4.2
GEC2 GERESS Array S 47.17 49 *e*P **P 21 47 58.9 +0.2**
GEC2 pmax pmax
comp=Z,10.0nm,1.5s,mb4.5
GEC2 GERESS Array S 47.17 49 *e*P **P 21 47 58.9 +0.2**
comp=Z,10.0nm,1.5s,mb4.5
GERES GERESS Array B 47.17 49 P **P 21 47 59.1 +0.4**
GERES pmax pmax
comp=Z,1.0nm,0.7s
GERES GERESS Array B 47.17 49 P **P 21 47 59.1 +0.4**
comp=Z,0.9nm,0.7s,mb3.8,baz=260,slow=7.9,SNR=10.0
BRG Berggiesshubel 47.46 46 *e*P **P 21 48 00.6 -0.4**
BRG pmax pmax
comp=Z,4.0nm,1.4s,mb4.2
BRG Berggiesshubel 47.46 46 *e*P **P 21 48 00.6 -0.4**
comp=Z,5.8nm,1.4s,mb4.3
CEY Cerknica 47.59 53 *e*P **P 21 48 02.8 +0.8**
PRU Pruhonice 47.78 47 *e*P **P 21 48 04.8 +1.3**
PRU *e*S **S 21 55 08.9 +9.0**
PRU AMS AMS 22 05 10.0
comp=Z,200nm,24.9s,MS4.0
NB2 NORSAR Subarra 47.83 32 P **P 21 48 04.4 +0.7**
comp=Z,30nm,1.7s,mb5.0,baz=252,slow=7.9
NOA NORSAR Array B 47.83 32 P **P 21 48 04.7 +1.1**
NOA NORSAR Array B 47.83 32 P **P 21 48 04.7 +1.0**
NOA pmax pmax
comp=Z,2.0nm,0.9s
NOA NORSAR Array B 47.83 32 P **P 21 48 04.7 +1.1**
comp=Z,2.3nm,0.9s,mb4.2,baz=254,slow=7.8,SNR=6.6
PVCC Panska Ves 47.83 47 AMS AMS 22 04 50.0
comp=Z,200nm,17.2s,MS4.2
SIV San Ignacio 48.10 203 P **P 21 48 05.9 -0.3**
comp=Z,1.6nm,0.8s,mb4.1,baz=84,slow=11,SNR=6.3
BOJS Bojanci 48.17 53 *e*P **P 21 48 07.3 +0.7**
TREC Trest 48.36 48 *e*P **P 21 48 08.2 +0.2**
TREC AMS AMS 22 08 30.0
comp=Z,200nm,6.0s

UPC Upice 48.75 47 *e*P **P 21 48 11.0 0.0**
DPC Dobruska-Polom 48.94 47 *e*P **P 21 48 13.1 +0.7**
DPC *e*x x 21 55 23.6
DPC AMS AMS 22 05 40.0
comp=Z,200nm,22.3s,MS4.1
ZST Bratislava 49.41 50 *e*P **P 21 48 14.6 -1.5**
MORC Moravsky Berou 49.71 48 *e*P **P 21 48 18.4 0.0**
OKC Ostrava-Krasne 50.10 48 *e*P **P 21 48 22.0 +0.7**
OKC *e*S **S 21 55 45.3 +13**
OKC Ostrava-Krasne 50.10 48 *e*P **P 21 48 22.0 +0.7**
OKC *e*x x 21 55 45.3
OKC AMS AMS 22 05 20.0
comp=Z,100nm,9.8s
VYHS Vyhne 50.56 49 *e*P **P 21 48 25.1 +0.3**
comp=Z,13nm,2.1s,mb4.5
VYHS Vyhne 50.56 49 *e*P **P 21 48 25.1 +0.3**
VYHS pmax pmax
comp=Z,13nm,2.1s,mb4.5
LPAZ La Paz 51.22 211 P **P 21 48 29.7 -0.3**
LPAZ pmax pmax
comp=Z,1.0nm,0.8s
LPAZ MLR MLR
comp=Z,156nm,18.1s
LPAZ La Paz 51.22 211 P **P 21 48 29.7 -0.3**
comp=Z,1.0nm,0.8s,mb3.8,baz=18,slow=11,SNR=5.0
LPAZ LR LR 22 08 05.3
comp=Z,156nm,18.1s,MS4.1,baz=239,slow=34
STHS Stebnicka Huta 52.12 48 *e*P **P 21 48 37.9 +1.4**
comp=Z,4.1nm,1.4s,mb4.2
STHS Stebnicka Huta 52.12 48 *e*P **P 21 48 37.9 +1.4**
STHS pmax pmax
comp=Z,4.0nm,1.4s,mb4.2
STHS Stebnicka Huta 52.12 48 *e*P **P 21 48 37.8 +1.3**
TXAR Lajitas Array 52.28 286 P **P 21 48 37.4 -0.5**
TXAR LR LR 22 09 52.3
TXAR Lajitas Array 52.28 286 P **P 21 48 37.4 -0.6**
TXAR pmax pmax
comp=Z,1.0nm,0.9s
TXAR MLR MLR
comp=Z,138nm,20.0s
TXAR Lajitas Array 52.28 286 P **P 21 48 37.4 -0.5**
comp=Z,1.1nm,0.9s,mb3.8,baz=101,slow=6.5,SNR=4.7
TXAR LR LR 22 09 52.3
comp=Z,138nm,20.0s,MS4.0,baz=35,slow=35
UZH Uzhgorod 52.85 49 *e*P **P 21 48 42.6 +0.7**
UZH *i* 21 48 48.0
ANMO Albuquerque 53.21 294⇑ *e*P **P 21 48 46.5 +1.7**
EGMT Eagleton 53.70 310 *e*P **P 21 48 48.3 +0.2**
comp=Z,50nm,1.7s,mb5.2
GCMT Greycliff 53.85 307 *e*P **P 21 48 48.7 -0.6**
LAZ Ladron 53.88 293 *e*P **P 21 48 52.1 +2.3**
PDAR Pinedale Array 54.17 304 P **P 21 48 51.4 -0.3**
PDAR LR LR 22 10 31.9
PDAR Pinedale Array 54.17 304 P **P 21 48 51.4 -0.3**
comp=Z,1.9nm,0.7s,mb4.1,baz=90,slow=7.4,SNR=20
PDAR LR LR 22 10 31.9
comp=Z,348nm,18.4s,MS4.5,baz=69,slow=34
YMR Madison River 54.91 306 *e*P **P 21 48 58.3 +1.3**
comp=Z,29nm,1.4s,mb5.1
FINES FINESS Array B 54.97 33 P **P 21 48 56.0 -1.2**
FINES pmax pmax
comp=Z,1.0nm,0.8s
FINES FINESS Array B 54.97 33 P **P 21 48 56.0 -1.2**
comp=Z,1.0nm,0.8s,mb3.9,baz=219,slow=3.6,SNR=4.8
IMW Indian Meadow 55.00 305 *e*P **P 21 48 58.2 +0.5**
comp=Z,21nm,1.3s,mb5.0
REDW Red Top Meadow 55.02 305 *e*P **P 21 48 56.5 -1.3**
comp=Z,46nm,1.8s,mb5.2
BOZ Bozeman (W) 55.24 307 *e*P **P 21 48 59.7 +0.3**
comp=Z,8.4nm,1.5s,mb4.5
BOZ Bozeman (W) 55.24 307 *e*P **P 21 48 59.7 +0.3**
BOZ pmax pmax
comp=Z,8.0nm,1.5s,mb4.5
EDM Edmonton 55.59 317 *e*P **P 21 49 01.2 -0.6**
YKA Yellowknife Ar 56.07 328 P **P 21 49 03.3 -1.8**
comp=Z,0.2nm,0.4s,mb3.5,baz=89,slow=7.6,SNR=7.6
YKA LR LR 22 10 37.6
comp=Z,130nm,18.4s,MS4.0,baz=75,slow=34
CPUP Villa Florida 56.81 195 LR LR 22 11 19.0
comp=Z,97nm,19.6s,MS3.9,baz=267,slow=34
MSU Marysvale 56.92 299 *e*P **P 21 49 12.9 +1.3**
DUG Dugway 57.04 301 *e*P **P 21 49 11.3 -1.0**
comp=Z,19nm,1.5s,mb4.9
DUG Dugway 57.04 301 *e*P **P 21 49 11.4 -0.9**
DUG pmax pmax
comp=Z,19nm,1.5s,mb4.9
AKASG Malin Array Be 57.15 46 *i*P **P 21 49 12.3 -0.6**
AKASG Malin Array Be 57.15 46 P **P 21 49 12.4 -0.6**
comp=Z,0.2nm,0.4s,mb3.5,baz=274,slow=6.9,SNR=16
AKASG LR LR 22 12 03.1
comp=Z,135nm,18.3s,MS4.1,baz=260,slow=34
OBN Obninsk 60.90 40⇑ *e*P **P 21 49 39.4 +0.5**
OBN *e* 21 50 24.2
OBN pmax pmax
comp=Z,35nm,1.8s,mb5.2
INK Inuvik 63.42 335 P **P 21 49 55.0 -0.6**
INK pmax pmax
comp=Z,1.0nm,0.6s
INK MLR MLR
comp=Z,189nm,19.7s
INK Inuvik 63.42 335 P **P 21 49 55.0 -0.5**
comp=Z,0.9nm,0.6s,mb4.1,baz=48,slow=8.2,SNR=4.5
INK LR LR 22 15 39.7
comp=Z,189nm,19.7s,MS4.3,baz=200,slow=34
OHCM Honcut 63.72 302 *e*P **P 21 49 58.0 -0.1**
ARU Arti 72.28 35 *d*/*i*P **P 21 50 52.1 +0.5**
ARU *e*S S 22 00 09.4 -5.1
ARU pmax pmax
comp=Z,14nm,1.7s,mb4.6
RST Umm Al-Ruwaisa 76.37 64 *e*P **P 21 51 15.9 0.0**
RST AMb AMB 21 51 23.3
comp=Z,8.6nm,1.2s,mb4.6
MIB Mutribah 76.51 63 *e*P **P 21 51 16.9 +0.2**
MIB AMb AMB 21 51 18.2
comp=Z,5.9nm,0.8s,mb4.6
NAY Al-Naaiem 76.67 64 *e*P **P 21 51 17.8 +0.1**
NAY AMb AMB 21 51 19.6
comp=Z,5.3nm,0.9s,mb4.5
TIXI Tiksi 79.33 3 *e*P **P 21 51 32.6 +0.9**
TIXI pmax pmax
comp=Z,14nm,1.4s,mb4.7
BILL Bilibino 80.67 349⇑ *e*P **P 21 51 39.0 +0.1**
BILL pmax pmax
comp=Z,12nm,1.5s,mb4.6
KURK Kurchatov 85.34 33 *e*P **P 21 52 03.7 +0.2**
comp=Z,5.8nm,0.9s,mb4.7
KURK Kurchatov 85.34 33 *e*P **P 21 52 03.7 +0.3**
KURK pmax pmax
comp=Z,6.0nm,0.9s,mb4.7
ZAL Zalesovo 85.83 28 P **P 21 52 06.3 +0.5**
ZAL pmax pmax
comp=Z,1.0nm,0.6s
ZALV Zalesovo Beam 85.83 28 P **P 21 52 06.3 +0.5**
comp=Z,0.9nm,0.6s,mb4.2,baz=276,slow=5.8,SNR=5.6
AAK Ala-Archa 88.42 41⇓ *e*P **P 21 52 19.0 +0.4**
AAK pmax pmax
comp=Z,4.0nm,1.5s,mb4.4
UCH Uchtor 88.69 41 *e*P **P 21 52 19.1 -0.8**
comp=Z,3.4nm,1.0s,mb4.6
MKAR Makanchi Array 89.79 34 P **P 21 52 24.0 -1.0**
MKAR pmax pmax
comp=Z,1.0nm,0.7s
MKAR Makanchi Array 89.79 34 P **P 21 52 24.0 -1.0**
comp=Z,1.1nm,0.7s,mb4.3,baz=312,slow=4.6,SNR=4.8

NIED ***23*** *21:45:00,46.40N×153.40E,h5km,Mw4.5 Best double couple: M0:6.89000×10^15 NP1:φs=58.00000°,δ=80.00000°, λ=98.00000°. NP2:φs=200.00000°,δ=13.00000°,λ=53.00000°.*
BJI ***23*** *21:45:03.3,46.60N×153.30E,h9km,mB4.7,mb4.7,Ms4.4, Msz4.2*
ISCJB ***23*** *21:45:03.5±1.3,46.36N±0.05×153.24E±0.06,h8km±7km, mb4.7/105,MS4.3/12,Error ellipse: s-maj=10.2km s-min=4.0km az=140.6*
SKHL ***23*** *21:45:04.7±2.0,46.40N×153.40E,h33km,mb5.3/6,ms4.3/4, msha5.8/4*
NEIC ***23*** *21:45:05.2±0.4,46.41N×153.26E,h10km,mb4.7/52,Error ellipse: s-maj=10.7km s-min=5.7km az=140.0*
JMA ***23*** *21:45:05.8±0.9,46.45N×153.43E,h30km,M4.8*
MOS ***23*** *21:45:05.2±1.0,46.40N×153.20E,h20km,mb4.8/56, MS4.4/8,Error ellipse: s-maj=8.5km s-min=4.8km az=101.2*
IDC ***23*** *21:45:09.9±0.7,46.36N×153.13E,h40km±5km,mb4.0/18, mb1 4.2/18,mb1mx4.1/23,mbtmp4.0/18,MS3.8/2, Ms1 3.8/2,ms1mx3.1/32,Error ellipse: s-maj=17.8km s-min=13.0km az=154.0*
SZGRF ***23*** *21:45:17.0,47.56N×151.92E,h33km,mb4.7,Kuril Islands, Russia*
ISC 23 21:45:07.2±1.1,4634N±005×15328E±006,h22km±7km, h38km±3.9km:pP-P,n332,σ1°17/348,mb4.7/105,MS4.3/12, 29C-8D,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.95**	**256**	⇓*i*PN	**Pn**	**21 46 05.2**	**-1.1**
KUR				*i*S	**Sn**	**21 46 52.0**	**+0.1**
KUR				pmax	pmax		
	comp=N,300nm,0.5s						
KUR				pmax	pmax		
	comp=E,150nm,0.5s						
KUR				pmax	pmax		
	comp=Z,2μm,0.5s						
KUR				pmax	pmax		
	comp=Z,2μm,1.0s						
KUR				smax			
	comp=N,3μm,2.0s						
KUR				smax			
	comp=E,3.0nm,2.0s						
KUR				smax			
	comp=N,380nm,0.5s						
KUR				smax			
	comp=E,800μm,0.5s						
KUR	**Kuril'sk**	**3.95**	**256**	⇓*i*P	**Pn**	**21 46 05.2**	**-1.1**
KUR				AMB	AMB	21 46 06.0	
	comp=E,304nm,0.5s						
KUR				AMB	AMB	21 46 06.0	
	comp=E,152nm,0.5s						
KUR				AMB	AMB	21 46 06.0	
	comp=E,2μm,0.5s						
KUR				AMB	AMB	21 46 06.0	
	comp=E,2μm,1.0s						
KUR				*e*S	**Sn**	**21 46 52.0**	**+0.1**
KUR				A		21 46 56.0	
	comp=E,3μm,2.0s						
KUR				A		21 46 56.0	
	comp=E,2μm,2.0s						
KUR				A		21 47 01.5	
	comp=E,380nm,0.5s						
KUR				A		21 47 01.5	
	comp=E,798nm,0.5s						
SKR	**Severo-Kuril's**	**4.73**	**22**	*e*P	**Pn**	**21 46 16.3**	**-0.8**
SKR				AMB	AMB	21 46 20.0	
	comp=E,80nm,0.5s						
SKR				*e*S	**Sn**	**21 47 08.0**	**-3.3**
SKR				A		21 47 27.8	
	comp=E,220nm,0.6s						
SKR				A		21 47 27.8	
	comp=E,110nm,0.6s						
SKR				AMS	AMS	21 48 36.0	
	comp=E,3μm,10.0s						
SKR				AMS	AMS	21 48 36.0	
	comp=E,3μm,10.0s						
YUK	**Yuzh-Kuril'sk**	**5.73**	**249**	*e*P	**Pn**	**21 46 31.8**	**+1.0**
YUK				AMB	AMB	21 46 32.0	
	comp=E,400nm,0.5s						
YUK				*e*S	**Sn**	**21 47 36.8**	**+0.9**
YUK				A		21 48 04.5	
	comp=E,3μm,1.0s						
YUK				A		21 48 04.8	
	comp=E,900nm,0.6s						
YUK				A		21 48 04.8	
	comp=E,400nm,0.5s						
NEM2	**Nemuro 2**	**6.13**	**244**	P	**Pn**	**21 46 35.3**	**-1.0**
NEM2				*e*S	**Sn**	**21 47 41.3**	**-4.4**
JRA	**Rausu**	**6.25**	**250**	P	**Pn**	**21 46 39.6**	**+1.6**
JNK	**Nakash**	**6.67**	**249**	P	**Pn**	**21 46 44.7**	**+1.0**
JNK				*e*S	**Sn**	**21 47 57.8**	**-1.2**
JAK	**Akkeshi**	**6.97**	**244**	P	**Pn**	**21 46 47.1**	**-0.8**
JAK				*e*S	**Sn**	**21 48 01.9**	**-4.6**
JTKR	**Abashiri--Toko**	**7.04**	**254**	P	**Pn**	**21 46 50.5**	**+1.7**
YSS	**Yuzh-Sakhalins**	**7.27**	**279**	*e*P	**Pn**	**21 46 56.3**	**+4.3**
	comp=E,40nm,0.7s						
YSS	**Yuzh-Sakhalins**	**7.27**	**279**	⇑*i*PN	**Pn**	**21 46 57.5**	**+5.5**
YSS				*e*S	**Sn**	**21 48 23.0**	**+9.2**
YSS				pmax	pmax		
	comp=Z,50nm,0.9s						
YSS				smax			
	comp=E,60nm,1.0s						
YSS	**Yuzh-Sakhalins**	**7.27**	**279**	⇑*i*P	**Pn**	**21 46 57.5**	**+5.5**
YSS				AMB	AMB	21 46 58.5	
	comp=E,50nm,0.9s						
YSS				*e*S	**Sn**	**21 48 23.0**	**+9.2**
YSS				A		21 48 26.5	
	comp=E,60nm,1.0s						
JMP	**Maruseppu**	**7.39**	**255**	P	**Pn**	**21 46 55.5**	**+1.9**
JAR	**Ashorobuto**	**7.42**	**249**	P	**Pn**	**21 46 54.8**	**+0.8**
JAR				*e*S	**Sn**	**21 48 15.8**	**-1.6**
PET	**Petropavlovsk**	**7.54**	**26**	*e*PN	**Pn**	**21 46 54.1**	**-1.5**
PET				pmax	pmax		
	comp=Z,48nm,0.9s						
PET				MLR	MLR		
	comp=Z,200nm,16.0s						
JOB	**Onbets**	**7.56**	**246**	P	**Pn**	**21 46 56.2**	**+0.2**
JOB				*e*S	**Sn**	**21 48 17.8**	**-3.2**
JKK2	**Kamakawa 2**	**7.85**	**255**	P	**Pn**	**21 47 02.2**	**+2.3**
ASAJ	**Asahikawa**	**7.86**	**257**	P	**Pn**	**21 47 02.8**	**+2.7**
ASAJ	**Asahikawa**	**7.86**	**257**	PN	**Pn**	**21 47 02.7**	**+2.6**
ASAJ				pmax	pmax		
	comp=Z,4.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,320nm,19.8s						
ASAJ	**Asahikawa**	**7.86**	**257**	P	**Pn**	**21 47 02.7**	**+2.6**
	comp=Z,4.3nm,0.3s,baz=90,slow=18,SNR=25						
ASAJ				LR	LR	21 49 54.5	
	comp=Z,320nm,19.8s,baz=311,slow=37						
JCH	**Churui**	**8.01**	**246**	P	**Pn**	**21 47 01.7**	**-0.5**
JCH				*e*S	**Sn**	**21 48 27.5**	**-4.5**
JWK2	**Keihoku**	**8.02**	**267**	P	**Pn**	**21 47 11.2**	**+9.0**
UGL	**Uglegorsk**	**8.04**	**294**	*e*PN	**Pn**	**21 47 02.5**	**-0.1**
UGL				pmax	pmax		
	comp=Z,63nm,0.6s						
UGL				MLR	MLR		
	comp=Z,700nm,15.0s						
UGL				MLR	MLR		
	comp=N,500nm,13.0s						
UGL				MLR	MLR		
	comp=E,700nm,15.0s						
UGL	**Uglegorsk**	**8.04**	**294**	*e*P	**Pn**	**21 47 02.5**	**-0.1**
UGL				AMB	AMB	21 47 08.0	
	comp=E,63nm,0.6s						
UGL				*e*L		21 49 10.0	
UGL				AMS	AMS	21 50 20.0	
	comp=E,800nm,15.0s						
UGL				AMS	AMS	21 50 20.0	
	comp=E,700nm,15.0s						
UGL				AMS	AMS	21 50 20.0	
	comp=E,500nm,13.0s						
JFR	**Furan**	**8.24**	**251**	P	**Pn**	**21 47 08.0**	**+2.7**
JAB	**Ashibetsu**	**8.34**	**254**	P	**Pn**	**21 47 09.5**	**+2.8**
TYV	**Tymovskoe**	**8.37**	**307**	*e*P	**Pn**	**21 47 09.0**	**+2.0**
TYV				AMB	AMB	21 47 20.0	
	comp=E,22nm,0.8s						
TYV				AMB	AMB	21 47 20.0	
	comp=E,24nm,0.8s						
TYV				*e*rx	rx	21 48 52.0	
TYV				AMS	AMS	21 50 29.0	
	comp=E,1μm,16.0s						
TYV				AMS	AMS	21 50 29.0	
	comp=E,1μm,16.0s						
TYV				AMS	AMS	21 50 29.0	
	comp=E,500nm,24.0s						
JEM	**Erimo**	**8.46**	**243**	P	**Pn**	**21 47 09.3**	**+1.0**
JEM				*e*S	**Sn**	**21 48 41.3**	**-1.8**
ERM	**Erimo**	**8.46**	**243**	*e*P	**Pn**	**21 47 08.5**	**+0.2**
	comp=E,63nm,0.5s						
ERM	**Erimo**	**8.46**	**243**	*e*PN	**Pn**	**21 47 08.5**	**+0.2**
ERM				pmax	pmax		
	comp=Z,63nm,0.5s						
JBT2	**Biratori 2**	**8.57**	**249**	P	**Pn**	**21 47 10.8**	**+1.0**
JBT2				*e*S	**Sn**	**21 48 43.8**	**-1.9**
JNBK	**Urakawa-nobuka**	**8.57**	**245**	P	**Pn**	**21 47 08.7**	**-1.1**
JNBK				*e*S	**Sn**	**21 48 40.7**	**-5.1**
JNB	**Noboribetsu**	**9.58**	**251**	P	**Pn**	**21 47 23.9**	**+0.3**
JNB				*e*S	**Sn**	**21 49 06.9**	**-3.6**
JKB	**Kayabe**	**9.87**	**248**	P	**Pn**	**21 47 26.4**	**-1.2**
JKB				*e*S	**Sn**	**21 49 10.3**	**-7.3**
JOT	**Ohata**	**10.13**	**245**	P	**Pn**	**21 47 29.3**	**-1.8**
JYM2	**Yakumo 2**	**10.18**	**250**	P	**Pn**	**21 47 31.7**	**-0.2**

JANG	**Nango**	**10.44 239**	P	**Pn**	**21 47 31.8**	**-3.6**
JANG			*e*S	**Sn**	**21 49 21.4**	**-10**
JTM	**Tenmabayashi**	**10.45 242**	P	**Pn**	**21 47 33.5**	**-2.1**
JTM			*e*S	**Sn**	**21 49 23.7**	**-8.3**
JTH	**Tanohata**	**10.51 237**	P	**Pn**	**21 47 32.8**	**-3.6**
JTH			*e*S	**Sn**	**21 49 20.7**	**-13**
NKL	**Nikolayevsk**	**10.62 314**	*e*P	**Pn**	**21 47 37.0**	**-0.8**
NKL			AMB	AMB	21 47 40.0	
comp=Z,35nm,1.2s						
NKL			*e*L		21 50 44.0	
NKL			AMS	AMS	21 52 14.0	
comp=Z,800nm,15.0s						
NKL			AMS	AMS	21 52 14.0	
comp=Z,700nm,15.0s						
NKL			AMS	AMS	21 52 14.0	
comp=Z,1μm,15.0s						
JOSM	**Okushiri--Mats**	**10.78 252**	P	**Pn**	**21 47 39.3**	**-0.8**
JOM	**Ohasama**	**11.15 236**	P	**Pn**	**21 47 41.6**	**-3.5**
JOM			S	**Sn**	**21 49 41.0**	**-8.0**
OFUJ	**Ofunato**	**11.20 234**	P	**Pn**	**21 47 43.0**	**-2.9**
OFUJ			*e*S	**Sn**	**21 49 39.2**	**-11**
JRG	**Rokugo**	**11.58 238**	P	**Pn**	**21 47 49.3**	**-1.7**
JIO	**Ouri**	**11.82 232**	P	**Pn**	**21 47 51.2**	**-3.1**
JIO			*e*S	**Sn**	**21 49 53.7**	**-12**
HABR	**Khabarovsk**	**12.53 286**	*e*PN	**Pn**	**21 48 08.9**	**+4.9**
HABR			*e*		21 50 31.9	
JYA	**Atsumi**	**12.65 237**	P	**Pn**	**21 47 59.4**	**-6.3**
MA2	**Magadan**	**13.34 354**	*e*PN	**Pn**	**21 48 17.0**	**+2.0**
MA2			*e*		21 50 55.7	
MA2			pmax	pmax		
comp=Z,20nm,0.7s						
KLR	**Kul'dur**	**14.75 289**	*e*P	**Pn**	**21 48 33.2**	**-1.0**
KLR			MLR	MLR		
comp=E,900nm,14.0s						
KLR			MLR	MLR		
comp=Z,1μm,14.0s						
MAJO	**Matsushiro**	**14.93 234**	*e*P	**Pn**	**21 48 36.7**	**-0.1**
comp=Z,20nm,0.8s						
MAJO	**Matsushiro**	**14.93 234**	*e*P	**Pn**	**21 48 36.7**	**-0.1**
MAJO			pmax	pmax		
comp=Z,20nm,0.8s						
MAT	**Matsushiro**	**14.93 234**	P	**Pn**	**21 48 36.6**	**-0.2**
MAT	**Matsushiro**	**14.93 234**	P	**Pn**	**21 48 37.0**	**+0.2**
MJAR	**Matsushiro Ar**	**14.93 234**	P	**Pn**	**21 48 34.4**	**-2.4**
comp=Z,0.3nm,0.3s,baz=29,slow=12,SNR=14						
SEY	**Seymchan**	**16.63 359**	*i* P	**Pn**	**21 48 57.7**	**-0.9**
MDJ	**Mudanjiang**	**16.69 273**	P	**Pn**	**21 49 01.3**	**+1.8**
MDJ			AMB	AMB		
comp=Z,24nm,0.9s						
MDJ			AMB	AMB		
comp=Z,74nm,4.1s						
CN2	**Changchun**	**19.78 273**	*e*P	**Pn**	**21 49 33.1**	**-4.2**
CN2			AMB	AMB		
comp=Z,20nm,0.6s						
CN2			LR	LR		
comp=N,230nm,15.0s						
CN2			LR	LR		
comp=E,240nm,15.0s						
CN2			LR	LR		
comp=Z,220nm,18.0s						
CLNS	**Chul'man**	**20.37 311**	*e*P	**P**	**21 49 42.9**	**+0.9**
CLNS			pmax	pmax		
comp=Z,11nm,0.7s						
CLNS			pmax	pmax		
comp=E,5.0nm,1.1s						
CLNS			MLR	MLR		
comp=Z,800nm,17.0s,MS4.2						
CLNS			MLR	MLR		
comp=N,300nm,16.0s,MS4.0						
CLNS			MLR	MLR		
comp=E,500nm,15.0s,MS4.0						
YAK	**Yakutsk**	**20.73 328**	*e*P	**P**	**21 49 43.1**	**-2.7**
YAK			pmax	pmax		
comp=Z,12nm,0.8s						
YAK			pmax	pmax		
comp=N,7.0nm,1.3s						
YAK			pmax	pmax		
comp=E,11nm,1.3s						
YAK			pmax	pmax		
comp=N,7.0nm,1.3s						
YAK			pmax	pmax		
comp=E,8.0nm,1.3s						
YAK			MLR	MLR		
comp=Z,152nm,19.0s,MS3.4						
YAK			MLR	MLR		
comp=N,169nm,16.0s,MS3.6						
YAK			MLR	MLR		
comp=E,181nm,18.0s,MS3.6						
KSRS	**Korea Array**	**20.79 254**	P	**P**	**21 49 47.0**	**+0.3**
comp=E,7.7nm,0.7s,baz=60,slow=10,SNR=40						
JNU	**Nakatsue**	**21.61 240**	P	**P**	**21 49 56.6**	**+1.1**
comp=E,4.7nm,0.7s,mb4.0,baz=78,slow=14,SNR=3.9						
INCN	**Inchon**	**21.64 255**	*e*P	**P**	**21 49 57.3**	**+1.5**
HIA	**Hailar**	**22.61 290**	*i* P	**P**	**21 50 08.6**	**+2.5**
BILL	**Bilibino**	**22.76 13**	*e*P	**P**	**21 50 03.9**	**-3.6**
comp=E,9.2nm,0.6s,mb4.4						
BILL	**Bilibino**	**22.76 13**	*i* P	**P**	**21 50 06.8**	**-0.7**
BILL			pmax	pmax		
comp=Z,3.0nm,1.0s,mb3.7						
BILL			MLR	MLR		
comp=Z,200nm,18.0s,MS3.6						
BOD	**Bodaibo**	**26.34 310**	*e*P	**P**	**21 50 39.0**	**-2.1**
BOD			pmax	pmax		
comp=Z,4.0nm,0.9s,mb4.0						
BJI	**Beijing**	**27.59 270**	P	**P**	**21 50 55.6**	**+3.0**
BJI			AMB	AMB		
comp=Z,17nm,0.9s,mb4.7						
BJI			AMB	AMB		
comp=Z,179nm,7.5s						
BJI			LR	LR		
comp=N,377nm,23.3s,MS4.0						
BJI			LR	LR		
comp=E,186nm,20.5s,MS4.0						
BJI			LR	LR		
comp=Z,401nm,20.1s,MS4.0						
BJT	**Baijiatuau**	**27.61 270**	*e*P	**P**	**21 50 55.7**	**+3.0**
comp=Z,16nm,0.8s,mb4.7						
BJT	**Baijiatuau**	**27.61 270**	*e*P	**P**	**21 50 55.7**	**+3.0**
BJT			pmax	pmax		
comp=Z,16nm,0.8s						
TIXI	**Tiksi**	**27.89 344**	*i* P	**P**	**21 50 53.3**	**-1.6**
TIXI			pmax	pmax		
comp=Z,1.0nm,0.5s,mb3.7						
NJ2	**Nanjing**	**29.99 254**	*e*P	**P**	**21 51 14.4**	**+0.4**
NJ2			AMB	AMB		
comp=Z,20nm,0.6s,mb5.0						
ULN	**Ulaanbaatar**	**31.14 290**	*i* P	**P**	**21 51 23.6**	**-0.4**
SONM	**Songino Array**	**31.58 290**	P	**P**	**21 51 27.7**	**-0.1**
SONM					21 54 20.4	
SONM			pmax	pmax		
comp=Z,1.0nm,0.8s						
SONM			pmax	pmax		
comp=Z,1.0nm,0.7s						
SONM	**Songino Array**	**31.58 290**	P	**P**	**21 51 27.7**	**-0.2**
comp=Z,1.4nm,0.8s,mb3.8,baz=69,slow=8.4,SNR=15						
SONM			PcP	PcP	21 54 20.4	+0.6
comp=Z,0.8nm,0.7s,baz=124,slow=2.6,SNR=4.9						
TLY	**Talaya**	**32.47 298**⇑	*e*P	**P**	**21 51 34.7**	**-0.9**
TLY			pmax	pmax		
comp=Z,1.0nm,0.7s,mb3.8						
TTA	**Tatalina**	**32.65 41**	*e*P	**P**	**21 51 35.3**	**-1.8**
comp=Z,2.5nm,0.4s,mb4.5						
TTA	**Tatalina**	**32.65 41**	*e*P	**P**	**21 51 35.3**	**-1.8**
TTA			pmax	pmax		
comp=Z,2.0nm,0.4s,mb4.4						
ZAK	**Zakamensk**	**32.96 296**	*e*P	**P**	**21 51 39.0**	**-0.9**
ZAK			*e*		21 56 47.1	
ZAK			pmax	pmax		
comp=Z,3.0nm,1.0s,mb4.2						
IMA2	**Indian Mountai**	**34.07 36**	*e*P	**P**	**21 51 49.5**	**+0.1**
XAN	**Xi'an**	**35.60 266**	P	**P**	**21 52 03.0**	**0.0**
XAN			AP	pP	21 52 10.3	+0.7
XAN			AMB	AMB		
comp=Z,7.0nm,1.5s,mb4.4						
LZH	**Lanzhou**	**38.02 272**	⇑P	**P**	**21 52 25.5**	**+2.0**
LZH			AMB	AMB		
comp=Z,25nm,1.2s,mb4.8						
LZH			AMB	AMB		
comp=Z,79nm,4.8s						
GTA	**Gaotai**	**39.15 280**	*e*P	**P**	**21 52 34.5**	**+1.5**
GTA			AMB	AMB		
comp=Z,14nm,0.8s,mb4.7						
GTA			AMB	AMB		
comp=Z,118nm,8.4s						
GTA			LR	LR		
comp=N,294nm,14.1s,MS4.5						
GTA			LR	LR		
comp=E,420nm,14.4s,MS4.5						
GTA			LR	LR		
comp=Z,534nm,13.7s,MS4.5						
CD2	**Chengdu**	**40.96 266**	*e*P	**P**	**21 52 49.1**	**+1.0**
CD2			AMB	AMB		
comp=Z,10.0nm,0.5s,mb4.7						
INK	**Inuvik**	**41.93 32**	*e*P	**P**	**21 52 56.4**	**+0.8**
comp=Z,77nm,0.6s,mb5.5						
INK	**Inuvik**	**41.93 32**	P	**P**	**21 52 56.9**	**+1.3**
INK			pmax	pmax		
comp=Z,4.0nm,0.7s						
INK	**Inuvik**	**41.93 32**	P	**P**	**21 52 56.9**	**+1.3**
comp=Z,4.1nm,0.7s,mb4.1,baz=296,slow=6.4,SNR=12						
ZALV	**Zalesovo Beam**	**42.94 306**	P	**P**	**21 53 02.3**	**-1.7**
comp=Z,1.7nm,0.5s,mb4.1,baz=61,slow=6.9,SNR=12						
ZALV			PcP	PcP	21 54 54.8	+0.5
comp=Z,2.6nm,0.8s,baz=64,slow=3.4,SNR=6.6						
ZAL	**Zalesovo**	**42.96 306**	P	**P**	**21 53 02.3**	**-1.8**
ZAL					21 54 54.8	
KMI	**Kunming**	**45.28 260**	P	**P**	**21 53 24.3**	**+1.2**
KMI			AP	pP	21 53 33.9	+4.0
KMI			XP	sP	21 53 38.3	+5.7
KMI			AMB	AMB		
comp=Z,12nm,1.2s,mb4.6						
KMI			AMB	AMB		
comp=Z,87nm,5.1s						
KMI			LR	LR		
comp=N,322nm,15.1s,MS4.6						
KMI			LR	LR		
comp=E,450nm,14.1s,MS4.6						
KMI			LR	LR		
comp=Z,499nm,14.9s,MS4.6						
MK31	**Makanchi Array**	**47.23 298**	*e*P	**P**	**21 53 37.6**	**-0.6**
MKAR	**Makanchi Array**	**47.23 298**	P	**P**	**21 53 37.5**	**-0.7**
MKAR			PcP	PcP	21 55 09.8	+0.6
MKAR			LR	LR	22 14 37.2	
MKAR	**Makanchi Array**	**47.23 298**	P	**P**	**21 53 37.5**	**-0.7**
MKAR					21 55 09.8	
MKAR			pmax	pmax		
comp=Z,8.0nm,0.8s						
MKAR			pmax	pmax		
comp=Z,1.0nm,0.6s						
MKAR			MLR	MLR		
comp=Z,211nm,18.7s						
MKAR	**Makanchi Array**	**47.23 298**	P	**P**	**21 53 37.5**	**-0.7**
comp=Z,7.8nm,0.8s,mb4.7,baz=65,slow=8.1,SNR=33						
MKAR			PcP	PcP	21 55 09.8	+0.6
comp=Z,1.2nm,0.6s,baz=75,slow=2.8,SNR=4.1						
MKAR			LR	LR	22 14 37.2	
comp=Z,210nm,18.6s,MS4.1,baz=257,slow=38						
KURK	**Kurchatov**	**47.69 304**	*e*P	**P**	**21 53 40.0**	**-1.7**
comp=Z,12nm,0.8s,mb5.0						
KURK	**Kurchatov**	**47.69 304**	*e*P	**P**	**21 53 40.0**	**-1.7**
KURK			pmax	pmax		
comp=Z,12nm,0.8s,mb5.0						
LSA	**Lhasa**	**50.41 274**	*e*P	**P**	**21 54 05.4**	**+2.6**
comp=Z,9.8nm,0.6s,mb5.0						
LSA	**Lhasa**	**50.41 274**	*e*P	**P**	**21 54 05.4**	**+2.6**
LSA			pmax	pmax		
comp=Z,10.0nm,0.6s,mb5.0						
YKA	**Yellowknife Ar**	**51.18 37**	P	**P**	**21 54 08.7**	**+0.5**
YKA			pP	pP	21 54 21.2	+6.2
YKA	**Yellowknife Ar**	**51.18 37**	P	**P**	**21 54 08.6**	**+0.4**
YKA			*PP	pP	21 54 21.2	+6.2
YKA			pmax	pmax		
comp=Z,2.0nm,0.7s						
YKA			pmax	pmax		
comp=Z,3.0nm,0.5s						
YKA	**Yellowknife Ar**	**51.18 37**	P	**P**	**21 54 08.6**	**+0.5**
comp=Z,1.9nm,0.7s,mb4.2,baz=296,slow=7.0,SNR=25						
YKA			pP	pP	21 54 21.2	+6.2
comp=Z,2.5nm,0.5s,baz=296,slow=7.1,SNR=14						
RES	**Resolute Bay**	**51.19 18**	*e*P	**P**	**21 54 08.5**	**+0.5**
CHTO	**Chiang Mai**	**52.14 257**	*e*P	**P**	**21 54 17.1**	**+1.2**
comp=Z,5.6nm,0.7s,mb4.6						
CHTO	**Chiang Mai**	**52.14 257**	*e*P	**P**	**21 54 17.1**	**+1.2**
CHTO			pmax	pmax		
comp=Z,6.0nm,0.7s,mb4.6						
ULHL	**Ulahol**	**53.24 295**	P	**P**	**21 54 24.7**	**+0.9**
SNR=9.4						
TKM2	**Tokmak 2**	**53.28 296**	*e*P	**P**	**21 54 24.3**	**+0.3**
comp=Z,6.2nm,1.0s,mb4.5						
TKM2	**Tokmak 2**	**53.28 296**	*e*P	**P**	**21 54 24.3**	**+0.2**
TKM2			pmax	pmax		
comp=Z,6.0nm,1.0s,mb4.5						
USP	**Ospenovka**	**53.77 297**	P	**P**	**21 54 28.0**	**+0.4**
SNR=21						
KBK	**Karagaybulak**	**53.83 296**	P	**P**	**21 54 28.8**	**+0.8**
SNR=5.2						
KZA	**Kyzart**	**53.95 296**	P	**P**	**21 54 30.5**	**+1.5**
SNR=6.6						
AAK	**Ala-Archa**	**54.12 297**	*e*P	**P**	**21 54 29.0**	**-1.2**
comp=Z,6.1nm,0.8s,mb4.6						
AAK	**Ala-Archa**	**54.12 297**	*e*P	**P**	**21 54 29.0**	**-1.2**
AAK			pmax	pmax		
comp=Z,6.0nm,0.8s,mb4.6						
AAK	**Ala-Archa**	**54.12 297**	P	**P**	**21 54 30.6**	**+0.4**
SNR=11						
EKS2	**Erkin-Say**	**54.55 297**	*e*P	**P**	**21 54 33.4**	**+0.1**
comp=Z,6.8nm,0.8s,mb4.7						
EKS2	**Erkin-Say**	**54.55 297**	P	**P**	**21 54 33.6**	**+0.3**
SNR=15						
AML	**Almayashu**	**54.89 297**	*e*P	**P**	**21 54 35.9**	**+0.1**
comp=Z,4.6nm,0.9s,mb4.5						
AML	**Almayashu**	**54.89 297**	P	**P**	**21 54 37.2**	**+1.4**
SNR=5.3						
JIRN	**Jiri**	**55.09 275**	*e*P	**P**	**21 54 39.7**	**+2.2**
GUN	**Gumba**	**55.15 275**	*e*P	**P**	**21 54 39.4**	**+1.5**
comp=Z,18nm,0.5s,mb5.4						
ARU	**Arti**	**55.39 318**	*c i*P	**P**	**21 54 37.9**	**-1.3**
ARU			*e*		21 55 33.9	
ARU			*e*		21 56 43.2	
ARU			*e*S	**S**	**22 02 21.4**	**-0.7**
ARU			*e*SS	SS	22 06 04.8	-1.2
ARU			pmax	pmax		
comp=Z,13nm,1.7s,mb4.7						
KKN	**Kakani**	**55.64 276**	*e*P	**P**	**21 54 43.1**	**+1.7**
comp=Z,34nm,0.7s,mb5.5						
PKI	**Pulchoki**	**55.69 275**	*e*P	**P**	**21 54 43.2**	**+1.4**
comp=Z,15nm,0.6s,mb5.2						
PKIN	**Phulchoki**	**55.69 275**	*e*P	**P**	**21 54 42.8**	**+1.0**
comp=Z,16nm,0.5s,mb5.3						
PKIN	**Phulchoki**	**55.69 275**	*e*P	**P**	**21 54 43.7**	**+1.9**
comp=Z,23nm,0.6s,mb5.4						
PKIN	**Phulchoki**	**55.69 275**	*e*P	**P**	**21 54 44.2**	**+2.4**
comp=Z,18nm,0.7s,mb5.2						
DMN	**Daman**	**55.88 276**	*e*P	**P**	**21 54 44.7**	**+1.6**
comp=Z,38nm,0.8s,mb5.5						
GKN	**Gorkha**	**55.95 276**	*e*P	**P**	**21 54 45.1**	**+1.5**
comp=Z,43nm,0.6s,mb5.7						
DANN	**Dangsing**	**56.34 277**	*e*P	**P**	**21 54 48.3**	**+1.9**
comp=Z,60nm,0.6s,mb5.8						
KOLN	**Koldanda**	**56.81 277**	*e*P	**P**	**21 54 51.3**	**+1.5**
comp=Z,36nm,0.7s,mb5.5						
KEV	**Kevo**	**57.77 341**	*e*p	**P**	**21 54 53.9**	**-2.0**
BOK	**Bokaro**	**57.77 272**	*e*P	**P**	**21 54 56.9**	**+0.3**
BOK			AMb	AMB	21 54 59.2	
comp=Z,14nm,1.2s,mb4.9						
ARCES	**ARCESS Array B**	**58.28 341**	P	**P**	**21 54 59.5**	**+0.1**
ARCES			pmax	pmax		
comp=Z,1.0nm,0.4s						
ARCES	**ARCESS Array B**	**58.28 341**	P	**P**	**21 54 59.5**	**+0.1**
comp=Z,1.2nm,0.4s,mb4.2,baz=29,slow=8.2,SNR=10						
SMLA	**Simla**	**59.10 284**	*e*P	**P**	**21 55 06.5**	**+0.7**
NDI	**New Delhi**	**60.60 282**	*e*P	**P**	**21 55 15.7**	**-0.4**
FFC	**Flin Flon**	**60.98 40**	*e*P	**P**	**21 55 18.6**	**+0.3**
comp=Z,3.3nm,0.6s,mb4.6						
FFC	**Flin Flon**	**60.98 40**	*e*P	**P**	**21 55 18.6**	**+0.3**
FFC			pmax	pmax		
comp=Z,3.0nm,0.6s,mb4.6						
BLSP	**Bilaspur**	**61.47 273**	*e*P	**P**	**21 55 22.3**	**+0.2**
BLSP			AMb	AMB	21 55 23.4	
comp=Z,11nm,1.6s,mb4.7						
JOF	**Joensuu**	**61.75 334**	*e*p	**P**	**21 55 21.9**	**-1.5**
comp=Z,2.0nm,0.6s,mb4.4						
JOF	**Joensuu**	**61.75 334**	*e*P	**P**	**21 55 21.9**	**-1.5**
JOF			pmax	pmax		
comp=Z,2.0nm,0.6s,mb4.4						
KBL	**Kabul**	**62.33 292**	*e*P	**P**	**21 55 27.2**	**-0.4**
comp=Z,15nm,0.9s,mb5.1						
NVAR	**Mina Array Bea**	**62.52 62**	P	**P**	**21 55 30.5**	**+1.6**
comp=Z,0.5nm,0.5s,mb3.9,baz=286,slow=7.3,SNR=4.2						
VIS	**Vishakhapatnam**	**63.61 268**	*e*P	**P**	**21 55 38.0**	**+1.6**
BHPL	**Bhopal**	**63.98 277**	*e*P	**P**	**21 55 39.3**	**+0.5**
FIA1	**FINESS Array S**	**64.46 335**	*e*P	**P**	**21 55 40.7**	**-0.7**
FINES	**FINESS Array B**	**64.46 335**	P	**P**	**21 55 40.9**	**-0.5**
FINES			pmax	pmax		
comp=Z,5.0nm,0.5s						
FINES	**FINESS Array B**	**64.46 335**	P	**P**	**21 55 40.9**	**-0.5**
comp=Z,5.1nm,0.5s,mb4.8,baz=36,slow=8.0,SNR=65						
PDAR	**Pinedale Array**	**64.89 54**	P	**P**	**21 55 45.1**	**+0.6**
comp=Z,1.7nm,0.9s,mb4.1,baz=318,slow=2.0,SNR=10						
PDAR			pP	pP	21 55 57.3	+5.8
comp=Z,1.2nm,0.8s,baz=286,slow=3.1,SNR=6.1						
OBN	**Obninsk**	**65.71 326**⇑	*e*P	**P**	**21 55 49.0**	**-0.6**
OBN			*e*SS	SS	22 08 47.0	-0.5
OBN			pmax	pmax		
comp=Z,8.0nm,1.3s,mb4.6						
WRA	**Warramunga Arr**	**68.17 199**	P	**P**	**21 56 04.8**	**-0.7**
WRA			pmax	pmax		
comp=Z,1.0nm,0.8s						
WRA	**Warramunga Arr**	**68.17 199**	P	**P**	**21 56 04.8**	**-0.7**
comp=Z,0.7nm,0.8s,mb3.8,baz=16,slow=6.4,SNR=4.2						
NB2	**NORSAR Subarra**	**68.65 341**	P	**P**	**21 56 07.9**	**-0.2**
comp=Z,6.4nm,0.6s,mb4.7,baz=28,slow=6.5						
NOA	**NORSAR Array B**	**68.65 341**	P	**P**	**21 56 08.0**	**-0.1**
NOA			pmax	pmax		
comp=Z,4.0nm,0.5s						
NOA	**NORSAR Array B**	**68.65 341**	P	**P**	**21 56 08.0**	**-0.2**
comp=Z,4.1nm,0.5s,mb4.7,baz=28,slow=6.4,SNR=40						
KAD	**Karad**	**70.22 275**	*e*P	**P**	**21 56 19.0**	**+0.5**
KAD			AMb	AMB	21 56 31.1	
comp=Z,18nm,1.6s,mb4.8						
SUW	**Suwalki**	**71.41 332**	*e*P	**P**	**21 56 24.8**	**-0.3**
MTA	**Mtatsminda**	**71.74 312**	P	**P**	**21 56 29.1**	**+1.7**
TBLG	**Delisi**	**71.74 312**	P	**P**	**21 56 27.4**	**0.0**
ONI	**Oni**	**71.78 313**	P	**P**	**21 56 29.7**	**+2.0**
ASAR	**Alice Springs**	**71.86 199**	P	**P**	**21 56 28.7**	**+0.6**
ASAR			pmax	pmax		
comp=Z,1.0nm,0.7s						
ASAR	**Alice Springs**	**71.86 199**	P	**P**	**21 56 28.7**	**+0.6**
comp=Z,0.7nm,0.7s,mb3.7,baz=11,slow=5.6,SNR=6.8						
AKASG	**Malin Array Be**	**71.95 326**	P	**P**	**21 56 28.0**	**-0.5**
AKASG			pmax	pmax		
comp=Z,12nm,0.5s						
AKASG	**Malin Array Be**	**71.95 326**	P	**P**	**21 56 28.0**	**-0.5**
comp=Z,12nm,0.5s,mb5.1,baz=33,slow=6.1,SNR=108						
AKBB	**Malin Array Si**	**71.95 326**	*e*P	**P**	**21 56 27.7**	**-0.8**
KIEV	**Kiev**	**71.96 326**	*e*P	**P**	**21 56 27.7**	**-0.9**
comp=Z,16nm,0.7s,mb5.1						
KIEV	**Kiev**	**71.96 326**	*e*P	**P**	**21 56 27.7**	**-0.9**
KIEV			pmax	pmax		
comp=Z,16nm,0.7s,mb5.1						
BSD	**Bornholm Skovb**	**72.98 336**	*i* P	**P**	**21 56 34.9**	**+0.4**
BSD			pmax	pmax		
comp=Z,14nm,1.0s,mb4.8						
BSD	**Bornholm Skovb**	**72.98 336**	*i* P	**P**	**21 56 34.9**	**+0.4**
comp=Z,14nm,1.0s,mb4.9						
MUD	**Monsted U'grnd**	**73.25 340**	*i* P	**P**	**21 56 36.6**	**+0.5**
MUD			pmax	pmax		
comp=Z,6.0nm,0.8s,mb4.6						
MUD	**Monsted U'grnd**	**73.25 340**	*i* P	**P**	**21 56 36.6**	**+0.5**
comp=Z,6.3nm,0.8s,mb4.6						
KWP	**Kalwaria**	**75.23 329**	*e*P	**P**	**21 56 48.3**	**+0.5**
BSEG	**Bad Segeberg**	**75.25 338**	*e*P	**P**	**21 56 47.9**	**+0.1**
BSEG			pmax	pmax		
comp=Z,5.0nm,0.8s,mb4.5						
BSEG	**Bad Segeberg**	**75.25 338**	*e*P	**P**	**21 56 47.9**	**+0.1**
comp=Z,5.0nm,0.8s,mb4.5						
STHS	**Stebnicka Huta**	**75.93 330**	*i* P	**P**	**21 56 52.9**	**+1.1**
comp=Z,3.3nm,0.7s,mb4.4						
STHS	**Stebnicka Huta**	**75.93 330**	*i* P	**P**	**21 56 52.9**	**+1.1**
STHS			pmax	pmax		
comp=Z,3.0nm,0.7s,mb4.3						
KOLS	**Kolonicke sedl**	**75.97 329**	*e*P	**P**	**21 56 52.1**	**0.0**
CRVS	**Cervenica-Dubn**	**76.29 330**	*e*P	**P**	**21 56 54.2**	**+0.4**
OKC	**Ostrava-Krasne**	**76.61 332**	*e*P	**P**	**21 56 55.9**	**+0.3**
OKC			AMS	AMS	22 48 40.0	
comp=Z,200nm,14.6s,MS4.6						
DPC	**Dobruska-Polom**	**76.74 333**	*e*P	**P**	**21 56 57.0**	**+0.6**
DPC			AMS	AMS	22 49 20.0	
comp=Z,200nm,15.7s,MS4.5						
VRI	**Vrincioaia**	**76.84 325**⇑	*i*P	**P**	**21 56 59.9**	**+2.8**
MORC	**Moravsky Berou**	**76.85 332**	*e*P	**P**	**21 56 57.5**	**+0.4**
comp=Z,6.8nm,0.8s,mb4.6						
MORC	**Moravsky Berou**	**76.85 332**	*e*P	**P**	**21 56 57.5**	**+0.5**
MORC			pmax	pmax		
comp=Z,7.0nm,0.8s,mb4.6						
CLL	**Collm**	**76.88 336**⇑	*i*P	**P**	**21 56 56.7**	**-0.5**
CLL			*i*		21 57 07.9	
CLL			pmax	pmax		
comp=Z,13nm,0.7s,mb5.0						
CLL	**Collm**	**76.88 336**	*e*P	**P**	**21 56 56.8**	**-0.4**
comp=Z,13nm,0.7s,mb5.0						
CLL	**Collm**	**76.88 336**⇑	*i*P	**P**	**21 56 56.7**	**-0.5**
comp=Z,13nm,0.7s,mb5.0						
CLL			*i* PcP	PcP	21 57 07.9	-0.4
KECS	**Kecovo**	**76.98 330**	*e*P	**P**	**21 56 58.0**	**+0.2**
comp=Z,3.0nm,0.8s,mb4.3						
KECS	**Kecovo**	**76.98 330**	*e*P	**P**	**21 56 58.0**	**+0.2**
KECS			pmax	pmax		
comp=Z,3.0nm,0.8s,mb4.3						
BRG	**Berggiesshubel**	**77.00 335**	*e*P	**P**	**21 56 57.5**	**-0.3**
BRG			pmax	pmax		
comp=Z,2.0nm,0.9s,mb4.0						
BRG	**Berggiesshubel**	**77.00 335**	*e*P	**P**	**21 56 57.5**	**-0.3**
comp=Z,3.3nm,0.9s,mb4.3						
PVCC	**Panska Ves**	**77.12 334**	*e*P	**P**	**21 56 58.5**	**0.0**
PVCC			AMS	AMS	22 49 20.0	
comp=Z,200nm,14.6s,MS4.6						
CLZ	**Clausthal**	**77.13 337**	*e*P	**P**	**21 56 59.1**	**+0.6**
CLZ			pmax	pmax		
comp=Z,10.0nm,1.0s,mb4.7						
CLZ	**Clausthal**	**77.13 337**	*e*P	**P**	**21 56 59.1**	**+0.6**
comp=Z,10.0nm,1.0s,mb4.7						
MLR	**Muntele Rosu**	**77.47 325**⇑	*i*P	**P**	**21 57 01.5**	**+1.0**
MALT	**Malatya**	**77.52 313**	*e*P	**P**	**21 57 02.8**	**+1.8**
comp=Z,3.2nm,0.8s,mb4.3						
MALT	**Malatya**	**77.52 313**	*e*P	**P**	**21 57 02.8**	**+1.8**
MALT			pmax	pmax		
comp=Z,3.0nm,0.8s,mb4.3						
VYHS	**Vyhne**	**77.54 331**	*e*P	**P**	**21 57 01.6**	**+0.7**
comp=Z,2.8nm,1.0s,mb4.2						
VYHS	**Vyhne**	**77.54 331**	*e*P	**P**	**21 57 01.6**	**+0.7**
VYHS			pmax

ROTZ Rotzenmuhle 78.49 335 *eP* **P 21 57 06.6 +0.4**
comp=Z,4.0nm,0.8s,mb4.4
KHC Kasperske Hory 78.66 334 *eP* **P 21 57 07.4 +0.3**
KHC AMS AMS 22 51 20.0
comp=Z,200nm,14.4s,MS4.6
GZR Gura Zlata 78.78 327⇓*iP* **P 21 57 07.8 0.0**
GRA1 Grafenberg Arr 78.84 336 *eP* **P 21 57 08.7 +0.6**
comp=Z,10.0nm,0.8s,mb4.8
GRF Grafenberg Arr 78.84 336 *eP* **P 21 57 08.7 +0.6**
GRF pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
GRF Grafenberg Arr 78.84 336 *eP* **P 21 57 08.7 +0.6**
GRF pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
GRF Grafenberg Arr 78.84 336 *eP* **P 21 57 08.7 +0.6**
comp=Z,10.0nm,0.8s,mb4.8
GRFO Grafenberg 78.84 336 *eP* **P 21 57 07.6 -0.5**
comp=Z,8.9nm,0.8s,mb4.8
GRFO Grafenberg 78.84 336 *eP* **P 21 57 07.6 -0.5**
GRFO pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
WET Wettzell 78.85 335 *eP* **P 21 57 08.7 +0.5**
WET pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
WET Wettzell 78.85 335 *eP* **P 21 57 08.7 +0.5**
comp=Z,6.0nm,0.9s,mb4.5
GEC2 GERESS Array S 78.87 334 *eP* **P 21 57 08.3 0.0**
GEC2 pmax pmax
comp=Z,4.0nm,1.0s,mb4.3
GEC2 GERESS Array S 78.87 334 *eP* **P 21 57 08.3 0.0**
comp=Z,4.0nm,1.0s,mb4.3
GERES GERESS Array B 78.87 334 P **P 21 57 08.3 0.0**
GERES pmax pmax
comp=Z,2.0nm,0.7s
GERES GERESS Array B 78.87 334 P **P 21 57 08.3 0.0**
comp=Z,2.3nm,0.7s,mb4.2,baz=37,slow=5.5,SNR=20
UMR Umm Al-Rimmam 78.94 301 *eP* **P 21 57 09.1 +0.1**
UMR AMb AMB 21 57 11.7
comp=Z,35nm,0.6s,mb5.5
MIB Mutribah 78.97 302 *eP* **P 21 57 09.3 +0.1**
MIB AMb AMB 21 57 12.0
comp=Z,53nm,0.8s,mb5.5
CONA Conrad Observa 79.01 332⇑*iP* **P 21 57 09.9 +0.9**
comp=Z,6.5nm,1.0s,mb4.5
BZS Buzias 79.02 328⇑*iP* **P 21 57 09.8 +0.7**
RST Umm Al-Ruwaisa 79.40 302 *eP* **P 21 57 11.3 -0.2**
RST AMb AMB 21 57 13.7
comp=Z,39nm,0.6s,mb5.5
QRN Al-Qurain 79.41 301 *eP* **P 21 57 12.1 +0.5**
QRN AMb AMB 21 57 14.1
comp=Z,29nm,0.5s,mb5.5
NAY Al-Naaiem 79.44 301 *eP* **P 21 57 11.3 -0.4**
NAY AMb AMB 21 57 14.1
comp=Z,15nm,0.8s,mb5.0
RDF Al-Radifah 79.49 301 *eP* **P 21 57 12.1 +0.1**
RDF AMb AMB 21 57 14.7
comp=Z,35nm,0.6s,mb5.5
PKSM Moragy 79.58 330⇑*iP* **P 21 57 12.5 +0.3**
MOA Molln 79.58 333⇑*iP* **P 21 57 12.6 +0.4**
comp=Z,4.0nm,0.8s,mb4.4
MOA Molln 79.58 333⇑*iP* **P 21 57 12.6 +0.4**
comp=Z,4.0nm,0.8s,mb4.4
BAIF Baives 80.31 340 *eP* **P 21 57 15.2 -0.9**
PERS Pernice 80.39 332 *eP* **P 21 57 16.7 +0.1**
KBA Koelnbreinsper 80.56 334⇓*iP* **P 21 57 18.5 +1.1**
comp=Z,17nm,0.8s,mb5.0
KBA Koelnbreinsper 80.56 334⇓*iP* pP 21 57 18.5 -6.1
comp=Z,17nm,0.8s
KBA Koelnbreinsper 80.56 334⇓*iP* **P 21 57 18.5 +1.1**
KBA pmax pmax
comp=Z,17nm,0.8s,mb5.0
GOLS Golise 80.78 332 *iP* **P 21 57 19.3 +0.7**
WATA Walderalm 80.86 335⇑*iP* **P 21 57 19.9 +0.8**
comp=Z,4.9nm,0.9s,mb4.5
WATA Walderalm 80.86 335⇑*iP* **P 21 57 19.9 +0.8**
comp=Z,4.9nm,0.9s,mb4.4
WATA Walderalm 80.86 335⇑*iP* **P 21 57 19.9 +0.8**
comp=Z,4.9nm,0.9s,mb4.5
WATA Walderalm 80.86 335⇑*iP* **P 21 57 19.9 +0.8**
WATA pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
BFO Black Forest 80.87 337 *eP* **P 21 57 19.4 +0.3**
BFO pmax pmax
comp=Z,12nm,1.5s,mb4.6
BFO Black Forest 80.87 337 *eP* **P 21 57 19.4 +0.3**
comp=Z,12nm,1.5s,mb4.6
WTTA Wattenberg 80.91 335⇑*iP* **P 21 57 20.2 +0.9**
comp=Z,17nm,0.9s,mb5.0
WTTA Wattenberg 80.91 335⇑*iP* **P 21 57 20.2 +0.9**
comp=Z,17nm,0.9s,mb5.0
WTTA Wattenberg 80.91 335⇑*iP* **P 21 57 20.2 +0.9**
WTTA pmax pmax
comp=Z,17nm,0.9s,mb5.0
VTS Vitosha 80.97 325⇓*iP* **P 21 57 21.8 +2.0**
SQTA Sankt Quirin 81.07 335⇑*iP* **P 21 57 20.1 -0.1**
comp=Z,4.8nm,0.9s,mb4.4
SQTA Sankt Quirin 81.07 335⇑*iP* **P 21 57 20.1 -0.1**
comp=Z,4.8nm,0.9s,mb4.4
SQTA Sankt Quirin 81.07 335⇑*iP* **P 21 57 20.1 -0.1**
SQTA pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
CDF Champ du Feu 81.08 338 *eP* **P 21 57 19.5 -0.7**
comp=Z,7.1nm,0.7s,mb4.4
CDF Champ du Feu 81.08 338 *eP* **P 21 57 19.5 -0.7**
comp=Z,3.5nm,0.7s,mb4.4
CDF Champ du Feu 81.08 338 *eP* **P 21 57 19.5 -0.7**
CDF pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
BOJS Bojanci 81.34 332 *eP* **P 21 57 21.4 -0.3**
DAVA Damuels 81.40 336⇑*iP* **P 21 57 22.4 +0.5**
comp=Z,4.8nm,0.8s,mb4.5
DAVA Damuels 81.40 336⇑*iP* **P 21 57 22.4 +0.5**
comp=Z,4.8nm,0.8s,mb4.5
CEY Cerknica 81.41 332 *eP* **P 21 57 21.4 -0.6**
MEZF Maizieres J'vi 81.56 339 *eP* **P 21 57 21.6 -1.2**
HAU Haudompre 81.69 338 *eP* **P 21 57 22.5 -1.0**
HINF Hinteralfeld 81.74 338 *eP* **P 21 57 22.8 -0.9**
comp=Z,7.8nm,0.9s,mb4.4
HINF Hinteralfeld 81.74 338 *eP* **P 21 57 22.8 -0.9**
comp=Z,3.9nm,0.9s,mb4.3
HINF Hinteralfeld 81.74 338 *eP* **P 21 57 22.8 -0.9**
HINF pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
FLN La Foliniere 82.56 343 *eP* **P 21 57 27.0 -1.0**
LDF La Druitiere 82.64 343 *eP* **P 21 57 27.4 -1.0**
GRR Gorron 82.99 343 *eP* **P 21 57 29.2 -1.1**
comp=Z,16nm,0.9s,mb4.8
GRR Gorron 82.99 343 *eP* **P 21 57 29.2 -1.1**
comp=Z,8.3nm,0.9s,mb4.8
GRR Gorron 82.99 343 *eP* **P 21 57 29.2 -1.1**
GRR pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
LOR Lormes 83.00 340 *eP* **P 21 57 29.4 -0.9**
comp=Z,9.5nm,0.7s,mb4.6
LOR Lormes 83.00 340 *eP* **P 21 57 29.4 -0.9**
comp=Z,4.8nm,0.7s,mb4.6
LOR Lormes 83.00 340 *eP* **P 21 57 29.4 -0.9**
LOR pmax pmax
comp=Z,5.0nm,0.7s,mb4.7
CABF La Chapelle 83.05 338 *eP* **P 21 57 29.4 -1.2**
SSF Saint Saulge 83.28 340 *eP* **P 21 57 31.0 -0.8**
comp=Z,9.3nm,1.0s,mb4.5
SSF Saint Saulge 83.28 340 *eP* **P 21 57 31.0 -0.8**
comp=Z,4.7nm,1.0s,mb4.5
SSF Saint Saulge 83.28 340 *eP* **P 21 57 31.0 -0.8**
SSF pmax pmax
comp=Z,5.0nm,1.0s,mb4.5
SGMF Saint Gilles 83.45 344 *eP* **P 21 57 31.3 -1.3**
comp=Z,25nm,1.0s,mb4.9
SGMF Saint Gilles 83.45 344 *eP* **P 21 57 31.3 -1.3**
comp=Z,13nm,1.0s,mb4.9
SGMF Saint Gilles 83.45 344 *eP* **P 21 57 31.3 -1.3**
SGMF pmax pmax
comp=Z,13nm,1.0s,mb4.9
ROSF Rostrenen 83.51 345 *eP* **P 21 57 31.8 -1.1**
comp=Z,12nm,0.8s,mb4.8
ROSF Rostrenen 83.51 345 *eP* **P 21 57 31.8 -1.1**
comp=Z,5.9nm,0.8s,mb4.8
ROSF Rostrenen 83.51 345 *eP* **P 21 57 31.8 -1.1**
ROSF pmax pmax
comp=Z,6.0nm,0.8s,mb4.8
AVF Avril sur Loir 83.57 340 *eP* **P 21 57 31.7 -1.6**
comp=Z,18nm,1.0s,mb4.8
AVF Avril sur Loir 83.57 340 *eP* **P 21 57 31.7 -1.6**
comp=Z,9.1nm,1.0s,mb4.9
AVF Avril sur Loir 83.57 340 *eP* **P 21 57 31.7 -1.6**
AVF pmax pmax
comp=Z,9.0nm,1.0s,mb4.8
SMF Signal de Mont 83.59 339 *eP* **P 21 57 32.2 -1.2**
comp=Z,34nm,1.1s,mb5.1
SMF Signal de Mont 83.59 339 *eP* **P 21 57 32.2 -1.2**
comp=Z,17nm,1.1s,mb5.1
SMF Signal de Mont 83.59 339 *eP* **P 21 57 32.2 -1.2**
SMF pmax pmax
comp=Z,17nm,1.1s,mb5.1
LPL La Plagne 83.89 337 *eP* **P 21 57 34.1 -0.8**
LPG La Plagne 83.90 337 *eP* **P 21 57 34.2 -0.8**
BGF Bois d'Agland 83.91 340 *eP* **P 21 57 33.8 -1.2**
TCF Toulx Ste Croi 84.31 340 *eP* **P 21 57 35.6 -1.5**
comp=Z,10nm,1.1s,mb4.6
TCF Toulx Ste Croi 84.31 340 *eP* **P 21 57 35.6 -1.5**
comp=Z,5.1nm,1.1s,mb4.6
TCF Toulx Ste Croi 84.31 340 *eP* **P 21 57 35.6 -1.5**
TCF pmax pmax
comp=Z,5.0nm,1.1s,mb4.6
MFF Saint Martin d 84.54 342 *eP* **P 21 57 37.1 -1.1**
MBDF Montbardon 84.61 337 *eP* **P 21 57 37.5 -1.1**
ORIF Oris-en-Rattie 84.67 337 *eP* **P 21 57 37.8 -1.1**
comp=Z,5.3nm,0.7s,mb4.5
ORIF Oris-en-Rattie 84.67 337 *eP* **P 21 57 37.8 -1.1**
comp=Z,2.7nm,0.7s,mb4.5
ORIF Oris-en-Rattie 84.67 337 *eP* **P 21 57 37.8 -1.1**
ORIF pmax pmax
comp=Z,3.0nm,0.7s,mb4.5
VIVF Saint-Julien-l 85.05 338 *eP* **P 21 57 39.6 -1.2**
comp=Z,7.7nm,0.9s,mb4.5
VIVF Saint-Julien-l 85.05 338 *eP* **P 21 57 39.6 -1.2**
comp=Z,3.8nm,0.9s,mb4.5
VIVF Saint-Julien-l 85.05 338 *eP* **P 21 57 39.6 -1.2**
VIVF pmax pmax
comp=Z,4.0nm,0.9s,mb4.5
SBF Sospel 85.22 336 *eP* **P 21 57 40.4 -1.3**
CAF Calviac 85.63 340 *eP* **P 21 57 42.7 -1.0**
SMRF Simiane la Rot 85.63 337 *eP* **P 21 57 42.5 -1.2**
comp=Z,17nm,1.2s,mb4.9
SMRF Simiane la Rot 85.63 337 *eP* **P 21 57 42.5 -1.2**
comp=Z,17nm,1.2s,mb5.2
FRF La Foret Royal 85.72 336 *eP* **P 21 57 42.9 -1.3**
LFF La Frestale 85.92 341 *eP* **P 21 57 43.6 -1.6**
LMR La Mourre 85.97 336 *eP* **P 21 57 43.9 -1.5**
comp=Z,14nm,1.0s,mb4.8
LMR La Mourre 85.97 336 *eP* **P 21 57 43.9 -1.5**
comp=Z,7.2nm,1.0s,mb4.9
LMR La Mourre 85.97 336 *eP* **P 21 57 43.9 -1.5**
LMR pmax pmax
comp=Z,7.0nm,1.0s,mb4.8
MTLF Montolieu 87.08 339 *eP* **P 21 57 49.6 -1.3**
comp=Z,3.8nm,0.9s,mb4.3
MTLF Montolieu 87.08 339 *eP* **P 21 57 49.6 -1.3**
comp=Z,1.9nm,0.9s,mb4.3
MTLF Montolieu 87.08 339 *eP* **P 21 57 49.6 -1.3**
MTLF pmax pmax
comp=Z,2.0nm,0.9s,mb4.3
SJPF Ste Jean 88.10 342 *eP* **P 21 57 54.5 -1.3**
KEST Kesra 92.08 331 P **P 21 58 16.3 +1.8**
comp=Z,1.1nm,0.8s,mb4.2,baz=150,slow=3.8,SNR=5.7
TORD Torodi Ar. Bea 115.50 329 PKP PKPdf 22 03 47.0 -0.6
TORD pPKP pPKPdf 22 03 59.7 +4.7
TORD Torodi Ar. Bea 115.50 329 PKP PKPdf 22 03 47.0 -0.6
comp=Z,0.3nm,0.7s,baz=42,slow=2.0,SNR=4.1
TORD pPKP pPKPdf 22 03 59.7 +4.7
comp=Z,0.4nm,0.6s,baz=4.1,slow=0.8,SNR=3.3
DBIC Dimbokro 123.74 334 PKP PKPdf 22 04 03.0 -0.5
DBIC pPKP pPKPdf 22 04 15.5 +4.6
DBIC Dimbokro 123.74 334 PKIKP PKPdf 22 04 03.0 -0.5
DBIC pmax pmax
comp=Z,2.0nm,0.7s
DBIC pmax pmax
comp=Z,2.0nm,0.6s
DBIC Dimbokro 123.74 334 PKP PKPdf 22 04 03.0 -0.5
comp=Z,1.9nm,0.7s,baz=90,slow=6.1,SNR=2.6
DBIC pPKP pPKPdf 22 04 15.5 +4.6
comp=Z,2.1nm,0.6s,baz=60,slow=4.9,SNR=2.3
CPUP Villa Florida 148.56 61 *e*PKPbc PKPbc 22 04 51.7 -0.4
CPUP Villa Florida 148.56 61 PKPbc PKPbc 22 04 51.4 -0.8
comp=Z,1.8nm,0.5s,baz=285,slow=2.5,SNR=5.7

IDC 23 21:45:31.1±6.8, 1523S×17573W, h0km, mb3.8/4, mb1 4.2/4, mb1mx3.8/15, mbtmp3.8/4, MS4.0/6, Ms1 4.0/6, ms1mx3.7/20, Error ellipse: s-maj=558.2km s-min=25.4km az=151.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**14.10**	**188**	LR	LR	21 53 17.5	
comp=Z,815nm,21.1s,baz=119,slow=33							
PPT	**Papeete**	**25.19**	**99**	LR	LR	21 57 55.7	
comp=Z,256nm,18.4s,baz=256,slow=30							
CTA	**Charters Tower**	**36.49**	**257**	LR	LR	22 04 32.5	
comp=Z,221nm,22.0s,baz=61,slow=31							
WRA	**Warramunga Arr**	**47.69**	**257**	P	P	21 54 09.7	-0.1
1.3nm,1.0s,baz=90,slow=7.3,SNR=3.3							
ASAR	**Alice Springs**	**48.03**	**252**	P	P	21 54 12.3	0.0
0.5nm,0.6s,baz=88,slow=8.0,SNR=4.8							
MJAR	**Matsushiro Arr**	**67.37**	**321**	LR	LR	22 19 07.8	
comp=Z,122nm,21.6s,baz=195,slow=30							
KSRS	**Korea Array**	**74.47**	**317**	LR	LR	22 22 04.3	
comp=Z,54nm,21.9s,baz=354,slow=29							
NVAR	**Mina Array Bea**	**75.72**	**43**	P	P	21 57 18.8	+0.1
1.3nm,0.8s,baz=229,slow=8.2,SNR=5.2							
TXAR	**Lajitas Array**	**82.39**	**57**	LR	LR	22 27 41.1	
comp=Z,87nm,19.4s,baz=0.0,slow=31							
PDAR	**Pinedale Array**	**83.65**	**43**	P	P	21 58 02.3	+0.7
1.0nm,0.8s,baz=228,slow=3.0,SNR=6.4							

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*IDC **23** 21:55:58.8±4.3, 2517N×12677E, h16km±27km, mb4.2/13, mb1 4.3/15, mb1mx4.2/23, mbtmp4.1/15, ML3.4/3, MS3.8/6, Ms1 3.8/6, ms1mx3.5/30, Error ellipse: s-maj=25.1km s-min=16.0km az=75.0*

*MOS **23** 21:55:59.1±1.1, 2518N×12679E, h30km, mb4.7/24, MS4.3/6, Error ellipse: s-maj=19.9km s-min=7.5km az=114.1*

*ISCJB **23** 21:55:60.0±0.6, 2516N±004×12696E±004, h40km±4km, mb4.5/48, MS4.2/12, Error ellipse: s-maj=8.7km s-min=3.9km az=140.6*

*JMA **23** 21:56:00.4±0.1, 2515N×12696E, h53km, M4.7*

*NIED **23** 21:56:00, 2510N×12700E, h20km, Mw4.6 Best double couple: M0 9.68000×10^15 NP1:φ0=59.00000°, δ87.00000°, λ110.00000°. NP2:φ0=157.00000°, δ20.00000°, λ9.00000°.*

*BJI **23** 21:56:01.0, 2492N×127.11E, h79km, mB4.6, mb4.4, Ms4.4, Msz4.3*

*NEIC **23** 21:56:05.4±1.0, 2533N×12723E, h81km±9km, mb4.6/13, MW4.6(NIED), Error ellipse: s-maj=12.1km s-min=10.5km az=115.0*

ISC 23 21:56:00.7±1.4, 2517N±004×12695E±004, h30km±10km, n123, σ0°85/129, mb4.6/48, MS4.2/12, 3C-5D, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKE	**Kume jima 2**	**1.16**	**353**	P	**Pn**	**21 56 20.9**	**+0.1**
JKE				*e*S	**Sn**	**21 56 35.8**	**+0.2**
JJT2	**Tamagusuku 2**	**1.20**	**37**	P	**Pn**	**21 56 21.3**	**-0.2**
NAH1	**Naha**	**1.23**	**33**	*e*S	**Sn**	**21 56 37.4**	**+0.1**
JAGN	**Aguni-jima**	**1.44**	**11**	P	**Pn**	**21 56 25.4**	**+0.7**
JOGS	**Gusukube**	**1.46**	**254**	P	**Pn**	**21 56 25.2**	**+0.3**
JOGS				*e*S	**Sn**	**21 56 42.8**	**-0.2**
JMJ	**Miyako jima 2**	**1.54**	**257**	P	**Pn**	**21 56 26.2**	**+0.1**
JOW	**Kunigami**	**2.04**	**36**	P	**Pn**	**21 56 33.1**	**+0.1**
JOW				*e*S	**Sn**	**21 56 56.9**	**-0.5**
JOW	**Kunigami**	**2.04**	**36**	Pn	**Pn**	**21 56 33.5**	**+0.5**
6.1nm,0.3s,baz=222,slow=13,SNR=47							
JOW				Pg	**Pn**	**21 56 39.0**	**+6.1**
48nm,0.3s,baz=235,slow=11,SNR=61							
JOW				Lg		21 57 06.5	
41nm,0.3s,baz=246,slow=18,SNR=5.3							
JOW				LR	LR	21 57 13.2	
comp=Z,434nm,21.9s,baz=242,slow=35							
JIH	**Iheya**	**2.07**	**26**	P	**Pn**	**21 56 33.5**	**+0.1**
JIH				*e*S	**Sn**	**21 56 58.1**	**0.0**
JTJ	**Tarama**	**2.11**	**256**	P	**Pn**	**21 56 33.5**	**-0.4**
JTJ				*e*S	**Sn**	**21 56 58.8**	**-0.2**
JIJ	**Ishigaki jima**	**2.67**	**253**	P	**Pn**	**21 56 40.7**	**-1.0**
JIJ				*e*S	**Sn**	**21 57 13.0**	**0.0**
JKRS	**Kuro-shima**	**2.83**	**251**	P	**Pn**	**21 56 43.2**	**-0.6**
IRIF	**Iriomote-Funau**	**3.04**	**255**	P	**Pn**	**21 56 46.4**	**-0.3**
JTK	**Tokunoshima**	**3.16**	**34**	P	**Pn**	**21 56 48.5**	**+0.1**
JMZ	**Minamidaito 2**	**3.92**	**80**	P	**Pn**	**21 56 56.1**	**-2.7**
JMZ				*e*S	**Sn**	**21 57 37.3**	**-6.4**
JAM	**Amami Oshima**	**4.01**	**36**	P	**Pn**	**21 56 59.5**	**-0.5**
JAM				*e*S	**Sn**	**21 57 42.5**	**-3.4**
JZK	**Kikaishima**	**4.14**	**40**	P	**Pn**	**21 57 02.3**	**+0.5**
TATO	**Taipei**	**4.95**	**269**	*e*P	**Pn**	**21 57 22.9**	**+10**
130nm,0.9s							
NACB	**Ninganchiao**	**4.97**	**260**	*e*P	**Pn**	**21 57 20.2**	**+7.0**
YHNB	**Yeheng**	**5.08**	**266**	*e*P	**Pn**	**21 57 24.7**	**+10**
JNU	**Nakatsue**	**8.63**	**23**	Pn	**Pn**	**21 58 04.3**	**+0.8**
0.7nm,0.3s,baz=167,slow=13,SNR=7.7							
KSRS	**Korea Array**	**12.27**	**4**	Pn	**Pn**	**21 58 54.5**	**+1.2**
0.4nm,0.3s,baz=180,slow=16,SNR=6.0							
KSRS				LR	LR	22 04 04.3	
comp=Z,548nm,18.2s,baz=181,slow=40							
MJAR	**Matsushiro Arr**	**14.88**	**38**	Pn	**Pn**	**21 59 35.3**	**+6.3**
0.1nm,0.3s,baz=229,slow=10,SNR=11							
XAN	**Xi'an**	**17.97**	**304**	P	**Pn**	**22 00 08.0**	**-0.3**
XAN				AP	pP	22 00 23.6	+7.0
XAN				AMB	AMB		
comp=Z,6.0nm,0.9s							
XAN				AMB	AMB		
comp=Z,83nm,8.8s							
XAN				LR	LR		
comp=N,270nm,16.5s							
XAN				LR	LR		
comp=E,678nm,14.1s							
XAN				LR	LR		
comp=Z,987nm,12.6s							
KMI	**Kunming**	**21.91**	**275**	P	**P**	**22 00 52.8**	**+1.3**
KMI				AMB	AMB		
comp=Z,11nm,0.9s,mb4.3							
LZH	**Lanzhou**	**22.61**	**304**	⇓P	**P**	**22 00 58.1**	**-0.7**
LZH				AMB	AMB		
comp=Z,27nm,1.5s,mb4.5							
LZH				AMB	AMB		
comp=Z,147nm,5.1s							
LZH				LR	LR		
comp=N,305nm,14.7s							
LZH				LR	LR		
comp=Z,452nm,17.2s,MS4.0							
ASAJ	**Asahikawa**	**22.80**	**30**	LR	LR	22 10 40.5	
comp=Z,133nm,19.3s,MS3.4,baz=176,slow=38							
HIA	**Hailar**	**24.70**	**349**	*i* P	**P**	**22 01 19.1**	**+0.1**
GTA	**Gaotai**	**26.85**	**309**	*e*P	**P**	**22 01 37.6**	**-0.9**
GTA				AMB	AMB		
comp=Z,12nm,1.0s,mb4.4							
GTA				AMB	AMB		
comp=Z,115nm,6.5s							
GTA				LR	LR		
comp=N,302nm,15.2s,MS4.2							
GTA				LR	LR		
comp=E,420nm,12.5s,MS4.2							
GTA				LR	LR		
comp=Z,534nm,12.9s,MS4.3							
ULN	**Ulaanbaatar**	**27.57**	**330**	*e*P	**P**	**22 01 43.5**	**-1.4**
comp=Z,45nm,0.6s,mb5.3							
ULN	**Ulaanbaatar**	**27.57**	**330**	*e*P	**P**	**22 01 43.5**	**-1.4**
ULN				pmax	pmax		
comp=Z,45nm,0.6s,mb5.3							
SONM	**Songino Array**	**27.84**	**330**	P	**P**	**22 01 46.5**	**-0.9**
SONM						22 05 04.4	
SONM				pmax	pmax		
comp=Z,4.0nm,0.7s							
SONM				pmax	pmax		
comp=Z,1.0nm,0.6s							
SONM				MLR	MLR		
comp=Z,478nm,19.0s							
SONM	**Songino Array**	**27.84**	**330**	P	**P**	**22 01 46.5**	**-0.9**
comp=Z,4.2nm,0.7s,mb4.2,baz=141,slow=9.0,SNR=26							
SONM				PcP	PcP	22 05 04.4	+1.6
comp=Z,0.5nm,0.6s,baz=152,slow=3.8,SNR=4.1							
SONM				LR	LR	22 14 41.5	
comp=Z,478nm,19.0s,MS4.1,baz=136,slow=40							
ZAK	**Zakamensk**	**31.10**	**330**	*e*P	**P**	**22 02 09.3**	**-6.9**
ZAK				pmax	pmax		
comp=Z,1.0nm,1.7s,mb3.4							
TLY	**Talaya**	**31.88**	**332**⇓	*e*P	**P**	**22 02 22.5**	**-0.5**
TLY				pmax	pmax		
comp=Z,1.0nm,1.2s,mb3.5							
LSA	**Lhasa**	**32.01**	**286**	*e*P	**P**	**22 02 25.7**	**+1.2**
comp=Z,4.8nm,0.6s,mb4.5							
LSA	**Lhasa**	**32.01**	**286**	*e*P	**P**	**22 02 25.7**	**+1.2**
LSA				pmax	pmax		
comp=Z,5.0nm,0.6s,mb4.5							
MOY	**Mondy**	**33.03**	**330**	*e*P	**P**	**22 02 32.6**	**-0.5**
GUN	**Gumba**	**36.72**	**284**	*e*P	**P**	**22 03 06.4**	**+1.1**
comp=Z,62nm,1.2s,mb5.3							
WMQ	**Urumqi**	**36.89**	**310**⇓	*iP*	**P**	**22 03 06.3**	**-0.2**
WMQ				AMB	AMB		
comp=Z,7.0nm,1.3s,mb4.3							
WMQ				AMB	AMB		
comp=Z,123nm,5.6s							
WMQ				LR	LR		
comp=N,337nm,12.5s,MS4.5							
WMQ				LR	LR		
comp=E,406nm,15.0s,MS4.5							
WMQ				LR	LR		
comp=Z,468nm,18.0s,MS4.3							
PKI	**Pulchoki**	**37.17**	**283**	*e*P	**P**	**22 03 09.6**	**+0.5**
comp=Z,28nm,0.8s,mb5.1							
KKN	**Kakani**	**37.26**	**283**	*e*P	**P**	**22 03 10.4**	**+0.5**
comp=Z,34nm,0.8s,mb5.2							
DMN	**Daman**	**37.43**	**283**	*e*P	**P**	**22 03 11.8**	**+0.4**
comp=Z,32nm,0.9s,mb5.2							
GKN	**Gorkha**	**37.81**	**284**	*e*P	**P**	**22 03 15.0**	**+0.5**
comp=Z,36nm,0.8s,mb5.1							
DANN	**Dangsing**	**38.54**	**285**	*e*P	**P**	**22 03 21.7**	**+1.0**
comp=Z,45nm,0.7s,mb5.3							
KOLN	**Koldanda**	**38.74**	**284**	*e*P	**P**	**22 03 22.8**	**+0.4**
comp=Z,31nm,0.9s,mb5.0							
SEY	**Seymchan**	**41.37**	**17**	*i* P	**P**	**22 03 44.5**	**+0.8**
MK31	**Makanchi Array**	**41.39**	**313**	*e*P	**P**	**22 03 43.4**	**-0.7**
MK31	**Makanchi Array**	**41.39**	**313**	*i* P	**P**	**22 03 43.3**	**-0.8**
MK31				pmax	pmax		
comp=Z,11nm,0.6s,mb4.7							
MKAR	**Makanchi Array**	**41.39**	**313**	P	**P**	**22 03 43.5**	**-0.6**
MKAR	**Makanchi Array**	**41.39**	**313**	P	**P**	**22 03 43.5**	**-0.6**
MKAR				pmax	pmax		
comp=Z,9.0nm,0.6s							
MKAR	**Makanchi Array**	**41.39**	**313**	P	**P**	**22 03 43.5**	**-0.6**
comp=Z,9.2nm,0.6s,mb4.6,baz=99,slow=10,SNR=70							
ZAA0	**Zalesovo Array**	**42.40**	**324**	*e*P	**P**	**22 03 51.0**	**-1.2**
ZAA0				*e*		22 04 01.8	
ZALV	**Zalesovo Beam**	**42.40**	**324**	P	**P**	**22 03 51.2**	**-1.0**
comp=Z,3.2nm,0.7s,mb4.1,baz=109,slow=8.2,SNR=18							
ZAL	**Zalesovo**	**42.41**	**324**	P	**P**	**22 03 51.3**	**-1.0**
NVS	**Novosibirsk**	**43.62**	**325**	*e*P	**P**	**22 03 59.4**	**-2.7**
NDI	**New Delhi**	**44.23**	**286**	*e*P	**P**	**22 04 07.0**	**-0.4**
KURK	**Kurchatov**	**44.80**	**318**	*e*P	**P**	**22 04 10.7**	**-0.9**
comp=Z,30nm,1.5s,mb4.9							
KURK	**Kurchatov**	**44.80**	**318**	*e*P	**P**	**22 04 10.7**	**-0.9**
KURK				pmax	pmax		
comp=Z,30nm,1.5s,mb4.9							
ULHL	**Ulahol**	**44.81**	**305**	P	**P**	**22 04 12.4**	**+0.6**
SNR=9.1							
TKM2	**Tokmak 2**	**45.35**	**306**	*e*P	**P**	**22 04 16.7**	**+0.5**
comp=Z,18nm,1.1s,mb4.8							
TKM2	**Tokmak 2**	**45.35**	**306**	*e*P	**P**	**22 04 16.7**	**+0.6**
TKM2				pmax	pmax		
comp=Z,19nm,1.1s,mb4.8							
TKM2	**Tokmak 2**	**45.35**	**306**	P	**P**	**22 04 17.0**	**+0.8**
SNR=17							
WRAB	**Tennant Creek**	**45.41**	**170**	*e*P	**P**	**22 04 16.8**	**+0.1**
comp=Z,14nm,1.0s,mb4.7							
WRAB				*e*	pP	22 04 26.6	+0.9
WRAB	**Tennant Creek**	**45.41**	**170**	*e*P	**P**	**22 04 16.8**	**+0.1**
WRAB				*e*	pP	22 04 26.6	+0.9
WRAB				pmax	pmax		
comp=Z,14nm,1.0s,mb4.8							
WRA	**Warramunga Arr**	**45.42**	**170**	P	**P**	**22 04 16.6**	**-0.2**
WRA				pmax	pmax		
comp=Z,6.0nm,0.8s							
WRA	**Warramunga Arr**	**45.42**	**170**	P	**P**	**22 04 16.6**	**-0.1**
comp=Z,5.5nm,0.8s,mb4.4,baz=351,slow=8.4,SNR=29							
WB2	**Warramunga Arr**	**45.42**	**170**	*e*P	**P**	**22 04 15.6**	**-1.2**
KBK	**Karagaybulak**	**45.80**	**306**	P	**P**	**22 04 20.5**	**+0.8**
SNR=8.1						

comp=Z,3.7nm,1.1s,mb4.2
AAK Ala-Archa 46.13 306 *c iP* **P 22 04 21.8 -0.5**
AAK pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
AAK Ala-Archa 46.13 306 P P 22 04 21.1 -1.2
comp=Z,1.9nm,0.6s,mb4.2,baz=119,slow=6.9,SNR=7.4
USP Ospenovka 46.19 307 P P 22 04 22.8 +0.1
SNR=6.4
EKS2 Erkin-Say 46.66 306 *eP* **P 22 04 26.1 -0.4**
comp=Z,3.3nm,0.9s,mb4.3
EKS2 *e* 22 04 38.1
AML Almayashu 46.69 305 *eP* **P 22 04 27.8 +1.1**
comp=Z,4.7nm,0.9s,mb4.4
AML Almayashu 46.69 305 P P 22 04 28.0 +1.4
SNR=5.2
HNR Honiara 47.08 133 LR LR 22 23 30.4
comp=Z,112nm,19.2s,MS3.8,baz=357,slow=35
ASAR Alice Springs 49.01 172 P **P 22 04 45.2 +0.4**
ASAR pmax pmax
comp=Z,2.0nm,0.7s
ASAR Alice Springs 49.01 172 P P 22 04 45.1 +0.4
comp=Z,1.8nm,0.7s,mb4.2,baz=357,slow=9.3,SNR=18
BILL Bilibino 49.03 18|| *eP* **P 22 04 45.4 +1.0**
BILL pmax pmax
comp=Z,7.0nm,1.7s,mb4.4
BRVK Borovoye 50.37 319 *eP* **P 22 04 52.2 -2.6**
KBL Kabul 50.49 295 *eP* **P 22 04 57.2 +1.1**
comp=Z,39nm,1.3s,mb5.3
SVE Sverdlovsk 56.39 323↑ *eP* **P 22 05 39.0 0.0**
SVE *e* 22 15 18.8
SVE pmax pmax
comp=Z,9.0nm,0.6s,mb5.0
SVE MLR MLR
comp=Z,388nm,15.0s,MS4.6
ARU Arti 57.51 322 *c iP* **P 22 05 46.5 -0.4**
ARU *e* 22 06 40.1
ARU *e* 22 07 51.9
ARU *eS* **S 22 13 39.8 -2.5**
ARU *eSS* SS 22 17 27.4 -4.6
ARU pmax pmax
comp=Z,15nm,1.7s,mb4.8
ARU MLR MLR
comp=Z,415nm,21.0s,MS4.5
STKA Stephens Creek 58.43 165 *eP* **P 22 06 01.9 +8.4**
comp=Z,2.5nm,0.8s,mb4.3
KIV Kislovodsk 69.02 310 *eP* **P 22 07 04.3 +0.9**
KIV *e* 22 07 26.3
KIV *eS* S 22 16 02.2 -4.2
KIV pmax pmax
comp=Z,18nm,1.0s,mb5.0
MIB Mutribah 69.44 294 *eP* **P 22 07 05.4 -0.8**
MIB AMb AMB 22 07 20.8
comp=Z,17nm,0.9s,mb5.0
RDF Al-Radifah 69.53 293 *eP* **P 22 07 06.2 -0.6**
RDF AMb AMB 22 07 21.4
comp=Z,20nm,0.8s,mb5.1
NAY Al-Naaiem 69.69 294 *eP* **P 22 07 07.8 0.0**
NAY AMb AMB 22 07 22.2
comp=Z,8.8nm,0.9s,mb4.7
RST Umm Al-Ruwaisa 69.81 294|| *e* PcP 22 07 26.4 -4.7
OBN Obninsk 69.95 322 *eP* **P 22 07 09.5 +0.5**
OBN *e* 22 07 30.4
OBN *eSS* SS 22 20 50.6 +4.8
OBN pmax pmax
comp=Z,8.0nm,1.5s,mb4.4
OBN MLR MLR
comp=Z,200nm,19.0s,MS4.4
INK Inuvik 70.31 23 P **P 22 07 11.3 +0.4**
INK pmax pmax
comp=Z,2.0nm,0.8s
INK Inuvik 70.31 23 P **P 22 07 11.3 +0.4**
comp=Z,2.4nm,0.8s,mb4.2,baz=330,slow=4.4,SNR=5.2
JOF Joensuu 70.41 331 *ep* **P 22 07 10.7 -0.9**
comp=Z,1.0nm,0.5s,mb4.0
JOF Joensuu 70.41 331 *eP* **P 22 07 10.7 -0.9**
JOF pmax pmax
comp=Z,1.0nm,0.5s,mb4.0
ARCES ARCESS Array B 70.56 339 P **P 22 07 12.1 -0.3**
ARCES pmax pmax
comp=Z,2.0nm,0.9s
ARCES ARCESS Array B 70.56 339 P **P 22 07 12.1 -0.4**
comp=Z,2.1nm,0.9s,mb4.1,baz=63,slow=8.5,SNR=3.5
ANN Anapa 72.39 312 *e**PP **P 22 07 24.3 +0.4**
ANN *e* pP 22 07 34.8 +1.4
ANN MLR MLR
comp=Z,140nm,18.0s,MS4.3
FINES FINESS Array B 73.21 330 P **P 22 07 28.8 +0.3**
FINES FINESS Array B 73.21 330 P **P 22 07 28.8 +0.3**
FINES pmax pmax
comp=Z,4.0nm,0.8s
FINES FINESS Array B 73.21 330 P **P 22 07 28.8 +0.3**
comp=Z,4.3nm,0.8s,mb4.4,baz=91,slow=9.5,SNR=13
AKASG Malin Array Be 75.58 319 P **P 22 07 42.2 -0.2**
AKASG pmax pmax
comp=Z,3.0nm,0.7s
AKASG Malin Array Be 75.58 319 P **P 22 07 42.2 -0.2**
comp=Z,2.6nm,0.7s,mb4.3,baz=59,slow=6.2,SNR=16
SUW Suwalki 77.63 324 *eP* **P 22 07 54.4 +0.4**
NB2 NORSAR Subarra 79.74 334 P **P 22 08 05.5 0.0**
comp=Z,3.8nm,0.8s,mb4.4,baz=54,slow=5.6
NOA NORSAR Array B 79.74 334 P **P 22 08 05.2 -0.2**
NOA NORSAR Array B 79.74 334 P **P 22 08 05.2 -0.3**
NOA pmax pmax
comp=Z,3.0nm,0.7s
NOA NORSAR Array B 79.74 334 P **P 22 08 05.2 -0.2**
comp=Z,6.6nm,0.7s,mb4.2,baz=53,slow=5.5,SNR=12
YKA Yellowknife Ar 79.97 24 P **P 22 08 07.5 +0.8**
YKA Yellowknife Ar 79.97 24 P **P 22 08 07.5 +0.9**
YKA pmax pmax
comp=Z,1.0nm,0.7s
YKA Yellowknife Ar 79.97 24 P **P 22 08 07.5 +0.9**
comp=Z,1.2nm,0.7s,mb3.9,baz=298,slow=5.3,SNR=20
BRG Berggiesshubel 84.09 324 *eP* **P 22 08 31.8 +3.3**
BRG pmax pmax
comp=Z,2.0nm,1.1s,mb4.2
BRG Berggiesshubel 84.09 324 *e*(P) **P 22 08 31.8 +3.3**
comp=Z,3.5nm,1.1s,mb4.4
CLL Collm 84.35 325 *eP* **P 22 08 31.0 +1.2**
comp=Z,4.0nm,0.9s,mb4.5
CLL *e* 22 08 43.0
CLL LR LR
comp=Z,200nm,20.6s,MS4.5
CLL Collm 84.35 325 *eP* **P 22 08 31.0 +1.2**
CLL *e* 22 08 43.0
CLL pmax pmax
comp=Z,4.0nm,0.9s,mb4.5
CLL MLR MLR
comp=Z,200nm,20.6s,MS4.5
CLL Collm 84.35 325 *e*(P) **P 22 08 31.0 +1.2**
CLL *ex* x 22 08 43.0
CLL Lm 22 49 00.0
comp=N,100nm,18.8s
CLL Lm 22 49 00.0
comp=E,200nm,20.4s
CLL Lm 22 49 00.0
comp=Z,200nm,20.6s
KHC Kasperske Hory 85.25 323 *i P* **P 22 08 36.0 +1.6**
GERES GERESS Array B 85.34 322 P **P 22 08 35.4 +0.6**
GERES pmax pmax
comp=Z,1.0nm,0.7s
GERES GERESS Array B 85.34 322 P **P 22 08 35.4 +0.6**
comp=Z,0.6nm,0.7s,mb3.8,baz=45,slow=4.0,SNR=7.0
PPT Papeete 91.64 109 LR LR 22 49 12.2
comp=Z,183nm,18.2s,MS4.6,baz=247,slow=35

IDC 23 22:11:58.3±5.8, 1772S×17733W, h0km, mb4.3/2, mb1 4.6/2, mb1mx3.8/15, mbtmp4.3/2, Error ellipse: s-maj=279.8km s-min=51.7km az=146.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**45.68**	**259**	P	P	22 20 21.5	+0.3
1.6nm,0.3s,baz=96,slow=7.7,SNR=132							
ASAR	**Alice Springs**	**45.83**	**254**	P	P	22 20 22.1	-0.3
2.3nm,0.6s,baz=85,slow=8.5,SNR=29							
GERES	**GERESS Array B**	**147.69**	**346**	PKPbc	PKPbc	22 31 44.2	-0.6
0.5nm,0.7s,baz=20,slow=3.1,SNR=4.5							

*ISCJB **23** 22:33:41.2±0.8, 4192N×008×1429E±01, h40km±9km, mb3.5/3, Error ellipse: s-maj=16.7km s-min=12.6km az=162.1*

*JMA **23** 22:33:41.6±0.2, 4195N×1428.6E, h33km±1km, M3.2*
*IDC **23** 22:33:45.1±2.6, 4190N×1429.2E, h65km±22km, mb3.2/3, mb1 3.3/5, mb1mx3. 1/22, mbtmp3.2/5, Error ellipse: s-maj=60.3km s-min=16.9km az=92.0*

ISC 23 22:33:42.4±0.8, 4198N±007×1429E±01, h33km±5km, n11, σ0:90/14, mb3.5/3, 2C-2D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JEM	**Erimo**	**0.19**	**79**	⇑P	**Pb**	**22 33 48.4**	**-0.4**
JEM				*eS*	**Sb**	**22 33 53.2**	**0.0**
JNBK	**Urakawa-nobuka**	**0.32**	**339**	||P	**Pb**	**22 33 49.7**	**-0.7**
JNBK				*eS*	**Sb**	**22 33 56.1**	**+0.3**
JCH	**Churui**	**0.72**	**28**	||P	**Pn**	**22 33 56.0**	**-0.3**
JBT2	**Biratori 2**	**0.89**	**333**	⇑P	**Pn**	**22 33 58.0**	**-0.7**
JOB	**Onbets**	**1.15**	**36**	P	**Pn**	**22 34 03.3**	**+1.1**
JFR	**Furan**	**1.20**	**349**	P	**Pn**	**22 34 02.5**	**-0.4**
ASAJ	**Asahikawa**	**2.15**	**354**	P	**Pn**	**22 34 17.8**	**+1.9**
10nm,0.3s,baz=208,slow=10.0,SNR=44							
ASAJ				S	**Sn**	**22 34 47.3**	**+5.9**
5.8nm,0.3s,baz=30,slow=32,SNR=8.2							
MJAR	**Matsushiro Arr**	**6.54**	**215**	P	**Pn**	**22 35 17.9**	**+1.7**
0.4nm,0.3s,baz=30,slow=13,SNR=4.7							
ZALV	**Zalesovo Beam**	**39.60**	**308**	P	**P**	**22 41 10.2**	**-0.3**
0.7nm,0.7s,mb3.5,baz=86,slow=5.9,SNR=3.4							
WRA	**Warramunga Arr**	**62.12**	**189**	P	**P**	**22 43 59.0**	**-1.0**
0.2nm,0.8s,mb3.3,baz=6.1,slow=6.6,SNR=2.8							
NOA	**NORSAR Array B**	**70.08**	**337**	P	**P**	**22 44 49.9**	**-0.9**
1.0nm,1.0s,mb3.7,baz=38,slow=6.2,SNR=3.4							

IDC 23 22:54:50.5±4.5, 292S×10215E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.5/18, mbtmp3.5/4, Error ellipse: s-maj=188.7km s-min=25.2km az=56.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**35.68**	**121**	P	P	23 01 50.7	-0.1
0.2nm,0.7s,baz=308,slow=8.6,SNR=5.4							
ASAR	**Alice Springs**	**36.98**	**127**	P	P	23 02 01.9	0.0
0.2nm,0.3s,baz=297,slow=7.9,SNR=4.5							
SONM	**Songino Array**	**50.68**	**4**	P	P	23 03 51.9	+0.4
0.5nm,0.6s,baz=183,slow=8.8,SNR=5.3							
MKAR	**Makanchi Array**	**52.51**	**343**	P	P	23 04 05.1	-0.2
0.3nm,0.4s,baz=155,slow=7.8,SNR=4.6							

MAN 23 22:58:27, 982N×12545E, h25km, mb4.4, ML3.3, MS3.1, Mindanao

*SZGRF **23** 22:59:18.3, 2771N×4406W, h33km, mb4.8, Northern Mid-Atlantic Ridge*
*BJI **23** 22:59:24.1, 2939N×4400W, h15km, mB5.3*
*IDC **23** 22:59:25.0±0.6, 2918N×4320W, h0km, mb3.8/17, mb1 4.0/17, mb1mx3.9/27, mbtmp3.8/17, MS3.8/14, Ms1 3.8/14, ms1mx3.5/26, Error ellipse: s-maj=20.5km s-min=14.2km az=146.0*
*MOS **23** 22:59:25.3±0.9, 2915N×4316W, h10km, mb4.6/27, Error ellipse: s-maj=15.4km s-min=6.1km az=47.5*
*ISCJB **23** 22:59:25.3±0.3, 2913N±008×4315W±005, h10km, mb4.3/51, MS3.9/21, Error ellipse: s-maj=11.3km s-min=6.1km az=161.4*
*NEIC **23** 22:59:26.9±0.2, 2911N×4313W, h10km, mb4.5/29, MS3.7/1, Error ellipse: s-maj=7.7km s-min=4.1km az=161.0*

ISC 23 22:59:26.4±3.7, 2913N±008×4312W±006, h6km±23km, n141, σ0:70/131, mb4.3/51, MS3.9/21, 3C-2D, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBTS	**Babate**	**28.47**	**115**	LR	LR	23 14 50.0	
comp=Z,190nm,18.5s,MS3.7,baz=260,slow=32							
SCHQ	**Schefferville**	**30.86**	**333**	LR	LR	23 16 07.3	
comp=Z,131nm,21.5s,MS3.6,baz=212,slow=33							
MTE	**Manteigas**	**31.12**	**59**	*eP*	**P**	**23 05 45.5**	**-0.3**
6.1nm,1.0s,mb4.4							
SFS	**San Fernando**	**31.74**	**67**	P	**P**	**23 05 51.0**	**-0.3**
SDV	**Santo Domingo**	**32.74**	**238**	P	**P**	**23 06 00.2**	**-0.1**
0.8nm,0.4s,mb4.0,baz=352,slow=7.1,SNR=3.1							
ESDC	**Sonseca Array**	**33.75**	**61**	P	**P**	**23 06 09.0**	**+0.2**
0.6nm,0.6s,mb3.7,baz=273,slow=8.5,SNR=4.7							
ESDC				LR	LR	23 16 12.1	
comp=Z,50nm,18.3s,MS3.3,baz=230,slow=30							
DSB	**Dublin**	**36.06**	**38**	P	**P**	**23 06 28.8**	**+0.1**
SJPF	**Ste Jean**	**36.23**	**56**	*eP*	**P**	**23 06 30.1**	**-0.1**
MFF	**Saint Martin d**	**37.62**	**50**	*eP*	**P**	**23 06 42.0**	**0.0**
20nm,1.0s,mb4.5							
MFF	**Saint Martin d**	**37.62**	**50**	*eP*	**P**	**23 06 42.0**	**0.0**
9.8nm,1.0s,mb4.5							
MFF	**Saint Martin d**	**37.62**	**50**	*eP*	**P**	**23 06 42.0**	**0.0**
MFF				pmax	pmax		
comp=Z,10.0nm,1.0s,mb4.5							
LFF	**La Frestale**	**37.91**	**53**	*eP*	**P**	**23 06 44.2**	**-0.3**
comp=Z,26nm,1.2s,mb4.5							
LFF	**La Frestale**	**37.91**	**53**	*eP*	**P**	**23 06 44.2**	**-0.3**
comp=Z,13nm,1.2s,mb4.5							
LFF	**La Frestale**	**37.91**	**53**	*eP*	**P**	**23 06 44.2**	**-0.3**
LFF				pmax	pmax		
comp=Z,13nm,1.2s,mb4.5							
LDF	**La Druitiere**	**38.10**	**47**	*eP*	**P**	**23 06 45.4**	**-0.6**
ROSC	**El Rosal**	**38.15**	**237**	LR	LR	23 21 29.3	
comp=Z,94nm,18.8s,MS3.6,baz=5.1,slow=35							
PLAL	**Pickwick Lake**	**38.30**	**291**	*eP*	**P**	**23 06 48.2**	**+0.4**
comp=Z,9.4nm,1.0s,mb4.5							
ESK	**Eskdalemuir**	**38.66**	**36**	P	**P**	**23 06 49.7**	**-0.9**
MTLF	**Montolieu**	**38.75**	**56**	*eP*	**P**	**23 06 50.9**	**-0.7**
comp=Z,4.6nm,0.8s,mb4.0							
MTLF	**Montolieu**	**38.75**	**56**	*eP*	**P**	**23 06 50.9**	**-0.7**
comp=Z,2.3nm,0.8s,mb4.0							
MTLF	**Montolieu**	**38.75**	**56**	*eP*	**P**	**23 06 50.9**	**-0.7**
MTLF				pmax	pmax		
comp=Z,2.0nm,0.8s,mb3.9							
TCF	**Toulx Ste Croi**	**39.16**	**51**	*eP*	**P**	**23 06 54.7**	**-0.2**
comp=Z,35nm,1.5s,mb4.6							
TCF	**Toulx Ste Croi**	**39.16**	**51**	*eP*	**P**	**23 06 54.7**	**-0.2**
comp=Z,18nm,1.5s,mb4.6							
TCF	**Toulx Ste Croi**	**39.16**	**51**	*eP*	**P**	**23 06 54.7**	**-0.2**
TCF				pmax	pmax		
comp=Z,18nm,1.5s,mb4.6							
SSF	**Saint Saulge**	**40.17**	**50**	*eP*	**P**	**23 07 03.2**	**-0.1**
comp=Z,10nm,1.0s,mb4.2							
SSF	**Saint Saulge**	**40.17**	**50**	*eP*	**P**	**23 07 03.2**	**-0.1**
comp=Z,5.3nm,1.0s,mb4.2							
SSF	**Saint Saulge**	**40.17**	**50**	*eP*	**P**	**23 07 03.2**	**-0.1**
SSF				pmax	pmax		
comp=Z,5.0nm,1.0s,mb4.2							
BAIF	**Baives**	**41.20**	**46**	*eP*	**P**	**23 07 11.4**	**-0.4**
BNI	**Bardonecchia**	**42.11**	**54**	*eP*	**P**	**23 07 18.7**	**-0.7**
WLF	**Walferdange**	**42.35**	**47**	*eP*	**P**	**23 07 20.5**	**-0.7**
DBIC	**Dimbokro**	**42.42**	**114**	LR	LR	23 22 24.8	
comp=Z,189nm,19.2s,MS4.0,baz=265,slow=32							
BFO	**Black Forest**	**43.57**	**49**	*eP*	**P**	**23 07 31.7**	**+0.5**
BFO				pmax	pmax		
comp=Z,10.0nm,1.4s,mb4.3							
BFO	**Black Forest**	**43.57**	**49**	*eP*	**P**	**23 07 31.7**	**+0.5**
comp=Z,10.0nm,1.4s,mb4.3							
KEST	**Kesra**	**44.34**	**67**	P	**P**	**23 07 37.8**	**+0.3**
comp=Z,1.2nm,0.8s,mb3.7,baz=210,slow=6.2,SNR=4.6							
TORD	**Torodi Ar. Bea**	**44.44**	**101**	P	**P**	**23 07 38.2**	**-0.3**
TORD				LR	LR	23 25 32.4	
TORD	**Torodi Ar. Bea**	**44.44**	**101**	P	**P**	**23 07 38.2**	**-0.3**
comp=Z,3.1nm,1.0s,mb4.0,baz=302,slow=2.6,SNR=8.8							
TORD				LR	LR	23 25 32.4	
comp=Z,107nm,18.2s,MS3.8,baz=270,slow=35							
BDFB	**Brasilia**	**44.75**	**187**	P	**P**	**23 07 40.8**	**-0.1**
BDFB				pmax	pmax		
comp=Z,1.0nm,0.7s							
BDFB	**Brasilia**	**44.75**	**187**	P	**P**	**23 07 40.8**	**-0.1**
comp=Z,1.0nm,0.7s,mb3.8,baz=173,slow=14,SNR=4.7							
CLZ	**Clausthal**	**45.36**	**44**	*eP*	**P**	**23 07 46.3**	**+0.9**
CLZ				pmax	pmax		
comp=Z,11nm,1.2s,mb4.6							
CLZ	**Clausthal**	**45.36**	**44**	*eP*	**P**	**23 07 46.3**	**+0.9**
comp=Z,11nm,1.2s,mb4.6							
GRA1	**Grafenberg Arr**	**45.62**	**48**	*eP*	**P**	**23 07 48.2**	**+0.7**
comp=Z,14nm,1.8s,mb4.6							
GRF	**Grafenberg Arr**	**45.62**	**48**	*eP*	**P**	**23 07 48.2**	**+0.7**
GRF				pmax	pmax		
comp=Z,14nm,1.8s,mb4.6							
GRF	**Grafenberg Arr**	**45.62**	**48**	*eP*	**P**	**23 07 48.2**	**+0.7**
GRF				pmax	pmax		
comp=Z,14nm,1.8s,mb4.6							
GRF	**Grafenberg Arr**	**45.62**	**48**	*eP*	**P**	**23 07 48.2**	**+0.7**
comp=Z,14nm,1.8s,mb4.6							
BSEG	**Bad Segeberg**	**45.68**	**42**	*eP*	**P**	**23 07 48.8**	**+0.9**
comp=Z,37nm,1.6s,mb5.1							
MOX	**Moxa**	**45.97**	**46**	*eP*	**P**	**23 07 50.6**	**+0.3**
MOX	**Moxa**	**45.97**	**46**	*eP*	**P**	**23 07 50.7**	**+0.4**
comp=Z,17nm,1.8s,mb4.7							
WERN	**Wernitzgruen**	**46.42**	**47**	*eP*	**P**	**23 07 54.4**	**+0.6**
comp=Z,22nm,1.8s,mb4.8							
NKC	**Novy Kostel**	**46.46**	**47**	*eP*	**P**	**23 07 55.5**	**+1.4**
NKC				AMS	AMS	23 24 40.0	
comp=Z,200nm,15.2s,MS4.2							
KONO	**Kongsberg**	**46.66**	**34**	*eP*	**P**	**23 07 56.0**	**+0.4**
comp=Z,18nm,1.1s,mb4.9							
KONO	**Kongsberg**	**46.66**	**34**	*eP*	**P**	**23 07 56.0**	**+0.4**
KONO				pmax	pmax		
comp=Z,18nm,1.1s,mb4.9							
CLL	**Collm**	**46.92**	**46**	*eP*	**P**	**23 07 57.0**	**-0.7**
CLL				pmax	pmax		
comp=Z,11nm,1.7s,mb4.5							
CLL	**Collm**	**46.92**	**46**	*eP*	**P**	**23 07 58.1**	**+0.4**
comp=Z,6.0nm,1.1s,mb4.4							
CLL	**Collm**	**46.92**	**46**	*eP*	**P**	**23 07 57.0**	**-0.7**
comp=Z,11nm,1.7s,mb4.5							
AQU	**L'Aquila**	**46.94**	**58**	*eP*	**P**	**23 07 58.9**	**+0.9**
KHC	**Kasperske Hory**	**47.11**	**49**	*eP*	**P**	**23 07 58.0**	**-1.2**
KHC				*ep*P	pP	23 08 03.5	+2.6
KHC				AMS	AMS	23 28 40.0	
comp=Z,100nm,15.4s,MS3.9							
GEC2	**GERESS Array S**	**47.17**	**49**	*eP*	**P**	**23 08 00.1**	**+0.4**
GEC2				pmax	pmax		
comp=Z,11nm,1.6s,mb4.5							
GEC2	**GERESS Array S**	**47.17**	**49**	*eP*	**P**	**23 08 00.1**	**+0.4**
comp=Z,11nm,1.6s,mb4.5							
GERES	**GERESS Array B**	**47.17**	**49**	P	**P**	**23 07 59.4**	**-0.3**
GERES				pmax	pmax		
comp=Z,1.0nm,0.6s							
GERES				MLR	MLR		
comp=Z,50nm,18.8s							
GERES	**GERESS Array B**	**47.17**	**49**	P	**P**	**23 07 59.4**	**-0.3**
comp=Z,0.7nm,0.6s,mb3.7,baz=266,slow=7.8,SNR=8.2							
GERES				LR	LR	23 24 02.1	
comp=Z,50nm,18.8s,MS3.5,baz=239,slow=31							
BRG	**Berggiesshubel**	**47.47**	**46**	*eP*	**P**	**23 08 02.2**	**+0.2**
comp=Z,4.0nm,1.1s,mb4.3							
RUE	**Ruedersdorf**	**47.52**	**44**	P	**P**	**23 08 02.2**	**-0.1**
NAO01	**NORSAR Array S**	**47.62**	**32**	*eP*	**P**	**23 08 03.2**	**+0.2**
comp=Z,1.9nm,0.8s,mb4.2							
PRU	**Pruhonice**	**47.78**	**47**	*eP*	**P**	**23 08 05.0**	**+0.6**
PRU				AMS	AMS	23 25 00.0	
comp=Z,100nm,21.8s,MS3.8							
NB2	**NORSAR Subarra**	**47.83**	**32**	P	**P**	**23 08 05.0**	**+0.3**
comp=Z,9.0nm,1.2s,mb4.7,baz=254,slow=7.9							
NOA	**NORSAR Array B**	**47.83**	**32**	P	**P**	**23 08 05.2**	**+0.5**
NOA				pmax	pmax		
comp=Z,2.0nm,0.8s							
NOA	**NORSAR Array B**	**47.83**	**32**	P	**P**	**23 08 05.2**	**+0.5**
comp=Z,1.7nm,0.8s,mb4.1,baz=254,slow=7.9,SNR=7.1							
PVCC	**Panska Ves**	**47.84**	**47**	AMS	AMS	23 26 10.0	
comp=Z,200nm,17.1s,MS4.2							
SIV	**San Ignacio**	**48.09**	**203**	P	**P**	**23 08 06.4**	**-0.6**
comp=Z,1.0nm,0.8s,mb3.9,baz=48,slow=7.0,SNR=5.3							
UPC	**Upice**	**48.76**	**47**	*eP*	**P**	**23 08 12.1**	**+0.2**
DPC	**Dobruska-Polom**	**48.95**	**47**	*eP*	**P**	**23 08 14.3**	**+0.9**
DPC				AMS	AMS	23 26 40.0	
comp=Z,100nm,13.6s,MS4.0							
MODS	**Modra-Piesok**	**49.53**	**50**	*eP*	**P**	**23 08 17.7**	**-0.2**
MORC	**Moravsky Berou**	**49.72**	**48**	*eP*	**P**	**23 08 19.2**	**-0.1**
comp=Z,1.0nm,0.7s,mb4.0							
MORC	**Moravsky Berou**	**49.72**	**48**	*eP*	**P**	**23 08 19.2**	**-0.1**
MORC				pmax	pmax		
comp=Z,1.0nm,0.7s,mb4.0							
TIP	**Timpagrande**	**49.77**	**62**	*eP*	**P**	**23 08 19.4**	**-0.5**
comp=Z,1.4nm,0.5s,mb4.2							
OKC	**Ostrava-Krasne**	**50.11**	**48**	*eP*	**P**	**23 08 15.1**	**-7.2**
VYHS	**Vyhne**	**50.57**	**49**	*eP*	**P**	**23 08 20.8**	**-5.0**
LPAZ	**La Paz**	**51.21**	**211**	P	**P**	**23 08 31.2**	**+0.3**
LPAZ	**La Paz**	**51.21**	**211**	P	**P**	**23 08 31.2**	**+0.3**
LPAZ				pmax	pmax		
comp=Z,2.0nm,1.0s							
LPAZ	**La Paz**	**51.21**	**211**	P	**P**	**23 08 31.2**	**+0.3**
comp=Z,1.5nm,1.0s,mb3.9,baz=9.1,slow=7.8,SNR=4.6							
PSZ	**Piszkesteto**	**51.29**	**50**	P	**P**	**23 08 31.5**	**+0.3**
comp=Z,1.0nm,0.6s,mb3.9							
PSZ	**Piszkesteto**	**51.29**	**50**	P	**P**	**23 08 31.5**	**+0.2**
PSZ				pmax	pmax		
comp=Z,1.0nm,0.6s,mb3.9							
TXAR	**Lajitas Array**	**52.29**	**286**	P	**P**	**23 08 37.5**	**-1.5**
TXAR				LR	LR	23 28 05.3	
TXAR	**Lajitas Array**	**52.29**	**286**	P	**P**	**23 08 37.5**	**-1.5**
TXAR				pmax	pmax		
comp=Z,1.0nm,0.8s							
TXAR				MLR	MLR		
comp=Z,102nm,21.6s							
TXAR	**Lajitas Array**	**52.29**	**286**	P	**P**	**23 08 37.5**	**-1.5**
comp=Z,1.1nm,0.8s,mb3.8,baz=98,slow=7.7,SNR=4.9							
TXAR				LR	LR	23 28 05.3	
comp=Z,102nm,21.6s,MS3.8,baz=180,slow=33							
KWP	**Kalwaria**	**53.07**	**48**	P	**P**	**23 08 43.9**	**-0.5**
ANMO	**Albuquerque**	**53.23**	**294**	*eP*	**P**	**23 08 47.0**	**+1.1**
ANMO	**Albuquerque**	**53.23**	**294**|| *eP*	**P**	**23 08 46.4**	**+0.6**
PDAR	**Pinedale Array**	**54.18**	**304**	P	**P**	**23 08 52.0**	**-0.7**
comp=Z,2.0nm,0.8s,mb4.1,baz=90,slow=7.7,SNR=12							
PDAR				LR	LR	23 30 12.2	
comp=Z,157nm,19.3s,MS4.1,baz=244,slow=34							
FINES	**FINESS Array B**	**54.97**	**33**	P	**P**	**23 08 56.7**	**-1.4**
FINES				LR	LR	23 31 00.3	
FINES	**FINESS Array B**	**54.97**	**33**	P	**P**	**23 08 56.7**	**-1.4**
FINES				pmax	pmax		
comp=Z,1.0nm,0.8s							
FINES				MLR	MLR		
comp=Z,45nm,20.1s							
FINES	**FINESS Array B**	**54.97**	**33**	P	**P**	**23 08 56.7**	**-1.4**
comp=Z,1.1nm,0.8s,mb4.0,baz=318,slow=2.6,SNR=4.3							
FINES				LR	LR	23 31 00.3	
comp=Z,44nm,20.1s,MS3.5,baz=250,slow=34							
IMW	**Indian Meadow**	**55.01**	**305**	*eP*	**P**	**23 08 59.3**	**+0.5**
comp=Z,11nm,1.2s,mb4.8							
REDW	**Red Top Meadow**	**55.03**	**305**	*eP*	**P**	**23 08 59.4**	**+0.5**
comp=Z,9.8nm,1.2s,mb4.7							
SRU	**San Rafael**	**55.54**	**299**	*eP*	**P**	**23 09 02.4**	**-0.2**
ARE0	**ARCESS Array S**	**55.57**	**23**	P	**P**	**23 09 02.0**	**-0.3**
HWUT	**Hardware Ranch**	**55.85**	**303**	*eP*	**P**	**23 09 04.8**	**+0.1**
comp=Z,2.2nm,0.8s,mb4.2							
TMUT	**Trail Mountain**	**56.03**	**300**	*eP*	**P**	**23 09 02.7**	**-3.4**
YKA	**Yellowknife Ar**	**56.09**	**328**	P	**P**	**23 09 04.8**	**-1.4**
YKA				pmax	pmax		
comp=Z,1.0nm,0.9s							
YKA				MLR	MLR		
comp=Z,66nm,21.6s							
YKA	**Yellowknife Ar**	**56.09**	**328**	P	**P**	**23 09 04.8**	**-1.4**
comp=Z,0.6nm,0.9s,mb3.6,baz=89,slow=7.5,SNR=7.2							
YKA				LR	LR	23 32 04.8	
comp=Z,66nm,21.6s,MS3.7,baz=170,slow=35							
MSU	**Marysvale**	**56.93**	**299**	*eP*	**P**	**23 09 13.3**	**+0.7**
DUG	**Dugway**	**57.05**	**301**	*eP*	**P**	**23 09 14.3**	**+1.0**
comp=Z,10nm,

ARU				*e*PPP		23 15 16.7		
ARU				*e*S	S	23 20 14.2	-1.8	
ARU				*e*SS	SS	23 24 53.9	+0.9	
ARU				pmax	pmax			
	comp=Z,7.0nm,1.7s,mb4.3							
TIXI	**Tiksi**	**79.35**	**3**	*e*P	**P**	**23 11 33.1**	**+0.4**	
	comp=Z,8.2nm,1.1s,mb4.6							
TIXI	**Tiksi**	**79.35**	**3⇑**	*e*P	**P**	**23 11 33.4**	**+0.7**	
TIXI				pmax	pmax			
	comp=Z,16nm,2.2s,mb4.6							
BRVK	**Borovoye**	**79.85**	**34**	*e*P	**P**	**23 11 36.7**	**+0.9**	
	comp=Z,3.3nm,0.9s,mb4.3							
BRVK	**Borovoye**	**79.85**	**34**	*e*P	**P**	**23 11 36.7**	**+1.0**	
BRVK				pmax	pmax			
	comp=Z,3.0nm,0.9s,mb4.2							
BILL	**Biiibino**	**80.68**	**349**	*i* P	**P**	**23 11 40.5**	**+0.5**	
BILL				pmax	pmax			
	comp=Z,5.0nm,1.3s,mb4.3							
BILL				MLR	MLR			
	comp=Z,100nm,18.0s,MS4.2							
LSZ	**Lusaka**	**81.73**	**113**	*e*P	**P**	**23 11 47.9**	**+1.6**	
KMBO	**Kilima Mbogo**	**82.14**	**96**	LR	LR	23 46 18.7		
	comp=Z,149nm,21.1s,MS4.3,baz=76,slow=34							
NVS	**Novosibirsk**	**84.55**	**28**	*e*P	**P**	**23 11 55.3**	**-5.1**	
LBTB	**Lobatse**	**85.15**	**122**	*e*P	**P**	**23 12 03.1**	**-0.7**	
KURK	**Kurchatov**	**85.34**	**33**	*e*P	**P**	**23 12 04.6**	**+0.2**	
	comp=Z,4.1nm,0.9s,mb4.6							
KURK	**Kurchatov**	**85.34**	**33**	*e*P	**P**	**23 12 04.6**	**+0.2**	
KURK				pmax	pmax			
	comp=Z,4.0nm,0.9s,mb4.5							
ZAL	**Zalesovo**	**85.84**	**28**	P	**P**	**23 12 06.0**	**-0.8**	
ZAL				pmax	pmax			
	comp=Z,1.0nm,0.7s							
ZALV	**Zalesovo Beam**	**85.84**	**28**	P	**P**	**23 12 06.0**	**-0.8**	
ZALV	**Zalesovo Beam**	**85.84**	**28**	P	**P**	**23 12 06.0**	**-0.8**	
	comp=Z,0.9nm,0.7s,mb4.1,baz=282,slow=7.4,SNR=4.8							
BOSA	**Boshof**	**86.97**	**125**	LR	LR	23 44 34.6		
	comp=Z,70nm,18.1s,MS4.1,baz=324,slow=31							
EKS2	**Erkin-Say**	**88.00**	**41**	*e*P	**P**	**23 12 17.1**	**-0.5**	
AAK	**Ala-Archa**	**88.43**	**41**	*e*P	**P**	**23 12 19.8**	**+0.2**	
	comp=Z,2.0nm,1.0s,mb4.3							
AAK	**Ala-Archa**	**88.43**	**41⇑**	*e*P	**P**	**23 12 19.9**	**+0.3**	
AAK				pmax	pmax			
	comp=Z,3.0nm,1.3s,mb4.4							
AAK				MLR	MLR			
	comp=Z,100nm,16.0s,MS4.3							
UCH	**Uchtor**	**88.69**	**41**	*e*P	**P**	**23 12 22.7**	**+1.8**	
	comp=Z,1.3nm,0.7s,mb4.4							
TKM2	**Tokmak 2**	**88.87**	**40**	P	**P**	**23 12 22.2**	**+0.6**	
MKAR	**Makanchi Array**	**89.80**	**34**	P	**P**	**23 12 25.7**	**-0.3**	
MKAR				LR	LR	23 53 58.1		
MKAR	**Makanchi Array**	**89.80**	**34**	P	**P**	**23 12 25.7**	**-0.3**	
MKAR				pmax	pmax			
	comp=Z,1.0nm,0.7s							
MKAR				MLR	MLR			
	comp=Z,33nm,21.0s							
MKAR	**Makanchi Array**	**89.80**	**34**	P	**P**	**23 12 25.7**	**-0.3**	
	comp=Z,0.9nm,0.7s,mb4.2,baz=298,slow=3.4,SNR=4.0							
MKAR				LR	LR	23 53 58.1		
	comp=Z,33nm,21.0s,MS3.7,baz=173,slow=36							
WMQ	**Urumqi**	**94.58**	**33**	*e*P	**P**	**23 12 47.1**	**-1.1**	
CD2	**Chengdu**	**112.48**	**31**	*e*PKP	PKiKP	23 18 02.4	-1.6	
CD2				XPKP		23 18 10.8		
CD2				PP	PP	23 18 51.8	+2.9	
CD2				PKS		23 21 37.8		
CD2				SKS	SKSdf	23 25 09.8	-7.1	
CD2				SKKS	SKKSac	23 25 41.6	-12	
CD2				SS	SS	23 34 25.6	-3.6	
CD2				PP	PP			
	comp=Z,90nm,10.2s							
NJ2	**Nanjing**	**116.80**	**17**	*e*PKP	PKPdf	23 18 09.0	-3.3	
KMI	**Kunming**	**116.87**	**35**	PKP	PKPdf	23 18 11.8	-0.8	
GYA	**Guiyang**	**117.59**	**31**	*e*PDIF	Pdif	23 14 29.3	-1.5	
GYA				PKP	PKPdf	23 18 13.3	-0.6	
GYA				PP	PP	23 19 28.6	+3.6	
GYA				PP	PP			
	comp=Z,80nm,6.8s							

*ISCJB **23** 23:06:00.9±0.3, 4493N±002×939E±003, h57km±6km, Error ellipse: s-maj=3.4km s-min=3.0km az=4.0*
*ROM **23** 23:06:01.8±0.1, 4494N×944E, h42km±4km, Md2.6/21, Ml2.2/14, Error ellipse: s-maj=3.4km s-min=2.7km az=84.0*
*NEIC **23** 23:06:01.8, 4494N×944E, h42km, MD2.6(ROM), After ROM.*
*CSEM **23** 23:06:01.4±0.1, 4490N×948E, h40km, ML2.5/17, Error ellipse: s-maj=1.9km s-min=1.7km az=12.0*
*GEN **23** 23:06:02.2, 4499N×949E, h40km, ML2.0*
*LDG **23** 23:06:03.3±0.1, 4490N×935E, h20km, Ml2.5/17, Error ellipse: s-maj=3.4km s-min=2.6km az=26.0*

ISC 23 23:06:01.8±0.3, 4493N±002×940E±002, h47km±7km, n80, σ0§82/138, 1C, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOB	**Bobbio (Coli)**	**0.16**	**167**	Pg	**Pn**	**23 06 09.2**	**-0.4**
BOB				Sg	**Sn**	**23 06 15.2**	**+0.1**
SC2M	**Scurtabr**	**0.53**	**169⇑**	*i*Pg	**Pn**	**23 06 12.8**	**-0.4**
SC2M				Sg	**Sn**	**23 06 21.0**	**-0.4**
	137nm,0.2s						
GENL	**Genova Univers**	**0.60**	**211**	P	**Pn**	**23 06 14.8**	**+0.6**
GENL				S	**Sn**	**23 06 23.5**	**+0.5**
GRAM		**0.65**	**132**	P	**Pn**	**23 06 14.2**	**-0.5**
GRAM				S	**Sn**	**23 06 23.6**	**-0.4**
PCP	**Pian Castagno**	**0.72**	**238**	Pg	**Pn**	**23 06 16.8**	**+1.1**
	38nm,0.4s						
PCP				S	**Sn**	**23 06 26.9**	**+1.2**
VALM		**0.84**	**133**	P	**Pn**	**23 06 17.0**	**-0.2**
VALM				S	**Sn**	**23 06 27.6**	**-0.9**
MDI	**Monti di Nese**	**0.88**	**14**	Pg	**Pn**	**23 06 18.5**	**+0.7**
	131nm,0.1s						
ERBM	**Eremo**	**0.88**	**125**	Pg	**Pn**	**23 06 18.2**	**+0.3**
	135nm,1.2s						
VINC	**Vinca**	**0.95**	**145**	P	**Pn**	**23 06 18.6**	**-0.2**
VINC				S	**Sn**	**23 06 30.3**	**-0.9**
QLNO	**Quiliano**	**0.96**	**232**	Pg	**Pn**	**23 06 20.1**	**+1.2**
	25nm,0.4s						
GSCL	**Gusciola**	**1.03**	**124**	Pg	**Pn**	**23 06 20.5**	**+0.7**
	22nm,0.6s						
MUGIO	**Muggio**	**1.03**	**346**	Pg	**Pn**	**23 06 19.9**	**+0.1**
SARO	**Sassorosso**	**1.03**	**136**	P	**Pn**	**23 06 19.8**	**-0.1**
SARO				S	**Sn**	**23 06 32.4**	**-0.8**
VAI	**Varese**	**1.04**	**335**	Pg	**Pn**	**23 06 20.2**	**+0.2**
	10.0nm,0.2s						
VLC	**Villacollemand**	**1.04**	**137**	Pg	**Pn**	**23 06 20.1**	**+0.1**
	22nm,0.6s						
SALO	**Salr**	**1.05**	**49**	Pg	**Pn**	**23 06 20.4**	**+0.2**
FIN	**Finale Ligure**	**1.11**	**230**	Pg	**Pn**	**23 06 21.8**	**+0.9**
FIN				S	**Sn**	**23 06 34.9**	**-0.2**
MAGA	**Magasa**	**1.21**	**45**	Pg	**Pn**	**23 06 21.5**	**-0.8**
	144nm,0.5s						
BDI	**Bagni Di Lucca**	**1.22**	**135**	Pg	**Pn**	**23 06 23.0**	**+0.6**
	43nm,0.5s						
ORX	**Oropa**	**1.22**	**306**	P	**Pn**	**23 06 23.1**	**+0.6**
ORX				S	**Sn**	**23 06 36.8**	**-1.1**
RORO		**1.25**	**230**	P	**Pn**	**23 06 23.7**	**+0.8**
RORO				S	**Sn**	**23 06 38.8**	**+0.3**
ROB	**Roburent**	**1.26**	**240**	P	**Pn**	**23 06 24.0**	**+1.0**
ROB				S	**Sn**	**23 06 39.2**	**+0.5**
MAIM		**1.28**	**142**	Pg	**Pn**	**23 06 23.1**	**-0.1**
	32nm,0.4s						
MAIM				S	**Sn**	**23 06 38.1**	**-1.1**
TRAV		**1.31**	**297**	Pg	**Pn**	**23 06 23.3**	**-0.3**
TRAV				S	**Sn**	**23 06 38.5**	**-1.4**
PZZT	**Monte Pizzetto**	**1.31**	**127**	Pg	**Pn**	**23 06 24.6**	**+0.9**
	46nm,0.7s						
MABI	**Malga Bissina**	**1.38**	**34**	Pg	**Pn**	**23 06 24.1**	**-0.4**
	32nm,0.1s						
MONE	**Monesi**	**1.45**	**235**	P	**Pn**	**23 06 26.2**	**+0.7**
MONE				S	**Sn**	**23 06 43.7**	**+0.4**
IMI	**Imperia**	**1.48**	**227**	Pg	**Pn**	**23 06 26.7**	**+0.7**
IMI				S	**Sn**	**23 06 44.2**	**0.0**
IMI				Sg	**Sn**	**23 06 45.8**	**+1.6**
RSP	**Reno Superiore**	**1.53**	**279**	P	**Pn**	**23 06 26.0**	**-0.7**
RSP				S	**Sn**	**23 06 45.2**	**-0.2**
TUE	**Stuetta**	**1.55**	**359**	Pg	**Pn**	**23 06 27.9**	**+1.0**
	9.0nm,0.3s						
ENR	**Entracque**	**1.58**	**244**	P	**Pn**	**23 06 27.7**	**+0.4**
ENR				S	**Sn**	**23 06 46.2**	**-0.3**
NEGI	**Negi**	**1.62**	**229**	P	**Pn**	**23 06 28.3**	**+0.4**
NEGI				S	**Sn**	**23 06 46.5**	**-1.1**
LSD	**Ceresole Reale**	**1.67**	**289**	P	**Pn**	**23 06 30.1**	**+1.5**
LSD				S	**Sn**	**23 06 49.2**	**+0.4**
PZZ	**Prazzo**	**1.69**	**256**	P	**Pn**	**23 06 28.7**	**-0.1**
PZZ				S	**Sn**	**23 06 48.3**	**-1.0**
BRMO	**Bormio**	**1.69**	**23**	Pg	**Pn**	**23 06 29.5**	**+0.6**
	5.0nm,0.3s						
SBF	**Sospel**	**1.76**	**234**	*e*Pn	**Pn**	**23 06 30.6**	**+0.8**
	SNR=1.0						
SBF				*e*Sn	**Sn**	**23 06 50.7**	**-0.4**
	12nm,0.2s,SNR=1.0						
SBF	**Sospel**	**1.76**	**234**	*e*Pn	**Pn**	**23 06 30.6**	**+0.8**
	SNR=1.0						
SBF				*e*Sn	**Sn**	**23 06 50.7**	**-0.4**
	5.9nm,0.2s,SNR=1.0						
MBDF	**Montbardon**	**1.88**	**265**	*e*Pn	**Pn**	**23 06 32.0**	**+0.6**
	SNR=1.0						
MBDF				*e*Sn	**Sn**	**23 06 53.7**	**-0.2**
	3.8nm,0.2s,SNR=1.0						
MBDF	**Montbardon**	**1.88**	**265**	*e*Pn	**Pn**	**23 06 32.0**	**+0.6**
	SNR=1.0						
MBDF				*e*Sn	**Sn**	**23 06 53.7**	**-0.2**
	1.9nm,0.2s,SNR=1.0						
CTI	**Castel Tesino**	**1.94**	**54**	Pg	**Pn**	**23 06 31.4**	**-0.9**
	25nm,0.2s						
LPG	**La Plagne**	**1.96**	**288**	*e*Pn	**Pn**	**23 06 32.7**	**+0.2**
	SNR=1.0						
LPG				*e*Sn	**Sn**	**23 06 55.9**	**+0.1**
	4.1nm,0.3s,SNR=1.0						
LPG	**La Plagne**	**1.96**	**288**	*e*Pn	**Pn**	**23 06 32.7**	**+0.2**
	SNR=1.0						
LPG				*e*Sn	**Sn**	**23 06 55.9**	**+0.1**
	2.0nm,0.3s,SNR=1.0						
LPL	**La Plagne**	**1.97**	**288**	*e*Pn	**Pn**	**23 06 33.6**	**+0.9**
	SNR=1.0						
LPL				*e*Sn	**Sn**	**23 06 56.5**	**+0.3**
	11nm,0.4s,SNR=1.0						
LPL	**La Plagne**	**1.97**	**288**	*e*Pn	**Pn**	**23 06 33.6**	**+0.9**
	SNR=1.0						
LPL				*e*Sn	**Sn**	**23 06 56.5**	**+0.3**
	5.3nm,0.4s,SNR=1.0						
PGF	**Pioggiola**	**2.39**	**187**	*e*Pn	**Pn**	**23 06 37.7**	**-0.8**
	SNR=1.0						
PGF				*e*Sn	**Sn**	**23 07 04.3**	**-2.3**
	3.6nm,0.2s						
PGF	**Pioggiola**	**2.39**	**187**	*e*Pn	**Pn**	**23 06 37.7**	**-0.8**
	SNR=1.0						
PGF				*e*Sn	**Sn**	**23 07 04.3**	**-2.3**
	1.8nm,0.2s						
FRF	**La Foret Royal**	**2.40**	**236**	*e*Pn	**Pn**	**23 06 39.1**	**+0.5**
	SNR=1.0						
FRF				*e*Sn	**Sn**	**23 07 05.8**	**-1.0**
	3.4nm,0.2s,SNR=1.0						
FRF	**La Foret Royal**	**2.40**	**236**	*e*Pn	**Pn**	**23 06 39.1**	**+0.5**
	SNR=1.0						
FRF				*e*Sn	**Sn**	**23 07 05.8**	**-1.0**
	1.7nm,0.2s,SNR=1.0						
ORIF	**Oris-en-Rattie**	**2.50**	**271**	*e*Pn	**Pn**	**23 06 41.0**	**+1.1**
	SNR=1.0						
ORIF				*e*Sn	**Sn**	**23 07 09.2**	**+0.1**
	8.1nm,0.4s,SNR=1.0						
ORIF	**Oris-en-Rattie**	**2.50**	**271**	*e*Pn	**Pn**	**23 06 41.0**	**+1.1**
	SNR=1.0						
ORIF				*e*Sn	**Sn**	**23 07 09.2**	**+0.1**
	4.1nm,0.4s,SNR=1.0						
LMR	**La Mourre**	**2.62**	**234**	*e*Pg	**Pn**	**23 06 48.2**	**+6.6**
	SNR=1.0						
LMR				*e*Sn	**Sn**	**23 07 11.3**	**-0.8**
	2.8nm,0.3s,SNR=1.0						
LMR	**La Mourre**	**2.62**	**234**	*e*Pn	**Pn**	**23 06 42.7**	**+1.1**
LMR				*e*Pg	**Pn**	**23 06 48.2**	**+6.6**
LMR				*e*Sn	**Sn**	**23 07 11.3**	**-0.8**
LMR	**La Mourre**	**2.62**	**234**	*e*Pn	**Pn**	**23 06 42.7**	**+1.1**
	SNR=1.0						
LMR				*e*Sn	**Sn**	**23 07 11.3**	**-0.8**
	1.4nm,0.3s,SNR=1.0						
CABF	**La Chapelle**	**2.87**	**307**	*e*Sn	**Sn**	**23 07 17.8**	**-0.3**
	2.3nm,0.4s,SNR=1.0						
CABF	**La Chapelle**	**2.87**	**307**	*e*Sn	**Sn**	**23 07 17.8**	**-0.3**
	1.1nm,0.4s,SNR=1.0						
SMRF	**Simiane la Rot**	**2.90**	**252**	*e*Pn	**Pn**	**23 06 46.2**	**+0.8**
	SNR=1.0						
SMRF				*e*Sn	**Sn**	**23 07 17.7**	**-1.3**
	1.2nm,0.3s						
SMRF	**Simiane la Rot**	**2.90**	**252**	*e*Pn	**Pn**	**23 06 46.2**	**+0.8**
	SNR=1.0						
SMRF				*e*Sn	**Sn**	**23 07 17.7**	**-1.3**
	0.6nm,0.3s						
VIVF	**Saint-Julien-l**	**3.36**	**270**	*e*Pn	**Pn**	**23 06 52.5**	**+0.8**
	SNR=1.0						
VIVF				*e*Sn	**Sn**	**23 07 29.6**	**-0.7**
	1.6nm,0.3s,SNR=1.0						
VIVF	**Saint-Julien-l**	**3.36**	**270**	*e*Pn	**Pn**	**23 06 52.5**	**+0.8**
	SNR=1.0						
VIVF				*e*Sn	**Sn**	**23 07 29.6**	**-0.7**
	0.8nm,0.3s,SNR=1.0						
HINF	**Hinteralfeld**	**3.39**	**330**	*e*Pn	**Pn**	**23 06 52.6**	**+0.5**
	SNR=1.0						
HINF				*e*Sn	**Sn**	**23 07 30.0**	**-0.9**
	3.7nm,0.2s,SNR=1.0						
HINF	**Hinteralfeld**	**3.39**	**330**	*e*Pn	**Pn**	**23 06 52.6**	**+0.5**
	SNR=1.0						
HINF				*e*Sn	**Sn**	**23 07 30.0**	**-0.9**
	1.9nm,0.2s,SNR=1.0						
HAU	**Haudompre**	**3.73**	**327**	*e*Pn	**Pn**	**23 06 57.6**	**+0.8**
	SNR=1.0						
HAU				*e*Sn	**Sn**	**23 07 38.3**	**-1.2**
	5.9nm,0.3s,SNR=1.0						
HAU	**Haudompre**	**3.73**	**327**	*e*Pn	**Pn**	**23 06 57.6**	**+0.8**
	SNR=1.0						
HAU				*e*Sn	**Sn**	**23 07 38.3**	**-1.2**
	3.0nm,0.3s,SNR=1.0						
CDF	**Champ du Feu**	**3.78**	**338**	*e*Pn	**Pn**	**23 06 57.5**	**0.0**
	SNR=1.0						
CDF				*e*Sn	**Sn**	**23 07 39.1**	**-1.6**
	2.1nm,0.3s,SNR=1.0						
CDF	**Champ du Feu**	**3.78**	**338**	*e*Pn	**Pn**	**23 06 57.5**	**0.0**
	SNR=1.0						
CDF				*e*Sn	**Sn**	**23 07 39.1**	**-1.6**
	1.0nm,0.3s,SNR=1.0						
LASF	**Ste Croix**	**4.05**	**260**	*e*Pn	**Pn**	**23 07 01.3**	**+0.1**
	SNR=1.0						
LASF				*e*Sn	**Sn**	**23 07 45.4**	**-2.0**
	1.2nm,0.3s,SNR=1.0						
LASF	**Ste Croix**	**4.05**	**260**	*e*Pn	**Pn**	**23 07 01.3**	**+0.1**
	SNR=1.0						
LASF				*e*Sn	**Sn**	**23 07 45.4**	**-2.0**
	0.6nm,0.3s,SNR=1.0						
SMF	**Signal de Mont**	**4.25**	**296**	*e*Pn	**Pn**	**23 07 04.8**	**+0.9**
	SNR=1.0						
SMF	**Signal de Mont**	**4.25**	**296**	*e*P	**Pn**	**23 07 04.2**	**+0.3**
SMF				*e*		23 07 04.8	
SMF	**Signal de Mont**	**4.25**	**296**	*e*Pn	**Pn**	**23 07 04.8**	**+0.9**
	SNR=1.0						
LOR	**Lormes**	**4.51**	**303**	*e*Pn	**Pn**	**23 07 08.2**	**+0.7**
LOR				*e*Sn	**Sn**	**23 07 57.0**	**-1.6**
	3.9nm,0.3s						
LOR	**Lormes**	**4.51**	**303**	*e*P	**Pn**	**23 07 05.3**	**-2.2**
	6.7nm,0.8s						
LOR				*e*MLR	MLR		
	comp=Z,76nm,19.2s						
LOR	**Lormes**	**4.51**	**303**	*e*P	**Pn**	**23 07 05.3**	**-2.2**
LOR				*e*Pn	**Pn**	**23 07 08.2**	**+0.7**
LOR				*e*Sn	**Sn**	**23 07 57.0**	**-1.6**
LOR	**Lormes**	**4.51**	**303**	*e*Pn	**Pn**	**23 07 08.2**	**+0.7**
LOR				*e*Sn	**Sn**	**23 07 57.0**	**-1.6**
	comp=Z,2.0nm,0.3s						
SSF	**Saint Saulge**	**4.63**	**300**	*e*Pn	**Pn**	**23 07 09.9**	**+0.8**
SSF	**Saint Saulge**	**4.63**	**300**	*e*Pn	**Pn**	**23 07 09.9**	**+0.8**
MEZF	**Maizieres J'vi**	**4.66**	**322**	*e*P	**Pn**	**23 07 13.2**	**+3.6**
	comp=Z,11nm,0.7s						
BGF	**Bois d'Agland**	**4.87**	**292**	*e*Pn	**Pn**	**23 07 13.1**	**+0.7**
	SNR=1.0						
TCF	**Toulx Ste Croi**	**5.22**	**288**	*e*Pn	**Pn**	**23 07 17.9**	**+0.6**
TCF				*e*Sn	**Sn**	**23 08 14.5**	**-1.7**
	comp=Z,0.9nm,0.2s						
TCF	**Toulx Ste Croi**	**5.22**	**288**	*e*Pn	**Pn**	**23 07 17.9**	**+0.6**
TCF				*e*Sn	**Sn**	**23 08 14.5**	**-1.7**
	comp=Z,0.4nm,0.2s						

BJI 23 23:07:58.1, 3985N×11330E, h15km, ML3.5, Ms3.1, Msz2.9, Northeastern China

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HHC	**Hu-ho-hao-te**	**1.66**	**308**	*e*PG	Pg	23 08 27.6	-2.4
HHC				SG	Sg	23 08 47.5	-4.1
HHC				Smax			
	comp=N,659nm,0.4s						
HHC				Smax			
	comp=E,617nm,0.7s						
TIY	**Taiyuan**	**2.24**	**198**	PG	Pg	23 08 35.8	-5.2
TIY				SG	Sg	23 09 03.8	-6.3
TIY				Smax			
	comp=N,385nm,0.9s						
TIY				Smax			
	comp=E,1μm,1.1s						
BTO	**Baotou**	**2.62**	**288**	*e*PG	Pg	23 08 43.3	-5.0
BTO				SG	Sg	23 09 15.6	-6.7
BTO				Smax			
	comp=N,105nm,0.4s						
BTO				Smax			
	comp=E,54nm,0.3s						
TIA	**Tai'an**	**4.72**	**139**	P	Pn	23 09 10.3	+1.5
TIA				SG	Sg	23 10 21.3	-8.4
TIA				Smax			
	comp=N,50nm,0.4s						
TIA				Smax			
	comp=E,56nm,0.4s						

*NEIC **23** 23:56:07.2, 4001N×3977E, h5km, mb3.9/1, ML3.6(ISK), After ISK.*
*ISK **23** 23:56:07.4, 4002N×3977E, h5km, MD3.5, ML3.5*
*DDA **23** 23:56:07.8, 4000N×3971E, h25km±1km, Md3.5*
*CSEM **23** 23:56:08.2±0.1, 4004N×3972E, h8km, mb3.9, Error ellipse: s-maj=2.0km s-min=1.6km az=89.0*
*MOS **23** 23:56:08.5±1.3, 3999N×3960E, h10km, mb3.9/6, Error ellipse: s-maj=9.1km s-min=5.3km az=101.4*
*ISCJB **23** 23:56:09.7±0.4, 4003N±002×3969E±003, h18km±4km, mb3.5/8, Error ellipse: s-maj=3.4km s-min=2.9km az=155.6*
*IDC **23** 23:56:14.5±2.9, 4067N×3968E, h0km, mb3.4/7, mb1 3.7/9, mb1mx3.5/25, mbtmp3.5/9, ML4.1/2, MS2.8/2, Ms1 2.8/2, ms1mx2.1/37, Error ellipse: s-maj=59.2km s-min=18.8km az=11.0*

ISC 23 23:56:09.7±0.4, 4003N±002×3974E±002, h12km±3km, n107, σ1§21/148, mb3.5/8, 7C-2D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EZC	**Erzincan**	**0.29**	**169**	PG	**Pg**	**23 56 16.3**	**+0.8**
EZC				*e*SG	**Sg**	**23 56 23.2**	**+3.7**
EZC	**Erzincan**	**0.29**	**169**	Pg	**Pg**	**23 56 16.3**	**+0.8**
EZC				Sg	**Sg**	**23 56 23.3**	**+3.9**
KELT	**Kelkit**	**0.39**	**288**	*i* P	**Pg**	**23 56 16.8**	**-0.6**
KELT				*i* S	**Sg**	**23 56 22.6**	**-0.1**
GUMT	**Gumushane**	**0.47**	**335**	PG	**Pg**	**23 56 18.0**	**-1.0**
GUMT				*e*SG	**Sg**	**23 56 26.4**	**+1.1**
GUMT	**Gumushane**	**0.47**	**335**	Pg	**Pg**	**23 56 18.0**	**-1.0**
GUMT				Sg	**Sg**	**23 56 27.0**	**+1.7**
GUMT	**Gumushane**	**0.47**	**335**	*i* Pg	**Pg**	**23 56 18.0**	**-1.0**
GUMT				Sg	**Sg**	**23 56 27.0**	**+1.7**
KOPT	**Kop Dagi**	**0.58**	**91**	*i* P	**Pg**	**23 56 19.7**	**-1.3**
KOPT				*i* S	**Sg**	**23 56 29.5**	**+0.9**
MACK	**Trabzon**	**0.91**	**1**	*i* P	**Pg**	**23 56 26.1**	**-1.1**
MACK				*i* S	**Sg**	**23 56 38.7**	**-0.5**
KTUT	**Trabzon**	**0.96**	**1**	PG	**Pg**	**23 56 27.1**	**-1.0**
KTUT				*e*SG	**Sg**	**23 56 40.5**	**-0.1**
ESPY	**Espiye-Giresun**	**1.18**	**319**	PN	**Pn**	**23 56 30.7**	**-1.3**
KEMA	**Kemaliye**	**1.23**	**232**	*i* P	**Pn**	**23 56 30.1**	**-2.6**
KEMA				*i* S	**Sb**	**23 56 49.1**	**+0.5**
KEMA	**Kemaliye**	**1.23**	**232**	*i* P	**Pn**	**23 56 30.0**	**-2.7**
KEMA				*i* S	**Sb**	**23 56 49.1**	**+0.5**
EZM	**Erzurum**	**1.25**	**95**	PN	**Pn**	**23 56 31.7**	**-1.2**
ERZM	**Erzurum**	**1.25**	**95⇑**	*i*P	**Pn**	**23 56 31.9**	**-1.1**
ERZM				*i* S	**Sb**	**23 56 55.0**	**+5.6**
BINT	**Bingol**	**1.29**	**153**	PN	**Pn**	**23 56 32.5**	**-1.0**
BINT	**Bingol**	**1.29**	**153**	P	**Pn**	**23 56 31.6**	**-1.9**
BINT	**Bingol**	**1.29**	**153**	*i* Pn	**Pn**	**23 56 32.5**	**-1.0**
GRSN	**GIRESUNGRSN**	**1.44**	**309⇑**	*i*P	**Pn**	**23 56 34.8**	**-0.7**
GRSN				*i* S	**Sn**	**23 56 52.1**	**-2.3**
PZAR	**Pazar-Rize**	**1.45**	**37**	PN	**Pn**	**23 56 34.9**	**-0.7**
PZAR				*e*SN	**Sn**	**23 56 55.6**	**+1.0**
ELZG	**Elazig**	**1.64**	**201**	*i* P	**Pn**	**23 56 37.7**	**-0.6**
ELZG				*i* S	**Sn**	**23 56 58.6**	**-0.7**
HOMI	**Horasan**	**1.66**	**89**	*i* P	**Pn**	**23 56 39.2**	**+0.6**
MYA	**Malataya**	**1.99**	**211**	PN	**Pn**	**23 56 43.0**	**-0.1**
MALT	**Malatya**	**2.00**	**211**	PN	**Pn**	**23 56 43.5**	**+0.3**
MALT	**Malatya**	**2.00**	**211**	Pn	**Pn**	**23 56 43.5**	**+0.3**
MALT				*e*Sn	**Sn**	**23 57 06.7**	**-1.5**
MALT	**Malatya**	**2.00**	**211**	*i* Pn	**Pn**	**23 56 43.5**	**+0.3**
MALT				*e*Sn	**Sn**	**23 57 06.7**	**-1.4**
BCA	**Borcka**	**2.01**	**45**	PN	**Pn**	**23 56 44.4**	**+1.0**
ARTV	**Artvin**	**2.02**	**55⇑**	*i*P	**Pn**	**23 56 44.7**	**+1.0**
ARTV				*i* S	**Sn**	**23 57 12.8**	**+4.0**
SVSK	**Karacayir**	**2.11**	**268**	PN	**Pn**	**23 56 46.0**	**+1.2**
SVSK	**Karacayir**	**2.11**	**268**	Pn	**Pn**	**23 56 46.0**	**+1.2**
DIY	**Diyarbakir**	**2.17**	**170**	PN	**Pn**	**23 56 45.5**	**-0.1**
BTMT	**Batman**	**2.28**	**143**	*e*PN	**Pn**	**23 56 47.7**	**+0.5**
AGRB	**Hanur-Agry**	**2.54**	**99**	*e*PN	**Pn**	**23 56 50.5**	**-0.2**
KARS	**Kars**	**2.63**	**76**	*e*PN	**Pn**	**23 56 52.9**	**+1.0**
URFA	**Urfa**	**2.68**	**196**	*e*PN	**P

FEO	**Feodosiya**	**5.93**	**329**	*e*P	**Pn**	**23 57 38.4 +1.1**
FEO				*e*S	**Sn**	**23 58 51.9 +6.7**
SUDU	**Sudak**	**5.99**	**326**	*e*P	**Pn**	**23 57 38.4 +0.3**
SUDU				*e*S	**Sn**	**23 58 46.5 -0.1**
YAL	**Yalta**	**6.08**	**319**	*e*P	**Pn**	**23 57 40.2 +0.8**
YAL				*e*S	**Sn**	**23 58 49.5 +0.6**
ALU	**Alushta**	**6.10**	**321**	*i* P	**Pn**	**23 57 40.3 +0.7**
ALU				*i* S	**Sn**	**23 58 50.3 +0.9**
SEV	**Sevastopol'**	**6.37**	**317**	*e*P	**Pn**	**23 57 43.4 0.0**
SEV				*e*S	**Sn**	**23 58 54.4 -1.7**
SIM	**Simferopol'**	**6.44**	**322**	*e*P	**Pn**	**23 57 44.0 -0.2**
SIM				*e*S	**Sn**	**23 58 56.1 -1.5**
ASF	**Jabal al Asfar**	**8.17**	**197**	LR	LR	00 01 41.2
	comp=Z,87nm,20.0s,baz=312,slow=37					
TIRR	**Tirgusor**	**9.49**	**301**	⇑ *i*P	**Pn**	**23 58 26.7 +0.5**
EIL	**Elat**	**11.06**	**202**	LR	LR	00 03 26.3
	comp=Z,45nm,22.0s,baz=293,slow=37					
VRI	**Vrincioaia**	**11.18**	**306**	⇓ *i*P	**Pn**	**23 58 53.5 +4.3**
PLOR	**Plostina**	**11.22**	**306**	⇑ *i*P	**Pn**	**23 58 53.7 +4.0**
MLR	**Muntele Rosu**	**11.51**	**303**	Pn	**Pn**	**23 58 56.8 +3.0**
	comp=Z,0.2nm,0.3s,baz=180,slow=6.9,SNR=8.8					
MLR	**Muntele Rosu**	**11.51**	**303**	⇓ *i*P	**Pn**	**23 58 57.2 +3.4**
AKASG	**Malin Array Be**	**12.97**	**329**	P	**Pn**	**23 59 10.9 -2.7**
AKASG				pmax	pmax	
	comp=Z,2.0nm,0.3s					
AKASG	**Malin Array Be**	**12.97**	**329**	Pn	**Pn**	**23 59 10.9 -2.7**
	comp=Z,1.5nm,0.3s,baz=134,slow=13,SNR=12					
OBN	**Obninsk**	**15.24**	**353**	Pn	**Pn**	**23 59 42.6 -1.9**
OBN	**Obninsk**	**15.24**	**353**	*e*P	**Pn**	**23 59 46.2 +1.7**
OBN				*e*S	**Sn**	**00 02 27.0 -6.1**
OBN				pmax	pmax	
	comp=Z,2.0nm,0.7s					
OBN	**Obninsk**	**15.24**	**353**	Pn	**Pn**	**23 59 42.6 -1.9**
OBN	**Obninsk**	**15.24**	**353**	*e*P	**Pn**	**23 59 46.2 +1.7**
	comp=Z,2.0nm,0.7s					
PSZ	**Piszkesteto**	**16.29**	**305**	Pn	**Pn**	**23 59 56.8 -1.3**
PSZ	**Piszkesteto**	**16.29**	**305**	P	**Pn**	**23 59 56.8 -1.4**
GERES	**GERESS Array B**	**20.50**	**304**	P	**P**	**00 00 48.3 +0.9**
	comp=Z,0.3nm,0.5s,baz=101,slow=13,SNR=3.3					
FINES	**FINESS Array B**	**23.02**	**343**	P	**P**	**00 01 15.1 +0.8**
FINES				pmax	pmax	
	comp=Z,1.0nm,0.6s					
FINES	**FINESS Array B**	**23.02**	**343**	P	**P**	**00 01 15.1 +0.8**
	comp=Z,0.9nm,0.6s,mb3.4,baz=144,slow=16,SNR=4.1					
JOF	**Joensuu**	**23.47**	**350**	*e*p	**P**	**00 01 19.4 +0.4**
	comp=Z,3.1nm,0.7s,mb3.9					
JOF	**Joensuu**	**23.47**	**350**	*e*P	**P**	**00 01 19.4 +0.4**
JOF				pmax	pmax	
	comp=Z,3.0nm,0.7s,mb3.8					
BRVK	**Borovoye**	**24.50**	**48**	P	**P**	**00 01 28.0 -0.6**
BVAR	**Borovoye Array**	**24.55**	**48**	P	**P**	**00 01 32.7 +3.7**
BVAR				pmax	pmax	
	comp=Z,1.0nm,0.8s					
BVAR	**Borovoye Array**	**24.55**	**48**	P	**P**	**00 01 32.7 +3.7**
	comp=Z,0.6nm,0.8s,mb3.2,baz=243,slow=9.8,SNR=4.7					
BNI	**Bardonecchia**	**24.77**	**293**	*e*P	**P**	**00 01 31.1 0.0**
HFS	**Hagfors**	**25.86**	**330**	P	**P**	**00 01 41.0 +0.2**
HFS				pmax	pmax	
	comp=Z,1.0nm,0.7s					
HFS	**Hagfors**	**25.86**	**330**	P	**P**	**00 01 41.0 +0.2**
	comp=Z,1.4nm,0.7s,mb3.6,baz=123,slow=10,SNR=5.2					
AAK	**Ala-Archa**	**26.12**	**73**	*e*P	**P**	**00 01 42.9 -0.4**
TKM2	**Tokmak 2**	**26.89**	**72**	P	**P**	**00 01 47.8 -2.5**
KURK	**Kurchatov**	**29.01**	**55**	*e*P	**P**	**00 02 07.8 -1.4**
	comp=Z,2.0nm,0.9s,mb3.9					
KURK	**Kurchatov**	**29.01**	**55**	*e*P	**P**	**00 02 07.8 -1.4**
KURK				pmax	pmax	
	comp=Z,2.0nm,0.9s,mb3.9					
ARCES	**ARCESS Array B**	**30.52**	**350**	P	**P**	**00 02 22.4 +0.1**
ARCES				pmax	pmax	
	comp=Z,1.0nm,0.8s					
ARCES	**ARCESS Array B**	**30.52**	**350**	P	**P**	**00 02 22.4 0.0**
	comp=Z,1.4nm,0.8s,mb3.9,baz=162,slow=8.9,SNR=4.3					
NVS	**Novosibirsk**	**32.35**	**48**	*i* P	**P**	**00 02 47.0 +8.4**
ESLA	**Sonseca Array**	**33.30**	**284**	P	**P**	**00 02 45.9 -1.3**
SONM	**Songino Array**	**47.28**	**57**	P	**P**	**00 04 46.8 +4.1**
	comp=Z,0.3nm,0.7s,mb3.4,baz=280,slow=9.0,SNR=3.6					
YKA	**Yellowknife Ar**	**75.76**	**348**	*i* P	**P**	**00 07 58.5 +3.7**
YKA	**Yellowknife Ar**	**75.76**	**348**	P	**P**	**00 07 58.8 +4.0**
	comp=Z,0.3nm,0.7s,mb3.3,baz=15,slow=5.7,SNR=9.7					

CSEM ***24*** *00:13:00.4±0.2, 4003N×3973E, h0km±1km, MD3.4, Error ellipse: s-maj=1.7km s-min=1.5km az=111.0*
ISK ***24*** *00:13:00.8, 4002N×3976E, h3km, MD3.4*
DDA ***24*** *00:13:01.1, 4003N×3969E, h7km±3km, Md3.5*
ISCJB ***24*** *00:13:02.4±0.6, 4004N±003×3975E±004, h10km±5km, Error ellipse: s-maj=5.1km s-min=4.1km az=159.5*

ISC 24 00:13:03.0±0.6, 4005N±003×3973E±004, h13km±5km, n26, σ1.9 σ07/37, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EZC	**Erzincan**	**0.31**	**168**	PG	**Pg**	**00 13 09.7**	**+0.4**
EZC				*e*SG	**Sg**	**00 13 16.3**	**+2.6**
GUMT	**Gumushane**	**0.45**	**335**	PG	**Pg**	**00 13 11.3**	**-0.6**
GUMT				*e*SG	**Sg**	**00 13 18.8**	**+0.8**
KOPT	**Kop Dagi**	**0.59**	**93**	*i* P	**Pg**	**00 13 12.9**	**-1.6**
KOPT				*i* S	**Sg**	**00 13 23.0**	**+0.6**
MACK	**Trabzon**	**0.89**	**2**	*i* P	**Pg**	**00 13 19.3**	**-1.0**
MACK				*i* S	**Sg**	**00 13 32.0**	**+0.1**
KTUT	**Trabzon**	**0.93**	**2**	PG	**Pg**	**00 13 20.4**	**-0.6**
KTUT				*e*SG	**Sg**	**00 13 33.9**	**+0.6**
ESPY	**Espiye-Giresun**	**1.15**	**319**	PN	**Pn**	**00 13 23.9**	**-0.9**
KEMA	**Kemaliye**	**1.23**	**231**	*i* P	**Pn**	**00 13 23.8**	**-2.2**
KEMA				*i* S	**Sb**	**00 13 41.9**	**-0.1**
EZM	**Erzurum**	**1.26**	**96**	PN	**Pn**	**00 13 25.3**	**-1.1**
ERZM	**Erzurum**	**1.27**	**96**	*i* P	**Pn**	**00 13 25.1**	**-1.3**
ERZM				*i* S	**Sb**	**00 13 46.0**	**+3.1**
ERZM	**Erzurum**	**1.27**	**96**	*i* P	**Pn**	**00 13 25.1**	**-1.3**
ERZM				*i* S	**Sb**	**00 13 46.0**	**+3.1**
BINT	**Bingol**	**1.31**	**153**	PN	**Pn**	**00 13 25.2**	**-1.8**
GRSN	**GIRESUNGRSN**	**1.41**	**308**	*i* P	**Pn**	**00 13 28.1**	**-0.4**
GRSN				*i* S	**Sn**	**00 13 47.1**	**+0.2**
PZAR	**Pazar-Rize**	**1.43**	**38**	*e*PN	**Pn**	**00 13 28.7**	**0.0**
ELZG	**Elazig**	**1.66**	**201**	*i* P	**Pn**	**00 13 31.0**	**-0.7**
ELZG				*i* S	**Sn**	**00 13 54.5**	**+1.6**
ELZG	**Elazig**	**1.66**	**201**	*i* P	**Pn**	**00 13 31.0**	**-0.8**
ELZG				*i* S	**Sn**	**00 13 54.5**	**+1.6**
MYA	**Malataya**	**2.00**	**211**	*e*PN	**Pn**	**00 13 35.7**	**-0.8**
BCA	**Borcka**	**2.00**	**45**	*e*PN	**Pn**	**00 13 37.0**	**+0.5**
MALT	**Malatya**	**2.01**	**211**	*e*PN	**Pn**	**00 13 37.2**	**+0.6**
ARTV	**Artvin**	**2.02**	**55**	*i* P	**Pn**	**00 13 38.3**	**+1.5**
SVSK	**Karacayir**	**2.10**	**267**	*e*PN	**Pn**	**00 13 38.8**	**+0.9**
BTMT	**Batman**	**2.31**	**143**	*e*PN	**Pn**	**00 13 40.6**	**-0.2**
TOKT	**Tokat**	**2.45**	**277**	*e*PN	**Pn**	**00 13 43.3**	**+0.5**
AGRB	**Hanur-Agry**	**2.56**	**100**	*e*PN	**Pn**	**00 13 44.5**	**+0.4**
URFA	**Urfa**	**2.70**	**196**	*e*PN	**Pn**	**00 13 45.8**	**-0.4**
KVT	**Kavak**	**2.99**	**291**	*e*PN	**Pn**	**00 13 52.0**	**+1.9**
ONI	**Oni**	**3.77**	**47**	P	**Pn**	**00 14 06.2**	**+5.3**

ISCJB ***24*** *00:14:08.9±0.3, 2899N±007×43.12W±002, h10km, mb4.5/75, MS4.1/50, Error ellipse: s-maj=9.7km s-min=2.9km az=175.1*
MOS ***24*** *00:14:08.2±0.8, 2887N×43.11W, h10km, mb4.9/33, MS4.2/16, Error ellipse: s-maj=11.8km s-min=5.0km az=45.9*
IDC ***24*** *00:14:08.2±0.6, 2894N×4323W, h0km, mb3.9/20, mb1 4.0/20, mb1mx4.0/27, mbtmp3.9/20, MS4.1/33, Ms1 4.1/33, ms1mx4.0/37, Error ellipse: s-maj=16.9km s-min=14.0km az=163.0*
GCMT ***24*** *00:14:10.5±0.3, 29.13N×4328W, h12km, MW4.9/79, Moment Tensor Solution. s18,c19; s79,c105; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr=3.07±.08; Mθθ0.84±.10; Mφφ2.23±.08; Mrθ0.95±.39; Mrφ1.03±.08; Mθφ0.61±.31; Best double couple: M0=3.12900×10^16 NP1:φs=20.00000°, δ36.00000°, λ-104.00000°. NP2: φs=217.00000°, δ55.00000°, λ-80.00000°. Principal axes: T 2.9420, Plg9.0000°, Azm300.0000°; N 0.3740, Plg8.0000°, Azm31.0000°; P -3.3150, Plg77.0000°, Azm162.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***24*** *00:14:10.5±0.2, 2896N×43.10W, h10km, mb4.7/44, MS4.2/9 Error ellipse: s-maj=7.7km s-min=3.4km az=173.0*
BJI ***24*** *00:14:11.4, 2900N×43.10W, h10km, mB5.5, mb5.1, Msz4.5*
SZGRF ***24*** *00:14:21.1, 30.15N×4305W, h21km, mb4.9, MS4.2,*

2007 APR

Northern Mid-Atlantic Ridge

ISC 24 00:14:10.8±0.3, 2898N±007×4307W±002, h10km, (h20km±5km:pP-P), n378, σ0.66/356, mb4.5/75, MS4.1/50, 63C-65D, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCRV	**Puerto La Cruz**	**27.52**	**232**	LR	LR	00 29 03.8	
	comp=Z,104nm,19.3s,MS3.4,baz=66,slow=33						
BBTS	**Babate**	**28.37**	**114**	LR	LR	00 28 23.4	
	comp=Z,746nm,21.5s,MS4.2,baz=139,slow=30						
PMAFR	**Mafra**	**29.59**	**61**	*e*LR	LR	00 27 52.2	
	408nm,19.6s						
PFVI	**Vila Bisbo**	**29.71**	**65**	*e*LR	LR	00 28 01.3	
	602nm,20.0s						
MORF	**Marmelete**	**29.87**	**65**	*e*LR	LR	00 28 01.4	
	718nm,18.5s						
PBDV	**Barranco-do-Ve**	**30.43**	**65**	*e*LR	LR	00 28 19.4	
	585nm,19.5s						
EVO	**Evora**	**30.51**	**63**	*e*P	**P**	**00 20 23.9**	**-0.2**
EVO				*e*MLR	MLR		
	comp=Z,583nm,19.8s,MS3.9						
EVO	**Evora**	**30.51**	**63**	*e*LR	LR	00 28 18.7	
PVAQ	**Vaqueiros**	**30.62**	**65**	*e*LR	LR	00 28 22.2	
	comp=Z,575nm,18.5s						
PESTR	**Estremoz**	**30.89**	**62**	*e*P	**P**	**00 20 33.7**	**+6.3**
PESTR				*e*LR	LR	00 28 17.0	
	comp=Z,377nm,19.2s						
SCHQ	**Schefferville**	**31.01**	**333**	P	**P**	**00 20 27.4**	**-0.9**
	comp=Z,3.9nm,0.9s,mb4.2,baz=230,slow=17,SNR=3.7						
SCHQ				LR	LR	00 31 58.9	
	comp=Z,342nm,18.5s,MS4.0,baz=174,slow=35						
MTE	**Manteigas**	**31.16**	**59**	*e*P	**P**	**00 20 35.9**	**+6.1**
MTE				*e*LR	LR	00 28 44.2	
	comp=Z,514nm,20.0s						
PBAR	**Barrancos**	**31.23**	**63**	*e*LR	LR	00 28 37.8	
	comp=Z,565nm,17.9s						
MVO	**Moncorvo**	**31.69**	**58**	*e*P	**P**	**00 20 40.7**	**+6.2**
MVO				*e*LR	LR	00 28 57.7	
	comp=Z,355nm,20.6s						
SDV	**Santo Domingo**	**32.70**	**238**	*e*P	**P**	**00 20 45.0**	**+1.5**
MDT	**Midelt**	**33.10**	**74**	LR	LR	00 31 04.7	
	comp=Z,626nm,21.6s,MS4.3,baz=281,slow=31						
ESDC	**Sonseca Array**	**33.78**	**61**	P	**P**	**00 20 52.7**	**0.0**
	comp=Z,0.3nm,0.5s,mb3.5,baz=264,slow=9.1,SNR=3.9						
ESDC				LR	LR	00 31 19.5	
	comp=Z,240nm,20.7s,MS3.9,baz=240,slow=30						
ESLA	**Sonseca Array**	**33.78**	**61**	*e*P	**P**	**00 20 54.2**	**+1.5**
	comp=Z,1.5nm,1.1s,mb3.8						
TKL	**Tuckaleechee C**	**34.85**	**292**	LR	LR	00 32 27.3	
	comp=Z,466nm,20.2s,MS4.2,baz=168,slow=32						
CART	**Cartagena**	**35.96**	**65**	P	**P**	**00 21 13.2**	**+1.6**
QUIF	**Quistinic**	**36.03**	**47**	*e*P	**P**	**00 21 12.0**	**-0.1**
	comp=Z,81nm,1.6s,mb5.1						
QUIF	**Quistinic**	**36.03**	**47**	*e*P	**P**	**00 21 12.0**	**-0.1**
	comp=Z,40nm,1.6s,mb5.1						
QUIF	**Quistinic**	**36.03**	**47**	*e*P	**P**	**00 21 12.0**	**-0.1**
QUIF				pmax	pmax		
	comp=Z,40nm,1.6s,mb5.1						
ROSF	**Rostrenen**	**36.08**	**46**	*e*P	**P**	**00 21 12.3**	**-0.2**
SJPF	**Ste Jean**	**36.27**	**56**	*e*P	**P**	**00 21 14.1**	**-0.2**
SGMF	**Saint Gilles**	**36.52**	**47**	*e*P	**P**	**00 21 15.6**	**-0.6**
	comp=Z,110nm,1.6s,mb5.1						
SGMF	**Saint Gilles**	**36.52**	**47**	*e*P	**P**	**00 21 15.6**	**-0.6**
	comp=Z,55nm,1.6s,mb5.1						
SGMF	**Saint Gilles**	**36.52**	**47**	*e*P	**P**	**00 21 15.6**	**-0.6**
SGMF				pmax	pmax		
	comp=Z,55nm,1.6s,mb5.1						
ETSF	**Etsaut**	**36.73**	**56**	*e*P	**P**	**00 21 18.3**	**+0.2**
	comp=Z,44nm,1.5s,mb4.8						
ETSF	**Etsaut**	**36.73**	**56**	*e*P	**P**	**00 21 18.3**	**+0.2**
	comp=Z,22nm,1.5s,mb4.8						
ETSF	**Etsaut**	**36.73**	**56**	*e*P	**P**	**00 21 18.3**	**+0.2**
ETSF				pmax	pmax		
	comp=Z,22nm,1.5s,mb4.8						
EPF	**Esparros**	**37.40**	**56**	*e*P	**P**	**00 21 24.0**	**+0.2**
	comp=Z,34nm,1.5s,mb4.7						
EPF	**Esparros**	**37.40**	**56**	*e*P	**P**	**00 21 24.0**	**+0.2**
	comp=Z,17nm,1.5s,mb4.7						
EPF	**Esparros**	**37.40**	**56**	*e*P	**P**	**00 21 24.0**	**+0.2**
EPF				pmax	pmax		
	comp=Z,17nm,1.5s,mb4.7						
GRR	**Gorron**	**37.64**	**47**	*e*P	**P**	**00 21 25.6**	**-0.2**
	comp=Z,6.3nm,0.7s,mb4.1						
GRR	**Gorron**	**37.64**	**47**	*e*P	**P**	**00 21 25.6**	**-0.2**
	comp=Z,3.2nm,0.7s,mb4.2						
GRR	**Gorron**	**37.64**	**47**	*e*P	**P**	**00 21 25.6**	**-0.2**
GRR				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.1						
MFF	**Saint Martin d**	**37.68**	**50**	*e*P	**P**	**00 21 25.9**	**-0.3**
	comp=Z,34nm,1.2s,mb4.7						
MFF	**Saint Martin d**	**37.68**	**50**	*e*P	**P**	**00 21 25.9**	**-0.3**
	comp=Z,17nm,1.2s,mb4.7						
MFF	**Saint Martin d**	**37.68**	**50**	*e*P	**P**	**00 21 25.9**	**-0.3**
MFF				pmax	pmax		
	comp=Z,17nm,1.2s,mb4.7						
LFF	**La Frestale**	**37.97**	**53**	*e*P	**P**	**00 21 28.0**	**-0.6**
	comp=Z,22nm,1.0s,mb4.5						
LFF	**La Frestale**	**37.97**	**53**	*e*P	**P**	**00 21 28.0**	**-0.6**
	comp=Z,11nm,1.0s,mb4.5						
LFF	**La Frestale**	**37.97**	**53**	*e*P	**P**	**00 21 28.0**	**-0.6**
LFF				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.5						
FLN	**La Foliniere**	**37.98**	**47**	*e*P	**P**	**00 21 28.3**	**-0.4**
FLN				*e*MLR	MLR		
	comp=Z,442nm,19.0s,MS4.0						
FLN	**La Foliniere**	**37.98**	**47**	*e*P	**P**	**00 21 28.3**	**-0.4**
FLN				MLR	MLR		
	comp=Z,440nm,19.0s,MS4.3						
ROSC	**El Rosal**	**38.11**	**237**	LR	LR	00 36 14.4	
	comp=Z,165nm,19.9s,MS3.8,baz=265,slow=35						
LDF	**La Druitiere**	**38.17**	**47**	*e*P	**P**	**00 21 30.0**	**-0.3**
	comp=Z,6.9nm,0.8s,mb4.2						
LDF	**La Druitiere**	**38.17**	**47**	*e*P	**P**	**00 21 30.0**	**-0.3**
	comp=Z,3.5nm,0.8s,mb4.1						
LDF	**La Druitiere**	**38.17**	**47**	*e*P	**P**	**00 21 30.0**	**-0.3**
LDF				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.1						
BORG	**Borgarnes**	**38.33**	**15**	LR	LR	00 33 25.3	
	comp=Z,216nm,19.6s,MS4.0,baz=332,slow=30						
PLAL	**Pickwick Lake**	**38.39**	**291**	*e*P	**P**	**00 21 32.9**	**+0.6**
RJF	**Les Rejaudoux**	**38.57**	**53**	*e*P	**P**	**00 21 33.7**	**0.0**
RJF				*e*MLR	MLR		
	comp=Z,600nm,20.5s,MS4.1						
RJF	**Les Rejaudoux**	**38.57**	**53**	*e*P	**P**	**00 21 33.7**	**0.0**
RJF				MLR	MLR		
	comp=Z,600nm,20.5s,MS4.4						
MTLF	**Montolieu**	**38.80**	**56**	*e*P	**P**	**00 21 35.3**	**-0.3**
	comp=Z,57nm,1.6s,mb4.8						
MTLF	**Montolieu**	**38.80**	**56**	*e*P	**P**	**00 21 35.3**	**-0.3**
	comp=Z,28nm,1.6s,mb4.8						
MTLF	**Montolieu**	**38.80**	**56**	*e*P	**P**	**00 21 35.3**	**-0.3**
MTLF				pmax	pmax		
	comp=Z,29nm,1.6s,mb4.8						
CAF	**Calviac**	**38.90**	**53**	*e*P	**P**	**00 21 35.9**	**-0.5**
TCF	**Toulx Ste Croi**	**39.22**	**51**	*e*P	**P**	**00 21 38.9**	**-0.2**
	comp=Z,24nm,1.1s,mb4.5						
TCF	**Toulx Ste Croi**	**39.22**	**51**	*e*P	**P**	**00 21 38.9**	**-0.2**
	comp=Z,12nm,1.1s,mb4.5						
TCF	**Toulx Ste Croi**	**39.22**	**51**	*e*P	**P**	**00 21 38.9**	**-0.2**
TCF				pmax	pmax		
	comp=Z,12nm,1.1s,mb4.5						
BGF	**Bois d'Agland**	**39.70**	**51**	*e*P	**P**	**00 21 42.7**	**-0.4**
LASF	**Ste Croix**	**40.06**	**55**	*e*P	**P**	**00 21 45.9**	**-0.3**
	comp=Z,5.0nm,0.7s,mb4.1						
AVF	**Avril sur Loir**	**40.08**	**51**	*e*P	**P**	**00 21 45.5**	**-0.8**
SSF	**Saint Saulge**	**40.23**	**50**	*e*P	**P**	**00 21 47.2**	**-0.3**
SMF	**Signal de Mont**	**40.39**	**51**	*e*P	**P**	**00 21 48.6**	**-0.2**
	comp=Z,58nm,1.3s,mb4.8						
SMF	**Signal de Mont**	**40.39**	**51**	*e*P	**P**	**00 21 48.6**	**-0.2**
	comp=Z,29nm,1.3s,mb4.8						
SMF	**Signal de Mont**	**40.39**	**51**	*e*P	**P**	**00 21 48.6**	**-0.2**
SMF				pmax	pmax		
	comp=Z,29nm,1.3s,mb4.8						
LOR	**Lormes**	**40.50**	**50**	*e*P	**P**	**00 21 49.3**	**-0.5**
	comp=Z,5.5nm,0.8s,mb4.0						
LOR				*e*MLR	MLR		
	comp=Z,286nm,21.5s,MS3.8						
LOR	**Lormes**	**40.50**	**50**	*e*P	**P**	**00 21 49.3**	**-0.5**
	comp=Z,2.8nm,0.8s,mb4.0						
LOR				LR	LR		
	comp=Z,290nm,21.5s,MS4.1						
LOR	**Lormes**	**40.50**	**50**	*e*P	**P**	**00 21 49.3**	**-0.5**
LOR				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.1						
LOR				MLR	MLR		
	comp=Z,290nm,21.5s,MS4.1						

VIVF	**Saint-Julien-l**	**40.73**	**54**	*e*P	**P**	**00 21 51.5 -0.2**
	comp=Z,44nm,1.8s,mb4.5					
VIVF	**Saint-Julien-l**	**40.73**	**54**	*e*P	**P**	**00 21 51.5 -0.2**
	comp=Z,22nm,1.8s,mb4.5					
VIVF	**Saint-Julien-l**	**40.73**	**54**	*e*P	**P**	**00 21 51.5 -0.2**
VIVF				pmax	pmax	
	comp=Z,22nm,1.8s,mb4.5					
CCM	**Cathedral Cave**	**40.79**	**296**	*e*P	**P**	**00 21 51.2 -1.0**
BAIF	**Baives**	**41.27**	**46**	*e*P	**P**	**00 21 55.6 -0.4**
SMRF	**Simiane la Rot**	**41.28**	**55**	*e*P	**P**	**00 21 56.2 -0.1**
	comp=Z,16nm,1.1s,mb4.2					
SMRF	**Simiane la Rot**	**41.28**	**55**	*e*P	**P**	**00 21 56.2 -0.1**
	comp=Z,16nm,1.1s,mb4.5					
MEZF	**Maizieres J'vi**	**41.50**	**48**	*e*P	**P**	**00 21 57.5 -0.5**
	comp=Z,22nm,0.8s,mb4.5					
MEZF	**Maizieres J'vi**	**41.50**	**48**	*e*P	**P**	**00 21 57.5 -0.5**
	comp=Z,22nm,0.8s,mb4.8					
ORIF	**Oris-en-Rattie**	**41.59**	**54**	*e*P	**P**	**00 21 58.6 -0.1**
ORIF				*e*MLR	MLR	
	comp=Z,379nm,19.8s,MS4.0					
CABF	**La Chapelle**	**41.91**	**51**	*e*P	**P**	**00 22 00.7 -0.7**
	comp=Z,77nm,1.6s,mb4.8					
CABF	**La Chapelle**	**41.91**	**51**	*e*P	**P**	**00 22 00.7 -0.7**
	comp=Z,38nm,1.6s,mb4.8					
CABF	**La Chapelle**	**41.91**	**51**	*e*P	**P**	**00 22 00.7 -0.7**
CABF				pmax	pmax	
	comp=Z,38nm,1.6s,mb4.8					
LMR	**La Mourre**	**41.92**	**56**	*e*P	**P**	**00 22 00.4 -1.1**
FRF	**La Foret Royal**	**42.03**	**56**	*e*P	**P**	**00 22 01.7 -0.7**
	comp=Z,40nm,1.5s,mb4.5					
FRF	**La Foret Royal**	**42.03**	**56**	*e*P	**P**	**00 22 01.7 -0.7**
	comp=Z,20nm,1.5s,mb4.5					
FRF	**La Foret Royal**	**42.03**	**56**	*e*P	**P**	**00 22 01.7 -0.7**
FRF				pmax	pmax	
	comp=Z,20nm,1.5s,mb4.5					
LPL	**La Plagne**	**42.24**	**53**	*e*P	**P**	**00 22 04.0 -0.1**
LPG	**La Plagne**	**42.25**	**53**	*e*P	**P**	**00 22 04.4 +0.2**
HAU	**Haudompre**	**42.28**	**49**	*e*P	**P**	**00 22 03.9 -0.5**
HAU				*e*MLR	MLR	
	comp=Z,263nm,21.8s,MS3.8					
HAU	**Haudompre**	**42.28**	**49**	*e*P	**P**	**00 22 03.9 -0.5**
HAU				MLR	MLR	
	comp=Z,260nm,21.8s,MS4.1					
DBIC	**Dimbokro**	**42.32**	**114**	P	**P**	**00 22 06.1 +1.1**
	comp=Z,13nm,1.3s,mb4.4					
DBIC				LR	LR	00 37 28.0
DBIC	**Dimbokro**	**42.32**	**114**	P	**P**	**00 22 04.2 -0.9**
	comp=Z,2.9nm,0.9s,mb3.9,baz=113,slow=4.6,SNR=4.0					
DBIC				LR	LR	00 37 28.0
	comp=Z,705nm,18.9s,MS4.6,baz=273,slow=33					
WLF	**Walferdange**	**42.42**	**47**	P	**P**	**00 22 05.7 +0.1**
LIC	**Lamto**	**42.45**	**115**	*e*P	**P**	**00 22 05.4 -0.7**
	comp=Z,26nm,1.1s,mb4.5					
LIC				*e*MLR	MLR	
	comp=Z,774nm,20.5s,MS4.3					
LIC	**Lamto**	**42.45**	**115**	*e*P	**P**	**00 22 05.4 -0.7**
	comp=Z,13nm,1.1s,mb4.5					
LIC				LR	LR	
	comp=Z,390nm,20.5s,MS4.3					
HINF	**Hinteralfeld**	**42.59**	**50**	*e*P	**P**	**00 22 06.6 -0.3**
CDF	**Champ du Feu**	**42.95**	**49**	*e*P	**P**	**00 22 09.6 -0.2**
BFO	**Black Forest**	**43.64**	**49**	*e*P	**P**	**00 22 15.4 +0.1**
	comp=Z,7.3nm,0.9s,mb4.4					
BFO	**Black Forest**	**43.64**	**49**	*e*P	**P**	**00 22 15.6 +0.2**
BFO				pmax	pmax	
	comp=Z,15nm,1.2s,mb4.6					
BFO	**Black Forest**	**43.64**	**49**	*e*P	**P**	**00 22 15.6 +0.2**
	comp=Z,15nm,1.2s,mb4.6					
PGF	**Pioggiola**	**43.72**	**57**	*e*P	**P**	**00 22 16.1 0.0**
	comp=Z,25nm,1.3s,mb4.5					
PGF	**Pioggiola**	**43.72**	**57**	*e*P	**P**	**00 22 16.1 0.0**
	comp=Z,12nm,1.3s,mb4.5					
PGF	**Pioggiola**	**43.72**	**57**	*e*P	**P**	**00 22 16.1 0.0**
PGF				pmax	pmax	
	comp=Z,12nm,1.3s,mb4.5					
KEST	**Kesra**	**44.36**	**67**	P	**P**	**00 22 22.2 +0.9**
	comp=Z,1.3nm,0.9s,mb3.7,baz=191,slow=5.3,SNR=4.1

comp=Z,200nm,16.3s,MS4.2
GEC2 GERESS Array S 47.23 49 P **P 00 22 43.7 -0.2**
GEC2 GERESS Array S 47.23 49 *e*P **P 00 22 43.6 -0.3**
GEC2 pmax pmax
comp=Z,11nm,1.4s,mb4.6
GEC2 GERESS Array S 47.23 49 *e*P **P 00 22 43.6 -0.3**
comp=Z,11nm,1.4s,mb4.6
GERES GERESS Array B 47.23 49 P **P 00 22 42.9 -0.9**
comp=Z,0.9nm,0.7s,mb3.8,baz=284,slow=8.1,SNR=4.0
GERES LR LR 00 39 08.9
comp=Z,113nm,18.6s,MS3.9,baz=256,slow=32
BRG Berggiesshubel 47.54 46 *e*P **P 00 22 49.0 +2.8**
comp=Z,7.0nm,1.4s,mb4.5
BRG S **S 00 29 47.0 +6.0**
BRG
comp=N,172nm,24.9s
BRG
comp=E,217nm,18.6s
BRG
comp=Z,361nm,18.2s
NAO01 NORSAR Array S 47.73 32 *e*P **P 00 22 47.7 +0.2**
OBKA Obir 47.73 52⇑*i*P **P 00 22 47.0 -0.7**
comp=Z,14nm,1.0s,mb4.9
PRU Pruhonice 47.85 47 *e*P **P 00 22 49.0 +0.4**
PRU *e*pP pP 00 22 55.3 +3.5
PRU AMS AMS 00 39 40.0
comp=Z,300nm,20.9s,MS4.2
PVCC Panska Ves 47.91 47 *e*P **P 00 22 54.9 +5.8**
PVCC LR LR
comp=Z,500nm,15.7s,MS4.6
PVCC Panska Ves 47.91 47 *e*pP pP 00 22 54.9 +2.7
PVCC AMS AMS 00 40 30.0
comp=Z,500nm,15.7s,MS4.6
NB2 NORSAR Subarra 47.94 32 P **P 00 22 48.9 -0.2**
comp=Z,19nm,1.4s,mb4.9,baz=255,slow=7.4
NOA NORSAR Array B 47.94 32 P **P 00 22 48.9 -0.3**
comp=Z,0.7nm,0.7s,mb3.8,baz=254,slow=7.9,SNR=3.4
NOA LR LR 00 40 28.3
comp=Z,44nm,18.3s,MS3.5,baz=315,slow=33
SIV San Ignacio 47.97 204 P **P 00 22 49.2 -0.6**
comp=Z,1.4nm,0.8s,mb4.0,baz=44,slow=11,SNR=7.6
TREC Trest 48.43 48 *e*P **P 00 22 52.6 -0.5**
TREC AMS AMS 00 43 00.0
comp=Z,200nm,12.3s,MS4.3
UPC Upice 48.82 47 *e*P **P 00 22 56.9 +0.8**
UPC *e*pP pP 00 23 02.3 +3.0
JCT Junction City 48.84 287 *e*P **P 00 22 56.3 -0.3**
comp=Z,20nm,1.3s,mb5.0
JCT Junction City 48.84 287 *e*P **P 00 22 56.3 -0.2**
JCT pmax pmax
comp=Z,20nm,1.3s,mb5.0
HFS Hagfors 48.88 34 P **P 00 22 56.5 +0.1**
HFS pmax pmax
comp=Z,3.0nm,1.0s
HFS Hagfors 48.88 34 P **P 00 22 56.5 0.0**
comp=Z,2.8nm,1.0s,mb4.2,baz=242,slow=3.2,SNR=4.5
DPC Dobruska-Polom 49.02 47 *e*P **P 00 22 58.4 +0.8**
DPC AMS AMS 00 40 40.0
comp=Z,300nm,16.4s,MS4.4
FFC Flin Flon 49.07 319 *e*P **P 00 22 57.3 -0.7**
MORC Moravsky Berou 49.78 48 P **P 00 23 04.1 +0.6**
TIP Timpagrande 49.80 62 *e*P **P 00 23 03.5 -0.3**
OKC Ostrava-Krasne 50.17 48 *e*P **P 00 23 09.1 +2.6**
LPAZ La Paz 51.10 212 P **P 00 23 11.8 -2.0**
comp=Z,0.6nm,0.5s,mb3.8,baz=41,slow=9.3,SNR=3.2
LPAZ LR LR 00 43 49.1
comp=Z,186nm,19.9s,MS4.1,baz=302,slow=35
PSZ Piszkesteto 51.35 50 P **P 00 23 12.6 -2.8**
TXAR Lajitas Array 52.37 286 P **P 00 23 21.6 -1.7**
TXAR 00 24 34.0
TXAR pmax pmax
comp=Z,3.0nm,1.0s
TXAR pmax pmax
comp=Z,1.0nm,0.8s
TXAR MLR MLR
comp=Z,185nm,19.5s
TXAR Lajitas Array 52.37 286 P **P 00 23 21.6 -1.7**
comp=Z,2.7nm,1.0s,mb4.1,baz=105,slow=8.2,SNR=11
TXAR PcP PcP 00 24 34.0 -0.3
comp=Z,0.7nm,0.8s,baz=86,slow=3.7,SNR=3.7
TXAR LR LR 00 45 40.6
comp=Z,185nm,19.5s,MS4.1,baz=5.0,slow=36
KWP Kalwaria 53.14 48 P **P 00 23 29.8 +1.2**
ANMO Albuquerque 53.33 294 *e*P **P 00 23 31.4 +1.2**
BNM Barren Site 53.64 293 *e*P **P 00 23 32.5 -0.1**
RLMT Red Lodge 53.79 307 *e*P **P 00 23 33.5 0.0**
EGMT Eagleton 53.84 310 *e*P **P 00 23 33.7 -0.1**
comp=Z,20nm,1.3s,mb4.9
EGMT Eagleton 53.84 310 ⇓P **P 00 23 33.5 -0.3**
baz=54
LENM Lemitar 53.91 293 *e*P **P 00 23 35.3 +0.7**
LAZ Ladron 53.99 293 *e*P **P 00 23 35.6 +0.5**
GCMT Greycliff 53.99 307 *e*P **P 00 23 34.9 -0.1**
PDAR Pinedale Array 54.30 304 P **P 00 23 36.0 -1.2**
comp=Z,5.5nm,0.8s,mb4.5,baz=91,slow=7.4,SNR=34
PDAR LR LR 00 44 46.6
comp=Z,582nm,19.7s,MS4.7,baz=117,slow=34
LOHW Long Hollow 54.94 305 *e*P **P 00 23 42.0 +0.1**
comp=Z,9.6nm,1.2s,mb4.7
FLWY Flagg Ranch 54.94 305 *e*P **P 00 23 42.4 +0.6**
MOOW Moose Ponds 55.02 305 *e*P **P 00 23 42.3 -0.1**
SNOW Snow King Moun 55.07 305 *e*P **P 00 23 43.3 +0.5**
comp=Z,12nm,1.0s,mb4.9
FINES FINESS Array B 55.07 33 P **P 00 23 42.7 +0.2**
FINES LR LR 00 43 06.5
FINES FINESS Array B 55.07 33 P **P 00 23 42.7 +0.2**
comp=Z,2.8nm,0.9s,mb4.3,baz=245,slow=7.6,SNR=4.5
FINES LR LR 00 43 06.5
comp=Z,86nm,21.3s,MS3.8,baz=265,slow=32
IMW Indian Meadow 55.13 305 *e*P **P 00 23 43.6 +0.3**
comp=Z,15nm,1.3s,mb4.9
REDW Red Top Meadow 55.15 305 *e*P **P 00 23 43.0 -0.4**
TPAW Teton Pass 55.20 305 *e*P **P 00 23 44.1 +0.3**
comp=Z,13nm,1.1s,mb4.9
ARCES ARCESS Array B 55.69 23 LR LR 00 43 22.9
comp=Z,42nm,21.2s,MS3.5,baz=323,slow=32
ARE0 ARCESS Array S 55.69 23 P **P 00 23 47.1 +0.3**
EDM Edmonton 55.74 317 *e*P **P 00 23 46.9 -0.6**
Y19A Nutrioso 55.80 293⇑P **P 00 23 49.1 +0.8**
baz=56
D15A Lincoln 55.81 309⇑P **P 00 23 47.8 -0.3**
baz=55
F15A Butte 55.95 308⇑P **P 00 23 48.4 -0.7**
baz=56
HWUT Hardware Ranch 55.96 303 *e*P **P 00 23 49.1 -0.1**
E15A Deer Lodge 55.97 309⇓P **P 00 23 48.6 -0.7**
baz=56
G15A Dillon 56.04 307⇑P **P 00 23 49.6 -0.2**
baz=56
JLU Jordanelle 56.06 301 *e*P **P 00 23 50.4 +0.4**
DLMT Dillon 56.09 307 *e*P **P 00 23 50.5 +0.4**
119A Ashpeak Ranch, 56.14 292⇑P **P 00 23 51.1 +0.4**
baz=56
YKA Yellowknife Ar 56.24 328 P **P 00 23 49.5 -1.3**
YKA PcP PcP 00 24 47.4 -1.0
YKA LR LR 00 47 18.9
YKA Yellowknife Ar 56.24 328 P **P 00 23 49.5 -1.4**
YKA 00 24 47.3
YKA pmax pmax
comp=Z,1.0nm,0.8s
YKA pmax pmax
comp=Z,1.0nm,1.1s
YKA Yellowknife Ar 56.24 328 P **P 00 23 49.5 -1.3**
comp=Z,1.1nm,0.8s,mb3.9,baz=89,slow=7.5,SNR=20
YKA PcP PcP 00 24 47.3 -1.0
comp=Z,1.0nm,1.1s,baz=91,slow=5.1,SNR=3.6
YKA LR LR 00 47 18.9
comp=Z,199nm,19.8s,MS4.2,baz=125,slow=35
219A White Tail Can 56.31 291⇓P **P 00 23 52.7 +0.9**
baz=56
GVD Gavdhos 56.37 66 P **P 00 23 53.9 +1.6**
D14A Greenough 56.47 309 P **P 00 23 52.5 -0.2**
baz=56,SNR=5.3
WALA Waterton Lakes 56.48 312 *e*P **P 00 23 52.2 -0.7**
comp=Z,9.3nm,1.1s,mb4.7
C14A Swan Lake 56.54 310⇑P **P 00 23 52.4 -0.8**
baz=56
E14A Clinton 56.55 309⇑P **P 00 23 52.8 -0.6**
baz=56
NLU North Lily Min 56.66 301 *e*P **P 00 23 53.6 -0.7**
CPUP Villa Florida 56.67 195 P **P 00 23 52.4 -1.9**
comp=Z,0.6nm,0.5s,mb3.9,baz=334,slow=4.2,SNR=4.9
CPUP LR LR 00 46 10.7
comp=Z,88nm,21.3s,MS3.8,baz=212,slow=34
118A Homack Ranch, 56.72 292⇑P **P 00 23 55.0 +0.2**
baz=56

T16A Glen Canyon Da 56.87 297⇑P **P 00 23 56.0 +0.2**
baz=56
218A Dragoon 56.96 291⇓P **P 00 23 57.2 +0.7**
baz=57
E13A Victor 57.02 309⇑P **P 00 23 56.4 -0.3**
baz=57
MSU Marysvale 57.04 299 *e*P **P 00 23 57.5 +0.5**
318A Bisbee 57.06 290⇓P **P 00 23 57.9 +0.6**
baz=57
C13A Hot Springs 57.10 310⇑P **P 00 23 56.7 -0.5**
baz=57
DUG Dugway 57.16 301 *e*P **P 00 23 58.0 +0.1**
comp=Z,8.2nm,0.9s,mb4.8
DUG Dugway 57.16 301 *e*P **P 00 23 58.0 +0.1**
DUG pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
DUG Dugway 57.16 301⇑P **P 00 23 57.7 -0.2**
baz=57
AKASG Malin Array Be 57.22 46 *i*P **P 00 23 57.5 -0.6**
AKASG Malin Array Be 57.22 46 P **P 00 23 58.3 +0.2**
comp=Z,0.3nm,0.3s,mb3.8,baz=274,slow=6.8,SNR=11
AKASG LR LR 00 46 59.3
comp=Z,247nm,18.1s,MS4.3,baz=280,slow=34
G13A Cobalt 57.27 307⇓P **P 00 23 58.2 -0.4**
baz=57
M14A Sheep Mountain 57.30 303⇓P **P 00 23 57.9 -0.9**
baz=57
N14A Grayback Hills 57.31 302⇓P **P 00 23 58.6 -0.3**
baz=57
117A Oracle 57.36 292⇓P **P 00 23 59.7 +0.3**
baz=57
H13A Challis 57.38 307⇑P **P 00 23 58.9 -0.4**
baz=57
I13A Wildhorse Cree 57.40 306⇑P **P 00 23 59.0 -0.4**
baz=57
X16A Lo Mia Camp, P 57.44 294⇓P **P 00 23 59.8 -0.1**
baz=57
J13A Cove Ranch, Pi 57.53 305⇑P **P 00 24 00.4 0.0**
baz=57
T15A Red Dirt Ranch 57.54 297⇑P **P 00 24 00.6 0.0**
baz=57
Y16A Circle Bar Ran 57.61 294⇑P **P 00 24 01.8 +0.7**
baz=57
217A Green Valley 57.64 291⇓P **P 00 24 01.2 -0.1**
baz=57
H12A Diamond D Ranc 57.80 307 P **P 00 24 02.6 +0.3**
baz=57,SNR=8.7
F12A Elk City 57.87 308⇑P **P 00 24 02.5 -0.2**
baz=58
S14A Cedar City 57.97 298⇓P **P 00 24 04.0 +0.4**
baz=58
X15A Humboldt 58.06 295⇓P **P 00 24 05.0 +0.8**
baz=58
N13A Wendover, West 58.06 302⇓P **P 00 24 03.8 -0.4**
baz=58
T14A Hurricane 58.08 298⇓P **P 00 24 04.3 0.0**
baz=58
A11A Hall Mountain, 58.09 312⇓P **P 00 24 04.0 -0.2**
baz=58
B11A Sandpoint 58.18 311⇓P **P 00 24 04.5 -0.4**
baz=58
K12A Draper Farm, C 58.20 304⇓P **P 00 24 04.9 -0.2**
baz=58
J12A Stokes Ranch, 58.22 305⇑P **P 00 24 04.8 -0.4**
baz=58
P13A Bates Ranch, G 58.23 301 P **P 00 24 06.2 +0.8**
baz=58,SNR=7.5
Y15A Casa Rosa Ranc 58.27 294⇑P **P 00 24 05.9 +0.1**
baz=58
D11A Klaveano Farm, 58.38 310⇑P **P 00 24 05.5 -0.8**
baz=58
L12A House Creek Ra 58.39 304⇑P **P 00 24 06.0 -0.4**
baz=58
V14A Boquillas Ranc 58.45 296⇑P **P 00 24 07.7 +0.8**
baz=58
F11A Grangeville 58.47 308⇑P **P 00 24 06.7 -0.2**
baz=58
M12A Wells 58.47 303⇑P **P 00 24 06.7 -0.3**
baz=58
115A Sonoran Desert 58.53 293⇓P **P 00 24 07.8 +0.2**
baz=58
W14A Seligman 58.54 296⇓P **P 00 24 07.8 +0.2**
baz=58
S13A Holt Ranch, En 58.55 298⇑P **P 00 24 07.7 +0.1**
baz=58
X14A Yava 58.58 295⇑P **P 00 24 07.6 -0.3**
baz=58
H11A Donnelly 58.59 307⇑P **P 00 24 07.6 -0.2**
baz=58
O12A Currie 58.59 302⇑P **P 00 24 07.8 -0.1**
baz=58
G11A Walters Elk Ra 58.63 308 P **P 00 24 08.1 0.0**
baz=58,SNR=6.2
N12A Clover Valley, 58.68 302⇓P **P 00 24 08.4 -0.1**
baz=58
NEW Newport 58.70 311 *e*P **P 00 24 08.1 -0.4**
I11A Placerville 58.70 306⇓P **P 00 24 08.5 -0.1**
baz=58
MFID Camas Ranch 58.71 305 P **P 00 24 09.0 +0.3**
baz=58,SNR=6.1
T13A Saint George 58.72 298⇑P **P 00 24 09.2 +0.4**
baz=58
Y14A Wickenburg 58.82 294⇑P **P 00 24 10.5 +0.9**
baz=58
P12A McGill 58.90 301⇓P **P 00 24 10.2 +0.2**
baz=58
L11A Cat Creek Ranc 58.92 304⇑P **P 00 24 10.4 +0.3**
baz=58
U13A Pakoon Wash 58.92 297⇓P **P 00 24 10.6 +0.4**
baz=59
K11A Parker Ranch, 58.99 305⇓P **P 00 24 10.3 -0.3**
baz=59
M11A Holland Ranch, 59.11 303⇑P **P 00 24 11.9 +0.4**
baz=59
H10A Noah's Angus R 59.12 307⇑P **P 00 24 10.8 -0.7**
baz=59
F10A Beach Ranch, E 59.19 309⇓P **P 00 24 11.6 -0.3**
baz=59
W13A Hualapai Mount 59.20 296⇑P **P 00 24 12.5 +0.3**
baz=59
G10A Bishop Farm, J 59.24 308⇑P **P 00 24 12.5 +0.2**
baz=59
X13A Yucca 59.30 295⇓P **P 00 24 13.2 +0.4**
baz=59
O11A Cowboy Ranch, 59.30 302⇓P **P 00 24 12.9 +0.1**
baz=59
S12A Delamar Landin 59.30 299⇓P **P 00 24 13.8 +0.9**
baz=59
B09A Rice 59.35 312⇓P **P 00 24 12.8 -0.2**
baz=59
U12A Valley of Fire 59.36 297⇑P **P 00 24 13.2 -0.1**
baz=59
L10A Juniper Basin 59.46 304 P **P 00 24 14.5 +0.6**
baz=59,SNR=6.0
Y13A Salome 59.51 294⇓P **P 00 24 14.6 +0.2**
baz=59
A09A Danville 59.54 312⇓P **P 00 24 14.4 +0.1**
baz=59
K10A MacKenzie Ranc 59.59 305⇓P **P 00 24 14.3 -0.5**
baz=59
PDMCI Parker Dam,Lak 59.62 295⇑P **P 00 24 15.1 0.0**
baz=59
M10A I.L. Ranch, Tu 59.63 303⇑P **P 00 24 15.2 +0.1**
baz=59
R11A Troy Canyon, C 59.68 300⇓P **P 00 24 15.5 0.0**
baz=59
T11A Corn Creek, Al 59.68 298⇑P **P 00 24 15.5 0.0**
baz=59
I09A Lost Marbles R 59.95 306⇓P **P 00 24 16.9 -0.3**
baz=60
A08A Turner Farm, O 59.99 312⇑P **P 00 24 17.0 -0.3**
baz=60
D08A Wollman Farm, 60.12 310⇓P **P 00 24 17.8 -0.5**
baz=60
Q10A Clear Creek Ra 60.18 300⇓P **P 00 24 19.0 +0.1**
baz=60
K09A Rome 60.22 305⇑P **P 00 24 19.2 +0.1**
baz=60
R10A Warm Springs 60.24 300⇑P **P 00 24 19.4 +0.1**
baz=60
F08A Pendleton 60.28 309⇓P **P 00 24 19.1 -0.3**
baz=60
M09A Marrel Ranch, 60.32 304⇑P **P 00 24 19.8 -0.1**
baz=60
L09A Wilkinson Ranc 60.34 304⇑P **P 00 24 19.9 0.0**
baz=60
O09A Fish Creek Ran 60.44 302⇓P **P 00 24 20.6 0.0**
baz=60

H08A Prairie City 60.48 307⇓P **P 00 24 20.6 -0.2**
baz=60
N09A Rock Creek Ran 60.51 303⇓P **P 00 24 20.9 -0.3**
baz=60
G08A Pilot Rock 60.52 308⇓P **P 00 24 20.9 -0.2**
baz=60
GLA Glamis 60.53 294⇓P **P 00 24 21.3 0.0**
baz=60
S10A Tonopah Range, 60.56 299 P **P 00 24 22.1 +0.7**
baz=60,SNR=5.5
J08A Circle Bar Ran 60.61 306 P **P 00 24 21.4 -0.3**
baz=60,SNR=6.9
B07A Winthrop 60.63 312⇑P **P 00 24 20.9 -0.9**
baz=60
A07A Ashnola River, 60.69 313⇑P **P 00 24 22.1 -0.1**
baz=60
GMRC Granite Mounta 60.69 296⇓P **P 00 24 22.4 0.0**
baz=60
K08A Mann Creek Ran 60.76 305⇑P **P 00 24 23.0 +0.2**
baz=60
N08A GE Springer Mi 60.98 303 P **P 00 24 24.0 -0.3**
baz=61,SNR=5.7
OBN Obninsk 60.99 40⇓*e*P **P 00 24 23.9 -0.2**
OBN pmax pmax
comp=Z,11nm,1.2s,mb4.9
G07A Ruggs Ranch, H 61.01 308⇓P **P 00 24 24.0 -0.4**
baz=61
I07A Izee 61.17 307⇓P **P 00 24 25.6 +0.1**
baz=61
J07A Hines 61.20 306⇓P **P 00 24 25.6 -0.1**
baz=61
K07A Rock Creek Ran 61.32 305 P **P 00 24 26.5 0.0**
baz=61,SNR=7.1
L07A Adell 61.55 305⇓P **P 00 24 28.9 +0.7**
baz=61
H06A Lindquist Farm 61.59 308⇑P **P 00 24 29.6 +1.2**
baz=61
E06A Yakima 61.61 310⇑P **P 00 24 28.5 0.0**
baz=61
G06A Carlson Farm, 61.68 308⇓P **P 00 24 29.3 +0.3**
baz=61
NVAR Mina Array Bea 61.72 300 P **P 00 24 27.9 -1.5**
NVAR Mina Array Bea 61.72 300 P **P 00 24 27.9 -1.4**
comp=Z,1.7nm,0.8s,mb4.2,baz=75,slow=7.5,SNR=8.5
MPMC Manual Prospec 61.76 298⇑P **P 00 24 29.8 +0.1**
baz=61
J06A Christmas Vall 61.82 306⇓P **P 00 24 30.3 +0.4**
baz=61
S08C White Mtn Res 61.88 299⇓P **P 00 24 30.8 +0.3**
baz=62
H05A Madras 62.23 308⇑P **P 00 24 33.6 +0.9**
baz=62
N06A Buffalo Meadow 62.24 303⇓P **P 00 24 32.5 -0.3**
baz=62
MOD Modoc 62.27 305 *e*P **P 00 24 32.6 -0.4**
comp=Z,46nm,1.8s,mb5.3
MOD Modoc 62.27 305⇑P **P 00 24 33.7 +0.7**
baz=62
K05A Summer Lake 62.48 306 P **P 00 24 34.6 +0.3**
baz=62,SNR=6.3
EDW2 Edwards Air Fo 62.50 296⇓P **P 00 24 34.9 +0.3**
baz=62
R06C Coleville 62.56 301⇓P **P 00 24 35.5 +0.5**
baz=62
J05A Fort Rock 62.58 306⇑P **P 00 24 35.5 +0.5**
baz=62
M06C Likely Place G 62.58 304⇑P **P 00 24 35.5 +0.4**
baz=62
L05A Lakeview 62.62 305 P **P 00 24 36.0 +0.7**
baz=62,SNR=5.6
HELL Mitchell Peak 62.76 299⇑P **P 00 24 36.6 +0.2**
baz=62
KCC Kaiser Creek 62.80 299⇓P **P 00 24 37.1 +0.5**
baz=62
BEKR Beckwourth 62.86 302⇓P **P 00 24 37.2 +0.2**
baz=62
H04A Detroit Lake 62.88 308⇑P **P 00 24 36.8 -0.2**
baz=62
ELFS Eagle Lake Fie 62.93 303⇓P **P 00 24 37.0 -0.4**
baz=62
M05C Lookout 63.03 304⇓P **P 00 24 38.6 +0.5**
baz=63
NLWA Neilton Lookou 63.33 311 *e*P **P 00 24 43.7 +3.7**
NLWA Neilton Lookou 63.33 311⇓P **P 00 24 40.3 +0.3**
baz=63
E03A Lebam 63.34 310⇓P **P 00 24 41.1 +1.1**
baz=63
CMB Columbia Colle 63.41 301⇓P **P 00 24 41.3 +0.6**
baz=63
HATC Hat Creek Radi 63.41 304⇓P **P 00 24 40.7 +0.2**
baz=63
M04C Macdoel 63.41 305⇑P **P 00 24 40.5 -0.1**
baz=63
INK Inuvik 63.58 335 LR LR 00 53 32.3
comp=Z,215nm,18.5s,MS4.4,baz=272,slow=37
ORV Oroville 63.80 302⇓P **P 00 24 42.7 -0.5**
baz=63
OHCM Honcut 63.85 302 *e*P **P 00 24 43.0 -0.5**
MALT Malatya 66.46 58 *e*P **P 00 25 00.7 +0.2**
DAWY Dawson 67.02 332 *e*P **P 00 25 03.4 -0.2**
KIV Kislovodsk 67.66 51 *e*P **P 00 25 12.0 +4.0**
KIV pmax pmax
comp=Z,8.0nm,1.0s,mb4.7
COLA College 70.10 334 *i*P **P 00 25 22.9 +0.1**
IMA2 Indian Mountai 71.69 336 *e*P **P 00 25 31.9 -0.5**
ARU Arti 72.39 35*c i*P **P 00 25 37.4 +0.6**
ARU *e*S S 00 34 59.7 -0.6
ARU *e*SS SS 00 39 36.5 -1.2
ARU pmax pmax
comp=Z,13nm,2.0s,mb4.5
KDAK Kodiak Island 75.51 329 LR LR 00 59 18.8
comp=Z,512nm,19.5s,MS4.8,baz=89,slow=36
RST Umm Al-Ruwaisa 76.40 64 *e*P **P 00 25 59.9 -0.8**
RST AMb AMB 00 26 09.2
comp=Z,15nm,1.1s,mb4.8
MIB Mutribah 76.53 63 *e*P **P 00 26 01.3 -0.2**
MIB AMb AMB 00 26 09.3
comp=Z,15nm,1.0s,mb4.9
NAY Al-Naaiem 76.70 64 *e*P **P 00 26 01.9 -0.5**
NAY AMb AMB 00 26 10.3
comp=Z,11nm,1.0s,mb4.8
RDF Al-Radifah 77.08 64 *e*P **P 00 26 04.7 +0.1**
RDF AMb AMB 00 26 12.7
comp=Z,13nm,0.9s,mb4.9
TIXI Tiksi 79.49 3 *e*P **P 00 26 17.0 -0.1**
comp=Z,8.9nm,1.3s,mb4.5
TIXI Tiksi 79.49 3 *e*P **P 00 26 16.8 -0.3**
TIXI pmax pmax
comp=Z,11nm,1.7s,mb4.5
BRVK Borovoye 79.94 34 *e*P **P 00 26 20.8 +0.9**
comp=Z,4.6nm,1.0s,mb4.4
BRVK Borovoye 79.94 34 *e*P **P 00 26 20.8 +0.9**
BRVK pmax pmax
comp=Z,5.0nm,1.0s,mb4.4
BVAR Borovoye Array 80.01 34 LR LR 01 02 13.2
comp=Z,84nm,19.5s,MS4.1,baz=100,slow=36
BILL Bilibino 80.83 349 *e*P **P 00 26 23.9 -0.5**
BILL Bilibino 80.83 349⇑*e*P **P 00 26 24.2 -0.2**
BILL pmax pmax
comp=Z,9.0nm,1.6s,mb4.5
LSZ Lusaka 81.64 113 *e*P **P 00 26 30.6 +1.1**
KMBO Kilima Mbogo 82.08 96 LR LR 01 01 35.4
comp=Z,429nm,20.7s,MS4.8,baz=278,slow=35
KURK Kurchatov 85.44 33 *e*P **P 00 26 48.1 -0.4**
comp=Z,8.5nm,1.3s,mb4.7
KURK Kurchatov 85.44 33 *e*P **P 00 26 48.1 -0.5**
KURK pmax pmax
comp=Z,9.0nm,1.3s,mb4.7
ZAA0 Zalesovo Array 85.95 28 P **P 00 26 51.5 +0.6**
ZAL Zalesovo 85.95 28 P **P 00 26 51.5 +0.5**
ZAL MLR MLR
comp=Z,60nm,18.6s
ZALV Zalesovo Beam 85.95 28 P **P 00 26 51.5 +0.5**
comp=Z,0.3nm,0.3s,mb4.0,baz=286,slow=5.8,SNR=3.2
ZALV LR LR 01 03 59.6
comp=Z,60nm,18.6s,MS4.0,baz=349,slow=35
BOSA Boshof 86.86 125 LR LR 01 02 47.2
comp=Z,117nm,18.0s,MS4.3,baz=314,slow=34
EKS2 Erkin-Say 88.08 41 P **P 00 27 02.6 +1.0**
AAK Ala-Archa 88.51 41 P **P 00 27 04.1 +0.5**
AAK Ala-Archa 88.51 41 *i*P **P 00 27 06.5 +2.9**
AAK pmax pmax
comp=Z,2.0nm,1.1s,mb4.4
AAK Ala-Archa 88.51 41 LR LR 01 04 49.9
comp=Z,118nm,21.7s,MS4.3,baz=328,slow=34
UCH Uchtor 88.78 41 *e*P **P 00 27 06.8 +1.9**
comp=Z,4.9nm,1.4s,mb4.6

TKM2	Tokmak 2	88.95	40	eP		P	00 27 06.2 +0.5
YAK	Yakutsk	89.12	3	P		P	00 27 05.7 -0.4
MKAR	Makanchi Array	89.90	34	P		P	00 27 08.4 -1.7
	comp=Z,0.2nm,0.3s,mb4.0,baz=20,slow=4.6,SNR=3.9						
MKAR				LR		LR	01 05 44.6
	comp=Z,107nm,20.0s,MS4.3,baz=101,slow=34						
BOD	Bodaibo	91.42	12	eP		P	00 27 12.5 -4.4
WMQ	Urumqi	94.68	33	eP		P	00 27 34.0 +1.8
WMQ				AMB		AMB	
	comp=Z,6.0nm,0.8s,mb5.1						
WMQ				AMB		AMB	
	comp=Z,79nm,3.6s						
WMQ				LR		LR	
	comp=Z,166nm,26.0s,MS4.4						
YSS	Yuzh-Sakhalins	104.24	356	Pdif		Pdif	00 28 15.6 +0.6
CN2	Changchun	106.82	9	ePDIF		Pdif	00 28 29.0 +2.5
CD2	Chengdu	112.58	31	ePKP		PKiKP	00 32 47.4 -0.4
CD2				XPKP			00 32 55.3
CD2				PP		PP	00 33 36.8 +3.5
CD2				PKS			00 36 22.8
CD2				SKS		SKSdf	00 39 54.6 -5.6
CD2				SKKS		SKKSac	00 40 26.3 -11
CD2				PP		PP	
	comp=Z,120nm,10.8s						
CD2				LR		LR	
	comp=Z,120nm,18.4s,MS4.5						
NJ2	Nanjing	116.92	17	ePKP		PKPdf	00 32 53.6 -2.5
KMI	Kunming	116.97	35	PKP		PKPdf	00 32 58.1 +1.7
GYA	Guiyang	117.70	31	ePDIF		Pdif	00 29 14.9 +0.1
GYA				PKP		PKPdf	00 32 58.8 +1.1
GYA				PP		PP	00 34 14.3 +4.9
GYA				PP		PP	
	comp=Z,100nm,6.8s						

*ISCJB **24** 00:25:22.6±0.3,2900N±007×43.14W±005,h10km, mb4.2/64,MS3.8/10,Error ellipse: s-maj=10.3km s-min=5.5km az=168.7*
*MOS **24** 00:25:22.5±0.8,2899N×43.14W,h10km,mb4.5/41,Error ellipse: s-maj=13.1km s-min=5.6km az=46.5*
*IDC **24** 00:25:22.2±0.6,2911N×43.18W,h0km,mb3.8/19, mb1 4.0/19,mb1mx3.9/25,mbtmp3.8/19,MS4.0/6, Ms1 4.0/6,ms1mx3.4/31,Error ellipse: s-maj=16.6km s-min=14.5km az=153.0*
*NEIC **24** 00:25:24.3±0.3,2901N×43.12W,h10km,mb4.4/38, MS3.6/1,Error ellipse: s-maj=8.2km s-min=4.3km az=169.0*
*SZGRF **24** 00:25:38.9,3019N×43.16W,h16km,mb4.7,Northern Mid-Atlantic Ridge*

ISC 24 00:25:24.5±0.3,2901N±007×4312W±005,h10km, (h17km±1.2km:pP-P),n172,σ0§79/168,mb4.2/64,MS3.8/10, 2C-5D,Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBTS	Babate	28.42	114	LR	LR	00 39 24.3	
	comp=Z,301nm,20.5s,MS3.9,baz=284,slow=30						
EVO	Evora	30.53	63	eP		P	00 31 38.0 0.0
EVO				eMLR	MLR		
	comp=Z,226nm,19.2s,MS3.5						
SCHQ	Schefferville	30.96	333	LR	LR	00 41 50.7	
	comp=Z,100nm,20.1s,MS3.5,baz=42,slow=32						
MTE	Manteigas	31.18	59	eP		P	00 31 43.5 -0.2
	comp=Z,5.7nm,0.9s,mb4.4						
MDT	Midelt	33.13	74	LR	LR	00 42 06.2	
	comp=Z,206nm,18.9s,MS3.9,baz=266,slow=30						
ESDC	Sonseca Array	33.80	61	P		P	00 32 04.0 -2.6
	comp=Z,1.0nm,0.7s,mb3.8,baz=269,slow=8.6,SNR=6.9						
ESLA	Sonseca Array	33.80	61	eP		P	00 32 05.9 -0.7
	comp=Z,0.5nm,0.8s,mb3.5						
CART	Cartagena	35.98	65	P		P	00 32 23.6 -1.9
ROSF	Rostrenen	36.09	47	eP		P	00 32 26.7 +0.4
	comp=Z,66nm,1.5s,mb5.0						
ROSF	Rostrenen	36.09	47	eP		P	00 32 26.7 +0.4
	comp=Z,33nm,1.5s,mb5.0						
ROSF	Rostrenen	36.09	47	eP		P	00 32 26.7 +0.4
ROSF				pmax	pmax		
	comp=Z,33nm,1.5s,mb5.0						
SJPF	Ste Jean	36.29	56	eP		P	00 32 28.6 +0.5
EPF	Esparros	37.41	56	eP		P	00 32 38.1 +0.5
GRR	Gorron	37.65	47	eP		P	00 32 39.8 +0.3
MFF	Saint Martin d	37.69	50	eP		P	00 32 39.9 0.0
	comp=Z,21nm,0.9s,mb4.6						
MFF	Saint Martin d	37.69	50	eP		P	00 32 39.9 0.0
	comp=Z,11nm,0.9s,mb4.6						
MFF	Saint Martin d	37.69	50	eP		P	00 32 39.9 0.0
MFF				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.6						
LFF	La Frestale	37.98	53	eP		P	00 32 42.5 +0.1
	comp=Z,23nm,1.2s,mb4.5						
LFF	La Frestale	37.98	53	eP		P	00 32 42.5 +0.1
	comp=Z,12nm,1.2s,mb4.5						
LFF	La Frestale	37.98	53	eP		P	00 32 42.5 +0.1
LFF				pmax	pmax		
	comp=Z,12nm,1.2s,mb4.5						
LDF	La Druitiere	38.17	47	eP		P	00 32 44.2 +0.2
	comp=Z,8.6nm,0.8s,mb4.2						
LDF	La Druitiere	38.17	47	eP		P	00 32 44.2 +0.2
	comp=Z,4.3nm,0.8s,mb4.2						
LDF	La Druitiere	38.17	47	eP		P	00 32 44.2 +0.2
LDF				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.2						
PLAL	Pickwick Lake	38.34	291	eP		P	00 32 45.7 +0.1
	comp=Z,8.8nm,1.0s,mb4.4						
MTLF	Montolieu	38.81	56	eP		P	00 32 49.3 -0.1
	comp=Z,17nm,1.3s,mb4.3						
MTLF	Montolieu	38.81	56	eP		P	00 32 49.3 -0.1
	comp=Z,8.4nm,1.3s,mb4.3						
MTLF	Montolieu	38.81	56	eP		P	00 32 49.3 -0.1
MTLF				pmax	pmax		
	comp=Z,8.0nm,1.3s,mb4.3						
CAF	Calviac	38.91	53	eP		P	00 32 50.6 +0.4
TCF	Toulx Ste Croi	39.22	51	eP		P	00 32 53.0 +0.2
	comp=Z,11nm,0.9s,mb4.3						
TCF	Toulx Ste Croi	39.22	51	eP		P	00 32 53.0 +0.2
	comp=Z,5.3nm,0.9s,mb4.3						
TCF	Toulx Ste Croi	39.22	51	eP		P	00 32 53.0 +0.2
TCF				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.2						
BGF	Bois d'Agland	39.70	51	eP		P	00 32 56.9 +0.1
	comp=Z,3.9nm,0.6s,mb4.0						
BGF	Bois d'Agland	39.70	51	eP		P	00 32 56.9 +0.1
	comp=Z,2.0nm,0.6s,mb4.0						
BGF	Bois d'Agland	39.70	51	eP		P	00 32 56.9 +0.1
BGF				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.0						
LASF	Ste Croix	40.07	55	eP		P	00 33 00.2 +0.2
	comp=Z,6.6nm,0.9s,mb4.1						
AVF	Avril sur Loir	40.09	51	eP		P	00 33 00.2 +0.2
	comp=Z,15nm,1.2s,mb4.3						
AVF	Avril sur Loir	40.09	51	eP		P	00 33 00.2 +0.2
	comp=Z,7.7nm,1.2s,mb4.3						
AVF	Avril sur Loir	40.09	51	eP		P	00 33 00.2 +0.2
AVF				pmax	pmax		
	comp=Z,8.0nm,1.2s,mb4.3						
SSF	Saint Saulge	40.23	50	eP		P	00 33 01.3 0.0
	comp=Z,11nm,1.1s,mb4.2						
SSF	Saint Saulge	40.23	50	eP		P	00 33 01.3 0.0
	comp=Z,5.3nm,1.1s,mb4.2						
SSF	Saint Saulge	40.23	50	eP		P	00 33 01.3 0.0
SSF				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.2						
SMF	Signal de Mont	40.40	51	eP		P	00 33 02.7 +0.1
	comp=Z,22nm,1.0s,mb4.5						
SMF	Signal de Mont	40.40	51	eP		P	00 33 02.7 +0.1
	comp=Z,11nm,1.0s,mb4.5						
SMF	Signal de Mont	40.40	51	eP		P	00 33 02.7 +0.1
SMF				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.5						
LOR	Lormes	40.51	50	eP		P	00 33 03.2 -0.3
	comp=Z,12nm,1.0s,mb4.2						
LOR				eMLR	MLR		
	comp=Z,101nm,21.8s,MS3.3						
LOR	Lormes	40.51	50	eP		P	00 33 03.2 -0.3
	comp=Z,6.2nm,1.0s,mb4.2						
LOR				LR	LR		
	comp=Z,100nm,21.8s,MS3.6						
LOR	Lormes	40.51	50	eP		P	00 33 03.2 -0.3
LOR				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.2						
LOR				MLR	MLR		
	comp=Z,100nm,21.8s,MS3.6						
CCM	Cathedral Cave	40.74	296	eP		P	00 33 06.6 +1.0
BAIF	Baives	41.27	46	eP		P	00 33 09.8 0.0
SMRF	Simiane la Rot	41.30	55	eP		P	00 33 10.4 +0.3
	comp=Z,3.8nm,0.8s,mb3.8						
SMRF	Simiane la Rot	41.30	55	eP		P	00 33 10.4 +0.3
	comp=Z,3.8nm,0.8s,mb4.1						
MEZF	Maizieres J'vi	41.51	48	eP		P	00 33 11.8 +0.1
ORIF	Oris-en-Rattie	41.60	54	eP		P	00 33 12.9 +0.4
ORIF				eMLR	MLR		
	comp=Z,115nm,18.0s,MS3.5						
CABF	La Chapelle	41.92	51	eP		P	00 33 15.6 +0.4
	comp=Z,34nm,1.2s,mb4.5						
CABF	La Chapelle	41.92	51	eP		P	00 33 15.6 +0.4
	comp=Z,17nm,1.2s,mb4.6						
CABF	La Chapelle	41.92	51	eP		P	00 33 15.6 +0.4
CABF				pmax	pmax		
	comp=Z,17nm,1.2s,mb4.5						
LMR	La Mourre	41.93	56	eP		P	00 33 15.8 +0.5
	comp=Z,6.8nm,1.0s,mb3.9						
LMR	La Mourre	41.93	56	eP		P	00 33 15.8 +0.5
	comp=Z,3.4nm,1.0s,mb3.9						
LMR	La Mourre	41.93	56	eP		P	00 33 15.8 +0.5
LMR				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb3.9						
FRF	La Foret Royal	42.04	56	eP		P	00 33 16.6 +0.4
	comp=Z,21nm,1.3s,mb4.3						
FRF	La Foret Royal	42.04	56	eP		P	00 33 16.6 +0.4
	comp=Z,11nm,1.3s,mb4.3						
FRF	La Foret Royal	42.04	56	eP		P	00 33 16.6 +0.4
FRF				pmax	pmax		
	comp=Z,11nm,1.3s,mb4.3						
LPL	La Plagne	42.25	53	eP		P	00 33 19.5 +1.6
	comp=Z,8.0nm,1.1s,mb4.0						
LPL	La Plagne	42.25	53	eP		P	00 33 19.5 +1.6
	comp=Z,4.0nm,1.1s,mb4.0						
LPL	La Plagne	42.25	53	eP		P	00 33 19.5 +1.6
LPL				pmax	pmax		
	comp=Z,4.0nm,1.1s,mb4.0						
HAU	Haudompre	42.29	49	eP		P	00 33 18.0 -0.1
HAU				eMLR	MLR		
	comp=Z,80nm,17.2s,MS3.4						
HAU	Haudompre	42.29	49	eP		P	00 33 18.0 -0.1
HAU				MLR	MLR		
	comp=Z,80nm,17.3s,MS3.7						
DBIC	Dimbokro	42.37	114	eP		P	00 33 19.9 +0.7
	comp=Z,6.3nm,1.0s,mb4.2						
DBIC				LR	LR		00 47 49.0
DBIC	Dimbokro	42.37	114	P		P	00 33 19.5 +0.3
	comp=Z,1.6nm,0.8s,mb3.7,baz=265,slow=12,SNR=2.2						
DBIC				LR	LR		00 47 49.0
	comp=Z,255nm,18.8s,MS4.1,baz=307,slow=32						
WLF	Walferdange	42.43	47	P		P	00 33 20.2 +1.0
CDF	Champ du Feu	42.96	49	eP		P	00 33 23.9 +0.3
	comp=Z,11nm,0.9s,mb4.3						
CDF	Champ du Feu	42.96	49	eP		P	00 33 23.9 +0.3
	comp=Z,5.7nm,0.9s,mb4.3						
CDF	Champ du Feu	42.96	49	eP		P	00 33 23.9 +0.3
CDF				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.3						
BFO	Black Forest	43.64	49	eP		P	00 33 28.9 -0.2
PGF	Pioggiola	43.73	58	eP		P	00 33 30.0 +0.1
	comp=Z,5.9nm,0.8s,mb4.1						
PGF	Pioggiola	43.73	58	eP		P	00 33 30.0 +0.1
	comp=Z,3.0nm,0.8s,mb4.1						
PGF	Pioggiola	43.73	58	eP		P	00 33 30.0 +0.1
PGF				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.1						
VSL	Villasalto	44.09	62	eP		P	00 33 28.8 -4.0
KEST	Kesra	44.38	67	P		P	00 33 36.0 +0.9
	comp=Z,1.8nm,0.9s,mb3.8,baz=226,slow=6.8,SNR=5.3						
TORD	Torodi Ar. Bea	44.41	101	P		P	00 33 35.9 +0.2
	comp=Z,1.3nm,0.8s,mb3.7,baz=301,slow=7.1,SNR=9.5						
TORD				LR	LR		00 50 01.4
	comp=Z,181nm,18.6s,MS4.0,baz=210,slow=33						
AGMN	Agassiz Refuge	44.50	311	eP		P	00 33 36.9 +0.9
DAVA	Damuels	44.58	51	‖ iP		P	00 33 37.9 +1.3
	comp=Z,11nm,1.1s,mb4.6						
DAVA	Damuels	44.58	51	‖ ipP		pP	00 33 37.9 -1.9
	comp=Z,11nm,1.1s						
BDFB	Brasilia	44.64	187	P		P	00 33 37.2 -0.1
BDFB				pmax	pmax		
	comp=Z,1.0nm,0.6s						
BDFB	Brasilia	44.64	187	P		P	00 33 37.2 -0.1
	comp=Z,1.3nm,0.6s,mb3.9,baz=100,slow=22,SNR=4.5						
ULM	Lac du Bonnet	44.75	313	P		P	00 33 35.7 -2.2
	comp=Z,1.3nm,0.6s,mb3.9,baz=168,slow=3.5,SNR=3.0						
CLZ	Clausthal	45.43	44	eP		P	00 33 45.2 +1.9
CLZ				e*PP	pP		00 33 48.8 +2.3
CLZ				pmax	pmax		
	comp=Z,10.0nm,1.3s,mb4.5						
CLZ	Clausthal	45.43	44	eP		P	00 33 45.2 +1.9
	comp=Z,10.0nm,1.3s,mb4.5						
CLZ				epP	pP		00 33 48.8 +2.3
GRA1	Grafenberg Arr	45.69	48	eP		P	00 33 50.1 +4.7
	comp=Z,7.0nm,1.0s,mb4.5						
GRF	Grafenberg Arr	45.69	48	eP		P	00 33 50.1 +4.7
GRF				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.5						
GRF	Grafenberg Arr	45.69	48	eP		P	00 33 50.1 +4.7
	comp=Z,7.0nm,1.0s,mb4.5						
BSEG	Bad Segeberg	45.76	42	eP		P	00 33 45.8 -0.1
	comp=Z,20nm,1.0s,mb5.0						
BSEG				epP	pP		00 33 51.1 +2.1
NKC	Novy Kostel	46.53	47	eP		P	00 33 53.3 +1.3
KONO	Kongsberg	46.76	34	P		P	00 33 52.0 -1.7
KONO	Kongsberg	46.76	34	i P		P	00 33 54.2 +0.6
CLL	Collm	46.99	45	e(P)		P	00 34 00.0 +4.4
CLL				Lm			00 49 00.0
	comp=Z,100nm,19.0s						
KHC	Kasperske Hory	47.18	48	eP		P	00 33 57.1 0.0
KHC				epP	pP		00 34 01.5 +1.3
GERES	GERESS Array B	47.24	49	P		P	00 33 56.6 -1.0
GERES				pmax	pmax		
	comp=Z,1.0nm,0.9s						
GERES	GERESS Array B	47.24	49	P		P	00 33 56.6 -1.0
	comp=Z,1.4nm,0.9s,mb3.9,baz=271,slow=6.5,SNR=6.1						
BRG	Berggiesshubel	47.54	46	eP		P	00 33 59.7 -0.2
	comp=Z,3.0nm,1.2s,mb4.2						
BRG	Berggiesshubel	47.54	46	eP		P	00 33 59.7 -0.2
	comp=Z,4.2nm,1.2s,mb4.3						
OBKA	Obir	47.74	52	⇑ iP		P	00 34 00.0 -1.5
	comp=Z,8.3nm,0.8s,mb4.8						
PRU	Pruhonice	47.86	47	eP		P	00 34 03.4 +1.0
PRU				epP	pP		00 34 08.2 +2.7
NB2	NORSAR Subarra	47.93	32	P		P	00 34 02.8 +0.1
	comp=Z,7.6nm,1.2s,mb4.6,baz=254,slow=7.9						
NOA	NORSAR Array B	47.93	32	P		P	00 34 01.2 -1.5
NOA				pmax	pmax		
	comp=Z,2.0nm,1.0s						
NOA	NORSAR Array B	47.93	32	P		P	00 34 01.1 -1.6
	comp=Z,1.7nm,0.9s,mb4.0,baz=255,slow=7.8,SNR=5.9						
SIV	San Ignacio	47.99	204	P		P	00 34 03.6 -0.1
	comp=Z,1.0nm,0.7s,mb4.0,baz=31,slow=6.2,SNR=9.0						
TREC	Trest	48.44	48	eP		P	00 34 07.3 +0.4
CONA	Conrad Observa	48.65	50	‖ iP		P	00 34 08.0 -0.5
	comp=Z,3.2nm,1.2s,mb4.2						
JCT	Junction City	48.79	286	eP		P	00 34 11.1 +1.2
	comp=Z,11nm,1.1s,mb4.8						
JCT	Junction City	48.79	286	eP		P	00 34 11.1 +1.2
JCT				pmax	pmax		
	comp=Z,11nm,1.1s,mb4.8						
UPC	Upice	48.83	47	eP		P	00 34 10.3 +0.4
UPC				epP	pP		00 34 15.8 +2.8
DPC	Dobruska-Polom	49.02	47	eP		P	00 34 10.8 -0.5
DPC				epP	pP		00 34 16.2 +1.7
FFC	Flin Flon	49.02	319	eP		P	00 34 12.2 +0.9
MORC	Moravsky Berou	49.79	48	P		P	00 34 17.1 -0.1
TIP	Timpagrande	49.81	62	eP		P	00 34 16.9 -0.6
LPAZ	La Paz	51.11	211	P		P	00 34 27.5 0.0
LPAZ				pmax	pmax		
	comp=Z,1.0nm,0.7s						
LPAZ	La Paz	51.11	211	P		P	00 34 27.4 -0.1
	comp=Z,1.4nm,0.7s,mb4.0,baz=359,slow=12,SNR=4.7						
PSZ	Piszkesteto	51.36	50	eP		P	00 34 27.9 -1.2
	comp=Z,1.3nm,0.6s,mb4.0						
PSZ	Piszkesteto	51.36	50	eP		P	00 34 27.9 -1.2
PSZ				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.9						
TXAR	Lajitas Array	52.33	286	P		P	00 34 34.7 -1.9
TXAR				pmax	pmax		
	comp=Z,2.0nm,0.9s						
TXAR	Lajitas Array	52.33	286	P		P	00 34 34.7 -1.9
	comp=Z,1.6nm,0.9s,mb4.0,baz=91,slow=10,SNR=5.2						
KWP	Kalwaria	53.14	48	P		P	00 34 41.7 -0.6
ANMO	Albuquerque	53.28	294	eP		P	00 34 44.6 +1.1
ANMO	Albuquerque	53.28	294	‖ eP		P	00 34 44.0 +0.4
EGMT	Eagleton	53.79	310	eP		P	00 34 47.1 0.0
PDAR	Pinedale Array	54.25	304	P		P	00 34 50.0 -0.6
	comp=Z,2.1nm,0.8s,mb4.1,baz=90,slow=7.4,SNR=18						
PDAR				LR	LR		00 55 37.8
	comp=Z,198nm,20.1s,MS4.2,baz=247,slow=34						
LOHW	Long Hollow	54.88	305	eP		P	00 34 55.3 +0.2
	comp=Z,5.7nm,1.1s,mb4.5						
FINES	FINESS Array B	55.06	33	P		P	00 34 55.2 -0.9
FINES	FINESS Array B	55.06	33	P		P	00 34 55.2 -1.0
FINES				pmax	pmax		
	comp=Z,1.0nm,0.8s						
FINES	FINESS Array B	55.06	33	P		P	00 34 55.2 -0.9
	comp=Z,1.1nm,0.8s,mb4.0,baz=274,slow=5.2,SNR=4.5						
IMW	Indian Meadow	55.08	305	eP		P	00 34 56.8 +0.2
	comp=Z,12nm,1.2s,mb4.8						
TPAW	Teton Pass	55.15	305	P		P	00 34 56.9 -0.2
	comp=Z,13nm,1.2s,mb4.8						
HWUT	Hardware Ranch	55.91	303	eP		P	00 35 02.9 +0.3
	comp=Z,6.5nm,1.0s,mb4.6						
YKA	Yellowknife Ar	56.19	328	P		P	00 35 02.7 -1.5
YKA				PcP	PcP		00 36 00.8 -1.0
YKA	Yellowknife Ar	56.19	328	P		P	00 35 02.7 -1.5
YKA							00 36 00.8
YKA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
YKA	Yellowknife Ar	56.19	328	P		P	00 35 02.7 -1.5
	comp=Z,0.8nm,0.8s,mb3.8,baz=89,slow=7.3,SNR=9.2						
YKA				PcP	PcP		00 36 00.8 -1.0
	comp=Z,0.2nm,0.7s,baz=91,slow=4.7,SNR=4.4						
GVD	Gavdhos	56.39	66	P		P	00 35 05.8 -0.4
CPUP	Villa Florida	56.69	195	P		P	00 35 07.4 -0.8
CPUP				pmax	pmax		
	comp=Z,1.0nm,0.7s						
CPUP	Villa Florida	56.69	195	P		P	00 35 07.4 -0.7
	comp=Z,1.0nm,0.7s,mb4.0,baz=2.7,slow=5.5,SNR=3.8						
DUG	Dugway	57.11	301	eP		P	00 35 12.7 +1.6
	comp=Z,4.8nm,0.9s,mb4.5						
DUG	Dugway	57.11	301	eP		P	00 35 12.7 +1.5
DUG				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.5						
AKASG	Malin Array Be	57.23	46	P		P	00 35 10.7 -1.1
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.6s						
AKASG	Malin Array Be	57.23	46	P		P	00 35 10.7 -1.1
	comp=Z,1.0nm,0.6s,mb4.0,baz=272,slow=6.6,SNR=8.6						
NEW	Newport	58.65	311	eP		P	00 35 21.9 +0.1
OBN	Obninsk	60.99	40	P		P	00 35 36.5 -1.3
OBN	Obninsk	60.99	40	eP		P	00 35 38.2 +0.4
OBN				pmax	pmax		
	comp=Z,6.0nm,1.2s,mb4.6						
NVAR	Mina Array Bea	61.67	300	P		P	00 35 42.4 -0.3
	comp=Z,0.3nm,0.3s,mb3.9,baz=98,slow=6.7,SNR=5.1						
CSS	Prodhromos	63.65	63	P		P	00 35 56.1 +0.1
MALT	Malatya	66.47	58	eP		P	00 36 14.3 0.0
ARU	Arti	72.38	35	d iP		P	00 36 50.1 -0.4
ARU				e			00 39 29.9
ARU				ePPP			00 41 10.8
ARU				eS	S		00 46 14.7 +0.8
ARU				eSS	SS		00 50 53.5 +2.2
ARU				pmax	pmax		
	comp=Z,7.0nm,1.7s,mb4.3						
PLCA	Paso Flores	73.91	201	P		P	00 37 05.7 +6.2
PLCA				pmax	pmax		
	comp=Z,3.0nm,0.9s						
PLCA	Paso Flores	73.91	201	P		P	00 37 05.7 +6.1
	comp=Z,3.1nm,0.9s,mb4.2,baz=31,slow=11,SNR=4.2						
TIXI	Tiksi	79.46	3	eP		P	00 37 30.8 +0.1
TIXI	Tiksi	79.46	3	‖ eP		P	00 37 30.6 0.0
TIXI				pmax	pmax		
	comp=Z,7.0nm,1.5s,mb4.4						
BRVK	Borovoye	79.94	34	eP		P	00 37 34.0 +0.5
	comp=Z,4.0nm,1.0s,mb4.3						
BRVK	Borovoye	79.94	34	eP		P	00 37 34.0 +0.5
BRVK				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.3						
BILL	Bilibino	80.80	349	P		P	00 37 37.2 -0.7
BILL	Bilibino	80.80	349	eP		P	00 37 37.9 0.0
BILL				pmax	pmax		
	comp=Z,5.0nm,1.7s,mb4.2						
LSZ	Lusaka	81.68	112	eP		P	00 37 44.3 +0.9
	comp=Z,1.1nm,0.6s,mb4.0						
LSZ	Lusaka	81.68	112	eP		P	00 37 44.3 +0.9
LSZ				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.9						
KURK	Kurchatov	85.44	33	eP		P	00 38 01.6 -0.6
	comp=Z,5.1nm,0.9s,mb4.7						
KURK	Kurchatov	85.44	33	eP		P	00 38 01.6 -0.6
KURK				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.6						
ZAL	Zalesovo	85.94	28	P		P	00 38 04.6 0.0
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ZALV	Zalesovo Beam	85.94	28	P		P	00 38 04.6 -0.1
ZALV	Zalesovo Beam	85.94	28	P		P	00 38 04.6 0.0
	comp=Z,0.8nm,0.6s,mb4.1,baz=297,slow=6.5,SNR=4.9						
EKS2	Erkin-Say	88.08	41	P		P	00 38 15.2 -0.1
AAK	Ala-Archa	88.51	41	P		P	00 38 17.2 -0.1
UCH	Uchtor	88.78	41	eP		P	00 38 19.0 +0.4
	comp=Z,1.9nm,0.8s,mb4.5						
TKM2	Tokmak 2	88.95	40	P		P	00 38 20.2 +0.8
MKAR	Makanchi Array	89.89	34	P		P	00 38 21.7 -2.0
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
MKAR	Makanchi Array	89.89	34	P		P	00 38 21.7 -2.0
	comp=Z,1.2nm,0.8s,mb4.3,baz=332,slow=6.8,SNR=3.7						

*ISCJB **24** 00:34:45.6±0.7,2430N±004×1415E±01,h164km±7km, mb3.9/16,Error ellipse: s-maj=15.8km s-min=6.3km az=168.4*
*NEIC **24** 00:34:46.5±0.9,2427N×14155E,h155km±9km,mb4.3/6, Error ellipse: s-maj=8.9km s-min=4.6km az=79.0*
*IDC **24** 00:34:46.7±1.4,2427N×14149E,h154km±13km,mb3.5/11

FITZ	**Fitzroy Crossi**	44.89	202	*e*P	P	00 42 45.5	-0.1
	3.1nm,0.4s,mb4.3						
FITZ	**Fitzroy Crossi**	44.89	202	P	P	00 42 45.8	+0.2
	1.9nm,0.5s,mb4.0,baz=30,slow=12,SNR=12						
ASAR	**Alice Springs**	48.23	189	P	P	00 43 11.1	-0.4
	0.7nm,0.3s,mb3.7,baz=22,slow=11,SNR=12						
ASAR				PcP	PcP	00 44 36.5	+0.3
	0.7nm,0.8s,baz=19,slow=5.9,SNR=4.7						
ZALV	**Zalesovo Beam**	51.26	321	P	P	00 43 34.3	+0.2
	0.5nm,0.4s,mb3.5,baz=120,slow=8.9,SNR=3.3						
MKAR	**Makanchi Array**	51.85	311	P	P	00 43 39.0	+0.4
	0.8nm,0.4s,mb3.7,baz=90,slow=9.5,SNR=6.6						
STKA	**Stephens Creek**	55.84	180	*e*P	P	00 44 07.7	+0.1
STKA	**Stephens Creek**	55.84	180	P	P	00 44 07.5	-0.1
	0.7nm,0.3s,mb4.0,baz=357,slow=13,SNR=3.0						
TKM2	**Tokmak 2**	56.59	307	P	P	00 44 13.3	+0.4
AAK	**Ala-Archa**	57.42	306	*e*P	P	00 44 19.8	+1.0
UCH	**Uchtor**	57.43	306	*e*P	P	00 44 19.3	+0.4
EKS2	**Erkin-Say**	57.94	306	*e*P	P	00 44 23.8	+1.4
BRVK	**Borovoye**	59.80	319	P	P	00 44 35.5	+0.4
	5.1nm,1.5s,mb4.1						
COLA	**College**	60.05	28	P	P	00 44 35.2	-1.4
NWAO	**Narrogin (SRO)**	61.43	203	P	P	00 44 46.8	+0.5
INK	**Inuvik**	65.82	24	P	P	00 45 15.1	+0.5
	0.8nm,0.4s,mb3.9,baz=283,slow=4.5,SNR=8.5						
YKA	**Yellowknife Ar**	74.89	28	P	P	00 46 10.2	+0.5
YKA	**Yellowknife Ar**	74.89	28	P	P	00 46 10.2	+0.5
	0.2nm,0.3s,mb3.2,baz=294,slow=6.0,SNR=8.1						
RES	**Resolute Bay**	74.92	13	*e*P	P	00 46 08.6	-1.1
ARCES	**ARCESS Array B**	76.00	341	P	P	00 46 16.7	+0.7
	1.3nm,0.7s,mb3.7,baz=59,slow=7.5,SNR=5.5						
FINES	**FINESS Array B**	80.21	334	P	P	00 46 39.3	0.0
	0.6nm,0.5s,mb3.5,baz=69,slow=5.1,SNR=6.7						
TORD	**Torodi Ar. Bea**	125.95	309	PKP	PKPdf	00 53 30.1	-0.7
	0.3nm,0.9s,baz=80,slow=1.6,SNR=4.6						
PLCA	**Paso Flores**	148.57	129	PKPbc	PKPbc	00 54 16.2	+1.2
	2.5nm,0.9s,baz=248,slow=2.6,SNR=2.5						
LPAZ	**La Paz**	151.10	80	PKPbc	PKPbc	00 54 22.9	+1.1
	0.7nm,0.7s,baz=284,slow=4.2,SNR=3.2						

*ISCJB **24** 00:35:18.0±0.5, 4055N±003×34.11E±003, h11km±5km, Error ellipse: s-maj=4.4km s-min=4.2km az=7.5*
*CSEM **24** 00:35:17.8±0.1, 4058N×3410E, h12km, MD3.1, Error ellipse: s-maj=1.6km s-min=1.5km az=41.0*
*ISK **24** 00:35:17.9, 4059N×3410E, h14km, MD3.1*
*DDA **24** 00:35:17.1, 4050N×3411E, h7km±5km, Md3.0*

ISC 24 00:35:18.4±0.5, 4055N±003×3411E±003, h15km±4km, n15, σ0§81/24, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CANT	**Cankiri**	0.37	278	PG	Pg	00 35 25.7	-0.2
CANT				*e*SG	Sg	00 35 31.4	+0.4
TOS	**Tosya**	0.48	353	PG	Pg	00 35 27.6	-0.4
TOS				*e*SG	Sg	00 35 34.4	-0.1
ELDT	**Eldivan**	0.52	263	*i* P	Pg	00 35 28.5	-0.2
ELDT				*i* S	Sg	00 35 35.3	-0.3
CTKT	**Corum**	0.53	82	*i* P	Pg	00 35 28.4	-0.3
CTKT				*i* S	Sg	00 35 35.8	+0.1
CORM	**Corum**	0.55	133	PG	Pg	00 35 29.7	+0.5
CORM				*e*SG	Sg	00 35 38.0	+1.5
CDAG	**Cicekdag**	0.95	168	*i* P	Pb	00 35 33.6	-3.0
CDAG				*i* S	Sb	00 35 46.9	-2.0
BYBT	**Boyabat**	1.04	28	*e*PG	Pg	00 35 37.9	-0.6
BYBT				*e*SG	Sg	00 35 52.1	0.0
BOYT	**Boyabat**	1.05	35	*i* P	Pb	00 35 37.8	-0.5
BOYT				*i* S	Sb	00 35 51.4	-0.6
BALT	**Daday**	1.12	331	*i* P	Pb	00 35 39.3	-0.1
BALT				*i* S	Sb	00 35 55.1	+1.3
ANTO	**Ankara**	1.22	236	*e*PN	Pn	00 35 41.0	+0.2
KAMT	**Kaman**	1.22	194	*e*PN	Pn	00 35 40.8	0.0
LOD	**Lodumlu**	1.22	238	*e*PN	Pn	00 35 41.8	+0.9
SAFT	**Safranbolu**	1.27	303	*e*PN	Pn	00 35 41.6	0.0
YOZ	**Yozgat**	1.30	134	*e*PN	Pn	00 35 43.2	+1.2
KVT	**Kavak**	1.56	70	*e*PN	Pn	00 35 46.0	+0.5

*NNC **24** 00:40:40.9±3.0, 4175N×7078E, h0km, mb3.4, mpv3.4, Error ellipse: s-maj=27.7km s-min=13.4km az=19.0*

ISC 24 00:40:41.8±1.8, 415N±01×7056E±010, h35km, n11, σ1§14/14, 3C-2D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	1.58	359	P	Pn	00 41 05.9	-1.4
	19nm,0.3s,baz=165,slow=17,SNR=304						
KK31				⇑S	Sn	00 41 26.1	-0.4
	75nm,0.5s,baz=168,slow=49,SNR=24						
AML	**Almayashu**	2.42	74	P	Pn	00 41 12.2	-6.5
	SNR=30						
EKS2	**Erkin-Say**	2.65	63	P	Pn	00 41 17.7	-4.2
	SNR=9.2						
UCH	**Uchtor**	3.03	75	P	Pn	00 41 23.8	-3.4
	SNR=15						
AAK	**Ala-Archa**	3.13	68	P	Pn	00 41 28.9	+0.4
	SNR=8.2						
USP	**Ospenovka**	3.40	58	P	Pn	00 41 31.7	-0.5
	SNR=5.3						
KZA	**Kyzart**	3.55	79	P	Pn	00 41 33.3	-1.0
	SNR=9.1						
TKM2	**Tokmak 2**	3.99	68	⇑Pn	Pn	00 41 40.7	+0.3
	2.0nm,0.3s						
TKM2				⇓Sn	Sn	00 42 27.1	+1.2
	33nm,0.9s						
TKM2	**Tokmak 2**	3.99	68	P	Pn	00 41 41.2	+0.8
	SNR=6.2						
ULHL	**Ulahol**	4.30	78	P	Sn	00 42 37.0	+3.5
	SNR=5.5						
AB31	**Akbulak array**	10.74	320	⇑Pn	Pn	00 43 14.5	+1.5
	0.2nm,0.4s,baz=127,slow=14,SNR=5.6						
AB31				⇓Sn	Sn	00 45 12.1	+0.3
	0.2nm,0.4s,baz=117,slow=24,SNR=3.0						

MAN 24 00:50:42, 1787N×12033E, h24km, mb4.3, ML3.1, MS2.9, Luzon

*IDC **24** 00:53:27.2±0.9, 4651N×15551E, h0km, mb3.6/11, mb1 3.8/11, mb1mx3.7/22, mbtmp3.6/11, Error ellipse: s-maj=27.7km s-min=19.0km az=172.0*
*ISCJB **24** 00:53:30.5±0.8, 465N±02×1555E±02, h33km, mb3.8/13, Error ellipse: s-maj=22.8km s-min=15.1km az=158.8*
*MOS **24** 00:53:30.5±1.7, 4646N×15525E, h33km, mb4.1/4, Error ellipse: s-maj=23.8km s-min=21.2km az=75.7*

ISC 24 00:53:32.7±0.8, 465N±01×1555E±02, h35km, n18, σ0§97/18, mb3.8/13, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	5.48	259	PN	Pn	00 54 46.0	-5.8
BILL	**Bilibino**	22.27	11	*e*P	P	00 58 26.8	+0.5
BILL				pmax	pmax		
	comp=Z,4.0nm,1.1s,mb3.8						
KSRS	**Korea Array**	22.31	256	P	P	00 58 27.7	+0.7
	comp=Z,1.3nm,0.6s,mb3.6,baz=58,slow=10.0,SNR=5.1						
SONM	**Songino Array**	32.95	291	P	P	01 00 05.3	+1.7
	comp=Z,0.4nm,0.5s,mb3.6,baz=76,slow=8.4,SNR=3.6						
ZALV	**Zalesovo Beam**	44.06	307	P	P	01 01 34.6	-2.3
	comp=Z,0.5nm,0.5s,mb3.5,baz=81,slow=9.1,SNR=2.9						
MKAR	**Makanchi Array**	48.49	299	P	P	01 02 10.9	-0.8
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
MKAR	**Makanchi Array**	48.49	299	P	P	01 02 10.9	-0.8
	comp=Z,0.5nm,0.6s,mb3.7,baz=54,slow=8.8,SNR=2.8						
YKA	**Yellowknife Ar**	50.12	37	P	P	01 02 23.4	-0.4
	comp=Z,0.2nm,0.7s,mb3.2,baz=297,slow=7.5,SNR=3.5						
BVAR	**Borovoye Array**	52.26	310	P	P	01 02 39.4	-0.7
	comp=Z,0.4nm,0.3s,mb3.8,baz=60,slow=8.9,SNR=5.2						
NVAR	**Mina Array Bea**	61.08	64	P	P	01 03 42.4	-0.5
	comp=Z,0.2nm,0.3s,mb3.7,baz=316,slow=10,SNR=2.7						
JOF	**Joensuu**	62.25	335	*e*p	P	01 03 45.2	-5.2
	comp=Z,3.6nm,0.6s,mb4.7						
JOF	**Joensuu**	62.25	335	*e*P	P	01 03 45.2	-5.2
JOF				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.7						
FINES	**FINESS Array B**	64.93	336	P	P	01 04 09.2	+1.1
FINES				pmax	pmax		
	comp=Z,2.0nm,0.5s						
FINES	**FINESS Array B**	64.93	336	P	P	01 04 09.2	+1.1
	comp=Z,1.5nm,0.5s,mb4.3,baz=31,slow=6.9,SNR=20						
ASAR	**Alice Springs**	72.55	201	P	P	01 04 55.5	-0.4
	comp=Z,0.4nm,0.7s,mb3.5,baz=21,slow=8.0,SNR=3.6						
AKASG	**Malin Array Be**	72.63	328	P	P	01 04 56.2	0.0
	comp=Z,0.2nm,0.3s,mb3.5,baz=32,slow=6.0,SNR=3.6						
TXAR	**Lajitas Array**	76.16	62	P	P	01 05 18.0	+0.9
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
TXAR	**Lajitas Array**	76.16	62	P	P	01 05 18.0	+0.9
	comp=Z,0.6nm,0.6s,mb3.7,baz=292,slow=4.2,SNR=7.2						

*ISCJB **24** 01:22:54.7±0.7, 4047N±003×2401E±005, h11km±7km, Error ellipse: s-maj=6.3km s-min=4.8km az=151.4*
*CSEM **24** 01:22:55.7±0.1, 4046N×2401E, h8km, ML2.3, Error ellipse: s-maj=2.4km s-min=1.7km az=50.0*
*THE **24** 01:22:55.7, 4046N×2399E, h1km, ML2.3*
*ATH **24** 01:22:55.7, 4048N×2391E, h31km, MD3.2/3*

ISC 24 01:22:55.2±0.7, 4046N±004×2403E±006, h12km±11km, n15, σ0§70/25, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OUR	**Ouranopolis**	0.13	196	*e*Pg	Pg	01 22 58.8	+0.4
PLG	**Polygyros**	0.45	259	*e*Pg	Pg	01 23 04.0	-0.1
PLG				*e*Sg	Sg	01 23 09.8	-0.3
PLG	**Polygyros**	0.45	259	*e*PB	Pg	01 23 04.2	+0.1
PLG				*e*SB	Sg	01 23 10.0	-0.1
PAIG	**Paliouri**	0.60	207	*e*Pg	Pg	01 23 06.8	0.0
PAIG				*e*Sg	Sg	01 23 15.1	+0.5
SOH	**Sokhos**	0.63	305	*e*Pg	Pg	01 23 07.2	-0.2
SOH				*e*Sg	Sg	01 23 16.2	+0.6
HORT	**Hortiatis**	0.72	281	*e*Pg	Pg	01 23 08.6	-0.5
HORT				*e*Sg	Sg	01 23 18.0	-0.6
SRS	**Serrai**	0.73	333	*e*Pg	Pg	01 23 09.1	-0.3
SRS				*e*Sg	Sg	01 23 19.6	+0.5
NVR	**Nevrokopi**	0.90	352	*e*PN	Pn	01 23 12.8	-0.8
LOS	**Limnos**	0.96	123	*e*Pg	Pg	01 23 13.5	-0.3
KNT	**Kendrikon**	1.11	310	*e*Pg	Pg	01 23 15.8	-0.7
GRG	**Griva**	1.33	292	*e*Pg	Pg	01 23 20.0	-0.8
GRG				*e*Sg	Sg	01 23 40.0	+2.0
RDO	**Rodhopi**	1.33	59	*e*PN	Pn	01 23 21.0	+1.4
VAY	**Valandovo**	1.40	308	*i* Pg	Pg	01 23 22.0	-0.1
VAY				*i* Sg	Sg	01 23 40.7	+0.4
VAY	**Valandovo**	1.40	308	*i* Pg	Pg	01 23 21.9	-0.2
VAY				*i* Sg	Sg	01 23 40.7	+0.4
STIP	**Stip**	1.86	312	*e*Pn	Pg	01 23 29.7	-1.1
STIP				*e*Sn	Sg	01 23 55.1	+0.1

MAN 24 01:49:30, 1092N×12448E, h1km, mb4.1, ML2.9, MS2.6, Leyte

*ISCJB **24** 01:53:49.0±0.4, 2513N±003×12380E±004, h10km, mb3.9/9, MS3.0/3, Error ellipse: s-maj=5.6km s-min=3.9km az=164.9*
*JMA **24** 01:53:49.6±0.3, 2513N×12372E, h26km±4km, M3.3*
*IDC **24** 01:53:49.7±1.1, 2519N×12379E, h0km, mb3.6/6, mb1 3.7/6, mb1mx3.6/20, mbtmp3.6/6, MS3.1/6, Ms1 3.1/6, ms1mx2.8/25, Error ellipse: s-maj=63.8km s-min=20.9km az=67.0*
*NEIC **24** 01:53:51.1±0.5, 2513N×12364E, h10km, mb4.4/5, Error ellipse: s-maj=12.0km s-min=9.4km az=87.0*
*MOS **24** 01:53:52.7±1.1, 2511N×12362E, h33km, mb4.5/4, Error ellipse: s-maj=47.0km s-min=13.2km az=109.4*

ISC 24 01:53:50.6±0.4, 2507N±003×12377E±004, h10km, n33, σ1§19/37, mb3.9/9, MS3.0/3, Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IRIF	**Iriomote-Funau**	0.73	183	P	Pg	01 54 04.0	-0.7
IRIF				S	Sg	01 54 14.6	+0.3
JIJ	**Ishigaki jima**	0.78	154	P	Pg	01 54 05.2	-0.4
JIJ				S	Sg	01 54 16.1	+0.3
JKRS	**Kuro-shima**	0.86	165	P	Pg	01 54 06.6	-0.5
JKRS				S	Sg	01 54 18.6	+0.4
YOJ	**Yonaguni jima**	0.92	229	P	Pg	01 54 06.6	-1.6
YOJ				S	Sg	01 54 18.2	-2.0
HATJ	**Hateruma jima**	1.01	178	P	Pg	01 54 09.0	-1.0
HATJ				S	Sg	01 54 23.1	0.0
TATO	**Taipei**	2.07	268	Pn	Pn	01 54 22.6	-2.9
TATO				Sn	Sn	01 54 53.4	+2.1
NACB	**Ninganchiao**	2.17	246	Pn	Pn	01 54 26.0	-0.8
NACB				Sn	Sn	01 54 54.8	+1.0
YHNB	**Yeheng**	2.21	260	*e*Pn	Pn	01 54 27.2	-0.1
YHNB				Sn	Sn	01 54 56.8	+2.1
JNU	**Nakatsue**	10.15	36	LR	LR	02 00 48.8	
	comp=Z,124nm,18.1s,baz=41,slow=42						
KSRS	**Korea Array**	12.84	15	LR	LR	02 02 34.1	
	comp=Z,98nm,18.8s,baz=170,slow=41						
MJAR	**Matsushiro Arr**	16.85	44	LR	LR	02 04 54.1	
	comp=Z,62nm,18.9s,baz=40,slow=40						
MDJ	**Mudanjiang**	20.07	12	*e*P	P	01 58 22.8	-1.2
HIA	**Hailar**	24.36	354	*e*P	P	01 59 08.0	-0.6
ASAJ	**Asahikawa**	24.42	34	LR	LR	02 07 46.4	
	comp=Z,33nm,21.2s,MS2.8,baz=3.4,slow=34						
SONM	**Songino Array**	26.55	333	P	P	01 59 30.2	+1.7
	0.5nm,0.8s,mb3.1,baz=146,slow=10,SNR=2.8						
SONM				LR	LR	02 10 18.9	
	comp=Z,49nm,19.4s,MS3.1,baz=174,slow=37						
TLY	**Talaya**	30.70	335	P	P	02 00 07.2	+1.9
	8.7nm,0.8s,mb4.6						
TLY	**Talaya**	30.70	335	P	P	02 00 07.2	+1.8
TLY				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.7						
YAK	**Yakutsk**	37.17	5	P	P	02 01 00.9	-0.5
	comp=Z,14nm,0.3s						
YAK	**Yakutsk**	37.17	5	P	P	02 01 00.9	-0.5
YAK				pmax	pmax		
	comp=Z,14nm,0.3s						
MKAR	**Makanchi Array**	39.38	314	P	P	02 01 20.2	0.0
	comp=Z,2.6nm,0.8s,mb4.0,baz=108,slow=8.3,SNR=6.2						
ZALV	**Zalesovo Beam**	40.82	325	P	P	02 01 30.7	-1.4
	comp=Z,0.8nm,0.6s,mb3.5,baz=109,slow=8.0,SNR=5.6						
ZALV				LR	LR	02 18 11.1	
	comp=Z,21nm,19.4s,MS3.0,baz=51,slow=36						
ZAL	**Zalesovo**	40.83	325	P	P	02 01 30.7	-1.4
KURK	**Kurchatov**	42.96	319	*e*P	P	02 01 49.0	-0.6
	comp=Z,2.0nm,0.5s,mb4.1						
KURK	**Kurchatov**	42.96	319	*e*P	P	02 01 49.0	-0.6
KURK				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.1						
WRAB	**Tennant Creek**	45.90	166	*e*P	P	02 02 14.5	+1.1
	comp=Z,2.6nm,0.8s,mb4.2						
WRAB	**Tennant Creek**	45.90	166	*e*P	P	02 02 14.5	+1.1
WRAB				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3						
WRA	**Warramunga Arr**	45.91	166	P	P	02 02 13.9	+0.4
	comp=Z,0.5nm,0.4s,mb3.8,baz=348,slow=9.3,SNR=5.6						
WB2	**Warramunga Arr**	45.91	166	P	P	02 02 14.8	+1.3
BRVK	**Borovoye**	48.57	320	*e*P	P	02 02 33.6	-0.3
	comp=Z,1.1nm,0.5s,mb4.1						
BRVK	**Borovoye**	48.57	320	*e*P	P	02 02 33.6	-0.4
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.1						
ASAR	**Alice Springs**	49.43	168	P	P	02 02 43.7	+2.9
	comp=Z,0.3nm,0.4s,mb3.7,baz=346,slow=6.9,SNR=4.8						
STKA	**Stephens Creek**	59.13	162	P	P	02 03 52.8	+1.4
YKA	**Yellowknife Ar**	81.23	24	P	P	02 06 06.4	0.0
	comp=Z,0.2nm,0.7s,baz=307,slow=4.4,SNR=4.5						

*PGC **24** 02:06:54.6±6.3, 4999N×130.17W, h10km, ML3.4/10, Mw4.0, 210km Wsw of Pt. Hardy, Bc Vancouver Island Region*
*ISCJB **24** 02:06:55.8±0.3, 5027N±003×12999W±005, h10km, mb4.3/23, MS3.9/5, Error ellipse: s-maj=5.8km s-min=3.6km az=139.5*
*BJI **24** 02:06:56.4, 5104N×12979W, h10km, mB4.8, mb4.9, Ms5.0, Msz4.8*
*NEIC **24** 02:06:57.2±0.6, 5026N×130.10W, h10km, mb4.4/12, MW4.3(PGC), Error ellipse: s-maj=12.3km s-min=5.4km az=58.0*
*IDC **24** 02:06:59.2±4.4, 5012N×130.05W, h27km±29km, mb3.8/10, mb1 4.0/16, mb1mx3.8/29, mbtmp3.8/16, ML3.6/6, MS3.5/3, Ms1 3.5/3, ms1mx2.9/26, Error ellipse: s-maj=24.0km s-min=11.7km az=69.0*

ISC 24 02:06:57.6±0.3, 5032N±003×12998W±006, h10km, n103, σ1§40/108, mb4.3/23, MS3.9/5, 3D, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOLB	**Holberg**	1.23	74	⇓Pn	Pn	02 07 18.8	-2.0
HOLB				Sn	Sn	02 07 36.3	-1.0
PHC	**Port Hardy**	1.67	76	Pn	Pn	02 07 24.9	-2.0
PHC				Sn	Sn	02 07 46.8	-1.7
MAYB	**Maynard**	1.80	86	⇓Pn	Pn	02 07 25.8	-2.9
EDB	**Eliza Dome**	1.90	103	Pn	Pn	02 07 25.6	-4.4
EDB				Sn	Sn	02 07 47.8	-6.2
WOSB	**Woss**	2.20	93	Pn	Pn	02 07 31.6	-2.5
BBB	**Bella Bella**	2.20	32	Pn	Pn	02 07 34.8	+0.5
	81nm,0.3s,baz=226,slow=13,SNR=569						
BBB				Sn	Sn	02 08 03.7	+2.2
	34nm,0.3s,baz=315,slow=20,SNR=7.9						
BBB	**Bella Bella**	2.20	32	⇓Pn	Pn	02 07 34.7	+0.5
BBB				Sn	Sn	02 08 03.0	+1.5
GDR	**Gold River**	2.60	101	Pn	Pn	02 07 37.1	-2.7
BTB	**Buttle Lake**	3.01	105	Pn	Pn	02 07 41.8	-3.5
BTB				Sn	Sn	02 08 14.7	-6.7
MOBC	**Moresby Island**	3.11	338	Pn	Pn	02 07 45.5	-1.2
OZB	**Mount Ozzard**	3.22	113	Sn	Sn	02 08 19.6	-7.0
DIB	**Dawson Inlet,**	3.27	333	Pn	Pn	02 07 45.9	-3.0
	SNR=51						
DIB	**Dawson Inlet,**	3.27	333	Pn	Pn	02 07 47.4	-1.5
VIB	**Van Inlet**	3.33	333	Pn	Pn	02 07 48.0	-1.8
	SNR=58						
PGC	**Sidney**	4.58	109	*e*Pn	Pn	02 08 05.5	-1.3
NLWA	**Neilton Lookou**	4.99	124	*e*Pn	Pn	02 08 10.9	-1.6
HOOD	**Mount Hood Mea**	7.51	129	*e*Pn	Pn	02 08 49.1	+2.0
HAWA	**Hanford**	7.99	115	*e*Pn	Pn	02 08 53.6	-0.1
DLBC	**Dease Lake**	8.13	360	*e*Pn	Pn	02 08 59.1	+3.6
DLBC	**Dease Lake**	8.13	360	Pn	Pn	02 08 59.2	+3.7
	baz=190,slow=14						
NEW	**Newport**	8.66	99	Pn	Pn	02 09 01.8	-1.0
	0.3nm,0.3s,baz=296,slow=11,SNR=4.3						
WALA	**Waterton Lakes**	10.49	91	*e*Pn	Pn	02 09 28.9	+1.0
EDM	**Edmonton**	10.71	68	*e*Pn	Pn	02 09 32.7	+1.8
MOD	**Modoc**	10.77	138	*e*Pn	Pn	02 09 33.0	+1.3
WDC	**Whiskeytown Da**	11.05	149	*e*Pn	Pn	02 09 36.0	+0.4
	15nm,1.3s						
WVOR	**Wild Horse Val**	11.11	131	*e*Pn	Pn	02 09 36.5	+0.1
	14nm,1.2s						
CHMT	**Chamberlain Mo**	11.59	101	*e*Pn	Pn	02 09 43.1	+0.1
MCMT	**McKenzie Canyo**	12.80	109	*e*Pn	Pn	02 09 58.3	-1.2
EGMT	**Eagleton**	13.43	92	*e*Pn	Pn	02 10 10.0	+1.9
QLMT	**Earthquake Lak**	13.66	107	*e*Pn	Pn	02 10 11.8	+0.5
GCMT	**Greycliff**	14.31	101	*e*Pn	Pn	02 10 20.4	+0.3
LKWY	**Lake**	14.43	106	*e*Pn	Pn	02 10 24.0	+2.3
IMW	**Indian Meadow**	14.46	109	*e*Pn	Pn	02 10 23.9	+1.9
DCID1	**Drake Creek**	14.47	110	*e*Pn	Pn	02 10 25.6	+3.2
FLWY	**Flagg Ranch**	14.50	108	*e*Pn	Pn	02 10 24.9	+2.2
NVAR	**Mina Array Bea**	14.51	141	Pn	Pn	02 10 23.3	+0.4
	0.1nm,0.3s,baz=309,slow=13,SNR=12						
MOOW	**Moose Ponds**	14.65	109	*e*Pn	Pn	02 10 26.6	+1.8
DAWY	**Dawson**	14.66	344	Pn	Pn	02 10 26.5	+1.7
TPAW	**Teton Pass**	14.67	110	*e*Pn	Pn	02 10 33.0	+7.9
REDW	**Red Top Meadow**	14.81	111	*e*P	Pn	02 10 35.0	+8.2
SNOW	**Snow King Moun**	14.81	110	*e*P	Pn	02 10 35.3	+8.4
LOHW	**Long Hollow**	14.81	109	*e*Pn	Pn	02 10 29.4	+2.4
YKA	**Yellowknife Ar**	14.81	29	Pn	Pn	02 10 25.5	-1.3
	0.2nm,0.3s,baz=217,slow=12,SNR=27						
YKW3	**Yellowknife Ar**	14.86	29	*e*Pn	Pn	02 10 28.4	+0.9
RLMT	**Red Lodge**	14.87	103	*e*P	Pn	02 10 35.2	+7.5
MTUM	**Tungsten Hills**	15.34	143	*e*Pn	Pn	02 10 36.4	+2.4
HWUT	**Hardware Ranch**	15.46	117	*e*P	Pn	02 10 37.8	+2.2
	24nm,1.6s						
DUG	**Dugway**	15.73	123	*e*Pn	Pn	02 10 43.2	+4.1
PDAR	**Pinedale Array**	15.92	110	Pn	Pn	02 10 44.0	+2.4
	0.1nm,0.3s,baz=308,slow=9.3,SNR=15						
JLU	**Jordanelle**	16.19	120	*e*Pn	Pn	02 10 47.0	+1.9
NLU	**North Lily Min**	16.30	123	*e*P	Pn	02 10 49.7	+3.2
DAU	**Daniels Canyon**	16.43	120	*e*Pn	Pn	02 10 50.3	+2.2
MSU	**Marysvale**	17.30	126	*e*Pn	Pn	02 11 01.4	+2.3
FFC	**Flin Flon**	17.54	65	*e*Pn	Pn	02 11 01.0	-0.9
	17nm,0.9s						
SRU	**San Rafael**	17.75	122	*e*Pn	Pn	02 11 05.2	+0.7
GSC	**Goldstone**	17.81	142	*e*Pn	Pn	02 11 05.4	-0.1
SVW2	**Sparrevohn**	17.88	317	*e*P	Pn	02 11 11.1	+5.0
INK	**Inuvik**	18.12	356	*e*Pn	Pn	02 11 07.5	-1.6
INK	**Inuvik**	18.12	356	P	Pn	02 11 11.3	+2.2
	0.1nm,0.3s,baz=164,slow=15,SNR=9.7						
LDFC	**Landfair**	18.70	139	*e*Pn	Pn	02 11 15.3	-0.9
TTA	**Tatalina**	18.91	322	*e*Pn	Pn	02 11 20.3	+1.6
PV10	**Paradox Valley**	19.08	121	*e*Pn	Pn	02 11 20.7	-0.2
PHWY	**Pilot Hill**	19.26	109	*e*Pn	Pn	02 11 21.9	-1.1
PV01	**Paradox Valley**	19.51	120	*e*Pn	Pn	02 11 23.9	-2.2
SMCO	**Snowmass**	19.70	116	*e*P	Pn	02 11 27.1	-1.2
	13n

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LZH                                    AMB     AMB
     comp=Z,58nm,6.6s
LZH                                    LR      LR
     comp=E,203nm,16.7s
LZH                                    LR      LR
     comp=Z,312nm,19.5s,MS4.7
LPAZ La Paz          85.61 122  eP     P       02 19 34.3 -1.9
     comp=Z,6.6nm,1.4s,mb4.7
CD2  Chengdu         86.19 316  eP     P       02 19 38.5 -0.6
CD2                                    AMB     AMB
     comp=Z,10.0nm,0.8s,mb5.1
CD2                                    AMB     AMB
     comp=Z,30nm,8.4s
GYA  Guiyang         88.61 311  P      P       02 19 49.8 -1.0
GYA                                    AMB     AMB
     comp=Z,10.0nm,0.8s,mb5.2
BOSA Boshof         151.34  50  PKPbc  PKPbc   02 26 49.2 -2.0
     comp=Z,1.6nm,0.7s,baz=333,slow=2.3,SNR=4.4
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IDC ***24*** *02:24:00.6±0.5, 3072N×142.06E, h0km, mb4.6/22, mb1 4.7/26, mb1mx4.7/27, mbtmp4.6/26, ML4.4/4, MS4.1/15, Ms1 4.1/15, ms1mx4.0/24, Error ellipse: s-maj=16.0km s-min=11.9km az=79.0*

NIED ***24*** *02:24:00, 3080N×142.10E, h5km, Mw4.7 Best double couple: M0 1.38000×10^16 NP1:φ=183.00000°, δ48.00000°, λ104.00000°. NP2:φ=342.00000°, δ44.00000°, λ75.00000°.*

JMA ***24*** *02:24:01.7±0.2, 3081N×142.14E, h25km, M5.0*

MOS ***24*** *02:24:03.6±0.9, 3078N×142.01E, h27km, mb5.1/50, MS4.4/12, Error ellipse: s-maj=11.4km s-min=4.5km az=112.9*

BJI ***24*** *02:24:04.3, 3085N×141.75E, h25km, mB4.9, mb4.9, Ms4.5, Msz4.2*

ISCJB ***24*** *02:24:05.9±0.2, 3076N±002×141.88E±003, h43km, mb4.9/125, MS4.3/34, Error ellipse: s-maj=4.1km s-min=3.1km az=146.6*

NEIC ***24*** *02:24:07.4±0.4, 3077N×141.90E, h42km±3km, mb4.8/39, MS4.4/2, MW4.7(NIED), Error ellipse: s-maj=5.4km s-min=4.6km az=89.0*

SZGRF ***24*** *02:24:12.4, 31.35N×141.49E, h45km, mb4.9, MS4.3, Southeast of Honshu, Japan*

ISC 24 02:24:07.8±0.2, 3078N±002×14190E±003, h45km, h45km±.9km: pP-P, n373, σ19 10/376, mb4.9/125, MS4.3/34, 25C-13D, Southeast of Honshu

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Code Station Name    Δ°   AZ°  Phase ID          Time     Res
                                Op    ISC         h m  s   ISC
JHJ2 Mitsune         2.92 323   P     Pn          02 24 49.6 -2.2
JHJ2                            eS    Sn          02 25 25.0 -0.7
JHJ  Hachijo jima 2  2.95 323   Pn    Pn          02 24 49.7 -2.4
     40nm,0.3s,baz=80,slow=23,SNR=15
JHJ                             Sn    Sn          02 25 27.4 +1.2
     144nm,0.3s,baz=72,slow=23,SNR=4.7
JHJ                             LR    LR          02 25 54.7
     comp=Z,2μm,21.0s,baz=181,slow=37
CBIJ Chichi jima     3.68 176   P     Pn          02 24 59.0 -3.1
CBIJ Chichi jima     3.68 176   Pn    Pn          02 24 59.4 -2.8
     32nm,0.3s,baz=92,slow=23,SNR=16
CBIJ                            Sn    Sn          02 25 41.4 -2.8
     82nm,0.3s,baz=74,slow=24,SNR=8.0
CBIJ                            LR    LR          02 26 14.0
     comp=Z,961nm,21.4s,baz=22,slow=37
BSO1 Boso 1          3.94 349   P     Pn          02 25 02.4 -3.3
JHHJ Haha-jima-NKT   4.14 177   P     Pn          02 25 06.8 -1.7
BSO3 Boso 3          4.18 344   P     Pn          02 25 07.7 -1.3
JIM2 Oshima 3        4.45 333   P     Pn          02 25 10.3 -2.3
JIZS Izushimoda      4.68 328   P     Pn          02 25 14.5 -1.4
JOD2 Odawara 2       5.06 333   P     Pn          02 25 20.5 -0.6
SHZ3 Shizuoka 3      5.28 325   P     Pn          02 25 26.2 +2.1
HMMJ Hamamatsu 2     5.38 320   P     Pn          02 25 27.2 +1.8
JYN  Shimob          5.49 330   P     Pn          02 25 28.0 +1.1
JIE  Ise             5.67 311   P     Pn          02 25 29.8 +0.3
JNY  Yasuok          5.69 324   P     Pn          02 25 31.9 +2.2
JRY  Ryogami san     5.80 335   P     Pn          02 25 29.4 -1.8
JRY                             eS    Sn          02 26 35.7 -0.6
JWZ  Kozaga          5.92 299   P     Pn          02 25 33.4 +0.5
JHO  Hitachi         5.92 350   ⇓P    Pn          02 25 29.2 -3.7
JAO  Obara           5.94 320   P     Pn          02 25 34.7 +1.6
JNT  Takato          5.98 329   P     Pn          02 25 34.8 +1.1
JAG  Ashikaga        5.99 341   P     Pn          02 25 31.6 -2.2
TSUJ Tsu 2           6.06 312   P     Pn          02 25 35.5 +0.7
JNG  Nsakai          6.45 332   P     Pn          02 25 40.0 -0.1
MJAR Matsushiro Arr  6.52 333   P     Pn          02 25 40.3 -0.8
MJAR                            pmax  pmax
     comp=Z,30nm,0.3s
MJAR Matsushiro Arr  6.52 333   Pn    Pn          02 25 40.3 -0.8
     comp=Z,30nm,0.3s,baz=153,slow=10,SNR=303
MAJO Matsushiro      6.52 333   ePn   Pn          02 25 40.5 -0.7
MAT  Matsushiro      6.52 333   P     Pn          02 25 40.2 -0.9
MAT                             S     Sn          02 26 54.0 -0.2
MAT  Matsushiro      6.52 333   P     Pn          02 25 40.4 -0.7
JGM  Miyama          6.55 320   P     Pn          02 25 42.0 +0.5
JGN  Niukaw          6.64 326   P     Pn          02 25 44.2 +1.4
JSD  Sado            7.84 338   P     Pn          02 25 56.6 -2.6
JMK  Ichinoseki      8.17 356   P     Pn          02 25 59.1 -4.7
JMK                             eS    Sn          02 27 25.0 -10
JNU  Nakatsue        9.65 287   Pn    Pn          02 26 25.9 +1.8
     baz=101,slow=14
JNU                             LR    LR          02 30 10.0
     comp=Z,801nm,18.3s,baz=98,slow=38
ERM  Erimo          11.26   5   ePn   Pn          02 26 39.1 -6.9
     comp=Z,29nm,0.6s
ERM  Erimo          11.26   5   eP    Pn          02 26 39.1 -6.9
ERM                             pmax  pmax
     comp=Z,29nm,0.6s
JOW  Kunigami       12.58 255   LR    LR          02 31 42.3
     comp=Z,563nm,18.3s,baz=262,slow=36
ASAJ Asahikawa      13.33   2   P     Pn          02 27 11.7 -2.5
ASAJ                            pmax  pmax
     comp=Z,4.0nm,0.3s
ASAJ                            MLR   MLR
     comp=Z,803nm,19.1s
ASAJ Asahikawa      13.33   2   Pn    Pn          02 27 11.7 -2.5
     comp=Z,4.2nm,0.3s,baz=173,slow=17,SNR=5.2
ASAJ                            LR    LR          02 33 18.4
     comp=Z,803nm,19.1s,baz=188,slow=42
KSRS Korea Array    13.35 304   Pn    Pn          02 27 16.9 +2.3
     comp=Z,1.0nm,0.3s,baz=113,slow=13,SNR=44
KSRS                            LR    LR          02 32 19.8
     comp=Z,656nm,19.6s,baz=113,slow=37
INCN Inchon         14.30 302   ePn   Pn          02 27 33.6 +6.1
INCN Inchon         14.30 302   Pn    Pn          02 27 32.3 +4.9
     SNR=6.9
INCN Inchon         14.30 302   P     Pn          02 27 32.3 +4.9
     SNR=6.9
YSS  Yuzh-Sakhalins 16.17   2   ePn   Pn          02 27 50.5 -1.2
     comp=Z,34nm,0.7s
YSS  Yuzh-Sakhalins 16.17   2   eP    Pn          02 27 46.3 -5.4
YSS                             e                 02 30 58.0
YSS                             MLR   MLR
     comp=E,500nm,14.0s
YSS                             MLR   MLR
     comp=Z,500nm,14.0s
MDJ  Mudanjiang     16.88 328   P     Pn          02 27 58.3 -2.3
MDJ                             S     S           02 31 06.1 -10
MDJ                             PCP   PcP         02 32 43.8 -2.0
MDJ                             PCS   PcS         02 36 17.8 -3.8
MDJ                             SCS   ScS         02 39 52.8 -3.5
MDJ                             AMB   AMB
     comp=Z,31nm,1.1s
MDJ                             AMB   AMB
     comp=Z,54nm,5.9s
MDJ                             LR    LR
     comp=N,490nm,17.4s
MDJ                             LR    LR
     comp=E,466nm,16.8s
MDJ                             LR    LR
     comp=Z,787nm,18.4s
MDJ  Mudanjiang     16.88 328   ePn   Pn          02 27 58.1 -2.5
GUMO Guam           17.32 170   eP    Pn          02 28 05.7 -0.7
     comp=Z,482nm,1.3s
GUMO Guam           17.32 170   eP    Pn          02 28 05.7 -0.7
GUMO                            pmax  pmax
     comp=Z,482nm,1.3s
SSE  Sheshan        17.78 276   P     Pn          02 28 07.8 -4.1
SSE                             S     S           02 31 27.1 -7.2
SSE                             AMB   AMB
     comp=Z,56nm,0.7s
SSE                             AMB   AMB
     comp=Z,198nm,10.0s
SSE                             LR    LR
     comp=N,220nm,17.0s
SSE                             LR    LR
     comp=E,566nm,17.0s
SSE                             LR    LR
     comp=Z,717nm,16.7s
UGL  Uglegorsk      18.28   0   P     Pn          02 28 25.0 +7.2
UGL                             eS    S           02 31 46.0 +1.8
UGL                             pmax  pmax
     comp=Z,112nm,1.0s
UGL                             smax
     comp=E,1.0nm,6.0s
UGL                             smax
     comp=N,1.0nm,4.0s
SNY  Shenyang       18.39 312   ⇓P    Pn          02 28 18.3 -1.0
SNY                             S     S           02 31 43.3 -3.3
SNY                             AMB   AMB
     comp=Z,27nm,0.9s
SNY                             AMB   AMB
     comp=Z,206nm,6.3s
SNY                             LR    LR
     comp=N,801nm,10.8s
SNY                             LR    LR
     comp=E,727nm,13.7s
SNY                             LR    LR
     comp=Z,594nm,16.7s
CN2  Changchun      18.41 319   eP    Pn          02 28 17.3 -2.1
CN2                             eAP   pP          02 28 26.8 -2.9
CN2                             eXP   sP          02 28 32.9 -2.5
CN2                             eS    S           02 31 37.6 -9.2
CN2                             AMB   AMB
     comp=Z,30nm,0.9s
CN2                             AMB   AMB
     comp=Z,200nm,6.0s
CN2                             LR    LR
     comp=N,950nm,19.0s
CN2                             LR    LR
     comp=E,670nm,19.0s
CN2                             LR    LR
     comp=Z,730nm,19.0s
HABR Khabarovsk     18.43 345   eP    Pn          02 28 10.1 -10
HABR                            eS    S           02 31 44.4 -2.8
HABR                            pmax  pmax
     comp=Z,133nm,1.6s
NJ2  Nanjing        19.71 280   eP    Pn          02 28 34.5 -0.7
NJ2                             AP    pP          02 28 44.1 0.0
NJ2                             PP                02 28 53.3
NJ2                             S     S           02 32 08.0 -5.2
NJ2                             AMB   AMB
     comp=Z,80nm,0.7s
NJ2                             AMB   AMB
     comp=Z,72nm,3.6s
NJ2                             LR    LR
     comp=N,1μm,10.0s
NJ2                             LR    LR
     comp=E,380nm,10.0s
NJ2                             LR    LR
     comp=Z,3μm,11.8s
KLR  Kul'dur        19.97 340   eP    Pn          02 28 30.1 -8.0
KLR                             MLR   MLR
     comp=N,500nm,12.0s
KLR                             MLR   MLR
     comp=Z,2μm,12.0s
BJI  Beijing        22.85 301   P     P           02 29 04.9 -2.2
BJI                             S     S           02 33 11.6 -1.8
BJI                             AMB   AMB
     comp=Z,49nm,0.7s,mb5.0
BJI                             LR    LR
     comp=N,471nm,12.3s,MS4.3
BJI                             LR    LR
     comp=E,675nm,16.8s,MS4.3
BJI                             LR    LR
     comp=Z,532nm,20.2s,MS4.0
BJT  Baijiatuau     22.85 301   eP    P           02 29 05.1 -1.9
     comp=Z,53nm,0.8s,mb5.0
BJT  Baijiatuau     22.85 301   eP    P           02 29 05.1 -2.0
BJT                             pmax  pmax
     comp=Z,53nm,0.8s
WHN  Wuhan          23.68 277   eP    P           02 29 16.9 +1.5
WHN                             LR    LR
     comp=Z,1μm,16.6s,MS4.5
HIA  Hailar         24.93 324   eP    P           02 29 26.2 -0.3
HHC  Hu-ho-hao-te   26.46 301   eP    P           02 29 39.8 -0.7
HHC                             AP    pP          02 29 51.4 -1.0
HHC                             XP    sP          02 29 57.0 -0.8
HHC                             PP                02 30 22.8
HHC                             PCP   PcP         02 33 06.3 +1.6
HHC                             S     S           02 34 11.3 +0.1
HHC                             XS    sS          02 34 27.0 -4.2
HHC                             SS                02 35 18.5
HHC                             SCS   ScS         02 40 26.4 -4.8
HHC                             AMB   AMB
     comp=Z,29nm,0.8s,mb4.9
HHC                             AMB   AMB
     comp=Z,156nm,4.9s
HHC                             LR    LR
     comp=N,476nm,12.9s,MS4.4
HHC                             LR    LR
     comp=E,596nm,17.8s,MS4.4
HHC                             LR    LR
     comp=Z,729nm,17.8s,MS4.3
BTO  Baotou         27.56 300   eP    P           02 29 49.5 -0.9
XAN  Xi'an          27.97 285   P     P           02 29 49.4 -4.7
XAN                             AP    pP          02 30 00.3 -5.7
XAN                             AMB   AMB
     comp=Z,3.0nm,0.7s,mb4.0
XAN                             AMB   AMB
     comp=Z,35nm,5.4s
XAN                             LR    LR
     comp=N,138nm,13.0s,MS4.1
XAN                             LR    LR
     comp=E,324nm,14.1s,MS4.1
XAN                             LR    LR
     comp=Z,346nm,13.0s,MS4.1
NRGR Nerungri       28.53 340   eP    P           02 29 59.8 +1.0
CLNS Chul'man       28.63 340   c iP  P           02 30 00.2 +0.5
CLNS                            e*PP  pP          02 30 08.6 -3.1
CLNS                            e                 02 33 16.4
CLNS                            eS    S           02 34 38.9 -6.1
CLNS                            eSS   SS          02 36 10.8 -37
CLNS                            pmax  pmax
     comp=Z,29nm,0.8s,mb5.1
CLNS                            pmax  pmax
     comp=N,31nm,1.1s
CLNS                            pmax  pmax
     comp=E,6.0nm,0.6s
CLNS                            pmax  pmax
     comp=Z,64nm,11.4s
CLNS                            pmax  pmax
     comp=N,15nm,1.0s
CLNS                            pmax  pmax
     comp=E,25nm,0.8s
CLNS                            smax
     comp=N,85nm,12.3s
CLNS                            smax
     comp=Z,64nm,11.4s
CLNS                            smax
     comp=E,104nm,11.7s
MA2  Magadan        29.41   9   eP    P           02 30 05.7 -0.9
MA2  Magadan        29.41   9   eP    P           02 30 05.9 -0.8
MA2                             eS    S           02 34 54.2 -3.1
MA2                             eSSS              02 36 53.0
MA2                             pmax  pmax
     comp=Z,10.0nm,0.8s,mb4.6
MA2                             MLR   MLR
     comp=E,300nm,16.8s
GYA  Guiyang        31.15 271   P     P           02 30 23.3 +0.9
GYA                             AP    pP          02 30 35.8 +1.4
GYA                             PP    PP          02 31 27.5 -5.7
GYA                             PCP   PcP         02 33 19.4 +2.7
GYA                             S     S           02 35 25.6 +0.4
GYA                             XS    sS          02 35 44.8 -0.5
GYA                             SCP   ScP         02 36 57.8 +1.8
GYA                             PCS   PcS         02 37 02.3 +1.3
GYA                             SS    SS          02 37 12.0 -28
GYA                             SCS   ScS         02 40 53.3 -0.1
GYA                             AMB   AMB
     comp=Z,10.0nm,0.8s,mb4.7
GYA                             AMB   AMB
     comp=Z,110nm,4.9s
GYA                             LR    LR
     comp=N,460nm,19.9s,MS4.3
GYA                             LR    LR
     comp=E,490nm,18.8s,MS4.3
GYA                             LR    LR
     comp=Z,480nm,17.8s,MS4.2
QIZ  Qiongzhong     31.23 256   P     P           02 30 22.8 -0.4
QIZ                             S     S           02 35 27.3 +0.7
QIZ                             LR    LR
     comp=E,256nm,17.4s
QIZ                             LR    LR
     comp=Z,360nm,17.9s,MS4.1
ULN  Ulaanbaatar    31.57 313   eP    P           02 30 26.2 +0.4
ULN  Ulaanbaatar    31.57 313   P     P           02 30 27.3 +1.6
     SNR=28
ULN  Ulaanbaatar    31.57 313   P     P           02 30 27.3 +1.6
     SNR=28
SONM Songino Array  31.97 312   P     P           02 30 31.1 +1.7
SONM                            pmax  pmax
     comp=Z,14nm,0.8s
SONM                            MLR   MLR
     comp=Z,496nm,18.5s
SONM Songino Array  31.97 312   P     P           02 30 31.1 +1.7
     comp=Z,14nm,0.8s,mb4.9,baz=112,slow=8.4,SNR=80
SONM                            LR    LR          02 44 06.1
     comp=Z,496nm,18.5s,MS4.2,baz=312,slow=38
LZH  Lanzhou        32.06 290   eP    P           02 30 29.0 -1.3
LZH                             AP    pP          02 30 40.1 -2.2
LZH                             XP    sP          02 30 46.0 -1.6
LZH                             PP    PP          02 31 36.3 -6.9
LZH                             eS    S           02 35 36.3 -2.9
LZH                             XS    sS          02 35 56.5 -2.8
LZH                             eSS   SS          02 37 31.3 -27
LZH                             AMB   AMB
     comp=Z,21nm,1.3s,mb4.8
LZH                             AMB   AMB
     comp=Z,93nm,4.8s
LZH                             LR    LR
     comp=N,553nm,11.8s
LZH                             LR    LR
     comp=Z,865nm,16.5s,MS4.5
YAK  Yakutsk        32.26 349   epP   pP          02 30 43.2 -0.5
YAK  Yakutsk        32.26 349   eP    P           02 30 31.2 -0.5
YAK                             pmax  pmax
     comp=N,16nm,1.2s
YAK                             pmax  pmax
     comp=Z,30nm,1.2s,mb5.0
YAK                             pmax  pmax
     comp=E,7.0nm,1.1s
YAK                             MLR   MLR
     comp=N,395nm,14.0s,MS4.3
YAK                             MLR   MLR
     comp=Z,498nm,14.0s,MS4.4
YAK                             MLR   MLR
     comp=E,200nm,12.0s,MS4.3
CD2  Chengdu        32.64 280   ⇑ iP  P           02 30 35.4 -0.1
CD2                             AP    pP          02 30 46.3 -1.2
CD2                             XP    sP          02 30 50.8 -2.0
CD2                             PP    PP          02 31 44.3 -5.5
CD2                             S     S           02 35 46.5 -1.9
CD2                             XS    sS          02 36 02.8 -5.8
CD2                             SS    SS          02 37 43.1 -27
CD2                             AMB   AMB
     comp=Z,20nm,0.6s,mb5.2
CD2                             AMB   AMB
     comp=Z,30nm,4.8s
CD2                             LR    LR
     comp=N,250nm,12.6s,MS4.3
CD2                             LR    LR
     comp=E,300nm,14.4s,MS4.3
CD2                             LR    LR
     comp=Z,200nm,14.8s,MS3.9
SEY  Seymchan       32.87   9⇑ eP   P           02 30 36.8 -0.2
BOD  Bodaibo        33.16 333   eP    P           02 30 39.2 -0.4
BOD                             e     pP          02 30 51.4 -0.2
BOD                             pmax  pmax
     comp=Z,17nm,0.8s,mb5.0
ZAK  Zakamensk      34.75 315   ⇑ iP  P           02 30 54.8 +1.3
ZAK                             pmax  pmax
     comp=Z,21nm,1.3s,mb4.9
KMI  Kunming        34.92 271   P     P           02 30 56.9 +1.6
KMI                             AP    pP          02 31 08.0 +0.6
KMI                             XP    sP          02 31 12.8 +0.1
KMI                             PP    PP          02 32 14.0 -1.1
KMI                             S     S           02 36 22.0 -1.8
KMI                             XS    sS          02 36 43.3 -0.7
KMI                             PCS   PcS         02 37 15.1 +0.9
KMI                             SS    SS          02 38 38.8 -18
KMI                             LR    LR
     comp=N,297nm,13.2s,MS4.3
KMI                             LR    LR
     comp=E,237nm,13.2s,MS4.3
KMI                             LR    LR
     comp=Z,285nm,11.8s,MS4.2
TLY  Talaya         34.99 318   eP    P           02 30 51.9 -3.7
TLY  Talaya         34.99 318   ⇑ iP  P           02 30 57.3 +1.7
TLY                             pmax  pmax
     comp=Z,7.0nm,0.8s,mb4.6
TLY                             MLR   MLR
     comp=Z,100nm,18.0s,MS3.6
TLY  Talaya         34.99 318   P     P           02 30 57.6 +2.0
     SNR=30
TLY  Talaya         34.99 318   P     P           02 30 57.6 +2.0
     SNR=30
GTA  Gaotai         35.24 296   eP    P           02 30 57.0 -0.9
GTA                             AP    pP          02 31 08.8 -1.1
GTA                             XP    sP          02 31 12.8 -2.5
GTA                             PP    PP          02 32 16.1 -2.2
GTA                             PCP   PcP         02 33 29.4 +1.5
GTA                             S     S           02 36 26.3 -2.0
GTA                             XS    sS          02 36 46.8 -1.8
GTA                             SS    SS          02 38 44.8 -18
GTA                             AMB   AMB
     comp=Z,20nm,1.0s,mb5.0
GTA                             AMB   AMB
     comp=Z,98nm,4.2s
GTA                             LR    LR
     comp=N,400nm,16.0s,MS4.4
GTA                             LR    LR
     comp=E,405nm,16.3s,MS4.4
GTA                             LR    LR
     comp=Z,453nm,16.7s,MS4.3
MOY  Mondy          36.54 317   eP    P           02 31 09.8 +1.0
MOY                             pmax  pmax
     comp=Z,39nm,1.6s,mb5.0
BILL Bilibino       39.95  14   eP    P           02 31 35.7 -1.6
     comp=Z,3.8nm,0.5s,mb4.4
BILL Bilibino       39.95  14⇑ eP    P           02 31 36.2 -1.1
BILL                            pmax  pmax
     comp=Z,6.0nm,0.8s,mb4.4
BILL                            MLR   MLR
     comp=Z,200nm,15.0s,MS4.1
CHG  Chiang Mai     40.55 263   ⇓P    P           02 31 42.1 -0.8
     comp=Z,26nm,0.6s,mb5.0
CHTO Chiang Mai     40.55 263   eP    P           02 31 41.6 -1.3
TIXI Tiksi          41.54 354   eP    P           02 31 49.2 -1.1
TIXI Tiksi          41.54 354   eP    P           02 31 49.7 -0.6
TIXI                            pmax  pmax
     comp=Z,3.0nm,0.7s,mb4.0
TIXI                            MLR   MLR
     comp=Z,267nm,13.0s,MS4.3
KSM  Kuching        41.77 232   eP    P           02 31 53.4 +0.5
KAKA Kakadu         44.18 193   eP    P           02 32 11.5 -0.9
     comp=Z,22nm,0.8s,mb5.0
WMQ  Urumqi         44.30 303   ⇓ iP  P           02 32 13.8 +0.7
WMQ                             AP    pP          02 32 26.0 +0.5
WMQ                             PP    PP          02 33 58.0 +1.1
WMQ                             eS    S           02 38 44.0 +0.1
WMQ                             XS    sS          02 39 04.0 -0.5
WMQ                             SS    SS          02 41 56.0 -7.2
WMQ                             AMB   AMB
     comp=Z,30nm,1.5s,mb4.8
WMQ                             AMB   AMB
     comp=Z,110nm,3.8s
WMQ                             LR    LR
     comp=N,634nm,21.2s
WMQ                             LR    LR
     comp=E,658nm,14.5s
WMQ                             LR    LR
     comp=Z,418nm,23.0s,MS4.3
SNG  Songkhla       45.18 247   P     P           02 32 21.0 +0.6
KULM Kulim          46.29 245   eP    P           02 32 28.8 -0.4
KULM                            epP   pP          02 32 40.8 -0.9
ZAA0 Zalesovo Array 46.59 317   eP    P           02 32 31.1 +0.1
ZAA0                            epP   pP          02 32 43.1 -0.4
ZALV Zalesovo Beam  46.59 317   P     P           02 32 31.2 +0.1
     comp=Z,6.7nm,0.7s,mb4.7,baz=96,slow=7.1,SNR=35
ZALV                            PcP   PcP         02 34 04.9 +0.4
     comp=Z,5.2nm,0.7s,baz=91,slow=3.9,SNR=5.5
ZALV                            LR    LR          02 52 54.3
     comp=Z,252nm,18.7s,MS4.2,baz=89,slow=37
ZAL  Zalesovo       46.61 317   P     P           02 32 31.2 0.0
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ZAL 02 34 04.9
NVS Novosibirsk 47.61 318⇑ *i*P P 02 32 39.0 0.0
NVS *e* 02 34 10.2
NVS *i* S **S 02 39 32.6 +1.6**
NVS pmax pmax
comp=N,9.0nm,1.3s
NVS pmax pmax
comp=E,36nm,1.3s
NVS pmax pmax
comp=Z,38nm,1.3s,mb5.3
NVS pmax pmax
comp=N,11nm,1.3s
NVS pmax pmax
comp=E,43nm,1.3s
NVS pmax pmax
comp=Z,48nm,1.3s,mb5.4
NVS smax
comp=N,8.0nm,2.2s
NVS smax
comp=E,21nm,2.2s
MK31 Makanchi Array 48.00 307 *e*P P 02 32 42.9 +0.7
MK31 Makanchi Array 48.00 307 *i* P P 02 32 42.8 +0.6
MK31 pmax pmax
comp=Z,29nm,0.7s,mb5.4
MKAR Makanchi Array 48.00 307 P P 02 32 42.8 +0.6
MKAR pmax pmax
comp=Z,24nm,0.7s
MKAR Makanchi Array 48.00 307 P P 02 32 42.8 +0.7
comp=Z,24nm,0.7s,mb5.3,baz=90,slow=9.6,SNR=192
JIRN Jiri 48.30 281 *e*P P 02 32 44.8 0.0
GUN Gumba 48.49 281 *e*P P 02 32 46.2 0.0
comp=Z,27nm,0.6s,mb5.5
PKI Pulchoki 48.99 281 *e*P P 02 32 49.4 -0.6
comp=Z,10nm,0.6s,mb5.1
KKN Kakani 49.03 282 *e*P P 02 32 50.1 -0.3
comp=Z,26nm,0.8s,mb5.3
PSI Prapat 49.18 244 P P 02 32 51.2 -0.5
PSI Prapat 49.18 244 P P 02 32 51.2 -0.4
PSI pmax pmax
comp=Z,9.0nm,0.9s,mb4.8
PSI Prapat 49.18 244 P P 02 32 51.2 -0.5
comp=Z,8.7nm,0.8s,mb4.8,baz=358,slow=8.1,SNR=7.2
DMN Daman 49.23 281 *e*P P 02 32 51.4 -0.5
comp=Z,9.5nm,0.4s,mb5.1
GKN Gorkha 49.51 282 *e*P P 02 32 53.5 -0.5
comp=Z,20nm,0.6s,mb5.3
DANN Dangsing 50.14 283 *e*P P 02 32 59.5 +0.7
comp=Z,32nm,0.6s,mb5.5
KURK Kurchatov 50.28 312 *e*P P 02 32 59.2 -0.3
TTA Tatalina 50.42 32 *e*P P 02 32 58.3 -2.1
comp=Z,7.5nm,1.1s,mb4.6
TTA *e*pP pP 02 33 12.8 -0.1
TTA Tatalina 50.42 32 *e*P P 02 32 58.3 -2.1
TTA *e**PP pP 02 33 12.8 -0.2
TTA pmax pmax
comp=Z,8.0nm,1.1s,mb4.7
KOLN Koldanda 50.45 282 *e*P P 02 33 01.0 -0.2
comp=Z,23nm,0.7s,mb5.3
CTA Charters Tower 50.74 175 *e*P P 02 33 02.2 -1.1
comp=Z,5.5nm,0.6s,mb4.7
CTA Charters Tower 50.74 175 *e*P P 02 33 02.2 -1.1
CTA pmax pmax
comp=Z,6.0nm,0.6s
CTAO Charters Tower 50.74 175 *e*P P 02 33 04.9 +1.7
comp=Z,10nm,0.9s,mb4.8
CTAO Charters Tower 50.74 175 *e*P P 02 33 04.9 +1.6
CTAO pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
WRAB Tennant Creek 50.94 189 *e*P P 02 33 03.8 -0.9
WB2 Warramunga Arr 50.95 189 *e*P P 02 33 02.3 -2.5
WB2 *e*pP pP 02 33 16.5 -0.8
WRA Warramunga Arr 50.95 189 P P 02 33 03.9 -0.9
WRA pmax pmax
comp=Z,13nm,0.7s
WRA MLR MLR
comp=Z,172nm,18.8s
WRA Warramunga Arr 50.95 189 P P 02 33 03.9 -0.9
comp=Z,13nm,0.7s,mb5.0,baz=5.0,slow=7.6,SNR=141
WRA LR LR 02 54 10.5
comp=Z,172nm,18.8s,MS4.1,baz=75,slow=36
FITZ Fitzroy Crossi 51.05 200 *e*P P 02 33 05.4 -0.2
comp=Z,10nm,0.9s,mb4.8
FITZ *e*pP pP 02 33 18.0 -0.2
KDAK Kodiak Island 51.61 38 P P 02 33 08.0 -1.4
KDAK Kodiak Island 51.61 38 P P 02 33 08.0 -1.4
comp=Z,13nm,0.7s,mb5.0,baz=220,slow=9.8,SNR=6.0
IMA2 Indian Mountai 51.94 28 *e*P P 02 33 11.7 0.0
ULHL Ulahol 52.81 302 P P 02 33 20.0 +1.4
SNR=9.0
TKM2 Tokmak 2 53.16 303 *e*P P 02 33 21.3 +0.2
comp=Z,15nm,1.0s,mb4.9
TKM2 Tokmak 2 53.16 303 *e*P P 02 33 21.3 +0.2
TKM2 pmax pmax
comp=Z,15nm,1.0s,mb4.9
TKM2 Tokmak 2 53.16 303 P P 02 33 22.6 +1.5
SNR=13
KZA Kyzart 53.57 302 P P 02 33 26.8 +2.6
SNR=6.6
KBK Karagaybulak 53.68 303 P P 02 33 26.5 +1.6
SNR=10
FRU Bishkek 53.89 303 *e*P P 02 33 27.0 +0.6
USP Ospenovka 53.89 303 P P 02 33 27.4 +1.0
SNR=5.7
AAK Ala-Archa 54.01 303 *e*P P 02 33 27.2 -0.1
AAK Ala-Archa 54.01 303 P P 02 33 27.2 -0.2
AAK pmax pmax
comp=Z,5.0nm,0.6s,mb4.6
AAK Ala-Archa 54.01 303 P P 02 33 27.2 -0.2
comp=Z,5.3nm,0.6s,mb4.7,baz=112,slow=7.7,SNR=14
AAK Ala-Archa 54.01 303 P P 02 33 28.3 +0.9
SNR=8.9
UCH Uchtor 54.08 302 *e*P P 02 33 29.3 +1.5
comp=Z,9.2nm,0.9s,mb4.7
UCH Uchtor 54.08 302 P P 02 33 29.8 +2.0
SNR=14
COLA College 54.23 30 *e*P P 02 33 27.4 -1.1
comp=Z,7.1nm,0.9s,mb4.6
COLA College 54.23 30 *e*P P 02 33 27.4 -1.1
COLA pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
EKS2 Erkin-Say 54.53 303 *e*P P 02 33 31.7 +0.6
comp=Z,9.8nm,1.1s,mb4.8
EKS2 Erkin-Say 54.53 303 P P 02 33 32.4 +1.3
SNR=7.6
ASAR Alice Springs 54.67 189 P P 02 33 31.8 -0.4
ASAR pmax pmax
comp=Z,3.0nm,0.5s
ASAR Alice Springs 54.67 189 P P 02 33 31.8 -0.5
comp=Z,3.4nm,0.5s,mb4.6,baz=5.3,slow=6.5,SNR=43
AML Almayashu 54.69 302⇑ *i*P P 02 33 33.8 +1.5
comp=Z,18nm,0.6s,mb5.3
AML Almayashu 54.69 302 P P 02 33 34.2 +1.9
SNR=28
BVAR Borovoye Array 55.21 316 P P 02 33 36.4 +0.6
BVAR pmax pmax
comp=Z,14nm,0.6s
BVAR Borovoye Array 55.21 316 P P 02 33 36.4 +0.6
comp=Z,14nm,0.6s,mb5.2,baz=97,slow=8.2,SNR=91
BRVK Borovoye 55.27 316 *e*P P 02 33 36.5 +0.2
NDI New Delhi 55.49 285 *e*P P 02 33 37.0 -1.3
THN Thein Dam 55.55 290 *e*P P 02 33 37.7 -1.0
MBWA Marble Bar 55.86 205 *e*P P 02 33 40.6 -0.3
MBWA *e*pP pP 02 33 53.0 -0.6
DAWY Dawson 57.90 31 *e*P P 02 33 55.1 +0.3
HYB Hyderabad 58.66 273 *i* P P 02 34 02.0 +1.1
HYB *e*pP pP 02 34 15.0 +1.4
INK Inuvik 59.81 25 *e*P P 02 34 07.7 -0.3
INK Inuvik 59.81 25 P P 02 34 07.3 -0.7
INK pmax pmax
comp=Z,3.0nm,0.9s
INK Inuvik 59.81 25 P P 02 34 07.3 -0.7
comp=Z,3.2nm,0.8s,mb4.4,baz=282,slow=5.7,SNR=14
SVE Sverdlovsk 60.19 321⇓ *e*P P 02 34 11.6 +0.8
SVE *e*SSS 02 48 58.6
SVE pmax pmax
comp=Z,51nm,0.9s,mb5.5
SVE MLR MLR
comp=Z,348nm,22.0s,MS4.5
KBL Kabul 60.21 295 *e*P P 02 34 12.3 +1.0
ARU Arti 61.39 321 *c* *i*P P 02 34 19.1 +0.1
ARU *e* 02 34 59.1
ARU *e* 02 36 34.9
ARU *e*S **S 02 42 39.5 +3.2**
ARU *e*SS SS 02 46 39.9 +3.0
ARU pmax pmax
comp=Z,67nm,1.0s,mb5.7

STKA Stephens Creek 62.31 180 *e*P P 02 34 25.0 -0.3
comp=Z,5.9nm,0.7s,mb4.8
STKA *e*pP pP 02 34 38.6 +0.4
STKA Stephens Creek 62.31 180 *e*pP pP 02 34 37.6 -0.6
STKA Stephens Creek 62.31 180 P P 02 34 23.5 -1.8
comp=Z,7.4nm,0.8s,mb4.9,baz=341,slow=6.6,SNR=13
STKA LR LR 03 00 55.1
comp=Z,257nm,18.8s,MS4.4,baz=25,slow=36
FORT Forrest 62.62 193 *e*P P 02 34 27.6 +0.2
comp=Z,26nm,0.5s,mb5.6
FORT *e*pP pP 02 34 39.9 -0.3
KLBR Kellerberrin 66.12 202 *e*P P 02 34 50.0 -0.3
comp=Z,157nm,2.0s,mb5.7
KLBR *e*pP pP 02 35 02.6 -0.7
SPB4 Spitsbergen Ar 66.73 349 *e*P P 02 34 53.3 -0.4
NWAO Narrogin (SRO) 67.52 202 *e*pP pP 02 35 11.7 -0.5
TMCR Tamitsa 68.45 333 *e*P P 02 35 05.0 +0.3
TMCR *e**SP sP 02 35 19.9 -3.0
TMCR pmax pmax
comp=Z,30nm,1.1s,mb5.2
RES Resolute Bay 68.56 14 *e*P P 02 35 04.7 -0.5
comp=Z,294nm,1.1s,mb6.1
RES Resolute Bay 68.56 14 *e*P P 02 35 04.7 -0.5
RES pmax pmax
comp=Z,294nm,1.1s,mb6.1
APA Apatity 68.57 337⇑ *e*P P 02 35 06.0 +0.6
APA *i* pP 02 35 18.0 -0.4
APA *i* 02 35 32.0
APA pmax pmax
comp=Z,13nm,1.0s,mb4.8
YKW3 Yellowknife Ar 69.01 29 *e*P P 02 35 06.8 -1.4
YKA Yellowknife Ar 69.04 29 P P 02 35 07.6 -0.8
YKA Yellowknife Ar 69.04 29 P P 02 35 07.6 -0.8
YKA pmax pmax
comp=Z,4.0nm,1.0s
YKA Yellowknife Ar 69.04 29 P P 02 35 07.6 -0.8
comp=Z,3.5nm,1.0s,mb4.2,baz=293,slow=6.0,SNR=31
ARCES ARCESS Array B 70.00 340 P P 02 35 13.2 -1.0
ARCES pmax pmax
comp=Z,7.0nm,0.9s
ARCES ARCESS Array B 70.00 340 P P 02 35 13.2 -1.0
comp=Z,7.0nm,0.9s,mb4.6,baz=72,slow=7.8,SNR=8.7
JOF Joensuu 71.69 333 *e*p P 02 35 23.6 -1.0
comp=Z,13nm,0.8s,mb4.9
JOF Joensuu 71.69 333 *e*P P 02 35 23.6 -1.0
JOF pmax pmax
comp=Z,13nm,0.8s,mb4.9
DAG Danmarks Havn 72.03 355⇑ *i*P P 02 35 26.7 +0.3
DAG pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
DAG Danmarks Havn 72.03 355⇑ *i*P P 02 35 26.7 +0.3
comp=Z,3.0nm,0.8s,mb4.3
MOS Moscow 72.55 325 *e*P P 02 35 30.1 +0.3
MOS *e* pP 02 35 41.7 -1.3
MOS *e* 02 35 49.8
MOS *e* 02 38 11.1
MOS pmax pmax
comp=Z,39nm,0.7s,mb5.5
OBN Obninsk 73.38 325 *e*P P 02 35 35.6 +0.8
OBN *e*pP pP 02 35 47.4 -0.5
OBN Obninsk 73.38 325 *d* *i*P P 02 35 35.4 +0.6
OBN *i* pP 02 35 48.3 +0.4
OBN pmax pmax
comp=Z,21nm,0.7s,mb5.2
OBN MLR MLR
comp=Z,300nm,17.0s,MS4.6
HOQ Hoqain 73.92 288 P P 02 35 39.6 +1.0
SNR=7.2
HOQ Hoqain 73.92 288 P P 02 35 39.6 +1.0
SNR=7.2
VRSR Storozhevoye 73.94 320 *e*P P 02 35 38.6 +0.5
VRSR pmax pmax
comp=Z,6.0nm,1.2s,mb4.4
VRSR pmax pmax
comp=N,4.0nm,0.9s
VRSR pmax pmax
comp=E,6.0nm,0.9s
EDM Edmonton 74.03 37 *e*pP pP 02 35 52.3 +0.5
NEW Newport 74.38 43 *e*P P 02 35 45.5 +4.8
comp=E,12nm,1.3s,mb4.7
NEW Newport 74.38 43 *e*P P 02 35 45.5 +4.8
NEW pmax pmax
comp=Z,12nm,1.3s
BSY Bisya 74.39 287 P P 02 35 42.8 +1.5
SNR=7.4
BSY Bisya 74.39 287 P P 02 35 42.8 +1.5
SNR=7.4
FIA1 FINESS Array S 74.55 333 *e*P P 02 35 41.6 +0.1
FINES FINESS Array B 74.55 333 P P 02 35 42.0 +0.5
FINES pmax pmax
comp=Z,3.0nm,0.5s
FINES FINESS Array B 74.55 333 P P 02 35 42.0 +0.5
comp=Z,3.1nm,0.5s,mb4.5,baz=87,slow=6.5,SNR=25
GOF Gofitskoye 74.62 313 *e*P P 02 35 49.0 +6.8
GOF pmax pmax
comp=Z,50nm,1.3s,mb5.3
ARQ Araqi 74.68 288 P P 02 35 44.7 +1.8
SNR=5.8
ARQ Araqi 74.68 288 P P 02 35 44.7 +1.8
SNR=5.8
KIV Kislovodsk 75.37 313 *e*P P 02 35 47.1 +0.6
KIV *e* pP 02 36 01.7 +2.0
KIV *e* 02 38 35.6
KIV *e*S S 02 45 25.7 +2.8
KIV pmax pmax
comp=Z,23nm,1.1s,mb5.0
ONI Oni 75.53 311 P P 02 35 50.0 +2.5
ONI Oni 75.53 311 P P 02 35 47.2 -0.3
WALA Waterton Lakes 75.83 41 *e*P P 02 35 49.6 +0.5
BMO Blue Mountains 75.92 46 *e*P P 02 35 51.5 +1.8
CHMT Chamberlain Mo 77.32 43 *e*P P 02 35 57.8 +0.3
ANN Anapa 78.20 315 *e*P P 02 35 54.6 -7.9
ANN *e**PP pP 02 36 15.4 -0.3
ANN *e* 02 38 58.3
ANN pmax pmax
comp=Z,25nm,0.8s,mb5.2
HRY Holter Researc 78.26 42 *e*P P 02 36 03.1 +0.4
LRM Limekiln Ridge 78.37 43 *e*P P 02 36 03.9 +0.5
NVAR Mina Array Bea 78.45 52 P P 02 36 04.2 +0.2
comp=Z,2.4nm,0.6s,mb4.3,baz=294,slow=6.0,SNR=15
DLMT Dillon 78.53 44 *e*P P 02 36 05.1 +0.8
comp=Z,8.0nm,0.9s,mb4.7
EGMT Eagleton 78.72 41 *e*P P 02 36 09.4 +4.1
comp=Z,8.4nm,0.9s,mb4.7
FFC Flin Flon 78.76 32 *e*P P 02 36 05.0 -0.3
comp=Z,9.8nm,1.1s,mb4.7
FFC Flin Flon 78.76 32 *e*P P 02 36 05.0 -0.4
FFC pmax pmax
comp=Z,10.0nm,1.1s,mb4.7
MIB Mutribah 78.92 298 *e*P P 02 36 06.6 -0.1
MIB AMb AMB 02 36 08.0
comp=Z,36nm,0.7s,mb5.4
QRN Al-Qurain 78.98 297 *e*P P 02 36 06.9 -0.2
QRN AMb AMB 02 36 09.0
comp=Z,41nm,1.0s,mb5.3
RDF Al-Radifah 79.18 297 *e*P P 02 36 08.1 -0.1
RDF AMb AMB 02 36 09.8
comp=Z,42nm,0.9s,mb5.4
NAY Al-Naaiem 79.26 298 *e*P P 02 36 08.3 -0.3
NAY AMb AMB 02 36 12.1
comp=Z,37nm,0.7s,mb5.4
RST Umm Al-Ruwaisa 79.32 298 *e*P P 02 36 08.7 -0.3
RST AMb AMB 02 36 12.2
comp=Z,42nm,0.6s,mb5.5
WHFO Wadi Hawf 79.49 285 P P 02 36 10.6 +0.6
SNR=8.1
WHFO Wadi Hawf 79.49 285 P P 02 36 10.6 +0.6
SNR=8.1
QLMT Earthquake Lak 79.51 44 *e*P P 02 36 10.5 +0.8
AKASG Malin Array Be 79.52 323 P P 02 36 09.9 +0.3
AKASG pmax pmax
comp=Z,7.0nm,0.5s
AKASG Malin Array Be 79.52 323 P P 02 36 09.8 +0.2
comp=Z,7.3nm,0.5s,mb4.8,baz=48,slow=5.8,SNR=51
AKBB Malin Array Si 79.52 323 *e*P P 02 36 09.5 -0.1
AKBB *e*PcP PcP 02 36 17.1 -0.4
AKBB *e*pP pP 02 36 22.1 -0.8
KIEV Kiev 79.53 323 *e*P P 02 36 09.4 -0.3
comp=Z,21nm,0.9s,mb5.1
KIEV *e*PcP PcP 02 36 17.1 -0.4
KIEV *e*pP pP 02 36 22.0 -0.9
KIEV Kiev 79.53 323 *e*P P 02 36 09.4 -0.3
KIEV *e* 02 36 17.1
KIEV *e**PP pP 02 36 22.0 -0.9
KIEV pmax pmax
comp=Z,21nm,0.9s,mb5.1
GCMT Greycliff 80.02 42 *e*P P 02 36 12.7 +0.3
GCMT *e* pP 02 36 26.9 +1.2
SIM Simferopol' 80.11 317 P P 02 36 15.2 +2.3
SIM pmax pmax
comp=Z,11nm,0.8s,mb4.8
NB2 NORSAR Subarra 80.11 338 P P 02 36 12.6 0.0
comp=Z,6.6nm,0.8s,mb4.6,baz=40,slow=5.6
NOA NORSAR Array B 80.11 338 P P 02 36 12.7 0.0
comp=Z,6.1nm,0.8s,mb4.6,baz=41,slow=5.3,SNR=29
NOA LR LR 03 18 07.1
comp=Z,114nm,19.3s,MS4.2,baz=0.0,slow=40
LKWY Lake 80.27 44 *e*P P 02 36 16.4 +2.6
IMW Indian Meadow 80.31 44 *e*P P 02 36 15.4 +1.3
comp=Z,10nm,0.9s,mb4.8
DCID1 Drake Creek 80.33 45 *e*P P 02 36 18.6 +4.5
FLWY Flagg Ranch 80.36 44 *e*P P 02 36 15.8 +1.6
comp=Z,15nm,1.0s,mb4.9
FLWY *e*pP pP 02 36 29.9 +2.4
SUW Suwalki 80.39 328 *e*P P 02 36 15.2 +1.0
MOOW Moose Ponds 80.51 45 *e*P P 02 36 16.1 +0.9
TPAW Teton Pass 80.53 45 *e*P P 02 36 16.4 +1.1
comp=Z,7.5nm,0.9s,mb4.6
RLMT Red Lodge 80.62 43 *e*P P 02 36 16.1 +0.4
REDW Red Top Meadow 80.66 45 *e*P P 02 36 21.9 +6.0
REDW *e*pP pP 02 36 30.6 +1.4
SNOW Snow King Moun 80.67 45 *e*P P 02 36 18.6 +2.7
comp=Z,34nm,1.8s,mb5.0
LOHW Long Hollow 80.67 45 *e*P P 02 36 17.3 +1.3
LOHW *e*pP pP 02 36 31.3 +2.1
MALT Malatya 80.99 309 *e*P P 02 36 19.4 +1.7
comp=Z,5.9nm,0.8s,mb4.6
MALT Malatya 80.99 309 *e*P P 02 36 19.5 +1.7
MALT pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
MALT Malatya 80.99 309⇑ *i*P P 02 36 19.4 +1.6
DUG Dugway 81.17 48 *e*P P 02 36 19.4 +0.7
comp=Z,7.7nm,1.0s,mb4.6
DUG Dugway 81.17 48 *e*P P 02 36 19.4 +0.7
DUG pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
PPT Papeete 81.50 116 LR LR 03 13 31.2
comp=Z,305nm,18.0s,MS4.7,baz=360,slow=36
CTU Camp Tracy 81.58 48 *e*P P 02 36 23.3 +2.4
PDAR Pinedale Array 81.78 45 P P 02 36 21.5 -0.4
comp=Z,1.7nm,0.6s,mb4.2,baz=286,slow=2.9,SNR=15
JLU Jordanelle 81.82 47 *e*P P 02 36 23.2 +1.1
MPU Maple Canyon 82.03 48 *e*P P 02 36 29.4 +6.1
DAU Daniels Canyon 82.05 48 *e*P P 02 36 24.5 +1.2
BSD Bornholm Skovb 83.15 332⇑ *i*P P 02 36 28.4 -0.4
BSD pmax pmax
comp=Z,20nm,1.2s,mb5.0
BSD Bornholm Skovb 83.15 332⇑ *i*P P 02 36 28.4 -0.4
comp=Z,20nm,1.2s,mb5.0
KWP Kalwaria 83.46 325 *e*P P 02 36 31.6 +1.2
KWP Kalwaria 83.46 325⇑ *i*P P 02 36 31.6 +1.1
comp=Z,40nm,1.0s,mb5.4
KWP PcP PcP 02 36 34.6 -0.2
KWP *e*pP pP 02 36 43.0 -0.8
KWP Kalwaria 83.46 325⇑ *i*P P 02 36 31.6 +1.1
KWP *e**PP pP 02 36 43.1 -0.7
KWP pmax pmax
comp=Z,40nm,1.0s,mb5.4
KWP Kalwaria 83.46 325⇓ *i*P P 02 36 31.6 +1.1
GKP Gorka Klasztor 83.51 330 *e*P P 02 36 31.3 +0.6
TIRR Tirgusor 83.70 319⇑ *i*P P 02 36 32.2 +0.4
VRI Vrincioaia 83.78 320⇑ *i*P P 02 36 33.3 +1.1
ANTO Ankara 83.78 313 *e*P P 02 36 33.4 +1.1
comp=Z,6.4nm,0.7s,mb4.9
ANTO *e*PcP PcP 02 36 37.2 +0.8
ANTO *e*pP pP 02 36 46.5 +0.8
ANTO Ankara 83.78 313 *e*P P 02 36 33.4 +1.1
ANTO *e* 02 36 37.2
ANTO *e**PP pP 02 36 46.5 +0.8
ANTO pmax pmax
comp=Z,6.0nm,0.7s,mb4.8
HARR Harsova 83.83 319⇓ *i*P P 02 36 33.3 +0.8
KOLS Kolonicke sedl 84.14 325 *e*P P 02 36 34.5 +0.6
STHS Stebnicka Huta 84.32 326 *e*P P 02 36 34.4 -0.5
comp=Z,5.8nm,0.7s,mb4.8
STHS Stebnicka Huta 84.32 326 *e*P P 02 36 34.4 -0.5
STHS pmax pmax
comp=Z,6.0nm,0.7s,mb4.8
MLR Muntele Rosu 84.44 321⇑ *i*P P 02 36 36.3 +0.8
OJC Ojcow 84.47 327 *e*P P 02 36 36.3 +0.7
ULM Lac du Bonnet 84.50 33 P P 02 36 34.2 -1.6
ULM LR LR 03 11 53.8
ULM Lac du Bonnet 84.50 33 P P 02 36 34.2 -1.6
comp=Z,0.7nm,0.4s,mb4.2,baz=299,slow=10,SNR=2.9
ULM LR LR 03 11 53.8
comp=Z,133nm,20.3s,MS4.3,baz=281,slow=34
CRVS Cervenica-Dubn 84.56 325 *e*P P 02 36 37.0 +0.9
WUAZ Wupatki 84.70 52 *e*P P 02 36 43.1 +6.1
comp=Z,5.8nm,0.9s,mb4.7
NIE Niedzica 84.77 326 *e*P P 02 36 38.3 +1.2
KECS Kecovo 85.32 325 *e*P P 02 36 37.7 -2.2
comp=Z,3.0nm,0.9s,mb4.4
KECS Kecovo 85.32 325 *e*P P 02 36 37.7 -2.2
KECS pmax pmax
comp=Z,3.0nm,0.9s,mb4.4
DRGR 85.32 323⇓ *i*P P 02 36 40.7 +0.7
SMCO Snowmass 85.45 47 *e*P P 02 36 41.6 +0.8
comp=Z,8.8nm,1.0s,mb4.8
OKC Ostrava-Krasne 85.50 327 *e*P P 02 36 41.6 +0.8
OKC *e*pP pP 02 36 53.4 -0.8
KSP Ksiaz 85.64 329 *e*P P 02 36 42.4 +1.0
KSP Ksiaz 85.64 329 *e*P P 02 36 42.0 +0.5
BSEG Bad Segeberg 85.82 334 *e*P P 02 36 42.7 +0.4
BSEG pmax pmax
comp=Z,16nm,1.0s,mb5.2
BSEG Bad Segeberg 85.82 334 *e*P P 02 36 42.7 +0.4
comp=Z,16nm,1.0s,mb5.2
MORC Moravsky Berou 85.83 328 *e*P P 02 36 43.2 +0.8
comp=Z,15nm,1.5s,mb5.0
MORC Moravsky Berou 85.83 328 *e*P P 02 36 43.3 +0.9
MORC pmax pmax
comp=Z,15nm,1.5s,mb5.0
MORC Moravsky Berou 85.83 328⇑ *i*P P 02 36 43.1 +0.7
DPC Dobruska-Polom 85.98 329 *e*P P 02 36 44.0 +0.9
DPC *e*pP pP 02 36 56.2 -0.3
DPC AMS AMS 03 19 00.0
comp=Z,200nm,19.5s,MS4.5
UPC Upice 86.00 329 *e*P P 02 36 44.0 +0.7
UPC *e*pP pP 02 36 57.2 +0.5
VYHS Vyhne 86.11 326 *e*P P 02 36 44.5 +0.7
comp=Z,5.0nm,0.9s,mb4.7
VYHS *e* pP 02 36 56.8 -0.4
VYHS Vyhne 86.11 326 *e*P P 02 36 44.5 +0.7
VYHS *e* pP 02 36 56.8 -0.4
VYHS pmax pmax
comp=Z,5.0nm,0.9s,mb4.7
GZR Gura Zlata 86.21 322⇓ *i*P P 02 36 48.3 +3.9
KOLL Kolacno 86.26 326 *e*P P 02 36 45.7 +1.1
KOLL *e*pP pP 02 36 56.2 -1.8
PVCC Panska Ves 86.63 329 *e*P P 02 36 47.1 +0.8
PVCC *e*pP pP 02 36 58.8 -0.9
BRG Berggiesshubel 86.65 330 *e*P P 02 36 46.5 +0.1
BRG pmax pmax
comp=Z,4.0nm,1.2s,mb4.5
BRG Berggiesshubel 86.65 330 *e*P P 02 36 46.4 0.0
comp=Z,6.0nm,1.2s,mb4.7
BRG *e*pP pP 02 36 59.9 +0.1
BRG Berggiesshubel 86.65 330 *e*P P 02 36 46.5 +0.1
comp=Z,6.2nm,1.2s,mb4.7
BZS Buzias 86.67 323⇑ *i*P P 02 36 46.8 +0.1
CLL Collm 86.73 331⇓ *i*P P 02 36 47.0 +0.2
CLL *i* pP 02 37 00.9 +0.7
CLL pmax pmax
comp=Z,12nm,1.3s,mb5.0
CLL Collm 86.73 331 *e*P P 02 36 46.9 +0.1
comp=Z,12nm,1.3s,mb5.0
CLL Collm 86.73 331⇓ *i*P P 02 36 47.0 +0.2
comp=Z,12nm,1.3s,mb5.0
CLL *i* pP pP 02 37 00.9 +0.7
comp=Z,24nm,1.7s
MODS Modra-Piesok 86.94 327 *e*P pP 02 36 57.9 -3.4
MODS Modra-Piesok 86.94 327 *e*pP pP 02 36 57.9 -3.4
PRU Pruhonice 87.03 329 *e*P P 02 36 49.0 +0.7
PRU *e*pP pP 02 37 00.8 -0.9
PRU AMS AMS 03 19 50.0
comp=Z,200nm,16.9s,MS4.6
TREC Trest 87.11 328 *e*P P 02 36 49.0 +0.3
TREC *e*pP pP 02 37 02.8 +0.7
TREC AMS AMS 03 18 10.0

comp=Z,200nm,20.0s,MS4.5
CLZ Clausthal 87.40 332 *e*P **P 02 36 50.3 +0.2**
CLZ pmax pmax
comp=Z,15nm,1.4s,mb5.0
CLZ Clausthal 87.40 332 *e*P **P 02 36 50.3 +0.2**
comp=Z,15nm,1.4s,mb5.0
PKSM Moragy 87.79 324⇓*i*P **P 02 36 48.9 -3.1**
MOX Moxa 87.81 331 *e*P **P 02 36 52.4 +0.4**
MOX Moxa 87.81 331 *e*P **P 02 36 52.1 +0.1**
comp=Z,8.0nm,1.4s,mb4.8
CONA Conrad Observa 87.92 327⇑*i*PcP PcP 02 36 53.5 -0.9
comp=Z,3.2nm,0.7s
KHC Kasperske Hory 88.09 329 *e*P **P 02 36 53.6 +0.2**
KHC *ep*P pP 02 37 06.5 -0.3
KHC AMS AMS 03 20 20.0
comp=Z,200nm,13.6s,MS4.7
ROTZ Rotzenmuhle 88.21 330 *e*P **P 02 36 54.7 +0.7**
comp=Z,5.0nm,1.2s,mb4.6
GERES GERESS Array B 88.25 329 P **P 02 36 53.3 -0.8**
GERES PP PP 02 40 22.9 +1.9
GERES LR LR 03 21 03.6
GERES GERESS Array B 88.25 329 P **P 02 36 53.3 -0.8**
GERES 02 40 22.9
GERES pmax pmax
comp=Z,1.0nm,0.6s
GERES pmax pmax
comp=Z,1.0nm,0.7s
GERES GERESS Array B 88.25 329 P **P 02 36 53.3 -0.8**
comp=Z,0.8nm,0.6s,mb4.1,baz=41,slow=4.3,SNR=7.2
GERES PP PP 02 40 22.9 +1.9
comp=Z,0.5nm,0.7s,baz=30,slow=6.5,SNR=3.6
GERES LR LR 03 21 03.6
comp=Z,109nm,18.1s,MS4.3,baz=181,slow=39
ECSD EROS,Sioux Fal 88.57 38 *e*P **P 02 36 55.2 -0.6**
ECSD *ep*P pP 02 37 10.1 +0.8
GRA1 Grafenberg Arr 88.69 330 *e*P **P 02 36 56.8 +0.6**
comp=Z,82nm,3.1s
GRA1 *ep*P pP 02 37 09.7 0.0
GRA1 LR LR
comp=Z,100nm,19.7s,MS4.2
GRF Grafenberg Arr 88.69 330 *e*P **P 02 36 56.8 +0.6**
GRF *e*PP pP 02 37 09.7 0.0
GRF Grafenberg Arr 88.69 330 *e*P **P 02 36 56.8 +0.6**
comp=Z,82nm,3.1s
GRF *ep*P pP 02 37 09.7 0.0
GRF *e*L 03 26 07.4
comp=Z,106nm,19.7s
STU Stuttgart 90.25 331 *e*P **P 02 37 04.1 +0.5**
comp=Z,10.0nm,1.1s,mb5.1
ABTA Abfaltersbach 90.34 328⇑*i*PcP PcP 02 37 03.3 -1.8
comp=Z,3.5nm,0.8s
RETA Reutte 90.57 329⇑*i*PcP PcP 02 37 04.5 -1.6
comp=Z,6.9nm,1.1s
WLF Walferdange 90.78 333 *e*P **P 02 37 06.7 +0.7**
comp=Z,10.0nm,1.2s,mb5.0
BFO Black Forest 90.96 331 *e*P **P 02 37 06.6 -0.2**
BFO pmax pmax
comp=Z,13nm,1.3s,mb5.1
BFO Black Forest 90.96 331 *e*P **P 02 37 06.6 -0.2**
comp=Z,13nm,1.3s,mb5.1
SCHQ Schefferville 91.22 16 P **P 02 37 06.7 -1.3**
comp=Z,1.9nm,0.9s,mb4.4,baz=307,slow=10,SNR=3.0
CDF Champ du Feu 91.33 332 *e*P **P 02 37 07.9 -0.7**
comp=Z,9.3nm,0.8s,mb4.8
HINF Hinteralfeld 91.97 332 *e*P **P 02 37 10.8 -0.8**
CABF La Chapelle 93.25 331 *e*P **P 02 37 16.5 -1.0**
TXAR Lajitas Array 93.59 53 P **P 02 37 19.9 +0.5**
TXAR LR LR 03 16 11.2
TXAR Lajitas Array 93.59 53 P **P 02 37 19.9 +0.5**
comp=Z,2.5nm,0.7s,mb4.8,baz=309,slow=2.7,SNR=28
TXAR LR LR 03 16 11.2
comp=Z,185nm,19.9s,MS4.5,baz=280,slow=34
LOR Lormes 93.61 333 *e*P **P 02 37 18.2 -1.0**
comp=Z,16nm,1.1s,mb5.1
LOR *e*MLR MLR
comp=Z,125nm,20.8s,MS4.0
LPL La Plagne 93.85 330 *e*P **P 02 37 19.6 -0.7**
comp=Z,4.5nm,0.7s,mb4.7
LPG La Plagne 93.86 330 *e*P **P 02 37 19.6 -0.7**
comp=Z,6.2nm,0.5s,mb5.0
SSF Saint Saulge 93.92 333 *e*P **P 02 37 19.7 -0.9**
comp=Z,23nm,1.2s,mb5.2
FLN La Foiliniere 93.98 336 *e*P **P 02 37 19.8 -1.0**
comp=Z,12nm,0.8s,mb5.1
FLN *e*MLR MLR
comp=Z,173nm,18.8s,MS4.2
LDF La Druitiere 93.99 336 *e*P **P 02 37 19.9 -1.0**
comp=Z,6.6nm,0.7s,mb4.9
SMF Signal de Mont 94.13 333 *e*P **P 02 37 20.5 -1.0**
AVF Avril sur Loir 94.20 333 *e*P **P 02 37 20.9 -1.0**
comp=Z,31nm,1.2s,mb5.3
GRR Gorron 94.43 336 *e*P **P 02 37 21.9 -1.0**
comp=Z,33nm,1.1s,mb5.4
MBDF Montbardon 94.46 330 *e*P **P 02 37 22.2 -0.9**
comp=Z,5.4nm,0.7s,mb4.8
ORIF Oris-en-Rattie 94.69 330 *e*P **P 02 37 23.2 -0.9**
ORIF *e*MLR MLR
comp=Z,179nm,19.2s,MS4.2
SBF Sospel 94.85 329 *e*P **P 02 37 23.9 -1.0**
TCF Toulx Ste Croi 95.06 333 *e*P **P 02 37 24.9 -0.9**
SGMF Saint Gilles 95.12 337 *e*P **P 02 37 25.0 -1.0**
comp=Z,65nm,1.5s,mb5.5
PGF Pioggiola 95.16 327 *e*P **P 02 37 25.2 -1.1**
comp=Z,3.9nm,0.7s,mb4.6
VIVF Saint-Julien-l 95.25 331 *e*P **P 02 37 25.5 -1.2**
ROSF Rostrenen 95.29 338 *e*P **P 02 37 25.6 -1.2**
comp=Z,26nm,1.1s,mb5.3
FRF La Foret Royal 95.44 329 *e*P **P 02 37 26.5 -1.1**
comp=Z,6.5nm,0.9s,mb4.8
QUIF Quistinic 95.62 337 *e*P **P 02 37 27.4 -0.9**
LMR La Mourre 95.68 329 *e*P **P 02 37 27.5 -1.2**
comp=Z,5.8nm,0.9s,mb4.7
MFF Saint Martin d 95.69 335 *e*P **P 02 37 27.6 -1.1**
LASF Ste Croix 96.22 331 *e*P **P 02 37 30.1 -1.0**
comp=Z,27nm,1.5s,mb5.2
TORD Torodi Ar. Bea 121.95 313 PKP PKPdf 02 42 57.5 -0.4
TORD PP PP 02 44 19.5 -12
TORD Torodi Ar. Bea 121.95 313 PKP PKPdf 02 42 57.5 -0.4
comp=Z,0.9nm,0.7s,baz=1.4,slow=3.8,SNR=8.9
TORD PP PP 02 44 19.5 -12
comp=Z,1.0nm,0.9s,baz=34,slow=8.8,SNR=5.7
DBIC Dimbokro 131.02 314 PKP PKPdf 02 43 15.8 +0.5
DBIC Dimbokro 131.02 314 PKIKP PKPdf 02 43 15.8 +0.6
DBIC pmax pmax
comp=Z,2.0nm,0.8s
DBIC Dimbokro 131.02 314 PKP PKPdf 02 43 15.8 +0.6
comp=Z,2.1nm,0.8s,baz=27,slow=4.5,SNR=4.5
VNA2 Neumayer--Watz 136.40 194 *e* PKPdf 02 43 26.1 +2.6
VNA2 *e* 02 43 30.8
VNA2 *e* 02 43 39.4
VNA2 *e* 02 43 42.0
VNA3 Neumayer Olymp 136.60 193 *e* PKPdf 02 43 27.8 +3.9
VNA3 *e* 02 43 31.3
VNA3 *e* 02 43 41.9
VNA3 *e* 02 43 44.2
LPAZ La Paz 149.04 69 *e*PKPbc PKPbc 02 43 52.7 +1.2
LPAZ La Paz 149.04 69 PKP2 PKPbc 02 43 49.8 -1.7
LPAZ pmax pmax
comp=Z,4.0nm,0.8s
LPAZ La Paz 149.04 69 PKPbc PKPbc 02 43 49.8 -1.7
comp=Z,3.7nm,0.8s,baz=321,slow=3.7,SNR=15
PLCA Paso Flores 151.99 120 PKIKP PKPbc 02 43 58.2 +0.3
PLCA pmax pmax
comp=Z,2.0nm,0.8s
PLCA Paso Flores 151.99 120 PKPbc PKPbc 02 43 58.2 +0.3
comp=Z,2.1nm,0.8s,baz=242,slow=2.1,SNR=4.9

CSEM ***24*** *02:37:52.8±0.1, 4003N×3976E, h2km, MD3.5, Error ellipse: s-maj=2.1km s-min=1.8km az=92.0*
ISK ***24*** *02:37:52.6, 4003N×3976E, h5km, MD3.5, ML3.5*
ISCJB ***24*** *02:37:54.3±0.6, 4004N±003×3971E±004, h8km±5km, Error ellipse: s-maj=4.6km s-min=4.2km az=164.4*
DDA ***24*** *02:37:54.1, 4004N×3968E, h2km±3km, Md3.2*
ISC 24 02:37:53.9±0.6,**4002N**±003×**3968E**±003,**h1**km±5km,**n28,** σ**1**§**26**/38,**Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EZC	**Erzincan**	**0.29**	**158**	PG	**Pg**	**02 38 01.5**	**+1.9**
EZC				*e*SG	**Sg**	**02 38 08.7**	**+5.4**
GUMT	**Gumushane**	**0.46**	**341**	PG	**Pg**	**02 38 03.4**	**+0.7**
GUMT				*e*SG	**Sg**	**02 38 10.9**	**+2.2**
KOPT	**Kop Dagi**	**0.63**	**90**	*i* P	**Pg**	**02 38 04.9**	**-1.1**
KOPT				*i* S	**Sg**	**02 38 15.2**	**+1.0**
KOPT	**Kop Dagi**	**0.63**	**90**	*i* P	**Pg**	**02 38 04.9**	**-1.1**
KOPT				*i* S	**Sg**	**02 38 15.1**	**+0.9**
MACK	**Trabzon**	**0.92**	**4**	*i* P	**Pg**	**02 38 11.6**	**0.0**
MACK				*i* S	**Sg**	**02 38 23.1**	**-0.4**
KTUT	**Trabzon**	**0.97**	**4**	PG	**Pg**	**02 38 12.5**	**0.0**
KTUT				*e*SG	**Sg**	**02 38 25.8**	**+0.8**
ESPY	**Espiye-Giresun**	**1.15**	**321**	PN	**Pn**	**02 38 15.9**	**-1.2**
KEMA	**Kemaliye**	**1.18**	**231**	*i* P	**Pg**	**02 38 15.3**	**-1.3**
KEMA				*i* S	**Sg**	**02 38 33.0**	**+1.1**
EZM	**Erzurum**	**1.30**	**95**	PN	**Pn**	**02 38 17.4**	**-1.8**
ERZM	**Erzurum**	**1.30**	**95**	*i* P	**Pg**	**02 38 17.3**	**-1.6**
BINT	**Bingol**	**1.31**	**151**	PN	**Pn**	**02 38 17.3**	**-2.0**
GRSN	**GIRESUNGRSN**	**1.40**	**310**	*i* P	**Pn**	**02 38 19.9**	**-0.6**
GRSN				*i* S	**Sg**	**02 38 37.4**	**-1.5**
PZAR	**Pazar-Rize**	**1.48**	**39**	*e*PN	**Pn**	**02 38 20.9**	**-0.7**
ELZG	**Elazig**	**1.61**	**200**	*i* P	**Pn**	**02 38 22.7**	**-0.7**
MYA	**Malataya**	**1.95**	**210**	*e*PN	**Pn**	**02 38 28.9**	**+0.7**
MALT	**Malatya**	**1.96**	**210**	*e*PN	**Pn**	**02 38 29.0**	**+0.7**
BCA	**Borcka**	**2.05**	**46**	*e*PN	**Pn**	**02 38 29.6**	**+0.1**
SVSK	**Karacayir**	**2.06**	**268**	*e*PN	**Pn**	**02 38 31.0**	**+1.4**
ARTV	**Artvin**	**2.07**	**55**	*i* P	**Pn**	**02 38 30.3**	**+0.5**
ARTV				*i* S	**Sn**	**02 38 56.5**	**+0.3**
BTMT	**Batman**	**2.31**	**142**	*e*PN	**Pn**	**02 38 32.6**	**-0.4**
TOKT	**Tokat**	**2.42**	**278**	*e*PN	**Pn**	**02 38 35.5**	**+1.0**
AGRB	**Hanur-Agry**	**2.59**	**99**	*e*PN	**Pn**	**02 38 36.3**	**-0.7**
URFA	**Urfa**	**2.66**	**195**	*e*PN	**Pn**	**02 38 39.0**	**+1.1**
MARD	**Mardin**	**2.84**	**162**	*i* P	**Pn**	**02 38 42.2**	**+1.8**
KVT	**Kavak**	**2.96**	**292**	*e*PN	**Pn**	**02 38 43.7**	**+1.8**
GZT	**Gaziantep**	**3.13**	**212**	*i* P	**Pn**	**02 38 49.7**	**+5.3**
ONI	**Oni**	**3.82**	**47**	P	**Pn**	**02 38 57.2**	**+3.4**
CDAG	**Cicekdag**	**4.10**	**266**	*i* P	**Pn**	**02 38 55.3**	**-2.4**
CDAG				*i* S	**Sg**	**02 40 03.2**	**-2.5**

CSEM ***24*** *02:59:43.6±0.1, 4002N×3977E, h3km, MD3.5, Error ellipse: s-maj=1.3km s-min=1.2km az=98.0*
ISK ***24*** *02:59:44.2, 4002N×3975E, h7km, MD3.5, ML3.6*
ISCJB ***24*** *02:59:45.0±0.6, 4003N±002×3974E±003, h9km±5km, Error ellipse: s-maj=4.2km s-min=3.9km az=37.4*
DDA ***24*** *02:59:45.0, 4002N×3971E, h9km±2km, Md3.3*
ISC 24 02:59:45.0±0.6,**4002N**±002×**3975E**±003,**h3**km±5km,**n31,** σ**1**§**12**/41,**Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EZC	**Erzincan**	**0.28**	**169**	PG	**Pg**	**02 59 52.4**	**+2.1**
EZC				*e*SG	**Sg**	**02 59 59.1**	**+5.3**
GUMT	**Gumushane**	**0.49**	**335**	PG	**Pg**	**02 59 54.4**	**0.0**
GUMT				*e*SG	**Sg**	**03 00 01.5**	**+0.8**
KOPT	**Kop Dagi**	**0.57**	**90**	*i* P	**Pg**	**02 59 55.7**	**-0.3**
KOPT				*i* S	**Sg**	**03 00 04.8**	**+1.4**
MACK	**Trabzon**	**0.92**	**1**	*i* P	**Pg**	**03 00 02.2**	**-0.5**
MACK				*i* S	**Sg**	**03 00 13.9**	**-0.8**
KTUT	**Trabzon**	**0.97**	**1**	PG	**Pg**	**03 00 03.3**	**-0.2**
KTUT				*e*SG	**Sg**	**03 00 16.7**	**+0.7**
ESPY	**Espiye-Giresun**	**1.19**	**319**	PN	**Pn**	**03 00 07.0**	**-1.5**
KEMA	**Kemaliye**	**1.23**	**233**	*i* P	**Pg**	**03 00 06.2**	**-2.3**
KEMA				*i* S	**Sg**	**03 00 22.0**	**-2.3**
EZM	**Erzurum**	**1.24**	**95**	PN	**Pn**	**03 00 08.3**	**-0.9**
EZM				*e*SN	**Sn**	**03 00 26.0**	**-0.5**
ERZM	**Erzurum**	**1.25**	**95**	*i* P	**Pg**	**03 00 08.2**	**-0.6**
BINT	**Bingol**	**1.28**	**153**	PN	**Pn**	**03 00 08.9**	**-0.8**
GRSN	**GIRESUNGRSN**	**1.45**	**309**	*i* P	**Pn**	**03 00 10.7**	**-1.3**
GRSN				*i* S	**Sb**	**03 00 25.1**	**-6.3**
PZAR	**Pazar-Rize**	**1.45**	**37**	PN	**Pn**	**03 00 10.9**	**-1.2**
PZAR				*e*SN	**Sn**	**03 00 31.3**	**-0.3**
ELZG	**Elazig**	**1.63**	**202**	*i* P	**Pn**	**03 00 13.8**	**-0.7**
MYA	**Malataya**	**1.98**	**212**	PN	**Pn**	**03 00 18.4**	**-0.9**
MALT	**Malatya**	**1.99**	**212**	PN	**Pn**	**03 00 18.4**	**-1.1**
BCA	**Borcka**	**2.01**	**44**	PN	**Pn**	**03 00 19.5**	**-0.3**
ARTV	**Artvin**	**2.03**	**54**	*i* P	**Pn**	**03 00 21.0**	**+1.0**
ARTV				*i* S	**Sn**	**03 00 45.8**	**0.0**
SVSK	**Karacayir**	**2.12**	**268**	*e*PN	**Pn**	**03 00 21.4**	**+0.2**
DIY	**Diyarbakir**	**2.15**	**170**	*e*PN	**Pn**	**03 00 21.7**	**0.0**
BTMT	**Batman**	**2.27**	**143**	*e*PN	**Pn**	**03 00 22.9**	**-0.5**
TOKT	**Tokat**	**2.47**	**278**	*e*PN	**Pn**	**03 00 26.5**	**+0.4**
AGRB	**Hanur-Agry**	**2.54**	**99**	*e*PN	**Pn**	**03 00 27.0**	**0.0**
URFA	**Urfa**	**2.67**	**196**	*e*PN	**Pn**	**03 00 29.2**	**+0.3**
MARD	**Mardin**	**2.82**	**163**	*i* P	**Pn**	**03 00 33.9**	**+3.1**
GZT	**Gaziantep**	**3.16**	**213**	*i* P	**Pn**	**03 00 37.7**	**+2.1**
BNN	**Bunyan**	**3.24**	**250**	*e*PN	**Pn**	**03 00 37.5**	**+0.8**
DIKM	**Dikmen**	**3.78**	**297**	*e*PN	**Pn**	**03 00 44.8**	**+0.8**
ONI	**Oni**	**3.78**	**46**	P	**Pn**	**03 00 48.3**	**+4.2**
CTKT	**Corum**	**3.84**	**281**	*i* P	**Pn**	**03 00 46.6**	**+1.7**
BOYT	**Boyabat**	**3.94**	**292**	*i* P	**Pn**	**03 00 49.8**	**+3.5**
CDAG	**Cicekdag**	**4.16**	**266**	*i* P	**Pn**	**03 00 51.5**	**+2.2**

IDC ***24*** *03:19:48.4±0.6, 4678N×15572E, h0km, mb4.0/15, mb1 4.2/16, mb1mx4.1/24, mbtmp4.0/16, ML4.0/1, MS3.5/7, Ms1 3.5/7, ms1mx3.2/28, Error ellipse: s-maj=20.3km s-min=13.9km az=153.0*
NEIC ***24*** *03:19:49.5±0.4, 4672N×15573E, h10km, mb4.3/3, Error ellipse: s-maj=13.4km s-min=8.8km az=157.0*
MOS ***24*** *03:19:50.6±1.5, 4694N×15560E, h24km, mb4.3/13, Error ellipse: s-maj=14.8km s-min=9.1km az=86.6*
ISCJB ***24*** *03:19:51.2±0.5, 4676N±009×15571E±009, h33km, mb4.2/20, MS3.6/6, Error ellipse: s-maj=13.5km s-min=7.9km az=158.3*
ISC 24 03:19:53.6±0.5,**4681N**±009×**15572E**±009,**h35**km,**n61,** σ0§**84**/51,**mb4.2**/20,**MS3.6**/6,**3C-3D,East of Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.88**	**4**	*e*PN	**Pn**	**03 20 45.0**	**-5.8**
SKR				MLR	MLR		
comp=E,2μm,14.0s							
SKR				MLR	MLR		
comp=Z,2μm,14.0s							
PET	**Petropavlovsk**	**6.50**	**16**	*e*PN	**Pn**	**03 21 22.9**	**-3.8**
PET				MLR	MLR		
comp=Z,200nm,16.0s							
ASAJ	**Asahikawa**	**9.61**	**258**	LR	LR	03 26 04.5	
comp=Z,40nm,18.8s,baz=304,slow=39							
ERM	**Erimo**	**10.18**	**246**⇑*i*PN		**Pn**	**03 22 17.0**	**-0.2**
KLR	**Kul'dur**	**16.20**	**287**	*e*P	**Pn**	**03 23 38.7**	**+0.3**
KLR				MLR	MLR		
comp=E,500nm,12.0s							
KLR				MLR	MLR		
comp=Z,2μm,12.0s							
MJAR	**Matsushiro Arr**	**16.59**	**238**	Pn	**Pn**	**03 23 39.9**	**-3.4**
MJAR	**Matsushiro Arr**	**16.59**	**238**	P	**Pn**	**03 23 39.9**	**-3.5**
MJAR				pmax	pmax		
comp=Z,1.0nm,0.3s							
MJAR	**Matsushiro Arr**	**16.59**	**238**	Pn	**Pn**	**03 23 39.9**	**-3.4**
comp=Z,0.5nm,0.3s,baz=29,slow=12,SNR=10							
MAJO	**Matsushiro**	**16.59**	**238**	*e*Pn	**Pn**	**03 23 34.0**	**-9.3**
YAK	**Yakutsk**	**21.27**	**325**	*i* P	**P**	**03 24 35.2**	**-1.3**
BILL	**Bilibino**	**21.97**	**11**	*e*P	**P**	**03 24 44.0**	**0.0**
comp=Z,14nm,1.1s,mb4.3							
BILL	**Bilibino**	**21.97**	**11**⇑*i*P		**P**	**03 24 44.0**	**0.0**
BILL				pmax	pmax		
comp=Z,9.0nm,1.3s,mb4.0							
KSRS	**Korea Array**	**22.53**	**256**	P	**P**	**03 24 50.0**	**-0.2**
comp=Z,3.6nm,0.9s,mb3.8,baz=57,slow=9.7,SNR=13							
KSRS				LR	LR	03 33 11.3	
comp=Z,36nm,19.9s,MS2.8,baz=55,slow=36							
TIXI	**Tiksi**	**27.94**	**342**‖*e*P		**P**	**03 25 40.4**	**+0.3**
TIXI				pmax	pmax		
comp=Z,2.0nm,0.7s,mb3.9							
KDAK	**Kodiak Island**	**32.67**	**51**	P	**P**	**03 26 20.5**	**-1.6**
comp=Z,6.1nm,0.6s,mb4.7,baz=17,slow=22,SNR=4.9							
SONM	**Songino Array**	**33.00**	**290**	P	**P**	**03 26 24.4**	**-0.6**
SONM				pmax	pmax		
comp=Z,1.0nm,0.7s							
SONM	**Songino Array**	**33.00**	**290**	P	**P**	**03 26 24.4**	**-0.6**
comp=Z,0.6nm,0.7s,mb3.7,baz=76,slow=7.8,SNR=4.0							
COLA	**College**	**34.98**	**38**‖*e*P		**P**	**03 26 42.3**	**+0.3**
INK	**Inuvik**	**40.64**	**33**	*e*P	**P**	**03 27 29.9**	**+0.2**
comp=Z,97nm,0.6s							
INK	**Inuvik**	**40.64**	**33**	P	**P**	**03 27 29.1**	**-0.6**
INK				pmax	pmax		
comp=Z,3.0nm,0.5s							
INK	**Inuvik**	**40.64**	**33**	P	**P**	**03 27 29.1**	**-0.6**
comp=Z,3.2nm,0.5s,mb4.2,baz=287,slow=6.5,SNR=35							
ZALV	**Zalesovo Beam**	**44.02**	**307**	PcP	PcP	03 29 43.0	+0.6
comp=Z,0.3nm,0.3s,baz=37,slow=0.7,SNR=3.9							
ZALV				LR	LR	03 46 51.3	
comp=Z,44nm,18.7s,MS3.4,baz=155,slow=37							
MKAR	**Makanchi Array**	**48.49**	**298**	P	**P**	**03 28 32.8**	**+0.2**
MKAR				pmax	pmax		
comp=Z,1.0nm,0.8s							
MKAR	**Makanchi Array**	**48.49**	**298**	P	**P**	**03 28 32.8**	**+0.1**
comp=Z,0.8nm,0.8s,mb3.8,baz=74,slow=6.4,SNR=4.0							
KURK	**Kurchatov**	**48.81**	**305**	*e*P	**P**	**03 28 34.8**	**-0.2**
comp=Z,3.8nm,0.9s,mb4.4							
KURK	**Kurchatov**	**48.81**	**305**	*e*P	**P**	**03 28 34.8**	**-0.2**
KURK				pmax	pmax		
comp=Z,4.0nm,0.9s,mb4.5							
YKA	**Yellowknife Ar**	**49.80**	**37**	*i* P	**P**	**03 28 42.2**	**-0.2**
YKA				pmax	pmax		
comp=Z,1.0nm,0.6s							
YKA	**Yellowknife Ar**	**49.80**	**37**	P	**P**	**03 28 42.3**	**0.0**
comp=Z,0.6nm,0.6s,mb3.8,baz=296,slow=7.4,SNR=14							
BVAR	**Borovoye Array**	**52.19**	**310**	P	**P**	**03 29 01.3**	**+0.8**
BVAR				pmax	pmax		
comp=Z,2.0nm,0.7s							
BVAR	**Borovoye Array**	**52.19**	**310**	P	**P**	**03 29 01.3**	**+0.8**
comp=Z,2.3nm,0.7s,mb4.2,baz=60,slow=8.8,SNR=12							
BRVK	**Borovoye**	**52.23**	**310**	*e*P	**P**	**03 29 01.2**	**+0.4**
comp=Z,1.9nm,0.5s,mb4.3							
BRVK	**Borovoye**	**52.23**	**310**	*e*P	**P**	**03 29 01.2**	**+0.4**
BRVK				pmax	pmax		
comp=Z,2.0nm,0.5s,mb4.3							
AAK	**Ala-Archa**	**55.40**	**298**	P	**P**	**03 29 24.1**	**0.0**
AAK				pmax	pmax		
comp=Z,1.0nm,0.3s,mb4.3							
AAK	**Ala-Archa**	**55.40**	**298**	P	**P**	**03 29 24.1**	**0.0**
comp=Z,0.6nm,0.3s,mb4.2,baz=56,slow=11,SNR=3.9							
ARU	**Arti**	**56.17**	**318***e*/*i*P		**P**	**03 29 29.9**	**+0.5**
ARU				*e*		03 30 26.3	
ARU				*e*		03 31 31.4	
ARU				*e*S	**S**	**03 37 19.9**	**+4.0**
ARU				*e*SS	SS	03 41 06.9	+5.0
ARU				pmax	pmax		
comp=Z,7.0nm,1.2s,mb4.6							
ARCES	**ARCESS Array B**	**58.37**	**342**	LR	LR	03 58 55.1	
comp=Z,63nm,20.7s,MS3.7,baz=200,slow=40							
NVAR	**Mina Array Bea**	**60.81**	**64**	P	**P**	**03 30 02.9**	**+0.9**
comp=Z,1.6nm,0.7s,mb4.2,baz=287,slow=8.2,SNR=12							
QLMT	**Earthquake Lak**	**60.90**	**54**	*e*P	**P**	**03 30 01.6**	**-1.0**
PDAR	**Pinedale Array**	**63.25**	**55**	P	**P**	**03 30 19.1**	**+0.7**
comp=Z,2.1nm,0.8s,mb4.3,baz=290,slow=2.6,SNR=19							
ARUT	**Antelope Range**	**64.19**	**62**	P	**P**	**03 30 24.9**	**+0.3**
FINES	**FINESS Array B**	**64.73**	**336**	P	**P**	**03 30 28.6**	**+0.8**
FINES				pmax	pmax		
comp=Z,1.0nm,0.5s							
FINES	**FINESS Array B**	**64.73**	**336**	P	**P**	**03 30 28.6**	**+0.9**
comp=Z,0.7nm,0.5s,mb3.9,baz=47,slow=8.4,SNR=4.7							
NOA	**NORSAR Array B**	**68.73**	**342**	P	**P**	**03 30 55.1**	**+1.9**
NOA				pmax	pmax		
comp=Z,1.0nm,1.0s							
NOA				MLR	MLR		
comp=Z,24nm,18.1s							
NOA	**NORSAR Array B**	**68.73**	**342**	P	**P**	**03 30 55.1**	**+1.9**
comp=Z,1.4nm,1.0s,mb3.9,baz=25,slow=6.3,SNR=3.0							
NOA				LR	LR	04 03 09.6	
comp=Z,24nm,18.1s,MS3.5,baz=0.0,slow=38							
WRA	**Warramunga Arr**	**69.19**	**202**	P	**P**	**03 30 56.1**	**-0.4**
WRA				pmax	pmax		
comp=Z,2.0nm,0.7s							
WRA	**Warramunga Arr**	**69.19**	**202**	P	**P**	**03 30 56.1**	**-0.3**
comp=Z,2.1nm,0.7s,mb4.2,baz=21,slow=6.7,SNR=17							
ANMO	**Albuquerque**	**70.27**	**60**‖*e*P		**P**	**03 31 03.4**	**+0.2**
AKASG	**Malin Array Be**	**72.47**	**328**	P	**P**	**03 31 15.5**	**-0.7**
comp=Z,0.1nm,0.2s,baz=33,slow=5.9,SNR=3.9							
ASAR	**Alice Springs**	**72.87**	**201**	P	**P**	**03 31 19.6**	**+0.9**
ASAR				pmax	pmax		
comp=Z,1.0nm,0.7s							
ASAR	**Alice Springs**	**72.87**	**201**	P	**P**	**03 31 19.6**	**+0.8**
comp=Z,1.4nm,0.7s,mb4.0,baz=18,slow=5.1,SNR=15							
TXAR	**Lajitas Array**	**75.89**	**62**	P	**P**	**03 31 37.1**	**+0.6**
TXAR				pmax	pmax		
comp=Z,6.0nm,0.5s							
TXAR	**Lajitas Array**	**75.89**	**62**	P	**P**	**03 31 37.1**	**+0.6**
comp=Z,6.2nm,0.5s,mb4.8,baz=304,slow=5.0,SNR=141							
KHC	**Kasperske Hory**	**78.94**	**336**	*e*P	PcP	03 32 05.8	+4.0
KHC	**Kasperske Hory**	**78.94**	**336**	*e*PCP	PcP	03 32 05.8	+4.0
GERES	**GERESS Array B**	**79.17**	**336**	LR	LR	04 09 29.1	
comp=Z,58nm,20.5s,MS3.9,baz=352,slow=38							
PPT	**Papeete**	**80.76**	**128**	LR	LR	04 00 14.0	
comp=Z,216nm,20.1s,MS4.5,baz=283,slow=30							
BRYW	**Bryant College**	**82.20**	**34**	*e*P	**P**	**03 32 09.1**	**-1.7**
comp=Z,90nm,1.2s							
PLCA	**Paso Flores**	**146.43**	**97**	PKPbc	PKPbc	03 39 30.7	+0.3
PLCA	**Paso Flores**	**146.43**	**97**	PKP2	PKPab	03 39 30.7	-0.6
PLCA				pmax	pmax		
comp=Z,3.0nm,1.1s							
PLCA	**Paso Flores**	**146.43**	**97**	PKPbc	PKPbc	03 39 30.7	+0.3
comp=Z,3.2nm,1.1s,baz=38,slow=19,SNR=5.5							
CPUP	**Villa Florida**	**146.86**	**64**	PKPbc	PKPbc	03 39 31.4	-0.7
comp=Z,2.5nm,0.9s,baz=321,slow=6.1,SNR=7.6							

NIED ***24*** *03:36:00, 3630N×14180E, h23km, Mw3.6 Best double couple: M0 2.93000×10^14 NP1:φ=14.00000°, δ67.00000°, λ63.00000°. NP2:φ=246.00000°, δ35.00000°, λ136.00000°.*
IDC ***24*** *03:36:47.3±1.2, 3622N×14184E, h0km, mb3.5/5, mb1 3.6/9, mb1mx3.5/24, mbtmp3.6/9, ML3.6/3, MS2.7/1, Ms1 2.7/1, ms1mx2.3/1, Error ellipse: s-maj=24.8km s-min=22.1km az=105.0*
ISCJB ***24*** *03:36:50.2±1.4, 3632N±004×14184E±006, h33km±11km, mb3.4/5, Error ellipse: s-maj=8.6km s-min=6.4km az=5.7*
JMA ***24*** *03:36:50.4±0.2, 3635N×14176E, h65km±4km, M3.6*
NEIC ***24*** *03:36:50.5, 3635N×14176E, h65km, MG3.6(JMA), After JMA.*
ISC 24 03:36:50.0±1.3,**3632N**±004×**14180E**±006,**h16**km±8km, **n24,** σ0§**80**/32,**mb3.4**/5,**Near east coast of eastern Honshu**

| Code | Station Name | Δ° | AZ° | Phase ID Op | ISC |

*NEIC **24** 03:58:24.2, 44.73N×26.28E, h15km, ML2.9(BUC), After BUC.*
*BUC **24** 03:58:24.3±0.5, 44.75N×26.30E, h16km±3km, MD4.0/3, Error ellipse: s-maj=5.5km s-min=4.5km az=118.0*
ISC 24 03:58:25.0±0.3, 44.71N±002×26.29E±003, h13km±2km, n71, σ1°18/105, 13C-18D, Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SULR		**0.04**	**221**	↑*i*P	**Pg**	**03 58 26.8**	**-0.5**
SULR				*i*S	**Sg**	**03 58 30.1**	**+1.2**
FULR		**0.21**	**31**	↑*i*P	**Pg**	**03 58 28.4**	**-1.2**
FULR				*i*S	**Sg**	**03 58 32.9**	**+0.2**
CNCR	**Cernica**	**0.26**	**184**	↑*i*P	**Pg**	**03 58 30.8**	**+0.3**
CNCR				*i*S	**Sg**	**03 58 36.2**	**+2.0**
BGMR	**Bucharest-Geol**	**0.29**	**210**	↑*i*P	**Pg**	**03 58 33.0**	**+2.0**
BGMR				*i*S	**Sg**	**03 58 40.0**	**+5.0**
BUC1	**Bucharest**	**0.41**	**208**	P	**Pg**	**03 58 33.1**	**0.0**
BUC1	**Bucharest**	**0.41**	**208**	↑*i*P	**Pg**	**03 58 33.0**	**0.0**
ISR	**Istrita**	**0.45**	**23**	↓P	**Pg**	**03 58 33.4**	**-0.4**
ISR	**Istrita**	**0.45**	**23**	↓P	**Pg**	**03 58 33.4**	**-0.5**
MLR	**Muntele Rosu**	**0.82**	**343**	P	**Pg**	**03 58 39.7**	**-1.2**
MLR	**Muntele Rosu**	**0.82**	**343**	↓*i*P	**Pg**	**03 58 39.7**	**-1.2**
MLR				*i*S	**Sg**	**03 58 52.3**	**+0.7**
SNX	**Sinaia**	**0.85**	**320**	↓P	**Pg**	**03 58 40.8**	**-0.6**
SNX	**Sinaia**	**0.85**	**320**	↓*i*P	**Pg**	**03 58 40.8**	**-0.6**
GOLR		**0.95**	**278**	↑*i*P	**Pb**	**03 58 43.1**	**-0.3**
GOLR				*i*S	**Sg**	**03 58 56.8**	**+0.9**
BRD	**Bordesti**	**0.99**	**31**	↑*i*P	**Pb**	**03 58 45.8**	**+1.7**
VOIR		**1.14**	**310**	P	**Pb**	**03 58 45.1**	**-1.5**
VOIR		**1.14**	**310**	↑*i*P	**Pb**	**03 58 45.2**	**-1.4**
HARR	**Harsova**	**1.17**	**90**	P	**Pn**	**03 58 45.9**	**-1.1**
HARR	**Harsova**	**1.17**	**90**	↓*i*P	**Pn**	**03 58 46.0**	**-1.0**
HARR				*i*S	**Sb**	**03 59 02.8**	**+0.7**
PLOR	**Plostina**	**1.17**	**12**	*i*S	**Sb**	**03 59 02.9**	**+0.7**
VRI	**Vrincioaia**	**1.20**	**15**	P	**Pn**	**03 58 46.1**	**-1.3**
VRI	**Vrincioaia**	**1.20**	**15**	↑*i*P	**Pn**	**03 58 46.5**	**-1.0**
VRI	**Vrincioaia**	**1.20**	**15**	↓*i*P	**Pn**	**03 58 46.9**	**-0.6**
VRI				*i*S	**Sb**	**03 59 04.6**	**+1.6**
ZIMR		**1.24**	**213**	P	**Pn**	**03 58 47.3**	**-0.7**
ZIMR		**1.24**	**213**	↓*i*P	**Pn**	**03 58 48.1**	**+0.1**
ZIMR				*i*S	**Sb**	**03 59 05.7**	**+1.5**
CFR	**Carcaliu**	**1.39**	**70**	↓*i*P	**Pn**	**03 58 49.3**	**-0.8**
CFR				*i*S	**Sn**	**03 59 08.3**	**-0.1**
AAR	**Sfinta Ana**	**1.45**	**349**	↓P	**Pn**	**03 58 48.2**	**-2.8**
AAR				*i*S	**Sn**	**03 59 06.3**	**-3.6**
SZH	**Strazhica**	**1.46**	**190**	P	**Pn**	**03 58 51.5**	**+0.4**
TIRR	**Tirgusor**	**1.54**	**99**	P	**Pn**	**03 58 51.3**	**-0.8**
TIRR	**Tirgusor**	**1.54**	**99**	↓*i*P	**Pn**	**03 58 51.9**	**-0.2**
TIRR				*i*S	**Sn**	**03 59 12.7**	**+0.8**
TIRR	**Tirgusor**	**1.54**	**99**	P	**Pn**	**03 58 51.3**	**-0.8**
TIRR				*i*S	**Sn**	**03 59 12.7**	**+0.8**
PSN	**Preselentsi**	**1.70**	**126**	P	**Pn**	**03 58 55.0**	**+0.6**
PRD	**Provadia**	**1.71**	**152**	P	**Pn**	**03 58 54.5**	**+0.1**
PRD				Pg	**Pg**	**03 58 56.2**	**-1.5**
CRAR	**CRAIOVA**	**1.82**	**259**	↑*i*P	**Pn**	**03 58 57.1**	**+1.1**
CRAR				*i*S	**Sn**	**03 59 21.1**	**+2.1**
JMB	**Yambol**	**2.25**	**174**	*e*P	**Pn**	**03 59 02.0**	**+0.1**
JMB				*e*S	**Sn**	**03 59 34.7**	**+5.2**
JMB	**Yambol**	**2.25**	**174**	P	**Pn**	**03 59 03.0**	**+1.1**
JMB				*e*S	**Sn**	**03 59 34.7**	**+5.2**
GZR	**Gura Zlata**	**2.58**	**287**	P	**Pn**	**03 59 06.5**	**0.0**
GZR	**Gura Zlata**	**2.58**	**287**	↓*i*P	**Pn**	**03 59 06.8**	**+0.3**
GZR				*i*S	**Sn**	**03 59 36.4**	**-1.3**
GZR	**Gura Zlata**	**2.58**	**287**	P	**Pn**	**03 59 06.5**	**0.0**
GZR				*i*S	**Sn**	**03 59 36.4**	**-1.3**
PGB	**Panagyurishte**	**2.65**	**216**	P	**Pn**	**03 59 07.7**	**+0.3**
PGB				Pg	**Pg**	**03 59 14.1**	**-1.7**
DJES	**Djerdap**	**2.69**	**270**	*e*Pn	**Pn**	**03 59 11.1**	**+3.2**
DIM	**Dimitrovgrad**	**2.71**	**192**	P	**Pn**	**03 59 13.4**	**+5.1**
PLD	**Plovdiv**	**2.85**	**205**	*e*P	**Pn**	**03 59 15.8**	**+5.7**
PLD				*e*S	**Sn**	**03 59 51.5**	**+7.2**
KIS	**Kishinev**	**2.89**	**37**	*e*	**Pg**	**03 59 21.0**	**+0.6**
BURAR	**Bucovina Array**	**3.00**	**346**	↑*i*P	**Pn**	**03 59 12.3**	**+0.1**
VTS	**Vitosha**	**3.08**	**228**	↓P	**Pn**	**03 59 13.7**	**+0.4**
VTS				S	**Sn**	**03 59 49.3**	**-0.6**
VTS	**Vitosha**	**3.08**	**228**	*e*P	**Pn**	**03 59 19.8**	**+6.5**
VTS				*e*S	**Sn**	**03 59 59.5**	**+10**
VTS	**Vitosha**	**3.08**	**228**	↑*i*P	**Pn**	**03 59 13.1**	**-0.2**
VTS				*i*S	**Sn**	**03 59 49.3**	**-0.6**
VTS	**Vitosha**	**3.08**	**228**	P	**Pn**	**03 59 12.4**	**-0.9**
VTS				Pg	**Pg**	**03 59 20.2**	**-3.7**
VTS	**Vitosha**	**3.08**	**228**	↓P	**Pn**	**03 59 13.7**	**+0.4**
VTS	**Vitosha**	**3.08**	**228**	Pg	**Pg**	**03 59 20.2**	**-3.7**
VTS				*i*S	**Sn**	**03 59 49.3**	**-0.6**
KDZ	**Kurdzhali**	**3.12**	**192**	P	**Pn**	**03 59 11.9**	**-2.0**
RZN	**Rozhen**	**3.23**	**201**	P	**Pn**	**03 59 15.7**	**+0.3**
DRGR		**3.26**	**311**	↓P	**Pn**	**03 59 14.6**	**-1.1**
DRGR		**3.26**	**311**	↓*i*P	**Pn**	**03 59 14.4**	**-1.4**
DRGR		**3.26**	**311**	↓P	**Pn**	**03 59 14.6**	**-1.2**
BZS	**Buzias**	**3.43**	**287**	P	**Pn**	**03 59 16.3**	**-1.8**
BZS	**Buzias**	**3.43**	**287**	↓*i*P	**Pn**	**03 59 16.6**	**-1.5**
BZS				*i*S	**Sn**	**04 00 01.7**	**+3.1**
MMB	**Musomiste**	**3.64**	**212**	P	**Pn**	**03 59 21.8**	**+0.8**
KKB	**Krupnik**	**3.68**	**221**	P	**Pn**	**03 59 21.6**	**0.0**
GRUS	**Gruza**	**4.08**	**260**	*e*Pn	**Pn**	**03 59 27.9**	**+0.8**
SRS	**Serrai**	**4.10**	**210**	*e*P	**Pn**	**03 59 26.9**	**-0.4**
SRS				*e*S	**Sg**	**04 00 33.9**	**-2.6**
STIP	**Stip**	**4.25**	**226**	*e*Pn	**Pg**	**03 59 42.1**	**-4.3**
STIP				*e*Sn	**Sg**	**04 00 35.9**	**-5.5**
KNT	**Kendrikon**	**4.33**	**216**	*e*P	**Pn**	**03 59 30.4**	**-0.1**
VAY	**Valandovo**	**4.35**	**220**	*e*Pn	**Pg**	**03 59 45.3**	**-2.9**
VAY				*e*Sn	**Sg**	**04 00 38.1**	**-6.4**
DIVS	**Divibare**	**4.55**	**265**	*e*P	**Pn**	**03 59 31.9**	**-1.7**
DIVS				*e*S	**Sn**	**04 00 22.0**	**-4.4**
DIVS	**Divibare**	**4.55**	**265**	↑*i*Pn	**Pn**	**03 59 31.9**	**-1.7**
KOLS	**Kolonicke sedl**	**5.05**	**328**	*e*PN	**Pn**	**03 59 41.2**	**+0.9**
KOLS				*e*SN	**Sn**	**04 00 37.4**	**-1.0**
CRVS	**Cervenica-Dubn**	**5.35**	**323**	*e*PN	**Pn**	**03 59 45.4**	**+1.0**
KECS	**Kecovo**	**5.50**	**315**	*e*PN	**Pn**	**03 59 46.8**	**+0.2**
KECS				*e*SN	**Sn**	**04 00 52.2**	**+2.6**
STHS	**Stebnicka Huta**	**5.84**	**326**	*e*PN	**Pn**	**03 59 52.2**	**+1.0**
STHS				*e*SN	**Sn**	**04 00 57.7**	**-0.2**
VYHS	**Vyhne**	**6.38**	**309**	*e*PN	**Pn**	**03 59 58.3**	**-0.3**

WEL 24 04:22:11.2±0.3, 45.39S×166.81E, h12km, ML3.8/12, 1D, Error ellipse: s-maj=2.3km s-min=1.8km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.26**	**110**	P*	Pg	04 22 16.9	+0.3
DCZ				S*	Sg	04 22 21.0	+0.7
WHZ	**Wether Hill Ro**	**0.95**	**123**	↓P*	Pb	04 22 28.1	-1.4
WHZ				S*	Sb	04 22 41.5	-0.5
MLZ	**Mavora Lakes**	**0.96**	**88**	P*	Pb	04 22 28.0	-1.9
MLZ				S*	Sb	04 22 40.1	-2.4
MSZ	**Milford Sound**	**1.07**	**49**	P*	Pb	04 22 29.2	-2.4
WKZ	**Wanaka**	**1.66**	**71**	PN	Pn	04 22 39.7	-0.4
APZ	**The Paps**	**1.66**	**151**	PN	Pn	04 22 39.3	-0.8
EAZ	**Earnscleugh**	**1.77**	**86**	PN	Pn	04 22 41.3	-0.3
JCZ	**Jackson Bay**	**1.91**	**47**	*e*PN	Pn	04 22 42.9	-0.7
SYZ	**Scrubby Hill**	**1.99**	**126**	PN	Pn	04 22 44.0	-0.7
TUZ	**Tuapeka**	**2.06**	**107**	PN	Pn	04 22 45.0	-0.6
LBZ	**Lake Benmore**	**2.60**	**69**	PN	Pn	04 22 51.7	-1.3
HHSZ	**Highcliff Hill**	**2.71**	**102**	PN	Pn	04 22 54.3	-0.1
ODZ	**Otahua Downs**	**2.73**	**84**	PN	Pn	04 22 53.4	-1.4
FOZ	**Fox Glacier**	**2.75**	**50**	*e*PN	Pn	04 22 54.8	-0.3
RPZ	**Rata Peaks**	**3.47**	**63**	*e*PN	Pn	04 23 02.4	-2.5
LTZ	**Lake Taylor**	**4.72**	**58**	*e*PN	Pn	04 23 21.2	-0.9
DSZ	**Denniston Nort**	**5.14**	**47**	*e*PN	Pn	04 23 26.0	-1.9
QRZ	**Quartz Range**	**6.19**	**45**	*e*PN	Pn	04 23 40.3	-2.0

*ISCJB **24** 04:33:09.2±0.1, 44.450N±0.009×116.15W±0.01, h10km, Error ellipse: s-maj=1.4km s-min=1.3km az=5.1*
*NEIC **24** 04:33:09.4±0.5, 44.46N×116.18W, h5km, ML3.5, Error ellipse: s-maj=6.4km s-min=6.0km az=122.0*
*IDC **24** 04:33:09.1±0.8, 44.46N×116.00W, h0km, mb1 3.6/4, mb1mx3.4/24, mbtmp3.2/4, ML3.1/3, Error ellipse: s-maj=12.9km s-min=7.5km az=74.0*
ISC 24 04:33:09.8±0.1, 44.427N±0.008×116.14W±0.01, h10km, n149, σ1°08/261, 85C-81D, Western Idaho

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H11A	**Donnelly**	**0.29**	**18**	↓P	**Pg**	**04 33 15.5**	**-0.1**
	baz=0.3,SNR=1000						
H11A				↑S	**Sg**	**04 33 19.5**	**-0.1**
	baz=0.3						
H10A	**Noah's Angus R**	**0.47**	**291**	↑P	**Pg**	**04 33 17.9**	**-0.9**
	baz=0.5,SNR=1000						
H10A				↓S	**Sg**	**04 33 24.4**	**-0.6**
	baz=0.5						
I11A	**Placerville**	**0.53**	**166**	↓P	**Pg**	**04 33 19.4**	**-0.7**
	baz=0.5,SNR=1000						
I11A				↓S	**Sg**	**04 33 26.3**	**-0.8**
	baz=0.5						
I10A	**Payette**	**0.59**	**235**	P	**Pg**	**04 33 20.7**	**-0.4**
	baz=0.6,SNR=1000						
I10A				↑S	**Sg**	**04 33 29.0**	**+0.2**
	baz=0.6						
H12A	**Diamond D Ranc**	**0.93**	**82**	P	**Pg**	**04 33 27.1**	**-0.6**
	baz=0.9,SNR=1000						
H12A				↑S	**Sg**	**04 33 39.4**	**-0.2**
	baz=0.9						
G11A	**Walters Elk Ra**	**0.98**	**355**	↓P	**Pg**	**04 33 27.2**	**-1.3**
	baz=1.0,SNR=1000						
G11A				↑S	**Sg**	**04 33 41.3**	**0.0**
	baz=1.0						
MFID	**Camas Ranch**	**1.04**	**167**	↓P	**Pg**	**04 33 28.2**	**-1.5**
	baz=1.0						
MFID				↑S	**Sg**	**04 33 42.1**	**-1.1**
	baz=1.0						
J10A	**Berg Farm, Mel**	**1.10**	**205**	↓P	**Pb**	**04 33 29.0**	**-1.9**
	baz=1.1						
J10A				↑S	**Sg**	**04 33 43.9**	**-1.3**
	baz=1.1						
G10A	**Bishop Farm, J**	**1.11**	**321**	P	**Pb**	**04 33 29.6**	**-1.5**
	baz=1.1,SNR=363						
G10A				↑S	**Sg**	**04 33 44.6**	**-1.0**
	baz=1.1						
H09A	**Durkee**	**1.12**	**283**	↓P	**Pb**	**04 33 29.6**	**-1.6**
	baz=1.1,SNR=171						
H09A				↓S	**Sb**	**04 33 44.5**	**-1.2**
	baz=1.1						
I09A	**Lost Marbles R**	**1.24**	**249**	↑P	**Pn**	**04 33 31.9**	**-1.3**
	baz=1.2,SNR=1000						
I09A				↑S	**Sb**	**04 33 48.1**	**-1.1**
	baz=1.2						
H13A	**Challis**	**1.35**	**84**	P	**Pn**	**04 33 34.7**	**0.0**
	baz=1.4,SNR=723						
H13A				↓S	**Sb**	**04 33 52.5**	**-0.1**
	baz=1.4						
J12A	**Stokes Ranch,**	**1.40**	**147**	↓P	**Pn**	**04 33 34.6**	**-0.7**
	baz=1.4,SNR=606						
J12A				↑S	**Sn**	**04 33 53.4**	**-0.4**
	baz=1.4						
F11A	**Grangeville**	**1.46**	**360**	↑P	**Pn**	**04 33 35.7**	**-0.5**
	baz=1.5,SNR=155						
F11A				↓S	**Sn**	**04 33 55.3**	**-0.1**
	baz=1.5						
F12A	**Elk City**	**1.47**	**25**	↑P	**Pn**	**04 33 36.1**	**-0.2**
	baz=1.5,SNR=721						
F12A				↑S	**Sn**	**04 33 56.1**	**+0.5**
	baz=1.5						
G13A	**Cobalt**	**1.51**	**63**	P	**Pn**	**04 33 36.8**	**-0.1**
	baz=1.5,SNR=947						
G13A				↓S	**Sn**	**04 33 57.2**	**+0.5**
	baz=1.5						
HLID	**Hailey**	**1.52**	**124**	↓*i*Pn	**Pn**	**04 33 36.3**	**-0.6**
HLID				*e*Sn	**Sn**	**04 33 56.7**	**+0.1**
HLID	**Hailey**	**1.52**	**124**	↓P	**Pn**	**04 33 36.5**	**-0.4**
	baz=1.5						
HLID				↑S	**Sn**	**04 33 56.7**	**0.0**
	baz=1.5						
I13A	**Wildhorse Cree**	**1.54**	**109**	P	**Pn**	**04 33 37.1**	**-0.1**
	baz=1.5,SNR=947						
I13A				↑S	**Sn**	**04 33 57.4**	**0.0**
	baz=1.5						
J09A	**Fry Pan Ranch,**	**1.59**	**228**	P	**Pn**	**04 33 36.8**	**-1.2**
	baz=1.6,SNR=700						
J09A				↑Sb	**Sb**	**04 33 59.5**	**+0.1**
	baz=1.6						
K11A	**Parker Ranch,**	**1.66**	**177**	P	**Pn**	**04 33 38.1**	**-0.8**
	baz=1.6,SNR=1000						
K11A				↓S	**Sn**	**04 33 60.0**	**-0.2**
	baz=1.6						
F10A	**Beach Ranch, E**	**1.73**	**334**	↓P	**Pn**	**04 33 39.7**	**-0.2**
	baz=1.7,SNR=180						
F10A				↓S	**Sn**	**04 34 02.4**	**+0.5**
	baz=1.7						
K10A	**MacKenzie Ranc**	**1.73**	**198**	↓P	**Pn**	**04 33 39.4**	**-0.5**
	baz=1.7,SNR=573						
K10A				↓S	**Sn**	**04 34 01.8**	**-0.2**
	baz=1.7						
J13A	**Cove Ranch, Pi**	**1.75**	**125**	P	**Pn**	**04 33 39.7**	**-0.5**
	baz=1.7,SNR=524						
J13A				↓S	**Sn**	**04 34 03.0**	**+0.5**
	baz=1.7						
F09A	**S2 Ranch, Elgi**	**1.79**	**316**	↑Sb	**Sb**	**04 34 06.3**	**+1.1**
	baz=1.8						
H08A	**Prairie City**	**1.81**	**274**	P	**Pn**	**04 33 40.2**	**-0.8**
	baz=1.8,SNR=287						
H08A				↓S	**Sn**	**04 34 04.1**	**0.0**
	baz=1.8						
I08A	**Drewsey**	**1.82**	**254**	↑P	**Pn**	**04 33 40.1**	**-1.1**
	baz=1.8						
I08A				↓S	**Sn**	**04 34 04.2**	**-0.1**
	baz=1.8						
F13A	**Darby**	**1.87**	**43**	↓P	**Pn**	**04 33 41.3**	**-0.5**
	baz=1.9						
F13A				↑Sb	**Sb**	**04 34 08.5**	**+1.1**
	baz=1.9						
E11A	**Bogner Ranch,**	**1.93**	**359**	↑P	**Pn**	**04 33 42.3**	**-0.4**
	baz=1.9,SNR=140						
E11A				↑S	**Sn**	**04 34 07.8**	**+0.9**
	baz=1.9						
J08A	**Circle Bar Ran**	**2.00**	**238**	↓P	**Pn**	**04 33 42.5**	**-1.0**
	baz=2.0,SNR=135						
J08A				↑Sb	**Sb**	**04 34 11.9**	**+0.8**
	baz=2.0						
K12A	**Draper Farm, C**	**2.00**	**153**	↓P	**Pn**	**04 33 42.9**	**-0.7**
	baz=2.0,SNR=118						
K12A				↑Sb	**Sb**	**04 34 11.2**	**-0.1**
	baz=2.0						
G14A	**Jackson**	**2.07**	**66**	↑P	**Pn**	**04 33 43.8**	**-0.8**
	baz=2.1,SNR=15						
G14A				↓S	**Sn**	**04 34 11.0**	**+0.5**
	baz=2.1						
K09A	**Rome**	**2.08**	**214**	↑P	**Pn**	**04 33 43.7**	**-0.9**
	baz=2.1,SNR=514						
K09A				↓Sb	**Sb**	**04 34 13.4**	**+0.1**
	baz=2.1						
G08A	**Pilot Rock**	**2.18**	**294**	↓P	**Pn**	**04 33 45.4**	**-0.7**
	baz=2.2,SNR=39						
G08A				↑S	**Sn**	**04 34 13.5**	**+0.3**
	baz=2.2						
L11A	**Cat Creek Ranc**	**2.28**	**173**	↑P	**Pn**	**04 33 46.9**	**-0.5**
	baz=2.3,SNR=210						
L11A				↓Sb	**Sb**	**04 34 19.0**	**-0.1**
	baz=2.3						
F08A	**Pendleton**	**2.32**	**307**	↓P	**Pn**	**04 33 47.7**	**-0.3**
	baz=2.3						
F08A				↑S	**Sn**	**04 34 17.6**	**+1.1**
	baz=2.3						
K13A	**Stover Farm, H**	**2.32**	**139**	↓P	**Pn**	**04 33 47.7**	**-0.3**
	baz=2.3,SNR=22						
K13A				↑S	**Sn**	**04 34 17.0**	**+0.4**
	baz=2.3						
L10A	**Juniper Basin**	**2.36**	**186**	↓P	**Pn**	**04 33 47.6**	**-1.0**
	baz=2.3,SNR=156						
L10A				↓Sb	**Sb**	**04 34 21.9**	**+0.4**
	baz=2.3						
MCMT	**McKenzie Canyo**	**2.38**	**79**	*e*Pn	**Pn**	**04 33 49.0**	**+0.2**
F14A	**Wisdom**	**2.40**	**54**	↑P	**Pn**	**04 33 48.8**	**-0.3**
	baz=2.4,SNR=12						
F14A				↑S	**Sn**	**04 34 19.1**	**+0.6**
	baz=2.4						
K08A	**Mann Creek Ran**	**2.41**	**226**	↑P	**Pn**	**04 33 48.4**	**-0.8**
	baz=2.4,SNR=89						
K08A				↓Sb	**Sb**	**04 34 23.3**	**+0.5**
	baz=2.4						
L12A	**House Creek Ra**	**2.42**	**160**	↓P	**Pn**	**04 33 51.0**	**+1.6**
	baz=2.4,SNR=20						
L12A				↑Sb	**Sb**	**04 34 23.0**	**-0.3**
	baz=2.4						
E13A	**Victor**	**2.44**	**34**	↑P	**Pn**	**04 33 49.4**	**-0.3**
	baz=2.5,SNR=44						
E13A				↓Sb	**Sb**	**04 34 25.4**	**+1.6**
	baz=2.5						
I07A	**Izee**	**2.44**	**263**	↓P	**Pn**	**04 33 49.0**	**-0.6**
	baz=2.4,SNR=21						
I07A				↓S	**Sn**	**04 34 19.7**	**+0.1**
	baz=2.4						
H07A	**Lands Inn, Kim**	**2.46**	**275**	↓S	**Sn**	**04 34 20.3**	**+0.4**
	baz=2.4						
E09A	**Wood Farm, Sta**	**2.52**	**327**	↑S	**Sn**	**04 34 22.3**	**+0.9**
	baz=2.5						
J07A	**Hines**	**2.52**	**246**	↑P	**Pn**	**04 33 50.0**	**-0.8**
	baz=2.5						
J07A				↓S	**Sn**	**04 34 21.3**	**-0.3**
	baz=2.5						
D11A	**Klaveano Farm,**	**2.62**	**357**	↓P	**Pn**	**04 33 52.2**	**0.0**
	baz=2.6,SNR=14						
D11A				↓Sb	**Sb**	**04 34 31.1**	**+1.9**
	baz=2.6						
G07A	**Ruggs Ranch, H**	**2.65**	**290**	↓P	**Pn**	**04 33 51.9**	**-0.6**
	baz=2.6						
L09A	**Wilkinson Ranc**	**2.65**	**205**	↑P	**Pn**	**04 33 52.6**	**0.0**
	baz=2.6						
L09A				↓Sb	**Sb**	**04 34 30.3**	**+0.3**
	baz=2.6						
L09A				↓Sb	**Sb**	**04 34 30.6**	**+0.6**
	baz=2.6						
D12A	**Red Ives Fores**	**2.68**	**12**	↑P	**Pn**	**04 33 52.8**	**-0.2**
	baz=2.7						
D12A				↑Sb	**Sb**	**04 34 33.2**	**+2.3**
	baz=2.7						
DLMT	**Dillon**	**2.69**	**68**	*e*Pn	**Pn**	**04 33 52.8**	**-0.2**
WVOR	**Wild Horse Val**	**2.70**	**223**	*e*Pn	**Pn**	**04 33 52.0**	**-1.2**
G15A	**Dillon**	**2.70**	**73**	↑P	**Pn**	**04 33 53.0**	**-0.2**
	baz=2.7,SNR=51						
G15A				↓Sb	**Sb**	**04 34 33.3**	**+2.0**
	baz=2.7						
E14A	**Clinton**	**2.73**	**42**	↑P	**Pn**	**04 33 53.0**	**-0.5**
	baz=2.7,SNR=19						
E14A				↑Sb	**Sb**	**04 34 34.0**	**+2.0**
	baz=2.7						
D10A	**Wagner Farm, O**	**2.75**	**344**	↑P	**Pn**	**04 33 53.4**	**-0.5**
	baz=2.8						
L08A	**Fields**	**2.75**	**217**	↑P	**Pn**	**04 33 56.2**	**+2.2**
	baz=2.7						
L08A				↑Sb	**Sb**	**04 34 33.6**	**+0.7**
	baz=2.7						
L13A	**Double Diamond**	**2.83**	**145**	↓P	**Pn**	**04 33 54.3**	**-0.7**
	baz=2.8						
L13A				↓Sb	**Sb**	**04 34 35.2**	**0.0**
	baz=2.8						
K07A	**Rock Creek Ran**	**2.85**	**234**	↓P	**Pn**	**04 33 54.6**	**-0.7**
	baz=2.8,SNR=34						
MSO	**Missoula**	**2.85**	**32**	*e*Pn	**Pn**	**04 33 55.6**	**+0.2**
MSO				*e*Pg	**Pg**	**04 34 02.1**	**-2.3**
K14A	**Jones Ranch, D**	**2.86**	**130**	↑P	**Pn**	**04 33 55.6**	**+0.2**
	baz=2.9,SNR=36						
D13A	**Huson**	**2.92**	**23**	↑P	**Pn**	**04 33 56.7**	**+0.5**
	baz=2.9						
D13A				↑Sb	**Sb**	**04 34 40.6**	**+3.1**
	baz=2.9						
M10A	**I.L. Ranch, Tu**	**2.92**	**186**	↓P	**Pn**	**04 33 58.9**	**+2.6**
	baz=2.9						
M10A				↑Sb	**Sb**	**04 34 39.1**	**+1.5**
	baz=2.9						
F15A	**Butte**	**2.94**	**60**	↓P	**Pn**	**04 33 56.2**	**-0.3**
	baz=3.0,SNR=48						
F15A				↑S	**Sn**	**04 34 31.4**	**-0.5**
	baz=3.0						
LRM	**Limekiln Ridge**	**2.96**	**61**	*e*Pn	**Pn**	**04 33 56.4**	**-0.4**
LRM				*e*Pb	**Pb**	**04 33 56.5**	**-6.0**
LRM				*e*Pg	**Pg**	**04 34 04.9**	**-1.6**
I06A	**Prineville**	**2.97**	**262**	↑P	**Pn**	**04 33 56.3**	**-0.6**
	baz=2.9,SNR=37						
I06A				↑S	**Sn**	**04 34 32.2**	**-0.3**
	baz=2.9						
M11A	**Holland Ranch,**	**3.00**	**175**	↓P	**Pn**	**04 33 57.7**	**+0.3**
	baz=3.0,SNR=52						
M11A				↑Sb	**Sb**	**04 34 41.3**	**+1.2**
	baz=3.0						
H06A	**Lindquist Farm**	**3.01**	**277**	↑P	**Pn**	**04 33 57.1**	**-0.4**
	baz=3.0,SNR=39						
H06A				↑S	**Sn**	**04 34 34.1**	**+0.4**
	baz=3.0						
D09A	**Jones Farm, Ri**	**3.04**	**331**	↓S	**Sn**	**04 34 33.6**	**-0.7**
	baz=3.1						
F07A	**Phinny Hill Vi**	**3.06**	**300**	↑Sb	**Sb**	**04 34 43.0**	**+1.4**
	baz=3.1						
HAWA	**Hanford**	**3.10**	**311**	*e*Pn	**Pn**	**04 34 00.1**	**+1.5**
J06A	**Christmas Vall**	**3.13**	**249**	↑P	**Pn**	**04 33 58.7**	**-0.5**
	baz=3.1,SNR=46						
J06A				↑Sb	**Sb**	**04 34 45.6**	**+1.9**
	baz=3.1						
M12A	**Wells**	**3.14**	**163**	↓P	**Pn**	**04 34 00.2**	**+1.0**
	baz=3.1,SNR=46						
M12A				↑Sb	**Sb**	**04 34 45.0**	**+1.0**
	baz=3.1						
M09A	**Marrel Ranch,**	**3.15**	**198**	↑P	**Pn**	**04 33 59.8**	**+0.3**
	baz=3.1,SNR=28						
M09A				↑Sb	**Sb**	**04 34 45.4**	**+1.1**
	baz=3.1						
E15A	**Deer Lodge**	**3.17**	**50**	↑P	**Pn**	**04 33 59.0**	**-0.7**
	baz=

N09A	Rock Creek Ran	3.72	196	⇓P		Pn	04 34 11.5 +4.3
	baz=3.7,SNR=58						
N09A				⇑Sb		Sb	04 35 03.5 +3.0
	baz=3.7						
N10A	Dunphy	3.72	184	⇓P		Pn	04 34 11.9 +4.7
	baz=3.7						
N10A				⇑Sb		Sb	04 35 03.0 +2.5
	baz=3.7						
C14A	Swan Lake	3.73	26	⇑P		Pn	04 34 07.5 +0.1
	baz=3.8,SNR=35						
M07A	Soldier Meadow	3.77	217	⇑P		Pn	04 34 07.7 -0.2
	baz=3.7,SNR=16						
IMW	Indian Meadow	3.78	96	⇓*i*Pn		Pn	04 34 09.2 +1.2
IMW				*e*Sg		Sg	04 35 07.8 -3.3
HRY	Holter Researc	3.79	51	*e*Pn		Pn	04 34 07.4 -0.8
HRY				*e*Pg		Pg	04 34 19.6 -2.8
YFT	Old Faithful	3.80	88	*e*Pn		Pn	04 34 08.4 +0.1
N13A	Wendover, West	3.84	158	⇓P		Pn	04 34 14.3 +5.4
	baz=3.8,SNR=13						
N13A				⇓Sb		Sb	04 35 05.8 +1.6
	baz=3.8						
J05A	Fort Rock	3.86	255	⇑P		Pn	04 34 08.7 -0.4
	baz=3.8,SNR=60						
TPAW	Teton Pass	3.86	102	*e*Pn		Pn	04 34 10.4 +1.3
NEW	Newport	3.90	350	*e*Pn		Pn	04 34 08.2 -1.5
NEW				*e*Pg		Pg	04 34 19.7 -4.7
NEW				*e*Sg		Sg	04 35 07.1 -7.8
NEW	Newport	3.90	350	Pn		Pn	04 34 10.2 +0.6
	0.8nm,0.3s,baz=173,slow=16,SNR=11						
NEW				Pg		Pg	04 34 19.0 -5.4
	4.9nm,0.3s,baz=170,slow=18,SNR=35						
NEW				Lg			04 35 08.8
	10nm,0.3s,baz=90,slow=22,SNR=8.6						
YNR	Norris Junctio	3.91	84	*e*Pn		Pn	04 34 11.5 +1.7
YNR				*e*Pg		Pg	04 34 24.0 -0.7
C08A	Higginbotham F	3.92	330	⇑P		Pn	04 34 09.8 -0.2
	baz=3.9						
FLWY	Flagg Ranch	3.92	93	*e*Pn		Pn	04 34 11.9 +1.9
N08A	GE Springer Mi	3.93	203	⇓Sb		Sb	04 35 08.0 +1.3
	baz=3.9						
MOOW	Moose Ponds	3.94	98	*e*Pn		Pn	04 34 11.6 +1.3
MOOW				*e*Sg		Sg	04 35 09.9 -6.5
MOD	Modoc	3.96	232	*e*Pn		Pn	04 34 10.2 -0.3
MOD				*e*Sg		Sg	04 35 13.6 -3.2
MOD	Modoc	3.96	232	⇑P		Pn	04 34 10.2 -0.2
	baz=3.9						
REDW	Red Top Meadow	3.97	104	*e*Pn		Pn	04 34 12.1 +1.4
SNOW	Snow King Moun	4.01	102	*e*Pn		Pn	04 34 14.6 +3.5
SNOW				*e*Sg		Sg	04 35 11.0 -7.4
E06A	Yakima	4.01	304	⇓P		Pn	04 34 11.2 0.0
	baz=4.0						
AHID	Auburn Hatcher	4.02	113	*e*Pn		Pn	04 34 15.9 +4.6
AHID				*e*Sg		Sg	04 35 16.6 -2.2
LOHW	Long Hollow	4.07	100	Pn		Pn	04 34 12.4 +0.3
LKWY	Lake	4.11	86	*e*Pn		Pn	04 34 13.8 +1.3
B13A	Whitefish	4.11	16	⇓P		Pn	04 34 13.1 +0.5
	baz=4.1,SNR=14						
SPUT	South Promonto	4.13	138	Pn		Pn	04 34 12.8 -0.1
SPUT				*e*S		Sb	04 35 10.9 -1.6
BGU	Big Grassy Mou	4.18	146	*e*Pn		Pb	04 34 18.8 -4.6
BGU				*e*Sn		Sb	04 35 12.9 -1.1
N07B	Gerlach	4.20	211	⇓P		Pn	04 34 14.4 +0.6
	baz=4.2,SNR=10						
C07A	Waterville	4.25	321	⇑P		Pn	04 34 15.5 +0.9
	baz=4.3						
HWUT	Hardware Ranch	4.38	128	*e*Pn		Pn	04 34 21.0 +4.6
HWUT				*e*Sg		Sg	04 35 24.2 -6.2
A10A	Northport	4.66	348	⇑P		Pn	04 34 20.6 +0.4
	baz=4.7						
A13A	Flathead Natio	4.66	14	⇓P		Pn	04 34 20.7 +0.6
	baz=4.7						
GCMT	Greycliff	4.78	71	*e*Pn		Pn	04 34 23.1 +1.3
M05C	Lookout	4.79	232	⇑P		Pn	04 34 21.9 0.0
	baz=4.8,SNR=6.8						
NOQ	North Oquirrh	4.80	140	*e*Pg		Pg	04 34 36.9 -4.8
WALA	Waterton Lakes	4.88	17	*e*Pn		Pn	04 34 24.2 +1.0
DUG	Dugway	4.89	149	*e*Pn		Pn	04 34 22.3 -1.1
DUG				*e*Sg		Sb	04 35 37.1 +2.6
CTU	Camp Tracy	4.94	138	P		Pb	04 34 32.9 -3.5
CTU				*e*Sb		Sg	04 35 46.1 -2.3
RLMT	Red Lodge	4.94	80	*e*Pn		Pn	04 34 25.9 +1.9
RLMT				*e*Pg		Pg	04 34 43.5 -0.9
RLMT				*e*Sg		Sg	04 35 43.0 -5.4
A08A	Turner Farm, O	5.01	336	⇓P		Pn	04 34 25.1 +0.1
	baz=5.0,SNR=11						
PDAR	Pinedale Array	5.06	107	Pn		Pn	04 34 28.3 +2.6
	baz=297,slow=12,SNR=2.7						
PDAR				Pg		Pb	04 34 36.8 -1.6
	0.3nm,0.3s,baz=305,slow=11,SNR=9.3						
PDAR				Lg			04 35 44.3
	0.2nm,0.3s,baz=308,slow=32,SNR=2.7						
JLU	Jordanelle	5.16	136	*e*Pb		Pb	04 34 41.7 +1.6
NLU	North Lily Min	5.39	145	*e*Pn		Pn	04 34 35.1 +4.9
DAU	Daniels Canyon	5.40	136	P		Pn	04 34 36.0 +5.7
DAU				*e*Pg		Pg	04 34 49.8 -3.3
A07A	Ashnola River,	5.47	329	⇑P		Pn	04 34 31.6 +0.4
	baz=5.5						
EGMT	Eagleton	5.71	49	*e*Pn		Pn	04 34 34.1 -0.3
EGMT				*e*Pg		Pg	04 34 54.5 -4.5
EGMT				*e*Sg		Sg	04 36 03.3 -10
NVAR	Mina Array Bea	6.21	196	Pn		Pn	04 34 44.4 +2.9
	0.5nm,0.3s,baz=9.0,slow=13,SNR=12						
NVAR				Pg		Pb	04 34 55.1 -2.8
	2.1nm,0.3s,baz=11,slow=14,SNR=24						
NVAR				Lg			04 36 25.4
	0.8nm,0.3s,baz=32,slow=19,SNR=3.3						
MSU	Marysvale	6.62	152	P		Pb	04 34 59.4 -5.5
ARUT	Antelope Range	6.94	162	*e*Pg		Pg	04 35 16.1 -6.5
LAO	LASA Array	7.32	69	*e*Pg		Pg	04 35 29.3 -0.6
YKA	Yellowknife Ar	18.12	2	P		Pn	04 37 19.9 -1.4
	0.1nm,0.3s,baz=185,slow=12,SNR=11						

*ISCJB **24** 04:41:38.8±0.9,5243N±004×15951E±007,h27km±5km, Error ellipse: s-maj=9.0km s-min=4.5km az=138.6*
*KRSC **24** 04:41:38.8±0.7,5248N×15946E,h17km±16km,ML3.9*
*MOS **24** 04:41:42.2±1.0,5298N×15907E,h57km,mb3.9/1,Error ellipse: s-maj=34.3km s-min=21.8km az=56.2*

ISC 24 04:41:39.4±0.9,5247N±004×15947E±006,h15km±4km, n22,σ1°01/35,4C-1D,Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RUS	Russkaya	0.59	267	*e*P		Pg		04 41 51.1	+0.2
RUS				*i* S		Sg		04 41 59.4	+0.7
NLC	Nalytchevo	0.71	354	*e*P		Pg		04 41 52.5	-0.7
NLC				*i* S		Sg		04 42 01.9	-0.6
SPN	Mys Shipunski	0.72	28	*e*P		Pg		04 41 53.3	0.0
SPN				*i* S		Sg		04 42 03.3	+0.5
PET	Petropavlovsk	0.75	319	⇓*i*PN		Pn		04 41 53.3	-2.0
PET				*i* S		Sg		04 42 03.2	-0.5
PET				pmax		pmax			
	comp=Z,264nm,0.5s								
PET				smax					
	comp=E,837nm,0.6s								
PET				smax					
	comp=N,683nm,0.3s								
PET	Petropavlovsk	0.75	319	*e*P		Pg		04 41 53.4	-0.5
PET				*i* S		Sg		04 42 03.3	-0.4
GRL	Gorelyy	0.86	276	*e*P		Pb		04 41 55.7	-0.2
GRL				*i* S		Sb		04 42 07.6	+0.5
AVH	Avacha	0.91	331	*e*P		Pb		04 41 56.3	-0.5
AVH				*i* S		Sb		04 42 09.4	+0.6
GNL	Ganaly	1.54	324	*e*P		Pn		04 42 05.6	-0.5
GNL				*i* S		Sn		04 42 24.9	-0.9
KII	Karymskiy	1.57	360	*e*P		Pn		04 42 07.0	+0.4
KII				*i* S		Sn		04 42 27.3	+0.7
MIPR	Malaya Ipel'ka	1.67	264	*e*P		Pn		04 42 07.9	-0.1
MIPR				*i* S		Sn		04 42 28.8	-0.3
MKZ	Mys Kozlova	2.49	32	*e*P		Pn		04 42 18.8	-0.4
MKZ				*i* S		Sn		04 42 48.3	-1.0
SKR	Severo-Kuril's	2.75	231	*e*PN		Pn		04 42 29.0	+6.2
TUMR	Tumrok	2.85	8	*e*P		Pn		04 42 25.6	+1.4
TUMR				*i* S		Sn		04 43 00.6	+2.5
ALID	Alaid	2.92	238	*e*P		Pn		04 42 26.2	+1.1
KMNR	Kamenistaya	3.33	8	P		Pn		04 42 33.2	+2.5
KBTR	Krutoberegovo	4.23	26	*e*P		Pn		04 42 44.4	+1.3
KBTR				*i* S		Sn		04 43 32.3	+0.2
YSS	Yuzh-Sakhalins	12.13	250	⇑*e*PN		Pn		04 44 32.8	+1.3
VLA	Vladivostok	20.64	254	⇑*e*P		P		04 46 17.9	-0.1
TIXI	Tiksi	23.50	336	⇑*e*P		P		04 46 41.2	-7.1
TIXI				pmax		pmax			
	comp=Z,5.0nm,1.8s								
TLY	Talaya	33.60	291	⇑*i*eP		P		04 48 16.8	-1.7
YKA	Yellowknife Ar	43.88	42	*i* P		P		04 49 42.5	-2.1
TXAR	Lajitas Array	71.23	66	*e*P		P		04 52 56.7	-1.0

IDC 24 04:48:13.1±2.0,3114S×17875W,h0km,mb4.3/2, mb1 4.4/3,mb1mx3.9/14,mbtmp4.1/3,ML3.2/1,Error ellipse: s-maj=47.7km s-min=41.8km az=59.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
URZ	Urewera	7.88	205	Pn		Pn		04 50 08.4	-0.5
	0.3nm,0.3s,baz=13,slow=14,SNR=3.8								
URZ				Sn		Sn		04 51 33.1	-5.7
	2.9nm,0.3s,baz=224,slow=23,SNR=14								
ASAR	Alice Springs	42.44	268	P		P		04 56 09.7	0.0
	0.8nm,0.3s,baz=110,slow=7.6,SNR=16								
WRA	Warramunga Arr	43.49	273	P		P		04 56 18.3	0.0
	2.6nm,0.3s,baz=111,slow=8.1,SNR=114								
FINES	FINESS Array B	145.61	339	PKPbc		PKPbc		05 07 51.8	-1.0
	0.9nm,0.7s,baz=48,slow=4.1,SNR=5.4								
TORD	Torodi Ar. Bea	162.09	181	PKPab		PKPab		05 09 03.1	-0.1
	0.3nm,0.6s,baz=187,slow=3.6,SNR=5.5								

IDC 24 04:49:57.5±4.0,2151S×16894E,h0km,mb3.9/2, mb1 4.2/2,mb1mx3.8/13,mbtmp3.9/2,MS3.4/3,Ms1 3.4/3, ms1mx3.0/19,Error ellipse: s-maj=250.7km s-min=38.3km az=157.0,Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	2.39	256	*e*P		Pn		04 50 38.0	+0.1
DZM				*e*S		Sn		04 51 06.4	-1.5
CTA	Charters Tower	21.25	270	LR		LR		05 02 17.2	
	comp=Z,122nm,18.5s,baz=52,slow=35								
STKA	Stephens Creek	26.45	241	LR		LR		05 06 12.6	
	comp=Z,54nm,19.4s,baz=195,slow=37								
WRA	Warramunga Arr	32.36	266	LR		LR		05 09 22.7	
	comp=Z,86nm,18.2s,baz=125,slow=36								
ASAR	Alice Springs	32.37	259	P		P		04 56 29.1	+0.1
	1.3nm,0.6s,baz=87,slow=9.1,SNR=14								
ASAR				pP				04 56 39.0	
	2.7nm,0.6s,baz=85,slow=9.1,SNR=18								
NVAR	Mina Array Bea	90.51	49	P		P		05 03 01.9	+0.5
	0.3nm,0.6s,baz=224,slow=4.7,SNR=3.7								
AKASG	Malin Array Be	137.15	323	PKP		PKPdf		05 09 20.1	-2.4
	0.4nm,0.3s,baz=57,slow=3.5,SNR=4.8								
KHC	Kasperske Hory	146.19	331	*e*P		PKPdf		05 09 39.5	+0.8
GERES	GERESS Array B	146.34	330	PKPbc		PKPbc		05 09 39.8	-0.3
	3.1nm,0.7s,baz=35,slow=3.3,SNR=22								
GERES				pPKPbc				05 09 51.3	
	2.6nm,0.6s,baz=32,slow=3.0,SNR=12								

*IDC **24** 04:56:20.1±1.0,1036S×7532W,h0km,mb3.7/5,mb1 3.8/9, mb1mx3.7/24,mbtmp3.7/9,ML3.6/4,MS3.2/3,Ms1 3.2/3, ms1mx2.8/35,Error ellipse: s-maj=27.8km s-min=19.0km az=45.0*
*ISCJB **24** 04:56:24.7±1.3,1051S±009×7531W±008,h53km±17km, mb3.7/5,MS3.3/2,Error ellipse: s-maj=15.0km s-min=12.8km az=19.0*
*NEIC **24** 04:56:25.2±1.1,1044S×7533W,h35km,Error ellipse: s-maj=17.4km s-min=16.1km az=149.0*

ISC 24 04:56:26.2±1.1,1051S±009×7534W±008,h50km±15km, n12,σ0°89/12,mb3.7/5,MS3.3/2,Central Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
NNA	Nana	2.08	225	Pn		Pn		04 56 58.3	-0.3
	58nm,0.3s,baz=43,slow=16,SNR=152								
NNA				Sn		Sn		04 57 22.8	-0.5
	165nm,0.3s,baz=244,slow=18,SNR=21								
ATAH	Atahualpa	4.62	319	Pn		Pn		04 57 34.6	+1.1
	4.9nm,0.3s,baz=160,slow=7.4,SNR=25								
ATAH				Lg				04 58 39.2	
	3.0nm,0.3s,baz=133,slow=20,SNR=3.7								
LPAZ	La Paz	9.06	130	Pn		Pn		04 58 35.6	+1.2
LPAZ				Lg				05 01 10.7	
LPAZ	La Paz	9.06	130	Pn		Pn		04 58 35.6	+1.2
	0.1nm,0.3s,baz=315,slow=17,SNR=2.6								
LPAZ				Lg				05 01 10.7	
	0.7nm,0.3s,baz=43,slow=23,SNR=6.0								
LPAZ				LR		LR		05 02 47.5	
	comp=Z,64nm,20.4s,baz=259,slow=42								
SIV	San Ignacio	14.91	113	Pn		Pn		04 59 53.1	-0.9
	0.3nm,0.3s,baz=293,slow=12,SNR=6.0								
SIV				Lg				05 04 12.2	
	0.6nm,0.3s,baz=205,slow=23,SNR=5.1								
SDV	Santo Domingo	19.83	14	P		Pn		05 00 52.7	-2.1
	0.2nm,0.3s,baz=225,slow=2.9,SNR=2.4								
PCRV	Puerto La Cruz	23.15	28	LR		LR		05 09 23.3	
	comp=Z,94nm,20.3s,MS3.2,baz=222,slow=34								
TXAR	Lajitas Array	48.12	326	P		P		05 05 01.6	+0.4
	0.4nm,0.6s,mb3.6,baz=146,slow=8.7,SNR=6.3								
TXAR				LR		LR		05 24 35.9	
	comp=Z,43nm,21.7s,MS3.4,baz=105,slow=35								
ULM	Lac du Bonnet	63.11	345	P		P		05 06 48.4	0.0
	1.7nm,0.9s,mb4.2,baz=168,slow=4.7,SNR=4.8								
YKA	Yellowknife Ar	78.88	343	P		P		05 08 23.8	+0.2
	0.3nm,0.8s,mb3.2,baz=140,slow=5.5,SNR=4.9								
TORD	Torodi Ar. Bea	79.98	75	P		P		05 08 31.5	+0.8
	0.7nm,1.1s,mb3.5,baz=254,slow=5.4,SNR=3.4								
INK	Inuvik	88.60	342	P		P		05 09 13.0	-0.2
	0.6nm,0.6s,mb4.1,baz=121,slow=8.9,SNR=5.8								

IDC 24 05:27:31.9±1.6,2898N×4322W,h0km,mb3.7/9, mb1 4.0/9,mb1mx3.7/25,mbtmp3.7/9,Error ellipse: s-maj=53.5km s-min=19.0km az=8.0,Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KEST	Kesra	44.48	67	P		P		05 35 44.6	-0.4
	1.7nm,0.8s,baz=258,slow=6.5,SNR=4.9								
TORD	Torodi Ar. Bea	44.49	101	P		P		05 35 45.2	-0.1
	1.4nm,0.9s,baz=299,slow=7.6,SNR=7.7								
ULM	Lac du Bonnet	44.70	313	P		P		05 35 45.9	-0.6
	1.1nm,0.8s,baz=106,slow=3.4,SNR=3.0								
GERES	GERESS Array B	47.33	49	P		P		05 36 06.8	-0.4
	0.6nm,0.6s,baz=286,slow=11,SNR=5.0								
TXAR	Lajitas Array	52.24	286	P		P		05 36 45.5	+0.5
	0.7nm,0.9s,baz=90,slow=6.3,SNR=5.9								
PDAR	Pinedale Array	54.19	304	P		P		05 36 59.6	+0.5
	1.9nm,0.8s,baz=79,slow=8.0,SNR=14								
FINES	FINESS Array B	55.14	33	P		P		05 37 07.1	+1.3
	1.0nm,0.7s,baz=335,slow=6.2,SNR=3.8								
YKA	Yellowknife Ar	56.16	328	P		P		05 37 12.4	-0.6
	0.5nm,1.0s,baz=94,slow=7.3,SNR=5.5								
NVAR	Mina Array Bea	61.60	300	P		P		05 37 51.4	+0.1
	0.3nm,0.6s,baz=64,slow=7.3,SNR=3.1								

*ISCJB **24** 05:34:01.2±0.9,291N±02×430W±02,h10km,mb3.9/8, MS3.6/7,Error ellipse: s-maj=31.3km s-min=19.3km az=31.0*
*IDC **24** 05:34:01.4±1.2,2904N×4304W,h0km,mb3.7/6,mb1 4.1/6, mb1mx3.7/25,mbtmp3.7/6,MS3.6/7,Ms1 3.6/7, ms1mx3.3/28,Error ellipse: s-maj=38.5km s-min=25.9km az=34.0*
*NEIC **24** 05:34:02.9±0.8,2904N×4299W,h10km,mb4.5/2,Error ellipse: s-maj=30.1km s-min=16.9km az=207.0*

ISC 24 05:34:03.2±0.9,291N±02×430W±02,h10km,n15,σ0°56/9, mb3.9/8,MS3.6/7,Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BBTS	Babate	28.34	115	LR		LR		05 48 16.8	
	comp=Z,117nm,20.9s,MS3.5,baz=254,slow=30								
MDT	Midelt	33.00	74	LR		LR		05 51 19.1	
	comp=Z,102nm,19.3s,MS3.5,baz=106,slow=31								
ESDC	Sonseca Array	33.66	61	LR		LR		05 51 34.2	
	comp=Z,61nm,19.5s,MS3.3,baz=305,slow=31								
TKL	Tuckaleechee C	34.88	292	LR		LR		05 53 20.7	
	comp=Z,132nm,20.2s,MS3.7,baz=256,slow=33								
DBIC	Dimbokro	42.29	114	LR		LR		05 57 02.0	
	comp=Z,143nm,19.0s,MS3.9,baz=214,slow=33								
TORD	Torodi Ar. Bea	44.31	101	P		P		05 42 13.4	-0.1
	1.1nm,0.8s,mb3.6,baz=299,slow=7.1,SNR=5.2								
TORD				LR		LR		05 58 41.6	
	comp=Z,108nm,19.2s,MS3.8,baz=245,slow=33								
GERES	GERESS Array B	47.11	49	LR		LR		05 58 21.9	
	comp=Z,42nm,18.8s,MS3.4,baz=74,slow=31								
JCT	Junction City	48.88	286	*e*P		P		05 42 49.5	+0.3
	7.1nm,1.1s,mb4.6								
LPAZ	La Paz	51.23	212	P		P		05 43 07.4	+0.3
	0.5nm,0.6s,mb3.6,baz=15,slow=12,SNR=2.3								
TXAR	Lajitas Array	52.41	286	P		P		05 43 14.9	-1.0
	1.5nm,1.1s,mb3.9,baz=90,slow=8.8,SNR=7.5								
PDAR	Pinedale Array	54.31	304	P		P		05 43 30.4	+0.6
	3.9nm,1.1s,mb4.2,baz=90,slow=5.4,SNR=16								
IMW	Indian Meadow	55.14	305	*e*P		P		05 43 36.5	+0.8
	5.1nm,1.2s,mb4.4								
TPAW	Teton Pass	55.21	305	*e*P		P		05 43 35.9	-0.3
YKA	Yellowknife Ar	56.19	328	P		P		05 43 43.1	+0.1
	0.3nm,1.0s,mb3.3,baz=92,slow=7.3,SNR=5.3								
NVAR	Mina Array Bea	61.74	300	P		P		05 44 21.2	-0.6
	0.2nm,0.3s,mb3.7,baz=78,slow=6.2,SNR=4.2								

*BJI **24** 05:55:26.8,140N×9708E,h34km,mB4.8,mb4.9,Ms4.2, Msz4.1*
*ISCJB **24** 05:55:28.3±0.5,165N±008×97.14E±007,h26km,mb4.6/34, MS3.9/4,Error ellipse: s-maj=12.8km s-min=7.3km az=40.2*
*NEIC **24** 05:55:29.4±0.4,159N×9705E,mb4.7/11,Error ellipse: s-maj=9.3km s-min=6.4km az=224.0*
*IDC **24** 05:55:29.7±0.8,164N×9700E,h24km±4km,mb4.3/15, mb1 4.3/16,mb1mx4.2/23,mbtmp4.2/16,ML3.2/1,MS3.8/3, Ms1 3.8/3,ms1mx3.3/31,Error ellipse: s-maj=24.3km s-min=12.6km az=50.0*

ISC 24 05:55:30.5±0.5,164N±008×9715E±007,h28km, h28km±1.6km:pP-P,n62,σ0°72/56,mb4.6/34,MS3.9/4,1C, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PSI	Prapat	2.11	57	Pn		Pn		05 56 05.0	+1.0
	7.2nm,0.3s,baz=247,slow=4.8,SNR=39								
KULM	Kulim	5.03	44	⇑*i*Pn		Pn		05 56 45.0	+0.8
KKM	Kota Kinabalu	19.51	77	*e*P		Pn		05 59 55.8	-1.4
QIZ	Qiongzhong	21.29	35	*e*P		P		06 00 14.5	-0.5
	97nm,1.5s,mb4.9								
PKI	Pulchoki	28.13	337	*e*P		P		06 01 20.4	+0.1
	15nm,0.8s,mb4.7								
GUN	Gumba	28.26	339	*e*P		P		06 01 21.9	+0.5
	24nm,0.6s,mb5.0								
DMN	Daman	28.28	337	*e*P		P		06 01 21.7	+0.1
	10.0nm,0.7s,mb4.6								
KKN	Kakani	28.38	337	*e*P		P		06 01 22.4	0.0
LSA	Lhasa	28.48	349	P		P		06 01 22.4	-1.0
LSA				AMB		AMB			
	comp=Z,20nm,0.9s,mb4.8								
GKN	Gorkha	28.82	337	*e*P		P		06 01 26.6	+0.2
KOLN	Koldanda	29.04	335	*e*P		P		06 01 29.0	+0.6
	comp=Z,18nm,0.7s,mb4.9								
DANN	Dangsing	29.48	335	*e*P		P		06 01 32.9	+0.6
NACB	Ninganchiao	32.57	45	*e*P		P		06 01 59.9	+0.3
XAN	Xi'an	34.06	18	P		P		06 02 10.8	-1.6
XAN				AMB		AMB			
	comp=Z,18nm,1.0s,mb5.0								
XAN				AMB		AMB			
	comp=Z,62nm,9.2s								
XAN				LR		LR			
	comp=N,154nm,14.1s,MS4.0								
XAN				LR		LR			
	comp=E,161nm,14.2s,MS4.0								
XAN				LR		LR			
	comp=Z,346nm,18.0s,MS4.1								
FITZ	Fitzroy Crossi	34.22	126	P		P		06 02 14.7	+0.7
	comp=Z,1.2nm,0.8s,mb3.9,baz=277,slow=14,SNR=3.6								
LZH	Lanzhou	34.83	10	*e*P		P		06 02 18.3	-0.8
LZH				AMB		AMB			
	comp=Z,18nm,1.2s,mb4.9								
LZH				AMB		AMB			
	comp=Z,78nm,4.6s								
GTA	Gaotai	37.67	3	P		P		06 02 43.3	0.0
GTA				AP		pP		06 02 52.0	+0.4
GTA				XP		sP		06 02 56.5	+1.4
GTA				AMB		AMB			
	comp=Z,15nm,0.9s,mb4.7								
BJT	Baijiatuau	41.93	22	*e*P		P		06 03 19.6	+0.9
	comp=Z,19nm,0.8s,mb4.8								
WRA	Warramunga Arr	42.31	122	P		P		06 03 22.6	+0.5
	comp=Z,2.6nm,0.7s,mb4.0,baz=300,slow=9.2,SNR=12								
WRA				pP		pP		06 03 30.0	-0.6
	comp=Z,3.9nm,0.6s,baz=302,slow=9.1,SNR=15								
WRA				LR		LR		06 22 38.3	
	comp=Z,71nm,19.2s,MS3.6,baz=280,slow=38								
WRAB	Tennant Creek	42.31	122	*e*P		P		06 03 21.4	-0.7
	comp=Z,6.0nm,0.7s,mb4.3								
WB2	Warramunga Arr	42.32	122	*e*P		P		06 03 21.8	-0.4
ASAR	Alice Springs	43.70	127	P		P		06 03 34.1	+0.8
	comp=Z,2.5nm,1.0s,mb3.9,baz=304,slow=7.3,SNR=12								
ULHL	Ulahol	44.57	338	P		P		06 03 40.5	+0.5
	SNR=9.8								
UCH	Uchtor	45.23	336	*e*P		P		06 03 46.1	+0.9
	comp=Z,9.0nm,0.8s,mb4.7								
UCH	Uchtor	45.23	336	P		P		06 03 46.4	+1.1
	SNR=16								
TKM2	Tokm

comp=Z,1.3nm,0.8s,baz=93,slow=4.9,SNR=4.1
ULM Lac du Bonnet 127.12 10 PKP PKPdf 06 14 31.4 -0.7
comp=Z,1.1nm,0.7s,baz=7.3,slow=8.1,SNR=3.8
SMCO Snowmass 133.73 26 *e*PKPdf PKPdf 06 14 39.7 -5.4
TXAR Lajitas Array 143.32 31 PKP PKPdf 06 15 00.0 -2.9
comp=Z,0.9nm,1.1s,baz=270,slow=2.5,SNR=4.9
CPUP Villa Florida 145.29 223 *e*PKPbc PKPbc 06 15 05.4 -0.8
CPUP Villa Florida 145.29 223 *e*PKPbc PKPbc 06 15 04.7 -1.5
comp=Z,1.8nm,0.7s,baz=89,slow=3.2,SNR=9.4

MOS ***24*** *05:56:30.9±0.8, 2903N×4323W, h10km, mb4.9/41, MS4.1/13, Error ellipse: s-maj=8.5km s-min=4.3km az=136.2*
IDC ***24*** *05:56:30.6±0.5, 29.10N×4328W, h0km, mb4.1/25, mb1 4.3/25, mb1mx4.2/28, mbtmp4.1/25, MS4.1/27, Ms1 4.1/27, ms1mx4.0/33, Error ellipse: s-maj=14.2km s-min=12.5km az=157.0*
BJI ***24*** *05:56:32.7, 2900N×4320W, h10km, mB5.5, mb5.2, Ms5.2, Msz4.8*
NEIC ***24*** *05:56:32.8±0.2, 2900N×4316W, h10km, mb4.9/54, Error ellipse: s-maj=7.3km s-min=3.1km az=175.0*
ISCJB ***24*** *05:56:32.4±2.2, 2907N±006×4325W±002, h19km±15km, mb4.7/123, MS4.2/52, Error ellipse: s-maj=10.4km s-min=3.0km az=174.3*
GCMT ***24*** *05:56:32.8±0.3, 29.12N×4330W, h12km, MW5.0/78, Moment Tensor Solution. s14,c18; s78,c117; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-3.56±.09; $M_{\theta\theta}$0.59±.10; $M_{\phi\phi}$2.96±.09; $M_{r\theta}$0.16±.42; $M_{\theta\phi}$1.03±.08; $M_{\phi r}$-0.01±.29; Best double couple: $M_0$3.45600×10^{16} NP1:ϕ_s18.00000°, δ45.00000°, λ-93.00000°. NP2: ϕ_s203.00000°, δ45.00000°, λ-87.00000°. Principal axes: T 3.3460, Plg0.0000°, Azm291.0000°; N 0.2150, Plg2.0000°, Azm21.0000°; P -3.5660, Plg88.0000°, Azm192.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
SZGRF ***24*** *05:56:41.6, 2977N×4310W, h15km, mb5.0, MS4.2, Northern Mid-Atlantic Ridge*
ISC 24 05:56:32.8±2.5, 2906N±006×4321W±002, h9km±15km, h16km±.5km:pP-P, n432, σ0s85/414, mb4.7/123, MS4.2/52, 53C-82D, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PCRV	**Puerto La Cruz**	**27.48**	**231**		LR		LR	06 11 14.6	
	comp=Z,218nm,19.7s,MS3.7,baz=65,slow=32								
BBTS	**Babate**	**28.51**	**114**		LR		LR	06 10 44.6	
	comp=Z,927nm,21.5s,MS4.3,baz=140,slow=30								
PMAFR	**Mafra**	**29.66**	**62**	*e*LR			LR	06 09 56.1	
	525nm,20.3s								
PFVI	**Vila Bisbo**	**29.79**	**65**	*e*LR			LR	06 10 14.9	
	703nm,19.5s								
MORF	**Marmelete**	**29.94**	**65**	*e*LR			LR	06 10 21.7	
	782nm,19.4s								
PBDV	**Barranco-do-Ve**	**30.51**	**65**	*e*P			**P**	**06 02 51.1**	**+4.9**
PBDV				*e*LR			LR	06 10 25.4	
	798nm,19.8s								
EVO	**Evora**	**30.58**	**63**	*e*P			**P**	**06 02 44.0**	**-2.9**
	10.0nm,0.9s,mb4.3								
EVO						*e*MLR	MLR		
	comp=Z,692nm,20.0s,MS4.0								
EVO	**Evora**	**30.58**	**63**	*e*P			**P**	**06 02 51.8**	**+4.9**
EVO				*e*LR			LR	06 10 30.6	
PBEJ	**Beja**	**30.64**	**64**	*e*P			**P**	**06 02 52.3**	**+4.9**
PVAQ	**Vaqueiros**	**30.69**	**65**	*e*LR			LR	06 10 44.0	
	comp=Z,745nm,19.6s								
SCHQ	**Schefferville**	**30.89**	**333**	P			**P**	**06 02 47.1**	**-2.2**
	comp=Z,6.5nm,1.0s,mb4.4,baz=143,slow=8.4,SNR=3.6								
SCHQ						LR	LR	06 13 49.2	
	comp=Z,360nm,20.8s,MS4.0,baz=335,slow=34								
EGRO	**El Granado**	**30.89**	**65**	P			**P**	**06 02 53.2**	**+3.6**
	comp=Z,28nm,1.6s,mb4.8								
PESTR	**Estremoz**	**30.95**	**62**	*e*LR			LR	06 10 37.1	
	comp=Z,485nm,20.5s								
PVIS	**Viseu**	**31.02**	**59**	*e*P			**P**	**06 02 54.8**	**+4.1**
	comp=Z,17nm,1.4s,mb4.7								
PCAB	**Cabril**	**31.12**	**57**	*e*P			**P**	**06 02 56.1**	**+4.5**
ELOB	**Lobios**	**31.13**	**56**	P			**P**	**06 02 50.6**	**-1.1**
	comp=Z,5.2nm,0.9s,mb4.4								
PCBR	**Castelo Branco**	**31.18**	**60**	*e*P			**P**	**06 02 57.0**	**+4.9**
	comp=Z,14nm,1.7s,mb4.5								
MTE	**Manteigas**	**31.22**	**59**	*e*P			**P**	**06 02 56.9**	**+4.4**
MTE				*e*S			**S**	**06 08 02.5**	**+3.7**
MTE				*e*LR			LR	06 10 43.3	
	comp=Z,624nm,19.7s								
PVRL	**Vila Real**	**31.26**	**57**	*e*P			**P**	**06 02 57.0**	**+4.2**
	comp=Z,31nm,1.4s,mb5.0								
PBAR	**Barrancos**	**31.30**	**64**	*e*LR			LR	06 10 55.5	
	comp=Z,655nm,18.1s								
EBAD	**Badajoz**	**31.39**	**62**	P			**P**	**06 02 56.7**	**+2.8**
	comp=Z,11nm,1.2s,mb4.6								
EMIN	**Mina Concepcio**	**31.55**	**64**	P			**P**	**06 02 58.9**	**+3.5**
	comp=Z,10nm,1.2s,mb4.5								
MVO	**Moncorvo**	**31.75**	**58**	*e*P			**P**	**06 03 01.6**	**+4.5**
	comp=Z,20nm,2.0s,mb4.6								
MVO				*e*S			**S**	**06 08 07.7**	**+0.7**
MVO				*e*LR			LR	06 11 11.7	
	comp=Z,441nm,20.3s								
ESPR	**Espera**	**32.14**	**66**	P			**P**	**06 03 05.4**	**+4.8**
	comp=Z,12nm,1.1s,mb4.6								
EADA	**Adamuz**	**33.23**	**64**	P			**P**	**06 03 08.7**	**-1.5**
	comp=Z,7.0nm,1.0s,mb4.5								
EARI	**Arriondas**	**33.50**	**55**	P			**P**	**06 03 11.9**	**-0.6**
	comp=Z,6.1nm,1.1s,mb4.4								
GUD	**Guadarrama**	**33.81**	**59**	P			**P**	**06 03 15.6**	**+0.4**
	comp=Z,12nm,0.8s,mb4.9								
GUD	**Guadarrama**	**33.81**	**59**	P			**P**	**06 03 15.6**	**+0.4**
GUD				pmax			pmax		
	comp=Z,12nm,0.8s,mb4.9								
ESDC	**Sonseca Array**	**33.84**	**61**	P			**P**	**06 03 15.1**	**-0.4**
ESDC				P			pP	06 03 19.3	+0.9
ESDC				LR			LR	06 13 30.4	
ESDC	**Sonseca Array**	**33.84**	**61**	P			**P**	**06 03 15.1**	**-0.4**
	comp=Z,2.9nm,0.8s,mb4.3,baz=260,slow=8.4,SNR=11								
ESDC						LR	LR	06 13 30.4	
	comp=Z,244nm,20.4s,MS3.9,baz=245,slow=30								
GOGA	**Godfrey**	**34.55**	**288**	*e*P			**P**	**06 03 22.2**	**+0.6**
	comp=Z,30nm,1.6s,mb5.0								
GOGA	**Godfrey**	**34.55**	**288**	*e*P			**P**	**06 03 22.2**	**+0.5**
GOGA				pmax			pmax		
	comp=Z,30nm,1.6s,mb5.0								
TKL	**Tuckaleechee C**	**34.71**	**292**	P			**P**	**06 03 21.8**	**-1.2**
TKL				pmax			pmax		
	comp=Z,5.0nm,1.0s,mb4.4								
TKL	**Tuckaleechee C**	**34.71**	**292**	P			**P**	**06 03 21.8**	**-1.2**
	comp=Z,5.2nm,1.0s,mb4.4,baz=67,slow=7.4,SNR=4.1								
ELAN	**Lanestosa**	**34.76**	**55**	P			**P**	**06 03 22.8**	**-0.6**
	comp=Z,42nm,1.3s,mb5.2								
ETOR	**Torete**	**35.42**	**60**	P			**P**	**06 03 30.3**	**+1.2**
	comp=Z,5.0nm,0.8s,mb4.5								
ETOR	**Torete**	**35.42**	**60**	P			**P**	**06 03 30.3**	**+1.2**
ETOR				pmax			pmax		
	comp=Z,5.0nm,0.8s,mb4.5								
EMUR	**La Murta**	**35.85**	**65**	P			**P**	**06 03 36.6**	**+3.8**
	comp=Z,52nm,2.1s,mb5.1								
ROSF	**Rostrenen**	**36.11**	**47**	*e*P			**P**	**06 03 34.9**	**-0.1**
ELIZ	**Elizondo**	**36.12**	**56**	P			**P**	**06 03 35.5**	**+0.5**
	comp=Z,34nm,1.6s,mb5.0								
ELIZ	**Elizondo**	**36.12**	**56**	P			**P**	**06 03 35.5**	**+0.4**
ELIZ				pmax			pmax		
	comp=Z,34nm,1.6s,mb5.0								
ECHE	**Chera**	**36.14**	**62**	P			**P**	**06 03 40.2**	**+4.8**
	comp=Z,12nm,1.1s,mb4.7								
ECHE	**Chera**	**36.14**	**62**	P			**P**	**06 03 40.2**	**+4.9**
ECHE				pmax			pmax		
	comp=Z,12nm,1.1s,mb4.7								
SJPF	**Ste Jean**	**36.33**	**56**	*e*P			**P**	**06 03 36.7**	**-0.2**
	comp=Z,35nm,1.1s,mb4.9								
SGMF	**Saint Gilles**	**36.55**	**47**	*e*P			**P**	**06 03 38.5**	**-0.2**
EMOS	**Mosqueruela**	**36.58**	**60**	P			**P**	**06 03 43.1**	**+4.1**
	comp=Z,9.7nm,0.9s,mb4.6								
ESAC	**San Caprasio**	**36.70**	**58**	P			**P**	**06 03 41.0**	**+0.9**
	comp=Z,27nm,0.9s,mb5.1								
ETSF	**Etsaut**	**36.78**	**56**	*e*P			**P**	**06 03 40.8**	**+0.1**
ERTA	**Horta de San J**	**37.23**	**60**	P			**P**	**06 03 44.7**	**+0.1**
	comp=Z,15nm,0.8s,mb4.9								
EBIE	**Bielsa**	**37.27**	**57**	P			**P**	**06 03 45.5**	**+0.6**
	comp=Z,7.7nm,0.9s,mb4.5								
EPF	**Esparros**	**37.45**	**56**	*e*P			**P**	**06 03 46.3**	**-0.1**
GRR	**Gorron**	**37.67**	**47**	*e*P			**P**	**06 03 47.9**	**-0.3**
MFF	**Saint Martin d**	**37.72**	**50**	*e*P			**P**	**06 03 48.4**	**-0.2**
	comp=Z,77nm,1.2s,mb5.0								
EPOB	**Poblet**	**37.83**	**59**	P			**P**	**06 03 52.8**	**+3.2**
	comp=Z,14nm,0.8s,mb4.8								
FLN	**La Foliniere**	**38.01**	**47**	*e*P			**P**	**06 03 50.8**	**-0.3**
FLN						*e*MLR	MLR		
	comp=Z,515nm,21.2s,MS4.0								
LFF	**La Frestale**	**38.02**	**53**	*e*P			**P**	**06 03 50.8**	**-0.4**
	comp=Z,59nm,1.0s,mb5.0								
ROSC	**El Rosal**	**38.05**	**237**	LR			LR	06 18 24.8	
	comp=Z,94nm,20.9s,MS3.6,baz=270,slow=35								
LDF	**La Druitiere**	**38.20**	**47**	*e*P			**P**	**06 03 52.4**	**-0.3**
	comp=Z,55nm,1.2s,mb4.8								
PLAL	**Pickwick Lake**	**38.25**	**291**	*e*P			**P**	**06 03 54.7**	**+1.4**
	comp=Z,19nm,1.1s,mb4.7								
RJF	**Les Rejaudoux**	**38.62**	**53**	*e*P			**P**	**06 03 55.9**	**-0.3**
RJF						*e*MLR	MLR		
	comp=Z,677nm,20.5s,MS4.2								
MTLF	**Montolieu**	**38.85**	**56**	*e*P			**P**	**06 03 57.7**	**-0.5**
	comp=Z,63nm,1.3s,mb4.9								
CAF	**Calviac**	**38.94**	**53**	*e*P			**P**	**06 03 58.5**	**-0.5**
	comp=Z,23nm,1.2s,mb4.5								
SIUC	**Southern Illin**	**39.05**	**295**	*e*P			**P**	**06 04 01.0**	**+1.0**
	comp=Z,12nm,0.9s,mb4.6								
ETOS	**Mallorca**	**39.06**	**62**	P			**P**	**06 04 05.3**	**+5.3**
	comp=Z,19nm,0.9s,mb4.8								
TCF	**Toulx Ste Croi**	**39.26**	**51**	*e*P			**P**	**06 04 01.4**	**-0.2**
	comp=Z,37nm,1.1s,mb4.7								
EJON	**La Jonquera**	**39.26**	**57**	P			**P**	**06 04 02.4**	**+0.7**
	comp=Z,4.4nm,0.8s,mb4.2								
COWI	**Conover**	**39.58**	**308**	*e*P			**P**	**06 04 05.2**	**+0.9**
GNAR	**Gosnell**	**39.77**	**292**	*e*P			**P**	**06 04 06.7**	**+0.7**
LASF	**Ste Croix**	**40.11**	**55**	*e*P			**P**	**06 04 08.5**	**-0.2**
	comp=Z,26nm,1.0s,mb4.6								
AVF	**Avril sur Loir**	**40.12**	**51**	*e*P			**P**	**06 04 08.2**	**-0.6**
SSF	**Saint Saulge**	**40.27**	**50**	*e*P			**P**	**06 04 09.6**	**-0.4**
	comp=Z,38nm,1.1s,mb4.7								
SMF	**Signal de Mont**	**40.43**	**51**	*e*P			**P**	**06 04 11.1**	**-0.2**
	comp=Z,106nm,1.2s,mb5.1								
LOR	**Lormes**	**40.54**	**50**	*e*P			**P**	**06 04 11.8**	**-0.4**
	comp=Z,38nm,1.1s,mb4.6								
LOR						*e*MLR	MLR		
	comp=Z,351nm,21.8s,MS3.9								
CCM	**Cathedral Cave**	**40.65**	**296**	*e*P			**P**	**06 04 11.9**	**-1.3**
VIVF	**Saint-Julien-l**	**40.77**	**54**	*e*P			**P**	**06 04 14.6**	**+0.4**
BAIF	**Baives**	**41.30**	**46**	*e*P			**P**	**06 04 17.9**	**-0.5**
SMRF	**Simiane la Rot**	**41.34**	**55**	*e*P			**P**	**06 04 19.6**	**+0.7**
	comp=Z,51nm,1.3s,mb4.7								
EYMN	**Ely**	**41.47**	**311**	*e*P			**P**	**06 04 20.7**	**+0.9**
MEZF	**Maizieres J'vi**	**41.54**	**48**	*e*P			**P**	**06 04 20.2**	**-0.2**
ORIF	**Oris-en-Rattie**	**41.63**	**54**	*e*P			**P**	**06 04 22.2**	**+0.9**
ORIF						*e*MLR	MLR		
	comp=Z,441nm,20.0s,MS4.0								
GIVF	**Givet**	**41.70**	**46**	*e*P			**P**	**06 04 21.3**	**-0.4**
UALR	**University of**	**41.76**	**291**	*e*P			**P**	**06 04 23.1**	**+0.6**
CABF	**La Chapelle**	**41.96**	**51**	*e*P			**P**	**06 04 23.6**	**-0.3**
	comp=Z,53nm,1.2s,mb4.8								
LMR	**La Mourre**	**41.97**	**56**	*e*P			**P**	**06 04 24.0**	**-0.1**
	comp=Z,49nm,1.2s,mb4.7								
FRF	**La Foret Royal**	**42.09**	**56**	*e*P			**P**	**06 04 25.0**	**0.0**
	comp=Z,56nm,1.4s,mb4.7								
BNI	**Bardonecchia**	**42.21**	**54**	*e*P			**P**	**06 04 27.3**	**+1.3**
	comp=Z,32nm,1.4s,mb4.8								
BNI	**Bardonecchia**	**42.21**	**54**	*e*P			**P**	**06 04 27.3**	**+1.3**
BNI						pmax	pmax		
	comp=Z,32nm,1.4s,mb4.8								
MBDF	**Montbardon**	**42.25**	**54**	*e*P			**P**	**06 04 27.3**	**+1.0**
	comp=Z,46nm,1.3s,mb4.7								
LPL	**La Plagne**	**42.29**	**53**	*e*P			**P**	**06 04 27.6**	**+1.0**
LPG	**La Plagne**	**42.30**	**53**	*e*P			**P**	**06 04 27.8**	**+1.1**
HAU	**Haudompre**	**42.32**	**49**	*e*P			**P**	**06 04 26.2**	**-0.6**
	comp=Z,68nm,1.3s,mb4.8								
HAU						*e*MLR	MLR		
	comp=Z,326nm,21.8s,MS3.9								
WLF	**Walferdange**	**42.45**	**47**	*e*P			**P**	**06 04 28.4**	**+0.5**
	comp=Z,32nm,1.5s,mb4.7								
WLF						*e*pP	pP	06 04 33.6	+2.8
DBIC	**Dimbokro**	**42.46**	**114**	P			**P**	**06 04 28.3**	**-0.1**
	comp=Z,7.1nm,1.0s,mb4.2,baz=294,slow=9.5,SNR=6.6								
DBIC						LR	LR	06 19 40.1	
	comp=Z,822nm,19.7s,MS4.6,baz=272,slow=33								
HGN	**Heimansgroeve**	**42.52**	**45**	*e*P			**P**	**06 04 32.9**	**+4.5**
	comp=Z,15nm,1.4s,mb4.5								
HGN	**Heimansgroeve**	**42.52**	**45**	*e*PP			PP	06 06 06.3	-0.6
HGN	**Heimansgroeve**	**42.52**	**45**	*e*S			**S**	**06 10 49.0**	**-1.6**
HGN	**Heimansgroeve**	**42.52**	**45**	*e*SS			SS	06 13 52.6	-7.4
DOI	**San Damiano**	**42.57**	**55**	P			**P**	**06 04 31.1**	**+2.1**
LIC	**Lamto**	**42.59**	**115**	*e*P			**P**	**06 04 27.9**	**-1.5**
	comp=Z,86nm,1.3s,mb5.0								
LIC						*e*MLR	MLR		
	comp=Z,921nm,22.2s,MS4.3								
HINF	**Hinteralfeld**	**42.63**	**50**	*e*P			**P**	**06 04 28.8**	**-0.5**
SBF	**Sospel**	**42.67**	**56**	*e*P			**P**	**06 04 30.0**	**+0.2**
	comp=Z,25nm,1.0s,mb4.6								
MIAR	**Mount Ida**	**42.80**	**291**	*e*P			**P**	**06 04 30.4**	**-0.5**
	comp=Z,25nm,1.5s,mb4.7								
MIAR	**Mount Ida**	**42.80**	**291**	*e*P			**P**	**06 04 30.4**	**-0.5**
MIAR						pmax	pmax		
	comp=Z,25nm,1.5s,mb4.7								
CDF	**Champ du Feu**	**42.99**	**49**	*e*P			**P**	**06 04 31.9**	**-0.4**
	comp=Z,24nm,0.9s,mb4.6								
WTSB	**Winterswijk**	**43.30**	**44**	*e*P			**P**	**06 04 34.9**	**+0.2**
	comp=Z,28nm,1.8s,mb4.7								
TGUH	**Tegucigalpa,Un**	**43.35**	**259**	*e*P			**P**	**06 04 42.1**	**+6.5**
BFO	**Black Forest**	**43.67**	**49**	*e*P			**P**	**06 04 38.1**	**+0.3**
BFO				*e**PP			pP	06 04 42.2	+1.5
BFO						pmax	pmax		
	comp=Z,26nm,1.4s,mb4.8								
BFO	**Black Forest**	**43.67**	**49**	*e*P			**P**	**06 04 38.1**	**+0.3**
	comp=Z,26nm,1.4s,mb4.8								
BFO						*e*pP	pP	06 04 42.2	+1.5
PGF	**Pioggiola**	**43.78**	**58**	*e*P			**P**	**06 04 38.3**	**-0.4**
	comp=Z,25nm,1.0s,mb4.6								
NATX	**Nacogdoches**	**44.12**	**287**	*e*P			**P**	**06 04 43.1**	**+1.5**
AGMN	**Agassiz Refuge**	**44.41**	**311**	*e*P			**P**	**06 04 43.6**	**-0.1**
KEST	**Kesra**	**44.44**	**67**	P			**P**	**06 04 44.1**	**0.0**
	comp=Z,1.4nm,0.5s,mb3.9,baz=151,slow=3.6,SNR=7.9								
KEST						LR	LR	06 20 35.1	
	comp=Z,121nm,20.8s,MS3.8,baz=224,slow=32								
TORD	**Torodi Ar. Bea**	**44.50**	**101**	P			**P**	**06 04 44.3**	**-0.5**
	comp=Z,13nm,1.1s,mb4.6,baz=298,slow=7.4,SNR=20								
TORD						LR	LR	06 21 19.4	
	comp=Z,514nm,20.3s,MS4.4,baz=295,slow=33								
ULM	**Lac du Bonnet**	**44.66**	**313**	P			**P**	**06 04 44.5**	**-1.1**
	comp=Z,6.5nm,1.1s,mb4.4,baz=82,slow=7.7,SNR=5.8								
ULM						PcP	PcP	06 06 26.4	-1.8
	comp=Z,2.0nm,0.8s,baz=98,slow=2.3,SNR=3.3								
ULM						LR	LR	06 23 39.4	
	comp=Z,237nm,19.6s,MS4.1,baz=212,slow=36								
BDFB	**Brasilia**	**44.68**	**187**	P			**P**	**06 04 45.6**	**-0.5**
	comp=Z,1.7nm,0.8s,mb3.9,baz=343,slow=14,SNR=5.6								
BDFB						LR	LR	06 21 01.7	
	comp=Z,77nm,21.9s,MS3.6,baz=136,slow=33								
KSU1	**Kansas State U**	**44.79**	**298**	*e*P			**P**	**06 04 46.7**	**-0.2**
BRMO	**Bormio**	**44.89**	**52**	P			**P**	**06 04 49.4**	**+1.8**
UBBA	**Unterbreizbach**	**45.08**	**46**	*e*P			**P**	**06 04 48.5**	**-0.5**
	comp=Z,37nm,2.1s,mb4.8								
UBBA						*e*pP	pP	06 04 53.1	+1.2
CLZ	**Clausthal**	**45.46**	**44**	*e*P			**P**	**06 04 52.3**	**+0.3**
CLZ				*e**PP			pP	06 04 57.1	+2.2
CLZ						pmax	pmax		
	comp=Z,30nm,1.8s,mb4.8								
CLZ	**Clausthal**	**45.46**	**44**	*e*P			**P**	**06 04 52.3**	**+0.3**
	comp=Z,30nm,1.8s,mb4.8								
CLZ						*e*pP	pP	06 04 57.1	+2.2
HKT	**Hockley**	**45.47**	**285**	*e*P			**P**	**06 04 52.1**	**-0.3**
	comp=Z,32nm,1.6s,mb4.9								
HKT	**Hockley**	**45.47**	**285**	*e*P			**P**	**06 04 52.1**	**-0.3**
HKT						pmax	pmax		
	comp=Z,32nm,1.6s,mb4.9								
FCC	**Fort Churchill**	**45.55**	**326**	*e*P			**P**	**06 04 53.8**	**+1.2**
	comp=Z,19nm,1.3s,mb4.9								
FCC	**Fort Churchill**	**45.55**	**326**	*e*P			**P**	**06 04 53.8**	**+1.2**
FCC						pmax	pmax		
	comp=Z,19nm,1.3s,mb4.9								
GRA1	**Grafenberg Arr**	**45.72**	**48**	*e*P			**P**	**06 04 54.7**	**+0.6**
	comp=Z,25nm,1.4s,mb5.0								
GRA1						*e*pP	pP	06 04 58.8	+1.8
GRA1						LR	LR		
	comp=Z,300nm,20.3s,MS4.2								
GRF	**Grafenberg Arr**	**45.72**	**48**	*e*P			**P**	**06 04 54.7**	**+0.6**
GRF				*e*pP			pP	06 04 58.8	+1.8
GRF	**Grafenberg Arr**	**45.72**	**48**	*e*P			**P**	**06 04 54.7**	**+0.6**
GRF				*e**PP			pP	06 04 58.8	+1.8
GRF						pmax	pmax		
	comp=Z,25nm,1.4s,mb5.0								
GRF						MLR	MLR		
	comp=Z,300nm,20.3s,MS4.2								
GRF	**Grafenberg Arr**	**45.72**	**48**	*e*P			**P**	**06 04 54.7**	**+0.6**
	comp=Z,25nm,1.4s,mb5.0								
GRF				*e*pP			pP	06 04 58.8	+1.8
GRF				*e*L				06 20 36.8	
	comp=Z,312nm,20.3s								
BSEG	**Bad Segeberg**	**45.78**	**42**	*e*P			**P**	**06 04 54.7**	**+0.2**
	comp=Z,75nm,1.5s,mb5.4								
BSEG				*e*pP			pP	06 04 59.4	+2.0
MOX	**Moxa**	**46.07**	**46**	*e*P			**P**	**06 04 58.0**	**+1.1**
MOX									
	comp=Z,300nm,19.0s								
MOX	**Moxa**	**46.07**	**46**	*e*P			**P**	**06 04 57.5**	**+0.6**
	comp=Z,26nm,2.0s,mb4.8								
MANZ	**Manzenberg**	**46.32**	**47**	*e*P			**P**	**06 04 58.1**	**-0.7**
	comp=Z,28nm,2.0s,mb4.8								
ROTZ	**Rotzenmuhle**	**46.36**	**48**	*e*P			**P**	**06 04 59.4**	**+0.2**
	comp=Z,33nm,2.1s,mb4.9								
ROTZ				*e*pP			pP	06 05 03.3	+1.2
ASS	**Assisi**	**46.46**	**57**	P			**P**	**06 05 00.6**	**+0.6**
FSSB	**Fossombrone**	**46.54**	**56**	P			**P**	**06 05 00.4**	**-0.2**
NKC	**Novy Kostel**	**46.56**	**47**	*e*P			**P**	**06 05 01.2**	**+0.5**
NKC				*e*			pP	06 05 05.7	+2.0
NKC	**Novy Kostel**	**46.56**	**47**	*e*P			**P**	**06 05 01.2**	**+0.5**
NKC				*e*pP			pP	06 05 05.7	+2.0
NKC						AMS	AMS	06 21 30.0	
	comp=Z,600nm,19.5s,MS4.6								
SNTG	**Esanatoglia**	**46.67**	**57**	P			**P**	**06 05 02.2**	**+0.5**
WET	**Wettzell**	**46.75**	**48**	*e*P			**P**	**06 05 02.1**	**-0.1**
WET				*e**PP			pP	06 05 06.5	+1.3
WET						pmax	pmax		
	comp=Z,19nm,1.6s,mb4.8								
WET	**Wettzell**	**46.75**	**48**	*e*P			**P**	**06 05 02.1**	**-0.1**
	comp=Z,19nm,1.6s,mb4.8								
WET				*e*pP			pP	06 05 06.5	+1.3
NRCA	**Norcia**	**46.81**	**57**	P			**P**	**06 05 03.2**	**+0.4**
PTCC	**Patocco-Chiusa**	**46.95**	**52**	P			**P**	**06 05 02.1**	**-1.7**
CLL	**Collm**	**47.02**	**45**	*e*P			**P**	**06 05 04.0**	**-0.3**
	comp=Z,6.0nm,0.8s,mb4.6								
CLL				*e*				06 05 09.0	
CLL				*e*S			**S**	**06 11 48.0**	**-7.8**
CLL						LR	LR		
	comp=Z,200nm,23.1s,MS4.0								
CLL	**Collm**	**47.02**	**45**	*e*P			**P**	**06 05 04.0**	**-0.3**
CLL				*e*				06 05 09.0	
CLL				*e*S			**S**	**06 11 48.0**	**-7.8**
CLL						pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.6								
CLL						MLR	MLR		
	comp=Z,200nm,23.1s,MS4.0								
CLL	**Collm**	**47.02**	**45**	*e*P			**P**	**06 05 04.0**	**-0.3**
	comp=Z,6.0nm,0.8s,mb4.6								
CLL				*e*(sP)			sP	06 05 09.0	+0.6
CLL				*e*S			**S**	**06 12 02.0**	**+6.2**
CLL				*e*SS			SS	06 15 24.0	+1.6
WMOK	**Wichita Mounta**	**47.02**	**292**	*e*P			**P**	**06 05 04.1**	**-0.5**
	comp=Z,32nm,1.6s,mb5.0								
WMOK	**Wichita Mounta**	**47.02**	**292**	*e*P			**P**	**06 05 04.1**	**-0.5**
WMOK						pmax	pmax		
	comp=Z,32nm,1.6s,mb5.0								
ROBS	**Robic**	**47.05**	**52**	*e*P			**P**	**06 05 03.5**	**-1.1**
KHC	**Kasperske Hory**	**47.21**	**48**	*e*P			**P**	**06 05 05.4**	**-0.4**

UZH Uzhgorod 52.96 49 eP P 06 05 50.5 +1.1
ANMO Albuquerque 53.19 294⇑ eP P 06 05 51.9 +0.6
LPM Los Pinos Moun 53.46 293 eP P 06 05 55.1 +1.7
BNM Barren Site 53.50 293 eP P 06 05 54.8 +1.2
RLMT Red Lodge 53.65 307 eP P 06 05 54.5 -0.1
EGMT Eagleton 53.70 310 eP P 06 05 54.9 0.0
EGMT Eagleton 53.70 310 ⇓P P 06 05 54.0 -0.9
baz=54
GCMT Greycliff 53.85 307 eP P 06 05 56.6 +0.6
LAZ Ladron 53.85 293 eP P 06 05 57.5 +1.3
PDAR Pinedale Array 54.16 304 P P 06 05 57.5 -0.9
comp=Z,5.3nm,0.8s,mb4.5,baz=88,slow=6.9,SNR=44
PDAR LR LR 06 27 38.6
comp=Z,680nm,19.5s,MS4.7,baz=111,slow=34
PV01 Paradox Valley 54.20 298 eP P 06 05 59.6 +0.9
MVCO Mesa Verde 54.33 297 eP P 06 06 01.9 +2.2
MVCO Mesa Verde 54.33 297 ⇑P P 06 06 00.0 +0.3
baz=54
LKWY Lake 54.51 306 eP P 06 06 02.0 +1.1
FLWY Flagg Ranch 54.79 305 eP P 06 06 04.2 +1.2
LOHW Long Hollow 54.79 305 eP P 06 06 04.2 +1.3
comp=Z,12nm,1.1s,mb4.8
YFT Old Faithful 54.84 306 eP P 06 06 04.6 +1.4
MOOW Moose Ponds 54.87 305 eP P 06 06 04.8 +1.3
YMR Madison River 54.90 306 eP P 06 06 04.6 +0.9
comp=Z,46nm,1.4s,mb5.3
SNOW Snow King Moun 54.92 305 eP P 06 06 05.2 +1.3
comp=Z,27nm,1.3s,mb5.1
IMW Indian Meadow 54.99 305 eP P 06 06 05.7 +1.3
REDW Red Top Meadow 55.01 305 eP P 06 06 05.9 +1.3
comp=Z,24nm,1.2s,mb5.1
TPAW Teton Pass 55.06 305 eP P 06 06 06.2 +1.3
FINES FINESS Array B 55.07 33 P P 06 06 03.5 -1.1
comp=Z,5.4nm,0.9s,mb4.6,baz=300,slow=8.4,SNR=6.8
FINES LR LR 06 26 09.2
comp=Z,73nm,18.6s,MS3.8,baz=255,slow=32
FIA1 FINESS Array S 55.07 33 eP P 06 06 04.2 -0.4
QLMT Earthquake Lak 55.20 306 eP P 06 06 07.2 +1.3
DCID1 Drake Creek 55.21 305 eP P 06 06 07.3 +1.3
BOZ Bozeman (W) 55.23 307 eP P 06 06 06.4 +0.3
BOZ Bozeman (W) 55.23 307 ⇓P P 06 06 05.2 -0.9
baz=55
HRY Holter Researc 55.24 309 eP P 06 06 07.3 +1.2
AHID Auburn Hatcher 55.28 304 eP P 06 06 07.1 +0.6
comp=Z,10nm,1.0s,mb4.8
VSU Vasula 55.33 37⇓ eP P 06 06 06.6 0.0
SRU San Rafael 55.51 299 eP P 06 06 09.0 +0.8
EDM Edmonton 55.60 317 eP P 06 06 09.2 +0.6
ARCES ARCESS Array B 55.66 23 P P 06 06 08.7 -0.1
comp=Z,4.1nm,0.9s,mb4.5,baz=282,slow=5.9,SNR=4.2
ARCES LR LR 06 24 10.4
comp=Z,63nm,20.3s,MS3.7,baz=18,slow=30
Y19A Nutrioso 55.66 293 ⇑P P 06 06 10.1 +0.8
baz=56,SNR=8.5
D15A Lincoln 55.66 309 ⇑P P 06 06 07.9 -1.3
baz=55,SNR=7.1
F15A Butte 55.81 308 ⇑P P 06 06 09.1 -1.2
baz=56
HWUT Hardware Ranch 55.82 303 eP P 06 06 11.1 +0.7
comp=Z,12nm,1.1s,mb4.9
E15A Deer Lodge 55.83 308 ⇓P P 06 06 09.6 -0.8
baz=56
G15A Dillon 55.90 307 ⇓P P 06 06 10.4 -0.5
baz=56
JLU Jordanelle 55.92 301 eP P 06 06 11.4 +0.3
DLMT Dillon 55.95 307 eP P 06 06 11.8 +0.6
comp=Z,23nm,1.4s,mb5.0
119A Ashpeak Ranch, 56.00 292 ⇓P P 06 06 12.6 +0.7
baz=56
YKA Yellowknife Ar 56.11 328 P P 06 06 10.3 -1.8
YKA 06 07 07.9
YKA pmax pmax
comp=Z,1.0nm,0.9s
YKA pmax pmax
comp=Z,1.0nm,1.0s
YKA Yellowknife Ar 56.11 328 P P 06 06 10.3 -1.8
comp=Z,1.0nm,0.9s,mb3.9,baz=88,slow=7.5,SNR=18
YKA PcP PcP 06 07 07.9 -2.1
comp=Z,1.2nm,1.0s,baz=95,slow=4.7,SNR=7.6
YKA LR LR 06 28 46.6
comp=Z,210nm,18.6s,MS4.3,baz=120,slow=34
CTU Camp Tracy 56.13 302 eP P 06 06 13.4 +0.8
219A White Tail Can 56.17 291 P P 06 06 13.8 +0.8
baz=56,SNR=8.9
MPU Maple Canyon 56.17 301 eP P 06 06 13.8 +0.9
MCMT McKenzie Canyo 56.20 307 eP P 06 06 14.5 +1.4
D14A Greenough 56.33 309 ⇑P P 06 06 12.6 -1.3
baz=56,SNR=7.9
WALA Waterton Lakes 56.34 312 eP P 06 06 14.6 +0.6
comp=Z,20nm,1.2s,mb5.0
C14A Swan Lake 56.40 310 ⇑P P 06 06 13.1 -1.3
baz=56
E14A Clinton 56.41 309 ⇓P P 06 06 13.5 -1.1
baz=56
NLU North Lily Min 56.52 301 eP P 06 06 16.4 +0.9
118A Homack Ranch, 56.58 292 P P 06 06 16.6 +0.7
baz=56,SNR=9.2
A13A Flathead Natio 56.68 312 ⇓P P 06 06 15.5 -0.9
baz=56
CPUP Villa Florida 56.71 195 P P 06 06 15.1 -1.7
CPUP pmax pmax
comp=Z,2.0nm,0.8s
CPUP MLR MLR
comp=Z,89nm,18.6s
CPUP Villa Florida 56.71 195 P P 06 06 15.1 -1.7
comp=Z,1.8nm,0.8s,mb4.1,baz=5.7,slow=2.9,SNR=5.8
CPUP LR LR 06 30 07.0
comp=Z,89nm,18.6s,MS3.9,baz=359,slow=36
T16A Glen Canyon Da 56.72 297 ⇓P P 06 06 16.8 -0.1
baz=56
218A Dragoon 56.82 291 ⇓P P 06 06 18.2 +0.5
baz=57
E13A Victor 56.88 309 ⇓P P 06 06 17.2 -0.7
baz=57
MSU Marysvale 56.90 299 eP P 06 06 19.1 +1.0
318A Bisbee 56.92 290 P P 06 06 19.2 +0.8
baz=57,SNR=15
C13A Hot Springs 56.96 310 ⇓P P 06 06 17.3 -1.1
baz=57
D13A Huson 56.97 309 ⇑P P 06 06 17.4 -1.1
baz=57
WUAZ Wupatki 56.97 295 eP P 06 06 19.8 +1.1
comp=Z,15nm,1.0s,mb5.0
WUAZ Wupatki 56.97 295 ⇓P P 06 06 19.1 +0.4
baz=57
DUG Dugway 57.02 301 eP P 06 06 19.9 +0.9
comp=Z,27nm,1.4s,mb5.1
DUG Dugway 57.02 301 eP P 06 06 19.9 +0.9
DUG pmax pmax
comp=Z,27nm,1.4s,mb5.1
DUG Dugway 57.02 301 ⇑P P 06 06 18.5 -0.5
baz=57
BGU Big Grassy Mou 57.03 302 eP P 06 06 19.8 +0.7
BSMT Bassoo Peak 57.08 310 eP P 06 06 19.8 +0.6
G13A Cobalt 57.13 307 ⇓P P 06 06 19.4 -0.3
baz=57
M14A Sheep Mountain 57.15 303 ⇑P P 06 06 18.0 -1.9
baz=57
N14A Grayback Hills 57.16 302 ⇑P P 06 06 19.0 -1.0
baz=57,SNR=7.4
117A Oracle 57.22 292 ⇑P P 06 06 21.1 +0.5
baz=57
H13A Challis 57.24 306 ⇓P P 06 06 19.8 -0.6
baz=57,SNR=6.7
KIEV Kiev 57.24 46 eP P 06 06 20.2 -0.2
comp=Z,20nm,1.4s,mb5.0
KIEV Kiev 57.24 46 eP P 06 06 20.2 -0.2
KIEV pmax pmax
comp=Z,20nm,1.4s,mb5.0
AKASG Malin Array Be 57.25 46 P P 06 06 18.6 -1.8
comp=Z,1.1nm,0.6s,mb4.1,baz=273,slow=6.5,SNR=18
AKASG LR LR 06 29 11.5
comp=Z,311nm,18.7s,MS4.4,baz=275,slow=34
I13A Wildhorse Cree 57.25 306 ⇑P P 06 06 20.4 -0.1
baz=57
X16A Lo Mia Camp, P 57.30 294 ⇓P P 06 06 21.3 +0.2
baz=57
J13A Cove Ranch, Pi 57.39 305 ⇑P P 06 06 20.0 -1.5
baz=57,SNR=7.1
T15A Red Dirt Ranch 57.40 297 ⇑P P 06 06 20.3 -1.4
baz=57,SNR=9.7
K13A Stover Farm, H 57.47 304 ⇑P P 06 06 21.7 -0.4
baz=57
Y16A Circle Bar Ran 57.47 294 ⇑P P 06 06 22.6 +0.3
baz=57
217A Green Valley 57.50 291 ⇓P P 06 06 23.2 +0.7
baz=57,SNR=8.8
HLID Hailey 57.53 305 ⇓P P 06 06 22.2 -0.3
baz=57
H12A Diamond D Ranc 57.66 307 ⇓P P 06 06 23.1 -0.4
baz=57,SNR=12
W15A Williams 57.76 295 ⇓P P 06 06 23.9 -0.4
baz=58
X15A Humboldt 57.91 294 ⇓P P 06 06 25.8 +0.4
baz=58
A11A Hall Mountain, 57.95 312 ⇑P P 06 06 24.7 -0.7
baz=58
116A Eloy 58.01 292 ⇓P P 06 06 26.0 -0.1
baz=58
CCUT Cedar City 58.03 298 eP P 06 06 27.2 +1.0
ARUT Antelope Range 58.03 298 eP P 06 06 27.6 +1.5
K12A Draper Farm, C 58.06 304 ⇓P P 06 06 25.7 -0.6
baz=58,SNR=6.6
J12A Stokes Ranch, 58.08 305 ⇓P P 06 06 26.2 -0.2
baz=58
P13A Bates Ranch, G 58.09 301 ⇓P P 06 06 26.1 -0.4
baz=58,SNR=14
Y15A Casa Rosa Ranc 58.13 294 P P 06 06 27.4 +0.5
baz=58,SNR=6.1
U14A Mt Trumbull 58.17 297 ⇓P P 06 06 27.6 +0.5
baz=58
E11A Bogner Ranch, 58.28 309 ⇑P P 06 06 26.2 -1.5
baz=58
V14A Boquillas Ranc 58.31 296 ⇑P P 06 06 29.1 +1.0
baz=58,SNR=11
F11A Grangeville 58.32 308 ⇓P P 06 06 26.9 -1.1
baz=58
M12A Wells 58.32 303 ⇓P P 06 06 27.1 -1.0
baz=58,SNR=6.6
115A Sonoran Desert 58.39 292 ⇓P P 06 06 28.9 +0.2
baz=58
W14A Seligman 58.40 295 ⇓P P 06 06 28.9 +0.2
baz=58
APA Apatity 58.40 26⇓ iP P 06 06 33.0 +4.8
APA pmax pmax
comp=Z,16nm,1.0s,mb5.0
S13A Holt Ranch, En 58.41 298 ⇑P P 06 06 28.6 -0.2
baz=58
X14A Yava 58.44 295 ⇑P P 06 06 29.5 +0.5
baz=58
H11A Donnelly 58.45 307 P P 06 06 28.3 -0.6
baz=58,SNR=14
O12A Currie 58.45 302 ⇓P P 06 06 28.7 -0.3
baz=58,SNR=7.9
G11A Walters Elk Ra 58.49 308 P P 06 06 28.6 -0.7
baz=58,SNR=12
N12A Clover Valley, 58.54 302 ⇑P P 06 06 28.6 -1.0
baz=58
I11A Placerville 58.56 306 ⇓P P 06 06 28.5 -1.2
baz=58
NEW Newport 58.56 311 eP P 06 06 30.1 +0.4
MFID Camas Ranch 58.57 305 ⇑P P 06 06 28.7 -1.1
baz=58,SNR=13
T13A Saint George 58.58 298 ⇑P P 06 06 30.1 +0.1
baz=58
B10A Chitwood Farm, 58.62 311 ⇓P P 06 06 30.8 +0.7
baz=58
Y14A Wickenburg 58.67 294 ⇑P P 06 06 31.7 +1.0
baz=58,SNR=9.6
P12A McGill 58.75 301 ⇑P P 06 06 30.7 -0.5
baz=58
L11A Cat Creek Ranc 58.78 304 ⇑P P 06 06 30.7 -0.6
baz=58
U13A Pakoon Wash 58.78 297 ⇓P P 06 06 31.4 0.0
baz=59
K11A Parker Ranch, 58.85 305 P P 06 06 31.6 -0.1
baz=59,SNR=12
D10A Wagner Farm, O 58.87 310 ⇓P P 06 06 30.9 -1.0
baz=59
H10A Noah's Angus R 58.98 307 ⇑P P 06 06 31.3 -1.3
baz=59
W13A Hualapai Mount 59.06 296 ⇓P P 06 06 33.9 +0.5
baz=59
G10A Bishop Farm, J 59.10 308 ⇑P P 06 06 34.0 +0.5
baz=59
I10A Payette 59.12 306 ⇓P P 06 06 33.9 +0.2
baz=59
X13A Yucca 59.15 295 P P 06 06 35.1 +1.1
baz=59,SNR=7.8
O11A Cowboy Ranch, 59.16 302 ⇓P P 06 06 33.8 -0.2
baz=59,SNR=12
B09A Rice 59.21 312 ⇓P P 06 06 34.1 0.0
baz=59,SNR=8.9
L10A Juniper Basin 59.32 304 ⇓P P 06 06 35.1 +0.1
baz=59,SNR=15
Y13A Salome 59.37 294 ⇑P P 06 06 35.8 +0.3
baz=59
M10A I.L. Ranch, Tu 59.49 303 ⇑P P 06 06 36.1 -0.1
baz=59
R11A Troy Canyon, C 59.54 300 ⇑P P 06 06 36.6 0.0
baz=59,SNR=8.2
T11A Corn Creek, Al 59.54 298 ⇑P P 06 06 37.0 +0.3
baz=59,SNR=9.3
D09A Jones Farm, Ri 59.57 310 ⇓P P 06 06 35.7 -1.0
baz=59
Q10A Clear Creek Ra 60.04 300 ⇓P P 06 06 39.9 -0.1
baz=60,SNR=7.8
K09A Rome 60.08 305 P P 06 06 40.8 +0.5
baz=60,SNR=6.0
L09A Wilkinson Ranc 60.20 304 ⇓P P 06 06 40.5 -0.6
baz=60
IRM Iron Mountain 60.32 295 ⇑P P 06 06 42.2 +0.1
baz=60
H08A Prairie City 60.34 307 ⇓P P 06 06 42.0 0.0
baz=60
G08A Pilot Rock 60.37 308 ⇓P P 06 06 41.0 -1.2
baz=60
GLA Glamis 60.39 294 eP P 06 06 43.8 +1.2
GLA Glamis 60.39 294 ⇑P P 06 06 43.3 +0.8
baz=60
S10A Tonopah Range, 60.42 299 ⇓P P 06 06 42.6 -0.1
baz=60,SNR=12
J08A Circle Bar Ran 60.46 306 P P 06 06 42.9 0.0
baz=60,SNR=14
B07A Winthrop 60.49 312 ⇑P P 06 06 42.5 -0.5
baz=60
A07A Ashnola River, 60.55 313 ⇑P P 06 06 43.6 +0.3
baz=60
GMRC Granite Mounta 60.55 296 ⇓P P 06 06 43.5 -0.1
baz=60
C07A Waterville 60.61 311 ⇓P P 06 06 42.6 -1.2
baz=60
K08A Mann Creek Ran 60.62 305 ⇓P P 06 06 43.5 -0.5
baz=60,SNR=7.3
R09A Tonopah 60.70 300 ⇓P P 06 06 43.6 -1.0
baz=60,SNR=10
BC3 Big Chuckw Mtn 60.71 294 ⇓P P 06 06 44.8 0.0
baz=60
N08A GE Springer Mi 60.84 303 ⇓P P 06 06 44.2 -1.3
baz=61
G07A Ruggs Ranch, H 60.87 308 ⇑P P 06 06 43.9 -1.7
baz=61
H07A Lands Inn, Kim 60.95 307 ⇓P P 06 06 45.7 -0.5
baz=61
S09A Goldfield 60.95 299 ⇓P P 06 06 45.1 -1.2
baz=61
OBN Obninsk 61.00 40⇓ eP P 06 06 45.4 -0.9
OBN pmax pmax
comp=Z,44nm,1.2s,mb5.5
I07A Izee 61.02 307 ⇑P P 06 06 45.8 -0.9
baz=61
J07A Hines 61.05 306 ⇓P P 06 06 46.2 -0.7
baz=61,SNR=8.5
K07A Rock Creek Ran 61.17 305 ⇓P P 06 06 46.4 -1.3
baz=61
GRAC Grapevine Rang 61.26 299 ⇓P P 06 06 48.3 -0.2
baz=61
L07A Adell 61.41 305 ⇓P P 06 06 49.0 -0.3
baz=61
M07A Soldier Meadow 61.44 304 ⇓P P 06 06 48.5 -1.1
baz=61
H06A Lindquist Farm 61.45 308 ⇓P P 06 06 48.7 -0.9
baz=61
N07B Gerlach 61.45 303 ⇓P P 06 06 48.7 -1.0
baz=61
E06A Yakima 61.47 310 ⇓P P 06 06 48.9 -0.7
baz=61,SNR=11
PFO Pinyon Flat Ob 61.52 295 LR LR 06 30 21.2
comp=Z,369nm,19.7s,MS4.5,baz=116,slow=33
G06A Carlson Farm, 61.54 308 ⇑P P 06 06 50.4 +0.2
baz=61,SNR=6.3
NVAR Mina Array Bea 61.58 300 P P 06 06 50.3 -0.3
comp=Z,4.1nm,1.1s,mb4.5,baz=76,slow=7.7,SNR=11
MPMC Manual Prospec 61.62 298 ⇓P P 06 06 51.5 +0.7
baz=61
J06A Christmas Vall 61.68 306 ⇓P P 06 06 50.8 -0.3
baz=61
S08C White Mtn Res 61.73 299 ⇑P P 06 06 51.5 -0.1
baz=62
K06A Valley Falls 61.86 306 ⇓P P 06 06 52.1 -0.3
baz=62
MTUM Tungsten Hills 62.08 299 eP P 06 06 54.9 +1.0
H05A Madras 62.09 308 ⇑P P 06 06 53.4 -0.5
baz=62
N06A Buffalo Meadow 62.09 303 ⇓P P 06 06 53.2 -0.8
baz=62
MOD Modoc 62.13 305 eP P 06 06 55.0 +0.8
comp=Z,24nm,1.2s,mb5.2
MOD Modoc 62.13 305 ⇓P P 06 06 53.3 -0.9
baz=62
R07C Lee Vining 62.23 300 ⇑P P 06 06 54.8 -0.1
baz=62
I05A Bend 62.24 307 ⇓P P 06 06 55.1 +0.2
baz=62
K05A Summer Lake 62.34 306 ⇓P P 06 06 55.3 -0.3
baz=62
WCN Washoe City 62.43 302 ⇓P P 06 06 55.9 -0.3
baz=62
J05A Fort Rock 62.44 306 ⇓P P 06 06 55.4 -0.9
baz=62
M06C Likely Place G 62.44 304 ⇓P P 06 06 55.8 -0.5
baz=62
L05A Lakeview 62.47 305 ⇑P P 06 06 56.8 +0.2
baz=62
HELL Mitchell Peak 62.62 299 ⇓P P 06 06 57.5 -0.1
baz=62,SNR=8.5
KCC Kaiser Creek 62.66 299 ⇓P P 06 06 57.6 -0.2
baz=62
BEKR Beckwourth 62.72 302 ⇑P P 06 06 57.3 -0.9
baz=62
ELFS Eagle Lake Fie 62.78 303 ⇑P P 06 06 58.1 -0.4
baz=62
M05C Lookout 62.88 304 ⇓P P 06 06 58.7 -0.5
baz=63
NLWA Neilton Lookou 63.19 311 eP P 06 07 02.4 +1.2
NLWA Neilton Lookou 63.19 311 ⇑P P 06 07 01.3 +0.1
baz=63
L04A Klamath Falls 63.20 305 ⇑P P 06 07 00.6 -0.7
baz=63
CMB Columbia Colle 63.26 300 ⇓P P 06 07 01.5 -0.3
baz=63
HATC Hat Creek Radi 63.26 304 ⇑P P 06 07 01.6 -0.2
baz=63
ORV Oroville 63.65 302 ⇓P P 06 07 03.6 -0.7
baz=63
OHCM Honcut 63.70 302 eP P 06 07 05.7 +0.9
ANN Anapa 63.85 51 eP P 06 07 04.5 -1.1
ANN eS S 06 15 37.8 -3.2
ANN pmax pmax
comp=Z,21nm,0.9s,mb5.2
U04C Hernandez Rese 64.07 299 ⇓P P 06 07 08.5 +1.4
baz=64
CFAA Coronel Fontan 64.86 204 LR LR 06 34 52.0
comp=Z,24nm,18.4s,MS3.4,baz=347,slow=36
MALT Malatya 66.52 58 eP P 06 07 24.3 +1.3
comp=Z,12nm,1.1s,mb4.8
MALT Malatya 66.52 58 eP P 06 07 24.3 +1.3
MALT pmax pmax
comp=Z,12nm,1.1s,mb4.8
DAWY Dawson 66.89 332 eP P 06 07 24.9 0.0
KIV Kislovodsk 67.70 51 eP P 06 07 30.8 +0.4
KIV eS S 06 16 27.5 -0.5
KIV pmax pmax
comp=Z,11nm,1.1s,mb4.8
KIV MLR MLR
comp=Z,47nm,16.0s,MS3.8
COLA College 69.97 334c iP P 06 07 45.1 +0.9
ARU Arti 72.39 35d iP P 06 07 59.1 +0.1
ARU e 06 10 39.1
ARU eS S 06 17 20.2 -2.3
ARU pmax pmax
comp=Z,10.0nm,1.2s,mb4.6
PLCA Paso Flores 73.92 201 P P 06 08 09.1 +1.0
PLCA pmax pmax
comp=Z,4.0nm,1.1s
PLCA MLR MLR
comp=Z,192nm,21.7s
PLCA Paso Flores 73.92 201 P P 06 08 09.1 +1.0
comp=Z,4.3nm,1.1s,mb4.3,baz=82,slow=7.5,SNR=3.6
PLCA LR LR 06 42 42.7
comp=Z,192nm,21.7s,MS4.3,baz=275,slow=38
KDAK Kodiak Island 75.38 329 LR LR 06 41 10.3
comp=Z,649nm,21.2s,MS4.9,baz=75,slow=36
NAY Al-Naaiem 76.77 64 eP P 06 08 19.5 -5.5
RDF Al-Radifah 77.15 64 eP P 06 08 25.6 -1.5
TIXI Tiksi 79.42 3 iP P 06 08 38.9 0.0
TIXI pmax pmax
comp=Z,18nm,1.6s,mb4.8
BRVK Borovoye 79.94 34 eP P 06 08 42.7 +0.7
comp=Z,11nm,1.0s,mb4.7
BRVK Borovoye 79.94 34 eP P 06 08 42.7 +0.7
BRVK pmax pmax
comp=Z,11nm,1.0s,mb4.7
BILL Bilibino 80.73 349 eP P 06 08 45.8 -0.2
BILL pmax pmax
comp=Z,14nm,1.6s,mb4.6
BILL MLR MLR
comp=Z,100nm,15.0s,MS4.3
KMBO Kilima Mbogo 82.20 96 P P 06 08 55.2 +0.4
KMBO LR LR 06 44 06.7
KMBO Kilima Mbogo 82.20 96 P P 06 08 55.2 +0.4
comp=Z,1.4nm,0.8s,mb3.9,baz=35,slow=21,SNR=3.9
KMBO LR LR 06 44 06.7
comp=Z,513nm,20.2s,MS4.9,baz=278,slow=35
KURK Kurchatov 85.44 33 eP P 06 09 10.8 +0.1
comp=Z,15nm,1.1s,mb5.0
KURK Kurchatov 85.44 33 eP P 06 09 10.8 +0.1
KURK pmax pmax
comp=Z,15nm,1.1s,mb5.0
ZAA0 Zalesovo Array 85.93 28 eP P 06 09 13.3 +0.3
ZAL Zalesovo 85.93 28 P P 06 09 12.6 -0.5
ZAL pmax pmax
comp=Z,1.0nm,0.3s
ZALV Zalesovo Beam 85.93 28 P P 06 09 12.6 -0.5
comp=Z,0.6nm,0.3s,mb4.3,baz=289,slow=4.5,SNR=4.0
BOSA Boshof 87.00 125 LR LR 06 44 33.7
comp=Z,122nm,18.4s,MS4.3,baz=314,slow=33
SEY Seymchan 87.48 353⇑ eP P 06 09 20.4 -0.1
AML Almayashu 88.38 42 eP P 06 09 26.9 +1.7
comp=Z,11nm,1.1s,mb5.0
AAK Ala-Archa 88.53 41 P P 06 09 26.4 +0.5
AAK pmax pmax
comp=Z,2.0nm,0.7s,mb4.6
AAK Ala-Archa 88.53 41 P P 06 09 26.4 +0.5
comp=Z,1.6nm,0.7s,mb4.4,baz=131,slow=19,SNR=5.2
MKAR Makanchi Array 89.90 34 P P 06 09 32.3 +0.1
MKAR pmax pmax
comp=Z,3.0nm,1.0s
MKAR MLR MLR
comp=Z,133nm,20.3s
MKAR Makanchi Array 89.90 34 P P 06 09 32.3 +0.1
comp=Z,3.1nm,1.0s,mb4.6,baz=305,slow=4.3,SNR=6.5
MKAR LR LR 06 48 16.5
comp=Z,133nm,20.3s,MS4.4,baz=357,slow=34
BOD Bodaibo 91.36 12 eP P 06 09 37.2 -1.6
BOD pmax pmax
comp=Z,3.0nm,1.6s,mb4.4
TLY Talaya 94.49 20⇑ eP P 06 09 54.5 +1.2
TLY pmax pmax
comp=Z,1.0nm,1.8s,mb3.9
WMQ Urumqi 94.68 33 eP P 06 09 55.8 +1.4
WMQ AP pP 06 10 00.5 +3.0
WMQ XP sP 06 10 03.0 +4.4
WMQ SKS 06 20 29.0
WMQ eS S 06 21 05.0 -2.7
WMQ AMB AMB
comp=Z,9.0nm,0.7s,mb5.3
WMQ AMB AMB
comp=Z,163nm,4.1s
WMQ LR LR
comp=N,192nm,25.8s,MS4.5
WMQ LR LR
comp=E,150nm,27.0s,MS4.5
WMQ LR LR
comp=Z,230nm,22.8s,MS4.6
CN2 Changchun 106.75 9 ePDIF Pdif 06 10 49.8 +1.5
CN2 PP PP 06 15 16.5 +3.8
CN2 eS Sdif 06 22 46.0 -3.4
CN2 PP PP
comp=Z,200nm,4.0s

CN2 LR LR
comp=N,450nm,21.0s,MS5.1
CN2 LR LR
comp=E,410nm,21.0s,MS5.1
CN2 LR LR
comp=Z,200nm,19.0s,MS4.7
LZH Lanzhou 108.17 28 *e*PDIF Pdif 06 10 52.3 -2.3
LZH PP PP 06 15 24.5 +1.1
LZH *e*S Sdif 06 22 50.5 -11
LZH PP PP
comp=Z,102nm,8.3s
LZH LR LR
comp=N,315nm,18.5s
LZH LR LR
comp=Z,502nm,20.1s,MS5.1
BJI Beijing 108.63 17 PDIF Pdif 06 10 55.3 -1.4
BJI PP PP
comp=Z,161nm,5.6s
BJI LR LR
comp=Z,104nm,46.8s,MS4.0
CD2 Chengdu 112.57 30 *e*PKP PKiKP 06 15 09.4 -0.5
CD2 XPKP 06 15 17.3
CD2 PP PP 06 15 58.8 +3.4
CD2 PKS 06 18 44.8
CD2 SKS SKSdf 06 22 16.8 -5.6
CD2 SKKS SKKSac 06 22 47.9 -11
CD2 PP PP
comp=Z,120nm,10.8s
CD2 LR LR
comp=N,150nm,16.4s
CD2 LR LR
comp=Z,210nm,14.4s,MS4.9
NJ2 Nanjing 116.88 17 *e*PKP PKPdf 06 15 14.5 -3.7
KMI Kunming 116.97 35 PKP PKPdf 06 15 18.5 0.0
KMI PP PP 06 16 31.8 +5.2
KMI PP PP
comp=Z,98nm,8.1s
KMI LR LR
comp=Z,54nm,22.2s,MS4.1
GYA Guiyang 117.69 31 *e*PDIF Pdif 06 11 36.3 -0.7
GYA PKP PKPdf 06 15 19.8 -0.1
GYA PP PP 06 16 35.3 +3.8
GYA PKS 06 18 55.3
GYA SKS SKSdf 06 22 29.6 -2.8
GYA SKKS SKKSac 06 23 26.6 -7.2
GYA S Sdif 06 24 15.4 -5.2
GYA SS SS 06 32 41.4 -1.8
GYA PP PP
comp=Z,120nm,7.4s
GYA LR LR
comp=N,560nm,20.9s,MS5.3
GYA LR LR
comp=E,590nm,21.8s,MS5.3
GYA LR LR
comp=Z,680nm,20.8s,MS5.2
URZ Urewera 145.44 244 PKPbc PKPbc 06 16 10.8 -0.4
comp=Z,18nm,0.9s,baz=249,slow=1.1,SNR=9.4
WRA Warramunga Arr 170.66 14 PKIKP PKPdf 06 16 39.8 -2.1
WRA pmax pmax
comp=Z,1.0nm,1.1s
WRA Warramunga Arr 170.66 14 PKP PKPdf 06 16 39.8 -2.1
comp=Z,0.9nm,1.1s,baz=237,slow=1.8,SNR=5.5
ASAR Alice Springs 174.04 26 PKIKP PKPdf 06 16 41.4 -1.9
ASAR 06 22 05.5
ASAR pmax pmax
comp=Z,1.0nm,1.0s
ASAR pmax pmax
comp=Z,1.0nm,1.1s
ASAR Alice Springs 174.04 26 PKP PKPdf 06 16 41.4 -1.9
comp=Z,0.6nm,1.0s,baz=306,slow=5.3,SNR=3.7
ASAR PP PP 06 22 05.5 +0.2
comp=Z,1.4nm,1.1s,baz=337,slow=5.4,SNR=4.1

*ISCJB **24** 07:06:20.9±0.3, 2894N±007×4309W±004, h10km, mb4.3/50, MS3.9/10, Error ellipse: s-maj=9.5km s-min=5.0km az=175.5*
*MOS **24** 07:06:20.8±0.9, 2893N×4309W, h10km, mb4.5/26, Error ellipse: s-maj=11.3km s-min=7.5km az=48.6*
*IDC **24** 07:06:20.8±0.5, 2902N×4317W, h0km, mb4.0/21, mb1 4.1/21, mb1mx4.1/29, mbtmp4.0/21, MS3.9/7, Ms1 3.9/7, ms1mx3.5/30, Error ellipse: s-maj=16.4km s-min=13.1km az=144.0*
*BJI **24** 07:06:22.6, 2890N×4310W, h10km, mB5.4, mb5.1, Ms5.3, Msz5.0*
*NEIC **24** 07:06:22.6±0.2, 2894N×4306W, h10km, mb4.7/23, Error ellipse: s-maj=6.4km s-min=3.4km az=175.0*
ISC 24 07:06:22.8±0.3, 2895N±007×4305W±004, h10km, n137, σ0 66/126, mb4.3/50, MS3.9/10, 2C-3D, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
PCRV	**Puerto La Cruz**	**27.52**	**232**	LR	LR	07 21 20.1	
	comp=Z,56nm,21.0s,MS3.1,baz=56,slow=33						
BBTS	**Babate**	**28.35**	**114**	LR	LR	07 20 44.9	
	comp=Z,336nm,19.9s,MS3.9,baz=228,slow=30						
SDV	**Santo Domingo**	**32.70**	**238**	*e*P	**P**	**07 13 01.1**	**+5.5**
	9.1nm,1.1s,mb4.6						
MDT	**Midelt**	**33.09**	**73**	LR	LR	07 23 16.7	
	comp=Z,227nm,21.2s,MS3.9,baz=103,slow=31						
ESDC	**Sonseca Array**	**33.78**	**61**	P	**P**	**07 13 05.1**	**+0.3**
	0.6nm,0.5s,mb3.8,baz=261,slow=8.5,SNR=5.9						
ESDC				LR	LR	07 23 30.7	
	comp=Z,100nm,20.4s,MS3.5,baz=235,slow=30						
QUIF	**Quistinic**	**36.03**	**47**	*e*P	**P**	**07 13 23.9**	**-0.3**
SJPF	**Ste Jean**	**36.28**	**56**	*e*P	**P**	**07 13 26.4**	**+0.1**
	31nm,1.3s,mb4.8						
SJPF	**Ste Jean**	**36.28**	**56**	*e*P	**P**	**07 13 26.4**	**+0.1**
	15nm,1.3s,mb4.8						
SJPF	**Ste Jean**	**36.28**	**56**	*e*P	**P**	**07 13 26.4**	**+0.1**
SJPF				pmax	pmax		
	comp=Z,15nm,1.3s,mb4.8						
ETSF	**Etsaut**	**36.73**	**56**	*e*P	**P**	**07 13 30.2**	**0.0**
MFF	**Saint Martin d**	**37.68**	**50**	*e*P	**P**	**07 13 38.2**	**0.0**
	comp=Z,20nm,1.0s,mb4.5						
MFF	**Saint Martin d**	**37.68**	**50**	*e*P	**P**	**07 13 38.2**	**0.0**
	comp=Z,10nm,1.0s,mb4.5						
MFF	**Saint Martin d**	**37.68**	**50**	*e*P	**P**	**07 13 38.2**	**0.0**
MFF				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.5						
LFF	**La Frestale**	**37.97**	**53**	*e*P	**P**	**07 13 40.5**	**-0.2**
PLAL	**Pickwick Lake**	**38.42**	**291**	*e*P	**P**	**07 13 45.7**	**+1.1**
MTLF	**Montolieu**	**38.80**	**56**	*e*P	**P**	**07 13 47.4**	**-0.3**
	comp=Z,9.6nm,0.9s,mb4.2						
MTLF	**Montolieu**	**38.80**	**56**	*e*P	**P**	**07 13 47.4**	**-0.3**
	comp=Z,4.8nm,0.9s,mb4.2						
MTLF	**Montolieu**	**38.80**	**56**	*e*P	**P**	**07 13 47.4**	**-0.3**
MTLF				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.2						
CAF	**Calviac**	**38.90**	**53**	*e*P	**P**	**07 13 49.2**	**+0.7**
TCF	**Toulx Ste Croi**	**39.22**	**51**	*e*P	**P**	**07 13 50.7**	**-0.5**
	comp=Z,9.3nm,0.9s,mb4.2						
TCF	**Toulx Ste Croi**	**39.22**	**51**	*e*P	**P**	**07 13 50.7**	**-0.5**
	comp=Z,4.7nm,0.9s,mb4.2						
TCF	**Toulx Ste Croi**	**39.22**	**51**	*e*P	**P**	**07 13 50.7**	**-0.5**
TCF				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.2						
LASF	**Ste Croix**	**40.06**	**55**	*e*P	**P**	**07 13 58.0**	**-0.2**
	comp=Z,16nm,1.1s,mb4.4						
AVF	**Avril sur Loir**	**40.08**	**51**	*e*P	**P**	**07 13 58.2**	**-0.1**
SSF	**Saint Saulge**	**40.23**	**50**	*e*P	**P**	**07 13 59.2**	**-0.4**
SMF	**Signal de Mont**	**40.39**	**51**	*e*P	**P**	**07 14 00.7**	**-0.2**
	comp=Z,22nm,1.1s,mb4.5						
SMF	**Signal de Mont**	**40.39**	**51**	*e*P	**P**	**07 14 00.7**	**-0.2**
	comp=Z,11nm,1.0s,mb4.5						
SMF	**Signal de Mont**	**40.39**	**51**	*e*P	**P**	**07 14 00.7**	**-0.2**
SMF				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.5						
LOR	**Lormes**	**40.50**	**50**	*e*P	**P**	**07 14 01.6**	**-0.2**
	comp=Z,5.8nm,0.7s,mb4.0						
LOR				*e*MLR	MLR		
	comp=Z,89nm,22.2s,MS3.3						
LOR	**Lormes**	**40.50**	**50**	*e*P	**P**	**07 14 01.6**	**-0.2**
	comp=Z,2.9nm,0.6s,mb4.1						
LOR				LR	LR		
	comp=Z,90nm,22.3s,MS3.6						
LOR	**Lormes**	**40.50**	**50**	*e*P	**P**	**07 14 01.6**	**-0.2**
LOR				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.1						
LOR				MLR	MLR		
	comp=Z,90nm,22.3s,MS3.6						
SMRF	**Simiane la Rot**	**41.29**	**55**	*e*P	**P**	**07 14 08.2**	**-0.1**
CABF	**La Chapelle**	**41.92**	**51**	*e*P	**P**	**07 14 12.7**	**-0.8**
	comp=Z,7.1nm,0.8s,mb4.1						
CABF	**La Chapelle**	**41.92**	**51**	*e*P	**P**	**07 14 12.7**	**-0.8**
	comp=Z,3.5nm,0.8s,mb4.0						
CABF	**La Chapelle**	**41.92**	**51**	*e*P	**P**	**07 14 12.7**	**-0.8**
CABF				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.1						
FRF	**La Foret Royal**	**42.03**	**56**	*e*P	**P**	**07 14 14.2**	**-0.3**
MBDF	**Montbardon**	**42.20**	**54**	*e*P	**P**	**07 14 15.8**	**0.0**
	comp=Z,3.9nm,0.5s,mb4.0						
MBDF	**Montbardon**	**42.20**	**54**	*e*P	**P**	**07 14 15.8**	**0.0**
	comp=Z,2.0nm,0.5s,mb4.0						
MBDF	**Montbardon**	**42.20**	**54**	*e*P	**P**	**07 14 15.8**	**0.0**
MBDF				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.0						
LPL	**La Plagne**	**42.24**	**53**	*e*P	**P**	**07 14 16.3**	**+0.1**
DBIC	**Dimbokro**	**42.29**	**114**	P	**P**	**07 14 17.3**	**+0.4**
	comp=Z,4.5nm,1.0s,mb4.1,baz=318,slow=8.8,SNR=4.2						
DBIC				LR	LR	07 29 19.6	
	comp=Z,343nm,19.6s,MS4.2,baz=273,slow=32						
LIC	**Lamto**	**42.42**	**115**	*e*P	**P**	**07 14 17.9**	**0.0**
	comp=Z,35nm,1.2s,mb4.5						
LIC				*e*MLR	MLR		
	comp=Z,347nm,23.0s,MS3.9						
LIC	**Lamto**	**42.42**	**115**	*e*P	**P**	**07 14 17.9**	**0.0**
	comp=Z,18nm,1.2s,mb4.6						
LIC				LR	LR		
	comp=Z,170nm,23.0s,MS3.9						
PGF	**Pioggiola**	**43.72**	**57**	*e*P	**P**	**07 14 28.2**	**0.0**
	comp=Z,14nm,1.0s,mb4.3						
PGF	**Pioggiola**	**43.72**	**57**	*e*P	**P**	**07 14 28.2**	**0.0**
	comp=Z,6.8nm,1.0s,mb4.3						
PGF	**Pioggiola**	**43.72**	**57**	*e*P	**P**	**07 14 28.2**	**0.0**
PGF				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.3						
TORD	**Torodi Ar. Bea**	**44.34**	**101**	P	**P**	**07 14 33.8**	**+0.3**
	comp=Z,5.1nm,0.9s,mb4.3,baz=301,slow=7.6,SNR=21						
TORD				LR	LR	07 33 03.0	
	comp=Z,156nm,18.2s,MS4.0,baz=300,slow=36						
KEST	**Kesra**	**44.35**	**67**	P	**P**	**07 14 34.2**	**+0.9**
	comp=Z,3.8nm,1.0s,mb4.1,baz=196,slow=3.9,SNR=6.1						
DAVOX	**Davos/Dischmat**	**44.53**	**51**	P	**P**	**07 14 33.3**	**-1.3**
	comp=Z,0.9nm,0.3s,mb4.1,baz=177,slow=23,SNR=7.6						
AGMN	**Agassiz Refuge**	**44.58**	**311**	*e*P	**P**	**07 14 34.3**	**-0.7**
BDFB	**Brasilia**	**44.59**	**187**	P	**P**	**07 14 35.9**	**+0.6**
BDFB				pmax	pmax		
	comp=Z,1.0nm,0.6s						
BDFB	**Brasilia**	**44.59**	**187**	P	**P**	**07 14 35.9**	**+0.6**
	comp=Z,0.8nm,0.6s,mb3.8,baz=22,slow=20,SNR=4.2						
ULM	**Lac du Bonnet**	**44.83**	**313**	P	**P**	**07 14 35.2**	**-1.7**
ULM	**Lac du Bonnet**	**44.83**	**313**	P	**P**	**07 14 35.2**	**-1.7**
	comp=Z,1.1nm,0.6s,mb3.9,baz=80,slow=8.3,SNR=3.4						
FCC	**Fort Churchill**	**45.71**	**326**	*e*P	**P**	**07 14 45.7**	**+1.9**
KHC	**Kasperske Hory**	**47.18**	**48⇑**	*e*P	**P**	**07 14 55.5**	**+0.1**
WMOK	**Wichita Mounta**	**47.19**	**292**	*e*P	**P**	**07 14 56.8**	**+1.0**
GERES	**GERESS Array B**	**47.24**	**49**	P	**P**	**07 14 55.9**	**0.0**
	comp=Z,0.4nm,0.2s,mb3.9,baz=269,slow=8.0,SNR=8.6						
JAVS	**Javornik**	**47.39**	**53**	*e*P	**P**	**07 14 59.2**	**+2.0**
VNDS	**Vrh nad Dolski**	**47.84**	**53**	*e*P	**P**	**07 15 07.7**	**+7.0**
NOA	**NORSAR Array B**	**47.95**	**32**	P	**P**	**07 15 01.9**	**+0.6**
NOA				pmax	pmax		
	comp=Z,2.0nm,1.0s						
NOA	**NORSAR Array B**	**47.95**	**32**	P	**P**	**07 15 01.9**	**+0.7**
	comp=Z,1.9nm,1.0s,mb4.1,baz=255,slow=7.6,SNR=3.2						
SIV	**San Ignacio**	**47.95**	**204**	P	**P**	**07 15 01.1**	**-0.7**
	comp=Z,1.0nm,0.7s,mb3.9,baz=44,slow=10,SNR=9.0						
VAE	**Valguarnera**	**48.18**	**64**	LR	LR	07 33 59.8	
	comp=Z,146nm,18.3s,MS4.0,baz=311,slow=34						
BOJS	**Bojanci**	**48.23**	**53**	*e*P	**P**	**07 15 04.0**	**+0.4**
JCT	**Junction City**	**48.86**	**287**	*e*P	**P**	**07 15 08.0**	**-0.8**
	comp=Z,17nm,1.3s,mb4.9						
JCT	**Junction City**	**48.86**	**287**	*e*P	**P**	**07 15 08.0**	**-0.8**
JCT				pmax	pmax		
	comp=Z,17nm,1.3s,mb4.9						
FFC	**Flin Flon**	**49.10**	**319**	*e*P	**P**	**07 15 10.8**	**+0.5**
	comp=Z,45nm,2.3s,mb5.1						
FFC	**Flin Flon**	**49.10**	**319**	*e*P	**P**	**07 15 10.8**	**+0.5**
FFC				pmax	pmax		
	comp=Z,45nm,2.3s,mb5.1						
LPAZ	**La Paz**	**51.09**	**212**	P	**P**	**07 15 25.4**	**-0.3**
LPAZ	**La Paz**	**51.09**	**212**	P	**P**	**07 15 25.4**	**-0.3**
LPAZ				pmax	pmax		
	comp=Z,1.0nm,0.8s						
LPAZ	**La Paz**	**51.09**	**212**	P	**P**	**07 15 25.4**	**-0.3**
	comp=Z,1.2nm,0.8s,mb3.9,baz=27,slow=11,SNR=4.5						
LAO	**LASA Array**	**51.57**	**308**	*e*P	**P**	**07 15 29.9**	**+0.9**
SDCO	**Great Sand Dun**	**52.05**	**297**	*e*P	**P**	**07 15 33.4**	**+0.6**
	comp=Z,38nm,2.8s,mb4.8						
TXAR	**Lajitas Array**	**52.39**	**286**	P	**P**	**07 15 33.7**	**-1.8**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
TXAR	**Lajitas Array**	**52.39**	**286**	P	**P**	**07 15 33.7**	**-1.8**
	comp=Z,1.2nm,0.7s,mb3.9,baz=95,slow=8.2,SNR=18						
SMCO	**Snowmass**	**52.95**	**299**	*e*P	**P**	**07 15 40.0**	**+0.6**
ANMO	**Albuquerque**	**53.35**	**294**	*e*P	**P**	**07 15 43.0**	**+0.6**
	comp=Z,21nm,1.8s,mb4.8						
ANMO	**Albuquerque**	**53.35**	**294**	*e*P	**P**	**07 15 43.0**	**+0.5**
ANMO				pmax	pmax		
	comp=Z,21nm,1.8s						
LPM	**Los Pinos Moun**	**53.63**	**293**	*e*P	**P**	**07 15 45.1**	**+0.6**
BNM	**Barren Site**	**53.66**	**293**	*e*P	**P**	**07 15 45.3**	**+0.5**
EGMT	**Eagleton**	**53.87**	**310**	*e*P	**P**	**07 15 46.1**	**+0.1**
LENM	**Lemitar**	**53.94**	**293**	*e*P	**P**	**07 15 46.9**	**+0.1**
LAZ	**Ladron**	**54.02**	**293**	*e*P	**P**	**07 15 47.5**	**+0.1**
GCMT	**Greycliff**	**54.02**	**307**	*e*P	**P**	**07 15 47.1**	**-0.1**
PDAR	**Pinedale Array**	**54.33**	**304**	P	**P**	**07 15 48.5**	**-1.1**
	comp=Z,4.3nm,0.8s,mb4.4,baz=89,slow=7.5,SNR=28						
MVCO	**Mesa Verde**	**54.50**	**297**	*e*P	**P**	**07 15 57.8**	**+7.0**
LKWY	**Lake**	**54.69**	**306**	*e*P	**P**	**07 15 52.2**	**+0.2**
	comp=Z,10.0nm,1.3s,mb4.7						
LKWY	**Lake**	**54.69**	**306**	*e*P	**P**	**07 15 52.3**	**+0.2**
LKWY				pmax	pmax		
	comp=Z,10.0nm,1.3s,mb4.7						
LOHW	**Long Hollow**	**54.96**	**305**	*e*P	**P**	**07 15 54.0**	**-0.1**
	comp=Z,15nm,1.4s,mb4.8						
MOOW	**Moose Ponds**	**55.05**	**305**	*e*P	**P**	**07 15 54.8**	**+0.1**
	comp=Z,11nm,1.5s,mb4.7						
FINES	**FINESS Array B**	**55.09**	**33**	P	**P**	**07 15 54.1**	**-0.6**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
FINES	**FINESS Array B**	**55.09**	**33**	P	**P**	**07 15 54.1**	**-0.6**
	comp=Z,1.3nm,0.7s,mb4.1,baz=155,slow=23,SNR=4.4						
REDW	**Red Top Meadow**	**55.18**	**305**	*e*P	**P**	**07 15 55.7**	**+0.1**
	comp=Z,18nm,1.4s,mb4.9						
TPAW	**Teton Pass**	**55.23**	**305**	*e*P	**P**	**07 15 56.2**	**+0.2**
	comp=Z,13nm,1.1s,mb4.9						
DCID1	**Drake Creek**	**55.38**	**305**	*e*P	**P**	**07 15 57.2**	**+0.1**
BOZ	**Bozeman (W)**	**55.41**	**308**	*e*P	**P**	**07 15 57.4**	**+0.1**
EDM	**Edmonton**	**55.77**	**317**	*e*P	**P**	**07 16 00.0**	**+0.3**
HWUT	**Hardware Ranch**	**55.99**	**303**	*e*P	**P**	**07 16 01.8**	**+0.2**
	comp=Z,9.4nm,1.2s,mb4.7						
YKA	**Yellowknife Ar**	**56.27**	**328**	P	**P**	**07 16 01.7**	**-1.5**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
YKA	**Yellowknife Ar**	**56.27**	**328**	P	**P**	**07 16 01.7**	**-1.5**
	comp=Z,0.6nm,0.8s,mb3.7,baz=88,slow=7.4,SNR=15						
MPU	**Maple Canyon**	**56.34**	**301**	*e*P	**P**	**07 16 04.0**	**-0.1**
WALA	**Waterton Lakes**	**56.51**	**312**	*e*P	**P**	**07 16 05.2**	**+0.1**
	comp=Z,9.4nm,1.0s,mb4.8						
CPUP	**Villa Florida**	**56.65**	**195**	P	**P**	**07 16 05.9**	**-0.3**
CPUP				pmax	pmax		
	comp=Z,1.0nm,0.7s						
CPUP	**Villa Florida**	**56.65**	**195**	P	**P**	**07 16 05.9**	**-0.3**
	comp=Z,1.0nm,0.7s,mb4.0,baz=21,slow=2.5,SNR=4.6						
MSU	**Marysvale**	**57.07**	**299**	*e*P	**P**	**07 16 09.2**	**0.0**
AKASG	**Malin Array Be**	**57.23**	**46**	P	**P**	**07 16 08.1**	**-2.1**
AKASG	**Malin Array Be**	**57.23**	**46**	P	**P**	**07 16 08.1**	**-2.1**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.5s						
AKASG	**Malin Array Be**	**57.23**	**46**	P	**P**	**07 16 08.1**	**-2.1**
	comp=Z,0.6nm,0.5s,mb3.9,baz=274,slow=6.0,SNR=5.1						
NEW	**Newport**	**58.73**	**311**	*e*P	**P**	**07 16 20.4**	**-0.4**
NVAR	**Mina Array Bea**	**61.75**	**300**	P	**P**	**07 16 41.1**	**-0.5**
	comp=Z,1.0nm,0.7s,mb4.0,baz=72,slow=6.0,SNR=2.7						
MOD	**Modoc**	**62.30**	**305**	*e*P	**P**	**07 16 44.8**	**-0.5**
	comp=Z,9.5nm,1.0s,mb4.9						
OHCM	**Honcut**	**63.88**	**302**	*e*P	**P**	**07 16 55.2**	**-0.6**
DAWV	**Dawson**	**67.05**	**332**	*e*P	**P**	**07 17 15.8**	**0.0**
COLA	**College**	**70.13**	**334⇓**	*e*P	**P**	**07 17 35.4**	**+0.3**
ARU	**Arti**	**72.40**	**35**	*d i*P	**P**	**07 17 48.8**	**-0.1**
ARU				*e*		07 20 27.9	
ARU				*e*S	S	07 27 12.1	-0.4
ARU				SS	SS	07 31 48.2	-1.8
ARU				pmax	pmax		
	comp=Z,13nm,2.5s,mb4.4						
PLCA	**Paso Flores**	**73.87**	**201**	P	**P**	**07 17 57.3**	**-0.4**
PLCA				pmax	pmax		
	comp=Z,3.0nm,0.9s						
PLCA	**Paso Flores**	**73.87**	**201**	P	**P**	**07 17 57.3**	**-0.4**
	comp=Z,2.7nm,0.9s,mb4.2,baz=9.4,slow=8.9,SNR=4.3						
AKTK	**Aktyubinsk**	**74.78**	**41**	P	**P**	**07 18 02.9**	**-0.2**
AKTO	**Aktyubinsk**	**74.78**	**41**	P	**P**	**07 18 02.9**	**-0.1**
AKTO				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.2						
AKTO	**Aktyubinsk**	**74.78**	**41**	P	**P**	**07 18 02.9**	**-0.2**
	comp=Z,1.6nm,0.7s,mb4.1,baz=303,slow=4.8,SNR=5.8						
TIXI	**Tiksi**	**79.52**	**3**	*e*P	**P**	**07 18 29.7**	**+0.4**
TIXI	**Tiksi**	**79.52**	**3⇓**	*e*P	**P**	**07 18 29.0**	**-0.3**
TIXI				pmax	pmax		
	comp=Z,6.0nm,1.7s,mb4.2						
BVAR	**Borovoye Array**	**80.03**	**34**	P	**P**	**07 18 33.1**	**+0.7**
BVAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
BVAR	**Borovoye Array**	**80.03**	**34**	P	**P**	**07 18 33.1**	**+0.7**
	comp=Z,1.8nm,0.8s,mb4.0,baz=270,slow=5.6,SNR=5.1						
BILL	**Bilibino**	**80.86**	**349**	*e*P	**P**	**07 18 35.6**	**-1.0**
BILL				pmax	pmax		
	comp=Z,12nm,2.5s,mb4.4						
KURK	**Kurchatov**	**85.46**	**33**	*e*P	**P**	**07 19 01.0**	**+0.3**
AAK	**Ala-Archa**	**88.52**	**41⇑**	*e*P	**P**	**07 19 16.2**	**+0.5**
AAK				pmax	pmax		
	comp=Z,2.0nm,1.3s,mb4.3						
MKAR	**Makanchi Array**	**89.91**	**34**	*i* P	**P**	**07 19 23.0**	**+0.8**
MKAR				pmax	pmax		
	comp=Z,2.0nm,1.0s						
WMQ	**Urumqi**	**94.69**	**33**	*e*P	**P**	**07 19 45.5**	**+1.2**
WMQ				AMB	AMB		
	comp=Z,7.0nm,0.8s,mb5.1						
WMQ				AMB	AMB		
	comp=Z,125nm,4.2s						
CN2	**Changchun**	**106.84**	**9**	*e*PDIF	Pdif	07 20 40.0	+1.4
CD2	**Chengdu**	**112.60**	**31**	*e*PKP	PKiKP	07 25 00.5	+0.6
CD2				XPKP		07 25 08.3	
CD2				PP	PP		
	comp=Z,90nm,10.2s						
NJ2	**Nanjing**	**116.94**	**17**	*e*PKP	PKPdf	07 25 05.8	-2.4
KMI	**Kunming**	**116.98**	**35**	PKP	PKPdf	07 25 11.6	+3.2
GYA	**Guiyang**	**117.71**	**31**	*e*PDIF	Pdif	07 21 26.4	-0.6
GYA				PKP	PKPdf	07 25 10.5	+0.7
GYA				LR	LR		
	comp=N,260nm,19.9s,MS5.0						
GYA				LR	LR		
	comp=E,290nm,20.8s,MS5.0						
GYA				LR	LR		
	comp=Z,380nm,21.8s,MS5.0						
URZ	**Urewera**	**145.51**	**244**	PKPbc	PKPbc	07 26 01.1	-0.3
	comp=Z,6.9nm,0.8s,baz=315,slow=4.3,SNR=6.5						
ASAR	**Alice Springs**	**174.07**	**28**	PKP	PKPdf	07 26 31.9	-1.2
	comp=Z,0.4nm,0.8s,baz=299,slow=5.2,SNR=3.7						

*NNC **24** 07:19:26.0±3.5, 3461N×6992E, h0km, mb4.9, mpv5.5, Error ellipse: s-maj=47.8km s-min=21.9km az=72.0*
*IDC **24** 07:19:53.0±0.6, 3640N×7076E, h0km, mb4.1/16, mb1 4.3/19, mb1mx4.3/24, mbtmp4.2/19, ML4.4/3, MS3.7/8, Ms1 3.8/8, ms1mx3.6/29, Error ellipse: s-maj=15.8km s-min=13.6km az=43.0*
*BJI **24** 07:19:55.0, 3658N×7043E, h48km, mB4.7, mb4.6, ML4.6, Ms4.4, Msz4.1*
*NEIC **24** 07:20:02.6±0.7, 3653N×7145E, h48km±6km, mb4.9/54, Error ellipse: s-maj=7.3km s-min=5.7km az=163.0*
*ISCJB **24** 07:20:02.1±0.4, 3661N±002×7139E±003, h55km±4km, mb4.7/108, MS3.9/21, Error ellipse: s-maj=3.8km s-min=3.3km az=30.9*
*MOS **24** 07:20:03.5±1.0, 3663N×7151E, h75km, mb5.0/51, Error ellipse: s-maj=7.5km s-min=4.8km az=119.5*
*SZGRF **24** 07:20:04.9, 3640N×7097E, h33km, mb4.6, MS4.2, Hindu Kush, Afghanistan, region*
ISC 24 07:20:04.5±0.3, 3660N±002×7140E±003, h61km±3km, h45km±1.5km; pP-P, n340, σ1 8 08/360, mb4.7/108, 18C-13D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
KBL	**Kabul**	**2.81**	**224⇓**	*i* Pn	**Pn**	**07 20 43.1**	**-3.9**
KBL				*e*Sn	**Sn**	**07 21 16.2**	**-3.5**
CHCP	**Chirah Chowk**	**3.30**	**152**	P	**Pn**	**07 20 58.0**	**+4.2**
CHCP				S	Sx	07 21 59.0	
THW	**Thamme Wali**	**3.80**	**176**	⇑P	**Pn**	**07 21 01.6**	**+1.0**
THW				S	Sx	07 22 08.0	
KSH	**Kashi**	**4.64**	**50**	*e*P	**Pn**	**07 21 17.4**	**+5.4**
KSH				S	**Sn**	**07 22 18.8**	**+14**
KSH				Smax			
	comp=N,2μm,0.7s						
KSH				Smax			
	comp=E,3μm,0.9s						
DRP	**Derazinda**	**4.94**	**192**	⇑P	**Pn**	**07 21 17.0**	**+0.8**
DRP				S	**Sn**	**07 22 27.0**	**+15**
THN	**Thein Dam**	**5.47**	**138**	*e*P	**Pn**	**07 21 26.9**	**+3.5**
THN				*ex*	x	07 22 45.8	
DLH	**Dalhousie**	**5.52**	**136**	*e*P	**Pn**	**07 21 28.0**	**+3.8**
DLH				*ex*	x	07 22 55.0	
AML	**Almayashu**	**5.81**	**17**	*e*Pn	**Pn**	**07 21 27.2**	**-0.8**
	comp=E,750nm,0.5s						
AML				*e*Sn	**Sn**	**07 22 32.0**	**-1.1**
AML	**Almayashu**	**5.81**	**17**	P	**Pn**	**07 21 27.2**	**-0.7**
	SNR=856						
UCH	**Uchtor**	**6.12**	**22**	*e*Pn	**Pn**	**07 21 32.2**	**0.0**
	comp=E,212nm,0.8s						
UCH	**Uchtor**	**6.12**	**22**	P	**Pn**	**07 21 32.2**	**0.0**
	SNR=201						
KZA	**Kyzart**	**6.23**	**27**	P	**Pn**	**07 21 34.9**	**+1.1**
	SNR=33						
EKS2	**Erkin-Say**	**6.33**	**16**	*e*Pn	**Pn**	**07 21 34.2**	**-0.9**
	comp=E,148nm,0.6s						
EKS2	**Erkin-Say**	**6.33**	**16**	P	**Pn**	**07 21 34.3**	**-0.8**
	SN

DDI ex x 07 23 59.8
JOSI Joshimath 9.08 129 eP **Pn 07 22 16.3 +3.4**
JOSI ex x 07 24 11.0
KHET Khetri 9.28 155 eP **Pn 07 22 14.6 -1.0**
KHET AMb AMB 07 22 15.5
comp=Z,38nm,1.2s
KHET eS **Sn 07 23 58.5 +0.1**
NDI New Delhi 9.29 147 eP **Pn 07 22 14.4 -1.2**
NDI AMb AMB 07 22 21.6
comp=Z,46nm,1.3s
NDI ex x 07 24 00.8
NDI ex x 07 24 15.0
AYAN Aya Nagar 9.42 148 eP **Pn 07 22 17.5 0.0**
AYAN AMb AMB 07 22 19.9
comp=Z,30nm,1.0s
SONA Sohna 9.60 148 eP **Pn 07 22 19.7 -0.3**
SONA AMb AMB 07 22 22.3
comp=Z,47nm,0.8s
SONA ex x 07 24 17.8
PTH Pithoragarh 10.20 131 eP **Pn 07 22 29.9 +1.8**
PTH ex x 07 24 35.8
LGTI Lohaghat 10.29 131 eP **Pn 07 22 29.5 +0.2**
LGTI ex x 07 24 39.5
MK31 Makanchi Array 13.03 35 ⇓Pn **Pn 07 23 05.6 -1.0**
comp=Z,51nm,0.9s,baz=224,slow=14,SNR=100
MK31 Makanchi Array 13.03 35 ePn **Pn 07 23 06.0 -0.6**
MK31 Makanchi Array 13.03 35 i P **Pn 07 23 05.5 -1.1**
MK31 pmax pmax
comp=Z,66nm,0.9s
MKAR Makanchi Array 13.03 35 P **Pn 07 23 05.6 -1.0**
MKAR pmax pmax
comp=Z,1.0nm,0.3s
MKAR MLR MLR
comp=Z,365nm,19.2s
MKAR Makanchi Array 13.03 35 Pn **Pn 07 23 05.6 -1.0**
comp=Z,0.7nm,0.3s,baz=221,slow=13,SNR=107
MKAR LR LR 07 28 30.3
comp=Z,365nm,19.2s,baz=175,slow=38
DANN Dangsing 13.27 125 eP **Pn 07 23 10.1 0.0**
comp=Z,145nm,0.9s
KOLN Koldanda 13.56 127 eP **Pn 07 23 12.9 -1.1**
comp=Z,25nm,0.5s
GKN Gorkha 14.08 124 eP **Pn 07 23 19.8 -1.1**
comp=Z,125nm,0.8s
BHPL Bhopal 14.29 157 ex x 07 23 21.2
BHPL AMb AMB 07 23 22.0
comp=Z,40nm,0.8s
BHPL ex x 07 25 57.3
WMQ Urumqi 14.38 55 eP **Pn 07 23 24.8 +0.2**
WMQ AP 07 23 33.5
WMQ PP 07 23 37.0
WMQ eS **Sn 07 26 04.0 +1.4**
WMQ AMB AMB
comp=Z,20nm,1.2s
WMQ AMB AMB
comp=Z,172nm,6.5s
WMQ LR LR
comp=N,305nm,6.2s
WMQ LR LR
comp=E,397nm,5.9s
WMQ LR LR
comp=Z,201nm,18.3s
DMN Daman 14.65 124 eP **Pn 07 23 27.3 -1.1**
comp=Z,140nm,1.0s
KKN Kakani 14.65 123 eP **Pn 07 23 26.8 -1.6**
comp=Z,64nm,0.6s
PKIN Phulchoki 14.87 123 eP **Pn 07 23 31.1 -0.1**
comp=Z,51nm,0.5s
PKIN Phulchoki 14.87 123 eP **Pn 07 23 31.2 0.0**
comp=Z,47nm,0.6s
PKIN Phulchoki 14.87 123 eP **Pn 07 23 31.4 +0.2**
comp=Z,28nm,0.4s
PKI Pulchoki 14.88 123 eP **Pn 07 23 30.2 -1.2**
comp=Z,51nm,0.7s
KURBB Kurchatov Arra 14.93 18 ⇑Pn **Pn 07 23 25.6 -6.2**
comp=Z,3.5nm,0.6s
GUN Gumba 14.99 121 eP **Pn 07 23 31.5 -1.2**
comp=Z,38nm,0.4s
KURK Kurchatov 15.04 18 ⇑Pn **Pn 07 23 26.9 -6.3**
KURK Kurchatov 15.04 18 ePn **Pn 07 23 28.2 -5.0**
KURK Kurchatov 15.04 18 ⇓i P **Pn 07 23 33.5 +0.3**
JIRN Jiri 15.36 121 eP **Pn 07 23 36.9 -0.6**
ZRNK Zerenda 16.44 355 ⇓Pn **Pn 07 23 43.6 -7.4**
comp=Z,20nm,0.8s
BVA0 Borovoye Array 16.44 358 ⇓Pn **Pn 07 23 43.3 -7.7**
comp=Z,4.5nm,1.0s,baz=178,slow=9.3,SNR=89
BVA0 ⇑Sn **Sn 07 27 08.6 +16**
comp=Z,4.4nm,1.4s,baz=183,slow=29
BVAR Borovoye Array 16.44 358 P **Pn 07 23 44.0 -7.0**
BVAR 07 26 55.2
BVAR pmax pmax
comp=Z,2.0nm,0.3s
BVAR smax
comp=N,1.0nm,0.3s
BVAR MLR MLR
comp=Z,485nm,18.2s
BVAR Borovoye Array 16.44 358 Pn **Pn 07 23 44.0 -7.0**
comp=Z,1.8nm,0.3s,baz=172,slow=12,SNR=80
BVAR Sn **Sn 07 26 55.2 +2.7**
comp=Z,0.6nm,0.3s,baz=159,slow=26,SNR=3.2
BVAR Lg 07 28 40.1
baz=183,slow=24,SNR=3.6
BVAR LR LR 07 30 28.7
comp=Z,485nm,18.2s,baz=178,slow=38
BRVK Borovoye 16.48 358 ePn **Pn 07 23 44.2 -7.2**
AKTK Aktyubinsk 16.86 329 Pn **Pn 07 23 46.5 -10**
AKTK Sn **Sn 07 26 43.6 -19**
AKTK LR LR 07 30 47.9
AKTO Aktyubinsk 16.86 329 Pn **Pn 07 23 46.5 -10**
comp=Z,2.7nm,0.3s,baz=150,slow=12,SNR=25
AKTO Sn **Sn 07 26 43.6 -19**
comp=Z,0.7nm,0.3s,baz=121,slow=18,SNR=4.7
AKTO LR LR 07 30 47.9
comp=Z,289nm,19.6s,baz=1.7,slow=39
BLSP Bilaspur 17.16 144 ex x 07 27 22.1
BOK Bokaro 17.84 132 eP **Pn 07 24 11.0 +2.5**
BOK AMP 07 24 11.9
LSA Lhasa 17.89 107 P **Pn 07 24 10.8 +1.7**
LSA AMB AMB
comp=Z,30nm,1.0s
POO Poona 18.13 173 eP **Pn 07 24 13.0 +1.0**
ZAL Zalesovo 19.68 24 P **Pn 07 24 26.3 -4.0**
ZAA0 Zalesovo Array 19.70 24 eP **Pn 07 24 26.5 -3.9**
ZALV Zalesovo Beam 19.70 24 P **Pn 07 24 26.3 -4.2**
ZALV LR LR 07 32 47.1
ZALV Zalesovo Beam 19.70 24 P **Pn 07 24 26.3 -4.2**
comp=Z,50nm,0.6s,baz=220,slow=11,SNR=91
ZALV LR LR 07 32 47.1
comp=Z,67nm,20.7s,baz=147,slow=38
NVS Novosibirsk 19.98 20 i P **Pn 07 24 29.1 -4.7**
NVS i S **S 07 27 57.4 -15**
NVS pmax pmax
comp=N,30nm,1.4s
NVS pmax pmax
comp=E,13nm,1.4s
NVS pmax pmax
comp=Z,34nm,1.4s
NVS smax
comp=N,21nm,1.2s
NVS smax
comp=E,6.0nm,1.4s
HYB Hyderabad 20.12 160 eP **P 07 24 33.5 0.0**
HYB e 07 28 24.5
HYB Hyderabad 20.12 160 i P **P 07 24 33.5 0.0**
HYB eS **S 07 28 24.5 +8.3**
DGRG David-gareji 20.76 291 P **P 07 24 38.2 -2.0**
MTA Mtatsminda 21.22 292 P **P 07 24 42.7 -2.5**
TBLG Delisi 21.26 292 P **P 07 24 43.4 -2.2**
RDF Al-Radifah 21.43 256 eP **P 07 24 40.2 -7.3**
RDF AMb AMB 07 24 54.5
comp=Z,37nm,0.8s,mb4.8
SVE Sverdlovsk 21.49 344 ⇑eP **P 07 24 43.0 -4.9**
SVE e 07 28 48.9
SVE pmax pmax
comp=Z,16nm,0.6s,mb4.5
SVE MLR MLR
comp=Z,558nm,11.0s
NAY Al-Naaiem 21.53 257 eP **P 07 24 40.3 -8.2**
NAY AMb AMB 07 24 50.5
comp=Z,24nm,1.2s,mb4.5
RST Umm Al-Ruwaisa 21.61 258 eP **P 07 24 41.5 -7.9**
RST AMb AMB 07 24 54.3
comp=Z,108nm,0.7s,mb5.4
ARU Arti 21.65 340 eP **P 07 24 44.5 -5.1**
comp=Z,33nm,0.8s,mb4.8
ARU Arti 21.65 340 d i P **P 07 24 43.2 -6.4**
ARU ePPP 07 25 12.2
ARU eS **S 07 28 40.5 -5.1**
ARU eSS 07 29 09.7
ARU pmax pmax
comp=Z,25nm,1.0s,mb4.6
ARU MLR MLR
comp=Z,829nm,16.0s
ONI Oni 22.30 294 P **P 07 24 54.3 -2.4**
GTA Gaotai 22.53 74 ⇑P **P 07 25 03.3 +4.2**
GTA AP 07 25 14.8
GTA XP sP 07 25 20.8 +0.6
GTA PP 07 25 33.5
GTA S **S 07 29 04.9 +2.8**
GTA XS sS 07 29 23.6 -1.4
GTA SS 07 29 49.0
GTA AMB AMB
comp=Z,25nm,0.9s,mb4.6
GTA AMB AMB
comp=Z,107nm,6.1s
GTA LR LR
comp=N,416nm,17.1s
GTA LR LR
comp=E,270nm,14.8s
GTA LR LR
comp=Z,184nm,11.4s
KIV Kislovodsk 23.03 298 eP **P 07 25 00.6 -3.7**
KIV eS **S 07 29 09.6 -0.6**
KIV pmax pmax
comp=Z,23nm,1.0s,mb4.6
KIV MLR MLR
comp=Z,232nm,14.0s
MOY Mondy 25.81 45 eP **P 07 25 32.0 +2.3**
LZH Lanzhou 26.07 81 eP **P 07 25 31.5 -0.8**
LZH AP pP 07 25 43.3 -3.8
LZH XP sP 07 25 48.8 -5.6
LZH PP 07 26 13.5
LZH eS **S 07 29 56.8 -2.3**
LZH AMB AMB
comp=Z,24nm,1.1s,mb4.6
LZH AMB AMB
comp=Z,93nm,4.2s
LZH LR LR
comp=N,553nm,12.6s
LZH LR LR
comp=Z,976nm,14.7s
ZAK Zakamensk 26.68 49 eP **P 07 25 39.3 +1.7**
ZAK pmax pmax
comp=Z,4.0nm,1.6s,mb3.7
ANN Anapa 26.88 298 eP **P 07 25 37.9 -1.5**
ANN e*PP pP 07 25 50.3 -4.0
ANN eS **S 07 30 13.8 +2.2**
ANN pmax pmax
comp=Z,27nm,0.6s,mb5.0
ANN MLR MLR
comp=Z,307nm,18.0s
VRSR Storozhevoye 27.16 313 d i P **P 07 25 41.0 -0.9**
VRSR pmax pmax
comp=N,2.0nm,0.9s
VRSR pmax pmax
comp=E,10.0nm,0.9s
VRSR pmax pmax
comp=Z,20nm,0.9s,mb4.7
VRSR MLR MLR
comp=Z,10.0nm,21.0s
VRSR MLR MLR
comp=N,20nm,17.0s
VRSR MLR MLR
comp=E,30nm,17.0s
TLY Talaya 27.34 46 ⇓eP **P 07 25 41.4 -2.1**
CD2 Chengdu 27.41 92 eP **P 07 25 44.1 -0.3**
CD2 AP pP 07 25 55.8 -3.5
CD2 XP sP 07 26 01.3 -5.2
CD2 PP 07 26 32.1
CD2 S **S 07 30 19.4 -0.9**
CD2 AMB AMB
comp=Z,20nm,0.6s,mb4.8
CD2 AMB AMB
comp=Z,30nm,5.2s
CD2 LR LR
comp=E,600nm,15.6s
CD2 LR LR
comp=Z,260nm,12.0s
SONM Songino Array 28.01 55 P **P 07 25 50.9 +1.4**
SONM pmax pmax
comp=Z,1.0nm,0.6s
SONM Songino Array 28.01 55 P **P 07 25 50.9 +1.4**
comp=Z,1.2nm,0.6s,mb3.7,baz=297,slow=9.5,SNR=3.5
ASF Jabal al Asfar 28.72 271 LR LR 07 39 25.6
comp=Z,94nm,21.8s,baz=119,slow=42
KMI Kunming 29.11 104 P **P 07 25 58.4 -1.1**
KMI S **S 07 30 45.4 -1.6**
KMI AMB AMB
comp=Z,5.0nm,0.5s,mb4.5
KMI LR LR
comp=N,144nm,9.1s
KMI LR LR
comp=E,131nm,12.2s
KMI LR LR
comp=Z,148nm,16.0s
SIM Simferopol' 29.24 298 P **P 07 26 04.7 +4.3**
SIM pmax pmax
comp=Z,13nm,1.0s,mb4.6
SIM MLR MLR
comp=Z,160nm,18.0s
MMAI Mount Meron Ar 29.67 274 LR LR 07 40 02.3
comp=Z,94nm,18.4s,baz=0.0,slow=42
OBN Obninsk 30.08 319 ⇓i P **P 07 26 07.1 -0.6**
OBN e 07 27 06.7
OBN pmax pmax
comp=Z,16nm,0.6s,mb4.9
OBN MLR MLR
comp=Z,200nm,20.0s
HHC Hu-ho-hao-te 31.43 70 eP **P 07 26 20.8 +1.0**
HHC AP pP 07 26 32.5 -2.4
HHC XP sP 07 26 37.8 -4.3
HHC PP PP 07 27 25.6 -6.0
HHC S **S 07 31 24.3 +1.2**
HHC XS sS 07 31 46.3 -2.4
HHC SCS ScS 07 36 48.3 +1.0
HHC AMB AMB
comp=Z,18nm,0.4s,mb5.2
HHC AMB AMB
comp=Z,113nm,4.5s
HHC LR LR
comp=N,203nm,13.1s
HHC LR LR
comp=E,214nm,13.1s
HHC LR LR
comp=Z,226nm,13.0s
GYA Guiyang 31.56 99 P **P 07 26 20.0 -1.1**
GYA AMB AMB
comp=Z,10.0nm,0.8s,mb4.7
AKASG Malin Array Be 33.14 309 i P **P 07 26 32.2 -2.5**
AKASG pmax pmax
comp=Z,8.0nm,0.6s
AKASG Malin Array Be 33.14 309 P **P 07 26 28.6 -6.1**
comp=Z,7.8nm,0.6s,mb4.8,baz=89,slow=7.1,SNR=13
AKBB Malin Array Si 33.14 309 eP **P 07 26 34.4 -0.3**
KIEV Kiev 33.15 309 eP **P 07 26 34.3 -0.5**
comp=Z,11nm,0.6s,mb5.0
KIEV Kiev 33.15 309 eP **P 07 26 34.3 -0.5**
KIEV pmax pmax
comp=Z,11nm,0.6s,mb5.0
TMCR Tamitsa 34.10 335 eP **P 07 26 42.3 -0.6**
BJI Beijing 35.02 70 P **P 07 26 49.8 -1.3**
BJI AP pP 07 27 00.9 -5.4
BJI XP sP 07 27 05.9 -7.6
BJI PP PP 07 28 09.3 -2.1
BJI S **S 07 32 18.6 -0.2**
BJI AMB AMB
comp=Z,4.0nm,0.7s,mb4.5
BJI LR LR
comp=N,270nm,16.8s
BJI LR LR
comp=E,108nm,16.0s
BJI LR LR
comp=Z,104nm,15.9s
BOD Bodaibo 35.07 39 eP **P 07 26 50.7 -0.6**
BOD pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
JOF Joensuu 35.95 330 ep **P 07 26 54.3 -4.5**
comp=Z,25nm,0.5s,mb5.4
JOF Joensuu 35.95 330 eP **P 07 26 54.3 -4.5**
JOF pmax pmax
comp=Z,25nm,0.5s,mb5.4
VSU Vasula 36.31 321 ⇓eP **P 07 27 00.8 -1.1**
KOLS Kolonicke sedl 37.49 305 eP **P 07 27 12.5 +0.4**
FIA1 FINESS Array S 37.59 326 eP **P 07 27 12.5 -0.2**
FINES FINESS Array B 37.59 326 i P **P 07 27 12.0 -0.7**
FINES pmax pmax
comp=Z,9.0nm,0.7s
FINES FINESS Array B 37.59 326 P **P 07 27 08.3 -4.4**
comp=Z,8.5nm,0.7s,mb4.6,baz=114,slow=6.8,SNR=20
CRVS Cervenica-Dubn 38.02 305 eP **P 07 27 18.1 +1.5**
KECS Kecovo 38.68 304 eP **P 07 27 22.4 +0.3**
NIE Niedzica 38.77 306 eP **P 07 27 24.2 +1.3**
PSZ Piszkesteto 39.09 303 eP **P 07 27 25.1 -0.4**
OJC Ojcow 39.10 307 eP **P 07 27 26.0 +0.4**
NJ2 Nanjing 39.14 82 eP **P 07 27 26.5 +0.3**
NJ2 AP pP 07 27 38.0 -3.5
NJ2 XP sP 07 27 44.0 -4.6
NJ2 PP PP 07 29 01.3 +4.5
NJ2 S **S 07 33 23.0 +1.4**
NJ2 AMB AMB
comp=Z,30nm,0.8s,mb5.1
NJ2 AMB AMB
comp=Z,420nm,4.2s
NJ2 LR LR
comp=N,660nm,21.2s
NJ2 LR LR
comp=E,200nm,16.5s
VYHS Vyhne 39.77 304 eP **P 07 27 31.8 +0.6**
MORC Moravsky Berou 40.57 306 eP **P 07 27 37.4 -0.4**
ARCES ARCESS Array B 41.18 337 P **P 07 27 38.6 -3.9**
ARCES pmax pmax
comp=Z,2.0nm,0.6s
ARCES MLR MLR
comp=Z,299nm,20.5s
ARCES ARCESS Array B 41.18 337 P **P 07 27 38.6 -3.9**
comp=Z,2.2nm,0.6s,mb4.0,baz=104,slow=8.9,SNR=10
ARCES LR LR 07 45 52.2
comp=Z,299nm,20.5s,baz=130,slow=38
CN2 Changchun 41.28 63 eP **P 07 27 43.9 +0.2**
CN2 eS **S 07 33 54.1 +0.9**
CN2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.6
CN2 LR LR
comp=N,450nm,22.0s
CN2 LR LR
comp=E,410nm,22.0s
CN2 LR LR
comp=Z,200nm,17.0s
DPC Dobruska-Polom 41.33 307 eP **P 07 27 45.0 +1.0**
UPC Upice 41.52 308 eP **P 07 27 46.1 +0.5**
UPC ex x 07 28 08.5
CONA Conrad Observa 41.80 304 ⇑i P **P 07 27 48.4 +0.6**
comp=Z,11nm,0.9s,mb4.5
TREC Trest 41.93 306 eP **P 07 27 49.6 +0.7**
PSI Prapat 42.12 137 P **P 07 27 49.9 -1.0**
PSI pmax pmax
comp=Z,7.0nm,0.9s,mb4.3
PSI Prapat 42.12 137 P **P 07 27 49.9 -1.0**
comp=Z,7.2nm,0.9s,mb4.3,baz=304,slow=8.0,SNR=7.3
BSD Bornholm Skovb 42.17 314 i P **P 07 27 50.0 -0.8**
BSD pmax pmax
comp=Z,6.0nm,0.8s,mb4.3
BSD Bornholm Skovb 42.17 314 i P **P 07 27 50.0 -0.8**
comp=Z,6.0nm,0.8s,mb4.3
PERS Pernice 42.44 302 i P **P 07 27 53.7 +0.5**
PRU Pruhonice 42.50 307 eP **P 07 27 54.5 +1.0**
BOJS Bojanci 42.50 300 i P **P 07 27 54.1 +0.4**
TIP Timpagrande 42.66 291 eP **P 07 27 54.6 -0.4**
VNDS Vrh nad Dolski 42.80 301 i P **P 07 27 57.1 +1.1**
BRG Berggiesshubel 42.82 308 eP **P 07 27 56.5 +0.4**
comp=Z,9.0nm,0.7s,mb4.6
MOA Molln 42.87 304 ⇑i P **P 07 27 57.2 +0.6**
comp=Z,7.7nm,0.8s,mb4.5
GEC2 GERESS Array S 43.14 305 eP **P 07 27 58.9 +0.1**
GEC2 pmax pmax
comp=Z,3.0nm,0.9s,mb4.0
GEC2 GERESS Array S 43.14 305 eP **P 07 27 58.9 +0.1**
comp=Z,3.0nm,0.9s,mb4.0
GERES GERESS Array B 43.14 305 P **P 07 27 53.9 -4.9**
comp=Z,0.3nm,0.2s,mb3.6,baz=96,slow=7.0,SNR=2.7
KHC Kasperske Hory 43.19 306 eP **P 07 27 59.7 +0.5**
JAVS Javornik 43.27 301 eP **P 07 28 00.2 +0.4**
CLL Collm 43.38 309 eP **P 07 28 01.0 +0.3**
comp=Z,11nm,1.3s,mb4.4
CLL Collm 43.38 309 i P **P 07 28 00.9 +0.2**
CLL ePP PP 07 29 41.0 -1.3
CLL epPP 07 29 51.0
KBA Koelnbreinsper 43.59 303 ⇑i P **P 07 28 00.2 -2.2**
comp=Z,5.0nm,0.7s,mb4.4
KBA Koelnbreinsper 43.59 303 ⇑i P **P 07 28 00.2 -2.2**
KBA pmax pmax
comp=Z,5.0nm,0.7s,mb4.3
YAK Yakutsk 43.70 35 ⇑eP **P 07 28 02.0 -1.1**
YAK pmax pmax
comp=Z,15nm,0.6s,mb4.9
TANN Tannenbergstha 43.80 308 eP **P 07 28 05.1 +1.1**
comp=Z,5.0nm,1.1s,mb4.2
NKC Novy Kostel 43.82 307 eP **P 07 28 05.2 +1.0**
ROTZ Rotzenmuhle 44.02 307 eP **P 07 28 06.8 +1.0**
comp=Z,12nm,1.5s,mb4.4
MANZ Manzenberg 44.06 307 eP **P 07 28 07.4 +1.3**
comp=Z,8.0nm,1.2s,mb4.3
MDJ Mudanjiang 44.07 61 P **P 07 28 04.9 -1.4**
MDJ AP pP 07 28 15.5 -6.4
MDJ XP sP 07 28 20.4 -8.6
MDJ PP PP 07 29 49.1 -0.7
MDJ SCP ScP 07 33 38.6 +1.4
MDJ PCS PcS 07 33 44.8 +1.1
MDJ S **S 07 34 33.3 -1.0**
MDJ SS SS 07 37 51.3 -1.8
MDJ AMB AMB
comp=Z,4.0nm,1.3s,mb4.0
MDJ AMB AMB
comp=Z,36nm,5.3s
MDJ LR LR
comp=N,160nm,22.5s
MDJ LR LR
comp=E,26nm,26.1s
MDJ LR LR
comp=Z,34nm,15.8s
MOX Moxa 44.31 308 eP **P 07 28 09.0 +0.9**
MOX
comp=Z,500nm,20.0s
MOX Moxa 44.31 308 eP **P 07 28 08.7 +0.6**
comp=Z,5.0nm,0.8s,mb4.3
NRCA Norcia 44.50 297 P **P 07 28 10.6 +0.9**
comp=Z,6.7nm,0.9s,mb4.4
NB2 NORSAR Subarra 44.50 323 P **P 07 28 04.6 -4.9**
comp=Z,1.5nm,0.7s,mb3.9,baz=96,slow=8.6
NB2 NORSAR Subarra 44.50 323 P **P 07 28 09.1 -0.4**
comp=Z,10.0nm,0.6s,mb4.8,baz=96,slow=7.9
NOA NORSAR Array B 44.50 323 P **P 07 28 04.5 -5.0**
NOA pmax pmax
comp=Z,1.0nm,0.6s
NOA MLR MLR
comp=Z,131nm,18.2s
NOA NORSAR Array B 44.50 323 P **P 07 28 04.5 -5.0**
comp=Z,1.0nm,0.6s,mb3.8,baz=96,slow=8.0,SNR=7.3
NOA LR LR 07 49 44.9
comp=Z,131nm,18.2s,baz=40,slow=40
SNTG Esanatoglia 44.53 297 P **P 07 28 11.0 +1.0**
comp=Z,19nm,0.8s,mb5.0
KSRS Korea Array 44.54 71 P **P 07 28 11.0 +0.8**
comp=Z,0.5nm,0.4s,mb3.7,baz=270,slow=7.3,SNR=3.4
GRA1 Grafenberg Arr 44.66 307 eP **P 07 28 12.4 +1.4**
comp=Z,15nm,0.6s,mb5.0
GRA1 LR LR
comp=Z,300nm,20.2s
GRF Grafenberg Arr 44.66 307 eP **P 07 28 12.4 +1.4**
GRF pmax pmax
comp=Z,15nm,0.6s,mb5.0
GRF MLR MLR
comp=Z,300nm,20.2s
GRF Grafenberg Arr 44.66 307 eP **P 07 28 12.4 +1.4**
GRF pmax pmax
comp=Z,15nm,0.6s,mb5.0
GRF MLR MLR
comp=Z,300nm,20.2s
GRF Grafenberg Arr 44.66 307 eP **P 07 28 12.4 +1.4**
comp=Z,15nm,0.6s,mb5.0
GRF eL 07 49 04.7
comp=Z,313nm,20.2s
FUR Furstenfeldbru 44.82 305 eP **P 07 28 13.5 +1.2**
FUR pmax pmax
comp=Z,20nm,0.6s,mb5.1

FUR Furstenfeldbru 44.82 305 *eP* **P 07 28 13.5 +1.2**
comp=Z,20nm,0.6s,mb5.1
KLR Kul'dur 44.83 54 *eP* **P 07 28 11.2 -1.1**
BSEG Bad Segeberg 44.87 313 *eP* **P 07 28 13.4 +0.9**
BSEG pmax pmax
comp=Z,15nm,1.1s,mb4.7
BSEG Bad Segeberg 44.87 313 *eP* **P 07 28 13.4 +0.9**
comp=Z,15nm,1.1s,mb4.7
CLZ Clausthal 44.98 310 *eP* **P 07 28 14.2 +0.8**
CLZ pmax pmax
comp=Z,13nm,1.3s,mb4.6
CLZ Clausthal 44.98 310 *eP* **P 07 28 14.2 +0.8**
comp=Z,13nm,1.3s,mb4.6
MOTA Moosalm 45.06 303⇑ *iP* **P 07 28 13.4 -0.8**
comp=Z,6.3nm,0.9s,mb4.5
MOTA Moosalm 45.06 303⇑ *iP* **P 07 28 13.4 -0.8**
MOTA pmax pmax
comp=Z,6.0nm,0.9s,mb4.4
VMG Vicchio 45.38 299 P **P 07 28 18.5 +1.8**
comp=Z,51nm,0.8s,mb5.4
TIXI Tiksi 45.56 22 *eP* **P 07 28 16.6 -1.2**
comp=Z,15nm,1.2s,mb4.8
TIXI Tiksi 45.56 22⇑ *eP* **P 07 28 16.4 -1.4**
TIXI pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
DAVA Damuels 45.89 304⇑ *iP* **P 07 28 20.4 -0.3**
comp=Z,30nm,1.1s,mb5.1
DAVOX Davos/Dischmat 45.98 303 P **P 07 28 17.9 -3.5**
comp=Z,10nm,0.6s,mb4.9,baz=97,slow=12
DAVOS Davos 46.03 303 P **P 07 28 17.9 -3.9**
IBBN Ibbenburen 46.54 311 *eP* **P 07 28 26.9 +1.2**
comp=Z,19nm,0.8s,mb5.1
BFO Black Forest 46.74 305 *eP* **P 07 28 27.8 +0.4**
BFO pmax pmax
comp=Z,8.0nm,1.1s,mb4.6
BFO Black Forest 46.74 305 *eP* **P 07 28 27.8 +0.4**
comp=Z,8.0nm,1.1s,mb4.6
CDF Champ du Feu 47.42 305 *eP* **P 07 28 32.3 -0.3**
comp=Z,11nm,1.0s,mb4.5
CDF Champ du Feu 47.42 305 *eP* **P 07 28 32.3 -0.3**
comp=Z,5.7nm,1.0s,mb4.5
CDF Champ du Feu 47.42 305 *eP* **P 07 28 32.3 -0.3**
CDF pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
PGF Pioggiola 47.52 297 *eP* **P 07 28 32.4 -1.1**
comp=Z,28nm,0.9s,mb5.0
PGF Pioggiola 47.52 297 *eP* **P 07 28 32.4 -1.1**
comp=Z,14nm,0.9s,mb5.0
PGF Pioggiola 47.52 297 *eP* **P 07 28 32.4 -1.1**
PGF pmax pmax
comp=Z,14nm,0.9s,mb5.0
MOF Molkenrain 47.62 305 *eP* **P 07 28 34.5 +0.3**
HINF Hinteralfeld 47.81 305 *eP* **P 07 28 34.8 -0.9**
comp=Z,19nm,0.9s,mb4.8
HINF Hinteralfeld 47.81 305 *eP* **P 07 28 34.8 -0.9**
comp=Z,9.3nm,0.9s,mb4.8
HINF Hinteralfeld 47.81 305 *eP* **P 07 28 34.8 -0.9**
HINF pmax pmax
comp=Z,9.0nm,0.9s,mb4.8
WLF Walferdange 47.92 307 *eP* **P 07 28 38.0 +1.5**
comp=Z,15nm,0.9s,mb5.0
HAU Haudompre 48.11 305 *eP* **P 07 28 37.2 -0.8**
comp=Z,7.8nm,0.6s,mb4.6
HAU Haudompre 48.11 305 *eP* **P 07 28 37.2 -0.8**
comp=Z,3.9nm,0.6s,mb4.6
HAU Haudompre 48.11 305 *eP* **P 07 28 37.2 -0.8**
HAU pmax pmax
comp=Z,4.0nm,0.6s,mb4.6
SAOF Saorge 48.18 300 *eP* **P 07 28 38.9 +0.3**
AUTN L'Aution 48.26 300 *eP* **P 07 28 39.7 +0.5**
SBF Sospel 48.29 299 *eP* **P 07 28 38.9 -0.6**
comp=Z,60nm,1.0s,mb5.3
SBF Sospel 48.29 299 *eP* **P 07 28 38.9 -0.6**
comp=Z,30nm,1.0s,mb5.3
SBF Sospel 48.29 299 *eP* **P 07 28 38.9 -0.6**
SBF pmax pmax
comp=Z,30nm,1.0s,mb5.3
LUCF Luceram 48.35 300 *eP* **P 07 28 40.6 +0.7**
LPG La Plagne 48.37 302 *eP* **P 07 28 39.9 -0.2**
comp=Z,25nm,0.9s,mb4.9
LPG La Plagne 48.37 302 *eP* **P 07 28 39.9 -0.2**
comp=Z,12nm,0.9s,mb4.9
LPG La Plagne 48.37 302 *eP* **P 07 28 39.9 -0.2**
LPG pmax pmax
comp=Z,12nm,0.9s,mb4.9
LPL La Plagne 48.38 302 *eP* **P 07 28 39.8 -0.3**
comp=Z,22nm,1.0s,mb4.9
LPL La Plagne 48.38 302 *eP* **P 07 28 39.8 -0.3**
comp=Z,11nm,1.0s,mb4.8
LPL La Plagne 48.38 302 *eP* **P 07 28 39.8 -0.3**
LPL pmax pmax
comp=Z,11nm,1.0s,mb4.8
TOUF Mont Tournerai 48.38 300 *eP* **P 07 28 41.0 +0.8**
MVIF Mont Vial 48.48 300 *eP* **P 07 28 41.5 +0.6**
BNI Bardonecchia 48.53 301 *eP* **P 07 28 42.0 +0.7**
comp=Z,8.3nm,1.0s,mb4.7
BNI Bardonecchia 48.53 301 *eP* **P 07 28 42.0 +0.7**
BNI pmax pmax
comp=Z,8.0nm,1.0s,mb4.7
MBDF Montbardon 48.54 301 *eP* **P 07 28 40.4 -1.0**
comp=Z,13nm,0.6s,mb4.8
MBDF Montbardon 48.54 301 *eP* **P 07 28 40.4 -1.0**
comp=Z,6.6nm,0.6s,mb4.8
MBDF Montbardon 48.54 301 *eP* **P 07 28 40.4 -1.0**
MBDF pmax pmax
comp=Z,7.0nm,0.6s,mb4.9
CABF La Chapelle 48.57 303 *eP* **P 07 28 41.1 -0.5**
CALN Calern 48.70 299 *eP* **P 07 28 42.8 +0.2**
FRF La Foret Royal 48.92 299 *eP* **P 07 28 43.4 -0.9**
comp=Z,28nm,0.9s,mb5.0
FRF La Foret Royal 48.92 299 *eP* **P 07 28 43.4 -0.9**
comp=Z,14nm,0.9s,mb5.0
FRF La Foret Royal 48.92 299 *eP* **P 07 28 43.4 -0.9**
FRF pmax pmax
comp=Z,14nm,0.9s,mb5.0
LMR La Mourre 49.08 299 *eP* **P 07 28 44.5 -1.0**
BAIF Baives 49.09 308 *eP* **P 07 28 45.6 +0.1**
comp=Z,36nm,1.0s,mb5.0
BAIF Baives 49.09 308 *eP* **P 07 28 45.6 +0.1**
comp=Z,18nm,1.0s,mb5.1
BAIF Baives 49.09 308 *eP* **P 07 28 45.6 +0.1**
BAIF pmax pmax
comp=Z,18nm,1.0s,mb5.1
KMBO Kilima Mbogo 49.13 228 P **P 07 28 38.5 -7.7**
KMBO pmax pmax
comp=Z,1.0nm,0.5s
KMBO Kilima Mbogo 49.13 228 P **P 07 28 38.5 -7.7**
comp=Z,0.6nm,0.5s,mb3.9,baz=30,slow=20,SNR=2.2
KEST Kesra 49.31 289 P **P 07 28 44.8 -2.7**
comp=Z,2.1nm,0.7s,mb4.2,baz=74,slow=0.6,SNR=4.4
SMRF Simiane la Rot 49.56 300 *eP* **P 07 28 48.0 -1.2**
PUYF Puyloubier 49.59 299 *eP* **P 07 28 49.9 +0.5**
PRAF Pradon 49.89 300 *eP* **P 07 28 50.9 -0.8**
LOR Lormes 49.91 305 *eP* **P 07 28 50.6 -1.2**
comp=Z,11nm,0.9s,mb4.6
LOR Lormes 49.91 305 *eP* **P 07 28 50.6 -1.2**
comp=Z,5.3nm,0.9s,mb4.6
LOR Lormes 49.91 305 *eP* **P 07 28 50.6 -1.2**
LOR pmax pmax
comp=Z,5.0nm,0.9s,mb4.5
VIVF Saint-Julien-l 49.96 301 *eP* **P 07 28 52.0 -0.2**
comp=Z,20nm,0.8s,mb4.9
VIVF Saint-Julien-l 49.96 301 *eP* **P 07 28 52.0 -0.2**
comp=Z,10nm,0.8s,mb4.9
VIVF Saint-Julien-l 49.96 301 *eP* **P 07 28 52.0 -0.2**
VIVF pmax pmax
comp=Z,10.0nm,0.8s,mb4.9
SMF Signal de Mont 50.07 304 *eP* **P 07 28 52.3 -0.7**
comp=Z,22nm,0.8s,mb5.0
SMF Signal de Mont 50.07 304 *eP* **P 07 28 52.3 -0.7**
comp=Z,11nm,0.8s,mb4.9
SMF Signal de Mont 50.07 304 *eP* **P 07 28 52.3 -0.7**
SMF pmax pmax
comp=Z,11nm,0.8s,mb4.9
SSF Saint Saulge 50.19 304 *eP* **P 07 28 53.0 -0.9**
AVF Avril sur Loir 50.36 304 *eP* **P 07 28 54.5 -0.7**
comp=Z,30nm,0.8s,mb5.1
AVF Avril sur Loir 50.36 304 *eP* **P 07 28 54.5 -0.7**
comp=Z,15nm,0.8s,mb5.1
AVF Avril sur Loir 50.36 304 *eP* **P 07 28 54.5 -0.7**
AVF pmax pmax
comp=Z,15nm,0.8s,mb5.1
AGO Saint Agoulin 50.70 303 *eP* **P 07 28 58.3 +0.6**
LASF Ste Croix 50.73 301 *eP* **P 07 28 57.9 -0.1**
comp=Z,50nm,1.0s,mb5.1
BGF Bois d'Agland 50.76 304 *eP* **P 07 28 57.4 -0.8**

LBL Lubilhac 50.83 302 *eP* **P 07 28 59.6 +0.8**
TCF Toulx Ste Croi 51.25 304 *eP* **P 07 29 01.6 -0.3**
comp=Z,21nm,0.7s,mb4.9
TCF Toulx Ste Croi 51.25 304 *eP* **P 07 29 01.6 -0.3**
comp=Z,10nm,0.7s,mb4.9
TCF Toulx Ste Croi 51.25 304 *eP* **P 07 29 01.6 -0.3**
TCF pmax pmax
comp=Z,10.0nm,0.7s,mb4.8
CAF Calviac 51.72 302 *eP* **P 07 29 05.4 0.0**
comp=Z,19nm,0.9s,mb4.8
CAF Calviac 51.72 302 *eP* **P 07 29 05.4 0.0**
comp=Z,9.6nm,0.9s,mb4.7
CAF Calviac 51.72 302 *eP* **P 07 29 05.4 0.0**
CAF pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
EJON La Jonquera 51.88 299 P **P 07 29 06.1 -0.5**
comp=Z,5.9nm,0.9s,mb4.5
RJF Les Rejaudoux 51.99 303 *eP* **P 07 29 07.5 +0.1**
MTLF Montolieu 52.08 300 *eP* **P 07 29 07.8 -0.3**
comp=Z,16nm,0.9s,mb4.7
MTLF Montolieu 52.08 300 *eP* **P 07 29 07.8 -0.3**
comp=Z,7.8nm,0.9s,mb4.6
MTLF Montolieu 52.08 300 *eP* **P 07 29 07.8 -0.3**
MTLF pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
LDF La Druitiere 52.18 307 *eP* **P 07 29 08.0 -0.8**
comp=Z,11nm,0.6s,mb4.7
LDF La Druitiere 52.18 307 *eP* **P 07 29 08.0 -0.8**
comp=Z,5.7nm,0.6s,mb4.7
LDF La Druitiere 52.18 307 *eP* **P 07 29 08.0 -0.8**
LDF pmax pmax
comp=Z,6.0nm,0.6s,mb4.7
FLN La Foliniere 52.37 307 *eP* **P 07 29 09.4 -0.7**
comp=Z,26nm,0.8s,mb4.9
FLN La Foliniere 52.37 307 *eP* **P 07 29 09.4 -0.7**
comp=Z,13nm,0.8s,mb4.9
FLN La Foliniere 52.37 307 *eP* **P 07 29 09.4 -0.7**
FLN pmax pmax
comp=Z,13nm,0.8s,mb4.9
LFF La Frestale 52.62 303 *eP* **P 07 29 12.0 -0.1**
GRR Gorron 52.71 307 *eP* **P 07 29 11.8 -0.9**
MFF Saint Martin d 52.73 305 *eP* **P 07 29 12.4 -0.5**
comp=Z,16nm,0.8s,mb4.7
MFF Saint Martin d 52.73 305 *eP* **P 07 29 12.4 -0.5**
comp=Z,7.8nm,0.8s,mb4.7
MFF Saint Martin d 52.73 305 *eP* **P 07 29 12.4 -0.5**
MFF pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
EPOB Poblet 53.51 298 P **P 07 29 17.6 -1.1**
comp=Z,151nm,5.3s
EBIE Bielsa 53.73 300 P **P 07 29 21.9 +1.6**
comp=Z,5.7nm,1.0s,mb4.5
SGMF Saint Gilles 53.83 307 *eP* **P 07 29 20.4 -0.5**
comp=Z,20nm,0.7s,mb4.8
SGMF Saint Gilles 53.83 307 *eP* **P 07 29 20.4 -0.5**
comp=Z,10nm,0.7s,mb4.9
SGMF Saint Gilles 53.83 307 *eP* **P 07 29 20.4 -0.5**
SGMF pmax pmax
comp=Z,10.0nm,0.7s,mb4.8
ETSF Etsaut 54.15 300 *eP* **P 07 29 23.3 0.0**
comp=Z,22nm,0.8s,mb4.9
ETSF Etsaut 54.15 300 *eP* **P 07 29 23.3 0.0**
comp=Z,11nm,0.8s,mb4.8
ETSF Etsaut 54.15 300 *eP* **P 07 29 23.3 0.0**
ETSF pmax pmax
comp=Z,11nm,0.8s,mb4.8
SEY Seymchan 54.16 34⇓ *eP* **P 07 29 20.8 -2.3**
ROSF Rostrenen 54.27 308 *eP* **P 07 29 23.5 -0.6**
comp=Z,19nm,0.6s,mb4.9
ROSF Rostrenen 54.27 308 *eP* **P 07 29 23.5 -0.6**
comp=Z,9.6nm,0.6s,mb4.9
ROSF Rostrenen 54.27 308 *eP* **P 07 29 23.5 -0.6**
ROSF pmax pmax
comp=Z,10.0nm,0.6s,mb4.9
QUIF Quistinic 54.32 307 *eP* **P 07 29 23.9 -0.6**
comp=Z,31nm,1.0s,mb4.9
QUIF Quistinic 54.32 307 *eP* **P 07 29 23.9 -0.6**
comp=Z,15nm,1.0s,mb4.9
QUIF Quistinic 54.32 307 *eP* **P 07 29 23.9 -0.6**
QUIF pmax pmax
comp=Z,15nm,1.0s,mb4.9
SJPF Ste Jean 54.54 301 *eP* **P 07 29 25.6 -0.5**
DAG Danmarks Havn 54.73 344 *eP* **P 07 29 24.0 -3.1**
DAG pmax pmax
comp=Z,6.0nm,0.7s,mb4.7
DAG Danmarks Havn 54.73 344 *i* P **P 07 29 24.0 -3.1**
comp=Z,6.2nm,0.7s,mb4.8
ELAN Lanestosa 56.02 302 P **P 07 29 38.3 +1.5**
comp=Z,18nm,0.8s,mb5.1
EARI Arriondas 57.20 302 P **P 07 29 46.0 +0.8**
comp=Z,191nm,4.7s
ESDC Sonseca Array 57.70 298 P **P 07 29 49.8 +1.0**
comp=Z,1.8nm,0.6s,mb4.3
ESDC Sonseca Array 57.70 298 P **P 07 29 43.0 -5.7**
comp=Z,1.3nm,0.7s,mb4.1,baz=52,slow=8.2,SNR=4.4
ESLA Sonseca Array 57.70 298 *eP* **P 07 29 49.8 +1.0**
EQES Quesada 57.80 296 P **P 07 29 50.6 +1.1**
comp=Z,5.5nm,0.7s,mb4.7
EBER Berja 58.03 295 P **P 07 29 50.5 -0.6**
comp=Z,54nm,1.4s,mb5.4
BILL Bilibino 58.38 26 *eP* **P 07 29 53.2 +0.1**
comp=Z,4.2nm,0.6s,mb4.7
BILL Bilibino 58.38 26⇑ *eP* **P 07 29 52.2 -0.9**
BILL pmax pmax
comp=Z,5.0nm,1.0s,mb4.5
EPON Pontenova 58.51 303 P **P 07 29 55.3 +0.9**
comp=Z,6.9nm,0.7s,mb4.8
BORG Borgarnes 58.69 330 *eP* **P 07 29 55.5 +0.2**
MVO Moncorvo 59.27 301 *eP* **P 07 30 00.7 +1.1**
ELOB Lobios 59.70 302 P **P 07 30 04.2 +1.6**
comp=Z,8.6nm,0.8s,mb4.8
PCAB Cabril 59.74 302 *eP* **P 07 30 04.8 +1.9**
comp=Z,26nm,1.4s,mb5.1
MTE Manteigas 59.93 300 *eP* **P 07 30 06.0 +1.8**
comp=Z,29nm,1.3s,mb5.2
MTE Manteigas 59.93 300 *eP* **P 07 30 05.4 +1.1**
comp=Z,15nm,0.9s,mb5.0
PVIS Viseu 60.05 300 *eP* **P 07 30 06.7 +1.7**
comp=Z,17nm,1.0s,mb5.0
EBAD Badajoz 60.24 298 P **P 07 30 07.3 +0.9**
comp=Z,9.8nm,0.9s,mb4.8
EMIN Mina Concepcio 60.41 297 P **P 07 30 09.0 +1.4**
comp=Z,140nm,4.7s
PBAR Barrancos 60.50 297 *eP* **P 07 30 08.8 +0.6**
comp=Z,19nm,1.4s,mb5.0
EVO Evora 61.04 298 *eP* **P 07 30 11.8 0.0**
comp=Z,36nm,1.5s,mb5.0
EGRO El Granado 61.09 297 P **P 07 30 12.7 +0.5**
comp=Z,66nm,4.7s
TORD Torodi Ar. Bea 66.05 269 P **P 07 30 38.2 -6.9**
comp=Z,1.3nm,0.8s,mb4.0,baz=42,slow=5.9,SNR=10
IMA2 Indian Mountai 71.93 18 *eP* **P 07 31 21.4 +0.5**
INK Inuvik 73.76 9 *eP* **P 07 31 31.2 -0.4**
COLA College 74.30 16 *eP* **P 07 31 34.9 +0.1**
comp=Z,8.9nm,0.8s,mb4.8
COLA College 74.30 16 *eP* **P 07 31 34.9 +0.1**
COLA pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
DBIC Dimbokro 75.03 267 P **P 07 31 32.5 -7.4**
DBIC pmax pmax
comp=Z,2.0nm,0.9s
DBIC Dimbokro 75.03 267 P **P 07 31 32.5 -7.4**
comp=Z,2.2nm,0.9s,mb4.1,baz=54,slow=9.4,SNR=3.4
DAWY Dawson 76.76 13 *eP* **P 07 31 48.2 -0.6**
DAWY *eP*cP PcP 07 32 00.1 +0.1
YKA Yellowknife Ar 81.14 3 P **P 07 32 10.3 -2.6**
YKA pmax pmax
comp=Z,4.0nm,0.9s
YKA Yellowknife Ar 81.14 3 P **P 07 32 10.3 -2.5**
comp=Z,3.6nm,0.8s,mb4.3,baz=348,slow=5.3,SNR=40
WRA Warramunga Arr 81.77 122 P **P 07 32 15.9 -0.9**
WRA pmax pmax
comp=Z,1.0nm,0.5s
WRA Warramunga Arr 81.77 122 P **P 07 32 15.9 -0.9**
comp=Z,0.8nm,0.5s,mb3.9,baz=324,slow=4.9,SNR=19
ASAR Alice Springs 84.04 125 P **P 07 32 27.8 -0.7**
ASAR pmax pmax
comp=Z,2.0nm,0.9s
ASAR Alice Springs 84.04 125 P **P 07 32 27.8 -0.8**
comp=Z,2.0nm,0.9s,mb4.3,baz=318,slow=5.0,SNR=15
FFC Flin Flon 88.87 356 *eP* **P 07 32 51.8 +0.1**
comp=Z,7.4nm,1.3s,mb4.9
FFC Flin Flon 88.87 356 *eP* **P 07 32 51.8 +0.1**
FFC pmax pmax
comp=Z,7.0nm,1.3s,mb4.8
PLCA Paso Flores 150.16 250 PKIKP PKPdf 07 39 43.7 +0.6
PLCA pmax pmax
comp=Z,2.0nm,0.8s
PLCA Paso Flores 150.16 250 PKPbc PKPdf 07 39 43.6 +0.6
comp=Z,1.6nm,0.8s,baz=142,slow=15,SNR=3.1

NEIC ***24*** *07:23:45.2, 40.13N×22.40E, h22km, MD3.1(ATH), After ATH.*
ATH ***24*** *07:23:45.2, 40.13N×22.40E, h22km±2km, MD3.1/6*
CSEM ***24*** *07:23:45.7±0.1, 40.15N×22.43E, h8km, ML2.8, Error ellipse: s-maj=1.6km s-min=1.3km az=126.0*
ISCJB ***24*** *07:23:45.1±0.3, 40.14N±002×22.48E±003, h6km, Error ellipse: s-maj=3.2km s-min=2.8km az=170.5*
THE ***24*** *07:23:46.1, 40.14N×22.47E, h6km, ML2.8*
SKO ***24*** *07:23:46.6, 40.15N×22.59E, h0km*
ISC 24 07:23:45.6±0.4, 4012N±002×2248E±003, h14km±4km, n25, σ1°§04/46, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIT	**Litokhoron**	**0.02**	**165**	*eP*g	**Pg**	**07 23 47.2**	**-0.8**
LIT				*e*Sg	**Sg**	**07 23 48.6**	**-1.0**
LIT	**Litokhoron**	**0.02**	**165**	*eP*g	**Pg**	**07 23 47.2**	**-0.8**
LIT				*e*Sg	**Sg**	**07 23 48.6**	**-1.1**
KZN	**Kozani**	**0.58**	**289**	*eP*N	**Pg**	**07 23 55.8**	**-1.1**
KZN				*e*SN	**Sg**	**07 24 03.3**	**-1.3**
THL	**Klokotos Trika**	**0.66**	**213**	*eP*g	**Pg**	**07 23 57.8**	**-0.7**
THL				*e*Sg	**Sg**	**07 24 08.8**	**+1.5**
THL	**Klokotos Trika**	**0.66**	**213**	*eP*N	**Pn**	**07 23 58.1**	**-2.5**
THL				*e*SN	**Sg**	**07 24 07.7**	**+0.5**
THL	**Klokotos Trika**	**0.66**	**213**	*eP*n	**Pn**	**07 23 58.1**	**-2.5**
THL				*e*Sn	**Sg**	**07 24 07.7**	**+0.5**
THL				*e*Sg	**Sg**	**07 24 08.8**	**+1.6**
HORT	**Hortiatis**	**0.67**	**44**	*eP*g	**Pg**	**07 23 58.7**	**0.0**
HORT				*e*Sg	**Sg**	**07 24 08.0**	**+0.4**
HORT	**Hortiatis**	**0.67**	**44**	*eP*g	**Pg**	**07 23 58.7**	**0.0**
HORT				*e*Sg	**Sg**	**07 24 07.9**	**+0.3**
PLG	**Polygyros**	**0.78**	**71**	*eP*g	**Pg**	**07 24 00.7**	**0.0**
PLG				*e*Sg	**Sg**	**07 24 12.5**	**+1.5**
PLG	**Polygyros**	**0.78**	**71**	*eP*N	**Pn**	**07 24 00.8**	**-1.4**
PLG				*e*SN	**Sn**	**07 24 12.7**	**-1.0**
GRG	**Griva**	**0.84**	**356**	*eP*g	**Pg**	**07 24 03.4**	**+1.6**
XOR	**Xorichti**	**0.93**	**144**	*eP*g	**Pg**	**07 24 04.1**	**+0.5**
SOH	**Sokhos**	**0.97**	**43**	*eP*g	**Pg**	**07 24 03.8**	**-0.5**
SOH				*e*Sg	**Sg**	**07 24 17.6**	**+0.6**
NEO	**Neokhori**	**0.99**	**145**	*eP*B	**Pb**	**07 24 04.4**	**-0.2**
NEO				*e*SN	**Sn**	**07 24 19.5**	**+0.6**
FNA	**Florina**	**1.07**	**308**	*eP*g	**Pg**	**07 24 05.0**	**-1.4**
FNA				*e*Sg	**Sg**	**07 24 21.1**	**+0.8**
KNT	**Kendrikon**	**1.09**	**17**	*eP*g	**Pg**	**07 24 05.5**	**-1.1**
AGG	**Agios Georgios**	**1.10**	**186**	*eP*g	**Pg**	**07 24 06.9**	**+0.1**
AGG				*e*Sg	**Sg**	**07 24 23.9**	**+2.6**
VAY	**Valandovo**	**1.20**	**3**	*eP*g	**Pg**	**07 24 07.3**	**-1.5**
VAY				*i* Sg	**Sg**	**07 24 24.0**	**-0.5**
VAY	**Valandovo**	**1.20**	**3**	*eP*g	**Pg**	**07 24 07.2**	**-1.6**
VAY				*i* Sg	**Sg**	**07 24 23.9**	**-0.5**
BIA	**Bitola**	**1.26**	**316**	*eP*g	**Pg**	**07 24 10.0**	**+0.1**
BIA				*i* Sg	**Sg**	**07 24 27.4**	**+1.2**
EVR	**Evrytania**	**1.31**	**204**	*eP*N	**Pn**	**07 24 09.8**	**+0.3**
KRUS	**Krusevo**	**1.56**	**323**	*eP*g	**Pg**	**07 24 15.2**	**-0.4**
KRUS				*i* Sg	**Sg**	**07 24 37.2**	**+1.3**
KRUS	**Krusevo**	**1.56**	**323**	*eP*g	**Pg**	**07 24 15.2**	**-0.4**
KRUS				*i* Sg	**Sg**	**07 24 37.1**	**+1.2**
NVR	**Nevrokopi**	**1.61**	**40**	*eP*N	**Pn**	**07 24 15.0**	**+1.3**
OHR	**Ohrid**	**1.62**	**308**	*eP*g	**Pg**	**07 24 17.7**	**+1.0**
OHR				*i* Sg	**Sg**	**07 24 38.6**	**+0.8**

IDC ***24*** *07:25:41.0±0.5, 29.00N×43.19W, h0km, mb4.0/26, mb1 4.1/26, mb1mx4.1/31, mbtmp4.0/26, MS4.1/5, Ms1 4.0/5, ms1mx3.6/38, Error ellipse: s-maj=15.4km s-min=12.6km az=155.0*
ISCJB ***24*** *07:25:41.3±0.3, 2893N±007×4321W±004, h10km, mb4.5/68, MS4.4/11, Error ellipse: s-maj=10.1km s-min=4.7km az=175.7*
MOS ***24*** *07:25:41.2±1.1, 2891N×4322W, h10km, mb4.9/25, MS4.3/7, Error ellipse: s-maj=9.0km s-min=7.6km az=56.7*
NEIC ***24*** *07:25:43.0±0.3, 2892N×43.19W, h10km, mb4.9/31, MS4.4/5, Error ellipse: s-maj=7.9km s-min=4.0km az=177.0*
GCMT ***24*** *07:25:43.0±0.3, 29.14N×4326W, h12km, MW5.0/73, Moment Tensor Solution. s25,c31; s73,c103; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}~3.72±.11; $M_{\theta\theta}$0.77±.12; $M_{\phi\phi}$2.96±.10; $M_{r\theta}$1.13±.51; $M_{\theta\phi}$0.94±.10; $M_{\phi r}$-0.60±.34; Best double couple: $M_0$3.69700×10^{16} NP1:ϕ_s215.00000°, δ46.00000°, λ-68.00000°. NP2: ϕ_s5.00000°, δ49.00000°, λ-111.00000°. Principal axes: T 3.3120, Plg2.0000°, Azm110.0000°; N 0.7770, Plg16.0000°, Azm19.0000°; P -4.0820, Plg74.0000°, Azm205.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
BJI ***24*** *07:25:44.5, 2890N×4320W, h10km, mB5.5, mb5.2, Ms4.8, Msz4.8*
SZGRF ***24*** *07:25:56.6, 3022N×4286W, h15km, mb4.9, MS4.3, Northern Mid-Atlantic Ridge*
ISC 24 07:25:43.2±0.3, 2893N±007×4318W±004, h10km, (h16km±1.4km:pP-P), n163, σ§88/156, mb4.5/68, MS4.4/11, 8C-6D, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCHQ	**Schefferville**	**31.01**	**333**	P	**P**	**07 32 00.3**	**-0.4**
	1.7nm,0.8s,mb3.9,baz=141,slow=6.5,SNR=2.2						
ESDC	**Sonseca Array**	**33.88**	**61**	P	**P**	**07 32 25.3**	**-0.8**
	0.2nm,0.3s,mb3.5,baz=270,slow=9.0,SNR=4.0						
GOGA	**Godfrey**	**34.61**	**288**	*eP*	**P**	**07 32 32.7**	**+0.2**
	21nm,1.4s,mb4.9						
GOGA	**Godfrey**	**34.61**	**288**	*eP*	**P**	**07 32 32.7**	**+0.2**
GOGA				pmax	pmax		
	comp=Z,21nm,1.4s,mb4.9						
TKL	**Tuckaleechee C**	**34.78**	**292**	P	**P**	**07 32 34.4**	**+0.5**
TKL				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.2						
TKL	**Tuckaleechee C**	**34.78**	**292**	P	**P**	**07 32 34.4**	**+0.5**
	comp=Z,2.6nm,0.9s,mb4.2,baz=190,slow=5.2,SNR=4.3						
PLAL	**Pickwick Lake**	**38.32**	**291**	*eP*	**P**	**07 33 04.6**	**+0.5**
	comp=Z,13nm,1.1s,mb4.6						
CCM	**Cathedral Cave**	**40.72**	**296**	*eP*	**P**	**07 33 24.0**	**-0.2**
	comp=Z,6.9nm,1.0s,mb4.2						
CCM	**Cathedral Cave**	**40.72**	**296**	*eP*	**P**	**07 33 24.0**	**-0.2**
CCM				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.2						
EYMN	**Ely**	**41.57**	**311**	*eP*	**P**	**07 33 29.3**	**-1.6**
	comp=Z,9.6nm,1.1s,mb4.3						
UALR	**University of**	**41.83**	**291**	*eP*	**P**	**07 33 32.3**	**-1.0**
	comp=Z,21nm,1.0s,mb4.7						
BNI	**Bardonecchia**	**42.27**	**54**	*eP*	**P**	**07 33 38.3**	**+1.6**
	comp=Z,27nm,1.5s,mb4.7						
BNI	**Bardonecchia**	**42.27**	**54**	*eP*	**P**	**07 33 38.3**	**+1.6**
BNI				pmax	pmax		
	comp=Z,27nm,1.5s,mb4.7						
DBIC	**Dimbokro**	**42.38**	**114**	P	**P**	**07 33 37.8**	**-0.2**
DBIC				pmax	pmax		
	comp=Z,1.0nm,0.5s						
DBIC	**Dimbokro**	**42.38**	**114**	P	**P**	**07 33 37.8**	**-0.3**
	comp=Z,1.0nm,0.5s,mb3.7,baz=294,slow=10,SNR=2.9						
MIAR	**Mount Ida**	**42.87**	**291**	*eP*	**P**	**07 33 41.8**	**0.0**
	comp=Z,28nm,1.6s,mb4.7						
MIAR	**Mount Ida**	**42.87**	**291**	*eP*	**P**	**07 33 41.8**	**0.0**
MIAR				pmax	pmax		
	comp=Z,28nm,1.6s,mb4.7						
JTS	**JuntasAbangare**	**43.22**	**253**	LR	LR	07 49 15.0	
	comp=Z,195nm,20.0s,MS4.0,baz=58,slow=33						
BFO	**Black Forest**	**43.74**	**49**	*eP*	**P**	**07 33 49.5**	**+0.9**
BFO				*e**PP	pP	07 33 53.8	+2.1
BFO				pmax	pmax		
	comp=Z,20nm,1.3s,mb4.7						
BFO	**Black Forest**	**43.74**	**49**	*eP*	**P**	**07 33 49.5**	**+0.9**
	comp=Z,20nm,1.3s,mb4.7						
BFO				*e*pP	pP	07 33 53.8	+2.1
TORD	**Torodi Ar. Bea**	**44.45**	**101**	P	**P**	**07 33 54.2**	**-0.5**
	comp=Z,4.6nm,1.1s,mb4.1,baz=302,slow=7.0,SNR=8.9						
KEST	**Kesra**	**44.46**	**67**	P	**P**	**07 33 53.5**	**-1.1**
	comp=Z,4.5nm,1.1s,mb4.1,baz=139,slow=2.5,SNR=6.2						
AGMN	**Agassiz Refuge**	**44.51**	**311**	*eP*	**P**	**07 33 55.0**	**+0.2**
BDFB	**Brasilia**	**44.55**	**187**	P	**P**	**07 33 55.5**	**+0.2**
	comp=Z,1.6nm,0.8s,mb3.9,baz=3.5,slow=17,SNR=5.5						
BDFB				LR	LR	07 51 17.5	
	comp=Z,99nm,18.9s,MS3.8,baz=355,slow=34						
DAVOX	**Davos/Dischmat**	**44.63**	**51**	P	**P**	**07 33 56.1**	**+0.3**

comp=Z,1.1nm,0.4s,mb4.0,baz=322,slow=22,SNR=5.6
ULM Lac du Bonnet 44.76 314 P P 07 33 54.8 -1.9
comp=Z,1.5nm,0.8s,mb3.9,baz=108,slow=8.4,SNR=3.1
ULM PcP PcP 07 35 37.0 -1.8
comp=Z,1.0nm,0.7s,baz=97,slow=4.9,SNR=3.4
FETA Feichten 45.23 51 ⇓ *i*pP pP 07 34 01.8 -1.9
comp=Z,16nm,1.7s
RETA Reutte 45.29 50 ⇑ *i*pP pP 07 34 02.2 -1.9
comp=Z,17nm,1.3s
CLZ Clausthal 45.53 44 *e*P P 07 34 08.2 +5.3
CLZ pmax pmax
comp=Z,22nm,1.4s,mb4.9
CLZ Clausthal 45.53 44 *e*P P 07 34 08.2 +5.3
comp=Z,22nm,1.4s,mb4.9
FCC Fort Churchill 45.67 326 *e*P P 07 34 06.1 +2.2
GRA1 Grafenberg Arr 45.79 47 *e*P P 07 34 06.1 +1.2
comp=Z,24nm,1.4s,mb4.9
GRA1 *e*pP pP 07 34 10.2 +2.1
GRA1 LR LR
comp=Z,400nm,19.4s,MS4.4
GRF Grafenberg Arr 45.79 47 *e*P P 07 34 06.1 +1.2
GRF *e**PP pP 07 34 10.2 +2.1
GRF pmax pmax
comp=Z,24nm,1.4s,mb4.9
GRF MLR MLR
comp=Z,400nm,19.4s,MS4.4
GRF Grafenberg Arr 45.79 47 *e*P P 07 34 06.1 +1.2
GRF *e**PP pP 07 34 10.2 +2.1
GRF pmax pmax
comp=Z,24nm,1.4s,mb4.9
GRF MLR MLR
comp=Z,400nm,19.4s,MS4.4
GRF Grafenberg Arr 45.79 47 *e*P P 07 34 06.1 +1.2
comp=Z,24nm,1.4s,mb4.9
GRF *e*pP pP 07 34 10.2 +2.1
GRF comp=Z,23nm,1.6s *e*L 08 00 51.7
comp=Z,395nm,19.4s
BSEG Bad Segeberg 45.86 41 *e*P P 07 34 05.3 -0.1
BSEG comp=Z,70nm,1.3s,mb5.4 *e*pP pP 07 34 10.8 +2.2
MOX Moxa 46.15 46 *e*P P 07 34 09.5 +1.8
MOX
comp=Z,400nm,19.0s
MOX Moxa 46.15 46 *e*P P 07 34 08.5 +0.8
comp=Z,14nm,1.4s,mb4.7
MOX *e*pP pP 07 34 13.0 +2.1
MANZ Manzenberg 46.39 47 *e*P P 07 34 10.6 +0.9
comp=Z,22nm,1.6s,mb4.8
ROTZ Rotzenmuhle 46.43 47 *e*P P 07 34 10.9 +0.9
comp=Z,10.0nm,1.3s,mb4.6
ABTA Abfaltersbach 46.44 52 ⇑ *i*P P 07 34 09.8 -0.3
comp=Z,15nm,1.0s,mb4.9
TANN Tannenbergstha 46.66 47 *e*P P 07 34 13.2 +1.4
comp=Z,53nm,2.5s,mb5.0
AQU L'Aquila 47.09 58 *e*P P 07 34 16.9 +1.6
CLL Collm 47.09 45 *e*P P 07 34 16.0 +0.9
CLL *e* 07 34 21.0
CLL *e*S **S 07 41 10.0 +2.9**
CLL LR LR
comp=Z,300nm,21.0s,MS4.2
CLL Collm 47.09 45 *e*P P 07 34 16.0 +0.9
CLL *e*(sP) sP 07 34 21.0 +1.5
CLL *e*S **S 07 41 10.0 +2.9**
CLL *e*SS SS 07 44 24.0 -10
CLL Lm 07 49 00.0
comp=N,100nm,20.0s
CLL Lm 07 49 00.0
comp=E,200nm,21.5s
CLL Lm 07 49 00.0
comp=Z,300nm,21.0s
WMOK Wichita Mounta 47.09 292 *e*P P 07 34 15.7 +0.3
comp=Z,12nm,1.1s,mb4.7
WMOK Wichita Mounta 47.09 292 *e*P P 07 34 15.7 +0.3
WMOK pmax pmax
comp=Z,12nm,1.1s,mb4.7
KHC Kasperske Hory 47.27 48 *e*P P 07 34 15.5 -1.1
KHC *e*pP pP 07 34 22.0 +2.3
GEC2 GERESS Array S 47.34 49 *e*P P 07 34 16.8 -0.3
GEC2 pmax pmax
comp=Z,27nm,1.8s,mb4.9
GEC2 GERESS Array S 47.34 49 *e*P P 07 34 16.8 -0.3
comp=Z,27nm,1.8s,mb4.9
GERES GERESS Array B 47.34 49 P P 07 34 16.8 -0.3
GERES pmax pmax
comp=Z,1.0nm,0.5s
GERES GERESS Array B 47.34 49 P P 07 34 16.8 -0.3
comp=Z,0.7nm,0.5s,mb3.8,baz=268,slow=8.0,SNR=6.2
BRG Berggiesshubel 47.64 46 *e*P P 07 34 20.9 +1.5
comp=Z,9.2nm,0.7s,mb4.9
BRG S **S 07 41 18.0 +3.1**
BRG
comp=N,207nm,22.4s
BRG
comp=E,287nm,23.2s
BRG
comp=Z,514nm,18.9s
OBKA Obir 47.84 52 ⇓ *i*P P 07 34 20.1 -0.9
comp=Z,21nm,1.5s,mb5.0
SIV San Ignacio 47.89 203 P P 07 34 21.9 +0.2
comp=Z,1.7nm,0.8s,mb4.1,baz=40,slow=8.7,SNR=12
NB2 NORSAR Subarra 48.03 32 P P 07 34 22.0 -0.3
comp=Z,25nm,1.4s,mb5.0,baz=256,slow=7.9
NOA NORSAR Array B 48.03 32 P P 07 34 22.2 -0.1
NOA NORSAR Array B 48.03 32 P P 07 34 22.2 -0.1
NOA pmax pmax
comp=Z,2.0nm,1.0s
NOA NORSAR Array B 48.03 32 P P 07 34 22.2 -0.1
comp=Z,2.0nm,1.0s,mb4.1,baz=254,slow=7.7,SNR=2.7
JCT Junction City 48.76 287 *e*P P 07 34 28.4 0.0
FFC Flin Flon 49.05 319 *e*P P 07 34 30.7 +0.5
comp=Z,27nm,1.9s,mb5.0
FFC Flin Flon 49.05 319 *e*P P 07 34 30.7 +0.5
FFC pmax pmax
comp=Z,27nm,1.9s,mb5.0
LPAZ La Paz 51.01 211 P P 07 34 46.3 +0.8
LPAZ pmax pmax
comp=Z,2.0nm,0.9s
LPAZ La Paz 51.01 211 P P 07 34 46.3 +0.8
comp=Z,1.8nm,0.9s,mb4.0,baz=15,slow=9.1,SNR=6.8
SDCO Great Sand Dun 51.97 297 *e*P P 07 34 54.4 +1.8
TXAR Lajitas Array 52.29 286 P P 07 34 54.4 -0.7
TXAR pmax pmax
comp=Z,1.0nm,0.8s
TXAR Lajitas Array 52.29 286 P P 07 34 54.4 -0.7
comp=Z,0.8nm,0.8s,mb3.7,baz=91,slow=7.9,SNR=9.4
SMCO Snowmass 52.87 299 *e*P P 07 34 58.9 -0.3
MNTX Cornudas Mount 53.12 290 *e*P P 07 35 02.0 +0.7
ANMO Albuquerque 53.26 294 *e*P P 07 35 03.2 +1.1
comp=Z,14nm,1.4s,mb4.7
ANMO Albuquerque 53.26 294 *e*P P 07 35 03.2 +1.0
ANMO pmax pmax
comp=Z,14nm,1.4s
LPM Los Pinos Moun 53.53 293 *e*P P 07 35 05.1 +0.9
BNM Barren Site 53.57 293 *e*P P 07 35 05.4 +0.9
RLMT Red Lodge 53.74 307 *e*P P 07 35 05.7 +0.2
EGMT Eagleton 53.80 310 *e*P P 07 35 05.8 -0.2
LENM Lemitar 53.84 293 *e*P P 07 35 07.2 +0.7
LAZ Ladron 53.92 293 *e*P P 07 35 07.7 +0.7
GCMT Greycliff 53.95 307 *e*P P 07 35 06.8 -0.2
PDAR Pinedale Array 54.25 304 P P 07 35 08.8 -0.6
comp=Z,2.6nm,0.9s,mb4.2,baz=81,slow=9.2,SNR=23
PV01 Paradox Valley 54.28 298 *e*P P 07 35 10.1 +0.4
MVCO Mesa Verde 54.41 297 *e*P P 07 35 11.5 +1.0
LKWY Lake 54.61 306 *e*P P 07 35 12.1 +0.2
comp=Z,36nm,2.3s,mb5.0
LKWY Lake 54.61 306 *e*P P 07 35 12.1 +0.2
LKWY pmax pmax
comp=Z,35nm,2.3s,mb5.0
LOHW Long Hollow 54.89 305 *e*P P 07 35 13.4 -0.5
comp=Z,17nm,1.4s,mb4.9
FLWY Flagg Ranch 54.89 306 *e*P P 07 35 14.7 +0.8
MOOW Moose Ponds 54.97 305 *e*P P 07 35 14.4 -0.1
comp=Z,4.5nm,1.3s,mb4.3
YMR Madison River 54.99 306 *e*P P 07 35 15.0 +0.3
comp=Z,47nm,1.5s,mb5.3
SNOW Snow King Moun 55.02 305 *e*P P 07 35 14.3 -0.6
comp=Z,21nm,1.4s,mb5.0
IMW Indian Meadow 55.09 305 *e*P P 07 35 14.9 -0.4
comp=Z,24nm,1.3s,mb5.1
REDW Red Top Meadow 55.10 305 *e*P P 07 35 14.9 -0.5
comp=Z,24nm,1.5s,mb5.0
TPAW Teton Pass 55.15 305 *e*P P 07 35 15.8 0.0
FINES FINESS Array B 55.16 33 P P 07 35 14.2 -1.5
comp=Z,1.1nm,0.7s,mb4.0,baz=243,slow=8.4,SNR=4.0
FINES LR LR 07 54 40.7
comp=Z,150nm,21.4s,MS4.0,baz=17,slow=32
DCID1 Drake Creek 55.31 305 *e*P P 07 35 16.6 -0.3
BOZ Bozeman (W) 55.33 308 *e*P P 07 35 16.8 -0.3
VSU Vasula 55.41 37 ⇑ *e*P P 07 35 16.0 -1.5
SRU San Rafael 55.59 300 *e*P P 07 35 19.0 -0.1
EDM Edmonton 55.71 317 *e*P P 07 35 20.4 +0.7
ARCES ARCESS Array B 55.77 23 P P 07 35 19.8 0.0
ARCES ARCESS Array B 55.77 23 P P 07 35 19.8 -0.1
ARCES pmax pmax
comp=Z,3.0nm,0.8s
ARCES ARCESS Array B 55.77 23 P P 07 35 19.8 0.0
comp=Z,2.5nm,0.8s,mb4.3,baz=273,slow=6.2,SNR=3.7
HWUT Hardware Ranch 55.91 303 *e*P P 07 35 21.7 +0.4
JLU Jordanelle 56.01 301 *e*P P 07 35 22.2 +0.2
DLMT Dillon 56.04 307 *e*P P 07 35 21.8 -0.5
comp=Z,18nm,1.4s,mb4.9
TMUT Trail Mountain 56.08 300 *e*P P 07 35 22.3 -0.2
MNK Minsk 56.13 42 *e*P P 07 35 21.0 -1.7
YKA Yellowknife Ar 56.23 328 P P 07 35 21.1 -2.2
YKA 07 36 19.5
YKA pmax pmax
comp=Z,1.0nm,1.0s
YKA pmax pmax
comp=Z,1.0nm,0.8s
YKA MLR MLR
comp=Z,209nm,18.3s
YKA Yellowknife Ar 56.23 328 P P 07 35 21.1 -2.1
comp=Z,0.7nm,1.0s,mb3.7,baz=87,slow=7.6,SNR=7.3
YKA PcP PcP 07 36 19.5 -1.2
comp=Z,0.6nm,0.8s,baz=97,slow=5.0,SNR=6.8
YKA LR LR 07 59 45.6
comp=Z,209nm,18.2s,MS4.3,baz=310,slow=36
MCMT McKenzie Canyo 56.30 307 *e*P P 07 35 24.5 +0.5
WALA Waterton Lakes 56.45 312 *e*P P 07 35 25.3 +0.3
comp=Z,23nm,1.5s,mb5.0
CPUP Villa Florida 56.60 195 P P 07 35 25.1 -1.1
CPUP pmax pmax
comp=Z,1.0nm,0.8s
CPUP Villa Florida 56.60 195 P P 07 35 25.1 -1.2
comp=Z,1.3nm,0.8s,mb4.0,baz=334,slow=10,SNR=5.5
NLU North Lily Min 56.60 301 *e*P P 07 35 26.4 0.0
MSO Missoula 56.76 309 *e*P P 07 35 27.1 -0.1
comp=Z,6.4nm,1.3s,mb4.5
MSU Marysvale 56.98 299 *e*P P 07 35 29.2 +0.2
DUG Dugway 57.11 301 *e*P P 07 35 30.2 +0.3
comp=Z,21nm,1.4s,mb5.0
DUG Dugway 57.11 301 *e*P P 07 35 30.2 +0.3
DUG pmax pmax
comp=Z,21nm,1.4s,mb5.0
AKASG Malin Array Be 57.32 46 P P 07 35 29.4 -1.8
comp=Z,0.2nm,0.2s,mb3.7,baz=272,slow=6.2,SNR=14
AKBB Malin Array Si 57.32 46 *e*P P 07 35 32.0 +0.8
HLID Hailey 57.62 305 *e*P P 07 35 33.6 +0.2
ARUT Antelope Range 58.12 299 *e*P P 07 35 37.4 +0.4
NEW Newport 58.66 311 *e*P P 07 35 40.3 -0.4
comp=Z,25nm,1.4s,mb5.0
NEW Newport 58.66 311 *e*P P 07 35 40.3 -0.4
NEW pmax pmax
comp=Z,25nm,1.4s
BMO Blue Mountains 59.42 307 *e*P P 07 35 45.6 -0.3
GLA Glamis 60.46 294 *e*P P 07 35 59.5 +6.2
WVOR Wild Horse Val 60.89 305 *e*P P 07 35 55.2 -0.9
comp=Z,9.0nm,1.2s,mb4.8
WVOR Wild Horse Val 60.89 305 *e*P P 07 35 55.2 -0.9
WVOR pmax pmax
comp=Z,9.0nm,1.2s,mb4.8
OBN Obninsk 61.09 40 ⇓ *e*P P 07 35 59.2 +2.0
OBN *i* pP 07 36 02.6 +2.2
OBN pmax pmax
comp=Z,10.0nm,1.0s,mb4.9
NVAR Mina Array Bea 61.66 300 P P 07 36 00.7 -0.7
comp=Z,2.4nm,1.0s,mb4.3,baz=72,slow=6.0,SNR=7.6
MOD Modoc 62.22 305 *e*P P 07 36 05.4 +0.3
NLWA Neilton Lookou 63.29 311 *e*P P 07 36 12.8 +0.6
INK Inuvik 63.59 335 *e*P P 07 36 13.4 -0.3
OHCM Honcut 63.79 302 *e*P P 07 36 15.4 -0.2
ANN Anapa 63.91 51 *e*P P 07 36 08.5 -7.8
ANN pmax pmax
comp=Z,32nm,1.5s,mb5.1
DAWY Dawson 67.01 332 *e*P P 07 36 41.1 +5.1
ASF Jabal al Asfar 67.47 65 P P 07 36 39.4 -0.1
ASF pmax pmax
comp=Z,1.0nm,0.4s
ASF Jabal al Asfar 67.47 65 P P 07 36 39.4 -0.1
comp=Z,1.2nm,0.4s,mb4.3,baz=79,slow=2.7,SNR=3.1
KIV Kislovodsk 67.76 51 ⇓ *e*P P 07 36 41.9 +0.8
KIV pmax pmax
comp=Z,26nm,2.5s,mb4.8
COLA College 70.10 334 ⇑ *e*P P 07 36 54.0 -1.3
ARU Arti 72.48 35 *c i*P P 07 37 09.7 -0.1
ARU *e* 07 39 47.2
ARU *e*S S 07 46 32.8 -1.0
ARU pmax pmax
comp=Z,11nm,1.7s,mb4.5
AKTK Aktyubinsk 74.86 41 P P 07 37 22.6 -1.4
AKTO Aktyubinsk 74.86 41 P P 07 37 22.6 -1.3
AKTO pmax pmax
comp=Z,1.0nm,0.6s,mb3.9
AKTO Aktyubinsk 74.86 41 P P 07 37 22.6 -1.4
comp=Z,1.3nm,0.6s,mb4.0,baz=285,slow=6.6,SNR=6.9
TIXI Tiksi 79.55 3 *e*P P 07 37 50.2 +0.4
comp=Z,64nm,2.1s,mb5.2
TIXI Tiksi 79.55 3 *d i*P P 07 37 49.3 -0.5
TIXI pmax pmax
comp=Z,11nm,1.7s,mb4.5
BVAR Borovoye Array 80.11 34 P P 07 37 52.3 -0.9
BVAR pmax pmax
comp=Z,1.0nm,0.7s
BVAR MLR MLR
comp=Z,152nm,18.8s
BVAR Borovoye Array 80.11 34 P P 07 37 52.3 -1.0
comp=Z,1.4nm,0.7s,mb4.0,baz=287,slow=5.7,SNR=8.7
BVAR LR LR 08 13 44.7
comp=Z,152nm,18.8s,MS4.4,baz=289,slow=36
BILL Bilibino 80.86 349 ⇑ *e*P P 07 37 56.4 -0.6
BILL pmax pmax
comp=Z,11nm,2.5s,mb4.3
NVS Novosibirsk 84.75 28 *i*P P 07 38 16.8 -0.6
KURK Kurchatov 85.54 33 ⇑ *i*P P 07 38 21.2 -0.3
ZAL Zalesovo 86.03 28 P P 07 38 22.7 -1.2
ZAL pmax pmax
comp=Z,1.0nm,0.3s
ZALV Zalesovo Beam 86.03 28 P P 07 38 22.6 -1.2
comp=Z,0.9nm,0.3s,mb4.5,baz=328,slow=5.2,SNR=3.4
SEY Seymchan 87.61 353 ⇓ *e*P P 07 38 31.0 -0.4
AAK Ala-Archa 88.61 41 ⇓ *e*P P 07 38 38.3 +1.8
AAK pmax pmax
comp=Z,7.0nm,2.5s,mb4.5
MKAR Makanchi Array 89.99 34 P P 07 38 42.1 -0.8
MKAR pmax pmax
comp=Z,1.0nm,0.9s
MKAR Makanchi Array 89.99 34 P P 07 38 42.1 -0.8
comp=Z,0.9nm,0.9s,mb4.1,baz=316,slow=6.0,SNR=3.1
WMQ Urumqi 94.77 33 *e*P P 07 39 06.0 +0.9
WMQ XP sP 07 39 13.0 +3.4
WMQ SKS 07 49 39.0
WMQ *e*S S 07 50 15.0 -3.8
WMQ AMB AMB
comp=Z,7.0nm,0.8s,mb5.1
WMQ AMB AMB
comp=Z,128nm,4.5s
WMQ LR LR
comp=N,239nm,29.6s,MS4.6
WMQ LR LR
comp=E,212nm,28.8s,MS4.6
WMQ LR LR
comp=Z,209nm,22.6s
CN2 Changchun 106.88 9 *e*PDIF Pdif 07 40 01.8 +2.6
CN2 PP PP 07 44 29.3 +5.4
CN2 *e*S Sdif 07 51 58.8 -1.9
CN2 PP PP
comp=Z,200nm,4.0s
CN2 LR LR
comp=Z,440nm,20.0s,MS5.0
HYB Hyderabad 107.28 58 *i*PKP PP 07 44 30.0 +1.8
BJI Beijing 108.75 17 PDIF Pdif 07 40 06.1 -1.4
CD2 Chengdu 112.67 31 *e*PKP PKiKP 07 44 19.8 -0.6
CD2 XPKP 07 44 25.5
CD2 PP PP 07 45 10.3 +4.0
CD2 PKS 07 47 55.1
CD2 SKS SKSdf 07 51 27.3 -5.5
CD2 PP PP
comp=Z,100nm,10.2s
CD2 LR LR
comp=N,120nm,22.4s
CD2 LR LR
comp=Z,160nm,24.4s,MS4.5
NJ2 Nanjing 117.00 17 *e*PKP PKPdf 07 44 26.3 -2.4
KMI Kunming 117.06 35 PKP PKPdf 07 44 28.3 -0.7
GYA Guiyang 117.79 31 *e*PDIF Pdif 07 40 47.3 -0.4
GYA PKP PKPdf 07 44 31.0 +0.7
GYA PP PP 07 45 46.8 +4.4
GYA PKS 07 48 06.5
GYA SKS SKSdf 07 51 40.8 -2.0
GYA PP PP
comp=Z,120nm,7.9s
GYA LR LR
comp=Z,380nm,22.0s,MS5.0

BJI ***24*** *07:36:53.7, 29.13N×4392W, h7km, mB5.4, mb5.2, Ms5.1, Msz4.7*
ISCJB ***24*** *07:36:54.9±0.3, 2896N±007×4320W±002, h10km, mb4.7/95, MS4.3/43, Error ellipse: s-maj=9.7km s-min=2.9km az=175.0*
IDC ***24*** *07:36:54.4±0.6, 2903N×4320W, h0km, mb4.0/21, mb1 4.1/21, mb1mx4.0/28, mbtmp4.0/21, MS4.2/31, Ms1 4.2/31, ms1mx4.1/42, Error ellipse: s-maj=18.1km s-min=13.2km az=164.0*
MOS ***24*** *07:36:54.8±0.9, 2885N×43.11W, h10km, mb5.1/37, MS4.3/7, Error ellipse: s-maj=9.2km s-min=5.3km az=136.2*
NEIC ***24*** *07:36:56.7±0.2, 2888N×43.10W, h10km, mb4.9/61, Error ellipse: s-maj=7.9km s-min=2.8km az=175.0*
GCMT ***24*** *07:36:56.7±0.4, 2923N×4330W, h12km, MW5.1/78, Moment Tensor Solution. s17,c19; s78,c116; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-3.81±.11; $M_{\theta\theta}$0.81±.11; $M_{\phi\phi}$2.99±.10; $M_{r\theta}$3.78±.58; $M_{\phi\phi}$0.96±.09; $M_{\phi r}$0.17±.35; Best double couple: $M_0$4.91600×10^{16} NP1:ϕ_s9.00000°, δ33.00000°, λ-134.00000°. NP2: ϕ_s238.00000°, δ67.00000°, λ-66.00000°. Principal axes: T 3.8910, Plg19.0000°, Azm311.0000°; N 2.0450, Plg22.0000°, Azm48.0000°; P -5.9410, Plg60.0000°, Azm184.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
SZGRF ***24*** *07:37:10.3, 3029N×4289W, h17km, mb4.9, Northern Mid-Atlantic Ridge*
ISC 24 07:36:56.9±0.3, 2895N±007×4315W±002, h10km, (h17km±.9km:pP-P), n420, σ0°81/399, mb4.7/95, MS4.3/43, 85C-76D, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
BBTS	**Babate**	**28.42**	**114**		LR	LR	07 51 48.8	
	comp=Z,1μm,18.0s,MS4.5,baz=134,slow=31							
EVO	**Evora**	**30.59**	**63**	*e*P	**P**		**07 43 10.3**	**-0.6**
	6.1nm,0.8s,mb4.2							
EVO				*e*MLR	MLR			
	comp=Z,728nm,20.2s,MS4.0							
SCHQ	**Schefferville**	**31.00**	**333**	P	**P**		**07 43 12.6**	**-1.7**
	comp=Z,3.9nm,1.1s,mb4.1,baz=127,slow=11,SNR=2.6							
MTE	**Manteigas**	**31.23**	**59**	*e*P	**P**		**07 43 18.8**	**+2.2**
	comp=Z,21nm,1.2s,mb4.8							
SDV	**Santo Domingo**	**32.63**	**238**	*e*P	**P**		**07 43 29.3**	**+0.2**
SDV	**Santo Domingo**	**32.63**	**238**	P	**P**		**07 43 29.2**	**+0.1**
	comp=Z,5.0nm,0.9s,mb4.4,baz=61,slow=3.2,SNR=3.6							
MDT	**Midelt**	**33.17**	**73**	P	**P**		**07 43 31.8**	**-1.9**
	comp=Z,0.7nm,0.7s,mb3.7,baz=32,slow=3.6,SNR=3.0							
MDT					LR	LR	07 53 50.5	
	comp=Z,819nm,21.2s,MS4.4,baz=283,slow=31							
ESDC	**Sonseca Array**	**33.85**	**61**	P	**P**		**07 43 37.3**	**-2.2**
	comp=Z,0.3nm,0.3s,mb3.7,baz=262,slow=7.7,SNR=6.5							
ESDC					LR	LR	07 53 54.2	
	comp=Z,319nm,18.6s,MS4.1,baz=240,slow=30							
ESLA	**Sonseca Array**	**33.85**	**61**	*e*P	**P**		**07 43 41.3**	**+1.8**
ACSO	**Alum Creek Sta**	**34.40**	**300**	*e*P	**P**		**07 43 45.0**	**+0.7**
	comp=Z,22nm,1.3s,mb4.9							
GOGA	**Godfrey**	**34.62**	**288**	*e*P	**P**		**07 43 48.7**	**+2.4**
DCN	**Croghan**	**35.78**	**37**	*e*P	**P**		**07 44 00.7**	**+4.7**
SJPF	**Ste Jean**	**36.35**	**56**	*e*P	**P**		**07 44 00.7**	**-0.3**
	comp=Z,12nm,0.8s,mb4.6							
SJPF	**Ste Jean**	**36.35**	**56**	*e*P	**P**		**07 44 00.7**	**-0.3**
	comp=Z,6.1nm,0.8s,mb4.6							
SJPF	**Ste Jean**	**36.35**	**56**	*e*P	**P**		**07 44 00.7**	**-0.3**
SJPF				pmax	pmax			
	comp=Z,6.0nm,0.8s,mb4.6							
SGMF	**Saint Gilles**	**36.58**	**47**	*e*P	**P**		**07 44 02.2**	**-0.7**
	comp=Z,150nm,1.6s,mb5.3							
SGMF	**Saint Gilles**	**36.58**	**47**	*e*P	**P**		**07 44 02.2**	**-0.7**
	comp=Z,75nm,1.6s,mb5.3							
SGMF	**Saint Gilles**	**36.58**	**47**	*e*P	**P**		**07 44 02.2**	**-0.7**
SGMF				pmax	pmax			
	comp=Z,75nm,1.6s,mb5.3							
ETSF	**Etsaut**	**36.80**	**56**	*e*P	**P**		**07 44 04.9**	**+0.1**
	comp=Z,43nm,1.4s,mb4.8							
ETSF	**Etsaut**	**36.80**	**56**	*e*P	**P**		**07 44 04.9**	**+0.1**
	comp=Z,22nm,1.4s,mb4.8							
ETSF	**Etsaut**	**36.80**	**56**	*e*P	**P**		**07 44 04.9**	**+0.1**
ETSF				pmax	pmax			
	comp=Z,22nm,1.4s,mb4.8							
EPF	**Esparros**	**37.47**	**56**	*e*P	**P**		**07 44 10.5**	**0.0**
MFF	**Saint Martin d**	**37.75**	**50**	*e*P	**P**		**07 44 12.5**	**-0.3**
	comp=Z,92nm,1.4s,mb5.0							
MFF	**Saint Martin d**	**37.75**	**50**	*e*P	**P**		**07 44 12.5**	**-0.3**
	comp=Z,46nm,1.4s,mb5.0							
MFF	**Saint Martin d**	**37.75**	**50**	*e*P	**P**		**07 44 12.5**	**-0.3**
MFF				pmax	pmax			
	comp=Z,46nm,1.4s,mb5.0							
ROSC	**El Rosal**	**38.03**	**237**	LR	LR		07 58 49.8	
	comp=Z,130nm,19.8s,MS3.7,baz=267,slow=35							
LFF	**La Frestale**	**38.04**	**53**	*e*P	**P**		**07 44 14.8**	**-0.5**
WVT	**Waverly**	**38.08**	**293**	*e*P	**P**		**07 44 16.0**	**+0.3**
	comp=Z,13nm,1.1s,mb4.6							
WVT	**Waverly**	**38.08**	**293**	*e*P	**P**		**07 44 16.0**	**+0.3**
WVT				pmax	pmax			
	comp=Z,13nm,1.1s,mb4.6							
LDF	**La Druitiere**	**38.23**	**47**	*e*P	**P**		**07 44 16.2**	**-0.7**
	comp=Z,94nm,1.6s,mb5.0							
LDF	**La Druitiere**	**38.23**	**47**	*e*P	**P**		**07 44 16.2**	**-0.7**
	comp=Z,47nm,1.6s,mb5.0							
LDF	**La Druitiere**	**38.23**	**47**	*e*P	**P**		**07 44 16.2**	**-0.7**
LDF				pmax	pmax			
	comp=Z,47nm,1.6s,mb5.0							
PLAL	**Pickwick Lake**	**38.34**	**291**	*e*P	**P**		**07 44 18.3**	**+0.4**
	comp=Z,12nm,0.9s,mb4.6							
RJF	**Les Rejaudoux**	**38.64**	**53**	*e*P	**P**		**07 44 19.6**	**-0.8**
	comp=Z,82nm,1.5s,mb4.9							
RJF				*e*MLR	MLR			
	comp=Z,819nm,20.5s,MS4.2							
RJF	**Les Rejaudoux**	**38.64**	**53**	*e*P	**P**		**07 44 19.6**	**-0.8**
	comp=Z,41nm,1.5s,mb4.9							
RJF				LR	LR			
	comp=Z,820nm,20.5s,MS4.5							
RJF	**Les Rejaudoux**	**38.64**	**53**	*e*P	**P**		**07 44 19.6**	**-0.8**
RJF				pmax	pmax			
	comp=Z,41nm,1.5s,mb4.9							
RJF				MLR	MLR			
	comp=Z,820nm,20.5s,MS4.5							
MTLF	**Montolieu**	**38.87**	**56**	*e*P	**P**		**07 44 21.9**	**-0.4**
	comp=Z,46nm,1.3s,mb4.7							
MTLF	**Montolieu**	**38.87**	**56**	*e*P	**P**		**07 44 21.9**	**-0.4**
	comp=Z,23nm,1.3s,mb4.8							
MTLF	**Montolieu**	**38.87**	**56**	*e*P	**P**		**07 44 21.9**	**-0.4**
MTLF				pmax	pmax			
	comp=Z,23nm,1.3s,mb4.8							
CAF	**Calviac**	**38.97**	**53**	*e*P	**P**		**07 44 22.5**	**-0.6**
	comp=Z,48nm,1.6s,mb4.7							
CAF	**Calviac**	**38.97**	**53**	*e*P	**P**		**07 44 22.5**	**-0.6**
	comp=Z,24nm,1.5s,mb4.7							
CAF	**Calviac**	**38.97**	**53**	*e*P	**P**		**07 44 22.5**	**-0.6**
CAF				pmax	pmax			
	comp=Z,24nm,1.5s,mb4.7							
TCF	**Toulx Ste Croi**	**39.28**	**51**	*e*P	**P**		**07 44 25.2**	**-0.6**
	comp=Z,53nm,1.4s,mb4.8							
TCF	**Toulx Ste Croi**	**39.28**	**51**	*e*P	**P**		**07 44 25.2**	**-0.6**
	comp=Z,26nm,1.4s,mb4.8							
TCF	**Toulx Ste Croi**	**39.28**	**51**	*e*P	**P**		**07 44 25.2**	**-0.6**
TCF				pmax	pmax			
	comp=Z,26nm,1.4s,mb4.8							
COWI	**Conover**	**39.68**	**308**	*e*P	**P**		**07 44 29.6**	**+0.5**
LASF	**Ste Croix**	**40.13**	**55**	*e*P	**P**		**07 44 32.7**	**-0.1**
	comp=Z,43nm,1.4s,mb4.7							
AVF	**Avril sur Loir**	**40.15**	**51**	*e*P	**P**		**07 44 32.2**	**-0.7**
	comp=Z,52nm,1.5s,mb4.7							
AVF	**Avril sur Loir**	**40.15**	**51**	*e*P	**P**		**07 44 32.2**	**-0.7**
	comp=Z,26nm,1.5s,mb4.7							
AVF	**Avril sur Loir**	**40.15**	**51**	*e*P	**P**		**07 44 32.2**	**-0.7**

AVF pmax pmax
comp=Z,26nm,1.5s,mb4.7
SSF Saint Saulge 40.30 50 *eP* **P 07 44 33.5 -0.7**
HBAR Harrisburg 40.40 292 *eP* **P 07 44 35.9 +0.7**
SMF Signal de Mont 40.45 51 *eP* **P 07 44 34.0 -1.5**
comp=Z,139nm,1.5s,mb5.2
SMF Signal de Mont 40.45 51 *eP* **P 07 44 34.0 -1.5**
comp=Z,70nm,1.5s,mb5.2
SMF Signal de Mont 40.45 51 *eP* **P 07 44 34.0 -1.5**
SMF pmax pmax
comp=Z,70nm,1.5s,mb5.2
LOR Lormes 40.57 50 *eP* **P 07 44 36.1 -0.3**
LOR *e*MLR MLR
comp=Z,391nm,20.5s,MS4.0
LOR Lormes 40.57 50 *eP* **P 07 44 36.1 -0.3**
LOR MLR MLR
comp=Z,390nm,20.5s,MS4.2
VIVF Saint-Julien-l 40.80 54 *eP* **P 07 44 38.5 +0.2**
SMRF Simiane la Rot 41.36 55 *eP* **P 07 44 43.6 +0.6**
comp=Z,54nm,1.4s,mb4.7
SMRF Simiane la Rot 41.36 55 *eP* **P 07 44 43.6 +0.6**
comp=Z,54nm,1.4s,mb5.0
EYMN Ely 41.57 311 *eP* **P 07 44 45.8 +1.1**
MEZF Maizieres J'vi 41.57 48 *eP* **P 07 44 44.1 -0.6**
UALR University of 41.85 291 *eP* **P 07 44 48.4 +1.3**
comp=Z,38nm,1.2s,mb4.9
CABF La Chapelle 41.98 51 *eP* **P 07 44 47.6 -0.5**
comp=Z,39nm,1.0s,mb4.7
CABF La Chapelle 41.98 51 *eP* **P 07 44 47.6 -0.5**
comp=Z,20nm,1.0s,mb4.7
CABF La Chapelle 41.98 51 *eP* **P 07 44 47.6 -0.5**
CABF pmax pmax
comp=Z,20nm,1.0s,mb4.7
LMR La Mourre 41.99 56 *eP* **P 07 44 48.0 -0.2**
FRF La Foret Royal 42.10 56 *eP* **P 07 44 48.9 -0.2**
comp=Z,57nm,1.3s,mb4.7
FRF La Foret Royal 42.10 56 *eP* **P 07 44 48.9 -0.2**
comp=Z,28nm,1.3s,mb4.7
FRF La Foret Royal 42.10 56 *eP* **P 07 44 48.9 -0.2**
FRF pmax pmax
comp=Z,28nm,1.3s,mb4.7
BNI Bardonecchia 42.23 54 *eP* **P 07 44 52.0 +1.9**
MBDF Montbardon 42.27 54 *eP* **P 07 44 51.3 +0.9**
comp=Z,45nm,1.4s,mb4.6
MBDF Montbardon 42.27 54 *eP* **P 07 44 51.3 +0.9**
comp=Z,22nm,1.4s,mb4.6
MBDF Montbardon 42.27 54 *eP* **P 07 44 51.3 +0.9**
MBDF pmax pmax
comp=Z,23nm,1.4s,mb4.6
LPL La Plagne 42.31 53 *eP* **P 07 44 51.4 +0.7**
LPG La Plagne 42.32 53 *eP* **P 07 44 51.6 +0.8**
comp=Z,44nm,1.4s,mb4.6
LPG La Plagne 42.32 53 *eP* **P 07 44 51.6 +0.8**
comp=Z,22nm,1.4s,mb4.6
LPG La Plagne 42.32 53 *eP* **P 07 44 51.6 +0.8**
LPG pmax pmax
comp=Z,22nm,1.4s,mb4.6
HAU Haudompre 42.35 49 *eP* **P 07 44 50.6 -0.4**
comp=Z,11nm,0.7s,mb4.3
HAU *e*MLR MLR
comp=Z,380nm,18.2s,MS4.0
HAU Haudompre 42.35 49 *eP* **P 07 44 50.6 -0.4**
comp=Z,5.4nm,0.7s,mb4.3
HAU LR LR
comp=Z,380nm,18.3s,MS4.3
HAU Haudompre 42.35 49 *eP* **P 07 44 50.6 -0.4**
HAU pmax pmax
comp=Z,5.0nm,0.7s,mb4.2
HAU MLR MLR
comp=Z,380nm,18.3s,MS4.3
DBIC Dimbokro 42.37 114 P **P 07 44 48.5 -3.1**
comp=Z,2.7nm,1.0s,mb3.8,baz=270,slow=2.0,SNR=2.8
DBIC LR LR 08 00 13.6
comp=Z,938nm,18.2s,MS4.7,baz=278,slow=33
LIC Lamto 42.50 115 *eP* **P 07 44 52.2 -0.4**
comp=Z,50nm,1.4s,mb4.7
LIC *e*MLR MLR
comp=Z,1µm,20.8s,MS4.4
LIC Lamto 42.50 115 *eP* **P 07 44 52.2 -0.4**
comp=Z,25nm,1.4s,mb4.7
LIC LR LR
comp=Z,510nm,20.8s,MS4.4
DOI San Damiano 42.59 55 P **P 07 44 54.5 +1.4**
comp=Z,78nm,1.6s,mb5.2
DOI San Damiano 42.59 55 P **P 07 44 54.5 +1.4**
DOI pmax pmax
comp=Z,78nm,1.6s,mb5.2
HINF Hinteralfeld 42.66 50 *eP* **P 07 44 52.6 -0.9**
MIAR Mount Ida 42.88 291 *eP* **P 07 44 55.6 +0.1**
comp=Z,58nm,1.8s,mb5.0
MIAR Mount Ida 42.88 291 *eP* **P 07 44 55.7 +0.2**
MIAR pmax pmax
comp=Z,58nm,1.8s,mb5.0
CDF Champ du Feu 43.02 49 *eP* **P 07 44 55.7 -0.8**
comp=Z,72nm,1.6s,mb4.8
CDF Champ du Feu 43.02 49 *eP* **P 07 44 55.7 -0.8**
comp=Z,36nm,1.6s,mb4.8
CDF Champ du Feu 43.02 49 *eP* **P 07 44 55.7 -0.8**
CDF pmax pmax
comp=Z,36nm,1.6s,mb4.8
BFO Black Forest 43.70 49 *eP* **P 07 45 03.2 +1.2**
BFO *e**PP pP 07 45 07.8 +2.7
BFO pmax pmax
comp=Z,23nm,1.3s,mb4.8
BFO Black Forest 43.70 49 *eP* **P 07 45 03.2 +1.2**
comp=Z,23nm,1.3s,mb4.8
BFO *e*pP pP 07 45 07.8 +2.7
PGF Pioggiola 43.79 57 *eP* **P 07 45 02.2 -0.6**
comp=Z,24nm,1.2s,mb4.5
PGF Pioggiola 43.79 57 *eP* **P 07 45 02.2 -0.6**
comp=Z,12nm,1.2s,mb4.5
PGF Pioggiola 43.79 57 *eP* **P 07 45 02.2 -0.6**
PGF pmax pmax
comp=Z,12nm,1.2s,mb4.5
VSL Villasalto 44.14 62 *eP* **P 07 45 07.7 +2.0**
comp=Z,23nm,1.2s,mb4.8
NATX Nacogdoches 44.20 287 *eP* **P 07 45 07.9 +1.7**
TORD Torodi Ar. Bea 44.43 101 P **P 07 45 06.6 -1.6**
comp=Z,4.3nm,1.1s,mb4.1,baz=303,slow=11,SNR=15
TORD PcP PcP 07 46 50.8 -1.1
comp=Z,2.7nm,1.2s,baz=280,slow=5.6,SNR=2.6
KEST Kesra 44.43 67 P **P 07 45 07.2 -0.8**
comp=Z,5.1nm,1.0s,mb4.2,baz=218,slow=4.2,SNR=8.2
KEST LR LR 08 00 37.8
comp=Z,129nm,20.1s,MS3.8,baz=229,slow=32
AGMN Agassiz Refuge 44.52 311 *eP* **P 07 45 08.2 -0.3**
BDFB Brasilia 44.58 187 P **P 07 45 09.4 +0.2**
comp=Z,0.4nm,0.4s,mb3.6,baz=350,slow=23,SNR=3.4
BDFB LR LR 08 02 22.0
comp=Z,92nm,21.5s,MS3.7,baz=185,slow=34
DAVOX Davos/Dischmat 44.60 51 P **P 07 45 09.3 +0.1**
comp=Z,1.9nm,0.5s,mb4.2,baz=307,slow=16,SNR=4.2
DAVOX LR LR 08 00 22.6
comp=Z,355nm,19.5s,MS4.3,baz=175,slow=32
DAVA Damuels 44.64 51 ⇓*iP* **P 07 45 10.5 +1.1**
comp=Z,26nm,1.1s,mb5.0
DAVA Damuels 44.64 51 ⇓*iP* **P 07 45 10.5 +1.1**
comp=Z,26nm,1.1s,mb5.0
DAVA Damuels 44.64 51 ⇓*i*pP pP 07 45 10.5 -2.1
comp=Z,26nm,1.1s
ULM Lac du Bonnet 44.76 313 P **P 07 45 07.3 -3.1**
ULM LR LR 08 01 37.2
ULM Lac du Bonnet 44.76 313 P **P 07 45 07.3 -3.1**
comp=Z,5.2nm,1.0s,mb4.3,baz=91,slow=9.3,SNR=4.6
ULM LR LR 08 01 37.2
comp=Z,228nm,19.7s,MS4.1,baz=193,slow=33
BRMO Bormio 44.92 52 P **P 07 45 14.7 +3.0**
FETA Feichten 45.20 51 ⇑*i*pP pP 07 45 14.7 -2.4
comp=Z,9.4nm,1.1s
GRFL Gerfalco 45.25 57 P **P 07 45 15.5 +1.1**
comp=Z,108nm,2.5s,mb5.2
CLZ Clausthal 45.50 44 *eP* **P 07 45 18.5 +2.3**
CLZ *e**PP pP 07 45 22.2 +2.8
CLZ pmax pmax
comp=Z,25nm,1.5s,mb4.8
CLZ Clausthal 45.50 44 *eP* **P 07 45 18.5 +2.3**
comp=Z,25nm,1.5s,mb4.8
CLZ *e*pP pP 07 45 22.2 +2.8
FCC Fort Churchill 45.66 326 *eP* **P 07 45 18.7 +1.2**
comp=Z,20nm,1.2s,mb4.9
FCC Fort Churchill 45.66 326 *eP* **P 07 45 18.7 +1.2**
FCC pmax pmax
comp=Z,20nm,1.2s,mb4.9
GRA1 Grafenberg Arr 45.75 47 *eP* **P 07 45 19.7 +1.4**
comp=Z,20nm,1.4s,mb4.8
GRA1 *e*pP pP 07 45 24.2 +2.8

GRF Grafenberg Arr 45.75 47 *eP* **P 07 45 19.7 +1.4**
GRF *e**PP pP 07 45 24.2 +2.8
GRF pmax pmax
comp=Z,20nm,1.4s,mb4.8
GRF Grafenberg Arr 45.75 47 *eP* **P 07 45 19.7 +1.4**
GRF *e**PP pP 07 45 24.2 +2.8
GRF pmax pmax
comp=Z,20nm,1.4s,mb4.8
GRF Grafenberg Arr 45.75 47 *eP* **P 07 45 19.7 +1.4**
comp=Z,20nm,1.4s,mb4.8
GRF *e*pP pP 07 45 24.2 +2.8
BSEG Bad Segeberg 45.82 41 *eP* **P 07 45 20.7 +1.9**
comp=Z,66nm,1.4s,mb5.4
BSEG *e*pP pP 07 45 25.2 +3.3
MOX Moxa 46.11 46 *eP* **P 07 45 21.2 +0.1**
MOX Moxa 46.11 46 *eP* **P 07 45 21.1 0.0**
comp=Z,35nm,1.9s,mb5.0
MOX *e*pP pP 07 45 26.8 +2.6
MANZ Manzenberg 46.35 47 *eP* **P 07 45 23.8 +0.8**
comp=Z,11nm,1.3s,mb4.6
FSSB Fossombrone 46.55 56 P **P 07 45 25.4 +0.7**
comp=Z,11nm,0.8s,mb4.8
SNTG Esanatoglia 46.68 56 P **P 07 45 26.1 +0.4**
comp=Z,33nm,1.3s,mb5.1
NRCA Norcia 46.82 57 P **P 07 45 27.3 +0.5**
comp=Z,8.5nm,1.1s,mb4.6
PTCC Patocco-Chiusa 46.97 52 P **P 07 45 27.5 -0.4**
comp=Z,14nm,1.0s,mb4.8
CLL Collm 47.05 45 *eP* **P 07 45 28.0 -0.5**
CLL *e* 07 45 34.0
CLL S **S 07 52 35.0 +15**
CLL LR LR
comp=Z,300nm,22.7s,MS4.2
CLL Collm 47.05 45 *eP* **P 07 45 29.6 +1.1**
comp=Z,10.0nm,1.1s,mb4.7
CLL *e*pP pP 07 45 33.9 +2.2
CLL Collm 47.05 45 *eP* **P 07 45 28.0 -0.5**
CLL *e*(sP) sP 07 45 34.0 +1.1
CLL *e*S **S 07 52 36.0 +16**
CLL *e*(SS) 07 56 12.0
WMOK Wichita Mounta 47.11 292 *eP* **P 07 45 30.4 +1.3**
comp=Z,34nm,1.6s,mb5.0
WMOK Wichita Mounta 47.11 292 *eP* **P 07 45 30.4 +1.2**
WMOK pmax pmax
comp=Z,34nm,1.6s,mb5.0
KHC Kasperske Hory 47.24 48 *eP* **P 07 45 29.5 -0.5**
KHC *e*pP pP 07 45 35.5 +2.4
GEC2 GERESS Array S 47.30 49 *eP* **P 07 45 31.2 +0.7**
GEC2 *e**PP pP 07 45 35.6 +2.0
GEC2 pmax pmax
comp=Z,20nm,1.5s,mb4.8
GEC2 GERESS Array S 47.30 49 *eP* **P 07 45 31.2 +0.7**
comp=Z,20nm,1.5s,mb4.8
GEC2 *e*pP pP 07 45 35.6 +2.0
GERES GERESS Array B 47.30 49 P **P 07 45 30.2 -0.3**
comp=Z,1.5nm,0.8s,mb4.0,baz=270,slow=6.7,SNR=9.7
GERES LR LR 08 01 14.4
comp=Z,202nm,19.2s,MS4.1,baz=252,slow=31
JAVS Javornik 47.46 53 *eP* **P 07 45 32.6 +0.9**
BRG Berggiesshubel 47.60 46 *eP* **P 07 45 38.1 +5.3**
comp=Z,7.5nm,1.2s,mb4.6
BRG S **S 07 52 35.0 +6.9**
BRG
comp=N,169nm,24.7s
BRG
comp=E,264nm,20.4s
BRG
comp=Z,514nm,17.6s
OBKA Obir 47.80 52 ⇑*iP* **P 07 45 34.2 -0.1**
comp=Z,22nm,1.4s,mb5.0
SIV San Ignacio 47.92 203 P **P 07 45 35.5 0.0**
comp=Z,0.6nm,0.8s,mb3.7,baz=43,slow=8.5,SNR=4.0
NB2 NORSAR Subarra 47.99 32 P **P 07 45 35.8 +0.2**
comp=Z,30nm,1.4s,mb5.1,baz=257,slow=7.9
NOA NORSAR Array B 47.99 32 P **P 07 45 35.5 -0.1**
comp=Z,2.4nm,1.0s,mb4.2,baz=254,slow=7.8,SNR=3.6
NOA LR LR 08 01 53.6
comp=Z,170nm,20.2s,MS4.0,baz=40,slow=31
VAE Valguarnera 48.26 64 LR LR 08 04 06.7
comp=Z,488nm,18.2s,MS4.5,baz=293,slow=34
BOJS Bojanci 48.29 53 *i* P **P 07 45 43.8 +5.5**
JCT Junction City 48.78 287 *eP* **P 07 45 43.9 +1.7**
HFS Hagfors 48.94 34 LR LR 08 03 56.3
comp=Z,143nm,18.3s,MS4.0,baz=271,slow=33
FFC Flin Flon 49.05 319 *eP* **P 07 45 44.9 +1.1**
comp=Z,50nm,2.1s,mb5.2
FFC Flin Flon 49.05 319 *eP* **P 07 45 44.9 +1.0**
FFC pmax pmax
comp=Z,49nm,2.1s,mb5.2
VRAC Vranov 49.22 48 LR LR 08 04 41.1
comp=Z,164nm,18.8s,MS4.0,baz=262,slow=34
ZST Bratislava 49.54 50 *eP* **P 07 45 47.5 -0.3**
comp=Z,7.6nm,0.9s,mb4.7
ZST Bratislava 49.54 50 *eP* **P 07 45 47.5 -0.3**
ZST pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
MODS Modra-Piesok 49.66 50 *eP* **P 07 45 53.6 +4.9**
VYHS Vyhne 50.70 49 *eP* **P 07 45 55.9 -0.6**
comp=Z,18nm,2.2s,mb4.6
VYHS Vyhne 50.70 49 *eP* **P 07 45 55.9 -0.6**
VYHS pmax pmax
comp=Z,18nm,2.2s,mb4.6
LPAZ La Paz 51.05 211 P **P 07 45 58.9 -0.5**
comp=Z,0.3nm,0.6s,mb3.4,baz=58,slow=13,SNR=2.5
LPAZ LR LR 08 06 33.9
comp=Z,275nm,19.1s,MS4.3,baz=56,slow=35
KECS Kecovo 51.80 49 *eP* **P 07 46 05.5 +0.7**
SDCO Great Sand Dun 51.98 297 *eP* **P 07 46 09.2 +2.9**
STHS Stebnicka Huta 52.26 48 *eP* **P 07 46 10.4 +2.2**
comp=Z,13nm,1.9s,mb4.5
STHS Stebnicka Huta 52.26 48 *eP* **P 07 46 10.4 +2.2**
STHS pmax pmax
comp=Z,13nm,1.9s,mb4.5
TXAR Lajitas Array 52.31 286 P **P 07 46 07.6 -1.3**
TXAR pmax pmax
comp=Z,2.0nm,1.1s
TXAR MLR MLR
comp=Z,228nm,18.0s
TXAR Lajitas Array 52.31 286 P **P 07 46 07.5 -1.4**
comp=Z,2.3nm,1.1s,mb4.0,baz=89,slow=6.6,SNR=12
TXAR LR LR 08 09 46.0
comp=Z,228nm,18.0s,MS4.2,baz=175,slow=38
RES Resolute Bay 52.52 345 *eP* **P 07 46 10.1 +0.3**
SMCO Snowmass 52.88 299 *eP* **P 07 46 13.3 +0.4**
MNTX Cornudas Mount 53.14 289 *eP* **P 07 46 15.9 +0.9**
comp=Z,29nm,2.0s,mb4.9
ANMO Albuquerque 53.27 294 *eP* **P 07 46 16.4 +0.4**
comp=Z,29nm,1.5s,mb5.0
ANMO Albuquerque 53.27 294 *eP* **P 07 46 16.4 +0.5**
ANMO pmax pmax
comp=Z,29nm,1.5s
LPM Los Pinos Moun 53.55 293 *eP* **P 07 46 18.6 +0.6**
BNM Barren Site 53.58 293 *eP* **P 07 46 19.0 +0.8**
RLMT Red Lodge 53.75 307 *eP* **P 07 46 19.6 +0.3**
EGMT Eagleton 53.80 310 *eP* **P 07 46 20.0 +0.4**
EGMT Eagleton 53.80 310 ⇑P **P 07 46 18.1 -1.5**
baz=54
LENM Lemitar 53.86 293 *eP* **P 07 46 21.1 +0.8**
LAZ Ladron 53.94 293 *eP* **P 07 46 21.6 +0.8**
GCMT Greycliff 53.95 307 *eP* **P 07 46 20.8 0.0**
PDAR Pinedale Array 54.26 304 P **P 07 46 22.1 -0.9**
PDAR LR LR 08 07 54.0
PDAR Pinedale Array 54.26 304 P **P 07 46 22.1 -0.9**
comp=Z,3.9nm,0.8s,mb4.4,baz=86,slow=7.6,SNR=31
PDAR LR LR 08 07 54.0
comp=Z,776nm,18.9s,MS4.8,baz=117,slow=34
PV01 Paradox Valley 54.29 298 *eP* **P 07 46 24.0 +0.7**
LKWY Lake 54.62 306 *eP* **P 07 46 26.3 +0.7**
comp=Z,14nm,1.3s,mb4.8
LKWY Lake 54.62 306 *eP* **P 07 46 26.3 +0.7**
LKWY pmax pmax
comp=Z,14nm,1.3s,mb4.8
LOHW Long Hollow 54.89 305 *eP* **P 07 46 28.2 +0.6**
comp=Z,20nm,1.4s,mb5.0
FLWY Flagg Ranch 54.89 305 *eP* **P 07 46 28.2 +0.6**
YFT Old Faithful 54.94 306 *eP* **P 07 46 28.6 +0.6**
MOOW Moose Ponds 54.97 305 *eP* **P 07 46 29.0 +0.8**
YMR Madison River 55.00 306 *eP* **P 07 46 29.4 +1.1**
comp=Z,58nm,1.4s,mb5.4
SNOW Snow King Moun 55.02 305 *eP* **P 07 46 29.3 +0.7**
comp=Z,21nm,1.1s,mb5.1
IMW Indian Meadow 55.09 305 *eP* **P 07 46 29.8 +0.7**
REDW Red Top Meadow 55.11 305 *eP* **P 07 46 29.8 +0.6**
comp=Z,34nm,1.4s,mb5.2
FINES FINESS Array B 55.13 33 P **P 07 46 28.6 -0.5**

comp=Z,1.1nm,0.4s,mb4.2,baz=256,slow=7.7,SNR=5.1
FINES LR LR 08 06 07.1
comp=Z,89nm,20.9s,MS3.8,baz=49,slow=32
FIA1 FINESS Array S 55.13 33 *eP* **P 07 46 28.8 -0.3**
TPAW Teton Pass 55.16 305 *eP* **P 07 46 30.3 +0.7**
comp=Z,28nm,1.2s,mb5.2
QLMT Earthquake Lak 55.31 306 *eP* **P 07 46 31.4 +0.8**
BOZ Bozeman (W) 55.34 307 *eP* **P 07 46 31.4 +0.6**
BOZ Bozeman (W) 55.34 307 ⇓P **P 07 46 29.6 -1.2**
baz=55
HRY Holter Researc 55.34 309 *eP* **P 07 46 31.4 +0.6**
VSU Vasula 55.38 37 *d iP* **P 07 46 30.4 -0.5**
SRU San Rafael 55.60 300 *eP* **P 07 46 33.4 +0.6**
EDM Edmonton 55.71 317 *eP* **P 07 46 33.8 +0.5**
ARCES ARCESS Array B 55.74 23 LR LR 08 05 27.1
comp=Z,68nm,19.3s,MS3.7,baz=170,slow=31
Y19A Nutrioso 55.75 293 ⇓P **P 07 46 34.1 +0.1**
baz=56
D15A Lincoln 55.77 309 ⇑P **P 07 46 33.7 -0.2**
baz=55
MLR Muntele Rosu 55.79 53 LR LR 08 09 15.0
comp=Z,278nm,18.4s,MS4.4,baz=51,slow=35
DAU Daniels Canyon 55.91 301 *eP* **P 07 46 35.6 +0.7**
F15A Butte 55.91 308 ⇓P **P 07 46 33.9 -1.0**
baz=56
HWUT Hardware Ranch 55.92 303 *eP* **P 07 46 35.5 +0.5**
comp=Z,17nm,1.1s,mb5.0
E15A Deer Lodge 55.93 309 ⇓P **P 07 46 34.4 -0.6**
baz=56
G15A Dillon 56.00 307 ⇓P **P 07 46 34.5 -1.1**
baz=56
JLU Jordanelle 56.02 301 *eP* **P 07 46 36.2 +0.4**
DLMT Dillon 56.05 307 *eP* **P 07 46 36.3 +0.4**
comp=Z,25nm,1.4s,mb5.0
119A Ashpeak Ranch, 56.09 292 ⇑P **P 07 46 37.1 +0.7**
baz=56
TMUT Trail Mountain 56.09 300 *eP* **P 07 46 36.9 +0.6**
YKA Yellowknife Ar 56.22 328 P **P 07 46 34.1 -2.8**
YKA 07 47 33.3
YKA pmax pmax
comp=Z,1.0nm,0.9s
YKA pmax pmax
comp=Z,1.0nm,0.8s
YKA MLR MLR
comp=Z,221nm,19.3s
YKA Yellowknife Ar 56.22 328 P **P 07 46 34.1 -2.7**
comp=Z,0.7nm,0.9s,mb3.7,baz=90,slow=7.4,SNR=12
YKA PcP PcP 07 47 33.3 -1.1
comp=Z,0.5nm,0.8s,baz=87,slow=5.4,SNR=4.7
YKA LR LR 08 10 24.9
comp=Z,221nm,19.3s,MS4.3,baz=115,slow=36
YKW3 Yellowknife Ar 56.23 328 *eP* **P 07 46 37.4 +0.5**
YKW3 *es*P sP 07 46 42.5 +1.2
219A White Tail Can 56.25 291 ⇑P **P 07 46 38.5 +1.0**
baz=56
MPU Maple Canyon 56.27 301 *eP* **P 07 46 38.0 +0.4**
MPU *es*P sP 07 46 43.9 +1.9
CHMT Chamberlain Mo 56.28 309 *eP* **P 07 46 38.0 +0.4**
CHMT *es*P sP 07 46 43.6 +1.6
MCMT McKenzie Canyo 56.31 307 *eP* **P 07 46 38.6 +0.8**
D14A Greenough 56.43 309 P **P 07 46 38.2 -0.4**
baz=56,SNR=13
WALA Waterton Lakes 56.45 312 *eP* **P 07 46 39.1 +0.4**
comp=Z,21nm,1.2s,mb5.0
C14A Swan Lake 56.50 310 ⇓P **P 07 46 38.0 -1.1**
baz=56
E14A Clinton 56.52 309 ⇓P **P 07 46 38.6 -0.6**
baz=56
M15A Larsen Ranch, 56.60 303 ⇓P **P 07 46 38.3 -1.6**
baz=56
NLU North Lily Min 56.61 301 *eP* **P 07 46 40.5 +0.5**
CPUP Villa Florida 56.63 195 LR LR 08 09 18.3
comp=Z,113nm,19.1s,MS4.0,baz=186,slow=34
118A Homack Ranch, 56.66 292 ⇑P **P 07 46 40.4 -0.1**
baz=56
G14A Jackson 56.67 307 ⇑P **P 07 46 40.2 -0.1**
baz=56
MSO Missoula 56.76 309 *eP* **P 07 46 41.4 +0.4**
A13A Flathead Natio 56.79 312 ⇓P **P 07 46 40.5 -0.7**
baz=56
B13A Whitefish 56.90 311 ⇑P **P 07 46 41.5 -0.4**
baz=57
K14A Jones Ranch, D 56.93 304 ⇓P **P 07 46 41.2 -1.0**
baz=57
E13A Victor 56.99 309 ⇑P **P 07 46 41.9 -0.7**
baz=57
MSU Marysvale 56.99 299 *eP* **P 07 46 43.1 +0.4**
318A Bisbee 57.00 290 ⇑P **P 07 46 43.3 +0.3**
baz=57,SNR=11
WUAZ Wupatki 57.06 295 *eP* **P 07 46 44.0 +0.7**
C13A Hot Springs 57.07 310 ⇓P **P 07 46 42.4 -0.8**
baz=57
D13A Huson 57.07 310 ⇑P **P 07 46 42.2 -1.0**
baz=57
DUG Dugway 57.12 301 ⇓P **P 07 46 41.9 -1.7**
baz=57
F13A Darby 57.19 308 ⇓P **P 07 46 43.1 -0.9**
baz=57
G13A Cobalt 57.23 307 ⇓P **P 07 46 43.2 -1.1**
baz=57
M14A Sheep Mountain 57.25 303 ⇓P **P 07 46 42.5 -2.1**
baz=57
N14A Grayback Hills 57.26 302 ⇑P **P 07 46 42.9 -1.7**
baz=57
AKASG Malin Array Be 57.29 46 *i* P **P 07 46 43.5 -1.1**
AKASG pmax pmax
comp=Z,1.0nm,0.5s
AKASG Malin Array Be 57.29 46 P **P 07 46 43.0 -1.7**
comp=Z,1.4nm,0.5s,mb4.2,baz=280,slow=5.7,SNR=13
AKASG LR LR 08 09 36.7
comp=Z,302nm,18.8s,MS4.4,baz=265,slow=34
117A Oracle 57.30 292 ⇑P **P 07 46 45.0 -0.1**
baz=57
H13A Challis 57.34 307 ⇓P **P 07 46 44.3 -0.8**
baz=57
I13A Wildhorse Cree 57.35 306 ⇑P **P 07 46 44.5 -0.7**
baz=57
X16A Lo Mia Camp, P 57.39 294 ⇑P **P 07 46 45.8 +0.2**
baz=57
J13A Cove Ranch, Pi 57.49 305 ⇑P **P 07 46 46.0 -0.2**
baz=57
T15A Red Dirt Ranch 57.49 297 ⇓P **P 07 46 46.3 0.0**
baz=57
KIS Kishinev 57.53 50 *eP* **P 07 46 43.0 -3.4**
KIS LRM 08 09 00.0
comp=Z,300nm,15.0s
Y16A Circle Bar Ran 57.55 294 ⇑P **P 07 46 46.6 -0.2**
baz=57
L13A Double Diamond 57.57 304 ⇑P **P 07 46 45.6 -1.2**
baz=57
217A Green Valley 57.59 291 ⇑P **P 07 46 47.9 +0.8**
baz=57
B12A Libby 57.63 311 ⇑P **P 07 46 47.6 +0.5**
baz=57
HLID Hailey 57.63 305 *eP* **P 07 46 48.0 +0.8**
HLID Hailey 57.63 305 ⇑P **P 07 46 46.2 -0.9**
baz=57
D12A Red Ives Fores 57.68 310 ⇑P **P 07 46 47.7 +0.2**
baz=57
H12A Diamond D Ranc 57.76 307 ⇓P **P 07 46 47.6 -0.5**
baz=57,SNR=12
S14A Cedar City 57.92 298 ⇓P **P 07 46 47.8 -1.6**
baz=58
X15A Humboldt 58.00 295 ⇑P **P 07 46 50.1 +0.2**
baz=58
A11A Hall Mountain, 58.06 312 ⇓P **P 07 46 50.1 0.0**
baz=58
116A Eloy 58.09 292 ⇑P **P 07 46 51.4 +0.8**
baz=58
ARUT Antelope Range 58.13 299 *eP* **P 07 46 51.3 +0.6**
K12A Draper Farm, C 58.16 304 ⇓P **P 07 46 50.3 -0.7**
baz=58,SNR=5.3
J12A Stokes Ranch, 58.18 305 ⇑P **P 07 46 50.9 -0.2**
baz=58
P13A Bates Ranch, G 58.18 301 ⇓P **P 07 46 50.7 -0.4**
baz=58,SNR=13
Y15A Casa Rosa Ranc 58.22 294 ⇑P **P 07 46 51.9 +0.4**
baz=58
U14A Mt Trumbull 58.26 297 ⇓P **P 07 46 51.7 0.0**
baz=58,SNR=9.6
L12A House Creek Ra 58.34 304 ⇓P **P 07 46 51.7 -0.5**
baz=58
D11A Klaveano Farm, 58.35 310 ⇑P **P 07 46 52.0 -0.2**
baz=58
E11A Bogner Ranch, 58.38 309 ⇑P **P 07 46 51.7 -0.7**
baz=58
V14A Boquillas Ranc 58.40 296 ⇑P **P 07 46 52.4 -0.3**

baz=58
M12A Wells 58.42 303 ⇑P P 07 46 51.8 -1.0
baz=58
F11A Grangeville 58.43 308 ⇑P P 07 46 52.1 -0.7
baz=58
115A Sonoran Desert 58.48 292 ⇑P P 07 46 53.7 +0.5
baz=58
W14A Seligman 58.49 296 ⇓P P 07 46 52.7 -0.6
baz=58
S13A Holt Ranch, En 58.50 298 ⇑P P 07 46 52.6 -0.8
baz=58
X14A Yava 58.53 295 ⇑P P 07 46 53.3 -0.3
baz=58
O12A Currie 58.55 302 ⇑P P 07 46 52.8 -0.8
baz=58
H11A Donnelly 58.55 307 ⇑P P 07 46 53.0 -0.5
baz=58,SNR=14
G11A Walters Elk Ra 58.59 308 P P 07 46 53.7 -0.2
baz=58,SNR=14
N12A Clover Valley, 58.63 302 ⇓P P 07 46 53.1 -1.2
baz=58
I11A Placerville 58.66 306 ⇓P P 07 46 53.5 -0.9
baz=58
NEW Newport 58.67 311 *e*P P 07 46 54.7 +0.4
NEW *es*P sP 07 47 00.2 +1.5
NEW Newport 58.67 311 LR LR 08 10 57.4
comp=Z,299nm,18.0s,MS4.5,baz=350,slow=35
MFID Camas Ranch 58.67 305 ⇑P P 07 46 54.0 -0.4
baz=58,SNR=5.9
T13A Saint George 58.67 298 ⇓P P 07 46 54.1 -0.5
baz=58
Y14A Wickenburg 58.76 294 ⇑P P 07 46 55.5 +0.2
baz=58,SNR=12
P12A McGill 58.85 301 ⇑P P 07 46 54.6 -1.2
baz=58,SNR=5.3
U13A Pakoon Wash 58.87 297 ⇑P P 07 46 54.8 -1.2
baz=59
L11A Cat Creek Ranc 58.88 304 ⇑P P 07 46 55.6 -0.3
baz=59,SNR=5.8
R12A Pony Springs, 58.89 299 ⇑P P 07 46 55.2 -0.9
baz=59
K11A Parker Ranch, 58.95 305 ⇓P P 07 46 55.4 -1.0
baz=59,SNR=12
D10A Wagner Farm, O 58.98 310 ⇓P P 07 46 55.8 -0.7
baz=59
M11A Holland Ranch, 59.06 303 ⇓P P 07 46 56.0 -1.2
baz=59
H10A Noah's Angus R 59.08 307 ⇓P P 07 46 56.3 -1.0
baz=59
F10A Beach Ranch, E 59.15 309 ⇑P P 07 46 57.9 +0.2
baz=59
W13A Hualapai Mount 59.15 296 ⇑P P 07 46 57.9 -0.1
baz=59
G10A Bishop Farm, J 59.20 308 ⇓P P 07 46 58.1 0.0
baz=59
X13A Yucca 59.24 295 ⇓P P 07 46 58.8 +0.2
baz=59,SNR=5.4
S12A Delamar Landin 59.25 299 ⇑P P 07 46 58.2 -0.4
baz=59
O11A Cowboy Ranch, 59.26 302 ⇑P P 07 46 58.0 -0.5
baz=59,SNR=13
B09A Rice 59.31 312 P P 07 46 58.8 -0.1
baz=59,SNR=5.5
L10A Juniper Basin 59.41 304 ⇑P P 07 46 58.8 -0.9
baz=59,SNR=15
BMO Blue Mountains 59.42 307 *e*P P 07 47 00.3 +0.7
Y13A Salome 59.46 294 ⇑P P 07 46 59.6 -0.5
baz=59
A09A Danville 59.50 312 ⇑P P 07 47 00.4 +0.3
baz=59
C09A Chrisman Ranch 59.51 311 ⇑P P 07 47 00.2 0.0
baz=59
K10A MacKenzie Ranc 59.55 305 ⇓P P 07 47 00.6 0.0
baz=59
Q11A Duckwater 59.56 300 ⇓P P 07 46 60.0 -0.7
baz=59
LPIG La Paz 59.57 282 LR LR 08 12 36.5
comp=Z,146nm,18.4s,MS4.2,baz=80,slow=36
M10A I.L. Ranch, Tu 59.59 303 ⇓P P 07 47 00.6 -0.3
baz=59
R11A Troy Canyon, C 59.63 300 P P 07 47 01.7 +0.5
baz=59,SNR=13
T11A Corn Creek, Al 59.63 298 ⇓P P 07 47 01.1 -0.1
baz=59,SNR=9.8
F09A S2 Ranch, Elgi 59.67 308 ⇓P P 07 47 01.8 +0.5
baz=59
D09A Jones Farm, Ri 59.67 310 ⇓P P 07 47 01.0 -0.4
baz=59,SNR=5.6
I09A Lost Marbles R 59.91 306 ⇓P P 07 47 02.8 -0.2
baz=60
J09A Fry Pan Ranch, 60.06 306 ⇓P P 07 47 03.8 -0.2
baz=60
D08A Wollman Farm, 60.08 310 ⇓P P 07 47 04.0 -0.2
baz=60,SNR=5.4
Q10A Clear Creek Ra 60.13 300 ⇓P P 07 47 03.8 -0.9
baz=60
K09A Rome 60.18 305 ⇑P P 07 47 04.3 -0.6
baz=60
R10A Warm Springs 60.19 300 ⇓P P 07 47 04.5 -0.6
baz=60
F08A Pendleton 60.24 309 ⇑P P 07 47 04.6 -0.7
baz=60
M09A Marrel Ranch, 60.28 304 ⇓P P 07 47 04.8 -0.8
baz=60
O09A Fish Creek Ran 60.39 302 ⇑P P 07 47 05.9 -0.5
baz=60
IRM Iron Mountain 60.41 295 ⇑P P 07 47 07.1 +0.5
baz=60
H08A Prairie City 60.44 307 ⇓P P 07 47 06.8 +0.1
baz=60,SNR=5.1
N09A Rock Creek Ran 60.47 303 ⇓P P 07 47 06.6 -0.3
baz=60
GLA Glamis 60.47 294 *e*P P 07 47 07.8 +0.7
GLA Glamis 60.47 294 ⇑P P 07 47 08.0 +0.9
baz=60
G08A Pilot Rock 60.48 308 ⇑P P 07 47 06.3 -0.5
baz=60
I08A Drewsey 60.51 307 ⇑P P 07 47 06.8 -0.3
baz=60
S10A Tonopah Range, 60.51 299 ⇑P P 07 47 07.4 +0.2
baz=60,SNR=5.8
J08A Circle Bar Ran 60.57 306 P P 07 47 07.9 +0.4
baz=60,SNR=14
B07A Winthrop 60.60 312 ⇓P P 07 47 07.3 -0.3
baz=60
HAWA Hanford 60.63 309 *e*P P 07 47 13.3 +5.4
comp=Z,25nm,1.5s,mb5.1
GMRC Granite Mounta 60.64 296 ⇑P P 07 47 08.6 +0.5
baz=60
A07A Ashnola River, 60.65 313 ⇓P P 07 47 07.8 -0.2
baz=60,SNR=5.1
U10A Ash Meadows, A 60.71 298 ⇓P P 07 47 08.9 +0.3
baz=60
C07A Waterville 60.72 311 ⇓P P 07 47 07.8 -0.7
baz=60
K08A Mann Creek Ran 60.72 305 ⇓P P 07 47 08.6 0.0
baz=60,SNR=5.4
L08A Fields 60.75 305 ⇓P P 07 47 08.7 -0.1
baz=60
R09A Tonopah 60.79 300 ⇑P P 07 47 08.9 -0.3
baz=60,SNR=8.9
BC3 Big Chuckw Mtn 60.80 294 ⇑P P 07 47 09.5 +0.3
baz=60
N08A GE Springer Mi 60.94 303 ⇓P P 07 47 09.5 -0.6
baz=61
S09A Goldfield 61.05 299 ⇓P P 07 47 09.4 -1.5
baz=61
OBN Obninsk 61.05 40 *ce*P P 07 47 10.6 0.0
OBN *i* 07 47 17.0
OBN pmax pmax
comp=Z,28nm,1.5s,mb5.2
FURC Furnace Creek, 61.11 298 ⇑P P 07 47 11.3 0.0
baz=61
J07A Hines 61.16 306 ⇓P P 07 47 11.4 -0.1
baz=61,SNR=6.7
K07A Rock Creek Ran 61.27 305 ⇓P P 07 47 12.5 +0.2
baz=61
Q08A Gabbs 61.28 301 ⇑P P 07 47 12.2 -0.2
baz=61
GRAC Grapevine Rang 61.35 299 ⇓P P 07 47 12.8 -0.2
baz=61
L07A Adell 61.51 305 P P 07 47 14.4 +0.5
baz=61,SNR=5.1
N07B Gerlach 61.55 303 ⇑P P 07 47 14.1 -0.2
baz=61
E06A Yakima 61.57 310 ⇓P P 07 47 15.0 +0.7
baz=61
PFO Pinyon Flat Ob 61.61 295 LR LR 08 12 55.2
comp=Z,289nm,21.7s,MS4.4,baz=66,slow=35
G06A Carlson Farm, 61.64 308 ⇓P P 07 47 15.7 +0.9
baz=61
NVAR Mina Array Bea 61.67 300 P P 07 47 13.9 -1.3
comp=Z,1.0nm,0.7s,mb4.0,baz=75,slow=7.6,SNR=9.2
MPMC Manual Prospec 61.71 298 ⇓P P 07 47 15.8 +0.4
baz=61
B05A Bryant 61.93 312 ⇓P P 07 47 17.9 +1.3
baz=62
N06A Buffalo Meadow 62.19 303 ⇓P P 07 47 18.3 -0.3
baz=62
MOD Modoc 62.23 305 *e*P P 07 47 19.4 +0.5
comp=Z,26nm,1.2s,mb5.2
MOD Modoc 62.23 305 ⇑P P 07 47 19.1 +0.3
baz=62
R07C Lee Vining 62.33 300 ⇓P P 07 47 20.2 +0.6
baz=62
O06A Flanigan 62.34 303 ⇓P P 07 47 20.5 +0.9
baz=62
K05A Summer Lake 62.44 306 ⇑P P 07 47 20.2 0.0
baz=62,SNR=5.8
WCN Washoe City 62.53 302 ⇑P P 07 47 21.0 +0.1
baz=62
J05A Fort Rock 62.54 306 ⇓P P 07 47 20.7 -0.1
baz=62,SNR=6.4
M06C Likely Place G 62.54 304 ⇓P P 07 47 21.4 +0.5
baz=62
L05A Lakeview 62.57 305 ⇑P P 07 47 21.7 +0.6
baz=62
HELL Mitchell Peak 62.72 299 ⇑P P 07 47 22.9 +0.7
baz=62
BEKR Beckwourth 62.82 302 ⇑P P 07 47 23.3 +0.5
baz=62
H04A Detroit Lake 62.84 308 ⇓P P 07 47 23.3 +0.5
baz=62,SNR=5.2
ELFS Eagle Lake Fie 62.88 303 ⇑P P 07 47 23.6 +0.4
baz=63
B04A Port Angeles 62.89 312 ⇓P P 07 47 23.7 +0.5
baz=62
R05C Kirkwood Meado 62.93 301 ⇑P P 07 47 24.2 +0.6
baz=63
M05C Lookout 62.98 304 ⇑P P 07 47 23.7 -0.1
baz=63
T06C Millerton Lake 63.15 299 ⇑P P 07 47 24.6 -0.4
baz=63
O04C Chester 63.23 303 ⇑P P 07 47 25.4 -0.1
baz=63
I04A Tendick Farm, 63.23 307 ⇑P P 07 47 25.9 +0.5
baz=63
NLWA Neilton Lookou 63.29 311 *e*P P 07 47 26.5 +0.7
NLWA Neilton Lookou 63.29 311 ⇓P P 07 47 26.0 +0.2
baz=63
CMB Columbia Colle 63.36 301 ⇑P P 07 47 27.3 +0.9
baz=63
HATC Hat Creek Radi 63.36 304 ⇓P P 07 47 27.1 +0.7
baz=63
INK Inuvik 63.58 335 *e*P P 07 47 26.6 -0.7
OHCM Honcut 63.80 302 *e*P P 07 47 29.4 +0.1
ANN Anapa 63.88 51 *e*P P 07 47 27.7 -2.0
ANN *e*S S 07 56 03.4 -1.8
ANN pmax pmax
comp=Z,17nm,0.9s,mb5.1
KEBM Edson Butte 64.83 307 *e*P P 07 47 43.3 +7.3
HOPS Hopland 65.08 302 *e*P P 07 47 44.4 +6.7
MMAI Mount Meron Ar 65.97 64 LR LR 08 14 27.8
comp=Z,68nm,20.6s,MS3.8,baz=55,slow=34
MALT Malatya 66.53 58 *e*P P 07 47 48.0 +0.9
comp=Z,11nm,1.1s,mb4.8
MALT Malatya 66.53 58 *e*P P 07 47 48.0 +1.0
MALT pmax pmax
comp=Z,11nm,1.1s,mb4.8
EIL Elat 66.77 68 LR LR 08 17 07.3
comp=Z,153nm,19.7s,MS4.2,baz=102,slow=36
DAWY Dawson 67.00 332 *e*P P 07 47 54.8 +5.2
ASF Jabal al Asfar 67.44 65 LR LR 08 15 46.3
comp=Z,61nm,18.1s,MS3.9,baz=276,slow=35
KIV Kislovodsk 67.72 51 *e*P P 07 47 55.7 +1.2
KIV pmax pmax
comp=Z,9.0nm,1.1s,mb4.7
COLA College 70.09 334 *c i*P P 07 48 08.7 -0.2
ARU Arti 72.45 35 *c i*P P 07 48 23.7 +0.4
ARU *e* 07 48 45.5
ARU *e* 07 51 05.3
ARU *e*PPP 07 52 46.1
ARU *e*S S 07 57 46.0 -1.0
ARU *e*SS SS 08 02 23.2 -1.5
ARU pmax pmax
comp=Z,19nm,2.5s,mb4.6
AKTO Aktyubinsk 74.83 41 LR LR 08 17 49.6
comp=Z,160nm,21.8s,MS4.3,baz=300,slow=33
TIXI Tiksi 79.52 3 *e*P P 07 49 03.5 +0.1
TIXI pmax pmax
comp=Z,13nm,1.9s,mb4.5
BRVK Borovoye 80.00 34 *e*P P 07 49 06.8 +0.5
BILL Biiibino 80.85 349 *ce*P P 07 49 10.4 -0.2
BILL *e* 07 49 16.1
BILL pmax pmax
comp=Z,16nm,2.5s,mb4.5
KMBO Kilima Mbogo 82.14 96 LR LR 08 24 10.3
comp=Z,564nm,20.9s,MS4.9,baz=278,slow=34
KURK Kurchatov 85.50 33 *e*P P 07 49 34.9 -0.1
ZAL Zalesovo 86.00 28 P P 07 49 37.6 +0.2
ZAL pmax pmax
comp=Z,1.0nm,0.3s
ZALV Zalesovo Beam 86.00 28 P P 07 49 37.6 +0.2
comp=Z,0.7nm,0.3s,mb4.4,baz=335,slow=6.4,SNR=2.4
SEY Seymchan 87.59 353 ⇑*i*P P 07 49 44.9 -0.1
AAK Ala-Archa 88.57 41 ⇑*e*P P 07 49 50.2 +0.2
AAK pmax pmax
comp=Z,9.0nm,2.5s,mb4.7
MKAR Makanchi Array 89.96 34 P P 07 49 56.6 +0.2
MKAR pmax pmax
comp=Z,2.0nm,1.0s
MKAR Makanchi Array 89.96 34 P P 07 49 56.6 +0.1
comp=Z,1.5nm,1.0s,mb4.3,baz=339,slow=6.5,SNR=3.7
BOD Bodaibo 91.45 12 *e*P P 07 49 59.1 -4.1
WMQ Urumqi 94.74 33 *e*P P 07 50 19.5 +0.9
WMQ AP pP 07 50 25.0 +3.1
WMQ SKS 08 00 53.0
WMQ *e*S S 08 01 29.0 -3.1
WMQ AMB AMB
comp=Z,10.0nm,1.1s,mb5.2
WMQ AMB AMB
comp=Z,141nm,3.9s
WMQ LR LR
comp=N,251nm,27.3s,MS4.7
WMQ LR LR
comp=E,227nm,25.2s,MS4.7
WMQ LR LR
comp=Z,234nm,24.0s,MS4.6
LZH Lanzhou 108.23 28 *e*PDIF Pdif 07 51 14.0 -4.9
LZH PP PP 07 55 46.1 -1.8
LZH *e*S Sdif 08 03 12.3 -13
LZH PP PP
comp=Z,99nm,7.3s
LZH LR LR
comp=N,275nm,18.7s
LZH LR LR
comp=Z,518nm,20.3s,MS5.1
BJI Beijing 108.72 17 PDIF Pdif 07 51 20.0 -1.0
BJI PP PP 07 55 49.8 -1.3
BJI SS SS 08 11 05.1 -2.4
BJI PP PP
comp=Z,121nm,7.2s
BJI LR LR
comp=N,143nm,19.7s,MS4.8
BJI LR LR
comp=E,201nm,21.3s,MS4.8
BJI LR LR
comp=Z,298nm,29.8s
CD2 Chengdu 112.64 31 *e*PKP PKiKP 07 55 33.3 -0.7
CD2 PP PP 07 56 22.3 +2.5
CD2 PKS 07 59 08.8
CD2 SKS SKSdf 08 02 40.5 -5.9
CD2 SKKS SKKSac 08 03 11.4 -12
CD2 PP PP
comp=Z,120nm,10.2s
CD2 LR LR
comp=N,130nm,22.4s
CD2 LR LR
comp=Z,250nm,24.4s,MS4.7
SYO Syowa Base 114.17 157 ⇑*e*PP PP 07 56 33.2 +2.2
NJ2 Nanjing 116.97 17 *e*PKP PKPdf 07 55 40.1 -2.2
KMI Kunming 117.03 35 PKP PKPdf 07 55 41.4 -1.2
KMI PP PP 07 56 56.0 +5.1
KMI LR LR
comp=Z,59nm,27.6s,MS4.1
GYA Guiyang 117.75 31 *e*PDIF Pdif 07 52 01.3 +0.1
GYA PKP PKPdf 07 55 44.9 +1.0
GYA PP PP 07 57 01.0 +5.2
GYA PKS 07 59 20.3
GYA SKS SKSdf 08 02 54.8 -1.6
GYA SKKS SKKSac 08 03 51.8 -6.2
GYA S Sdif 08 04 40.6 -4.4
GYA SS SS 08 13 06.8 -1.1
GYA PP PP
comp=Z,120nm,8.0s
GYA LR LR
comp=N,460nm,22.9s,MS5.2
GYA LR LR
comp=E,490nm,20.8s,MS5.2
GYA LR LR
comp=Z,580nm,22.0s,MS5.2

ROM ***24*** *08:02:24.6±2.1,3806N×21.17E,h10km,Md3.3/8,Ml3.8/14, Error ellipse: s-maj=33.4km s-min=5.7km az=65.0*
TIR ***24*** *08:02:29.4±6.7,3863N×1860E,h0km±999km*
BEO ***24*** *08:02:29.3±1.4,3813N×2013E,h15km,ML3.7/3*
IDC ***24*** *08:02:30.7±1.2,3843N×2038E,h0km,mb3.8/12, mb1 3.8/15,mb1mx3.7/28,mbtmp3.7/15,ML3.8/3,MS3.0/1, Ms1 3.0/1,ms1mx2.5/39,Error ellipse: s-maj=24.9km s-min=16.4km az=133.0*
ISCJB ***24*** *08:02:32.6±0.5,3835N±002×2038E±002,h10km±3km, mb3.7/13,Error ellipse: s-maj=3.4km s-min=2.6km az=30.3*
THE ***24*** *08:02:32.9,3832N×2034E,h3km,ML4.3*
ATH ***24*** *08:02:32.9,3835N×2051E,h6km±1km,MD3.9/18,ML3.8*
CSEM ***24*** *08:02:33.2±0.1,3835N×2035E,h2km,ML3.8,Error ellipse: s-maj=2.1km s-min=1.1km az=178.0*
NEIC ***24*** *08:02:35.0,3820N×2037E,h10km,ML4.3(THE), ML3.8(ATH),ML3.8(ROM),After ATH.*
NAO ***24*** *08:02:57.0,40.19N×1856E,h33km,mb3.4*
ISC 24 08:02:33.3±0.5,3835N±002×2040E±002,h6km±3km,n131, σ1§29/165,**mb3.7**/13,**8C-7D,Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.23**	**140**	*e*Pg	**Pg**	**08 02 36.8**	**-1.0**
VLS	**Valsamata**	**0.23**	**140**	⇓*i*PG	**Pg**	**08 02 36.9**	**-0.9**
VLS				*e*SG	**Sg**	**08 02 40.2**	**-0.6**
KFL	**Anninata**	**0.39**	**129**	*e*Pg	**Pg**	**08 02 39.5**	**-1.2**
LKD	**Levkas**	**0.40**	**29**	*e*Pg	**Pg**	**08 02 40.2**	**-0.8**
LKD				*e*Sg	**Sg**	**08 02 46.6**	**+0.3**
RLS	**Riolos of Patr**	**0.89**	**109**	⇓*i*PG	**Pg**	**08 02 48.2**	**-2.1**
RLS				*e*SB	**Sb**	**08 02 59.1**	**-4.0**
SELA	**Sela**	**1.18**	**93**	*e*Pg	**Pn**	**08 02 53.0**	**-3.2**
IGT	**Igoumenitsa**	**1.18**	**357**	*e*Pg	**Pg**	**08 02 57.1**	**+1.2**
IGT				*e*Sg	**Sg**	**08 03 13.8**	**+2.7**
EVR	**Evrytania**	**1.24**	**63**	⇓*i*PN	**Pn**	**08 02 54.5**	**-2.5**
JAN	**Janina**	**1.35**	**15**	*e*PB	**Pb**	**08 02 58.8**	**-0.1**
KEK	**Kerkira**	**1.44**	**341**	⇑*i*PB	**Pb**	**08 03 00.5**	**+0.1**
KEK	**Kerkira**	**1.44**	**341**	Pn	**Pn**	**08 02 59.1**	**-0.7**
KEK	**Kerkira**	**1.44**	**341**	⇑*i*Pb	**Pb**	**08 03 00.5**	**+0.1**
SRN	**Sarande**	**1.56**	**349**	*e*PN	**Pn**	**08 03 04.4**	**+3.0**
SRN				*i* SN	**Sn**	**08 03 24.8**	**+2.9**
MEV	**Metsovon**	**1.57**	**24**	*e*Pg	**Pg**	**08 03 02.5**	**-0.8**
AGG	**Agios Georgios**	**1.65**	**66**	*e*Pb	**Pb**	**08 03 02.9**	**-1.1**
AGG				*e*Sb	**Sb**	**08 03 28.3**	**+3.3**
ITM	**Ithomi**	**1.68**	**134**	*e*PG	**Pn**	**08 03 02.7**	**-0.5**
ITM				*e*SB	**Sb**	**08 03 25.9**	**-0.1**
THL	**Klokotos Trika**	**1.74**	**46**	*e*Pb	**Pb**	**08 03 05.1**	**-0.5**
THL	**Klokotos Trika**	**1.74**	**46**	*e*PB	**Pb**	**08 03 05.2**	**-0.4**
PYL	**PYLOS**	**1.80**	**143**	*e*Pb	**Pn**	**08 03 03.9**	**-0.9**
VLX	**Vlachokerasia**	**1.85**	**122**	*e*Pb	**Pb**	**08 03 09.4**	**+2.0**
LTK	**Loutraki**	**2.05**	**99**	*e*Pn	**Pn**	**08 03 07.6**	**-0.6**
LKR	**Lokris**	**2.06**	**81**	*e*Pn	**Pn**	**08 03 08.3**	**0.0**
LKR				*e*Sn	**Sn**	**08 03 39.2**	**+4.9**
LKR	**Lokris**	**2.06**	**81**	*e*PN	**Pn**	**08 03 08.6**	**+0.3**
KZN	**Kozani**	**2.22**	**28**	*e*PN	**Pn**	**08 03 11.4**	**+0.8**
SCTE	**Santa Cesarea**	**2.28**	**319**	⇑*i*Pn	**Pn**	**08 03 10.8**	**-0.6**
KBN	**Korca**	**2.29**	**7**	*e*PN	**Pn**	**08 03 13.4**	**+1.9**
KBN				*i* SN	**Sg**	**08 03 54.2**	**+7.5**
LIT	**Litokhoron**	**2.38**	**42**	*e*Pn	**Pn**	**08 03 15.4**	**+2.6**
LIT				*e*Sn	**Sn**	**08 03 46.5**	**+4.2**
DID	**Didima**	**2.40**	**110**	*e*Pn	**Pn**	**08 03 13.3**	**+0.4**
DID				*e*Sn	**Sn**	**08 03 43.9**	**+1.3**
NEO	**Neokhori**	**2.40**	**66**	*e*PN	**Pn**	**08 03 14.3**	**+1.3**
XOR	**Xorichti**	**2.40**	**64**	*e*Pn	**Pn**	**08 03 15.1**	**+2.1**
NAIG	**Nisos Aigina**	**2.51**	**103**	*e*PB	**Pn**	**08 03 14.5**	**0.0**
FNA	**Florina**	**2.54**	**17**	*e*Pn	**Pn**	**08 03 15.5**	**+0.6**
FNA				*e*Sn	**Sn**	**08 03 47.2**	**+1.1**
FNA	**Florina**	**2.54**	**17**	*e*Pn	**Pn**	**08 03 15.5**	**+0.5**
FNA				*e*Sn	**Sn**	**08 03 47.2**	**+1.0**
VLI	**Veliai**	**2.59**	**128**	*e*PN	**Pn**	**08 03 17.4**	**+1.7**
VLI				*e*SN	**Sn**	**08 03 48.4**	**+0.9**
ATH	**Athens Observa**	**2.64**	**97**	*e*PN	**Pn**	**08 03 17.0**	**+0.7**
LCI	**Lecce**	**2.66**	**319**	Pn	**Pn**	**08 03 16.0**	**-0.6**
KVR	**Kavouri**	**2.71**	**100**	*e*PN	**Pn**	**08 03 18.5**	**+1.2**
PTL	**Penteli**	**2.74**	**95**	*e*PN	**Pn**	**08 03 19.0**	**+1.2**
BIA	**Bitola**	**2.75**	**15**	*e*Pn	**Pn**	**08 03 18.4**	**+0.5**
BIA				*e*Sn	**Sn**	**08 03 53.2**	**+1.7**
BIA	**Bitola**	**2.75**	**15**	*e*Pn	**Pn**	**08 03 19.6**	**+1.7**
BIA				*e*Sn	**Sn**	**08 03 50.4**	**-1.1**
BIA	**Bitola**	**2.75**	**15**	*e*Pn	**Pn**	**08 03 23.5**	**+5.6**
BIA				*e*Sn	**Sn**	**08 03 53.5**	**+2.1**
BIA	**Bitola**	**2.75**	**15**	*e*Pn	**Pn**	**08 03 18.4**	**+0.5**
BIA				*e*Sn	**Sn**	**08 03 53.5**	**+2.0**
OHR	**Ohrid**	**2.77**	**6**	*e*Pn	**Pn**	**08 03 16.1**	**-2.0**
OHR	**Ohrid**	**2.77**	**6**	*e*Pn	**Pn**	**08 03 16.3**	**-1.8**
OHR	**Ohrid**	**2.77**	**6**	*e*Pn	**Pn**	**08 03 16.8**	**-1.3**
OHR				*e*Sn	**Sn**	**08 03 52.5**	**+0.6**
AOS	**Alonnisos**	**2.84**	**72**	*e*Pn	**Pn**	**08 03 18.5**	**-0.6**
KYTH	**Kithira**	**2.95**	**134**	*e*PN	**Pn**	**08 03 22.0**	**+1.4**
TIP	**Timpagrande** 15nm,0.4s	**2.96**	**287**	Pn	**Pn**	**08 03 20.7**	**-0.1**
TIP	**Timpagrande**	**2.96**	**287**	P	**Pn**	**08 03 21.7**	**+0.9**
SERS	**Sersale** 41nm,0.6s	**2.98**	**284**	Pn	**Pn**	**08 03 21.0**	**-0.1**
GRG	**Griva**	**3.02**	**30**	*e*Pn	**Pn**	**08 03 22.2**	**+0.6**
KRUS	**Krusevo**	**3.08**	**12**	*e*Pn	**Pn**	**08 03 22.9**	**+0.5**
KRUS				*e*Sn	**Sn**	**08 04 00.4**	**+0.9**
KRUS	**Krusevo**	**3.08**	**12**	*e*Pn	**Pn**	**08 03 22.9**	**+0.5**
KRUS				*e*Sn	**Sn**	**08 03 59.2**	**-0.3**
KRUS	**Krusevo**	**3.08**	**12**	*e*Pn	**Pn**	**08 03 22.9**	**+0.5**
KRUS				*e*Sn	**Sn**	**08 03 59.1**	**-0.4**
PLG	**Polygyros**	**3.10**	**49**	*e*PN	**Pn**	**08 03 23.7**	**+1.0**
PLAC	**Placanica**	**3.12**	**273**	Pn	**Pn**	**08 03 22.6**	**-0.3**
TA1	**Taranto**	**3.17**	**311**	*e*Pn	**Pn**	**08 03 24.8**	**+1.2**
TA1				*e*Sn	**Sn**	**08 04 01.8**	**+0.1**
QSH	**Qafa e Shtames**	**3.19**	**353**	*i* PN	**Pn**	**08 03 28.0**	**+4.2**
QSH				*i* SN	**Sn**	**08 04 02.0**	**-0.1**
PHP	**Peshkopia**	**3.33**	**0**	*e*Pn	**Pn**	**08 03 25.4**	**-0.4**
PHP				*i* Sn	**Sn**	**08 04 04.8**	**-0.8**
PE1	**Pezze di Greco**	**3.36**	**318**	*e*Pn	**Pn**	**08 03 26.5**	**+0.3**
CARO	**Carolei**	**3.39**	**287**	Pn	**Pn**	**08 03 28.2**	**+1.6**
KNT	**Kendrikon**	**3.40**	**34**	*e*Pn	**Pn**	**08 03 26.7**	**0.0**
VAY	**Valandovo**	**3.40**	**29**	*e*Pn	**Pn**	**08 03 29.7**	**+3.0**
VAY	**Valandovo**	**3.40**	**29**	*e*Pn	**Pn**	**08 03 25.6**	**-1.2**
VAY	**Valandovo**	**3.40**	**29**	*e*Pn	**Pn**	**08 03 26.7**	**-0.1**
VAY	**Valandovo**	**3.40**	**29**	*e*Pn	**Pn**	**08 03 28.3**	**+1.5**
VAY				*e*Sn	**Sn**	**08 04 05.0**	**-2.4**
VAY	**Valandovo**	**3.40**	**29**	*e*Pn	**Pn**	**08 03 28.3**	**+1.5**
VAY				*e*Sn	**Sn**	**08 04 04.9**	**-2.5**
OUR	**Ouranopolis**	**3.41**	**53**	*e*Pn	**Pn**	**08 03 26.2**	**-0.7**
SOI	**Samo**	**3.44**	**267**	Pn	**Pn**	**08 03 26.8**	**-0.5**
MPAZ	**Palizzi**	**3.49**	**265**	Pn	**Pn**	**08 03 27.9**	**-0.1**
ORI	**Oriolo Calabro** 147nm,0.4s	**3.51**	**300**	Pn	**Pn**	**08 03 30.4**	**+2.1**
NOCI	**Noci**	**3.54**	**314**	Pn	**Pn**	**08 03 28.2**	**-0.6**
JOPP	**Joppolo** 37nm,0.6s	**3.55**	**275**	Pn	**Pn**	**08 03 28.8**	**-0.1**
SCLL	**Scilla** 16nm,0.3s	**3.69**	**270**	Pn	**Pn**	**08 03 30.3**	**-0.5**
PUK	**Puka**	**3.71**	**354**	*e*PN	**Pn**	**08 03 30.6**	**-0.4**
SG1	**Sgolgore (BA)**	**3.80**	**312**	*e*Pn	**Pn**	**08 03 30.9**	**-1.4**
SCHR	**S. Chirico Rap** 58nm,0.4s	**3.83**	**300**	Pn	**Pn**	**08 03 33.8**	**+1.1**
MSRU	**Castanea** 165nm,0.4s	**3.85**	**270**	Pn	**Pn**	**08 03 32.8**	**-0.2**
AMUR	**Altamura**	**3.89**	**312**	Pn	**Pn**	**08 03 32.7**	**-0.8**
SIRI	**Monte Sirino -** 86nm,0.4s	**3.96**	**299**	Pn	**Pn**	**08 03 35.8**	**+1.3**
PTRP	**Pietrapertosa**	**4.00**	**304**	Pn	**Pn**	**08 03 36.0**	**+1.0**
NVR	**Nevrokopi**	**4.00**	**41**	*e*PN	**Pn**	**08 03 37.6**	**+2.5**

MCEL	**Monticello**	**4.07 300**	Pn	**Pn**	**08 03 37.6**	**+1.6**
	98nm,0.4s					
MTSN	**Montesano sull**	**4.08 299**	Pn	**Pn**	**08 03 38.3**	**+2.2**
	194nm,0.9s					
MGR	**Morigerati**	**4.17 297**	Pn	**Pn**	**08 03 37.6**	**+0.3**
	144nm,0.6s					
CDT	**Castel del Mon**	**4.19 312**	*e*Pn	**Pn**	**08 03 37.4**	**-0.2**
VPL	**Vulcano Piano**	**4.26 272**	Pn	**Pn**	**08 03 38.9**	**+0.3**
	163nm,0.5s					
BULG	**Bulgheria - Ca**	**4.27 295**	Pn	**Pn**	**08 03 39.9**	**+1.2**
PALZ	**Palazzo San Ge**	**4.29 308**	Pn	**Pn**	**08 03 39.6**	**+0.5**
HAVL	**Avola**	**4.41 253**	Pn	**Pn**	**08 03 39.7**	**-1.0**
CMPR	**Campora**	**4.41 298**	Pn	**Pn**	**08 03 41.6**	**+0.9**
	32nm,0.4s					
CDRU	**Civita di Ruta**	**4.49 300**	Pn	**Pn**	**08 03 43.7**	**+2.0**
	40nm,0.3s					
BARS	**Barje**	**4.59 13**	⇓*i*Pn	**Pn**	**08 03 42.2**	**-0.9**
BARS			*e*Sn	**Sn**	**08 04 35.4**	**-1.3**
MCRV	**Calabrutti - M**	**4.72 303**	Pn	**Pn**	**08 03 46.5**	**+1.6**
	65nm,0.5s					
SNAL	**S. Angelo Dei**	**4.76 304**	Pn	**Pn**	**08 03 46.5**	**+1.0**
	89nm,0.9s					
SGTA	**Sant Agata di**	**4.77 307**	Pn	**Pn**	**08 03 46.3**	**+0.7**
FGMS	**Monte Sant'Ang**	**4.78 316**	Pn	**Pn**	**08 03 45.2**	**-0.6**
MS1	**Monte Sant'Ang**	**4.79 316**	*e*Pn	**Pn**	**08 03 45.6**	**-0.2**
CAFE	**Carife**	**4.80 305**	Pn	**Pn**	**08 03 47.6**	**+1.6**
	52nm,0.6s					
MSAG	**Monte S. Angel**	**4.81 316**	Pn	**Pn**	**08 03 45.7**	**-0.4**
SGRT	**San Giovanni R**	**4.93 315**	Pn	**Pn**	**08 03 46.9**	**-0.9**
RGNG	**Rignano Grg**	**4.97 313**	Pn	**Pn**	**08 03 48.4**	**+0.1**
SMG	**Samos**	**5.12 95**	P	**Pn**	**08 03 53.4**	**+3.0**
MOCO	**Biccari - m.te**	**5.67 304**	Pn	**Pn**	**08 03 50.7**	**-7.3**
DIVS	**Divibare**	**5.75 357**	*e*Pn	**Pn**	**08 03 55.7**	**-3.3**
DIVS			*e*Sn	**Sn**	**08 05 02.2**	**-3.0**
NVLJ	**Novalja**	**7.46 328**	*e*Pn	**Pn**	**08 04 20.6**	**-1.9**
NVLJ			Sn	**Sn**	**08 05 41.7**	**-5.8**
MLR	**Muntele Rosu**	**8.24 28**	Pn	**Pn**	**08 04 34.1**	**+0.9**
	0.3nm,0.3s,baz=150,slow=9.2,SNR=5.1					
VOY	**Vojsko**	**9.06 330**	*e*P	**Pn**	**08 04 42.7**	**-1.8**
VOY			*e*S	**Sn**	**08 06 21.5**	**-5.3**
OBKA	**Obir**	**9.22 334**	⇑*i*Sn	**Sn**	**08 06 22.0**	**-8.7**
OBKA	**Obir**	**9.22 334**	⇓*i*Pn	**Pn**	**08 04 45.4**	**-1.3**
OBKA			*i* Sn	**Sn**	**08 06 22.0**	**-8.7**
OBKA	**Obir**	**9.22 334**	⇓*i*Pn	**Pn**	**08 04 45.4**	**-1.3**
OBKA			⇓*i*Sn	**Sn**	**08 06 27.9**	**-2.8**
MOA	**Molln**	**10.49 337**	⇑*i*Pn	**Pn**	**08 05 02.0**	**-2.0**
MOA	**Molln**	**10.49 337**	⇑*i*Sn	**Sn**	**08 06 52.5**	**-9.4**
MOA	**Molln**	**10.49 337**	⇑*i*Pn	**Pn**	**08 05 03.7**	**-0.3**
MOA			⇑*i*Sn	**Sn**	**08 06 56.1**	**-5.8**
GERES	**GERESS Array B**	**11.55 337**	Pn	**Pn**	**08 05 14.9**	**-3.6**
	0.4nm,0.3s,baz=150,slow=14,SNR=3.9					
AKASG	**Malin Array Be**	**13.84 24**	Pn	**Pn**	**08 05 48.7**	**-1.1**
	0.3nm,0.3s,baz=211,slow=11,SNR=2.7					
MDT	**Midelt**	**21.05 262**	P	**P**	**08 07 17.5**	**-0.4**
	0.9nm,0.7s,mb3.2,baz=31,slow=12,SNR=2.2					
MDT			LR	LR	08 14 53.0	
	comp=Z,48nm,21.8s,baz=179,slow=35					
HFS	**Hagfors**	**22.21 351**	P	**P**	**08 07 28.1**	**-2.0**
	2.4nm,0.6s,mb3.8,baz=152,slow=9.9,SNR=11					
EKA	**Eskdalemuir Ar**	**23.23 325**	P	**P**	**08 07 38.6**	**-2.3**
	1.5nm,0.7s,mb3.5,baz=121,slow=8.9,SNR=4.7					
FINES	**FINESS Array B**	**23.38 7**	P	**P**	**08 07 38.7**	**-3.8**
FINES	**FINESS Array B**	**23.38 7**	P	**P**	**08 07 38.7**	**-3.8**
	0.9nm,0.4s,mb3.5,baz=177,slow=8.5,SNR=7.2					
NB2	**NORSAR Subarra**	**23.43 349**	P	**P**	**08 07 41.1**	**-1.8**
	comp=Z,1.8nm,0.8s,mb3.5,baz=164,slow=11					
NOA	**NORSAR Array B**	**23.43 349**	P	**P**	**08 07 40.6**	**-2.4**
	comp=Z,0.5nm,0.5s,mb3.2,baz=158,slow=11,SNR=5.9					
JOF	**Joensuu**	**25.48 12**	*e*p	**P**	**08 07 56.6**	**-5.2**
	comp=Z,1.9nm,0.6s,mb3.8					
TORD	**Torodi Ar. Bea**	**30.11 219**	P	**P**	**08 08 42.8**	**-0.9**
	comp=Z,0.8nm,0.6s,mb3.6,baz=33,slow=9.0,SNR=7.7					
ARCES	**ARCESS Array B**	**31.36 3**	P	**P**	**08 08 51.3**	**-2.9**
	comp=Z,1.5nm,0.8s,mb3.9,baz=194,slow=2.5,SNR=4.8					
MKAR	**Makanchi Array**	**45.29 59**	P	**P**	**08 10 48.5**	**-3.0**
	comp=Z,0.6nm,0.5s,mb3.7,baz=280,slow=7.2,SNR=7.3					
ZALV	**Zalesovo Beam**	**45.64 48**	P	**P**	**08 10 51.5**	**-2.7**
	comp=Z,1.7nm,0.4s,mb4.4,baz=288,slow=9.1,SNR=4.2					
SCHQ	**Schefferville**	**58.27 317**	P	**P**	**08 12 26.8**	**-1.5**
	comp=Z,1.3nm,0.4s,mb4.3,baz=83,slow=5.9,SNR=11					
YKA	**Yellowknife Ar**	**73.19 340**	P	**P**	**08 14 02.7**	**-1.7**
	comp=Z,0.2nm,0.6s,mb3.2,baz=36,slow=5.6,SNR=6.3					
ULM	**Lac du Bonnet**	**75.50 324**	P	**P**	**08 14 16.1**	**-2.0**
	comp=Z,0.9nm,0.6s,mb3.9,baz=46,slow=1.3,SNR=3.5					

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*IDC **24** 08:23:42.6±0.9, 825S×15703E, h0km, mb4.2/6, mb1 4.4/8, mb1mx4.2/16, mbtmp4.2/8, ML4.0/2, MS3.8/1, Ms1 3.8/1, ms1mx2.9/29, Error ellipse: s-maj=30.9km s-min=20.7km az=158.0*

*ISCJB **24** 08:23:43.7±5.2, 83S±0.1×15699E±007, h12km±32km, mb4.3/9, MS4.1/2, Error ellipse: s-maj=20.7km s-min=10.6km az=9.4*

*NEIC **24** 08:23:44.0±0.7, 827S×15706E, h10km, mb4.5/3, Error ellipse: s-maj=19.7km s-min=11.6km az=158.0*

*BJI **24** 08:23:45.7, 765S×15704E, h5km, mb4.9, Ms4.7, Msz4.2*

ISC 24 08:23:44.7±6.2, 83S±01×15701E±007, h9km±38km, n16, σ0986/17, mb4.3/9, MS4.1/2, 1C, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**3.12 111**		Pn	**Pn**	**08 24 33.5**	**-0.5**
HNR				Sn	**Sn**	**08 25 12.0**	**+0.6**
HNR	**Honiara**	**3.12 111**		Pn	**Pn**	**08 24 33.5**	**-0.5**
	67nm,0.3s,baz=79,slow=1.4,SNR=15						
HNR				Sn	**Sn**	**08 25 12.0**	**+0.6**
	40nm,0.3s,baz=92,slow=22,SNR=4.0						
CTA	**Charters Tower**	**15.68 220**		Pn	**Pn**	**08 27 27.0**	**+1.1**
CTA	**Charters Tower**	**15.68 220**		Pn	**Pn**	**08 27 27.0**	**+1.1**
	0.1nm,0.3s,baz=59,slow=13,SNR=2.8						
WRAB	**Tennant Creek**	**24.80 240**		*e*P	**P**	**08 29 06.5**	**-0.6**
	7.0nm,0.8s,mb4.2						
WB2	**Warramunga Arr**	**24.80 240**		*e*P	**P**	**08 29 07.4**	**+0.2**
WRA	**Warramunga Arr**	**24.81 240**		P	**P**	**08 29 07.2**	**-0.1**
	5.8nm,0.8s,mb4.2,baz=65,slow=9.5,SNR=34						
WRA				PcP	PcP	08 32 43.0	-0.8
	2.6nm,0.8s,baz=63,slow=2.3,SNR=10						
WRA				LR	LR	08 38 31.2	
	comp=Z,207nm,19.1s,MS3.6,baz=50,slow=36						
ASAR	**Alice Springs**	**26.89 233**		P	**P**	**08 29 24.9**	**-1.3**
	1.2nm,0.9s,mb3.4,baz=58,slow=9.7,SNR=9.0						
ASAR				PcP	PcP	08 32 48.5	-0.1
	1.3nm,1.0s,baz=60,slow=3.6,SNR=5.8						
STKA	**Stephens Creek**	**27.50 209**		*e*P	**P**	**08 29 31.7**	**+0.2**
	5.6nm,0.9s,mb4.1						
STKA	**Stephens Creek**	**27.50 209**		P	**P**	**08 29 32.5**	**+1.0**
	7.6nm,0.9s,mb4.2,baz=29,slow=12,SNR=11						
STKA				PcP	PcP	08 32 47.8	-2.0
	1.9nm,0.9s,baz=0.0,slow=1.0,SNR=2.7						
KMI	**Kunming**	**62.39 304**		⇑P	**P**	**08 34 10.4**	**+2.2**
KMI				AMB	AMB		
	comp=Z,24nm,0.8s,mb5.4						
KMI				LR	LR		
	comp=N,169nm,12.3s,MS4.6						
KMI				LR	LR		
	comp=E,168nm,12.7s,MS4.6						
KMI				LR	LR		
	comp=Z,174nm,19.5s						
QSPA	**South Pole Qui**	**81.69 180**		*e*P	**P**	**08 36 01.8**	**-1.1**
	comp=Z,20nm,1.2s,mb4.9						
MKAR	**Makanchi Array**	**85.69 318**		P	**P**	**08 36 23.7**	**-0.3**
	comp=Z,2.6nm,0.9s,mb4.5,baz=101,slow=6.4,SNR=4.2						
NVAR	**Mina Array Bea**	**90.96 51**		P	**P**	**08 36 49.2**	**-0.1**
	comp=Z,0.7nm,0.8s,mb4.1,baz=270,slow=5.4,SNR=2.8						
YKA	**Yellowknife Ar**	**96.55 28**		P	**P**	**08 37 14.2**	**-0.2**
	comp=Z,0.8nm,0.9s,mb4.1,baz=272,slow=5.0,SNR=4.4						
BDFB	**Brasilia**	**145.65 134**		PKPbc	PKPbc	08 43 22.0	-2.8
	comp=Z,2.8nm,0.9s,baz=176,slow=14,SNR=7.4						

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*BJI **24** 08:24:40.2, 4851N×15506E, h29km, mB4.8, mb4.9, Ms4.5, Msz4.3*

*SKHL **24** 08:24:40.0±1.0, 4830N×15520E, h32km±19km, mb5.4/6, mbh5.5/1, mbv6.1/2, ms4.5/3, msh5.5/3*

*ISCJB **24** 08:24:40.3±0.8, 4834N±003×15472E±002, h11km±5km, mb4.8/130, MS4.2/36, Error ellipse: s-maj=5.2km s-min=2.1km az=159.3*

*NEIC **24** 08:24:41.8±0.2, 4837N×15464E, h10km, mb4.9/81, MS4.4/8, Error ellipse: s-maj=5.4km s-min=3.0km az=162.0*

*MOS **24** 08:24:42.7±0.9, 4834N×15465E, h28km, mb4.9/54, MS4.1/23, Error ellipse: s-maj=8.1km s-min=4.8km az=92.3*

*JMA **24** 08:24:42.8±0.7, 4826N×155.15E, h30km, M5.4*

*SZGRF **24** 08:24:45.5, 4797N×154.16E, h33km, mb4.8, MS4.3, Kuril Islands, Russia*

*IDC **24** 08:24:45.4±5.0, 4842N×154.59E, h38km±42km, mb4.1/23, mb1 4.3/24, mb1mx4.3/27, mbtmp4.2/24, ML4.5/1, MS4.1/14, Ms1 4.1/14, ms1mx3.8/36, Error ellipse: s-maj=16.9km s-min=11.5km az=147.0*

ISC 24 08:24:44.6±0.8, 4836N±003×15467E±002, h27km±5km, h37km±1.8km: pP-P, n606, σ0980/628, mb4.8/130, MS4.2/36, 102C-88D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.51**	**22**	*e*PN	**Pn**	**08 25 21.0**	**-2.6**
SKR				*e*S	**Sn**	**08 25 52.5**	**-0.8**
SKR				pmax	pmax		
	comp=N,160nm,0.9s						
SKR				pmax	pmax		
	comp=Z,300nm,0.9s						
SKR				smax			
	comp=N,3μm,0.5s						
SKR				smax			
	comp=E,2μm,0.5s						
SKR				smax			
	comp=E,8μm,6.0s						
SKR				MLR	MLR		
	comp=N,8μm,8.0s						
SKR				MLR	MLR		
	comp=E,8μm,8.0s						
SKR				MLR	MLR		
	comp=Z,5μm,8.0s						
SKR	**Severo-Kuril's**	**2.51**	**22**	*e*P	**Pn**	**08 25 21.0**	**-2.6**
SKR				AMB	AMB	08 25 21.5	
	comp=Z,160nm,0.9s						
SKR				AMB	AMB	08 25 21.5	
	comp=Z,300nm,0.9s						
SKR				*e*S	**Sn**	**08 25 52.5**	**-0.8**
SKR				A		08 26 03.0	
	comp=Z,3μm,0.5s						
SKR				A		08 26 03.0	
	comp=Z,2μm,0.5s						
SKR				A		08 26 03.0	
	comp=Z,1μm,0.5s						
SKR				A		08 26 06.0	
	comp=Z,5μm,2.0s						
SKR				A		08 26 06.0	
	comp=Z,8μm,2.0s						
SKR				A		08 26 06.0	
	comp=Z,5μm,2.0s						
SKR				A		08 26 06.0	
	comp=Z,7μm,2.0s						
PET	**Petropavlovsk**	**5.31**	**27**	*e*Pn	**Pn**	**08 26 02.2**	**+0.1**
PET				*e*Sn	**Sn**	**08 27 00.8**	**-1.6**
PET	**Petropavlovsk**	**5.31**	**27**	⇑*i*PN	**Pn**	**08 26 02.7**	**+0.6**
PET				pmax	pmax		
	comp=Z,300nm,1.4s						
PET				pmax	pmax		
	comp=Z,387nm,0.5s						
PET				MLR	MLR		
	comp=Z,400nm,18.0s						
PET				MLR	MLR		
	comp=Z,800nm,12.0s						
KUR	**Kuril'sk**	**5.62**	**239**	⇑*i*PN	**Pn**	**08 26 07.3**	**+0.9**
KUR				*i* S	**Sn**	**08 27 12.0**	**+2.0**
KUR				pmax	pmax		
	comp=N,210nm,0.7s						
KUR				pmax	pmax		
	comp=E,220nm,0.7s						
KUR				pmax	pmax		
	comp=Z,1μm,0.7s						
KUR				pmax	pmax		
	comp=Z,4μm,2.0s						
KUR				smax			
	comp=N,14μm,2.0s						
KUR				smax			
	comp=E,9μm,2.0s						
KUR				smax			
	comp=N,3μm,1.0s						
KUR				smax			
	comp=E,4μm,1.0s						
KUR				MLR	MLR		
	comp=N,3μm,12.0s						
KUR				MLR	MLR		
	comp=E,3μm,12.0s						
KUR				MLR	MLR		
	comp=Z,3μm,12.0s						
KUR	**Kuril'sk**	**5.62**	**239**	⇑*i*P	**Pn**	**08 26 07.3**	**+0.9**
KUR				AMB	AMB	08 26 09.2	
	comp=Z,4μm,2.0s						
KUR				AMB	AMB	08 26 09.2	
	comp=Z,206nm,0.7s						
KUR				AMB	AMB	08 26 09.2	
	comp=Z,224nm,0.7s						
KUR				AMB	AMB	08 26 09.2	
	comp=Z,1μm,0.7s						
KUR				*e*S	**Sn**	**08 27 12.0**	**+2.0**
KUR				A		08 27 20.0	
	comp=Z,14μm,2.0s						
KUR				A		08 27 20.0	
	comp=Z,9μm,2.0s						
KUR				A		08 27 22.0	
	comp=Z,3μm,1.0s						
KUR				A		08 27 22.0	
	comp=Z,4μm,1.0s						
KUR				AMS	AMS	08 28 42.0	
	comp=Z,3μm,12.0s						
KUR				AMS	AMS	08 28 42.0	
	comp=Z,3μm,12.0s						
YUK	**Yuzh-Kuril'sk**	**7.49**	**238**	*e*P	**Pn**	**08 26 34.8**	**+2.8**
YUK				AMB	AMB	08 26 40.2	
	comp=Z,800nm,0.5s						
YUK				AMB	AMB	08 26 46.5	
	comp=Z,2μm,1.2s						
YUK				AMB	AMB	08 26 46.5	
	comp=Z,1μm,1.0s						
YUK				AMB	AMB	08 26 46.5	
	comp=Z,2μm,1.2s						
YUK				*e*S	**Sn**	**08 27 57.3**	**+1.4**
YUK				A		08 28 28.0	
	comp=Z,600nm,0.5s						
YUK				A		08 28 28.0	
	comp=Z,900nm,0.5s						
YUK				A		08 28 33.7	
	comp=Z,2μm,1.0s						
YUK				A		08 28 33.7	
	comp=Z,4μm,1.0s						
YUK				AMS	AMS	08 29 16.0	
	comp=Z,3μm,18.0s						
YUK				AMS	AMS	08 29 16.0	
	comp=Z,4μm,21.0s						
YUK				AMS	AMS	08 29 16.0	
	comp=Z,3μm,16.0s						
JRA	**Rausu**	**7.97**	**240**	P	**Pn**	**08 26 41.5**	**+2.9**
NEM2	**Nemuro 2**	**7.98**	**235**	P	**Pn**	**08 26 38.5**	**-0.3**
NEM2				*e*S	**Sn**	**08 28 03.7**	**-4.4**
YSS	**Yuzh-Sakhalins**	**8.17**	**265**	*e*Pn	**Pn**	**08 26 44.4**	**+3.1**
YSS				*e*Sn	**Sn**	**08 28 09.6**	**-3.0**
YSS	**Yuzh-Sakhalins**	**8.17**	**265**	⇑*e*PN	**Pn**	**08 26 46.2**	**+4.9**
YSS				*e*S	**Sn**	**08 28 18.0**	**+5.4**
YSS				MLR	MLR		
	comp=E,1μm,17.0s						
YSS				MLR	MLR		
	comp=Z,1μm,17.0s						
YSS	**Yuzh-Sakhalins**	**8.17**	**265**	⇑*e*P	**Pn**	**08 26 46.2**	**+4.9**
YSS				*i* pP		08 26 49.2	
YSS				*e*S	**Sn**	**08 28 18.0**	**+5.4**
YSS				*e*LR	LR	08 29 15.0	
YSS				AMS	AMS	08 29 42.0	
	comp=Z,1μm,17.0s						
YSS				AMS	AMS	08 29 42.0	
	comp=Z,1μm,17.0s						
TYV	**Tymovskoe**	**8.19**	**292**	*e*P	**Pn**	**08 26 44.5**	**+2.9**
TYV				AMB	AMB	08 26 49.0	
	comp=Z,70nm,1.0s						
TYV				AMB	AMB	08 26 49.0	
	comp=Z,110nm,1.0s						
TYV				AMB	AMB	08 26 49.0	
	comp=Z,400nm,2.0s						
TYV				AMB	AMB	08 26 49.0	
	comp=Z,361nm,2.0s						
TYV				AMB	AMB	08 26 49.0	
	comp=Z,22nm,0.8s						
TYV				AMS	AMS	08 30 08.0	
	comp=Z,2μm,18.0s						
TYV				AMS	AMS	08 30 08.0	
	comp=Z,2μm,20.0s						
UGL	**Uglegorsk**	**8.37**	**280**	*e*PN	**Pn**	**08 26 49.0**	**+5.0**
UGL				*e*		08 28 26.0	
UGL				pmax	pmax		
	comp=Z,202nm,1.0s						
UGL				MLR	MLR		
	comp=N,1μm,17.0s						
UGL				MLR	MLR		
	comp=E,2μm,17.0s						
UGL				MLR	MLR		
	comp=Z,2μm,17.0s						
JNK	**Nakash**	**8.41**	**239**	P	**Pn**	**08 26 46.5**	**+1.8**
JTKR	**Abashiri--Toko**	**8.66**	**244**	P	**Pn**	**08 26 51.5**	**+3.4**
JAK	**Akkeshi**	**8.80**	**236**	P	**Pn**	**08 26 49.6**	**-0.4**
JAK				*e*S	**Sn**	**08 28 24.6**	**-3.6**
JMP	**Maruseppu**	**8.97**	**245**	P	**Pn**	**08 26 56.4**	**+4.1**
JSE	**Soyaes**	**8.98**	**252**	P	**Pn**	**08 26 57.9**	**+5.5**
JAR	**Ashorobuto**	**9.14**	**240**	P	**Pn**	**08 26 56.9**	**+2.3**
JWK2	**Keihoku**	**9.27**	**256**	P	**Pn**	**08 27 03.3**	**+6.9**
JOB	**Onbets**	**9.34**	**238**	P	**Pn**	**08 26 58.1**	**+0.7**
ASAJ	**Asahikawa**	**9.38**	**248**	P	**Pn**	**08 27 03.2**	**+5.3**
ASAJ	**Asahikawa**	**9.38**	**248**	PN	**Pn**	**08 27 03.0**	**+5.1**
ASAJ				pmax	pmax		
	comp=Z,16nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,1μm,20.4s						
ASAJ	**Asahikawa**	**9.38**	**248**	Pn	**Pn**	**08 27 03.0**	**+5.0**
	comp=Z,16nm,0.3s,baz=78,slow=14,SNR=64						
ASAJ				LR	LR	08 30 17.8	
	comp=Z,1μm,20.4s,baz=356,slow=36						
JKK2	**Kamakawa 2**	**9.41**	**246**	P	**Pn**	**08 27 02.5**	**+4.1**
JCH	**Churui**	**9.79**	**238**	P	**Pn**	**08 27 03.6**	**0.0**
JCH				*e*S	**Sn**	**08 28 47.8**	**-4.9**
JFR	**Furan**	**9.91**	**243**	P	**Pn**	**08 27 07.9**	**+2.8**
JAB	**Ashibetsu**	**9.93**	**245**	P	**Pn**	**08 27 09.7**	**+4.2**
NKL	**Nikolayevsk**	**10.07**	**304**	*i* P	**Pn**	**08 27 09.0**	**+1.6**
NKL				AMB	AMB	08 27 11.0	
	comp=Z,30nm,1.1s						
NKL				AMB	AMB	08 27 11.0	
	comp=Z,43nm,1.1s						
NKL				AMB	AMB	08 27 11.0	
	comp=Z,80nm,1.1s						
NKL				*e*L		08 29 14.0	
NKL				AMS	AMS	08 32 06.0	
	comp=Z,900nm,15.0s						
NKL				AMS	AMS	08 32 06.0	
	comp=Z,1μm,15.0s						
NKL				AMS	AMS	08 32 06.0	
	comp=Z,1μm,15.0s						
JBT2	**Biratori 2**	**10.27**	**242**	P	**Pn**	**08 27 10.9**	**+0.8**
ERM	**Erimo**	**10.30**	**236**	*e*Pn	**Pn**	**08 27 09.2**	**-1.4**
	comp=Z,136nm,0.6s						
ERM				*e*Sn	**Sn**	**08 29 01.4**	**-3.7**
ERM	**Erimo**	**10.30**	**236**	*e*PN	**Pn**	**08 27 09.2**	**-1.4**
ERM				pmax	pmax		
	comp=Z,136nm,0.6s						
JEM	**Erimo**	**10.30**	**236**	P	**Pn**	**08 27 10.6**	**0.0**
JNBK	**Urakawa-nobuka**	**10.36**	**238**	P	**Pn**	**08 27 10.1**	**-1.2**
JNBK				*e*S	**Sn**	**08 29 01.1**	**-5.3**
JEW	**Eniwo**	**10.78**	**244**	P	**Pn**	**08 27 19.3**	**+2.2**
JNB	**Noboribetsu**	**11.24**	**243**	P	**Pn**	**08 27 23.7**	**+0.3**
MA2	**Magadan**	**11.46**	**350**	Pn	**Pn**	**08 27 27.1**	**+0.8**
MA2	**Magadan**	**11.46**	**350**	*c i*Pn	**Pn**	**08 27 27.8**	**+1.4**
MA2				pmax	pmax		
	comp=Z,40nm,0.8s						
MA2				pmax	pmax		
	comp=N,20nm,0.7s						
JKB	**Kayabe**	**11.60**	**241**	P	**Pn**	**08 27 27.2**	**-1.1**
JKB				*e*S	**Sn**	**08 29 29.6**	**-7.2**
JSH	**Shimam**	**11.74**	**246**	P	**Pn**	**08 27 31.9**	**+1.7**
JYM2	**Yakumo 2**	**11.85**	**243**	P	**Pn**	**08 27 32.0**	**+0.3**
JOT	**Ohata**	**11.91**	**239**	P	**Pn**	**08 27 31.0**	**-1.5**
JOT				S	**Sn**	**08 29 35.4**	**-9.0**
JSR	**Shiriuchi**	**12.18**	**241**	P	**Pn**	**08 27 35.0**	**-1.2**
JTM	**Tenmabayashi**	**12.29**	**237**	P	**Pn**	**08 27 34.9**	**-2.9**
JTM				*e*S	**Sn**	**08 29 42.6**	**-11**
JANG	**Nango**	**12.33**	**234**	P	**Pn**	**08 27 34.3**	**-4.0**
JOSM	**Okushiri--Mats**	**12.40**	**245**	P	**Pn**	**08 27 39.5**	**+0.2**
JTH	**Tanohata**	**12.45**	**232**	P	**Pn**	**08 27 35.7**	**-4.3**
JTH				*e*S	**Sn**	**08 29 46.3**	**-11**
HABR	**Khabarovsk**	**13.03**	**278**	*e*PN	**Pn**	**08 27 48.5**	**+0.6**
JOM	**Ohasama**	**13.10**	**232**	P	**Pn**	**08 27 44.9**	**-3.9**
JOM				S	**Sn**	**08 30 02.0**	**-11**
SMY	**Shemya**	**13.10**	**63**	*e*Pn	**Pn**	**08 27 46.5**	**-2.2**
OFUJ	**Ofunato**	**13.19**	**230**	P	**Pn**	**08 27 45.9**	**-4.2**
JRG	**Rokugo**	**13.50**	**234**	P	**Pn**	**08 27 51.2**	**-3.1**
JIO	**Ouri**	**13.83**	**229**	P	**Pn**	**08 27 54.8**	**-4.0**
JIO				*e*S	**Sn**	**08 30 19.3**	**-12**
JYA	**Atsumi**	**14.58**	**233**	P	**Pn**	**08 28 05.3**	**-3.7**
SEY	**Seymchan**	**14.66**	**356**	⇑*i*P	**Pn**	**08 28 11.2**	**+1.2**
KLR	**Kul'dur**	**15.12**	**282**	*e*P	**Pn**	**08 28 17.0**	**+0.8**
KLR				pmax	pmax		
	comp=E,100nm,1.6s						
KLR				pmax	pmax		
	comp=Z,62nm,1.6s						
KLR				MLR	MLR		
	comp=E,600nm,12.0s						
KLR				MLR	MLR		
	comp=Z,3μm,12.0s						
JSD	**Sado**	**15.77**	**235**	P	**Pn**	**08 28 20.8**	**-3.9**
VLA	**Vladivostok**	**16.71**	**260**	*c i*P	**Pn**	**08 28 36.5**	**-0.3**
VLA				pmax	pmax		
	comp=Z,101nm,1.3s						
MJAR	**Matsushiro Arr**	**16.90**	**232**	P	**Pn**	**08 28 37.3**	**-1.8**
MJAR				pmax	pmax		
	comp=Z,2.0nm,0.3s						
MJAR	**Matsushiro Arr**	**16.90**	**232**	Pn	**Pn**	**08 28 37.3**	**-1.8**
	comp=Z,1.7nm,0.3s,baz=31,slow=13,SNR=66						
MAJO	**Matsushiro**	**16.90**	**232**	*e*Pn	**Pn**	**08 28 37.1**	**-2.0**
	comp=Z,36nm,0.7s						
MAJO	**Matsushiro**	**16.90**	**232**	*e*P	**Pn**	**08 28 37.1**	**-2.0**
MAJO				pmax	pmax		
	comp=Z,35nm,0.7s						
MAT	**Matsushiro**	**16.90**	**232**	P	**Pn**	**08 28 36.7**	**-2.4**
MAT				*e*S	**Sn**	**08 31 41.0**	**-5.0**
MAT	**Matsushiro**	**16.90**	**232**	P	**Pn**	**08 28 36.3**	**-2.8**
JRY	**Ryogami san**	**16.95**	**229**	P	**Pn**	**08 28 39.5**	**-0.2**
MDJ	**Mudanjiang**	**17.64**	**267**	P	**Pn**	**08 28 47.1**	**-1.2**
MDJ				S	**Sn**	**08 32 04.5**	**+0.6**
MDJ				PCP	PcP	08 33 25.9	-0.2
MDJ				SCP	ScP	08 37 00.1	+1.0
MDJ				PCS	PcS

comp=Z,71nm,1.1s
CLNS pmax pmax
comp=E,37nm,0.9s
CLNS pmax pmax
comp=Z,163nm,1.1s
CLNS pmax pmax
comp=N,114nm,1.2s
CLNS pmax pmax
comp=E,76nm,0.8s
CLNS smax
comp=E,72nm,12.9s
CLNS smax
comp=N,165nm,14.8s
CLNS MLR MLR
comp=Z,600nm,14.0s
CLNS MLR MLR
comp=N,300nm,13.0s
CLNS MLR MLR
comp=E,600nm,14.0s
NRGR Nerungri 19.89 306 *e*P **Pn 08 29 18.2 +2.8**
NRGR S **Sn 08 32 59.8 +1.8**
NRGR smax
comp=N,42nm,0.6s
JAD Aida 20.27 236 P **P 08 29 20.3 +2.3**
BILL Bilibino 20.59 12 *e*P **P 08 29 19.3 -1.8**
comp=N,17nm,0.8s
BILL Bilibino 20.59 12⇑*e*P **P 08 29 19.6 -1.5**
BILL *i* 08 29 28.8
BILL *e*S **S 08 33 11.3 +1.6**
BILL *e* 08 33 18.0
BILL pmax pmax
comp=Z,10.0nm,1.0s
BILL MLR MLR
comp=Z,400nm,18.0s,MS3.8
CN2 Changchun 20.71 268 *e*P **P 08 29 21.6 -1.0**
CN2 *e*S **S 08 33 06.5 -5.9**
CN2 AMB AMB
comp=Z,50nm,1.1s
CN2 AMB AMB
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,970nm,21.0s,MS4.2
CN2 LR LR
comp=E,630nm,21.0s,MS4.2
CN2 LR LR
comp=Z,450nm,19.0s,MS3.9
KSRS Korea Array 22.30 251 P **P 08 29 40.6 +0.8**
comp=Z,34nm,0.7s,mb4.9,baz=49,slow=10,SNR=90
KSRS LR LR 08 37 59.2
comp=Z,534nm,18.4s,MS4.0,baz=42,slow=36
KS15 Wonju Array Si 22.34 251 *e*P **P 08 29 39.8 -0.3**
SNY Shenyang 22.79 265 ⇓P **P 08 29 44.3 -0.7**
SNY AMB AMB
comp=Z,11nm,0.9s,mb4.3
SNY AMB AMB
comp=Z,99nm,10.8s
SNY LR LR
comp=N,262nm,16.2s
SNY LR LR
comp=E,286nm,22.8s
SNY LR LR
comp=Z,313nm,23.4s
HIA Hailar 22.90 285 *e*P **P 08 29 46.3 +0.3**
comp=Z,7.2nm,0.6s,mb4.3
HIA Hailar 22.90 285 *e*P **P 08 29 46.3 +0.3**
HIA pmax pmax
comp=Z,7.0nm,0.6s
INCN Inchon 23.10 252 *e*P **P 08 29 48.7 +0.4**
comp=Z,63nm,0.9s,mb5.0
JTU Tsushima 23.32 243 P **P 08 29 50.0 -0.5**
JNU Nakatsue 23.46 238 P **P 08 29 53.0 +1.0**
JNU Nakatsue 23.46 238 P **P 08 29 51.5 -0.5**
comp=Z,16nm,0.7s,mb4.5,baz=1.5,slow=13,SNR=8.3
JNU LR LR 08 39 50.0
comp=Z,124nm,18.5s,MS3.4,baz=36,slow=39
JFU Fukue jima 2 25.02 241 P **P 08 30 07.3 +1.0**
DL2 Dalian 25.54 261 P **P 08 30 11.1 +0.2**
DL2 S **S 08 34 37.8 +1.0**
DL2 AMB AMB
comp=Z,30nm,1.0s,mb4.8
DL2 LR LR
comp=N,210nm,19.6s,MS3.8
DL2 LR LR
comp=E,190nm,19.3s,MS3.8
DL2 LR LR
comp=Z,190nm,18.3s,MS3.6
BOD Bodaibo 25.82 307 *e*P **P 08 30 11.4 -1.9**
BOD *e* 08 30 26.9
BOD pmax pmax
comp=Z,15nm,1.2s,mb4.4
TIXI Tiksi 26.24 342 *e*P **P 08 30 17.4 +0.5**
comp=Z,7.6nm,0.8s,mb4.3
TIXI Tiksi 26.24 342 *e*P **P 08 30 17.4 +0.4**
TIXI pmax pmax
comp=Z,8.0nm,1.1s,mb4.2
TIXI MLR MLR
comp=Z,300nm,13.0s,MS4.0
JOW Kunigami 29.73 233 LR LR 08 42 57.2
comp=Z,227nm,21.4s,MS3.8,baz=265,slow=37
TTA Tatalina 30.52 43 *e*P **P 08 30 54.7 -0.4**
SVW2 Sparrevohn 30.61 47 *e*P **P 08 30 55.8 -0.2**
HHC Hu-ho-hao-te 31.25 272 *e*P **P 08 31 01.8 -0.1**
HHC AP pP 08 31 06.3 -3.5
HHC PP PP 08 32 04.8 -7.7
HHC PCP PcP 08 33 57.3 +1.5
HHC S **S 08 36 09.3 +2.7**
HHC PCS PcS 08 37 37.4 -2.5
HHC SS SS 08 37 51.5 -29
HHC SCS ScS 08 41 34.6 +0.6
HHC AMB AMB
comp=Z,97nm,6.1s
HHC LR LR
comp=N,227nm,21.6s,MS4.3
HHC LR LR
comp=E,635nm,18.2s,MS4.3
HHC LR LR
comp=Z,511nm,19.9s,MS4.2
ULN Ulaanbaatar 31.39 287⇑*e*P **P 08 31 02.5 -0.5**
NJ2 Nanjing 31.48 252 *e*P **P 08 31 04.6 +0.6**
NJ2 AP pP 08 31 09.4 -2.5
NJ2 PP PP 08 32 07.5 -7.7
NJ2 S **S 08 36 10.0 -0.4**
NJ2 AMB AMB
comp=Z,40nm,0.8s,mb5.3
NJ2 AMB AMB
comp=Z,120nm,5.1s
NJ2 LR LR
comp=N,560nm,17.9s,MS4.5
NJ2 LR LR
comp=E,760nm,21.2s,MS4.5
SONM Songino Array 31.82 288 P **P 08 31 06.1 -0.7**
SONM 08 33 54.8
SONM pmax pmax
comp=Z,3.0nm,0.9s
SONM pmax pmax
comp=Z,2.0nm,0.8s
SONM MLR MLR
comp=Z,727nm,18.9s
SONM Songino Array 31.82 288 P **P 08 31 06.1 -0.7**
comp=Z,3.0nm,0.9s,mb4.1,baz=74,slow=8.7,SNR=9.3
SONM PcP PcP 08 33 54.8 -2.4
comp=Z,2.1nm,0.8s,baz=107,slow=1.5,SNR=4.9
SONM LR LR 08 45 11.4
comp=Z,727nm,18.9s,MS4.4,baz=78,slow=39
IMA2 Indian Mountai 31.88 37 *e*P **P 08 31 05.8 -1.3**
KDAK Kodiak Island 32.28 53 P **P 08 31 09.0 -1.7**
comp=Z,8.1nm,0.7s,mb4.6,baz=297,slow=6.8,SNR=3.6
TLY Talaya 32.41 295 *e*P **P 08 31 10.5 -1.4**
TLY Talaya 32.41 295⇓*e*P **P 08 31 12.2 +0.3**
TLY pmax pmax
comp=Z,2.0nm,1.3s,mb3.8
ZAK Zakamensk 32.98 293⇑*i*P **P 08 31 16.6 -0.3**
ZAK *e* 08 33 59.5
ZAK pmax pmax
comp=Z,3.0nm,1.0s,mb4.2
ZAK pmax pmax
comp=Z,1.0nm,0.9s,mb3.8
ZAK pmax pmax
comp=Z,1.0nm,1.4s,mb3.5
COLA College 34.22 40 *e*P **P 08 31 27.3 -0.3**
comp=Z,12nm,0.8s,mb4.9
COLA College 34.22 40 *e*P **P 08 31 27.3 -0.3**
COLA pmax pmax
comp=Z,12nm,0.8s,mb4.9
WHN Wuhan 35.36 255 ⇓P **P 08 31 38.0 +0.2**
EGAK Eagle 37.09 40 *e*P **P 08 31 51.4 -0.7**
comp=Z,14nm,0.9s,mb4.8
DAWY Dawson 37.93 41 *e*P **P 08 31 59.3 0.0**
LZH Lanzhou 38.90 271 *e*P **P 08 32 07.6 -0.2**
LZH AP pP 08 32 12.3 -3.5
LZH PP PP 08 33 40.6 +3.6
LZH *e*S **S 08 38 04.1 -0.1**
LZH *e*SS SS 08 40 46.5 -9.5
LZH AMB AMB
comp=Z,27nm,1.2s,mb4.8
LZH AMB AMB
comp=Z,149nm,5.3s
LZH LR LR
comp=N,653nm,12.6s
LZH LR LR
comp=Z,1μm,17.2s,MS4.8
INK Inuvik 39.73 34 *e*P **P 08 32 14.3 +0.1**
comp=Z,112nm,0.6s,mb5.8
INK Inuvik 39.73 34 P **P 08 32 14.3 0.0**
INK pmax pmax
comp=Z,4.0nm,0.8s
INK Inuvik 39.73 34 P **P 08 32 14.2 0.0**
comp=Z,4.4nm,0.8s,mb4.2,baz=293,slow=7.1,SNR=30
GTA Gaotai 39.77 278 *e*P **P 08 32 15.3 +0.3**
GTA AP pP 08 32 19.4 -3.6
GTA XP sP 08 32 22.4 -3.9
GTA PP PP 08 33 51.3 +4.9
GTA PCP PcP 08 34 21.4 +0.6
GTA S **S 08 38 18.6 +1.4**
GTA SS SS 08 41 08.6 -4.7
GTA AMB AMB
comp=Z,9.0nm,1.0s,mb4.5
GTA AMB AMB
comp=Z,96nm,5.7s
GTA LR LR
comp=N,292nm,16.7s,MS4.4
GTA LR LR
comp=E,363nm,17.9s,MS4.4
GTA LR LR
comp=Z,542nm,16.7s,MS4.5
CD2 Chengdu 42.07 265 P **P 08 32 33.6 -0.4**
CD2 AP pP 08 32 38.1 -4.0
CD2 PP PP 08 34 14.3 +2.8
CD2 S **S 08 38 51.8 +0.2**
CD2 SS SS 08 41 53.3 -5.9
CD2 AMB AMB
comp=Z,20nm,0.6s,mb4.9
CD2 AMB AMB
comp=Z,40nm,4.8s
CD2 LR LR
comp=N,210nm,12.6s,MS4.4
CD2 LR LR
comp=E,310nm,14.4s,MS4.4
CD2 LR LR
comp=Z,200nm,14.2s,MS4.1
ZALV Zalesovo Beam 42.54 305 P **P 08 32 35.3 -2.2**
comp=Z,1.5nm,0.4s,mb4.1,baz=80,slow=8.9,SNR=5.1
ZALV PcP PcP 08 34 28.6 -1.0
comp=Z,3.5nm,0.6s,baz=64,slow=3.4,SNR=8.0
ZALV LR LR 08 51 16.7
comp=Z,166nm,18.1s,MS4.0,baz=68,slow=38
ZAL Zalesovo 42.55 305 P **P 08 32 35.3 -2.4**
ZAL 08 34 28.6
GYA Guiyang 43.09 257⇑*i*P **P 08 32 42.3 -0.1**
GYA AP pP 08 32 46.8 -3.6
GYA PP PP 08 34 25.8 +3.2
GYA PCP PcP 08 34 34.0 +2.1
GYA S **S 08 39 08.8 +2.1**
GYA SS SS 08 42 13.3 -6.2
GYA SCS ScS 08 42 41.9 +1.0
GYA AMB AMB
comp=Z,20nm,1.0s,mb4.8
GYA AMB AMB
comp=Z,70nm,4.5s
GYA LR LR
comp=N,560nm,18.9s,MS4.6
GYA LR LR
comp=E,490nm,19.8s,MS4.6
GYA LR LR
comp=Z,480nm,18.8s,MS4.4
WMQ Urumqi 45.34 291 *e*P **P 08 32 59.8 -0.3**
WMQ AP pP 08 33 05.0 -3.2
WMQ XP sP 08 33 07.5 -4.0
WMQ *e*S **S 08 39 40.0 +1.0**
WMQ XS sS 08 39 54.0 +1.7
WMQ SCS ScS 08 42 52.0 -2.6
WMQ AMB AMB
comp=Z,10.0nm,1.0s,mb4.6
WMQ AMB AMB
comp=Z,103nm,5.0s
WMQ LR LR
comp=N,539nm,18.6s,MS4.8
WMQ LR LR
comp=E,676nm,15.0s,MS4.8
WMQ LR LR
comp=Z,558nm,19.0s,MS4.5
QIZ Qiongzhong 46.45 247 P **P 08 33 10.8 +1.6**
QIZ S **S 08 39 56.4 +0.9**
QIZ LR LR
comp=E,260nm,17.6s
QIZ LR LR
comp=Z,253nm,16.3s,MS4.3
KMI Kunming 46.57 259 ⇑P **P 08 33 10.4 +0.3**
KMI AP pP 08 33 13.9 -4.3
KMI AMB AMB
comp=Z,24nm,0.8s,mb5.2
KMI LR LR
comp=N,169nm,12.3s,MS4.3
KMI LR LR
comp=E,168nm,12.7s,MS4.3
KMI LR LR
comp=Z,174nm,19.5s
MK31 Makanchi Array 47.15 297 *e*P **P 08 33 13.0 -1.3**
MKAR Makanchi Array 47.15 297 P **P 08 33 12.9 -1.4**
MKAR 08 34 44.8
MKAR pmax pmax
comp=Z,9.0nm,0.7s
MKAR pmax pmax
comp=Z,2.0nm,0.8s
MKAR MLR MLR
comp=Z,281nm,19.9s
MKAR Makanchi Array 47.15 297 P **P 08 33 12.9 -1.4**
comp=Z,9.2nm,0.7s,mb4.8,baz=66,slow=7.9,SNR=54
MKAR PcP PcP 08 34 44.8 -0.8
comp=Z,2.2nm,0.8s,baz=70,slow=2.8,SNR=2.8
MKAR LR LR 08 54 22.3
comp=Z,281nm,19.9s,MS4.2,baz=1.4,slow=38
KURK Kurchatov 47.36 303 *e*P **P 08 33 14.2 -1.7**
comp=Z,11nm,0.7s,mb4.9
KURK Kurchatov 47.36 303 *e*P **P 08 33 14.3 -1.6**
KURK pmax pmax
comp=Z,11nm,0.7s,mb4.9
YKW3 Yellowknife Ar 48.97 38 *e*P **P 08 33 28.2 +0.1**
RES Resolute Bay 48.97 19 *e*P **P 08 33 27.6 -0.4**
comp=Z,126nm,0.8s,mb6.0
RES Resolute Bay 48.97 19 *e*P **P 08 33 27.6 -0.5**
RES pmax pmax
comp=Z,126nm,0.8s,mb6.0
YKA Yellowknife Ar 49.00 38 P **P 08 33 27.5 -0.9**
YKA pmax pmax
comp=Z,1.0nm,0.6s
YKA Yellowknife Ar 49.00 38 P **P 08 33 27.5 -0.9**
comp=Z,1.4nm,0.6s,mb4.2,baz=294,slow=7.2,SNR=25
BRVK Borovoye 50.69 309 *e*P **P 08 33 39.8 -1.7**
comp=Z,3.3nm,0.7s,mb4.4
BRVK *e*PcP PcP 08 34 57.9 -0.5
BRVK Borovoye 50.69 309 *e*P **P 08 33 39.8 -1.6**
BRVK *e* 08 34 57.9
BRVK pmax pmax
comp=Z,3.0nm,0.7s,mb4.3
LSA Lhasa 51.24 273 *e*P **P 08 33 47.5 +1.6**
comp=Z,16nm,0.6s,mb5.1
LSA Lhasa 51.24 273 *e*P **P 08 33 47.5 +1.7**
LSA pmax pmax
comp=Z,16nm,0.6s,mb5.1
NLWA Neilton Lookou 52.12 58 ⇓P **P 08 33 52.6 +0.4**
baz=52
A05A Maple Falls 52.24 56 ⇓P **P 08 33 53.6 +0.5**
baz=52
A06A Chilliwack 52.52 55 ⇑P **P 08 33 55.2 +0.1**
baz=52
B05A Bryant 52.64 57 ⇑P **P 08 33 55.9 -0.1**
baz=52
A07A Ashnola River, 53.15 55 ⇑P **P 08 33 59.6 -0.1**
baz=53
C05A Tolt Reservoir 53.18 57 ⇑P **P 08 33 59.6 -0.4**
baz=53
TKM2 Tokmak 2 53.24 296 *e*P **P 08 34 00.2 -0.4**
comp=Z,3.3nm,0.7s,mb4.4
TKM2 Tokmak 2 53.24 296 *e*P **P 08 34 00.2 -0.3**
TKM2 pmax pmax
comp=Z,3.0nm,0.7s,mb4.3
ULHL Ulahol 53.24 295 P **P 08 34 00.3 -0.2**
SNR=6.3
CHTO Chiang Mai 53.51 257 *e*P **P 08 34 03.4 +0.6**
comp=Z,26nm,0.8s,mb5.2
CHTO Chiang Mai 53.51 257 *e*P **P 08 34 03.4 +0.6**
CHTO pmax pmax
comp=Z,26nm,0.8s,mb5.2
B07A Winthrop 53.62 55 ⇑P **P 08 34 02.3 -1.0**
baz=53
USP Ospenovka 53.70 297 P **P 08 34 03.6 -0.2**
SNR=12
F04A Amboy 53.77 59 ⇓P **P 08 34 03.9 -0.5**
baz=54
A08A Turner Farm, O 53.81 55 ⇓P **P 08 34 04.5 0.0**
baz=54
KZA Kyzart 53.94 295 P **P 08 34 06.4 +0.8**
SNR=6.5
D06A Cle Elum 53.94 57 ⇓P **P 08 34 05.6 0.0**
baz=54
I02A Mapleton 54.06 62 ⇑P **P 08 34 06.1 -0.4**
baz=54
AAK Ala-Archa 54.07 296 *e*P **P 08 34 04.5 -2.1**
comp=Z,4.8nm,0.7s,mb4.5
AAK *e*PcP PcP 08 35 10.3 -0.9
AAK Ala-Archa 54.07 296 *e*P **P 08 34 04.5 -2.1**
AAK *e* 08 35 10.3
AAK pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
AAK Ala-Archa 54.07 296 LR LR 08 57 36.2
comp=Z,282nm,22.0s,MS4.3,baz=70,slow=36
AAK Ala-Archa 54.07 296 P **P 08 34 06.4 -0.2**
SNR=5.8
C07A Waterville 54.09 56 ⇓P **P 08 34 06.5 -0.2**
baz=54
B08A Colville Reser 54.11 55 P **P 08 34 06.7 -0.1**
baz=54,SNR=5.2
A09A Danville 54.17 54 ⇑P **P 08 34 07.1 -0.1**
baz=54
EDM Edmonton 54.45 48 *e*P **P 08 34 08.8 -0.3**
EKS2 Erkin-Say 54.48 297 *e*P **P 08 34 09.4 -0.1**
comp=Z,5.8nm,0.9s,mb4.5
EKS2 *e*PcP PcP 08 35 13.1 +0.3
EKS2 Erkin-Say 54.48 297 P **P 08 34 09.5 -0.1**
SNR=6.0
ARU Arti 54.54 317 *e*P **P 08 34 08.4 -1.4**
comp=Z,3.9nm,0.3s,mb4.9
ARU Arti 54.54 317*d i*P **P 08 34 09.3 -0.5**
ARU *e**PP pP 08 34 23.8 +5.8
ARU *e* 08 35 07.6
ARU *e* 08 36 07.8
ARU *e*PPP 08 37 20.1
ARU *e*S **S 08 41 45.3 -1.7**
ARU *e*SS SS 08 45 29.0 0.0
ARU pmax pmax
comp=Z,5.0nm,1.0s,mb4.5
J02A Umpqua 54.58 62 ⇑P **P 08 34 10.1 -0.3**
baz=54
C08A Higginbotham F 54.60 56 ⇑P **P 08 34 09.8 -0.5**
baz=54
H04A Detroit Lake 54.62 60 ⇑P **P 08 34 10.2 -0.4**
baz=54
A10A Northport 54.72 54 ⇑P **P 08 34 11.0 -0.2**
baz=54
C09A Chrisman Ranch 55.01 55 ⇑P **P 08 34 13.0 -0.4**
baz=55
I04A Tendick Farm, 55.01 61 ⇓P **P 08 34 13.5 +0.1**
baz=55
D08A Wollman Farm, 55.09 56 ⇑P **P 08 34 13.4 -0.5**
baz=55
F07A Phinny Hill Vi 55.21 58 ⇓P **P 08 34 15.0 +0.2**
baz=55
NEW Newport 55.37 54 P **P 08 34 13.3 -2.6**
NEW Newport 55.37 54 P **P 08 34 13.3 -2.6**
NEW pmax pmax
comp=Z,5.0nm,1.2s
NEW Newport 55.37 54 P **P 08 34 13.3 -2.6**
comp=Z,4.5nm,1.2s,mb4.4,baz=338,slow=6.1,SNR=3.6
A11A Hall Mountain, 55.37 53 ⇑P **P 08 34 16.3 +0.4**
baz=55
D09A Jones Farm, Ri 55.43 56 ⇓P **P 08 34 16.3 -0.1**
baz=55
I05A Bend 55.46 60 ⇑P **P 08 34 16.7 0.0**
baz=55
H06A Lindquist Farm 55.66 59 ⇑P **P 08 34 18.2 +0.2**
baz=56
E09A Wood Farm, Sta 55.84 56 ⇑P **P 08 34 19.4 0.0**
baz=56
JIRN Jiri 55.87 275 *e*P **P 08 34 20.3 +0.5**
comp=Z,5.2nm,0.2s,mb5.2
GUN Gumba 55.91 275 *e*P **P 08 34 20.0 -0.1**
comp=Z,23nm,0.4s,mb5.5
KHMM Horse Mountain 55.97 65 *e*P **P 08 34 20.6 +0.2**
D10A Wagner Farm, O 56.00 56 ⇓P **P 08 34 19.9 -0.5**
baz=56
J05A Fort Rock 56.01 61 P **P 08 34 21.7 +1.1**
baz=56,SNR=9.9
YBH Yreka Blue Hor 56.07 63 ⇓P **P 08 34 21.1 +0.1**
baz=56
M02C Callahan 56.19 64 ⇓P **P 08 34 22.9 +1.0**
baz=56
I06A Prineville 56.20 60 ⇑P **P 08 34 22.2 +0.2**
baz=56
L04A Klamath Falls 56.29 63 ⇑P **P 08 34 22.9 +0.3**
baz=56
KKN Kakani 56.39 275 *e*P **P 08 34 23.9 +0.4**
comp=Z,29nm,0.6s,mb5.5
A13A Flathead Natio 56.42 52 ⇓P **P 08 34 23.4 -0.1**
baz=56
E10A Myers Farm, Un 56.43 56 ⇑P **P 08 34 23.4 -0.2**
baz=56
PKI Pulchoki 56.45 275 *e*P **P 08 34 24.2 +0.3**
comp=Z,23nm,0.5s,mb5.4
PKIN Phulchoki 56.45 275 *e*P **P 08 34 24.2 +0.2**
comp=Z,17nm,0.5s,mb5.3
PKIN Phulchoki 56.45 275 *e*P **P 08 34 24.2 +0.2**
comp=Z,18nm,0.5s,mb5.3
PKIN Phulchoki 56.45 275 *e*P **P 08 34 24.5 +0.5**
D11A Klaveano Farm, 56.52 55 ⇓P **P 08 34 24.2 0.0**
baz=56
I07A Izee 56.53 60 ⇓P **P 08 34 24.8 +0.5**
baz=56
K05A Summer Lake 56.54 62 ⇓P **P 08 34 25.0 +0.5**
baz=56,SNR=5.0
M04C Macdoel 56.55 63 ⇓P **P 08 34 24.7 +0.1**
baz=56
DMN Daman 56.62 275 *e*P **P 08 34 25.8 +0.6**
comp=Z,75nm,0.7s,mb5.8
J06A Christmas Vall 56.66 61 P **P 08 34 26.0 +0.8**
baz=56,SNR=7.9
GKN Gorkha 56.67 276 *e*P **P 08 34 25.9 +0.4**
comp=Z,44nm,0.5s,mb5.7
ARCES ARCESS Array B 56.67 341 P **P 08 34 23.8 -1.1**
ARCES LR LR 09 04 04.7
ARCES ARCESS Array B 56.67 341 P **P 08 34 23.8 -1.2**
ARCES pmax pmax
comp=Z,2.0nm,0.9s
ARCES MLR MLR
comp=Z,253nm,18.4s
ARCES ARCESS Array B 56.67 341 P **P 08 34 23.8 -1.1**
comp=Z,2.3nm,0.9s,mb4.2,baz=37,slow=7.9,SNR=3.3
ARCES LR LR 09 04 04.7
comp=Z,253nm,18.4s,MS4.3,baz=36,slow=42
F10A Beach Ranch, E 56.67 57 ⇑P **P 08 34 25.3 0.0**
baz=56
M03C McCloud 56.70 64 ⇑P **P 08 34 25.7 +0.2**
baz=56
B13A Whitefish 56.73 53 P **P 08 34 25.9 +0.2**
baz=56,SNR=8.1
H08A Prairie City 56.74 59 ⇓P **P 08 34 25.7 -0.1**
baz=57
WDC Whiskeytown Da 56.87 64 ⇑P **P 08 34 26.7 -0.1**
baz=57
K06A Valley Falls 56.87 61 P **P 08 34 27.7 +1.0**
baz=57,SNR=6.1
BSMT Bassoo Peak 56.88 54 *e*P **P 08 34 27.3 +0.6**
O02C Red Bluff 56.97 65 ⇓P **P 08 34 28.1 +0.7**
baz=57
L05A Lakeview 56.99 62 ⇓P **P 08 34 28.0 +0.5**
baz=57
E11A Bogner Ranch, 57.01 56 ⇑P **P 08 34 26.9 -0.7**
baz=57
DANN Dangsing 57.03 277 *e*P **P 08 34 28.6 +0.6**

comp=Z,79nm,0.8s,mb5.8
J07A Hines 57.07 60 ⇓P P 08 34 27.9 -0.2
baz=57
C13A Hot Springs 57.09 54 ⇓P P 08 34 28.1 -0.1
baz=57
G10A Bishop Farm, J 57.15 57 P P 08 34 29.1 +0.4
baz=57,SNR=14
I08A Drewsey 57.17 59 ⇓P P 08 34 29.1 +0.3
baz=57
H09A Durkee 57.22 58 ⇓P P 08 34 29.5 +0.3
baz=57
M05C Lookout 57.23 63 ⇓P P 08 34 29.4 +0.1
baz=57
BMO Blue Mountains 57.31 58 *eP* **P 08 34 29.9 +0.1**
MOD Modoc 57.39 62 *eP* **P 08 34 30.6 +0.2**
MOD Modoc 57.39 62 ⇑P P 08 34 30.2 -0.3
baz=57
C14A Swan Lake 57.48 53 P P 08 34 31.2 +0.2
baz=57,SNR=6.3
D13A Huson 57.51 54 ⇓P P 08 34 31.4 +0.1
baz=57
KOLN Koldanda 57.51 276 *eP* **P 08 34 31.9 +0.4**
comp=Z,45nm,0.7s,mb5.6
K07A Rock Creek Ran 57.52 61 ⇑P P 08 34 31.5 +0.2
baz=57
G11A Walters Elk Ra 57.56 57 ⇑P P 08 34 31.4 -0.2
baz=57
J08A Circle Bar Ran 57.56 60 ⇑P P 08 34 31.8 +0.2
baz=57
I09A Lost Marbles R 57.60 59 ⇑P P 08 34 32.0 +0.1
baz=57
H10A Noah's Angus R 57.79 58 P P 08 34 33.5 +0.3
baz=58,SNR=7.1
L07A Adell 57.88 61 ⇑P P 08 34 34.3 +0.4
baz=58
O04C Chester 57.90 64 ⇓P P 08 34 34.3 +0.3
baz=58
K08A Mann Creek Ran 57.94 60 ⇑P P 08 34 34.5 +0.2
baz=58
MSO Missoula 57.95 54 *eP* **P 08 34 34.6 +0.3**
comp=Z,7.9nm,1.3s,mb4.6
J09A Fry Pan Ranch, 57.98 59 ⇑P P 08 34 34.8 +0.2
baz=58,SNR=7.9
D14A Greenough 58.03 54 P P 08 34 34.8 -0.1
baz=58,SNR=10
WVOR Wild Horse Val 58.04 61 *eP* **P 08 34 35.2 +0.3**
comp=Z,3.6nm,0.9s,mb4.4
WVOR Wild Horse Val 58.04 61 *eP* **P 08 34 35.2 +0.2**
WVOR pmax pmax
comp=Z,4.0nm,0.9s,mb4.5
E13A Victor 58.06 55 ⇓P P 08 34 35.2 +0.2
baz=58
I10A Payette 58.07 58 ⇑P P 08 34 35.3 +0.1
baz=58,SNR=5.0
H11A Donnelly 58.13 57 P P 08 34 35.6 0.0
baz=58,SNR=23
ORV Oroville 58.13 65 ⇓P P 08 34 34.9 -0.7
baz=58
CHMT Chamberlain Mo 58.27 54 *eP* **P 08 34 36.2 -0.3**
CHMT *epP* pP 08 34 47.9 +3.0
L08A Fields 58.36 61 ⇓P P 08 34 37.1 -0.1
baz=58
M07A Soldier Meadow 58.38 62 ⇑P P 08 34 37.5 +0.2
baz=58
N06A Buffalo Meadow 58.38 63 ⇑P P 08 34 37.3 -0.1
baz=58
F13A Darby 58.39 55 ⇑P P 08 34 37.2 -0.2
baz=58
K09A Rome 58.40 60 ⇑P P 08 34 38.0 +0.5
baz=58
AKTO Aktyubinsk 58.44 312 LR LR 09 02 17.3
comp=Z,153nm,18.2s,MS4.2,baz=225,slow=39
E14A Clinton 58.45 54 P P 08 34 38.0 +0.2
baz=58,SNR=6.2
D15A Lincoln 58.59 53 ⇓P P 08 34 38.8 0.0
baz=58
BEKR Beckwourth 58.62 64 ⇓P P 08 34 38.9 -0.2
baz=58
I11A Placerville 58.65 58 ⇓P P 08 34 39.2 0.0
baz=58
BOK Bokaro 58.66 271 *eP* **P 08 34 40.2 +0.6**
BOK AMb AMB 08 34 41.6
comp=Z,20nm,1.0s,mb5.1
O06A Flanigan 58.75 63 ⇓P P 08 34 39.7 -0.3
baz=59
M08A Happy Creek Ra 58.80 61 ⇓P P 08 34 40.1 -0.2
baz=59
FFC Flin Flon 58.83 41 *eP* **P 08 34 40.9 +0.6**
comp=Z,8.5nm,1.2s,mb4.7
FFC Flin Flon 58.83 41 *eP* **P 08 34 40.9 +0.6**
FFC pmax pmax
comp=Z,8.0nm,1.2s,mb4.6
K10A MacKenzie Ranc 58.84 59 P P 08 34 41.0 +0.5
baz=59,SNR=5.2
L09A Wilkinson Ranc 58.86 60 ⇓P P 08 34 41.0 +0.3
baz=59
H12A Diamond D Ranc 58.87 57 ⇓P P 08 34 40.4 -0.4
baz=59
N07B Gerlach 58.87 62 ⇑P P 08 34 40.9 +0.1
baz=59
G13A Cobalt 58.88 56 P P 08 34 40.6 -0.2
baz=59,SNR=14
E15A Deer Lodge 58.91 54 P P 08 34 41.3 +0.3
baz=59,SNR=7.0
MFID Camas Ranch 59.04 58 ⇓P P 08 34 42.3 +0.4
baz=59
LAVA Lava Cap Winer 59.09 65 ⇓P P 08 34 42.5 +0.1
baz=59
HRY Holter Researc 59.16 53 *eP* **P 08 34 43.0 +0.3**
WENL Wente Brothers 59.19 67 ⇓P P 08 34 42.8 -0.3
baz=59
H13A Challis 59.20 56 P P 08 34 42.9 -0.1
baz=59,SNR=9.6
K11A Parker Ranch, 59.33 59 P P 08 34 44.5 +0.5
baz=59,SNR=5.8
FCC Fort Churchill 59.34 34 *eP* **P 08 34 43.8 0.0**
comp=Z,3.1nm,0.6s,mb4.5
FCC Fort Churchill 59.34 34 *eP* **P 08 34 43.8 +0.1**
FCC pmax pmax
comp=Z,3.0nm,0.6s,mb4.5
WCN Washoe City 59.34 64 ⇓P P 08 34 44.0 -0.1
baz=59
F15A Butte 59.36 54 ⇑P P 08 34 44.7 +0.7
baz=59,SNR=7.2
M09A Marrel Ranch, 59.36 61 ⇑P P 08 34 44.6 +0.4
baz=59
LRM Limekiln Ridge 59.39 54 *eP* **P 08 34 45.0 +0.6**
EGMT Eagleton 59.42 51 *eP* **P 08 34 44.3 -0.2**
comp=Z,9.4nm,0.9s,mb4.8
EGMT Eagleton 59.42 51 ⇑P P 08 34 44.7 +0.2
baz=59
L10A Juniper Basin 59.51 60 ⇑P P 08 34 45.1 -0.1
baz=59
SMLA Simla 59.53 284 *eP* **P 08 34 44.6 -0.9**
J12A Stokes Ranch, 59.55 58 P P 08 34 45.9 +0.4
baz=59,SNR=8.4
N09A Rock Creek Ran 59.68 61 ⇑P P 08 34 46.7 +0.3
baz=60
I13A Wildhorse Cree 59.69 57 ⇓P P 08 34 46.6 +0.2
baz=60,SNR=11
HLID Hailey 59.74 57 *eP* **P 08 34 47.2 +0.4**
comp=Z,8.9nm,1.4s,mb4.6
HLID Hailey 59.74 57 ⇑P P 08 34 46.9 +0.1
baz=60
CMB Columbia Colle 59.76 66 ⇑P P 08 34 47.2 +0.2
baz=60
G15A Dillon 59.79 55 P P 08 34 47.4 +0.3
baz=60,SNR=7.8
M10A I.L. Ranch, Tu 59.83 60 ⇓P P 08 34 47.9 +0.5
baz=60
L11A Cat Creek Ranc 59.87 59 P P 08 34 48.2 +0.5
baz=60,SNR=6.4
BOZ Bozeman (W) 59.95 54 *eP* **P 08 34 48.8 +0.6**
comp=Z,8.2nm,0.9s,mb4.8
BOZ Bozeman (W) 59.95 54 *eP* **P 08 34 48.8 +0.6**
BOZ pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
BOZ Bozeman (W) 59.95 54 ⇑P P 08 34 48.5 +0.4
baz=60
J13A Cove Ranch, Pi 59.98 57 P P 08 34 48.9 +0.5
baz=60,SNR=7.9
R06C Coleville 60.02 65 ⇑P P 08 34 48.3 -0.4
baz=60
K12A Draper Farm, C 60.06 58 P P 08 34 49.6 +0.7
baz=60,SNR=5.5
L12A House Creek Ra 60.30 59 P P 08 34 51.5 +0.9
baz=60,SNR=5.3
M11A Holland Ranch, 60.32 60 ⇑P P 08 34 51.1 +0.3
baz=60
R07C Lee Vining 60.54 65 ⇓P P 08 34 52.6 +0.2
baz=60
QLMT Earthquake Lak 60.58 55 *eP* **P 08 34 53.2 +0.7**
O10A Cortez Mining, 60.64 61 ⇓P P 08 34 53.5 +0.5
baz=60
Q08A Gabbs 60.71 63 P P 08 34 53.6 +0.1
baz=60,SNR=5.9
P09A Austin 60.74 62 ⇑P P 08 34 53.8 +0.2
baz=61
N11A Elko Archery C 60.74 60 ⇓P P 08 34 54.0 +0.3
baz=61
NVAR Mina Array Bea 60.77 64 P P 08 34 53.7 -0.2
NVAR Mina Array Bea 60.77 64 P P 08 34 53.7 -0.2
comp=Z,1.5nm,0.7s,mb4.2,baz=286,slow=9.2,SNR=13
M12A Wells 60.83 59 ⇑P P 08 34 55.1 +0.8
baz=61
GCMT Greycliff 60.90 53 *eP* **P 08 34 55.4 +0.7**
GCMT *epP* pP 08 35 06.7 +3.6
L13A Double Diamond 60.95 58 ⇑P P 08 34 55.8 +0.8
baz=61
K14A Jones Ranch, D 61.09 58 P P 08 34 56.9 +0.9
baz=61,SNR=5.9
P10A Eureka 61.09 62 ⇑P P 08 34 56.5 +0.4
baz=61
NDI New Delhi 61.11 282 *eP* **P 08 34 54.9 -1.4**
NDI AMb AMB 08 34 55.6
comp=Z,16nm,0.9s,mb5.1
N12A Clover Valley, 61.12 60 ⇓P P 08 34 56.5 +0.2
baz=61
YFT Old Faithful 61.15 55 P P 08 34 58.4 +2.1
O11A Cowboy Ranch, 61.23 61 ⇓P P 08 34 57.1 +0.1
baz=61
M13A Montello 61.30 59 ⇑P P 08 34 57.8 +0.4
baz=61
LKWY Lake 61.31 54 *eP* **P 08 34 59.7 +2.3**
comp=Z,9.1nm,1.0s,mb4.9
LKWY Lake 61.31 54 *eP* **P 08 34 59.7 +2.2**
LKWY pmax pmax
comp=Z,9.0nm,1.0s,mb4.8
IMW Indian Meadow 61.45 55 *eP* **P 08 34 58.7 +0.3**
FLWY Flagg Ranch 61.46 55 *eP* **P 08 34 58.5 0.0**
comp=Z,14nm,1.1s,mb5.0
HELL Mitchell Peak 61.47 66 ⇑P P 08 34 57.9 -0.8
baz=61
RLMT Red Lodge 61.55 53 *eP* **P 08 34 59.8 +0.7**
comp=Z,14nm,1.1s,mb5.0
RLMT *epP* pP 08 35 10.8 +3.3
RLMT *ePP* PP 08 37 16.2 +1.9
R09A Tonopah 61.63 63 P P 08 34 60.0 +0.3
baz=61,SNR=7.1
Q10A Clear Creek Ra 61.65 63 ⇑P P 08 34 59.9 +0.1
baz=62
MOOW Moose Ponds 61.66 55 *eP* **P 08 35 00.0 +0.2**
M14A Sheep Mountain 61.67 59 ⇑P P 08 35 00.2 +0.2
baz=62
O12A Currie 61.67 60 P P 08 35 00.6 +0.6
baz=62,SNR=5.5
TPAW Teton Pass 61.71 55 *eP* **P 08 35 00.3 +0.1**
comp=Z,12nm,1.0s,mb5.0
TPAW *epP* pP 08 35 12.6 +4.0
LOHW Long Hollow 61.82 55 *eP* **P 08 35 02.1 +1.2**
comp=Z,7.4nm,1.0s,mb4.8
LOHW *epP* pP 08 35 12.9 +3.7
SNOW Snow King Moun 61.84 55 *eP* **P 08 35 01.4 +0.3**
comp=Z,13nm,1.1s,mb5.0
REDW Red Top Meadow 61.85 56 *eP* **P 08 35 01.3 +0.2**
comp=Z,12nm,1.0s,mb5.0
S09A Goldfield 61.87 64 ⇑P P 08 35 01.1 -0.2
baz=62
DGMT Dagmar 61.94 48 *eP* **P 08 35 02.1 +0.4**
comp=Z,17nm,0.9s,mb5.2
DGMT *epP* pP 08 35 12.7 +2.7
VES Vestal, Richgr 61.98 67 ⇑P P 08 35 01.4 -0.8
baz=62
R10A Warm Springs 62.05 63 ⇑P P 08 35 02.4 -0.2
baz=62
Q11A Duckwater 62.07 62 ⇑P P 08 35 02.4 -0.3
baz=62
S10A Tonopah Range, 62.12 63 ⇑P P 08 35 03.0 0.0
baz=62
M15A Larsen Ranch, 62.21 58 ⇑P P 08 35 03.7 +0.1
baz=62
GRAC Grapevine Rang 62.26 65 ⇑P P 08 35 03.9 -0.1
baz=62
BLSP Bilaspur 62.31 273 *ex* x 08 34 41.1
R11A Troy Canyon, C 62.44 62 P P 08 35 05.0 -0.2
baz=62,SNR=7.6
KBL Kabul 62.45 292 *eP* **P 08 35 03.8 -1.5**
P13A Bates Ranch, G 62.63 61 ⇓P P 08 35 06.4 0.0
baz=62
MPMC Manual Prospec 62.81 66 ⇓P P 08 35 07.6 0.0
baz=63
S11A Rachel 62.81 63 ⇓P P 08 35 07.5 -0.1
baz=63
DUG Dugway 62.84 59 *eP* **P 08 35 08.0 +0.2**
comp=Z,8.3nm,1.0s,mb4.8
DUG *epP* pP 08 35 19.8 +3.7
DUG Dugway 62.84 59 *eP* **P 08 35 08.0 +0.2**
DUG *e*PP pP 08 35 19.8 +3.7
DUG pmax pmax
comp=Z,8.0nm,1.0s,mb4.8
DUG Dugway 62.84 59 ⇑P P 08 35 08.1 +0.3
baz=63
FURC Furnace Creek, 62.92 65 ⇑P P 08 35 08.2 -0.1
baz=63
PDAR Pinedale Array 62.95 55 P P 08 35 08.6 +0.1
comp=Z,4.6nm,0.9s,mb4.6,baz=301,slow=2.0,SNR=40
FINES FINESS Array B 63.03 335 *i P* **P 08 35 09.1 +0.4**
FINES pmax pmax
comp=Z,2.0nm,0.6s
FINES FINESS Array B 63.03 335 P P 08 35 06.8 -1.8
comp=Z,1.6nm,0.6s,mb4.4,baz=43,slow=6.9,SNR=7.6
FINES LR LR 09 04 17.3
comp=Z,169nm,21.2s,MS4.2,baz=12,slow=38
R12A Pony Springs, 63.03 62 ⇑P P 08 35 09.4 +0.3
baz=63
U10A Ash Meadows, A 63.27 65 ⇓P P 08 35 11.2 +0.5
baz=63
EDW2 Edwards Air Fo 63.28 67 ⇑P P 08 35 10.7 -0.1
baz=63
S12A Delamar Landin 63.37 63 P P 08 35 12.1 +0.8
baz=63,SNR=6.5
T11A Corn Creek, Al 63.39 63 P P 08 35 11.3 -0.1
baz=63,SNR=8.4
MPU Maple Canyon 63.63 59 *eP* **P 08 35 13.1 +0.1**
S13A Holt Ranch, En 63.97 62 P P 08 35 15.8 +0.5
baz=64,SNR=5.2
TUQ Turquoise Mtn. 64.17 65 ⇓P P 08 35 17.0 +0.3
baz=64
V11A Goodsprings 64.20 64 ⇓P P 08 35 17.1 +0.2
baz=64
S14A Cedar City 64.25 62 ⇓P P 08 35 17.4 +0.3
baz=64
T13A Saint George 64.32 63 ⇑P P 08 35 17.8 +0.2
baz=64
MSU Marysvale 64.33 60 *eP* **P 08 35 18.0 +0.3**
MSU *epP* pP 08 35 29.6 +3.6
HEC Hector,Ludlow 64.33 66 ⇑P P 08 35 17.9 +0.2
baz=64
VIS Vishakhapatnam 64.61 268 *eP* **P 08 35 20.7 +1.0**
VIS AMb AMB 08 35 21.2
comp=Z,48nm,1.5s,mb5.3
ULM Lac du Bonnet 64.62 42 P P 08 35 18.5 -0.9
comp=Z,1.3nm,0.7s,mb4.1,baz=342,slow=3.3,SNR=5.0
MURC Murrieta 64.62 67 ⇑P P 08 35 19.5 -0.2
baz=64
BHPL Bhopal 64.67 277 *eP* **P 08 35 20.5 +0.4**
U13A Pakoon Wash 64.69 63 P P 08 35 20.4 +0.4
baz=64,SNR=7.8
GMRC Granite Mounta 64.77 65 ⇑P P 08 35 20.4 -0.2
baz=65
T14A Hurricane 64.77 62 P P 08 35 21.2 +0.6
baz=65,SNR=5.1
SRU San Rafael 64.87 59 *eP* **P 08 35 21.2 0.0**
comp=Z,6.3nm,0.8s,mb4.7
SRU San Rafael 64.87 59 *eP* **P 08 35 21.2 0.0**
SRU pmax pmax
comp=Z,6.0nm,0.8s,mb4.7
RWWY Rawlins 64.97 55 *eP* **P 08 35 22.2 +0.4**
comp=Z,10nm,1.0s,mb4.8
RWWY *epP* pP 08 35 33.1 +2.9
NGP Nagpur 65.04 274 *eP* **P 08 35 21.8 -0.7**
U14A Mt Trumbull 65.15 63 P P 08 35 23.7 +0.6
baz=65,SNR=5.7
T15A Red Dirt Ranch 65.22 62 P P 08 35 23.8 +0.3
baz=65,SNR=5.3
IRM Iron Mountain 65.50 66 ⇓P P 08 35 25.2 -0.1
baz=65
BC3 Big Chuckw Mtn 65.66 66 ⇓P P 08 35 26.0 -0.4
baz=66
V14A Boquillas Ranc 65.73 63 P P 08 35 27.3 +0.5
baz=66,SNR=7.5
X13A Yucca 66.00 65 P P 08 35 28.5 -0.1
baz=66,SNR=5.1
PDMCI Parker Dam,Lak 66.02 65 ⇑P P 08 35 29.1 +0.4
baz=66
W14A Seligman 66.03 64 P P 08 35 28.8 0.0
baz=66,SNR=7.7
Y12C Blythe 66.16 66 ⇓P P 08 35 29.0 -0.6
baz=66
PV10 Paradox Valley 66.22 59 *eP* **P 08 35 30.7 +0.8**
PV10 *epP* pP 08 35 42.6 +4.3
GLA Glamis 66.45 66 ⇓P P 08 35 31.3 -0.2
baz=66
W15A Williams 66.54 63 ⇑P P 08 35 32.6 +0.6
baz=66
X14A Yava 66.65 64 ⇓P P 08 35 32.8 +0.1
baz=66
PV01 Paradox Valley 66.66 59 *eP* **P 08 35 32.7 0.0**
PV01 *epP* pP 08 35 44.5 +3.4
AKL Akola 66.71 275 *eP* **P 08 35 33.5 +0.2**
SMCO Snowmass 66.83 57 *eP* **P 08 35 33.9 0.0**
comp=Z,8.2nm,0.9s,mb4.8
Y14A Wickenburg 66.95 65 ⇓P P 08 35 34.9 +0.2
baz=67
X15A Humboldt 67.03 64 P P 08 35 35.9 +0.7
baz=67,SNR=5.7
NB2 NORSAR Subarra 67.04 342 P P 08 35 33.5 -1.2
comp=Z,1.4nm,0.7s,mb4.1,baz=25,slow=6.5
NOA NORSAR Array B 67.04 342 P P 08 35 33.7 -1.0
NOA pmax pmax
comp=Z,1.0nm,0.6s
NOA MLR MLR
comp=Z,96nm,19.1s
NOA NORSAR Array B 67.04 342 P P 08 35 33.6 -1.1
comp=Z,1.4nm,0.6s,mb4.2,baz=26,slow=6.4,SNR=7.7
NOA LR LR 09 09 38.7
comp=Z,96nm,19.1s,MS4.0,baz=0.0,slow=40
MVCO Mesa Verde 67.34 59 *eP* **P 08 35 37.4 +0.3**
comp=Z,10nm,1.0s,mb4.8
MVCO *epP* pP 08 35 48.8 +3.3
MVCO Mesa Verde 67.34 59 ⇓P P 08 35 37.4 +0.3
baz=67
Y15A Casa Rosa Ranc 67.34 64 ⇑P P 08 35 37.4 +0.3
baz=67
Z14A Wintersburg 67.38 65 ⇓P P 08 35 37.4 0.0
baz=67
X16A Lo Mia Camp, P 67.56 63 P P 08 35 38.9 +0.5
baz=67,SNR=8.7
Y16A Circle Bar Ran 67.91 64 ⇓P P 08 35 41.2 +0.5
baz=68
HYB Hyderabad 68.01 272 *eP* **P 08 35 41.5 0.0**
comp=Z,50nm,1.0s,mb5.5
HYB Hyderabad 68.01 272 *eP* **P 08 35 41.5 0.0**
HYB pmax pmax
comp=Z,50nm,1.0s,mb5.5
HYB Hyderabad 68.01 272 ⇓ *i P* **P 08 35 41.5 0.0**
comp=Z,50nm,1.0s,mb5.5
115A Sonoran Desert 68.27 65 ⇓P P 08 35 43.5 +0.5
baz=68
Z16A Peralta Trail, 68.31 64 ⇑P P 08 35 43.3 0.0
baz=68
LATR Latur 68.62 274 *eP* **P 08 35 45.5 +0.1**
SDCO Great Sand Dun 68.66 57 *eP* **P 08 35 45.9 +0.5**
comp=Z,17nm,1.9s,mb4.7
SDCO *epP* pP 08 35 56.8 +3.0
116A Eloy 68.69 65 ⇓P P 08 35 45.9 +0.3
baz=68
ECSD EROS,Sioux Fal 69.01 47 *eP* **P 08 35 46.6 -0.9**
comp=Z,11nm,0.8s,mb4.8
117A Oracle 69.26 64 ⇓P P 08 35 49.2 0.0
baz=69
118A Homack Ranch, 69.67 64 P P 08 35 51.9 +0.2
baz=70,SNR=6.5
217A Green Valley 69.77 65 ⇓P P 08 35 52.1 -0.2
baz=70
119A Ashpeak Ranch, 69.98 63 ⇓P P 08 35 53.9 +0.3
baz=70
LAZ Ladron 70.09 61 *eP* **P 08 35 55.1 +0.8**
LAZ *epP* pP 08 36 06.8 +4.0
218A Dragoon 70.10 64 P P 08 35 54.9 +0.5
baz=70,SNR=5.3
ANMO Albuquerque 70.10 60 *eP* **P 08 35 54.5 +0.2**
comp=Z,5.1nm,0.9s,mb4.5
ANMO *epP* pP 08 36 05.7 +2.9
ANMO Albuquerque 70.10 60 *eP* **P 08 35 54.5 +0.2**
ANMO *e*PP pP 08 36 05.7 +2.9
ANMO pmax pmax
comp=Z,5.0nm,0.9s
ANMO Albuquerque 70.10 60 P P 08 35 54.0 -0.3
comp=Z,2.3nm,0.9s,mb4.1,baz=312,slow=7.9,SNR=12
POO Poona 70.35 276 *eP* **P 08 35 56.3 +0.3**
WRAB Tennant Creek 70.37 200 *eP* **P 08 35 55.1 -0.8**
comp=Z,14nm,1.0s,mb4.9
WRAB *e* 08 36 17.2
WRAB Tennant Creek 70.37 200 *eP* **P 08 35 55.1 -0.8**
WRAB *e* 08 36 17.2
WRAB pmax pmax
comp=Z,14nm,1.0s,mb4.8
WB2 Warramunga Arr 70.38 200 *eP* **P 08 35 55.3 -0.7**
WRA Warramunga Arr 70.38 200 *i P* **P 08 35 55.2 -0.8**
WRA pmax pmax
comp=Z,12nm,0.9s
WRA Warramunga Arr 70.38 200 P P 08 35 55.0 -1.0
comp=Z,12nm,0.9s,mb4.8,baz=17,slow=6.6,SNR=28
318A Bisbee 70.51 65 P P 08 35 56.9 0.0
baz=70,SNR=7.2
219A White Tail Can 70.55 64 P P 08 35 57.6 +0.5
baz=70,SNR=5.7
AKASG Malin Array Be 70.78 327 *i P* **P 08 35 57.2 -1.0**
AKASG pmax pmax
comp=Z,1.0nm,0.4s
AKASG Malin Array Be 70.78 327 P P 08 35 56.0 -2.2
comp=Z,1.0nm,0.4s,mb4.1,baz=34,slow=6.4,SNR=5.4
AKASG LR LR 09 12 58.4
comp=Z,89nm,18.3s,MS4,1,baz=10.0,slow=41
319A Douglas 70.98 64 P P 08 35 60.0 +0.2
baz=71,SNR=10
FITZ Fitzroy Crossi 71.06 209 *eP* **P 08 36 00.3 +0.1**
comp=Z,15nm,1.0s,mb4.9
SCHQ Schefferville 71.41 24 P P 08 36 01.9 -0.1
comp=Z,2.4nm,0.5s,mb4.4,baz=312,slow=6.5,SNR=16
MNTX Cornudas Mount 73.06 61 *eP* **P 08 36 12.2 0.0**
comp=Z,3.7nm,0.9s,mb4.3
MNTX *epP* pP 08 36 23.8 +3.1
KWP Kalwaria 73.97 330 *eP* **P 08 36 17.5 +0.3**
KWP Kalwaria 73.97 330 *eP* **P 08 36 17.2 -0.1**
comp=Z,26nm,1.1s,mb5.1
KWP Kalwaria 73.97 330 ⇓ *i P* **P 08 36 17.2 0.0**
ASAR Alice Springs 74.08 200 P P 08 36 18.2 +0.2
ASAR pmax pmax
comp=Z,6.0nm,0.9s
ASAR Alice Springs 74.08 200 P P 08 36 18.2 +0.2
comp=Z,5.5nm,0.9s,mb4.5,baz=11,slow=5.7,SNR=27
KOLS Kolonicke sedl 74.72 330 *eP* **P 08 36 21.2 -0.4**
HDIL Hopedale 74.96 45 *eP* **P 08 36 23.0 -0.2**
comp=Z,6.1nm,0.6s,mb4.7
CRVS Cervenica-Dubn 75.01 330 *eP* **P 08 36 21.7 -1.6**
OKC Ostrava-Krasne 75.26 333 AMS AMS 09 14 20.0
comp=Z,200nm,18.8s,MS4.4
UPC Upice 75.30 334 *eP* **P 08 36 24.5 -0.4**
DPC Dobruska-Polom 75.35 334 *eP* **P 08 36 25.5 +0.3**
DPC *ex* x 08 36 48.6
DPC AMS AMS 09 15 20.0
comp=Z,200nm,18.5s,MS4.5
CLL Collm 75.42 336 ⇓ *i P* **P 08 36 25.2 -0.4**
comp=Z,8.0nm,0.7s,mb4.8
CLL *e* 08 36 47.0
CLL Collm 75.42 336 *eP* **P 08 36 25.1 -0.5**
comp=Z,8.0nm,0.7s,mb4.8
CLL Collm 75.42 336 ⇓ *i P* **P 08 36 25.2 -0.4**
comp=Z,8.0nm,0.7s,mb4.8
CLL LmV 08 11 00.0
comp=Z,100nm,21.1s
MORC Moravsky Berou 75.50 333 ⇓P P 08 36 26.2 +0.1
MORC Moravsky Berou 75.50 333 ⇓ *i P* **P 08 36 26.2 +0.2**
BRG Berggiesshubel 75.56 336 *eP* **P 08 36 25.8 -0.6**
BRG pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
BRG Berggiesshubel 75.56 336 *eP* **P 08 36 25.8 -0.6**
comp=Z,4.2nm,0.8s,mb4.4
CLZ Clausthal 75.62 338 *eP* **P 08 36 27.4 +0.7**

KECS Kecovo 75.70 331 *eP* **P 08 36 25.9 -1.3**
comp=Z,2.6nm,0.9s,mb4.2
KECS Kecovo 75.70 331 *eP* **P 08 36 25.9 -1.3**
KECS pmax pmax
comp=Z,3.0nm,0.9s,mb4.2
TXAR Lajitas Array 75.79 62 P **P 08 36 27.8 -0.3**
TXAR pmax pmax
comp=Z,2.0nm,0.6s
TXAR Lajitas Array 75.79 62 P **P 08 36 27.8 -0.3**
comp=Z,1.8nm,0.6s,mb4.2,baz=302,slow=4.5,SNR=36
CCM Cathedral Cave 75.97 48 *eP* **P 08 36 33.4 +4.5**
comp=Z,6.3nm,0.9s,mb4.5
CCM Cathedral Cave 75.97 48 *eP* **P 08 36 33.4 +4.4**
CCM pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
PRU Pruhonice 76.19 335 *eP* **P 08 36 29.8 -0.2**
PRU *ex* x 08 36 53.6
PRU AMS AMS 09 12 00.0
comp=Z,200nm,21.1s,MS4.4
VYHS Vyhne 76.22 331 *eP* **P 08 36 29.8 -0.4**
comp=Z,2.7nm,1.1s,mb4.1
VYHS Vyhne 76.22 331 *eP* **P 08 36 29.8 -0.4**
VYHS pmax pmax
comp=Z,3.0nm,1.1s,mb4.1
MLR Muntele Rosu 76.34 326 ⇑P **P 08 36 30.7 -0.2**
MLR Muntele Rosu 76.34 326 ⇑*i*P **P 08 36 30.7 -0.3**
DRGR 76.41 328 ⇑P **P 08 36 30.9 -0.4**
DRGR 76.41 328 ⇑*i*P **P 08 36 30.9 -0.4**
FVM French Village 76.43 48 *eP* **P 08 36 31.3 -0.3**
comp=Z,7.3nm,0.9s,mb4.6
FVM French Village 76.43 48 *eP* **P 08 36 31.3 -0.3**
FVM pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
MALT Malatya 76.82 314 ⇓P **P 08 36 35.0 +1.3**
MALT Malatya 76.82 314 ⇓*i*P **P 08 36 35.0 +1.2**
ROTZ Rotzenmuhle 77.04 336 *eP* **P 08 36 34.7 -0.1**
comp=Z,8.0nm,1.1s,mb4.6
JCT Junction City 77.18 59 *eP* **P 08 36 35.5 -0.4**
comp=Z,11nm,0.9s,mb4.8
JCT Junction City 77.18 59 *eP* **P 08 36 35.5 -0.5**
JCT pmax pmax
comp=Z,11nm,0.9s,mb4.8
KHC Kasperske Hory 77.23 335 *eP* **P 08 36 36.2 +0.3**
KHC *ex* x 08 36 57.6
KHC AMS AMS 09 13 00.0
comp=Z,200nm,21.2s,MS4.4
GRA1 Grafenberg Arr 77.37 337 *eP* **P 08 36 36.8 +0.1**
comp=Z,15nm,1.1s,mb4.8
GRA1 LR LR
comp=Z,200nm,20.0s,MS4.4
GRF Grafenberg Arr 77.37 337 *eP* **P 08 36 36.8 +0.1**
GRF pmax pmax
comp=Z,15nm,1.1s,mb4.8
GRF MLR MLR
comp=Z,200nm,20.0s,MS4.4
GRF Grafenberg Arr 77.37 337 *eP* **P 08 36 36.8 +0.1**
GRF pmax pmax
comp=Z,15nm,1.1s,mb4.8
GRF MLR MLR
comp=Z,200nm,20.0s,MS4.4
GRF Grafenberg Arr 77.37 337 *eP* **P 08 36 36.8 +0.1**
GRF *eL* 09 13 56.0
comp=Z,152nm,20.0s
WET Wettzell 77.42 335 *eP* **P 08 36 37.2 +0.2**
WET pmax pmax
comp=Z,14nm,1.4s,mb4.7
WET Wettzell 77.42 335 *eP* **P 08 36 37.2 +0.2**
comp=Z,14nm,1.4s,mb4.7
GEC2 GERESS Array S 77.46 335 *eP* **P 08 36 36.6 -0.6**
GEC2 pmax pmax
comp=Z,3.0nm,0.7s,mb4.3
GEC2 GERESS Array S 77.46 335 *eP* **P 08 36 36.6 -0.6**
comp=Z,3.0nm,0.7s,mb4.3
GERES GERESS Array B 77.46 335 P **P 08 36 36.7 -0.5**
GERES pmax pmax
comp=Z,2.0nm,0.6s
GERES MLR MLR
comp=Z,155nm,21.0s
GERES GERESS Array B 77.46 335 P **P 08 36 36.7 -0.5**
comp=Z,1.7nm,0.6s,mb4.2,baz=38,slow=6.8,SNR=14
GERES LR LR 09 13 18.8
comp=Z,155nm,21.0s,MS4.3,baz=6.3,slow=38
MIAR Mount Ida 77.50 52 *eP* **P 08 36 37.4 -0.3**
comp=Z,12nm,0.8s,mb4.9
MIAR Mount Ida 77.50 52 *eP* **P 08 36 37.4 -0.3**
MIAR pmax pmax
comp=Z,12nm,0.8s,mb4.9
GZR Gura Zlata 77.59 328 ⇑*i*P **P 08 36 35.8 -2.2**
CONA Conrad Observa 77.65 333 ⇑*i*pP **P 08 36 38.3 0.0**
comp=Z,11nm,1.3s,mb4.6
MEM Membach 77.80 340 P **P 08 36 38.4 -0.7**
comp=Z,6.8nm,1.2s,mb4.5
BZS Buzias 77.81 328 ⇓P **P 08 36 38.6 -0.5**
BZS Buzias 77.81 328 ⇓*i*P **P 08 36 38.6 -0.6**
BCLA Clavier 78.13 341 P **P 08 36 40.3 -0.6**
comp=Z,6.1nm,1.6s,mb4.3
MIB Mutribah 78.71 302 *eP* **P 08 36 43.5 -0.9**
MIB AMb AMB 08 36 45.2
comp=Z,44nm,0.7s,mb5.5
KBA Koelnbreinsper 79.16 334 ⇓*i*P **P 08 36 47.4 +0.8**
comp=Z,16nm,0.9s,mb5.0
KBA Koelnbreinsper 79.16 334 ⇓*i*pP **P 08 36 47.4 +0.8**
comp=Z,16nm,0.9s,mb5.0
KBA Koelnbreinsper 79.16 334 ⇓*i*P **P 08 36 47.4 +0.8**
KBA pmax pmax
comp=Z,17nm,0.9s,mb5.0
NAY Al-Naaiem 79.18 302 *eP* **P 08 36 46.0 -1.1**
NAY AMb AMB 08 36 48.6
comp=Z,21nm,1.1s,mb5.0
RDF Al-Radifah 79.25 301 *eP* **P 08 36 46.8 -0.7**
RDF AMb AMB 08 36 49.3
comp=Z,55nm,1.0s,mb5.4
BFO Black Forest 79.37 338 *eP* **P 08 36 48.5 +0.8**
BFO pmax pmax
comp=Z,10.0nm,1.1s,mb4.7
BFO Black Forest 79.37 338 *eP* **P 08 36 48.5 +0.8**
comp=Z,10.0nm,1.1s,mb4.7
WTTA Wattenberg 79.47 335 ⇑*i*P **P 08 36 48.9 +0.6**
comp=Z,29nm,1.4s,mb5.0
WTTA Wattenberg 79.47 335 ⇑*i*pP **P 08 36 48.9 +0.6**
comp=Z,29nm,1.4s,mb5.0
WTTA Wattenberg 79.47 335 ⇑*i*P **P 08 36 48.9 +0.6**
WTTA pmax pmax
comp=Z,29nm,1.4s,mb5.0
MOTA Moosalm 79.55 336 ⇑*i*P **P 08 36 48.8 +0.1**
comp=Z,15nm,1.1s,mb4.8
MOTA Moosalm 79.55 336 ⇑*i*pP **P 08 36 48.8 +0.1**
comp=Z,15nm,1.1s,mb4.8
MOTA Moosalm 79.55 336 ⇑*i*P **P 08 36 48.8 +0.1**
MOTA pmax pmax
comp=Z,15nm,1.1s,mb4.8
CDF Champ du Feu 79.55 339 *eP* **P 08 36 48.4 -0.3**
ABTA Abfaltersbach 79.70 335 ⇑*i*pP **P 08 36 49.7 +0.2**
comp=Z,8.5nm,1.2s,mb4.5
ECH Echery 79.76 339 *eP* **P 08 36 49.0 -0.9**
FELD Feldberg im Sc 79.87 338 *eP* **P 08 36 49.3 -1.2**
DAVA Damuels 79.93 337 ⇓*i*P **P 08 36 50.8 0.0**
comp=Z,10nm,1.0s,mb4.7
DAVA Damuels 79.93 337 ⇓*i*pP **P 08 36 50.8 0.0**
comp=Z,10nm,1.0s,mb4.7
FETA Feichten 79.95 336 ⇑*i*pP **P 08 36 50.9 0.0**
comp=Z,6.7nm,0.9s,mb4.6
MEZF Maizieres J'vi 79.99 340 *eP* **P 08 36 51.0 -0.1**
THEF They Montfort 80.03 339 *eP* **P 08 36 49.9 -1.5**
HAU Haudompre 80.16 339 *eP* **P 08 36 51.4 -0.6**
HAU *eMLR* MLR
comp=Z,171nm,22.5s,MS4.0
HAU Haudompre 80.16 339 *eP* **P 08 36 51.4 -0.6**
HAU MLR MLR
comp=Z,170nm,22.5s,MS4.3
HINF Hinteralfeld 80.21 339 *eP* **P 08 36 51.9 -0.4**
FLN La Foliniere 80.89 344 *eP* **P 08 36 56.3 +0.3**
FLN *eMLR* MLR
comp=Z,132nm,21.8s,MS4.0
FLN La Foliniere 80.89 344 *eP* **P 08 36 56.3 +0.3**
FLN MLR MLR
comp=Z,130nm,21.8s,MS4.2
LDF La Druitiere 80.99 343 *eP* **P 08 36 56.6 +0.1**
GRR Gorron 81.33 344 *eP* **P 08 36 57.8 -0.5**
LOR Lormes 81.42 340 *eP* **P 08 36 58.3 -0.5**
comp=Z,17nm,0.8s,mb4.7
LOR *eMLR* MLR
comp=Z,168nm,21.5s,MS4.1
LOR Lormes 81.42 340 *eP* **P 08 36 58.3 -0.5**
comp=Z,8.6nm,0.8s,mb4.7
LOR LR LR
comp=Z,170nm,21.5s,MS4.4
LOR Lormes 81.42 340 *eP* **P 08 36 58.3 -0.5**
LOR pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
LOR MLR MLR
comp=Z,170nm,21.5s,MS4.4
CABF La Chapelle 81.52 339 *eP* **P 08 36 59.2 -0.1**
SSF Saint Saulge 81.70 341 *eP* **P 08 36 59.9 -0.4**
comp=Z,12nm,0.8s,mb4.6
SSF Saint Saulge 81.70 341 *eP* **P 08 36 59.9 -0.4**
comp=Z,6.3nm,0.8s,mb4.6
SSF Saint Saulge 81.70 341 *eP* **P 08 36 59.9 -0.4**
SSF pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
ROSF Rostrenen 81.80 345 *eP* **P 08 37 00.6 -0.2**
AVF Avril sur Loir 81.99 341 *eP* **P 08 37 01.4 -0.4**
comp=Z,13nm,0.8s,mb4.6
AVF Avril sur Loir 81.99 341 *eP* **P 08 37 01.4 -0.4**
comp=Z,6.6nm,0.8s,mb4.6
AVF Avril sur Loir 81.99 341 *eP* **P 08 37 01.4 -0.4**
AVF pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
SMF Signal de Mont 82.02 340 *eP* **P 08 37 01.4 -0.5**
comp=Z,49nm,1.3s,mb5.0
SMF Signal de Mont 82.02 340 *eP* **P 08 37 01.4 -0.5**
comp=Z,24nm,1.3s,mb5.0
SMF Signal de Mont 82.02 340 *eP* **P 08 37 01.4 -0.5**
SMF pmax pmax
comp=Z,24nm,1.3s,mb5.0
FORT Forrest 82.31 203 *eP* **P 08 37 03.8 +0.4**
comp=Z,17nm,0.6s,mb5.2
BGF Bois d'Agland 82.32 341 *eP* **P 08 37 03.1 -0.4**
LPL La Plagne 82.39 338 *eP* **P 08 37 04.4 +0.5**
comp=Z,15nm,0.7s,mb4.7
LPL La Plagne 82.39 338 *eP* **P 08 37 04.4 +0.5**
comp=Z,7.4nm,0.7s,mb4.7
LPL La Plagne 82.39 338 *eP* **P 08 37 04.4 +0.5**
LPL pmax pmax
comp=Z,7.0nm,0.7s,mb4.7
LPG La Plagne 82.40 338 *eP* **P 08 37 04.6 +0.6**
comp=Z,18nm,0.8s,mb4.8
LPG La Plagne 82.40 338 *eP* **P 08 37 04.6 +0.6**
comp=Z,9.1nm,0.8s,mb4.8
LPG La Plagne 82.40 338 *eP* **P 08 37 04.6 +0.6**
LPG pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
PLDF La Plantade 82.71 340 *eP* **P 08 37 05.5 -0.1**
TCF Toulx Ste Croi 82.72 341 *eP* **P 08 37 05.2 -0.4**
comp=Z,32nm,1.1s,mb5.0
TCF Toulx Ste Croi 82.72 341 *eP* **P 08 37 05.2 -0.4**
comp=Z,16nm,1.1s,mb5.0
TCF Toulx Ste Croi 82.72 341 *eP* **P 08 37 05.2 -0.4**
TCF pmax pmax
comp=Z,16nm,1.1s,mb5.0
AGO Saint Agoulin 82.74 340 *eP* **P 08 37 05.8 +0.1**
BNI Bardonecchia 82.83 338 *eP* **P 08 37 06.7 +0.5**
comp=Z,7.5nm,1.0s,mb4.7
BNI Bardonecchia 82.83 338 *eP* **P 08 37 06.7 +0.5**
BNI pmax pmax
comp=Z,7.0nm,1.0s,mb4.7
MFF Saint Martin d 82.90 343 *eP* **P 08 37 06.3 -0.3**
comp=Z,17nm,0.9s,mb4.8
MFF Saint Martin d 82.90 343 *eP* **P 08 37 06.3 -0.3**
comp=Z,8.6nm,0.9s,mb4.8
MFF Saint Martin d 82.90 343 *eP* **P 08 37 06.3 -0.3**
MFF pmax pmax
comp=Z,9.0nm,0.9s,mb4.8
PYM Petit Puy Mans 83.05 340 *eP* **P 08 37 07.3 -0.1**
MBDF Montbardon 83.12 338 *eP* **P 08 37 07.6 -0.1**
comp=Z,6.1nm,0.6s,mb4.5
MBDF Montbardon 83.12 338 *eP* **P 08 37 07.6 -0.1**
comp=Z,3.0nm,0.6s,mb4.5
MBDF Montbardon 83.12 338 *eP* **P 08 37 07.6 -0.1**
MBDF pmax pmax
comp=Z,3.0nm,0.6s,mb4.5
ORIF Oris-en-Rattie 83.16 338 *eP* **P 08 37 07.7 -0.2**
comp=Z,12nm,0.7s,mb4.7
ORIF *eMLR* MLR
comp=Z,112nm,21.5s,MS3.9
ORIF Oris-en-Rattie 83.16 338 *eP* **P 08 37 07.7 -0.2**
comp=Z,6.2nm,0.7s,mb4.8
ORIF Oris-en-Rattie 83.16 338 *eP* **P 08 37 07.7 -0.2**
ORIF pmax pmax
comp=Z,6.0nm,0.7s,mb4.7
VIVF Saint-Julien-l 83.51 339 *eP* **P 08 37 09.5 -0.2**
comp=Z,28nm,1.1s,mb5.0
VIVF Saint-Julien-l 83.51 339 *eP* **P 08 37 09.5 -0.2**
comp=Z,14nm,1.1s,mb5.0
VIVF Saint-Julien-l 83.51 339 *eP* **P 08 37 09.5 -0.2**
VIVF pmax pmax
comp=Z,14nm,1.1s,mb5.0
SAOF Saorge 83.60 337 *eP* **P 08 37 09.3 -0.9**
TOUF Mont Tournerai 83.66 337 *eP* **P 08 37 09.3 -1.2**
LUCF Luceram 83.75 337 *eP* **P 08 37 10.9 -0.1**
SBF Sospel 83.75 337 *eP* **P 08 37 10.4 -0.6**
MVIF Mont Vial 83.79 337 *eP* **P 08 37 09.3 -1.9**
RJF Les Rejaudoux 83.80 341 *eP* **P 08 37 10.7 -0.5**
RJF *eMLR* MLR
comp=Z,181nm,21.8s,MS4.1
RJF Les Rejaudoux 83.80 341 *eP* **P 08 37 10.7 -0.5**
RJF MLR MLR
comp=Z,180nm,21.8s,MS4.4
CALN Calern 84.00 337 *eP* **P 08 37 11.7 -0.5**
CAF Calviac 84.04 341 *eP* **P 08 37 11.9 -0.6**
comp=Z,8.7nm,0.8s,mb4.6
CAF Calviac 84.04 341 *eP* **P 08 37 11.9 -0.6**
comp=Z,4.3nm,0.8s,mb4.6
CAF Calviac 84.04 341 *eP* **P 08 37 11.9 -0.6**
CAF pmax pmax
comp=Z,4.0nm,0.8s,mb4.6
SMRF Simiane la Rot 84.12 338 *eP* **P 08 37 12.7 -0.2**
comp=Z,38nm,1.3s,mb5.1
SMRF Simiane la Rot 84.12 338 *eP* **P 08 37 12.7 -0.2**
comp=Z,38nm,1.3s,mb5.4
FRF La Foret Royal 84.24 337 *eP* **P 08 37 12.5 -1.0**
comp=Z,13nm,0.8s,mb4.8
FRF La Foret Royal 84.24 337 *eP* **P 08 37 12.5 -1.0**
comp=Z,6.7nm,0.8s,mb4.8
FRF La Foret Royal 84.24 337 *eP* **P 08 37 12.5 -1.0**
FRF pmax pmax
comp=Z,7.0nm,0.8s,mb4.8
TAVF Tavernes 84.33 338 *eP* **P 08 37 14.1 +0.1**
LASF Ste Croix 84.44 339 *eP* **P 08 37 13.0 -1.5**
LMR La Mourre 84.48 337 *eP* **P 08 37 14.1 -0.6**
comp=Z,43nm,1.2s,mb5.2
LMR La Mourre 84.48 337 *eP* **P 08 37 14.1 -0.6**
comp=Z,22nm,1.2s,mb5.2
LMR La Mourre 84.48 337 *eP* **P 08 37 14.1 -0.6**
LMR pmax pmax
comp=Z,22nm,1.2s,mb5.2
TREF Trevaresse 84.50 338 *eP* **P 08 37 16.2 +1.4**
PUYF Puyloubier 84.50 338 *eP* **P 08 37 15.0 +0.2**
MTLF Montolieu 85.52 340 *eP* **P 08 37 19.4 -0.5**
ESDC Sonseca Array 90.32 344 P **P 08 37 41.4 -1.6**
comp=Z,0.3nm,0.3s,mb4.1,baz=12,slow=7.1,SNR=3.5
TORD Torodi Ar. Bea 114.22 331 PKP PKiKP 08 43 19.0 -2.8
comp=Z,0.5nm,0.9s,baz=346,slow=3.0,SNR=2.7
QSPA South Pole Qui 138.10 180 PKP PKPdf 08 44 05.0 -0.2
QSPA South Pole Qui 138.10 180 PKhKP 08 43 56.0
comp=Z,1.6nm,1.1s,baz=26,slow=17,SNR=2.3
QSPA PKP PKPdf 08 44 05.0 -0.2
comp=Z,1.0nm,0.7s,baz=0.0,slow=0.0,SNR=5.3
CFAA Coronel Fontan 143.65 79 PKhKP 08 44 13.1
comp=Z,0.1nm,0.5s,baz=296,slow=4.5,SNR=3.7
CPUP Villa Florida 146.75 60 PKPbc PKPbc 08 44 23.3 -0.6
comp=Z,0.4nm,0.4s,baz=306,slow=4.3,SNR=3.9
PLCA Paso Flores 147.28 94 PKP2 PKPab 08 44 23.6 -3.3
PLCA pmax pmax
comp=Z,3.0nm,1.0s
PLCA Paso Flores 147.28 94 PKPbc PKPbc 08 44 23.6 -1.4
comp=Z,2.5nm,1.0s,baz=306,slow=10,SNR=4.3
SNAA Sanae 154.40 196 PKIKP PKPbc 08 44 38.6 -2.3
SNAA pmax pmax
comp=Z,1.0nm,1.0s
SNAA Sanae 154.40 196 PKPbc PKPbc 08 44 38.6 -2.4
comp=Z,0.6nm,1.0s,baz=56,slow=7.3,SNR=3.0
VNA2 Neumayer--Watz 155.83 194 *e* PKPab 08 45 00.8 -0.7
VNA2 *e* 08 45 04.9
VNA2 *e* 08 45 08.9
VNA2 *e* 08 45 14.2
VNA2 *e* 08 45 19.9
VNA1 Neumayer--Stat 156.21 194 *e* PKPab 08 45 02.8 -0.4
VNA1 *e* 08 45 07.2
VNA1 *e* 08 45 12.6
VNA1 *e* 08 45 19.0
VNA1 *e* 08 45 25.2

IDC ***24*** *08:29:33.2±0.8, 8.19S×15702E, h0km, mb4.1/8, mb1 4.2/9, mb1mx4.1/16, mbtmp4.1/9, ML4.5/1, MS3.8/2, Ms1 3.8/2, ms1mx3.1/25, Error ellipse: s-maj=25.5km s-min=21.3km az=157.0*
NEIC ***24*** *08:29:34.6±0.6, 826S×15705E, h10km, mb4.2/1, Error ellipse: s-maj=17.2km s-min=12.6km az=167.0*
ISCJB ***24*** *08:29:37.0±0.7, 83S±0.1×15694E±007, h33km, mb3.9/8, Error ellipse: s-maj=18.1km s-min=9.6km az=8.3*
ISC 24 08:29:38.9±0.7,**82S**±01×**15692E**±007,**h35**km,**n13**, σ0§**89**/12,**mb3.9**/8,**Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**3.23**	**112**	Pn	**Pn**	**08 30 23.6**	**-3.6**
	59nm,0.3s,baz=300,slow=0.7,SNR=14						
HNR				Sn	**Sn**	**08 31 04.9**	**+0.5**
	74nm,0.3s,baz=85,slow=17,SNR=12						
CTA	**Charters Tower**	**15.69**	**220**	LR	LR	08 37 59.1	
	comp=Z,130nm,20.6s,baz=263,slow=32						
WB2	**Warramunga Arr**	**24.77**	**240**	*eP*	**P**	**08 34 58.0**	**+0.5**
WRA	**Warramunga Arr**	**24.78**	**240**	P	**P**	**08 34 58.1**	**+0.5**
	2.1nm,0.5s,mb3.9,baz=66,slow=9.6,SNR=36						
WRA				PcP	PcP	08 38 33.7	-0.2
	1.4nm,0.7s,baz=61,slow=2.3,SNR=7.5						
ASAR	**Alice Springs**	**26.88**	**232**	P	**P**	**08 35 16.5**	**-0.1**
	0.6nm,0.9s,mb3.1,baz=66,slow=9.3,SNR=5.0						
STKA	**Stephens Creek**	**27.54**	**209**	*eP*	**P**	**08 35 21.7**	**-0.7**
	3.6nm,0.8s,mb4.0						
STKA	**Stephens Creek**	**27.54**	**209**	P	**P**	**08 35 23.1**	**+0.6**
	4.5nm,0.8s,mb4.2,baz=43,slow=15,SNR=11						
SONM	**Songino Array**	**71.38**	**327**	P	**P**	**08 40 53.9**	**-1.4**
	1.5nm,0.8s,mb4.0,baz=106,slow=11,SNR=3.0						
QSPA	**South Pole Qui**	**81.78**	**180**	P	**P**	**08 41 52.5**	**-1.2**
	4.0nm,0.9s,mb4.4,baz=21,slow=7.1,SNR=2.8						
MKAR	**Makanchi Array**	**85.57**	**318**	P	**P**	**08 42 14.7**	**+1.1**
	1.3nm,0.8s,mb4.2,baz=93,slow=7.4,SNR=5.6						
NVAR	**Mina Array Bea**	**90.97**	**51**	P	**P**	**08 42 40.3**	**+0.7**
	0.2nm,0.6s,mb3.6,baz=231,slow=4.8,SNR=4.1						
YKA	**Yellowknife Ar**	**96.50**	**28**	P	**P**	**08 43 04.3**	**-0.1**
	0.4nm,0.8s,mb3.9,baz=263,slow=4.8,SNR=7.8						
BDFB	**Brasilia**	**145.78**	**134**	PKPbc	PKPbc	08 49 13.9	-1.3
	2.1nm,0.7s,baz=98,slow=7.1,SNR=7.0						

ISK ***24*** *08:33:30.1, 3780N×2962E, h6km, MD2.8*
ISCJB ***24*** *08:33:31.7±0.7, 3784N±003×2957E±006, h6km±9km, Error ellipse: s-maj=8.2km s-min=5.6km az=14.3*
CSEM ***24*** *08:33:31.3±0.2, 3779N×2954E, h15km, MD2.8, Error ellipse: s-maj=6.1km s-min=5.0km az=137.0*
DDA ***24*** *08:33:31.4, 3783N×2933E, h7km±5km, Md2.8*
ISC 24 08:33:32.1±0.6,**3784N**±004×**2956E**±006,**h11**km±8km,**n9**, σ1§**08**/14,**Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DENT	**Denizli**	**0.43**	**259**	*e*PG	**Pg**	**08 33 39.8**	**-0.8**
DENT				*e*SG	**Sg**	**08 33 46.5**	**+0.3**
KHL	**Karahalli**	**0.49**	**356**	*e*PG	**Pg**	**08 33 40.8**	**-0.9**
KHL				*e*SG	**Sg**	**08 33 48.6**	**+0.5**
GOLH	**Golhisar**	**0.60**	**180**	*i* P	**Pg**	**08 33 43.2**	**-0.5**
GOLH				*i* S	**Sg**	**08 33 53.1**	**+1.5**
TKTP	**Tekketepe**	**0.63**	**71**	*i* P	**Pg**	**08 33 45.5**	**+1.1**
TKTP				*i* P		08 33 45.5	
TKTP				*i* S	**Sg**	**08 33 59.2**	**+6.5**
KULA	**Kula-Manisa**	**0.98**	**314**	*e*PG	**Pg**	**08 33 51.3**	**+0.2**
SHUT	**Suhut-Afyon**	**1.06**	**47**	*e*PG	**Pg**	**08 33 50.6**	**-1.9**
YER	**Yerkesik**	**1.23**	**236**	*e*PN	**Pn**	**08 33 54.5**	**-0.9**
GDZ	**Gediz**	**1.25**	**357**	*i* P	**Pn**	**08 33 55.8**	**+0.2**
GDZ				*i* S	**Sb**	**08 34 14.4**	**+2.4**
ALT	**Altintas**	**1.29**	**19**	*e*PN	**Pn**	**08 33 55.3**	**-0.8**

ISCJB ***24*** *08:53:32.6±0.2, 572N±003×7586W±002, h50km, mb5.1/142, MS4.3/30, Error ellipse: s-maj=4.8km s-min=2.8km az=18.2*
CASC ***24*** *08:53:33.0±1.3, 627N×7560W, h71km±176km, ML3.8, mb5.2(NEIC)*
BJI ***24*** *08:53:33.0, 560N×7590W, h52km, mB5.4, Ms5.4, Msz5.2*
NEIC ***24*** *08:53:34.0±0.2, 563N×7589W, mb5.2/109, Error ellipse: s-maj=5.6km s-min=3.8km az=33.0*
NEIC Felt at Manizales, Medellin and Pereira.
GCMT ***24*** *08:53:34.0±0.3, 579N×7578W, h43km±2km, MW5.1/71, Moment Tensor Solution. s48,c65; s71,c104; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr-3.02±.21; Mθθ-1.25±.14; Mφφ4.26±.17; Mrθ-1.76±.15; Mθφ-0.05±.11; Mφr-4.69±.29; Best double couple: Mo6.25200×10¹⁶ NP1:φs154.00000°, δ23.00000°, λ-132.00000°. NP2: φs18.00000°, δ73.00000°, λ-75.00000°. Principal axes: T 6.6260, Plg27.0000°, Azm96.0000°; N -0.7600, Plg15.0000°, Azm194.0000°; P -5.8770, Plg59.0000°, Azm310.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
MOS ***24*** *08:53:35.8±0.8, 572N×7604W, h77km, mb5.3/46 Error ellipse: s-maj=7.7km s-min=6.0km az=100.2*
IDC ***24*** *08:53:37.3±1.3, 568N×7578W, h85km±12km, mb4.5/18, mb1 4.6/22, mb1mx4.6/24, mbtmp4.5/22, MS4.1/21, Ms1 4.1/21, ms1mx4.0/29, Error ellipse: s-maj=13.3km s-min=9.8km az=68.0*
SZGRF ***24*** *08:53:45.5, 570N×7181W, h33km, mb5.0, Colombia*
ISC 24 08:53:34.5±0.2,**569N**±003×**7583W**±002,**h52**km,**h52**km±1.4km:**pP-P**,**n653**,σ0§**87**/613,**mb5.1**/142,**MS4.3**/30, **92C-111D**,**Colombia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSC	**El Rosal**	**1.71**	**119**	*e*Pn	**Pn**	**08 54 05.5**	**+3.6**
ROSC				*e*Sn	**Sn**	**08 54 32.5**	**+10**
ROSC	**El Rosal**	**1.71**	**119**	P	**Pn**	**08 54 04.4**	**+2.5**
	3μm,0.3s,baz=292,slow=3.4,SNR=809						
ROSC				S	**Sn**	**08 54 27.8**	**+5.2**
	2μm,0.3s,baz=77,slow=20,SNR=6.1						
ROSC				LR	LR	08 54 33.4	
	comp=Z,6μm,19.9s,baz=21,slow=33						
AZU	**Azuero**	**4.89**	**296**	⇑*i*P	**Pn**	**08 54 44.7**	**-0.8**
AZU				*e*S	**Sn**	**08 55 40.4**	**-0.4**
UPIG		**4.93**	**312**	*e*P	**Pn**	**08 54 43.1**	**-2.9**
UPIG				*e*S	**Sn**	**08 55 37.1**	**-4.7**
BCIP	**Isla Barro Col**	**5.27**	**311**	*e*Pn	**Pn**	**08 54 48.3**	**-2.5**
SDV	**Santo Domingo**	**6.05**	**58**	*e*Pn	**Pn**	**08 55 03.0**	**+1.5**
SDV				*e*Sn	**Sn**	**08 56 09.5**	**0.0**
SDV	**Santo Domingo**	**6.05**	**58**	P	**Pn**	**08 55 03.0**	**+1.5**
	53nm,0.3s,baz=259,slow=13,SNR=126						
SDV				S	**Sn**	**08 56 10.4**	**+0.9**
	131nm,0.3s,baz=351,slow=14,SNR=3.9						
SDV				LR	LR	08 56 44.5	
	comp=Z,693nm,20.2s,baz=253,slow=31						
DVD	**David**	**7.12**	**293**	*e*P	**Pn**	**08 55 14.9**	**-1.2**
CNI	**Changuinola**	**7.60**	**300**	*e*P	**Pn**	**08 55 20.9**	**-1.8**
CNI				*e*S	**Sn**	**08 56 46.5**	**-1.0**
BAR1		**8.22**	**296**	⇑*i*P	**Pn**	**08 55 30.9**	**-0.3**
URSC	**Urasca**	**8.89**	**298**	*e*P	**Pn**	**08 55 39.2**	**-1.2**
LCR2	**La Lucha 2**	**9.05**	**297**	⇑*e*P	**Pn**	**08 55 42.9**	**+0.3**
QCR	**Quepos**	**9.06**	**295**	*e*P	**Pn**	**08 55 44.6**	**+1.8**
LAJ	**Bijagual**	**9.21**	**297**	*e*P	**Pn**	**08 55 51.9**	**+7.2**
PRS1	**Puriscal**	**9.43**	**297**	*e*P	**Pn**	**08 55 48.4**	**+0.6**
JCR	**Jicaral**	**10.09**	**295**	*e*P	**Pn**	**08 55 57.1**	**+0.3**
JTS	**JuntasAbangare**	**10.13**	**297**	Pn	**Pn**	**08 55 58.6**	**+1.2**
	339nm,0.8s,SNR=7.8						
JTS	**JuntasAbangare**	**10.13**	**297**	*e*Pn	**Pn**	**08 55 55.8**	**-1.6**
JTS	**JuntasAbangare**	**10.13**	**297**	*e*P	**Pn**	**08 55 57.9**	**+0.5**
JTS	**JuntasAbangare**	**10.13**	**297**	P	**Pn**	**08 55 57.3**	**0.0**
	2.3nm,0.3s,baz=89,slow=9.2,SNR=15						
JTS				LR	LR	08 59 57.1	
	comp=Z,3μm,21.4s,baz=139,slow=37						
BOAB	**BOACO BROADBAN**	**18.81**	**305**	*e*P	**Pn**	**08 56 18.8**	**-1.6**
PCRV	**Puerto La Cruz**	**11.95**	**67**	P	**Pn**	**08 56 20.7**	**-1.5**
	16nm,0.3s,baz=202,slow=7.1,SNR=38						
PCRV				S	**Sn**	**08 58 30.0**	**-4.0**
	7.5nm,0.3s,baz=153,slow=20,SNR=5.5						
ATAH	**Atahualpa**	**12.86**	**192**	P	**Pn**	**08 56 38.0**	**+3.3**
	0.3nm,0.3s,baz=24,slow=6.9,SNR=7.5						
SDDR	**Presa de Saban**	**13.93**	**18**	*e*Pn	**Pn**	**08 56 50.0**	**+0.7**
SDDR				*e*Sn	**Sn**	**08 59 18.3**	**-4.2**
TGUH	**Tegucigalpa,Un**	**14.00**	**307**	*e*Pn	**Pn**	**08 56 48.7**	**-1.6**
RCC	**Rio Carpintero**	**14.22**	**1**	*e*P	**Pn**	**08 56 51.8**	**-1.4**

baz=195
RCC eS Sn 08 58 56.0 -34
comp=N,73nm,1.3s
RCC e
comp=E,32nm,1.1s
LMGC Las Mercedes 14.34 356 eP **Pn 08 56 54.7 0.0**
TCE Chacachacare 14.79 69 eP **Pn 08 57 05.2 +4.5**
TPP Pointe-a-Pierr 14.96 71 eP **Pn 08 57 08.7 +5.8**
MPR Mayaguez 15.06 34 ePn **Pn 08 57 01.5 -2.7**
TRN Trinidad (W) 15.10 70 eP **Pn 08 57 08.0 +3.3**
TBH Brigand Hill 15.37 71 eP **Pn 08 57 10.0 +1.8**
TBH Brigand Hill 15.37 71 eP **Pn 08 57 12.7 +4.5**
TBH Brigand Hill 15.37 71 eP **Pn 08 57 12.7 +4.5**
GRGR Grenville 15.39 64 ePn **Pn 08 57 06.4 -2.1**
comp=E,146nm,0.6s
GRW Mount Saint Ca 15.39 64 eP **Pn 08 57 14.5 +6.0**
TPR Prospect 15.85 69 eP **Pn 08 57 15.1 +0.7**
MGV Manicaragua 16.81 347 eP **Pn 08 57 27.4 +1.0**
NNA Nana 17.59 183 ePn **Pn 08 57 35.5 -0.6**
NNA Nana 17.59 183 P **Pn 08 57 36.8 +0.6**
comp=E,0.6nm,0.3s,baz=333,slow=9.0,SNR=2.8
DEG La Desirade 17.92 53 eP **Pn 08 57 36.3 -3.8**
SOR Soroa 18.36 339 eP **Pn 08 57 46.1 +0.6**
TEIG Tepich 18.85 321 eP **Pn 08 57 51.2 -0.2**
comp=E,175nm,1.4s
TEIG Tepich 18.85 321 P **Pn 08 57 50.9 -0.5**
comp=E,2.1nm,0.3s,baz=107,slow=4.8,SNR=9.2
TEIG LR LR 09 05 10.1
comp=E,493nm,21.2s,baz=344,slow=37
CCIG Comitan 19.14 305 eP **Pn 08 57 54.3 -0.6**
SCX San Cristobal 19.79 305 i P **Pn 08 58 01.0 -1.6**
CMIG Matias Romero 21.82 303 i P **P 08 58 18.9 -3.7**
CMIG Matias Romero 21.82 303 P **P 08 58 18.9 -3.8**
comp=E,2.9nm,0.5s,mb4.0,baz=85,slow=12,SNR=14
CMIG PcP PcP 09 02 20.3 -1.0
comp=E,6.2nm,0.7s,baz=45,slow=2.0,SNR=6.9
CMIG LR LR 09 08 15.3
comp=E,660nm,19.9s,MS4.0,baz=115,slow=40
HUIG Huatulco 22.28 298 eP **P 08 58 27.3 -0.2**
ARE Arequipa 22.42 169 eP **P 08 58 30.0 +1.0**
ARE eS 08 58 48.0
LPAZ La Paz 23.12 161 eP **P 08 58 35.7 -0.7**
comp=E,14nm,1.0s,mb4.3
LPAZ La Paz 23.12 161 eP **P 08 58 35.7 -0.7**
LPAZ pmax pmax
comp=Z,14nm,1.0s
LPAZ La Paz 23.12 161 P **P 08 58 33.9 -2.5**
comp=Z,24nm,0.6s,mb4.8,baz=316,slow=9.7,SNR=78
LPAZ LR LR 09 08 25.9
comp=Z,511nm,19.1s,MS4.0,baz=326,slow=38
OXX Oaxaca 23.37 301 i P **P 08 58 40.0 +1.1**
VHO Vista Hermosa 23.38 301 i P **P 08 58 40.7 +1.8**
PPM Popocatepetl 25.89 303 i P **P 08 59 05.3 +3.5**
SIV San Ignacio 26.02 146 P **P 08 59 01.3 -1.7**
comp=Z,31nm,0.5s,mb5.1,baz=328,slow=9.4,SNR=159
IIO Organos 26.22 304 i P **P 08 59 06.6 +1.8**
PBVM Pinon 26.45 303 eP **P 08 59 07.8 +1.0**
CAIG El Cayaco 26.45 297 eP **P 08 59 08.7 +1.8**
BRAL Brewton 27.31 339 eP **P 08 59 17.1 +2.6**
comp=Z,103nm,1.2s,mb5.2
GOGA Godfrey 28.48 347 eP **P 08 59 26.0 +1.1**
comp=Z,15nm,0.6s,mb4.8
GOGA Godfrey 28.48 347 eP **P 08 59 26.0 +1.1**
GOGA pmax pmax
comp=Z,15nm,0.6s,mb4.8
BBSR BB Station 28.51 20 eP **P 08 59 26.4 +1.2**
comp=Z,26nm,1.1s,mb4.9
SFJM Santa Fe 30.24 302 eP **P 08 59 40.9 +0.3**
HKT Hockley 30.63 324 eP **P 08 59 43.5 -0.4**
comp=Z,39nm,1.5s,mb5.0
HKT Hockley 30.63 324 eP **P 08 59 43.6 -0.4**
HKT pmax pmax
comp=Z,39nm,1.5s,mb5.0
PLAL Pickwick Lake 31.27 340 eP **P 08 59 49.5 0.0**
comp=Z,124nm,1.4s,mb5.5
PLAL ePcP PcP 09 02 41.9 -1.1
NATX Nacogdoches 31.36 328 eP **P 08 59 49.4 -1.1**
comp=Z,104nm,1.2s,mb5.5
NATX ePcP PcP 09 02 44.0 +0.6
TZTN Tazewell 31.51 348 eP **P 08 59 52.6 +0.9**
comp=Z,59nm,1.2s,mb5.3
BLA Blacksburg 31.65 353 eP **P 08 59 54.2 +1.4**
comp=Z,54nm,1.0s,mb5.3
BLA Blacksburg 31.65 353 eP **P 08 59 54.3 +1.4**
BLA pmax pmax
comp=Z,55nm,1.0s,mb5.3
WVT Waverly 32.24 342 eP **P 08 59 58.0 -0.1**
comp=Z,46nm,0.7s,mb5.4
WVT Waverly 32.24 342 eP **P 08 59 58.0 -0.1**
WVT pmax pmax
comp=Z,46nm,0.7s,mb5.4
CBN Corbin 32.40 358 eP **P 08 59 59.0 -0.4**
comp=Z,105nm,1.3s,mb5.5
MIAR Mount Ida 33.08 333 eP **P 09 00 04.2 -1.2**
comp=Z,15nm,0.8s,mb5.0
MIAR ePcP PcP 09 02 47.8 -0.2
MIAR Mount Ida 33.08 333 eP **P 09 00 04.3 -1.1**
MIAR e 09 02 47.8
MIAR pmax pmax
comp=Z,15nm,0.8s,mb5.0
JCT Junction City 33.42 320 eP **P 09 00 07.7 -0.8**
comp=Z,57nm,1.7s,mb5.2
JCT ePcP PcP 09 02 48.9 -0.2
JCT Junction City 33.42 320 eP **P 09 00 07.7 -0.7**
JCT e 09 02 48.9
JCT pmax pmax
comp=Z,57nm,1.7s,mb5.2
WCI Wyandotte Cave 33.76 345 eP **P 09 00 11.7 +0.4**
comp=Z,84nm,0.9s,mb5.7
WCI ePcP PcP 09 02 49.1 -0.7
WCI Wyandotte Cave 33.76 345 eP **P 09 00 11.7 +0.4**
WCI e 09 02 49.1
WCI pmax pmax
comp=Z,84nm,0.9s,mb5.7
BDFB Brasilia 34.75 128 P **P 09 00 18.2 -1.9**
comp=Z,7.8nm,0.7s,mb4.8,baz=283,slow=19,SNR=26
BDFB LR LR 09 15 30.2
comp=Z,782nm,19.0s,MS4.5,baz=128,slow=38
SSPA Standing Stone 34.84 357 eP **P 09 00 22.1 +1.5**
comp=Z,29nm,0.6s,mb5.4
LCO Las Campanas 34.85 172 eP **P 09 00 21.6 +0.8**
comp=Z,19nm,0.6s,mb5.2
ACSO Alum Creek Sta 34.99 350 eP **P 09 00 21.9 0.0**
comp=Z,70nm,0.9s,mb5.6
CCM Cathedral Cave 35.14 339 eP **P 09 00 22.4 -0.8**
comp=Z,38nm,0.6s,mb5.5
CCM ePcP PcP 09 02 53.3 -0.5
CCM Cathedral Cave 35.14 339 eP **P 09 00 22.4 -0.8**
CCM e 09 02 53.3
CCM pmax pmax
comp=Z,38nm,0.6s,mb5.5
TXAR Lajitas Array 35.28 315 P **P 09 00 24.2 -0.4**
TXAR PcP PcP 09 02 54.7 +0.3
TXAR LR LR 09 19 12.4
TXAR Lajitas Array 35.28 315 P **P 09 00 24.2 -0.4**
TXAR 09 02 54.7
TXAR Lajitas Array 35.28 315 P **P 09 00 24.2 -0.4**
comp=Z,4.8nm,0.9s,mb4.4,baz=138,slow=9.6,SNR=40
TXAR PcP PcP 09 02 54.7 +0.3
comp=Z,10.0nm,0.8s,baz=136,slow=6.1,SNR=14
TXAR LR LR 09 19 12.4
comp=Z,118nm,18.9s,MS3.7,baz=0.0,slow=44
WMOK Wichita Mounta 35.85 327 eP **P 09 00 27.9 -1.5**
comp=Z,56nm,1.4s,mb5.3
WMOK Wichita Mounta 35.85 327 eP **P 09 00 27.9 -1.5**
WMOK pmax pmax
comp=Z,56nm,1.4s,mb5.3
ERPA Erie 36.46 355 eP **P 09 00 35.6 +1.1**
comp=Z,36nm,0.6s,mb5.5
CPUP Villa Florida 36.53 151 eP **P 09 00 31.5 -3.8**
comp=Z,61nm,0.6s,mb5.6
CPUP Villa Florida 36.53 151 eP **P 09 00 31.5 -3.8**
CPUP pmax pmax
comp=Z,61nm,0.6s
CPUP Villa Florida 36.53 151 P **P 09 00 31.6 -3.7**
comp=Z,12nm,0.6s,mb4.9,baz=320,slow=8.4,SNR=66
CPUP LR LR 09 16 54.5
comp=Z,460nm,19.3s,MS4.3,baz=306,slow=38
HDIL Hopedale 36.76 343 eP **P 09 00 36.1 -1.0**
comp=Z,150nm,0.7s,mb5.9
HDIL ePcP PcP 09 02 58.4 -0.2
WES Weston 36.76 6 eP **P 09 00 36.6 -0.4**
HRV Adam Dziewonsk 36.86 5 eP **P 09 00 38.7 +0.9**
AMTX Amarillo 37.60 324 eP **P 09 00 43.6 -0.6**
comp=Z,38nm,0.9s,mb5.1
CFAA Coronel Fontan 37.78 169 P **P 09 00 45.8 -0.1**
comp=Z,2.1nm,0.5s,mb4.1,baz=341,slow=8.7,SNR=38
LPIG La Paz 37.85 303 LR LR 09 17 54.0
comp=Z,193nm,19.9s,MS3.9,baz=101,slow=38
MNTX Cornudas Mount 37.87 317 eP **P 09 00 45.9 -0.8**
comp=Z,16nm,0.8s,mb4.8
MNTX epP pP 09 00 59.4 -0.8
MNTX esP sP 09 01 05.5 -0.7
HNH Hanover 37.99 4 eP **P 09 00 47.0 -0.4**
NCB Newcomb 38.15 2 eP **P 09 00 50.1 +1.3**
comp=Z,60nm,0.9s,mb5.3
KSU1 Kansas State U 38.21 333 eP **P 09 00 47.9 -1.4**
comp=Z,40nm,0.5s,mb5.4
KSU1 epP pP 09 01 04.0 +1.2
KSU1 ePcP PcP 09 03 02.4 -0.6
LBNH Lisbon 38.55 5 eP **P 09 00 52.9 +0.8**
comp=Z,50nm,1.0s,mb5.2
LBNH Lisbon 38.55 5 eP **P 09 00 52.9 +0.8**
LBNH pmax pmax
comp=Z,50nm,1.0s,mb5.2
LONY Lake Ozonia 38.79 1 eP **P 09 00 54.5 +0.3**
comp=Z,71nm,1.0s,mb5.3
JFWS Jewell Farm 39.21 343 eP **P 09 00 56.6 -1.0**
comp=Z,119nm,0.6s,mb5.8
JFWS ePcP PcP 09 03 05.7 -0.4
JFWS Jewell Farm 39.21 343 eP **P 09 00 56.6 -1.1**
JFWS e 09 03 05.7
JFWS pmax pmax
comp=Z,119nm,0.6s,mb5.8
CBKS Cedar Bluff 39.45 330 eP **P 09 00 59.2 -0.5**
comp=Z,41nm,0.5s,mb5.4
CBKS Cedar Bluff 39.45 330 eP **P 09 00 59.2 -0.5**
CBKS pmax pmax
comp=Z,41nm,0.5s,mb5.4
GLMI Grayling 39.73 350 eP **P 09 01 02.2 +0.2**
comp=Z,86nm,0.7s,mb5.6
GLMI ePcP PcP 09 03 07.7 0.0
319A Douglas 40.43 313 ⇑P **P 09 01 09.1 +1.1**
baz=40,SNR=29
ANMO Albuquerque 40.58 320 eP **P 09 01 09.6 +0.4**
comp=Z,22nm,0.9s,mb4.8
ANMO epP pP 09 01 22.9 +0.1
ANMO ePcP PcP 09 03 10.6 -0.1
ANMO Albuquerque 40.58 320 eP **P 09 01 09.6 +0.4**
ANMO e 09 03 10.6
ANMO pmax pmax
comp=Z,22nm,0.9s
219A White Tail Can 40.75 314 P **P 09 01 11.7 +1.0**
baz=41,SNR=19
318A Bisbee 40.98 313 P **P 09 01 13.5 +0.9**
baz=41,SNR=25
119A Ashpeak Ranch, 41.20 315 ⇑P **P 09 01 15.3 +1.0**
baz=41,SNR=9.3
218A Dragoon 41.30 314 P **P 09 01 16.3 +1.1**
baz=41,SNR=22
RCBR Riachuelo 41.47 105 eP **P 09 01 13.7 -3.1**
comp=Z,52nm,1.2s,mb5.0
118A Homack Ranch, 41.60 315 P **P 09 01 18.7 +1.1**
baz=42,SNR=26
217A Green Valley 41.76 313 P **P 09 01 19.7 +0.8**
baz=42,SNR=20
SDCO Great Sand Dun 41.80 324 eP **P 09 01 19.9 +0.7**
comp=Z,78nm,1.4s,mb5.1
SDCO ePcP PcP 09 03 14.4 -0.2
Y19A Nutrioso 41.83 317 ⇓P **P 09 01 20.9 +1.4**
baz=42,SNR=21
COWI Conover 41.88 346 eP **P 09 01 19.1 -0.5**
comp=Z,29nm,0.7s,mb5.0
Z18A Geronimo 41.89 315 ⇑P **P 09 01 21.0 +1.0**
baz=42
ECSD EROS,Sioux Fal 42.08 337 eP **P 09 01 19.2 -2.2**
comp=Z,16nm,0.7s,mb4.8
ECSD ePcP PcP 09 03 14.6 -0.8
117A Oracle 42.12 314 P **P 09 01 22.6 +0.8**
baz=42,SNR=30
216A Three Points, 42.34 313 ⇑P **P 09 01 24.2 +0.5**
baz=42,SNR=11
116A Eloy 42.81 313 ⇓P **P 09 01 27.8 +0.4**
baz=43,SNR=18
CAM4 Nova Friburgo 42.85 132 ⇓iP **P 09 01 26.4 -1.6**
CAM4 i 09 01 29.0
CAM4 i 09 01 48.2
Z16A Peralta Trail, 43.01 314 P **P 09 01 29.6 +0.5**
baz=43,SNR=12
115A Sonoran Desert 43.26 313 ⇓P **P 09 01 31.8 +0.7**
baz=43,SNR=9.5
MVCO Mesa Verde 43.27 321 eP **P 09 01 31.6 +0.5**
comp=Z,25nm,1.0s,mb4.9
MVCO Mesa Verde 43.27 321 ⇓P **P 09 01 31.4 +0.2**
baz=43
Y16A Circle Bar Ran 43.33 315 P **P 09 01 32.9 +1.2**
baz=43,SNR=29
CAM3 Guarapari 43.49 128 ⇓iP **P 09 01 31.1 -2.0**
CAM3 i 09 01 32.2
CAM3 i 09 01 36.8
CAM3 i pP 09 01 46.7 -0.1
CAM3 i 09 01 59.1
CAM3 i 09 02 05.2
X16A Lo Mia Camp, P 43.60 316 P **P 09 01 34.9 +1.1**
baz=44,SNR=18
SMCO Snowmass 43.62 324 eP **P 09 01 33.3 -0.6**
comp=Z,27nm,1.1s,mb4.9
Y15A Casa Rosa Ranc 43.98 315 P **P 09 01 37.5 +0.7**
baz=44,SNR=21
Z14A Wintersburg 44.11 313 ⇑P **P 09 01 38.6 +0.6**
baz=44,SNR=11
WUAZ Wupatki 44.15 317 eP **P 09 01 39.2 +0.9**
comp=Z,44nm,0.8s,mb5.2
WUAZ epP pP 09 01 52.4 +0.4
WUAZ e 09 03 23.3
WUAZ Wupatki 44.15 317 ⇑P **P 09 01 39.1 +0.8**
baz=44
EYMN Ely 44.19 345 eP **P 09 01 37.5 -0.8**
comp=Z,68nm,0.5s,mb5.6
X15A Humboldt 44.19 315 ⇓P **P 09 01 39.3 +0.8**
baz=44,SNR=42
PHWY Pilot Hill 44.24 328 eP **P 09 01 38.8 0.0**
PHWY epP pP 09 01 55.2 +2.6
PHWY esP sP 09 02 01.3 +2.7
PHWY e 09 03 22.2
Y14A Wickenburg 44.45 314 ⇓P **P 09 01 41.1 +0.4**
baz=44,SNR=20
W15A Williams 44.58 316 ⇑P **P 09 01 42.8 +1.1**
baz=45,SNR=8.4
X14A Yava 44.64 315 P **P 09 01 43.2 +1.1**
baz=45,SNR=39
Y13A Salome 44.98 314 ⇑P **P 09 01 45.7 +0.8**
baz=45,SNR=10
T16A Glen Canyon Da 45.07 319 ⇑P **P 09 01 46.2 +0.7**
baz=45,SNR=14
W14A Seligman 45.16 316 P **P 09 01 47.4 +1.1**
baz=45,SNR=31
GLA Glamis 45.34 312 ⇑P **P 09 01 48.4 +0.7**
baz=45
X13A Yucca 45.37 314 P **P 09 01 48.5 +0.6**
baz=45,SNR=12
TRQA Tornquist 45.39 165 eP **P 09 01 47.1 -0.8**
comp=Z,81nm,1.3s,mb5.4
V14A Boquillas Ranc 45.40 316 P **P 09 01 49.4 +1.2**
baz=46,SNR=27
PDMCI Parker Dam,Lak 45.44 314 ⇑P **P 09 01 48.8 +0.3**
baz=46
Y12C Blythe 45.45 313 ⇓P **P 09 01 49.2 +0.7**
baz=46,SNR=8.1
RWWY Rawlins 45.45 327 eP **P 09 01 48.7 +0.3**
comp=Z,47nm,1.0s,mb5.3
RWWY epP pP 09 02 04.0 +1.8
W13A Hualapai Mount 45.66 315 P **P 09 01 51.3 +1.0**
baz=46,SNR=12
T15A Red Dirt Ranch 45.67 318 ⇑P **P 09 01 51.2 +0.9**
baz=46,SNR=14
AGMN Agassiz Refuge 45.77 341 eP **P 09 01 49.9 -0.9**
comp=Z,123nm,1.3s,mb5.7
AGMN ePcP PcP 09 03 26.7 -1.1
U14A Mt Trumbull 45.87 317 P **P 09 01 53.0 +1.1**
baz=46,SNR=14
SWSC Sam W. Stewart 46.00 311 ⇓P **P 09 01 53.6 +0.6**
baz=46
NEE2 Needles Airpor 46.02 314 ⇓P **P 09 01 53.3 +0.2**
baz=46
BC3 Big Chuckw Mtn 46.08 312 ⇓P **P 09 01 54.3 +0.7**
baz=46
IRM Iron Mountain 46.10 313 ⇑P **P 09 01 54.4 +0.6**
baz=46
T14A Hurricane 46.16 318 P **P 09 01 55.1 +1.0**
baz=46,SNR=28
U13A Pakoon Wash 46.41 317 ⇓P **P 09 01 56.7 +0.6**
baz=46,SNR=17
PLCA Paso Flores 46.45 174 eP **P 09 01 56.3 +0.1**
comp=Z,26nm,1.0s,mb5.1
PLCA epP pP 09 02 10.2 +0.2
PLCA Paso Flores 46.45 174 eP **P 09 01 56.3 +0.1**
PLCA pmax pmax
comp=Z,26nm,1.0s
PLCA Paso Flores 46.45 174 P **P 09 01 56.1 -0.1**
comp=Z,19nm,0.9s,mb5.0,baz=350,slow=8.9,SNR=26
PLCA LR LR 09 21 50.0
comp=Z,224nm,18.1s,MS4.2,baz=356,slow=36
MONP Monument Peak 46.45 311 ⇑P **P 09 01 57.7 +1.2**
baz=46
W12A Cal Nev Ari 46.46 315 ⇓P **P 09 01 57.1 +0.6**
baz=46,SNR=9.8
S14A Cedar City 46.60 319 ⇓P **P 09 01 57.8 +0.2**
baz=47,SNR=11
BELC Belle Mtn. 46.64 313 ⇑P **P 09 01 58.8 +0.8**
baz=47
T13A Saint George 46.69 317 P **P 09 01 59.4 +1.1**
baz=47,SNR=18
GMRC Granite Mounta 46.77 314 ⇓P **P 09 01 59.7 +0.7**
baz=47
PFO Pinyon Flat Ob 46.80 312 eP **P 09 01 58.3 -0.9**
PFO Pinyon Flat Ob 46.80 312 ⇓P **P 09 02 00.1 +0.9**
baz=47
R14A James Farms, M 46.80 319 ⇓P **P 09 01 59.2 0.0**
baz=47,SNR=6.4
U12A Valley of Fire 46.81 316 ⇓P **P 09 01 59.8 +0.6**
baz=47
S13A Holt Ranch, En 46.96 318 ⇓P **P 09 02 01.7 +1.3**
baz=47,SNR=54
109C Camp Elliot, M 46.96 311 ⇓P **P 09 01 59.5 -1.1**
baz=47
T12A Moapa 47.08 316 ⇓P **P 09 02 01.9 +0.5**
baz=47,SNR=5.3
V11A Goodsprings 47.13 315 P **P 09 02 02.4 +0.6**
baz=47,SNR=7.1
HEC Hector,Ludlow 47.28 313 ⇓P **P 09 02 03.9 +1.0**
baz=47
TUQ Turquoise Mtn. 47.28 314 ⇓P **P 09 02 04.2 +1.3**
baz=47
MURC Murrieta 47.35 311 ⇑P **P 09 02 03.8 +0.3**
baz=47
U11A Corn Creek 47.39 316 ⇓P **P 09 02 04.5 +0.8**
baz=48
BBRC Big Bear Sol-O 47.44 312 ⇓P **P 09 02 05.6 +1.3**
baz=48
PDAR Pinedale Array 47.46 326 P **P 09 02 03.7 -0.5**
comp=Z,14nm,0.9s,mb4.9,baz=140,slow=7.2,SNR=76
PDAR PcP PcP 09 03 33.0 -0.9
comp=Z,4.8nm,0.8s,baz=124,slow=6.2,SNR=3.6
PDAR LR LR 09 24 10.7
comp=Z,77nm,19.5s,MS3.7,baz=121,slow=39
ULM Lac du Bonnet 47.49 343 eP **P 09 02 03.0 -1.4**
comp=Z,76nm,0.8s,mb5.7
ULM Lac du Bonnet 47.49 343 P **P 09 02 03.0 -1.3**
comp=Z,68nm,0.8s,mb5.7,baz=151,slow=8.2,SNR=190
ULM PcP PcP 09 03 31.9 -1.9
comp=Z,7.1nm,0.5s,baz=215,slow=8.0,SNR=2.4
ULM LR LR 09 24 22.0
comp=Z,197nm,19.7s,MS4.1,baz=108,slow=39
S12A Delamar Landin 47.64 317 P **P 09 02 06.8 +1.1**
baz=48,SNR=6.9
T11A Corn Creek, Al 47.70 317 P **P 09 02 06.9 +0.8**
baz=48,SNR=12
DUG Dugway 47.76 322 eP **P 09 02 06.8 +0.2**
comp=Z,21nm,0.7s,mb5.3
DUG epP pP 09 02 21.1 +0.7
DUG ePcP PcP 09 03 35.0 0.0
DUG Dugway 47.76 322 eP **P 09 02 06.8 +0.2**
DUG e*PP pP 09 02 21.1 +0.6
DUG e 09 03 35.0
DUG pmax pmax
comp=Z,21nm,0.7s,mb5.3
DUG Dugway 47.76 322 ⇑P **P 09 02 06.6 0.0**
baz=48
GSC Goldstone 47.84 314 ⇑P **P 09 02 08.0 +0.7**
baz=48
R12A Pony Springs, 47.86 318 ⇓P **P 09 02 08.2 +0.8**
baz=48,SNR=22
HWUT Hardware Ranch 47.86 324 eP **P 09 02 06.9 -0.5**
comp=Z,179nm,1.0s,mb6.0
HWUT ePcP PcP 09 03 34.8 -0.6
P13A Bates Ranch, G 48.10 320 P **P 09 02 10.1 +0.9**
baz=48,SNR=22
TPNV Topopah Spring 48.25 316 eP **P 09 02 11.3 +0.8**
comp=Z,13nm,0.8s,mb5.0
TPNV epP pP 09 02 24.7 +0.4
TPNV Topopah Spring 48.25 316 eP **P 09 02 11.3 +0.9**
TPNV pmax pmax
comp=Z,13nm,0.8s,mb5.0
S11A Rachel 48.26 317 P **P 09 02 11.8 +1.3**
baz=48,SNR=8.7
M15A Larsen Ranch, 48.30 323 ⇓P **P 09 02 10.3 -0.4**
baz=48,SNR=7.2
AHID Auburn Hatcher 48.33 325 eP **P 09 02 10.6 -0.3**
comp=Z,29nm,1.0s,mb5.3
N14A Grayback Hills 48.38 322 P **P 09 02 11.7 +0.3**
baz=48,SNR=17
O13A Hicks Ranch, I 48.46 321 P **P 09 02 12.9 +1.0**
baz=49,SNR=14
EDW2 Edwards Air Fo 48.51 313 ⇓P **P 09 02 12.7 +0.3**
baz=49
R11A Troy Canyon, C 48.52 318 P **P 09 02 13.1 +0.6**
baz=49,SNR=22
LRMC Laurel Mountai 48.56 313 ⇓P **P 09 02 13.4 +0.5**
baz=49
REDW Red Top Meadow 48.57 326 eP **P 09 02 12.6 -0.1**
comp=Z,104nm,1.1s,mb5.8
REDW epP pP 09 02 27.3 +0.7
SNOW Snow King Moun 48.58 326 eP **P 09 02 12.7 -0.1**
comp=Z,70nm,1.1s,mb5.6
LOHW Long Hollow 48.59 326 eP **P 09 02 12.7 -0.2**
comp=Z,51nm,1.0s,mb5.5
LOHW ePcP PcP 09 03 37.4 -0.6
P12A McGill 48.68 319 P **P 09 02 14.5 +0.8**
baz=49,SNR=14
MPMC Manual Prospec 48.69 314 ⇑P **P 09 02 14.1 +0.2**
baz=49
TPAW Teton Pass 48.71 326 eP **P 09 02 13.8 -0.1**
comp=Z,39nm,1.0s,mb5.4
MOOW Moose Ponds 48.76 327 eP **P 09 02 13.9 -0.3**
comp=Z,26nm,0.8s,mb5.3
Q11A Duckwater 48.83 318 P **P 09 02 15.3 +0.5**
baz=49,SNR=15
M14A Sheep Mountain 48.86 323 P **P 09 02 15.0 -0.1**
baz=49,SNR=38
RLMT Red Lodge 48.89 329 eP **P 09 02 14.6 -0.6**
comp=Z,22nm,0.9s,mb5.2
RLMT epP pP 09 02 29.7 +0.6
DCID1 Drake Creek 48.90 326 eP **P 09 02 15.2 -0.1**
FLWY Flagg Ranch 48.95 327 eP **P 09 02 14.9 -0.8**
comp=Z,7.7nm,0.6s,mb4.9
IMW Indian Meadow 48.96 327 eP **P 09 02 15.7 -0.1**
comp=Z,34nm,0.6s,mb5.5
S10A Tonopah Range, 48.98 317 P **P 09 02 17.0 +1.0**
baz=49,SNR=28
DGMT Dagmar 48.99 335 eP **P 09 02 15.2 -0.7**
comp=Z,26nm,0.6s,mb5.4
N13A Wendover, West 49.01 321 P **P 09 02 16.1 -0.1**
baz=49,SNR=8.6
O12A Currie 49.02 320 P **P 09 02 16.9 +0.6**
baz=49,SNR=21
GRAC Grapevine Rang 49.06 315 ⇓P **P 09 02 17.7 +1.1**
baz=49
LKWY Lake 49.11 328 eP **P 09 02 17.3 +0.4**
comp=Z,4.6nm,0.8s,mb4.6
LKWY Lake 49.11 328 eP **P 09 02 17.3 +0.4**
LKWY pmax pmax
comp=Z,5.0nm,0.8s,mb4.6
ARVC Arvin 49.23 312 ⇓P **P 09 02 18.7 +0.6**
baz=49
M13A Montello 49.28 322 P **P 09 02 18.3 +0.1**
baz=49,SNR=6.0
CWC Cottonwood Cre 49.29 314 ⇓P **P 09 02 19.5 +1.1**
baz=49
Q10A Clear Creek Ra 49.31 318 ⇓P **P 09 02 19.2 +0.7**
baz=49,SNR=11
S09A Goldfield 49.31 316 ⇓P **P 09 02 19.0 +0.4**
baz=49,SNR=12
K14A Jones Ranch, D 49.39 324 P **P 09 02 18.6 -0.4**
baz=50,SNR=35
R09A Tonopah 49.47 317 ⇑P **P 09 02 20.0 +0.3**
baz=50
O11A Cowboy Ranch, 49.52 320 ⇓P **P 09 02 20.3 +0.2**
baz=50,SNR=18

N12A **Clover Valley,** 49.53 321 ⇑P P 09 02 20.1 -0.1
baz=50,SNR=6.7
SCHQ **Schefferville** 49.53 7 eP P 09 02 20.4 +0.5
comp=Z,54nm,0.7s,mb5.7
SCHQ **Schefferville** 49.53 7 P P 09 02 20.4 +0.5
comp=Z,56nm,0.7s,mb5.7,baz=191,slow=6.3,SNR=107
SCHQ PcP PcP 09 03 39.0 -2.1
comp=Z,13nm,0.7s,baz=156,slow=4.7,SNR=1.9
SCHQ LR LR 09 21 09.3
comp=Z,344nm,19.8s,MS4.3,baz=183,slow=33
L13A **Double Diamond** 49.57 323 ⇓P P 09 02 20.1 -0.4
baz=50,SNR=14
VES **Vestal, Richgr** 49.74 313 ⇓P P 09 02 22.3 +0.5
baz=50
M12A **Wells** 49.77 322 P P 09 02 21.8 -0.2
baz=50,SNR=12
S08C **White Mtn Res** 49.86 316 ⇓P P 09 02 23.3 +0.6
baz=50,SNR=20
K13A **Stover Farm, H** 49.98 323 ⇓P P 09 02 22.6 -1.0
baz=50,SNR=7.9
HELL **Mitchell Peak** 50.08 314 P P 09 02 24.9 +0.5
baz=50,SNR=22
O10A **Cortez Mining,** 50.15 320 ⇓P P 09 02 25.1 +0.2
baz=50,SNR=9.0
SMMC **Simmler** 50.18 312 ⇓P P 09 02 25.7 +0.5
baz=50
P09A **Austin** 50.18 318 ⇑P P 09 02 25.6 +0.5
baz=50,SNR=8.4
R08A **Mina** 50.23 317 P P 09 02 26.4 +0.8
baz=50,SNR=7.7
L12A **House Creek Ra** 50.25 322 P P 09 02 25.6 0.0
baz=50,SNR=18
M11A **Holland Ranch,** 50.32 321 P P 09 02 26.2 0.0
baz=50,SNR=11
Q08A **Gabbs** 50.36 317 P P 09 02 26.7 +0.2
baz=50,SNR=16
NVAR **Mina Array Bea** 50.40 317 P P 09 02 27.4 +0.6
NVAR PcP PcP 09 03 43.9 -0.8
NVAR **Mina Array Bea** 50.40 317 P P 09 02 27.4 +0.6
comp=Z,5.9nm,0.8s,mb4.7,baz=117,slow=7.5,SNR=49
NVAR PcP PcP 09 03 43.9 -0.8
comp=Z,9.1nm,0.8s,baz=123,slow=5.0,SNR=7.2
K12A **Draper Farm, C** 50.47 323 P P 09 02 27.3 0.0
baz=51,SNR=14
BOZ **Bozeman (W)** 50.48 328 eP P 09 02 27.0 -0.3
comp=Z,23nm,0.8s,mb5.3
BOZ **Bozeman (W)** 50.48 328 eP P 09 02 27.0 -0.3
BOZ pmax pmax
comp=Z,23nm,0.8s,mb5.3
BOZ **Bozeman (W)** 50.48 328 ⇓P P 09 02 26.6 -0.7
baz=51
J13A **Cove Ranch, Pi** 50.48 324 P P 09 02 27.4 +0.1
baz=51,SNR=36
O09A **Fish Creek Ran** 50.54 319 P P 09 02 28.5 +0.7
baz=51,SNR=44
KCC **Kaiser Creek** 50.58 315 ⇑P P 09 02 28.6 +0.4
baz=51
G15A **Dillon** 50.63 327 P P 09 02 28.6 +0.2
baz=51,SNR=30
L11A **Cat Creek Ranc** 50.71 322 P P 09 02 29.3 +0.2
baz=51,SNR=38
T06C **Millerton Lake** 50.71 314 P P 09 02 28.6 -0.6
baz=51,SNR=5.5
HLID **Hailey** 50.72 324 eP P 09 02 28.9 -0.2
comp=Z,9.4nm,0.8s,mb4.8
HLID epP pP 09 02 43.2 +0.1
HLID **Hailey** 50.72 324 ⇓P P 09 02 29.1 0.0
baz=51
R07C **Lee Vining** 50.75 316 ⇑P P 09 02 30.3 +0.9
baz=51,SNR=20
I13A **Wildhorse Cree** 50.76 325 ⇑P P 09 02 29.3 -0.2
baz=51,SNR=29
DLMT **Dillon** 50.81 327 eP P 09 02 29.4 -0.4
comp=Z,32nm,1.0s,mb5.2
DLMT ePcP PcP 09 03 46.2 +0.1
M10A **I.L. Ranch, Tu** 50.84 321 ⇓P P 09 02 29.9 -0.2
baz=51
J12A **Stokes Ranch,** 50.94 323 P P 09 02 30.7 -0.1
baz=51,SNR=22
F15A **Butte** 51.07 328 ⇓P P 09 02 31.5 -0.2
baz=51,SNR=32
L10A **Juniper Basin** 51.11 321 ⇑P P 09 02 31.7 -0.4
baz=51,SNR=33
N09A **Rock Creek Ran** 51.11 320 P P 09 02 32.1 0.0
baz=51,SNR=8.8
EGMT **Eagleton** 51.15 331 eP P 09 02 31.7 -0.6
comp=Z,16nm,0.6s,mb5.1
EGMT **Eagleton** 51.15 331 ⇑P P 09 02 31.5 -0.8
baz=51
U04C **Hernandez Rese** 51.20 313 ⇑P P 09 02 32.8 -0.1
baz=51
G14A **Jackson** 51.21 326 ⇑P P 09 02 32.4 -0.4
baz=51,SNR=25
K11A **Parker Ranch,** 51.23 322 ⇓P P 09 02 32.7 -0.3
baz=51,SNR=26
H13A **Challis** 51.23 325 P P 09 02 32.8 -0.2
baz=51,SNR=9.9
R06C **Coleville** 51.23 316 P P 09 02 34.5 +1.4
baz=51,SNR=10
P07A **Fallon** 51.34 317 ⇓P P 09 02 34.1 +0.2
baz=51
N08A **GE Springer Mi** 51.47 319 ⇑P P 09 02 33.8 -1.0
baz=52,SNR=9.7
MFID **Camas Ranch** 51.47 323 P P 09 02 34.8 0.0
baz=52,SNR=39
F14A **Wisdom** 51.52 327 ⇓P P 09 02 34.7 -0.3
baz=52,SNR=7.5
E15A **Deer Lodge** 51.52 328 ⇑P P 09 02 34.7 -0.4
baz=52,SNR=27
G13A **Cobalt** 51.55 326 P P 09 02 35.0 -0.2
baz=52,SNR=27
H12A **Diamond D Ranc** 51.57 325 P P 09 02 35.5 +0.1
baz=52,SNR=30
CMB **Columbia Colle** 51.66 315 eP P 09 02 35.5 -0.7
comp=Z,4.2nm,0.9s,mb4.4
CMB **Columbia Colle** 51.66 315 eP P 09 02 35.5 -0.8
CMB pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
CMB **Columbia Colle** 51.66 315 ⇓P P 09 02 36.0 -0.3
baz=52
K10A **MacKenzie Ranc** 51.74 322 P P 09 02 37.0 +0.2
baz=52,SNR=30
R05C **Kirkwood Meado** 51.75 316 P P 09 02 37.8 +0.9
baz=52,SNR=16
HAST **Hastings Reser** 51.78 313 ⇓P P 09 02 37.5 +0.4
baz=52
WCN **Washoe City** 51.81 317 ⇓P P 09 02 38.3 +0.9
baz=52
L09A **Wilkinson Ranc** 51.82 321 ⇑P P 09 02 37.3 -0.1
baz=52,SNR=14
I11A **Placerville** 51.83 324 P P 09 02 37.1 -0.4
baz=52,SNR=34
PACP **Pacheco Peak** 51.85 313 ⇑P P 09 02 37.9 +0.1
baz=52
D15A **Lincoln** 51.86 329 P P 09 02 37.8 +0.2
baz=52,SNR=25
E14A **Clinton** 51.97 328 ⇓P P 09 02 38.1 -0.4
baz=52,SNR=32
M08A **Happy Creek Ra** 51.97 320 P P 09 02 38.5 -0.1
baz=52,SNR=9.0
N07B **Gerlach** 52.02 319 P P 09 02 38.6 -0.3
baz=52,SNR=8.7
F13A **Darby** 52.03 326 P P 09 02 38.6 -0.3
baz=52,SNR=56
P06A **Stead Airport,** 52.09 317 ⇓P P 09 02 40.0 +0.5
baz=52,SNR=6.0
S04C **Ingram Canyon,** 52.09 314 ⇓P P 09 02 40.2 +0.7
baz=52
R04C **Big Horse Ranc** 52.15 315 ⇓P P 09 02 40.6 +0.7
baz=52,SNR=7.8
K09A **Rome** 52.22 321 ⇓P P 09 02 40.3 0.0
baz=52,SNR=59
LAVA **Lava Cap Winer** 52.24 316 P P 09 02 40.7 +0.1
baz=52,SNR=6.2
O06A **Flanigan** 52.28 318 P P 09 02 40.8 0.0
baz=52,SNR=21
H11A **Donnelly** 52.33 324 P P 09 02 40.4 -0.7
baz=52,SNR=27
L08A **Fields** 52.34 321 P P 09 02 41.5 +0.2
baz=52,SNR=58
E13A **Victor** 52.36 327 P P 09 02 40.9 -0.4
baz=52,SNR=22
P05C **Yuba Gap, Truc** 52.40 316 ⇑P P 09 02 42.7 +0.9
baz=52,SNR=9.0
D14A **Greenough** 52.40 328 P P 09 02 41.1 -0.5
baz=52,SNR=8.7
I10A **Payette** 52.43 323 P P 09 02 41.6 -0.3
baz=52,SNR=9.4

WENL **Wente Brothers** 52.45 314 ⇑P P 09 02 43.6 +1.4
baz=52
M07A **Soldier Meadow** 52.45 319 P P 09 02 41.8 -0.4
baz=52,SNR=16
MSO **Missoula** 52.47 328 eP P 09 02 41.4 -0.8
comp=Z,5.6nm,0.6s,mb4.7
MSO ePcP PcP 09 03 51.1 -1.1
BEKR **Beckwourth** 52.49 317 ⇓P P 09 02 42.7 +0.2
baz=53
N06A **Buffalo Meadow** 52.57 318 ⇓P P 09 02 41.5 -1.5
baz=53,SNR=7.4
J09A **Fry Pan Ranch,** 52.59 322 P P 09 02 43.0 -0.1
baz=53,SNR=59
WVOR **Wild Horse Val** 52.65 321 eP P 09 02 43.4 -0.2
comp=Z,54nm,1.2s,mb5.3
WVOR **Wild Horse Val** 52.65 321 eP P 09 02 43.4 -0.2
WVOR pmax pmax
comp=Z,54nm,1.2s,mb5.3
BDM **Black Diamond** 52.67 314 ⇑P P 09 02 44.7 +0.9
baz=53
H10A **Noah's Angus R** 52.69 324 ⇓P P 09 02 41.9 -1.9
baz=53,SNR=15
K08A **Mann Creek Ran** 52.71 321 P P 09 02 44.1 +0.1
baz=53,SNR=22
Q04C **Lincoln** 52.72 316 ⇑P P 09 02 44.7 +0.5
baz=53,SNR=10
G11A **Walters Elk Ra** 52.88 325 ⇓P P 09 02 43.9 -1.3
baz=53,SNR=32
L07A **Adell** 52.88 320 P P 09 02 45.5 +0.2
baz=53,SNR=28
D13A **Huson** 52.91 328 ⇓P P 09 02 44.8 -0.6
baz=53,SNR=16
O05C **Quincy** 52.92 317 ⇑P P 09 02 46.4 +0.8
baz=53
I09A **Lost Marbles R** 52.93 323 P P 09 02 45.0 -0.6
baz=53,SNR=18
C14A **Swan Lake** 52.97 329 P P 09 02 45.8 0.0
baz=53,SNR=26
J08A **Circle Bar Ran** 53.04 322 P P 09 02 46.1 -0.3
baz=53,SNR=23
Q03C **Winters** 53.07 315 ⇑P P 09 02 47.7 +1.0
baz=53
ELFS **Eagle Lake Fie** 53.10 318 ⇓P P 09 02 46.8 -0.1
baz=53,SNR=14
F11A **Grangeville** 53.10 326 ⇑P P 09 02 45.6 -1.2
baz=53,SNR=26
ORV **Oroville** 53.13 316 ⇓P P 09 02 47.5 +0.3
baz=53
BMO **Blue Mountains** 53.16 324 eP P 09 02 46.2 -1.1
comp=Z,8.8nm,1.0s,mb4.6
BMO epP pP 09 03 00.9 -0.5
K07A **Rock Creek Ran** 53.17 321 ⇑P P 09 02 47.5 +0.1
baz=53
SUTB **Sutter Butte** 53.18 316 ⇑P P 09 02 47.5 0.0
baz=53,SNR=5.3
O04C **Chester** 53.20 317 ⇓P P 09 02 48.0 +0.4
baz=53,SNR=6.8
M06C **Likely Place G** 53.22 319 ⇑P P 09 02 47.4 -0.4
baz=53
FFC **Flin Flon** 53.24 341 P P 09 02 46.1 -1.6
comp=Z,168nm,1.5s,mb5.8,SNR=18
FFC **Flin Flon** 53.24 341 eP P 09 02 46.6 -1.1
comp=Z,36nm,1.1s,mb5.2
FFC **Flin Flon** 53.24 341 eP P 09 02 46.6 -1.1
FFC pmax pmax
comp=Z,36nm,1.1s,mb5.2
H09A **Durkee** 53.27 324 ⇑P P 09 02 47.1 -1.0
baz=53
G10A **Bishop Farm, J** 53.31 324 ⇓P P 09 02 47.6 -0.7
baz=53,SNR=35
C13A **Hot Springs** 53.34 328 ⇓P P 09 02 48.5 -0.1
baz=54
D12A **Red Ives Fores** 53.37 327 ⇓P P 09 02 47.7 -1.1
baz=54
I08A **Drewsey** 53.40 322 ⇑P P 09 02 48.3 -0.7
baz=54,SNR=5.9
E11A **Bogner Ranch,** 53.41 326 P P 09 02 48.2 -0.9
baz=54,SNR=25
MOD **Modoc** 53.45 319 eP P 09 02 48.6 -0.8
comp=Z,7.6nm,0.7s,mb4.7
MOD **Modoc** 53.45 319 ⇑P P 09 02 48.8 -0.6
baz=54
MCCM **Marconi Confer** 53.48 314 ⇓P P 09 02 53.1 +3.3
baz=54
MNRC **McLaughlin Nat** 53.48 315 ⇑P P 09 02 51.7 +1.9
baz=54
J07A **Hines** 53.57 321 P P 09 02 49.4 -0.9
baz=54,SNR=11
HATC **Hat Creek Radi** 53.68 318 P P 09 02 51.3 +0.1
baz=54,SNR=8.2
O03C **Acorn Hollow,** 53.69 317 ⇑P P 09 02 51.0 -0.3
baz=54
B13A **Whitefish** 53.73 329 ⇑P P 09 02 50.8 -0.6
baz=54,SNR=13
M05C **Lookout** 53.73 318 P P 09 02 51.2 -0.4
baz=54,SNR=18
F10A **Beach Ranch, E** 53.76 325 P P 09 02 51.1 -0.5
baz=54,SNR=21
H08A **Prairie City** 53.79 323 P P 09 02 51.3 -0.6
baz=54,SNR=17
L05A **Lakeview** 53.86 319 ⇑P P 09 02 52.8 +0.4
baz=54
K06A **Valley Falls** 53.86 320 ⇑P P 09 02 52.0 -0.4
baz=54,SNR=8.0
D11A **Klaveano Farm,** 53.90 327 ⇑P P 09 02 51.3 -1.3
baz=54,SNR=38
E10A **Myers Farm, Un** 53.99 326 P P 09 02 52.8 -0.6
baz=54,SNR=8.4
F09A **S2 Ranch, Elgi** 54.00 325 ⇓P P 09 02 52.9 -0.5
baz=54,SNR=16
GASB **Alder Springs** 54.01 316 ⇑P P 09 02 55.1 +1.5
baz=54
J06A **Christmas Vall** 54.03 321 P P 09 02 53.0 -0.7
baz=54,SNR=16
A13A **Flathead Natio** 54.06 329 ⇓P P 09 02 53.2 -0.6
baz=54
I07A **Izee** 54.06 322 ⇑P P 09 02 53.6 -0.2
baz=54
K05A **Summer Lake** 54.23 320 ⇑P P 09 02 56.0 +0.8
baz=54
O02C **Red Bluff** 54.29 316 ⇓P P 09 02 54.1 -1.5
baz=54
WDC **Whiskeytown Da** 54.30 317 ⇓P P 09 02 53.4 -2.3
baz=54
M03C **McCloud** 54.34 318 P P 09 02 55.3 -0.7
baz=54,SNR=5.1
P01C **Double 8 Ranch** 54.36 315 ⇑P P 09 02 56.8 +0.6
baz=54
H07A **Lands Inn, Kim** 54.37 323 P P 09 02 55.7 -0.4
baz=54,SNR=9.3
B12A **Libby** 54.37 328 ⇑P P 09 02 55.2 -0.8
baz=54,SNR=7.1
G08A **Pilot Rock** 54.38 324 ⇑P P 09 02 55.8 -0.4
baz=54,SNR=44
M04C **Macdoel** 54.39 319 P P 09 02 56.3 0.0
baz=54,SNR=21
D10A **Wagner Farm, O** 54.42 326 ⇓P P 09 02 55.0 -1.4
baz=54,SNR=18
I06A **Prineville** 54.42 322 P P 09 02 56.6 +0.1
baz=54,SNR=23
F08A **Pendleton** 54.55 324 ⇓P P 09 02 56.7 -0.8
baz=55,SNR=11
E09A **Wood Farm, Sta** 54.59 325 ⇓P P 09 02 56.9 -0.8
baz=55,SNR=14
L04A **Klamath Falls** 54.61 319 ⇑P P 09 02 57.5 -0.4
baz=55,SNR=9.7
A12A **Yaak River Ran** 54.69 329 ⇓P P 09 02 58.1 -0.2
baz=55
K04A **Chilquin** 54.72 319 ⇑P P 09 02 58.7 0.0
baz=55
J05A **Fort Rock** 54.73 320 ⇓P P 09 02 58.6 -0.2
baz=55,SNR=21
B11A **Sandpoint** 54.75 328 P P 09 02 58.5 -0.3
baz=55,SNR=7.7
G07A **Ruggs Ranch, H** 54.79 323 P P 09 02 58.9 -0.2
baz=55,SNR=12
M02C **Callahan** 54.88 318 ⇑P P 09 02 58.6 -1.3
baz=55
C10A **Spilker Farm,** 54.89 327 ⇓P P 09 02 59.3 -0.5
baz=55
H06A **Lindquist Farm** 54.91 322 P P 09 03 00.2 +0.2
baz=55,SNR=11
N02C **Big Bar** 54.93 317 ⇓P P 09 03 00.3 0.0
baz=55,SNR=7.7
YBH **Yreka Blue Hor** 54.94 318 eP P 09 02 58.4 -2.0
comp=Z,10nm,0.7s,mb5.0
YBH **Yreka Blue Hor** 54.94 318 eP P 09 02 58.4 -1.9
YBH pmax pmax
comp=Z,10.0nm,0.7s
YBH **Yreka Blue Hor** 54.94 318 ⇓P P 09 02 58.6 -1.7
baz=55
O01C **Eel River Cons** 54.99 316 ⇓P P 09 02 58.8 -1.9
baz=55
D09A **Jones Farm, Ri** 55.00 326 ⇓P P 09 02 59.3 -1.4
baz=55
NEW **Newport** 55.05 327 eP P 09 02 59.9 -1.1
comp=Z,16nm,1.1s,mb5.0
NEW **Newport** 55.05 327 eP P 09 02 59.9 -1.1
NEW pmax pmax
comp=Z,16nm,1.1s
A11A **Hall Mountain,** 55.07 328 ⇑P P 09 03 01.0 -0.1
baz=55
E08A **Dider Farm, El** 55.10 325 ⇓P P 09 02 59.9 -1.5
baz=55
B10A **Chitwood Farm,** 55.13 327 ⇑P P 09 02 60.0 -1.5
baz=55
I05A **Bend** 55.19 321 ⇓P P 09 03 02.0 -0.1
baz=55,SNR=10
J04A **Umpqua Nationa** 55.26 320 ⇑P P 09 03 02.6 0.0
baz=55
F07A **Phinny Hill Vi** 55.28 324 ⇑P P 09 03 02.3 -0.4
baz=55,SNR=9.2
D08A **Wollman Farm,** 55.34 325 P P 09 03 03.0 -0.1
baz=55,SNR=11
G06A **Carlson Farm,** 55.35 323 ⇑P P 09 03 03.6 +0.4
baz=55,SNR=12
C09A **Chrisman Ranch** 55.40 326 ⇓P P 09 03 02.9 -0.6
baz=56,SNR=6.0
H05A **Madras** 55.41 322 ⇓P P 09 03 04.2 +0.5
baz=56
JCC **Jacoby Creek** 55.42 317 ⇑P P 09 03 04.0 +0.2
baz=56
E07A **Sunnyside** 55.60 324 ⇓P P 09 03 04.6 -0.4
baz=56
B09A **Rice** 55.70 327 ⇓P P 09 03 04.5 -1.1
baz=56,SNR=9.8
A10A **Northport** 55.71 328 ⇓P P 09 03 04.7 -1.1
baz=56,SNR=6.2
F06A **Goldendale** 55.72 323 ⇓P P 09 03 06.3 +0.5
baz=56
I04A **Tendick Farm,** 55.72 320 P P 09 03 05.3 -0.6
baz=56,SNR=11
G05A **Wamic** 55.77 322 ⇑P P 09 03 06.6 +0.4
baz=56,SNR=11
C08A **Higginbotham F** 55.82 326 ⇓P P 09 03 06.6 +0.1
baz=56
J03A **Ideyld Park** 55.87 320 ⇑P P 09 03 06.0 -1.0
baz=56
K02A **Glendale** 55.93 319 ⇑P P 09 03 06.3 -1.1
baz=56,SNR=5.7
M01C **Crescent City** 55.94 318 ⇑P P 09 03 07.2 -0.2
baz=56,SNR=5.2
D07A **Quincy** 56.01 325 P P 09 03 08.2 +0.2
baz=56,SNR=5.4
H04A **Detroit Lake** 56.02 321 P P 09 03 07.9 -0.1
baz=56,SNR=22
F05A **White Salmon** 56.18 323 ⇑P P 09 03 09.4 +0.2
baz=56
E06A **Yakima** 56.24 324 P P 09 03 09.9 +0.3
baz=56,SNR=9.1
A09A **Danville** 56.26 327 ⇓P P 09 03 07.6 -2.0
baz=56
J02A **Umpqua** 56.26 320 P P 09 03 09.8 0.0
baz=56,SNR=10
B08A **Colville Reser** 56.30 327 P P 09 03 09.6 -0.4
baz=56,SNR=30
C07A **Waterville** 56.34 326 P P 09 03 10.0 -0.2
baz=56,SNR=11
I03A **Eugene** 56.36 320 ⇓P P 09 03 09.7 -0.8
baz=56,SNR=5.7
G04A **Mulino** 56.46 322 ⇑P P 09 03 10.3 -0.9
baz=56,SNR=10
D06A **Cle Elum** 56.51 325 P P 09 03 11.7 +0.2
baz=57,SNR=6.9
K01A **Sixes** 56.59 319 ⇓P P 09 03 13.2 +1.1
baz=57
A08A **Turner Farm, O** 56.61 327 P P 09 03 11.8 -0.4
baz=57,SNR=12
COR **Corvallis** 56.67 321 eP P 09 03 13.2 +0.5
H03A **Soap Creek Ran** 56.70 321 ⇑P P 09 03 13.0 +0.1
baz=57,SNR=8.9
E05A **Randle** 56.71 324 P P 09 03 12.8 -0.1
baz=57,SNR=8.6
I02A **Mapleton** 56.73 320 ⇓P P 09 03 13.3 +0.2
baz=57
F04A **Amboy** 56.78 323 ⇓P P 09 03 12.9 -0.6
baz=57
B07A **Winthrop** 56.80 326 ⇓P P 09 03 12.7 -0.8
baz=57,SNR=8.4
C06A **Tall Timber Ra** 56.93 325 ⇓P P 09 03 14.5 +0.1
baz=57
G03A **Yamhill** 57.01 322 ⇑P P 09 03 15.1 +0.1
baz=57
D05A **Enumclaw** 57.17 324 ⇑P P 09 03 16.7 +0.5
baz=57,SNR=9.2
C05A **Tolt Reservoir** 57.27 325 ⇑P P 09 03 15.9 -0.9
baz=57
A07A **Ashnola River,** 57.27 327 ⇑P P 09 03 17.2 +0.4
baz=57,SNR=16
E04A **Onalaska** 57.30 323 ⇓P P 09 03 16.9 -0.2
baz=57
F03A **Seaside** 57.48 322 ⇓P P 09 03 18.4 +0.1
baz=58
B06A **Marblemount** 57.59 326 ⇑P P 09 03 18.7 -0.4
baz=58
E03A **Lebam** 57.78 323 P P 09 03 20.8 +0.3
baz=58,SNR=5.4
B05A **Bryant** 57.80 325 ⇓P P 09 03 19.1 -1.4
baz=58,SNR=8.8
C04A **Brinnon** 58.02 324 P P 09 03 21.6 -0.5
baz=58,SNR=9.5
A05A **Maple Falls** 58.18 326 ⇓P P 09 03 22.1 -1.1
baz=58
D03A **Wishkah Elem.** 58.18 323 ⇑P P 09 03 23.8 +0.5
baz=58
NLWA **Neilton Lookou** 58.38 324 eP P 09 03 24.9 +0.3
comp=Z,56nm,1.2s,mb5.5
NLWA **Neilton Lookou** 58.38 324 ⇑P P 09 03 24.8 +0.2
baz=58
A04A **Legoe Bay, Lum** 58.38 325 ⇓P P 09 03 24.0 -0.6
baz=58
B04A **Port Angeles** 58.50 324 ⇑P P 09 03 25.6 +0.2
baz=59,SNR=6.4
C03A **Quillayute Air** 59.06 324 ⇓P P 09 03 30.3 +0.9
baz=59
YKA **Yellowknife Ar** 63.42 341 P P 09 03 57.2 -1.3
YKA LR LR 09 31 15.3
YKA **Yellowknife Ar** 63.42 341 P P 09 03 57.2 -1.3
comp=Z,35nm,0.7s,mb5.6,baz=134,slow=6.4,SNR=933
YKA LR LR 09 31 15.4
comp=Z,83nm,21.9s,MS3.9,baz=110,slow=36
RKT **Rikitea** 64.44 241 eLR LR 09 24 03.7
comp=Z,196nm,27.2s
PFVI **Vila Bisbo** 68.29 52 epP pP 09 04 45.8 +0.9
PFVI A 09 04 54.2
comp=Z,84nm,1.9s
PTEO **Sao Teotonio** 68.44 52 epP pP 09 04 46.0 +0.1
PTEO A 09 05 03.2
comp=Z,43nm,1.3s
MORF **Marmelete** 68.46 52 eP P 09 04 36.5 +5.1
comp=Z,63nm,1.4s,mb5.5
MORF epP pP 09 04 46.6 +0.6
PBDV **Barranco-do-Ve** 69.01 52 eP P 09 04 35.8 +0.9
comp=Z,49nm,1.4s,mb5.2
PBDV epP pP 09 04 50.1 +0.6
EVO **Evora** 69.16 51 eP P 09 04 35.9 +0.1
comp=Z,25nm,1.0s,mb4.8
EVO eMLR MLR
comp=Z,243nm,22.8s,MS4.1
PBEJ **Beja** 69.19 52 epP pP 09 04 50.7 +0.2
PBEJ A 09 05 00.2
comp=Z,12nm,0.9s
PESTR **Estremoz** 69.54 51 eP P 09 04 41.4 +3.3
comp=Z,33nm,1.1s,mb5.2
PESTR epP pP 09 04 52.7 0.0
PCAB **Cabril** 69.71 48 eP P 09 04 40.2 +1.1
comp=Z,22nm,2.3s,mb4.7
PCAB epP pP 09 04 53.3 -0.4
PCBR **Castelo Branco** 69.79 50 eP P 09 04 42.3 +2.7
comp=Z,31nm,1.5s,mb5.0
PCBR epP pP 09 04 53.9 -0.3
MTE **Manteigas** 69.83 49 eP P 09 04 39.5 -0.4
comp=Z,28nm,1.2s,mb5.1
MTE epP pP 09 04 54.6 +0.1
PBAR **Barrancos** 69.86 52 eP P 09 04 42.1 +2.0
comp=Z,21nm,1.4s,mb4.9

PBAR *e*pP pP 09 04 54.5 -0.2
PVRL Vila Real 69.86 48 *e*P **P 09 04 43.1 +3.1**
comp=Z,40nm,1.6s,mb5.1
PVRL *e*pP pP 09 04 54.4 -0.2
SKAG Skagway 69.97 332 *e*P **P 09 04 39.7 -0.6**
comp=Z,52nm,1.5s,mb5.2
MVO Moncorvo 70.35 48 *e*P **P 09 04 45.5 +2.4**
comp=Z,27nm,1.8s,mb4.9
MVO *e*pP pP 09 04 57.7 +0.1
LIC Lamto 70.37 85 *e*P **P 09 04 42.0 -1.7**
comp=Z,22nm,0.5s,mb5.0
LIC *e*MLR MLR
comp=Z,153nm,20.0s,MS4.0
LIC Lamto 70.37 85 *e*P **P 09 04 42.0 -1.7**
comp=Z,11nm,0.5s,mb5.0
LIC LR LR
comp=Z,80nm,20.0s,MS4.0
DBIC Dimbokro 70.51 85 *e*P **P 09 04 42.9 -1.7**
comp=Z,14nm,0.6s,mb5.1
DBIC Dimbokro 70.51 85 *e*P **P 09 04 42.9 -1.7**
DBIC pmax pmax
comp=Z,14nm,0.6s
DBIC Dimbokro 70.51 85 P **P 09 04 42.8 -1.7**
comp=Z,14nm,0.5s,mb5.1,baz=259,slow=6.4,SNR=19
DBIC LR LR 09 33 26.2
comp=Z,141nm,21.5s,MS4.2,baz=239,slow=34
PAB San Pablo 72.13 50 *e*P **P 09 04 54.2 +0.3**
comp=Z,10nm,0.8s,mb4.8
PAB *e*pP pP 09 05 08.7 +0.2
PAB San Pablo 72.13 50 *e*P **P 09 04 54.2 +0.3**
PAB *e**PP pP 09 05 08.7 +0.2
PAB pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
ESDC Sonseca Array 72.44 50 P **P 09 04 54.6 -1.1**
comp=Z,1.2nm,0.4s,mb4.1,baz=262,slow=6.2,SNR=10.0
ESLA Sonseca Array 72.44 50 *e*P **P 09 04 57.3 +1.6**
comp=Z,4.2nm,1.0s,mb4.3
ESLA *e*pP pP 09 05 10.5 +0.1
DCN Croghan 72.72 36 *e*P pP 09 05 14.8 +3.1
ROSF Rostrenen 74.19 41 *e*P **P 09 05 05.9 +0.1**
comp=Z,79nm,1.4s,mb5.2
ROSF Rostrenen 74.19 41 *e*P **P 09 05 05.9 +0.1**
comp=Z,40nm,1.4s,mb5.2
ROSF Rostrenen 74.19 41 *e*P **P 09 05 05.9 +0.1**
ROSF pmax pmax
comp=Z,40nm,1.4s,mb5.2
EGAK Eagle 74.52 336 *e*P **P 09 05 06.7 -0.7**
comp=Z,24nm,0.8s,mb5.2
SGMF Saint Gilles 74.65 42 *e*P **P 09 05 08.5 0.0**
SJPF Ste Jean 74.90 47 *e*P **P 09 05 10.5 +0.5**
comp=Z,40nm,0.8s,mb5.1
SJPF Ste Jean 74.90 47 *e*P **P 09 05 10.5 +0.5**
comp=Z,20nm,0.8s,mb5.1
SJPF Ste Jean 74.90 47 *e*P **P 09 05 10.5 +0.5**
SJPF pmax pmax
comp=Z,20nm,0.8s,mb5.1
MENT Mentasta 75.00 334 *e*P **P 09 05 09.6 -0.6**
GRR Gorron 75.79 42 *e*P **P 09 05 15.0 -0.1**
EPF Esparros 76.03 47 *e*P **P 09 05 17.0 +0.5**
MFF Saint Martin d 76.05 44 *e*P **P 09 05 16.6 0.0**
comp=Z,37nm,0.8s,mb5.1
MFF Saint Martin d 76.05 44 *e*P **P 09 05 16.6 0.0**
comp=Z,19nm,0.8s,mb5.1
MFF Saint Martin d 76.05 44 *e*P **P 09 05 16.6 0.0**
MFF pmax pmax
comp=Z,19nm,0.8s,mb5.1
FLN La Foliniere 76.09 41 *e*P **P 09 05 16.9 +0.1**
comp=Z,60nm,1.0s,mb5.2
FLN *e*MLR MLR
comp=Z,81nm,18.5s,MS3.8
FLN La Foliniere 76.09 41 *e*P **P 09 05 16.9 +0.1**
comp=Z,30nm,1.0s,mb5.2
FLN LR LR
comp=Z,80nm,18.5s,MS4.1
FLN La Foliniere 76.09 41 *e*P **P 09 05 16.9 +0.1**
FLN pmax pmax
comp=Z,30nm,1.0s,mb5.2
FLN MLR MLR
comp=Z,80nm,18.5s,MS4.1
LDF La Druitiere 76.30 41 *e*P **P 09 05 17.9 -0.1**
comp=Z,54nm,1.1s,mb5.1
LDF La Druitiere 76.30 41 *e*P **P 09 05 17.9 -0.1**
comp=Z,27nm,1.1s,mb5.1
LDF La Druitiere 76.30 41 *e*P **P 09 05 17.9 -0.1**
LDF pmax pmax
comp=Z,27nm,1.1s,mb5.1
PPT Papeete 76.34 250 LR LR 09 30 24.0
comp=Z,239nm,18.7s,MS4.5,baz=72,slow=29
TOA0 Torodi Ar. Sit 76.60 78 *e*P **P 09 05 19.0 -1.3**
TOA0 *e*pP pP 09 05 34.5 -0.6
TORD Torodi Ar. Bea 76.60 78 P **P 09 05 19.0 -1.3**
TORD LR LR 09 36 53.0
TORD Torodi Ar. Bea 76.60 78 P **P 09 05 19.0 -1.3**
comp=Z,3.6nm,0.6s,mb4.5,baz=281,slow=5.8,SNR=30
TORD LR LR 09 36 53.0
comp=Z,130nm,21.9s,MS4.2,baz=185,slow=34
ALE Alert 77.01 2 P **P 09 05 21.0 -0.4**
comp=Z,185nm,1.3s,mb5.8,SNR=7.9
RJF Les Rejaudoux 77.08 45 *e*P **P 09 05 22.2 -0.2**
comp=Z,32nm,1.0s,mb4.9
RJF *e*MLR MLR
comp=Z,216nm,22.5s,MS4.1
RJF Les Rejaudoux 77.08 45 *e*P **P 09 05 22.2 -0.2**
comp=Z,16nm,1.0s,mb4.9
RJF LR LR
comp=Z,220nm,22.5s,MS4.4
RJF Les Rejaudoux 77.08 45 *e*P **P 09 05 22.2 -0.2**
RJF pmax pmax
comp=Z,16nm,1.0s,mb4.9
RJF MLR MLR
comp=Z,220nm,22.5s,MS4.4
PMR Palmer 77.10 332 *e*P **P 09 05 21.1 -1.1**
comp=Z,28nm,1.2s,mb5.1
PMR Palmer 77.10 332 *e*P **P 09 05 21.1 -1.1**
PMR pmax pmax
comp=Z,28nm,1.2s,mb5.1
COLA College 77.28 335 *e*P **P 09 05 22.2 -0.9**
comp=Z,16nm,0.9s,mb4.9
COLA College 77.28 335 *e*P **P 09 05 22.2 -0.9**
COLA pmax pmax
comp=Z,16nm,0.9s,mb5.0
SLKM Skilak Lake 77.41 331 *e*P **P 09 05 23.4 -0.5**
MTLF Montolieu 77.42 47 *e*P **P 09 05 24.2 -0.2**
comp=Z,56nm,1.3s,mb5.0
MTLF Montolieu 77.42 47 *e*P **P 09 05 24.2 -0.2**
comp=Z,28nm,1.3s,mb5.0
MTLF Montolieu 77.42 47 *e*P **P 09 05 24.2 -0.2**
MTLF pmax pmax
comp=Z,28nm,1.3s,mb5.0
CAF Calviac 77.43 45 *e*P **P 09 05 24.4 0.0**
comp=Z,51nm,1.2s,mb5.0
CAF Calviac 77.43 45 *e*P **P 09 05 24.4 0.0**
comp=Z,26nm,1.2s,mb5.0
CAF Calviac 77.43 45 *e*P **P 09 05 24.4 0.0**
CAF pmax pmax
comp=Z,26nm,1.2s,mb5.0
TCF Toulx Ste Croi 77.64 44 *e*P **P 09 05 25.3 -0.3**
comp=Z,25nm,0.8s,mb4.9
TCF Toulx Ste Croi 77.64 44 *e*P **P 09 05 25.3 -0.3**
comp=Z,12nm,0.8s,mb4.9
TCF Toulx Ste Croi 77.64 44 *e*P **P 09 05 25.3 -0.3**
TCF pmax pmax
comp=Z,12nm,0.8s,mb4.9
KDAK Kodiak Island 78.16 328 P **P 09 05 27.0 -1.1**
comp=Z,152nm,0.7s,mb6.0,SNR=5.2
LASF Ste Croix 78.66 46 *e*P **P 09 05 31.7 +0.5**
comp=Z,30nm,1.2s,mb4.8
VIVF Saint-Julien-l 79.28 46 *e*P **P 09 05 34.6 0.0**
SNF Seneffe 79.34 40 P **P 09 05 35.2 +0.4**
DOU Dourbes 79.52 40 P **P 09 05 34.8 -1.0**
GIVF Givet 79.66 40 *e*P **P 09 05 36.8 +0.2**
comp=Z,49nm,1.0s,mb5.1
GIVF Givet 79.66 40 *e*P **P 09 05 36.8 +0.2**
comp=Z,24nm,1.0s,mb5.1
GIVF Givet 79.66 40 *e*P **P 09 05 36.8 +0.2**
GIVF pmax pmax
comp=Z,24nm,1.0s,mb5.1
SMRF Simiane la Rot 79.89 46 *e*P **P 09 05 38.7 +0.7**
comp=Z,13nm,0.9s,mb4.6
SMRF Simiane la Rot 79.89 46 *e*P **P 09 05 38.7 +0.7**
comp=Z,13nm,0.9s,mb4.9
IMA2 Indian Mountai 79.91 336 *e*P **P 09 05 36.8 -0.8**
BCLA Clavier 79.99 40 P **P 09 05 38.0 -0.3**
comp=Z,11nm,2.6s,mb4.3
SVW2 Sparrevohn 80.09 331 *e*P **P 09 05 36.8 -1.9**
MEM Membach 80.45 40 P **P 09 05 42.0 +1.2**
comp=Z,12nm,1.6s,mb4.6
TTA Tatalina 80.49 333 *e*P **P 09 05 39.4 -1.4**
WLF Walferdange 80.50 41 P **P 09 05 41.5 +0.4**
comp=Z,21nm,1.3s,mb4.9
LMR La Mourre 80.55 47 *e*P **P 09 05 41.6 +0.1**
CHGN Chignik 81.18 326 *e*P **P 09 05 43.2 -1.4**
SDPT Sand Point 82.31 325 *e*P **P 09 05 50.0 -0.6**
comp=Z,19nm,0.6s,mb5.2
PGF Pioggiola 82.38 48 *e*P **P 09 05 51.2 0.0**
comp=Z,22nm,0.9s,mb4.8
PGF Pioggiola 82.38 48 *e*P **P 09 05 51.2 0.0**
comp=Z,11nm,0.9s,mb4.8
PGF Pioggiola 82.38 48 *e*P **P 09 05 51.2 0.0**
PGF pmax pmax
comp=Z,11nm,0.9s,mb4.8
MUD Monsted U'grnd 82.53 34 *i*P **P 09 05 53.1 +1.4**
MUD pmax pmax
comp=Z,17nm,1.1s,mb5.0
MUD Monsted U'grnd 82.53 34 *i*P **P 09 05 53.1 +1.4**
comp=Z,17nm,1.1s,mb5.0
VSL Villasalto 82.72 51 *e*P **P 09 05 54.1 +1.1**
comp=Z,36nm,0.9s,mb5.4
VSL *e*pP pP 09 06 08.0 0.0
KEST Kesra 82.80 55 P **P 09 05 52.2 -1.3**
comp=Z,1.1nm,0.5s,mb4.1,baz=304,slow=3.6,SNR=3.4
BSEG Bad Segeberg 83.17 36 *e*P **P 09 05 55.7 +0.7**
BSEG pmax pmax
comp=Z,20nm,1.3s,mb5.0
BSEG Bad Segeberg 83.17 36 *e*P **P 09 05 55.7 +0.7**
comp=Z,20nm,1.3s,mb5.0
CLZ Clausthal 83.22 39 *e*P **P 09 05 55.8 +0.5**
CLZ pmax pmax
comp=Z,20nm,1.4s,mb5.0
CLZ Clausthal 83.22 39 *e*P **P 09 05 55.8 +0.5**
comp=Z,20nm,1.4s,mb5.0
NB2 NORSAR Subarra 83.63 29 P **P 09 05 57.6 +0.3**
comp=Z,9.7nm,0.9s,mb4.9,baz=271,slow=5.3
NOA NORSAR Array B 83.63 29 P **P 09 05 57.7 +0.4**
comp=Z,5.4nm,0.9s,mb4.7,baz=270,slow=4.9,SNR=13
NOA LR LR 09 41 04.3
comp=Z,42nm,19.0s,MS3.8,baz=255,slow=34
GRA1 Grafenberg Arr 83.79 41 *e*P **P 09 05 58.1 -0.2**
comp=Z,17nm,0.6s,mb5.3
GRF Grafenberg Arr 83.79 41 *e*P **P 09 05 58.1 -0.2**
GRF pmax pmax
comp=Z,17nm,0.6s,mb5.3
GRF Grafenberg Arr 83.79 41 *e*P **P 09 05 58.1 -0.2**
GRF pmax pmax
comp=Z,17nm,0.6s,mb5.3
GRF Grafenberg Arr 83.79 41 *e*P **P 09 05 58.1 -0.2**
comp=Z,17nm,0.6s,mb5.3
MANZ Manzenberg 84.36 40 *e*P **P 09 06 01.4 +0.2**
comp=Z,7.0nm,0.7s,mb4.9
TANN Tannenbergstha 84.57 40 *e*P **P 09 06 02.5 +0.2**
comp=Z,9.0nm,1.1s,mb4.8
ABTA Abfaltersbach 84.76 44⇑ *i*P **P 09 06 03.8 +0.5**
comp=Z,9.1nm,0.8s,mb5.0
CLL Collm 84.87 39 *e*P **P 09 06 04.0 +0.2**
comp=Z,7.0nm,0.8s,mb4.8
CLL *e*pP pP 09 06 20.0 +1.3
CLL Collm 84.87 39 *e*P **P 09 06 04.0 +0.2**
CLL pmax pmax
comp=Z,7.0nm,0.8s,mb4.8
CLL Collm 84.87 39 *e*P **P 09 06 04.0 +0.2**
comp=Z,7.0nm,0.8s,mb4.8
CLL *e*pP pP 09 06 20.0 +1.3
CLL *e*(sP) sP 09 06 28.0 +3.5
WET Wettzell 84.89 41 *e*P **P 09 06 04.5 +0.6**
WET pmax pmax
comp=Z,13nm,1.2s,mb4.9
WET Wettzell 84.89 41 *e*P **P 09 06 04.5 +0.6**
comp=Z,13nm,1.2s,mb4.9
KBA Koelnbreinsper 85.31 43⇓ *i*P **P 09 06 07.2 +1.1**
comp=Z,4.7nm,1.3s,mb4.5
KBA Koelnbreinsper 85.31 43⇓ *i*P **P 09 06 07.2 +1.1**
comp=Z,4.7nm,1.3s,mb4.5
KBA Koelnbreinsper 85.31 43⇓ *i*PcP PcP 09 06 07.2 -1.9
comp=Z,4.7nm,1.3s
KBA Koelnbreinsper 85.31 43⇓ *i*P **P 09 06 07.2 +1.1**
KBA pmax pmax
comp=Z,5.0nm,1.3s,mb4.5
KHC Kasperske Hory 85.35 41 *c i*P **P 09 06 07.0 +0.8**
GEC2 GERESS Array S 85.45 42 *e*P **P 09 06 06.9 +0.2**
GEC2 pmax pmax
comp=Z,11nm,1.1s,mb4.9
GEC2 GERESS Array S 85.45 42 *e*P **P 09 06 06.9 +0.2**
comp=Z,11nm,1.1s,mb4.9
GERES GERESS Array B 85.45 42 P **P 09 06 06.6 -0.1**
comp=Z,2.1nm,0.7s,mb4.4,baz=259,slow=2.7,SNR=15
BRG Berggiesshubel 85.48 39 *e*P **P 09 06 07.6 +0.8**
comp=Z,4.1nm,0.9s,mb4.6
BRG *e* pP 09 06 22.8 +1.0
BRG LR LR
comp=Z,130nm,22.5s,MS4.3
BRG Berggiesshubel 85.48 39 *e*P **P 09 06 07.6 +0.7**
BRG pmax pmax
comp=Z,4.0nm,0.9s,mb4.5
BRG pmax pmax
comp=Z,6.0nm,1.1s,mb4.6
BRG MLR MLR
comp=N,112nm,26.5s
BRG MLR MLR
comp=E,59nm,19.2s
BRG MLR MLR
comp=Z,129nm,22.6s,MS4.3
BRG Berggiesshubel 85.48 39 *e*P **P 09 06 07.5 +0.6**
comp=Z,10.0nm,1.0s,mb4.9
BRG Berggiesshubel 85.48 39 *e*P **P 09 06 07.6 +0.8**
comp=Z,6.8nm,0.9s,mb4.8
BRG *e* pP 09 06 22.8 +1.0
comp=Z,9.7nm,1.1s
BRG
comp=N,187nm,26.5s
BRG
comp=E,99nm,19.2s
BRG
comp=Z,215nm,22.6s
BSD Bornholm Skovb 85.80 35⇓ *i*P **P 09 06 08.4 +0.1**
BSD pmax pmax
comp=Z,8.0nm,0.9s,mb5.0
BSD Bornholm Skovb 85.80 35⇓ *i*P **P 09 06 08.4 +0.1**
comp=Z,8.0nm,0.9s,mb5.0
RAR Rarotonga 86.42 248 LR LR 09 37 52.1
comp=Z,261nm,19.7s,MS4.6,baz=81,slow=31
CONA Conrad Observa 86.95 42⇑ *i*PcP PcP 09 06 15.0 -1.3
comp=Z,9.5nm,1.2s
ZST Bratislava 87.76 42 *e*P **P 09 06 19.5 +1.5**
ZST *e*pP pP 09 06 31.3 -1.8
MODS Modra-Piesok 87.85 42 *e*P **P 09 06 19.3 +0.8**
MODS *e* pP 09 06 29.5 -4.0
MODS Modra-Piesok 87.85 42 *e*P **P 09 06 19.2 +0.7**
MODS *e*pP pP 09 06 29.5 -4.0
MORC Moravsky Berou 87.88 40 *e*P **P 09 06 18.9 +0.3**
comp=Z,16nm,1.3s,mb5.1
MORC *e*pP pP 09 06 33.6 0.0
MORC Moravsky Berou 87.88 40 *e*P **P 09 06 18.9 +0.3**
MORC pmax pmax
comp=Z,16nm,1.3s,mb5.1
VNA3 Neumayer Olymp 87.88 163 *e*P **P 09 06 16.7 -1.4**
VNA3 *e* 09 06 19.5
VNA3 *e* 09 06 25.8
VNA3 *e* pP 09 06 32.2 -0.9
VNA3 *e* 09 06 41.0
VNA3 *e* 09 06 48.8
VNA3 *e* 09 06 53.2
VNA1 Neumayer--Stat 88.06 162 *e*P **P 09 06 17.8 -1.1**
VNA1 *e* 09 06 20.4
VNA1 *e* 09 06 26.0
VNA1 *e* pP 09 06 33.3 -0.7
VNA1 *e* 09 06 41.5
VNA1 *e* 09 06 50.1
VNA1 *e* 09 06 53.3
VNA1 *e* 09 09 42.6
VNA2 Neumayer--Watz 88.44 162 *e*P **P 09 06 19.9 -0.8**
VNA2 *e* 09 06 21.7
VNA2 *e* 09 06 28.6
VNA2 *e* pP 09 06 35.1 -0.7
VNA2 *e* 09 06 45.1
VNA2 *e* 09 06 52.3
VNA2 *e* 09 06 55.5
VNA2 *e* 09 09 45.1
ARCES ARCESS Array B 88.66 20 P **P 09 06 21.5 -0.4**
comp=Z,2.4nm,0.6s,mb4.7,baz=286,slow=4.5,SNR=13
VYHS Vyhne 88.87 42 *e*P **P 09 06 24.0 +0.7**
comp=Z,3.7nm,1.4s,mb4.5
VYHS *e* pP 09 06 38.0 -0.3
VYHS Vyhne 88.87 42 *e*P **P 09 06 24.0 +0.7**
VYHS pmax pmax
comp=Z,4.0nm,1.4s,mb4.6
KECS Kecovo 89.96 41 *e*P **P 09 06 22.4 -6.0**
STHS Stebnicka Huta 90.31 40 *e*P **P 09 06 26.6 -3.4**
comp=Z,2.7nm,0.9s,mb4.6
STHS Stebnicka Huta 90.31 40 *e*P **P 09 06 26.6 -3.4**
STHS pmax pmax
comp=Z,3.0nm,0.9s,mb4.6
FINES FINESS Array B 90.70 28 P **P 09 06 31.2 -0.3**
comp=Z,3.4nm,0.7s,mb4.8,baz=318,slow=2.6,SNR=15
FINES LR LR 09 42 45.2
comp=Z,44nm,20.9s,MS3.9,baz=268,slow=32
VSU Vasula 91.72 31 *c i*P **P 09 06 36.1 -0.2**
JOF Joensuu 92.68 26 *e*p **P 09 06 37.7 -3.0**
AKASG Malin Array Be 95.07 38 LR LR 09 48 39.0
comp=Z,76nm,20.0s,MS4.2,baz=270,slow=35
QSPA South Pole Qui 95.71 180 *e*P **P 09 06 55.0 +0.8**
comp=Z,19nm,0.9s,mb5.5
QSPA *e*pP pP 09 07 10.4 +1.1
KMBO Kilima Mbogo 113.08 89 *i*PKIKP PKiKP 09 11 59.5 -7.7
KMBO pmax pmax
comp=Z,61nm,0.7s
KURK Kurchatov 119.65 18⇑ *i*PKIKP PKPdf 09 12 16.6 -2.2
MKAR Makanchi Array 124.26 18 PKP PKPdf 09 12 25.2 -2.6
MKAR Makanchi Array 124.26 18 *i*PKIKP PKPdf 09 12 26.1 -1.7
MKAR pmax pmax
comp=Z,1.0nm,0.6s
MKAR Makanchi Array 124.26 18 PKP PKPdf 09 12 25.2 -2.6
comp=Z,1.1nm,0.6s,baz=304,slow=2.8,SNR=4.6
AAK Ala-Archa 124.86 26⇑ *i*PKIKP PKPdf 09 12 28.3 -0.8
AAK Ala-Archa 124.86 26 PKP PKPdf 09 12 27.7 -1.3
comp=Z,0.4nm,0.3s,baz=20,slow=21,SNR=5.1
ULN Ulaanbaatar 126.62 358⇑ *i*PKIKP PKPdf 09 12 31.8 -0.5
SONM Songino Array 126.67 358 PKP PKPdf 09 12 31.3 -1.1
comp=Z,1.7nm,0.8s,baz=340,slow=0.7,SNR=6.9
SONM PP PP 09 14 26.0 -2.1
comp=Z,5.6nm,1.2s,baz=352,slow=6.0,SNR=8.4
CN2 Changchun 127.12 341 *e*PKP PKPdf 09 12 26.8 -6.6
MAJO Matsushiro 127.28 325 *e*PKPdf PKPdf 09 12 32.5 -1.4
MJAR Matsushiro Arr 127.28 325 PKP PKPdf 09 12 32.4 -1.5
MJAR Matsushiro Arr 127.28 325 PKP PKPdf 09 12 32.4 -1.5
comp=Z,5.6nm,0.8s,baz=86,slow=1.2,SNR=17
WMQ Urumqi 128.52 15 *e*PKP PKPdf 09 12 36.9 +0.9
WMQ XPKP 09 12 51.0
WMQ *e*PP PP 09 14 48.0 +7.6
WMQ PP PP
comp=Z,124nm,4.6s
WMQ LR LR
comp=N,175nm,32.4s
WMQ LR LR
comp=Z,147nm,35.1s,MS4.4
KSRS Korea Array 131.70 335 PKP PKPdf 09 12 40.9 -1.4
comp=Z,3.7nm,1.0s,baz=6,9,slow=1.3,SNR=13
BJI Beijing 133.17 347 PKP PKPdf 09 12 41.8 -3.2
BJI PP PP 09 15 09.9 -0.6
BJI PP PP
comp=Z,123nm,4.9s
BJI LR LR
comp=N,116nm,22.6s,MS4.7
BJI LR LR
comp=E,93nm,21.2s,MS4.7
BJI LR LR
comp=Z,109nm,31.7s
HHC Hu-ho-hao-te 133.20 352 *e*PKP PKPdf 09 12 45.0 0.0
HHC PP PP 09 15 15.8 +5.3
HHC SKS SKSdf 09 19 51.0 -1.2
HHC SS SS 09 32 50.4 +1.0
HHC PP PP
comp=Z,101nm,5.3s
HHC LR LR
comp=N,164nm,19.6s,MS5.1
HHC LR LR
comp=E,334nm,16.2s,MS5.1
HHC LR LR
comp=Z,179nm,4.9s
STKA Stephens Creek 136.40 229 *e*PKP PKPdf 09 12 50.1 -1.1
comp=Z,4.9nm,0.7s
STKA *e*pPKP pPKPdf 09 13 08.0 +1.2
STKA Stephens Creek 136.40 229 PKP PKPdf 09 12 50.4 -0.8
comp=Z,6.3nm,0.7s,baz=83,slow=1.7,SNR=13
CTA Charters Tower 136.71 247 PKP PKPdf 09 12 51.0 -1.1
comp=Z,4.5nm,0.8s,baz=127,slow=5.1,SNR=5.0
LZH Lanzhou 138.44 0 *e*PKP PKPdf 09 12 54.5 -0.4
LZH XPKP 09 13 17.0
LZH *e*PP PP 09 15 48.5 +5.0
LZH SKKS SKKSac 09 22 32.5 -2.5
LZH *e*SS SS 09 33 53.6 +1.5
LZH PP PP
comp=Z,172nm,9.3s
LZH LR LR
comp=E,357nm,18.7s
LZH LR LR
comp=Z,459nm,20.3s,MS5.2
NJ2 Nanjing 139.95 340 *e*PKP PKPdf 09 12 59.3 +1.5
CD2 Chengdu 143.61 1 *e*PKP PKPdf 09 13 01.8 -2.5
CD2 APKP 09 13 13.3
CD2 PP PP 09 16 18.1 +3.1
CD2 PKS 09 16 37.0
CD2 SKS SKSdf 09 20 07.0 -3.0
CD2 SKKS SKKSac 09 23 03.1 -2.1
CD2 SS SS 09 34 53.4 +1.1
CD2 PP PP
comp=Z,250nm,10.8s
CD2 LR LR
comp=N,250nm,24.6s,MS5.1
CD2 LR LR
comp=E,300nm,22.4s,MS5.1
CD2 LR LR
comp=Z,210nm,18.6s,MS4.9
HYB Hyderabad 145.83 47 *e*P PKPdf 09 13 08.0 -0.5
HYB Hyderabad 145.83 47 *i*PKP PKPdf 09 13 09.0 +0.5
comp=Z,45nm,1.0s
ASAR Alice Springs 146.27 235 PKPbc PKPdf 09 13 08.1 -1.0
comp=Z,28nm,0.8s,baz=115,slow=3.3,SNR=190
FORT Forrest 146.44 219 *e*PKP PKPdf 09 13 07.6 -1.6
comp=Z,19nm,0.7s
WB2 Warramunga Arr 147.43 241 *e*PKP PKPdf 09 13 10.1 -1.0
WRAB Tennant Creek 147.43 241 *e*PKPdf PKPdf 09 13 10.1 -1.1
WRAB *e*PKPbc PKPbc 09 13 12.4 -1.2
WRAB *e*PKPab PKPab 09 13 15.6 -0.1
WRAB Tennant Creek 147.43 241 *e*PKIKP PKPdf 09 13 10.1 -1.0
WRAB *e* 09 13 12.4
WRA Warramunga Arr 147.44 241 PKPbc PKPdf 09 13 10.3 -0.9
comp=Z,20nm,0.8s,baz=107,slow=2.6,SNR=120
GYA Guiyang 147.95 356 *i*PKP PKPdf 09 13 08.3 -3.6
GYA PKP2 PKPab 09 13 17.8 +0.3
GYA APKP 09 13 26.4
GYA XPKP 09 13 32.0
GYA PP PP 09 16 43.4 +2.6
GYA SKS SKSdf 09 20 10.8 -5.6
GYA SKKS SKKSac 09 23 26.3 -3.6
GYA SS SS 09 35 41.5 -0.3
GYA PP PP
comp=Z,180nm,6.9s
GYA LR LR
comp=N,860nm,24.9s,MS5.6
GYA LR LR
comp=E,690nm,23.8s,MS5.6
GYA LR LR
comp=Z,780nm,25.0s,MS5.4
KMI Kunming 149.34 3 PKP PKPdf 09 13 12.5 -1.7
KMI XPKP 09 13 35.3
KMI PP PP 09 16 52.0 +3.1
KMI PP PP
comp=Z,81nm,3.5s
KMI LR LR
comp=Z,77nm,29.4s,MS4.3
KAKA Kakadu 151.26 254 *e*P PKPbc 09 13 21.4 -2.0
comp=Z,51nm,0.6s
KLBR Kellerberrin 151.26 205 *e*PKP PKPbc 09 13 21.9 -1.0
comp=Z,32nm,0.4s
KLBR *e*pPKP pPKPdf 09 13 38.5 +5.9
MUN Mundaring 151.53 202 *e*PKP PKPbc 09 13 22.6 -0.9
MUN *e*pPKP pPKPdf 09 13 38.4 +5.4
CHTO Chiang Mai 155.11 12 *e*PKPab PKPab 09 13 46.4 -0.9
FITZ Fitzroy Crossi 155.68 238 *e*PKP PKPdf 09 13 22.0 -1.6
comp=Z,12nm,0.8s

IDC 24 08:59:50.4±2.6,1263S×16737E,h0km,mb4.0/3,
mb1 4.2/3,mb1mx3.7/15,mbtmp4.0/3,Error ellipse:
s-maj=114.8km s-min=42.3km az=139.0,Santa Cruz

Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**30.46**	**227**	P	P	09 06 05.7	+0.6
	1.9nm,0.4s,baz=61,slow=8.8,SNR=6.3						
WRA	**Warramunga Arr**	**32.49**	**253**	P	P	09 06 22.9	-0.1
	0.4nm,0.5s,baz=85,slow=9.2,SNR=7.5						
ASAR	**Alice Springs**	**33.56**	**246**	P	P	09 06 32.1	-0.3
	1.0nm,0.6s,baz=75,slow=9.1,SNR=29						
ARCES	**ARCESS Array B**	**118.25**	**346**	PKP	PKPdf	09 18 38.9	-0.2
	1.7nm,0.5s,baz=73,slow=1.8,SNR=25						

*CSEM **24** 09:12:18.5,3951N×2787E,h6km,MD3.1,After ISK*
ISK 24 09:12:18.5,3951N×2787E,h6km,MD3.1,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNT	**Bandirma**	**0.85**	**2**	*e*PG	Pg	09 12 35.6	+0.8
BNT				*e*SG	Sg	09 12 46.7	+0.9
KULA	**Kula-Manisa**	**1.17**	**148**	*e*PN	Pn	09 12 41.6	+0.3
KULA				*e*SN	Sn	09 12 57.2	-0.3
SART	**Tekirdag**	**1.29**	**336**	*i* P	Pn	09 12 48.7	+5.6
GDZ	**Gediz**	**1.31**	**108**	*i* P	Pn	09 12 50.4	+7.0
IZI	**Iznik**	**1.48**	**56**	*e*PN	Pn	09 12 46.2	+0.5
URLA	**Izmir**	**1.52**	**221**	*i* P	Pn	09 12 43.3	-2.9
YLV	**Yalova**	**1.56**	**47**	*e*PN	Pn	09 12 48.1	+1.3

*NEIC **24** 09:28:13.9±0.4,672S×15530E,mb4.6/7,Error ellipse: s-maj=13.7km s-min=11.3km az=138.0*
*IDC **24** 09:28:13.0±4.1,687S×15551E,h28km±26km,mb4.1/14, mb1 4.3/14,mb1mx4.3/15,mbtmp4.1/14,MS3.4/5, Ms1 3.4/5,ms1mx3.1/16,Error ellipse: s-maj=26.9km s-min=16.0km az=102.0*
*ISCJB **24** 09:28:16.8±2.3,682S±0.10×15535E±008,h70km±22km, mb4.1/20,Error ellipse: s-maj=16.9km s-min=11.6km az=154.9*
ISC 24 09:28:19.4±2.0,684S±010×15537E±008,h80km±20km, n40,σ0°83/30,mb4.1/20,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.21**	**120**	*e*Pn	**Pn**	**09 29 34.5**	**-0.3**
	276nm,0.8s						
HNR				*e*Sn	**Sn**	**09 30 33.8**	**+0.1**
HNR	**Honiara**	**5.21**	**120**	Pn	**Pn**	**09 29 32.5**	**-2.4**
	30nm,0.3s,baz=254,slow=5.3,SNR=5.8						
HNR				LR	LR	09 30 36.9	
	comp=Z,117nm,19.4s,baz=355,slow=28						
HNR				Sn	**Sn**	**09 30 37.1**	**+3.4**
	26nm,0.3s,baz=264,slow=21,SNR=3.2						
CTA	**Charters Tower**	**15.86**	**213**	*e*P	**Pn**	**09 32 01.4**	**+3.4**
	3.4nm,0.8s						
CTA				*e*		09 32 11.3	
CTA				*e*		09 32 21.6	
CTA	**Charters Tower**	**15.86**	**213**	Pn	**Pn**	**09 32 01.1**	**+3.1**
	0.2nm,0.3s,baz=15,slow=13,SNR=6.3						
CTA				LR	LR	09 35 44.6	
	comp=Z,153nm,20.7s,baz=244,slow=28						
GUMO	**Guam**	**22.82**	**333**	LR	LR	09 41 21.1	
	comp=Z,97nm,20.5s,baz=98,slow=34						
KAKA	**Kakadu**	**23.33**	**254**	*e*P	**P**	**09 33 19.4**	**-1.3**
	10.0nm,0.6s,mb4.3						
KAKA				*e*		09 33 32.3	
WRAB	**Tennant Creek**	**24.20**	**235**	*e*P	**P**	**09 33 29.0**	**+0.4**
	12nm,0.8s,mb4.3						
WRAB				*e*pP		09 33 37.1	
WB2	**Warramunga Arr**	**24.20**	**235**	*e*P	**P**	**09 33 28.8**	**+0.2**
WRA	**Warramunga Arr**	**24.21**	**235**	P	**P**	**09 33 29.0**	**+0.3**
	3.6nm,0.4s,mb4.0,baz=60,slow=9.6,SNR=117						
WRA				PcP	PcP	09 37 08.4	+0.8
	0.5nm,0.4s,baz=60,slow=2.4,SNR=8.8						
WRA				LR	LR	09 42 39.4	
	comp=Z,77nm,18.6s,baz=35,slow=36						
ASAR	**Alice Springs**	**26.55**	**229**	P	**P**	**09 33 49.5**	**-0.5**
	2.2nm,0.5s,mb4.0,baz=61,slow=9.2,SNR=77						
ASAR				PcP	PcP	09 37 13.6	+0.8
	0.6nm,0.6s,baz=68,slow=2.0,SNR=5.3						
STKA	**Stephens Creek**	**28.03**	**206**	*e*P	**P**	**09 34 03.3**	**+0.2**
	3.2nm,1.0s,mb3.8						
STKA	**Stephens Creek**	**28.03**	**206**	P	**P**	**09 34 02.8**	**-0.3**
	4.2nm,0.8s,mb4.0,baz=14,slow=14,SNR=10						
STKA				LR	LR	09 45 02.2	
	comp=Z,146nm,18.8s,baz=28,slow=36						
FITZ	**Fitzroy Crossi**	**31.05**	**246**	*e*P	**P**	**09 34 29.9**	**-0.1**
	9.4nm,0.6s,mb4.7						
MJAR	**Matsushiro Arr**	**46.06**	**341**	P	**P**	**09 36 34.6**	**-0.6**
	0.9nm,0.6s,mb3.7,baz=175,slow=7.0,SNR=4.3						
MJAR				PcP	PcP	09 38 11.4	+1.0
	1.8nm,0.8s,baz=170,slow=3.9,SNR=4.0						
KSRS	**Korea Array**	**50.98**	**332**	P	**P**	**09 37 12.8**	**-0.2**
	0.8nm,0.5s,mb4.0,baz=141,slow=7.8,SNR=3.5						
CHTO	**Chiang Mai**	**61.17**	**296**	*e*P	**P**	**09 38 27.2**	**+1.1**
	2.1nm,0.6s,mb4.3						
CHTO				*e*pP	pP	09 38 36.9	-10
SONM	**Songino Array**	**69.41**	**327**	P	**P**	**09 39 19.4**	**+0.6**
	1.9nm,0.9s,mb3.9,baz=135,slow=6.0,SNR=6.9						
SONM				PKPPKP		10 07 28.8	
	0.4nm,0.8s,baz=306,slow=3.4,SNR=4.3						
VNDA	**Vanda**	**70.72**	**179**	P	**P**	**09 39 25.3**	**-1.0**
	1.5nm,0.8s,mb3.9,baz=355,slow=7.1,SNR=4.3						
QSPA	**South Pole Qui**	**83.13**	**180**	*e*P	**P**	**09 40 36.5**	**+0.5**
	5.3nm,0.7s,mb4.5						
MKAR	**Makanchi Array**	**83.53**	**319**	P	**P**	**09 40 38.8**	**+0.2**
	2.0nm,0.7s,mb4.1,baz=101,slow=4.8,SNR=12						
ZALV	**Zalesovo Beam**	**84.26**	**326**	P	**P**	**09 40 41.3**	**-0.8**
	1.1nm,0.5s,mb4.0,baz=108,slow=3.2,SNR=2.8						
MAW	**Mawson**	**84.68**	**203**	P	**P**	**09 40 43.5**	**-0.5**
	3.5nm,0.7s,mb4.4,baz=110,slow=6.8,SNR=6.1						
EGAK	**Eagle**	**85.23**	**23**	*e*P	**P**	**09 40 47.7**	**+1.0**
	2.3nm,0.7s,mb4.2						
INK	**Inuvik**	**89.44**	**21**	P	**P**	**09 41 07.2**	**+0.2**
	2.8nm,0.5s,mb4.6,baz=278,slow=4.5,SNR=70						
NVAR	**Mina Array Bea**	**91.33**	**52**	P	**P**	**09 41 17.4**	**+0.9**
NVAR	**Mina Array Bea**	**91.33**	**52**	P	**P**	**09 41 17.4**	**+0.9**
	0.3nm,0.6s,mb3.6,baz=262,slow=9.5,SNR=4.2						
YKA	**Yellowknife Ar**	**96.03**	**28**	P	**P**	**09 41 37.4**	**0.0**
YKA				PKKPbc	PKKPbc	09 58 23.3	-4.5
YKA	**Yellowknife Ar**	**96.03**	**28**	P	**P**	**09 41 37.4**	**0.0**
	1.0nm,0.6s,mb4.4,baz=265,slow=4.6,SNR=35						
YKA				PKKPbc	PKKPbc	09 58 23.3	-4.5
	0.2nm,0.7s,baz=87,slow=2.7,SNR=5.8						
PDAR	**Pinedale Array**	**98.32**	**48**	P	**P**	**09 41 47.2**	**-1.1**
	0.4nm,0.7s,mb4.0,baz=204,slow=2.0,SNR=3.6						
ARCES	**ARCESS Array B**	**109.55**	**343**	PKiKP	PKiKP	09 46 40.4	+0.2
	3.3nm,1.0s,baz=64,slow=2.8,SNR=7.8						
PLCA	**Paso Flores**	**116.62**	**142**	PKP	PKPdf	09 46 54.5	-0.1
	0.9nm,0.5s,baz=358,slow=2.9,SNR=3.9						
AKASG	**Malin Array Be**	**117.63**	**325**	PKP	PKPdf	09 46 55.8	-0.4
	0.4nm,0.4s,baz=58,slow=2.7,SNR=4.5						
NB2	**NORSAR Subarra**	**119.68**	**341**	PKPdf	PKPdf	09 46 59.7	-0.1
	comp=Z,0.9nm,0.6s,baz=42,slow=2.0						
NOA	**NORSAR Array B**	**119.68**	**341**	PKP	PKPdf	09 46 59.3	-0.5
	comp=Z,0.9nm,0.6s,baz=46,slow=1.9,SNR=5.4						
GERES	**GERESS Array B**	**127.11**	**329**	PKP	PKPdf	09 47 15.1	+0.6
	comp=Z,0.3nm,0.4s,baz=96,slow=1.3,SNR=9.5						
LPAZ	**La Paz**	**131.21**	**119**	PKP	PKPdf	09 47 24.2	+1.0
	comp=Z,1.0nm,0.6s,baz=39,slow=5.4,SNR=8.0						
LPAZ				SKPbc	SKPbc	09 50 45.9	+4.8
	comp=Z,0.4nm,0.7s,baz=267,slow=2.1,SNR=3.6						
CPUP	**Villa Florida**	**134.25**	**137**	PKP	PKPdf	09 47 27.5	-1.2
	comp=Z,0.7nm,0.5s,baz=0.2,slow=2.6,SNR=4.9						
BDFB	**Brasilia**	**147.82**	**134**	PKPbc	PKPbc	09 47 54.3	-1.9
	comp=Z,4.7nm,0.6s,baz=272,slow=3.1,SNR=19						
TORD	**Torodi Ar. Bea**	**153.34**	**286**	PKP	PKPdf	09 48 01.6	-0.2
	comp=Z,0.4nm,0.7s,baz=21,slow=1.3,SNR=3.2						
TORD				PKPbc	PKPbc	09 48 08.7	-0.7
	comp=Z,1.2nm,0.6s,baz=37,slow=2.7,SNR=13						
TORD				PKPab	PKPab	09 48 21.4	-0.3
	comp=Z,1.3nm,0.5s,baz=75,slow=4.1,SNR=14						
DBIC	**Dimbokro**	**160.36**	**271**	PKPab	PKPab	09 48 52.2	+0.3
	comp=Z,3.5nm,0.9s,baz=82,slow=4.0,SNR=6.6						

*CSEM **24** 09:39:14.3±0.4,3641N×961W,h10km,ML4.1/5,Error ellipse: s-maj=7.7km s-min=5.0km az=81.0*
*ISCJB **24** 09:39:14.7±0.7,3662N±003×970W±004,h10km,Error ellipse: s-maj=5.7km s-min=4.1km az=143.0*
*NEIC **24** 09:39:16.1,3676N×984W,h0km,MN2.8(MDD),After MDD.*
*CNRM **24** 09:39:16.2,3643N×991W,h30km,MD3.5*
*MDD **24** 09:39:16.2±1.0,3648N×1001W,h49km±36km,mb4.1/16, Error ellipse: s-maj=11.6km s-min=5.9km az=75.0, PRXIMO*
MDD EMS: II INTENSIDAD MXIMA.
*IGIL **24** 09:39:18.0,3661N×979W,h16km,ML2.9*
*LDG **24** 09:39:18.3±0.7,3659N×958W,h30km,Ml3.6/3,Error ellipse: s-maj=13.5km s-min=10.7km az=38.0*
*INMG **24** 09:39:18.4±1.0,3661N×980W,h15km±4km,MD3.1,ML2.7, Error ellipse: s-maj=4.4km s-min=3.3km az=54.0*
ISC 24 09:39:17.2±0.7,3670N±003×966W±004,h10km,n103, σ1§14/189,6C,West of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PFVI	**Vila Bisbo**	**0.79**	**57**	*e*P	**Pg**	**09 39 35.1**	**+2.6**
PFVI				*e*S	**Sg**	**09 39 47.9**	**+5.0**
PFVI				A		09 39 48.9	
	75nm,0.1s						
PFVI	**Vila Bisbo**	**0.79**	**57**	⇑P	**Pg**	**09 39 35.1**	**+2.6**
PFVI				S	**Sg**	**09 39 47.9**	**+5.0**
	38nm,0.1s						
MORF	**Marmelete**	**1.01**	**53**	*e*P	**Pn**	**09 39 38.3**	**+0.9**
MORF				*e*S	**Sn**	**09 39 54.0**	**+2.4**
MORF				A		09 39 59.2	
	102nm,0.2s						
MORF	**Marmelete**	**1.01**	**53**	P	**Pn**	**09 39 38.3**	**+0.9**
MORF				S	**Sn**	**09 39 51.9**	**+0.2**
PTEO	**Sao Teotonio**	**1.12**	**41**	*e*P	**Pn**	**09 39 39.8**	**+0.8**
PTEO				*e*S	**Sn**	**09 39 56.1**	**+1.6**
PTEO				A		09 39 57.1	
	77nm,0.1s						
PTEO	**Sao Teotonio**	**1.12**	**41**	⇑P	**Pn**	**09 39 39.8**	**+0.8**
PTEO				S	**Sn**	**09 39 56.1**	**+1.6**
	38nm,0.1s						
PBDV	**Barranco-do-Ve**	**1.48**	**68**	*e*P	**Pn**	**09 39 44.7**	**+0.7**
PBDV				*e*S	**Sn**	**09 40 04.8**	**+1.4**
PBDV				A		09 40 09.2	
	19nm,0.2s						
PBDV	**Barranco-do-Ve**	**1.48**	**68**	⇑P	**Pn**	**09 39 44.7**	**+0.7**
PBDV				S	**Sn**	**09 40 04.8**	**+1.4**
	9.6nm,0.2s						
PVAQ	**Vaqueiros**	**1.70**	**65**	*e*Pn	**Pn**	**09 39 47.7**	**+0.7**
PVAQ				*e*Sn	**Sn**	**09 40 09.4**	**+0.6**
PVAQ				A		09 40 12.3	
	37nm,0.1s						
PVAQ	**Vaqueiros**	**1.70**	**65**	⇑P	**Pn**	**09 39 47.7**	**+0.7**
PVAQ				S	**Sn**	**09 40 09.4**	**+0.6**
	19nm,0.1s						
EGRO	**El Granado**	**1.93**	**64**	P	**Pn**	**09 39 50.7**	**+0.7**
	2.5nm,0.3s,SNR=5.9						
EGRO				S	**Sn**	**09 40 16.0**	**+1.6**
	10nm,0.3s,SNR=10						
EGRO	**El Granado**	**1.93**	**64**	P	**Pn**	**09 39 50.7**	**+0.6**
	2.5nm,0.3s,SNR=5.9						
EGRO				S	**Sn**	**09 40 16.0**	**+1.7**
	10nm,0.3s,SNR=10						
PBEJ	**Beja**	**1.94**	**47**	*e*Pn	**Pn**	**09 39 50.9**	**+0.6**
PBEJ				*e*Sn	**Sn**	**09 40 16.3**	**+1.5**
PBEJ				A		09 40 19.6	
	23nm,0.1s						
PBEJ	**Beja**	**1.94**	**47**	*e*Pn	**Pn**	**09 39 50.9**	**+0.6**
PBEJ				*e*Sn	**Sn**	**09 40 16.3**	**+1.5**
	23nm,0.1s						
ERIP	**Rio Piedras**	**2.04**	**70**	⇑P	**Pn**	**09 39 52.2**	**+0.6**
ERIP				S	**Sn**	**09 40 18.3**	**+1.2**
ERIP	**Rio Piedras**	**2.04**	**70**	⇑P	**Pn**	**09 39 52.2**	**+0.6**
	6.7nm,0.1s,SNR=18						
ERIP				S	**Sn**	**09 40 18.3**	**+1.2**
	34nm,0.1s,SNR=7.9						
MOE	**Montemor**	**2.09**	**29**	*e*Pn	**Pn**	**09 39 53.9**	**+1.6**
MOE				*e*Sn	**Sn**	**09 40 19.2**	**+0.8**
EVOP	**Sao Brissos**	**2.19**	**33**	*e*Pn	**Pn**	**09 39 54.2**	**+0.5**
EVOP				*e*Sn	**Sn**	**09 40 20.8**	**-0.1**
	40nm,0.2s						
EVO	**Evora**	**2.25**	**35**	*e*Pn	**Pn**	**09 39 54.2**	**-0.2**
EVO				*e*Sn	**Sn**	**09 40 20.8**	**-1.4**
	80nm,0.2s						
EVO	**Evora**	**2.25**	**35**	*e*Pn	**Pn**	**09 39 55.1**	**+0.7**
EVO				*e*Sn	**Sn**	**09 40 22.7**	**+0.5**
EVO				A		09 40 24.9	
	86nm,0.1s						
EVO	**Evora**	**2.25**	**35**	*e*Pn	**Pn**	**09 39 55.1**	**+0.7**
EVO				*e*Sn	**Sn**	**09 40 22.7**	**+0.5**
	86nm,0.1s						
PMAFR	**Mafra**	**2.27**	**7**	*e*Pn	**Pn**	**09 39 54.6**	**-0.2**
PMAFR				*e*Sn	**Sn**	**09 40 22.1**	**-0.7**
PMAFR				A		09 40 25.0	
	153nm,0.3s						
PMAFR	**Mafra**	**2.27**	**7**	*e*Pn	**Pn**	**09 39 54.6**	**-0.2**
PMAFR				*e*Sn	**Sn**	**09 40 22.1**	**-0.7**
	153nm,0.3s						
PBAR	**Barrancos**	**2.55**	**54**	*e*Pn	**Pn**	**09 39 59.2**	**+0.6**
PBAR				*e*Sn	**Sn**	**09 40 31.1**	**+1.4**
PBAR				A		09 40 33.3	
	14nm,0.1s						
PBAR	**Barrancos**	**2.55**	**54**	P	**Pn**	**09 39 59.2**	**+0.6**
PBAR				S	**Sn**	**09 40 31.1**	**+1.4**
	7.0nm,0.1s						
ALMR	**Almeirim**	**2.59**	**19**	*e*P	**Pn**	**09 39 59.5**	**+0.3**
ALMR				*e*S	**Sn**	**09 40 29.3**	**-1.5**
ALMR				*e*S	**Sn**	**09 40 29.3**	**-1.4**
ALMR				AML	AML	09 40 35.2	
	comp=N,64nm,0.3s						
ALMR	**Almeirim**	**2.59**	**19**	*e*P	**Pn**	**09 39 59.5**	**+0.3**
ALMR				*e*S	**Sn**	**09 40 29.3**	**-1.5**
EMIN	**Mina Concepcio**	**2.61**	**65**	P	**Pn**	**09 39 59.5**	**+0.1**
	comp=N,1.9nm,0.4s,SNR=39						
EMIN				S	**Sn**	**09 40 32.0**	**+0.9**
	comp=N,8.6nm,0.3s,SNR=12						
EMIN	**Mina Concepcio**	**2.61**	**65**	P	**Pn**	**09 39 59.5**	**+0.1**
	comp=N,1.9nm,0.4s,SNR=39						
EMIN				S	**Sn**	**09 40 32.0**	**+0.8**
	comp=N,8.6nm,0.3s,SNR=12						
PESTR	**Estremoz**	**2.71**	**37**	*e*Pn	**Pn**	**09 40 01.6**	**+0.8**
PESTR				*e*Sn	**Sn**	**09 40 34.0**	**+0.3**
PESTR				A		09 40 36.9	
	comp=N,15nm,0.2s						
PESTR	**Estremoz**	**2.71**	**37**	*e*Pn	**Pn**	**09 40 01.6**	**+0.8**
PESTR				*e*Sn	**Sn**	**09 40 34.0**	**+0.3**
	comp=N,15nm,0.2s						
EBAD	**Badajoz**	**2.93**	**45**	P	**Pn**	**09 40 04.1**	**+0.2**
	comp=N,1.6nm,0.3s,SNR=27						
EBAD				S	**Sn**	**09 40 38.8**	**-0.3**
	comp=N,12nm,0.3s,SNR=15						
EBAD	**Badajoz**	**2.93**	**45**	P	**Pn**	**09 40 04.1**	**+0.2**
	comp=N,1.6nm,0.3s,SNR=27						
EBAD				S	**Sn**	**09 40 38.8**	**-0.3**
	comp=N,12nm,0.3s,SNR=15						
ESPR	**Espera**	**3.06**	**86**	P	**Pn**	**09 40 05.8**	**+0.2**
	comp=N,5.2nm,0.3s,SNR=12						
ESPR				S	**Sn**	**09 40 41.1**	**-1.1**
	comp=N,14nm,0.3s,SNR=6.5						
ESPR	**Espera**	**3.06**	**86**	P	**Pn**	**09 40 05.8**	**+0.2**
	comp=N,5.2nm,0.3s,SNR=12						
ESPR				S	**Sn**	**09 40 41.1**	**-1.1**
	comp=N,14nm,0.3s,SNR=6.5						
PTOM	**Tomar**	**3.07**	**18**	*e*Sn	**Sn**	**09 40 42.0**	**-0.6**
PTOM				A		09 40 44.4	
	comp=N,47nm,0.2s						
PTOM	**Tomar**	**3.07**	**18**	*e*Sn	**Sn**	**09 40 42.0**	**-0.6**
	comp=N,47nm,0.2s						
EJIF	**Jimena Fronter**	**3.38**	**93**	P	**Pn**	**09 40 10.6**	**+0.5**
EJIF				S	**Sn**	**09 40 51.9**	**+1.7**
EJIF	**Jimena Fronter**	**3.38**	**93**	P	**Pn**	**09 40 10.6**	**+0.5**
	comp=N,2.9nm,0.2s,SNR=7.9						
EJIF				S	**Sn**	**09 40 48.0**	**-2.2**
	comp=N,6.9nm,0.4s,SNR=7.9						
EJIF	**Jimena Fronter**	**3.38**	**93**	P	**Pn**	**09 40 10.6**	**+0.5**
	comp=N,2.9nm,0.2s,SNR=7.9						
EJIF				S	**Sn**	**09 40 51.9**	**+1.7**
	comp=N,6.9nm,0.4s,SNR=7.9						
PCBR	**Castelo Branco**	**3.57**	**28**	*e*Pn	**Pn**	**09 40 13.4**	**+0.7**
PCBR				*e*Sn	**Sn**	**09 40 54.3**	**-0.6**
PCBR				A		09 40 58.1	
	comp=N,8.6nm,0.1s						
PCBR	**Castelo Branco**	**3.57**	**28**	P	**Pn**	**09 40 13.4**	**+0.7**
PCBR				S	**Sn**	**09 40 54.3**	**-0.6**
	comp=N,4.3nm,0.1s						
ECAB	**El Cabril**	**3.64**	**67**	P	**Pn**	**09 40 14.1**	**+0.4**
	comp=N,3.9nm,0.3s,SNR=4.7						
ECAB				S	**Sn**	**09 40 56.5**	**-0.2**
	comp=N,7.1nm,0.3s,SNR=5.1						
ECAB	**El Cabril**	**3.64**	**67**	P	**Pn**	**09 40 14.1**	**+0.4**
	comp=N,3.9nm,0.3s,SNR=4.7						
ECAB				S	**Sn**	**09 40 56.5**	**-0.2**
	comp=N,7.1nm,0.3s,SNR=5.1						
EMIJ	**Mijas**	**3.93**	**91**	S	**Sn**	**09 41 02.6**	**-1.2**
	comp=N,9.7nm,0.3s,SNR=7.9						
EMIJ	**Mijas**	**3.93**	**91**	S	**Sn**	**09 41 03.7**	**-0.1**
	comp=N,9.7nm,0.3s,SNR=7.9						
MTE	**Manteigas**	**4.05**	**24**	*e*Pn	**Pn**	**09 40 19.5**	**+0.3**
MTE				*e*Sn	**Sn**	**09 41 04.7**	**-1.9**
MTE				A		09 41 09.0	
	comp=N,16nm,0.2s						
MTE	**Manteigas**	**4.05**	**24**	P	**Pn**	**09 40 19.5**	**+0.3**
MTE				S	**Sn**	**09 41 04.7**	**-1.9**
	comp=N,8.2nm,0.2s						
EADA	**Adamuz**	**4.30**	**69**	P	**Pn**	**09 40 23.1**	**+0.5**
	comp=N,1.5nm,0.1s,SNR=7.9						
EADA				S	**Sn**	**09 41 11.9**	**-1.0**
	comp=N,11nm,0.2s,SNR=6.1						
EADA	**Adamuz**	**4.30**	**69**	P	**Pn**	**09 40 23.1**	**+0.4**
	comp=N,1.5nm,0.1s,SNR=7.9						
EADA				S	**Sn**	**09 41 11.9**	**-1.0**
	comp=N,11nm,0.2s,SNR=6.1						
ERON	**Agron**	**4.70**	**84**	P	**Pn**	**09 40 29.2**	**+0.9**
ERON				S	**Sn**	**09 41 22.8**	**0.0**
ERON	**Agron**	**4.70**	**84**	P	**Pn**	**09 40 29.2**	**+1.0**
ERON				S	**Sn**	**09 41 22.8**	**0.0**
	comp=N,3.8nm,0.5s,SNR=7.9						
PVRL	**Vila Real**	**4.81**	**18**	*e*Pn	**Pn**	**09 40 30.1**	**+0.4**
PVRL				*e*Sn	**Sn**	**09 41 22.0**	**-3.4**
PVRL				A		09 41 26.2	
	comp=N,34nm,0.1s						
PVRL	**Vila Real**	**4.81**	**18**	P	**Pn**	**09 40 30.1**	**+0.4**
PVRL				S	**Sn**	**09 41 22.0**	**-3.4**
	comp=N,17nm,0.1s						
EGUA	**Guajares**	**4.89**	**87**	S	**Sn**	**09 41 24.7**	**-2.8**
	comp=N,0.9nm,0.2s,SNR=7.9						
EGUA	**Guajares**	**4.89**	**87**	S	**Sn**	**09 41 27.0**	**-0.5**
	comp=N,0.9nm,0.2s,SNR=7.9						
EBAN	**Banos Encina**	**4.90**	**71**	P	**Pn**	**09 40 31.3**	**+0.4**
	comp=N,1.7nm,0.1s,SNR=4.0						
EBAN				S	**Sn**	**09 41 26.8**	**-0.8**
	comp=N,8.0nm,0.2s,SNR=7.9						
MIF	**Mishlifen**	**4.90**	**131**	P	**Pn**	**09 40 27.0**	**-3.9**
MIF				S	**Sn**	**09 41 20.0**	**-7.7**
MIF	**Mishlifen**	**4.90**	**131**	*i* P	**Pn**	**09 40 27.0**	**-3.9**
MVO	**Moncorvo**	**4.90**	**24**	*e*Pn	**Pn**	**09 40 31.5**	**+0.5**
MVO				*e*Sn	**Sn**	**09 41 25.4**	**-2.3**
MVO				A		09 41 28.8	
	comp=N,14nm,0.2s						
MVO	**Moncorvo**	**4.90**	**24**	P	**Pn**	**09 40 31.5**	**+0.5**
MVO				S	**Sn**	**09 41 25.4**	**-2.3**
	comp=N,6.9nm,0.2s						
PCAB	**Cabril**	**5.16**	**14**	*e*Pn	**Pn**	**09 40 34.3**	**-0.2**
PCAB				*e*Sn	**Sn**	**09 41 31.4**	**-2.6**
PCAB				A		09 41 33.7	
	comp=N,11nm,0.1s						
PCAB	**Cabril**	**5.16**	**14**	P	**Pn**	**09 40 34.3**	**-0.2**
PCAB				S	**Sn**	**09 41 31.4**	**-2.6**
	comp=N,5.3nm,0.1s						
TZK	**Tazeka**	**5.18**	**119**	P	**Pn**	**09 40 32.0**	**-2.7**
TZK				S	**Sn**	**09 41 27.0**	**-7.5**
TZK	**Tazeka**	**5.18**	**119**	*i* P	**Pn**	**09 40 32.0**	**-2.7**
CIA	**Chichaoua**	**5.18**	**171**	P	**Pn**	**09 40 27.0**	**-7.8**
CIA				S	**Sn**	**09 41 20.0**	**-15**
CZD	**Col de Zad**	**5.27**	**133**	P	**Pn**	**09 40 33.0**	**-3.1**
CZD				S	**Sn**	**09 41 28.0**	**-8.9**
CZD	**Col de Zad**	**5.27**	**133**	*i* P	**Pn**	**09 40 33.0**	**-3.1**
ELOB	**Lobios**	**5.30**	**13**	P	**Pn**	**09 40 34.8**	**-1.7**
ELOB				S	**Sn**	**09 41 33.6**	**-4.0**
ELOB	**Lobios**	**5.30**	**13**	P	**Pn**	**09 40 36.0**	**-0.5**
	comp=N,1.3nm,0.4s,SNR=8.9						
ELOB				S	**Sn**	**09 41 33.6**	**-4.0**
	comp=N,8.7nm,0.4s,SNR=8.5						
ELOB	**Lobios**	**5.30**	**13**	P	**Pn**	**09 40 34.8**	**-1.7**
	comp=N,1.3nm,0.4s,SNR=8.9						
ELOB				S	**Sn**	**09 41 33.6**	**-4.0**
	comp=N,8.7nm,0.4s,SNR=8.5						
EQES	**Quesada**	**5.37**	**76**	P	**Pn**	**09 40 37.7**	**+0.3**
EQES				S	**Sn**	**09 41 39.0**	**-0.3**
EQES	**Quesada**	**5.37**	**76**	P	**Pn**	**09 40 37.7**	**+0.3**
	comp=N,0.9nm,0.1s,SNR=7.9						
EQES				S	**Sn**	**09 41 37.9**	**-1.3**
	comp=N,5.6nm,0.6s,SNR=7.9						
EQES	**Quesada**	**5.37**	**76**	P	**Pn**	**09 40 37.7**	**+0.3**
	comp=N,0.9nm,0.1s,SNR=7.9						
EQES				S	**Sn**	**09 41 39.0**	**-0.2**
	comp=N,5.6nm,0.6s,SNR=7.9						
ESDC	**Sonseca Array**	**5.38**	**55**	P	**Pn**	**09 40 37.7**	**+0.2**
	comp=N,1.7nm,0.2s,baz=240,slow=13,SNR=15						
ESDC				S	**Sn**	**09

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**14.29**	**165**	Pn	Pn	09 54 32.3	+0.4
	0.1nm,0.3s,baz=336,slow=15,SNR=5.6						
WRA				Sn	Sn	09 56 56.7	-15
	0.2nm,0.3s,baz=335,slow=22,SNR=7.8						
ASAR	**Alice Springs**	**17.81**	**170**	P	Pn	09 55 17.4	-0.2
	0.1nm,0.3s,baz=349,slow=11,SNR=11						
ASAR				S	Sn	09 58 20.9	-16
	0.1nm,0.3s,baz=354,slow=26,SNR=4.2						
MKAR	**Makanchi Array**	**67.75**	**326**	P	P	10 02 07.8	+0.1
	0.2nm,0.4s,baz=130,slow=6.3,SNR=6.0						

*IDC **24** 10:00:18.6±0.8, 1253N×8743W, h0km, mb4.1/8, mb1 4.3/10, mb1mx4.0/24, mbtmp4.0/10, ML3.3/2, MS3.4/7, Ms1 3.4/7, ms1mx3.1/35, Error ellipse: s-maj=39.6km s-min=12.1km az=51.0*

*CASC **24** 10:00:21.7±2.3, 1224N×8798W, h20km±8km, MD4.3, ML4.0, mb4.5(NEIC)*

*ISCJB **24** 10:00:23.2±0.8, 1226N±005×8795W±006, h35km±9km, mb4.3/28, MS3.5/4, Error ellipse: s-maj=10.7km s-min=6.9km az=141.4*

*NEIC **24** 10:00:24.8±1.2, 1222N×8764W, h50km±10km, mb4.5/19, Error ellipse: s-maj=17.7km s-min=9.7km az=50.0*

ISC 24 10:00:26.3±0.8, 1239N±006×8772W±008, h48km±9km, n95, σ1°04/85, mb4.3/28, MS3.5/4, 17C-4D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CRIN	**San Cristobal**	**0.73**	**65**	*eP*	**Pn**	**10 00 39.8**	**-0.6**
TEL3	**Telica 3**	**0.88**	**78⇓**	*eP*	**Pn**	**10 00 42.5**	**+0.1**
CNCH	**Conchagua**	**0.89**	**353⇑**	*eP*	x	10 01 07.0	
CNCH				*eS*	x	10 01 22.0	
TELN	**Telica**	**0.90**	**76⇑**	*eP*	**Pn**	**10 00 42.2**	**-0.4**
CNGN	**Cerro Negro**	**1.01**	**83**	*eP*	**Pn**	**10 00 43.5**	**-0.6**
COPN	**Copaltepe**	**1.12**	**100⇑**	*eP*	**Pn**	**10 00 45.0**	**-0.7**
COPN				*eS*	**Sn**	**10 01 03.6**	**+3.6**
MOMJ	**Momotombo**	**1.16**	**89⇑**	*eP*	**Pn**	**10 00 46.0**	**-0.1**
MOMJ				*eS*	**Sn**	**10 01 05.4**	**+4.6**
BLLM	**Bellamira**	**1.16**	**334⇑**	*eP*	x	10 01 09.7	
BLLM				*eS*	x	10 01 27.2	
VSM	**San Miguel**	**1.17**	**333⇑**	*eP*	x	10 01 10.2	
VSM				*eS*	x	10 01 28.2	
CSAN		**1.29**	**99**	*eP*	**Pn**	**10 00 48.2**	**+0.3**
APYN	**Apoyeque**	**1.35**	**96⇑**	*eP*	**Pn**	**10 00 48.8**	**+0.1**
XAVN	**Gruta Xavier**	**1.39**	**100⇓**	*eP*	**Pn**	**10 00 49.4**	**+0.1**
TISN	**Laguna Tiscapa**	**1.44**	**100⇑**	*eP*	**Pn**	**10 00 50.0**	**+0.1**
CRUN	**El Crucero**	**1.45**	**106**	*eP*	**Pn**	**10 00 50.1**	**0.0**
CAHU	**Cacacuatique**	**1.46**	**341⇑**	*eP*	x	10 01 15.0	
CAHU				*eS*	x	10 01 36.7	
MGAN	**Managua**	**1.46**	**99⇑**	*eP*	**Pn**	**10 00 50.0**	**-0.2**
MGAN				*eS*	**Sn**	**10 01 11.0**	**+2.8**
MGAN				*i*		10 01 13.0	
	comp=E,2μm,0.5s						
TICN	**Ticuantepe**	**1.50**	**103⇑**	*eP*	**Pn**	**10 00 50.9**	**+0.1**
HUEN		**1.52**	**92⇑**	*eP*	**Pn**	**10 00 51.4**	**+0.4**
HUEN				*eS*	**Sn**	**10 01 13.9**	**+4.3**
SNVI	**San Vicente**	**1.63**	**318**	*eP*	x	10 01 14.9	
SNVI				*eS*	x	10 01 37.4	
APON	**Apoyo**	**1.69**	**106⇓**	*eP*	**Pn**	**10 00 53.4**	**+0.1**
TGUH	**Tegucigalpa,Un**	**1.72**	**15**	*ePn*	**Pn**	**10 00 53.9**	**+0.1**
LCBS	**La Ceiba**	**1.76**	**316⇑**	*eP*	x	10 01 16.4	
LCBS				*eS*	x	10 01 38.8	
LFRS	**El Faro**	**1.79**	**313⇑**	*eP*	x	10 01 16.6	
LFRS				*eS*	x	10 01 38.8	
LBRS	**Las Brisas**	**1.86**	**316⇑**	*eP*	x	10 01 18.4	
LBRS				*eS*	x	10 01 42.1	
SNET	**Serv Nac Est T**	**1.96**	**311**	*eP*	x	10 00 51.4	
SNET				*eS*	x	10 01 15.8	
BOAB	**BOACO BROADBAN**	**2.01**	**88**	*eP*	**Pn**	**10 00 57.4**	**-0.4**
BOQS	**Boqueron**	**2.02**	**312⇑**	*eP*	x	10 01 20.4	
BOQS				*eS*	x	10 01 46.0	
SSNN	**San Juan del S**	**2.13**	**121**	*eP*	**Pn**	**10 00 58.1**	**-1.3**
SSNN				*eS*	**Sn**	**10 01 27.8**	**+3.0**
CONN	**Concepcion**	**2.21**	**111⇑**	*eP*	**Pn**	**10 00 59.7**	**-0.8**
SBLS	**San Blas**	**2.35**	**308⇓**	*eP*	x	10 01 24.5	
SBLS				*eS*	x	10 01 53.8	
MADN	**Villa Maderas**	**2.35**	**114**	*eP*	**Pn**	**10 01 01.5**	**-1.0**
SNJE	**San Jose**	**2.35**	**309**	*eP*	x	10 01 24.8	
SNJE				*eS*	x	10 01 54.2	
RTR	**El Retiro**	**2.40**	**309**	*eP*	x	10 01 25.2	
RTR				*eS*	x	10 01 55.9	
VCR	**Vista de Mar**	**3.04**	**137**	*eP*	**Pn**	**10 01 12.7**	**+0.8**
JTS	**JuntasAbangare**	**3.42**	**127**	Pn	**Pn**	**10 01 13.3**	**-3.9**
	comp=E,2.2nm,0.3s,baz=325,slow=15,SNR=13						
JTS				Sn	**Sn**	**10 01 51.7**	**-4.8**
	comp=E,8.2nm,0.3s,baz=311,slow=20,SNR=3.6						
JTS				Lg		10 02 03.4	
	comp=E,9.9nm,0.3s,baz=258,slow=20,SNR=3.6						
JTS				LR	LR	10 02 23.3	
	comp=E,156nm,18.2s,baz=300,slow=38						
JCR	**Jicaral**	**3.59**	**134**	*eP*	**Pn**	**10 01 19.9**	**+0.4**
CGA2	**Cerro Gallo 2**	**3.97**	**126**	*eP*	**Pn**	**10 01 24.8**	**+0.1**
PRS1	**Puriscal**	**4.11**	**125**	*eP*	**Pn**	**10 01 26.5**	**-0.1**
LAJ	**Bijagual**	**4.33**	**125**	*eP*	**Pn**	**10 01 25.4**	**-4.3**
LCR2	**La Lucha 2**	**4.50**	**125**	*eP*	**Pn**	**10 01 32.2**	**+0.3**
QCR	**Quepos**	**4.57**	**130**	*eP*	**Pn**	**10 01 31.7**	**-1.2**
URSC	**Urasca**	**4.63**	**123**	*eP*	**Pn**	**10 01 35.0**	**+1.3**
BAR1		**5.34**	**125**	*eP*	**Pn**	**10 01 43.5**	**-0.1**
TEIG	**Tepich**	**7.81**	**356**	Pn	**Pn**	**10 02 20.8**	**+3.4**
	comp=E,2.1nm,0.3s,baz=142,slow=16,SNR=7.9						
TEIG				LR	LR	10 05 38.6	
	comp=E,226nm,21.6s,baz=236,slow=42						
CMIG	**Matias Romero**	**8.36**	**305**	Pn	**Pn**	**10 02 23.2**	**-1.7**
CMIG				LR	LR	10 06 00.2	
CMIG	**Matias Romero**	**8.36**	**305**	Pn	**Pn**	**10 02 23.2**	**-1.7**
	comp=E,0.6nm,0.3s,baz=136,slow=12,SNR=6.5						
CMIG				LR	LR	10 06 00.2	
	comp=E,306nm,21.9s,baz=122,slow=40						
JCT	**Junction City**	**21.20**	**330**	*eP*	**P**	**10 05 07.5**	**-0.4**
	comp=E,7.2nm,0.8s,mb4.0						
GOGA	**Godfrey**	**21.29**	**10**	*eP*	**P**	**10 05 09.8**	**+1.0**
	comp=E,6.6nm,0.8s,mb4.0						
ATAH	**Atahualpa**	**21.38**	**154**	P	**P**	**10 05 11.1**	**+1.2**
	comp=E,4.0nm,0.7s,mb3.9,baz=331,slow=15,SNR=3.7						
ATAH				LR	LR	10 12 41.9	
	comp=E,71nm,19.2s,MS3.1,baz=332,slow=35						
TXAR	**Lajitas Array**	**22.45**	**321**	P	**P**	**10 05 20.9**	**-0.4**
TXAR				PcP	PcP	10 09 13.7	-0.9
TXAR	**Lajitas Array**	**22.45**	**321**	P	**P**	**10 05 20.9**	**-0.4**
	comp=E,7.3nm,0.7s,mb4.2,baz=136,slow=9.8,SNR=76						
TXAR				PcP	PcP	10 09 13.7	-0.9
	comp=E,0.7nm,1.0s,baz=108,slow=4.1,SNR=3.5						
MIAR	**Mount Ida**	**22.69**	**347**	*eP*	**P**	**10 05 23.7**	**-0.1**
	comp=E,6.1nm,0.6s,mb4.2						
TKL	**Tuckaleechee C**	**23.44**	**8**	P	**P**	**10 05 31.6**	**+0.1**
	comp=E,7.5nm,0.9s,mb4.1,baz=181,slow=12,SNR=7.6						
PARMO	**Parma**	**24.24**	**356**	*eP*	**P**	**10 05 38.5**	**-0.3**
WMOK	**Wichita Mounta**	**24.41**	**338**	*eP*	**P**	**10 05 39.9**	**-0.4**
	comp=E,9.2nm,1.3s,mb4.0						
MNTX	**Cornudas Mount**	**25.18**	**323**	*eP*	**P**	**10 05 46.5**	**-0.9**
	comp=E,2.3nm,0.8s,mb3.8						
ANMO	**Albuquerque**	**28.17**	**326**	P	**P**	**10 06 15.8**	**+1.6**
ANMO	**Albuquerque**	**28.17**	**326**	P	**P**	**10 06 15.8**	**+1.6**
	comp=E,1.2nm,0.8s,mb3.6,baz=128,slow=7.8,SNR=5.2						
SDCO	**Great Sand Dun**	**29.84**	**331**	*eP*	**P**	**10 06 30.0**	**+1.0**
SMCO	**Snowmass**	**31.68**	**331**	*eP*	**P**	**10 06 46.6**	**+1.4**
	comp=E,7.7nm,1.1s,mb4.5						
PV10	**Paradox Valley**	**32.10**	**327**	*eP*	**P**	**10 06 49.9**	**+1.0**
ECSD	**EROS,Sioux Fal**	**32.16**	**348**	*eP*	**P**	**10 06 48.1**	**-1.4**
	comp=E,9.9nm,1.3s,mb4.5						
DUG	**Dugway**	**35.43**	**326**	*eP*	**P**	**10 07 19.7**	**+1.8**
PDAR	**Pinedale Array**	**35.70**	**332**	P	**P**	**10 07 19.4**	**-0.8**
	comp=E,2.3nm,0.9s,mb4.1,baz=132,slow=8.4,SNR=16						
PDAR				PcP	PcP	10 09 45.2	-2.4
	comp=E,0.6nm,1.0s,baz=160,slow=2.9,SNR=2.6						
HWUT	**Hardware Ranch**	**35.79**	**329**	*eP*	**P**	**10 07 21.3**	**+0.4**
	comp=E,7.0nm,0.9s,mb4.6						
AGMN	**Agassiz Refuge**	**36.44**	**351**	*eP*	**P**	**10 07 24.6**	**-1.8**
	comp=E,7.3nm,1.0s,mb4.6						
REDW	**Red Top Meadow**	**36.76**	**331**	*eP*	**P**	**10 07 29.1**	**-0.1**
	comp=E,14nm,0.8s,mb4.8						
SNOW	**Snow King Moun**	**36.80**	**332**	*eP*	**P**	**10 07 29.9**	**+0.4**
	comp=E,26nm,0.9s,mb5.0						
LOHW	**Long Hollow**	**36.84**	**332**	*eP*	**P**	**10 07 29.8**	**-0.1**
	comp=E,7.5nm,0.9s,mb4.5						
TPAW	**Teton Pass**	**36.91**	**331**	*eP*	**P**	**10 07 30.8**	**+0.4**
	comp=E,12nm,1.0s,mb4.7						
MOOW	**Moose Ponds**	**37.01**	**332**	*eP*	**P**	**10 07 31.4**	**+0.1**
	comp=E,4.0nm,0.8s,mb4.3						
IMW	**Indian Meadow**	**37.22**	**332**	*eP*	**P**	**10 07 33.2**	**+0.2**
	comp=E,6.5nm,1.1s,mb4.4						
FLWY	**Flagg Ranch**	**37.25**	**332**	*eP*	**P**	**10 07 33.6**	**+0.3**
	comp=E,11nm,1.1s,mb4.6						
RLMT	**Red Lodge**	**37.45**	**335**	*eP*	**P**	**10 07 34.4**	**-0.6**
NVAR	**Mina Array Bea**	**37.58**	**319**	P	**P**	**10 07 37.1**	**+1.0**
NVAR				PcP	PcP	10 09 52.7	-0.6
NVAR				ScP	ScP	10 13 42.2	+5.2
NVAR	**Mina Array Bea**	**37.58**	**319**	P	**P**	**10 07 37.1**	**+1.0**
	comp=E,1.6nm,1.0s,mb3.7,baz=123,slow=8.7,SNR=7.6						
NVAR				PcP	PcP	10 09 52.7	-0.6
	comp=E,1.0nm,0.9s,baz=120,slow=4.3,SNR=5.5						
NVAR				ScP	ScP	10 13 42.2	+5.2
	comp=E,0.3nm,0.6s,baz=133,slow=4.0,SNR=3.0						
QLMT	**Earthquake Lak**	**38.16**	**332**	*eP*	**P**	**10 07 42.4**	**+1.4**
ULM	**Lac du Bonnet**	**38.34**	**352**	*eP*	**P**	**10 07 39.7**	**-2.8**
	comp=E,1.4nm,0.5s,mb4.0						
ULM	**Lac du Bonnet**	**38.34**	**352**	P	**P**	**10 07 40.0**	**-2.5**
	comp=E,2.4nm,0.5s,mb4.2,baz=173,slow=9.6,SNR=11						
DGMT	**Dagmar**	**38.50**	**342**	*eP*	**P**	**10 07 43.4**	**-0.5**
	comp=E,14nm,1.1s,mb4.6						
SIV	**San Ignacio**	**38.60**	**136**	P	**P**	**10 07 42.6**	**-2.5**
	comp=E,2.2nm,0.8s,mb3.9,baz=314,slow=8.2,SNR=10						
HLID	**Hailey**	**38.66**	**328**	*eP*	**P**	**10 07 47.9**	**+2.7**
MCMT	**McKenzie Canyo**	**38.81**	**331**	*eP*	**P**	**10 07 47.6**	**+1.1**
BOZ	**Bozeman (W)**	**38.88**	**333**	*eP*	**P**	**10 07 46.5**	**-0.5**
DLMT	**Dillon**	**39.10**	**332**	*eP*	**P**	**10 07 49.2**	**+0.4**
	comp=E,12nm,1.1s,mb4.5						
LRM	**Limekiln Ridge**	**39.38**	**333**	*eP*	**P**	**10 07 51.3**	**0.0**
HRY	**Holter Researc**	**39.80**	**334**	*eP*	**P**	**10 07 55.3**	**+0.6**
MSO	**Missoula**	**40.82**	**332**	*eP*	**P**	**10 08 04.0**	**+0.9**
SCHQ	**Schefferville**	**45.42**	**17**	P	**P**	**10 08 37.9**	**-2.3**
	comp=E,3.1nm,0.5s,mb4.4,baz=192,slow=5.3,SNR=17						
SCHQ				LR	LR	10 31 03.6	
	comp=E,55nm,18.8s,MS3.5,baz=105,slow=41						
FCC	**Fort Churchill**	**46.53**	**355**	*eP*	**P**	**10 08 46.9**	**-2.0**
BDFB	**Brasilia**	**48.16**	**124**	LR	LR	10 32 15.8	
	comp=E,47nm,20.2s,MS3.5,baz=69,slow=40						
YKA	**Yellowknife Ar**	**53.60**	**345**	P	**P**	**10 09 40.2**	**-2.2**
YKA				PcP	PcP	10 10 46.1	-2.2
YKA	**Yellowknife Ar**	**53.60**	**345**	P	**P**	**10 09 40.2**	**-2.2**
	comp=E,1.6nm,0.9s,mb3.9,baz=138,slow=7.7,SNR=22						
YKA				PcP	PcP	10 10 46.1	-2.2
	comp=E,0.2nm,0.5s,baz=148,slow=3.9,SNR=6.4						
PPT	**Papeete**	**67.93**	**245**	LR	LR	10 32 36.8	
	comp=E,121nm,19.0s,MS4.1,baz=134,slow=28						
WRA	**Warramunga Arr**	**139.00**	**254**	PKP	PKPdf	10 19 46.5	-2.0
	comp=E,0.3nm,0.7s,baz=83,slow=2.1,SNR=4.8						

IDC 24 10:30:52.7±1.9, 2856N×4344W, h0km, mb3.5/4, mb1 3.9/4, mb1mx3.5/24, mbtmp3.5/4, MS3.6/2, Ms1 3.6/2, ms1mx2.8/32, Error ellipse: s-maj=107.8km s-min=28.5km az=21.0, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TORD	**Torodi Ar. Bea**	**44.60**	**101**	P	P	10 39 07.0	0.0
	0.9nm,0.8s,baz=300,slow=7.5,SNR=5.0						
TORD				LR	LR	10 55 20.1	
	comp=Z,74nm,19.4s,baz=230,slow=33						
TXAR	**Lajitas Array**	**52.18**	**286**	P	P	10 40 04.5	-0.8
	0.6nm,0.9s,baz=109,slow=7.0,SNR=3.0						
PDAR	**Pinedale Array**	**54.27**	**304**	P	P	10 40 21.9	+1.3
	1.5nm,1.0s,baz=86,slow=7.6,SNR=7.9						
MLR	**Muntele Rosu**	**56.23**	**52**	LR	LR	11 00 05.0	
	comp=Z,42nm,19.6s,baz=204,slow=31						
YKA	**Yellowknife Ar**	**56.42**	**328**	P	P	10 40 35.0	-0.7
	0.1nm,0.7s,baz=124,slow=7.8,SNR=3.9						

*NEIC **24** 10:33:58.5±2.2, 2459N×14153E, h88km±20km, mb4.3/6, Error ellipse: s-maj=17.6km s-min=8.4km az=91.0*

*ISCJB **24** 10:33:59.7±1.3, 2456N±007×1415E±01, h115km±12km, mb4.0/16, Error ellipse: s-maj=21.2km s-min=11.9km az=178.1*

*IDC **24** 10:34:00.6±1.6, 2459N×14139E, h109km±13km, mb3.6/11, mb1 3.7/14, mb1mx3.7/22, mbtmp3.6/14, MS2.6/1, Ms1 2.6/1, ms1mx2.3/26, Error ellipse: s-maj=22.2km s-min=12.6km az=95.0*

ISC 24 10:34:01.2±1.3, 2458N±007×1415E±01, h112km±12km, n24, σ0°85/23, mb4.0/16, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**2.58**	**14**	P	**Pn**	**10 34 42.2**	**+0.6**
	125nm,0.3s,baz=94,slow=17,SNR=46						
CBIJ				S	**Sn**	**10 35 12.8**	**+0.1**
	108nm,0.3s,baz=80,slow=23,SNR=12						
MJAR	**Matsushiro Arr**	**12.25**	**347**	P	**Pn**	**10 36 49.9**	**-1.9**
	0.5nm,0.3s,baz=144,slow=10,SNR=4.9						
KSRS	**Korea Array**	**17.29**	**321**	P	**Pn**	**10 37 56.3**	**+0.7**
	0.3nm,0.3s,baz=136,slow=12,SNR=7.1						
KSRS				LR	LR	10 44 30.8	
	comp=Z,21nm,18.9s,baz=220,slow=36						
SONM	**Songino Array**	**36.14**	**319**	P	**P**	**10 40 51.4**	**-1.0**
	0.3nm,0.4s,mb3.5,baz=121,slow=10,SNR=3.0						
WRAB	**Tennant Creek**	**44.79**	**190**	*eP*	**P**	**10 42 03.8**	**0.0**
	3.1nm,0.6s,mb4.2						
WB2	**Warramunga Arr**	**44.80**	**190**	*eP*	**P**	**10 42 03.8**	**-0.1**
WRA	**Warramunga Arr**	**44.80**	**190**	P	**P**	**10 42 03.9**	**0.0**
	2.2nm,0.5s,mb4.2,baz=8.8,slow=8.5,SNR=50						
WRA				ScP	ScP	10 47 25.1	-1.0
	0.4nm,0.7s,baz=0.1,slow=4.7,SNR=4.9						
FITZ	**Fitzroy Crossi**	**45.16**	**202**	*eP*	**P**	**10 42 07.1**	**+0.4**
	4.5nm,1.9s,mb3.9						
ASAR	**Alice Springs**	**48.52**	**189**	P	**P**	**10 42 31.8**	**-1.0**
	0.7nm,0.6s,mb3.8,baz=16,slow=13,SNR=14						
MKAR	**Makanchi Array**	**51.62**	**311**	P	**P**	**10 42 56.3**	**+0.2**
	0.9nm,0.4s,mb4.1,baz=87,slow=9.5,SNR=18						
STKA	**Stephens Creek**	**56.14**	**180**	*eP*	**P**	**10 43 28.9**	**-0.1**
	1.1nm,0.6s,mb4.1						
STKA	**Stephens Creek**	**56.14**	**180**	P	**P**	**10 43 28.6**	**-0.5**
	1.1nm,0.5s,mb4.1,baz=360,slow=8.1,SNR=7.9						
FORT	**Forrest**	**56.53**	**194**	*eP*	**P**	**10 43 32.2**	**+0.4**
	4.3nm,0.3s,mb5.0						
UCH	**Uchtor**	**57.22**	**306**	*eP*	**P**	**10 43 39.4**	**+2.7**
	3.0nm,0.6s,mb4.5						
AML	**Almayashu**	**57.84**	**306**	*eP*	**P**	**10 43 41.9**	**+0.9**
	1.9nm,0.6s,mb4.3						
INK	**Inuvik**	**65.56**	**24**	P	**P**	**10 44 32.9**	**+0.5**
INK				*eP*		10 44 33.0	
INK	**Inuvik**	**65.56**	**24**	P	**P**	**10 44 32.9**	**+0.5**
	1.1nm,0.4s,mb4.1,baz=284,slow=7.4,SNR=34						
YKA	**Yellowknife Ar**	**74.64**	**28**	P	**P**	**10 45 28.1**	**+0.3**
	0.6nm,0.4s,mb3.7,baz=295,slow=6.0,SNR=37						
ARCES	**ARCESS Array B**	**75.70**	**341**	P	**P**	**10 45 33.3**	**-0.6**
	0.9nm,0.5s,mb3.8,baz=67,slow=8.4,SNR=12						
FINES	**FINESS Array B**	**79.92**	**334**	P	**P**	**10 45 55.9**	**-1.5**
	0.8nm,0.3s,mb4.0,baz=66,slow=5.2,SNR=11						
NVAR	**Mina Array Bea**	**82.56**	**51**	P	**P**	**10 46 12.4**	**+0.7**
	0.8nm,0.7s,mb3.6,baz=289,slow=5.5,SNR=3.3						
PDAR	**Pinedale Array**	**86.43**	**44**	P	**P**	**10 46 30.9**	**-0.3**
	0.4nm,0.8s,mb3.4,baz=270,slow=7.3,SNR=3.5						
PLCA	**Paso Flores**	**148.79**	**129**	PKPbc	PKPbc	10 53 36.7	+1.2
	1.1nm,0.7s,baz=252,slow=3.2,SNR=3.4						
LPAZ	**La Paz**	**151.08**	**79**	PKPbc	PKPbc	10 53 42.9	+1.1
	0.7nm,0.4s,baz=326,slow=3.6,SNR=8.3						

*CSEM **24** 10:34:26.2±1.3, 3866N×2907W, h6km±9km, ML4.0, Error ellipse: s-maj=12.0km s-min=5.4km az=80.0, After PDA*

*PDA **24** 10:34:26.2±1.3, 3866N×2907W, h6km±9km, MD4.0, ML4.0, Error ellipse: s-maj=12.0km s-min=5.4km az=80.0*

SVSA 24 10:34:26.2±1.3, 3866N×2907W, h6km±9km, MD4.0, ML4.0, Error ellipse: s-maj=12.0km s-min=5.4km az=80.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CALA	**Caldeira**	**0.30**	**104**	*i P*	Pg	10 34 31.6	-0.4
HOR	**Horta**	**0.37**	**110**	*i P*	Pg	10 34 32.6	-0.7
HOR				*eS*	Sg	10 34 37.7	-0.5
HOR	**Horta**	**0.37**	**110**	*eS*	Sg	10 34 37.7	-0.5
PICO	**Pico**	**0.53**	**107**	*i P*	Pg	10 34 35.5	-0.9
ROSA	**Rosais**	**0.65**	**84**	*eP*	Pg	10 34 37.1	-1.6
ROSA				*eS*	Sg	10 34 45.3	-1.9
PMAN	**Manadas**	**0.77**	**91**	*eP*	Pg	10 34 38.5	-2.5
PMAN				*eS*	Sg	10 34 48.2	-2.8
PMAN				A		10 34 49.0	
	5μm,0.4s						
PMAN	**Manadas**	**0.77**	**91**	*eP*	Pg	10 34 38.5	-2.5
PMAN				*eS*	Sg	10 34 48.2	-2.8
SRBC	**Serra Branca**	**0.89**	**64**	*eP*	Pg	10 34 40.3	-3.0
SRBC				*eS*	Sg	10 34 51.5	-3.4
PGRA	**Graciosa**	**0.93**	**66**	*i P*	Pg	10 34 40.7	-3.4
PGRA				*i S*	Sg	10 34 51.5	-4.6
PGRA				A		10 34 55.2	
	3μm,0.4s						
PSCM	**Serra do Cume**	**1.53**	**88**	*eP*	Pn	10 34 49.0	-5.1
PSCM				*eS*	Sn	10 35 06.5	-7.8
PSCM				A		10 35 13.5	
	760nm,0.3s						
PSCM	**Serra do Cume**	**1.53**	**88**	*eP*	Pn	10 34 49.0	-5.1
PSCM				*eS*	Sn	10 35 06.5	-7.8
PSET	**Sete Cidades**	**2.77**	**106**	*eP*	Pn	10 35 06.9	-4.2
PSET				*eS*	Sn	10 35 36.8	-8.0
PSET				A		10 35 41.2	
	198nm,0.4s						
PSET	**Sete Cidades**	**2.77**	**106**	*eP*	Pn	10 35 06.9	-4.2
PSET				*eS*	Sn	10 35 36.8	-8.0
PDA	**Ponta Delgada**	**2.83**	**108**	*eS*	Sn	10 35 38.0	-8.5
CMLA	**Cha da Macela**	**2.93**	**107**	*eP*	Pn	10 35 09.4	-4.0
CMLA				*eS*	Sn	10 35 40.8	-8.1
CMLA				A		10 35 47.5	
	142nm,0.5s						
CMLA	**Cha da Macela**	**2.93**	**107**	*eP*	Pn	10 35 09.4	-4.0
CMLA				*eS*	Sn	10 35 40.8	-8.1
PSMN	**Pico do Norte,**	**3.58**	**116**	*eP*	Pn	10 35 17.3	-4.9
PSMN				*eS*	Sn	10 35 54.9	-10

IDC 24 10:45:35.0±2.7, 2117S×16839E, h0km, mb3.9/4, mb1 4.0/4, mb1mx3.9/13, mbtmp3.9/4, MS3.5/4, Ms1 3.5/4, ms1mx3.1/18, Error ellipse: s-maj=112.3km s-min=31.7km az=144.0, Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**2.02**	**243**	*eP*	Pn	10 46 10.7	+0.3
DZM				*eS*	Sn	10 46 37.4	+1.0
RAO	**Raoul Island**	**14.76**	**126**	LR	LR	10 53 03.8	
	comp=Z,309nm,20.8s,baz=130,slow=30						
CTA	**Charters Tower**	**20.75**	**269**	LR	LR	10 57 03.3	
	comp=Z,139nm,19.9s,baz=324,slow=33						
STKA	**Stephens Creek**	**26.18**	**240**	*eP*	P	10 51 13.1	+1.8
	4.3nm,1.1s						
STKA	**Stephens Creek**	**26.18**	**240**	P	P	10 51 11.7	+0.4
	1.7nm,0.7s,baz=101,slow=9.0,SNR=4.2						
STKA				LR	LR	11 01 10.8	
	comp=Z,101nm,18.9s,baz=25,slow=36						
RAR	**Rarotonga**	**29.66**	**96**	LR	LR	11 01 41.8	
	comp=Z,42nm,19.2s,baz=229,slow=33						
WRA	**Warramunga Arr**	**31.88**	**266**	P	P	10 52 01.7	-0.5
	2.2nm,1.0s,baz=96,slow=8.4,SNR=5.4						
ASAR	**Alice Springs**	**31.94**	**259**	P	P	10 52 02.8	+0.1
	1.4nm,0.7s,baz=83,slow=9.2,SNR=18						
FITZ	**Fitzroy Crossi**	**40.30**	**267**	*eP*	P	10 53 14.9	+0.6
	12nm,1.0s						
SONM	**Songino Array**	**88.29**	**323**	P	P	10 58 28.9	+0.6
	0.2nm,0.5s,baz=108,slow=4.8,SNR=3.8						
ARCES	**ARCESS Array B**	**126.72**	**345**	PKP	PKPdf	11 04 39.0	-0.8
	1.8nm,0.8s,baz=339,slow=5.2,SNR=4.2						
EKA	**Eskdalemuir Ar**	**145.30**	**352**	PKPbc	PKPbc	11 05 13.3	-0.9
	5.2nm,0.9s,baz=354,slow=3.4,SNR=12						
GERES	**GERESS Array B**	**145.78**	**330**	PKPbc	PKPbc	11 05 15.7	-0.2
	0.6nm,0.5s,baz=42,slow=4.2,SNR=5.0						
GIVF	**Givet**	**148.34**	**340**	*e*PKP1	PKPbc	11 05 23.1	-0.1
CDF	**Champ du Feu**	**148.88**

TACH	Talagante	2.24 154	⇑ *i*P	Pn	10 52 50.1	+1.2
FCH	Farellones	2.28 138	*e*P	Pn	10 52 51.5	+2.0
FCH			*i* S	Sn	10 53 20.6	+4.1
FCH			AML	AML	10 53 29.4	
	comp=E,106nm,0.1s					
LNV	Longovilo	2.39 166	*e*P	Pn	10 52 51.6	+0.7
LMEL	Las Melosas	2.73 145	⇓ *i*P	Pn	10 52 57.7	+2.1
LMEL			*i* S	Sn	10 53 30.3	+2.8
LMEL	Las Melosas	2.73 145	⇓ *i*P	Pn	10 52 57.7	+2.1
LMEL			*i* S	Sn	10 53 30.3	+2.8
LMEL			AML	AML	10 53 44.6	
	comp=N,108nm,0.2s					
CACH	El Canelo	2.78 153	*e*P	Pn	10 52 59.0	+2.6
CACH			*e*S	Sn	10 53 32.8	+4.0
CICH	Cipreses	3.03 153	*e*P	Pn	10 53 01.7	+1.9

GII 24 11:12:06.4±0.0, 3194N×3606E, h0km, ML1.8/1, Dead Sea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HMDT	Nahal Hemdat	0.55	305	Pg	Pg	11 12 16.9	0.0
HMDT				Sg	Sg	11 12 24.6	+0.5
MMLI	Mount Malkishu	0.74	313	Pg	Pg	11 12 21.4	+0.9
MMLI				Sg	Sg	11 12 30.9	+0.9
MMA2	Mount Meron ar	1.21	333	Sg	Sg	11 12 46.2	+1.1
MMA1	Mount Meron ar	1.21	333	Sg	Sg	11 12 46.5	+1.1
MMA4	Mount Meron ar	1.21	333	Pg	Pg	11 12 29.7	+0.1
MMA4				Sg	Sg	11 12 46.0	+0.7
KSDI	Kefar Szold	1.29	345	Pg	Pg	11 12 30.4	-0.8
KSDI				Sg	Sg	11 12 50.0	+2.0
ZFRI	Zfri	1.57	209	Pg	Pg	11 12 27.6	-9.0
KZIT	Kziot	1.76	235	Pn	Pg	11 12 39.9	-0.2
KZIT				Sn	Sg	11 12 59.0	-3.8
PRNI	Paran	1.82	210	Pg	Pg	11 12 31.8	-10
KRMI	Paran Flat	2.15	213	Pn	Pn	11 12 37.2	-6.2
KRMI				Sn	Sn	11 12 54.2	-17
EIL	Elat	2.46	203	Pn	Pn	11 12 39.5	-8.2
EIL				Sn	Sn	11 12 59.5	-19

CSEM ***24*** *11:13:17.7, 44.17N×4188E, h10km, mb3.8, After OBN TIF* ***24*** *11:13:18.4, 44.07N×4209E, h8km±4km*

MOS 24 11:13:17.7±2.4, 4417N×4188E, h10km, mb3.8/1, 3C, Error ellipse: s-maj=20.2km s-min=8.3km az=39.1, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIV	Kislovodsk	0.62	110	⇑ *i*PG	Pg	11 13 28.0	-1.7
SHAR	Shatzhatmas	0.71	127	⇑ *i*PG	Pg	11 13 29.5	-2.0
SHAR				*i* S	Sg	11 13 37.5	-3.3
PYA	Pyatigorsk	0.86	99	⇑ *e*PG	Pg	11 13 32.4	-1.9
PYA				*e*S	Sg	11 13 43.0	-2.5
KUBR	Kubataba	1.17	108	*e*Pg	Pg	11 13 37.8	-2.3
KUBR				*e*Sg	Sg	11 13 52.4	-2.9
DIGR	Digorskoe uzhe	1.78	135	*i* Pn	Pn	11 13 48.7	+0.3
KMSR	Komsomolskaya	1.92	114	*e*Pn	Pn	11 13 55.1	+4.6
KMSR				*e*Sg	Sg	11 14 19.8	+0.3
KORR	Kora	1.93	124	*e*Pn	Pn	11 13 53.6	+3.1
ONI	Oni	1.96	144	P	Pn	11 13 53.4	+2.4
ONI				S	Sn	11 14 17.5	+1.8
ARNR	Ardon	2.00	119	*e*PN	Pn	11 13 55.2	+3.7
ARNR				*e*S	Sn	11 14 20.4	+3.8
ZEI	Tsey	2.03	133	*i* Pn	Pn	11 13 53.2	+1.2
BTKR	Batakoyurt	2.09	112	*e*Pn	Pn	11 13 57.5	+4.8
BTKR				*e*Sb	Sb	11 14 24.4	+2.8
LACR	Lac	2.22	127	*i* Pn	Pn	11 13 57.2	+2.7
LACR				*i* Sn	Sn	11 14 24.1	+2.2

IDC ***24*** *11:13:22.0±1.7, 1304N×8707W, h0km, mb3.1/3, mb1 3.5/4, mb1mx3.4/21, mbtmp3.1/4, ML2.6/1, MS2.9/1, Ms1 2.9/1, ms1mx2.3/17, Error ellipse: s-maj=147.5km s-min=17.1km az=54.0*

ISCJB ***24*** *11:13:23.8±1.5, 121N±0.1×8799W±0.10, h57km±18km, mb3.1/3, Error ellipse: s-maj=18.4km s-min=13.8km az=36.8*

CASC ***24*** *11:13:24.6±1.8, 1213N×8795W, h29km±19km, MD3.9*

ISC 24 11:13:24.6±1.5, 121N±01×8800W±009, h44km±22km, n25, σ0°78/23, mb3.1/3, 3C-7D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNCH	Conchagua	1.16	8	⇓ *e*P	x	11 14 09.1	
CNCH				*e*S	x	11 14 25.4	
TEL3	Telica 3	1.21	68	*e*P	Pn	11 13 44.4	-0.7
CNGN	Cerro Negro	1.32	73	*e*P	Pn	11 13 46.1	-0.6
CNGN				*e*S	Sn	11 14 02.3	-0.8
VSM	San Miguel	1.33	348	⇓ *e*P	x	11 14 12.7	
VSM				*e*S	x	11 14 30.6	
BLLM	Bellamira	1.33	350	⇓ *e*P	x	11 14 12.1	
BLLM				*e*S	x	11 14 30.0	
COPN	Copaltepe	1.38	87	*e*P	Pn	11 13 47.1	-0.3
COPN				*e*S	Sn	11 14 04.5	+0.1
MOMJ	Momotombo	1.45	79	*e*P	Pn	11 13 47.5	-0.9
MOMJ				*e*S	Sn	11 14 06.4	+0.1
CSAN		1.54	88	*e*P	Pn	11 13 49.5	-0.2
CSAN				*e*S	Sn	11 14 09.2	+0.7
APYN	Apoyeque	1.62	86	⇑ *e*P	Pn	11 13 50.6	-0.1
APYN				*e*S	Sn	11 14 10.9	+0.6
CAHU	Cacacuatique	1.65	353	⇓ *e*P	x	11 14 17.2	
CAHU				*e*S	x	11 14 39.3	
TISN	Laguna Tiscapa	1.69	89	*e*P	Pn	11 13 51.9	+0.2
TISN				*e*S	Sn	11 14 12.3	+0.1
SNVI	San Vicente	1.69	331	*e*P	x	11 14 20.0	
SNVI				*e*S	x	11 14 41.9	
MGAN	Managua	1.71	89	⇓ *e*P	Pn	11 13 52.2	+0.2
MGAN				*e*S	Sn	11 14 13.6	+0.8
HUEN		1.80	83	*e*P	Pn	11 13 53.5	+0.3
HUEN				*e*S	Sn	11 14 15.4	+0.6
LCBS	La Ceiba	1.80	328	⇑ *e*P	x	11 14 18.8	
LCBS				*e*S	x	11 14 41.3	
LFRS	El Faro	1.82	325	⇓ *e*P	x	11 14 18.7	
LFRS				*e*S	x	11 14 43.3	
SNET	Serv Nac Est T	1.97	322	⇑ *e*P	x	11 14 12.9	
SNET				*e*S	x	11 14 36.7	
BOQS	Boqueron	2.03	322	⇓ *e*P	x	11 14 23.1	
BOQS				*e*S	x	11 14 48.3	
BOAB	BOACO BROADBAN	2.30	82	*e*P	Pn	11 13 59.6	-0.5
JTS	JuntasAbangare	3.50	121	Pn	Pn	11 14 18.0	+1.4
	0.6nm,0.3s,baz=315,slow=20,SNR=3.1						
JTS				Sn	Sn	11 14 55.5	-1.2
	0.8nm,0.3s,baz=294,slow=20,SNR=2.9						
JTS				Lg		11 15 10.0	
	0.5nm,0.3s,baz=330,slow=20,SNR=2.7						
CHI2		15.94	117	*e*P	Px	11 13 42.3	
SDV	Santo Domingo	17.37	99	LR	LR	11 22 50.9	
	comp=Z,46nm,20.3s,baz=339,slow=34						
TXAR	Lajitas Array	22.49	322	P	P	11 18 22.3	+1.9
	1.0nm,0.7s,mb3.3,baz=136,slow=12,SNR=12						
PDAR	Pinedale Array	35.81	332	P	P	11 20 20.0	+0.2
	0.1nm,0.4s,mb3.1,baz=138,slow=9.6,SNR=2.3						
YKA	Yellowknife Ar	53.79	345	P	P	11 22 40.9	-1.6
	0.1nm,0.7s,mb2.9,baz=148,slow=6.9,SNR=4.5						

ISCJB ***24*** *11:19:49.9±1.0, 2993N±003×3645E±006, h0km, Error ellipse: s-maj=7.5km s-min=4.0km az=14.8*

GII ***24*** *11:19:52.3±0.9, 2991N×3630E, h0km, ML2.1/3*

CSEM ***24*** *11:19:53.9±0.4, 2978N×3622E, h2km, ML2.1, Error ellipse: s-maj=7.6km s-min=5.4km az=90.0, Mining explosion.*

SGS ***24*** *11:19:54.2, 3001N×3619E, h7km*

ISC 24 11:19:50.8±1.0, 2988N±003×3644E±006, h0km, n16, σ0°89/27, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HRFI	Mount Harif	1.23	278	Pg	Pg	11 20 13.7	-0.6
HRFI				Sg	Sg	11 20 30.4	+0.2
EIL	Elat	1.31	261	Pg	Pg	11 20 15.9	0.0
EIL				Sg	Sg	11 20 33.5	+0.6
PRNI	Paran	1.33	291	Pg	Pg	11 20 16.1	-0.1
PRNI				Sg	Sg	11 20 33.4	-0.1
HQLS		1.33	245	P	Pg	11 20 15.8	-0.6
HQLS		1.33	245	P	Pg	11 20 15.8	-0.5
HQLS				S	Sg	11 20 31.8	-1.8
JLOS		1.41	216	P	Pn	11 20 18.5	+0.8
JLOS				S	Sg	11 20 36.6	+0.5
KRMI	Paran Flat	1.50	279	Pn	Pn	11 20 19.1	+0.1
KRMI				Sn	Sn	11 20 38.9	-0.4
MZDA	Masada	1.70	327	Pn	Pn	11 20 23.6	+1.9
MZDA				Sn	Sn	11 20 44.9	+0.8
YTIR	Yattir	1.86	323	Pn	Pg	11 20 26.4	-0.1
DSI	Dead Sea	1.91	332	Pn	Pg	11 20 27.2	-0.2
DSI				Sn	Sg	11 20 55.0	+2.7
KZIT	Kziot	2.04	301	Pn	Pn	11 20 27.4	+1.0
KZIT				Sn	Sn	11 20 53.2	+0.7
RSHS		2.13	223	P	Pn	11 20 27.8	+0.1
HMDT	Nahal Hemdat	2.49	342	Pn	Pg	11 20 37.4	-1.1
HMDT				Sn	Sg	11 21 09.7	-1.1
MMLI	Mount Malkishu	2.69	341	Pn	Pg	11 20 41.4	-1.0
MMLI				Sn	Sg	11 21 17.4	+0.1
MMC6	Mount Meron ar	3.25	344	Pn	Pg	11 20 52.0	-1.0

IDC 24 11:33:04.8±1.7, 1562S×17518W, h0km, mb4.0/7, mb1 4.3/7, mb1mx4.1/15, mbtmp4.0/7, Error ellipse: s-maj=143.3km s-min=19.8km az=149.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	42.45	240	P	P	11 41 01.6	0.0
	1.5nm,0.5s,baz=98,slow=7.7,SNR=6.1						
WRA	Warramunga Arr	48.13	257	P	P	11 41 46.8	-0.1
	1.0nm,0.4s,baz=92,slow=7.0,SNR=43						
ASAR	Alice Springs	48.41	252	P	P	11 41 49.1	0.0
	5.0nm,0.5s,baz=88,slow=8.1,SNR=124						
NVAR	Mina Array Bea	75.64	43	P	P	11 44 53.2	+1.3
	1.1nm,0.7s,baz=230,slow=9.9,SNR=7.6						
TXAR	Lajitas Array	82.16	57	P	P	11 45 27.8	-0.1
	0.3nm,0.7s,baz=226,slow=6.8,SNR=3.7						
PDAR	Pinedale Array	83.58	42	P	P	11 45 34.6	-0.3
	0.8nm,0.6s,baz=200,slow=3.2,SNR=6.7						
YKA	Yellowknife Ar	90.98	24	P	P	11 46 10.0	-0.3
	0.1nm,0.6s,baz=233,slow=4.6,SNR=5.8						

IDC 24 11:33:60.0±1.6, 2891N×4317W, h0km, mb3.7/7, mb1 3.9/7, mb1mx3.7/25, mbtmp3.7/7, MS3.6/12, Ms1 3.6/12, ms1mx3.4/28, Error ellipse: s-maj=69.2km s-min=24.0km az=14.0, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBTS	Babate	28.42	114	LR	LR	11 48 11.9	
	comp=Z,163nm,19.9s,baz=272,slow=30						
SCHQ	Schefferville	31.04	333	LR	LR	11 51 21.1	
	comp=Z,77nm,21.3s,baz=25,slow=34						
SDV	Santo Domingo	32.59	238	LR	LR	11 51 41.8	
	comp=Z,75nm,18.9s,baz=145,slow=33						
MDT	Midelt	33.20	73	LR	LR	11 50 32.9	
	comp=Z,135nm,21.1s,baz=310,slow=30						
ESDC	Sonseca Array	33.89	61	LR	LR	11 52 37.7	
	comp=Z,50nm,18.9s,baz=215,slow=33						
DBIC	Dimbokro	42.37	114	LR	LR	11 56 48.3	
	comp=Z,124nm,18.7s,baz=272,slow=32						
TORD	Torodi Ar. Bea	44.44	101	P	P	11 42 12.4	-0.5
	2.4nm,1.1s,baz=292,slow=7.3,SNR=6.2						
TORD				LR	LR	11 58 16.6	
	comp=Z,104nm,19.9s,baz=325,slow=33						
LPAZ	La Paz	51.00	211	LR	LR	12 02 00.1	
	comp=Z,41nm,21.9s,baz=113,slow=33						
TXAR	Lajitas Array	52.31	286	P	P	11 43 14.1	+0.6
	0.5nm,0.8s,baz=80,slow=9.0,SNR=6.0						
TXAR				LR	LR	12 03 10.3	
	comp=Z,75nm,19.1s,baz=355,slow=34						
PDAR	Pinedale Array	54.27	304	P	P	11 43 28.0	+0.2
	1.4nm,0.9s,baz=79,slow=7.7,SNR=7.7						
PDAR				LR	LR	12 06 04.2	
	comp=Z,90nm,19.0s,baz=206,slow=36						
MLR	Muntele Rosu	55.83	53	LR	LR	12 06 13.4	
	comp=Z,66nm,19.4s,baz=280,slow=35						
YKA	Yellowknife Ar	56.25	328	P	P	11 43 41.0	-0.7
	0.3nm,0.8s,baz=85,slow=7.6,SNR=6.7						
YKA				PcP	PcP	11 44 38.6	-0.7
	0.2nm,0.8s,baz=88,slow=5.3,SNR=4.2						
YKA				LR	LR	12 07 52.5	
	comp=Z,51nm,21.4s,baz=205,slow=36						
NVAR	Mina Array Bea	61.68	300	P	P	11 44 20.2	+0.3
	0.4nm,0.7s,baz=66,slow=4.4,SNR=3.2						
BVAR	Borovoye Array	80.12	34	P	P	11 46 12.2	+0.5
	0.4nm,0.6s,baz=270,slow=8.6,SNR=3.6						
MKAR	Makanchi Array	90.00	34	P	P	11 47 02.3	+0.9
	0.6nm,0.8s,baz=328,slow=5.2,SNR=3.8						

TEH ***24*** *11:37:49.7, 3409N×5714E, h10km, ML4.1*

IDC ***24*** *11:38:37.3±2.1, 3402N×5702E, h0km, mb3.6/5, mb1 3.8/7, mb1mx3.5/23, mbtmp3.8/7, ML3.4/2, MS3.5/3, Ms1 3.4/3, ms1mx2.8/25, Error ellipse: s-maj=51.8km s-min=23.2km az=150.0*

CSEM ***24*** *11:38:39.8±0.1, 3409N×5712E, h25km, ML4.1, Error ellipse: s-maj=1.4km s-min=1.1km az=164.0*

THR ***24*** *11:38:40.8±1.1, 3393N×5690E, h15km, ML3.7*

NEIC ***24*** *11:38:40.5, 3409N×5714E, h10km, mb3.9/2, MN4.1(TEH), After TEH.*

ISCJB ***24*** *11:38:41.7±0.4, 3412N±003×5708E±003, h36km±7km, mb3.8/8, MS3.7/2, Error ellipse: s-maj=5.8km s-min=4.7km az=175.6*

MOS ***24*** *11:38:43.7±2.1, 3431N×5725E, h33km, mb4.0/4, Error ellipse: s-maj=21.2km s-min=11.5km az=78.1*

ISC 24 11:38:42.5±1.8, 3411N±003×5711E±004, h28km±17km, n70, σ0°76/72, mb3.8/8, MS3.7/2, 2C-2D, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ITEG	Tejag	1.82	131	*e*Pn	Pn	11 39 11.3	-0.7
ITEG				*e*Sn	Sn	11 39 34.7	+0.6
IKOO	Kooshah	2.31	136	*e*Pn	Pn	11 39 18.0	-0.6
IMON	Monand	2.32	112	*e*Pn	Pn	11 39 18.8	0.0
IDAH	Dahanechah	2.68	120	*e*Pn	Pn	11 39 23.2	-0.5
IMOG	Moghan	2.71	42	*e*Pn	Pn	11 39 24.0	-0.1
IMOG				*e*		11 40 17.7	
	comp=Z,2μm,0.3s						
IAKL	Akhelmad	2.79	28	Pn	Pn	11 39 25.1	-0.2
IAKL	Akhelmad	2.79	28	*e*Pn	Pn	11 39 25.2	-0.1
IAKL				*e*		11 40 13.0	
	comp=Z,4μm,0.2s						
IPAY	Payeh	2.80	33	Pn	Pn	11 39 24.9	-0.5
IPAY				Sn	Sn	11 39 58.5	+0.3
IPAY	Payeh	2.80	33	*e*Pn	Pn	11 39 25.0	-0.4
IPAY				*e*Sn	Sn	11 39 58.5	+0.3
IPAY				*e*		11 40 10.3	
	comp=Z,4μm,0.2s						
IPAY	Payeh	2.80	33	*e*Pn	Pn	11 39 25.0	-0.4
IPAY				*e*Sn	Sn	11 39 58.5	+0.3
IBAF	Bafgh	2.83	208	Pn	Pn	11 39 25.1	-0.7
IBAF	Bafgh	2.83	208	*e*Pn	Pn	11 39 25.2	-0.6
IBAF				*e*		11 40 12.9	
	comp=Z,9μm,0.3s						
IKRD	Kardeh	2.90	23	*e*Pn	Pn	11 39 32.3	+5.6
IKRD				*e*		11 40 38.5	
	comp=Z,2μm,0.3s						
ICHK	Chekchek	2.93	231	Pn	Pn	11 39 26.9	-0.3
ICHK	Chekchek	2.93	231	*e*Pn	Pn	11 39 27.0	-0.2
IANJ	Anjilo	2.96	298	Pn	Pn	11 39 27.5	-0.1
IANJ	Anjilo	2.96	298	*e*Pn	Pn	11 39 27.6	0.0
IANJ				*e*		11 40 24.2	
	comp=Z,9μm,0.3s						
ISFR	Sfrayin	3.02	14	*e*Pn	Pn	11 39 28.6	+0.2
ISFR				*e*		11 40 09.5	
	comp=Z,4μm,0.3s						
IMYA	Miami	3.31	47	*e*Pn	Pn	11 39 32.2	-0.2
IMYA				*e*		11 39 45.7	
	comp=Z,2μm,0.5s						
IMEH	Mehriz	3.43	219	*e*Pn	Pn	11 39 34.1	0.0
IMEH				*e*		11 39 45.7	
	comp=Z,8μm,0.5s						
ISHV	Shirvan	3.45	8	*e*Pn	Pn	11 39 34.8	+0.5
ISHV				*e*		11 40 39.7	
	comp=Z,3μm,0.4s						
IEMG	Emamgholi	3.52	20	Pn	Pn	11 39 35.3	0.0
IEMG	Emamgholi	3.52	20	*e*Pn	Pn	11 39 35.4	+0.1
IEMG				*e*		11 39 50.6	
	comp=Z,1μm,0.2s						
ISHM	Shahmirzad	3.56	299	*e*Pn	Pn	11 39 36.5	+0.6
ISHM				*e*		11 40 42.4	
	comp=Z,8μm,0.2s						
MRVT	Maraveh tapeh	3.64	347	*e*Pn	Pn	11 39 41.0	+4.1
MRVT				AML	AML	11 40 47.7	
	comp=N,46nm,0.2s						
MRVT				AML	AML	11 40 51.8	
	comp=E,72nm,0.6s						
ILAS	Lasjerd	3.65	292	*e*Pn	Pn	11 39 36.9	-0.1
ILAS				*e*		11 40 48.5	
	comp=Z,6μm,0.3s						
NASN	Na'in	3.83	251	*e*Pn	Pn	11 39 39.2	-0.3
NASN				AML	AML	11 40 53.6	
	comp=E,140nm,0.6s						
NASN				AML	AML	11 40 55.7	
	comp=N,143nm,0.3s						
IFIR	Firoozkooh	3.90	294	Pn	Pn	11 39 40.1	-0.3
IFIR	Firoozkooh	3.90	294	*e*Pn	Pn	11 39 40.2	-0.2
IFIR				*e*		11 40 48.9	
	comp=Z,3μm,0.2s						
ISFB	Sefidab	4.05	275	*e*Pn	Pn	11 39 42.1	-0.4
ISFB				*e*		11 40 56.8	
	comp=Z,3μm,0.2s						
IDMV	Damavand	4.43	291	Pn	Pn	11 39 47.5	-0.2
IDMV	Damavand	4.43	291	*e*Pn	Pn	11 39 47.6	-0.1
IDMV				*e*		11 41 18.5	
	comp=Z,2μm,0.3s						
DAMV	Damavand	4.49	291	*e*Pn	Pn	11 39 48.8	+0.2
DAMV				AML	AML	11 41 10.8	
	comp=E,203nm,0.7s						
DAMV				AML	AML	11 41 18.8	
	comp=N,122nm,0.5s						
IGAR	Gharneh	4.52	247	*e*Pn	Pn	11 39 49.6	+0.6
IGAR				*e*		11 41 11.2	
	comp=Z,2μm,0.2s						
IKLH	Kolahrood	4.68	262	Pn	Pn	11 39 52.7	+1.5
IKLH	Kolahrood	4.68	262	*e*Pn	Pn	11 39 52.8	+1.6
IKLH				*e*		11 41 23.5	
	comp=Z,2μm,0.3s						
IAFJ	Afjeh	4.76	293	Pn	Pn	11 39 52.4	0.0
IAFJ	Afjeh	4.76	293	*e*Pn	Pn	11 39 52.5	+0.1
IAFJ				*e*		11 41 14.9	
	comp=Z,2μm,0.2s						
GHVR	GHOM	4.83	276	*e*Pn	Pn	11 39 53.8	+0.6
CHTH	Charan	5.23	292	*e*Pn	Pn	11 39 59.0	+0.2
IPIR	Pirpir	5.39	256	*e*Pn	Pn	11 40 05.0	+4.0
IPIR				*e*		11 41 42.4	
	comp=Z,2μm,0.5s						
ZHSF	Zahedan	5.46	144	*e*Pn	Pn	11 40 03.2	+1.2
ASAO	Ashtian	5.88	276	*e*Pn	Pn	11 40 07.6	-0.1
IRAZ	Razeghan	6.05	284	*e*Pn	Pn	11 40 10.0	-0.1
IRAZ				*e*		11 42 04.1	
	comp=Z,987nm,0.3s						
KIV	Kislovodsk	14.89	316	*e*P	Pn	11 42 15.3	+4.3
KIV				pmax	pmax		
	comp=Z,5.0nm,0.8s						
KIV				MLR	MLR		
	comp=Z,17nm,9.0s						
UCH	Uchtor	15.89	54	*e*P	Pn	11 42 28.2	+4.2
	comp=Z,8.1nm,1.2s						
AAK	Ala-Archa	16.05	53	⇑ *e*P	Pn	11 42 22.6	-3.5
AAK				pmax	pmax		
	comp=Z,6.0nm,1.7s						
AAK	Ala-Archa	16.05	53	Pn	Pn	11 42 24.6	-1.5
	comp=Z,0.6nm,0.3s,baz=222,slow=5.5,SNR=8.4						
AKTK	Aktyubinsk	16.33	2	P	Pn	11 42 28.2	-1.4
AKTO	Aktyubinsk	16.33	2	Pn	Pn	11 42 28.2	-1.4
	comp=Z,0.1nm,0.3s,baz=176,slow=14,SNR=2.8						
EIL	Elat	19.32	263	LR	LR	11 51 44.0	
	comp=Z,50nm,20.1s,baz=103,slow=41						
BRVK	Borovoye	21.15	22	*e*P	P	11 43 25.3	+0.3
BRVK				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb3.9						
BRVK	Borovoye	21.15	22	*e*P	P	11 43 25.3	+0.3
	comp=Z,5.0nm,0.8s,mb3.9						
BVAR	Borovoye Array	21.15	23	P	P	11 43 24.9	-0.2
BVAR				pmax	pmax		
	comp=Z,7.0nm,0.7s						
BVAR	Borovoye Array	21.15	23	P	P	11 43 24.9	-0.2
	comp=Z,6.6nm,0.7s,mb4.1,baz=204,slow=11,SNR=45						
ARU	Arti	22.35	2d	*i*P	P	11 43 40.1	+2.3
ARU				*e*		11 44 05.1	
ARU				*e*PPP		11 44 15.3	
ARU				*e*SS		11 48 18.7	
ARU				pmax	pmax		
	comp=Z,4.0nm,0.5s,mb4.1						
KURK	Kurchatov	22.84	37	*i* P	P	11 43 43.7	+0.6
MK31	Makanchi Array	22.86	49	*e*P	P	11 43 45.0	+1.6
MK31	Makanchi Array	22.86	49	*e*P	P	11 43 45.0	+1.6
MKAR	Makanchi Array	22.86	49	P	P	11 43 44.1	+0.7
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
MKAR	Makanchi Array	22.86	49	P	P	11 43 44.0	+0.7
	comp=Z,1.5nm,0.8s,mb3.5,baz=236,slow=8.6,SNR=7.4						
MKAR	Makanchi Array	22.86	49	P	P	11 43 44.0	+0.6
OBN	Obninsk	25.41	332	⇑ *e*P	P	11 44 07.1	-0.3
OBN				pmax	pmax		
	comp=Z,17nm,0.6s,mb4.8						
AKASG	Malin Array Be	26.22	318	P	P	11 44 14.1	-0.6
AKASG	Malin Array Be	26.22	318	P	P	11 44 14.1	-0.6
	comp=Z,0.3nm,0.3s,mb3.3,baz=126,slow=8.4,SNR=6.5						
TORD	Torodi Ar. Bea	54.20	261	P	P	11 48 04.3	-1.4
	comp=Z,0.3nm,0.5s,mb3.5,baz=55,slow=6.4,SNR=2.9						
TORD				LR	LR	12 14 05.2	
	comp=Z,30nm,18.6s,MS3.4,baz=280,slow=39						
SEY	Seymchan	62.52	31	⇓ *i*P	P	11 49 02.7	-0.4
BOSA	Boshof	69.28	210	LR	LR	12 22 32.3	
	comp=Z,88nm,18.5s,MS4.0,baz=24,slow=38						
YKA	Yellowknife Ar	83.50	356	*i* P	P	11 51 07.6	+0.3
YKA	Yellowknife Ar	83.50	356	P	P	11 51 06.5	-0.8
	comp=Z,0.1nm,0.5s,mb3.2,baz=2.9,slow=5.6,SNR=4.4						

BJI ***24*** *12:14:19.7, 767S×15588E, h10km, mB5.5, mb5.2, Ms5.0, Msz4.7*

ISCJB ***24*** *12:14:20.1±1.1, 777S±004×15564E±003, h6km±7km, mb5.4/95, MS4.8/47, Error ellipse: s-maj=6.4km s-min=5.5km az=28.6*

IDC ***24*** *12:14:20.1±0.4, 779S×15565E, h0km, mb5.1/16, mb1 5.2/17, mb1mx5.2/18, mbtmp5.1/17, ML3.9/2, MS4.7/18, Ms1 4.7/18, ms1mx4.6/23, Error ellipse: s-maj=17.3km s-min=13.1km az=70.0*

NEIC ***24*** *12:14:21.9±0.2, 779S×15567E, h10km, mb5.5/35, MS5.2/5, MW5.4, Error ellipse: s-maj=6.0km s-min=5.5km az=108.0, Moment Tensor Solution. s8 Moment tensor: Scale $

46nm,0.3s,baz=94,slow=19,SNR=3.1
HNR LR LR 12 17 05.4
comp=Z,11μm,20.6s,baz=339,slow=36
CTA Charters Tower 15.19 216⇑iP Pn 12 17 59.4 +1.4
53nm,1.0s
CTA Charters Tower 15.19 216 Pn Pn 12 17 56.1 -1.8
CTA ⇑iP 12 17 59.4
CTA Sn **Sn 12 20 54.5 +9.1**
CTA LR LR 12 23 13.2
CTA Charters Tower 15.19 216 P Pn 12 17 56.2 -1.8
CTA 12 20 54.5
CTA Charters Tower 15.19 216 Pn Pn 12 17 56.1 -1.8
0.1nm,0.3s,baz=52,slow=19,SNR=3.4
CTA Sn **Sn 12 20 54.5 +9.1**
0.2nm,0.3s,baz=75,slow=20,SNR=1.8
CTA LR LR 12 23 13.2
comp=Z,4μm,19.0s,baz=38,slow=35
CTAO Charters Tower 15.19 216 ePn Pn 12 17 59.6 +1.7
594nm,1.9s
CTAO Charters Tower 15.19 216 eP Pn 12 17 59.6 +1.6
CTAO pmax pmax
comp=Z,590nm,1.9s
ARMA Armidale 22.78 189 eP P 12 19 26.1 +0.5
KAKA Kakadu 23.30 256⇓iP P 12 19 31.0 -0.3
comp=Z,70nm,0.7s,mb5.2
GUMO Guam 23.80 333 LR LR 12 27 28.3
comp=Z,1μm,21.6s,MS4.3,baz=145,slow=33
WRAB Tennant Creek 23.85 238 P **P 12 19 36.0 -0.4**
comp=Z,713nm,1.7s,mb5.8,SNR=27
WRAB Tennant Creek 23.85 238 eP P 12 19 35.9 -0.5
comp=Z,481nm,1.7s,mb5.7
WRAB Tennant Creek 23.85 238 eP P 12 19 35.9 -0.5
WRAB pmax pmax
comp=Z,480nm,1.7s,mb5.7
WB2 Warramunga Arr 23.86 237⇓iP P 12 19 36.6 +0.1
WB2 eS **S 12 23 55.0 +4.2**
WB2 Warramunga Arr 23.86 237 eP P 12 19 36.3 -0.1
WRA Warramunga Arr 23.87 238 P **P 12 19 36.3 -0.3**
WRA S **S 12 23 50.2 -0.7**
WRA Warramunga Arr 23.87 238 P **P 12 19 36.3 -0.3**
comp=Z,100nm,1.2s,mb5.1,baz=61,slow=9.6,SNR=90
WRA S **S 12 23 50.2 -0.7**
comp=Z,1.5nm,0.9s,baz=64,slow=17,SNR=2.4
WRA ScP ScP 12 27 00.8 +5.1
comp=Z,2.2nm,1.1s,baz=72,slow=3.1,SNR=4.9
WRA LR LR 12 28 24.4
comp=Z,968nm,20.4s,MS4.3,baz=55,slow=35
ASAR Alice Springs 26.10 230 P **P 12 19 56.2 -0.6**
comp=Z,25nm,0.9s,mb4.8,baz=61,slow=9.1,SNR=57
STKA Stephens Creek 27.26 207 eP P 12 20 07.9 +0.7
comp=Z,28nm,1.1s,mb4.7
STKA Stephens Creek 27.26 207 eP P 12 20 08.1 +0.9
STKA Stephens Creek 27.26 207 P **P 12 20 07.2 +0.1**
comp=Z,31nm,0.9s,mb4.8,baz=28,slow=12,SNR=13
STKA LR LR 12 30 51.3
comp=Z,4μm,18.2s,MS5.0,baz=24,slow=36
CNB Canberra Magne 27.95 191 eP P 12 20 13.5 +0.1
comp=Z,16nm,0.8s,mb4.7
FITZ Fitzroy Crossi 30.89 248⇓iP P 12 20 39.2 -0.5
comp=Z,37nm,0.9s,mb5.2
AFI Afiamalu 32.57 104 eP P 12 20 53.9 -0.6
comp=Z,71nm,0.8s,mb5.7
AFI Afiamalu 32.57 104 eP P 12 20 53.9 -0.6
AFI pmax pmax
comp=Z,71nm,0.9s,mb5.6
FORT Forrest 34.42 225 eP P 12 21 09.9 -0.5
comp=Z,74nm,0.8s,mb5.7
TAU Tasmania Unive 35.70 190 eP P 12 21 21.9 +0.7
comp=Z,98nm,1.4s,mb5.5
TAU eP 12 21 22.9
TAU Tasmania Unive 35.70 190 eP P 12 21 22.9 +1.7
TAU pmax pmax
comp=Z,67nm,1.1s,mb5.5
KAPI Kappang 35.73 272 P **P 12 21 21.1 -0.9**
comp=Z,386nm,1.0s,mb6.3,SNR=12
URZ Urewera 35.99 151 P **P 12 21 22.5 -1.3**
comp=Z,13nm,0.8s,mb4.9,baz=323,slow=2.7,SNR=11
URZ LR LR 12 34 29.2
comp=Z,2μm,19.0s,MS4.8,baz=151,slow=34
MBWA Marble Bar 37.07 245 eP P 12 21 33.2 -0.1
MBWA Marble Bar 37.07 245 P **P 12 21 33.1 -0.2**
SNR=6.5
MBWA Marble Bar 37.07 245 P **P 12 21 33.1 -0.2**
SNR=6.5
MBWA Marble Bar 37.07 245 P **P 12 21 33.1 -0.2**
SNR=6.5
SNZO South Karori 37.41 156 eP P 12 21 36.6 +0.7
comp=Z,507nm,2.1s,mb6.0
RPZ Rata Peaks 38.22 162 P **P 12 21 40.7 -1.9**
comp=Z,17nm,0.8s,mb4.8,baz=31,slow=1.6,SNR=11
RPZ LR LR 12 35 08.6
comp=Z,3μm,21.4s,MS5.0,baz=330,slow=33
MYLDM Lahad Datu 39.21 288⇓P P 12 21 53.2 +1.7
TSM Tawau 39.53 286⇑P P 12 21 55.9 +1.8
KKM Kota Kinabalu 41.64 288 eP P 12 22 13.1 +1.6
KKM Kota Kinabalu 41.64 288⇓P P 12 22 12.2 +0.7
KLBR Kellerberrin 42.43 231 eP P 12 22 16.7 -1.0
comp=Z,60nm,0.7s,mb5.3
NWAO Narrogin (SRO) 43.41 229 eP P 12 22 27.8 +2.1
comp=Z,76nm,1.4s,mb5.2
NWAO eP 12 22 27.9
NWAO Narrogin (SRO) 43.41 229 eP P 12 22 27.9 +2.2
NWAO pmax pmax
comp=Z,160nm,1.8s
MUN Mundaring 43.78 231 eP P 12 22 28.5 -0.2
BTM Bintulu 43.81 283⇑P P 12 22 31.0 +1.8
SBUM Sibu 44.47 282⇓P P 12 22 35.8 +1.4
RAR Rarotonga 45.03 112 P **P 12 22 38.7 -0.1**
comp=Z,23nm,0.8s,mb5.0,baz=160,slow=22,SNR=5.2
NACB Ninganchiao 45.97 315 eP P 12 22 49.2 +3.0
KSM Kuching 46.11 280 eP P 12 22 47.9 +0.4
KSM Kuching 46.11 280⇓P P 12 22 48.1 +0.5
YHNB Yeheng 46.44 315 eP P 12 22 50.5 +0.7
MJAR Matsushiro Arr 47.06 341 P **P 12 22 52.9 -1.6**
MJAR LR LR 12 40 20.2
MJAR Matsushiro Arr 47.06 341 P **P 12 22 52.9 -1.6**
comp=Z,67nm,0.8s,mb5.6,baz=164,slow=7.4,SNR=47
MJAR LR LR 12 40 20.2
comp=Z,697nm,21.4s,MS4.6,baz=200,slow=33
MAJO Matsushiro 47.06 341 eP P 12 22 52.9 -1.7
comp=Z,92nm,0.8s,mb5.8
MAJO Matsushiro 47.06 341 eP P 12 22 52.9 -1.6
MAJO pmax pmax
comp=Z,92nm,0.8s,mb5.8
MAT Matsushiro 47.06 341 P **P 12 22 52.5 -2.0**
MAT S **S 12 29 39.0 -5.7**
QZH Quanzhou 48.59 313 P **P 12 23 05.1 -1.5**
QZH eS **S 12 30 03.0 -3.7**
QZH AMB AMB
comp=Z,160nm,0.8s,mb6.1
QZH LR LR
comp=Z,1μm,17.0s,MS4.9
SSE Sheshan 50.83 321 P **P 12 23 24.4 +0.9**
SSE S **S 12 30 40.6 +2.7**
SSE XS sS 12 30 45.8 -6.8
SSE AMB AMB
comp=Z,57nm,0.8s,mb5.5
SSE AMB AMB
comp=Z,277nm,4.4s
SSE LR LR
comp=N,334nm,25.8s,MS4.5
SSE LR LR
comp=E,421nm,25.8s,MS4.5
KSRS Korea Array 51.95 332 P **P 12 23 31.3 -0.5**
comp=E,34nm,0.8s,mb5.3,baz=150,slow=8.6,SNR=34
KSRS LR LR 12 42 42.6
comp=E,669nm,20.9s,MS4.7,baz=44,slow=33
KS15 Wonju Array Si 51.96 332 eP P 12 23 31.6 -0.3
QIZ Qiongzhong 52.41 301 P **P 12 23 35.8 +0.3**
QIZ AP pP 12 23 39.0 -5.5
QIZ PP PP 12 25 34.8 +0.2
QIZ S **S 12 30 58.8 -1.2**
QIZ AMB AMB
comp=Z,226nm,7.3s
QIZ LR LR
comp=N,414nm,24.5s,MS4.6
QIZ LR LR
comp=E,487nm,23.9s,MS4.6
QIZ LR LR
comp=Z,1μm,26.5s,MS4.7
MYKOM Kota Tinggi 52.50 278⇓P P 12 23 36.5 +0.1
INCN Inchon 52.59 331 eP P 12 23 36.6 0.0
INCN Inchon 52.59 331 P **P 12 23 37.1 +0.6**
SNR=15
INCN Inchon 52.59 331 P **P 12 23 37.1 +0.6**
SNR=15
INCN Inchon 52.59 331 P **P 12 23 37.1 +0.6**
SNR=15
NJ2 Nanjing 52.94 320 eP P 12 23 39.8 +0.6
NJ2 AP pP 12 23 45.3 -2.9
NJ2 PP PP 12 25 41.4 +2.2
NJ2 S **S 12 31 07.0 +0.1**
NJ2 XS sS 12 31 15.0 -6.6
NJ2 AMB AMB
comp=Z,100nm,1.2s,mb5.6
NJ2 AMB AMB
comp=Z,640nm,4.6s
NJ2 LR LR
comp=N,690nm,16.8s,MS4.9
NJ2 LR LR
comp=E,540nm,17.6s,MS4.9
KGM Kluang 53.06 278⇓P P 12 23 41.3 +0.8
KTGM Kuala Trenggan 53.95 282⇑P P 12 23 47.8 +0.7
PPT Papeete 54.18 106 eLQ 12 37 15.9
comp=E,925nm,31.8s
PPT eLR LR 12 39 38.0
comp=E,1μm,22.8s,baz=274
PPT Papeete 54.18 106 eP P 12 23 49.0 +0.3
comp=E,44nm,1.4s,mb5.2
PPT eLQ 12 37 15.9
PPT Papeete 54.18 106 eP P 12 23 49.0 +0.3
PPT pmax pmax
comp=Z,44nm,1.4s
PPT Papeete 54.18 106 LR LR 12 41 16.4
comp=Z,855nm,18.9s,MS4.8,baz=271,slow=30
PAE Paea 54.18 106 eP P 12 23 49.5 +0.8
comp=Z,120nm,1.3s,mb5.7
PAE Paea 54.18 106 eP P 12 23 49.5 +0.8
PAE pmax pmax
comp=Z,120nm,1.3s,mb5.7
TVO Taravao 54.50 106 eP P 12 23 51.4 +0.4
comp=Z,90nm,1.2s,mb5.7
TVO Taravao 54.50 106 eP P 12 23 51.4 +0.4
TVO pmax pmax
comp=Z,91nm,1.2s,mb5.7
TBI Tubuai 54.79 113 eLQ 12 37 41.5
comp=Z,3μm,30.0s
TBI eLR LR 12 39 50.3
comp=Z,2μm,30.8s,baz=284
WHN Wuhan 54.96 316⇓P P 12 23 54.5 +0.5
WHN S **S 12 31 40.5 +6.3**
WHN LR LR
comp=Z,761nm,20.3s,MS4.8
FRIM Kepong 54.96 279⇑P P 12 23 54.1 -0.3
PMOR Pomariorio Ree 55.72 103 eP P 12 24 00.3 +0.5
comp=Z,314nm,1.4s,mb6.2
YSS Yuzh-Sakhalins 55.72 349 eP P 12 24 01.7 +2.5
comp=Z,83nm,0.8s,mb5.8
YSS Yuzh-Sakhalins 55.72 349⇑eP P 12 24 01.0 +1.8
YSS e*SP sP 12 24 07.0 -4.7
YSS ePPP 12 27 19.0
YSS eS **S 12 31 44.0 +0.1**
YSS eSS SS 12 35 25.0 -4.8
YSS eSSS 12 37 31.0
YSS pmax pmax
comp=Z,70nm,0.7s,mb5.8
YSS MLR MLR
comp=Z,1μm,20.0s,MS4.9
YSS MLR MLR
comp=N,1μm,16.0s
IPM Ipoh 55.81 281⇓P P 12 24 00.2 -0.3
VAH Vaihoa 55.98 103 eP P 12 24 01.8 +0.1
DL2 Dalian 56.19 328⇑P P 12 24 04.8 +2.1
DL2 XP sP 12 24 10.8 -4.5
DL2 S **S 12 31 52.0 +1.6**
DL2 SCS ScS 12 33 50.0 0.0
DL2 AMB AMB
comp=Z,60nm,0.8s,mb5.7
DL2 AMB AMB
comp=Z,230nm,3.6s
DL2 LR LR
comp=N,340nm,20.4s,MS4.5
DL2 LR LR
comp=E,280nm,24.7s,MS4.5
KULM Kulim 56.35 282 eP P 12 24 04.2 -0.2
KULM Kulim 56.35 282⇓P P 12 24 03.9 -0.4
MDJ Mudanjiang 57.23 338 P **P 12 24 10.3 +0.3**
MDJ AP pP 12 24 13.4 -5.7
MDJ PCP PcP 12 25 04.6 +0.4
MDJ PP PP 12 26 20.3 +2.9
MDJ SCP ScP 12 29 04.3 +2.2
MDJ PCS PcS 12 29 05.8 +0.8
MDJ S **S 12 32 08.6 +4.7**
MDJ SCS ScS 12 34 00.1 +2.8
MDJ AMB AMB
comp=Z,63nm,1.1s,mb5.6
MDJ LR LR
comp=E,311nm,21.5s,MS4.6
MDJ LR LR
comp=N,436nm,20.3s,MS4.6
MDJ LR LR
comp=Z,488nm,22.6s,MS4.5
MDJ Mudanjiang 57.23 338 eP P 12 24 09.8 -0.2
comp=Z,94nm,1.1s,mb5.7
SNY Shenyang 57.46 332⇑P P 12 24 11.1 -0.6
SNY S **S 12 32 02.5 -4.5**
SNY AMB AMB
comp=Z,32nm,1.7s,mb5.1
SNY AMB AMB
comp=Z,410nm,5.1s
SNY LR LR
comp=N,539nm,21.6s,MS4.7
SNY LR LR
comp=E,372nm,24.0s,MS4.7
SNY LR LR
comp=Z,552nm,22.8s,MS4.6
KKTK Khon Kaen 57.48 295 P **P 12 24 10.0 -2.3**
comp=Z,432nm,0.5s
CN2 Changchun 58.20 335 eP P 12 24 16.4 -0.4
CN2 eXP sP 12 24 23.4 -6.0
CN2 eS **S 12 32 15.9 -0.7**
CN2 AMB AMB
comp=Z,20nm,1.1s,mb5.1
CN2 AMB AMB
comp=Z,200nm,5.0s
CN2 LR LR
comp=N,510nm,22.0s,MS4.8
CN2 LR LR
comp=E,710nm,22.0s,MS4.8
CN2 LR LR
comp=Z,450nm,25.0s,MS4.5
GYA Guiyang 58.44 308⇓iP P 12 24 19.3 +0.4
GYA PCP PcP 12 25 11.9 +2.5
GYA SCP ScP 12 29 11.0 +3.1
GYA S **S 12 32 25.8 +5.4**
GYA SCS ScS 12 34 08.0 +1.0
GYA SS SS 12 36 17.4 +4.1
GYA AMB AMB
comp=Z,50nm,1.0s,mb5.5
GYA AMB AMB
comp=Z,150nm,6.5s
GYA LR LR
comp=N,1μm,16.1s,MS5.5
GYA LR LR
comp=E,2μm,17.0s,MS5.5
GYA LR LR
comp=Z,1μm,15.5s,MS5.2
HABR Khabarovsk 58.91 344⇓iP P 12 24 21.1 -0.6
HABR e*PP pP 12 24 30.2 -0.6
HABR e 12 25 09.0
HABR eS **S 12 32 26.0 +0.3**
HABR e*SS sS 12 32 39.9 -0.8
HABR e 12 34 03.9
HABR eSS SS 12 36 16.7 -3.2
HABR pmax pmax
comp=Z,222nm,1.7s,mb5.9
NST Nakhon Sawan 59.70 293 P **P 12 24 26.0 -1.7**
comp=Z,87nm,0.8s,mb5.8
BJT Baijiatuau 59.94 326 eP P 12 24 30.4 +1.5
comp=Z,30nm,0.9s,mb5.3
BJT Baijiatuau 59.94 326 eP P 12 24 30.4 +1.5
BJT pmax pmax
comp=Z,30nm,0.9s
BJI Beijing 59.95 326 P **P 12 24 28.3 -0.7**
BJI AP pP 12 24 32.6 -5.5
BJI XP sP 12 24 34.8 -6.8
BJI S **S 12 32 37.8 -1.6**
BJI XS sS 12 32 47.8 -6.6
BJI SS SS 12 36 40.1 +3.6
BJI AMB AMB
comp=Z,12nm,1.8s,mb4.6
BJI AMB AMB
comp=Z,399nm,5.5s
BJI LR LR
comp=N,450nm,17.5s,MS4.7
BJI LR LR
comp=E,287nm,19.2s,MS4.7
BJI LR LR
comp=Z,418nm,21.8s,MS4.5
KLR Kul'dur 60.54 342 eP P 12 24 29.1 -3.8
KLR eS **S 12 32 43.0 -3.7**
KLR pmax pmax
comp=N,50nm,1.8s
KLR pmax pmax
comp=E,100nm,1.8s
KLR pmax pmax
comp=Z,260nm,1.8s,mb6.1
KLR MLR MLR
comp=E,500nm,13.0s
KLR MLR MLR
comp=Z,1μm,13.0s,MS5.2
TIY Taiyuan 60.62 321 P **P 12 24 33.0 -0.7**
TIY S **S 12 32 50.3 +2.2**
TIY AMB AMB
comp=Z,354nm,5.6s
TIY LR LR
comp=N,571nm,14.6s,MS5.0
TIY LR LR
comp=E,286nm,10.6s,MS5.0
TIY LR LR
comp=Z,956nm,20.6s
PET Petropavlovsk 60.67 2 eP P 12 24 34.4 +0.7
PET eS **S 12 32 48.2 0.0**
PET eSS SS 12 36 47.2 -0.2
PET pmax pmax
comp=Z,48nm,0.9s,mb5.6
PET MLR MLR
comp=Z,700nm,17.0s,MS4.9
XAN Xi'an 60.72 316 P **P 12 24 33.4 -1.1**
XAN PP PP 12 26 53.8 +5.2
XAN S **S 12 32 51.0 +1.4**
XAN AMB AMB
comp=Z,13nm,2.1s,mb4.7
XAN AMB AMB
comp=Z,230nm,6.2s
XAN LR LR
comp=N,114nm,14.7s
XAN LR LR
comp=E,284nm,20.2s
XAN LR LR
comp=Z,408nm,18.3s,MS4.6
KMI Kunming 60.98 304⇑P P 12 24 38.3 +1.9
KMI AP pP 12 24 42.4 -3.1
KMI XP sP 12 24 43.6 -5.4
KMI PCP PcP 12 25 22.3 +2.7
KMI PP PP 12 26 56.4 +5.3
KMI S **S 12 32 59.3 +6.0**
KMI XS sS 12 33 04.1 -4.2
KMI SS SS 12 36 57.6 +4.3
KMI AMB AMB
comp=Z,47nm,1.6s,mb5.4
KMI AMB AMB
comp=Z,386nm,3.5s
KMI LR LR
comp=N,352nm,15.6s,MS4.7
KMI LR LR
comp=E,316nm,17.6s,MS4.7
KMI LR LR
comp=Z,483nm,18.3s,MS4.7
CHRT Chiangrai 61.44 298⇓P P 12 24 41.0 +1.4
comp=Z,210nm,1.0s,mb6.2
CM31 Chiang Mai Arr 61.69 296 eP P 12 24 42.5 +1.2
CHG Chiang Mai 61.81 296⇓P P 12 24 41.6 -0.5
comp=Z,80nm,1.3s,mb5.7
CHTO Chiang Mai 61.81 296 eP P 12 24 42.6 +0.5
CHTO Chiang Mai 61.81 296 P **P 12 24 42.9 +0.8**
SNR=30
CHTO Chiang Mai 61.81 296 P **P 12 24 42.9 +0.8**
SNR=30
CHTO Chiang Mai 61.81 296 P **P 12 24 42.9 +0.8**
SNR=30
CD2 Chengdu 62.81 311⇑iP P 12 24 48.3 -0.3
CD2 AP pP 12 24 52.8 -5.0
CD2 XP sP 12 24 56.0 -5.2
CD2 PP PP 12 27 08.3 +1.2
CD2 PCS PcS 12 29 27.8 -2.6
CD2 S **S 12 33 16.3 +0.1**
CD2 XS sS 12 33 24.1 -7.2
CD2 SCS ScS 12 34 36.6 -2.9
CD2 SS SS 12 37 23.8 +2.0
CD2 AMB AMB
comp=Z,70nm,1.0s,mb5.8
CD2 AMB AMB
comp=Z,180nm,5.8s
CD2 LR LR
comp=N,460nm,18.0s,MS4.9
CD2 LR LR
comp=E,600nm,16.8s,MS4.9
CD2 LR LR
comp=Z,420nm,18.0s,MS4.7
HHC Hu-ho-hao-te 63.12 324 eP P 12 24 52.3 +1.9
HHC AP pP 12 24 57.1 -2.5
HHC XP sP 12 24 59.3 -3.8
HHC PP PP 12 27 14.6 +5.0
HHC SCP ScP 12 29 28.1 -0.2
HHC PCS PcS 12 29 32.8 +1.5
HHC S **S 12 33 24.3 +4.6**
HHC XS sS 12 33 30.6 -4.2
HHC SCS ScS 12 34 39.8 -1.6
HHC SS SS 12 37 29.5 +3.3
HHC AMB AMB
comp=Z,26nm,0.7s,mb5.5
HHC LR LR
comp=N,375nm,18.1s,MS4.7
HHC LR LR
comp=E,369nm,21.6s,MS4.7
BTO Baotou 63.88 323 eP P 12 24 55.4 -0.1
ADK Adak 64.05 19 eP P 12 24 56.5 +0.2
comp=E,60nm,0.7s,mb5.7
ADK Adak 64.05 19 eP P 12 24 56.5 +0.2
ADK pmax pmax
comp=Z,60nm,0.7s,mb5.7
HIA Hailar 64.93 335 eP P 12 25 02.3 +0.2
comp=Z,57nm,0.8s,mb5.7
HIA Hailar 64.93 335 eP P 12 25 02.3 +0.2
HIA pmax pmax
comp=Z,57nm,0.8s
LZH Lanzhou 65.33 316 eP P 12 25 05.3 +0.2
LZH AP pP 12 25 10.3 -3.9
LZH XP sP 12 25 12.5 -5.2
LZH PP PP 12 27 31.6 +2.4
LZH eS S 12 33 47.8 +0.5
LZH XS sS 12 33 55.3 -7.1
LZH AMB AMB
comp=Z,79nm,1.4s,mb5.5
LZH AMB AMB
comp=Z,226nm,5.6s
LZH LR LR
comp=N,725nm,16.0s
LZH LR LR
comp=Z,1μm,17.9s,MS5.1
MA2 Magadan 67.29 357 eP P 12 25 15.9 -1.2
comp=Z,37nm,0.9s,mb5.4
MA2 Magadan 67.29 357c iP P 12 25 16.9 -0.2
MA2 eS S 12 34 09.2 -0.9
MA2 e 12 35 06.2
MA2 eSS SS 12 38 30.9 +0.4
MA2 pmax pmax
comp=Z,50nm,0.9s,mb5.5
MA2 MLR MLR
comp=N,300nm,19.7s
RKT Rikitea 68.07 112 eLQ 12 42 58.5
comp=N,552nm,34.0s
RKT eLR LR 12 45 52.2
comp=N,787nm,23.5s,baz=283
RKT Rikitea 68.07 112 eP P 12 25 22.7 -0.1
comp=N,84nm,1.3s,mb5.6
RKT eLQ 12 42 58.5
RKT Rikitea 68.07 112 eP P 12 25 22.7 -0.1
RKT pmax pmax
comp=Z,84nm,1.3s,mb5.6
NRGR Nerungri 69.10 342 eP P 12 25 28.9 +0.4
CLNS Chul'man 69.20 343 eP P 12 25 30.5 +1.4
CLNS e*PP pP 12 25 37.8 -0.5
CLNS e 12 25 44.7
CLNS e 12 28 06.4

CLNS ePPP 12 29 43.5
CLNS e*SS sS 12 34 49.6 +1.4
CLNS e 12 35 16.0
CLNS pmax pmax
comp=Z,186nm,0.8s,mb6.1
CLNS pmax pmax
comp=N,71nm,0.7s
CLNS pmax pmax
comp=E,18nm,0.6s
CLNS pmax pmax
comp=Z,9.0nm,0.7s,mb4.8
CLNS MLR MLR
comp=Z,200nm,15.0s,MS4.5
CLNS MLR MLR
comp=N,100nm,13.0s,MS4.4
CLNS MLR MLR
comp=E,100nm,14.0s,MS4.4
VNDA Vanda 69.74 179 P **P 12 25 31.7 -0.6**
VNDA LR LR 12 50 18.4
VNDA Vanda 69.74 179 P **P 12 25 31.7 -0.6**
comp=E,11nm,1.2s,mb4.7,baz=338,slow=7.4,SNR=9.5
VNDA LR LR 12 50 18.3
comp=E,687nm,20.9s,MS4.9,baz=3.2,slow=31
GTA Gaotai 69.76 317 eP **P 12 25 33.4 +0.4**
GTA AP pP 12 25 37.8 -4.4
GTA XP sP 12 25 40.3 -5.4
GTA PP PP 12 28 11.3 +3.7
GTA S S 12 34 42.9 +2.6
GTA XS sS 12 34 50.5 -5.0
GTA SKS 12 35 29.6
GTA SS SS 12 39 14.8 +5.4
GTA AMB AMB
comp=Z,9.0nm,2.0s,mb4.3
GTA AMB AMB
comp=Z,373nm,7.2s
GTA LR LR
comp=N,302nm,17.1s,MS4.8
GTA LR LR
comp=E,281nm,16.7s,MS4.8
GTA LR LR
comp=Z,356nm,19.8s,MS4.6
ULN Ulaanbaatar 70.03 328 eP **P 12 25 35.3 +0.9**
comp=Z,67nm,1.1s,mb5.5
ULN Ulaanbaatar 70.03 328 eP **P 12 25 35.3 +0.9**
ULN pmax pmax
comp=Z,67nm,1.1s,mb5.5
ULN Ulaanbaatar 70.03 328 P **P 12 25 35.0 +0.6**
SNR=41
ULN Ulaanbaatar 70.03 328 P **P 12 25 35.0 +0.6**
SNR=41
ULN Ulaanbaatar 70.03 328 P **P 12 25 35.0 +0.6**
SNR=41
SONM Songino Array 70.36 327 P **P 12 25 35.8 -0.6**
SONM ⇑e 12 53 36.5
SONM LR LR 12 57 03.8
SONM Songino Array 70.36 327 P **P 12 25 35.8 -0.6**
comp=Z,15nm,0.8s,mb5.0,baz=133,slow=8.5,SNR=33
SONM PKP2bc 12 53 36.5
comp=Z,2.0nm,1.1s,baz=324,slow=2.4,SNR=9.7
SONM LR LR 12 57 03.8
comp=Z,507nm,19.4s,MS4.8,baz=122,slow=36
SEY Seymchan 70.59 358⇑eP **P 12 25 36.3 -1.3**
LSA Lhasa 72.24 304 P **P 12 25 49.4 +1.1**
LSA AP pP 12 25 59.8 +2.3
LSA AMB AMB
comp=Z,20nm,1.0s,mb5.0
LSA AMB AMB
comp=Z,250nm,5.0s
LSA LR LR
comp=N,90nm,15.0s
LSA LR LR
comp=E,170nm,23.0s
LSA LR LR
comp=Z,290nm,20.0s,MS4.5
LSA Lhasa 72.24 304 eP **P 12 25 49.0 +0.7**
comp=Z,27nm,0.8s,mb5.2
LSA Lhasa 72.24 304 eP **P 12 25 49.0 +0.7**
LSA pmax pmax
comp=Z,27nm,0.8s,mb5.2
YAK Yakutsk 72.49 348 eP **P 12 25 48.2 -0.8**
comp=Z,131nm,0.9s,mb5.9
YAK Yakutsk 72.49 348 eP **P 12 25 48.2 -0.8**
YAK e 12 26 03.6
YAK e 12 28 30.0
YAK ePPP 12 30 15.8
YAK eS S 12 35 07.2 -3.9
YAK e 12 35 45.6
YAK e*SS sS 12 35 50.4 +24
YAK eSS SS 12 39 49.4 -1.1
YAK pmax pmax
comp=Z,131nm,1.1s,mb5.8
YAK pmax pmax
comp=N,68nm,1.7s
YAK pmax pmax
comp=E,37nm,1.7s
YAK pmax pmax
comp=N,87nm,3.4s
YAK pmax pmax
comp=Z,99nm,3.4s
YAK pmax pmax
comp=E,39nm,1.9s
YAK smax
comp=E,494nm,6.1s
YAK smax
comp=N,415nm,4.7s
SDPT Sand Point 72.75 25 eP **P 12 25 56.6 +5.9**
ZAK Zakamensk 73.52 328 eP **P 12 25 55.1 -0.2**
ZAK pmax pmax
comp=Z,21nm,1.5s,mb4.8
BOD Bodaibo 73.61 338⇓iP **P 12 25 54.7 -1.0**
BOD pmax pmax
comp=Z,50nm,1.2s,mb5.3
TLY Talaya 74.08 329 P **P 12 25 58.3 -0.3**
comp=Z,27nm,0.9s,mb5.2,SNR=11
TLY Talaya 74.08 329 eP **P 12 25 58.7 +0.1**
comp=Z,66nm,1.6s,mb5.3
TLY Talaya 74.08 329⇓iP **P 12 25 57.8 -0.8**
TLY pmax pmax
comp=Z,5.0nm,1.7s,mb4.2
TLY Talaya 74.08 329 P **P 12 25 59.2 +0.6**
SNR=24
TLY Talaya 74.08 329 P **P 12 25 59.2 +0.6**
SNR=24
TLY Talaya 74.08 329 P **P 12 25 59.2 +0.6**
SNR=24
IRK Irkutsk 74.10 330⇓iP **P 12 25 57.6 -1.1**
IRK e 12 28 49.7
IRK pmax pmax
comp=Z,105nm,2.0s,mb5.4
BOK Bokaro 74.92 297 eP **P 12 26 03.9 -0.2**
BOK AMb AMB 12 26 10.5
comp=Z,70nm,1.2s,mb5.5
MOY Mondy 75.44 328 eP **P 12 26 07.2 +0.7**
MOY pmax pmax
comp=Z,99nm,3.5s
GUN Gumba 76.07 301 eP **P 12 26 11.0 +0.4**
comp=Z,124nm,1.0s,mb5.8
PALK Pallekele 76.18 279 eP **P 12 26 12.6 +1.0**
PALK eP 12 26 14.8
PKI Pulchoki 76.37 301 eP **P 12 26 12.3 -0.1**
comp=Z,180nm,1.4s,mb5.8
PKIN Phulchoki 76.38 301 eP **P 12 26 12.3 -0.1**
comp=Z,248nm,1.7s,mb5.9
PKIN Phulchoki 76.38 301 eP **P 12 26 12.8 +0.4**
comp=Z,116nm,1.4s,mb5.6
PKIN Phulchoki 76.38 301 eP **P 12 26 13.0 +0.6**
KKN Kakani 76.54 301 eP **P 12 26 13.4 +0.1**
comp=Z,144nm,1.2s,mb5.8
DMN Daman 76.64 301 eP **P 12 26 14.2 +0.3**
comp=Z,250nm,1.3s,mb6.0
GKN Gorkha 77.15 301 eP **P 12 26 16.7 0.0**
comp=Z,322nm,1.4s,mb6.0
BLSP Bilaspur 77.84 295 eP **P 12 26 19.4 -1.3**
BLSP AMb AMB 12 26 26.1
comp=Z,75nm,1.1s,mb5.5
KOLN Koldanda 77.97 300 eP **P 12 26 21.1 -0.2**
comp=Z,82nm,0.9s,mb5.7
DANN Dangsing 77.99 301 eP **P 12 26 21.0 -0.4**
SVW2 Sparrevohn 78.54 22 eP **P 12 26 25.5 +1.8**
TTA Tatalina 79.58 20 eP **P 12 26 30.8 +1.4**
TTA Tatalina 79.58 20 eP **P 12 26 29.8 +0.4**
TTA 12 26 42.3
KOD Kodaikanal 79.83 282 eP **P 12 26 32.4 +0.5**
KOD AMb AMB 12 26 37.2
comp=Z,44nm,1.0s,mb5.3
WMQ Urumqi 79.84 317⇑iP **P 12 26 31.5 +0.2**
WMQ AP pP 12 26 36.0 -4.6
WMQ XP sP 12 26 39.5 -4.6
WMQ PP PP 12 29 34.0 +1.0
WMQ S S 12 36 34.0 +1.3
WMQ SS SS 12 41 45.0 +2.5
WMQ AMB AMB
comp=Z,19nm,1.2s,mb4.9
WMQ AMB AMB
comp=Z,302nm,4.5s
WMQ LR LR
comp=N,762nm,19.8s,MS5.1
WMQ LR LR
comp=E,488nm,19.5s,MS5.1
WMQ LR LR
comp=Z,398nm,21.2s,MS4.7
HYB Hyderabad 80.12 289 eP **P 12 26 33.0 -0.3**
SLKM Skilak Lake 80.25 24 eP **P 12 26 33.4 +0.4**
NGP Nagpur 80.42 293 eP **P 12 26 33.8 -1.1**
NGP AMb AMB 12 26 39.7
comp=Z,66nm,1.6s,mb5.3
PTH Pithoragarh 81.30 301 eP **P 12 26 39.3 -0.1**
PMR Palmer 81.30 23 eP **P 12 26 38.0 -0.7**
PMR Palmer 81.30 23 eP **P 12 26 38.0 -0.7**
PMR pP 12 26 47.0 -1.1
QSPA South Pole Qui 82.15 180 eP **P 12 26 42.5 -0.5**
LATR Latur 82.17 290 ex x 12 23 48.0
LATR AMb AMB 12 23 54.4
comp=Z,42nm,1.3s,mb5.2
AKL Akola 82.19 292 eP **P 12 26 43.2 -1.0**
AKL AMb AMB 12 26 49.1
comp=Z,110nm,1.9s,mb5.5
BHPL Bhopal 82.33 295 eP **P 12 26 43.4 -1.5**
BHPL AMb AMB 12 26 49.3
comp=Z,66nm,1.7s,mb5.3
IMA2 Indian Mountai 82.39 19 eP **P 12 26 45.2 +0.9**
DDI Dehra Dun 83.30 302 eP **P 12 26 49.8 -0.1**
COLA College 83.63 21 eP **P 12 26 48.3 -2.4**
comp=Z,21nm,0.8s,mb5.3
COLA College 83.63 21 eP **P 12 26 48.3 -2.5**
COLA pmax pmax
comp=Z,21nm,0.8s,mb5.3
NDI New Delhi 83.65 300 eP **P 12 26 50.0 -1.7**
NDI AMb AMB 12 26 55.7
comp=Z,107nm,2.0s,mb5.6
MAW Mawson 83.87 203 eP **P 12 26 53.6 +1.6**
comp=Z,14nm,1.1s,mb5.0
MAW eP 12 26 53.9
MAW Mawson 83.87 203 eP **P 12 26 53.6 +1.6**
MAW pmax pmax
comp=Z,14nm,1.1s
MAW Mawson 83.87 203 P **P 12 26 51.5 -0.6**
comp=Z,15nm,1.0s,mb5.1,baz=76,slow=4.9,SNR=11
MAW LR LR 13 02 10.0
comp=Z,172nm,20.2s,MS4.4,baz=103,slow=34
MENT Mentasta 84.17 24 eP **P 12 26 53.2 -0.3**
SMLA Simla 84.22 302 eP **P 12 26 54.2 -0.4**
SMLA AMb AMB 12 27 00.0
comp=Z,151nm,2.1s,mb5.8
MK31 Makanchi Array 84.43 319 eP **P 12 26 55.2 0.0**
MK31 ePcP PcP 12 26 58.3 -0.6
MKAR Makanchi Array 84.43 319 P **P 12 26 54.9 -0.3**
MKAR PP PP 12 30 08.3 -2.4
MKAR LR LR 13 05 54.1
MKAR Makanchi Array 84.43 319⇑eP **P 12 26 54.9 -0.3**
MKAR Makanchi Array 84.43 319 P **P 12 26 54.9 -0.3**
comp=Z,51nm,0.7s,mb5.7,baz=101,slow=6.3,SNR=97
MKAR PP PP 12 30 08.3 -2.4
comp=Z,2.4nm,1.0s,baz=104,slow=10,SNR=4.5
MKAR LR LR 13 05 54.1
comp=Z,245nm,19.5s,MS4.6,baz=7.3,slow=37
POO Poona 84.72 289 eP **P 12 26 56.6 -0.7**
POO AMb AMB 12 27 02.4
comp=Z,101nm,1.7s,mb5.7
ZALV Zalesovo Beam 85.20 326 P **P 12 26 57.5 -1.5**
comp=Z,24nm,0.7s,mb5.4,baz=110,slow=5.6,SNR=23
ZALV LR LR 13 04 00.3
comp=Z,143nm,18.2s,MS4.4,baz=296,slow=35
ZAL Zalesovo 85.21 326 P **P 12 26 57.5 -1.5**
EGAK Eagle 86.05 23 eP **P 12 27 03.3 +0.4**
comp=Z,14nm,0.9s,mb5.2
NVS Novosibirsk 86.38 326 iP **P 12 27 02.4 -2.4**
NVS iS S 12 37 37.4 -1.1
NVS pmax pmax
comp=Z,64nm,1.9s,mb5.5
NVS pmax pmax
comp=N,14nm,1.4s
NVS pmax pmax
comp=E,26nm,1.4s
NVS smax
comp=N,10.0nm,1.8s
NVS smax
comp=E,22nm,2.1s
DAWY Dawson 86.41 24 eP **P 12 27 06.6 +1.9**
KURK Kurchatov 87.86 322 P **P 12 27 10.1 -1.9**
comp=E,71nm,1.2s,mb5.8,SNR=5.4
KURK Kurchatov 87.86 322 eP **P 12 27 10.9 -1.2**
KURK Kurchatov 87.86 322⇑eP **P 12 27 09.9 -2.1**
TKM2 Tokmak 2 88.03 314 eP **P 12 27 13.7 +0.7**
comp=E,7.6nm,0.9s,mb4.9
TKM2 Tokmak 2 88.03 314 eP **P 12 27 13.7 +0.7**
TKM2 pmax pmax
comp=Z,8.0nm,0.9s,mb5.0
DLBC Dease Lake 88.54 30 eP **P 12 27 14.8 -0.3**
UCH Uchtor 88.66 313 eP **P 12 27 17.1 +1.0**
comp=Z,9.0nm,0.9s,mb5.1
FRU Bishkek 88.71 313 eP **P 12 27 16.0 -0.3**
FRU pmax pmax
comp=Z,70nm,2.1s,mb5.6
AAK Ala-Archa 88.76 313 P **P 12 27 15.8 -0.7**
comp=Z,28nm,1.0s,mb5.5,SNR=5.1
AAK Ala-Archa 88.76 313 eP **P 12 27 15.6 -0.9**
comp=Z,7.2nm,0.8s,mb5.0
AAK Ala-Archa 88.76 313⇑eP **P 12 27 14.7 -1.8**
AAK pmax pmax
comp=Z,19nm,2.3s,mb5.0
AAK Ala-Archa 88.76 313 P **P 12 27 16.2 -0.3**
SNR=7.9
AAK Ala-Archa 88.76 313 P **P 12 27 16.2 -0.3**
SNR=7.9
AAK Ala-Archa 88.76 313 P **P 12 27 16.2 -0.3**
SNR=7.9
AML Almayashu 89.24 313 eP **P 12 27 19.5 +0.7**
comp=Z,62nm,1.6s,mb5.7
EKS2 Erkin-Say 89.28 313 eP **P 12 27 20.2 +1.2**
comp=Z,11nm,1.1s,mb5.1
INK Inuvik 90.28 21 eP **P 12 27 21.8 -1.2**
RPN Rapa Nui 90.94 117 LR LR 12 58 13.2
comp=Z,244nm,20.5s,MS4.6,baz=284,slow=29
SYO Syowa Base 91.74 199⇑eP **P 12 27 29.6 -0.3**
SYO Syowa Base 91.74 199⇓epP pP 12 27 32.7 -6.7
NVAR Mina Array Bea 91.76 52 P **P 12 27 30.9 +0.3**
comp=Z,2.4nm,0.8s,mb4.6,baz=253,slow=6.3,SNR=16
PFO Pinyon Flat Ob 92.56 57 LR LR 13 02 26.9
comp=Z,451nm,19.1s,MS4.9,baz=305,slow=31
BVAR Borovoye Array 93.32 323 PKKPbc PKKPbc 12 44 45.9 -1.1
comp=Z,0.5nm,0.5s,baz=270,slow=3.0,SNR=4.0
YKA Yellowknife Ar 96.78 28 P **P 12 27 51.6 -1.4**
comp=Z,5.5nm,0.9s,mb5.0,baz=266,slow=4.4,SNR=42
YKA PKKPbc PKKPbc 12 44 36.1 -1.9
comp=Z,0.6nm,0.9s,baz=87,slow=2.9,SNR=9.1
EDM Edmonton 96.83 37 eP **P 12 27 54.2 +0.7**
EDM Edmonton 96.83 37 P **P 12 27 54.4 +0.9**
LPIG La Paz 96.86 67 LR LR 13 02 14.3
comp=Z,231nm,21.4s,MS4.6,baz=268,slow=30
PDAR Pinedale Array 98.80 48 P **P 12 28 00.8 -1.8**
comp=Z,1.0nm,0.7s,mb4.5,baz=266,slow=2.1,SNR=8.6
ARU Arti 100.37 326di P Pdif 12 28 08.5 -0.9
ARU e 12 32 14.3
ARU S SKSac 12 38 46.1 +0.1
ARU SS SS 12 46 32.8 -5.9
ARU pmax pmax
comp=Z,8.0nm,1.7s
ARU MLR MLR
comp=Z,307nm,17.0s,MS4.9
VNA3 Neumayer Olymp 100.49 185 ePdiff Pdif 12 28 08.6 -1.3
VNA3 e 12 28 14.1
VNA2 Neumayer--Watz 100.59 186 ePdiff Pdif 12 28 10.0 -0.3
VNA2 e 12 28 14.9
VNA2 e 12 28 17.9
VNA2 e 12 28 26.0
VNA2 e 12 32 41.5
VNA2 e 12 32 45.0
VNA1 Neumayer--Stat 100.94 185 ePdiff Pdif 12 28 12.2 +0.3
VNA1 e 12 28 16.3
VNA1 e 12 28 24.1
VNA1 e 12 32 42.2
VNA1 e 12 32 45.5
FINES FINESS Array B 114.94 336 PP PP 12 34 04.0 +2.1
comp=Z,4.8nm,0.9s,baz=75,slow=8.9,SNR=6.0
AKASG Malin Array Be 118.57 324 PKP PKPdf 12 33 09.1 -1.4
AKASG Malin Array Be 118.57 324 PKP PKPdf 12 33 09.1 -1.4
comp=Z,2.0nm,0.7s,baz=68,slow=2.0,SNR=6.3
BOSA Boshof 119.97 231 PKP PKPdf 12 33 13.8 -0.1
comp=Z,1.8nm,0.6s,baz=60,slow=5.5,SNR=3.9
HFS Hagfors 120.49 339 PKP PKPdf 12 33 14.5 +0.6
comp=Z,2.0nm,0.8s,baz=142,slow=5.6,SNR=2.9
NB2 NORSAR Subarra120.68 341 PKPdf PKPdf 12 33 12.6 -1.6
comp=Z,5.8nm,1.2s,baz=40,slow=1.9
NOA NORSAR Array B120.68 341 PKP PKPdf 12 33 12.6 -1.6
comp=Z,2.3nm,1.0s,baz=40,slow=2.1,SNR=3.2
LHS Liberty Hill 121.94 54 eP Pdif 12 29 52.0 +6.7
MLR Muntele Rosu 122.75 320 PKP PKPdf 12 33 18.1 -0.5
comp=Z,2.9nm,0.9s,baz=111,slow=2.3,SNR=5.1
KOLS Kolonicke sedl 123.37 325 ePKP PKPdf 12 33 19.8 0.0
CRVS Cervenica-Dubn 123.85 325 ePKP PKPdf 12 33 20.5 -0.2
VYHS Vyhne 125.54 326 ePP PP 12 35 19.0 +4.1
DPC Dobruska-Polom 125.80 329 ePKPdf PKPdf 12 33 24.1 -0.3
VRAC Vranov 126.29 328 PKP PKPdf 12 33 24.4 -0.9
comp=Z,1.6nm,0.3s,baz=276,slow=10,SNR=4.4
PVCC Panska Ves 126.58 330 ePKPdf PKPdf 12 33 24.9 -0.9
BRG Berggiesshubel 126.66 331 eP PKPdf 12 33 26.0 0.0
BRG e 12 33 27.8
BRG LR LR
comp=Z,510nm,20.0s,MS5.2
BRG Berggiesshubel 126.66 331 ePKIKP PKPdf 12 33 26.0 0.0
BRG pmax pmax
comp=Z,2.0nm,0.6s
BRG pmax pmax
comp=Z,6.0nm,1.4s
BRG MLR MLR
comp=N,114nm,18.8s,MS5.1
BRG MLR MLR
comp=E,348nm,16.9s,MS5.1
BRG MLR MLR
comp=Z,511nm,20.0s,MS5.2
BRG Berggiesshubel 126.66 331 eP PKPdf 12 33 26.0 0.0
comp=Z,3.2nm,0.6s
BRG e 12 33 27.8
comp=Z,9.9nm,1.4s
BRG
comp=N,190nm,18.8s
BRG
comp=E,581nm,16.9s
BRG
comp=Z,853nm,20.0s
CLL Collm 126.83 332 i PKP PKPdf 12 33 29.6 +3.3
CLL ePP PP 12 35 24.0 +0.7
CLL Collm 126.83 332 i (PKPdf) PKPdf 12 33 29.6 +3.3
comp=Z,13nm,0.9s
CLL ePP PP 12 35 24.0 +0.7
PRU Pruhonice 126.93 330 ePKIKP PKPdf 12 33 26.2 -0.3
PRU MLR MLR
comp=Z,600nm,26.4s,MS5.2
CONA Conrad Observa 127.50 327⇑iPKiKP PKiKP 12 33 27.2 -1.0
comp=Z,12nm,2.0s
MOX Moxa 127.92 332 ePKP PKPdf 12 33 28.7 +0.3
KHC Kasperske Hory 127.96 329 ePKPdf PKPdf 12 33 28.5 0.0
GEC2 GERESS Array S 128.07 329 ePKPdf PKPdf 12 33 28.9 +0.1
GERES GERESS Array B 128.07 329 PKP PKPdf 12 33 28.4 -0.4
comp=Z,2.4nm,0.8s,baz=47,slow=2.4,SNR=12
GRA1 Grafenberg Arr 128.75 331 ePKP PKPdf 12 33 29.5 -0.5
GRA1 ePP PP 12 35 36.0 0.0
GRA1 LR LR
comp=Z,600nm,18.8s,MS5.3
GRF Grafenberg Arr 128.75 331 ePKIKP PKPdf 12 33 29.5 -0.5
GRF e 12 35 36.0
GRF Grafenberg Arr 128.75 331 ePKP PKPdf 12 33 29.5 -0.5
GRF ePP PP 12 35 36.0 0.0
GRF eL 13 23 35.9
comp=Z,572nm,18.8s
ABTA Abfaltersbach 130.02 327⇓iPKPdf PKPdf 12 33 31.4 -1.1
comp=Z,5.2nm,0.9s
LPAZ La Paz 130.52 119 PKP PKPdf 12 33 34.5 +0.2
comp=Z,7.8nm,1.2s,baz=272,slow=1.8,SNR=15
LPAZ SKPbc SKPbc 12 36 59.8 +3.8
comp=Z,0.8nm,0.5s,baz=145,slow=23,SNR=3.5
DAVOX Davos/Dischmat 131.38 329 PKP PKPdf 12 33 34.8 -0.3
comp=Z,3.3nm,0.7s,baz=160,slow=8.2,SNR=5.4
DAVOX SKPbc SKPbc 12 37 01.2 +3.0
comp=Z,1.3nm,0.3s,baz=218,slow=19,SNR=5.3
DAVOS Davos 131.38 329 PKIKP PKPdf 12 33 34.8 -0.3
HAU Haudompre 132.23 332 ePKIKP PKPdf 12 33 36.3 -0.4
HAU eMLR MLR
comp=Z,298nm,20.0s,MS4.7
HAU Haudompre 132.23 332 ePKIKP PKPdf 12 33 36.3 -0.4
HAU MLR MLR
comp=Z,300nm,20.0s,MS5.0
CPUP Villa Florida 133.36 138 PKP PKPdf 12 33 39.0 -0.5
CPUP ePKPdf PKPdf 12 33 42.0 +2.5
CPUP Villa Florida 133.36 138 PKP PKPdf 12 33 39.0 -0.5
comp=Z,3.2nm,0.8s,baz=248,slow=0.1,SNR=7.1
CABF La Chapelle 133.37 331 ePKIKP PKPdf 12 33 38.6 -0.3
comp=Z,12nm,0.8s
LPL La Plagne 133.83 330 ePKIKP PKPdf 12 33 39.7 -0.1
LPG La Plagne 133.84 330 ePKIKP PKPdf 12 33 39.7 -0.1
LOR Lormes 133.91 333 ePKIKP PKPdf 12 33 39.4 -0.5
comp=Z,12nm,0.9s
LOR eMLR MLR
comp=Z,420nm,21.0s,MS4.8
LOR Lormes 133.91 333 ePKIKP PKPdf 12 33 39.4 -0.5
LOR MLR MLR
comp=Z,420nm,21.0s,MS5.1
BNI Bardonecchia 134.19 329 ePKPdf PKPdf 12 33 40.5 0.0
SDV Santo Domingo 134.26 85 ePKPdf PKPdf 12 33 41.4 -0.1
SMF Signal de Mont 134.38 333 ePKIKP PKPdf 12 33 40.3 -0.5
AVF Avril sur Loir 134.49 333 ePKIKP PKPdf 12 33 40.6 -0.4
comp=Z,11nm,1.0s
SBF Sospel 134.62 328 ePKIKP PKPdf 12 33 40.7 -0.6
PGF Pioggiola 134.63 325 ePKIKP PKPdf 12 33 40.7 -0.7
comp=Z,22nm,1.0s
FRF La Foret Royal 135.24 328 ePKIKP PKPdf 12 33 41.8 -0.7
VIVF Saint-Julien-l 135.32 331 ePKIKP PKPdf 12 33 42.0 -0.6
TCF Toulx Ste Croi 135.38 334 ePKIKP PKPdf 12 33 42.4 -0.3
comp=Z,17nm,0.9s
LMR La Mourre 135.47 328 ePKIKP PKPdf 12 33 42.3 -0.6
SMRF Simiane la Rot 135.50 329 ePKIKP PKPdf 12 33 42.4 -0.6
comp=Z,9.4nm,0.8s
LASF Ste Croix 136.29 330 ePKIKP PKPdf 12 33 43.7 -0.7
comp=Z,13nm,0.9s
ETSF Etsaut 139.27 333 ePKIKP PKPdf 12 33 49.4 -0.5
comp=Z,6.5nm,0.6s
EARI Arriondas 140.86 338 PKP PKPdf 12 33 56.8 +4.0
ETOR Torete 141.60 332 PKP PKPdf 12 33 51.8 -2.4
GUD Guadarrama 142.67 334 PKP PKPdf 12 33 55.9 -0.3
ESDC Sonseca Array 143.38 333 PKP PKPdf 12 33 52.7 -4.8
ESDC PKP PKPdf 12 33 56.1 -1.3
ESDC PKP PKPdf 12 33 57.5 +0.1
ESDC PP PP 12 37 08.6 +0.8
ESDC Sonseca Array 143.38 333 PKhKP 12 33 52.7
comp=Z,1.0nm,0.6s,baz=42,slow=4.6,SNR=4.3
ESDC PKP PKPdf 12 33 57.5 +0.1
comp=Z,0.6nm,0.5s,baz=18,slow=3.8,SNR=7.5
ESDC PP PP 12 37 08.6 +0.8
comp=Z,2.3nm,0.7s,baz=21,slow=6.8,SNR=5.7
ESLA Sonseca Array 143.38 333 ePKPdf PKPdf 12 33 57.8 +0.4
MVO Moncorvo 143.39 338 ePKP PKPdf 12 33 58.0 +0.6
MVO Moncorvo 143.39 338 eLR LR 13 12 29.4
comp=Z,640nm,20.0s
EVIA Vianos 143.53 331 PKP PKPdf 12 33 54.4 -3.3
MTE Manteigas 144.25 338 ePKP PKPdf 12 33 58.8 -0.1
MTE Manteigas 144.25 338 eLR LR 13 12 02.6
comp=Z,871nm,20.0s
MTE Manteigas 144.25 338 ePKPdf PKPdf 12 33 58.8 -0.2
EQES Quesada 144.46 330 PKP PKPdf 12 33 56.9 -2.5
PCBR Castelo Branco 144.71 337 ePKP PKPdf 12 33 58.4 -1.3
EADA Adamuz 144.88 332 PKP PKPdf 12 33 57.8 -2.3
EBER Berja 145.07 329 PKP PKPdf 12 33 58.8 -1.6
CAM4 Nova Friburgo 145.12 150⇓iP PKPbc 12 33 59.7 -0.8
CAM4 i 12 34 06.8
CAM4 i 12 34 16.0
CAM4 i 12 34 27.3
CAM4 i 12 34 37.9
ECOG Cogollos-Vega 145.12 330 PKP PKPdf 12 33 58.6 -1.9
ELUQ Luque 145.23 331 PKP PKPdf 12 33 58.8 -1.9
ECAB El Cabril 145.34 333 PKP PKPdf 12 33 58.7 -2.2
ERON Agron 145.44 330 PKP PKPdf 12 33 59.0 -2.1
EBAD Badajoz 145.45 336 PKP PKPdf 12 34 00.1 -1.0
EGUA Guajares 145.46 330 PKP PKPdf 12 33 57.9 -3.2
ELOJ Sierra Loja 145.50 331 PKP PKPdf 12 34 00.3 -0.9

PESTR **Estremoz** 145.59 336 *e*PKP PKPdf 12 34 01.0 -0.3
PESTR **Estremoz** 145.59 336 *e*LR LR 13 11 56.0
comp=Z,689nm,22.0s
EALB **Alboran** 145.88 328 PKP PKPdf 12 33 58.7 -3.2
PBAR **Barrancos** 145.96 335 *e*PKP PKPdf 12 34 02.4 +0.5
PBAR **Barrancos** 145.96 335 *e*LR LR 13 12 05.8
comp=Z,960nm,18.0s
EVO **Evora** 146.05 337 *e*PKIKP PKPdf 12 34 02.2 +0.1
comp=Z,49nm,1.1s
EVO *e*MLR MLR
comp=Z,312nm,21.2s,MS4.8
EVO **Evora** 146.05 337 *e*PKP PKPdf 12 34 02.1 0.0
EMIN **Mina Concepcio** 146.15 334 PKP PKPdf 12 34 01.7 -0.6
PMAFR **Mafra** 146.16 339 *e*LR LR 13 11 14.3
comp=Z,723nm,22.0s
EMIJ **Mijas** 146.27 331 PKP PKPdf 12 34 02.0 -0.6
PBEJ **Beja** 146.42 336 *e*PKP PKPdf 12 34 04.2 +1.5
ESPR **Espera** 146.53 332 PKP PKPdf 12 34 01.1 -1.8
EGRO **El Granado** 146.69 335 PKP PKPdf 12 34 04.2 +1.0
EJIF **Jimena Fronter** 146.69 332 PKP PKPdf 12 34 01.3 -1.9
PVAQ **Vaqueiros** 146.90 335 *e*PKP PKPdf 12 34 05.5 +1.9
PVAQ **Vaqueiros** 146.90 335 *e*LR LR 13 11 46.9
comp=Z,1μm,20.0s
BDFB **Brasilia** 146.97 135 PKPbc PKPbc 12 34 05.2 -1.0
comp=Z,38nm,0.8s,baz=206,slow=2.6,SNR=63
PBDV **Barranco-do-Ve** 147.12 335 *e*PKP PKPdf 12 34 06.3 +2.4
PBDV **Barranco-do-Ve** 147.12 335 *e*LR LR 13 11 46.1
comp=Z,1μm,20.0s
PTEO **Sao Teotonio** 147.18 337 *e*PKP PKPdf 12 34 09.8 +5.8
MORF **Marmelete** 147.36 336 *e*PKP PKPdf 12 34 07.2 +2.9
MORF **Marmelete** 147.36 336 *e*LR LR 13 11 40.8
comp=Z,1μm,20.0s
CAM3 **Guarapari** 147.49 151 ⇓*i*P PKPdf 12 34 09.6 +4.6
CAM3 *i* 12 34 11.2
CAM3 *i* 12 34 16.3
PFVI **Vila Bisbo** 147.58 336 *e*PKP PKPdf 12 34 04.8 +0.1
PFVI **Vila Bisbo** 147.58 336 *e*LR LR 13 11 31.7
comp=Z,1μm,20.0s
TOA0 **Torodi Ar. Sit** 153.82 284 *e*PKPdf PKPdf 12 34 18.0 +3.0
TORD **Torodi Ar. Bea** 153.82 284 *e*PKP PKPdf 12 34 12.9 -2.0
comp=Z,1.6nm,0.9s,baz=83,slow=1.6,SNR=2.7
TORD PKPbc PKPbc 12 34 21.4 -1.5
comp=Z,2.9nm,0.8s,baz=39,slow=1.5,SNR=8.8
TORD PKPab PKPab 12 34 34.6 -1.3
comp=Z,6.6nm,1.0s,baz=76,slow=1.7,SNR=8.5
TORD PP PP 12 38 12.1 +1.5
comp=Z,1.4nm,1.1s,baz=72,slow=4.7,SNR=3.3
LIC **Lamto** 160.72 266 *e*PKIKP PKPdf 12 34 21.8 -1.9
comp=Z,8.0nm,0.6s
LIC *e*MLR MLR
comp=Z,392nm,22.8s
LIC **Lamto** 160.72 266 *e*PKPdf PKPdf 12 34 21.8 -1.9
LIC LR LR
comp=Z,200nm,22.8s

IDC 24 12:27:29.2±1.9,760S×15539E,h0km,mb3.8/8,mb1 4.0/8, mb1mx3.9/14,mbtmp3.8/8,Error ellipse: s-maj=64.2km s-min=21.5km az=108.0,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.81**	**237**	P	P	12 32 44.7	+0.6
	0.8nm,0.8s,baz=61,slow=9.3,SNR=6.0						
ASAR	**Alice Springs**	**26.08**	**230**	P	P	12 33 04.0	-0.8
	0.7nm,0.8s,baz=64,slow=8.8,SNR=6.0						
STKA	**Stephens Creek**	**27.37**	**206**	P	P	12 33 16.6	+0.4
	1.6nm,0.8s,baz=4.1,slow=14,SNR=2.4						
MJAR	**Matsushiro Arr**	**46.78**	**341**	P	P	12 36 00.4	-0.1
	1.6nm,0.7s,baz=167,slow=8.5,SNR=6.2						
SONM	**Songino Array**	**70.05**	**327**	P	P	12 38 43.5	+0.5
	0.4nm,0.7s,baz=134,slow=4.2,SNR=3.1						
MKAR	**Makanchi Array**	**84.12**	**319**	P	P	12 40 02.6	+0.4
	1.0nm,0.6s,baz=98,slow=5.6,SNR=8.9						
ZALV	**Zalesovo Beam**	**84.90**	**326**	P	P	12 40 05.2	-0.7
	0.7nm,0.5s,baz=106,slow=5.2,SNR=2.7						
YKA	**Yellowknife Ar**	**96.68**	**28**	P	P	12 41 01.0	-0.2
	0.1nm,0.4s,baz=264,slow=4.7,SNR=4.2						

NEIC 24 12:28:48.8,6088N×15137W,h61km,ML3.6(PMR), ML3.3(AEIC),After AEIC.,Kenai Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FIB	**Fire Island**	**0.65**	**63**	P	Pn	12 29 03.1	+0.6
FIB				S	Sn	12 29 15.2	+2.7
SLKM	**Skilak Lake**	**0.67**	**123**	P	Pn	12 29 02.4	-0.3
RC01	**Rabbit Creek A**	**0.82**	**74**	P	Pn	12 29 04.1	-0.5
RC01				S	Sn	12 29 16.7	+0.5
SEW	**Seward**	**1.23**	**128**	P	Pn	12 29 08.6	-1.2
SEW				S	Sn	12 29 26.8	+1.4
PMR	**Palmer**	**1.30**	**55**	P	Pn	12 29 09.9	-0.8
PMR				S	Sn	12 29 27.3	+0.1
KNK	**Knik Glacier**	**1.51**	**68**	P	Pn	12 29 12.9	-0.7
SML	**Sawmill**	**1.74**	**56**	P	Pn	12 29 15.8	-0.8
SVW2	**Sparrevohn**	**2.07**	**278**	P	Pn	12 29 19.2	-1.9
TRF	**Thorofare Moun**	**2.63**	**11**	P	Pn	12 29 29.5	+0.6
KTH	**Kantishna Hill**	**2.70**	**4**	P	Pn	12 29 30.0	+0.4
TT01	**Tatalina**	**3.00**	**315**	P	Pn	12 29 32.6	-1.2
TTA	**Tatalina**	**3.01**	**315**	P	Pn	12 29 33.2	-0.8
MCK	**McKinley**	**3.08**	**21**	P	Pn	12 29 35.4	+0.5
KDAK	**Kodiak Island**	**3.16**	**192**	P	Pn	12 29 36.1	0.0
PAX	**Paxson**	**3.49**	**50**	P	Pn	12 29 40.1	-0.4
MENT	**Mentasta**	**4.17**	**57**	P	Pn	12 29 48.2	-1.5
COLA	**College**	**4.32**	**20**	P	Pn	12 29 51.4	-0.5
IL1	**Eielson Array**	**4.42**	**26**	P	Pn	12 29 52.5	-0.6
BCA3	**Beaver Creek A**	**5.03**	**60**	P	Pn	12 29 59.8	-1.7
IM3	**Indian Mountai**	**5.24**	**349**	P	Pn	12 30 03.4	-1.0
IMA2	**Indian Mountai**	**5.32**	**350**	*e*P	Pn	12 30 05.3	-0.2
CHGN	**Chignik**	**5.88**	**222**	*e*P	Pn	12 30 12.7	-0.5
EGAK	**Eagle**	**6.10**	**46**	*e*Pn	Pn	12 30 15.2	-0.9
EGAK				*e*S	Sn	12 31 23.1	-1.2

*ISCJB **24** 12:46:09.4±1.5,579S±01×259W±08,h10km,mb3.9/3, Error ellipse: s-maj=65.1km s-min=19.9km az=172.2*
*IDC **24** 12:46:09.7±1.1,5792S×2546W,h0km,mb4.1/3,mb1 4.2/3, mb1mx3.8/15,mbtmp4.0/3,Error ellipse: s-maj=87.0km s-min=31.0km az=101.0*
ISC 24 12:46:11.0±1.5,579S±01×260W±08,h10km,n9,σ1§43/5, mb3.9/3,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**14.85**	**157**	*e*P	**Pn**	**12 49 41.6**	**+1.0**
VNA1				*e*		12 49 45.6	
VNA1				*e*		12 49 50.1	
VNA1				*e*		12 49 55.6	
VNA2	**Neumayer--Watz**	**15.24**	**157**	*e*P	**Pn**	**12 49 45.1**	**-0.8**
	baz=318,slow=15						
VNA2				*e*		12 49 49.4	
VNA2				*e*		12 49 53.3	
VNA2				*e*		12 49 58.6	
VNDA	**Vanda**	**44.78**	**182**	P	**P**	**12 54 24.8**	**+0.8**
	0.8nm,0.5s,mb3.8,baz=160,slow=4.6,SNR=5.9						
TORD	**Torodi Ar. Bea**	**74.33**	**28**	P	**P**	**12 57 49.0**	**+0.5**
	0.9nm,0.5s,mb3.9,baz=198,slow=6.3,SNR=14						
ASAR	**Alice Springs**	**97.04**	**161**	P	**P**	**12 59 41.3**	**-1.6**
	0.5nm,1.0s,mb3.9,baz=193,slow=6.2,SNR=2.9						
ARCES	**ARCESS Array B**	**132.39**	**22**	PKP	PKPdf	13 05 22.7	-0.9
	1.8nm,0.8s,baz=217,slow=2.3,SNR=2.9						
YKA	**Yellowknife Ar**	**137.97**	**316**	PKP	PKPdf	13 05 34.3	+0.2
	0.6nm,0.5s,baz=129,slow=2.4,SNR=14						
SONM	**Songino Array**	**150.13**	**89**	PKPbc	PKPbc	13 05 60.0	-0.8
	1.0nm,0.4s,baz=220,slow=3.7,SNR=13						
KDAK	**Kodiak Island**	**152.19**	**293**	PKPbc	PKPbc	13 06 06.0	+0.7
	16nm,1.1s,baz=149,slow=5.9,SNR=3.7						

*ISCJB **24** 12:47:43.3±1.3,178S±02×178.7W±01,h552km±18km, mb4.3/14,Error ellipse: s-maj=30.0km s-min=12.2km az=155.4*
*NEIC **24** 12:47:44.4±1.0,1738S×17884W,h543km±15km,mb4.6/9, Error ellipse: s-maj=25.1km s-min=9.5km az=150.0*
*IDC **24** 12:47:49.8±5.5,1753S×17889W,h609km±74km,mb3.5/8, mb1 3.8/8,mb1mx3.4/16,mbtmp3.5/8,Error ellipse: s-maj=38.6km s-min=19.7km az=2.0*
ISC 24 12:47:44.5±1.3,178S±02×1786W±01,h553km±16km,n25, σ0§81/25,mb4.3/14,3D,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.62**	**61**	*e*P	**P**	**12 49 38.0**	**-0.7**
	46nm,0.6s						
URZ	**Urewera**	**20.76**	**190**	P	**P**	**12 51 51.5**	**+4.4**
	4.8nm,0.4s,baz=68,slow=2.9,SNR=11						
ARMA	**Armidale**	**29.84**	**239**	*e*P	**P**	**12 53 08.5**	**+1.1**
CTA	**Charters Tower**	**33.27**	**260**	⇓*i*P	**P**	**12 53 37.4**	**+0.6**
	9.6nm,0.7s,mb4.4						
CTA	**Charters Tower**	**33.27**	**260**	P	**P**	**12 53 37.4**	**+0.6**
	9.9nm,0.6s,mb4.5,baz=84,slow=11,SNR=20						
CNB	**Canberra Magne**	**33.35**	**232**	*e*P	**P**	**12 53 38.1**	**+0.8**
	22nm,0.6s,mb4.9						
STKA	**Stephens Creek**	**38.52**	**241**	⇓*i*P	**P**	**12 54 20.8**	**+0.8**
	11nm,0.6s,mb4.6						
STKA	**Stephens Creek**	**38.52**	**241**	P	**P**	**12 54 20.9**	**+0.8**
	14nm,0.6s,mb4.7,baz=91,slow=9.3,SNR=46						
WB2	**Warramunga Arr**	**44.45**	**259**	⇓*i*P	**P**	**12 55 06.6**	**-0.4**
WB2				*e*P		12 55 06.7	
WRAB	**Tennant Creek**	**44.45**	**259**	*e*P	**P**	**12 55 06.9**	**-0.1**
	32nm,1.3s,mb4.7						
WRA	**Warramunga Arr**	**44.46**	**259**	P	**P**	**12 55 06.6**	**-0.5**
	8.6nm,0.7s,mb4.4,baz=97,slow=6.8,SNR=156						
ASAR	**Alice Springs**	**44.63**	**254**	P	**P**	**12 55 08.9**	**+0.5**
	70nm,0.6s,mb5.3,baz=88,slow=8.4,SNR=1027						
ASAR				PcP	PcP	12 56 38.7	-0.5
	1.9nm,0.7s,baz=94,slow=4.0,SNR=4.6						
KAKA	**Kakadu**	**47.38**	**269**	*e*P	**P**	**12 55 29.1**	**-0.3**
	11nm,0.5s,mb4.6						
FORT	**Forrest**	**49.89**	**244**	*e*P	**P**	**12 55 46.0**	**-1.7**
	14nm,0.5s,mb4.6						
FITZ	**Fitzroy Crossi**	**52.85**	**260**	*e*P	**P**	**12 56 09.0**	**-0.3**
	7.9nm,1.5s,mb3.8						
KLBR	**Kellerberrin**	**58.71**	**243**	*e*P	**P**	**12 56 48.8**	**-0.9**
	10nm,0.6s,mb4.2						
NVAR	**Mina Array Bea**	**79.46**	**44**	P	**P**	**12 58 55.1**	**+1.2**
	1.4nm,0.7s,mb3.4,baz=229,slow=9.3,SNR=12						
TXAR	**Lajitas Array**	**86.09**	**58**	P	**P**	**12 59 28.4**	**+1.1**
TXAR	**Lajitas Array**	**86.09**	**58**	P	**P**	**12 59 28.4**	**+1.1**
	1.7nm,0.8s,mb3.8,baz=219,slow=6.2,SNR=22						
PDAR	**Pinedale Array**	**87.39**	**44**	P	**P**	**12 59 33.4**	**+0.2**
	1.1nm,0.6s,mb3.7,baz=234,slow=3.2,SNR=12						
VNA3	**Neumayer Olymp**	**90.89**	**176**	*e*	**P**	**12 59 47.8**	**-1.2**
VNA3				*e*		12 59 50.9	
VNA2	**Neumayer--Watz**	**91.33**	**177**	*e*	**P**	**12 59 50.0**	**-1.0**
	baz=191,slow=4.2						
VNA2				*e*		12 59 52.9	
VNA1	**Neumayer--Stat**	**91.56**	**177**	*e*	**P**	**12 59 52.0**	**-0.1**
VNA1				*e*		12 59 55.0	
YKA	**Yellowknife Ar**	**94.29**	**25**	P	**P**	**13 00 04.1**	**-0.3**
YKA	**Yellowknife Ar**	**94.29**	**25**	P	**P**	**13 00 04.1**	**-0.3**
	0.2nm,0.6s,mb3.5,baz=248,slow=4.6,SNR=6.0						

IDC 24 12:51:05.8±1.0,1526S×17320W,h0km,mb3.9/7, mb1 4.1/7,mb1mx3.9/17,mbtmp3.9/7,MS4.1/2,Ms1 4.1/2, ms1mx3.4/24,Error ellipse: s-maj=52.5km s-min=21.3km az=141.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**14.59**	**197**	LR	LR	12 59 00.5	
	comp=Z,674nm,18.6s,baz=126,slow=32						
URZ	**Urewera**	**24.46**	**199**	P	P	12 56 26.6	+0.3
	6.5nm,0.6s,baz=2.9,slow=8.4,SNR=9.7						
STKA	**Stephens Creek**	**44.27**	**240**	P	P	12 59 17.2	-0.1
	1.5nm,0.9s,baz=66,slow=9.6,SNR=3.1						
WRA	**Warramunga Arr**	**50.06**	**257**	P	P	13 00 02.7	0.0
	0.4nm,0.6s,baz=91,slow=6.6,SNR=7.6						
ASAR	**Alice Springs**	**50.34**	**252**	P	P	13 00 04.5	-0.3
	0.9nm,0.5s,baz=87,slow=8.1,SNR=11						
MJAR	**Matsushiro Arr**	**68.95**	**320**	LR	LR	13 27 23.3	
	comp=Z,108nm,19.9s,baz=145,slow=32						
TXAR	**Lajitas Array**	**80.37**	**56**	P	P	13 03 19.2	-0.1
	0.9nm,1.0s,baz=240,slow=5.0,SNR=6.6						
PDAR	**Pinedale Array**	**82.03**	**42**	P	P	13 03 28.1	+0.2
	0.2nm,0.4s,baz=211,slow=1.7,SNR=4.3						
YKA	**Yellowknife Ar**	**89.89**	**23**	P	P	13 04 07.0	+0.7
	0.3nm,0.9s,baz=229,slow=4.8,SNR=5.1						

*ISCJB **24** 12:57:20.9±0.6,289N±0.1×432W±0.1,h10km,mb4.0/15, Error ellipse: s-maj=17.8km s-min=13.8km az=166.9*
*IDC **24** 12:57:21.2±0.8,2889N×4322W,h0km,mb3.7/10, mb1 3.9/10,mb1mx3.7/24,mbtmp3.7/10,Error ellipse: s-maj=24.1km s-min=18.1km az=152.0*
*NEIC **24** 12:57:22.6±0.4,2884N×4320W,h10km,mb4.3/6,Error ellipse: s-maj=12.4km s-min=10.5km az=153.0*
ISC 24 12:57:22.8±0.6,289N±01×432W±01,h10km,n18,σ0§63/17, mb4.0/15,Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TORD	**Torodi Ar. Bea**	**44.45**	**101**	P	**P**	**13 05 34.2**	**-0.1**
	1.4nm,0.8s,mb3.8,baz=299,slow=7.8,SNR=9.8						
KEST	**Kesra**	**44.51**	**67**	P	**P**	**13 05 35.0**	**+0.5**
	1.1nm,0.7s,mb3.8,baz=235,slow=12,SNR=3.7						
GERES	**GERESS Array B**	**47.40**	**49**	P	**P**	**13 05 57.3**	**+0.1**
	0.4nm,0.2s,mb4.0,baz=263,slow=7.8,SNR=3.5						
SIV	**San Ignacio**	**47.82**	**203**	P	**P**	**13 05 59.6**	**-1.1**
	0.4nm,0.4s,mb3.8,baz=254,slow=17,SNR=3.3						
NOA	**NORSAR Array B**	**48.09**	**32**	P	**P**	**13 06 02.8**	**+0.4**
	0.5nm,0.8s,mb3.6,baz=175,slow=7.6,SNR=2.3						
LPAZ	**La Paz**	**50.94**	**211**	*e*P	**P**	**13 06 25.5**	**+0.9**
	1.1nm,0.8s,mb3.8						
LPAZ	**La Paz**	**50.94**	**211**	P	**P**	**13 06 25.6**	**+1.0**
	1.0nm,0.8s,mb3.8,baz=16,slow=7.4,SNR=3.4						
TXAR	**Lajitas Array**	**52.29**	**286**	P	**P**	**13 06 34.9**	**+0.2**
	0.6nm,0.9s,mb3.5,baz=105,slow=7.9,SNR=5.6						
EGMT	**Eagleton**	**53.83**	**310**	*e*P	**P**	**13 06 45.0**	**-0.7**
	12nm,1.5s,mb4.6						
PDAR	**Pinedale Array**	**54.27**	**304**	P	**P**	**13 06 49.2**	**+0.2**
	1.1nm,0.8s,mb3.9,baz=97,slow=7.3,SNR=12						
IMW	**Indian Meadow**	**55.11**	**305**	*e*P	**P**	**13 06 55.9**	**+0.8**
	6.7nm,1.3s,mb4.5						
FINES	**FINESS Array B**	**55.23**	**33**	P	**P**	**13 06 54.8**	**-0.9**
	0.8nm,0.8s,mb3.8,baz=270,slow=8.2,SNR=3.9						
YKA	**Yellowknife Ar**	**56.28**	**328**	P	**P**	**13 07 02.2**	**-1.0**
YKA	**Yellowknife Ar**	**56.28**	**328**	P	**P**	**13 07 02.2**	**-1.0**
	0.7nm,1.1s,mb3.6,baz=85,slow=6.8,SNR=6.2						
NEW	**Newport**	**58.69**	**311**	*e*P	**P**	**13 07 20.8**	**+0.3**
	3.4nm,0.8s,mb4.4						
TIXI	**Tiksi**	**79.61**	**3**	P	**P**	**13 09 30.4**	**+0.6**
	3.3nm,1.4s,mb4.1						
KURK	**Kurchatov**	**85.61**	**33**	*e*P	**P**	**13 10 01.2**	**-0.2**
	1.2nm,0.8s,mb4.2						
URZ	**Urewera**	**145.35**	**244**	PKPbc	PKPbc	13 17 01.3	+0.4
	7.2nm,0.9s,baz=207,slow=21,SNR=4.5						

*ISCJB **24** 12:57:49.6±0.3,2898N×006×4323W×005,h10km, mb4.4/55,MS4.5/14,Error ellipse: s-maj=9.7km s-min=6.1km az=158.2*
*IDC **24** 12:57:49.6±0.5,2904N×4325W,h0km,mb4.2/24, mb1 4.4/24,mb1mx4.3/28,mbtmp4.2/24,MS4.8/2, Ms1 4.8/2,ms1mx3.5/11,Error ellipse: s-maj=15.7km s-min=11.9km az=139.0*
*MOS **24** 12:57:49.8±0.7,2900N×4322W,h10km,mb4.7/26, MS4.4/5,Error ellipse: s-maj=15.2km s-min=5.8km az=47.2*
*NEIC **24** 12:57:51.2±0.2,2899N×4323W,h10km,mb4.5/27, MS4.4/4,Error ellipse: s-maj=7.2km s-min=4.4km az=154.0*
*GCMT **24** 12:57:51.2±0.3,2907N×4324W,h12km,MW5.1/86, Moment Tensor Solution. s30,c34; s86,c126; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-4.99±.12; $M_{\theta\theta}$1.03±.13; $M_{\phi\phi}$3.96±.11; $M_{r\theta}$-1.17±.48; $M_{\theta\phi}$1.41±.10; $M_{\phi r}$-0.99±.36; Best double couple: $M_0$4.99400×10^{16} NP1:ϕ_s29.00000°,δ37.00000°,λ-101.00000°. NP2: ϕ_s29.00000°,δ53.00000°,λ-82.00000°. Principal axes: T 4.7200, Plg8.0000°, Azm113.0000°; N 0.5470, Plg7.0000°, Azm204.0000°; P -5.2670, Plg79.0000°, Azm334.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*SZGRF **24** 12:58:02.9,3019N×4301W,h33km,mb4.7,Northern Mid-Atlantic Ridge*
ISC 24 12:57:51.5±0.3,2899N±006×4321W±005,h10km,n138, σ0§73/133,mb4.4/55,MS4.5/14,9C,Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EVO	**Evora**	**30.62**	**63**	*e*P	**P**	**13 04 04.7**	**-1.0**
	6.4nm,0.7s,mb4.2						
EVO				*e*MLR	MLR		
	comp=Z,1μm,21.0s,MS4.2						
SDV	**Santo Domingo**	**32.60**	**238**	P	**P**	**13 04 22.1**	**-1.3**
SDV	**Santo Domingo**	**32.60**	**238**	P	**P**	**13 04 22.1**	**-1.3**
	comp=Z,3.0nm,0.6s,mb4.4,baz=62,slow=19,SNR=4.0						
ESDC	**Sonseca Array**	**33.88**	**61**	P	**P**	**13 04 33.3**	**-1.0**
	comp=Z,0.7nm,0.5s,mb3.9,baz=254,slow=6.4,SNR=4.9						
ESDC				PcP	PcP	13 07 13.1	+0.1
	comp=Z,0.2nm,0.3s,baz=282,slow=2.9,SNR=4.3						
ROSF	**Rostrenen**	**36.16**	**47**	*e*P	**P**	**13 04 54.2**	**+0.3**
SJPF	**Ste Jean**	**36.37**	**56**	*e*P	**P**	**13 04 56.8**	**+1.0**
EPF	**Esparros**	**37.49**	**56**	*e*P	**P**	**13 05 05.5**	**+0.2**
MFF	**Saint Martin d**	**37.77**	**50**	*e*P	**P**	**13 05 07.7**	**+0.1**
	comp=Z,26nm,0.9s,mb4.6						
MFF	**Saint Martin d**	**37.77**	**50**	*e*P	**P**	**13 05 07.7**	**+0.1**
	comp=Z,13nm,0.9s,mb4.7						
MFF	**Saint Martin d**	**37.77**	**50**	*e*P	**P**	**13 05 07.7**	**+0.1**
MFF				pmax	pmax		
	comp=Z,13nm,0.9s,mb4.7						
LFF	**La Frestale**	**38.06**	**53**	*e*P	**P**	**13 05 09.8**	**-0.3**
LDF	**La Druitiere**	**38.25**	**47**	*e*P	**P**	**13 05 11.2**	**-0.4**
	comp=Z,20nm,0.8s,mb4.6						
LDF	**La Druitiere**	**38.25**	**47**	*e*P	**P**	**13 05 11.2**	**-0.4**
	comp=Z,10nm,0.8s,mb4.6						
LDF	**La Druitiere**	**38.25**	**47**	*e*P	**P**	**13 05 11.2**	**-0.4**
LDF				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.6						
MTLF	**Montolieu**	**38.89**	**56**	*e*P	**P**	**13 05 16.6**	**-0.5**
	comp=Z,5.9nm,0.6s,mb4.2						
MTLF	**Montolieu**	**38.89**	**56**	*e*P	**P**	**13 05 16.6**	**-0.5**
	comp=Z,3.0nm,0.6s,mb4.2						
MTLF	**Montolieu**	**38.89**	**56**	*e*P	**P**	**13 05 16.6**	**-0.5**
MTLF				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.2						
CAF	**Calviac**	**38.99**	**53**	*e*P	**P**	**13 05 17.5**	**-0.4**
TCF	**Toulx Ste Croi**	**39.30**	**51**	*e*P	**P**	**13 05 20.6**	**+0.1**
	comp=Z,16nm,0.9s,mb4.5						
TCF	**Toulx Ste Croi**	**39.30**	**51**	*e*P	**P**	**13 05 20.6**	**+0.1**
	comp=Z,7.9nm,0.9s,mb4.4						
TCF	**Toulx Ste Croi**	**39.30**	**51**	*e*P	**P**	**13 05 20.6**	**+0.1**
TCF				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.5						
LASF	**Ste Croix**	**40.15**	**55**	*e*P	**P**	**13 05 27.7**	**+0.1**
	comp=Z,9.2nm,0.8s,mb4.3						
AVF	**Avril sur Loir**	**40.16**	**51**	*e*P	**P**	**13 05 27.2**	**-0.5**
	comp=Z,10nm,0.9s,mb4.2						
AVF	**Avril sur Loir**	**40.16**	**51**	*e*P	**P**	**13 05 27.2**	**-0.5**
	comp=Z,5.2nm,0.9s,mb4.3						
AVF	**Avril sur Loir**	**40.16**	**51**	*e*P	**P**	**13 05 27.2**	**-0.5**
AVF				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.2						
SSF	**Saint Saulge**	**40.31**	**50**	*e*P	**P**	**13 05 28.5**	**-0.4**
SMF	**Signal de Mont**	**40.47**	**51**	*e*P	**P**	**13 05 30.2**	**0.0**
	comp=Z,32nm,1.0s,mb4.7						
SMF	**Signal de Mont**	**40.47**	**51**	*e*P	**P**	**13 05 30.2**	**0.0**
	comp=Z,16nm,1.0s,mb4.7						
SMF	**Signal de Mont**	**40.47**	**51**	*e*P	**P**	**13 05 30.2**	**0.0**
SMF				pmax	pmax		
	comp=Z,16nm,1.0s,mb4.7						
LOR	**Lormes**	**40.59**	**50**	*e*P	**P**	**13 05 30.8**	**-0.3**
	comp=Z,12nm,0.9s,mb4.2						
LOR				*e*MLR	MLR		
	comp=Z,496nm,22.5s,MS4.0						
LOR	**Lormes**	**40.59**	**50**	*e*P	**P**	**13 05 30.8**	**-0.3**
	comp=Z,5.8nm,0.9s,mb4.2						
LOR				LR	LR		
	comp=Z,500nm,22.5s,MS4.3						
LOR	**Lormes**	**40.59**	**50**	*e*P	**P**	**13 05 30.8**	**-0.3**
LOR				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.2						
LOR				MLR	MLR		
	comp=Z,500nm,22.5s,MS4.3						
SMRF	**Simiane la Rot**	**41.38**	**55**	*e*P	**P**	**13 05 38.4**	**+0.7**
EYMN	**Ely**	**41.50**	**311**	*e*P	**P**	**13 05 38.3**	**-0.4**
	comp=Z,6.3nm,1.2s,mb4.1						
MEZF	**Maizieres J'vi**	**41.59**	**48**	*e*P	**P**	**13 05 39.1**	**-0.3**
GIVF	**Givet**	**41.74**	**46**	*e*P	**P**	**13 05 41.1**	**+0.5**
LMR	**La Mourre**	**42.01**	**56**	*e*P	**P**	**13 05 42.8**	**-0.1**
	comp=Z,19nm,1.0s,mb4.4						
LMR	**La Mourre**	**42.01**	**56**	*e*P	**P**	**13 05 42.8**	**-0.1**
	comp=Z,9.4nm,1.0s,mb4.4						
LMR	**La Mourre**	**42.01**	**56**	*e*P	**P**	**13 05 42.8**	**-0.1**
LMR				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.3						
FRF	**La Foret Royal**	**42.13**	**56**	*e*P	**P**	**13 05 44.0**	**+0.1**
	comp=Z,11nm,0.8s,mb4.2						
FRF	**La Foret Royal**	**42.13**	**56**	*e*P	**P**	**13 05 44.0**	**+0.1**
	comp=Z,5.6nm,0.8s,mb4.2						
FRF	**La Foret Royal**	**42.13**	**56**	*e*P	**P**	**13 05 44.0**	**+0.1**
FRF				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.3						
BNI	**Bardonecchia**	**42.25**	**54**	*e*P	**P**	**13 05 46.8**	**+1.9**
	comp=Z,6.3nm,0.9s,mb4.2						
BNI	**Bardonecchia**	**42.25**	**54**	*e*P	**P**	**13 05 46.8**	**+1.9**
BNI				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.2						
MBDF	**Montbardon**	**42.29**	**54**	*e*P	**P**	**13 05 46.1**	**+0.9**
LPL	**La Plagne**	**42.33**	**53**	*e*P	**P**	**13 05 46.3**	**+0.8**
HAU	**

GRF	Grafenberg Arr	45.77	48	*e*P	P	13 06 13.3	+0.3
	comp=Z,9.0nm,1.2s,mb4.6						
BSEG	Bad Segeberg	45.83	42	*e*P	P	13 06 14.1	+0.7
	comp=Z,22nm,1.0s,mb5.0						
NKC	Novy Kostel	46.61	47	AMS	AMS	13 22 50.0	
	comp=Z,800nm,18.5s,MS4.7						
CLL	Collm	47.07	45	P	P	13 06 22.0	-1.2
CLL				*e*S	S	13 13 21.0	+6.0
CLL				LR	LR		
	comp=Z,400nm,21.9s,MS4.3						
KHC	Kasperske Hory	47.25	48	*e*P	P	13 06 25.4	+0.7
KHC				*e*pP	pP	13 06 30.0	+2.2
KHC				*e*S	S	13 13 21.3	+3.6
KHC				AMS	AMS	13 27 20.0	
	comp=Z,600nm,20.0s,MS4.6						
GEC2	GERESS Array S	47.32	49	*e*P	P	13 06 25.4	+0.2
GEC2				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.5						
GEC2	GERESS Array S	47.32	49	*e*P	P	13 06 25.4	+0.2
	comp=Z,6.0nm,1.0s,mb4.5						
GERES	GERESS Array B	47.32	49	P	P	13 06 24.3	-0.9
	comp=Z,2.4nm,0.8s,mb4.2,baz=282,slow=6.7,SNR=12						
PRU	Pruhonice	47.93	47	*e*S	S	13 13 36.9	+10
PRU				AMS	AMS	13 22 20.0	
	comp=Z,600nm,26.4s,MS4.5						
SIV	San Ignacio	47.94	203	P	P	13 06 29.9	-0.3
	comp=Z,2.5nm,0.9s,mb4.3,baz=46,slow=7.4,SNR=12						
PVCC	Panska Ves	47.99	47	AMS	AMS	13 22 50.0	
	comp=Z,800nm,20.8s,MS4.7						
NB2	NORSAR Subarra	47.99	32	P	P	13 06 30.9	+0.7
	comp=Z,0.8nm,0.7s,mb3.9,baz=252,slow=7.9						
NOA	NORSAR Array B	47.99	32	P	P	13 06 29.2	-1.0
	comp=Z,3.4nm,1.0s,mb4.3,baz=254,slow=7.7,SNR=4.5						
TREC	Trest	48.51	48	AMS	AMS	13 25 20.0	
	comp=Z,400nm,20.6s,MS4.4						
JCT	Junction City	48.71	286	*e*P	P	13 06 36.5	+0.2
	comp=Z,28nm,1.6s,mb5.0						
JCT	Junction City	48.71	286	*e*P	P	13 06 36.5	+0.2
JCT				pmax	pmax		
	comp=Z,28nm,1.6s,mb5.0						
UPC	Upice	48.90	47	*e*P	P	13 06 38.0	+0.6
HFS	Hagfors	48.94	34	P	P	13 06 37.4	-0.2
	comp=Z,4.7nm,1.0s,mb4.5,baz=260,slow=4.4,SNR=5.0						
DPC	Dobruska-Polom	49.09	47	*e*P	P	13 06 39.3	+0.4
DPC				AMS	AMS	13 28 30.0	
	comp=Z,600nm,17.8s,MS4.6						
OKC	Ostrava-Krasne	50.26	48	*e*S	S	13 14 09.0	+9.0
OKC				AMS	AMS	13 24 20.0	
	comp=Z,400nm,27.7s,MS4.3						
VYHS	Vyhne	50.72	49	*e*P	P	13 06 50.3	-0.9
LPAZ	La Paz	51.05	211	*e*P	P	13 06 55.1	+1.1
	comp=Z,2.6nm,0.8s,mb4.2						
LPAZ	La Paz	51.05	211	*e*P	P	13 06 55.1	+1.1
LPAZ				pmax	pmax		
	comp=Z,3.0nm,0.8s						
LPAZ	La Paz	51.05	211	P	P	13 06 54.7	+0.7
	comp=Z,2.0nm,0.9s,mb4.1,baz=39,slow=12,SNR=7.0						
KECS	Kecovo	51.81	49	*e*P	P	13 06 57.2	-2.3
	comp=Z,1.8nm,1.1s,mb3.9						
KECS				*e*		13 20 33.4	
KECS	Kecovo	51.81	49	*e*P	P	13 06 57.2	-2.3
KECS				pmax	pmax		
	comp=Z,2.0nm,1.1s,mb4.0						
KECS	Kecovo	51.81	49	*e*P	P	13 06 57.2	-2.3
KECS				*e*		13 20 33.3	
TXAR	Lajitas Array	52.25	286	P	P	13 07 02.2	-0.9
TXAR	Lajitas Array	52.25	286	P	P	13 07 02.2	-0.9
	comp=Z,3.3nm,1.1s,mb4.2,baz=92,slow=8.0,SNR=9.5						
ANMO	Albuquerque	53.21	294⇑	*e*P	P	13 07 10.7	+0.7
EGMT	Eagleton	53.73	310	*e*P	P	13 07 13.5	-0.2
	comp=Z,24nm,1.2s,mb5.0						
PDAR	Pinedale Array	54.19	304	P	P	13 07 17.4	+0.2
	comp=Z,3.8nm,0.9s,mb4.3,baz=86,slow=9.1,SNR=11						
PDAR				LR	LR	13 28 18.1	
	comp=Z,910nm,20.0s,MS4.8,baz=112,slow=34						
FINES	FINESS Array B	55.13	33	P	P	13 07 23.5	-0.1
FINES	FINESS Array B	55.13	33	P	P	13 07 23.5	-0.1
	comp=Z,2.0nm,0.7s,mb4.3,baz=250,slow=5.5,SNR=9.3						
VSU	Vasula	55.38	37⇑	*e*P	P	13 07 26.8	+1.3
ARCES	ARCESS Array B	55.72	23	P	P	13 07 27.4	-0.3
	comp=Z,1.7nm,0.8s,mb4.2,baz=70,slow=22,SNR=6.0						
MLR	Muntele Rosu	55.81	53	P	P	13 07 29.6	+0.8
	comp=Z,10nm,1.1s,mb4.8,baz=32,slow=13,SNR=5.5						
YKA	Yellowknife Ar	56.16	328	P	P	13 07 28.6	-2.4
YKA				PcP	PcP	13 08 28.2	-0.6
YKA	Yellowknife Ar	56.16	328	P	P	13 07 28.6	-2.4
	comp=Z,1.0nm,0.9s,mb3.9,baz=89,slow=7.4,SNR=11						
YKA				PcP	PcP	13 08 28.2	-0.6
	comp=Z,1.1nm,0.9s,baz=94,slow=5.1,SNR=7.3						
CPUP	Villa Florida	56.65	195	P	P	13 07 34.0	-0.9
CPUP	Villa Florida	56.65	195	P	P	13 07 34.0	-0.9
	comp=Z,1.8nm,0.8s,mb4.2,baz=1.0,slow=8.3,SNR=4.6						
AKASG	Malin Array Be	57.30	46	*i* P	P	13 07 39.2	-0.1
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.6s						
AKASG	Malin Array Be	57.30	46	P	P	13 07 38.6	-0.7
	comp=Z,1.0nm,0.6s,mb4.0,baz=275,slow=6.7,SNR=6.1						
NEW	Newport	58.60	311	*e*P	P	13 07 48.4	-0.1
	comp=Z,3.4nm,0.8s,mb4.4						
NEW	Newport	58.60	311	*e*P	P	13 07 48.4	-0.1
NEW				pmax	pmax		
	comp=Z,3.0nm,0.8s						
OBN	Obninsk	61.06	40⇑	*e*P	P	13 08 05.9	+0.7
OBN				pmax	pmax		
	comp=Z,14nm,0.9s,mb5.1						
NVAR	Mina Array Bea	61.61	300	P	P	13 08 09.0	-0.3
	comp=Z,2.0nm,1.0s,mb4.2,baz=66,slow=7.0,SNR=5.2						
CMB	Columbia Colle	63.29	300	*e*P	P	13 08 22.1	+1.5
	comp=Z,9.4nm,1.4s,mb4.7						
CMB	Columbia Colle	63.29	300	*e*P	P	13 08 22.1	+1.5
CMB				pmax	pmax		
	comp=Z,9.0nm,1.4s,mb4.7						
KIV	Kislovodsk	67.74	51	*e*P	P	13 08 45.3	-3.9
KIV				pmax	pmax		
	comp=Z,6.0nm,1.2s,mb4.5						
COLA	College	70.03	334⇑	*e*P	P	13 09 02.8	-0.3
ARU	Arti	72.44	35	*c i*P	P	13 09 17.4	-0.5
ARU				*e*		13 11 55.2	
ARU				*e*PPP		13 13 37.7	
ARU				*e*S	S	13 18 40.1	-1.5
ARU				pmax	pmax		
	comp=Z,12nm,2.5s,mb4.4						
PLCA	Paso Flores	73.86	201	P	P	13 09 27.1	+0.9
	comp=Z,1.2nm,0.7s,mb3.9,baz=14,slow=12,SNR=3.4						
TIXI	Tiksi	79.48	3	*e*P	P	13 09 58.3	+0.5
	comp=Z,3.3nm,1.4s,mb4.1						
TIXI	Tiksi	79.48	3	*c i*P	P	13 09 58.0	+0.2
TIXI				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.4						
KURK	Kurchatov	85.50	33	*e*P	P	13 10 30.0	+0.5
	comp=Z,1.2nm,0.8s,mb4.2						
KURK	Kurchatov	85.50	33	*e*P	P	13 10 30.0	+0.5
KURK				pmax	pmax		
	comp=Z,1.0nm,0.8s,mb4.1						
ZAL	Zalesovo	85.99	28	P	P	13 10 31.3	-0.6
ZALV	Zalesovo Beam	85.99	28	P	P	13 10 31.3	-0.6
	comp=Z,0.9nm,0.3s,mb4.5,baz=298,slow=6.4,SNR=4.4						
SEY	Seymchan	87.55	353⇑	*e*P	P	13 10 39.6	+0.3
AAK	Ala-Archa	88.58	41⇑	*e*P	P	13 10 44.7	+0.1
AAK				pmax	pmax		
	comp=Z,6.0nm,2.5s,mb4.5						
MKAR	Makanchi Array	89.95	34⇑	*e*P	P	13 10 51.7	+0.7
MKAR	Makanchi Array	89.95	34	P	P	13 10 50.6	-0.4
	comp=Z,2.1nm,1.0s,mb4.4,baz=286,slow=4.4,SNR=7.8						
URZ	Urewera	145.40	244	PKPbc	PKPbc	13 17 29.2	-0.5
	comp=Z,13nm,0.9s,baz=333,slow=3.2,SNR=8.1						
WRA	Warramunga Arr	170.72	14	PKP	PKPdf	13 17 59.0	-1.4
	comp=Z,0.2nm,0.7s,baz=221,slow=3.6,SNR=3.0						
ASAR	Alice Springs	174.10	27	PKP	PKPdf	13 18 00.4	-1.4
ASAR	Alice Springs	174.10	27	PKP	PKPdf	13 18 00.4	-1.4
	comp=Z,0.9nm,1.0s,baz=288,slow=0.6,SNR=4.3						

IDC 24 13:00:52.8±1.9, 2244S×17141E, $h0^{km}$, mb3.9/4, mb1 4.1/5, mb1mx3.9/13, mbtmp4.0/5, ML3.5/1, MS3.4/1, Ms1 3.4/1, ms1mx3.0/17, Error ellipse: s-maj=46.8km s-min=39.9km az=138.0, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	16.51	164	Pn	Pn	13 04 44.7	-1.1
	0.2nm,0.3s,baz=323,slow=4.2,SNR=4.7						
URZ				LR	LR	13 10 04.7	
	comp=Z,132nm,19.2s,baz=306,slow=33						
STKA	Stephens Creek	28.07	244	P	P	13 06 46.8	+0.7
	2.1nm,1.0s,baz=80,slow=17,SNR=2.9						
ASAR	Alice Springs	34.47	261	P	P	13 07 42.5	0.0
	0.6nm,0.5s,baz=93,slow=8.7,SNR=18						
WRA	Warramunga Arr	34.60	267	P	P	13 07 43.1	-0.6
	1.0nm,0.6s,baz=98,slow=8.5,SNR=20						
SONM	Songino Array	90.98	322	P	P	13 13 59.1	+0.5
	1.0nm,0.9s,baz=137,slow=2.1,SNR=5.6						
GERES	GERESS Array B	148.26	332	PKPbc	PKPbc	13 20 40.5	-0.2
	1.2nm,0.7s,baz=33,slow=3.8,SNR=6.6						

*NEIC **24** 13:08:02.3, 3808N×2021E, $h4^{km}$, MD3.6(ATH), ML3.6(THE), After ATH.*
*ATH **24** 13:08:02.3, 3808N×2021E, $h4^{km}$±1^{km}, MD3.6/7*
*ISCJB **24** 13:08:03.6±0.7, 3808N±005×2025E±004, $h10^{km}$, Error ellipse: s-maj=6.6km s-min=4.2km az=11.8*
*CSEM **24** 13:08:03.4±0.1, 3805N×2024E, $h2^{km}$, ML3.6, Error ellipse: s-maj=3.5km s-min=1.8km az=7.0*
*THE **24** 13:08:05.0, 3811N×2030E, $h3^{km}$, ML3.6*

ISC 24 13:08:04.2±0.7, 3808N±005×2027E±004, $h10^{km}$, n17, σ1º00/29, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	Valsamata	0.27	70	*e*Pg	Pg	13 08 09.0	-0.7
VLS				*e*Sg	Sg	13 08 12.8	-0.5
VLS	Valsamata	0.27	70	*e*PG	Pg	13 08 09.1	-0.6
VLS				*e*SG	Sg	13 08 13.1	-0.2
KFL	Anninata	0.41	86	*e*Pg	Pg	13 08 11.4	-0.9
KFL				*e*Sg	Sg	13 08 17.2	-0.5
LKD	Levkas	0.69	26	*e*Pg	Pg	13 08 16.2	-1.4
LKD				*e*Sg	Sg	13 08 26.8	+0.1
RLS	Riolos of Patr	0.95	91	*e*PG	Pg	13 08 21.0	-1.4
RLS				*e*SG	Sg	13 08 35.2	+0.5
SELA	Sela	1.29	81	*e*Pg	Pg	13 08 27.4	-1.7
SELA				*e*Sg	Sg	13 08 48.1	+2.2
EVR	Evrytania	1.47	55	*e*PB	Pn	13 08 30.6	-0.1
ITM	Ithomi	1.60	124	*e*PB	Pb	13 08 32.9	-0.9
KEK	Kerkira	1.67	347	*e*PB	Pn	13 08 33.4	-0.1
AGG	Agios Georgios	1.87	59	*e*Pb	Pb	13 08 38.3	-0.1
AGG				*e*Sb	Sb	13 09 02.8	+1.0
THL	Klokotos Trika	2.01	42	*e*Pb	Pb	13 08 39.6	-1.2
THL				*e*Sb	Sb	13 09 06.5	+0.5
THL	Klokotos Trika	2.01	42	*e*Pn	Pb	13 08 39.7	-1.2
THL				*e*Sb	Sb	13 09 06.5	+0.6
DID	Didima	2.42	103	*e*Pn	Pn	13 08 44.5	+0.6
DID				*e*Sn	Sb	13 09 18.2	+0.5
VLI	Veliai	2.52	122	*e*PB	Pn	13 08 46.7	+1.5
TIP	Timpagrande	2.96	293	*e*Pn	Pn	13 08 51.2	0.0
TIP				*e*Sn	Sn	13 09 27.5	+0.8
TIP	Timpagrande	2.96	293	*e*Pn	Pn	13 08 51.2	0.0
TIP				*e*Sn	Sn	13 09 27.5	+0.8
OUR	Ouranopolis	3.66	51	*e*Pn	Pn	13 09 02.9	+2.1

*MOS **24** 13:09:46.5±1.6, 4443N×14858E, $h33^{km}$, mb4.0/4, Error ellipse: s-maj=16.7km s-min=15.9km az=179.6*
MOS Felt (IV) at Kuril'sk.
*ISCJB **24** 13:09:50.9±1.3, 4424N±007×1482E±01, $h74^{km}$±12^{km}, mb3.5/6, Error ellipse: s-maj=13.7km s-min=11.0km az=24.5*
*JMA **24** 13:09:50.4±0.3, 4400N×14798E, $h0^{km}$, M4.5*
*IDC **24** 13:09:53.4±4.2, 4436N×14835E, $h80^{km}$±38^{km}, mb3.2/5, mb1 3.5/6, mb1mx3.3/21, mbtmp3.2/6, MS2.9/1, Ms1 2.9/1, ms1mx2.7/12, Error ellipse: s-maj=38.6km s-min=22.8km az=145.0*

ISC 24 13:09:51.9±1.3, 4423N±007×1482E±01, h64^{km}±13^{km}, n28, σ1º06/39, mb3.6/6, 2C-2D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	Kuril'sk	1.04	346	*e*PN	Pn	13 10 03.0	-7.5
KUR				*i* S	Sn	13 10 14.8	-10
KUR				pmax	pmax		
	comp=N,170nm,0.5s						
KUR				pmax	pmax		
	comp=E,80nm,0.5s						
KUR				pmax	pmax		
	comp=Z,680nm,0.5s						
KUR				pmax	pmax		
	comp=Z,2μm,2.0s						
KUR				smax			
	comp=N,2μm,0.5s						
KUR				smax			
	comp=E,3μm,0.5s						
KUR				smax			
	comp=N,6μm,2.0s						
KUR				smax			
	comp=E,5μm,2.0s						
YUK	Yuzh-Kuril'sk	1.71	264	*e*PN	Pn	13 10 18.0	-1.4
YUK				*e*S	Sn	13 10 39.0	-1.3
YUK				pmax	pmax		
	comp=Z,400nm,0.5s						
YUK				smax			
	comp=N,2μm,0.4s						
YUK				smax			
	comp=E,700nm,0.4s						
YUK				smax			
	comp=N,2μm,1.0s						
YUK				smax			
	comp=E,2μm,1.0s						
NEM2	Nemuro 2	1.99	245	P	Pn	13 10 21.9	-1.3
NEM2				*e*S	Sn	13 10 45.3	-1.8
JRA	Rausu	2.25	264	P	Pn	13 10 27.0	+0.3
JRA				*e*S	Sn	13 10 54.1	+0.7
JNK	Nakash	2.61	257	P	Pn	13 10 31.4	-0.2
JNK				*e*S	Sn	13 11 01.8	-0.4
JAK	Akkeshi	2.84	246	P	Pn	13 10 34.4	-0.4
JAK				*e*S	Sn	13 11 07.0	-0.8
JTKR	Abashiri--Toko	3.12	267	P	Pn	13 10 40.1	+1.6
JAR	Ashorobuto	3.36	255	P	Pn	13 10 42.5	+0.7
JOB	Onbets	3.45	249	P	Pn	13 10 43.6	+0.5
JCH	Churui	3.89	247	P	Pn	13 10 49.8	+0.7
JCH				*e*S	Sn	13 11 33.4	-0.1
JKK2	Kamakawa 2	3.96	267	P	Pn	13 10 51.6	+1.5
ASAJ	Asahikawa	4.05	270	PN	Pn	13 10 52.6	+1.4
ASAJ				S	Sn	13 11 43.1	+5.8
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ASAJ				smax			
	comp=N,2.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,144nm,19.3s						
ASAJ	Asahikawa	4.05	270	P	Pn	13 10 52.5	+1.3
	comp=Z,1.8nm,0.3s,baz=64,slow=18,SNR=15						
ASAJ				S	Sn	13 11 43.1	+5.8
	comp=Z,2.2nm,0.3s,baz=223,slow=17,SNR=2.4						
ASAJ				LR	LR	13 12 33.5	
	comp=Z,144nm,19.3s,baz=173,slow=39						
ERM	Erimo	4.32	241	*i* PN	Pn	13 10 57.1	+2.2
JNBK	Urakawa-nobuka	4.44	246	P	Pn	13 10 57.2	+0.5
YSS	Yuzh-Sakhalins	4.71	307	*e*PN	Pn	13 10 59.0	-1.2
YSS				*e*S	Sn	13 11 54.0	+0.6
JKB	Kayabe	5.76	249	P	Pn	13 11 15.2	+0.5
JKB				*e*S	Sn	13 12 18.5	-0.9
COLA	College	40.23	36⇓	*e*P	P	13 17 16.7	-5.0
MKAR	Makanchi Array	45.05	298	P	P	13 18 00.5	-0.5
MKAR						13 19 40.3	
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
MKAR	Makanchi Array	45.05	298	P	P	13 18 00.5	-0.6
	comp=Z,0.9nm,0.7s,mb3.7,baz=74,slow=8.9,SNR=6.5						
MKAR				PcP	PcP	13 19 40.3	-0.5
	comp=Z,0.2nm,0.4s,baz=74,slow=2.3,SNR=2.9						
INK	Inuvik	45.60	31	P	P	13 18 03.6	-1.5
INK				pmax	pmax		
	comp=Z,1.0nm,0.9s						
INK	Inuvik	45.60	31	P	P	13 18 03.6	-1.5
	comp=Z,0.8nm,0.8s,mb3.7,baz=284,slow=7.0,SNR=8.8						
KURK	Kurchatov	45.90	304⇓	*e*P	P	13 18 10.0	+2.3
AAK	Ala-Archa	51.85	296⇓	*e*P	P	13 18 53.1	-0.2
AAK				pmax	pmax		
	comp=Z,6.0nm,2.5s,mb4.1						
AAK				MLR	MLR		
	comp=Z,100nm,17.0s						
YKA	Yellowknife Ar	54.98	34	*i* P	P	13 19 14.8	-1.1
YKA	Yellowknife Ar	54.98	34	P	P	13 19 14.7	-1.2
	comp=Z,0.4nm,0.6s,mb3.7,baz=298,slow=6.8,SNR=8.5						
WRA	Warramunga Arr	65.11	194	P	P	13 20 26.5	+0.8
	comp=Z,0.3nm,0.9s,mb3.3,baz=9.3,slow=6.6,SNR=2.9						
TXAR	Lajitas Array	81.74	57	P	P	13 22 03.2	-0.3
	comp=Z,0.1nm,0.5s,mb3.0,baz=316,slow=5.2,SNR=3.9						

*KRSC **24** 13:09:50.6±0.7, 5508N×16105E, $h10^{km}$±19^{km}, ML3.5*
*ISCJB **24** 13:09:51.3±0.8, 5507N±002×16103E±006, $h2^{km}$±5^{km}, Error ellipse: s-maj=5.5km s-min=3.0km az=2.5*

ISC 24 13:09:52.4±0.6, 5508N±002×16103E±006, h8^{km}±4^{km}, n19, σ1º05/36, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TUMR	Tumrok	0.55	292	*e*P	Pg	13 10 01.6	-1.3
TUMR				*i* S	Sg	13 10 09.6	-0.5
MKZ	Mys Kozlova	0.66	142	*e*P	Pg	13 10 05.1	0.0
MKZ				*i* S	Sg	13 10 15.3	+1.5
KMNR	Kamenistaya	0.81	326	*e*P	Pg	13 10 06.7	-1.3
KMNR				*i* S	Sg	13 10 19.0	+0.4
KIRR	Kirishev	0.96	336	*e*P	Pg	13 10 10.3	-0.4
KIRR				*i* S	Sg	13 10 24.4	+1.2
KPT	Kopyto	1.00	333	P	Pg	13 10 11.7	+0.2
KPT				*i* S	Sg	13 10 26.3	+1.8
KOZ	Kozyrevsk	1.18	327	*e*P	Pb	13 10 13.9	-1.0
KOZ				*i* S	Sg	13 10 30.9	+0.6
KLY	Klyuchi	1.25	350	*e*P	Pn	13 10 14.6	-1.5
KLY				*i* S	Sb	13 10 32.0	-0.4
KII	Karymskiy	1.40	222	*e*P	Pn	13 10 17.0	-1.1
KII				*i* S	Sb	13 10 36.2	-0.3
SRDR	Sredinnyy	1.45	330	*e*P	Pn	13 10 17.6	-1.1
SRDR				*i* S	Sn	13 10 37.5	-0.3
BDR	Baidarnaya	1.49	4	*e*P	Pn	13 10 19.5	+0.1
BDR				*i* S	Sn	13 10 40.5	+1.5
KBTR	Krutoberegovo	1.52	41	*e*P	Pn	13 10 18.5	-1.2
KBTR				*i* S	Sn	13 10 38.4	-1.2
SMKR	Semkarok	1.52	9	*e*P	Pn	13 10 20.2	+0.4
SMKR				*i* S	Sn	13 10 41.6	+1.8
SRKR	Sorokina	1.58	3	*e*P	Pn	13 10 20.1	-0.5
SRKR				*i* S	Sn	13 10 41.7	+0.6
SPN	Mys Shipunski	2.08	197	*e*P	Pn	13 10 25.6	-1.8
SPN				*i* S	Sn	13 10 51.7	-1.7
NLC	Nalytchevo	2.16	208	*e*P	Pn	13 10 28.6	+0.1
NLC				*i* S	Sn	13 10 56.7	+1.3
AVH	Avacha	2.27	217	*e*P	Pn	13 10 30.8	+0.8
GNL	Ganaly	2.28	234	*e*P	Pn	13 10 30.3	+0.1
PET	Petropavlovsk	2.49	215	*e*P	Pn	13 10 34.1	+1.0
PET				*i* S	Sn	13 11 06.0	+2.3
RUS	Russkaya	3.05	210	*e*P	Pn	13 10 40.9	+0.2
RUS				*i* S	Sn	13 11 17.8	+0.5

*ISCJB **24** 13:30:07.6±0.7, 3250N±003×11525W±003, $h6^{km}$±4^{km}, Error ellipse: s-maj=6.2km s-min=2.6km az=147.3*
*ECX **24** 13:30:08.6±0.5, 3248N×11520W, $h13^{km}$±3^{km}, MD3.2, ML3.3*
*NEIC **24** 13:30:08.6, 3248N×11520W, $h3^{km}$, ML3.3(ECX), ML3.2(PAS), After ECX.*

ISC 24 13:30:08.1±0.6, 3250N±003×11525W±003, h11^{km}±3^{km}, n34, σ1º01/49, 17C-16D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COA	Coachella	0.38	16⇓	*e*P	Pg	13 30 16.1	+0.5
ERPC	Ernies Place	0.43	305⇑	*e*P	Pg	13 30 17.7	+1.3
SGL	Mount Signal	0.43	290⇑	*e*P	Pg	13 30 17.2	+0.7
BTCC	Brunts Corner	0.51	3	*e*P	Pg	13 30 18.2	+0.1
COK	Cook Ranch	0.53	311⇑	*e*P	Pg	13 30 19.3	+0.8
YUH	Yuha Desert	0.59	285⇑	*e*P	Pg	13 30 19.6	+0.1
YMD	Yuma Desert	0.60	85⇑	*e*P	Pg	13 30 18.2	-1.4
SWSC	Sam W. Stewart	0.64	314	⇑P	Pg	13 30 19.7	-0.7
	baz=0.8						
GLA	Glamis	0.66	33⇓	*e*P	Pg	13 30 19.7	-1.0
GLA	Glamis	0.66	33	*e*Pg	Pg	13 30 19.7	-1.1
GLA				*e*Sg	Sg	13 30 28.8	-0.6
GLA	Glamis	0.66	33	⇑P	Pg	13 30 19.8	-1.0
	baz=0.7						
GLA				⇑S	Sg	13 30 28.3	-1.1
	baz=0.7						
RMX	La Rumorosa	0.71	278⇓	*e*P	Pg	13 30 21.8	0.0
RMX				*e*S	Sg	13 30 32.5	+1.5
DVTC	Desert V Tower	0.74	283⇑	*e*P	Pg	13 30 22.2	-0.1
DVTC	Desert V Tower	0.74	283	⇑P	Pg	13 30 22.2	-0.1
	baz=0.9						
DVTC				⇓S	Sg	13 30 33.2	+1.3
	baz=0.9						
RDX	Rancho Dowling	0.82	227⇓	*e*P	Pg	13 30 23.4	-0.5
RDX				*e*S	Sg	13 30 34.7	+0.1
RDX				*e*		13 30 37.2	
	comp=N,610nm,0.5s						
RDX	Rancho Dowling	0.82	227⇓	*e*P	Pg	13 30 23.4	-0.5
RDX				*e*S	Sg	13 30 34.7	+0.1
MONP	Monument Peak	1.06	292	⇓P	Pb	13 30 28.1	-0.4
	baz=1.2						
MONP				⇓S	Sg	13 30 42.4	+0.1
	baz=1.2						
BC3	Big Chuckw Mtn	1.16	352	⇓P	Pb	13 30 28.1	-2.1
	baz=1.3						
BC3				⇓S	Sb	13 30 42.8	-2.6
	baz=1.3						
CBX	Cerro Bola	1.21	262	*e*P	Pn	13 30 30.4	-0.5
CBX				*e*S	Sb	13 30 47.2	+0.5
ENX	Ensenada	1.35	243⇓	*e*P	Pn	13 30 32.4	-0.5
ENX				*e*S	Sb	13 30 50.5	-0.2
Y12C	Blythe	1.39	26	⇑P	Pn	13 30 32.9	-0.5
	baz=1.5,SNR=70						
Y12C				⇑S	Sn	13 30 50.5	-1.2
	baz=1.5						
ECNX	Esteban Cantu	1.42	234	*e*P	Pn	13 30 33.5	-0.3
ECNX				*e*P		13 30 32.4	
ECNX				*e*S	Sn	13 30 50.9	-1.6

ARCES	**ARCESS Array B**	**59.88**	**338**	P		**P**	**13 52 52.6**	**+1.0**
	2.5nm,0.9s,mb4.2,baz=105,slow=6.6,SNR=2.8							
ASAR	**Alice Springs**	**61.09**	**139**	P		**P**	**13 53 00.1**	**-0.3**
	0.8nm,1.0s,mb3.7,baz=317,slow=6.3,SNR=2.7							
NB2	**NORSAR Subarra**	**65.72**	**328**	P		**P**	**13 53 29.9**	**-0.5**
	comp=Z,0.8nm,0.7s,mb3.7,baz=82,slow=6.5							
NOA	**NORSAR Array B**	**65.72**	**328**	P		**P**	**13 53 29.7**	**-0.7**
	comp=Z,0.9nm,0.8s,mb3.7,baz=86,slow=5.9,SNR=3.6							
GERES	**GERESS Array B**	**66.28**	**314**	P		**P**	**13 53 34.6**	**+0.4**
	comp=Z,0.5nm,0.5s,mb3.6,baz=55,slow=5.1,SNR=4.1							
TORD	**Torodi Ar. Bea**	**87.68**	**283**	P		**P**	**13 55 35.2**	**+0.7**
	comp=Z,0.2nm,0.5s,mb3.4,baz=57,slow=5.0,SNR=3.9							

*BJI **24** 13:43:03.8, 1841N×12067E, h25km, mB4.5, mb4.3, ML4.4, Ms4.0, Msz3.7*
*IDC **24** 13:43:03.4±0.6, 1832N×12071E, h0km, mb4.1/16, mb1 4.2/18, mb1mx4.2/22, mbtmp4.2/18, ML3.9/1, MS3.7/13, Ms1 3.7/13, ms1mx3.6/28, Error ellipse: s-maj=21.5km s-min=13.4km az=76.0*
*MOS **24** 13:43:05.9±1.2, 1842N×12096E, h33km, mb4.5/20, Error ellipse: s-maj=14.1km s-min=7.1km az=113.2*
*NEIC **24** 13:43:09.0±1.2, 1835N×12079E, h36km±11km, mb4.8/8, Error ellipse: s-maj=10.4km s-min=8.5km az=118.0*
NEIC Felt [II PIVS] at Pasuquin and Sanchez Mira.
*ISCJB **24** 13:43:10.6±1.1, 1852N±003×12096E±006, h69km±10km, mb4.4/36, Error ellipse: s-maj=9.3km s-min=5.1km az=14.9*

ISC 24 13:43:12.0±0.8, 1849N±004×12093E±006, h68km±8km, n116, σ1°15/117, mb4.4/36, 10C-12D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YHNB	**Yeheng**	**6.16**	**4**	*e*Pn	**Pn**	**13 44 40.2**	**-0.2**
YHNB				*e*Sn	**Sn**	**13 45 49.4**	**-0.2**
QIZ	**Qiongzhong**	**10.52**	**275**	P	**Pn**	**13 45 30.8**	**-9.2**
QIZ				S	**Sn**	**13 47 23.1**	**-13**
QIZ				LR	LR		
	comp=N,378nm,12.8s						
QIZ				LR	LR		
	comp=E,553nm,18.9s						
QIZ				LR	LR		
	comp=Z,857nm,16.6s						
QIZ	**Qiongzhong**	**10.52**	**275**	*e*Pn	**Pn**	**13 45 33.2**	**-6.8**
	comp=Z,27nm,0.6s						
JOW	**Kunigami**	**10.72**	**38**	Pn	**Pn**	**13 45 42.4**	**-0.3**
	comp=Z,1.8nm,0.3s,baz=212,slow=11,SNR=6.4						
JOW				Sn	**Sn**	**13 47 41.2**	**+0.2**
	comp=Z,0.4nm,0.3s,baz=126,slow=19,SNR=2.6						
JOW				LR	LR	13 49 59.0	
	comp=Z,294nm,21.3s,baz=241,slow=38						
SSE	**Sheshan**	**12.55**	**1**	P	**Pn**	**13 46 02.8**	**-4.9**
SSE				S	**Sn**	**13 48 22.8**	**-3.0**
SSE				AMB	AMB		
	comp=Z,41nm,0.7s						
SSE				AMB	AMB		
	comp=Z,153nm,6.4s						
SSE				LR	LR		
	comp=N,241nm,23.5s						
SSE				LR	LR		
	comp=E,112nm,23.5s						
SSE				LR	LR		
	comp=Z,277nm,21.0s						
SDKM	**Sandakan**	**13.28**	**196**	⇑P	**Pn**	**13 46 20.6**	**+2.9**
MYLDM	**Lahad Datu**	**13.44**	**190**	⇓P	**Pn**	**13 46 22.3**	**+2.4**
TSM	**Tawau**	**14.42**	**192**	⇓P	**Pn**	**13 46 36.5**	**+3.7**
BTM	**Bintulu**	**17.03**	**208**	⇑P	**Pn**	**13 47 06.1**	**+0.3**
JNU	**Nakatsue**	**17.09**	**30**	P	**Pn**	**13 47 07.8**	**+1.3**
	baz=156,slow=15,SNR=4.7						
JNU				LR	LR	13 53 42.1	
	comp=Z,234nm,21.7s,baz=228,slow=37						
SBUM	**Sibu**	**18.08**	**209**	⇓P	**Pn**	**13 47 19.7**	**+1.0**
XAN	**Xi'an**	**18.84**	**328**	P	**Pn**	**13 47 27.1**	**-0.5**
XAN				S	**S**	**13 50 51.3**	**-5.8**
XAN				AMB	AMB		
	comp=Z,84nm,11.8s						
XAN				LR	LR		
	comp=N,148nm,17.4s						
XAN				LR	LR		
	comp=E,249nm,17.4s						
XAN				LR	LR		
	comp=Z,200nm,17.4s						
KSM	**Kuching**	**19.86**	**213**	*e*P	**Pn**	**13 47 37.1**	**-2.8**
KSM	**Kuching**	**19.86**	**213**	⇓P	**Pn**	**13 47 38.4**	**-1.5**
KSRS	**Korea Array**	**19.86**	**17**	P	**Pn**	**13 47 38.5**	**-1.3**
KSRS				pmax	pmax		
	comp=Z,2.0nm,0.6s						
KSRS				MLR	MLR		
	comp=Z,136nm,18.9s						
KSRS	**Korea Array**	**19.86**	**17**	P	**Pn**	**13 47 38.5**	**-1.3**
	comp=Z,1.8nm,0.6s,baz=197,slow=12,SNR=7.6						
KSRS				LR	LR	13 56 03.0	
	comp=Z,136nm,18.9s,baz=319,slow=39						
CHTO	**Chiang Mai**	**20.83**	**274**	*e*P	**P**	**13 47 47.4**	**-0.9**
	comp=Z,16nm,0.9s						
CHTO	**Chiang Mai**	**20.83**	**274**	*e*P	**P**	**13 47 47.4**	**-0.9**
CHTO				pmax	pmax		
	comp=Z,16nm,0.9s						
CBIJ	**Chichi jima**	**21.36**	**63**	LR	LR	13 54 30.1	
	comp=Z,183nm,21.5s,baz=173,slow=32						
KTGM	**Kuala Trenggan**	**21.75**	**235**	⇓P	**P**	**13 47 58.2**	**+0.1**
BJI	**Beijing**	**21.86**	**350**	P	**P**	**13 48 00.0**	**+0.9**
BJI				AMB	AMB		
	comp=Z,9.0nm,1.2s,mb4.0						
BJI				AMB	AMB		
	comp=Z,113nm,5.7s						
BJI				LR	LR		
	comp=N,108nm,14.6s						
BJI				LR	LR		
	comp=E,267nm,14.6s						
BJI				LR	LR		
	comp=Z,199nm,19.7s						
LZH	**Lanzhou**	**23.13**	**323**	*e*P	**P**	**13 48 12.5**	**+0.1**
LZH				AP		13 48 20.0	
LZH				XP	sP	13 48 23.3	-12
LZH				AMB	AMB		
	comp=Z,25nm,1.5s,mb4.3						
LZH				AMB	AMB		
	comp=Z,117nm,5.7s						
LZH				LR	LR		
	comp=E,475nm,13.6s						
LZH				LR	LR		
	comp=Z,698nm,17.5s						
GUMO	**Guam**	**23.51**	**98**	LR	LR	13 55 25.6	
	comp=Z,277nm,21.6s,baz=243,slow=31						
MJAR	**Matsushiro Arr**	**23.56**	**37**	P	**P**	**13 48 18.7**	**+2.3**
MJAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
MJAR				MLR	MLR		
	comp=Z,65nm,21.6s						
MJAR	**Matsushiro Arr**	**23.56**	**37**	P	**P**	**13 48 18.7**	**+2.3**
	comp=Z,1.0nm,0.8s,baz=245,slow=9.5,SNR=3.1						
MJAR				LR	LR	13 56 23.1	
	comp=Z,65nm,21.6s,baz=225,slow=34						
MYKOM	**Kota Tinggi**	**23.58**	**227**	⇑P	**P**	**13 48 16.8**	**0.0**
KULM	**Kulim**	**23.75**	**239**	*e*P	**P**	**13 48 17.4**	**-0.9**
KULM	**Kulim**	**23.75**	**239**	⇓P	**P**	**13 48 17.7**	**-0.6**
KGM	**Kluang**	**23.79**	**229**	⇑P	**P**	**13 48 19.4**	**+0.7**
IPM	**Ipoh**	**23.92**	**237**	⇓P	**P**	**13 48 19.0**	**-0.9**
BTO	**Baotou**	**23.95**	**339**	*e*P	**P**	**13 48 19.5**	**-0.5**
FRIM	**Kepong**	**24.23**	**234**	⇓P	**P**	**13 48 21.8**	**-0.9**
PSI	**Prapat**	**26.60**	**237**	P	**P**	**13 48 42.5**	**-1.7**
PSI				pmax	pmax		
	comp=Z,20nm,1.1s,mb4.6						
PSI				MLR	MLR		
	comp=Z,210nm,19.7s						
PSI	**Prapat**	**26.60**	**237**	P	**P**	**13 48 42.5**	**-1.7**
	comp=Z,20nm,1.1s,mb4.5,baz=33,slow=5.0,SNR=19						
PSI				LR	LR	13 58 05.1	
	comp=Z,210nm,19.7s,baz=233,slow=34						
ASAJ	**Asahikawa**	**31.36**	**31**	LR	LR	14 01 42.7	
	comp=Z,173nm,20.4s,baz=54,slow=35						
ULN	**Ulaanbaatar**	**31.41**	**342**	⇑*e*P	**P**	**13 49 27.1**	**+0.5**
SONM	**Songino Array**	**31.58**	**341**	P	**P**	**13 49 29.1**	**+1.0**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.8s						
SONM				MLR	MLR		
	comp=Z,150nm,18.2s						
SONM	**Songino Array**	**31.58**	**341**	P	**P**	**13 49 29.1**	**+1.0**
	comp=Z,1.0nm,0.8s,mb3.6,baz=159,slow=9.0,SNR=8.7						
SONM				LR	LR	14 03 58.2	
	comp=Z,150nm,18.2s,baz=158,slow=40						
KLR	**Kul'dur**	**31.89**	**13**	*e*P	**P**	**13 49 28.9**	**-1.8**
HABR	**Khabarovsk**	**32.03**	**18**	*e*P	**P**	**13 49 32.7**	**+0.7**
HABR				*e*SP	sP	13 49 44.3	-12
HABR				*e*		13 50 37.1	
HABR				*e*		13 52 21.1	
HABR				*e*S	**S**	**13 54 44.8**	**+5.9**
HABR				*e*SS	sS	13 55 01.4	-5.5
HABR				*e*SS	SS	13 56 31.6	-27
GUN	**Gumba**	**33.45**	**293**	*e*P	**P**	**13 49 44.9**	**+0.2**
	comp=Z,62nm,0.9s						
PKI	**Pulchoki**	**33.82**	**292**	*e*P	**P**	**13 49 47.3**	**-0.6**
KKN	**Kakani**	**33.96**	**292**	*e*P	**P**	**13 49 48.6**	**-0.6**
	comp=Z,33nm,1.0s,mb5.1						
DMN	**Daman**	**34.09**	**292**	*e*P	**P**	**13 49 49.6**	**-0.7**
	comp=Z,35nm,1.0s,mb5.1						
GKN	**Gorkha**	**34.55**	**293**	*e*P	**P**	**13 49 53.4**	**-0.9**
	comp=Z,49nm,0.9s,mb5.3						
ZAK	**Zakamensk**	**34.80**	**340**	*e*P	**P**	**13 49 47.4**	**-8.7**
ZAK				*e*		13 49 56.4	
ZAK				*e*		13 52 29.3	
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.4s,mb3.5						
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.4s,mb3.5						
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.3s,mb3.5						
DANN	**Dangsing**	**35.37**	**293**	*e*P	**P**	**13 50 00.7**	**-0.6**
	comp=Z,33nm,1.0s,mb5.1						
KOLN	**Koldanda**	**35.43**	**292**	*e*P	**P**	**13 50 01.3**	**-0.6**
	comp=Z,20nm,0.8s,mb5.0						
TLY	**Talaya**	**35.82**	**342**	⇓*e*P	**P**	**13 50 02.6**	**-2.2**
TLY				pmax	pmax		
	comp=Z,1.0nm,0.8s,mb3.8						
BOD	**Bodaibo**	**39.60**	**354**	*e*P	**P**	**13 50 35.2**	**-1.4**
HYB	**Hyderabad**	**40.26**	**275**	*e*P	**P**	**13 50 42.0**	**-0.7**
HYB	**Hyderabad**	**40.26**	**275**	*i* P	**P**	**13 50 42.0**	**-0.7**
WRAB	**Tennant Creek**	**40.39**	**160**	⇑*e*P	**P**	**13 50 42.6**	**-1.0**
WRA	**Warramunga Arr**	**40.40**	**160**	P	**P**	**13 50 41.6**	**-2.0**
WRA						13 52 47.3	
WRA				pmax	pmax		
	comp=Z,1.0nm,0.4s						
WRA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
WRA	**Warramunga Arr**	**40.40**	**160**	P	**P**	**13 50 41.6**	**-2.0**
	comp=Z,0.9nm,0.3s,mb4.0,baz=341,slow=9.1,SNR=22						
WRA				PcP	PcP	13 52 47.3	+1.6
	comp=Z,2.4nm,0.7s,baz=342,slow=3.6,SNR=10.0						
MK31	**Makanchi Array**	**42.41**	**320**	*e*P	**P**	**13 51 00.9**	**+1.0**
MKAR	**Makanchi Array**	**42.41**	**320**	P	**P**	**13 51 01.0**	**+1.1**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
MKAR				MLR	MLR		
	comp=Z,66nm,18.4s						
MKAR	**Makanchi Array**	**42.41**	**320**	P	**P**	**13 51 00.9**	**+1.1**
	comp=Z,1.9nm,0.8s,mb3.9,baz=112,slow=9.7,SNR=13						
MKAR				LR	LR	14 11 11.4	
	comp=Z,66nm,18.4s,baz=326,slow=40						
ASAR	**Alice Springs**	**43.77**	**163**	P	**P**	**13 51 10.2**	**-0.9**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAR	**Alice Springs**	**43.77**	**163**	P	**P**	**13 51 10.2**	**-0.9**
	comp=Z,0.9nm,0.3s,mb4.0,baz=339,slow=6.8,SNR=46						
YAK	**Yakutsk**	**43.93**	**6**	⇓*e*P	**P**	**13 51 10.1**	**-1.8**
YAK				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.3						
ZALV	**Zalesovo Beam**	**44.97**	**330**	P	**P**	**13 51 21.3**	**+1.0**
	comp=Z,1.3nm,0.3s,mb4.1,baz=115,slow=6.5,SNR=2.7						
ZALV				LR	LR	14 10 18.4	
	comp=Z,62nm,21.3s,baz=206,slow=36						
ZAL	**Zalesovo**	**44.97**	**330**	P	**P**	**13 51 21.3**	**+1.0**
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ZAL				MLR	MLR		
	comp=Z,62nm,21.3s						
KZA	**Kyzart**	**45.24**	**311**	P	**P**	**13 51 24.9**	**+2.2**
	SNR=18						
TKM2	**Tokmak 2**	**45.25**	**313**	*e*P	**P**	**13 51 24.1**	**+1.3**
	comp=Z,8.9nm,1.2s,mb4.4						
TKM2	**Tokmak 2**	**45.25**	**313**	*e*P	**P**	**13 51 24.1**	**+1.3**
TKM2				pmax	pmax		
	comp=Z,9.0nm,1.2s,mb4.4						
TKM2	**Tokmak 2**	**45.25**	**313**	P	**P**	**13 51 24.5**	**+1.7**
	SNR=6.4						
UCH	**Uchtor**	**45.81**	**311**	*e*P	**P**	**13 51 29.4**	**+2.2**
	comp=Z,22nm,1.0s,mb4.8						
UCH	**Uchtor**	**45.81**	**311**	P	**P**	**13 51 29.5**	**+2.3**
	SNR=26						
AAK	**Ala-Archa**	**45.94**	**312**	⇑*e*P	**P**	**13 51 28.4**	**+0.2**
AAK				*i* *PP	pP	13 51 47.1	+1.9
AAK				pmax	pmax		
	comp=Z,5.0nm,1.2s,mb4.1						
AAK	**Ala-Archa**	**45.94**	**312**	P	**P**	**13 51 28.5**	**+0.3**
	comp=Z,2.4nm,0.6s,mb4.1,baz=161,slow=5.5,SNR=7.6						
USP	**Ospenovka**	**46.12**	**313**	P	**P**	**13 51 30.9**	**+1.3**
	SNR=5.4						
NVS	**Novosibirsk**	**46.25**	**331**	*e*P	**P**	**13 51 30.6**	**+0.2**
AML	**Almayashu**	**46.37**	**311**	*e*P	**P**	**13 51 33.3**	**+1.8**
	comp=Z,21nm,1.0s,mb4.8						
AML	**Almayashu**	**46.37**	**311**	P	**P**	**13 51 33.5**	**+2.0**
	SNR=19						
KURK	**Kurchatov**	**46.41**	**324**	*e*P	**P**	**13 51 32.7**	**+1.0**
	comp=Z,21nm,1.0s,mb4.8						
KURK	**Kurchatov**	**46.41**	**324**	*e*P	**P**	**13 51 32.7**	**+1.0**
KURK				pmax	pmax		
	comp=Z,21nm,1.0s,mb4.8						
EKS2	**Erkin-Say**	**46.46**	**312**	P	**P**	**13 51 33.3**	**+1.1**
	SNR=5.2						
KBL	**Kabul**	**48.59**	**300**	*e*P	**P**	**13 51 49.8**	**+0.9**
	comp=Z,7.6nm,0.9s,mb4.6						
KBL	**Kabul**	**48.59**	**300**	*e*P	**P**	**13 51 49.8**	**+0.9**
KBL				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.7						
SEY	**Seymchan**	**49.41**	**18**	⇑*e*P	**P**	**13 51 55.0**	**+0.3**
BVAR	**Borovoye Array**	**52.01**	**324**	P	**P**	**13 52 15.0**	**+0.6**
BVAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
BVAR	**Borovoye Array**	**52.01**	**324**	P	**P**	**13 52 15.0**	**+0.6**
	comp=Z,2.2nm,0.7s,mb4.3,baz=115,slow=10.0,SNR=12						
BRVK	**Borovoye**	**52.08**	**324**	*e*P	**P**	**13 52 15.4**	**+0.5**
	comp=Z,18nm,1.1s,mb5.0						
BRVK	**Borovoye**	**52.08**	**324**	*e*P	**P**	**13 52 15.4**	**+0.5**
BRVK				pmax	pmax		
	comp=Z,18nm,1.1s,mb5.0						
TIXI	**Tiksi**	**53.37**	**3**	⇑*e*P	**P**	**13 52 23.1**	**-1.0**
TIXI				pmax	pmax		
	comp=Z,6.0nm,2.3s,mb4.2						
STKA	**Stephens Creek**	**53.86**	**158**	P	**P**	**13 52 28.7**	**+0.5**
	comp=Z,2.8nm,0.8s,mb4.4,baz=289,slow=13,SNR=5.2						
ARU	**Arti**	**59.56**	**325**	*d* *i*P	**P**	**13 53 08.5**	**+0.1**
ARU				*e*		13 55 16.6	
ARU				*e*S	**S**	**14 01 19.3**	**+6.2**
ARU				*e*SS	SS	14 05 13.4	+4.3
ARU				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.8						
KIV	**Kislovodsk**	**69.04**	**311**	*e*P	**P**	**13 54 08.5**	**-2.1**
KIV				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.5						
KIV				MLR	MLR		
	comp=Z,73nm,17.0s						
OBN	**Obninsk**	**71.84**	**323**	⇑*e*P	**P**	**13 54 26.8**	**-0.7**
OBN				pmax	pmax		
	comp=Z,11nm,0.7s,mb4.8						
JOF	**Joensuu**	**73.55**	**331**	*e*p	**P**	**13 54 34.5**	**-3.0**
ARCES	**ARCESS Array B**	**74.72**	**339**	P	**P**	**13 54 45.3**	**+1.1**
ARCES				pmax	pmax		
	comp=Z,2.0nm,1.0s						
ARCES	**ARCESS Array B**	**74.72**	**339**	P	**P**	**13 54 45.3**	**+1.1**
	comp=Z,2.0nm,1.0s,mb3.8,baz=76,slow=8.5,SNR=3.3						
FINES	**FINESS Array B**	**76.24**	**330**	P	**P**	**13 54 52.1**	**-0.9**
FINES				pmax	pmax		
	comp=Z,3.0nm,0.9s						
FINES	**FINESS Array B**	**76.24**	**330**	P	**P**	**13 54 52.1**	**-0.9**
	comp=Z,2.8nm,0.9s,mb4.0,baz=62,slow=8.9,SNR=8.2						
VSU	**Vasula**	**76.60**	**327**	*d* *i*P	**P**	**13 54 55.2**	**+0.1**
AKASG	**Malin Array Be**	**76.98**	**319**	P	**P**	**13 54 56.4**	**-1.0**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.5s						
AKASG	**Malin Array Be**	**76.98**	**319**	P	**P**	**13 54 56.4**	**-1.0**
	comp=Z,1.3nm,0.5s,mb3.9,baz=62,slow=5.4,SNR=14						
CRVS	**Cervenica-Dubn**	**82.31**	**319**	*e*P	**P**	**13 55 27.5**	**+1.2**
KECS	**Kecovo**	**83.06**	**319**	*e*P	**P**	**13 55 28.2**	**-2.0**
NB2	**NORSAR Subarra**	**83.13**	**333**	P	**P**	**13 55 29.1**	**-1.2**
	comp=Z,1.1nm,0.8s,mb3.7,baz=62,slow=5.3						
NOA	**NORSAR Array B**	**83.13**	**333**	P	**P**	**13 55 29.2**	**-1.1**
	comp=Z,2.4nm,0.9s,mb4.0,baz=64,slow=5.2,SNR=6.3						
NOA				LR	LR	14 37 22.6	
	comp=Z,73nm,19.1s,baz=290,slow=39						
VYHS	**Vyhne**	**84.08**	**319**	*e*P	**P**	**13 55 35.8**	**+0.3**
UPC	**Upice**	**85.03**	**322**	*e*P	**P**	**13 55 41.1**	**+0.9**
BRG	**Berggiesshubel**	**86.09**	**323**	*e*P	**P**	**13 55 45.9**	**+0.4**
BRG				pmax	pmax		
	comp=Z,3.0nm,1.1s,mb4.1						
BRG	**Berggiesshubel**	**86.09**	**323**	*e*P	**P**	**13 55 45.9**	**+0.5**
	comp=Z,5.7nm,1.1s,mb4.4						
PRU	**Pruhonice**	**86.11**	**322**	*e*P	**P**	**13 55 46.2**	**+0.6**
CLL	**Collm**	**86.44**	**323**	*e*P	**P**	**13 55 47.0**	**-0.2**
KHC	**Kasperske Hory**	**87.03**	**321**	*e*P	**P**	**13 55 43.6**	**-6.5**
GERES	**GERESS Array B**	**87.08**	**321**	P	**P**	**13 55 50.8**	**+0.5**
	comp=Z,0.3nm,0.2s,mb3.8,baz=75,slow=7.5,SNR=4.4						
YKA	**Yellowknife Ar**	**88.29**	**23**	P	**P**	**13 55 57.3**	**+1.4**
YKA	**Yellowknife Ar**	**88.29**	**23**	*i* P	**P**	**13 55 57.5**	**+1.7**
YKA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
YKA	**Yellowknife Ar**	**88.29**	**23**	P	**P**	**13 55 57.3**	**+1.5**
	comp=Z,1.6nm,0.8s,mb4.1,baz=314,slow=4.5,SNR=34						
MAW	**Mawson**	**95.67**	**199**	LR	LR	14 33 10.2	
	comp=Z,106nm,19.1s,baz=278,slow=32						
TXAR	**Lajitas Array**	**115.88**	**43**	PKP	PKPdf	14 01 49.5	+1.9
TXAR	**Lajitas Array**	**115.88**	**43**	PKP	PKPdf	14 01 49.5	+1.9
	comp=Z,0.2nm,0.4s,baz=24,slow=2.7,SNR=4.3						

*ISCJB **24** 13:47:52.5±1.1, 6.14N±0.10×126.2E±03, h156km±8km, mb4.2/13, Error ellipse: s-maj=45.8km s-min=10.1km az=163.8*
*NEIC **24** 13:47:54.2±0.8, 6.13N×126.19E, h155km±7km, mb4.7/6, Error ellipse: s-maj=32.5km s-min=6.8km az=72.0*
*MAN **24** 13:47:54, 6.18N×126.12E, h152km, mb4.8, ML3.7, MS3.7*
*IDC **24** 13:47:54.0±6.9, 6.11N×126.13E, h150km±64km, mb3.9/9, mb1 4.1/10, mb1mx3.8/21, mbtmp4.0/10, MS3.9/1, Ms1 3.9/1, ms1mx2.9/25, Error ellipse: s-maj=56.1km s-min=14.4km az=70.0*

ISC 24 13:47:53.8±1.0, 613N±010×1262E±03, h150km±7km, n23, σ0°69/22, mb4.2/13, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**1.11**	**327**	*e*P	**Pn**	**13 48 20.3**	**+0.6**
DAV				*e*S	**Sn**	**13 48 38.7**	**-0.6**
BATI	**Kupang**	**16.43**	**189**	P	**Pn**	**13 51 36.3**	**+0.4**
	12nm,0.3s,baz=339,slow=4.5,SNR=14						
KAKA	**Kakadu**	**19.72**	**162**	*e*P	**P**	**13 52 12.2**	**+0.3**
	39nm,0.6s						
KAKA				*e*P		13 52 12.5	
FITZ	**Fitzroy Crossi**	**24.09**	**181**	*e*P	**P**	**13 52 55.7**	**+0.1**
	11nm,0.9s,mb4.4						
FITZ	**Fitzroy Crossi**	**24.09**	**181**	P	**P**	**13 52 55.3**	**-0.3**
	6.9nm,0.6s,mb4.4,baz=9.1,slow=9.3,SNR=24						
WRA	**Warramunga Arr**	**27.12**	**163**	P	**P**	**13 53 22.3**	**-0.6**
	1.6nm,0.5s,mb3.9,baz=331,slow=11,SNR=20						
WB2	**Warramunga Arr**	**27.13**	**163**	*e*P	**P**	**13 53 22.6**	**-0.4**
ASAR	**Alice Springs**	**30.56**	**166**	P	**P**	**13 53 53.4**	**0.0**
	4.2nm,0.4s,mb4.5,baz=343,slow=7.3,SNR=35						
ASAR				PcP	PcP	13 56 49.0	+0.4
	0.5nm,0.5s,baz=350,slow=2.4,SNR=4.4						
FORT	**Forrest**	**36.74**	**177**	*e*P	**P**	**13 54 47.1**	**+0.3**
	37nm,0.5s,mb5.3						
HNR	**Honiara**	**37.02**	**114**	LR	LR	14 08 43.8	
	comp=Z,192nm,20.2s,baz=358,slow=34						
KLBR	**Kellerberrin**	**38.37**	**192**	*e*P	**P**	**13 55 00.0**	**-0.4**
	14nm,0.4s,mb4.9						
MUN	**Mundaring**	**39.08**	**194**	*e*P	**P**	**13 55 05.9**	**-0.4**
NWAO	**Narrogin (SRO)**	**39.77**	**192**	P	**P**	**13 55 12.1**	**+0.1**
	15nm,0.4s,mb4.9,baz=23,slow=8.3,SNR=21						
STKA	**Stephens Creek**	**40.55**	**160**	*e*P	**P**	**13 55 19.1**	**+0.6**
	6.0nm,0.6s,mb4.4						
STKA				*e*P		13 55 19.2	
STKA	**Stephens Creek**	**40.55**	**160**	P	**P**	**13 55 19.2**	**+0.7**
	8.3nm,0.6s,mb4.6,baz=330,slow=6.0,SNR=22						
SONM	**Songino Array**	**44.87**	**341**	P	**P**	**13 55 54.2**	**+1.1**
	0.3nm,0.3s,mb3.4,baz=160,slow=8.7,SNR=5.6						
MKAR	**Makanchi Array**	**55.30**	**325**	P	**P**	**13 57 11.7**	**0.0**
	0.9nm,0.5s,mb3.8,baz=118,slow=6.6,SNR=10						
UCH	**Uchtor**	**58.06**	**317**	*e*P	**P**	**13 57 32.6**	**+1.3**
	1.2nm,0.8s,mb3.8						
BVAR	**Borovoye Array**	**65.03**	**327**	P	**P**	**13 58 17.6**	**-0.2**
	1.0nm,0.5s,mb3.9,baz=140,slow=9.7,SNR=5.0						
JOF	**Joensuu**	**86.81**	**333**	*e*p	**P**	**14 00 19.0**	**-2.0**
	2.0nm,0.5s,mb4.2						
FINES	**FINESS Array B**	**89.48**	**332**	P	**P**	**14 00 33.3**	**-0.3**
FINES	**FINESS Array B**	**89.48**	**332**	P	**P**	**14 00 33.3**	**-0.3**
	0.7nm,0.5s,mb3.9,baz=60,slow=7.5,SNR=5.7						
TORD	**Torodi Ar. Bea**	**121.64**	**289**	PKP	PKPdf	14 06 30.8	0.0
	0.4nm,0.6s,baz=54,slow=0.8,SNR=3.8						

MAN 24 13:56:11, 1016N×12602E, h1km, mb3.9, ML2.6, MS2.2, Philippine Islands region

*ISCJB **24** 14:06:11.9±0.7, 4029N±005×2568E±008, h32km, Error ellipse: s-maj=9.0km s-min=6.4km az=9.1*
*ATH **24** 14:06:11.3, 4028N×2563E, h32km±8km, MD3.2/3*
*CSEM **24** 14:06:11.3, 4028N×2563E, h32km, MD3.2/3, After ATH*

ISC 24 14:06:10.7±1.2, 4033N±005×2576E±007, h13km±10km, n5, σ0°63/9, 1C, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOZC	**Bozcaada**	**0.54**	**155

MADN	Villa Maderas	2.33 108	eP		Pn	14 33 02.6	-1.6
SBLS	San Blas	2.45 314	eP		x	14 33 29.2	
SNJE	San Jose	2.46 314	eP		x	14 33 29.1	
RTR	El Retiro	2.51 314	eP		x	14 33 29.7	
RBDL	Robledal	2.69 317	eP		x	14 33 32.7	
MTO2	Montecristo 2	2.71 326	eP		x	14 33 33.9	
JTS	JuntasAbangare	3.34 123	Pn		Pn	14 33 16.2	-1.7
	comp=E,1.6nm,0.3s,baz=318,slow=22,SNR=10						
JTS			Sn		Sn	14 33 55.2	-1.3
	comp=E,3.8nm,0.3s,baz=37,slow=20,SNR=3.8						
JTS			Lg			14 34 07.8	
	comp=E,4.5nm,0.3s,baz=255,slow=23,SNR=4.7						
JCR	Jicaral	3.48 131	eP		Pn	14 33 18.3	-1.6
JCR			eS		Sn	14 34 01.3	+1.3
PRS1	Puriscal	4.04 122	eP		Pn	14 33 28.6	+1.1
LAJ	Bijagual	4.26 122	eP		Pn	14 33 27.9	-2.6
LCR2	La Lucha 2	4.42 122	eP		Pn	14 33 34.4	+1.7
QCR	Quepos	4.47 127	eP		Pn	14 33 33.2	-0.2
URSC	Urasca	4.56 120	eP		Pn	14 33 37.2	+2.5
BAR1		5.26 123	eP		Pn	14 33 45.5	+1.2
TEIG	Tepich	8.05 357	LR		LR	14 37 46.8	
	comp=E,104nm,19.1s,baz=263,slow=42						
CMIG	Matias Romero	8.44 306	Pn		Pn	14 34 23.3	-4.4
CMIG			Sn		Sn	14 36 02.3	+0.8
CMIG	Matias Romero	8.44 306	Pn		Pn	14 34 23.3	-4.4
	comp=E,0.5nm,0.3s,baz=111,slow=7.3,SNR=6.9						
CMIG			Sn		Sn	14 36 02.3	+0.8
	comp=E,0.2nm,0.3s,baz=22,slow=19,SNR=4.3						
CHI2		15.77 117	eP		Px	14 32 44.2	
JCT	Junction City	21.37 330	eP		P	14 37 09.9	-0.1
	comp=E,14nm,0.8s,mb4.3						
TXAR	Lajitas Array	22.60 322	P		P	14 37 23.9	+0.8
TXAR	Lajitas Array	22.60 322	P		P	14 37 23.9	+0.8
	comp=E,3.0nm,0.6s,mb3.8,baz=138,slow=10,SNR=36						
TKL	Tuckaleechee C	23.70 8	P		P	14 37 32.6	-1.1
	comp=E,3.4nm,0.6s,mb3.9,baz=194,slow=13,SNR=4.7						
SDCO	Great Sand Dun	30.02 331	P		P	14 38 33.0	+2.5
	comp=E,0.9nm,0.4s,mb3.8						
PDAR	Pinedale Array	35.88 332	P		P	14 39 20.2	-1.4
	comp=E,0.4nm,0.8s,mb3.4,baz=134,slow=8.5,SNR=3.9						
PDAR			PcP		PcP	14 41 49.5	+2.0
	comp=E,0.4nm,0.7s,baz=123,slow=5.5,SNR=3.8						
NVAR	Mina Array Bea	37.71 319	P		P	14 39 37.8	+0.6
NVAR			PcP		PcP	14 41 57.2	+4.1
NVAR	Mina Array Bea	37.71 319	P		P	14 39 37.8	+0.6
	comp=E,0.4nm,0.9s,mb3.3,baz=102,slow=11,SNR=2.9						
NVAR			PcP		PcP	14 41 57.2	+4.1
	comp=E,0.4nm,0.7s,baz=106,slow=4.6,SNR=3.0						
SIV	San Ignacio	38.48 136	P		P	14 39 45.2	+1.3
	comp=E,2.0nm,0.8s,mb4.0,baz=313,slow=8.8,SNR=8.1						
ULM	Lac du Bonnet	38.57 352	P		P	14 39 43.0	-1.3
ULM	Lac du Bonnet	38.57 352	P		P	14 39 43.0	-1.2
	comp=E,6.0nm,0.7s,mb4.6,baz=168,slow=9.2,SNR=11						
SCHQ	Schefferville	45.67 17	P		P	14 40 41.7	-0.2
SCHQ	Schefferville	45.67 17	P		P	14 40 41.7	-0.2
	comp=E,4.3nm,0.7s,mb4.3,baz=218,slow=10,SNR=3.8						
YKA	Yellowknife Ar	53.82 345	P		P	14 41 43.6	-0.1
	comp=E,0.8nm,0.7s,mb3.9,baz=136,slow=8.0,SNR=27						
ASAR	Alice Springs	138.84 248	PKhKP			14 51 46.4	
	comp=E,0.1nm,0.9s,baz=101,slow=2.7,SNR=3.1						
WRA	Warramunga Arr	138.86 254	PKP		PKPdf	14 51 49.4	+1.9
	comp=E,0.3nm,0.8s,baz=88,slow=2.7,SNR=3.9						

*IDC **24** 15:18:44.6±1.2, 1231N×8770W, h0km, mb4.1/7, mb1 4.3/9, mb1mx3.9/23, mbtmp4.1/9, ML3.4/2, MS2.9/2, Ms1 2.9/2, ms1mx2.5/31, Error ellipse: s-maj=37.8km s-min=13.3km az=49.0*

*ISCJB **24** 15:18:49.2±1.0, 1206N±007×8799W±009, h60km±10km, mb4.2/11, Error ellipse: s-maj=17.2km s-min=6.4km az=142.3*

*CASC **24** 15:18:50.0±2.1, 1205N×8799W, h33km±12km, MD4.3, ML3.7, mb4.4(NEIC)*

*NEIC **24** 15:18:50.0±1.3, 1213N×8787W, h46km±12km, mb4.4/4, Error ellipse: s-maj=19.1km s-min=10.3km az=50.0*

ISC 24 15:18:50.9±0.9, 1215N±007×8794W±008, h54km±10km, n45, σ0§96/40, mb4.2/11, 10C-8D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CNCH	Conchagua	1.13	5	eP	x	15 19 37.1	
CNCH				eS	x	15 19 54.6	
TEL3	Telica 3	1.15	68	eP	Pn	15 19 10.8	+0.1
TELN	Telica	1.17	67	eP	Pn	15 19 11.0	0.0
COPN	Copaltepe	1.31	88	eP	Pn	15 19 12.8	-0.1
BLLM	Bellamira	1.32	347	eP	x	15 19 39.2	
BLLM				eS	x	15 19 57.7	
MOMJ	Momotombo	1.39	79	eP	Pn	15 19 14.2	+0.3
CSAN		1.48	88	eP	Pn	15 19 15.3	+0.1
XAVN	Gruta Xavier	1.57	90	eP	Pn	15 19 16.4	0.0
TISN	Laguna Tiscapa	1.63	90	eP	Pn	15 19 17.1	-0.1
MGAN	Managua	1.65	90	eP	Pn	15 19 17.4	-0.1
MGAN				i		15 19 48.6	
	comp=E,857nm,0.5s						
TICN	Ticuantepe	1.67	94	eP	Pn	15 19 17.9	+0.2
SNVI	San Vicente	1.70	329	eP	x	15 19 44.0	
SNVI				eS	x	15 20 06.6	
LCBS	La Ceiba	1.81	326	eP	x	15 19 45.1	
LCBS				eS	x	15 20 08.0	
LFRS	El Faro	1.83	323	eP	x	15 19 45.1	
LFRS				eS	x	15 20 08.3	
TGUH	Tegucigalpa,Un	2.01	19	ePn	Pn	15 19 22.7	+0.3
BOQS	Boqueron	2.05	320	eP	x	15 19 48.9	
BOQS				eS	x	15 20 14.1	
CONN	Concepcion	2.33	104	eP	Pn	15 19 25.6	-1.2
VCR	Vista de Mar	3.02	131	eP	Pn	15 19 37.8	+1.5
JTS	JuntasAbangare	3.46	122	ePn	Pn	15 19 39.5	-2.7
JTS				Sn	Sn	15 20 20.2	-1.8
JTS				Lg		15 20 30.7	
JTS				LR	LR	15 21 17.2	
JTS	JuntasAbangare	3.46	122	Pn	Pn	15 19 40.0	-2.3
	comp=E,1.9nm,0.3s,baz=310,slow=21,SNR=10						
JTS				Sn	Sn	15 20 20.2	-1.8
	comp=E,8.7nm,0.3s,baz=232,slow=23,SNR=5.1						
JTS				Lg		15 20 30.7	
	comp=E,6.8nm,0.3s,baz=240,slow=23,SNR=4.8						
JTS				LR	LR	15 21 17.2	
	comp=E,193nm,19.1s,baz=221,slow=45						
JCR	Jicaral	3.59	129	eP	Pn	15 19 41.9	-2.2
CGA2	Cerro Gallo 2	4.01	122	eP	Pn	15 19 50.5	+0.7
CGA2				eS	Sn	15 20 36.2	+0.7
LAJ	Bijagual	4.38	121	eP	Pn	15 19 51.1	-3.8
LCR2	La Lucha 2	4.54	121	eP	Pn	15 19 57.7	+0.6
URSC	Urasca	4.68	119	eP	Pn	15 20 00.2	+1.1
URSC				eS	Sn	15 20 53.6	+1.4
BAR1		5.38	122	eP	Pn	15 20 08.3	-0.4
BAR1				eS	Sn	15 21 09.8	+0.4
TEIG	Tepich	8.04	358	LR	LR	15 24 10.2	
	comp=E,74nm,21.7s,baz=349,slow=41						
CMIG	Matias Romero	8.33	307	Pn	Pn	15 20 48.6	-0.5
	comp=E,0.8nm,0.3s,baz=141,slow=8.6,SNR=11						
CHI2		15.89	117	eP	Px	15 19 08.9	
JCT	Junction City	21.30	331	eP	P	15 23 33.2	+0.1
	comp=E,13nm,0.8s,mb4.3						
GOGA	Godfrey	21.56	10	eP	P	15 23 37.4	+1.6
	comp=E,9.3nm,0.5s,mb4.5						
TXAR	Lajitas Array	22.51	322	P	P	15 23 47.5	+1.4
	comp=E,3.3nm,0.6s,mb3.9,baz=136,slow=10,SNR=44						
MIAR	Mount Ida	22.88	348	eP	P	15 23 49.9	0.0
	comp=E,19nm,0.8s,mb4.6						
TKL	Tuckaleechee C	23.71	8	P	P	15 23 57.5	-0.3
	comp=E,7.2nm,0.9s,mb4.1,baz=184,slow=11,SNR=6.9						
WMOK	Wichita Mounta	24.56	338	P	P	15 24 04.6	-1.0
	comp=E,6.1nm,0.8s,mb4.2						
SADO	Sadowa	33.37	11	P	P	15 25 23.6	-0.3
	baz=219,slow=12						
PDAR	Pinedale Array	35.82	332	P	P	15 25 45.7	+0.6
	comp=E,0.4nm,0.7s,mb3.5,baz=132,slow=6.2,SNR=4.7						
PDAR				PcP	PcP	15 28 13.5	+1.8
	comp=E,0.4nm,0.6s,baz=120,slow=6.0,SNR=4.1						
NVAR	Mina Array Bea	37.62	319	PcP	PcP	15 28 20.3	+3.0
	comp=E,0.8nm,0.8s,baz=123,slow=3.3,SNR=5.1						
ULM	Lac du Bonnet	38.55	352	P	P	15 26 06.9	-1.3
	comp=E,7.3nm,0.6s,mb4.6,baz=167,slow=8.7,SNR=20						
SIV	San Ignacio	38.57	136	P	P	15 26 09.1	+0.4
	comp=E,2.6nm,0.8s,mb4.0,baz=309,slow=7.2,SNR=12						
MCMT	McKenzie Canyo	38.92	332	eP	P	15 26 12.8	+1.5
SCHQ	Schefferville	45.71	17	P	P	15 27 05.0	-1.4
	comp=E,4.8nm,0.6s,mb4.6,baz=237,slow=9.5,SNR=8.8						
YKA	Yellowknife Ar	53.78	345	P	P	15 28 07.0	-0.6
YKA				PcP	PcP	15 29 13.2	+0.3
YKA	Yellowknife Ar	53.78	345	P	P	15 28 07.0	-0.6
	comp=E,1.1nm,0.7s,mb3.9,baz=137,slow=7.9,SNR=31						
YKA				PcP	PcP	15 29 13.1	+0.3
	comp=E,0.3nm,0.5s,baz=145,slow=3.7,SNR=4.0						
WRA	Warramunga Arr	138.73	254	PKP	PKPdf	15 38 13.6	+1.8
	comp=E,0.2nm,0.5s,baz=86,slow=2.3,SNR=4.4						

*IDC **24** 15:20:37.1±3.8, 1861S×17400W, h0km, mb4.2/5, mb1 4.5/5, mb1mx4.0/18, mbtmp4.2/5, Error ellipse: s-maj=249.2km s-min=27.7km az=153.0*

*NEIC **24** 15:20:38.2±1.5, 1881S×17390W, h10km, mb4.5/1, Error ellipse: s-maj=54.3km s-min=10.7km az=139.0*

*ISCJB **24** 15:20:47.6±4.0, 178S±03×1746W±02, h79km±39km, mb4.2/6, Error ellipse: s-maj=54.2km s-min=22.1km az=165.5*

ISC 24 15:20:48.4±3.7, 179S±03×1745W±02, h72km±37km, n12, σ0§36/12, mb4.2/6, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	Afiamalu	4.73	34	ePn	Pn	15 21 57.3	0.0
CTA	Charters Tower	37.14	260	P	P	15 27 53.4	+1.0
	4.8nm,1.0s,mb4.4,baz=79,slow=10,SNR=3.0						
CTAO	Charters Tower	37.14	260	P	P	15 27 53.2	+0.9
WB2	Warramunga Arr	48.30	259	eP	P	15 29 22.3	-0.5
WRAB	Tennant Creek	48.30	259	eP	P	15 29 22.6	-0.2
	2.4nm,0.5s,mb4.3						
WRA	Warramunga Arr	48.31	259	P	P	15 29 22.5	-0.3
	1.9nm,0.4s,mb4.2,baz=98,slow=7.4,SNR=80						
ASAR	Alice Springs	48.40	254	P	P	15 29 23.4	-0.1
	7.8nm,0.6s,mb4.7,baz=89,slow=8.8,SNR=198						
FITZ	Fitzroy Crossi	56.72	260	eP	P	15 30 25.4	+0.4
FITZ	Fitzroy Crossi	56.72	260	P	P	15 30 24.9	-0.2
	1.5nm,0.9s,mb4.0,baz=84,slow=11,SNR=5.7						
NVAR	Mina Array Bea	76.86	42	P	P	15 32 32.7	+0.1
	0.9nm,0.8s,mb3.6,baz=230,slow=9.3,SNR=5.8						
VNA3	Neumayer Olymp	90.48	175	e	P	15 33 41.8	0.0
VNA3				e		15 33 45.2	
VNA2	Neumayer--Watz	90.96	176	e	P	15 33 44.0	0.0
	baz=200,slow=2.8						
VNA2				e		15 33 47.0	

*NEIC **24** 15:27:34.3±1.4, 1604S×7376W, h48km±13km, Error ellipse: s-maj=22.0km s-min=11.9km az=218.0*

*IDC **24** 15:27:36.9±2.7, 1607S×7373W, h70km±22km, mb3.9/5, mb1 4.1/8, mb1mx3.7/21, mbtmp3.9/8, MS3.0/2, Ms1 3.0/2, ms1mx2.8/25, Error ellipse: s-maj=34.0km s-min=20.3km az=40.0*

*ISCJB **24** 15:27:38.9±1.7, 161S±01×736W±01, h102km±15km, mb4.0/5, Error ellipse: s-maj=29.6km s-min=11.3km az=39.5*

ISC 24 15:27:40.0±1.6, 161S±02×736W±01, h98km±14km, n16, σ1§09/15, mb4.0/5, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NNA	Nana	5.16	322	ePn	Pn	15 28 46.8	-0.8
	36nm,0.3s						
NNA				eSn	Sn	15 29 52.2	-1.0
NNA	Nana	5.16	322	P	Pn	15 28 49.8	-5.1
	11nm,0.3s,baz=131,slow=11,SNR=14						
NNA				S	Sn	15 29 55.2	+2.0
	14nm,0.3s,baz=234,slow=19,SNR=5.0						
LPAZ	La Paz	5.26	93	ePn	Pn	15 28 58.0	+1.7
	15nm,0.5s						
LPAZ	La Paz	5.26	93	P	Pn	15 28 57.1	+0.8
	4.3nm,0.3s,baz=276,slow=10.0,SNR=57						
LPAZ				LR	LR	15 31 12.2	
	comp=Z,90nm,20.8s,baz=253,slow=40						
ATAH	Atahualpa	10.19	332	P	Pn	15 30 03.7	+0.3
	0.5nm,0.3s,baz=105,slow=12,SNR=3.2						
SIV	San Ignacio	12.05	91	P	Pn	15 30 25.7	-2.7
	1.1nm,0.3s,baz=280,slow=11,SNR=16						
PLCA	Paso Flores	24.68	174	P	P	15 32 51.8	0.0
	2.9nm,1.1s,mb3.6,baz=16,slow=4.6,SNR=3.4						
SDV	Santo Domingo	25.00	7	LR	LR	15 43 51.1	
	comp=Z,54nm,18.7s,baz=221,slow=39						
TKL	Tuckaleechee C	52.37	350	P	P	15 36 42.3	+0.2
	5.4nm,0.5s,mb4.9,baz=170,slow=5.0,SNR=5.4						
DBIC	Dimbokro	71.68	77	eP	P	15 38 52.1	+0.2
DBIC	Dimbokro	71.68	77	P	P	15 38 52.1	+0.2
	2.7nm,0.8s,mb4.1,baz=194,slow=4.2,SNR=3.3						
TOA0	Torodi Ar. Sit	79.90	73	eP	P	15 39 39.5	+0.8
TORD	Torodi Ar. Bea	79.90	73	P	P	15 39 39.4	+0.7
	1.9nm,0.7s,mb4.0,baz=258,slow=4.5,SNR=10						
YKA	Yellowknife Ar	84.68	342	P	P	15 40 01.1	-1.4
	0.4nm,0.8s,mb3.4,baz=134,slow=4.7,SNR=9.4						
SONM	Songino Array	148.36	360	PKPbc	PKPbc	15 47 15.6	+0.6
	1.1nm,0.7s,baz=327,slow=1.5,SNR=9.5						
KSRS	Korea Array	151.47	322	PKPbc	PKPbc	15 47 23.0	+0.1
	2.1nm,1.1s,baz=5.7,slow=1.2,SNR=4.7						

MAN 24 15:30:33, 1230N×12514E, h19km, mb3.5, ML2.2, MS1.7, Samar

*NEIC **24** 15:43:57.9, 1502N×9287W, h26km, MD3.9(MEX), After MEX.*

MEX 24 15:43:57.9±0.8, 1502N×9287W, h26km±129km, MD3.9, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CCIG	Comitan	1.44	29	i P	Pn	15 44 20.1	-2.3
CCIG				i S	Sn	15 44 36.8	-3.8
SCX	San Cristobal	1.73	8	i P	Pn	15 44 25.1	-1.2
SCX				i S	Sn	15 44 46.2	-1.4
CMIG	Matias Romero	2.83	317	eP	Pn	15 44 39.0	-2.5
CMIG				i S	Sn	15 45 11.6	-3.1
VHO	Vista Hermosa	4.24	299	i P	Pn	15 44 59.0	-1.9
VHO				i S	Sn	15 45 48.9	-0.7
UTMO	Huajuapan	5.50	301	eP	Pn	15 45 16.4	-1.8
UTMO				i S	Sn	15 46 19.2	-1.5
TEIG	Tepich	6.79	40	ePn	Pn	15 45 28.2	-7.7
	31nm,0.4s						

IDC 24 16:07:24.1±2.2, 441S×15072E, h0km, mb3.2/3, mb1 3.5/3, mb1mx3.3/13, mbtmp3.2/3, Error ellipse: s-maj=200.8km s-min=34.5km az=128.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	22.20	225	P	P	16 12 22.4	+0.2
	0.2nm,0.3s,baz=50,slow=9.8,SNR=11						
ASAR	Alice Springs	25.09	219	P	P	16 12 50.5	-0.1
	0.1nm,0.5s,baz=48,slow=9.0,SNR=4.8						
YKA	Yellowknife Ar	96.05	28	P	P	16 20 53.1	0.0
	0.2nm,0.4s,baz=264,slow=2.8,SNR=3.7						

*ISCJB **24** 16:07:38.9±0.2, 2903N±004×43.19W±001, h10km, mb5.2/295, MS4.8/73, Error ellipse: s-maj=6.4km s-min=1.6km az=175.3*

*IDC **24** 16:07:38.6±0.4, 2903N×4326W, h0km, mb4.5/32, mb1 4.6/32, mb1mx4.6/34, mbtmp4.5/32, MS4.7/28, Ms1 4.7/28, ms1mx4.7/31, Error ellipse: s-maj=13.0km s-min=9.8km az=134.0*

*MOS **24** 16:07:39.0±0.8, 2913N×4326W, h10km, mb5.5/119, MS4.8/35, Error ellipse: s-maj=6.8km s-min=3.2km az=136.9*

*NEIC **24** 16:07:40.2±0.1, 2899N×4321W, h10km, mb5.3/205, MS5.0/23, Error ellipse: s-maj=5.0km s-min=1.8km az=175.0*

*GCMT **24** 16:07:40.2±0.2, 2909N×4325W, h12km, MW5.3/99, Moment Tensor Solution. s50,c73; s99,c190; Duration: 1§1 Moment tensor: Scale 10^{17}Nm; M_{rr}-1.26±.02; $M_{\theta\theta}$0.17±.02; $M_{\phi\phi}$1.09±.02; $M_{r\theta}$0.14±.06; $M_{\theta\phi}$0.38±.01; $M_{\phi r}$-0.16±.05; Best double couple: $M_0$1.26100×10^{17} NP1:ϕ_s208.00000°, δ43.00000°, λ-78.00000°. NP2: ϕ_s12.00000°, δ48.00000°, λ-101.00000°. Principal axes: T 1.2320, Plg3.0000°, Azm109.0000°; N 0.0550, Plg8.0000°, Azm19.0000°; P -1.2900, Plg82.0000°, Azm217.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*BJI **24** 16:07:40.2, 2900N×4320W, h10km, mB5.7, mb5.4, Ms5.3, Msz4.9*

*SZGRF **24** 16:07:44.5, 2923N×4301W, h18km, mb5.4, MS4.9, Northern Mid-Atlantic Ridge*

ISC 24 16:07:40.9±0.2, 2904N±004×4315W±001, h10km, (h18km±.5km:pP-P), n1007, σ0§77/1031, mb5.2/295, MS4.8/73, 200C-12D, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PDA	Ponta Delgada	16.98	55	i LR	LR	16 15 18.0	
BBSR	BB Station	18.82	286	eP	Pn	16 12 00.6	-0.7
	841nm,2.1s						
EGOM	La Gomera	22.79	86	P	P	16 12 42.8	-1.0
	4.5nm,0.4s,mb4.2						
PMAR	Madeira	22.80	74	eP	P	16 12 44.8	+1.0
	250nm,1.9s,mb5.3						
PMPS	Porto Santo	23.30	73	eP	P	16 12 50.0	+0.9
	240nm,1.9s,mb5.3						
CCAN	Las Canadas	23.30	86	P	P	16 12 49.7	+0.5
	4.6nm,0.6s,mb4.1						
LBNH	Lisbon	27.45	311	P	P	16 13 24.4	-2.6
	128nm,1.6s,mb5.2						
LBNH	Lisbon	27.45	311	P	P	16 13 24.4	-2.6
LBNH				pmax	pmax		
	comp=Z,128nm,1.6s,mb5.2						
BBTS	Babate	28.46	114	LR	LR	16 22 23.8	
	comp=Z,3μm,19.6s,MS5.0,baz=140,slow=31						
FRNY	Flat Rock	28.78	312	eP	P	16 13 39.2	+0.4
	comp=Z,40nm,1.4s,mb5.0						
MVL	Millersville	29.30	301	eP	P	16 13 44.3	+0.8
	comp=Z,40nm,1.4s,mb5.0						
BINY	Binghamton	29.55	305	eP	P	16 13 45.4	-0.3
	comp=Z,49nm,1.3s,mb5.1						
PMAFR	Mafra	29.63	62	eS	S	16 18 53.7	+12
PMAFR				eLR	LR	16 21 20.5	
	comp=Z,2μm,20.0s						
PFVI	Vila Bisbo	29.75	65	eS	S	16 18 55.3	+12
PFVI				eLR	LR	16 21 25.0	
	comp=Z,3μm,20.0s						
PTEO	Sao Teotonio	29.87	64	eP	P	16 13 49.0	+0.4
	comp=Z,61nm,1.5s,mb5.1						
MORF	Marmelete	29.91	65	eP	P	16 13 48.9	0.0
	comp=Z,62nm,1.7s,mb5.1						
MORF				eS	S	16 18 51.1	+4.9
MORF				eLR	LR	16 21 26.9	
	comp=Z,3μm,20.0s						
PBDV	Barranco-do-Ve	30.47	65	eP	P	16 13 54.6	+0.7
	comp=Z,89nm,1.6s,mb5.2						
PBDV				eS	S	16 19 07.8	+13
PBDV				eLR	LR	16 21 45.4	
	comp=Z,3μm,20.0s						
EVO	Evora	30.55	63	eP	P	16 13 53.5	-1.1
	comp=Z,34nm,1.0s,mb4.8						
EVO				eMLR	MLR		
	comp=Z,4μm,21.2s,MS4.7						
EVO	Evora	30.55	63	eP	P	16 13 54.9	+0.3
SSPA	Standing Stone	30.58	302	eP	P	16 13 55.3	+0.4
	comp=Z,36nm,1.4s,mb5.0						
SSPA				LR	LR		
	comp=Z,3μm,20.0s,MS4.9						
PBEJ	Beja	30.60	64	eP	P	16 13 54.3	-0.8
	comp=Z,42nm,1.7s,mb5.0						
PVAQ	Vaqueiros	30.66	65	eP	P	16 13 55.1	-0.5
	comp=Z,49nm,1.6s,mb5.1						
PVAQ				eS	S	16 19 09.8	+12
PVAQ				eLR	LR	16 21 50.3	
	comp=Z,3μm,20.0s						
EMAZ	Mazaricos	30.71	54	P	P	16 13 56.0	0.0
	comp=Z,17nm,0.5s,mb5.1						
EGRO	El Granado	30.86	65	P	P	16 13 56.7	-0.6
	comp=Z,19nm,0.6s,mb5.1						
PESTR	Estremoz	30.92	62	eP	P	16 13 57.9	0.0
	comp=Z,40nm,1.6s,mb5.0						
PESTR				eS	S	16 19 06.5	+4.4
PESTR				eLR	LR	16 21 44.6	
	comp=Z,2μm,20.0s						
SCHQ	Schefferville	30.93	333	P	P	16 13 56.4	-1.4
	comp=Z,32nm,1.2s,mb5.0,baz=138,slow=6.5,SNR=5.8						
SCHQ				LR	LR	16 25 18.9	
	comp=Z,2μm,19.8s,MS4.7,baz=114,slow=34						
PVIS	Viseu	30.99	58	eP	P	16 13 59.1	+0.7
	comp=Z,51nm,1.5s,mb5.1						
STS	Santiago	31.00	54	P	P	16 13 57.8	-0.7
PCAB	Cabril	31.09	57	eP	P	16 13 59.0	-0.4
	comp=Z,52nm,1.7s,mb5.1						
ELOB	Lobios	31.10	56	P	P	16 13 58.4	-1.0
	comp=Z,6.7nm,0.4s,mb4.8						
PCBR	Castelo Branco	31.15	60	eP	P	16 14 00.0	+0.1
	comp=Z,46nm,2.0s,mb5.0						
MTE	Manteigas	31.19	59	eP	P	16 14 00.5	+0.2
	comp=Z,80nm,1.0s,mb5.5						
MTE				eS	S	16 19 13.5	+7.2
MTE				eLR	LR	16 21 41.2	
	comp=Z,2μm,20.0s						
MTE	Manteigas	31.19	59	eP	P	16 13 58.8	-1.5
	comp=Z,68nm,1.1s,mb5.4						
PBAR	Barrancos	31.27	64	eP	P	16 14 01.1	+0.1
	comp=Z,38nm,1.6s,mb5.0						
PBAR				eS	S	16 19 13.2	+5.7
PBAR				eLR	LR	16 22 07.6	
	comp=Z,3μm,18.0s						
EBAD	Badajoz	31.35	62	P	P	16 14 01.0	-0.7
	comp=Z,8.0nm,0.4s,mb4.9						
EMIN	Mina Concepcio	31.52	64	P	P	16 14 02.5	-0.6
	comp=Z,3.3nm,0.6s,mb4.3						
MVO	Moncorvo	31.72	58	eP	P	16 14 05.2	+0.3
	comp=Z,44nm,1.7s,mb5.0						
MVO				eS	S	16 19 18.5	+4.0
MVO				eLR	LR	16 22 17.6	
	comp=Z,2μm,20.0s						
ECAL	Calabor	32.08	56	P	P	16 14 07.5	-0.5
	comp=Z,14nm,0.1s,mb5.8						
ESPR	Espera	32.10	66	P	P	16 14 07.6	-0.7
	comp=Z,7.8nm,0.6s,mb4.7						
EJIF	Jimena Fronter	32.39	67	P	P	16 14 12.2	+1.3
	comp=Z,4.4nm,0.5s,mb4.5						
EJIF	Jimena Fronter	32.39	67	P	P	16 14 12.2	+1.3
EJIF				pmax	pmax		
	comp=Z,4.0nm,0.5s,mb4.5						
ERPA	Erie	32.43	304	eP	P	16 14 11.6	+0.5
ECAB	El Cabril	32.53	64	P	P	16 14 11.4	-0.7
	comp=Z,

comp=Z,66nm,1.5s,mb5.3
GOGA Godfrey 34.60 288 *e*P **P 16 14 29.2 -0.9**
GOGA pmax pmax
comp=Z,66nm,1.5s,mb5.3
ELAN Lanestosa 34.73 55 P **P 16 14 30.8 -0.3**
comp=Z,74nm,1.1s,mb5.5
TKL Tuckaleechee C 34.76 292 P **P 16 14 30.8 -0.7**
comp=Z,14nm,1.1s,mb4.8,baz=95,slow=10,SNR=8.5
EVIA Vianos 34.86 63 P **P 16 14 33.2 +0.9**
comp=Z,2.6nm,0.4s,mb4.5
EVIA Vianos 34.86 63 P **P 16 14 33.2 +0.9**
EVIA pmax pmax
comp=Z,3.0nm,0.4s,mb4.6
ECRI Cripan 35.29 56 P **P 16 14 36.6 +0.6**
comp=Z,7.9nm,0.6s,mb4.8
ECRI Cripan 35.29 56 P **P 16 14 36.6 +0.6**
ECRI pmax pmax
comp=Z,8.0nm,0.6s,mb4.8
ETOR Torete 35.39 59 P **P 16 14 37.0 +0.1**
comp=Z,24nm,0.9s,mb5.1
ETOR Torete 35.39 59 P **P 16 14 37.0 +0.2**
ETOR pmax pmax
comp=Z,24nm,0.9s,mb5.1
ETOB Tobarra 35.60 63 P **P 16 14 39.5 +0.8**
comp=Z,26nm,0.9s,mb5.2
DCN Croghan 35.72 37 *e*P **P 16 14 39.8 +0.3**
QUIF Quistinic 36.04 47 *e*P **P 16 14 41.6 -0.7**
comp=Z,295nm,1.9s,mb5.6
QUIF Quistinic 36.04 47 *e*P **P 16 14 41.6 -0.7**
comp=Z,147nm,1.9s,mb5.6
QUIF Quistinic 36.04 47 *e*P **P 16 14 41.6 -0.7**
QUIF pmax pmax
comp=Z,147nm,1.9s,mb5.6
DLF Lyons Farm 36.09 37 *e*P **P 16 14 42.8 +0.1**
ROSF Rostrenen 36.09 47 *e*P **P 16 14 42.2 -0.6**
comp=Z,136nm,1.4s,mb5.4
ROSF Rostrenen 36.09 47 *e*P **P 16 14 42.2 -0.6**
comp=Z,68nm,1.4s,mb5.4
ROSF Rostrenen 36.09 47 *e*P **P 16 14 42.2 -0.6**
ROSF pmax pmax
comp=Z,68nm,1.4s,mb5.4
ECHE Chera 36.11 62 P **P 16 14 43.0 0.0**
comp=Z,5.7nm,0.5s,mb4.8
ECHE Chera 36.11 62 P **P 16 14 43.0 -0.1**
ECHE pmax pmax
comp=Z,6.0nm,0.5s,mb4.8
EALK Alkurruntz 36.11 56 P **P 16 14 42.7 -0.3**
comp=Z,1.4nm,0.5s,mb4.2
DMUB Kingscourt 36.18 36 *e*P **P 16 14 43.6 +0.2**
SJPF Ste Jean 36.30 56 *e*P **P 16 14 44.5 -0.1**
comp=Z,179nm,1.4s,mb5.5
SJPF Ste Jean 36.30 56 *e*P **P 16 14 44.5 -0.1**
comp=Z,89nm,1.4s,mb5.5
SJPF Ste Jean 36.30 56 *e*P **P 16 14 44.5 -0.1**
SJPF pmax pmax
comp=Z,89nm,1.4s,mb5.5
SGMF Saint Gilles 36.53 47 *e*P **P 16 14 46.1 -0.4**
comp=Z,318nm,1.6s,mb5.6
SGMF Saint Gilles 36.53 47 *e*P **P 16 14 46.1 -0.4**
comp=Z,159nm,1.6s,mb5.6
SGMF Saint Gilles 36.53 47 *e*P **P 16 14 46.1 -0.4**
SGMF pmax pmax
comp=Z,159nm,1.6s,mb5.6
SWET Sewanee 36.54 291 *e*P **P 16 14 47.2 +0.4**
EMOS Mosqueruela 36.55 60 P **P 16 14 46.9 +0.1**
comp=Z,136nm,1.8s,mb5.5
EBEN Beniarda 36.64 63 P **P 16 14 47.2 -0.4**
comp=Z,32nm,1.0s,mb5.1
ESAC San Caprasio 36.67 58 P **P 16 14 47.7 -0.2**
comp=Z,54nm,0.8s,mb5.4
ATE Arette 36.68 56 *e*P **P 16 14 48.2 +0.3**
ETSF Etsaut 36.75 56 *e*P **P 16 14 48.6 +0.1**
comp=Z,197nm,1.7s,mb5.3
ETSF Etsaut 36.75 56 *e*P **P 16 14 48.6 +0.1**
comp=Z,98nm,1.7s,mb5.4
ETSF Etsaut 36.75 56 *e*P **P 16 14 48.6 +0.1**
ETSF pmax pmax
comp=Z,98nm,1.7s,mb5.4
WCI Wyandotte Cave 36.80 296 *e*P **P 16 14 48.9 0.0**
comp=Z,26nm,1.2s,mb4.9
WCI Wyandotte Cave 36.80 296 *e*P **P 16 14 48.9 0.0**
WCI pmax pmax
comp=Z,27nm,1.2s,mb5.0
REYF Montagne du Re 36.90 56 *e*P **P 16 14 50.3 +0.6**
ERTA Horta de San J 37.20 60 P **P 16 14 52.5 +0.1**
comp=Z,13nm,0.6s,mb4.9
EBIE Bielsa 37.24 57 P **P 16 14 52.7 0.0**
comp=Z,8.0nm,0.4s,mb4.9
EPF Esparros 37.43 56 *e*P **P 16 14 54.2 0.0**
comp=Z,158nm,1.6s,mb5.3
EPF Esparros 37.43 56 *e*P **P 16 14 54.2 0.0**
comp=Z,79nm,1.6s,mb5.3
EPF Esparros 37.43 56 *e*P **P 16 14 54.2 0.0**
EPF pmax pmax
comp=Z,79nm,1.6s,mb5.3
GRR Gorron 37.66 47 *e*P **P 16 14 55.6 -0.5**
comp=Z,336nm,1.7s,mb5.5
GRR Gorron 37.66 47 *e*P **P 16 14 55.6 -0.5**
comp=Z,168nm,1.7s,mb5.5
GRR Gorron 37.66 47 *e*P **P 16 14 55.6 -0.5**
GRR pmax pmax
comp=Z,168nm,1.7s,mb5.5
MFF Saint Martin d 37.70 50 *e*P **P 16 14 56.3 -0.2**
comp=Z,218nm,1.2s,mb5.5
MFF Saint Martin d 37.70 50 *e*P **P 16 14 56.3 -0.2**
comp=Z,109nm,1.2s,mb5.5
MFF Saint Martin d 37.70 50 *e*P **P 16 14 56.3 -0.2**
MFF pmax pmax
comp=Z,109nm,1.2s,mb5.5
EPOB Poblet 37.80 59 P **P 16 14 56.1 -1.2**
comp=Z,28nm,0.7s,mb5.1
USIN University of 37.88 296 *e*P **P 16 14 57.4 -0.7**
EIBI Ibiza 37.88 63 P **P 16 14 58.4 +0.3**
comp=Z,99nm,1.2s,mb5.4
MLS Moulis 37.97 56 *e*P **P 16 14 59.2 +0.4**
LFF La Frestale 37.99 53 *e*P **P 16 14 58.4 -0.6**
comp=Z,243nm,1.3s,mb5.5
LFF La Frestale 37.99 53 *e*P **P 16 14 58.4 -0.6**
comp=Z,121nm,1.3s,mb5.5
LFF La Frestale 37.99 53 *e*P **P 16 14 58.4 -0.6**
LFF pmax pmax
comp=Z,121nm,1.3s,mb5.5
FLN La Foliniere 37.99 47 *e*P **P 16 14 58.4 -0.5**
comp=Z,150nm,1.5s,mb5.2
FLN *e*MLR MLR
comp=Z,2μm,19.0s,MS4.6
FLN La Foliniere 37.99 47 *e*P **P 16 14 58.4 -0.5**
comp=Z,75nm,1.5s,mb5.2
FLN LR LR
comp=Z,2μm,19.0s,MS4.9
FLN La Foliniere 37.99 47 *e*P **P 16 14 58.4 -0.5**
FLN pmax pmax
comp=Z,75nm,1.5s,mb5.2
FLN MLR MLR
comp=Z,2μm,19.0s,MS4.9
WVT Waverly 38.04 293 *e*P **P 16 14 57.6 -1.9**
comp=Z,82nm,1.6s,mb5.2
WVT LR LR
comp=Z,2μm,20.0s,MS4.9
WVT Waverly 38.04 293 *e*P **P 16 14 57.6 -1.9**
WVT pmax pmax
comp=Z,82nm,1.6s,mb5.2
WVT MLR MLR
comp=Z,2μm,20.0s,MS4.9
ROSC El Rosal 38.08 237 LR LR 16 29 33.4
comp=Z,475nm,20.4s,MS4.3,baz=270,slow=35
EMIR Miracle 38.18 58 P **P 16 14 59.5 -1.1**
comp=Z,35nm,0.7s,mb5.2
LDF La Druitiere 38.18 47 *e*P **P 16 14 59.9 -0.6**
comp=Z,139nm,1.4s,mb5.2
LDF La Druitiere 38.18 47 *e*P **P 16 14 59.9 -0.6**
comp=Z,69nm,1.4s,mb5.2
LDF La Druitiere 38.18 47 *e*P **P 16 14 59.9 -0.6**
LDF pmax pmax
comp=Z,69nm,1.4s,mb5.2
PLAL Pickwick Lake 38.30 291 *e*P **P 16 15 01.3 -0.4**
comp=Z,44nm,1.2s,mb5.1
VALF Valcebollere 38.59 57 *e*P **P 16 15 04.8 +0.8**
RJF Les Rejaudoux 38.59 53 *e*P **P 16 15 03.2 -0.8**
comp=Z,198nm,1.5s,mb5.3
RJF *e*MLR MLR
comp=Z,3μm,20.2s,MS4.8
RJF Les Rejaudoux 38.59 53 *e*P **P 16 15 03.2 -0.8**
comp=Z,99nm,1.5s,mb5.3
RJF LR LR
comp=Z,3μm,20.3s,MS5.1
RJF Les Rejaudoux 38.59 53 *e*P **P 16 15 03.2 -0.8**
RJF pmax pmax
comp=Z,99nm,1.5s,mb5.3
RJF MLR MLR
comp=Z,3μm,20.3s,MS5.1
CARF Carcanieres 38.68 57 *e*P **P 16 15 05.4 +0.6**
MTLF Montolieu 38.83 56 *e*P **P 16 15 05.3 -0.7**
comp=Z,127nm,1.2s,mb5.2
MTLF Montolieu 38.83 56 *e*P **P 16 15 05.3 -0.7**
comp=Z,63nm,1.2s,mb5.2
MTLF Montolieu 38.83 56 *e*P **P 16 15 05.3 -0.7**
MTLF pmax pmax
comp=Z,63nm,1.2s,mb5.2
CAF Calviac 38.92 53 *e*P **P 16 15 06.1 -0.7**
comp=Z,130nm,1.5s,mb5.1
CAF Calviac 38.92 53 *e*P **P 16 15 06.1 -0.7**
comp=Z,65nm,1.5s,mb5.1
CAF Calviac 38.92 53 *e*P **P 16 15 06.1 -0.7**
CAF pmax pmax
comp=Z,65nm,1.5s,mb5.1
FILF Fillols 39.00 57 *e*P **P 16 15 06.8 -0.7**
ETOS Mallorca 39.03 62 P **P 16 15 07.8 0.0**
comp=Z,25nm,0.7s,mb5.0
HDIL Hopedale 39.19 300 *e*P **P 16 15 08.0 -1.1**
SJAF Saint Jean de 39.23 57 *e*P **P 16 15 09.9 +0.5**
EJON La Jonquera 39.23 57 P **P 16 15 08.7 -0.8**
comp=Z,8.2nm,0.5s,mb4.7
TCF Toulx Ste Croi 39.23 51 *e*P **P 16 15 09.0 -0.4**
comp=Z,149nm,1.3s,mb5.3
TCF Toulx Ste Croi 39.23 51 *e*P **P 16 15 09.0 -0.4**
comp=Z,74nm,1.3s,mb5.3
TCF Toulx Ste Croi 39.23 51 *e*P **P 16 15 09.0 -0.4**
TCF pmax pmax
comp=Z,74nm,1.3s,mb5.3
FRNF Fournols 39.33 53 *e*P **P 16 15 10.6 +0.4**
COWI Conover 39.63 308 *e*P **P 16 15 11.7 -1.0**
comp=Z,32nm,1.2s,mb4.9
PYM Petit Puy Mans 39.70 52 *e*P **P 16 15 13.9 +0.6**
BGF Bois d'Agland 39.71 51 *e*P **P 16 15 12.7 -0.7**
LBL Lubilhac 39.79 53 *e*P **P 16 15 14.9 +0.8**
AGO Saint Agoulin 39.83 52 *e*P **P 16 15 14.6 +0.2**
JFWS Jewell Farm 40.04 303 P **P 16 15 15.8 -0.4**
comp=Z,36nm,1.2s,mb5.0
JFWS Jewell Farm 40.04 303 P **P 16 15 15.8 -0.4**
JFWS pmax pmax
comp=Z,36nm,1.2s,mb5.0
FVM French Village 40.05 296 *e*P **P 16 15 15.9 -0.5**
comp=Z,23nm,1.1s,mb4.8
FVM French Village 40.05 296 *e*P **P 16 15 15.9 -0.5**
FVM pmax pmax
comp=Z,23nm,1.1s,mb4.8
LASF Ste Croix 40.09 55 *e*P **P 16 15 16.3 -0.2**
comp=Z,133nm,1.3s,mb5.2
AVF Avril sur Loir 40.10 51 *e*P **P 16 15 15.8 -0.8**
comp=Z,180nm,1.7s,mb5.2
AVF Avril sur Loir 40.10 51 *e*P **P 16 15 15.8 -0.8**
comp=Z,90nm,1.7s,mb5.2
AVF Avril sur Loir 40.10 51 *e*P **P 16 15 15.8 -0.8**
AVF pmax pmax
comp=Z,90nm,1.7s,mb5.2
MENF Mencas 40.12 45 *e*P **P 16 15 16.9 +0.2**
COLF Collangettes 40.14 53 *e*P **P 16 15 17.8 +0.8**
PLDF La Plantade 40.15 52 *e*P **P 16 15 17.7 +0.6**
SSF Saint Saulge 40.25 50 *e*P **P 16 15 17.1 -0.7**
comp=Z,126nm,1.3s,mb5.2
SSF Saint Saulge 40.25 50 *e*P **P 16 15 17.1 -0.7**
comp=Z,63nm,1.3s,mb5.2
SSF Saint Saulge 40.25 50 *e*P **P 16 15 17.1 -0.7**
SSF pmax pmax
comp=Z,63nm,1.3s,mb5.2
HBAR Harrisburg 40.37 292 P **P 16 15 19.1 +0.1**
SMF Signal de Mont 40.41 51 *e*P **P 16 15 18.7 -0.4**
comp=Z,266nm,1.3s,mb5.5
SMF Signal de Mont 40.41 51 *e*P **P 16 15 18.7 -0.4**
comp=Z,133nm,1.3s,mb5.5
SMF Signal de Mont 40.41 51 *e*P **P 16 15 18.7 -0.4**
SMF pmax pmax
comp=Z,133nm,1.3s,mb5.5
LOR Lormes 40.52 50 *e*P **P 16 15 19.4 -0.7**
comp=Z,128nm,1.3s,mb5.1
LOR *e*MLR MLR
comp=Z,1μm,20.8s,MS4.5
LOR Lormes 40.52 50 *e*P **P 16 15 19.4 -0.7**
comp=Z,64nm,1.3s,mb5.1
LOR LR LR
comp=Z,1μm,20.8s,MS4.8
LOR Lormes 40.52 50 *e*P **P 16 15 19.4 -0.7**
LOR pmax pmax
comp=Z,64nm,1.3s,mb5.1
LOR MLR MLR
comp=Z,1μm,20.8s,MS4.8
CCM Cathedral Cave 40.70 296 *e*P **P 16 15 20.1 -1.6**
comp=Z,21nm,1.0s,mb4.7
CCM Cathedral Cave 40.70 296 *e*P **P 16 15 20.1 -1.6**
CCM pmax pmax
comp=Z,21nm,1.0s,mb4.7
VIVF Saint-Julien-I 40.75 54 *e*P **P 16 15 22.1 +0.1**
comp=Z,99nm,1.4s,mb4.9
VIVF Saint-Julien-I 40.75 54 *e*P **P 16 15 22.1 +0.1**
comp=Z,50nm,1.4s,mb5.0
VIVF Saint-Julien-I 40.75 54 *e*P **P 16 15 22.1 +0.1**
VIVF pmax pmax
comp=Z,50nm,1.4s,mb5.0
PRAF Pradon 41.01 56 *e*P **P 16 15 25.3 +1.2**
TREF Trevaresse 41.15 56 *e*P **P 16 15 26.7 +1.4**
GELF Grande-Etoile 41.16 56 *e*P **P 16 15 26.4 +1.0**
OCF Saint Nazaire 41.17 54 *e*P **P 16 15 27.0 +1.5**
OG26 St.-Nazaire-De 41.17 54 *e*P **P 16 15 27.0 +1.5**
BAIF Baives 41.28 46 *e*P **P 16 15 25.3 -1.0**
comp=Z,100nm,1.4s,mb5.0
BAIF Baives 41.28 46 *e*P **P 16 15 25.3 -1.0**
comp=Z,50nm,1.4s,mb5.0
BAIF Baives 41.28 46 *e*P **P 16 15 25.3 -1.0**
BAIF pmax pmax
comp=Z,50nm,1.4s,mb5.0
SMRF Simiane la Rot 41.31 55 *e*P **P 16 15 27.2 +0.6**
comp=Z,124nm,1.3s,mb5.1
SMRF Simiane la Rot 41.31 55 *e*P **P 16 15 27.2 +0.6**
comp=Z,124nm,1.3s,mb5.4
BERF Bertagne 41.35 56 *e*P **P 16 15 28.3 +1.3**
PUYF Puyloubier 41.37 56 *e*P **P 16 15 27.6 +0.5**
VILF Villemus 41.40 55 *e*P **P 16 15 27.9 +0.5**
SNF Seneffe 41.43 45 P **P 16 15 27.1 -0.4**
comp=Z,26nm,2.2s,mb4.5
EYMN Ely 41.52 311 *e*P **P 16 15 27.2 -1.1**
comp=Z,34nm,1.5s,mb4.8
MEZF Maizieres J'vi 41.52 48 *e*P **P 16 15 27.7 -0.6**
comp=Z,174nm,1.1s,mb5.3
MEZF Maizieres J'vi 41.52 48 *e*P **P 16 15 27.7 -0.6**
comp=Z,174nm,1.1s,mb5.6
DOU Dourbes 41.53 46 P **P 16 15 28.1 -0.2**
UCC Uccle 41.54 45 P **P 16 15 28.6 +0.2**
comp=Z,60nm,1.8s,mb4.9
ORIF Oris-en-Rattie 41.61 54 *e*P **P 16 15 29.8 +0.7**
comp=Z,74nm,1.4s,mb4.8
ORIF *e*MLR MLR
comp=Z,2μm,19.8s,MS4.6
ORIF Oris-en-Rattie 41.61 54 *e*P **P 16 15 29.8 +0.7**
comp=Z,37nm,1.4s,mb4.8
ORIF Oris-en-Rattie 41.61 54 *e*P **P 16 15 29.8 +0.7**
ORIF pmax pmax
comp=Z,37nm,1.4s,mb4.8
TAVF Tavernes 41.63 56 *e*P **P 16 15 30.0 +0.7**
GIVF Givet 41.68 46 *e*P **P 16 15 28.6 -0.9**
comp=Z,111nm,1.4s,mb5.0
GIVF Givet 41.68 46 *e*P **P 16 15 28.6 -0.9**
comp=Z,55nm,1.4s,mb5.0
GIVF Givet 41.68 46 *e*P **P 16 15 28.6 -0.9**
GIVF pmax pmax
comp=Z,55nm,1.4s,mb5.0
CABF La Chapelle 41.93 51 *e*P **P 16 15 31.6 -0.1**
comp=Z,158nm,1.2s,mb5.2
CABF La Chapelle 41.93 51 *e*P **P 16 15 31.6 -0.1**
comp=Z,79nm,1.2s,mb5.2
CABF La Chapelle 41.93 51 *e*P **P 16 15 31.6 -0.1**
CABF pmax pmax
comp=Z,79nm,1.2s,mb5.2
LMR La Mourre 41.95 56 *e*P **P 16 15 31.6 -0.3**
comp=Z,146nm,1.4s,mb5.1
LMR La Mourre 41.95 56 *e*P **P 16 15 31.6 -0.3**
comp=Z,73nm,1.4s,mb5.1
LMR La Mourre 41.95 56 *e*P **P 16 15 31.6 -0.3**
LMR pmax pmax
comp=Z,73nm,1.4s,mb5.1
BCLA Clavier 42.04 46 P **P 16 15 32.2 -0.4**
comp=Z,33nm,1.9s,mb4.6
FRF La Foret Royal 42.06 56 *e*P **P 16 15 32.6 -0.2**
comp=Z,153nm,1.3s,mb5.2
FRF La Foret Royal 42.06 56 *e*P **P 16 15 32.6 -0.2**
comp=Z,77nm,1.3s,mb5.2
FRF La Foret Royal 42.06 56 *e*P **P 16 15 32.6 -0.2**
FRF pmax pmax
comp=Z,77nm,1.3s,mb5.2
THEF They Montfort 42.09 49 *e*P **P 16 15 33.1 +0.2**
BNI Bardonecchia 42.19 54 *e*P **P 16 15 34.6 +0.8**
comp=Z,95nm,1.4s,mb5.2
BNI Bardonecchia 42.19 54 *e*P **P 16 15 34.6 +0.8**
BNI pmax pmax
comp=Z,95nm,1.4s,mb5.2
MBDF Montbardon 42.23 54 *e*P **P 16 15 34.8 +0.7**
comp=Z,114nm,1.3s,mb5.0
MBDF Montbardon 42.23 54 *e*P **P 16 15 34.8 +0.7**
comp=Z,57nm,1.3s,mb5.0
MBDF Montbardon 42.23 54 *e*P **P 16 15 34.8 +0.7**
MBDF pmax pmax
comp=Z,57nm,1.3s,mb5.0
CALN Calern 42.24 56 *e*P **P 16 15 35.4 +1.1**
LPL La Plagne 42.26 53 *e*P **P 16 15 35.1 +0.7**
comp=Z,120nm,1.6s,mb5.0
LPL La Plagne 42.26 53 *e*P **P 16 15 35.1 +0.7**
comp=Z,60nm,1.6s,mb5.0
LPL La Plagne 42.26 53 *e*P **P 16 15 35.1 +0.7**
LPL pmax pmax
comp=Z,60nm,1.6s,mb5.0
LPG La Plagne 42.27 53 *e*P **P 16 15 35.3 +0.8**
comp=Z,121nm,1.6s,mb5.0
LPG La Plagne 42.27 53 *e*P **P 16 15 35.3 +0.8**
comp=Z,60nm,1.6s,mb5.0
LPG La Plagne 42.27 53 *e*P **P 16 15 35.3 +0.8**
LPG pmax pmax
comp=Z,61nm,1.6s,mb5.0
HAU Haudompre 42.30 49 *e*P **P 16 15 33.8 -0.8**
comp=Z,126nm,1.3s,mb5.1
HAU *e*MLR MLR
comp=Z,1μm,21.5s,MS4.5
HAU Haudompre 42.30 49 *e*P **P 16 15 33.8 -0.8**
comp=Z,63nm,1.3s,mb5.1
HAU LR LR
comp=Z,1μm,21.5s,MS4.8
HAU Haudompre 42.30 49 *e*P **P 16 15 33.8 -0.8**
HAU pmax pmax
comp=Z,63nm,1.3s,mb5.1
HAU MLR MLR
comp=Z,1μm,21.5s,MS4.8
BEBN Eben Emael 42.35 45 P **P 16 15 35.2 +0.2**
comp=Z,14nm,1.6s,mb4.3
DBIC Dimbokro 42.41 114 *e*P **P 16 15 33.3 -2.6**
comp=Z,68nm,1.8s,mb5.0
DBIC LR LR
comp=Z,3μm,20.0s,MS5.2
DBIC Dimbokro 42.41 114 *e*P **P 16 15 33.3 -2.6**
DBIC pmax pmax
comp=Z,68nm,1.8s
DBIC MLR MLR
comp=Z,3μm,20.0s
DBIC Dimbokro 42.41 114 P **P 16 15 35.7 -0.2**
comp=Z,4.6nm,0.8s,mb4.1,baz=284,slow=9.3,SNR=5.3
DBIC PcP PcP 16 17 28.5 -0.7
comp=Z,3.6nm,0.9s,baz=228,slow=7.8,SNR=3.1
DBIC LR LR 16 30 38.6
comp=Z,3μm,20.4s,MS5.2,baz=273,slow=32
WLF Walferdange 42.44 47 *e*P **P 16 15 34.6 -1.1**
comp=Z,123nm,1.6s,mb5.3
WLF Walferdange 42.44 47 *e*P **P 16 15 34.6 -1.2**
WLF pmax pmax
comp=Z,123nm,1.6s,mb5.3
WLF Walferdange 42.44 47 P **P 16 15 36.0 +0.2**
comp=Z,53nm,1.8s,mb4.9
WLF Walferdange 42.44 47 *e*P **P 16 15 36.2 +0.4**
comp=Z,129nm,1.6s,mb5.3
WLF *e*P 16 22 04.3
MVIF Mont Vial 42.44 56 *e*P **P 16 15 37.0 +1.1**
HGN Heimansgroeve 42.51 45⇑/*e*P **P 16 15 36.4 +0.1**
comp=Z,35nm,1.8s,mb4.8
HGN Heimansgroeve 42.51 45 *e*S **S 16 22 02.7 +4.3**
TOUF Mont Tournerai 42.52 55 *e*P **P 16 15 37.7 +1.2**
MEM Membach 42.52 45 P **P 16 15 36.8 +0.4**
comp=Z,14nm,1.8s,mb4.4
LOMF Lomont 42.53 50 *e*P **P 16 15 37.0 +0.5**
LIC Lamto 42.53 115 *e*P **P 16 15 35.6 -1.4**
comp=Z,110nm,1.2s,mb5.2
LIC *e*MLR MLR
comp=Z,4μm,20.5s,MS5.0
LIC Lamto 42.53 115 *e*P **P 16 15 35.6 -1.4**
comp=Z,55nm,1.2s,mb5.2
LIC LR LR
comp=Z,2μm,20.5s,MS5.0
DOI San Damiano 42.55 55 P **P 16 15 38.3 +1.6**
comp=Z,150nm,1.2s,mb5.6
DOI San Damiano 42.55 55 P **P 16 15 38.3 +1.6**
DOI pmax pmax
comp=Z,150nm,1.2s,mb5.6
LUCF Luceram 42.58 56 *e*P **P 16 15 37.9 +0.9**
REVF Revere 42.59 56 *e*P **P 16 15 38.1 +1.0**
HINF Hinteralfeld 42.60 50 *e*P **P 16 15 36.2 -1.0**
comp=Z,164nm,1.7s,mb5.2
HINF Hinteralfeld 42.60 50 *e*P **P 16 15 36.2 -1.0**
comp=Z,82nm,1.7s,mb5.2
HINF Hinteralfeld 42.60 50 *e*P **P 16 15 36.2 -1.0**
HINF pmax pmax
comp=Z,82nm,1.7s,mb5.2
SBF Sospel 42.65 56 *e*P **P 16 15 37.4 -0.2**
comp=Z,105nm,1.3s,mb5.1
SBF Sospel 42.65 56 *e*P **P 16 15 37.4 -0.2**
comp=Z,53nm,1.3s,mb5.1
SBF Sospel 42.65 56 *e*P **P 16 15 37.4 -0.2**
SBF pmax pmax
comp=Z,53nm,1.3s,mb5.1
AUTN L'Aution 42.65 55 *e*P **P 16 15 39.5 +1.9**
SAOF Saorge 42.74 55 *e*P **P 16 15 39.0 +0.7**
MOF Molkenrain 42.80 50 *e*P **P 16 15 38.5 -0.2**
MIAR Mount Ida 42.85 291 *e*P **P 16 15 38.5 -0.8**
comp=Z,91nm,1.7s,mb5.2
MIAR Mount Ida 42.85 291 *e*P **P 16 15 38.6 -0.8**
MIAR pmax pmax
comp=Z,91nm,1.7s,mb5.2
ECH Echery 42.86 49 *e*P **P 16 15 39.4 +0.2**
CDF Champ du Feu 42.97 49 *e*P **P 16 15 39.4 -0.7**
comp=Z,243nm,1.6s,mb5.4
CDF Champ du Feu 42.97 49 *e*P **P 16 15 39.4 -0.7**
comp=Z,122nm,1.6s,mb5.4
CDF Champ du Feu 42.97 49 *e*P **P 16 15 39.4 -0.7**
CDF pmax pmax
comp=Z,122nm,1.6s,mb5.4
RUP Ruppelstein 43.02 47 *e*P **P 16 15 40.9 +0.4**
ORO Oropa 43.15 53 P **P 16 15 42.4 +0.8**
comp=Z,63nm,1.6s,mb5.1
ORO Oropa 43.15 53 P **P 16 15 42.4 +0.8**
ORO pmax pmax
comp=Z,63nm,1.6s,mb5.1
FIN Finale Ligure 43.22 55 P **P 16 15 42.7 +0.5**
WTSB Winterswijk 43.29 44⇑/*e*P **P 16 15 42.8 +0.2**
comp=Z,63nm,1.5s,mb5.1
ABH Alteburg 43.36 47 *e*P **P 16 15 44.0 +0.7**
FELD Feldberg im Sc 43.38 50 *e*P **P 16 15 43.4 -0.1**
LANF Langenberg 43.39 48 *e*P **P 16 15 43.4 -0.1**
TGUH Tegucigalpa,Un 43.40 260 *e*P **P 16 15 44.1 +0.1**
BFO Black Forest 43.65 49 P **P 16 15 45.7 +0.1**
comp=Z,232nm,1.1s,mb5.8,SNR=8.4
BFO Black Forest 43.65 49 *e*P **P 16 15 45.8 +0.2**
comp=Z,89nm,1.3s,mb5.3
BFO *e*pP pP 16 15 50.6 +1.8
BFO Black Forest 43.65 49 *e*P **P 16 15 45.8 +0.2**
BFO *e**PP pP 16 15 50.6 +1.8
BFO pmax pmax
comp=Z,89nm,1.3s,mb5.3
BFO Black Forest 43.65 49 *e*P **P 16 15 45.8 +0.2**
BFO *e*pP pP 16 15 50.6 +1.8
BFO *e*P 16 22 18.8
VAI Varese 43.71 53 P **P 16 15 46.9 +0.7**
comp=Z,110nm,1.3s,mb5.4
VAI Varese 43.71 53 P **P 16 15 46.9 +0.7**
VAI pmax pmax
comp=Z,110nm,1.3s,mb5.4
PGF Pioggiola 43.75 58 *e*P **P 16 15 45.8 -0.7**
comp=Z,61nm,1.0s,mb5.0
PGF Pioggiola 43.75 58 *e*P **P 16 15 45.8 -0.7**
comp=Z,30nm,1.0s,mb5.0
PGF Pioggiola 43.75 58 *e*P **P 16 15 45.8 -0.7**
PGF pmax pmax
comp=Z,30nm,1.0s,mb5.0
SPAK Spaichingen-Ko 43.93 50 *e*P **P 16 15 48.3 +0.4**

IBBN Ibbenburen 43.93 43 *eP* **P 16 15 48.2 +0.4**
comp=Z,67nm,1.1s,mb5.3
IBBN *eS* **S 16 22 24.1 +4.9**
VSL Villasalto 44.10 62 *eP* **P 16 15 50.0 +0.6**
comp=Z,68nm,1.3s,mb5.2
BOB Bobbio (Coli) 44.13 54 P **P 16 15 50.7 +1.2**
NATX Nacogdoches 44.18 287 P **P 16 15 50.6 +0.5**
comp=Z,372nm,1.8s,mb5.8
STU Stuttgart 44.28 49 *eP* **P 16 15 50.3 -0.3**
comp=Z,54nm,1.1s,mb5.2
STU *eS* **S 16 22 28.0 +3.7**
KEST Kesra 44.40 67 P **P 16 15 52.0 +0.2**
comp=Z,7.2nm,1.0s,mb4.3,baz=221,slow=3.4,SNR=22
KEST LR LR 16 31 21.8
comp=Z,426nm,21.5s,MS4.3,baz=345,slow=32
HLG Helgoland 44.41 41 *eS* **S 16 22 34.6 +8.4**
TOA0 Torodi Ar. Sit 44.45 101 *eP* **P 16 15 51.0 -1.4**
TORD Torodi Ar. Bea 44.45 101 P **P 16 15 52.1 -0.3**
comp=Z,9.0nm,1.1s,mb4.4,baz=300,slow=7.1,SNR=34
TORD LR LR 16 32 27.9
comp=Z,2µm,20.7s,MS5.0,baz=300,slow=33
AGMN Agassiz Refuge 44.46 311 *eP* **P 16 15 50.9 -1.3**
comp=Z,139nm,1.9s,mb5.4
DAVA Damuels 44.59 51⇑ *iP* **P 16 15 53.4 +0.3**
comp=Z,78nm,1.1s,mb5.5,SNR=8.0
BDFB Brasilia 44.66 187 P **P 16 15 52.9 -1.0**
comp=Z,5.1nm,1.1s,mb4.3,baz=355,slow=19,SNR=8.5
BDFB LR LR 16 33 06.3
comp=Z,382nm,20.7s,MS4.3,baz=350,slow=34
ULM Lac du Bonnet 44.71 313 *eP* **P 16 15 51.5 -2.6**
comp=Z,33nm,1.4s,mb5.0
ULM Lac du Bonnet 44.71 313 P **P 16 15 52.1 -1.9**
comp=Z,8.2nm,1.0s,mb4.5,baz=83,slow=7.6,SNR=12
ULM PcP PcP 16 17 35.0 -1.4
comp=Z,4.3nm,0.8s,baz=69,slow=5.0,SNR=5.9
ECSD EROS,Sioux Fal 44.72 304 *eP* **P 16 15 52.6 -1.7**
comp=Z,81nm,2.1s,mb5.2
VLC Villacollemand 44.78 55 P **P 16 15 54.9 +0.1**
comp=Z,51nm,1.4s,mb5.2
BRMO Bormio 44.87 52 P **P 16 15 56.6 +1.2**
comp=Z,48nm,1.2s,mb5.2
UBBA Unterbreizbach 45.06 46 *eP* **P 16 15 56.9 +0.1**
comp=Z,54nm,1.6s,mb5.1
UBBA *eS* **S 16 22 42.5 +6.9**
FETA Feichten 45.15 51⇑ *iP* **P 16 15 58.0 +0.4**
comp=Z,52nm,1.5s,mb5.2
RETA Reutte 45.20 51⇑ *iP* **P 16 15 58.6 +0.6**
comp=Z,72nm,1.3s,mb5.3
FNVD Fontana Vidola 45.31 55 P **P 16 15 59.4 +0.4**
MOTA Moosalm 45.42 51⇑ *iP* **P 16 16 00.3 +0.6**
comp=Z,96nm,1.5s,mb5.4
MOTA Moosalm 45.42 51⇑ *iP* **P 16 16 00.3 +0.5**
MOTA pmax pmax
comp=Z,96nm,1.5s,mb5.4
CSNT Castellina Chi 45.43 56 P **P 16 16 00.1 +0.2**
CLZ Clausthal 45.44 44 *eP* **P 16 16 00.2 +0.3**
CLZ *eS* **S 16 22 43.8 +2.7**
CLZ pmax pmax
comp=Z,75nm,1.4s,mb5.3
CLZ Clausthal 45.44 44 *eP* **P 16 16 00.2 +0.3**
comp=Z,75nm,1.4s,mb5.3
CLZ *eS* **S 16 22 43.8 +2.7**
APPI Appiano 45.46 52 P **P 16 16 00.1 0.0**
HKT Hockley 45.52 285 *eP* **P 16 16 00.7 -0.2**
comp=Z,48nm,1.4s,mb5.2
HKT Hockley 45.52 285 *eP* **P 16 16 00.7 -0.1**
HKT pmax pmax
comp=Z,48nm,1.4s,mb5.2
FCC Fort Churchill 45.60 326 *eP* **P 16 15 60.0 -1.0**
comp=Z,41nm,1.3s,mb5.2
FCC Fort Churchill 45.60 326 *eP* **P 16 16 00.0 -1.0**
FCC pmax pmax
comp=Z,41nm,1.3s,mb5.2
FUR Furstenfeldbru 45.60 50 *eP* **P 16 16 01.4 +0.2**
FUR *e**PP pP 16 16 05.8 +1.5
FUR *eS* **S 16 22 46.5 +3.0**
FUR pmax pmax
comp=Z,98nm,1.6s,mb5.5
FUR Furstenfeldbru 45.60 50 *eP* **P 16 16 01.4 +0.2**
comp=Z,98nm,1.6s,mb5.5
FUR *epP* pP 16 16 05.8 +1.5
FUR *eS* **S 16 22 46.5 +3.0**
MUD Monsted U'grnd 45.67 38⇑ *eP* **P 16 16 02.4 +0.8**
MUD *i* S **S 16 22 47.6 +3.2**
MUD pmax pmax
comp=Z,78nm,1.5s,mb5.4
MUD MLR MLR
comp=Z,610nm,17.0s,MS4.6
MUD Monsted U'grnd 45.67 38⇑ *iP* **P 16 16 02.4 +0.8**
comp=Z,78nm,1.5s,mb5.4
MUD *i* S **S 16 22 47.6 +3.2**
MUD
comp=Z,610nm,17.0s
GRFO Grafenberg 45.70 48 *eP* **P 16 16 00.1 -1.8**
comp=Z,63nm,1.5s,mb5.3
GRFO Grafenberg 45.70 48 *eP* **P 16 16 00.1 -1.8**
GRFO pmax pmax
comp=Z,63nm,1.5s,mb5.3
GRA1 Grafenberg Arr 45.70 48 *eP* **P 16 16 02.1 +0.2**
comp=Z,139nm,2.0s,mb5.5
GRA1 *epP* pP 16 16 07.0 +1.9
GRA1 *eS* **S 16 22 47.9 +3.0**
GRA1 LR LR
comp=Z,1µm,20.6s,MS4.9
GRF Grafenberg Arr 45.70 48 *eP* **P 16 16 02.1 +0.2**
GRF *e**PP pP 16 16 07.0 +1.9
GRF *eS* **S 16 22 47.9 +3.0**
GRF pmax pmax
comp=Z,139nm,2.0s,mb5.5
GRF MLR MLR
comp=Z,1µm,20.6s,MS4.9
GRF Grafenberg Arr 45.70 48 *eP* **P 16 16 02.1 +0.2**
comp=Z,139nm,2.0s,mb5.5
GRF *epP* pP 16 16 07.0 +1.9
GRF *eS* **S 16 22 47.9 +3.0**
GRF *eL* 16 31 45.5
comp=Z,1µm,20.6s
BSEG Bad Segeberg 45.76 42 *eP* **P 16 16 02.7 +0.3**
BSEG *e**PP pP 16 16 07.5 +2.0
BSEG *eS* **S 16 22 50.1 +4.4**
BSEG pmax pmax
comp=Z,236nm,1.3s,mb6.0
BSEG Bad Segeberg 45.76 42 *eP* **P 16 16 02.7 +0.3**
comp=Z,236nm,1.3s,mb6.0
BSEG *epP* pP 16 16 07.5 +2.0
BSEG *eS* **S 16 22 50.1 +4.4**
WTTA Wattenberg 45.78 51⇑ *iP* **P 16 16 01.9 -0.7**
comp=Z,49nm,1.4s,mb5.2,SNR=12
WTTA Wattenberg 45.78 51⇑ *iP* **P 16 16 01.9 -0.7**
WTTA pmax pmax
comp=Z,49nm,1.4s,mb5.2
MOX Moxa 46.05 46 *eP* **P 16 16 04.9 +0.2**
comp=Z,96nm,2.0s,mb5.4
MOX *e* 16 17 55.8
MOX
comp=Z,1µm,19.0s
MOX Moxa 46.05 46 *eP* **P 16 16 04.9 +0.2**
MOX *e* 16 17 55.8
MOX pmax pmax
comp=Z,96nm,2.0s,mb5.4
MOX MLR MLR
comp=Z,1µm,19.0s,MS4.9
MOX Moxa 46.05 46 *eP* **P 16 16 04.8 +0.1**
comp=Z,75nm,1.7s,mb5.3
MOX *eS* **S 16 22 55.7 +5.7**
SEST Monte Rota 46.15 52 P **P 16 16 06.3 +0.8**
MANZ Manzenberg 46.30 47 *eP* **P 16 16 07.1 +0.4**
comp=Z,80nm,1.7s,mb5.4
MANZ *eS* **S 16 22 55.7 +2.2**
ROTZ Rotzenmuhle 46.34 48 *eP* **P 16 16 07.1 +0.1**
comp=Z,39nm,1.5s,mb5.1
ROTZ *eS* **S 16 23 01.0 +6.8**
ASS Assisi 46.43 57 P **P 16 16 08.3 +0.5**
comp=Z,3.0nm,0.8s,mb4.3
ASS Assisi 46.43 57 P **P 16 16 08.3 +0.5**
ASS pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
WERD Werda 46.47 47 *eP* **P 16 16 07.9 -0.1**
comp=Z,48nm,1.8s,mb5.1
MNS Montasola 46.48 58 P **P 16 16 08.4 +0.2**
GUNZ Gunzen 46.48 47 *eP* **P 16 16 08.5 +0.4**
comp=Z,107nm,2.2s,mb5.4
WERN Wernitzgruen 46.50 47 *eP* **P 16 16 08.7 +0.5**
comp=Z,97nm,1.6s,mb5.5
NKC Novy Kostel 46.54 47 *eP* **P 16 16 08.9 +0.3**
NKC *e* 16 16 14.5
NKC *eS* **S 16 23 02.2 +5.2**
NKC Novy Kostel 46.54 47 *eP* **P 16 16 08.9 +0.3**
NKC *epP* pP 16 16 14.5 +2.8
NKC *eS* **S 16 23 02.2 +5.2**
NKC AMS AMS 16 32 50.0
comp=Z,2µm,18.4s,MS5.1
TANN Tannenbergstha 46.57 47 *eP* **P 16 16 09.0 +0.2**
comp=Z,142nm,2.7s,mb5.4
TANN *eS* **S 16 23 02.3 +4.9**
WET Wettzell 46.73 48 *eP* **P 16 16 10.2 +0.1**
WET *e**PP pP 16 16 15.0 +1.8
WET *eS* **S 16 23 03.6 +3.9**
WET pmax pmax
comp=Z,72nm,1.7s,mb5.3
WET Wettzell 46.73 48 *eP* **P 16 16 10.2 +0.1**
comp=Z,72nm,1.7s,mb5.3
WET *epP* pP 16 16 15.0 +1.8
WET *eS* **S 16 23 03.6 +3.9**
KONO Kongsberg 46.76 34 *eP* **P 16 16 09.7 -0.4**
comp=Z,110nm,1.3s,mb5.6
KONO Kongsberg 46.76 34 *eP* **P 16 16 09.7 -0.4**
KONO pmax pmax
comp=Z,110nm,1.3s,mb5.6
CING Cingoli 46.82 56 P **P 16 16 10.0 -0.9**
PTCC Patocco-Chiusa 46.92 52 P **P 16 16 11.2 -0.4**
comp=Z,28nm,1.0s,mb5.2
KBA Koelnbreinsper 46.94 51⇑ *iP* **P 16 16 11.8 +0.1**
comp=Z,24nm,1.1s,mb5.0,SNR=8.2
KBA Koelnbreinsper 46.94 51⇑ *iP* **P 16 16 11.8 +0.1**
KBA pmax pmax
comp=Z,24nm,1.1s,mb5.0
GUAR Guarcino 46.97 58 P **P 16 16 12.3 +0.2**
CLL Collm 47.00 45 *i* P **P 16 16 12.0 -0.1**
comp=Z,58nm,1.9s,mb5.2
CLL *i* 16 16 17.1
CLL *eS* **S 16 23 08.0 +4.5**
CLL LR LR
comp=Z,900nm,23.2s,MS4.7
CLL Collm 47.00 45 *i* P **P 16 16 12.0 -0.1**
CLL *i* 16 16 17.1
CLL *eS* **S 16 23 08.0 +4.5**
CLL pmax pmax
comp=Z,58nm,1.9s,mb5.2
CLL MLR MLR
comp=Z,900nm,23.2s,MS4.7
CLL Collm 47.00 45 *eP* **P 16 16 12.1 0.0**
comp=Z,43nm,1.5s,mb5.2
CLL *epP* pP 16 16 17.2 +1.9
CLL *eS* **S 16 23 06.2 +2.7**
CLL Collm 47.00 45 *i* P **P 16 16 12.0 -0.1**
comp=Z,58nm,1.9s,mb5.2
CLL *i* (sP) sP 16 16 17.1 +0.6
CLL comp=Z,43nm,1.5s
CLL *ePP* PP 16 18 01.0 -1.5
CLL *eS* **S 16 23 08.0 +4.5**
comp=N,200nm,20.8s
CLL *eS* **S 16 23 08.0 +4.5**
comp=E,400nm,21.7s
CLL *eSS* SS 16 26 35.0 +4.9
AQU L'Aquila 47.01 58 *eP* **P 16 16 12.6 +0.2**
comp=E,62nm,1.0s,mb5.5
AQU L'Aquila 47.01 58 *eP* **P 16 16 12.6 +0.2**
AQU pmax pmax
comp=Z,62nm,1.0s,mb5.5
WMOK Wichita Mounta 47.08 292 *eP* **P 16 16 11.9 -1.1**
comp=Z,72nm,1.4s,mb5.4
WMOK Wichita Mounta 47.08 292 *eP* **P 16 16 11.9 -1.1**
WMOK pmax pmax
comp=Z,72nm,1.4s,mb5.4
USI Ustica 47.11 63 P **P 16 16 13.2 0.0**
MYKA Terra Mystica 47.13 52⇑ *iP* **P 16 16 13.2 0.0**
comp=Z,81nm,1.4s,mb5.5
FBE Freiberg 47.18 46 *eP* **P 16 16 13.7 +0.1**
comp=Z,57nm,1.5s,mb5.3
KHC Kasperske Hory 47.19 48 *eP* **P 16 16 13.0 -0.6**
KHC *epP* pP 16 16 18.6 +1.8
KHC *eS* **S 16 23 09.1 +2.8**
KHC AMS AMS 16 37 20.0
comp=Z,1µm,18.0s,MS4.9
GEC2 GERESS Array S 47.25 49 *eP* **P 16 16 14.1 0.0**
GEC2 *e**PP pP 16 16 18.9 +1.6
GEC2 pmax pmax
comp=Z,65nm,1.5s,mb5.3
GEC2 GERESS Array S 47.25 49 *eP* **P 16 16 14.1 0.0**
comp=Z,65nm,1.5s,mb5.3
GEC2 *epP* pP 16 16 18.9 +1.6
GERES GERESS Array B 47.25 49 P **P 16 16 13.2 -0.9**
comp=Z,2.8nm,0.8s,mb4.2,baz=271,slow=7.7,SNR=23
VOY Vojsko 47.29 53 *eP* **P 16 16 14.1 -0.4**
VOY *e* pP 16 16 18.9 +1.2
VOY *e* 16 16 37.3
COP Copenhagen 47.29 39⇑ *iP* **P 16 16 14.9 +0.5**
COP *i* S **S 16 23 18.7 +11**
COP pmax pmax
comp=Z,27nm,1.1s,mb5.1
COP MLR MLR
comp=Z,540nm,19.0s,MS4.5
COP Copenhagen 47.29 39⇑ *iP* **P 16 16 14.9 +0.5**
comp=Z,27nm,1.1s,mb5.1
COP *i* S **S 16 23 18.7 +11**
COP
comp=Z,530nm,19.0s
GORS Gorjuse 47.37 52 *eP* **P 16 16 14.8 -0.3**
JAVS Javornik 47.41 53 *i* P **P 16 16 15.3 -0.1**
RFI Roccamonfina 47.51 59 P **P 16 16 17.5 +1.2**
comp=Z,22nm,1.3s,mb5.0
BRG Berggiesshubel 47.55 46 *eP* **P 16 16 15.9 -0.5**
BRG S **S 16 23 15.0 +3.6**
BRG pmax pmax
comp=Z,5.0nm,1.0s,mb4.5
BRG MLR MLR
comp=N,268nm,16.7s,MS4.7
BRG MLR MLR
comp=E,669nm,19.4s,MS4.7
BRG MLR MLR
comp=Z,969nm,19.3s,MS4.8
BRG Berggiesshubel 47.55 46 *eP* **P 16 16 16.3 -0.1**
comp=Z,57nm,1.8s,mb5.3
BRG *eS* **S 16 23 16.8 +5.4**
BRG Berggiesshubel 47.55 46 *eP* **P 16 16 15.9 -0.5**
comp=Z,7.8nm,1.0s,mb4.7
BRG S **S 16 23 15.0 +3.6**
BRG
comp=N,448nm,16.7s
BRG
comp=E,1µm,19.4s
BRG
comp=Z,2µm,19.2s
MOA Molln 47.58 50⇑ *iP* **P 16 16 15.5 -1.2**
comp=Z,33nm,1.5s,mb5.1,SNR=12
MCT Mte Cammarata 47.59 64 P **P 16 16 16.6 -0.4**
comp=Z,48nm,1.2s,mb5.4
RUE Ruedersdorf 47.60 44 *eP* **P 16 16 16.9 +0.1**
comp=Z,61nm,1.3s,mb5.5
RGN Rugen 47.61 41 *eP* **P 16 16 16.4 -0.4**
comp=Z,98nm,1.2s,mb5.7
RGN Rugen 47.61 41 *eP* **P 16 16 17.0 +0.2**
comp=Z,235nm,1.8s,mb5.9
MIDA Miranda 47.69 59 P **P 16 16 18.1 +0.5**
NAO01 NORSAR Array S 47.72 32 *eP* **P 16 16 18.4 +0.8**
comp=Z,67nm,1.4s,mb5.5
LJU Ljubljana 47.73 53 *i* P **P 16 16 17.5 -0.4**
OBKA Obir 47.75 52⇑ *iP* **P 16 16 17.3 -0.8**
comp=Z,74nm,1.3s,mb5.5,SNR=19
PRA Prague 47.80 47 P **P 16 16 19.0 +0.6**
PRA *pP* pP 16 16 24.0 +2.5
GIB Gibilmanna 47.86 64 P **P 16 16 20.0 +1.0**
comp=Z,18nm,1.0s,mb5.1
GIB Gibilmanna 47.86 64 P **P 16 16 20.0 +1.0**
GIB pmax pmax
comp=Z,19nm,1.0s,mb5.1
PRU Pruhonice 47.87 47 *eP* **P 16 16 19.2 +0.3**
PRU *epP* pP 16 16 24.8 +2.7
PRU *eS* **S 16 23 21.2 +5.3**
PRU AMS AMS 16 35 00.0
comp=Z,1µm,16.6s,MS4.9
PVCC Panska Ves 47.92 47 *eP* **P 16 16 18.6 -0.7**
PVCC *epP* pP 16 16 25.1 +2.6
PVCC *eS* **S 16 23 24.5 +7.9**
PVCC AMS AMS 16 33 50.0
comp=Z,2µm,17.3s,MS5.1
NB2 NORSAR Subarra 47.92 32 P **P 16 16 19.0 -0.2**
comp=Z,95nm,1.4s,mb5.6,baz=253,slow=7.9
NOA NORSAR Array B 47.92 32 P **P 16 16 19.1 -0.1**
comp=Z,27nm,1.2s,mb5.1,baz=254,slow=7.9,SNR=7.5
SIV San Ignacio 47.99 203 P **P 16 16 18.9 -1.2**
comp=Z,5.6nm,1.0s,mb4.5,baz=40,slow=7.8,SNR=22
SIV PcP PcP 16 17 47.2 -1.0
comp=Z,4.5nm,1.0s,baz=356,slow=2.7,SNR=3.9
PERS Pernice 48.14 52 *i* P **P 16 16 20.4 -0.7**
BOJS Bojanci 48.25 53 *i* P **P 16 16 22.2 +0.3**
ARSA Arzberg 48.42 51⇑ *iP* **P 16 16 21.5 -1.7**
comp=Z,48nm,1.6s,mb5.3,SNR=18
TREC Trest 48.45 48 *eP* **P 16 16 23.7 +0.3**
TREC *epP* pP 16 16 28.8 +2.3
TREC *eS* **S 16 23 24.8 +0.7**
TREC AMS AMS 16 36 30.0
comp=Z,900nm,17.0s,MS4.8
FG5 Orsara di Pugl 48.47 59 P **P 16 16 23.9 +0.2**
comp=Z,81nm,1.4s,mb5.6
FG5 Orsara di Pugl 48.47 59 P **P 16 16 23.9 +0.2**
FG5 pmax pmax
comp=Z,81nm,1.4s,mb5.6
BSD Bornholm Skovb 48.60 41 *eP* **P 16 16 25.3 +0.8**
BSD *i* S **S 16 23 32.1 +6.0**
BSD pmax pmax
comp=Z,49nm,1.2s,mb5.4
BSD MLR MLR
comp=Z,1µm,18.0s,MS4.9
BSD Bornholm Skovb 48.60 41⇑ *iP* **P 16 16 24.5 0.0**
BSD Bornholm Skovb 48.60 41 *i* P **P 16 16 25.3 +0.8**
comp=Z,49nm,1.2s,mb5.4
BSD *i* S **S 16 23 32.1 +6.0**
BSD
comp=Z,1µm,18.0s
CONA Conrad Observa 48.66 50⇓ *iP* **P 16 16 24.3 -0.8**
comp=Z,29nm,1.3s,mb5.1,SNR=16
JCT Junction City 48.75 286 *eP* **P 16 16 25.8 -0.2**
comp=Z,125nm,1.4s,mb5.8
JCT Junction City 48.75 286 *eP* **P 16 16 25.8 -0.3**
JCT pmax pmax
comp=Z,125nm,1.4s,mb5.8
MGR Morigerati 48.80 61 P **P 16 16 26.5 +0.3**
UPC Upice 48.84 47 *eP* **P 16 16 26.3 -0.1**
UPC *epP* pP 16 16 32.1 +2.6
FFC Flin Flon 48.98 319 P **P 16 16 27.4 0.0**
comp=Z,108nm,1.3s,mb5.7,SNR=8.9
FFC Flin Flon 48.98 319 *eP* **P 16 16 25.8 -1.7**
comp=Z,58nm,1.5s,mb5.4
FFC Flin Flon 48.98 319 *eP* **P 16 16 25.8 -1.6**
FFC pmax pmax
comp=Z,58nm,1.5s,mb5.4
DPC Dobruska-Polom 49.03 47 *eP* **P 16 16 27.7 -0.1**
DPC *epP* pP 16 16 33.7 +2.7
DPC *eS* **S 16 23 36.8 +4.5**
DPC AMS AMS 16 34 10.0
comp=Z,1µm,18.0s,MS5.0
KSP Ksiaz 49.03 46 *eP* **P 16 16 28.4 +0.5**
KSP *eS* **S 16 23 38.9 +6.5**
KSP LMZ 16 33 24.3
comp=Z,3µm,20.8s
KSP Ksiaz 49.03 46⇑ *eP* **P 16 16 28.2 +0.3**
KSP *e**PP pP 16 16 33.2 +2.2
KSP *eS* **S 16 23 32.0 -0.3**
KSP MLR MLR
comp=Z,3µm,21.6s,MS5.3
SOP Sopron 49.13 50⇑ *eP* **P 16 16 28.5 -0.2**
VRAC Vranov 49.17 48 ⇑P **P 16 16 28.8 -0.1**
VRAC Vranov 49.17 48 P **P 16 16 29.1 +0.1**
VRAC Vranov 49.17 48⇑ *iP* **P 16 16 28.8 -0.1**
DAG Danmarks Havn 49.20 7⇓ *iP* **P 16 16 28.1 -0.7**
DAG pmax pmax
comp=Z,40nm,1.4s,mb5.3
DAG Danmarks Havn 49.20 7⇓ *iP* **P 16 16 28.1 -0.7**
comp=Z,40nm,1.4s,mb5.2
ATAH Atahualpa 49.35 229 P **P 16 16 30.9 +0.2**
comp=Z,34nm,1.2s,mb5.2,baz=56,slow=4.4,SNR=18
AMTX Amarillo 49.40 293 *eP* **P 16 16 30.8 -0.2**
comp=Z,150nm,1.5s,mb5.8
ZST Bratislava 49.49 50 *eP* **P 16 16 31.9 +0.5**
comp=Z,61nm,1.6s,mb5.4
ZST LR LR
comp=Z,500nm,16.9s,MS4.6
MODS Modra-Piesok 49.61 50 *eP* **P 16 16 32.1 -0.2**
MODS *e* 16 16 32.6
MODS pmax pmax
comp=Z,16nm,1.5s,mb4.8
MODS Modra-Piesok 49.61 50 *eP* **P 16 16 32.0 -0.3**
GKP Gorka Klasztor 49.77 43 *eP* **P 16 16 34.5 +1.1**
GKP LMZ 16 32 28.6
comp=Z,1µm,28.5s
MORC Moravsky Berou 49.80 48 P **P 16 16 34.4 +0.7**
MORC Moravsky Berou 49.80 48⇑ *iP* **P 16 16 33.9 +0.2**
TIP Timpagrande 49.83 62 *eP* **P 16 16 32.3 -1.9**
comp=Z,27nm,1.1s,mb5.2
DGMT Dagmar 50.02 311 P **P 16 16 32.2 -3.2**
comp=Z,128nm,1.7s,mb5.7
OKC Ostrava-Krasne 50.19 48 *eP* **P 16 16 36.0 -0.7**
OKC *e* 16 16 42.4
OKC *eS* **S 16 23 52.8 +4.2**
OKC Ostrava-Krasne 50.19 48 *eP* **P 16 16 36.0 -0.7**
OKC *epP* pP 16 16 42.4 +2.5
OKC *eS* **S 16 23 52.8 +4.2**
OKC AMS AMS 16 34 20.0
comp=Z,700nm,19.8s,MS4.7
RAC Raciborz 50.22 47 *eP* **P 16 16 37.2 +0.2**
RAC LR LR
comp=Z,1µm,19.4s,MS4.9
KOLL Kolacno 50.36 49 *eP* **P 16 16 37.7 -0.3**
PKSM Moragy 50.59 52 ⇑P **P 16 16 39.7 -0.1**
PKSM Moragy 50.59 52⇑ *iP* **P 16 16 39.7 -0.1**
VYHS Vyhne 50.65 49 *eP* **P 16 16 39.3 -0.9**
comp=Z,18nm,1.5s,mb4.8
VYHS *e* 16 16 45.1
VYHS Vyhne 50.65 49 *eP* **P 16 16 39.3 -0.9**
VYHS *e* 16 16 45.1
VYHS pmax pmax
comp=Z,18nm,1.5s,mb4.8
BUD Budapest 50.80 51⇓ *eP* **P 16 16 42.3 +0.9**
LPAZ La Paz 51.12 211 *eP* **P 16 16 43.3 -0.7**
comp=Z,24nm,1.4s,mb4.9
LPAZ LR LR
comp=Z,888nm,20.0s,MS4.8
LPAZ La Paz 51.12 211 *eP* **P 16 16 43.3 -0.7**
LPAZ pmax pmax
comp=Z,24nm,1.4s
LPAZ MLR MLR
comp=Z,888nm,20.0s
LPAZ La Paz 51.12 211 P **P 16 16 43.6 -0.4**
comp=Z,5.5nm,1.0s,mb4.5,baz=20,slow=8.7,SNR=17
LPAZ LR LR 16 37 17.9
comp=Z,872nm,19.3s,MS4.8,baz=30,slow=35
OJC Ojcow 51.26 47 *eP* **P 16 16 45.1 +0.4**
OJC *e*sP sP 16 16 50.2 +1.1
OJC *eS* **S 16 24 13.7 +10**
OJC L 16 35 05.4
comp=Z,1.1nm,19.8s
PSZ Piszkesteto 51.37 50 *eP* **P 16 16 45.6 0.0**
comp=Z,45nm,1.5s,mb5.2
PSZ Piszkesteto 51.37 50 *eP* **P 16 16 45.6 -0.1**
PSZ pmax pmax
comp=Z,45nm,1.5s,mb5.2
PSZ Piszkesteto 51.37 50⇑ *iP* **P 16 16 45.8 +0.1**
PSZ Piszkesteto 51.37 50⇓ *eP* **P 16 16 46.5 +0.8**
PHWY Pilot Hill 51.38 301 P **P 16 16 45.2 -0.6**
NIE Niedzica 51.60 48 *eP* **P 16 16 48.5 +1.2**
KECS Kecovo 51.74 49 *eP* **P 16 16 48.4 0.0**
comp=Z,7.3nm,1.7s,mb4.3
KECS Kecovo 51.74 49 *eP* **P 16 16 48.4 0.0**
KECS pmax pmax
comp=Z,7.0nm,1.7s,mb4.3
KEK Kerkira 52.09 61 *eP* **P 16 16 51.3 +0.1**
NNA Nana 52.17 223 P **P 16 16 49.9 -2.0**
comp=Z,6.9nm,0.4s,mb4.9,baz=73,slow=4.8,SNR=3.6
STHS Stebnicka Huta 52.21 48 *eP* **P 16 16 52.3 +0.4**
comp=Z,31nm,2.0s,mb4.9
STHS Stebnicka Huta 52.21 48 *eP* **P 16 16 52.3 +0.4**
STHS pmax pmax
comp=Z,31nm,2.0s,mb4.9
TXAR Lajitas Array 52.29 286 P **P 16 16 51.8 -1.0**
comp=Z,6.9nm,0.9s,mb4.6,baz=96,slow=7.7,SNR=7.5
TXAR LR LR 16 40 28.8
comp=Z,855nm,18.5s,MS4.8,baz=5.0,slow=38
RES Resolute Bay 52.44 345 *eP* **P 16 16 52.2 -1.1**
comp=Z,1µm,1.8s
RES Resolute Bay 52.44 345 *eP* **P 16 16 52.2 -1.1**
RES pmax pmax
comp=Z,1µm,1.8s
RWWY Rawlins 52.64 302 *eP* **P 16 16 55.8 +0.6**
comp=Z,23nm,1.2s,mb5.0

OHR Ohrid 52.64 59 iP P 16 16 55.0 -0.3
BZS Buzias 52.70 53 ⇓P P 16 16 56.1 +0.5
BZS Buzias 52.70 53 ⇓iP P 16 16 56.1 +0.5
SMCO Snowmass 52.84 299 eP P 16 16 56.7 0.0
comp=Z,39nm,1.5s,mb5.1
KOLS Kolonicke sedl 52.91 49 eP P 16 16 57.1 0.0
UZH Uzhgorod 52.94 49 ⇑iP P 16 16 56.0 -1.3
UZH eS S 16 24 25.0 -1.5
UZH ePS 16 24 35.0
UZH MLR MLR
comp=Z,44µm,16.0s
KRUS Krusevo 52.94 58 iP P 16 16 58.1 +0.7
VLS Valsamata 52.95 62 eP P 16 16 57.4 -0.2
SKO Skopje 52.99 58 iP P 16 16 58.3 +0.5
BIA Bitola 53.05 59 iP P 16 16 55.2 -3.0
MNTX Cornudas Mount 53.11 289 eP P 16 16 57.5 -1.4
comp=Z,56nm,1.9s,mb5.2
KWP Kalwaria 53.15 48 eP P 16 17 00.1 +1.2
KWP LMZ 16 35 51.5
comp=Z,700nm,21.2s
KWP Kalwaria 53.15 48 eP P 16 16 58.7 -0.2
comp=Z,103nm,1.6s,mb5.5
KWP Kalwaria 53.15 48 eP P 16 16 58.7 -0.2
KWP pmax pmax
comp=Z,103nm,1.6s,mb5.5
KWP Kalwaria 53.15 48 ⇑iP P 16 16 59.8 +0.9
ANMO Albuquerque 53.24 294 eP P 16 16 59.2 -0.6
comp=Z,72nm,1.5s,mb5.4
ANMO LR LR
comp=Z,2µm,22.0s,MS5.1
ANMO Albuquerque 53.24 294 eP P 16 16 59.2 -0.5
ANMO pmax pmax
comp=Z,72nm,1.5s
ANMO MLR MLR
comp=Z,2µm,22.0s
SUW Suwalki 53.33 42 eP P 16 17 00.5 +0.4
SUW LMZ 16 34 40.5
comp=Z,1µm,27.7s
DRGR 53.35 51 ⇑P P 16 17 00.2 -0.2
DRGR 53.35 51 P P 16 17 01.0 +0.6
DRGR 53.35 51 ⇑iP P 16 17 00.2 -0.2
KZN Kozani 53.49 60 eP P 16 17 02.4 +0.9
LPM Los Pinos Moun 53.52 293 eP P 16 17 01.2 -0.6
GZR Gura Zlata 53.54 53 P P 16 17 02.4 +0.6
BNM Barren Site 53.55 293 eP P 16 17 02.4 +0.4
STIP Stip 53.59 58 iP P 16 17 01.8 -0.4
RLS Riolos of Patr 53.65 62 eP P 16 17 02.2 -0.5
RLMT Red Lodge 53.70 307 eP P 16 17 02.0 -1.0
comp=Z,56nm,1.4s,mb5.3
EGMT Eagleton 53.75 310 eP P 16 17 01.8 -1.5
comp=Z,154nm,1.4s,mb5.7
EGMT Eagleton 53.75 310 ⇑P P 16 17 03.1 -0.2
baz=54
EVR Evrytania 53.76 61 eP P 16 17 04.7 +1.2
THL Klokotos Trika 53.80 60 eP P 16 17 02.6 -1.2
Y22C IRIS PASSCAL I 53.80 293 ⇑P P 16 17 05.2 +1.2
baz=54
LENM Lemitar 53.83 293 P P 16 17 03.7 -0.4
GCMT Greycliff 53.90 307 eP P 16 17 04.6 +0.2
LAZ Ladron 53.91 293 eP P 16 17 05.1 +0.4
VAY Valandovo 53.93 58 iP P 16 17 04.0 -0.7
LVV L'vov 54.00 48 iP P 16 17 05.3 +0.2
LVV e 16 17 14.5
ALE Alert 54.04 357 P P 16 17 03.4 -1.5
comp=Z,117nm,1.4s,mb5.6,SNR=9.4
ITM Ithomi 54.18 63 eP P 16 17 04.3 -2.3
VTS Vitosha 54.21 57 ⇑P P 16 17 07.4 +0.7
VTS Vitosha 54.21 57 ⇑iP P 16 17 07.4 +0.7
VTS Vitosha 54.21 57 iP P 16 17 07.5 +0.8
BW06 Boulder Array 54.21 304 eP P 16 17 05.2 -1.5
comp=Z,91nm,1.4s,mb5.5
PDAR Pinedale Array 54.21 304 P P 16 17 05.5 -1.2
comp=Z,17nm,0.9s,mb5.0,baz=88,slow=8.1,SNR=102
PDAR LR LR 16 38 37.4
comp=Z,3µm,19.8s,MS5.3,baz=111,slow=34
KKB Krupnik 54.22 57 iP P 16 17 08.0 +1.1
PV01 Paradox Valley 54.25 298 eP P 16 17 07.6 +0.4
LKWY Lake 54.57 306 eP P 16 17 11.0 +1.7
comp=Z,54nm,1.4s,mb5.4
LKWY Lake 54.57 306 eP P 16 17 11.0 +1.7
LKWY pmax pmax
comp=Z,54nm,1.4s,mb5.4
LKR Lokris 54.72 61 eP P 16 17 10.0 -0.5
PLG Polygyros 54.74 59 eP P 16 17 02.2 -8.4
MMB Musomiste 54.74 58 iP P 16 17 11.8 +1.2
YNR Norris Junctio 54.74 306 eP P 16 17 11.8 +1.2
NEO Neokhori 54.77 60 eP P 16 17 10.7 -0.1
LOHW Long Hollow 54.84 305 eP P 16 17 09.7 -1.6
comp=Z,37nm,1.1s,mb5.3
FLWY Flagg Ranch 54.85 305 eP P 16 17 10.8 -0.6
comp=Z,124nm,1.6s,mb5.7
NVR Nevrokopi 54.88 58 eP P 16 17 12.1 +0.4
YFT Old Faithful 54.89 306 eP P 16 17 12.0 +0.3
PGB Panagyurishte 54.91 56 iP P 16 17 12.5 +0.7
MOOW Moose Ponds 54.93 305 eP P 16 17 09.1 -2.8
comp=Z,21nm,1.3s,mb5.0
YMR Madison River 54.95 306 eP P 16 17 12.5 +0.4
comp=Z,129nm,1.5s,mb5.7
SNOW Snow King Moun 54.98 305 eP P 16 17 12.9 +0.6
comp=Z,95nm,1.3s,mb5.7
IMW Indian Meadow 55.04 305 eP P 16 17 12.3 -0.4
comp=Z,115nm,1.4s,mb5.7
REDW Red Top Meadow 55.06 305 eP P 16 17 11.3 -1.6
comp=Z,86nm,1.4s,mb5.6
FINES FINESS Array B 55.06 33 P P 16 17 12.6 0.0
comp=Z,2.9nm,0.7s,mb4.4,baz=259,slow=3.9,SNR=20
FINES LR LR 16 37 08.5
comp=Z,291nm,18.3s,MS4.4,baz=90,slow=32
FIA1 FINESS Array S 55.06 33 eP P 16 17 11.6 -1.0
VLI Veliai 55.07 64 eP P 16 17 14.4 +1.3
TPAW Teton Pass 55.11 305 eP P 16 17 12.6 -0.7
comp=Z,80nm,1.3s,mb5.6
VOIR 55.12 53 ⇑P P 16 17 13.5 +0.2
VOIR 55.12 53 ⇑iP P 16 17 13.5 +0.2
QLMT Earthquake Lak 55.26 306 eP P 16 17 14.7 +0.4
DCID1 Drake Creek 55.27 305 P P 16 17 12.3 -2.1
BOZ Bozeman (W) 55.29 307 eP P 16 17 13.1 -1.4
comp=Z,30nm,1.5s,mb5.1
BOZ Bozeman (W) 55.29 307 eP P 16 17 13.1 -1.4
BOZ pmax pmax
comp=Z,30nm,1.5s,mb5.1
BOZ Bozeman (W) 55.29 307 ⇑P P 16 17 14.4 -0.1
baz=55
HRY Holter Researc 55.29 309 eP P 16 17 14.2 -0.3
VSU Vasula 55.32 37c iP P 16 17 13.8 -0.7
AHID Auburn Hatcher 55.34 304 eP P 16 17 14.9 0.0
comp=Z,62nm,1.4s,mb5.5
PLD Plovdiv 55.38 57 iP P 16 17 15.6 +0.4
RZN Rozhen 55.46 57 iP P 16 17 16.0 +0.2
SRU San Rafael 55.56 299 eP P 16 17 15.9 -0.7
comp=Z,38nm,1.2s,mb5.3
SRU San Rafael 55.56 299 eP P 16 17 15.9 -0.7
SRU pmax pmax
comp=Z,38nm,1.2s,mb5.3
PVL Pavlikeni 55.65 55 iP P 16 17 16.5 -0.7
EDM Edmonton 55.65 317 eP P 16 17 15.4 -1.6
ARCES ARCESS Array B 55.66 23 P P 16 17 16.4 -0.4
ARCES LR LR 16 36 12.4
ARCES ARCESS Array B 55.66 23 P P 16 17 16.4 -0.4
comp=Z,5.9nm,0.9s,mb4.6,baz=262,slow=6.3,SNR=11
ARCES LR LR 16 36 12.4
comp=Z,203nm,20.9s,MS4.2,baz=251,slow=31
Y19A Nutrioso 55.71 293 ⇑P P 16 17 19.0 +1.2
baz=56,SNR=16
D15A Lincoln 55.72 309 ⇓P P 16 17 17.7 +0.1
baz=56,SNR=13
MLR Muntele Rosu 55.74 53 ⇑P P 16 17 18.1 +0.4
MLR Muntele Rosu 55.74 53 ⇑iP P 16 17 18.1 +0.3
F15A Butte 55.86 308 ⇑P P 16 17 18.5 -0.1
baz=56,SNR=5.1
DAU Daniels Canyon 55.86 301 eP P 16 17 18.6 -0.1
HWUT Hardware Ranch 55.87 303 eP P 16 17 17.5 -1.3
comp=Z,49nm,1.3s,mb5.4
E15A Deer Lodge 55.88 308 ⇓P P 16 17 18.5 -0.3
baz=56,SNR=12
Z19A T-Link Ranch, 55.89 292 ⇑P P 16 17 20.1 +1.1
baz=56
G15A Dillon 55.95 307 P P 16 17 19.0 -0.3
baz=56,SNR=9.8
JLU Jordanelle 55.97 301 eP P 16 17 19.0 -0.5
KDZ Kurdzhali 55.98 57 iP P 16 17 19.3 -0.3
DIM Dimitrovgrad 55.99 57 iP P 16 17 20.0 +0.4
DLMT Dillon 56.00 307 eP P 16 17 19.4 -0.3
comp=Z,61nm,1.4s,mb5.4
MNK Minsk 56.04 42 eP P 16 17 19.0 -0.8
MNK pmax pmax
comp=Z,12µm,1.4s
MNK pmax pmax
comp=E,12µm,1.6s
TMUT Trail Mountain 56.05 300 eP P 16 17 20.4 +0.4
119A Ashpeak Ranch, 56.05 292 P P 16 17 21.5 +1.3
baz=56,SNR=13
SZH Strazhica 56.08 55 iP P 16 17 20.2 0.0
LIA Limnos Island 56.14 59 eP P 16 17 19.4 -1.3
YKA Yellowknife Ar 56.15 328 P P 16 17 18.7 -1.7
YKA PcP PcP 16 18 17.3 -0.9
YKA LR LR 16 40 48.6
YKA Yellowknife Ar 56.15 328 iP P 16 17 18.7 -1.7
YKA pmax pmax
comp=Z,5.0nm,1.1s
YKA Yellowknife Ar 56.15 328 P P 16 17 18.7 -1.7
comp=Z,5.3nm,1.1s,mb4.5,baz=90,slow=7.0,SNR=41
YKA PcP PcP 16 18 17.3 -0.9
comp=Z,1.7nm,0.8s,baz=92,slow=4.8,SNR=9.4
YKA LR LR 16 40 48.6
comp=Z,1µm,18.0s,MS5.0,baz=120,slow=36
RDO Rodhopi 56.16 58 eP P 16 17 21.3 +0.4
CTU Camp Tracy 56.18 302 eP P 16 17 21.1 +0.1
comp=Z,29nm,1.2s,mb5.2
219A White Tail Can 56.22 291 ⇑P P 16 17 22.4 +0.9
baz=56,SNR=12
MPU Maple Canyon 56.23 301 eP P 16 17 21.2 -0.2
comp=Z,66nm,1.4s,mb5.5
VRI Vrincioaia 56.23 52 ⇑iP P 16 17 20.8 -0.4
CHMT Chamberlain Mo 56.23 309 eP P 16 17 20.3 -0.9
MCMT McKenzie Canyo 56.26 307 eP P 16 17 21.5 0.0
D14A Greenough 56.38 309 ⇑P P 16 17 21.8 -0.5
baz=56,SNR=16
Y18A Canyon Day Jun 56.39 293 ⇓P P 16 17 23.4 +0.8
baz=56
WALA Waterton Lakes 56.39 312 eP P 16 17 20.6 -1.8
comp=Z,53nm,1.3s,mb5.4
319A Douglas 56.41 290 ⇓P P 16 17 23.9 +1.1
baz=56
C14A Swan Lake 56.45 310 ⇑P P 16 17 22.1 -0.6
baz=56,SNR=12
E14A Clinton 56.46 309 ⇓P P 16 17 22.5 -0.4
baz=56,SNR=14
F14A Wisdom 56.47 308 ⇑P P 16 17 22.9 0.0
baz=56
M15A Larsen Ranch, 56.55 303 ⇑P P 16 17 23.3 -0.3
baz=56
Z18A Geronimo 56.57 292 ⇓P P 16 17 24.8 +0.9
baz=56
NLU North Lily Min 56.57 301 eP P 16 17 23.9 +0.1
G14A Jackson 56.62 307 ⇓P P 16 17 24.1 +0.1
baz=56,SNR=11
118A Homack Ranch, 56.63 292 ⇑P P 16 17 25.4 +1.0
baz=56,SNR=16
JMB Yambol 56.69 56 iP P 16 17 23.5 -1.1
CPUP Villa Florida 56.70 195 eP P 16 17 22.5 -2.2
comp=Z,142nm,1.7s,mb5.7
CPUP Villa Florida 56.70 195 eP P 16 17 22.5 -2.2
CPUP pmax pmax
comp=Z,142nm,1.7s
CPUP Villa Florida 56.70 195 P P 16 17 23.6 -1.2
comp=Z,6.2nm,1.0s,mb4.6,baz=1.6,slow=7.4,SNR=7.7
CPUP LR LR 16 40 02.2
comp=Z,276nm,19.4s,MS4.4,baz=337,slow=34
MSO Missoula 56.71 309 eP P 16 17 23.9 -0.8
comp=Z,37nm,1.6s,mb5.2
N15A Stansbury Isla 56.72 302 ⇑P P 16 17 24.6 -0.2
baz=57
HVU Hansel Valley 56.73 303 eP P 16 17 24.0 -0.9
comp=Z,17nm,1.1s,mb5.0
HVU Hansel Valley 56.73 303 eP P 16 17 24.0 -0.9
HVU pmax pmax
comp=Z,17nm,1.1s,mb5.0
T16A Glen Canyon Da 56.78 297 ⇑P P 16 17 25.8 +0.5
baz=57
B13A Whitefish 56.84 311 ⇑P P 16 17 24.9 -0.7
baz=57
218A Dragoon 56.87 291 ⇑P P 16 17 27.0 +0.9
baz=57,SNR=11
K14A Jones Ranch, D 56.88 304 ⇓P P 16 17 25.7 -0.2
baz=57
E13A Victor 56.94 309 ⇓P P 16 17 25.5 -0.8
baz=57,SNR=6.4
MSU Marysvale 56.95 299 eP P 16 17 26.6 0.0
318A Bisbee 56.97 290 ⇓P P 16 17 27.9 +1.1
baz=57,SNR=30
C13A Hot Springs 57.01 310 ⇑P P 16 17 26.3 -0.5
baz=57
D13A Huson 57.02 310 ⇓P P 16 17 26.2 -0.7
baz=57,SNR=7.5
WUAZ Wupatki 57.02 295 eP P 16 17 26.7 -0.4
comp=Z,85nm,1.4s,mb5.6
WUAZ Wupatki 57.02 295 ⇓P P 16 17 28.1 +1.0
baz=57
Y17A Roosevelt 57.06 293 ⇓P P 16 17 28.6 +1.2
baz=57
DUG Dugway 57.07 301 eP P 16 17 26.9 -0.5
comp=Z,60nm,1.3s,mb5.5
DUG Dugway 57.07 301 eP P 16 17 26.9 -0.5
DUG pmax pmax
comp=Z,61nm,1.3s,mb5.5
DUG Dugway 57.07 301 ⇓P P 16 17 27.7 +0.3
baz=57
BGU Big Grassy Mou 57.09 302 eP P 16 17 26.2 -1.3
PRK Paraskevi 57.10 60 eP P 16 17 26.4 -1.1
F13A Darby 57.14 308 ⇑P P 16 17 27.3 -0.4
baz=57
PRD Provadia 57.14 55 iP P 16 17 27.8 0.0
G13A Cobalt 57.18 307 ⇓P P 16 17 28.2 +0.1
baz=57,SNR=17
M14A Sheep Mountain 57.21 303 ⇓P P 16 17 27.8 -0.5
baz=57,SNR=12
N14A Grayback Hills 57.22 302 ⇑P P 16 17 28.1 -0.2
baz=57,SNR=11
KIEV Kiev 57.22 46 eP P 16 17 26.1 -2.1
comp=Z,84nm,1.6s,mb5.5
KIEV Kiev 57.22 46 eP P 16 17 26.1 -2.1
KIEV pmax pmax
comp=Z,84nm,1.6s,mb5.5
AKASG Malin Array Be 57.23 46 iP P 16 17 26.8 -1.5
AKASG pmax pmax
comp=Z,5.0nm,0.9s
AKASG Malin Array Be 57.23 46 P P 16 17 26.9 -1.4
comp=Z,5.0nm,0.9s,mb4.5,baz=272,slow=6.6,SNR=39
AKASG LR LR 16 40 19.9
comp=Z,1µm,18.5s,MS5.0,baz=270,slow=34
AKBB Malin Array Si 57.23 46 eP P 16 17 26.2 -2.1
117A Oracle 57.27 292 ⇑P P 16 17 29.5 +0.6
baz=57
H13A Challis 57.29 307 P P 16 17 29.0 +0.2
baz=57,SNR=13
I13A Wildhorse Cree 57.31 306 ⇑P P 16 17 29.3 +0.4
baz=57,SNR=13
X16A Lo Mia Camp, P 57.35 294 ⇑P P 16 17 30.4 +1.0
baz=57,SNR=9.7
J13A Cove Ranch, Pi 57.44 305 ⇓P P 16 17 30.4 +0.5
baz=57,SNR=8.0
T15A Red Dirt Ranch 57.45 297 ⇓P P 16 17 30.2 +0.1
baz=57,SNR=8.8
KIS Kishinev 57.48 51 eP P 16 17 28.0 -2.1
KIS e 16 18 20.0
KIS e 16 25 30.0
KIS Kishinev 57.48 51 eP P 16 17 28.0 -2.1
KIS LRM 16 40 03.0
comp=Z,500nm,19.0s
K13A Stover Farm, H 57.52 304 ⇑P P 16 17 30.7 +0.2
baz=57
Y16A Circle Bar Ran 57.52 294 ⇑P P 16 17 31.8 +1.2
baz=57,SNR=14
L13A Double Diamond 57.53 304 ⇑P P 16 17 30.5 -0.1
baz=57,SNR=6.1
JOF Joensuu 57.55 32 ep P 16 17 25.5 -4.8
217A Green Valley 57.56 291 ⇓P P 16 17 31.0 +0.1
baz=57,SNR=18
B12A Libby 57.57 311 ⇑P P 16 17 30.7 0.0
baz=57
HLID Hailey 57.58 305 ⇑P P 16 17 31.1 +0.2
baz=57
PSN Preselentsi 57.62 54 iP P 16 17 30.8 -0.3
Z16A Peralta Trail, 57.62 293 ⇓P P 16 17 32.0 +0.6
baz=58
R14A James Farms, M 57.65 299 ⇓P P 16 17 32.2 +0.7
baz=58
H12A Diamond D Ranc 57.71 307 ⇓P P 16 17 31.8 0.0
baz=58,SNR=29
F12A Elk City 57.78 308 ⇓P P 16 17 32.3 +0.1
baz=58
W15A Williams 57.81 295 ⇓P P 16 17 34.1 +1.4
baz=58,SNR=6.4
M13A Montello 57.84 303 ⇓P P 16 17 32.3 -0.4
baz=58,SNR=5.2
O13A Hicks Ranch, I 57.96 301 ⇑P P 16 17 34.3 +0.6
baz=58
X15A Humboldt 57.97 294 ⇑P P 16 17 34.9 +1.2
baz=58,SNR=12
N13A Wendover, West 57.97 302 ⇑P P 16 17 33.7 0.0
baz=58
T14A Hurricane 57.99 298 ⇑P P 16 17 33.3 -0.5
baz=58
A11A Hall Mountain, 58.01 312 ⇓P P 16 17 33.7 -0.1
baz=58,SNR=11
216A Three Points, 58.02 291 ⇑P P 16 17 34.8 +0.6
baz=58
116A Eloy 58.06 292 ⇓P P 16 17 34.8 +0.4
baz=58,SNR=5.2
CCUT Cedar City 58.08 298 eP P 16 17 34.2 -0.3
ARUT Antelope Range 58.09 299 eP P 16 17 33.9 -0.6
B11A Sandpoint 58.09 311 ⇑P P 16 17 33.9 -0.5
baz=58
K12A Draper Farm, C 58.11 304 ⇑P P 16 17 35.0 +0.4
baz=58,SNR=9.0
J12A Stokes Ranch, 58.13 305 ⇓P P 16 17 35.0 +0.2
baz=58,SNR=14
P13A Bates Ranch, G 58.14 301 ⇑P P 16 17 35.7 +0.8
baz=58,SNR=26
Y15A Casa Rosa Ranc 58.19 294 ⇑P P 16 17 36.2 +0.9
baz=58,SNR=12
U14A Mt Trumbull 58.22 297 ⇓P P 16 17 36.3 +0.8
baz=58,SNR=26
Q13A Wheeler Ranch, 58.26 300 ⇑P P 16 17 36.3 +0.6
baz=58
D11A Klaveano Farm, 58.29 310 ⇑P P 16 17 34.7 -1.1
baz=58
L12A House Creek Ra 58.30 304 ⇓P P 16 17 35.9 -0.1
baz=58,SNR=8.9
E11A Bogner Ranch, 58.33 309 ⇑P P 16 17 35.4 -0.6
baz=58,SNR=7.1
AKHS Akhisar 58.35 60 ⇓iP P 16 17 35.7 -0.6
V14A Boquillas Ranc 58.36 296 ⇓P P 16 17 37.9 +1.4
baz=58,SNR=20
F11A Grangeville 58.38 308 ⇓P P 16 17 35.8 -0.6
baz=58
M12A Wells 58.38 303 ⇑P P 16 17 36.5 0.0
baz=58,SNR=13
APA Apatity 58.40 26 ⇑eP P 16 17 41.0 +4.8
APA pmax pmax
comp=Z,36nm,1.2s,mb5.3
APA MLR MLR
comp=Z,500nm,16.0s,MS4.7
115A Sonoran Desert 58.45 292 ⇑P P 16 17 37.9 +0.7
baz=58
W14A Seligman 58.45 296 P P 16 17 38.7 +1.6
baz=58,SNR=12
S13A Holt Ranch, En 58.46 298 ⇓P P 16 17 37.9 +0.7
baz=58,SNR=14
X14A Yava 58.49 295 ⇑P P 16 17 38.3 +0.8
baz=58,SNR=11
H11A Donnelly 58.50 307 ⇓P P 16 17 37.0 -0.3
baz=58,SNR=7.5
O12A Currie 58.50 302 ⇑P P 16 17 37.9 +0.5
baz=58
G11A Walters Elk Ra 58.54 308 ⇓P P 16 17 37.3 -0.3
baz=58,SNR=34
N12A Clover Valley, 58.59 302 ⇑P P 16 17 37.7 -0.3
baz=58
NEW Newport 58.61 311 P P 16 17 36.6 -1.4
comp=Z,101nm,1.4s,mb5.7
NEW LR LR
comp=Z,2µm,19.0s,MS5.2
NEW Newport 58.61 311 P P 16 17 36.6 -1.4
NEW pmax pmax
comp=Z,101nm,1.4s
NEW MLR MLR
comp=Z,2µm,19.0s
NEW Newport 58.61 311 LR LR 16 41 10.8
comp=Z,1µm,18.8s,MS5.1,baz=76,slow=34
I11A Placerville 58.61 306 ⇑P P 16 17 37.9 -0.2
baz=58,SNR=12
MFID Camas Ranch 58.62 305 ⇓P P 16 17 38.5 +0.3
baz=58,SNR=21
T13A Saint George 58.63 298 ⇓P P 16 17 39.5 +1.1
baz=58,SNR=8.0
B10A Chitwood Farm, 58.67 311 ⇑P P 16 17 38.1 -0.3
baz=58
Y14A Wickenburg 58.73 294 ⇑P P 16 17 40.2 +1.1
baz=59,SNR=9.2
A10A Northport 58.78 312 ⇑P P 16 17 39.0 -0.2
baz=59
P12A McGill 58.81 301 ⇓P P 16 17 40.0 +0.5
baz=59,SNR=9.4
C10A Spilker Farm, 58.81 311 ⇓P P 16 17 39.0 -0.4
baz=59
L11A Cat Creek Ranc 58.83 304 ⇑P P 16 17 40.0 +0.3
baz=59,SNR=19
U13A Pakoon Wash 58.83 297 ⇑P P 16 17 40.8 +1.1
baz=59,SNR=9.7
Z14A Wintersburg 58.84 293 ⇓P P 16 17 40.5 +0.7
baz=59
R12A Pony Springs, 58.85 299 P P 16 17 40.8 +1.0
baz=59,SNR=7.1
K11A Parker Ranch, 58.90 305 ⇓P P 16 17 40.3 +0.2
baz=59,SNR=24
E10A Myers Farm, Un 58.92 309 ⇓P P 16 17 39.6 -0.6
baz=59
D10A Wagner Farm, O 58.93 310 ⇑P P 16 17 39.3 -0.9
baz=59
V13A Grand Canyon W 58.99 296 ⇑P P 16 17 41.8 +0.9
baz=59
M11A Holland Ranch, 59.02 303 ⇑P P 16 17 41.1 +0.2
baz=59,SNR=6.5
H10A Noah's Angus R 59.03 307 ⇑P P 16 17 39.9 -1.2
baz=59,SNR=6.6
F10A Beach Ranch, E 59.09 309 P P 16 17 41.4 0.0
baz=59,SNR=9.1
N11A Elko Archery C 59.11 302 ⇑P P 16 17 41.7 +0.1
baz=59
W13A Hualapai Mount 59.12 296 P P 16 17 43.5 +1.7
baz=59,SNR=16
G10A Bishop Farm, J 59.15 308 ⇓P P 16 17 41.0 -0.8
baz=59,SNR=11
I10A Payette 59.18 306 ⇑P P 16 17 41.7 -0.3
baz=59
X13A Yucca 59.21 295 ⇓P P 16 17 43.5 +1.1
baz=59,SNR=15
O11A Cowboy Ranch, 59.21 302 ⇓P P 16 17 42.3 0.0
baz=59,SNR=29
S12A Delamar Landin 59.21 299 ⇑P P 16 17 43.3 +0.9
baz=59
B09A Rice 59.26 312 ⇑P P 16 17 42.4 -0.1
baz=59,SNR=18
U12A Valley of Fire 59.27 297 ⇑P P 16 17 43.6 +0.7
baz=59
J10A Berg Farm, Mel 59.29 306 ⇓P P 16 17 41.8 -1.0
baz=59
T12A Moapa 59.34 298 ⇓P P 16 17 43.5 +0.3
baz=59
L10A Juniper Basin 59.37 304 ⇓P P 16 17 43.8 +0.4
baz=59,SNR=29
BMO Blue Mountains 59.37 307 eP P 16 17 40.0 -3.4
comp=Z,13nm,1.3s,mb4.8
BMO Blue Mountains 59.37 307 eP P 16 17 40.0 -3.4
BMO pmax pmax
comp=Z,13nm,1.3s,mb4.8
A09A Danville 59.45 312 ⇑P P 16 17 43.9 +0.1
baz=59,SNR=15
C09A Chrisman Ranch 59.46 311 ⇓P P 16 17 43.2 -0.7
baz=59
K10A MacKenzie Ranc 59.50 305 ⇓P P 16 17 44.0 -0.3
baz=59,SNR=9.6
Q11A Duckwater 59.52 300 ⇓P P 16 17 44.8 +0.3
baz=59,SNR=11
PDMCI Parker Dam,Lak 59.53 295 ⇓P P 16 17 45.3 +0.6
baz=59
M10A I.L. Ranch, Tu 59.54 303 ⇑P P 16 17 45.0 +0.4
baz=59,SNR=7.3
LPIG La Paz 59.55 282 LR LR 16 42 33.5
comp=Z,549nm,20.8s,MS4.7,baz=174,slow=35
GDZ Gediz 59.56 59 ⇑iP P 16 17 45.2 +0.4
R11A Troy Canyon, C 59.59 300 ⇑P P 16 17 45.4 +0.4
baz=60,SNR=16
T11A Corn Creek, Al 59.59 298 ⇓P P 16 17 46.2 +1.2
baz=60,SNR=15
G09A Cove 59.61 308 ⇓P P 16 17 44.7 -0.3
baz=60

E09A	Wood Farm, Sta	59.62	309	⇑P	P	16 17 44.6 -0.4
	baz=60					
F09A	S2 Ranch, Elgi	59.62	308	⇑P	P	16 17 44.7 -0.4
	baz=60					
D09A	Jones Farm, Ri	59.62	310	⇑P	P	16 17 44.6 -0.4
	baz=60,SNR=14					
H09A	Durkee	59.66	307	⇑P	P	16 17 45.1 -0.2
	baz=60					
N10A	Dunphy	59.71	302	⇑P	P	16 17 45.6 -0.1
	baz=60					
NEE2	Needles Airpor	59.78	295	⇑P	P	16 17 47.1 +0.7
	baz=60					
O10A	Cortez Mining,	59.80	302	⇑P	P	16 17 46.4 0.0
	baz=60					
W12A	Cal Nev Ari	59.84	296	⇑P	P	16 17 47.3 +0.6
	baz=60					
I09A	Lost Marbles R	59.86	306	⇓P	P	16 17 46.7 -0.1
	baz=60,SNR=14					
S11A	Rachel	59.90	299	⇓P	P	16 17 48.2 +1.1
	baz=60					
A08A	Turner Farm, O	59.90	312	⇓P	P	16 17 46.7 -0.2
	baz=60,SNR=6.9					
P10A	Eureka	59.94	301	⇑P	P	16 17 47.9 +0.5
	baz=60					
Y12C	Blythe	59.99	294	⇓P	P	16 17 48.5 +0.6
	baz=60					
J09A	Fry Pan Ranch,	60.01	306	⇓P	P	16 17 47.9 +0.2
	baz=60					
D08A	Wollman Farm,	60.03	310	⇓P	P	16 17 47.6 -0.2
	baz=60,SNR=13					
B08A	Colville Reser	60.05	312	⇑P	P	16 17 47.8 -0.2
	baz=60					
Q10A	Clear Creek Ra	60.09	300	⇑P	P	16 17 48.6 +0.2
	baz=60,SNR=19					
GOLH	Golhisar	60.09	62	⇑*i*P	P	16 17 49.5 +1.1
V11A	Goodsprings	60.13	297	⇓P	P	16 17 49.5 +0.8
	baz=60					
K09A	Rome	60.13	305	P	P	16 17 48.2 -0.4
	baz=60,SNR=19					
F08A	Pendleton	60.19	309	⇑P	P	16 17 48.5 -0.4
	baz=60,SNR=6.9					
M09A	Marrel Ranch,	60.23	303	⇑P	P	16 17 49.6 +0.2
	baz=60					
E08A	Dider Farm, El	60.24	309	⇑P	P	16 17 49.3 0.0
	baz=60					
L09A	Wilkinson Ranc	60.25	304	⇑P	P	16 17 49.4 -0.1
	baz=60,SNR=9.1					
O09A	Fish Creek Ran	60.34	302	⇑P	P	16 17 50.4 +0.2
	baz=60,SNR=7.8					
IRM	Iron Mountain	60.38	295	⇓P	P	16 17 51.0 +0.6
	baz=60					
H08A	Prairie City	60.39	307	⇑P	P	16 17 50.3 -0.1
	baz=60,SNR=14					
G08A	Pilot Rock	60.42	308	⇓P	P	16 17 50.2 -0.4
	baz=60,SNR=18					
N09A	Rock Creek Ran	60.42	303	⇑P	P	16 17 50.6 -0.1
	baz=60,SNR=9.4					
GLA	Glamis	60.44	294	*e*P	P	16 17 50.4 -0.5
	comp=Z,57nm,1.4s,mb5.4					
GLA	Glamis	60.44	294	*e*P	P	16 17 50.4 -0.5
GLA				pmax	pmax	
	comp=Z,57nm,1.4s,mb5.4					
GLA	Glamis	60.44	294	⇑P	P	16 17 51.5 +0.6
	baz=60					
I08A	Drewsey	60.46	306	⇑P	P	16 17 51.3 +0.5
	baz=60					
P09A	Austin	60.46	301	⇓P	P	16 17 51.5 +0.6
	baz=60					
TPNV	Topopah Spring	60.46	298	*e*P	P	16 17 51.7 +0.7
	comp=Z,44nm,1.4s,mb5.3					
TPNV	Topopah Spring	60.46	298	*e*P	P	16 17 51.7 +0.7
TPNV				pmax	pmax	
	comp=Z,44nm,1.4s,mb5.3					
TPNV	Topopah Spring	60.46	298	⇓P	P	16 17 52.1 +1.1
	baz=60					
S10A	Tonopah Range,	60.47	299	⇓P	P	16 17 51.7 +0.7
	baz=60,SNR=20					
TMCR	Tamitsa	60.48	30	*e*P	P	16 17 49.2 -1.4
TMCR				pmax	pmax	
	comp=Z,47nm,1.5s,mb5.3					
J08A	Circle Bar Ran	60.52	306	⇑P	P	16 17 51.7 +0.4
	baz=60,SNR=26					
B07A	Winthrop	60.54	312	⇓P	P	16 17 50.7 -0.7
	baz=60,SNR=7.3					
HAWA	Hanford	60.58	309	*e*P	P	16 17 50.4 -1.2
	comp=Z,36nm,1.2s,mb5.4					
A07A	Ashnola River,	60.60	313	⇑P	P	16 17 51.5 -0.2
	baz=60,SNR=15					
GMRC	Granite Mounta	60.60	296	⇑P	P	16 17 52.7 +0.7
	baz=60					
TUQ	Turquoise Mtn.	60.63	296	⇓P	P	16 17 53.0 +0.9
	baz=60					
C07A	Waterville	60.66	311	⇑P	P	16 17 51.6 -0.6
	baz=60,SNR=6.1					
U10A	Ash Meadows, A	60.67	298	⇑P	P	16 17 53.5 +1.1
	baz=60					
K08A	Mann Creek Ran	60.67	305	⇑P	P	16 17 52.5 +0.2
	baz=60,SNR=17					
Q09A	Carvers	60.68	301	⇑P	P	16 17 53.0 +0.6
	baz=60					
L08A	Fields	60.70	305	⇑P	P	16 17 52.5 0.0
	baz=61,SNR=11					
D07A	Quincy	60.70	310	⇑P	P	16 17 52.1 -0.3
	baz=61					
R09A	Tonopah	60.75	300	⇓P	P	16 17 53.1 +0.2
	baz=61,SNR=18					
E07A	Sunnyside	60.76	310	⇑P	P	16 17 53.1 +0.3
	baz=61					
BC3	Big Chuckw Mtn	60.76	294	⇑P	P	16 17 53.7 +0.6
	baz=61					
WVOR	Wild Horse Val	60.85	305	*e*P	P	16 17 52.6 -0.9
	comp=Z,45nm,1.4s,mb5.4					
WVOR	Wild Horse Val	60.85	305	*e*P	P	16 17 52.6 -0.9
WVOR				pmax	pmax	
	comp=Z,45nm,1.4s,mb5.4					
N08A	GE Springer Mi	60.89	303	⇓P	P	16 17 53.8 -0.1
	baz=61					
M08A	Happy Creek Ra	60.90	304	⇑P	P	16 17 53.8 -0.2
	baz=61					
G07A	Ruggs Ranch, H	60.92	308	⇑P	P	16 17 53.5 -0.4
	baz=61,SNR=9.1					
F07A	Phinny Hill Vi	60.95	309	⇓P	P	16 17 54.3 +0.1
	baz=61					
OBN	Obninsk	60.99	40	P	P	16 17 54.2 -0.1
	comp=Z,313nm,1.0s,SNR=6.0					
OBN	Obninsk	60.99	40	P	P	16 17 53.0 -1.3
	comp=Z,77nm,1.2s,mb5.7					
OBN	Obninsk	60.99	40	*d*i*P*	P	16 17 53.8 -0.5
OBN				*i*		16 17 59.7
OBN				*e*S	S	16 26 10.4 -2.1
OBN				pmax	pmax	
	comp=Z,64nm,1.0s,mb5.7					
H07A	Lands Inn, Kim	61.00	307	⇓P	P	16 17 54.4 -0.1
	baz=61,SNR=6.3					
S09A	Goldfield	61.00	299	⇑P	P	16 17 54.7 +0.1
	baz=61					
FURC	Furnace Creek,	61.07	298	⇓P	P	16 17 56.3 +1.2
	baz=61					
I07A	Izee	61.08	307	P	P	16 17 55.6 +0.6
	baz=61,SNR=10					
BELC	Belle Mtn.	61.10	295	⇑P	P	16 17 56.5 +1.2
	baz=61					
J07A	Hines	61.11	306	⇓P	P	16 17 55.2 0.0
	baz=61,SNR=5.7					
HEC	Hector,Ludlow	61.12	296	⇑P	P	16 17 56.3 +0.8
	baz=61					
P08A	Dixie Valley	61.13	302	⇑P	P	16 17 55.3 -0.1
	baz=61					
C06A	Tall Timber Ra	61.16	311	⇑P	P	16 17 54.6 -0.9
	baz=61					
K07A	Rock Creek Ran	61.23	305	⇑P	P	16 17 56.3 +0.2
	baz=61,SNR=21					
Q08A	Gabbs	61.23	301	⇓P	P	16 17 55.9 -0.3
	baz=61,SNR=5.8					
SWSC	Sam W. Stewart	61.25	294	⇑P	P	16 17 57.5 +1.1
	baz=61					
D06A	Cle Elum	61.29	311	⇓P	P	16 17 55.8 -0.7
	baz=61					
A06A	Chilliwack	61.29	313	⇑P	P	16 17 55.5 -0.9
	baz=61					
GRAC	Grapevine Rang	61.31	299	⇓P	P	16 17 57.5 +0.7
	baz=61					
GSC	Goldstone	61.35	297	⇓P	P	16 17 58.0 +0.9
	baz=61					
B06A	Marblemount	61.42	312	⇓P	P	16 17 56.3 -1.0
	baz=61					
L07A	Adell	61.46	305	P	P	16 17 58.8 +1.1
	baz=61,SNR=21					
MOS	Moscow	61.47	39	*e*P	P	16 17 56.3 -1.2
MOS				*e*		16 20 11.3
MOS				pmax	pmax	
	comp=Z,77nm,1.5s,mb5.6					
M07A	Soldier Meadow	61.49	304	⇑P	P	16 17 57.7 -0.3
	baz=61,SNR=5.0					
H06A	Lindquist Farm	61.50	308	⇓P	P	16 17 58.4 +0.5
	baz=61,SNR=8.6					
N07B	Gerlach	61.51	303	⇓P	P	16 17 57.7 -0.3
	baz=61,SNR=14					
R08A	Mina	61.51	300	⇑P	P	16 17 58.1 0.0
	baz=61					
SIM	Simferopol'	61.51	52	*ce*P	P	16 17 59.5 +1.5
SIM				*e*S	S	16 26 19.0 -0.5
SIM				pmax	pmax	
	comp=Z,40nm,8.0s					
SIM				MLR	MLR	
	comp=Z,500nm,15.0s,MS4.8					
E06A	Yakima	61.52	310	P	P	16 17 58.6 +0.6
	baz=61,SNR=15					
F06A	Goldendale	61.57	309	⇑P	P	16 17 58.4 +0.1
	baz=61					
PFO	Pinyon Flat Ob	61.58	295	LR	LR	16 42 16.6
	comp=Z,1μm,21.6s,MS5.1,baz=253,slow=34					
PFO	Pinyon Flat Ob	61.58	295	⇓P	P	16 17 59.7 +1.1
	baz=61					
DVTC	Desert V Tower	61.58	294	⇑P	P	16 17 59.6 +1.0
	baz=61					
G06A	Carlson Farm,	61.59	308	⇓P	P	16 17 58.8 +0.3
	baz=61,SNR=18					
I06A	Prineville	61.60	307	⇓P	P	16 17 59.2 +0.5
	baz=62					
NVAR	Mina Array Bea	61.63	300	P	P	16 17 58.1 -0.8
	comp=Z,9.5nm,1.1s,mb4.8,baz=70,slow=7.1,SNR=35					
MPMC	Manual Prospec	61.67	298	⇑P	P	16 18 00.3 +1.1
	baz=62					
A05A	Maple Falls	61.70	313	⇑P	P	16 18 00.1 +0.9
	baz=62					
J06A	Christmas Vall	61.73	306	⇓P	P	16 17 59.5 0.0
	baz=62					
MONP	Monument Peak	61.77	294	⇓P	P	16 18 00.8 +0.9
	baz=62					
P07A	Fallon	61.77	302	⇑P	P	16 18 00.0 +0.2
	baz=62					
S08C	White Mtn Res	61.79	299	⇓P	P	16 18 00.9 +0.9
	baz=62,SNR=12					
K06A	Valley Falls	61.91	306	⇓P	P	16 18 01.0 +0.3
	baz=62					
LRMC	Laurel Mountai	61.99	297	⇓P	P	16 18 02.2 +0.8
	baz=62					
F05A	White Salmon	62.00	309	⇑P	P	16 18 01.4 +0.1
	baz=62					
H05A	Madras	62.14	308	⇑P	P	16 18 03.0 +0.8
	baz=62,SNR=14					
ELDT	Eldivan	62.14	57	*e*P	P	16 17 59.4 -2.9
N06A	Buffalo Meadow	62.15	303	⇓P	P	16 18 02.1 -0.2
	baz=62,SNR=13					
MOD	Modoc	62.18	305	*e*P	P	16 18 01.1 -1.5
	comp=Z,69nm,1.4s,mb5.6					
MOD	Modoc	62.18	305	⇑P	P	16 18 01.9 -0.7
	baz=62					
I05A	Bend	62.29	307	⇑P	P	16 18 04.5 +1.3
	baz=62					
R07C	Lee Vining	62.29	300	⇑P	P	16 18 03.9 +0.6
	baz=62,SNR=8.3					
O06A	Flanigan	62.30	303	⇑P	P	16 18 03.1 -0.3
	baz=62,SNR=5.9					
BFSC	Mount Baldy St	62.34	296	⇑P	P	16 18 04.2 +0.4
	baz=62					
K05A	Summer Lake	62.39	306	⇓P	P	16 18 04.1 +0.1
	baz=62,SNR=19					
EDW2	Edwards Air Fo	62.41	296	⇑P	P	16 18 05.4 +1.2
	baz=62					
R06C	Coleville	62.47	301	P	P	16 18 05.4 +0.8
	baz=62,SNR=9.3					
WCN	Washoe City	62.48	302	⇑P	P	16 18 04.9 +0.3
	baz=62					
J05A	Fort Rock	62.49	306	⇓P	P	16 18 05.0 +0.4
	baz=62,SNR=14					
M06C	Likely Place G	62.49	304	⇑P	P	16 18 04.7 +0.1
	baz=62,SNR=9.6					
L05A	Lakeview	62.53	305	⇑P	P	16 18 05.4 +0.5
	baz=62,SNR=16					
HELL	Mitchell Peak	62.67	299	P	P	16 18 07.1 +1.1
	baz=62,SNR=18					
KCC	Kaiser Creek	62.71	299	⇑P	P	16 18 06.6 +0.4
	baz=63					
BEKR	Beckwourth	62.77	302	⇓P	P	16 18 06.5 -0.1
	baz=63					
H04A	Detroit Lake	62.79	308	⇑P	P	16 18 06.2 -0.4
	baz=63,SNR=9.7					
ELFS	Eagle Lake Fie	62.84	303	⇑P	P	16 18 06.9 0.0
	baz=63,SNR=23					
B04A	Port Angeles	62.84	312	⇑P	P	16 18 06.6 -0.2
	baz=63,SNR=7.0					
G04A	Mulino	62.86	309	⇑P	P	16 18 06.9 -0.1
	baz=63					
R05C	Kirkwood Meado	62.89	301	⇑P	P	16 18 07.6 +0.2
	baz=63					
M05C	Lookout	62.94	304	⇑P	P	16 18 07.9 +0.3
	baz=63					
BOYT	Boyabat	62.97	56	⇓*i*P	P	16 18 08.5 +0.7
VES	Vestal, Richgr	62.97	298	⇑P	P	16 18 08.5 +0.6
	baz=63					
ARVC	Arvin	62.99	297	⇑P	P	16 18 09.1 +1.1
	baz=63					
K04A	Chilquin	63.02	306	⇓P	P	16 18 08.2 +0.1
	baz=63					
OSI	Osito Adit	63.06	296	⇓P	P	16 18 09.1 +0.5
	baz=63					
CDAG	Cicekdag	63.08	58	⇑*i*P	P	16 18 06.7 -1.9
CTKT	Corum	63.10	57	⇑*e*P	P	16 18 08.4 -0.3
T06C	Millerton Lake	63.10	299	⇓P	P	16 18 09.0 +0.2
	baz=63					
J04A	Umpqua Nationa	63.12	306	⇑P	P	16 18 08.7 -0.1
	baz=63					
P05C	Yuba Gap, Truc	63.12	302	⇑P	P	16 18 09.0 +0.1
	baz=63					
O05C	Quincy	63.16	303	⇑P	P	16 18 09.0 -0.1
	baz=63					
I04A	Tendick Farm,	63.18	307	⇓P	P	16 18 08.6 -0.6
	baz=63					
O04C	Chester	63.18	303	⇓P	P	16 18 09.0 -0.2
	baz=63					
CIS	Catalina Islan	63.19	295	⇑P	P	16 18 10.1 +0.7
	baz=63					
VOR	Voronezh	63.22	44	*e*P	P	16 18 09.0 -0.3
VOR				pmax	pmax	
	comp=Z,100nm,2.0s,mb5.6					
NLWA	Neilton Lookou	63.24	311	P	P	16 18 09.0 -0.5
	comp=Z,147nm,1.3s,mb6.0					
NLWA	Neilton Lookou	63.24	311	⇓P	P	16 18 09.7 +0.2
	baz=63					
D03A	Wishkah Elem.	63.24	311	⇑P	P	16 18 09.7 +0.2
	baz=63					
L04A	Klamath Falls	63.25	305	⇑P	P	16 18 09.8 +0.2
	baz=63					
HATC	Hat Creek Radi	63.32	304	P	P	16 18 10.6 +0.4
	baz=63,SNR=11					
CMB	Columbia Colle	63.32	300	*e*P	P	16 18 09.9 -0.3
	comp=Z,57nm,1.5s,mb5.5					
CMB				LR	LR	
	comp=Z,1μm,19.0s,MS5.2					
CMB	Columbia Colle	63.32	300	*e*P	P	16 18 09.9 -0.3
CMB				pmax	pmax	
	comp=Z,57nm,1.5s,mb5.5					
CMB				MLR	MLR	
	comp=Z,1μm,19.0s,MS5.2					
CMB	Columbia Colle	63.32	300	⇑P	P	16 18 10.7 +0.5
	baz=63					
M04C	Macdoel	63.32	305	P	P	16 18 10.4 +0.2
	baz=63,SNR=15					
VORD	Divnogorie	63.46	44	*e*P	P	16 18 10.3 -0.6
VORD				pmax	pmax	
	comp=Z,30nm,1.5s,mb5.2					
VORD				pmax	pmax	
	comp=N,10.0nm,0.9s					
VORD				pmax	pmax	
	comp=E,30nm,1.6s					
INK	Inuvik	63.50	335	*e*P	P	16 18 09.1 -1.8
	comp=E,1μm,1.3s					
INK	Inuvik	63.50	335	*e*P	P	16 18 09.1 -1.8
INK				pmax	pmax	
	comp=Z,1μm,1.3s					
INK	Inuvik	63.50	335	LR	LR	16 44 06.9
	comp=Z,1μm,21.6s,MS5.1,baz=100,slow=34					
H03A	Soap Creek Ran	63.56	308	⇑P	P	16 18 11.7 +0.1
	baz=63					
R04C	Big Horse Ranc	63.66	301	⇑P	P	16 18 13.3 +0.8
	baz=64,SNR=6.7					
M03C	McCloud	63.67	304	⇓P	P	16 18 12.3 -0.1
	baz=64					
ORV	Oroville	63.70	302	⇓P	P	16 18 12.7 0.0
	baz=64					
ANN	Anapa	63.83	51	*c*i*P*	P	16 18 12.9 -0.6
ANN				*e*S	S	16 26 49.8 +1.2
ANN				pmax	pmax	
	comp=Z,57nm,1.6s,mb5.3					
ANN				MLR	MLR	
	comp=Z,508nm,17.0s,MS4.8					
PKM	Peak Mountain	63.83	297	⇓P	P	16 18 14.5 +0.9
	baz=64					
HUMO	Hull Mountain	63.89	306	⇑P	P	16 18 14.3 +0.4
	baz=64					
YBH	Yreka Blue Hor	63.96	305	⇑P	P	16 18 14.2 -0.2
	baz=64					
SUTB	Sutter Butte	64.01	302	⇓P	P	16 18 14.4 -0.4
	baz=64					
J02A	Umpqua	64.11	307	⇓P	P	16 18 14.9 -0.4
	baz=64					
U04C	Hernandez Rese	64.12	299	⇑P	P	16 18 16.4 +0.9
	baz=64,SNR=6.0					
M02C	Callahan	64.16	305	⇓P	P	16 18 15.8 +0.1
	baz=64					
DLBC	Dease Lake	64.17	324	P	P	16 18 14.2 -1.3
WDC	Whiskeytown Da	64.17	304	⇑P	P	16 18 15.1 -0.7
	baz=64					
S04C	Ingram Canyon,	64.19	300	⇓P	P	16 18 17.0 +1.1
	baz=64					
PACP	Pacheco Peak	64.31	300	⇓P	P	16 18 18.2 +1.5
	baz=64					
Q03C	Winters	64.36	302	⇑P	P	16 18 17.9 +0.8
	baz=64					
BDM	Black Diamond	64.46	301	⇓P	P	16 18 18.8 +1.1
	baz=64					
O02C	Red Bluff	64.47	303	⇓P	P	16 18 17.8 +0.1
	baz=64					
L02A	Cave Junction	64.47	306	⇑P	P	16 18 17.0 -0.7
	baz=64					
N02C	Big Bar	64.65	304	⇓P	P	16 18 18.8 -0.1
	baz=64					
BBB	Bella Bella	64.67	317	LR	LR	16 45 49.5
	comp=Z,1μm,20.4s,MS5.1,baz=92,slow=36					
HAST	Hastings Reser	64.70	299	⇓P	P	16 18 20.0 +0.6
	baz=65					
CFAA	Coronel Fontan	64.85	204	P	P	16 18 19.4 -0.8
	comp=Z,2.2nm,1.1s,mb4.1,baz=12,slow=2.8,SNR=18					
JRSC	Jasper Ridge	64.91	300	⇓P	P	16 18 21.0 +0.3
	baz=65					
M01C	Crescent City	64.94	305	⇑P	P	16 18 20.4 -0.4
	baz=65					
BNLO	Ben Lomond (Sa	64.94	300	⇓P	P	16 18 21.8 +0.9
	baz=65					
HOPS	Hopland	65.04	302	*e*P	P	16 18 20.5 -0.9
	comp=Z,92nm,1.2s,mb5.7					
HOPS	Hopland	65.04	302	⇑P	P	16 18 22.3 +0.9
	baz=65					
P01C	Double 8 Ranch	65.09	303	⇓P	P	16 18 22.0 +0.2
	baz=65					
ANDN	Andirin	65.16	59	⇑*i*P	P	16 18 22.7 +0.4
JCC	Jacoby Creek	65.18	304	⇑P	P	16 18 22.7 +0.4
	baz=65					
SOC	Sochi	65.75	52	*e*P	P	16 18 26.3 +0.3
SOC				*e*		16 18 59.2
SOC				*e*PPP		16 22 25.5
SOC				*e*S	S	16 27 09.7 -2.7
SOC				*e*		16 28 21.6
SOC				pmax	pmax	
	comp=Z,41nm,1.0s,mb5.4					
SOC				MLR	MLR	
	comp=Z,332nm,19.0s,MS4.6					
MMAI	Mount Meron Ar	65.93	64	LR	LR	16 45 34.3
	comp=Z,212nm,21.8s,MS4.3,baz=285,slow=34					
MALT	Malatya	66.49	58	*e*P	P	16 18 30.2 -0.6
	comp=Z,25nm,1.1s,mb5.2					
MALT	Malatya	66.49	58	*e*P	P	16 18 30.2 -0.6
MALT				pmax	pmax	
	comp=Z,25nm,1.1s,mb5.2					
EIL	Elat	66.74	68	P	P	16 18 32.6 0.0
	comp=Z,4.2nm,0.8s,mb4.5,baz=334,slow=2.8,SNR=4.7					
DAWY	Dawson	66.93	332	*e*P	P	16 18 31.5 -1.7
ASF	Jabal al Asfar	67.41	65	P	P	16 18 37.1 +0.3
	comp=Z,8.2nm,1.2s,mb4.6,baz=152,slow=4.4,SNR=7.1					
KIV	Kislovodsk	67.67	51	P	P	16 18 39.4 +1.1
	comp=Z,128nm,1.5s,mb5.7,SNR=7.9					
KIV	Kislovodsk	67.67	51	*e*P	P	16 18 39.0 +0.7
KIV				*e*S	S	16 27 33.6 -2.0
KIV				pmax	pmax	
	comp=Z,25nm,1.2s,mb5.1					
ONI	Oni	68.66	52	P	P	16 18 45.6 +1.1
MENT	Mentasta	69.15	331	*e*P	P	16 18 43.5 -3.7
TBLG	Delisi	69.86	53	P	P	16 18 52.8 +0.8
MTA	Mtatsminda	69.91	53	P	P	16 18 53.6 +1.4
COLA	College	70.02	334	*d*i*P*	P	16 18 51.3 -1.2
MSL	Mosul	70.68	59	*ex*	x	16 18 58.5
MAK	Makhachkala	71.31	51	*e*P	P	16 19 08.9 +8.1
MAK				MLR	MLR	
	comp=Z,469nm,18.0s,MS4.8					
IMA2	Indian Mountai	71.61	336	*e*P	P	16 19 02.7 +0.6
ARU	Arti	72.38	35	P	P	16 19 07.1 +0.2
	comp=Z,140nm,1.3s,mb5.7,SNR=6.4					
ARU	Arti	72.38	35	*e*P	P	16 19 06.2 -0.8
	comp=Z,74nm,1.5s,mb5.4					
ARU	Arti	72.38	35	*d*i*P*	P	16 19 06.7 -0.2
ARU				*e*		16 19 27.3
ARU				*e*		16 21 43.0
ARU				*e*PPP		16 23 28.6
ARU				*e*S	S	16 28 29.5 -0.8
ARU				pmax	pmax	
	comp=Z,50nm,1.6s,mb5.2					
ARU				MLR	MLR	
	comp=Z,545nm,20.0s,MS4.8					
BHD	Baghdad	72.83	61	*ex*	x	16 19 05.0
SVE	Sverdlovsk	73.23	34	⇓*e*P	P	16 19 12.4 +0.4
SVE				*e*		16 29 13.3
SVE				*e*		16 33 25.2
SVE				pmax	pmax	
	comp=Z,35nm,1.1s,mb5.2					
PLCA	Paso Flores	73.92	201	P	P	16 19 14.8 -1.3
	comp=Z,6.6nm,0.9s,mb4.6,baz=13,slow=10,SNR=7.5					
PLCA				LR	LR	16 50 13.5
	comp=Z,312nm,20.8s,MS4.6,baz=14,slow=35					
AKTK	Aktyubinsk	74.77	41	P	P	16 19 21.0 -0.1
AKTO	Aktyubinsk	74.77	41	P	P	16 19 21.0 -0.1
	comp=Z,5.8nm,0.7s,mb4.6,baz=306,slow=6.1,SNR=28					
SVW2	Sparrevohn	74.95	332	*e*P	P	16 19 21.2 -0.7
MIB	Mutribah	76.57	63	*e*P	P	16 19 27.5 -4.4
MIB				AMb	AMB	16 19 38.6
	comp=Z,65nm,1.2s,mb5.4					
NAY	Al-Naaiem	76.74	64	*e*P	P	16 19 26.4 -6.4
NAY				AMb	AMB	16 19 40.1
	comp=Z,46nm,1.0s,mb5.3					
RDF	Al-Radifah	77.12	64	*e*P	P	16 19 26.0 -8.9
RDF				AMb	AMB	16 19 37.8
	comp=Z,51nm,1.2s,mb5.3					
KBD	Kabd	77.12	64	*e*P	P	16 19 26.3 -8.6
KBD				AMb	AMB	16 19 39.0
	comp=Z,252nm,1.6s,mb5.9					
TIXI	Tiksi	79.44	3	*e*P	P	16 19 46.3 -0.7
	comp=Z,85nm,1.6s,mb5.4					
TIXI	Tiksi	79.44	3	*c*i*P*	P	16 19 47.4 +0.4
TIXI				*e*		16 19 53.0
TIXI				pmax	pmax	
	comp=Z,59nm,1.5s,mb5.3					
BRVK	Borovoye	79.94	34	*e*P	P	16 19 49.8 -0.2
	comp=Z,25nm,1.1s,mb5.1					
BRVK	Borovoye	79.94	34	*e*P	P	16 19 49.8 -0.2
BRVK				pmax	pmax	
	comp=Z,25nm,1.1s,mb5.1					
BVAR	Borovoye Array	80.01	34	P	P	16 19 50.2 -0.2
	comp=Z,5.2nm,0.7s,mb4.6,baz=297,slow=4.3,SNR=32					
BILL	Bilibino	80.77	349	*e*P	P	16 19 53.0

LSZ pmax pmax
comp=Z,29nm,1.4s,mb5.0
KMBO Kilima Mbogo 82.15 96 *e*P **P 16 20 04.6 +2.1**
comp=Z,19nm,1.6s,mb4.8
KMBO LR LR
comp=Z,2μm,20.0s,MS5.5
KMBO Kilima Mbogo 82.15 96 *e*P **P 16 20 04.6 +2.1**
KMBO pmax pmax
comp=Z,19nm,1.6s
KMBO MLR MLR
comp=Z,2μm,20.0s
KMBO Kilima Mbogo 82.15 96 P **P 16 20 05.6 +3.1**
comp=Z,1.6nm,0.8s,mb4.0,baz=305,slow=5.9,SNR=10
KMBO LR LR 16 55 15.4
comp=Z,2μm,20.4s,MS5.5,baz=276,slow=35
NVS Novosibirsk 84.64 28 *i* P **P 16 20 14.6 0.0**
NVS pmax pmax
comp=N,14nm,1.6s
NVS pmax pmax
comp=Z,37nm,1.6s,mb5.3
NVS pmax pmax
comp=E,9.0nm,1.8s
LBTB Lobatse 85.13 122 *e*P **P 16 20 14.1 -3.4**
comp=E,32nm,1.8s,mb5.2
LBTB LR LR
comp=Z,821nm,20.0s,MS5.1
LBTB Lobatse 85.13 122 *e*P **P 16 20 14.1 -3.4**
LBTB pmax pmax
comp=Z,32nm,1.8s,mb5.2
LBTB MLR MLR
comp=Z,821nm,20.0s,MS5.1
KURK Kurchatov 85.44 33 P **P 16 20 18.8 +0.1**
comp=Z,145nm,1.2s,mb6.0,SNR=17
KURK Kurchatov 85.44 33 *e*P **P 16 20 18.1 -0.6**
comp=Z,34nm,1.1s,mb5.4
KURK Kurchatov 85.44 33 *e*P **P 16 20 18.1 -0.6**
KURK pmax pmax
comp=Z,34nm,1.1s,mb5.4
ZAL Zalesovo 85.93 28 P **P 16 20 21.7 +0.6**
ZAA0 Zalesovo Array 85.93 28 *e*P **P 16 20 20.2 -0.9**
ZALV Zalesovo Beam 85.93 28 P **P 16 20 21.7 +0.6**
comp=Z,4.3nm,0.8s,mb4.7,baz=292,slow=5.3,SNR=18
ZALV LR LR 16 57 49.9
comp=Z,192nm,20.2s,MS4.5,baz=138,slow=35
BOSA Boshof 86.94 125 LR LR 16 55 33.1
comp=Z,432nm,18.7s,MS4.9,baz=319,slow=33
SEY Seymchan 87.51 353⇑ *e*P **P 16 20 28.6 0.0**
EKS2 Erkin-Say 88.08 41 *e*P **P 16 20 32.2 +0.4**
comp=Z,6.4nm,1.0s,mb4.8
AML Almayashu 88.37 42 *e*P **P 16 20 32.8 -0.3**
comp=Z,35nm,1.3s,mb5.4
FRU Bishkek 88.46 41 *e*P **P 16 20 34.0 +0.5**
FRU *e* 16 24 03.0
FRU pmax pmax
comp=Z,80nm,2.2s,mb5.6
AAK Ala-Archa 88.51 41 *e*P **P 16 20 33.3 -0.5**
comp=Z,9.4nm,1.1s,mb5.0
AAK Ala-Archa 88.51 41⇑ *e*P **P 16 20 34.3 +0.5**
AAK pmax pmax
comp=Z,23nm,2.6s,mb5.0
AAK Ala-Archa 88.51 41 P **P 16 20 33.7 -0.1**
comp=Z,4.4nm,0.8s,mb4.8,baz=266,slow=6.3,SNR=9.6
UCH Uchtor 88.78 41 *e*P **P 16 20 35.9 +0.8**
comp=Z,16nm,1.1s,mb5.3
TKM2 Tokmak 2 88.96 40 *e*P **P 16 20 35.5 -0.4**
comp=Z,8.4nm,0.6s,mb5.2
TKM2 Tokmak 2 88.96 40 *e*P **P 16 20 35.5 -0.4**
TKM2 pmax pmax
comp=Z,8.0nm,0.6s,mb5.2
YAK Yakutsk 89.07 3 *e*P **P 16 20 35.9 -0.1**
YAK pmax pmax
comp=N,8.0nm,1.3s
YAK pmax pmax
comp=Z,15nm,1.3s,mb5.2
MK31 Makanchi Array 89.89 34 *e*P **P 16 20 39.8 -0.4**
MKAR Makanchi Array 89.89 34 *i* P **P 16 20 40.4 +0.2**
MKAR pmax pmax
comp=Z,4.0nm,1.0s
MKAR Makanchi Array 89.89 34 P **P 16 20 40.4 +0.2**
comp=Z,4.2nm,1.0s,mb4.7,baz=328,slow=4.3,SNR=18
MKAR LR LR 16 59 25.9
comp=Z,533nm,21.2s,MS4.9,baz=294,slow=34
BOD Bodaibo 91.38 12 *e*P **P 16 20 44.8 -2.1**
BOD pmax pmax
comp=Z,8.0nm,1.4s,mb4.9
MOY Mondy 93.69 21 *e*P **P 16 20 58.4 +0.8**
IRK Irkutsk 94.19 19 ⇓ *i*P **P 16 20 59.8 -0.1**
IRK pmax pmax
comp=Z,20nm,1.4s,mb5.3
TLY Talaya 94.50 20 P **P 16 20 60.0 -1.4**
comp=Z,14nm,1.5s,mb5.2
TLY Talaya 94.50 20⇑ *e*P **P 16 21 01.5 +0.1**
TLY pmax pmax
comp=Z,1.0nm,1.7s,mb4.0
WMQ Urumqi 94.67 33 P **P 16 21 02.4 +0.1**
WMQ AP pP 16 21 07.0 +1.3
WMQ XP sP 16 21 10.0 +3.1
WMQ PP PP 16 24 53.0 +3.3
WMQ SKS 16 31 36.0
WMQ S S 16 32 14.0 -1.6
WMQ AMB AMB
comp=Z,9.0nm,1.6s,mb5.0
WMQ AMB AMB
comp=Z,162nm,5.0s
WMQ LR LR
comp=N,487nm,16.0s,MS5.2
WMQ LR LR
comp=E,372nm,13.9s,MS5.2
WMQ LR LR
comp=Z,401nm,22.4s
ZAK Zakamensk 95.52 21 *e*P **P 16 21 04.3 -1.8**
ZAK pmax pmax
comp=Z,2.0nm,2.0s,mb4.2
SONM Songino Array 98.73 20 P **P 16 21 18.4 -2.2**
comp=Z,0.3nm,0.7s,mb3.9,baz=336,slow=3.2,SNR=2.9
SONM LR LR 17 06 10.0
comp=Z,248nm,21.5s,MS4.7,baz=346,slow=36
RKT Rikitea 102.36 250 *e*SS SS 16 40 24.7 -3.5
comp=Z,160nm,28.0s
RKT Rikitea 102.36 250 *e*LR LR 16 55 11.9
comp=Z,471nm,33.5s
CN2 Changchun 106.77 9 *e*PDIF Pdif 16 21 56.8 +0.4
CN2 PP PP 16 26 24.3 +3.5
CN2 *e*S Sdif 16 33 53.8 -3.7
CN2 LR LR
comp=N,170nm,19.0s,MS4.8
CN2 LR LR
comp=E,220nm,19.0s,MS4.8
CN2 LR LR
comp=Z,320nm,23.0s,MS4.8
LZH Lanzhou 108.16 28 *e*PDIF Pdif 16 21 58.3 -4.3
LZH *e*S Sdif 16 33 57.3 -12
LZH PP PP
comp=Z,128nm,9.5s
LZH LR LR
comp=N,398nm,18.4s
LZH LR LR
comp=Z,753nm,20.5s,MS5.2
BJI Beijing 108.64 17 PDIF Pdif 16 22 01.6 -3.1
BJI PP PP
comp=Z,126nm,5.2s
BJI LR LR
comp=N,248nm,19.4s,MS4.8
BJI LR LR
comp=E,172nm,21.2s,MS4.8
BJI LR LR
comp=Z,198nm,23.1s,MS4.6
PPT Papeete 112.40 262 *e*LR LR 16 59 49.8
comp=Z,385nm,23.0s
CD2 Chengdu 112.57 31 *e*PKP PKiKP 16 26 15.1 -2.8
CD2 XPKP 16 26 23.3
CD2 PP PP 16 27 05.1 +1.8
CD2 PKS 16 29 50.6
CD2 SKS SKSdf 16 33 22.4 -8.0
CD2 SKKS SKKSac 16 33 55.3 -12
CD2 PP PP
comp=Z,350nm,10.8s
CD2 LR LR
comp=N,250nm,24.4s
CD2 LR LR
comp=Z,200nm,22.2s,MS4.7
TBI Tubuai 114.60 256 *e*LR LR 17 00 46.5
comp=Z,476nm,32.5s
NJ2 Nanjing 116.89 17 *e*PKP PKPdf 16 26 22.1 -4.1
NJ2 PP PP 16 27 37.0 +3.5
NJ2 PKS 16 29 57.0
NJ2 PP PP
comp=Z,1μm,10.0s
NJ2 LR LR
comp=N,480nm,18.0s,MS5.2
NJ2 LR LR
comp=E,390nm,20.9s,MS5.2
KMI Kunming 116.96 35 PKP PKPdf 16 26 24.8 -1.7
KMI XPKP 16 26 29.3
KMI PP PP 16 27 36.9 +2.4
KMI SKS SKSdf 16 33 34.5 -4.5
KMI SKKS SKKSac 16 34 29.3 -7.6
KMI SS SS 16 43 39.6 -2.3
KMI PP PP
comp=Z,85nm,5.2s
KMI LR LR
comp=N,161nm,19.2s,MS4.9
KMI LR LR
comp=E,172nm,15.3s,MS4.9
KMI LR LR
comp=Z,209nm,18.9s,MS4.8
GYA Guiyang 117.69 31 PDIF Pdif 16 22 42.8 -2.1
GYA PKP PKPdf 16 26 26.6 -1.3
GYA PP PP 16 27 42.0 +2.6
GYA PKS 16 30 01.5
GYA SKS SKSdf 16 33 35.9 -4.4
GYA SKKS SKKSac 16 34 33.5 -8.2
GYA S Sdif 16 35 22.6 -5.9
GYA SS SS 16 43 49.3 -1.8
GYA PP PP
comp=Z,140nm,8.5s
GYA LR LR
comp=N,660nm,21.9s,MS5.3
GYA LR LR
comp=E,590nm,22.8s,MS5.3
GYA LR LR
comp=Z,680nm,21.0s,MS5.2
QIZ Qiongzhong 125.57 32 PKP PKPdf 16 26 40.6 -2.6
QIZ LR LR
comp=Z,263nm,18.7s,MS4.9
VNDA Vanda 130.09 187 PKP PKPdf 16 26 50.0 0.0
VNDA Vanda 130.09 187 PKP PKPdf 16 26 50.0 0.0
comp=Z,4.9nm,1.1s,baz=248,slow=1.1,SNR=5.3
FITZ Fitzroy Crossi 165.04 46 PKPab PKPab 16 28 41.9 -0.6
comp=Z,3.8nm,1.1s,baz=243,slow=4.5,SNR=3.1
WRA Warramunga Arr 170.66 15 PKP PKPdf 16 27 48.8 -1.1
comp=Z,4.8nm,1.3s,baz=305,slow=0.7,SNR=12
WRA PKPab PKPab 16 29 06.4 -0.8
comp=Z,1.9nm,1.1s,baz=355,slow=5.6,SNR=6.9
WRA PP PP 16 32 54.8 -1.6
comp=Z,6.1nm,1.4s,baz=344,slow=6.0,SNR=7.9
ASAR Alice Springs 174.04 27 PKP PKPdf 16 27 50.5 -0.8
comp=Z,1.1nm,0.9s,baz=35,slow=1.3,SNR=8.7
ASAR PKPab PKPab 16 29 21.4 -0.8
comp=Z,0.4nm,0.8s,baz=351,slow=5.1,SNR=5.8
ASAR PP PP 16 33 12.3 -1.0
comp=Z,2.6nm,1.1s,baz=350,slow=3.7,SNR=9.4
STKA Stephens Creek 175.02 234 PKP PKPdf 16 27 50.5 -0.9
STKA Stephens Creek 175.02 234 PKP PKPdf 16 27 50.5 -0.9
comp=Z,4.9nm,1.1s,baz=90,slow=1.0,SNR=5.5

MAN 24 16:11:45, 1195N×12425E, h11km, mb3.7, ML2.4, MS1.9, Leyte

*IDC **24** 16:17:50.2±1.1, 2582N×6505E, h0km, mb3.5/5, mb1 3.7/6, mb1mx3.5/23, mbtmp3.6/6, ML3.6/1, Error ellipse: s-maj=31.2km s-min=26.3km az=29.0*
*NEIC **24** 16:17:51.7±0.8, 2585N×6504E, h10km, mb3.7/1, Error ellipse: s-maj=20.2km s-min=14.4km az=111.0*
*ISCJB **24** 16:17:54.4±1.1, 260N±0.1×652E±0.1, h33km, mb3.4/6, Error ellipse: s-maj=17.8km s-min=13.2km az=151.5*
ISC 24 16:17:56.2±1.0, 260N±01×6522E±009, h35km, n13, σ1ᵢ39/14, mb3.4/6, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**9.17**	**20**	*e*Pn	**Pn**	**16 20 07.0**	**+1.0**
	4.2nm,0.4s						
SDNR	**Sundarnagar**	**11.70**	**59**	*e*P	**Pn**	**16 20 43.0**	**+2.4**
SDNR				*e*S	**Sn**	**16 22 47.4**	**-2.5**
SMLA	**Simla**	**11.70**	**61**	*e*P	**Pn**	**16 20 43.5**	**+2.8**
SMLA				*e*S	**Sn**	**16 22 49.2**	**-0.8**
EKS2	**Erkin-Say**	**18.08**	**21**	*e*P	**Pn**	**16 22 04.6**	**+0.1**
	5.2nm,0.8s						
AAK	**Ala-Archa**	**18.30**	**22**	*e*P	**Pn**	**16 22 06.4**	**-0.7**
AAK	**Ala-Archa**	**18.30**	**22**	P	**Pn**	**16 22 05.9**	**-1.2**
	0.7nm,0.3s,baz=201,slow=8.3,SNR=6.8						
MDRS	**Chennai**	**19.08**	**129**	*ex*	x	16 22 09.5	
MDRS				*ex*	x	16 29 05.5	
MDRS				*ex*	x	16 37 38.5	
MDRS				*ex*	x	16 49 05.0	
MKAR	**Makanchi Array**	**24.83**	**29**	P	**P**	**16 23 16.3**	**+1.3**
	0.4nm,0.4s,mb3.3,baz=214,slow=9.0,SNR=3.2						
BVAR	**Borovoye Array**	**27.31**	**7**	P	**P**	**16 23 42.3**	**+4.9**
	0.9nm,0.6s,mb3.5,baz=182,slow=9.5,SNR=3.9						
AKASG	**Malin Array Be**	**36.95**	**322**	P	**P**	**16 25 01.5**	**-0.3**
	0.1nm,0.3s,mb3.1,baz=118,slow=7.5,SNR=4.6						
TORD	**Torodi Ar. Bea**	**60.70**	**271**	P	**P**	**16 28 02.4**	**-2.1**
	0.8nm,0.7s,mb4.0,baz=61,slow=5.8,SNR=7.4						
WRA	**Warramunga Arr**	**81.13**	**117**	P	**P**	**16 30 08.2**	**-0.1**
	0.6nm,1.0s,mb3.5,baz=320,slow=4.6,SNR=3.3						
ASAR	**Alice Springs**	**82.75**	**121**	P	**P**	**16 30 16.9**	**+0.1**
	0.2nm,0.7s,mb3.3,baz=306,slow=5.1,SNR=5.4						

*IDC **24** 16:27:16.2±20.0, 1900N×14537E, h162km±191km, mb3.2/6, mb1 3.4/6, mb1mx3.1/20, mbtmp3.2/6, Error ellipse: s-maj=58.1km s-min=39.8km az=90.0*
*ISCJB **24** 16:27:18.9±0.8, 189N±02×1453E±04, h200km, mb3.2/6, Error ellipse: s-maj=60.8km s-min=16.5km az=19.8*
*NEIC **24** 16:27:20.1±0.5, 1893N×14536E, h200km, Error ellipse: s-maj=38.9km s-min=11.4km az=112.0*
ISC 24 16:27:20.2±0.8, 189N±02×1453E±04, h200km, n10, σ0ᵢ23/9, mb3.2/6, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRAB	**Tennant Creek**	**40.10**	**196**	*e*P	**P**	**16 34 36.3**	**-0.2**
WB2	**Warramunga Arr**	**40.11**	**196**	*e*P	**P**	**16 34 36.5**	**-0.1**
WRA	**Warramunga Arr**	**40.11**	**196**	P	**P**	**16 34 36.4**	**-0.2**
	0.5nm,0.3s,mb3.4,baz=20,slow=8.9,SNR=16						
FITZ	**Fitzroy Crossi**	**41.58**	**209**	P	**P**	**16 34 49.1**	**+0.6**
	0.5nm,0.3s,mb3.4,baz=33,slow=8.5,SNR=12						
ASAR	**Alice Springs**	**43.79**	**195**	P	**P**	**16 35 06.2**	**-0.1**
	0.3nm,0.9s,mb2.6,baz=24,slow=7.1,SNR=4.2						
YKA	**Yellowknife Ar**	**77.95**	**28**	P	**P**	**16 38 55.9**	**+0.1**
	0.2nm,0.4s,mb3.1,baz=289,slow=5.5,SNR=2.4						
NVAR	**Mina Array Bea**	**83.28**	**52**	P	**P**	**16 39 24.8**	**+0.1**
NVAR	**Mina Array Bea**	**83.28**	**52**	P	**P**	**16 39 24.8**	**+0.1**
	0.4nm,0.6s,mb3.3,baz=294,slow=5.4,SNR=2.7						
FINES	**FINESS Array B**	**86.51**	**335**	P	**P**	**16 39 40.1**	**-0.2**
	0.5nm,0.8s,mb3.3,baz=70,slow=4.6,SNR=2.7						
LPAZ	**La Paz**	**148.04**	**91**	PKPbc	PKPbc	16 46 43.5	+0.5
	0.4nm,0.4s,baz=293,slow=8.4,SNR=3.5						

IDC 24 16:28:06.2±5.8, 1095S×16211E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.6/16, mbtmp3.6/4, Error ellipse: s-maj=139.1km s-min=42.6km az=119.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**17.76**	**237**	P	Pn	16 32 18.7	+3.7
	0.2nm,0.3s,baz=54,slow=14,SNR=7.3						
WRA	**Warramunga Arr**	**28.18**	**248**	P	P	16 34 00.3	-0.4
	0.4nm,0.5s,baz=77,slow=8.8,SNR=6.9						
ASAR	**Alice Springs**	**29.68**	**241**	P	P	16 34 13.2	-0.8
	0.3nm,0.8s,baz=64,slow=9.9,SNR=6.8						
FITZ	**Fitzroy Crossi**	**35.96**	**254**	P	P	16 35 09.1	+0.1
	0.9nm,0.5s,baz=68,slow=11,SNR=4.6						
BATI	**Kupang**	**37.78**	**267**	P	P	16 35 25.6	+1.1
	9.5nm,0.6s,baz=77,slow=4.9,SNR=5.0						
SONM	**Songino Array**	**76.51**	**325**	P	P	16 39 58.3	+0.2
	0.4nm,0.6s,baz=137,slow=6.1,SNR=3.8						

CASC 24 16:33:27.1±2.4, 933N×8405W, h17km±9km, MD3.8, 4C-3D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QCR	**Quepos**	**0.14**	**309**	*e*P	Pg	16 33 32.6	+1.4
BUS	**Buena Vista**	**0.36**	**52**⇓	*e*P	Pg	16 33 35.9	+1.3
LCR2	**La Lucha 2**	**0.41**	**7**⇑	*i*P	Pg	16 33 36.0	+0.6
LAJ	**Bijagual**	**0.53**	**352**	*e*P	Pg	16 33 39.2	+1.5
URSC	**Urasca**	**0.57**	**28**⇓	*i*P	Pg	16 33 38.7	+0.3
SJS	**Escuela Geolog**	**0.60**	**360**	*e*P	Pg	16 33 38.5	-0.5
PRS1	**Puriscal**	**0.70**	**338**⇑	*i*P	Pg	16 33 39.2	-1.6
BAR1		**0.73**	**97**⇓	*e*P	Pb	16 33 40.5	-1.0
BAR1				*e*S	Sg	16 33 50.5	-0.7
CGA2	**Cerro Gallo 2**	**0.79**	**329**⇑	*e*P	Pb	16 33 41.8	-0.7
CGA2				*e*S	Sb	16 33 53.6	+0.6
JCR	**Jicaral**	**1.17**	**296**⇑	*e*P	Pn	16 33 46.5	-2.2
JCR				*e*S	Sb	16 34 02.2	-1.5
CUI		**1.73**	**320**	*i* P	Pn	16 33 55.7	-0.7
CUI				*i* S	Sn	16 34 17.6	-0.5
VCR	**Vista de Mar**	**1.75**	**297**	*e*P	Pn	16 33 57.8	+1.1

*NEIC **24** 16:36:38.8±2.2, 765S×128±45E, h165km±25km, Error ellipse: s-maj=23.5km s-min=14.6km az=223.0*
*ISCJB **24** 16:36:39.5±1.5, 780S±009×12838E±008, h191km±17km, mb3.6/3, Error ellipse: s-maj=16.7km s-min=9.4km az=36.4*
*IDC **24** 16:36:40.6±5.9, 772S×12825E, h186km±62km, mb3.3/3, mb1 3.4/6, mb1mx3.3/14, mbtmp3.3/6, Error ellipse: s-maj=62.4km s-min=17.0km az=49.0*
ISC 24 16:36:40.5±1.3, 785S±008×12837E±007, h181km±13km, n14, σ1ᵢ29/20, mb3.6/3, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Kupang**	**5.21**	**243**	P	**Pn**	**16 37 58.6**	**+1.4**
	52nm,0.3s,baz=117,slow=3.1,SNR=106						
BATI				S	**Sn**	**16 38 56.3**	**-1.1**
	7.1nm,0.3s,baz=270,slow=2.0,SNR=2.8						
KAKA	**Kakadu**	**6.27**	**141**	*e*Pn	**Pn**	**16 38 11.5**	**+0.5**
	27nm,0.5s						
KAKA				*e*Sn	**Sn**	**16 39 19.4**	**-3.1**
FITZ	**Fitzroy Crossi**	**10.53**	**194**	*e*Pn	**Pn**	**16 39 07.3**	**+0.4**
FITZ				S	**Sn**	**16 41 02.5**	**-1.6**
FITZ	**Fitzroy Crossi**	**10.53**	**194**	P	**Pn**	**16 39 07.6**	**+0.6**
	1.2nm,0.3s,baz=28,slow=11,SNR=45						
FITZ				S	**Sn**	**16 41 02.5**	**-1.6**
	2.0nm,0.3s,baz=228,slow=21,SNR=6.4						
WRAB	**Tennant Creek**	**13.33**	**155**	*e*P	**Pn**	**16 39 43.0**	**+0.2**
WRA	**Warramunga Arr**	**13.34**	**155**	P	**Pn**	**16 39 43.0**	**+0.1**
	0.5nm,0.3s,baz=330,slow=13,SNR=36						
WRA				S	**Sn**	**16 42 06.1**	**-5.1**
	1.8nm,0.3s,baz=336,slow=23,SNR=8.0						
WB2	**Warramunga Arr**	**13.34**	**155**	*e*P	**Pn**	**16 39 42.9**	**-0.1**
MBWA	**Marble Bar**	**15.64**	**211**	P	**Pn**	**16 40 13.6**	**+2.1**
ASAR	**Alice Springs**	**16.59**	**162**	P	**Pn**	**16 40 25.5**	**+2.6**
	0.4nm,0.3s,baz=341,slow=10,SNR=48						
ASAR				S	**S**	**16 43 25.8**	**-0.8**
	0.5nm,0.3s,baz=316,slow=17,SNR=5.6						
KSM	**Kuching**	**20.26**	**296**	*e*P	**P**	**16 41 02.3**	**+0.1**
STKA	**Stephens Creek**	**26.89**	**155**	*e*P	**P**	**16 42 06.2**	**+1.5**
STKA	**Stephens Creek**	**26.89**	**155**	P	**P**	**16 42 06.1**	**+1.5**
	0.9nm,0.4s,mb3.7,baz=312,slow=12,SNR=7.0						
SONM	**Songino Array**	**58.75**	**343**	P	**P**	**16 46 17.8**	**-1.5**
	0.4nm,0.7s,mb3.3,baz=157,slow=6.7,SNR=4.4						
MKAR	**Makanchi Array**	**68.07**	**328**	P	**P**	**16 47 19.1**	**-1.4**
	0.5nm,0.3s,mb3.7,baz=117,slow=8.6,SNR=8.8						

*IDC **24** 17:04:46.4±1.5, 1410S×16752E, h0km, mb4.0/4, mb1 4.2/4, mb1mx3.8/14, mbtmp4.0/4, Error ellipse: s-maj=50.2km s-min=34.9km az=145.0*
NEIC 24 17:04:48.0±1.0, 1412S×16749E, h10km, Error ellipse: s-maj=31.4km s-min=21.6km az=152.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**29.55**	**229**	*e*P	P	17 10 53.8	+0.8
STKA	**Stephens Creek**	**29.55**	**229**	P	P	17 10 54.2	+1.3
	3.4nm,0.5s,baz=53,slow=9.9,SNR=23						
WB2	**Warramunga Arr**	**32.17**	**255**	*e*P	P	17 11 16.0	-0.2
WRA	**Warramunga Arr**	**32.18**	**255**	P	P	17 11 16.3	-0.1
	0.1nm,0.3s,baz=83,slow=8.1,SNR=11						
ASAR	**Alice Springs**	**33.09**	**248**	P	P	17 11 24.1	-0.1
	0.9nm,0.4s,baz=74,slow=9.6,SNR=27						
VNDA	**Vanda**	**63.48**	**181**	*e*P	P	17 15 17.4	-0.4
VNDA	**Vanda**	**63.48**	**181**	P	P	17 15 17.4	-0.3
	0.6nm,0.7s,baz=353,slow=6.0,SNR=3.8						
ARCES	**ARCESS Array B**	**119.72**	**346**	PKP	PKPdf	17 23 37.8	0.0
	0.7nm,0.3s,baz=70,slow=1.8,SNR=20						
FINES	**FINESS Array B**	**125.24**	**338**	PKP	PKPdf	17 23 48.9	+0.3
	0.2nm,0.3s,baz=87,slow=5.7,SNR=2.2						

*NEIC **24** 17:25:01.8, 1930N×65.16W, h74km, MD3.5(RSPR), After RSPR.*
RSPR 24 17:25:01.8, 1930N×6516W, h74km±9km, MD3.5/10, MD3.5/10, 11C, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STVI	**Saint Thomas**	**0.96**	**168**⇑	*e*P	Pn	17 25 19.1	-0.9
STVI				*e*S	Sn	17 25 33.1	-0.4
ABV	**Anegada**	**0.96**	**126**⇑	*e*P	Pn	17 25 19.1	-0.8
ABV	**Anegada**	**0.96**	**126**	*e*S	Sn	17 25 32.4	-1.1
TBVI	**Tortola**	**1.01**	**150**⇑	*e*P	Pn	17 25 19.9	-0.7
TBVI				*e*S	Sn	17 25 34.7	+0.1
CBYP	**Canovanas**	**1.22**	**213**⇑	*e*P	Pn	17 25 17.1	-6.0
MTP	**Monte Pirata**	**1.25**	**198**⇑	*e*P	Pn	17 25 17.2	-6.4
HUMP	**Col San Antoni**	**1.32**	**210**⇑	*e*P	Pn	17 25 23.8	-0.8
HUMP				*e*S	Sn	17 25 41.5	-0.2
CPD	**Cerro la Pandu**	**1.44**	**210**⇑	*e*P	Pn	17 25 24.6	-1.5
CPD				*e*S	Sn	17 25 43.5	-1.0
AOPR	**Arecibo Observ**	**1.78**	**238**⇑	*e*P	Pn	17 25 29.9	-0.7
AOPR				*e*S	Sn	17 25 52.1	-0.4
CELP	**Cerrillos**	**1.81**	**228**⇑	*e*P	Pn	17 25 30.7	-0.3
CELP				*e*S	Sn	17 25 53.0	-0.2
ICM	**Isla Caja Muer**	**1.90**	**223**⇑	*e*P	Pn	17 25 32.1	0.0
ICM				*e*S	Sn	17 25 54.7	-0.6
CRPR	**Cabo Rojo, PR**	**2.25**	**236**⇑	*e*P	Pn	17 25 36.8	-0.1
CRPR				*e*S	Sn	17 26 02.4	-1.3

*NEIC **24** 17:25:20.4, 3043S×7162W, h31km, ML3.1(GUC), After GUC.*
GUC 24 17:25:20.4±0.8, 3043S×7162W, h31km±4km, MD3.7, ML3.1, 3C-7D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OVCH	**Ovalle**	**0.41**	**116**⇓	*i*P	Pb	17 25 29.2	-0.2
OVCH				*i* S	Sb	17 25 36.2	+0.6
OVCH	**Ovalle**	**0.41**	**116**⇓	*i*P	Pb	17 25 29.2	-0.2
OVCH				*i* S	Sb	17 25 36.2	+0.6
OVCH				AML	AML	17 25 36.5	
	comp=N,2μm,0.2s						
LSCH	**La Serena**	**0.61**	**32**⇑	*i*P	Pb	17 25 32.3	-0.4
LSCH				*i* S	Sb	17 25 41.1	+0.1
LSCH	**La Serena**	**0.61**	**32**⇑	*i*P	Pb	17 25 32.3	-0.4
LSCH				*i* S	Sb	17 25 41.1	+0.1
LSCH				AML	AML	17 25 41.8	
	comp=N,592nm,0.3s						
TLL	**Tololo Astrono**	**0.76**	**70**⇓	*i*P	Pn	17 25 35.1	+0.2
TLL				*i* S	Sb	17 25 45.7	+0.7
TLL	**Tololo Astrono**	**0.76**	**70**⇓	*i*P	Pn	17 25 35.1	+0.2
TLL				*i* S	Sb	17 25 45.7	+0.7
TLL				AML	AML	17 25 55.0	
	comp=N,433nm,0.4s						
CMCH	**Combarbala**	**0.92**	**144**⇓	*i*P	Pn	17 25 37.0	-0.2
CMCH				*i* S	Sn	17 25 49.7	+0.4
CMCH	**Combarbala**	**0.92**	**144**⇓	*i*P	Pn	17 25 37.0	-0.2
CMCH				*i* S	Sn	17 25 49.7	+0.4
CMCH				AML	AML	17 25 52.1	
	comp=E,4μm,0.4s						
CHNG	**Los Chungos**	**1.46**	**176**	*i* P	Pn	17 25 25.6	-19
CHNG				*i* S	Sn	17 25 44.1	-19
CHNG				AML	AML	17 25 48.0	
	comp=E,150nm,0.3s						
LCO	**Las Campanas**	**1.62**	**30**	*e*Pn	Pn	17 25 47.4	+0.5
LCO				*e*S	Sn	17 26 09.0	+2.3
VACH	**Vallenar**	**1.99**	**22**	*i* S	Sn	17 26 18.2	+2.3
PEL	**Peldehue**	**2.82**	**164**	*e*P	Pn	17 26 07.1	+3.7
PEL				*i* S	Sn	17 26 39.1	+2.8
PEL				AML	AML	17 26 53.6	
	comp=E,202nm,0.6s						
CLCH	**Cerro Calan**	**3.10**	**163**	AML	AML	17 27 09.2	
	comp=E,153nm,0.5s						

FCH	**Farellones**	**3.11 159**	‖ *i* P	Pn	17 26 09.5	+2.2
FCH			*i* S	Sn	17 26 46.8	+3.5
FCH			AML	AML	17 26 58.4	
	comp=E,89nm,0.2s					
TACH	**Talagante**	**3.27 170**	⇑ *i* P	Pn	17 26 10.3	+0.8

*ISCJB **24** 17:26:17.3±0.8, 291N±02×432W±0.1, h10km, mb4.2/16, MS3.7/16, Error ellipse: s-maj=24.8km s-min=13.1km az=175.0*
*IDC **24** 17:26:17.3±1.2, 2903N×4324W, h0km, mb3.8/8, mb1 4.1/8, mb1mx3.8/22, mbtmp3.8/8, MS3.7/16, Ms1 3.7/16, ms1mx3.6/33, Error ellipse: s-maj=38.2km s-min=21.5km az=167.0*
*NEIC **24** 17:26:18.8±0.6, 2900N×4317W, h10km, mb4.7/8, Error ellipse: s-maj=15.6km s-min=9.7km az=170.0*
ISC 24 17:26:19.3±0.8, 291N±02×432W±0.1, h10km, n34, σ0§47/23, mb4.2/16, MS3.7/16, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PCRV	**Puerto La Cruz**	**27.49**	**231**		LR		LR	17 41 01.6	
	comp=Z,66nm,21.1s,MS3.2,baz=316,slow=32								
BBTS	**Babate**	**28.50**	**114**		LR		LR	17 40 41.3	
	comp=Z,284nm,18.3s,MS3.9,baz=10,slow=30								
ESDC	**Sonseca Array**	**33.83**	**61**		LR		LR	17 43 28.0	
	comp=Z,72nm,18.8s,MS3.4,baz=135,slow=30								
ROSC	**El Rosal**	**38.06**	**237**		LR		LR	17 47 24.5	
	comp=Z,49nm,21.1s,MS3.3,baz=13,slow=33								
DBIC	**Dimbokro**	**42.44**	**114**		LR		LR	17 49 35.8	
	comp=Z,232nm,18.6s,MS4.1,baz=208,slow=33								
KEST	**Kesra**	**44.42**	**67**		P		**P**	**17 34 30.9**	**+0.6**
	0.8nm,0.7s,mb3.6,baz=251,slow=3.7,SNR=4.3								
KEST					LR		LR	17 50 21.7	
	comp=Z,30nm,21.0s,MS3.2,baz=195,slow=32								
BDFB	**Brasilia**	**44.67**	**187**		LR		LR	17 49 50.0	
	comp=Z,36nm,21.8s,MS3.3,baz=184,slow=32								
GERES	**GERESS Array B**	**47.26**	**49**		P		**P**	**17 34 52.5**	**-0.1**
	0.3nm,0.6s,mb3.4,baz=267,slow=5.3,SNR=5.5								
CMIG	**Matias Romero**	**48.69**	**268**		LR		LR	17 56 18.8	
	comp=Z,95nm,18.7s,MS3.8,baz=164,slow=37								
JCT	**Junction City**	**48.72**	**286**	*eP*			**P**	**17 35 03.9**	**-0.2**
	17nm,1.1s,mb5.0								
LPAZ	**La Paz**	**51.11**	**211**		P		**P**	**17 35 22.0**	**-0.3**
	0.5nm,0.5s,mb3.7,baz=18,slow=6.4,SNR=2.6								
LPAZ					LR		LR	17 55 34.5	
	comp=Z,71nm,18.8s,MS3.7,baz=315,slow=34								
NNA	**Nana**	**52.16**	**223**		LR		LR	17 56 42.7	
	comp=Z,56nm,19.7s,MS3.6,baz=336,slow=35								
TXAR	**Lajitas Array**	**52.25**	**286**		P		**P**	**17 35 30.6**	**-0.3**
	3.7nm,1.1s,mb4.2,baz=91,slow=6.8,SNR=12								
TXAR					LR		LR	17 55 09.0	
	comp=Z,99nm,18.6s,MS3.9,baz=30,slow=33								
LPM	**Los Pinos Moun**	**53.48**	**293**	*eP*			**P**	**17 35 40.5**	**+0.7**
BNM	**Barren Site**	**53.51**	**293**		P		**P**	**17 35 40.1**	**0.0**
RLMT	**Red Lodge**	**53.66**	**307**	*eP*			**P**	**17 35 41.3**	**+0.3**
	5.2nm,1.1s,mb4.4								
EGMT	**Eagleton**	**53.71**	**310**	*eP*			**P**	**17 35 41.5**	**+0.1**
	14nm,1.1s,mb4.8								
GCMT	**Greycliff**	**53.87**	**307**	*eP*			**P**	**17 35 42.7**	**+0.2**
PDAR	**Pinedale Array**	**54.17**	**304**		P		**P**	**17 35 44.9**	**+0.1**
	6.9nm,1.1s,mb4.5,baz=86,slow=7.6,SNR=33								
PDAR					LR		LR	17 57 26.5	
	comp=Z,190nm,18.3s,MS4.2,baz=82,slow=34								
IMW	**Indian Meadow**	**55.01**	**305**	*eP*			**P**	**17 35 51.4**	**+0.6**
	9.8nm,1.2s,mb4.7								
SRU	**San Rafael**	**55.53**	**299**	*eP*			**P**	**17 35 54.1**	**-0.6**
	6.5nm,1.2s,mb4.5								
EDM	**Edmonton**	**55.62**	**317**	*eP*			**P**	**17 35 54.5**	**-0.6**
HWUT	**Hardware Ranch**	**55.84**	**303**	*eP*			**P**	**17 35 56.4**	**-0.5**
	4.7nm,0.9s,mb4.5								
YKA	**Yellowknife Ar**	**56.12**	**328**		P		**P**	**17 35 57.6**	**-0.9**
	0.4nm,0.7s,mb3.6,baz=92,slow=7.2,SNR=10.0								
YKA					LR		LR	17 58 59.0	
	comp=Z,104nm,20.5s,MS3.9,baz=155,slow=35								
CPUP	**Villa Florida**	**56.72**	**195**		LR		LR	18 00 02.9	
	comp=Z,119nm,19.7s,MS4.0,baz=275,slow=36								
MSU	**Marysvale**	**56.91**	**299**	*eP*			**P**	**17 36 05.8**	**+1.1**
DUG	**Dugway**	**57.04**	**301**	*eP*			**P**	**17 36 05.2**	**-0.2**
	7.3nm,1.0s,mb4.7								
AKASG	**Malin Array Be**	**57.24**	**46**		P		**P**	**17 36 06.4**	**-0.3**
	0.1nm,0.4s,mb3.2,baz=268,slow=7.3,SNR=5.0								
HLID	**Hailey**	**57.55**	**305**	*eP*			**P**	**17 36 09.0**	**0.0**
NEW	**Newport**	**58.58**	**311**	*eP*			**P**	**17 36 15.9**	**-0.2**
	17nm,1.3s,mb4.9								
LPIG	**La Paz**	**59.52**	**282**		LR		LR	18 02 54.6	
	comp=Z,111nm,21.4s,MS4.0,baz=219,slow=37								
PFO	**Pinyon Flat Ob**	**61.54**	**295**		LR		LR	18 00 36.2	
	comp=Z,206nm,21.8s,MS4.2,baz=144,slow=34								
OHCM	**Honcut**	**63.72**	**302**	*eP*			**P**	**17 36 51.7**	**+0.5**
MKAR	**Makanchi Array**	**89.89**	**34**		P		**P**	**17 39 18.5**	**-0.1**
	0.2nm,0.2s,mb4.0,baz=310,slow=9.0,SNR=3.8								

*IDC **24** 17:51:29.1±1.3, 1251N×8760W, h0km, mb4.1/5, mb1 4.3/6, mb1mx3.9/19, mbtmp4.1/6, ML3.6/1, MS3.3/2, Ms1 3.3/2, ms1mx2.8/27, Error ellipse: s-maj=56.0km s-min=14.0km az=50.0*
*ISCJB **24** 17:51:34.4±0.9, 1226N±006×8786W±008, h58km±10km, mb4.3/8, Error ellipse: s-maj=14.1km s-min=6.9km az=145.5*
*CASC **24** 17:51:34.6±1.7, 1224N×8787W, h29km±6km, MD4.0, ML3.7, mb4.6(NEIC)*
*NEIC **24** 17:51:36.3±0.8, 1243N×8751W, h58km±8km, mb4.6/3, Error ellipse: s-maj=16.9km s-min=7.4km az=51.0*
ISC 24 17:51:34.4±1.0, 1230N±006×8792W±007, h36km±13km, n54, σ0§97/48, mb4.3/8, 13C-16D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CRIN	**San Cristobal**	**0.93**	**65**	‖ *eP*			**Pn**	**17 51 50.9**	**-0.2**
CNCH	**Conchagua**	**0.97**	**5**	‖ *eP*			x	17 51 53.5	
CNCH				*eS*			x	17 52 08.2	
TEL3	**Telica 3**	**1.08**	**76**	‖ *eP*			**Pn**	**17 51 52.9**	**-0.1**
TELN	**Telica**	**1.10**	**74**	‖ *eP*			**Pn**	**17 51 53.1**	**-0.2**
VSM	**San Miguel**	**1.17**	**343**	⇑ *eP*			x	17 51 56.6	
VSM				*eS*			x	17 52 13.8	
BLLM	**Bellamira**	**1.18**	**345**	⇑ *eP*			x	17 51 56.3	
BLLM				*eS*			x	17 52 13.2	
CNGN	**Cerro Negro**	**1.21**	**81**	‖ *eP*			**Pn**	**17 51 53.4**	**-1.4**
COPN	**Copaltepe**	**1.30**	**95**	⇑ *eP*			**Pn**	**17 51 55.7**	**-0.4**
COPN				*eS*			**Sn**	**17 52 13.2**	**+0.9**
MOMJ	**Momotombo**	**1.35**	**85**	⇑ *eP*			**Pn**	**17 51 56.6**	**-0.2**
MOMJ				*eS*			**Sn**	**17 52 14.4**	**+0.9**
CSAN		**1.47**	**95**	‖ *eP*			**Pn**	**17 51 58.2**	**-0.1**
CAHU	**Cacacuatique**	**1.49**	**349**	⇑ *eP*			x	17 52 01.8	
CAHU				*eS*			x	17 52 21.8	
XAVN	**Gruta Xavier**	**1.56**	**95**	‖ *eP*			**Pn**	**17 51 59.7**	**0.0**
XAVN				*eS*			**Sn**	**17 52 19.4**	**+0.6**
SNVI	**San Vicente**	**1.58**	**325**	*eP*			x	17 52 01.5	
SNVI				*eS*			x	17 52 23.4	
TISN	**Laguna Tiscapa**	**1.62**	**96**	‖ *eP*			**Pn**	**17 52 00.3**	**-0.2**
TISN				*eS*			**Sn**	**17 52 21.0**	**+0.8**
MGAN	**Managua**	**1.64**	**95**	⇑ *eP*			**Pn**	**17 52 00.6**	**-0.2**
MGAN				*eS*			**Sn**	**17 52 20.8**	**+0.1**
	comp=N,1μm,0.5s								
MGAN				*i*				17 52 27.5	
	comp=E,984nm,0.4s								
TICN	**Ticuantepe**	**1.67**	**99**	⇑ *eP*			**Pn**	**17 52 00.9**	**-0.3**
LCBS	**La Ceiba**	**1.70**	**322**	⇑ *eP*			x	17 52 03.5	
LCBS				*eS*			x	17 52 25.6	
HUEN		**1.71**	**89**	⇑ *eP*			**Pn**	**17 52 01.7**	**0.0**
LFRS	**El Faro**	**1.72**	**320**	‖ *eP*			x	17 52 03.0	
LFRS				*eS*			x	17 52 25.9	
LBRS	**Las Brisas**	**1.80**	**323**	⇑ *eP*			x	17 52 05.4	
APON	**Apoyo**	**1.85**	**102**	⇑ *eP*			**Pn**	**17 52 03.2**	**-0.5**
TGUH	**Tegucigalpa,Un**	**1.85**	**20**	*ePn*			**Pn**	**17 52 03.4**	**-0.4**
BOQS	**Boqueron**	**1.95**	**317**	*eP*			x	17 52 07.6	
BOQS				*eS*			x	17 52 32.7	
BOAB	**BOACO BROADBAN**	**2.20**	**86**	‖ *eP*			**Pn**	**17 52 07.0**	**-1.6**
SSNN	**San Juan del S**	**2.26**	**116**	‖ *eP*			**Pn**	**17 52 09.7**	**+0.4**
SNJE	**San Jose**	**2.26**	**314**	*eP*			x	17 52 11.0	
CONN	**Concepcion**	**2.36**	**108**	⇑ *eP*			**Pn**	**17 52 10.6**	**-0.1**
MADN	**Villa Maderas**	**2.50**	**111**	‖ *eP*			**Pn**	**17 52 12.9**	**+0.4**
JTS	**JuntasAbangare**	**3.53**	**124**	*ePn*			**Pn**	**17 52 24.6**	**-2.2**
JTS				Sn			**Sn**	**17 53 06.6**	**-0.8**
JTS				Lg				17 53 18.6	
JTS				LR			LR	17 54 08.1	
JTS	**JuntasAbangare**	**3.53**	**124**	Pn			**Pn**	**17 52 24.3**	**-2.5**
	comp=E,5.3nm,0.3s,baz=311,slow=20,SNR=15								
JTS				Sn			**Sn**	**17 53 06.6**	**-0.8**
	comp=E,11nm,0.3s,baz=282,slow=20,SNR=5.1								
JTS				Lg				17 53 18.6	
	comp=E,15nm,0.3s,baz=266,slow=17,SNR=3.9								
JTS				LR			LR	17 54 08.1	
	comp=E,258nm,19.6s,baz=23,slow=47								
JCR	**Jicaral**	**3.68**	**131**	‖ *eP*			**Pn**	**17 52 27.5**	**-1.3**
JCR				*eS*			**Sn**	**17 53 11.0**	**0.0**
CGA2	**Cerro Gallo 2**	**4.08**	**124**	*eP*			**Pn**	**17 52 35.7**	**+1.3**
PRS1	**Puriscal**	**4.22**	**123**	*eP*			**Pn**	**17 52 38.2**	**+1.9**
LAJ	**Bijagual**	**4.45**	**123**	*eP*			**Pn**	**17 52 36.2**	**-3.1**
LCR2	**La Lucha 2**	**4.61**	**123**	‖ *eP*			**Pn**	**17 52 42.9**	**+1.3**
QCR	**Quepos**	**4.67**	**127**	*eP*			**Pn**	**17 52 42.3**	**-0.2**
URSC	**Urasca**	**4.75**	**121**	‖ *eP*			**Pn**	**17 52 45.5**	**+2.0**
BAR1		**5.45**	**123**	‖ *eP*			**Pn**	**17 52 53.6**	**+0.4**
CMIG	**Matias Romero**	**8.25**	**306**	Pn			**Pn**	**17 53 37.1**	**+5.4**
	comp=E,0.6nm,0.3s,baz=108,slow=16,SNR=3.7								
CHI2		**15.95**	**117**	‖ *eP*			Px	17 51 51.0	
TXAR	**Lajitas Array**	**22.40**	**322**		P		**P**	**17 56 31.1**	**+1.2**
	comp=E,6.6nm,0.8s,mb4.1,baz=138,slow=10,SNR=42								
PDAR	**Pinedale Array**	**35.69**	**332**		P		**P**	**17 58 29.9**	**+0.5**
	comp=E,1.2nm,0.7s,mb4.0,baz=130,slow=10,SNR=12								
HWUT	**Hardware Ranch**	**35.76**	**329**	*eP*			**P**	**17 58 30.9**	**+0.9**
	comp=E,4.4nm,0.8s,mb4.4								
AHID	**Auburn Hatcher**	**36.41**	**331**	*eP*			**P**	**17 58 36.3**	**+0.8**
	comp=E,6.0nm,0.7s,mb4.6								
REDW	**Red Top Meadow**	**36.75**	**332**	*eP*			**P**	**17 58 39.0**	**+0.7**
	comp=E,15nm,0.8s,mb4.9								
HLID	**Hailey**	**38.63**	**329**	*eP*			**P**	**17 58 54.8**	**+0.5**
SIV	**San Ignacio**	**38.67**	**136**		P		**P**	**17 58 53.9**	**-1.1**
	comp=E,3.8nm,0.7s,mb4.2,baz=316,slow=8.8,SNR=21								
SCHQ	**Schefferville**	**45.55**	**17**		P		**P**	**17 59 48.2**	**-2.3**
SCHQ	**Schefferville**	**45.55**	**17**		P		**P**	**17 59 48.2**	**-2.3**
	comp=E,2.2nm,0.4s,mb4.4,baz=248,slow=5.4,SNR=10								
BDFB	**Brasilia**	**48.27**	**124**		LR		LR	18 22 41.4	
	comp=E,59nm,18.6s,baz=1.1,slow=39								
YKA	**Yellowknife Ar**	**53.63**	**345**		P		**P**	**18 00 50.5**	**-1.5**
YKA					PcP		PcP	18 01 56.9	-1.2
YKA	**Yellowknife Ar**	**53.63**	**345**		P		**P**	**18 00 50.5**	**-1.5**
	comp=E,0.7nm,0.7s,mb3.7,baz=137,slow=8.1,SNR=20								
YKA					PcP		PcP	18 01 56.9	-1.2
	comp=E,0.3nm,0.6s,baz=144,slow=4.0,SNR=6.9								
WRA	**Warrumunga Arr**	**138.79**	**254**		PKP		PKPdf	18 10 57.8	+0.1
	comp=E,0.5nm,0.6s,baz=92,slow=2.5,SNR=4.9								
ASAR	**Alice Springs**	**138.79**	**248**		PKP		PKPdf	18 10 58.0	+0.3
	comp=E,0.3nm,0.6s,baz=91,slow=2.4,SNR=4.1								

MAN 24 17:55:23, 1278N×12541E, h18km, mb4.3, ML3.1, MS2.9, Samar

*IDC **24** 17:55:17.1±1.2, 692S×156.40E, h0km, mb4.0/5, mb1 4.1/6, mb1mx3.9/14, mbtmp4.0/6, ML3.8/1, Error ellipse: s-maj=30.0km s-min=24.8km az=73.0*
*NEIC **24** 17:55:19.1±0.8, 697S×156.39E, h10km, Error ellipse: s-maj=19.3km s-min=15.8km az=212.0*
*ISCJB **24** 17:55:21.1±0.8, 70S±01×15635E±009, h33km, mb3.8/5, Error ellipse: s-maj=20.2km s-min=9.4km az=26.6*
ISC 24 17:55:23.2±0.8, 70S±01×15633E±009, h35km, n10, σ1§07/12, mb3.8/5, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.33**	**124**		Pn		**Pn**	**17 56 24.2**	**-2.3**
HNR					Sn		**Sn**	**17 57 16.8**	**+0.9**
HNR	**Honiara**	**4.33**	**124**		Pn		**Pn**	**17 56 24.1**	**-2.4**
	5.5nm,0.3s,baz=268,slow=13,SNR=3.8								
HNR					Sn		**Sn**	**17 57 16.8**	**+0.9**
	9.1nm,0.3s,baz=88,slow=22,SNR=5.6								
WB2	**Warramunga Arr**	**24.91**	**237**	*eP*			**P**	**18 00 42.9**	**-0.1**
WRA	**Warramunga Arr**	**24.92**	**237**		P		**P**	**18 00 43.5**	**+0.3**
	4.6nm,0.5s,mb4.3,baz=61,slow=9.9,SNR=80								
WRA					PcP		PcP	18 04 16.7	-1.7
	0.4nm,0.5s,baz=60,slow=2.4,SNR=6.7								
ASAR	**Alice Springs**	**27.18**	**230**		P		**P**	**18 01 02.1**	**-1.5**
	0.8nm,0.8s,mb3.3,baz=62,slow=9.0,SNR=13								
ASAR					PcP		PcP	18 04 21.9	-1.6
	0.2nm,0.6s,baz=75,slow=2.7,SNR=5.8								
STKA	**Stephens Creek**	**28.33**	**207**	*eP*			**P**	**18 01 15.3**	**+1.5**
STKA	**Stephens Creek**	**28.33**	**207**		P		**P**	**18 01 15.2**	**+1.5**
	1.8nm,0.8s,mb3.7,baz=24,slow=12,SNR=5.8								
SONM	**Songino Array**	**70.04**	**327**		P		**P**	**18 06 32.1**	**+0.7**
	0.4nm,0.5s,mb3.6,baz=138,slow=5.5,SNR=6.0								
MK31	**Makanchi Array**	**84.27**	**318**	*eP*			**P**	**18 07 51.3**	**0.0**
MKAR	**Makanchi Array**	**84.27**	**318**		P		**P**	**18 07 51.4**	**0.0**
	1.2nm,0.7s,mb4.2,baz=105,slow=5.9,SNR=14								

IDC 24 18:00:08.4±2.1, 1792S×17157W, h0km, mb3.9/6, mb1 4.1/6, mb1mx3.9/17, mbtmp4.0/6, Error ellipse: s-maj=59.9km s-min=35.7km az=130.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
URZ	**Urewera**	**22.56**	**204**		P		P	18 05 10.2	0.0
	3.4nm,0.6s,baz=270,slow=5.1,SNR=4.0								
CTA	**Charters Tower**	**39.87**	**260**		P		P	18 07 43.7	-0.5
	3.7nm,0.7s,baz=81,slow=13,SNR=4.7								
STKA	**Stephens Creek**	**44.38**	**243**		P		P	18 08 20.0	-0.8
	0.9nm,0.6s,baz=108,slow=13,SNR=2.5								
WRA	**Warramunga Arr**	**51.03**	**259**		P		P	18 09 12.9	+0.3
	1.1nm,0.6s,baz=97,slow=7.8,SNR=30								
ASAR	**Alice Springs**	**51.05**	**254**		P		P	18 09 13.4	+0.6
	1.6nm,0.6s,baz=93,slow=7.9,SNR=48								
YKA	**Yellowknife Ar**	**91.70**	**23**		P		P	18 13 17.1	-0.3
	0.1nm,0.6s,baz=246,slow=5.3,SNR=3.7								

*CSEM **24** 18:05:40.2, 3479N×2550E, h26km, MD3.5/5, After ATH*
*NEIC **24** 18:05:40.2, 3479N×2550E, h26km, MD3.5(ATH), After ATH.*
ATH 24 18:05:40.2, 3479N×2550E, h26km±4km, MD3.5/5, Crete

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
XRY	**Khrisi**	**0.18**	**62**	*ePB*			Pb	18 05 45.0	-0.7
NPS	**Neapolis**	**0.48**	**11**	*ePB*			Pb	18 05 50.2	+0.1
NPS				*eSB*			Sb	18 05 57.1	+0.2
GVD	**Gavdhos**	**1.16**	**273**	*ePN*			Pn	18 06 03.0	+2.2
VAM	**Vamos**	**1.23**	**300**	*ePN*			Pn	18 06 04.1	+2.4
VAM				*eSN*			Sn	18 06 20.0	+2.5
KARP	**Karpathos**	**1.56**	**60**	*ePN*			Pn	18 06 08.2	+2.0

*IDC **24** 18:10:59.0±1.8, 3494N×14200E, h0km, mb3.5/4, mb1 3.6/7, mb1mx3.5/22, mbtmp3.6/7, ML3.5/2, Error ellipse: s-maj=44.8km s-min=21.5km az=75.0*
*ISCJB **24** 18:11:01.7±1.0, 3489N±005×14195E±008, h33km, mb3.5/4, Error ellipse: s-maj=9.3km s-min=7.6km az=164.9*
*JMA **24** 18:11:01.3±0.3, 3489N×14198E, h52km±5km, M3.0*
ISC 24 18:11:03.2±0.9, 3493N±005×14192E±007, h35km, n16, σ1§04/22, mb3.5/4, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**0.82**	**250**		P		**Pn**	**18 11 17.2**	**-1.0**
BSO1					S		**Sn**	**18 11 28.4**	**-0.7**
CHOJ	**Chosi**	**1.16**	**312**		P		**Pn**	**18 11 22.2**	**-0.6**
CHOJ				*eS*			**Sn**	**18 11 37.7**	**+0.3**
BSO3	**Boso 3**	**1.16**	**264**		P		**Pn**	**18 11 22.7**	**-0.2**
BSO3					S		**Sn**	**18 11 37.9**	**+0.3**
KTR	**Katsuura**	**1.33**	**280**	*eS*			**Sn**	**18 11 42.6**	**+0.9**
JIM2	**Oshima 3**	**2.06**	**265**		P		**Pn**	**18 11 34.3**	**-0.9**
JOD2	**Odawara 2**	**2.34**	**279**		P		**Pn**	**18 11 38.7**	**-0.4**
JAG	**Ashikaga**	**2.50**	**307**		P		**Pn**	**18 11 41.7**	**+0.4**
JHJ	**Hachijo jima 2**	**2.53**	**225**	Pn			**Pn**	**18 11 41.0**	**-0.7**
	15nm,0.3s,baz=59,slow=19,SNR=5.7								
JHJ					Sn		**Sn**	**18 12 09.7**	**-1.6**
	38nm,0.3s,baz=272,slow=23,SNR=8.0								
JYN	**Shimob**	**2.82**	**282**		P		**Pn**	**18 11 45.8**	**+0.1**
MJAR	**Matsushiro Arr**	**3.42**	**299**	Pn			**Pn**	**18 11 54.3**	**+0.4**
	1.3nm,0.3s,baz=112,slow=11,SNR=15								
MAT	**Matsushiro**	**3.42**	**299**		P		**Pn**	**18 11 54.4**	**+0.5**
MAT				*eS*			**Sn**	**18 12 33.7**	**+0.5**
ASAJ	**Asahikawa**	**9.19**	**3**	Pn			**Pn**	**18 13 11.6**	**-1.5**
	0.8nm,0.3s,baz=216,slow=7.3,SNR=7.3								
ASAJ					Sn		**Sn**	**18 14 52.6**	**-2.5**
	0.6nm,0.3s,baz=214,slow=30,SNR=4.1								
SONM	**Songino Array**	**29.33**	**307**		P		**P**	**18 17 04.3**	**+1.9**
	0.3nm,0.7s,mb3.1,baz=103,slow=8.1,SNR=4.0								
MKAR	**Makanchi Array**	**45.60**	**304**		P		**P**	**18 19 21.1**	**+1.4**
	0.4nm,0.7s,mb3.5,baz=93,slow=8.6,SNR=5.3								
WRA	**Warramunga Arr**	**55.04**	**189**		P		**P**	**18 20 32.6**	**+1.3**
	1.8nm,1.3s,mb4.0,baz=3.8,slow=7.5,SNR=5.3								
ASAR	**Alice Springs**	**58.77**	**189**		P		**P**	**18 20 59.2**	**+1.5**
	0.5nm,1.1s,mb3.5,baz=14,slow=9.8,SNR=3.2								

*CSEM **24** 18:14:52.9±0.1, 3846N×3050E, h10km, MD2.8, Error ellipse: s-maj=2.9km s-min=2.5km az=104.0*
*ISK **24** 18:14:53.7, 3848N×3051E, h12km, MD2.8*
*ISCJB **24** 18:14:54.2±0.6, 3849N±003×3048E±006, h9km±5km, Error ellipse: s-maj=7.7km s-min=5.4km az=11.0*
*DDA **24** 18:14:55.1, 3849N×3049E, h7km±6km, Md2.8*
ISC 24 18:14:54.4±0.6, 3848N±003×3050E±006, h12km±5km, n9, σ0§76/16, Turkey

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SHUT	**Suhut-Afyon**	**0.08**	**29**		PG		**Pg**	**18 14 56.5**	**-0.5**
SHUT					*e*SG		**Sg**	**18 14 58.7**	**-0.2**
TKTP	**Tekketepe**	**0.46**	**198**		*i* P		**Pg**	**18 15 02.6**	**-0.9**
TKTP					*i* S		**Sg**	**18 15 11.4**	**+1.7**
ALT	**Altintas**	**0.65**	**332**		*e*PG		**Pg**	**18 15 06.7**	**-0.4**
ALT					*e*SG		**Sg**	**18 15 16.0**	**+0.4**
ESKT	**Eskisehir**	**1.07**	**15**		*e*PG		**Pg**	**18 15 14.7**	**-0.4**
ESKT					*e*SG		**Sg**	**18 15 29.8**	**+0.8**
ESKT	**Eskisehir**	**1.07**	**15**		*i* P		**Pb**	**18 15 14.5**	**-0.4**
ESKT					*i* S		**Sb**	**18 15 29.6**	**+0.7**
SEYT	**Eskypehyr**	**1.07**	**15**		*i* P		**Pb**	**18 15 14.5**	**-0.4**
SEYT					*i* S		**Sb**	**18 15 29.6**	**+0.7**
KIZT	**Kizilcal**	**1.15**	**69**		*e*PN		**Pn**	**18 15 16.1**	**-0.3**
KDHN	**Kadinhani**	**1.27**	**88**		*i* P		**Pn**	**18 15 16.8**	**-1.2**
KDHN					*i* S		**Sb**	**18 15 35.5**	**+0.9**
KULA	**Kula-Manisa**	**1.44**	**272**		*e*PN		**Pn**	**18 15 20.2**	**-0.2**

*IDC **24** 18:21:10.6±0.6, 1639S×6720E, h0km, mb4.1/20, mb1 4.2/21, mb1mx4.2/26, mbtmp4.1/21, ML4.2/1, MS4.4/20, Ms1 4.4/20, ms1mx4.4/22, Error ellipse: s-maj=19.5km s-min=14.3km az=2.0*
*MOS **24** 18:21:12.4±1.9, 1679S×6738E, h10km, mb5.0/48, MS4.4/16, Error ellipse: s-maj=12.2km s-min=6.4km az=115.7*
*GCMT **24** 18:21:12.8±0.1, 1621S×6694E, h15km, MW5.3/96, Moment Tensor Solution. s69,c103; s96,c182; Duration: 1§1 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.07±.02; $M_{\theta\theta}$-1.20±.02; $M_{\phi\phi}$1.26±.02; $M_{r\theta}$-0.10±.03; $M_{\theta\phi}$0.41±.02; $M_{\phi r}$-0.10±.03; Best double couple: $M_0$1.30300×10^{17} NP1:ϕ_s144.00000°, δ84.00000°, λ179.00000°. NP2:ϕ_p234.00000°, δ89.00000°, λ6.00000°. Principal axes: T 1.3350, Plg5.0000°, Azm99.0000°; N -0.0690, Plg84.0000°, Azm240.0000°; P -1.2710, Plg4.0000°, Azm9.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*BJI **24** 18:21:12.2, 1646S×6749E, h5km, mB5.2, mb4.6, Ms4.8, Msz4.5*
*NEIC **24** 18:21:12.8±0.5, 1648S×6733E, h10km, mb4.8/51, MS4.5/3, Error ellipse: s-maj=16.5km s-min=12.3km az=186.0*
*ISCJB **24** 18:21:12.3±2.1, 1679S±008×6752E±006, h11km±13km, mb4.7/89, MS4.5/31, Error ellipse: s-maj=13.7km s-min=9.8km az=15.6*
*SZGRF **24** 18:21:30.8, 15.15S×65.45E, h33km, mb4.9, MS4.4, Mid-Indian Ridge*
ISC 24 18:21:15.4±2.3, 1672S±008×6750E±006, h17km±14km, h18km±1.3km: pP-P, n266, σ1§44/246, mb4.7/89, MS4.5/31, 19C-7D, Mid-Indian Ridge

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

comp=E,150nm,14.4s,MS4.5
CD2 LR LR
comp=Z,180nm,16.2s,MS4.3
UCH Uchtor 59.00 6 P **P 18 31 14.5 +0.5**
comp=Z,3.2nm,1.0s,mb4.3
EKS2 Erkin-Say 59.36 5 *e*P **P 18 31 13.7 -2.8**
comp=Z,6.4nm,0.9s,mb4.7
AAK Ala-Archa 59.40 6 P **P 18 31 12.0 -4.8**
AAK Ala-Archa 59.40 6⇑ *e*P **P 18 31 12.2 -4.6**
AAK pmax pmax
comp=Z,5.0nm,1.1s,mb4.5
AAK Ala-Archa 59.40 6 P **P 18 31 13.6 -3.2**
comp=Z,2.6nm,0.7s,mb4.4,baz=180,slow=13,SNR=6.5
FRU Bishkek 59.61 6 *e*P **P 18 31 17.5 -0.7**
TKM2 Tokmak 2 59.81 7 *e*P **P 18 31 14.8 -4.7**
GZT Gaziantep 60.72 333 *i*P **P 18 31 20.0 -6.0**
MALT Malatya 61.16 334 P **P 18 31 28.5 -0.4**
comp=Z,8.1nm,1.2s,mb4.7
MALT Malatya 61.16 334 P **P 18 31 28.5 -0.4**
MALT pmax pmax
comp=Z,8.0nm,1.2s,mb4.7
MAK Makhachkala 62.16 344 *e*P **P 18 31 41.5 +5.9**
MAK *e* 18 33 50.7
MAK *e*S **S 18 39 54.9 -5.3**
MAK *e*SSS 18 46 40.4
MAK MLR MLR
comp=Z,261nm,19.0s,MS4.4
ASAR Alice Springs 62.24 108 P **P 18 31 37.4 +0.8**
ASAR pmax pmax
comp=Z,3.0nm,0.8s
ASAR Alice Springs 62.24 108 P **P 18 31 37.4 +0.7**
comp=Z,2.7nm,0.8s,mb4.5,baz=274,slow=6.3,SNR=33
WMQ Urumqi 63.02 16 P **P 18 31 42.0 +0.8**
WMQ AP pP 18 31 47.0 +0.1
WMQ PCP PcP 18 32 20.0 +1.0
WMQ PP PP 18 34 02.0 +1.8
WMQ S **S 18 40 10.0 -0.9**
WMQ SCS ScS 18 41 30.0 -3.2
WMQ AMB AMB
comp=Z,19nm,1.1s,mb5.1
WMQ AMB AMB
comp=Z,158nm,3.7s
WMQ LR LR
comp=N,399nm,15.9s,MS4.9
WMQ LR LR
comp=E,381nm,13.4s,MS4.9
WMQ LR LR
comp=Z,358nm,28.0s
WRA Warramunga Arr 63.16 104 P **P 18 31 43.4 +0.6**
WRA pmax pmax
comp=Z,4.0nm,0.8s
WRA MLR MLR
comp=Z,411nm,21.3s
WRA Warramunga Arr 63.16 104 P **P 18 31 43.4 +0.6**
comp=Z,3.6nm,0.8s,mb4.6,baz=268,slow=5.9,SNR=24
WRA LR LR 18 57 07.8
comp=Z,411nm,21.3s,MS4.6,baz=255,slow=34
WB2 Warramunga Arr 63.17 104 *e*P **P 18 31 44.1 +1.2**
WRAB Tennant Creek 63.17 104 *e*P **P 18 31 44.3 +1.4**
comp=Z,15nm,1.0s,mb5.1
WRAB Tennant Creek 63.17 104 *e*P **P 18 31 44.3 +1.4**
WRAB pmax pmax
comp=Z,15nm,1.0s,mb5.1
MAIT Maitri 63.36 198 *e*P **P 18 31 41.9 -1.4**
GTA Gaotai 63.47 28 *e*P **P 18 31 42.8 -1.6**
GTA AP pP 18 31 46.5 -3.5
GTA XP sP 18 31 49.8 -2.3
GTA PP PP 18 34 03.0 -1.3
GTA S **S 18 40 14.1 -2.7**
GTA XS sS 18 40 20.9 -5.2
GTA SS SS 18 44 22.3 -2.1
GTA AMB AMB
comp=Z,3.0nm,0.9s,mb4.4
GTA AMB AMB
comp=Z,183nm,6.1s
GTA LR LR
comp=N,243nm,20.9s,MS4.6
GTA LR LR
comp=E,366nm,19.8s,MS4.6
GTA LR LR
comp=Z,320nm,19.4s,MS4.5
CDAG Cicekdag 64.01 332 *i*P **P 18 31 40.8 -7.1**
KIV Kislovodsk 64.50 340 P **P 18 31 48.4 -2.7**
KIV Kislovodsk 64.50 340 *e*P **P 18 31 48.2 -2.8**
KIV *e* 18 32 26.5
KIV *e*S **S 18 40 20.3 -9.0**
KIV *e*SSS 18 47 24.9
KIV pmax pmax
comp=Z,12nm,1.2s,mb4.8
MK31 Makanchi Array 64.60 11 *e*P **P 18 31 47.1 -4.6**
MKAR Makanchi Array 64.60 11 P **P 18 31 46.8 -4.8**
MKAR pmax pmax
comp=Z,3.0nm,0.9s
MKAR MLR MLR
comp=Z,250nm,20.6s
MKAR Makanchi Array 64.60 11 P **P 18 31 46.8 -4.8**
comp=Z,2.5nm,0.9s,mb4.2,baz=213,slow=8.1,SNR=12
MKAR LR LR 18 58 34.3
comp=Z,250nm,20.6s,MS4.4,baz=73,slow=35
CTKT Corum 64.64 333 *i*P **P 18 31 49.2 -2.8**
ELDT Eldivan 65.13 332 *i*P **P 18 31 52.3 -3.0**
ANN Anapa 67.06 337 *e*P **P 18 32 05.7 -1.8**
ANN *e* 18 32 37.1
ANN pmax pmax
comp=Z,22nm,1.4s,mb5.0
AKTK Aktyubinsk 67.38 353 P **P 18 32 05.4 -4.0**
AKTO Aktyubinsk 67.38 353 P **P 18 32 05.4 -4.0**
AKTO pmax pmax
comp=Z,1.0nm,0.6s,mb4.0
AKTO Aktyubinsk 67.38 353 P **P 18 32 05.4 -4.0**
comp=Z,1.4nm,0.6s,mb4.2,baz=176,slow=6.8,SNR=5.2
KURK Kurchatov 67.85 8 *e*P **P 18 32 07.2 -5.1**
comp=Z,6.8nm,1.0s,mb4.6
KURK Kurchatov 67.85 8 *e*P **P 18 32 07.2 -5.2**
KURK pmax pmax
comp=Z,7.0nm,1.0s,mb4.7
STKA Stephens Creek 68.06 118 P **P 18 32 14.0 -0.3**
comp=Z,0.5nm,0.3s,mb4.0,baz=312,slow=12,SNR=2.6
STKA LR LR 18 57 35.6
comp=Z,867nm,21.5s,MS5.0,baz=242,slow=32
NJ2 Nanjing 69.07 45 *e*P **P 18 32 19.8 -0.7**
NJ2 AP pP 18 32 23.9 -2.3
NJ2 PP PP 18 34 55.4 +2.0
NJ2 S S 18 41 21.0 -4.1
NJ2 AMB AMB
comp=Z,40nm,0.9s,mb5.3
NJ2 AMB AMB
comp=Z,150nm,4.3s
NJ2 LR LR
comp=N,1μm,25.3s
NJ2 LR LR
comp=E,420nm,18.7s
VNA2 Neumayer--Watz 69.38 200 *e*P **P 18 32 26.0 +4.2**
baz=65,slow=4.9
VNA2 *e* pP 18 32 32.8 +5.3
VNA2 *e* 18 32 37.0
VNA2 *e* 18 32 42.2
VNA2 *e* 18 32 47.8
VNA2 *e* 18 33 00.9
BVAR Borovoye Array 69.50 2 P **P 18 32 17.4 -5.2**
BVAR pmax pmax
comp=Z,2.0nm,0.8s
BVAR Borovoye Array 69.50 2 P **P 18 32 17.4 -5.2**
comp=Z,1.8nm,0.8s,mb4.0,baz=170,slow=8.8,SNR=8.3
BRVK Borovoye 69.53 2 P **P 18 32 23.6 +0.8**
comp=Z,11nm,1.0s,mb4.7
BRVK Borovoye 69.53 2 P **P 18 32 23.6 +0.8**
BRVK pmax pmax
comp=Z,11nm,1.0s,mb4.7
VNA1 Neumayer--Stat 69.63 200 *e*P **P 18 32 33.2 +10**
VNA1 *e* pP 18 32 37.6 +8.6
VNA1 *e* 18 32 42.4
VNA1 *e* 18 32 48.8
VNA1 *e* 18 33 01.3
VNA3 Neumayer Olymp 70.16 200 *e*P **P 18 32 30.6 +4.0**
VNA3 *e* pP 18 32 36.5 +4.2
VNA3 *e* 18 32 41.0
VNA3 *e* 18 32 46.9
VNA3 *e* 18 32 52.3
VNA3 *e* 18 33 05.5
HHC Hu-ho-hao-te 70.36 34 *e*P **P 18 32 29.0 +0.8**
HHC AP pP 18 32 33.6 -0.3
HHC XP sP 18 32 36.8 +0.8
HHC PP PP 18 35 06.9 +2.5
HHC S S 18 41 43.9 +4.0
HHC XS sS 18 41 46.3 -3.0
HHC SKS 18 42 26.8
HHC SCS ScS 18 42 31.8 +1.4
HHC AMB AMB
comp=Z,21nm,0.3s,mb5.5
HHC AMB AMB
comp=Z,170nm,4.7s
HHC LR LR
comp=N,205nm,18.4s,MS4.6
HHC LR LR
comp=E,206nm,14.3s,MS4.6
HHC LR LR
comp=Z,222nm,15.1s,MS4.5
ZAL Zalesovo 71.92 11 P **P 18 32 33.0 -4.3**
ZAL pmax pmax
comp=Z,3.0nm,0.3s
ZAL MLR MLR
comp=Z,130nm,18.7s
ZALV Zalesovo Beam 71.93 11 P **P 18 32 33.0 -4.5**
comp=Z,2.5nm,0.3s,mb4.6,baz=195,slow=4.6,SNR=6.2
ZALV LR LR 19 04 31.4
comp=Z,130nm,18.7s,MS4.2,baz=98,slow=36
VRI Vrincioaia 72.39 331⇓ *i*P **P 18 32 38.9 -1.4**
MLR Muntele Rosu 72.47 331⇓ *i*P **P 18 32 40.3 -0.5**
NVS Novosibirsk 72.52 9 *i*P **P 18 32 40.5 -0.4**
VOIR 72.85 330⇓ *i*P **P 18 32 44.4 +1.3**
SONM Songino Array 73.07 26 P **P 18 32 42.3 -2.0**
SONM pmax pmax
comp=Z,1.0nm,0.7s
SONM MLR MLR
comp=Z,426nm,20.3s
SONM Songino Array 73.07 26 P **P 18 32 42.3 -2.1**
comp=Z,0.9nm,0.7s,mb3.8,baz=212,slow=6.4,SNR=7.8
SONM LR LR 19 03 31.8
comp=Z,426nm,20.3s,MS4.7,baz=212,slow=35
ARU Arti 73.25 355 *e*P **P 18 32 44.3 -0.9**
comp=Z,10nm,1.0s,mb4.7
ARU Arti 73.25 355 *c i*P **P 18 32 44.9 -0.3**
ARU *e* 18 33 02.2
ARU *e*PPP 18 37 09.0
ARU pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
ULN Ulaanbaatar 73.37 27 P **P 18 32 44.9 -1.3**
comp=Z,3.9nm,0.9s,mb4.3
ULN Ulaanbaatar 73.37 27 P **P 18 32 44.9 -1.2**
ULN pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
SVE Sverdlovsk 73.49 356 *e*P **P 18 32 46.7 +0.1**
SVE pmax pmax
comp=Z,16nm,1.4s,mb4.8
ZAK Zakamensk 73.85 23 *e*P **P 18 32 49.6 +0.7**
ZAK pmax pmax
comp=Z,1.0nm,2.7s,mb3.3
ZAK pmax pmax
comp=Z,2.0nm,1.6s,mb3.8
BZS Buzias 74.66 329⇓ *i*P **P 18 32 53.7 0.0**
VNDA Vanda 74.74 167 LR LR 19 02 05.6
comp=Z,240nm,18.5s,MS4.5,baz=265,slow=33
DRGR 74.95 330⇑ *i*P **P 18 32 56.9 +1.5**
AKASG Malin Array Be 75.06 336 P **P 18 32 52.1 -3.8**
AKASG pmax pmax
comp=Z,5.0nm,1.0s
AKASG MLR MLR
comp=Z,119nm,21.9s
AKASG Malin Array Be 75.06 336 P **P 18 32 52.1 -3.8**
comp=Z,4.6nm,1.0s,mb4.4,baz=140,slow=4.8,SNR=8.5
AKASG LR LR 19 03 21.4
comp=Z,119nm,21.9s,MS4.2,baz=105,slow=34
AKBB Malin Array Si 75.06 336 P **P 18 32 53.7 -2.2**
KIEV Kiev 75.06 336 P **P 18 32 51.3 -4.6**
comp=Z,14nm,1.1s,mb4.8
KIEV Kiev 75.06 336 P **P 18 32 51.3 -4.6**
KIEV pmax pmax
comp=Z,14nm,1.1s,mb4.8
DBIC Dimbokro 75.19 282 P **P 18 32 53.6 -3.9**
comp=Z,14nm,1.0s,mb4.8
DBIC Dimbokro 75.19 282 P **P 18 32 53.6 -3.9**
DBIC pmax pmax
comp=Z,7.0nm,1.1s
DBIC MLR MLR
comp=Z,338nm,18.0s
DBIC Dimbokro 75.19 282 P **P 18 32 53.6 -4.0**
comp=Z,7.0nm,1.1s,mb4.5,baz=74,slow=16,SNR=3.2
DBIC LR LR 19 04 37.8
comp=Z,338nm,18.0s,MS4.7,baz=98,slow=35
LIC Lamto 75.21 281 *e*P **P 18 32 53.8 -3.8**
comp=Z,64nm,1.3s,mb5.1
LIC Lamto 75.21 281 *e*P **P 18 32 53.8 -3.8**
comp=Z,32nm,1.3s,mb5.1
IRK Irkutsk 75.73 22 *e*P **P 18 33 03.9 +4.2**
IRK pmax pmax
comp=Z,19nm,2.3s,mb4.6
KEST Kesra 75.81 315 LR LR 19 03 54.6
comp=Z,218nm,20.7s,MS4.4,baz=56,slow=34
OBN Obninsk 76.21 342⇑ *e*P **P 18 33 03.5 +1.1**
OBN *e*S S 18 42 45.0 -0.7
OBN pmax pmax
comp=Z,19nm,1.0s,mb5.0
OBN MLR MLR
comp=Z,100nm,16.0s,MS4.2
MOS Moscow 76.45 343 *e*P **P 18 33 02.8 -1.0**
MOS *e* 18 35 52.9
UZH Uzhgorod 76.47 331 *e*P **P 18 33 07.0 +3.0**
UZH *e* pP 18 33 12.6 +2.8
LVV L'vov 76.54 333 *e*P **P 18 33 05.1 +0.7**
PKSM Moragy 76.58 327⇓ *i*P **P 18 33 02.8 -1.9**
KOLS Kolonicke sedl 76.69 331 *e*P **P 18 33 06.9 +1.6**
KWP Kalwaria 77.00 332 *e*P **P 18 33 06.1 -0.9**
comp=Z,18nm,1.0s,mb5.0
KWP Kalwaria 77.00 332 *e*P **P 18 33 06.1 -0.9**
KWP pmax pmax
comp=Z,18nm,1.0s,mb5.0
CRVS Cervenica-Dubn 77.05 331 *e*P **P 18 33 07.3 0.0**
KECS Kecovo 77.21 330 *e*P **P 18 33 10.0 +1.8**
comp=Z,2.9nm,0.8s,mb4.3
KECS *e* 18 33 20.0
KECS Kecovo 77.21 330 *e*P **P 18 33 10.0 +1.8**
KECS *e* 18 33 20.0
KECS pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
STHS Stebnicka Huta 77.51 331 *e*P **P 18 33 12.7 +2.8**
comp=Z,3.6nm,1.4s,mb4.1
STHS *e* 18 33 22.7
STHS Stebnicka Huta 77.51 331 *e*P **P 18 33 12.7 +2.8**
STHS *e* 18 33 22.7
STHS pmax pmax
comp=Z,4.0nm,1.4s,mb4.2
VYHS Vyhne 78.02 329 *e*P **P 18 33 13.7 +1.0**
VYHS *e*sP sP 18 33 20.2 -0.4
KSRS Korea Array 78.27 45 LR LR 19 06 04.1
comp=Z,201nm,21.0s,MS4.4,baz=54,slow=34
KOLL Kolacno 78.29 329 *e*P **P 18 33 16.2 +2.0**
KOLL *e*sP sP 18 33 22.6 +0.5
ZST Bratislava 78.68 328 *e*P **P 18 33 18.5 +2.1**
comp=Z,14nm,1.4s,mb4.7
ZST Bratislava 78.68 328 *e*P **P 18 33 18.5 +2.1**
ZST pmax pmax
comp=Z,14nm,1.4s,mb4.7
MODS Modra-Piesok 78.71 328 *e*P **P 18 33 16.9 +0.3**
ARSA Arzberg 78.88 327⇑ *i*P **P 18 33 15.3 -2.2**
comp=Z,17nm,1.6s,mb4.7
CONA Conrad Observa 79.14 328⇑ *i*P **P 18 33 17.9 -1.1**
comp=Z,20nm,1.4s,mb4.9
OKC Ostrava-Krasne 79.26 330 *e*P **P 18 33 21.3 +1.8**
OKC AMS AMS 19 01 50.0
MORC Moravsky Berou 79.51 330 *e*P **P 18 33 21.1 +0.2**
comp=Z,9.2nm,1.1s,mb4.6
MORC Moravsky Berou 79.51 330 *e*P **P 18 33 21.1 +0.2**
MORC pmax pmax
comp=Z,9.0nm,1.1s,mb4.6
MORC Moravsky Berou 79.51 330⇑ *i*P **P 18 33 22.0 +1.1**
PGF Pioggiola 79.78 320 *e*P **P 18 33 22.5 -0.1**
comp=Z,30nm,1.5s,mb4.7
PGF Pioggiola 79.78 320 *e*P **P 18 33 22.5 -0.1**
comp=Z,15nm,1.5s,mb4.7
PGF Pioggiola 79.78 320 *e*P **P 18 33 22.5 -0.1**
PGF pmax pmax
comp=Z,15nm,1.5s,mb4.7
MOA Molln 79.92 327⇑ *i*P **P 18 33 21.9 -1.2**
comp=Z,22nm,1.4s,mb4.9
ABTA Abfaltersbach 80.18 325⇑ *i*P **P 18 33 22.6 -2.0**
comp=Z,15nm,1.3s,mb4.8
TREC Trest 80.21 328 *e*P **P 18 33 26.2 +1.5**
TREC AMS AMS 19 01 40.0
HIA Hailar 80.31 32 P **P 18 33 26.2 +1.0**
comp=Z,6.2nm,0.8s,mb4.6
HIA Hailar 80.31 32 P **P 18 33 26.2 +1.0**
HIA pmax pmax
comp=Z,6.0nm,0.8s
DPC Dobruska-Polom 80.48 330 *e*P **P 18 33 28.3 +2.2**
DPC *e* pP 18 33 35.1 +3.2
DPC Dobruska-Polom 80.48 330 *e*P **P 18 33 28.3 +2.2**
DPC *e*x x 18 33 35.1
DPC AMS AMS 19 03 10.0
UPC Upice 80.73 330 *e*P **P 18 33 26.1 -1.4**
KSP Ksiaz 80.82 330 *e*P **P 18 33 24.3 -3.6**
GEC2 GERESS Array S 80.83 327 *e*P **P 18 33 28.4 +0.3**
GEC2 pmax pmax
comp=Z,26nm,2.1s,mb4.8
GEC2 GERESS Array S 80.83 327 *e*P **P 18 33 28.4 +0.3**
comp=Z,26nm,2.1s,mb4.8
GERES GERESS Array B 80.83 327 P **P 18 33 25.5 -2.5**
comp=Z,0.4nm,0.8s,mb3.4,baz=212,slow=3.5,SNR=4.6
WTTA Wattenberg 80.97 325⇑ *i*P **P 18 33 29.3 +0.5**
comp=Z,14nm,1.2s,mb4.8
WTTA Wattenberg 80.97 325⇑ *i*pP pP 18 33 29.3 -5.3
comp=Z,14nm,1.2s
WTTA Wattenberg 80.97 325⇑ *i*P **P 18 33 29.4 +0.6**
WTTA pmax pmax
comp=Z,14nm,1.2s,mb4.8
KHC Kasperske Hory 81.07 327 *e*P **P 18 33 28.1 -1.2**
KHC *e* pP 18 33 31.5 -3.6
KHC MLR MLR
comp=Z,300nm,18.3s,MS4.7
KHC Kasperske Hory 81.07 327 *e*P **P 18 33 28.1 -1.2**
KHC *e*pP pP 18 33 31.5 -3.6
KHC *e*x x 18 33 42.9
KHC AMS AMS 19 03 20.0
comp=Z,300nm,18.3s,MS4.7
PRU Pruhonice 81.12 329 *e*P **P 18 33 31.3 +1.7**
PRU *e*x x 18 33 44.1
PRU AMS AMS 19 09 10.0
comp=Z,200nm,17.9s,MS4.5
REVF Revere 81.43 321 *e*P **P 18 33 31.8 +0.4**
WET Wettzell 81.44 327 *e*P **P 18 33 31.6 +0.3**
WET pmax pmax
comp=Z,12nm,1.7s,mb4.5
WET Wettzell 81.44 327 *e*P **P 18 33 31.6 +0.3**
comp=Z,12nm,1.7s,mb4.5
SAOF Saorge 81.45 321 *e*P **P 18 33 31.5 0.0**
SAOF Saorge 81.45 321 *e*P **P 18 33 32.4 +0.9**
PVCC Panska Ves 81.45 329 *e*P **P 18 33 33.6 +2.3**
PVCC AMS AMS 19 02 30.0
SBF Sospel 81.46 321 *e*P **P 18 33 30.0 -1.5**
comp=Z,30nm,0.9s,mb4.9
SBF Sospel 81.46 321 *e*P **P 18 33 30.0 -1.5**
comp=Z,15nm,0.9s,mb4.9
SBF Sospel 81.46 321 *e*P **P 18 33 30.0 -1.5**
SBF pmax pmax
comp=Z,15nm,0.9s,mb4.9
LUCF Luceram 81.53 321 *e*P **P 18 33 32.1 +0.2**
AUTN L'Aution 81.53 321 *e*P **P 18 33 31.7 -0.2**
MVIF Mont Vial 81.65 321 *e*P **P 18 33 32.1 -0.4**
TOUF Mont Tournerai 81.65 321 *e*P **P 18 33 32.9 +0.4**
TOUF Mont Tournerai 81.65 321 *e*P **P 18 33 34.8 +2.3**
FUR Furstenfeldbru 81.70 326 *e*P **P 18 33 33.7 +1.0**
FUR pmax pmax
comp=Z,114nm,1.8s,mb5.5
FUR Furstenfeldbru 81.70 326 *e*P **P 18 33 33.7 +1.0**
comp=Z,114nm,1.8s,mb5.5
CALN Calern 81.73 320 *e*P **P 18 33 30.4 -2.6**
LMR La Mourre 81.74 320 *e*P **P 18 33 33.6 +0.6**
comp=Z,28nm,1.3s,mb4.8
LMR La Mourre 81.74 320 *e*P **P 18 33 33.6 +0.6**
comp=Z,14nm,1.3s,mb4.7
LMR La Mourre 81.74 320 *e*P **P 18 33 33.6 +0.6**
LMR pmax pmax
comp=Z,14nm,1.3s,mb4.7
FRF La Foret Royal 81.78 320 *e*P **P 18 33 33.8 +0.6**
comp=Z,55nm,1.7s,mb4.9
FRF La Foret Royal 81.78 320 *e*P **P 18 33 33.8 +0.6**
comp=Z,27nm,1.7s,mb4.9
FRF La Foret Royal 81.78 320 *e*P **P 18 33 33.8 +0.6**
FRF pmax pmax
comp=Z,27nm,1.7s,mb4.9
DAVA Damuels 81.95 325⇑ *i*P **P 18 33 31.7 -2.4**
comp=Z,9.0nm,1.0s,mb4.7
BRG Berggiesshubel 81.98 329 *e*P **P 18 33 35.6 +1.5**
comp=Z,7.0nm,1.2s,mb4.5
BRG Berggiesshubel 81.98 329 *e*P **P 18 33 37.0 +2.9**
comp=Z,7.0nm,1.2s,mb4.5
BRG *e* 18 33 49.6
comp=Z,7.3nm,1.1s
TAVF Tavernes 82.17 320 *e*P **P 18 33 33.3 -2.0**
ROTZ Rotzenmuhle 82.17 327 *e*P **P 18 33 37.7 +2.6**
comp=Z,12nm,1.6s,mb4.6
MBDF Montbardon 82.33 321 *e*P **P 18 33 36.6 +0.5**
comp=Z,12nm,0.8s,mb4.5
MBDF Montbardon 82.33 321 *e*P **P 18 33 36.6 +0.5**
comp=Z,6.1nm,0.8s,mb4.6
MBDF Montbardon 82.33 321 *e*P **P 18 33 36.6 +0.5**
MBDF pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
NKC Novy Kostel 82.33 328 *e*P **P 18 33 36.8 +0.8**
NKC *e* 18 33 51.0
NKC Novy Kostel 82.33 328 *e*P **P 18 33 36.8 +0.8**
NKC *e*x x 18 33 51.0
NKC AMS AMS 19 00 20.0
MANZ Manzenberg 82.36 328 *e*P **P 18 33 38.3 +2.2**
comp=Z,22nm,1.9s,mb4.8
TANN Tannenbergstha 82.44 328 *e*P **P 18 33 37.9 +1.4**
comp=Z,12nm,1.4s,mb4.6
GRA1 Grafenberg Arr 82.64 327 *e*P **P 18 33 38.7 +1.1**
comp=Z,24nm,1.4s,mb5.0
GRA1 *e*S S 18 43 48.5 -5.6
GRA1 LR LR
comp=Z,200nm,18.8s,MS4.5
GRF Grafenberg Arr 82.64 327 *e*P **P 18 33 38.7 +1.1**
GRF *e*S S 18 43 48.5 -5.6
GRF pmax pmax
comp=Z,24nm,1.4s,mb5.0
GRF MLR MLR
comp=Z,200nm,18.8s,MS4.5
GRF Grafenberg Arr 82.64 327 *e*P **P 18 33 38.7 +1.1**
GRF *e*S S 18 43 48.5 -5.6
GRF pmax pmax
comp=Z,24nm,1.4s,mb5.0
GRF MLR MLR
comp=Z,200nm,18.8s,MS4.5
GRF Grafenberg Arr 82.64 327 *e*P **P 18 33 38.7 +1.1**
comp=Z,24nm,1.4s,mb5.0
GRF *e*S S 18 43 48.5 -5.6
GRF *e*L 19 09 55.3
comp=Z,162nm,18.8s
SMRF Simiane la Rot 82.66 320 *e*P **P 18 33 37.9 +0.1**
CLL Collm 82.71 329⇑ *i*P **P 18 33 39.8 +1.9**
comp=Z,40nm,2.0s,mb5.1
CLL *i* pP 18 33 46.1 +2.4
CLL *e*S S 18 43 52.0 -2.8
CLL Collm 82.71 329⇑ *i*P **P 18 33 39.8 +1.9**
CLL *i* pP 18 33 46.1 +2.4
CLL *e*S S 18 43 52.0 -2.8
CLL pmax pmax
comp=Z,40nm,2.0s,mb5.1
CLL Collm 82.71 329 *e*P **P 18 33 39.3 +1.4**
comp=Z,40nm,2.0s,mb5.1
CLL Collm 82.71 329⇑ *i*P **P 18 33 39.8 +1.9**
comp=Z,40nm,2.0s,mb5.1
CLL *i*x x 18 33 46.1
CLL *e*x x 18 33 53.0
CLL *e*PP PP 18 36 42.0 -6.2
CLL *e*x x 18 37 27.0
CLL *e*S S 18 43 52.0 -2.8
CLL *e*SS SS 18 49 06.0 -12
CLL *e*SSS 18 52 30.0
ORIF Oris-en-Rattie 82.96 321 *e*P **P 18 33 40.4 +1.0**
comp=Z,23nm,1.1s,mb4.8
ORIF Oris-en-Rattie 82.96 321 *e*P **P 18 33 40.4 +1.0**
comp=Z,11nm,1.1s,mb4.8
ORIF Oris-en-Rattie 82.96 321 *e*P **P 18 33 40.4 +1.0**
ORIF pmax pmax
comp=Z,11nm,1.1s,mb4.8
MOX Moxa 83.00 328 *e*P **P 18 33 41.2 +1.7**
comp=Z,15nm,1.5s,mb4.8
MOX Moxa 83.00 328 *e*P **P 18 33 41.2 +1.7**
MOX pmax pmax
comp=Z,15nm,1.5s,mb4.8
MOX Moxa 83.00 328 *e*P **P 18 33 40.7 +1.2**
comp=Z,14nm,1.4s,mb4.8

FELD	Feldberg im Sc	83.33	324	eP	P	18 33 38.0	-3.2
BFO	Black Forest	83.40	325	P	P	18 33 38.0	-3.6
	comp=Z,17nm,1.4s,mb4.9						
BFO	Black Forest	83.40	325	P	P	18 33 38.0	-3.6
BFO				pmax	pmax		
	comp=Z,17nm,1.4s,mb4.9						
BFO	Black Forest	83.40	325	eP	P	18 33 42.5	+0.9
	comp=Z,17nm,1.5s,mb4.8						
BOD	Bodaibo	83.60	23	eP	P	18 33 42.2	-0.1
BOD				pmax	pmax		
	comp=Z,4.0nm,1.8s,mb4.2						
TMCR	Tamitsa	83.76	347	eP	P	18 33 42.0	-1.1
UBBA	Unterbreizbach	83.94	327	eP	P	18 33 45.6	+1.4
	comp=Z,18nm,1.7s,mb4.9						
BSD	Bornholm Skovb	84.23	333	eP	P	18 33 47.4	+1.8
BSD				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.8						
BSD	Bornholm Skovb	84.23	333	i P	P	18 33 47.4	+1.8
	comp=Z,9.0nm,1.0s,mb4.8						
JOF	Joensuu	84.27	344	ep	P	18 33 41.8	-3.9
	comp=Z,2.7nm,0.7s,mb4.5						
CLZ	Clausthal	84.35	328	eP	P	18 33 48.0	+1.7
CLZ				pmax	pmax		
	comp=Z,21nm,1.2s,mb5.1						
CLZ	Clausthal	84.35	328	eP	P	18 33 48.0	+1.7
	comp=Z,21nm,1.2s,mb5.1						
FINES	FINESS Array B	84.57	341	P	P	18 33 45.0	-2.2
FINES				pmax	pmax		
	comp=Z,1.0nm,0.9s						
FINES				MLR	MLR		
	comp=Z,169nm,21.5s						
FINES	FINESS Array B	84.57	341	P	P	18 33 45.0	-2.3
	comp=Z,0.8nm,0.9s,mb3.9,baz=66,slow=3.5,SNR=2.1						
FINES				LR	LR	19 11 29.7	
	comp=Z,169nm,21.5s,MS4.4,baz=321,slow=36						
RUP	Ruppelstein	84.86	325	eP	P	18 33 50.0	+1.0
MJAR	Matsushiro Arr	85.10	50	P	P	18 33 50.0	-0.5
MJAR				LR	LR	19 07 27.1	
MJAR	Matsushiro Arr	85.10	50	P	P	18 33 50.0	-0.5
MJAR				pmax	pmax		
	comp=Z,2.0nm,1.1s						
MJAR				MLR	MLR		
	comp=Z,162nm,20.3s						
MJAR	Matsushiro Arr	85.10	50	P	P	18 33 50.0	-0.5
	comp=Z,2.3nm,1.1s,mb4.2,baz=222,slow=3.3,SNR=3.7						
MJAR				LR	LR	19 07 27.1	
	comp=Z,162nm,20.3s,MS4.4,baz=295,slow=33						
WLF	Walferdange	85.34	325	P	P	18 33 46.6	-4.7
WLF	Walferdange	85.34	325	eP	P	18 33 53.0	+1.7
	comp=Z,8.0nm,1.1s,mb4.8						
EVIA	Vianos	85.47	312	P	P	18 33 51.9	-0.4
	comp=Z,2.0nm,0.6s,mb4.4						
EVIA	Vianos	85.47	312	P	P	18 33 51.9	-0.4
EVIA				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.4						
SSF	Saint Saulge	85.49	322	eP	P	18 33 52.9	+0.7
	comp=Z,18nm,1.1s,mb4.8						
SSF	Saint Saulge	85.49	322	eP	P	18 33 52.9	+0.7
	comp=Z,9.3nm,1.1s,mb4.8						
SSF	Saint Saulge	85.49	322	eP	P	18 33 52.9	+0.7
SSF				pmax	pmax		
	comp=Z,9.0nm,1.1s,mb4.8						
EQES	Quesada	85.52	311	P	P	18 33 54.0	+1.4
	comp=Z,4.5nm,0.6s,mb4.9						
BSEG	Bad Segeberg	85.61	330	eP	P	18 33 54.2	+1.6
	comp=Z,66nm,2.5s,mb5.4						
ETOR	Torete	86.10	315	P	P	18 33 54.9	-0.4
	comp=Z,3.2nm,0.5s,mb4.8						
ETOR	Torete	86.10	315	P	P	18 33 54.9	-0.5
ETOR				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.8						
EMIJ	Mijas	86.25	310	P	P	18 33 56.2	0.0
	comp=Z,7.2nm,0.9s,mb4.9						
EJIF	Jimena Fronter	86.72	309	P	P	18 34 01.3	+2.8
	comp=Z,1.6nm,0.4s,mb4.6						
EJIF	Jimena Fronter	86.72	309	P	P	18 34 01.3	+2.8
EJIF				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.7						
EADA	Adamuz	86.76	311	P	P	18 33 59.6	+0.9
	comp=Z,2.9nm,0.5s,mb4.8						
ESDC	Sonseca Array	86.94	313	P	P	18 33 56.6	-2.9
ESDC				LR	LR	19 16 28.4	
ESDC	Sonseca Array	86.94	313	P	P	18 33 56.6	-2.9
	comp=Z,0.2nm,0.3s,mb3.8,baz=335,slow=6.9,SNR=2.7						
ESDC				LR	LR	19 16 28.4	
	comp=Z,196nm,18.5s,MS4.5,baz=350,slow=38						
ESLA	Sonseca Array	86.94	313	P	P	18 33 58.3	-1.2
MUD	Monsted U'grnd	87.61	332	eP	P	18 34 05.8	+3.4
MUD				pmax	pmax		
	comp=Z,11nm,1.0s,mb5.0						
MUD	Monsted U'grnd	87.61	332	i P	P	18 34 05.8	+3.4
	comp=Z,11nm,1.0s,mb5.1						
EMIN	Mina Concepcio	88.12	310	P	P	18 34 07.7	+2.5
	comp=Z,5.3nm,0.7s,mb4.9						
EVO	Evora	89.39	311	eP	P	18 34 10.8	-0.4
NOA	NORSAR Array B	89.47	336	LR	LR	19 13 54.4	
	comp=Z,83nm,19.5s,MS4.2,baz=330,slow=36						
ARCES	ARCESS Array B	90.98	346	P	P	18 34 18.3	+0.4
ARCES				LR	LR	19 18 08.9	
ARCES	ARCESS Array B	90.98	346	P	P	18 34 18.3	+0.4
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.9s						
ARCES				MLR	MLR		
	comp=Z,144nm,18.9s						
ARCES	ARCESS Array B	90.98	346	P	P	18 34 18.3	+0.4
	comp=Z,2.0nm,0.9s,mb4.5,baz=90,slow=0.2,SNR=3.2						
ARCES				LR	LR	19 18 08.9	
	comp=Z,144nm,18.9s,MS4.4,baz=146,slow=38						
YAK	Yakutsk	92.37	25⇑	eP	P	18 34 22.4	-2.1
YAK				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb5.1						
TIXI	Tiksi	97.22	16⇑	eP	P	18 34 45.4	-1.1
TIXI				pmax	pmax		
	comp=Z,1.0nm,1.7s,mb4.0						
COLA	College	126.31	18⇑	i PKIKP	PKPdf	18 40 20.8	+4.2
YKA	Yellowknife Ar	134.25	1	PKIKP	PKPdf	18 40 29.7	-2.0
YKA						18 42 59.6	
YKA	Yellowknife Ar	134.25	1	PKP	PKPdf	18 40 29.7	-2.0
	comp=Z,0.4nm,0.8s,baz=340,slow=2.1,SNR=4.9						
YKA				PP	PP	18 42 59.6	-3.0
	comp=Z,0.3nm,0.8s,baz=356,slow=6.3,SNR=7.4						
AGMN	Agassiz Refuge	145.68	340	ePKPdf	PKPdf	18 40 49.8	-3.0
DGMT	Dagmar	147.61	350	ePKPbc	PKPbc	18 40 57.0	-1.7
JFWS	Jewell Farm	147.72	329	ePKPbc	PKPbc	18 40 57.2	-2.1
NEW	Newport	148.31	6	PKPbc	PKPbc	18 41 00.7	+0.1
EGMT	Eagleton	148.70	356	ePKPdf	PKPdf	18 40 58.0	+0.1
CHMT	Chamberlain Mo	149.88	1	ePKPbc	PKPbc	18 41 07.2	+2.5
MSO	Missoula	149.95	2	ePKPbc	PKPbc	18 41 02.3	-2.5
GCMT	Greycliff	150.92	356	ePKPbc	PKPbc	18 41 10.4	+3.3
BOZ	Bozeman (W)	151.15	359	ePKPdf	PKPdf	18 41 02.1	+0.3
FVM	French Village	151.27	322	ePKPdf	PKPdf	18 41 04.3	+2.0
DLMT	Dillon	151.44	0	ePKPbc	PKPbc	18 41 10.1	+1.7
RLMT	Red Lodge	151.55	355	ePKPbc	PKPbc	18 41 08.0	-0.7
MCMT	McKenzie Canyo	151.97	1	PKPbc	PKPbc	18 41 08.4	-1.2
HUMO	Hull Mountain	152.69	17	ePKPbc	PKPbc	18 41 11.1	-0.2
MOOW	Moose Ponds	153.01	357	ePKPbc	PKPbc	18 41 13.2	+1.2
PDAR	Pinedale Array	153.91	355	PKPbc	PKPbc	18 41 10.8	-3.1
	comp=Z,1.5nm,0.9s,baz=40,slow=1.0,SNR=6.3						
NVAR	Mina Array Bea	157.78	12	PKPab	PKPab	18 41 38.4	-5.3
	comp=Z,0.5nm,0.8s,baz=74,slow=0.9,SNR=3.6						
TXAR	Lajitas Array	165.05	329	PKPab	PKPab	18 42 13.4	-2.3
	comp=Z,0.4nm,0.7s,baz=270,slow=7.5,SNR=2.5						

*ISCJB **24** 18:24:07.8±0.4,4062N±002×2350E±004,h11km±5km, Error ellipse: s-maj=5.4km s-min=3.9km az=155.6*
*CSEM **24** 18:24:08.9±0.1,4063N×2350E,h2km,ML2.5,Error ellipse: s-maj=1.4km s-min=1.2km az=58.0*
*THE **24** 18:24:08.6,4062N×2350E,h1km,ML2.5*
*ATH **24** 18:24:08.6,4063N×2351E,h16km±1km,MD3.2/3*

ISC 24 18:24:08.6±0.5,4063N±002×2350E±004,h3km±9km,n14, σ0°76/24,1D,Greece

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SOH	Sokhos	0.23	331	ePg	Pg	Pg	18 24 13.1	+0.1
SOH				eSg	Sg	Sg	18 24 16.3	+0.4
PLG	Polygyros	0.25	189	ePg	Pg	Pg	18 24 13.9	+0.4
PLG	Polygyros	0.25	189	ePB	Pg	Pg	18 24 14.0	+0.5
PLG				eSB	Sg	Sg	18 24 17.8	+1.0
PLG	Polygyros	0.25	189	ePg	Pg	Pg	18 24 13.9	+0.4
PLG				eSb	Sg	Sg	18 24 17.8	+1.0
HORT	Hortiatis	0.30	265	ePg	Pg	Pg	18 24 14.9	+0.4
THE	Thessaloniki	0.41	271	ePg	Pg	Pg	18 24 16.1	-0.3
THE				eSg	Sg	Sg	18 24 21.5	-0.2
OUR	Ouranopolis	0.47	128	ePg	Pg	Pg	18 24 17.6	0.0
OUR				eSg	Sg	Sg	18 24 24.1	+0.4
SRS	Serrai	0.50	8	ePg	Pg	Pg	18 24 17.7	-0.5
SRS				eSg	Sg	Sg	18 24 24.6	-0.1
KNT	Kendrikon	0.70	320	ePg	Pg	Pg	18 24 22.3	+0.2
PAIG	Paliouri	0.71	169	ePg	Pg	Pg	18 24 21.5	-0.8
PAIG				eSg	Sg	Sg	18 24 31.0	-0.4
NVR	Nevrokopi	0.78	21	i PN	Pn	Pn	18 24 23.3	-3.2
NVR				eSN	Sg	Sg	18 24 34.1	+0.5
GRG	Griva	0.90	292	ePg	Pg	Pg	18 24 25.8	0.0
LOS	Limnos	1.39	119	ePg	Pg	Pg	18 24 32.9	-2.5
LOS				eSg	Sg	Sg	18 24 54.0	+0.6
RDO	Rodhopi	1.63	71	ePN	Pn	Pn	18 24 38.6	+0.4
RDO				eSN	Sn	Sn	18 25 00.4	+0.7

JMA 24 19:09:49.8±0.3,2568N×12509E,h14km,M3.5, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JMJ	Miyako jima 2	0.88	168	P	Pb	Pb	19 10 06.4	-0.5
JMJ				S	Sg	Sg	19 10 17.7	-0.7
JOGS	Gusukube	0.96	163	P	Pb	Pb	19 10 07.6	-0.6
JOGS				S	Sb	Sb	19 10 20.3	-0.5
JTJ	Tarama	1.09	199	P	Pb	Pb	19 10 09.9	-0.6
JTJ				S	Sb	Sb	19 10 24.7	+0.1
JIJ	Ishigaki jima	1.57	213	P	Pn	Pn	19 10 16.8	-0.4
JIJ				S	Sn	Sn	19 10 35.6	-1.7
JKRS	Kuro-shima	1.74	215	P	Pn	Pn	19 10 21.1	+1.5
JKRS				eS	Sn	Sn	19 10 43.2	+1.6

*NEIC **24** 19:23:43.0,1472N×9400W,h16km,MD4.3(MEX),After MEX.*

MEX 24 19:23:43.0±0.6,1472N×9400W,h16km±14km,MD4.3,Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
HUIG	Huatulco	2.28	297	i P	Pn	Pn	19 24 17.0	-3.0
HUIG				i S	Sn	Sn	19 24 42.8	-5.0
CCIG	Comitan	2.37	49	i P	Pn	Pn	19 24 18.0	-3.3
CCIG				i S	Sn	Sn	19 24 46.2	-3.9
SCX	San Cristobal	2.40	33	eP	Pn	Pn	19 24 18.8	-2.8
SCX				i S	Sn	Sn	19 24 45.9	-4.7
CMIG	Matias Romero	2.50	340	i P	Pn	Pn	19 24 20.4	-2.7
CMIG				i S	Sn	Sn	19 24 49.3	-4.0
VHO	Vista Hermosa	3.52	312	i P	Pn	Pn	19 24 35.1	-1.9
VHO				i S	Sn	Sn	19 25 14.8	-3.5
UTMO	Huajuapan	4.78	311	eP	Pn	Pn	19 24 52.1	-2.4
UTMO				i S	Sn	Sn	19 25 47.0	-2.6
PPM	Popocatepetl	6.18	315	eP	Pn	Pn	19 25 16.0	+2.3
PPM				i S	Sn	Sn	19 26 21.0	-3.1

*NEIC **24** 19:58:55.8±2.2,706S×12966E,h99km±22km,mb4.1/4, Error ellipse: s-maj=22.5km s-min=9.3km az=48.0*
*IDC **24** 19:59:01.4±3.7,7.12S×12958E,h148km±31km,mb3.5/4, mb1 3.6/6,mb1mx3.5/13,mbtmp3.6/6,Error ellipse: s-maj=54.5km s-min=18.9km az=67.0*
*ISCJB **24** 19:59:03.9±1.5,756S±007×12948E±007,h206km±16km, mb3.7/7,Error ellipse: s-maj=13.4km s-min=8.7km az=136.6*

ISC 24 19:59:03.8±1.7,751S±008×12945E±010,h187km±17km, n22,σ1°23/26,mb3.8/7,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
BATI	Kupang	6.31	244	P	Pn	Pn	20 00 36.5	+1.4
	13nm,0.3s,baz=92,slow=6.8,SNR=36							
BATI				S	Sn	Sn	20 01 47.2	+0.1
	14nm,0.3s,baz=249,slow=23,SNR=7.2							
FITZ	Fitzroy Crossi	11.17	199	P	Pn	Pn	20 01 38.8	+0.4
	1.4nm,0.3s,baz=42,slow=11,SNR=50							
FITZ				S	Sn	Sn	20 03 39.8	-2.9
	2.9nm,0.3s,baz=308,slow=23,SNR=6.5							
WRAB	Tennant Creek	13.24	159	ePn	Pn	Pn	20 02 03.9	-0.9
	4.3nm,0.5s							
WRAB				eSn	Sn	Sn	20 04 23.6	-8.6
WRA	Warramunga Arr	13.24	160	P	Pn	Pn	20 02 03.4	-1.5
	0.4nm,0.3s,baz=337,slow=13,SNR=37							
WRA				S	Sn	Sn	20 04 26.1	-6.2
	3.6nm,0.3s,baz=333,slow=21,SNR=11							
WB2	Warramunga Arr	13.25	159	ePn	Pn	Pn	20 02 04.3	-0.6
WB2				eSn	Sn	Sn	20 04 23.6	-8.9
MBWA	Marble Bar	16.51	214	ePn	Pn	Pn	20 02 47.8	+2.8
MBWA				eSn	Sn	Sn	20 05 40.7	-10
ASAR	Alice Springs	16.63	166	P	Pn	Pn	20 02 48.3	+1.9
	0.9nm,0.3s,baz=332,slow=8.1,SNR=44							
ASAR				S	S	S	20 05 50.4	+0.5
	0.7nm,0.3s,baz=355,slow=27,SNR=6.9							
ASAR				ScP	ScP	ScP	20 10 47.2	+5.4
	baz=354,slow=0.8,SNR=4.3							
KKM	Kota Kinabalu	18.85	315	eP	P	P	20 03 06.3	-3.7
CTAO	Charters Tower	20.54	129	P	P	P	20 03 29.7	+1.8
	12nm,1.2s							
KSM	Kuching	21.07	294	P	P	P	20 03 34.2	+0.5
STKA	Stephens Creek	26.76	157	P	P	P	20 04 29.5	+3.1
	1.4nm,0.5s,mb3.8,baz=320,slow=13,SNR=3.0							
SONM	Songino Array	58.75	342	P	P	P	20 08 41.7	-0.3
	0.2nm,0.5s,mb3.2,baz=165,slow=7.9,SNR=4.5							
MK31	Makanchi Array	68.35	327	eP	P	P	20 09 45.2	+0.2
MKAR	Makanchi Array	68.35	327	P	P	P	20 09 45.5	+0.5
MKAR	Makanchi Array	68.35	327	P	P	P	20 09 45.5	+0.5
	1.9nm,0.4s,mb4.2,baz=118,slow=8.0,SNR=24							
ZALV	Zalesovo Beam	71.79	334	P	P	P	20 10 04.8	-1.0
	0.7nm,0.6s,mb3.6,baz=123,slow=5.3,SNR=2.4							
KURK	Kurchatov	72.66	329	P	P	P	20 10 10.6	-0.3
	2.9nm,1.1s,mb3.9							
BRVK	Borovoye	78.27	328	eP	P	P	20 10 42.3	-0.5
	1.1nm,0.7s,mb3.6							
ARU	Arti	85.84	328	P	P	P	20 11 21.2	-0.9
	3.0nm,0.8s,mb4.1							
CPUP	Villa Florida	145.73	169	PKPbc	PKPbc	PKPbc	20 18 25.2	+3.6
CPUP	Villa Florida	145.73	169	PKPbc	PKPbc	PKPbc	20 18 25.2	+3.6
	0.3nm,0.3s,baz=252,slow=3.2,SNR=3.7							
LPAZ	La Paz	150.65	144	PKPbc	PKPbc	PKPbc	20 18 39.1	+4.4
	0.6nm,0.4s,baz=54,slow=3.9,SNR=5.6							

IDC 24 20:43:28.6±46.0,2903S×17484W,h0km,mb3.6/3, mb1 3.8/3,mb1mx3.7/14,mbtmp3.6/3,Error ellipse: s-maj=863.4km s-min=193.5km az=96.0,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	37.48	254	P	P	P	20 50 44.4	+0.3
	1.7nm,1.0s,baz=90,slow=7.1,SNR=3.8							
ASAR	Alice Springs	45.96	264	P	P	P	20 51 53.1	-0.5
	0.3nm,0.4s,baz=104,slow=7.4,SNR=7.2							
WRA	Warramunga Arr	46.83	269	P	P	P	20 52 00.6	+0.1
	0.3nm,0.3s,baz=110,slow=8.0,SNR=13							

*ISCJB **24** 20:53:10.8±0.8,02N±02×1238E±05,h33km,mb3.8/6, Error ellipse: s-maj=69.6km s-min=12.2km az=158.1*
*NEIC **24** 20:53:12.9±0.6,0.19N×12387E,h35km,mb3.9/1,Error ellipse: s-maj=54.7km s-min=9.0km az=67.0*
*IDC **24** 20:53:18.1±3.5,027N×12418E,h86km±30km,mb3.4/5, mb1 3.6/6,mb1mx3.5/17,mbtmp3.4/6,MS3.1/1,Ms1 3.1/1, ms1mx2.7/21,Error ellipse: s-maj=100.2km s-min=18.1km az=67.0*

ISC 24 20:53:13.1±0.8,02N±02×1239E±05,h35km,n10,σ0°22/9, mb3.8/6,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
BATI	Kupang	10.32	181	LR	LR	LR	21 01 07.9	
	comp=Z,94nm,19.6s,baz=121,slow=45							
FITZ	Fitzroy Crossi	18.25	175	P	Pn	Pn	20 57 23.8	+0.2
	0.1nm,0.3s,baz=342,slow=5.7,SNR=3.5							
WRAB	Tennant Creek	22.48	153	eP	P	P	20 58 09.4	0.0
	3.1nm,0.7s,mb3.9							
WRA	Warramunga Arr	22.48	153	P	P	P	20 58 09.2	-0.3
	3.1nm,0.8s,mb3.8,baz=337,slow=10.0,SNR=41							
WRA				ScP	ScP	ScP	21 05 32.1	-6.2
	0.3nm,0.6s,baz=325,slow=2.8,SNR=5.7							
ASAR	Alice Springs	25.63	158	P	P	P	20 58 39.6	+0.2
	1.1nm,0.4s,mb3.7,baz=344,slow=15,SNR=28							
ASAR				PcP	PcP	PcP	21 02 08.2	-1.7
	0.2nm,0.5s,baz=343,slow=1.7,SNR=4.2							
STKA	Stephens Creek	36.03	154	P	P	P	21 00 11.2	0.0
	1.8nm,0.8s,mb4.0,baz=333,slow=11,SNR=3.1							
SONM	Songino Array	49.83	345	P	P	P	21 02 02.9	+0.4
	0.5nm,0.8s,mb3.6,baz=126,slow=7.3,SNR=3.1							
MK31	Makanchi Array	58.91	328	eP	P	P	21 03 08.3	-0.3
MKAR	Makanchi Array	58.91	328	P	P	P	21 03 08.6	-0.1
MKAR	Makanchi Array	58.91	328	P	P	P	21 03 08.6	-0.1
	0.3nm,0.3s,mb3.8,baz=112,slow=9.6,SNR=5.1							

*BJI **24** 20:53:19.3,27.10S×6700E,h10km,mB5.2,mb4.9,Ms4.8, Msz4.3*
*ISCJB **24** 20:53:21.7±0.3,27.11S±006×6696E±008,h10km, mb4.4/34,MS3.9/7,Error ellipse: s-maj=10.7km s-min=9.2km az=2.7*
*IDC **24** 20:53:21.6±0.5,2702S×6696E,h0km,mb4.2/17, mb1 4.3/17,mb1mx4.2/24,mbtmp4.2/17,MS3.7/4, Ms1 3.7/4,ms1mx3.4/23,Error ellipse: s-maj=17.0km s-min=16.3km az=20.0*
*NEIC **24** 20:53:23.3±0.3,2706S×6696E,h10km,mb4.5/16,Error ellipse: s-maj=9.4km s-min=8.2km az=52.0*

ISC 24 20:53:23.7±0.3,2710S±006×6694E±008,h10km, (h13km±3.1km:pP-P),n55,σ0°97/52,mb4.4/34,MS3.9/7,2D, Indian Ocean Triple Junction

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
BOSA	Boshof	36.76	258	P	P	P	21 00 32.5	+1.0
BOSA				LR	LR	LR	21 14 03.6	
BOSA	Boshof	36.76	258	P	P	P	21 00 32.5	+1.0
	4.4nm,1.1s,mb4.2,baz=84,slow=14,SNR=3.1							
BOSA				LR	LR	LR	21 14 03.6	
	comp=Z,109nm,19.0s,MS3.7,baz=118,slow=34							
LBTB	Lobatse	37.09	264	eP	P	P	21 00 35.0	+0.7
	17nm,1.4s,mb4.7							
LBTB	Lobatse	37.09	264	P	P	P	21 00 35.6	+1.4
	3.9nm,0.9s,mb4.2,baz=144,slow=13,SNR=4.5							
LSZ	Lusaka	37.85	280	eP	P	P	21 00 39.9	-1.0
	4.5nm,0.8s,mb4.2							
LSZ				e			21 00 47.5	
LSZ	Lusaka	37.85	280	P	P	P	21 00 40.2	-0.7
	3.5nm,0.7s,mb4.2,baz=128,slow=7.6,SNR=8.0							
KMBO	Kilima Mbogo	38.45	307	P	P	P	21 00 46.6	+0.7
	3.6nm,1.1s,mb4.0							
KMBO	Kilima Mbogo	38.45	307	LR	LR	LR	21 13 13.1	
	comp=Z,64nm,20.1s,MS3.4,baz=78,slow=31							
MAW	Mawson	40.60	182	P	P	P	21 01 03.4	+0.2
	2.0nm,0.7s,mb3.9,baz=337,slow=7.7,SNR=6.7							
PSI	Prapat	42.84	51	LR	LR	LR	21 16 02.6	
	comp=Z,116nm,18.7s,MS3.8,baz=324,slow=32							
NWAO	Narrogin (SRO)	43.60	110	P	P	P	21 01 28.3	+0.1
	27nm,1.5s,mb4.8							
SYO	Syowa Base	44.93	194	‖ eP	P	P	21 01 37.2	-1.1
SYO	Syowa Base	44.93	194	‖ epP	P	P	21 01 39.2	+0.9
HYB	Hyderabad	45.66	16	i P	P	P	21 01 46.0	+1.3
KSM	Kuching	50.49	63	P	P	P	21 02 15.2	-7.0
SNAA	Sanae	58.17	200	e	P	P	21 03 17.3	0.0
SNAA				e	pP	pP	21 03 19.2	-1.3
SNAA				e			21 03 24.5	
SNAA	Sanae	58.17	200	P	P	P	21 03 17.2	-0.1
	1.6nm,0.7s,mb4.2,baz=103,slow=7.5,SNR=12							
VNA2	Neumayer--Watz	59.53	202	e	P	P	21 03 27.2	+0.4
VNA2				e	pP	pP	21 03 29.4	-0.6
VNA2				e			21 03 34.3	
ASAR	Alice Springs	59.95	103	P	P	P	21 03 30.0	-0.4
	1.2nm,0.6s,mb4.1,baz=251,slow=6.4,SNR=25							
LSA	Lhasa	61.05	24	P	P	P	21 03 39.0	+1.3
	3.6nm,0.8s,mb4.5							
KBL	Kabul	61.34	2	eP	P	P	21 03 40.5	+1.0
	5.7nm,1.1s,mb4.6							
WRA	Warramunga Arr	61.58	99	P	P	P	21 03 41.3	-0.3
	1.5nm,0.6s,mb4.3,baz=248,slow=6.5,SNR=19							
WB2	Warramunga Arr	61.59	99	eP	P	P	21 03 41.6	0.0
WRAB	Tennant Creek	61.59	99	eP	P	P	21 03 41.5	-0.2
	2.6nm,0.6s,mb4.5							
KMI	Kunming	62.35	37	P	P	P	21 03 49.5	+3.0
KMI				AP	pP	pP	21 03 55.5	+5.8
KMI				XP	sP	sP	21 03 58.3	+7.4
KMI				S	S	S	21 12 16.0	+2.9
KMI				AMB	AMB			
	comp=Z,4.0nm,1.0s,mb4.5							
KMI				AMB	AMB			
	comp=Z,38nm,4.4s							
KMI				LR	LR			
	comp=N,113nm,16.4s,MS4.2							
KMI				LR	LR			
	comp=E,98nm,15.7s,MS4.2							
KMI				LR	LR			
	comp=Z,96nm,13.5s,MS4.1							
QSPA	South Pole Qui	63.04	180	P	P	P	21 03 50.6	+0.2
QSPA	South Pole Qui	63.04	180	P	P	P	21 03 50.6	+0.2
	comp=Z,18nm,0.9s,mb5.2,baz=276,slow=2.5,SNR=25							
STKA	Stephens Creek	63.97	114	eP	P	P	21 03 56.8	-0.5
	comp=Z,3.6nm,1.4s,mb4.2							
STKA	Stephens Creek	63.97	114	P	P	P	21 03 57.0	-0.3
	comp=Z,2.8nm,0.8s,mb4.3,baz=218,slow=6.6,SNR=5.9							
VNDA	Vanda	64.81	166	eP	P	P	21 04 01.7	-0.4
	comp=Z,5.6nm,1.0s,mb4.5							
VNDA	Vanda	64.81	166	P	P	P	21 04 01.7	-0.4
	comp=Z,3.1nm,0.8s,mb4.4,baz=258,slow=7.0,SNR=9.3					

GERES	**GERESS Array B**	**89.30**	**328**	P	**P**		**21 06 17.6**	**-2.3**
	comp=Z,0.3nm,0.7s,mb3.7,baz=189,slow=6.8,SNR=4.5							
MDJ	**Mudanjiang**	**91.42**	**39**	P	**P**		**21 06 24.5**	**-5.3**
MDJ				AMB	AMB			
	comp=Z,4.0nm,0.6s,mb4.9							
MDJ				AMB	AMB			
	comp=Z,59nm,4.6s							
YKA	**Yellowknife Ar**	**144.60**	**1**	PKP	PKPdf		21 12 57.9	-1.8
YKA	**Yellowknife Ar**	**144.60**	**1**	PKP	PKPdf		21 12 57.9	-1.8
	comp=Z,1.3nm,0.7s,baz=344,slow=3.6,SNR=22							

*ISCJB **24** 20:56:45.7±0.5, 3832N±004×2203E±004, h18km±5km, Error ellipse: s-maj=7.0km s-min=4.9km az=141.0*
*NEIC **24** 20:56:45.7, 3830N×2208E, h18km, MD3.1(ATH), After ATH.*
*ATH **24** 20:56:45.7, 3830N×2208E, h18km±2km, MD3.1/7*
*CSEM **24** 20:56:46.3±0.1, 3832N×2206E, h8km, ML2.6, Error ellipse: s-maj=2.4km s-min=1.8km az=153.0*
*THE **24** 20:56:46.0, 3832N×2208E, h4km, ML2.6*

ISC 24 20:56:45.8±0.5, 3831N±003×2211E±004, h14km±4km, n15, σ1º04/27, 2C-1D, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SELA	**Sela**	**0.17**	**259**	*e*Pg	**Pg**	**20 56 49.1**	**-0.7**
SELA				*e*Sg	**Sg**	**20 56 51.6**	**-1.0**
RLS	**Riolos of Patr**	**0.56**	**244**	⇑*i*PN	**Pg**	**20 56 56.6**	**-0.2**
RLS				*e*SN	**Sg**	**20 57 04.9**	**+0.7**
EVR	**Evrytania**	**0.65**	**339**	⇓*i*PB	**Pb**	**20 56 57.9**	**-1.0**
EVR				*e*SN	**Sg**	**20 57 07.6**	**+0.5**
AGG	**Agios Georgios**	**0.73**	**14**	*e*Pg	**Pg**	**20 56 58.9**	**-1.1**
AGG				*e*Sg	**Sg**	**20 57 10.6**	**+0.9**
LKR	**Lokris**	**0.78**	**64**	*e*Pg	**Pg**	**20 57 01.0**	**+0.1**
LKR				*e*Sg	**Sg**	**20 57 13.1**	**+1.9**
LKR	**Lokris**	**0.78**	**64**	*e*PN	**Pn**	**20 57 01.2**	**-1.2**
LKR				*e*SN	**Sn**	**20 57 12.3**	**-1.6**
LKR	**Lokris**	**0.78**	**64**	*e*Pn	**Pn**	**20 57 01.2**	**-1.2**
LKR				*e*Sn	**Sn**	**20 57 12.3**	**-1.6**
LKR				*e*Sg	**Sg**	**20 57 13.1**	**+1.9**
VLX	**Vlachokerasia**	**0.96**	**167**	*e*Pg	**Pg**	**20 57 03.8**	**-0.5**
ITM	**Ithomi**	**1.14**	**187**	*e*PN	**Pn**	**20 57 06.9**	**-0.3**
VLS	**Valsamata**	**1.20**	**264**	*e*Pg	**Pg**	**20 57 07.3**	**-1.6**
VLS				*e*Sg	**Sg**	**20 57 25.9**	**+1.4**
VLS	**Valsamata**	**1.20**	**264**	*e*PN	**Pn**	**20 57 07.9**	**-0.2**
VLS				*e*SN	**Sn**	**20 57 25.2**	**+1.0**
VLS	**Valsamata**	**1.20**	**264**	*e*Pn	**Pn**	**20 57 07.9**	**-0.2**
VLS				*e*Sn	**Sn**	**20 57 25.2**	**+1.0**
VLS				*e*Sg	**Sg**	**20 57 25.9**	**+1.4**
DID	**Didima**	**1.20**	**131**	*e*Pg	**Pg**	**20 57 09.4**	**+0.5**
THL	**Klokotos Trika**	**1.26**	**357**	*e*PN	**Pn**	**20 57 09.8**	**+0.9**
VLI	**Veliai**	**1.72**	**157**	⇑*i*PN	**Pn**	**20 57 17.2**	**+1.9**

*BJI **24** 21:08:27.5, 3828N×12335W, h19km, mB4.9, mb5.5, Ms5.0, Msz4.7*
*ISCJB **24** 21:08:28.4±0.4, 3877N±002×12280W±003, h10km±3km, mb4.8/5, MS4.1/13, Error ellipse: s-maj=4.2km s-min=2.6km az=157.0*
*IDC **24** 21:08:29.0±1.6, 3859N×12293W, h0km, mb3.8/3, mb1 4.2/6, mb1mx3.8/23, mbtmp3.9/6, ML3.9/2, MS3.9/12, Ms1 3.9/12, ms1mx3.6/31, Error ellipse: s-maj=33.3km s-min=12.8km az=15.0*
*NEIC **24** 21:08:28.5, 3880N×12280W, h2km, MW4.4(BRK), After NCEDC.*
NEIC Felt [IV] at Geyserville, Kelseyville, Middletown and Novato; [III] at Calistoga, Clearlake, Cloverdale, Fairfield, Healdsburg, Saint Helena, San Rafael, Santa Rosa and Sonoma; [II] at Guerneville, Napa, Petaluma, San Francisco, San Pablo and Windsor. Felt widely from the northern San Francisco Bay area through the Napa Valley to Ukiah.

ISC 24 21:08:28.8±0.4, 3876N±002×12282W±003, h8km±3km, n114, σ1º02/121, mb4.8/5, MS4.1/13, 36C-41D, Northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NSHM	**Saint Helena R**	**0.30**	**145**	*e*Pg	**Pg**	**21 08 34.9**	**+0.2**
HOPS	**Hopland**	**0.30**	**320**	⇑*i*Pg	**Pg**	**21 08 34.8**	**0.0**
HOPS				*e*Sg	**Sg**	**21 08 40.6**	**+1.8**
HOPS	**Hopland**	**0.30**	**320**	⇓P	**Pg**	**21 08 34.8**	**0.0**
	baz=0.3,SNR=1000						
HOPS				⇑S	**Sg**	**21 08 39.5**	**+0.7**
	baz=0.3						
MNRC	**McLaughlin Nat**	**0.32**	**69**	⇑P	**Pg**	**21 08 35.2**	**+0.1**
	baz=0.3,SNR=1000						
MNRC				⇑S	**Sg**	**21 08 40.4**	**+1.1**
	baz=0.3						
CVS	**Carmenet Viney**	**0.51**	**146**	P	**Pg**	**21 08 38.8**	**+0.2**
	baz=0.5,SNR=1000						
CVS				⇑S	**Sg**	**21 08 46.5**	**+1.3**
	baz=0.5						
MCCM	**Marconi Confer**	**0.62**	**184**	*e*Pg	**Pg**	**21 08 41.9**	**+1.1**
MCCM	**Marconi Confer**	**0.62**	**184**	⇓P	**Pg**	**21 08 41.8**	**+1.0**
	baz=0.7,SNR=1000						
Q03C	**Winters**	**0.65**	**101**	⇑P	**Pg**	**21 08 41.7**	**+0.4**
	baz=0.6						
P01C	**Double 8 Ranch**	**0.81**	**331**	⇑P	**Pg**	**21 08 44.0**	**-0.4**
	baz=0.8						
GASB	**Alder Springs**	**0.89**	**5**	⇓P	**Pg**	**21 08 45.9**	**-0.2**
	baz=0.9						
SUTB	**Sutter Butte**	**0.93**	**60**	⇑P	**Pg**	**21 08 45.4**	**-1.4**
	baz=0.9						
FARB	**Farallon Islan**	**1.07**	**188**	⇓P	**Pg**	**21 08 48.5**	**-1.0**
	baz=1.1,SNR=42						
FARB				⇑S	**Sg**	**21 09 04.8**	**+1.4**
	baz=1.1						
KCPM	**Cahto Peak**	**1.09**	**328**	*e*Pg	**Pg**	**21 08 49.6**	**-0.3**
BDM	**Black Diamond**	**1.10**	**137**	⇓P	**Pg**	**21 08 48.8**	**-1.2**
	baz=1.1						
BDM				⇓S	**Sg**	**21 09 05.6**	**+1.3**
	baz=1.1						
Q04C	**Lincoln**	**1.13**	**86**	⇓P	**Pg**	**21 08 48.4**	**-2.1**
	baz=1.1						
KIPM	**Iron Peak**	**1.16**	**334**	*e*Pg	**Pg**	**21 08 50.7**	**-0.5**
OHCM	**Honcut**	**1.19**	**61**	*e*Pg	**Pg**	**21 08 48.7**	**-3.0**
ORV	**Oroville**	**1.30**	**52**	⇓P	**Pn**	**21 08 50.6**	**-2.6**
	baz=1.3,SNR=6.2						
O03C	**Acorn Hollow,**	**1.38**	**26**	⇓P	**Pn**	**21 08 52.5**	**-1.9**
	baz=1.3						
O02C	**Red Bluff**	**1.41**	**1**	⇑P	**Pn**	**21 08 54.1**	**-0.7**
	baz=1.4						
WENL	**Wente Brothers**	**1.42**	**143**	⇓P	**Pn**	**21 08 53.8**	**-1.1**
	baz=1.4,SNR=61						
JRSC	**Jasper Ridge**	**1.43**	**161**	⇑P	**Pn**	**21 08 53.7**	**-1.4**
	baz=1.5,SNR=22						
JRSC				⇑S	**Sn**	**21 09 13.6**	**-0.6**
	baz=1.5						
R04C	**Big Horse Ranc**	**1.56**	**108**	⇓P	**Pn**	**21 08 55.0**	**-1.9**
	baz=1.6						
LAVA	**Lava Cap Winer**	**1.63**	**90**	⇑P	**Pn**	**21 08 56.5**	**-1.3**
	baz=1.6						
BNLO	**Ben Lomond (Sa**	**1.71**	**162**	⇑P	**Pn**	**21 08 57.2**	**-1.7**
	baz=1.7						
S04C	**Ingram Canyon,**	**1.72**	**136**	⇑P	**Pn**	**21 08 58.1**	**-1.0**
	baz=1.7						
P05C	**Yuba Gap, Truc**	**1.81**	**72**	⇑P	**Pn**	**21 08 59.4**	**-0.9**
	baz=1.8						
WDC	**Whiskeytown Da**	**1.83**	**7**	*e*Pn	**Pn**	**21 08 59.4**	**-1.2**
WDC	**Whiskeytown Da**	**1.83**	**7**	⇓P	**Pn**	**21 08 59.5**	**-1.1**
	baz=1.8,SNR=24						
O05C	**Quincy**	**1.90**	**50**	⇓P	**Pn**	**21 09 00.7**	**-0.9**
	baz=1.9						
CMB	**Columbia Colle**	**2.05**	**110**	*e*Pn	**Pn**	**21 09 02.9**	**-0.7**
CMB	**Columbia Colle**	**2.05**	**110**	⇓P	**Pn**	**21 09 02.9**	**-0.7**
	baz=2.0,SNR=134						
CMB				⇑S	**Sn**	**21 09 29.8**	**+0.5**
	baz=2.0						
O04C	**Chester**	**2.05**	**40**	⇓P	**Pn**	**21 09 03.3**	**-0.4**
	baz=2.0						
N02C	**Big Bar**	**2.09**	**350**	⇓P	**Pn**	**21 09 03.4**	**-0.8**
	baz=2.1						
PACP	**Pacheco Peak**	**2.13**	**145**	⇓P	**Pn**	**21 09 04.3**	**-0.5**
	baz=2.1,SNR=18						
R05C	**Kirkwood Meado**	**2.15**	**91**	⇓P	**Pn**	**21 09 05.2**	**+0.2**
	baz=2.1						
BEKR	**Beckwourth**	**2.21**	**59**	⇓P	**Pn**	**21 09 06.1**	**+0.3**
	baz=2.2						
BEKR				⇓S	**Sn**	**21 09 32.4**	**-0.8**
	baz=2.2						
SAO	**San Andreas Ge**	**2.27**	**151**	*e*Pn	**Pn**	**21 09 05.4**	**-1.3**
HATC	**Hat Creek Radi**	**2.30**	**27**	⇓P	**Pn**	**21 09 07.7**	**+0.6**
	baz=2.3						
S05C	**Merced**	**2.42**	**125**	⇓P	**Pn**	**21 09 08.3**	**-0.5**
	baz=2.4						
S05C				⇓S	**Sn**	**21 09 38.5**	**-0.1**
	baz=2.4						
WCN	**Washoe City**	**2.45**	**76**	⇑P	**Pn**	**21 09 09.5**	**+0.4**
	baz=2.4						
WCN				⇓S	**Sn**	**21 09 40.8**	**+1.6**
	baz=2.4						
P06A	**Stead Airport,**	**2.45**	**67**	⇑P	**Pn**	**21 09 09.6**	**+0.5**
	baz=2.4						
ELFS	**Eagle Lake Fie**	**2.46**	**40**	⇑P	**Pn**	**21 09 09.7**	**+0.5**
	baz=2.4						
M02C	**Callahan**	**2.62**	**359**	⇑P	**Pn**	**21 09 11.0**	**-0.6**
	baz=2.6						
O06A	**Flanigan**	**2.71**	**58**	⇓P	**Pn**	**21 09 12.7**	**0.0**
	baz=2.7						
KRMB	**Red Mountain**	**2.88**	**344**	*e*Pn	**Pn**	**21 09 15.0**	**0.0**
U04C	**Hernandez Rese**	**2.89**	**145**	⇑P	**Pn**	**21 09 14.7**	**-0.5**
	baz=2.9						
M05C	**Lookout**	**2.89**	**26**	⇓P	**Pn**	**21 09 15.6**	**+0.4**
	baz=2.9						
YBH	**Yreka Blue Hor**	**2.97**	**2**	*e*Pn	**Pn**	**21 09 17.2**	**+1.0**
YBH	**Yreka Blue Hor**	**2.97**	**2**	⇑P	**Pn**	**21 09 16.7**	**+0.4**
	baz=2.9						
V03C	**Hunter Liggett**	**3.02**	**155**	⇑P	**Pn**	**21 09 16.5**	**-0.4**
	baz=3.0						
T06C	**Millerton Lake**	**3.02**	**124**	⇓P	**Pn**	**21 09 17.4**	**+0.4**
	baz=3.0						
M06C	**Likely Place G**	**3.03**	**36**	⇑P	**Pn**	**21 09 17.3**	**+0.2**
	baz=3.0						
N06A	**Buffalo Meadow**	**3.04**	**48**	⇑P	**Pn**	**21 09 17.1**	**-0.1**
	baz=3.0						
R07C	**Lee Vining**	**3.04**	**102**	⇓P	**Pn**	**21 09 18.3**	**+1.1**
	baz=3.0						
M04C	**Macdoel**	**3.11**	**14**	⇓P	**Pn**	**21 09 18.8**	**+0.7**
	baz=3.1						
KCC	**Kaiser Creek**	**3.12**	**116**	⇓P	**Pn**	**21 09 18.9**	**+0.6**
	baz=3.1						
KCC				⇑S	**Sn**	**21 09 55.8**	**+0.1**
	baz=3.1						
M01C	**Crescent City**	**3.24**	**343**	⇑P	**Pn**	**21 09 20.7**	**+0.7**
	baz=3.2						
PKD	**Parkfield**	**3.35**	**146**	⇑P	**Pn**	**21 09 20.8**	**-0.7**
	baz=3.4,SNR=12						
NVAR	**Mina Array Bea**	**3.56**	**94**	Pn	**Pn**	**21 09 24.9**	**+0.6**
	6.6nm,0.3s,baz=38,slow=14,SNR=72						
NVAR				Pg	**Pg**	**21 09 32.4**	**-4.6**
	36nm,0.3s,baz=28,slow=13,SNR=63						
NVAR				Lg		21 10 24.5	
	18nm,0.3s,baz=51,slow=32,SNR=3.7						
N07B	**Gerlach**	**3.59**	**55**	⇑P	**Pn**	**21 09 24.6**	**-0.1**
	baz=3.5						
KBO	**Bosley Butte**	**3.61**	**343**	*e*Pn	**Pn**	**21 09 24.7**	**-0.3**
KBO				*e*Pg	**Pg**	**21 09 43.0**	**+5.0**
MTUM	**Tungsten Hills**	**3.64**	**111**	*e*Pn	**Pn**	**21 09 26.9**	**+1.4**
MTUM				*e*Sn	**Sn**	**21 10 10.8**	**+2.1**
HELL	**Mitchell Peak**	**3.66**	**123**	⇓P	**Pn**	**21 09 26.4**	**+0.6**
	baz=3.7						
MOD	**Modoc**	**3.68**	**31**	*e*Pn	**Pn**	**21 09 26.1**	**+0.1**
MOD	**Modoc**	**3.68**	**31**	⇓P	**Pn**	**21 09 26.4**	**+0.3**
	baz=3.6						
P08A	**Dixie Valley**	**3.80**	**74**	⇓P	**Pn**	**21 09 27.9**	**+0.3**
	baz=3.8						
HUMO	**Hull Mountain**	**3.84**	**359**	*e*Pn	**Pn**	**21 09 30.1**	**+1.9**
HUMO				*e*Pg	**Pg**	**21 09 43.8**	**+1.3**
S08C	**White Mtn Res**	**3.88**	**108**	⇓P	**Pn**	**21 09 29.5**	**+0.7**
	baz=3.9						
TIN	**Tinemaha**	**4.01**	**114**	⇑Sb	**Sb**	**21 10 31.1**	**+2.6**
	baz=4.0						
N08A	**GE Springer Mi**	**4.14**	**59**	⇓P	**Pn**	**21 09 32.6**	**+0.2**
	baz=4.1						
VES	**Vestal, Richgr**	**4.17**	**133**	⇑P	**Pn**	**21 09 32.6**	**-0.2**
	baz=4.2						
L07A	**Adell**	**4.20**	**38**	⇓P	**Pn**	**21 09 33.4**	**+0.2**
	baz=4.2						
KEBM	**Edson Butte**	**4.26**	**345**	Pn	**Pn**	**21 09 35.1**	**+1.1**
Q09A	**Carvers**	**4.41**	**87**	⇑P	**Pn**	**21 09 36.9**	**+0.9**
	baz=4.4						
R09A	**Tonopah**	**4.54**	**95**	⇓P	**Pn**	**21 09 38.1**	**+0.2**
	baz=4.5						
PKM	**Peak Mountain**	**4.55**	**147**	⇓P	**Pn**	**21 09 38.0**	**0.0**
	baz=4.6						
WVOR	**Wild Horse Val**	**4.86**	**40**	*e*Pn	**Pn**	**21 09 41.3**	**-0.9**
WVOR				*e*Pg	**Pg**	**21 09 56.3**	**-5.5**
P10A	**Eureka**	**5.01**	**78**	⇑P	**Pn**	**21 09 44.7**	**+0.3**
	baz=5.0						
Q10A	**Clear Creek Ra**	**5.02**	**87**	⇓P	**Pn**	**21 09 44.8**	**+0.3**
	baz=5.0						
MPMC	**Manual Prospec**	**5.03**	**121**	⇑P	**Pn**	**21 09 45.0**	**+0.4**
	baz=5.0						
EDW2	**Edwards Air Fo**	**5.48**	**134**	⇓P	**Pn**	**21 09 51.0**	**+0.2**
	baz=5.5						
TPNV	**Topopah Spring**	**5.51**	**107**	Pn	**Pn**	**21 09 50.1**	**-1.1**
	28nm,0.8s						
GSC	**Goldstone**	**5.92**	**124**	*e*Pn	**Pn**	**21 09 58.1**	**+1.2**
	14nm,0.8s						
P12A	**McGill**	**6.20**	**81**	⇓P	**Pn**	**21 10 01.2**	**+0.6**
	baz=6.2						
HEC	**Hector,Ludlow**	**6.52**	**125**	⇑P	**Pn**	**21 10 05.3**	**+0.2**
	baz=6.5						
PFO	**Pinyon Flat Ob**	**7.28**	**133**	*e*Pn	**Pn**	**21 10 15.8**	**+0.4**
	6.5nm,0.6s						
CCUT	**Cedar City**	**7.55**	**96**	Pn	**Pn**	**21 10 16.7**	**-2.6**
BGU	**Big Grassy Mou**	**7.84**	**71**	*e*Pn	**Pn**	**21 10 15.2**	**-7.9**
MSU	**Marysvale**	**8.34**	**88**	*e*Pn	**Pn**	**21 10 28.6**	**-1.4**
GLA	**Glanis**	**8.63**	**129**	*e*Pn	**Pn**	**21 10 33.1**	**-1.0**
	5.6nm,0.4s						
CTU	**Camp Tracy**	**8.75**	**74**	*e*Pn	**Pn**	**21 10 34.6**	**-1.0**
	14nm,0.6s						
PDAR	**Pinedale Array**	**10.82**	**64**	Pn	**Pn**	**21 11 10.4**	**+6.3**
	baz=247,slow=14,SNR=4.5						
PDAR				Lg		21 14 16.4	
	0.1nm,0.3s,baz=345,slow=17,SNR=2.3						
EDM	**Edmonton**	**15.87**	**21**	*e*Pn	**Pn**	**21 12 12.3**	**0.0**
TXAR	**Lajitas Array**	**18.42**	**115**	Pn	**Pn**	**21 12 48.5**	**+3.9**
	0.1nm,0.3s,baz=298,slow=11,SNR=26						
TXAR				LR	LR	21 20 58.3	
	comp=Z,256nm,18.2s,baz=95,slow=41						
YKA	**Yellowknife Ar**	**24.28**	**9**	P	**P**	**21 13 48.2**	**+1.9**
YKA				LR	LR	21 25 05.2	
YKA	**Yellowknife Ar**	**24.28**	**9**	P	**P**	**21 13 48.2**	**+1.9**
	0.2nm,0.4s,baz=192,slow=10.0,SNR=4.9						
YKA				LR	LR	21 25 05.2	
	comp=Z,209nm,21.2s,baz=185,slow=41						
SCHQ	**Schefferville**	**40.40**	**48**	LR	LR	21 32 25.8	
	comp=Z,143nm,19.7s,MS3.8,baz=66,slow=35						
ARCES	**ARCESS Array B**	**69.53**	**11**	LR	LR	21 52 23.0	
	comp=Z,64nm,18.7s,MS3.9,baz=166,slow=38						
NOA	**NORSAR Array B**	**73.73**	**21**	LR	LR	21 52 44.8	
	comp=Z,57nm,18.2s,MS3.9,baz=0.0,slow=36						
FINES	**FINESS Array B**	**76.99**	**15**	P	**P**	**21 20 24.9**	**+3.3**
	1.2nm,0.8s,mb3.9,baz=342,slow=8.7,SNR=5.4						
FINES				LR	LR	21 54 13.3	
	comp=Z,70nm,18.8s,MS4.0,baz=333,slow=36						
CN2	**Changchun**	**77.26**	**316**	*e*P	**P**	**21 20 25.4**	**+1.8**
KSRS	**Korea Array**	**80.07**	**310**	LR	LR	21 50 54.3	
	comp=Z,40nm,19.6s,MS3.8,baz=54,slow=32						
SONM	**Songino Array**	**83.30**	**329**	P	**P**	**21 20 59.1**	**+3.0**
	0.5nm,0.6s,mb3.7,baz=40,slow=3.1,SNR=6.1						
ZALV	**Zalesovo Beam**	**84.63**	**344**	LR	LR	22 02 04.3	
	comp=Z,51nm,18.6s,MS3.9,baz=58,slow=38						
GERES	**GERESS Array B**	**84.64**	**27**	LR	LR	21 59 03.7	
	comp=Z,106nm,18.4s,MS4.3,baz=294,slow=36						
HHC	**Hu-ho-hao-te**	**86.51**	**322**	*e*P	**P**	**21 21 10.6**	**-1.7**
HHC				PP	PP	21 24 34.3	+1.2
HHC				SKS		21 31 35.4	
HHC				S	S	21 31 47.5	-1.4
HHC				AMB	AMB		
	comp=Z,13nm,0.4s,mb5.5						
HHC				AMB	AMB		
	comp=Z,115nm,4.7s						
HHC				LR	LR		
	comp=N,144nm,14.7s,MS4.6						
HHC				LR	LR		
	comp=E,88nm,15.7s,MS4.6						
HHC				LR	LR		
	comp=Z,74nm,6.8s						
BDFB	**Brasilia**	**88.26**	**112**	LR	LR	22 03 52.4	
	comp=Z,67nm,18.3s,MS4.1,baz=345,slow=38						
CPUP	**Villa Florida**	**89.09**	**125**	LR	LR	22 06 12.9	
	comp=Z,98nm,18.4s,MS4.3,baz=80,slow=39						
MKAR	**Makanchi Array**	**91.91**	**343**	LR	LR	22 06 08.1	
	comp=Z,62nm,18.8s,MS4.1,baz=175,slow=38						
WMQ	**Urumqi**	**93.28**	**338**	*e*P	**P**	**21 21 45.8**	**+1.7**
WMQ				LR	LR		
	comp=Z,116nm,21.4s,MS4.3						
LZH	**Lanzhou**	**93.95**	**324**	*e*P	**P**	**21 21 46.5**	**-0.8**
LZH				AP	pP	21 21 51.3	+1.4
LZH				XP	sP	21 21 53.5	+2.7
LZH				PP	PP	21 25 34.6	+2.3
LZH				AMB	AMB		
	comp=Z,19nm,1.5s,mb5.3						
LZH				AMB	AMB		
	comp=Z,52nm,7.7s						
LZH				LR	LR		
	comp=E,295nm,18.6s						
LZH				LR	LR		
	comp=Z,412nm,20.5s,MS4.9						
CD2	**Chengdu**	**98.23**	**321**	*e*P	**P**	**21 22 06.8**	**-0.1**
CD2				PP	PP	21 26 08.4	+2.9
CD2				SKS		21 32 44.4	
CD2				S	S	21 33 31.1	-3.9
CD2				SS	SS	21 40 16.4	0.0
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb5.4						
CD2				AMB	AMB		
	comp=Z,20nm,8.8s						
GYA	**Guiyang**	**100.31**	**316**	P	Pdif	21 22 15.3	-0.7
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s						

*NEIC **24** 21:44:40.0±1.3, 1636S×7399W, h45km±11km, mb4.2/5, Error ellipse: s-maj=17.8km s-min=9.1km az=218.0*
*ISCJB **24** 21:44:41.1±1.4, 1644S±008×7407W±007, h66km±13km, mb3.9/8, Error ellipse: s-maj=15.8km s-min=7.1km az=35.7*
*BJI **24** 21:44:43.5, 1640S×7400W, h45km, mB5.1, Ms5.4, Msz5.0*
*IDC **24** 21:44:45.4±2.6, 1635S×7390W, h86km±23km, mb3.6/6, mb1 3.8/10, mb1mx3.7/18, mbtmp3.6/10, MS3.5/4, Ms1 3.5/4, ms1mx3.1/25, Error ellipse: s-maj=30.0km s-min=15.4km az=49.0*

ISC 24 21:44:44.9±1.1, 1639S±008×7398W±007, h83km±11km, n38, σ1º32/31, mb3.9/8, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARE	**Arequipa**	**2.39**	**92**	*e*P	**Pn**	**21 45 17.0**	**-5.0**
ARE				*e*S	**Sn**	**21 45 49.0**	**-1.5**
NNA	**Nana**	**5.18**	**327**	*e*Pn	**Pn**	**21 45 54.9**	**-5.0**
	64nm,0.4s						
NNA				*e*Sn	**Sn**	**21 46 57.9**	**-0.6**
NNA	**Nana**	**5.18**	**327**	P	**Pn**	**21 45 55.5**	**-4.5**
	3.5nm,0.3s,baz=131,slow=16,SNR=9.3						
NNA				S	**Sn**	**21 47 00.7**	**+2.2**
	13nm,0.3s,baz=200,slow=18,SNR=3.0						
LPAZ	**La Paz**	**5.61**	**90**	*e*Pn	**Pn**	**21 46 05.5**	**-0.3**
	46nm,0.6s						
LPAZ	**La Paz**	**5.61**	**90**	P	**Pn**	**21 46 05.6**	**-0.2**
	9.9nm,0.3s,baz=276,slow=9.7,SNR=117						
LPAZ				S	**Sn**	**21 47 18.4**	**+9.5**
	baz=238,slow=21,SNR=1.5						
ATAH	**Atahualpa**	**10.28**	**335**	P	**Pn**	**21 47 08.3**	**-1.2**
	0.8nm,0.3s,baz=105,slow=5.3,SNR=3.8						
ATAH				S	**Sn**	**21 49 05.8**	**+2.7**
	0.5nm,0.3s,baz=31,slow=18,SNR=2.1						
ATAH				LR	LR	21 51 32.4	
	comp=Z,139nm,20.0s,baz=85,slow=40						
SIV	**San Ignacio**	**12.40**	**90**	P	**Pn**	**21 47 33.3**	**-5.1**
	3.5nm,0.3s,baz=283,slow=14,SNR=12						
SIV				S	**Sn**	**21 49 56.7**	**+1.9**
	baz=303,slow=23,SNR=4.1						
CFAA	**Coronel Fontan**	**16.03**	**162**	P	**Pn**	**21 48 27.2**	**+1.9**
CFAA	**Coronel Fontan**	**16.03**	**162**	P	**Pn**	**21 48 27.2**	**+1.9**
	0.0nm,0.3s,baz=343,slow=9.1,SNR=6.8						
CPUP	**Villa Florida**	**18.38**	**125**	P	**Pn**	**21 48 52.6**	**-1.5**
	10nm,0.7s						
CPUP	**Villa Florida**	**18.38**	**125**	P	**Pn**	**21 48 55.0**	**+0.9**
	0.4nm,0.3s,baz=289,slow=8.7,SNR=4.8						
PLCA	**Paso Flores**	**24.44**	**174**	*e*P	**P**	**21 49 55.4**	**-0.4**
	9.6nm,1.2s,mb4.0						
PLCA	**Paso Flores**	**24.44**	**174**	P	**P**	**21 49 55.4**	**-0.4**
	3.8nm,1.0s,mb3.7,baz=7.5,slow=8.9,SNR=3.9						
BDFB	**Brasilia**	**24.96**	**92**	P	**P**	**21 50 00.3**	**-0.5**
	2.7nm,0.7s,mb3.8,baz=252,slow=18,SNR=9.8						
SDV	**Santo Domingo**	**25.32**	**8**	P	**P**	**21 50 06.6**	**+2.5**
	6.2nm,0.9s,mb4.0						
SDV	**Santo Domingo**	**25.32**	**8**	LR	LR	22 01 41.4	
	comp=Z,103nm,18.2s,baz=250,slow=40						
PCRV	**Puerto La Cruz**	**27.96**	**20**	LR	LR	22 02 47.4	
	comp=Z,194nm,18.4s,baz=304,slow=39						
JTS	**JuntasAbangare**	**28.64**	**337**	LR	LR	22 00 47.8	
	comp=Z,73nm,20.0s,baz=204,slow=34						
RCBR	**Riachuelo**	**38.73**	**79**	P	**P**	**21 52 00.7**	**-0.6**
TXAR	**Lajitas Array**	**53.74**	**328**	P	**P**	**21 53 57.9**	**-0.8**
	0.4nm,0.5s,mb3.7,baz=132,slow=9.1,SNR=3.7						
VNA2	**Neumayer--Watz**	**67.03**	**161**	*e*	**P**	**21 55 29.9**	**+1.2**
	baz=318,slow=7.8						
VNA2				*e*		21 55 35.4	
VNA2				*e*		21 55 42.0	
VNA2				*e*	pP	21 55 49.2	-1.0
PDAR	**Pinedale Array**	**67.34**	**332**	P	**P**	**21 55 30.7**	**-0.2**
	0.3nm,0.6s,m

CPUP	Villa Florida	12.00	131	P		Pn	22 04 55.8 -0.2
	0.4nm,0.3s,baz=321,slow=5.6,SNR=3.8						
BDFB	Brasilia	18.75	84	P		P	22 06 15.7 +1.2
	0.4nm,0.3s,baz=227,slow=17,SNR=5.5						
TRQA	Tornquist	19.87	167	P		P	22 06 25.8 -0.4
	3.9nm,0.9s						
SDV	Santo Domingo	27.58	353	*e*P		P	22 07 37.9 -0.7
	7.3nm,1.4s,mb4.1						
WMOK	Wichita Mounta	60.94	331	P		P	22 12 02.9 +1.4
	1.9nm,0.7s,mb3.8						
YKA	Yellowknife Ar	89.03	340	P		P	22 14 40.0 -1.2
YKA	Yellowknife Ar	89.03	340	P		P	22 14 40.0 -1.2
	0.2nm,0.5s,mb3.2,baz=129,slow=4.8,SNR=8.1						

MAN ***24*** *22:16:06, 19.06N×121.10E, h13km, mb4.5, ML3.3, MS3.2*
IDC 24 22:16:02.5±1.1, 1901N×12136E, h0km, mb3.5/5, mb1 3.7/5, mb1mx3.5/18, mbtmp3.5/5, MS2.8/1, Ms1 2.8/1, ms1mx2.6/23, Error ellipse: s-maj=78.5km s-min=21.1km az=69.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSRS	Korea Array	19.26	16	LR	LR	22 27 41.5	
	comp=Z,26nm,18.6s,baz=215,slow=36						
SONM	Songino Array	31.23	340	P		P	22 22 23.1 -0.5
	0.3nm,0.6s,baz=161,slow=9.5,SNR=4.4						
WRA	Warramunga Arr	40.75	161	P		P	22 23 44.3 -1.1
	0.4nm,0.8s,baz=342,slow=9.1,SNR=4.7						
MKAR	Makanchi Array	42.27	320	P		P	22 23 57.9 +0.2
	0.7nm,0.7s,baz=112,slow=9.3,SNR=6.7						
ASAR	Alice Springs	44.14	163	P		P	22 24 13.9 +0.9
	0.3nm,0.6s,baz=349,slow=8.6,SNR=6.9						
YKA	Yellowknife Ar	87.66	23	P		P	22 28 53.1 +0.4
	0.6nm,0.8s,baz=311,slow=4.5,SNR=5.6						

MAN ***24*** *22:35:21, 833N×12760E, h30km, mb4.4, ML3.3, MS3.1*
IDC 24 22:35:21.5±3.4, 797N×12657E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.4/18, mbtmp3.4/3, Error ellipse: s-maj=274.9km s-min=29.5km az=66.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	28.78	165	P		P	22 41 21.1 -0.1
	0.3nm,0.7s,baz=345,slow=9.6,SNR=2.8						
ASAR	Alice Springs	32.25	167	P		P	22 41 52.2 +0.3
	0.3nm,0.8s,baz=348,slow=7.7,SNR=3.6						
MKAR	Makanchi Array	54.03	324	P		P	22 44 47.6 0.0
	0.3nm,0.4s,baz=126,slow=7.4,SNR=4.2						

IDC ***24*** *22:44:17.3±0.7, 023N×12455E, h0km, mb4.0/9, mb1 4.2/9, mb1mx4.0/16, mbtmp4.0/9, MS3.5/1, Ms1 3.5/1, ms1mx2.7/24, Error ellipse: s-maj=55.2km s-min=15.2km az=72.0*
ISCJB ***24*** *22:44:23.9±3.1, 027N±0.10×1248E±0.1, h66km±30km, mb4.3/21, Error ellipse: s-maj=22.7km s-min=9.7km az=142.3*
NEIC ***24*** *22:44:25.4±1.9, 026N×12479E, h66km±19km, mb4.2/8, Error ellipse: s-maj=16.4km s-min=6.7km az=53.0*
ISC 24 22:44:25.2±2.6, 026N±010×1249E±01, h62km±26km, n34, σ0972/32, mb4.4/21, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	Kupang	10.46	186	LR	LR	22 50 49.1	
	comp=Z,268nm,19.2s,baz=134,slow=38						
KSM	Kuching	14.59	275	Pn		Pn	22 47 48.1 -0.3
KAKA	Kakadu	14.92	150	*e*P		Pn	22 47 51.9 -0.8
	9.9nm,0.6s						
FITZ	Fitzroy Crossi	18.26	178	Pn		Pn	22 48 34.5 +0.1
	5.9nm,0.8s						
MBWA	Marble Bar	21.86	193	*e*P		P	22 49 13.6 +0.6
	3.8nm,0.6s,mb4.0						
WRAB	Tennant Creek	22.12	156	*e*P		P	22 49 15.5 -0.2
	4.0nm,0.8s,mb3.9						
WRAB				PcP	PcP	22 53 12.8 +1.6
WRA	Warramunga Arr	22.12	156	P		P	22 49 15.3 -0.4
	3.8nm,0.7s,mb3.9,baz=333,slow=11,SNR=38						
WRA				PcP	PcP	22 53 12.2 +1.0
	0.4nm,0.4s,baz=334,slow=2.1,SNR=7.2						
WB2	Warramunga Arr	22.13	156	*e*P		P	22 49 15.7 0.0
WB2				*e*PcP	PcP	22 53 12.7 +1.5
ASAR	Alice Springs	25.35	160	P		P	22 49 47.8 +1.2
	1.4nm,0.6s,mb3.7,baz=332,slow=6.5,SNR=34						
ASAR				PcP	PcP	22 53 19.3 +1.2
	1.1nm,0.4s,baz=352,slow=2.1,SNR=19						
STKA	Stephens Creek	35.67	155	P		P	22 51 17.6 0.0
	1.2nm,0.4s,mb4.2,baz=324,slow=9.6,SNR=4.1						
KSRS	Korea Array	37.12	4	P		P	22 51 30.1 +0.3
	1.3nm,0.5s,mb4.0,baz=177,slow=11,SNR=4.8						
MJAR	Matsushiro Arr	38.17	18	P		P	22 51 39.5 +0.8
	2.3nm,0.8s,mb3.9,baz=196,slow=8.5,SNR=6.5						
LSA	Lhasa	43.45	315	*e*P		P	22 52 23.1 +0.8
	2.8nm,0.5s,mb4.2						
GUN	Gumba	46.36	310	*e*P		P	22 52 46.1 +0.6
	12nm,0.4s,mb5.2						
PKI	Pulchoki	46.56	309	*e*P		P	22 52 47.7 +0.6
KKN	Kakani	46.77	309	*e*P		P	22 52 49.0 +0.3
	3.5nm,0.4s,mb4.7						
DMN	Daman	46.81	309	*e*P		P	22 52 49.9 +0.8
	5.4nm,0.5s,mb4.8						
GKN	Gorkha	47.37	309	*e*P		P	22 52 54.0 +0.6
	5.9nm,0.3s,mb5.0						
KOLN	Koldanda	48.07	308	*e*P		P	22 52 59.3 +0.5
DANN	Dangsing	48.21	309	*e*P		P	22 53 00.4 +0.5
	32nm,0.6s,mb5.5						
SONM	Songino Array	50.03	344	P		P	22 53 13.7 +0.3
	0.6nm,0.5s,mb3.9,baz=155,slow=8.5,SNR=7.9						
MK31	Makanchi Array	59.38	327	*e*P		P	22 54 20.8 -0.4
MKAR	Makanchi Array	59.38	327	P		P	22 54 21.1 -0.1
	1.2nm,0.4s,mb4.3,baz=119,slow=7.9,SNR=37						
MKAR				PcP	PcP	22 55 09.0 +0.5
	0.5nm,0.6s,baz=115,slow=4.6,SNR=2.7						
TKM2	Tokmak 2	61.15	321	*e*P		P	22 54 33.1 -0.2
	1.5nm,0.4s,mb4.5						
UCH	Uchtor	61.51	319	*e*P		P	22 54 35.1 -0.6
	1.0nm,0.6s,mb4.1						
AAK	Ala-Archa	61.72	320	*e*P		P	22 54 36.3 -0.9
KBL	Kabul	62.20	309	*e*P		P	22 54 40.0 -0.6
	6.8nm,0.6s,mb5.0						
ZALV	Zalesovo Beam	62.86	335	P		P	22 54 42.6 -1.9
	0.6nm,0.3s,mb4.2,baz=117,slow=5.8,SNR=4.5						
KURK	Kurchatov	63.69	329	*e*P		P	22 54 49.5 -0.6
	6.7nm,0.4s,mb5.0						
ARU	Arti	76.87	329	P		P	22 56 09.7 -0.8
MALT	Malatya	87.03	308	P		P	22 57 02.4 -1.8
COLA	College	88.62	25	P		P	22 57 12.1 +0.9
ARCES	ARCESS Array B	93.04	340	P		P	22 57 31.8 +0.1
	1.3nm,0.7s,mb4.5,baz=81,slow=6.5,SNR=2.9						
ESLA	Sonseca Array	118.75	317	PKPdf		PKPdf	23 03 07.2 +0.4

CSEM ***24*** *22:46:56.3, 3489N×2322E, h10km, MD3.5/3, After ATH*
ATH 24 22:46:56.8, 3492N×2324E, h10km, MD3.5/3, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVD	Gavdhos	0.70	96	*e*PB	Pb	22 47 10.3	-0.8
GVD	Gavdhos	0.70	96	*e*Pb	Pb	22 47 10.0	-1.1
VAM	Vamos	0.92	58	*e*PB	Pb	22 47 14.5	-0.4
VLI	Veliai	1.81	352	*e*PN	Pn	22 47 30.1	+2.1
VLI	Veliai	1.81	352	*e*Pn	Pn	22 47 30.0	+2.0

MOS ***24*** *22:47:09.2±1.0, 2898N×4310W, h10km, mb4.7/36, MS4.2/22, Error ellipse: s-maj=11.6km s-min=4.9km az=45.8*
ISCJB ***24*** *22:47:09.6±0.4, 2899N±008×4313W±004, h10km, mb4.5/83, MS4.3/48, Error ellipse: s-maj=11.7km s-min=4.2km az=171.1*
IDC ***24*** *22:47:09.1±0.6, 2894N×4314W, h0km, mb4.0/18, mb1 4.2/18, mb1mx4.1/27, mbtmp4.0/18, MS4.2/26, Ms1 4.2/26, ms1mx4.2/26, Error ellipse: s-maj=19.9km s-min=14.3km az=148.0*
NEIC ***24*** *22:47:11.2±0.4, 2895N×4310W, h10km, mb4.7/53, MS4.4/7, Error ellipse: s-maj=11.8km s-min=4.3km az=170.0*
GCMT ***24*** *22:47:11.2±0.2, 2912N×4324W, h12km, MW5.0/88, Moment Tensor Solution. s29,c33; s88,c140; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-4.28±.09; $M_{\theta\theta}$0.80±.09; $M_{\phi\phi}$3.48±.08; $M_{r\theta}$2.00±.38; $M_{\theta\phi}$1.01±.07; $M_{r\phi}$0.38±.27; Best double couple; $M_0$4.46300×10^{16} NP1:ϕ_s3.00000°, δ40.00000°, λ-117.00000°. NP2: ϕ_s218.00000°, δ55.00000°, λ-69.00000°. Principal axes: T 3.9530, Plg8.0000°, Azm292.0000°; N 1.0200, Plg17.0000°, Azm25.0000°; P -4.9730, Plg71.0000°, Azm179.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
BJI ***24*** *22:47:11.2, 2890N×4310W, h10km, mB5.5, mb5.0, Ms5.0, Msz4.6*
SZGRF ***24*** *22:47:17.4, 2948N×4290W, h33km, mb4.9, MS4.4, Northern Mid-Atlantic Ridge*
ISC 24 22:47:11.5±0.4, 2900N±008×4309W±004, h10km, n254, σ1§10/235, mb4.5/83, MS4.3/48, 12C-7D, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMAR	Madeira	22.76	74	*e*P		P	22 52 16.7 +2.7
	104nm,2.0s,mb4.9						
PCRV	Puerto La Cruz	27.52	231	LR	LR	23 01 54.5	
	comp=Z,213nm,21.4s,MS3.7,baz=60,slow=32						
BBTS	Babate	28.39	114	LR	LR	23 01 54.1	
	comp=Z,1μm,19.7s,MS4.4,baz=140,slow=31						
PMAFR	Mafra	29.60	61	*e*LR	LR	23 00 24.0	
	661nm,23.3s						
PFVI	Vila Bisbo	29.72	65	*e*LR	LR	23 00 46.4	
	921nm,17.5s						
MORF	Marmelete	29.88	65	*e*LR	LR	23 00 50.8	
	1μm,18.4s						
PBDV	Barranco-do-Ve	30.44	65	*e*LR	LR	23 01 09.8	
	999nm,16.6s						
EVO	Evora	30.52	63	*e*P		P	22 53 24.1 -0.8
	3.8nm,0.6s,mb4.1						
EVO				*e*MLR	MLR		
	comp=Z,911nm,19.8s,MS4.1						
PBEJ	Beja	30.57	64	*e*P		P	22 53 30.8 +5.4
	comp=Z,24nm,1.4s,mb4.8						
PVAQ	Vaqueiros	30.62	65	*e*LR	LR	23 00 59.7	
	comp=Z,986nm,20.9s						
PESTR	Estremoz	30.89	62	*e*LR	LR	23 01 13.4	
	comp=Z,627nm,23.4s						
SCHQ	Schefferville	30.99	333	LR	LR	23 04 40.8	
	comp=Z,436nm,21.7s,MS4.1,baz=265,slow=34						
PCBR	Castelo Branco	31.12	60	*e*P		P	22 53 36.3 +6.1
	comp=Z,22nm,1.9s,mb4.7						
MTE	Manteigas	31.17	59	*e*P		P	22 53 36.7 +6.1
	comp=Z,25nm,1.4s,mb4.9						
MTE				*e*LR	LR	23 00 55.0	
	comp=Z,795nm,16.4s						
MTE	Manteigas	31.17	59	*e*P		P	22 53 32.9 +2.2
	comp=Z,11nm,0.8s,mb4.8						
PVRL	Vila Real	31.21	57	*e*P		P	22 53 32.0 +1.1
	comp=Z,26nm,2.0s,mb4.7						
PBAR	Barrancos	31.24	63	*e*LR	LR	23 01 27.0	
	comp=Z,864nm,23.6s						
EBAD	Badajoz	31.32	62	P		P	22 53 35.9 +3.9
	comp=Z,3.6nm,1.1s,mb4.1						
MVO	Moncorvo	31.69	58	*e*LR	LR	23 01 47.5	
	comp=Z,568nm,22.7s						
SDV	Santo Domingo	32.69	238	P		P	22 53 44.6 +0.3
	comp=Z,13nm,1.2s,mb4.7						
SDV				*e*		22 53 50.2	
MDT	Midelt	33.11	74	LR	LR	23 04 05.1	
	comp=Z,907nm,21.5s,MS4.5,baz=264,slow=31						
ESDC	Sonseca Array	33.78	61	P		P	22 53 53.0 -0.5
	comp=Z,1.4nm,1.0s,mb3.9,baz=267,slow=8.9,SNR=5.6						
ESDC				LR	LR	23 04 19.3	
	comp=Z,342nm,19.6s,MS4.1,baz=265,slow=30						
ESLA	Sonseca Array	33.78	61	*e*P		P	22 53 55.6 +2.0
	comp=Z,0.7nm,0.8s,mb3.6						
ETOR	Torete	35.36	59	P		P	22 54 10.4 +3.2
	comp=Z,5.3nm,0.9s,mb4.5						
ETOR	Torete	35.36	59	P		P	22 54 10.4 +3.2
ETOR				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.4						
QUIF	Quistinic	36.03	47	*e*P		P	22 54 11.7 -1.1
	comp=Z,97nm,1.5s,mb5.2						
QUIF	Quistinic	36.03	47	*e*P		P	22 54 11.7 -1.1
	comp=Z,48nm,1.5s,mb5.2						
QUIF	Quistinic	36.03	47	*e*P		P	22 54 11.7 -1.1
QUIF				pmax	pmax		
	comp=Z,48nm,1.5s,mb5.2						
ROSF	Rostrenen	36.08	47	*e*P		P	22 54 12.7 -0.6
	comp=Z,110nm,1.6s,mb5.2						
ROSF	Rostrenen	36.08	47	*e*P		P	22 54 12.7 -0.6
	comp=Z,55nm,1.5s,mb5.3						
ROSF	Rostrenen	36.08	47	*e*P		P	22 54 12.7 -0.6
ROSF				pmax	pmax		
	comp=Z,55nm,1.5s,mb5.3						
SJPF	Ste Jean	36.28	56	*e*P		P	22 54 14.6 -0.4
SGMF	Saint Gilles	36.52	47	*e*P		P	22 54 16.0 -1.0
	comp=Z,122nm,1.7s,mb5.2						
SGMF	Saint Gilles	36.52	47	*e*P		P	22 54 16.0 -1.0
	comp=Z,61nm,1.7s,mb5.2						
SGMF	Saint Gilles	36.52	47	*e*P		P	22 54 16.0 -1.0
SGMF				pmax	pmax		
	comp=Z,61nm,1.7s,mb5.2						
ERTA	Horta de San J	37.18	59	P		P	22 54 24.8 +2.1
	comp=Z,5.1nm,0.8s,mb4.4						
EBIE	Bielsa	37.22	57	P		P	22 54 25.5 +2.5
	comp=Z,3.6nm,0.6s,mb4.4						
EPF	Esparros	37.40	56	*e*P		P	22 54 24.0 -0.6
	comp=Z,12nm,1.1s,mb4.3						
EPF	Esparros	37.40	56	*e*P		P	22 54 24.0 -0.6
	comp=Z,5.9nm,1.1s,mb4.3						
EPF	Esparros	37.40	56	*e*P		P	22 54 24.0 -0.6
EPF				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.3						
GRR	Gorron	37.64	47	*e*P		P	22 54 25.8 -0.8
MFF	Saint Martin d	37.68	50	*e*P		P	22 54 25.8 -1.1
	comp=Z,27nm,1.0s,mb4.6						
MFF	Saint Martin d	37.68	50	*e*P		P	22 54 25.8 -1.1
	comp=Z,14nm,1.0s,mb4.6						
MFF	Saint Martin d	37.68	50	*e*P		P	22 54 25.8 -1.1
MFF				pmax	pmax		
	comp=Z,14nm,1.0s,mb4.7						
EPOB	Poblet	37.77	59	P		P	22 54 29.3 +1.5
	comp=Z,9.5nm,0.9s,mb4.5						
EIBI	Ibiza	37.85	63	P		P	22 54 31.4 +3.0
	comp=Z,10nm,1.1s,mb4.5						
LFF	La Frestale	37.97	53	*e*P		P	22 54 28.5 -0.9
	comp=Z,24nm,0.9s,mb4.6						
LFF	La Frestale	37.97	53	*e*P		P	22 54 28.5 -0.9
	comp=Z,12nm,0.9s,mb4.6						
LFF	La Frestale	37.97	53	*e*P		P	22 54 28.5 -0.9
LFF				pmax	pmax		
	comp=Z,12nm,0.9s,mb4.6						
FLN	La Foliniere	37.98	47	*e*P		P	22 54 28.3 -1.1
FLN				*e*MLR	MLR		
	comp=Z,721nm,21.0s,MS4.2						
FLN	La Foliniere	37.98	47	*e*P		P	22 54 28.3 -1.1
FLN				MLR	MLR		
	comp=Z,720nm,21.0s,MS4.5						
LDF	La Druitiere	38.17	47	*e*P		P	22 54 29.9 -1.1
	comp=Z,21nm,1.0s,mb4.5						
LDF	La Druitiere	38.17	47	*e*P		P	22 54 29.9 -1.1
	comp=Z,11nm,1.0s,mb4.5						
LDF	La Druitiere	38.17	47	*e*P		P	22 54 29.9 -1.1
LDF				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.5						
RJF	Les Rejaudoux	38.57	53	*e*P		P	22 54 33.7 -0.8
RJF				*e*MLR	MLR		
	comp=Z,876nm,20.8s,MS4.3						
RJF	Les Rejaudoux	38.57	53	*e*P		P	22 54 33.7 -0.8
RJF				MLR	MLR		
	comp=Z,880nm,20.8s,MS4.6						
MTLF	Montolieu	38.80	56	*e*P		P	22 54 35.3 -1.1
	comp=Z,29nm,1.3s,mb4.6						
MTLF	Montolieu	38.80	56	*e*P		P	22 54 35.3 -1.1
	comp=Z,15nm,1.3s,mb4.5						
MTLF	Montolieu	38.80	56	*e*P		P	22 54 35.3 -1.1
MTLF				pmax	pmax		
	comp=Z,15nm,1.3s,mb4.6						
CAF	Calviac	38.90	53	*e*P		P	22 54 36.3 -0.9
	comp=Z,35nm,1.4s,mb4.6						
CAF	Calviac	38.90	53	*e*P		P	22 54 36.3 -0.9
	comp=Z,17nm,1.4s,mb4.6						
CAF	Calviac	38.90	53	*e*P		P	22 54 36.3 -0.9
CAF				pmax	pmax		
	comp=Z,17nm,1.4s,mb4.6						
ETOS	Mallorca	39.01	62	P		P	22 54 40.0 +1.8
	comp=Z,7.7nm,1.0s,mb4.4						
EJON	La Jonquera	39.21	57	P		P	22 54 41.9 +2.1
	comp=Z,6.0nm,1.1s,mb4.2						
TCF	Toulx Ste Croi	39.22	51	*e*P		P	22 54 38.4 -1.4
	comp=Z,29nm,1.2s,mb4.6						
TCF	Toulx Ste Croi	39.22	51	*e*P		P	22 54 38.4 -1.4
	comp=Z,14nm,1.2s,mb4.6						
TCF	Toulx Ste Croi	39.22	51	*e*P		P	22 54 38.4 -1.4
TCF				pmax	pmax		
	comp=Z,14nm,1.2s,mb4.6						
LASF	Ste Croix	40.06	55	*e*P		P	22 54 46.1 -0.8
AVF	Avril sur Loir	40.08	51	*e*P		P	22 54 46.0 -1.0
PLDF	La Plantade	40.13	52	*e*P		P	22 54 45.5 -2.0
SSF	Saint Saulge	40.23	50	*e*P		P	22 54 47.3 -1.0
	comp=Z,18nm,1.2s,mb4.4						
SSF	Saint Saulge	40.23	50	*e*P		P	22 54 47.3 -1.0
	comp=Z,9.1nm,1.2s,mb4.4						
SSF	Saint Saulge	40.23	50	*e*P		P	22 54 47.3 -1.0
SSF				pmax	pmax		
	comp=Z,9.0nm,1.2s,mb4.4						
SMF	Signal de Mont	40.39	51	*e*P		P	22 54 48.9 -0.7
	comp=Z,38nm,1.1s,mb4.8						
SMF	Signal de Mont	40.39	51	*e*P		P	22 54 48.9 -0.7
	comp=Z,19nm,1.1s,mb4.7						
SMF	Signal de Mont	40.39	51	*e*P		P	22 54 48.9 -0.7
SMF				pmax	pmax		
	comp=Z,19nm,1.1s,mb4.7						
LOR	Lormes	40.50	50	*e*P		P	22 54 49.7 -0.8
LOR				*e*MLR	MLR		
	comp=Z,405nm,20.8s,MS4.0						
LOR	Lormes	40.50	50	*e*P		P	22 54 49.7 -0.8
LOR				MLR	MLR		
	comp=Z,400nm,20.8s,MS4.2						
VIVF	Saint-Julien-l	40.73	54	*e*P		P	22 54 51.7 -0.7
CCM	Cathedral Cave	40.76	296	*e*P		P	22 54 51.1 -1.7
	comp=Z,2.4nm,0.8s,mb3.9						
CCM	Cathedral Cave	40.76	296	*e*P		P	22 54 51.1 -1.7
CCM				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb3.8						
BAIF	Baives	41.27	46	*e*P		P	22 54 56.0 -0.8
SMRF	Simiane la Rot	41.29	55	*e*P		P	22 54 56.2 -0.9
	comp=Z,27nm,1.3s,mb4.4						
SMRF	Simiane la Rot	41.29	55	*e*P		P	22 54 56.2 -0.9
	comp=Z,27nm,1.3s,mb4.7						
MEZF	Maizieres J'vi	41.51	48	*e*P		P	22 54 57.8 -1.0
	comp=Z,24nm,0.8s,mb4.6						
MEZF	Maizieres J'vi	41.51	48	*e*P		P	22 54 57.8 -1.0
	comp=Z,24nm,0.8s,mb4.9						
ORIF	Oris-en-Rattie	41.59	54	*e*P		P	22 54 58.7 -0.8
ORIF				*e*MLR	MLR		
	comp=Z,546nm,19.5s,MS4.1						
CABF	La Chapelle	41.92	51	*e*P		P	22 55 01.2 -1.0
	comp=Z,24nm,1.1s,mb4.4						
CABF	La Chapelle	41.92	51	*e*P		P	22 55 01.2 -1.0
	comp=Z,12nm,1.1s,mb4.4						
CABF	La Chapelle	41.92	51	*e*P		P	22 55 01.2 -1.0
CABF				pmax	pmax		
	comp=Z,12nm,1.1s,mb4.4						
LMR	La Mourre	41.92	56	*e*P		P	22 55 01.5 -0.8
	comp=Z,26nm,1.2s,mb4.4						
LMR	La Mourre	41.92	56	*e*P		P	22 55 01.5 -0.8
	comp=Z,13nm,1.2s,mb4.4						
LMR	La Mourre	41.92	56	*e*P		P	22 55 01.5 -0.8
LMR				pmax	pmax		
	comp=Z,13nm,1.2s,mb4.4						
FRF	La Foret Royal	42.04	56	*e*P		P	22 55 02.4 -0.8
	comp=Z,17nm,1.2s,mb4.3						
FRF	La Foret Royal	42.04	56	*e*P		P	22 55 02.4 -0.8
	comp=Z,8.6nm,1.2s,mb4.3						
FRF	La Foret Royal	42.04	56	*e*P		P	22 55 02.4 -0.8
FRF				pmax	pmax		
	comp=Z,9.0nm,1.2s,mb4.3						
BNI	Bardonecchia	42.16	54	*e*P		P	22 55 06.9 +2.7
	comp=Z,6.3nm,1.0s,mb4.2						
BNI	Bardonecchia	42.16	54	*e*P		P	22 55 06.9 +2.7
BNI				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.2						
MBDF	Montbardon	42.20	54	*e*P		P	22 55 03.9 -0.6
LPG	La Plagne	42.26	53	*e*P		P	22 55 04.4 -0.5
HAU	Haudompre	42.28	49	*e*P		P	22 55 04.4 -0.7
HAU				*e*MLR	MLR		
	comp=Z,452nm,21.2s,MS4.0						
HAU	Haudompre	42.28	49	*e*P		P	22 55 04.4 -0.7
HAU				MLR	MLR		
	comp=Z,450nm,21.3s,MS4.3						
DBIC	Dimbokro	42.34	114	LR	LR	23 09 58.6	
	comp=Z,1μm,20.9s,MS4.7,baz=273,slow=32						
WLF	Walferdange	42.42	47	P		P	22 55 07.8 +1.5
HINF	Hinteralfeld	42.59	50	*e*P		P	22 55 06.7 -0.9
SBF	Sospel	42.62	56	*e*P		P	22 55 07.2 -0.8
AUTN	L'Aution	42.62	55	*e*P		P	22 55 08.4 +0.4
SAOF	Saorge	42.72	55	*e*P		P	22 55 09.9 +1.2
CDF	Champ du Feu	42.95	49	*e*P		P	22 55 09.8 -0.8
FELD	Feldberg im Sc	43.37	50	*e*P		P	22 55 10.4 -3.5
BFO	Black Forest	43.64	49	*e*P		P	22 55 17.4 +1.3
BFO				pmax	pmax		
	comp=Z,16nm,1.2s,mb4.6						
BFO	Black Forest	43.64	49	*e*P		P	22 55 17.4 +1.3
	comp=Z,16nm,1.2s,mb4.6						
PGF	Pioggiola	43.73	58	*e*P		P	22 55 16.3 -0.6
	comp=Z,12nm,1.0s,mb4.3						
PGF	Pioggiola	43.73	58	*e*P		P	22 55 16.3 -0.6
	comp=Z,5.8nm,1.0s,mb4.3						
PGF	Pioggiola	43.73	58	*e*P		P	22 55 16.3 -0.6
PGF				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.3						
VSL	Villasalto	44.08	62	*e*P		P	22 55 19.8 0.0
	comp=Z,13nm,1.2s,mb4.5						
KEST	Kesra	44.37	67	P		P	22 55 21.6 -0.6
	comp=Z,3.6nm,0.9s,mb4.1,baz=194,slow=5.1,SNR=4.2						
KEST				LR	LR	23 10 52.1	
	comp=Z,134nm,21.1s,MS3.8,baz=200,slow=32						
AGMN	Agassiz Refuge	44.53	311	*e*P		P	22 55 24.0 +0.8
DAVOX	Davos/Dischmat	44.53	51	P		P	22 55 24.0 +0.7
	comp=Z,2.8nm,0.9s,mb4.1,baz=328,slow=9.7,SNR=3.3						
DAVA	Damuels	44.57	51	⇑*i*P		P	22 55 25.8 +2.2
	comp=Z,15nm,1.1s,mb4.8					

AQU pmax pmax
comp=Z,13nm,1.0s,mb4.8
CLL Collm 46.99 45 *e*S **S 23 02 43.0 +9.1**
CLL *e*SS SS 23 06 18.0 +17
WMOK Wichita Mounta 47.14 292 *e*P **P 22 55 44.8 +0.7**
KHC Kasperske Hory 47.17 48⇑ *e*P **P 22 55 44.8 +0.7**
KHC Kasperske Hory 47.17 48 *e*S **S 23 02 47.5 +11**
KHC AMS AMS 23 16 40.0
comp=Z,400nm,18.9s,MS4.4
GERES GERESS Array B 47.24 49 P **P 22 55 45.7 +1.1**
GERES pmax pmax
comp=Z,1.0nm,0.6s
GERES MLR MLR
comp=Z,219nm,20.1s
GERES GERESS Array B 47.24 49 P **P 22 55 45.7 +1.1**
comp=Z,0.6nm,0.6s,mb3.7,baz=281,slow=8.0,SNR=3.6
GERES LR LR 23 11 27.8
comp=Z,219nm,20.1s,MS4.1,baz=264,slow=31
BRG Berggiesshubel 47.54 46 *e*P **P 22 55 47.5 +0.6**
comp=Z,17nm,1.8s,mb4.8
BRG S **S 23 02 50.0 +8.2**
BRG
comp=N,257nm,22.6s
BRG
comp=E,389nm,19.4s
BRG
comp=Z,600nm,16.5s
RUE Ruedersdorf 47.60 44 P **P 22 55 48.6 +1.2**
NAO01 NORSAR Array S 47.72 32 P **P 22 55 50.3 +2.1**
PRU Pruhonice 47.85 47 *e*P **P 22 55 51.3 +1.9**
PRU *e*S **S 23 02 55.0 +8.7**
PRU AMS AMS 23 12 20.0
comp=Z,400nm,17.0s,MS4.5
PVCC Panska Ves 47.91 47 *e*S **S 23 02 51.9 +4.9**
PVCC AMS AMS 23 13 00.0
comp=Z,600nm,17.7s,MS4.6
NOA NORSAR Array B 47.93 32 P **P 22 55 49.8 0.0**
NOA pmax pmax
comp=Z,4.0nm,1.1s
NOA MLR MLR
comp=Z,109nm,21.2s
NOA NORSAR Array B 47.93 32 P **P 22 55 49.8 0.0**
comp=Z,3.8nm,1.1s,mb4.3,baz=254,slow=7.8,SNR=3.0
NOA LR LR 23 12 19.4
comp=Z,109nm,21.2s,MS3.8,baz=330,slow=32
SIV San Ignacio 47.98 204 P **P 22 55 49.3 -1.4**
comp=Z,1.2nm,0.8s,mb4.0,baz=52,slow=7.6,SNR=7.7
TREC Trest 48.43 48 *e*P **P 22 55 59.2 +5.3**
TREC AMS AMS 23 12 10.0
comp=Z,300nm,5.9s
JCT Junction City 48.81 286 *e*P **P 22 55 57.5 +0.4**
comp=Z,17nm,1.2s,mb4.9
JCT Junction City 48.81 286 *e*P **P 22 55 57.5 +0.4**
JCT pmax pmax
comp=Z,17nm,1.2s,mb5.0
UPC Upice 48.83 47 *e*P **P 22 55 55.1 -1.8**
DPC Dobruska-Polom 49.02 47 *e*P **P 22 55 57.6 -0.7**
DPC *e*S **S 23 03 14.9 +12**
DPC AMS AMS 23 14 30.0
comp=Z,500nm,19.4s,MS4.5
FFC Flin Flon 49.05 319 *e*P **P 22 55 58.3 -0.3**
MORC Moravsky Berou 49.78 48 *e*P **P 22 56 05.2 +1.0**
comp=Z,3.4nm,1.0s,mb4.3
MORC Moravsky Berou 49.78 48 *e*P **P 22 56 05.3 +1.1**
MORC pmax pmax
comp=Z,3.0nm,1.0s,mb4.3
OKC Ostrava-Krasne 50.18 48 *e*S **S 23 03 29.5 +11**
OKC AMS AMS 23 13 50.0
comp=Z,300nm,19.7s,MS4.3
PKSM Moragy 50.57 52⇓ *i*P **P 22 56 10.2 -0.1**
VYHS Vyhne 50.63 49 *e*P **P 22 56 10.4 -0.3**
LPAZ La Paz 51.11 211 P **P 22 56 13.1 -1.4**
LPAZ pmax pmax
comp=Z,2.0nm,1.0s
LPAZ MLR MLR
comp=Z,258nm,19.5s
LPAZ La Paz 51.11 211 P **P 22 56 13.1 -1.4**
comp=Z,2.1nm,1.0s,mb4.0,baz=26,slow=9.6,SNR=5.6
LPAZ LR LR 23 16 38.3
comp=Z,258nm,19.5s,MS4.3,baz=35,slow=35
PSZ Piszkesteto 51.35 50 P **P 22 56 15.7 -0.4**
KECS Kecovo 51.73 49 *e*P **P 22 56 20.9 +2.0**
SDCO Great Sand Dun 52.00 297 *e*P **P 22 56 24.8 +3.7**
TXAR Lajitas Array 52.35 286 P **P 22 56 21.8 -2.0**
TXAR pmax pmax
comp=Z,2.0nm,0.9s
TXAR MLR MLR
comp=Z,297nm,18.0s
TXAR Lajitas Array 52.35 286 P **P 22 56 21.8 -2.0**
comp=Z,2.1nm,0.9s,mb4.0,baz=99,slow=7.7,SNR=7.8
TXAR LR LR 23 18 41.0
comp=Z,297nm,18.0s,MS4.4,baz=5.0,slow=36
BZS Buzias 52.69 53⇓ *i*P **P 22 56 26.0 -0.1**
ANMO Albuquerque 53.30 294 *e*P **P 22 56 32.4 +1.6**
ANMO Albuquerque 53.30 294⇑ *e*P **P 22 56 31.3 +0.5**
DRGR 53.34 51⇑ *i*P **P 22 56 29.9 -1.0**
BNM Barren Site 53.61 293 *e*P **P 22 56 33.4 +0.3**
EGMT Eagleton 53.81 310 *e*P **P 22 56 35.0 +0.6**
comp=Z,20nm,1.1s,mb5.0
GCMT Greycliff 53.97 307 *e*P **P 22 56 34.5 -1.0**
LAZ Ladron 53.97 293 *e*P **P 22 56 35.7 0.0**
BW06 Boulder Array 54.28 304 *e*P **P 22 56 37.3 -0.5**
comp=Z,12nm,0.9s,mb4.8
PDAR Pinedale Array 54.28 304 P **P 22 56 37.4 -0.5**
comp=Z,4.0nm,0.8s,mb4.4,baz=87,slow=7.5,SNR=36
PDAR LR LR 23 17 47.7
comp=Z,846nm,19.8s,MS4.8,baz=109,slow=34
LOHW Long Hollow 54.91 305 *e*P **P 22 56 42.6 +0.2**
comp=Z,14nm,1.4s,mb4.8
MOOW Moose Ponds 54.99 305 *e*P **P 22 56 43.0 +0.1**
YMR Madison River 55.02 306 *e*P **P 22 56 42.5 -0.6**
comp=Z,36nm,1.5s,mb5.2
FINES FINESS Array B 55.07 33 P **P 22 56 42.9 -0.3**
FINES pmax pmax
comp=Z,2.0nm,0.9s
FINES MLR MLR
comp=Z,123nm,18.0s
FINES FINESS Array B 55.07 33 P **P 22 56 42.9 -0.4**
comp=Z,2.0nm,0.9s,mb4.1,baz=228,slow=4.9,SNR=5.3
FINES LR LR 23 16 39.5
comp=Z,123nm,18.0s,MS4.0,baz=276,slow=32
IMW Indian Meadow 55.11 305 *e*P **P 22 56 44.4 +0.5**
comp=Z,16nm,1.1s,mb5.0
REDW Red Top Meadow 55.13 305 *e*P **P 22 56 43.9 -0.1**
TPAW Teton Pass 55.18 305 *e*P **P 22 56 44.5 +0.2**
comp=Z,12nm,1.1s,mb4.8
VSU Vasula 55.32 37⇑ *e*P **P 22 56 43.0 -2.1**
BOZ Bozeman (W) 55.35 307 *e*P **P 22 56 46.2 +0.6**
AHID Auburn Hatcher 55.40 304 *e*P **P 22 56 46.2 +0.3**
ARCES ARCESS Array B 55.68 23 LR LR 23 14 13.3
comp=Z,76nm,21.3s,MS3.8,baz=20,slow=29
ARE0 ARCESS Array S 55.68 23 *e*P **P 22 56 48.0 +0.5**
EDM Edmonton 55.72 317 *e*P **P 22 56 48.3 +0.2**
MLR Muntele Rosu 55.72 53⇑ *i*P **P 22 56 48.6 +0.4**
HWUT Hardware Ranch 55.94 303 *e*P **P 22 56 50.5 +0.7**
comp=Z,10nm,1.2s,mb4.7
DLMT Dillon 56.06 307 *e*P **P 22 56 50.6 -0.1**
comp=Z,17nm,1.4s,mb4.9
YKA Yellowknife Ar 56.21 328 P **P 22 56 50.8 -0.7**
YKA 22 57 46.8
YKA pmax pmax
comp=Z,1.0nm,0.8s
YKA MLR MLR
comp=Z,238nm,18.9s
YKA Yellowknife Ar 56.21 328 P **P 22 56 50.8 -0.6**
comp=Z,0.9nm,0.8s,mb3.8,baz=89,slow=7.4,SNR=13
YKA PcP PcP 22 57 46.8 -2.2
comp=Z,0.4nm,0.6s,baz=96,slow=5.1,SNR=4.3
YKA LR LR 23 21 05.0
comp=Z,238nm,18.9s,MS4.3,baz=265,slow=36
WALA Waterton Lakes 56.46 312 *e*P **P 22 56 53.5 0.0**
CPUP Villa Florida 56.68 195 LR LR 23 20 17.9
comp=Z,136nm,18.5s,MS4.1,baz=327,slow=35
SANT Santorini 57.09 63 *e*P **P 22 57 01.3 +3.2**
DUG Dugway 57.14 301 *e*P **P 22 56 59.5 +1.1**
comp=Z,13nm,1.1s,mb4.9
DUG Dugway 57.14 301 *e*P **P 22 56 59.5 +1.1**
DUG pmax pmax
comp=Z,13nm,1.1s,mb4.9
BGU Big Grassy Mou 57.15 302 *e*P **P 22 56 58.4 -0.1**
AKASG Malin Array Be 57.22 46 *i*P **P 22 56 58.7 -0.1**
AKASG Malin Array Be 57.22 46 P **P 22 56 56.7 -2.1**
comp=Z,0.1nm,0.3s,mb3.4,baz=273,slow=6.2,SNR=12
AKASG LR LR 23 19 50.6
comp=Z,373nm,18.3s,MS4.5,baz=270,slow=34

CCUT Cedar City 58.15 298 *e*P **P 22 57 06.5 +0.9**
NEW Newport 58.68 311 P **P 22 57 08.6 -0.5**
NEW Newport 58.68 311 P **P 22 57 08.6 -0.5**
NEW pmax pmax
comp=Z,10.0nm,1.0s
NEW Newport 58.68 311 P **P 22 57 08.6 -0.5**
comp=Z,9.8nm,1.0s,mb4.8,baz=86,slow=5.4,SNR=7.3
OBN Obninsk 60.98 40 *e*P **P 22 57 26.1 +1.3**
comp=Z,28nm,1.4s,mb5.2
OBN Obninsk 60.98 40⇓ *e*P **P 22 57 24.5 -0.3**
OBN pmax pmax
comp=Z,11nm,1.2s,mb4.9
OBN MLR MLR
comp=Z,100nm,14.0s,MS4.1
NVAR Mina Array Bea 61.70 300 P **P 22 57 29.9 0.0**
baz=72,slow=5.8
MOD Modoc 62.25 305 *e*P **P 22 57 34.7 +1.1**
comp=Z,21nm,1.4s,mb5.1
INK Inuvik 63.56 335 *e*P **P 22 57 42.3 +0.4**
INK Inuvik 63.56 335 P **P 22 57 42.1 +0.2**
INK pmax pmax
comp=Z,1.0nm,0.4s
INK Inuvik 63.56 335 P **P 22 57 42.1 +0.2**
comp=Z,1.0nm,0.4s,mb4.2,baz=72,slow=7.6,SNR=6.9
ANN Anapa 63.81 51 *e*P **P 22 57 42.7 -1.2**
ANN *e*S **S 23 06 12.1 -6.9**
ANN pmax pmax
comp=Z,125nm,5.9s
ANN MLR MLR
comp=Z,209nm,16.0s,MS4.4
OHCM Honcut 63.82 302 *e*P **P 22 57 44.3 +0.2**
MALT Malatya 66.46 58 *e*P **P 22 58 02.9 +1.6**
KIV Kislovodsk 67.66 51 *e*P **P 22 58 09.1 +0.3**
KIV *e*S S 23 07 03.8 -2.2
KIV pmax pmax
comp=Z,5.0nm,0.8s,mb4.6
KIV MLR MLR
comp=Z,56nm,18.0s,MS3.8
COLA College 70.07 334⇑ *e*P **P 22 58 22.8 -0.6**
ARU Arti 72.38 35 *e*P **P 22 58 37.3 -0.2**
ARU Arti 72.38 35 *d i*P **P 22 58 36.3 -1.2**
ARU *e* 22 58 51.3
ARU *e*S S 23 07 56.8 -4.2
ARU pmax pmax
comp=Z,19nm,2.5s,mb4.6
PLCA Paso Flores 73.90 201 LR LR 23 29 55.8
comp=Z,160nm,19.1s,MS4.3,baz=1.2,slow=35
TIXI Tiksi 79.47 3⇑ *e*P **P 22 59 16.0 -1.8**
TIXI pmax pmax
comp=Z,16nm,2.3s,mb4.5
BRVK Borovoye 79.94 34 *e*P **P 22 59 21.6 +1.0**
BVAR Borovoye Array 80.01 34 P **P 22 59 21.0 0.0**
BVAR pmax pmax
comp=Z,2.0nm,0.7s
BVAR Borovoye Array 80.01 34 P **P 22 59 21.0 0.0**
comp=Z,1.8nm,0.7s,mb4.1,baz=316,slow=4.1,SNR=9.9
BILL Bilibino 80.81 349 *e*P **P 22 59 25.3 +0.2**
BILL Bilibino 80.81 349 *e*P **P 22 59 23.3 -1.7**
BILL pmax pmax
comp=Z,13nm,2.5s,mb4.4
BILL MLR MLR
comp=Z,100nm,18.0s,MS4.2
KMBO Kilima Mbogo 82.10 96⇑ *e*P **P 22 59 39.7 +6.9**
KMBO Kilima Mbogo 82.10 96 LR LR 23 34 35.2
comp=Z,609nm,20.8s,MS4.9,baz=93,slow=35
LBTB Lobatse 85.06 122 LR LR 23 30 24.4
comp=Z,228nm,21.4s,MS4.5,baz=316,slow=30
KURK Kurchatov 85.44 33 *e*P **P 22 59 48.0 -1.3**
comp=Z,6.0nm,1.1s,mb4.6
KURK Kurchatov 85.44 33 *e*P **P 22 59 48.0 -1.3**
KURK pmax pmax
comp=Z,6.0nm,1.1s,mb4.6
ZAL Zalesovo 85.94 28 P **P 22 59 51.7 0.0**
ZAL MLR MLR
comp=Z,84nm,18.1s
ZALV Zalesovo Beam 85.94 28 P **P 22 59 51.7 0.0**
comp=Z,0.4nm,0.3s,mb4.2,baz=285,slow=7.5,SNR=4.9
ZALV LR LR 23 37 20.0
comp=Z,84nm,18.1s,MS4.2,baz=56,slow=35
SUR Sutherland 86.04 130 LR LR 23 29 25.3
comp=Z,174nm,20.0s,MS4.5,baz=322,slow=30
BOSA Boshof 86.88 125 LR LR 23 35 12.6
comp=Z,165nm,18.0s,MS4.5,baz=328,slow=33
SEY Seymchan 87.56 353⇑ *e*P **P 22 59 59.5 +0.1**
EKS2 Erkin-Say 88.08 41 *e*P **P 23 00 04.8 +2.5**
AAK Ala-Archa 88.51 41 *e*P **P 23 00 06.0 +1.7**
AAK Ala-Archa 88.51 41⇑ *e*P **P 23 00 05.7 +1.3**
AAK pmax pmax
comp=Z,4.0nm,1.7s,mb4.5
UCH Uchtor 88.77 41 *e*P **P 23 00 07.2 +1.6**
comp=Z,1.4nm,0.8s,mb4.3
TKM2 Tokmak 2 88.95 40 *e*P **P 23 00 08.6 +2.1**
MKAR Makanchi Array 89.89 34 P **P 23 00 10.0 -0.8**
comp=Z,0.4nm,0.5s,mb4.0,baz=347,slow=5.0,SNR=8.8
MKAR LR LR 23 38 56.2
comp=Z,169nm,21.2s,MS4.4,baz=315,slow=34
WMQ Urumqi 94.67 33 *e*P **P 23 00 36.8 +3.9**
WMQ AP pP 23 00 41.5 +5.2
WMQ XP sP 23 00 44.0 +6.5
WMQ SKS 23 11 10.0
WMQ *e*S S 23 11 45.0 -1.2
WMQ AMB AMB
comp=Z,6.0nm,1.1s,mb4.9
WMQ AMB AMB
comp=Z,148nm,4.2s
WMQ LR LR
comp=N,266nm,22.0s,MS4.7
WMQ LR LR
comp=E,212nm,26.2s,MS4.7
WMQ LR LR
comp=Z,263nm,23.7s,MS4.6
SONM Songino Array 98.75 20 LR LR 23 45 29.4
comp=Z,103nm,22.0s,MS4.3,baz=347,slow=35
ULN Ulaanbaatar 98.92 20 P **P 23 00 51.9 -0.2**
BJI Beijing 108.66 17 PDIF Pdif 23 01 37.1 +1.7
BJI LR LR
comp=N,159nm,18.5s,MS4.7
BJI LR LR
comp=E,125nm,17.8s,MS4.7
BJI LR LR
comp=Z,106nm,22.1s,MS4.4
CD2 Chengdu 112.58 31 *e*PKP PKiKP 23 05 52.3 +3.8
CD2 PP PP 23 06 40.4 +6.4
CD2 PKS 23 09 27.8
CD2 SKS SKSdf 23 12 59.8 -1.2
CD2 SKKS SKKSac 23 13 30.4 -7.4
CD2 PP PP
comp=Z,90nm,10.2s
CD2 LR LR
comp=N,130nm,22.2s
CD2 LR LR
comp=Z,150nm,20.2s,MS4.6
NJ2 Nanjing 116.91 17 *e*PKP PKPdf 23 05 52.0 -4.8
KMI Kunming 116.96 35 PKP PKPdf 23 06 00.8 +3.7
KMI PP PP 23 07 14.0 +8.9
KMI PP PP
comp=Z,76nm,5.3s
KMI LR LR
comp=Z,64nm,27.9s,MS4.1
GYA Guiyang 117.69 31 *e*PDIF Pdif 23 02 18.9 +3.3
GYA PP PP 23 07 17.5 +7.4
GYA SKKS SKKSac 23 14 09.0 -3.3
GYA S Sdif 23 14 57.6 -1.6
GYA SS SS 23 23 22.5 +0.8
GYA PP PP
comp=Z,100nm,7.0s
GYA LR LR
comp=Z,300nm,21.9s,MS4.9
URZ Urewera 145.50 244 PKPbc PKPbc 23 06 48.6 -1.5
comp=Z,10nm,0.9s,baz=7.8,slow=2.9,SNR=4.9

*ISCJB **24** 22:52:58.5±0.5, 5001N±003×1847E±003, h0km, Error ellipse: s-maj=4.3km s-min=2.3km az=12.5*
*NEIC **24** 22:52:59.8±0.7, 5004N×1851E, h5km, MG2.5(WAR), Error ellipse: s-maj=12.3km s-min=6.0km az=190.0*
*IPEC **24** 22:52:59.2±0.1, 5001N×1857E, h0km±1km, ML2.3/4, Error ellipse: s-maj=2.1km s-min=0.7km az=161.0*
*WAR **24** 22:52:59.4, 4998N×1859E, ML2.5, Mining Induced*
*PRU **24** 22:53:00.8, 5001N×1846E, h0km*
*CSEM **24** 22:53:01.2±0.3, 4999N×1844E, h2km, ML3.0/6, Error ellipse: s-maj=5.4km s-min=3.7km az=24.0*
*VIE **24** 22:53:02.2±1.0, 4970N×1846E, h0km, mb1.7/2, ML2.6/3, Error ellipse: s-maj=5.9km s-min=5.4km az=109.0 21 km SE of Ostrava Suspected Mining induced.*

ISC 24 22:53:00.6±0.4, 4993N±003×1848E±003, h0km, n33, σ1⇓29/57, 1C-1D, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKC	**Ostrava-Krasne**	**0.23**	**246**	*e*PG	**Pg**	**22 53 06.1**	**+1.0**
OKC				*e*SG	**Sg**	**22 53 11.0**	**+2.9**
163nm,0.7s							
OKC	**Ostrava-Krasne**	**0.23**	**246**	*e*Pg	**Pg**	**22 53 05.7**	**+0.6**
OKC				*e*Sg	**Sg**	**22 53 09.6**	**+1.5**
RAC	**Raciborz**	**0.24**	**310**	*e*Pg	**Pg**	**22 53 05.6**	**+0.5**
RAC				*e*Sg	**Sg**	**22 53 09.9**	**+1.7**
MORC	**Moravsky Berou**	**0.62**	**256**	*e*P	**Pg**	**22 53 12.7**	**+0.1**
MORC				*e*S	**Sg**	**22 53 22.2**	**+1.6**
MORC	**Moravsky Berou**	**0.62**	**256**	*e*Pg	**Pg**	**22 53 12.5**	**-0.1**
MORC				*e*Sg	**Sg**	**22 53 21.4**	**+0.8**
47nm,0.3s							
OJC	**Ojcow**	**0.90**	**71**	*e*Pg	**Pg**	**22 53 14.7**	**-3.1**
OJC				*e*Sg	**Sg**	**22 53 26.1**	**-3.4**
OJC	**Ojcow**	**0.90**	**71**	*e*Pg	**Pg**	**22 53 14.7**	**-3.1**
OJC				*e*Sg	**Sg**	**22 53 25.0**	**-4.5**
LIKS	**Likavka**	**0.97**	**155**	*e*SN	**Sn**	**22 53 33.7**	**-2.3**
JAVC	**Velka Javorina**	**1.20**	**206**	*e*Pg	**Pg**	**22 53 24.1**	**+0.6**
JAVC				*e*Sg	**Sg**	**22 53 42.3**	**+3.3**
43nm,0.6s							
NIE	**Niedzica**	**1.30**	**113**	*e*Pg	**Pg**	**22 53 24.0**	**-1.5**
NIE				*e*Sg	**Sg**	**22 53 42.5**	**+0.2**
KOLL	**Kolacno**	**1.36**	**182**	*e*SN	**Sn**	**22 53 45.3**	**-0.1**
VRAC	**Vranov**	**1.38**	**244**	*e*Pg	**Pg**	**22 53 25.9**	**-1.0**
VRAC				*e*Sg	**Sg**	**22 53 45.1**	**+0.3**
42nm,0.5s							
DPC	**Dobruska-Polom**	**1.45**	**288**	*e*PG	**Pg**	**22 53 26.7**	**-1.6**
DPC				*e*x	x	22 53 29.4	
DPC				*e*SG	**Sg**	**22 53 48.0**	**+0.9**
23nm,0.6s							
DPC	**Dobruska-Polom**	**1.45**	**288**	*e*Pg	**Pg**	**22 53 26.7**	**-1.6**
DPC				*e*Sg	**Sg**	**22 53 45.9**	**-1.2**
VYHS	**Vyhne**	**1.46**	**171**	*e*PN	**Pn**	**22 53 27.8**	**-0.4**
VYHS				*e*SN	**Sn**	**22 53 47.0**	**-1.0**
KRUC	**Moravsky**	**1.61**	**238**	*e*Pn	**Pn**	**22 53 30.3**	**0.0**
KRUC				*e*Sg	**Sg**	**22 53 52.8**	**+0.4**
19nm,0.5s							
UPC	**Upice**	**1.68**	**291**	*e*PG	**Pg**	**22 53 31.2**	**-1.7**
MODS	**Modra-Piesok**	**1.75**	**207**	*e*SN	**Sn**	**22 53 55.2**	**+0.1**
STHS	**Stebnicka Huta**	**1.87**	**105**	*e*PN	**Pn**	**22 53 33.8**	**0.0**
STHS				*e*SN	**Sn**	**22 54 00.6**	**+2.5**
ZST	**Bratislava**	**1.96**	**208**	*e*SN	**Sn**	**22 53 59.8**	**-0.5**
KECS	**Kecovo**	**1.96**	**137**	*e*PN	**Pn**	**22 53 36.7**	**+1.6**
KECS				*e*SN	**Sn**	**22 54 00.6**	**+0.3**
CRVS	**Cervenica-Dubn**	**2.21**	**117**	*e*PN	**Pn**	**22 53 40.0**	**+1.6**
CRVS				*e*SN	**Sn**	**22 54 09.7**	**+3.3**
PRU	**Pruhonice**	**2.54**	**273**	*e*PG	**Pg**	**22 53 45.9**	**-3.4**
PRU				*e*SG	**Sg**	**22 54 22.8**	**+0.6**
10nm,0.7s							
PVCC	**Panska Ves**	**2.58**	**285**	*e*PG	**Pg**	**22 53 47.0**	**-3.0**
KOLS	**Kolonicke sedl**	**2.67**	**111**	*e*PN	**Pn**	**22 53 48.9**	**+4.0**
KOLS				*e*SG	**Sg**	**22 54 27.0**	**+0.6**
KWP	**Kalwaria**	**2.76**	**95**	*e*Pn	**Pn**	**22 53 49.9**	**+3.9**
KWP	**Kalwaria**	**2.76**	**95**	*e*Pn	**Pn**	**22 53 49.9**	**+3.9**
KHC	**Kasperske Hory**	**3.29**	**258**	*e*PN	**Pn**	**22 53 52.5**	**-0.8**
KHC				*e*PG	**Pg**	**22 54 00.5**	**-3.1**
KHC				*e*SG	**Sg**	**22 54 46.3**	**0.0**
12nm,0.6s							
MOA	**Molln**	**3.47**	**235⇑**	*i*Pg	**Pg**	**22 54 06.3**	**-0.8**
MOA			⇓	*i*Sg	**Sg**	**22 54 51.6**	**-0.5**
comp=Z,7.0nm,0.6s							
MOA	**Molln**	**3.47**	**235**	Pg	**Pg**	**22 54 06.3**	**-0.9**
MOA				Sg	**Sg**	**22 54 51.6**	**-0.5**
7.0nm,0.6s							
CLL	**Collm**	**3.75**	**294**	*e*Pg	**Pg**	**22 54 11.0**	**-1.4**
CLL				*i* Sg	**Sg**	**22 55 02.3**	**+1.4**
comp=Z,10.0nm,0.7s							
NKC	**Novy Kostel**	**3.89**	**277**	*e*SG	**Sg**	**22 55 05.8**	**+0.1**
comp=Z,5.4nm,0.5s							
MOX	**Moxa**	**4.46**	**282**	*e*SG	**Sg**	**22 55 27.5**	**+3.8**

*NEIC **24** 23:40:32.2±1.0, 155S×135.45E, h35km, mb4.1/5, Error ellipse: s-maj=34.5km s-min=10.9km az=72.0*
*IDC **24** 23:40:32.7±1.7, 185S×133.64E, h0km, mb4.0/5, mb1 4.2/7, mb1mx4.1/15, mbtmp4.1/7, ML4.2/2, MS3.5/1, Ms1 3.5/1, ms1mx2.6/24, Error ellipse: s-maj=94.4km s-min=18.5km az=79.0*
*ISCJB **24** 23:40:39.0±3.7, 177S±007×135.1E±02, h110km±34km, mb3.9/8, Error ellipse: s-maj=36.6km s-min=8.8km az=167.7*

ISC 24 23:40:36.1±3.4, 195S±010×1351E±03, h69km±28km, n23, σ1⇓02/26, mb3.9/8, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**11.02**	**194**	*e*P	**Pn**	**23 43 10.0**	**-0.9**
26nm,0.5s							
WRAB	**Tennant Creek**	**17.89**	**182**	*e*P	**Pn**	**23 44 44.9**	**+4.5**
8.8nm,0.6s							
WRAB				*e*Sn	**Sn**	**23 47 58.5**	**-0.8**
WB2	**Warramunga Arr**	**17.90**	**182**	*e*P	**Pn**	**23 44 44.5**	**+4.1**
WB2				*e*Sn	**Sn**	**23 47 59.9**	**+0.4**
WRA	**Warramunga Arr**	**17.90**	**182**	P	**Pn**	**23 44 44.0**	**+3.5**
1.6nm,0.3s,baz=355,slow=12,SNR=75							
WRA				S	**S**	**23 48 00.1**	**-2.2**
0.2nm,0.3s,baz=355,slow=23,SNR=4.6							
FITZ	**Fitzroy Crossi**	**18.56**	**210**	*e*P	**Pn**	**23 44 43.2**	**-5.2**
9.2nm,0.9s							
FITZ				*e*S	Sx	23 47 49.7	
FITZ	**Fitzroy Crossi**	**18.56**	**210**	P	**Pn**	**23 44 42.9**	**-5.5**
0.3nm,0.3s,baz=38,slow=16,SNR=8.7							
FITZ				S	Sx	23 47 49.1	
0.1nm,0.3s,baz=122,slow=19,SNR=4.4							
KKM	**Kota Kinabalu**	**20.49**	**293**	*e*P	**P**	**23 45 09.1**	**+0.5**
CTA	**Charters Tower**	**21.05**	**150**	LR	LR	23 54 02.2	
comp=Z,123nm,18.8s,baz=43,slow=37							
CTAO	**Charters Tower**	**21.05**	**150**	P	**P**	**23 45 10.6**	**-4.0**
ASAR	**Alice Springs**	**21.62**	**183**	P	**P**	**23 45 27.3**	**+6.7**
5.5nm,0.6s,mb4.1,baz=8.3,slow=12,SNR=66							
ASAR				S	**S**	**23 49 22.8**	**+6.5**
0.8nm,0.7s,baz=358,slow=25,SNR=3.8							
KSM	**Kuching**	**25.05**	**278**	P	**P**	**23 45 55.5**	**+1.3**
STKA	**Stephens Creek**	**30.39**	**169**	P	**P**	**23 46 49.0**	**+7.3**
1.2nm,0.5s,mb3.8,baz=355,slow=11,SNR=3.2							
QIZ	**Qiongzhong**	**32.44**	**311**	P	**P**	**23 46 58.3**	**-1.6**
SONM	**Songino Array**	**55.56**	**337**	P	**P**	**23 50 05.7**	**+1.3**
0.7nm,0.7s,mb3.8,baz=155,slow=8.0,SNR=7.5							
CASY	**Casey**	**66.51**	**191**	P	**P**	**23 51 18.3**	**+0.1**
MK31	**Makanchi Array**	**67.03**	**324**	*e*P	**P**	**23 51 21.8**	**0.0**
MKAR	**Makanchi Array**	**67.03**	**324**	P	**P**	**23 51 21.6**	**-0.2**
3.2nm,0.6s,mb4.3,baz=114,slow=7.8,SNR=42							
ZALV	**Zalesovo Beam**	**69.51**	**331**	P	**P**	**23 51 37.5**	**+0.3**
0.3nm,0.3s,mb3.6,baz=126,slow=7.5,SNR=3.5							
UCH	**Uchtor**	**70.03**	**316**	*e*P	**P**	**23 51 40.6**	**-0.1**
EKS2	**Erkin-Say**	**70.69**	**317**	*e*P	**P**	**23 51 44.6**	**-0.1**
0.8nm,0.6s,mb3.7							
KURK	**Kurchatov**	**71.06**	**326**	*e*P	**P**	**23 51 46.1**	**-0.7**
2.6nm,0.8s,mb4.1							
BRVK	**Borovoye**	**76.73**	**326**	P	**P**	**23 52 18.4**	**-1.5**
1.4nm,0.6s,mb3.9							
VNDA	**Vanda**	**76.87**	**174**	P	**P**	**23 52 20.5**	**+0.3**

*IDC **25** 00:15:40.7±1.8, 3529S×17968E, h0km, mb4.1/3, mb1 4.3/4, mb1mx4.0/15, mbtmp4.1/4, ML3.8/1, Error ellipse: s-maj=44.6km s-min=31.3km az=61.0*
*NEIC **25** 00:15:48.9, 3553S×17922E, h33km, ML4.2(WEL), After WEL.*

ISC 25 00:15:46.9±3.3, 3552S±009×1795E±02, h35km±24km, n13, σ0⇓88/15, mb4.1/3, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**2.27**	**205**	*e*P	**Pn**	**00 16 20.9**	**-0.9**
MXZ				S	**Sn**	**00 16 48.7**	**+0.2**
PUZ	**Puketiti**	**2.75**	**201**	P	**Pn**	**00 16 29.4**	**+1.0**
PUZ				S	**Sn**	**00 16 57.6**	**-2.8**
MWZ	**Matawai**	**3.24**	**209**	P	**Pn**	**00 16 35.2**	**0.0**
MWZ				*e*S	**Sn**	**00 17 13.1**	**+0.6**
URZ	**Urewera**	**3.35**	**215**	P	**Pn**	**00 16 37.0**	**+0.2**
URZ	**Urewera**	**3.35**	**215**	Pn	**Pn**	**00 16 37.4**	**+0.6**
8.1nm,0.3s,baz=37,slow=4.4,SNR=94							
URZ				Sn	**Sn**	**00 17 15.9**	**+0.5**
14nm,0.3s,baz=180,slow=16,SNR=7.8							
KNZ	**Kokohu**	**3.80**	**202**	*e*P	**Pn**	**00 16 42.4**	**-0.5**

ASAR	Alice Springs	41.07	274	P	P	00 23 26.8	-0.4
	1.3nm,0.7s,mb3.7,baz=117,slow=7.6,SNR=29						
WRA	Warramunga Arr	42.53	279	P	P	00 23 39.1	-0.1
	2.9nm,0.6s,mb4.2,baz=121,slow=7.6,SNR=34						
QSPA	South Pole Qui	54.60	180	P	P	00 25 12.6	+1.3
	3.5nm,1.1s,mb4.3,baz=75,slow=3.0,SNR=9.1						
VNA3	Neumayer Olymp	73.34	177	*e*	P	00 27 13.3	-1.1
VNA2	Neumayer--Watz	73.74	178	*e*	P	00 27 17.3	+0.5
	baz=186,slow=1.7						
JOF	Joensuu	146.26	334	*ep*	PKPdf	00 35 20.6	-1.0
	6.0nm,0.8s						
FINES	FINESS Array B	149.08	335	PKPbc	PKPbc	00 35 28.8	-1.6
	1.9nm,0.7s,baz=103,slow=6.1,SNR=12						

*NNC **25** 00:47:44.9±5.0, 40.54N×63.31E, h0km, mb3.9, mpv3.5, Error ellipse: s-maj=50.5km s-min=22.9km az=43.0*
*IDC **25** 00:47:44.6±1.2, 40.17N×63.06E, h0km, mb3.9/7, mb1 4.1/11, mb1mx3.8/23, mbtmp3.9/11, ML3.7/4, Error ellipse: s-maj=18.9km s-min=12.6km az=12.0*
*CSEM **25** 00:47:46.3±0.1, 40.03N×63.02E, h30km, ML3.3/3, Error ellipse: s-maj=2.8km s-min=2.0km az=177.0*
*ISCJB **25** 00:47:46.4±1.6, 40.63N±0.04×63.15E±0.04, h16km±13km, mb3.8/8, Error ellipse: s-maj=7.1km s-min=5.2km az=7.8*
*MOS **25** 00:47:47.8±1.6, 40.41N×63.16E, h33km, mb4.1/7, Error ellipse: s-maj=11.3km s-min=8.6km az=74.9*
*NEIC **25** 00:47:49.1±0.7, 40.32N×63.15E, h35km, mb3.9/2, Error ellipse: s-maj=13.8km s-min=7.4km az=175.0*
ISC 25 00:47:48.3±1.7, 40.52N±0.04×63.09E±0.04, h20km±12km, n73, σ1.9±38/94, mb3.8/8, 14C-7D, Northwestern Uzbekistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	Karatay Array	6.12	63	Pn	Pn	00 49 17.1	-0.5
	2.3nm,0.5s,baz=245,slow=18,SNR=55						
KK31				⇑Lg		00 50 58.1	
	24nm,0.6s,baz=236,slow=28,SNR=5.8						
AML	Almayashu	8.14	75	*e*Pn	Pn	00 49 43.8	-1.5
	10nm,0.6s						
AML				*e*Sn	Sn	00 51 17.7	+0.9
AML	Almayashu	8.14	75	*e*Pn	Pn	00 49 43.8	-1.5
	10nm,0.6s						
EKS2	Erkin-Say	8.29	72	*e*Pn	Pn	00 49 47.2	-0.2
EKS2				*e*Sn	Sn	00 51 24.2	+3.8
EKS2	Erkin-Say	8.29	72	*e*Pn	Pn	00 49 47.2	-0.2
UCH	Uchtor	8.76	75	*e*Pn	Pn	00 49 51.9	-1.8
UCH				*e*Sn	Sn	00 51 34.6	+2.7
UCH	Uchtor	8.76	75	*e*Pn	Pn	00 49 51.9	-1.9
AAK	Ala-Archa	8.81	72	*e*Pn	Pn	00 49 53.4	-1.0
AAK				*e*Sn	Sn	00 51 32.9	-0.1
AAK	Ala-Archa	8.81	72	Pn	Pn	00 49 53.3	-1.1
	1.0nm,0.3s,baz=238,slow=5.8,SNR=15						
AAK				Sn	Sn	00 51 32.5	-0.6
	1.5nm,0.3s,baz=38,slow=17,SNR=4.5						
AB31	Akbulak array	9.02	347	Pn	Pn	00 49 57.9	+0.6
	0.5nm,0.2s,baz=157,slow=14,SNR=37						
AB31				⇑Sn	Sn	00 51 38.1	-0.1
	0.9nm,0.3s,baz=164,slow=28,SNR=6.1						
AB31				⇑Lg		00 52 26.8	
	15nm,0.7s						
AB31	Akbulak array	9.02	347	Pn	Pn	00 49 57.9	+0.6
	0.5nm,0.2s,SNR=37						
AB31				Sn	Sn	00 51 38.1	-0.1
	0.9nm,0.3s,SNR=6.1						
TKM2	Tokmak 2	9.66	72	⇑Pn	Pn	00 50 09.0	+2.9
	2.6nm,0.6s						
TKM2				⇑Lg		00 52 49.1	
	30nm,1.0s						
TKM2	Tokmak 2	9.66	72	Pn	Pn	00 50 06.7	+0.6
TKM2				Sn	Sn	00 52 00.6	+6.7
TKM2	Tokmak 2	9.66	72	P	Pn	00 50 06.7	+0.6
TKM2				S	Sn	00 52 00.6	+6.7
AKTK	Aktyubinsk	10.54	342	Pn	Pn	00 50 19.1	+1.0
AKTK				Sn	Sn	00 52 14.9	-0.6
AKTK	Aktyubinsk	10.54	342	Pn	Pn	00 50 19.1	+1.0
AKTK				Sn	Sn	00 52 14.9	-0.5
AKTO	Aktyubinsk	10.54	342	⇓Pn	Pn	00 50 19.2	+1.1
AKTO				⇓Sn	Sn	00 52 14.0	-1.4
AKTO				⇑Lg		00 53 19.2	
	0.4nm,0.9s						
AKTO	Aktyubinsk	10.54	342	P	Pn	00 50 19.1	+1.0
AKTO						00 52 14.9	
AKTO				pmax	pmax		
	comp=Z,2.0nm,0.3s						
AKTO				smax			
	comp=N,1.0nm,0.3s						
AKTO	Aktyubinsk	10.54	342	Pn	Pn	00 50 19.1	+1.0
	comp=N,1.8nm,0.3s,baz=159,slow=12,SNR=21						
AKTO				Sn	Sn	00 52 14.9	-0.6
	comp=N,0.6nm,0.3s,baz=207,slow=23,SNR=5.3						
AKTO	Aktyubinsk	10.54	342	Pn	Pn	00 50 19.2	+1.1
AKTO				Sn	Sn	00 52 14.0	-1.4
ZRNK	Zerenda	13.08	16	⇑Pn	Pn	00 50 51.3	-1.5
	comp=N,2.4nm,0.7s						
ZRNK				⇑Sn	Sn	00 53 16.7	-0.8
	comp=N,3.3nm,0.8s						
ZRNK				⇓Lg		00 54 34.2	
	comp=N,11nm,1.0s						
VOSK	Vostochnaya	13.35	21	Pn	Pn	00 50 57.1	+0.6
VOSK				Sn	Sn	00 53 19.0	-5.2
BVA0	Borovoye Array	13.47	19	⇓Pn	Pn	00 50 58.7	+0.6
	comp=N,0.7nm,0.6s,baz=199,slow=10,SNR=17						
BVA0				⇑Sn	Sn	00 53 23.1	-3.9
	comp=N,0.1nm,0.4s,baz=205,slow=21,SNR=4.3						
BVA0				⇑Lg		00 54 47.1	
	comp=N,2.8nm,1.3s						
BVA0	Borovoye Array	13.47	19	Pn	Pn	00 50 58.7	+0.6
	comp=N,0.7nm,0.6s,SNR=17						
BVA0				Sn	Sn	00 53 23.1	-3.9
	comp=N,0.1nm,0.4s,SNR=4.3						
BVAR	Borovoye Array	13.47	19	P	Pn	00 50 58.5	+0.4
BVAR						00 53 24.7	
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
BVAR				smax			
	comp=N,1.0nm,0.3s						
BVAR	Borovoye Array	13.47	19	Pn	Pn	00 50 58.5	+0.4
	comp=N,0.6nm,0.3s,baz=220,slow=11,SNR=13						
BVAR				Sn	Sn	00 53 24.7	-2.4
	comp=N,0.6nm,0.3s,baz=207,slow=24,SNR=4.8						
BRVK	Borovoye	13.47	19	*e*P	Pn	00 50 59.1	+1.0
	comp=N,4.6nm,0.7s						
BRVK				*e*Sn	Sn	00 53 27.9	+0.8
BRVK	Borovoye	13.47	19	*e*P	Pn	00 50 59.1	+1.0
BRVK				*e*		00 53 27.9	
BRVK				pmax	pmax		
	comp=Z,5.0nm,0.7s						
CHKZ	Chkalovo	14.12	19	⇓Pn	Pn	00 51 05.5	-1.4
	comp=Z,2.2nm,0.7s						
CHKZ				⇓Sn	Sn	00 53 40.0	-2.9
	comp=Z,2.4nm,0.7s						
KURBB	Kurchatov Arra	14.77	42	⇑Pn	Pn	00 51 12.7	-3.2
	comp=Z,0.6nm,1.4s						
KURBB				⇑Lg		00 55 28.0	
	comp=Z,3.7nm,0.9s						
KURK	Kurchatov	14.87	42	⇑Pn	Pn	00 51 18.3	+1.0
KURK				⇓Lg		00 55 36.9	
	comp=Z,16nm,1.2s						
KURK	Kurchatov	14.87	42	*e*P	Pn	00 51 19.7	+2.4
MK31	Makanchi Array	15.23	59	Pn	Pn	00 51 19.8	-2.3
	comp=Z,3.7nm,0.7s,baz=248,slow=12,SNR=25						
MK31				⇑Lg		00 55 37.0	
	comp=Z,2.1nm,0.7s						
MK31	Makanchi Array	15.23	59	*e*Pn	Pn	00 51 20.4	-1.7
MKAR	Makanchi Array	15.23	59	Pn	Pn	00 51 19.3	-2.7
	comp=Z,0.2nm,0.3s,baz=251,slow=14,SNR=29						
GOF	Gofitskoye	15.40	294	*e*P	Pn	00 51 23.8	-0.5
ARU	Arti	16.20	351	*e*Pn	Pn	00 51 36.6	+2.0
	comp=Z,3.7nm,0.5s						
ARU	Arti	16.20	351	P	Pn	00 51 35.7	+1.1
ARU	Arti	16.20	351	*e*Pn	Pn	00 51 36.6	+2.0
	comp=Z,3.7nm,0.5s						
MALT	Malatya	19.17	271	P	Pn	00 52 09.0	-2.4
MALT	Malatya	19.17	271	P	Pn	00 52 09.0	-2.4
ZAL	Zalesovo	19.83	40	P	Pn	00 52 20.0	+0.8
ZAA0	Zalesovo Array	19.85	40	P	Pn	00 52 20.0	+0.6
ZALV	Zalesovo Beam	19.85	40	P	Pn	00 52 20.0	+0.6
	comp=Z,1.1nm,0.3s,baz=248,slow=12,SNR=5.0						
CSS	Prodhromos	24.11	266	P	P	00 53 00.9	-1.7
CSS	Prodhromos	24.11	266	P	P	00 53 00.9	-1.7
JOF	Joensuu	29.31	331	*ep*	P	00 53 48.8	-0.3
	comp=Z,1.3nm,0.5s,mb3.9						
JOF	Joensuu	29.31	331	*e*P	P	00 53 48.8	-0.3
JOF				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb3.8						
KWP	Kalwaria	29.63	302	P	P	00 53 53.0	+0.9
KWP	Kalwaria	29.63	302	P	P	00 53 53.0	+0.9
TLY	Talaya	29.88	54	*e*P	P	00 53 54.5	+0.2
FINES	FINESS Array B	30.68	325	P	P	00 54 04.1	+2.8
FINES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
FINES	FINESS Array B	30.68	325	P	P	00 54 04.0	+2.8
	comp=Z,0.6nm,0.5s,mb3.7,baz=113,slow=11,SNR=9.0						
GVD	Gavdhos	31.20	272	P	P	00 54 05.2	-0.9
GVD	Gavdhos	31.20	272	P	P	00 54 05.2	-1.0
PSZ	Piszkesteto	31.49	298	P	P	00 54 08.6	0.0
PSZ	Piszkesteto	31.49	298	P	P	00 54 08.6	0.0
ULN	Ulaanbaatar	32.01	62	*e*P	P	00 54 14.6	+1.5
	comp=Z,2.0nm,0.8s,mb4.0						
ULN	Ulaanbaatar	32.01	62	*e*P	P	00 54 14.6	+1.5
ULN				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.0						
ULN	Ulaanbaatar	32.01	62	*e*P	P	00 54 14.6	+1.5
MORC	Moravsky Berou	32.98	302	P	P	00 54 25.4	+3.8
ARCES	ARCESS Array B	35.09	338	P	P	00 54 42.4	+2.7
ARCES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ARCES	ARCESS Array B	35.09	338	P	P	00 54 42.4	+2.7
	comp=Z,1.2nm,0.7s,mb4.0,baz=128,slow=7.9,SNR=6.2						
NOA	NORSAR Array B	37.40	321	P	P	00 55 01.5	+2.0
NOA				pmax	pmax		
	comp=Z,1.0nm,0.9s						
NOA	NORSAR Array B	37.40	321	P	P	00 55 01.4	+1.9
	comp=Z,0.6nm,0.8s,mb3.5,baz=94,slow=8.2,SNR=3.6						
NAO01	NORSAR Array S	37.53	321	P	P	00 55 01.4	+0.8
NAO01	NORSAR Array S	37.53	321	P	P	00 55 01.4	+0.8
YKA	Yellowknife Ar	77.32	359	P	P	00 59 42.8	+1.8
YKA	Yellowknife Ar	77.32	359	P	P	00 59 42.8	+1.8
YKA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
YKA	Yellowknife Ar	77.32	359	P	P	00 59 42.8	+1.8
	comp=Z,0.9nm,0.7s,mb3.8,baz=358,slow=6.3,SNR=22						
WRA	Warramunga Arr	89.36	117	P	P	01 00 42.9	-0.6
WRA				pmax	pmax		
	comp=Z,1.0nm,0.9s						
WRA	Warramunga Arr	89.36	117	P	P	01 00 42.9	-0.6
	comp=Z,0.7nm,0.9s,mb4.0,baz=324,slow=4.8,SNR=5.6						
ASAR	Alice Springs	91.64	120	P	P	01 00 51.8	-2.3
	comp=Z,0.4nm,0.7s,mb3.9,baz=297,slow=4.1,SNR=4.3						

*CSEM **25** 00:52:09.9±0.1, 47.22N×27.37W, h2km, mb4.1/2, Error ellipse: s-maj=4.2km s-min=3.8km az=132.0*
*ISCJB **25** 00:52:11.2±0.9, 47.11N±0.09×27.4W±0.1, h10km, mb3.8/8, MS3.2/7, Error ellipse: s-maj=16.6km s-min=8.5km az=43.0*
*IDC **25** 00:52:11.8±1.4, 47.24N×27.51W, h0km, mb3.6/5, mb1 3.8/7, mb1mx3.5/28, mbtmp3.6/7, ML5.0/1, MS3.3/8, Ms1 3.3/8, ms1mx3.0/29, Error ellipse: s-maj=47.6km s-min=22.4km az=21.0*
*NEIC **25** 00:52:13.2±0.9, 47.15N×27.42W, h10km, mb3.7/22, Error ellipse: s-maj=19.4km s-min=9.8km az=210.0*
*INMG **25** 00:52:53.8, 45.94N×23.19W, h0km, Mb4.2*
ISC 25 00:52:13.2±0.9, 47.06N±0.09×27.2W±0.1, h10km, n89, σ1.9±20/81, mb3.8/8, MS3.2/7, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMAZ	Mazaricos	13.65	101	P	Pn	00 55 24.8	-1.9
	14nm,0.4s						
EMAZ	Mazaricos	13.65	101	P	Pn	00 55 24.8	-1.8
	14nm,0.4s						
STS	Santiago	13.96	101	P	Pn	00 55 29.6	-1.3
	3.9nm,0.4s						
STS	Santiago	13.96	101	P	Pn	00 55 29.6	-1.3
	3.9nm,0.4s						
PTO	Porto	14.72	107	*e*P	Pn	00 55 39.6	-1.6
	32nm,1.5s						
ELOB	Lobios	14.73	104	P	Pn	00 55 39.6	-1.7
	3.4nm,0.4s						
ELOB	Lobios	14.73	104	P	Pn	00 55 39.7	-1.6
	3.4nm,0.4s						
EPON	Pontenova	14.73	97	P	Pn	00 55 40.8	-0.7
	1.9nm,0.5s						
EPON	Pontenova	14.73	97	P	Pn	00 55 40.8	-0.7
	1.9nm,0.5s						
PCAB	Cabril	14.82	104	*e*P	Pn	00 55 41.0	-1.6
	32nm,2.0s						
PVRL	Vila Real	15.23	105	*e*P	Pn	00 55 46.8	-1.4
	36nm,1.9s						
PVIS	Viseu	15.39	107	*e*P	Pn	00 55 48.2	-2.1
	24nm,1.7s						
PMAFR	Mafra	15.49	115	*e*P	Pn	00 55 49.3	-2.3
ECAL	Calabor	15.58	102	P	Pn	00 55 52.2	-0.5
	3.0nm,0.5s						
ECAL	Calabor	15.58	102	P	Pn	00 55 52.2	-0.4
	3.0nm,0.5s						
MVO	Moncorvo	15.74	105	*e*P	Pn	00 55 53.7	-1.1
	21nm,1.3s						
MTE	Manteigas	15.79	108	*e*P	Pn	00 55 53.8	-1.6
	22nm,1.6s						
EARI	Arriondas	16.06	95	P	Pn	00 55 58.9	-0.1
	1.7nm,0.3s						
EARI	Arriondas	16.06	95	P	Pn	00 55 58.9	-0.1
	1.7nm,0.3s						
PCBR	Castelo Branco	16.13	109	*e*P	Pn	00 56 01.0	+1.2
MOE	Montemor	16.34	115	*e*P	Pn	00 56 02.5	0.0
EVO	Evora	16.54	114	*e*P	Pn	00 56 03.7	-1.4
	10nm,0.5s						
EVO	Evora	16.54	114	*e*P	Pn	00 56 03.9	-1.2
PTEO	Sao Teotonio	16.72	118	*e*P	Pn	00 56 08.0	+0.6
	28nm,1.8s						
MORF	Marmelete	16.92	118	*e*P	Pn	00 56 10.1	+0.2
	23nm,1.7s						
PFVI	Vila Bisbo	16.93	119	*e*P	Pn	00 56 10.4	+0.4
	60nm,2.4s						
EBAD	Badajoz	17.04	112	P	Pn	00 56 11.8	+0.4
	1.2nm,0.3s						
EBAD	Badajoz	17.04	112	P	Pn	00 56 11.8	+0.4
	1.2nm,0.3s						
EKA	Eskdalemuir Ar	17.22	52	P	Pn	00 56 13.9	+0.5
	baz=213,slow=7.5,SNR=3.8						
EKA	Eskdalemuir Ar	17.22	52	P	Pn	00 56 13.9	+0.4
ELAN	Lanestosa	17.30	94	P	Pn	00 56 15.8	+1.2
	1.3nm,0.3s						
ELAN	Lanestosa	17.30	94	P	Pn	00 56 15.8	+1.2
	1.3nm,0.3s						
PBAR	Barrancos	17.36	113	*e*P	Pn	00 56 15.7	+0.2
	10nm,1.9s						
PBDV	Barranco-do-Ve	17.40	117	*e*P	Pn	00 56 17.0	+1.1
	43nm,2.0s						
PVAQ	Vaqueiros	17.43	117	*e*P	Pn	00 56 16.1	-0.1
	20nm,1.9s						
EGRO	El Granado	17.48	116	P	Pn	00 56 17.5	+0.5
	1.2nm,0.3s						
EGRO	El Granado	17.48	116	P	Pn	00 56 17.5	+0.5
	1.2nm,0.3s						
EMIN	Mina Concepcio	17.84	114	P	Pn	00 56 22.2	+0.8
	0.6nm,0.3s						
EMIN	Mina Concepcio	17.84	114	P	Pn	00 56 22.2	+0.8
	0.6nm,0.3s						
GUD	Guadarrama	17.90	103	P	Pn	00 56 24.6	+2.5
	1.8nm,0.4s						
GUD	Guadarrama	17.90	103	P	Pn	00 56 24.6	+2.5
	1.8nm,0.4s						
ECRI	Cripan	18.16	95	P	Pn	00 56 29.8	+4.6
	1.9nm,0.3s						
ECRI	Cripan	18.16	95	P	Pn	00 56 29.8	+4.5
	1.9nm,0.3s						
ECAB	El Cabril	18.45	111	P	Pn	00 56 30.4	+1.6
	1.0nm,0.3s						
ECAB	El Cabril	18.45	111	P	Pn	00 56 30.4	+1.6
	1.0nm,0.3s						
ESDC	Sonseca Array	18.51	105	P	Pn	00 56 32.3	+2.7
	1.8nm,0.2s						
ESDC	Sonseca Array	18.51	105	P	Pn	00 56 31.9	+2.3
	1.0nm,0.3s,baz=296,slow=12,SNR=16						
ESDC				LR	LR	01 01 32.0	
	comp=Z,61nm,19.4s,baz=335,slow=30						
ESDC	Sonseca Array	18.51	105	P	Pn	00 56 32.3	+2.7
	1.8nm,0.2s						
ESLA	Sonseca Array	18.51	105	*e*P	Pn	00 56 31.0	+1.5
	0.3nm,0.6s						
ESLA	Sonseca Array	18.51	105	*e*P	Pn	00 56 31.0	+1.4
	0.3nm,0.6s						
SJPF	Ste Jean	18.85	93	*e*P	Pn	00 56 34.3	+0.7
	52nm,1.3s						
SJPF	Ste Jean	18.85	93	*e*P	Pn	00 56 34.3	+0.7
	26nm,1.3s						
ESPR	Espera	18.91	115	P	Pn	00 56 39.4	+5.0
	0.6nm,0.4s						
ESPR	Espera	18.91	115	P	Pn	00 56 39.4	+4.9
	0.6nm,0.4s						
EADA	Adamuz	18.93	110	P	Pn	00 56 36.5	+1.8
	0.4nm,0.4s						
EADA	Adamuz	18.93	110	P	Pn	00 56 36.5	+1.8
	0.4nm,0.4s						
ETSF	Etsaut	19.38	93	*e*P	Pn	00 56 39.1	-1.0
	9.0nm,0.6s						
ETSF	Etsaut	19.38	93	*e*P	Pn	00 56 39.1	-1.0
	4.5nm,0.6s						
EBIE	Bielsa	19.94	93	P	Pn	00 56 52.5	+5.8
	1.6nm,0.6s						
EBIE	Bielsa	19.94	93	P	Pn	00 56 52.5	+5.8
	1.6nm,0.6s						
TCF	Toulx Ste Croi	20.27	81	*e*P	P	00 56 49.7	+1.1
	15nm,1.2s						
TCF	Toulx Ste Croi	20.27	81	*e*P	P	00 56 49.7	+1.1
	7.7nm,1.2s						
AVF	Avril sur Loir	20.93	79	*e*P	P	00 56 56.3	+0.6
	31nm,1.4s						
AVF	Avril sur Loir	20.93	79	*e*P	P	00 56 56.3	+0.6
	15nm,1.4s						
SSF	Saint Saulge	20.98	79	*e*P	P	00 56 56.9	+0.7
	11nm,0.9s						
SSF	Saint Saulge	20.98	79	*e*P	P	00 56 56.9	+0.7
	5.5nm,0.9s						
BAIF	Baives	21.04	70	*e*P	P	00 56 58.4	+1.5
	22nm,1.2s,mb4.1						
BAIF	Baives	21.04	70	*e*P	P	00 56 58.4	+1.5
	11nm,1.2s,mb4.1						
LOR	Lormes	21.17	78	*e*P	P	00 56 57.7	-0.7
	23nm,1.0s,mb4.1						
LOR	Lormes	21.17	78	*e*P	P	00 56 57.7	-0.7
	11nm,1.0s,mb4.2						
SMF	Signal de Mont	21.29	80	*e*P	P	00 56 59.1	-0.5
	13nm,1.0s,mb3.9						
SMF	Signal de Mont	21.29	80	*e*P	P	00 56 59.1	-0.5
	6.7nm,1.0s,mb3.9						
GIVF	Givet	21.43	70	*e*P	P	00 57 02.5	+1.4
MDT	Midelt	22.41	121	P	P	00 57 14.4	+2.6
	1.4nm,0.9s,mb3.4,baz=312,slow=8.0,SNR=3.2						
HINF	Hinteralfeld	23.06	75	*e*P	P	00 57 17.5	-1.0
DAVOX	Davos/Dischmat	25.30	77	LR	LR	01 06 08.6	
	comp=Z,61nm,20.1s,MS3.1,baz=163,slow=33						
NOA	NORSAR Array B	26.16	44	LR	LR	01 06 39.9	
	comp=Z,26nm,19.3s,MS2.8,baz=310,slow=33						
GERES	GERESS Array B	27.34	71	LR	LR	01 08 15.4	
	comp=Z,61nm,19.1s,MS3.2,baz=160,slow=35						
VRAC	Vranov	29.09	69	LR	LR	01 08 31.6	
	comp=Z,74nm,18.6s,MS3.3,baz=280,slow=34						
KEST	Kesra	29.52	99	LR	LR	01 10 03.0	
	comp=Z,26nm,18.0s,MS2.9,baz=327,slow=36						
YKA	Yellowknife Ar	48.57	322	P	P	01 00 55.5	-0.6
YKA	Yellowknife Ar	48.57	322	P	P	01 00 55.5	-0.6
	0.8nm,0.9s,mb3.8,baz=64,slow=7.5,SNR=9.2						
YKA	Yellowknife Ar	48.57	322	P	P	01 00 55.5	-0.7
PDAR	Pinedale Array	55.79	298	P	P	01 01 49.5	-0.7
	0.6nm,0.8s,mb3.7,baz=54,slow=7.5,SNR=6.2						
BVAR	Borovoye Array	58.28	45	P	P	01 02 07.6	+0.1
	0.5nm,0.7s,mb3.6,baz=308,slow=4.7,SNR=3.6						
BVAR				LR	LR	01 26 32.2	
	comp=Z,48nm,20.1s,MS3.6,baz=25,slow=35						
TXAR	Lajitas Array	60.19	282	LR	LR	01 30 22.9	
	comp=Z,55nm,19.3s,MS3.7,baz=130,slow=38						
MKAR	Makanchi Array	68.15	44	P	P	01 03 12.3	-0.8
	0.5nm,0.6s,mb3.7,baz=325,slow=6.5,SNR=4.4						
WRA	Warramunga Arr	149.11	35	PKPbc	PKPbc	01 12 00.8	-0.9
	1.1nm,0.8s,baz=345,slow=2.8,SNR=5.2						
ASAR	Alice Springs	152.25	39	PKPbc	PKPbc	01 12 08.2	-0.8
	1.1nm,0.8s,baz=344,slow=1.8,SNR=6.6						

*ISCJB **25** 01:01:23.2±0.5, 21.12S±0.09×168.58E±0.08, h35km, mb4.2/9, MS3.7/5, Error ellipse: s-maj=13.7km s-min=10.7km az=15.6*
*LDG **25** 01:01:23.1±0.2, 20.44S×168.06E, h10km, Mb4.6/2, Error ellipse: s-maj=16.0km s-min=2.5km az=122.0*
*SZGRF **25** 01:01:23.7, 21.54S×169.50E, h38km, Southeast of Loyalty Islands*
*NEIC **25** 01:01:24.9±0.3, 21.10S×168.62E, mb4.9/2, Error ellipse: s-maj=13.6km s-min=9.5km az=172.0*
*IDC **25** 01:01:25.3±0.8, 21.14S×168.62E, h35km±4km, mb4.0/9, mb1 4.1/10, mb1mx4.0/17, mbtmp4.0/10, ML4.0/1, MS3.7/6, Ms1 3.7/6, ms1mx3.3/24, Error ellipse: s-maj=28.0km s-min=15.5km az=148.0*
ISC 25 01:01:25.2±0.5, 21.15S±0.09×168.60E±0.08, h37km, h37km±1.4km: pP-P, n98, σ0.9±84/23, mb4.2/9, MS3.7/5, 9C-10D, Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	14.32	323	Pn	Pn	01 04 45.3	-0.2
HNR	Honiara	14.32	323	LR	LR	01 08 56.7	
	comp=Z,76nm,19.4s,baz=348,slow=32						
URZ	Urewera	18.57	159	P	Pn	01 05 39.7	+0.3
	0.4nm,0.3s,baz=23,slow=4.4,SNR=5.0						
AFI	Afiamalu	20.04	72	*e*P	P	01 05 56.2	+0.9
	36nm,0.9s						
CTA	Charters Tower	20.94	269	P	P	01 06 07.2	+2.2
	6.3nm,0.8s,baz=104,slow=14,SNR=5.0						
CTA				LR	LR	01 13 17.8	
	comp=Z,253nm,18.6s,MS3.6,baz=50,slow=34						
CTAO	Charters Tower	20.94	269	P	P	01 06 05.4	+0.4
STKA	Stephens Creek	26.35	240	P	P	01 06 58.4	+0.4
	1.9nm,0.8s,mb3.7,baz=88,slow=11,SNR=3.0						
STKA				pP	pP	01 07 09.1	+0.8
	1.9nm,0.6s,baz=79,slow=10.0,SNR=3.4		

1.6nm,0.8s,mb4.4,baz=212,slow=6.1,SNR=8.8
NVAR pP pP 01 14 34.2 -0.7
2.0nm,0.8s,baz=222,slow=5.3,SNR=7.1
PLCA Paso Flores 97.50 139 P **P** **01 14 55.5 0.0**
YKA Yellowknife Ar 102.63 28 P Pdif 01 15 18.3 +0.1
YKA pP 01 15 29.8
YKA Yellowknife Ar 102.63 28 P Pdif 01 15 18.3 +0.1
0.1nm,0.6s,baz=254,slow=4.6,SNR=5.1
YKA pP 01 15 29.8
0.1nm,0.6s,baz=250,slow=4.6,SNR=3.9
AKASG Malin Array Be 136.67 323 PKP PKPdf 01 20 42.8 -0.6
AKASG pPKP pPKPdf 01 20 54.7 -0.5
AKASG Malin Array Be 136.67 323 PKP PKPdf 01 20 42.8 -0.6
0.1nm,0.3s,baz=63,slow=1.7,SNR=5.8
AKASG pPKP pPKPdf 01 20 54.7 -0.5
0.6nm,0.4s,baz=64,slow=1.9,SNR=3.1
STHS Stebnicka Huta 141.72 325 *e*PKP PKPdf 01 20 52.4 -0.2
VYHS Vyhne 143.54 326 *e*PKP PKPdf 01 20 54.8 -1.1
DPC Dobruska-Polom 143.59 330 *e*PKP PKPdf 01 20 53.3 -2.6
DPC *ep*PKP pPKPdf 01 21 04.5 -3.3
UPC Upice 143.63 330 *e*PKP PKPdf 01 20 53.9 -2.1
UPC *ep*PKP pPKPdf 01 21 04.9 -2.9
PVCC Panska Ves 144.27 331 *e*PKP PKPdf 01 20 55.8 -1.3
PVCC *ep*PKP pPKPdf 01 21 05.3 -3.6
BRG Berggiesshubel 144.29 332 *e*PKPbc PKPdf 01 20 55.2 -1.9
BRG *ep*PKPbc 01 21 06.7
BRG Berggiesshubel 144.29 332 *e*PKP PKPdf 01 20 55.1 -2.0
11nm,1.0s
BRG *e* 01 21 06.6
8.3nm,0.8s
CLL Collm 144.37 334 *e*PKPbc PKPdf 01 20 55.3 -2.0
CLL *ep*PKPbc 01 21 06.5
CLL Collm 144.37 334 ⇑*i*PKPdf PKPdf 01 20 55.8 -1.5
comp=Z,10.0nm,0.8s
CLL ⇓*i*pPKPdf pPKPdf 01 21 07.0 -2.1
comp=Z,10.0nm,0.6s
MODS Modra-Piesok 144.43 327 *e*PKP PKPdf 01 20 57.2 -0.2
FBE Freiberg 144.51 333 *e*PKPbc PKPdf 01 20 56.1 -1.4
FBE *ep*PKPbc 01 21 07.5
PRU Pruhonice 144.66 331 *e*PKP PKPdf 01 20 56.5 -1.3
PRU *ep*PKP pPKPdf 01 21 07.3 -2.4
TREC Trest 144.71 329 *e*PKP PKPdf 01 20 56.8 -1.1
TREC *ep*PKP pPKPdf 01 21 08.2 -1.5
CLZ Clausthal 145.00 336 *e*PKPbc PKPdf 01 20 58.1 -0.2
CLZ *ep*PKPbc 01 21 09.2
SOP Sopron 145.24 326⇑*e*PKP PKPdf 01 20 59.5 +0.6
TANN Tannenbergstha 145.27 333 *e*PKPbc PKPbc 01 20 58.9 +0.3
TANN *ep*PKPbc pPKPbc 01 21 10.1 -0.2
WERD Werda 145.31 333 *e*PKPbc PKPbc 01 20 59.0 +0.3
WERD *ep*PKPbc pPKPbc 01 21 10.4 -0.1
GUNZ Gunzen 145.36 333 *e*PKPbc PKPbc 01 20 59.3 +0.4
GUNZ *ep*PKPbc pPKPbc 01 21 10.7 +0.1
WERN Wernitzgruen 145.40 333 *e*PKPbc PKPbc 01 20 59.5 +0.5
WERN *ep*PKPbc pPKPbc 01 21 10.8 0.0
NKC Novy Kostel 145.41 333 *e*PKP PKPdf 01 20 59.5 +0.4
NKC *ep*PKP pPKPdf 01 21 10.4 -0.5
CONA Conrad Observa 145.44 327⇓*i*PKPab PKPab 01 20 59.9 +0.4
comp=Z,14nm,0.8s
CONA ⇑*i*pPKPdf pPKPdf 01 21 11.4 +0.3
comp=Z,11nm,0.7s
MOX Moxa 145.45 334 *e*PKP PKPdf 01 20 59.2 +0.1
comp=Z,22nm,1.4s
MOX *e* 01 21 10.8
IBBN Ibbenburen 145.54 339 *e*PKPbc PKPbc 01 20 59.1 -0.3
KHC Kasperske Hory 145.72 330 *e*PKP PKPdf 01 21 00.1 +0.5
KHC *ep*PKP pPKPdf 01 21 11.9 +0.4
MANZ Manzenberg 145.74 333 *e*PKPbc PKPbc 01 21 00.4 +0.3
MANZ *ep*PKPbc pPKPbc 01 21 11.9 +0.1
GEC2 GERESS Array S 145.86 330 *e*PKPbc PKPbc 01 21 00.8 +0.3
GEC2 *ep*PKPbc pPKPbc 01 21 12.0 -0.3
GERES GERESS Array B 145.86 330 PKPbc PKPbc 01 21 00.7 +0.2
comp=Z,9.1nm,0.8s,baz=33,slow=3.2,SNR=75
GERES *ep*PKPbc pPKPbc 01 21 12.3 +0.1
comp=Z,12nm,0.7s,baz=38,slow=2.7,SNR=26
ROTZ Rotzenmuhle 145.86 332 *e*PKPbc PKPbc 01 21 01.0 +0.5
ROTZ *ep*PKPbc pPKPbc 01 21 12.2 0.0
UBBA Unterbreizbach 145.95 336 *e*PKPbc PKPbc 01 21 00.9 +0.2
UBBA *ep*PKPbc pPKPbc 01 21 11.8 -0.7
WET Wettzell 146.03 331 *e*PKPbc PKPbc 01 21 01.5 +0.5
WET *ep*PKPbc pPKPbc 01 21 12.7 0.0
MOA Molln 146.29 328⇓*i* pPKPab PKPab 01 21 13.6 -0.7
comp=Z,6.8nm,1.0s
MOA Molln 146.29 328⇓*i*PKPab PKPab 01 21 02.0 -0.7
comp=Z,4.7nm,1.1s
MOA ⇓*i*pPKPab pPKPab 01 21 13.6 -0.7
comp=Z,6.8nm,1.0s
GRA1 Grafenberg Arr 146.34 333 *e*P pPKPab 01 21 13.8 -0.6
GRF Grafenberg Arr 146.34 333 *e* pPKPab 01 21 13.8 -0.6
CRES Cresnjev 147.01 325 *i*PKPbc PKPbc 01 21 04.2 +0.2
CRES *ep*PKPbc pPKPbc 01 21 15.4 -0.3
KBA Koelnbreinsper 147.27 328⇓*i*P PKPdf 01 21 03.8 +1.4
comp=Z,5.6nm,0.7s
BOJS Bojanci 147.32 324 *e*PKPbc PKPbc 01 21 05.3 +0.4
BOJS *ep*PKPbc pPKPbc 01 21 16.5 -0.2
LJU Ljubljana 147.36 326 *e*PKPbc PKPbc 01 21 05.0 0.0
LJU *ep*PKPab pPKPab 01 21 16.2 -2.3
MYKA Terra Mystica 147.43 327⇑*i*PKPbc PKPbc 01 21 04.0 -1.2
comp=Z,5.3nm,0.7s
MYKA ⇑*i*pPKPbc pPKPbc 01 21 16.0 -0.9
comp=Z,6.0nm,0.6s
FUR Furstenfeldbru 147.47 331 *e*PKPbc PKPbc 01 21 05.3 +0.1
FUR *ep*PKPbc pPKPbc 01 21 16.8 -0.1
MOTA Moosalm 148.15 330⇓*i* pPKPab 01 21 18.2 -3.4
comp=Z,7.1nm,0.9s
MOTA Moosalm 148.15 330⇑*i*PKPbc PKPbc 01 21 06.8 -0.2
comp=Z,6.8nm,0.9s
MOTA ⇓*i*pPKPbc pPKPbc 01 21 18.2 -0.6
comp=Z,7.1nm,0.9s
SQTA Sankt Quirin 148.19 330⇑*i* pPKPab 01 21 18.6 -3.1
comp=Z,4.9nm,0.8s
SQTA Sankt Quirin 148.19 330⇓*i*PKPbc PKPbc 01 21 07.3 +0.1
comp=Z,7.0nm,0.9s
SQTA ⇑*i*pPKPbc pPKPbc 01 21 18.6 -0.3
comp=Z,4.9nm,0.8s
WLF Walferdange 148.32 338 *e*PKPdf PKPdf 01 21 04.5 +0.5
WLF *e*PKPbc PKPbc 01 21 08.1 +0.7
WLF Walferdange 148.32 338 *e*PKPbc PKPbc 01 21 08.0 +0.6
WLF *ep*PKPbc pPKPbc 01 21 19.1 -0.1
GIVF Givet 148.39 340 *e*PKP1 PKPbc 01 21 06.9 -0.7
FETA Feichten 148.56 330⇓*i*PKPbc PKPbc 01 21 08.4 +0.3
comp=Z,11nm,0.9s
FETA ⇑*i*pPKiKP 01 21 19.8
comp=Z,8.6nm,0.7s
BFO Black Forest 148.59 334 *e*PKPbc PKPbc 01 21 08.0 -0.1
BFO *ep*PKPbc pPKPbc 01 21 19.4 -0.6
BFO Black Forest 148.59 334 *e*PKPbc PKPbc 01 21 07.7 -0.5
BFO *ep*PKPbc pPKPbc 01 21 19.4 -0.6
BAIF Baives 148.62 341 *e*PKP1 PKPbc 01 21 07.5 -0.7
CDF Champ du Feu 148.94 336 *e*PKP1 PKPbc 01 21 08.3 -0.8
comp=Z,4.9nm,0.7s
HINF Hinteralfeld 149.59 335 *e*PKP1 PKPbc 01 21 10.1 -0.6
HAU Haudompre 149.63 336 *e*PKP1 PKPbc 01 21 10.1 -0.7
comp=Z,6.9nm,0.6s
MEZF Maizieres J'vi 149.69 338 *e*PKP1 PKPbc 01 21 10.4 -0.5
TIP Timpagrande 149.92 313 *e*PKPbc PKPbc 01 21 12.3 +0.5
AQU L'Aquila 150.33 321 *e*PKPdf PKPdf 01 21 09.2 +1.8
AQU *ep*PKPbc PKPbc 01 21 13.7 +1.0
CABF La Chapelle 150.88 335 *e*PKP1 PKPbc 01 21 13.8 0.0
comp=Z,19nm,0.9s
LOR Lormes 151.16 338 *e*PKP1 PKPbc 01 21 14.4 -0.1
SSF Saint Saulge 151.46 338 *e*PKP1 PKPbc 01 21 15.2 0.0
LPL La Plagne 151.50 333 *e*PKP1 PKPbc 01 21 15.6 +0.3
comp=Z,5.1nm,0.7s
LPG La Plagne 151.50 333 *e*PKP1 PKPbc 01 21 16.0 +0.7
comp=Z,14nm,1.0s
BNI Bardonecchia 151.89 332 *e*PKPbc PKPbc 01 21 16.1 -0.1
ORIF Oris-en-Rattie 152.34 333 *e*PKP1 PKPbc 01 21 17.4 +0.2
comp=Z,7.4nm,0.8s
TCF Toulx Ste Croi 152.57 339 *e*PKP1 PKPbc 01 21 18.4 +0.7
comp=Z,13nm,1.1s
PGF Pioggiola 152.65 326 *e*PKP1 PKPbc 01 21 17.7 -0.3
comp=Z,26nm,0.9s
VIVF Saint-Julien-l 152.89 334 *e*PKP1 PKPbc 01 21 18.7 +0.2
SMRF Simiane la Rot 153.22 332 *e*PKP1 PKPbc 01 21 19.4 +0.2
comp=Z,10nm,0.9s

IDC 25 01:05:32.2±2.0, 188N×12653E, h0km, mb4.0/3, mb1 4.3/3, mb1mx3.8/15, mbtmp4.0/3, Error ellipse: s-maj=176.2km s-min=24.2km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.00**	**161**	P	P	01 10 37.4	-1.4
	3.7nm,0.5s,baz=339,slow=11,SNR=25						
ASAR	**Alice Springs**	**26.39**	**165**	P	P	01 11 11.7	+1.3
	2.8nm,0.3s,baz=346,slow=12,SNR=38						
MKAR	**Makanchi Array**	**58.96**	**326**	P	P	01 15 33.4	0.0
	0.3nm,0.4s,baz=123,slow=7.9,SNR=3.5						

IDC 25 01:36:50.1±4.4, 2303S×17900W, h0km, mb3.9/2, mb1 4.2/2, mb1mx3.8/14, mbtmp3.9/2, Error ellipse: s-maj=258.7km s-min=64.0km az=159.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**43.09**	**259**	P	P	01 44 51.8	-0.5
	0.6nm,0.3s,baz=94,slow=7.3,SNR=11						
WRA	**Warramunga Arr**	**43.39**	**265**	P	P	01 44 55.0	+0.3
	1.3nm,0.5s,baz=102,slow=7.6,SNR=6.2						
NB2	**NORSAR Subarra**	**141.36**	**352**	PKP	PKPdf	01 56 20.3	-2.1
	comp=Z,0.5nm,0.6s,baz=21,slow=3.7						
NOA	**NORSAR Array B**	**141.36**	**352**	PKP	PKPdf	01 56 21.2	-1.2
	comp=Z,1.2nm,0.8s,baz=21,slow=3.8,SNR=4.8						
AKASG	**Malin Array Be**	**144.72**	**329**	PKP	PKPdf	01 56 28.6	0.0
	comp=Z,0.3nm,0.4s,baz=42,slow=4.2,SNR=5.4						

IDC 25 01:39:24.7±3.2, 3483S×17995E, h0km, mb4.6/2, mb1 4.7/3, mb1mx4.2/14, mbtmp4.5/3, ML3.8/1, Error ellipse: s-maj=68.4km s-min=45.9km az=115.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**4.12**	**213**	Pn	Pn	01 40 28.2	-0.7
	5.9nm,0.3s,baz=37,slow=3.4,SNR=23						
URZ				Sn	Sn	01 41 13.8	-3.9
	20nm,0.3s,baz=281,slow=24,SNR=9.0						
ASAR	**Alice Springs**	**41.37**	**273**	P	P	01 47 12.4	-0.2
	4.6nm,0.5s,baz=114,slow=7.9,SNR=94						
WRA	**Warramunga Arr**	**42.77**	**278**	P	P	01 47 24.4	+0.3
	3.7nm,0.5s,baz=118,slow=7.8,SNR=59						
FINES	**FINESS Array B**	**148.60**	**336**	PKPbc	PKPbc	01 59 12.2	-0.6
	2.5nm,1.1s,baz=10,slow=4.3,SNR=3.8						

MOS ***25*** *01:59:37.5±0.1, 4140N×4591E, h87km, mb3.5/1, Error ellipse: s-maj=71.3km s-min=11.0km az=119.5*

TIF 25 01:59:31.2, 4159N×4649E, h10km±5km, 1D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DGRG	**David-gareji**	**0.85**	**261**	P	Pg	01 59 53.0	+5.4
DGRG				S	Sg	02 00 06.9	+8.3
MTA	**Mtatsminda**	**1.27**	**275**	P	Pn	01 59 56.7	+1.6
MTA				S	Sb	02 00 14.2	+2.5
TBLG	**Delisi**	**1.32**	**277**	P	Pn	01 59 57.1	+1.4
TBLG				S	Sb	02 00 14.9	+1.9
GOR	**Gori**	**1.82**	**283**	P	Pn	02 00 04.7	+2.1
GOR				S	Sn	02 00 27.6	+1.9
SNJR	**Sundja**	**1.93**	**320**	*e*P	Pn	02 00 08.6	+4.5
SNJR				*e*S	Sn	02 00 34.2	+5.8
LACR	**Lac**	**2.04**	**308**	*e*P	Pn	02 00 08.4	+2.8
LACR				*e*S	Sn	02 00 32.8	+1.6
ZEI	**Tsey**	**2.26**	**302**	⇓*i*P	Pn	02 00 10.9	+2.3
ZEI				*e*S	Sn	02 00 38.4	+2.0
ARNR	**Ardon**	**2.29**	**315**	*e*P	Pn	02 00 12.6	+3.6
ARNR				*e*S	Sn	02 00 40.7	+3.5
BTKR	**Batakoyurt**	**2.29**	**322**	*e*P	Pn	02 00 13.3	+4.3
BTKR				*e*S	Sn	02 00 42.5	+5.3
KORR	**Kora**	**2.33**	**311**	*e*P	Pn	02 00 12.8	+3.2
KORR				*e*S	Sn	02 00 41.5	+3.1
KMSR	**Komsomolskaya**	**2.41**	**318**	*e*P	Pn	02 00 14.5	+3.8
KMSR				*e*S	Sn	02 00 44.6	+4.4
ONI	**Oni**	**2.47**	**295**	P	Pn	02 00 13.9	+2.4
ONI				S	Sn	02 00 45.5	+3.9
DIGR	**Digorskoe uzhe**	**2.52**	**302**	*e*P	Pn	02 00 14.4	+2.2
DIGR				*e*S	Sn	02 00 44.2	+1.2

ISCJB ***25*** *01:59:33.0±0.6, 3031S±004×1778W±0.1, h10km, mb4.6/15, MS4.0/5, Error ellipse: s-maj=13.9km s-min=5.4km az=12.6*
NEIC ***25*** *01:59:37.9±1.5, 2998S×17759W, h43km±12km, mb4.7/8, Error ellipse: s-maj=14.1km s-min=9.8km az=112.0*
IDC ***25*** *01:59:38.8±1.7, 2990S×17762W, h43km±13km, mb4.4/10, mb1 4.5/10, mb1mx4.4/15, mbtmp4.3/10, MS3.9/6, Ms1 3.9/6, ms1mx3.4/23, Error ellipse: s-maj=21.8km s-min=15.9km az=107.0*

ISC 25 01:59:34.3±0.6, 3022S±004×1778W±01, h10km, n76, σ1§38/41, mb4.6/15, MS4.0/5, 1C-1D, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.97**	**351**	P	**Pg**	**01 59 52.3**	**-0.8**
RAO				S	**Sg**	**02 00 03.4**	**-2.4**
RAO	**Raoul Island**	**0.97**	**351**	P	**Pg**	**01 59 52.3**	**-0.8**
	2μm,0.3s,baz=99,slow=7.7,SNR=112						
RAO				S	**Sg**	**02 00 03.4**	**-2.4**
	8μm,0.3s,baz=90,slow=21,SNR=25						
MXZ	**Matakaoa Point**	**8.03**	**203**	SN	**Sn**	**02 02 59.7**	**-2.1**
PUZ	**Puketiti**	**8.51**	**202**	SN	**Sn**	**02 03 11.0**	**-2.6**
MWZ	**Matawai**	**8.99**	**205**	SN	**Sn**	**02 03 25.7**	**+0.2**
URZ	**Urewera**	**9.08**	**207**	P	**Pn**	**02 01 42.5**	**-2.9**
	1.0nm,0.3s,baz=170,slow=20,SNR=6.8						
URZ				S	**Sn**	**02 03 28.3**	**+0.6**
	7.0nm,0.3s,baz=147,slow=22,SNR=12						
BFZ	**Birch Farm**	**11.53**	**203**	SN	**Sn**	**02 04 21.0**	**-6.7**
HOWZ	**Holdsworth Sta**	**11.98**	**205**	SN	**Sn**	**02 04 31.5**	**-7.3**
TCW	**Tory Channel**	**12.73**	**208**	SN	**Sn**	**02 04 50.6**	**-6.6**
TUWZ	**Tuamarina**	**13.05**	**209**	SN	**Sn**	**02 04 59.1**	**-6.0**
KHZ	**Kahutara**	**14.04**	**208**	SN	**Sn**	**02 05 19.3**	**-10**
RPZ	**Rata Peaks**	**16.15**	**210**	P	**Pn**	**02 03 23.4**	**+2.0**
	1.8nm,0.3s,baz=90,slow=3.7,SNR=7.6						
RPZ				S	**Sn**	**02 06 07.7**	**-13**
	1.2nm,0.3s,baz=3.8,slow=18,SNR=5.4						
RAR	**Rarotonga**	**18.49**	**65**	LR	LR	02 09 31.2	
	comp=Z,169nm,19.2s,baz=266,slow=32						
TBI	**Tubuai**	**26.12**	**82**	*e*LR	LR	02 11 39.1	
	333nm,26.0s						
PPT	**Papeete**	**28.58**	**70**	*e*LR	LR	02 12 42.9	
	291nm,26.0s						
CTA	**Charters Tower**	**33.99**	**279**	P	**P**	**02 06 20.2**	**+1.9**
	13nm,0.5s,mb5.1,baz=94,slow=11,SNR=16						
CTAO	**Charters Tower**	**33.99**	**279**	*e*P	**P**	**02 06 20.1**	**+1.7**
	14nm,0.6s,mb5.1						
STKA	**Stephens Creek**	**34.73**	**257**	*e*P	**P**	**02 06 26.7**	**+2.0**
	8.1nm,1.0s,mb4.6						
STKA	**Stephens Creek**	**34.73**	**257**	P	**P**	**02 06 27.1**	**+2.4**
	6.2nm,0.4s,mb4.9,baz=93,slow=10,SNR=16						
STKA				LR	LR	02 19 01.3	
	comp=Z,137nm,18.7s,MS3.7,baz=27,slow=33						
RKT	**Rikitea**	**38.70**	**90**	*e*LR	LR	02 17 20.7	
	310nm,29.8s						
ASAR	**Alice Springs**	**43.34**	**267**	P	**P**	**02 07 37.4**	**+0.5**
	4.0nm,0.5s,mb4.4,baz=105,slow=7.0,SNR=38						
ASAR				PcP	PcP	02 09 26.2	+0.6
	0.5nm,0.4s,baz=121,slow=4.0,SNR=4.6						
WB2	**Warramunga Arr**	**44.30**	**272**	*e*P	**P**	**02 07 44.1**	**-0.5**
WRAB	**Tennant Creek**	**44.30**	**272**	*e*P	**P**	**02 07 44.0**	**-0.6**
	14nm,0.7s,mb4.8						
WRA	**Warramunga Arr**	**44.31**	**272**	P	**P**	**02 07 44.8**	**+0.1**
WRA				LR	LR	02 24 26.1	
WRA	**Warramunga Arr**	**44.31**	**272**	P	**P**	**02 07 44.8**	**+0.1**
	7.9nm,0.3s,mb4.9,baz=111,slow=8.1,SNR=367						
WRA				LR	LR	02 24 26.1	
	comp=Z,102nm,19.1s,MS3.8,baz=115,slow=34						
FORT	**Forrest**	**46.31**	**255**	*e*P	**P**	**02 08 02.6**	**+2.2**
	1.3nm,0.6s,mb4.0						
VNDA	**Vanda**	**48.30**	**186**	*e*P	**P**	**02 08 18.2**	**+2.9**
	1.5nm,0.7s,mb4.1						
VNDA	**Vanda**	**48.30**	**186**	P	**P**	**02 08 18.7**	**+3.4**
	2.4nm,1.0s,mb4.2,baz=40,slow=2.6,SNR=4.0						
FITZ	**Fitzroy Crossi**	**52.58**	**270**	*e*P	**P**	**02 08 49.1**	**+0.6**
	6.2nm,0.7s,mb4.7						
NWAO	**Narrogin (SRO)**	**54.67**	**249**	LR	LR	02 31 05.4	
	comp=Z,127nm,18.6s,MS4.0,baz=146,slow=34						
CASY	**Casey**	**55.40**	**208**	*e*P	**P**	**02 09 08.3**	**0.0**
	23nm,0.9s,mb5.2						
MBWA	**Marble Bar**	**56.46**	**263**	*e*P	**P**	**02 09 15.7**	**-0.9**
	10nm,1.1s,mb4.8						
GUMO	**Guam**	**56.51**	**315**	LR	LR	02 28 22.1	
	comp=Z,127nm,21.1s,MS4.0,baz=100,slow=31						
BATI	**Kupang**	**57.85**	**277**	LR	LR	02 34 54.1	
	comp=Z,197nm,18.1s,MS4.3,baz=121,slow=36						
QSPA	**South Pole Qui**	**59.89**	**180**	P	**P**	**02 09 42.1**	**+2.3**
	7.3nm,0.9s,mb4.7,baz=47,slow=2.4,SNR=14						
MAW	**Mawson**	**72.56**	**200**	P	**P**	**02 11 02.3**	**+1.1**
	5.8nm,0.7s,mb4.6,baz=126,slow=5.2,SNR=6.9						
SYO	**Syowa Base**	**77.34**	**193**⇓*e*P		**P**	**02 11 27.4**	**-1.4**
SYO	**Syowa Base**	**77.34**	**193**⇑*e*PcP		PcP	02 11 37.0	-2.3
MJAR	**Matsushiro Arr**	**78.22**	**325**	P	**P**	**02 11 32.9**	**-1.1**
	1.7nm,0.7s,mb4.1,baz=152,slow=6.6,SNR=4.7						
SNAA	**Sanae**	**78.33**	**178**	*e*	**P**	**02 11 33.9**	**-0.4**
SNAA				*e*		02 11 41.9	
SNAA				*e*		02 11 51.4	
VNA3	**Neumayer Olymp**	**78.47**	**176**	*e*	**P**	**02 11 35.0**	**-0.1**
VNA3				*e*		02 11 43.9	
VNA3				*e*		02 11 51.5	
VNA2	**Neumayer--Watz**	**78.91**	**177**	*e*	**P**	**02 11 37.8**	**+0.3**
	baz=192,slow=5.7						
VNA2				*e*		02 11 46.3	
VNA2				*e*		02 11 54.4	
VNA1	**Neumayer--Stat**	**79.14**	**176**	*e*	**P**	**02 11 40.6**	**+1.9**
VNA1				*e*		02 11 50.4	
VNA1				*e*		02 11 58.0	
NVAR	**Mina Array Bea**	**87.96**	**43**	P	**P**	**02 12 23.8**	**-0.6**
	2.8nm,0.8s,mb4.5,baz=231,slow=9.8,SNR=14						
PDAR	**Pinedale Array**	**95.85**	**43**	P	**P**	**02 12 59.9**	**-1.0**
	0.3nm,0.3s,mb4.2,baz=148,slow=8.7,SNR=3.6						
MDRS	**Chennai**	**106.74**	**276**	*ex*	PP	02 18 13.5	-2.5
MK31	**Makanchi Array**	**117.82**	**310**	*e*PKPdf	PKPdf	02 18 18.8	-1.9
MKAR	**Makanchi Array**	**117.82**	**310**	PKP	PKPdf	02 18 18.4	-2.3
MKAR	**Makanchi Array**	**117.82**	**310**	PKP	PKPdf	02 18 18.4	-2.3
	0.3nm,0.3s,baz=77,slow=2.6,SNR=5.1						
KURK	**Kurchatov**	**121.08**	**314**	*e*PKPdf	PKPdf	02 18 24.1	-2.7
TKM2	**Tokmak 2**	**121.47**	**304**	*e*PKPdf	PKPdf	02 18 26.1	-1.8
UCH	**Uchtor**	**122.09**	**303**	*e*PKPdf	PKPdf	02 18 28.4	-0.7
AAK	**Ala-Archa**	**122.19**	**304**	*e*PKPdf	PKPdf	02 18 26.6	-2.7
AML	**Almayashu**	**122.66**	**303**	*e*PKPdf	PKPdf	02 18 29.1	-1.1
EKS2	**Erkin-Say**	**122.72**	**304**	*e*PKPdf	PKPdf	02 18 28.8	-1.4
KBL	**Kabul**	**124.35**	**293**	*e*PKPdf	PKPdf	02 18 33.1	-0.5
BRVK	**Borovoye**	**126.49**	**316**	*e*PKPdf	PKPdf	02 18 34.7	-2.5
LSZ	**Lusaka**	**128.33**	**213**	*e*PKPdf	PKPdf	02 18 41.7	-0.1
FIA1	**FINESS Array S**	**145.05**	**340**	*e*PKPdf	PKPdf	02 19 08.4	-2.8
FINES	**FINESS Array B**	**145.05**	**340**	PKP	PKPdf	02 19 08.6	-2.6
	18nm,0.6s,baz=57,slow=3.6,SNR=56						
KIV	**Kislovodsk**	**145.31**	**305**	*e*PKPdf	PKPdf	02 19 10.8	-1.4
NB2	**NORSAR Subarra**	**148.60**	**352**	PKP	PKPdf	02 19 18.6	+1.4
	comp=Z,5.1nm,0.8s,baz=12,slow=2.8						
NOA	**NORSAR Array B**	**148.60**	**352**	PKPbc	PKPdf	02 19 18.9	+1.8
NOA	**NORSAR Array B**	**148.60**	**352**	PKPbc	PKPdf	02 19 18.9	+1.8
	comp=Z,3.5nm,0.7s,baz=13,slow=4.4,SNR=17						
NAO01	**NORSAR Array S**	**148.84**	**352**	*e*PKPbc	PKPdf	02 19 19.5	+2.0
HFS	**Hagfors**	**149.11**	**349**	PKPbc	PKPdf	02 19 20.1	+2.1
	comp=Z,6.6nm,0.7s,baz=90,slow=1.5,SNR=12						
MALT	**Malatya**	**149.19**	**295**	*e*PKPbc	PKPbc	02 19 22.0	-1.1
ANDN	**Andirin**	**150.88**	**294**	*e*P	PKPbc	02 19 25.9	-1.3
AKASG	**Malin Array Be**	**151.29**	**323**	PKPbc	PKPbc	02 19 25.9	-1.8
	comp=Z,1.9nm,0.4s,baz=47,slow=3.0,SNR=19						
AKASG				PKPab	PKPab	02 19 32.5	-3.3
	comp=Z,2.2nm,0.4s,baz=45,slow=3.1,SNR=14						
AKBB	**Malin Array Si**	**151.29**	**323**	*e*PKPbc	PKPbc	02 19 25.7	-2.0
EKA	**Eskdalemuir Ar**	**154.60**	**7**	PKPab	PKPab	02 19 47.5	-2.0
	comp=Z,1.4nm,0.9s,baz=312,slow=4.1,SNR=4.4						
KWP	**Kalwaria**	**155.20**	**327**	*e*PKPab	PKPab	02 19 51.0	-1.3
CLL	**Collm**	**157.46**	**342**	*i* PKPab	PKPab	02 20 00.3	-1.6
	comp=Z,7.0nm,0.8s						
BRG	**Berggiesshubel**	**157.59**	**340**	*e*P	PKPab	02 20 00.9	-1.5
	comp=Z,6.7nm,0.7s						
GERES	**GERESS Array B**	**159.45**	**338**	PKPab	PKPab	02 20 09.6	-1.0
	comp=Z,1.0nm,0.7s,baz=31,slow=3.6,SNR=5.8						
DAVOX	**Davos/Dischmat**	**162.44**	**342**	PKPab	PKPab	02 20 23.1	-0.5
	comp=Z,4.0nm,0.6s,baz=32,slow=4.9,SNR=7.5						

ISCJB ***25*** *02:11:50.7±0.7, 4704N±003×2756W±002, h0km±4km, mb5.0/201, MS4.7/75, Error ellipse: s-maj=4.7km s-min=1.8km az=6.1*
BJI ***25*** *02:11:51.9, 47.13N×2778W, h15km, mB5.6, mb4.9, Ms5.2, Msz4.8*
IDC ***25*** *02:11:52.3±0.4, 47.15N×2749W, h0km, mb4.4/24, mb1 4.6/26, mb1mx4.5/31, mbtmp4.4/26, ML4.7/2, MS4.7/26, Ms1 4.7/26, ms1mx4.6/32, Error ellipse: s-maj=14.1km s-min=10.8km az=177.0*
IGIL ***25*** *02:11:52.0, 47.10N×2750W, h10km*
MOS ***25*** *02:11:52.7±1.0, 47.15N×2747W, h10km, mb5.1/90, MS4.8/31, Error ellipse: s-maj=6.3km s-min=3.5km az=158.5*
CSEM ***25*** *02:11:52.6±0.0, 4723N×2747W, h10km, mb5.0/99, Ms4.4, Mw5.4, Error ellipse: s-maj=2.6km s-min=0.9km az=10.0*
NEIC ***25*** *02:11:54.7±0.1, 47.16N×2746W, h10km, mb5.0/165, Error ellipse: s-maj=4.9km s-min=1.9km az=10.0*
GCMT ***25*** *02:11:54.7±0.1, 4706N×2732W, h12km, MW5.4/103, Moment Tensor Solution. s75,c135; s103,c207; Duration: 1§2 Moment tensor: Scale 10^17 Nm; M_{rr}=1.38±.02; $M_{\theta\theta}$0.05±.02; $M_{\phi\phi}$1.34±.01; $M_{r\theta}$0.04±.04; $M_{\theta\phi}$0.04±.01; $M_{r\phi}$0.39±.04; Best double couple: M_0=1.41700×10^17 NP1:φ=1.00000°, δ37.00000°, λ-92.00000°. NP2:φ=183.00000°, δ53.00000°, λ-89.00000°. Principal axes: T 1.3970, Plg8.0000°, Azm272.0000°; N 0.0470, Plg1.0000°, Azm2.0000°; P -1.

MTE eLR LR 02 19 08.9
comp=Z,5µm,20.0s
MTE Manteigas 15.86 108 eT 02 29 50.4
DYA Yadsworthy 15.89 69 eP **Pn 02 15 36.3 -1.4**
DYA AMb AMB 02 15 47.0
comp=Z,228nm,1.8s
ALMR Almeirim 15.89 113 eP **Pn 02 15 36.1 -1.7**
HEX Exmoor 16.01 67 eP **Pn 02 15 43.0 +3.6**
EARI Arriondas 16.14 95 P **Pn 02 15 39.6 -1.5**
comp=Z,489nm,2.0s
EARI Arriondas 16.14 95 P **Pn 02 15 39.6 -1.4**
comp=Z,489nm,2.0s
PCBR Castelo Branco 16.20 109 eP **Pn 02 15 40.6 -1.2**
comp=Z,71nm,1.9s
ROSF Rostrenen 16.34 77 eP **Pn 02 15 38.3 -5.3**
comp=Z,199nm,1.4s
ROSF Rostrenen 16.34 77 eP **Pn 02 15 38.3 -5.3**
comp=Z,100nm,1.4s
ROSF Rostrenen 16.34 77 eP **Pn 02 15 38.3 -5.3**
ROSF pmax pmax
comp=Z,100nm,1.4s
PMPS Porto Santo 16.36 145 eP **Pn 02 15 44.6 +0.7**
MOE Montemor 16.41 114 eP **Pn 02 15 43.8 -0.7**
MOE Montemor 16.41 114 eT 02 30 37.2
PMAR Madeira 16.43 147 eP **Pn 02 15 43.4 -1.4**
comp=Z,122nm,1.5s
QUIF Quistinic 16.45 78 eP **Pn 02 15 39.8 -5.2**
HTR Trewern Hill 16.46 63 eP **Pn 02 15 46.5 +1.5**
EVO Evora 16.61 114 ePn **Pn 02 15 43.5 -3.6**
EVO eSn Sn 02 18 30.9 -21
comp=Z,8.5nm,0.6s
EVO eMLR MLR
comp=Z,4µm,20.8s
EVO Evora 16.61 114 eP **Pn 02 15 44.6 -2.5**
EVO eS **Sn 02 18 32.9 -19**
EVO Evora 16.61 114 eT 02 30 57.6
MCH1 Michaelchurch 16.62 64 eP **Pn 02 15 48.4 +1.3**
MCH1 AMb AMB 02 15 55.0
comp=Z,199nm,1.8s
RRH Rhenigidale 16.62 42 eP **Pn 02 15 50.0 +3.0**
PESTR Estremoz 16.68 112 eP **Pn 02 15 45.6 -2.3**
comp=Z,96nm,1.4s
PESTR eLR LR 02 19 33.0
comp=Z,3µm,20.0s
PESTR Estremoz 16.68 112 eT 02 30 33.4
HGH Gray Hill 16.69 65 eP **Pn 02 15 48.0 0.0**
PTEO Sao Teotonio 16.79 118 eP **Pn 02 15 48.4 -0.9**
comp=Z,193nm,2.0s
PTEO eS **Sn 02 18 39.5 -17**
SGMF Saint Gilles 16.83 77 eP **Pn 02 15 45.2 -4.5**
KSB Sheil Bridge 16.86 45 eP **Pn 02 15 50.9 +0.8**
EAB Aberfoyle 16.96 49 eP **Pn 02 15 50.9 -0.4**
RRR Rubha Reidh 16.99 43 eP **Pn 02 15 52.9 +1.2**
MORF Marmelete 16.99 118 eP **Pn 02 15 50.7 -1.2**
comp=Z,124nm,2.1s
MORF eLR LR 02 19 54.7
comp=Z,4µm,20.0s
MORF Marmelete 16.99 118 eT 02 32 07.8
PFVI Vila Bisbo 17.00 119 eP **Pn 02 15 51.0 -1.0**
comp=Z,122nm,2.0s
PFVI eS Sn 02 18 38.8 -22
PFVI eLR LR 02 19 42.6
comp=Z,4µm,20.0s
PBEJ Beja 17.01 115 eP **Pn 02 15 50.9 -1.2**
comp=Z,43nm,2.5s
PBEJ Beja 17.01 115 eT 02 26 28.6
KAC Achnashellach 17.05 44 eP **Pn 02 15 53.4 +0.9**
CKE Keswick 17.09 55⇑ eP **Pn 02 15 53.8 +0.8**
EBAD Badajoz 17.11 112 P **Pn 02 15 51.1 -2.2**
comp=Z,231nm,1.6s
ECK Cauldkaine Hil 17.25 53 eP **Pn 02 15 55.4 +0.4**
ESK Eskdalemuir 17.25 52 eP **Pn 02 15 55.3 +0.3**
ESK AMb AMB 02 16 01.9
comp=Z,92nm,2.1s
ESK Eskdalemuir 17.25 52 eP **Pn 02 15 55.3 +0.3**
comp=Z,182nm,1.9s
EKA Eskdalemuir Ar 17.28 52 P **Pn 02 15 55.5 +0.1**
comp=Z,0.2nm,0.3s,baz=253,slow=11,SNR=18
EKA PcP PcP 02 20 37.8 0.0
baz=254,slow=5.0,SNR=3.5
EKA Eskdalemuir Ar 17.28 52 PcP PcP 02 20 37.8 0.0
EAU Auchinoon 17.30 51 eP **Pn 02 15 56.2 +0.6**
SSW Stow on the Wo 17.32 64⇑ eP **Pn 02 15 59.0 +3.1**
REB Eisghbrachaidh 17.36 42 eP **Pn 02 15 57.9 +1.5**
ELAN Lanestosa 17.38 94 P **Pn 02 15 56.2 -0.5**
comp=Z,601nm,1.9s
ELAN Lanestosa 17.38 94 P **Pn 02 15 56.2 -0.5**
comp=Z,601nm,1.9s
PBAR Barrancos 17.44 113 eP **Pn 02 15 55.9 -1.5**
comp=Z,84nm,2.0s
PBAR eS **Sn 02 18 53.8 -18**
PBAR eLR LR 02 19 58.4
comp=Z,3µm,20.0s
PBAR Barrancos 17.44 113 eT 02 31 00.8
EDI Edinburgh 17.46 51 eP **Pn 02 15 57.5 -0.2**
EDI AMb AMB 02 16 02.7
comp=Z,108nm,1.8s
PBDV Barranco-do-Ve 17.47 117 eP **Pn 02 15 56.8 -1.0**
comp=Z,142nm,2.1s
PBDV eS **Sn 02 18 55.6 -17**
PBDV eLR LR 02 19 54.8
comp=Z,3µm,20.0s
KWE Weaver Farm 17.47 61 eP **Pn 02 15 59.3 +1.6**
MDO Dochfour 17.47 45 eP **Pn 02 15 58.6 +0.9**
PVAQ Vaqueiros 17.50 116 eP **Pn 02 15 56.8 -1.4**
comp=Z,97nm,1.8s
PVAQ eS **Sn 02 18 56.8 -16**
PVAQ eLR LR 02 20 03.3
comp=Z,3µm,20.0s
PVAQ Vaqueiros 17.50 116 eT 02 30 53.1
RSC Scourie 17.53 42 eP **Pn 02 16 00.3 +1.8**
EGRO El Granado 17.56 116 P **Pn 02 15 57.5 -1.4**
comp=Z,259nm,1.8s
LHO Holmfirth 17.56 59⇑ eP **Pn 02 15 58.6 -0.2**
WOL Wolverton 17.65 66 eP **Pn 02 16 01.9 +1.9**
KBI1 Birley Grange 17.70 60 P **Pn 02 16 01.9 +1.3**
KBI1 Birley Grange 17.70 60 eP **Pn 02 16 01.3 +0.7**
KBI1 eP 02 16 01.9
KBI1 Birley Grange 17.70 60 eP **Pn 02 16 01.9 +1.3**
comp=Z,117nm,2.0s
CWF Charnwood Fore 17.75 62 eP **Pn 02 15 59.8 -1.4**
CWF AMb AMB 02 16 08.7
comp=Z,117nm,2.0s
ESY Stoneypath 17.77 51 eP **Pn 02 16 02.2 +0.8**
HPK Haverah Park 17.78 58 eP **Pn 02 16 02.5 +0.9**
HPK AMb AMB 02 16 06.2
comp=Z,154nm,1.7s
XSO Sourhope Farm 17.82 52 eP **Pn 02 16 02.2 +0.1**
EMIN Mina Concepcio 17.91 114 P **Pn 02 16 01.6 -1.8**
comp=Z,776nm,3.2s
SKP1 Kophill 17.94 65 eP **Pn 02 16 04.7 +1.2**
GRR Gorron 17.94 76 eP **Pn 02 16 00.0 -3.6**
comp=Z,93nm,1.1s
GRR Gorron 17.94 76 eP **Pn 02 16 00.0 -3.6**
comp=Z,47nm,1.1s
GRR Gorron 17.94 76 eP **Pn 02 16 00.0 -3.6**
GRR pmax pmax
comp=Z,47nm,1.1s
GUD Guadarrama 17.98 102 P **Pn 02 16 05.2 +1.1**
GUD pmax pmax
comp=Z,25nm,0.4s
GUD Guadarrama 17.98 102 P **Pn 02 16 05.2 +1.1**
comp=Z,25nm,0.4s
MCD Coleburn Disti 18.07 45⇑ eP **Pn 02 16 05.6 +0.4**
FLN La Foliniere 18.16 75 eP **Pn 02 16 05.1 -1.2**
comp=Z,178nm,1.2s
FLN eMLR MLR
comp=Z,8µm,21.0s
FLN La Foliniere 18.16 75 eP **Pn 02 16 05.1 -1.2**
FLN pmax pmax
comp=Z,89nm,1.2s
FLN La Foliniere 18.16 75 eP **Pn 02 16 05.1 -1.2**
comp=Z,89nm,1.2s
ECRI Cripan 18.24 95 P **Pn 02 16 08.4 +1.1**
ECRI pmax pmax
comp=Z,26nm,0.8s
ECRI Cripan 18.24 95 P **Pn 02 16 08.4 +1.1**
comp=Z,26nm,0.8s
PAB San Pablo 18.40 106 eP **Pn 02 16 09.3 0.0**
comp=Z,18nm,0.7s
PAB San Pablo 18.40 106 eP **Pn 02 16 09.3 0.0**
PAB pmax pmax
comp=Z,18nm,0.7s
PAB San Pablo 18.40 106 eP **Pn 02 16 09.3 0.0**
comp=Z,18nm,0.7s

LDF La Druitiere 18.41 75 eP **Pn 02 16 08.5 -0.8**
comp=Z,288nm,1.5s
LDF La Druitiere 18.41 75 eP **Pn 02 16 08.5 -0.8**
LDF pmax pmax
comp=Z,144nm,1.5s
LDF La Druitiere 18.41 75 eP **Pn 02 16 08.5 -0.8**
comp=Z,144nm,1.5s
ESDC Sonseca Array 18.59 105 P **Pn 02 16 12.6 +1.0**
comp=Z,5.2nm,0.3s,baz=297,slow=12,SNR=114
ESDC LR LR 02 21 48.5
comp=Z,4µm,19.4s,baz=300,slow=32
ESLA Sonseca Array 18.59 105 eP **Pn 02 16 12.4 +0.8**
comp=Z,8.4nm,0.8s
ESLA Sonseca Array 18.59 105 eP **Pn 02 16 12.4 +0.8**
comp=Z,8.4nm,0.8s
MFF Saint Martin d 18.69 81 eP **Pn 02 16 11.9 -0.8**
comp=Z,123nm,1.3s
MFF Saint Martin d 18.69 81 eP **Pn 02 16 11.9 -0.8**
MFF pmax pmax
comp=Z,62nm,1.3s
MFF Saint Martin d 18.69 81 eP **Pn 02 16 11.9 -0.8**
comp=Z,62nm,1.3s
EALK Alkurruntz 18.70 92 P **Pn 02 16 13.4 +0.5**
comp=Z,1µm,3.1s
EALK Alkurruntz 18.70 92 P **Pn 02 16 13.4 +0.5**
comp=Z,1µm,3.1s
ELIZ Elizondo 18.70 93 P **Pn 02 16 14.8 +1.8**
comp=Z,12nm,0.9s
ELIZ Elizondo 18.70 93 P **Pn 02 16 14.8 +1.8**
ELIZ pmax pmax
comp=Z,12nm,0.9s
ELIZ Elizondo 18.70 93 P **Pn 02 16 14.8 +1.8**
comp=Z,12nm,0.9s
SJPF Ste Jean 18.93 92 eP **Pn 02 16 14.8 -0.9**
comp=Z,45nm,0.7s
SJPF Ste Jean 18.93 92 eP **Pn 02 16 14.8 -0.9**
SJPF pmax pmax
comp=Z,22nm,0.7s
SJPF Ste Jean 18.93 92 eP **Pn 02 16 14.8 -0.9**
comp=Z,22nm,0.7s
ESPR Espera 18.98 115 P **Pn 02 16 17.0 +0.6**
comp=Z,2µm,4.3s
ESPR Espera 18.98 115 P **Pn 02 16 17.0 +0.6**
comp=Z,2µm,4.3s
EADA Adamuz 19.01 110 P **Pn 02 16 17.9 +1.2**
comp=Z,462nm,2.3s
EADA Adamuz 19.01 110 P **Pn 02 16 17.9 +1.2**
comp=Z,462nm,2.3s
ATE Arette 19.30 92 eP **Pn 02 16 21.9 +1.8**
ETOR Torete 19.30 100 P **Pn 02 16 19.4 -0.9**
comp=Z,45nm,1.0s
ETOR Torete 19.30 100 P **Pn 02 16 19.4 -0.9**
ETOR pmax pmax
comp=Z,45nm,1.0s
ETOR Torete 19.30 100 P **Pn 02 16 19.4 -0.9**
comp=Z,45nm,1.0s
ETSF Etsaut 19.46 92 eP **Pn 02 16 20.9 -1.2**
comp=Z,86nm,0.8s
ETSF Etsaut 19.46 92 eP **Pn 02 16 20.9 -1.2**
ETSF pmax pmax
comp=Z,43nm,0.8s
ETSF Etsaut 19.46 92 eP **Pn 02 16 20.9 -1.2**
comp=Z,43nm,0.8s
EJIF Jimena Fronter 19.49 115 P **Pn 02 16 23.7 +1.2**
EJIF pmax pmax
comp=Z,46nm,1.0s
EJIF Jimena Fronter 19.49 115 P **Pn 02 16 23.7 +1.2**
comp=Z,46nm,1.0s
REYF Montagne du Re 19.51 92 eP **Pn 02 16 24.0 +1.3**
ELUQ Luque 19.56 111 P **Pn 02 16 24.9 +1.6**
comp=Z,5.7nm,0.7s
ELUQ Luque 19.56 111 P **Pn 02 16 24.9 +1.5**
ELUQ pmax pmax
comp=Z,6.0nm,0.7s
ELUQ Luque 19.56 111 P **Pn 02 16 24.9 +1.5**
comp=Z,5.7nm,0.7s
LFF La Frestale 19.69 86 eP **Pn 02 16 22.9 -1.9**
comp=Z,439nm,1.6s
LFF La Frestale 19.69 86 eP **Pn 02 16 22.9 -1.9**
LFF pmax pmax
comp=Z,220nm,1.6s
LFF La Frestale 19.69 86 eP **Pn 02 16 22.9 -1.9**
comp=Z,220nm,1.6s
MENF Mencas 19.77 69 eP **Pn 02 16 25.2 -0.6**
EMIJ Mijas 19.85 114 P **Pn 02 16 27.7 +0.9**
comp=Z,0.4nm,0.3s
EMIJ Mijas 19.85 114 P **Pn 02 16 27.7 +0.9**
comp=Z,0.4nm,0.3s
VIEF Viey 19.86 92 eP **Pn 02 16 26.6 -0.3**
ELOJ Sierra Loja 19.88 111 P **Pn 02 16 28.2 +1.0**
comp=Z,71nm,1.3s
ELOJ Sierra Loja 19.88 111 P **Pn 02 16 28.2 +1.0**
ELOJ pmax pmax
comp=Z,71nm,1.3s
ELOJ Sierra Loja 19.88 111 P **Pn 02 16 28.2 +1.0**
comp=Z,71nm,1.3s
ESAC San Caprasio 19.98 96 P **Pn 02 16 28.6 +0.2**
comp=Z,558nm,1.6s
ESAC San Caprasio 19.98 96 P **Pn 02 16 28.6 +0.2**
comp=Z,558nm,1.6s
EBIE Bielsa 20.02 92 P **P 02 16 29.3 +2.2**
comp=Z,865nm,2.6s
EBIE Bielsa 20.02 92 P **P 02 16 29.3 +2.3**
comp=Z,865nm,2.6s
EPF Esparros 20.03 91 eP **P 02 16 27.3 +0.2**
comp=Z,137nm,1.1s
EPF Esparros 20.03 91 eP **P 02 16 27.3 +0.2**
EPF pmax pmax
comp=Z,68nm,1.1s
EPF Esparros 20.03 91 eP **P 02 16 27.3 +0.2**
comp=Z,68nm,1.1s
EVIA Vianos 20.10 106 P **P 02 16 29.3 +1.3**
comp=Z,42nm,1.0s
EVIA Vianos 20.10 106 P **P 02 16 29.3 +1.4**
EVIA pmax pmax
comp=Z,42nm,1.0s
EVIA Vianos 20.10 106 P **P 02 16 29.3 +1.4**
comp=Z,42nm,1.0s
RESF Ens 20.11 92 eP **P 02 16 29.6 +1.6**
RJF Les Rejaudoux 20.12 84 eP **P 02 16 28.0 -0.1**
comp=Z,170nm,1.5s
RJF eMLR MLR
comp=Z,7µm,22.0s,MS4.7
RJF Les Rejaudoux 20.12 84 eP **P 02 16 28.0 -0.1**
comp=Z,85nm,1.5s
RJF LR LR
comp=Z,7µm,22.0s,MS5.0
RJF Les Rejaudoux 20.12 84 eP **P 02 16 28.0 -0.1**
RJF pmax pmax
comp=Z,85nm,1.5s
RJF MLR MLR
comp=Z,7µm,22.0s,MS5.0
ECOG Cogollos-Vega 20.18 110 P **P 02 16 30.7 +1.8**
comp=Z,25nm,0.9s
ECOG Cogollos-Vega 20.18 110 P **P 02 16 30.7 +1.9**
ECOG pmax pmax
comp=Z,25nm,0.9s
ECOG Cogollos-Vega 20.18 110 P **P 02 16 30.7 +1.9**
comp=Z,25nm,0.9s
ERON Agron 20.18 111 P **P 02 16 30.7 +1.9**
comp=Z,11nm,0.7s
ERON Agron 20.18 111 P **P 02 16 30.7 +1.9**
comp=Z,11nm,0.7s
EQES Quesada 20.19 108 P **P 02 16 30.0 +1.1**
comp=Z,1µm,3.1s
EQES Quesada 20.19 108 P **P 02 16 30.0 +1.0**
comp=Z,1µm,3.1s
TCF Toulx Ste Croi 20.35 81 eP **P 02 16 30.1 -0.5**
comp=Z,862nm,1.9s
TCF Toulx Ste Croi 20.35 81 eP **P 02 16 30.1 -0.5**
TCF pmax pmax
comp=Z,431nm,1.9s
TCF Toulx Ste Croi 20.35 81 eP **P 02 16 30.1 -0.5**
comp=Z,431nm,1.9s
MELF Melles 20.37 91 eP **P 02 16 32.3 +1.4**
HYF Humbligny 20.43 78 eP **P 02 16 31.4 -0.1**
EGUA Guajares 20.45 111 P **P 02 16 33.2 +1.4**
comp=Z,9.9nm,0.9s
EGUA Guajares 20.45 111 P **P 02 16 33.2 +1.5**
EGUA pmax pmax
comp=Z,10.0nm,0.9s
EGUA Guajares 20.45 111 P **P 02 16 33.2 +1.5**
comp=Z,9.9nm,0.9s
MLS Moulis 20.57 91 eP **P 02 16 33.5 +0.5**
EMOS Mosqueruela 20.58 99 P **P 02 16 34.8 +1.6**
comp=Z,2µm,3.1s
CAF Calviac 20.59 85 eP **P 02 16 32.7 -0.6**
comp=Z,56nm,0.8s
CAF Calviac 20.59 85 eP **P 02 16 32.7 -0.6**
CAF pmax pmax
comp=Z,28nm,0.8s
CAF Calviac 20.59 85 eP **P 02 16 32.7 -0.6**
comp=Z,28nm,0.8s
ECHE Chera 20.62 102 P **P 02 16 34.6 +1.0**
comp=Z,33nm,0.7s
ECHE Chera 20.62 102 P **P 02 16 34.7 +1.1**
ECHE pmax pmax
comp=Z,33nm,0.7s
ECHE Chera 20.62 102 P **P 02 16 34.7 +1.1**
comp=Z,33nm,0.7s
SALF Salau 20.71 91 eP **P 02 16 35.8 +1.3**
BGF Bois d'Agland 20.72 80 eP **P 02 16 34.3 -0.3**
comp=Z,88nm,0.8s
BGF Bois d'Agland 20.72 80 eP **P 02 16 34.3 -0.3**
BGF pmax pmax
comp=Z,44nm,0.8s
BGF Bois d'Agland 20.72 80 eP **P 02 16 34.3 -0.3**
comp=Z,44nm,0.8s
ETOB Tobarra 20.73 105 P **P 02 16 35.8 +1.0**
comp=Z,861nm,3.1s
ETOB Tobarra 20.73 105 P **P 02 16 35.8 +1.1**
comp=Z,861nm,3.1s
EBER Berja 20.84 110 P **P 02 16 38.6 +2.6**
comp=Z,3µm,4.2s
EBER Berja 20.84 110 P **P 02 16 38.6 +2.6**
comp=Z,3µm,4.2s
ERTA Horta de San J 20.86 97 P **P 02 16 35.9 -0.3**
comp=Z,1µm,2.0s
ERTA Horta de San J 20.86 97 P **P 02 16 35.8 -0.4**
comp=Z,1µm,2.0s
AVF Avril sur Loir 21.01 79 eP **P 02 16 37.0 -0.7**
comp=Z,225nm,1.3s,mb5.0
AVF Avril sur Loir 21.01 79 eP **P 02 16 37.0 -0.7**
AVF pmax pmax
comp=Z,113nm,1.3s,mb5.0
AVF Avril sur Loir 21.01 79 eP **P 02 16 37.0 -0.7**
comp=Z,113nm,1.3s,mb5.0
PYM Petit Puy Mans 21.01 82 eP **P 02 16 38.4 +0.6**
AGO Saint Agoulin 21.02 81 eP **P 02 16 37.9 0.0**
SSF Saint Saulge 21.05 79 eP **P 02 16 37.6 -0.6**
comp=Z,164nm,1.0s,mb5.0
SSF Saint Saulge 21.05 79 eP **P 02 16 37.6 -0.6**
SSF pmax pmax
comp=Z,82nm,1.0s,mb5.0
SSF Saint Saulge 21.05 79 eP **P 02 16 37.6 -0.6**
comp=Z,82nm,1.0s,mb5.0
BAIF Baives 21.11 70 eP **P 02 16 38.3 -0.5**
comp=Z,119nm,0.9s,mb4.9
BAIF Baives 21.11 70 eP **P 02 16 38.3 -0.5**
BAIF pmax pmax
comp=Z,59nm,0.9s,mb4.9
BAIF Baives 21.11 70 eP **P 02 16 38.3 -0.5**
comp=Z,60nm,0.9s,mb4.9
SNF Seneffe 21.13 69 P **P 02 16 38.8 -0.3**
UCC Uccle 21.17 68 P **P 02 16 38.8 -0.6**
comp=Z,98nm,1.2s,mb5.0
EPOB Poblet 21.19 95 P **P 02 16 39.8 0.0**
comp=Z,1µm,3.0s
EPOB Poblet 21.19 95 P **P 02 16 39.8 0.0**
comp=Z,1µm,3.0s
MTLF Montolieu 21.20 89 eP **P 02 16 39.5 -0.3**
comp=Z,634nm,1.8s,mb5.3
MTLF Montolieu 21.20 89 eP **P 02 16 39.5 -0.3**
MTLF pmax pmax
comp=Z,317nm,1.8s,mb5.3
MTLF Montolieu 21.20 89 eP **P 02 16 39.5 -0.3**
comp=Z,317nm,1.8s,mb5.3
ENIJ Nijar 21.24 109 P **P 02 16 42.7 +2.5**
comp=Z,11nm,0.7s,mb4.3
ENIJ Nijar 21.24 109 P **P 02 16 42.7 +2.4**
ENIJ pmax pmax
comp=Z,11nm,0.7s,mb4.3
ENIJ Nijar 21.24 109 P **P 02 16 42.7 +2.4**
comp=Z,11nm,0.7s,mb4.3
LOR Lormes 21.25 78 eP **P 02 16 39.8 -0.5**
comp=Z,128nm,0.9s,mb4.9
LOR eMLR MLR
comp=Z,4µm,22.8s,MS4.5
LOR Lormes 21.25 78 eP **P 02 16 39.8 -0.5**
comp=Z,64nm,0.9s,mb5.0
LOR LR LR
comp=Z,4µm,22.8s,MS4.8
LOR Lormes 21.25 78 eP **P 02 16 39.8 -0.5**
LOR pmax pmax
comp=Z,64nm,0.9s,mb5.0
LOR MLR MLR
comp=Z,4µm,22.8s,MS4.8
EMIR Miracle 21.27 93 P **P 02 16 41.1 +0.5**
comp=Z,1µm,2.8s,mb5.7
EMIR Miracle 21.27 93 P **P 02 16 41.1 +0.6**
comp=Z,1µm,2.8s,mb5.7
LBL Lubilhac 21.31 84 eP **P 02 16 41.7 +0.7**
CARF Carcanieres 21.35 91 eP **P 02 16 41.8 +0.4**
DOU Dourbes 21.36 70 P **P 02 16 41.2 -0.3**
comp=Z,30nm,0.9s,mb4.6
EMUR La Murta 21.37 106 P **P 02 16 43.4 +1.7**
comp=Z,989nm,3.6s
SMF Signal de Mont 21.37 80 eP **P 02 16 41.0 -0.6**
comp=Z,236nm,1.5s,mb5.0
SMF Signal de Mont 21.37 80 eP **P 02 16 41.0 -0.6**
SMF pmax pmax
comp=Z,118nm,1.5s,mb5.0
SMF Signal de Mont 21.37 80 eP **P 02 16 41.0 -0.6**
comp=Z,118nm,1.5s,mb5.0
PLDF La Plantade 21.38 81 eP **P 02 16 43.1 +1.4**
VALF Valcebollere 21.41 92 eP **P 02 16 42.8 +0.7**
GIVF Givet 21.50 70 eP **P 02 16 42.3 -0.7**
comp=Z,260nm,0.8s,mb5.4
GIVF Givet 21.50 70 eP **P 02 16 42.3 -0.7**
GIVF pmax pmax
comp=Z,130nm,0.8s,mb5.4
GIVF Givet 21.50 70 eP **P 02 16 42.3 -0.7**
comp=Z,130nm,0.8s,mb5.4
LRDF Laroque-de-Fa 21.56 90 eP **P 02 16 43.9 +0.2**
EBEN Beniarda 21.57 103 P **P 02 16 45.4 +1.6**
comp=Z,829nm,2.4s,mb5.7
EBEN Beniarda 21.57 103 P **P 02 16 45.4 +1.5**
comp=Z,829nm,2.4s,mb5.7
CART Cartagena 21.67 106 eP **P 02 16 45.4 +0.5**
comp=Z,355nm,1.9s,mb5.5
CART Cartagena 21.67 106 eP **P 02 16 45.4 +0.5**
comp=Z,355nm,1.9s,mb5.5
FILF Fillols 21.72 91 eP **P 02 16 44.3 -1.1**
BCLA Clavier 21.79 69 P **P 02 16 45.7 -0.3**
comp=Z,60nm,1.9s,mb4.6
MEZF Maizieres J'vi 21.83 74 eP **P 02 16 46.2 -0.4**
comp=Z,646nm,1.5s,mb5.5
MEZF Maizieres J'vi 21.83 74 eP **P 02 16 46.2 -0.4**
comp=Z,323nm,1.5s,mb5.5
EJON La Jonquera 21.99 91 P **P 02 16 49.8 +1.5**
comp=Z,279nm,1.9s,mb5.4
EJON La Jonquera 21.99 91 P **P 02 16 49.8 +1.5**
comp=Z,279nm,1.9s,mb5.4
BEBN Eben Emael 22.00 68 P **P 02 16 48.6 +0.2**
LASF Ste Croix 22.07 86 eP **P 02 16 48.0 -1.2**
comp=Z,678nm,1.9s,mb5.5
LASF Ste Croix 22.07 86 eP **P 02 16 48.0 -1.2**
comp=Z,339nm,1.9s,mb5.5
HGN Heimansgroeve 22.17 68 eP **P 02 16 49.7 -0.4**
comp=Z,79nm,1.3s,mb5.0
HGN Heimansgroeve 22.17 68 eS **S 02 20 51.1 -3.3**
MEM Membach 22.22 68 P **P 02 16 50.5 -0.3**
comp=Z,80nm,1.5s,mb4.9
VIVF Saint-Julien-I 22.39 84 eP **P 02 16 51.1 -1.4**
comp=Z,364nm,1.8s,mb5.2
VIVF Saint-Julien-I 22.39 84 eP **P 02 16 51.1 -1.4**
VIVF pmax pmax
comp=Z,182nm,1.8s,mb5.2
VIVF Saint-Julien-I 22.39 84 eP **P 02 16 51.1 -1.4**
comp=Z,182nm,1.8s,mb5.2
WLF Walferdange 22.40 71 eP **P 02 16 53.5 +0.9**
WLF pmax pmax
comp=Z,29nm,1.1s,mb4.6
WLF Walferdange 22.40 71 P **P 02 16 52.6 0.0**
WLF Walferdange 22.40 71 eP **P 02 16 53.3 +0.7**
comp=Z,72nm,1.5s,mb4.9
WLF eS **S 02 20 59.4 +0.4**
WLF Walferdange 22.40 71 eP **P 02 16 53.5 +0.9**
comp=Z,30nm,1.1s,mb4.6
EIBI Ibiza 22.46 100 P **P 02 16 54.9 +1.5**
comp=Z,690nm,2.9s,mb5.6
EIBI Ibiza 22.46 100 P **P 02 16 54.9 +1.6**
comp=Z,690nm,2.9s,mb5.6
MDT Midelt 22.48 121 P **P 02 16 54.8 +1.2**

comp=Z,18nm,1.0s,mb4.4,baz=311,slow=9.4,SNR=28
THEF They Montfort 22.49 75 *eP* **P 02 16 54.4 +0.8**
WTSB Winterswijk 22.66 65 *eP* **P 02 16 55.6 +0.2**
comp=Z,130nm,2.4s,mb4.9
HAU Haudompre 22.77 75 *eP* **P 02 16 55.8 -0.7**
comp=Z,161nm,1.1s,mb5.1
HAU *e*MLR MLR
comp=Z,5µm,23.0s,MS4.6
HAU Haudompre 22.77 75 *eP* **P 02 16 55.8 -0.7**
comp=Z,81nm,1.1s,mb5.1
HAU LR LR
comp=Z,5µm,23.0s,MS4.9
HAU Haudompre 22.77 75 *eP* **P 02 16 55.8 -0.7**
HAU pmax pmax
comp=Z,81nm,1.1s,mb5.1
HAU MLR MLR
comp=Z,5µm,23.0s,MS4.9
CABF La Chapelle 22.88 79 *eP* **P 02 16 57.2 -0.6**
comp=Z,264nm,1.4s,mb5.2
CABF La Chapelle 22.88 79 *eP* **P 02 16 57.2 -0.6**
CABF pmax pmax
comp=Z,132nm,1.4s,mb5.2
CABF La Chapelle 22.88 79 *eP* **P 02 16 57.2 -0.6**
comp=Z,132nm,1.4s,mb5.2
STAV Stavanger 22.98 47 *eP* **P 02 16 58.2 -0.5**
comp=Z,70nm,1.2s,mb5.0
STAV Stavanger 22.98 47 *eP* **P 02 16 58.2 -0.5**
STAV AMb AMB 02 17 03.3
comp=Z,70nm,1.2s,mb5.0
STAV Stavanger 22.98 47 *eP* **P 02 16 58.2 -0.5**
comp=Z,70nm,1.2s,mb5.0,SNR=34
RUP Ruppelstein 22.98 71 *eP* **P 02 16 59.6 +0.8**
GRN Grenoble 23.00 82 *eP* **P 02 17 00.2 +1.1**
PRAF Pradon 23.06 86 *eP* **P 02 17 01.5 +1.8**
ETOS Mallorca 23.09 97 P **P 02 17 01.3 +1.3**
comp=Z,1µm,3.1s
ETOS Mallorca 23.09 97 P **P 02 17 01.3 +1.3**
comp=Z,1µm,3.1s
HINF Hinteralfeld 23.14 75 *eP* **P 02 16 58.7 -1.7**
comp=Z,196nm,1.1s,mb5.1
HINF Hinteralfeld 23.14 75 *eP* **P 02 16 58.7 -1.7**
HINF pmax pmax
comp=Z,98nm,1.1s,mb5.2
HINF Hinteralfeld 23.14 75 *eP* **P 02 16 58.7 -1.7**
comp=Z,98nm,1.1s,mb5.1
EGD Espegrend 23.17 43 *eP* **P 02 17 00.8 +0.1**
ORIF Oris-en-Rattie 23.19 83 *eP* **P 02 17 00.5 -0.5**
comp=Z,114nm,1.2s,mb4.9
ORIF *e*MLR MLR
comp=Z,5µm,22.2s,MS4.6
ORIF Oris-en-Rattie 23.19 83 *eP* **P 02 17 00.5 -0.5**
ORIF pmax pmax
comp=Z,57nm,1.2s,mb4.9
ORIF Oris-en-Rattie 23.19 83 *eP* **P 02 17 00.5 -0.5**
comp=Z,57nm,1.2s,mb4.9
ZFT Errachidia 23.19 122 *i* P **P 02 17 03.0 +1.8**
LOMF Lomont 23.21 77 *eP* **P 02 17 01.7 +0.4**
ASK Askoy 23.23 43 *eP* **P 02 17 01.6 +0.3**
ASK Askoy 23.23 43 *eP* **P 02 17 01.5 +0.2**
SNR=33
IBBN Ibbenburen 23.25 64 *eP* **P 02 17 01.4 -0.1**
comp=Z,2µm,2.8s
IBBN *e*S **S 02 21 13.6 0.0**
BER Bergen 23.26 43 *eP* **P 02 17 01.7 +0.1**
comp=Z,71nm,1.7s,mb4.8
BER Bergen 23.26 43 *eP* **P 02 17 01.7 +0.1**
BER *eP* 02 17 01.7
BER AMb AMB 02 17 10.5
comp=Z,71nm,1.7s,mb4.8
BER *e*S **S 02 21 13.4 -0.3**
BER AMS AMS 02 24 44.6
comp=Z,714nm,23.8s,MS4.0
ECH Echery 23.27 74 *eP* **P 02 17 01.4 -0.4**
TREF Trevaresse 23.27 86 *eP* **P 02 17 03.4 +1.6**
GDM Grand'Maison 23.27 82 *eP* **P 02 17 03.0 +1.2**
ABH Alteburg 23.28 70 *eP* **P 02 17 03.2 +1.3**
SMRF Simiane la Rot 23.28 85 *eP* **P 02 17 01.3 -0.7**
comp=Z,320nm,1.7s,mb5.2
SMRF Simiane la Rot 23.28 85 *eP* **P 02 17 01.3 -0.7**
comp=Z,160nm,1.7s,mb5.2
CDF Champ du Feu 23.31 74 *eP* **P 02 17 00.9 -1.3**
comp=Z,79nm,0.9s,mb4.8
CDF Champ du Feu 23.31 74 *eP* **P 02 17 00.9 -1.3**
CDF pmax pmax
comp=Z,39nm,0.9s,mb4.8
CDF Champ du Feu 23.31 74 *eP* **P 02 17 00.9 -1.3**
comp=Z,39nm,0.9s,mb4.8
MOF Molkenrain 23.32 75 *eP* **P 02 17 02.4 +0.1**
GELF Grande-Etoile 23.38 87 *eP* **P 02 17 03.6 +0.6**
VILF Villemus 23.41 86 *eP* **P 02 17 04.5 +1.1**
BLS5 Blasjo 23.49 46 *eP* **P 02 17 04.2 +0.1**
comp=Z,22nm,0.6s,mb4.8
BLS5 Blasjo 23.49 46 *eP* **P 02 17 04.2 +0.1**
BLS5 AMb AMB 02 17 06.4
comp=Z,22nm,0.6s,mb4.8
BLS5 Blasjo 23.49 46 *eP* **P 02 17 04.2 +0.2**
comp=Z,22nm,0.6s,mb4.8,SNR=33
STOF St-Etienne Org 23.50 85 *eP* **P 02 17 05.2 +0.9**
PUYF Puyloubier 23.51 86 *eP* **P 02 17 05.2 +0.8**
LANF Langenberg 23.56 72 *eP* **P 02 17 04.7 -0.2**
BERF Bertagne 23.58 87 *eP* **P 02 17 05.5 +0.4**
SNART Snartemo 23.59 49 *eP* **P 02 17 04.4 -0.6**
SNART AMb AMB 02 17 15.3
comp=Z,54nm,1.9s,mb4.7
LPL La Plagne 23.60 81 *eP* **P 02 17 04.4 -0.8**
comp=Z,74nm,1.2s,mb4.7
LPL La Plagne 23.60 81 *eP* **P 02 17 04.4 -0.8**
LPL pmax pmax
comp=Z,37nm,1.2s,mb4.7
LPL La Plagne 23.60 81 *eP* **P 02 17 04.4 -0.8**
comp=Z,37nm,1.2s,mb4.7
STR Strasbourg 23.60 73 *eP* **P 02 17 06.4 +1.1**
LPG La Plagne 23.61 81 *eP* **P 02 17 04.9 -0.5**
comp=Z,46nm,1.1s,mb4.5
LPG La Plagne 23.61 81 *eP* **P 02 17 04.9 -0.5**
LPG pmax pmax
comp=Z,23nm,1.0s,mb4.6
LPG La Plagne 23.61 81 *eP* **P 02 17 04.9 -0.5**
comp=Z,23nm,1.1s,mb4.5
BBS Basel-Blauen 23.64 76 *eP* **P 02 17 05.3 -0.3**
BNI Bardonecchia 23.69 82 *eP* **P 02 17 06.5 +0.4**
comp=Z,187nm,2.1s,mb5.2
BNI Bardonecchia 23.69 82 *eP* **P 02 17 06.5 +0.4**
BNI pmax pmax
comp=Z,187nm,2.1s,mb5.2
BNI Bardonecchia 23.69 82 *eP* **P 02 17 06.5 +0.4**
comp=Z,187nm,2.1s,mb5.2
KTD Kalmit 23.69 71 *eP* **P 02 17 06.9 +0.8**
ODD1 Odda 23.72 45 *eP* **P 02 17 05.7 -0.5**
comp=Z,48nm,1.7s,mb4.7
ODD1 Odda 23.72 45 *eP* **P 02 17 05.7 -0.5**
ODD1 AMb AMB 02 17 13.5
comp=Z,48nm,1.7s,mb4.7
ODD1 Odda 23.72 45 *eP* **P 02 17 05.7 -0.5**
comp=Z,48nm,1.7s,mb4.7,SNR=29
TAVF Tavernes 23.73 86 *eP* **P 02 17 06.7 +0.2**
RRL Cesana Torines 23.80 82 P **P 02 17 08.4 +1.3**
MBDF Montbardon 23.85 83 *eP* **P 02 17 05.9 -1.7**
comp=Z,29nm,0.9s,mb4.4
MBDF Montbardon 23.85 83 *eP* **P 02 17 05.9 -1.7**
MBDF pmax pmax
comp=Z,15nm,0.9s,mb4.4
MBDF Montbardon 23.85 83 *eP* **P 02 17 05.9 -1.7**
comp=Z,14nm,0.9s,mb4.4
FELD Feldberg im Sc 23.89 75 *eP* **P 02 17 08.0 +0.1**
LSD Ceresole Reale 23.90 81 P **P 02 17 09.2 +1.2**
SURF Saint Ours 23.96 84 *eP* **P 02 17 10.6 +2.0**
EANR 'Ain N'Sour 23.99 107 P **P 02 17 10.6 +1.7**
BFO Black Forest 24.02 74 P **P 02 17 09.7 +0.7**
comp=Z,78nm,1.1s,mb5.0,SNR=7.5
BFO Black Forest 24.02 74 *eP* **P 02 17 08.7 -0.3**
BFO *e*S **S 02 21 26.2 0.0**
BFO pmax pmax
comp=Z,275nm,2.5s,mb5.2
BFO Black Forest 24.02 74 *eP* **P 02 17 08.7 -0.3**
comp=Z,275nm,2.5s,mb5.2
BFO *e*S **S 02 21 26.2 0.0**
ECHA Ech Chlef 24.04 107 P **P 02 17 11.8 +2.4**
RSP Reno Superiore 24.05 82 P **P 02 17 10.4 +1.0**
EBNR Beni Rached 24.07 106 P **P 02 17 12.0 +2.4**
TOD Tromm 24.12 70 *eP* **P 02 17 10.6 +0.6**
LMR La Mourre 24.14 86 *eP* **P 02 17 09.3 -0.9**
PZZ Prazzo 24.15 83 P **P 02 17 11.6 +1.3**
FRF La Foret Royal 24.15 86 *eP* **P 02 17 09.2 -1.1**
comp=Z,94nm,1.3s,mb4.8
FRF La Foret Royal 24.15 86 *eP* **P 02 17 09.2 -1.1**
FRF pmax pmax
comp=Z,47nm,1.3s,mb4.8
FRF La Foret Royal 24.15 86 *eP* **P 02 17 09.2 -1.1**
comp=Z,47nm,1.3s,mb4.8
DOI San Damiano 24.25 83 P **P 02 17 12.4 +1.2**
DOI pmax pmax
comp=Z,236nm,2.0s,mb5.3
DOI San Damiano 24.25 83 P **P 02 17 12.4 +1.2**
comp=Z,236nm,2.0s,mb5.3
CALN Calern 24.25 85 *eP* **P 02 17 12.6 +1.4**
TRAV 24.28 81 P **P 02 17 12.4 +0.9**
MUD Monsted U'grnd 24.30 54 *i* P **P 02 17 10.6 -0.9**
MUD pmax pmax
comp=Z,18nm,1.0s,mb4.5
MUD MLR MLR
comp=Z,2µm,18.0s,MS4.7
MUD Monsted U'grnd 24.30 54 *i* P **P 02 17 10.6 -0.9**
comp=Z,18nm,1.0s,mb4.4
MUD *i* S **S 02 21 30.9 +0.3**
MUD
comp=Z,2µm,18.0s
SPAK Spaichingen-Ko 24.36 74 *eP* **P 02 17 12.8 +0.6**
MVIF Mont Vial 24.38 85 *eP* **P 02 17 13.6 +1.2**
STV Sta Anna Valdi 24.38 84 P **P 02 17 13.7 +1.3**
TOUF Mont Tournerai 24.41 84 *eP* **P 02 17 13.3 +0.7**
ENR Entracque 24.45 84 P **P 02 17 14.2 +1.1**
ETRT Tiaret 24.45 108 P **P 02 17 13.5 +0.4**
STU Stuttgart 24.50 72 *eP* **P 02 17 13.2 -0.3**
comp=Z,75nm,1.3s,mb5.1
STU *e*S **S 02 21 31.6 -2.4**
LUCF Luceram 24.51 85 *eP* **P 02 17 14.1 +0.5**
AUTN L'Aution 24.53 84 *eP* **P 02 17 15.6 +1.8**
REVF Revere 24.58 85 *eP* **P 02 17 15.4 +1.2**
SBF Sospel 24.58 85 *eP* **P 02 17 13.5 -0.8**
comp=Z,120nm,1.0s,mb5.1
SBF Sospel 24.58 85 *eP* **P 02 17 13.5 -0.8**
SBF pmax pmax
comp=Z,60nm,1.0s,mb5.1
SBF Sospel 24.58 85 *eP* **P 02 17 13.5 -0.8**
comp=Z,60nm,1.0s,mb5.1
SAOF Saorge 24.62 84 *eP* **P 02 17 14.9 +0.3**
MONE Monesi 24.73 84 P **P 02 17 16.2 +0.6**
ROB Roburent 24.74 83 P **P 02 17 15.9 +0.2**
UBBA Unterbreizbach 24.74 67 *eP* **P 02 17 14.2 -1.4**
comp=Z,134nm,2.6s,mb5.0
UBBA *e*S **S 02 21 38.3 +0.5**
NEGI Negi 24.77 84 P **P 02 17 16.7 +0.7**
ABA Alger-Bouzarea 24.77 103 P **P 02 17 17.0 +0.9**
BSEG Bad Segeberg 24.78 60 *eP* **P 02 17 15.8 -0.2**
comp=Z,240nm,2.0s,mb5.4
VAI Varese 24.87 79 P **P 02 17 17.3 +0.4**
VAI pmax pmax
comp=Z,33nm,0.8s,mb4.9
VAI Varese 24.87 79 P **P 02 17 17.3 +0.4**
comp=Z,33nm,0.8s,mb4.9
IMI Imperia 24.88 84 P **P 02 17 18.8 +1.9**
CLZ Clausthal 24.88 65 *eP* **P 02 17 16.7 -0.2**
CLZ *e*S **S 02 21 41.3 +1.3**
CLZ pmax pmax
comp=Z,268nm,2.1s,mb5.4
CLZ Clausthal 24.88 65 *eP* **P 02 17 16.7 -0.2**
comp=Z,268nm,2.1s,mb5.4
CLZ *e*S **S 02 21 41.3 +1.3**
RORO 24.93 84 P **P 02 17 18.5 +1.1**
FIN Finale Ligure 24.99 83 P **P 02 17 17.4 -0.6**
MOL Molde 25.04 39 AMS AMS 02 26 52.3
comp=Z,1µm,16.9s,MS4.5
QLNO Quiliano 25.05 83 P **P 02 17 18.9 +0.4**
EMHD Djebel Mahouad 25.06 105 P **P 02 17 18.9 +0.2**
KONO Kongsberg 25.09 46 *eP* **P 02 17 19.9 +1.1**
comp=Z,40nm,1.0s,mb4.9
KONO Kongsberg 25.09 46 *eP* **P 02 17 20.0 +1.3**
KONO *e*S **S 02 21 43.5 +0.1**
KONO AMS AMS 02 26 21.5
comp=Z,760nm,19.6s,MS4.2
KONO Kongsberg 25.09 46 *eP* **P 02 17 19.9 +1.1**
KONO pmax pmax
comp=Z,40nm,1.0s,mb4.9
KONO Kongsberg 25.09 46 *eP* **P 02 17 19.9 +1.1**
comp=Z,40nm,1.0s,mb4.9
PCP Pian Castagno 25.11 82 P **P 02 17 19.8 +0.7**
DAVA Damuels 25.25 76 *i* P **P 02 17 21.0 +0.7**
comp=Z,38nm,0.9s,mb4.9,SNR=15
DAVA Damuels 25.25 76 *i* P **P 02 17 21.0 +0.7**
comp=Z,38nm,0.9s,mb4.9
DAVOS Davos 25.30 77 P **P 02 17 22.0 +1.2**
DAVOX Davos/Dischmat 25.38 77 P **P 02 17 22.0 +0.5**
comp=Z,25nm,0.8s,mb4.8,baz=281,slow=12,SNR=21
DAVOX LR LR 02 26 03.5
comp=Z,3µm,21.3s,MS4.8,baz=288,slow=34
ADJB Djebel Djouab 25.41 104 P **P 02 17 21.2 -0.6**
BOB Bobbio (Coli) 25.65 81 P **P 02 17 25.3 +1.3**
GRFO Grafenberg 25.66 70 *eP* **P 02 17 23.2 -0.7**
comp=Z,32nm,1.3s,mb4.7
GRFO Grafenberg 25.66 70 *eP* **P 02 17 23.3 -0.7**
GRFO pmax pmax
comp=Z,32nm,1.3s,mb4.7
GRFO Grafenberg 25.66 70 *eP* **P 02 17 23.3 -0.7**
comp=Z,32nm,1.3s,mb4.7
GRA1 Grafenberg Arr 25.66 70 *eP* **P 02 17 23.6 -0.4**
comp=Z,117nm,1.8s,mb5.1
GRA1 *e*S **S 02 21 53.9 +1.4**
GRA1 LR LR
comp=Z,4µm,21.8s,MS4.9
GRF Grafenberg Arr 25.66 70 *eP* **P 02 17 23.6 -0.4**
GRF *e*S **S 02 21 53.9 +1.4**
GRF pmax pmax
comp=Z,117nm,1.8s,mb5.1
GRF MLR MLR
comp=Z,4µm,21.8s,MS4.9
GRF Grafenberg Arr 25.66 70 *eP* **P 02 17 23.6 -0.4**
GRF *e*S **S 02 21 53.9 +1.4**
GRF pmax pmax
comp=Z,117nm,1.8s,mb5.1
GRF MLR MLR
comp=Z,4µm,21.8s,MS4.9
GRF Grafenberg Arr 25.66 70 *eP* **P 02 17 23.6 -0.4**
comp=Z,117nm,1.8s,mb5.1
GRF *e*S **S 02 21 53.9 +1.4**
GRF *e*L 02 26 16.6
comp=Z,4µm,21.8s
JMIC Jan Mayen 25.66 14 LR LR 02 24 58.4
comp=Z,480nm,18.2s,MS4.1,baz=86,slow=31
SCHQ Schefferville 25.69 302 *eP* **P 02 17 22.8 -1.4**
comp=Z,11nm,0.8s,mb4.4
SCHQ Schefferville 25.69 302 P **P 02 17 22.8 -1.5**
comp=Z,8.1nm,0.7s,mb4.4,baz=92,slow=8.1,SNR=11
SCHQ LR LR 02 25 49.1
comp=Z,2µm,18.8s,MS4.8,baz=72,slow=33
SCHQ Schefferville 25.69 302 *eP* **P 02 17 22.8 -1.4**
comp=Z,11nm,0.8s,mb4.4
AKET Djebel Ketaf 25.76 104 P **P 02 17 25.2 +0.1**
MOX Moxa 25.77 67 *eP* **P 02 17 24.7 -0.3**
comp=Z,65nm,2.0s,mb4.8
MOX
comp=Z,2µm,18.0s
MOX Moxa 25.77 67 *eP* **P 02 17 24.7 -0.3**
MOX pmax pmax
comp=Z,65nm,2.0s,mb4.8
MOX MLR MLR
comp=Z,2µm,18.0s,MS4.7
MOX Moxa 25.77 67 *eP* **P 02 17 24.8 -0.2**
comp=Z,169nm,2.6s,mb5.1
MOX *e*S **S 02 21 55.5 +1.2**
RETA Reutte 25.79 75⇑ *i*P **P 02 17 25.2 0.0**
comp=Z,23nm,1.4s,mb4.5,SNR=11
SC2M Scurtabr 25.83 82 P **P 02 17 25.8 +0.2**
FETA Feichten 25.88 76 *i* P **P 02 17 26.5 +0.5**
comp=Z,26nm,0.9s,mb4.7,SNR=20
FUR Furstenfeldbru 25.98 73 *eP* **P 02 17 27.3 +0.4**
FUR *e*S **S 02 21 58.0 +0.4**
FUR pmax pmax
comp=Z,158nm,1.8s,mb5.2
FUR Furstenfeldbru 25.98 73 *eP* **P 02 17 27.3 +0.4**
comp=Z,158nm,1.8s,mb5.2
FUR *e*S **S 02 21 58.0 +0.4**
NAO01 NORSAR Array S 26.01 44 *eP* **P 02 17 28.4 +1.4**
NAO01 NORSAR Array S 26.01 44 *eP* **P 02 17 28.4 +1.4**
MOTA Moosalm 26.05 75⇑ *i*P **P 02 17 27.8 +0.2**
comp=Z,147nm,2.1s,mb5.1,SNR=9.0
MOTA Moosalm 26.05 75⇑ *i*P **P 02 17 27.8 +0.3**
MOTA pmax pmax
comp=Z,147nm,2.1s,mb5.2
COP Copenhagen 26.05 56⇑ *eP* **P 02 17 28.0 +0.5**
COP *i* S **S 02 22 01.4 +2.8**
COP pmax pmax
comp=Z,12nm,1.0s,mb4.4
COP MLR MLR
comp=Z,680nm,17.0s,MS4.2
COP Copenhagen 26.05 56⇑ *i*P **P 02 17 28.0 +0.5**
comp=Z,12nm,1.0s,mb4.4
COP *i* S **S 02 22 01.4 +2.8**
COP
comp=Z,680nm,17.0s
COP Copenhagen 26.05 56 *eP* **P 02 17 28.0 +0.5**
comp=Z,12nm,1.0s,mb4.4
PGF Pioggiola 26.12 86 *eP* **P 02 17 27.4 -0.9**
comp=Z,108nm,1.3s,mb4.9
PGF Pioggiola 26.12 86 *eP* **P 02 17 27.4 -0.9**
PGF pmax pmax
comp=Z,54nm,1.3s,mb4.9
PGF Pioggiola 26.12 86 *eP* **P 02 17 27.4 -0.9**
comp=Z,54nm,1.3s,mb4.9
SQTA Sankt Quirin 26.15 75⇑ *i*P **P 02 17 29.1 +0.6**
comp=Z,68nm,1.6s,mb4.9,SNR=9.6
SQTA Sankt Quirin 26.15 75⇑ *i*P **P 02 17 29.1 +0.7**
SQTA pmax pmax
comp=Z,68nm,1.6s,mb4.9
GRAM 26.16 82 P **P 02 17 29.6 +1.0**
MANZ Manzenberg 26.18 69 *eP* **P 02 17 28.1 -0.6**
comp=Z,291nm,2.2s,mb5.4
MANZ *e*S **S 02 22 03.0 +2.3**
NB2 NORSAR Subarra 26.21 44 P **P 02 17 28.0 -0.9**
comp=Z,0.6nm,0.8s,baz=254,slow=10
NOA NORSAR Array B 26.21 44 P **P 02 17 28.4 -0.5**
NOA LR LR 02 26 21.6
NOA NORSAR Array B 26.21 44 P **P 02 17 28.4 -0.5**
comp=Z,6.1nm,0.8s,mb4.2,baz=256,slow=9.5,SNR=8.9
NOA LR LR 02 26 21.6
comp=Z,917nm,21.2s,MS4.3,baz=275,slow=33
ROTZ Rotzenmuhle 26.28 69 *eP* **P 02 17 28.5 -1.1**
comp=Z,267nm,2.6s,mb5.3
ROTZ *e*S **S 02 22 04.7 +2.4**
CORF Corte 26.33 87 *eP* **P 02 17 33.3 +3.2**
VALM 26.33 82 P **P 02 17 30.4 +0.3**
TANN Tannenbergstha 26.34 68 *eP* **P 02 17 29.9 -0.3**
comp=Z,206nm,2.7s,mb5.2
TANN *e*S **S 02 22 03.5 +0.2**
NKC Novy Kostel 26.36 68 *eP* **P 02 17 28.9 -1.4**
NKC *e*S **S 02 22 03.6 0.0**
NKC Novy Kostel 26.36 68 *eP* **P 02 17 28.9 -1.4**
NKC *e*S **S 02 22 03.6 0.0**
NKC AMS AMS 02 25 20.0
comp=Z,3µm,25.5s,MS4.7
WATA Walderalm 26.36 75⇓ *i*P **P 02 17 30.8 +0.5**
comp=Z,215nm,2.6s,mb5.2
WATA Walderalm 26.36 75⇓ *i*P **P 02 17 30.8 +0.4**
WATA pmax pmax
comp=Z,215nm,2.6s,mb5.2
WTTA Wattenberg 26.42 75⇑ *i*P **P 02 17 31.5 +0.6**
comp=Z,28nm,1.2s,mb4.7,SNR=17
WTTA Wattenberg 26.42 75⇑ *i*P **P 02 17 31.5 +0.6**
WTTA pmax pmax
comp=Z,28nm,1.2s,mb4.7
SARO Sassorosso 26.49 82 P **P 02 17 30.8 -0.7**
CLL Collm 26.56 66 *eP* **P 02 17 33.0 +0.9**
comp=Z,358nm,2.8s,mb5.4
CLL *e*S **S 02 22 11.0 +4.2**
CLL LR LR
comp=Z,2µm,22.0s,MS4.5
CLL Collm 26.56 66 *eP* **P 02 17 33.0 +0.9**
CLL *e*S **S 02 22 11.0 +4.2**
CLL pmax pmax
comp=Z,358nm,2.8s,mb5.4
CLL MLR MLR
comp=Z,2µm,22.0s,MS4.5
CLL Collm 26.56 66 *eP* **P 02 17 32.0 -0.1**
comp=Z,361nm,2.8s,mb5.4
CLL *e*S **S 02 22 06.8 +0.1**
CLL Collm 26.56 66 *eP* **P 02 17 33.0 +0.9**
comp=Z,358nm,2.8s,mb5.4
CLL *e*PP 02 18 12.0
CLL *e*S **S 02 22 11.0 +4.2**
CLL *e*x x 02 22 35.0
MAIM 26.64 83 P **P 02 17 32.6 -0.3**
CTI Castel Tesino 26.75 78 P **P 02 17 33.9 0.0**
CTI pmax pmax
comp=Z,44nm,1.2s,mb4.9
CTI Castel Tesino 26.75 78 P **P 02 17 33.9 0.0**
comp=Z,44nm,1.2s,mb4.9
DFRA Djebel Bou Aff 26.82 101 P **P 02 17 36.0 +1.4**
WET Wettzell 26.82 71 *eP* **P 02 17 34.0 -0.5**
WET *e*S **S 02 22 11.4 +0.5**
WET pmax pmax
comp=Z,44nm,1.6s,mb4.7
WET Wettzell 26.82 71 *eP* **P 02 17 34.0 -0.5**
comp=Z,44nm,1.6s,mb4.7
WET *e*S **S 02 22 11.4 +0.5**
SEST Monte Rota 26.93 76 P **P 02 17 35.7 +0.2**
ABTA Abfaltersbach 27.13 76⇑ *i*P **P 02 17 36.0 -1.4**
comp=Z,9.3nm,0.8s,mb4.3,SNR=8.0
BRG Berggiesshubel 27.21 66 *eP* **P 02 17 37.6 -0.4**
comp=Z,54nm,2.0s,mb4.7
BRG PP 02 18 17.0
BRG *e* 02 19 53.2
BRG S **S 02 22 21.0 +4.1**
BRG LR LR
comp=Z,220nm,16.3s,MS3.8
BRG Berggiesshubel 27.21 66 *eP* **P 02 17 37.6 -0.4**
BRG S **S 02 22 21.0 +4.1**
BRG pmax pmax
comp=Z,55nm,2.0s,mb4.7
BRG pmax pmax
comp=Z,4.0nm,1.3s,mb3.8
BRG MLR MLR
comp=N,377nm,31.8s
BRG MLR MLR
comp=E,553nm,26.0s
BRG MLR MLR
comp=Z,219nm,16.3s
BRG Berggiesshubel 27.21 66 *eP* **P 02 17 37.1 -0.9**
comp=Z,121nm,2.2s,mb5.0
BRG *e*S **S 02 22 18.1 +1.2**
BRG Berggiesshubel 27.21 66 *eP* **P 02 17 37.6 -0.4**
comp=Z,91nm,2.0s,mb5.0
BRG PP 02 18 17.0
BRG *e* 02 19 53.2
comp=Z,6.2nm,1.2s
BRG
comp=N,630nm,31.8s
BRG
comp=E,924nm,25.9s
BRG
comp=Z,366nm,16.3s
BRG Berggiesshubel 27.21 66 S **S 02 22 21.0 +4.1**
HFS Hagfors 27.21 46 P **P 02 17 37.5 -0.4**
comp=Z,2.6nm,0.7s,mb3.9,baz=209,slow=12,SNR=6.2
HFS LR LR 02 27 02.2
comp=Z,613nm,19.0s,MS4.2,baz=253,slow=34
KHC Kasperske Hory 27.27 70 *eP* **P 02 17 37.7 -0.9**
KHC *e*S **S 02 22 15.4 -2.6**
KHC AMS AMS 02 27 20.0
comp=Z,4µm,18.5s,MS5.0
KHC Kasperske Hory 27.27 70 *eP* **P 02 17 37.7 -0.9**
KHC *e*S **S 02 22 15.4 -2.6**
GEC2 GERESS Array S 27.41 71 *eP* **P 02 17 39.5 -0.3**
GEC2 *e*S **S 02 22 18.9 -1.3**
GEC2 pmax pmax
comp=Z,42nm,1.7s,mb4.7
GEC2 GERESS Array S 27.41 71 *eP* **P 02 17 39.5 -0.3**
comp=Z,42nm,1.7s,mb4.7
GEC2 *e*S **S 02 22 18.9 -1.3**
GERES GERESS Array B 27.41 71 P **P 02 17 39.1 -0.8**
comp=Z,4.4nm,0.9s,mb4.0,baz=289,slow=8.3,SNR=18
GERES LR LR 02 28 07.5
comp=Z,4µm,18.7s,MS5.0,baz=265,slow=36
BSD Bornholm Skovb 27.46 57 *i* P **P 02 17 39.2 -1.0**
BSD pmax pmax
comp=Z,11nm,1.0s,mb4.3
BSD MLR MLR
comp=Z,1µm,18.0s,MS4.5
BSD Bornholm Skovb 27.46 57 *i* P **P 02 17 39.2 -1.0**
comp=Z,11nm,1.0s,mb4.3
BSD
comp=Z,1µm,18.0s
DGI Dorgali Grotta 27.47 91 P **P 02 17 40.9 +0.5**
KBA Koelnbreinsper 27.59 75⇑ *i*P **P 02 17 41.7 +0.2**
comp=Z,11nm,0.9s,mb4.5
KBA Koelnbreinsper 27.59 75⇑ *i*P **P 02 17 41.7 +0.2**

KBA pmax pmax
comp=Z,11nm,0.9s,mb4.5
PVCC Panska Ves 27.66 67 *e*P **P 02 17 42.6 +0.6**
PVCC *e*S **S 02 22 21.9 -2.1**
PVCC AMS AMS 02 26 00.0
comp=Z,2µm,26.4s,MS4.7
PVCC Panska Ves 27.66 67 *e*P **P 02 17 42.6 +0.6**
PVCC *e*S **S 02 22 21.9 -2.1**
VSL Villasalto 27.69 92 *e*P **P 02 17 43.0 +0.6**
comp=Z,26nm,1.3s,mb4.7
PRU Pruhonice 27.73 68 *e*P **P 02 17 42.0 -0.6**
PRU *e*S **S 02 22 25.5 +0.3**
PRU AMS AMS 02 27 10.0
comp=Z,3µm,19.8s,MS4.8
PTCC Patocco-Chiusa 27.78 76 P **P 02 17 42.6 -0.6**
comp=Z,11nm,1.0s,mb4.5
MYKA Terra Mystica 27.91 76⇑*i*P **P 02 17 44.5 +0.2**
comp=Z,22nm,1.1s,mb4.7
VOY Vojsko 28.25 77 *e*P **P 02 17 46.7 -0.6**
TREC Trest 28.47 69 *e*P **P 02 17 49.5 +0.3**
TREC AMS AMS 02 28 00.0
comp=Z,4µm,19.6s,MS5.0
TREC Trest 28.47 69 *e*P **P 02 17 49.5 +0.3**
comp=Z,4µm,19.6s
OBKA Obir 28.55 75⇑*i*P **P 02 17 49.5 -0.5**
comp=Z,22nm,0.8s,mb4.9,SNR=9.2
LJU Ljubljana 28.67 76 *e*P **P 02 17 50.5 -0.6**
KSP Ksiaz 28.68 66 *e*P **P 02 17 52.0 +0.9**
KSP LMZ 02 26 11.1
comp=Z,4µm,35.1s
KSP Ksiaz 28.68 66 *e*P **P 02 17 51.3 +0.2**
KSP *e*S **S 02 22 38.5 -1.7**
KSP MLR MLR
comp=Z,5µm,17.4s,MS5.2
KSP Ksiaz 28.68 66 *e*P **P 02 17 51.3 +0.2**
KSP *e*S **S 02 22 38.5 -1.7**
CEY Cerknica 28.70 77 *e*P **P 02 17 50.2 -1.1**
MNS Montasola 28.70 84 P **P 02 17 50.6 -0.7**
DPC Dobruska-Polom 28.79 67 *e*P **P 02 17 48.5 -3.6**
DPC AMS AMS 02 26 40.0
comp=Z,2µm,26.3s,MS4.6
PERS Pernice 28.89 75 *e*P **P 02 17 51.6 -1.3**
GKP Gorka Klasztor 28.93 61 *e*P **P 02 17 54.5 +1.2**
GKP LMZ 02 28 04.9
comp=Z,3µm,22.9s
RDP Rocca di Papa 28.97 86 P **P 02 17 53.4 -0.4**
ARSA Arzberg 28.98 74⇓*i*P **P 02 17 53.0 -0.8**
comp=Z,15nm,0.8s,mb4.8,SNR=12
VRAC Vranov 29.17 69 P **P 02 17 54.6 -0.9**
comp=Z,1.2nm,0.5s,mb3.9,baz=285,slow=12,SNR=6.8
VRAC LR LR 02 29 14.0
comp=Z,4µm,18.6s,MS5.1,baz=261,slow=36
AQU L'Aquila 29.20 84 *e*P **P 02 17 55.4 -0.4**
AQU pmax pmax
comp=Z,16nm,0.9s,mb4.8
AQU L'Aquila 29.20 84⇑*i*P **P 02 17 56.1 +0.3**
AQU L'Aquila 29.20 84 *e*P **P 02 17 55.4 -0.4**
comp=Z,16nm,0.9s,mb4.8
SOP Sopron 29.54 72⇓*e*P **P 02 18 00.1 +1.3**
KEST Kesra 29.60 99 P **P 02 17 58.6 -0.8**
comp=Z,13nm,0.8s,mb4.7,baz=280,slow=2.1,SNR=48
KEST LR LR 02 28 30.0
comp=Z,2µm,19.8s,MS4.7,baz=95,slow=34
MORC Moravsky Berou 29.68 68 *e*P **P 02 17 59.5 -0.4**
comp=Z,62nm,2.2s,mb5.0
MORC Moravsky Berou 29.68 68 *e*P **P 02 17 59.5 -0.4**
MORC pmax pmax
comp=Z,62nm,2.2s,mb5.0
MORC Moravsky Berou 29.68 68⇓*i*P **P 02 17 59.4 -0.5**
MORC Moravsky Berou 29.68 68 *e*P **P 02 17 59.5 -0.4**
comp=Z,62nm,2.2s,mb5.0
ZST Bratislava 29.76 71 *e*P **P 02 18 01.6 +0.9**
ZST LR LR
comp=Z,2µm,17.8s,MS4.8
MODS Modra-Piesok 29.83 71 *e*P **P 02 17 59.8 -1.5**
DAG Danmarks Havn 30.03 4 *e*P **P 02 18 02.0 -0.9**
DAG pmax pmax
comp=Z,3.0nm,0.3s,mb4.5
DAG Danmarks Havn 30.03 4 *i*P **P 02 18 02.0 -0.9**
comp=Z,2.6nm,0.3s,mb4.4
DAG Danmarks Havn 30.03 4 *e*P **P 02 18 02.0 -0.9**
comp=Z,3.0nm,0.3s,mb4.5
OKC Ostrava-Krasne 30.04 68 *e*P **P 02 18 04.1 +0.9**
OKC AMS AMS 02 29 30.0
comp=Z,2µm,16.6s,MS4.9
MIDA Miranda 30.07 85 P **P 02 18 04.0 +0.5**
KOLL Kolacno 30.50 70 *e*P **P 02 18 07.0 -0.3**
USI Ustica 30.66 91 P **P 02 18 07.6 -1.2**
comp=Z,9.0nm,0.1s,mb5.5
MRB1 Monte Rocchett 30.78 85 P **P 02 18 10.2 +0.4**
VYHS Vyhne 30.80 70 *e*P **P 02 18 09.7 -0.2**
VYHS pmax pmax
comp=Z,101nm,2.9s,mb5.1
VYHS Vyhne 30.80 70 *e*P **P 02 18 09.7 -0.2**
comp=Z,100nm,2.9s,mb5.1
OJC Ojcow 31.00 66 *e*P **P 02 18 12.1 +0.5**
OJC *e*S **S 02 23 16.3 -0.2**
OJC L 02 32 51.5
comp=Z,1.1nm,15.8s
OJC Ojcow 31.00 66 *e*P **P 02 18 12.1 +0.5**
OJC *e*S **S 02 23 16.3 -0.2**
FG4 Candela 31.15 85 P **P 02 18 13.2 +0.2**
FG4 pmax pmax
comp=Z,9.0nm,0.2s,mb5.2
FG4 Candela 31.15 85 P **P 02 18 13.2 +0.2**
comp=Z,9.2nm,0.2s,mb5.3
BUD Budapest 31.20 72 *e*P **P 02 18 14.3 +0.8**
PKSM Moragy 31.34 74⇓P **P 02 18 13.1 -1.6**
PKSM Moragy 31.34 74⇓*i*P **P 02 18 13.1 -1.6**
PSZ Piszkesteto 31.64 71 *e*P **P 02 18 17.9 +0.6**
comp=Z,26nm,1.2s,mb4.9
PSZ Piszkesteto 31.64 71 *e*P **P 02 18 17.9 +0.6**
PSZ pmax pmax
comp=Z,26nm,1.2s,mb4.9
PSZ Piszkesteto 31.64 71⇓*i*P **P 02 18 15.9 -1.4**
PSZ Piszkesteto 31.64 71⇓*e*P **P 02 18 17.3 0.0**
PSZ Piszkesteto 31.64 71 *e*P **P 02 18 17.9 +0.6**
comp=Z,26nm,1.2s,mb4.9
CSLB Castelbuono 31.64 91 P **P 02 18 17.5 +0.1**
comp=Z,5.4nm,0.1s,mb5.3
KECS Kecovo 31.86 69 *e*P **P 02 18 19.1 -0.2**
comp=Z,2.3nm,0.8s,mb4.1
KECS Kecovo 31.86 69 *e*P **P 02 18 19.1 -0.2**
KECS pmax pmax
comp=Z,2.0nm,0.8s,mb4.0
TRO Tromso 31.94 29 *e*P **P 02 18 19.2 -0.5**
TRO *e*S **S 02 23 31.6 +0.7**
STHS Stebnicka Huta 32.10 67 *e*P **P 02 18 19.4 -1.9**
STHS pmax pmax
comp=Z,5.0nm,1.0s,mb4.3
STHS Stebnicka Huta 32.10 67 *e*P **P 02 18 19.4 -1.9**
comp=Z,5.1nm,1.0s,mb4.3
SUW Suwalki 32.35 59 *e*P **P 02 18 22.1 -1.4**
SUW LMZ 02 28 00.1
comp=Z,2µm,34.1s
TDS Terranova Siba 32.37 87 P **P 02 18 24.9 +1.1**
TDS pmax pmax
comp=Z,39nm,0.8s,mb5.3
TDS Terranova Siba 32.37 87 P **P 02 18 24.9 +1.1**
comp=Z,39nm,0.8s,mb5.3
SCLL Scilla 32.62 90 P **P 02 18 27.8 +1.8**
comp=Z,6.0nm,0.4s,mb4.9
KOLS Kolonicke sedl 32.88 68 *e*P **P 02 18 27.7 -0.5**
TIP Timpagrande 32.88 87 *e*P **P 02 18 29.0 +0.7**
comp=Z,20nm,1.4s,mb4.9
TIP Timpagrande 32.88 87 *e*P **P 02 18 29.0 +0.7**
comp=Z,20nm,1.4s,mb4.9
KWP Kalwaria 32.97 67 *e*P **P 02 18 28.7 -0.2**
comp=Z,21nm,1.2s,mb5.0
KWP Kalwaria 32.97 67 *e*P **P 02 18 28.7 -0.2**
KWP pmax pmax
comp=Z,21nm,1.2s,mb4.9
KWP Kalwaria 32.97 67 *e*P **P 02 18 28.7 -0.2**
comp=Z,21nm,1.2s,mb5.0
UZH Uzhgorod 32.98 69 *e*P **P 02 18 29.0 0.0**
UZH *e*PPP 02 19 43.4
UZH *e*S **S 02 23 45.0 -2.4**
UZH MLR MLR
comp=Z,2µm,14.0s,MS5.0
FINES FINESS Array B 33.38 45 P **P 02 18 31.9 -0.5**
comp=Z,8.1nm,1.0s,mb4.6,baz=242,slow=4.1,SNR=12
FINES LR LR 02 30 53.4
comp=Z,862nm,20.3s,MS4.5,baz=266,slow=34
FIA1 FINESS Array S 33.38 45 *e*P **P 02 18 31.1 -1.2**
FIA1 FINESS Array S 33.38 45 *e*P **P 02 18 31.1 -1.3**

BZS Buzias 33.49 74⇓*i*P **P 02 18 34.0 +0.4**
LVV L'vov 33.74 66 *e*P **P 02 18 36.0 +0.3**
LVV *e*S **S 02 24 01.0 +1.7**
LVV MLR MLR
comp=Z,600nm,17.0s,MS4.4
LVV MLR MLR
comp=N,600nm,17.8s,MS4.6
LVV MLR MLR
comp=E,900nm,16.2s,MS4.6
LVV L'vov 33.74 66 *e*P **P 02 18 36.0 +0.3**
comp=E,600nm,17.0s
DRGR 33.81 72⇑P **P 02 18 36.8 +0.5**
DRGR 33.81 72⇑*i*P **P 02 18 36.8 +0.5**
VSU Vasula 33.81 50*d i*P **P 02 18 34.8 -1.4**
VSU Vasula 33.81 50 *i*P **P 02 18 34.8 -1.4**
ARCES ARCESS Array B 34.12 30 P **P 02 18 37.7 -1.1**
comp=E,4.1nm,0.6s,mb4.5,baz=252,slow=10,SNR=19
ARCES LR LR 02 30 34.5
comp=E,676nm,20.3s,MS4.4,baz=260,slow=33
OHR Ohrid 34.74 82 *i*P **P 02 18 42.9 -1.6**
OHR Ohrid 34.74 82 *i*P **P 02 18 42.8 -1.7**
SKO Skopje 34.80 80 *i*P **P 02 18 44.5 -0.4**
KRUS Krusevo 34.93 81 *i*P **P 02 18 46.1 0.0**
KRUS Krusevo 34.93 81 *i*P **P 02 18 46.0 -0.1**
MNK Minsk 34.95 57 *e*P **P 02 18 41.0 -5.1**
KBS Kingsbay 35.11 12 *e*P **P 02 18 52.5 +5.3**
KBS *e*SS SS 02 26 52.0 +0.3
KBS AMS AMS 02 29 54.4
comp=Z,222nm,19.4s,MS3.9
BIA Bitola 35.14 82 *i*P **P 02 18 47.1 -0.8**
BIA Bitola 35.14 82 *i*P **P 02 18 47.0 -0.9**
STIP Stip 35.42 80 *i*P **P 02 18 49.4 -1.0**
STIP Stip 35.42 80 *i*P **P 02 18 49.3 -1.0**
MVL Millersville 35.63 277 *e*P **P 02 18 54.3 +2.2**
comp=Z,7.2nm,0.8s,mb4.7
MVL Millersville 35.63 277 *e*P **P 02 18 54.3 +2.2**
comp=Z,7.2nm,0.8s,mb4.7
VTS Vitosha 35.72 78 P **P 02 18 51.9 -1.0**
JOF Joensuu 35.81 42 *e*p **P 02 18 51.7 -1.7**
comp=Z,7.6nm,0.7s,mb4.7
VAY Valandovo 35.85 80 *i*P **P 02 18 52.1 -1.8**
KKB Krupnik 35.95 79 P **P 02 18 55.5 +0.7**
MLR Muntele Rosu 36.37 72⇓P **P 02 18 59.0 +0.6**
MLR Muntele Rosu 36.37 72⇑*i*P **P 02 18 58.8 +0.4**
MLR Muntele Rosu 36.37 72⇓*i*P **P 02 18 59.0 +0.6**
MLR Muntele Rosu 36.37 72⇓P **P 02 18 59.0 +0.6**
PGB Panagyurishte 36.38 78 P **P 02 18 59.0 +0.5**
MMB Musomiste 36.51 79 P **P 02 19 00.6 +1.0**
KIEV Kiev 36.69 63 *e*P **P 02 18 59.7 -1.3**
comp=Z,16nm,1.1s,mb4.8
KIEV Kiev 36.69 63 *e*P **P 02 18 59.7 -1.4**
KIEV pmax pmax
comp=Z,15nm,1.1s,mb4.7
KIEV Kiev 36.69 63 *e*P **P 02 18 59.7 -1.4**
comp=Z,16nm,1.1s,mb4.8
AKASG Malin Array Be 36.70 63 P **P 02 18 58.8 -2.4**
AKASG Malin Array Be 36.70 63 *i*P **P 02 18 58.7 -2.4**
AKASG pmax pmax
comp=Z,7.0nm,0.8s
AKASG Malin Array Be 36.70 63 P **P 02 18 58.8 -2.4**
comp=Z,7.4nm,0.8s,mb4.6,baz=283,slow=8.6,SNR=14
AKASG LR LR 02 33 28.1
comp=Z,2µm,21.2s,MS4.8,baz=295,slow=35
AKBB Malin Array Si 36.70 63 *e*P **P 02 18 59.7 -1.4**
AKBB Malin Array Si 36.70 63 *e*P **P 02 18 59.7 -1.4**
VRI Vrincioaia 36.74 71⇓P **P 02 19 02.5 +0.9**
VRI Vrincioaia 36.74 71⇓*i*P **P 02 19 02.5 +1.0**
PVL Pavlikeni 36.88 76 P **P 02 19 01.8 -0.9**
RZN Rozhen 37.12 79 P **P 02 19 06.3 +1.4**
KDZ Kurdzhali 37.61 78 P **P 02 19 08.2 -0.8**
KIS Kishinev 37.66 69 *e*P **P 02 19 07.0 -2.4**
KIS *e* 02 20 38.0
KIS MLR MLR
comp=E,2µm,17.0s
KIS MLR MLR
comp=Z,2µm,17.0s,MS5.0
KIS MLR MLR
comp=E,700nm,16.0s
KIS Kishinev 37.66 69 *e*PP PP 02 20 38.0 +2.9
KIS LRM 02 33 45.0
comp=E,2µm,17.0s
TMCR Tamitsa 38.73 40 *e*P **P 02 19 17.3 -0.9**
TMCR pmax pmax
comp=Z,15nm,0.5s,mb5.0
TMCR Tamitsa 38.73 40 *e*P **P 02 19 17.3 -0.9**
comp=Z,15nm,0.5s,mb5.0
BOZC Bozcaada 38.88 81⇑*i*P **P 02 19 20.5 +0.8**
RES Resolute Bay 39.35 337 *e*P **P 02 19 24.2 +1.0**
comp=Z,257nm,1.0s,mb5.9
RES Resolute Bay 39.35 337 *e*P **P 02 19 24.2 +1.0**
RES pmax pmax
comp=Z,257nm,1.0s,mb5.9
RES Resolute Bay 39.35 337 *e*P **P 02 19 24.2 +1.0**
comp=Z,257nm,1.0s,mb5.9
OBN Obninsk 39.73 54*c i*P **P 02 19 26.7 +0.1**
OBN *i* 02 20 57.9
OBN *i* 02 21 33.8
OBN *i*S **S 02 25 38.9 +8.6**
OBN pmax pmax
comp=Z,38nm,1.7s,mb4.8
OBN MLR MLR
comp=Z,2µm,18.0s,MS4.9
OBN Obninsk 39.73 54 *i*P **P 02 19 26.7 +0.1**
comp=Z,38nm,1.7s,mb4.8
GVD Gavdhos 40.14 89 *e*P **P 02 19 29.9 -0.4**
comp=Z,29nm,1.1s,mb4.9
GVD Gavdhos 40.14 89 *e*P **P 02 19 29.9 -0.4**
comp=Z,29nm,1.1s,mb4.9
FCC Fort Churchill 40.15 312 *e*P **P 02 19 29.9 -0.1**
comp=Z,32nm,1.3s,mb4.9
FCC Fort Churchill 40.15 312 *e*P **P 02 19 29.9 -0.1**
FCC pmax pmax
comp=Z,32nm,1.3s,mb4.9
FCC Fort Churchill 40.15 312 *e*P **P 02 19 29.9 -0.1**
comp=Z,32nm,1.3s,mb4.9
AKHS Akhisar 40.54 81⇑*i*P **P 02 19 34.4 +0.9**
GDZ Gediz 41.56 80 *e*P **P 02 19 39.7 -2.2**
BORA Eskisehir 41.82 78⇓*i*P **P 02 19 43.6 -0.4**
SIM Simferopol' 41.87 69 *e*P **P 02 19 39.4 -5.0**
SIM *e* 02 21 26.0
SIM *e*S **S 02 25 54.8 -7.7**
SIM pmax pmax
comp=Z,200nm,14.3s
SIM MLR MLR
comp=Z,1µm,15.9s,MS4.9
EYMN Ely 42.12 296 *e*P **P 02 19 46.6 +0.2**
comp=Z,4.9nm,0.8s,mb4.2
EYMN Ely 42.12 296 *e*P **P 02 19 46.6 +0.2**
comp=Z,4.8nm,0.8s,mb4.2
MPR Mayaguez 43.36 242 *e*P **P 02 19 55.5 -1.2**
MPR Mayaguez 43.36 242 *e*P **P 02 19 55.5 -1.2**
CPCT Cooper Cave 43.52 276 *e*P **P 02 19 59.3 +1.4**
CPCT Cooper Cave 43.52 276 *e*P **P 02 19 59.3 +1.4**
ANN Anapa 44.05 68 *e*P **P 02 20 01.5 -0.5**
ANN *e**PP pP 02 20 05.6 +1.6
ANN *e*S **S 02 26 34.0 -0.5**
ANN pmax pmax
comp=Z,42nm,1.5s,mb5.0
ANN MLR MLR
comp=N,2µm,19.0s,MS5.2
ANN MLR MLR
comp=E,1µm,19.0s,MS5.2
ANN MLR MLR
comp=Z,2µm,19.0s,MS5.0
ANN Anapa 44.05 68 *e*P **P 02 20 01.5 -0.5**
comp=Z,42nm,1.5s,mb5.0
SWET Sewanee 44.61 277 *e*P **P 02 20 08.2 +1.6**
SWET Sewanee 44.61 277 *e*P **P 02 20 08.2 +1.6**
AGMN Agassiz Refuge 44.64 298 *e*P **P 02 20 06.8 +0.1**
comp=Z,12nm,0.9s,mb4.7
AGMN Agassiz Refuge 44.64 298 *e*P **P 02 20 06.8 +0.1**
comp=Z,12nm,0.9s,mb4.7
DBIC Dimbokro 44.68 147 *e*P **P 02 20 06.7 -0.7**
comp=Z,23nm,0.8s,mb5.0
DBIC Dimbokro 44.68 147 *e*P **P 02 20 06.7 -0.7**
DBIC pmax pmax
comp=Z,23nm,0.8s
DBIC Dimbokro 44.68 147 P **P 02 20 06.6 -0.7**
comp=Z,20nm,0.7s,mb5.1,baz=321,slow=7.8,SNR=22
DBIC LR LR 02 36 58.6
comp=Z,1µm,19.3s,MS4.8,baz=321,slow=34
DBIC Dimbokro 44.68 147 *e*P **P 02 20 06.7 -0.7**
comp=Z,23nm,0.8s,mb5.0
LIC Lamto 45.03 148 *e*P **P 02 20 09.3 -0.8**
comp=Z,36nm,1.0s,mb4.9

LIC *e*MLR MLR
comp=Z,2µm,22.2s,MS4.7
LIC Lamto 45.03 148 *e*P **P 02 20 09.3 -0.8**
comp=Z,18nm,1.0s,mb4.9
LIC LR LR
comp=Z,950nm,22.3s,MS4.7
WVT Waverly 45.39 279 *e*P **P 02 20 13.3 +0.5**
comp=Z,8.1nm,0.9s,mb4.5
WVT Waverly 45.39 279 *e*P **P 02 20 13.3 +0.5**
WVT pmax pmax
comp=Z,8.0nm,0.9s,mb4.5
WVT Waverly 45.39 279 *e*P **P 02 20 13.3 +0.5**
comp=Z,8.1nm,0.9s,mb4.5
FFC Flin Flon 45.53 308 P **P 02 20 13.7 0.0**
comp=Z,93nm,1.1s,mb5.6,SNR=12
FFC Flin Flon 45.53 308 *e*P **P 02 20 13.4 -0.3**
comp=Z,27nm,1.2s,mb5.0
FFC Flin Flon 45.53 308 *e*P **P 02 20 13.4 -0.3**
FFC pmax pmax
comp=Z,27nm,1.2s,mb5.0
FFC Flin Flon 45.53 308 *e*P **P 02 20 13.4 -0.3**
comp=Z,27nm,1.2s,mb5.0
SOC Sochi 46.07 68 *e*P **P 02 20 17.0 -1.1**
SOC *e**SP sP 02 20 20.5 -0.4
SOC *e* 02 21 57.7
SOC *e*S **S 02 26 58.6 -5.2**
SOC pmax pmax
comp=Z,35nm,1.1s,mb5.2
SOC MLR MLR
comp=Z,1µm,16.0s,MS4.9
PLAL Pickwick Lake 46.19 278 *e*P **P 02 20 19.1 -0.1**
comp=Z,10nm,0.6s,mb4.9
PLAL Pickwick Lake 46.19 278 *e*P **P 02 20 19.0 -0.2**
comp=Z,10nm,0.6s,mb4.9
CCM Cathedral Cave 46.63 283 *e*P **P 02 20 22.4 -0.2**
comp=Z,10.0nm,0.7s,mb4.8
CCM Cathedral Cave 46.63 283 *e*P **P 02 20 22.4 -0.2**
CCM pmax pmax
comp=Z,10.0nm,0.7s,mb4.8
CCM Cathedral Cave 46.63 283 *e*P **P 02 20 22.4 -0.2**
comp=Z,9.9nm,0.7s,mb4.8
ECSD EROS,Sioux Fal 47.21 293 *e*P **P 02 20 28.0 +0.9**
KIV Kislovodsk 47.77 67⇓*e*P **P 02 20 30.2 -1.2**
KIV MLR MLR
comp=Z,1µm,15.0s,MS5.0
MALT Malatya 47.93 75 *e*P **P 02 20 33.2 +0.4**
MALT pmax pmax
comp=Z,6.0nm,0.8s,mb4.7
MALT Malatya 47.93 75 *e*P **P 02 20 33.2 +0.4**
comp=Z,6.3nm,0.8s,mb4.7
ATAB Bozova 48.31 76⇓*i*P **P 02 20 35.1 -0.6**
YKW3 Yellowknife Ar 48.50 322 *e*P **P 02 20 37.6 +0.8**
YKW3 Yellowknife Ar 48.50 322 *e*P **P 02 20 37.6 +0.8**
YKA Yellowknife Ar 48.52 322 P **P 02 20 35.9 -1.1**
YKA 02 22 01.0
YKA Yellowknife Ar 48.52 322 P **P 02 20 35.9 -1.1**
comp=Z,3.3nm,0.8s,mb4.4,baz=64,slow=7.6,SNR=37
YKA PcP PcP 02 22 01.0 -1.7
comp=Z,1.9nm,0.8s,baz=63,slow=4.0,SNR=12
YKA LR LR 02 38 31.3
comp=Z,405nm,20.6s,MS4.4,baz=145,slow=33
YKA Yellowknife Ar 48.52 322 PcP PcP 02 22 01.0 -1.7
ARTV Artvin 48.69 70⇓*i*P **P 02 20 38.9 +0.3**
DGMT Dagmar 49.51 302 *e*P **P 02 20 45.6 +0.9**
comp=Z,23nm,1.1s,mb5.1
DGMT Dagmar 49.51 302 *e*P **P 02 20 45.6 +0.9**
comp=Z,23nm,1.1s,mb5.1
ARU Arti 50.73 46 P **P 02 20 53.2 -0.7**
comp=Z,122nm,1.0s,mb5.8,SNR=5.7
ARU Arti 50.73 46 *e*P **P 02 20 53.3 -0.6**
comp=Z,19nm,0.9s,mb5.0
ARU Arti 50.73 46*c i*P **P 02 20 52.7 -1.2**
ARU *e* 02 22 06.8
ARU *e* 02 22 47.1
ARU *e*PPP 02 23 42.5
ARU *e*S **S 02 28 08.6 -0.7**
ARU *e*SS SS 02 31 41.9 -1.2
ARU *e*SSS 02 33 10.2
ARU pmax pmax
comp=Z,29nm,1.2s,mb5.1
ARU MLR MLR
comp=Z,796nm,22.0s,MS4.7
ARU Arti 50.73 46 *e*P **P 02 20 53.3 -0.6**
comp=Z,19nm,0.9s,mb5.0
MAK Makhachkala 51.28 65 *e*P **P 02 20 56.5 -1.7**
MAK *i* 02 22 51.5
MAK *i*S **S 02 28 13.6 -3.7**
MAK *i* 02 30 40.2
MAK pmax pmax
comp=Z,86nm,1.4s,mb5.5
MAK MLR MLR
comp=Z,1µm,15.0s,MS5.1
MSL Mosul 52.15 75 *ex* x 02 21 04.5
EDM Edmonton 52.21 311 *e*P **P 02 21 05.6 +0.6**
EDM Edmonton 52.21 311 *e*P **P 02 21 05.6 +0.6**
INK Inuvik 52.61 333 *e*P **P 02 21 06.4 -1.3**
comp=Z,266nm,1.0s
INK *e*PcP PcP 02 22 16.7 -1.0
INK Inuvik 52.61 333 *e*P **P 02 21 06.4 -1.3**
INK *e* 02 22 16.7
INK pmax pmax
comp=Z,265nm,1.0s
INK Inuvik 52.61 333 P **P 02 21 06.1 -1.7**
comp=Z,2.9nm,0.8s,mb4.2,baz=54,slow=4.3,SNR=12
INK PcP PcP 02 22 17.3 -0.4
comp=Z,2.9nm,0.8s,baz=46,slow=10.0,SNR=4.0
INK Inuvik 52.61 333 *e*P **P 02 21 06.4 -1.3**
comp=Z,266nm,1.0s
INK Inuvik 52.61 333 *e*PcP PcP 02 22 16.7 -1.0
SDV Santo Domingo 52.77 238 *e*P **P 02 21 11.1 +1.5**
EGMT Eagleton 52.94 304 *e*P **P 02 21 09.9 -0.6**
comp=Z,23nm,1.0s,mb5.1
EGMT Eagleton 52.94 304⇑P **P 02 21 10.1 -0.4**
baz=53
EGMT Eagleton 52.94 304 *e*P **P 02 21 09.9 -0.6**
comp=Z,23nm,1.0s,mb5.1
WMOK Wichita Mounta 53.52 284 *e*P **P 02 21 14.8 -0.1**
WMOK Wichita Mounta 53.52 284 *e*P **P 02 21 14.8 -0.1**
PHWY Pilot Hill 54.04 294 *e*P **P 02 21 20.1 +1.4**
PHWY Pilot Hill 54.04 294 *e*P **P 02 21 20.1 +1.5**
GCMT Greycliff 54.09 301 *e*P **P 02 21 18.9 -0.1**
GCMT Greycliff 54.09 301 *e*P **P 02 21 18.9 -0.1**
RLMT Red Lodge 54.22 300 *e*P **P 02 21 20.4 +0.4**
comp=Z,12nm,0.7s,mb4.9
RLMT Red Lodge 54.22 300 *e*P **P 02 21 20.4 +0.5**
comp=Z,12nm,0.7s,mb4.9
WALA Waterton Lakes 54.71 306 *e*P **P 02 21 22.4 -1.0**
comp=Z,40nm,1.0s,mb5.4
WALA Waterton Lakes 54.71 306 *e*P **P 02 21 22.4 -1.0**
comp=Z,40nm,1.0s,mb5.4
BHD Baghdad 54.78 77 *ex* x 02 21 15.5
RWWY Rawlins 54.91 296 *e*P **P 02 21 27.0 +2.1**
comp=Z,13nm,0.8s,mb5.0
RWWY Rawlins 54.91 296 *e*P **P 02 21 27.0 +2.1**
comp=Z,13nm,0.8s,mb5.0
ISCO Idaho Springs 54.99 293 *e*P **P 02 21 28.8 +3.2**
comp=Z,28nm,2.1s,mb4.9
ISCO Idaho Springs 54.99 293 *e*P **P 02 21 28.8 +3.2**
ISCO pmax pmax
comp=Z,28nm,2.1s,mb4.9
ISCO Idaho Springs 54.99 293 *e*P **P 02 21 28.8 +3.2**
comp=Z,28nm,2.1s,mb4.9
D15A Lincoln 55.05 304 P **P 02 21 25.9 0.0**
baz=55,SNR=35
A13A Flathead Natio 55.05 307⇓P **P 02 21 25.6 -0.3**
baz=55
LKWY Lake 55.20 300 *e*P **P 02 21 28.8 +1.7**
comp=Z,26nm,1.8s,mb5.0
LKWY Lake 55.20 300 *e*P **P 02 21 28.8 +1.8**
LKWY pmax pmax
comp=Z,26nm,1.8s,mb5.0
LKWY Lake 55.20 300 *e*P **P 02 21 28.8 +1.8**
comp=Z,26nm,1.8s,mb5.0
BOZ Bozeman (W) 55.31 302 *e*P **P 02 21 28.0 +0.2**
comp=Z,8.4nm,0.7s,mb4.9
BOZ Bozeman (W) 55.31 302 *e*P **P 02 21 28.0 +0.2**
BOZ pmax pmax
comp=Z,8.0nm,0.7s,mb4.9
BOZ Bozeman (W) 55.31 302⇓P **P 02 21 27.7 -0.2**
baz=55
BOZ Bozeman (W) 55.31 302 *e*P **P 02 21 28.0 +0.2**
comp=Z,8.4nm,0.7s,mb4.9
C14A Swan Lake 55.33 305⇓P **P 02 21 27.5 -0.4**
baz=55
AMTX Amarillo 55.34 286 *e*P **P 02 21 29.5 +1.3**
AMTX Amarillo 55.34 286 *e*P **P 02 21 29.5 +1.3**

B13A **Whitefish** 55.39 306 ⇊P P 02 21 28.0 -0.3
baz=55,SNR=5.4
E15A **Deer Lodge** 55.46 303 ⇊P P 02 21 28.6 -0.3
baz=55
YMR **Madison River** 55.48 301 eP P 02 21 29.7 +0.7
comp=Z,7.0nm,0.6s,mb4.9
YMR **Madison River** 55.48 301 eP P 02 21 29.7 +0.7
comp=Z,7.0nm,0.6s,mb4.9
YFT **Old Faithful** 55.52 300 eP P 02 21 30.3 +0.9
CHMT **Chamberlain Mo** 55.53 304 eP P 02 21 29.3 -0.1
D14A **Greenough** 55.58 304 ⇊P P 02 21 29.6 -0.2
baz=55
FLWY **Flagg Ranch** 55.65 300 eP P 02 21 30.4 +0.1
comp=Z,13nm,1.0s,mb4.9
FLWY **Flagg Ranch** 55.65 300 eP P 02 21 30.4 +0.1
comp=Z,13nm,1.0s,mb4.9
QLMT **Earthquake Lak** 55.66 301 eP P 02 21 31.7 +1.4
QLMT **Earthquake Lak** 55.66 301 eP P 02 21 31.7 +1.4
LRM **Limekiln Ridge** 55.69 303 eP P 02 21 31.2 +0.7
LRM **Limekiln Ridge** 55.69 303 eP P 02 21 31.2 +0.7
F15A **Butte** 55.70 303 ⇊P P 02 21 30.4 -0.2
baz=56,SNR=8.3
BW06 **Boulder Array** 55.72 298 eP P 02 21 29.9 -0.9
BW06 **Boulder Array** 55.72 298 eP P 02 21 29.9 -0.9
PDAR **Pinedale Array** 55.72 298 P P 02 21 29.9 -0.9
comp=Z,4.3nm,0.7s,mb4.6,baz=66,slow=7.4,SNR=29
PDAR LR LR 02 43 41.7
comp=Z,1µm,19.8s,MS5.0,baz=65,slow=34
C13A **Hot Springs** 55.84 305 P P 02 21 31.2 -0.4
baz=56,SNR=15
LOHW **Long Hollow** 55.86 299 eP P 02 21 31.9 +0.1
comp=Z,41nm,1.6s,mb5.2
LOHW **Long Hollow** 55.86 299 eP P 02 21 31.9 +0.1
comp=Z,41nm,1.6s,mb5.2
BSMT **Bassoo Peak** 55.87 306 eP P 02 21 31.9 +0.2
BSMT **Bassoo Peak** 55.87 306 eP P 02 21 31.9 +0.1
MOOW **Moose Ponds** 55.87 300 eP P 02 21 31.8 0.0
comp=Z,6.8nm,0.6s,mb4.8
MOOW **Moose Ponds** 55.87 300 eP P 02 21 31.8 -0.1
comp=Z,6.8nm,0.6s,mb4.8
E14A **Clinton** 55.95 304 ⇑P P 02 21 32.3 -0.1
baz=56,SNR=14
MSO **Missoula** 55.97 304 eP P 02 21 32.9 +0.3
comp=Z,7.3nm,0.9s,mb4.7
MSO **Missoula** 55.97 304 eP P 02 21 32.8 +0.3
comp=Z,7.3nm,0.9s,mb4.7
DLMT **Dillon** 56.03 302 eP P 02 21 33.8 +0.8
comp=Z,20nm,1.0s,mb5.1
DLMT **Dillon** 56.03 302 eP P 02 21 33.8 +0.8
comp=Z,20nm,1.0s,mb5.1
SNOW **Snow King Moun** 56.04 299 eP P 02 21 33.8 +0.7
comp=Z,12nm,0.7s,mb5.0
SNOW **Snow King Moun** 56.04 299 eP P 02 21 33.8 +0.7
comp=Z,12nm,0.7s,mb5.0
G15A **Dillon** 56.09 302 ⇊P P 02 21 33.4 0.0
baz=56,SNR=25
A11A **Hall Mountain,** 56.10 307 ⇊P P 02 21 33.2 -0.3
baz=56,SNR=18
D13A **Huson** 56.11 305 ⇑P P 02 21 33.4 -0.2
baz=56
SDCO **Great Sand Dun** 56.12 291 eP P 02 21 34.8 +1.1
comp=Z,43nm,2.8s,mb5.0
SDCO **Great Sand Dun** 56.12 291 eP P 02 21 34.8 +1.1
comp=Z,43nm,2.8s,mb5.0
TPAW **Teton Pass** 56.14 299 eP P 02 21 33.9 +0.1
comp=Z,15nm,0.8s,mb5.1
TPAW **Teton Pass** 56.14 299 eP P 02 21 33.9 +0.1
comp=Z,15nm,0.8s,mb5.1
REDW **Red Top Meadow** 56.16 299 eP P 02 21 34.0 +0.1
comp=Z,29nm,1.1s,mb5.2
REDW **Red Top Meadow** 56.16 299 eP P 02 21 34.0 +0.1
comp=Z,29nm,1.1s,mb5.2
E13A **Victor** 56.33 304 ⇑P P 02 21 34.7 -0.4
baz=56,SNR=10
B11A **Sandpoint** 56.40 307 ⇑P P 02 21 34.9 -0.7
baz=56
G14A **Jackson** 56.60 302 ⇊P P 02 21 36.9 -0.2
baz=56,SNR=9.1
AHID **Auburn Hatcher** 56.65 299 eP P 02 21 38.3 +0.8
comp=Z,8.4nm,0.7s,mb4.9
AHID **Auburn Hatcher** 56.65 299 eP P 02 21 38.3 +0.9
comp=Z,8.4nm,0.7s,mb4.9
F13A **Darby** 56.79 303 ⇊P P 02 21 38.1 -0.3
baz=57
JCT **Junction City** 56.79 281 eP P 02 21 39.7 +1.1
JCT pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
JCT **Junction City** 56.79 281 eP P 02 21 39.7 +1.1
comp=Z,7.9nm,0.9s,mb4.7
NEW **Newport** 56.91 307 eP P 02 21 39.1 -0.2
comp=Z,32nm,1.3s,mb5.2
NEW **Newport** 56.91 307 eP P 02 21 39.1 -0.1
NEW pmax pmax
comp=Z,32nm,1.3s
NEW **Newport** 56.91 307 eP P 02 21 39.1 -0.1
comp=Z,32nm,1.3s,mb5.2
DAWY **Dawson** 57.09 331 eP P 02 21 41.0 +0.7
DAWY **Dawson** 57.09 331 eP P 02 21 41.0 +0.8
G13A **Cobalt** 57.13 303 ⇊P P 02 21 40.7 -0.1
baz=57,SNR=23
DLBC **Dease Lake** 57.14 322 eP P 02 21 41.5 +0.9
DLBC **Dease Lake** 57.14 322 eP P 02 21 41.5 +0.8
D11A **Klaveano Farm,** 57.19 306 ⇑P P 02 21 40.6 -0.6
baz=57
EGAK **Eagle** 57.20 332 eP P 02 21 44.1 +3.2
A09A **Danville** 57.29 308 ⇊P P 02 21 41.3 -0.6
baz=57
F12A **Elk City** 57.33 304 ⇊P P 02 21 41.8 -0.4
baz=57,SNR=24
B09A **Rice** 57.38 308 ⇑P P 02 21 42.0 -0.5
baz=57,SNR=18
H13A **Challis** 57.46 302 ⇊P P 02 21 43.3 +0.2
baz=57,SNR=21
E11A **Bogner Ranch,** 57.52 305 ⇑P P 02 21 42.4 -1.1
baz=57,SNR=18
HWUT **Hardware Ranch** 57.61 298 eP P 02 21 43.3 -0.9
comp=Z,10nm,1.0s,mb4.8
A08A **Turner Farm, O** 57.67 309 ⇊P P 02 21 44.2 -0.4
baz=58,SNR=5.4
D10A **Wagner Farm, O** 57.70 306 ⇊P P 02 21 44.0 -0.9
baz=58
I13A **Wildhorse Cree** 57.76 301 ⇑P P 02 21 45.4 +0.1
baz=58,SNR=22
F11A **Grangeville** 57.77 304 ⇑P P 02 21 44.6 -0.7
baz=58,SNR=14
H12A **Diamond D Ranc** 57.81 302 ⇊P P 02 21 45.6 -0.1
baz=58,SNR=18
E10A **Myers Farm, Un** 57.95 305 ⇑P P 02 21 46.0 -0.5
baz=58
PV10 **Paradox Valley** 57.98 294 eP P 02 21 47.8 +0.8
PV10 **Paradox Valley** 57.98 294 eP P 02 21 47.8 +0.9
K14A **Jones Ranch, D** 58.02 300 ⇑P P 02 21 46.9 -0.2
baz=58,SNR=11
B08A **Colville Reser** 58.06 308 P P 02 21 46.3 -1.0
baz=58,SNR=9.0
J13A **Cove Ranch, Pi** 58.10 301 ⇊P P 02 21 47.8 +0.2
baz=58,SNR=12
G11A **Walters Elk Ra** 58.12 304 ⇊P P 02 21 47.0 -0.8
baz=58,SNR=19
DAU **Daniels Canyon** 58.13 297 eP P 02 21 48.8 +0.8
DAU **Daniels Canyon** 58.13 297 eP P 02 21 48.8 +0.9
HLID **Hailey** 58.14 301 ⇑P P 02 21 47.8 -0.2
baz=58,SNR=16
ROSC **El Rosal** 58.17 239 LR LR 02 42 49.8
comp=Z,842nm,21.9s,MS4.8,baz=16,slow=32
A07A **Ashnola River,** 58.21 309 ⇑P P 02 21 47.9 -0.5
baz=58,SNR=7.0
M15A **Larsen Ranch,** 58.23 298 ⇑P P 02 21 47.8 -0.7
baz=58,SNR=8.6
BRVK **Borovoye** 58.27 45 P P 02 21 47.2 -1.5
comp=Z,69nm,0.8s,mb5.7,SNR=6.5
BRVK **Borovoye** 58.27 45 eP P 02 21 47.8 -0.8
comp=Z,7.3nm,0.7s,mb4.8
BRVK **Borovoye** 58.27 45 eP P 02 21 47.8 -0.9
BRVK pmax pmax
comp=Z,7.0nm,0.7s,mb4.8
BRVK **Borovoye** 58.27 45 eP P 02 21 47.8 -0.9
comp=Z,7.3nm,0.7s,mb4.8
D09A **Jones Farm, Ri** 58.27 307 ⇊P P 02 21 48.1 -0.7
baz=58
F10A **Beach Ranch, E** 58.32 305 ⇑P P 02 21 48.6 -0.6
baz=58,SNR=6.6
H11A **Donnelly** 58.39 303 ⇊P P 02 21 49.3 -0.4
baz=58,SNR=9.7
B07A **Winthrop** 58.42 309 ⇊P P 02 21 48.6 -1.2
baz=58
ANMO **Albuquerque** 58.42 289 eP P 02 21 50.8 +0.7
comp=Z,5.2nm,1.2s,mb4.4
ANMO **Albuquerque** 58.42 289 eP P 02 21 50.8 +0.7
ANMO pmax pmax
comp=Z,5.0nm,1.2s
ANMO **Albuquerque** 58.42 289 eP P 02 21 50.8 +0.7
comp=Z,5.2nm,1.2s,mb4.4
SRU **San Rafael** 58.47 295 eP P 02 21 50.7 +0.5
SRU **San Rafael** 58.47 295 eP P 02 21 50.7 +0.4
N15A **Stansbury Isla** 58.61 298 ⇊P P 02 21 50.8 -0.5
baz=58,SNR=6.1
G10A **Bishop Farm, J** 58.66 304 ⇊P P 02 21 50.8 -0.8
baz=58,SNR=5.4
J12A **Stokes Ranch,** 58.73 301 ⇑P P 02 21 52.0 0.0
baz=58,SNR=25
M14A **Sheep Mountain** 58.74 299 ⇑P P 02 21 51.8 -0.4
baz=59,SNR=6.3
I11A **Placerville** 58.83 302 ⇊P P 02 21 52.0 -0.7
baz=59
C07A **Waterville** 58.85 308 P P 02 21 51.9 -1.0
baz=59,SNR=9.2
F09A **S2 Ranch, Elgi** 58.86 305 ⇑P P 02 21 52.4 -0.6
baz=59,SNR=9.2
H10A **Noah's Angus R** 58.88 303 ⇑P P 02 21 52.6 -0.5
baz=59
RST **Umm Al-Ruwaisa** 58.88 79 eP P 02 21 51.4 -1.9
RST AMb AMB 02 21 58.4
comp=Z,23nm,1.0s,mb5.2
RST **Umm Al-Ruwaisa** 58.88 79 eP P 02 21 51.4 -1.9
comp=Z,23nm,1.0s,mb5.2
NLU **North Lily Min** 58.91 297 eP P 02 21 54.4 +1.1
NLU **North Lily Min** 58.91 297 eP P 02 21 54.4 +1.0
MIB **Mutribah** 58.91 78 eP P 02 21 51.6 -1.9
MIB AMb AMB 02 21 55.1
comp=Z,28nm,1.0s,mb5.3
MIB **Mutribah** 58.91 78 eP P 02 21 51.6 -1.9
comp=Z,28nm,1.0s,mb5.3
K12A **Draper Farm, C** 58.98 301 ⇑P P 02 21 54.0 +0.2
baz=59,SNR=8.3
BMO **Blue Mountains** 59.03 304 eP P 02 21 54.7 +0.6
comp=Z,6.6nm,1.0s,mb4.6
BMO **Blue Mountains** 59.03 304 eP P 02 21 54.7 +0.5
comp=Z,6.6nm,1.0s,mb4.6
N14A **Grayback Hills** 59.04 298 ⇑P P 02 21 53.9 -0.4
baz=59,SNR=5.4
MFID **Camas Ranch** 59.05 302 ⇑P P 02 21 54.1 -0.2
baz=59
COLA **College** 59.18 335⇑eP P 02 21 56.6 +1.8
NAY **Al-Naaiem** 59.20 79 eP P 02 21 52.8 -2.7
NAY AMb AMB 02 21 56.3
comp=Z,18nm,1.1s,mb5.0
DUG **Dugway** 59.21 297 eP P 02 21 56.1 +0.7
comp=Z,18nm,1.0s,mb5.1
DUG **Dugway** 59.21 297 eP P 02 21 56.1 +0.6
DUG pmax pmax
comp=Z,18nm,1.0s,mb5.1
DUG **Dugway** 59.21 297 ⇑P P 02 21 55.6 +0.1
baz=59
DUG **Dugway** 59.21 297 eP P 02 21 56.1 +0.6
comp=Z,18nm,1.0s,mb5.1
M13A **Montello** 59.32 299 ⇑P P 02 21 55.6 -0.5
baz=59
L12A **House Creek Ra** 59.35 300 ⇊P P 02 21 56.6 +0.2
baz=59
H09A **Durkee** 59.35 304 ⇑P P 02 21 56.4 +0.1
baz=59
KBD **Kabd** 59.55 79 eP P 02 21 55.1 -2.8
KBD AMb AMB 02 22 02.7
comp=Z,140nm,1.0s,mb5.9
K11A **Parker Ranch,** 59.56 301 ⇑P P 02 21 57.5 -0.3
baz=59
D06A **Cle Elum** 59.57 308 ⇊P P 02 21 56.5 -1.3
baz=59
B05A **Bryant** 59.58 309 ⇑P P 02 21 56.2 -1.7
baz=59
N13A **Wendover, West** 59.65 299 ⇑P P 02 21 58.1 -0.4
baz=60
G08A **Pilot Rock** 59.70 305 ⇊P P 02 21 57.3 -1.4
baz=60
C05A **Tolt Reservoir** 59.72 309 ⇑P P 02 21 57.6 -1.2
baz=60
M12A **Wells** 59.73 300 ⇑P P 02 21 58.7 -0.3
baz=60,SNR=8.3
L11A **Cat Creek Ranc** 59.77 301 ⇑P P 02 21 59.2 -0.1
baz=60,SNR=8.6
I09A **Lost Marbles R** 59.82 303 ⇊P P 02 21 59.0 -0.6
baz=60
MSU **Marysvale** 59.85 295 eP P 02 22 00.5 +0.6
MSU **Marysvale** 59.85 295 eP P 02 22 00.5 +0.6
F07A **Phinny Hill Vi** 59.87 306 ⇊P P 02 21 59.6 -0.3
baz=60
IMA2 **Indian Mountai** 59.90 338 eP P 02 21 59.4 -0.3
IMA2 **Indian Mountai** 59.90 338 eP P 02 21 59.4 -0.4
H08A **Prairie City** 60.01 304 ⇊P P 02 22 00.1 -0.7
baz=60
E06A **Yakima** 60.04 307 ⇊P P 02 22 00.2 -0.9
baz=60
K10A **MacKenzie Ranc** 60.05 302 ⇊P P 02 22 00.7 -0.5
baz=60
TXAR **Lajitas Array** 60.11 282 P P 02 22 02.3 +0.5
comp=Z,1.7nm,0.6s,mb4.2,baz=72,slow=6.6,SNR=19
G07A **Ruggs Ranch, H** 60.11 306 ⇑P P 02 22 01.1 -0.5
baz=60
N12A **Clover Valley,** 60.15 299 ⇑P P 02 22 01.1 -0.8
baz=60
M11A **Holland Ranch,** 60.24 300 ⇊P P 02 22 03.0 +0.5
baz=60
L10A **Juniper Basin** 60.24 301 ⇑P P 02 22 02.5 -0.1
baz=60
P13A **Bates Ranch, G** 60.40 297 ⇊P P 02 22 03.5 -0.1
baz=60,SNR=9.0
TIXI **Tiksi** 60.41 8 eP P 02 22 03.6 +0.3
comp=Z,11nm,1.2s,mb4.8
TIXI **Tiksi** 60.41 8⇑eP P 02 22 03.3 +0.1
TIXI pmax pmax
comp=Z,14nm,1.4s,mb4.8
TIXI **Tiksi** 60.41 8 eP P 02 22 03.6 +0.4
comp=Z,11nm,1.2s,mb4.8
H07A **Lands Inn, Kim** 60.47 305 ⇊P P 02 22 04.2 +0.1
baz=60
N11A **Elko Archery C** 60.59 299 ⇑P P 02 22 04.9 0.0
baz=60
K09A **Rome** 60.59 302 ⇑P P 02 22 05.1 +0.2
baz=60,SNR=22
J08A **Circle Bar Ran** 60.61 303 P P 02 22 05.4 +0.4
baz=60,SNR=12
M10A **I.L. Ranch, Tu** 60.63 301 ⇑P P 02 22 05.9 +0.7
baz=60
Q13A **Wheeler Ranch,** 60.71 297 ⇊P P 02 22 05.7 -0.1
baz=60
ABKT **Ailbek** 60.79 65 P P 02 22 07.0 +0.7
comp=Z,70nm,1.1s,mb5.7,SNR=7.4
H06A **Lindquist Farm** 60.81 305 ⇊P P 02 22 05.8 -0.5
baz=61
T15A **Red Dirt Ranch** 60.91 294 ⇊P P 02 22 07.4 +0.2
baz=61
P12A **McGill** 60.93 298 ⇑P P 02 22 07.4 +0.1
baz=61,SNR=5.1
S14A **Cedar City** 60.93 295 ⇊P P 02 22 07.4 +0.1
baz=61
O11A **Cowboy Ranch,** 60.97 299 ⇊P P 02 22 07.6 +0.1
baz=61,SNR=6.4
L09A **Wilkinson Ranc** 60.98 302 ⇑P P 02 22 07.2 -0.3
baz=61,SNR=10
K08A **Mann Creek Ran** 61.01 303 ⇑P P 02 22 07.9 +0.2
baz=61,SNR=5.5
ARUT **Antelope Range** 61.08 295 eP P 02 22 09.1 +0.8
ARUT **Antelope Range** 61.08 295 eP P 02 22 09.1 +0.8
N10A **Dunphy** 61.11 300 ⇑P P 02 22 08.4 0.0
baz=61
WUAZ **Wupatki** 61.22 292 eP P 02 22 10.3 +1.0
comp=Z,38nm,2.0s,mb5.2
WUAZ **Wupatki** 61.22 292 eP P 02 22 10.3 +1.0
comp=Z,38nm,2.0s,mb5.2
L08A **Fields** 61.27 302 ⇊P P 02 22 09.4 -0.1
baz=61,SNR=9.2
WVOR **Wild Horse Val** 61.28 302 eP P 02 22 10.0 +0.4
comp=Z,22nm,1.0s,mb5.2
WVOR **Wild Horse Val** 61.28 302 eP P 02 22 10.0 +0.4
WVOR pmax pmax
comp=Z,22nm,1.0s,mb5.2
WVOR **Wild Horse Val** 61.28 302 eP P 02 22 10.0 +0.4
comp=Z,22nm,1.0s,mb5.2
H05A **Madras** 61.36 306 ⇊P P 02 22 09.6 -0.5
baz=61
E03A **Lebam** 61.44 309 ⇑P P 02 22 10.1 -0.4
baz=61
R12A **Pony Springs,** 61.46 297 ⇊P P 02 22 10.5 -0.3
baz=61,SNR=5.2
S13A **Holt Ranch, En** 61.47 296 ⇊P P 02 22 11.1 +0.2
baz=61
K07A **Rock Creek Ran** 61.47 303 ⇊P P 02 22 10.4 -0.5
baz=61,SNR=6.7
N09A **Rock Creek Ran** 61.63 300 ⇑P P 02 22 12.2 +0.2
baz=61
J06A **Christmas Vall** 61.64 304 ⇑P P 02 22 12.0 0.0
baz=61,SNR=7.4
I05A **Bend** 61.69 305 ⇑P P 02 22 12.2 -0.1
baz=62
M08A **Happy Creek Ra** 61.75 301 ⇑P P 02 22 12.2 -0.6
baz=62,SNR=5.7
P10A **Eureka** 61.77 299 ⇑P P 02 22 13.1 +0.1
baz=62
Q11A **Duckwater** 61.77 298 ⇊P P 02 22 13.4 +0.4
baz=62
U14A **Mt Trumbull** 61.78 294 ⇊P P 02 22 13.2 +0.1
baz=62
T13A **Saint George** 61.85 295 ⇊P P 02 22 13.5 -0.1
baz=62,SNR=5.8
O09A **Fish Creek Ran** 61.86 300 ⇑P P 02 22 13.8 +0.2
baz=62
L07A **Adell** 61.95 302 ⇑P P 02 22 14.4 +0.3
baz=62,SNR=9.7
X16A **Lo Mia Camp, P** 61.95 291 ⇊P P 02 22 14.9 +0.7
baz=62
PMR **Palmer** 62.01 333 eP P 02 22 14.2 0.0
PMR pmax pmax
comp=Z,18nm,1.1s,mb5.1
PMR **Palmer** 62.01 333 eP P 02 22 14.2 0.0
comp=Z,18nm,1.1s,mb5.1
N08A **GE Springer Mi** 62.03 301 ⇊P P 02 22 14.6 0.0
baz=62
R11A **Troy Canyon, C** 62.04 297 ⇑P P 02 22 15.0 +0.2
baz=62
J05A **Fort Rock** 62.23 305 ⇊P P 02 22 15.7 -0.2
baz=62,SNR=13
Q10A **Clear Creek Ra** 62.24 298 ⇊P P 02 22 16.0 -0.1
baz=62
M07A **Soldier Meadow** 62.25 302 ⇊P P 02 22 16.3 +0.2
baz=62
U13A **Pakoon Wash** 62.27 295 ⇊P P 02 22 16.6 +0.2
baz=62
K05A **Summer Lake** 62.39 304 ⇑P P 02 22 16.8 -0.2
baz=62
X15A **Humboldt** 62.42 292 ⇊P P 02 22 17.4 0.0
baz=62
W14A **Seligman** 62.49 293 ⇑P P 02 22 18.3 +0.5
baz=62
R10A **Warm Springs** 62.52 298 ⇑P P 02 22 18.0 0.0
baz=62
N07B **Gerlach** 62.52 301 ⇊P P 02 22 17.9 0.0
baz=62,SNR=12
T11A **Corn Creek, Al** 62.52 296 ⇑P P 02 22 18.2 +0.2
baz=62,SNR=9.3
MOD **Modoc** 62.58 303 eP P 02 22 19.0 +0.7
comp=Z,15nm,1.1s,mb5.0
MOD **Modoc** 62.58 303 P P 02 22 18.7 +0.4
baz=62,SNR=9.3
MOD **Modoc** 62.58 303 eP P 02 22 19.0 +0.7
comp=Z,15nm,1.1s,mb5.0
S11A **Rachel** 62.59 297 ⇊P P 02 22 18.5 0.0
baz=62
V13A **Grand Canyon W** 62.64 294 ⇊P P 02 22 19.2 +0.4
baz=62
J04A **Umpqua Nationa** 62.75 305 ⇊P P 02 22 19.1 -0.4
baz=62
L05A **Lakeview** 62.79 303 ⇑P P 02 22 19.9 +0.2
baz=63
NVS **Novosibirsk** 62.92 37 eP P 02 22 20.6 +0.2
S10A **Tonopah Range,** 62.93 297 ⇊P P 02 22 20.8 0.0
baz=63,SNR=22
R09A **Tonopah** 63.01 298 P P 02 22 21.3 0.0
baz=63,SNR=26
N06A **Buffalo Meadow** 63.05 302 ⇊P P 02 22 21.5 +0.1
baz=63
W13A **Hualapai Mount** 63.06 293 ⇊P P 02 22 22.3 +0.6
baz=63
M06C **Likely Place G** 63.13 302 ⇊P P 02 22 22.4 +0.4
baz=63
Q08A **Gabbs** 63.13 299 ⇊P P 02 22 21.9 -0.1
baz=63,SNR=8.2
X13A **Yucca** 63.35 293 ⇑P P 02 22 23.7 +0.1
baz=63
M05C **Lookout** 63.41 303 ⇊P P 02 22 23.9 +0.1
baz=63
O06A **Flanigan** 63.42 301 ⇊P P 02 22 24.0 +0.1
baz=63
S09A **Goldfield** 63.44 298 ⇊P P 02 22 23.6 -0.5
baz=63,SNR=10
M04C **Macdoel** 63.53 304 ⇑P P 02 22 24.2 -0.5
baz=63
V11A **Goodsprings** 63.55 295 ⇑P P 02 22 25.5 +0.6
baz=63
NVAR **Mina Array Bea** 63.63 299 P P 02 22 25.6 +0.2
comp=Z,1.8nm,0.7s,mb4.2,baz=43,slow=4.7,SNR=14
KURK **Kurchatov** 63.73 43 P P 02 22 24.0 -1.8
comp=Z,82nm,0.8s,mb5.8,SNR=8.5
KURK **Kurchatov** 63.73 43 eP P 02 22 24.4 -1.4
comp=Z,11nm,0.8s,mb4.9
KURK **Kurchatov** 63.73 43 eP P 02 22 24.4 -1.4
KURK pmax pmax
comp=Z,11nm,0.8s,mb4.9
KURK **Kurchatov** 63.73 43 eP P 02 22 24.4 -1.4
comp=Z,11nm,0.8s,mb4.9
U10A **Ash Meadows, A** 63.73 296 ⇊P P 02 22 26.3 +0.2
baz=64
HATC **Hat Creek Radi** 63.95 303 ⇊P P 02 22 27.0 -0.4
baz=64
GRAC **Grapevine Rang** 63.99 297 P P 02 22 28.1 +0.3
baz=64,SNR=14
FURC **Furnace Creek,** 64.03 296 ⇑P P 02 22 28.2 +0.2
baz=64
M03C **McCloud** 64.03 303 ⇊P P 02 22 28.1 +0.2
baz=64
S08C **White Mtn Res** 64.16 298 ⇑P P 02 22 29.1 +0.3
baz=64
ZAA0 **Zalesovo Array** 64.20 37 eP P 02 22 27.5 -1.3
ZAA0 **Zalesovo Array** 64.20 37 eP P 02 22 27.5 -1.4
ZAL **Zalesovo** 64.20 37 P P 02 22 26.9 -2.0
ZALV **Zalesovo Beam** 64.20 37 P P 02 22 26.9 -2.0
comp=Z,1.4nm,0.7s,mb4.1,baz=308,slow=5.5,SNR=6.2
ZALV LR LR 02 50 44.8
comp=Z,472nm,21.2s,MS4.7,baz=302,slow=36
R07C **Lee Vining** 64.30 299 ⇊P P 02 22 30.0 +0.3
baz=64
P05C **Yuba Gap, Truc** 64.43 301 ⇑P P 02 22 31.0 +0.4
baz=64
MTUM **Tungsten Hills** 64.49 298 eP P 02 22 31.6 +0.6
MPMC **Manual Prospec** 64.68 296 ⇊P P 02 22 32.7 +0.5
baz=64,SNR=14
GSC **Goldstone** 64.75 295 eP P 02 22 34.3 +1.5
GSC **Goldstone** 64.75 295 ⇊P P 02 22 33.4 +0.6
baz=65
GSC **Goldstone** 64.75 295 eP P 02 22 34.3 +1.5
BILL **Bilibino** 64.76 354⇑eP P 02 22 32.3 0.0
BILL pmax pmax
comp=Z,18nm,2.5s,mb4.7
KCC **Kaiser Creek** 64.96 298 ⇊P P 02 22 33.6 -0.5
baz=65
N02C **Big Bar** 65.00 304 ⇊P P 02 22 34.0 -0.3
baz=65
BDFB **Brasilia** 65.08 202 P P 02 22 35.2 +0.3
comp=Z,4.6nm,0.9s,mb4.5,baz=19,slow=8.2,SNR=9.2
BDFB LR LR 02 46 19.7
comp=Z,376nm,20.1s,MS4.6,baz=191,slow=32
CMB **Columbia Colle** 65.13 300 ⇑P P 02 22 35.5 +0.3
baz=65
KHMM **Horse Mountain** 65.20 304 eP P 02 22 36.5 +0.9
KHMM **Horse Mountain** 65.20 304 eP P 02 22 36.5 +0.9
HELL **Mitchell Peak** 65.21 298 P P 02 22 36.4 +0.7
baz=65,SNR=12
T06C **Millerton Lake** 65.41 298 ⇊P P 02 22 36.5 -0.5
baz=65
P01C **Double 8 Ranch** 65.91 302 ⇊P P 02 22 39.9 -0.3
baz=66
EKS2 **Erkin-Say** 66.79 52 eP P 02 22 46.2 +0.5
comp=Z,20nm,1.1s,mb5.0
EKS2 **Erkin-Say** 66.79 52 P P 02 22 47.0 +1.3
SNR=14
EKS2 **Erkin-Say** 66.79 52 eP P 02 22 46.2 +0.4
comp=Z,20nm,1.1s,mb5.0
AML **Almayashu** 67.11 52 eP P 02 22 48.3 +0.5
comp=Z,15nm,0.9s,mb5.0
AML **Almayashu** 67.11 52 P P 02 22 48.7 +0.8
SNR=17
AML **Almayashu** 67.11 52 eP P 02 22 48.3 +0.5

comp=Z,15nm,0.9s,mb5.0
FRU Bishkek 67.12 51 *e*P **P 02 22 45.0 -2.9**
AAK Ala-Archa 67.19 52 *e*P **P 02 22 48.0 -0.3**
comp=Z,17nm,1.4s,mb4.9
AAK Ala-Archa 67.19 52⇑ *i*P **P 02 22 48.5 +0.1**
AAK pmax pmax
comp=Z,15nm,1.3s,mb4.9
AAK MLR MLR
comp=Z,900nm,18.0s,MS5.0
AAK Ala-Archa 67.19 52 P **P 02 22 49.0 +0.7**
SNR=6.5
AAK Ala-Archa 67.19 52 *e*P **P 02 22 48.0 -0.4**
comp=Z,17nm,1.4s,mb4.9
UCH Uchtor 67.48 52 *e*P **P 02 22 51.7 +1.5**
comp=Z,25nm,1.3s,mb5.1
UCH Uchtor 67.48 52 P **P 02 22 51.9 +1.7**
SNR=19
UCH Uchtor 67.48 52 *e*P **P 02 22 51.7 +1.5**
comp=Z,25nm,1.3s,mb5.1
TKM2 Tokmak 2 67.58 51 *e*P **P 02 22 51.2 +0.4**
TKM2 pmax pmax
comp=Z,14nm,1.2s,mb4.9
TKM2 Tokmak 2 67.58 51 P **P 02 22 53.0 +2.1**
SNR=6.2
TKM2 Tokmak 2 67.58 51 *e*P **P 02 22 51.2 +0.4**
comp=Z,14nm,1.2s,mb4.9
KZA Kyzart 67.98 52 P **P 02 22 55.9 +2.5**
SNR=6.0
LPIG La Paz 68.01 282 LR LR 02 52 19.1
comp=Z,2μm,19.8s,MS5.3,baz=48,slow=36
MK31 Makanchi Array 68.21 44 *e*P **P 02 22 53.8 -0.9**
MK31 Makanchi Array 68.21 44 *e*P **P 02 22 53.8 -0.9**
MKAR Makanchi Array 68.21 44⇑ *e*P **P 02 22 53.7 -1.0**
MKAR Makanchi Array 68.21 44 P **P 02 22 53.8 -1.0**
comp=Z,6.4nm,0.7s,mb4.8,baz=325,slow=5.9,SNR=62
MKAR LR LR 02 52 16.4
comp=Z,683nm,20.0s,MS4.9,baz=306,slow=36
KBL Kabul 69.66 61 *e*P **P 02 23 03.8 -0.2**
comp=Z,7.9nm,0.8s,mb4.7
KBL Kabul 69.66 61 *e*P **P 02 23 03.8 -0.1**
comp=Z,7.9nm,0.8s,mb4.7
SEY Seymchan 70.36 0⇑ *e*P **P 02 23 08.3 +0.6**
BOD Bodaibo 70.72 21⇓ *i*P **P 02 23 09.0 -1.1**
BOD pmax pmax
comp=Z,20nm,1.9s,mb4.7
MOY Mondy 72.19 31 *e*P **P 02 23 20.0 +1.0**
MOY pmax pmax
comp=Z,88nm,3.2s
IRK Irkutsk 72.81 29 *e*P **P 02 23 21.9 -0.8**
IRK pmax pmax
comp=Z,63nm,1.6s,mb5.3
LPAZ La Paz 72.85 221 *e*P **P 02 23 24.1 +0.8**
comp=Z,3.8nm,1.1s,mb4.2
LPAZ La Paz 72.85 221 *e*P **P 02 23 24.1 +0.8**
LPAZ pmax pmax
comp=Z,4.0nm,1.1s
LPAZ La Paz 72.85 221 P **P 02 23 24.1 +0.9**
comp=Z,0.7nm,0.7s,mb3.7,baz=356,slow=4.1,SNR=4.9
LPAZ La Paz 72.85 221 *e*P **P 02 23 24.0 +0.7**
comp=Z,3.8nm,1.1s,mb4.2
WMQ Urumqi 72.97 43⇑ *i*P **P 02 23 24.6 +0.8**
WMQ AP pP 02 23 29.0 +3.1
WMQ XP sP 02 23 32.0 +5.3
WMQ PCP PcP 02 23 42.0 +1.3
WMQ PP PP 02 26 09.0 +3.4
WMQ S S 02 32 51.0 +0.3
WMQ XS sS 02 33 03.0 +8.8
WMQ SCS ScS 02 33 28.0 -4.0
WMQ AMB AMB
comp=Z,11nm,1.5s,mb4.6
WMQ AMB AMB
comp=Z,394nm,3.9s
WMQ LR LR
comp=N,1μm,15.9s,MS5.3
WMQ LR LR
comp=E,803nm,15.2s,MS5.3
WMQ LR LR
comp=Z,585nm,19.3s,MS4.9
TLY Talaya 73.08 29 *e*P **P 02 23 25.4 +1.1**
TLY *e* 02 33 36.4
TLY pmax pmax
comp=Z,20nm,2.2s,mb4.7
TLY MLR MLR
comp=Z,230nm,17.0s,MS4.5
KMBO Kilima Mbogo 73.90 110 *e*P **P 02 23 30.2 +0.6**
comp=Z,3.1nm,0.9s,mb4.2
KMBO Kilima Mbogo 73.90 110 *e*P **P 02 23 30.2 +0.6**
KMBO pmax pmax
comp=Z,3.0nm,0.9s
KMBO Kilima Mbogo 73.90 110 P **P 02 23 29.5 -0.1**
comp=Z,1.7nm,0.7s,mb4.1,baz=50,slow=22,SNR=6.1
KMBO LR LR 02 55 47.5
comp=Z,1μm,20.9s,MS5.2,baz=278,slow=36
KMBO Kilima Mbogo 73.90 110 *e*P **P 02 23 30.2 +0.6**
comp=Z,3.1nm,0.9s,mb4.2
ZAK Zakamensk 74.05 30 *e*P **P 02 23 28.9 -1.2**
ZAK pmax pmax
comp=Z,5.0nm,2.6s,mb4.0
SONM Songino Array 77.30 30 P **P 02 23 48.2 -0.5**
comp=Z,5.1nm,0.9s,mb4.5,baz=320,slow=5.5,SNR=29
SONM LR LR 03 00 39.5
comp=Z,314nm,18.9s,MS4.7,baz=342,slow=38
ULN Ulaanbaatar 77.49 29 *e*P **P 02 23 50.2 +0.5**
comp=Z,25nm,1.3s,mb5.0
ULN Ulaanbaatar 77.49 29 *e*P **P 02 23 50.2 +0.4**
ULN pmax pmax
comp=Z,25nm,1.3s,mb5.0
ULN Ulaanbaatar 77.49 29 *e*P **P 02 23 50.2 +0.4**
comp=Z,25nm,1.3s,mb5.0
CPUP Villa Florida 77.86 207 *e*P **P 02 23 51.2 -0.7**
CPUP pmax pmax
comp=Z,13nm,0.9s
CPUP Villa Florida 77.86 207 P **P 02 23 51.4 -0.5**
comp=Z,0.9nm,0.5s,mb4.0,baz=8.7,slow=7.3,SNR=5.3
CPUP LR LR 02 53 27.0
comp=Z,258nm,21.7s,MS4.5,baz=354,slow=32
CPUP Villa Florida 77.86 207 *e*P **P 02 23 51.2 -0.7**
comp=Z,14nm,0.9s,mb4.9
LSZ Lusaka 79.58 126 *e*P **P 02 24 01.9 +0.4**
LSZ Lusaka 79.58 126 *e*P **P 02 24 01.9 +0.3**
PET Petropavlovsk 80.16 356 *e*P **P 02 24 04.2 -0.1**
PET *e*S S 02 34 09.2 +0.1
PET pmax pmax
comp=Z,200nm,6.7s
PET MLR MLR
comp=Z,300nm,21.0s,MS4.6
GTA Gaotai 81.93 38 *e*P **P 02 24 13.6 -0.4**
GTA AP pP 02 24 17.1 +1.0
GTA XP sP 02 24 19.8 +2.9
GTA PP PP 02 27 23.0 +2.3
GTA S S 02 34 25.8 -2.3
GTA SKS 02 34 28.8
GTA XS sS 02 34 34.1 +2.5
GTA SS SS 02 39 48.3 +3.1
GTA AMB AMB
comp=Z,11nm,1.7s,mb4.5
GTA AMB AMB
comp=Z,332nm,6.1s
GTA LR LR
comp=N,435nm,24.0s,MS4.9
GTA LR LR
comp=E,458nm,23.6s,MS4.9
GTA LR LR
comp=Z,614nm,23.6s,MS4.9
KLR Kul'dur 82.42 14 *e*P **P 02 24 12.7 -3.7**
KLR *e*S S 02 34 29.5 -3.2
KLR pmax pmax
comp=Z,260nm,2.8s,mb5.7
DANN Dangsing 82.75 56 *e*P **P 02 24 18.1 -0.4**
comp=Z,21nm,0.7s,mb5.3
KOLN Koldanda 83.10 56 *e*P **P 02 24 20.0 -0.3**
comp=Z,5.8nm,0.5s,mb4.8
GKN Gorkha 83.51 56 *e*P **P 02 24 21.3 -1.1**
DMN Daman 84.07 55 *e*P **P 02 24 25.4 +0.1**
comp=Z,21nm,0.7s,mb5.3
GUN Gumba 84.28 55 *e*P **P 02 24 26.7 +0.4**
comp=Z,67nm,1.2s,mb5.7
BTO Baotou 84.88 31 *e*P **P 02 24 29.0 -0.2**
HHC Hu-ho-hao-te 85.20 30 *e*P **P 02 24 30.9 +0.1**
HHC AP pP 02 24 35.4 +2.5
HHC XP sP 02 24 38.3 +4.6
HHC PP PP 02 27 50.1 +2.8
HHC SKS 02 34 53.5
HHC S S 02 34 59.8 -1.2
HHC XS sS 02 35 07.5 +2.9
HHC SS SS 02 40 33.5 +0.1
HHC AMB AMB
comp=Z,29nm,0.3s,mb5.9
HHC LR LR
comp=N,236nm,17.7s,MS4.8
HHC LR LR
comp=E,323nm,20.8s,MS4.8
HHC LR LR
comp=Z,169nm,31.9s
YSS Yuzh-Sakhalins 85.98 7 *e*P **P 02 24 33.2 -1.4**
CN2 Changchun 86.42 19 *e*P **P 02 24 36.1 -0.7**
CN2 *e*XP sP 02 24 43.0 +3.3
CN2 *e*S S 02 35 09.1 -3.8
CN2 AMB AMB
comp=Z,10.0nm,0.6s,mb5.2
CN2 LR LR
comp=N,200nm,18.0s,MS4.8
CN2 LR LR
comp=E,300nm,18.0s,MS4.8
CN2 LR LR
comp=Z,400nm,19.0s,MS4.8
LZH Lanzhou 86.44 38 *e*P **P 02 24 38.4 +1.4**
LZH AP pP 02 24 48.3 +9.2
LZH XP sP 02 24 51.8 +12
LZH PP PP 02 27 58.4 +0.9
LZH *e*S S 02 35 07.0 -6.3
LZH SS SS 02 40 50.0 -1.8
LZH AMB AMB
comp=Z,25nm,1.2s,mb5.3
LZH AMB AMB
comp=Z,127nm,4.4s
LZH LR LR
comp=E,842nm,12.6s
LZH LR LR
comp=Z,1μm,15.2s,MS5.3
MDJ Mudanjiang 86.50 16 P **P 02 24 35.1 -2.1**
MDJ AP pP 02 24 38.4 -0.9
MDJ S S 02 35 10.4 -3.3
MDJ SS SS 02 40 49.0 -3.1
MDJ AMB AMB
comp=Z,5.0nm,0.9s,mb4.7
MDJ AMB AMB
comp=Z,135nm,4.9s
MDJ LR LR
comp=N,46nm,27.2s,MS4.2
MDJ LR LR
comp=E,104nm,25.1s,MS4.2
MDJ LR LR
comp=Z,124nm,22.9s,MS4.2
BJI Beijing 87.44 27 P **P 02 24 41.9 +0.1**
BJI SS SS 02 41 08.8 +2.7
BJI AMB AMB
comp=Z,12nm,0.9s,mb5.1
BJI AMB AMB
comp=Z,263nm,5.8s
BJI LR LR
comp=N,240nm,16.0s,MS4.9
BJI LR LR
comp=E,345nm,16.0s,MS4.9
BJI LR LR
comp=Z,458nm,21.0s,MS4.9
SNY Shenyang 87.84 21 ⇑P **P 02 24 40.6 -3.1**
SNY S S 02 35 19.3 -7.4
SNY AMB AMB
comp=Z,9.0nm,0.9s,mb5.0
SNY AMB AMB
comp=Z,251nm,6.8s
SNY LR LR
comp=E,272nm,17.8s
SNY LR LR
comp=Z,235nm,16.8s,MS4.7
BOSA Boshof 89.07 136 LR LR 03 04 30.0
comp=Z,660nm,18.1s,MS5.1,baz=321,slow=35
XAN Xi'an 90.27 35 P **P 02 24 54.3 -1.0**
XAN AP pP 02 25 06.0 +8.6
XAN S S 02 35 45.0 -4.7
XAN AMB AMB
comp=Z,36nm,1.2s,mb5.6
XAN LR LR
comp=N,112nm,30.4s,MS4.4
XAN LR LR
comp=E,211nm,32.9s,MS4.4
XAN LR LR
comp=Z,385nm,32.1s,MS4.6
CD2 Chengdu 90.83 40 *e*P **P 02 24 57.0 -0.9**
CD2 AP pP 02 25 02.1 +2.0
CD2 XP sP 02 25 05.3 +4.5
CD2 PP PP 02 28 33.9 +1.1
CD2 SKS 02 35 26.0
CD2 S S 02 35 49.0 -6.0
CD2 SS SS 02 41 52.9 -3.0
CD2 AMB AMB
comp=Z,20nm,0.8s,mb5.5
CD2 LR LR
comp=N,160nm,18.4s,MS4.7
CD2 LR LR
comp=E,210nm,16.4s,MS4.7
CD2 LR LR
comp=Z,180nm,14.8s,MS4.6
KSRS Korea Array 93.03 19 LR LR 03 10 08.4
comp=Z,122nm,19.1s,MS4.4,baz=300,slow=38
KMI Kunming 95.29 44 P **P 02 25 17.6 -1.0**
KMI AP pP 02 25 21.4 +0.7
KMI PP PP 02 29 05.8 -2.1
KMI SKS 02 35 52.4
KMI S S 02 36 29.5 -5.3
KMI SS SS 02 42 59.4 -0.7
KMI AMB AMB
comp=Z,10.0nm,0.6s,mb5.4
KMI AMB AMB
comp=Z,58nm,3.9s
KMI LR LR
comp=N,192nm,27.8s
KMI LR LR
comp=E,208nm,20.9s
KMI LR LR
comp=Z,374nm,26.7s,MS4.7
PLCA Paso Flores 95.44 211 LR LR 03 07 05.5
comp=Z,344nm,19.3s,MS4.8,baz=19,slow=35
NJ2 Nanjing 95.62 28 *e*P **P 02 25 21.1 +1.1**
GYA Guiyang 95.95 40 P **P 02 25 20.8 -0.8**
GYA PP PP 02 29 15.8 +2.9
GYA SKS 02 35 56.8
GYA S S 02 36 35.8 -4.6
GYA SS SS 02 43 08.3 -0.9
GYA AMB AMB
comp=Z,20nm,1.0s,mb5.5
GYA AMB AMB
comp=Z,120nm,5.9s
GYA LR LR
comp=N,440nm,21.6s,MS5.1
GYA LR LR
comp=E,520nm,20.4s,MS5.1
GYA LR LR
comp=Z,400nm,19.9s,MS4.9
RKT Rikitea 118.29 266 *e*SS SS 02 48 22.1 +7.6
comp=Z,383nm,30.5s
RKT Rikitea 118.29 266 *e*LR LR 03 06 53.8
comp=Z,434nm,33.5s
PPT Papeete 124.43 282 *e*SS SS 02 49 35.8 +3.0
comp=Z,267nm,29.8s
PPT Papeete 124.43 282 *e*LR LR 03 09 44.5
comp=Z,624nm,23.2s
TBI Tubuai 128.34 276 *e*LR LR 03 11 35.0
comp=Z,683nm,37.2s
WRAB Tennant Creek 149.15 35 *e*PKPdf PKPdf 02 31 39.0 +0.2
WRAB *e*PKPbc PKPbc 02 31 41.9 -1.2
WRA Warramunga Arr 149.16 35 PKPbc PKPbc 02 31 41.8 -1.3
comp=Z,10nm,0.8s,baz=336,slow=2.7,SNR=46
WB2 Warramunga Arr 149.16 35 *e*PKP PKPbc 02 31 41.7 -1.3
VNDA Vanda 149.21 184 *e*PKPbc PKPbc 02 31 42.1 +0.6
VNDA Vanda 149.21 184 PKPbc PKPbc 02 31 41.6 +0.2
comp=Z,11nm,1.1s,baz=250,slow=2.2,SNR=9.2
VNDA Vanda 149.21 184 *e*PKPbc PKPbc 02 31 42.1 +0.6
CASY Casey 150.81 146 *e*PKPbc PKPbc 02 31 45.6 0.0
CASY Casey 150.81 146 *e*PKPbc PKPbc 02 31 45.6 0.0
ASAR Alice Springs 152.30 39 PKP PKPdf 02 31 43.0 -0.6
comp=Z,0.9nm,0.8s,baz=341,slow=1.7,SNR=7.2
ASAR PKPbc PKPbc 02 31 48.9 -1.5
comp=Z,8.5nm,0.8s,baz=348,slow=2.1,SNR=51
CTA Charters Tower 152.62 13 PKPbc PKPbc 02 31 50.1 -1.1
comp=Z,4.4nm,0.9s,baz=8.9,slow=6.3,SNR=4.0
CTAO Charters Tower 152.62 13 *e*PKPbc PKPbc 02 31 50.4 -0.7
CTAO Charters Tower 152.62 13 *e*PKPbc PKPbc 02 31 50.4 -0.8

IDC ***25*** *02:21:33.3±1.1, 135N×12275E, h0km, mb3.7/5, mb1 3.9/6, mb1mx3.7/18, mbtmp3.7/6, ML4.0/1, Error ellipse: s-maj=117.8km s-min=18.5km az=67.0*
ISCJB ***25*** *02:21:36.6±0.8, 12N±02×1225E±0.6, h33km, mb3.7/7, Error ellipse: s-maj=85.5km s-min=13.5km az=158.0*
NEIC ***25*** *02:21:38.8±0.6, 129N×12276E, h35km, mb4.1/3, Error ellipse: s-maj=70.5km s-min=11.1km az=68.0*
ISC 25 02:21:38.9±0.8, 12N±02×1225E±05, h35km, n9, σ0$60/9, mb3.7/7, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**19.39**	**171**	*e*P		**Pn**	**02 26 03.0**	**-0.2**
3.6nm,0.6s								
FITZ	**Fitzroy Crossi**	**19.39**	**171**	P		**Pn**	**02 26 03.1**	**-0.1**
0.4nm,0.3s,baz=2.4,slow=8.2,SNR=9.0								
WRA	**Warramunga Arr**	**23.96**	**152**	P		**P**	**02 26 49.5**	**-0.6**
1.7nm,0.6s,mb3.7,baz=336,slow=9.7,SNR=28								
ASAR	**Alice Springs**	**27.05**	**157**	P		**P**	**02 27 18.3**	**+0.2**
0.7nm,0.7s,mb3.3,baz=345,slow=16,SNR=7.7								
STKA	**Stephens Creek**	**37.50**	**153**	P		**P**	**02 28 49.5**	**+0.1**
0.5nm,0.4s,mb3.6,baz=337,slow=7.7,SNR=3.7								
SONM	**Songino Array**	**48.55**	**346**	P		**P**	**02 30 18.7**	**+0.1**
0.8nm,0.8s,mb3.8,baz=157,slow=7.8,SNR=3.9								
MKAR	**Makanchi Array**	**57.38**	**328**	P		**P**	**02 31 22.5**	**-1.2**
0.1nm,0.3s,mb3.3,baz=108,slow=10.0,SNR=2.0								
KURK	**Kurchatov**	**61.74**	**330**	*e*P		**P**	**02 31 54.5**	**+0.8**
1.6nm,0.9s,mb4.2								
VNDA	**Vanda**	**81.46**	**172**	*e*P		**P**	**02 33 52.5**	**+0.6**
2.1nm,0.8s,mb4.1								

NEIC ***25*** *02:23:42.8±0.5, 729S×15583E, h10km, mb4.4/5, Error ellipse: s-maj=16.1km s-min=14.7km az=190.0*
ISCJB ***25*** *02:23:46.3±4.3, 74S±02×1559E±0.1, h47km±44km, mb4.3/11, Error ellipse: s-maj=34.5km s-min=16.3km az=153.4*
IDC ***25*** *02:23:49.7±4.3, 746S×15588E, h66km±43km, mb4.0/6, mb1 4.1/7, mb1mx3.9/15, mbtmp4.1/7, ML4.3/1, MS3.0/2, Ms1 3.0/2, ms1mx2.7/26, Error ellipse: s-maj=32.6km s-min=21.1km az=159.0*
ISC 25 02:23:46.2±6.8, 73S±01×15580E±008, h31km±49km, n21, σ0$99/20, mb4.3/11, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.62**	**117**	P		**Pn**	**02 24 53.8**	**-0.2**
HNR				S		**Sn**	**02 25 47.0**	**+0.5**
HNR				LR		LR	02 26 01.2	
HNR	**Honiara**	**4.62**	**117**	P		**Pn**	**02 24 53.8**	**-0.2**
15nm,0.3s,baz=250,slow=4.8,SNR=4.2								
HNR				S		**Sn**	**02 25 47.0**	**+0.5**
20nm,0.3s,baz=104,slow=16,SNR=4.2								
HNR				LR		LR	02 26 01.2	
comp=Z,149nm,21.9s,baz=359,slow=29								
CTA	**Charters Tower**	**15.71**	**215**	LR		LR	02 32 47.0	
comp=Z,84nm,19.9s,baz=54,slow=34								
WB2	**Warramunga Arr**	**24.29**	**237**	*e*P		**P**	**02 29 01.3**	**+0.2**
WB2	**Warramunga Arr**	**24.29**	**237**	*e*P		**P**	**02 29 01.3**	**+0.3**
WRA	**Warramunga Arr**	**24.30**	**237**	P		**P**	**02 29 01.7**	**+0.6**
2.9nm,0.7s,mb3.8,baz=65,slow=9.3,SNR=17								
ASAR	**Alice Springs**	**26.57**	**230**	P		**P**	**02 29 20.8**	**-1.0**
0.8nm,0.7s,mb3.3,baz=61,slow=9.0,SNR=8.6								
MBWA	**Marble Bar**	**37.45**	**245**	*e*P		**P**	**02 30 56.8**	**-0.3**
3.6nm,0.7s,mb4.3								
ULN	**Ulaanbaatar**	**69.69**	**327**	*e*P		**P**	**02 34 54.0**	**+1.0**
2.0nm,0.4s,mb4.4								
SONM	**Songino Array**	**70.03**	**327**	P		**P**	**02 34 56.5**	**+1.4**
3.0nm,0.8s,mb4.3,baz=136,slow=6.7,SNR=24								
MK31	**Makanchi Array**	**84.17**	**319**	*e*P		**P**	**02 36 15.0**	**+0.5**
MKAR	**Makanchi Array**	**84.17**	**319**	P		**P**	**02 36 14.8**	**+0.2**
8.3nm,0.8s,mb4.9,baz=104,slow=5.6,SNR=57								
ZAA0	**Zalesovo Array**	**84.89**	**326**	*e*P		**P**	**02 36 16.9**	**-1.1**
ZALV	**Zalesovo Beam**	**84.89**	**326**	P		**P**	**02 36 17.3**	**-0.7**
7.2nm,0.7s,mb4.9,baz=109,slow=5.7,SNR=9.6								
KURK	**Kurchatov**	**87.57**	**322**	*e*P		**P**	**02 36 29.4**	**-1.9**
2.7nm,0.9s,mb4.5								
TKM2	**Tokmak 2**	**87.81**	**314**	*e*P		**P**	**02 36 33.4**	**+0.8**
1.4nm,0.7s,mb4.3								
AML	**Almayashu**	**89.03**	**313**	*e*P		**P**	**02 36 39.8**	**+1.4**
1.4nm,0.6s,mb4.5								
YKA	**Yellowknife Ar**	**96.24**	**28**	P		**P**	**02 37 09.4**	**-1.8**
YKA	**Yellowknife Ar**	**96.24**	**28**	P		**P**	**02 37 09.4**	**-1.8**
0.3nm,0.7s,mb3.8,baz=264,slow=4.8,SNR=6.5								
BDFB	**Brasilia**	**147.19**	**134**	PKPbc		PKPbc	02 43 25.4	-2.0
0.5nm,0.4s,baz=106,slow=8.6,SNR=6.8								
MDT	**Midelt**	**148.78**	**327**	PKPbc		PKPbc	02 43 31.3	0.0
1.9nm,0.8s,baz=76,slow=3.8,SNR=4.5								

IDC 25 02:31:58.1±1.4, 721S×15549E, h0km, mb3.8/5, mb1 3.9/6, mb1mx3.8/15, mbtmp3.9/6, ML4.3/1, MS2.9/1, Ms1 2.9/1, ms1mx2.6/23, Error ellipse: s-maj=35.6km s-min=29.8km az=113.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.94**	**117**	Pn		Pn	02 33 13.6	0.0
11nm,0.3s,baz=277,slow=2.1,SNR=4.0								
HNR				Sn		Sn	02 34 03.2	-8.3
8.6nm,0.3s,baz=104,slow=1.5,SNR=4.2								
HNR				LR		LR	02 34 42.4	
comp=Z,131nm,19.3s,baz=359,slow=33								
WRA	**Warramunga Arr**	**24.10**	**236**	P		P	02 37 16.7	+1.1
1.2nm,0.9s,baz=62,slow=9.7,SNR=6.0								
ASAR	**Alice Springs**	**26.40**	**229**	P		P	02 37 36.0	-0.5
0.4nm,0.7s,baz=59,slow=8.7,SNR=4.5								
SONM	**Songino Array**	**69.78**	**327**	P		P	02 43 11.5	+1.4
0.5nm,0.5s,baz=138,slow=5.6,SNR=5.6								
MKAR	**Makanchi Array**	**83.89**	**319**	P		P	02 44 29.7	-0.2
2.0nm,0.8s,baz=108,slow=5.4,SNR=16								
ZALV	**Zalesovo Beam**	**84.63**	**326**	P		P	02 44 32.2	-1.3
1.3nm,0.5s,baz=97,slow=4.6,SNR=4.7								

IDC 25 02:37:09.0±3.5, 709S×15523E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.6/14, mbtmp3.7/3, Error ellipse: s-maj=101.0km s-min=35.7km az=117.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.21**	**117**	Sn		Sn	02 39 16.8	-12
28nm,0.3s,baz=94,slow=21,SNR=6.0								
WRA	**Warramunga Arr**	**23.96**	**236**	P		P	02 42 26.4	+1.2
1.0nm,0.4s,baz=61,slow=9.8,SNR=20								
ASAR	**Alice Springs**	**26.29**	**229**	P		P	02 42 45.6	-0.8
0.4nm,0.6s,baz=63,slow=8.8,SNR=9.2								
MKAR	**Makanchi Array**	**83.63**	**319**	P		P	02 49 39.3	-0.1
0.9nm,0.7s,baz=101,slow=7.0,SNR=7.6								

IDC ***25*** *02:40:05.6±0.8, 1800S×17335W, h0km, mb4.2/10, mb1 4.4/10, mb1mx4.3/17, mbtmp4.2/10, MS3.7/1, Ms1 3.7/1, ms1mx2.9/26, Error ellipse: s-maj=36.1km s-min=17.6km az=135.0*
NEIC ***25*** *02:40:07.2±0.5, 1796S×17343W, h10km, mb4.6/5, Error ellipse: s-maj=24.8km s-min=10.8km az=135.0*
ISCJB ***25*** *02:40:09.4±0.6, 178S±01×1736W±01, h33km, mb4.3/15, Error ellipse: s-maj=24.7km s-min=11.2km az=41.5*
ISC 25 02:40:11.0±0.6, 180S±01×1734W±01, h35km, n26, σ1$04/21, mb4.3/15, 2C, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**4.36**	**22**	*e*Pn		**Pn**	**02 41 08.1**	**-6.7**
AFI				*e*Sn		**Sn**	**02 41 54.1**	**-10**
URZ	**Urewera**	**21.82**	**200**	P		**P**	**02 44 58.2**	**-1.9**
12nm,0.3s,mb4.8,baz=8.7,slow=3.3,SNR=27								
URZ				S		**S**	**02 48 57.8**	**-1.6**
1.3nm,0.3s,baz=143,slow=20,SNR=2.7								
RPZ	**Rata Peaks**	**28.79**	**204**	P		**P**	**02 46 07.5**	**+2.0**
8.0nm,0.7s,mb4.6,baz=0.8,slow=4.6,SNR=9.8								
CTAO	**Charters Tower**	**38.10**	**260**	*e*P		**P**	**02 47 26.3**	**-0.5**
7.7nm,1.0s,mb4.4								
STKA	**Stephens Creek**	**42.76**	**242**	P		**P**	**02 48 06.7**	**+1.5**
STKA	**Stephens Creek**	**42.76**	**242**	P		**P**	**02 48 06.7**	**+1.5**
2.2nm,0.9s,mb3.9,baz=73,slow=11,SNR=3.0								
WB2	**Warramunga Arr**	**49.26**	**259**	*e*P		**P**	**02 48 55.8**	**-0.7**
WRA	**Warramunga Arr**	**49.27**	**259**	P		**P**	**02 48 55.7**	**-1.0**
0.9nm,0.4s,mb4.2,baz=97,slow=6.8,SNR=15								

ASAR Alice Springs 49.32 254 P **P 02 48 56.1 -0.8**
3.0nm,0.7s,mb4.5,baz=86,slow=8.6,SNR=33
FORT Forrest 54.25 245 *e*P **P 02 49 34.3 +0.6**
1.9nm,0.9s,mb4.0
MBWA Marble Bar 62.64 255 *e*P **P 02 50 32.3 0.0**
8.1nm,1.1s,mb4.8
NVAR Mina Array Bea 76.27 42 P **P 02 51 56.0 -0.1**
1.1nm,0.8s,mb3.8,baz=226,slow=9.8,SNR=7.1
KSRS Korea Array 77.98 316 P **P 02 52 08.2 +2.5**
1.8nm,0.8s,mb4.1,baz=131,slow=6.2,SNR=5.4
TXAR Lajitas Array 82.08 56 P **P 02 52 28.4 +0.3**
2.2nm,1.1s,mb4.0,baz=232,slow=6.2,SNR=6.9
PDAR Pinedale Array 84.21 42 P **P 02 52 38.2 -0.5**
1.3nm,0.9s,mb4.0,baz=228,slow=3.6,SNR=6.5
COLA College 84.90 11 *e*P **P 02 52 41.8 +0.1**
8.9nm,0.8s,mb5.0
BILL Bilibino 87.06 352 *e*P **P 02 52 52.6 +0.3**
1.6nm,0.5s,mb4.5
INK Inuvik 90.78 14 *e*P **P 02 53 09.8 0.0**
YKA Yellowknife Ar 92.48 23 P **P 02 53 17.0 -0.9**
0.4nm,1.1s,mb3.7,baz=238,slow=3.7,SNR=3.7
AKBB Malin Array Si 142.70 336 *e*PKPdf PKPdf 02 59 40.9 +0.6
MALT Malatya 145.63 313 *e*PKPbc PKPbc 02 59 48.6 +2.4
CLL Collm 146.37 353 ⇑*i*P PKPdf 02 59 48.5 +1.8
CLL *i* 02 59 55.3
CLL Collm 146.37 353 ⇑*i*PKPbc PKPbc 02 59 48.5 +0.6
comp=Z,13nm,1.1s
CLL *i* pPKPbc pPKPbc 02 59 55.3 -4.0
PSZ Piszkesteto 148.22 343 *e*PKPbc PKPbc 02 59 53.4 +0.2
GERES GERESS Array B 148.69 351 PKPbc PKPbc 02 59 55.2 +0.8
comp=Z,0.6nm,0.6s,baz=34,slow=2.5,SNR=6.7
BNI Bardonecchia 153.02 360 *e*PKPdf PKPdf 02 59 56.5 -0.9
BNI *e*PKPab PKPab 03 00 16.5 +0.5

IDC 25 02:40:51.8±1.7, 810S×12282E, h209km±18km, mb2.8/1, mb1 3.0/5, mb1mx2.9/16, mbtmp2.9/5, Error ellipse: s-maj=85.8km s-min=20.2km az=58.0, Flores region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BATI	**Kupang**	**2.26**	**158**	P	Pn	02 41 33.9	+0.3
26nm,0.3s,baz=297,slow=3.9,SNR=8.2							
BATI				S	Sn	02 42 07.0	+0.5
32nm,0.3s,baz=287,slow=23,SNR=7.7							
FITZ	**Fitzroy Crossi**	**10.32**	**165**	P	Pn	02 43 14.1	-0.8
0.1nm,0.3s,baz=347,slow=8.0,SNR=6.4							
FITZ				S	Sn	02 45 05.8	-4.6
0.4nm,0.3s,baz=215,slow=22,SNR=5.7							
WRA	**Warramunga Arr**	**16.22**	**138**	P	P	02 44 27.6	0.0
0.1nm,0.3s,baz=324,slow=13,SNR=8.5							
WRA				S	S	02 47 26.0	-1.0
0.2nm,0.3s,baz=314,slow=21,SNR=5.9							
ASAR	**Alice Springs**	**18.78**	**147**	P	P	02 44 57.2	+1.8
0.2nm,0.3s,baz=326,slow=12,SNR=17							
MKAR	**Makanchi Array**	**65.45**	**331**	P	P	02 51 12.0	-0.2
0.2nm,0.6s,baz=124,slow=7.8,SNR=2.9							

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*ROM **25** 02:41:21.9±1.1, 3812N×2062E, h10km, Md3.4/12, Ml3.4/16, Error ellipse: s-maj=16.7km s-min=7.0km az=46.0*
*NEIC **25** 02:41:23.2, 3828N×2037E, h2km, ML3.9(ATH), ML3.4(ROM), After ATH.*
*ATH **25** 02:41:23.2, 3828N×2037E, h2km, MD3.8/13, ML3.9*
*ISCJB **25** 02:41:24.8±0.3, 3826N±003×2035E±002, h10km, Error ellipse: s-maj=3.7km s-min=2.3km az=15.2*
*CSEM **25** 02:41:24.5±0.1, 3819N×2035E, h2km, ML3.9, Error ellipse: s-maj=2.4km s-min=1.1km az=11.0*
*THE **25** 02:41:25.0, 3828N×2035E, h3km, ML4.0*
ISC 25 02:41:25.8±0.3, 3826N±002×2038E±002, h10km, n85, σ1$25/112, 2D, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VLS	**Valsamata**	**0.19**	**116**	*e*Pg	**Pg**	**02 41 28.0**	**-1.8**
VLS				*e*Sg	**Sg**	**02 41 31.0**	**-1.4**
VLS	**Valsamata**	**0.19**	**116**	*e*PG	**Pg**	**02 41 28.0**	**-1.8**
VLS				*e*SG	**Sg**	**02 41 31.2**	**-1.3**
KFL	**Anninata**	**0.36**	**115**	*e*Pg	**Pg**	**02 41 31.1**	**-1.7**
KFL	**Anninata**	**0.36**	**115**	*e*Pg	**Pg**	**02 41 31.1**	**-1.8**
LKD	**Levkas**	**0.50**	**25**	*e*Pg	**Pg**	**02 41 33.5**	**-2.0**
RLS	**Riolos of Patr**	**0.88**	**103**	*e*PG	**Pg**	**02 41 40.7**	**-2.1**
RLS				*e*SG	**Sg**	**02 41 52.7**	**-1.6**
SELA	**Sela**	**1.19**	**89**	*e*Pg	**Pn**	**02 41 45.8**	**-2.8**
SELA				*e*Sg	**Sg**	**02 42 05.2**	**+1.0**
SELA	**Sela**	**1.19**	**89**	*e*Pg	**Pn**	**02 41 45.8**	**-2.8**
SELA				*e*Sg	**Sg**	**02 42 05.2**	**+1.0**
IGT	**Igoumenitsa**	**1.27**	**358**	*e*Pg	**Pn**	**02 41 47.5**	**-2.2**
IGT				*e*Sg	**Sg**	**02 42 06.6**	**-0.2**
EVR	**Evrytania**	**1.30**	**59**	*e*PG	**Pn**	**02 41 47.5**	**-2.5**
JAN	**Janina**	**1.44**	**15**	*e*PG	**Pn**	**02 41 49.3**	**-2.7**
KEK	**Kerkira**	**1.52**	**343**	*e*PB	**Pn**	**02 41 51.8**	**-1.3**
KEK	**Kerkira**	**1.52**	**343**	Pn	**Pn**	**02 41 51.8**	**-1.3**
267nm,0.5s							
ITM	**Ithomi**	**1.63**	**131**	*e*PB	**Pn**	**02 41 54.5**	**-0.1**
SRN	**Sarande**	**1.65**	**350**	*e*PN	**Pn**	**02 41 54.9**	**+0.1**
AGG	**Agios Georgios**	**1.71**	**63**	*e*Pb	**Pn**	**02 41 55.1**	**-0.6**
AGG				*e*Sb	**Sb**	**02 42 19.9**	**+1.1**
VLX	**Vlachokerasia**	**1.82**	**119**	*e*Pb	**Pn**	**02 41 58.2**	**+1.1**
VLX				*e*Sb	**Sb**	**02 42 24.1**	**+2.2**
THL	**Klokotos Trika**	**1.82**	**44**	*e*Pb	**Pn**	**02 41 57.2**	**-0.1**
THL				*e*Sb	**Sb**	**02 42 22.8**	**+0.6**
THL	**Klokotos Trika**	**1.82**	**44**	*e*PB	**Pn**	**02 41 57.6**	**+0.3**
THL				*e*SB	**Sb**	**02 42 22.7**	**+0.5**
LTK	**Loutraki**	**2.06**	**96**	*e*Pn	**Pn**	**02 42 00.6**	**+0.2**
LTK				*e*Sn	**Sn**	**02 42 30.3**	**+4.2**
LKR	**Lokris**	**2.10**	**78**	*e*Pn	**Pn**	**02 42 01.3**	**+0.3**
LKR	**Lokris**	**2.10**	**78**	*e*PN	**Pn**	**02 42 01.6**	**+0.6**
KZN	**Kozani**	**2.31**	**27**	*e*PN	**Pn**	**02 42 04.6**	**+0.6**
SCTE	**Santa Cesarea**	**2.34**	**321**	Pn	**Pn**	**02 42 03.3**	**-1.1**
237nm,0.8s							
KBN	**Korca**	**2.38**	**8**	*e*PN	**Pb**	**02 42 08.1**	**-0.7**
KBN				*i* SN	**Sb**	**02 42 40.9**	**+2.6**
DID	**Didima**	**2.38**	**107**	*e*Pn	**Pn**	**02 42 06.0**	**+1.1**
NEO	**Neokhori**	**2.46**	**64**	P	**Pn**	**02 42 07.5**	**+1.5**
XOR	**Xorichti**	**2.46**	**62**	*e*Pn	**Pn**	**02 42 06.1**	**+0.1**
LIT	**Litokhoron**	**2.46**	**41**	*e*Pn	**Pn**	**02 42 08.0**	**+1.9**
LIT				*e*Sn	**Sn**	**02 42 39.5**	**+3.3**
NAIG	**Nisos Aigina**	**2.51**	**101**	*e*PN	**Pn**	**02 42 08.0**	**+1.4**
VLI	**Veliai**	**2.55**	**126**	*e*PB	**Pn**	**02 42 07.8**	**+0.6**
FNA	**Florina**	**2.64**	**17**	*e*Pn	**Pn**	**02 42 08.9**	**+0.5**
FNA				*e*Sn	**Sn**	**02 42 40.7**	**+0.3**
ATH	**Athens Observa**	**2.65**	**95**	*e*PB	**Pn**	**02 42 09.0**	**+0.4**
LCI	**Lecce**	**2.72**	**320**	Pn	**Pn**	**02 42 09.8**	**+0.3**
59nm,0.6s							
PTL	**Penteli**	**2.76**	**93**	*e*PN	**Pn**	**02 42 10.0**	**-0.1**
BIA	**Bitola**	**2.85**	**15**	*e*Pn	**Pn**	**02 42 12.2**	**+0.9**
BIA	**Bitola**	**2.85**	**15**	*i* Pn	**Pn**	**02 42 12.2**	**+0.8**
BIA				*i* Sn	**Sn**	**02 42 46.6**	**+0.8**
BIA	**Bitola**	**2.85**	**15**	*e*Pn	**Pn**	**02 42 12.2**	**+0.8**
BIA				*i* Sn	**Sn**	**02 42 46.5**	**+0.7**
OHR	**Ohrid**	**2.87**	**6**	*i* Pn	**Pn**	**02 42 13.5**	**+1.9**
OHR	**Ohrid**	**2.87**	**6**	*i* Pn	**Pn**	**02 42 13.4**	**+1.8**
KYTH	**Kithira**	**2.90**	**132**	*e*PB	**Pn**	**02 42 14.0**	**+2.0**
TIP	**Timpagrande**	**2.98**	**289**	*e*Pn	**Pn**	**02 42 12.5**	**-0.6**
TIP				Sn	**Sn**	**02 42 49.3**	**+0.5**
TIP	**Timpagrande**	**2.98**	**289**	Pn	**Pn**	**02 42 12.9**	**-0.2**
TIP				Sn	**Sn**	**02 42 49.3**	**+0.5**
43nm,1.2s							
SERS	**Sersale**	**2.99**	**286**	Pn	**Pn**	**02 42 12.7**	**-0.6**
29nm,0.6s							
TIR	**Tirane**	**3.11**	**353**	*e*Pn	**Pn**	**02 42 14.8**	**-0.1**
TIR	**Tirane**	**3.11**	**353**	Pn	**Pn**	**02 42 14.8**	**-0.1**
110nm,0.8s							
TIR	**Tirane**	**3.11**	**353**	P	**Pn**	**02 42 17.0**	**+2.1**
KRUS	**Krusevo**	**3.18**	**12**	*i* Pn	**Pn**	**02 42 16.5**	**+0.6**
KRUS				*i* Sn	**Sn**	**02 42 52.4**	**-1.4**
KRUS	**Krusevo**	**3.18**	**12**	*i* Pn	**Pn**	**02 42 16.4**	**+0.5**
KRUS				*i* Sn	**Sn**	**02 42 52.3**	**-1.5**
TA1	**Taranto**	**3.22**	**313**	*e*Pn	**Pn**	**02 42 18.0**	**+1.6**
QSH	**Qafa e Shtames**	**3.28**	**354**	*e*PN	**Pn**	**02 42 22.3**	**+5.1**
QSH				*i* SN	**Sn**	**02 42 52.8**	**-3.5**
CARO	**Carolei**	**3.40**	**288**	Pn	**Pn**	**02 42 19.4**	**+0.5**
CARO				Sn	**Sn**	**02 42 59.4**	**+0.1**
42nm,0.6s							
PE1	**Pezze di Greco**	**3.42**	**319**	*e*Pn	**Pn**	**02 42 19.6**	**+0.4**
SOH	**Sokhos**	**3.44**	**41**	*e*Pn	**Pn**	**02 42 19.6**	**+0.2**
SOH				*e*Sn	**Sn**	**02 43 01.0**	**+0.7**
KNT	**Kendrikon**	**3.49**	**33**	*e*Pn	**Pn**	**02 42 20.0**	**-0.2**
VAY	**Valandovo**	**3.49**	**28**	*i* Pn	**Pn**	**02 42 18.1**	**-2.1**
VAY				*i* Sn	**Sn**	**02 42 59.6**	**-1.9**
VAY	**Valandovo**	**3.49**	**28**	*i* Pn	**Pn**	**02 42 18.0**	**-2.2**
VAY				*i* Sn	**Sn**	**02 42 59.6**	**-2.0**
JOPP	**Joppolo**	**3.54**	**277**	Pn	**Pn**	**02 42 20.6**	**-0.3**
59nm,1.0s							
NOCI	**Noci**	**3.60**	**316**	Pn	**Pn**	**02 42 20.6**	**-1.0**
105nm,0.7s							
STIP	**Stip**	**3.70**	**21**	*e*Pn	**Pn**	**02 42 23.0**	**-0.1**
STIP	**Stip**	**3.70**	**21**	*i* Pn	**Pn**	**02 42 22.9**	**-0.2**
CRAC	**Craco**	**3.71**	**306**	Pn	**Pn**	**02 42 22.2**	**-1.0**
340nm,1.3s							
SRS	**Serrai**	**3.78**	**40**	*e*Pn	**Pn**	**02 42 24.3**	**+0.2**
PUK	**Puka**	**3.80**	**355**	*e*PN	**Pn**	**02 42 24.7**	**+0.3**
MSRU	**Castanea**	**3.83**	**272**	Pn	**Pn**	**02 42 23.9**	**-0.9**
MIGL	**Miglionico**	**3.84**	**309**	Pn	**Pn**	**02 42 25.1**	**+0.1**
579nm,1.2s							
SG1	**Sgolgore (BA)**	**3.85**	**313**	*e*Pn	**Pn**	**02 42 24.9**	**-0.2**
SCHR	**S. Chirico Rap**	**3.86**	**301**	Pn	**Pn**	**02 42 26.1**	**+0.8**
26nm,0.8s							
BAI	**Bari**	**3.92**	**318**	*e*Pn	**Pn**	**02 42 24.0**	**-2.1**
AMUR	**Altamura**	**3.94**	**313**	Pn	**Pn**	**02 42 25.1**	**-1.2**
74nm,0.9s							
MCEL	**Monticello**	**4.11**	**302**	Pn	**Pn**	**02 42 30.3**	**+1.7**
111nm,1.5s							
MTSN	**Montesano sull**	**4.11**	**301**	Pn	**Pn**	**02 42 30.5**	**+1.8**
MGR	**Morigerati**	**4.19**	**298**	Pn	**Pn**	**02 42 30.9**	**+1.1**
SLNA	**Salina**	**4.37**	**276**	Pn	**Pn**	**02 42 31.0**	**-1.2**
17nm,0.4s							
CMPR	**Campora**	**4.44**	**299**	Pn	**Pn**	**02 42 33.9**	**+0.7**
PZI	**Palazzolo**	**4.47**	**256**	Pn	**Pn**	**02 42 31.0**	**-2.7**
14nm,0.1s							
MCRV	**Calabrutti - M**	**4.75**	**304**	Pn	**Pn**	**02 42 39.4**	**+1.9**
17nm,0.6s							
SGTA	**Sant Agata di**	**4.82**	**308**	Pn	**Pn**	**02 42 40.1**	**+1.7**
136nm,2.6s							
FGMS	**Monte Sant'Ang**	**4.84**	**317**	Pn	**Pn**	**02 42 38.7**	**0.0**
9.0nm,0.2s							
MSAG	**Monte S. Angel**	**4.87**	**317**	Pn	**Pn**	**02 42 38.1**	**-0.9**
45nm,0.6s							
STON	**Ston**	**5.04**	**337**	*e*Pn	**Pn**	**02 42 38.8**	**-2.6**
STON				Sn	**Sn**	**02 43 34.8**	**-4.8**
FG2	**Serracapriola**	**5.34**	**313**	Pn	**Pn**	**02 42 46.5**	**+0.9**
12nm,0.2s							
SGG	**Gregorio Mates**	**5.58**	**306**	Pn	**Pn**	**02 42 49.6**	**+0.8**
10.0nm,0.5s							
NRCA	**Norcia**	**7.17**	**312**	Pn	**Pn**	**02 43 11.9**	**+1.2**
2.0nm,0.6s							
OBKA	**Obir**	**9.30**	**334**	⇓*i* Pn	**Pn**	**02 43 38.4**	**-1.5**
OBKA				⇓*i* Sn	**Sn**	**02 45 18.6**	**-5.9**

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*IDC **25** 02:41:31.6±1.4, 722S×15550E, h0km, mb4.0/5, mb1 4.0/6, mb1mx3.9/15, mbtmp4.1/6, ML4.2/1, MS4.7/1, Ms1 4.7/1, ms1mx3.2/25, Error ellipse: s-maj=34.9km s-min=28.0km az=115.0*
*ISCJB **25** 02:41:37.9±5.4, 74S±03×1558E±02, h70km±58km, mb3.7/5, Error ellipse: s-maj=46.0km s-min=26.4km az=151.3*
ISC 25 02:41:39.1±5.3, 74S±03×1557E±02, h65km±61km, n7, σ0$85/7, mb3.7/5, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**4.65**	**116**	Pn	**Pn**	**02 42 46.6**	**-0.3**
9.1nm,0.3s,baz=237,slow=2.1,SNR=3.7							
HNR				Sn	**Sn**	**02 43 39.8**	**+0.2**
33nm,0.3s,baz=267,slow=20,SNR=7.0							
WRA	**Warramunga Arr**	**24.19**	**237**	P	**P**	**02 46 50.5**	**+0.8**
0.8nm,0.5s,mb3.3,baz=62,slow=9.8,SNR=15							
ASAR	**Alice Springs**	**26.46**	**230**	P	**P**	**02 47 09.4**	**-0.7**
0.3nm,0.6s,mb2.9,baz=61,slow=9.4,SNR=5.8							
JHJ	**Hachijo jima 2**	**43.04**	**340**	LR	LR	03 03 18.5	
comp=Z,1μm,21.1s,baz=240,slow=30							
SONM	**Songino Array**	**70.05**	**327**	P	**P**	**02 52 44.8**	**+0.7**
1.2nm,0.8s,mb3.8,baz=147,slow=6.9,SNR=6.7							
MKAR	**Makanchi Array**	**84.17**	**319**	P	**P**	**02 54 03.4**	**+0.1**
2.4nm,0.8s,mb4.1,baz=106,slow=5.5,SNR=21							
ZALV	**Zalesovo Beam**	**84.90**	**326**	P	**P**	**02 54 06.0**	**-0.8**
2.9nm,0.6s,mb4.4,baz=113,slow=5.7,SNR=4.9							

IDC 25 02:52:51.4±1.6, 732S×15570E, h0km, mb3.7/3, mb1 4.0/4, mb1mx3.7/15, mbtmp3.9/4, ML4.3/1, Error ellipse: s-maj=38.2km s-min=27.7km az=6.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**4.70**	**117**	Pn	Pn	02 54 03.8	+0.3
13nm,0.3s,baz=258,slow=4.5,SNR=3.9							
HNR				Sn	Sn	02 54 58.8	0.0
11nm,0.3s,baz=274,slow=14,SNR=3.6							
WRA	**Warramunga Arr**	**24.21**	**237**	P	P	02 58 11.0	+1.1
1.3nm,0.4s,baz=62,slow=9.6,SNR=24							
ASAR	**Alice Springs**	**26.49**	**230**	P	P	02 58 30.0	-0.5
0.4nm,0.5s,baz=64,slow=8.9,SNR=9.9							
MKAR	**Makanchi Array**	**84.11**	**319**	P	P	03 05 24.1	-0.2
0.8nm,0.8s,baz=112,slow=5.5,SNR=8.5							

IDC 25 03:08:04.5±1.9, 416S×12495E, h0km, mb3.8/2, mb1 4.0/3, mb1mx3.7/16, mbtmp3.8/3, ML3.7/1, MS4.6/1, Ms1 4.6/1, ms1mx3.0/32, Error ellipse: s-maj=265.9km s-min=27.7km az=62.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.16**	**150**	P	Pn	03 12 17.1	-1.2
0.2nm,0.3s,baz=324,slow=13,SNR=12							
ASAR	**Alice Springs**	**21.24**	**157**	P	P	03 12 53.4	+1.2
6.8nm,0.9s,baz=324,slow=9.5,SNR=25							
RPZ	**Rata Peaks**	**56.56**	**141**	LR	LR	03 39 38.8	
comp=Z,474nm,19.2s,baz=5.0,slow=34							
MKAR	**Makanchi Array**	**63.15**	**329**	P	P	03 18 33.9	-0.2
0.3nm,0.5s,baz=140,slow=6.4,SNR=3.8							

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*BJI **25** 03:22:44.7, 1531S×16785E, h121km, mB5.1, mb5.1*
*ISCJB **25** 03:22:45.7±0.1, 1567S±004×16762E±003, h131km, mb5.0/70, Error ellipse: s-maj=6.2km s-min=3.8km az=161.4*
*MOS **25** 03:22:45.0±1.4, 1555S×16761E, h119km, mb5.2/25, Error ellipse: s-maj=9.9km s-min=8.5km az=107.5*
*NEIC **25** 03:22:46.5±0.1, 1561S×16773E, mb5.1/37, Error ellipse: s-maj=6.7km s-min=4.9km az=146.0*
*GCMT **25** 03:22:46.5±0.2, 1562S×16759E, h138km±1km, MW5.3/91, Moment Tensor Solution. s65,c94; s91,c162; Duration: 1s1 Moment tensor: Scale 10^{17}Nm; M_{rr}0.95±.02; $M_{\theta\theta}$0.14±.02; $M_{\phi\phi}$-1.09±.03; $M_{r\theta}$-0.18±.02; $M_{\theta\phi}$-0.03±.03; $M_{\phi r}$-0.53±.02; Best double couple: $M_0$1.16700×10^{17} NP1:ϕ_s351.00000°, δ32.00000°, λ73.00000°. NP2: ϕ_s190.00000°, δ60.00000°, λ100.00000°. Principal axes: T 1.1100, Plg73.0000°, Azm126.0000°; N 0.1140, Plg9.0000°, Azm5.0000°; P -1.2240, Plg14.0000°, Azm273.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*IDC **25** 03:22:47.2±0.6, 1562S×16759E, h131km±4km, mb4.8/17, mb1 4.9/18, mb1mx4.9/19, mbtmp4.8/18, MS4.1/7, Ms1 4.1/7, ms1mx3.7/25 Error ellipse: s-maj=12.0km s-min=9.8km az=136.0*
*LDG **25** 03:22:49.8±0.2, 1568S×167.19E, h150km, Mb5.2/4, Error ellipse: s-maj=29.8km s-min=7.7km az=89.0*
ISC 25 03:22:47.4±0.1, 1565S±004×16769E±003, h133km, h133km±1.3km: pP-P, n595, σ0$79/320, mb5.0/70, 148C-100D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**9.76**	**308**	*e*Pn	**Pn**	**03 25 05.3**	**+0.8**
553nm,0.8s							
HNR	**Honiara**	**9.76**	**308**	*e*P	**Pn**	**03 25 05.4**	**+0.8**
HNR				pmax	pmax		
comp=Z,553nm,0.8s							
HNR	**Honiara**	**9.76**	**308**	P	**Pn**	**03 25 04.9**	**+0.3**
comp=Z,71nm,0.3s,baz=247,slow=1.1,SNR=41							
AFI	**Afiamalu**	**19.93**	**88**	*e*P	**P**	**03 27 08.5**	**-0.5**
comp=Z,126nm,1.0s							
AFI	**Afiamalu**	**19.93**	**88**	*e*P	**P**	**03 27 08.5**	**-0.6**
AFI				pmax	pmax		
comp=Z,126nm,1.0s							
ARMA	**Armidale**	**20.80**	**222**	*e*P	**P**	**03 27 21.2**	**+3.0**
ARMA				*e*S	**S**	**03 31 07.1**	**+4.1**
ARMA				*e*PCP	PcP	03 31 22.4	+0.5
CTA	**Charters Tower**	**20.86**	**255**	*e*P	**P**	**03 27 19.6**	**+0.6**
comp=Z,39nm,0.6s							
CTA				*e*S	**S**	**03 31 06.9**	**+2.5**
CTA	**Charters Tower**	**20.86**	**255**	*e*P	**P**	**03 27 19.6**	**+0.6**
CTA				*e*S	**S**	**03 31 06.9**	**+2.5**
CTA				pmax	pmax		
comp=Z,39nm,0.6s							
CTA	**Charters Tower**	**20.86**	**255**	P	**P**	**03 27 19.7**	**+0.7**
comp=Z,54nm,0.8s,baz=80,slow=12,SNR=45							
CTAO	**Charters Tower**	**20.86**	**255**	*e*P	**P**	**03 27 19.7**	**+0.7**
comp=Z,97nm,1.0s							
CTAO	**Charters Tower**	**20.86**	**255**	*e*P	**P**	**03 27 19.7**	**+0.7**
CTAO				pmax	pmax		
comp=Z,97nm,1.0s							
URZ	**Urewera**	**24.00**	**162**	P	**P**	**03 27 49.6**	**-0.2**
comp=Z,61nm,1.0s,mb5.1,baz=17,slow=3.9,SNR=33							
CNB	**Canberra Magne**	**25.55**	**217**	*e*P	**P**	**03 28 04.9**	**+1.1**
comp=Z,34nm,0.8s,mb5.0							
CNB				*e*PCP	PcP	03 31 31.7	0.0
SNZO	**South Karori**	**26.28**	**168**	*e*P	**P**	**03 28 08.0**	**-2.3**
comp=Z,89nm,1.3s,mb5.2							
RPZ	**Rata Peaks**	**28.12**	**175**	P	**P**	**03 28 26.7**	**-0.1**
comp=Z,75nm,0.6s,mb5.6,baz=2.4,slow=2.5,SNR=83							
STKA	**Stephens Creek**	**28.71**	**231**	⇑*i*P	**P**	**03 28 33.3**	**+1.1**
comp=Z,13nm,0.6s,mb4.8							
STKA				*e*PCP	PcP	03 31 39.1	-0.3
STKA				*e*S	SS	03 35 16.3	-2.5
STKA	**Stephens Creek**	**28.71**	**231**	P	**P**	**03 28 33.4**	**+1.1**
comp=Z,16nm,0.6s,mb4.9,baz=52,slow=7.5,SNR=44							
STKA				PcP	PcP	03 31 39.1	-0.3
comp=Z,32nm,0.8s,baz=56,slow=2.2,SNR=9.6							
STKA				ScP	ScP	03 35 09.9	+1.4
comp=Z,12nm,1.1s,baz=97,slow=5.5,SNR=5.0							
STKA				LR	LR	03 40 09.7	
comp=Z,239nm,20.1s,baz=65,slow=36							
WB2	**Warramunga Arr**	**31.99**	**257**	⇓*i*P	**P**	**03 29 00.0**	**-1.2**
WB2				*e*pP	pP	03 29 30.8	+0.8
WB2				*e*PCP	PcP	03 31 47.6	-0.6
WB2				*e*S	**S**	**03 33 57.5**	**-5.7**
WRAB	**Tennant Creek**	**31.99**	**257**	P	**P**	**03 29 00.3**	**-0.9**
comp=Z,111nm,0.7s,mb5.7,SNR=8.9							
WRAB	**Tennant Creek**	**31.99**	**257**	*e*P	**P**	**03 29 00.6**	**-0.6**
comp=Z,11nm,0.7s,mb4.7							
WRAB				*e*PcP	PcP	03 31 47.7	-0.5
WRAB				*e*S	**S**	**03 33 59.6**	**-3.6**
WRAB	**Tennant Creek**	**31.99**	**257**	*e*P	**P**	**03 29 00.6**	**-0.6**
WRAB				*e*		03 31 47.7	
WRAB				*e*S	**S**	**03 33 59.6**	**-3.6**
WRAB				pmax	pmax		
comp=Z,11nm,0.7s,mb4.7							
WRA	**Warramunga Arr**	**32.00**	**257**	P	**P**	**03 29 00.4**	**-1.0**
WRA				PcP	PcP	03 31 47.4	-0.8
WRA				S	**S**	**03 33 58.8**	**-4.6**
WRA				ScP	ScP	03 35 21.0	+1.4
WRA	**Warramunga Arr**	**32.00**	**257**	P	**P**	**03 29 00.4**	**-1.0**
WRA				S	**S**	**03 33 58.8**	**-4.6**
WRA				ScP	ScP	03 35 21.0	+1.4
WRA	**Warramunga Arr**	**32.00**	**257**	P	**P**	**03 29 00.4**	**-1.0**
comp=Z,12nm,0.7s,mb4.7,baz=86,slow=8.9,SNR=133							
WRA				PcP	PcP	03 31 47.4	-0.8
comp=Z,18nm,0.9s,baz=88,slow=2.8,SNR=15							
WRA				S	**S**	**03 33 58.8**	**-4.6**
comp=Z,8.5nm,1.1s,baz=83,slow=14,SNR=12							
WRA				ScP	ScP	03 35 21.0	+1.4
comp=Z,7.2nm,1.2s,baz=78,slow=3.5,SNR=5.4							
WRA				PKiKP	PKiKP	03 39 14.8	-1.7
comp=Z,1.0nm,0.9s,baz=24,slow=0.8,SNR=5.9							
WRA				LR	LR	03 41 37.4	
comp=Z,349nm,19.2s,baz=95,slow=35							
TAU	**Tasmania Unive**	**32.28**	**209**	*e*P	**P**	**03 29 04.0**	**+0.6**
comp=Z,64nm,1.2s,mb5.2							
TAU	**Tasmania Unive**	**32.28**	**209**	*e*P	**P**	**03 29 04.0**	**+0.6**
TAU				pmax	pmax		
comp=Z,64nm,1.2s,mb5.2							
ASAR	**Alice Springs**	**32.73**	**251**	P	**P**	**03 29 07.3**	**-0.3**
ASAR				pP	pP	03 29 36.0	-0.5
ASAR				PcP	PcP	03 31 49.5	-0.7
ASAR				S	**S**	**03 34 12.5**	**-2.1**
ASAR				ScP	ScP	03 35 23.4	+1.5
ASAR	**Alice Springs**	**32.73**	**251**	P	**P**	**03 29 07.4**	**-0.3**
ASAR				*PP	pP	03 29 36.0	-0.5
ASAR						03 31 49.5	
ASAR				S	**S**	**03 34 12.5**	**-2.1**
ASAR	**Alice Springs**	**32.73**	**251**	P	**P**	**03 29 07.3**	**-0.3**
comp=Z,16nm,0.7s,mb4.9,baz=76,slow=8.6,SNR=269							
ASAR				pP	pP	03 29 36.0	-0.5
comp=Z,38nm,0.9s,baz=81,slow=9.1,SNR=7.7				

SBA	**Scott Base**	**62.22**	**180**	*e*P	**P**	**03 32 55.7**	**+1.3**
SBA				pmax	pmax		
	comp=Z,127nm,1.0s,mb5.7						
CASY	**Casey**	**62.83**	**202**	*e*P	**P**	**03 32 58.4**	**-0.2**
	comp=Z,70nm,1.0s,mb5.5						
KSRS	**Korea Array**	**64.72**	**326**	P	**P**	**03 33 11.3**	**-0.1**
	comp=Z,4.7nm,0.9s,mb4.3,baz=144,slow=7.0,SNR=12						
KSRS				pP	pP	03 33 43.5	-0.1
	comp=Z,3.1nm,1.0s,baz=153,slow=5.3,SNR=2.7						
KSRS				LR	LR	03 57 12.6	
	comp=Z,92nm,21.2s,baz=160,slow=32						
MYKOM	**Kota Tinggi**	**65.40**	**279**	⇑P	**P**	**03 33 17.2**	**+0.8**
KGM	**Kluang**	**65.97**	**279**	⇓P	**P**	**03 33 20.8**	**+0.8**
YSS	**Yuzh-Sakhalins**	**66.23**	**342**	*e*P	**P**	**03 33 21.6**	**+0.7**
	comp=Z,46nm,1.0s,mb5.3						
YSS	**Yuzh-Sakhalins**	**66.23**	**342**α	*i*P	**P**	**03 33 21.3**	**+0.4**
YSS				pmax	pmax		
	comp=Z,90nm,1.2s,mb5.5						
QIZ	**Qiongzhong**	**66.53**	**299**	P	**P**	**03 33 25.0**	**+1.6**
QIZ				XP	sP	03 34 04.3	-5.9
QIZ				S	S	03 42 03.8	-0.2
QIZ				SS	SS	03 46 24.4	+0.4
NJ2	**Nanjing**	**66.61**	**316**	*e*P	**P**	**03 33 23.6**	**-0.1**
NJ2				AMB	AMB		
	comp=Z,40nm,0.9s,mb5.2						
KTGM	**Kuala Trenggan**	**67.20**	**283**	⇓P	**P**	**03 33 29.1**	**+1.3**
FRIM	**Kepong**	**67.96**	**280**	⇑P	**P**	**03 33 32.1**	**-0.5**
WHN	**Wuhan**	**68.86**	**312**	⇑P	**P**	**03 33 37.5**	**-0.3**
WHN				AMB	AMB		
	comp=Z,141nm,1.4s,mb5.5						
IPM	**Ipoh**	**68.92**	**281**	⇑P	**P**	**03 33 39.0**	**+0.5**
DL2	**Dalian**	**69.27**	**323**	P	**P**	**03 33 39.8**	**-0.4**
DL2				AMB	AMB		
	comp=Z,40nm,1.1s,mb5.1						
MDJ	**Mudanjiang**	**69.28**	**332**	P	**P**	**03 33 40.5**	**+0.4**
MDJ				PP	PP	03 36 15.3	+0.1
MDJ				S	S	03 42 35.4	-0.3
MDJ				SS	SS	03 47 06.3	+0.7
MDJ				AMB	AMB		
	comp=Z,70nm,1.1s,mb5.3						
MDJ				AMB	AMB		
	comp=Z,116nm,4.3s						
KULM	**Kulim**	**69.53**	**282**	*e*P	**P**	**03 33 42.0**	**-0.3**
KULM	**Kulim**	**69.53**	**282**	⇓P	**P**	**03 33 42.8**	**+0.4**
MIR	**Mirnyy**	**69.66**	**204**	⇑*i*P	**P**	**03 33 42.0**	**-0.1**
MIR				pmax	pmax		
	comp=Z,400nm,1.5s,mb5.9						
HABR	**Khabarovsk**	**70.14**	**338**	*e*P	**P**	**03 33 45.0**	**-0.2**
HABR				*e*		03 34 06.2	
HABR				*e**PP	pP	03 34 15.2	-2.7
HABR				*e**SP	sP	03 34 29.8	-2.4
HABR				*e*		03 36 21.3	
HABR				*e*S	S	03 42 45.9	+0.3
HABR				*e*		03 43 32.8	
HABR				*e*SS	SS	03 47 14.5	-4.1
HABR				pmax	pmax		
	comp=Z,114nm,1.3s,mb5.4						
CN2	**Changchun**	**70.64**	**329**	⇑P	**P**	**03 33 48.4**	**0.0**
CN2				*e*S	S	03 42 50.0	-1.6
CN2				AMB	AMB		
	comp=Z,40nm,0.9s,mb5.2						
KLR	**Kul'dur**	**72.01**	**336**	⇓*i*P	**P**	**03 33 53.0**	**-3.5**
KLR				pmax	pmax		
	comp=N,28nm,1.6s						
KLR				pmax	pmax		
	comp=E,96nm,1.6s						
KLR				pmax	pmax		
	comp=Z,160nm,1.6s,mb5.5						
GYA	**Guiyang**	**72.57**	**305**	⇑*i*P	**P**	**03 34 00.4**	**0.0**
GYA				PCP	PcP	03 34 18.9	+1.7
GYA				PP	PP	03 36 46.8	+3.1
GYA				S	S	03 43 14.3	-0.2
GYA				SKS		03 43 49.4	
GYA				SCS	ScS	03 43 53.0	-2.5
GYA				SS	SS	03 47 58.3	+1.7
GYA				AMB	AMB		
	comp=Z,20nm,1.0s,mb4.8						
GYA				AMB	AMB		
	comp=Z,130nm,6.4s						
GYA				LR	LR		
	comp=N,540nm,20.9s						
GYA				LR	LR		
	comp=E,520nm,19.4s						
GYA				LR	LR		
	comp=Z,600nm,20.6s						
BJT	**Baijiatuau**	**73.22**	**321**	*e*P	**P**	**03 34 03.8**	**-0.1**
	comp=Z,94nm,1.3s,mb5.4						
BJT	**Baijiatuau**	**73.22**	**321**	*e*P	**P**	**03 34 03.8**	**-0.1**
BJT				pmax	pmax		
	comp=Z,94nm,1.3s						
BJI	**Beijing**	**73.23**	**321**	P	**P**	**03 34 04.3**	**+0.3**
BJI				PCP	PcP	03 34 20.1	+0.3
BJI				AP	pP	03 34 36.8	-0.1
BJI				PP	PP	03 36 49.9	+0.8
BJI				S	S	03 43 15.5	-6.0
BJI				SCS	ScS	03 44 01.3	+1.1
BJI				AMB	AMB		
	comp=Z,49nm,1.4s,mb5.0						
BJI				AMB	AMB		
	comp=Z,224nm,6.3s						
XAN	**Xi'an**	**74.61**	**313**	P	**P**	**03 34 12.3**	**+0.2**
XAN				AMB	AMB		
	comp=Z,36nm,1.2s,mb4.9						
KMI	**Kunming**	**75.13**	**302**	P	**P**	**03 34 16.4**	**+1.1**
KMI				S	S	03 43 41.0	-2.3
KMI				AMB	AMB		
	comp=Z,37nm,1.6s,mb4.8						
KMI				LR	LR		
	comp=Z,100nm,28.8s						
CHTO	**Chiang Mai**	**75.82**	**294**	*e*P	**P**	**03 34 19.4**	**0.0**
	comp=Z,21nm,1.1s,mb4.7						
CHTO	**Chiang Mai**	**75.82**	**294**	*e*P	**P**	**03 34 19.4**	**0.0**
CHTO				pmax	pmax		
	comp=Z,21nm,1.1s,mb4.7						
HHC	**Hu-ho-hao-te**	**76.54**	**320**	*e*P	**P**	**03 34 24.0**	**+1.0**
HHC				PP	PP	03 37 21.4	+4.3
HHC				S	S	03 43 56.5	-1.7
HHC				SKS		03 44 18.8	
HHC				SCS	ScS	03 44 23.5	-3.3
HHC				AMB	AMB		
	comp=Z,56nm,1.0s,mb5.2						
HHC				AMB	AMB		
	comp=Z,115nm,7.3s						
HHC				LR	LR		
	comp=N,82nm,5.3s						
HHC				LR	LR		
	comp=Z,74nm,7.5s						
CD2	**Chengdu**	**76.89**	**308**	P	**P**	**03 34 25.5**	**+0.3**
CD2				AP	pP	03 34 58.0	-0.4
CD2				PP	PP	03 37 22.6	+2.4
CD2				S	S	03 44 02.0	-0.3
CD2				SKS		03 44 20.9	
CD2				SS	SS	03 49 04.3	+2.2
CD2				AMB	AMB		
	comp=Z,20nm,0.5s,mb5.0						
CD2				AMB	AMB		
	comp=Z,50nm,6.8s						
CD2				LR	LR		
	comp=N,200nm,18.2s						
CD2				LR	LR		
	comp=E,310nm,16.4s						
CD2				LR	LR		
	comp=Z,250nm,14.8s						
HIA	**Hailar**	**77.28**	**330**	*e*P	**P**	**03 34 26.7**	**-0.2**
	comp=Z,89nm,1.4s,mb5.2						
HIA	**Hailar**	**77.28**	**330**	*e*P	**P**	**03 34 26.7**	**-0.2**
HIA				pmax	pmax		
	comp=Z,89nm,1.4s						
BTO	**Baotou**	**77.38**	**319**	*e*P	**P**	**03 34 28.3**	**+0.6**
LZH	**Lanzhou**	**79.23**	**312**	⇑*i*P	**P**	**03 34 39.4**	**+1.4**
LZH				PP	PP	03 37 42.3	+2.6
LZH				*e*S	S	03 44 27.0	-0.3
LZH				SS	SS	03 49 39.0	+1.8
LZH				AMB	AMB		
	comp=Z,84nm,1.2s,mb5.2						
LZH				AMB	AMB		
	comp=Z,451nm,5.8s						
SEY	**Seymchan**	**79.24**	**353**	⇑*e*P	**P**	**03 34 35.7**	**-1.7**
NRGR	**Nerungri**	**80.46**	**338**	*e*P	**P**	**03 34 45.3**	**+1.2**
CLNS	**Chul'man**	**80.53**	**338**	*e*P	**P**	**03 34 42.6**	**-1.9**
CLNS				pmax	pmax		
	comp=Z,28nm,0.8s,mb4.9						
CLNS				pmax	pmax		
	comp=N,17nm,1.0s						
CLNS				pmax	pmax		
	comp=E,5.0nm,0.9s						
MAW	**Mawson**	**81.18**	**202**	*e*P	**P**	**03 34 48.0**	**+0.1**
	comp=E,31nm,1.0s,mb4.9						
MAW	**Mawson**	**81.18**	**202**	*e*P	**P**	**03 34 48.0**	**+0.1**
MAW				pmax	pmax		
	comp=Z,31nm,1.0s						
MAW	**Mawson**	**81.18**	**202**	P	**P**	**03 34 48.3**	**+0.3**
	comp=Z,39nm,1.0s,mb5.0,baz=102,slow=6.1,SNR=29						
MAW				LR	LR	04 07 42.4	
	comp=Z,250nm,20.3s,baz=261,slow=33						
YAK	**Yakutsk**	**83.03**	**343**	*e*P	**P**	**03 34 57.3**	**-0.1**
YAK	**Yakutsk**	**83.03**	**343**	*e*P	**P**	**03 34 56.8**	**-0.6**
YAK				pmax	pmax		
	comp=Z,70nm,1.5s,mb5.2						
YAK				pmax	pmax		
	comp=N,27nm,1.4s						
YAK				pmax	pmax		
	comp=E,19nm,1.6s						
ULN	**Ulaanbaatar**	**83.11**	**324**	*e*P	**P**	**03 34 58.5**	**+0.2**
	comp=E,93nm,0.9s,mb5.5						
ULN	**Ulaanbaatar**	**83.11**	**324**	*e*P	**P**	**03 34 58.5**	**+0.3**
ULN				pmax	pmax		
	comp=Z,93nm,0.9s,mb5.5						
TTA	**Tatalina**	**83.29**	**16**	*e*P	**P**	**03 34 58.5**	**-0.3**
	comp=Z,2.1nm,0.6s,mb4.0						
TTA	**Tatalina**	**83.29**	**16**	*e*P	**P**	**03 34 58.5**	**-0.3**
TTA				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.0						
BILL	**Bilibino**	**83.46**	**359**	*e*P	**P**	**03 34 58.2**	**-1.4**
	comp=Z,9.6nm,0.8s,mb4.6						
BILL	**Bilibino**	**83.46**	**359**c	*i*P	**P**	**03 34 58.1**	**-1.5**
BILL				pmax	pmax		
	comp=Z,29nm,2.5s,mb4.6						
SONM	**Songino Array**	**83.47**	**324**	P	**P**	**03 35 00.3**	**+0.2**
	comp=Z,19nm,0.4s,mb5.2,baz=137,slow=5.2,SNR=126						
GTA	**Gaotai**	**83.59**	**314**	⇑*i*P	**P**	**03 35 01.8**	**+0.9**
GTA				AP	pP	03 35 34.8	+0.2
GTA				PP	PP	03 38 14.0	-1.5
GTA				SKS		03 45 09.6	
GTA				S	S	03 45 13.4	+1.4
GTA				SS	SS	03 50 44.9	+3.0
GTA				AMB	AMB		
	comp=Z,58nm,1.2s,mb5.2						
GTA				AMB	AMB		
	comp=Z,165nm,5.0s						
GTA				LR	LR		
	comp=N,300nm,18.6s						
GTA				LR	LR		
	comp=E,397nm,20.5s						
GTA				LR	LR		
	comp=Z,114nm,17.9s						
GASB	**Alder Springs**	**84.90**	**47**	⇓P	**P**	**03 35 07.6**	**+0.1**
	baz=85						
O02C	**Red Bluff**	**85.07**	**46**	⇑P	**P**	**03 35 09.2**	**+0.9**
	baz=85						
WDC	**Whiskeytown Da**	**85.42**	**46**	⇑P	**P**	**03 35 09.5**	**-0.5**
	baz=86,SNR=5.5						
BOD	**Bodaibo**	**85.48**	**334**	⇓*i*P	**P**	**03 35 08.9**	**-1.0**
BOD				pmax	pmax		
	comp=Z,33nm,1.2s,mb4.9						
M02C	**Callahan**	**85.54**	**45**	⇓P	**P**	**03 35 10.9**	**+0.3**
	baz=86						
OHCM	**Honcut**	**85.64**	**47**	*e*P	**P**	**03 35 11.5**	**+0.3**
OHCM				*e*pP	pP	03 35 43.4	-1.6
YBH	**Yreka Blue Hor**	**85.79**	**45**	*e*P	**P**	**03 35 12.3**	**+0.4**
YBH	**Yreka Blue Hor**	**85.79**	**45**	⇑P	**P**	**03 35 11.3**	**-0.6**
	baz=86						
CMB	**Columbia Colle**	**85.90**	**49**	⇑P	**P**	**03 35 12.0**	**-0.5**
	baz=86						
HUMO	**Hull Mountain**	**85.99**	**44**	*e*pP	pP	03 35 46.7	0.0
HUMO	**Hull Mountain**	**85.99**	**44**	⇓P	**P**	**03 35 13.0**	**+0.2**
	baz=86						
M03C	**McCloud**	**85.99**	**45**	⇓P	**P**	**03 35 12.6**	**-0.2**
	baz=86						
T06C	**Millerton Lake**	**86.00**	**50**	P	**P**	**03 35 12.8**	**-0.2**
	baz=86,SNR=5.5						
VES	**Vestal, Richgr**	**86.02**	**51**	⇓P	**P**	**03 35 12.6**	**-0.5**
	baz=86						
P05C	**Yuba Gap, Truc**	**86.25**	**48**	⇑P	**P**	**03 35 14.6**	**+0.4**
	baz=86						
HATC	**Hat Creek Radi**	**86.26**	**46**	⇓P	**P**	**03 35 14.8**	**+0.6**
	baz=86						
O04C	**Chester**	**86.32**	**47**	⇑P	**P**	**03 35 14.8**	**+0.3**
	baz=86						
HELL	**Mitchell Peak**	**86.38**	**50**	P	**P**	**03 35 14.8**	**-0.1**
	baz=86,SNR=5.8						
LSA	**Lhasa**	**86.39**	**302**	*e*P	**P**	**03 35 15.5**	**+0.4**
	comp=Z,3.7nm,0.3s,mb4.6						
LSA	**Lhasa**	**86.39**	**302**	*e*P	**P**	**03 35 15.5**	**+0.4**
LSA				pmax	pmax		
	comp=Z,4.0nm,0.3s,mb4.6						
R05C	**Kirkwood Meado**	**86.39**	**48**	⇓P	**P**	**03 35 14.9**	**0.0**
	baz=86						
KCC	**Kaiser Creek**	**86.41**	**50**	⇓P	**P**	**03 35 15.1**	**+0.1**
	baz=86						
IMA2	**Indian Mountai**	**86.43**	**15**	*e*P	**P**	**03 35 14.2**	**-0.3**
EDW2	**Edwards Air Fo**	**86.48**	**52**	⇑P	**P**	**03 35 15.5**	**0.0**
	baz=87						
BFSC	**Mount Baldy St**	**86.50**	**53**	⇓P	**P**	**03 35 15.3**	**-0.2**
	baz=87						
ZAK	**Zakamensk**	**86.53**	**325**	⇑*i*P	**P**	**03 35 14.6**	**-0.7**
ZAK				*e*		03 45 28.1	
ZAK				pmax	pmax		
	comp=Z,24nm,1.4s,mb4.8						
BEKR	**Beckwourth**	**86.65**	**47**	⇑P	**P**	**03 35 16.0**	**-0.1**
	baz=87						
M05C	**Lookout**	**86.70**	**46**	⇓P	**P**	**03 35 16.4**	**+0.1**
	baz=87						
R06C	**Coleville**	**86.77**	**49**	⇑P	**P**	**03 35 16.8**	**+0.1**
	baz=87						
J04A	**Umpqua Nationa**	**86.83**	**44**	⇓P	**P**	**03 35 17.5**	**+0.6**
	baz=87						
WCN	**Washoe City**	**86.85**	**48**	⇓P	**P**	**03 35 16.9**	**-0.2**
	baz=87						
LRMC	**Laurel Mountai**	**86.93**	**52**	⇑P	**P**	**03 35 18.3**	**+0.7**
	baz=87						
MTUM	**Tungsten Hills**	**86.97**	**50**	*e*P	**P**	**03 35 18.1**	**+0.4**
MTUM				*e*pP	pP	03 35 51.7	0.0
TLY	**Talaya**	**86.98**	**326**	P	**P**	**03 35 17.4**	**0.0**
	comp=Z,122nm,1.1s,mb5.6,SNR=5.3						
TLY	**Talaya**	**86.98**	**326**	*e*P	**P**	**03 35 17.2**	**-0.2**
	comp=Z,16nm,0.8s,mb4.9						
TLY	**Talaya**	**86.98**	**326**c	*i*P	**P**	**03 35 16.6**	**-0.8**
TLY				pmax	pmax		
	comp=Z,7.0nm,1.7s,mb4.2						
MONP	**Monument Peak**	**86.98**	**55**	⇑P	**P**	**03 35 19.0**	**+1.1**
	baz=87						
COLA	**College**	**87.07**	**17**	*e*P	**P**	**03 35 15.7**	**-1.9**
	comp=Z,8.7nm,1.0s,mb4.5						
COLA	**College**	**87.07**	**17**	*e*P	**P**	**03 35 15.7**	**-1.9**
COLA				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.5						
M06C	**Likely Place G**	**87.10**	**46**	⇓P	**P**	**03 35 18.3**	**+0.1**
	baz=87						
O06A	**Flanigan**	**87.14**	**47**	⇓P	**P**	**03 35 19.0**	**+0.5**
	baz=87						
MPMC	**Manual Prospec**	**87.30**	**52**	⇑P	**P**	**03 35 19.4**	**+0.1**
	baz=87						
S08C	**White Mtn Res**	**87.32**	**50**	⇓P	**P**	**03 35 19.8**	**+0.4**
	baz=87,SNR=5.2						
N06A	**Buffalo Meadow**	**87.36**	**46**	⇑P	**P**	**03 35 19.4**	**-0.2**
	baz=88						
J05A	**Fort Rock**	**87.42**	**44**	⇓P	**P**	**03 35 19.8**	**0.0**
	baz=88						
K05A	**Summer Lake**	**87.43**	**44**	⇓P	**P**	**03 35 19.7**	**-0.1**
	baz=88						
MOD	**Modoc**	**87.50**	**45**	*e*P	**P**	**03 35 20.1**	**-0.1**
	comp=Z,5.3nm,1.1s,mb4.3						
MOD	**Modoc**	**87.50**	**45**	⇑P	**P**	**03 35 20.2**	**+0.1**
	baz=88						
NVAR	**Mina Array Bea**	**87.57**	**49**	P	**P**	**03 35 21.2**	**+0.6**
	comp=Z,1.6nm,0.8s,mb3.9,baz=224,slow=5.3,SNR=14						
NVAR				pP	pP	03 35 54.0	-0.5
	comp=Z,5.4nm,1.1s,baz=228,slow=4.9,SNR=7.0						
NVAR				PKKPbc	PKKPbc	03 53 09.9	-0.1
	comp=Z,1.2nm,0.7s,baz=77,slow=4.0,SNR=12						
NVAR				PKPPKP		04 01 17.5	
	comp=Z,1.6nm,0.9s,baz=96,slow=1.8,SNR=8.1						
BELC	**Belle Mtn.**	**87.70**	**54**	⇓P	**P**	**03 35 20.6**	**-0.8**
	baz=88						
GRAC	**Grapevine Rang**	**87.73**	**51**	⇓P	**P**	**03 35 21.1**	**-0.3**
	baz=88						
F04A	**Amboy**	**87.76**	**41**	⇑P	**P**	**03 35 22.1**	**+0.8**
	baz=88						
K06A	**Valley Falls**	**87.89**	**44**	⇓P	**P**	**03 35 21.5**	**-0.5**
	baz=88						
SYO	**Syowa Base**	**87.94**	**196**	⇓*i*P	**P**	**03 35 19.7**	**-2.1**
SYO	**Syowa Base**	**87.94**	**196**	⇓*i*PcP	PcP	03 35 22.0	-1.5
N07B	**Gerlach**	**87.98**	**47**	⇑P	**P**	**03 35 22.1**	**-0.3**
	baz=88						
Q08A	**Gabbs**	**88.00**	**49**	⇑P	**P**	**03 35 22.3**	**-0.3**
	baz=88						
BC3	**Big Chuckw Mtn**	**88.01**	**54**	⇓P	**P**	**03 35 22.4**	**-0.4**
	baz=88						
M07A	**Soldier Meadow**	**88.08**	**46**	⇑P	**P**	**03 35 22.7**	**-0.2**
	baz=88						
S09A	**Goldfield**	**88.10**	**50**	⇑P	**P**	**03 35 22.6**	**-0.5**
	baz=88						
J06A	**Christmas Vall**	**88.14**	**44**	⇓P	**P**	**03 35 23.0**	**-0.1**
	baz=88						
L07A	**Adell**	**88.20**	**45**	⇑P	**P**	**03 35 23.2**	**-0.3**
	baz=88						
TUQ	**Turquoise Mtn.**	**88.26**	**53**	⇑P	**P**	**03 35 24.2**	**+0.3**
	baz=88						
GLA	**Glamis**	**88.30**	**55**	⇑P	**P**	**03 35 23.9**	**-0.2**
	baz=88						
I06A	**Prineville**	**88.37**	**43**	⇑P	**P**	**03 35 24.2**	**-0.1**
	baz=88						
R09A	**Tonopah**	**88.40**	**50**	⇓P	**P**	**03 35 24.3**	**-0.2**
	baz=88						
MOY	**Mondy**	**88.42**	**325**	*e*P	**P**	**03 35 24.0**	**-0.3**
K07A	**Rock Creek Ran**	**88.53**	**45**	⇓P	**P**	**03 35 25.0**	**0.0**
	baz=89						
TPNV	**Topopah Spring**	**88.55**	**51**	*e*P	**P**	**03 35 23.6**	**-1.6**
	comp=Z,29nm,1.5s,mb5.0						
TPNV				*e*pP	pP	03 35 58.1	-1.2
TPNV	**Topopah Spring**	**88.55**	**51**	*e*P	**P**	**03 35 23.7**	**-1.5**
TPNV				*e**PP	pP	03 35 58.1	-1.2
TPNV				pmax	pmax		
	comp=Z,29nm,1.5s,mb5.0						
D05A	**Enumclaw**	**88.56**	**40**	⇓P	**P**	**03 35 25.3**	**+0.3**
	baz=89						
N08A	**GE Springer Mi**	**88.57**	**47**	⇑P	**P**	**03 35 25.3**	**0.0**
	baz=89						
H06A	**Lindquist Farm**	**88.61**	**43**	⇓P	**P**	**03 35 24.6**	**-0.7**
	baz=89						
S10A	**Tonopah Range,**	**88.64**	**50**	⇓P	**P**	**03 35 26.1**	**+0.5**
	baz=89						
LDFC	**Landfair**	**88.76**	**53**	*e*P	**P**	**03 35 24.2**	**-2.2**
LDFC				*e*pP	pP	03 36 01.6	+1.2
Y12C	**Blythe**	**88.77**	**55**	⇓P	**P**	**03 35 26.6**	**+0.2**
	baz=89						
WVOR	**Wild Horse Val**	**88.84**	**45**	*e*P	**P**	**03 35 26.9**	**+0.4**
	comp=Z,17nm,1.7s,mb4.7						
WVOR				*e*pP	pP	03 36 00.7	+0.1
WVOR	**Wild Horse Val**	**88.84**	**45**	*e*P	**P**	**03 35 26.9**	**+0.4**
WVOR				*e**PP	pP	03 36 00.7	+0.1
WVOR				pmax	pmax		
	comp=Z,17nm,1.7s,mb4.7						
I07A	**Izee**	**88.89**	**44**	⇑P	**P**	**03 35 27.1**	**+0.4**
	baz=89						
B05A	**Bryant**	**88.95**	**39**	⇓P	**P**	**03 35 27.1**	**+0.2**
	baz=89						
L08A	**Fields**	**88.95**	**46**	⇑P	**P**	**03 35 26.7**	**-0.3**
	baz=89						
O09A	**Fish Creek Ran**	**89.01**	**48**	⇓P	**P**	**03 35 27.3**	**0.0**
	baz=89						
EGAK	**Eagle**	**89.05**	**19**	*e*P	**P**	**03 35 24.8**	**-2.1**
	comp=Z,4.3nm,1.0s,mb4.3						
H07A	**Lands Inn, Kim**	**89.05**	**43**	⇓P	**P**	**03 35 27.2**	**-0.2**
	baz=89						
K08A	**Mann Creek Ran**	**89.06**	**45**	⇑P	**P**	**03 35 27.3**	**-0.2**
	baz=89						
DAWY	**Dawson**	**89.17**	**21**	*e*P	**P**	**03 35 25.9**	**-1.6**
S11A	**Rachel**	**89.17**	**51**	⇓P	**P**	**03 35 27.6**	**-0.5**
	baz=89						
G07A	**Ruggs Ranch, H**	**89.25**	**42**	⇓P	**P**	**03 35 28.2**	**-0.2**
	baz=89						
J08A	**Circle Bar Ran**	**89.31**	**44**	⇑P	**P**	**03 35 28.4**	**-0.3**
	baz=89						
T11A	**Corn Creek, Al**	**89.42**	**51**	⇓P	**P**	**03 35 29.5**	**+0.2**
	baz=90						
R11A	**Troy Canyon, C**	**89.53**	**50**	⇑P	**P**	**03 35 29.9**	**+0.1**
	baz=90						
O10A	**Cortez Mining,**	**89.55**	**48**	⇑P	**P**	**03 35 29.7**	**-0.2**
	baz=90						
K09A	**Rome**	**89.57**	**45**	⇓P	**P**	**03 35 29.3**	**-0.6**
	baz=90						
X13A	**Yucca**	**89.59**	**54**	⇑P	**P**	**03 35 30.0**	**-0.2**
	baz=90						
H08A	**Prairie City**	**89.61**	**43**	⇓P	**P**	**03 35 30.3**	**+0.3**
	baz=90						
Q11A	**Duckwater**	**89.65**	**49**	⇓P	**P**	**03 35 30.6**	**+0.3**
	baz=90						
W13A	**Hualapai Mount**	**89.72**	**53**	⇑P	**P**	**03 35 30.4**	**-0.4**
	baz=90						
G08A	**Pilot Rock**	**89.72**	**43**	⇓P	**P**	**03 35 30.2**	**-0.3**
	baz=90						
J09A	**Fry Pan Ranch,**	**89.79**	**45**	⇓P	**P**	**03 35 30.6**	**-0.3**
	baz=90						
Z14A	**Wintersburg**	**89.89**	**55**	⇓P	**P**	**03 35 31.2**	**-0.4**
	baz=90						
V13A	**Grand Canyon W**	**89.89**	**53**	⇓P	**P**	**03 35 31.3**	**-0.3**
	baz=90						
M10A	**I.L. Ranch, Tu**	**89.96**	**47**	⇑P	**P**	**03 35 31.5**	**-0.3**
	baz=90						
Y14A	**Wickenburg**	**90.03**	**55**	⇑P	**P**	**03 35 31.9**	**-0.3**
	baz=90						
U13A	**Pakoon Wash**	**90.09**	**52**	⇑P	**P**	**03 35 32.4**	**-0.1**
	baz=90						
O11A	**Cowboy Ranch,**	**90.10**	**48**	⇓P	**P**	**03 35 32.7**	**+0.3**
	baz=90						
K10A	**MacKenzie Ranc**	**90.18**	**45**	⇑P	**P**	**03 35 32.9**	**+0.2**
	baz=90						
GUN	**Gumba**	**90.19**	**299**	*e*P	**P**	**03 35 32.7**	**-0.5**
	comp=Z,16nm,0.9s,mb5.0						
L10A	**Juniper Basin**	**90.21**	**46**	⇑P	**P**	**03 35 32.7**	**-0.2**
	baz=90						
B07A	**Winthrop**	**90.23**	**39**	⇑P	**P**	**03 35 32.4**	**-0.4**
	baz=90						
R12A	**Pony Springs,**	**90.25**	**50**	⇑P	**P**	**03 35 33.4**	**+0.2**
	baz=90						
X14A	**Yava**	**90.28**	**54**	⇓P	**P**	**03 35 33.7**	**+0.3**
	baz=90						
T13A	**Saint George**	**90.33**	**52**	⇓P	**P**	**03 35 33.9**	**+0.3**
	baz=90						
W14A	**Seligman**	**90.37**	**54**	⇑P	**P**	**03 35 33.8**	**-0.1**
	baz=90						
P12A	**McGill**	**90.41**	**49**	⇑P	**P**	**03 35 33.9**	**0.0**
	baz=90						
M11A	**Holland Ranch,**	**90.45**	**47**	⇑P	**P**	**03 35 34.2**	**+0.1**
	baz=90						
V14A	**Boquillas Ranc**	**90.49**	**53**	⇑P	**P**	**03 35 35.1**	**+0.7**
	baz=91

baz=91
A08A Turner Farm, O 90.94 39 ⇓P **P 03 35 35.9 -0.2**
baz=91
TIXI Tiksi 90.95 349 *e*P **P 03 35 33.9 -1.8**
comp=Z,12nm,1.1s,mb4.8
TIXI Tiksi 90.95 349⇑*e*P **P 03 35 33.7 -2.0**
TIXI pmax pmax
comp=Z,18nm,1.7s,mb4.8
T14A Hurricane 90.97 52 ⇑P **P 03 35 36.6 0.0**
baz=91
W15A Williams 91.00 54 ⇓P **P 03 35 36.7 -0.1**
baz=91
P13A Bates Ranch, G 91.06 49 ⇓P **P 03 35 36.9 0.0**
baz=91
M12A Wells 91.07 47 ⇑P **P 03 35 37.0 +0.1**
baz=91
Z16A Peralta Trail, 91.09 56 ⇑P **P 03 35 36.7 -0.5**
baz=91
217A Green Valley 91.10 57 ⇓P **P 03 35 37.0 -0.3**
baz=91
F10A Beach Ranch, E 91.10 42 ⇓P **P 03 35 36.6 -0.3**
baz=91
MFID Camas Ranch 91.12 45 ⇓P **P 03 35 37.3 +0.2**
baz=91
I11A Placerville 91.21 45 ⇓P **P 03 35 37.1 -0.4**
baz=91
Y16A Circle Bar Ran 91.21 55 ⇑P **P 03 35 37.5 -0.3**
baz=91
L12A House Creek Ra 91.25 47 ⇓P **P 03 35 37.2 -0.5**
baz=91
GKN Gorkha 91.27 299 *e*P **P 03 35 37.4 -0.8**
A09A Danville 91.37 39 ⇑P **P 03 35 38.6 +0.5**
baz=92
N13A Wendover, West 91.39 48 ⇑P **P 03 35 38.9 +0.5**
baz=92
117A Oracle 91.40 57 ⇓P **P 03 35 38.4 -0.3**
baz=92
X16A Lo Mia Camp, P 91.41 55 ⇑P **P 03 35 38.4 -0.2**
baz=92
H11A Donnelly 91.45 44 ⇑P **P 03 35 38.9 +0.3**
baz=92
K12A Draper Farm, C 91.49 46 ⇓P **P 03 35 38.8 0.0**
baz=92
G11A Walters Elk Ra 91.53 43 ⇑P **P 03 35 39.3 +0.4**
baz=92
J12A Stokes Ranch, 91.56 45 ⇓P **P 03 35 39.3 +0.1**
baz=92
M13A Montello 91.58 47 ⇓P **P 03 35 39.2 -0.1**
baz=92
318A Bisbee 91.67 58 ⇓P **P 03 35 39.6 -0.4**
baz=92
218A Dragoon 91.78 57 ⇓P **P 03 35 40.6 +0.1**
baz=92
WUAZ Wupatki 91.80 54 *e*P **P 03 35 39.7 -0.7**
comp=Z,6.1nm,1.2s,mb4.5
WUAZ *e*pP pP 03 36 14.6 0.0
WUAZ Wupatki 91.80 54 ⇓P **P 03 35 40.5 0.0**
baz=92
X17A Forest Lakes 91.88 55 ⇑P **P 03 35 41.5 +0.6**
baz=92
118A Homack Ranch, 92.04 57 ⇓P **P 03 35 42.2 +0.5**
baz=92
D11A Klaveano Farm, 92.06 42 ⇑P **P 03 35 42.9 +1.5**
baz=92
DANN Dangsing 92.11 299 *e*P **P 03 35 41.0 -1.0**
comp=Z,13nm,0.9s,mb5.0
MSU Marysvale 92.11 51 *e*pP pP 03 36 16.4 +0.5
N14A Grayback Hills 92.11 48 ⇓P **P 03 35 43.8 +2.0**
baz=92
HLID Hailey 92.14 45 ⇑P **P 03 35 43.3 +1.5**
baz=92
H12A Diamond D Ranc 92.17 44 ⇑P **P 03 35 43.4 +1.4**
baz=92
DUG Dugway 92.17 49 ⇑P **P 03 35 43.3 +1.2**
baz=92
MAIT Maitri 92.20 188 *e*P **P 03 35 38.5 -3.2**
M14A Sheep Mountain 92.21 48 ⇓P **P 03 35 43.5 +1.3**
baz=92
J13A Cove Ranch, Pi 92.25 46 ⇑P **P 03 35 43.9 +1.6**
baz=92
F12A Elk City 92.32 43 ⇑P **P 03 35 44.0 +1.5**
baz=92
Y18A Canyon Day Jun 92.33 56 ⇑P **P 03 35 44.1 +1.2**
baz=92
219A White Tail Can 92.43 58 ⇑P **P 03 35 43.6 +0.1**
baz=92
I13A Wildhorse Cree 92.46 45 ⇑P **P 03 35 44.4 +1.1**
baz=92
H13A Challis 92.58 44 ⇑P **P 03 35 44.5 +0.7**
baz=93
N15A Stansbury Isla 92.61 48 ⇑P **P 03 35 45.4 +1.4**
baz=93
X18A Snowflake 92.61 55 ⇓P **P 03 35 44.8 +0.6**
baz=93
SNAA Sanae 92.65 183 *e*P **P 03 35 42.5 -1.3**
SNAA *e* 03 35 46.0
SNAA *e* 03 35 50.5
SNAA Sanae 92.65 183⇑*e*P **P 03 35 42.3 -1.5**
F13A Darby 92.94 43 ⇓P **P 03 35 46.6 +1.2**
baz=93
Y19A Nutrioso 93.00 56 ⇓P **P 03 35 47.2 +1.2**
baz=93
VNA3 Neumayer Olymp 93.30 181 *e*P **P 03 35 45.4 -1.4**
VNA3 *e* 03 35 49.4
VNA3 *e* 03 35 53.0
DAU Daniels Canyon 93.37 49 *e*pP pP 03 36 23.9 +2.2
DAU *e*PP PP 03 39 33.6 -0.1
HWUT Hardware Ranch 93.51 48 *e*PP PP 03 39 34.8 +0.1
SRU San Rafael 93.52 50 *e*PP PP 03 39 33.5 -1.4
VNA2 Neumayer--Watz 93.58 182 *e*P **P 03 35 46.4 -1.6**
baz=192,slow=5.0
VNA2 *e* 03 35 50.5
VNA2 *e* 03 35 54.4
WMQ Urumqi 93.66 314⇑*i*P **P 03 35 48.0 -0.8**
WMQ AP pP 03 36 22.0 -0.9
WMQ PP PP 03 39 38.0 +2.2
WMQ SKS 03 46 07.0
WMQ S S 03 46 42.0 -4.4
WMQ AMB AMB
comp=Z,27nm,1.4s,mb5.2
WMQ AMB AMB
comp=Z,124nm,3.5s
WMQ LR LR
comp=Z,150nm,20.2s
VNA1 Neumayer--Stat 93.87 181 *e*P **P 03 35 48.6 -0.8**
VNA1 *e* 03 35 52.1
VNA1 *e* 03 35 56.0
TPAW Teton Pass 94.51 46 *e*PP PP 03 39 42.2 -0.2
MOOW Moose Ponds 94.73 46 *e*PP PP 03 39 43.6 -0.5
PDAR Pinedale Array 95.28 47 PP PP 03 39 47.9 -0.6
comp=Z,0.3nm,0.4s,baz=238,slow=2.8,SNR=7.0
PDAR PKKPbc PKKPbc 03 52 48.4 -2.1
comp=Z,1.6nm,0.9s,baz=101,slow=4.8,SNR=8.7
PDAR LR LR 04 09 05.5
comp=Z,77nm,20.4s,baz=167,slow=29
ANMO Albuquerque 95.49 55 *e*pP pP 03 36 31.6 0.0
TXAR Lajitas Array 96.36 61 P **P 03 36 01.5 0.0**
TXAR pP pP 03 36 36.4 +0.6
TXAR PP PP 03 39 56.2 -0.9
TXAR PKKPbc PKKPbc 03 52 46.9 0.0
TXAR Lajitas Array 96.36 61 P **P 03 36 01.5 0.0**
TXAR *PP pP 03 36 36.4 +0.7
TXAR 03 39 56.3
TXAR Lajitas Array 96.36 61 P **P 03 36 01.5 0.0**
comp=Z,0.3nm,0.8s,baz=238,slow=4.0,SNR=3.3
TXAR pP pP 03 36 36.4 +0.6
comp=Z,0.6nm,0.7s,baz=232,slow=3.9,SNR=4.4
TXAR PP PP 03 39 56.2 -0.9
comp=Z,1.3nm,1.1s,baz=215,slow=6.1,SNR=5.8
TXAR PKKPbc PKKPbc 03 52 46.9 0.0
comp=Z,0.5nm,0.7s,baz=100,slow=4.0,SNR=5.8
GDL2 Guadalupe Moun 96.49 59 *e*PP PP 03 39 58.2 +0.1
MK31 Makanchi Array 98.14 316 *e*P **P 03 36 09.0 -0.2**
MKAR Makanchi Array 98.14 316 P **P 03 36 08.6 -0.5**
MKAR pP pP 03 36 42.4 -0.9
MKAR Makanchi Array 98.14 316 P **P 03 36 08.6 -0.5**
comp=Z,4.4nm,0.8s,mb5.0,baz=94,slow=7.3,SNR=35
MKAR pP pP 03 36 42.4 -0.9
comp=Z,0.9nm,0.5s,baz=82,slow=8.7,SNR=2.3
MKAR PKiKP PKiKP 03 40 40.7 -0.7
comp=Z,0.3nm,0.2s,baz=85,slow=1.9,SNR=3.7
YKA Yellowknife Ar 98.18 27 P **P 03 36 07.0 -1.8**
YKA pP pP 03 36 41.1 -2.0
YKA PP PP 03 40 06.8 -3.3
YKA Yellowknife Ar 98.18 27 P **P 03 36 07.0 -1.8**
comp=Z,4.2nm,1.0s,mb4.8,baz=255,slow=4.7,SNR=32

YKA pP pP 03 36 41.1 -2.0
comp=Z,0.8nm,0.7s,baz=258,slow=4.5,SNR=2.1
YKA PP PP 03 40 06.8 -3.3
comp=Z,0.2nm,0.9s,baz=244,slow=6.8,SNR=3.0
YKA PKiKP PKiKP 03 40 39.4 -1.6
comp=Z,0.1nm,0.6s,baz=256,slow=1.4,SNR=6.2
YKA PKKPbc PKKPbc 03 52 39.7 -3.6
comp=Z,1.4nm,0.8s,baz=64,slow=2.7,SNR=17
ZAA0 Zalesovo Array 98.37 324 *e*P **P 03 36 08.5 -1.4**
ZALV Zalesovo Beam 98.37 324 P **P 03 36 08.8 -1.1**
comp=Z,8.7nm,0.7s,mb5.3,baz=113,slow=4.8,SNR=36
ZAL Zalesovo 98.38 324 P **P 03 36 08.9 -1.1**
KURK Kurchatov 101.36 320 *e*Pdif Pdif 03 36 22.4 -1.0
BVAR Borovoye Array 106.71 321 PKiKP PKiKP 03 40 55.2 -1.6
comp=Z,1.8nm,0.7s,baz=81,slow=4.7,SNR=9.2
ARU Arti 113.47 325 *e*PKP PKiKP 03 41 08.1 -1.2
ARU Arti 113.47 325 *i* PKIKP PKiKP 03 41 07.7 -1.7
ARU 03 47 40.2
ARU SS SS 03 57 34.2 -4.7
KEV Kevo 120.72 345 *e*p PKPdf 03 41 20.8 -2.2
comp=Z,9.1nm,0.5s
ARCES ARCESS Array B 121.24 345 PKP PKPdf 03 41 22.9 -1.1
comp=Z,8.6nm,0.5s,baz=80,slow=2.0,SNR=136
ARE0 ARCESS Array S 121.24 345 *e*PKPdf PKPdf 03 41 22.7 -1.3
SUR Sutherland 122.67 213 *e*PKPdf PKPdf 03 41 27.7 -0.3
SDV Santo Domingo 122.76 89 *e*PKPdf PKPdf 03 41 26.4 -2.2
BOSA Boshof 122.93 220 *e*PKPdf PKPdf 03 41 27.7 -0.9
BOSA Boshof 122.93 220 PKP PKPdf 03 41 28.1 -0.5
comp=Z,19nm,0.9s,baz=126,slow=3.0,SNR=23
RDF Al-Radifah 123.57 295 *e*P PKPdf 03 41 29.1 -0.6
RDF AMb AMB 03 41 30.7
comp=Z,73nm,0.9s
MIB Mutribah 123.75 296 *e*P PKPdf 03 41 29.3 -0.7
MIB AMb AMB 03 41 30.9
comp=Z,76nm,0.9s
NAY Al-Naaiem 123.84 295 *e*P PKPdf 03 41 29.1 -1.1
NAY AMb AMB 03 41 31.0
comp=Z,24nm,1.1s
JOF Joensuu 123.89 338 *e*p PKPdf 03 41 26.8 -2.4
comp=Z,11nm,0.4s
RST Umm Al-Ruwaisa 124.05 295 *e*P PKPdf 03 41 29.2 -1.4
RST AMb AMB 03 41 30.8
comp=Z,88nm,0.8s
MOS Moscow 124.88 328 *e*PKIKP PKPdf 03 41 30.6 -0.7
LBTB Lobatse 125.23 223 *e*PKPdf PKPdf 03 41 32.1 -0.9
GOF Gofitskoye 125.27 314 *e*PKIKP PKPdf 03 41 38.9 +6.5
OBN Obninsk 125.69 328⇑*i*PKIKP PKPdf 03 41 32.2 -0.7
OBN pmax pmax
comp=Z,51nm,1.3s
KIV Kislovodsk 125.77 313 *e*PKPdf PKPdf 03 41 33.5 0.0
KIV Kislovodsk 125.77 313 *d i*PKIKP PKPdf 03 41 33.2 -0.2
FIA1 FINESS Array S 126.72 338 *e*PKPdf PKPdf 03 41 33.5 -1.2
FINES FINESS Array B 126.72 338 PKP PKPdf 03 41 34.3 -0.4
comp=Z,4.2nm,0.6s,baz=62,slow=1.9,SNR=38
KMBO Kilima Mbogo 128.28 256 *e*PKPdf PKPdf 03 41 39.6 +0.5
KMBO Kilima Mbogo 128.28 256 *i* PKIKP PKPdf 03 41 40.0 +0.8
KMBO pmax pmax
comp=Z,7.0nm,1.1s
KMBO Kilima Mbogo 128.28 256 PKP PKPdf 03 41 39.6 +0.5
comp=Z,7.4nm,1.1s,baz=57,slow=3.4,SNR=13
LSZ Lusaka 129.55 234 *e*PKPdf PKPdf 03 41 40.9 -0.6
MALT Malatya 130.17 307 *e*PKPdf PKPdf 03 41 41.9 -0.1
MALT *e*SKPbc SKPbc 03 44 51.1 -1.7
MALT Malatya 130.17 307 ⇓*i*P PKPdf 03 41 42.9 +0.9
NB2 NORSAR Subarra 131.62 345 PKPdf PKPdf 03 41 42.6 -1.4
comp=Z,5.3nm,0.8s,baz=31,slow=1.9
NB2 NORSAR Subarra 131.62 345 PKPdf PKPdf 03 41 42.6 -1.4
baz=31,slow=1.9
NOA NORSAR Array B 131.62 345 PKP PKPdf 03 41 43.8 -0.2
NOA SKPbc SKPbc 03 44 57.7 +0.3
NOA NORSAR Array B 131.62 345 PKP PKPdf 03 41 43.8 -0.2
comp=Z,3.0nm,0.6s,baz=33,slow=2.0,SNR=18
NOA SKPbc SKPbc 03 44 57.7 +0.3
comp=Z,7.2nm,0.9s,baz=32,slow=2.8,SNR=13
AKASG Malin Array Be 131.72 326 PKP PKPdf 03 41 43.7 -0.9
AKASG SKPbc SKPbc 03 44 58.0 0.0
AKASG Malin Array Be 131.72 326 PKP PKPdf 03 41 43.7 -0.9
comp=Z,4.8nm,0.6s,baz=62,slow=2.0,SNR=29
AKASG SKPbc SKPbc 03 44 58.0 0.0
comp=Z,5.8nm,0.7s,baz=45,slow=4.5,SNR=16
AKBB Malin Array Si 131.72 326 *e*PKPdf PKPdf 03 41 42.9 -1.7
AKBB *e*SKPbc SKPbc 03 44 57.9 -0.2
KIEV Kiev 131.73 326 *e*PKPdf PKPdf 03 41 42.7 -1.9
KIEV *e*SKPbc SKPbc 03 44 57.8 -0.3
NAO01 NORSAR Array S 131.87 345 *e*PKPdf PKPdf 03 41 44.2 -0.3
ANTO Ankara 133.99 311 *e*PKPdf PKPdf 03 41 49.0 -0.2
ANTO Ankara 133.99 311⇑*i*P PKPdf 03 41 48.2 -1.0
LVV L'vov 134.98 327 *e*PKIKP PKPdf 03 41 49.0 -1.7
TIRR Tirgusor 135.23 318⇑*i*P PKPdf 03 41 52.3 +1.0
BSD Bornholm Skovb 135.37 338 *e*PKIKP PKPdf 03 41 50.7 -0.6
BSD pmax pmax
comp=Z,6.0nm,0.9s
BSD Bornholm Skovb 135.37 338 *i* P PKPdf 03 41 50.7 -0.6
comp=Z,6.3nm,0.9s
HARR Harsova 135.43 319 ⇓P PKPdf 03 41 53.3 +1.6
HARR Harsova 135.43 319 ⇓*i*P PKPdf 03 41 53.3 +1.6
KWP Kalwaria 135.78 328 *e*PKPdf PKPdf 03 41 51.8 -0.4
KWP Kalwaria 135.78 328 ⇓*i*P PKPdf 03 41 52.1 -0.1
MLR Muntele Rosu 136.28 321 ⇑P PKPdf 03 41 52.5 -0.8
MLR Muntele Rosu 136.28 321⇑*i*P PKPdf 03 41 52.5 -0.8
KOLS Kolonicke sedl 136.43 327 *e*PKP PKPdf 03 41 53.8 +0.4
UZH Uzhgorod 136.61 327⇑*i*PKIKP PKPdf 03 41 53.6 -0.2
STHS Stebnicka Huta 136.66 328 *e*PKP PKPdf 03 41 54.8 +1.0
VOIR 136.84 321 ⇓P PKPdf 03 41 57.9 +3.6
VOIR 136.84 321 ⇓*i*P PKPdf 03 41 57.9 +3.6
OJC Ojcow 136.86 330 *e*PKP PKPdf 03 41 53.6 -0.6
CRVS Cervenica-Dubn 136.88 328 *e*PKP PKPdf 03 41 53.9 -0.4
NIE Niedzica 137.13 329 *e*PKP PKPdf 03 41 55.3 +0.6
DRGR 137.47 324⇑P PKPdf 03 41 55.0 -0.4
DRGR 137.47 324⇑*i*P PKPdf 03 41 55.0 -0.4
KECS Kecovo 137.64 328 *e*PKP PKPdf 03 41 54.9 -0.8
BSEG Bad Segeberg 137.90 340 *e*PKPdf PKPdf 03 41 54.8 -1.2
OKC Ostrava-Krasne 137.90 331 *e*PKPdf PKPdf 03 41 56.0 -0.1
KSP Ksiaz 138.04 333 *e*PKP PKPdf 03 41 56.2 -0.1
GZR Gura Zlata 138.22 323 ⇓P PKPdf 03 41 56.3 -0.5
GZR Gura Zlata 138.22 323 ⇓*i*P PKPdf 03 41 56.3 -0.5
MORC Moravsky Berou 138.23 331 *e*PKPdf PKPdf 03 41 56.4 -0.3
PSZ Piszkesteto 138.31 327 *e*PKPdf PKPdf 03 41 55.7 -1.2
PSZ Piszkesteto 138.31 327 ⇓*i*P PKPdf 03 41 55.7 -1.2
PSZ Piszkesteto 138.31 327 ⇓*e*PKP PKPdf 03 41 56.9 0.0
DPC Dobruska-Polom 138.38 332 *e*PKPdf PKPdf 03 41 54.7 -2.3
DPC *ex* x 03 44 46.3
UPC Upice 138.40 333 *e*PKPdf PKPdf 03 41 56.9 -0.1
VYHS Vyhne 138.47 329 *e*PKP PKPdf 03 41 56.9 -0.3
VYHS *e*PP PP 03 44 47.1 -1.2
KOLL Kolacno 138.63 329 *e*PKP PKPdf 03 41 57.6 +0.1
BZS Buzias 138.76 324 ⇑P PKPdf 03 41 57.1 -0.8
BZS Buzias 138.76 324⇑*i*P PKPdf 03 41 57.1 -0.7
PVCC Panska Ves 139.01 334 *e*PKPdf PKPdf 03 41 57.2 -0.9
BRG Berggiesshubel 139.01 335 *e*PKIKP PKPdf 03 41 57.4 -0.7
BRG pmax pmax
comp=Z,12nm,1.2s
BRG Berggiesshubel 139.01 335 *e*PKPdf PKPdf 03 41 56.7 -1.4
BRG Berggiesshubel 139.01 335 *e*PKP PKPdf 03 41 57.4 -0.7
comp=Z,20nm,1.2s
BUD Budapest 139.04 327⇑*e*PKP PKPdf 03 41 59.2 +0.9
CLL Collm 139.06 336 *e*PKPdf PKPdf 03 41 56.0 -2.2
MODS Modra-Piesok 139.32 330 *e*PKP PKPdf 03 41 59.2 +0.4
PRU Pruhonice 139.43 333 *e*PKPpre 03 41 54.3
PRU *e*PKPdf PKPdf 03 41 58.5 -0.4
VTS Vitosha 139.45 319 ⇓P PKPdf 03 41 58.9 -0.3
VTS Vitosha 139.45 319 ⇓*i*P PKPdf 03 41 58.9 -0.3
TREC Trest 139.52 332 *e*PKPdf PKPdf 03 41 57.6 -1.5
ZST Bratislava 139.53 330 *e*PKP PKPdf 03 41 58.2 -1.0
ZST Bratislava 139.53 330 *e*PKP PKPdf 03 41 58.1 -1.1
CLZ Clausthal 139.62 338 *e*PKPdf PKPdf 03 41 58.6 -0.6
PKSM Moragy 140.05 326 ⇑P PKPdf 03 41 59.1 -1.0
PKSM Moragy 140.05 326⇑*i*P PKPdf 03 41 59.1 -1.1
NKC Novy Kostel 140.12 335 *e*PKP 03 41 54.7
NKC *e* PKPdf 03 41 59.9 -0.2
NKC Novy Kostel 140.12 335 *e*PKPpre 03 41 54.7
NKC *e*PKPdf PKPdf 03 41 59.9 -0.2
MOX Moxa 140.12 336 *e*PKP PKPdf 03 42 00.5 +0.4
MOX Moxa 140.12 336 *e*PKPdf PKPdf 03 41 59.3 -0.8
SOP Sopron 140.15 329⇓*e*PKP PKPdf 03 42 00.1 -0.2
MANZ Manzenberg 140.44 335 *e*PKPdf PKPdf 03 41 59.2 -1.6
KHC Kasperske Hory 140.48 333 *e*PKP 03 41 53.9
KHC *e* PKPdf 03 42 00.2 -0.7
KHC *e* PP 03 44 59.6 -0.9
KHC Kasperske Hory 140.48 333 *e*PKPpre 03 41 53.9
KHC *e*PKPdf PKPdf 03 42 00.2 -0.7
KHC *e*PP PP 03 44 59.6 -0.9

SANT Santorini 140.62 309 *e*PKPdf PKPdf 03 42 00.2 -1.3
GEC2 GERESS Array S 140.64 333 *e*PKPdf PKPdf 03 42 00.0 -1.2
GERES GERESS Array B 140.64 333 PKHKP 03 41 54.5
GERES 03 42 00.9
GERES GERESS Array B 140.64 333 PKhKP 03 41 54.5
comp=Z,0.5nm,0.4s,baz=33,slow=3.7,SNR=8.0
GERES PKP PKPdf 03 42 00.9 -0.3
comp=Z,3.3nm,0.7s,baz=66,slow=1.6,SNR=17
GERES SKPbc SKPbc 03 45 27.0 +1.6
comp=Z,1.7nm,0.8s,baz=22,slow=1.4,SNR=8.3
WET Wettzell 140.78 334 *e*PKPdf PKPdf 03 42 00.0 -1.4
GRA1 Grafenberg Arr 141.03 336 *e*PKPdf PKPdf 03 41 56.9 -4.9
GRF Grafenberg Arr 141.03 336 *e*PKPdf PKPdf 03 41 56.9 -4.9
LEGS Legarje 141.96 328 *e*PKPdf PKPdf 03 41 59.5 -4.1
KBA Koelnbreinsper 142.11 331⇑*i*P PKPdf 03 41 59.5 -4.3
comp=Z,9.6nm,1.2s
MEM Membach 142.13 341 PKP PKPdf 03 41 59.8 -3.9
FUR Furstenfeldbru 142.21 334 *e*PKPdf PKPdf 03 42 00.6 -3.4
BOJS Bojanci 142.30 328 *e*PKPdf PKPdf 03 42 00.0 -4.2
BOJS *e* 03 42 03.6
BOJS *i* 03 42 07.0
BCLA Clavier 142.51 341 PKP PKPdf 03 42 03.3 -1.2
CEY Cerknica 142.55 329 *e*PKPdf PKPdf 03 42 00.0 -4.7
CEY *e* 03 42 03.9
CEY *e* 03 42 07.2
ABTA Abfaltersbach 142.74 332⇑*i*PKPdf PKPdf 03 42 00.2 -4.8
comp=Z,27nm,1.3s,SNR=13
WTTA Wattenberg 142.75 333⇑*i*P PKPdf 03 42 00.8 -4.2
comp=Z,33nm,1.3s,SNR=7.9
WLF Walferdange 142.90 340 *e*PKPdf PKPdf 03 42 01.4 -3.7
WLF Walferdange 142.90 340 PKP PKPdf 03 42 01.4 -3.8
WLF Walferdange 142.90 340 *e*PKPdf PKPdf 03 42 01.5 -3.7
MOTA Moosalm 142.92 333 ⇓*i*P PKPdf 03 42 01.6 -3.6
comp=Z,35nm,1.2s
GIVF Givet 142.94 342 *e*PKP1 PKPdf 03 42 07.2 +2.0
RETA Reutte 142.95 334⇑*i*PKPdf PKPdf 03 42 01.8 -3.5
comp=Z,18nm,1.2s
SQTA Sankt Quirin 142.97 333 ⇓*i*P PKPdf 03 42 01.4 -3.9
comp=Z,24nm,1.1s,SNR=12
DOU Dourbes 143.01 342 PKP PKPdf 03 42 01.5 -3.8
BFO Black Forest 143.25 337 *e*PKPdf PKPdf 03 42 02.1 -3.7
FETA Feichten 143.33 333 *i* PKPdf PKPdf 03 42 03.2 -2.8
comp=Z,43nm,1.1s,SNR=30
DAVA Damuels 143.48 334 ⇓*i*P PKPdf 03 42 03.9 -2.3
comp=Z,46nm,1.6s,SNR=7.5
CDF Champ du Feu 143.58 338⇑*i*PKP1 PKPdf 03 42 03.3 -3.1
comp=Z,59nm,1.0s
CTI Castel Tesino 143.66 331 PKP PKPdf 03 42 03.9 -2.7
FELD Feldberg im Sc 143.75 337 PKP PKPdf 03 42 03.7 -3.0
ECH Echery 143.78 338 PKP PKPdf 03 42 03.1 -3.7
BRMO Bormio 143.91 333 PKP PKPdf 03 42 05.7 -1.3
MOF Molkenrain 144.10 338 PKP PKPdf 03 42 04.7 -2.6
THEF They Montfort 144.19 339 PKP PKPdf 03 42 05.0 -2.5
HINF Hinteralfeld 144.23 338⇑*i*PKP1 PKPdf 03 42 05.2 -2.4
comp=Z,25nm,0.8s
HAU Haudompre 144.25 338⇑*i*PKP1 PKPdf 03 42 05.6 -2.0
comp=Z,93nm,0.9s
MEZF Maizieres J'vi 144.27 340⇑*i*PKP1 PKPdf 03 42 06.0 -1.6
TUE Stuetta 144.35 334 PKP PKPdf 03 42 06.2 -1.6
RGNG Rignano Grg 144.63 323 PKP PKPdf 03 42 06.8 -1.7
LOMF Lomont 144.63 337 PKP PKPdf 03 42 07.2 -1.1
CING Cingoli 144.83 327 PKP PKPdf 03 42 08.2 -0.5
PTRP Pietrapertosa 145.05 321 PKP PKPdf 03 42 09.1 -0.1
FG5 Orsara di Pugl 145.06 322 PKP PKPdf 03 42 08.8 -0.4
VAI Varese 145.07 334 PKP PKPdf 03 42 08.1 -1.0
MURB Monte Urbino 145.26 327 PKP PKPdf 03 42 09.4 -0.1
FNVD Fontana Vidola 145.31 330 PKP PKPdf 03 42 10.2 +0.7
TIP Timpagrande 145.40 318 *e*PKPbc PKPbc 03 42 09.2 -0.9
MIDA Miranda 145.42 324 PKP PKPdf 03 42 09.5 -0.3
AQU L'Aquila 145.42 325 *e*PKPbc PKPbc 03 42 08.8 -1.2
AQU L'Aquila 145.42 325 ⇓*i*P PKPdf 03 42 09.3 -0.5
CABF La Chapelle 145.53 337 *e*PKP1 PKPbc 03 42 09.6 -0.6
comp=Z,644nm,1.3s
FLN La Foliniere 145.58 346⇑*i*PKP1 PKPbc 03 42 09.6 -0.7
comp=Z,143nm,0.9s
BOB Bobbio (Coli) 145.64 332 PKP PKPdf 03 42 10.2 +0.1
LDF La Druitiere 145.66 346⇑*i*PKP1 PKPbc 03 42 09.8 -0.7
comp=Z,107nm,1.0s
VLC Villacollemand 145.67 330 *e*PKPbc PKPbc 03 42 09.4 -1.3
LOR Lormes 145.74 340⇑*i*PKP1 PKPbc 03 42 10.6 -0.2
CSNT Castellina Chi 145.74 329 PKP PKPdf 03 42 09.2 -1.1
RFI Roccamonfina 145.79 324 PKP PKPdf 03 42 10.6 +0.1
CERT Cerreto 145.93 325 PKP PKPdf 03 42 09.1 -1.6
GRR Gorron 146.02 346⇑*i*PKP1 PKPbc 03 42 11.2 -0.4
comp=Z,87nm,0.7s
SSF Saint Saulge 146.03 341⇑*i*PKP1 PKPbc 03 42 11.6 -0.1
comp=Z,119nm,0.8s
HYF Humbligny 146.12 342⇑*i*PKP1 PKPbc 03 42 12.1 +0.1
LPL La Plagne 146.19 336⇑*i*PKP1 PKPbc 03 42 12.5 +0.3
comp=Z,52nm,0.7s
LPG La Plagne 146.20 336⇑*i*PKP1 PKPbc 03 42 12.7 +0.4
comp=Z,57nm,0.7s
SMF Signal de Mont 146.29 340⇑*i*PKP1 PKPbc 03 42 12.1 -0.4
comp=Z,108nm,0.9s
AVF Avril sur Loir 146.32 340⇑*i*PKP1 PKPbc 03 42 12.0 -0.6
comp=Z,105nm,1.0s
TOLF Tolfa 146.38 326 PKP PKPdf 03 42 12.1 +0.7
QLNO Quiliano 146.48 333 PKP PKPdf 03 42 11.8 +0.3
SGMF Saint Gilles 146.51 348⇑*i*PKP1 PKPbc 03 42 12.5 -0.6
comp=Z,107nm,0.8s
ROSF Rostrenen 146.57 349 *e*PKP1 PKPbc 03 42 11.7 -1.5
comp=Z,76nm,1.0s
MAON Monte Argentar 146.57 328 PKP PKPdf 03 42 12.5 +0.7
SCLL Scilla 146.60 318 PKP PKPdf 03 42 12.2 +0.3
BNI Bardonecchia 146.60 335 *e*PKPdf PKPdf 03 42 11.0 -0.7
BNI *e*PKPbc PKPbc 03 42 13.5 +0.1
BGF Bois d'Agland 146.69 341⇑*i*PKP1 PKPbc 03 42 13.3 -0.3
comp=Z,103nm,0.7s
GRN Grenoble 146.81 336 PKP PKPbc 03 42 14.4 +0.4
DOI San Damiano 146.81 334 PKP PKPdf 03 42 11.7 -0.4
MBDF Montbardon 146.83 335⇑*i*PKP1 PKPbc 03 42 13.7 -0.4
comp=Z,63nm,1.0s
QUIF Quistinic 146.95 349⇑*i*PKP1 PKPbc 03 42 13.5 -0.8
comp=Z,30nm,0.6s
PLDF La Plantade 146.96 339 PKP PKPbc 03 42 14.6 +0.2
SURF Saint Ours 147.01 334 PKP PKPdf 03 42 12.6 +0.2
ORIF Oris-en-Rattie 147.03 336⇑*i*PKP1 PKPbc 03 42 14.5 -0.1
comp=Z,56nm,0.7s
AGO Saint Agoulin 147.05 340 PKP PKPbc 03 42 14.2 -0.5
SAOF Saorge 147.09 333 PKP PKPdf 03 42 12.7 +0.1
TCF Toulx Ste Croi 147.13 341⇑*i*PKP1 PKPbc 03 42 14.5 -0.4
comp=Z,68nm,0.8s
AUTN L'Aution 147.14 333 PKP PKPbc 03 42 14.8 -0.2
TOUF Mont Tournerai 147.21 334 PKP PKPdf 03 42 13.3 +0.5
SBF Sospel 147.25 333⇑*i*PKP1 PKPbc 03 42 14.5 -0.8
comp=Z,292nm,1.3s
LUCF Luceram 147.26 333 PKP PKPdf 03 42 13.1 +0.3
MVIF Mont Vial 147.34 333 PKP PKPdf 03 42 12.2 -0.8
PYM Petit Puy Mans 147.35 340 PKP PKPbc 03 42 14.7 -0.8
REVF Revere 147.37 333 PKP PKPdf 03 42 13.5 +0.5
MFF Saint Martin d 147.51 344⇑*i*PKP1 PKPbc 03 42 15.5 -0.4
comp=Z,76nm,0.5s
VIVF Saint-Julien-l 147.54 337⇑*i*PKP1 PKPbc 03 42 15.9 -0.2
comp=Z,110nm,1.1s
PGF Pioggiola 147.55 330⇑*i*PKP1 PKPbc 03 42 15.7 -0.5
comp=Z,310nm,1.1s
CALN Calern 147.57 334 PKP PKPdf 03 42 13.3 -0.1
CORF Corte 147.66 329 PKP PKPbc 03 42 15.7 -0.8
LBL Lubilhac 147.73 339 PKP PKPbc 03 42 16.5 0.0
STOF St-Etienne Org 147.78 335 PKP PKPbc 03 42 16.8 +0.1
FRF La Foret Royal 147.83 334⇑*i*PKP1 PKPbc 03 42 16.2 -0.7
comp=Z,163nm,1.2s
USI Ustica 147.92 321 PKP PKPbc 03 42 16.3 -1.0
SMRF Simiane la Rot 147.93 335⇑*i*PKP1 PKPbc 03 42 17.1 0.0
comp=Z,98nm,1.0s
VILF Villemus 147.98 335 PKP PKPbc 03 42 17.2 -0.1
TAVF Tavernes 148.03 334 PKP PKPbc 03 42 16.5 -0.9
LMR La Mourre 148.07 334⇑*i*PKP1 PKPbc 03 42 16.9 -0.6
comp=Z,215nm,1.2s
RJF Les Rejaudoux 148.23 341⇑*i*PKP1 PKPbc 03 42 17.6 -0.3
comp=Z,125nm,1.1s
PRAF Pradon 148.24 336 PKP PKPbc 03 42 18.0 +0.1
PUYF Puyloubier 148.25 335 PKP PKPbc 03 42 17.7 -0.3
TREF Trevaresse 148.30 335 PKP PKPbc 03 42 18.4 +0.3
RCBR Riachuelo 148.36 131 *e*PKPbc PKPbc 03 42 16.6 -2.6
CAF Calviac 148.39 340⇑*i*PKP1 PKPbc 03 42 18.2 -0.1
comp=Z,104nm,1.1s
BERF Bertagne 148.43 334 PKP PKPbc 03 42 18.0 -0.5
GELF Grande-Etoile 148.48 335 PKP PKPbc 03 42 17.7 -0.9
LASF Ste Croix 148.51 337⇑*i*PKP1 PKPbc 03 42 18.5 -0.1
comp=Z,108nm,0.9s
LFF La Frestale 148.79 342⇑*i*PKP1 PKPbc 03 42 19.1 -0.2
comp=Z,54nm,0.7s
DGI Dorgali Grotta 148.89 326 PKP PKPbc 03 42 19.1 -0.6

VSL	**Villasalto**	**149.60 326**	*e*PKPdf	PKPdf	03 42 15.8	-1.0
VSL			*e*PKPbc	PKPbc	03 42 21.1	-0.4
VSL			*e*PKPab	PKPab	03 42 27.1	+0.1
MTLF	**Montolieu**	**149.74 339**	⇑*i*PKP1	PKPbc	03 42 21.4	-0.3
	comp=Z,125nm,1.2s					
LRDF	**Laroque-de-Fa**	**149.98 338**	PKP	PKPbc	03 42 22.0	-0.3
EJON	**La Jonquera**	**150.27 337**	PKP	PKPbc	03 42 22.6	-0.4
FILF	**Fillols**	**150.30 337**	PKP	PKPbc	03 42 22.6	-0.5
MLS	**Moulis**	**150.46 340**	PKP	PKPbc	03 42 22.6	-0.9
EPF	**Esparros**	**150.64 341**	⇑*i*PKP1	PKPbc	03 42 23.5	-0.4
	comp=Z,40nm,0.8s					
REYF	**Montagne du Re**	**150.83 342**	PKP	PKPbc	03 42 24.2	-0.1
RESF	**Ens**	**150.84 341**	PKP	PKPbc	03 42 24.7	+0.3
VIEF	**Viey**	**150.87 341**	PKP	PKPbc	03 42 24.8	+0.4
ATE	**Arette**	**150.91 342**	PKP	PKPbc	03 42 24.2	-0.3
EALK	**Alkurruntz**	**151.01 344**	PKP	PKPbc	03 42 24.8	0.0
EBIE	**Bielsa**	**151.01 341**	PKP	PKPbc	03 42 25.1	+0.4
SJPF	**Ste Jean**	**151.03 343**	⇑*i*PKP1	PKPbc	03 42 24.4	-0.4
	comp=Z,66nm,1.0s					
ETSF	**Etsaut**	**151.04 342**	⇑*i*PKP1	PKPbc	03 42 25.0	+0.2
	comp=Z,38nm,0.6s					
ELIZ	**Elizondo**	**151.07 344**	PKP	PKPbc	03 42 24.9	0.0
EMIR	**Miracle**	**151.24 338**	PKP	PKPbc	03 42 24.9	-0.4
ELAN	**Lanestosa**	**151.48 346**	PKP	PKPbc	03 42 25.8	0.0
EARI	**Arriondas**	**151.78 349**	PKP	PKPbc	03 42 28.8	+2.3
ECRI	**Cripan**	**151.85 345**	PKP	PKPbc	03 42 27.3	+0.6
EPOB	**Poblet**	**151.89 338**	PKP	PKPbc	03 42 26.4	-0.5
EPON	**Pontenova**	**152.07 352**	PKP	PKPbc	03 42 26.9	-0.3
ESAC	**San Caprasio**	**152.08 341**	PKP	PKPbc	03 42 26.6	-0.7
KEST	**Kesra**	**152.17 320**	PKPbc	PKPbc	03 42 27.7	+0.1
	comp=Z,20nm,0.7s,baz=227,slow=0.3,SNR=183					
ERTA	**Horta de San J**	**152.50 339**	PKP	PKPbc	03 42 27.9	-0.4
ETOS	**Mallorca**	**152.58 334**	PKP	PKPbc	03 42 28.0	-0.4
STS	**Santiago**	**152.67 354**	PKP	PKPbc	03 42 28.2	-0.3
EMOS	**Mosqueruela**	**153.31 340**	PKP	PKPbc	03 42 30.2	+0.2
ETOR	**Torete**	**153.39 342**	PKP	PKPbc	03 42 30.4	+0.2
GUD	**Guadarrama**	**154.11 346**	PKP	PKPbc	03 42 32.0	+0.3
PVRL	**Vila Real**	**154.16 352**	*e*PKPbc	PKPbc	03 42 31.0	-0.8
PVRL	**Vila Real**	**154.16 352**	*e*PKPab	PKPab	03 42 45.7	-0.2
ECHE	**Chera**	**154.17 340**	PKP	PKPbc	03 42 32.1	+0.2
MVO	**Moncorvo**	**154.17 351**	*e*PKPbc	PKPbc	03 42 31.3	-0.5
MVO	**Moncorvo**	**154.17 351**	*e*PKPab	PKPab	03 42 46.0	+0.1
PVIS	**Viseu**	**154.73 352**	*e*PKPab	PKPab	03 42 48.2	-0.2
ESDC	**Sonseca Array**	**154.98 345**	PKP	PKPbc	03 42 31.1	-2.5
ESDC	**Sonseca Array**	**154.98 345**	PKPbc	PKPbc	03 42 33.0	-0.6
	comp=Z,1.3nm,0.8s,baz=42,slow=1.5,SNR=6.2					
ESDC			PKPab	PKPab	03 42 49.4	-0.1
	comp=Z,2.4nm,0.6s,baz=21,slow=3.4,SNR=16					
MTE	**Manteigas**	**155.00 351**	*e*PKPdf	PKPdf	03 42 23.6	-1.2
MTE	**Manteigas**	**155.00 351**	*e*PKPbc	PKPbc	03 42 33.5	-0.1
MTE	**Manteigas**	**155.00 351**	*e*PKPab	PKPab	03 42 49.6	+0.1
ETOB	**Tobarra**	**155.21 340**	PKP	PKPab	03 42 51.3	+0.8
EVIA	**Vianos**	**155.53 341**	PKP	PKPdf	03 42 35.2	+10
PCBR	**Castelo Branco**	**155.53 351**	*e*PKPab	PKPab	03 42 51.4	-0.4
EMUR	**La Murta**	**155.83 338**	PKP	PKPab	03 42 52.8	-0.4
EQES	**Quesada**	**156.47 341**	PKP	PKPab	03 42 56.2	+0.3
PESTR	**Estremoz**	**156.50 351**	*e*PKPab	PKPab	03 42 55.9	-0.1
EVO	**Evora**	**156.90 351**	⇑*i*PKIKP	PKPdf	03 42 25.9	-1.4
	comp=Z,26nm,1.4s					
EVO	**Evora**	**156.90 351**	*e*PKPab	PKPab	03 42 58.0	+0.3
PBAR	**Barrancos**	**157.09 349**	*e*PKPab	PKPab	03 42 58.5	0.0
PBEJ	**Beja**	**157.37 351**	*e*PKPab	PKPab	03 43 00.0	+0.3
EMIN	**Mina Concepcio**	**157.41 348**	PKP	PKPab	03 42 59.5	-0.5
PVAQ	**Vaqueiros**	**157.96 350**	*e*PKPab	PKPab	03 43 02.3	0.0
PBDV	**Barranco-do-Ve**	**158.15 351**	*e*PKPab	PKPab	03 43 03.6	+0.5
MORF	**Marmelete**	**158.19 352**	*e*PKPab	PKPab	03 43 03.0	-0.3
LIC	**Lamto**	**168.22 218**	*e*PKIKP	PKPdf	03 42 36.4	-2.8
	comp=Z,62nm,1.3s					
DBIC	**Dimbokro**	**168.46 220**	PKP	PKPdf	03 42 37.9	-1.4
DBIC			PKPab	PKPab	03 43 48.9	-0.2
DBIC	**Dimbokro**	**168.46 220**	PKP	PKPdf	03 42 37.9	-1.4
	comp=Z,7.5nm,1.0s,baz=170,slow=2.7,SNR=4.7					
DBIC			PKPab	PKPab	03 43 48.9	-0.2
	comp=Z,8.4nm,0.8s,baz=166,slow=4.8,SNR=7.6					

*IDC **25** 03:35:16.4±1.8, 678S×1566E9, h0km, mb4.0/8, mb1 4.1/8, mb1mx4.0/15, mbtmp3.9/8, Error ellipse: s-maj=60.6km s-min=22.2km az=117.0*
*NEIC **25** 03:35:18.1±1.2, 674S×1566E2, h10km, mb4.2/3, Error ellipse: s-maj=40.3km s-min=13.7km az=117.0*
*ISCJB **25** 03:35:20.0±1.4, 68S±02×1566E±03, h33km, mb3.9/10, Error ellipse: s-maj=46.0km s-min=15.5km az=27.6*
ISC 25 03:35:21.9±1.4, 68S±02×1566E±03, h35km, n13, σ0§85/13, mb3.9/10, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRAB	**Tennant Creek**	**25.26**	**237**	*e*P	**P**	**03 40 45.0**	**+0.1**
	2.2nm,0.6s,mb3.9						
WB2	**Warramunga Arr**	**25.26**	**237**	*e*P	**P**	**03 40 45.2**	**+0.1**
WRA	**Warramunga Arr**	**25.27**	**237**	P	**P**	**03 40 45.6**	**+0.4**
	1.0nm,0.3s,mb3.8,baz=61,slow=9.0,SNR=32						
ASAR	**Alice Springs**	**27.53**	**230**	P	**P**	**03 41 05.0**	**-0.5**
	0.5nm,0.4s,mb3.5,baz=60,slow=9.3,SNR=11						
STKA	**Stephens Creek**	**28.64**	**207**	P	**P**	**03 41 15.2**	**+0.1**
	0.8nm,0.4s,mb3.8,baz=24,slow=10.0,SNR=4.0						
FITZ	**Fitzroy Crossi**	**32.22**	**247**	*e*P	**P**	**03 41 46.5**	**-0.5**
	2.2nm,0.5s,mb4.2						
FITZ	**Fitzroy Crossi**	**32.22**	**247**	P	**P**	**03 41 47.5**	**+0.4**
	0.8nm,0.4s,mb4.0,baz=56,slow=9.6,SNR=9.0						
SONM	**Songino Array**	**70.05**	**327**	P	**P**	**03 46 32.2**	**+2.0**
	1.0nm,0.6s,mb3.9,baz=146,slow=8.5,SNR=5.8						
MK31	**Makanchi Array**	**84.32**	**318**	*e*P	**P**	**03 47 49.1**	**-1.2**
MKAR	**Makanchi Array**	**84.32**	**318**	P	**P**	**03 47 49.1**	**-1.2**
	0.6nm,0.7s,mb3.9,baz=103,slow=3.9,SNR=4.7						
ZALV	**Zalesovo Beam**	**84.92**	**326**	P	**P**	**03 47 52.4**	**-0.7**
	0.7nm,0.5s,mb4.1,baz=77,slow=2.7,SNR=3.0						
AML	**Almayashu**	**89.29**	**312**	*e*P	**P**	**03 48 15.6**	**+1.0**
	1.0nm,0.7s,mb4.2						
YKA	**Yellowknife Ar**	**95.40**	**28**	P	**P**	**03 48 42.6**	**+0.3**
	0.2nm,0.6s,mb3.7,baz=263,slow=4.6,SNR=9.5						

FUNV 23 03:35:36.0, 1024N×6031W, h58km, MW4.0, 1D, Trinidad

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIV	**Guiria**	**1.93**	**282**	⇓*e*P	Pn	03 36 05.5	-1.0
GUIV				*e*S	Sn	03 36 27.8	-1.8
GUNV	**Guanoco**	**2.60**	**268**	*e*P	Pn	03 36 15.2	-0.4
GUNV				*e*S	Sn	03 36 43.7	-2.3
RIOV	**Rio Grande**	**2.62**	**215**	*e*P	Pn	03 36 15.6	-0.4
RIOV				*e*S	Sn	03 36 43.7	-3.0
ITEV	**Isla Los Testi**	**2.99**	**292**	*e*P	Pn	03 36 19.2	-1.7
ITEV				*e*S	Sn	03 36 52.7	-2.9
ORIV	**Oritupano**	**3.27**	**249**	*e*P	Pn	03 36 24.5	-0.4
PCRV	**Puerto La Cruz**	**4.26**	**269**	*e*P	Pn	03 36 36.8	-1.7
LUEV	**Luepa**	**4.52**	**195**	*e*P	Pn	03 36 40.9	-1.0
CUPV	**Cœpira**	**5.40**	**269**	*e*P	Pn	03 36 52.5	-1.6
BIRV	**Birongo**	**5.87**	**273**	*e*P	Pn	03 36 59.2	-1.3
CAOV	**Caicara del Or**	**6.62**	**244**	*e*P	Pn	03 37 08.9	-1.7
TURV	**Turiamo**	**7.42**	**272**	*e*P	Pn	03 37 18.6	-3.0
BAUV	**El Baul**	**7.74**	**261**	*e*P	Pn	03 37 23.1	-3.0

*CSEM **25** 03:39:10.5±0.1, 3442N×2655E, h40km, MD3.8, Error ellipse: s-maj=3.9km s-min=2.1km az=72.0*
*NEIC **25** 03:39:13.5, 3486N×2639E, h34km, MD3.8(ATH), After ATH.*
*ATH **25** 03:39:13.5, 3486N×2639E, h34km±3km, MD3.8/7*
*HLW **25** 03:39:14.0, 3427N×2662E, h33km, Mb3.7*
ISC 25 03:39:10.4±1.7, 3455N±005×264E±01, h29km±15km, n12, σ1§02/14, 4C-2D, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
XRY	**Khrisi**	**0.69**	**298**	*e*PN	**Pn**	**03 39 26.0**	**+1.8**
NPS	**Neapolis**	**0.98**	**317**	*e*PN	**Pn**	**03 39 27.7**	**-0.5**
KARP	**Karpathos**	**1.16**	**31**	*e*PN	**Pn**	**03 39 31.3**	**+0.6**
GVD	**Gavdhos**	**1.95**	**279**	*e*PN	**Pb**	**03 39 45.0**	**-0.3**
VAM	**Vamos**	**2.02**	**296**	*e*PB	**Pb**	**03 39 45.8**	**-0.7**
APE	**Apeiranthos**	**2.62**	**344**	*e*PN	**Pn**	**03 39 51.7**	**+1.0**
APE				*e*SN	**Sn**	**03 40 19.1**	**-2.4**
SLUM		**3.22**	**199**	⇑*e*P	**Pn**	**03 39 59.4**	**+0.4**
HMAT	**Matruh**	**3.49**	**171**	⇑*e*P	**Pn**	**03 40 02.1**	**-0.6**
VLI	**Veliai**	**3.58**	**308**	⇓*i*PN	**Pn**	**03 40 05.8**	**+1.9**
VLI				*e*SN	**Sn**	**03 40 44.6**	**-0.6**
SWA1		**5.31**	**187**	⇑*e*P	**Pn**	**03 40 27.6**	**-0.1**
SWA2		**5.36**	**189**	⇓*e*P	**Pn**	**03 40 28.5**	**+0.1**
HFRF	**Wahat Farafira**	**7.55**	**167**	⇑*e*P	**Pn**	**03 40 57.7**	**-0.9**

*ISCJB **25** 03:39:47.4±0.9, 441N±01×15076E±009, h10km, mb3.2/2, Error ellipse: s-maj=17.0km s-min=7.4km az=157.7*
*IDC **25** 03:40:17.8±1.9, 4669N×14264E, h386km±33km, mb3.1/4, mb1 3.1/6, mb1mx2.8/21, mbtmp2.9/6, Error ellipse: s-maj=48.3km s-min=40.9km az=149.0*
ISC 25 03:39:50.8±0.8, 442N±01×15062E±008, h10km, n22, σ0§85/27, mb3.2/2, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**3.63**	**258**	P	**Pn**	**03 40 47.2**	**+0.2**
NEM2				*e*S	Sx	03 41 57.9	
JRA	**Rausu**	**3.97**	**268**	P	**Pn**	**03 40 51.3**	**-0.4**
JNK	**Nakash**	**4.31**	**264**	P	**Pn**	**03 40 56.0**	**-0.3**
JNK				*e*S	**Sg**	**03 42 14.5**	**+5.4**
JAK	**Akkeshi**	**4.47**	**256**	P	**Pn**	**03 40 58.2**	**-0.3**
JTKR	**Abashiri--Toko**	**4.84**	**270**	P	**Pn**	**03 41 02.3**	**-1.3**
JAR	**Ashorobuto**	**5.04**	**262**	P	**Pn**	**03 41 06.6**	**+0.2**
JAR				*e*S	**Sg**	**03 42 34.1**	**+1.4**
JOB	**Onbets**	**5.10**	**258**	P	**Pn**	**03 41 08.0**	**+0.8**
JOB				*e*S	**Sg**	**03 42 34.2**	**-0.3**
JCH	**Churui**	**5.52**	**256**	P	**Pn**	**03 41 13.5**	**+0.5**
ASAJ	**Asahikawa**	**5.77**	**272**	P	**Pn**	**03 41 15.8**	**-0.6**
	1.3nm,0.3s,baz=80,slow=11,SNR=5.4						
JEM	**Erimo**	**5.88**	**251**	P	**Pn**	**03 41 19.8**	**+1.9**
JFR	**Furan**	**5.91**	**263**	P	**Pn**	**03 41 18.9**	**+0.6**
JNBK	**Urakawa-nobuka**	**6.06**	**254**	P	**Pn**	**03 41 20.4**	**0.0**
JKB	**Kayabe**	**7.39**	**255**	P	**Pn**	**03 41 38.0**	**-0.7**
JKB				*e*S	**Sb**	**03 43 27.4**	**+0.1**
JANG	**Nango**	**7.76**	**244**	P	**Pn**	**03 41 43.1**	**-0.6**
JANG				*e*S	**Sb**	**03 43 36.6**	**-1.2**
JTH	**Tanohata**	**7.78**	**240**	P	**Pn**	**03 41 43.1**	**-0.9**
JTH				*e*S	**Sb**	**03 43 38.2**	**-0.3**
JTM	**Tenmabayashi**	**7.84**	**247**	P	**Pn**	**03 41 44.7**	**-0.1**
OFUJ	**Ofunato**	**8.43**	**236**	P	**Pn**	**03 41 53.2**	**+0.3**
OFUJ				*e*S	Sx	03 43 55.1	
JIO	**Ouri**	**9.03**	**234**	P	**Pn**	**03 42 01.4**	**+0.2**
JIO				*e*S	Sx	03 44 09.0	
MJAR	**Matsushiro Arr**	**12.16**	**235**	P	**Pn**	**03 42 44.6**	**+0.6**
	0.4nm,0.3s,baz=31,slow=13,SNR=4.4						
YKA	**Yellowknife Ar**	**54.02**	**35**	P	**P**	**03 49 12.9**	**-1.7**
	0.1nm,0.5s,mb3.0,baz=296,slow=7.1,SNR=5.7						
SCHQ	**Schefferville**	**76.33**	**21**	P	Px	03 51 20.2	
	4.8nm,0.7s,baz=348,slow=3.3,SNR=7.3						
TXAR	**Lajitas Array**	**80.30**	**59**	P	**P**	**03 52 04.0**	**+2.0**
	0.3nm,0.5s,mb3.5,baz=293,slow=3.7,SNR=6.4						

*IDC **25** 03:39:45.9±7.7, 739S×12884E, h140km±80km, mb3.2/1, mb1 3.8/5, mb1mx3.4/15, mbtmp3.6/5, MS3.9/1, Ms1 3.9/1, ms1mx3.0/17, Error ellipse: s-maj=70.6km s-min=25.4km az=36.0*
*ISCJB **25** 03:39:49.5±1.4, 773S±009×12874E±007, h199km±15km, mb3.4/2, Error ellipse: s-maj=16.2km s-min=8.4km az=36.6*
*NEIC **25** 03:39:51.5±2.8, 781S×12864E, h207km±35km, mb3.8/2, Error ellipse: s-maj=27.8km s-min=26.0km az=217.0*
ISC 25 03:39:52.4±1.3, 797S±009×12870E±007, h217km±14km, n10, σ1§10/16, mb3.4/2, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Kupang**	**5.45**	**246**	P	**Pn**	**03 41 12.1**	**-1.0**
	11nm,0.3s,baz=88,slow=1.9,SNR=7.4						
BATI				S	**S**	**03 42 16.4**	**-0.5**
	21nm,0.3s,baz=9.7,slow=22,SNR=11						
KAKA	**Kakadu**	**5.98**	**142**	*e*Pn	**Pn**	**03 41 20.3**	**+0.6**
	96nm,0.5s						
KAKA				*e*Sn	**S**	**03 42 27.8**	**-1.2**
FITZ	**Fitzroy Crossi**	**10.51**	**196**	P	**Pn**	**03 42 18.9**	**+0.9**
	2.0nm,0.3s,baz=32,slow=11,SNR=30						
FITZ				S	**S**	**03 44 16.5**	**+0.8**
	0.7nm,0.3s,baz=75,slow=23,SNR=3.0						
WRAB	**Tennant Creek**	**13.09**	**156**	*e*Pn	**Pn**	**03 42 52.2**	**+1.6**
	2.8nm,0.4s						
WRAB				*e*Sn	**S**	**03 45 16.2**	**-0.3**
WRA	**Warramunga Arr**	**13.10**	**156**	P	**Pn**	**03 42 52.2**	**+1.6**
	1.4nm,0.3s,baz=340,slow=14,SNR=37						
WRA				S	**S**	**03 45 15.8**	**-0.8**
	0.7nm,0.3s,baz=332,slow=23,SNR=5.5						
WB2	**Warramunga Arr**	**13.10**	**156**	*e*Pn	**Pn**	**03 42 52.1**	**+1.4**
WB2				*e*Sn	**S**	**03 45 14.6**	**-2.1**
ASAR	**Alice Springs**	**16.39**	**163**	P	**P**	**03 43 35.7**	**+6.1**
	1.2nm,0.3s,baz=334,slow=9.9,SNR=110						
ASAR				S	**S**	**03 46 37.5**	**+7.4**
	0.2nm,0.3s,baz=320,slow=21,SNR=5.5						
JHJ	**Hachijo jima 2**	**42.20**	**14**	LR	LR	04 02 49.9	
	comp=Z,144nm,18.1s,baz=72,slow=33						
MKAR	**Makanchi Array**	**68.34**	**328**	P	**P**	**03 50 29.4**	**-0.9**
	0.3nm,0.4s,mb3.3,baz=110,slow=8.3,SNR=5.6						
TKM2	**Tokmak 2**	**69.92**	**321**	*e*P	**P**	**03 50 39.7**	**-0.4**
	0.5nm,0.4s,mb3.5						

*IDC **25** 04:02:18.2±0.8, 097S×12733E, h0km, mb4.3/9, mb1 4.4/10, mb1mx4.2/17, mbtmp4.2/10, ML4.0/1, MS3.7/2, Ms1 3.7/2, ms1mx3.0/31, Error ellipse: s-maj=53.0km s-min=15.2km az=75.0*
*BJI **25** 04:02:19.4, 100S×12740E, h10km, mB5.0, mb4.8*
*NEIC **25** 04:02:19.4±0.4, 097S×12743E, h10km, mb4.5/11, Error ellipse: s-maj=15.7km s-min=5.8km az=71.0*
*MOS **25** 04:02:20.5±0.9, 108S×127.14E, h33km, mb4.5/14, Error ellipse: s-maj=37.1km s-min=9.9km az=106.9*
*ISCJB **25** 04:02:23.1±2.6, 107S±007×1273E±0.1, h54km±25km, mb4.5/27, Error ellipse: s-maj=20.2km s-min=8.9km az=155.1*
ISC 25 04:02:22.8±4.4, 107S±007×1274E±01, h34km±33km, n58, σ1§02/57, mb4.5/27, 3C-2D, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Kupang**	**9.80**	**202**	LR	LR	04 08 48.2	
	comp=Z,106nm,21.4s,baz=262,slow=40						
KAKA	**Kakadu**	**12.61**	**157**	*e*P	**Pn**	**04 05 24.3**	**+4.5**
	10nm,0.5s						
KAKA	**Kakadu**	**12.61**	**157**	*e*Pn	**Pn**	**04 05 26.8**	**+7.0**
	25nm,0.6s						
KKM	**Kota Kinabalu**	**13.19**	**303**	*e*Pn	**Pn**	**04 05 27.3**	**-0.5**
FITZ	**Fitzroy Crossi**	**17.01**	**186**	*e*P	**Pn**	**04 06 20.0**	**+1.9**
	5.2nm,0.6s						
FITZ	**Fitzroy Crossi**	**17.01**	**186**	P	**Pn**	**04 06 20.2**	**+2.1**
	0.4nm,0.3s,baz=22,slow=10,SNR=12						
WRAB	**Tennant Creek**	**19.95**	**160**	*e*P	**Pn**	**04 06 52.8**	**-1.1**
	15nm,1.1s						
WRAB	**Tennant Creek**	**19.95**	**160**	*e*P	**Pn**	**04 06 52.8**	**-1.1**
WRAB				pmax	pmax		
	comp=Z,15nm,1.1s						
WRA	**Warramunga Arr**	**19.96**	**160**	P	**Pn**	**04 06 52.8**	**-1.1**
WRA				pmax	pmax		
	comp=Z,3.0nm,0.4s						
WRA	**Warramunga Arr**	**19.96**	**160**	P	**Pn**	**04 06 52.8**	**-1.2**
	comp=Z,3.1nm,0.4s,baz=339,slow=11,SNR=52						
WB2	**Warramunga Arr**	**19.96**	**160**	*e*P	**Pn**	**04 06 52.7**	**-1.3**
WB2	**Warramunga Arr**	**19.96**	**160**	*e*P	**Pn**	**04 06 52.5**	**-1.5**
MBWA	**Marble Bar**	**21.31**	**200**	*e*P	**P**	**04 07 06.2**	**-0.6**
	comp=Z,28nm,1.2s,mb4.5						
ASAR	**Alice Springs**	**23.34**	**165**	P	**P**	**04 07 28.9**	**+0.7**
ASAR				pmax	pmax		
	comp=Z,7.0nm,0.9s						
ASAR	**Alice Springs**	**23.34**	**165**	P	**P**	**04 07 28.9**	**+0.6**
	comp=Z,6.9nm,0.8s,mb4.1,baz=345,slow=12,SNR=75						
KULM	**Kulim**	**27.43**	**284**	*e*P	**P**	**04 08 06.7**	**+1.0**
FORT	**Forrest**	**29.55**	**179**	*e*P	**P**	**04 08 24.9**	**+0.6**
	comp=Z,7.2nm,0.7s,mb4.5						
STKA	**Stephens Creek**	**33.46**	**158**	*e*P	**P**	**04 09 01.0**	**+2.4**
	comp=Z,4.2nm,0.7s,mb4.5						
STKA	**Stephens Creek**	**33.46**	**158**	*e*P	**P**	**04 09 00.9**	**+2.2**
	comp=Z,5.7nm,0.9s,mb4.5						
STKA	**Stephens Creek**	**33.46**	**158**	P	**P**	**04 09 00.9**	**+2.3**
	comp=Z,8.1nm,0.9s,mb4.6,baz=336,slow=8.8,SNR=10						
WHN	**Wuhan**	**33.80**	**340**	⇓P	**P**	**04 09 04.1**	**+2.5**
KSRS	**Korea Array**	**38.33**	**1**	P	**P**	**04 09 40.7**	**+0.4**
KSRS				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.7						
KSRS	**Korea Array**	**38.33**	**1**	P	**P**	**04 09 40.7**	**+0.4**
	comp=Z,1.2nm,0.6s,mb3.8,baz=176,slow=9.8,SNR=5.0						
MJAR	**Matsushiro Arr**	**38.75**	**14**	P	**P**	**04 09 43.2**	**-0.7**
	comp=Z,0.4nm,0.3s,mb3.6,baz=101,slow=6.3,SNR=3.5						
BJT	**Baijiatuau**	**42.16**	**347**	*e*P	**P**	**04 10 11.6**	**-0.4**
	comp=Z,8.7nm,0.6s,mb4.6						
BJT	**Baijiatuau**	**42.16**	**347**	*e*P	**P**	**04 10 11.6**	**-0.4**
BJT				pmax	pmax		
	comp=Z,9.0nm,0.6s						
BJI	**Beijing**	**42.17**	**347**	P	**P**	**04 10 11.8**	**-0.3**
BJI				AMB	AMB		
	comp=Z,13nm,0.7s,mb4.7						
LZH	**Lanzhou**	**42.97**	**332**	*e*P	**P**	**04 10 20.5**	**+1.8**
LZH				AP	pP	04 10 28.0	-0.9
LZH				XP	sP	04 10 33.0	0.0
LZH				AMB	AMB		
	comp=Z,22nm,1.0s,mb4.8						
LZH				AMB	AMB		
	comp=Z,86nm,4.3s						
GUN	**Gumba**	**49.15**	**309**	*e*P	**P**	**04 11 07.2**	**-0.3**
	comp=Z,13nm,0.5s,mb5.2						
KKN	**Kakani**	**49.55**	**309**	*e*P	**P**	**04 11 10.3**	**-0.3**
GKN	**Gorkha**	**50.16**	**309**	*e*P	**P**	**04 11 14.6**	**-0.6**
	comp=Z,14nm,0.6s,mb5.1						
KOLN	**Koldanda**	**50.87**	**308**	*e*P	**P**	**04 11 20.3**	**-0.2**
	comp=Z,19nm,0.5s,mb5.2						
DANN	**Dangsing**	**51.00**	**309**	*e*P	**P**	**04 11 21.2**	**-0.4**
	comp=Z,20nm,0.5s,mb5.3						
ULN	**Ulaanbaatar**	**51.86**	**343**	*e*P	**P**	**04 11 27.9**	**+0.3**
	comp=Z,5.2nm,0.8s,mb4.5						
ULN	**Ulaanbaatar**	**51.86**	**343**	*e*P	**P**	**04 11 27.9**	**+0.3**
ULN				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.5						
SONM	**Songino Array**	**52.03**	**342**	P	**P**	**04 11 29.3**	**+0.5**
SONM				pmax	pmax		
	comp=Z,2.0nm,0.5s						
SONM	**Songino Array**	**52.03**	**342**	P	**P**	**04 11 29.3**	**+0.5**
	comp=Z,2.0nm,0.5s,mb4.3,baz=156,slow=8.9,SNR=13						
BOD	**Bodaibo**	**59.67**	**352**	*e*P	**P**	**04 12 22.8**	**-0.6**
BOD				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.4						
MK31	**Makanchi Array**	**61.86**	**327**	*e*P	**P**	**04 12 38.8**	**+0.3**
MKAR	**Makanchi Array**	**61.86**	**327**	*i* P	**P**	**04 12 38.0**	**-0.6**
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.4s						
MKAR	**Makanchi Array**	**61.86**	**327**	P	**P**	**04 12 39.3**	**+0.7**
	comp=Z,2.8nm,0.3s,mb4.8,baz=114,slow=8.0,SNR=60						
YAK	**Yakutsk**	**62.96**	**11**	⇑*e*P	**P**	**04 12 46.0**	**+0.4**
YAK				pmax	pmax		
	comp=Z,24nm,0.9s,mb5.3						
TKM2	**Tokmak 2**	**63.78**	**320**	*e*P	**P**	**04 12 52.2**	**+0.8**
	comp=Z,1.7nm,0.6s,mb4.2						
TKM2	**Tokmak 2**	**63.78**	**320**	*e*P	**P**	**04 12 52.2**	**+0.8**
TKM2				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.3						
UCH	**Uchtor**	**64.15**	**319**	*e*P	**P**	**04 12 55.2**	**+1.3**
	comp=Z,1.7nm,0.8s,mb4.1						
AAK	**Ala-Archa**	**64.36**	**319**	*e*P	**P**	**04 12 53.4**	**-1.8**
AAK				pmax	pmax		
	comp=Z,1.0nm,1.0s,mb3.8						
KURK	**Kurchatov**	**66.12**	**328**	*e*P	**P**	**04 13 05.2**	**-1.3**
	comp=Z,13nm,0.9s,mb5.0						
KURK	**Kurchatov**	**66.12**	**328**	*e*P	**P**	**04 13 05.2**	**-1.3**
KURK				pmax	pmax		
	comp=Z,13nm,0.9s,mb5.0						
SEY	**Seymchan**	**66.55**	**12**	⇑*e*P	**P**	**04 13 11.1**	**+2.1**
BRVK	**Borovoye**	**71.75**	**328**	*e*P	**P**	**04 13 41.3**	**-0.1**
	comp=Z,3.3nm,0.9s,mb4.3						
BRVK	**Borovoye**	**71.75**	**328**	*e*P	**P**	**04 13 41.3**	**-0.1**
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.2						
TIXI	**Tiksi**	**72.60**	**0**	⇑*e*P	**P**	**04 13 45.8**	**-0.4**
TIXI				pmax	pmax		
	comp=Z,1.0nm

CSEM ***25*** *04:14:28.0±0.1, 40.12N×2782E, h15km, MD2.8, Error ellipse: s-maj=2.2km s-min=1.4km az=69.0*
ISK ***25*** *04:14:28.0, 40.11N×2782E, h13km, MD2.8*
DDA ***25*** *04:14:28.8, 4007N×2771E, h6km±2km, Md2.7*
ISC 25 04:14:28.5±0.4, 4011N±003×2780E±004, h15km±4km, n19, σ0°45/27, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EDC	**Edincik**	**0.24**	**11**	*e*PG	**Pg**	**04 14 33.2**	**-0.6**
EDC				*e*SG	**Sg**	**04 14 37.6**	**+0.1**
BNT	**Bandirma**	**0.26**	**20**	*e*PG	**Pg**	**04 14 33.8**	**-0.4**
BNT				*e*SG	**Sg**	**04 14 37.9**	**-0.2**
BTOK	**Tokmak**	**0.39**	**153**	*i* P	**Pg**	**04 14 36.2**	**-0.2**
BTOK				*i* S	**Sg**	**04 14 41.7**	**+0.1**
KCT	**Karacabey**	**0.45**	**69**	*e*PG	**Pg**	**04 14 37.9**	**+0.3**
KCT				*e*SG	**Sg**	**04 14 43.4**	**-0.2**
BALB	**Balikesir**	**0.47**	**173**	*e*PG	**Pg**	**04 14 37.7**	**-0.2**
BALB				*e*SG	**Sg**	**04 14 44.5**	**+0.3**
RKY	**Sarkoy-Tekirda**	**0.75**	**321**	*e*PG	**Pg**	**04 14 43.1**	**-0.1**
RKY				*e*SG	**Sg**	**04 14 53.9**	**+0.8**
SART	**Tekirdag**	**0.75**	**321**	*i* P	**Pg**	**04 14 42.4**	**-0.8**
SART	**Tekirdag**	**0.75**	**321**	*i* P	**Pg**	**04 14 42.3**	**-0.8**
MFT	**Murefte**	**0.79**	**330**	*e*PG	**Pg**	**04 14 44.0**	**+0.2**
MFT				*e*SG	**Sg**	**04 14 54.8**	**+0.6**
DST	**Dursunbey**	**0.81**	**128**	*e*PG	**Pg**	**04 14 44.4**	**+0.1**
AKS	**Akhisar**	**1.23**	**180**	*e*PN	**Pn**	**04 14 51.4**	**+0.3**
YLV	**Yalova**	**1.28**	**69**	*e*PN	**Pn**	**04 14 51.7**	**-0.2**
IZI	**Iznik**	**1.30**	**79**	*e*PN	**Pn**	**04 14 52.2**	**+0.1**
ISK	**Istanbul-Kandi**	**1.35**	**45**	*e*PN	**Pn**	**04 14 52.6**	**-0.2**
BOZC	**Bozcaada**	**1.37**	**259**	*i* P	**Pn**	**04 14 52.2**	**-0.9**
BOZC				*i* S	**Sn**	**04 15 10.4**	**-0.6**
GADA	**Gvkgeada**	**1.46**	**274**	*e*PN	**Pn**	**04 14 55.1**	**+0.8**
HRT	**Hereke**	**1.59**	**63**	*e*PN	**Pn**	**04 14 56.6**	**+0.4**
GDZ	**Gediz**	**1.65**	**128**	*i* P	**Pn**	**04 14 57.4**	**+0.4**
GDZ	**Gediz**	**1.65**	**128**	*i* P	**Pn**	**04 14 57.3**	**+0.4**

TEH ***25*** *04:18:38.6, 2805N×5631E, h22km, ML5.1*
IDC ***25*** *04:18:56.4±0.5, 2819N×5643E, h0km, mb4.7/31, mb1 4.8/33, mb1mx4.8/34, mbtmp4.7/33, ML4.7/2, MS4.5/31, Ms1 4.5/31, ms1mx4.4/39, Error ellipse: s-maj=12.0km s-min=10.7km az=6.0*
BGS ***25*** *04:18:56.9±1.4, 2769N×5605E, h15km, mb5.3*
BJI ***25*** *04:18:56.0, 2818N×5610E, h21km, mB5.2, mb4.9, Ms5.0, Msz4.8*
ISCJB ***25*** *04:18:57.7±0.1, 2815N±002×5632E±002, h16km, mb5.0/241, MS4.5/80, Error ellipse: s-maj=2.6km s-min=1.9km az=13.4*
CSEM ***25*** *04:18:58.2±0.0, 2828N×5640E, h18km, mb5.1/99, Ms4.5, Mw5.2, Error ellipse: s-maj=1.8km s-min=1.5km az=20.0*
MOS ***25*** *04:18:59.8±1.1, 2817N×5630E, h33km, mb5.2/106, MS4.4/39, Error ellipse: s-maj=5.8km s-min=3.0km az=126.5*
NEIC ***25*** *04:19:00.1, 2819N×5622E, h16km, mb5.1/143, ML4.7(THR), MN5.0(TEH), After THR.*
GCMT ***25*** *04:19:00.1±0.2, 2804N×5634E, h19km, MW5.2/87, Moment Tensor Solution. s61,c81; s87,c152; Duration: 1s0 Moment tensor: Scale 10^{17}Nm; M_{rr}0.66±.02; $M_{\theta\theta}$-0.94±.02; $M_{\phi\phi}$0.28±.02; $M_{r\theta}$0.34±.04; $M_{\theta\phi}$0.22±.01; $M_{\phi r}$-0.04±.04; Best double couple: $M_0$0.89200×10^{17} NP1:ϕ_s282.00000°, δ34.00000°, λ94.00000°. NP2: ϕ_s98.00000°, δ56.00000°, λ87.00000°. Principal axes: T 0.7330, Plg78.0000°, Azm359.0000°; N 0.3200, Plg2.0000°, Azm99.0000°; P -1.0520, Plg11.0000°, Azm190.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
THR ***25*** *04:19:00.1±1.1, 2821N×5624E, h14km±10km, ML4.7*
CRAAG ***25*** *04:19:00.6, 2813N×5630E, Mb5.0*
OMAN ***25*** *04:19:00.7, 2811N×5618E, h15km*
SZGRF ***25*** *04:19:02.8, 2847N×5658E, h33km, mb5.0, MS4.3, Southern Iran*
ISC 25 04:18:59.8±0.1, 2815N±002×5632E±002, h17km, h17km±1.1km: pP-P, n1018, σ1°23/1062, mb5.0/241, MS4.5/80, 30C-31D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDS	**Bandar-Abbas**	**0.76**	**190**	*e*Pg	**Pg**	**04 19 15.0**	**+0.4**
BNDS	**Bandar-Abbas**	**0.76**	**190**	*e*Pg	**Pg**	**04 19 14.8**	**+0.1**
BNDS				*e*Sg	**Sg**	**04 19 27.4**	**+2.7**
BNDS				AML	AML	04 19 31.5	
	comp=N,30μm,0.7s						
BNDS	**Bandar-Abbas**	**0.76**	**190**	*e*Pg	**Pg**	**04 19 14.8**	**+0.2**
	SNR=90						
BNDS				*e*Sg	**Sg**	**04 19 27.4**	**+2.7**
	comp=N,30μm,0.7s,SNR=90						
BANOM	**Banah**	**2.22**	**180**	P	**Pn**	**04 19 37.2**	**+1.4**
	SNR=613						
BANOM	**Banah**	**2.22**	**180**	P	**Pn**	**04 19 37.2**	**+1.4**
	SNR=613						
BANOM	**Banah**	**2.22**	**180**	P	**Pn**	**04 19 37.8**	**+2.1**
	SNR=239						
BANOM	**Banah**	**2.22**	**180**	P	**Pn**	**04 19 37.2**	**+1.4**
	SNR=613						
BANOM	**Banah**	**2.22**	**180**	P	**Pn**	**04 19 37.2**	**+1.4**
	SNR=613						
BANOM	**Banah**	**2.22**	**180**	P	**Pn**	**04 19 37.2**	**+1.4**
	SNR=613						
BANOM	**Banah**	**2.22**	**180**	P	**Pn**	**04 19 37.2**	**+1.4**
	SNR=613						
BANOM	**Banah**	**2.22**	**180**	P	**Pn**	**04 19 37.8**	**+2.1**
	SNR=239						
BANOM	**Banah**	**2.22**	**180**	P	**Pn**	**04 19 37.8**	**+2.1**
	SNR=239						
BANOM	**Banah**	**2.22**	**180**	P	**Pn**	**04 19 37.2**	**+1.4**
	SNR=613						
BANOM	**Banah**	**2.22**	**180**	Pn	**Pn**	**04 19 37.2**	**+1.4**
	SNR=613						
BANOM	**Banah**	**2.22**	**180**	P	**Pn**	**04 19 37.2**	**+1.4**
	SNR=613						
BANOM	**Banah**	**2.22**	**180**	Pn	**Pn**	**04 19 37.2**	**+1.4**
	SNR=349						
BANOM	**Banah**	**2.22**	**180**	P	**Pn**	**04 19 37.2**	**+1.5**
	SNR=613						
BANOM				Sn	**Sn**	**04 20 05.6**	**+2.9**
GHIR	**Ghir-Karzin**	**2.94**	**273**	*e*Pn	**Pn**	**04 19 47.5**	**+1.8**
GHIR				AML	AML	04 21 02.5	
	comp=N,2μm,0.9s						
GHIR				AML	AML	04 21 09.7	
	comp=E,3μm,0.7s						
GHIR	**Ghir-Karzin**	**2.94**	**273**	*e*Pn	**Pn**	**04 19 47.0**	**+1.3**
ISRV	**Sarvestan**	**3.07**	**294**	*e*Pn	**Pn**	**04 19 50.0**	**+2.5**
ISRV				*e*		04 21 21.3	
	comp=Z,17μm,0.7s						
NAZ	**Nazwa, Dubai**	**3.20**	**191**	Pn	**Pn**	**04 19 51.5**	**+2.2**
	SNR=88						
IMOK	**Mouk**	**3.29**	**287**	*e*Pn	**Pn**	**04 19 52.2**	**+1.7**
IMOK				*e*		04 21 20.8	
	comp=Z,43μm,0.4s						
HATD	**Hatta, Dubai**	**3.31**	**183**	P	**Pn**	**04 19 52.5**	**+1.6**
	SNR=177						
HATD	**Hatta, Dubai**	**3.31**	**183**	P	**Pn**	**04 19 52.5**	**+1.6**
	SNR=177						
HATD	**Hatta, Dubai**	**3.31**	**183**	P	**Pn**	**04 19 54.2**	**+3.4**
	SNR=30						
HATD	**Hatta, Dubai**	**3.31**	**183**	P	**Pn**	**04 19 52.5**	**+1.6**
	SNR=177						
HATD	**Hatta, Dubai**	**3.31**	**183**	P	**Pn**	**04 19 52.5**	**+1.6**
	SNR=177						
HATD	**Hatta, Dubai**	**3.31**	**183**	P	**Pn**	**04 19 52.5**	**+1.6**
	SNR=177						
HATD	**Hatta, Dubai**	**3.31**	**183**	P	**Pn**	**04 19 52.5**	**+1.6**
	SNR=177						
HATD	**Hatta, Dubai**	**3.31**	**183**	P	**Pn**	**04 19 54.2**	**+3.4**
	SNR=30						
HATD	**Hatta, Dubai**	**3.31**	**183**	P	**Pn**	**04 19 52.5**	**+1.6**
	SNR=177						
HATD	**Hatta, Dubai**	**3.31**	**183**	Pn	**Pn**	**04 19 52.5**	**+1.6**
	SNR=177						
HATD	**Hatta, Dubai**	**3.31**	**183**	P	**Pn**	**04 19 52.5**	**+1.6**
	SNR=177						
HATD	**Hatta, Dubai**	**3.31**	**183**	P	**Pn**	**04 19 52.5**	**+1.6**
	SNR=177						
HATD	**Hatta, Dubai**	**3.31**	**183**	Pn	**Pn**	**04 19 51.9**	**+1.1**
	SNR=140						
IPAR	**Pars**	**3.32**	**301**	*e*Pn	**Pn**	**04 19 53.5**	**+2.6**
IPAR				*e*		04 21 07.8	
	comp=Z,26μm,0.4s						
ASHO	**Ashiyiah**	**3.46**	**184**	P	**Pn**	**04 19 54.9**	**+2.1**
	SNR=564						
ASHO	**Ashiyiah**	**3.46**	**184**	P	**Pn**	**04 19 54.9**	**+2.1**
	SNR=564						
ASHO	**Ashiyiah**	**3.46**	**184**	P	**Pn**	**04 19 54.8**	**+2.0**
	SNR=392						
ASHO	**Ashiyiah**	**3.46**	**184**	P	**Pn**	**04 19 54.9**	**+2.1**
	SNR=564						
ASHO	**Ashiyiah**	**3.46**	**184**	P	**Pn**	**04 19 54.9**	**+2.1**
	SNR=564						
ASHO	**Ashiyiah**	**3.46**	**184**	P	**Pn**	**04 19 54.9**	**+2.1**
	SNR=564						
ASHO	**Ashiyiah**	**3.46**	**184**	P	**Pn**	**04 19 54.9**	**+2.1**
	SNR=564						
ASHO	**Ashiyiah**	**3.46**	**184**	P	**Pn**	**04 19 54.8**	**+2.0**
	SNR=392						
ASHO	**Ashiyiah**	**3.46**	**184**	P	**Pn**	**04 19 54.8**	**+2.0**
	SNR=392						
ASHO	**Ashiyiah**	**3.46**	**184**	P	**Pn**	**04 19 54.9**	**+2.1**
	SNR=564						
ASHO	**Ashiyiah**	**3.46**	**184**	Pn	**Pn**	**04 19 54.9**	**+2.1**
	SNR=564						
ASHO	**Ashiyiah**	**3.46**	**184**	P	**Pn**	**04 19 54.9**	**+2.1**
	SNR=564						
ASHO	**Ashiyiah**	**3.46**	**184**	P	**Pn**	**04 19 54.9**	**+2.1**
	SNR=564						
ASHO	**Ashiyiah**	**3.46**	**184**	Pn	**Pn**	**04 19 54.2**	**+1.4**
	SNR=392						
IBAF	**Bafgh**	**3.49**	**349**	*e*Pn	**Pn**	**04 19 54.4**	**+1.2**
IBAF				*e*		04 20 53.8	
	comp=Z,34μm,0.6s						
IMEH	**Mehriz**	**3.55**	**336**	*e*Pn	**Pn**	**04 19 56.5**	**+2.4**
IMEH				*e*		04 21 08.2	
	comp=Z,24μm,0.4s						
ASUD	**Al Ashush, Dub**	**3.62**	**194**	Pn	**Pn**	**04 19 57.3**	**+2.3**
	SNR=75						
SHI	**Shiraz**	**3.65**	**295**	*e*Pn	**Pn**	**04 19 57.4**	**+1.9**
SHI				*e*		04 21 23.9	
	comp=Z,11μm,0.2s						
ZHSF	**Zahedan**	**4.17**	**69**	*e*Pn	**Pn**	**04 20 06.0**	**+3.4**
ZHSF	**Zahedan**	**4.17**	**69**	*e*Pn	**Pn**	**04 20 06.2**	**+3.6**
ICHK	**Chekchek**	**4.40**	**338**	Pn	**Pn**	**04 20 08.1**	**+2.3**
ICHK	**Chekchek**	**4.40**	**338**	*e*Pn	**Pn**	**04 20 08.2**	**+2.4**
ICHK				*e*		04 21 38.1	
	comp=Z,15μm,0.3s						
HOQ	**Hoqain**	**4.64**	**169**	P	**Pn**	**04 20 08.9**	**-0.1**
	SNR=64

SNR=30
AML Almayashu 19.86 41 P Pn 04 23 30.3 -1.2
SNR=44
KARA Karaisali 20.03 302 eP P 04 23 32.3 +0.5
BNN Bunyan 20.09 307 eP P 04 23 31.5 -0.9
AKL Akola 20.23 107 eP P 04 23 35.9 +1.8
AKL i P 04 23 36.3
AKL ex x 04 23 42.7
comp=Z,99nm,1.7s
EKS2 Erkin-Say 20.24 40 eP P 04 23 34.6 +0.5
comp=Z,318nm,1.6s
EKS2 Erkin-Say 20.24 40 P P 04 23 35.3 +1.2
SNR=37
EKS2 Erkin-Say 20.24 40 eP P 04 23 34.6 +0.6
comp=Z,318nm,1.6s
MERS Mersin 20.30 301 eP P 04 23 34.8 0.0
SOC Sochi 20.39 323c i P P 04 23 34.6 -1.0
SOC e*SP sP 04 23 43.7 +0.9
SOC e 04 23 52.3
SOC eS **S 04 27 22.8 -0.6**
SOC eSS 04 27 40.4
SOC eSSS 04 27 56.3
SOC pmax pmax
comp=Z,42nm,1.1s
SOC MLR MLR
comp=Z,1μm,12.0s,MS4.4
SOC Sochi 20.39 323 i P P 04 23 34.6 -1.0
comp=Z,42nm,1.1s
UCH Uchtor 20.39 42 eP P 04 23 35.1 -0.5
comp=Z,321nm,1.9s
UCH Uchtor 20.39 42 P P 04 23 35.9 +0.2
SNR=17
UCH Uchtor 20.39 42 eP P 04 23 35.2 -0.5
comp=Z,320nm,1.9s
LFK Lefkose 20.62 296 eP P 04 23 41.3 +3.0
AAK Ala-Archa 20.63 41 P P 04 23 38.4 +0.1
comp=Z,289nm,1.3s,SNR=16
AAK Ala-Archa 20.63 41 eP P 04 23 37.6 -0.7
comp=Z,92nm,1.2s
AAK Ala-Archa 20.63 41 P P 04 23 38.5 +0.2
AAK pmax pmax
comp=Z,8.0nm,0.6s
AAK MLR MLR
comp=Z,2μm,19.2s,MS4.4
AAK Ala-Archa 20.63 41 P P 04 23 38.5 +0.2
comp=Z,8.3nm,0.6s,baz=220,slow=8.3,SNR=28
AAK LR LR 04 32 40.1
comp=Z,2μm,19.1s,MS4.4,baz=236,slow=40
AAK Ala-Archa 20.63 41 P P 04 23 38.7 +0.4
SNR=15
NIG Nigde 20.67 304 eP P 04 23 41.3 +2.5
CSS Prodhromos 20.71 295 eP P 04 23 40.1 +0.9
comp=Z,94nm,1.1s
CSS Prodhromos 20.71 295 eP P 04 23 40.1 +0.9
comp=Z,94nm,1.1s
KZA Kyzart 20.74 43 P P 04 23 39.0 -0.4
SNR=11
IKL Isikli 20.75 299 eP P 04 23 39.6 0.0
AVNT Avonos 20.76 306 i P P 04 23 41.0 +1.2
ATD Arta Tunnel 20.80 220 P P 04 23 42.8 +2.6
comp=Z,31nm,0.8s,baz=323,slow=6.4,SNR=7.5
ATD LR LR 04 31 59.1
comp=Z,2μm,19.7s,MS4.5,baz=38,slow=38
YOZ Yozgat 20.81 309 eP P 04 23 40.5 +0.3
FRU Bishkek 20.83 41 eP P 04 23 41.0 +0.6
FRU eS **S 04 27 43.0 +11**
FRU pmax pmax
comp=Z,540nm,2.0s
FRU Bishkek 20.83 41 eP P 04 23 41.0 +0.6
comp=Z,540nm,2.0s
KBK Karagaybulak 20.91 41 P P 04 23 42.6 +1.3
SNR=9.0
LATR Latur 20.94 113 eP P 04 23 42.8 +1.1
LATR AMb AMB 04 23 51.1
comp=Z,200nm,1.6s
PTH Pithoragarh 20.97 80 eP P 04 23 43.1 +1.0
LGTI Lohaghat 21.00 81 eP P 04 23 42.5 +0.1
KVT Kavak 21.03 313 eP P 04 23 42.9 +0.3
USP Ospenovka 21.04 39 P P 04 23 46.7 +4.1
SNR=17
LEF Lefka 21.10 295 eP P 04 23 42.1 -1.3
ULHL Ulahol 21.44 44 P P 04 23 47.7 +0.7
SNR=24
TKM2 Tokmak 2 21.45 42 eP P 04 23 46.6 -0.5
comp=Z,69nm,1.1s,mb4.9
TKM2 Tokmak 2 21.45 42 eP P 04 23 46.6 -0.5
comp=Z,69nm,1.1s,mb4.9
TKM2 pmax pmax
comp=Z,69nm,1.1s,mb4.9
TKM2 Tokmak 2 21.45 42 P P 04 23 48.1 +1.0
SNR=10.0
TKM2 Tokmak 2 21.45 42 eP P 04 23 46.6 -0.5
comp=Z,69nm,1.1s,mb4.9
CDAG Cicekdag 21.46 308 i P P 04 23 45.9 -1.4
CDAG Cicekdag 21.46 308 i P P 04 23 45.8 -1.4
ERMK Ermenek 21.46 299 i P P 04 23 52.3 +5.0
CORM Corum 21.52 309 eP P 04 23 48.3 +0.4
CTKT Corum 21.62 311 i P P 04 23 49.3 +0.3
NGP Nagpur 21.78 104 eP P 04 23 51.5 +0.6
NGP ex x 04 27 59.7
KAMT Kaman 21.81 307 eP P 04 23 53.2 +2.2
JBP Jabalpur 21.89 98⇑ eP P 04 23 51.6 -0.3
JBP ex x 04 23 58.6
comp=Z,170nm,1.4s
JBP eS **S 04 27 55.9 +2.7**
BOYT Boyabat 21.94 313 i P P 04 23 54.0 +1.7
BYBT Boyabat 22.05 313 eP P 04 23 54.3 +0.7
KONT Konya--Tatoy 22.28 302 eP P 04 23 56.7 +0.7
AKTK Aktyubinsk 22.29 3 P P 04 23 56.1 +0.1
AKTK LR LR 04 33 55.9
AKTK Aktyubinsk 22.29 3 P P 04 23 56.1 +0.1
AKTO Aktyubinsk 22.29 3 P P 04 23 56.1 +0.1
AKTO pmax pmax
comp=Z,25nm,0.6s,mb4.8
AKTO MLR MLR
comp=Z,1μm,19.2s,MS4.4
AKTO Aktyubinsk 22.29 3 P P 04 23 56.1 +0.1
comp=Z,24nm,0.6s,mb4.8,baz=185,slow=11,SNR=51
AKTO LR LR 04 33 55.9
comp=Z,1μm,19.2s,MS4.4,baz=193,slow=40
TOS Tosya 22.33 311 eP P 04 23 55.9 -0.6
CANT Cankiri 22.41 310 eP P 04 23 55.9 -1.4
ANN Anapa 22.42 323 eP P 04 23 57.0 -0.5
ANN e*PP 04 24 03.1
ANN e 04 24 19.9
ANN eS **S 04 28 02.2 -1.0**
ANN eSSS 04 28 45.5
ANN pmax pmax
comp=Z,57nm,1.5s,mb4.8
ANN MLR MLR
comp=N,472nm,13.0s
ANN MLR MLR
comp=Z,744nm,13.0s,MS4.3
ANN Anapa 22.42 323 eP P 04 23 57.0 -0.5
comp=Z,57nm,1.5s,mb4.8
AAA Alma-Ata 22.46 42 eP P 04 23 59.5 +1.7
AAA pmax pmax
comp=Z,680nm,5.0s
AAA MLR MLR
comp=Z,3μm,12.5s,MS5.0
ELDT Eldivan 22.49 309 i P P 04 23 58.9 +0.7
KDHN Kadinhani 22.65 303 i P P 04 23 59.9 0.0
ANTO Ankara 22.66 307 eP P 04 24 00.3 +0.2
ANTO Ankara 22.66 307⇑ iP P 04 24 00.3 +0.2
LOD Lodumlu 22.69 307 eP P 04 24 00.8 +0.4
KIZT Kizilcal 22.95 304 eP P 04 24 04.7 +1.6
MNGI Mangalore 22.95 127 i P P 04 24 04.8 +1.5
MNGI ex x 04 24 14.4
comp=Z,93nm,1.5s
MNGI ex x 04 28 19.4
HYB Hyderabad 23.08 113 eP P 04 24 05.5 +0.9
comp=Z,70nm,1.0s,mb5.0
HYB eS **S 04 28 24.0 +9.1**
HYB Hyderabad 23.08 113 eP P 04 24 05.5 +0.9
HYB pmax pmax
comp=Z,70nm,1.0s,mb5.0
HYB Hyderabad 23.08 113 i P P 04 24 06.5 +1.9
comp=Z,70nm,1.0s,mb5.0
HYB eS **S 04 28 14.0 -0.9**
SHUT Suhut-Afyon 23.82 302 eP P 04 24 13.0 +1.2
TKTP Tekketepe 23.84 301 i P P 04 24 10.8 -1.3
ESKT Eskisehir 23.92 305 eP P 04 24 13.0 +0.3
ESKT Eskisehir 23.92 305 i P P 04 24 09.8 -2.9
SEYT Eskypehyr 23.92 305 i P P 04 24 09.8 -3.0
AKAS Kas 23.95 296 i P P 04 24 12.9 -0.1
AKAS Kas 23.95 296 i P P 04 24 12.9 -0.1

BLSP Bilaspur 24.10 99 eP P 04 24 15.6 +1.0
BLSP AMb AMB 04 24 22.1
comp=Z,112nm,1.8s,mb5.0
KDZE Karadeniz Ereo 24.20 309 eP P 04 24 13.8 -1.4
GOLH Golhisar 24.21 299 i P P 04 24 15.6 +0.2
ALT Altintas 24.31 303 eP P 04 24 12.2 -4.1
BORA Eskisehir 24.34 305 i P P 04 24 15.9 -0.7
SIM Simferopol' 24.36 319 d iP P 04 24 18.3 +1.6
SIM eS **S 04 28 34.7 -0.6**
SIM pmax pmax
comp=Z,200nm,10.6s
SIM MLR MLR
comp=Z,500nm,14.5s,MS4.1
SIM Simferopol' 24.36 319 i P P 04 24 18.3 +1.6
comp=Z,200nm,10.6s
HENT Hendek 24.37 308 i P P 04 24 15.8 -1.0
GDZ Gediz 24.78 303 i P P 04 24 19.5 -1.1
FURI Furi 25.36 224 eP P 04 24 30.6 +4.5
FURI eS **S 04 29 08.3 +16**
AYDN Tasoluk 25.61 299 i P P 04 24 28.0 -0.2
BDRM Kayabasi 25.82 298 i P P 04 24 25.8 -4.3
BTOK Tokmak 26.06 304 i P P 04 24 31.1 -1.1
VORD Divnogorie 26.17 335 eP P 04 24 32.5 -0.6
VORD eS **S 04 29 05.3 +1.2**
VORD pmax pmax
comp=Z,50nm,1.5s,mb4.8
VORD pmax pmax
comp=N,40nm,0.6s
VORD pmax pmax
comp=E,30nm,0.6s
VORD smax
comp=N,1μm,15.1s
VORD smax
comp=Z,730nm,15.6s
VORD smax
comp=E,580nm,14.9s
VORD Divnogorie 26.17 335 eP P 04 24 32.5 -0.6
comp=E,50nm,1.5s,mb4.8
KDAG Bornova 26.26 300 i P P 04 24 29.6 -4.4
KOD Kodaikanal 26.69 128 eP P 04 24 36.7 -1.4
KOD AMb AMB 04 24 45.5
comp=Z,44nm,1.8s,mb4.7
URLA Izmir 26.76 300 i P P 04 24 41.2 +2.6
VOR Voronezh 26.83 336 eP P 04 24 39.0 0.0
VOR pmax pmax
comp=Z,180nm,1.6s,mb5.3
VOR Voronezh 26.83 336 eP P 04 24 39.0 0.0
comp=Z,180nm,1.6s,mb5.3
BRVK Borovoye 26.95 19 P P 04 24 40.6 +0.5
comp=Z,124nm,0.8s,mb5.5,SNR=8.4
BRVK Borovoye 26.95 19 eP P 04 24 39.4 -0.7
comp=Z,34nm,0.9s,mb4.9
BRVK Borovoye 26.95 19 eP P 04 24 39.4 -0.7
BRVK pmax pmax
comp=Z,34nm,0.9s,mb4.9
BRVK Borovoye 26.95 19 eP P 04 24 39.4 -0.7
comp=Z,34nm,0.9s,mb4.9
BVAR Borovoye Array 26.95 19 P P 04 24 39.0 -1.1
BVAR 04 28 00.7
BVAR pmax pmax
comp=Z,17nm,0.7s
BVAR pmax pmax
comp=Z,1.0nm,0.3s
BVAR pmax pmax
comp=N,2.0nm,0.9s
BVAR Borovoye Array 26.95 19 P P 04 24 39.0 -1.1
comp=N,17nm,0.7s,mb4.7,baz=202,slow=7.7,SNR=35
BVAR PcP PcP 04 28 00.7 -0.9
comp=N,1.2nm,0.3s,baz=226,slow=2.6,SNR=5.7
BVAR ScP ScP 04 31 40.9 -0.1
comp=N,1.7nm,0.9s,baz=219,slow=3.2,SNR=4.7
BVAR Borovoye Array 26.95 19 PcP PcP 04 28 00.7 -0.9
NPS Neapolis 27.00 293 eP P 04 24 42.5 +1.8
SANT Santorini 27.27 295 eP P 04 24 44.2 +1.1
comp=N,60nm,0.7s,mb5.2
SANT Santorini 27.27 295 eP P 04 24 44.2 +1.1
comp=N,60nm,0.7s,mb5.2
APE Apeiranthos 27.32 297⇓ iP P 04 24 43.6 0.0
MK31 Makanchi Array 27.57 41 eP P 04 24 44.9 -0.8
MK31 Makanchi Array 27.57 41 i P P 04 24 44.8 -0.9
MK31 pmax pmax
comp=Z,19nm,0.6s,mb4.9
MK31 Makanchi Array 27.57 41 i P P 04 24 44.8 -0.9
comp=Z,19nm,0.6s,mb4.9
MKAR Makanchi Array 27.57 41 P P 04 24 45.0 -0.8
MKAR LR LR 04 37 05.5
MKAR Makanchi Array 27.57 41 P P 04 24 45.0 -0.7
MKAR pmax pmax
comp=Z,15nm,0.8s
MKAR MLR MLR
comp=Z,1μm,20.0s
MKAR Makanchi Array 27.57 41 P P 04 24 45.0 -0.8
comp=Z,15nm,0.8s,mb4.7,baz=224,slow=8.2,SNR=54
MKAR LR LR 04 37 05.5
comp=Z,1μm,19.9s,MS4.5,baz=242,slow=40
TIRR Tirgusor 27.58 314⇓ iP P 04 24 45.0 -0.8
KURK Kurchatov 28.16 31 P P 04 24 51.7 +0.8
comp=Z,62nm,0.7s,mb5.3,SNR=6.1
KURK Kurchatov 28.16 31 eP P 04 24 51.8 +0.9
comp=Z,64nm,1.3s,mb5.1
KURK Kurchatov 28.16 31 eP P 04 24 51.8 +0.9
KURK pmax pmax
comp=Z,64nm,1.3s,mb5.1
KURK Kurchatov 28.16 31 eP P 04 24 51.8 +0.9
comp=Z,64nm,1.3s,mb5.1
VAM Vamos 28.16 293 eP P 04 24 52.0 +0.8
GVD Gavdhos 28.20 292 eP P 04 24 51.3 -0.2
comp=Z,12nm,0.6s,mb4.7
GVD Gavdhos 28.20 292 eP P 04 24 51.3 -0.2
comp=Z,12nm,0.6s,mb4.7
ARU Arti 28.31 3 eP P 04 24 53.3 +1.1
ARU Arti 28.31 3 d iP P 04 24 52.6 +0.4
ARU e 04 25 38.4
ARU ePPP 04 25 51.2
ARU e 04 28 04.5
ARU eS **S 04 29 36.9 -0.7**
ARU pmax pmax
comp=Z,18nm,1.7s,mb4.4
ARU MLR MLR
comp=Z,687nm,16.0s,MS4.3
ARU Arti 28.31 3 i P P 04 24 52.6 +0.4
comp=Z,18nm,1.7s,mb4.4
ARU Arti 28.31 3 ePcP PcP 04 28 04.5 -0.3
ARU eS **S 04 29 36.9 -0.7**
comp=Z,687nm,16.0s
KIS Kishinev 28.57 319 eP P 04 24 53.0 -1.6
SVE Sverdlovsk 28.82 5⇓ eP P 04 24 57.8 +1.0
SVE e 04 31 34.5
SVE pmax pmax
comp=Z,22nm,0.9s,mb4.9
SVE MLR MLR
comp=Z,2μm,12.0s,MS5.0
SVE Sverdlovsk 28.82 5 eP P 04 24 57.8 +1.0
comp=Z,22nm,0.9s,mb4.9
KYTH Kithira 29.19 295 eP P 04 25 01.0 +0.7
VRI Vrincioaia 29.28 315 P P 04 25 07.1 +6.1
VRI Vrincioaia 29.28 315⇓ iP P 04 25 05.9 +5.0
PLOR Plostina 29.32 315⇑ iP P 04 25 06.0 +4.7
PLOR Plostina 29.32 315 P P 04 25 03.4 +2.1
VLI Veliai 29.33 295 eP P 04 25 00.5 -1.0
WMQ Urumqi 29.60 50 eP P 04 25 05.3 +1.5
WMQ AP pP 04 25 09.5 +0.4
WMQ XP sP 04 25 12.0 +0.7
WMQ PP PP 04 26 02.0 -8.7
WMQ S **S 04 29 59.0 +0.8**
WMQ XS sS 04 30 13.0 +6.0
WMQ AMB AMB
comp=Z,38nm,1.1s,mb5.0
WMQ AMB AMB
comp=Z,186nm,5.1s
WMQ LR LR
comp=N,3μm,21.8s
WMQ LR LR
comp=E,2μm,11.5s
WMQ LR LR
comp=Z,2μm,29.0s
MLR Muntele Rosu 29.60 314 P P 04 25 07.0 +3.2
MLR Muntele Rosu 29.60 314 P P 04 25 05.4 +1.5
MLR pmax pmax
comp=Z,3.0nm,0.4s
MLR MLR MLR
comp=Z,800nm,21.0s
MLR Muntele Rosu 29.60 314 P P 04 25 05.4 +1.6
comp=Z,3.3nm,0.4s,mb4.4,baz=57,slow=7.4,SNR=10.0
MLR LR LR 04 38 44.7
comp=Z,800nm,21.0s,MS4.3,baz=310,slow=40
MLR Muntele Rosu 29.60 314⇑ iP P 04 25 06.0 +2.1
PLG Polygyros 29.61 303 eP P 04 25 05.5 +1.5
PGB Panagyurishte 29.70 307 P P 04 25 04.5 -0.2
MMB Musomiste 29.72 305 eP P 04 25 11.0 +6.0
VOIR 30.15 313 P P 04 25 10.3 +1.6
VOIR 30.15 313⇑ iP P 04 25 08.0 -0.7
ITM Ithomi 30.19 296 eP P 04 25 08.5 -0.6
KKB Krupnik 30.26 306 eP P 04 25 14.3 +4.6
SOF Sofiya 30.32 307 P P 04 25 10.3 0.0
VTS Vitosha 30.38 307 P P 04 25 11.7 +0.9
VTS Vitosha 30.38 307⇑ iP P 04 25 14.0 +3.2
VTS Vitosha 30.38 307 P P 04 25 10.3 -0.5
AKASG Malin Array Be 30.45 325 P P 04 25 10.9 -0.3
AKASG 04 28 09.1
AKASG 04 31 50.8
AKASG pmax pmax
comp=Z,4.0nm,0.4s
AKASG pmax pmax
comp=Z,2.0nm,0.5s
AKASG pmax pmax
comp=N,1.0nm,0.7s
AKASG Malin Array Be 30.45 325 P P 04 25 10.9 -0.3
comp=N,4.3nm,0.4s,mb4.5,baz=126,slow=7.9,SNR=47
AKASG PcP PcP 04 28 09.1 -1.3
comp=N,2.0nm,0.5s,baz=102,slow=2.3,SNR=5.2
AKASG ScP ScP 04 31 50.8 -1.3
comp=N,1.0nm,0.7s,baz=94,slow=1.8,SNR=5.7
AKASG Malin Array Be 30.45 325 PcP PcP 04 28 09.1 -1.3
AKBB Malin Array Si 30.45 325 eP P 04 25 10.7 -0.5
AKBB Malin Array Si 30.45 325 eP P 04 25 10.7 -0.5
LSA Lhasa 30.46 79 P P 04 25 12.0 +0.4
LSA XP sP 04 25 25.8 +6.7
LSA AMB AMB
comp=Z,20nm,0.9s,mb4.8
LSA AMB AMB
comp=Z,190nm,9.0s
LSA LR LR
comp=N,510nm,11.0s,MS4.8
LSA LR LR
comp=E,1μm,15.0s,MS4.8
LSA LR LR
comp=Z,2μm,17.0s,MS4.8
VAY Valandovo 30.49 304 i P P 04 25 11.9 +0.2
VAY Valandovo 30.49 304 i P P 04 25 11.8 +0.1
OBN Obninsk 30.50 338 P P 04 25 13.7 +2.0
comp=Z,380nm,1.3s,mb6.1,SNR=5.9
OBN Obninsk 30.50 338 eP P 04 25 12.8 +1.2
comp=Z,133nm,1.2s,mb5.6
OBN Obninsk 30.50 338 d iP P 04 25 12.5 +0.8
OBN e 04 26 20.3
OBN i SS SS 04 31 49.0 -33
OBN pmax pmax
comp=Z,99nm,1.6s,mb5.4
OBN MLR MLR
comp=Z,600nm,19.0s,MS4.3
OBN Obninsk 30.50 338 i P P 04 25 12.5 +0.8
comp=Z,99nm,1.6s,mb5.4
EVR Evrytania 30.54 300 eP P 04 25 10.5 -1.7
MOS Moscow 30.67 339 eP P 04 25 12.2 -1.0
MOS e 04 25 25.2
MOS e 04 26 20.7
STIP Stip 30.86 305 i P P 04 25 16.1 +1.1
PALK Pallekele 31.03 127 eP P 04 25 17.9 +1.2
comp=Z,13nm,0.9s,mb4.8
PALK Pallekele 31.03 127 eP P 04 25 18.0 +1.2
comp=Z,13nm,0.9s,mb4.8
BIA Bitola 31.33 303 i P P 04 25 18.9 -0.3
BIA Bitola 31.33 303 i P P 04 25 18.8 -0.4
VLS Valsamata 31.37 298 eP P 04 25 17.0 -2.6
BARS Barje 31.43 307⇑ iP P 04 25 20.3 +0.3
KRUS Krusevo 31.46 304 i P P 04 25 22.6 +2.3
SKO Skopje 31.47 305 i P P 04 25 22.2 +1.8
GZR Gura Zlata 31.61 312 P P 04 25 22.6 +1.0
GZR Gura Zlata 31.61 312⇓ iP P 04 25 22.1 +0.5
OHR Ohrid 31.74 303 i P P 04 25 23.1 +0.4
SHL Shillong 31.77 86 eP P 04 25 23.0 -0.2
SHL ex x 04 30 32.0
DRGR 32.19 314 P P 04 25 28.0 +1.3
DRGR 32.19 314⇑ iP P 04 25 27.2 +0.6
BZS Buzias 32.45 312 P P 04 25 29.7 +0.7
BZS Buzias 32.45 312⇓ iP P 04 25 28.5 -0.5
GRUS Gruza 32.51 308⇑ iP P 04 25 29.1 -0.4
LVV L'vov 32.74 320 eP P 04 25 31.6 +0.1
NVS Novosibirsk 33.04 29 eP P 04 25 34.4 +0.4
NVS eS **S 04 30 53.7 +2.0**
NVS pmax pmax
comp=N,15nm,0.7s
NVS pmax pmax
comp=Z,23nm,0.7s,mb5.2
DIVS Divibare 33.07 309⇑ iP P 04 25 34.2 -0.2
ZAL Zalesovo 33.13 31 P P 04 25 33.8 -1.0
ZALV Zalesovo Beam 33.15 31 P P 04 25 33.8 -1.1
comp=Z,13nm,0.3s,mb5.3,baz=238,slow=8.5,SNR=30
ZALV LR LR 04 40 51.6
comp=Z,1μm,18.3s,MS4.7,baz=227,slow=40
UZH Uzhgorod 33.21 317 eP P 04 25 33.8 -1.7
UZH e 04 25 42.8
UZH eS **S 04 30 49.0 -5.5**
KOLS Kolonicke sedl 33.35 318 eP P 04 25 38.0 +1.2
KWP Kalwaria 33.41 319 eP P 04 25 37.9 +0.6
KWP Kalwaria 33.41 319⇑ iP P 04 25 38.0 +0.7
MNK Minsk 33.50 330 eP P 04 25 37.0 -1.0
FGSL Fruska Gora 33.51 310 eP P 04 25 39.2 +1.0
CRVS Cervenica-Dubn 33.82 317 eP P 04 25 41.6 +0.7
STHS Stebnicka Huta 34.17 318 eP P 04 25 48.5 +4.6
comp=Z,5.4nm,1.0s,mb4.4
STHS Stebnicka Huta 34.17 318 eP P 04 25 48.5 +4.6
STHS pmax pmax
comp=Z,5.0nm,1.0s,mb4.4
KECS Kecovo 34.24 316 eP P 04 25 46.0 +1.5
comp=Z,9.3nm,1.3s,mb4.5
KECS Kecovo 34.24 316 eP P 04 25 46.0 +1.5
KECS pmax pmax
comp=Z,9.0nm,1.3s,mb4.5
KMBO Kilima Mbogo 34.38 215 eP P 04 25 47.0 +0.9
comp=Z,6.8nm,0.8s,mb4.6
KMBO Kilima Mbogo 34.38 215 P P 04 25 47.9 +1.8
KMBO pmax pmax
comp=Z,7.0nm,0.8s
KMBO MLR MLR
comp=Z,961nm,21.5s
KMBO Kilima Mbogo 34.38 215 P P 04 25 47.9 +1.8
comp=Z,6.8nm,0.8s,mb4.6,baz=37,slow=12,SNR=21
KMBO LR LR 04 39 40.9
comp=Z,961nm,21.5s,MS4.5,baz=277,slow=36
KMBO Kilima Mbogo 34.38 215 eP P 04 25 47.0 +0.9
comp=Z,6.8nm,0.8s,mb4.6
PSZ Piszkesteto 34.39 315 eP P 04 25 46.2 +0.4
comp=Z,6.9nm,0.8s,mb4.6
PSZ Piszkesteto 34.39 315 eP P 04 25 46.2 +0.4
PSZ pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
PSZ Piszkesteto 34.39 315⇓ eP P 04 25 46.6 +0.8
TIP Timpagrande 34.47 299 eP P 04 25 46.3 -0.3
comp=Z,26nm,0.8s,mb5.2
TIP Timpagrande 34.47 299 eP P 04 25 46.3 -0.3
comp=Z,26nm,0.8s,mb5.2
PKSM Moragy 34.61 312 P P 04 25 48.4 +0.6
PKSM Moragy 34.61 312⇓ iP P 04 25 47.0 -0.8
NIE Niedzica 34.72 318 eP P 04 25 50.9 +2.2
PENC Penc 34.73 315 eP P 04 25 50.0 +1.3
RHK3 Tenkes 34.77 311⇑ eP P 04 25 48.2 -1.0
BUD Budapest 34.78 314⇓ eP P 04 25 50.3 +1.1
TDS Terranova Siba 34.85 300 P P 04 25 52.8 +2.9
TDS pmax pmax
comp=Z,63nm,0.8s,mb5.6
TDS Terranova Siba 34.85 300 P P 04 25 52.8 +2.9
comp=Z,63nm,0.8s,mb5.6
PKSG 35.16 314⇑ eP P 04 25 52.1 -0.3
PTRP Pietrapertosa 35.17 301 P P 04 25 54.8 +2.1
VYHS Vyhne 35.26 315 eP P 04 25 54.0 +0.7
VYHS pmax pmax
comp=Z,25nm,1.9s,mb4.8
VYHS Vyhne 35.26 315 eP P 04 25 54.0 +0.7
comp=Z,25nm,1.9s,mb4.8
OJC Ojcow 35.36 319 eP P 04 25 54.1 -0.1
SUW Suwalki 35.39 326 eP P 04 25 53.7 -0.6
MGR Morigerati 35.51 300 P P 04 25 55.1 -0.5
KOLL Kolacno 35.56 315 eP P 04 25 56.4 +0.5
SGO Sicignano 35.74 301 P P 04 25 57.9 +0.3
SGO pmax pmax
comp=Z,31nm,0.6s,mb5.4
SGO Sicignano 35.74 301 P P 04 25 57.9 +0.3

comp=Z,31nm,0.6s,mb5.4
FG5 Orsara di Pugl 35.87 302 P **P 04 26 01.4 +2.7**
FG5 pmax pmax
comp=Z,91nm,1.5s,mb5.5
FG5 Orsara di Pugl 35.87 302 P **P 04 26 01.4 +2.7**
comp=Z,91nm,1.5s,mb5.5
SLNA Salina 35.91 298 P **P 04 25 59.3 +0.2**
comp=Z,54nm,0.7s,mb5.6
CSSN Cassano Irpino 36.00 302 P **P 04 26 01.8 +2.0**
comp=Z,38nm,1.1s,mb5.2
MRB1 Monte Rocchett 36.07 302 P **P 04 26 02.6 +2.2**
VAE Valguarnera 36.18 296 P **P 04 26 02.9 +1.5**
comp=Z,15nm,0.8s,mb5.0,baz=100,slow=2.9,SNR=7.7
OKC Ostrava-Krasne 36.18 317 *eP* **P 04 26 02.1 +0.9**
OKC AMS AMS 04 44 30.0
comp=Z,500nm,18.3s,MS4.3
MODS Modra-Piesok 36.19 315 *eP* **P 04 26 02.3 +1.0**
MODS pmax pmax
comp=Z,17nm,1.5s,mb4.8
MODS Modra-Piesok 36.19 315 *eP* **P 04 26 02.3 +1.0**
comp=Z,17nm,1.5s,mb4.8
ZST Bratislava 36.24 314 *eP* **P 04 26 07.0 +5.2**
comp=Z,13nm,0.8s,mb4.9
ZST LR LR
comp=Z,400nm,15.5s,MS4.3
ZST Bratislava 36.24 314 *eP* **P 04 26 07.0 +5.2**
ZST pmax pmax
comp=Z,13nm,0.8s,mb4.9
ZST MLR MLR
comp=Z,400nm,15.5s,MS4.3
KOGS Kog 36.26 311 *eP* **P 04 26 00.9 -1.1**
SOP Sopron 36.42 313⇓ *eP* **P 04 26 04.0 +0.7**
MORC Moravsky Berou 36.52 317 *eP* **P 04 26 03.0 -1.2**
comp=Z,47nm,1.5s,mb5.1
MORC Moravsky Berou 36.52 317 *eP* **P 04 26 03.0 -1.1**
MORC pmax pmax
comp=Z,47nm,1.5s,mb5.1
MORC Moravsky Berou 36.52 317⇓ *iP* **P 04 26 04.4 +0.3**
VSU Vasula 36.59 334 *d iP* **P 04 26 04.7 +0.1**
VSU Vasula 36.59 334 *i P* **P 04 26 04.7 +0.1**
CRES Cresnjev 36.63 310 *eP* **P 04 26 05.5 +0.3**
CRES Cresnjev 36.63 310 *eP* **P 04 26 05.4 +0.3**
MIDA Miranda 36.68 303 P **P 04 26 07.0 +1.4**
GROS Grobnik 36.77 311 *eP* **P 04 26 06.1 -0.2**
RFI Roccamonfina 36.83 302 P **P 04 26 07.6 +0.7**
comp=Z,12nm,1.4s,mb4.5
VRAC Vranov 36.93 316 P **P 04 26 08.7 +1.0**
VRAC Vranov 36.93 316 P **P 04 26 08.5 +0.9**
VRAC pmax pmax
comp=Z,9.0nm,0.8s
VRAC MLR MLR
comp=Z,583nm,20.0s
VRAC Vranov 36.93 316 P **P 04 26 08.5 +0.9**
comp=Z,8.5nm,0.8s,mb4.7,baz=94,slow=11,SNR=13
VRAC LR LR 04 44 02.9
comp=Z,583nm,20.0s,MS4.4,baz=115,slow=41
VRAC Vranov 36.93 316 *eP* **P 04 26 08.1 +0.5**
CONA Conrad Observa 36.95 313⇑ *iP* **P 04 26 07.1 -0.7**
comp=Z,18nm,1.2s,mb4.8,SNR=9.4
ARSA Arzberg 36.97 312⇑ *iP* **P 04 26 07.6 -0.4**
comp=Z,27nm,1.1s,mb5.0
INTR Introdacqua 36.99 303 P **P 04 26 08.5 +0.3**
VVLD Villa Vallelon 37.17 303 P **P 04 26 10.6 +0.8**
USI Ustica 37.21 298 P **P 04 26 12.2 +2.0**
comp=Z,34nm,0.7s,mb5.3
CEY Cerknica 37.31 310 *eP* **P 04 26 10.8 -0.1**
LJU Ljubljana 37.31 310 *eP* **P 04 26 11.3 +0.4**
GUAR Guarcino 37.40 303 P **P 04 26 12.3 +0.6**
AQU L'Aquila 37.40 304 *eP* **P 04 26 13.3 +1.6**
comp=Z,36nm,0.9s,mb5.2
AQU L'Aquila 37.40 304 *eP* **P 04 26 13.3 +1.6**
AQU pmax pmax
comp=Z,36nm,0.9s,mb5.2
AQU L'Aquila 37.40 304⇑ *iP* **P 04 26 17.9 +6.2**
AQU L'Aquila 37.40 304 *eP* **P 04 26 13.3 +1.6**
comp=Z,36nm,0.9s,mb5.2
DPC Dobruska-Polom 37.46 317 *eP* **P 04 26 11.8 -0.3**
DPC *ep*P pP 04 26 16.4 -1.1
DPC AMS AMS 04 44 20.0
comp=Z,500nm,19.1s,MS4.3
GTA Gaotai 37.53 61 P **P 04 26 13.1 +0.2**
GTA AP pP 04 26 17.5 -0.8
GTA XP sP 04 26 20.3 -0.1
GTA PP PP 04 27 40.4 +1.9
GTA PCP PcP 04 28 32.4 +1.6
GTA S **S 04 31 58.9 -2.3**
GTA SS SS 04 34 29.5 -16
GTA SCS ScS 04 36 25.3 -0.4
GTA AMB AMB
comp=Z,20nm,0.9s,mb4.8
GTA AMB AMB
comp=Z,150nm,6.1s
GTA LR LR
comp=N,1μm,18.2s,MS4.8
GTA LR LR
comp=E,956nm,17.5s,MS4.8
GTA LR LR
comp=Z,1μm,17.5s,MS4.7
TREC Trest 37.61 315 *eP* **P 04 26 14.0 +0.6**
TREC AMS AMS 04 44 40.0
comp=Z,600nm,16.1s,MS4.5
TREC Trest 37.61 315 *eP* **P 04 26 14.0 +0.6**
comp=Z,600nm,16.1s
KSP Ksiaz 37.66 318 *eP* **P 04 26 14.2 +0.5**
KSP Ksiaz 37.66 318⇑ *eP* **P 04 26 13.9 +0.1**
KSP *ep*P pP 04 26 19.8 +0.6
NRCA Norcia 37.68 305 P **P 04 26 14.1 0.0**
comp=Z,8.8nm,0.6s,mb4.7
UPC Upice 37.71 318 *eP* **P 04 26 14.8 +0.6**
UPC *ep*P pP 04 26 19.3 -0.3
VOY Vojsko 37.74 310 *e* **P 04 26 13.6 -0.9**
VOY *e* pP 04 26 18.2 -1.7
RDP Rocca di Papa 37.83 303 P **P 04 26 15.9 +0.5**
SNTG Esanatoglia 37.87 305 P **P 04 26 16.3 +0.6**
comp=Z,29nm,1.2s,mb4.9
TMCR Tamitsa 37.88 347 *eP* **P 04 26 19.7 +4.2**
TMCR *e**SP sP 04 26 28.9 +5.8
TMCR *e* 04 27 48.2
MOA Molln 37.95 313⇓ *iP* **P 04 26 15.3 -1.0**
comp=Z,30nm,0.7s,mb5.2,SNR=20
ROBS Robic 38.05 310 *eP* **P 04 26 16.6 -0.6**
ROBS Robic 38.05 310 *eP* **P 04 26 16.5 -0.6**
ASS Assisi 38.05 305 P **P 04 26 18.6 +1.4**
ASS pmax pmax
comp=Z,2.0nm,0.6s,mb4.0
ASS Assisi 38.05 305 P **P 04 26 18.6 +1.4**
comp=Z,2.2nm,0.6s,mb4.1
GKP Gorka Klasztor 38.10 322 *eP* **P 04 26 17.8 +0.4**
MURB Monte Urbino 38.17 305 P **P 04 26 20.0 +1.8**
PTCC Patocco-Chiusa 38.19 310 P **P 04 26 17.3 -1.0**
comp=Z,22nm,0.6s,mb5.1
PIEI Pieia 38.21 306 P **P 04 26 18.8 +0.3**
KBA Koelnbreinsper 38.36 311 *i* P **P 04 26 20.2 +0.5**
comp=Z,42nm,0.8s,mb5.2,SNR=14
KBA Koelnbreinsper 38.36 311 *i* P **P 04 26 20.2 +0.5**
KBA pmax pmax
comp=Z,42nm,0.8s,mb5.2
JOF Joensuu 38.41 342 *ep* **P 04 26 19.8 -0.2**
comp=Z,2.4nm,0.3s,mb4.4
PRU Pruhonice 38.42 316 *eP* **P 04 26 19.7 -0.5**
PRU *ep*P pP 04 26 25.0 -0.6
PRU AMS AMS 04 46 00.0
comp=Z,700nm,16.6s,MS4.6
PVCC Panska Ves 38.58 317 *eP* **P 04 26 21.6 +0.1**
PVCC AMS AMS 04 45 30.0
comp=Z,500nm,15.9s,MS4.4
GEC2 GERESS Array S 38.59 314 *eP* **P 04 26 21.6 -0.1**
GEC2 pmax pmax
comp=Z,23nm,1.0s,mb4.9
GEC2 GERESS Array S 38.59 314 *eP* **P 04 26 21.6 -0.1**
comp=Z,23nm,1.0s,mb4.9
GERES GERESS Array B 38.59 314 P **P 04 26 20.7 -1.0**
GERES 04 32 20.8
GERES pmax pmax
comp=Z,2.0nm,0.5s
GERES pmax pmax
comp=N,1.0nm,0.6s
GERES MLR MLR
comp=Z,479nm,18.0s
GERES GERESS Array B 38.59 314 P **P 04 26 20.7 -1.0**
comp=Z,2.3nm,0.5s,mb4.1,baz=119,slow=9.2,SNR=24
GERES ScP ScP 04 32 20.8 -0.4
comp=Z,0.5nm,0.6s,baz=191,slow=2.0,SNR=4.6
GERES LR LR 04 45 27.5
comp=Z,479nm,18.0s,MS4.4,baz=302,slow=41

KHC Kasperske Hory 38.75 315 *eP* **P 04 26 21.8 -1.2**
KHC *ep*P pP 04 26 25.0 -3.4
KHC *es*P sP 04 26 28.0 -2.6
KHC AMS AMS 04 44 10.0
comp=Z,400nm,17.0s,MS4.3
ABTA Abfaltersbach 38.83 311⇑ *iP* **P 04 26 23.0 -0.7**
comp=Z,30nm,1.1s,mb5.0,SNR=9.4
FIA1 FINESS Array S 38.91 337 *eP* **P 04 26 23.7 -0.4**
FINES FINESS Array B 38.91 337 P **P 04 26 23.9 -0.2**
FINES LR LR 04 47 03.7
FINES FINESS Array B 38.91 337 P **P 04 26 23.9 -0.2**
FINES pmax pmax
comp=Z,11nm,0.5s
FINES MLR MLR
comp=Z,371nm,19.7s
FINES FINESS Array B 38.91 337 P **P 04 26 23.9 -0.2**
comp=Z,11nm,0.5s,mb4.8,baz=134,slow=10,SNR=25
FINES LR LR 04 47 03.7
comp=Z,371nm,19.7s,MS4.2,baz=278,slow=43
BRG Berggiesshubel 39.07 317 *eP* **P 04 26 25.6 0.0**
BRG pmax pmax
comp=Z,4.0nm,1.1s,mb4.1
BRG pmax pmax
comp=Z,20nm,1.3s,mb4.7
BRG Berggiesshubel 39.07 317 *eP* **P 04 26 25.2 -0.4**
comp=Z,34nm,1.3s,mb4.9
BRG Berggiesshubel 39.07 317 *eP* **P 04 26 25.6 0.0**
comp=Z,6.2nm,1.1s,mb4.3
BRG *i* pP 04 26 30.3 -0.7
comp=Z,34nm,1.3s
WET Wettzell 39.20 314 *eP* **P 04 26 26.3 -0.4**
WET pmax pmax
comp=Z,43nm,1.4s,mb5.0
WET Wettzell 39.20 314 *eP* **P 04 26 26.3 -0.4**
comp=Z,43nm,1.4s,mb5.0
WTTA Wattenberg 39.53 311 *i P* **P 04 26 28.3 -1.3**
comp=Z,81nm,1.1s,mb5.4,SNR=19
WTTA Wattenberg 39.53 311 *i P* **P 04 26 28.3 -1.3**
WTTA pmax pmax
comp=Z,81nm,1.1s,mb5.4
WATA Walderalm 39.59 311⇓ *iP* **P 04 26 29.8 -0.3**
comp=Z,46nm,1.2s,mb5.1
WATA Walderalm 39.59 311⇓ *iP* **P 04 26 29.8 -0.2**
WATA pmax pmax
comp=Z,46nm,1.2s,mb5.1
RUE Ruedersdorf 39.71 320 *eP* **P 04 26 32.7 +1.7**
comp=Z,70nm,1.0s,mb5.3
CLL Collm 39.77 318⇓ *iP* **P 04 26 32.2 +0.7**
comp=Z,60nm,1.6s,mb5.1
CLL *i* pP pP 04 26 37.4 +0.5
CLL S **S 04 32 54.0 +19**
CLL Collm 39.77 318⇓ *iP* **P 04 26 32.2 +0.7**
CLL *i* *PP pP 04 26 37.4 +0.5
CLL pmax pmax
comp=Z,60nm,1.6s,mb5.1
CLL Collm 39.77 318 *eP* **P 04 26 31.6 +0.1**
comp=Z,95nm,1.8s,mb5.2
CLL Collm 39.77 318⇓ *iP* **P 04 26 32.2 +0.7**
comp=Z,60nm,1.6s,mb5.1
CLL *i* pP pP 04 26 37.4 +0.5
CLL *i* x x 04 26 54.0
CLL *e*PPP 04 28 30.0
CLL *e*(S) **S 04 32 54.0 +19**
CLL *e*SS SS 04 35 24.0 -6.5
CLL Collm 39.77 318⇓ *iP* **P 04 26 32.2 +0.7**
comp=Z,60nm,1.6s,mb5.1
CLL *i* pP pP 04 26 37.4 +0.5
NKC Novy Kostel 39.77 316 *eP* **P 04 26 31.9 +0.4**
ROTZ Rotzenmuhle 39.79 315 *eP* **P 04 26 31.8 +0.1**
comp=Z,55nm,1.3s,mb5.1
SQTA Sankt Quirin 39.81 311⇓ *iP* **P 04 26 30.2 -1.6**
comp=Z,19nm,0.7s,mb4.9,SNR=21
SQTA Sankt Quirin 39.81 311⇓ *iP* **P 04 26 30.2 -1.7**
SQTA pmax pmax
comp=Z,19nm,0.7s,mb4.9
TANN Tannenbergstha 39.82 316 *eP* **P 04 26 31.9 0.0**
comp=Z,17nm,1.5s,mb4.5
VLC Villacollemand 39.84 306 *eP* **P 04 26 33.5 +1.4**
comp=Z,28nm,1.0s,mb5.0
VLC Villacollemand 39.84 306 *eP* **P 04 26 33.5 +1.3**
comp=Z,28nm,1.0s,mb5.0
MOTA Moosalm 39.91 311⇑ *iP* **P 04 26 30.3 -2.4**
comp=Z,29nm,0.9s,mb5.0,SNR=13
MOTA Moosalm 39.91 311⇑ *iP* **P 04 26 30.3 -2.4**
MOTA pmax pmax
comp=Z,29nm,0.9s,mb5.0
MANZ Manzenberg 39.91 315 *eP* **P 04 26 31.6 -1.1**
comp=Z,96nm,2.4s,mb5.1
FUR Furstenfeldbru 39.97 312 *eP* **P 04 26 33.1 -0.1**
FUR pmax pmax
comp=Z,48nm,1.2s,mb5.1
FUR Furstenfeldbru 39.97 312 *eP* **P 04 26 33.1 -0.1**
comp=Z,48nm,1.2s,mb5.1
CHG Chiang Mai 40.01 94 ⇑P **P 04 26 36.0 +2.1**
comp=Z,23nm,0.6s,mb5.1
CHTO Chiang Mai 40.01 94 *eP* **P 04 26 35.3 +1.4**
CHTO Chiang Mai 40.01 94 *eP* **P 04 26 35.3 +1.4**
FETA Feichten 40.09 311 *i P* **P 04 26 32.8 -1.4**
comp=Z,43nm,0.6s,mb5.3,SNR=25
BSD Bornholm Skovb 40.12 324⇑ *iP* **P 04 26 32.5 -1.9**
BSD *e* 04 28 10.7
BSD pmax pmax
comp=Z,140nm,1.0s,mb5.7
BSD Bornholm Skovb 40.12 324⇑ *iP* **P 04 26 32.5 -1.9**
comp=Z,143nm,1.0s,mb5.7
BSD *e* 04 28 10.7
BSD *i* 04 35 45.4
RETA Reutte 40.16 311 *i P* **P 04 26 33.0 -1.8**
comp=Z,25nm,0.9s,mb4.9,SNR=11
VSL Villasalto 40.20 299 *eP* **P 04 26 35.5 +0.3**
comp=Z,44nm,1.1s,mb5.1
VSL Villasalto 40.20 299 *eP* **P 04 26 35.5 +0.3**
comp=Z,44nm,1.1s,mb5.1
KEST Kesra 40.26 293 P **P 04 26 37.4 +1.5**
comp=Z,1.9nm,0.6s,mb4.0,baz=2.7,slow=5.0,SNR=10
KEST LR LR 04 47 59.1
comp=Z,177nm,18.1s,MS4.0,baz=354,slow=43
GRA1 Grafenberg Arr 40.39 315 *eP* **P 04 26 36.9 +0.3**
comp=Z,127nm,1.4s,mb5.5
GRA1 LR LR
comp=Z,400nm,20.6s,MS4.2
GRF Grafenberg Arr 40.39 315 *eP* **P 04 26 36.9 +0.3**
GRF pmax pmax
comp=Z,127nm,1.4s,mb5.5
GRF MLR MLR
comp=Z,400nm,20.6s,MS4.2
GRF Grafenberg Arr 40.39 315 *eP* **P 04 26 36.9 +0.3**
GRF pmax pmax
comp=Z,127nm,1.4s,mb5.5
GRF MLR MLR
comp=Z,400nm,20.6s,MS4.2
GRF Grafenberg Arr 40.39 315 *eP* **P 04 26 36.9 +0.3**
comp=Z,127nm,1.4s,mb5.5
GRF *e*L 04 47 35.3
comp=Z,407nm,20.6s
MOX Moxa 40.40 316 *eP* **P 04 26 37.8 +1.1**
comp=Z,22nm,1.3s,mb4.7
MOX Moxa 40.40 316 *eP* **P 04 26 37.8 +1.1**
MOX pmax pmax
comp=Z,22nm,1.3s,mb4.7
MOX Moxa 40.40 316 *eP* **P 04 26 36.9 +0.2**
comp=Z,34nm,1.6s,mb4.8
DAVOX Davos/Dischmat 40.61 310 P **P 04 26 37.5 -1.0**
comp=Z,9.9nm,0.5s,mb4.7,baz=102,slow=4.2,SNR=28
DAVOX LR LR 04 46 18.8
comp=Z,425nm,19.4s,MS4.3,baz=91,slow=40
PGF Pioggiola 40.66 304 *eP* **P 04 26 37.5 -1.5**
comp=Z,6.3nm,0.7s,mb4.1
PGF Pioggiola 40.66 304 *eP* **P 04 26 37.5 -1.5**
PGF pmax pmax
comp=Z,3.0nm,0.7s,mb4.0
PGF Pioggiola 40.66 304 *eP* **P 04 26 37.5 -1.5**
comp=Z,3.2nm,0.7s,mb4.1
DAVOS Davos 40.68 310 P **P 04 26 37.5 -1.6**
MOY Mondy 40.69 42 *eP* **P 04 26 40.3 +1.2**
MOY pmax pmax
comp=Z,133nm,1.8s,mb5.3
MOY Mondy 40.69 42 *eP* **P 04 26 40.3 +1.2**
comp=Z,133nm,1.8s,mb5.3
LZH Lanzhou 40.69 66 *eP* **P 04 26 38.9 -0.5**
LZH AP pP 04 26 49.5 +4.7
LZH XP sP 04 26 53.8 +6.9
LZH PP PP 04 28 18.3 +5.2
LZH PCP PcP 04 28 43.3 +2.5
LZH *e*S **S 04 32 47.0 -1.8**
LZH XS sS 04 33 03.0 +5.2

LZH SS SS 04 35 45.0 -4.4
LZH AMB AMB
comp=Z,28nm,1.1s,mb4.8
LZH AMB AMB
comp=Z,150nm,5.8s
LZH LR LR
comp=E,785nm,12.6s
LZH LR LR
comp=Z,818nm,14.0s,MS4.7
DAVA Damuels 40.71 311 *i P* **P 04 26 37.6 -1.7**
comp=Z,105nm,0.8s,mb5.5,SNR=28
RGN Rugen 40.74 322 *eP* **P 04 26 40.7 +1.2**
comp=Z,234nm,1.0s,mb5.8
RGN Rugen 40.74 322 *eP* **P 04 26 40.7 +1.3**
comp=Z,234nm,1.0s,mb5.8
CD2 Chengdu 41.13 74⇑ *iP* **P 04 26 41.8 -1.2**
CD2 AP pP 04 26 46.5 -1.9
CD2 XP sP 04 26 48.5 -2.1
CD2 PP PP 04 28 20.1 +2.1
CD2 S **S 04 32 53.8 -1.6**
CD2 SS SS 04 35 50.5 -7.7
CD2 AMB AMB
comp=Z,20nm,0.7s,mb4.9
CD2 AMB AMB
comp=Z,40nm,5.2s
CD2 LR LR
comp=N,4μm,18.0s
CD2 LR LR
comp=E,1μm,12.0s
CD2 LR LR
comp=Z,790nm,16.8s,MS4.7
KMI Kunming 41.41 83 P **P 04 26 45.5 +0.1**
KMI AP pP 04 26 49.6 -1.2
KMI PP PP 04 28 26.0 +4.9
KMI S **S 04 33 04.8 +5.0**
KMI SS SS 04 36 03.5 -0.5
KMI LR LR
comp=N,320nm,18.4s,MS4.5
KMI LR LR
comp=E,531nm,19.1s,MS4.5
KMI LR LR
comp=Z,491nm,18.4s,MS4.4
UBBA Unterbreizbach 41.44 316 *eP* **P 04 26 45.3 0.0**
comp=Z,38nm,1.5s,mb4.8
STU Stuttgart 41.46 313 *eP* **P 04 26 45.5 0.0**
comp=Z,21nm,1.2s,mb4.6
CLZ Clausthal 41.50 318 *eP* **P 04 26 46.5 +0.8**
CLZ pmax pmax
comp=Z,126nm,1.2s,mb5.4
CLZ Clausthal 41.50 318 *eP* **P 04 26 46.5 +0.8**
comp=Z,126nm,1.2s,mb5.4
COP Copenhagen 41.65 324 *i P* **P 04 26 53.4 +6.5**
COP pmax pmax
comp=Z,75nm,0.8s,mb5.4
COP Copenhagen 41.65 324 *i P* **P 04 26 53.4 +6.5**
comp=Z,75nm,0.8s,mb5.4
COP *i* S **S 04 33 19.8 +17**
ZAK Zakamensk 41.72 45 *eP* **P 04 26 47.5 -0.1**
ZAK *e* 04 33 06.6
ZAK pmax pmax
comp=Z,36nm,1.3s,mb4.8
ZAK Zakamensk 41.72 45 *eP* **P 04 26 47.5 -0.1**
comp=Z,36nm,1.3s,mb4.8
CMAH Djebel Manchou 41.78 295 P **P 04 26 50.0 +1.7**
APA Apatity 41.80 347⇑ *iP* **P 04 26 47.8 -0.2**
APA *i* 04 27 03.2
APA *i* 04 28 33.5
APA *i* S **S 04 33 11.0 +6.6**
APA pmax pmax
comp=Z,84nm,1.1s,mb5.3
APA MLR MLR
comp=Z,2μm,13.0s,MS5.1
APA Apatity 41.80 347 *i P* **P 04 26 47.8 -0.2**
comp=Z,84nm,1.1s,mb5.3
SAOF Saorge 41.84 306 *eP* **P 04 26 47.4 -1.3**
SBF Sospel 41.92 305 *eP* **P 04 26 47.7 -1.6**
comp=Z,21nm,0.6s,mb4.6
SBF Sospel 41.92 305 *eP* **P 04 26 47.7 -1.6**
SBF pmax pmax
comp=Z,11nm,0.6s,mb4.7
SBF Sospel 41.92 305 *eP* **P 04 26 47.7 -1.6**
comp=Z,11nm,0.6s,mb4.6
BFO Black Forest 41.93 312 *eP* **P 04 26 48.6 -0.8**
BFO pmax pmax
comp=Z,10.0nm,0.9s,mb4.5
BFO Black Forest 41.93 312 *eP* **P 04 26 48.6 -0.8**
comp=Z,10.0nm,0.9s,mb4.5
REVF Revere 41.96 305 *eP* **P 04 26 49.0 -0.6**
LUCF Luceram 41.99 305 *eP* **P 04 26 50.3 +0.4**
FELD Feldberg im Sc 42.07 311 *eP* **P 04 26 49.9 -0.6**
TOUF Mont Tournerai 42.07 306 *eP* **P 04 26 51.4 +0.9**
MVIF Mont Vial 42.13 305 *eP* **P 04 26 50.8 -0.2**
BSEG Bad Segeberg 42.17 321 *eP* **P 04 26 51.7 +0.5**
comp=Z,88nm,1.2s,mb5.3
TLY Talaya 42.27 43 *eP* **P 04 26 51.9 -0.2**
TLY *e*S **S 04 33 14.3 +2.4**
TLY *e*SS SS 04 36 17.2 -3.0
TLY *e*SSS 04 37 00.9
TLY pmax pmax
comp=Z,28nm,1.2s,mb4.8
TLY MLR MLR
comp=Z,898nm,13.0s,MS4.8
TLY Talaya 42.27 43 *eP* **P 04 26 51.9 -0.2**
comp=Z,28nm,1.2s,mb4.8
NST Nakhon Sawan 42.29 98 P **P 04 26 54.0 +1.4**
SURF Saint Ours 42.42 306 *eP* **P 04 26 53.9 +0.5**
FRF La Foret Royal 42.46 305 *eP* **P 04 26 52.1 -1.7**
comp=Z,6.5nm,0.8s,mb4.0
FRF La Foret Royal 42.46 305 *eP* **P 04 26 52.1 -1.7**
FRF pmax pmax
comp=Z,3.0nm,0.8s,mb4.0
FRF La Foret Royal 42.46 305 *eP* **P 04 26 52.1 -1.7**
comp=Z,3.2nm,0.8s,mb4.0
MBDF Montbardon 42.48 307 *eP* **P 04 26 52.3 -1.6**
comp=Z,22nm,0.7s,mb4.6
MBDF Montbardon 42.48 307 *eP* **P 04 26 52.3 -1.6**
MBDF pmax pmax
comp=Z,11nm,0.7s,mb4.6
MBDF Montbardon 42.48 307 *eP* **P 04 26 52.3 -1.6**
comp=Z,11nm,0.7s,mb4.6
LMR La Mourre 42.55 304 *eP* **P 04 26 52.5 -1.9**
comp=Z,5.5nm,0.9s,mb4.0
LMR La Mourre 42.55 304 *eP* **P 04 26 52.5 -1.9**
LMR pmax pmax
comp=Z,3.0nm,0.9s,mb4.0
LMR La Mourre 42.55 304 *eP* **P 04 26 52.5 -1.9**
comp=Z,2.8nm,0.9s,mb4.0
LPG La Plagne 42.57 308 *eP* **P 04 26 53.3 -1.3**
comp=Z,49nm,0.8s,mb5.0
LPG La Plagne 42.57 308 *eP* **P 04 26 53.3 -1.3**
LPG pmax pmax
comp=Z,25nm,0.8s,mb5.0
LPG La Plagne 42.57 308 *eP* **P 04 26 53.3 -1.3**
comp=Z,25nm,0.8s,mb5.0
BNI Bardonecchia 42.58 307 *eP* **P 04 26 53.6 -1.1**
comp=Z,28nm,0.9s,mb5.0
BNI Bardonecchia 42.58 307 *eP* **P 04 26 53.6 -1.1**
BNI pmax pmax
comp=Z,28nm,0.9s,mb5.0
BNI Bardonecchia 42.58 307 *eP* **P 04 26 53.6 -1.1**
comp=Z,28nm,0.9s,mb5.0
LPL La Plagne 42.59 308 *eP* **P 04 26 53.1 -1.7**
comp=Z,60nm,0.8s,mb5.1
LPL La Plagne 42.59 308 *eP* **P 04 26 53.1 -1.7**
LPL pmax pmax
comp=Z,30nm,0.8s,mb5.1
LPL La Plagne 42.59 308 *eP* **P 04 26 53.1 -1.7**
comp=Z,30nm,0.8s,mb5.1
MOF Molkenrain 42.64 311 *eP* **P 04 26 54.4 -0.7**
CDF Champ du Feu 42.64 312 *eP* **P 04 26 53.3 -1.8**
comp=Z,23nm,0.9s,mb4.6
CDF Champ du Feu 42.64 312 *eP* **P 04 26 53.3 -1.8**
CDF pmax pmax
comp=Z,12nm,0.9s,mb4.6
CDF Champ du Feu 42.64 312 *eP* **P 04 26 53.3 -1.8**
comp=Z,12nm,0.9s,mb4.6
ECH Echery 42.68 312 *eP* **P 04 26 54.9 -0.6**
LOMF Lomont 42.77 310 *eP* **P 04 26 56.0 -0.2**
IRK Irkutsk 42.80 42 *eP* **P 04 26 57.0 +0.7**
IRK *e* 04 28 40.9
IRK pmax pmax
comp=Z,105nm,0.8s,mb5.6
IRK Irkutsk 42.80 42 *eP* **P 04 26 57.0 +0.7**
comp=Z,105nm,0.8s,mb5.6
HINF Hinteralfeld 42.82 311 *eP* **P 04 26 55.1 -1.5**
comp=Z,20nm,0.7s,mb4.7

HINF Hinteralfeld 42.82 311 *eP* **P 04 26 55.1 -1.5**
HINF pmax pmax
comp=Z,10.0nm,0.7s,mb4.7
HINF Hinteralfeld 42.82 311 *eP* **P 04 26 55.1 -1.5**
comp=Z,10.0nm,0.7s,mb4.7
HFS Hagfors 42.99 330 P **P 04 26 56.9 -0.9**
HFS pmax pmax
comp=Z,6.0nm,0.4s
HFS MLR MLR
comp=Z,443nm,20.8s
HFS Hagfors 42.99 330 P **P 04 26 56.9 -0.9**
comp=Z,6.3nm,0.4s,mb4.7,baz=132,slow=10,SNR=41
HFS LR LR 04 46 55.6
comp=Z,443nm,20.8s,MS4.3,baz=127,slow=39
DFRA Djebel Bou Aff 43.02 294 P **P 04 27 01.0 +2.6**
STOF St-Etienne Org 43.03 305 *eP* **P 04 26 58.2 -0.2**
CMER Merouana 43.07 293 P **P 04 27 03.0 +4.2**
ORIF Oris-en-Rattie 43.13 307 *eP* **P 04 26 57.6 -1.5**
ORIF *e*MLR MLR
comp=Z,798nm,22.2s,MS4.3
CABF La Chapelle 43.17 309 *eP* **P 04 26 57.7 -1.7**
comp=Z,52nm,0.7s,mb5.1
CABF La Chapelle 43.17 309 *eP* **P 04 26 57.7 -1.7**
CABF pmax pmax
comp=Z,26nm,0.7s,mb5.1
CABF La Chapelle 43.17 309 *eP* **P 04 26 57.7 -1.7**
comp=Z,26nm,0.7s,mb5.1
IBBN Ibbenburen 43.18 318 *eP* **P 04 27 00.6 +1.2**
comp=Z,115nm,1.2s,mb5.5
HAU Haudompre 43.19 311 *eP* **P 04 26 57.7 -1.8**
comp=Z,21nm,0.7s,mb4.7
HAU *e*MLR MLR
comp=Z,212nm,17.0s,MS3.8
HAU Haudompre 43.19 311 *eP* **P 04 26 57.7 -1.8**
comp=Z,10nm,0.7s,mb4.7
HAU LR LR
comp=Z,210nm,17.0s,MS4.1
HAU Haudompre 43.19 311 *eP* **P 04 26 57.7 -1.8**
HAU pmax pmax
comp=Z,10.0nm,0.7s,mb4.7
HAU MLR MLR
comp=Z,210nm,17.0s,MS4.1
SONM Songino Array 43.23 49 P **P 04 26 59.7 -0.2**
SONM pmax pmax
comp=Z,17nm,0.8s
SONM MLR MLR
comp=Z,1µm,21.5s
SONM Songino Array 43.23 49 P **P 04 26 59.7 -0.2**
comp=Z,17nm,0.8s,mb4.8,baz=261,slow=8.1,SNR=80
SONM LR LR 04 46 36.7
comp=Z,1µm,21.5s,MS4.8,baz=259,slow=38
SMRF Simiane la Rot 43.27 305 *eP* **P 04 26 58.6 -1.7**
CKHR Kef el Ahmar 43.35 294 P **P 04 27 03.0 +1.9**
SET Setif 43.43 294 P **P 04 27 05.0 +3.3**
WLF Walferdange 43.59 314 *eP* **P 04 27 03.4 +0.6**
comp=Z,16nm,0.7s,mb4.9
WLF Walferdange 43.59 314 *eP* **P 04 27 03.4 +0.6**
WLF pmax pmax
comp=Z,16nm,0.7s,mb4.9
WLF Walferdange 43.59 314 P **P 04 27 04.2 +1.4**
comp=Z,14nm,1.4s,mb4.5
WLF Walferdange 43.59 314 *eP* **P 04 27 03.4 +0.6**
comp=Z,16nm,0.7s,mb4.9
MUD Monsted U'grnd 43.63 324 *i* P **P 04 27 03.0 0.0**
MUD pmax pmax
comp=Z,68nm,1.0s,mb5.3
MUD Monsted U'grnd 43.63 324 *i* P **P 04 27 03.0 0.0**
comp=Z,68nm,1.0s,mb5.3
WTSB Winterswijk 43.67 317⇓ *eP* **P 04 27 04.2 +0.8**
comp=Z,56nm,2.1s,mb4.9
ULN Ulaanbaatar 43.67 49 *eP* **P 04 27 02.2 -1.3**
comp=Z,32nm,0.8s,mb5.1
ULN Ulaanbaatar 43.67 49 *eP* **P 04 27 02.2 -1.3**
ULN pmax pmax
comp=Z,32nm,0.8s,mb5.1
ULN Ulaanbaatar 43.67 49 *eP* **P 04 27 02.2 -1.3**
comp=Z,32nm,0.8s,mb5.1
MEM Membach 43.86 315 P **P 04 27 06.1 +1.2**
comp=Z,26nm,2.0s,mb4.6
HGN Heimansgroeve 43.94 315⇓ *eP* **P 04 27 06.7 +1.1**
comp=Z,53nm,1.9s,mb4.9
HGN Heimansgroeve 43.94 315 *eS* **S 04 33 31.5 -4.8**
VIVF Saint-Julien-l 43.98 307 *eP* **P 04 27 04.2 -1.8**
comp=Z,15nm,0.8s,mb4.5
VIVF Saint-Julien-l 43.98 307 *eP* **P 04 27 04.2 -1.8**
VIVF pmax pmax
comp=Z,8.0nm,0.8s,mb4.5
VIVF Saint-Julien-l 43.98 307 *eP* **P 04 27 04.2 -1.8**
comp=Z,7.7nm,0.8s,mb4.5
BEBN Eben Emael 44.10 315 P **P 04 27 06.6 -0.3**
MEZF Maizieres J'vi 44.12 312 *eP* **P 04 27 05.8 -1.2**
comp=Z,35nm,0.6s,mb5.0
MEZF Maizieres J'vi 44.12 312 *eP* **P 04 27 05.8 -1.2**
comp=Z,18nm,0.6s,mb5.0
BCLA Clavier 44.27 315 P **P 04 27 09.0 +0.8**
comp=Z,26nm,2.1s,mb4.6
NB2 NORSAR Subarra 44.49 331 P **P 04 27 08.4 -1.5**
comp=Z,5.9nm,0.7s,mb4.4,baz=114,slow=7.9
NOA NORSAR Array B 44.49 331 P **P 04 27 08.5 -1.3**
NOA LR LR 04 47 40.2
NOA NORSAR Array B 44.49 331 P **P 04 27 08.5 -1.4**
NOA pmax pmax
comp=Z,3.0nm,0.6s
NOA MLR MLR
comp=Z,404nm,21.5s
NOA NORSAR Array B 44.49 331 P **P 04 27 08.5 -1.3**
comp=Z,3.4nm,0.6s,mb4.2,baz=116,slow=7.9,SNR=19
NOA LR LR 04 47 40.2
comp=Z,404nm,21.5s,MS4.3,baz=110,slow=39
GYA Guiyang 44.51 80⇓ *iP* **P 04 27 11.3 +0.8**
GYA AP pP 04 27 17.9 +1.9
GYA XP sP 04 27 20.6 +2.5
GYA PCP PcP 04 28 56.3 +2.6
GYA SCP ScP 04 32 46.5 +1.4
GYA S **S 04 33 47.3 +2.1**
GYA SS SS 04 36 58.4 -6.4
GYA AMB AMB
comp=Z,30nm,0.8s,mb5.2
GYA AMB AMB
comp=Z,150nm,6.2s
GYA LR LR
comp=N,580nm,18.9s,MS4.7
GYA LR LR
comp=E,560nm,19.6s,MS4.7
GYA LR LR
comp=Z,620nm,19.8s,MS4.5
LASF Ste Croix 44.51 305 *eP* **P 04 27 08.5 -1.8**
GIVF Givet 44.52 314 *eP* **P 04 27 09.9 -0.3**
NAO01 NORSAR Array S 44.55 330 *eP* **P 04 27 10.0 -0.3**
comp=Z,9.4nm,0.8s,mb4.7
NAO01 NORSAR Array S 44.55 330 *eP* **P 04 27 10.0 -0.3**
comp=Z,9.4nm,0.8s,mb4.7
KONO Kongsberg 44.62 328 *eP* **P 04 27 10.7 -0.3**
comp=Z,33nm,1.1s,mb5.1
KONO Kongsberg 44.62 328 *eP* **P 04 27 09.6 -1.3**
KONO AMS AMS 04 52 42.2
comp=Z,242nm,23.9s,MS4.0
KONO Kongsberg 44.62 328 *eP* **P 04 27 10.7 -0.2**
KONO pmax pmax
comp=Z,33nm,1.1s,mb5.1
DOU Dourbes 44.66 314 P **P 04 27 11.2 -0.1**
comp=Z,29nm,2.1s,mb4.7
SMF Signal de Mont 44.71 309 *eP* **P 04 27 10.2 -1.6**
comp=Z,147nm,1.1s,mb5.4
SMF Signal de Mont 44.71 309 *eP* **P 04 27 10.2 -1.6**
SMF pmax pmax
comp=Z,73nm,1.1s,mb5.4
SMF Signal de Mont 44.71 309 *eP* **P 04 27 10.2 -1.6**
comp=Z,73nm,1.1s,mb5.4
LOR Lormes 44.76 310 *eP* **P 04 27 10.1 -2.1**
comp=Z,28nm,0.7s,mb4.9
LOR *e*MLR MLR
comp=Z,754nm,17.8s,MS4.4
LOR Lormes 44.76 310 *eP* **P 04 27 10.1 -2.1**
comp=Z,14nm,0.7s,mb4.9
LOR LR LR
comp=Z,750nm,17.8s,MS4.7
LOR Lormes 44.76 310 *eP* **P 04 27 10.1 -2.1**
LOR pmax pmax
comp=Z,14nm,0.7s,mb4.9
LOR MLR MLR
comp=Z,750nm,17.8s,MS4.7
PLDF La Plantade 44.80 308 *eP* **P 04 27 13.0 +0.4**
BAIF Baives 44.90 314 *eP* **P 04 27 13.0 -0.3**
comp=Z,186nm,1.4s,mb5.4
BAIF Baives 44.90 314 *eP* **P 04 27 13.0 -0.3**
BAIF pmax pmax
comp=Z,93nm,1.4s,mb5.4
BAIF Baives 44.90 314 *eP* **P 04 27 13.0 -0.3**
comp=Z,93nm,1.4s,mb5.4
SNF Seneffe 44.92 315 P **P 04 27 14.5 +1.0**
comp=Z,30nm,2.0s,mb4.8
SNF Seneffe 44.92 315 P **P 04 27 14.4 +0.9**
comp=Z,30nm,2.0s,mb4.8
UCC Uccle 44.93 315 P **P 04 27 13.3 -0.1**
KEV Kevo 44.93 346 *ep* **P 04 27 11.6 -1.6**
comp=Z,15nm,0.6s,mb5.0
KEV Kevo 44.93 346 *eP* **P 04 27 11.6 -1.6**
KEV pmax pmax
comp=Z,15nm,0.6s,mb5.0
SSF Saint Saulge 44.98 310 *eP* **P 04 27 12.3 -1.6**
comp=Z,116nm,1.1s,mb5.3
SSF Saint Saulge 44.98 310 *eP* **P 04 27 12.3 -1.6**
SSF pmax pmax
comp=Z,58nm,1.1s,mb5.3
SSF Saint Saulge 44.98 310 *eP* **P 04 27 12.3 -1.6**
comp=Z,58nm,1.1s,mb5.3
LBL Lubilhac 45.01 307 *eP* **P 04 27 14.4 +0.2**
XAN Xi'an 45.02 69 P **P 04 27 10.9 -3.6**
XAN AP pP 04 27 26.3 +6.3
XAN PP PP 04 28 59.3 -0.4
XAN AMB AMB
comp=Z,2.0nm,0.8s,mb4.0
XAN AMB AMB
comp=Z,115nm,10.5s
XAN LR LR
comp=N,1µm,24.1s,MS4.8
XAN LR LR
comp=E,571nm,22.7s,MS4.8
XAN LR LR
comp=Z,790nm,14.2s
AVF Avril sur Loir 45.06 309 *eP* **P 04 27 13.0 -1.6**
comp=Z,25nm,0.8s,mb4.8
AVF Avril sur Loir 45.06 309 *eP* **P 04 27 13.0 -1.6**
AVF pmax pmax
comp=Z,12nm,0.8s,mb4.8
AVF Avril sur Loir 45.06 309 *eP* **P 04 27 13.0 -1.6**
comp=Z,12nm,0.8s,mb4.8
ARCES ARCESS Array B 45.09 345 P **P 04 27 14.0 -0.5**
ARCES pmax pmax
comp=Z,14nm,0.9s
ARCES pmax pmax
comp=N,1.0nm,0.7s
ARCES MLR MLR
comp=Z,414nm,19.0s
ARCES ARCESS Array B 45.09 345 P **P 04 27 14.0 -0.4**
comp=Z,14nm,0.9s,mb4.8,baz=142,slow=4.6,SNR=19
ARCES ScP ScP 04 32 48.1 +1.4
comp=Z,1.4nm,0.7s,baz=132,slow=2.7,SNR=4.1
ARCES LR LR 04 48 48.3
comp=Z,414nm,19.0s,MS4.4,baz=136,slow=40
ARE0 ARCESS Array S 45.09 345 *eP* **P 04 27 15.4 +0.9**
ARE0 ARCESS Array S 45.09 345 *eP* **P 04 27 15.4 +0.9**
AGO Saint Agoulin 45.15 308 *eP* **P 04 27 14.6 -0.7**
PYM Petit Puy Mans 45.21 308 *eP* **P 04 27 14.2 -1.6**
KTK1 Kautokeino 45.22 344 *eP* **P 04 27 16.6 +1.1**
comp=Z,57nm,1.8s,mb5.1
KTK1 Kautokeino 45.22 344 *eP* **P 04 27 16.6 +1.1**
KTK1 AMb AMB 04 27 20.6
comp=Z,57nm,1.8s,mb5.1
KTK1 Kautokeino 45.22 344 *eP* **P 04 27 16.6 +1.0**
comp=Z,57nm,1.8s,mb5.1,SNR=24
ETOS Mallorca 45.27 299 P **P 04 27 17.0 +0.6**
comp=Z,29nm,1.5s,mb4.9
ETOS Mallorca 45.27 299 P **P 04 27 17.0 +0.6**
comp=Z,29nm,1.5s,mb4.9
BGF Bois d'Agland 45.38 309 *eP* **P 04 27 15.5 -1.7**
comp=Z,38nm,0.8s,mb5.0
BGF Bois d'Agland 45.38 309 *eP* **P 04 27 15.5 -1.7**
BGF pmax pmax
comp=Z,19nm,0.8s,mb5.0
BGF Bois d'Agland 45.38 309 *eP* **P 04 27 15.5 -1.7**
comp=Z,19nm,0.8s,mb5.0
BTO Baotou 45.39 60 *eP* **P 04 27 15.8 -1.5**
EMHD Djebel Mahouad 45.40 294 P **P 04 27 18.4 +0.9**
HYF Humbligny 45.59 310 *eP* **P 04 27 17.2 -1.6**
MTLF Montolieu 45.68 304 *eP* **P 04 27 18.0 -1.5**
TCF Toulx Ste Croi 45.80 308 *eP* **P 04 27 18.2 -2.3**
comp=Z,33nm,0.8s,mb5.0
TCF Toulx Ste Croi 45.80 308 *eP* **P 04 27 18.2 -2.3**
comp=Z,16nm,0.8s,mb5.0
TCF Toulx Ste Croi 45.80 308 *eP* **P 04 27 18.2 -2.3**
TCF pmax pmax
comp=Z,16nm,0.8s,mb5.0
CAF Calviac 45.83 307 *eP* **P 04 27 19.2 -1.5**
comp=Z,25nm,0.9s,mb4.9
CAF Calviac 45.83 307 *eP* **P 04 27 19.2 -1.5**
CAF pmax pmax
comp=Z,12nm,0.9s,mb4.8
CAF Calviac 45.83 307 *eP* **P 04 27 19.2 -1.5**
comp=Z,12nm,0.9s,mb4.9
DOMB Dombas 45.86 331 *eP* **P 04 27 21.7 +1.0**
comp=Z,47nm,1.9s,mb5.1
DOMB Dombas 45.86 331 *eP* **P 04 27 21.7 +1.0**
DOMB AMb AMB 04 27 24.7
comp=Z,47nm,1.9s,mb5.1
DOMB Dombas 45.86 331 *eP* **P 04 27 21.7 +1.0**
comp=Z,47nm,1.9s,mb5.1,SNR=24
MOR8 Moi Rana 45.90 338 *eP* **P 04 27 21.7 +0.8**
comp=Z,60nm,1.5s,mb5.3
MOR8 Moi Rana 45.90 338 *eP* **P 04 27 21.7 +0.8**
MOR8 AMb AMB 04 27 28.4
comp=Z,60nm,1.5s,mb5.3
MOR8 Moi Rana 45.90 338 *eP* **P 04 27 21.7 +0.8**
comp=Z,60nm,1.5s,mb5.3,SNR=24
BLS5 Blasjo 46.02 327 *eP* **P 04 27 22.8 +0.7**
comp=Z,31nm,1.2s,mb5.1
BLS5 Blasjo 46.02 327 *eP* **P 04 27 22.8 +0.7**
BLS5 AMb AMB 04 27 31.1
comp=Z,31nm,1.2s,mb5.1
BLS5 Blasjo 46.02 327 *eP* **P 04 27 22.8 +0.8**
comp=Z,31nm,1.2s,mb5.1,SNR=24
EMIR Miracle 46.19 302 P **P 04 27 25.8 +2.2**
comp=Z,20nm,1.5s,mb4.8
EMIR Miracle 46.19 302 P **P 04 27 25.8 +2.2**
comp=Z,20nm,1.5s,mb4.8
RJF Les Rejaudoux 46.23 307 *eP* **P 04 27 22.3 -1.6**
comp=Z,62nm,1.0s,mb5.2
RJF *e*MLR MLR
comp=Z,548nm,21.2s,MS4.2
RJF Les Rejaudoux 46.23 307 *eP* **P 04 27 22.3 -1.6**
comp=Z,31nm,1.0s,mb5.2
RJF LR LR
comp=Z,550nm,21.3s,MS4.5
RJF Les Rejaudoux 46.23 307 *eP* **P 04 27 22.3 -1.6**
RJF pmax pmax
comp=Z,31nm,1.0s,mb5.2
RJF MLR MLR
comp=Z,550nm,21.3s,MS4.5
EPOB Poblet 46.53 302 P **P 04 27 27.9 +1.6**
comp=Z,3.5nm,0.6s,mb4.5
EBNR Beni Rached 46.53 295 P **P 04 27 19.0 -7.4**
HHC Hu-ho-hao-te 46.55 59 *eP* **P 04 27 28.0 +1.5**
HHC AP pP 04 27 32.3 +0.3
HHC XP sP 04 27 35.1 +1.0
HHC PP PP 04 29 16.8 +1.0
HHC PCS PcS 04 32 57.8 +2.6
HHC S **S 04 34 22.6 +8.2**
HHC XS sS 04 34 25.8 +2.4
HHC SS SS 04 37 27.9 -12
HHC AMB AMB
comp=Z,20nm,0.4s,mb5.4
HHC LR LR
comp=N,864nm,20.2s,MS4.8
HHC LR LR
comp=E,795nm,19.6s,MS4.8
HHC LR LR
comp=Z,611nm,12.9s
TRO Tromso 46.75 343 *eP* **P 04 27 26.1 -1.5**
TRO *e*S **S 04 34 23.8 +7.5**
TRO AMS AMS 04 51 00.1
comp=Z,237nm,22.5s,MS4.1
LFF La Frestale 46.77 306 *eP* **P 04 27 26.3 -1.8**
comp=Z,49nm,0.8s,mb5.2
LFF La Frestale 46.77 306 *eP* **P 04 27 26.3 -1.8**
LFF pmax pmax
comp=Z,24nm,0.8s,mb5.2
LFF La Frestale 46.77 306 *eP* **P 04 27 26.3 -1.8**
comp=Z,24nm,0.8s,mb5.2
ETRT Tiaret 46.83 293 P **P 04 27 21.0 -7.7**
RUND Rundenannen 46.88 328 *eP* **P 04 27 30.8 +2.0**
comp=Z,74nm,1.7s,mb5.3
RUND Rundenannen 46.88 328 *eP* **P 04 27 30.8 +2.0**
RUND AMb AMB 04 27 35.3
comp=Z,74nm,1.7s,mb5.3
BER Bergen 46.89 328 *e*SS SS 04 37 47.4 +2.4
BER AMS AMS 04 53 02.6
comp=Z,568nm,12.7s,MS4.7
BER Bergen 46.89 328 *e*SS SS 04 37 47.4 +2.4
SNR=29
EANR 'Ain N'Sour 46.92 294 P **P 04 27 31.5 +2.1**
EPF Esparros 47.05 304 *eP* **P 04 27 28.9 -1.4**
ERTA Horta de San J 47.11 301 P **P 04 27 31.6 +0.7**
comp=Z,15nm,1.0s,mb4.9
ERTA Horta de San J 47.11 301 P **P 04 27 31.6 +0.7**
comp=Z,15nm,1.0s,mb4.9
EBIE Bielsa 47.20 303 P **P 04 27 34.8 +3.3**
comp=Z,19nm,1.5s,mb4.8
TIY Taiyuan 47.44 63 P **P 04 27 30.6 -2.9**
TIY S **S 04 34 25.3 -1.9**
TIY LR LR
comp=N,711nm,13.3s,MS5.0
TIY LR LR
comp=E,790nm,10.0s,MS5.0
TIY LR LR
comp=Z,992nm,14.4s,MS4.9
MFF Saint Martin d 47.45 309 *eP* **P 04 27 31.8 -1.6**
LDF La Druitiere 47.54 311 *eP* **P 04 27 31.8 -2.3**
comp=Z,25nm,0.8s,mb5.0
LDF La Druitiere 47.54 311 *eP* **P 04 27 31.8 -2.3**
comp=Z,12nm,0.8s,mb5.0
LDF La Druitiere 47.54 311 *eP* **P 04 27 31.8 -2.3**
LDF pmax pmax
comp=Z,12nm,0.8s,mb5.0
ESAC San Caprasio 47.68 302 P **P 04 27 36.8 +1.5**
comp=Z,2.0nm,0.8s,mb4.2
ESAC San Caprasio 47.68 302 P **P 04 27 36.8 +1.5**
comp=Z,2.0nm,0.8s,mb4.2
ETSF Etsaut 47.71 304 *eP* **P 04 27 34.0 -1.5**
EMOS Mosqueruela 47.76 300 P **P 04 27 36.9 +1.1**
comp=Z,35nm,1.3s,mb5.2
EMOS Mosqueruela 47.76 300 P **P 04 27 36.9 +1.0**
comp=Z,35nm,1.3s,mb5.2
KULM Kulim 47.78 110 *eP* **P 04 27 37.4 +1.0**
KULM Kulim 47.78 110 *eP* **P 04 27 37.4 +1.0**
PSI Prapat 47.78 114 P **P 04 27 36.1 -0.3**
PSI pmax pmax
comp=Z,6.0nm,0.6s,mb4.8
PSI MLR MLR
comp=Z,331nm,18.1s,MS4.3
PSI Prapat 47.78 114 P **P 04 27 36.0 -0.3**
comp=Z,6.2nm,0.6s,mb4.8,baz=311,slow=7.5,SNR=9.7
PSI LR LR 04 50 52.7
comp=Z,331nm,18.1s,MS4.3,baz=306,slow=40
FLN La Foliniere 47.79 312 *eP* **P 04 27 34.2 -1.8**
comp=Z,56nm,0.8s,mb5.3
FLN *e*MLR MLR
comp=Z,612nm,19.5s,MS4.3
FLN La Foliniere 47.79 312 *eP* **P 04 27 34.2 -1.8**
comp=Z,28nm,0.8s,mb5.3
FLN LR LR
comp=Z,610nm,19.5s,MS4.6
FLN La Foliniere 47.79 312 *eP* **P 04 27 34.2 -1.8**
FLN pmax pmax
comp=Z,28nm,0.8s,mb5.3
FLN MLR MLR
comp=Z,610nm,19.5s,MS4.6
GRR Gorron 48.02 311 *eP* **P 04 27 36.2 -1.6**
ECHE Chera 48.19 299 P **P 04 27 39.9 +0.7**
comp=Z,3.5nm,0.5s,mb4.7
ECHE Chera 48.19 299 P **P 04 27 39.9 +0.6**
ECHE pmax pmax
comp=Z,4.0nm,0.5s,mb4.7
ECHE Chera 48.19 299 P **P 04 27 39.9 +0.6**
comp=Z,3.5nm,0.5s,mb4.7
SJPF Ste Jean 48.19 304 *eP* **P 04 27 37.7 -1.5**
comp=Z,17nm,0.7s,mb4.9
SJPF Ste Jean 48.19 304 *eP* **P 04 27 37.7 -1.5**
SJPF pmax pmax
comp=Z,9.0nm,0.7s,mb4.9
SJPF Ste Jean 48.19 304 *eP* **P 04 27 37.7 -1.5**
comp=Z,8.6nm,0.7s,mb4.9
SKP1 Kophill 48.27 316 *eP* **P 04 27 38.2 -1.5**
ETOB Tobarra 48.73 298 P **P 04 27 45.3 +1.9**
comp=Z,30nm,1.7s,mb5.0
ETOB Tobarra 48.73 298 P **P 04 27 45.3 +1.9**
comp=Z,30nm,1.7s,mb5.0
ETOR Torete 48.93 301 P **P 04 27 47.1 +2.2**
comp=Z,6.0nm,0.7s,mb4.7
ETOR Torete 48.93 301 P **P 04 27 47.1 +2.2**
ETOR pmax pmax
comp=Z,6.0nm,0.7s,mb4.7
ETOR Torete 48.93 301 P **P 04 27 47.1 +2.2**
comp=Z,6.0nm,0.7s,mb4.7
SSW Stow on the Wo 48.94 316 *eP* **P 04 27 43.2 -1.6**
SSW Stow on the Wo 48.94 316 *eP* **P 04 27 43.2 -1.6**
comp=Z,87nm,1.7s,mb5.5
HPK Haverah Park 49.04 318 *eP* **P 04 27 44.5 -1.1**
HPK AMb AMB 04 27 50.1
comp=Z,87nm,1.7s,mb5.5
LHO Holmfirth 49.12 318 *eP* **P 04 27 45.0 -1.1**
LHO Holmfirth 49.12 318 *eP* **P 04 27 45.0 -1.2**
SGMF Saint Gilles 49.14 311 *eP* **P 04 27 44.9 -1.6**
comp=Z,39nm,0.7s,mb5.3
SGMF Saint Gilles 49.14 311 *eP* **P 04 27 44.9 -1.6**
SGMF pmax pmax
comp=Z,20nm,0.7s,mb5.3
SGMF Saint Gilles 49.14 311 *eP* **P 04 27 44.9 -1.6**
comp=Z,20nm,0.7s,mb5.3
EVIA Vianos 49.47 298 P **P 04 27 49.6 +0.5**
comp=Z,9.3nm,0.6s,mb5.0
EVIA Vianos 49.47 298 P **P 04 27 49.6 +0.5**
EVIA pmax pmax
comp=Z,9.0nm,0.6s,mb5.0
EVIA Vianos 49.47 298 P **P 04 27 49.6 +0.5**
comp=Z,9.3nm,0.6s,mb5.0
HGH Gray Hill 49.50 315 *eP* **P 04 27 48.0 -1.1**
XAL Allendale 49.50 320 *eP* **P 04 27 47.8 -1.2**
BOD Bodaibo 49.53 36⇓ *iP* **P 04 27 47.9 -1.3**
BOD *e* 04 34 55.0
BOD pmax pmax
comp=Z,75nm,1.5s,mb5.5
BOD Bodaibo 49.53 36 *i* P **P 04 27 47.9 -1.3**
comp=Z,75nm,1.5s,mb5.5
BOD *e*S **S 04 34 55.0 -1.0**
QUIF Quistinic 49.54 310 *eP* **P 04 27 47.9 -1.6**
comp=Z,71nm,0.9s,mb5.4
QUIF Quistinic 49.54 310 *eP* **P 04 27 47.9 -1.6**
QUIF pmax pmax
comp=Z,36nm,0.9s,mb5.4
QUIF Quistinic 49.54 310 *eP* **P 04 27 47.9 -1.6**
comp=Z,36nm,0.9s,mb5.4
QIZ Qiongzhong 49.55 88 P **P 04 27 51.4 +1.4**
QIZ S **S 04 34 59.8 +2.4**
QIZ LR LR
comp=N,509nm,22.9s
QIZ LR LR
comp=E,444nm,15.4s
QIZ LR LR
comp=Z,483nm,24.1s,MS4.4
HLM1 Long Mynd 49.62 316 *eP* **P 04 27 49.2 -0.8**
comp=Z,128nm,1.7s,mb5.7
ROSF Rostrenen 49.62 311 *eP* **P 04 27 48.6 -1.5**
comp=Z,27nm,0.8s,mb5.0
ROSF Rostrenen 49.62 311 *eP* **P 04 27 48.6 -1.5**
ROSF pmax pmax
comp=Z,14nm,0.8s,mb5.0
ROSF Rostrenen 49.62 311 *eP* **P 04 27 48.6 -1.5**
comp=Z,14nm,0.8s,mb5.0
MCH1 Michaelchurch 49.65 316 *eP* **P 04 27 49.0 -1.2**
MCH1 *eP* 04 27 49.0
MCH1 AMb AMB 04 27 54.5
comp=Z,128nm,1.7s,mb5.7
HTR Trewern Hill 49.82 316 *eP* **P 04 27 49.8 -1.7**
ESY Stoneypath 49.88 321 *eP* **P 04 27 50.8 -1.2**
SBD1 Bryn Du 49.89 317 *eP* **P 04 27 50.9 -1.1**
LRW Lerwick 49.93 327 *eP* **P 04 27 51.5 -0.7**
LRW AMb AMB 04 27 59.0
comp=Z,136nm,2.1s,mb5.6
CKE Keswick 49.98 319 *eP* **P 04 27 51.5 -1.2**
CKE Keswick 49.98 319 *eP* **P 04 27 51.5 -1.2**
comp=Z,136nm,2.1s,mb5.6
EBER Berja 49.99 296 P **P 04 27 52.9 -0.2**
comp=Z,38nm,1.2s,mb5.3
EBER Berja 49.99 296 P **P 04 27 52.9 -0.2**
comp=Z,38nm,1.2s,mb5.3
EQES Quesada 50.01 297 P **P 04 27 52.7 -0.5**
comp=Z,5.2nm,0.5s,mb4.8

ECK Cauldkaine Hil 50.07 320 *e*P **P 04 27 52.8 -0.6**
ECK Cauldkaine Hil 50.07 320 *e*P **P 04 27 52.8 -0.6**
comp=Z,100nm,1.5s,mb5.6
EBL Broad Law 50.10 321 *e*P **P 04 27 52.8 -0.8**
EBL Broad Law 50.10 321 *e*P **P 04 27 52.8 -0.8**
comp=Z,54nm,1.3s,mb5.4
EKA Eskdalemuir Ar 50.10 320 P **P 04 27 52.3 -1.3**
EKA pmax pmax
comp=Z,3.0nm,0.6s
EKA Eskdalemuir Ar 50.10 320 P **P 04 27 52.3 -1.3**
comp=Z,3.1nm,0.6s,mb4.5,baz=105,slow=6.5,SNR=18
BJI Beijing 50.12 60 P **P 04 27 53.3 -0.7**
BJI PP PP 04 29 50.0 +0.9
BJI S **S 04 35 04.4 -0.4**
BJI AMB AMB
comp=Z,17nm,1.7s,mb4.8
BJI AMB AMB
comp=Z,237nm,8.2s
BJI LR LR
comp=N,1µm,21.6s,MS5.0
BJI LR LR
comp=E,718nm,20.4s,MS5.0
BJI LR LR
comp=Z,832nm,24.4s,MS4.7
ESK Eskdalemuir 50.13 320 *e*P **P 04 27 53.2 -0.7**
ESK AMb AMB 04 28 04.5
comp=Z,41nm,1.7s,mb5.2
ESK Eskdalemuir 50.13 320 *e*P **P 04 27 55.1 +1.3**
comp=Z,64nm,1.5s,mb5.4
ESK Eskdalemuir 50.13 320 *e*P **P 04 27 55.1 +1.3**
ESK pmax pmax
comp=Z,64nm,1.5s,mb5.4
ESK Eskdalemuir 50.13 320 *e*P **P 04 27 55.1 +1.3**
comp=Z,64nm,1.5s,mb5.4
DYA Yadsworthy 50.13 314 *e*P **P 04 27 53.2 -0.8**
DYA AMb AMB 04 27 55.2
comp=Z,100nm,1.5s,mb5.6
WHN Wuhan 50.16 72 *e*P **P 04 27 52.9 -1.6**
WHN S **S 04 35 03.1 -2.5**
WHN LR LR
comp=Z,1µm,17.3s,MS4.9
WAL1 Walls 50.17 327 *e*P **P 04 27 53.7 -0.4**
EDI Edinburgh 50.20 321 *e*P **P 04 27 54.2 -0.1**
EDI AMb AMB 04 28 01.0
comp=Z,54nm,1.3s,mb5.4
EBH Black Hill 50.42 321 *e*P **P 04 27 55.0 -1.0**
MCD Coleburn Disti 50.48 323 *e*P **P 04 27 55.5 -1.0**
ESDC Sonseca Array 50.49 300 P **P 04 27 56.6 -0.2**
comp=Z,5.5nm,0.8s,mb4.6
ESDC Sonseca Array 50.49 300 P **P 04 27 55.4 -1.4**
comp=Z,1.7nm,0.6s,mb4.3,baz=69,slow=7.4,SNR=11
ESDC LR LR 04 53 11.2
comp=Z,174nm,19.2s,MS4.1,baz=90,slow=41
ESDC Sonseca Array 50.49 300 P **P 04 27 56.6 -0.2**
comp=Z,5.5nm,0.8s,mb4.6
ESLA Sonseca Array 50.49 300 *e*P **P 04 27 56.3 -0.5**
comp=Z,0.8nm,0.7s,mb3.9
ESLA Sonseca Array 50.49 300 *e*P **P 04 27 56.3 -0.5**
comp=Z,0.8nm,0.7s,mb3.9
EBAN Banos Encina 50.53 298 P **P 04 27 56.9 -0.2**
comp=Z,14nm,0.7s,mb5.0
EBAN Banos Encina 50.53 298 P **P 04 27 56.9 -0.2**
EBAN pmax pmax
comp=Z,14nm,0.7s,mb5.0
EBAN Banos Encina 50.53 298 P **P 04 27 56.9 -0.2**
comp=Z,14nm,0.7s,mb5.0
GUD Guadarrama 50.53 301 P **P 04 27 57.4 +0.3**
comp=Z,5.4nm,0.7s,mb4.6
GUD Guadarrama 50.53 301 P **P 04 27 57.4 +0.3**
GUD pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
GUD Guadarrama 50.53 301 P **P 04 27 57.4 +0.3**
comp=Z,5.4nm,0.7s,mb4.6
EGUA Guajares 50.53 296 P **P 04 27 56.3 -0.9**
comp=Z,2.1nm,0.5s,mb4.3
EGUA Guajares 50.53 296 P **P 04 27 56.3 -0.9**
EGUA pmax pmax
comp=Z,2.0nm,0.5s,mb4.3
EGUA Guajares 50.53 296 P **P 04 27 56.3 -0.9**
comp=Z,2.1nm,0.5s,mb4.3
ELO Logie Almond 50.56 322 *e*P **P 04 27 56.5 -0.6**
ELO Logie Almond 50.56 322 *e*P **P 04 27 56.5 -0.6**
MLA1 Latheron 50.66 324 *e*P **P 04 27 57.1 -0.7**
ERON Agron 50.70 296 P **P 04 27 57.8 -0.7**
comp=Z,8.0nm,0.8s,mb4.7
ERON Agron 50.70 296 P **P 04 27 57.8 -0.7**
comp=Z,8.0nm,0.8s,mb4.7
PAB San Pablo 50.80 300 *e*P **P 04 27 57.8 -1.4**
comp=Z,14nm,1.1s,mb4.8
PAB San Pablo 50.80 300 *e*P **P 04 27 57.8 -1.3**
PAB pmax pmax
comp=Z,14nm,1.1s,mb4.8
PAB San Pablo 50.80 300 *e*P **P 04 27 57.8 -1.3**
comp=Z,14nm,1.1s,mb4.8
EAB Aberfoyle 50.87 321 *e*P **P 04 27 58.5 -0.9**
ORE Reay 50.91 324 *e*P **P 04 27 58.3 -1.4**
ELOJ Sierra Loja 50.95 296 P **P 04 27 59.3 -1.0**
comp=Z,5.7nm,0.7s,mb4.6
ELOJ Sierra Loja 50.95 296 P **P 04 27 59.3 -1.1**
ELOJ pmax pmax
comp=Z,6.0nm,0.7s,mb4.6
ELOJ Sierra Loja 50.95 296 P **P 04 27 59.3 -1.1**
comp=Z,5.7nm,0.7s,mb4.6
ELUQ Luque 50.98 297 P **P 04 28 00.3 -0.3**
comp=Z,3.9nm,0.2s,mb5.0
ELUQ Luque 50.98 297 P **P 04 28 00.3 -0.3**
ELUQ pmax pmax
comp=Z,4.0nm,0.2s,mb5.0
ELUQ Luque 50.98 297 P **P 04 28 00.3 -0.3**
comp=Z,3.9nm,0.2s,mb5.0
MVH1 Achvaich 51.03 323 *e*P **P 04 27 59.8 -0.8**
LSZ Lusaka 51.05 216 *e*P **P 04 28 01.6 +0.4**
comp=Z,29nm,1.3s,mb5.0
LSZ Lusaka 51.05 216 *e*P **P 04 28 01.6 +0.4**
LSZ pmax pmax
comp=Z,29nm,1.3s,mb5.0
LSZ Lusaka 51.05 216 P **P 04 28 02.1 +1.0**
baz=33,slow=11
LSZ LR LR 04 48 45.1
comp=Z,760nm,18.1s,MS4.8,baz=29,slow=35
LSZ Lusaka 51.05 216 *e*P **P 04 28 01.6 +0.4**
comp=Z,29nm,1.3s,mb5.0
EADA Adamuz 51.15 298 P **P 04 28 03.1 +1.3**
comp=Z,91nm,2.1s,mb5.3
EADA Adamuz 51.15 298 P **P 04 28 03.1 +1.3**
comp=Z,91nm,2.1s,mb5.3
EMIJ Mijas 51.53 296 P **P 04 28 04.1 -0.6**
comp=Z,11nm,1.1s,mb4.7
KAC Achnashellach 51.56 323 *e*P **P 04 28 03.8 -0.8**
KAR1 Arisaig 51.78 322 *e*P **P 04 28 05.1 -1.1**
ECAB El Cabril 51.81 298 P **P 04 28 05.5 -1.3**
comp=Z,31nm,1.0s,mb5.2
ECAB El Cabril 51.81 298 P **P 04 28 05.5 -1.3**
comp=Z,31nm,1.0s,mb5.2
ZFT Errachidia 52.04 290 *i* P **P 04 28 10.0 +1.4**
MDT Midelt 52.09 291 P **P 04 28 08.9 0.0**
comp=Z,6.3nm,0.8s,mb4.6,baz=94,slow=9.3,SNR=19
DMUB Kingscourt 52.14 318 *e*P **P 04 28 14.1 +5.1**
DKH Dar Kharkhour 52.19 295 *i* P **P 04 28 11.5 +1.9**
DCN Croghan 52.34 317 *e*P **P 04 28 15.5 +5.1**
ESPR Espera 52.34 296 P **P 04 28 10.4 -0.4**
comp=Z,7.6nm,0.4s,mb5.0
ESPR Espera 52.34 296 P **P 04 28 10.4 -0.4**
comp=Z,7.6nm,0.4s,mb5.0
CZD Col de Zad 52.40 291 *i* P **P 04 28 12.0 +0.8**
MVO Moncorvo 52.64 302 *e*P **P 04 28 14.6 +1.7**
comp=Z,36nm,1.2s,mb5.2
MVO Moncorvo 52.64 302 *e*SS SS 04 40 03.4 +46
RSA Sarsar 52.67 294 *i* P **P 04 28 14.0 +0.8**
PBAR Barrancos 53.06 298 *e*P **P 04 28 14.9 -1.2**
comp=Z,49nm,1.0s,mb5.4
MTE Manteigas 53.13 301 *e*P **P 04 28 18.0 +1.5**
comp=Z,40nm,1.6s,mb5.1
MTE Manteigas 53.13 301 *e*SS SS 04 40 05.9 +40
MTE Manteigas 53.13 301 *e*P **P 04 28 14.2 -2.3**
comp=Z,15nm,1.0s,mb4.9
PVRL Vila Real 53.14 302 *e*P **P 04 28 15.9 -0.7**
PCBR Castelo Branco 53.15 300 *e*P **P 04 28 16.0 -0.7**
comp=Z,35nm,2.1s,mb4.9
SPB4 Spitsbergen Ar 53.22 350 *e*P **P 04 28 17.4 +0.8**
SPB4 Spitsbergen Ar 53.22 350 *e*P **P 04 28 17.4 +0.8**
PVIS Viseu 53.35 301 *e*P **P 04 28 19.4 +1.3**
comp=Z,43nm,1.1s,mb5.3
PESTR Estremoz 53.38 299 *e*P **P 04 28 17.3 -1.1**
NJ2 Nanjing 53.58 69 *e*P **P 04 28 24.1 +4.1**
NJ2 AP pP 04 28 29.3 +3.8
NJ2 XP sP 04 28 31.3 +3.6
NJ2 S **S 04 35 56.0 +3.4**
NJ2 XS sS 04 36 06.0 +4.2
NJ2 AMB AMB
comp=Z,30nm,0.6s,mb5.4
NJ2 AMB AMB
comp=Z,202nm,4.0s
NJ2 LR LR
comp=N,4µm,25.8s
NJ2 LR LR
comp=E,5µm,20.7s
PVAQ Vaqueiros 53.72 297 *e*P **P 04 28 20.6 -0.3**
PBEJ Beja 53.73 298 *e*P **P 04 28 19.9 -1.1**
comp=E,30nm,2.1s,mb4.8
EVO Evora 53.76 299 *e*P **P 04 28 20.5 -0.7**
comp=E,18nm,0.8s,mb4.8
EVO *e*MLR MLR
comp=Z,344nm,18.8s,MS4.1
EVO Evora 53.76 299 *e*P **P 04 28 20.6 -0.6**
EVOP Sao Brissos 53.85 299 *e*P **P 04 28 20.5 -1.3**
comp=Z,8.9nm,0.8s,mb4.8
PTOM Tomar 53.90 300 *e*P **P 04 28 21.8 -0.4**
comp=Z,58nm,1.6s,mb5.3
KBS Kingsbay 54.38 350 *e*P **P 04 28 26.8 +1.7**
comp=Z,39nm,1.0s,mb5.3
KBS LR LR
comp=Z,340nm,16.9s,MS4.5
KBS Kingsbay 54.38 350 *e*P **P 04 28 26.8 +1.7**
KBS pmax pmax
comp=Z,39nm,1.0s,mb5.3
KBS MLR MLR
comp=Z,340nm,16.9s,MS4.5
DL2 Dalian 54.45 61 P **P 04 28 26.8 +0.6**
DL2 S **S 04 36 08.3 +4.0**
DL2 AMB AMB
comp=Z,20nm,1.3s,mb4.9
DL2 AMB AMB
comp=Z,140nm,4.1s
DL2 LR LR
comp=N,500nm,19.1s,MS4.7
DL2 LR LR
comp=E,250nm,17.7s,MS4.7
DL2 LR LR
comp=Z,310nm,18.1s,MS4.4
MORF Marmelete 54.47 297 *e*P **P 04 28 27.0 +0.6**
PFVI Vila Bisbo 54.64 297 *e*P **P 04 28 28.1 +0.5**
PMAFR Mafra 54.67 300 *e*P **P 04 28 26.5 -1.3**
PMAFR Mafra 54.67 300 *e*SS SS 04 40 41.0 +51
CLNS Chul'man 55.29 38 *e*P **P 04 28 30.3 -1.7**
CLNS *e**PP pP 04 28 38.1 +0.5
CLNS *e* 04 29 33.6
CLNS *e*S **S 04 36 07.1 -7.9**
CLNS *e* 04 38 18.6
CLNS pmax pmax
comp=N,8.0nm,1.0s
CLNS pmax pmax
comp=E,9.0nm,1.0s
CLNS pmax pmax
comp=Z,15nm,1.0s,mb5.0
CLNS pmax pmax
comp=Z,5.0nm,0.9s,mb4.5
CLNS pmax pmax
comp=N,8.0nm,0.8s
CLNS pmax pmax
comp=E,6.0nm,0.9s
CLNS smax
comp=E,178nm,10.5s
CLNS smax
comp=Z,207nm,13.5s
CLNS smax
comp=N,94nm,13.3s
CLNS MLR MLR
comp=Z,700nm,13.0s,MS4.9
CLNS MLR MLR
comp=N,500nm,11.0s,MS5.1
CLNS MLR MLR
comp=E,700nm,12.0s,MS5.1
CLNS Chul'man 55.29 38 *e*P **P 04 28 30.3 -1.7**
CLNS *e*ScS ScS 04 38 18.6 -1.6
comp=E,500nm,11.0s
SNY Shenyang 55.46 57 ⇑P **P 04 28 32.8 -0.7**
SNY S **S 04 36 19.8 +2.1**
SNY AMB AMB
comp=Z,18nm,0.8s,mb5.2
SNY AMB AMB
comp=Z,219nm,6.3s
SNY LR LR
comp=N,1µm,20.1s,MS5.0
SNY LR LR
comp=E,658nm,18.9s,MS5.0
SNY LR LR
comp=Z,533nm,21.4s,MS4.6
SSE Sheshan 55.74 70 P **P 04 28 33.6 -2.1**
SSE XP sP 04 28 41.8 -1.6
SSE S **S 04 36 15.1 -6.7**
SSE SS SS 04 40 00.3 -6.8
SSE AMB AMB
comp=Z,53nm,0.7s,mb5.7
SSE AMB AMB
comp=Z,97nm,6.3s
SSE LR LR
comp=N,249nm,16.6s,MS4.7
SSE LR LR
comp=E,392nm,16.5s,MS4.7
SSE LR LR
comp=Z,441nm,13.8s,MS4.7
JHA Jbel Lahdid 56.33 291 *i* P **P 04 28 40.0 +0.1**
CN2 Changchun 56.53 54 ⇑P **P 04 28 39.8 -1.3**
CN2 *e*XP sP 04 28 46.6 -2.2
CN2 PP PP 04 30 47.0 +0.2
CN2 *e*S **S 04 36 28.5 -3.3**
CN2 AMB AMB
comp=Z,30nm,1.5s,mb5.1
CN2 LR LR
comp=N,600nm,14.0s,MS5.0
CN2 LR LR
comp=E,700nm,14.0s,MS5.0
CN2 LR LR
comp=Z,900nm,19.0s,MS4.9
YAK Yakutsk 57.79 32 *e*P **P 04 28 48.8 -0.9**
YAK *e**PP pP 04 29 00.1 +4.9
YAK *e* 04 29 42.2
YAK *e* 04 30 54.2
YAK *e*PPP 04 32 14.7
YAK *e*S **S 04 36 45.2 -2.6**
YAK *e**SS sS 04 37 04.2 +7.2
YAK *e*SS SS 04 40 34.3 -3.7
YAK pmax pmax
comp=Z,34nm,1.5s,mb5.2
YAK pmax pmax
comp=N,12nm,1.3s
YAK pmax pmax
comp=E,23nm,1.4s
YAK pmax pmax
comp=Z,14nm,0.6s,mb5.2
YAK smax
comp=N,63nm,11.3s
YAK smax
comp=E,103nm,10.1s
YAK MLR MLR
comp=Z,1µm,15.0s,MS5.1
YAK MLR MLR
comp=N,360nm,9.0s
YAK MLR MLR
comp=E,1µm,15.0s
YAK smax
comp=N,10.0nm,0.6s
YAK smax
comp=Z,11nm,0.4s
YAK smax
comp=E,6.0nm,0.5s
YAK smax
comp=N,43nm,0.8s
YAK smax
comp=E,43nm,0.8s
YAK smax
comp=Z,32nm,0.8s
YAK Yakutsk 57.79 32 *e*P **P 04 28 48.8 -0.9**
comp=Z,12nm,1.3s,mb4.8
YAK Yakutsk 57.79 32 *e*PcP PcP 04 29 42.2 0.0
YAK *e*S **S 04 36 45.2 -2.6**
KSM Kuching 57.93 107 *e*P **P 04 28 51.1 -0.3**
KSM Kuching 57.93 107 *e*P **P 04 28 51.1 -0.3**
TIXI Tiksi 58.06 21 *e*P **P 04 28 50.4 -1.1**
comp=Z,71nm,1.7s,mb5.4
TIXI Tiksi 58.06 21 *e*P **P 04 28 50.5 -0.9**
TIXI *e*S **S 04 36 47.9 -3.3**
TIXI pmax pmax
comp=Z,47nm,1.9s,mb5.2
TIXI MLR MLR
comp=Z,652nm,13.0s,MS4.9
TIXI Tiksi 58.06 21 *e*P **P 04 28 50.5 -0.9**
comp=Z,652nm,13.0s
TIXI *e*S **S 04 36 47.9 -3.3**
MDJ Mudanjiang 59.34 53 P **P 04 29 00.9 +0.1**
MDJ AP pP 04 29 04.1 -2.3
MDJ S **S 04 37 07.4 -1.1**
MDJ SS SS 04 41 04.6 +1.6
MDJ AMB AMB
comp=Z,10.0nm,1.7s,mb4.6
MDJ AMB AMB
comp=Z,66nm,5.8s
MDJ LR LR
comp=N,517nm,27.4s,MS4.6
MDJ LR LR
comp=E,393nm,28.7s,MS4.6
MDJ LR LR
comp=Z,423nm,22.4s
DAG Danmarks Havn 59.38 345 *e*P **P 04 29 00.0 -0.5**
DAG pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
DAG Danmarks Havn 59.38 345 *i* P **P 04 29 00.0 -0.5**
comp=Z,8.4nm,0.9s,mb4.8
KSRS Korea Array 59.60 61 P **P 04 29 00.7 -2.1**
comp=Z,12nm,0.8s,mb5.0,baz=276,slow=6.8,SNR=31
KSRS LR LR 04 56 59.2
comp=Z,356nm,19.4s,MS4.5,baz=114,slow=38
KLR Kul'dur 60.00 47 *e*P **P 04 29 00.0 -5.3**
KLR *e*S **S 04 37 08.5 -8.4**
KLR *e*SS SS 04 41 18.5 +5.3
KLR pmax pmax
comp=E,35nm,1.8s
KLR pmax pmax
comp=Z,64nm,1.8s,mb5.3
KLR MLR MLR
comp=E,800nm,13.0s
KLR MLR MLR
comp=Z,4µm,13.0s,MS5.7
TSUM Tsumeb 60.16 223 *e*P **P 04 29 07.8 +1.2**
comp=Z,18nm,1.0s,mb5.1
TSUM Tsumeb 60.16 223 *e*P **P 04 29 07.8 +1.1**
comp=Z,18nm,1.0s,mb5.1
LBTB Lobatse 60.57 212 *e*P **P 04 29 09.5 +0.2**
comp=Z,34nm,0.8s,mb5.5
LBTB Lobatse 60.57 212 *e*P **P 04 29 09.5 +0.1**
LBTB pmax pmax
comp=Z,34nm,0.8s,mb5.5
LBTB Lobatse 60.57 212 LR LR 04 54 32.2
comp=Z,590nm,18.4s,MS4.8,baz=36,slow=35
LBTB Lobatse 60.57 212 *e*P **P 04 29 09.5 +0.1**
comp=Z,34nm,0.8s,mb5.5
KKM Kota Kinabalu 60.69 99 *e*P **P 04 29 10.2 -0.3**
KKM Kota Kinabalu 60.69 99 *e*P **P 04 29 10.2 -0.3**
DBIC Dimbokro 61.51 262 *e*P **P 04 29 16.2 +0.1**
comp=Z,17nm,0.8s,mb5.2
DBIC Dimbokro 61.51 262 P **P 04 29 15.4 -0.7**
DBIC pmax pmax
comp=Z,14nm,1.0s
DBIC MLR MLR
comp=Z,401nm,18.0s
DBIC Dimbokro 61.51 262 P **P 04 29 15.4 -0.7**
comp=Z,14nm,1.0s,mb5.0,baz=49,slow=9.0,SNR=19
DBIC LR LR 04 57 16.0
comp=Z,400nm,18.0s,MS4.6,baz=38,slow=37
LIC Lamto 61.87 262 *e*P **P 04 29 17.1 -1.4**
comp=Z,60nm,1.2s,mb5.3
LIC *e*MLR MLR
comp=Z,563nm,20.0s,MS4.4
LIC Lamto 61.87 262 *e*P **P 04 29 17.1 -1.4**
comp=Z,30nm,1.2s,mb5.3
LIC LR LR
comp=Z,280nm,20.0s,MS4.4
LIC Lamto 61.87 262 *e*P **P 04 29 17.1 -1.4**
comp=Z,30nm,1.2s,mb5.3
PMAR Madeira 62.15 294 *e*P **P 04 29 20.3 +0.2**
comp=Z,97nm,2.6s,mb5.5
HABR Khabarovsk 62.28 47 *e*P **P 04 29 19.8 -0.9**
HABR *e**PP pP 04 29 25.1 -1.3
HABR *e* 04 31 36.1
HABR *e*S **S 04 37 42.4 -3.6**
HABR *e* 04 39 09.4
HABR *e*SS SS 04 41 51.7 +2.7
HABR Khabarovsk 62.28 47 *e*P **P 04 29 19.8 -0.9**
HABR *e*S **S 04 37 42.4 -3.6**
HABR *e*ScS ScS 04 39 09.4 -2.7
JOW Kunigami 62.93 73 LR LR 04 58 50.4
comp=Z,174nm,19.4s,MS4.2,baz=79,slow=38
JNU Nakatsue 63.09 65 LR LR 04 59 57.3
comp=Z,344nm,19.2s,MS4.5,baz=105,slow=39
BOSA Boshof 63.80 210 *e*P **P 04 29 30.8 -0.2**
comp=Z,29nm,0.7s,mb5.4
BOSA Boshof 63.80 210 P **P 04 29 31.3 +0.3**
BOSA pmax pmax
comp=Z,28nm,0.7s,mb5.4
BOSA MLR MLR
comp=Z,364nm,18.4s,MS4.6
BOSA Boshof 63.80 210 P **P 04 29 31.3 +0.3**
comp=Z,28nm,0.7s,mb5.4,baz=34,slow=7.1,SNR=49
BOSA LR LR 04 57 30.2
comp=Z,364nm,18.4s,MS4.6,baz=21,slow=36
BOSA Boshof 63.80 210 *e*P **P 04 29 30.8 -0.2**
comp=Z,29nm,0.7s,mb5.4
ALE Alert 65.82 353 P **P 04 29 44.0 +0.5**
comp=Z,203nm,1.5s,mb5.9,SNR=10
YSS Yuzh-Sakhalins 67.70 48 *e*P **P 04 29 54.6 -1.4**
comp=Z,70nm,1.0s,mb5.7
YSS Yuzh-Sakhalins 67.70 48⇓*e*P **P 04 29 54.4 -1.6**
YSS *e* 04 30 06.4
YSS pmax pmax
comp=Z,30nm,0.9s,mb5.3
YSS MLR MLR
comp=E,500nm,16.0s
YSS MLR MLR
comp=Z,500nm,16.0s,MS4.8
YSS Yuzh-Sakhalins 67.70 48 *e*P **P 04 29 54.4 -1.6**
comp=Z,30nm,0.9s,mb5.3
MAJO Matsushiro 67.75 59 *e*P **P 04 29 56.0 -0.6**
MAJO Matsushiro 67.75 59 *e*P **P 04 29 56.0 -0.6**
MAT Matsushiro 67.75 59 P **P 04 29 55.8 -0.8**
MJAR Matsushiro Arr 67.76 59 P **P 04 29 55.3 -1.3**
MJAR pmax pmax
comp=Z,3.0nm,0.8s
MJAR MLR MLR
comp=Z,325nm,20.8s
MJAR Matsushiro Arr 67.76 59 P **P 04 29 55.3 -1.3**
comp=Z,2.9nm,0.8s,mb4.4,baz=289,slow=7.4,SNR=11
MJAR LR LR 05 01 08.9
comp=Z,325nm,20.8s,MS4.5,baz=270,slow=37
SEY Seymchan 68.00 29⇑*e*P **P 04 29 56.8 -0.8**
MA2 Magadan 68.34 33 *e*P **P 04 29 58.7 -1.1**
MA2 pmax pmax
comp=Z,30nm,0.9s,mb5.3
MA2 Magadan 68.34 33 *e*P **P 04 29 58.7 -1.1**
comp=Z,30nm,0.9s,mb5.3
ASAJ Asahikawa 68.48 51 LR LR 05 01 25.9
comp=Z,726nm,18.1s,MS5.0,baz=7.9,slow=37
SUR Sutherland 69.02 212 *e*P **P 04 30 05.3 +1.1**
comp=Z,26nm,0.8s,mb5.2
SUR Sutherland 69.02 212 *e*P **P 04 30 05.3 +1.0**
comp=Z,26nm,0.8s,mb5.2
BILL Bilibino 71.25 22 *e*P **P 04 30 17.3 -0.3**
comp=Z,52nm,1.4s,mb5.3
BILL Bilibino 71.25 22⇑*i*P **P 04 30 17.1 -0.5**
BILL pmax pmax
comp=Z,32nm,1.7s,mb5.0
BILL Bilibino 71.25 22 *i* P **P 04 30 17.1 -0.5**
comp=Z,32nm,1.7s,mb5.0
PET Petropavlovsk 74.93 38⇓*e*P **P 04 30 37.3 -2.3**
PET pmax pmax
comp=Z,24nm,1.7s,mb4.8
PET MLR MLR
comp=Z,300nm,23.0s,MS4.5
PET Petropavlovsk 74.93 38 *e*P **P 04 30 37.3 -2.3**
comp=Z,300nm,23.0s
RES Resolute Bay 75.71 352 *e*P **P 04 30 44.3 +0.5**
comp=Z,263nm,1.1s
RES Resolute Bay 75.71 352 *e*P **P 04 30 44.3 +0.5**
RES pmax pmax
comp=Z,263nm,1.1s
RES Resolute Bay 75.71 352 *e*P **P 04 30 44.3 +0.5**
comp=Z,263nm,1.1s
MBWA Marble Bar 78.44 122 *e*P **P 04 30 59.7 -0.1**

comp=Z,197nm,2.8s,mb5.5
FITZ Fitzroy Crossi 81.28 116 *e*P **P 04 31 15.1 -0.2**
comp=Z,19nm,0.8s,mb5.1
MUN Mundaring 82.58 132 *e*P **P 04 31 19.5 -2.4**
IMA2 Indian Mountai 83.31 12 *e*P **P 04 31 25.1 -0.1**
KLBR Kellerberrin 83.36 131 *e*P **P 04 31 24.6 -1.3**
INK Inuvik 83.56 4 *e*P **P 04 31 26.3 -0.1**
INK Inuvik 83.56 4 *e*P **P 04 31 26.3 -0.1**
NWAO Narrogin (SRO) 83.85 132 P **P 04 31 26.9 -1.5**
NWAO Narrogin (SRO) 83.85 132 P **P 04 31 26.9 -1.5**
NWAO pmax pmax
comp=Z,18nm,1.0s
NWAO Narrogin (SRO) 83.85 132 P **P 04 31 26.9 -1.5**
comp=Z,18nm,1.0s,mb5.2,baz=326,slow=8.7,SNR=6.4
KAKA Kakadu 84.03 108 *e*P **P 04 31 29.8 +0.1**
comp=Z,62nm,1.0s,mb5.7
SCHQ Schefferville 84.06 331 P **P 04 31 27.9 -1.4**
comp=Z,9.1nm,0.7s,mb5.0,baz=52,slow=6.8
SCHQ LR LR 05 09 29.6
comp=Z,159nm,21.9s,MS4.4,baz=41,slow=36
COLA College 85.39 10 *e*P **P 04 31 35.5 -0.2**
comp=Z,15nm,1.0s,mb5.1
COLA College 85.39 10 *e*P **P 04 31 35.5 -0.3**
COLA pmax pmax
comp=Z,15nm,1.0s,mb5.1
COLA College 85.39 10 *e*P **P 04 31 35.5 -0.3**
comp=Z,15nm,1.0s,mb5.1
TTA Tatalina 85.64 14 *e*P **P 04 31 38.6 +1.5**
SVW2 Sparrevohn 87.36 15 *e*P **P 04 31 46.9 +1.4**
MENT Mentasta 87.83 9 *e*P **P 04 31 49.0 +1.3**
PMR Palmer 88.23 12 *e*P **P 04 31 47.9 -1.8**
comp=Z,47nm,1.3s,mb5.6
PMR Palmer 88.23 12 *e*P **P 04 31 47.9 -1.8**
PMR pmax pmax
comp=Z,47nm,1.3s,mb5.6
PMR Palmer 88.23 12 *e*P **P 04 31 47.9 -1.8**
comp=Z,47nm,1.3s,mb5.6
WRA Warramunga Arr 89.24 113 P **P 04 31 54.9 -0.2**
WRA pmax pmax
comp=Z,6.0nm,0.9s
WRA pmax pmax
comp=Z,1.0nm,0.5s
WRA Warramunga Arr 89.24 113 P **P 04 31 54.9 -0.2**
comp=Z,5.9nm,0.9s,mb4.9,baz=311,slow=3.8,SNR=34
WRA PKKPbc PKKPbc 04 49 29.3 -2.1
comp=Z,0.8nm,0.5s,baz=11,slow=8.7,SNR=31
WRAB Tennant Creek 89.24 113 *e*P **P 04 31 55.0 -0.1**
comp=Z,33nm,1.4s,mb5.5
WRAB Tennant Creek 89.24 113 *e*P **P 04 31 55.0 -0.1**
WRAB pmax pmax
comp=Z,33nm,1.4s,mb5.5
WRAB Tennant Creek 89.24 113 *e*P **P 04 31 55.0 -0.1**
comp=Z,33nm,1.4s,mb5.5
WB2 Warramunga Arr 89.25 113 *e*P **P 04 31 54.9 -0.2**
YKA Yellowknife Ar 89.38 356 P **P 04 31 54.3 -0.8**
YKA pmax pmax
comp=Z,2.0nm,0.6s
YKA Yellowknife Ar 89.38 356 P **P 04 31 54.3 -0.7**
comp=Z,2.0nm,0.6s,mb4.6,baz=2.9,slow=5.4,SNR=68
YKA PKKPbc PKKPbc 04 49 29.5 -2.0
comp=Z,0.1nm,0.4s,baz=193,slow=2.5,SNR=4.7
YKA LR LR 05 17 38.9
comp=Z,156nm,20.7s,MS4.4,baz=50,slow=39
FCC Fort Churchill 89.98 345 *e*P **P 04 31 57.8 -0.2**
comp=Z,33nm,1.8s,mb5.4
FCC Fort Churchill 89.98 345 *e*P **P 04 31 57.8 -0.1**
FCC pmax pmax
comp=Z,33nm,1.8s,mb5.4
FCC Fort Churchill 89.98 345 *e*P **P 04 31 57.8 -0.1**
comp=Z,33nm,1.8s,mb5.4
FORT Forrest 90.05 125 *e*P **P 04 31 58.2 -0.4**
comp=Z,21nm,0.9s,mb5.5
ASAR Alice Springs 90.76 116 P **P 04 32 01.5 -0.6**
ASAR pmax pmax
comp=Z,3.0nm,0.9s
ASAR Alice Springs 90.76 116 P **P 04 32 01.5 -0.6**
comp=Z,2.7nm,0.9s,mb4.6,baz=304,slow=4.6,SNR=27
FFC Flin Flon 95.37 348 *e*P **P 04 32 23.8 +0.8**
comp=Z,19nm,1.4s,mb5.3
FFC Flin Flon 95.37 348 *e*P **P 04 32 23.8 +0.9**
FFC pmax pmax
comp=Z,19nm,1.4s,mb5.3
FFC Flin Flon 95.37 348 *e*P **P 04 32 23.8 +0.9**
comp=Z,19nm,1.4s,mb5.3
MNTX Cornudas Mount 117.98 342 *e*PKPdf PKPdf 04 37 44.5 -1.4
TXAR Lajitas Array 119.72 340 PKIKP PKPdf 04 37 48.1 -1.2
TXAR pmax pmax
comp=Z,1.0nm,0.6s
TXAR Lajitas Array 119.72 340 PKP PKPdf 04 37 48.1 -1.2
comp=Z,0.6nm,0.6s,baz=177,slow=0.4,SNR=7.7
CPUP Villa Florida 121.66 255 *e*PKPdf PKPdf 04 37 52.7 -0.3
CPUP Villa Florida 121.66 255 PKIKP PKPdf 04 37 52.2 -0.8
CPUP pmax pmax
comp=Z,1.0nm,0.6s
CPUP Villa Florida 121.66 255 PKP PKPdf 04 37 52.2 -0.8
comp=Z,0.9nm,0.6s,baz=80,slow=1.7,SNR=3.8
LPAZ La Paz 127.63 271 *e*PKPdf PKPdf 04 38 06.4 +1.7
LPAZ La Paz 127.63 271 PKIKP PKPdf 04 38 05.1 +0.5
LPAZ pmax pmax
comp=Z,1.0nm,0.9s
LPAZ La Paz 127.63 271 PKP PKPdf 04 38 05.1 +0.4
comp=Z,1.0nm,0.9s,baz=36,slow=4.9,SNR=3.3
TRQA Tornquist 128.21 242 *e*PKPdf PKPdf 04 38 04.8 -0.3

IDC 25 04:44:41.4±2.0,1617S×6808E,h0km,mb3.9/6,mb1 4.0/6, mb1mx3.8/20,mbtmp3.9/6,MS3.8/4,Ms1 3.8/4, ms1mx3.5/30,Error ellipse: s-maj=75.3km s-min=25.3km az=48.0,Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMBO	**Kilima Mbogo**	**33.86**	**293**	LR	LR	05 01 24.9	
	comp=Z,175nm,21.3s,baz=94,slow=30						
ASAR	**Alice Springs**	**61.88**	**108**	P	P	04 55 02.2	-0.7
	1.4nm,0.9s,baz=269,slow=6.6,SNR=14						
WRA	**Warramunga Arr**	**62.75**	**104**	P	P	04 55 09.5	+0.6
	2.5nm,0.9s,baz=266,slow=6.2,SNR=14						
MKAR	**Makanchi Array**	**63.96**	**11**	P	P	04 55 17.8	+1.6
	0.2nm,0.3s,baz=201,slow=6.5,SNR=5.6						
ZALV	**Zalesovo Beam**	**71.29**	**10**	P	P	04 56 00.8	-1.6
	0.9nm,0.5s,baz=204,slow=3.3,SNR=4.7						
SONM	**Songino Array**	**72.33**	**26**	P	P	04 56 08.3	-0.5
	0.4nm,0.6s,baz=189,slow=8.7,SNR=4.5						
AKASG	**Malin Array Be**	**74.80**	**336**	P	P	04 56 22.4	-0.9
	0.5nm,0.5s,baz=142,slow=5.2,SNR=6.2						
KEST	**Kesra**	**75.83**	**314**	LR	LR	05 29 54.5	
	comp=Z,38nm,18.9s,baz=269,slow=36						
MDT	**Midelt**	**84.76**	**306**	LR	LR	05 36 00.3	
	comp=Z,66nm,18.6s,baz=20,slow=36						
BBTS	**Babate**	**88.99**	**285**	LR	LR	05 34 41.7	
	comp=Z,74nm,20.7s,baz=205,slow=34						
YKA	**Yellowknife Ar**	**133.69**	**2**	PKP	PKPdf	05 03 59.6	0.0
	0.3nm,0.8s,baz=345,slow=2.6,SNR=7.4						
PDAR	**Pinedale Array**	**153.41**	**356**	PKPbc	PKPbc	05 04 42.7	+0.8
	0.8nm,0.8s,baz=54,slow=2.4,SNR=6.7						
NVAR	**Mina Array Bea**	**157.12**	**13**	PKPab	PKPab	05 05 12.2	+2.4
	0.5nm,0.8s,baz=1.2,slow=2.3,SNR=3.8						

*THR **25** 04:54:16.8±0.5,3153N×5108E,h14km±4km,ML3.2*
*CSEM **25** 04:54:16.8,3153N×5108E,h14km,ML3.2,After THR*
*ISCJB **25** 04:54:19.6±0.7,3168N±007×5092E±006,h10km,Error ellipse: s-maj=10.4km s-min=5.7km az=151.6*

ISC 25 04:54:20.6±0.7,3168N±007×5095E±006,h10km,n10, σ0§42/13,Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHGR	**Shooshtar-Gavs**	**1.88**	**284**	*e*Pg	**Pn**	**04 54 53.4**	**+0.7**
SHGR				*e*Sg	**Sg**	**04 55 20.5**	**-0.4**
SHGR				AML	AML	04 55 33.2	
	comp=E,274nm,0.6s						
SHGR				AML	AML	04 55 41.2	
	comp=N,218nm,0.7s						
SHGR	**Shooshtar-Gavs**	**1.88**	**284**	*e*Pg	**Pn**	**04 54 53.4**	**+0.7**
	SNR=90						
SHGR				*e*Sg	**Sg**	**04 55 20.5**	**-0.4**
	comp=N,218nm,0.7s,SNR=90						
NASN	**Na'in**	**1.93**	**54**	*e*Pg	**Pn**	**04 54 52.5**	**-0.9**
NASN				*e*Sg	**Sn**	**04 55 18.2**	**+0.4**
ASAO	**Ashtian**	**2.96**	**345**	*e*Pn	**Pn**	**04 55 08.1**	**+0.4**
ASAO				AML	AML	04 55 57.2	
	comp=E,63nm,0.7s						
ASAO				AML	AML	04 56 01.1	
	comp=N,65nm,0.7s						
MIB	**Mutribah**	**3.63**	**240**	*e*P	**Pn**	**04 55 16.8**	**0.0**
MIB				AML	AML	04 56 02.9	
	comp=Z,31nm,0.5s						
QRN	**Al-Qurain**	**3.93**	**223**	*e*P	**Pn**	**04 55 21.1**	**+0.1**
NAY	**Al-Naaiem**	**4.02**	**234**	*e*P	**Pn**	**04 55 22.1**	**0.0**
NAY				AML	AML	04 56 12.4	
	comp=Z,13nm,0.5s						
RDF	**Al-Radifah**	**4.02**	**228**	*e*P	**Pn**	**04 55 22.4**	**+0.2**
RDF				AML	AML	04 56 13.9	
	comp=Z,31nm,0.5s						
DAMV	**Damavand**	**4.03**	**12**	*e*Pn	**Pn**	**04 55 22.1**	**-0.2**
DAMV				AML	AML	04 56 34.4	
	comp=E,34nm,0.6s						
DAMV				AML	AML	04 56 40.0	
	comp=N,23nm,0.6s						
RST	**Umm Al-Ruwaisa**	**4.04**	**238**	*e*P	**Pn**	**04 55 22.3**	**-0.2**
RST				AML	AML	04 56 14.3	
	comp=Z,26nm,0.6s						

*ISCJB **25** 05:10:45.9±0.3,3039N±004×13884E±008,h428km±4km, mb3.8/23,Error ellipse: s-maj=11.5km s-min=5.5km az=161.8*
*JMA **25** 05:10:45.3±0.1,3034N×13887E,h439km,M3.8*
*MOS **25** 05:10:45.6±0.9,3040N×13857E,h415km,mb3.7/8,Error ellipse: s-maj=28.3km s-min=13.3km az=105.5*
*IDC **25** 05:10:47.0±0.7,3038N×13865E,h412km±9km,mb3.2/9, mb1 3.3/14,mb1mx3.2/21,mbtmp3.2/14,Error ellipse: s-maj=24.9km s-min=9.0km az=71.0*
*NEIC **25** 05:10:47.2±0.8,3044N×13862E,h414km±9km,mb3.7/7, Error ellipse: s-maj=14.6km s-min=8.5km az=82.0*

ISC 25 05:10:46.8±0.3,3042N±004×13891E±008,h422km±5km, n61,σ1§03/68,mb3.8/23,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ	**Hachijo jima 2**	**2.79**	**15**	P	**P**	**05 11 51.0**	**+1.0**
	52nm,0.3s,baz=37,slow=21,SNR=27						
JHJ				S	**S**	**05 12 43.0**	**+1.6**
	54nm,0.3s,baz=244,slow=22,SNR=5.9						
JHJ2	**Mitsune**	**2.79**	**16**	P	**P**	**05 11 51.2**	**+1.2**
TK02	**Tokai 2**	**3.65**	**345**	P	**P**	**05 11 58.8**	**+1.8**
JWZ	**Kozaga**	**4.12**	**320**	P	**P**	**05 12 01.4**	**+0.2**
JIE	**Ise**	**4.38**	**335**	P	**P**	**05 12 05.0**	**+1.4**
CBIJ	**Chichi jima**	**4.39**	**138**	P	**P**	**05 12 03.2**	**-0.7**
CBIJ				*e*S	**S**	**05 13 04.5**	**-2.0**
CBIJ	**Chichi jima**	**4.39**	**138**	P	**P**	**05 12 03.5**	**-0.4**
	9.3nm,0.3s,baz=304,slow=23,SNR=7.6						
CBIJ				S	**S**	**05 13 05.7**	**-0.8**
	125nm,0.3s,baz=299,slow=22,SNR=25						
BSO1	**Boso 1**	**4.57**	**22**	P	**P**	**05 12 05.7**	**+0.2**
BSO1				S	**S**	**05 13 08.2**	**-1.4**
JHHJ	**Haha-jima-NKT**	**4.75**	**142**	P	**P**	**05 12 07.0**	**-0.4**
JHHJ				*e*S	**S**	**05 13 10.9**	**-2.0**
JOD2	**Odawara 2**	**4.83**	**2**	S	**S**	**05 13 15.3**	**+1.0**
JNY	**Yasuok**	**5.00**	**350**	P	**P**	**05 12 11.5**	**+1.8**
JNY				*e*S	**S**	**05 13 17.6**	**+0.2**
JRY	**Ryogami san**	**5.58**	**360**	P	**P**	**05 12 16.0**	**+0.4**
JRY				S	**S**	**05 13 26.2**	**-2.0**
JTO	**Tosashimizu**	**5.75**	**297**	P	**P**	**05 12 17.1**	**-0.3**
MJAR	**Matsushiro Arr**	**6.13**	**355**	P	**P**	**05 12 20.9**	**-0.5**
MJAR				pmax	pmax		
	comp=Z,4.0nm,0.3s						
MJAR	**Matsushiro Arr**	**6.13**	**355**	P	**P**	**05 12 20.9**	**-0.5**
	comp=Z,3.8nm,0.3s,baz=187,slow=6.5,SNR=15						
MAJO	**Matsushiro**	**6.14**	**355**	*e*Pn	**P**	**05 12 20.7**	**-0.7**
	comp=Z,22nm,0.6s						
MAJO	**Matsushiro**	**6.14**	**355**	*e*P	**P**	**05 12 20.7**	**-0.7**
MAJO				pmax	pmax		
	comp=Z,22nm,0.6s						
MAT	**Matsushiro**	**6.14**	**355**	P	**P**	**05 12 21.5**	**+0.1**
MAT				*e*S	**S**	**05 13 37.1**	**-1.7**
JHS	**Saijyo**	**6.68**	**315**	P	**P**	**05 12 27.3**	**0.0**
JNU	**Nakatsue**	**7.35**	**294**	P	**P**	**05 12 33.7**	**-0.9**
	comp=Z,0.6nm,0.3s,baz=121,slow=14,SNR=3.7						
JMK	**Ichinoseki**	**8.72**	**12**	P	**P**	**05 12 50.8**	**+1.1**
JMK				S	**S**	**05 14 28.4**	**-2.3**
KSRS	**Korea Array**	**11.50**	**311**	P	**P**	**05 13 20.9**	**+0.6**
	comp=Z,0.5nm,0.3s,baz=127,slow=11,SNR=7.0						
SONM	**Songino Array**	**30.34**	**314**	P	**P**	**05 16 16.7**	**-5.0**
	comp=Z,0.4nm,0.5s,mb3.0,baz=113,slow=8.4,SNR=2.5						
CHTO	**Chiang Mai**	**37.94**	**262**	*e*P	**P**	**05 17 25.4**	**-1.0**
	comp=Z,2.3nm,0.7s,mb3.6						
CHTO	**Chiang Mai**	**37.94**	**262**	*e*P	**P**	**05 17 25.4**	**-1.1**
CHTO				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb3.6						
BILL	**Bilibino**	**40.94**	**15**	*e*P	**P**	**05 17 52.4**	**+2.3**
	comp=Z,3.4nm,0.8s,mb3.7						
BILL	**Bilibino**	**40.94**	**15**	*e*P	**P**	**05 17 52.4**	**+2.2**
BILL				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb3.7						
ZALV	**Zalesovo Beam**	**45.10**	**317**	P	**P**	**05 18 21.6**	**-1.6**
	comp=Z,0.3nm,0.3s,mb3.0,baz=96,slow=8.9,SNR=2.8						
ZALV				PcP	PcP	05 19 55.6	+0.3
	comp=Z,1.0nm,0.5s,baz=100,slow=1.8,SNR=4.5						
ZAL	**Zalesovo**	**45.11**	**317**	P	**P**	**05 18 21.6**	**-1.6**
ZAL						05 19 55.6	
JIRN	**Jiri**	**45.83**	**280**	*e*P	**P**	**05 18 29.3**	**+0.1**
	comp=Z,16nm,0.2s,mb5.0						
GUN	**Gumba**	**46.02**	**281**	*e*P	**P**	**05 18 30.6**	**-0.1**
	comp=Z,14nm,0.4s,mb4.6						
MK31	**Makanchi Array**	**46.16**	**307**	*e*P	**P**	**05 18 31.1**	**-0.4**
MKAR	**Makanchi Array**	**46.16**	**307**	P	**P**	**05 18 31.1**	**-0.4**
MKAR				PcP	PcP	05 19 59.9	+0.8
MKAR	**Makanchi Array**	**46.16**	**307**	P	**P**	**05 18 31.1**	**-0.4**
	comp=Z,0.3nm,0.3s,mb3.1,baz=78,slow=12,SNR=6.0						
MKAR				PcP	PcP	05 19 59.9	+0.8
	comp=Z,0.4nm,0.4s,baz=78,slow=12,SNR=5.0						
KKN	**Kakani**	**46.57**	**281**	*e*P	**P**	**05 18 34.1**	**-0.7**
	comp=Z,6.4nm,0.3s,mb4.5						
DMN	**Daman**	**46.77**	**281**	*e*P	**P**	**05 18 35.9**	**-0.5**
	comp=Z,5.0nm,0.4s,mb4.2						
GKN	**Gorkha**	**47.05**	**281**	*e*P	**P**	**05 18 37.9**	**-0.6**
	comp=Z,5.4nm,0.3s,mb4.4						
DANN	**Dangsing**	**47.69**	**282**	*e*P	**P**	**05 18 43.4**	**0.0**
	comp=Z,7.7nm,0.3s,mb4.6						
KOLN	**Koldanda**	**48.00**	**281**	*e*P	**P**	**05 18 45.5**	**-0.2**
	comp=Z,13nm,0.6s,mb4.4						
WB2	**Warramunga Arr**	**50.26**	**186**	*e*P	**P**	**05 19 03.1**	**+0.6**
WRA	**Warramunga Arr**	**50.26**	**186**	P	**P**	**05 19 03.3**	**+0.8**
WRA						05 20 15.8	
WRA				pmax	pmax		
	comp=Z,2.0nm,0.5s						
WRA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
WRA	**Warramunga Arr**	**50.26**	**186**	P	**P**	**05 19 03.3**	**+0.7**
	comp=Z,2.4nm,0.5s,mb3.8,baz=1.5,slow=7.8,SNR=72						
WRA				PcP	PcP	05 20 15.8	+1.5
	comp=Z,0.5nm,0.8s,baz=359,slow=4.1,SNR=3.9						
TKM2	**Tokmak 2**	**51.18**	**303**	*e*P	**P**	**05 19 09.3**	**+0.2**
	comp=Z,1.3nm,0.6s,mb3.3						
TKM2	**Tokmak 2**	**51.18**	**303**	*e*P	**P**	**05 19 09.3**	**+0.2**
TKM2				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.2						
UCH	**Uchtor**	**52.08**	**302**	*e*P	**P**	**05 19 15.6**	**-0.1**
	comp=Z,1.3nm,0.7s,mb3.3						
ASAR	**Alice Springs**	**53.99**	**186**	P	**P**	**05 19 30.7**	**+1.2**
ASAR				pmax	pmax		
	comp=Z,2.0nm,0.5s						
ASAR	**Alice Springs**	**53.99**	**186**	P	**P**	**05 19 30.7**	**+1.2**
	comp=Z,1.5nm,0.5s,mb3.5,baz=17,slow=12,SNR=48						
MBWA	**Marble Bar**	**54.49**	**202**	*e*P	**P**	**05 19 33.3**	**+0.2**
	comp=Z,2.7nm,0.6s,mb3.6						
FORT	**Forrest**	**61.73**	**191**	*e*P	**P**	**05 20 22.9**	**+0.5**
	comp=Z,10.0nm,0.5s,mb4.6						
FORT	**Forrest**	**61.73**	**191**	*e*P	**P**	**05 20 23.5**	**+1.1**
	comp=Z,1.5nm,0.5s,mb3.8						
STKA	**Stephens Creek**	**62.01**	**177**	P	**P**	**05 20 25.4**	**+1.2**
	comp=Z,1.9nm,0.6s,mb3.8,baz=329,slow=10.0,SNR=3.6						
ARCES	**ARCESS Array B**	**69.46**	**340**	P	**P**	**05 21 12.2**	**+1.6**
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.8s						
ARCES	**ARCESS Array B**	**69.46**	**340**	P	**P**	**05 21 12.2**	**+1.6**
	comp=Z,2.3nm,0.8s,mb3.9,baz=60,slow=7.3,SNR=5.7						
FINES	**FINESS Array B**	**73.69**	**333**	P	**P**	**05 21 36.3**	**+0.6**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
FINES	**FINESS Array B**	**73.69**	**333**	P	**P**	**05 21 36.2**	**+0.6**
	comp=Z,0.8nm,0.4s,mb3.7,baz=76,slow=5.2,SNR=8.5						
AKASG	**Malin Array Be**	**78.24**	**322**	P	**P**	**05 22 00.7**	**-0.5**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
AKASG	**Malin Array Be**	**78.24**	**322**	P	**P**	**05 22 00.7**	**-0.6**
	comp=Z,0.7nm,0.4s,mb3.7,baz=52,slow=5.1,SNR=5.3						
AKBB	**Malin Array Si**	**78.24**	**322**	*e*P	**P**	**05 22 00.9**	**-0.4**
NOA	**NORSAR Array B**	**79.45**	**337**	P	**P**	**05 22 07.1**	**-0.5**
	comp=Z,0.4nm,0.6s,mb3.2,baz=50,slow=5.8,SNR=2.6						
LPAZ	**La Paz**	**151.56**	**66**	PKPbc	PKPbc	05 29 56.4	+3.8
LPAZ	**La Paz**	**151.56**	**66**	PKPbc	PKPbc	05 29 56.4	+3.9
	comp=Z,0.4nm,0.5s,baz=315,slow=4.3,SNR=3.5						

*GEN **25** 05:17:09.6,4451N×669E,h1km,ML2.0*
*ISCJB **25** 05:17:10.7±0.3,4456N±002×678E±002,h12km±2km, Error ellipse: s-maj=3.2km s-min=2.3km az=143.7*
*LDG **25** 05:17:11.6±0.1,4460N×681E,h4km,Md2.5/3,Ml2.5/8, Error ellipse: s-maj=1.9km s-min=1.2km az=62.0*
*STR **25** 05:17:11.1±0.7,4466N×687E,h5km,Ml2.3,Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
*ROM **25** 05:17:11.8±0.3,4461N×693E,h5km,Md2.3/7,Ml1.1/2, Error ellipse: s-maj=5.7km s-min=1.9km az=121.0*
*NEIC **25** 05:17:11.6,4460N×681E,h4km,MD2.3(ROM), ML2.5(LDG),ML2.3(STR),After LDG.*
*CSEM **25** 05:17:11.1±0.1,4460N×684E,h15km,ML2.4/9,Error ellipse: s-maj=1.6km s-min=1.3km az=42.0*

ISC 25 05:17:11.2±0.3,4458N±002×682E±002,h16km±2km,n46, σ0§81/88,1D,France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBDF	**Montbardon**	**0.15**	**348**	*e*Pg	**Pg**	**05 17 14.5**	**-0.7**
	SNR=1.0						
MBDF				*e*Sg	**Sg**	**05 17 17.2**	**-0.8**
	66nm,0.2s,SNR=1.0						
MBDF	**Montbardon**	**0.15**	**348**	*e*Pg	**Pg**	**05 17 14.5**	**-0.7**
	SNR=1.0						
MBDF				*e*Sg	**Sg**	**05 17 17.2**	**-0.8**
	33nm,0.2s,SNR=1.0						
PZZ	**Prazzo**	**0.22**	**110**	⇓*i*Pg	**Pg**	**05 17 15.5**	**-0.7**
PZZ				Sg	**Sg**	**05 17 18.8**	**-0.7**
DOI	**San Damiano**	**0.32**	**103**	Pg	**Pg**	**05 17 17.4**	**-0.5**
	19nm,0.2s						
RRL	**Cesana Torines**	**0.34**	**356**	P	**Pg**	**05 17 18.2**	**-0.2**
RRL				S	**Sg**	**05 17 24.1**	**+0.9**
BNI	**Bardonecchia**	**0.48**	**348**	Pg	**Pg**	**05 17 22.2**	**+1.3**
	76nm,2.3s						
STV	**Sta Anna Valdi**	**0.49**	**132**	P	**Pg**	**05 17 20.0**	**-1.1**
ENR	**Entracque**	**0.56**	**129**	P	**Pg**	**05 17 20.8**	**-1.4**
RSP	**Reno Superiore**	**0.65**	**28**	Pg	**Pg**	**05 17 24.0**	**-0.1**
RSP				S	**Sg**	**05 17 34.0**	**+1.2**
MVIF	**Mont Vial**	**0.72**	**160**	Pg	**Pg**	**05 17 27.3**	**+2.0**
AUTN	**L'Aution**	**0.73**	**143**	Pg	**Pg**	**05 17 25.7**	**+0.2**
AUTN				Sg	**Sg**	**05 17 36.5**	**+1.4**
ORIF	**Oris-en-Rattie**	**0.75**	**297**	*e*Pn	**Pn**	**05 17 27.5**	**+0.3**
ORIF				*e*Sg	**Sg**	**05 17 35.1**	**-0.6**
	12nm,0.2s,SNR=1.0						
ORIF				*e*Sn	**Sn**	**05 17 38.5**	**+0.3**
ORIF	**Oris-en-Rattie**	**0.75**	**297**	*e*Pg	**Pg**	**05 17 25.2**	**-0.6**
ORIF				*e*Pn	**Pn**	**05 17 27.5**	**+0.3**
ORIF				*e*Sg	**Sg**	**05 17 35.1**	**-0.6**
ORIF				*e*Sn	**Sn**	**05 17 38.5**	**+0.3**
ORIF	**Oris-en-Rattie**	**0.75**	**297**	*e*Pn	**Pn**	**05 17 27.5**	**+0.3**
ORIF				*e*Sg	**Sg**	**05 17 35.1**	**-0.6**
	6.2nm,0.2s,SNR=1.0						
ORIF				*e*Sn	**Sn**	**05 17 38.5**	**+0.3**
LUCF	**Luceram**	**0.78**	**151**	Pg	**Pg**	**05 17 26.3**	**-0.2**
LUCF				Sg	**Sg**	**05 17 38.7**	**+1.9**
SAOF	**Saorge**	**0.80**	**138**	Pg	**Pg**	**05 17 27.6**	**+0.9**
SAOF				Sg	**Sg**	**05 17 38.8**	**+1.3**
ROB	**Roburent**	**0.81**	**110**	P	**Pb**	**05 17 26.6**	**-0.3**
ROB				S	**Sb**	**05 17 37.6**	**+0.1**
MONE	**Monesi**	**0.84**	**126**	P	**Pb**	**05 17 26.2**	**-1.2**
MONE				S	**Sb**	**05 17 37.7**	**-0.7**
SBF	**Sospel**	**0.84**	**148**	*e*Pg	**Pg**	**05 17 27.5**	**-0.1**
	SNR=1.0						
SBF				*e*Sg	**Sg**	**05 17 38.9**	**+0.3**
	18nm,0.2s,SNR=1.0						
SBF	**Sospel**	**0.84**	**148**	*e*Pg	**Pg**	**05 17 27.5**	**-0.1**
	SNR=1.0						
SBF				*e*Sg	**Sg**	**05 17 38.9**	**+0.3**
	8.8nm,0.2s,SNR=1.0						
STOF	**St-Etienne Org**	**0.87**	**229**	Pn	**Pn**	**05 17 30.6**	**+1.8**
LSD	**Ceresole Reale**	**0.91**	**15**	P	**Pb**	**05 17 29.8**	**+1.1**
LSD				S	**Sb**	**05 17 42.0**	**+1.4**
LPG	**La Plagne**	**0.92**	**357**	*e*Pg	**Pg**	**05 17 28.7**	**-0.4**
	SNR=1.0						
LPG				*e*Sn	**Sn**	**05 17 42.1**	**-0.3**
	SNR=1.0						
LPL	**La Plagne**	**0.94**	**356**	*e*Pg	**Pg**	**05 17 29.2**	**-0.3**
	SNR=1.0						
LPL				*e*Sn	**Sn**	**05 17 43.1**	**+0.2**
	4.8nm,0.3s,SNR=1.0						
LPL	**La Plagne**	**0.94**	**356**	*e*Pg	**Pg**	**05 17 29.2**	**-0.3**
	SNR=1.0						
LPL				*e*Sn	**Sn**	**05 17 43.1**	**+0.2**
	2.4nm,0.3s,SNR=1.0						
NEGI	**Negi**	**0.97**	**139**	P	**Pb**	**05 17 29.5**	**-0.1**
NEGI				S	**Sb**	**05 17 41.5**	**-0.7**
RORO		**1.01**	**117**	P	**Pb**	**05 17 30.1**	**-0.2**
RORO				S	**Sb**	**05 17 43.8**	**+0.4**
IMI	**Imperia**	**1.02**	**131**	P	**Pb**	**05 17 29.7**	**-0.8**
IMI	**Imperia**	**1.02**	**131**	Pg	**Pg**	**05 17 31.6**	**+0.6**
IMI				S	**Sb**	**05 17 43.2**	**-0.4**
FRF	**La Foret Royal**	**1.02**	**187**	*e*Pg	**Pg**	**05 17 30.8**	**-0.2**
	SNR=1.0						
FRF				*e*Sg	**Sg**	**05 17 44.6**	**+0.2**
	20nm,0.2s,SNR=1.0						
FRF	**La Foret Royal**	**1.02**	**187**	*e*Pg	**Pg**	**05 17 30.8**	**-0.2**
	SNR=1.0						
FRF				*e*Sg	**Sg**	**05 17 44.6**	**+0.2**
	9.8nm,0.2s,SNR=1.0						
FIN	**Finale Ligure**	**1.06**	**110**	Pg	**Pg**	**05 17 30.5**	**-1

Error ellipse: s-maj=13.3km s-min=5.9km az=73.0

ISC 25 05:26:44.0±2.5,276N±007×1287E±01,h222km±26km,n43, σ0°76/41,mb4.2/29,Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	Kupang	13.84	201	P	Pn	05 29 50.7	-0.6
	4.3nm,0.3s,baz=162,slow=3.8,SNR=2.6						
KAKA	Kakadu	15.80	167	eP	Pn	05 30 14.9	-0.2
	14nm,0.6s						
KSM	Kuching	18.46	266	eP	P	05 30 44.3	+0.7
FITZ	Fitzroy Crossi	20.95	188	eP	P	05 31 08.9	-1.2
	4.1nm,0.4s						
FITZ	Fitzroy Crossi	20.95	188	P	P	05 31 09.2	-0.9
	2.6nm,0.5s,baz=22,slow=8.0,SNR=19						
WRAB	Tennant Creek	23.21	167	eP	P	05 31 32.2	+0.7
	6.6nm,0.6s,mb4.3						
WRA	Warramunga Arr	23.22	167	P	P	05 31 31.8	+0.3
	5.1nm,0.4s,mb4.4,baz=342,slow=10,SNR=74						
WRA				ScP	ScP	05 38 28.6	-1.2
	0.3nm,0.5s,baz=343,slow=2.9,SNR=6.4						
WB2	Warramunga Arr	23.22	167	eP	P	05 31 32.8	+1.2
MBWA	Marble Bar	25.36	200	eP	P	05 31 49.9	-1.0
	5.2nm,0.9s,mb4.2						
ASAR	Alice Springs	26.74	169	P	P	05 32 03.6	+0.3
	3.4nm,0.4s,mb4.3,baz=350,slow=7.0,SNR=100						
ASAR				PcP	PcP	05 35 21.2	+0.6
	0.6nm,0.5s,baz=348,slow=2.3,SNR=5.8						
ASAR				ScP	ScP	05 38 38.6	-1.0
	0.5nm,0.5s,baz=348,slow=3.3,SNR=8.3						
CHTO	Chiang Mai	33.24	301	eP	P	05 33 00.7	+0.2
	6.2nm,0.9s,mb4.1						
FORT	Forrest	33.36	181	eP	P	05 33 01.3	-0.1
	28nm,0.7s,mb4.9						
KMI	Kunming	33.49	314	P	P	05 33 01.5	-1.1
KMI				AMB	AMB		
	comp=Z,11nm,0.6s,mb4.6						
MJAR	Matsushiro Arr	34.73	13	P	P	05 33 12.2	-0.9
	comp=Z,4.0nm,0.7s,mb4.1,baz=187,slow=9.8,SNR=12						
MAJO	Matsushiro	34.73	13	eP	P	05 33 12.9	-0.2
	comp=Z,8.0nm,0.8s,mb4.3						
KLBR	Kellerberrin	35.72	196	eP	P	05 33 21.1	-0.5
	comp=Z,6.1nm,0.5s,mb4.4						
MUN	Mundaring	36.54	198	eP	P	05 33 28.4	-0.1
STKA	Stephens Creek	36.55	161	eP	P	05 33 29.0	+0.4
	comp=Z,3.7nm,0.4s,mb4.3						
STKA	Stephens Creek	36.55	161	P	P	05 33 29.3	+0.7
	comp=Z,4.0nm,0.4s,mb4.3,baz=340,slow=8.5,SNR=19						
CD2	Chengdu	36.62	323	eP	P	05 33 32.3	+3.1
CD2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.5						
CD2				AMB	AMB		
	comp=Z,30nm,4.2s						
NWAO	Narrogin (SRO)	37.13	196	P	P	05 33 33.7	+0.2
NWAO	Narrogin (SRO)	37.13	196	P	P	05 33 33.7	+0.2
	comp=Z,5.8nm,0.6s,mb4.3,baz=338,slow=6.8,SNR=6.6						
CN2	Changchun	40.97	356	eP	P	05 34 08.5	+3.4
JIRN	Jiri	47.56	306	eP	P	05 34 58.4	+0.8
	comp=Z,3.5nm,0.2s,mb4.4						
GUN	Gumba	47.92	306	eP	P	05 35 00.8	+0.5
	comp=Z,27nm,0.7s,mb4.7						
KKN	Kakani	48.36	305	eP	P	05 35 03.6	-0.1
	comp=Z,11nm,0.6s,mb4.4						
DMN	Daman	48.43	305	eP	P	05 35 04.4	+0.2
	comp=Z,16nm,0.8s,mb4.4						
ULN	Ulaanbaatar	48.67	341	eP	P	05 35 06.5	+0.7
	comp=Z,1.4nm,0.5s,mb3.5						
SONM	Songino Array	48.87	340	P	P	05 35 08.0	+0.8
	comp=Z,1.3nm,0.6s,mb3.4,baz=157,slow=7.2,SNR=6.0						
GKN	Gorkha	48.96	305	eP	P	05 35 08.3	0.0
KOLN	Koldanda	49.72	305	eP	P	05 35 14.4	+0.4
	comp=Z,22nm,0.6s,mb4.7						
DANN	Dangsing	49.81	305	eP	P	05 35 15.0	+0.3
	comp=Z,30nm,0.6s,mb4.8						
MK31	Makanchi Array	59.50	325	eP	P	05 36 23.3	-0.5
MKAR	Makanchi Array	59.50	325	P	P	05 36 23.8	0.0
	comp=Z,2.0nm,0.5s,mb4.0,baz=117,slow=8.5,SNR=34						
TKM2	Tokmak 2	61.80	318	eP	P	05 36 38.7	-0.7
	comp=Z,1.5nm,0.6s,mb3.8						
EKS2	Erkin-Say	62.92	317	eP	P	05 36 47.2	+0.3
	comp=Z,1.8nm,0.7s,mb3.8						
KURK	Kurchatov	63.64	327	eP	P	05 36 51.0	-0.4
	comp=Z,8.3nm,1.0s,mb4.3						
BVAR	Borovoye Array	69.23	327	P	P	05 37 26.1	-0.6
	comp=Z,2.2nm,0.8s,mb3.9,baz=131,slow=8.8,SNR=9.7						
BRVK	Borovoye	69.30	327	eP	P	05 37 26.3	-0.9
	comp=Z,4.0nm,0.8s,mb4.1						
VNDA	Vanda	82.22	173	eP	P	05 38 40.3	+0.5
	comp=Z,2.9nm,0.9s,mb3.9						
ARCES	ARCESS Array B	92.04	340	P	P	05 39 25.7	-1.7
	comp=Z,1.5nm,0.9s,mb3.9,baz=75,slow=5.3,SNR=3.6						
CFAA	Coronel Fontan	147.15	153	PKPbc	PKPbc	05 46 02.1	+0.6
	comp=Z,0.5nm,0.7s,baz=237,slow=3.1,SNR=8.5						
LPAZ	La Paz	158.64	130	PKPab	PKPab	05 46 55.0	+2.6
	comp=Z,0.6nm,0.5s,baz=91,slow=6.9,SNR=7.1						

NEIC 25 05:28:43.9,1544N×9464W,h16km,MD3.7(MEX),After MEX.

MEX 25 05:28:43.9±0.5,1544N×9464W,h16km±999km,MD3.7, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	Huatulco	1.45	283	eP	Pn	05 29 05.7	-3.7
HUIG				i S	Sn	05 29 23.2	-5.0
CMIG	Matias Romero	1.66	352	i P	Pn	05 29 09.3	-3.1
CMIG				i S	Sn	05 29 28.2	-5.2
SCX	San Cristobal	2.32	56	i P	Pn	05 29 19.0	-2.5
SCX				i S	Sn	05 29 45.7	-4.0
CCIG	Comitan	2.55	70	i P	Pn	05 29 21.6	-3.1
CCIG				i S	Sn	05 29 51.7	-3.7
VHO	Vista Hermosa	2.58	309	eP	Pn	05 29 22.3	-2.8
VHO				i S	Sn	05 29 52.8	-3.4
PPM	Popocatepetl	5.25	314	eP	Pn	05 29 60.0	-1.7
PPM				i S	Sn	05 31 00.0	-1.8

ISCJB 25 05:36:21.6±0.7,2060S±004×6917W±009,h94km±13km, mb3.5/1,Error ellipse: s-maj=13.3km s-min=5.9km az=1.1
IDC 25 05:36:21.1±2.5,2053S×6920W,h69km±22km,mb3.3/2, mb1 3.6/6,mb1mx3.4/19,mbtmp3.5/6,Error ellipse: s-maj=33.8km s-min=23.6km az=83.0
NEIC 25 05:36:22.1±1.0,2054S×6912W,h80km±10km,mb3.8/1, Error ellipse: s-maj=17.1km s-min=10.4km az=64.0

ISC 25 05:36:23.0±0.6,2060S±004×6917W±008,h92km±13km, n21,σ1°30/21,mb3.5/1,1C-1D,Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEN1	Los Morros	2.94	199	⇑i P	Pn	05 37 12.8	+5.1
CEN1				i S	Sn	05 37 47.6	+5.5
CEN1				AML	AML	05 37 50.8	
	comp=N,186nm,0.1s						
ANCH	Antofagasta	3.27	200	eP	Pn	05 37 14.0	+1.7
ANCH				i S	Sn	05 37 49.9	-0.3
CPN1	Cerro Paranal	4.17	196	⇓i P	Pn	05 37 25.9	+1.7
CPN1				i S	Sn	05 38 10.7	-1.1
LPAZ	La Paz	4.40	13	P	Pn	05 37 31.3	+3.8
LPAZ				S	Sn	05 38 19.3	+1.6
LPAZ	La Paz	4.40	13	P	Pn	05 37 31.3	+3.8
	comp=N,1.3nm,0.3s,baz=201,slow=6.5,SNR=40						
LPAZ				S	Sn	05 38 19.3	+1.6
	comp=N,0.9nm,0.3s,baz=204,slow=20,SNR=4.4						
ARE	Arequipa	4.67	331	eP	Pn	05 37 30.0	-1.1
ARE				eS	Sn	05 38 24.0	-0.2
CDCH	Caldera	6.62	193	eS	Sn	05 39 04.9	-6.7
SIV	San Ignacio	8.95	61	P	Pn	05 38 28.9	-0.5
	comp=N,1.7nm,0.3s,baz=255,slow=12,SNR=43						
CFAA	Coronel Fontan	10.99	176	P	Pn	05 38 55.7	-1.4
	comp=N,0.1nm,0.3s,baz=351,slow=13,SNR=7.2						
NNA	Nana	11.29	318	P	Pn	05 39 00.6	-0.8
	comp=N,0.4nm,0.3s,baz=180,slow=5.1,SNR=1.9						
CPUP	Villa Florida	12.27	120	ePn	Pn	05 39 12.4	-2.0
CPUP	Villa Florida	12.27	120	P	Pn	05 39 13.1	-1.3
	comp=N,0.3nm,0.3s,baz=278,slow=14,SNR=4.0						
TRQA	Tornquist	18.48	162	eP	Pn	05 40 33.5	+0.8
	comp=N,3.9nm,0.7s						
PLCA	Paso Flores	20.10	183	P	P	05 40 51.8	+2.6
	comp=N,2.1nm,1.0s,baz=5.3,slow=9.5,SNR=3.0						
YKA	Yellowknife Ar	90.26	341	P	P	05 49 12.1	-0.8
	comp=N,0.3nm,0.8s,mb3.5,baz=131,slow=4.6,SNR=8.3						
STKA	Stephens Creek	120.07	210	PKP	PKPdf	05 55 05.7	+2.3
	comp=N,0.5nm,0.3s,baz=146,slow=2.0,SNR=2.8						
HNR	Honiara	123.23	243	PKP	PKPdf	05 55 11.6	+1.6
	comp=N,37nm,0.3s,baz=148,slow=2.9,SNR=3.1						
ASAR	Alice Springs	130.59	208	PKP	PKPdf	05 55 23.3	-0.5
	comp=N,0.2nm,0.8s,baz=184,slow=1.4,SNR=2.6						
WRA	Warramunga Arr	133.60	211	PKP	PKPdf	05 55 29.3	-0.2
	comp=N,0.3nm,0.8s,baz=141,slow=1.4,SNR=4.0						
ZALV	Zalesovo Beam	141.24	24	PKP	PKPdf	05 55 42.5	-0.1
	comp=N,0.6nm,0.4s,baz=330,slow=1.6,SNR=3.0						
MKAR	Makanchi Array	145.04	35	PKPbc	PKPbc	05 55 49.0	0.0
	comp=N,0.3nm,0.4s,baz=312,slow=2.7,SNR=3.0						

IDC 25 05:37:45.1±0.8,841S×15709E,h0km,mb4.4/10, mb1 4.5/11,mb1mx4.4/17,mbtmp4.4/11,ML4.6/1,MS3.9/13, Ms1 3.9/13,ms1mx3.8/25,Error ellipse: s-maj=21.3km s-min=19.8km az=128.0
BJI 25 05:37:48.7,809S×15738E,h30km,mB5.2,mb4.9
ISCJB 25 05:37:49.0±0.4,847S±007×15711E±008,h39km, mb4.7/30,MS3.9/11,Error ellipse: s-maj=11.4km s-min=9.6km az=26.5
NEIC 25 05:37:50.2±1.8,844S×157.16E,h39km±18km,mb4.6/14, Error ellipse: s-maj=16.6km s-min=8.1km az=140.0

ISC 25 05:37:51.3±2.6,85S±01×1572E±01,h50km±29km, h39km±1.3km;pP-P,n50,σ0°92/42,mb4.7/30,MS3.9/11, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	2.83	109	Pn	Pn	05 38 33.7	-0.4
	77nm,0.3s,baz=293,slow=0.8,SNR=25						
HNR				LR	LR	05 39 10.5	
	comp=Z,4μm,21.6s,baz=349,slow=28						
HNR				Sn	Sn	05 39 13.6	+6.6
	119nm,0.3s,baz=274,slow=13,SNR=5.7						
CTA	Charters Tower	15.64	222	eP	Pn	05 41 29.2	+0.6
	6.6nm,0.8s						
CTA	Charters Tower	15.64	222	Pn	Pn	05 41 31.9	+3.3
	0.3nm,0.3s,baz=62,slow=11,SNR=7.2						
CTA				LR	LR	05 45 13.0	
	comp=Z,90nm,21.2s,baz=44,slow=29						
CTAO	Charters Tower	15.64	222	eP	Pn	05 41 33.0	+4.3
	7.5nm,0.7s						
ARMA	Armidale	22.40	193	eP	P	05 42 47.6	+2.0
WRAB	Tennant Creek	24.87	240	eP	P	05 43 08.8	-0.8
	10nm,0.8s,mb4.4						
WB2	Warramunga Arr	24.87	240	eP	P	05 43 08.9	-0.6
WRA	Warramunga Arr	24.88	240	P	P	05 43 09.1	-0.6
	8.1nm,0.6s,mb4.5,baz=340,slow=9.6,SNR=94						
WRA				PcP	PcP	05 46 45.6	+0.9
	3.0nm,0.7s,baz=67,slow=2.4,SNR=18						
WRA				LR	LR	05 52 24.2	
	comp=Z,367nm,19.5s,MS3.9,baz=80,slow=35						
GUMO	Guam	25.17	331	LR	LR	05 51 48.2	
	comp=Z,93nm,18.7s,MS3.3,baz=164,slow=34						
ASAR	Alice Springs	26.93	233	P	P	05 43 27.1	-1.1
	1.8nm,0.8s,mb3.7,baz=64,slow=9.0,SNR=15						
ASAR				PcP	PcP	05 46 50.2	+0.9
	0.9nm,0.7s,baz=68,slow=2.4,SNR=5.7						
STKA	Stephens Creek	27.40	210	eP	P	05 43 33.8	+1.5
	10nm,0.6s,mb4.5						
STKA	Stephens Creek	27.40	210	P	P	05 43 34.3	+2.0
	15nm,0.7s,mb4.6,baz=39,slow=14,SNR=22						
STKA				LR	LR	05 53 37.9	
	comp=Z,325nm,18.7s,MS3.9,baz=208,slow=35						
FITZ	Fitzroy Crossi	32.13	250	eP	P	05 44 13.2	-1.1
	3.9nm,0.6s,mb4.4						
FITZ	Fitzroy Crossi	32.13	250	P	P	05 44 13.2	-1.1
	1.5nm,0.5s,mb4.1,baz=69,slow=11,SNR=6.0						
FITZ				LR	LR	05 57 08.9	
	comp=Z,184nm,19.0s,MS3.8,baz=314,slow=36						
BATI	Kupang	33.15	264	LR	LR	05 59 25.0	
	comp=Z,323nm,18.4s,MS4.3,baz=279,slow=39						
URZ	Urmqi	34.60	152	LR	LR	05 56 51.5	
	comp=Z,319nm,18.6s,MS4.1,baz=223,slow=33						
FORT	Forrest	35.08	227	eP	P	05 44 39.2	-0.7
	9.1nm,0.8s,mb4.8						
RPZ	Rata Peaks	37.07	163	LR	LR	05 58 24.5	
	comp=Z,278nm,18.0s,MS4.1,baz=341,slow=33						
KLBR	Kellerberrin	43.25	232	eP	P	05 45 47.4	-0.7
NWAO	Narrogin (SRO)	44.19	231	LR	LR	06 04 21.9	
	comp=Z,313nm,20.2s,MS4.2,baz=60,slow=36						
KSRS	Korea Array	53.33	331	P	P	05 47 05.9	+0.3
	1.7nm,0.4s,mb4.3,baz=153,slow=8.7,SNR=12						
KSRS				LR	LR	06 06 38.0	
	comp=Z,69nm,20.3s,MS3.7,baz=152,slow=33						
MDJ	Mudanjiang	58.49	337	P	P	05 47 41.6	-0.8
MDJ				AMB	AMB		
	comp=Z,7.0nm,1.1s,mb4.6						
MDJ				AMB	AMB		
	comp=Z,39nm,4.9s						
CHTO	Chiang Mai	63.56	296	eP	P	05 48 17.6	+0.3
	comp=Z,13nm,1.3s,mb4.8						
LZH	Lanzhou	66.96	315	eP	P	05 48 41.0	+2.0
LZH				AP	pP	05 48 53.0	0.0
LZH				XP	sP	05 48 59.0	+0.3
LZH				AMB	AMB		
	comp=Z,35nm,1.5s,mb5.2						
LZH				AMB	AMB		
	comp=Z,126nm,4.3s						
VNDA	Vanda	69.00	179	LR	LR	06 13 08.1	
	comp=Z,124nm,20.1s,MS4.1,baz=117,slow=31						
GTA	Gaotai	71.37	316	eP	P	05 49 07.9	+1.7
GTA				AP	pP	05 49 19.0	-1.4
GTA				XP	sP	05 49 25.8	-0.2
GTA				AMB	AMB		
	comp=Z,8.0nm,1.5s,mb4.4						
ULN	Ulaanbaatar	71.48	327	eP	P	05 49 06.5	-0.2
	comp=Z,2.3nm,0.6s,mb4.3						
SONM	Songino Array	71.82	327	P	P	05 49 10.1	+1.4
	comp=Z,2.8nm,0.8s,mb4.2,baz=127,slow=4.4,SNR=6.6						
BILL	Bilibino	76.65	3	eP	P	05 49 36.4	-0.1
	comp=Z,7.1nm,1.1s,mb4.5						
GUN	Gumba	77.80	301	eP	P	05 49 44.6	+0.8
	comp=Z,24nm,1.0s,mb5.1						
KKN	Kakani	78.28	301	eP	P	05 49 47.1	+0.7
	comp=Z,20nm,0.8s,mb5.1						
DMN	Daman	78.38	300	eP	P	05 49 47.8	+0.8
	comp=Z,60nm,1.2s,mb5.4						
GKN	Gorkha	78.88	301	eP	P	05 49 50.0	+0.2
	comp=Z,72nm,1.3s,mb5.4						
KOLN	Koldanda	79.70	300	eP	P	05 49 54.3	0.0
	comp=Z,34nm,1.2s,mb5.1						
DANN	Dangsing	79.72	301	eP	P	05 49 52.9	-1.4
	comp=Z,45nm,1.2s,mb5.3						
WMQ	Urumqi	81.45	317	eP	P	05 50 04.0	+0.7
WMQ				AP	pP	05 50 15.0	-2.7
WMQ				AMB	AMB		
	comp=Z,15nm,1.1s,mb4.8						
WMQ				AMB	AMB		
	comp=Z,149nm,4.5s						
COLA	College	83.72	21	eP	P	05 50 13.5	-1.0
	comp=Z,4.5nm,0.9s,mb4.6						
NDI	New Delhi	85.39	300	eP	P	05 50 23.0	-0.9
MK31	Makanchi Array	86.01	318	eP	P	05 50 26.3	-0.2
MKAR	Makanchi Array	86.01	318	P	P	05 50 26.8	+0.2
	comp=Z,5.4nm,1.1s,mb4.7,baz=99,slow=6.3,SNR=25						
ZALV	Zalesovo Beam	86.68	326	P	P	05 50 29.1	-0.5
	comp=Z,0.7nm,0.4s,mb4.2,baz=85,slow=3.1,SNR=4.3						
ZALV				LR	LR	06 26 16.9	
	comp=Z,48nm,19.9s,MS3.9,baz=312,slow=34						
KURK	Kurchatov	89.40	321	eP	P	05 50 41.7	-0.9
	comp=Z,1.6nm,0.6s,mb4.5						
TKM2	Tokmak 2	89.67	313	eP	P	05 50 44.2	0.0
	comp=Z,1.6nm,0.6s,mb4.5						
AAK	Ala-Archa	90.41	313	P	P	05 50 46.5	-1.0
	comp=Z,0.8nm,0.3s,mb4.5,baz=140,slow=12,SNR=3.7						
AML	Almayashu	90.90	312	eP	P	05 50 50.7	+0.9
	comp=Z,9.4nm,1.3s,mb5.0						
EKS2	Erkin-Say	90.93	313	eP	P	05 50 49.5	-0.5
	comp=Z,1.9nm,0.7s,mb4.5						
YKA	Yellowknife Ar	96.65	28	P	P	05 51 15.5	-0.3
	comp=Z,0.6nm,0.8s,mb4.1,baz=263,slow=4.4,SNR=8.9						
BDFB	Brasilia	145.33	134	PKPbc	PKPbc	05 57 25.4	+0.9
	comp=Z,6.4nm,1.0s,baz=223,slow=9.7,SNR=15						
ROSA	Rosais	149.54	8	eS		05 57 41.2	
CALA	Caldeira	149.61	9	eP	PKPdf	05 57 27.5	-3.7
CALA				eS		05 57 32.0	

ISCJB 25 05:49:14.5±0.5,3958N±002×12337W±004,h11km±3km, Error ellipse: s-maj=5.8km s-min=3.3km az=161.1
NEIC 25 05:49:15.0,3958N×12335W,h9km,ML2.8(NCEDC), After NCEDC.

ISC 25 05:49:14.9±0.5,3958N±002×12339W±004,h13km±3km, n31,σ0°83/49,15C-13D,Near coast of northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
P01C	Double 8 Ranch	0.12	161	⇑P	Pg	05 49 17.5	-0.6
	baz=0.1,SNR=1000						
P01C				⇓S	Sg	05 49 19.8	-0.6
	baz=0.1						
KCPM	Cahto Peak	0.19	305	ePg	Pg	05 49 19.3	+0.1
KIPM	Iron Peak	0.24	342	ePg	Pg	05 49 19.9	-0.1
GASB	Alder Springs	0.52	81	P	Pg	05 49 25.3	+0.1
	baz=0.5,SNR=448						
GASB				⇑S	Sg	05 49 32.9	+0.8
	baz=0.5						
HOPS	Hopland	0.63	157	ePg	Pg	05 49 27.1	-0.2
HOPS				eSg	Sg	05 49 34.1	-1.5
HOPS	Hopland	0.63	157	⇓P	Pg	05 49 27.4	+0.1
	baz=0.6,SNR=715						
HOPS				⇓S	Sg	05 49 36.3	+0.7
	baz=0.6						
O01C	Eel River Cons	0.65	329	⇓P	Pg	05 49 28.4	+0.7
	baz=0.7,SNR=210						
O01C				⇓S	Sg	05 49 36.9	+0.7
	baz=0.7						
O02C	Red Bluff	0.75	37	P	Pg	05 49 29.7	+0.2
	baz=0.7,SNR=191						
O02C				⇑S	Sg	05 49 40.7	+1.3
	baz=0.7						
MNRC	McLaughlin Nat	1.01	133	⇓P	Pb	05 49 34.8	+0.5
	baz=1.0,SNR=40						
MNRC				⇑S	Sb	05 49 47.8	+0.4
	baz=1.0						
O03C	Acorn Hollow,	1.12	68	⇑P	Pb	05 49 35.6	-0.6
	baz=1.1						
O03C				⇑S	Sb	05 49 51.1	+0.5
	baz=1.1						
WDC	Whiskeytown Da	1.19	33	ePn	Pn	05 49 36.3	-0.9
WDC				eSn	Sn	05 49 52.8	-0.4
WDC	Whiskeytown Da	1.19	33	⇑P	Pn	05 49 36.6	-0.6
	baz=1.2,SNR=56						
WDC				⇓S	Sb	05 49 53.0	+0.4
	baz=1.2						
NSHM	Saint Helena R	1.22	150	ePn	Pn	05 49 38.8	+1.2
N02C	Big Bar	1.24	3	⇑P	Pn	05 49 36.9	-1.0
	baz=1.2,SNR=152						
SUTB	Sutter Butte	1.29	105	⇑P	Pn	05 49 38.1	-0.4
	baz=1.3						
SUTB				⇓S	Sb	05 49 55.3	-0.1
	baz=1.3						
ORV	Oroville	1.46	90	⇓P	Pn	05 49 40.4	-0.4
	baz=1.4						
MCCM	Marconi Confer	1.49	164	ePn	Pn	05 49 40.9	-0.3
OHCM	Honcut	1.49	99	ePn	Pn	05 49 40.7	-0.6
OHCM				eSn	Sn	05 49 57.9	-2.7
M02C	Callahan	1.86	12	⇓P	Pn	05 49 46.0	-0.4
	baz=1.9,SNR=16						
O04C	Chester	1.92	67	⇑P	Pn	05 49 47.6	+0.5
	baz=1.9						
HATC	Hat Creek Radi	1.92	49	⇑P	Pn	05 49 47.2	0.0
	baz=1.9						
HATC				⇓S	Sn	05 50 10.1	-1.2
	baz=1.9						
M03C	McCloud	1.95	29	⇓S	Sn	05 50 11.2	-0.6
	baz=1.9						
P05C	Yuba Gap, Truc	2.17	96	⇑P	Pn	05 49 50.5	-0.2
	baz=2.1						
P05C				⇑S	Sn	05 50 17.2	-0.1
	baz=2.1						
YBH	Yreka Blue Hor	2.21	13	ePn	Pn	05 49 52.4	+1.2
YBH				ePg	Pg	05 49 57.0	-0.4
YBH	Yreka Blue Hor	2.21	13	⇑P	Pn	05 49 51.5	+0.3
	baz=2.2,SNR=12						
LAVA	Lava Cap Winer	2.21	111	⇓P	Pn	05 49 51.1	-0.2
	baz=2.2						
BEKR	Beckwourth	2.35	82	⇑P	Pn	05 49 54.1	+0.9
	baz=2.3						
CMB	Columbia Colle	2.81	122	ePn	Pn	05 49 59.2	-0.1
CMB				eSn	Sn	05 50 34.7	+1.7
HUMO	Hull Mountain	3.04	6	ePn	Pn	05 50 05.0	+2.3
HUMO				ePg	Pg	05 50 10.9	-2.3
MOD	Modoc	3.30	44	ePn	Pn	05 50 06.1	-0.1
MOD				ePg	Pg	05 50 17.7	-0.4
TMUT	Trail Mountain	9.43	88	ePn	Pn	05 51 31.2	+0.9

ISCJB 25 05:52:59.9±0.5,4279N±004×127W±004,h4km±13km, Error ellipse: s-maj=6.0km s-min=4.2km az=165.2
LDG 25 05:52:59.3±0.3,4275N×132W,h5km,Md2.2/3,Ml2.3/2, Error ellipse: s-maj=5.5km s-min=2.3km az=37.0
STR 25 05:53:00.5±0.0,4282N×129W,h5km,Ml1.8,Error ellipse: s-maj=0.0km s-min=0.0km az=0.0
MDD 25 05:53:00.8±0.2,4280N×125W,h0km,mb3.6/1, mbLg1.6/16,Error ellipse: s-maj=1.8km s-min=1.0km az=150.0,PRXIMO

ISC 25 05:53:00.5±0.5,4280N±003×127W±003,h2km±15km,n29, σ0°59/30,1C,Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPRE	Itoiz	0.07	274	⇑Pg	Pg	05 53 01.5	-0.3
	202nm,0.3s,SNR=18						
IPRE				Lg		05 53 03.2	
	119nm,0.2s,SNR=7.9						
IZUN	Zunzarren	0.15	293	Pg	Pg	05 53 03.5	0.0
	54nm,0.1s,SNR=7.9						
IZUN				Lg		05 53 06.7	
	76nm,0.2s,SNR=7.9						
EARA	Aranguren	0.23	263	Pg	Pg	05 53 05.5	+0.5
	20nm,0.3s,SNR=12						
EARA				Lg		05 53 09.8	
	44nm,0.2s,SNR=19						
IUSE	Utxeti	0.25	305	Pg	Pg	05 53 05.6	+0.2
	4.0nm,0.1s,SNR=19						
IUSE				Lg		05 53 09.3	
	18nm,0.2s,SNR=9.0						
LARF	Larrau	0.31	41	Pg	Pg	05 53 06.

0.5nm,0.1s,SNR=7.9
ELAN Lg 05 53 53.2
0.5nm,0.1s,SNR=7.9
SALF Salau 1.81 90 Lg 05 54 00.7
ETOR Torete 2.07 197 Pn **Pn 05 53 36.4 +0.2**
2.3nm,0.2s,SNR=7.9
ETOR Pg **Pg 05 53 40.3 +0.2**
5.2nm,0.1s,SNR=7.1
ETOR Lg 05 54 05.7
7.1nm,0.3s,SNR=7.9
EPOB Poblet 2.27 129 Lg 05 54 13.5
0.9nm,0.2s,SNR=7.9
EMOS Mosqueruela 2.51 166 Lg 05 54 20.3
0.1nm,0.2s,SNR=7.9
MTLF Montolieu 2.61 77 *e*Sg **Sg 05 54 22.5 -1.8**
2.6nm,0.4s
MTLF Montolieu 2.61 77 Lg 05 54 22.5
1.3nm,0.4s

NEIC ***25*** *05:53:56.6±1.8, 3006S×177.14W, h35km, mb4.4/1, Error ellipse: s-maj=34.1km s-min=22.9km az=94.0*
IDC ***25*** *05:54:00.5±3.2, 2921S×177.21W, h71km±11km, mb3.8/4, mb1 3.9/4, mb1mx3.7/14, mbtmp3.8/4, MS3.3/1, Ms1 3.3/1, ms1mx2.8/31, Error ellipse: s-maj=44.0km s-min=24.4km az=88.0*

ISC 25 05:53:58.1±5.5, 299S±08×1772W±09, h50km±59km, n11, σ0°46/11, mb4.0/4, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.92**	**314**	P	**Pn**	**05 54 14.8**	**0.0**
RAO				S	**Sn**	**05 54 26.8**	**-0.1**
RAO	**Raoul Island**	**0.92**	**314**	P	**Pn**	**05 54 14.8**	**0.0**
836nm,0.3s,baz=75,slow=21,SNR=22							
RAO				S	**Sn**	**05 54 26.8**	**-0.1**
2μm,0.3s,baz=83,slow=23,SNR=18							
RAR	**Rarotonga**	**17.90**	**65**	LR	LR	06 02 44.0	
comp=Z,99nm,18.4s,baz=209,slow=30							
CTA	**Charters Tower**	**34.44**	**278**	P	**P**	**06 00 41.7**	**+0.6**
CTA	**Charters Tower**	**34.44**	**278**	P	**P**	**06 00 41.7**	**+0.6**
1.2nm,0.5s,mb4.1,baz=119,slow=16,SNR=5.3							
CTAO	**Charters Tower**	**34.44**	**278**	*e*P	**P**	**06 00 42.3**	**+1.2**
3.9nm,0.8s,mb4.4							
STKA	**Stephens Creek**	**35.30**	**256**	P	**P**	**06 00 48.7**	**+0.3**
1.2nm,0.4s,mb4.2,baz=100,slow=12,SNR=3.9							
ASAR	**Alice Springs**	**43.87**	**266**	P	**P**	**06 01 58.9**	**-0.8**
0.5nm,0.5s,mb3.5,baz=106,slow=7.3,SNR=6.0							
WB2	**Warramunga Arr**	**44.80**	**271**	*e*P	**P**	**06 02 07.1**	**-0.1**
WRA	**Warramunga Arr**	**44.81**	**271**	P	**P**	**06 02 07.2**	**-0.1**
1.3nm,0.3s,mb4.3,baz=110,slow=8.1,SNR=55							
FINES	**FINESS Array B**	**144.92**	**341**	PKP	PKPdf	06 13 29.1	+0.2
2.1nm,0.6s,baz=41,slow=5.0,SNR=13							

IDC 25 05:56:15.1±1.6, 466S×12405E, h0km, mb3.7/2, mb1 3.9/4, mb1mx3.7/17, mbtmp3.7/4, ML3.4/2, Error ellipse: s-maj=130.7km s-min=24.3km az=64.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**13.45**	**173**	Pn	Pn	05 59 26.9	-0.4
0.1nm,0.3s,baz=350,slow=14,SNR=3.2							
WRA	**Warramunga Arr**	**18.20**	**147**	P	Pn	06 00 28.2	-1.1
0.2nm,0.3s,baz=320,slow=12,SNR=11							
ASAR	**Alice Springs**	**21.15**	**154**	P	P	06 01 02.8	+0.9
5.5nm,0.9s,baz=331,slow=11,SNR=22							
MKAR	**Makanchi Array**	**63.12**	**329**	P	P	06 06 44.5	0.0
0.1nm,0.3s,baz=149,slow=6.1,SNR=3.1							

IDC 25 06:04:46.7±2.0, 012N×12016E, h0km, mb3.7/3, mb1 4.1/4, mb1mx3.8/18, mbtmp3.9/4, ML4.5/1, Error ellipse: s-maj=155.3km s-min=25.4km az=69.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**17.63**	**137**	*e*P	Pn	06 09 03.1	+9.2
25nm,1.4s							
FITZ	**Fitzroy Crossi**	**18.89**	**164**	*e*P	Pn	06 09 09.0	-0.4
3.5nm,0.2s							
FITZ	**Fitzroy Crossi**	**18.89**	**164**	P	Pn	06 09 09.0	-0.3
1.1nm,0.3s,baz=3.1,slow=12,SNR=92							
WRA	**Warramunga Arr**	**24.30**	**146**	P	P	06 10 05.9	-0.1
0.8nm,0.5s,baz=328,slow=9.0,SNR=18							
WB2	**Warramunga Arr**	**24.30**	**146**	*e*P	P	06 10 05.9	-0.2
ASAR	**Alice Springs**	**27.15**	**151**	P	P	06 10 31.6	-0.2
0.4nm,0.5s,baz=343,slow=14,SNR=9.6							
SONM	**Songino Array**	**49.01**	**348**	P	P	06 13 35.9	+0.7
0.7nm,0.4s,baz=162,slow=7.9,SNR=4.0							

CSEM ***25*** *06:06:00.1±1.2, 3897N×2902W, h0km, ML3.2, Error ellipse: s-maj=24.1km s-min=10.5km az=45.0, After PDA*
PDA ***25*** *06:06:00.1±1.2, 3897N×2902W, h0km, MD3.8, ML3.2, Error ellipse: s-maj=24.1km s-min=10.5km az=45.0*

SVSA 25 06:06:00.1±1.2, 3897N×2902W, h0km, MD3.8, ML3.2, Error ellipse: s-maj=24.1km s-min=10.5km az=45.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CALA	**Caldeira**	**0.47**	**147**	*e*P	Pg	06 06 07.5	-1.5
SRBC	**Serra Branca**	**0.77**	**85**	*e*P	Pg	06 06 13.1	-1.7
SRBC				*e*S	Sg	06 06 21.0	-3.8
PMAN	**Manadas**	**0.81**	**115**	*e*P	Pg	06 06 14.3	-1.2
PMAN				*e*S	Sg	06 06 24.3	-1.7
PMAN				A		06 06 24.9	
338nm,0.3s							
PMAN	**Manadas**	**0.81**	**115**	*e*P	Pg	06 06 14.3	-1.2
PMAN				*e*S	Sg	06 06 24.3	-1.7
PSET	**Sete Cidades**	**2.84**	**113**	*e*S	Sn	06 07 13.5	-8.0
PSET				A		06 07 22.2	
23nm,0.4s							
CMLA	**Cha da Macela**	**3.00**	**113**	*e*P	Pn	06 06 44.0	-4.9

CASC ***25*** *06:09:40.6±2.5, 1374N×9141W, h62km±116km, MD4.3, ML4.2, mb4.4(NEIC)*
ISCJB ***25*** *06:09:43.0±0.4, 1391N±005×91.10W±004, h93km±4km, mb4.2/17, Error ellipse: s-maj=9.9km s-min=3.2km az=37.5*
NEIC ***25*** *06:09:42.8±0.5, 1389N×9098W, mb4.4/10, Error ellipse: s-maj=11.2km s-min=7.0km az=38.0*
NEIC Felt at Antigua Guatemala.
IDC ***25*** *06:09:44.4±1.4, 1403N×9082W, h82km±11km, mb3.7/10, mb1 4.0/13, mb1mx3.8/22, mbtmp3.8/13, MS3.6/6, Ms1 3.5/6, ms1mx3.1/33, Error ellipse: s-maj=21.9km s-min=9.7km az=46.0*

ISC 25 06:09:44.7±0.3, 1399N±004×9104W±004, h91km±4km, n87, σ1°08/81, mb4.2/17, 4C-6D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FUG	**Fuego 3**	**0.50**	**23**	⇓*i*P	**Pn**	**06 09 57.3**	**-2.2**
PCG	**Pacaya**	**0.58**	**46**	⇓*i*P	**Pn**	**06 09 58.2**	**-2.0**
GCG	**Guatemala City**	**0.77**	**39**	*e*P	**Pn**	**06 10 01.6**	**-0.4**
RTR	**El Retiro**	**1.35**	**94**	⇑*e*P	x	06 10 13.7	
RTR				*e*S	x	06 10 35.3	
SBLS	**San Blas**	**1.38**	**96**	⇓*e*P	x	06 10 13.8	
SBLS				*e*S	x	06 10 35.9	
SNJE	**San Jose**	**1.40**	**95**	⇓*e*P	x	06 10 13.9	
SNJE				*e*S	x	06 10 36.2	
BOQS	**Boqueron**	**1.73**	**98**	⇑*e*P	x	06 10 18.2	
BOQS				*e*S	x	06 10 43.4	
SNET	**Serv Nac Est T**	**1.78**	**99**	*e*P	x	06 10 31.6	
SNET				*e*S	x	06 10 58.8	
LBRS	**Las Brisas**	**1.95**	**97**	⇓*e*P	x	06 10 21.4	
LBRS				*e*S	x	06 10 49.1	
LFRS	**El Faro**	**1.95**	**100**	*e*P	x	06 10 21.1	
LFRS				*e*S	x	06 10 48.5	
LCBS	**La Ceiba**	**2.03**	**99**	⇑*e*P	x	06 10 22.5	
LCBS				*e*S	x	06 10 50.8	
SNVI	**San Vicente**	**2.17**	**100**	*e*P	x	06 10 23.9	
SNVI				*e*S	x	06 10 54.4	
CCIG	**Comitan**	**2.52**	**335**	⇓*i*P	**Pn**	**06 10 24.2**	**+0.5**
CCIG				*i*S	**Sn**	**06 10 55.3**	**+1.6**
VSM	**San Miguel**	**2.74**	**101**	*e*P	x	06 10 33.2	
VSM				*e*S	x	06 11 10.3	
CAHU	**Cacacuatique**	**2.75**	**94**	*e*P	x	06 10 32.8	
CAHU				*e*S	x	06 11 11.5	
BLLM	**Bellamira**	**2.77**	**101**	⇑*e*P	x	06 10 33.2	
BLLM				*e*S	x	06 11 10.1	
SCX	**San Cristobal**	**3.14**	**331**	*i*P	**Pn**	**06 10 32.4**	**+0.3**
SCX				*i*S	**Sn**	**06 11 10.7**	**+2.0**
CNCH	**Conchagua**	**3.19**	**102**	*e*P	x	06 10 38.0	
CNCH				*e*S	x	06 11 20.0	
TEL3	**Telica 3**	**4.32**	**109**	*e*P	**Pn**	**06 10 48.1**	**0.0**
TELN	**Telica**	**4.32**	**108**	*e*P	**Pn**	**06 10 48.2**	**0.0**
MOMJ	**Momotombo**	**4.65**	**109**	*e*P	**Pn**	**06 10 52.3**	**-0.4**
COPN	**Copaltepe**	**4.69**	**112**	*e*P	**Pn**	**06 10 51.9**	**-1.3**
CMIG	**Matias Romero**	**4.82**	**310**	*i*P	**Pn**	**06 10 54.3**	**-0.6**
CMIG				*i*S	**Sn**	**06 11 50.5**	**+0.9**
CMIG	**Matias Romero**	**4.82**	**310**	P	**Pn**	**06 10 54.6**	**-0.3**
17nm,0.3s,baz=136,slow=12,SNR=86							
CMIG				S	**Sn**	**06 11 53.8**	**+4.2**
38nm,0.3s,baz=69,slow=18,SNR=4.9							
CSAN		**4.84**	**111**	*e*P	**Pn**	**06 10 55.8**	**+0.6**
APYN	**Apoyeque**	**4.89**	**110**	*e*P	**Pn**	**06 10 55.8**	**0.0**
XAVN	**Gruta Xavier**	**4.94**	**111**	*e*P	**Pn**	**06 10 56.8**	**+0.3**
TISN	**Laguna Tiscapa**	**5.00**	**111**	*e*P	**Pn**	**06 10 57.3**	**0.0**
MGAN	**Managua**	**5.01**	**111**	*e*P	**Pn**	**06 10 59.1**	**+1.5**
MGAN				*i*		06 12 00.7	
comp=N,471nm,0.8s							
HUEN		**5.01**	**109**	*e*P	**Pn**	**06 10 57.0**	**-0.6**
CRUN	**El Crucero**	**5.03**	**113**	*e*P	**Pn**	**06 10 58.3**	**+0.5**
TICN	**Ticuantepe**	**5.07**	**112**	*e*P	**Pn**	**06 10 59.4**	**+1.1**
HUIG	**Huatulco**	**5.21**	**290**	*i*P	**Pn**	**06 10 58.0**	**-2.3**
HUIG				*i*S	**Sn**	**06 11 57.7**	**-1.4**
APON	**Apoyo**	**5.26**	**112**	*e*P	**Pn**	**06 11 01.6**	**+0.6**
SSNN	**San Juan del S**	**5.73**	**117**	*e*P	**Pn**	**06 11 08.0**	**+0.7**
CONN	**Concepcion**	**5.80**	**114**	*e*P	**Pn**	**06 11 08.7**	**+0.4**
OXX	**Oaxaca**	**6.28**	**300**	*e*P	**Pn**	**06 11 13.5**	**-1.3**
OXX				*i*S	**Sn**	**06 12 22.4**	**-2.9**
VHO	**Vista Hermosa**	**6.29**	**300**	*i*P	**Pn**	**06 11 15.2**	**+0.3**
VHO				*i*S	**Sn**	**06 12 26.4**	**+1.1**
VCR	**Vista de Mar**	**6.53**	**125**	*e*P	**Pn**	**06 11 18.2**	**0.0**
TEIG	**Tepich**	**6.74**	**23**	*e*Pn	**Pn**	**06 11 21.8**	**+0.7**
comp=N,533nm,0.6s							
TEIG				*e*Sn	**Sn**	**06 12 35.0**	**-1.4**
TEIG	**Tepich**	**6.74**	**23**	P	**Pn**	**06 11 20.6**	**-0.4**
comp=N,59nm,0.3s,baz=206,slow=4.3,SNR=241							
JTS	**JuntasAbangare**	**6.99**	**121**	*e*Pn	**Pn**	**06 11 22.9**	**-1.6**
comp=N,24nm,0.4s							
JTS				*e*Sn	**Sn**	**06 12 53.8**	**+11**
JTS	**JuntasAbangare**	**6.99**	**121**	P	**Pn**	**06 11 23.7**	**-0.8**
comp=N,7.9nm,0.3s,baz=313,slow=18,SNR=27							
JTS				S	**Sn**	**06 12 40.6**	**-2.0**
comp=N,2.1nm,0.3s,baz=287,slow=19,SNR=2.5							
JCR	**Jicaral**	**7.11**	**125**	*e*P	**Pn**	**06 11 26.2**	**+0.1**
CGA2	**Cerro Gallo 2**	**7.54**	**121**	*e*P	**Pn**	**06 11 32.7**	**+0.7**
PRS1	**Puriscal**	**7.69**	**120**	*e*P	**Pn**	**06 11 34.6**	**+0.6**
LAJ	**Bijagual**	**7.91**	**120**	*e*P	**Pn**	**06 11 34.1**	**-3.0**
LCR2	**La Lucha 2**	**8.07**	**121**	*e*P	**Pn**	**06 11 40.2**	**+0.9**
LCR2				*e*S	**Sn**	**06 13 11.4**	**+2.4**
URSC	**Urasca**	**8.22**	**119**	*e*P	**Pn**	**06 11 41.7**	**+0.5**
PPM	**Popocatepetl**	**8.86**	**306**	*i*P	**Pn**	**06 11 49.2**	**-0.7**
PPM				*i*S	**Sn**	**06 13 29.1**	**+1.1**
BAR1		**8.92**	**121**	*e*P	**Pn**	**06 11 51.3**	**+0.5**
IIO	**Organos**	**9.23**	**308**	*i*P	**Pn**	**06 11 56.2**	**+1.2**
IIO				*e*S	**Sn**	**06 13 42.1**	**+5.0**
ROSC	**El Rosal**	**18.80**	**117**	LR	LR	06 20 40.4	
comp=N,87nm,20.3s,baz=192,slow=35							
TXAR	**Lajitas Array**	**19.23**	**325**	P	**Pn**	**06 14 04.4**	**+0.7**
comp=N,0.5nm,0.3s,baz=151,slow=12,SNR=36							
TXAR				PcP	PcP	06 18 22.9	+1.3
comp=N,0.1nm,0.3s,baz=104,slow=3.8,SNR=4.2							
TXAR				ScP	ScP	06 21 52.9	+3.5
baz=186,slow=4.4,SNR=5.7							
CHI2		**19.41**	**117**	*e*P	Px	06 10 44.0	
SDV	**Santo Domingo**	**20.63**	**102**	*e*P	**P**	**06 14 13.9**	**-3.2**
comp=N,6.5nm,0.6s							
SDV	**Santo Domingo**	**20.63**	**102**	P	**P**	**06 14 15.5**	**-1.5**
comp=N,8.4nm,0.8s,baz=316,slow=3.7,SNR=13							
SDV				LR	LR	06 21 35.0	
comp=N,76nm,19.7s,baz=19,slow=35							
PLAL	**Pickwick Lake**	**21.07**	**7**	*e*P	**P**	**06 14 22.8**	**+1.2**
comp=N,15nm,0.9s,mb4.3							
PLAL				*e*		06 14 38.5	
SWET	**Sewanee**	**21.63**	**11**	*e*P	**P**	**06 14 27.3**	**-0.3**
MNTX	**Cornudas Mount**	**21.99**	**326**	*e*P	**P**	**06 14 31.1**	**-0.3**
comp=N,27nm,1.5s,mb4.4							
CPCT	**Cooper Cave**	**22.16**	**14**	*e*P	**P**	**06 14 33.8**	**+0.6**
CPCT				*e*		06 14 49.4	
WVT	**Waverly**	**22.24**	**7**	*e*P	**P**	**06 14 34.3**	**+0.3**
comp=N,24nm,0.9s,mb4.5							
WVT				*e*		06 14 41.0	
WVT				*e*		06 14 53.0	
TKL	**Tuckaleechee C**	**22.55**	**16**	P	**P**	**06 14 37.9**	**+0.7**
TKL				LR	LR	06 24 35.8	
TKL	**Tuckaleechee C**	**22.55**	**16**	P	**P**	**06 14 37.9**	**+0.7**
comp=N,13nm,0.7s,mb4.3,baz=188,slow=13,SNR=24							
TKL				LR	LR	06 24 35.8	
comp=N,89nm,19.3s,baz=84,slow=40							
TZTN	**Tazewell**	**23.44**	**15**	*e*P	**P**	**06 14 45.2**	**-0.6**
comp=N,21nm,0.8s,mb4.5							
CCM	**Cathedral Cave**	**23.97**	**360**	*e*P	**P**	**06 14 50.9**	**+0.2**
comp=N,7.5nm,0.8s,mb4.1							
ATAH	**Atahualpa**	**24.34**	**148**	P	**P**	**06 14 58.1**	**+3.9**
comp=N,13nm,0.9s,mb4.2,baz=347,slow=6.8,SNR=5.7							
WCI	**Wyandotte Cave**	**24.51**	**9**	*e*P	**P**	**06 14 55.2**	**-0.4**
comp=N,18nm,0.8s,mb4.6							
WCI				*e*		06 15 13.8	
PDAR	**Pinedale Array**	**32.83**	**334**	P	**P**	**06 16 10.3**	**+0.8**
comp=N,0.2nm,0.5s,baz=134,slow=6.4,SNR=3.7							
PDAR				ScP	ScP	06 22 31.2	+2.7
comp=N,0.5nm,0.7s,baz=126,slow=6.8,SNR=4.6							
PDAR				LR	LR	06 32 42.8	
comp=N,117nm,18.0s,baz=268,slow=42							
SNOW	**Snow King Moun**	**33.90**	**334**	*e*P	**P**	**06 16 19.7**	**+0.8**
comp=N,3.6nm,0.5s,mb4.5							
NVAR	**Mina Array Bea**	**34.27**	**320**	P	**P**	**06 16 24.6**	**+2.5**
NVAR				PcP	PcP	06 18 58.8	+2.1
NVAR				ScP	ScP	06 22 37.7	+4.0
NVAR	**Mina Array Bea**	**34.27**	**320**	P	**P**	**06 16 24.6**	**+2.5**
comp=N,2.7nm,0.8s,mb4.1,baz=126,slow=9.4,SNR=21							
NVAR				PcP	PcP	06 18 58.8	+2.1
comp=N,1.2nm,0.8s,baz=141,slow=3.0,SNR=5.4							
NVAR				ScP	ScP	06 22 37.7	+4.0
comp=N,0.6nm,0.7s,baz=122,slow=4.4,SNR=5.2							
LPAZ	**La Paz**	**37.65**	**142**	P	**P**	**06 16 51.0**	**-0.2**
LPAZ	**La Paz**	**37.65**	**142**	P	**P**	**06 16 51.0**	**-0.2**
comp=N,0.9nm,0.7s,mb3.7,baz=328,slow=10,SNR=6.0							
FCC	**Fort Churchill**	**44.75**	**358**	*e*P	**P**	**06 17 48.5**	**-0.3**
comp=N,2.8nm,0.5s,mb4.2							
FCC				*e*	pP	06 18 07.2	-3.3
SCHQ	**Schefferville**	**44.91**	**20**	*e*P	**P**	**06 17 48.6**	**-1.6**
comp=N,3.1nm,0.6s,mb4.2							
SCHQ	**Schefferville**	**44.91**	**20**	P	**P**	**06 17 49.4**	**-0.8**
comp=N,2.7nm,0.5s,mb4.3,baz=198,slow=6.4,SNR=17							
SCHQ				LR	LR	06 37 26.1	
comp=N,110nm,18.8s,baz=113,slow=37							
YKA	**Yellowknife Ar**	**51.26**	**346**	P	**P**	**06 18 37.9**	**-1.0**
YKA				PcP	PcP	06 19 52.1	-0.7
YKA				ScP	ScP	06 23 41.1	-0.1
YKA	**Yellowknife Ar**	**51.26**	**346**	P	**P**	**06 18 37.9**	**-1.0**
comp=N,0.6nm,0.6s,mb3.8,baz=148,slow=7.6,SNR=26							
YKA				PcP	PcP	06 19 52.1	-0.7
comp=N,0.2nm,0.4s,baz=152,slow=3.7,SNR=6.7							
YKA				ScP	ScP	06 23 41.1	-0.1
comp=N,0.4nm,0.8s,baz=141,slow=3.7,SNR=8.2							
CPUP	**Villa Florida**	**51.78**	**141**	P	**P**	**06 18 42.4**	**-0.9**
comp=N,0.7nm,0.6s,mb3.9,baz=294,slow=10.0,SNR=3.0							
PLCA	**Paso Flores**	**57.66**	**162**	P	**P**	**06 19 26.1**	**+0.5**
comp=N,3.7nm,0.9s,mb4.4,baz=2.1,slow=8.0,SNR=4.6							
INK	**Inuvik**	**60.72**	**343**	LR	LR	06 46 06.2	
comp=N,99nm,21.1s,baz=351,slow=36							
RES	**Resolute Bay**	**60.73**	**359**	*e*P	**P**	**06 19 44.6**	**-1.7**
comp=N,47nm,0.6s							
ARCES	**ARCESS Array B**	**85.86**	**18**	P	**P**	**06 22 12.4**	**-1.6**
comp=N,2.7nm,1.0s,mb4.1,baz=273,slow=4.3,SNR=8.2							
WRA	**Warramunga Arr**	**136.30**	**256**	PKP	PKPdf	06 28 57.2	+0.6
comp=N,0.5nm,0.6s,baz=88,slow=2.6,SNR=11							
ASAR	**Alice Springs**	**136.54**	**250**	PKP	PKPdf	06 28 57.9	+1.0
comp=N,0.3nm,0.7s,baz=99,slow=1.7,SNR=5.7							
FITZ	**Fitzroy Crossi**	**144.55**	**258**	*e*PKPdf	PKPdf	06 29 10.9	-0.6

ISCJB ***25*** *06:35:37.4±1.4, 1528N±009×1468E±02, h307km±13km, mb3.6/14, Error ellipse: s-maj=34.5km s-min=14.7km az=2.9*
MOS ***25*** *06:35:37.1±1.7, 1537N×14670E, h295km, mb3.8/9, Error ellipse: s-maj=25.9km s-min=12.2km az=94.8*
IDC ***25*** *06:35:38.1±2.1, 1520N×14695E, h297km±19km, mb3.3/9, mb1 3.5/10, mb1mx3.3/20, mbtmp3.3/10, Error ellipse: s-maj=33.4km s-min=15.3km az=91.0*

ISC 25 06:35:38.0±1.5, 1528N±009×1469E±02, h299km±13km, n28, σ1°11/28, mb3.6/14, 6C, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**2.56**	**229**	P	**Pn**	**06 36 29.8**	**+0.2**
GUMO				pmax	pmax		
comp=Z,35nm,0.3s							
GUMO	**Guam**	**2.56**	**229**	P	**Pn**	**06 36 29.8**	**+0.3**
comp=Z,34nm,0.3s,baz=342,slow=20,SNR=14							
YSS	**Yuzh-Sakhalins**	**31.77**	**355**	*e*P	**P**	**06 41 33.9**	**-0.9**
YSS				pmax	pmax		
comp=Z,8.0nm,1.3s,mb4.1							
WRA	**Warramunga Arr**	**37.10**	**200**	P	**P**	**06 42 20.2**	**-0.4**
WRA				pmax	pmax		
comp=Z,1.0nm,0.9s							
WRA	**Warramunga Arr**	**37.10**	**200**	P	**P**	**06 42 20.2**	**-0.4**
comp=Z,0.8nm,0.9s,mb3.2,baz=26,slow=9.8,SNR=6.9							
ASAR	**Alice Springs**	**40.73**	**198**	P	**P**	**06 42 50.8**	**+0.3**
comp=Z,0.4nm,0.7s,mb2.8,baz=18,slow=9.5,SNR=5.9							
ULN	**Ulaanbaatar**	**46.15**	**323**	⇑*e*P	**P**	**06 43 32.7**	**-0.5**
STKA	**Stephens Creek**	**47.16**	**186**	P	**P**	**06 43 40.2**	**-0.8**
comp=Z,2.9nm,1.0s,mb3.6,baz=303,slow=6.0,SNR=3.9							
SEY	**Seymchan**	**47.76**	**3**	⇑*e*P	**P**	**06 43 46.8**	**+1.6**
YAK	**Yakutsk**	**48.27**	**349**	⇑*e*P	**P**	**06 43 47.1**	**-2.1**
YAK				pmax	pmax		
comp=Z,19nm,0.9s,mb4.4							
BILL	**Bilibino**	**54.20**	**9**	*e*P	**P**	**06 44 36.3**	**+3.5**
BILL				pmax	pmax		
comp=Z,2.0nm,1.3s,mb3.3							
TIXI	**Tiksi**	**57.38**	**353**	*e*P	**P**	**06 44 53.1**	**-2.1**
TIXI				pmax	pmax		
comp=Z,1.0nm,1.3s,mb3.1							
ZALV	**Zalesovo Beam**	**61.41**	**324**	P	**P**	**06 45 22.5**	**-0.4**
comp=Z,0.7nm,0.3s,mb3.6,baz=100,slow=6.2,SNR=5.6							
ZAL	**Zalesovo**	**61.42**	**323**	P	**P**	**06 45 22.5**	**-0.4**
ZAL				pmax	pmax		
comp=Z,1.0nm,0.3s							
MKAR	**Makanchi Array**	**61.65**	**315**	P	**P**	**06 45 26.0**	**+1.4**
MKAR				pmax	pmax		
comp=Z,2.0nm,0.6s							
MKAR	**Makanchi Array**	**61.65**	**315**	P	**P**	**06 45 26.0**	**+1.4**
comp=Z,1.0nm,0.6s,mb3.9,baz=92,slow=8.3,SNR=25							
KURK	**Kurchatov**	**64.57**	**319**	⇑*e*P	**P**	**06 45 44.4**	**+0.8**
INK	**Inuvik**	**72.08**	**23**	P	**P**	**06 46 29.5**	**-0.1**
INK				pmax	pmax		
comp=Z,1.0nm,1.0s							
INK	**Inuvik**	**72.08**	**23**	P	**P**	**06 46 29.5**	**-0.1**
comp=Z,1.2nm,1.0s,mb3.5,baz=183,slow=7.1,SNR=4.2							
ARU	**Arti**	**76.50**	**325**	⇑*e*P	**P**	**06 46 55.0**	**-0.2**
ARU				pmax	pmax		
comp=Z,4.0nm,1.2s,mb3.9							
YKA	**Yellowknife Ar**	**80.47**	**28**	P	**P**	**06 47 17.4**	**+0.7**
YKA				pmax	pmax		
comp=Z,1.0nm,0.7s							
YKA	**Yellowknife Ar**	**80.47**	**28**	P	**P**	**06 47 17.4**	**+0.8**
comp=Z,0.7nm,0.7s,mb3.5,baz=283,slow=5.3,SNR=12							
KBS	**Kingsbay**	**82.81**	**352**	⇑*e*P	**P**	**06 47 27.4**	**-1.2**
ARCES	**ARCESS Array B**	**86.08**	**342**	P	**P**	**06 47 47.8**	**+2.8**
ARCES				pmax	pmax		
comp=Z,1.0nm,0.6s							
ARCES	**ARCESS Array B**	**86.08**	**342**	P	**P**	**06 47 47.8**	**+2.8**
comp=Z,1.1nm,0.6s,mb3.9,baz=46,slow=7.2,SNR=7.7							
FINES	**FINESS Array B**	**90.45**	**336**	P	**P**	**06 48 06.8**	**+1.1**
FINES				pmax	pmax		
comp=Z,1.0nm,0.7s							
FINES	**FINESS Array B**	**90.45**	**336**	P	**P**	**06 48 06.8**	**+1.1**
comp=Z,0.9nm,0.7s,mb3.7,baz=89,slow=5.8,SNR=3.7							
SOC	**Sochi**	**91.55**	**316**	*i*P	**P**	**06 48 11.1**	**-0.1**

IDC 25 06:39:07.8±8.2, 3063S×17939E, h425km±89km, mb3.0/3, mb1 3.3/4, mb1mx3.1/13, mbtmp3.1/4, Error ellipse: s-maj=88.2km s-min=43.8km az=19.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**7.84**	**193**	P	P	06 41 01.4	+0.4
4.9nm,0.3s,baz=22,slow=2.3,SNR=35							
URZ				S	S	06 42 33.7	-0.2
1.1nm,0.3s,baz=75,slow=19,SNR=6.9							
STKA	**Stephens Creek**	**32.23**	**258**	P	P	06 44 60.0	+0.9
1.0nm,0.5s,baz=103,slow=11,SNR=4.2							
ASAR	**Alice Springs**	**40.85**	**268**	P	P	06 46 10.5	-0.4
0.3nm,0.4s,baz=107,slow=7.5,SNR=8.6							
WRA	**Warramunga Arr**	**41.86**	**274**	P	P	06 46 18.7	-0.3
0.8nm,0.3s,baz=111,slow=8.1,SNR=38							
FINES	**FINESS Array B**	**144.55**	**338**	PKP	PKPdf	06 57 53.3	-0.6
0.8nm,0.4s,baz=69

ULHL	**Ulahol**	**11.21 292**	P	**Pn**	**07 13 08.2**	**+0.1**
	SNR=9.7					
TKM2	**Tokmak 2**	**11.84 295**	⇓Pn	**Pn**	**07 13 16.6**	**0.0**
	comp=N,14nm,0.6s					
TKM2			⇓Sn	**Sn**	**07 15 27.3**	**+0.2**
	comp=N,3.8nm,0.8s					
TKM2	**Tokmak 2**	**11.84 295**	P	**Pn**	**07 13 17.0**	**+0.4**
	SNR=7.5					
KZA	**Kyzart**	**11.90 290**	P	**Pn**	**07 13 17.9**	**+0.4**
	SNR=7.2					
KBK	**Karagaybulak**	**12.24 293**	P	**Pn**	**07 13 22.2**	**+0.2**
	SNR=6.1					
UCH	**Uchtor**	**12.47 291**	P	**Pn**	**07 13 25.7**	**+0.4**
	SNR=6.7					
AAK	**Ala-Archa**	**12.56 292**	P	**Pn**	**07 13 25.3**	**-1.2**
AAK			pmax	pmax		
	comp=Z,1.0nm,0.3s					
AAK	**Ala-Archa**	**12.56 292**	Pn	**Pn**	**07 13 25.3**	**-1.2**
	comp=Z,0.5nm,0.3s,baz=106,slow=9.6,SNR=4.5					
KURBB	**Kurchatov Arra**	**14.38 328**	⇑Pn	**Pn**	**07 13 48.6**	**-2.5**
	comp=Z,0.2nm,0.4s					
KURBB			⇑Sn	**Sn**	**07 16 23.4**	**-5.7**
	comp=Z,1.3nm,0.7s					
ZAK	**Zakamensk**	**14.71 34**	*e*P	**Pn**	**07 13 55.8**	**+0.4**
ZAK			pmax	pmax		
	comp=Z,1.0nm,1.2s					
ZAK			pmax	pmax		
	comp=Z,1.0nm,1.4s					
ZAL	**Zalesovo**	**15.51 348**	P	**Pn**	**07 14 05.9**	**+0.1**
ZALV	**Zalesovo Beam**	**15.52 348**	Pn	**Pn**	**07 14 05.8**	**0.0**
	baz=165,slow=13,SNR=4.7					
BVAR	**Borovoye Array**	**19.69 322**	P	**Pn**	**07 14 57.3**	**+0.1**
	comp=Z,0.4nm,0.3s,baz=124,slow=14,SNR=4.4					
AB31	**Akbulak array**	**24.00 305**	⇓P	**P**	**07 15 49.0**	**+8.7**
	comp=Z,2.0nm,0.9s,mb3.5,baz=101,slow=11,SNR=7.4					
BOD	**Bodaibo**	**24.40 31**	*e*P	**P**	**07 15 42.7**	**-1.1**
BOD			pmax	pmax		
	comp=Z,2.0nm,1.4s,mb3.4					
ARCES	**ARCESS Array B**	**45.40 333**	P	**P**	**07 18 46.1**	**+2.5**
ARCES			pmax	pmax		
	comp=Z,1.0nm,0.6s					
ARCES	**ARCESS Array B**	**45.40 333**	P	**P**	**07 18 46.1**	**+2.5**
	comp=Z,0.8nm,0.6s,mb3.8,baz=79,slow=8.8,SNR=5.1					
NOA	**NORSAR Array B**	**51.82 323**	P	**P**	**07 19 33.6**	**+0.6**
	comp=Z,0.3nm,0.5s,mb3.4,baz=79,slow=7.3,SNR=2.4					
WRA	**Warramunga Arr**	**71.59 136**	P	**P**	**07 21 45.9**	**-0.6**
	comp=Z,0.4nm,0.8s,mb3.4,baz=332,slow=6.0,SNR=3.7					
ASAR	**Alice Springs**	**74.42 139**	P	**P**	**07 22 02.6**	**-0.5**
	comp=Z,0.4nm,0.6s,mb3.5,baz=329,slow=6.1,SNR=5.7					
YKA	**Yellowknife Ar**	**76.98 12**	P	**P**	**07 22 17.6**	**+0.2**
	comp=Z,0.1nm,0.4s,mb3.1,baz=337,slow=5.2,SNR=7.1					

IDC 25 07:29:13.6±2.1, 3368S×17908W, h0km, mb4.2/1, mb1 4.5/2, mb1mx3.9/15, mbtmp4.2/2, ML4.0/1, MS3.8/3, Ms1 3.8/3, ms1mx3.2/23, Error ellipse: s-maj=70.5km s-min=32.8km az=122.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**5.52 213**		Pn	Pn	07 30 38.0	+1.0
	4.4nm,0.3s,baz=269,slow=4.6,SNR=35						
URZ				Sn	Sn	07 31 39.9	-1.2
	3.1nm,0.3s,baz=174,slow=19,SNR=4.6						
RPZ	**Rata Peaks**	**12.63 215**		LR	LR	07 36 53.0	
	comp=Z,247nm,20.0s,baz=181,slow=36						
WRA	**Warramunga Arr**	**43.42 276**		P	P	07 37 18.1	-0.1
	1.0nm,0.5s,baz=119,slow=7.2,SNR=2.9						
MJAR	**Matsushiro Arr**	**80.42 326**		LR	LR	08 09 49.3	
	comp=Z,48nm,20.8s,baz=210,slow=30						
PSI	**Prapat**	**84.88 277**		LR	LR	08 18 16.9	
	comp=Z,83nm,20.4s,baz=316,slow=35						
ARCES	**ARCESS Array B**	**141.57 346**		PKhKP		07 48 40.5	
	1.7nm,0.8s,baz=37,slow=4.6,SNR=5.0						
JOF	**Joensuu**	**145.08 336**		*e*p	PKPbc	07 48 50.1	-1.4
	0.9nm,0.4s						
FINES	**FINESS Array B**	**147.85 337**		PKPbc	PKPbc	07 48 59.0	-0.8
	2.0nm,0.4s,baz=43,slow=4.9,SNR=20						
NOA	**NORSAR Array B**	**151.82 349**		PKPbc	PKPbc	07 49 09.4	0.0
	0.5nm,0.5s,baz=14,slow=4.1,SNR=3.9						

CASC 25 07:32:17.5±2.7, 1438N×9154W, h5km, MD3.7, 2C, Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAT	**Jato**	**0.11 236**	⇑	*e*P	Pg	07 32 20.4	+0.6
FUG	**Fuego 3**	**0.68 84**		*e*P	Pg	07 32 28.8	-1.9
RTR	**El Retiro**	**1.90 104**		*e*P	x	07 32 50.5	
SNJE	**San Jose**	**1.95 105**	⇑	*e*P	x	07 32 50.2	
SNJE				*e*S	x	07 33 18.7	

IDC ***25*** *07:44:47.7±0.9, 8.10S×154.29E, h0km, mb4.1/10, mb1 4.2/12, mb1mx4.2/17, mbtmp4.1/12, ML3.9/2, MS3.6/8, Ms1 3.6/8, ms1mx3.4/24, Error ellipse: s-maj=26.7km s-min=17.9km az=117.0*
ISCJB ***25*** *07:44:50.4±0.6, 8.19S±0.10×154.40E±0.09, h33km, mb4.0/11, MS3.6/6, Error ellipse: s-maj=15.6km s-min=11.3km az=142.9*
ISC 25 07:44:52.4±0.6, 819S±010×15439E±009, h35km, n18, σ0§93/15, mb4.0/11, MS3.6/6, D'Entrecasteaux Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**5.63 103**		Pn	**Pn**	**07 46 13.3**	**-0.4**
	12nm,0.3s,baz=274,slow=2.3,SNR=3.1						
HNR				LR	LR	07 48 02.8	
	comp=Z,619nm,18.1s,baz=351,slow=34						
CTA	**Charters Tower**	**14.21 213**		Pn	**Pn**	**07 48 10.6**	**-0.6**
	0.2nm,0.3s,baz=54,slow=17,SNR=2.2						
CTA				LR	LR	07 52 38.4	
	comp=Z,196nm,19.3s,baz=34,slow=33						
KAKA	**Kakadu**	**22.04 256**		*e*P	**P**	**07 49 44.1**	**-0.2**
	17nm,0.6s,mb4.6						
WB2	**Warramunga Arr**	**22.64 237**		*e*P	**P**	**07 49 52.3**	**+1.7**
WRA	**Warramunga Arr**	**22.66 237**		P	**P**	**07 49 50.2**	**-0.6**
	2.8nm,0.8s,mb3.7,baz=62,slow=9.8,SNR=13						
WRA				LR	LR	07 58 21.3	
	comp=Z,112nm,19.2s,MS3.3,baz=60,slow=36						
GUMO	**Guam**	**23.61 336**		LR	LR	07 56 56.2	
	comp=Z,99nm,21.5s,MS3.2,baz=108,slow=31						
ASAR	**Alice Springs**	**24.94 230**		P	**P**	**07 50 12.3**	**-0.3**
	1.3nm,0.6s,mb3.6,baz=62,slow=9.3,SNR=13						
STKA	**Stephens Creek**	**26.41 205**		*e*P	**P**	**07 50 29.8**	**+4.0**
	3.9nm,0.8s,mb4.0						
STKA	**Stephens Creek**	**26.41 205**		P	**P**	**07 50 27.0**	**+1.2**
	3.0nm,0.7s,mb3.9,baz=23,slow=8.8,SNR=7.0						
STKA				LR	LR	08 00 44.2	
	comp=Z,178nm,19.5s,MS3.6,baz=25,slow=36						
FITZ	**Fitzroy Crossi**	**29.64 248**		P	**P**	**07 50 54.0**	**-0.8**
	1.5nm,0.6s,mb3.9,baz=84,slow=12,SNR=4.9						
FITZ				LR	LR	08 01 17.5	
	comp=Z,120nm,18.1s,MS3.6,baz=237,slow=34						
BATI	**Kupang**	**30.39 264**		LR	LR	08 04 23.4	
	comp=Z,167nm,20.4s,MS3.7,baz=273,slow=39						
MJAR	**Matsushiro Arr**	**47.02 342**		P	**P**	**07 53 18.6**	**-1.8**
	1.1nm,0.5s,mb4.0,baz=160,slow=10,SNR=3.2						
KSRS	**Korea Array**	**51.72 333**		P	**P**	**07 53 56.3**	**0.0**
	2.1nm,0.6s,mb4.2,baz=149,slow=9.1,SNR=9.5						
SONM	**Songino Array**	**70.01 328**		P	**P**	**07 56 01.7**	**+1.1**
	1.9nm,0.9s,mb4.0,baz=123,slow=5.3,SNR=3.3						
MKAR	**Makanchi Array**	**83.90 319**		P	**P**	**07 57 19.3**	**+0.6**
	1.4nm,0.8s,mb4.1,baz=107,slow=6.6,SNR=9.0						
NVAR	**Mina Array Bea**	**92.93 52**		P	**P**	**07 58 03.4**	**+1.2**
	0.5nm,0.8s,mb4.0,baz=252,slow=12,SNR=4.4						
YKA	**Yellowknife Ar**	**97.67 28**		P	**P**	**07 58 22.7**	**-0.5**
	0.3nm,0.9s,mb3.8,baz=262,slow=4.7,SNR=4.6						
YKA				LR	LR	08 34 43.4	
	comp=Z,52nm,20.7s,MS4.0,baz=300,slow=31						
PLCA	**Paso Flores**	**116.14 143**		PKP	PKPdf	08 03 35.2	+2.9
	1.2nm,0.9s,baz=230,slow=16,SNR=3.1						

KRSC 25 07:47:59.5±0.4, 5602N×16136E, h103km±32km, ML3.7, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZLN	**Zelenaya**	**0.31 270**		*e*P	Pn	07 48 14.8	+0.4
ZLN				*i* S	Sn	07 48 26.2	+0.6
CIRR	**Tsirk**	**0.36 286**		P	Pn	07 48 16.2	+1.6
CIRR				*i* S	Sn	07 48 28.2	+2.2
KRSR	**Krestovskiy**	**0.49 294**		*e*P	Pn	07 48 16.1	+0.7
KRSR				*i* S	Sn	07 48 28.0	+0.6
KLY	**Klyuchi**	**0.49 307**		*e*P	Pn	07 48 15.5	0.0
KLY				*i* S	Sn	07 48 26.9	-0.6
BZMR	**Bezymyannaya**	**0.50 260**		*e*P	Pn	07 48 16.2	+0.7
BZMR				*i* S	Sn	07 48 27.9	+0.4
BDR	**Baidarnaya**	**0.56 351**		*e*P	Pn	07 48 16.8	+0.9
BDR				*i* S	Sn	07 48 29.7	+1.4
SMKR	**Semkarok**	**0.57 6**		*e*P	Pn	07 48 16.7	+0.7
SMKR				*i* S	Sn	07 48 29.2	+0.8
KIRR	**Kirishev**	**0.58 264**		*e*P	Pn	07 48 17.0	+0.9
KIRR				*i* S	Sn	07 48 29.7	+1.1
KPT	**Kopyto**	**0.64 266**		*e*P	Pn	07 48 17.3	+0.7
KPT				*i* S	Sn	07 48 30.1	+0.6
SRKR	**Sorokina**	**0.65 351**		*e*P	Pn	07 48 17.7	+1.0
SRKR				*i* S	Sn	07 48 30.8	+1.3
KMNR	**Kamenistaya**	**0.69 248**		*e*P	Pn	07 48 17.4	+0.4
KMNR				*i* S	Sn	07 48 30.6	+0.5
KOZ	**Kozyrevsk**	**0.83 273**		*e*P	Pn	07 48 19.1	+0.7
KOZ				*i* S	Sn	07 48 33.5	+0.9
KBTR	**Krutoberegovo**	**0.84 76**		*e*P	Pn	07 48 19.9	+1.5
KBTR				*i* S	Sn	07 48 34.7	+2.0
SRDR	**Sredinnyy**	**0.97 289**		*e*P	Pn	07 48 20.4	+0.7
SRDR				*i* S	Sn	07 48 35.3	+0.3
TUMR	**Tumrok**	**1.01 223**		*e*P	Pn	07 48 21.4	+1.2
TUMR				*i* S	Sn	07 48 37.5	+1.7
MKZ	**Mys Kozlova**	**1.48 172**		*e*P	Pn	07 48 26.4	+0.8
MKZ				*i* S	Sn	07 48 46.5	+1.0
KII	**Karymskiy**	**2.27 210**		*e*P	Pn	07 48 37.2	+1.6
SPN	**Mys Shipunski**	**3.03 195**		*e*P	Pn	07 48 46.5	+0.9
SPN				*i* S	Sn	07 49 21.3	+0.1
GNL	**Ganaly**	**3.06 222**		*e*P	Pn	07 48 47.7	+1.7
NLC	**Nalytchevo**	**3.09 203**		*e*P	Pn	07 48 48.2	+1.8
NLC				*i* S	Sn	07 49 24.6	+2.1
AVH	**Avacha**	**3.15 210**		*e*P	Pn	07 48 51.0	+3.7
AVH				*i* S	Sn	07 49 27.3	+3.2
PET	**Petropavlovsk**	**3.39 209**		*e*P	Pn	07 48 53.4	+2.9
PET				*i* S	Sn	07 49 34.1	+4.3
RUS	**Russkaya**	**3.96 206**		*e*P	Pn	07 49 00.4	+2.3
RUS				*i* S	Sn	07 49 46.2	+2.6

NNC 25 07:59:07.4±1.1, 4976N×8100E, h0km, mb4.2, mpv3.9, 1C-2D, Error ellipse: s-maj=14.5km s-min=5.8km az=48.0, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KURK	**Kurchatov**	**1.81 303**		⇓P	Pn	07 59 39.8	+0.1
KURK				S	Sn	08 00 04.1	+0.8
	11nm,0.5s						
KURBB	**Kurchatov Arra**	**1.81 300**		⇓P	Pn	07 59 40.1	+0.3
	1.4nm,0.7s,baz=117,slow=17						
KURBB				S	Sn	08 00 03.5	+0.2
	3.8nm,0.6s,baz=117,slow=17						
MK31	**Makanchi Array**	**3.09 163**		Pn	Pn	07 59 60.0	+2.7
	754nm,0.3s,baz=0.0,slow=0.1,SNR=5.0						
MK31				⇑Lg		08 00 43.3	
	0.7nm,0.3s,baz=2.5,slow=28,SNR=8.0						

IDC 25 08:03:14.1±2.7, 2749N×12716E, h0km, mb3.5/2, mb1 3.8/3, mb1mx3.4/20, mbtmp3.5/3, ML3.0/1, Error ellipse: s-maj=42.9km s-min=32.1km az=4.0, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JOW	**Kunigami**	**1.19 123**		Pn	Pn	08 03 37.5	-0.5
	27nm,0.3s,baz=343,slow=17,SNR=25						
JOW				Sn	Sn	08 03 57.5	+2.6
	36nm,0.3s,baz=190,slow=26,SNR=21						
MJAR	**Matsushiro Arr**	**13.01 43**		Pn	Pn	08 06 21.0	+0.7
	0.1nm,0.3s,baz=233,slow=9.4,SNR=4.2						
WRA	**Warramunga Arr**	**47.66 171**		P	P	08 11 52.3	0.0
	1.0nm,1.0s,baz=352,slow=8.2,SNR=5.0						
ASAR	**Alice Springs**	**51.27 172**		P	P	08 12 20.1	+0.2
	0.3nm,0.5s,baz=2.0,slow=12,SNR=5.9						

ISCJB ***25*** *08:58:44.8±0.4, 5032N±003×1882E±003, h0km, Error ellipse: s-maj=4.3km s-min=2.4km az=12.7*
CSEM ***25*** *08:58:46.5±0.2, 5029N×1886E, h2km, ML3.5/5, Error ellipse: s-maj=5.5km s-min=2.9km az=3.0*
IPEC ***25*** *08:58:46.4±0.1, 5028N×1888E, h0km, ML2.5/3, Error ellipse: s-maj=2.1km s-min=0.8km az=170.0*
WAR ***25*** *08:58:46.9, 5025N×1891E, ML3.0, Mining Induced*
NEIC ***25*** *08:58:47.3±0.8, 5024N×1888E, h5km, MG3.0(WAR), Error ellipse: s-maj=11.3km s-min=5.0km az=9.0*
IDC ***25*** *08:58:48.9±1.0, 5017N×1877E, h0km, mb1 3.2/5, mb1mx3.1/20, mbtmp3.0/5, ML2.9/5, Error ellipse: s-maj=16.9km s-min=7.3km az=142.0*
VIE ***25*** *08:58:49.8±1.1, 5002N×1867E, h0km, mb2.1/3, ML2.8/4, Error ellipse: s-maj=9.7km s-min=6.1km az=148.0 34 km SW of Katowice Suspected Mining induced.*
ISC 25 08:58:46.4±0.4, 5027N±003×1882E±002, h0km, n52, σ1§30/88, 10C-7D, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAC	**Raciborz**	**0.44 246**		*e*Pg	**Pg**	**08 58 57.2**	**+2.4**
RAC				*e*Sg	**Sg**	**08 59 04.4**	**+3.9**
OKC	**Ostrava-Krasne**	**0.61 225**		*e*PG	**Pg**	**08 58 59.3**	**+1.2**
OKC				*e*SG	**Sg**	**08 59 07.8**	**+1.8**
	80nm,0.3s						
OKC	**Ostrava-Krasne**	**0.61 225**		*e*Pg	**Pg**	**08 58 58.9**	**+0.8**
OKC				*e*Sg	**Sg**	**08 59 06.8**	**+0.8**
OJC	**Ojcow**	**0.63 94**		*i* Pg	**Pg**	**08 58 58.0**	**-0.5**
OJC				*i* Sg	**Sg**	**08 59 06.3**	**-0.3**
OJC	**Ojcow**	**0.63 94**		*e*Pg	**Pg**	**08 58 57.8**	**-0.7**
OJC				*e*Sg	**Sg**	**08 59 05.2**	**-1.4**
MORC	**Moravsky Berou**	**0.96 240**		⇓P	**Pg**	**08 59 05.2**	**+0.4**
MORC				S	**Sg**	**08 59 18.6**	**+1.5**
MORC	**Moravsky Berou**	**0.96 240**		⇓*i*P	**Pg**	**08 59 05.2**	**+0.5**
MORC				S	**Sg**	**08 59 18.6**	**+1.5**
MORC	**Moravsky Berou**	**0.96 240**		*e*Pg	**Pg**	**08 59 05.2**	**+0.5**
MORC				*e*Sg	**Sg**	**08 59 17.7**	**+0.6**
	63nm,0.3s						
MORC				S	**Sg**	**08 59 18.6**	**+1.5**
LIKS	**Likavka**	**1.23 171**		*e*PN	**Pn**	**08 59 10.3**	**-0.5**
LIKS				*e*SN	**Sn**	**08 59 26.9**	**-1.2**
NIE	**Niedzica**	**1.29 131**		*e*Pg	**Pg**	**08 59 10.2**	**-0.8**
NIE				*e*Sg	**Sg**	**08 59 28.7**	**+1.0**
DPC	**Dobruska-Polom**	**1.60 274**		*e*PG	**Pg**	**08 59 16.0**	**-1.1**
DPC				*e*SG	**Sg**	**08 59 37.7**	**-0.2**
	80nm,0.3s						
DPC	**Dobruska-Polom**	**1.60 274**		*e*Pg	**Pg**	**08 59 16.1**	**-1.0**
DPC				*e*Sg	**Sg**	**08 59 38.0**	**+0.1**
KSP	**Ksiaz**	**1.71 291**		*e*Pn	**Pn**	**08 59 19.9**	**+2.5**
KSP				*e*Pg	**Pg**	**08 59 22.2**	**+3.0**
KSP				*e*Sg	**Sg**	**08 59 40.8**	**-0.5**
KSP	**Ksiaz**	**1.71 291**		*e*Pn	**Pn**	**08 59 18.4**	**+1.0**
KSP				*e*Pg	**Pg**	**08 59 19.8**	**+0.6**
KSP				*e*Sg	**Sg**	**08 59 43.2**	**+1.9**
KSP	**Ksiaz**	**1.71 291**		*e*Pg	**Pg**	**08 59 19.8**	**+0.6**
KSP				*e*Sg	**Sg**	**08 59 43.2**	**+1.9**
KOLL	**Kolacno**	**1.71 189**		*e*PN	**Pn**	**08 59 18.4**	**+1.0**
KOLL				*e*SN	**Sn**	**08 59 38.5**	**-1.5**
VRAC	**Vranov**	**1.73 237**		⇓P	**Pn**	**08 59 18.8**	**+1.1**
VRAC				S	**Sn**	**08 59 41.8**	**+1.3**
VRAC	**Vranov**	**1.73 237**		Pg	**Pg**	**08 59 18.8**	**-0.8**
	2.3nm,0.3s,baz=58,slow=15,SNR=15						
VRAC				Lg		08 59 41.1	
	24nm,0.3s,baz=146,slow=21,SNR=20						
VRAC	**Vranov**	**1.73 237**		⇓*i*P	**Pn**	**08 59 18.8**	**+1.1**
VRAC	**Vranov**	**1.73 237**		S	**Sn**	**08 59 41.8**	**+1.3**
VRAC	**Vranov**	**1.73 237**		*e*Pn	**Pn**	**08 59 18.4**	**+0.7**
VRAC				*e*Sg	**Sg**	**08 59 42.0**	**0.0**
	59nm,0.3s						
VYHS	**Vyhne**	**1.77 180**		*e*PN	**Pn**	**08 59 17.5**	**-0.8**
VYHS				*e*SN	**Sn**	**08 59 42.3**	**+0.8**
STHS	**Stebnicka Huta**	**1.79 118**		*e*PN	**Pn**	**08 59 19.7**	**+1.3**
STHS				*e*SN	**Sn**	**08 59 43.4**	**+1.6**
KRUC	**Moravsky**	**1.98 233**		*e*Pn	**Pn**	**08 59 21.7**	**+0.5**
KECS	**Kecovo**	**2.09 148**		*e*PN	**Pn**	**08 59 21.6**	**-1.0**
KECS				*e*		08 59 46.7	
MODS	**Modra-Piesok**	**2.15 209**		*e*PN	**Pn**	**08 59 24.9**	**+1.5**
MODS				*e*SN	**Sn**	**08 59 49.2**	**-1.5**
CRVS	**Cervenica-Dubn**	**2.20 127**		*e*PG	**Pg**	**08 59 27.0**	**-1.5**
CRVS				*e*SN	**Sn**	**08 59 54.5**	**+2.6**
PSZ	**Piszkesteto**	**2.46 163**	⇑	P	**Pn**	**08 59 26.6**	**-1.0**
PSZ	**Piszkesteto**	**2.46 163**	⇑	*i*P	**Pn**	**08 59 26.6**	**-1.0**
KWP	**Kalwaria**	**2.59 103**		*e*Pn	**Pn**	**08 59 34.7**	**+5.2**
KWP	**Kalwaria**	**2.59 103**		*e*Pn	**Pn**	**08 59 34.7**	**+5.2**
PRU	**Pruhonice**	**2.77 266**		*e*PN	**Pn**	**08 59 33.5**	**+1.6**
PRU				*e*PG	**Pg**	**08 59 36.2**	**-3.2**
PRU				*e*SG	**Sg**	**09 00 12.9**	**-2.3**
	17nm,0.3s						
CONA	**Conrad Observa**	**3.04 221**	⇑	*i*Pn	**Pn**	**08 59 35.4**	**-0.3**
CONA			⇓	*i*Sn	**Sn**	**09 00 10.2**	**-2.5**
CONA			⇑	*i*Sg	**Sg**	**09 00 23.4**	**-0.7**
	16nm,0.6s						
BRG	**Berggiesshubel**	**3.17 283**		PG	**Pg**	**08 59 47.4**	**+0.4**
BRG				SG	**Sg**	**09 00 28.3**	**+0.2**
	15nm,0.4s						
KHC	**Kasperske Hory**	**3.59 254**		*e*PN	**Pn**	**08 59 42.5**	**-0.7**
KHC				*e*PG	**Pg**	**08 59 50.3**	**-4.8**
KHC				*e*SG	**Sg**	**09 00 40.8**	**-0.8**
	22nm,0.4s						
GERES	**GERESS Array B**	**3.62 249**		Pn	**Pn**	**08 59 46.8**	**+3.1**
	0.4nm,0.3s,baz=66,slow=13,SNR=2.0						
GERES				Pg	**Pg**	**08 59 54.1**	**-1.7**
	2.5nm,0.3s,baz=66,slow=18,SNR=11						
GERES				Sn	**Sn**	**09 00 32.4**	**+5.3**
	1.0nm,0.3s,baz=80,slow=24,SNR=3.1						
GERES				Lg		09 00 43.8	
	5.6nm,0.3s,baz=67,slow=28,SNR=8.1						
GERES	**GERESS Array B**	**3.62 249**		Pg	**Pg**	**08 59 54.1**	**-1.7**
CLL	**Collm**	**3.83 288**		*e*Sg	**Sg**	**09 00 52.0**	**+2.5**
	comp=Z,19nm,0.8s						
MOA	**Molln**	**3.85 233**	⇑	*i*Sg	**Sg**	**09 00 49.1**	**-0.8**
	comp=Z,19nm,0.7s						
NKC	**Novy Kostel**	**4.09 272**		*e*SG	**Sg**	**09 00 56.1**	**-1.6**
	comp=Z,25nm,0.5s						
DRGR		**4.33 142**	⇑	P	**Pn**	**08 59 53.0**	**-0.5**
DRGR		**4.33 142**	⇑	*i*P	**Pn**	**08 59 53.0**	**-0.5**
BURAR	**Bucovina Array**	**4.98 120**	⇑	*i*P	**Pn**	**09 00 02.5**	**+0.1**
BZS	**Buzias**	**5.02 157**	⇓	P	**Pn**	**09 00 03.9**	**+1.1**
BZS	**Buzias**	**5.02 157**	⇓	*i*P	**Pn**	**09 00 03.9**	**+1.0**
GZR	**Gura Zlata**	**5.56 150**	⇑	P	**Pn**	**09 00 10.9**	**+0.6**
GZR	**Gura Zlata**	**5.56 150**	⇑	*i*P	**Pn**	**09 00 10.9**	**+0.6**
AKASG	**Malin Array Be**	**6.66 82**		Pn	**Pn**	**09 00 26.4**	**+1.1**
	comp=Z,0.4nm,0.3s,baz=268,slow=12,SNR=4.3						
AKASG				Pg	**Pg**	**09 00 48.6**	**-5.2**
	comp=Z,0.7nm,0.3s,baz=274,slow=14,SNR=5.7						
AKASG				Lg		09 02 18.1	
	comp=Z,0.7nm,0.3s,baz=276,slow=29,SNR=4.8						
AKASG	**Malin Array Be**	**6.66 82**		Pg	**Pg**	**09 00 48.7**	**-5.2**
NOA	**NORSAR Array B**	**11.61 341**		Pn	**Pn**	**09 01 32.0**	**-1.1**
	comp=Z,0.1nm,0.3s,baz=138,slow=14,SNR=1.9						
FINES	**FINESS Array B**	**11.91 17**		Pn	**Pn**	**09 01 34.0**	**-3.3**
	comp=Z,0.2nm,0.3s,baz=201,slow=11,SNR=3.3						
FINES				Sn	**Sn**	**09 03 44.1**	**-6.6**
	comp=Z,0.2nm,0.3s,baz=203,slow=21,SNR=3.1						
ARCES	**ARCESS Array B**	**19.59 7**		Pn	**Pn**	**09 03 14.8**	**-2.2**
	comp=Z,0.1nm,0.3s,baz=200,slow=14,SNR=3.3						

IDC 25 09:00:40.2±6.2, 705S×12368E, h141km±68km, mb3.4/1, mb1 3.4/5, mb1mx3.2/18, mbtmp3.3/5, Error ellipse: s-maj=98.6km s-min=25.5km az=48.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BATI	**Kupang**	**3.14 180**		P	Pn	09 01 30.1	+1.0
	11nm,0.3s,baz=144,slow=1.4,SNR=5.3						
BATI				S	Sn	09 02 07.0	+0.1
	21nm,0.3s,baz=112,slow=23,SNR=11						
FITZ	**Fitzroy Crossi**	**11.15 170**		P	Pn	09 03 17.3	+1.6
	0.1nm,0.3s,baz=3.0,slow=9.2,SNR=2.6						
FITZ				S	Sn	09 05 07.5	-11
	0.2nm,0.3s,baz=66,slow=23,SNR=5.5						
WRA	**Warramunga Arr**	**16.47 142**		P	Pn	09 04 24.4	+1.2
	0.2nm,0.3s,baz=325,slow=13,SNR=17						
WRA				S	S	09 07 26.4	-0.3
	0.1nm,0.3s,baz=317,slow=25,SNR=5.5						
ASAR	**Alice Springs**	**19.22 150**		P	P	09 04 53.1	-0.3
	0.5nm,0.3s,baz=332,slow=15,SNR=28						
MKAR	**Makanchi Array**	**64.97 330**		P	P	09 11 04.5	-0.2
	0.6nm,0.5s,baz=144,slow=8.0,SNR=7.5						

ISCJB ***25*** *09:39:11.2±0.7, 1078N±005×6252W±003, h97km±6km, Error ellipse: s-maj=7.7km s-min=5.0km az=174.8*
FUNV ***25*** *09:39:11.9, 1085N×6244W, h94km, MW3.2*
TRN ***25*** *09:39:15.4, 1086N×6224W, h97km, MD3.2

IDC 25 09:48:35.3±66.0, 1559S×17301E, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.8/14, mbtmp4.0/3, MS3.5/6, Ms1 3.5/6, ms1mx3.3/30, Error ellipse: s-maj=1149.0km s-min=136.5km az=71.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**25.84**	**256**	LR	LR	10 03 01.0	
	comp=Z,85nm,21.0s,baz=48,slow=34						
RPZ	**Rata Peaks**	**28.08**	**183**	LR	LR	10 03 37.0	
	comp=Z,79nm,21.6s,baz=186,slow=32						
STKA	**Stephens Creek**	**32.85**	**235**	P	P	09 55 11.1	+0.1
	2.3nm,1.0s,baz=48,slow=7.1,SNR=5.0						
STKA				LR	LR	10 06 06.7	
	comp=Z,75nm,20.1s,baz=25,slow=32						
WRA	**Warramunga Arr**	**37.02**	**257**	P	P	09 55 46.5	-0.6
	1.5nm,0.9s,baz=91,slow=8.7,SNR=8.1						
WRA				LR	LR	10 09 54.8	
	comp=Z,48nm,18.2s,baz=220,slow=35						
ASAR	**Alice Springs**	**37.60**	**251**	P	P	09 55 52.4	+0.4
	2.4nm,0.8s,baz=80,slow=8.8,SNR=34						
FITZ	**Fitzroy Crossi**	**45.31**	**260**	LR	LR	10 14 25.0	
	comp=Z,78nm,18.3s,baz=92,slow=34						
JHJ	**Hachijo jima 2**	**57.91**	**327**	LR	LR	10 20 21.0	
	comp=Z,130nm,21.1s,baz=109,slow=33						

*ISCJB **25** 09:59:43.1±2.5, 222S±02×1797W±01, h600km±32km, mb4.2/19, Error ellipse: s-maj=25.0km s-min=16.2km az=5.3*
*NEIC **25** 09:59:45.7±3.5, 2221S×17965W, h624km±41km, mb4.5/10, Error ellipse: s-maj=25.6km s-min=16.2km az=210.0*
*IDC **25** 09:59:46.5±2.8, 2213S×17970W, h627km±35km, mb3.6/12, mb1 3.8/12, mb1mx3.6/19, mbtmp3.6/12, Error ellipse: s-maj=21.0km s-min=15.0km az=174.0*

ISC 25 09:59:44.5±2.9, 222S±02×1797W±01, h602km±35km, n29, σ0°77/29, mb4.2/19, 2D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**16.26**	**189**	P	P	**10 03 01.7**	**-2.2**
	1.6nm,0.3s,baz=348,slow=1.7,SNR=13						
URZ				S	S	**10 05 39.4**	**-7.0**
	0.3nm,0.3s,baz=158,slow=23,SNR=6.8						
ARMA	**Armidale**	**26.95**	**246**	*e*P	P	**10 04 40.4**	**+0.7**
	0.2nm,0.6s,mb2.9						
CNB	**Canberra Magne**	**30.01**	**237**	*e*P	P	**10 05 07.7**	**+1.6**
	26nm,1.0s,mb4.8						
CTA	**Charters Tower**	**31.82**	**267**	⇓*i*P	P	**10 05 22.3**	**+0.6**
	12nm,0.5s,mb4.8						
CTA	**Charters Tower**	**31.82**	**267**	P	P	**10 05 22.4**	**+0.7**
	14nm,0.5s,mb4.8,baz=91,slow=10,SNR=32						
CTAO	**Charters Tower**	**31.82**	**267**	*e*P	P	**10 05 22.1**	**+0.3**
	19nm,0.7s,mb4.8						
STKA	**Stephens Creek**	**35.67**	**246**	⇓*i*P	P	**10 05 54.6**	**+0.8**
	4.9nm,0.6s,mb4.2						
STKA	**Stephens Creek**	**35.67**	**246**	P	P	**10 05 54.7**	**+0.9**
	7.9nm,0.8s,mb4.3,baz=91,slow=7.8,SNR=24						
ASAR	**Alice Springs**	**42.65**	**259**	P	P	**10 06 50.0**	**+0.2**
	18nm,0.8s,mb4.7,baz=101,slow=7.8,SNR=200						
ASAR				PcP	PcP	10 08 27.8	+0.2
	1.2nm,0.6s,baz=100,slow=4.2,SNR=4.9						
ASAR				S	S	**10 12 30.2**	**-0.4**
	1.3nm,0.8s,baz=93,slow=15,SNR=6.5						
WB2	**Warramunga Arr**	**42.85**	**264**	*e*P	P	**10 06 50.9**	**-0.5**
WRAB	**Tennant Creek**	**42.85**	**264**	*e*P	P	**10 06 50.5**	**-0.9**
	18nm,0.9s,mb4.6						
WRA	**Warramunga Arr**	**42.86**	**264**	P	P	**10 06 51.0**	**-0.5**
	15nm,0.8s,mb4.5,baz=99,slow=6.1,SNR=126						
KAKA	**Kakadu**	**46.49**	**273**	*e*P	P	**10 07 18.7**	**-0.6**
	14nm,0.6s,mb4.7						
FORT	**Forrest**	**47.22**	**248**	*e*P	P	**10 07 24.2**	**-0.3**
	13nm,0.6s,mb4.6						
FITZ	**Fitzroy Crossi**	**51.29**	**264**	*e*P	P	**10 07 54.8**	**+0.2**
	8.8nm,0.6s,mb4.4						
FITZ	**Fitzroy Crossi**	**51.29**	**264**	P	P	**10 07 54.5**	**-0.1**
	3.0nm,0.5s,mb4.0,baz=100,slow=4.0,SNR=17						
BATI	**Kupang**	**55.43**	**273**	P	P	**10 08 24.9**	**+1.0**
	26nm,0.6s,mb4.8,baz=212,slow=3.1,SNR=5.4						
KLBR	**Kellerberrin**	**55.95**	**246**	*e*P	P	**10 08 27.1**	**-0.1**
	33nm,1.4s,mb4.4						
MBWA	**Marble Bar**	**55.99**	**259**	*e*P	P	**10 08 27.3**	**-0.3**
	13nm,0.7s,mb4.3						
QSPA	**South Pole Qui**	**67.89**	**180**	P	P	**10 09 44.3**	**+0.8**
QSPA	**South Pole Qui**	**67.89**	**180**	P	P	**10 09 44.3**	**+0.8**
	2.0nm,0.5s,mb3.8,baz=21,slow=1.6,SNR=19						
MJAR	**Matsushiro Arr**	**70.67**	**325**	P	P	**10 10 00.4**	**-0.4**
	2.7nm,0.7s,mb3.9,baz=157,slow=5.1,SNR=6.3						
PSI	**Prapat**	**83.11**	**276**	P	P	**10 11 08.1**	**-0.8**
PSI	**Prapat**	**83.11**	**276**	P	P	**10 11 08.1**	**-0.8**
	0.8nm,0.3s,mb3.7,baz=320,slow=18,SNR=3.6						
NVAR	**Mina Array Bea**	**83.31**	**44**	P	P	**10 11 09.2**	**-0.1**
	1.5nm,0.9s,mb3.5,baz=234,slow=11,SNR=8.0						
PLCA	**Paso Flores**	**89.23**	**134**	P	P	**10 11 37.9**	**+0.3**
	1.4nm,0.7s,mb3.9,baz=195,slow=6.4,SNR=3.0						
TXAR	**Lajitas Array**	**89.26**	**58**	P	P	**10 11 38.1**	**+0.4**
	1.5nm,0.9s,mb3.8,baz=217,slow=5.0,SNR=14						
AKBB	**Malin Array Si**	**143.69**	**329**	*e*PKPdf	PKPdf	10 18 08.1	-3.5
GERES	**GERESS Array B**	**151.35**	**341**	PKPbc	PKPbc	10 18 30.0	-0.9
	0.5nm,0.3s,baz=24,slow=4.5,SNR=3.7						

*ISCJB **25** 10:03:17.9±1.2, 2521S±009×17969E±010, h507km±13km, mb4.2/17, Error ellipse: s-maj=14.6km s-min=13.2km az=27.4*
*NEIC **25** 10:03:18.9±1.1, 2523S×17975E, h508km±13km, mb4.6/8, Error ellipse: s-maj=23.1km s-min=15.4km az=220.0*
*IDC **25** 10:03:19.2±1.4, 2517S×17977E, h512km±15km, mb3.7/13, mb1 3.9/13, mb1mx3.8/17, mbtmp3.7/13, Error ellipse: s-maj=16.3km s-min=11.5km az=176.0*

ISC 25 10:03:19.0±1.2, 2531S±010×17973E±010, h508km±13km, n34, σ0°66/29, mb4.2/17, 3D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**4.45**	**152**	P	P	**10 04 41.8**	**+0.3**
RAO	**Raoul Island**	**4.45**	**152**	P	P	**10 04 41.8**	**+0.3**
	154nm,0.3s,baz=86,slow=19,SNR=6.6						
URZ	**Urewera**	**13.10**	**189**	S	S	**10 08 27.8**	**-1.2**
	0.7nm,0.3s,baz=90,slow=20,SNR=6.8						
CTA	**Charters Tower**	**31.26**	**273**	⇓*i*P	P	**10 08 57.9**	**+1.1**
	16nm,0.4s,mb4.8						
CTA	**Charters Tower**	**31.26**	**273**	P	P	**10 08 57.8**	**+0.9**
	20nm,0.4s,mb4.9,baz=98,slow=11,SNR=44						
CTAO	**Charters Tower**	**31.26**	**273**	*e*P	P	**10 08 58.0**	**+1.2**
	30nm,0.7s,mb4.8						
STKA	**Stephens Creek**	**33.99**	**250**	⇓*i*P	P	**10 09 20.8**	**+0.9**
	2.7nm,0.4s,mb4.0						
STKA	**Stephens Creek**	**33.99**	**250**	P	P	**10 09 20.8**	**+0.9**
	3.5nm,0.5s,mb4.0,baz=98,slow=11,SNR=14						
ASAR	**Alice Springs**	**41.58**	**262**	P	P	**10 10 22.5**	**+0.5**
	5.2nm,0.4s,mb4.3,baz=96,slow=7.2,SNR=101						
ASAR				S	S	**10 16 01.6**	**+0.5**
	0.8nm,0.7s,baz=102,slow=13,SNR=9.0						
WB2	**Warramunga Arr**	**42.07**	**268**	⇓*i*P	P	**10 10 25.6**	**-0.4**
WRAB	**Tennant Creek**	**42.08**	**268**	*e*P	P	**10 10 25.9**	**-0.1**
	14nm,0.9s,mb4.4						
WRA	**Warramunga Arr**	**42.08**	**268**	P	P	**10 10 25.8**	**-0.2**
	10.0nm,0.3s,mb4.7,baz=100,slow=7.2,SNR=136						
WRA				ScP	ScP	10 15 13.2	+2.0
	1.9nm,0.9s,baz=107,slow=3.9,SNR=7.3						
WRA				S	S	**10 16 08.1**	**-0.4**
	2.2nm,0.9s,baz=102,slow=14,SNR=9.4						
FORT	**Forrest**	**45.60**	**251**	*e*P	P	**10 10 52.7**	**-0.6**
	12nm,0.6s,mb4.5						
KAKA	**Kakadu**	**46.21**	**277**	*e*P	P	**10 10 57.4**	**-0.7**
	7.7nm,0.3s,mb4.6						
FITZ	**Fitzroy Crossi**	**50.49**	**267**	*e*P	P	**10 11 30.1**	**+0.1**
	14nm,0.5s,mb4.5						
FITZ	**Fitzroy Crossi**	**50.49**	**267**	P	P	**10 11 30.5**	**+0.5**
	8.3nm,0.5s,mb4.3,baz=129,slow=7.2,SNR=18						
KLBR	**Kellerberrin**	**54.23**	**248**	*e*P	P	**10 11 56.3**	**-0.4**
	9.5nm,0.5s,mb4.4						
QSPA	**South Pole Qui**	**64.78**	**180**	P	P	**10 13 08.1**	**+1.7**
	7.1nm,0.8s,mb4.4,baz=34,slow=1.5,SNR=31						
JOW	**Kunigami**	**71.75**	**313**	P	P	**10 13 49.5**	**-0.1**
	15nm,0.6s,mb4.7,baz=138,slow=4.9,SNR=4.4						
MJAR	**Matsushiro Arr**	**72.92**	**326**	P	P	**10 13 55.6**	**-0.6**
	2.5nm,0.6s,mb3.9,baz=156,slow=6.2,SNR=3.9						
MAW	**Mawson**	**76.35**	**201**	P	P	**10 14 15.1**	**+0.1**
	2.4nm,0.9s,mb3.7,baz=156,slow=10.0,SNR=3.7						
KSRS	**Korea Array**	**79.17**	**320**	P	P	**10 14 30.9**	**+0.2**
	1.9nm,0.7s,mb3.8,baz=133,slow=5.7,SNR=5.7						
SNAA	**Sanae**	**83.27**	**179**	*e*	P	**10 14 50.9**	**-0.4**
SNAA				*e*		10 14 55.5	
VNA2	**Neumayer--Watz**	**83.90**	**178**	*e*	P	**10 14 54.7**	**+0.2**
	baz=185,slow=4.5						
VNA2				*e*		10 14 59.4	
NVAR	**Mina Array Bea**	**85.94**	**44**	P	P	**10 15 03.7**	**-1.2**
	0.8nm,0.8s,mb3.4,baz=216,slow=5.8,SNR=5.7						
PLCA	**Paso Flores**	**87.46**	**134**	P	P	**10 15 12.9**	**+0.7**
	2.2nm,0.8s,mb3.9,baz=243,slow=4.5,SNR=3.6						
TXAR	**Lajitas Array**	**91.39**	**58**	P	P	**10 15 30.5**	**0.0**
	0.9nm,0.8s,mb3.8,baz=214,slow=6.3,SNR=11						
ARCES	**ARCESS Array B**	**133.21**	**348**	PKP	PKPdf	10 21 34.9	-0.9
	2.3nm,1.0s,baz=4.8,slow=1.5,SNR=5.2						
ARCES				SKPab		10 24 17.1	
	5.3nm,0.9s,baz=27,slow=3.2,SNR=15						
FINES	**FINESS Array B**	**139.69**	**341**	PKhKP		10 21 38.5	
	0.6nm,0.6s,baz=49,slow=5.8,SNR=3.8						
FINES				SKPbc	SKPbc	10 24 36.3	+0.7
	2.6nm,0.7s,baz=76,slow=5.9,SNR=8.9						
NB2	**NORSAR Subarra**	**143.43**	**351**	PKP	PKPdf	10 21 51.6	-3.1
	comp=Z,1.4nm,0.6s,baz=21,slow=3.8						
NOA	**NORSAR Array B**	**143.43**	**351**	PKP	PKPdf	10 21 51.9	-2.8
	comp=Z,3.1nm,0.8s,baz=16,slow=5.0,SNR=9.2						
HFS	**Hagfors**	**143.87**	**348**	PKP	PKPdf	10 21 53.2	-2.2
	comp=Z,7.0nm,0.6s,baz=40,slow=2.5,SNR=22						
AKASG	**Malin Array Be**	**146.01**	**326**	PKPbc	PKPbc	10 21 59.5	-1.8
	comp=Z,3.0nm,0.5s,baz=42,slow=4.6,SNR=13						
DAVOX	**Davos/Dischmat**	**157.09**	**342**	PKPab	PKPab	10 22 49.6	-0.2
	comp=Z,1.0nm,0.5s,baz=321,slow=5.1,SNR=4.0						

*NIED **25** 10:06:00, 4660N×15290E, h35km, Mw4.5 Best double couple: M0:6.14000×10^15 NP1:φ=343.00000°, δ=63.00000°, λ=48.00000°. NP2:φ=227.00000°, δ=48.00000°, λ=143.00000°.*
*BJI **25** 10:06:48.1, 4672N×15304E, h30km, mB5.0, mb4.8, Ms4.4, Msz4.2*
*NEIC **25** 10:06:49.5±0.2, 4663N×15259E, h10km, mb5.0/85, MS4.3/2, Error ellipse: s-maj=6.8km s-min=4.1km az=159.0*
*JMA **25** 10:06:51.9±0.9, 4656N×15290E, h30km, M5.4*
*ISCJB **25** 10:06:51.1±0.9, 4661N±003×15264E±002, h33km±6km, mb4.9/163, MS4.0/29, Error ellipse: s-maj=5.3km s-min=2.3km az=166.7*
*SKHL **25** 10:06:51.8±1.6, 4660N×15280E, h50km±39km, mb5.3/8, mbv5.6/1, ms4.1/3, msh5.3/2*
*MOS **25** 10:06:52.3±0.9, 4665N×15251E, h41km, mb5.1/71, MS4.0/16, Error ellipse: s-maj=7.4km s-min=4.4km az=97.5*
*IDC **25** 10:06:54.9±0.5, 4669N×15252E, h51km±5km, mb4.3/24, mb1 4.5/24, mb1mx4.5/26, mbtmp4.3/24, MS3.9/16, Ms1 3.9/16, ms1mx3.7/34, Error ellipse: s-maj=14.1km s-min=10.0km az=133.0*
*SZGRF **25** 10:06:55.1, 4664N×15199E, h33km, mb5.1, Kuril Islands, Russia*

ISC 25 10:06:54.4±0.4, 4667N±003×15255E±003, h44km±4km, h46km±3.7km: pP-P, n681, σ0°77/684, mb4.9/163, MS4.0/29, 122C-113D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.57**	**248**	⇓*i*PN	Pn	**10 07 45.5**	**-1.7**
KUR				*i* S	Sn	**10 08 27.0**	**-1.1**
KUR				pmax	pmax		
	comp=N,680nm,0.5s						
KUR				pmax	pmax		
	comp=E,290nm,0.5s						
KUR				pmax	pmax		
	comp=Z,1μm,0.5s						
KUR				pmax	pmax		
	comp=Z,2μm,1.6s						
KUR				smax			
	comp=N,5μm,1.6s						
KUR				smax			
	comp=E,10μm,1.6s						
KUR				smax			
	comp=N,4μm,0.8s						
KUR				smax			
	comp=E,5μm,0.8s						
KUR	**Kuril'sk**	**3.57**	**248**	⇓*i*P	Pn	**10 07 45.5**	**-1.7**
KUR				AMB	AMB	10 07 51.0	
	comp=E,684nm,0.5s						
KUR				AMB	AMB	10 07 51.0	
	comp=E,289nm,0.5s						
KUR				AMB	AMB	10 07 51.0	
	comp=E,1μm,0.5s						
KUR				AMB	AMB	10 07 55.6	
	comp=E,2μm,1.6s						
KUR				*e*S	Sn	**10 08 27.0**	**-1.1**
KUR				A		10 08 45.4	
	comp=E,5μm,1.6s						
KUR				A		10 08 45.4	
	comp=E,10μm,1.6s						
KUR				A		10 08 46.0	
	comp=E,4μm,0.8s						
KUR				A		10 08 46.0	
	comp=E,5μm,0.8s						
SKR	**Severo-Kuril's**	**4.66**	**29**	*e*P	Pn	**10 08 01.2**	**-1.0**
SKR				AMB	AMB	10 08 07.1	
	comp=E,90nm,0.5s						
SKR				AMB	AMB	10 08 07.1	
	comp=E,220nm,0.5s						
SKR				*e*S	Sn	**10 08 48.5**	**-6.5**
SKR				A		10 09 17.0	
	comp=E,720nm,0.5s						
SKR				A		10 09 17.0	
	comp=E,150nm,0.5s						
SKR				A		10 09 17.0	
	comp=E,410nm,0.2s						
SKR				A		10 09 17.0	
	comp=E,2μm,2.0s						
YUK	**Yuzh-Kuril'sk**	**5.40**	**243**	⇑*i*P	Pn	**10 08 14.2**	**+1.8**
YUK				AMB	AMB	10 08 17.2	
	comp=E,920nm,0.5s						
YUK				A		10 09 38.4	
	comp=E,2μm,0.5s						
YUK				A		10 09 38.4	
	comp=E,5μm,1.0s						
YUK				A		10 09 38.4	
	comp=E,8μm,1.0s						
NEM2	**Nemuro 2**	**5.85**	**238**	P	Pn	**10 08 18.1**	**-0.4**
NEM2				*e*S	Sn	**10 09 21.9**	**-2.3**
JRA	**Rausu**	**5.91**	**245**	P	Pn	**10 08 21.7**	**+2.4**
JNK	**Nakash**	**6.34**	**244**	P	Pn	**10 08 26.8**	**+1.5**
JTKR	**Abashiri--Toko**	**6.66**	**249**	P	Pn	**10 08 32.5**	**+2.8**
JAK	**Akkeshi**	**6.68**	**240**	P	Pn	**10 08 29.6**	**-0.4**
JAK				*e*S	Sn	**10 09 42.2**	**-2.5**
YSS	**Yuzh-Sakhalins**	**6.73**	**276**	*e*Pn	Pn	**10 08 34.7**	**+4.1**
YSS				*e*Sn	Sn	**10 09 40.1**	**-5.8**
YSS	**Yuzh-Sakhalins**	**6.73**	**276**	κ *i*PN	Pn	**10 08 34.9**	**+4.3**
YSS				*e*S	Sn	**10 09 51.0**	**+5.1**
YSS				pmax	pmax		
	comp=E,160nm,1.0s						
YSS				pmax	pmax		
	comp=Z,160nm,1.0s						
YSS				smax			
	comp=E,90nm,0.9s						
YSS				MLR	MLR		
	comp=Z,600nm,15.0s						
YSS				MLR	MLR		
	comp=E,500nm,14.0s						
YSS	**Yuzh-Sakhalins**	**6.73**	**276**	⇓*i*P	Pn	**10 08 34.9**	**+4.3**
YSS				⇓*e*P		10 08 34.9	
YSS				AMB	AMB	10 08 37.0	
	comp=E,160nm,1.0s						
YSS				AMB	AMB	10 08 37.0	
	comp=E,160nm,1.0s						
YSS				*i* pP		10 08 39.3	
YSS				*e*S	Sn	**10 09 51.0**	**+5.1**
YSS				A		10 09 55.0	
	comp=E,90nm,0.9s						
YSS				*e*LQ		10 10 18.0	
YSS				*e*LR	LR	10 10 42.0	
YSS				AMS	AMS	10 11 13.0	
	comp=E,600nm,15.0s						
YSS				AMS	AMS	10 11 13.0	
	comp=E,500nm,14.0s						
JMP	**Maruseppu**	**7.00**	**251**	P	Pn	**10 08 37.5**	**+3.2**
JAR	**Ashorobuto**	**7.08**	**245**	P	Pn	**10 08 37.3**	**+1.9**
JAR				*e*S	Sn	**10 09 55.7**	**+1.2**
JSE	**Soyaes**	**7.17**	**260**	P	Pn	**10 08 40.7**	**+4.0**
UGL	**Uglegorsk**	**7.45**	**293**	*e*PN	Pn	**10 08 45.3**	**+4.8**
UGL				pmax	pmax		
	comp=Z,150nm,0.8s						
UGL				pmax	pmax		
	comp=Z,450nm,1.4s						
UGL				MLR	MLR		
	comp=N,500nm,17.0s						
UGL				MLR	MLR		
	comp=Z,850nm,17.0s						
UGL				MLR	MLR		
	comp=E,800nm,18.0s						
UGL	**Uglegorsk**	**7.45**	**293**	*e*P	Pn	**10 08 45.3**	**+4.8**
UGL				AMB	AMB	10 08 46.7	
	comp=E,150nm,0.8s						
UGL				AMB	AMB	10 08 48.0	
	comp=E,450nm,1.4s						
UGL				*e*L		10 10 42.0	
UGL				AMS	AMS	10 11 39.0	
	comp=E,500nm,17.0s						
UGL				AMS	AMS	10 11 39.0	
	comp=E,850nm,17.0s						
UGL				AMS	AMS	10 11 39.0	
	comp=E,800nm,18.0s						
ASAJ	**Asahikawa**	**7.46**	**254**	P	Pn	**10 08 44.6**	**+4.0**
ASAJ	**Asahikawa**	**7.46**	**254**	PN	Pn	**10 08 44.8**	**+4.2**
ASAJ				pmax	pmax		
	comp=Z,9.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,586nm,20.2s						
ASAJ	**Asahikawa**	**7.46**	**254**	P	Pn	**10 08 44.8**	**+4.2**
	comp=Z,9.4nm,0.3s,baz=81,slow=13,SNR=115						
ASAJ				LR	LR	10 11 27.6	
	comp=Z,586nm,20.2s,baz=76,slow=37						
JKK2	**Kamakawa 2**	**7.46**	**252**	P	Pn	**10 08 44.0**	**+3.4**
PET	**Petropavlovsk**	**7.48**	**30**	*e*Pn	Pn	**10 08 47.1**	**+6.2**
PET				*e*Sn	Sn	**10 10 01.0**	**-3.3**
PET	**Petropavlovsk**	**7.48**	**30**	*e*PN	Pn	**10 08 40.5**	**-0.4**
PET				pmax	pmax		
	comp=Z,53nm,0.8s						
JWK2	**Keihoku**	**7.54**	**264**	P	Pn	**10 08 48.0**	**+6.2**
JCH	**Churui**	**7.70**	**242**	P	Pn	**10 08 43.9**	**-0.1**
JCH				*e*S	Sn	**10 10 07.7**	**-2.1**
TYV	**Tymovskoe**	**7.77**	**306**	*e*P	Pn	**10 08 47.0**	**+2.2**
TYV				AMB	AMB	10 08 58.8	
	comp=Z,31nm,0.8s						
TYV				AMB	AMB	10 08 58.8	
	comp=Z,44nm,0.8s						
TYV				AMB	AMB	10 08 58.8	
	comp=Z,66nm,0.8s						
TYV				AMS	AMS	10 11 49.0	
	comp=Z,500nm,14.0s						
TYV				AMS	AMS	10 11 49.0	
	comp=Z,1μm,19.0s						
TYV				AMS	AMS	10 11 49.0	
	comp=Z,1μm,19.0s						
JFR	**Furan**	**7.89**	**247**	P	Pn	**10 08 48.5**	**+2.0**
JAB	**Ashibetsu**	**7.96**	**250**	P	Pn	**10 08 51.2**	**+3.7**
ERM	**Erimo**	**8.18**	**239**	Pn	Pn	**10 08 51.0**	**+0.5**
	comp=Z,954nm,0.4s,SNR=93						
ERM	**Erimo**	**8.18**	**239**	*e*Pn	Pn	**10 08 51.3**	**+0.8**
	comp=Z,214nm,0.6s						
ERM				*e*Sn	Sn	**10 10 16.6**	**-5.0**
ERM	**Erimo**	**8.18**	**239**	*e*PN	Pn	**10 08 51.3**	**+0.8**
ERM				pmax	pmax		
	comp=Z,214nm,0.6s						
JEM	**Erimo**	**8.18**	**239**	P	Pn	**10 08 51.0**	**+0.5**
JBT2	**Biratori 2**	**8.23**	**245**	P	Pn	**10 08 51.7**	**+0.5**
JNBK	**Urakawa-nobuka**	**8.27**	**241**	P	Pn	**10 08 50.9**	**-0.8**
JEW	**Eniwo**	**8.78**	**248**	P	Pn	**10 09 00.6**	**+1.9**
JNB	**Noboribetsu**	**9.23**	**247**	*e*S	Sn	**10 10 46.2**	**-1.0**
OKH	**Okha**	**9.25**	**322**	*e*PN	Pn	**10 09 10.6**	**+5.5**
OKH				pmax	pmax		
	comp=Z,400nm,2.0s						
OKH	**Okha**	**9.25**	**322**	*e*P	Pn	**10 09 10.5**	**+5.4**
OKH				*e*P		10 09 10.6	
OKH				AMB	AMB	10 09 11.8	
	comp=Z,400nm,2.0s						
OKH				AMB	AMB	10 09 12.1	
	comp=Z,200nm,1.0s						
OKH				*e*S	Sn	**10 10 51.8**	**+4.2**
OKH				A		10 10 54.4	
	comp=Z,500nm,4.0s						
OKH				*e*LQ		10 11 38.4	
OKH				AMS	AMS	10 13 26.0	
	comp=Z,600nm,16.0s						
OKH				AMS	AMS	10 13 26.0	
	comp=Z,500nm,12.0s						
OKH				AMS	AMS	10 13 26.0	
	comp=Z,600nm,12.0s						
JKB	**Kayabe**	**9.54**	**244**	P	Pn	**10 09 08.3**	**-0.8**
JKB				*e*S	Sn	**10 10 49.7**	**-5.2**
JSH	**Shimam**	**9.78**	**250**	P	Pn	**10 09 14.2**	**+1.9**
JYM2	**Yakumo 2**	**9.83**	**247**	P	Pn	**10 09 13.6**	**+0.5**
JYM2				*e*S	Sn	**10 11 00.1**	**-2.0**
NKL	**Nikolayevsk**	**10.03**	**315**	*e*P	Pn	**10 09 14.5**	**-1.2**
NKL				AMB	AMB	10 09 18.3	
	comp=Z,55nm,1.1s						
NKL				AMB	AMB	10 09 18.3	
	comp=Z,50nm,1.1s						
NKL				AMB	AMB	10 09 18.3	
	comp=Z,120nm,1.1s						
NKL				*e*L		10 12 11.0	
NKL				AMS	AMS	10 13 56.0	
	comp=Z,500nm,15.0s						
NKL				AMS	AMS	10 13 56.0	
	comp=Z,1μm,15.0s						
JSR	**Shiriuchi**	**10.12**	**244**	P	Pn	**10 09 16.2**	**-0.9**
JSR				*e*S	Sn	**10 11 04.7**	**-4.5**
JTM	**Tenmabayashi**	**10.18**	**239**	P	Pn	**10 09 16.1**	**-1.7**
JTM				*e*S	Sn	**10 11 01.7**	**-8.8**
JANG	**Nango**	**10.18**	**236**	P	Pn	**10 09 14.7**	**-3.2**
JANG				*e*S	Sn	**10 11 01.1**	**-10**
JTH	**Tanohata**	**10.29**	**233**	P	Pn	**10 09 15.4**	**-3.9**
JTH				*e*S	Sn	**10 11 02.7**	**-10**
JOSM	**Okushiri--Mats**	**10.42**	**249**	P	Pn	**10 09 20.9**	**-0.3**
OFUJ	**Ofunato**	**11.00**	**230**	P	Pn	**10 09 25.5**	**-3.6**
TEY	**Ternei**	**11.25**	**267**	*e*P	Pn	**10 09 36.0**	**+3.6**
JRG	**Rokugo**	**11.34**	**234**	*e*S	Sn	**10 11 27.7**	**-11**
JIO	**Ouri**	**11.63**	**229**	P	Pn	**10 09 34.2**	**-3.6**
HABR	**Khabarovsk**	**11.96**	**285**	*i* PN	Pn	**10 09 49.9**	**+7.7**
HABR				pmax	pmax		
	comp=Z,41nm,1.1s						
MA2	**Magadan**	**12.98**	**356**	*e*Pn	Pn	**10 09 56.7**	**+0.7**
MA2	**Magadan**	**12.98**	**356**	⇑*e*PN	Pn	**10 09 55.1**	**-0.8**
MA2				pmax	pmax		
	comp=Z,25nm,0.6s						
KLR	**Kul'dur**	**14.17**	**288**	*e*P	Pn	**10 10 12.8**	**+0.5**
KLR				MLR	MLR		
	comp=E,500nm,14.0s						
KLR				MLR	MLR		
	comp=Z,1μm,14.0s						
MAJO	**Matsushiro**	**14.

comp=Z,20nm,0.5s
CN2 AMB AMB
comp=Z,100nm,5.0s
CN2 LR LR
comp=N,200nm,15.0s
CN2 LR LR
comp=E,300nm,15.0s
CN2 LR LR
comp=Z,300nm,19.0s
CLNS Chul'man 19.78 311 *e*P **Pn 10 11 23.2 +0.8**
CLNS pmax pmax
comp=E,12nm,0.8s
CLNS pmax pmax
comp=Z,19nm,0.8s
CLNS pmax pmax
comp=N,15nm,0.7s
YAK Yakutsk 20.18 328 *e*P **P 10 11 26.6 +1.7**
YAK Yakutsk 20.18 328 *d*P **P 10 11 26.7 +1.7**
YAK *e* 10 11 41.0
YAK *e*PPP 10 11 49.8
YAK *e*S **S 10 15 12.4 +3.6**
YAK *e*SS 10 15 30.3
YAK pmax pmax
comp=Z,51nm,0.7s
YAK pmax pmax
comp=N,9.0nm,0.6s
YAK pmax pmax
comp=E,13nm,0.6s
YAK smax
comp=N,83nm,2.9s
YAK smax
comp=E,48nm,2.9s
YAK MLR MLR
comp=N,120nm,14.0s,MS3.6
YAK MLR MLR
comp=E,142nm,14.0s,MS3.6
YAK MLR MLR
comp=Z,185nm,14.0s,MS3.6
KSRS Korea Array 20.40 252 P **P 10 11 28.6 +1.1**
comp=Z,13nm,0.7s,baz=57,slow=11,SNR=38
KSRS PcP PcP 10 15 39.4 +0.8
comp=Z,0.4nm,0.5s,baz=343,slow=1.3,SNR=4.1
KSRS LR LR 10 18 18.1
comp=Z,160nm,20.7s,baz=243,slow=34
KS15 Wonju Array Si 20.44 252 *e*P **P 10 11 31.6 +3.8**
INCN Inchon 21.24 254 *e*P **P 10 11 37.5 +1.0**
comp=Z,40nm,0.7s,mb4.9
SNY Shenyang 21.25 267 ⇑P **P 10 11 38.8 +2.2**
SNY S **S 10 15 26.0 -4.2**
SNY AMB AMB
comp=Z,39nm,0.5s,mb5.0
SNY AMB AMB
comp=Z,132nm,5.8s
SNY LR LR
comp=E,284nm,18.5s
SNY LR LR
comp=Z,298nm,20.4s,MS3.7
JNU Nakatsue 21.35 238 P **P 10 11 39.0 +1.3**
comp=Z,27nm,0.8s,mb4.6,baz=103,slow=5.3,SNR=12
HIA Hailar 22.03 289 *e*P **P 10 11 44.9 0.0**
comp=Z,7.8nm,0.4s,mb4.5
HIA Hailar 22.03 289 *e*P **P 10 11 44.9 0.0**
HIA pmax pmax
comp=Z,8.0nm,0.4s
BILL Bilibino 22.56 13 *e*P **P 10 11 50.9 +0.5**
comp=Z,7.2nm,0.6s,mb4.3
BILL Bilibino 22.56 13 *e*P **P 10 11 50.9 +0.5**
BILL pmax pmax
comp=Z,10.0nm,0.8s,mb4.3
BILL MLR MLR
comp=Z,163nm,19.2s,MS3.5
DL2 Dalian 23.87 262 P **P 10 12 04.5 +0.9**
DL2 AMB AMB
comp=Z,10.0nm,0.7s,mb4.3
BOD Bodaibo 25.75 310 *e*P **P 10 12 18.7 -1.8**
BOD pmax pmax
comp=Z,9.0nm,1.4s,mb4.1
BJI Beijing 27.09 269 P **P 10 12 32.0 -0.8**
BJI S **S 10 17 13.3 +5.6**
BJI AMB AMB
comp=Z,6.0nm,0.9s,mb4.1
BJI AMB AMB
comp=Z,112nm,5.3s
BJI LR LR
comp=N,126nm,17.5s,MS3.9
BJI LR LR
comp=E,262nm,17.5s,MS3.9
BJT Baijiatuau 27.11 269 *e*P **P 10 12 33.0 0.0**
TIXI Tiksi 27.44 344 *e*P **P 10 12 35.7 +0.1**
TIXI pmax pmax
comp=Z,5.0nm,1.5s,mb3.8
NJ2 Nanjing 29.60 252 *e*P **P 10 12 56.0 +0.7**
NJ2 AP pP 10 13 01.5 -5.5
NJ2 PP PP 10 13 53.5 -9.0
NJ2 S **S 10 17 47.0 -0.4**
NJ2 AMB AMB
comp=Z,40nm,0.6s,mb5.3
NJ2 AMB AMB
comp=Z,106nm,4.1s
NJ2 LR LR
comp=N,420nm,13.6s,MS4.3
NJ2 LR LR
comp=E,190nm,12.2s,MS4.3
SONM Songino Array 31.00 289 P **P 10 13 07.1 -0.3**
SONM 10 16 02.5
SONM pmax pmax
comp=Z,3.0nm,0.8s
SONM MLR MLR
comp=Z,254nm,18.4s
SONM Songino Array 31.00 289 P **P 10 13 07.1 -0.4**
comp=Z,2.8nm,0.8s,mb4.1,baz=87,slow=7.6,SNR=6.5
SONM PcP PcP 10 16 02.5 0.0
comp=Z,1.5nm,0.7s,baz=116,slow=3.4,SNR=3.8
SONM LR LR 10 26 40.0
comp=Z,254nm,18.4s,MS3.9,baz=235,slow=38
TLY Talaya 31.88 297 *e*P **P 10 13 14.6 -0.5**
TLY Talaya 31.88 297 *e*P **P 10 13 14.0 -1.1**
TLY pmax pmax
comp=Z,5.0nm,0.8s,mb4.4
TLY MLR MLR
comp=Z,287nm,16.0s,MS4.0
ZAK Zakamensk 32.36 295 *e*P **P 10 13 18.6 -0.8**
ZAK *e* 10 16 06.1
ZAK pmax pmax
comp=Z,3.0nm,1.0s,mb4.1
TTA Tatalina 32.74 41 *e*P **P 10 13 23.0 +0.4**
WHN Wuhan 33.54 255 ⇑P **P 10 13 30.0 +0.2**
GUMO Guam 33.60 194 LR LR 10 26 20.3
comp=Z,103nm,18.7s,MS3.6,baz=82,slow=35
IMA2 Indian Mountai 34.10 36 *e*P **P 10 13 34.4 0.0**
KDAK Kodiak Island 34.45 51 P **P 10 13 36.4 -1.1**
comp=Z,16nm,0.6s,mb5.1,baz=269,slow=4.4,SNR=12
XAN Xi'an 35.12 265 P **P 10 13 44.0 +0.5**
XAN AP pP 10 13 56.0 +0.6
XAN AMB AMB
comp=Z,23nm,0.8s,mb5.2
PMR Palmer 35.93 44 *e*P **P 10 13 55.7 +5.6**
COLA College 36.44 38 *e*P **P 10 13 54.8 +0.3**
comp=Z,20nm,0.9s,mb5.0
COLA College 36.44 38 *e*P **P 10 13 54.8 +0.3**
COLA pmax pmax
comp=Z,20nm,0.9s,mb5.0
LZH Lanzhou 37.51 272 *e*P **P 10 14 06.3 +2.5**
LZH AP pP 10 14 15.5 -0.3
LZH XP sP 10 14 20.5 -0.5
LZH PP PP 10 15 33.0 +3.1
LZH PCP PcP 10 16 20.5 -0.8
LZH *e*S **S 10 19 57.0 +7.4**
LZH XS sS 10 20 12.0 +2.5
LZH AMB AMB
comp=Z,44nm,1.2s,mb5.1
LZH AMB AMB
comp=Z,118nm,4.7s
LZH LR LR
comp=N,2μm,14.9s
LZH LR LR
comp=Z,2μm,15.4s,MS5.0
GTA Gaotai 38.60 279 *e*P **P 10 14 13.8 +0.8**
GTA AP pP 10 14 17.8 -7.2
GTA PP PP 10 15 46.0 +4.2
GTA PCP PcP 10 16 25.5 +0.9
GTA S **S 10 20 10.0 +3.9**
GTA SS SS 10 22 53.5 -3.5
GTA AMB AMB
comp=Z,5.0nm,0.8s,mb4.3
GTA AMB AMB
comp=Z,63nm,5.3s
GTA LR LR
comp=N,126nm,18.3s,MS4.0
GTA LR LR
comp=E,186nm,17.9s,MS4.0
GTA LR LR
comp=Z,158nm,15.2s,MS4.0
EGAK Eagle 39.30 38 *e*P **P 10 14 18.0 -0.6**
DAWY Dawson 40.15 39 *e*P **P 10 14 26.0 +0.4**
CD2 Chengdu 40.49 265 ⇑*i*P **P 10 14 28.5 -0.3**
CD2 PP PP 10 16 05.5 +3.0
CD2 S **S 10 20 36.0 +1.5**
CD2 AMB AMB
comp=Z,50nm,0.7s,mb5.3
CD2 AMB AMB
comp=Z,130nm,5.2s
CD2 LR LR
comp=N,150nm,19.2s
CD2 LR LR
comp=E,390nm,13.2s
CD2 LR LR
comp=Z,240nm,15.5s,MS4.2
GYA Guiyang 41.32 257 ⇑*i*P **P 10 14 36.0 +0.3**
GYA PP PP 10 16 15.8 +4.2
GYA PCP PcP 10 16 36.5 +3.0
GYA S **S 10 20 50.8 +3.8**
GYA SS SS 10 23 47.5 -4.1
GYA AMB AMB
comp=Z,20nm,0.8s,mb4.8
GYA AMB AMB
comp=Z,130nm,5.6s
GYA LR LR
comp=N,480nm,18.6s,MS4.5
GYA LR LR
comp=E,520nm,19.4s,MS4.5
GYA LR LR
comp=Z,460nm,17.9s,MS4.4
INK Inuvik 41.93 32 *e*P **P 10 14 40.5 +0.3**
INK Inuvik 41.93 32 P **P 10 14 40.7 +0.5**
INK pmax pmax
comp=Z,5.0nm,0.5s
INK MLR MLR
comp=Z,91nm,18.5s
INK Inuvik 41.93 32 P **P 10 14 40.7 +0.5**
comp=Z,5.3nm,0.5s,mb4.5,baz=298,slow=6.9,SNR=121
INK LR LR 10 32 43.1
comp=Z,91nm,18.4s,MS3.7,baz=333,slow=37
ZAA0 Zalesovo Array 42.35 306 *e*P **P 10 14 43.0 -0.7**
ZALV Zalesovo Beam 42.35 306 P **P 10 14 42.5 -1.3**
comp=Z,5.2nm,0.5s,mb4.4,baz=74,slow=6.5,SNR=15
ZALV PcP PcP 10 16 36.4 -0.1
comp=Z,6.1nm,0.7s,baz=62,slow=3.1,SNR=18
ZALV LR LR 10 33 40.8
comp=Z,316nm,18.2s,MS4.2,baz=250,slow=38
ZAL Zalesovo 42.36 306 P **P 10 14 42.5 -1.4**
ZAL 10 16 36.4
NVS Novosibirsk 42.93 307 *e*P **P 10 14 46.7 -1.8**
NVS *e* 10 16 34.7
NVS pmax pmax
comp=E,2.0nm,0.5s
NVS pmax pmax
comp=Z,3.0nm,0.5s,mb4.3
WMQ Urumqi 44.60 291 *e*P **P 10 15 04.3 +2.3**
WMQ AP pP 10 15 09.0 -5.2
WMQ XP sP 10 15 11.5 -7.9
WMQ PP PP 10 16 48.0 +1.5
WMQ *e*S **S 10 21 39.0 +4.3**
WMQ AMB AMB
comp=Z,10.0nm,0.8s,mb4.7
WMQ AMB AMB
comp=Z,189nm,4.3s
WMQ LR LR
comp=N,314nm,12.2s
WMQ LR LR
comp=E,370nm,8.6s
WMQ LR LR
comp=Z,248nm,17.5s
KMI Kunming 44.85 259 P **P 10 15 05.0 +0.7**
KMI AMB AMB
comp=Z,10.0nm,0.8s,mb4.7
DLBC Dease Lake 45.93 46 *e*P **P 10 15 13.2 +0.9**
DLBC *e*P 10 15 14.0
MK31 Makanchi Array 46.64 297 *e*P **P 10 15 17.4 -0.7**
MKAR Makanchi Array 46.64 297 P **P 10 15 17.2 -0.9**
MKAR PcP PcP 10 16 51.1 -0.2
MKAR LR LR 10 36 04.8
MKAR Makanchi Array 46.64 297 P **P 10 15 17.2 -0.9**
MKAR 10 16 51.2
MKAR pmax pmax
comp=Z,7.0nm,0.5s
MKAR MLR MLR
comp=Z,351nm,18.9s
MKAR Makanchi Array 46.64 297 P **P 10 15 17.2 -0.9**
comp=Z,6.7nm,0.5s,mb4.8,baz=67,slow=7.7,SNR=42
MKAR PcP PcP 10 16 51.1 -0.2
comp=Z,4.7nm,0.6s,baz=60,slow=4.8,SNR=8.7
MKAR LR LR 10 36 04.8
comp=Z,351nm,18.9s,MS4.3,baz=251,slow=38
KURK Kurchatov 47.09 303 P **P 10 15 20.4 -1.2**
comp=Z,93nm,0.5s,mb6.0,SNR=14
KURK Kurchatov 47.09 303 *e*P **P 10 15 20.5 -1.1**
comp=Z,10nm,0.7s,mb4.9
KURK Kurchatov 47.09 303 *e*P **P 10 15 20.5 -1.1**
KURK pmax pmax
comp=Z,10.0nm,0.7s,mb4.8
LSA Lhasa 49.89 273 P **P 10 15 45.5 +2.1**
LSA AMB AMB
comp=Z,20nm,1.0s,mb5.1
LSA Lhasa 49.89 273 *e*P **P 10 15 45.9 +2.5**
comp=Z,24nm,0.6s,mb5.4
LSA Lhasa 49.89 273 *e*P **P 10 15 45.9 +2.5**
LSA pmax pmax
comp=Z,24nm,0.6s,mb5.4
BRVK Borovoye 50.65 309 P **P 10 15 48.8 -0.1**
comp=Z,92nm,0.6s,mb5.9,SNR=5.9
BRVK Borovoye 50.65 309 *e*P **P 10 15 48.2 -0.7**
RES Resolute Bay 51.04 18 *e*P **P 10 15 50.9 -0.5**
YKW3 Yellowknife Ar 51.19 36 *e*P **P 10 15 52.8 0.0**
YKA Yellowknife Ar 51.22 37 P **P 10 15 52.9 -0.1**
YKA PcP PcP 10 17 07.4 -0.3
YKA Yellowknife Ar 51.22 37 P **P 10 15 52.8 -0.2**
YKA 10 17 07.4
YKA pmax pmax
comp=Z,2.0nm,0.5s
YKA Yellowknife Ar 51.22 37 P **P 10 15 52.8 -0.1**
comp=Z,2.3nm,0.5s,mb4.3,baz=297,slow=7.0,SNR=102
YKA PcP PcP 10 17 07.4 -0.3
comp=Z,1.4nm,0.5s,baz=304,slow=3.7,SNR=12
CHTO Chiang Mai 51.72 256 *e*P **P 10 15 58.4 +1.1**
TKM2 Tokmak 2 52.69 296 *e*P **P 10 16 04.7 +0.5**
comp=Z,3.7nm,0.7s,mb4.4
TKM2 Tokmak 2 52.69 296 *e*P **P 10 16 04.7 +0.5**
TKM2 pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
TKM2 Tokmak 2 52.69 296 P **P 10 16 04.4 +0.2**
SNR=5.3
USP Ospenovka 53.18 297 P **P 10 16 07.9 +0.1**
SNR=15
KBK Karagaybulak 53.23 296 P **P 10 16 08.4 +0.2**
SNR=5.1
KZA Kyzart 53.36 295 P **P 10 16 10.1 +0.9**
SNR=9.2
AAK Ala-Archa 53.53 296 P **P 10 16 09.0 -1.4**
comp=Z,54nm,0.8s,mb5.5,SNR=5.0
AAK Ala-Archa 53.53 296 *e*P **P 10 16 09.4 -1.0**
AAK Ala-Archa 53.53 296 ⇑*e*P **P 10 16 08.3 -2.1**
AAK pmax pmax
comp=Z,10.0nm,1.3s,mb4.6
AAK Ala-Archa 53.53 296 P **P 10 16 10.4 0.0**
SNR=7.6
EKS2 Erkin-Say 53.95 297 *e*P **P 10 16 14.0 +0.5**
comp=Z,7.9nm,0.8s,mb4.7
AML Almayashu 54.30 296 *e*P **P 10 16 17.4 +1.4**
comp=Z,5.1nm,0.8s,mb4.5
AML Almayashu 54.30 296 P **P 10 16 13.6 -2.4**
SNR=6.4
JIRN Jiri 54.57 274 *e*P **P 10 16 19.5 +1.3**
comp=Z,22nm,0.3s,mb5.7
GUN Gumba 54.62 275 *e*P **P 10 16 19.6 +1.0**
comp=Z,45nm,0.5s,mb5.7
B05A Bryant 54.78 55 ⇑P **P 10 16 19.3 -0.1**
baz=55
ARU Arti 54.81 317 *e*P **P 10 16 18.6 -1.0**
ARU Arti 54.81 317 *d*P **P 10 16 17.9 -1.6**
ARU *e* 10 18 18.8
ARU *e*S **S 10 23 59.0 +2.1**
ARU *e*SS SS 10 27 38.0 -1.8
ARU pmax pmax
comp=Z,6.0nm,0.5s,mb4.9
KKN Kakani 55.11 275 *e*P **P 10 16 23.2 +1.1**
comp=Z,98nm,0.7s,mb6.0
PKI Pulchoki 55.16 275 *e*P **P 10 16 23.4 +1.0**
comp=Z,34nm,0.8s,mb5.5
A07A Ashnola River, 55.30 53 ⇓P **P 10 16 22.6 -0.6**
baz=55
E04A Onalaska 55.34 57 ⇓P **P 10 16 23.4 -0.1**
baz=55
DMN Daman 55.34 275 *e*P **P 10 16 25.0 +1.2**
comp=Z,116nm,0.8s,mb6.0
GKN Gorkha 55.42 276 *e*P **P 10 16 25.4 +1.1**
comp=Z,124nm,0.6s,mb6.1
D05A Enumclaw 55.43 56 ⇑P **P 10 16 23.5 -0.6**
baz=55
KK31 Karatay Array 55.70 299 *i*P **P 10 16 25.2 -0.9**
KK31 pmax pmax
comp=Z,2.0nm,0.5s,mb4.4
B07A Winthrop 55.77 54 ⇑P **P 10 16 26.0 -0.6**
baz=56
DANN Dangsing 55.80 277 *e*P **P 10 16 28.5 +1.5**
comp=Z,135nm,0.6s,mb6.2
A08A Turner Farm, O 55.97 53 ⇑P **P 10 16 27.7 -0.2**
baz=56
D06A Cle Elum 56.08 55 ⇑P **P 10 16 28.5 -0.2**
baz=56
B08A Colville Reser 56.27 53 ⇑P **P 10 16 29.6 -0.4**
baz=56
KOLN Koldanda 56.27 276 *e*P **P 10 16 31.7 +1.3**
comp=Z,100nm,0.7s,mb5.9
A09A Danville 56.33 52 ⇑P **P 10 16 30.2 -0.3**
baz=56
EDM Edmonton 56.65 46 *e*P **P 10 16 32.6 -0.2**
DAG Danmarks Havn 56.71 358 ⇑*i*P **P 10 16 32.1 -0.8**
DAG pmax pmax
comp=Z,4.0nm,0.5s,mb4.7
DAG Danmarks Havn 56.71 358 ⇑*i*P **P 10 16 32.1 -0.8**
comp=Z,4.2nm,0.5s,mb4.7
I04A Tendick Farm, 57.10 59 ⇓P **P 10 16 35.7 -0.4**
baz=57
C09A Chrisman Ranch 57.17 53 ⇓P **P 10 16 35.9 -0.6**
baz=57
KEV Kevo 57.29 340 *e*p **P 10 16 34.9 -2.1**
comp=Z,2.7nm,0.5s,mb4.5
KEV Kevo 57.29 340 *e*P **P 10 16 34.9 -2.1**
KEV pmax pmax
comp=Z,3.0nm,0.5s,mb4.6
H05A Madras 57.30 58 ⇑P **P 10 16 36.9 -0.5**
baz=57
A11A Hall Mountain, 57.54 51 ⇑P **P 10 16 38.7 -0.4**
baz=57
H06A Lindquist Farm 57.77 57 ⇑P **P 10 16 40.6 -0.2**
baz=58
ARCES ARCESS Array B 57.80 341 P **P 10 16 39.9 -0.8**
ARCES PcP PcP 10 17 32.7 -0.1
ARCES LR LR 10 44 13.2
ARCES ARCESS Array B 57.80 341 P **P 10 16 39.9 -0.7**
ARCES 10 17 32.7
ARCES pmax pmax
comp=Z,2.0nm,0.4s
ARCES MLR MLR
comp=Z,84nm,19.3s
ARCES ARCESS Array B 57.80 341 P **P 10 16 39.9 -0.8**
comp=Z,2.1nm,0.4s,mb4.5,baz=25,slow=7.6,SNR=24
ARCES PcP PcP 10 17 32.7 -0.1
comp=Z,4.8nm,0.9s,baz=9.8,slow=7.9,SNR=5.1
ARCES LR LR 10 44 13.2
comp=Z,84nm,19.3s,MS3.9,baz=288,slow=39
J05A Fort Rock 58.09 59 ⇑P **P 10 16 42.9 -0.1**
baz=58
YBH Yreka Blue Hor 58.12 61 ⇑P **P 10 16 43.3 0.0**
baz=58
M02C Callahan 58.24 62 ⇓P **P 10 16 44.2 +0.1**
baz=58
G08A Pilot Rock 58.24 56 ⇓P **P 10 16 43.9 -0.2**
baz=58
I06A Prineville 58.31 58 ⇓P **P 10 16 44.5 0.0**
baz=58
DLH Dalhousie 58.46 285 *e*P **P 10 16 45.0 -0.8**
AKTO Aktyubinsk 58.49 312 *i*P **P 10 16 44.5 -1.2**
SMLA Simla 58.53 283 *e*P **P 10 16 46.8 +0.5**
E10A Myers Farm, Un 58.58 54 ⇑P **P 10 16 46.5 +0.1**
baz=58
F09A S2 Ranch, Elgi 58.59 55 ⇓P **P 10 16 46.4 0.0**
baz=58
A13A Flathead Natio 58.60 50 ⇑P **P 10 16 46.4 -0.1**
baz=58
M04C Macdoel 58.62 61 ⇓P **P 10 16 46.6 -0.1**
baz=58
K05A Summer Lake 58.62 59 ⇓P **P 10 16 46.9 +0.1**
baz=58
D11A Klaveano Farm, 58.68 53 ⇓P **P 10 16 46.9 -0.2**
baz=58
J06A Christmas Vall 58.75 59 ⇑P **P 10 16 47.6 0.0**
baz=58
M03C McCloud 58.75 61 ⇑P **P 10 16 46.8 -0.9**
baz=59
WALA Waterton Lakes 58.79 50 *e*P **P 10 16 48.1 +0.2**
comp=Z,9.0nm,1.0s,mb4.8
WALA *e*P 10 16 48.3
H08A Prairie City 58.86 57 ⇓P **P 10 16 48.3 0.0**
baz=59
B13A Whitefish 58.90 51 ⇓P **P 10 16 48.6 -0.1**
baz=59,SNR=9.8
K06A Valley Falls 58.96 59 ⇑P **P 10 16 49.2 +0.1**
baz=59,SNR=5.4
O02C Red Bluff 59.00 63 ⇓P **P 10 16 49.4 0.0**
baz=59
L05A Lakeview 59.06 60 ⇑P **P 10 16 50.1 +0.2**
baz=59
J07A Hines 59.17 58 ⇓P **P 10 16 50.4 -0.1**
baz=59
D12A Red Ives Fores 59.21 53 ⇓P **P 10 16 50.6 -0.2**
baz=59
C13A Hot Springs 59.26 52 ⇑P **P 10 16 50.6 -0.5**
baz=59
I08A Drewsey 59.28 57 ⇓P **P 10 16 51.1 -0.1**
baz=59
G10A Bishop Farm, J 59.28 55 ⇑P **P 10 16 51.0 -0.3**
baz=59,SNR=6.1
BMO Blue Mountains 59.44 56 *e*P **P 10 16 55.5 +3.2**
MOD Modoc 59.47 60 ⇓P **P 10 16 52.5 -0.1**
baz=59
O03C Acorn Hollow, 59.57 63 ⇑P **P 10 16 53.1 -0.2**
baz=59
K07A Rock Creek Ran 59.62 59 ⇑P **P 10 16 53.5 -0.1**
baz=59
C14A Swan Lake 59.65 51 ⇓P **P 10 16 53.8 0.0**
baz=59
J08A Circle Bar Ran 59.67 58 ⇓P **P 10 16 54.0 0.0**
baz=60
D13A Huson 59.68 52 ⇓P **P 10 16 53.8 -0.2**
baz=60
G11A Walters Elk Ra 59.70 55 ⇓P **P 10 16 54.1 0.0**
baz=60
I09A Lost Marbles R 59.72 57 ⇑P **P 10 16 53.9 -0.4**
baz=60
H10A Noah's Angus R 59.92 56 ⇓P **P 10 16 55.8 +0.1**
baz=60
O04C Chester 59.95 62 ⇓P **P 10 16 55.9 -0.1**
baz=60
L07A Adell 59.97 59 ⇑P **P 10 16 56.4 +0.4**
baz=60
K08A Mann Creek Ran 60.04 58 ⇓P **P 10 16 56.7 +0.1**
baz=60
NDI New Delhi 60.04 281 *e*P **P 10 16 56.0 -0.7**
F12A Elk City 60.05 54 ⇑P **P 10 16 56.5 0.0**
baz=60
J09A Fry Pan Ranch, 60.09 57 ⇓P **P 10 16 57.2 +0.4**
baz=60
MSO Missoula 60.12 52 *e*P **P 10 16 57.2 +0.2**
comp=Z,10nm,1.3s,mb4.7
WVOR Wild Horse Val 60.13 59 P **P 10 16 57.8 +0.6**
WVOR pmax pmax
comp=Z,10.0nm,1.0s,mb4.8
D14A Greenough 60.20 52 P **P 10 16 57.7 +0.1**
baz=60,SNR=8.2
H11A Donnelly 60.26 55 ⇓P **P 10 16 57.6 -0.4**
baz=60
CHMT Chamberlain Mo 60.44 52 *e*P **P 10 16 59.4 +0.2**
N06A Buffalo Meadow 60.45 61 ⇓P **P 10 16 58.9 -0.5**
baz=60
L08A Fields 60.45 59 ⇑P **P 10 16 59.2 -0.1**
baz=60
M07A Soldier Meadow 60.45 60 ⇑P **P 10 16 59.6 +0.3**

baz=60
K09A **Rome** 60.50 58 ⇑P P 10 16 59.5 -0.3
baz=60
F13A **Darby** 60.54 53 ⇓P P 10 16 59.6 -0.3
baz=60
E14A **Clinton** 60.62 52 ⇓P P 10 17 00.4 0.0
baz=60
BEKR **Beckwourth** 60.67 62 ⇓P P 10 17 00.8 -0.1
baz=60
KULM **Kulim** 60.69 244 *eP* P 10 17 01.9 +0.5
D15A **Lincoln** 60.76 51 ⇑P P 10 17 01.2 -0.2
baz=60
I11A **Placerville** 60.78 56 ⇓P P 10 17 01.4 -0.1
baz=61
O06A **Flanigan** 60.81 61 ⇓P P 10 17 02.2 +0.4
baz=61
M08A **Happy Creek Ra** 60.89 59 ⇓P P 10 17 02.2 -0.1
baz=61
N07B **Gerlach** 60.95 60 ⇓P P 10 17 02.8 0.0
baz=61
K10A **MacKenzie Ranc** 60.95 57 ⇓P P 10 17 02.8 0.0
baz=61
L09A **Wilkinson Ranc** 60.95 58 ⇓P P 10 17 02.8 0.0
baz=61
H12A **Diamond D Ranc** 61.01 55 ⇑P P 10 17 03.1 0.0
baz=61
G13A **Cobalt** 61.02 54 P P 10 17 03.2 0.0
baz=61,SNR=6.9
FFC **Flin Flon** 61.05 40 P P 10 17 03.0 -0.2
comp=Z,97nm,1.0s,mb5.9,SNR=10
FFC **Flin Flon** 61.05 40 *eP* P 10 17 03.3 +0.1
E15A **Deer Lodge** 61.07 52 ⇑P P 10 17 03.2 -0.3
baz=61
LAVA **Lava Cap Winer** 61.12 63 ⇑P P 10 17 03.9 -0.1
baz=61
MFID **Camas Ranch** 61.16 56 ⇓P P 10 17 03.8 -0.4
baz=61
JOF **Joensuu** 61.24 333 *ep* P 10 17 02.7 -1.7
comp=Z,8.3nm,0.5s,mb5.1
H13A **Challis** 61.34 54 P P 10 17 05.3 0.0
baz=61,SNR=5.5
WCN **Washoe City** 61.38 62 ⇑P P 10 17 05.8 0.0
baz=61
K11A **Parker Ranch,** 61.44 57 ⇑P P 10 17 05.7 -0.4
baz=61
N08A **GE Springer Mi** 61.44 60 ⇓P P 10 17 05.7 -0.5
baz=61
F15A **Butte** 61.52 52 ⇑P P 10 17 06.6 +0.1
baz=61,SNR=5.5
FCC **Fort Churchill** 61.54 33 *eP* P 10 17 05.9 -0.6
LRM **Limekiln Ridge** 61.55 52 *eP* P 10 17 07.4 +0.6
EGMT **Eagleton** 61.61 49 ⇑P P 10 17 06.9 -0.2
baz=61
L10A **Juniper Basin** 61.62 58 ⇓P P 10 17 07.2 -0.1
baz=61
J12A **Stokes Ranch,** 61.68 56 ⇑P P 10 17 08.2 +0.5
baz=62
KBL **Kabul** 61.74 291 *eP* P 10 17 07.8 -0.4
comp=Z,16nm,0.6s,mb5.3
N09A **Rock Creek Ran** 61.76 59 ⇓P P 10 17 07.7 -0.6
baz=62
CMB **Columbia Colle** 61.79 64 *eP* pP 10 17 22.7 +1.5
CMB **Columbia Colle** 61.79 64 ⇓P P 10 17 08.3 -0.2
baz=62
I13A **Wildhorse Cree** 61.82 55 ⇓P P 10 17 08.6 0.0
baz=62
PACP **Pacheco Peak** 61.87 65 ⇑P P 10 17 09.3 +0.2
baz=62
HLID **Hailey** 61.87 55 ⇑P P 10 17 08.8 -0.1
baz=62
M10A **I.L. Ranch, Tu** 61.92 58 ⇓P P 10 17 09.5 +0.1
baz=62
G15A **Dillon** 61.94 53 P P 10 17 09.8 +0.4
baz=62,SNR=5.5
L11A **Cat Creek Ranc** 61.98 57 ⇑P P 10 17 10.1 +0.4
baz=62
R06C **Coleville** 62.06 63 ⇑P P 10 17 10.5 +0.2
baz=62
BOZ **Bozeman (W)** 62.11 52 *eP* P 10 17 11.2 +0.7
comp=Z,18nm,1.5s,mb5.0
BOZ **Bozeman (W)** 62.11 52 *eP* P 10 17 11.2 +0.7
BOZ pmax pmax
comp=Z,18nm,1.5s,mb5.0
BOZ **Bozeman (W)** 62.11 52 ⇑P P 10 17 10.6 +0.1
baz=62,SNR=7.4
J13A **Cove Ranch, Pi** 62.11 55 ⇑P P 10 17 11.0 +0.4
baz=62
K12A **Draper Farm, C** 62.18 56 ⇓P P 10 17 10.7 -0.4
baz=62
O09A **Fish Creek Ran** 62.39 60 ⇑P P 10 17 13.0 +0.5
baz=62
L12A **House Creek Ra** 62.42 57 ⇑P P 10 17 12.8 +0.1
baz=62
M11A **Holland Ranch,** 62.42 58 ⇓P P 10 17 12.8 +0.2
baz=62
R07C **Lee Vining** 62.58 63 ⇓P P 10 17 14.2 +0.4
baz=62
QLMT **Earthquake Lak** 62.74 53 *eP* P 10 17 15.6 +0.9
Q08A **Gabbs** 62.77 61 ⇑P P 10 17 15.0 -0.1
baz=63
NVAR **Mina Array Bea** 62.81 62 P P 10 17 15.9 +0.6
NVAR pP pP 10 17 29.9 +1.9
NVAR **Mina Array Bea** 62.81 62 P P 10 17 15.9 +0.6
comp=Z,1.2nm,0.6s,mb4.2,baz=287,slow=9.0,SNR=10
NVAR pP pP 10 17 29.9 +1.9
comp=Z,3.6nm,0.7s,baz=310,slow=6.0,SNR=16
N11A **Elko Archery C** 62.84 59 ⇑P P 10 17 15.9 +0.4
baz=63
T06C **Millerton Lake** 62.85 64 ⇓P P 10 17 16.1 +0.5
baz=63
M12A **Wells** 62.94 58 ⇑P P 10 17 16.7 +0.5
baz=63
L13A **Double Diamond** 63.07 56 ⇓P P 10 17 17.4 +0.4
baz=63
VIS **Vishakhapatnam** 63.12 268 *eP* P 10 17 17.9 +0.3
P10A **Eureka** 63.17 60 ⇑P P 10 17 17.8 +0.2
baz=63
K14A **Jones Ranch, D** 63.22 56 ⇓P P 10 17 17.6 -0.4
baz=63
N12A **Clover Valley,** 63.23 58 ⇑P P 10 17 18.2 +0.2
baz=63
O11A **Cowboy Ranch,** 63.32 59 ⇓P P 10 17 18.5 -0.2
baz=63
M13A **Montello** 63.41 57 ⇑P P 10 17 19.6 +0.4
baz=63
BHPL **Bhopal** 63.44 276 *eP* P 10 17 19.7 0.0
BHPL AMb AMB 10 17 21.1
comp=Z,39nm,1.1s,mb5.5
HELL **Mitchell Peak** 63.48 64 ⇓P P 10 17 19.4 -0.4
baz=63
S08C **White Mtn Res** 63.48 63 ⇓P P 10 17 20.1 +0.3
baz=63
IMW **Indian Meadow** 63.61 53 *eP* P 10 17 21.6 +1.2
comp=Z,10nm,1.2s,mb4.7
DCID1 **Drake Creek** 63.67 54 *eP* P 10 17 23.5 +2.6
R09A **Tonopah** 63.68 61 ⇑P P 10 17 20.7 -0.4
baz=64
PSI **Prapat** 63.70 244 P P 10 17 21.9 +0.4
PSI pmax pmax
comp=Z,11nm,0.9s,mb4.9
PSI **Prapat** 63.70 244 P P 10 17 21.9 +0.4
comp=Z,11nm,0.8s,mb4.9,baz=335,slow=2.3,SNR=11
N13A **Wendover, West** 63.71 58 ⇑P P 10 17 21.3 0.0
baz=64
Q10A **Clear Creek Ra** 63.71 61 ⇑P P 10 17 21.4 +0.1
baz=64
RLMT **Red Lodge** 63.73 51 *eP* P 10 17 21.9 +0.7
RLMT *epP* pP 10 17 33.1 -0.8
NGP **Nagpur** 63.73 274 *eP* P 10 17 20.9 -0.8
NGP AMb AMB 10 17 22.1
comp=Z,29nm,1.0s,mb5.3
O12A **Currie** 63.77 58 ⇑P P 10 17 21.7 +0.1
baz=64
M14A **Sheep Mountain** 63.79 57 ⇓P P 10 17 22.0 +0.3
baz=64
MOOW **Moose Ponds** 63.81 53 *eP* P 10 17 22.7 +0.8
TPAW **Teton Pass** 63.86 54 *eP* P 10 17 23.6 +1.4
comp=Z,17nm,1.1s,mb5.0
S09A **Goldfield** 63.92 62 ⇓P P 10 17 22.1 -0.5
baz=64
FIA1 **FINESS Array S** 63.95 335 *eP* P 10 17 21.6 -0.8
FINES **FINESS Array B** 63.95 335 P P 10 17 21.6 -0.9
FINES pmax pmax
comp=Z,16nm,0.5s
FINES MLR MLR
comp=Z,89nm,20.8s
FINES **FINESS Array B** 63.95 335 P P 10 17 21.6 -0.9
comp=Z,16nm,0.5s,mb5.3,baz=37,slow=8.0,SNR=93
FINES LR LR 10 46 51.4
comp=Z,89nm,20.8s,MS3.9,baz=322,slow=38
LOHW **Long Hollow** 63.98 53 *eP* P 10 17 23.8 +0.8
comp=Z,17nm,1.4s,mb4.9
LOHW *epP* pP 10 17 33.7 -1.9
SNOW **Snow King Moun** 63.99 54 *eP* P 10 17 24.5 +1.5
comp=Z,16nm,1.2s,mb4.9
REDW **Red Top Meadow** 64.00 54 *eP* P 10 17 24.4 +1.3
comp=Z,14nm,1.0s,mb4.9
R10A **Warm Springs** 64.11 61 ⇓P P 10 17 23.8 -0.2
baz=64
PKM **Peak Mountain** 64.13 66 ⇓P P 10 17 25.0 +0.9
baz=64
DGMT **Dagmar** 64.14 46 *eP* P 10 17 24.3 +0.4
comp=Z,15nm,0.8s,mb5.1
DGMT *epP* pP 10 17 38.2 +1.5
Q11A **Duckwater** 64.15 60 ⇑P P 10 17 23.6 -0.5
baz=64
S10A **Tonopah Range,** 64.17 61 ⇑P P 10 17 24.7 +0.3
baz=64
N14A **Grayback Hills** 64.30 57 ⇑P P 10 17 24.9 -0.2
baz=64
M15A **Larsen Ranch,** 64.33 56 P P 10 17 26.0 +0.7
baz=64,SNR=6.4
R11A **Troy Canyon, C** 64.51 61 ⇑P P 10 17 26.3 -0.2
baz=64
P13A **Bates Ranch, G** 64.72 59 ⇑P P 10 17 28.2 +0.3
baz=64
HWUT **Hardware Ranch** 64.74 56 *eP* P 10 17 28.3 +0.3
comp=Z,7.8nm,1.0s,mb4.7
MPMC **Manual Prospec** 64.83 64 ⇑P P 10 17 28.4 -0.2
baz=65
DUG **Dugway** 64.94 57 *eP* P 10 17 30.0 +0.7
comp=Z,18nm,1.3s,mb5.0
DUG **Dugway** 64.94 57 *eP* P 10 17 30.0 +0.7
DUG pmax pmax
comp=Z,18nm,1.3s,mb4.9
DUG **Dugway** 64.94 57 ⇑P P 10 17 29.8 +0.4
baz=65
FURC **Furnace Creek,** 64.95 63 ⇑P P 10 17 29.7 +0.2
baz=65
Q13A **Wheeler Ranch,** 65.05 59 ⇓P P 10 17 30.0 0.0
baz=65
LRMC **Laurel Mountai** 65.08 64 ⇓P P 10 17 30.1 -0.2
baz=65
R12A **Pony Springs,** 65.11 60 ⇓P P 10 17 30.6 +0.2
baz=65
BW06 **Boulder Array** 65.11 54 *eP* P 10 17 30.7 +0.3
PDAR **Pinedale Array** 65.11 54 P P 10 17 30.6 +0.2
comp=Z,2.6nm,0.9s,mb4.2,baz=299,slow=3.1,SNR=17
PDAR pP pP 10 17 44.6 +1.6
comp=Z,5.0nm,0.9s,baz=302,slow=2.8,SNR=13
OBN **Obninsk** 65.16 325 *eP* P 10 17 31.2 +0.7
OBN *e* 10 18 01.7
OBN pmax pmax
comp=Z,5.0nm,0.8s,mb4.6
OBN MLR MLR
comp=Z,100nm,16.0s,MS4.1
EDW2 **Edwards Air Fo** 65.28 65 ⇓P P 10 17 31.2 -0.4
baz=65
U10A **Ash Meadows, A** 65.31 63 ⇓P P 10 17 31.1 -0.6
baz=65
AKL **Akola** 65.43 275 *ex* x 10 16 07.8
S12A **Delamar Landin** 65.43 61 ⇓P P 10 17 32.2 -0.3
baz=65
T11A **Corn Creek, Al** 65.45 61 ⇑P P 10 17 32.5 -0.1
baz=65
MWC **Mount Wilson** 65.67 65 *eP* pP 10 17 44.4 -2.4
DAU **Daniels Canyon** 65.70 56 *eP* P 10 17 35.8 +1.6
GSC **Goldstone** 65.74 64 ⇓P P 10 17 34.3 -0.2
baz=66
U11A **Corn Creek** 65.88 62 ⇑P P 10 17 35.4 0.0
baz=66
BFSC **Mount Baldy St** 65.91 65 ⇓P P 10 17 35.3 -0.3
baz=66
R14A **James Farms, M** 66.07 59 ⇑P P 10 17 36.2 -0.4
baz=66
TUQ **Turquoise Mtn.** 66.20 63 ⇑P P 10 17 37.3 -0.2
baz=66
V11A **Goodsprings** 66.24 63 ⇓P P 10 17 37.9 +0.1
baz=66
S14A **Cedar City** 66.33 60 ⇑P P 10 17 37.7 -0.6
baz=66
HEC **Hector,Ludlow** 66.35 64 ⇑P P 10 17 38.3 -0.1
baz=66
T13A **Saint George** 66.38 61 ⇓P P 10 17 38.6 0.0
baz=66
MSU **Marysvale** 66.42 58 *eP* P 10 17 39.7 +0.9
HYB **Hyderabad** 66.61 271 *eP* P 10 17 40.5 +0.1
HYB **Hyderabad** 66.61 271 *i P* P 10 17 40.5 +0.1
U13A **Pakoon Wash** 66.75 61 ⇑P P 10 17 41.2 +0.3
baz=66
GMRC **Granite Mounta** 66.80 64 ⇓P P 10 17 41.3 0.0
baz=67
T14A **Hurricane** 66.85 60 ⇓P P 10 17 41.5 -0.1
baz=67
SRU **San Rafael** 66.99 57 *eP* P 10 17 42.5 0.0
BELC **Belle Mtn.** 67.10 64 ⇑P P 10 17 43.0 -0.3
baz=67
V13A **Grand Canyon W** 67.11 62 ⇓P P 10 17 43.7 +0.4
baz=67
U14A **Mt Trumbull** 67.22 61 ⇑P P 10 17 44.0 0.0
baz=67
LATR **Latur** 67.30 273 *eP* P 10 17 44.0 -0.7
IRM **Iron Mountain** 67.52 64 ⇑P P 10 17 45.8 -0.2
baz=67
BC3 **Big Chuckw Mtn** 67.67 64 ⇑P P 10 17 46.3 -0.6
baz=68
V14A **Boquillas Ranc** 67.79 61 ⇓P P 10 17 48.0 +0.4
baz=68
SWSC **Sam W. Stewart** 67.93 65 ⇑P P 10 17 48.5 0.0
baz=68
X13A **Yucca** 68.04 63 ⇑P P 10 17 49.2 0.0
baz=68
PDMCI **Parker Dam,Lak** 68.05 63 ⇑P P 10 17 49.4 +0.2
baz=68
W14A **Seligman** 68.08 62 ⇓P P 10 17 49.5 0.0
baz=68
Y12C **Blythe** 68.18 64 ⇑P P 10 17 49.6 -0.4
baz=68
NB2 **NORSAR Subarra** 68.18 341 P P 10 17 49.0 -0.6
comp=Z,17nm,0.7s,mb5.2,baz=28,slow=6.5
NOA **NORSAR Array B** 68.18 341 P P 10 17 49.0 -0.6
NOA LR LR 10 50 29.7
NOA **NORSAR Array B** 68.18 341 P P 10 17 49.1 -0.5
NOA pmax pmax
comp=Z,14nm,0.6s
NOA MLR MLR
comp=Z,62nm,18.2s
NOA **NORSAR Array B** 68.18 341 P P 10 17 49.0 -0.6
comp=Z,14nm,0.6s,mb5.2,baz=27,slow=6.3,SNR=77
NOA LR LR 10 50 29.7
comp=Z,62nm,18.2s,MS3.9,baz=0.0,slow=38
AGMN **Agassiz Refuge** 68.25 42 *eP* P 10 17 49.5 -0.8
comp=Z,9.2nm,1.3s,mb4.7
WRAB **Tennant Creek** 68.30 198 *eP* P 10 17 50.1 -0.6
WB2 **Warramunga Arr** 68.31 198 *eP* P 10 17 49.9 -0.9
WRA **Warramunga Arr** 68.31 198 P P 10 17 49.7 -1.1
WRA *PP pP 10 18 05.2 +1.6
WRA pmax pmax
comp=Z,3.0nm,0.8s
WRA MLR MLR
comp=Z,63nm,18.2s
WRA **Warramunga Arr** 68.31 198 P P 10 17 49.7 -1.1
comp=Z,3.1nm,0.8s,mb4.4,baz=17,slow=6.7,SNR=16
WRA pP pP 10 18 05.2 +1.6
comp=Z,3.4nm,0.8s,baz=17,slow=6.9,SNR=8.7
WRA LR LR 10 51 29.4
comp=Z,63nm,18.1s,MS3.9,baz=275,slow=39
PV10 **Paradox Valley** 68.34 57 *eP* P 10 17 51.8 +0.8
NAO01 **NORSAR Array S** 68.43 341 *eP* P 10 17 50.7 -0.5
comp=Z,3.6nm,0.4s,mb4.8
GLA **Glamis** 68.46 64 ⇓P P 10 17 51.4 -0.4
baz=68
Y13A **Salome** 68.57 63 ⇓P P 10 17 52.3 -0.2
baz=68
PV01 **Paradox Valley** 68.77 57 *eP* P 10 17 53.4 -0.3
FITZ **Fitzroy Crossi** 68.89 207 *eP* P 10 17 54.5 0.0
comp=Z,8.6nm,0.8s,mb4.7
FITZ **Fitzroy Crossi** 68.89 207 P P 10 17 53.9 -0.6
comp=Z,4.3nm,0.8s,mb4.4,baz=13,slow=5.0,SNR=7.8
SMCO **Snowmass** 68.97 55 *eP* P 10 17 55.4 +0.4
Y14A **Wickenburg** 68.99 63 ⇑P P 10 17 54.8 -0.3
baz=69
POO **Poona** 69.08 275 *eP* P 10 17 55.8 -0.1
X15A **Humboldt** 69.08 62 ⇓P P 10 17 55.9 +0.2
baz=69
ISCO **Idaho Springs** 69.30 54 *eP* P 10 17 57.8 +0.8
Y15A **Casa Rosa Ranc** 69.39 62 ⇓P P 10 17 57.4 -0.2
baz=69
MVCO **Mesa Verde** 69.45 57 *eP* pP 10 18 12.4 +1.7
X16A **Lo Mia Camp, P** 69.61 61 ⇓P P 10 17 59.4 +0.4
baz=69
KAD **Karad** 69.69 274 *eP* P 10 17 59.2 -0.5
Y16A **Circle Bar Ran** 69.96 62 ⇑P P 10 18 00.7 -0.4
baz=70
X17A **Forest Lakes** 70.05 61 ⇓P P 10 18 02.0 +0.3
baz=70
115A **Sonoran Desert** 70.31 63 ⇓P P 10 18 03.5 +0.2
baz=70
Z16A **Peralta Trail,** 70.36 62 ⇓P P 10 18 03.8 +0.2
baz=70
Y17A **Roosevelt** 70.47 61 ⇓P P 10 18 04.4 +0.2
baz=70
EYMN **Ely** 70.48 40 *eP* P 10 18 02.9 -1.1
comp=Z,10.0nm,0.9s,mb4.8
KIV **Kislovodsk** 70.58 314 *eP* P 10 18 05.6 +0.9
KIV pmax pmax
comp=Z,12nm,0.7s,mb4.9
KIV MLR MLR
comp=Z,117nm,17.0s,MS4.2
SDCO **Great Sand Dun** 70.79 55 *eP* P 10 18 07.1 +1.0
X19A **St. Johns** 70.90 60 ⇑P P 10 18 07.6 +0.8
baz=71
Y18A **Canyon Day Jun** 70.90 61 ⇑P P 10 18 07.4 +0.6
baz=71
216A **Three Points,** 71.26 63 ⇑P P 10 18 09.4 +0.4
baz=71
117A **Oracle** 71.30 62 ⇑P P 10 18 09.5 +0.2
baz=71
AKASG **Malin Array Be** 71.40 326 P P 10 18 08.8 -0.8
AKASG pmax pmax
comp=Z,23nm,0.4s
AKASG MLR MLR
comp=Z,121nm,18.8s
AKASG **Malin Array Be** 71.40 326 P P 10 18 08.8 -0.8
comp=Z,23nm,0.4s,mb5.4,baz=35,slow=6.2,SNR=70
AKASG LR LR 10 51 42.9
comp=Z,121nm,18.8s,MS4.2,baz=45,slow=38
KIEV **Kiev** 71.41 326 *eP* P 10 18 08.5 -1.1
comp=Z,23nm,0.6s,mb5.3
KIEV **Kiev** 71.41 326 P P 10 18 08.6 -1.0
KIEV pmax pmax
comp=Z,23nm,0.6s,mb5.3
118A **Homack Ranch,** 71.72 62 ⇓P P 10 18 12.2 +0.3
baz=72
ASAR **Alice Springs** 72.01 198 P P 10 18 13.6 +0.2
ASAR pmax pmax
comp=Z,4.0nm,0.6s
ASAR **Alice Springs** 72.01 198 P P 10 18 13.6 +0.2
comp=Z,4.1nm,0.6s,mb4.5,baz=11,slow=5.4,SNR=86
218A **Dragoon** 72.14 62 ⇑P P 10 18 14.8 +0.5
baz=72
ANMO **Albuquerque** 72.20 58 *eP* P 10 18 15.3 +0.6
ANMO **Albuquerque** 72.20 58 ⇑*eP* P 10 18 15.6 +0.9
PALK **Pallekele** 72.30 262 *eP* P 10 18 16.1 +0.5
KOD **Kodaikanal** 72.40 266 *eP* P 10 18 16.1 0.0
KOD AMb AMB 10 18 24.3
comp=Z,13nm,0.6s,mb5.0
318A **Bisbee** 72.55 63 ⇑P P 10 18 17.3 +0.5
baz=72
219A **White Tail Can** 72.60 62 ⇓P P 10 18 17.5 +0.4
baz=72
COWI **Conover** 72.93 40 *eP* P 10 18 14.4 -4.4
319A **Douglas** 73.02 62 ⇓P P 10 18 20.0 +0.4
baz=73
SCHQ **Schefferville** 73.53 23 P P 10 18 21.6 -0.6
SCHQ *eP* 10 18 21.7
SCHQ **Schefferville** 73.53 23 P P 10 18 21.6 -0.6
comp=Z,2.5nm,0.5s,mb4.4,baz=298,slow=10,SNR=9.6
KWP **Kalwaria** 74.70 329 *eP* P 10 18 29.5 +0.4
comp=Z,36nm,0.8s,mb5.3
KWP **Kalwaria** 74.70 329 *eP* P 10 18 29.5 +0.4
KWP pmax pmax
comp=Z,36nm,0.8s,mb5.3
BSEG **Bad Segeberg** 74.76 338 *eP* P 10 18 29.2 -0.2
comp=Z,14nm,0.8s,mb4.9
OJC **Ojcow** 75.21 331 *eP* P 10 18 31.6 -0.4
STHS **Stebnicka Huta** 75.39 330 *eP* P 10 18 34.0 +0.9
comp=Z,13nm,0.7s,mb5.0
STHS **Stebnicka Huta** 75.39 330 *eP* P 10 18 34.0 +0.9
STHS pmax pmax
comp=Z,13nm,0.7s,mb5.0
KOLS **Kolonicke sedl** 75.44 329 *eP* P 10 18 33.3 -0.1
BURAR **Bucovina Array** 75.44 326 ⇓*i P* P 10 18 33.8 +0.4
CRVS **Cervenica-Dubn** 75.75 329 *eP* P 10 18 35.3 +0.1
CRVS **Cervenica-Dubn** 75.75 329 *eP* P 10 18 35.2 0.0
KSP **Ksiaz** 75.80 333 *eP* P 10 18 34.8 -0.6
OKC **Ostrava-Krasne** 76.08 332 *eP* P 10 18 38.4 +1.4
UPC **Upice** 76.18 333 *eP* P 10 18 37.7 +0.1
DPC **Dobruska-Polom** 76.22 333 *eP* P 10 18 38.1 +0.3
VRI **Vrincioaia** 76.29 324 ⇑*i P* P 10 18 38.9 +0.6
EKA **Eskdalemuir Ar** 76.33 346 P P 10 18 38.4 +0.1
EKA **Eskdalemuir Ar** 76.33 346 P P 10 18 38.4 +0.1
EKA pmax pmax
comp=Z,4.0nm,0.5s
EKA **Eskdalemuir Ar** 76.33 346 P P 10 18 38.4 +0.1
comp=Z,3.6nm,0.5s,mb4.6,baz=23,slow=4.8,SNR=8.1
MORC **Moravsky Berou** 76.33 332 *eP* P 10 18 38.8 +0.3
MORC **Moravsky Berou** 76.33 332 ⇓*i P* P 10 18 38.5 +0.1
CLL **Collm** 76.38 335 *eP* P 10 18 37.9 -0.8
comp=Z,28nm,0.7s,mb5.3
CLL **Collm** 76.38 335 *i P* P 10 18 38.0 -0.7
comp=Z,28nm,0.7s,mb5.3
CLL LmV 10 55 00.0
comp=Z,100nm,18.1s
KECS **Kecovo** 76.45 329 *eP* P 10 18 38.9 -0.2
comp=Z,5.2nm,0.9s,mb4.5
KECS **Kecovo** 76.45 329 *eP* P 10 18 38.9 -0.2
KECS pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
BRG **Berggiesshubel** 76.49 334 *eP* P 10 18 38.7 -0.6
comp=Z,6.0nm,0.7s,mb4.6
BRG **Berggiesshubel** 76.49 334 *e* P 10 18 39.0 -0.3
comp=Z,6.0nm,0.7s,mb4.6
CLZ **Clausthal** 76.64 337 *eP* P 10 18 40.3 +0.2
CLZ pmax pmax
comp=Z,22nm,0.9s,mb5.1
CLZ **Clausthal** 76.64 337 *eP* P 10 18 40.3 +0.2
comp=Z,22nm,0.9s,mb5.1
WMOK **Wichita Mounta** 76.72 53 *eP* P 10 18 40.4 -0.5
HARR **Harsova** 76.76 323 ⇓P P 10 18 41.2 +0.3
HARR **Harsova** 76.76 323 ⇓*i P* P 10 18 41.2 +0.3
IBBN **Ibbenburen** 76.89 339 *eP* P 10 18 41.2 -0.4
comp=Z,28nm,0.6s,mb5.4
MLR **Muntele Rosu** 76.91 325 ⇑P P 10 18 42.7 +0.9
MLR **Muntele Rosu** 76.91 325 ⇑*i P* P 10 18 42.7 +0.9
MALT **Malatya** 76.93 313 ⇑P P 10 18 43.4 +1.4
MALT **Malatya** 76.93 313 P P 10 18 43.5 +1.5
MALT pmax pmax
comp=Z,12nm,0.9s,mb4.8
MALT **Malatya** 76.93 313 ⇑*i P* P 10 18 43.4 +1.4
VYHS **Vyhne** 77.01 330 *i P* P 10 18 42.5 +0.2
comp=Z,6.8nm,1.1s,mb4.5
VYHS **Vyhne** 77.01 330 *i P* P 10 18 42.5 +0.2
VYHS pmax pmax
comp=Z,7.0nm,1.1s,mb4.5
VRAC **Vranov** 77.05 332 ⇓P P 10 18 43.1 +0.7
VRAC **Vranov** 77.05 332 ⇓*i P* P 10 18 43.1 +0.6
DRGR 77.08 327 ⇓P P 10 18 42.9 +0.2
DRGR 77.08 327 ⇓*i P* P 10 18 42.9 +0.2
PRU **Pruhonice** 77.09 334 *eP* P 10 18 42.8 +0.1
PSZ **Piszkesteto** 77.14 330 ⇓P P 10 18 43.6 +0.6
PSZ **Piszkesteto** 77.14 330 ⇓*i P* P 10 18 43.7 +0.7
TANN **Tannenbergstha** 77.33 335 *eP* P 10 18 43.6 -0.5
comp=Z,5.0nm,0.9s,mb4.4
MOX **Moxa** 77.37 336 *eP* P 10 18 44.0 -0.3
comp=Z,18nm,1.1s,mb4.9
MOX **Moxa** 77.37 336 *eP* P 10 18 44.0 -0.3
MOX pmax pmax
comp=Z,18nm,1.1s,mb4.9
MOX **Moxa** 77.37 336 *eP* P 10 18 43.9 -0.4
comp=Z,15nm,0.9s,mb4.9
TREC **Trest** 77.41 333 *eP* P 10 18 44.9 +0.4
WTSB **Winterswijk** 77.44 339 *eP* P 10 18 44.3 -0.3
comp=Z,29nm,0.5s,mb5.5
NKC **Novy Kostel** 77.50 335 *eP* P 10 18 45.2 +0.2
MODS **Modra-Piesok** 77.64 331 *eP* P 10 18 46.2 +0.4
UBBA **Unterbreizbach** 77.66 337 *eP* P 10 18 45.3 -0.6
comp=Z,8.0nm,0.9s,mb4.7
MANZ **Manzenberg** 77.82 335 *eP* P 10 18 46.5 -0.3

comp=Z,12nm,1.0s,mb4.8
ZST Bratislava 77.85 331 *e*P P **10 18 47.7 +0.7**
comp=Z,15nm,0.9s,mb4.9
ZST Bratislava 77.85 331 *e*P P **10 18 47.7 +0.7**
ZST pmax pmax
comp=Z,15nm,0.9s,mb4.9
TXAR Lajitas Array 77.87 60 P P **10 18 47.1 -0.3**
TXAR *PP pP 10 19 01.4 +1.0
TXAR pmax pmax
comp=Z,3.0nm,0.6s
TXAR Lajitas Array 77.87 60 P P **10 18 47.1 -0.4**
comp=Z,2.8nm,0.6s,mb4.3,baz=298,slow=4.2,SNR=47
TXAR pP pP 10 19 01.4 +1.0
comp=Z,8.5nm,0.7s,baz=308,slow=4.4,SNR=24
ROTZ Rotzenmuhle 77.99 335 *e*P P **10 18 47.7 0.0**
comp=Z,14nm,1.0s,mb4.8
KHC Kasperske Hory 78.14 334 *e*P P **10 18 48.9 +0.3**
CCM Cathedral Cave 78.17 46 *e*P P **10 18 47.7 -1.2**
GZR Gura Zlata 78.23 326 ⇓P P **10 18 49.1 -0.1**
GZR Gura Zlata 78.23 326 ⇓*i*P P **10 18 49.1 0.0**
GRA1 Grafenberg Arr 78.34 336 *e*P P **10 18 49.8 +0.1**
comp=Z,38nm,0.7s,mb5.4
GRF Grafenberg Arr 78.34 336 *e*P P **10 18 49.8 +0.1**
GRF pmax pmax
comp=Z,38nm,0.7s,mb5.4
GRF Grafenberg Arr 78.34 336 *e*P P **10 18 49.8 +0.1**
GRF pmax pmax
comp=Z,38nm,0.7s,mb5.4
GRF Grafenberg Arr 78.34 336 *e*P P **10 18 49.8 +0.1**
comp=Z,38nm,0.7s,mb5.4
UMR Umm Al-Rimmam 78.34 301 *e*P P **10 18 49.9 -0.2**
UMR AMb AMB 10 18 51.5
comp=Z,85nm,0.6s,mb5.8
WET Wettzell 78.34 334 *e*P P **10 18 49.9 +0.2**
WET pmax pmax
comp=Z,17nm,0.9s,mb5.0
WET Wettzell 78.34 334 *e*P P **10 18 49.9 +0.2**
comp=Z,17nm,0.9s,mb5.0
GEC2 GERESS Array S 78.36 334 *e*P P **10 18 49.4 -0.4**
GEC2 pmax pmax
comp=Z,8.0nm,0.7s,mb4.8
GEC2 GERESS Array S 78.36 334 *e*P P **10 18 49.4 -0.4**
comp=Z,8.0nm,0.7s,mb4.8
GERES GERESS Array B 78.36 334 P P **10 18 49.7 -0.1**
GERES pmax pmax
comp=Z,1.0nm,0.3s
GERES MLR MLR
comp=Z,124nm,18.6s
GERES GERESS Array B 78.36 334 P P **10 18 49.7 -0.1**
comp=Z,1.0nm,0.3s,mb4.2,baz=28,slow=4.4,SNR=38
GERES LR LR 10 55 57.4
comp=Z,124nm,18.6s,MS4.3,baz=41,slow=38
MIB Mutribah 78.38 301 *e*P P **10 18 50.4 +0.1**
MIB AMb AMB 10 18 51.5
comp=Z,108nm,0.7s,mb5.9
ANTO Ankara 78.47 317 *e*P P **10 18 51.4 +0.8**
comp=Z,10nm,0.7s,mb4.9
ANTO Ankara 78.47 317 P P **10 18 51.6 +1.0**
ANTO pmax pmax
comp=Z,10.0nm,0.7s,mb4.8
BZS Buzias 78.48 327 ⇑P P **10 18 49.6 -0.9**
BZS Buzias 78.48 327 ⇑*i*P P **10 18 49.6 -0.9**
CONA Conrad Observa 78.49 332 ⇑*i*pP P **10 18 50.8 +0.3**
comp=Z,14nm,0.9s,mb4.9,SNR=12
HGN Heimansgroeve 78.76 339 *e*P P **10 18 51.3 -0.7**
comp=Z,21nm,0.7s,mb5.2
NAY Al-Naaiem 78.84 301 *e*P P **10 18 52.2 -0.6**
NAY AMb AMB 10 18 54.5
comp=Z,35nm,0.9s,mb5.3
MEM Membach 78.89 339 P P **10 18 52.6 -0.1**
comp=Z,17nm,1.0s,mb4.9
RDF Al-Radifah 78.89 300 *e*P P **10 18 53.3 +0.2**
RDF AMb AMB 10 18 55.0
comp=Z,125nm,0.9s,mb5.8
PKSM Moragy 79.04 329 ⇓P P **10 18 53.0 -0.6**
PKSM Moragy 79.04 329 ⇓*i*P P **10 18 53.0 -0.6**
MOA Molln 79.07 333 ⇑*i*P P **10 18 53.7 0.0**
comp=Z,11nm,1.0s,mb4.7
ARSA Arzberg 79.19 332 ⇑*i*P P **10 18 54.7 +0.3**
comp=Z,16nm,1.3s,mb4.8
BCLA Clavier 79.24 339 P P **10 18 54.8 +0.2**
comp=Z,9.6nm,1.1s,mb4.6
JCT Junction City 79.30 57 *e*P P **10 18 55.4 +0.1**
GIVF Givet 79.65 340 *e*P P **10 18 56.1 -0.7**
FUR Furstenfeldbru 79.69 335 *e*P P **10 18 57.1 0.0**
FUR pmax pmax
comp=Z,42nm,1.3s,mb5.2
FUR Furstenfeldbru 79.69 335 *e*P P **10 18 57.1 0.0**
comp=Z,42nm,1.3s,mb5.2
WLF Walferdange 79.72 339 *e*P P **10 18 58.7 +1.5**
comp=Z,20nm,1.4s,mb4.8
STU Stuttgart 79.74 336 *e*P P **10 18 57.3 0.0**
comp=Z,25nm,1.0s,mb5.1
BAIF Baives 79.83 340 *e*P P **10 18 57.3 -0.5**
PERS Pernice 79.87 332 *e*P P **10 18 58.0 0.0**
KBA Koelnbreinsper 80.04 333 ⇑*i*P P **10 18 59.6 +0.6**
comp=Z,30nm,1.0s,mb5.2,SNR=14
KBA Koelnbreinsper 80.04 333 ⇑*i*pP P **10 18 59.6 +0.6**
comp=Z,30nm,1.0s,mb5.2,SNR=14
KBA Koelnbreinsper 80.04 333 ⇑*i*P P **10 18 59.6 +0.6**
KBA pmax pmax
comp=Z,30nm,1.0s,mb5.2
RAO Raoul Island 80.14 154 LR LR 10 49 51.5
comp=Z,236nm,18.4s,MS4.6,baz=142,slow=32
FORT Forrest 80.20 201 *e*P P **10 19 00.0 +0.2**
comp=Z,23nm,0.7s,mb5.2
SOF Sofiya 80.29 325 P P **10 19 00.7 +0.3**
ACSO Alum Creek Sta 80.32 40 *e*P P **10 18 59.9 -0.8**
MYKA Terra Mystica 80.35 333 ⇑*i*P P **10 19 00.1 -0.5**
comp=Z,11nm,1.0s,mb4.8
WATA Walderalm 80.35 334 ⇓*i*P P **10 19 01.2 +0.6**
comp=Z,10nm,0.7s,mb4.8
WATA Walderalm 80.35 334 ⇓*i*pP P **10 19 01.2 +0.6**
comp=Z,10nm,0.7s,mb4.8
WATA Walderalm 80.35 334 ⇓*i*P P **10 19 01.2 +0.5**
WATA pmax pmax
comp=Z,11nm,0.7s,mb4.9
GCIS Gornji Cirnik 80.38 331 *e*P P **10 19 00.5 -0.4**
BFO Black Forest 80.38 337 P P **10 19 00.4 -0.4**
comp=Z,104nm,0.9s,mb5.8,SNR=5.5
BFO Black Forest 80.38 337 *e*P P **10 19 00.6 -0.2**
BFO pmax pmax
comp=Z,18nm,0.9s,mb5.0
BFO Black Forest 80.38 337 *e*P P **10 19 00.6 -0.2**
comp=Z,18nm,0.9s,mb5.0
WTTA Wattenberg 80.40 334 ⇑*i*P P **10 19 01.2 +0.3**
comp=Z,17nm,0.7s,mb5.1,SNR=28
WTTA Wattenberg 80.40 334 ⇑*i*pP P **10 19 01.2 +0.3**
comp=Z,17nm,0.7s,mb5.1,SNR=28
WTTA Wattenberg 80.40 334 ⇑*i*P P **10 19 01.3 +0.4**
WTTA pmax pmax
comp=Z,17nm,0.7s,mb5.1
LEGS Legarje 80.41 331 *e*P P **10 19 00.4 -0.6**
VTS Vitosha 80.42 325 ⇑P P **10 19 00.9 -0.2**
VTS Vitosha 80.42 325 ⇑*i*P P **10 19 00.9 -0.2**
VTS Vitosha 80.42 325 P P **10 19 00.8 -0.3**
WCI Wyandotte Cave 80.43 43 *e*P P **10 19 00.3 -1.0**
MOTA Moosalm 80.48 335 ⇓*i*P P **10 19 01.8 +0.4**
comp=Z,17nm,0.9s,mb5.0
MOTA Moosalm 80.48 335 ⇓*i*pP P **10 19 01.8 +0.4**
comp=Z,17nm,0.9s,mb5.0
MOTA Moosalm 80.48 335 ⇓*i*P P **10 19 01.8 +0.4**
MOTA pmax pmax
comp=Z,17nm,0.9s,mb5.0
SQTA Sankt Quirin 80.56 334 ⇑*i*P P **10 19 02.3 +0.5**
comp=Z,15nm,1.0s,mb4.9
SQTA Sankt Quirin 80.56 334 ⇑*i*pP P **10 19 02.3 +0.5**
comp=Z,15nm,1.0s,mb4.9
SQTA Sankt Quirin 80.56 334 ⇑*i*P P **10 19 02.3 +0.5**
SQTA pmax pmax
comp=Z,15nm,1.0s,mb4.9
CDF Champ du Feu 80.59 337 *e*P P **10 19 01.5 -0.4**
comp=Z,41nm,0.9s,mb5.1
CDF Champ du Feu 80.59 337 *e*P P **10 19 01.5 -0.4**
comp=Z,20nm,0.9s,mb5.1
CDF Champ du Feu 80.59 337 *e*P P **10 19 01.5 -0.4**
CDF pmax pmax
comp=Z,21nm,0.9s,mb5.1
PTCC Patocco-Chiusa 80.64 333 P P **10 19 01.6 -0.6**
comp=Z,11nm,0.5s,mb5.0
JAVS Javornik 80.86 332 *e*P P **10 19 02.5 -1.0**
CEY Cerknica 80.89 332 *e*P P **10 19 02.6 -1.0**
FETA Feichten 80.89 335 ⇑*i*pP P **10 19 03.9 +0.4**
comp=Z,7.1nm,1.0s,mb4.6,SNR=9.5
DAVA Damuels 80.89 335 ⇑*i*P P **10 19 03.8 +0.2**
comp=Z,18nm,1.1s,mb4.9
MMB Musomiste 81.05 324 P P **10 19 04.8 +0.3**
MEZF Maizieres J'vi 81.08 339 *e*P P **10 19 04.4 -0.1**
comp=Z,62nm,0.9s,mb5.3
MEZF Maizieres J'vi 81.08 339 *e*P P **10 19 04.4 -0.1**
comp=Z,62nm,0.9s,mb5.5
HAU Haudompre 81.20 338 *e*P P **10 19 04.8 -0.4**
comp=Z,21nm,0.8s,mb4.8
HAU *e*MLR MLR
comp=Z,128nm,23.0s,MS3.9
HAU Haudompre 81.20 338 *e*P P **10 19 04.8 -0.4**
comp=Z,11nm,0.8s,mb4.8
HAU LR LR
comp=Z,130nm,23.0s,MS4.2
HAU Haudompre 81.20 338 *e*P P **10 19 04.8 -0.4**
HAU pmax pmax
comp=Z,11nm,0.8s,mb4.8
HAU MLR MLR
comp=Z,130nm,23.0s,MS4.2
HINF Hinteralfeld 81.25 337 *e*P P **10 19 04.7 -0.7**
comp=Z,24nm,1.1s,mb4.8
HINF Hinteralfeld 81.25 337 *e*P P **10 19 04.7 -0.7**
comp=Z,12nm,1.1s,mb4.7
HINF Hinteralfeld 81.25 337 *e*P P **10 19 04.7 -0.7**
HINF pmax pmax
comp=Z,12nm,1.1s,mb4.7
PMOR Pomariorio Ree 81.33 123 *e*T 11 48 48.4
comp=Z,17nm,0.2s
WVT Waverly 81.37 45 *e*P P **10 19 05.5 -0.8**
BRMO Bormio 81.48 335 P P **10 19 07.6 +0.9**
CTI Castel Tesino 81.49 334 P P **10 19 06.2 -0.6**
comp=Z,6.2nm,0.5s,mb4.8
CTI Castel Tesino 81.49 334 P P **10 19 06.2 -0.6**
CTI pmax pmax
comp=Z,6.0nm,0.5s,mb4.8
FLN La Foliniere 82.10 342 *e*P P **10 19 09.4 -0.5**
FLN *e*MLR MLR
comp=Z,133nm,19.2s,MS4.0
FLN La Foliniere 82.10 342 *e*P P **10 19 09.4 -0.5**
FLN MLR MLR
comp=Z,130nm,19.3s,MS4.3
CSS Prodhromos 82.10 314 *e*P P **10 19 10.1 -0.1**
comp=Z,24nm,0.8s,mb5.2
SSPA Standing Stone 82.15 36 *e*P P **10 19 09.7 -0.6**
PLAL Pickwick Lake 82.16 46 *e*P P **10 19 09.2 -1.3**
comp=Z,9.0nm,1.1s,mb4.6
LDF La Druitiere 82.18 342 *e*P P **10 19 09.7 -0.7**
PPT Papeete 82.42 125 *e*LR LR 10 44 55.8
comp=Z,176nm,25.5s
PPT Papeete 82.42 125 LR LR 10 47 12.1
comp=Z,48nm,21.3s,MS3.8,baz=218,slow=29
LOR Lormes 82.52 339 *e*P P **10 19 11.7 -0.4**
comp=Z,22nm,0.7s,mb5.0
LOR *e*MLR MLR
comp=Z,130nm,20.5s,MS4.0
LOR Lormes 82.52 339 *e*P P **10 19 11.7 -0.4**
comp=Z,11nm,0.7s,mb5.0
LOR LR LR
comp=Z,130nm,20.5s,MS4.3
LOR Lormes 82.52 339 *e*P P **10 19 11.7 -0.4**
LOR pmax pmax
comp=Z,11nm,0.7s,mb5.0
LOR MLR MLR
comp=Z,130nm,20.5s,MS4.3
GRR Gorron 82.53 342 *e*P P **10 19 11.8 -0.4**
comp=Z,26nm,0.8s,mb5.0
GRR Gorron 82.53 342 *e*P P **10 19 11.8 -0.4**
comp=Z,13nm,0.8s,mb5.0
GRR Gorron 82.53 342 *e*P P **10 19 11.8 -0.4**
GRR pmax pmax
comp=Z,13nm,0.8s,mb5.0
CABF La Chapelle 82.56 337 *e*P P **10 19 12.2 -0.2**
comp=Z,18nm,0.8s,mb4.8
CABF La Chapelle 82.56 337 *e*P P **10 19 12.2 -0.2**
comp=Z,9.1nm,0.8s,mb4.9
CABF La Chapelle 82.56 337 *e*P P **10 19 12.2 -0.2**
CABF pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
SSF Saint Saulge 82.80 339 *e*P P **10 19 13.1 -0.5**
SGMF Saint Gilles 83.00 344 *e*P P **10 19 14.0 -0.6**
SWET Sewanee 83.02 45 *e*P P **10 19 13.8 -1.2**
ROSF Rostrenen 83.06 344 *e*P P **10 19 15.1 +0.2**
comp=Z,28nm,0.9s,mb5.0
ROSF Rostrenen 83.06 344 *e*P P **10 19 15.1 +0.2**
comp=Z,14nm,0.9s,mb5.0
ROSF Rostrenen 83.06 344 *e*P P **10 19 15.1 +0.2**
ROSF pmax pmax
comp=Z,14nm,0.9s,mb5.0
AVF Avril sur Loir 83.09 339 *e*P P **10 19 15.0 -0.1**
comp=Z,30nm,0.9s,mb5.0
AVF Avril sur Loir 83.09 339 *e*P P **10 19 15.0 -0.1**
comp=Z,15nm,0.9s,mb5.0
AVF Avril sur Loir 83.09 339 *e*P P **10 19 15.0 -0.1**
AVF pmax pmax
comp=Z,15nm,0.9s,mb5.0
SMF Signal de Mont 83.10 339 *e*P P **10 19 14.9 -0.3**
comp=Z,69nm,1.1s,mb5.3
SMF Signal de Mont 83.10 339 *e*P P **10 19 14.9 -0.3**
comp=Z,34nm,1.1s,mb5.3
SMF Signal de Mont 83.10 339 *e*P P **10 19 14.9 -0.3**
SMF pmax pmax
comp=Z,34nm,1.1s,mb5.3
FSSB Fossombrone 83.24 332 P P **10 19 16.4 +0.4**
comp=Z,16nm,0.6s,mb5.2
SFI Santa Sofia 83.35 333 P P **10 19 17.6 +1.1**
comp=Z,12nm,0.6s,mb5.1
SFI Santa Sofia 83.35 333 P P **10 19 17.6 +1.1**
SFI pmax pmax
comp=Z,12nm,0.6s,mb5.1
VMG Vicchio 83.39 333 P P **10 19 18.0 +1.3**
comp=Z,11nm,0.5s,mb5.1
LPL La Plagne 83.40 337 *e*P P **10 19 17.2 +0.5**
comp=Z,12nm,0.6s,mb4.8
LPL La Plagne 83.40 337 *e*P P **10 19 17.2 +0.5**
comp=Z,6.1nm,0.6s,mb4.8
LPL La Plagne 83.40 337 *e*P P **10 19 17.2 +0.5**
LPL pmax pmax
comp=Z,6.0nm,0.6s,mb4.8
LPG La Plagne 83.41 337 *e*P P **10 19 17.3 +0.5**
comp=Z,14nm,0.6s,mb4.9
LPG La Plagne 83.41 337 *e*P P **10 19 17.3 +0.5**
comp=Z,6.9nm,0.6s,mb4.9
LPG La Plagne 83.41 337 *e*P P **10 19 17.3 +0.5**
LPG pmax pmax
comp=Z,7.0nm,0.6s,mb4.9
BGF Bois d'Agland 83.43 339 *e*P P **10 19 16.5 -0.4**
comp=Z,9.5nm,0.6s,mb4.7
BGF Bois d'Agland 83.43 339 *e*P P **10 19 16.5 -0.4**
comp=Z,4.8nm,0.6s,mb4.7
BGF Bois d'Agland 83.43 339 *e*P P **10 19 16.5 -0.4**
BGF pmax pmax
comp=Z,5.0nm,0.6s,mb4.7
QUIF Quistinic 83.44 344 *e*P P **10 19 16.3 -0.6**
CPCT Cooper Cave 83.51 44 *e*P P **10 19 16.5 -1.0**
SNTG Esanatoglia 83.58 332 P P **10 19 18.0 +0.3**
MURB Monte Urbino 83.71 332 P P **10 19 19.8 +1.4**
comp=Z,17nm,0.5s,mb5.4
TCF Toulx Ste Croi 83.83 340 *e*P P **10 19 18.6 -0.4**
comp=Z,10nm,0.8s,mb4.7
TCF Toulx Ste Croi 83.83 340 *e*P P **10 19 18.6 -0.4**
comp=Z,5.1nm,0.8s,mb4.7
TCF Toulx Ste Croi 83.83 340 *e*P P **10 19 18.6 -0.4**
TCF pmax pmax
comp=Z,5.0nm,0.8s,mb4.7
BLA Blacksburg 83.94 40 *e*P P **10 19 19.5 -0.2**
comp=Z,9.3nm,0.9s,mb4.9
BLA Blacksburg 83.94 40 P P **10 19 19.6 -0.1**
BLA pmax pmax
comp=Z,9.0nm,0.9s,mb4.9
KLBR Kellerberrin 83.99 209 *e*P P **10 19 19.4 -0.3**
comp=Z,12nm,0.8s,mb5.1
MBDF Montbardon 84.11 336 *e*P P **10 19 20.6 +0.2**
comp=Z,8.5nm,0.5s,mb4.8
MBDF Montbardon 84.11 336 *e*P P **10 19 20.6 +0.2**
comp=Z,4.3nm,0.5s,mb4.8
MBDF Montbardon 84.11 336 *e*P P **10 19 20.6 +0.2**
MBDF pmax pmax
comp=Z,4.0nm,0.5s,mb4.8
ORIF Oris-en-Rattie 84.18 337 *e*P P **10 19 21.1 +0.4**
comp=Z,20nm,0.6s,mb5.1
ORIF *e*MLR MLR
comp=Z,107nm,21.2s,MS3.9
ORIF Oris-en-Rattie 84.18 337 *e*P P **10 19 21.1 +0.4**
comp=Z,9.8nm,0.6s,mb5.1
ORIF Oris-en-Rattie 84.18 337 *e*P P **10 19 21.1 +0.4**
ORIF pmax pmax
comp=Z,10.0nm,0.6s,mb5.1
VIVF Saint-Julien-l 84.56 338 *e*P P **10 19 22.8 +0.1**
comp=Z,16nm,0.9s,mb4.9
VIVF Saint-Julien-l 84.56 338 *e*P P **10 19 22.8 +0.1**
comp=Z,8.1nm,0.9s,mb4.8
VIVF Saint-Julien-l 84.56 338 *e*P P **10 19 22.8 +0.1**
VIVF pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
SBF Sospel 84.72 335 *e*P P **10 19 22.6 -0.9**
RJF Les Rejaudoux 84.92 340 *e*P P **10 19 24.3 -0.2**
SMRF Simiane la Rot 85.14 337 *e*P P **10 19 26.0 +0.4**
comp=Z,15nm,1.0s,mb4.8
SMRF Simiane la Rot 85.14 337 *e*P P **10 19 26.0 +0.4**
comp=Z,15nm,1.0s,mb5.1
CAF Calviac 85.15 339 *e*P P **10 19 25.3 -0.3**
FRF La Foret Royal 85.22 336 *e*P P **10 19 25.9 -0.1**
comp=Z,4.9nm,0.6s,mb4.5
FRF La Foret Royal 85.22 336 *e*P P **10 19 25.9 -0.1**
comp=Z,2.5nm,0.6s,mb4.5
FRF La Foret Royal 85.22 336 *e*P P **10 19 25.9 -0.1**
FRF pmax pmax
comp=Z,2.0nm,0.6s,mb4.4
LFF La Frestale 85.45 340 *e*P P **10 19 26.3 -0.8**
comp=Z,11nm,0.6s,mb4.9
LFF La Frestale 85.45 340 *e*P P **10 19 26.3 -0.8**
comp=Z,5.7nm,0.6s,mb4.9
LFF La Frestale 85.45 340 *e*P P **10 19 26.3 -0.8**
LFF pmax pmax
comp=Z,6.0nm,0.6s,mb4.9
PGF Pioggiola 85.46 334 *e*P P **10 19 26.6 -0.6**
comp=Z,13nm,0.8s,mb4.8
PGF Pioggiola 85.46 334 *e*P P **10 19 26.6 -0.6**
comp=Z,6.4nm,0.8s,mb4.8
PGF Pioggiola 85.46 334 *e*P P **10 19 26.6 -0.6**
PGF pmax pmax
comp=Z,6.0nm,0.8s,mb4.8
LMR La Mourre 85.47 336 *e*P P **10 19 27.0 -0.3**
comp=Z,38nm,1.1s,mb5.2
LMR La Mourre 85.47 336 *e*P P **10 19 27.0 -0.3**
comp=Z,19nm,1.1s,mb5.1
LMR La Mourre 85.47 336 *e*P P **10 19 27.0 -0.3**
LMR pmax pmax
comp=Z,19nm,1.1s,mb5.1
LASF Ste Croix 85.50 338 *e*P P **10 19 27.5 +0.1**
comp=Z,2.6nm,0.5s,mb4.3
LHS Liberty Hill 86.04 42 *e*P P **10 19 22.3 -8.0**
MTLF Montolieu 86.60 339 *e*P P **10 19 32.3 -0.5**
TBI Tubuai 87.14 129 *e*T 11 56 07.7
comp=Z,27nm,0.2s
EPF Esparros 87.35 340 *e*P P **10 19 36.1 -0.4**
ETSF Etsaut 87.68 341 *e*P P **10 19 37.1 -1.0**
comp=Z,4.5nm,0.6s,mb4.6
ETSF Etsaut 87.68 341 *e*P P **10 19 37.1 -1.0**
comp=Z,2.3nm,0.6s,mb4.6
ETSF Etsaut 87.68 341 *e*P P **10 19 37.1 -1.0**
ETSF pmax pmax
comp=Z,2.0nm,0.6s,mb4.5
ESDC Sonseca Array 91.52 342 P P **10 19 55.0 -1.1**
comp=Z,0.2nm,0.3s,mb3.9,baz=352,slow=3.8,SNR=7.2
KEST Kesra 91.56 331 P P **10 19 55.8 -0.6**
comp=Z,0.9nm,0.6s,mb4.3,baz=304,slow=5.3,SNR=4.4
DBIC Dimbokro 123.22 333 PKIKP PKPdf 10 25 45.4 -1.3
DBIC pmax pmax
comp=Z,4.0nm,0.7s
DBIC Dimbokro 123.22 333 PKP PKPdf 10 25 45.4 -1.3
comp=Z,4.2nm,0.7s,baz=29,slow=6.9,SNR=5.9
VNDA Vanda 124.05 178 PKIKP PKPdf 10 25 44.8 -1.4
VNDA pmax pmax
comp=Z,2.0nm,0.9s
VNDA Vanda 124.05 178 PKP PKPdf 10 25 44.8 -1.4
comp=Z,1.7nm,0.9s,baz=318,slow=4.3,SNR=4.0
LPAZ La Paz 134.72 62 PKIKP PKPdf 10 26 08.2 -0.1
LPAZ pmax pmax
comp=Z,1.0nm,0.7s
LPAZ La Paz 134.72 62 PKP PKPdf 10 26 08.2 -0.1
comp=Z,0.9nm,0.7s,baz=28,slow=6.1,SNR=4.7
SYO Syowa Base 140.64 212‖*e*pPKiKP 10 26 25.4
BDFB Brasilia 144.63 36 PKIKP PKPdf 10 26 24.6 -1.7
BDFB pmax pmax
comp=Z,4.0nm,0.8s
BDFB Brasilia 144.63 36 PKP PKPdf 10 26 24.6 -1.7
comp=Z,3.6nm,0.8s,baz=291,slow=8.6,SNR=9.0
PLCA Paso Flores 148.58 95 PKPbc PKPbc 10 26 35.7 -0.3
PLCA Paso Flores 148.58 95 PKP2 PKPbc 10 26 35.7 -0.3
PLCA pmax pmax
comp=Z,6.0nm,0.9s
PLCA Paso Flores 148.58 95 PKPbc PKPbc 10 26 35.7 -0.3
comp=Z,6.3nm,0.9s,baz=278,slow=3.2,SNR=11
MAIT Maitri 149.42 204 *e*PKPdf PKPdf 10 26 33.8 +1.2
SNAA Sanae 152.37 197 *e*PKPdf PKPbc 10 26 43.0 -1.0
SNAA *e* 10 26 54.0
SNAA *e* 10 26 58.1
SNAA Sanae 152.37 197 PKIKP PKPbc 10 26 43.0 -1.0
SNAA 10 26 53.5
SNAA pmax pmax
comp=Z,2.0nm,0.7s
SNAA pmax pmax
comp=Z,1.0nm,0.7s
SNAA Sanae 152.37 197 PKPbc PKPbc 10 26 43.0 -1.0
comp=Z,1.7nm,0.7s,baz=184,slow=2.8,SNR=25
SNAA PKPab PKPab 10 26 53.5 -0.8
comp=Z,1.4nm,0.7s,baz=210,slow=7.0,SNR=6.7
VNA2 Neumayer--Watz 153.82 195 *e*PKPdf PKPbc 10 26 46.2 -1.0
VNA2 *e* 10 26 57.0
VNA2 *e* 10 27 01.6
VNA2 *e* 10 27 11.1
VNA1 Neumayer--Stat 154.21 195 *e*PKPdf PKPab 10 27 02.1 -0.1
VNA1 *e* 10 27 11.2

MAN 25 10:10:40,926N×12250E,h61km,mb3.6,ML2.3,MS1.8, Negros

ISCJB ***25*** *10:14:20.6±2.5, 1772N±008×1465E±02, h116km±21km, mb3.9/12, Error ellipse: s-maj=37.2km s-min=13.9km az=178.9*
NEIC ***25*** *10:14:21.6±1.8, 1772N×14652E, h110km±15km, mb4.2/1, Error ellipse: s-maj=23.5km s-min=9.6km az=89.0*
IDC ***25*** *10:14:21.1±3.5, 1775N×14654E, h103km±31km, mb3.6/12, mb1 3.8/13, mb1mx3.7/20, mbtmp3.6/13, Error ellipse: s-maj=28.4km s-min=12.8km az=90.0*
ISC 25 10:14:21.6±2.2, 1772N±008×1466E±02, h111km±19km, n19, σ0976/18, mb3.9/12, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**4.42**	**202**	P	**Pn**	**10 15 26.1**	**-0.5**
	50nm,0.3s,baz=359,slow=3.3,SNR=23						
MJAR	**Matsushiro Arr**	**20.16**	**340**	P	**P**	**10 18 48.4**	**+1.4**
	2.3nm,0.7s,baz=170,slow=11,SNR=5.6						
WB2	**Warramunga Arr**	**39.30**	**198**	*e*P	**P**	**10 21 39.5**	**-0.3**
WRA	**Warramunga Arr**	**39.30**	**198**	P	**P**	**10 21 39.8**	**0.0**
	1.2nm,0.4s,mb4.0,baz=30,slow=8.9,SNR=28						
WRA				PcP	PcP	10 23 47.6	+1.2
	0.4nm,0.6s,baz=16,slow=3.5,SNR=5.2						
FITZ	**Fitzroy Crossi**	**41.12**	**211**	*e*P	**P**	**10 21 55.2**	**+0.4**
	4.2nm,0.9s,mb4.3						
FITZ	**Fitzroy Crossi**	**41.12**	**211**	P	**P**	**10 21 55.0**	**+0.2**
	1.0nm,0.3s,mb4.1,baz=36,slow=12,SNR=11						
ASAR	**Alice Springs**	**42.95**	**197**	P	**P**	**10 22 09.8**	**+0.1**
	0.3nm,0.3s,mb3.5,baz=15,slow=6.6,SNR=13						
SONM	**Songino Array**	**44.42**	**322**	P	**P**	**10 22 21.2**	**0.0**
	0.4nm,0.4s,mb3.5,baz=142,slow=8.0,SNR=2.6						
STKA	**Stephens Creek**	**49.54**	**186**	P	**P**	**10 23 01.4**	**+0.3**
	1.4nm,0.4s,mb4.2,baz=350,slow=10,SNR=5.4						
NWAO	**Narrogin (SRO)**	**57.64**	**209**	P	**P**	**10 24 01.0**	**+0.8**
NWAO	**Narrogin (SRO)**	**57.64**	**209**	P	**P**	**10 24 01.0**	**+0.8**
	baz=232,slow=19						
ZALV	**Zalesovo Beam**	**59.29**	**323**	P	**P**	**10 24 10.6**	**-0.8**
	1.2nm,0.7s,mb4.1,baz=96,slow=7.9,SNR=4.6						
MKAR	**Makanchi Array**	**59.74**	**314**	P	**P**	**10 24 15.6**	**+1.0**
	0.5nm,0.4s,mb3.9,baz=93,slow=8.6,SNR=4.1						
YKA	**Yellowknife Ar**	**78.46**	**28**	P	**P**	**10 26 09.5**	**-0.4**
	0.6nm,0.6s,mb3.5,baz=287,slow=5.4,SNR=13						
NVAR	**Mina Array Bea**	**83.09**	**52**	P	**P**	**10 26 35.9**	**+0.8**
	0.6nm,0.7s,mb3.6,baz=278,slow=4.6,SNR=6.1						
ARCES	**ARCESS Array B**	**83.68**	**342**	P	**P**	**10 26 37.5**	**+0.1**
	1.6nm,0.7s,mb4.0,baz=72,slow=8.0,SNR=7.8						
JOF	**Joensuu**	**85.25**	**335**	*e*p	**P**	**10 26 44.0**	**-1.5**
	1.4nm,0.3s,mb4.4						
FINES	**FINESS Array B**	**88.12**	**336**	P	**P**	**10 26 58.2**	**-1.2**
	1.8nm,0.7s,mb4.2,baz=145,slow=4.7,SNR=4.7						
LPAZ	**La Paz**	**146.81**	**93**	PKPbc	PKPbc	10 33 54.0	+2.4
	0.5nm,0.5s,baz=270,slow=4.0,SNR=4.2						

NIED ***25*** *10:15:00, 42.50N×145.40E, h23km, Mw3.7 Best double couple: M0=3.56000×10^14 NP1:φ=14.00000°, δ72.00000°, λ70.00000°. NP2:φ=245.00000°, δ27.00000°, λ137.00000°.*
ISCJB ***25*** *10:15:53.3±1.4, 42.44N±0.06×145.46E±0.08, h28km±8km, mb3.7/6, Error ellipse: s-maj=11.6km s-min=7.5km az=42.3*
MOS ***25*** *10:15:53.2±1.5, 42.35N×145.34E, h33km, mb4.3/3, Error ellipse: s-maj=28.6km s-min=17.9km az=88.6*
JMA ***25*** *10:15:55.1±0.1, 42.54N×145.36E, h46km±2km, M3.6*
IDC ***25*** *10:15:58.1±3.3, 42.34N×145.17E, h60km±27km, mb3.5/6, mb1 3.6/8, mb1mx3.4/22, mbtmp3.5/8, ML3.8/2, Error ellipse: s-maj=25.1km s-min=23.9km az=41.0*

ISC 25 10:15:54.2±1.4, 4249N±006×14543E±008, h23km±8km, n22, σ1900/28, mb3.7/6, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAK	**Akkeshi**	**0.74**	**313**	P	**Pb**	**10 16 08.3**	**-0.1**
JAK				*e*S	**Sb**	**10 16 18.3**	**+0.2**
NEM2	**Nemuro 2**	**0.91**	**15**	P	**Pb**	**10 16 11.4**	**+0.2**
NEM2				*e*S	**Sb**	**10 16 23.0**	**+0.2**
JNK	**Nakash**	**1.22**	**335**	P	**Pn**	**10 16 14.6**	**-1.2**
JOB	**Onbets**	**1.25**	**290**	P	**Pn**	**10 16 15.7**	**-0.5**
JAR	**Ashorobuto**	**1.46**	**304**	P	**Pn**	**10 16 18.2**	**-1.0**
JRA	**Rausu**	**1.47**	**351**	P	**Pn**	**10 16 18.9**	**-0.3**
JRA				*e*S	**Sn**	**10 16 36.4**	**-1.3**
JCH	**Churui**	**1.53**	**275**	P	**Pn**	**10 16 20.1**	**0.0**
YUK	**Yuzh-Kuril'sk**	**1.58**	**11**	*e*PN	**Pn**	**10 16 20.7**	**-0.1**
YUK				*i* S	**Sn**	**10 16 40.7**	**+0.2**
YUK				pmax	pmax		
	comp=Z,380nm,0.3s						
YUK				smax			
	comp=N,1μm,0.5s						
YUK				smax			
	comp=E,1μm,0.5s						
YUK				smax			
	comp=N,2μm,0.5s						
YUK				smax			
	comp=E,3μm,0.5s						
JEM	**Erimo**	**1.75**	**255**	P	**Pn**	**10 16 24.4**	**+1.2**
ASAJ	**Asahikawa**	**2.63**	**309**	PN	**Pn**	**10 16 36.5**	**+1.3**
ASAJ				S	**Sn**	**10 17 08.7**	**+2.2**
ASAJ				pmax	pmax		
	comp=Z,20nm,0.3s						
ASAJ				smax			
	comp=N,3.0nm,0.3s						
ASAJ	**Asahikawa**	**2.63**	**309**	P	**Pn**	**10 16 36.5**	**+1.2**
	comp=N,20nm,0.3s,baz=125,slow=15,SNR=34						
ASAJ				S	**Sn**	**10 17 08.7**	**+2.2**
	comp=N,3.1nm,0.3s,baz=30,slow=20,SNR=5.7						
MJAR	**Matsushiro Arr**	**8.15**	**226**	P	**Pn**	**10 17 50.2**	**-0.8**
	comp=N,0.4nm,0.3s,baz=30,slow=14,SNR=3.8						
SONM	**Songino Array**	**27.82**	**295**	P	**P**	**10 21 41.3**	**-0.2**
SONM				pmax	pmax		
	comp=Z,2.0nm,0.7s						
SONM	**Songino Array**	**27.82**	**295**	P	**P**	**10 21 41.3**	**-0.2**
	comp=Z,1.6nm,0.7s,mb3.8,baz=80,slow=8.0,SNR=8.2						
MKAR	**Makanchi Array**	**44.06**	**298**	P	**P**	**10 23 59.6**	**-0.6**
	comp=Z,0.3nm,0.2s,mb3.6,baz=81,slow=8.9,SNR=3.6						
INK	**Inuvik**	**48.12**	**30**	P	**P**	**10 24 32.6**	**+0.8**
INK				pmax	pmax		
	comp=Z,1.0nm,0.5s						
INK	**Inuvik**	**48.12**	**30**	P	**P**	**10 24 32.6**	**+0.8**
	comp=Z,0.9nm,0.5s,mb4.1,baz=348,slow=3.3,SNR=20						
YKA	**Yellowknife Ar**	**57.55**	**33**	P	**P**	**10 25 44.3**	**+2.9**
YKA	**Yellowknife Ar**	**57.55**	**33**	P	**P**	**10 25 44.3**	**+2.9**
	comp=Z,0.2nm,0.7s,mb3.3,baz=305,slow=7.1,SNR=6.6						
FINES	**FINESS Array B**	**65.42**	**333**	P	**P**	**10 26 32.6**	**-2.0**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
FINES	**FINESS Array B**	**65.42**	**333**	P	**P**	**10 26 32.6**	**-2.0**
	comp=Z,1.0nm,0.5s,mb4.1,baz=55,slow=10.0,SNR=8.0						
PDAR	**Pinedale Array**	**71.69**	**49**	P	**P**	**10 27 14.7**	**+0.6**
	comp=Z,0.3nm,0.6s,mb3.4,baz=309,slow=1.0,SNR=4.0						

ISCJB ***25*** *10:19:49.9±0.6, 44.1N±0.1×2860W±007, h10km, mb4.1/21, MS3.6/22, Error ellipse: s-maj=18.8km s-min=6.2km az=8.9*
IDC ***25*** *10:19:49.5±1.2, 44.00N×2862W, h0km, mb3.8/7, mb1 4.0/9, mb1mx3.8/27, mbtmp3.7/9, ML4.3/2, MS3.7/21, Ms1 3.7/21, ms1mx3.4/34, Error ellipse: s-maj=42.6km s-min=19.2km az=12.0*
NEIC ***25*** *10:19:51.1±0.5, 43.97N×2861W, h10km, mb4.3/21, MS3.6/2, Error ellipse: s-maj=16.7km s-min=4.9km az=186.0*
CSEM ***25*** *10:19:53.0±0.1, 44.13N×2858W, h33km, mb4.2/13, Ms3.4, Error ellipse: s-maj=6.6km s-min=2.2km az=5.0*

ISC 25 10:19:51.9±0.6, 441N±01×2855W±006, h10km, n92, σ0971/75, mb4.1/21, MS3.6/22, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EVOP	**Sao Brissos**	**16.31**	**103**	*e*P	**Pn**	**10 23 41.7**	**+0.8**
	8.0nm,1.1s						
EVO	**Evora**	**16.39**	**103**	*e*P	**Pn**	**10 23 41.7**	**-0.2**
	16nm,1.1s						
EVO				*e*MLR	MLR		
	comp=Z,329nm,20.2s						
ROSF	**Rostrenen**	**17.96**	**68**	*e*P	**Pn**	**10 24 02.4**	**+0.9**
	comp=Z,62nm,1.3s						
ROSF	**Rostrenen**	**17.96**	**68**	*e*P	**Pn**	**10 24 02.4**	**+0.9**
	comp=Z,31nm,1.3s						
QUIF	**Quistinic**	**18.00**	**69**	*e*P	**Pn**	**10 24 02.5**	**+0.4**
SGMF	**Saint Gilles**	**18.43**	**68**	*e*P	**Pn**	**10 24 07.7**	**+0.4**
ESDC	**Sonseca Array**	**18.81**	**95**	P	**Pn**	**10 24 11.1**	**-0.9**
	comp=Z,0.5nm,0.3s,baz=306,slow=11,SNR=3.3						
ESDC				LR	LR	10 29 49.5	
	comp=Z,156nm,19.5s,baz=295,slow=32						
GRR	**Gorron**	**19.57**	**68**	*e*P	**Pn**	**10 24 20.6**	**-0.4**
	comp=Z,53nm,1.2s						
GRR	**Gorron**	**19.57**	**68**	*e*P	**Pn**	**10 24 20.6**	**-0.4**
	comp=Z,27nm,1.2s						
EKA	**Eskdalemuir Ar**	**19.76**	**46**	P	**Pn**	**10 24 21.9**	**-1.3**
	comp=Z,0.2nm,0.3s,baz=239,slow=14,SNR=3.2						
SJPF	**Ste Jean**	**19.78**	**83**	*e*P	**Pn**	**10 24 23.6**	**0.0**
	comp=Z,46nm,1.3s						
SJPF	**Ste Jean**	**19.78**	**83**	*e*P	**Pn**	**10 24 23.6**	**0.0**
	comp=Z,23nm,1.3s						
FLN	**La Foliniere**	**19.84**	**67**	*e*P	**Pn**	**10 24 23.7**	**-0.5**
	comp=Z,31nm,1.1s						
FLN				*e*MLR	MLR		
	comp=Z,222nm,20.2s						
FLN	**La Foliniere**	**19.84**	**67**	*e*P	**Pn**	**10 24 23.7**	**-0.5**
	comp=Z,16nm,1.1s						
LDF	**La Druitiere**	**20.07**	**67**	*e*P	**P**	**10 24 25.9**	**+0.8**
	comp=Z,22nm,1.1s						
LDF	**La Druitiere**	**20.07**	**67**	*e*P	**P**	**10 24 25.9**	**+0.8**
	comp=Z,11nm,1.1s						
MFF	**Saint Martin d**	**20.07**	**73**	*e*P	**P**	**10 24 26.6**	**+1.4**
ETSF	**Etsaut**	**20.30**	**84**	*e*P	**P**	**10 24 29.4**	**+1.6**
	comp=Z,19nm,1.0s						
ETSF	**Etsaut**	**20.30**	**84**	*e*P	**P**	**10 24 29.4**	**+1.6**
	comp=Z,9.4nm,1.0s						
LFF	**La Frestale**	**20.85**	**77**	*e*P	**P**	**10 24 35.0**	**+1.3**
EPF	**Esparros**	**20.92**	**83**	*e*P	**P**	**10 24 35.5**	**+1.1**
	comp=Z,34nm,1.3s						
EPF	**Esparros**	**20.92**	**83**	*e*P	**P**	**10 24 35.5**	**+1.1**
	comp=Z,17nm,1.3s						
BORG	**Borgarnes**	**21.07**	**9**	LR	LR	10 30 30.7	
	comp=Z,217nm,22.0s,MS3.5,baz=173,slow=30						
RJF	**Les Rejaudoux**	**21.34**	**76**	*e*P	**P**	**10 24 39.2**	**+0.2**
RJF				*e*MLR	MLR		
	comp=Z,225nm,22.0s,MS3.2						
RJF	**Les Rejaudoux**	**21.34**	**76**	*e*P	**P**	**10 24 39.2**	**+0.2**
RJF				LR	LR		
	comp=Z,230nm,22.0s,MS3.5						
TCF	**Toulx Ste Croi**	**21.72**	**73**	*e*P	**P**	**10 24 43.4**	**+0.4**
CAF	**Calviac**	**21.78**	**77**	*e*P	**P**	**10 24 44.1**	**+0.4**
	comp=Z,10nm,0.9s,mb3.9						
CAF	**Calviac**	**21.78**	**77**	*e*P	**P**	**10 24 44.1**	**+0.4**
	comp=Z,5.1nm,0.9s,mb3.9						
MDT	**Midelt**	**21.79**	**113**	P	**P**	**10 24 43.9**	**-0.1**
	comp=Z,5.4nm,1.1s,mb3.9,baz=310,slow=7.7,SNR=6.1						
MDT				LR	LR	10 31 17.4	
	comp=Z,97nm,20.2s,MS3.2,baz=344,slow=32						
BGF	**Bois d'Agland**	**22.13**	**73**	*e*P	**P**	**10 24 47.3**	**-0.1**
MTLF	**Montolieu**	**22.19**	**81**	*e*P	**P**	**10 24 47.9**	**-0.2**
	comp=Z,33nm,1.1s,mb4.4						
MTLF	**Montolieu**	**22.19**	**81**	*e*P	**P**	**10 24 47.9**	**-0.2**
	comp=Z,17nm,1.1s,mb4.4						
AVF	**Avril sur Loir**	**22.46**	**72**	*e*P	**P**	**10 24 50.3**	**-0.6**
	comp=Z,3.6nm,0.7s,mb3.6						
AVF	**Avril sur Loir**	**22.46**	**72**	*e*P	**P**	**10 24 50.3**	**-0.6**
	comp=Z,1.8nm,0.7s,mb3.6						
SSF	**Saint Saulge**	**22.54**	**71**	*e*P	**P**	**10 24 51.5**	**-0.3**
LOR	**Lormes**	**22.77**	**71**	*e*P	**P**	**10 24 53.4**	**-0.8**
	comp=Z,8.4nm,0.8s,mb3.9						
LOR				*e*MLR	MLR		
	comp=Z,299nm,18.5s,MS3.5						
LOR	**Lormes**	**22.77**	**71**	*e*P	**P**	**10 24 53.4**	**-0.8**
	comp=Z,4.2nm,0.8s,mb3.9						
LOR				LR	LR		
	comp=Z,300nm,18.5s,MS3.8						
BAIF	**Baives**	**22.96**	**63**	*e*P	**P**	**10 24 55.4**	**-0.8**
	comp=Z,8.3nm,0.8s,mb3.9						
BAIF	**Baives**	**22.96**	**63**	*e*P	**P**	**10 24 55.4**	**-0.8**
	comp=Z,4.2nm,0.8s,mb3.9						
LASF	**Ste Croix**	**23.20**	**79**	*e*P	**P**	**10 24 58.0**	**-0.7**
MEZF	**Maizieres J'vi**	**23.50**	**67**	*e*P	**P**	**10 25 00.6**	**-1.3**
VIVF	**Saint-Julien-l**	**23.62**	**76**	*e*P	**P**	**10 25 02.1**	**-1.0**
CABF	**La Chapelle**	**24.35**	**72**	*e*P	**P**	**10 25 09.1**	**-0.6**
SMRF	**Simiane la Rot**	**24.43**	**78**	*e*P	**P**	**10 25 10.0**	**-0.5**
	comp=Z,26nm,1.2s,mb4.2						
SMRF	**Simiane la Rot**	**24.43**	**78**	*e*P	**P**	**10 25 10.0**	**-0.5**
	comp=Z,13nm,1.2s,mb4.2						
HINF	**Hinteralfeld**	**24.75**	**69**	*e*P	**P**	**10 25 13.4**	**+0.1**
CDF	**Champ du Feu**	**24.99**	**67**	*e*P	**P**	**10 25 15.2**	**-0.3**
	comp=Z,4.2nm,0.5s,mb3.9						
CDF	**Champ du Feu**	**24.99**	**67**	*e*P	**P**	**10 25 15.2**	**-0.3**
	comp=Z,2.1nm,0.5s,mb3.9						
MBDF	**Montbardon**	**25.12**	**76**	*e*P	**P**	**10 25 16.6**	**-0.1**
	comp=Z,5.3nm,0.6s,mb4.0						
MBDF	**Montbardon**	**25.12**	**76**	*e*P	**P**	**10 25 16.6**	**-0.1**
	comp=Z,2.7nm,0.6s,mb4.0						
LMR	**La Mourre**	**25.23**	**79**	*e*P	**P**	**10 25 17.5**	**-0.3**
	comp=Z,9.5nm,0.9s,mb4.0						
LMR	**La Mourre**	**25.23**	**79**	*e*P	**P**	**10 25 17.5**	**-0.3**
	comp=Z,4.8nm,0.9s,mb4.0						
FRF	**La Foret Royal**	**25.28**	**79**	*e*P	**P**	**10 25 18.2**	**0.0**
	comp=Z,17nm,1.1s,mb4.2						
FRF	**La Foret Royal**	**25.28**	**79**	*e*P	**P**	**10 25 18.2**	**0.0**
	comp=Z,8.3nm,1.1s,mb4.2						
SBF	**Sospel**	**25.77**	**78**	*e*P	**P**	**10 25 22.8**	**+0.2**
SCHQ	**Schefferville**	**26.76**	**307**	LR	LR	10 35 26.0	
	comp=Z,145nm,18.8s,MS3.6,baz=7.5,slow=35						
DAVOX	**Davos/Dischmat**	**26.91**	**71**	LR	LR	10 34 52.4	
	comp=Z,149nm,20.0s,MS3.5,baz=258,slow=33						
PGF	**Pioggiola**	**27.20**	**80**	*e*P	**P**	**10 25 35.5**	**-0.1**
	comp=Z,17nm,1.1s,mb4.2						
PGF	**Pioggiola**	**27.20**	**80**	*e*P	**P**	**10 25 35.5**	**-0.1**
	comp=Z,8.6nm,1.1s,mb4.2						
CLL	**Collm**	**28.55**	**61**	*i* Sg	**S**	**10 30 42.7**	**+7.3**
JMIC	**Jan Mayen**	**28.70**	**14**	LR	LR	10 34 23.2	
	comp=Z,100nm,18.8s,MS3.4,baz=340,slow=30						
NOA	**NORSAR Array B**	**28.90**	**40**	LR	LR	10 35 31.4	
	comp=Z,26nm,19.6s,MS2.8,baz=0.0,slow=32						
GERES	**GERESS Array B**	**29.19**	**66**	LR	LR	10 36 22.7	
	comp=Z,128nm,19.5s,MS3.5,baz=104,slow=34						
KEST	**Kesra**	**30.03**	**93**	LR	LR	10 37 02.4	
	comp=Z,42nm,20.5s,MS3.1,baz=207,slow=34						
DBIC	**Dimbokro**	**42.67**	**144**	LR	LR	10 43 38.8	
	comp=Z,82nm,18.6s,MS3.6,baz=312,slow=34						
CCM	**Cathedral Cave**	**46.64**	**285**	*e*P	**P**	**10 28 19.9**	**-0.4**
	comp=Z,4.8nm,1.0s,mb4.4						
CCM	**Cathedral Cave**	**46.64**	**285**	*e*P	**P**	**10 28 19.9**	**-0.4**
	comp=Z,4.8nm,1.0s,mb4.4						
YKA	**Yellowknife Ar**	**50.41**	**323**	P	**P**	**10 28 48.9**	**0.0**
YKA				LR	LR	10 47 26.1	
YKA	**Yellowknife Ar**	**50.41**	**323**	P	**P**	**10 28 48.9**	**0.0**
	comp=Z,0.7nm,0.9s,mb3.7,baz=71,slow=7.1,SNR=9.1						
YKA				LR	LR	10 47 26.1	
	comp=Z,102nm,21.6s,MS3.8,baz=245,slow=33						
YKA	**Yellowknife Ar**	**50.41**	**323**	P	**P**	**10 28 48.9**	**0.0**
EDM	**Edmonton**	**53.60**	**312**	*e*P	**P**	**10 29 13.3**	**+0.5**
EDM	**Edmonton**	**53.60**	**312**	*e*P	**P**	**10 29 13.3**	**+0.5**
INK	**Inuvik**	**54.92**	**334**	P	**P**	**10 29 21.9**	**-0.3**
	comp=Z,1.6nm,0.9s,mb4.1,baz=82,slow=8.1,SNR=7.4						
INK				LR	LR	10 50 32.3	
	comp=Z,67nm,19.8s,MS3.7,baz=342,slow=34						
WALA	**Waterton Lakes**	**55.89**	**308**	*e*P	**P**	**10 29 30.0**	**+0.5**
	comp=Z,9.4nm,1.1s,mb4.7						
ROSC	**El Rosal**	**56.02**	**239**	LR	LR	10 48 43.1	
	comp=Z,52nm,20.3s,MS3.6,baz=5.5,slow=31						
PDAR	**Pinedale Array**	**56.48**	**299**	P	**P**	**10 29 33.1**	**-0.7**
	comp=Z,1.2nm,0.9s,mb3.9,baz=61,slow=7.0,SNR=9.4						
PDAR				LR	LR	10 52 31.2	
	comp=Z,163nm,18.4s,MS4.2,baz=61,slow=35						
NEW	**Newport**	**58.13**	**308**	LR	LR	10 51 06.8	
	comp=Z,101nm,20.4s,MS3.9,baz=228,slow=32						
DAWY	**Dawson**	**59.32**	**331**	*e*P	**P**	**10 29 54.9**	**+1.4**
DAWY	**Dawson**	**59.32**	**331**	*e*P	**P**	**10 29 54.8**	**+1.4**
TXAR	**Lajitas Array**	**60.03**	**283**	P	**P**	**10 29 58.5**	**-0.4**
	comp=Z,1.0nm,0.8s,mb3.9,baz=65,slow=7.0,SNR=9.5						
TXAR				LR	LR	10 55 34.1	
	comp=Z,121nm,22.0s,MS4.0,baz=0.0,slow=36						
BRVK	**Borovoye**	**60.90**	**43**	*e*P	**P**	**10 29 58.9**	**-5.5**
	comp=Z,13nm,1.0s,mb5.0						
BDFB	**Brasilia**	**62.07**	**201**	LR	LR	10 51 33.3	
	comp=Z,35nm,20.7s,MS3.5,baz=178,slow=31						
IMA2	**Indian Mountai**	**62.34**	**338**	*e*P	**P**	**10 30 15.1**	**+1.2**
IMA2	**Indian Mountai**	**62.34**	**338**	*e*P	**P**	**10 30 15.1**	**+1.1**
NVAR	**Mina Array Bea**	**64.42**	**299**	P	**P**	**10 30 27.5**	**-0.7**
	comp=Z,0.7nm,0.9s,mb3.7,baz=69,slow=6.5,SNR=4.1						
ZALV	**Zalesovo Beam**	**67.00**	**36**	LR	LR	11 00 02.1	
	comp=Z,30nm,19.6s,MS3.5,baz=260,slow=36						
SONM	**Songino Array**	**80.22**	**29**	P	**P**	**10 32 02.9**	**+0.5**
	comp=Z,1.1nm,0.8s,mb3.9,baz=336,slow=6.3,SNR=5.3						
SONM				LR	LR	11 07 59.2	
	comp=Z,58nm,18.6s,MS4.0,baz=244,slow=36						
LBTB	**Lobatse**	**84.77**	**132**	LR	LR	11 07 36.8	
	comp=Z,88nm,19.6s,MS4.2,baz=189,slow=34						
BOSA	**Boshof**	**87.50**	**135**	LR	LR	11 07 53.2	
	comp=Z,95nm,19.8s,MS4.2,baz=136,slow=33						
WRA	**Warramunga Arr**	**151.98**	**36**	PKPbc	PKPbc	10 39 45.6	-1.8
	comp=Z,1.4nm,0.9s,baz=344,slow=2.9,SNR=8.1						
ASAR	**Alice Springs**	**155.03**	**41**	PKPbc	PKPdf	10 39 51.2	+6.1
	comp=Z,0.4nm,0.8s,baz=310,slow=1.4,SNR=5.0						
ASAR	**Alice Springs**	**155.03**	**41**	PKPbc	PKPdf	10 39 51.2	+6.1

BJI ***25*** *10:36:50.6, 60.40N×151.55W, h40km, mB4.8, mb4.7, Ms4.2, Ms2.4.1*
MOS ***25*** *10:36:53.6±1.3, 61.02N×150.88W, h59km, mb4.3/7, Error ellipse: s-maj=16.1km s-min=8.7km az=89.3*
IDC ***25*** *10:36:53.4±1.8, 60.99N×150.90W, h42km±17km, mb3.8/10, mb1 4.0/13, mb1mx3.8/21, mbtmp3.8/13, ML3.6/3, MS3.0/1, Ms1 3.0/1, ms1mx2.5/27, Error ellipse: s-maj=14.5km s-min=12.7km az=127.0*
ISCJB ***25*** *10:36:54.4±0.3, 61.03N±0.03×150.82W±0.06, h58km±3km, mb4.2/18, MS3.1/2, Error ellipse: s-maj=5.5km s-min=3.7km az=44.7*
NEIC ***25*** *10:36:56.1, 60.94N×150.62W, h51km, mb4.2/4, ML4.3(PMR), ML4.0(AEIC), After AEIC.*
NEIC Felt [IV] at Anchorage and [II] at Eagle River and Elmendorf AFB. Felt at Girdwood, Indian, Kenai, Moose Pass, Sterling and Wasilla.

ISC 25 10:36:55.7±0.3, 6101N±003×15079W±006, h50km±3km, n252, σ0978/263, mb4.2/18, MS3.1/2, 73C-83D, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FIB	**Fire Island**	**0.34**	**62**	P	**Pn**	**10 37 05.7**	**+0.6**
FIB				S	**Sn**	**10 37 14.1**	**+2.3**
RC01	**Rabbit Creek A**	**0.52**	**81**	P	**Pn**	**10 37 05.8**	**-1.3**
RC01				S	**Sn**	**10 37 14.7**	**-0.6**
SLKM	**Skilak Lake**	**0.58**	**151**	P	**Pn**	**10 37 06.7**	**-1.1**
SLKM				*e*P		10 37 06.7	
PMR	**Palmer**	**0.99**	**53**	P	**Pn**	**10 37 12.5**	**-0.7**
PMR				*e*P		10 37 12.8	
PMR				S	**Sn**	**10 37 25.9**	**-0.3**
PMR				*e*S	**Sn**	**10 37 26.0**	**-0.2**
SEW	**Seward**	**1.12**	**143**	P	**Pn**	**10 37 13.2**	**-1.8**
SEW				S	**Sn**	**10 37 28.1**	**-1.3**
SML	**Sawmill**	**1.43**	**55**	P	**Pn**	**10 37 18.5**	**-0.6**
AUL	**Augustine Lava**	**2.10**	**220**	P	**Pn**	**10 37 29.2**	**+0.9**
SVW2	**Sparrevohn**	**2.33**	**274**	P	**Pn**	**10 37 32.0**	**+0.5**
SVW2				*e*P		10 37 32.1	
SVW2				*e*S	**Sn**	**10 37 51.6**	**-7.2**
TRF	**Thorofare Moun**	**2.46**	**5**	P	**Pn**	**10 37 34.9**	**+1.6**
KTH	**Kantishna Hill**	**2.55**	**359**	P	**Pn**	**10 37 36.0**	**+1.5**
MCK	**McKinley**	**2.87**	**17**	P	**Pn**	**10 37 40.0**	**+1.2**
BMRM	**Bremner River**	**3.02**	**88**	P	**Pn**	**10 37 38.4**	**-2.4**
TT01	**Tatalina**	**3.12**	**310**	P	**Pn**	**10 37 43.0**	**+0.8**
TTA	**Tatalina**	**3.13**	**310**	*e*P	**Pn**	**10 37 43.2**	**+0.8**
TTA				P		10 37 43.5	
PAX	**Paxson**	**3.19**	**50**	P	**Pn**	**10 37 43.3**	**+0.1**
KDAK	**Kodiak Island**	**3.36**	**197**	P	**Pn**	**10 37 44.0**	**-1.7**
KDAK	**Kodiak Island**	**3.36**	**197**	P	**Pn**	**10 37 44.0**	**-1.6**
	14nm,0.3s,baz=37,slow=9.2,SNR=173						
KDAK				S	**Sn**	**10 38 20.6**	**-3.7**
	34nm,0.3s,baz=127,slow=22,SNR=7.4						
MENT	**Mentasta**	**3.86**	**57**	P	**Pn**	**10 37 51.6**	**-0.8**
COLA	**College**	**4.11**	**18**	P	**Pn**	**10 37 56.3**	**+0.6**
DOT	**Dot Lake**	**4.11**	**47**	P	**Pn**	**10 37 55.7**	**-0.1**
IL1	**Eielson Array**	**4.18**	**24**	P	**Pn**	**10 37 57.4**	**+0.6**
BCA3	**Beaver Creek A**	**4.72**	**60**	P	**Pn**	**10 38 03.3**	**-0.8**
IM3	**Indian Mountai**	**5.17**	**346**	P	**Pn**	**10 38 11.4**	**+1.2**
IMA2	**Indian Mountai**	**5.24**	**347**	*e*P	**Pn**	**10 38 12.4**	**+1.1**
IMA2				P		10 38 12.7	
IMA2				*e*S	**Sn**	**10 39 13.4**	**+3.1**
EGAK	**Eagle**	**5.80**	**45**	P	**Pn**	**10 38 18.8**	**-0.2**
DAWY	**Dawson**	**6.10**	**55**	P	**Pn**	**10 38 22.4**	**-0.7**
CHGN	**Chignik**	**6.17**	**223**	*e*P	**Pn**	**10 38 25.1**	**+1.0**
COLD	**Coldfoot**	**6.25**	**2**	P	**Pn**	**10 38 25.7**	**+0.6**
SKAG	**Skagway**	**7.85**	**95**	*e*P	**Pn**	**10 38 49.6**	**+2.5**
	14nm,0.8s						
INK	**Inuvik**	**10.37**	**38**	P	**Pn**	**10 39 21.0**	**-0.5**
INK				*e*P		10 39 21.9	
INK				*e*S	**Sn**	**10 41 22.4**	**+6.4**
INK				S	**Sn**	**10 41 22.4**	**+6.4**
INK	**Inuvik**	**10.37**	**38**	P	**Pn**	**10 39 21.0**	**-0.5**
INK				S	**Sn**	**10 41 22.4**	**+6.4**
INK				smax			
	comp=N,1.0nm,0.3s						
INK	**Inuvik**	**10.37**	**38**	P	**Pn**	**10 39 21.0**	**-0.5**
	comp=N,0.3nm,0.3s,baz=242,slow=15,SNR=22						
INK				S	**Sn**	**10 41 22.4**	**+6.4**
	comp=N,0.6nm,0.3s,baz=214,slow=17,SNR=6.4						
DLBC	**Dease Lake**	**10.78**	**95**	P	**Pn**	**10 39 23.6**	**-3.6**
	baz=260,slow=6.1						
YKA	**Yellowknife Ar**	**17.05**	**69**	P	**Pn**	**10 40 48.0**	**-2.2**
YKA				PcP	PcP	10 45 30.9	-1.6
YKA				ScP	ScP	10 49 00.5	-2.3
YKA	**Yellowknife Ar**	**17.05**	**69**	P	**Pn**	**10 40 48.0**	**-2.2**
	comp=N,0.2nm,0.3s,baz=276,slow=9.9,SNR=40						
YKA				PcP	PcP	10 45 30.9	-1.6
	comp=N,0.0nm,0.3s,baz=304,slow=1.1,SNR=4.4						
YKA				ScP	ScP	10 49 00.5	-2.3
	comp=N,0.0nm,0.3s,baz=298,slow=2.1,SNR=6.2						
BILL	**Bilibino**	**19.38**	**309**	*e*P	**Pn**	**10 41 16.0**	**-2.4**
BILL				pmax	pmax		
	comp=Z,1.0nm,1.3s						
A07A	**Ashnola River,**	**20.92**	**111**	⇓P	**P**	**10 41 34.0**	**+0.3**
	baz=21						
E03A	**Lebam**	**21.42**	**120**	⇓P	**P**	**10 41 38.7**	**-0.4**
	baz=21						
B07A	**Winthrop**	**21.47**	**112**	⇓P	**P**	**10 41 38.5**	**-1.0**
	baz=21						
A08A	**Turner Farm, O**	**21.49**	**110**	⇑P	**P**	**10 41 40.3**	**+0.5**
	baz=21						
EDM	**Edmonton**	**21.51**	**94**	*e*P	**P**	**10 41 39.1**	**-0.9**
A09A	**Danville**	**21.79**	**109**	⇓P	**P**	**10 41 43.0**	**0.0**
	baz=22						
B08A	**Colville Reser**	**21.90**	**111**	⇓P	**P**	**10 41 43.9**	**-0.3**
	baz=22						
C07A	**Waterville**	**22.06**	**113**	⇑P	**P**	**10 41 45.7**	**-0.3**
	baz=22						
A10A	**Northport**	**22.26**	**108**	⇓P	**P**	**10 41 47.7**	**-0.4**
	baz=22						
B09A	**Rice**	**22.39**	**109**	⇑P	**P**	**10 41 48.4**	**-1.0**
	baz=22						
D07A	**Quincy**	**22.48**	**114**	⇓P	**P**	**10 41 49.4**	**-0.9**
	baz=22						
A11A	**Hall Mountain,**	**22.84**	**106**	⇑P	**P**	**10 41 53.4**	**-0.8**
	baz=23						
NEW	**Newport**	**22.98**	**108**	P	**P**	**10 41 55.6**	**0.0**
NEW				pmax	pmax		
	comp=Z,4.0nm,0.6s						
NEW	**Newport**	**22.98**	**108**	P	**P**	**10 41 55.5**	**-0.1**
	comp=Z,4.4nm,0.6s,mb4.1,

	baz=27					
F15A	Butte	26.91 107	⇑P	P	10 42 30.7	-1.0
	baz=27					
G14A	Jackson	26.91 109	⇑P	P	10 42 31.2	-0.5
	baz=27					
K09A	Rome	27.00 118	⇓P	P	10 42 32.2	-0.3
	baz=27					
HATC	Hat Creek Radi	27.00 125	⇓P	P	10 42 32.3	-0.3
	baz=27					
H13A	Challis	27.06 111	⇑P	P	10 42 32.6	-0.5
	baz=27					
M06C	Likely Place G	27.07 123	⇑P	P	10 42 33.0	-0.2
	baz=27					
L08A	Fields	27.14 119	P	P	10 42 34.2	+0.4
	baz=27,SNR=7.6					
MFID	Camas Ranch	27.25 114	⇓P	P	10 42 34.3	-0.5
	baz=27					
K10A	MacKenzie Ranc	27.30 116	⇑P	P	10 42 35.0	-0.2
	baz=27					
G15A	Dillon	27.42 108	⇓P	P	10 42 35.6	-0.6
	baz=27					
BOZ	Bozeman (W)	27.46 106	⇓P	P	10 42 36.6	0.0
	baz=27					
M07A	Soldier Meadow	27.46 121	⇑P	P	10 42 36.7	+0.1
	baz=27					
O04C	Chester	27.58 125	⇓P	P	10 42 38.2	+0.5
	baz=27					
I13A	Wildhorse Cree	27.63 111	P	P	10 42 37.9	-0.3
	baz=27,SNR=7.3					
K11A	Parker Ranch,	27.68 115	⇑P	P	10 42 38.5	-0.1
	baz=27					
J12A	Stokes Ranch,	27.71 114	⇓P	P	10 42 38.4	-0.5
	baz=28					
N06A	Buffalo Meadow	27.72 123	P	P	10 42 39.7	+0.7
	baz=28,SNR=5.8					
M08A	Happy Creek Ra	27.74 120	⇑P	P	10 42 39.1	-0.1
	baz=28					
HLID	Hailey	27.77 112	⇓P	P	10 42 39.4	0.0
	baz=28					
O05C	Quincy	27.95 125	⇓P	P	10 42 41.3	+0.2
	baz=28					
L10A	Juniper Basin	28.04 117	⇓P	P	10 42 42.2	+0.3
	baz=28					
O06A	Flanigan	28.21 123	⇓P	P	10 42 43.5	+0.1
	baz=28					
BEKR	Beckwourth	28.25 125	⇑P	P	10 42 44.0	+0.2
	baz=28					
K12A	Draper Farm, C	28.28 114	⇑P	P	10 42 44.3	+0.3
	baz=28					
L11A	Cat Creek Ranc	28.28 116	⇑P	P	10 42 44.2	+0.2
	baz=28					
N08A	GE Springer Mi	28.40 120	P	P	10 42 45.6	+0.6
	baz=28,SNR=8.2					
M10A	I.L. Ranch, Tu	28.46 118	⇓P	P	10 42 46.0	+0.4
	baz=28					
N09A	Rock Creek Ran	28.60 120	⇑P	P	10 42 47.2	+0.5
	baz=28					
L12A	House Creek Ra	28.63 115	⇑P	P	10 42 47.3	+0.3
	baz=28					
P05C	Yuba Gap, Truc	28.64 126	⇓P	P	10 42 47.2	0.0
	baz=28					
Q03C	Winters	28.67 128	⇓P	P	10 42 48.0	+0.5
	baz=28					
M11A	Holland Ranch,	28.86 117	⇑P	P	10 42 49.6	+0.4
	baz=29					
WCN	Washoe City	28.98 124	⇑P	P	10 42 50.4	+0.3
	baz=29					
LAVA	Lava Cap Winer	29.06 126	⇑P	P	10 42 50.9	0.0
	baz=29					
IMW	Indian Meadow	29.10 108	eP	P	10 42 52.1	+0.8
	comp=Z,7.7nm,1.0s,mb4.4					
K14A	Jones Ranch, D	29.13 112	⇑P	P	10 42 52.2	+0.7
	baz=29					
M12A	Wells	29.26 116	⇑P	P	10 42 53.1	+0.4
	baz=29					
O09A	Fish Creek Ran	29.30 120	⇓P	P	10 42 53.5	+0.5
	baz=29					
R05C	Kirkwood Meado	29.36 125	⇓P	P	10 42 53.9	+0.3
	baz=29					
N11A	Elko Archery C	29.39 117	⇑P	P	10 42 54.0	+0.2
	baz=29					
TPAW	Teton Pass	29.41 108	eP	P	10 42 54.4	+0.4
	comp=Z,2.0nm,0.4s,mb4.2					
N12A	Clover Valley,	29.66 116	P	P	10 42 57.2	+1.0
	baz=29,SNR=5.6					
M14A	Sheep Mountain	29.88 114	⇑P	P	10 42 58.9	+0.7
	baz=30					
O11A	Cowboy Ranch,	29.99 118	P	P	10 42 59.9	+0.8
	baz=30,SNR=5.9					
P10A	Eureka	30.07 120	⇑P	P	10 43 00.3	+0.5
	baz=30					
Q08A	Gabbs	30.10 122	⇓P	P	10 43 00.5	+0.4
	baz=30					
O12A	Currie	30.27 117	⇓P	P	10 43 01.7	+0.1
	baz=30					
R07C	Lee Vining	30.30 125	⇓P	P	10 43 01.9	0.0
	baz=30					
M15A	Larsen Ranch,	30.32 113	⇓P	P	10 43 01.9	-0.1
	baz=30					
N14A	Grayback Hills	30.48 114	⇓P	P	10 43 03.6	+0.2
	baz=30					
PDAR	Pinedale Array	30.61 108	P	P	10 43 04.4	-0.2
	comp=Z,1.5nm,0.4s,mb4.2,baz=333,slow=4.2,SNR=26					
Q10A	Clear Creek Ra	30.76 120	⇑P	P	10 43 06.4	+0.5
	baz=30					
HAST	Hastings Reser	30.81 130	⇓P	P	10 43 06.8	+0.3
	baz=31					
P12A	McGill	30.86 118	⇓P	P	10 43 07.1	+0.3
	baz=31					
T06C	Millerton Lake	30.98 127	⇓P	P	10 43 08.0	+0.2
	baz=31					
R09A	Tonopah	30.98 122	P	P	10 43 08.2	+0.4
	baz=31,SNR=9.1					
Q11A	Duckwater	31.06 119	P	P	10 43 09.2	+0.6
	baz=31,SNR=8.6					
U04C	Hernandez Rese	31.13 129	⇑P	P	10 43 09.4	+0.2
	baz=31					
S08C	White Mtn Res	31.16 124	⇓P	P	10 43 09.8	+0.3
	baz=31					
DUG	Dugway	31.18 114	⇑P	P	10 43 09.3	-0.3
	baz=31					
R10A	Warm Springs	31.26 121	P	P	10 43 11.2	+0.8
	baz=31,SNR=5.5					
P13A	Bates Ranch, G	31.26 117	⇑P	P	10 43 10.4	+0.1
	baz=31					
TIXI	Tiksi	31.32 323	eP	P	10 43 08.1	-2.5
S09A	Goldfield	31.35 123	P	P	10 43 11.8	+0.6
	baz=31,SNR=5.4					
S10A	Tonopah Range,	31.45 122	P	P	10 43 12.4	+0.4
	baz=31,SNR=6.3					
R11A	Troy Canyon, C	31.51 120	P	P	10 43 12.8	+0.2
	baz=31,SNR=6.6					
HELL	Mitchell Peak	31.53 126	⇓P	P	10 43 12.8	0.0
	baz=31					
Q13A	Wheeler Ranch,	31.67 117	⇑P	P	10 43 14.1	+0.2
	baz=31					
R12A	Pony Springs,	31.94 119	⇑P	P	10 43 16.8	+0.4
	baz=32					
S11A	Rachel	32.03 121	⇑P	P	10 43 17.6	+0.5
	baz=32					
S12A	Delamar Landin	32.44 120	⇑P	P	10 43 21.0	+0.2
	baz=32					
FURC	Furnace Creek,	32.58 123	⇓P	P	10 43 22.3	+0.4
	baz=32					
T11A	Corn Creek, Al	32.60 120	⇓P	P	10 43 22.2	+0.1
	baz=32					
MPMC	Manual Prospec	32.68 125	⇑P	P	10 43 23.0	+0.2
	baz=32					
U10A	Ash Meadows, A	32.84 123	⇓P	P	10 43 24.7	+0.5
	baz=33					
MSU	Marysvale	32.84 115	eP	P	10 43 25.2	+1.0
S13A	Holt Ranch, En	32.89 118	P	P	10 43 25.1	+0.4
	baz=33,SNR=11					
ARUT	Antelope Range	32.89 118	eP	P	10 43 25.2	+0.6
S14A	Cedar City	33.03 117	P	P	10 43 26.4	+0.5
	baz=33,SNR=8.2					
SRU	San Rafael	33.09 113	eP	P	10 43 26.8	+0.4
	comp=Z,4.0nm,1.1s,mb4.3					
SRU	San Rafael	33.09 113	eP	P	10 43 26.8	+0.5
SRU			pmax	pmax		
	comp=Z,4.0nm,1.1s,mb4.3					
LRMC	Laurel Mountai	33.11 125	⇑P	P	10 43 26.6	0.0
	baz=33					
CCUT	Cedar City	33.13 118	eP	P	10 43 27.2	+0.4
T13A	Saint George	33.34 119	P	P	10 43 29.1	+0.6
	baz=33,SNR=7.2					
GSC	Goldstone	33.61 124	⇓P	P	10 43 31.0	0.0
	baz=33					
T14A	Hurricane	33.66 118	⇓P	P	10 43 31.3	-0.1
	baz=33					
V11A	Goodsprings	33.71 122	⇑P	P	10 43 32.1	+0.4
	baz=34					
U13A	Pakoon Wash	33.83 120	⇓P	P	10 43 33.2	+0.3
	baz=34					
TUQ	Turquoise Mtn.	33.85 123	⇓P	P	10 43 33.5	+0.5
	baz=34					
T15A	Red Dirt Ranch	34.00 117	P	P	10 43 35.0	+0.7
	baz=34,SNR=5.6					
U14A	Mt Trumbull	34.16 119	⇓P	P	10 43 35.9	+0.2
	baz=34					
BFSC	Mount Baldy St	34.20 126	⇑P	P	10 43 36.4	+0.3
	baz=34					
V13A	Grand Canyon W	34.30 120	⇓P	P	10 43 37.6	+0.7
	baz=34					
W12A	Cal Nev Ari	34.40 122	⇓P	P	10 43 38.0	+0.2
	baz=34					
BBRC	Big Bear Sol-O	34.47 125	⇓P	P	10 43 39.1	+0.7
	baz=34					
GMRC	Granite Mounta	34.53 123	⇓P	P	10 43 39.2	+0.3
	baz=34					
V14A	Boquillas Ranc	34.86 119	⇓P	P	10 43 42.4	+0.7
	baz=35					
W13A	Hualapai Mount	34.99 121	⇓P	P	10 43 43.6	+0.7
	baz=35					
BELC	Belle Mtn.	35.07 124	⇑P	P	10 43 43.5	-0.1
	baz=35					
V15A	Kaibab Nationa	35.10 118	⇓P	P	10 43 44.1	+0.3
	baz=35					
W14A	Seligman	35.23 120	P	P	10 43 45.7	+0.8
	baz=35,SNR=10					
IRM	Iron Mountain	35.27 123	⇓P	P	10 43 45.8	+0.4
	baz=35					
X13A	Yucca	35.44 121	⇓P	P	10 43 46.9	+0.1
	baz=35					
PDMCI	Parker Dam,Lak	35.57 122	⇑P	P	10 43 47.6	-0.3
	baz=35					
BC3	Big Chuckw Mtn	35.59 124	⇑P	P	10 43 48.1	0.0
	baz=35					
W15A	Williams	35.60 119	⇓P	P	10 43 48.8	+0.7
	baz=35					
WUAZ	Wupatki	35.70 117	eP	P	10 43 49.6	+0.6
	comp=Z,11nm,0.8s,mb4.8					
WUAZ	Wupatki	35.70 117	⇓P	P	10 43 49.1	+0.2
	baz=35					
MONP	Monument Peak	35.88 126	⇓P	P	10 43 50.9	+0.4
	baz=36					
Y12C	Blythe	35.89 123	⇑P	P	10 43 51.0	+0.4
	baz=36					
X14A	Yava	35.94 120	P	P	10 43 51.9	+0.8
	baz=36,SNR=9.8					
Y13A	Salome	36.12 122	⇑P	P	10 43 52.9	+0.4
	baz=36					
X15A	Humboldt	36.20 119	⇓P	P	10 43 54.3	+1.0
	baz=36					
Y14A	Wickenburg	36.35 121	⇑P	P	10 43 54.8	+0.2
	baz=36					
GLA	Glamis	36.37 124	⇑P	P	10 43 54.5	-0.2
	baz=36					
X16A	Lo Mia Camp, P	36.60 118	⇑P	P	10 43 57.3	+0.6
	baz=36					
Y15A	Casa Rosa Ranc	36.62 120	P	P	10 43 57.5	+0.6
	baz=36,SNR=8.2					
Z14A	Wintersburg	36.87 121	⇑P	P	10 43 59.1	+0.1
	baz=37					
X17A	Forest Lakes	36.95 118	P	P	10 44 00.5	+0.9
	baz=37,SNR=5.1					
X18A	Snowflake	37.15 117	P	P	10 44 02.1	+0.7
	baz=37,SNR=5.5					
Y17A	Roosevelt	37.48 118	⇑P	P	10 44 04.3	+0.2
	baz=37					
X19A	St. Johns	37.53 116	⇓P	P	10 44 04.7	+0.2
	baz=37					
Z16A	Peralta Trail,	37.53 119	⇑P	P	10 44 04.6	0.0
	baz=37					
115A	Sonoran Desert	37.75 121	⇑P	P	10 44 06.9	+0.5
	baz=38					
Y18A	Canyon Day Jun	37.76 117	⇑P	P	10 44 07.2	+0.7
	baz=38					
Y19A	Nutrioso	37.94 116	P	P	10 44 09.3	+1.3
	baz=38,SNR=6.9					
Z17A	San Carlos Hig	37.98 118	P	P	10 44 09.5	+1.1
	baz=38,SNR=6.2					
116A	Eloy	38.09 120	⇓P	P	10 44 09.2	-0.1
	baz=38					
ANMO	Albuquerque	38.35 112	eP	P	10 44 10.2	-1.2
117A	Oracle	38.49 119	⇓P	P	10 44 13.1	+0.5
	baz=38					
118A	Homack Ranch,	38.76 118	⇑P	P	10 44 14.8	-0.1
	baz=38					
119A	Ashpeak Ranch,	38.94 117	⇓P	P	10 44 16.5	+0.1
	baz=39					
217A	Green Valley	39.14 120	⇑P	P	10 44 18.6	+0.5
	baz=39					
219A	White Tail Can	39.61 118	⇓P	P	10 44 22.3	+0.3
	baz=39					
318A	Bisbee	39.78 119	⇑P	P	10 44 23.7	+0.3
	baz=40					
319A	Douglas	40.14 118	⇓P	P	10 44 26.8	+0.4
	baz=40					
SCHQ	Schefferville	42.10 59	P	P	10 44 40.7	-1.6
	comp=Z,3.0nm,0.9s,mb3.9,baz=290,slow=12,SNR=2.8					
TXAR	Lajitas Array	44.35 114	P	P	10 45 00.2	-0.5
TXAR			pmax	pmax		
	comp=Z,1.0nm,0.8s					
TXAR	Lajitas Array	44.35 114	P	P	10 45 00.2	-0.5
	comp=Z,1.2nm,0.8s,mb3.7,baz=327,slow=6.6,SNR=14					
BOD	Bodaibo	44.43 310	eP	P	10 44 58.5	-2.5
BOD			pmax	pmax		
	comp=Z,2.0nm,2.6s,mb3.4					
MDJ	Mudanjiang	47.62 288	P	P	10 45 26.3	0.0
MDJ			XP	sP	10 45 42.5	-3.0
MDJ			SCP	ScP	10 50 45.3	+0.6
MDJ			S	S	10 52 19.0	+1.1
MDJ			XS	sS	10 52 38.5	-1.9
MDJ			AMB	AMB		
	comp=Z,6.0nm,1.7s,mb4.3					
MDJ			AMB	AMB		
	comp=Z,54nm,4.5s					
MDJ			LR	LR		
	comp=Z,27nm,20.9s,MS3.2					
ARCES	ARCESS Array B	49.72 2	P	P	10 45 39.4	-2.6
ARCES	ARCESS Array B	49.72 2	P	P	10 45 39.4	-2.6
ARCES			pmax	pmax		
	comp=Z,2.0nm,0.9s					
ARCES	ARCESS Array B	49.72 2	P	P	10 45 39.4	-2.6
	comp=Z,2.2nm,0.9s,mb4.2,baz=12,slow=6.2,SNR=4.8					
CN2	Changchun	50.16 290	eP	P	10 45 43.5	-2.2
KSRS	Korea Array	54.02 284	P	P	10 46 13.7	-0.8
	comp=Z,2.7nm,0.8s,mb4.2,baz=24,slow=6.5,SNR=9.3					
KSRS			LR	LR	11 08 28.6	
	comp=Z,14nm,19.0s,MS3.0,baz=55,slow=35					
SONM	Songino Array	55.07 307	P	P	10 46 21.9	0.0
SONM			pmax	pmax		
	comp=Z,4.0nm,0.7s					
SONM	Songino Array	55.07 307	P	P	10 46 21.9	0.0
	comp=Z,3.7nm,0.7s,mb4.5,baz=37,slow=7.8,SNR=26					
ZALV	Zalesovo Beam	57.20 325	P	P	10 46 35.1	-1.9
	comp=Z,1.1nm,0.6s,mb4.1,baz=39,slow=5.4,SNR=3.6					
ZAL	Zalesovo	57.21 325	P	P	10 46 35.1	-2.0
ZAL			pmax	pmax		
	comp=Z,1.0nm,0.6s					
NB2	NORSAR Subarra	57.49 10	P	pP	10 46 53.6	+0.9
	comp=Z,0.7nm,0.7s,baz=352,slow=6.9					
KURK	Kurchatov	61.80 327	eP	P	10 47 10.0	+1.3
MKAR	Makanchi Array	64.31 322	P	P	10 47 23.1	-2.4
	comp=Z,0.3nm,0.3s,mb3.8,baz=35,slow=6.0,SNR=4.2					
LZH	Lanzhou	65.95 301	eP	P	10 47 35.0	-1.2
LZH			AP	pP	10 47 47.5	-2.7
LZH			XP	sP	10 47 53.0	-2.9
LZH			AMB	AMB		
	comp=Z,14nm,1.3s,mb4.8					
AKASG	Malin Array Be	68.64 360	P	P	10 47 50.9	-2.1
	comp=Z,0.3nm,0.2s,mb3.8,baz=356,slow=7.2,SNR=3.9					
GYA	Guiyang	73.01 294	P	P	10 48 19.0	-0.9
GYA			AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.8					
QSPA	South Pole Qui	150.81 180	PKPbc	PKPbc	10 56 39.0	-1.3
	comp=Z,1.4nm,0.6s,baz=359,slow=3.0,SNR=11					

*ISCJB **25** 10:50:58.3±0.6,276N±0.1×1272E±0.1,h164km±11km, mb3.3/3, Error ellipse: s-maj=22.4km s-min=6.7km az=135.6*
*IDC **25** 10:50:58.8±1.0,2744N×12724E,h168km±16km,mb3.2/3, mb1 3.3/4,mb1mx3.0/20,mbtmp3.3/4, Error ellipse: s-maj=35.3km s-min=33.5km az=64.0*
*JMA **25** 10:50:59.9±0.2,2773N×127.14E,h141km,M3.7*
*NEIC **25** 10:50:59.9,2773N×127.14E,h141km,MG3.7(JMA), After JMA.*

ISC 25 10:50:59.3±0.6,276N±01×1272E±01,h159km±12km,n17, σ0:88/26,mb3.3/3,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIH	Iheya	0.87	130	P	Pn	10 51 24.3	+0.5
JIH				eS	Sn	10 51 42.8	+0.2
JAGN	Aguni-jima	1.00	179	P	Pn	10 51 25.1	+0.2
JAGN				S	Sn	10 51 44.5	0.0
JOW	Kunigami	1.21	129	P	Pn	10 51 27.2	+0.5
JOW				eS	Sn	10 51 47.3	-0.3
JOW	Kunigami	1.21	129	P	Pn	10 51 27.3	+0.6
	236nm,0.3s,baz=349,slow=5.2,SNR=468						
JOW				S	Sn	10 51 47.2	-0.4
	66nm,0.3s,baz=107,slow=26,SNR=10						
JKE	Kume jima 2	1.32	197	P	Pn	10 51 27.9	+0.1
JKE				eS	Sn	10 51 48.6	-1.0
NAH1	Naha	1.45	163	P	Pn	10 51 30.0	+1.0
NAH1				S	Sn	10 51 51.7	-0.1
JJT2	Tamagusuku 2	1.53	162	P	Pn	10 51 31.2	+1.4
JJT2				S	Sn	10 51 53.9	+0.7
JTK	Tokunoshima	1.55	83	P	Pn	10 51 30.0	+0.1
JTK				S	Sn	10 51 52.5	-1.0
JAM	Amami Oshima	2.26	68	P	Pn	10 51 37.8	-0.1
JAM				eS	Sn	10 52 06.0	-1.7
JZK	Kikaishima	2.54	73	eS	Sn	10 52 13.7	+0.1
JOGS	Gusukube	3.26	210	eS	Sn	10 52 28.5	-1.3
JKC	Kuchinoerabu	3.87	42	P	Pn	10 51 58.4	+0.5
JNU	Nakatsue	6.35	29	P	Pn	10 52 31.7	+1.1
	2.2nm,0.3s,baz=192,slow=15,SNR=21						
SONM	Songino Array	25.92	327	P	P	10 56 18.0	+1.5
	0.9nm,0.4s,mb3.7,baz=142,slow=11,SNR=5.2						
MKAR	Makanchi Array	39.96	311	P	P	10 58 16.1	-1.9
	0.6nm,0.5s,mb3.5,baz=102,slow=9.7,SNR=6.7						
MKAR				PcP	PcP	11 00 19.0	-1.0
	0.2nm,0.2s,baz=94,slow=2.0,SNR=3.5						
YKA	Yellowknife Ar	77.67	25	P	P	11 02 37.0	-0.9
YKA	Yellowknife Ar	77.67	25	P	P	11 02 37.0	-0.8
	0.1nm,0.5s,mb2.7,baz=307,slow=5.6,SNR=5.9						

*IDC **25** 10:51:31.3±9.5,3145S×17965W,h197km±64km,mb3.7/4, mb1 3.7/5,mb1mx3.5/15,mbtmp3.6/5, Error ellipse: s-maj=88.1km s-min=20.6km az=45.0*

ISC 25 10:51:41.8±1.5,3211S±010×1797E±02,h274km±13km, n20,σ1:23/26,mb3.7/4,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	5.56	192	PN	Pn	10 53 05.1	+0.1
PUZ	Puketiti	6.07	191	PN	Pn	10 53 10.9	-0.3
PUZ				SN	S	10 54 25.8	+2.9
MWZ	Matawai	6.47	196	PN	Pn	10 53 15.8	-0.3
MWZ				SN	S	10 54 34.8	+2.9
URZ	Urewera	6.50	199	P	Pn	10 53 16.4	-0.1
	1.0nm,0.3s,baz=300,slow=5.2,SNR=11						
URZ				S	S	10 54 36.7	+4.1
	3.8nm,0.3s,baz=88,slow=23,SNR=19						
URZ	Urewera	6.50	199	PN	Pn	10 53 16.1	-0.4
BFZ	Birch Farm	9.00	197	SN	S	10 55 30.3	+0.8
MRZ	Mangatainoka R	9.16	200	ePN	Pn	10 53 46.7	-2.9
MRZ				SN	S	10 55 31.6	-1.7
TIWZ	Tintock	9.19	199	SN	S	10 55 33.8	0.0
CAW	Cannon Point	9.73	201	PN	Pn	10 53 53.7	-2.9
NNZ	Nelson	10.42	208	ePN	Pn	10 54 05.7	+0.5
NNZ				SN	S	10 56 01.7	-0.4
QRZ	Quartz Range	10.45	212	ePN	Pn	10 54 06.3	+0.8
THZ	Tophouse	11.07	208	ePN	Pn	10 54 12.0	-1.3
THZ				SN	S	10 56 16.6	-0.4
KHZ	Kahutara	11.40	204	PN	Pn	10 54 16.5	-0.9
DSZ	Denniston Nort	11.52	211	PN	Pn	10 54 18.9	+0.1
STKA	Stephens Creek	32.24	260	P	P	10 57 47.9	+2.9
	1.0nm,0.5s,mb3.6,baz=117,slow=8.4,SNR=3.9						
ASAR	Alice Springs	41.12	270	P	P	10 59 00.1	+0.4
	1.0nm,0.4s,mb3.4,baz=106,slow=7.4,SNR=27						
WRA	Warramunga Arr	42.27	275	P	P	10 59 08.9	-0.1
	2.1nm,0.3s,mb3.8,baz=112,slow=8.0,SNR=38						
QSPA	South Pole Qui	58.00	180	P	P	11 01 07.6	+2.0
	3.8nm,0.7s,mb3.9,baz=18,slow=1.6,SNR=20						
SNAA	Sanae	76.49	179	e	P	11 03 00.5	-0.7
VNA2	Neumayer--Watz	77.13	178	e	P	11 03 04.3	-0.5
	baz=192,slow=6.1						

*NEIC **25** 11:01:10.5,7133N×13436W,h18km,ML3.1(PGC), ML2.8(AEIC),After PGC.*

OTT 25 11:01:10.5±0.7,7133N×13436W,h18km,ML3.1/5,1D, Beaufort Seismic Zone. 216km northeast from Tuktoyaktuk, Nt,Beaufort Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
INK	Inuvik	3.05	174	ePn	Pn	11 01 58.0	+0.3
INK				eSn	Sn	11 02 33.4	-0.3
INK	Inuvik	3.05	174	⇓PN	Pn	11 01 57.9	+0.2
INK				SN	Sn	11 02 33.1	-0.7
INK				Trac		11 02 35.7	
	comp=Z,8.4nm,0.2s						
BM3	Burnt Mountain	5.34	228	P	Pn	11 02 27.2	-1.9
BM3				S	Sn	11 03 23.4	-6.6
EGAK	Eagle	7.05	204	P	Pn	11 02 50.9	-1.8
EGAK				S	Sn	11 04 08.1	-4.1
DAWY	Dawson	7.54	197	P	Pn	11 02 57.2	-2.2
DAWY				S	Sn	11 04 18.6	-5.6
DAWY	Dawson	7.54	197	PN	Pn	11 02 57.4	-2.0
DAWY				SN	Sn	11 04 17.5	-6.7
DAWY				Trac		11 04 24.8	
	comp=Z,4.1nm,0.3s						
IL1	Eielson Array	8.07	221	P	Pn	11 03 04.7	-1.8
BCA3	Beaver Creek A	8.78	203	P	Pn	11 03 14.1	-2.2
IM3	Indian Mountai	8.84	242	P	Pn	11 03 14.1	-2.9
GALN	Gameti Lake	9.67	130	PN	Pn	11 03 27.7	-0.8
GALN				SN	Sn	11 05 07.8	-8.6
GALN				SN	Sn	11 05 10.2	-6.2
CTLN	Castor Lake	9.74	126	PN	Pn	11 03 28.7	-0.8
CTLN				SN	Sn	11 05 11.1	-7.1
COWN	Contwyoto Lake	10.45	114	PN	Pn	11 03 38.1	-1.0
COWN				SN	Sn	11 05 27.1	-8.4
HYT	Haines Junctio	10.63	188	PN	Pn	11 03 41.3	-0.3
GBLN	Grizzly Bear L	10.73	121	PN	Pn	11 03 42.6	-0.4
GBLN				SN	Sn	11 05 36.0	-6.6
GLWN	Glow Worm Lake	11.39	113	SN	Sn	11 05 50.1	-8.3
MCKN	MacKay Lake No	11.52	116	PN	Pn	11 03 51.9	-1.9
MCKN				SN	Sn	11 05 53.3	-8.4
YKB0	Yellowknife Ar	11.61	129	SN	Sn	11 05 54.0	-10
YKB0				Trac		11 06 10.4	
	comp=Z,0.6nm,0.3s						
YKB9	Yellowknife Ar	11.63	129	SN	Sn	11 05 55.1	-9.2
YKB9				Trac		11 06 02.1	
	comp=Z,0.4nm,0.2s						
YKW3	Yellowknife Ar	11.64	129	PN	Pn	11 03 54.4	-1.0
YKW3				SN	Sn	11 05 55.9	-8.8
YKW3				Trac		11 06 03.9	
	comp=Z,0.4nm,0.2s						
YKB8	Yellowknife Ar	11.64	129	PN	Pn	11 03 54.4	-1.1
YKB8				SN	Sn	11 05 55.5	-9.3
RES	Resolute Bay	11.83	55	PN	Pn	11 03 54.0	-3.9
RES				SN	Sn	11 05 57.5	-12
BOXN	Box Lake	11.93	117	SN	Sn	11 06 04.1	-7.5

*NEIC **25** 11:42:14.2±0.6,2052S×16937E,h10km,mb4.3/4,Error ellipse: s-maj=20.4km s-min=16.2km az=145.0*
*ISCJB **25** 11:42:18.9±2.9,207S±0.1

DZM				*e*S	**Sn**	**11 43 42.9**	**+0.3**
URZ	**Urewera**	**18.73**	**161**	P	**Pn**	**11 46 35.8**	**+0.6**
	0.5nm,0.3s,baz=92,slow=10,SNR=9.7						
CTA	**Charters Tower**	**21.72**	**268**	*e*P	**P**	**11 47 10.1**	**+3.2**
	6.6nm,1.1s,mb4.0						
CTA	**Charters Tower**	**21.72**	**268**	P	**P**	**11 47 10.6**	**+3.7**
	2.2nm,0.7s,mb3.7,baz=40,slow=16,SNR=5.5						
STKA	**Stephens Creek**	**27.24**	**240**	*e*P	**P**	**11 47 56.8**	**-2.3**
	3.1nm,0.7s,mb4.0						
STKA				pP	pP	11 48 12.4	-1.1
STKA	**Stephens Creek**	**27.24**	**240**	P	**P**	**11 48 00.9**	**+1.8**
	1.1nm,0.5s,mb3.6,baz=98,slow=14,SNR=8.7						
STKA				pP	pP	11 48 12.4	-1.1
	2.4nm,0.6s,baz=85,slow=7.1,SNR=4.9						
WB2	**Warramunga Arr**	**32.86**	**265**	*e*P	**P**	**11 48 48.6**	**-0.3**
WRA	**Warramunga Arr**	**32.87**	**265**	P	**P**	**11 48 48.4**	**-0.6**
	0.6nm,0.5s,mb3.8,baz=94,slow=8.3,SNR=19						
WRA				PcP	PcP	11 51 32.8	+0.1
	0.4nm,0.6s,baz=91,slow=3.6,SNR=3.9						
ASAR	**Alice Springs**	**32.97**	**258**	P	**P**	**11 48 50.2**	**+0.4**
	5.1nm,0.9s,mb4.4,baz=82,slow=8.9,SNR=35						
ASAR				pP	pP	11 49 01.1	-3.4
	3.7nm,0.8s,baz=81,slow=9.1,SNR=11						
FORT	**Forrest**	**38.40**	**246**	*e*P	**P**	**11 49 37.0**	**+0.7**
	5.2nm,0.7s,mb4.4						
KLBR	**Kellerberrin**	**47.26**	**246**	*e*P	**P**	**11 50 47.9**	**-0.1**
	4.8nm,0.4s,mb4.8						
MJAR	**Matsushiro Arr**	**64.11**	**332**	P	**P**	**11 52 48.0**	**-0.6**
	2.0nm,0.8s,mb4.2,baz=165,slow=7.9,SNR=5.3						
VNA3	**Neumayer Olymp**	**88.31**	**180**	*e*	**P**	**11 55 04.2**	**-1.0**
VNA3				*e*		11 55 11.1	
VNA3				*e*	pP	11 55 16.6	-5.3
VNA3				*e*	pP	11 55 20.3	-1.6
SONM	**Songino Array**	**88.48**	**323**	P	**P**	**11 55 06.7**	**+0.4**
	1.5nm,0.8s,mb4.3,baz=130,slow=6.0,SNR=10						
SONM				pP	pP	11 55 19.3	-3.6
	1.1nm,0.8s,baz=126,slow=7.0,SNR=5.3						
VNA2	**Neumayer--Watz**	**88.60**	**181**	*e*	**P**	**11 55 06.1**	**-0.5**
VNA2				*e*		11 55 13.5	
VNA2				*e*	pP	11 55 18.9	-4.4
VNA2				*e*	pP	11 55 22.6	-0.7
NVAR	**Mina Array Bea**	**89.63**	**48**	P	**P**	**11 55 12.6**	**+0.6**
	0.8nm,1.0s,mb4.0,baz=210,slow=5.1,SNR=3.7						
ARCES	**ARCESS Array B**	**126.51**	**345**	PKP	PKPdf	12 01 15.2	-0.9
	0.8nm,0.7s,baz=64,slow=2.8,SNR=7.1						
ARCES				pPKP	pPKPdf	12 01 28.1	-5.4
	1.0nm,0.7s,baz=336,slow=1.1,SNR=1.8						
DPC	**Dobruska-Polom**	**143.58**	**331**	*e*PKP	PKPdf	12 01 46.1	-2.3
BRG	**Berggiesshubel**	**144.24**	**333**	*i* P	PKPdf	12 01 48.0	-1.6
	12nm,0.9s						
CLL	**Collm**	**144.30**	**335**	⇓*i*P	PKPdf	12 01 47.9	-1.7
CLL	**Collm**	**144.30**	**335**	⇓*i*PKPdf	PKPdf	12 01 47.9	-1.7
	comp=Z,13nm,1.1s						
PRU	**Pruhonice**	**144.64**	**332**	*e*PKP	PKPdf	12 01 49.4	-0.9
NKC	**Novy Kostel**	**145.35**	**334**	*e*PKP	PKPdf	12 01 52.5	+1.0
KHC	**Kasperske Hory**	**145.69**	**332**	*e*PKP	PKPdf	12 01 52.9	+0.8
KHC				*ex*	x	12 02 05.0	
GERES	**GERESS Array B**	**145.85**	**331**	PKPbc	PKPbc	12 01 52.6	-0.4
	comp=Z,2.9nm,0.6s,baz=35,slow=3.3,SNR=20						
GERES				pPKPbc	pPKPbc	12 02 05.7	-4.4
	comp=Z,1.9nm,0.7s,baz=33,slow=3.7,SNR=4.4						
GRA1	**Grafenberg Arr**	**146.27**	**334**	*e*PKP	PKPab	12 01 54.8	-0.3
GRF	**Grafenberg Arr**	**146.27**	**334**	*e*PKP	PKPab	12 01 54.8	-0.3
CRES	**Cresnjev**	**147.08**	**326**	*i* PKP	PKPbc	12 01 56.4	-0.3
BOJS	**Bojanci**	**147.40**	**325**	*i* PKP	PKPbc	12 01 57.7	+0.1
CEY	**Cerknica**	**147.67**	**326**	*e*PKP	PKPbc	12 01 58.1	-0.2
CDF	**Champ du Feu**	**148.84**	**337**	*e*PKP1	PKPbc	12 02 00.8	-0.5
HAU	**Haudompre**	**149.52**	**337**	*e*PKP1	PKPbc	12 02 01.8	-1.2
CABF	**La Chapelle**	**150.79**	**336**	*e*PKP1	PKPbc	12 02 06.2	+0.1
	comp=Z,12nm,0.7s						
FLN	**La Foliniere**	**150.85**	**346**	*e*PKP1	PKPbc	12 02 05.3	-0.9
	comp=Z,9.1nm,0.7s						
LDF	**La Druitiere**	**150.93**	**346**	*e*PKP1	PKPbc	12 02 05.4	-1.0
	comp=Z,7.9nm,0.6s						
LOR	**Lormes**	**151.01**	**339**	*e*PKP1	PKPbc	12 02 06.1	-0.5
	comp=Z,8.1nm,0.7s						
GRR	**Gorron**	**151.28**	**346**	*e*PKP1	PKPbc	12 02 06.4	-0.8
SSF	**Saint Saulge**	**151.31**	**340**	*e*PKP1	PKPbc	12 02 06.7	-0.6
LPL	**La Plagne**	**151.44**	**334**	*e*PKP1	PKPbc	12 02 07.7	0.0
LPG	**La Plagne**	**151.44**	**334**	*e*PKP1	PKPbc	12 02 07.8	+0.1
	comp=Z,9.2nm,0.7s						
AVF	**Avril sur Loir**	**151.60**	**340**	*e*PKP1	PKPbc	12 02 07.3	-0.7
BGF	**Bois d'Agland**	**151.97**	**340**	*e*PKP1	PKPbc	12 02 08.2	-0.7
	comp=Z,9.6nm,0.8s						
MBDF	**Montbardon**	**152.06**	**333**	*e*PKP1	PKPbc	12 02 08.5	-0.6
ORIF	**Oris-en-Rattie**	**152.27**	**334**	*e*PKP1	PKPbc	12 02 09.1	-0.5
	comp=Z,7.3nm,0.6s						
TCF	**Toulx Ste Croi**	**152.41**	**341**	*e*PKP1	PKPbc	12 02 09.2	-0.7
	comp=Z,3.8nm,0.7s						
SBF	**Sospel**	**152.45**	**331**	*e*PKP1	PKPbc	12 02 09.0	-1.0
PGF	**Pioggiola**	**152.69**	**327**	*e*PKP1	PKPbc	12 02 10.0	-0.6
	comp=Z,10nm,0.7s						
VIVF	**Saint-Julien-l**	**152.80**	**336**	*e*PKP1	PKPbc	12 02 10.3	-0.5

BJI ***25*** *11:52:53.7, 7.55N×12673E, h27km, mB5.3, mb5.3, Ms5.2, Msz5.2*

ISCJB ***25*** *11:52:54.3±0.1, 7.44N±002×12657E±003, h31km, mb5.5/143, MS5.2/148, Error ellipse: s-maj=3.8km s-min=3.1km az=170.5*

MOS ***25*** *11:52:54.9±1.1, 7.46N×12642E, h33km, mb5.7/67, MS5.1/40, Error ellipse: s-maj=8.7km s-min=4.7km az=110.2*

MAN ***25*** *11:52:54, 7.16N×12559E, h61km, mb4.3, ML5.2, MS5.2*

MAN INTENSITY V - MATI, DAVAO, ORIENTAL; INTENSITY VI - TARRAGONA, DAVAO, ORIENTAL; INTENSITY III - DAVAO CITY; INTENSITY I - BUTUAN CITY.

IDC ***25*** *11:52:55.1±1.5, 7.45N×12643E, h25km±9km, mb5.2/29, mb1 5.3/30, mb1mx5.2/31, mbtmp5.2/30, ML5.8/1, MS4.9/25, Ms1 4.9/25, ms1mx4.8/34, Error ellipse: s-maj=15.5km s-min=8.4km az=84.0*

GCMT ***25*** *11:52:55.6±0.2, 7.31N×12648E, h24km, MW5.7/82, Moment Tensor Solution. s82,c140; s79,c131; Duration: 1!6 Moment tensor: Scale 10^{17}Nm; M_{rr}0.05±.05; $M_{\theta\theta}$1.55±.03; $M_{\phi\phi}$-1.60±.04; $M_{r\theta}$1.89±.07; $M_{\theta\phi}$-0.04±.03; $M_{\phi r}$2.99±.07; Best double couple: M_o3.83800×10^{17} NP1:ϕ_s131.00000°, δ23.00000°, λ4.00000°. NP2:ϕ_s37.00000°, δ88.00000°, λ113.00000°. Principal axes: T 3.5380, Plg42.0000°, Azm329.0000°; N 0.5960, Plg23.0000°, Azm216.0000°; P -4.1370, Plg39.0000°, Azm106.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

NEIC ***25*** *11:52:55.6±0.1, 7.40N×12644E, mb5.6/57, MS5.3/93, MW5.5 Error ellipse: s-maj=5.9km s-min=4.3km az=71.0, Moment Tensor Solution. s16 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.06; $M_{\theta\theta}$1.39; $M_{\phi\phi}$-1.34; $M_{r\theta}$1.00; $M_{\theta\phi}$0.45; $M_{\phi r}$1.51; Best double couple: M_o2.30000×10^{17} NP1: ϕ_s125.00000°, δ38.00000°, λ-2.00000°. NP2:ϕ_s216.00000°, δ89.00000°, λ-128.00000°. Principal axes: T 2.2800, Plg33.0000°, Azm337.0000°; N 0.0600, Plg38.0000°, Azm217.0000°; P -2.3400, Plg34.0000°, Azm94.0000°;*

NEIC Felt [VI PIVS] at Tarragona; [V PIVS] at Mati; [III PIVS] at Bislig and Davao; [I PIVS] at Butuan. Also felt at Cagayan and Tagum.

ISC 25 11:52:56.2±0.1, 744N±002×12657E±003, h32km, h32km±.8km: pP-P, n598, σ1.914/490, mb5.5/143, MS5.2/148, 42C-23D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MYLDM	**Lahad Datu**	**8.33**	**255**	⇑P	**Pn**	**11 54 57.4**	**+2.5**
TSM	**Tawau**	**9.20**	**251**	⇓P	**Pn**	**11 55 08.1**	**+1.3**
SDKM	**Sandakan**	**9.49**	**260**	⇓P	**Pn**	**11 55 13.4**	**+2.7**
KDM	**Kudat**	**9.68**	**268**	⇑P	**Pn**	**11 55 19.6**	**+6.3**
KKM	**Kota Kinabalu**	**10.38**	**263**	*e*Pn	**Pn**	**11 55 25.2**	**+2.2**
KKM	**Kota Kinabalu**	**10.38**	**263**	⇑P	**Pn**	**11 55 27.1**	**+4.1**
BTM	**Bintulu**	**14.07**	**253**	⇑P	**Pn**	**11 56 15.3**	**+1.8**
SBUM	**Sibu**	**15.13**	**252**	⇑P	**Pn**	**11 56 28.9**	**+1.2**
KSM	**Kuching**	**17.26**	**251**	*e*P	**Pn**	**11 56 55.7**	**+0.7**
KSM	**Kuching**	**17.26**	**251**	⇓P	**Pn**	**11 56 55.9**	**+1.0**
BATI	**Kupang**	**17.77**	**189**	P	**Pn**	**11 57 01.2**	**0.0**
	34nm,0.3s,baz=173,slow=0.8,SNR=72						
BATI				S	**Sn**	**12 00 24.4**	**+6.0**
	4.4nm,0.3s,baz=287,slow=19,SNR=3.8						
YHNB	**Yeheng**	**17.84**	**344**	*e*P	**Pn**	**11 57 03.0**	**+0.9**
GUMO	**Guam**	**18.99**	**70**	*e*P	**Pn**	**11 57 18.3**	**+2.1**
	713nm,1.5s						
GUMO				P		11 57 21.4	
GUMO				LR	LR	12 03 19.6	
GUMO	**Guam**	**18.99**	**70**	*e*P	**Pn**	**11 57 18.3**	**+2.1**
GUMO				pmax	pmax		
	comp=Z,713nm,1.5s						
GUMO	**Guam**	**18.99**	**70**	P	**Pn**	**11 57 21.4**	**+5.3**
	comp=Z,8.5nm,0.3s,baz=203,slow=11,SNR=5.8						
GUMO				LR	LR	12 03 19.6	
	comp=Z,3μm,21.2s,baz=245,slow=33						
HKC	**Hong Kong Obse**	**19.00**	**322**	⇑*i*P	**Pn**	**11 57 22.0**	**+5.8**
QZH	**Quanzhou**	**19.01**	**337**	⇑*i*P	**Pn**	**11 57 12.3**	**-4.0**
QZH				S	**Sn**	**12 00 42.3**	**-6.0**
QZH				LR	LR		
	comp=N,14μm,18.4s						
QZH				LR	LR		
	comp=E,7μm,20.4s						
QZH				LR	LR		
	comp=Z,12μm,19.6s						
JOW	**Kunigami**	**19.36**	**5**	P	**Pn**	**11 57 21.1**	**+0.7**
	comp=Z,29nm,0.3s,baz=193,slow=8.2,SNR=75						
JOW				S	**Sn**	**12 00 57.4**	**+0.7**
	comp=Z,0.5nm,0.3s,baz=259,slow=5.2,SNR=2.2						
JOW				LR	LR	12 03 46.5	
	comp=Z,4μm,21.1s,baz=359,slow=34						
QIZ	**Qiongzhong**	**19.93**	**307**	P	**Pn**	**11 57 27.5**	**+0.2**
QIZ				XP	sP	11 57 38.8	+0.6
QIZ				S	**Sn**	**12 01 02.3**	**-8.3**
QIZ				AMB	AMB		
	comp=Z,1μm,5.0s						
QIZ				LR	LR		
	comp=N,4μm,20.9s						
QIZ				LR	LR		
	comp=E,3μm,24.1s						
QIZ				LR	LR		
	comp=Z,9μm,20.8s						
QIZ	**Qiongzhong**	**19.93**	**307**	*e*P	**Pn**	**11 57 27.7**	**+0.4**
	comp=Z,654nm,1.1s						
GZH	**Guangzhou**	**20.10**	**322**	P	**P**	**11 57 30.3**	**+3.0**
GZH				LR	LR		
	comp=N,6μm,21.6s,MS5.0						
GZH				LR	LR		
	comp=E,5μm,20.3s,MS5.0						
GZH				LR	LR		
	comp=Z,10μm,25.3s,MS5.1						
KAKA	**Kakadu**	**20.85**	**164**	*e*P	**P**	**11 57 34.8**	**-0.7**
	comp=Z,717nm,0.6s						
KAKA				*e*S	**S**	**12 01 33.6**	**+7.1**
MYKOM	**Kota Tinggi**	**23.32**	**257**	⇑P	**P**	**11 58 03.0**	**+1.0**
KTGM	**Kuala Trenggan**	**23.39**	**266**	⇑P	**P**	**11 58 03.9**	**+1.2**
KGM	**Kluang**	**23.78**	**258**	⇓P	**P**	**11 58 07.1**	**+0.8**
SSE	**Sheshan**	**24.07**	**349**	P	**P**	**11 58 09.3**	**+0.6**
SSE				AP		11 58 19.8	
SSE				XP	sP	11 58 24.3	+2.3
SSE				S	**S**	**12 02 22.8**	**-1.3**
SSE				AMB	AMB		
	comp=Z,51nm,0.7s,mb5.1						
SSE				AMB	AMB		
	comp=Z,219nm,7.1s						
SSE				LR	LR		
	comp=N,2μm,13.8s,MS4.8						
SSE				LR	LR		
	comp=E,2μm,13.8s,MS4.8						
SSE				LR	LR		
	comp=Z,3μm,15.3s,MS4.8						
CBIJ	**Chichi jima**	**24.53**	**35**	P	**P**	**11 58 13.3**	**+0.3**
	comp=Z,519nm,0.8s,mb6.1,baz=224,slow=3.9,SNR=17						
FRIM	**Kepong**	**25.18**	**262**	⇑P	**P**	**11 58 19.7**	**+0.6**
FITZ	**Fitzroy Crossi**	**25.39**	**182**	*e*P	**P**	**11 58 20.1**	**-0.7**
	comp=Z,236nm,0.8s,mb5.8						
FITZ				*e*S	**S**	**12 02 52.8**	**+7.3**
FITZ	**Fitzroy Crossi**	**25.39**	**182**	P	**P**	**11 58 20.2**	**-0.6**
	comp=Z,91nm,0.8s,mb5.4,baz=9.0,slow=10,SNR=86						
FITZ				S	**S**	**12 02 41.5**	**-4.0**
	comp=Z,9.6nm,0.9s,baz=194,slow=19,SNR=2.2						
NJ2	**Nanjing**	**25.52**	**345**	*e*P	**P**	**11 58 24.5**	**+2.6**
NJ2				AP	pP	11 58 33.5	+2.2
NJ2				XP	sP	11 58 38.3	+3.1
NJ2				PP		11 59 05.3	
NJ2				S	**S**	**12 02 49.0**	**+1.6**
NJ2				XS	sS	12 03 02.0	-0.9
NJ2				AMB	AMB		
	comp=Z,50nm,0.7s,mb5.2						
NJ2				LR	LR		
	comp=N,5μm,16.4s,MS5.1						
NJ2				LR	LR		
	comp=E,3μm,17.0s,MS5.1						
NJ2				LR	LR		
	comp=Z,2μm,15.7s,MS4.8						
IPM	**Ipoh**	**25.58**	**265**	⇓P	**P**	**11 58 22.8**	**+0.1**
WHN	**Wuhan**	**25.68**	**335**	P	**P**	**11 58 23.5**	**+0.1**
WHN				XP	sP	11 58 38.3	+1.6
WHN				SCP	ScP	12 05 32.0	+1.3
WHN				LR	LR		
	comp=Z,9μm,17.3s,MS5.4						
SNG	**Songkhla**	**25.75**	**271**	P	**P**	**11 58 26.0**	**+1.8**
	comp=Z,306nm,1.0s,mb5.8						
KULM	**Kulim**	**25.85**	**267**	*e*P	**P**	**11 58 25.5**	**+0.4**
KULM	**Kulim**	**25.85**	**267**	⇓P	**P**	**11 58 25.8**	**+0.6**
JNU	**Nakatsue**	**25.87**	**8**	P	**P**	**11 58 24.6**	**-0.5**
	comp=Z,204nm,0.9s,mb5.7,baz=157,slow=5.4,SNR=22						
JNU				ScP	ScP	12 05 32.1	+1.0
	comp=Z,17nm,0.9s,baz=99,slow=9.3,SNR=5.8						
JNU				LR	LR	12 06 29.1	
	comp=Z,2μm,20.1s,MS4.5,baz=184,slow=32						
GYA	**Guiyang**	**26.77**	**317**	⇑*i*P	**P**	**11 58 34.3**	**+1.1**
GYA				AP	pP	11 58 47.0	+4.4
GYA				XP	sP	11 58 50.5	+3.9
GYA				PP		11 59 21.8	
GYA				PCP	PcP	12 01 56.3	+0.3
GYA				S	**S**	**12 03 10.5**	**+3.3**
GYA				XS	sS	12 03 25.3	+2.6
GYA				SS		12 04 22.0	
GYA				SCP	ScP	12 05 32.0	-1.9
GYA				PCS	PcS	12 05 38.8	+1.4
GYA				AMB	AMB		
	comp=Z,40nm,0.8s,mb5.0						
GYA				AMB	AMB		
	comp=Z,290nm,7.8s						
GYA				LR	LR		
	comp=N,3μm,17.4s,MS5.0						
GYA				LR	LR		
	comp=E,2μm,17.9s,MS5.0						
GYA				LR	LR		
	comp=Z,6μm,18.3s,MS5.2						
NNT	**Nongplab**	**26.91**	**283**	P	**P**	**11 58 37.0**	**+2.3**
NST	**Nakhon Sawan**	**27.14**	**290**	P	**P**	**11 58 37.0**	**+0.3**
	comp=Z,175nm,0.8s,mb5.6						
PSI	**Prapat**	**27.91**	**262**	P	**P**	**11 58 44.0**	**+0.3**
PSI				PcP	PcP	12 01 58.9	-0.1
PSI				ScP	ScP	12 05 34.4	-3.3
PSI				LR	LR	12 12 54.4	
PSI	**Prapat**	**27.91**	**262**	P	**P**	**11 58 44.0**	**+0.3**
PSI						12 01 58.9	
PSI				pmax	pmax		
	comp=Z,38nm,0.9s,mb5.0						
PSI				pmax	pmax		
	comp=Z,25nm,1.0s,mb4.8						
PSI				pmax	pmax		
	comp=N,13nm,0.9s						
PSI				MLR	MLR		
	comp=Z,1μm,18.0s,MS4.5						
PSI	**Prapat**	**27.91**	**262**	P	**P**	**11 58 44.0**	**+0.3**
	comp=Z,38nm,0.9s,mb5.0,baz=66,slow=3.8,SNR=61						
PSI				PcP	PcP	12 01 58.9	-0.1
	comp=Z,25nm,1.0s,baz=145,slow=2.5,SNR=4.2						
PSI				ScP	ScP	12 05 34.4	-3.3
	comp=Z,13nm,0.9s,baz=165,slow=2.5,SNR=7.6						
PSI				LR	LR	12 12 54.4	
	comp=Z,1μm,18.0s,MS4.5,baz=230,slow=43						
WRAB	**Tennant Creek**	**28.25**	**164**	P	**P**	**11 58 46.3**	**-0.3**
	comp=Z,306nm,0.8s,mb6.0,SNR=30						
WRAB	**Tennant Creek**	**28.25**	**164**	*e*P	**P**	**11 58 44.9**	**-1.7**
	comp=Z,114nm,1.0s,mb5.5						
WRAB	**Tennant Creek**	**28.25**	**164**	*e*P	**P**	**11 58 44.9**	**-1.7**
WRAB				pmax	pmax		
	comp=Z,114nm,1.0s,mb5.5						
WRA	**Warramunga Arr**	**28.26**	**164**	P	**P**	**11 58 45.6**	**-1.0**
WRA				S	**S**	**12 03 37.7**	**+7.0**
WRA				*e*		12 31 07.0	
WRA	**Warramunga Arr**	**28.26**	**164**	P	**P**	**11 58 45.6**	**-1.0**
WRA				S	**S**	**12 03 37.7**	**+6.9**
WRA				pmax	pmax		
	comp=Z,19nm,0.8s						
WRA				smax			
	comp=N,19nm,1.2s						
WRA				pmax	pmax		
	comp=Z,1.0nm,1.0s						
WRA	**Warramunga Arr**	**28.26**	**164**	P	**P**	**11 58 45.6**	**-1.0**
	comp=Z,19nm,0.8s,mb4.8,baz=349,slow=9.7,SNR=104						
WRA				S	**S**	**12 03 37.7**	**+7.0**
	comp=Z,19nm,1.2s,baz=330,slow=15,SNR=5.7						
WRA				P3KPbc		12 31 07.0	
	comp=Z,0.6nm,1.0s,baz=165,slow=3.9,SNR=4.9						
WB2	**Warramunga Arr**	**28.26**	**164**	*e*P	**P**	**11 58 45.2**	**-1.5**
WB2				*e*pP	pP	11 58 55.6	-0.5
WB2				*e*S	**S**	**12 03 29.7**	**-1.1**
WB2	**Warramunga Arr**	**28.26**	**164**	*e*P	**P**	**11 58 46.0**	**-0.7**
JHJ	**Hachijo jima 2**	**28.34**	**24**	P	**P**	**11 58 47.0**	**-0.3**
	comp=Z,100nm,0.7s,mb5.5,baz=122,slow=9.5,SNR=6.0						
CHRT	**Chiangrai**	**28.76**	**298**	⇓P	**P**	**11 58 53.0**	**+1.8**
	comp=Z,908nm,1.2s,mb6.4						
KMI	**Kunming**	**28.77**	**310**	⇑P	**P**	**11 58 53.3**	**+2.1**
KMI				AP	pP	11 59 02.5	+2.0
KMI				XP	sP	11 59 06.5	+2.0
KMI				PP	PP	11 59 43.3	-13
KMI				S	**S**	**12 03 36.8**	**-1.9**
KMI				XS	sS	12 03 54.0	-0.3
KMI				SS	SS	12 05 02.3	-39
KMI				SCP	ScP	12 05 40.5	+0.4
KMI				PCS	PcS	12 05 45.0	+1.4
KMI				SCS	ScS	12 09 34.0	+0.3
KMI				AMB	AMB		
	comp=Z,95nm,1.1s,mb5.4						
KMI				LR	LR		
	comp=N,3μm,19.7s,MS5.0						
KMI				LR	LR		
	comp=E,3μm,21.8s,MS5.0						
KMI				LR	LR		
	comp=Z,5μm,20.4s,MS5.1						
CHG	**Chiang Mai**	**29.14**	**296**	⇑P	**P**	**11 58 55.6**	**+1.1**
	comp=Z,150nm,1.3s,mb5.6						
CHTO	**Chiang Mai**	**29.14**	**296**	*e*P	**P**	**11 58 55.5**	**+0.9**
	comp=Z,304nm,1.5s,mb5.8						
CHTO	**Chiang Mai**	**29.14**	**296**	*e*P	**P**	**11 58 55.5**	**+1.0**
CHTO				pmax	pmax		
	comp=Z,304nm,1.5s,mb5.8						
MBWA	**Marble Bar**	**29.20**	**193**	*e*P	**P**	**11 58 53.9**	**-1.1**
	comp=Z,153nm,1.1s,mb5.6						
MBWA				LR	LR		
	comp=Z,1μm,20.0s,MS4.6						
KSRS	**Korea Array**	**29.91**	**2**	P	**P**	**11 59 00.3**	**-0.8**
	comp=Z,17nm,0.8s,mb4.8,baz=178,slow=10,SNR=30						
KSRS				PcP	PcP	12 02 03.6	+0.1
	comp=Z,2.5nm,0.5s,baz=186,slow=2.9,SNR=5.7						
KSRS				ScP	ScP	12 05 42.6	-0.8
	comp=Z,19nm,1.0s,baz=188,slow=3.4,SNR=18						
MAJO	**Matsushiro**	**30.86**	**18**	*e*P	**P**	**11 59 08.6**	**-0.9**
MAJO				LR	LR		
	comp=Z,3μm,20.0s,MS4.9						
MAT	**Matsushiro**	**30.86**	**18**	P	**P**	**11 59 08.4**	**-1.1**
MAT				S	**S**	**12 04 10.0**	**-1.3**
MJAR	**Matsushiro Arr**	**30.86**	**18**	P	**P**	**11 59 08.5**	**-1.0**
MJAR				S	**S**	**12 04 09.8**	**-1.5**
MJAR				ScP	ScP	12 05 48.6	+2.0
MJAR	**Matsushiro Arr**	**30.86**	**18**	P	**P**	**11 59 08.5**	**-1.0**
MJAR				S	**S**	**12 04 09.8**	**-1.5**
MJAR						12 05 48.6	
MJAR				pmax	pmax		
	comp=Z,29nm,0.8s						
MJAR				smax			
	comp=N,4.0nm,1.0s						
MJAR				pmax	pmax		
	comp=N,9.0nm,1.0s						
MJAR	**Matsushiro Arr**	**30.86**	**18**	P	**P**	**11 59 08.5**	**-1.0**
	comp=N,29nm,0.8s,mb5.2,baz=193,slow=9.0,SNR=63						
MJAR				S	**S**	**12 04 09.8**	**-1.5**
	comp=N,3.7nm,1.0s,baz=186,slow=14,SNR=5.6						
MJAR				ScP	ScP	12 05 48.6	+2.0
	comp=N,8.7nm,1.0s,baz=200,slow=3.7,SNR=8.1						
XAN	**Xi'an**	**31.09**	**331**	P	**P**	**11 59 10.0**	**-1.6**
XAN				S	**S**	**12 04 12.8**	**-2.2**
XAN				AMB	AMB		
	comp=Z,13nm,0.9s,mb4.8						
XAN				LR	LR		
	comp=N,2μm,23.0s,MS5.0						
XAN				LR	LR		
	comp=E,3μm,19.7s,MS5.0						
XAN				LR	LR		
	comp=Z,4μm,24.7s,MS4.9						
CD2	**Chengdu**	**31.64**	**321**	P	**P**	**11 59 17.5**	**+1.0**
CD2				AP	pP	11 59 26.5	+0.6
CD2				XP	sP	11 59 30.8	+1.0
CD2				PP	PP	12 00 22.0	-6.3
CD2				PCP	PcP	12 02 10.5	+2.3
CD2				S	**S**	**12 04 22.5**	**-1.1**
CD2				XS	sS	12 04 39.8	+0.6
CD2				PCS	PcS	12 05 50.5	-2.3
CD2				SS	SS	12 06 14.3	-26
CD2				AMB	AMB		
	comp=Z,20nm,0.5s,mb5.2						
CD2				AMB	AMB		
	comp=Z,360nm,3.6s						
CD2				LR	LR		
	comp=N,5μm,16.2s,MS5.3						
CD2				LR	LR		
	comp=E,3μm,15.6s,MS5.3						
CD2				LR	LR		
	comp=Z,7μm,17.4s,MS5.4						
DL2	**Dalian**	**31.64**	**353**	P	**P**	**11 59 16.0**	**-0.4**
DL2				S	**S**	**12 04 23.5**	**-0.1**
DL2				AMB	AMB		
	comp=Z,30nm,0.9s,mb5.1						
DL2				AMB	AMB		
	comp=Z,130nm,4.1s						
DL2				LR	LR		
	comp=N,980nm,19.3s,MS4.6						
DL2				LR	LR		
	com

BJT MLR MLR
comp=Z,2μm,19.0s
BJI Beijing 33.77 346 P **P** **11 59 33.5 -1.5**
BJI AP pP 11 59 46.3 +1.8
BJI XP sP 11 59 50.3 +1.9
BJI S **S** **12 04 52.3 -4.3**
BJI AMB AMB
comp=Z,150nm,2.4s,mb5.5
BJI LR LR
comp=N,2μm,17.6s,MS4.9
BJI LR LR
comp=E,1μm,16.6s,MS4.9
BJI LR LR
comp=Z,1μm,23.7s
SNY Shenyang 34.35 356 ⇑P **P** **11 59 39.5 -0.5**
SNY AP pP 11 59 49.0 -0.5
SNY XP sP 11 59 56.3 +2.9
SNY PP PP 12 00 55.3 -2.9
SNY S **S** **12 05 02.3 -3.2**
SNY AMB AMB
comp=Z,60nm,1.1s,mb5.4
SNY AMB AMB
comp=Z,481nm,3.5s
SNY LR LR
comp=N,962nm,13.2s,MS5.0
SNY LR LR
comp=E,2μm,17.0s,MS5.0
SNY LR LR
comp=Z,2μm,19.8s,MS4.7
LZH Lanzhou 35.28 327 *e*P **P** **11 59 48.5 +0.3**
LZH AP pP 11 59 59.0 +1.3
LZH XP sP 12 00 02.3 +0.7
LZH PP PP 12 01 06.0 -2.6
LZH PCP PcP 12 02 21.8 +3.4
LZH *e*S **S** **12 05 23.0 +2.9**
LZH XS sS 12 05 40.0 +4.3
LZH SCS ScS 12 09 59.0 -7.1
LZH AMB AMB
comp=Z,33nm,1.0s,mb5.2
LZH AMB AMB
comp=Z,122nm,4.3s
LZH LR LR
comp=E,8μm,14.9s
LZH LR LR
comp=Z,11μm,16.2s,MS5.7
COCO West Island 35.42 237 PFAKE 12 00 00.0 +10
COCO LR LR
comp=Z,2μm,19.0s,MS4.8
IMP Imphal 35.64 303 *e*P **P** **11 59 54.0 +2.6**
IMP *e*x x 12 02 20.0
VLA Vladivostok 35.85 7 *e*P **P** **11 59 53.1 +0.2**
VLA Vladivostok 35.85 7 *e*P **P** **11 59 53.0 +0.1**
VLA pmax pmax
comp=Z,231nm,1.7s,mb5.8
VLA MLR MLR
comp=Z,2μm,23.0s,MS4.7
HHC Hu-ho-hao-te 35.86 340 *e*P **P** **11 59 52.8 -0.3**
HHC AP pP 12 00 03.0 +0.4
HHC XP sP 12 00 06.3 -0.2
HHC PP PP 12 01 16.8 +1.8
HHC PCP PcP 12 02 16.8 -3.2
HHC S **S** **12 05 28.3 -0.5**
HHC XS sS 12 05 45.8 +1.3
HHC PCS PcS 12 06 03.5 -3.8
HHC SCS ScS 12 10 06.8 -2.3
HHC AMB AMB
comp=Z,43nm,0.4s,mb5.7
HHC AMB AMB
comp=Z,315nm,4.8s
HHC LR LR
comp=N,4μm,16.9s,MS5.2
HHC LR LR
comp=E,1μm,17.5s,MS5.2
HHC LR LR
comp=Z,3μm,17.8s,MS5.2
CN2 Changchun 36.23 359 *e*P **P** **11 59 56.5 +0.3**
CN2 *e*AP pP 12 00 05.5 -0.2
CN2 PP PP 12 01 19.8 +0.8
CN2 *e*S **S** **12 05 34.5 +0.1**
CN2 SCP ScP 12 06 05.3 +0.1
CN2 AMB AMB
comp=Z,10.0nm,0.5s,mb5.0
CN2 LR LR
comp=N,2μm,17.0s,MS4.9
CN2 LR LR
comp=E,600nm,17.0s,MS4.9
CN2 LR LR
comp=Z,1μm,19.0s,MS4.8
MDJ Mudanjiang 37.13 4 P **P** **12 00 04.5 +0.7**
MDJ AP pP 12 00 13.0 -0.3
MDJ PP PP 12 01 29.5 +0.7
MDJ S **S** **12 05 47.8 -0.2**
MDJ XS sS 12 06 04.3 +0.6
MDJ PCS PcS 12 06 12.5 +0.7
MDJ AMB AMB
comp=Z,69nm,1.5s,mb5.3
MDJ AMB AMB
comp=Z,124nm,3.7s
MDJ LR LR
comp=N,993nm,23.9s
MDJ LR LR
comp=Z,1μm,22.4s,MS4.6
MDJ Mudanjiang 37.13 4 *e*P **P** **12 00 04.4 +0.6**
comp=Z,72nm,1.0s,mb5.5
HNR Honiara 37.23 116 *e*P **P** **12 00 06.4 +1.3**
comp=Z,129nm,0.9s,mb5.8
HNR LR LR
comp=Z,1μm,21.0s,MS4.7
HNR Honiara 37.23 116 *e*P **P** **12 00 06.4 +1.3**
HNR pmax pmax
comp=Z,129nm,0.9s,mb5.8
HNR MLR MLR
comp=Z,1μm,21.0s,MS4.7
HNR Honiara 37.23 116 P **P** **12 00 06.3 +1.2**
comp=Z,35nm,0.5s,mb5.5,baz=108,slow=2.1,SNR=4.6
HNR LR LR 12 15 57.7
comp=Z,825nm,18.3s,MS4.6,baz=183,slow=37
ERM Erimo 37.44 20 P **P** **12 00 08.5 +2.0**
comp=Z,690nm,0.5s,SNR=31
ERM Erimo 37.44 20 *e*P **P** **12 00 08.1 +1.6**
comp=Z,114nm,0.9s,mb5.7
ERM LR LR
comp=Z,2μm,20.0s,MS4.9
ERM Erimo 37.44 20 *e*P **P** **12 00 08.1 +1.6**
ERM pmax pmax
comp=Z,114nm,0.9s,mb5.7
ERM MLR MLR
comp=Z,2μm,20.0s,MS4.9
SHL Shillong 37.66 303 *e*P **P** **12 00 10.0 +1.4**
SHL *e*x x 12 06 10.0
FORT Forrest 38.02 178 *e*P **P** **12 00 11.1 -0.4**
comp=Z,156nm,0.5s,mb6.0
FORT *e*SCP ScP 12 06 10.8 -1.3
ASAJ Asahikawa 39.13 18 P **P** **12 00 22.5 +1.8**
ASAJ S **S** **12 06 19.7 +1.4**
ASAJ pmax pmax
comp=Z,68nm,0.4s
ASAJ smax
comp=N,27nm,1.3s
ASAJ Asahikawa 39.13 18 P **P** **12 00 22.4 +1.8**
comp=N,68nm,0.4s,mb5.7,baz=234,slow=11,SNR=198
ASAJ S **S** **12 06 19.6 +1.3**
comp=N,27nm,1.3s,baz=40,slow=16,SNR=4.0
KLBR Kellerberrin 39.71 192 *e*P **P** **12 00 24.8 -0.9**
comp=N,63nm,0.6s,mb5.5
GTA Gaotai 39.89 327 P **P** **12 00 27.5 +0.4**
GTA AP pP 12 00 36.5 -0.2
GTA XP sP 12 00 40.0 -0.6
GTA PP PP 12 02 03.5 +4.4
GTA PCP PcP 12 02 34.0 +1.6
GTA SCP ScP 12 06 19.3 +0.1
GTA S **S** **12 06 28.8 -1.1**
GTA XS sS 12 06 46.0 +0.4
GTA SS SS 12 09 20.0 -7.1
GTA SCS ScS 12 10 31.3 -0.8
GTA AMB AMB
comp=Z,46nm,1.4s,mb5.0
GTA AMB AMB
comp=Z,400nm,6.5s
GTA LR LR
comp=N,4μm,21.3s,MS5.4
GTA LR LR
comp=E,4μm,22.1s,MS5.4
GTA LR LR
comp=Z,8μm,22.8s,MS5.5

LSA Lhasa 39.96 308 *e*P **P** **12 00 30.9 +3.0**
comp=Z,103nm,1.0s,mb5.5
LSA LR LR
comp=Z,2μm,21.0s,MS4.9
LSA Lhasa 39.96 308 *e*P **P** **12 00 30.9 +3.1**
LSA pmax pmax
comp=Z,103nm,1.0s,mb5.5
LSA MLR MLR
comp=Z,2μm,21.0s,MS4.9
YUK Yuzh-Kuril'sk 40.16 22 P **P** **12 00 34.3 +5.0**
YUK pmax pmax
comp=N,370nm,0.8s
YUK pmax pmax
comp=E,370nm,0.8s
MUN Mundaring 40.42 194 *e*P **P** **12 00 30.9 -0.7**
MUN *e*S **S** **12 06 38.9 +0.9**
NWAO Narrogin (SRO) 41.11 192 *e*P **P** **12 00 37.1 -0.1**
comp=E,129nm,0.9s,mb5.5
NWAO LR LR
comp=Z,1μm,20.0s,MS4.8
NWAO Narrogin (SRO) 41.11 192 *e*P **P** **12 00 37.2 0.0**
NWAO pmax pmax
comp=Z,129nm,0.9s
NWAO MLR MLR
comp=Z,1μm,20.0s
HABR Khabarovsk 41.52 9 *i* P **P** **12 00 40.6 +0.2**
HABR *e**PP pP 12 00 49.5 -0.5
HABR *e* 12 02 16.0
HABR *e* 12 02 35.8
HABR *e*S **S** **12 06 55.6 +1.7**
HABR *e**SS sS 12 07 11.4 +1.7
HABR *e*SS SS 12 09 59.5 +0.1
HABR *e* 12 10 40.3
HABR pmax pmax
comp=Z,205nm,1.6s,mb5.5
STKA Stephens Creek 41.64 161 *e*P **P** **12 00 40.5 -1.1**
comp=Z,78nm,0.8s,mb5.4
STKA *e*pP pP 12 00 53.0 +1.8
STKA Stephens Creek 41.64 161 *e*P **P** **12 00 40.8 -0.9**
STKA Stephens Creek 41.64 161 P **P** **12 00 41.5 -0.1**
comp=Z,123nm,0.9s,mb5.5,baz=339,slow=7.8,SNR=86
STKA PcP PcP 12 02 38.6 +0.4
comp=Z,44nm,1.0s,baz=348,slow=9.3,SNR=2.9
STKA ScP ScP 12 06 27.8 +1.6
comp=Z,8.8nm,0.9s,baz=23,slow=7.7,SNR=3.6
STKA LR LR 12 19 53.4
comp=Z,1μm,20.9s,MS4.8,baz=331,slow=39
YSS Yuzh-Sakhalins 41.74 17 *e*P **P** **12 00 42.9 +0.6**
comp=Z,73nm,0.8s,mb5.4
YSS LR LR
comp=Z,1μm,21.0s,MS4.7
YSS Yuzh-Sakhalins 41.74 17 ⇑*i*P **P** **12 00 43.0 +0.7**
YSS *e**PP pP 12 00 52.0 +0.1
YSS *e* 12 02 22.0
YSS *e*S **S** **12 06 58.0 +0.7**
YSS pmax pmax
comp=Z,60nm,1.0s,mb5.2
YSS MLR MLR
comp=Z,500nm,18.0s,MS4.4
YSS MLR MLR
comp=N,700nm,19.0s
KLR Kul'dur 41.88 5 *e*P **P** **12 00 39.3 -4.0**
KLR *e* 12 02 17.5
KLR pmax pmax
comp=E,35nm,1.8s
KLR pmax pmax
comp=Z,120nm,1.8s,mb5.2
KLR MLR MLR
comp=N,700nm,13.0s
KLR MLR MLR
comp=Z,2μm,13.0s,MS5.1
HIA Hailar 42.08 353 *e*P **P** **12 00 44.8 -0.2**
comp=Z,41nm,1.0s,mb5.0
HIA LR LR
comp=Z,2μm,19.0s,MS5.1
HIA Hailar 42.08 353 *e*P **P** **12 00 44.8 -0.2**
HIA pmax pmax
comp=Z,41nm,1.0s
HIA MLR MLR
comp=Z,2μm,19.0s
BOK Bokaro 42.23 297 *e*P **P** **12 00 47.2 +0.6**
BOK AMb AMB 12 00 52.4
comp=Z,135nm,0.3s,mb6.0
JIRN Jiri 43.16 303 *e*P **P** **12 00 55.4 +1.3**
comp=Z,37nm,0.5s,mb5.4
VIS Vishakhapatnam 43.33 288 *e*P **P** **12 00 55.2 -0.4**
VIS AMb AMB 12 01 13.7
comp=Z,118nm,1.9s,mb5.3
GUN Gumba 43.51 303 *e*P **P** **12 00 57.9 +1.0**
ULN Ulaanbaatar 43.58 341 PFAKE 12 01 10.0 +13
ULN LR LR
comp=Z,3μm,19.0s,MS5.3
ADE Adelaide 43.70 166 *e*P **P** **12 00 59.0 +0.7**
SONM Songino Array 43.77 340 P **P** **12 00 58.0 -0.7**
SONM 12 02 45.1
SONM pmax pmax
comp=Z,13nm,0.9s
SONM pmax pmax
comp=Z,3.0nm,0.4s
SONM pmax pmax
comp=N,4.0nm,0.7s
SONM MLR MLR
comp=Z,3μm,18.7s
SONM Songino Array 43.77 340 P **P** **12 00 58.0 -0.7**
comp=Z,13nm,0.8s,mb4.7,baz=154,slow=9.0,SNR=40
SONM PcP PcP 12 02 45.1 +0.1
comp=Z,2.5nm,0.4s,baz=171,slow=4.5,SNR=5.4
SONM ScP ScP 12 06 34.2 -0.3
comp=Z,4.2nm,0.7s,baz=160,slow=4.3,SNR=9.0
SONM LR LR 12 21 42.1
comp=Z,3μm,18.7s,MS5.2,baz=151,slow=40
PKI Pulchoki 43.78 302 *e*P **P** **12 00 59.7 +0.5**
KKN Kakani 43.97 303 *e*P **P** **12 01 01.3 +0.7**
comp=Z,129nm,0.9s,mb5.6
DMN Daman 44.05 302 *e*P **P** **12 01 01.9 +0.6**
comp=Z,362nm,1.3s,mb6.0
GKN Gorkha 44.57 303 *e*P **P** **12 01 05.7 +0.2**
comp=Z,265nm,1.1s,mb6.0
ARMA Armidale 44.66 149 *e*P **P** **12 01 06.2 +0.1**
KOLN Koldanda 45.37 302 *e*P **P** **12 01 12.1 +0.3**
comp=Z,90nm,0.5s,mb5.9
DANN Dangsing 45.42 303 *e*P **P** **12 01 12.3 +0.1**
comp=Z,257nm,0.9s,mb6.1
PALK Pallekele 45.48 273 *e*P **P** **12 01 13.9 +1.1**
PALK *e*P 12 01 14.1
ZAK Zakamensk 47.01 340 *e*P **P** **12 01 23.3 -1.0**
ZAK pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
ZAK pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
RIV Riverview 47.20 152 *e*P **P** **12 01 28.5 +2.5**
JBP Jabalpur 47.35 295 ⇓*i*P **P** **12 01 29.1 +1.6**
JBP *e*x x 12 01 38.8
comp=Z,138nm,1.2s
JBP *e*x x 12 03 22.1
CNB Canberra Magne 47.65 155 *e*P **P** **12 01 30.1 +0.6**
comp=Z,106nm,1.1s,mb5.8
HYB Hyderabad 47.81 287 *e*P **P** **12 01 31.0 -0.1**
comp=Z,65nm,1.0s,mb5.6
HYB *e* 12 01 38.0
HYB *e*S **S** **12 08 26.0 -0.2**
HYB Hyderabad 47.81 287 *e*P **P** **12 01 31.0 -0.1**
HYB *e* 12 01 38.0
HYB *e*S **S** **12 08 26.0 -0.2**
HYB pmax pmax
comp=Z,65nm,1.0s,mb5.6
HYB Hyderabad 47.81 287 *i* P **P** **12 01 31.0 -0.1**
comp=Z,65nm,1.0s,mb5.6
HYB *e*pP pP 12 01 40.0 -0.9
HYB *e*S **S** **12 08 26.0 -0.2**
NGP Nagpur 47.84 292 *e*P **P** **12 01 32.1 +0.9**
NGP *e*x x 12 01 41.1
comp=Z,129nm,1.2s
NGP *e*S **S** **12 08 26.1 -0.3**
SALM Salem 47.84 279 *e*x **P** **12 01 34.0 +2.6**
TLY Talaya 47.99 341 P **P** **12 01 32.2 +0.3**
comp=Z,222nm,1.0s,mb6.2,SNR=11
TLY Talaya 47.99 341 *e*P **P** **12 01 31.4 -0.5**
TLY Talaya 47.99 341 *c*/P **P** **12 01 31.5 -0.4**
TLY pmax pmax
comp=Z,34nm,1.0s,mb5.3
IRK Irkutsk 48.27 342 *e*P **P** **12 01 34.1 0.0**
IRK *e* 12 03 18.5
IRK pmax pmax
comp=Z,73nm,2.1s,mb5.3

KOD Kodaikanal 48.57 277 *e*P **P** **12 01 37.1 +0.1**
KOD AMb AMB 12 01 41.0
comp=Z,50nm,0.9s,mb5.5
LGTI Lohaghat 48.69 303 *e*P **P** **12 01 40.0 +2.3**
PTH Pithoragarh 48.74 303 *e*P **P** **12 01 38.2 +0.1**
PTH *e*x x 12 03 35.1
MOY Mondy 48.88 339 *e*P **P** **12 01 39.0 +0.3**
MOY pmax pmax
comp=Z,80nm,1.8s,mb5.5
NRGR Nerungri 49.11 359 *e*P **P** **12 01 43.0 +2.5**
NRGR S **S** **12 08 47.2 +3.9**
NRGR smax
comp=N,77nm,1.8s
CLNS Chul'man 49.29 359 *e*P **P** **12 01 41.7 -0.1**
CLNS *e**PP pP 12 01 47.5 -4.1
CLNS pmax pmax
comp=Z,37nm,1.2s,mb5.3
CLNS pmax pmax
comp=N,21nm,1.0s
CLNS pmax pmax
comp=E,11nm,0.8s
CLNS pmax pmax
comp=Z,24nm,1.0s,mb5.2
CLNS pmax pmax
comp=N,22nm,1.1s
CLNS pmax pmax
comp=E,9.0nm,0.9s
CLNS MLR MLR
comp=N,800nm,16.0s,MS4.9
CLNS MLR MLR
comp=Z,900nm,16.0s,MS4.9
CLNS MLR MLR
comp=E,600nm,15.0s,MS4.9
SKR Severo-Kuril's 49.60 24 *e*P **P** **12 01 44.0 -0.3**
SKR *e* pP 12 01 52.0 -2.1
SKR pmax pmax
comp=Z,180nm,1.0s,mb6.1
WMQ Urumqi 49.64 323 ⇑*i*P **P** **12 01 45.8 +1.0**
WMQ AP pP 12 01 56.0 +1.5
WMQ XP sP 12 02 00.0 +1.6
WMQ PCP PcP 12 03 07.0 +1.1
WMQ S **S** **12 08 52.0 +0.8**
WMQ XS sS 12 09 07.0 -0.3
WMQ SS SS 12 12 19.0 -4.8
WMQ AMB AMB
comp=Z,69nm,1.8s,mb5.4
WMQ AMB AMB
comp=Z,855nm,3.6s
WMQ LR LR
comp=N,5μm,18.8s,MS5.6
WMQ LR LR
comp=E,4μm,21.7s,MS5.6
WMQ LR LR
comp=Z,5μm,23.2s,MS5.5
AKL Akola 49.65 291 *i* P **P** **12 01 46.3 +1.1**
AKL *e*x x 12 01 50.5
comp=Z,109nm,1.0s
AKL *i* x x 12 14 08.2
BHPL Bhopal 49.68 294 *e*P **P** **12 01 44.7 -0.7**
BHPL AMb AMB 12 01 55.0
comp=Z,93nm,1.4s,mb5.6
LATR Latur 49.80 288 *e*P **P** **12 01 46.0 -0.3**
LATR AMb AMB 12 01 49.3
comp=Z,80nm,0.7s,mb5.8
NDI New Delhi 51.03 301 *e*P **P** **12 01 52.6 -3.0**
NDI *e*P 12 01 53.5
NDI AMb AMB 12 02 05.3
comp=Z,88nm,2.0s,mb5.3
MNGI Mangalore 51.16 281 *i* x x 12 02 06.0
MNGI *i* S **S** **12 09 10.1 -3.0**
BOD Bodaibo 51.20 351 *e*P **P** **12 01 55.5 -0.8**
BOD pmax pmax
comp=Z,25nm,1.6s,mb4.9
SMLA Simla 51.72 304 *e*P **P** **12 02 01.3 +0.6**
SMLA AMb AMB 12 02 13.6
comp=Z,198nm,1.6s,mb5.8
KAD Karad 51.96 286 *e*P **P** **12 02 00.6 -2.1**
KAD AMb AMB 12 02 12.9
comp=Z,86nm,1.6s,mb5.4
POO Poona 52.38 288 *e*P **P** **12 02 05.8 +0.1**
POO AMb AMB 12 02 16.1
comp=Z,76nm,0.3s,mb6.1
PET Petropavlovsk 52.41 24⇑*e*P **P** **12 02 06.8 +1.4**
PET LR LR
comp=Z,706nm,20.0s,MS4.7
PET Petropavlovsk 52.41 24⇑*e*P **P** **12 02 06.7 +1.3**
PET pmax pmax
comp=Z,144nm,1.4s,mb5.7
PET MLR MLR
comp=Z,700nm,21.0s,MS4.7
TAU Tasmania Unive 53.55 161 *e*P **P** **12 02 12.8 -1.1**
comp=Z,68nm,1.3s,mb5.4
TAU *e*P 12 02 15.6
TAU Tasmania Unive 53.55 161 *e*P **P** **12 02 12.8 -1.1**
TAU pmax pmax
comp=Z,68nm,1.3s,mb5.4
MKAR Makanchi Array 54.46 324 P **P** **12 02 20.5 -0.1**
MKAR 12 03 23.8
MKAR pmax pmax
comp=Z,40nm,0.5s
MKAR pmax pmax
comp=Z,25nm,0.8s
MKAR pmax pmax
comp=N,5.0nm,0.8s
MKAR MLR MLR
comp=Z,3μm,20.2s
MKAR pmax pmax
comp=Z,1.0nm,1.0s
MKAR Makanchi Array 54.46 324 P **P** **12 02 20.5 -0.1**
comp=Z,40nm,0.5s,mb5.7,baz=116,slow=7.7,SNR=354
MKAR PcP PcP 12 03 23.8 -0.1
comp=Z,25nm,0.8s,baz=98,slow=5.7,SNR=4.2
MKAR ScP ScP 12 07 18.4 -1.6
comp=Z,5.2nm,0.8s,baz=117,slow=4.2,SNR=4.9
MKAR LR LR 12 27 22.9
comp=Z,3μm,20.2s,MS5.3,baz=114,slow=38
MKAR PKPPKP 12 32 24.4
comp=Z,1.2nm,1.0s,baz=264,slow=4.9,SNR=3.9
YAK Yakutsk 54.53 2⇑*i*P **P** **12 02 20.2 -0.6**
YAK LR LR
comp=Z,847nm,19.0s,MS4.8
YAK Yakutsk 54.53 2*c*e*P **P** **12 02 20.1 -0.7**
YAK *i* *PP pP 12 02 29.6 -1.1
YAK *e* 12 03 24.1
YAK *e* 12 04 23.3
YAK *e*PPP 12 05 38.5
YAK *e*S **S** **12 09 56.1 -1.5**
YAK *e**SS sS 12 10 11.9 -2.0
YAK *e* 12 12 03.6
YAK *e*SS SS 12 13 39.7 -0.8
YAK pmax pmax
comp=Z,57nm,1.0s,mb5.6
YAK pmax pmax
comp=N,25nm,1.2s
YAK pmax pmax
comp=E,8.0nm,1.1s
YAK pmax pmax
comp=N,77nm,2.3s
YAK pmax pmax
comp=Z,109nm,2.3s,mb5.5
YAK pmax pmax
comp=E,100nm,6.0s
YAK smax
comp=N,251nm,2.2s
YAK smax
comp=E,203nm,2.3s
YAK MLR MLR
comp=Z,839nm,20.0s,MS4.8
YAK MLR MLR
comp=N,681nm,18.0s,MS4.9
YAK MLR MLR
comp=E,629nm,19.0s,MS4.9
FUNA Funafuti 54.80 106 PFAKE 12 02 40.0 +16
FUNA LR LR
comp=Z,8μm,19.0s,MS5.8
MA2 Magadan 55.17 15⇑*e*P **P** **12 02 26.1 +0.6**
MA2 LR LR
comp=Z,639nm,20.0s,MS4.7
KSH Kashi 55.36 313 *e*P **P** **12 02 28.8 +1.6**
KSH *e*AP pP 12 02 39.0 +1.9
KSH *e*XP sP 12 02 43.0 +2.1
KSH *e*PCP PcP 12 03 29.0 +1.5
KSH *e*PP PP 12 04 34.3 +3.1
KSH *e*SCP ScP 12 07 24.8 +0.7
KSH PCS PcS 12 07 28.5 +1.0

KSH S **S** **12 10 08.0 -1.6**
KSH XS sS 12 10 25.0 -0.8
KSH SCS ScS 12 12 12.5 -1.7
KSH SS SS 12 13 52.3 -2.1
KSH AMB AMB
comp=Z,123nm,0.9s,mb5.9
KSH LR LR
comp=N,4µm,15.5s,MS5.9
KSH LR LR
comp=E,7µm,17.4s,MS5.9
KSH LR LR
comp=Z,5µm,23.5s
ULHL Ulahol 56.21 317 P **P** **12 02 34.3 +1.1**
SNR=18
MIDW Midway 56.69 61 PFAKE 12 02 50.0 +13
MIDW LR LR
comp=Z,2µm,22.0s,MS5.2
BHJ Bhuj 56.75 293 *e*P **P** **12 02 37.4 -0.1**
KZA Kyzart 56.82 316 P **P** **12 02 38.9 +1.2**
SNR=71
TKM2 Tokmak 2 56.91 317 *e*P **P** **12 02 38.5 +0.2**
comp=Z,52nm,0.9s,mb5.6
TKM2 Tokmak 2 56.91 317 *e*P **P** **12 02 38.5 +0.3**
TKM2 pmax pmax
comp=Z,52nm,0.9s,mb5.6
TKM2 Tokmak 2 56.91 317 P **P** **12 02 38.7 +0.4**
SNR=37
ZAA0 Zalesovo Array 57.25 332 *e*P **P** **12 02 39.0 -1.3**
ZAA0 *e*P 12 08 54.8
ZALV Zalesovo Beam 57.25 332 P **P** **12 02 39.1 -1.3**
ZALV PcP PcP 12 03 33.6 -0.9
ZALV ScP ScP 12 07 30.8 -1.3
ZALV LR LR 12 29 13.0
ZALV ⇑*e* 12 32 39.5
ZALV Zalesovo Beam 57.25 332 P **P** **12 02 39.1 -1.3**
comp=Z,18nm,0.5s,mb5.4,baz=126,slow=6.6,SNR=52
ZALV PcP PcP 12 03 33.6 -0.9
comp=Z,8.8nm,0.6s,baz=122,slow=5.6,SNR=2.1
ZALV ScP ScP 12 07 30.7 -1.3
comp=Z,3.8nm,0.9s,baz=113,slow=3.7,SNR=3.8
ZALV LR LR 12 29 13.0
comp=Z,690nm,18.2s,MS4.8,baz=129,slow=38
ZALV PKP2bc 12 32 39.5
comp=Z,0.8nm,0.3s,baz=289,slow=4.5,SNR=4.4
ZAL Zalesovo 57.25 332 P **P** **12 02 39.1 -1.3**
ZAL 12 03 33.6
KBK Karagaybulak 57.25 317 P **P** **12 02 41.8 +1.2**
SNR=26
UCH Uchtor 57.39 316 *e*P **P** **12 02 42.6 +1.0**
UCH Uchtor 57.39 316 P **P** **12 02 42.8 +1.2**
SNR=121
CHMS Chumysh 57.51 317 P **P** **12 02 42.8 +0.3**
SNR=11
FRU Bishkek 57.54 317 *e*P **P** **12 02 43.0 +0.3**
FRU pmax pmax
comp=Z,170nm,2.1s,mb5.7
AAK Ala-Archa 57.55 316 *e*P **P** **12 02 42.2 -0.5**
AAK LR LR
comp=Z,2µm,22.0s,MS5.2
AAK Ala-Archa 57.55 316⇑*e*P **P** **12 02 41.9 -0.9**
AAK pmax pmax
comp=Z,130nm,2.2s,mb5.6
AAK Ala-Archa 57.55 316 LR LR 12 30 28.5
comp=Z,2µm,21.5s,MS5.1,baz=92,slow=39
AAK Ala-Archa 57.55 316 P **P** **12 02 39.0 -3.8**
SNR=14
USP Ospenovka 57.79 317 P **P** **12 02 44.5 0.0**
SNR=65
AML Almayashu 57.92 316 *e*P **P** **12 02 46.2 +0.8**
comp=Z,279nm,1.4s,mb6.1
AML LR LR
comp=Z,4µm,22.0s,MS5.5
AML Almayashu 57.92 316 P **P** **12 02 46.2 +0.9**
SNR=70
EKS2 Erkin-Say 58.05 316 *e*P **P** **12 02 47.0 +0.7**
comp=Z,60nm,0.8s,mb5.7
EKS2 LR LR
comp=Z,2µm,20.0s,MS5.1
EKS2 Erkin-Say 58.05 316 P **P** **12 02 46.9 +0.6**
SNR=34
SEY Seymchan 58.48 14⇑*e*P **P** **12 02 50.4 +1.5**
NVS Novosibirsk 58.53 332⇑*i*P **P** **12 02 48.0 -1.4**
NVS *e*S **S** **12 10 49.4 -1.4**
NVS pmax pmax
comp=Z,70nm,1.0s,mb5.7
NVS pmax pmax
comp=N,34nm,1.3s
NVS pmax pmax
comp=E,53nm,1.3s
NVS smax
comp=N,114nm,1.9s
KURK Kurchatov 58.57 326 P **P** **12 02 49.0 -0.7**
comp=N,732nm,1.2s,mb6.6,SNR=53
KURK Kurchatov 58.57 326 *e*P **P** **12 02 49.3 -0.4**
KURK MLR MLR
comp=Z,2µm,22.0s,MS5.1
KBL Kabul 59.20 306 *e*P **P** **12 02 54.3 -0.2**
comp=Z,95nm,1.2s,mb5.7
AMKA Amchitka 61.54 35 *e*P **P** **12 03 12.7 +2.6**
ADK Adak 64.02 35 *e*P **P** **12 03 29.1 +2.5**
comp=Z,77nm,0.8s,mb5.8
ADK LR LR
comp=Z,941nm,19.0s,MS5.0
ADK Adak 64.02 35 *e*P **P** **12 03 29.2 +2.6**
ADK pmax pmax
comp=Z,77nm,0.8s,mb5.8
ADK MLR MLR
comp=Z,941nm,19.0s,MS5.0
TIXI Tiksi 64.16 1⇑*e*P **P** **12 03 26.6 -0.6**
TIXI Tiksi 64.16 1⇑*e*P **P** **12 03 26.5 -0.7**
TIXI pmax pmax
comp=Z,32nm,1.2s,mb5.2
BRVK Borovoye 64.23 326 *e*P **P** **12 03 27.2 -0.7**
BRVK LR LR
comp=Z,2µm,20.0s,MS5.2
RAO Raoul Island 64.64 127 LR LR 12 27 52.9
comp=Z,727nm,21.3s,MS4.8,baz=210,slow=32
AFI Afiamalu 64.75 109 *e*P **P** **12 03 34.6 +2.6**
comp=Z,49nm,0.8s,mb5.6
AFI Afiamalu 64.75 109 P **P** **12 03 34.8 +2.8**
AFI pmax pmax
comp=Z,49nm,0.8s,mb5.6
RPZ Rata Peaks 64.88 146 P **P** **12 03 32.5 +0.1**
comp=Z,45nm,0.8s,mb5.5,baz=120,slow=1.2,SNR=28
RPZ LR LR 12 34 53.9
comp=Z,775nm,18.8s,MS4.9,baz=303,slow=39
URZ Urewera 65.36 138 P **P** **12 03 36.4 +0.8**
comp=Z,22nm,0.8s,mb5.2,baz=330,slow=4.7,SNR=16
URZ LR LR 12 33 33.5
comp=Z,825nm,18.4s,MS5.0,baz=126,slow=37
SNZO South Karori 65.54 142 PFAKE 12 03 50.0 +13
SNZO LR LR
comp=Z,2µm,22.0s,MS5.3
BILL Bilibino 66.04 15 *i*P **P** **12 03 39.5 +0.1**
BILL LR LR
comp=Z,468nm,19.0s,MS4.7
BILL Bilibino 66.04 15*d i*P **P** **12 03 39.4 0.0**
BILL pmax pmax
comp=Z,92nm,2.2s,mb5.4
ABKT Ailbek 68.49 308 P **P** **12 03 56.0 +0.4**
comp=Z,544nm,1.5s,mb6.4,SNR=7.9
BANOM Banah 69.06 295 P **P** **12 04 00.7 +1.3**
SNR=17
BANOM Banah 69.06 295 P **P** **12 04 00.7 +1.3**
SNR=17
BANOM Banah 69.06 295 P **P** **12 04 00.7 +1.3**
SNR=17
HATD Hatta, Dubai 69.18 294 P **P** **12 03 59.3 -0.8**
SNR=16
HATD Hatta, Dubai 69.18 294 P **P** **12 03 59.3 -0.8**
SNR=16
HATD Hatta, Dubai 69.18 294 P **P** **12 03 59.3 -0.8**
SNR=16
HATD Hatta, Dubai 69.18 294 P **P** **12 03 59.3 -0.8**
SNR=16
HATD Hatta, Dubai 69.18 294 P **P** **12 03 59.3 -0.8**
SNR=16
AKUT Akutan 70.98 35 *e*P **P** **12 04 11.8 +1.2**
comp=Z,106nm,0.9s,mb5.8
AKUT LR LR
comp=Z,500nm,23.0s,MS4.7
GAMB Gambell 71.10 24 *e*P **P** **12 04 12.6 +1.5**
ARU Arti 71.75 327 P **P** **12 04 14.7 -0.5**
comp=Z,284nm,0.7s,mb6.3,SNR=14
ARU Arti 71.75 327 *e*P **P** **12 04 13.9 -1.2**
comp=Z,75nm,1.0s,mb5.6
ARU LR LR
comp=Z,914nm,19.0s,MS5.1
ARU Arti 71.75 327*c i*P **P** **12 04 13.8 -1.4**
ARU *e* 12 04 33.4
ARU *e* 12 06 53.5
ARU *e*PPP 12 08 34.4
ARU *e*S S 12 13 30.1 -2.9
ARU *e*SS SS 12 18 02.7 -6.4
ARU pmax pmax
comp=Z,90nm,1.7s,mb5.4
ARU MLR MLR
comp=Z,1µm,23.0s,MS5.0
ABTO Aybut 71.90 286 P **P** **12 04 17.4 +0.5**
SNR=17
ABTO Aybut 71.90 286 P **P** **12 04 17.4 +0.5**
SNR=17
ABTO Aybut 71.90 286 P **P** **12 04 17.4 +0.5**
SNR=17
ABTO Aybut 71.90 286 P **P** **12 04 17.4 +0.5**
SNR=17
FALS False Pass 72.49 35 *e*P **P** **12 04 20.0 +0.4**
SDPT Sand Point 74.24 35 *e*P **P** **12 04 31.2 +1.3**
comp=Z,82nm,0.9s,mb5.7
CASY Casey 74.45 187 *e*P **P** **12 04 30.6 -0.3**
CASY *e*P 12 04 32.3
DRV Dumont d'Urvil 74.56 174 P pP 12 04 42.0 +0.4
DRV Dumont d'Urvil 74.56 174 PP PP 12 07 31.0 +13
DRV S S 12 14 08.0 +3.7
DRV SS SS 12 19 16.0 +24
DRV L 12 22 00.0
DRV R 12 29 00.0
CHGN Chignik 75.54 34 *e*P **P** **12 04 39.4 +2.0**
KBD Kabd 76.72 298 *e*P **P** **12 04 42.3 -2.5**
KBD AMb AMB 12 04 57.2
comp=Z,664nm,1.4s,mb6.4
RDF Al-Radifah 76.86 298 *e*P **P** **12 04 43.8 -1.7**
RDF AMb AMB 12 04 57.8
comp=Z,166nm,1.4s,mb5.8
MAK Makhachkala 76.97 312 *e*P **P** **12 04 44.4 -1.5**
MAK *i* 12 04 56.1
MAK *e* 12 07 38.3
MAK *e*S S 12 14 31.4 -0.7
MAK *e* 12 14 59.5
MAK pmax pmax
comp=Z,30nm,0.4s,mb5.6
MAK MLR MLR
comp=Z,2µm,24.0s,MS5.4
MIB Mutribah 77.02 299 *e*P **P** **12 04 44.9 -1.5**
MIB AMb AMB 12 04 58.4
comp=Z,164nm,1.1s,mb5.9
NAY Al-Naaiem 77.12 298 *e*P **P** **12 04 44.5 -2.4**
NAY AMb AMB 12 04 59.2
comp=Z,108nm,1.4s,mb5.6
SVW2 Sparrevohn 77.65 29 *e*P **P** **12 04 50.7 +1.4**
TTA Tatalina 77.69 27 *e*P **P** **12 04 52.1 +2.7**
MIR Mirnyy 77.71 193⇑*i*P **P** **12 04 49.0 -0.4**
MIR *i* 12 04 56.0
MIR *i* 12 05 06.0
MIR pmax pmax
comp=Z,500nm,1.2s,mb6.3
DGRG David-gareji 78.53 311 P **P** **12 04 55.4 +0.8**
KDAK Kodiak Island 78.86 33 P **P** **12 04 58.9 +2.8**
comp=Z,272nm,1.2s,mb6.1,SNR=6.3
KDAK Kodiak Island 78.86 33 *e*P **P** **12 04 58.5 +2.4**
KDAK Kodiak Island 78.86 33 P **P** **12 04 57.7 +1.7**
comp=Z,30nm,0.9s,mb5.2,baz=199,slow=3.6,SNR=13
KDAK LR LR 12 39 32.8
comp=Z,405nm,19.5s,MS4.8,baz=262,slow=35
MTA Mtatsminda 78.97 311 P **P** **12 04 57.0 0.0**
TBLG Delisi 79.01 311 P **P** **12 04 56.0 -1.2**
IMA2 Indian Mountai 79.08 24 *e*P **P** **12 04 58.4 +1.3**
DYDN Diyadin 79.83 309 *i*P **P** **12 05 02.3 +0.6**
ONI Oni 79.96 312 P **P** **12 05 03.0 +0.7**
VANB Van 80.09 308 *e*P **P** **12 05 04.2 +1.0**
SLKM Skilak Lake 80.22 30 *e*P **P** **12 05 05.1 +1.7**
KARS Kars 80.27 310 *e*P **P** **12 05 03.2 -0.9**
AGRB Hanur-Agry 80.37 309 *e*P **P** **12 05 04.7 0.0**
KIV Kislovodsk 80.49 313 P **P** **12 05 05.3 +0.1**
comp=Z,331nm,0.7s,mb6.4,SNR=5.6
KIV Kislovodsk 80.49 313 *e*P **P** **12 05 06.2 +1.0**
comp=Z,312nm,1.6s,mb6.0
KIV LR LR
comp=Z,1µm,22.0s,MS5.1
KIV Kislovodsk 80.49 313 *e*P **P** **12 05 04.9 -0.3**
KIV *e*S S 12 15 07.4 -2.2
KIV *e*SS SS 12 20 20.7 -1.3
KIV pmax pmax
comp=Z,100nm,0.9s,mb5.8
KIV pmax pmax
comp=Z,28nm,4.4s
KIV MLR MLR
comp=Z,897nm,20.0s,MS5.1
KIV Kislovodsk 80.49 313⇓*i*P **P** **12 05 06.4 +1.2**
PMR Palmer 80.79 29 *e*P **P** **12 05 06.8 +0.4**
PMR *e*PcP PcP 12 05 15.8 +2.8
ARTV Artvin 81.13 310 *i*P **P** **12 05 07.5 -1.1**
HOMI Horasan 81.19 309 *i*P **P** **12 05 09.3 +0.3**
COLA College 81.44 25 *e*P **P** **12 05 10.3 +0.5**
COLA LR LR
comp=Z,893nm,19.0s,MS5.1
COLA College 81.44 25 P **P** **12 05 09.7 -0.1**
COLA pmax pmax
comp=Z,39nm,0.9s,mb5.3
ERZM Erzurum 81.61 309 *i*P **P** **12 05 08.7 -2.6**
EZM Erzurum 81.61 309 *e*P **P** **12 05 10.4 -0.8**
MARD Mardin 82.21 307 *i*P **P** **12 05 14.5 +0.1**
KOPT Kop Dagi 82.27 309 *i*P **P** **12 05 15.6 +0.9**
ABPO Ambohimpanom 82.42 250 *e*P **P** **12 05 16.3 +0.4**
comp=Z,13nm,0.9s,mb4.8
ABPO LR LR
comp=Z,814nm,20.0s,MS5.1
SOC Sochi 82.65 313 *e*P **P** **12 05 14.6 -2.0**
SOC *e**PP pP 12 05 25.1 -1.8
SOC *e**SP sP 12 05 28.2 -2.5
SOC *e* 12 08 22.2
SOC *e*PPP 12 10 19.6
SOC *e*S S 12 15 26.9 -5.1
SOC *e*SS SS 12 20 51.1 -3.1
SOC pmax pmax
comp=Z,32nm,0.6s,mb5.5
SOC MLR MLR
comp=Z,1µm,21.0s,MS5.3
TMCR Tamitsa 82.72 334 *e*P **P** **12 05 15.8 -0.7**
TMCR pmax pmax
comp=Z,51nm,0.7s,mb5.7
GUMT Gumushane 83.02 310 *e*P **P** **12 05 18.6 0.0**
MENT Mentasta 83.30 27 *e*P **P** **12 05 21.4 +1.8**
MOS Moscow 83.32 325 *e*P **P** **12 05 17.5 -2.3**
MOS Moscow 83.32 325 *e*P **P** **12 05 16.6 -3.2**
MOS *e* 12 08 34.8
MOS *e*S S 12 15 31.8 -6.5
MOS pmax pmax
comp=Z,300nm,2.0s,mb6.0
MOS pmax pmax
comp=Z,86nm,0.8s,mb5.8
MOS MLR MLR
comp=Z,2µm,22.8s,MS5.5
ESPY Espiye-Giresun 83.56 310 *e*P **P** **12 05 17.4 -4.0**
URFA Urfa 83.75 307 *e*P **P** **12 05 24.0 +1.5**
KEMA Kemaliye 83.87 309 *i*P **P** **12 05 22.6 -0.3**
OBN Obninsk 83.96 325 *e*P **P** **12 05 22.0 -1.1**
comp=Z,230nm,1.6s,mb6.1
OBN Obninsk 83.96 325 *e*P **P** **12 05 22.2 -0.9**
OBN *e* pP 12 05 31.2 -2.2
OBN *i*S S 12 15 40.9 -3.9
OBN *e*SS SS 12 21 10.5 -2.4
OBN pmax pmax
comp=Z,153nm,1.8s,mb5.8
OBN MLR MLR
comp=Z,2µm,23.0s,MS5.3
MALT Malatya 83.99 308 *e*P **P** **12 05 23.8 +0.1**
MALT Malatya 83.99 308 *e*P **P** **12 05 24.5 +0.8**
MALT ⇓P 12 05 24.8
MALT Malatya 83.99 308⇓*i*P **P** **12 05 24.8 +1.1**
MYA Malataya 84.00 308 *e*P **P** **12 05 24.9 +1.3**
ANN Anapa 84.21 314 *e*P **P** **12 05 22.7 -1.9**
ANN *e* pP 12 05 32.8 -2.1
ANN *e* 12 08 39.7
ANN *e*S S 12 15 42.0 -5.7
ANN pmax pmax
comp=Z,103nm,1.0s,mb5.9
APA Apatity 84.39 337⇑*i*P **P** **12 05 24.6 -0.5**
APA *i* pP 12 05 33.3 -2.1
APA *i*S S 12 15 42.0 -6.7
APA pmax pmax
comp=Z,36nm,1.0s,mb5.5
SVSK Karacayir 84.96 309 *e*P **P** **12 05 26.9 -1.7**
GAZ Gaziantep 85.06 307 *e*P **P** **12 05 28.8 -0.3**
DAWY Dawson 85.14 26 *e*P **P** **12 05 30.3 +1.4**
TOKT Tokat 85.27 310 *e*P **P** **12 05 30.2 +0.2**
KMRS Kahramanmaras 85.27 307 *e*P **P** **12 05 30.8 +0.7**
KVT Kavak 85.57 311 *e*P **P** **12 05 32.2 +0.7**
JOF Joensuu 85.83 333 *e*p **P** **12 05 30.8 -1.5**
comp=Z,39nm,0.7s,mb5.8
BNN Bunyan 85.96 308 *e*P **P** **12 05 33.0 -0.5**
DIKM Dikmen 86.10 311 *e*P **P** **12 05 23.0 -11**
KOZT Kozan 86.12 307 *e*P **P** **12 05 36.5 +2.2**
CEYT Ceyhan 86.24 307 *e*P **P** **12 05 34.1 -0.8**
KEV Kevo 86.38 340 *e*P **P** **12 05 33.8 -1.1**
comp=Z,6.6nm,0.7s,mb5.0
KEV LR LR
comp=Z,727nm,20.0s,MS5.1
KEV Kevo 86.38 340 *e*P **P** **12 05 33.8 -1.1**
KEV pmax pmax
comp=Z,7.0nm,0.7s,mb5.0
KEV MLR MLR
comp=Z,727nm,20.0s,MS5.1
PPT Papeete 86.40 108 *e*S S 12 16 10.2 -0.1
comp=Z,1µm,25.8s
PPT *e*SS SS 12 21 54.7 +3.8
comp=Z,293nm,24.8s
PPT Papeete 86.40 108 *e*LR LR 12 32 56.9
comp=Z,2µm,24.5s
PPT Papeete 86.40 108 *e*P **P** **12 05 37.2 +1.1**
comp=Z,62nm,1.3s,mb5.7
PPT *e*S S 12 16 10.2 -0.1
PPT *e*SS SS 12 21 54.7 +3.8
PPT Papeete 86.40 108 *e*P **P** **12 05 37.2 +1.1**
PPT *e*S S 12 16 10.2 -0.1
PPT *e*SS SS 12 21 54.7 +3.8
PPT pmax pmax
comp=Z,62nm,1.3s
PPT Papeete 86.40 108 LR LR 12 37 56.0
comp=Z,613nm,19.8s,MS5.0,baz=260,slow=31
BYBT Boyabat 86.48 311 *e*P **P** **12 05 36.0 -0.1**
SIM Simferopol' 86.54 315 *e*P **P** **12 05 36.3 +0.1**
SIM *e* pP 12 05 45.0 -1.6
SIM *e*S S 12 16 02.4 -8.3
SIM pmax pmax
comp=Z,57nm,0.9s,mb5.8
CTKT Corum 86.57 310 *i*P **P** **12 05 36.1 -0.4**
RCY Rachaya 86.58 303 *e*P **P** **12 05 36.5 -0.2**
AVNT Avonos 86.73 309 *i*P **P** **12 05 36.9 -0.5**
CORM Corum 86.74 310 *e*P **P** **12 05 37.5 +0.1**
TVO Taravao 86.74 108 *e*P **P** **12 05 38.8 +1.1**
comp=Z,114nm,1.0s,mb6.1
TVO Taravao 86.74 108 *e*P **P** **12 05 38.8 +1.1**
TVO pmax pmax
comp=Z,114nm,1.0s,mb6.1
KARA Karaisali 86.76 307 *e*P **P** **12 05 47.1 +10**
INK Inuvik 86.79 22 P **P** **12 05 36.5 -0.5**
INK pmax pmax
comp=Z,4.0nm,0.6s
INK Inuvik 86.79 22 P **P** **12 05 36.5 -0.5**
comp=Z,4.1nm,0.6s,mb4.8,baz=276,slow=4.9,SNR=50
ARCES ARCESS Array B 86.94 340 P **P** **12 05 36.5 -1.2**
ARCES pmax pmax
comp=Z,15nm,0.8s
ARCES pmax pmax
comp=Z,1.0nm,0.7s
ARCES MLR MLR
comp=Z,817nm,21.9s
ARCES ARCESS Array B 86.94 340 P **P** **12 05 36.5 -1.2**
comp=Z,15nm,0.8s,mb5.3,baz=87,slow=7.0,SNR=37
ARCES PKKP PKKPbc 12 23 30.8 -2.7
comp=Z,1.4nm,0.7s,baz=258,slow=3.5,SNR=6.2
ARCES LR LR 12 48 33.1
comp=Z,817nm,21.9s,MS5.1,baz=79,slow=38
ARE0 ARCESS Array S 86.94 340 *e*P **P** **12 05 37.2 -0.5**
CDAG Cicekdag 87.00 309 *i*P **P** **12 05 46.0 +7.4**
NIG Nigde 87.01 308 *e*P **P** **12 05 38.9 +0.2**
TOS Tosya 87.09 311 *e*P **P** **12 05 39.9 +0.9**
VNDA Vanda 87.10 173 P **P** **12 05 37.9 -0.3**
VNDA pmax pmax
comp=Z,18nm,0.9s
VNDA MLR MLR
comp=Z,505nm,19.2s
VNDA Vanda 87.10 173 P **P** **12 05 37.9 -0.4**
comp=Z,18nm,0.8s,mb5.3,baz=315,slow=6.5,SNR=24
VNDA LR LR 12 45 34.4
comp=Z,505nm,19.2s,MS4.9,baz=344,slow=36
MAW Mawson 87.16 200 *e*P **P** **12 05 38.8 +0.1**
comp=Z,20nm,1.2s,mb5.2
MAW Mawson 87.16 200 P **P** **12 05 38.6 -0.1**
MAW pmax pmax
comp=Z,18nm,1.0s
MAW MLR MLR
comp=Z,329nm,20.1s
MAW Mawson 87.16 200 P **P** **12 05 38.6 -0.1**
comp=Z,18nm,1.0s,mb5.3,baz=66,slow=6.2,SNR=16
MAW LR LR 12 43 41.9
comp=Z,329nm,20.1s,MS4.7,baz=68,slow=35
MERS Mersin 87.23 307 *e*P **P** **12 05 38.5 -1.3**
KBS Kingsbay 87.35 350 PFAKE 12 05 50.0 +10
KBS LR LR
comp=Z,1µm,19.0s,MS5.2
KBS Kingsbay 87.35 350 *e*P **P** **12 05 35.3 -4.2**
KBS *e*SKS 12 15 55.2
KBS AMS AMS 12 52 53.3
comp=Z,606nm,18.5s,MS5.0
TBI Tubuai 87.41 114 *e*S S 12 16 18.1 -1.8
comp=Z,767nm,31.5s
TBI *e*SS SS 12 22 11.4 +5.8
comp=Z,399nm,27.8s
TBI Tubuai 87.41 114 *e*LR LR 12 33 28.7
comp=Z,2µm,26.5s
KAMT Kaman 87.54 309 *e*P **P** **12 05 40.3 -1.0**
PMOR Pomariorio Ree 87.62 105 *e*P **P** **12 05 43.2 +1.2**
comp=Z,159nm,1.2s,mb6.1
EREN Erenkoy 87.68 305 *e*P **P** **12 05 50.2 +8.2**
SKAG Skagway 87.75 30 *e*P **P** **12 05 43.4 +1.6**
VAH Vaihoa 87.91 106 *e*P **P** **12 05 44.4 +1.0**
comp=Z,143nm,1.3s,mb6.0
IKL Isikli 87.98 306 *e*P **P** **12 05 42.8 -0.6**
SBA Scott Base 88.00 172 PFAKE 12 05 50.0 +7.4
SBA LR LR
comp=Z,1µm,19.0s,MS5.3
ANTO Ankara 88.18 310 *e*P **P** **12 05 39.2 -5.1**
ANTO Ankara 88.18 310 P **P** **12 05 45.3 +1.0**
comp=Z,24nm,0.8s,mb5.5
ANTO LR LR
comp=Z,206nm,20.0s,MS4.5
ANTO Ankara 88.18 310 P **P** **12 05 45.3 +1.0**
ANTO pmax pmax
comp=Z,24nm,0.8s,mb5.5
ANTO MLR MLR
comp=Z,206nm,20.0s,MS4.5
LFK Lefkose 88.23 305 *e*P **P** **12 05 43.8 -0.9**
CSS Prodhromos 88.44 305 *e*P **P** **12 05 45.2 -0.4**
comp=Z,56nm,0.8s,mb5.8
FIA1 FINESS Array S 88.51 332 *e*P **P** **12 05 43.8 -1.5**
FINES FINESS Array B 88.51 332 P **P** **12 05 44.2 -1.2**
comp=Z,13nm,0.6s,mb5.4,baz=72,slow=6.2,SNR=40
FINES LR LR 12 51 17.9
comp=Z,930nm,20.0s,MS5.2,baz=292,slow=40
KONT Konya--Tatoy 88.79 308 *e*P **P** **12 05 46.8 -0.4**
VSU Vasula 88.84 329 *e*P **P** **12 05 45.8 -1.1**
AKASG Malin Array Be 88.94 321 P **P** **12 05 45.7 -1.8**
comp=Z,6.8nm,0.5s,mb5.2,baz=69,slow=4.1,SNR=21
AKASG LR LR 12 51 51.4
comp=Z,1µm,20.5s,MS5.3,baz=85,slow=40
KIEV Kiev 88.95 321 *e*P **P** **12 05 46.4 -1.3**
comp=Z,54nm,1.1s,mb5.8
KIEV LR LR
comp=Z,1µm,20.0s,MS5.3
KIEV Kiev 88.95 321 *e*P **P** **12 05 46.4 -1.2**
KIEV pmax pmax
comp=Z,54nm,1.1s,mb5.8
KIEV MLR MLR
comp=Z,1µm,20.0s,MS5.3
KIZT Kizilcal 89.02 309 *e*P **P** **12 05 47.8 -0.4**
TRO Tromso 89.13 341 *e*SKS 12 16 04.6
TRO AMS AMS 12 54 26.5
comp=Z,766nm,16.3s,MS5.2
KMBO Kilima Mbogo 89.47 269 *e*P **P** **12 05 50.5 -0.4**
comp=Z,14nm,1.1s,mb5.2
KMBO LR LR
comp=Z,481nm,22.0s,MS4.9

KMBO Kilima Mbogo 89.47 269 P **P** **12 05 50.2 -0.7**
comp=Z,6.9nm,0.8s,mb5.0,baz=37,slow=8.3,SNR=8.2
KMBO LR LR 12 41 22.0
comp=Z,422nm,21.7s,MS4.8,baz=95,slow=32
IDID Didziasalis 89.50 326 *e*P **P** **12 05 50.1 0.0**
IDID AMb AMB 12 06 01.9
comp=Z,16nm,1.3s,mb5.2
IZAR Zarasai 89.68 326 *e*P **P** **12 05 50.9 -0.1**
IZAR AMb AMB 12 06 02.7
comp=Z,21nm,1.0s,mb5.4
IIGN Ignalina 89.78 326 *e*P **P** **12 05 51.5 0.0**
IIGN AMb AMB 12 06 03.3
comp=Z,15nm,1.2s,mb5.2
KIS Kishinev 89.88 317 *e*P **P** **12 05 50.0 -2.1**
KIS *e* 12 16 20.0
KIS *e* 12 16 40.0
KIS MLR MLR
comp=Z,2µm,20.0s,MS5.5
KIS MLR MLR
comp=Z,2µm,20.0s
ISP Isparta 90.25 308 P **P** **12 06 02.1 +8.0**
ISP Isparta 90.25 308 P **P** **12 06 01.4 +7.4**
ISP pmax pmax
comp=Z,120nm,1.4s,mb6.0
ALT Altintas 90.36 309 *e*P **P** **12 05 52.7 -1.8**
TIRR Tirgusor 90.63 315 ⇓P **P** **12 05 54.9 -0.8**
TIRR Tirgusor 90.63 315 ⇓*i*P **P** **12 05 54.9 -0.8**
YLV Yalova 90.65 311 *e*P **P** **12 05 52.6 -3.2**
GEMT Gemlik 90.81 311 *e*P **P** **12 05 55.8 -0.8**
ELL Elmali 90.91 307 *e*P **P** **12 05 55.4 -1.7**
GOLH Golhisar 91.10 308 *i* P **P** **12 05 49.5 -8.5**
VRI Vrincioaia 91.52 316 P **P** **12 05 59.1 -0.6**
VRI Vrincioaia 91.52 316 ⇑*i*P **P** **12 05 59.3 -0.4**
KULA Kula-Manisa 91.57 309 *e*P **P** **12 05 56.8 -3.3**
PLOR Plostina 91.58 316 ⇑*i*P **P** **12 06 00.0 0.0**
FETY Fethiye 91.58 307 *e*P **P** **12 05 57.3 -3.0**
SUW Suwalki 91.82 325 *e*P **P** **12 06 00.4 -0.5**
BALB Balikesir 91.95 310 *e*P **P** **12 06 00.4 -1.5**
YER Yerkesik 92.12 308 *e*P **P** **12 06 01.2 -1.6**
MLR Muntele Rosu 92.14 316 P **P** **12 06 02.2 -0.4**
MLR Muntele Rosu 92.14 316 ⇑*i*P **P** **12 06 01.9 -0.7**
BURAR Bucovina Array 92.14 318 ⇑*i*P **P** **12 06 02.8 +0.2**
VOIR 92.76 316 P **P** **12 06 00.1 -5.4**
BLCB Balcova 92.84 309 *e*P **P** **12 06 04.5 -1.6**
BODT Bodrum 92.90 308 *e*P **P** **12 06 05.5 -0.8**
URLA Izmir 93.19 309 *i* P **P** **12 06 04.0 -3.6**
KWP Kalwaria 93.26 321 *e*P **P** **12 06 07.6 -0.1**
KWP Kalwaria 93.26 321 *e*P **P** **12 06 07.6 -0.1**
KWP Kalwaria 93.26 321 ⇑*i*P **P** **12 06 07.8 +0.1**
DAG Danmarks Havn 93.58 352 ⇑*e*P **P** **12 06 06.8 -1.9**
DAG pmax pmax
comp=Z,7.0nm,0.8s,mb5.1
DAG Danmarks Havn 93.58 352 ⇑*i*P **P** **12 06 06.8 -1.9**
comp=Z,6.7nm,0.8s,mb5.1
KOLS Kolonicke sedl 93.72 320 *e*P **P** **12 06 09.4 -0.4**
UZH Uzhgorod 93.79 320 *e*P **P** **12 06 09.8 -0.4**
UZH *i* pP 12 06 19.2 -1.4
UZH *e*S S 12 17 15.0 -2.5
UZH *e*PS PS 12 18 31.0 -4.2
DRGR 94.00 318 P **P** **12 06 10.8 -0.4**
DRGR 94.00 318 ⇑*i*P **P** **12 06 11.1 -0.1**
RES Resolute Bay 94.22 10 *e*P **P** **12 06 12.4 +0.8**
STHS Stebnicka Huta 94.23 321 *e*P **P** **12 06 11.0 -1.2**
comp=Z,17nm,1.2s,mb5.3
STHS Stebnicka Huta 94.23 321 *e*P **P** **12 06 11.0 -1.2**
STHS pmax pmax
comp=Z,17nm,1.2s,mb5.3
CRVS Cervenica-Dubn 94.24 320 *e*P **P** **12 06 12.1 -0.1**
CRVS *e* pP 12 06 23.8 +1.2
CRVS Cervenica-Dubn 94.24 320 *e*P **P** **12 06 12.0 -0.2**
CRVS *e*pP pP 12 06 23.8 +1.2
GZR Gura Zlata 94.32 317 P **P** **12 06 12.7 -0.1**
TAOE Nuku Hiva Isla 94.34 98 *e*SS SS 12 23 47.6 +1.6
comp=Z,44µm,36.0s
TAOE Nuku Hiva Isla 94.34 98 *e*LR LR 12 36 27.0
comp=Z,48µm,23.2s
MMB Musomiste 94.61 313 P **P** **12 06 12.2 -1.9**
SOF Sofiya 94.62 314 P **P** **12 06 13.7 -0.4**
VTS Vitosha 94.74 314 P **P** **12 06 13.9 -0.8**
VTS Vitosha 94.74 314 ⇑*i*P **P** **12 06 13.9 -0.8**
VTS Vitosha 94.74 314 P **P** **12 06 13.8 -0.9**
NIE Niedzica 94.82 321 *e*P **P** **12 06 14.9 0.0**
NIE *e*pP pP 12 06 24.3 -1.0
OJC Ojcow 94.89 322 *e*P **P** **12 06 13.7 -1.5**
OJC *e*pP pP 12 06 26.4 +0.8
OJC *e*PP PP 12 10 04.1 +0.1
OJC *e*S S 12 17 26.3 -0.8
OJC L 12 55 26.1
comp=Z,0.7nm,21.1s
KECS Kecovo 94.98 320 *e*P **P** **12 06 14.9 -0.7**
comp=Z,7.7nm,0.8s,mb5.2
KECS *e* pP 12 06 23.5 -2.5
KECS Kecovo 94.98 320 *e*P **P** **12 06 14.9 -0.7**
KECS *e* pP 12 06 23.5 -2.5
KECS pmax pmax
comp=Z,8.0nm,0.8s,mb5.2
KKB Krupnik 95.01 313 P **P** **12 06 14.3 -1.6**
NB2 NORSAR Subarra 95.42 334 P **P** **12 06 15.3 -2.0**
comp=Z,7.0nm,0.8s,mb5.1,baz=64,slow=4.6
NOA NORSAR Array B 95.42 334 P **P** **12 06 15.3 -2.0**
NOA LR LR 12 53 00.7
NOA NORSAR Array B 95.42 334 P **P** **12 06 15.3 -2.0**
NOA pmax pmax
comp=Z,6.0nm,0.8s
NOA MLR MLR
comp=Z,828nm,18.7s
NOA NORSAR Array B 95.42 334 P **P** **12 06 15.3 -2.0**
comp=Z,5.6nm,0.8s,mb5.0,baz=64,slow=4.6,SNR=17
NOA LR LR 12 53 00.7
comp=Z,828nm,18.7s,MS5.2,baz=45,slow=38
PSZ Piszkesteto 95.53 320 *e*P **P** **12 06 17.9 -0.3**
PSZ Piszkesteto 95.53 320 ⇓*e*P **P** **12 06 17.6 -0.5**
NAO01 NORSAR Array S 95.65 334 *e*P **P** **12 06 17.4 -0.9**
comp=Z,5.0nm,0.8s,mb5.0
NAO01 *e*pP pP 12 06 28.7 -0.1
SYO Syowa Base 95.80 201 ⇓*e*X 12 06 16.0
SYO Syowa Base 95.80 201 ⇓*i*X 12 06 27.9
OKC Ostrava-Krasne 96.03 322 *e*Pdif **P** **12 06 20.3 -0.1**
OKC *e*SKS 12 17 36.7
OKC Ostrava-Krasne 96.03 322 *e*P **P** **12 06 20.3 -0.1**
OKC *e*S S 12 17 36.7 -0.2
OKC AMS AMS 12 50 20.0
comp=Z,500nm,18.3s,MS5.0
VYHS Vyhne 96.03 320 *e*P **P** **12 06 19.9 -0.5**
comp=Z,26nm,2.3s,mb5.3
VYHS *e* pP 12 06 29.4 -1.4
VYHS *e*PP PP 12 10 08.4 -4.5
VYHS Vyhne 96.03 320 *e*P **P** **12 06 19.9 -0.5**
VYHS *e* pP 12 06 29.4 -1.4
VYHS *e* 12 10 08.4
VYHS pmax pmax
comp=Z,26nm,2.3s,mb5.2
VYHS Vyhne 96.03 320 *e*P **P** **12 06 19.9 -0.5**
VYHS *e*pP pP 12 06 29.3 -1.5
VYHS *e*PP PP 12 10 08.4 -4.5
YKA Yellowknife Ar 96.20 24 P **P** **12 06 20.4 -0.5**
comp=Z,4.0nm,0.7s,mb5.0,baz=300,slow=4.5,SNR=73
YKA PKiKP PKiKP 12 10 58.4 -0.6
comp=Z,0.2nm,0.4s,baz=308,slow=1.8,SNR=7.7
YKA PKKPbc PKKPbc 12 23 04.7 -5.0
comp=Z,0.9nm,0.7s,baz=120,slow=3.2,SNR=5.7
JMIC Jan Mayen 96.24 347 LR LR 12 53 11.7
comp=Z,528nm,21.9s,MS5.0,baz=221,slow=38
MORC Moravsky Berou 96.42 322 ⇓P **P** **12 06 22.0 -0.2**
MORC *e*P 12 06 22.5
MORC Moravsky Berou 96.42 322 ⇓*i*P **P** **12 06 22.0 -0.1**
KONO Kongsberg 96.76 333 PFAKE 12 06 30.0 +6.5
KONO LR LR
comp=Z,884nm,19.0s,MS5.3
KSP Ksiaz 96.81 323 *e*P **P** **12 06 23.6 -0.3**
KSP Ksiaz 96.81 323 *e*P **P** **12 06 23.5 -0.4**
KSP *e*PP pP 12 06 33.4 -0.9
KSP *e*SP SP 12 19 02.0 -1.7
KSP MLR MLR
comp=Z,2µm,21.6s,MS5.6
PKSM Moragy 96.86 318 ⇓*i*P **P** **12 06 22.4 -1.9**
DPC Dobruska-Polom 96.96 323 *e*PDIF **P** **12 06 24.5 -0.1**
DPC *e*pP pP 12 06 33.2 -1.8
DPC AMS AMS 12 53 00.0
comp=Z,700nm,18.3s,MS5.2
MODS Modra-Piesok 97.05 321 *e*P **P** **12 06 23.5 -1.5**
UPC Upice 97.09 323 *e*P **P** **12 06 25.0 -0.2**
UPC *e*pP pP 12 06 34.2 -1.4

VRAC Vranov 97.16 322 P **P** **12 06 26.0 +0.5**
VRAC Vranov 97.16 322 ⇑*i*P **P** **12 06 25.6 +0.1**
QSPA South Pole Qui 97.32 180 PKKPbc PKKPbc 12 23 03.3 -4.1
comp=Z,0.8nm,0.5s,baz=302,slow=1.3,SNR=9.4
TREC Trest 97.84 322 *i* P **P** **12 06 28.5 -0.1**
TREC MLR MLR
comp=Z,900nm,21.4s,MS5.2
TREC Trest 97.84 322 *e*P **P** **12 06 28.5 -0.1**
TREC AMS AMS 12 54 50.0
comp=Z,900nm,21.4s,MS5.2
PVCC Panska Ves 97.94 323 *e*P **P** **12 06 31.5 +2.5**
PVCC *e*pP pP 12 06 39.0 -0.4
PVCC AMS AMS 12 52 50.0
comp=Z,1µm,18.5s,MS5.4
GNW Green Mountain 98.15 40 *e*P **P** **12 06 31.8 +1.8**
PRU Pruhonice 98.16 323 *e*P **P** **12 06 32.1 +2.1**
PRU *e*pP pP 12 06 38.5 -1.9
PRU *e*SKS 12 17 03.1
PRU AMS AMS 12 53 10.0
comp=Z,900nm,17.7s,MS5.3
BRG Berggiesshubel 98.18 324 *e*Pdif **P** **12 06 29.5 -0.6**
comp=Z,3.7nm,1.0s,mb4.9
BRG *i* pP 12 06 39.2 -1.3
BRG PP PP 12 10 31.6 +2.2
BRG SKS 12 17 01.0
BRG S S 12 18 04.0 +8.7
BRG SS SS 12 24 51.0 +13
BRG LR LR
comp=Z,720nm,23.4s,MS5.1
BRG Berggiesshubel 98.18 324 *e*P **P** **12 06 29.5 -0.6**
BRG *i* pP 12 06 39.2 -1.3
BRG 12 10 31.5
BRG 12 17 01.0
BRG SS SS 12 24 51.0 +13
BRG pmax pmax
comp=Z,4.0nm,1.0s,mb4.9
BRG pmax pmax
comp=Z,20nm,1.1s,mb5.6
BRG pmax pmax
comp=Z,10.0nm,1.6s,mb5.1
BRG MLR MLR
comp=N,280nm,25.4s
BRG MLR MLR
comp=E,602nm,32.4s
BRG Berggiesshubel 98.18 324 *e*Pdif **P** **12 06 29.1 -1.0**
BRG *e*pPdif pP 12 06 39.5 -1.0
BRG Berggiesshubel 98.18 324 *e*PDIF **P** **12 06 29.5 -0.6**
comp=E,6.2nm,1.0s,mb5.1
BRG *i* pP 12 06 39.2 -1.3
comp=E,34nm,1.1s
BRG PP PP 12 10 31.6 +2.2
comp=E,16nm,1.6s
BRG SKS 12 17 01.0
BRG S S 12 18 04.0 +8.7
BRG SS SS 12 24 51.0 +13
BRG
comp=N,468nm,25.4s
BRG
comp=E,1µm,32.4s
BRG
comp=Z,1µm,23.4s
BER Bergen 98.27 335 AMS AMS 12 54 56.1
comp=Z,951nm,23.7s,MS5.2
CLL Collm 98.56 324 ⇓*i*Pdif **P** **12 06 32.9 +1.1**
comp=Z,31nm,1.9s,mb5.5
CLL *i* pP pP 12 06 41.0 -1.2
CLL *e*SKS 12 17 07.0
CLL *e*Sdif S 12 17 59.0 +0.5
CLL LR LR
comp=Z,1µm,20.1s,MS5.5
CLL Collm 98.56 324 ⇓*i*P **P** **12 06 32.9 +1.1**
CLL *i* *PP pP 12 06 41.0 -1.2
CLL *e* 12 17 07.0
CLL *e*S S 12 17 59.0 +0.5
CLL pmax pmax
comp=Z,31nm,1.9s,mb5.5
CLL MLR MLR
comp=Z,1µm,20.1s,MS5.5
CLL Collm 98.56 324 *e*Pdif **P** **12 06 30.4 -1.4**
CLL *e*pPdif pP 12 06 41.1 -1.1
CLL Collm 98.56 324 ⇓*i*Pdif **P** **12 06 32.9 +1.1**
comp=Z,31nm,1.9s,mb5.5
CLL *i* pPdif pP 12 06 41.0 -1.2
comp=Z,22nm,1.1s
CLL *e*PP PP 12 10 33.0 +0.8
CLL *e*SKSac SKSac 12 17 07.0 -0.5
CLL *e*Sdif S 12 17 59.0 +0.5
CLL *e*PS PS 12 19 20.0 -7.2
CLL *e*SS SS 12 25 06.0 +23
CLL *e*SSS 12 29 00.0
CLL *e*x x 12 34 42.0
CLL Lm 12 55 00.0
comp=N,700nm,21.8s
CLL Lm 12 55 00.0
comp=E,800nm,20.8s
CLL Lm 12 55 00.0
comp=Z,1µm,20.1s
BSEG Bad Segeberg 98.96 328 *e*Pdif **P** **12 06 32.5 -1.0**
BSEG *e*pPdif pP 12 06 42.9 -1.0
GCIS Gornji Cirnik 98.96 319 *e*Pdif **P** **12 06 32.0 -1.7**
GCIS *e*PP PP 12 10 49.0 +14
PERS Pernice 99.02 320 *e*Pdif **P** **12 06 34.6 +0.7**
KHC Kasperske Hory 99.06 322 *e*P **P** **12 06 33.5 -0.6**
KHC *e*pP pP 12 06 42.5 -2.0
KHC *e*SKS 12 17 06.4
KHC AMS AMS 12 57 20.0
comp=Z,900nm,22.7s,MS5.2
GEC2 GERESS Array S 99.10 322 *e*Pdif **P** **12 06 33.2 -1.0**
GEC2 *e*pPdif pP 12 06 43.2 -1.5
GERES GERESS Array B 99.10 322 P **P** **12 06 33.9 -0.3**
comp=Z,4.7nm,0.7s,mb5.2,baz=58,slow=5.0,SNR=18
GERES LR LR 12 56 27.9
comp=Z,635nm,20.9s,MS5.1,baz=117,slow=38
MOA Molln 99.12 321 ⇑*i*P **P** **12 06 34.0 -0.3**
comp=Z,18nm,0.9s,mb5.6
LEGS Legarje 99.13 319 *e*PP PP 12 10 50.4 +14
TANN Tannenbergstha 99.23 324 *e*Pdif **P** **12 06 33.8 -1.0**
TANN *e*pPdif pP 12 06 44.1 -1.1
NKC Novy Kostel 99.31 324 *e*P **P** **12 06 37.6 +2.5**
NKC *e**PP pP 12 06 45.1 -0.5
NKC Novy Kostel 99.31 324 *e*P **P** **12 06 37.6 +2.5**
NKC *e*pP pP 12 06 45.1 -0.5
NKC AMS AMS 12 54 00.0
comp=Z,1µm,19.3s,MS5.5
WET Wettzell 99.48 322 *e*Pdif **P** **12 06 35.2 -0.7**
WET *e*pPdif pP 12 06 45.7 -0.7
MANZ Manzenberg 99.61 323 *e*Pdif Pdif 12 06 35.8 -0.5
MANZ *e*pPdif 12 06 46.2
MOX Moxa 99.63 324 *e*PDIFF Pdif 12 06 38.0 +1.6
MOX *e* 12 06 46.2
MOX
comp=Z,900nm,20.0s
MOX Moxa 99.63 324 *e*Pdif Pdif 12 06 35.6 -0.8
MOX *e*pPdif 12 06 45.9
ROTZ Rotzenmuhle 99.64 323 *e*Pdif Pdif 12 06 35.9 -0.6
ROTZ *e*pPdif 12 06 46.4
HUMO Hull Mountain 99.75 45 PFAKE 12 06 50.0 +13
HUMO LR LR
comp=Z,292nm,19.0s,MS4.8
CLZ Clausthal 99.83 326 *e*Pdif Pdif 12 06 36.9 -0.4
CLZ *e*pPdif 12 06 47.1
LSZ Lusaka 99.98 256 *e*Pdif Pdif 12 06 37.0 -0.9
comp=Z,5.2nm,0.8s
LSZ LR LR
comp=Z,14µm,21.0s,MS6.5
LSZ Lusaka 99.98 256 *e*P Pdif 12 06 37.0 -1.0
LSZ pmax pmax
comp=Z,5.0nm,0.8s,mb5.0
LSZ MLR MLR
comp=Z,14µm,21.0s,MS6.5
GRA1 Grafenberg Arr 100.25 323 *e*Pdif Pdif 12 06 38.9 -0.3
GRA1 *e*PP PP 12 10 49.0 +3.9
GRA1 LR LR
comp=Z,1µm,21.3s,MS5.3
GRF Grafenberg Arr 100.25 323 *e*Pdif Pdif 12 06 38.9 -0.3
GRF *e*pPdif 12 06 49.4
GRF *e*PP PP 12 10 49.0 +3.9
UBBA Unterbreizbach 100.49 325 *e*Pdif Pdif 12 06 41.0 +0.8
UBBA *e*pPdif 12 06 50.5
RKT Rikitea 100.63 112 *e*SS SS 12 25 14.9 +0.6
comp=Z,269nm,30.5s
RKT Rikitea 100.63 112 *e*LR LR 12 39 39.9
comp=Z,2µm,26.8s
IBBN Ibbenburen 101.07 327 *e*Pdif Pdif 12 06 42.3 -0.5

IBBN *e*pPdif 12 06 53.0
NEW Newport 101.42 38 P Pdif 12 06 46.4 +2.0
NEW pmax pmax
comp=Z,2.0nm,0.8s
NEW Newport 101.42 38 P Pdif 12 06 46.4 +2.0
comp=Z,2.1nm,0.8s,baz=218,slow=1.3,SNR=3.8
FETA Feichten 101.65 321 ⇑*i*Pdif Pdif 12 06 45.1 -0.4
comp=Z,13nm,1.3s
MOD Modoc 101.84 45 PFAKE 12 07 00.0 +14
MOD LR LR
comp=Z,1µm,19.0s,MS5.4
BFO Black Forest 102.56 323 PFAKE 12 07 00.0 +11
BFO LR LR
comp=Z,1µm,20.0s,MS5.4
BMO Blue Mountains 102.72 41 PFAKE 12 07 00.0 +10
BMO LR LR
comp=Z,616nm,19.0s,MS5.2
LBTB Lobatse 103.03 246 PFAKE 12 07 00.0 +8.5
LBTB LR LR
comp=Z,530nm,21.0s,MS5.0
CDF Champ du Feu 103.15 323 *e*P Pdif 12 06 51.7 -0.4
comp=Z,14nm,1.0s
CDF Champ du Feu 103.15 323 *e*P Pdif 12 06 51.7 -0.4
comp=Z,7.1nm,1.0s
CDF Champ du Feu 103.15 323 *e*P Pdif 12 06 51.7 -0.4
CDF pmax pmax
comp=Z,7.0nm,1.0s
CMB Columbia Colle 103.16 48 PFAKE 12 07 00.0 +7.9
CMB LR LR
comp=Z,885nm,22.0s,MS5.2
WLF Walferdange 103.21 325 *e*Pdif Pdif 12 06 52.3 -0.1
WLF *e*pPdif 12 07 02.2
GIVF Givet 103.75 326 *e*P Pdif 12 06 54.1 -0.7
comp=Z,33nm,1.0s
GIVF Givet 103.75 326 *e*P Pdif 12 06 54.1 -0.7
comp=Z,17nm,1.0s
GIVF Givet 103.75 326 *e*P Pdif 12 06 54.1 -0.7
GIVF pmax pmax
comp=Z,17nm,1.0s
MSO Missoula 103.98 38 PFAKE 12 07 10.0 +14
MSO LR LR
comp=Z,693nm,21.0s,MS5.2
NVAR Mina Array Bea 104.54 47 Pdiff Pdif 12 07 01.8 +3.6
comp=Z,1.1nm,0.6s,baz=281,slow=5.4,SNR=13
NVAR PKiKP PKiKP 12 11 18.2 +3.5
comp=Z,0.7nm,0.7s,baz=288,slow=0.9,SNR=4.3
NVAR PKKPbc PKKPbc 12 22 45.4 +0.3
comp=Z,1.7nm,0.8s,baz=123,slow=4.7,SNR=9.7
PGF Pioggiola 104.63 317 *e*P Pdif 12 06 58.5 -0.2
comp=Z,18nm,1.2s
PGF Pioggiola 104.63 317 *e*P Pdif 12 06 58.5 -0.2
comp=Z,9.2nm,1.2s
PGF Pioggiola 104.63 317 *e*P Pdif 12 06 58.5 -0.2
PGF pmax pmax
comp=Z,9.0nm,1.2s
LPG La Plagne 104.80 321 *e*P Pdif 12 06 59.1 -0.3
comp=Z,14nm,0.9s
LPG La Plagne 104.80 321 *e*P Pdif 12 06 59.1 -0.3
comp=Z,7.3nm,0.9s
LPG La Plagne 104.80 321 *e*P Pdif 12 06 59.1 -0.3
LPG pmax pmax
comp=Z,7.0nm,0.9s
LPL La Plagne 104.80 321 *e*P Pdif 12 06 59.2 -0.2
comp=Z,13nm,1.1s
LPL La Plagne 104.80 321 *e*P Pdif 12 06 59.2 -0.2
comp=Z,6.7nm,1.0s
LPL La Plagne 104.80 321 *e*P Pdif 12 06 59.2 -0.2
LPL pmax pmax
comp=Z,7.0nm,1.0s
ESK Eskdalemuir 104.90 333 PFAKE 12 07 10.0 +10
ESK LR LR
comp=Z,1µm,19.0s,MS5.5
LOR Lormes 105.72 323 *e*P Pdif 12 07 02.7 -0.8
BOZ Bozeman (W) 105.96 38 PFAKE 12 11 30.0 +13
BOZ LR LR
comp=Z,759nm,20.0s,MS5.2
FFC Flin Flon 106.03 27 PFAKE 12 11 30.0 +13
FFC LR LR
comp=Z,809nm,19.0s,MS5.3
SSF Saint Saulge 106.03 323 *e*P Pdif 12 07 04.5 -0.4
GSC Goldstone 106.83 50 PFAKE 12 11 30.0 +11
GSC LR LR
comp=Z,800nm,20.0s,MS5.3
LKWY Lake 107.24 39 PFAKE 12 11 30.0 +11
LKWY LR LR
comp=Z,1µm,19.0s,MS5.5
AHID Auburn Hatcher 107.67 41 PFAKE 12 11 30.0 +10
AHID LR LR
comp=Z,843nm,19.0s,MS5.3
DUG Dugway 107.71 44 PFAKE 12 11 30.0 +9.5
DUG LR LR
comp=Z,749nm,21.0s,MS5.2
HWUT Hardware Ranch 107.91 42 PFAKE 12 11 30.0 +9.2
HWUT LR LR
comp=Z,987nm,20.0s,MS5.4
MPU Maple Canyon 108.60 44 PFAKE 12 11 30.0 +7.8
MPU LR LR
comp=Z,1µm,20.0s,MS5.4
LAO LASA Array 108.63 35 PFAKE 12 11 30.0 +8.0
LAO LR LR
comp=Z,785nm,19.0s,MS5.3
BW06 Boulder Array 108.66 40 PFAKE 12 11 30.0 +7.8
BW06 LR LR
comp=Z,1µm,19.0s,MS5.5
PDAR Pinedale Array 108.66 40 PKiKP PKiKP 12 11 25.2 +3.0
comp=Z,0.4nm,0.5s,baz=262,slow=2.6,SNR=3.4
PDAR PKKPbc PKKPbc 12 22 30.2 -2.3
comp=Z,1.6nm,0.9s,baz=98,slow=3.0,SNR=7.2
PDAR PKKPab PKKPab 12 22 39.9 -5.6
comp=Z,4.1nm,0.8s,baz=120,slow=5.8,SNR=10
SNAA Sanae 108.73 195 PKKPbc PKKPbc 12 22 30.0 -3.2
comp=Z,0.7nm,0.6s,baz=180,slow=1.0,SNR=8.6
DGMT Dagmar 108.75 33 PFAKE 12 11 30.0 +7.8
DGMT LR LR
comp=Z,885nm,20.0s,MS5.3
GLA Glamis 109.20 51 PFAKE 12 11 40.0 +16
GLA LR LR
comp=Z,519nm,19.0s,MS5.1
VNA2 Neumayer--Watz 110.35 195 *e*PKiKP PKiKP 12 11 25.5 +1.0
baz=68,slow=1.0
VNA2 *e* 12 11 36.2
VNA2 *e* 12 11 41.0
VNA2 *e* 12 12 00.3
VNA3 Neumayer Olymp 110.69 194 *e*PKiKP PKiKP 12 11 26.4 +1.2
VNA3 *e* 12 11 37.5
VNA3 *e* 12 12 02.2
VNA1 Neumayer--Stat 110.75 195 *e*PKiKP PKiKP 12 11 26.6 +1.3
VNA1 *e* 12 11 37.6
VNA1 *e* 12 12 03.4
MVCO Mesa Verde 112.08 45 *e*PKPdf PKiKP 12 11 31.5 +2.7
ISCO Idaho Springs 112.73 41 *e*PKPdf PKiKP 12 11 31.9 +1.9
MSKU Masuku 112.98 271 PFAKE 12 11 40.0 +8.8
MSKU LR LR
comp=Z,3.0nm,22.0s
AGMN Agassiz Refuge 113.14 29 PFAKE 12 11 40.0 +9.5
AGMN LR LR
comp=Z,971nm,20.0s,MS5.4
LAZ Ladron 114.39 47 *e*PKPdf PKiKP 12 11 36.1 +2.8
ESDC Sonseca Array 114.56 320 PP PP 12 12 31.8 +1.7
comp=Z,0.6nm,0.6s,baz=45,slow=7.6,SNR=5.3
ESDC PKKPab PKKPab 12 22 23.2 +3.9
comp=Z,0.5nm,0.4s,baz=266,slow=5.0,SNR=5.6
ESDC PKKP PKKPdf 12 22 37.2 +1.5
comp=Z,0.3nm,0.3s,baz=211,slow=8.4,SNR=4.9
ESLA Sonseca Array 114.56 320 PFAKE 12 11 50.0 +16
ESLA LR LR
comp=Z,3µm,20.0s,MS5.9
ANMO Albuquerque 114.62 46 *e*PKPdf PKiKP 12 11 35.7 +1.9
ANMO LR LR
comp=Z,860nm,20.0s,MS5.3
LPM Los Pinos Moun 114.80 47 *e*PKPdf PKiKP 12 11 36.6 +2.4
PAB San Pablo 114.88 320 PFAKE 12 11 50.0 +16
PAB LR LR
comp=Z,711nm,20.0s,MS5.3
BNM Barren Site 114.89 47 *e*PKPdf PKiKP 12 11 36.9 +2.6
ECSD EROS,Sioux Fal 115.82 33 *e*PKPdf PKPdf 12 11 36.8 +1.0
SCHQ Schefferville 116.95 9 PKP PKPdf 12 11 37.8 +0.2
comp=Z,2.2nm,0.5s,baz=354,slow=6.5,SNR=6.3
MNTX Cornudas Mount 116.98 49 *e*PKPdf PKPdf 12 11 39.8 +1.4
MNTX LR LR
comp=Z,686nm,20.0s,MS5.3
CBKS Cedar Bluff 117.06 39 PFAKE 12 11 50.0 +12
CBKS LR LR
comp=Z,1µm,20.0s,MS5.5
EVO Evora 117.79 321 *e*PKiKP PKPdf 12 11 35.8 -4.0

comp=Z,22nm,1.0s
COWI Conover 117.90 27 PFAKE 12 11 50.0 +10
COWI LR LR
comp=Z,980nm,22.0s,MS5.4
AMTX Amarillo 118.01 44 PFAKE 12 11 50.0 +10
AMTX LR LR
comp=Z,852nm,20.0s,MS5.4
TXAR Lajitas Array 119.42 50 PKIKP PKPdf 12 11 44.4 +1.3
TXAR pmax pmax
comp=Z,3.0nm,0.6s
TXAR pmax pmax
comp=Z,1.0nm,0.9s
TXAR Lajitas Array 119.42 50 PKP PKPdf 12 11 44.4 +1.3
comp=Z,3.0nm,0.6s,baz=346,slow=1.5,SNR=36
TXAR PKKPab PKKPab 12 21 56.1 -1.8
comp=Z,0.9nm,0.9s,baz=115,slow=8.4,SNR=6.8
JCT Junction City 121.72 47 *e*PKPdf PKPdf 12 11 48.0 +0.5
HDIL Hopedale 121.94 32 PFAKE 12 12 00.0 +12
HDIL LR LR
comp=Z,720nm,20.0s,MS5.3
CCM Cathedral Cave 122.65 35 PFAKE 12 12 00.0 +11
CCM LR LR
comp=Z,1μm,22.0s,MS5.5
AAM Ann Arbor 123.33 27 PFAKE 12 12 00.0 +10
AAM LR LR
comp=Z,1μm,20.0s,MS5.6
MIAR Mount Ida 123.58 40 *e*PKPdf PKPdf 12 11 51.9 +0.9
NATX Nacogdoches 124.61 43 PFAKE 12 12 10.0 +17
NATX LR LR
comp=Z,877nm,19.0s,MS5.4
ERPA Erie 125.03 24 PFAKE 12 12 10.0 +16
ERPA LR LR
comp=Z,1μm,20.0s,MS5.5
ACSO Alum Creek Sta 125.29 28 PFAKE 12 12 10.0 +16
ACSO LR LR
comp=Z,942nm,19.0s,MS5.5
NCB Newcomb 125.48 18 PFAKE 12 12 10.0 +16
NCB LR LR
comp=Z,865nm,21.0s,MS5.4
LBNH Lisbon 125.91 16 PFAKE 12 12 10.0 +15
LBNH LR LR
comp=Z,666nm,19.0s,MS5.3
WVT Waverly 125.94 34 *e*PKPdf PKPdf 12 11 56.5 +1.0
BINY Binghamton 126.47 21 PFAKE 12 12 10.0 +14
BINY LR LR
comp=Z,843nm,22.0s,MS5.4
PLAL Pickwick Lake 126.62 36 *e*PKPdf PKPdf 12 11 56.4 -0.5
MCWV Mont Chateau 127.15 26 PFAKE 12 12 10.0 +12
MCWV LR LR
comp=Z,1μm,21.0s,MS5.6
HRV Adam Dziewonsk 127.61 17 PFAKE 12 12 10.0 +12
HRV LR LR
comp=Z,265nm,19.0s,MS4.9
BLA Blacksburg 128.91 28 PFAKE 12 12 10.0 +8.9
BLA LR LR
comp=Z,584nm,22.0s,MS5.2
CBN Corbin 129.41 24 PFAKE 12 12 10.0 +8.0
CBN LR LR
comp=Z,576nm,19.0s,MS5.3
DBIC Dimbokro 129.57 285 PKP PKPdf 12 12 03.2 +0.2
DBIC SKPbc 12 15 18.6
DBIC LR LR
comp=Z,1μm,21.0s,MS5.6
DBIC Dimbokro 129.57 285 PKIKP PKPdf 12 12 03.2 +0.2
DBIC pmax pmax
comp=Z,24nm,0.9s
DBIC pmax pmax
comp=N,28nm,0.9s
DBIC Dimbokro 129.57 285 PKP PKPdf 12 12 03.2 +0.2
comp=N,24nm,0.9s,baz=24,slow=0.7,SNR=17
DBIC SKPbc 12 15 18.6
comp=N,28nm,0.9s,baz=54,slow=4.1,SNR=16
LIC Lamto 129.85 284 *e*PKP1 PKPdf 12 12 02.9 -0.6
comp=N,60nm,0.8s
BRAL Brewton 130.02 38 PFAKE 12 12 20.0 +17
BRAL LR LR
comp=Z,1μm,20.0s,MS5.6
GOGA Godfrey 130.36 33 PFAKE 12 12 20.0 +16
GOGA LR LR
comp=Z,697nm,20.0s,MS5.3
DWPF Disney 135.49 36 PFAKE 12 12 30.0 +16
DWPF LR LR
comp=Z,622nm,21.0s,MS5.3
BBSR BB Station 138.98 15 PFAKE 12 12 30.0 +10
BBSR LR LR
comp=Z,286nm,19.0s,MS5.0
PLCA Paso Flores 143.49 158 PKP PKPdf 12 12 27.3 -0.7
PLCA SKPbc SKPbc 12 16 05.7 +1.4
PLCA Paso Flores 143.49 158 PKIKP PKPdf 12 12 27.3 -0.6
PLCA pmax pmax
comp=Z,13nm,1.0s
PLCA pmax pmax
comp=N,8.0nm,1.1s
PLCA Paso Flores 143.49 158 PKP PKPdf 12 12 27.3 -0.7
comp=N,13nm,1.0s,baz=226,slow=4.9,SNR=14
PLCA SKPbc SKPbc 12 16 05.7 +1.4
comp=N,8.4nm,1.1s,baz=193,slow=3.9,SNR=3.4
JTS JuntasAbangare 144.01 61 *e*PKPdf PKPdf 12 12 27.2 -2.4
JTS LR LR
comp=Z,541nm,21.0s,MS5.3
SDDR Presa de Saban 148.39 34 *e*PKPbc PKPbc 12 12 41.6 +1.2
TRQA Tornquist 148.55 167 *e*PKPbc PKPbc 12 12 39.9 -0.3
TRQA *e*PKPab PKPab 12 12 43.5 -0.1
TRQA LR LR
comp=Z,9μm,21.0s,MS6.5
BCIP Isla Barro Col 148.94 58 *e*PKPab PKPab 12 12 46.2 +0.3
LMEL Las Melosas 149.49 152 *e*P PKPbc 12 12 43.5 +0.8
FCH Farellones 149.87 151 *e*P PKPbc 12 12 44.8 +1.1
CPD Cerro la Pandu 151.84 26 *e*PKPdf PKPdf 12 12 41.1 -1.3
CPD *e*PKPbc PKPbc 12 12 48.4 -0.3
MTP Monte Pirata 151.95 25 *e*PKPdf PKPdf 12 12 42.8 +0.3
TLL Tololo Astrono 152.12 146 *e*P PKPdf 12 12 43.3 +0.8
LCO Las Campanas 153.06 145 *e*PKPdf PKPdf 12 12 45.5 +1.6
LCO *e*PKPbc PKPbc 12 12 53.2 +2.0
LCO LR LR
comp=Z,653nm,20.0s,MS5.4
ROSC El Rosal 155.83 60 PKP PKPdf 12 12 49.0 +0.9
comp=Z,26nm,1.0s,baz=288,slow=21,SNR=12
SDV Santo Domingo 156.40 47 *e*PKPdf PKPdf 12 12 49.8 +0.9
SDV LR LR
comp=Z,3μm,19.0s,MS6.2
NNA Nana 156.49 103 *e*PKPab PKPab 12 13 20.4 +2.7
NNA LR LR
comp=Z,702nm,21.0s,MS5.5
CPUP Villa Florida 160.85 169 PKP PKPdf 12 12 53.7 -0.1
CPUP Villa Florida 160.85 169 PKIKP PKPdf 12 12 53.7 -0.1
CPUP pmax pmax
comp=Z,3.0nm,0.7s
CPUP Villa Florida 160.85 169 PKP PKPdf 12 12 53.7 -0.1
comp=Z,2.8nm,0.7s,baz=106,slow=1.6,SNR=9.4
LPAZ La Paz 163.15 123 *e*PKPdf PKPdf 12 12 57.6 +1.2
LPAZ PKP PKPdf 12 12 57.8 +1.4
LPAZ LR LR
comp=Z,449nm,21.0s
LPAZ La Paz 163.15 123 PKP PKPdf 12 12 57.8 +1.4
comp=Z,11nm,1.1s,baz=342,slow=2.4,SNR=25
BDFB Brasilia 170.28 213 PKIKP PKPdf 12 13 01.8 0.0
BDFB pmax pmax
comp=Z,1.0nm,0.3s
BDFB Brasilia 170.28 213 PKP PKPdf 12 13 01.8 0.0
comp=Z,0.6nm,0.3s,baz=15,slow=15,SNR=5.2

TRN 25 11:59:57.6, 1554N×6084W, h30km, MD3.9, M2.6(FDF), 1C-1D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MGG	**Marie-Galante**	**0.59**	**310**	*e*P	Pb	12 00 12.1	+2.6
SFG	**Saint Francois**	**0.79**	**334**	⇓*e*P	Pn	12 00 14.1	+1.4
DEG	**La Desirade**	**0.80**	**345**	*e*P	Pn	12 00 14.1	+1.2
DEG				*e*S	Sb	12 00 23.9	+0.5
TBG	**Guadaloupe-3**	**0.83**	**292**	⇑*e*P	Pn	12 00 14.6	+1.3
FDF	**Fort de France**	**0.86**	**200**	*e*P	Pn	12 00 14.8	+1.1
FDF				*e*S	Sb	12 00 27.4	+2.3
HMG	**Houelmont**	**0.93**	**298**	*e*P	Pn	12 00 16.1	+1.4
SCG	**Saint Claude**	**0.94**	**301**	*e*P	Pn	12 00 16.1	+1.3
MVM	**Montagne Vaucl**	**0.98**	**183**	*e*P	Pn	12 00 16.6	+1.2
MVM				*e*S	Sn	12 00 30.6	+2.3
BIM	**Bigot**	**1.04**	**192**	*e*P	Pn	12 00 17.7	+1.5
SLB	**Belfond**	**1.71**	**186**	*e*P	Pn	12 00 27.2	+1.8
SLB				*e*S	Sn	12 00 49.7	+3.3

NNC 25 12:08:34.0±2.9, 5408N×8668E, h0km, mb3.5, mpv3.1, 6C-7D, Error ellipse: s-maj=24.5km s-min=14.0km az=60.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURK	**Kurchatov**	**5.97**	**239**	⇓Pn	Pn	12 10 04.2	+0.6
KURK				⇓Lg		12 11 39.6	
	9.3nm,0.8s						
KURBB	**Kurchatov Arra**	**6.07**	**239**	⇑Pn	Pn	12 10 05.3	+0.4
	0.6nm,0.5s,baz=53,slow=13						
KURBB				⇓Sn	Sn	12 11 17.5	+2.5
	1.0nm,0.5s						
KURBB				⇓Lg		12 11 43.8	
	2.4nm,0.7s						
MK31	**Makanchi Array**	**7.81**	**203**	⇓Pn	Pn	12 10 30.9	+2.2
	0.9nm,0.7s,baz=135,slow=12,SNR=6.2						
MK31				⇑Sn	Sn	12 12 04.7	+6.8
	1.8nm,0.8s,baz=207,slow=64,SNR=6.5						
VOSK	**Vostochnaya**	**9.48**	**268**	⇑Pn	Pn	12 10 51.0	-0.6
	1.8nm,0.7s						
VOSK				⇑Sn	Sn	12 12 36.3	-2.3
	7.4nm,1.1s						
BVA0	**Borovoye Array**	**9.75**	**270**	⇓Pn	Pn	12 10 55.3	0.0
	0.3nm,0.9s,baz=75,slow=15,SNR=3.0						
BVA0				⇑Sn	Sn	12 12 44.6	-0.9
	baz=60,slow=44,SNR=4.7						
ZRNK	**Zerenda**	**10.59**	**271**	⇓Pn	Pn	12 11 09.1	+2.3
	1.0nm,0.6s						
ZRNK				⇑Sn	Sn	12 13 11.3	+5.5
	15nm,1.6s						

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*IDC **25** 12:08:34.0±2.2, 3065N×14192E, h0km, mb3.7/7, mb1 3.8/9, mb1mx3.7/20, mbtmp3.7/9, ML3.3/2, Error ellipse: s-maj=98.6km s-min=19.1km az=73.0*
*ISCJB **25** 12:08:36.9±1.4, 3088N±009×1422E±02, h39km±13km, mb3.9/8, Error ellipse: s-maj=26.8km s-min=10.7km az=154.6*
*JMA **25** 12:08:37.1±0.6, 31.15N×142.14E, h0km, M4.1*
*NEIC **25** 12:08:37.1, 31.15N×142.14E, h0km, MG4.1(JMA), After JMA.*
ISC 25 12:08:37.7±2.1, 3073N±006×1420E±02, h28km±17km, n23, σ1°07/31, mb3.9/8, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**3.02**	**322**	P	**Pn**	**12 09 23.9**	**+0.2**
JHJ	**Hachijo jima 2**	**3.05**	**322**	Pn	**Pn**	**12 09 23.2**	**-0.8**
	2.7nm,0.3s,baz=253,slow=19,SNR=4.3						
JHJ				Sn	**Sn**	**12 09 58.8**	**-0.8**
	13nm,0.3s,baz=73,slow=19,SNR=3.1						
CBIJ	**Chichi jima**	**3.63**	**178**	Sn	**Sn**	**12 10 12.3**	**-1.6**
	10nm,0.3s,baz=288,slow=20,SNR=3.6						
BSO1	**Boso 1**	**4.01**	**348**	P	**Pn**	**12 09 35.9**	**-1.3**
BSO3	**Boso 3**	**4.25**	**343**	P	**Pn**	**12 09 40.1**	**-0.5**
JOD2	**Odawara 2**	**5.15**	**332**	P	**Pn**	**12 09 54.3**	**+1.4**
JOD2				*e*S	**Sn**	**12 10 50.9**	**-0.4**
JYN	**Shimob**	**5.58**	**329**	P	**Pn**	**12 10 01.5**	**+2.7**
JHU	**Hanno**	**5.60**	**337**	P	**Pn**	**12 09 59.7**	**+0.6**
JHU				*e*S	**Sn**	**12 11 01.2**	**-1.2**
JRY	**Ryogami san**	**5.88**	**334**	P	**Pn**	**12 10 03.8**	**+0.8**
JRY				*e*S	**Sn**	**12 11 09.9**	**+0.5**
JHO	**Hitachi**	**5.99**	**349**	P	**Pn**	**12 10 03.5**	**-0.9**
JHO				*e*S	**Sn**	**12 11 07.1**	**-4.9**
JAG	**Ashikaga**	**6.07**	**340**	P	**Pn**	**12 10 05.2**	**-0.3**
JAG				*e*S	**Sn**	**12 11 12.3**	**-1.7**
MJAR	**Matsushiro Arr**	**6.61**	**332**	Pn	**Pn**	**12 10 13.9**	**+1.0**
	2.1nm,0.3s,baz=159,slow=11,SNR=40						
MAT	**Matsushiro**	**6.61**	**332**	P	**Pn**	**12 10 14.0**	**+1.0**
MAT				S	**Sn**	**12 11 28.2**	**+0.8**
JFK	**Kawauchi**	**6.68**	**352**	P	**Pn**	**12 10 11.8**	**-2.2**
JFK				*e*S	**Sn**	**12 11 22.7**	**-6.5**
JHK	**Hiroka**	**6.96**	**340**	P	**Pn**	**12 10 17.7**	**-0.1**
SONM	**Songino Array**	**32.08**	**312**	P	**P**	**12 15 02.0**	**-0.2**
	0.6nm,0.8s,mb3.5,baz=100,slow=7.9,SNR=3.0						
MKAR	**Makanchi Array**	**48.11**	**307**	P	**P**	**12 17 15.4**	**+0.4**
	0.5nm,0.4s,mb3.9,baz=91,slow=9.9,SNR=5.7						
WRA	**Warramunga Arr**	**50.92**	**189**	P	**P**	**12 17 36.5**	**-0.1**
	0.8nm,0.4s,mb4.0,baz=5.9,slow=7.6,SNR=17						
ASAR	**Alice Springs**	**54.65**	**189**	P	**P**	**12 18 03.8**	**-0.2**
	0.3nm,0.5s,mb3.6,baz=3.8,slow=6.3,SNR=4.4						
BVAR	**Borovoye Array**	**55.31**	**316**	P	**P**	**12 18 09.7**	**+1.1**
	0.5nm,0.5s,mb3.8,baz=90,slow=8.9,SNR=4.2						
FINES	**FINESS Array B**	**74.64**	**333**	P	**P**	**12 20 15.1**	**+1.0**
	1.1nm,0.9s,mb3.8,baz=46,slow=8.0,SNR=3.5						
AKASG	**Malin Array Be**	**79.61**	**323**	P	**P**	**12 20 42.2**	**-0.1**
	0.4nm,0.3s,mb3.8,baz=52,slow=5.3,SNR=4.1						
WMOK	**Wichita Mounta**	**93.30**	**46**	*e*P	**P**	**12 21 52.5**	**+2.4**
	7.6nm,0.8s,mb5.2						

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*ISCJB **25** 12:34:26.9±0.4, 2888N±008×4304W±004, h10km, mb4.5/64, MS4.4/16, Error ellipse: s-maj=12.0km s-min=4.6km az=171.8*
*MOS **25** 12:34:26.4±0.9, 2884N×4310W, h10km, mb4.7/36, Error ellipse: s-maj=10.6km s-min=6.3km az=48.3*
*IDC **25** 12:34:26.6±0.7, 2891N×4312W, h0km, mb4.1/17, mb1 4.3/17, mb1mx4.2/24, mbtmp4.1/17, MS4.4/11, Ms1 4.4/11, ms1mx4.1/24, Error ellipse: s-maj=20.5km s-min=14.7km az=143.0*
*GCMT **25** 12:34:28.6±0.3, 29.15N×4307W, h12km, MW5.1/73, Moment Tensor Solution. s19,c22; s73,c102; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}=4.71±.14; $M_{\theta\theta}$=0.99±.17; $M_{\phi\phi}$=3.72±.15; $M_{r\theta}$=-0.19±.72; $M_{\phi\phi}$=1.51±.12; $M_{\phi r}$=4.11±.53; Best double couple: M_0=6.12200×10^{16} NP1:ϕ_s=214.00000°, δ26.00000°, λ-68.00000°. NP2: ϕ_s=11.00000°, δ66.00000°, λ-100.00000°. Principal axes: T 5.8400, Plg21.0000°, Azm108.0000°; N 0.5670, Plg9.0000°, Azm15.0000°; P -6.4030, Plg67.0000°, Azm262.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*BJI **25** 12:34:28.5, 2890N×4300W, h10km, mB5.6, mb5.2, Ms4.8, Msz4.6*
*NEIC **25** 12:34:28.6±0.3, 2886N×4300W, h10km, mb4.8/42, MS4.8/2, Error ellipse: s-maj=9.5km s-min=3.7km az=171.0*
*SZGRF **25** 12:34:40.7, 30.13N×4279W, h20km, mb4.6, MS4.7, Northern Mid-Atlantic Ridge*
ISC 25 12:34:29.7±6.9, 2888N±008×4300W±004, h16km±43km, n170, σ0°88/161, mb4.5/64, MS4.4/16, 4C-2D, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBSR	**BB Station**	**18.99**	**286**	*e*P	**Pn**	**12 38 51.3**	**-0.1**
	84nm,1.7s						
BBSR				*e*Pn	**Pn**	**12 38 52.5**	**+1.1**
PCRV	**Puerto La Cruz**	**27.52**	**232**	LR	LR	12 49 59.5	
	comp=Z,138nm,19.2s,MS3.5,baz=221,slow=34						
BBTS	**Babate**	**28.27**	**114**	LR	LR	12 49 12.3	
	comp=Z,1μm,19.6s,MS4.5,baz=141,slow=31						
EVO	**Evora**	**30.50**	**62**	*e*P	**P**	**12 40 41.1**	**-1.0**
	22nm,1.2s,mb4.5						
EVO				*e*MLR	MLR		
	comp=Z,997nm,20.0s,MS4.2						
SCHQ	**Schefferville**	**31.13**	**333**	P	**P**	**12 40 47.9**	**+0.5**
	comp=Z,6.7nm,0.9s,mb4.5,baz=124,slow=4.6,SNR=4.5						
SCHQ				LR	LR	12 52 17.9	
	comp=Z,566nm,18.3s,MS4.3,baz=186,slow=34						
SDV	**Santo Domingo**	**32.70**	**238**	*e*P	**P**	**12 41 02.3**	**+0.6**
	comp=Z,9.9nm,0.9s,mb4.7						
ESDC	**Sonseca Array**	**33.77**	**61**	P	**P**	**12 41 11.0**	**+0.3**
	comp=Z,0.9nm,0.6s,mb3.9,baz=263,slow=7.8,SNR=13						
SJPF	**Ste Jean**	**36.28**	**56**	*e*P	**P**	**12 41 32.5**	**+0.2**
	comp=Z,71nm,1.5s,mb5.1						
SJPF	**Ste Jean**	**36.28**	**56**	*e*P	**P**	**12 41 32.5**	**+0.2**
	comp=Z,35nm,1.5s,mb5.1						
SJPF	**Ste Jean**	**36.28**	**56**	*e*P	**P**	**12 41 32.5**	**+0.2**
SJPF				pmax	pmax		
	comp=Z,35nm,1.5s,mb5.1						
ETSF	**Etsaut**	**36.73**	**56**	*e*P	**P**	**12 41 36.1**	**-0.1**
EPF	**Esparros**	**37.40**	**56**	*e*P	**P**	**12 41 41.7**	**-0.2**
MFF	**Saint Martin d**	**37.69**	**50**	*e*P	**P**	**12 41 43.7**	**-0.6**
	comp=Z,47nm,1.2s,mb4.8						
MFF	**Saint Martin d**	**37.69**	**50**	*e*P	**P**	**12 41 43.7**	**-0.6**
	comp=Z,24nm,1.2s,mb4.8						
MFF	**Saint Martin d**	**37.69**	**50**	*e*P	**P**	**12 41 43.7**	**-0.6**
MFF				pmax	pmax		
	comp=Z,24nm,1.2s,mb4.8						
ROSC	**El Rosal**	**38.11**	**237**	LR	LR	12 56 22.2	
	comp=Z,203nm,19.5s,MS3.9,baz=13,slow=35						
LDF	**La Druitiere**	**38.19**	**47**	*e*P	**P**	**12 41 47.2**	**-1.3**
RJF	**Les Rejaudoux**	**38.58**	**53**	*e*P	**P**	**12 41 50.7**	**-1.1**
	comp=Z,15nm,1.0s,mb4.4						
RJF	**Les Rejaudoux**	**38.58**	**53**	*e*P	**P**	**12 41 50.7**	**-1.1**
	comp=Z,7.5nm,1.0s,mb4.4						
RJF	**Les Rejaudoux**	**38.58**	**53**	*e*P	**P**	**12 41 50.7**	**-1.1**
RJF				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.4						
MTLF	**Montolieu**	**38.80**	**56**	*e*P	**P**	**12 41 52.8**	**-0.9**
	comp=Z,18nm,1.1s,mb4.4						
MTLF	**Montolieu**	**38.80**	**56**	*e*P	**P**	**12 41 52.8**	**-0.9**
	comp=Z,9.1nm,1.1s,mb4.4						
MTLF	**Montolieu**	**38.80**	**56**	*e*P	**P**	**12 41 52.8**	**-0.9**
MTLF				pmax	pmax		
	comp=Z,9.0nm,1.1s,mb4.4						
CAF	**Calviac**	**38.90**	**53**	*e*P	**P**	**12 41 54.2**	**-0.3**
	comp=Z,11nm,1.0s,mb4.2						
CAF	**Calviac**	**38.90**	**53**	*e*P	**P**	**12 41 54.2**	**-0.3**
	comp=Z,5.6nm,1.0s,mb4.2						
CAF	**Calviac**	**38.90**	**53**	*e*P	**P**	**12 41 54.2**	**-0.3**
CAF				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.3						
TCF	**Toulx Ste Croi**	**39.23**	**51**	*e*P	**P**	**12 41 56.9**	**-0.3**
	comp=Z,32nm,1.2s,mb4.6						
TCF	**Toulx Ste Croi**	**39.23**	**51**	*e*P	**P**	**12 41 56.9**	**-0.3**
	comp=Z,16nm,1.2s,mb4.6						
TCF	**Toulx Ste Croi**	**39.23**	**51**	*e*P	**P**	**12 41 56.9**	**-0.3**
TCF				pmax	pmax		
	comp=Z,16nm,1.2s,mb4.6						
SSF	**Saint Saulge**	**40.24**	**50**	*e*P	**P**	**12 42 05.3**	**-0.3**
SMF	**Signal de Mont**	**40.40**	**51**	*e*P	**P**	**12 42 06.6**	**-0.3**
	comp=Z,70nm,1.3s,mb4.9						
SMF	**Signal de Mont**	**40.40**	**51**	*e*P	**P**	**12 42 06.6**	**-0.3**
	comp=Z,35nm,1.3s,mb4.9						
SMF	**Signal de Mont**	**40.40**	**51**	*e*P	**P**	**12 42 06.6**	**-0.3**
SMF				pmax	pmax		
	comp=Z,35nm,1.3s,mb4.9						
SMRF	**Simiane la Rot**	**41.29**	**55**	*e*P	**P**	**12 42 14.7**	**+0.4**
	comp=Z,40nm,1.3s,mb4.6						
SMRF	**Simiane la Rot**	**41.29**	**55**	*e*P	**P**	**12 42 14.7**	**+0.4**
	comp=Z,40nm,1.3s,mb4.9						
LMR	**La Mourre**	**41.92**	**56**	*e*P	**P**	**12 42 19.5**	**0.0**
CABF	**La Chapelle**	**41.92**	**51**	*e*P	**P**	**12 42 19.0**	**-0.5**
BNI	**Bardonecchia**	**42.17**	**54**	*e*P	**P**	**12 42 22.7**	**+1.1**
	comp=Z,32nm,1.6s,mb4.7						
BNI	**Bardonecchia**	**42.17**	**54**	*e*P	**P**	**12 42 22.7**	**+1.2**
BNI				pmax	pmax		
	comp=Z,32nm,1.6s,mb4.7						
MBDF	**Montbardon**	**42.20**	**54**	*e*P	**P**	**12 42 22.3**	**+0.5**
	comp=Z,36nm,1.4s,mb4.5						
MBDF	**Montbardon**	**42.20**	**54**	*e*P	**P**	**12 42 22.3**	**+0.5**
	comp=Z,18nm,1.4s,mb4.5						
MBDF	**Montbardon**	**42.20**	**54**	*e*P	**P**	**12 42 22.3**	**+0.5**
MBDF				pmax	pmax		
	comp=Z,18nm,1.4s,mb4.5						
DBIC	**Dimbokro**	**42.22**	**114**	LR	LR	12 57 17.5	
	comp=Z,1μm,21.8s,MS4.7,baz=0.2,slow=32						
LPL	**La Plagne**	**42.25**	**53**	*e*P	**P**	**12 42 22.8**	**+0.6**
	comp=Z,18nm,1.1s,mb4.3						
LPL	**La Plagne**	**42.25**	**53**	*e*P	**P**	**12 42 22.8**	**+0.6**
	comp=Z,9.1nm,1.1s,mb4.3						
LPL	**La Plagne**	**42.25**	**53**	*e*P	**P**	**12 42 22.8**	**+0.6**
LPL				pmax	pmax		
	comp=Z,9.0nm,1.1s,mb4.3						
CDF	**Champ du Feu**	**42.97**	**49**	*e*P	**P**	**12 42 26.9**	**-1.1**
	comp=Z,22nm,1.2s,mb4.5						
CDF	**Champ du Feu**	**42.97**	**49**	*e*P	**P**	**12 42 26.9**	**-1.1**
	comp=Z,11nm,1.2s,mb4.5						
CDF	**Champ du Feu**	**42.97**	**49**	*e*P	**P**	**12 42 26.9**	**-1.1**
CDF				pmax	pmax		
	comp=Z,11nm,1.2s,mb4.5						
PGF	**Pioggiola**	**43.72**	**57**	*e*P	**P**	**12 42 33.6**	**-0.5**
	comp=Z,14nm,1.1s,mb4.3						
PGF	**Pioggiola**	**43.72**	**57**	*e*P	**P**	**12 42 33.6**	**-0.5**
	comp=Z,7.0nm,1.1s,mb4.3						
PGF	**Pioggiola**	**43.72**	**57**	*e*P	**P**	**12 42 33.6**	**-0.5**
PGF				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.3						
KEST	**Kesra**	**44.33**	**67**	P	**P**	**12 42 39.9**	**+0.7**
	comp=Z,3.3nm,1.1s,mb4.0,baz=255,slow=6.2,SNR=6.4						
BDFB	**Brasilia**	**44.52**	**187**	LR	LR	13 00 04.2	
	comp=Z,146nm,18.5s,MS3.9,baz=11,slow=34						
DAVA	**Damuels**	**44.58**	**51**	⇓*i*P	**P**	**12 42 41.5**	**+0.6**
	comp=Z,15nm,1.1s,mb4.8						
GRA1	**Grafenberg Arr**	**45.70**	**47**	*e*P	**P**	**12 42 50.3**	**+0.5**
	comp=Z,10.0nm,1.3s,mb4.6						
GRA1				*e*pP	pP	12 42 55.8	+1.1
GRA1				LR	LR		
	comp=Z,1μm,21.3s,MS4.8						
GRF	**Grafenberg Arr**	**45.70**	**47**	*e*P	**P**	**12 42 50.3**	**+0.5**
GRF				*e**PP	pP	12 42 55.8	+1.1
GRF				pmax	pmax		
	comp=Z,10.0nm,1.3s,mb4.6						
GRF				MLR	MLR		
	comp=Z,1μm,21.3s,MS4.8						
GRF	**Grafenberg Arr**	**45.70**	**47**	*e*P	**P**	**12 42 50.3**	**+0.5**
GRF				*e**PP	pP	12 42 55.8	+1.1
GRF				pmax	pmax		
	comp=Z,10.0nm,1.3s,mb4.6						
GRF				MLR	MLR		
	comp=Z,1μm,21.3s,MS4.8						
GRF	**Grafenberg Arr**	**45.70**	**47**	*e*P	**P**	**12 42 50.3**	**+0.5**
	comp=Z,10.0nm,1.3s,mb4.6						
GRF				*e*pP	pP	12 42 55.8	+1.1
GRF				*e*L		12 54 59.5	
	comp=Z,1μm,21.3s						
FCC	**Fort Churchill**	**45.80**	**326**	*e*P	**P**	**12 42 49.6**	**-0.9**
	comp=Z,9.4nm,0.9s,mb4.7						
FCC	**Fort Churchill**	**45.80**	**326**	*e*P	**P**	**12 42 49.6**	**-0.9**
FCC				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.7						
NKC	**Novy Kostel**	**46.55**	**47**	*e*P	**P**	**12 42 58.8**	**+2.3**
AQU	**L'Aquila**	**46.98**	**58**	*e*P	**P**	**12 42 59.8**	**-0.2**
	comp=Z,18nm,1.0s,mb5.0						
AQU	**L'Aquila**	**46.98**	**58**	*e*P	**P**	**12 42 59.8**	**-0.2**
AQU				pmax	pmax		
	comp=Z,18nm,1.0s,mb5.0						
KHC	**Kasperske Hory**	**47.19**	**48**	⇑*e*P	**P**	**12 43 02.1**	**+0.6**
KHC	**Kasperske Hory**	**47.19**	**48**	*e*P	**P**	**12 43 02.0**	**+0.5**
GERES	**GERESS Array B**	**47.25**	**49**	P	**P**	**12 43 01.8**	**-0.2**
GERES				pmax	pmax		
	comp=Z,2.0nm,0.8s						
GERES	**GERESS Array B**	**47.25**	**49**	P	**P**	**12 43 01.8**	**-0.2**
	comp=Z,1.7nm,0.8s,mb4.0,baz=272,slow=7.5,SNR=6.9						
WMOK	**Wichita Mounta**	**47.26**	**292**	*e*P	**P**	**12 43 00.2**	**-2.1**
	comp=Z,9.8nm,1.3s,mb4.6						
WMOK	**Wichita Mounta**	**47.26**	**292**	*e*P	**P**	**12 43 00.2**	**-2.1**
WMOK				pmax	pmax		
	comp=Z,10.0nm,1.3s,mb4.6						
BRG	**Berggiesshubel**	**47.56**	**46**	P	**P**	**12 43 06.1**	**+1.7**
BRG				pmax	pmax		
	comp=Z,3.0nm,1.2s,mb4.2						
BRG	**Berggiesshubel**	**47.56**	**46**	*e*(P)	**P**	**12 43 06.0**	**+1.7**
	comp=Z,4.8nm,1.2s,mb4.4						
OBKA	**Obir**	**47.74**	**52**	⇓*i*P	**P**	**12 43 05.3**	**-0.6**
	comp=Z,13nm,0.8s,mb5.0						
PRU	**Pruhonice**	**47.87**	**47**	*e*P	**P**	**12 43 07.7**	**+0.9**
SIV	**San Ignac

MNTX Cornudas Mount 53.29 290 *e*P **P 12 43 53.4 +5.4**
ANMO Albuquerque 53.42 294 *e*P **P 12 43 49.3 +0.3**
ANMO Albuquerque 53.42 294⇑ *e*P **P 12 43 47.2 -1.8**
LPM Los Pinos Moun 53.70 293 *e*P **P 12 43 51.6 +0.6**
BNM Barren Site 53.73 293 *e*P **P 12 43 51.6 +0.3**
RLMT Red Lodge 53.90 307 *e*P **P 12 43 53.0 +0.7**
LENM Lemitar 54.01 293 *e*P **P 12 43 53.3 0.0**
LAZ Ladron 54.09 293 *e*P **P 12 43 53.8 -0.1**
GCMT Greycliff 54.10 308 *e*P **P 12 43 53.5 -0.3**
BW06 Boulder Array 54.41 304 *e*P **P 12 43 54.9 -1.2**
comp=Z,17nm,1.0s,mb4.9
PDAR Pinedale Array 54.41 304 P **P 12 43 54.5 -1.6**
comp=Z,3.3nm,0.7s,mb4.4,baz=82,slow=7.1,SNR=21
PDAR LR LR 13 05 26.2
comp=Z,859nm,19.7s,MS4.8,baz=43,slow=34
LOHW Long Hollow 55.05 305 *e*P **P 12 44 01.1 +0.4**
comp=Z,9.6nm,1.2s,mb4.7
FLWY Flagg Ranch 55.05 306 *e*P **P 12 44 01.2 +0.6**
comp=Z,23nm,1.4s,mb5.0
FINES FINESS Array B 55.12 33 P **P 12 44 00.6 -0.3**
FINES pmax pmax
comp=Z,2.0nm,0.8s
FINES FINESS Array B 55.12 33 P **P 12 44 00.6 -0.3**
comp=Z,2.1nm,0.8s,mb4.2,baz=245,slow=8.2,SNR=6.5
MOOW Moose Ponds 55.13 305 *e*P **P 12 44 01.5 +0.3**
comp=Z,47nm,2.6s,mb5.0
SNOW Snow King Moun 55.18 305 *e*P **P 12 44 02.4 +0.8**
comp=Z,43nm,1.5s,mb5.3
IMW Indian Meadow 55.24 305 *e*P **P 12 44 01.9 -0.2**
comp=Z,19nm,1.1s,mb5.0
REDW Red Top Meadow 55.26 305 *e*P **P 12 44 03.0 +0.8**
comp=Z,16nm,1.2s,mb4.9
TPAW Teton Pass 55.31 305 *e*P **P 12 44 03.7 +1.1**
VSU Vasula 55.36 37 *e*P **P 12 44 02.4 -0.3**
QLMT Earthquake Lak 55.46 307 *e*P **P 12 44 04.8 +1.2**
BOZ Bozeman (W) 55.49 308 *e*P **P 12 44 04.5 +0.7**
ARCES ARCESS Array B 55.75 23 P **P 12 44 04.5 -0.8**
ARCES ARCESS Array B 55.75 23 P **P 12 44 04.5 -0.8**
ARCES pmax pmax
comp=Z,1.0nm,0.7s
ARCES ARCESS Array B 55.75 23 P **P 12 44 04.5 -0.8**
comp=Z,1.4nm,0.7s,mb4.1,baz=288,slow=1.2,SNR=4.4
SRU San Rafael 55.76 300 *e*P **P 12 44 05.1 -0.7**
comp=Z,6.4nm,0.9s,mb4.7
SRU San Rafael 55.76 300 *e*P **P 12 44 05.1 -0.8**
SRU pmax pmax
comp=Z,6.0nm,0.9s,mb4.6
EDM Edmonton 55.86 317 *e*P **P 12 44 06.5 +0.1**
DAU Daniels Canyon 56.06 301 *e*P **P 12 44 08.7 +0.7**
HWUT Hardware Ranch 56.07 303 *e*P **P 12 44 07.5 -0.6**
comp=Z,12nm,1.1s,mb4.8
JLU Jordanelle 56.17 302 *e*P **P 12 44 09.4 +0.6**
DLMT Dillon 56.20 307 *e*P **P 12 44 09.8 +0.9**
comp=Z,13nm,1.3s,mb4.8
YKA Yellowknife Ar 56.36 328 P **P 12 44 07.7 -2.0**
comp=Z,1.1nm,0.9s,mb3.9,baz=89,slow=7.4,SNR=17
YKA LR LR 13 07 37.7
comp=Z,359nm,19.0s,MS4.5,baz=150,slow=35
MCMT McKenzie Canyo 56.46 307 *e*P **P 12 44 12.3 +1.5**
CPUP Villa Florida 56.59 195 P **P 12 44 10.5 -1.3**
CPUP pmax pmax
comp=Z,2.0nm,0.7s
CPUP Villa Florida 56.59 195 P **P 12 44 10.5 -1.3**
comp=Z,1.5nm,0.7s,mb4.1,baz=358,slow=10
WALA Waterton Lakes 56.60 312 *e*P **P 12 44 11.5 -0.2**
comp=Z,12nm,1.1s,mb4.9
NLU North Lily Min 56.77 301 *e*P **P 12 44 14.4 +1.4**
SPUT South Promonto 56.78 303 *e*P **P 12 44 13.9 +0.8**
MSU Marysvale 57.15 299 *e*P **P 12 44 15.3 -0.5**
AKASG Malin Array Be 57.24 46 *i*P **P 12 44 17.1 +0.9**
AKASG pmax pmax
comp=Z,1.0nm,0.4s
AKASG Malin Array Be 57.24 46 P **P 12 44 14.7 -1.5**
comp=Z,0.5nm,0.4s,mb3.9,baz=272,slow=6.3,SNR=9.7
AKASG LR LR 13 05 54.3
comp=Z,513nm,20.1s,MS4.6,baz=80,slow=33
DUG Dugway 57.27 301 *e*P **P 12 44 16.0 -0.6**
comp=Z,15nm,1.1s,mb4.9
DUG Dugway 57.27 301 *e*P **P 12 44 16.0 -0.6**
DUG pmax pmax
comp=Z,15nm,1.1s,mb4.9
BGU Big Grassy Mou 57.28 302 *e*P **P 12 44 15.7 -1.0**
JOF Joensuu 57.60 31 *e*p **P 12 44 16.6 -2.0**
comp=Z,0.6nm,0.3s,mb4.1
ARUT Antelope Range 58.28 299 *e*P **P 12 44 25.1 +1.4**
GLA Glamis 60.63 294 *e*P **P 12 44 45.4 +5.4**
OBN Obninsk 61.02 40 *e*P **P 12 44 43.2 +0.9**
OBN *e* 12 45 24.2
OBN pmax pmax
comp=Z,12nm,1.3s,mb4.9
NVAR Mina Array Bea 61.83 300 P **P 12 44 47.7 -0.4**
comp=Z,2.2nm,0.9s,mb4.3,baz=73,slow=7.9,SNR=8.4
MOD Modoc 62.38 305 *e*P **P 12 44 52.6 +0.9**
comp=Z,19nm,1.2s,mb5.1
INK Inuvik 63.70 336 *e*P **P 12 44 58.5 -1.5**
OHCM Honcut 63.95 302 *e*P **P 12 45 03.1 +0.9**
MALT Malatya 66.45 58 *e*P **P 12 45 20.0 +1.5**
comp=Z,15nm,1.5s,mb4.8
MALT Malatya 66.45 58 *e*P **P 12 45 20.0 +1.5**
MALT pmax pmax
comp=Z,15nm,1.5s,mb4.8
DAWY Dawson 67.13 332 P **P 12 45 21.1 -1.3**
KIV Kislovodsk 67.67 51 *e*P **P 12 45 27.9 +1.8**
KIV pmax pmax
comp=Z,8.0nm,1.1s,mb4.7
IMA2 Indian Mountai 71.80 336 *e*P **P 12 45 51.0 -0.2**
TIXI Tiksi 79.59 3 *e*P **P 12 46 35.7 0.0**
comp=Z,11nm,1.3s,mb4.6
TIXI Tiksi 79.59 3 *e*P **P 12 46 34.3 -1.3**
TIXI pmax pmax
comp=Z,9.0nm,1.4s,mb4.5
BRVK Borovoye 79.99 34 *e*P **P 12 46 38.8 +0.6**
comp=Z,4.8nm,1.0s,mb4.4
BRVK Borovoye 79.99 34 *e*P **P 12 46 38.8 +0.7**
BRVK pmax pmax
comp=Z,5.0nm,1.0s,mb4.4
BILL Bilibino 80.94 349 *e*P **P 12 46 42.3 -0.7**
comp=Z,3.4nm,0.9s,mb4.3
BILL Bilibino 80.94 349 *e*P **P 12 46 41.7 -1.3**
BILL pmax pmax
comp=Z,3.0nm,1.0s,mb4.2
KMBO Kilima Mbogo 82.00 96 LR LR 13 21 43.4
comp=Z,699nm,21.4s,MS5.0,baz=89,slow=34
KURK Kurchatov 85.49 33 *e*P **P 12 47 06.8 0.0**
comp=Z,7.1nm,1.0s,mb4.8
KURK Kurchatov 85.49 33 *e*P **P 12 47 06.8 0.0**
KURK pmax pmax
comp=Z,7.0nm,1.0s,mb4.8
ZAL Zalesovo 86.00 28 P **P 12 47 09.3 +0.1**
ZAL pmax pmax
comp=Z,1.0nm,0.8s
ZALV Zalesovo Beam 86.00 28 P **P 12 47 09.2 0.0**
comp=Z,1.4nm,0.8s,mb4.3,baz=292,slow=5.9,SNR=6.2
SEY Seymchan 87.68 353⇑ *e*P **P 12 47 17.2 -0.1**
AAK Ala-Archa 88.54 41⇑ *e*P **P 12 47 21.4 -0.4**
AAK pmax pmax
comp=Z,2.0nm,1.5s,mb4.2
YAK Yakutsk 89.22 3 *e*P **P 12 47 24.1 -0.4**
YAK pmax pmax
comp=Z,5.0nm,1.3s,mb4.7
MK31 Makanchi Array 89.94 34 *e*P **P 12 47 28.8 +0.5**
MKAR Makanchi Array 89.94 34 P **P 12 47 28.3 +0.1**
MKAR pmax pmax
comp=Z,2.0nm,1.0s
MKAR Makanchi Array 89.94 34 P **P 12 47 28.3 +0.1**
comp=Z,2.1nm,1.0s,mb4.4,baz=328,slow=4.3,SNR=12
MA2 Magadan 91.14 353 *e*P **P 12 47 32.0 -1.6**
MA2 pmax pmax
comp=Z,3.0nm,1.0s,mb4.6
WMQ Urumqi 94.72 33 *e*P **P 12 47 52.0 +1.6**
WMQ LR LR
comp=Z,296nm,21.6s,MS4.7
BJI Beijing 108.75 17 PDIF Pdif 12 48 53.3 +0.3
CD2 Chengdu 112.63 31 *e*PKP PKiKP 12 53 05.5 -0.3
CD2 PP PP
comp=Z,90nm,9.8s
CD2 LR LR
comp=N,150nm,22.2s
CD2 LR LR
comp=Z,160nm,20.2s,MS4.6
NJ2 Nanjing 117.00 17 *e*PKP PKPdf 12 53 11.3 -2.9
KMI Kunming 117.01 35 PKP PKPdf 12 53 15.0 +0.6
KMI XPKP 12 53 22.5
KMI PP PP 12 54 26.8 +4.1
KMI LR LR

comp=Z,74nm,28.1s,MS4.2

ISCJB ***25*** *13:06:48.6±0.4,4688N±003×1228E±003,h10km, Error ellipse: s-maj=5.2km s-min=2.3km az=26.2*
CSEM ***25*** *13:06:48.6±0.1,4683N×1228E,h20km,ML2.5/5, Error ellipse: s-maj=2.1km s-min=1.0km az=23.0*
VIE ***25*** *13:06:48.8±0.2,4686N×1227E,h11km±2km,mb1.1/7, ML2.3/10, Error ellipse: s-maj=1.5km s-min=0.6km az=13.0*
ROM ***25*** *13:06:49.6±0.7,4683N×1230E,h10km±3km,Md2.2/6, Ml1.7/5, Error ellipse: s-maj=11.1km s-min=2.2km az=127.0*
ISC 25 13:06:49.3±0.6,**4686N**±004×**1228E**±003,**h14**km±8km,**n19,** σ0°**50**/34,**11C-7D,Northern Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SEST	**Monte Rota**	**0.12**	**200**	Pg	**Pg**	**13 06 52.6**	**+0.1**
SEST				Sg	**Sg**	**13 06 54.8**	**-0.1**
187nm,0.6s							
ABTA	**Abfaltersbach**	**0.20**	**124⇑**	*e*Pg	**Pg**	**13 06 53.7**	**0.0**
61nm,0.1s,SNR=29							
ABTA			⇑	*i*Sg	**Sg**	**13 06 56.3**	**-0.4**
35nm,0.1s							
ABTA	**Abfaltersbach**	**0.20**	**124**	Pg	**Pg**	**13 06 53.7**	**0.0**
61nm,0.1s,SNR=29							
ABTA				Sg	**Sg**	**13 06 56.3**	**-0.5**
35nm,0.1s							
AFL	**Alpe Faloria**	**0.34**	**191**	⇓*i*Pg	**Pg**	**13 06 56.6**	**+0.5**
CSMI	**Casera Mimoias**	**0.43**	**143**	⇓*i*Pg	**Pg**	**13 06 58.0**	**+0.2**
CSMI				*i*Sg	**Sg**	**13 07 04.0**	**+0.3**
FVI	**Forni Avoltri**	**0.43**	**127**	Pg	**Pg**	**13 06 57.8**	**-0.1**
FVI				Sg	**Sg**	**13 07 03.8**	**+0.1**
77nm,0.2s							
ZOU	**Zoufplan**	**0.57**	**122**	⇑*i*Pg	**Pg**	**13 07 00.1**	**-0.2**
ZOU				*i*Sg	**Sg**	**13 07 08.0**	**+0.1**
ZOU	**Zoufplan**	**0.57**	**122**	*i*Pg	**Pg**	**13 07 00.1**	**-0.3**
ZOU				*i*Sg	**Sg**	**13 07 07.9**	**0.0**
WTTA	**Wattenberg**	**0.60**	**313⇑**	*e*Pg	**Pg**	**13 07 00.9**	**0.0**
3.4nm,0.1s,SNR=7.4							
WTTA				⇓*i*Sg	**Sg**	**13 07 08.8**	**0.0**
9.0nm,0.1s							
PLRO	**Paularo**	**0.68**	**117**	⇓*i*Pg	**Pg**	**13 07 01.9**	**-0.5**
PLRO				*i*Sg	**Sg**	**13 07 11.3**	**0.0**
KBA	**Koelnbreinsper**	**0.76**	**73**	⇓*i*Pg	**Pg**	**13 07 03.9**	**-0.2**
2.4nm,0.1s							
KBA				⇓*i*Sg	**Sg**	**13 07 14.6**	**+0.5**
8.7nm,0.1s							
SQTA	**Sankt Quirin**	**0.81**	**297**	⇑*i*Pg	**Pg**	**13 07 04.8**	**-0.3**
4.7nm,0.1s							
SQTA				⇑*i*Sg	**Sg**	**13 07 15.6**	**-0.1**
10nm,0.2s							
APPI	**Appiano**	**0.82**	**243**	Pg	**Pg**	**13 07 05.1**	**0.0**
44nm,0.2s							
PTCC	**Patocco-Chiusa**	**0.87**	**121**	Pg	**Pg**	**13 07 05.9**	**-0.2**
PTCC				Sg	**Sg**	**13 07 18.6**	**+1.1**
5.0nm,0.2s							
CTI	**Castel Tesino**	**0.92**	**208**	Pg	**Pg**	**13 07 06.8**	**-0.2**
12nm,0.3s							
MOTA	**Moosalm**	**0.94**	**302⇑**	*i*Pg	**Pg**	**13 07 07.1**	**-0.2**
1.3nm,0.1s							
MOTA			⇑	*i*Sg	**Sg**	**13 07 19.8**	**+0.2**
3.6nm,0.1s							
MYKA	**Terra Mystica**	**0.97**	**103⇑**	*i*Pg	**Pg**	**13 07 07.6**	**-0.3**
3.1nm,0.2s							
MYKA			⇓	*i*Sg	**Sg**	**13 07 20.5**	**0.0**
2.8nm,0.1s							
BRMO	**Bormio**	**1.36**	**254**	Pg	**Pg**	**13 07 14.5**	**-1.0**
10.0nm,0.5s							
DAVA	**Damuels**	**1.69**	**286⇑**	*i*Pg	**Pg**	**13 07 21.1**	**-0.6**
comp=Z,2.6nm,0.2s							
DAVA			⇑	*i*Sg	**Sg**	**13 07 45.7**	**+2.0**
comp=N,9.1nm,0.2s							

NEIC ***25*** *13:11:51.0,3996N×2050E,h12km,MD3.2(ATH), After ATH.*
ATH ***25*** *13:11:51.0,3996N×2050E,h12km±2km,MD3.2/6*
ISCJB ***25*** *13:11:53.0±0.7,3972N±004×2045E±005,h10km, Error ellipse: s-maj=5.7km s-min=5.0km az=159.9*
SKO ***25*** *13:11:52.0,3949N×2055E,h0km*
CSEM ***25*** *13:11:53.2±0.3,3981N×2048E,h2km,MD3.2, Error ellipse: s-maj=7.7km s-min=5.7km az=11.0*
ISC 25 13:11:53.8±0.7,**3970N**±004×**2045E**±005,**h10**km,**n10,** σ1°**27**/17,**Greece-Albania border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAN	**Janina**	**0.31**	**97**	*e*PG	**Pg**	**13 11 58.5**	**-1.5**
JAN				*e*SB	**Sg**	**13 12 04.2**	**0.0**
KEK	**Kerkira**	**0.50**	**272**	*e*PB	**Pg**	**13 12 02.4**	**-1.1**
KEK				*e*SB	**Sg**	**13 12 10.9**	**+0.8**
KZN	**Kozani**	**1.18**	**59**	*e*PG	**Pg**	**13 12 10.4**	**-6.1**
THL	**Klokotos Trika**	**1.22**	**96**	*e*PB	**Pb**	**13 12 14.9**	**-1.9**
EVR	**Evrytania**	**1.31**	**126**	*e*PB	**Pb**	**13 12 19.1**	**+0.7**
EVR				*e*SB	**Sb**	**13 12 38.6**	**+3.3**
BIA	**Bitola**	**1.48**	**27**	*e*Pn	**Pg**	**13 12 21.3**	**-0.9**
BIA				*i*Sn	**Sg**	**13 12 43.3**	**+1.9**
BIA	**Bitola**	**1.48**	**27**	*e*Pn	**Pg**	**13 12 21.2**	**-1.0**
BIA				*i*Sn	**Sg**	**13 12 43.3**	**+1.9**
VLS	**Valsamata**	**1.52**	**176**	*e*PN	**Pg**	**13 12 23.9**	**+1.0**
KRUS	**Krusevo**	**1.78**	**20**	*i*Pn	**Pg**	**13 12 26.8**	**-1.1**
KRUS				*i*Sn	**Sg**	**13 12 52.0**	**+1.0**
KRUS	**Krusevo**	**1.78**	**20**	*i*Pn	**Pg**	**13 12 26.8**	**-1.1**
KRUS				*i*Sn	**Sg**	**13 12 51.9**	**+1.0**

NEIC ***25*** *13:17:30.7,1718N×10031W,h36km,MD3.8(MEX), After MEX.*
MEX 25 13:17:30.7±0.9,**1718N**×**10031W,h36**km±9km,**MD3.8, Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.13**	**162**	*i*P	Pn	13 17 35.3	-1.8
CAIG				*i*S	Sn	13 17 39.8	-1.7
ACX	**Acapulco**	**0.49**	**129**	*i*P	Pn	13 17 39.1	-2.0
ACX				*i*S	Sn	13 17 47.2	-1.2
MEIG	**Mezcala**	**0.99**	**41**	*i*P	Pn	13 17 46.3	-1.8
MEIG				*i*S	Sn	13 17 59.1	-1.9
ZIIG	**Zihuatanejo**	**1.18**	**291**	*i*P	Pn	13 17 49.0	-1.7
ZIIG				*i*S	Sn	13 18 04.2	-1.4
MZVM		**2.25**	**27**	*e*P	Pn	13 18 03.0	-2.5
MZVM				*i*S	Sn	13 18 30.4	-1.6
PPM	**Popocatepetl**	**2.47**	**40**	*e*P	Pn	13 18 08.1	-0.3
PPM				*i*S	Sn	13 18 36.8	-0.6
IIO	**Organos**	**2.84**	**32**	*e*P	Pn	13 18 12.2	-1.4
IIO				*i*S	Sn	13 18 44.8	-1.7

THE ***25*** *13:31:15.2,3831N×2031E,h1km,ML2.8*
ISCJB ***25*** *13:31:17.3±1.4,3833N±004×205E±0.1,h3km±12km, Error ellipse: s-maj=18.1km s-min=5.9km az=166.9*
NEIC ***25*** *13:31:17.4,3832N×2052E,h5km,MD3.3(ATH), After ATH.*
ATH ***25*** *13:31:17.4,3832N×2052E,h5km,MD3.3/5*
CSEM ***25*** *13:31:18.4±0.2,3834N×2054E,h2km,ML2.8, Error ellipse: s-maj=5.1km s-min=2.4km az=68.0*
ISC 25 13:31:17.4±1.3,**3833N**±004×**205E**±01,**h8**km±9km,**n10,** σ0°**84**/16,**1C,Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.17**	**151**	*e*Pg	**Pg**	**13 31 20.1**	**-0.9**
VLS				*e*Sg	**Sg**	**13 31 23.6**	**+0.1**
VLS	**Valsamata**	**0.17**	**151⇑**	*i*PG	**Pg**	**13 31 20.1**	**-0.9**
VLS				*e*SG	**Sg**	**13 31 23.6**	**+0.2**
KFL	**Anninata**	**0.33**	**132**	*e*Pg	**Pg**	**13 31 23.1**	**-0.7**
KFL				*e*Sg	**Sg**	**13 31 29.6**	**+1.5**
KFL	**Anninata**	**0.33**	**132**	*e*Pg	**Pg**	**13 31 23.1**	**-0.7**
KFL				*e*Sg	**Sg**	**13 31 29.5**	**+1.4**
LKD	**Levkas**	**0.40**	**19**	*e*Pg	**Pg**	**13 31 24.2**	**-1.0**
LKD				*e*Sg	**Sg**	**13 31 31.2**	**+0.8**
LKD	**Levkas**	**0.40**	**19**	*e*Pg	**Pg**	**13 31 24.2**	**-1.0**
LKD				*e*Sg	**Sg**	**13 31 31.2**	**+0.7**
RLS	**Riolos of Patr**	**0.82**	**109**	*e*PB	**Pb**	**13 31 33.1**	**-0.7**
EVR	**Evrytania**	**1.19**	**60**	*e*PB	**Pb**	**13 31 39.6**	**-0.6**
KEK	**Kerkira**	**1.48**	**339**	*e*PB	**Pb**	**13 31 46.1**	**+1.0**
ITM	**Ithomi**	**1.62**	**135**	*e*PB	**Pb**	**13 31 48.1**	**+0.6**

MOS ***25*** *13:34:12.3±1.0,1424S×16682E,h43km,mb6.0/64, MS6.1/55, Error ellipse: s-maj=7.5km s-min=6.6km az=119.5*
BJI ***25*** *13:34:12.5,1418S×16703E,h54km,mB6.2,mb5.8,Ms6.0, Ms25.9*
GCMT ***25*** *13:34:14.2±0.1,1428S×16665E,h63km,MW6.4/116, Moment Tensor Solution. s112,c279; s116,c456; Duration: 3s? Moment tensor: Scale 1018Nm; Mrr2.99±.02; Mθθ-1.69±.02; Mφφ-1.30±.02; Mrθ-2.56±.02; Mrφ2.28±.02; Mθφ0.36±.02; Best double couple: M0:4.31100×1018 NP1:φs156.00000°,δ33.00000°, λ129.00000°. NP2:φs291.00000°,δ65.00000°,λ67.00000°. Principal axes: T 4.1910, Plg63.0000°, Azm164.0000°; N 0.2400, Plg20.0000°, Azm301.0000°; P -4.4310, Plg17.0000°, Azm38.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
ISCJB ***25*** *13:34:14.3±0.1,1435S±002×16681E±002,h66km, mb5.7/117 Error ellipse: s-maj=3.2km s-min=3.0km az=149.9*
IDC ***25*** *13:34:14.9±1.1,1421S×16688E,h61km±7km,mb5.6/21, mb1 5.6/22,mb1mx5.6/22,mbtmp5.6/22,MS5.9/26, Ms1 5.9/26,ms1mx5.7/32, Error ellipse: s-maj=12.0km s-min=9.5km az=49.0*
NEIC ***25*** *13:34:14.2±0.1,1429S×16686E,h55km,mb5.7/48,ME5.9, MW6.3, Error ellipse: s-maj=4.3km s-min=3.6km az=81.0 Broadband fault plane solution: P waves. NP1: φs270.00000°,δ60.00000°,λ75.00000°. NP2: φs118.00000°,δ33.00000°,λ114.00000°. Principal axes: T Plg71.0000°, Azm146.0000°; N Plg0.0000°, Azm0.0000°; P Plg14.0000°, Azm11.0000°; Moment Tensor Solution. s54 Moment tensor: Scale 1018 Nm; Mrr2.80; Mθθ-2.59; Mφφ-0.21; Mrθ-2.50; Mθφ1.78; Mφr-0.26; Best double couple: M0:4.10000×1018 NP1:φs141.00000°, δ33.00000°,λ130.00000°. NP2:φs277.00000°,δ65.00000°, λ68.00000°. Principal axes: T 3.9900, Plg63.0000°, Azm151.0000°; N 0.2100, Plg20.0000°, Azm286.0000°; P -4.2000, Plg17.0000°, Azm23.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*
NEIC Felt at Luganville.
CRAAG ***25*** *13:34:14.5,1431S×16675E,Mb6.2*
IGIL ***25*** *13:34:16.0,1429S×16682E,h69km*
ISC 25 13:34:16.2±0.1,**1432S**±002×**16685E**±002,**h68**km, **h68**km±2.1km:**pP-P,n1225,**σ0°**80**/528,**mb5.7**/117, **184C-130D,Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**7.72**	**183**	*e*P	**Pn**	**13 36 06.9**	**+1.0**
DZM				*e*S	**Sn**	**13 37 33.5**	**+1.5**
HNR	**Honiara**	**8.32**	**305**	*e*P	**Pn**	**13 36 13.9**	**-0.3**
13μm,1.0s							
HNR				*e*S	**Sn**	**13 37 40.3**	**-6.4**
HNR	**Honiara**	**8.32**	**305**	P	**Pn**	**13 36 13.3**	**-0.8**
HNR				S	**Sn**	**13 37 43.9**	**-2.7**
HNR				pmax	pmax		
comp=Z,261nm,0.3s							
HNR	**Honiara**	**8.32**	**305**	P	**Pn**	**13 36 13.3**	**-0.9**
comp=Z,261nm,0.3s,baz=144,slow=1.0,SNR=92							
HNR				S	**Sn**	**13 37 43.9**	**-2.7**
comp=Z,1μm,0.3s,baz=286,slow=6.5,SNR=15							
FUNA	**Funafuti**	**13.39**	**66**	*e*P	**Pn**	**13 37 22.8**	**-0.6**
comp=Z,1μm,1.1s							
RAO	**Raoul Island**	**20.48**	**139**	P	**P**	**13 38 53.2**	**+4.7**
comp=Z,371nm,0.5s,baz=253,slow=19,SNR=3.7							
RAO				LR	LR	13 44 03.5	
comp=Z,15μm,20.7s,baz=318,slow=29							
CTA	**Charters Tower**	**20.49**	**251**	*e*P	**P**	**13 38 50.3**	**+1.6**
comp=Z,444nm,1.0s							
CTA				*i*S	**S**	**13 42 36.4**	**+2.0**
CTA				*e*SCP	ScP	13 46 30.7	+1.7
CTA				*e*		13 50 15.9	
CTA	**Charters Tower**	**20.49**	**251**	*e*P	**P**	**13 38 50.3**	**+1.6**
CTA				*i*S	**S**	**13 42 36.4**	**+2.0**
CTA				*e*		13 50 15.9	
CTA				pmax	pmax		
comp=Z,444nm,1.0s							
CTA	**Charters Tower**	**20.49**	**251**	P	**P**	**13 38 50.4**	**+1.7**
comp=Z,430nm,0.9s,baz=74,slow=12,SNR=124							
CTA				LR	LR	13 45 46.8	
comp=Z,42μm,21.3s,baz=70,slow=34							
CTA				ScP	ScP	13 46 31.0	+2.0
comp=Z,57nm,1.1s,baz=59,slow=2.2,SNR=5.5							
CTAO	**Charters Tower**	**20.49**	**251**	*e*P	**P**	**13 38 50.5**	**+1.8**
comp=Z,1μm,1.4s							
CTAO				LR	LR		
comp=Z,49μm,21.0s							
CTAO	**Charters Tower**	**20.49**	**251**	*e*P	**P**	**13 38 50.5**	**+1.8**
CTAO				pmax	pmax		
comp=Z,1μm,1.4s							
CTAO				MLR	MLR		
comp=Z,49μm,21.0s							
AFI	**Afiamalu**	**20.73**	**92**	*e*P	**P**	**13 38 52.0**	**+0.7**
comp=Z,369nm,1.0s							
AFI	**Afiamalu**	**20.73**	**92**	*e*P	**P**	**13 38 52.0**	**+0.7**
AFI				pmax	pmax		
comp=Z,369nm,1.0s							
ARMA	**Armidale**	**21.29**	**219⇑**	*i*P	**P**	**13 38 59.3**	**+2.1**
ARMA				*e*S	**S**	**13 42 50.0**	**0.0**
RIV	**Riverview**	**24.08**	**213**	*e*P	**P**	**13 39 26.7**	**+1.4**
HIZ	**Hauiti**	**25.12**	**165**	*e*P	**P**	**13 39 32.5**	**-2.2**
URZ	**Urewera**	**25.52**	**161**	*e*P	**P**	**13 39 38.4**	**0.0**
URZ	**Urewera**	**25.52**	**161**	P	**P**	**13 39 37.5**	**-0.9**
comp=Z,126nm,0.7s,mb5.4,baz=303,slow=2.3,SNR=53							
URZ				LR	LR	13 48 43.8	
comp=Z,52μm,19.5s,baz=321,slow=34							
MWZ	**Matawai**	**25.73**	**160**	*e*P	**P**	**13 39 39.1**	**-1.1**
PUZ	**Puketiti**	**25.73**	**159**	*e*P	**P**	**13 39 39.1**	**-1.2**
FWVZ	**Far West T-bar**	**26.00**	**164**	*e*P	**P**	**13 39 43.3**	**+0.6**
CNB	**Canberra Magne**	**26.17**	**214⇑**	*i*P	**P**	**13 39 45.4**	**+1.1**
comp=Z,259nm,1.1s,mb5.6							
CNB				*e*pP	pP	13 40 02.6	+2.2
CNB				*e*PCP	PcP	13 43 10.9	+1.0
BKZ	**Black Stump Fm**	**26.17**	**163**	*e*P	**P**	**13 39 44.1**	**-0.1**
KNZ	**Kokohu**	**26.40**	**161**	*e*P	**P**	**13 39 45.6**	**-0.6**
TSZ	**Takapari Road**	**26.86**	**164**	*e*P	**P**	**13 39 49.5**	**-0.9**
QRZ	**Quartz Range**	**26.87**	**170**	*e*P	**P**	**13 39 51.6**	**+1.1**
MRZ	**Mangatainoka R**	**27.33**	**165**	*e*P	**P**	**13 39 53.0**	**-1.6**
NNZ	**Nelson**	**27.40**	**169**	*e*P	**P**	**13 39 56.1**	**+0.9**
BFZ	**Birch Farm**	**27.52**	**164**	*e*P	**P**	**13 39 55.1**	**-1.2**
CAW	**Cannon Point**	**27.64**	**167**	*e*P	**P**	**13 39 56.4**	**-1.0**
DSZ	**Denniston Nort**	**27.67**	**172**	*e*P	**P**	**13 39 55.4**	**-2.2**
SNZO	**South Karori**	**27.75**	**167**	*e*P	**P**	**13 39 57.8**	**-0.5**
comp=Z,97nm,0.8s,mb5.4							
SNZO				LR	LR		
comp=Z,39μm,19.0s							
MTW	**Mount Morrison**	**27.79**	**166**	P	**P**	**13 39 57.4**	**-1.3**
THZ	**Tophouse**	**27.85**	**170**	*e*P	**P**	**13 39 59.0**	**-0.2**
PAWZ	**Paruwai Farm**	**27.98**	**166**	*e*P	**P**	**13 39 58.7**	**-1.7**
KHZ	**Kahutara**	**28.59**	**170**	*e*P	**P**	**13 40 04.8**	**-1.0**
LTZ	**Lake Taylor**	**28.75**	**172**	*e*P	**P**	**13 40 07.0**	**-0.2**
WVZ	**Waitaha Valley**	**28.86**	**174**	*e*P	**P**	**13 40 08.4**	**+0.2**
STKA	**Stephens Creek**	**28.96**	**229⇑**	*i*P	**P**	**13 40 10.1**	**+0.9**
comp=Z,424nm,1.3s,mb5.9							
STKA				*e*PCP	PcP	13 43 16.8	+0.1
STKA				*e*S	**S**	**13 44 47.8**	**-7.5**
STKA				*e*SCP	ScP	13 46 54.3	+1.8
STKA				*e*SCS	ScS	13 50 45.9	-0.5
STKA				*e*		13 51 16.7	
STKA	**Stephens Creek**	**28.96**	**229**	*e*P	**P**	**13 40 10.3**	**+1.0**
STKA	**Stephens Creek**	**28.96**	**229**	P	**P**	**13 40 10.4**	**+1.2**
comp=Z,419nm,1.0s,mb6.0,baz=45,slow=7.0,SNR=453							

LBZ	**Lake Benmore**	**30.11 175**	*e*P	**P**	**13 40 18.9**	**-0.3**
ODZ	**Otahua Downs**	**30.80 175**	*e*P	**P**	**13 40 24.6**	**-0.7**
WB2	**Warramunga Arr**	**31.53 255**	*e*P	**P**	**13 40 31.1**	**-1.0**
WB2			*e*S	**S**	**13 45 16.7**	**-19**
WB2			*e*SCP	ScP	13 47 04.2	+3.1
WRAB	**Tennant Creek**	**31.53 255**	*e*P	**P**	**13 40 30.5**	**-1.6**
	comp=Z,378nm,1.3s,mb6.0					
WRAB			LR	LR		
	comp=Z,38μm,21.0s					
WRAB	**Tennant Creek**	**31.53 255**	*e*P	**P**	**13 40 30.5**	**-1.6**
WRAB			pmax	pmax		
	comp=Z,378nm,1.3s,mb6.0					
WRAB			MLR	MLR		
	comp=Z,38μm,21.0s					
WRA	**Warramunga Arr**	**31.54 255**	P	**P**	**13 40 30.7**	**-1.4**
WRA			ScP	ScP	13 47 02.8	+1.6
WRA	**Warramunga Arr**	**31.54 255**	P	**P**	**13 40 30.7**	**-1.4**
	comp=Z,147nm,0.9s,mb5.7,baz=84,slow=8.8,SNR=370					
WRA			ScP	ScP	13 47 02.8	+1.6
	comp=Z,29nm,1.0s,baz=84,slow=3.4,SNR=14					
WRA			PKiKP	PKiKP	13 50 51.4	-1.6
	comp=Z,2.8nm,0.7s,baz=8.1,slow=0.3,SNR=17					
WRA			LR	LR	13 52 27.5	
	comp=Z,33μm,21.3s,baz=75,slow=35					
WRA			P3KPbc		14 12 09.4	
	comp=Z,0.3nm,0.9s,baz=342,slow=22,SNR=4.1					
TUZ	**Tuapeka**	**31.63 176**	*e*P	**P**	**13 40 32.9**	**+0.3**
ASAR	**Alice Springs**	**32.45 248**	P	**P**	**13 40 39.0**	**-1.1**
ASAR			pmax	pmax		
	comp=Z,121nm,0.6s					
ASAR			pmax	pmax		
	comp=N,44nm,1.0s					
ASAR			pmax	pmax		
	comp=Z,1.0nm,0.6s					
ASAR	**Alice Springs**	**32.45 248**	P	**P**	**13 40 39.0**	**-1.1**
	comp=Z,121nm,0.6s,mb5.8,baz=74,slow=9.3,SNR=1060					
ASAR			ScP	ScP	13 47 05.5	+1.3
	comp=Z,44nm,1.0s,baz=84,slow=3.2,SNR=15					
ASAR			PKiKP	PKiKP	13 50 51.4	-2.2
	comp=Z,1.4nm,0.6s,baz=95,slow=1.2,SNR=9.0					
RAR	**Rarotonga**	**32.47 107**	P	**P**	**13 40 39.7**	**-0.6**
RAR			pmax	pmax		
	comp=Z,19nm,0.8s					
RAR	**Rarotonga**	**32.47 107**	P	**P**	**13 40 39.7**	**-0.6**
	comp=Z,19nm,0.8s,mb4.9,baz=203,slow=7.7,SNR=2.8					
RAR			LR	LR	13 51 23.8	
	comp=Z,13μm,21.9s,baz=269,slow=32					
ADE	**Adelaide**	**32.63 226**	⇑*i*P	**P**	**13 40 43.0**	**+1.4**
TAU	**Tasmania Unive**	**33.08 207**	*e*P	**P**	**13 40 45.9**	**+0.5**
	comp=Z,340nm,1.3s,mb6.0					
TAU			LR	LR		
	comp=Z,47μm,20.0s					
TAU	**Tasmania Unive**	**33.08 207**	*e*P	**P**	**13 40 45.9**	**+0.5**
TAU			pmax	pmax		
	comp=Z,340nm,1.3s,mb6.0					
TAU			MLR	MLR		
	comp=Z,47μm,20.0s					
KAKA	**Kakadu**	**33.48 269**	⇑*i*P	**P**	**13 40 48.9**	**-0.3**
	comp=Z,453nm,1.4s,mb6.1					
KAKA			*e*pP	pP	13 41 13.8	+8.1
GUMO	**Guam**	**35.25 321**	P	**P**	**13 41 04.3**	**-0.1**
GUMO			pmax	pmax		
	comp=Z,125nm,0.9s,mb5.7					
GUMO			MLR	MLR		
	comp=Z,21μm,20.3s					
GUMO	**Guam**	**35.25 321**	P	**P**	**13 41 04.3**	**-0.1**
	comp=Z,125nm,0.9s,mb5.8,baz=169,slow=13,SNR=5.3					
GUMO			LR	LR	13 54 06.6	
	comp=Z,21μm,20.3s,baz=127,slow=34					
FORT	**Forrest**	**39.16 239**	*e*P	**P**	**13 41 37.9**	**+0.4**
	comp=Z,909nm,0.7s,mb6.7					
FORT			*e*PCP	PcP	13 43 24.3	-22
FORT			*e*S	**S**	**13 47 27.2**	**-5.6**
FITZ	**Fitzroy Crossi**	**39.70 259**	⇑*i*P	**P**	**13 41 41.1**	**-1.0**
FITZ			*e*PCP	PcP	13 43 27.9	-20
FITZ			*e*S	**S**	**13 47 39.1**	**-2.0**
FITZ	**Fitzroy Crossi**	**39.70 259**	P	**P**	**13 41 41.4**	**-0.7**
	comp=Z,144nm,0.9s,mb5.8,baz=89,slow=7.9,SNR=177					
FITZ			LR	LR	13 57 07.5	
	comp=Z,25μm,19.3s,baz=85,slow=34					
PAE	**Paea**	**41.95 101**	*e*P	**P**	**13 42 00.8**	**+0.1**
	comp=Z,121nm,1.1s,mb5.6					
PAE	**Paea**	**41.95 101**	*e*P	**P**	**13 42 00.8**	**+0.1**
PAE			pmax	pmax		
	comp=Z,121nm,1.1s,mb5.5					
PPT	**Papeete**	**41.95 100**	*e*P	**P**	**13 42 01.2**	**+0.5**
	comp=Z,85nm,1.3s,mb5.3					
PPT			*e*S	**S**	**13 48 14.0**	**-0.7**
	comp=Z,6μm,16.5s					
PPT			*e*LQ		13 51 43.2	
	comp=Z,78μm,33.5s					
PPT			*e*LR	LR	13 53 32.9	
	comp=Z,46μm,29.8s					
PPT	**Papeete**	**41.95 100**	P	**P**	**13 42 00.3**	**-0.4**
	comp=Z,14nm,0.5s,mb5.0,baz=199,slow=5.5,SNR=2.6					
PPT			LR	LR	13 56 47.6	
	comp=Z,8μm,18.7s,baz=268,slow=32					
TBI	**Tubuai**	**42.18 109**	*e*P	**P**	**13 42 03.5**	**+1.0**
	comp=Z,295nm,1.1s,mb5.9					
TBI			*e*S	**S**	**13 48 18.1**	**+0.3**
	comp=Z,14μm,35.8s					
TBI			*e*LQ		13 51 53.6	
	comp=Z,24μm,32.8s					
TBI			*e*LR	LR	13 53 41.1	
	comp=Z,47μm,27.5s,baz=284					
TBI	**Tubuai**	**42.18 109**	*e*P	**P**	**13 42 03.5**	**+1.0**
	comp=Z,295nm,1.1s,mb5.9					
TBI			*e*S	**S**	**13 48 18.1**	**+0.3**
TBI			*e*LQ		13 51 53.6	
TVO	**Taravao**	**42.26 101**	*e*P	**P**	**13 42 03.7**	**+0.5**
	comp=Z,131nm,0.8s,mb5.7					
TVO	**Taravao**	**42.26 101**	*e*P	**P**	**13 42 03.7**	**+0.5**
TVO			pmax	pmax		
	comp=Z,131nm,0.8s,mb5.7					
BATI	**Kupang**	**42.36 270**	P	**P**	**13 42 05.3**	**+1.2**
	comp=Z,803nm,0.8s,mb6.5,baz=144,slow=1.6,SNR=190					
BATI			LR	LR	14 00 04.6	
	comp=Z,20μm,19.7s,baz=122,slow=37					
PMOR	**Pomariorio Ree**	**43.73 97**	*e*P	**P**	**13 42 16.0**	**+0.9**
	comp=Z,557nm,1.3s,mb6.1					
VAH	**Vaihoa**	**43.96 97**	*e*P	**P**	**13 42 17.5**	**+0.5**
	comp=Z,310nm,1.3s,mb5.9					
MBWA	**Marble Bar**	**45.27 254**	*e*P	**P**	**13 42 27.2**	**-0.1**
	comp=Z,465nm,1.0s,mb6.2					
CBIJ	**Chichi jima**	**47.62 330**	LR	LR	14 00 40.2	
	comp=Z,8μm,21.6s,baz=144,slow=33					
KLBR	**Kellerberrin**	**47.95 240**	*e*P	**P**	**13 42 47.6**	**-0.6**
	comp=Z,1μm,1.5s,mb6.5					
NWAO	**Narrogin (SRO)**	**48.62 239**	P	**P**	**13 42 52.8**	**-0.5**
NWAO			LR	LR		
	comp=Z,20μm,21.0s					
NWAO	**Narrogin (SRO)**	**48.62 239**	P	**P**	**13 42 52.9**	**-0.4**
NWAO			pmax	pmax		
	comp=Z,320nm,0.8s					
NWAO	**Narrogin (SRO)**	**48.62 239**	P	**P**	**13 42 52.8**	**-0.5**
	comp=Z,374nm,0.8s,mb6.4,baz=76,slow=6.6,SNR=247					
MUN	**Mundaring**	**49.32 240**	⇑*i*P	**P**	**13 42 58.1**	**-0.5**
MUN			*e*S	**S**	**13 49 57.1**	**-3.2**
KIP	**Kipapa**	**49.50 45**	PFAKE		13 43 10.0	+10
KIP			LR	LR		
	comp=Z,19μm,21.0s					
POHA	**Pohakuloa**	**50.16 48**	PFAKE		13 43 20.0	+15
POHA			LR	LR		
	comp=Z,25μm,21.0s					
MYLDM	**Lahad Datu**	**51.72 289**	⇑P	**P**	**13 43 19.8**	**+2.8**
TSM	**Tawau**	**51.96 287**	⇓P	**P**	**13 43 20.0**	**+1.1**
TAOE	**Nuku Hiva Isla**	**52.11 90**	*e*P	**P**	**13 43 21.7**	**+1.7**
	comp=Z,9μm,1.2s					
TAOE			*e*S	**S**	**13 50 39.3**	**-0.2**
	comp=Z,184μm,37.3s					
TAOE			*e*LQ		13 56 06.9	
	comp=Z,474μm,25.2s					
TAOE			*e*LR	LR	13 58 12.4	
	comp=Z,1314μm,26.8s,baz=266					
TAOE	**Nuku Hiva Isla**	**52.11 90**	*e*P	**P**	**13 43 21.7**	**+1.7**
	comp=Z,9μm,1.2s					
TAOE			*e*S	**S**	**13 50 39.3**	**-0.2**
TAOE			*e*LQ		13 56 06.9	
SDKM	**Sandakan**	**53.09 288**	⇓P	**P**	**13 43 27.6**	**+0.4**
KDM	**Kudat**	**53.92 290**	⇓P	**P**	**13 43 34.2**	**+1.0**
KKM	**Kota Kinabalu**	**54.15 288**	*e*P	**P**	**13 43 35.3**	**+0.4**
KKM	**Kota Kinabalu**	**54.15 288**	⇑P	**P**	**13 43 35.6**	**+0.7**
DRV	**Dumont d'Urvil**	**55.26 193**	P	**P**	**13 43 44.0**	**+1.9**
DRV			S	**S**	**13 51 32.0**	**+12**
DRV			SS	SS	13 55 15.0	+10
DRV			L		13 57 00.0	
JOW	**Kunigami**	**55.47 317**	LR	LR	14 05 35.0	
	comp=Z,7μm,21.7s,baz=141,slow=34					
RKT	**Rikitea**	**55.49 108**	*e*P	**P**	**13 43 47.5**	**+3.0**
	comp=Z,84nm,1.2s,mb5.7					
RKT			*e*S	**S**	**13 51 25.8**	**+0.9**
	comp=Z,9μm,38.2s					
RKT			*e*LQ		13 57 31.3	
	comp=Z,9μm,32.5s					
RKT			*e*LR	LR	13 59 50.6	
	comp=Z,27μm,31.0s,baz=273					
RKT	**Rikitea**	**55.49 108**	*e*P	**P**	**13 43 47.5**	**+3.0**
	comp=Z,84nm,1.2s,mb5.7					
RKT			*e*S	**S**	**13 51 25.8**	**+0.9**
RKT			*e*LQ		13 57 31.3	
RKT	**Rikitea**	**55.49 108**	*e*P	**P**	**13 43 47.5**	**+3.0**
RKT			*e*S	**S**	**13 51 25.8**	**+0.9**
RKT			pmax	pmax		
	comp=Z,84nm,1.2s,mb5.7					
BTM	**Bintulu**	**56.05 284**	⇓P	**P**	**13 43 50.2**	**+1.6**
SBUM	**Sibu**	**56.62 283**	⇓P	**P**	**13 43 53.9**	**+1.1**
MJAR	**Matsushiro Arr**	**57.35 333**	P	**P**	**13 43 56.7**	**-0.6**
MJAR			ScP	ScP	13 48 47.6	+2.9
MJAR			S	**S**	**13 51 45.5**	**-3.4**
MJAR			LR	LR	14 06 24.5	
MJAR			P'P'		14 13 47.6	
MJAR	**Matsushiro Arr**	**57.35 333**	P	**P**	**13 43 56.7**	**-0.7**
MJAR			S	**S**	**13 51 45.5**	**-3.4**
MJAR			pmax	pmax		
	comp=Z,36nm,0.6s					
MJAR			pmax	pmax		
	comp=N,5.0nm,0.9s					
MJAR			smax			
	comp=N,1.0nm,0.4s					
MJAR			pmax	pmax		
	comp=Z,2.0nm,1.0s					
MJAR	**Matsushiro Arr**	**57.35 333**	P	**P**	**13 43 56.7**	**-0.6**
	comp=Z,36nm,0.6s,mb5.6,baz=168,slow=8.9,SNR=75					
MJAR			ScP	ScP	13 48 47.6	+2.9
	comp=Z,4.6nm,0.9s,baz=134,slow=5.2,SNR=4.3					
MJAR			S	**S**	**13 51 45.5**	**-3.4**
	comp=Z,0.6nm,0.4s,baz=147,slow=6.9,SNR=3.1					
MJAR			LR	LR	14 06 24.5	
	comp=Z,3μm,20.4s,baz=135,slow=34					
MJAR			PKPPKP		14 13 47.6	
	comp=Z,1.9nm,1.0s,baz=178,slow=3.3,SNR=4.5					
MAJO	**Matsushiro**	**57.35 333**	*e*P	**P**	**13 43 56.4**	**-1.0**
	comp=Z,66nm,0.6s,mb5.8					
MAJO			LR	LR		
	comp=Z,4μm,20.0s					
MAJO	**Matsushiro**	**57.35 333**	*e*P	**P**	**13 43 56.4**	**-1.0**
MAJO			pmax	pmax		
	comp=Z,66nm,0.6s,mb5.8					
MAJO			MLR	MLR		
	comp=Z,4μm,20.0s					
MAT	**Matsushiro**	**57.35 333**	P	**P**	**13 43 56.5**	**-0.9**
MAT			S	**S**	**13 51 47.0**	**-1.9**
KSM	**Kuching**	**58.13 281**	*e*P	**P**	**13 44 03.2**	**-0.1**
KSM	**Kuching**	**58.13 281**	⇓P	**P**	**13 44 04.2**	**+0.8**
NACB	**Ninganchiao**	**58.46 310**	*e*P	**P**	**13 44 05.6**	**+0.2**
YHNB	**Yeheng**	**58.91 311**	*e*P	**P**	**13 44 08.4**	**-0.1**
TATO	**Taipei**	**59.01 311**	*e*P	**P**	**13 44 09.8**	**+0.7**
	comp=Z,326nm,1.4s,mb6.2					
ERM	**Erimo**	**60.16 340**	*e*P	**P**	**13 44 14.7**	**-2.0**
ERM			LR	LR		
	comp=Z,23μm,22.0s					
ERM	**Erimo**	**60.16 340**	P	**P**	**13 44 17.2**	**+0.5**
ERM			pmax	pmax		
	comp=Z,100nm,1.2s,mb5.7					
QZH	**Quanzhou**	**61.13 309**	⇑*i*P	**P**	**13 44 25.5**	**+1.8**
QZH			S	**S**	**13 52 38.0**	**-0.2**
QZH			AMB	AMB		
	comp=Z,640nm,1.6s,mb6.4					
QZH			LR	LR		
	comp=N,9μm,22.4s					
QZH			LR	LR		
	comp=E,5μm,16.8s					
QZH			LR	LR		
	comp=Z,7μm,19.3s					
YUK	**Yuzh-Kuril'sk**	**61.15 343**	*e*P	pP	13 44 38.0	-3.2
YUK			*e*SP		13 44 53.0	
YUK			*e*S	**S**	**13 52 39.0**	**+1.4**
YUK			*e*		13 53 01.0	
YUK			*e*SS	SS	13 56 36.0	-3.0
YUK			pmax	pmax		
	comp=Z,5μm,9.0s					
YUK			smax			
	comp=N,6μm,15.0s					
YUK			smax			
	comp=E,6μm,15.0s					
SSE	**Sheshan**	**62.95 316**	P	**P**	**13 44 35.3**	**-0.5**
SSE			AP	pP	13 44 53.5	-0.1
SSE			XP	sP	13 45 01.8	+0.6
SSE			S	**S**	**13 52 59.0**	**-1.8**
SSE			XS	sS	13 53 30.0	-1.1
SSE			SS	SS	13 57 07.0	-0.7
SSE			AMB	AMB		
	comp=Z,69nm,1.1s,mb5.5					
SSE			AMB	AMB		
	comp=Z,640nm,7.4s					
SSE			LR	LR		
	comp=N,2μm,18.2s					
SSE			LR	LR		
	comp=E,4μm,18.2s					
SSE			LR	LR		
	comp=Z,5μm,20.1s					
HKC	**Hong Kong Obse**	**63.16 304**	⇑*i*P	**P**	**13 44 40.0**	**+2.7**
HKC			S	**S**	**13 53 02.0**	**-1.8**
KSRS	**Korea Array**	**63.17 326**	P	**P**	**13 44 36.9**	**-0.2**
	comp=Z,29nm,0.8s,mb5.3,baz=142,slow=6.9,SNR=58					
KSRS			LR	LR	14 09 54.9	
	comp=Z,4μm,21.8s,baz=134,slow=34					
KSRS			PKP2bc		14 13 39.1	
	comp=Z,1.5nm,0.9s,baz=320,slow=3.3,SNR=4.8					
VNDA	**Vanda**	**63.26 181**	*e*P	**P**	**13 44 37.1**	**0.0**
	comp=Z,77nm,0.8s,mb5.7					
VNDA			LR	LR		
	comp=Z,6μm,22.0s					
VNDA	**Vanda**	**63.26 181**	*e*P	**P**	**13 44 37.1**	**-0.1**
VNDA			pmax	pmax		
	comp=Z,77nm,0.8s					
VNDA			MLR	MLR		
	comp=Z,6μm,22.0s					
VNDA	**Vanda**	**63.26 181**	P	**P**	**13 44 37.2**	**0.0**
	comp=Z,75nm,0.8s,mb5.7,baz=357,slow=7.4,SNR=135					
VNDA			LR	LR	14 08 58.9	
	comp=Z,7μm,21.4s,baz=11,slow=33					
SBA	**Scott Base**	**63.55 180**	*e*P	**P**	**13 44 40.2**	**+1.1**
	comp=Z,309nm,0.9s,mb6.1					
SBA			LR	LR		
	comp=Z,7μm,19.0s					
SBA	**Scott Base**	**63.55 180**	*e*P	**P**	**13 44 40.2**	**+1.1**
SBA			pmax	pmax		
	comp=Z,309nm,0.9s,mb6.1					
SBA			MLR	MLR		
	comp=Z,7μm,19.0s					
CASY	**Casey**	**63.76 202**	*e*P	**P**	**13 44 40.8**	**+0.2**
CASY	**Casey**	**63.76 202**	*e*P	**P**	**13 44 41.5**	**+0.9**
INCN	**Inchon**	**63.90 325**	*e*P	**P**	**13 44 43.8**	**+1.9**
	comp=Z,122nm,1.1s,mb5.7					
INCN			LR	LR		
	comp=Z,4μm,20.0s					
GZH	**Guangzhou**	**64.21 305**	P	**P**	**13 44 45.0**	**+0.7**
GZH			S	**S**	**13 53 21.0**	**+4.1**
GZH			LR	LR		
	comp=N,2μm,24.1s					
GZH			LR	LR		
	comp=E,5μm,23.7s					
GZH			LR	LR		
	comp=Z,7μm,27.1s					
MYKOM	**Kota Tinggi**	**64.39 279**	⇓P	**P**	**13 44 47.2**	**+1.5**
YSS	**Yuzh-Sakhalins**	**64.71 342**	⇑*e*P	**P**	**13 44 46.2**	**-0.8**
YSS			LR	LR		
	comp=Z,18μm,20.0s					
YSS	**Yuzh-Sakhalins**	**64.71 342**	κ*e*P	**P**	**13 44 47.6**	**+0.6**
YSS			*e**PP	pP	13 45 07.2	+2.2
YSS			*e*S	**S**	**13 53 20.0**	**-2.1**
YSS			*e**SS	sS	13 53 50.0	-2.5
YSS			pmax	pmax		
	comp=N,70nm,1.1s					
YSS			pmax	pmax		
	comp=Z,180nm,1.1s,mb5.8					
YSS			pmax	pmax		
	comp=E,90nm,1.4s					
YSS			pmax	pmax		
	comp=Z,600nm,4.0s					
YSS			smax			
	comp=N,4μm,12.0s					
YSS			smax			
	comp=E,6μm,12.0s					
YSS			MLR	MLR		
	comp=Z,5μm,19.0s					
YSS			MLR	MLR		
	comp=N,5μm,18.0s					
YSS			MLR	MLR		
	comp=E,4μm,19.0s					
KGM	**Kluang**	**64.97 279**	⇓P	**P**	**13 44 51.0**	**+1.6**
NJ2	**Nanjing**	**65.10 316**	*e*P	**P**	**13 44 50.0**	**+0.1**
NJ2			PP	PP	13 47 16.5	+2.5
NJ2			S	S	13 53 27.0	-0.5
NJ2			AMB	AMB		
	comp=Z,100nm,1.1s,mb5.6					
NJ2			AMB	AMB		
	comp=Z,3μm,10.4s					
NJ2			LR	LR		
	comp=N,6μm,17.9s					
NJ2			LR	LR		
	comp=E,4μm,17.2s					
NJ2			LR	LR		
	comp=Z,4μm,13.5s					
QIZ	**Qiongzhong**	**65.19 299**	P	**P**	**13 44 50.0**	**-0.7**
QIZ			AP	pP	13 45 07.3	-1.3
QIZ			XP	sP	13 45 14.5	-1.7
QIZ			S	S	13 53 30.8	+1.8
QIZ			AMB	AMB		
	comp=Z,1μm,6.3s					
QIZ			LR	LR		
	comp=E,4μm,22.6s					
QIZ			LR	LR		
	comp=Z,7μm,26.3s					
QIZ	**Qiongzhong**	**65.19 299**	*e*P	**P**	**13 44 50.0**	**-0.7**
	comp=Z,128nm,1.2s,mb5.6					
QIZ			LR	LR		
	comp=Z,4μm,19.0s					
SKR	**Severo-Kuril's**	**65.40 353**	*e*P	**P**	**13 44 48.6**	**-2.8**
SKR			*e*		13 45 26.7	
SKR			*e*		13 47 15.0	
SKR			*e*S	S	13 53 23.0	-7.4
SKR			*e*		13 54 04.0	
SKR			pmax	pmax		
	comp=Z,120nm,0.8s,mb5.8					
SKR			pmax	pmax		
	comp=E,130nm,1.0s					
SKR			pmax	pmax		
	comp=N,2μm,10.0s					
SKR			pmax	pmax		
	comp=Z,3μm,10.0s					
SKR			smax			
	comp=N,6μm,12.0s					
SKR			smax			
	comp=E,8μm,12.0s					
SKR			MLR	MLR		
	comp=Z,6μm,18.0s					
SKR			MLR	MLR		
	comp=N,6μm,20.0s					
SKR			MLR	MLR		
	comp=E,6μm,20.0s					
VLA	**Vladivostok**	**65.52 333**	*i*P	**P**	**13 44 52.7**	**+0.4**
KTGM	**Kuala Trenggan**	**66.13 282**	⇓P	**P**	**13 44 59.1**	**+2.2**
FRIM	**Kepong**	**66.94 280**	⇑P	**P**	**13 45 02.6**	**+0.6**
SMY	**Shemya**	**67.06 5**	PFAKE		13 45 10.0	+8.0
SMY			LR	LR		
	comp=Z,16μm,22.0s					
WHN	**Wuhan**	**67.37 312**	⇑P	**P**	**13 45 04.3**	**-0.1**
WHN			AP	pP	13 45 18.8	-3.7
WHN			S	S	13 53 53.3	-1.8
WHN			SS	SS	13 58 11.3	-5.2
WHN			AMB	AMB		
	comp=Z,2μm,7.8s					
WHN			LR	LR		
	comp=Z,10μm,19.0s					
PET	**Petropavlovsk**	**67.43 355**	⇑*e*P	**P**	**13 45 04.1**	**-0.2**
PET			LR	LR		
	comp=Z,13μm,21.0s					
PET	**Petropavlovsk**	**67.43 355**	⇑*i*P	**P**	**13 45 04.2**	**-0.1**
PET			*e**PP	pP	13 45 21.7	-0.7
PET			*e*S	S	13 53 54.2	-0.7
PET			pmax	pmax		
	comp=Z,98nm,1.2s,mb5.5					
PET			pmax	pmax		
	comp=Z,800nm,4.0s					
PET			smax			
	comp=N,4μm,8.6s					
PET			smax			
	comp=E,4μm,8.3s					
ADK	**Adak**	**67.46 11**	PFAKE		13 45 20.0	+16
ADK			LR	LR		
	comp=Z,5μm,20.0s					
DL2	**Dalian**	**67.73 323**	⇑*i*P	**P**	**13 45 07.0**	**+0.5**
DL2			AP	pP	13 45 23.5	-1.1
DL2			XP	sP	13 45 32.0	-0.1
DL2			S	S	13 53 59.3	+0.3
DL2			AMB	AMB		
	comp=Z,110nm,0.8s,mb5.7					
DL2			AMB	AMB		
	comp=Z,2μm,8.6s					
DL2			LR	LR		
	comp=N,3μm,25.8s					
DL2			LR	LR		
	comp=E,4μm,25.5s					
DL2			LR	LR		
	comp=Z,7μm,28.0s					
MDJ	**Mudanjiang**	**67.73 332**	P	**P**	**13 45 07.3**	**+0.9**
MDJ			AP	pP	13 45 23.5	-1.0
MDJ			PCP	PcP	13 45 33.5	+0.7
MDJ			PP	PP	13 47 38.0	+1.3
MDJ			S	S	13 53 57.0	-1.8
MDJ			SS	SS	13 58 19.0	-2.6
MDJ			AMB	AMB		
	comp=Z,121nm,1.1s,mb5.6					
MDJ			AMB	AMB		
	comp=Z,4μm,11.9s					
MDJ			LR	LR		
	comp=N,7μm,30.2s					
MDJ			LR	LR		
	comp=E,4μm,35.1s					
MDJ			LR	LR		
	comp=Z,12μm,30.2s					
MDJ	**Mudanjiang**	**67.73 332**	*e*P	**P**	**13 45 07.0**	**+0.7**
	comp=Z,5.3nm,1.4s					
IPM	**Ipoh**	**67.87 281**	⇑P	**P**	**13 45 08.9**	**+0.9**
COCO	**West Island**	**67.95 262**	*e*P	**P**	**13 45 07.4**	**-1.1**
COCO			LR	LR		
	comp=Z,10μm,22.0s					
KULM	**Kulim**	**68.47 282**	*e*P	**P**	**13 45 11.4**	**-0.3**
KULM	**Kulim**	**68.47 282**	⇑P	**P**	**13 45 12.2**	**+0.5**
HABR	**Khabarovsk**	**68.60 338**	⇓*i*P	**P**	**13 45 12.4**	**+0.6**
HABR			*e**PP	pP	13 45 28.6	-1.3
HABR			*e*	pP	13 45 34.4	+4.5
HABR			*e*		13 47 41.8	
HABR			*e*S	S	13 54 10.7	+1.6
HABR			*e**SS	sS	13 54 42.2	+2.5
HABR			*e*		13 55 03.6	
HABR			*e*SS	SS	13 58 35.6	+0.6
HABR			pmax	pmax		
	comp=Z,159nm,1.0s,mb5.8					
SNY	**Shenyang**	**68.64 327**	⇑P	**P**	**13 45 12.0**	**-0.2**
SNY			AP	pP	13 45 28.3	-2.0
SNY			S	S	13 54 11.3	+1.5
SNY			AMB	AMB		
	comp=Z,31nm,1.3s,mb5.0					
SNY			AMB	AMB		
	comp=Z,3μm,9.4s					
SNY			LR	LR		
	comp=N,5μm,18.0s					
SNY			LR	LR		
	comp=E,3μm,24.0s					
SNY			LR	LR		
	comp=Z,8μm,22.8s					
TIA	**Tai'an**	**68.76 319**	⇓P	**P**	**13 45 13.0**	**-0.1**
TIA			S	S	13 54 08.0	-3.5
TIA			AMB	AMB		
	comp=Z,71nm,1.1s,mb5.4					
TIA			LR	LR		
	comp=N,707nm,16.0s					
TIA			LR	LR		
	comp=E,985nm,16.0s					
SNG	**Songkhla**	**69.08 284**	P	**P**	**13 45 16.0**	**+0.5**
	comp=E,364nm,1.0s,mb6.2					
CN2	**Changchun**	**69.08 329**	⇑P	**P**	**13 45 15.3**	**+0.4**
CN2			*e*AP	pP	13 45 35.0	+2.0
CN2			PCP	PcP	13 45 38.0	-0.5

CN2				PP	PP	13 47 50.3	+1.8
CN2				*e*S	S	13 54 15.5	+0.5
CN2				SS	SS	13 58 44.0	+1.4
CN2				AMB	AMB		
	comp=Z,120nm,0.7s,mb5.8						
CN2				AMB	AMB		
	comp=Z,4μm,9.0s						
CN2				LR	LR		
	comp=N,5μm,25.0s						
CN2				LR	LR		
	comp=E,5μm,25.0s						
CN2				LR	LR		
	comp=Z,10μm,29.0s						
PSI	**Prapat**	**69.40 279**		S	S	13 54 18.4	-1.5
	comp=Z,1.2nm,0.4s,baz=324,slow=23,SNR=8.5						
KKTK	**Khon Kaen**	**70.19 293**	⇑	P	**P**	**13 45 23.0**	**+0.7**
	comp=Z,617nm,0.6s,mb6.6						
KLR	**Kul'dur**	**70.47 336**	*κ*	*i*P	**P**	**13 45 20.6**	**-2.6**
KLR				*e*S	S	13 54 24.5	-6.5
KLR				pmax	pmax		
	comp=N,45nm,2.0s						
KLR				pmax	pmax		
	comp=E,100nm,2.0s						
KLR				pmax	pmax		
	comp=Z,270nm,2.0s,mb5.7						
KLR				pmax	pmax		
	comp=N,2μm,11.0s						
KLR				pmax	pmax		
	comp=E,1μm,11.0s						
KLR				pmax	pmax		
	comp=Z,7μm,11.0s						
KLR				smax			
	comp=N,4μm,13.0s						
KLR				smax			
	comp=E,4μm,13.0s						
MIR	**Mirnyy**	**70.54 204**	⇑	*i*P	**P**	**13 45 24.0**	**+0.5**
MIR				*i*	pP	13 45 43.0	+1.3
MIR				*i* S	S	13 54 38.0	+6.5
MIR				*i* PS		13 55 09.0	
MIR				*i*		13 55 20.0	
MIR				pmax	pmax		
	comp=Z,1μm,1.0s,mb6.6						
ENH	**Enshi**	**70.79 310**		PFAKE		13 45 40.0	+14
ENH				LR	LR		
	comp=Z,6.0nm,20.0s						
GYA	**Guiyang**	**71.15 305**	⇑	*i*P	**P**	**13 45 27.0**	**-0.9**
GYA				PP	PP	13 48 10.0	+3.4
GYA				SKS		13 55 21.5	
GYA				SS	SS	13 59 17.0	+2.0
GYA				AMB	AMB		
	comp=Z,100nm,1.0s,mb5.6						
GYA				AMB	AMB		
	comp=Z,1μm,8.1s						
GYA				LR	LR		
	comp=N,2μm,20.0s						
GYA				LR	LR		
	comp=E,2μm,18.0s						
GYA				LR	LR		
	comp=Z,3μm,20.1s						
NNT	**Nongplab**	**71.66 289**		P	**P**	**13 45 33.0**	**+1.8**
BJI	**Beijing**	**71.69 321**		P	**P**	**13 45 31.0**	**+0.1**
BJI				AP	pP	13 45 48.8	-0.3
BJI				XP	sP	13 45 55.8	-0.8
BJI				PP	PP	13 48 12.0	+1.0
BJI				S	S	13 54 43.8	-1.7
BJI				XS	sS	13 55 16.3	-0.1
BJI				SS	SS	13 59 26.3	+3.5
BJI				AMB	AMB		
	comp=Z,136nm,1.1s,mb5.7						
BJI				AMB	AMB		
	comp=Z,2μm,7.2s						
BJI				LR	LR		
	comp=N,10μm,20.8s						
BJI				LR	LR		
	comp=E,5μm,22.6s						
BJI				LR	LR		
	comp=Z,26μm,31.1s						
NST	**Nakhon Sawan**	**72.36 292**	⇓	P	**P**	**13 45 36.5**	**+1.2**
	comp=Z,146nm,0.9s,mb5.8						
TIY	**Taiyuan**	**72.68 317**	⇑	*i*P	**P**	**13 45 36.0**	**-0.9**
TIY				AP	pP	13 45 52.5	-2.6
TIY				XP	sP	13 46 00.3	-2.3
TIY				S	S	13 54 56.5	-0.5
TIY				SS	SS	13 59 41.8	+3.7
TIY				AMB	AMB		
	comp=Z,3μm,4.0s						
TIY				LR	LR		
	comp=N,4μm,15.3s						
TIY				LR	LR		
	comp=E,5μm,19.1s						
TIY				LR	LR		
	comp=Z,9μm,21.9s						
XAN	**Xi'an**	**73.11 313**		P	**P**	**13 45 39.3**	**-0.2**
XAN				S	S	13 54 57.3	-4.7
XAN				AMB	AMB		
	comp=Z,67nm,1.7s,mb5.2						
XAN				AMB	AMB		
	comp=Z,1μm,8.8s						
XAN				LR	LR		
	comp=N,2μm,18.7s						
XAN				LR	LR		
	comp=E,5μm,17.1s						
XAN				LR	LR		
	comp=Z,8μm,20.5s						
KMI	**Kunming**	**73.75 302**		P	**P**	**13 45 44.8**	**+1.4**
KMI				AP	pP	13 45 59.8	-1.9
KMI				XP	sP	13 46 06.5	-2.7
KMI				S	S	13 55 10.8	+1.3
KMI				XS	sS	13 55 35.5	-5.0
KMI				SKS		13 55 42.5	
KMI				SS	SS	13 59 57.5	+2.7
KMI				AMB	AMB		
	comp=Z,270nm,1.2s,mb5.8						
KMI				AMB	AMB		
	comp=Z,2μm,7.2s						
KMI				LR	LR		
	comp=N,2μm,15.4s						
KMI				LR	LR		
	comp=E,5μm,21.8s						
KMI				LR	LR		
	comp=Z,7μm,23.1s						
CHRT	**Chiangrai**	**74.19 296**	⇑	P	**P**	**13 45 47.0**	**+0.9**
	comp=Z,1μm,1.1s,mb6.5						
CM31	**Chiang Mai Arr**	**74.41 294**		PFAKE		13 46 00.0	+13
CM31				LR	LR		
	comp=Z,1μm,20.0s						
CHG	**Chiang Mai**	**74.54 294**	⇑	P	**P**	**13 45 49.1**	**+1.0**
	comp=Z,150nm,1.2s,mb5.6						
CHTO	**Chiang Mai**	**74.54 294**		*e*P	**P**	**13 45 48.7**	**+0.5**
	comp=Z,189nm,1.1s,mb5.7						
CHTO				LR	LR		
	comp=Z,1μm,21.0s						
CHTO	**Chiang Mai**	**74.54 294**		*e*P	**P**	**13 45 48.7**	**+0.6**
CHTO				pmax	pmax		
	comp=Z,189nm,1.1s,mb5.7						
CHTO				MLR	MLR		
	comp=Z,1μm,21.0s						
MA2	**Magadan**	**74.78 352**		*e*P	**P**	**13 45 48.1**	**-0.5**
MA2				*e*		13 48 35.1	
MA2				*e*S	S	13 55 15.8	-3.9
MA2				*e*SS	SS	14 00 05.8	-3.3
MA2				*e*SSS		14 03 30.0	
MA2				pmax	pmax		
	comp=Z,80nm,1.1s,mb5.4						
MA2				MLR	MLR		
	comp=Z,6μm,18.1s						
HHC	**Hu-ho-hao-te**	**75.01 320**	⇑	*i*P	**P**	**13 45 51.5**	**+1.1**
HHC				AP	pP	13 46 07.8	-0.9
HHC				PP	PP	13 48 42.5	+3.2
HHC				S	S	13 55 25.0	+2.0
HHC				XS	sS	13 55 50.5	-3.6
HHC				SKS		13 55 53.5	
HHC				SCS	ScS	13 55 57.5	+0.6
HHC				SS	SS	14 00 16.5	+3.1
HHC				AMB	AMB		
	comp=Z,102nm,1.2s,mb5.4						
HHC				AMB	AMB		
	comp=Z,3μm,9.7s						
HHC				LR	LR		
	comp=N,4μm,21.1s						
HHC				LR	LR		
	comp=E,5μm,28.9s						
HHC				LR	LR		
	comp=Z,11μm,30.9s						
CD2	**Chengdu**	**75.44 308**		P	**P**	**13 45 53.5**	**+0.4**
CD2				AP	pP	13 46 13.5	+2.1
CD2				PP	PP	13 48 44.5	+1.4
CD2				S	S	13 55 24.5	-3.7
CD2				SKS		13 55 53.5	
CD2				XS	sS	13 55 58.0	-1.3
CD2				SS	SS	14 00 20.3	0.0
CD2				AMB	AMB		
	comp=Z,30nm,0.5s,mb5.3						
CD2				AMB	AMB		
	comp=Z,2μm,5.2s						
CD2				LR	LR		
	comp=N,2μm,19.2s						
CD2				LR	LR		
	comp=E,5μm,19.8s						
CD2				LR	LR		
	comp=Z,5μm,21.0s						
QSPA	**South Pole Qui**	**75.71 180**		P	**P**	**13 45 53.9**	**+0.1**
	comp=Z,348nm,0.7s,mb6.2,baz=14,slow=1.8,SNR=608						
QSPA				PKKPbc	PKKPbc	14 05 10.6	-3.8
	comp=Z,1.1nm,0.5s,baz=244,slow=1.3,SNR=13						
QSPA				LR	LR	14 17 02.7	
	comp=Z,7μm,19.7s,baz=207,slow=34						
HIA	**Hailar**	**75.73 330**		*e*P	**P**	**13 45 54.4**	**+0.1**
	comp=Z,73nm,0.8s,mb5.5						
HIA				LR	LR		
	comp=Z,12μm,22.0s						
HIA	**Hailar**	**75.73 330**		*e*P	**P**	**13 45 54.4**	**+0.1**
HIA				pmax	pmax		
	comp=Z,73nm,0.8s						
HIA				MLR	MLR		
	comp=Z,12μm,22.0s						
BTO	**Baotou**	**75.85 319**		*e*P	**P**	**13 45 55.5**	**+0.3**
BTO				S	S	13 55 25.0	-7.3
BTO				AMB	AMB		
	comp=Z,35nm,0.8s,mb5.1						
LZH	**Lanzhou**	**77.74 312**	⇑	P	**P**	**13 46 07.8**	**+1.8**
LZH				AP	pP	13 46 16.3	-8.1
LZH				PP	PP	13 49 03.0	+0.6
LZH				*e*S	S	13 55 49.3	-3.9
LZH				SKS		13 56 09.3	
LZH				XS	sS	13 56 14.0	-10
LZH				SCS	ScS	13 56 18.0	-1.3
LZH				AMB	AMB		
	comp=Z,424nm,1.3s,mb6.0						
LZH				AMB	AMB		
	comp=Z,2μm,4.7s						
LZH				LR	LR		
	comp=E,3μm,16.4s						
LZH				LR	LR		
	comp=Z,6μm,18.8s						
SEY	**Seymchan**	**77.83 353**	⇑	*e*P	**P**	**13 46 06.0**	**+0.2**
NRGR	**Nerungri**	**78.92 338**		*e*P	**P**	**13 46 12.7**	**+0.7**
NRGR				S	S	13 56 10.1	+5.2
NRGR				smax			
	comp=N,54nm,0.7s						
CLNS	**Chul'man**	**78.99 338**		*e*P	**P**	**13 46 12.9**	**+0.5**
CLNS				*e**PP	pP	13 46 20.9	-10
CLNS				*e*		13 46 25.9	
CLNS				*e*		13 56 44.6	
CLNS				*e*PS		13 57 19.4	
CLNS				pmax	pmax		
	comp=Z,97nm,0.8s,mb5.7						
CLNS				pmax	pmax		
	comp=N,32nm,0.9s						
CLNS				pmax	pmax		
	comp=E,19nm,0.8s						
CLNS				pmax	pmax		
	comp=N,24nm,1.1s						
CLNS				pmax	pmax		
	comp=Z,19nm,1.1s,mb4.8						
CLNS				pmax	pmax		
	comp=E,20nm,1.0s						
KDAK	**Kodiak Island**	**79.22 21**		PFAKE		13 46 20.0	+6.4
KDAK				LR	LR		
	comp=Z,5μm,20.0s						
SVW2	**Sparrevohn**	**80.88 17**		*e*P	**P**	**13 46 24.0**	**+1.5**
IMP	**Imphal**	**81.00 298**		*e*P	**P**	**13 46 24.0**	**0.0**
YAK	**Yakutsk**	**81.52 343**	⇑	*e*P	**P**	**13 46 25.7**	**-0.1**
YAK	**Yakutsk**	**81.52 343**	*c*	*i*P	**P**	**13 46 25.7**	**-0.1**
YAK				*e**PP	pP	13 46 40.6	-3.8
YAK				*e*		13 49 30.4	
YAK				*i* S	S	13 56 28.5	-3.4
YAK				*e**SS	sS	13 56 42.0	-21
YAK				*e*SSS		14 05 12.0	
YAK				pmax	pmax		
	comp=Z,183nm,1.0s,mb5.9						
YAK				pmax	pmax		
	comp=N,61nm,1.2s						
YAK				pmax	pmax		
	comp=E,38nm,1.2s						
YAK				pmax	pmax		
	comp=Z,781nm,8.8s						
YAK				pmax	pmax		
	comp=N,222nm,2.8s						
YAK				pmax	pmax		
	comp=E,291nm,6.0s						
YAK				smax			
	comp=N,3μm,9.1s						
YAK				smax			
	comp=E,4μm,11.5s						
YAK				smax			
	comp=Z,1μm,11.5s						
YAK				MLR	MLR		
	comp=Z,10μm,19.0s						
YAK				MLR	MLR		
	comp=N,7μm,18.0s						
YAK				MLR	MLR		
	comp=E,5μm,19.0s						
ULN	**Ulaanbaatar**	**81.56 324**		PFAKE		13 46 40.0	+14
ULN				LR	LR		
	comp=Z,1μm,20.0s						
SONM	**Songino Array**	**81.93 324**		P	**P**	**13 46 27.9**	**-0.4**
SONM				S	S	13 56 36.4	-0.3
SONM				pmax	pmax		
	comp=Z,36nm,0.7s						
SONM				smax			
	comp=N,2.0nm,1.0s						
SONM				pmax	pmax		
	comp=Z,1.0nm,0.4s						
SONM				pmax	pmax		
	comp=Z,1.0nm,0.8s						
SONM	**Songino Array**	**81.93 324**		P	**P**	**13 46 27.9**	**-0.4**
	comp=Z,36nm,0.7s,mb5.3,baz=159,slow=9.1,SNR=100						
SONM				S	S	13 56 36.4	-0.3
	comp=Z,2.1nm,1.0s,baz=151,slow=3.4,SNR=6.2						
SONM				PKKPbc	PKKPbc	14 04 58.3	-2.4
	comp=Z,0.8nm,0.4s,baz=268,slow=1.9,SNR=6.1						
SONM				PKPPKP		14 13 03.1	
	comp=Z,0.6nm,0.8s,baz=300,slow=2.9,SNR=4.8						
SONM				LR	LR	14 19 34.0	
	comp=Z,5μm,21.6s,baz=124,slow=33						
SLKM	**Skilak Lake**	**82.08 20**		*e*P	**P**	**13 46 29.2**	**+0.3**
SLKM	**Skilak Lake**	**82.08 20**		P	**P**	**13 46 29.1**	**+0.3**
GTA	**Gaotai**	**82.09 314**	⇑	*i*P	**P**	**13 46 30.3**	**+0.9**
GTA				AP	pP	13 46 49.0	+1.0
GTA				PP	PP	13 49 40.5	+2.1
GTA				S	S	13 56 35.5	-3.3
GTA				SKS		13 56 38.5	
GTA				SS	SS	14 01 57.3	-2.6
GTA				AMB	AMB		
	comp=Z,151nm,1.2s,mb5.7						
GTA				AMB	AMB		
	comp=Z,1μm,6.5s						
GTA				LR	LR		
	comp=N,4μm,20.5s						
GTA				LR	LR		
	comp=E,5μm,19.8s						
GTA				LR	LR		
	comp=Z,6μm,20.5s						
MAW	**Mawson**	**82.11 202**	⇑	*i*P	**P**	**13 46 28.5**	**-0.6**
	comp=Z,25nm,0.4s,mb5.4						
MAW	**Mawson**	**82.11 202**		P	**P**	**13 46 29.2**	**+0.1**
	comp=Z,41nm,0.9s,mb5.3,baz=110,slow=6.7,SNR=51						
MAW				LR	LR	14 17 33.9	
	comp=Z,17μm,21.0s,baz=97,slow=32						
BILL	**Bilibino**	**82.13 360**	⇑	*i*P	**P**	**13 46 28.5**	**-0.4**
BILL	**Bilibino**	**82.13 360**	⇑	*i*P	**P**	**13 46 28.4**	**-0.5**
BILL				*i* S	S	13 56 38.0	0.0
BILL				*e*SS	SS	14 02 02.4	+3.1
BILL				pmax	pmax		
	comp=Z,79nm,0.5s,mb5.8						
TTA	**Tatalina**	**82.24 16**		*e*P	**P**	**13 46 30.1**	**+0.5**
	comp=Z,119nm,1.4s,mb5.5						
TTA	**Tatalina**	**82.24 16**		*e*P	**P**	**13 46 30.1**	**+0.5**
TTA				pmax	pmax		
	comp=Z,119nm,1.4s,mb5.5						
PMR	**Palmer**	**83.25 20**		*e*P	**P**	**13 46 34.4**	**-0.5**
	comp=Z,194nm,2.0s,mb5.6						
PMR				*e*P		13 46 35.0	
PMR				LR	LR		
	comp=Z,21μm,22.0s						
PMR	**Palmer**	**83.25 20**		*e*P	**P**	**13 46 34.4**	**-0.5**
PMR				pmax	pmax		
	comp=Z,194nm,2.0s,mb5.6						
PMR				MLR	MLR		
	comp=Z,21μm,22.0s						
MCCM	**Marconi Confer**	**83.86 48**		PFAKE		13 46 50.0	+11
MCCM				LR	LR		
	comp=Z,20μm,22.0s						
BOD	**Bodaibo**	**83.93 335**		*e*P	**P**	**13 46 37.9**	**-0.5**
BOD				pmax	pmax		
	comp=Z,62nm,1.5s,mb5.2						
HOPS	**Hopland**	**84.06 47**		PFAKE		13 46 50.0	+10
HOPS				LR	LR		
	comp=Z,20μm,20.0s						
SAO	**San Andreas Ge**	**84.38 50**		PFAKE		13 46 50.0	+8.8
SAO				LR	LR		
	comp=Z,16μm,21.0s						
SNCC	**San Nicolas Is**	**84.55 54**		PFAKE		13 46 50.0	+7.8
SNCC				LR	LR		
	comp=Z,8μm,20.0s						
PACP	**Pacheco Peak**	**84.59 50**	⇑	P	**P**	**13 46 42.5**	**+0.2**
	baz=85						
O02C	**Red Bluff**	**84.73 46**	⇑	P	**P**	**13 46 43.7**	**+0.7**
	baz=85						
ZAK	**Zakamensk**	**84.98 325**		*e*P	**P**	**13 46 34.6**	**-9.3**
ZAK				*e*		13 57 02.5	
ZAK				pmax	pmax		
	comp=Z,74nm,1.4s,mb5.4						
LSA	**Lhasa**	**85.00 302**		P	**P**	**13 46 45.5**	**+1.0**
LSA				AMB	AMB		
	comp=Z,70nm,1.1s,mb5.5						
LSA	**Lhasa**	**85.00 302**		*e*P	**P**	**13 46 45.6**	**+1.1**
	comp=Z,95nm,0.8s,mb5.8						
LSA				LR	LR		
	comp=Z,3μm,20.0s						
LSA	**Lhasa**	**85.00 302**		*e*P	**P**	**13 46 45.6**	**+1.1**
LSA				pmax	pmax		
	comp=Z,95nm,0.8s,mb5.8						
LSA				MLR	MLR		
	comp=Z,3μm,20.0s						
WDC	**Whiskeytown Da**	**85.07 46**		*e*P	**P**	**13 46 44.8**	**+0.2**
	comp=Z,49nm,1.3s,mb5.3						
WDC				LR	LR		
	comp=Z,13μm,20.0s						
WDC	**Whiskeytown Da**	**85.07 46**		*e*P	**P**	**13 46 44.8**	**+0.2**
WDC				pmax	pmax		
	comp=Z,49nm,1.3s,mb5.3						
WDC				MLR	MLR		
	comp=Z,13μm,20.0s						
WDC	**Whiskeytown Da**	**85.07 46**	⇓	P	**P**	**13 46 44.6**	**0.0**
	baz=85						
SUTB	**Sutter Butte**	**85.07 48**	⇑	P	**P**	**13 46 45.0**	**+0.3**
	baz=85						
M02C	**Callahan**	**85.18 45**	⇓	P	**P**	**13 46 45.8**	**+0.6**
	baz=85						
OHCM	**Honcut**	**85.33 48**		*e*P	**P**	**13 46 45.5**	**-0.4**
IMA2	**Indian Mountai**	**85.36 15**		*e*P	**P**	**13 46 45.2**	**-0.2**
IRK	**Irkutsk**	**85.37 327**		*e*P	**P**	**13 46 45.0**	**-0.8**
IRK				*e*	pP	13 47 01.0	-3.5
IRK				*e*		13 57 05.2	
IRK				pmax	pmax		
	comp=Z,89nm,1.1s,mb5.6						
ORV	**Oroville**	**85.40 47**	⇑	P	**P**	**13 46 46.2**	**-0.1**
	baz=86						
YBH	**Yreka Blue Hor**	**85.41 45**		*e*P	**P**	**13 46 46.3**	**0.0**
	comp=Z,40nm,1.1s,mb5.3						
YBH				LR	LR		
	comp=Z,9μm,22.0s						
YBH	**Yreka Blue Hor**	**85.41 45**		*e*P	**P**	**13 46 46.3**	**0.0**
YBH				pmax	pmax		
	comp=Z,40nm,1.1s						
YBH				MLR	MLR		
	comp=Z,9μm,22.0s						
YBH	**Yreka Blue Hor**	**85.41 45**	⇑	P	**P**	**13 46 46.7**	**+0.4**
	baz=86						
TLY	**Talaya**	**85.42 326**	⇑	*i*P	**P**	**13 46 45.1**	**-1.0**
TLY				LR	LR		
	comp=Z,5μm,21.0s						
TLY	**Talaya**	**85.42 326**		*e*P	**P**	**13 46 45.7**	**-0.4**
TLY				*e*	pP	13 47 00.7	-4.1
TLY				*e*		13 50 06.4	
TLY				*e*S	S	13 57 03.4	-8.4
TLY				*e*PS		13 58 04.5	
TLY				*e*SS	SS	14 02 51.5	+2.9
TLY				pmax	pmax		
	comp=Z,67nm,0.7s,mb5.7						
HUMO	**Hull Mountain**	**85.59 44**		*e*P	**P**	**13 46 47.0**	**-0.2**
	comp=Z,34nm,1.0s,mb5.2						
HUMO				LR	LR		
	comp=Z,9μm,22.0s						
HUMO	**Hull Mountain**	**85.59 44**	⇓	P	**P**	**13 46 47.3**	**+0.2**
	baz=86						
SIT	**Sitka**	**85.62 28**		PFAKE		13 47 00.0	+13
SIT				LR	LR		
	comp=Z,14μm,22.0s						
M03C	**McCloud**	**85.64 46**	⇓	P	**P**	**13 46 48.0**	**+0.6**
	baz=86						
CMB	**Columbia Colle**	**85.64 49**		*e*P	**P**	**13 46 47.2**	**-0.3**
	comp=Z,26nm,1.1s,mb5.1						
CMB				LR	LR		
	comp=Z,22μm,22.0s						
CMB	**Columbia Colle**	**85.64 49**		*e*P	**P**	**13 46 47.2**	**-0.3**
CMB				pmax	pmax		
	comp=Z,26nm,1.1s,mb5.1						
CMB				MLR	MLR		
	comp=Z,22μm,22.0s						
CMB	**Columbia Colle**	**85.64 49**	⇑	P	**P**	**13 46 47.2**	**-0.3**
	baz=86						
T06C	**Millerton Lake**	**85.76 50**	⇓	P	**P**	**13 46 48.1**	**-0.1**
	baz=86						
P05C	**Yuba Gap, Truc**	**85.95 48**	⇓	P	**P**	**13 46 49.4**	**+0.4**
	baz=86						
O05C	**Quincy**	**85.97 47**	⇓	P	**P**	**13 46 49.3**	**+0.2**
	baz=86						
O04C	**Chester**	**85.99 47**	⇑	P	**P**	**13 46 49.8**	**+0.6**
	baz=86						
MENT	**Mentasta**	**85.99 20**		*e*P	**P**	**13 46 48.5**	**-0.2**
M04C	**Macdoel**	**86.03 45**	⇑	P	**P**	**13 46 49.1**	**-0.3**
	baz=86						
COLA	**College**	**86.05 18**		*i* P	**P**	**13 46 48.4**	**-0.5**
COLA	**College**	**86.05 18**		P	**P**	**13 46 47.2**	**-1.7**
COLA				pmax	pmax		
	comp=Z,160nm,1.0s,mb5.9						
R05C	**Kirkwood Meado**	**86.11 49**	⇓	P	**P**	**13 46 49.5**	**-0.4**
	baz=86						
L04A	**Klamath Falls**	**86.15 45**	⇓	P	**P**	**13 46 50.0**	**+0.1**
	baz=86						
HELL	**Mitchell Peak**	**86.16 51**	⇑	P	**P**	**13 46 49.7**	**-0.5**
	baz=86						
KCC	**Kaiser Creek**	**86.17 50**	⇑	P	**P**	**13 46 50.1**	**-0.1**
	baz=86						
COR	**Corvallis**	**86.17 42**		PFAKE		13 47 00.0	+10
COR				LR	LR		
	comp=Z,6μm,20.0s						
EDW2	**Edwards Air Fo**	**86.31 53**	⇑	P	**P**	**13 46 50.9**	**0.0**
	baz=86						
BEKR	**Beckwourth**	**86.34 47**	⇓	P	**P**	**13 46 50.8**	**-0.1**
	baz=86						
BFSC	**Mount Baldy St**	**86.35 53**	⇓	P	**P**	**13 46 50.8**	**-0.3**
	baz=86						
ELFS	**Eagle Lake Fie**	**86.36 47**	⇑	P	**P**	**13 46 51.2**	**+0.2**
	baz=86						
J04A	**Umpqua Nationa**	**86.42 44**	⇑	P	**P**	**13 46 51.5**	**+0.3**
	baz=87						
I04A	**Tendick Farm,**	**86.44 43**	⇓	P	**P**	**13 46 51.6**	**+0.3**
	baz=87						
R06C	**Coleville**	**86.50 49**	⇓	P	**P**	**13 46 51.4**	**-0.4**
	baz=87						
WCN	**Washoe City**	**86.56 48**	⇑	P	**P**	**13 46 52.0**	**0.0**
	baz=87						
R07C	**Lee Vining**	**86.64 49**	⇓	P	**P**	**13 46 52.4**	**-0.1**
	baz=87						
MTUM	**Tungsten Hills**	**86.74 50**		*e*P	**P**	**13 46 53.2**	**+0.3**
LRMC	**Laurel Mountai**	**86.75 52**	⇓	P	**P**	**13 46 53.3**	**+0.3**
	baz=87						
CWC	**Cottonwood Cre**	**86.78 51**	⇑	P	**P**	**13 46 52.6**	**-0.6**
	baz=87						
O06A	**Flanigan**	**86.83 47**	⇓	P	**P**	**13 46 53.4**	**+0.1**
	baz=87						
MOY	**Mondy**	**86.87 325**		*e*P	**P**	**13 46 52.6**	**-0.6**
MOY				pmax	pmax		
	comp=Z,123nm,2.6s,mb5.4						

MONP	Monument Peak	86.88	55	⇑P		P	13 46 53.4 -0.4
	baz=87						
H04A	Detroit Lake	86.94	42	⇑P		P	13 46 54.7 +0.9
	baz=87						
NLWA	Neilton Lookou	86.97	40	PFAKE			13 47 00.0 +6.2
NLWA				LR	LR		
	comp=Z,3μm,20.0s						
J05A	Fort Rock	87.02	44	⇓P		P	13 46 54.7 +0.5
	baz=87						
N06A	Buffalo Meadow	87.03	47	⇓P		P	13 46 55.0 +0.6
	baz=87						
K05A	Summer Lake	87.04	45	⇑P		P	13 46 54.0 -0.3
	baz=87						
DVTC	Desert V Tower	87.06	55	⇑P		P	13 46 54.9 +0.2
	baz=87						
S08C	White Mtn Res	87.08	50	⇑P		P	13 46 54.0 -0.6
	baz=87						
PFO	Pinyon Flat Ob	87.08	54	PFAKE			13 47 10.0 +15
PFO				LR	LR		
	comp=Z,15μm,20.0s						
MPMC	Manual Prospec	87.10	52	⇓P		P	13 46 54.2 -0.5
	baz=87						
MOD	Modoc	87.14	46	*e*P		P	13 46 54.9 +0.2
	comp=Z,27nm,1.0s,mb5.1						
MOD				LR	LR		
	comp=Z,12μm,22.0s						
MOD	Modoc	87.14	46	⇑P		P	13 46 55.4 +0.7
	baz=87						
NVAR	Mina Array Bea	87.31	49	P		P	13 46 54.5 -1.1
	comp=Z,1.6nm,0.7s,baz=228,slow=4.5,SNR=12						
NVAR				PKKPbc	PKKPbc		14 04 46.5 -0.9
	comp=Z,1.6nm,0.7s,baz=75,slow=4.3,SNR=8.4						
NVAR				PKPPKP			14 12 47.5
	comp=Z,0.9nm,0.9s,baz=89,slow=3.8,SNR=5.2						
GSC	Goldstone	87.37	53	PFAKE			13 47 10.0 +14
GSC				LR	LR		
	comp=Z,5μm,19.0s						
SWSC	Sam W. Stewart	87.39	55	⇑P		P	13 46 56.2 0.0
	baz=88						
R08A	Mina	87.42	49	⇓P		P	13 46 56.5 +0.3
	baz=88						
K06A	Valley Falls	87.51	45	⇓P		P	13 46 56.7 +0.2
	baz=88						
BELC	Belle Mtn.	87.57	54	⇓P		P	13 46 56.8 -0.2
	baz=88						
HEC	Hector,Ludlow	87.58	53	⇑P		P	13 46 57.2 +0.1
	baz=88						
N07B	Gerlach	87.66	47	⇑P		P	13 46 57.8 +0.5
	baz=88						
BOK	Bokaro	87.66	295	*e*P		P	13 46 58.1 +0.4
C04A	Brinnon	87.66	39	⇓P		P	13 46 57.8 +0.6
	baz=88						
FURC	Furnace Creek,	87.72	52	⇓P		P	13 46 57.4 -0.3
	baz=88						
G05A	Wamic	87.73	42	⇑P		P	13 46 57.5 0.0
	baz=88						
M07A	Soldier Meadow	87.74	46	⇓P		P	13 46 57.9 +0.3
	baz=88						
J06A	Christmas Vall	87.74	44	⇓P		P	13 46 58.1 +0.4
	baz=88						
L07A	Adell	87.85	46	⇑P		P	13 46 58.7 +0.5
	baz=88						
S09A	Goldfield	87.86	50	⇑P		P	13 46 58.4 0.0
	baz=88						
F05A	White Salmon	87.88	42	⇑P		P	13 46 58.9 +0.7
	baz=88						
BC3	Big Chuckw Mtn	87.89	55	⇑P		P	13 46 58.3 -0.3
	baz=88,SNR=6.5						
E05A	Randle	87.96	41	⇑P		P	13 46 59.0 +0.4
	baz=88						
I06A	Prineville	87.96	44	⇓P		P	13 46 58.8 +0.1
	baz=88						
SHOC	Shoshone	87.97	52	⇓P		P	13 46 59.0 +0.1
	baz=88						
EGAK	Eagle	88.06	20	PFAKE			13 47 10.0 +11
EGAK				LR	LR		
	comp=Z,1μm,19.0s						
PALK	Pallekele	88.07	278	*e*P		P	13 47 00.5 +0.6
	comp=Z,192nm,1.2s,mb6.0						
PALK				LR	LR		
	comp=Z,3μm,22.0s						
GMRC	Granite Mounta	88.09	54	⇑P		P	13 46 59.0 -0.5
	baz=88						
TUQ	Turquoise Mtn.	88.09	53	⇓P		P	13 46 59.3 -0.2
	baz=88						
U10A	Ash Meadows, A	88.10	52	⇓P		P	13 46 59.1 -0.4
	baz=88						
R09A	Tonopah	88.15	50	⇑P		P	13 46 59.4 -0.4
	baz=88						
K07A	Rock Creek Ran	88.15	45	⇑P		P	13 46 59.5 -0.1
	baz=88,SNR=10.0						
G06A	Carlson Farm,	88.17	42	⇑P		P	13 47 00.1 +0.5
	baz=88						
H06A	Lindquist Farm	88.18	43	⇓P		P	13 47 00.3 +0.6
	baz=88						
GLA	Glamis	88.20	55	*e*P		P	13 47 00.6 +0.6
	comp=Z,45nm,1.0s,mb5.5						
GLA				LR	LR		
	comp=Z,12μm,19.0s						
GLA	Glamis	88.20	55	*e*P		P	13 47 00.6 +0.5
GLA				pmax	pmax		
	comp=Z,45nm,1.0s,mb5.5						
GLA				MLR	MLR		
	comp=Z,12μm,19.0s						
GLA	Glamis	88.20	55	⇑P		P	13 47 00.4 +0.3
	baz=88						
DAWY	Dawson	88.20	21	*e*P		P	13 46 58.7 -0.6
A04A	Legoe Bay, Lum	88.23	39	⇑P		P	13 47 00.7 +0.9
	baz=88						
F06A	Goldendale	88.28	42	⇑P		P	13 47 01.4 +1.3
	baz=88						
VIS	Vishakhapatnam	88.29	289	*e*P		P	13 46 59.0 -1.8
IRM	Iron Mountain	88.29	54	⇓P		P	13 47 00.8 +0.4
	baz=88,SNR=6.9						
M08A	Happy Creek Ra	88.31	47	⇓P		P	13 47 01.1 +0.7
	baz=88						
TPNV	Topopah Spring	88.34	51	*e*P		P	13 47 02.3 +1.7
	comp=Z,4.1nm,0.8s,mb4.5						
TPNV				LR	LR		
	comp=Z,5μm,22.0s						
TPNV	Topopah Spring	88.34	51	*e*P		P	13 47 02.3 +1.7
TPNV				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.5						
TPNV				MLR	MLR		
	comp=Z,5μm,22.0s						
TPNV	Topopah Spring	88.34	51	⇑P		P	13 47 01.6 +0.9
	baz=88						
J07A	Hines	88.36	44	⇑P		P	13 47 01.4 +0.8
	baz=88						
S10A	Tonopah Range,	88.40	50	⇓P		P	13 47 01.0 +0.1
	baz=88,SNR=11						
B05A	Bryant	88.42	39	⇑P		P	13 47 01.7 +1.0
	baz=89						
E06A	Yakima	88.45	41	⇓P		P	13 47 01.2 +0.3
	baz=89						
C05A	Tolt Reservoir	88.45	40	⇓P		P	13 47 01.1 +0.2
	baz=89						
WVOR	Wild Horse Val	88.48	46	P		P	13 47 01.1 -0.1
WVOR				pmax	pmax		
	comp=Z,84nm,1.3s,mb5.6						
I07A	Izee	88.49	44	P		P	13 47 01.1 0.0
	baz=89,SNR=10						
JIRN	Jiri	88.51	299	*e*P		P	13 47 02.6 +0.9
	comp=Z,138nm,0.5s,mb6.2						
L08A	Fields	88.60	46	⇓P		P	13 47 01.5 -0.2
	baz=89						
H07A	Lands Inn, Kim	88.63	43	⇓P		P	13 47 01.4 -0.4
	baz=89						
K08A	Mann Creek Ran	88.69	45	⇓P		P	13 47 02.5 +0.4
	baz=89						
O09A	Fish Creek Ran	88.72	48	⇓P		P	13 47 02.9 +0.6
	baz=89						
R10A	Warm Springs	88.74	50	⇓P		P	13 47 02.9 +0.4
	baz=89						
G07A	Ruggs Ranch, H	88.81	43	⇓P		P	13 47 03.0 +0.4
	baz=89						
GUN	Gumba	88.84	299	*e*P		P	13 47 03.7 +0.5
	comp=Z,378nm,0.9s,mb6.4						
J08A	Circle Bar Ran	88.92	45	⇑P		P	13 47 03.3 0.0
	baz=89,SNR=16						
S11A	Rachel	88.94	51	⇑P		P	13 47 03.4 0.0
	baz=89						
SYO	Syowa Base	88.98	197	⇓*i*P		P	13 47 00.8 -2.3
SYO	Syowa Base	88.98	197	⇓*i*P		P	13 47 04.2 +1.1
I08A	Drewsey	89.05	44	⇑P		P	13 47 04.4 +0.5
	baz=89						
A06A	Chilliwack	89.13	39	⇓P		P	13 47 04.7 +0.7
	baz=89						
PDMCI	Parker Dam,Lak	89.13	54	⇑P		P	13 47 04.8 +0.3
	baz=89						
PKIN	Phulchoki	89.16	299	*e*P		P	13 47 04.7 0.0
H08A	Prairie City	89.20	44	⇑P		P	13 47 04.1 -0.4
	baz=89						
K09A	Rome	89.21	46	⇑P		P	13 47 04.3 -0.2
	baz=89						
T11A	Corn Creek, Al	89.21	51	⇑P		P	13 47 04.4 -0.3
	baz=89						
Y13A	Salome	89.23	55	⇑P		P	13 47 05.0 +0.1
	baz=89						
O10A	Cortez Mining,	89.26	48	⇓P		P	13 47 04.5 -0.3
	baz=89						
G08A	Pilot Rock	89.29	43	P		P	13 47 04.6 -0.3
	baz=89,SNR=18						
R11A	Troy Canyon, C	89.29	50	⇑P		P	13 47 05.1 0.0
	baz=89						
HAWA	Hanford	89.32	42	*e*P		P	13 47 06.5 +1.5
	comp=Z,78nm,1.5s,mb5.5						
HAWA				LR	LR		
	comp=Z,4μm,22.0s						
KKN	Kakani	89.32	299	*e*P		P	13 47 05.5 0.0
	comp=Z,250nm,0.7s,mb6.3						
Q11A	Duckwater	89.40	50	⇓P		P	13 47 05.5 -0.1
	baz=90,SNR=17						
J09A	Fry Pan Ranch,	89.41	45	⇑P		P	13 47 05.5 0.0
	baz=90						
DMN	Daman	89.42	299	*e*P		P	13 47 06.1 +0.2
	comp=Z,491nm,0.7s,mb6.6						
C07A	Waterville	89.46	40	⇓P		P	13 47 05.6 -0.1
	baz=90						
X13A	Yucca	89.46	54	⇓P		P	13 47 05.7 -0.3
	baz=90						
U12A	Valley of Fire	89.48	52	⇑P		P	13 47 05.9 -0.1
	baz=90						
TIXI	Tiksi	89.49	349	⇑*e*P		P	13 47 04.5 -0.7
TIXI				LR	LR		
	comp=Z,10μm,21.0s						
TIXI	Tiksi	89.49	349	*c i*P		P	13 47 04.1 -1.1
TIXI				*i* S	SKSac		13 57 23.1 -6.0
TIXI				*i*			13 57 50.7
TIXI				*e*SP	SP		13 58 54.2 -0.9
TIXI				*e*SSS			14 07 20.1
TIXI				pmax	pmax		
	comp=Z,27nm,1.0s,mb5.2						
TIXI				MLR	MLR		
	comp=Z,5μm,19.0s						
TIXI				MLR	MLR		
	comp=N,2μm,18.0s						
TIXI				MLR	MLR		
	comp=E,4μm,19.0s						
W13A	Hualapai Mount	89.57	54	⇓P		P	13 47 06.0 -0.5
	baz=90						
S12A	Delamar Landin	89.61	51	⇓P		P	13 47 06.8 +0.2
	baz=90						
I09A	Lost Marbles R	89.64	44	⇑P		P	13 47 06.6 0.0
	baz=90,SNR=7.4						
M10A	I.L. Ranch, Tu	89.64	47	⇑P		P	13 47 06.7 +0.1
	baz=90,SNR=8.1						
E08A	Dider Farm, El	89.66	42	⇓P		P	13 47 06.9 +0.4
	baz=90						
B07A	Winthrop	89.71	40	⇑P		P	13 47 07.1 +0.3
	baz=90						
V13A	Grand Canyon W	89.72	53	⇓P		P	13 47 06.9 -0.2
	baz=90,SNR=5.7						
A07A	Ashnola River,	89.77	39	⇑P		P	13 47 07.4 +0.3
	baz=90						
O11A	Cowboy Ranch,	89.81	48	P		P	13 47 07.6 +0.1
	baz=90,SNR=14						
K10A	MacKenzie Ranc	89.83	46	P		P	13 47 07.3 -0.1
	baz=90,SNR=11						
L10A	Juniper Basin	89.87	46	⇓P		P	13 47 08.0 +0.3
	baz=90,SNR=10.0						
U13A	Pakoon Wash	89.91	52	⇓P		P	13 47 08.1 0.0
	baz=90						
Y14A	Wickenburg	89.92	55	⇑P		P	13 47 07.8 -0.3
	baz=90						
GKN	Gorkha	89.92	299	*e*P		P	13 47 07.7 -0.6
	comp=E,331nm,0.8s,mb6.5						
H09A	Durkee	89.93	44	⇑P		P	13 47 07.9 +0.1
	baz=90						
D08A	Wollman Farm,	89.95	41	⇓P		P	13 47 07.8 -0.1
	baz=90						
MDRS	Chennai	89.96	283	*ex*	x		13 46 14.5
R12A	Pony Springs,	90.02	50	⇓P		P	13 47 08.7 +0.2
	baz=90						
F09A	S2 Ranch, Elgi	90.13	43	⇓P		P	13 47 09.2 +0.5
	baz=90						
C08A	Higginbotham F	90.13	40	⇑P		P	13 47 09.3 +0.5
	baz=90						
M11A	Holland Ranch,	90.14	47	⇑P		P	13 47 09.5 +0.6
	baz=90,SNR=7.8						
T13A	Saint George	90.14	52	⇑P		P	13 47 09.4 +0.3
	baz=90						
P12A	McGill	90.15	49	⇓P		P	13 47 09.2 +0.1
	baz=90						
B08A	Colville Reser	90.16	40	⇓P		P	13 47 09.1 +0.2
	baz=90						
X14A	Yava	90.17	55	⇓P		P	13 47 09.3 +0.1
	baz=90						
115A	Sonoran Desert	90.18	56	⇓P		P	13 47 09.8 +0.4
	baz=90						
BMO	Blue Mountains	90.23	44	*e*P		P	13 47 07.9 -1.4
	comp=E,52nm,1.4s,mb5.5						
BMO				LR	LR		
	comp=Z,8μm,22.0s						
BMO	Blue Mountains	90.23	44	*e*P		P	13 47 07.9 -1.4
BMO				pmax	pmax		
	comp=Z,52nm,1.4s,mb5.5						
BMO				MLR	MLR		
	comp=Z,8μm,22.0s						
W14A	Seligman	90.23	54	⇓P		P	13 47 09.4 -0.2
	baz=90						
E09A	Wood Farm, Sta	90.25	42	⇑P		P	13 47 09.2 -0.1
	baz=90						
I10A	Payette	90.31	44	⇓P		P	13 47 10.1 +0.4
	baz=90						
V14A	Boquillas Ranc	90.34	53	⇓P		P	13 47 09.5 -0.5
	baz=90						
D09A	Jones Farm, Ri	90.34	41	⇑P		P	13 47 10.0 +0.2
	baz=90						
S13A	Holt Ranch, En	90.35	51	⇓P		P	13 47 10.0 -0.1
	baz=90						
L11A	Cat Creek Ranc	90.40	47	P		P	13 47 10.2 +0.1
	baz=90,SNR=17						
K11A	Parker Ranch,	90.41	46	⇓P		P	13 47 10.0 -0.2
	baz=90						
A08A	Turner Farm, O	90.42	39	⇓P		P	13 47 09.7 -0.3
	baz=91						
Y15A	Casa Rosa Ranc	90.46	55	⇓P		P	13 47 10.2 -0.4
	baz=91						
N12A	Clover Valley,	90.49	48	⇓P		P	13 47 10.8 +0.2
	baz=91,SNR=6.4						
G10A	Bishop Farm, J	90.50	43	⇓P		P	13 47 10.4 -0.2
	baz=91						
U14A	Mt Trumbull	90.52	53	⇓P		P	13 47 10.9 0.0
	baz=91						
H10A	Noah's Angus R	90.52	44	⇑P		P	13 47 10.2 -0.5
	baz=91						
O12A	Currie	90.52	49	P		P	13 47 10.8 0.0
	baz=91,SNR=6.9						
116A	Eloy	90.56	57	⇓P		P	13 47 11.2 0.0
	baz=91						
216A	Three Points,	90.60	57	⇑P		P	13 47 11.1 -0.3
	baz=91						
Q13A	Wheeler Ranch,	90.65	50	⇑P		P	13 47 10.9 -0.5
	baz=91						
F10A	Beach Ranch, E	90.67	43	⇓P		P	13 47 10.9 -0.4
	baz=91						
X15A	Humboldt	90.69	55	⇑P		P	13 47 11.4 -0.3
	baz=91						
CCUT	Cedar City	90.71	51	*e*P		P	13 47 12.1 +0.4
ARUT	Antelope Range	90.73	51	*e*P		P	13 47 11.1 -0.7
KOLN	Koldanda	90.74	298	*e*P		P	13 47 11.3 -0.8
	comp=Z,99nm,1.0s,mb5.9						
MFID	Camas Ranch	90.76	45	⇑P		P	13 47 11.6 -0.1
	baz=91						
M12A	Wells	90.76	47	⇑P		P	13 47 11.5 -0.3
	baz=91						
DANN	Dangsing	90.76	299	*e*P		P	13 47 11.4 -0.8
	comp=Z,135nm,0.6s,mb6.3						
T14A	Hurricane	90.78	52	⇑P		P	13 47 11.3 -0.7
	baz=91						
P13A	Bates Ranch, G	90.80	50	⇑P		P	13 47 11.8 -0.3
	baz=91,SNR=14						
I11A	Placerville	90.83	45	⇑P		P	13 47 11.2 -0.9
	baz=91						
A09A	Danville	90.85	39	⇓P		P	13 47 12.6 +0.5
	baz=91						
W15A	Williams	90.86	54	⇑P		P	13 47 11.7 -0.8
	baz=91						
E10A	Myers Farm, Un	90.92	42	⇓P		P	13 47 13.1 +0.7
	baz=91						
L12A	House Creek Ra	90.92	47	⇓P		P	13 47 13.5 +0.9
	baz=91						
B09A	Rice	90.92	40	⇓P		P	13 47 12.9 +0.5
	baz=91						
H11A	Donnelly	91.05	44	⇑P		P	13 47 13.4 +0.3
	baz=91						
217A	Green Valley	91.06	58	⇓P		P	13 47 13.5 0.0
	baz=91						
G11A	Walters Elk Ra	91.11	43	⇓P		P	13 47 12.7 -0.7
	baz=91						
Y16A	Circle Bar Ran	91.12	55	⇑P		P	13 47 13.2 -0.5
	baz=91						
V15A	Kaibab Nationa	91.12	53	⇑P		P	13 47 13.6 0.0
	baz=91						
K12A	Draper Farm, C	91.15	46	⇓P		P	13 47 13.7 +0.1
	baz=91						
J12A	Stokes Ranch,	91.21	46	⇓P		P	13 47 14.0 +0.1
	baz=91						
M13A	Montello	91.28	48	⇑P		P	13 47 14.2 -0.1
	baz=91						
X16A	Lo Mia Camp, P	91.30	55	⇑P		P	13 47 14.6 0.0
	baz=91						
F11A	Grangeville	91.34	43	⇓P		P	13 47 14.1 -0.3
	baz=92						
117A	Oracle	91.35	57	⇑P		P	13 47 14.5 -0.3
	baz=92						
E11A	Bogner Ranch,	91.46	42	⇓P		P	13 47 14.4 -0.6
	baz=92						
A10A	Northport	91.48	40	⇓P		P	13 47 15.2 +0.1
	baz=92						
NEW	Newport	91.51	40	*e*P		P	13 47 15.3 +0.2
	comp=Z,30nm,1.7s,mb5.2						
NEW	Newport	91.51	40	*e*P		P	13 47 15.3 +0.1
NEW				pmax	pmax		
	comp=Z,30nm,1.7s						
SALM	Salem	91.55	282	*e*P		P	13 47 17.0 +0.9
Y17A	Roosevelt	91.57	56	⇑P		P	13 47 15.0 -0.9
	baz=92						
D11A	Klaveano Farm,	91.61	42	⇑P		P	13 47 15.2 -0.4
	baz=92						
318A	Bisbee	91.65	58	⇓P		P	13 47 15.9 -0.3
	baz=92						
WUAZ	Wupatki	91.66	54	*e*P		P	13 47 16.5 +0.4
	comp=Z,22nm,1.0s,mb5.3						
K13A	Stover Farm, H	91.73	46	⇓P		P	13 47 16.5 +0.2
	baz=92						
218A	Dragoon	91.75	58	⇓P		P	13 47 16.6 -0.1
	baz=92						
HLID	Hailey	91.78	46	⇑P		P	13 47 16.2 -0.3
	baz=92						
X17A	Forest Lakes	91.78	55	⇑P		P	13 47 16.2 -0.6
	baz=92						
H12A	Diamond D Ranc	91.78	44	⇑P		P	13 47 16.0 -0.5
	baz=92						
MSU	Marysvale	91.89	51	*e*P		P	13 47 17.6 +0.4
J13A	Cove Ranch, Pi	91.89	46	⇓P		P	13 47 17.1 +0.1
	baz=92						
F12A	Elk City	91.90	43	⇑P		P	13 47 17.0 0.0
	baz=92						
KOD	Kodaikanal	91.90	280	*e*P		P	13 47 17.0 -0.8
M14A	Sheep Mountain	91.91	48	⇑P		P	13 47 17.2 0.0
	baz=92						
DUG	Dugway	91.91	49	*e*P		P	13 47 18.7 +1.5
	comp=Z,38nm,1.5s,mb5.4						
DUG	Dugway	91.91	49	*e*P		P	13 47 18.7 +1.5
DUG				pmax	pmax		
	comp=Z,38nm,1.5s,mb5.4						
BGU	Big Grassy Mou	91.96	48	*e*P		P	13 47 16.7 -0.7
TRD	Trivandrum	91.97	278	*e*P		P	13 47 17.1 -1.0
TRD				AMb	AMB		13 47 21.8
	comp=Z,101nm,1.3s,mb5.9						
118A	Homack Ranch,	91.99	57	⇓P		P	13 47 17.6 -0.2
	baz=92						
B11A	Sandpoint	92.04	40	⇓P		P	13 47 18.0 +0.3
	baz=92						
I13A	Wildhorse Cree	92.09	45	⇑P		P	13 47 18.4 +0.5
	baz=92						
WMQ	Urumqi	92.15	315	P		P	13 47 18.3 +0.1
WMQ				AP	pP		13 47 39.0 +1.9
WMQ				PP	PP		13 51 02.0 +2.7
WMQ				SKS			13 57 43.0
WMQ				S	S		13 58 12.0 -3.4
WMQ				SS	SS		14 04 27.0 +0.2
WMQ				AMB	AMB		
	comp=Z,83nm,1.4s,mb5.8						
WMQ				AMB	AMB		
	comp=Z,2μm,5.8s						
WMQ				LR	LR		
	comp=N,3μm,22.5s						
WMQ				LR	LR		
	comp=E,6μm,20.2s						
WMQ				LR	LR		
	comp=Z,6μm,25.0s						
H13A	Challis	92.20	45	⇓P		P	13 47 18.7 +0.2
	baz=92						
319A	Douglas	92.22	58	⇑P		P	13 47 18.9 0.0
	baz=92						
A11A	Hall Mountain,	92.22	40	⇓P		P	13 47 18.8 +0.4
	baz=92						
Y18A	Canyon Day Jun	92.24	56	⇑P		P	13 47 18.9 0.0
	baz=92						
PMSA	Palmer Station	92.29	161	P		P	13 47 17.7 -0.9
PMSA				*e*P			13 47 18.1
PMSA				LR	LR		
	comp=Z,5μm,21.0s						
PMSA	Palmer Station	92.29	161	P		P	13 47 17.7 -0.9
	comp=Z,34nm,0.7s,mb5.7,baz=252,slow=3.6,SNR=8.3						
K14A	Jones Ranch, D	92.34	47	⇑P		P	13 47 19.2 0.0
	baz=92						
G13A	Cobalt	92.37	44	⇓P		P	13 47 19.3 +0.1
	baz=92						
HVU	Hansel Valley	92.40	48	*e*P		P	13 47 21.7 +2.3
	comp=Z,17nm,1.3s,mb5.1						
HVU	Hansel Valley	92.40	48	*e*P		P	13 47 21.7 +2.3
HVU				pmax	pmax		
	comp=Z,17nm,1.3s,mb5.1						
219A	White Tail Can	92.40	58	⇑P		P	13 47 19.0 -0.7
	baz=92						
X18A	Snowflake	92.51	55	⇑P		P	13 47 19.5 -0.6
	baz=93						
F13A	Darby	92.52	43	⇓P		P	13 47 19.9 0.0
	baz=93						
M15A	Larsen Ranch,	92.54	48	⇑P		P	13 47 20.0 -0.1
	baz=93						
119A	Ashpeak Ranch,	92.57	57	⇓P		P	13 47 20.6 +0.2
	baz=93						
HYB	Hyderabad	92.62	287	*e*P		P	13 47 20.5 -0.5
	comp=Z,110nm,1.0s,mb6.1						
HYB				*e*	pP		13 47 43.0 +3.2
HYB				*e*SKS			13 57 42.0
HYB				*e*S	S		13 58 14.0 -6.6
HYB	Hyderabad	92.62	287	*e*P		P	13 47 20.5 -0.5
HYB				*e*	pP		13 47 43.0 +3.2
HYB				*e*			13 57 42.0
HYB				*e*S	S		13 58 14.0 -6.6
HYB				pmax	pmax		
	comp=Z,110nm,1.0s,mb6.1						
HYB	Hyderabad	92.62	287	*i* P		P	13 47 20.5 -0.5
	comp=Z,110nm,1.0s,mb6.1						
HYB				*e*sP	sP		13 47 43.0 -4.2
HYB				*e*SKS			13 57 48.0
HYB				*e*S	S		13 58 20.0 -0.6
INK	Inuvik	92.63	19	*e*P		P	13 47 18.2 -1.6
	comp=Z,407nm,1.1s,mb6.7						
INK	Inuvik	92.63	19	*e*P		P	13 47 18.3 -1.6
INK				pmax	pmax		
	comp=Z,407nm,1.1s						
INK	Inuvik	92.63	19	PKPPKP			14 12 39.1
	baz=54,slow=3.0						
INK				LR	LR		14 23 05.4
	comp=Z,16μm,21.9s,baz=221,slow=32						
MPU	Maple Canyon	92.72	50	PFAKE			13 47 30.0 +9.0
MPU				LR	LR		
	comp=Z,25μm,20.0s						
E13A	Victor	92.81	43	⇑P		P	13 47 21.6 +0.4
	baz=93						
Y19A	Nutrioso	92.92	56	⇑P		P	13 47 22.

MSO	**Missoula**	**93.09**	**42**	PFAKE		13 47 30.0	+7.5
MSO				LR	LR		
comp=Z,4μm,19.0s							
HWUT	**Hardware Ranch**	**93.22**	**48**	PFAKE		13 47 30.0	+6.8
HWUT				LR	LR		
comp=Z,10μm,22.0s							
B13A	**Whitefish**	**93.22**	**41**	⇑P	**P**	**13 47 23.8**	**+0.7**
baz=93							
E14A	**Clinton**	**93.27**	**43**	⇑P	**P**	**13 47 23.6**	**+0.2**
baz=93							
NVL	**N'lazarevskaya**	**93.40**	**188**	*c iP*	**P**	**13 47 23.7**	**+0.1**
NVL				*e*		13 51 12.3	
NVL				*e*S	SKSac	13 57 50.8	-0.9
NVL				pmax	pmax		
comp=Z,184nm,0.9s,mb6.4							
MAIT	**Maitri**	**93.41**	**188**	⇓*iP*	**P**	**13 47 20.8**	**-2.8**
D14A	**Greenough**	**93.45**	**42**	⇓P	**P**	**13 47 24.2**	**0.0**
baz=94							
DLMT	**Dillon**	**93.56**	**44**	*e*P	**P**	**13 47 25.9**	**+1.2**
comp=Z,37nm,1.4s,mb5.5							
CHMT	**Chamberlain Mo**	**93.57**	**43**	*e*P	**P**	**13 47 27.6**	**+2.9**
G15A	**Dillon**	**93.57**	**44**	⇑P	**P**	**13 47 24.6**	**-0.2**
baz=94							
F15A	**Butte**	**93.76**	**44**	⇑P	**P**	**13 47 25.3**	**-0.3**
baz=94							
AHID	**Auburn Hatcher**	**93.87**	**47**	PFAKE		13 47 40.0	+14
AHID				LR	LR		
comp=Z,10μm,21.0s							
SNAA	**Sanae**	**93.94**	**183**	*e*P	**P**	**13 47 25.0**	**-1.0**
SNAA				*e*		13 47 26.4	
SNAA				*e*		13 47 28.7	
SNAA				*e*		13 47 34.5	
SNAA				*e*	pP	13 47 44.8	-0.1
SNAA				*e*		13 47 54.4	
LGTI	**Lohaghat**	**94.02**	**299**	*e*P	**P**	**13 47 27.0**	**-0.2**
PTH	**Pithoragarh**	**94.07**	**299**	*e*P	**P**	**13 47 27.1**	**-0.4**
D15A	**Lincoln**	**94.09**	**43**	⇑P	**P**	**13 47 27.1**	**0.0**
baz=94							
BOZ	**Bozeman (W)**	**94.29**	**44**	PFAKE		13 47 40.0	+12
BOZ				LR	LR		
comp=Z,6μm,20.0s							
BOZ	**Bozeman (W)**	**94.29**	**44**	⇑P	**P**	**13 47 27.7**	**-0.3**
baz=94							
MVCO	**Mesa Verde**	**94.34**	**53**	PFAKE		13 47 40.0	+11
MVCO				LR	LR		
comp=Z,11μm,20.0s							
YMR	**Madison River**	**94.48**	**45**	PFAKE		13 47 40.0	+11
YMR				LR	LR		
comp=Z,11μm,22.0s							
VNA3	**Neumayer Olymp**	**94.62**	**181**	*e*P	**P**	**13 47 27.9**	**-1.3**
VNA3				*e*		13 47 29.3	
VNA3				*e*		13 47 32.4	
VNA3				*e*	pP	13 47 49.4	+1.4
VNA3				*e*		13 47 56.0	
LATR	**Latur**	**94.70**	**288**	*e*P	**P**	**13 47 29.9**	**-0.6**
LATR				AMb	AMB	13 47 32.4	
comp=Z,72nm,1.5s,mb5.9							
AKL	**Akola**	**94.81**	**290**	*e*P	**P**	**13 47 30.5**	**-0.5**
LKWY	**Lake**	**94.84**	**45**	PFAKE		13 47 40.0	+9.4
LKWY				LR	LR		
comp=Z,19μm,20.0s							
VNA2	**Neumayer--Watz**	**94.88**	**182**	*e*P	**P**	**13 47 29.3**	**-1.1**
VNA2				*e*		13 47 30.7	
VNA2				*e*		13 47 33.2	
VNA2				*e*		13 47 37.5	
VNA2				*e*	pP	13 47 51.0	+1.8
VNA2				*e*		13 47 57.6	
VNA2				*e*		13 52 11.8	
BW06	**Boulder Array**	**94.96**	**47**	PFAKE		13 47 40.0	+8.8
BW06				LR	LR		
comp=Z,8μm,20.0s							
PDAR	**Pinedale Array**	**94.96**	**47**	P	**P**	**13 47 30.4**	**-0.9**
comp=Z,0.6nm,0.5s,baz=206,slow=3.4,SNR=6.2							
PDAR				PKiKP	PKiKP	13 52 13.8	+1.1
comp=Z,1.0nm,1.0s,baz=220,slow=0.7,SNR=3.9							
PDAR				PKKP	PKKPbc	14 04 26.1	-1.9
comp=Z,3.2nm,0.7s,baz=132,slow=2.2,SNR=9.5							
PDAR				PKPPKP		14 12 38.4	
comp=Z,2.0nm,1.2s,baz=194,slow=0.7,SNR=6.7							
PDAR				LR	LR	14 24 51.2	
comp=Z,7μm,20.9s,baz=260,slow=32							
BHPL	**Bhopal**	**95.02**	**293**	*e*P	**P**	**13 47 31.1**	**-0.9**
MNGI	**Mangalore**	**95.06**	**282**	*i* P	**P**	**13 47 32.1**	**-0.2**
MNGI				AMb	AMB	13 47 33.2	
comp=Z,66nm,1.9s,mb5.8							
MNGI				*i* x	x	13 58 04.8	
BNM	**Barren Site**	**95.08**	**56**	*e*P	**P**	**13 47 31.8**	**-0.2**
VNA1	**Neumayer--Stat**	**95.18**	**182**	*e*P	**P**	**13 47 31.1**	**-0.6**
VNA1				*e*		13 47 32.6	
VNA1				*e*		13 47 35.0	
VNA1				*e*		13 47 40.3	
VNA1				*e*	pP	13 47 47.9	-2.7
VNA1				*e*	pP	13 47 53.2	+2.6
ANMO	**Albuquerque**	**95.40**	**55**	PFAKE		13 47 40.0	+6.6
ANMO				LR	LR		
comp=Z,8μm,20.0s							
MNTX	**Cornudas Mount**	**95.52**	**59**	PFAKE		13 47 40.0	+5.9
MNTX				LR	LR		
comp=Z,4μm,20.0s							
RLMT	**Red Lodge**	**95.76**	**45**	PFAKE		13 47 50.0	+15
RLMT				LR	LR		
comp=Z,8μm,20.0s							
EGMT	**Eagleton**	**96.16**	**42**	PFAKE		13 47 50.0	+13
EGMT				LR	LR		
comp=Z,3μm,19.0s							
NDI	**New Delhi**	**96.42**	**298**	*e*P	**P**	**13 47 35.4**	**-2.8**
NDI				AMb	AMB	13 47 36.2	
comp=Z,42nm,1.0s,mb5.8							
NDI				*e*x	x	13 58 09.0	
TXAR	**Lajitas Array**	**96.44**	**61**	P	**P**	**13 47 38.0**	**-0.3**
comp=Z,0.5nm,0.5s,baz=220,slow=6.6,SNR=7.2							
TXAR				PKKP	PKKPbc	14 04 23.7	+0.2
comp=Z,3.0nm,0.8s,baz=94,slow=4.1,SNR=15							
TXAR				LR	LR	14 21 59.2	
comp=Z,7μm,21.9s,baz=305,slow=30							
MK31	**Makanchi Array**	**96.63**	**316**	*e*P	**P**	**13 47 37.9**	**-0.8**
MKAR	**Makanchi Array**	**96.63**	**316**	P	**P**	**13 47 37.8**	**-0.9**
MKAR				S	SKSac	13 58 08.3	-1.3
MKAR				PKKP	PKKPbc	14 04 21.4	-2.3
MKAR				LR	LR	14 30 54.2	
MKAR	**Makanchi Array**	**96.63**	**316**	P	**P**	**13 47 37.8**	**-0.9**
MKAR				S	SKSac	13 58 08.3	-1.2
MKAR				pmax	pmax		
comp=Z,31nm,0.7s							
MKAR				smax			
comp=N,18nm,1.2s							
MKAR				pmax	pmax		
comp=Z,2.0nm,0.6s							
MKAR				MLR	MLR		
comp=Z,5μm,21.1s							
MKAR	**Makanchi Array**	**96.63**	**316**	P	**P**	**13 47 37.8**	**-0.9**
comp=Z,31nm,0.7s,mb5.9,baz=98,slow=6.1,SNR=177							
MKAR				S	SKSac	13 58 08.3	-1.3
comp=Z,18nm,1.2s,baz=129,slow=1.7,SNR=9.7							
MKAR				PKKP	PKKPbc	14 04 21.4	-2.3
comp=Z,2.3nm,0.6s,baz=279,slow=3.3,SNR=14							
MKAR				LR	LR	14 30 54.2	
comp=Z,5μm,21.1s,baz=99,slow=35							
KAD	**Karad**	**96.65**	**286**	*e*P	**P**	**13 47 39.0**	**-0.5**
SDCO	**Great Sand Dun**	**96.79**	**53**	PFAKE		13 47 50.0	+10
SDCO				LR	LR		
comp=Z,11μm,19.0s							
ZAA0	**Zalesovo Array**	**96.82**	**324**	*e*P	**P**	**13 47 38.4**	**-1.0**
ZALV	**Zalesovo Beam**	**96.82**	**324**	P	**P**	**13 47 37.3**	**-2.1**
ZALV				S	SKSac	13 58 06.7	-3.5
ZALV				PKKP	PKKPbc	14 04 21.3	-2.2
ZALV				LR	LR	14 30 46.9	
ZALV	**Zalesovo Beam**	**96.82**	**324**	P	**P**	**13 47 37.3**	**-2.1**
comp=Z,28nm,0.7s,mb5.8,baz=116,slow=4.8,SNR=73							
ZALV				S	SKSac	13 58 06.7	-3.5
comp=Z,0.7nm,0.4s,baz=113,slow=2.2,SNR=2.6							
ZALV				PKKP	PKKPbc	14 04 21.3	-2.2
comp=Z,1.9nm,0.5s,baz=281,slow=4.1,SNR=6.2							
ZALV				LR	LR	14 30 46.9	
comp=Z,4μm,21.9s,baz=101,slow=35							
ZAL	**Zalesovo**	**96.83**	**324**	P	**P**	**13 47 37.3**	**-2.1**
ZAL				S	SKSac	13 58 06.7	-3.6
USHA	**Ushuaia**	**96.83**	**151**	LR	LR	14 22 46.5	
comp=Z,7μm,21.7s,baz=190,slow=30							
SMLA	**Simla**	**97.00**	**300**	*e*P	**P**	**13 47 39.6**	**-1.2**
SMLA				AMb	AMB	13 47 46.0	
comp=Z,44nm,1.9s,mb5.5							
POO	**Poona**	**97.23**	**287**	*e*P	**P**	**13 47 41.0**	**-1.0**
YKA	**Yellowknife Ar**	**97.37**	**27**	P	**P**	**13 47 40.4**	**-1.2**
YKA				pmax	pmax		
comp=Z,3.0nm,0.5s							
YKA				pmax	pmax		
comp=Z,1.0nm,0.4s							
YKA				pmax	pmax		
comp=Z,5.0nm,0.8s							
YKA				pmax	pmax		
comp=Z,1.0nm,0.8s							
YKA				MLR	MLR		
comp=Z,2μm,19.1s							
YKA	**Yellowknife Ar**	**97.37**	**27**	P	**P**	**13 47 40.4**	**-1.2**
comp=Z,3.3nm,0.5s,mb5.0,baz=256,slow=4.6,SNR=75							
YKA				PKiKP	PKiKP	13 52 17.6	+1.3
comp=Z,0.6nm,0.4s,baz=246,slow=1.4,SNR=8.2							
YKA				PKKP	PKKPbc	14 04 20.0	-2.3
comp=Z,5.0nm,0.8s,baz=73,slow=2.5,SNR=22							
YKA				PKPPKP		14 12 32.0	
comp=Z,0.5nm,0.8s,baz=51,slow=1.5,SNR=7.8							
YKA				LR	LR	14 30 14.0	
comp=Z,2μm,19.1s,baz=250,slow=34							
NVS	**Novosibirsk**	**97.94**	**325**	*e*P	**P**	**13 47 42.7**	**-1.7**
NVS				*e*		13 51 40.7	
NVS				*e*		13 58 13.9	
NVS				pmax	pmax		
comp=Z,77nm,1.9s,mb5.9							
NVS				pmax	pmax		
comp=E,51nm,2.1s							
NVS				pmax	pmax		
comp=E,34nm,2.0s							
NVS				pmax	pmax		
comp=Z,105nm,2.0s,mb6.0							
NVS				smax			
comp=E,301nm,3.9s							
LAO	**LASA Array**	**98.19**	**44**	PFAKE		13 48 00.0	+14
LAO				LR	LR		
comp=Z,7μm,20.0s							
AMTX	**Amarillo**	**99.22**	**56**	PFAKE		13 48 00.0	+9.3
AMTX				LR	LR		
comp=Z,8μm,22.0s							
KURK	**Kurchatov**	**99.83**	**320**	*e*P	Pdif	13 47 51.8	-1.2
KURK				LR	LR		
comp=Z,4μm,21.0s							
TKM2	**Tokmak 2**	**100.50**	**312**	*e*Pdif	Pdif	13 47 58.8	+2.8
comp=Z,2.8nm,0.6s							
TKM2				LR	LR		
comp=Z,4μm,21.0s							
TKM2	**Tokmak 2**	**100.50**	**312**	*e*P	Pdif	13 47 58.8	+2.8
TKM2				pmax	pmax		
comp=Z,3.0nm,0.6s							
TKM2				MLR	MLR		
comp=Z,4μm,21.0s							
KVTX	**Kingsville**	**101.06**	**64**	PFAKE		13 48 10.0	+12
KVTX				LR	LR		
comp=Z,2μm,22.0s							
UCH	**Uchtor**	**101.18**	**311**	*e*Pdif	Pdif	13 47 59.9	+0.9
comp=Z,4.2nm,1.0s							
UCH				LR	LR		
comp=Z,4μm,22.0s							
FRU	**Bishkek**	**101.20**	**311**	*e*P	Pdif	13 48 06.0	+6.9
FRU				*e*		13 52 12.0	
FRU				*e*		13 58 34.0	
FRU				*e*		14 06 36.0	
FRU				pmax	pmax		
comp=Z,25nm,1.9s							
FRU				pmax	pmax		
comp=E,2μm,12.0s							
AAK	**Ala-Archa**	**101.26**	**311**	P	Pdif	13 47 58.6	-0.8
AAK				S	SKSac	13 58 31.9	-1.0
AAK				pmax	pmax		
comp=Z,1.0nm,0.3s							
AAK				smax			
comp=N,1.0nm,0.4s							
AAK				pmax	pmax		
comp=Z,3.0nm,0.5s							
AAK	**Ala-Archa**	**101.26**	**311**	P	Pdif	13 47 58.6	-0.8
comp=Z,1.1nm,0.3s,baz=105,slow=7.5,SNR=5.7							
AAK				S	SKSac	13 58 31.9	-1.1
comp=Z,1.0nm,0.4s,baz=226,slow=23,SNR=15							
AAK				PKKPbc	PKKPbc	14 04 08.9	-1.5
comp=Z,2.6nm,0.5s,baz=219,slow=6.2,SNR=5.9							
CBKS	**Cedar Bluff**	**101.44**	**53**	PFAKE		13 48 10.0	+10
CBKS				LR	LR		
comp=Z,9μm,20.0s							
WMOK	**Wichita Mounta**	**101.55**	**57**	PFAKE		13 48 10.0	+9.4
WMOK				LR	LR		
comp=Z,2μm,19.0s							
AML	**Almayashu**	**101.77**	**311**	*e*Pdif	Pdif	13 48 02.4	+0.8
comp=Z,5.6nm,0.7s							
AML				LR	LR		
comp=Z,3μm,21.0s							
EKS2	**Erkin-Say**	**101.79**	**311**	PFAKE		13 48 10.0	+8.3
EKS2				LR	LR		
comp=Z,4μm,22.0s							
BHJ	**Bhuj**	**102.02**	**291**	*ex*	x	13 47 57.8	
BHJ				AMb	AMB	13 48 11.1	
comp=Z,59nm,1.1s							
FFC	**Flin Flon**	**102.22**	**36**	PFAKE		13 48 10.0	+6.4
FFC				LR	LR		
comp=Z,17μm,22.0s							
HKT	**Hockley**	**103.25**	**62**	PFAKE		13 48 20.0	+12
HKT				LR	LR		
comp=Z,6μm,20.0s							
EFI	**East Falkland**	**103.60**	**153**	PFAKE		13 48 20.0	+10
EFI				LR	LR		
comp=Z,6μm,22.0s							
NATX	**Nacogdoches**	**104.51**	**60**	PFAKE		13 48 30.0	+16
NATX				LR	LR		
comp=Z,7μm,21.0s							
BVAR	**Borovoye Array**	**105.17**	**322**	P	Pdif	13 48 15.6	-1.2
BVAR				S	SKSac	13 58 49.5	-1.1
BVAR				pmax	pmax		
comp=Z,3.0nm,0.7s							
BVAR				pmax	pmax		
comp=Z,4.0nm,0.6s							
BVAR				smax			
comp=N,3.0nm,1.1s							
BVAR				pmax	pmax		
comp=Z,1.0nm,0.5s							
BVAR	**Borovoye Array**	**105.17**	**322**	Pdiff	Pdif	13 48 15.6	-1.1
comp=Z,3.3nm,0.7s,baz=122,slow=5.2,SNR=8.1							
BVAR				PKiKP	PKiKP	13 52 30.7	0.0
comp=Z,4.3nm,0.6s,baz=122,slow=1.8,SNR=13							
BVAR				S	SKSac	13 58 49.5	-1.1
comp=Z,2.8nm,1.1s,baz=106,slow=3.1,SNR=3.7							
BVAR				PKKPbc	PKKPbc	14 03 57.3	-1.8
comp=Z,1.2nm,0.5s,baz=268,slow=5.0,SNR=4.6							
BRVK	**Borovoye**	**105.24**	**322**	*e*Pdif	Pdif	13 48 16.2	-0.9
comp=Z,6.7nm,1.0s							
BRVK				LR	LR		
comp=Z,5μm,20.0s							
BRVK	**Borovoye**	**105.24**	**322**	*e*P	Pdif	13 48 16.2	-0.8
BRVK				pmax	pmax		
comp=Z,7.0nm,1.0s							
BRVK				MLR	MLR		
comp=Z,5μm,20.0s							
AGMN	**Agassiz Refuge**	**105.36**	**43**	PFAKE		13 52 40.0	+8.8
AGMN				LR	LR		
comp=Z,500nm,19.0s							
RES	**Resolute Bay**	**105.89**	**16**	*e*PKPdf	PKiKP	13 52 30.9	-0.5
TEIG	**Tepich**	**108.55**	**73**	PFAKE		13 52 50.0	+12
TEIG				LR	LR		
comp=Z,5μm,22.0s							
HOPE	**Hope Point**	**108.84**	**166**	PFAKE		13 52 50.0	+12
HOPE				LR	LR		
comp=Z,5.0nm,21.0s							
JFWS	**Jewell Farm**	**109.01**	**49**	PFAKE		13 52 50.0	+12
JFWS				LR	LR		
comp=Z,7μm,19.0s							
HDIL	**Hopedale**	**109.63**	**52**	PFAKE		13 52 50.0	+11
HDIL				LR	LR		
comp=Z,2μm,20.0s							
COWI	**Conover**	**109.86**	**46**	PFAKE		13 52 50.0	+10
COWI				LR	LR		
comp=Z,5μm,20.0s							
JTS	**JuntasAbangare**	**109.97**	**84**	PFAKE		13 52 50.0	+9.2
JTS				LR	LR		
comp=Z,6μm,20.0s							
PLAL	**Pickwick Lake**	**110.32**	**58**	PFAKE		13 52 50.0	+9.1
PLAL				LR	LR		
comp=Z,3μm,21.0s							
WVT	**Waverly**	**110.58**	**57**	PFAKE		13 52 50.0	+8.7
WVT				LR	LR		
comp=Z,3μm,19.0s							
TRQA	**Tornquist**	**110.66**	**141**	PFAKE		13 52 50.0	+8.5
TRQA				LR	LR		
comp=Z,2μm,22.0s							
SVE	**Sverdlovsk**	**110.74**	**326**	*e*PKIKP	PKiKP	13 52 39.8	-1.2
NNA	**Nana**	**111.69**	**109**	PFAKE		13 53 00.0	+16
NNA				LR	LR		
comp=Z,3μm,20.0s							
ARU	**Arti**	**111.92**	**325**	⇑*e*PKP	PKiKP	13 52 43.0	-0.2
ARU				LR	LR		
comp=Z,5μm,22.0s							
ARU	**Arti**	**111.92**	**325**	*i* PKIKP	PKiKP	13 52 43.2	0.0
ARU				PPP		13 55 54.7	
ARU						13 59 18.1	
ARU				PS	PS	14 02 54.6	-6.5
ARU				MLR	MLR		
comp=Z,6μm,23.0s							
ABPO	**Ambohimpanom**	**111.95**	**242**	PFAKE		13 53 00.0	+16
ABPO				LR	LR		
comp=Z,11μm,22.0s							
OPO	**Ambohidratompo**	**112.17**	**243**	PKiKP	PKiKP	13 52 44.7	-0.2
comp=Z,4.0nm,0.7s,baz=93,slow=3.7,SNR=9.6							
AKTK	**Aktyubinsk**	**112.89**	**319**	Pdif	Pdif	13 48 51.3	+0.2
AKTK				PKPdf	PKiKP	13 52 44.8	-0.5
AKTK				SKP		13 56 15.1	
AKTO	**Aktyubinsk**	**112.89**	**319**	P	Pdif	13 48 51.3	+0.2
AKTO				*i*		13 52 44.8	
AKTO				pmax	pmax		
comp=Z,1.0nm,0.5s							
AKTO				pmax	pmax		
comp=Z,7.0nm,0.7s							
AKTO				pmax	pmax		
comp=N,5.0nm,0.8s							
AKTO	**Aktyubinsk**	**112.89**	**319**	Pdiff	Pdif	13 48 51.3	+0.2
comp=N,0.5nm,0.5s,baz=13,slow=7.9,SNR=4.4							
AKTO				PKiKP	PKiKP	13 52 44.8	-0.5
comp=N,6.8nm,0.7s,baz=92,slow=2.3,SNR=19							
AKTO				SKP		13 56 15.1	
comp=N,5.2nm,0.8s,baz=81,slow=4.6,SNR=4.5							
AAM	**Ann Arbor**	**113.87**	**50**	PFAKE		13 53 00.0	+13
AAM				LR	LR		
comp=Z,4μm,19.0s							
TZTN	**Tazewell**	**114.05**	**56**	PFAKE		13 53 00.0	+12
TZTN				LR	LR		
comp=Z,10μm,20.0s							
GOGA	**Godfrey**	**114.06**	**60**	PFAKE		13 53 00.0	+12
GOGA				LR	LR		
comp=Z,2μm,21.0s							
KBS	**Kingsbay**	**114.25**	**355**	PFAKE		13 53 00.0	+13
KBS				LR	LR		
comp=Z,6μm,22.0s							
KBS	**Kingsbay**	**114.25**	**355**	*e*SKS	SKSac	13 59 22.9	-4.8
KBS				*e*SS	SS	14 09 31.5	+2.5
KBS				AMS	AMS	14 36 25.7	
comp=Z,3μm,20.9s							
SPB4	**Spitsbergen Ar**	**114.48**	**354**	*e*PKPdf	PKiKP	13 52 47.6	0.0
DWPF	**Disney**	**115.59**	**65**	PFAKE		13 53 00.0	+8.8
DWPF				LR	LR		
comp=Z,1μm,19.0s							
BLA	**Blacksburg**	**116.55**	**55**	PFAKE		13 53 00.0	+7.3
BLA				LR	LR		
comp=Z,2μm,19.0s							
ERPA	**Erie**	**116.60**	**50**	PFAKE		13 53 00.0	+7.3
ERPA				LR	LR		
comp=Z,11μm,22.0s							
MCWV	**Mont Chateau**	**116.88**	**53**	PFAKE		13 53 00.0	+6.7
MCWV				LR	LR		
comp=Z,20μm,22.0s							
BJO	**Bjornoya**	**117.18**	**351**	*e*	PS	14 03 49.8	+1.2
BJO				AMS	AMS	14 39 21.6	
comp=Z,4μm,25.7s							
DAG	**Danmarks Havn**	**117.47**	**1**⇑*e*PKIKP	PKPdf	13 52 52.3	-1.1
DAG				pmax	pmax		
comp=Z,4.0nm,0.7s							
DAG	**Danmarks Havn**	**117.47**	**1**⇑*iP*	PKPdf	13 52 52.3	-1.1
comp=Z,4.1nm,0.7s							
LPAZ	**La Paz**	**117.75**	**117**	*e*PKPdf	PKPdf	13 52 56.0	+0.4
LPAZ				LR	LR		
comp=Z,803nm,21.0s							
LPAZ	**La Paz**	**117.75**	**117**	PKP	PKPdf	13 52 54.8	-0.8
comp=Z,4.3nm,0.5s,baz=8,2,slow=0.8,SNR=34							
SSPA	**Standing Stone**	**118.31**	**51**	PFAKE		13 53 10.0	+14
SSPA				LR	LR		
comp=Z,2μm,20.0s							
APA	**Apatity**	**118.86**	**341**	⇑*i* PKIKP	PKPdf	13 52 55.4	-0.9
APA				*i*		13 53 15.0	
APA				*i* PPP		13 56 50.0	
APA				*i*		13 59 49.0	
APA				*i* SP	SP	14 03 51.0	-3.7
APA				pmax	pmax		
comp=Z,29nm,1.0s							
APA				MLR	MLR		
comp=Z,9μm,21.0s							
CBN	**Corbin**	**118.91**	**54**	PFAKE		13 53 10.0	+13
CBN				LR	LR		
comp=Z,9μm,20.0s							
KEV	**Kevo**	**119.22**	**345**	*ep*	PKPdf	13 52 55.4	-1.5
comp=Z,19nm,0.5s							
KEV	**Kevo**	**119.22**	**345**	PKIKP	PKPdf	13 52 56.3	-0.6
BINY	**Binghamton**	**119.55**	**49**	PFAKE		13 53 10.0	+12
BINY				LR	LR		
comp=Z,13μm,22.0s							
ARCES	**ARCESS Array B**	**119.75**	**345**	PKP	PKPdf	13 52 56.9	-1.0
ARCES				SKP		13 56 29.8	
ARCES				PKKPab	PKKPab	14 03 07.4	-1.9
ARCES	**ARCESS Array B**	**119.75**	**345**	PKIKP	PKPdf	13 52 56.9	-1.0
ARCES				pmax	pmax		
comp=Z,38nm,0.6s							
ARCES				pmax	pmax		
comp=N,10.0nm,0.8s							
ARCES				pmax	pmax		
comp=Z,5.0nm,0.7s							
ARCES	**ARCESS Array B**	**119.75**	**345**	PKP	PKPdf	13 52 56.9	-1.0
comp=Z,38nm,0.6s,baz=74,slow=1.3,SNR=183							
ARCES				SKP		13 56 29.8	
comp=Z,10nm,0.8s,baz=333,slow=0.3,SNR=6.1							
ARCES				PKKPab	PKKPab	14 03 07.4	-1.9
comp=Z,5.2nm,0.7s,baz=194,slow=2.5,SNR=5.4							
NCB	**Newcomb**	**120.56**	**47**	*e*PKPdf	PKPdf	13 52 59.4	-0.9
NCB				LR	LR		
comp=Z,7μm,20.0s							
KTK1	**Kautokeino**	**120.69**	**346**	*e*P	PKPdf	13 53 00.4	+0.7
CPUP	**Villa Florida**	**121.03**	**133**	PKP	PKPdf	13 53 00.8	-0.9
CPUP				PKKPbc	PKKPbc	14 03 04.0	-1.0
CPUP				LR	LR		
comp=Z,313nm,20.0s							
CPUP	**Villa Florida**	**121.03**	**133**	PKP	PKPdf	13 53 00.8	-0.9
comp=Z,2.7nm,0.4s,baz=190,slow=1.4,SNR=23							
CPUP				PKKPbc	PKKPbc	14 03 04.0	-1.0
baz=84,slow=4.4							
MAK	**Makhachkala**	**121.04**	**312**	*i* P	Pdif	13 49 32.4	+5.1
MAK				*i*		13 59 53.2	
MAK				*i* SP	SP	14 04 14.2	-1.6
MAK				pmax	pmax		
comp=Z,141nm,1.6s							
MAK				MLR	MLR		
comp=Z,5μm,21.0s							
TRO	**Tromso**	**121.18**	**347**	*e*PP	PP	13 54 31.7	+0.3
TRO				*e*SKS	SKSdf	13 59 51.9	-15
TRO				AMS	AMS	14 42 17.4	
comp=Z,3μm,18.7s							
SFJD	**Kangerlussuaq**	**121.89**	**16**	*e*PKPdf	PKPdf	13 53 01.6	-0.5
SFJD				LR	LR		
comp=Z,4μm,21.0s							
QRN	**Al-Qurain**	**121.96**	**295**	*e*P	PKPdf	13 53 03.6	+0.2
QRN				AMb	AMB	13 53 04.7	
comp=Z,286nm,0.7s							
UMR	**Umm Al-Rimmam**	**122.13**	**296**	*e*P	PKPdf	13 53 03.6	-0.1
UMR				AMb	AMB	13 53 05.1	
comp

NAY AMb AMB 13 53 05.6
comp=Z,64nm,0.9s
RST Umm Al-Ruwaisa 122.75 296 *e*P PKPdf 13 53 04.5 -0.4
RST AMb AMB 13 53 05.9
comp=Z,263nm,0.8s
DGRG David-gareji 122.86 310 P PKPdf 13 53 04.4 -0.3
WES Weston 122.94 49 PFAKE 13 53 20.0 +15
WES LR LR
comp=Z,7μm,19.0s
MTA Mtatsminda 123.24 311 P PKPdf 13 53 04.9 -0.6
TBLG Delisi 123.27 311 P PKPdf 13 53 04.5 -1.1
JMIC Jan Mayen 123.28 358 *e*PP PP 13 54 47.8 +2.3
JMIC *e*SS SS 14 11 26.4 +1.0
JMIC AMS AMS 14 40 46.4
comp=Z,3μm,22.3s
MOS Moscow 123.32 328 *e*PKIKP PKPdf 13 53 03.0 -2.1
MOS *e* 13 53 22.2
MOS pmax pmax
comp=Z,60nm,0.8s
MOS MLR MLR
comp=Z,5μm,23.4s
SUR Sutherland 123.32 214 PKP PKPdf 13 53 06.4 +0.4
SUR LR LR
comp=Z,8μm,22.0s
SUR Sutherland 123.32 214 PKP PKPdf 13 53 06.4 +0.4
comp=Z,42nm,1.1s,baz=160,slow=2.5,SNR=10
BOSA Boshof 123.42 221 *e*PKPdf PKPdf 13 53 06.5 +0.2
BOSA LR LR
comp=Z,2μm,19.0s
BOSA Boshof 123.42 221 PKP PKPdf 13 53 06.5 +0.2
comp=Z,20nm,0.7s,baz=126,slow=2.0,SNR=31
SDV Santo Domingo 123.54 89 *e*PKPdf PKPdf 13 53 06.0 -0.9
GOR Gori 123.69 311 P PKPdf 13 53 07.5 +1.2
PKME Peaks-Kenny Pk 123.73 45 *e*PKPdf PKPdf 13 53 06.3 0.0
SIV San Ignacio 123.88 121 PKKPbc PKKPbc 14 02 53.5 -0.3
comp=Z,3.4nm,1.0s,baz=75,slow=7.3,SNR=5.8
ONI Oni 124.04 312 P PKPdf 13 53 07.1 +0.1
OBN Obninsk 124.14 328⇑ *e*PKP PKPdf 13 53 06.1 -0.6
OBN LR LR
comp=Z,6μm,22.0s
OBN Obninsk 124.14 328 *i* PKIKP PKPdf 13 53 06.0 -0.7
OBN *i* 13 53 23.1
OBN *i* 13 55 02.6
OBN *e* 14 00 09.7
OBN *e*PS PS 14 04 40.3 -11
OBN *i* SS SS 14 11 40.2 +2.9
OBN pmax pmax
comp=Z,95nm,1.4s
KIV Kislovodsk 124.27 314 ⇑P PKPdf 13 53 07.0 -0.4
KIV LR LR
comp=Z,4μm,22.0s
KIV Kislovodsk 124.27 314 *i* PKIKP PKPdf 13 53 07.2 -0.2
KIV *e**PP 13 53 27.7
KIV *e* 13 54 52.8
KIV *e* 14 00 07.3
KIV *e*SP SP 14 04 38.4 -5.9
KIV *e*PS PS 14 04 51.7 -1.3
KIV *e*SS SS 14 11 37.6 -2.3
KIV pmax pmax
comp=Z,61nm,1.1s
KIV MLR MLR
comp=Z,3μm,20.0s
KIV Kislovodsk 124.27 314⇑ *i*P PKPdf 13 53 07.0 -0.4
SDDR Presa de Saban 124.31 77 *e*PKPdf PKPdf 13 53 08.2 +0.1
SDDR LR LR
comp=Z,2μm,22.0s
VORD Divnogorie 124.33 323 *i* PKIKP PKPdf 13 53 06.2 -1.0
VORD *e* 13 54 49.9
VORD *e* 14 00 05.1
VORD *e*SS SS 14 11 39.2 -0.9
VORD pmax pmax
comp=Z,40nm,1.2s
VORD pmax pmax
comp=N,10.0nm,0.8s
VORD pmax pmax
comp=E,30nm,0.9s
VORD pmax pmax
comp=Z,1μm,11.7s
VORD pmax pmax
comp=N,70nm,9.8s
VORD pmax pmax
comp=E,410nm,11.4s
VORD MLR MLR
comp=Z,6μm,21.0s
VORD MLR MLR
comp=N,4μm,22.0s
VORD MLR MLR
comp=E,1μm,20.0s
DYDN Diyadin 124.46 308 *i* P PKPdf 13 53 07.7 -0.2
BHD Baghdad 124.76 301 *e*x x 13 53 04.0
BHD *e*x x 13 55 01.0
BHD *e*x x 13 56 38.0
BHD *e*x x 14 00 03.0
HAKT HAKKARI 124.77 306 *i* P PKPdf 13 53 07.7 -0.9
AGRB Hanur-Agry 124.98 308 *e*P PKPdf 13 53 08.4 -0.5
MOR8 Moi Rana 125.00 347 *e*P PKPdf 13 53 07.2 -0.8
MOR8 AMb AMB 13 53 11.7
comp=Z,25nm,1.6s
STOK Stokkvaagen 125.17 347 *e*P PKPdf 13 53 08.2 -0.2
STOK AMb AMB 13 53 19.8
comp=Z,100nm,1.4s
FINES FINESS Array B 125.19 338 PKP PKPdf 13 53 08.0 -0.6
FINES SKP 13 56 38.8
FINES PKKPbc 14 02 47.2
FINES FINESS Array B 125.19 338 PKIKP PKPdf 13 53 08.0 -0.6
FINES pmax pmax
comp=Z,13nm,0.6s
FINES pmax pmax
comp=N,10.0nm,1.0s
FINES pmax pmax
comp=Z,1.0nm,0.7s
FINES FINESS Array B 125.19 338 PKP PKPdf 13 53 08.0 -0.6
comp=Z,13nm,0.6s,baz=80,slow=2.1,SNR=31
FINES SKP 13 56 38.8
comp=Z,10.0nm,1.0s,baz=22,slow=2.1,SNR=4.5
FINES PKKPbc 14 02 47.2
comp=Z,1.2nm,0.7s,baz=187,slow=2.2,SNR=4.1
ARTV Artvin 125.45 311 *i* P PKPdf 13 53 10.7 +1.0
MSL Mosul 125.45 304 *e*x x 13 53 11.5
MSL *e*x x 13 55 08.5
MSL *e*x x 14 00 10.0
ATD Arta Tunnel 125.46 274 PKP PKPdf 13 53 11.5 +1.0
ATD Arta Tunnel 125.46 274 PKP PKPdf 13 53 11.5 +1.0
comp=Z,23nm,0.8s,baz=65,slow=5.1,SNR=5.8
BCA Borcka 125.62 311 *e*P PKPdf 13 53 09.8 -0.2
LBTB Lobatse 125.64 224 *e*PKPdf PKPdf 13 53 10.6 0.0
LBTB LR LR
comp=Z,2μm,20.0s
LBTB Lobatse 125.64 224 PKP PKPdf 13 53 10.4 -0.2
comp=Z,20nm,0.6s,baz=165,slow=3.0,SNR=46
HOMI Horasan 125.71 309 *i* P PKPdf 13 53 11.1 +0.8
ERZM Erzurum 126.15 309 *i* P PKPdf 13 53 11.2 +0.1
EZM Erzurum 126.15 309 *e*P PKPdf 13 53 12.6 +1.5
BTMT Batman 126.39 307 *e*P PKPdf 13 53 12.7 +1.1
SOC Sochi 126.44 314 *i* PKIKP PKPdf 13 53 10.6 -0.9
SOC *e* 13 53 27.0
SOC *e* 13 55 07.7
SOC *e*PS PS 14 05 13.9 +1.8
SOC *e*SS SS 14 12 07.7 +0.5
SOC *e*SSS 14 16 43.2
SOC pmax pmax
comp=Z,57nm,1.0s
SOC MLR MLR
comp=Z,4μm,21.0s
GUMT Gumushane 127.43 310 *e*P PKPdf 13 53 14.5 +1.0
ANN Anapa 127.64 316 *i* PKIKP PKPdf 13 53 12.8 -1.0
ANN *e* 13 53 30.3
ANN *e* 13 55 13.5
ANN *e* 14 00 15.6
ANN *e*SP SP 14 05 13.1 -0.6
ANN *e*SS SS 14 12 20.3 -1.7
ANN pmax pmax
comp=Z,71nm,1.0s
ANN MLR MLR
comp=N,9μm,25.0s
ANN MLR MLR
comp=E,4μm,25.0s
ANN MLR MLR
comp=Z,7μm,25.0s
KMBO Kilima Mbogo 127.81 257 PKIKP PKPdf 13 53 15.0 -0.1
KMBO pmax pmax
comp=Z,16nm,0.9s
KMBO Kilima Mbogo 127.81 257 PKP PKPdf 13 53 15.0 -0.1
comp=Z,16nm,0.9s,baz=46,slow=4.2,SNR=16

ELZG Elazig 128.26 308 *i* P PKPdf 13 53 15.9 +0.8
KEMA Kemaliye 128.45 309 *i* P PKPdf 13 53 14.4 -1.1
URFA Urfa 128.62 307 *e*P PKPdf 13 53 15.8 -0.1
MYA Malataya 128.73 308 *e*P PKPdf 13 53 16.7 +0.6
MALT Malatya 128.73 308 *e*P PKPdf 13 53 16.3 +0.3
MALT Malatya 128.73 308 P PKPdf 13 53 16.9 +0.9
MALT Malatya 128.73 308 PKIKP PKPdf 13 53 16.2 +0.1
MALT Malatya 128.73 308⇑ *i*P PKPdf 13 53 16.1 0.0
MNK Minsk 128.79 331 *e*PKIKP PKPdf 13 53 14.0 -1.6
MNK *e* 14 00 20.0
MNK *e*PS PS 14 05 36.0 +4.0
MNK *e*SS SS 14 12 36.0 +0.9
MNK *e*SSS 14 17 20.0
MNK MLR MLR
comp=Z,17μm,22.0s
MNK MLR MLR
comp=N,11μm,22.0s
TRIS Tristan da Cun 128.89 181 PFAKE 13 53 30.0 +13
TRIS LR LR
comp=Z,9μm,22.0s
BORG Borgarnes 129.31 5 PFAKE 13 53 30.0 +14
BORG LR LR
comp=Z,10μm,21.0s
CPD Cerro la Pandu 129.32 78 *e*PKPdf PKPdf 13 53 15.2 -2.5
SVSK Karacayir 129.41 310 *e*P PKPdf 13 53 17.7 +0.4
GZT Gaziantep 129.61 307 *i* P PKPdf 13 53 17.5 -0.2
LSZ Lusaka 129.65 236 PKP PKPdf 13 53 18.4 -0.1
LSZ LR LR
comp=Z,809nm,19.0s
LSZ Lusaka 129.65 236 PKP PKPdf 13 53 18.3 -0.1
comp=Z,14nm,0.6s,baz=120,slow=1.5,SNR=20
SIM Simferopol' 129.80 317 *i* PKIKP PKPdf 13 53 19.5 +1.6
SIM *e* 13 55 26.0
SIM pmax pmax
comp=Z,750nm,17.2s
BBSR BB Station 129.87 60 PFAKE 13 53 30.0 +12
BBSR LR LR
comp=Z,1μm,20.0s
KMRS Kahramanmaras 130.09 307 *e*P PKPdf 13 53 18.1 -0.5
NB2 NORSAR Subarra130.12 345 PKPdf PKPdf 13 53 17.4 -0.6
comp=Z,15nm,0.7s,baz=32,slow=1.9
NB2 NORSAR Subarra130.12 345 PKPdf PKPdf 13 53 17.4 -0.6
baz=32,slow=1.9
NOA NORSAR Array B130.12 345 PKP PKPdf 13 53 16.5 -1.5
NOA SKPab 13 56 35.2
NOA PKKP 14 03 18.6
NOA NORSAR Array B130.12 345 PKIKP PKPdf 13 53 16.5 -1.5
NOA pmax pmax
comp=Z,18nm,0.8s
NOA pmax pmax
comp=N,32nm,0.8s
NOA pmax pmax
comp=Z,1.0nm,0.6s
NOA NORSAR Array B130.12 345 PKP PKPdf 13 53 16.5 -1.5
comp=Z,18nm,0.8s,baz=34,slow=2.0,SNR=46
NOA SKPab 13 56 35.2
comp=Z,32nm,0.8s,baz=32,slow=3.1,SNR=25
NOA PKKP 14 03 18.6
comp=Z,0.6nm,0.6s,baz=208,slow=2.5,SNR=3.3
AKASG Malin Array Be 130.17 326 PKIKP PKPdf 13 53 17.3 -1.1
AKASG pmax pmax
comp=Z,11nm,0.7s
AKASG pmax pmax
comp=N,23nm,0.7s
AKASG Malin Array Be 130.17 326 PKP PKPdf 13 53 17.3 -1.1
comp=N,11nm,0.7s,baz=63,slow=1.7,SNR=50
AKASG SKPab 13 56 36.7
comp=N,23nm,0.7s,baz=46,slow=4.2,SNR=26
KIEV Kiev 130.18 326 *e*PKPdf PKPdf 13 53 17.9 -0.5
KIEV LR LR
comp=Z,2μm,19.0s
ANDN Andirin 130.50 307 *i* P PKPdf 13 53 17.8 -1.7
BNN Bunyan 130.55 309 *e*P PKPdf 13 53 19.2 -0.3
KOZT Kozan 130.92 307 *e*P PKPdf 13 53 22.6 +2.4
CORM Corum 131.07 311 *e*P PKPdf 13 53 20.4 0.0
CEYT Ceyhan 131.10 307 *e*P PKPdf 13 53 20.6 0.0
ASF Jabal al Asfar 131.16 300 PKIKP PKPdf 13 53 20.4 -0.5
ASF pmax pmax
comp=Z,15nm,0.7s
ASF pmax pmax
comp=N,63nm,1.1s
ASF Jabal al Asfar 131.16 300 PKP PKPdf 13 53 20.4 -0.5
comp=N,15nm,0.7s,baz=312,slow=1.6,SNR=21
ASF SKPab 13 56 42.3
comp=N,63nm,1.1s,baz=16,slow=0.6,SNR=24
TOS Tosya 131.24 312 *e*P PKPdf 13 53 20.6 -0.1
SUW Suwalki 131.24 332 *e*PKP PKPdf 13 53 20.1 -0.2
SUW Suwalki 131.24 332 *e*PX 13 56 40.6
AVNT Avonos 131.32 309 *i* P PKPdf 13 53 21.2 +0.2
CDAG Cicekdag 131.43 311 *i* P PKPdf 13 53 19.0 -2.2
CDAG Cicekdag 131.43 311 *i* P PKPdf 13 53 20.0 -1.1
BALT Daday 131.53 313 *i* P PKPdf 13 53 19.7 -1.6
KARA Karaisali 131.57 307 *e*P PKPdf 13 53 20.7 -0.8
CANT Cankiri 131.67 312 *e*P PKPdf 13 53 21.1 -0.4
KONO Kongsberg 131.73 345 *e*P PKPdf 13 53 20.3 -0.8
KONO LR LR
comp=Z,4μm,28.2s
KONO Kongsberg 131.73 345 *e* PP 13 55 49.1 +7.8
KONO *e*SS SS 14 13 09.5 -1.0
KONO AMS AMS 14 46 30.7
comp=Z,4μm,28.2s
ELDT Eldivan 131.84 312 *i* P PKPdf 13 53 22.1 +0.2
BHL Bhannes 131.87 303 *e*P PKPdf 13 53 21.9 -0.3
ASK Askoy 132.00 348 *e*P PKPdf 13 53 23.6 +2.0
BER Bergen 132.06 348 *e* PP 13 55 52.7 +9.4
BER *e*SS SS 14 13 16.5 +2.1
BER AMS AMS 14 52 29.9
comp=Z,5μm,22.3s
MERS Mersin 132.09 307 *e*P PKPdf 13 53 21.9 -0.5
ODD1 Odda 132.21 347 *e*P PKPdf 13 53 22.6 +0.7
ODD1 AMb AMB 13 53 26.9
comp=Z,62nm,1.1s
ODD1 *e* 13 56 43.8
MMAI Mount Meron Ar 132.25 302 PKP PKPdf 13 53 24.2 +1.3
comp=Z,38nm,0.9s,baz=76,slow=7.1,SNR=21
MMAI SKPab 13 56 46.4
comp=Z,57nm,0.9s,baz=64,slow=5.7,SNR=18
KIS Kishinev 132.26 322 *e*PKIKP PKPdf 13 53 18.0 -4.5
KIS *e* 14 05 50.0
KIS MLR MLR
comp=N,3μm,20.0s
KIS MLR MLR
comp=Z,6μm,20.0s
KIS MLR MLR
comp=E,2μm,18.0s
KIS MLR MLR
comp=Z,7μm,20.0s
KIS Kishinev 132.26 322 *e*PP PP 13 55 57.0 +12
KIS *e*SKS SKKSac 14 02 30.0 -5.5
KIS LRM 14 53 20.0
comp=Z,2μm,18.0s
KIS Kishinev 132.26 322⇑ *i*P SKPbc 13 56 43.0 -0.3
comp=Z,3μm,9.0s
ANTO Ankara 132.51 311 *e*P PKPdf 13 53 22.3 -0.9
ANTO Ankara 132.51 311 P PKPdf 13 53 23.7 +0.5
ANTO Ankara 132.51 311 PKIKP PKPdf 13 53 23.6 +0.4
ANTO Ankara 132.51 311⇑ *i*P PKPdf 13 53 22.4 -0.8
LOD Lodumlu 132.52 311 *e*P PKPdf 13 53 22.8 -0.4
BLS5 Blasjo 132.69 347 *e*P PKPdf 13 53 25.9 +3.0
BLS5 AMb AMB 13 53 33.7
comp=Z,24nm,1.2s
EREN Erenkoy 132.70 305 *e*P PKPdf 13 53 22.4 -1.2
IKL Isikli 132.90 306 *e*P PKPdf 13 53 23.1 -1.0
EIL Elat 133.19 297 PKP PKPdf 13 53 24.8 0.0
comp=Z,47nm,0.9s,baz=339,slow=1.5,SNR=24
EIL SKPab 13 56 49.6
comp=Z,59nm,1.1s,baz=108,slow=2.4,SNR=16
LFK Lefkose 133.27 305 *e*P PKPdf 13 53 23.7 -1.1
ERMK Ermenek 133.39 307 *i* P PKPdf 13 53 13.1 -12
ERMK Ermenek 133.39 307 *i* P PKPdf 13 53 27.5 +2.6
LVV L'vov 133.43 327 *e*PKIKP PKPdf 13 53 23.2 -1.4
KONT Konya--Tatoy 133.44 309 *e*P PKPdf 13 53 23.1 -1.9
KDHN Kadinhani 133.44 310 *i* P PKPdf 13 53 22.4 -2.6
KIZT Kizilcal 133.50 310 *e*P PKPdf 13 53 25.0 -0.1
CSS Prodhromos 133.51 305 *e*P 13 56 49.6
TIRR Tirgusor 133.70 319⇑ PKP PKPdf 13 53 25.7 +0.5
TIRR Tirgusor 133.70 319⇑ *i*P PKPdf 13 53 25.7 +0.4
LEF Lefka 133.82 305 *e*P PKPdf 13 53 24.2 -1.6
BSD Bornholm Skovb 133.83 338⇑ *e*PKIKP PKPdf 13 53 24.6 -0.6
BSD *i* 14 07 46.7
BSD pmax pmax
comp=Z,30nm,1.0s
BSD MLR MLR
comp=Z,8μm,21.0s

BSD Bornholm Skovb 133.83 338⇑ *i*P PKPdf 13 53 24.6 -0.6
comp=Z,30nm,1.0s
BSD *i* 13 56 08.0
BSD *i* 13 56 48.9
BSD *i* 14 07 46.7
BSD
comp=Z,8μm,21.0s
ESKT Eskisehir 134.04 312 *e*P PKPdf 13 53 25.5 -0.5
BURAR Bucovina Array 134.04 324⇓ *i*P PKPdf 13 53 26.9 +1.1
VRI Vrincioaia 134.07 321 P PKPdf 13 53 26.0 0.0
VRI Vrincioaia 134.07 321⇑ *i*P PKPdf 13 53 26.5 +0.6
PLOR Plostina 134.13 321 PKIKP PKPdf 13 53 26.7 +0.7
KWP Kalwaria 134.23 328 *e*PKP PKPdf 13 53 27.5 +1.4
KWP Kalwaria 134.23 328 *e*PX 13 56 51.7
COP Copenhagen 134.24 340 *i* PKIKP PKPdf 13 53 24.7 -1.2
COP pmax pmax
comp=Z,30nm,0.8s
COP MLR MLR
comp=Z,4μm,22.0s
COP Copenhagen 134.24 340 *i* P PKPdf 13 53 24.7 -1.2
comp=Z,30nm,0.8s
COP *e* 13 56 12.6
COP *i* 13 56 52.6
COP *i* 13 57 07.9
COP *i* 14 09 09.5
COP
comp=Z,4μm,22.0s
BDFB Brasilia 134.46 129 PKIKP PKPdf 13 53 27.3 -0.2
BDFB pmax pmax
comp=Z,10.0nm,0.6s
BDFB pmax pmax
comp=N,9.0nm,1.1s
BDFB Brasilia 134.46 129 PKP PKPdf 13 53 27.2 -0.3
comp=N,10.0nm,0.6s,baz=305,slow=3.7,SNR=16
BDFB SKPab 13 56 53.4
comp=N,8.9nm,1.1s,baz=332,slow=2.5,SNR=6.3
ADVT Abdulvahap 134.50 313 *e*P PKPdf 13 53 25.8 -1.1
SHUT Suhut-Afyon 134.59 310 *e*P PKPdf 13 53 26.3 -0.8
MUD Monsted U'grnd 134.60 343⇑ *i*PKIKP PKPdf 13 53 25.2 -1.4
MUD pmax pmax
comp=Z,19nm,1.0s
MUD MLR MLR
comp=Z,8μm,24.0s
MUD Monsted U'grnd 134.60 343⇑ *i*P PKPdf 13 53 25.2 -1.4
comp=Z,19nm,1.0s
MUD *i* 13 56 53.8
MUD
comp=Z,8μm,24.0s
YLV Yalova 134.70 314 *e*P PKPdf 13 53 26.1 -1.2
ALT Altintas 134.74 311 *e*P PKPdf 13 53 26.9 -0.5
MLR Muntele Rosu 134.74 321 P PKPdf 13 53 27.4 +0.2
MLR Muntele Rosu 134.74 321⇑ *i*P PKPdf 13 53 26.4 -0.8
ISP Isparta 134.86 310 *e*P PKPdf 13 53 26.9 -0.8
ISP Isparta 134.86 310 P PKPdf 13 53 27.7 0.0
KOLS Kolonicke sedl 134.88 327 *i* PKP PKPdf 13 53 28.1 +0.8
KOLS *e*SS SS 14 13 49.7 +0.2
KOLS Kolonicke sedl 134.88 327 *e*PKP 13 56 54.2
KOLS *e* 13 57 10.2
GEMT Gemlik 134.88 313 *e*P PKPdf 13 53 27.2 -0.4
BCK Bucak 134.92 309 *e*P PKPdf 13 53 25.8 -2.0
TKTP Tekketepe 134.93 310 *i* P PKPdf 13 53 25.1 -2.7
TSUM Tsumeb 135.00 223 PFAKE 13 53 40.0 +12
TSUM LR LR
comp=Z,6μm,22.0s
UZH Uzhgorod 135.05 327⇓ *i*PKIKP PKPdf 13 53 21.8 -5.9
UZH *e* 13 53 33.2
UZH *i* 13 53 37.6
UZH *i* 13 56 05.0
UZH *i* 14 00 35.0
UZH *i* SS SS 14 13 50.0 -1.6
UZH MLR MLR
comp=Z,3μm,20.0s
STHS Stebnicka Huta 135.11 328 *e*PKP PKPdf 13 53 28.8 +1.1
STHS Stebnicka Huta 135.11 328 *e*PKP 13 56 55.5
STHS *e* 13 57 18.6
GDZ Gediz 135.18 312 *i* P PKPdf 13 53 26.1 -2.1
VOIR 135.30 322 P PKPdf 13 53 28.2 -0.1
VOIR 135.30 322⇓ *i*P PKPdf 13 53 29.3 +1.1
OJC Ojcow 135.31 330 *e*PKPdf PKPdf 13 53 27.5 -0.6
OJC *e*pPKPdf pPKPdf 13 53 45.9 -1.7
OJC *e*PP PP 13 56 05.5 +1.1
OJC *e*SS SS 14 13 54.6 +0.2
OJC L 14 55 22.2
comp=Z,5.1nm,20.1s
CRVS Cervenica-Dubn 135.32 328 *e*PKP PKPdf 13 53 28.9 +0.7
CRVS *e*SS SS 14 13 55.0 +0.2
CRVS Cervenica-Dubn 135.32 328 *e*PKP SKPdf 13 56 56.4 -1.1
CRVS *e* 13 57 02.1
NIE Niedzica 135.58 329 *e*PKP PKPdf 13 53 29.4 +0.8
NIE *e* 13 56 56.0
NIE Niedzica 135.58 329 *e*PKP PKPdf 13 53 29.4 +0.8
NIE *e* 13 56 56.0
JMB Yambol 135.80 317 *e*P SKPdf 13 56 56.9 -1.7
DRGR 135.92 325 P PKPdf 13 53 29.6 +0.2
DRGR 135.92 325⇑ *i*P PKPdf 13 53 29.2 -0.1
CAM3 Guarapari 136.00 142 *i* PKPdf 13 53 29.6 -0.8
CAM3 *i* 13 53 37.8
CAM3 *i* 13 53 50.3
KECS Kecovo 136.09 328 *e*PKP PKPdf 13 53 29.9 +0.3
KECS Kecovo 136.09 328 *e*PKP SKPdf 13 56 57.4 -1.5
BALB Balikesir 136.12 313 *e*P PKPdf 13 53 28.6 -1.3
RAC Raciborz 136.16 331 *e*PKPdf PKPdf 13 53 30.0 +0.3
RAC LR LR
comp=Z,16μm,25.1s
OKC Ostrava-Krasne 136.35 331 *e*PKP PKPdf 13 53 30.7 +0.7
OKC *e* 13 53 45.1
OKC *e*PP PP 13 56 27.7 +17
OKC *e* 14 08 04.0
OKC *e*SS SS 14 14 10.0 +3.1
OKC *e* 14 18 53.4
OKC Ostrava-Krasne 136.35 331 *e*PKIKP PKPdf 13 53 30.7 +0.7
OKC *e* 13 53 45.1
OKC *e*SS SS 14 14 10.0 +3.1
OKC Ostrava-Krasne 136.35 331 *e*PKPDF PKPdf 13 53 30.7 +0.7
OKC *e*pPKP pPKPdf 13 53 45.1 -4.5
OKC *e*x x 13 56 27.7
OKC *e*x x 14 08 04.0
OKC *e*SS SS 14 14 10.0 +3.1
OKC *e*x x 14 18 53.4
OKC AMS AMS 14 49 30.0
comp=Z,10μm,25.1s
BSEG Bad Segeberg 136.38 340 *e*PKPdf PKPdf 13 53 30.0 0.0
BSEG *e*SKPdf SKPdf 13 56 58.1 -1.1
KSP Ksiaz 136.49 333 *e*PKP PKPdf 13 53 30.6 +0.3
KSP Ksiaz 136.49 333 *e*PX 13 56 58.9
KSP Ksiaz 136.49 333 *e*PKP PKPdf 13 53 30.3 0.0
KSP *e*pPKP pPKPdf 13 53 47.2 -2.6
KSP *e*PP PP 13 56 12.3 +0.6
KSP *e*PKS 13 56 57.0
KSP *e*SP SP 14 06 30.0 +1.3
KSP *e*PPS 14 08 08.0
KSP LR LR
comp=Z,25μm,23.5s
KSP Ksiaz 136.49 333 *e*PKIKP PKPdf 13 53 30.3 0.0
KSP *e* 13 53 47.2
KSP *e* 13 56 12.3
KSP *e*SP SP 14 06 30.0 +1.3
KSP MLR MLR
comp=Z,25μm,23.5s
GZR Gura Zlata 136.67 323 P PKPdf 13 53 30.8 0.0
GZR Gura Zlata 136.67 323⇓ *i*P PKPdf 13 53 30.7 -0.1
MORC Moravsky Berou 136.68 331⇓ P PKPdf 13 53 31.6 +0.9
MORC Moravsky Berou 136.68 331⇓ *i*P PKPdf 13 53 31.6 +0.9
PSZ Piszkesteto 136.75 328 P PKPdf 13 53 31.2 +0.4
PSZ Piszkesteto 136.75 328⇑ *i*P PKPdf 13 53 30.3 -0.6
PSZ Piszkesteto 136.75 328⇑ *e*PKP PKPdf 13 53 30.7 -0.2
YER Yerkesik 136.76 309 *e*P PKPdf 13 53 28.7 -2.5
DPC Dobruska-Polom 136.83 333 *e*PKIKP PKPdf 13 53 31.1 +0.2
DPC *e* 13 53 47.0
DPC *e* 14 08 13.1
DPC *e*SS SS 14 14 09.3 -3.2
DPC MLR MLR
comp=Z,12μm,22.5s
DPC Dobruska-Polom 136.83 333 *e*PKPDF PKPdf 13 53 31.1 +0.2
DPC *e*pPKP pPKPdf 13 53 47.0 -3.5
DPC *e*x x 13 56 25.8
DPC *e*x x 14 08 13.1
DPC *e*SS SS 14 14 09.3 -3.2
DPC *e*x x 14 19 00.4
DPC AMS AMS 14 53 10.0
comp=Z,12μm,22.5s
UPC Upice 136.85 333 *e*PKPDF PKPdf 13 53 31.1 +0.1

UPC			*e*PKP	pPKPdf	13 53 47.0	-3.5
VYHS	**Vyhne**	**136.92 329**	*e*PKP	PKPdf	13 53 30.6	-0.5
VYHS			*e*PP	PP	13 56 15.4	+0.8
VYHS			*e*SS	SS	14 14 14.0	+0.2
VYHS			LR	LR		
	comp=Z,6µm,26.9s					
VYHS	**Vyhne**	**136.92 329**	*e*PKP	PKPdf	13 53 30.6	-0.5
VYHS			*e*PP	PP	13 56 15.4	+0.8
VYHS			*e*SS	SS	14 14 14.0	+0.2
VYHS	**Vyhne**	**136.92 329**	*e*PKP	SKPbc	13 56 59.9	+1.6
KOLL	**Kolacno**	**137.08 329**	*e*PKP	SKPbc	13 57 00.5	+1.8
MLSB	**Milas**	**137.08 310**	*e*P	PKPdf	13 53 30.7	-1.1
RDO	**Rodhopi**	**137.10 316**	*e*P	PKPdf	13 53 30.6	-1.1
BLCB	**Balcova**	**137.21 312**	*e*P	PKPdf	13 53 31.2	-0.8
BZS	**Buzias**	**137.22 324**	P	PKPdf	13 53 31.7	-0.1
BZS	**Buzias**	**137.22 324** ⇓	*i*P	PKPdf	13 53 32.5	+0.7
GADA	**Gvkgeada**	**137.28 315**	*e*P	PKPdf	13 53 30.9	-1.2
BOZC	**Bozcaada**	**137.32 314**	*i* P	PKPdf	13 53 30.4	-1.7
PRK	**Paraskevi**	**137.42 313**	*e*P	PKPdf	13 53 33.4	+1.0
VRAC	**Vranov**	**137.45 331**	P	PKPdf	13 53 32.2	+0.2
VRAC	**Vranov**	**137.45 331** ⇑	*i*P	PKPdf	13 53 32.8	+0.7
PVCC	**Panska Ves**	**137.46 334**	*e*PKIKP	PKPdf	13 53 32.7	+0.6
PVCC			*e*		13 53 49.5	
PVCC			MLR	MLR		
	comp=Z,11µm,23.8s					
PVCC	**Panska Ves**	**137.46 334**	*e*PKPDF	PKPdf	13 53 32.7	+0.6
PVCC			*ep*PKP	pPKPdf	13 53 49.5	-2.1
PVCC			*ex*	x	13 56 33.3	
PVCC			*ex*	x	14 08 15.1	
PVCC			*ex*	x	14 14 09.7	
PVCC			*ex*	x	14 19 07.0	
PVCC			AMS	AMS	14 51 10.0	
	comp=Z,11µm,23.8s					
BRG	**Berggiesshubel**	**137.47 335**	*e*PKP	PKPdf	13 53 26.6	-5.4
BRG			*i*		13 53 31.8	
BRG			*e*		13 53 50.7	
BRG			*i*		13 56 32.0	
BRG			*i*		14 03 04.0	
BRG			*e*		14 03 34.8	
BRG			*i*		14 08 09.0	
BRG			LR	LR		
	comp=Z,5µm,22.9s					
BRG	**Berggiesshubel**	**137.47 335**	*e*SKPdf	SKPdf	13 57 01.3	0.0
BRG	**Berggiesshubel**	**137.47 335**	*e*PKP	PKPdf	13 53 26.6	-5.4
	comp=Z,4.2nm,0.6s					
BRG			*i*		13 53 31.8	
	comp=Z,36nm,1.3s					
BRG			*e*		13 53 50.7	
	comp=Z,80nm,1.5s					
BRG			*i*		13 56 32.0	
BRG			*i*		14 03 04.0	
BRG			*e*		14 03 34.8	
	comp=Z,2.8nm,0.8s					
BRG			*i*		14 08 09.0	
BRG						
	comp=N,8µm,21.8s					
BRG						
	comp=E,3µm,23.5s					
BRG						
	comp=Z,8µm,22.9s					
BUD	**Budapest**	**137.48 328** ⇓	*e*PKP	PKPdf	13 53 31.9	-0.3
BODT	**Bodrum**	**137.51 310**	*e*P	PKPdf	13 53 31.4	-1.2
CLL	**Collm**	**137.51 336**	*e*PKP	PKPdf	13 53 28.0	-4.2
CLL			*e*PKP	PKPdf	13 53 32.0	-0.2
CLL			*i* pPKP	pPKPdf	13 53 52.9	+1.2
CLL			*i* SKP		13 57 02.6	
CLL			*e*SKKS	SKKSac	14 03 07.0	+0.1
CLL	**Collm**	**137.51 336**	*e*PKPpre		13 53 25.0	
CLL			*e*PKPdf	PKPdf	13 53 31.7	-0.5
CLL			*ep*PKPdf	pPKPdf	13 53 48.6	-3.1
CLL			*ep*PP		13 56 31.7	
CLL			*e*SKPbc	SKPbc	13 57 03.2	+3.3
CLL			*e*SKKSac	SKKSac	14 03 08.6	+1.7
CLL			*e*Sdiff	Sdif	14 04 37.1	+1.4
CLL			*e*PS	PS	14 06 42.3	-4.3
CLL			*e*PPS		14 08 30.6	
CLL			*e*SS	SS	14 14 21.7	+1.3
CLL			*e*SSS		14 19 30.6	
CLL			*e*LR	LR	14 39 41.0	
CLL	**Collm**	**137.51 336**	*e*PKPpre		13 53 28.0	
CLL			*e*PKPdf	PKPdf	13 53 32.0	-0.2
	comp=Z,60nm,1.6s					
CLL			*i* sPKPdf		13 53 52.9	
CLL			*ep*PP		13 56 34.0	
CLL			*i* SKPdf	SKPdf	13 57 02.6	+1.3
	comp=Z,111nm,1.3s					
CLL			*es*PKSdf		13 57 30.0	
CLL			*e*SKKSac	SKKSac	14 03 07.0	+0.1
CLL			*e*PS	PS	14 06 48.0	+1.4
CLL			*e*SPP		14 08 20.0	
CLL			*e*SKKSacre		14 09 45.0	
CLL			*e*SS	SS	14 14 26.0	+5.6
CLL			*ex*	x	14 15 58.0	
CLL			*e*(SSS)		14 19 18.0	
SMG	**Samos**	**137.62 311**	*e*P	PKPdf	13 53 33.3	+0.5
SMG	**Samos**	**137.62 311**	*e*P	PKPdf	13 53 39.5	+6.7
MODS	**Modra-Piesok**	**137.77 330**	*e*PKP	PKPdf	13 53 33.0	+0.3
MODS			*e*		13 53 49.8	
MODS			*e*PP	PP	13 56 18.9	-1.0
MODS			*e*SS	SS	14 14 25.3	+1.5
MODS	**Modra-Piesok**	**137.77 330**	*e*PKP	PKPdf	13 53 33.0	+0.3
MODS			*e*		13 53 49.8	
MODS			*e*PP	PP	13 56 18.9	-1.0
MODS			*e*SS	SS	14 14 25.2	+1.4
MODS	**Modra-Piesok**	**137.77 330**	*e*PKP	SKPdf	13 57 03.2	+1.3
PRA	**Prague**	**137.86 334**	PKPDF	PKPdf	13 53 35.0	+2.2
PRA			*ex*	x	14 08 30.0	
PRA			*ex*	x	14 09 02.0	
PRU	**Pruhonice**	**137.88 333**	*e*PKIKP	PKPdf	13 53 33.2	+0.3
PRU			*e*		13 53 51.4	
PRU			*e*		13 56 22.8	
PRU			*e*		14 08 22.8	
PRU			*e*SS	SS	14 14 22.3	-2.5
PRU			MLR	MLR		
	comp=Z,11µm,24.5s					
PRU	**Pruhonice**	**137.88 333**	*e*PKPDF	PKPdf	13 53 33.2	+0.3
PRU			*ep*PKP	pPKPdf	13 53 51.4	-1.0
PRU			*e*PP	PP	13 56 22.8	+2.4
PRU			*ex*	x	14 08 22.8	
PRU			*e*SS	SS	14 14 22.3	-2.5
PRU			*ex*	x	14 19 15.2	
PRU			AMS	AMS	14 51 30.0	
	comp=Z,11µm,24.5s					
VTS	**Vitosha**	**137.92 319**	P	PKPdf	13 53 33.3	+0.1
VTS	**Vitosha**	**137.92 319** ⇑	*i*P	PKPdf	13 53 33.8	+0.6
CHOS	**Chios island**	**137.92 312**	*e*P	SKPdf	13 57 02.7	+0.2
CHOS	**Chios island**	**137.92 312**	*e*P	PP	13 56 17.4	-4.1
TREC	**Trest**	**137.97 332**	*e*PKIKP	PKPdf	13 53 32.0	-1.1
TREC			*e*		13 53 49.2	
TREC			MLR	MLR		
	comp=Z,13µm,22.7s					
TREC	**Trest**	**137.97 332**	*e*PKPDF	PKPdf	13 53 32.0	-1.1
TREC			*ep*PKP	pPKPdf	13 53 49.2	-3.4
TREC			*ex*	x	13 56 36.2	
TREC			AMS	AMS	14 55 00.0	
	comp=Z,13µm,22.7s					
ZST	**Bratislava**	**137.98 330**	*e*PKP	PKPdf	13 53 33.8	+0.7
ZST			*e*SS	SS	14 14 26.7	+0.5
ZST			LR	LR		
	comp=Z,5µm,21.4s					
ZST	**Bratislava**	**137.98 330**	*e*PKP	PKPdf	13 53 33.8	+0.7
ZST			*e*SS	SS	14 14 26.7	+0.5
ZST	**Bratislava**	**137.98 330**	*e*PKP	SKPdf	13 57 03.6	+1.3
CLZ	**Clausthal**	**138.08 338**	*e*PKPdf	PKPdf	13 53 32.4	-0.8
CLZ			*e*SKPdf	SKPdf	13 57 03.3	+1.0
CLZ	**Clausthal**	**138.08 338**	*e*PKPdf	PKPdf	13 53 32.4	-0.8
CLZ			*e*SKPdf	SKPdf	13 57 03.3	+1.0
CLZ			*es*SKPdf		13 57 35.1	
NVR	**Nevrokopi**	**138.12 317**	*e*P	PKPdf	13 53 32.4	-1.2
KARP	**Karpathos**	**138.16 308**	*e*P	PKPdf	13 53 26.0	-7.9
ESK	**Eskdalemuir**	**138.37 351**	PFAKE		13 53 50.0	+16
ESK			LR	LR		
	comp=Z,4µm,21.0s					
SRS	**Serrai**	**138.41 317**	*e*P	SKPdf	13 57 03.0	-0.2
SRS	**Serrai**	**138.41 317**	*e*P		13 57 07.6	
TANN	**Tannenbergstha**	**138.42 335**	*e*SKPdf	SKPdf	13 57 04.2	+1.2
PKSM	**Moragy**	**138.50 326**	P	PKPdf	13 53 34.4	+0.2
PKSM	**Moragy**	**138.50 326** ⇑	*i*P	PKPdf	13 53 34.5	+0.4
OUR	**Ouranopolis**	**138.52 316**	*e*P	SKPdf	13 57 04.8	+1.3
OUR	**Ouranopolis**	**138.52 316**	*e*P		13 57 07.9	
NKC	**Novy Kostel**	**138.57 335**	*e*P	PKPdf	13 53 28.3	-5.8
NKC			*e*PKP	PKPdf	13 53 35.1	+1.0
NKC			*e*		13 53 53.0	
NKC			*e*PP	PP	13 56 38.9	+14
NKC			*e*		14 08 26.0	
NKC			*e*SS	SS	14 14 35.7	+2.8
NKC	**Novy Kostel**	**138.57 335**	*e*PKPpre		13 53 28.3	
NKC			*e*PKPDF	PKPdf	13 53 35.1	+1.0
NKC			*ep*PKP	pPKPdf	13 53 53.0	-0.7
NKC			*ex*	x	13 56 38.9	
NKC			*ex*	x	14 08 26.0	
NKC			*e*SS	SS	14 14 35.7	+2.8
NKC			AMS	AMS	14 53 50.0	
	comp=Z,9µm,23.3s					
MOX	**Moxa**	**138.58 336**	*e*PKP	PKPdf	13 53 25.9	-8.2
	comp=Z,46nm,1.6s					
MOX			*e*		13 53 50.5	
MOX			*e*		13 57 06.0	
	comp=Z,137nm,1.8s					
MOX						
	comp=Z,6µm,23.0s					
MOX	**Moxa**	**138.58 336**	*e*PKPdf	PKPdf	13 53 33.4	-0.7
MOX			*e*SKPdf	SKPdf	13 57 04.4	+1.2
IBBN	**Ibbenburen**	**138.59 341**	*e*SKPdf	SKPdf	13 57 04.2	+1.0
SOP	**Sopron**	**138.59 330** ⇑	*e*PKP	PKPdf	13 53 35.4	+1.1
CONA	**Conrad Observa**	**138.76 330**	*i* PKIKP	PKiKP	13 53 31.7	-5.0
	comp=Z,77nm,1.4s,SNR=9.6					
APE	**Apeiranthos**	**138.83 311** ⇓	P	PKPdf	13 53 35.3	+0.3
APE	**Apeiranthos**	**138.83 311**	*e*P	PKPdf	13 53 34.9	-0.1
APE	**Apeiranthos**	**138.83 311** ⇓	*i*P	PKPdf	13 53 35.3	+0.3
KNT	**Kendrikon**	**138.84 318**	*e*P	SKPbc	13 57 05.1	+1.0
KNT	**Kendrikon**	**138.84 318**	*e*P	SKPbc	13 57 05.2	+1.1
MANZ	**Manzenberg**	**138.90 335**	*e*PKPdf	PKPdf	13 53 33.8	-0.9
MANZ			*e*SKPdf	SKPdf	13 57 05.5	+1.7
PAIG	**Paliouri**	**138.91 315**	*e*P	SKPbc	13 57 04.5	+0.2
KHC	**Kasperske Hory**	**138.94 333**	*e*PKP	PKPdf	13 53 35.2	+0.4
KHC			*e*		13 53 37.0	
KHC			*e*		13 53 53.6	
KHC			*e*PP	PP	13 56 29.6	+2.6
KHC			*e*		14 08 27.4	
KHC			*e*SS	SS	14 14 35.0	-2.3
KHC			*e*		14 19 25.1	
KHC			LR	LR		
	comp=Z,10µm,23.0s					
KHC	**Kasperske Hory**	**138.94 333**	*e*PKIKP	PKPdf	13 53 35.2	+0.4
KHC			*e*		13 53 53.6	
KHC			*e*		13 56 29.6	
KHC			*e*SS	SS	14 14 35.0	-2.3
KHC			MLR	MLR		
	comp=Z,10µm,23.0s					
KHC	**Kasperske Hory**	**138.94 333**	*e*PKPDF	PKPdf	13 53 35.2	+0.4
KHC			*ex*	x	13 53 37.0	
KHC			*ep*PKP	pPKPdf	13 53 53.6	-0.8
KHC			*e*PP	PP	13 56 29.6	+2.6
KHC			*e*SKP	SKPbc	13 57 04.5	+0.5
KHC			*ex*	x	14 08 27.4	
KHC			*e*SS	SS	14 14 35.0	-2.3
KHC			*ex*	x	14 19 25.1	
KHC			AMS	AMS	14 52 40.0	
	comp=Z,10µm,23.0s					
VAY	**Valandovo**	**138.97 318**	*e*P	SKPbc	13 57 04.0	-0.4
VAY	**Valandovo**	**138.97 318**	*e*P		13 57 07.8	
VAY	**Valandovo**	**138.97 318**	*i* PKP	PKPdf	13 53 32.9	-2.3
VAY			*i*		13 57 04.2	
ROTZ	**Rotzenmuhle**	**139.03 335**	*e*SKPdf	SKPdf	13 57 05.9	+1.8
STIP	**Stip**	**139.03 319**	*i* PKP	PKPdf	13 53 35.7	+0.4
STIP			*i*		13 57 06.3	
ZKR	**Zakros**	**139.03 308**	*e*P	SKPbc	13 57 07.2	+2.4
ZKR	**Zakros**	**139.03 308**	*e*P		13 57 08.9	
DIVS	**Divibare**	**139.04 323**	*e*P	SKPbc	13 57 08.2	+3.7
DIVS	**Divibare**	**139.04 323**	*e*P	PP	13 56 28.9	+0.9
UBBA	**Unterbreizbach**	**139.05 338**	*e*PKPdf	PKPdf	13 53 34.0	-1.0
UBBA			*e*SKPdf	SKPdf	13 57 05.7	+1.6
GEC2	**GERESS Array S**	**139.09 333**	*e*PKPdf	PKPdf	13 53 32.6	-2.5
GEC2			*e*SKPdf	SKPdf	13 57 05.9	+1.7
GERES	**GERESS Array B**	**139.09 333**	*i* PKIKP	PKPdf	13 53 29.9	-5.2
GERES			pmax	pmax		
	comp=Z,4.0nm,0.5s					
GERES			pmax	pmax		
	comp=N,40nm,1.0s					
GERES	**GERESS Array B**	**139.09 333**	PKhKP		13 53 29.9	
	comp=N,3.8nm,0.5s,baz=31,slow=2.3,SNR=12					
GERES			SKPbc	SKPbc	13 57 07.6	+3.1
	comp=N,40nm,1.0s,baz=50,slow=2.1,SNR=30					
SANT	**Santorini**	**139.15 310**	*e*P	SKPdf	13 57 05.3	+0.6
SANT	**Santorini**	**139.15 310**	*e*P	SKPbc	13 57 07.7	+2.6
THR1	**Thera Island**	**139.15 310**	*e*P	SKPbc	13 57 05.9	+0.8
WTSB	**Winterswijk**	**139.18 341**	*e*PKiKP	PKiKP	13 53 34.6	-2.9
	comp=N,51nm,1.1s					
WET	**Wettzell**	**139.23 334**	*e*PKPdf	PKPdf	13 53 34.8	-0.6
WET			*e*SKPdf	SKPdf	13 57 06.4	+2.0
WET	**Wettzell**	**139.23 334**	*e*PKPdf	PKPdf	13 53 34.8	-0.6
WET			*e*SKPdf	SKPdf	13 57 06.4	+2.0
WET			*es*SKPdf		13 57 38.5	
GRG	**Griva**	**139.27 318**	*e*P	SKPbc	13 57 05.6	+0.4
SKO	**Skopje**	**139.36 319**	*e*P	SKPbc	13 57 07.5	+2.0
SKO	**Skopje**	**139.36 319**	*i* PKP	PKPdf	13 53 35.4	-0.5
SKO			*i*		13 57 07.4	
NPS	**Neapolis**	**139.44 308**	*e*P	PKPdf	13 53 30.7	-5.5
NPS	**Neapolis**	**139.44 308**	*e*P	PKPdf	13 53 28.0	-8.2
GRA1	**Grafenberg Arr**	**139.49 336**	*e*PKPdf	PKPdf	13 53 35.1	-0.7
GRA1			*e*SKPdf	SKPdf	13 57 07.1	+2.2
GRA1			*e*SS	SS	14 14 43.9	+0.2
GRA1			*e*SSS		14 19 52.7	
GRF	**Grafenberg Arr**	**139.49 336**	*e*PKPdf	PKPdf	13 53 35.1	-0.7
GRF			*e*SKPdf	SKPdf	13 57 07.1	+2.2
GRF			*e*SS	SS	14 14 43.9	+0.2
GRF			*e*SSS		14 19 52.7	
XOR	**Xorichti**	**139.51 315**	*e*P	SKPbc	13 57 05.5	-0.4
XRY	**Khrisi**	**139.52 307**	*e*P	PKPdf	13 53 28.5	-7.9
MOA	**Molln**	**139.57 331**	*i*	SKPbc	13 57 08.8	+3.0
	comp=N,102nm,1.4s,SNR=10					
KOGS	**Kog**	**139.59 328**	*e*PKPdf	PKPdf	13 53 35.5	-0.6
KOGS			*e*PP	PP	13 56 31.3	+0.1
KOGS			*e*		13 56 46.3	
KOGS			*e*SKP	SKPbc	13 57 07.1	+1.2
KOGS			*e*		13 57 08.8	
LIT	**Litokhoron**	**139.63 316**	*e*P	SKPbc	13 57 06.7	+0.4
LIT	**Litokhoron**	**139.63 316**	*e*P	SKPbc	13 57 06.2	-0.1
KRUS	**Krusevo**	**139.80 319**	*i* PKP	PKPdf	13 53 27.2	-9.5
KRUS			*i*		13 57 08.5	
BIA	**Bitola**	**139.94 318**	*e*P	SKPbc	13 57 08.6	+1.5
BIA	**Bitola**	**139.94 318**	*i* PKP	PKPdf	13 53 33.6	-3.3
BIA			*i*		13 57 07.7	
LKR	**Lokris**	**139.97 314**	*e*P	SKPbc	13 57 07.4	+0.2
LKR	**Lokris**	**139.97 314**	*e*P	SKPbc	13 57 07.0	-0.2
LKR	**Lokris**	**139.97 314**	*e*P	PKPdf	13 53 35.4	-1.7
KZN	**Kozani**	**140.01 317**	*e*P	PKPdf	13 53 35.8	-1.3
FNA	**Florina**	**140.03 318**	*e*P		13 57 10.9	
FNA	**Florina**	**140.03 318**	*e*P	SKPbc	13 57 07.4	+0.1
PHP	**Peshkopia**	**140.14 320**	*e*PN	SKPbc	13 57 10.1	+2.5
SIVA	**Sivas**	**140.15 308**	*e*P	SKPbc	13 57 09.4	+1.6
SIVA	**Sivas**	**140.15 308**	*e*P		13 57 12.5	
DMUB	**Kingscourt**	**140.20 354**	*e*P	SKPbc	13 57 08.2	+0.9
THL	**Klokotos Trika**	**140.22 316**	*e*P	PKPdf	13 53 35.8	-1.7
OHR	**Ohrid**	**140.22 319**	*e*P	SKPbc	13 57 08.1	+0.3
OHR	**Ohrid**	**140.22 319**	*e*P		13 57 11.5	
OHR	**Ohrid**	**140.22 319**	*i* PKP	PKPdf	13 53 35.8	-1.6
OHR			*i*		13 57 08.7	
AGG	**Agios Georgios**	**140.26 315**	*e*P	SKPbc	13 57 08.0	0.0
AGG	**Agios Georgios**	**140.26 315**	*e*P	PP	13 56 34.3	-1.5
LTK	**Loutraki**	**140.28 313**	*e*P	SKPbc	13 57 08.1	+0.1
LTK	**Loutraki**	**140.28 313**	*e*P		13 57 11.2	
PUK	**Puka**	**140.28 321**	*e*PN		13 57 11.5	
DID	**Didima**	**140.31 312**	*e*P	SKPbc	13 57 09.8	+1.6
DID	**Didima**	**140.31 312**	*e*P	PP	13 56 48.0	+12
CRES	**Cresnjev**	**140.42 328**	*e*PKPdf	PKPdf	13 53 36.8	-0.9
VAM	**Vamos**	**140.46 309**	*e*P	PKPdf	13 53 31.6	-6.5
VAM	**Vamos**	**140.46 309**	*e*P	PKPdf	13 53 30.5	-7.6
HGN	**Heimansgroeve**	**140.50 341**	*e*PKiKP	PKiKP	13 53 37.4	-2.8
	comp=N,37nm,1.3s					
HGN	**Heimansgroeve**	**140.50 341**	*e*PP	PP	13 56 45.0	+8.6
KBA	**Koelnbreinsper**	**140.56 331** ⇑	*i*P	PKPdf	13 53 31.9	-6.0
	comp=N,45nm,1.2s					
KBA	**Koelnbreinsper**	**140.56 331** ⇑	*i*	SKPbc	13 57 10.7	+2.2
	comp=N,104nm,1.1s					
KBA	**Koelnbreinsper**	**140.56 331** ⇑	*i*P	PKPdf	13 53 31.9	-6.0
KBA			*i*		13 57 10.7	
QSH	**Qafa e Shtames**	**140.57 320**	*e*PN		13 57 14.4	
MEM	**Membach**	**140.61 341**	PKPdf	PKPdf	13 53 31.6	-6.2
MEV	**Metsovon**	**140.63 317**	*e*P		13 57 11.7	
FUR	**Furstenfeldbru**	**140.66 334**	*e*SKPdf	SKPdf	13 57 10.0	+3.0
EVR	**Evrytania**	**140.67 315**	*e*P	PKPdf	13 53 37.9	-0.4
EVR	**Evrytania**	**140.67 315**	*e*P	PKPdf	13 53 32.0	-6.3
TIR	**Tirane**	**140.69 320**	*e*P		13 57 12.0	
TIR	**Tirane**	**140.69 320**	*e*PN		13 57 12.6	
LJU	**Ljubljana**	**140.74 329**	*e*PKIKP	PKPdf	13 53 37.9	-0.3
LJU			*e*		13 56 39.3	
LJU	**Ljubljana**	**140.74 329**	*e*PKPdf	PKPdf	13 53 37.9	-0.3
LJU			*e*PP	PP	13 56 39.3	+1.1
LJU			*e*SKP	SKPbc	13 57 09.9	+0.9
LJU			*e*		13 57 12.1	
LJU			*e*		13 57 41.8	
BOJS	**Bojanci**	**140.75 328**	*e*PKPdf	PKPdf	13 53 37.7	-0.5
MYKA	**Terra Mystica**	**140.75 331** ⇑	*i*PKiKP	PKiKP	13 53 32.3	-8.5
	comp=N,25nm,1.0s					
MYKA	**Terra Mystica**	**140.75 331** ⇑	*i*P	SKPbc	13 57 10.6	+1.6
	comp=N,155nm,1.2s					
DLF	**Lyons Farm**	**140.76 354**	*e*P	SKPbc	13 57 10.3	+1.5
DCN	**Croghan**	**140.79 354**	*e*P	SKPbc	13 57 09.2	+0.3
VLI	**Veliai**	**140.87 311**	*e*P	PKPdf	13 53 31.3	-7.5
VLI	**Veliai**	**140.87 311**	*e*P	PKPdf	13 53 33.0	-5.8
SELA	**Sela**	**140.92 314**	*e*P	SKPbc	13 57 11.4	+1.7
SELA	**Sela**	**140.92 314**	*e*P		13 57 13.8	
JAN	**Janina**	**140.95 317**	*e*P	PKPdf	13 53 38.4	-0.4
JAN	**Janina**	**140.95 317**	*e*P	PKPdf	13 53 33.5	-5.3
KYTH	**Kithira**	**140.98 311**	*e*P	PKPdf	13 53 36.5	-2.5
VLX	**Vlachokerasia**	**140.99 313**	*e*P	SKPbc	13 57 11.2	+1.2
VLX	**Vlachokerasia**	**140.99 313**	*e*P		13 57 13.6	
BCLA	**Clavier**	**140.99 341**	PKPdf	PKPdf	13 53 36.9	-1.6
CEY	**Cerknica**	**141.00 329**	*e*PP	PP	13 56 40.5	+0.7
CEY			*e*		13 56 53.0	
CEY			*e*SKP	SKPbc	13 57 10.7	+1.0
CEY			*e*		13 57 42.0	
STU	**Stuttgart**	**141.02 336**	*e*PKPdf	PKPdf	13 53 38.6	0.0
STU			*e*SKPdf	SKPdf	13 57 10.9	+3.3
VOY	**Vojsko**	**141.06 330**	*e*PKPdf	PKPdf	13 53 39.0	+0.2
VOY			*e*SKP	SKPbc	13 57 11.4	+1.6
VOY	**Vojsko**	**141.06 330**	*e*	PKPdf	13 53 32.7	-6.1
VOY			*e*PKPdf	PKPdf	13 53 39.0	+0.2
VOY			*e*SKP		13 57 11.4	
ABTA	**Abfaltersbach**	**141.19 332** ⇑	*i*PKiKP	PKiKP	13 53 32.4	-9.3
	comp=N,41nm,1.1s,SNR=7.4					
ABTA	**Abfaltersbach**	**141.19 332** ⇓	*i*P	SKPbc	13 57 09.7	-0.4
	comp=N,108nm,1.2s,SNR=9.6					
WTTA	**Wattenberg**	**141.20 333** ⇑	*i*P	PKPdf	13 53 33.6	-5.4
	comp=N,72nm,1.3s,SNR=8.2					
WTTA	**Wattenberg**	**141.20 333** ⇑	*i*	SKPbc	13 57 11.3	+1.1
	comp=N,203nm,1.3s,SNR=12					
WTTA	**Wattenberg**	**141.20 333** ⇑	*i*P	PKPdf	13 53 33.6	-5.4
WTTA			*i*		13 57 11.3	
WTTA	**Wattenberg**	**141.20 333** ⇑	*i*pPKiKP	PKPdf	13 53 33.6	-5.4
	comp=N,72nm,1.3s,SNR=8.2					
GMNA	**Gemona**	**141.20 331**	PKP	PKPdf	13 53 38.1	-0.9
RLS	**Riolos of Patr**	**141.31 314**	*e*P	PKPdf	13 53 32.2	-7.3
MOTA	**Moosalm**	**141.37 333** ⇑	*i*P	PKPdf	13 53 34.2	-5.1
	comp=N,44nm,1.1s					
MOTA	**Moosalm**	**141.37 333** ⇑	*i*	SKPbc	13 57 11.0	+0.4
	comp=N,159nm,1.3s,SNR=12					
MOTA	**Moosalm**	**141.37 333** ⇑	*i*P	PKPdf	13 53 34.2	-5.1
MOTA			*i*		13 57 11.0	
MOTA	**Moosalm**	**141.37 333** ⇑	*i*pPKiKP	PKPdf	13 53 34.2	-5.1
	comp=N,44nm,1.1s					
WLF	**Walferdange**	**141.37 340**	PKIKP	PKPdf	13 53 37.5	-1.7
WLF	**Walferdange**	**141.37 340**	PKPdf	PKPdf	13 53 34.2	-5.0
WLF	**Walferdange**	**141.37 340**	*e*PKPdf	PKPdf	13 53 34.2	-5.0
WLF			*e*SKPdf	SKPbc	13 57 12.3	+1.8
LANF	**Langenberg**	**141.38 338**	PKP	PKPdf	13 53 35.2	-4.1
ITM	**Ithomi**	**141.40 313**	*e*P	PKPdf	13 53 32.9	-6.8
ITM	**Ithomi**	**141.40 313**	*e*P	PKPdf	13 53 33.0	-6.7
SQTA	**Sankt Quirin**	**141.42 333** ⇓	*i*P	PKPdf	13 53 33.8	-5.6
	comp=N,54nm,1.2s					
SQTA	**Sankt Quirin**	**141.42 333** ⇓	*i*	SKPbc	13 57 12.4	+1.6
	comp=N,167nm,1.3s,SNR=13					
SQTA	**Sankt Quirin**	**141.42 333** ⇓	*i*P	PKPdf	13 53 33.8	-5.6
SQTA			*i*		13 57 12.4	
SQTA	**Sankt Quirin**	**141.42 333** ⇓	*i*pPKiKP	PKPdf	13 53 33.8	-5.6
	comp=N,54nm,1.2s					
GIVF	**Givet**	**141.42 341**	*e*PKP1	PKPdf	13 53 33.3	-6.0
	comp=N,61nm,0.7s					
DOU	**Dourbes**	**141.50 342**	PKPdf	PKPdf	13 53 34.5	-4.9
LKD	**Levkas**	**141.56 316**	*e*P		13 57 13.0	
LKD	**Levkas**	**141.56 316**	*e*P		13 57 12.9	
NVLJ	**Novalja**	**141.59 327**	P	PKPdf	13 53 30.2	-10

comp=Z,95nm,0.6s
LPG La Plagne 144.66 336 *e*PKP1 PKPdf 13 53 44.7 -0.5
comp=Z,202nm,0.7s
SMF Signal de Mont 144.76 340 *e*PKP1 PKPdf 13 53 44.0 -1.3
comp=Z,204nm,1.0s
AVF Avril sur Loir 144.80 340 *e*PKP1 PKPdf 13 53 44.1 -1.3
comp=Z,185nm,1.0s
TOLF Tolfa 144.82 327 PKP PKPdf 13 53 44.1 -1.5
VENT Ventotene 144.90 324 PKP PKPdf 13 53 45.0 -0.8
QLNO Quiliano 144.93 333 PKP PKPdf 13 53 43.7 -2.0
MAON Monte Argentar 145.02 328 PKP PKPdf 13 53 44.9 -1.0
SGMF Saint Gilles 145.04 348 *e*PKP1 PKPbc 13 53 45.0 -0.2
comp=Z,364nm,0.9s
SCLL Scilla 145.07 318 PKP PKPdf 13 53 44.8 -1.3
ROSF Rostrenen 145.11 348 *e*PKP1 PKPbc 13 53 45.1 -0.3
comp=Z,276nm,1.0s
GDM Grand'Maison 145.16 336 PKP PKPdf 13 53 45.6 -0.4
BGF Bois d'Agland 145.17 341 *e*PKP1 PKPbc 13 53 45.6 -0.1
comp=Z,299nm,0.9s
DOI San Damiano 145.26 334 PKP PKPdf 13 53 44.4 -1.9
GRN Grenoble 145.27 336 PKP PKPdf 13 53 46.2 0.0
MBDF Montbardon 145.28 335 *e*PKP1 PKPbc 13 53 45.9 -0.2
comp=Z,316nm,0.8s
PLDF La Plantade 145.43 339 PKP PKPdf 13 53 46.6 +0.1
SURF Saint Ours 145.47 334 PKP PKPdf 13 53 46.6 0.0
ORIF Oris-en-Rattie 145.49 336 *e*PKP1 PKPbc 13 53 46.3 -0.5
comp=Z,581nm,0.8s
ORIF *e*MLR MLR
comp=Z,4μm,19.8s
QUIF Quistinic 145.49 348 *e*PKP1 PKPbc 13 53 45.9 -0.8
comp=Z,115nm,0.7s
AGO Saint Agoulin 145.52 340 PKP PKPdf 13 53 46.3 -0.3
SAOF Saorge 145.54 333 PKP PKPdf 13 53 46.3 -0.5
NOV Novara 145.57 319 PKP PKPdf 13 53 41.9 -5.1
AUTN L'Aution 145.59 333 PKP PKPdf 13 53 47.1 +0.3
TCF Toulx Ste Croi 145.61 341 *e*PKP1 PKPbc 13 53 47.1 0.0
comp=Z,189nm,1.0s
TOUF Mont Tournerai 145.66 334 PKP PKPdf 13 53 47.0 +0.1
SBF Sospel 145.70 333 *e*PKP1 PKPbc 13 53 47.0 -0.5
comp=Z,661nm,0.8s
LUCF Luceram 145.71 333 PKP PKPdf 13 53 47.2 +0.2
MVIF Mont Vial 145.79 334 PKP PKPdf 13 53 47.1 -0.1
COLF Collangettes 145.79 339 PKP PKPdf 13 53 47.0 -0.1
REVF Revere 145.82 333 PKP PKPdf 13 53 47.1 -0.1
PYM Petit Puy Mans 145.83 340 PKP PKPdf 13 53 47.2 0.0
OCF Saint Nazaire 146.00 336 PKP PKPdf 13 53 47.8 +0.3
OG26 St.-Nazaire-De 146.00 336 PKP PKPdf 13 53 47.8 +0.3
PGF Pioggiola 146.00 330 *e*PKP1 PKPdf 13 53 47.2 -0.4
comp=Z,541nm,0.8s
VIVF Saint-Julien-l 146.00 337 *e*PKP1 PKPdf 13 53 47.2 -0.3
comp=Z,464nm,1.2s
MFF Saint Martin d 146.02 344 *e*PKP1 PKPdf 13 53 47.4 -0.1
comp=Z,169nm,0.6s
CALN Calern 146.02 334 PKP PKPdf 13 53 47.6 0.0
LBL Lubilhac 146.20 339 PKP PKPdf 13 53 48.7 +0.9
FRF La Foret Royal 146.28 334 *e*PKP1 PKPdf 13 53 47.6 -0.4
comp=Z,306nm,0.6s
FRNF Fournols 146.30 340 PKP PKPdf 13 53 48.5 +0.5
CSLB Castelbuono 146.31 319 PKP PKPdf 13 53 48.5 +0.2
USI Ustica 146.38 321 PKP PKPdf 13 53 47.3 -1.1
SMRF Simiane la Rot 146.39 335 *e*PKP1 PKPdf 13 53 48.2 0.0
comp=Z,229nm,0.8s
HMDC Modica 146.42 317 PKP PKPdf 13 53 49.3 +0.8
VILF Villemus 146.43 335 PKP PKPdf 13 53 48.8 +0.5
TAVF Tavernes 146.48 334 PKP PKPdf 13 53 48.6 +0.2
LMR La Mourre 146.52 334 *e*PKP1 PKPdf 13 53 47.9 -0.5
comp=Z,346nm,0.7s
PRAF Pradon 146.69 336 PKP PKPdf 13 53 48.6 -0.1
PUYF Puyloubier 146.70 335 PKP PKPdf 13 53 48.6 -0.1
RJF Les Rejaudoux 146.71 341 *e*PKP1 PKPdf 13 53 48.3 -0.4
comp=Z,102nm,0.8s
RJF *e*MLR MLR
comp=Z,7μm,22.2s
RJF Les Rejaudoux 146.71 341 *e*PKIKP PKPdf 13 53 48.3 -0.4
RJF MLR MLR
comp=Z,7μm,22.3s
TREF Trevaresse 146.76 335 PKP PKPdf 13 53 48.6 -0.2
MATF Mathat 146.76 344 PKP PKPdf 13 53 50.0 +1.2
CAF Calviac 146.87 340 *e*PKP1 PKPdf 13 53 49.0 0.0
comp=Z,148nm,1.0s
BERF Bertagne 146.89 334 PKP PKPdf 13 53 49.3 +0.2
GELF Grande-Etoile 146.94 335 PKP PKPdf 13 53 48.8 -0.3
LASF Ste Croix 146.97 337 *e*PKP1 PKPdf 13 53 49.0 -0.2
comp=Z,260nm,0.8s
LFF La Frestale 147.28 342 *e*PKP1 PKPdf 13 53 49.5 -0.2
comp=Z,196nm,0.6s
DGI Dorgali Grotta 147.34 327 PKP PKPdf 13 53 48.9 -1.0
MTLF Montolieu 148.21 338 *e*PKP1 PKPdf 13 53 50.9 -0.3
comp=Z,271nm,1.0s
PTS Pantelleria 148.30 320 PKP PKPbc 13 53 54.3 -0.8
LRDF Laroque-de-Fa 148.44 338 PKP PKPdf 13 53 51.4 -0.2
SJAF Saint Jean de 148.71 337 PKP PKPbc 13 53 55.1 -0.8
EJON La Jonquera 148.73 337 PKP PKPdf 13 53 49.6 -2.5
FILF Fillols 148.76 337 PKP PKPdf 13 53 52.0 -0.2
CARF Carcanieres 148.79 338 PKP PKPbc 13 53 54.8 -1.3
MLS Moulis 148.94 340 PKP PKPbc 13 53 54.7 -1.8
SALF Salau 149.08 339 PKP PKPbc 13 53 55.2 -1.6
VALF Valcebollere 149.10 338 PKP PKPdf 13 53 52.4 -0.3
MSKU Masuku 149.11 241 PFAKE 13 54 00.0 +6.4
MSKU LR LR
comp=Z,3.0nm,21.0s
EPF Esparros 149.12 341 *e*PKP1 PKPdf 13 53 52.7 0.0
MELF Melles 149.12 340 PKP PKPdf 13 53 54.2 +1.4
MELF Melles 149.12 340 PKP PKPdf 13 53 54.1 +1.3
REYF Montagne du Re 149.32 342 PKP PKPbc 13 53 56.7 -0.7
RESF Ens 149.32 340 PKP PKPbc 13 53 56.2 -1.3
ORDF Ordiarp 149.35 342 PKP PKPbc 13 53 57.0 -0.5
VIEF Viey 149.35 341 PKP PKPbc 13 53 56.3 -1.2
ATE Arette 149.40 342 PKP PKPbc 13 53 56.4 -1.2
OSSF Osses 149.41 343 PKP PKPbc 13 53 56.7 -0.9
EBIE Bielsa 149.49 340 PKP PKPdf 13 53 53.5 +0.1
EALK Alkurruntz 149.51 343 PKP PKPdf 13 53 53.3 0.0
ETSF Etsaut 149.52 342 *e*PKP1 PKPdf 13 53 53.2 -0.2
comp=Z,322nm,1.0s
SJPF Ste Jean 149.53 343 *e*PKP1 PKPdf 13 53 52.3 -1.1
ELIZ Elizondo 149.57 343 PKP PKPdf 13 53 53.4 -0.1
EMIR Miracle 149.70 338 PKP PKPdf 13 53 52.9 -0.8
RCBR Riachuelo 149.83 130 *e*PKPdf PKPdf 13 53 54.8 0.0
RCBR *e*PKPbc PKPbc 13 53 59.4 -0.2
RCBR *e*PKPab PKPab 13 54 05.5 +0.3
RCBR LR LR
comp=Z,3μm,22.0s
ELAN Lanestosa 150.00 346 PKP PKPdf 13 53 54.0 -0.2
EARI Arriondas 150.32 348 PKP PKPdf 13 53 53.9 -0.8
ECRI Cripan 150.35 344 PKP PKPdf 13 53 54.3 -0.4
EPOB Poblet 150.36 338 PKP PKPdf 13 53 53.9 -0.9
ESAC San Caprasio 150.56 340 PKP PKPdf 13 53 55.2 +0.2
EPON Pontenova 150.63 351 PKP PKPdf 13 53 56.2 +1.1
KEST Kesra 150.64 321 PKP PKPdf 13 53 55.0 -0.4
comp=Z,8.5nm,1.0s,baz=241,slow=2.4,SNR=15
KEST PKPbc PKPbc 13 54 01.1 +0.2
comp=Z,65nm,0.7s,baz=81,slow=1.2,SNR=65
ERTA Horta de San J 150.97 339 PKP PKPdf 13 53 54.9 -0.8
ETOS Mallorca 151.03 334 PKP PKPdf 13 53 55.7 -0.2
CMAH Djebel Manchou 151.17 324 P PKPdf 13 53 55.0 -1.2
EMAZ Mazaricos 151.24 354 PKP PKPdf 13 53 55.0 -1.1
STS Santiago 151.26 353 PKP PKPdf 13 53 56.5 +0.5
CAEH 'Ain El Ouahch 151.38 325 P PKPdf 13 53 56.5 0.0
ABSA Djebel Ababsia 151.38 324 P PKPdf 13 53 56.0 -0.5
CKFL Kef-Lekhel 151.72 325 P PKPdf 13 53 57.5 +0.5
EMOS Mosqueruela 151.78 339 PKP PKPdf 13 53 56.1 -0.9
CASM Ain Smara 151.96 325 P PKPdf 13 53 58.0 +0.6
DFRA Djebel Bou Aff 152.09 326 P PKPdf 13 53 58.0 +0.4
CTEI Djebel Teioual 152.14 325 P PKPdf 13 53 58.0 +0.3
ELOB Lobios 152.20 352 PKP PKPdf 13 53 57.9 +0.3
EIBI Ibiza 152.26 335 PKP PKPdf 13 53 57.1 -0.6
SET Setif 152.60 326 P PKPbc 13 54 02.0 -3.4
GUD Guadarrama 152.62 345 PKP PKPdf 13 53 58.1 -0.1
ECHE Chera 152.64 339 PKP PKPdf 13 53 58.4 +0.2
CKHR Kef el Ahmar 152.67 326 P PKPdf 13 54 03.0 +4.6
MVO Moncorvo 152.72 350 *e*PKPdf PKPdf 13 53 58.3 0.0
MVO Moncorvo 152.72 350 *e*PKPbc PKPbc 13 54 06.6 +1.1
PVRL Vila Real 152.73 351 *e*PKPdf PKPdf 13 53 58.4 +0.1
CMER Merouana 152.75 325 P PKPdf 13 54 08.0 +9.4
EBEN Beniarda 153.16 337 PKP PKPdf 13 53 58.2 -0.9
ABA Alger-Bouzarea 153.35 330 P PKPdf 13 54 02.2 +2.8
ESDC Sonseca Array 153.48 344 PKP PKPdf 13 53 58.2 -1.3
ESDC Sonseca Array 153.48 344 PKP PKPdf 13 53 58.6 -0.9
comp=Z,4.9nm,0.9s,baz=357,slow=3.2,SNR=14
ESDC PKPbc PKPbc 13 54 06.8 -0.4
comp=Z,6.8nm,0.5s,baz=0.5,slow=1.9,SNR=19
ESLA Sonseca Array 153.48 344 *e*PKPdf PKPdf 13 53 59.7 +0.2
ESLA *e*PKPbc PKPbc 13 54 07.2 0.0
ESLA LR LR
comp=Z,35μm,22.0s
MTE Manteigas 153.56 350 *e*PKPdf PKPdf 13 54 00.5 +0.9
MTE Manteigas 153.56 350 *e*PKPbc PKPbc 13 54 08.3 +1.0
ADJB Djebel Djouab 153.66 329 P PKPbc 13 54 04.7 -3.0
ETOB Tobarra 153.69 339 PKP PKPdf 13 53 59.6 -0.2
PAB San Pablo 153.70 345 PFAKE 13 54 10.0 +10
PAB LR LR
comp=Z,5μm,21.0s
EMHD Djebel Mahouad 153.87 329 P PKPdf 13 54 01.0 +0.8
EVIA Vianos 154.01 341 PKP PKPdf 13 53 59.9 -0.4
PCBR Castelo Branco 154.09 350 *e*PKPdf PKPdf 13 54 00.3 -0.1
PDA Ponta Delgada 154.15 23 *i* PKP PKPdf 13 54 03.0 +2.5
PDA Ponta Delgada 154.15 23 *i* LR LR 14 45 40.0
CMLA Cha da Macela 154.19 23 PFAKE 13 54 10.0 +9.4
CMLA LR LR
comp=Z,4μm,20.0s
EBNR Beni Rached 154.47 332 P PKPdf 13 54 03.0 +2.0
ECHA Ech Chlef 154.66 332 P PKPdf 13 54 02.3 +1.0
EBAN Banos Encina 154.84 342 PKP PKPdf 13 54 00.6 -0.8
EQES Quesada 154.95 341 PKP PKPdf 13 54 00.7 -0.9
PESTR Estremoz 155.06 350 *e*PKPdf PKPdf 13 54 01.2 -0.5
PESTR Estremoz 155.06 350 *e*PKPab PKPab 13 54 27.6 +1.4
EADA Adamuz 155.06 344 PKP PKPdf 13 53 58.1 -3.7
EBAD Badajoz 155.06 349 PKP PKPdf 13 53 59.3 -2.4
ETRT Tiaret 155.32 331 P PKPdf 13 54 02.6 +0.4
ECAB El Cabril 155.36 345 PKP PKPdf 13 54 01.2 -0.9
ENIJ Nijar 155.42 339 PKP PKPdf 13 54 01.2 -1.1
LIS Lisbon 155.44 352 *e*P PKPdf 13 54 01.8 -0.5
EVO Evora 155.46 350 *e*PKIKP PKPdf 13 54 01.3 -1.0
comp=Z,61nm,1.1s
EVO *e*MLR MLR
comp=Z,8μm,22.5s
EVO Evora 155.46 350 *e*PKPdf PKPdf 13 54 01.9 -0.4
ELUQ Luque 155.54 343 PKP PKPdf 13 54 02.5 0.0
ECOG Cogollos-Vega 155.59 341 PKP PKPdf 13 54 01.8 -0.7
PBAR Barrancos 155.63 348 *e*PKPdf PKPdf 13 54 02.2 -0.3
PBAR Barrancos 155.63 348 *e*PKPab PKPab 13 54 29.8 +1.1
EBER Berja 155.72 340 PKP PKPdf 13 54 00.9 -1.7
ELOJ Sierra Loja 155.89 342 PKP PKPdf 13 54 01.3 -1.6
ERON Agron 155.90 341 PKP PKPdf 13 54 01.9 -1.1
PBEJ Beja 155.92 350 *e*PKPdf PKPdf 13 54 03.1 +0.2
EMIN Mina Concepcio 155.94 347 PKP PKPdf 13 54 01.1 -1.9
EGRO El Granado 156.33 349 PKP PKPdf 13 54 02.3 -1.1
PVAQ Vaqueiros 156.50 349 *e*PKPdf PKPdf 13 54 04.5 +0.8
PTEO Sao Teotonio 156.53 351 *e*PKPdf PKPdf 13 54 03.7 0.0
EMIJ Mijas 156.61 343 PKP PKPdf 13 54 02.1 -1.8
ESPR Espera 156.62 345 PKP PKPdf 13 54 03.9 0.0
EALB Alboran 156.63 339 PKP PKPdf 13 54 03.0 -0.9
PBDV Barranco-do-Ve 156.70 349 *e*PKPdf PKPdf 13 54 04.0 0.0
MORF Marmelete 156.75 351 *e*PKPdf PKPdf 13 54 03.9 -0.1
MORF Marmelete 156.75 351 *e*PKPab PKPab 13 54 36.4 +2.8
EJIF Jimena Fronter 156.91 344 PKP PKPdf 13 54 03.5 -0.8
PFVI Vila Bisbo 156.95 351 *e*PKPdf PKPdf 13 54 03.9 -0.4
PFVI Vila Bisbo 156.95 351 *e*PKPab PKPab 13 54 36.0 +1.6
ASCN Ascension 157.86 177 PFAKE 13 54 20.0 +14
ASCN LR LR
comp=Z,3μm,20.0s
MDT Midelt 160.01 339 PKP PKPdf 13 54 08.0 -0.1
comp=Z,26nm,1.1s,baz=355,slow=1.8,SNR=21
CCAN Las Canadas 165.79 13 PKP PKPdf 13 54 11.6 -2.2
CFTV Fuerteventura 165.94 3 PKP PKPdf 13 54 13.6 -0.3
LIC Lamto 168.67 226 *e*PKIKP PKPdf 13 54 15.0 -1.4
comp=Z,87nm,1.2s
LIC *e*MLR MLR
comp=Z,7μm,21.0s
LIC Lamto 168.67 226 *e*PKPdf PKPdf 13 54 15.0 -1.4
LIC LR LR
comp=Z,3μm,21.0s
DBIC Dimbokro 168.86 228 PKP PKPdf 13 54 15.5 -1.0
DBIC PKPab PKPab 13 55 27.1 -0.2
DBIC LR LR
comp=Z,8μm,21.0s
DBIC Dimbokro 168.86 228 PKIKP PKPdf 13 54 15.5 -1.0
DBIC 13 55 27.1
DBIC pmax pmax
comp=Z,24nm,1.1s
DBIC pmax pmax
comp=Z,47nm,1.1s
DBIC Dimbokro 168.86 228 PKP PKPdf 13 54 15.5 -1.0
comp=Z,24nm,1.1s,baz=156,slow=3.1,SNR=10
DBIC PKPab PKPab 13 55 27.1 -0.2
comp=Z,47nm,1.1s,baz=122,slow=6.4,SNR=5.8
BBTS Babate 176.70 84 PKP PKPdf 13 54 19.1 -0.5
comp=Z,41nm,1.0s,baz=309,slow=1.7,SNR=3.4

NEIC ***25*** *13:36:09.1, 1938N×6744W, h21km, MD3.0(RSPR), After RSPR.*
RSPR 25 13:36:09.1, 1938N×6744W, h21km±41km, MD3.0/8, MD3.0/8, 7C-1D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
AGPR	Aguadilla, PR	0.95	161	⇑	*e*P	Pb	13 36 24.8	-2.2
AGPR					*e*S	Sb	13 36 36.2	-3.0
AOPR	Arecibo Observ	1.21	148		*e*S	Sb	13 36 42.9	-3.7
LRS	Lares	1.22	152	⇑	*e*P	Pn	13 36 27.5	-3.4
LRS					*e*S	Sb	13 36 43.8	-2.9
LSP	Las Mesas	1.24	164	⇑	*e*P	Pn	13 36 28.7	-2.5
LSP					*e*S	Sn	13 36 44.0	-3.3
CRPR	Cabo Rojo, PR	1.40	167	⇑	*e*P	Pn	13 36 30.4	-3.0
CRPR					*e*S	Sn	13 36 48.0	-3.2
CELP	Cerrillos	1.53	148	⇑	*e*P	Pn	13 36 33.4	-1.8
CELP					*e*S	Sn	13 36 52.2	-2.3
SMN1	Samana, DR	1.74	264	⇓	*e*P	Pn	13 36 35.8	-2.3
SMN1	Samana, DR	1.74	264		*e*S	Sn	13 36 56.8	-3.0
CBYP	Canovanas	1.86	126	⇑	*e*P	Pn	13 36 37.6	-2.1
CBYP					*e*S	Sn	13 36 58.9	-3.7
MTP	Monte Pirata	2.19	125	⇑	*e*P	Pn	13 36 41.8	-2.6
MTP					*e*S	Sn	13 37 08.5	-2.4

NEIC ***25*** *13:46:09.3, 1934N×6747W, h54km, MD3.2(RSPR), After RSPR.*
RSPR 25 13:46:09.3, 1934N×6747W, h53km±5km, MD3.1/6, MD3.1/6, 6C, Mona Passage

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
AGPR	Aguadilla, PR	0.93	158	⇑	*e*P	Pn	13 46 25.3	-0.9
AGPR					*e*S	Sn	13 46 37.7	-1.0
LSP	Las Mesas	1.22	162	⇑	*e*P	Pn	13 46 29.3	-0.7
LSP					*e*S	Sn	13 46 44.9	-0.6
CRPR	Cabo Rojo, PR	1.37	165	⇑	*e*P	Pn	13 46 31.2	-0.9
CRPR					*e*S	Sn	13 46 48.1	-1.1
SMN1	Samana, DR	1.71	265	⇑	*e*P	Pn	13 46 35.8	-0.9
SMN1	Samana, DR	1.71	265		*e*S	Sn	13 46 56.6	-0.8
CBYP	Canovanas	1.86	125	⇑	*e*P	Pn	13 46 38.3	-0.5
CBYP					*e*S	Sn	13 47 00.3	-0.9
MTP	Monte Pirata	2.20	124	⇑	*e*P	Pn	13 46 42.5	-1.0
MTP					*e*S	Sn	13 47 08.8	-0.7

IDC 25 13:50:34.3±2.0, 760S×12955E, h0km, mb3.3/1, mb1 3.5/4, mb1mx3.4/14, mbtmp3.3/4, ML3.3/2, Error ellipse: s-maj=69.5km s-min=24.1km az=79.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	11.11	200		Pn	Pn	13 53 16.6	+2.1
0.2nm,0.3s,baz=31,slow=4.5,SNR=7.6								
FITZ					Sn	Sn	13 55 22.9	+3.4
0.2nm,0.3s,baz=251,slow=1.3,SNR=2.1								
WRA	Warramunga Arr	13.12	160		Pn	Pn	13 53 41.2	-0.8
0.1nm,0.3s,baz=334,slow=14,SNR=11								
WRA					Sn	Sn	13 56 08.8	+0.1
0.1nm,0.3s,baz=332,slow=24,SNR=6.1								
ASAR	Alice Springs	16.51	166		Pn	Pn	13 54 25.9	-1.5
0.1nm,0.3s,baz=345,slow=9.4,SNR=10								
MKAR	Makanchi Array	68.48	327		P	P	14 01 38.4	+0.1
0.2nm,0.6s,baz=129,slow=11,SNR=1.8								

IDC 25 13:54:48.1±1.0, 3042N×9051E, h0km, mb3.8/6, mb1 4.0/6, mb1mx3.7/21, mbtmp3.8/6, Error ellipse: s-maj=32.3km s-min=27.0km az=61.0, Xizang

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SONM	Songino Array	21.24	31		P	P	13 59 36.0	+0.5
3.9nm,0.7s,baz=215,slow=12,SNR=17								
AKASG	Malin Array Be	49.25	313		P	P	14 03 38.1	-0.1
0.7nm,0.3s,baz=82,slow=6.6,SNR=7.7								
NB2	NORSAR Subarra	58.78	326		P	P	14 04 47.8	+0.1
comp=Z,1.3nm,0.8s,baz=83,slow=6.9								
NOA	NORSAR Array B	58.78	326		P	P	14 04 48.2	+0.5
comp=Z,1.7nm,0.8s,baz=84,slow=6.8,SNR=5.7								
WRA	Warramunga Arr	65.46	134		P	P	14 05 33.3	+0.2
comp=Z,0.4nm,0.8s,baz=327,slow=6.2,SNR=4.4								
LSZ	Lusaka	75.20	242		P	P	14 06 32.9	+0.1
comp=Z,2.3nm,0.6s,baz=7.8,slow=7.8,SNR=5.0								
YKA	Yellowknife Ar	85.23	11		P	P	14 07 25.6	-0.6
comp=Z,0.1nm,0.4s,baz=333,slow=5.2,SNR=3.5								

NEIC 25 14:05:27.6, 3791S×17674E, h5km, ML3.7(WEL), 4C-5D, After WEL., North Island

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MARZ	Manawahe	0.09	214	⇑	P	Pg	14 05 30.0	+0.4
MARZ					S	Sg	14 05 31.9	+1.0
EDRZ	Edgecumbe	0.20	180	⇑	P	Pg	14 05 32.0	+0.5
LIRZ	Lichensteins R	0.30	251	⇓	P	Pg	14 05 33.9	+0.5
MKRZ	Makatiti	0.32	223	⇓	P	Pg	14 05 34.6	+0.9
TAZ	Tarawera	0.37	210	⇓	P	Pg	14 05 35.6	+0.8
KARZ	Kaharoa	0.41	254	⇓	P	Pg	14 05 35.9	+0.4
TGRZ	Tauranga	0.42	295		P	Pg	14 05 36.0	+0.3
URZ	Urewera	0.46	140	⇑	P	Pg	14 05 36.6	+0.2
UTU	Utuhina	0.51	238	⇓	P	Pg	14 05 38.0	+0.6
MWZ	Matawai	0.75	125	⇑	P	Pg	14 05 42.1	0.0
BKZ	Black Stump Fm	1.27	189	*e*P		Pg	14 05 50.0	-2.0

NEIC ***25*** *14:13:56.6±2.7, 3634N×21.12E, h10km, ML3.1(ATH), Error ellipse: s-maj=44.6km s-min=13.0km az=51.0*
CSEM ***25*** *14:14:34.3, 3463N×2451E, h32km, MD2.9/3, After ATH*
ATH 25 14:14:34.3, 3463N×2451E, h32km, MD2.9/3, Crete

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
GVD	Gavdhos	0.41	301	*e*PB		Pb	14 14 43.5	+0.1
GVD				*e*SB		Sb	14 14 50.5	+0.9
SIVA	Sivas	0.46	32	P		Pb	14 14 47.2	+3.0
VAM	Vamos	0.82	342	*e*PN		Pn	14 14 50.5	+0.9
LAST	Lasithi	0.96	56	P		Pn	14 14 54.3	+2.8
XRY	Khrisi	1.00	76	*e*PN		Pn	14 14 53.5	+1.3
ZKR	Zakros	1.48	71	P		Pn	14 15 03.7	+5.0

IDC 25 14:17:26.4±2.1, 2330S×17393W, h0km, mb4.1/4, mb1 4.3/5, mb1mx3.9/16, mbtmp4.3/5, ML4.7/1, Error ellipse: s-maj=150.5km s-min=36.8km az=173.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
RAR	Rarotonga	13.28	84		Pn	Pn	14 20 36.5	+0.3
4.3nm,0.3s,baz=178,slow=3.0,SNR=5.8								
CTA	Charters Tower	37.05	267		P	P	14 24 39.6	+1.2
2.7nm,0.5s,baz=96,slow=9.5,SNR=6.8								
STKA	Stephens Creek	40.11	248		P	P	14 25 02.0	-1.9
2.4nm,0.9s,baz=105,slow=12,SNR=4.3								
ASAR	Alice Springs	47.62	259		P	P	14 26 04.5	0.0
0.6nm,0.3s,baz=89,slow=7.1,SNR=35								
WRA	Warramunga Arr	48.00	264		P	P	14 26 07.7	+0.2
1.0nm,0.3s,baz=99,slow=6.9,SNR=76								

IDC ***25*** *14:34:42.5±2.0, 5265S×10255E, h0km, mb3.9/8, mb1 4.0/8, mb1mx3.8/19, mbtmp3.9/8, Error ellipse: s-maj=69.4km s-min=17.7km az=56.0*
ISCJB ***25*** *14:34:45.2±1.8, 52S±02×1026E±03, h33km, mb4.0/8, Error ellipse: s-maj=58.6km s-min=14.4km az=144.9*
NEIC ***25*** *14:34:46.7±2.0, 530S×10251E, h30km, Error ellipse: s-maj=90.0km s-min=11.5km az=55.0*
ISC 25 14:34:47.8±1.7, 52S±02×1026E±03, h35km, n11, σ0°33/10, mb4.0/8, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
BATI	Kupang	21.44	105	P		P	14 39 33.2	0.0
13nm,0.8s,mb4.3,baz=252,slow=3.2,SNR=3.8								
WRA	Warramunga Arr	34.15	118	P		P	14 41 29.6	-0.2
0.2nm,0.3s,mb3.5,baz=314,slow=9.1,SNR=12								
WRAB	Tennant Creek	34.16	118	P		P	14 41 29.9	-0.1
ASAR	Alice Springs	35.27	124	P		P	14 41 39.9	+0.4
0.6nm,0.5s,mb3.8,baz=299,slow=8.0,SNR=21								
STKA	Stephens Creek	45.07	131	P		P	14 43 00.5	-0.1
STKA	Stephens Creek	45.07	131	P		P	14 43 00.5	-0.1
3.8nm,0.6s,mb4.4,baz=300,slow=7.0,SNR=12								
KSRS	Korea Array	48.59	27	P		P	14 43 27.8	-0.2
0.6nm,0.6s,mb3.8,baz=225,slow=7.1,SNR=3.2								
SONM	Songino Array	52.96	3	P		P	14 44 01.1	+0.4
1.0nm,0.6s,mb3.9,baz=179,slow=9.7,SNR=6.7								
MKAR	Makanchi Array	54.85	343	P		P	14 44 13.9	-0.6
0.4nm,0.4s,mb3.8,baz=139,slow=9.5,SNR=3.6								
ZALV	Zalesovo Beam	60.84	348	P		P	14 44 56.8	+0.4
0.6nm,0.3s,mb4.2,baz=163,slow=4.6,SNR=3.3								
TXAR	Lajitas Array	145.49	43	PKPbc		PKPbc	14 54 23.2	+0.2
0.4nm,0.4s,baz=315,slow=1.0,SNR=9.2								

ISCJB ***25*** *14:40:33.4±0.8, 4003S±004×1772E±0.1, h39km±9km, mb3.7/5, Error ellipse: s-maj=13.6km s-min=5.1km az=17.3*
IDC ***25*** *14:40:33.6±1.4, 3972S×17680E, h0km, mb3.8/5, mb1 3.9/6, mb1mx3.8/15, mbtmp3.7/6, ML3.3/1, Error ellipse: s-maj=31.9km s-min=19.0km az=108.0*
NEIC ***25*** *14:40:36.9, 3985S×17706E, h33km, ML4.5(WEL), After WEL.*
NEIC Felt at Hastings.
ISC 25 14:40:34.0±1.5, 3996S±003×17715E±010, h23km±11km, n56, σ0°83/57, mb3.7/5, 5C-4D, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
TSZ	Takapari Road	0.92	263	⇑	P	Pb	14 40 51.8	+0.5
BKZ	Black Stump Fm	0.94	327	⇓	P	Pb	14 40 51.2	-0.3
BFZ	Birch Farm	1.00	223	⇓	P	Pn	14 40 54.4	+1.8
KNZ	Kokohu	1.02	24	⇓	P	Pn	14 40 53.7	+0.9
MOVZ	Moawhango	1.21	296	⇑	P	Pn	14 40 55.4	-0.1
HATZ	Hinemaiaia	1.34	322	⇑	P	Pn	14 40 57.3	0.0
TUVZ	Tukino	1.34	300	P		Pn	14 40 57.6	+0.3
WNVZ	Wahianoa	1.35	297	⇑	P	Pn	14 40 57.8	+0.3
MRZ	Mangatainoka R	1.39	239	P		Pn	14 40 59.0	+1.0
RITZ	Rihia Road	1.40	314	P		Pn	14 40 58.3	+0.2
FWVZ	Far West T-bar	1.42	299	P		Pn	14 40 58.4	0.0
NGZ	Ngauruhoe	1.43	302	P		Pn	14 40 58.5	0.0
WPVZ	Whakapapa	1.45	301	P		Pn	14 40 58.6	-0.2
WTVZ	West Tongariro	1.47	304	P		Pn	14 40 59.0	-0.1
KATZ	Kakaramea	1.49	310	P		Pn	14 40 59.4	0.0
RATZ	Rangitukua	1.52	315	P		Pn	14 40 59.6	-0.2
WHTZ	Whakaora	1.58	324	P		Pn	14 41 00.7	+0.1
MWZ	Matawai	1.64	10	*e*P		Pn	14 41 01.5	0.0
WATZ	Wairara	1.66	318	P		Pn	14 41 01.1	-0.6
URZ

RPZ Sn **Sn** **14 43 01.4 -5.5**
7.1nm,0.3s,baz=357,slow=22,SNR=23
FOZ Fox Glacier 6.64 235 *e*P **Pn** **14 42 07.5 -2.6**
LBZ Lake Benmore 6.81 227 *e*P **Pn** **14 42 11.5 -0.9**
ODZ Otahua Downs 7.00 221 *e*P **Pn** **14 42 14.7 -0.3**
JCZ Jackson Bay 7.48 234 *e*P **Pn** **14 42 20.6 -1.0**
EAZ Earnscleugh 7.83 225 *e*P **Pn** **14 42 25.7 -0.7**
TUZ Tuapeka 8.14 220 *e*P **Pn** **14 42 30.8 +0.1**
STKA Stephens Creek 29.75 274 P **P** **14 46 41.0 +2.3**
STKA Stephens Creek 29.75 274 P **P** **14 46 41.0 +2.3**
1.8nm,1.0s,mb3.8,baz=126,slow=8.7,SNR=2.1
ASAR Alice Springs 39.77 281 P **P** **14 48 05.0 0.0**
0.5nm,0.7s,mb3.4,baz=115,slow=6.3,SNR=11
WRA Warramunga Arr 41.64 286 P **P** **14 48 20.2 -0.4**
0.6nm,0.5s,mb3.5,baz=127,slow=7.8,SNR=16
FITZ Fitzroy Crossi 49.27 281 P **P** **14 49 22.0 +1.0**
0.9nm,0.5s,mb4.0,baz=117,slow=6.8,SNR=2.8
QSPA South Pole Qui 50.17 180 P **P** **14 49 32.8 +5.6**
QSPA South Pole Qui 50.17 180 P **P** **14 49 32.8 +5.7**
1.0nm,0.9s,mb3.8,baz=90,slow=2.0,SNR=2.1
ARCES ARCESS Array B 146.79 342 PKPbc PKPbc 15 00 14.1 +1.1
1.7nm,0.8s,baz=41,slow=3.9,SNR=4.2

*NEIC **25** 14:57:57.3, 1634N×9809W, h12km, MD4.1(MEX), After MEX.*
MEX 25 14:57:56.3±0.7, 1627N×9810W, h8km±5km, MD4.1, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.13**	**348**	*i* P	Pg	14 57 58.6	-0.6
PNIG				*i* S	Sg	14 58 01.1	0.0
VHO	**Vista Hermosa**	**1.54**	**58**	*i* P	Pn	14 58 20.5	-3.5
VHO				*i* S	Sn	14 58 39.5	-4.7
VHO	**Vista Hermosa**	**1.54**	**58**	*i* P	Pn	14 58 20.5	-3.5
VHO				*i* S	Sn	14 58 39.5	-4.7
VHO				*i* S	Sn	14 58 39.8	-4.4
OXX	**Oaxaca**	**1.55**	**58**	*i* P	Pn	14 58 20.5	-3.6
OXX				*i* S	Sn	14 58 38.8	-5.6
ACX	**Acapulco**	**1.84**	**289**	*i* P	Pn	14 58 24.5	-3.7
ACX				*i* S	Sn	14 58 47.1	-4.6
HUIG	**Huatulco**	**1.98**	**104**	*e*P	Pn	14 58 27.3	-2.8
HUIG				*i* S	Sn	14 58 54.2	-0.8
HUIG	**Huatulco**	**1.98**	**104**	*e*P	Pn	14 58 27.3	-2.8
HUIG				*i* S	Sn	14 58 51.3	-3.7
MEIG	**Mezcala**	**2.20**	**319**	*e*P	Pn	14 58 29.6	-3.6
MEIG				*i* S	Sn	14 58 55.5	-5.0
CAIG	**El Cayaco**	**2.22**	**291**	*i* P	Pn	14 58 30.5	-2.9
CAIG				*i* S	Sn	14 58 57.9	-3.1
PLIG	**Platanillo**	**2.50**	**328**	*e*P	Pn	14 58 37.4	0.0
PLIG				*i* S	Sn	14 59 04.6	-3.4
YAIG	**Yautepec**	**2.74**	**340**	*e*P	Pn	14 58 37.8	-2.8
YAIG				*i* S	Sn	14 59 09.1	-4.9
PPM	**Popocatepetl**	**2.83**	**350**	*i* P	Pn	14 58 39.7	-2.1
PPM				*i* S	Sn	14 59 13.5	-2.6
PPM	**Popocatepetl**	**2.83**	**350**	*e*P	Pn	14 58 38.9	-2.9
PPM				*i* P		14 58 39.7	
PPM				*i* S	Sn	14 59 13.5	-2.6
MZVM		**3.10**	**340**	*e*P	Pn	14 58 42.9	-2.7
MZVM				*i* S	Sn	14 59 24.2	+1.5
CMIG	**Matias Romero**	**3.19**	**75**	*e*P	Pn	14 58 46.4	-0.3
CMIG				*i* S	Sn	14 59 24.2	-0.8
IIO	**Organos**	**3.36**	**350**	*e*P	Pn	14 58 48.1	-1.0
IIO				*i* S	Sn	14 59 33.3	+4.1
PTVM	**Pico Tres Padr**	**3.45**	**344**	*e*P	Pn	14 58 49.7	-0.6
PTVM				*i* S	Sn	14 59 29.2	-2.1

*NEIC **25** 15:06:38.5±0.6, 357S×12860E, h20km, mb4.8/2, Error ellipse: s-maj=39.5km s-min=8.7km az=73.0*
*ISCJB **25** 15:06:40.7±2.5, 355S±0.10×1287E±02, h55km±25km, mb4.0/6, Error ellipse: s-maj=31.6km s-min=12.4km az=159.1*
*IDC **25** 15:06:45.2±5.3, 362S×12860E, h78km±52km, mb3.4/5, mb1 3.6/8, mb1mx3.6/18, mbtmp3.5/8, ML3.5/3, Error ellipse: s-maj=64.3km s-min=22.5km az=70.0*
ISC 25 15:06:45.3±2.2, 37S±01×1287E±02, h85km±22km, n17, σ0§78/18, mb3.9/6, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Kupang**	**8.19**	**217**	P	**Pn**	**15 08 41.8**	**+0.3**
1.1nm,0.3s,baz=27,slow=4.1,SNR=4.3							
KAKA	**Kakadu**	**9.70**	**158**	*e*P	**Pn**	**15 09 01.0**	**-1.0**
34nm,1.4s							
KAKA	**Kakadu**	**9.70**	**158**	P	**Pn**	**15 08 56.2**	**-5.9**
FITZ	**Fitzroy Crossi**	**14.64**	**192**	*e*P	**Pn**	**15 10 05.4**	**-2.8**
12nm,1.8s							
FITZ	**Fitzroy Crossi**	**14.64**	**192**	P	**Pn**	**15 10 08.7**	**+0.4**
0.1nm,0.3s,baz=84,slow=19,SNR=4.2							
WRAB	**Tennant Creek**	**17.06**	**162**	*e*P	**Pn**	**15 10 39.5**	**+0.9**
WRA	**Warramunga Arr**	**17.07**	**162**	P	**Pn**	**15 10 39.0**	**+0.3**
0.2nm,0.3s,baz=339,slow=11,SNR=20							
WB2	**Warramunga Arr**	**17.07**	**162**	*e*P	**Pn**	**15 10 37.5**	**-1.2**
WB2	**Warramunga Arr**	**17.07**	**162**	*e*P	**Pn**	**15 10 37.4**	**-1.4**
ASAR	**Alice Springs**	**20.49**	**166**	P	**P**	**15 11 18.0**	**+1.5**
3.4nm,0.6s,baz=350,slow=11,SNR=58							
ASAR				S	**S**	**15 15 00.8**	**-0.5**
1.4nm,0.9s,baz=352,slow=25,SNR=6.0							
ASAR				PcP	PcP	15 15 26.5	+1.2
0.3nm,0.5s,baz=16,slow=1.8,SNR=6.8							
KSRS	**Korea Array**	**40.93**	**359**	P	**P**	**15 14 19.9**	**+0.4**
1.9nm,0.8s,mb4.0,baz=177,slow=9.3,SNR=4.2							
SONM	**Songino Array**	**54.91**	**342**	P	**P**	**15 16 07.3**	**0.0**
0.2nm,0.7s,mb3.3,baz=162,slow=5.5,SNR=2.7							
MK31	**Makanchi Array**	**64.77**	**327**	P	**P**	**15 17 14.8**	**0.0**
MKAR	**Makanchi Array**	**64.77**	**327**	P	**P**	**15 17 14.9**	**+0.1**
1.4nm,0.9s,mb3.8,baz=113,slow=9.3,SNR=6.9							
YAK	**Yakutsk**	**65.53**	**1**	*e*P	**P**	**15 17 19.6**	**+0.1**
9.4nm,0.8s,mb4.7							
ZALV	**Zalesovo Beam**	**68.06**	**334**	P	**P**	**15 17 34.9**	**-0.9**
0.4nm,0.4s,mb3.6,baz=134,slow=8.3,SNR=3.5							
KURK	**Kurchatov**	**69.04**	**329**	*e*P	**P**	**15 17 41.9**	**0.0**
3.5nm,0.8s,mb4.2							

*IDC **25** 15:18:39.6±1.5, 2210S×17028E, h0km, mb4.0/6, mb1 4.1/7, mb1mx4.1/14, mbtmp4.0/7, ML3.3/1, MS4.1/1, Ms1 4.1/1, ms1mx3.2/18, Error ellipse: s-maj=40.1km s-min=27.9km az=123.0*
*NEIC **25** 15:18:41.5±0.6, 2214S×17020E, h10km, mb3.9/1, Error ellipse: s-maj=16.7km s-min=15.7km az=48.0*
*ISCJB **25** 15:18:44.2±2.9, 222S±02×1703E±01, h50km±23km, mb3.9/7, Error ellipse: s-maj=29.6km s-min=15.1km az=35.7*
ISC 25 15:18:45.6±2.7, 222S±02×1703E±01, h46km±22km, n23, σ0§62/15, mb3.9/7, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.57**	**272**	*e*P	**Pn**	**15 19 37.9**	**-0.6**
DZM				*e*S	**Sn**	**15 20 20.0**	**+0.5**
URZ	**Urewera**	**17.02**	**161**	P	**Pn**	**15 22 40.6**	**+0.4**
0.1nm,0.3s,baz=206,slow=0.8,SNR=5.0							
URZ				LR	LR	15 27 31.3	
comp=Z,617nm,20.8s,baz=9.0,slow=31							
STKA	**Stephens Creek**	**27.23**	**243**	*e*P	**P**	**15 24 26.4**	**+1.1**
5.3nm,1.9s,mb3.8							
STKA	**Stephens Creek**	**27.23**	**243**	*e*P	**P**	**15 24 26.3**	**+1.0**
STKA	**Stephens Creek**	**27.23**	**243**	P	**P**	**15 24 26.6**	**+1.2**
3.2nm,0.7s,mb3.9,baz=78,slow=8.7,SNR=8.9							
ASAR	**Alice Springs**	**33.48**	**260**	P	**P**	**15 25 20.8**	**+0.1**
1.0nm,0.8s,mb3.8,baz=78,slow=9.5,SNR=23							
WB2	**Warramunga Arr**	**33.56**	**267**	*e*P	**P**	**15 25 20.3**	**-1.1**
WB2	**Warramunga Arr**	**33.56**	**267**	*e*P	**P**	**15 25 21.1**	**-0.2**
WRAB	**Tennant Creek**	**33.57**	**267**	*e*P	**P**	**15 25 20.8**	**-0.6**
0.7nm,0.5s,mb3.9							
WRA	**Warramunga Arr**	**33.58**	**267**	P	**P**	**15 25 21.0**	**-0.5**
0.6nm,0.7s,mb3.6,baz=100,slow=8.5,SNR=14							
MJAR	**Matsushiro Arr**	**65.84**	**332**	P	**P**	**15 29 26.3**	**0.0**
0.9nm,0.5s,mb4.1,baz=148,slow=6.0,SNR=3.4							
KSRS	**Korea Array**	**71.52**	**326**	P	**P**	**15 30 01.7**	**+0.1**
1.4nm,0.8s,mb3.9,baz=142,slow=6.2,SNR=5.5							
VNA2	**Neumayer--Watz**	**87.08**	**181**	*e*	**P**	**15 31 25.2**	**-0.8**
VNA2				*e*		15 31 30.9	
VNA2				*e*	pP	15 31 37.5	-2.2
VNA2				*e*	pP	15 31 40.3	+0.6
SONM	**Songino Array**	**90.19**	**323**	P	**P**	**15 31 41.7**	**+0.9**
1.2nm,0.9s,mb4.2,baz=121,slow=2.9,SNR=7.5							
ARCES	**ARCESS Array B 128.20 345**			PKP	PKPdf	15 37 46.0	0.0
ARCES	**ARCESS Array B 128.20 345**			PKP	PKPdf	15 37 46.0	0.0
2.2nm,1.0s,baz=96,slow=2.4,SNR=5.9
DPC Dobruska-Polom 145.31 330 *e*PKP PKPdf 15 38 18.6 +0.6
UPC Upice 145.34 331 *e*PKP PKPdf 15 38 18.0 -0.1
BRG Berggiesshubel 145.97 333 *e*P PKPdf 15 38 20.5 +1.3
3.8nm,0.8s
BRG *e* 15 38 23.9
5.3nm,0.7s
CLL Collm 146.03 334 *e*PKPbc PKPbc 15 38 20.0 -0.1
CLL *i* pPKPbc pPKPbc 15 38 24.1 -10
comp=Z,5.0nm,0.6s
PRU Pruhonice 146.37 331 *e*PKP PKPdf 15 38 23.4 +3.5
KHC Kasperske Hory 147.42 331 *e*PKP PKPdf 15 38 24.5 +2.8
GERES GERESS Array B 147.57 331 PKPbc PKPbc 15 38 25.0 +0.4
comp=Z,1.9nm,0.7s,baz=49,slow=4.1,SNR=11

KRSC 25 15:32:56.6±0.4, 5349N×16103E, h24km±24km, ML3.7, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.72**	**237**	*e*P	Pb	15 33 11.2	+0.7
SPN				*i* S	Sb	15 33 21.0	+1.1
NLC	**Nalytchevo**	**1.06**	**253**	*e*P	Pn	15 33 16.2	+0.3
NLC				*i* S	Sb	15 33 29.8	+0.2
KII	**Karymskiy**	**1.09**	**301**	*e*P	Pn	15 33 16.1	-0.2
KII				*i* S	Sb	15 33 30.3	-0.1
MKZ	**Mys Kozlova**	**1.15**	**21**	*e*P	Pn	15 33 16.5	-0.6
MKZ				*i* S	Sn	15 33 30.1	-1.9
AVH	**Avacha**	**1.39**	**262**	*e*P	Pn	15 33 21.7	+1.2
AVH				*i* S	Sn	15 33 39.6	+1.6
PET	**Petropavlovsk**	**1.50**	**253**	*e*P	Pn	15 33 22.7	+0.7
PET				*i* S	Sn	15 33 42.4	+1.6
GNL	**Ganaly**	**1.85**	**278**	*e*P	Pn	15 33 28.8	+2.0
GNL				*i* S	Sn	15 33 52.6	+3.2
RUS	**Russkaya**	**1.85**	**236**	*e*P	Pn	15 33 27.4	+0.6
RUS				*i* S	Sn	15 33 49.8	+0.3
TUMR	**Tumrok**	**1.87**	**344**	*e*P	Pn	15 33 28.4	+1.4
TUMR				*i* S	Sn	15 33 51.1	+1.3
GRL	**Gorelyy**	**2.02**	**243**	*e*P	Pn	15 33 30.5	+1.4
GRL				*i* S	Sn	15 33 55.9	+2.4
KBTR	**Krutoberegovo**	**2.91**	**20**	*e*P	Pn	15 33 42.6	+1.2
SRDR	**Sredinnyy**	**2.93**	**346**	P	Pn	15 33 44.2	+2.6
BDR	**Baidarnaya**	**3.09**	**2**	*e*P	Pn	15 33 45.6	+1.9

*ISCJB **25** 15:45:05.8±0.8, 3716N±005×3581E±006, h36km±11km, Error ellipse: s-maj=8.1km s-min=7.6km az=28.2*
*CSEM **25** 15:45:05.0±0.3, 3711N×3577E, h35km±2km, MD2.8, Error ellipse: s-maj=4.2km s-min=2.7km az=5.0*
*ISK **25** 15:45:05.5, 3714N×3578E, h33km, MD2.8*
*DDA **25** 15:45:08.8, 3711N×3617E, h8km±2km, Md2.9*
ISC 25 15:45:06.0±0.6, 3715N±004×3581E±006, h32km±4km, n11, σ0§85/16, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEYT	**Ceyhan**	**0.15**	**199**	PG	**Pb**	**15 45 11.5**	**-0.5**
CEYT				*e*SG	**Sb**	**15 45 16.9**	**+0.8**
KOZT	**Kozan**	**0.33**	**3**	PG	**Pb**	**15 45 15.0**	**+1.0**
KOZT				*e*SG	**Sb**	**15 45 20.4**	**+0.8**
ANDN	**Andirin**	**0.61**	**45**	*i* P	**Pb**	**15 45 15.7**	**-2.6**
ANDN				*i* S	**Sb**	**15 45 25.7**	**-0.9**
KARA	**Karaisali**	**0.61**	**281**	*e*PG	**Pb**	**15 45 17.7**	**-0.7**
COBT	**Iskenderun**	**0.72**	**150**	*i* P	**Pn**	**15 45 20.8**	**+0.8**
COBT				*i* S	**Sb**	**15 45 29.2**	**-0.7**
KMRS	**Kahramanmaras**	**0.94**	**68**	*e*PG	**Pn**	**15 45 23.0**	**0.0**
MERS	**Mersin**	**1.07**	**255**	*e*PG	**Pn**	**15 45 24.0**	**-0.8**
GAZ	**Gaziantep**	**1.12**	**88**	*e*PN	**Pn**	**15 45 25.8**	**+0.3**
NIG	**Nigde**	**1.35**	**316**	*e*PN	**Pn**	**15 45 28.7**	**0.0**
GZT	**Gaziantep**	**1.42**	**81**	*i* P	**Pn**	**15 45 30.1**	**+0.6**
GZT				*i* S	**Sn**	**15 45 46.8**	**-0.3**
URFA	**Urfa**	**2.42**	**82**	*e*PN	**Pn**	**15 45 44.5**	**+1.1**

*ISCJB **25** 15:54:58.1±0.6, 3560N±006×9277E±0.1, h10km, mb3.8/5, Error ellipse: s-maj=15.0km s-min=8.6km az=168.6*
*IDC **25** 15:54:59.2±1.1, 3570N×9284E, h0km, mb3.7/5, mb1 3.9/7, mb1mx3.6/21, mbtmp3.6/7, ML3.2/2, Error ellipse: s-maj=58.4km s-min=20.4km az=60.0*
*NEIC **25** 15:55:00.5±6.5, 3569N×9278E, h9km±41km, mb3.2/3, Error ellipse: s-maj=19.4km s-min=10.8km az=205.0*
*MOS **25** 15:55:01.8±0.7, 3573N×9267E, h33km, mb4.1/4, Error ellipse: s-maj=26.7km s-min=12.4km az=102.7*
*BJI **25** 15:55:01.6, 3603N×9295E, h5km, ML3.9*
ISC 25 15:55:00.7±0.8, 3569N±009×928E±01, h10km, n25, σ0§47/25, mb3.8/5, Qinghai

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSA	**Lhasa**	**6.13**	**193**	*e*P	**Pb**	**15 56 42.0**	**-5.5**
MK31	**Makanchi Array**	**13.59**	**328**	P	**Pn**	**15 58 13.6**	**+0.2**
MKAR	**Makanchi Array**	**13.59**	**328**	P	**Pn**	**15 58 13.9**	**+0.4**
MKAR				pmax	pmax		
comp=Z,1.0nm,0.3s
MKAR Makanchi Array 13.59 328 Pn **Pn** **15 58 13.9 +0.4**
comp=Z,0.8nm,0.3s,baz=129,slow=12,SNR=24
AAK Ala-Archa 15.77 302 *e*P **Pn** **15 58 51.0 +8.3**
comp=Z,1.6nm,0.8s
AAK Ala-Archa 15.77 302 *e*P **Pn** **15 58 51.0 +8.3**
AAK pmax pmax
comp=Z,2.0nm,0.8s
SONM Songino Array 15.80 36 Pn **Pn** **15 58 42.9 -0.2**
comp=Z,0.1nm,0.3s,baz=221,slow=12,SNR=5.8
ULN Ulaanbaatar 16.14 37 P **Pn** **15 58 47.9 +0.5**
comp=Z,1.4nm,0.8s
ULN Ulaanbaatar 16.14 37 P **Pn** **15 58 47.9 +0.4**
ULN pmax pmax
comp=Z,1.0nm,0.8s
KURK Kurchatov 18.17 330 *e*P **Pn** **15 59 12.2 -0.7**
comp=Z,1.6nm,0.6s
KURK Kurchatov 18.17 330 *e*P **Pn** **15 59 12.2 -0.7**
KURK pmax pmax
comp=Z,2.0nm,0.6s
ZAL Zalesovo 19.08 345 P **Pn** **15 59 23.8 -0.1**
ZALV Zalesovo Beam 19.08 346 P **Pn** **15 59 23.8 -0.2**
comp=Z,0.1nm,0.3s,baz=158,slow=12,SNR=4.8
FINES FINESS Array B 48.38 324 P **P** **16 03 41.9 -0.5**
FINES pmax pmax
comp=Z,2.0nm,0.9s
FINES FINESS Array B 48.38 324 P **P** **16 03 41.9 -0.5**
comp=Z,1.5nm,0.9s,mb4.0,baz=86,slow=8.6,SNR=4.6
NOA NORSAR Array B 55.56 324 P **P** **16 04 37.0 +1.1**
NOA NORSAR Array B 55.56 324 P **P** **16 04 37.0 +1.1**
NOA pmax pmax
comp=Z,1.0nm,0.5s
NOA NORSAR Array B 55.56 324 P **P** **16 04 37.0 +1.1**
comp=Z,0.6nm,0.5s,mb3.9,baz=77,slow=7.3,SNR=3.7
WRA Warramunga Arr 67.91 138 P **P** **16 05 59.3 -0.3**
WRA pmax pmax
comp=Z,1.0nm,1.0s
WRA Warramunga Arr 67.91 138 P **P** **16 05 59.3 -0.3**
comp=Z,1.3nm,1.0s,mb3.9,baz=333,slow=6.4,SNR=7.9
WB2 Warramunga Arr 67.92 138 *e*P **P** **16 05 59.5 -0.1**
ASAR Alice Springs 70.71 140 P **P** **16 06 17.2 +0.3**
ASAR pmax pmax
comp=Z,1.0nm,0.7s
ASAR Alice Springs 70.71 140 P **P** **16 06 17.2 +0.3**
comp=Z,1.2nm,0.7s,mb4.0,baz=326,slow=6.5,SNR=27
YKA Yellowknife Ar 79.70 13 P **P** **16 07 07.8 -0.4**
YKA Yellowknife Ar 79.70 13 P **P** **16 07 07.8 -0.4**
comp=Z,0.2nm,0.6s,mb3.2,baz=334,slow=5.2,SNR=4.3

*ISCJB **25** 16:16:42.7±0.6, 4985N±007×1853E±004, h0km, Error ellipse: s-maj=9.5km s-min=4.1km az=179.6*
*PRU **25** 16:16:42.4, 4968N×1849E, h0km*
*LJU **25** 16:17:47.3, 4639N×1507E, h0km Rockburst*
ISC 25 16:16:43.7±0.6, 4988N±007×1852E±005, h0km, n8, σ1§05/12, 1D, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKC	**Ostrava-Krasne**	**0.24**	**261**	*e*PG	**Pg**	**16 16 47.0**	**-1.4**
OKC				*e*SG	**Sg**	**16 16 52.3**	**+0.8**
OJC	**Ojcow**	**0.89**	**67**	*e*Pg	**Pg**	**16 17 01.0**	**+0.2**
OJC				*e*Sg	**Sg**	**16 17 13.6**	**+1.2**
NIE	**Niedzica**	**1.25**	**111**	*e*Pg	**Pn**	**16 17 05.7**	**-2.7**
NIE				*e*Sg	**Sg**	**16 17 23.5**	**-0.4**
DPC	**Dobruska-Polom**	**1.49**	**289**	*e*PG	**Pn**	**16 17 10.5**	**-1.2**
DPC				*e*SG	**Sg**	**16 17 31.8**	**+0.2**
GROS	**Grobnik**	**3.97**	**212**	*e*Pg	**Pn**	**16 17 53.5**	**+7.7**
ZAVS	**Zavodnje**	**4.16**	**216**	‖ *i*Pg	**Pn**	**16 17 48.8**	**+0.4**
PDKS	**Podkum**	**4.49**	**213**	*e*Pg	**Pn**	**16 17 53.9**	**+1.0**
VNDS	**Vrh nad Dolski**	**4.56**	**216**	*e*Pg	**Pn**	**16 17 54.7**	**+0.8**

*ISCJB **25** 16:33:56.5±0.8, 720S±008×1219E±02, h545km±10km, mb3.9/9, Error ellipse: s-maj=26.1km s-min=12.2km az=168.4*
*NEIC **25** 16:33:57.3±1.0, 722S×1220E, h538km±14km, mb4.3/3, Error ellipse: s-maj=14.6km s-min=8.5km az=73.0*
*IDC **25** 16:33:58.4±1.2, 720S×1220E, h550km±15km, mb3.2/7, mb1 3.2/10, mb1mx3.2/18, mbtmp3.1/10, Error ellipse: s-maj=30.6km s-min=10.7km az=75.0*
ISC 25 16:33:57.5±0.8, 722S±009×1220E±02, h539km±9km, n27, σ0§59/26, mb3.9/9, Flores Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Kupang**	**3.37**	**152**	P	**P**	**16 35 16.1**	**+2.0**
71nm,0.3s,baz=29,slow=1.1,SNR=193							
BATI				S	**S**	**16 36 15.1**	**-1.3**
38nm,0.3s,baz=334,slow=4.6,SNR=6.9							
FITZ	**Fitzroy Crossi**	**11.37**	**162**	*e*P	**P**	**16 36 29.8**	**+0.3**
5.5nm,0.6s							
FITZ	**Fitzroy Crossi**	**11.37**	**162**	*e*P	**P**	**16 36 29.5**	**0.0**
FITZ	**Fitzroy Crossi**	**11.37**	**162**	P	**P**	**16 36 29.9**	**+0.4**
0.5nm,0.3s,baz=330,slow=5.9,SNR=21							
MBWA	**Marble Bar**	**14.04**	**189**	*e*P	**P**	**16 36 56.9**	**-0.3**
2.8nm,0.4s							
WRA	**Warramunga Arr**	**17.39**	**138**	P	**P**	**16 37 30.5**	**+0.1**
0.6nm,0.3s,baz=313,slow=10,SNR=55							
WRAB	**Tennant Creek**	**17.39**	**138**	*e*P	**P**	**16 37 30.5**	**+0.1**
2.5nm,0.4s							
WB2	**Warramunga Arr**	**17.39**	**138**	*e*P	**P**	**16 37 30.5**	**+0.1**
WB2	**Warramunga Arr**	**17.39**	**138**	*e*P	**P**	**16 37 30.4**	**0.0**
ASAR	**Alice Springs**	**19.93**	**146**	P	**P**	**16 37 53.6**	**+0.1**
0.3nm,0.3s,baz=326,slow=9.0,SNR=34							
ASAR				PcP	PcP	16 41 44.3	-0.8
0.1nm,0.3s,baz=338,slow=1.2,SNR=7.6							
ASAR				ScP	ScP	16 44 28.6	-2.1
0.1nm,0.3s,baz=355,slow=1.9,SNR=6.1							
FORT	**Forrest**	**24.11**	**167**	*e*P	**P**	**16 38 30.8**	**-0.1**
8.0nm,1.6s,mb4.1							
FORT	**Forrest**	**24.11**	**167**	*e*P	**P**	**16 38 30.8**	**-0.1**
KLBR	**Kellerberrin**	**24.58**	**189**	*e*P	**P**	**16 38 34.7**	**-0.4**
84nm,1.8s,mb5.1							
NWAO	**Narrogin (SRO)**	**25.97**	**189**	*e*P	**P**	**16 38 47.2**	**-0.2**
NWAO	**Narrogin (SRO)**	**25.97**	**189**	P	**P**	**16 38 47.4**	**+0.1**
5.6nm,1.0s,mb4.1,baz=42,slow=12,SNR=4.4							
STKA	**Stephens Creek**	**30.57**	**146**	*e*P	**P**	**16 39 27.8**	**+0.3**
2.7nm,0.3s,mb4.2							
STKA	**Stephens Creek**	**30.57**	**146**	*e*P	**P**	**16 39 27.7**	**+0.3**
STKA	**Stephens Creek**	**30.57**	**146**	P	**P**	**16 39 27.8**	**+0.3**
4.4nm,0.4s,mb4.3,baz=319,slow=8.6,SNR=22							
KSRS	**Korea Array**	**44.78**	**7**	P	**P**	**16 41 22.8**	**-0.4**
0.9nm,0.8s,mb3.4,baz=184,slow=8.2,SNR=4.2							
MJAR	**Matsushiro Arr**	**46.09**	**18**	P	**P**	**16 41 32.7**	**-0.6**
1.5nm,0.5s,mb3.8,baz=186,slow=10,SNR=4.7							
SONM	**Songino Array**	**56.53**	**347**	P	**P**	**16 42 48.9**	**+0.3**
1.1nm,0.6s,mb3.3,baz=165,slow=9.0,SNR=8.9							
MK31	**Makanchi Array**	**64.32**	**331**	*e*P	**P**	**16 43 40.2**	**+0.1**
MKAR	**Makanchi Array**	**64.32**	**331**	P	**P**	**16 43 40.3**	**+0.2**
1.5nm,0.6s,mb3.6,baz=134,slow=7.5,SNR=25							
VNDA	**Vanda**	**73.28**	**172**	P	**P**	**16 44 33.7**	**0.0**
VNDA	**Vanda**	**73.28**	**172**	P	**P**	**16 44 33.7**	**0.0**
0.7nm,0.6s,mb3.3,baz=354,slow=8.5,SNR=3.6							
CPUP	**Villa Florida**	**146.65**	**181**	*e*PKPbc	PKPbc	16 52 39.4	-0.3
CPUP	**Villa Florida**	**146.65**	**181**	PKPbc	PKPbc	16 52 39.2	-0.4
1.2nm,0.6s,baz=172,slow=7.1,SNR=4.8							

MAN 25 16:34:14, 979N×12552E, h109km, mb4.5, ML3.4, MS3.3, Mindanao

*IDC **25** 16:48:52.4±0.9, 136S×15033E, h0km, mb4.3/12, mb1 4.4/12, mb1mx4.3/16, mbtmp4.3/12, Error ellipse: s-maj=32.4km s-min=16.9km az=105.0*
*ISCJB **25** 16:48:53.8±4.5, 134S±008×1502E±01, h16km±32km, mb4.4/23, Error ellipse: s-maj=22.6km s-min=12.1km az=14.3*
*BJI **25** 16:48:54.7, 168S×15037E, h48km, mB5.2, mb4.9*
*MOS **25** 16:48:57.5±1.3, 124S×14988E, h33km, mb4.4/14, Error ellipse: s-maj=21.3km s-min=11.5km az=92.0*
*NEIC **25** 16:48:58.0±0.4, 133S×15016E, h35km, mb4.8/5, Error ellipse: s-maj=14.4km s-min=7.4km az=110.0*
ISC 25 16:48:58.5±3.7, 138S±008×1502E±01, h36km±34km, n53, σ1§04/49, mb4.4/23, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**20.86**	**237**	*e*P	**P**	**16 53 37.5**	**-0.1**
12nm,0.6s							
KAKA	**Kakadu**	**20.86**	**237**	*e*P	**P**	**16 53 37.3**	**-0.3**
WRAB	**Tennant Creek**	**24.07**	**219**	*e*P	**P**	**16 54 10.6**	**-0.1**
46nm,1.1s,mb4.8							
WRAB	**Tennant Creek**	**24.07**	**219**	*e*P	**P**	**16 54 10.6**	**0.0**
WRAB				pmax	pmax		
comp=Z,46nm,1.1s,mb4.8
WB2 Warramunga Arr 24.08 219 *e*P **P** **16 54 10.9 +0.2**
WRA Warramunga Arr 24.09 219 P **P** **16 54 11.0 +0.2**
WRA 16 57 51.9
WRA pmax pmax
comp=Z,17nm,0.7s
WRA pmax pmax
comp=Z,1.0nm,0.6s
WRA Warramunga Arr 24.09 219 P **P** **16 54 11.0 +0.2**
comp=Z,17nm,0.7s,mb4.6,baz=41,slow=10,SNR=168
WRA PcP PcP 16 57 51.9 +0.1
comp=Z,0.7nm,0.6s,baz=42,slow=2.4,SNR=6.2
ASAR Alice Springs 27.19 214 P **P** **16 54 38.9 0.0**
ASAR 16 57 58.6
ASAR pmax pmax
comp=Z,4.0nm,0.7s
ASAR pmax pmax
comp=Z,1.0nm,0.

BOD				pmax	pmax		
	comp=Z,4.0nm,1.7s,mb4.2						
TLY	**Talaya**	**65.82**	**330**	*e*P	**P**	**16 59 35.5**	**-4.6**
TLY				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.2						
BILL	**Bilibino**	**70.18**	**6**	*e*P	**P**	**17 00 07.6**	**+0.5**
BILL				pmax	pmax		
	comp=Z,2.0nm,1.0s,mb4.0						
TIXI	**Tiksi**	**74.20**	**353**	*e*P	**P**	**17 00 33.3**	**+2.2**
TIXI				pmax	pmax		
	comp=Z,2.0nm,1.3s,mb3.9						
MK31	**Makanchi Array**	**76.04**	**319**	*e*P	**P**	**17 00 42.2**	**0.0**
MKAR	**Makanchi Array**	**76.04**	**319**	P	**P**	**17 00 42.3**	**+0.1**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
MKAR	**Makanchi Array**	**76.04**	**319**	P	**P**	**17 00 42.3**	**+0.1**
	comp=Z,0.6nm,0.4s,mb3.8,baz=92,slow=7.8,SNR=8.9						
ZALV	**Zalesovo Beam**	**76.87**	**327**	P	**P**	**17 00 46.0**	**-0.8**
	comp=Z,2.0nm,0.4s,mb4.4,baz=82,slow=10,SNR=5.2						
ZAL	**Zalesovo**	**76.88**	**327**	P	**P**	**17 00 46.0**	**-0.8**
ZAL				pmax	pmax		
	comp=Z,2.0nm,0.4s						
MCK	**McKinley**	**78.76**	**23**	*e*P	**P**	**17 00 56.1**	**-1.0**
	comp=Z,12nm,1.0s,mb4.8						
MCK	**McKinley**	**78.76**	**23**	*e*P	**P**	**17 00 56.1**	**-1.0**
MCK				pmax	pmax		
	comp=Z,12nm,1.0s,mb4.8						
KURK	**Kurchatov**	**79.47**	**322**	*e*P	**P**	**17 01 00.8**	**-0.4**
COLA	**College**	**79.69**	**23**	*e*P	**P**	**17 01 02.6**	**+0.4**
BRVK	**Borovoye**	**85.02**	**323**	*e*P	**P**	**17 01 29.5**	**-0.7**
	comp=Z,4.1nm,1.0s,mb4.5						
BRVK	**Borovoye**	**85.02**	**323**	*e*P	**P**	**17 01 29.5**	**-0.7**
BRVK				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.5						
MAW	**Mawson**	**87.70**	**203**	P	**P**	**17 01 43.3**	**+0.2**
MAW				pmax	pmax		
	comp=Z,2.0nm,0.7s						
MAW	**Mawson**	**87.70**	**203**	P	**P**	**17 01 43.3**	**+0.2**
	comp=Z,2.3nm,0.7s,mb4.5,baz=90,slow=10,SNR=3.2						
NVAR	**Mina Array Bea**	**92.05**	**52**	P	**P**	**17 02 03.9**	**-0.2**
	comp=Z,0.8nm,0.8s,mb4.1,baz=262,slow=9.3,SNR=4.9						
YKA	**Yellowknife Ar**	**93.64**	**28**	P	**P**	**17 02 09.7**	**-1.2**
YKA	**Yellowknife Ar**	**93.64**	**28**	*i* P	**P**	**17 02 13.8**	**+2.9**
YKA	**Yellowknife Ar**	**93.64**	**28**	P	**P**	**17 02 09.7**	**-1.2**
	comp=Z,0.3nm,0.7s,mb3.8,baz=276,slow=4.7,SNR=6.1						
LPAZ	**La Paz**	**138.31**	**116**	PKP	PKPdf	17 08 21.0	0.0
LPAZ	**La Paz**	**138.31**	**116**	PKIKP	PKPdf	17 08 21.0	0.0
LPAZ				pmax	pmax		
	comp=Z,1.0nm,0.6s						
LPAZ	**La Paz**	**138.31**	**116**	PKP	PKPdf	17 08 21.0	0.0
	comp=Z,0.7nm,0.6s,baz=287,slow=5.0,SNR=3.7						
CPUP	**Villa Florida**	**141.75**	**138**	PKP	PKPdf	17 08 28.4	+1.4
CPUP	**Villa Florida**	**141.75**	**138**	PKP	PKPdf	17 08 28.4	+1.4
	comp=Z,0.2nm,0.4s,baz=298,slow=14,SNR=3.6						

NIED ***25*** *17:11:00,2330N×12200E,h56km,Mw4.3 Best double couple: M0 3.59000×1015 NP1:φ0=54.00000°,δ90.00000°, λ-127.00000°. NP2:φ0=324.00000°,δ37.00000°,λ0.00000°.*
IDC ***25*** *17:11:48.9±1.0,2323N×12197E,h0km,mb3.4/6, mb1 3.6/7,mb1mx3.6/20,mbtmp3.5/7,ML3.4/1,Error ellipse: s-maj=38.4km s-min=19.1km az=68.0*
NEIC ***25*** *17:11:52.5±3.7,2324N×12196E,h25km±28km,mb4.3/1, ML4.6(TAP),Error ellipse: s-maj=18.5km s-min=9.8km az=56.0*
NEIC Recorded [3 TAP] in T'ai-tung and [2 TAP] in Hua-lien Counties.
ISCJB ***25*** *17:11:53.4±1.0,2324N±008×12195E±004,h46km±10km, mb3.5/7,Error ellipse: s-maj=12.7km s-min=6.3km az=179.0*
JMA ***25*** *17:11:54.6±0.2,2329N×12199E,h66km,M4.0*
BJI ***25*** *17:12:05.1,2433N×121.12E,h5km,mb4.4,ML3.6*

ISC 25 17:11:54.5±1.0,2328N±008×12193E±004,h39km±11km, n24,σ0§97/35,mb3.5/7,1D,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NACB	**Ninganchiao**	**0.94**	**341**	*e*P	**Pn**	**17 12 09.6**	**-1.7**
YHNB	**Yeheng**	**1.47**	**340**	*e*P	**Pn**	**17 12 18.4**	**-0.1**
YOJ	**Yonaguni jima**	**1.54**	**40**	P	**Pn**	**17 12 19.8**	**+0.4**
YOJ				S	**Sn**	**17 12 38.2**	**0.0**
TATO	**Taipei**	**1.73**	**347**	*e*P	**Pn**	**17 12 22.7**	**+0.6**
HATJ	**Hateruma jima**	**1.89**	**66**	P	**Pn**	**17 12 24.4**	**+0.2**
HATJ				S	**Sn**	**17 12 46.7**	**-0.1**
IRIF	**Iriomote-Funau**	**1.95**	**57**	P	**Pn**	**17 12 25.5**	**+0.3**
IRIF				S	**Sn**	**17 12 48.9**	**+0.4**
JKRS	**Kuro-shima**	**2.13**	**63**	P	**Pn**	**17 12 27.8**	**+0.2**
JKRS				S	**Sn**	**17 12 53.1**	**+0.3**
JIJ	**Ishigaki jima**	**2.30**	**62**	P	**Pn**	**17 12 29.7**	**-0.2**
JIJ				S	**Sn**	**17 12 56.2**	**-0.7**
JTJ	**Tarama**	**2.88**	**61**	P	**Pn**	**17 12 38.0**	**+0.2**
JTJ				S	**Sn**	**17 13 11.2**	**0.0**
JMJ	**Miyako jima 2**	**3.43**	**63**	P	**Pn**	**17 12 46.6**	**+1.1**
JMJ				S	**Sn**	**17 13 25.7**	**+0.7**
QZH	**Quanzhou**	**3.47**	**299**	⇓*i*P	**Pn**	**17 12 48.0**	**+2.0**
QZH				S	**Sn**	**17 13 23.8**	**-2.0**
QZH				Smax			
	comp=N,390nm,0.7s						
QZH				Smax			
	comp=E,290nm,0.5s						
JOGS	**Gusukube**	**3.50**	**64**	P	**Pn**	**17 12 47.4**	**+0.9**
JOGS				S	**Sn**	**17 13 27.4**	**+0.7**
JKE	**Kume jima 2**	**5.35**	**55**	P	**Pn**	**17 13 11.2**	**-0.7**
JKE				S	**Sn**	**17 14 09.7**	**-2.6**
JOW	**Kunigami**	**6.75**	**57**	Pn	**Pn**	**17 13 30.2**	**-0.9**
	comp=E,1.7nm,0.3s,baz=171,slow=17,SNR=13						
JOW				Sn	**Sn**	**17 14 44.7**	**-2.1**
	comp=E,3.7nm,0.3s,baz=126,slow=19,SNR=3.4						
WHN	**Wuhan**	**9.90**	**319**	*e*P	**Pn**	**17 14 09.8**	**-4.4**
KSRS	**Korea Array**	**15.04**	**19**	Pn	**Pn**	**17 15 26.6**	**+2.4**
	comp=E,0.6nm,0.3s,baz=199,slow=12,SNR=19						
SONM	**Songino Array**	**27.46**	**337**	P	**P**	**17 17 38.0**	**+1.3**
	comp=E,0.1nm,0.3s,mb2.8,baz=141,slow=10,SNR=2.5						
MKAR	**Makanchi Array**	**39.46**	**316**	P	**P**	**17 19 21.6**	**+0.8**
	comp=E,0.3nm,0.3s,mb3.5,baz=108,slow=9.4,SNR=6.5						
ZALV	**Zalesovo Beam**	**41.37**	**327**	P	**P**	**17 19 36.4**	**-0.2**
	comp=E,0.3nm,0.4s,mb3.3,baz=105,slow=9.4,SNR=2.3						
WRA	**Warramunga Arr**	**44.64**	**163**	P	**P**	**17 20 02.5**	**-0.8**
	comp=E,1.0nm,0.7s,mb3.8,baz=345,slow=8.9,SNR=9.6						
WB2	**Warramunga Arr**	**44.64**	**163**	*e*P	**P**	**17 20 02.7**	**-0.7**
ASAR	**Alice Springs**	**48.10**	**165**	P	**P**	**17 20 30.3**	**-0.1**
	comp=E,0.3nm,0.8s,mb3.4,baz=354,slow=12,SNR=7.5						
TIXI	**Tiksi**	**48.55**	**3**	*e*P	**P**	**17 20 33.2**	**-0.3**
	comp=E,3.0nm,0.9s,mb4.3						
YKA	**Yellowknife Ar**	**83.53**	**23**	P	**P**	**17 24 18.0**	**-0.1**
	comp=E,0.2nm,0.7s,mb3.4,baz=318,slow=5.1,SNR=7.2						

ISCJB ***25*** *17:38:52.4±0.7,3704N±004×2744E±006,h13km±5km, Error ellipse: s-maj=8.4km s-min=7.2km az=4.7*
CSEM ***25*** *17:38:52.0±0.1,3702N×2747E,h11km±1km,MD2.7,Error ellipse: s-maj=1.9km s-min=1.8km az=72.0*
ISK ***25*** *17:38:52.4,3703N×2748E,h6km,MD2.7*
ATH ***25*** *17:38:52.6,3692N×2724E,h21km,MD2.9/3*

ISC 25 17:38:52.5±0.7,3704N±004×2742E±007,h15km±5km,n8, σ0§61/12,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BODT	**Bodrum**	**0.09**	**284**	*e*PG	**Pg**	**17 38 55.6**	**-0.1**
BODT				*e*SG	**Sg**	**17 38 58.4**	**+0.7**
DAT	**Datca**	**0.33**	**158**	*e*PG	**Pg**	**17 38 59.0**	**-0.4**
DAT				*e*SG	**Sg**	**17 39 04.0**	**0.0**
MLSB	**Milas**	**0.38**	**48**	*e*PG	**Pg**	**17 38 59.8**	**-0.4**
MLSB				*e*SG	**Sg**	**17 39 05.7**	**+0.2**
YER	**Yerkesik**	**0.69**	**82**	*e*PG	**Pg**	**17 39 05.4**	**-0.6**
SMG	**Samos**	**0.82**	**325**	*e*PN	**Pn**	**17 39 09.0**	**-0.4**
ARG	**Arkhangelos**	**1.00**	**145**	*e*PN	**Pn**	**17 39 11.5**	**-0.4**
ARG				*e*SN	**Sn**	**17 39 26.0**	**+0.3**
FETY	**Fethiye**	**1.39**	**106**	*e*PN	**Pn**	**17 39 19.0**	**+1.7**
KARP	**Karpathos**	**1.50**	**188**	*e*PN	**Pn**	**17 39 18.5**	**-0.4**

CASC 25 17:39:05.1±2.5,1048N×8635W,h1km±27km,MD3.8,2C, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
2RIO	**Dos Rios de Up**	**1.10**	**87**	*e*P	Pg	17 39 23.5	-2.7
2RIO				*e*S	Sg	17 39 41.6	+1.2
LIM1	**Limonal**	**1.10**	**78**	*e*P	Pg	17 39 24.9	-1.2
LIM1				*e*S	Sg	17 39 43.2	+2.8
CUI		**1.17**	**81**	⇑*i*P	Pg	17 39 27.1	-0.4
JCR	**Jicaral**	**1.36**	**117**	*e*P	Pn	17 39 30.1	-1.2
JCR				*e*S	Sg	17 39 49.5	+0.5
CGA2	**Cerro Gallo 2**	**1.91**	**104**	*e*P	Pn	17 39 39.4	+0.7
CGA2				*e*S	Sn	17 40 04.6	+1.2
PRS1	**Puriscal**	**2.06**	**104**	*e*P	Pn	17 39 42.2	+1.4
LAJ	**Bijagual**	**2.27**	**105**	*e*P	Pn	17 39 39.6	-4.2
LCR2	**La Lucha 2**	**2.42**	**107**	*e*P	Pn	17 39 46.5	+0.7
URSC	**Urasca**	**2.61**	**104**	*e*P	Pn	17 39 49.5	+1.2
URSC				*e*S	Sn	17 40 22.0	+1.4
BAR1		**3.23**	**112**	*e*P	Pn	17 39 57.1	+0.1
BAR1				*e*S	Sn	17 40 34.9	-1.2
LAPE	**La Pedrera**	**14.87**	**100**	⇑*i*P		17 39 23.1	
LAPE				*e*S		17 39 30.4	

NEIC ***25*** *17:40:56.9,3148S×6827W,h13km,ML3.6(GUC),After GUC.*

GUC 25 17:40:56.9±0.7,3148S×6827W,h13km±13km,MD3.9, ML3.6,5C-6D,San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMCH	**Combarbala**	**2.36**	**277**	⇓*i*P	Pn	17 41 36.5	+1.2
CMCH				*i* S	Sn	17 42 06.7	+2.6
CMCH	**Combarbala**	**2.36**	**277**	⇓*i*P	Pn	17 41 36.5	+1.2
CMCH				*i* S	Sn	17 42 06.7	+2.6
CMCH				AML	AML	17 42 09.5	
	comp=E,2μm,0.5s						
FCH	**Farellones**	**2.51**	**222**	*e*P	Pn	17 41 39.3	+1.9
FCH				AML	AML	17 42 21.8	
	comp=E,176nm,0.3s						
TLL	**Tololo Astrono**	**2.54**	**300**	⇑*i*P	Pn	17 41 39.3	+1.5
TLL				*i* S	Sn	17 42 11.5	+2.8
PEL	**Peldehue**	**2.63**	**230**	*e*P	Pn	17 41 39.8	+0.7
PEL				*i* S	Sn	17 42 12.6	+1.7
PEL				AML	AML	17 42 19.2	
	comp=N,407nm,0.4s						
ROCH	**El Roble**	**2.76**	**237**	⇑*i*P	Pn	17 41 42.3	+1.5
ROCH				*i* S	Sn	17 42 16.5	+2.6
CHNG	**Los Chungos**	**2.78**	**261**	*i* P	Sn	17 41 22.5	-19
CHNG				*i* S	Sn	17 41 56.7	-18
CHNG				AML	AML	17 42 04.2	
	comp=N,177nm,0.2s						
PCH	**Pirque**	**2.85**	**221**	*e*P	Pn	17 41 43.7	+1.6
PCH				*e*S	Sn	17 42 18.6	+2.3
LMEL	**Las Melosas**	**2.87**	**214**	⇓*i*P	Pn	17 41 43.5	+1.2
LMEL				AML	AML	17 42 36.4	
	comp=N,92nm,0.2s						
RCDM	**Rinconada Maip**	**2.93**	**226**	⇑*i*P	Pn	17 41 44.3	+1.1
RCDM				*i* S	Sn	17 42 20.8	+2.5
RCDM	**Rinconada Maip**	**2.93**	**226**	⇑*i*P	Pn	17 41 44.3	+1.1
RCDM				*i* S	Sn	17 42 20.8	+2.5
RCDM				AML	AML	17 42 22.2	
	comp=E,253nm,0.3s						
TACH	**Talagante**	**3.12**	**225**	⇓*i*P	Pn	17 41 46.2	+0.4
TACH				*i* S	Sn	17 42 24.2	+1.1
CHCH	**Chadas Angostu**	**3.17**	**219**	⇑*i*P	Pn	17 41 47.5	+1.1
CHCH				*i* S	Sn	17 42 26.0	+2.0
LCO	**Las Campanas**	**3.24**	**319**	*e*Pn	Pn	17 41 47.6	+0.2
CICH	**Cipreses**	**3.36**	**212**	⇓*i*P	Pn	17 41 50.2	+1.2
LNV	**Longovilo**	**3.62**	**226**	⇓*i*P	Pn	17 41 51.3	-1.4
LNV				*i* S	Sn	17 42 34.0	-1.3
TRQA	**Tornquist**	**8.35**	**143**	*e*Pn	Pn	17 42 53.1	-4.5
	comp=E,6.9nm,0.6s						

ISCJB ***25*** *17:49:16.5±2.1,1549N±008×9609E±006,h3km±13km, mb4.0/20,MS4.1/16,Error ellipse: s-maj=14.4km s-min=8.8km az=24.4*
IDC ***25*** *17:49:17.7±0.8,1545N×9607E,h0km,mb3.8/12, mb1 3.9/12,mb1mx3.8/23,mbtmp3.8/12,MS4.0/14, Ms1 4.0/14,ms1mx3.8/33,Error ellipse: s-maj=35.7km s-min=17.6km az=61.0*
BJI ***25*** *17:49:25.3,1588N×9564E,h29km,mB4.5,mb4.5,Ms4.5, Msz4.2*
NEIC ***25*** *17:49:25.5±1.4,1565N×9639E,h58km±13km,mb4.5/4, Error ellipse: s-maj=13.1km s-min=10.8km az=220.0*

ISC 25 17:49:18.7±1.7,1548N±007×9607E±005,h5km±10km,n59, σ1§13/59,mb4.0/20,MS4.1/16,1C-1D,Near south coast of Myanmar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NST	**Nakhon Sawan**	**3.92**	**87**	PN	**Pn**	**17 50 18.0**	**-1.5**
NST				PG	**Pg**	**17 50 35.0**	**+1.1**
NST				SG	**Sg**	**17 51 30.0**	**+5.3**
CM31	**Chiang Mai Arr**	**4.04**	**42**	*e*Pn	**Pn**	**17 50 20.3**	**-1.0**
CHG	**Chiang Mai**	**4.31**	**39**	⇓P	**Pn**	**17 50 24.1**	**-0.8**
	150nm,0.6s						
CHTO	**Chiang Mai**	**4.31**	**39**	*e*Pn	**Pn**	**17 50 23.4**	**-1.5**
NNT	**Nongplab**	**4.57**	**128**	P	**Pn**	**17 50 23.0**	**-5.4**
CHRT	**Chiangrai**	**5.62**	**38**	⇑P	**Pn**	**17 50 44.0**	**+1.1**
	1μm,1.0s						
KKTK	**Khon Kaen**	**6.55**	**82**	P	**Pb**	**17 51 06.0**	**-7.2**
	988nm,0.8s						
SHL	**Shillong**	**10.78**	**339**	*e*P	**Pn**	**17 51 55.0**	**+1.3**
SHL				*e*S	**Sn**	**17 53 45.0**	**-10**
KMI	**Kunming**	**11.45**	**32**	P	**Pn**	**17 52 09.8**	**+6.9**
KMI				AMB	AMB		
	comp=Z,6.0nm,0.9s						
KMI				LR	LR		
	comp=N,1μm,6.5s						
KMI				LR	LR		
	comp=E,1μm,8.8s						
KMI				LR	LR		
	comp=Z,947nm,8.5s						
VIS	**Vishakhapatnam**	**12.42**	**282**	*e*P	**Pn**	**17 52 22.6**	**+6.4**
VIS				AMb	AMB	17 52 32.3	
	comp=Z,34nm,1.7s						
BOK	**Bokaro**	**12.66**	**312**	*e*P	**Pn**	**17 52 24.8**	**+5.3**
BOK				AMb	AMB	17 52 31.1	
	comp=Z,12nm,1.7s						
BOK				*e*S	**Sn**	**17 54 32.6**	**-8.4**
PSI	**Prapat**	**12.90**	**167**	LR	LR	17 57 39.5	
	comp=Z,499nm,20.4s,baz=329,slow=39						
LSA	**Lhasa**	**14.87**	**343**	P	**Pn**	**17 52 46.5**	**-3.0**
LSA				AMB	AMB		
	comp=Z,30nm,1.0s						
LSA				LR	LR		
	comp=N,360nm,15.0s						
LSA				LR	LR		
	comp=E,690nm,14.0s						
LSA				LR	LR		
	comp=Z,480nm,14.0s						
LSA	**Lhasa**	**14.87**	**343**	*e*P	**Pn**	**17 52 45.5**	**-4.0**
	comp=Z,20nm,1.2s						
JIRN	**Jiri**	**15.20**	**325**	*e*P	**Pn**	**17 52 50.4**	**-3.7**
GUN	**Gumba**	**15.57**	**324**	*e*P	**Pn**	**17 52 55.6**	**-3.3**
DMN	**Daman**	**15.79**	**322**	*e*P	**Pn**	**17 53 00.4**	**-1.4**
	comp=Z,68nm,0.8s						
KKN	**Kakani**	**15.82**	**323**	*e*P	**Pn**	**17 53 00.2**	**-2.0**
GKN	**Gorkha**	**16.36**	**322**	*e*P	**Pn**	**17 53 07.5**	**-1.7**
	comp=Z,35nm,0.5s						
KOLN	**Koldanda**	**16.84**	**319**	*e*P	**Pn**	**17 53 16.3**	**+1.1**
	comp=Z,55nm,0.7s						
HYB	**Hyderabad**	**16.91**	**279**	*e*P	**Pn**	**17 53 23.0**	**+6.8**
HYB				*e*S	**Sn**	**17 56 25.0**	**+0.4**
HYB	**Hyderabad**	**16.91**	**279**	*i* P	**Pn**	**17 53 23.0**	**+6.8**
HYB				*e*S	**Sn**	**17 56 25.0**	**+0.4**
DANN	**Dangsing**	**17.14**	**320**	*e*P	**Pn**	**17 53 18.8**	**-0.3**
BHPL	**Bhopal**	**19.20**	**297**	*e*P	**Pn**	**17 53 47.0**	**+2.6**
LZH	**Lanzhou**	**21.67**	**17**	*e*P	**P**	**17 54 13.5**	**+3.3**
LZH				AP		17 54 19.5	
LZH				XP	sP	17 54 22.5	+10
LZH				PP		17 54 37.0	
LZH				*e*S	**S**	**17 58 10.3**	**-0.1**
LZH				AMB	AMB		
	comp=Z,23nm,1.1s,mb4.5						
LZH				AMB	AMB		
	comp=Z,109nm,4.9s						
LZH				LR	LR		
	comp=N,2μm,14.0s						
LZH				LR	LR		
	comp=Z,3μm,15.4s,MS4.8						
XAN	**Xi'an**	**21.82**	**30**	P	**P**	**17 54 13.8**	**+2.0**
XAN				AP		17 54 21.8	
XAN				S	**S**	**17 58 15.0**	**+1.6**
XAN				AMB	AMB		
	comp=Z,3.0nm,0.7s,mb3.8						
XAN				AMB	AMB		
	comp=Z,29nm,3.7s						
XAN				LR	LR		
	comp=N,705nm,17.0s,MS4.4						
XAN				LR	LR		
	comp=E,920nm,14.3s,MS4.4						
XAN				LR	LR		
	comp=Z,687nm,10.3s,MS4.3						
NDI	**New Delhi**	**21.82**	**310**	*e*P	**P**	**17 54 12.5**	**+0.6**
GTA	**Gaotai**	**24.07**	**7**	P	**P**	**17 54 34.8**	**-0.1**
GTA				AMB	AMB		
	comp=Z,3.0nm,1.4s,mb3.5						
WMQ	**Urumqi**	**29.14**	**347**	*e*P	**P**	**17 55 22.0**	**+1.5**
WMQ				AP	pP	17 55 32.0	+10
WMQ				XP	sP	17 55 36.0	+13
WMQ				AMB	AMB		
	comp=Z,11nm,0.9s,mb4.6						
WMQ				AMB	AMB		
	comp=Z,145nm,5.2s						
WMQ				LR	LR		
	comp=N,425nm,13.8s,MS4.3						
WMQ				LR	LR		
	comp=E,410nm,16.0s,MS4.3						
WMQ				LR	LR		
	comp=Z,262nm,17.9s,MS3.9						
JOW	**Kunigami**	**32.00**	**64**	LR	LR	18 10 56.6	
	comp=Z,250nm,19.2s,MS3.9,baz=41,slow=41						
AAK	**Ala-Archa**	**32.79**	**330**	P	**P**	**17 55 53.6**	**+0.8**
AAK	**Ala-Archa**	**32.79**	**330**	P	**P**	**17 55 53.6**	**+0.8**
	comp=Z,4.0nm,0.8s,mb4.4,baz=163,slow=7.8,SNR=12						
EKS2	**Erkin-Say**	**33.16**	**329**	*e*P	**P**	**17 55 56.8**	**+0.8**
	comp=Z,2.7nm,0.8s,mb4.2						
MK31	**Makanchi Array**	**33.27**	**343**	*e*P	**P**	**17 55 57.1**	**+0.2**
MKAR	**Makanchi Array**	**33.27**	**343**	P	**P**	**17 55 57.0**	**+0.1**
	comp=Z,3.4nm,0.9s,mb4.3,baz=154,slow=9.5,SNR=24						
MKAR				LR	LR	18 13 16.6	
	comp=Z,136nm,20.4s,MS3.6,baz=160,slow=43						
SONM	**Songino Array**	**33.38**	**13**	P	**P**	**17 55 57.5**	**-0.3**
SONM				LR	LR	18 11 00.6	
SONM	**Songino Array**	**33.38**	**13**	P	**P**	**17 55 57.5**	**-0.3**
	comp=Z,0.2nm,0.4s,mb3.4,baz=198,slow=8.9,SNR=2.9						
SONM				LR	LR	18 11 00.6	
	comp=Z,387nm,20.6s,MS4.1,baz=194,slow=39						
KSRS	**Korea Array**	**35.67**	**46**	LR	LR	18 12 15.1	
	comp=Z,269nm,18.1s,MS4.0,baz=242,slow=39						
KURK	**Kurchatov**	**37.87**	**342**	*e*P	**P**	**17 56 35.1**	**-1.2**
	comp=Z,5.2nm,0.7s,mb4.4						
ZAA0	**Zalesovo Array**	**39.39**	**350**	*e*P	**P**	**17 56 48.6**	**-0.4**
ZALV	**Zalesovo Beam**	**39.39**	**350**	P	**P**	**17 56 49.5**	**+0.4**
	comp=Z,2.8nm,0.3s,mb4.4,baz=176,slow=8.2,SNR=12						
ZALV				LR	LR	18 16 22.1	
	comp=Z,62nm,18.4s,MS3.5,baz=209,slow=41						
BRVK	**Borovoye**	**42.66**	**337**	*e*P	**P**	**17 57 15.8**	**-0.2**
MJAR	**Matsushiro Ar**	**42.86**	**53**	LR	LR	18 16 42.6	
	comp=Z,185nm,18.6s,MS4.0,baz=250,slow=38						
AKTK	**Aktyubinsk**	**46.42**	**327**	P	**P**	**17 57 46.4**	**+0.3**
AKTO	**Aktyubinsk**	**46.42**	**327**	P	**P**	**17 57 46.4**	**+0.3**
	comp=Z,1.5nm,0.9s,mb3.9,baz=133,slow=9.3,SNR=5.0						
WRA	**Warramunga Arr**	**51.52**	**132**	P	**P**	**17 58 25.3**	**-0.4**
	comp=Z,1.1nm,0.9s,mb3.8,baz=312,slow=7.7,SNR=6.3						
WRA				LR	LR	18 23 34.0	
	comp=Z,100nm,21.6s,MS3.8,baz=15,slow=40						
NWAO	**Narrogin (SRO)**	**52.21**	**157**	LR	LR	18 22 01.1	
	comp=Z,195nm,19.5s,MS4.2,baz=318,slow=38						
KIV	**Kislovodsk**	**53.22**	**314**	*e*P	**P**	**17 58 37.4**	**-0.6**
	comp=Z,21nm,1.0s,mb5.0						
ASAR	**Alice Springs**	**53.67**	**136**	P	**P**	**17 58 41.8**	**+0.2**
ASAR	**Alice Springs**	**53.67**	**136**	P	**P**	**17 58 41.8**	**+0.2**
	comp=Z,0.3nm,0.7s,mb3.4,baz=315,slow=7.0,SNR=6.7						
TIXI	**Tiksi**	**59.45**	**11**	*e*P	**P**	**17 59 19.7**	**-2.3**
	comp=Z,3.1nm,0.8s,mb4.4						
AKASG	**Malin Array Be**	**63.53**	**319**	P	**P**	**17 59 49.5**	**-0.5**
	comp=Z,0.2nm,0.4s,mb3.5,baz=97,slow=5.5,SNR=3.2						
STKA	**Stephens Creek**	**64.19**	**138**	LR	LR	18 27 40.9	
	comp=Z,181nm,19.7s,MS4.3,baz=316,slow=36						
FINES	**FINESS Array B**	**66.98**	**331**	P	**P**	**18 00 11.8**	**-0.3**
	comp=Z,0.5nm,0.4s,mb3.9,baz=100,slow=5.8,SNR=2.7						
FINES				LR	LR	18 34 04.8	
	comp=Z,78nm,18.2s,MS4.0,baz=152,slow=40						
ARCES	**ARCESS Array B**	**68.83**	**339**	LR	LR	18 31 45.1	
	comp=Z,81nm,21.1s,MS3.9,baz=103,slow=37						
GERES	**GERESS Array B**	**73.52**	**317**	P	**P**	**18 00 53.5**	**+1.0**
	comp=Z,0.2nm,0.4s,mb3.4,baz=74,slow=7.1,SNR=2.3						
NOA	**NORSAR Array B**	**74.11**	**330**	P	**P**	**18 00 55.8**	**+0.1**
	comp=Z,0.9nm,0.7s,mb3.8,baz=93,slow=5.3,SNR=2.7						
NOA				LR	LR	18 39 44.5	
	comp=Z,84nm,18.7s,MS4.1,baz=340,slow=41						
BOSA	**Boshof**	**81.24**	**237**	P	**P**	**18 01 35.8**	**-0.2**
	comp=Z,0.9nm,0.6s,mb3.9,baz=69,slow=8.6,SNR=2.9						
BORG	**Borgarnes**	**87.18**	**338**	LR	LR	18 46 18.5	
	comp=Z,188nm,18.7s,MS4.5,baz=66,slow=39						

IDC 25 17:51:52.7±1.9,1916S×17721E,h0km,mb4.0/4, mb1 4.3/4,mb1mx3.9/14,mbtmp4.0/4,MS3.8/7,Ms1 3.8/7, ms1mx3.5/25,Error ellipse: s-maj=156.9km s-min=31.5km az=158.0,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**10.98**	**157**	LR	LR	17 57 11.2	
	comp=Z,347nm,19.3s,baz=143,slow=29						
URZ	**Urewera

mb1mx3.5/23, mbtmp3.6/7, MS3.4/2, Ms1 3.4/2, ms1mx3.0/31, Error ellipse: s-maj=121.4km s-min=18.4km az=57.0

NEIC **25** *18:35:35.4±0.6, 1553N×9621E, h10km, mb4.1/2, Error ellipse: s-maj=16.3km s-min=10.4km az=53.0*

ISC 25 18:35:35.6±0.8, 157N±01×9616E±006, h10km, n29, σ1§28/27, mb3.7/9, MS3.3/2, 1C-1D, Near south coast of Myanmar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NST	**Nakhon Sawan**	**3.83**	**89**	P	**Pn**	**18 36 35.0**	**+0.4**
	208nm,0.8s						
CHG	**Chiang Mai**	**4.11**	**40**	⇓P	**Pn**	**18 36 43.0**	**+4.5**
	125nm,0.6s						
CHTO	**Chiang Mai**	**4.11**	**40**	*e*P	**Pn**	**18 36 39.6**	**+1.1**
NNT	**Nongplab**	**4.62**	**131**	P	**Sn**	**18 37 30.0**	**-9.3**
CHRT	**Chiangrai**	**5.42**	**39**	⇑P	**Pn**	**18 37 02.0**	**+5.4**
	579nm,0.7s						
KKTK	**Khon Kaen**	**6.44**	**83**	P	**Sg**	**18 39 02.0**	**-0.5**
	679nm,0.7s						
LSA	**Lhasa**	**14.71**	**343**	*e*P	**Pn**	**18 39 01.7**	**-2.1**
	2.0nm,0.6s						
JIRN	**Jiri**	**15.10**	**324**	*e*P	**Pn**	**18 39 06.2**	**-2.9**
GUN	**Gumba**	**15.47**	**324**	*e*P	**Pn**	**18 39 09.8**	**-4.2**
DMN	**Daman**	**15.70**	**321**	*e*P	**Pn**	**18 39 16.7**	**-0.3**
	26nm,0.9s						
KKN	**Kakani**	**15.73**	**322**	*e*P	**Pn**	**18 39 15.9**	**-1.4**
	6.9nm,0.5s						
GKN	**Gorkha**	**16.27**	**321**	*e*P	**Pn**	**18 39 22.1**	**-2.2**
	14nm,0.5s						
KOLN	**Koldanda**	**16.76**	**318**	*e*P	**Pn**	**18 39 31.6**	**+1.1**
	32nm,0.7s						
DANN	**Dangsing**	**17.06**	**320**	*e*P	**Pn**	**18 39 32.0**	**-2.3**
	14nm,0.6s						
AAK	**Ala-Archa**	**32.68**	**330**	*e*P	**P**	**18 42 08.8**	**+0.9**
MKAR	**Makanchi Array**	**33.12**	**342**	P	**P**	**18 42 13.3**	**+1.5**
	1.2nm,0.6s,mb4.0,baz=152,slow=9.9,SNR=20						
KSRS	**Korea Array**	**35.48**	**46**	LR	LR	18 58 23.7	
	comp=Z,50nm,20.1s,MS3.3,baz=355,slow=38						
KURK	**Kurchatov**	**37.72**	**342**	*e*P	**P**	**18 42 52.3**	**+1.0**
	2.0nm,0.6s,mb4.0						
ZALV	**Zalesovo Beam**	**39.22**	**349**	P	**P**	**18 43 05.0**	**+1.1**
	2.5nm,0.7s,mb4.1,baz=169,slow=8.5,SNR=12						
BVAR	**Borovoye Array**	**42.45**	**337**	P	**P**	**18 43 31.3**	**+0.7**
	0.3nm,0.5s,mb3.2,baz=139,slow=9.0,SNR=3.5						
MJAR	**Matsushiro Ar**	**42.68**	**53**	LR	LR	19 02 28.6	
	comp=Z,47nm,19.9s,MS3.4,baz=40,slow=38						
AKTK	**Aktyubinsk**	**46.31**	**327**	P	**P**	**18 44 02.4**	**+0.9**
AKTO	**Aktyubinsk**	**46.31**	**327**	P	**P**	**18 44 02.4**	**+0.9**
	0.8nm,0.7s,mb3.7,baz=125,slow=12,SNR=4.6						
WRA	**Warramunga Arr**	**51.58**	**132**	P	**P**	**18 44 41.5**	**-0.8**
WRA	**Warramunga Arr**	**51.58**	**132**	P	**P**	**18 44 41.5**	**-0.8**
	0.3nm,0.7s,mb3.3,baz=314,slow=8.3,SNR=2.9						
KIV	**Kislovodsk**	**53.16**	**314**	*e*P	**P**	**18 44 55.5**	**+1.8**
ASAR	**Alice Springs**	**53.74**	**136**	P	**P**	**18 44 57.1**	**-1.2**
	0.4nm,1.0s,mb3.3,baz=319,slow=8.0,SNR=3.3						
TIXI	**Tiksi**	**59.25**	**11**	*e*P	**P**	**18 45 36.7**	**-0.2**
	1.0nm,0.5s,mb4.1						
FINES	**FINESS Array B**	**66.86**	**331**	P	**P**	**18 46 27.8**	**+0.2**
	0.7nm,0.7s,mb3.8,baz=93,slow=9.5,SNR=2.8						

PRE 25 18:38:41.8±0.6, 2638S×2748E, h2km, ML1.8, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRYS	**Parys**	**0.55**	**191**	*e*P	Pg	18 38 52.4	0.0
PRYS				*e*S	Sg	18 39 00.1	+0.5
PRYS				AML	AML	18 39 03.6	
	comp=Z,33nm,0.3s						
ERPM	**east rand prop**	**0.70**	**79**	*e*P	Pg	18 38 55.4	+0.2
ERPM				*e*S	Sg	18 39 04.8	+0.5
ERPM				AML	AML	18 39 12.8	
	comp=Z,13nm,0.2s						
KSR	**Koster**	**0.74**	**315**	*e*P	Pg	18 38 55.8	-0.2
KSR				*e*S	Sg	18 39 06.1	+0.5
KSR				AML	AML	18 39 11.2	
	comp=Z,26nm,0.1s						
SLR	**Silverton**	**0.97**	**49**	*e*P	Pg	18 39 00.5	+0.1
SLR				*e*S	Sg	18 39 15.2	+2.3
SLR				AML	AML	18 39 19.4	
	comp=Z,20nm,0.1s						
SEK	**Senekal**	**1.94**	**176**	*e*P	Pn	18 39 15.6	-0.2
SEK				*e*S	Sn	18 39 40.9	+0.2
SEK				AML	AML	18 39 43.3	
	comp=Z,22nm,0.3s						
SWZ	**Schweizer**	**2.08**	**247**	*e*P	Pn	18 39 18.5	+0.8
SWZ				*e*S	Sn	18 39 44.9	+0.8
SWZ				AML	AML	18 39 48.4	
	comp=Z,23nm,0.3s						
LBTB	**Lobatse**	**2.17**	**308**	*e*P	Pn	18 39 19.7	+0.7
LBTB				*e*S	Sn	18 39 47.4	+0.9
LBTB				AML	AML	18 39 52.7	
	comp=Z,15nm,0.6s						
BOSA	**Boshof**	**2.97**	**221**	*e*P	Pn	18 39 28.8	-1.2
BOSA				*e*S	Sn	18 40 03.8	-2.5
BOSA				AML	AML	18 40 25.4	
	comp=Z,2.4nm,0.3s						

IDC **25** *19:10:48.6±1.8, 146S×14568E, h0km, mb3.7/5, mb1 4.0/5, mb1mx3.7/14, mbtmp3.7/5, MS3.2/2, Ms1 3.2/2, ms1mx2.8/20, Error ellipse: s-maj=71.9km s-min=25.3km az=110.0*

NEIC **25** *19:10:50.1±1.0, 150S×14568E, h10km, mb4.2/2, Error ellipse: s-maj=41.9km s-min=11.8km az=106.0*

ISCJB **25** *19:10:52.2±1.4, 15S±02×1456E±04, h33km, mb3.6/7, Error ellipse: s-maj=55.3km s-min=16.2km az=16.0*

ISC 25 19:10:53.9±1.4, 15S±02×1457E±04, h35km, n11, σ0§40/9, mb3.6/7, Admiralty Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**15.05**	**357**	LR	LR	19 18 33.8	
	comp=Z,97nm,21.4s,baz=111,slow=31						
CTA	**Charters Tower**	**18.45**	**178**	LR	LR	19 21 49.4	
	comp=Z,83nm,20.7s,baz=39,slow=36						
WRAB	**Tennant Creek**	**21.38**	**210**	*e*P	**P**	**19 15 38.4**	**-0.1**
	13nm,0.9s,mb4.3						
WB2	**Warramunga Arr**	**21.38**	**210**	*e*P	**P**	**19 15 38.0**	**-0.6**
WRA	**Warramunga Arr**	**21.39**	**210**	P	**P**	**19 15 38.2**	**-0.4**
	0.3nm,0.3s,mb3.0,baz=31,slow=9.8,SNR=17						
ASAR	**Alice Springs**	**24.78**	**206**	P	**P**	**19 16 13.4**	**+0.8**
	1.1nm,0.8s,mb3.5,baz=35,slow=7.0,SNR=14						
FITZ	**Fitzroy Crossi**	**25.65**	**229**	P	**P**	**19 16 20.8**	**+0.3**
	1.1nm,0.6s,mb3.5,baz=24,slow=10.0,SNR=4.4						
MKAR	**Makanchi Array**	**73.24**	**320**	P	**P**	**19 22 21.4**	**0.0**
MKAR	**Makanchi Array**	**73.24**	**320**	P	**P**	**19 22 21.4**	**0.0**
	0.5nm,0.8s,mb3.5,baz=110,slow=5.7,SNR=4.9						
KURK	**Kurchatov**	**76.86**	**323**	*e*P	**P**	**19 22 42.3**	**0.0**
	1.0nm,0.6s,mb3.9						
YKA	**Yellowknife Ar**	**95.85**	**27**	P	**P**	**19 24 16.4**	**-0.1**
	0.1nm,0.3s,mb3.7,baz=263,slow=5.3,SNR=3.4						

NIED **25** *19:12:00, 4670N×15280E, h26km, Mw3.9 Best double couple: M0 7.12000×10^14 NP1:φs121.00000°, δ77.00000°, λ-27.00000°. NP2:φs218.00000°, δ63.00000°, λ-165.00000°.*

JMA **25** *19:12:09.3±0.8, 4673N×15284E, h30km, M4.3*

IDC **25** *19:12:09.3±2.5, 4666N×14967E, h0km, mb3.5/4, mb1 3.9/4, mb1mx3.6/20, mbtmp3.5/4, Error ellipse: s-maj=157.7km s-min=29.1km az=122.0*

ISCJB **25** *19:12:13.4±3.0, 456N±02×1528E±02, h25km±24km, mb3.5/4, Error ellipse: s-maj=45.5km s-min=11.3km az=156.4*

MOS **25** *19:12:16.2±2.6, 4566N×15222E, h33km, mb4.1/1, Error ellipse: s-maj=60.4km s-min=39.3km az=171.8*

ISC 25 19:12:15.2±3.0, 452N±02×1530E±02, h23km±25km, n19, σ1§00/22, mb3.5/4, 1C, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.61**	**272**	⇑*i*PN	**Pn**	**19 13 04.0**	**-5.7**
KUR				pmax	pmax		
	comp=N,50nm,0.5s						
KUR				pmax	pmax		
	comp=Z,110nm,0.5s						
NEM2	**Nemuro 2**	**5.52**	**253**	P	**Pn**	**19 13 35.9**	**0.0**
NEM2				*e*S	**Sn**	**19 14 39.9**	**+1.4**
JRA	**Rausu**	**5.76**	**260**	P	**Pn**	**19 13 39.6**	**+0.4**
JNK	**Nakash**	**6.14**	**257**	P	**Pn**	**19 13 44.9**	**+0.5**
JAK	**Akkeshi**	**6.37**	**252**	P	**Pn**	**19 13 47.6**	**+0.1**
JAK				*e*S	**Sn**	**19 15 00.4**	**+1.0**
JTKR	**Abashiri--Toko**	**6.60**	**262**	P	**Pn**	**19 13 50.3**	**-0.4**
JAR	**Ashorobuto**	**6.89**	**257**	P	**Pn**	**19 13 54.9**	**+0.2**
YSS	**Yuzh-Sakhalins**	**7.31**	**287**	*e*PN	**Pn**	**19 13 54.8**	**-5.7**
JCH	**Churui**	**7.42**	**253**	P	**Pn**	**19 14 02.3**	**+0.3**
JCH				*e*S	**Sn**	**19 15 25.3**	**0.0**
JKK2	**Kamakawa 2**	**7.43**	**263**	P	**Pn**	**19 14 02.1**	**-0.1**
ASAJ	**Asahikawa**	**7.48**	**265**	P	**Pn**	**19 14 03.2**	**+0.3**
JNBK	**Urakawa-nobuka**	**7.97**	**252**	P	**Pn**	**19 14 08.0**	**-1.5**
JANG	**Nango**	**9.72**	**244**	*e*S	**Sn**	**19 16 19.8**	**-2.1**
JTH	**Tanohata**	**9.75**	**241**	*e*S	**Sn**	**19 16 21.2**	**-1.4**
YKA	**Yellowknife Ar**	**52.21**	**36**	P	**P**	**19 21 22.4**	**-1.3**
	comp=Z,0.2nm,0.6s,mb3.2,baz=299,slow=6.6,SNR=4.0						
NVAR	**Mina Array Bea**	**63.23**	**62**	P	**P**	**19 22 47.6**	**+6.0**
	comp=Z,0.4nm,0.6s,mb3.7,baz=311,slow=5.9,SNR=3.1						
ASAR	**Alice Springs**	**70.73**	**199**	P	**P**	**19 23 31.2**	**+2.0**
	comp=Z,0.3nm,0.6s,mb3.4,baz=7.1,slow=5.5,SNR=7.2						
TXAR	**Lajitas Array**	**78.33**	**60**	P	**P**	**19 24 19.5**	**+6.0**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
TXAR	**Lajitas Array**	**78.33**	**60**	P	**P**	**19 24 19.5**	**+6.0**
	comp=Z,0.6nm,0.6s,mb3.7,baz=298,slow=4.3,SNR=8.6						

ROM **25** *19:12:36.3±3.3, 3776N×2140E, h10km, Md3.4/4, Ml3.5/17, Error ellipse: s-maj=51.7km s-min=7.2km az=62.0*

IDC **25** *19:12:43.4±11.0, 3816N×2006E, h0km, mb3.4/4, mb1 3.5/5, mb1mx3.4/23, mbtmp3.4/5, ML3.5/1, Error ellipse: s-maj=219.7km s-min=36.8km az=36.0*

ATH **25** *19:12:46.4, 3819N×2031E, h11km±1km, MD3.8/13, ML3.9*

ISCJB **25** *19:12:47.4±0.5, 3824N±002×2036E±002, h4km±4km, mb3.2/4, Error ellipse: s-maj=3.9km s-min=3.1km az=26.8*

NEIC **25** *19:12:47.0, 3823N×2035E, h8km, ML3.9(ATH), ML3.5(ROM), After ATH.*

THE **25** *19:12:48.4, 3825N×2032E, h3km, ML4.0*

CSEM **25** *19:12:48.1±0.1, 3816N×2034E, h2km, ML3.9, Error ellipse: s-maj=2.0km s-min=0.9km az=4.0*

HLW **25** *19:12:50.7, 3902N×2357E, h33km, Mb3.6*

ISC 25 19:12:48.4±0.5, 3823N±002×2039E±003, h5km±4km, n84, σ1§11/107, mb3.2/4, 2C-1D, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.17**	**108**	*e*Pg	**Pg**	**19 12 51.8**	**+0.1**
VLS	**Valsamata**	**0.17**	**108**	*e*PG	**Pg**	**19 12 51.7**	**0.0**
VLS				*e*SG	**Sg**	**19 12 54.7**	**+0.8**
VLS	**Valsamata**	**0.17**	**108**	*e*Pg	**Pg**	**19 12 51.8**	**+0.1**
VLS				*e*Sg	**Sg**	**19 12 54.7**	**+0.8**
KFL	**Anninata**	**0.34**	**111**	*e*Pg	**Pg**	**19 12 54.9**	**0.0**
KFL				*e*Sg	**Sg**	**19 13 00.7**	**+1.4**
LKD	**Levkas**	**0.52**	**23**	*e*Pg	**Pg**	**19 12 57.0**	**-1.4**
LKD				*e*Sg	**Sg**	**19 13 04.5**	**-0.7**
RLS	**Riolos of Patr**	**0.86**	**101**	*e*PB	**Pg**	**19 13 04.0**	**-1.0**
RLS				*e*SB	**Sg**	**19 13 17.5**	**+1.3**
SELA	**Sela**	**1.18**	**87**	*e*Pg	**Pn**	**19 13 09.7**	**-1.9**
IGT	**Igoumenitsa**	**1.30**	**358**	*e*Pg	**Pg**	**19 13 11.6**	**-1.8**
IGT				*e*Sg	**Sg**	**19 13 31.2**	**+0.9**
EVR	**Evrytania**	**1.31**	**58**	*e*Pb	**Pn**	**19 13 09.8**	**-3.5**
EVR	**Evrytania**	**1.31**	**58**	*e*PN	**Pn**	**19 13 11.0**	**-2.3**
JAN	**Janina**	**1.47**	**14**	*e*PB	**Pn**	**19 13 15.0**	**-0.5**
KEK	**Kerkira**	**1.55**	**343**	*e*PG	**Pn**	**19 13 15.3**	**-1.4**
KEK				*e*SB	**Sg**	**19 13 37.9**	**-0.4**
KEK	**Kerkira**	**1.55**	**343**	Pn	**Pn**	**19 13 15.4**	**-1.3**
ITM	**Ithomi**	**1.61**	**130**	*e*PG	**Pn**	**19 13 16.9**	**-0.5**
SRN	**Sarande**	**1.68**	**350**	*e*Pn	**Pg**	**19 13 18.8**	**-1.8**
SRN				*i* Sn	**Sg**	**19 13 42.9**	**+0.6**
PYL	**PYLOS**	**1.71**	**141**	*e*Pb	**Pb**	**19 13 19.4**	**-0.9**
AGG	**Agios Georgios**	**1.71**	**62**	*e*Pb	**Pn**	**19 13 19.1**	**+0.2**
AGG				*e*Sb	**Sg**	**19 13 45.8**	**+2.3**
VLX	**Vlachokerasia**	**1.79**	**118**	*e*Pb	**Pb**	**19 13 22.2**	**+0.5**
THL	**Klokotos Trika**	**1.84**	**43**	*e*Pb	**Pn**	**19 13 20.8**	**+0.2**
THL				*e*Sb	**Sg**	**19 13 47.8**	**+0.3**
THL	**Klokotos Trika**	**1.84**	**43**	*e*PN	**Pn**	**19 13 20.7**	**+0.1**
THL				*e*SN	**Sb**	**19 13 46.3**	**+0.5**
THL	**Klokotos Trika**	**1.84**	**43**	*e*Pn	**Pn**	**19 13 20.7**	**+0.1**
THL				*e*Sn	**Sb**	**19 13 46.3**	**+0.5**
THL				*e*Sb	**Sg**	**19 13 47.8**	**+0.3**
LTK	**Loutraki**	**2.04**	**95**	*e*Pn	**Pn**	**19 13 24.2**	**+0.8**
LKR	**Lokris**	**2.09**	**78**	*e*Pn	**Pn**	**19 13 25.0**	**+1.0**
LKR	**Lokris**	**2.09**	**78**	*e*PN	**Pn**	**19 13 25.1**	**+1.1**
KZN	**Kozani**	**2.33**	**27**	*e*PN	**Pn**	**19 13 28.4**	**+1.0**
DID	**Didima**	**2.37**	**107**	*e*Pn	**Pg**	**19 13 29.4**	**-4.3**
DID				*e*Sn	**Sg**	**19 14 00.6**	**-3.8**
SCTE	**Santa Cesarea**	**2.37**	**322**	Pn	**Pn**	**19 13 26.8**	**-1.1**
NEO	**Neokhori**	**2.46**	**63**	*e*PN	**Pn**	**19 13 30.3**	**+1.1**
XOR	**Xorichti**	**2.47**	**62**	*e*Pn	**Pg**	**19 13 31.4**	**-4.3**
LIT	**Litokhoron**	**2.48**	**40**	*e*Pn	**Pg**	**19 13 32.0**	**-4.0**
LIT				*e*Sn	**Sg**	**19 14 04.0**	**-4.1**
NAIG	**Nisos Aigina**	**2.49**	**100**	*e*Pg	**Pg**	**19 13 35.0**	**-1.2**
VLI	**Veliai**	**2.52**	**126**	*e*PN	**Pg**	**19 13 32.0**	**-4.8**
VLI	**Veliai**	**2.52**	**126**	*e*Pg	**Pg**	**19 13 33.4**	**-3.4**
ATH	**Athens Observa**	**2.64**	**95**	*e*PB	**Pn**	**19 13 31.5**	**0.0**
FNA	**Florina**	**2.66**	**16**	*e*Pn	**Pn**	**19 13 31.9**	**-0.1**
FNA				*e*Sn	**Sn**	**19 14 04.6**	**0.0**
PTL	**Penteli**	**2.75**	**93**	*e*PN	**Pn**	**19 13 33.5**	**+0.5**
LCI	**Lecce**	**2.75**	**321**	Pn	**Pn**	**19 13 33.9**	**+0.8**
	66nm,0.6s						
BIA	**Bitola**	**2.88**	**14**	*e*Pn	**Pg**	**19 13 39.4**	**-4.2**
BIA				*e*Sn	**Sn**	**19 14 09.7**	**-0.2**
BIA	**Bitola**	**2.88**	**14**	*e*Pn	**Pg**	**19 13 39.3**	**-4.3**
BIA				*e*Sn	**Sn**	**19 14 09.6**	**-0.3**
OHR	**Ohrid**	**2.90**	**6**	*e*Pn	**Pn**	**19 13 29.2**	**-5.9**
OHR				*e*Sn	**Sn**	**19 14 08.3**	**-2.0**
OHR	**Ohrid**	**2.90**	**6**	*e*Pn	**Pn**	**19 13 29.2**	**-5.9**
OHR				*e*Sn	**Sn**	**19 14 08.2**	**-2.1**
TIP	**Timpagrande**	**3.00**	**290**	*e*P	**Pn**	**19 13 36.0**	**-0.5**
TIP				Pn	**Pn**	**19 13 36.3**	**-0.2**
TIP	**Timpagrande**	**3.00**	**290**	Pn	**Pn**	**19 13 36.3**	**-0.2**
	25nm,0.5s						
NOCI	**Noci**	**3.63**	**316**	Pn	**Pn**	**19 13 44.2**	**-1.0**
	112nm,0.8s						
MTTG	**Motta San Giov**	**3.71**	**268**	Pn	**Pn**	**19 13 45.6**	**-0.7**
	78nm,0.7s						
CRAC	**Craco**	**3.74**	**306**	Pn	**Pn**	**19 13 47.1**	**+0.4**
	326nm,1.1s						
MSRU	**Castanea**	**3.84**	**272**	Pn	**Pn**	**19 13 47.5**	**-0.6**
	82nm,0.9s						
SG1	**Sgolgore (BA)**	**3.88**	**313**	*e*Pn	**Pn**	**19 13 47.7**	**-0.9**
SCHR	**S. Chirico Rap**	**3.89**	**302**	Pn	**Pn**	**19 13 49.6**	**+0.9**
	42nm,1.1s						
SIRI	**Monte Sirino -**	**4.02**	**300**	Pn	**Pn**	**19 13 52.3**	**+1.7**
	24nm,0.7s						
MCEL	**Monticello**	**4.13**	**302**	Pn	**Pn**	**19 13 53.0**	**+0.9**
	47nm,0.8s						
MTSN	**Montesano sull**	**4.14**	**301**	Pn	**Pn**	**19 13 53.8**	**+1.6**
	75nm,0.9s						
MGR	**Morigerati**	**4.21**	**298**	Pn	**Pn**	**19 13 53.8**	**+0.6**
	180nm,1.4s						
VPL	**Vulcano Piano**	**4.26**	**274**	Pn	**Pn**	**19 13 52.4**	**-1.4**
	48nm,0.6s						
SLNA	**Salina**	**4.38**	**276**	Pn	**Pn**	**19 13 55.3**	**-0.2**
	18nm,0.3s						
CMPR	**Campora**	**4.47**	**299**	Pn	**Pn**	**19 13 57.1**	**+0.4**
	16nm,0.6s						
CDRU	**Civita di Ruta**	**4.54**	**301**	Pn	**Pn**	**19 13 59.8**	**+2.0**
	26nm,1.0s						
SGO	**Sicignano**	**4.58**	**302**	Pn	**Pn**	**19 14 00.2**	**+2.0**
	17nm,0.6s						
MCRV	**Calabrutti - M**	**4.78**	**304**	Pn	**Pn**	**19 14 02.3**	**+1.3**
	19nm,0.5s						
CSSN	**Cassano Irpino**	**4.91**	**304**	Pn	**Pn**	**19 14 05.2**	**+2.4**
	10.0nm,0.5s						
RGNG	**Rignano Grg**	**5.05**	**314**	Pn	**Pn**	**19 14 05.4**	**+0.7**
NRCA	**Norcia**	**7.20**	**312**	Pn	**Pn**	**19 14 35.3**	**+1.1**
	4.0nm,0.5s						
SWA2		**9.90**	**153**	⇓*e*P	**Pn**	**19 15 11.1**	**-0.3**
SWA2				S	**Sn**	**19 16 54.7**	**-8.1**
SWA1		**9.97**	**152**	⇑*e*P	**Pn**	**19 15 11.6**	**-0.8**
SWA1				S	**Sn**	**19 16 54.2**	**-10**
GERES	**GERESS Array B**	**11.66**	**338**	Pn	**Pn**	**19 15 31.5**	**-3.9**
	0.1nm,0.3s,baz=161,slow=14,SNR=4.1						
HFRF	**Wahat Farafira**	**12.90**	**147**	⇑*e*P	**Pn**	**19 15 47.7**	**-4.7**
HFS	**Hagfors**	**22.34**	**351**	P	**P**	**19 17 44.2**	**-2.5**
	1.5nm,0.7s,mb3.5,baz=165,slow=11,SNR=3.6						
FINES	**FINESS Array B**	**23.51**	**7**	P	**P**	**19 17 55.2**	**-3.9**
	0.7nm,0.8s,mb3.1,baz=257,slow=39,SNR=2.1						
NOA	**NORSAR Array B**	**23.55**	**349**	P	**P**	**19 17 55.2**	**-4.3**
	0.3nm,0.7s,mb2.9,baz=160,slow=8.8,SNR=2.5						
MKAR	**Makanchi Array**	**45.36**	**58**	P	**P**	**19 21 05.4**	**-2.0**
	0.3nm,0.5s,mb3.4,baz=282,slow=6.4,SNR=3.8						

IDC 25 19:15:01.2±2.2, 402N×12675E, h0km, mb3.2/3, mb1 3.4/3, mb1mx3.3/17, mbtmp3.2/3, MS3.0/1, Ms1 3.0/1, ms1mx2.6/13, Error ellipse: s-maj=165.4km s-min=28.0km az=66.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.96**	**163**	P	P	19 20 26.0	-0.5
	0.3nm,0.4s,baz=343,slow=10.0,SNR=5.9						
ASAR	**Alice Springs**	**28.39**	**166**	P	P	19 20 58.1	+0.7
	0.1nm,0.6s,baz=342,slow=9.7,SNR=4.4						
KSRS	**Korea Array**	**33.29**	**2**	LR	LR	19 36 46.8	
	comp=Z,21nm,18.4s,baz=190,slow=39						
MKAR	**Makanchi Array**	**57.33**	**325**	P	P	19 24 51.0	0.0
	0.2nm,0.3s,baz=114,slow=7.5,SNR=4.6						

CSEM **25** *19:37:00.6±0.2, 3803N×2161E, h6km±1km, ML3.3, Error ellipse: s-maj=3.9km s-min=3.1km az=46.0*

THE **25** *19:37:00.8, 3804N×2159E, h3km, ML3.5*

NEIC **25** *19:37:00.2, 3807N×2159E, h20km, ML3.3(ATH), After ATH.*

ATH **25** *19:37:00.1, 3807N×2158E, h22km±2km, MD3.4/14, ML3.3*

ISCJB **25** *19:37:01.0±0.4, 3803N±003×2155E±003, h18km±4km, Error ellipse: s-maj=4.7km s-min=3.6km az=17.6*

ISC 25 19:37:00.6±0.4, 3802N±002×2158E±002, h17km±3km, n31, σ1§37/47, 1D, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RLS	**Riolos of Patr**	**0.09**	**292**	*e*PB	**Pg**	**19 37 04.3**	**+0.3**
RLS				*e*SB	**Sg**	**19 37 07.7**	**+1.4**
SELA	**Sela**	**0.35**	**45**	*e*Pg	**Pg**	**19 37 07.6**	**-0.4**
SELA				*e*Sg	**Sg**	**19 37 13.7**	**+0.7**
KFL	**Anninata**	**0.63**	**278**	*e*Pg	**Pg**	**19 37 12.3**	**-0.7**
KFL				*e*Sg	**Sg**	**19 37 23.1**	**+1.8**
VLS	**Valsamata**	**0.79**	**282**	*e*Pg	**Pg**	**19 37 14.5**	**-1.6**
VLS				*e*Sg	**Sg**	**19 37 27.3**	**+0.7**
VLS	**Valsamata**	**0.79**	**282**	⇓*i*PN	**Pn**	**19 37 14.5**	**-2.5**
VLS				*e*SN	**Sn**	**19 37 27.2**	**-1.2**
ITM	**Ithomi**	**0.89**	**162**	*e*PB	**Pb**	**19 37 17.4**	**-0.1**
ITM				*e*SN	**Sn**	**19 37 31.6**	**+0.9**
EVR	**Evrytania**	**0.91**	**12**	*e*PN	**Pn**	**19 37 16.8**	**-1.8**
VLX	**Vlachokerasia**	**0.91**	**135**	*e*Pg	**Pg**	**19 37 17.6**	**-0.7**
VLX				*e*Sg	**Sg**	**19 37 31.7**	**+1.4**
LKD	**Levkas**	**1.00**	**314**	*e*Pg	**Pg**	**19 37 18.1**	**-1.9**
LKD				*e*Sg	**Sg**	**19 37 34.7**	**+1.6**
LTK	**Loutraki**	**1.10**	**90**	*e*Pg	**Pg**	**19 37 20.7**	**-1.1**
LTK				*e*Sg	**Sg**	**19 37 37.5**	**+1.3**
PYL	**PYLOS**	**1.13**	**173**	*e*Pg	**Pg**	**19 37 21.4**	**-1.1**
PYL				*e*Sg	**Sg**	**19 37 41.2**	**+3.9**
AGG	**Agios Georgios**	**1.16**	**30**	*e*Pg	**Pg**	**19 37 21.1**	**-1.9**
AGG				*e*Sg	**Sg**	**19 37 38.8**	**+0.6**
LKR	**Lokris**	**1.28**	**60**	*e*Pg	**Pg**	**19 37 23.5**	**-1.9**
LKR				*e*Sg	**Sg**	**19 37 43.0**	**+0.9**
LKR	**Lokris**	**1.28**	**60**	*e*Pn	**Pn**	**19 37 23.7**	**0.0**
LKR				*e*Sg	**Sg**	**19 37 43.0**	**+0.9**
DID	**Didima**	**1.41**	**111**	*e*Pg	**Pg**	**19 37 25.9**	**-1.9**
DID				*e*Sg	**Sg**	**19 37 47.3**	**+1.1**
NAIG	**Nisos Aigina**	**1.54**	**99**	*e*PN	**Pn**	**19 37 28.0**	**+0.8**
THL	**Klokotos Trika**	**1.58**	**12**	*e*Pg	**Pg**	**19 37 29.3**	**-1.7**
THL				*e*Sg	**Sg**	**19 37 51.6**	**+0.2**
THL	**Klokotos Trika**	**1.58**	**12**	*e*PN	**Pn**	**19 37 29.4**	**+1.6**
ATH	**Athens Observa**	**1.69**	**91**	*e*PB	**Pb**	**19 37 29.5**	**-1.7**
VLI	**Veliai**	**1.69**	**140**	*e*PN	**Pn**	**19 37 32.4**	**+3.0**
JAN	**Janina**	**1.73**	**341**	*e*PN	**Pn**	**19 37 31.7**	**+1.9**
MEV	**Metsovon**	**1.78**	**351**	*e*Pb	**Pb**	**19 37 33.5**	**+0.7**
IGT	**Igoumenitsa**	**1.79**	**328**	*e*Pb	**Pb**	**19 37 32.0**	**-0.9**
PTL	**Penteli**	**1.81**	**88**	*e*PB	**Pb**	**19 37 31.0**	**-2.2**
NEO	**Neokhori**	**1.82**	**45**	*e*PN	**Pn**

MJAR pmax pmax
comp=Z,11nm,0.3s
MJAR smax
comp=N,9.0nm,0.3s
MJAR Matsushiro Arr 4.91 317 Pn **Pn 19 45 50.4 +0.9**
comp=N,11nm,0.3s,baz=160,slow=13,SNR=102
MJAR Sn **Sn 19 46 45.8 +0.5**
comp=N,9.1nm,0.3s,baz=167,slow=21,SNR=9.0
MAJO Matsushiro 4.91 317 *e*P **Pn 19 45 50.4 +0.9**
MAT Matsushiro 4.91 317 P **Pn 19 45 50.7 +1.2**
MAT S **Sn 19 46 45.3 -0.1**
CBIJ Chichi jima 5.90 182 Pn **Pn 19 46 01.4 -1.7**
comp=N,57nm,0.3s,baz=82,slow=19,SNR=26
CBIJ Sn **Sn 19 47 07.2 -2.5**
comp=N,47nm,0.3s,baz=102,slow=23,SNR=6.7
ERM Erimo 9.01 4 *e*P **Pn 19 46 41.6 -4.1**
comp=N,19nm,0.3s
ERM Erimo 9.01 4 *e*P **Pn 19 46 41.6 -4.1**
ERM pmax pmax
comp=Z,19nm,0.3s
ASAJ Asahikawa 11.09 1 P **Pn 19 47 12.1 -2.1**
ASAJ 19 49 07.7
ASAJ pmax pmax
comp=Z,4.0nm,0.3s
ASAJ smax
comp=N,1.0nm,0.3s
ASAJ MLR MLR
comp=Z,112nm,20.0s
ASAJ Asahikawa 11.09 1 Pn **Pn 19 47 12.1 -2.1**
comp=Z,4.3nm,0.3s,baz=221,slow=11,SNR=35
ASAJ Sn **Sn 19 49 07.7 -10**
comp=Z,1.3nm,0.3s,baz=300,slow=20,SNR=5.1
ASAJ LR LR 19 51 42.9
comp=Z,112nm,19.9s,baz=342,slow=38
KSRS Korea Array 12.61 295 Pn **Pn 19 47 36.3 +1.3**
comp=Z,0.2nm,0.3s,baz=110,slow=14,SNR=2.8
YSS Yuzh-Sakhalins 13.93 1⇑ *e*P **Pn 19 47 48.6 -4.3**
HABR Khabarovsk 16.40 343 *e*P **Pn 19 48 21.6 -3.9**
HABR *e* 19 51 21.4
NJ2 Nanjing 19.84 274 *e*P **Pn 19 49 07.0 -0.9**
NJ2 AMB AMB
comp=Z,20nm,0.5s
WHN Wuhan 23.92 272 *e*P **P 19 49 49.3 +0.2**
YAK Yakutsk 30.16 348⇑ *e*P **P 19 50 44.3 -0.6**
YAK pmax pmax
comp=Z,4.0nm,1.1s,mb4.1
ULN Ulaanbaatar 30.39 310 *e*P **P 19 50 49.5 +2.3**
comp=Z,1.1nm,0.6s,mb3.8
ULN Ulaanbaatar 30.39 310 *e*P **P 19 50 49.5 +2.4**
ULN pmax pmax
comp=Z,1.0nm,0.6s,mb3.7
SEY Seymchan 30.61 9⇑ *e*P **P 19 50 48.0 -0.8**
SONM Songino Array 30.81 309 P **P 19 50 52.5 +1.7**
SONM pmax pmax
comp=Z,1.0nm,0.5s
SONM MLR MLR
comp=Z,47nm,18.1s
SONM Songino Array 30.81 309 P **P 19 50 52.5 +1.6**
comp=Z,1.0nm,0.5s,mb3.9,baz=111,slow=8.7,SNR=11
BOD Bodaibo 31.38 331 *e*P **P 19 50 56.2 +0.5**
BOD pmax pmax
comp=Z,2.0nm,1.3s,mb3.8
BOD pmax pmax
comp=Z,4.0nm,0.8s,mb4.3
BILL Bilibino 37.69 14 *e*P **P 19 51 48.6 -1.5**
BILL pmax pmax
comp=Z,5.0nm,1.0s,mb4.2
TIXI Tiksi 39.37 353 *e*P **P 19 52 03.9 -0.3**
comp=Z,1.4nm,0.7s,mb3.8
TIXI Tiksi 39.37 353⇑ *e*P **P 19 52 03.2 -1.0**
TIXI pmax pmax
comp=Z,2.0nm,1.1s,mb3.8
ZALV Zalesovo Beam 45.26 315 P **P 19 52 53.1 +0.8**
comp=Z,0.8nm,0.4s,mb3.9,baz=105,slow=6.0,SNR=5.2
ZALV PcP PcP 19 54 32.3 +0.4
comp=Z,1.7nm,0.7s,baz=119,slow=2.2,SNR=5.7
ZAL Zalesovo 45.27 315 P **P 19 52 53.1 +0.7**
ZAL 19 54 32.3
NVS Novosibirsk 46.24 317 *e*P **P 19 53 00.1 +0.1**
MK31 Makanchi Array 47.00 305 *e*P **P 19 53 07.5 +1.4**
MKAR Makanchi Array 47.00 305 P **P 19 53 07.1 +0.9**
MKAR pmax pmax
comp=Z,2.0nm,0.6s
MKAR Makanchi Array 47.00 305 P **P 19 53 07.1 +1.0**
comp=Z,1.7nm,0.6s,mb4.2,baz=89,slow=9.8,SNR=25
KURK Kurchatov 49.09 311 *e*P **P 19 53 22.9 +0.6**
comp=Z,6.5nm,1.0s,mb4.6
KURK Kurchatov 49.09 311 *e*P **P 19 53 22.9 +0.6**
KURK pmax pmax
comp=Z,7.0nm,1.0s,mb4.7
KDAK Kodiak Island 49.63 40 P **P 19 53 26.5 +0.3**
comp=Z,11nm,0.7s,mb5.0,baz=283,slow=8.3,SNR=4.7
WB2 Warramunga Arr 53.21 189 *e*P **P 19 53 52.9 -0.5**
WRA Warramunga Arr 53.21 189 P **P 19 53 53.1 -0.3**
WRA pmax pmax
comp=Z,2.0nm,0.5s
WRA Warramunga Arr 53.21 189 P **P 19 53 53.1 -0.3**
comp=Z,2.2nm,0.5s,mb4.3,baz=6.3,slow=7.6,SNR=26
BVAR Borovoye Array 53.90 315 P **P 19 53 59.0 +0.8**
BVAR pmax pmax
comp=Z,2.0nm,0.9s
BVAR Borovoye Array 53.90 315 P **P 19 53 59.0 +0.8**
comp=Z,1.6nm,0.9s,mb4.0,baz=83,slow=6.3,SNR=7.9
BRVK Borovoye 53.96 315 *e*P **P 19 53 59.4 +0.7**
ASAR Alice Springs 56.93 189 P **P 19 54 19.4 -0.8**
ASAR pmax pmax
comp=Z,1.0nm,0.4s
ASAR Alice Springs 56.93 189 P **P 19 54 19.4 -0.9**
comp=Z,0.6nm,0.4s,mb4.0,baz=7.1,slow=7.4,SNR=25
INK Inuvik 57.63 26 P **P 19 54 25.2 +0.5**
INK pmax pmax
comp=Z,2.0nm,0.6s
INK Inuvik 57.63 26 P **P 19 54 25.2 +0.5**
comp=Z,1.5nm,0.6s,mb4.2,baz=299,slow=5.4,SNR=4.9
ARU Arti 59.92 320 *e*P **P 19 54 41.1 +0.4**
comp=Z,1.5nm,0.5s,mb4.3
ARU Arti 59.92 320 *d i*P **P 19 54 39.8 -1.0**
ARU *e* 19 56 52.9
ARU *e*S **S 20 02 50.1 -0.8**
ARU *e*SS SS 20 06 38.1 -8.8
ARU pmax pmax
comp=Z,9.0nm,1.2s,mb4.7
AKTK Aktyubinsk 61.98 314 P **P 19 54 53.9 -1.0**
AKTO Aktyubinsk 61.98 314 P **P 19 54 53.9 -1.0**
AKTO pmax pmax
comp=Z,2.0nm,0.9s,mb4.2
AKTO Aktyubinsk 61.98 314 P **P 19 54 53.9 -1.0**
comp=Z,2.0nm,0.9s,mb4.3,baz=85,slow=13,SNR=7.2
YKA Yellowknife Ar 66.90 29 P **P 19 55 26.8 0.0**
YKA Yellowknife Ar 66.90 29 P **P 19 55 26.8 -0.1**
YKA pmax pmax
comp=Z,2.0nm,0.8s
YKA Yellowknife Ar 66.90 29 P **P 19 55 26.8 0.0**
comp=Z,2.2nm,0.8s,mb4.3,baz=294,slow=6.2,SNR=31
ARCES ARCESS Array B 68.03 340 P **P 19 55 34.5 +0.6**
ARCES pmax pmax
comp=Z,3.0nm,1.1s
ARCES ARCESS Array B 68.03 340 P **P 19 55 34.5 +0.6**
comp=Z,3.0nm,1.1s,mb4.3,baz=91,slow=5.3,SNR=3.8
JOF Joensuu 69.88 333 *ep* **P 19 55 45.0 -0.5**
comp=Z,0.7nm,0.3s,mb4.1
FINES FINESS Array B 72.74 333 P **P 19 56 03.2 +0.4**
FINES FINESS Array B 72.74 333 P **P 19 56 03.2 +0.4**
FINES pmax pmax
comp=Z,2.0nm,0.7s
FINES FINESS Array B 72.74 333 P **P 19 56 03.2 +0.4**
comp=Z,2.0nm,0.7s,mb4.2,baz=69,slow=10,SNR=8.3
NVAR Mina Array Bea 76.78 53 P **P 19 56 27.5 +0.8**
comp=Z,0.7nm,0.6s,mb3.8,baz=292,slow=8.6,SNR=5.6
AKASG Malin Array Be 77.97 323 P **P 19 56 33.1 +0.1**
AKASG pmax pmax
comp=Z,1.0nm,0.4s
AKASG Malin Array Be 77.97 323 P **P 19 56 33.1 +0.1**
comp=Z,0.5nm,0.4s,mb3.8,baz=49,slow=5.8,SNR=5.2
NB2 NORSAR Subarra 78.20 338 P **P 19 56 34.5 +0.4**
comp=Z,1.4nm,0.6s,mb4.1,baz=40,slow=5.6
NOA NORSAR Array B 78.20 338 P **P 19 56 34.8 +0.7**
NOA pmax pmax
comp=Z,2.0nm,0.7s
NOA NORSAR Array B 78.20 338 P **P 19 56 34.8 +0.7**
comp=Z,2.2nm,0.7s,mb4.2,baz=39,slow=5.6,SNR=9.0
PDAR Pinedale Array 79.93 45 P **P 19 56 43.2 -0.7**
comp=Z,1.1nm,0.7s,mb3.9,baz=269,slow=2.6,SNR=10
SRU San Rafael 81.47 49 *e*P **P 19 56 53.4 +1.1**
comp=Z,3.0nm,1.0s,mb4.2
SRU San Rafael 81.47 49 *e*P **P 19 56 53.4 +1.1**
SRU pmax pmax
comp=Z,3.0nm,1.0s,mb4.2
ASF Jabal al Asfar 84.42 305 P **P 19 57 08.2 +0.5**
ASF pmax pmax
comp=Z,2.0nm,0.8s
ASF Jabal al Asfar 84.42 305 P **P 19 57 08.2 +0.5**
comp=Z,2.3nm,0.8s,mb4.3,baz=330,slow=7.8,SNR=3.6
MMAI Mount Meron Ar 84.95 306 P **P 19 57 10.4 0.0**
comp=Z,1.2nm,0.6s,mb4.2,baz=72,slow=4.7,SNR=3.3
CLL Collm 84.97 331 *e*P **P 19 57 10.0 -0.1**
CLL pmax pmax
comp=Z,11nm,1.5s,mb4.8
CLL Collm 84.97 331 *e*P **P 19 57 10.0 -0.1**
comp=Z,11nm,1.5s,mb4.8
GERES GERESS Array B 86.54 329 P **P 19 57 17.9 0.0**
comp=Z,0.1nm,0.4s,mb3.4,baz=72,slow=4.3,SNR=3.7
TXAR Lajitas Array 91.94 53 P **P 19 57 44.7 +0.9**
TXAR pmax pmax
comp=Z,1.0nm,0.7s
TXAR Lajitas Array 91.94 53 P **P 19 57 44.6 +0.9**
comp=Z,0.8nm,0.7s,mb4.2,baz=310,slow=3.3,SNR=5.5
LPAZ La Paz 147.83 66 PKP2 PKPab 20 04 21.7 -1.2
LPAZ pmax pmax
comp=Z,1.0nm,0.5s
LPAZ La Paz 147.83 66 PKPbc PKPbc 20 04 21.6 +1.2
comp=Z,0.9nm,0.5s,baz=3.6,slow=9.7,SNR=6.8

TEH ***25*** *20:01:53.7, 28.10N×5632E, h11km, ML4.8*
BJI ***25*** *20:02:08.7, 2820N×5578E, h14km, mB5.0, mb4.7, Ms4.5, Msz4.2*
CSEM ***25*** *20:02:13.0±0.0, 2840N×5631E, h10km, mb4.8/99, Ms4.0, Error ellipse: s-maj=1.7km s-min=1.5km az=41.0*
THR ***25*** *20:02:15.4±1.1, 2823N×5627E, h14km±9km, ML4.5*
NEIC ***25*** *20:02:15.4, 2823N×5627E, h14km, mb4.8/82, MS3.9/2, ML4.5(THR), MN4.8(TEH), After THR.*
CRAAG ***25*** *20:02:15.4, 2809N×5637E, Mb4.9*
MOS ***25*** *20:02:15.8±0.9, 2818N×5628E, h33km, mb5.0/78, Error ellipse: s-maj=6.2km s-min=3.5km az=122.1*
OMAN ***25*** *20:02:16.7, 28.10N×5651E, h15km*
ISCJB ***25*** *20:02:17.4±0.3, 2811N±002×5629E±002, h51km±2km, mb4.7/142, MS4.0/34, Error ellipse: s-maj=2.8km s-min=2.7km az=135.4*
IDC ***25*** *20:02:17.4±2.4, 2825N×5622E, h30km±17km, mb4.4/24, mb1 4.5/27, mb1mx4.4/29, mbtmp4.3/27, ML4.3/3, MS3.9/17, Ms1 3.9/17, ms1mx3.7/38, Error ellipse: s-maj=11.2km s-min=9.5km az=173.0*
SZGRF ***25*** *20:02:18.9, 2853N×5651E, h33km, mb4.7, Southern Iran*
ISC 25 20:02:19.2±0.2, 2809N±002×5631E±002, h52km±2km, h35km±6.0km: pP-P, n645, σ1°11/659, mb4.7/142, MS4.0/34, 39C-19D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBND	**Bandar-abas**	**0.67**	**162**	*e*Pg	**Pn**	**20 02 30.5**	**-2.2**
BNDS	**Bandar-Abbas**	**0.70**	**190**	*e*Pg	**Pn**	**20 02 31.1**	**-2.0**
BNDS				AML	AML	20 02 53.0	
comp=N,19μm,0.5s							
KRBR	**Kerman**	**1.92**	**12**	*e*Pg	**Pn**	**20 02 47.6**	**-2.0**
KRBR				*e*Sg	**Sn**	**20 03 12.4**	**-0.1**
KRBR				AML	AML	20 03 18.4	
comp=N,5μm,0.3s							
KRBR	**Kerman**	**1.92**	**12**	*e*Pg	**Pn**	**20 02 47.6**	**-1.9**
SNR=90							
KRBR				*e*Sg	**Sn**	**20 03 12.4**	**-0.1**
SNR=90							
BANOM	**Banah**	**2.16**	**180**	Pn	**Pn**	**20 02 53.2**	**+0.4**
SNR=391							
BANOM	**Banah**	**2.16**	**180**	P	**Pn**	**20 02 53.2**	**+0.4**
SNR=391							
BANOM	**Banah**	**2.16**	**180**	P	**Pn**	**20 02 53.2**	**+0.4**
SNR=391							
BANOM	**Banah**	**2.16**	**180**	P	**Pn**	**20 02 53.2**	**+0.4**
SNR=391							
BANOM	**Banah**	**2.16**	**180**	Pn	**Pn**	**20 02 52.5**	**-0.3**
SNR=238							
BANOM	**Banah**	**2.16**	**180**	P	**Pn**	**20 02 53.2**	**+0.4**
SNR=391							
BANOM				Sn	**Sn**	**20 03 21.1**	**+2.7**
GHIR	**Ghir-Karzin**	**2.94**	**275**	*e*Pn	**Pn**	**20 03 03.3**	**-0.1**
GHIR				AML	AML	20 04 11.0	
comp=E,1μm,0.9s							
GHIR				AML	AML	20 04 22.0	
comp=N,1μm,0.6s							
ISRV	**Sarvestan**	**3.08**	**295**	*e*Pn	**Pn**	**20 03 06.9**	**+1.5**
ISRV				*e*		20 04 23.2	
comp=Z,55μm,0.5s							
NAZ	**Nazwa, Dubai**	**3.15**	**191**	P	**Pn**	**20 03 07.8**	**+1.5**
SNR=120							
HATD	**Hatta, Dubai**	**3.26**	**183**	Pn	**Pn**	**20 03 08.5**	**+0.7**
SNR=109							
HATD	**Hatta, Dubai**	**3.26**	**183**	P	**Pn**	**20 03 08.5**	**+0.7**
SNR=109							
HATD	**Hatta, Dubai**	**3.26**	**183**	P	**Pn**	**20 03 08.5**	**+0.7**
SNR=109							
HATD	**Hatta, Dubai**	**3.26**	**183**	P	**Pn**	**20 03 09.2**	**+1.4**
SNR=8.8							
HATD	**Hatta, Dubai**	**3.26**	**183**	P	**Pn**	**20 03 08.5**	**+0.7**
SNR=109							
HATD	**Hatta, Dubai**	**3.26**	**183**	P	**Pn**	**20 03 08.5**	**+0.7**
SNR=109							
HATD	**Hatta, Dubai**	**3.26**	**183**	P	**Pn**	**20 03 08.5**	**+0.7**
SNR=109							
HATD	**Hatta, Dubai**	**3.26**	**183**	P	**Pn**	**20 03 08.5**	**+0.7**
SNR=109							
HATD	**Hatta, Dubai**	**3.26**	**183**	P	**Pn**	**20 03 09.2**	**+1.4**
SNR=8.8							
HATD	**Hatta, Dubai**	**3.26**	**183**	P	**Pn**	**20 03 08.5**	**+0.7**
SNR=109							
HATD	**Hatta, Dubai**	**3.26**	**183**	Pn	**Pn**	**20 03 07.9**	**+0.1**
SNR=98							
HATD	**Hatta, Dubai**	**3.26**	**183**	P	**Pn**	**20 03 08.5**	**+0.7**
SNR=109							
HATD				Sn	**Sn**	**20 03 48.2**	**+2.9**
IMOK	**Mouk**	**3.30**	**288**	*e*Pn	**Pn**	**20 03 09.5**	**+1.2**
IMOK				*e*		20 04 36.7	
comp=Z,47μm,0.6s							
IPAR	**Pars**	**3.34**	**302**	Pn	**Pn**	**20 03 11.4**	**+2.4**
IPAR	**Pars**	**3.34**	**302**	*e*Pn	**Pn**	**20 03 11.5**	**+2.5**
IPAR				*e*		20 04 17.8	
comp=Z,21μm,0.5s							
ASHO	**Ashiyiah**	**3.40**	**184**	Pn	**Pn**	**20 03 10.7**	**+0.9**
SNR=207							
ASHO	**Ashiyiah**	**3.40**	**184**	P	**Pn**	**20 03 10.7**	**+0.9**
SNR=207							
ASHO	**Ashiyiah**	**3.40**	**184**	P	**Pn**	**20 03 11.0**	**+1.2**
SNR=138							
ASHO	**Ashiyiah**	**3.40**	**184**	P	**Pn**	**20 03 10.7**	**+0.9**
SNR=207							
ASHO	**Ashiyiah**	**3.40**	**184**	P	**Pn**	**20 03 10.7**	**+0.9**
SNR=207							
ASHO	**Ashiyiah**	**3.40**	**184**	P	**Pn**	**20 03 10.7**	**+0.9**
SNR=207							
ASHO	**Ashiyiah**	**3.40**	**184**	P	**Pn**	**20 03 11.0**	**+1.2**
SNR=138							
ASHO	**Ashiyiah**	**3.40**	**184**	Pn	**Pn**	**20 03 10.2**	**+0.4**
SNR=292							
ASHO	**Ashiyiah**	**3.40**	**184**	P	**Pn**	**20 03 10.7**	**+0.9**
SNR=207							
IBAF	**Bafgh**	**3.54**	**350**	*e*Pn	**Pn**	**20 03 10.7**	**-1.0**
IBAF				*e*		20 04 10.9	
comp=Z,14μm,0.4s							
ASUD	**Al Ashush, Dub**	**3.56**	**194**	P	**Pn**	**20 03 13.9**	**+1.9**
SNR=142							
IMEH	**Mehriz**	**3.60**	**336**	Pn	**Pn**	**20 03 13.6**	**+1.1**
IMEH				Sn	**Sn**	**20 03 54.5**	**+0.8**
IMEH	**Mehriz**	**3.60**	**336**	*e*Pn	**Pn**	**20 03 13.6**	**+1.1**
IMEH				*e*Sn	**Sn**	**20 03 54.6**	**+0.9**
IMEH				*e*		20 04 18.6	
comp=Z,15μm,0.5s							
IMEH	**Mehriz**	**3.60**	**336**	*e*Pn	**Pn**	**20 03 13.6**	**+1.1**
IMEH				*e*Sn	**Sn**	**20 03 54.6**	**+0.9**
SHI	**Shiraz**	**3.67**	**296**	Pn	**Pn**	**20 03 15.8**	**+2.4**
SHI	**Shiraz**	**3.67**	**296**	*e*Pn	**Pn**	**20 03 15.9**	**+2.5**
SHI				*e*		20 04 32.9	
comp=Z,12μm,0.4s							
ZHSF	**Zahedan**	**4.20**	**68**	*e*Pn	**Pn**	**20 03 21.6**	**+0.8**
ZHSF				*e*Sg	**Sn**	**20 04 25.4**	**+17**
ISAD	**Sadrabad**	**4.43**	**330**	Pn	**Pn**	**20 03 25.2**	**+1.3**
ISAD				Sn	**Sn**	**20 04 14.3**	**+0.1**
ISAD	**Sadrabad**	**4.43**	**330**	*e*Pn	**Pn**	**20 03 25.3**	**+1.4**
ISAD				*e*Sn	**Sn**	**20 04 14.3**	**+0.1**
ISAD				*e*		20 04 48.7	
comp=N,20μm,0.6s							
ISAD	**Sadrabad**	**4.43**	**330**	*e*Pn	**Pn**	**20 03 25.3**	**+1.4**
ISAD				*e*Sn	**Sn**	**20 04 14.3**	**+0.1**
HOQ	**Hoqain**	**4.58**	**168**	Pn	**Pn**	**20 03 26.3**	**+0.3**
SNR=30							
BIDO	**Bidbid**	**4.84**	**160**	Pn	**Pn**	**20 03 27.7**	**-1.9**
SNR=28							
BIDO	**Bidbid**	**4.84**	**160**	P	**Pn**	**20 03 27.7**	**-1.9**
SNR=28							
BIDO	**Bidbid**	**4.84**	**160**	P	**Pn**	**20 03 27.7**	**-1.9**
SNR=28							
BIDO	**Bidbid**	**4.84**	**160**	P	**Pn**	**20 03 27.7**	**-1.9**
SNR=28							
BIDO	**Bidbid**	**4.84**	**160**	P	**Pn**	**20 03 29.5**	**0.0**
SNR=9.5							
IKOO	**Kooshah**	**4.91**	**28**	*e*Pn	**Pn**	**20 03 30.9**	**+0.5**
IKOO				*e*Sn	**Sn**	**20 04 25.7**	**-0.2**
ITEG	**Tejag**	**5.23**	**23**	*e*Pn	**Pn**	**20 03 35.4**	**+0.5**
SMDO	**Samad**	**5.25**	**162**	Pn	**Pn**	**20 03 36.6**	**+1.4**
SNR=29							
BSY	**Bisya**	**5.39**	**171**	Pn	**Pn**	**20 03 37.8**	**+0.8**
SNR=27							
BSY	**Bisya**	**5.39**	**171**	P

KOPT	**Kop Dagi**	**17.66**	**316**	*i* P	**Pn**	**20 06 21.1**	**-0.3**
BOM	**Bombay**	**17.68**	**118**	*ex*	x	20 08 43.0	
BOM				*ex*	x	20 08 44.0	
	comp=Z,121nm,0.5s						
BOM				*e*S	**S**	**20 09 39.9**	**-3.1**
ONI	**Oni**	**17.83**	**328**	P	**Pn**	**20 06 24.8**	**+1.4**
MALT	**Malatya**	**18.07**	**309**	*e*P	**Pn**	**20 06 25.2**	**-1.3**
MALT	**Malatya**	**18.07**	**309**	⇓P	**Pn**	**20 06 27.8**	**+1.3**
MALT	**Malatya**	**18.07**	**309**	⇓*i*P	**Pn**	**20 06 27.8**	**+1.3**
GZT	**Gaziantep**	**18.25**	**305**	*i* P	**Pn**	**20 06 27.3**	**-1.3**
NDI	**New Delhi**	**18.41**	**83**	*e*P	**Pn**	**20 06 30.0**	**-0.7**
NDI				AMb	AMB	20 06 31.7	
	comp=Z,59nm,1.8s						
GAZ	**Gaziantep**	**18.43**	**304**	*e*P	**Pn**	**20 06 30.3**	**-0.5**
KEMA	**Kemaliye**	**18.51**	**312**	*i* P	**Pn**	**20 06 32.6**	**+0.8**
MMAI	**Mount Meron Ar**	**18.65**	**290**	P	**Pn**	**20 06 32.3**	**-1.2**
	comp=Z,1.0nm,0.3s,baz=101,slow=16,SNR=8.3						
MMAI				S	**S**	**20 09 54.5**	**-7.8**
	comp=Z,1.6nm,0.3s,baz=106,slow=35,SNR=6.4						
MMAI				LR	LR	20 15 13.6	
	comp=Z,271nm,18.8s,baz=80,slow=42						
TRBA	**At Turbah**	**18.65**	**220**	*e*P	**Pn**	**20 06 31.2**	**-2.4**
POO	**Poona**	**18.70**	**117**	*ex*	x	20 07 16.7	
EIL	**Elat**	**18.77**	**280**	P	**Pn**	**20 06 34.0**	**-1.0**
	comp=Z,1.0nm,0.3s,baz=76,slow=4.6,SNR=8.4						
KMRS	**Kahramanmaras**	**18.79**	**305**	*e*P	**Pn**	**20 06 35.3**	**+0.1**
KK31	**Karatay Array**	**18.87**	**34**	*i* P	**Pn**	**20 06 35.0**	**-1.1**
KK31				pmax	pmax		
	comp=Z,24nm,1.1s						
KK31	**Karatay Array**	**18.87**	**34**	*i* P	**Pn**	**20 06 35.0**	**-1.1**
	comp=Z,24nm,1.1s						
COBT	**Iskenderun**	**18.89**	**301**	*i* P	**Pn**	**20 06 36.9**	**+0.5**
ANDN	**Andirin**	**19.22**	**305**	*i* P	**Pn**	**20 06 39.7**	**-0.7**
KIV	**Kislovodsk**	**19.24**	**329**⇑	*e*P	**Pn**	**20 06 41.7**	**+1.2**
KIV				pmax	pmax		
	comp=Z,51nm,1.8s						
KIV	**Kislovodsk**	**19.24**	**329**⇑	*i*P	**Pn**	**20 06 43.0**	**+2.5**
ESPY	**Espiye-Giresun**	**19.28**	**316**	*e*P	**Pn**	**20 06 41.1**	**+0.1**
KOZT	**Kozan**	**19.56**	**304**	*e*P	**Pn**	**20 06 47.1**	**+2.7**
BHPL	**Bhopal**	**19.63**	**99**	*e*P	**Pn**	**20 06 44.5**	**-0.8**
KAD	**Karad**	**19.65**	**119**	*e*P	**Pn**	**20 06 44.9**	**-0.7**
SVSK	**Karacayir**	**19.84**	**311**	*e*P	**Pn**	**20 06 47.1**	**-0.4**
AML	**Almayashu**	**19.91**	**41**	P	**Pn**	**20 06 48.1**	**-0.3**
	SNR=21						
AML	**Almayashu**	**19.91**	**41**	P	**Pn**	**20 06 45.1**	**-3.3**
	SNR=7.6						
KARA	**Karaisali**	**20.05**	**303**	*e*P	**P**	**20 06 51.2**	**+3.1**
BNN	**Bunyan**	**20.12**	**307**	*e*P	**P**	**20 06 50.6**	**+1.9**
AKL	**Akola**	**20.23**	**107**	*e*P	**P**	**20 06 51.8**	**+1.7**
AKL				AMb	AMB	20 06 54.0	
	comp=Z,53nm,1.7s						
EKS2	**Erkin-Say**	**20.30**	**40**	*e*P	**P**	**20 06 50.3**	**-0.3**
	comp=Z,72nm,1.5s						
EKS2	**Erkin-Say**	**20.30**	**40**	P	**P**	**20 06 50.8**	**+0.2**
	SNR=20						
EKS2	**Erkin-Say**	**20.30**	**40**	*e*P	**P**	**20 06 50.3**	**-0.3**
	comp=Z,72nm,1.5s						
MERS	**Mersin**	**20.32**	**301**	*e*P	**P**	**20 06 52.6**	**+1.7**
SOC	**Sochi**	**20.43**	**324**	*e*P	**P**	**20 06 51.1**	**-0.9**
SOC				*e**PP		20 07 01.5	
SOC				*e*		20 07 09.0	
SOC				*e*S	**S**	**20 10 36.5**	**-1.3**
SOC				*e*SS		20 11 00.5	
SOC				pmax	pmax		
	comp=Z,29nm,0.9s						
SOC				MLR	MLR		
	comp=Z,311nm,15.0s,MS3.8						
SOC	**Sochi**	**20.43**	**324**	*e*P	**P**	**20 06 51.1**	**-0.9**
	comp=Z,29nm,0.9s						
UCH	**Uchtor**	**20.45**	**42**	*e*P	**P**	**20 06 51.5**	**-0.7**
	comp=Z,32nm,1.3s						
UCH	**Uchtor**	**20.45**	**42**	P	**P**	**20 06 52.0**	**-0.2**
	SNR=5.6						
UCH	**Uchtor**	**20.45**	**42**	*e*P	**P**	**20 06 51.5**	**-0.7**
	comp=Z,32nm,1.3s						
AAK	**Ala-Archa**	**20.69**	**41**	*e*P	**P**	**20 06 53.5**	**-1.3**
	comp=Z,17nm,0.8s						
AAK	**Ala-Archa**	**20.69**	**41**⇑	*e*P	**P**	**20 06 54.0**	**-0.8**
AAK				pmax	pmax		
	comp=Z,33nm,1.9s						
AAK	**Ala-Archa**	**20.69**	**41**	P	**P**	**20 06 54.4**	**-0.4**
	SNR=13

GERES MLR MLR
comp=Z,123nm,19.2s
GERES GERESS Array B 38.62 314 P **P 20 09 36.9 -0.3**
comp=Z,2.3nm,0.6s,mb4.1,baz=112,slow=9.1,SNR=15
GERES PcP PcP 20 11 49.5 +0.9
comp=Z,2.7nm,1.0s,baz=106,slow=2.9,SNR=6.3
GERES ScP ScP 20 15 35.2 +2.9
comp=Z,0.9nm,0.8s,baz=130,slow=5.4,SNR=5.2
GERES LR LR 20 27 26.3
comp=Z,123nm,19.2s,MS3.7,baz=96,slow=39
GERES GERESS Array B 38.62 314 PcP PcP 20 11 49.5 +0.9
KHC Kasperske Hory 38.78 315 *eP* **P 20 09 37.9 -0.7**
KHC *ep*P pP 20 09 49.3 -2.9
ABTA Abfaltersbach 38.86 311 ⇑*iP* **P 20 09 39.1 -0.2**
comp=Z,9.3nm,1.0s,mb4.5
FIA1 FINESS Array S 38.96 337 *eP* **P 20 09 40.1 +0.3**
FIA1 FINESS Array S 38.96 337 *eP* **P 20 09 40.1 +0.3**
FINES FINESS Array B 38.96 337 *i P* **P 20 09 41.0 +1.1**
FINES pmax pmax
comp=Z,3.0nm,0.6s
FINES FINESS Array B 38.96 337 P **P 20 09 39.3 -0.5**
comp=Z,3.2nm,0.6s,mb4.2,baz=144,slow=11,SNR=24
BRG Berggiesshubel 39.10 317 *eP* **P 20 09 41.2 0.0**
BRG pmax pmax
comp=Z,3.0nm,1.2s,mb3.9
BRG Berggiesshubel 39.10 317 *eP* **P 20 09 41.2 0.0**
comp=Z,3.2nm,1.2s,mb3.9
WET Wettzell 39.23 314 *eP* **P 20 09 41.5 -0.8**
WET pmax pmax
comp=Z,16nm,1.4s,mb4.6
WET Wettzell 39.23 314 *eP* **P 20 09 41.5 -0.8**
comp=Z,16nm,1.4s,mb4.6
WTTA Wattenberg 39.56 311 ⇑*iP* **P 20 09 44.3 -0.8**
comp=Z,34nm,1.2s,mb5.0
WTTA Wattenberg 39.56 311 ⇑*iP* **P 20 09 44.3 -0.8**
WTTA pmax pmax
comp=Z,34nm,1.2s,mb5.0
CLL Collm 39.80 318 ⇓*iP* **P 20 09 47.0 -0.1**
comp=Z,33nm,1.7s,mb4.8
CLL *i* pP pP 20 09 58.2 -2.5
CLL Collm 39.80 318 ⇓*iP* **P 20 09 47.0 -0.1**
CLL *i* *PP pP 20 09 58.2 -2.5
CLL pmax pmax
comp=Z,33nm,1.7s,mb4.8
CLL Collm 39.80 318 *eP* **P 20 09 46.8 -0.3**
comp=Z,32nm,1.7s,mb4.8
NKC Novy Kostel 39.81 316 *eP* **P 20 09 47.0 -0.1**
NKC *ep*P pP 20 09 58.6 -2.2
NKC Novy Kostel 39.81 316 *eP* **P 20 09 47.0 -0.1**
NKC *ex* x 20 09 58.6
NKC AMS AMS 20 21 00.0
ROTZ Rotzenmuhle 39.82 315 *eP* **P 20 09 47.0 -0.2**
comp=Z,25nm,1.5s,mb4.7
SQTA Sankt Quirin 39.84 311 ⇑*iP* **P 20 09 46.3 -1.1**
comp=Z,10nm,1.1s,mb4.5,SNR=13
SQTA Sankt Quirin 39.84 311 ⇑*iP* **P 20 09 46.3 -1.1**
SQTA pmax pmax
comp=Z,10.0nm,1.1s,mb4.5
MOTA Moosalm 39.93 311 ⇑*iP* **P 20 09 46.9 -1.3**
comp=Z,16nm,1.3s,mb4.6,SNR=8.6
MOTA Moosalm 39.93 311 ⇑*iP* **P 20 09 46.9 -1.3**
MOTA pmax pmax
comp=Z,16nm,1.3s,mb4.6
MANZ Manzenberg 39.95 316 *eP* **P 20 09 48.8 +0.5**
comp=Z,16nm,1.6s,mb4.5
MANZ *e*PcP PcP 20 11 54.0 +1.2
FETA Feichten 40.12 311 *i P* **P 20 09 48.8 -0.9**
comp=Z,26nm,1.1s,mb4.9,SNR=13
BSD Bornholm Skovb 40.16 324 ⇑*iP* **P 20 09 48.6 -1.4**
BSD pmax pmax
comp=Z,34nm,0.9s,mb5.1
BSD Bornholm Skovb 40.16 324 ⇑*iP* **P 20 09 48.6 -1.4**
comp=Z,34nm,0.9s,mb5.1
RETA Reutte 40.19 311 ⇑*iP* **P 20 09 49.3 -1.0**
comp=Z,6.8nm,1.0s,mb4.3
VSL Villasalto 40.22 299 *eP* **P 20 09 51.6 +0.9**
comp=Z,38nm,1.2s,mb5.0
VSL Villasalto 40.22 299 *eP* **P 20 09 51.6 +0.9**
comp=Z,38nm,1.2s,mb5.0
KEST Kesra 40.27 293 P **P 20 09 52.5 +1.3**
comp=Z,2.8nm,0.8s,mb4.1,baz=294,slow=3.9,SNR=8.8
GRA1 Grafenberg Arr 40.42 315 *eP* **P 20 09 52.2 0.0**
comp=Z,35nm,1.5s,mb4.9
GRA1 *e*PcP PcP 20 11 55.3 +1.0
GRF Grafenberg Arr 40.42 315 *eP* **P 20 09 52.2 0.0**
GRF *e* 20 11 55.3
GRF pmax pmax
comp=Z,35nm,1.5s,mb4.9
GRF Grafenberg Arr 40.42 315 *eP* **P 20 09 52.2 0.0**
GRF *e* 20 11 55.3
GRF pmax pmax
comp=Z,35nm,1.5s,mb4.9
GRF Grafenberg Arr 40.42 315 *eP* **P 20 09 52.2 0.0**
comp=Z,35nm,1.5s,mb4.9
GRF *e*PcP PcP 20 11 55.3 +1.0
GRFO Grafenberg 40.42 315 *eP* **P 20 09 52.2 +0.1**
comp=Z,27nm,1.3s,mb4.8
GRFO Grafenberg 40.42 315 *eP* **P 20 09 52.2 0.0**
GRFO pmax pmax
comp=Z,27nm,1.3s,mb4.8
GRFO Grafenberg 40.42 315 *eP* **P 20 09 52.2 0.0**
comp=Z,27nm,1.3s,mb4.8
MOX Moxa 40.44 316 *e*(P) **P 20 09 52.8 +0.5**
PGF Pioggiola 40.68 304 *eP* **P 20 09 53.7 -0.8**
comp=Z,21nm,1.4s,mb4.3
PGF Pioggiola 40.68 304 *eP* **P 20 09 53.7 -0.8**
PGF pmax pmax
comp=Z,11nm,1.4s,mb4.3
PGF Pioggiola 40.68 304 *eP* **P 20 09 53.7 -0.8**
comp=Z,11nm,1.4s,mb4.3
LZH Lanzhou 40.73 66 *eP* **P 20 09 55.5 +0.6**
LZH AMB AMB
comp=Z,23nm,1.0s,mb4.8
LZH AMB AMB
comp=Z,89nm,4.5s
DAVA Damuels 40.74 311 *i P* **P 20 09 54.0 -0.8**
comp=Z,31nm,1.2s,mb4.8,SNR=13
MOY Mondy 40.74 42 *eP* **P 20 09 56.0 +1.2**
MOY pmax pmax
comp=Z,41nm,2.1s,mb4.7
MOY Mondy 40.74 42 *eP* **P 20 09 56.0 +1.2**
comp=Z,41nm,2.1s,mb4.7
CD2 Chengdu 41.16 74 *eP* **P 20 09 58.3 -0.2**
CD2 AP pP 20 10 02.8 -9.5
CD2 XP sP 20 10 06.0 -12
CD2 PP PP 20 11 36.3 +2.1
CD2 S **S 20 16 09.8 +1.6**
CD2 SS SS 20 19 07.3 -5.2
CD2 AMB AMB
comp=Z,20nm,0.6s,mb4.9
CD2 AMB AMB
comp=Z,40nm,5.2s
CD2 LR LR
comp=N,570nm,19.2s
CD2 LR LR
comp=Z,240nm,13.2s
KMI Kunming 41.43 83 P **P 20 10 01.5 +0.6**
KMI AMB AMB
comp=Z,12nm,0.9s,mb4.5
CLZ Clausthal 41.53 318 *eP* **P 20 10 01.7 +0.4**
CLZ pmax pmax
comp=Z,53nm,1.5s,mb5.0
CLZ Clausthal 41.53 318 *eP* **P 20 10 01.7 +0.4**
comp=Z,53nm,1.5s,mb5.0
COP Copenhagen 41.69 324 *i P* **P 20 10 11.3 +8.8**
COP pmax pmax
comp=Z,34nm,0.8s,mb5.0
COP Copenhagen 41.69 324 *i P* **P 20 10 11.3 +8.8**
comp=Z,34nm,0.8s,mb5.0
ZAK Zakamensk 41.77 45 *eP* **P 20 10 02.9 -0.4**
ZAK *e* 20 11 58.4
ZAK *e* 20 16 21.9
ZAK pmax pmax
comp=Z,5.0nm,1.1s,mb4.1
ZAK pmax pmax
comp=Z,4.0nm,1.2s,mb3.9
ZAK Zakamensk 41.77 45 *eP* **P 20 10 02.9 -0.4**
comp=Z,5.0nm,1.1s,mb4.1
ZAK Zakamensk 41.77 45 *e*PcP PcP 20 11 58.4 -0.3
comp=Z,4.0nm,1.2s
CMAH Djebel Manchou 41.79 295 P **P 20 10 00.0 -3.6**
APA Apatity 41.85 347 ⇓*iP* **P 20 10 04.0 +0.3**
APA pmax pmax
comp=Z,18nm,0.9s,mb4.7
APA MLR MLR
comp=Z,800nm,13.0s,MS4.8
APA Apatity 41.85 347 *i P* **P 20 10 04.0 +0.3**
comp=Z,800nm,13.0s
SBF Sospel 41.94 305 *eP* **P 20 10 04.3 -0.5**
comp=Z,32nm,0.8s,mb4.7
SBF Sospel 41.94 305 *eP* **P 20 10 04.3 -0.5**
SBF pmax pmax
comp=Z,16nm,0.8s,mb4.7
SBF Sospel 41.94 305 *eP* **P 20 10 04.3 -0.5**
comp=Z,16nm,0.8s,mb4.7
BSEG Bad Segeberg 42.20 321 *eP* **P 20 10 07.2 +0.4**
comp=Z,26nm,1.3s,mb4.7
TLY Talaya 42.33 43 *eP* **P 20 10 08.7 +0.9**
TLY *e* 20 20 05.4
TLY pmax pmax
comp=Z,9.0nm,1.2s,mb4.3
TLY MLR MLR
comp=Z,258nm,13.0s,MS4.3
TLY Talaya 42.33 43 P **P 20 10 09.4 +1.6**
SNR=8.2
TLY Talaya 42.33 43 P **P 20 10 09.4 +1.6**
SNR=8.2
TLY Talaya 42.33 43 *eP* **P 20 10 08.7 +0.9**
comp=Z,9.0nm,1.2s,mb4.3
TLY *e*ScS ScS 20 20 05.4 +0.7
comp=Z,258nm,13.0s
FRF La Foret Royal 42.49 305 *eP* **P 20 10 08.9 -0.3**
MBDF Montbardon 42.50 307 *eP* **P 20 10 08.8 -0.5**
comp=Z,17nm,0.8s,mb4.5
MBDF Montbardon 42.50 307 *eP* **P 20 10 08.8 -0.5**
MBDF pmax pmax
comp=Z,9.0nm,0.8s,mb4.5
MBDF Montbardon 42.50 307 *eP* **P 20 10 08.8 -0.5**
comp=Z,8.6nm,0.8s,mb4.5
LMR La Mourre 42.57 305 *eP* **P 20 10 09.3 -0.6**
comp=Z,6.4nm,1.1s,mb4.0
LMR La Mourre 42.57 305 *eP* **P 20 10 09.3 -0.6**
LMR pmax pmax
comp=Z,3.0nm,1.1s,mb3.9
LMR La Mourre 42.57 305 *eP* **P 20 10 09.3 -0.6**
comp=Z,3.2nm,1.1s,mb4.0
LPG La Plagne 42.60 308 *eP* **P 20 10 10.0 -0.1**
comp=Z,32nm,0.9s,mb4.7
LPG La Plagne 42.60 308 *eP* **P 20 10 10.0 -0.1**
LPG pmax pmax
comp=Z,16nm,0.9s,mb4.8
LPG La Plagne 42.60 308 *eP* **P 20 10 10.0 -0.1**
comp=Z,16nm,0.9s,mb4.7
BNI Bardonecchia 42.60 307 *eP* **P 20 10 09.2 -0.9**
comp=Z,28nm,1.2s,mb4.9
BNI Bardonecchia 42.60 307 *eP* **P 20 10 09.2 -0.9**
BNI pmax pmax
comp=Z,28nm,1.2s,mb4.9
BNI Bardonecchia 42.60 307 *eP* **P 20 10 09.2 -0.9**
comp=Z,28nm,1.2s,mb4.9
LPL La Plagne 42.61 308 *eP* **P 20 10 09.8 -0.4**
comp=Z,49nm,1.3s,mb4.8
LPL La Plagne 42.61 308 *eP* **P 20 10 09.8 -0.4**
LPL pmax pmax
comp=Z,25nm,1.3s,mb4.8
LPL La Plagne 42.61 308 *eP* **P 20 10 09.8 -0.4**
comp=Z,25nm,1.3s,mb4.8
CDF Champ du Feu 42.67 312 *eP* **P 20 10 09.9 -0.7**
HINF Hinteralfeld 42.85 311 *eP* **P 20 10 11.2 -0.9**
IRK Irkutsk 42.85 42 *eP* **P 20 10 11.5 -0.5**
IRK pmax pmax
comp=Z,40nm,1.5s,mb4.9
IRK Irkutsk 42.85 42 *eP* **P 20 10 11.5 -0.5**
comp=Z,40nm,1.5s,mb4.9
DFRA Djebel Bou Aff 43.03 295 P **P 20 10 12.0 -1.7**
CMER Merouana 43.08 293 P **P 20 10 15.0 +0.9**
ORIF Oris-en-Rattie 43.15 307 *eP* **P 20 10 14.0 -0.6**
comp=Z,4.6nm,0.8s,mb4.0
ORIF *e*MLR MLR
comp=Z,186nm,19.5s,MS3.7
ORIF Oris-en-Rattie 43.15 307 *eP* **P 20 10 14.0 -0.6**
ORIF pmax pmax
comp=Z,2.0nm,0.8s,mb3.9
ORIF Oris-en-Rattie 43.15 307 *eP* **P 20 10 14.0 -0.6**
comp=Z,2.3nm,0.8s,mb4.0
CABF La Chapelle 43.19 309 *eP* **P 20 10 14.1 -0.8**
comp=Z,56nm,1.3s,mb4.8
CABF La Chapelle 43.19 309 *eP* **P 20 10 14.1 -0.8**
CABF pmax pmax
comp=Z,28nm,1.3s,mb4.8
CABF La Chapelle 43.19 309 *eP* **P 20 10 14.1 -0.8**
comp=Z,28nm,1.3s,mb4.8
HAU Haudompre 43.21 311 *eP* **P 20 10 14.4 -0.6**
HAU *e*MLR MLR
comp=Z,113nm,19.7s,MS3.5
HAU Haudompre 43.21 311 *eP* **P 20 10 14.4 -0.6**
HAU MLR MLR
comp=Z,110nm,19.7s,MS3.8
SONM Songino Array 43.28 49 P **P 20 10 15.7 +0.2**
SONM pmax pmax
comp=Z,10.0nm,0.8s
SONM MLR MLR
comp=Z,313nm,21.2s
SONM Songino Array 43.28 49 P **P 20 10 15.7 +0.2**
comp=Z,10nm,0.8s,mb4.6,baz=263,slow=8.7,SNR=87
SONM LR LR 20 29 52.2
comp=Z,313nm,21.2s,MS4.2,baz=261,slow=38
SMRF Simiane la Rot 43.29 305 *eP* **P 20 10 15.3 -0.4**
CKHR Kef el Ahmar 43.36 294 P **P 20 10 18.0 +1.6**
SET Setif 43.44 294 P **P 20 10 19.0 +2.0**
MUD Monsted U'grnd 43.67 324 *i P* **P 20 10 19.1 +0.5**
MUD pmax pmax
comp=Z,27nm,1.1s,mb4.9
MUD Monsted U'grnd 43.67 324 *i P* **P 20 10 19.1 +0.5**
comp=Z,27nm,1.1s,mb4.9
MEM Membach 43.89 315 P **P 20 10 19.1 -1.3**
comp=Z,12nm,1.8s,mb4.3
VIVF Saint-Julien-l 44.00 307 *eP* **P 20 10 21.0 -0.4**
MEZF Maizieres J'vi 44.15 312 *eP* **P 20 10 21.8 -0.7**
BCLA Clavier 44.30 315 P **P 20 10 24.5 +0.8**
comp=Z,11nm,1.4s,mb4.4
LASF Ste Croix 44.53 305 *eP* **P 20 10 24.8 -0.9**
NB2 NORSAR Subarra 44.54 331 P **P 20 10 24.5 -0.9**
comp=Z,5.8nm,0.8s,mb4.5,baz=116,slow=7.9
NOA NORSAR Array B 44.54 331 P **P 20 10 24.9 -0.5**
NOA pmax pmax
comp=Z,4.0nm,0.6s
NOA NORSAR Array B 44.54 331 P **P 20 10 24.9 -0.6**
comp=Z,4.2nm,0.6s,mb4.5,baz=116,slow=7.9,SNR=21
GIVF Givet 44.55 314 *eP* **P 20 10 25.1 -0.6**
NAO01 NORSAR Array S 44.59 330 *eP* **P 20 10 25.5 -0.4**
comp=Z,9.6nm,0.8s,mb4.7
NAO01 NORSAR Array S 44.59 330 *eP* **P 20 10 25.5 -0.4**
comp=Z,9.6nm,0.8s,mb4.7
KONO Kongsberg 44.67 328 *eP* **P 20 10 27.0 +0.5**
DOU Dourbes 44.69 314 P **P 20 10 27.6 +0.8**
comp=Z,8.9nm,1.6s,mb4.3
DOU Dourbes 44.69 314 P **P 20 10 27.5 +0.7**
comp=Z,8.9nm,1.6s,mb4.3
SMF Signal de Mont 44.73 309 *eP* **P 20 10 26.4 -0.8**
comp=Z,43nm,1.1s,mb4.9
SMF Signal de Mont 44.73 309 *eP* **P 20 10 26.4 -0.8**
SMF pmax pmax
comp=Z,22nm,1.0s,mb4.9
SMF Signal de Mont 44.73 309 *eP* **P 20 10 26.4 -0.8**
comp=Z,22nm,1.1s,mb4.9
LOR Lormes 44.79 310 *eP* **P 20 10 26.8 -0.8**
comp=Z,30nm,1.2s,mb4.7
LOR *e*MLR MLR
comp=Z,146nm,22.8s,MS3.5
LOR Lormes 44.79 310 *eP* **P 20 10 26.8 -0.8**
comp=Z,15nm,1.2s,mb4.7
LOR LR LR
comp=Z,150nm,22.8s,MS3.9
LOR Lormes 44.79 310 *eP* **P 20 10 26.8 -0.8**
LOR pmax pmax
comp=Z,15nm,1.2s,mb4.7
LOR MLR MLR
comp=Z,150nm,22.8s,MS3.9
BAIF Baives 44.93 314 *eP* **P 20 10 28.1 -0.6**
comp=Z,80nm,1.5s,mb5.0
BAIF Baives 44.93 314 *eP* **P 20 10 28.1 -0.6**
BAIF pmax pmax
comp=Z,40nm,1.5s,mb5.0
BAIF Baives 44.93 314 *eP* **P 20 10 28.1 -0.6**
comp=Z,40nm,1.5s,mb5.0
KEV Kevo 44.98 346 *ep* **P 20 10 26.7 -2.2**
comp=Z,13nm,0.6s,mb4.9
KEV Kevo 44.98 346 *eP* **P 20 10 26.7 -2.2**
KEV pmax pmax
comp=Z,13nm,0.6s,mb4.9
SSF Saint Saulge 45.00 310 *eP* **P 20 10 28.7 -0.7**
comp=Z,42nm,1.1s,mb4.9
SSF Saint Saulge 45.00 310 *eP* **P 20 10 28.7 -0.7**
SSF pmax pmax
comp=Z,21nm,1.1s,mb4.9
SSF Saint Saulge 45.00 310 *eP* **P 20 10 28.7 -0.7**
comp=Z,21nm,1.1s,mb4.9
XAN Xi'an 45.05 69 P **P 20 10 29.0 -1.0**
XAN AP pP 20 10 32.3 -12
XAN AMB AMB
comp=Z,6.0nm,1.1s,mb4.3
AVF Avril sur Loir 45.08 309 *eP* **P 20 10 29.0 -1.0**
comp=Z,38nm,1.2s,mb4.8
AVF Avril sur Loir 45.08 309 *eP* **P 20 10 29.0 -1.0**
AVF pmax pmax
comp=Z,19nm,1.2s,mb4.8
AVF Avril sur Loir 45.08 309 *eP* **P 20 10 29.0 -1.0**
comp=Z,19nm,1.2s,mb4.8
ARCES ARCESS Array B 45.14 345 P **P 20 10 30.6 +0.5**
ARCES pmax pmax
comp=Z,4.0nm,0.9s
ARCES MLR MLR
comp=Z,52nm,18.2s
ARCES ARCESS Array B 45.14 345 P **P 20 10 30.6 +0.5**
comp=Z,4.2nm,0.9s,mb4.3,baz=151,slow=7.8,SNR=14
ARCES LR LR 20 31 05.0
comp=Z,52nm,18.2s,MS3.5,baz=121,slow=38
ARCES ARCESS Array B 45.14 345 P **P 20 10 30.5 +0.4**
ETOS Mallorca 45.28 299 P **P 20 10 33.6 +1.9**
comp=Z,83nm,2.1s,mb5.2
ETOS Mallorca 45.28 299 P **P 20 10 33.6 +1.9**
comp=Z,83nm,2.1s,mb5.2
BGF Bois d'Agland 45.41 309 *eP* **P 20 10 31.9 -0.7**
comp=Z,21nm,1.0s,mb4.6
BGF Bois d'Agland 45.41 309 *eP* **P 20 10 31.9 -0.7**
BGF pmax pmax
comp=Z,10.0nm,1.0s,mb4.6
BGF Bois d'Agland 45.41 309 *eP* **P 20 10 31.9 -0.7**
comp=Z,10nm,1.0s,mb4.6
EMHD Djebel Mahouad 45.41 294 P **P 20 10 34.0 +1.2**
BTO Baotou 45.43 59 *eP* **P 20 10 31.5 -1.4**
HYF Humbligny 45.61 310 *eP* **P 20 10 34.1 -0.1**
MTLF Montolieu 45.70 304 *eP* **P 20 10 34.5 -0.4**
comp=Z,48nm,1.5s,mb4.9
MTLF Montolieu 45.70 304 *eP* **P 20 10 34.5 -0.4**
MTLF pmax pmax
comp=Z,24nm,1.5s,mb4.9
MTLF Montolieu 45.70 304 *eP* **P 20 10 34.5 -0.4**
comp=Z,24nm,1.5s,mb4.9
TCF Toulx Ste Croi 45.83 308 *eP* **P 20 10 35.2 -0.7**
comp=Z,41nm,1.2s,mb4.9
TCF Toulx Ste Croi 45.83 308 *eP* **P 20 10 35.2 -0.7**
TCF pmax pmax
comp=Z,21nm,1.2s,mb4.9
TCF Toulx Ste Croi 45.83 308 *eP* **P 20 10 35.2 -0.7**
comp=Z,21nm,1.2s,mb4.9
CAF Calviac 45.86 307 *eP* **P 20 10 35.8 -0.3**
comp=Z,15nm,1.0s,mb4.6
CAF Calviac 45.86 307 *eP* **P 20 10 35.8 -0.3**
CAF pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
CAF Calviac 45.86 307 *eP* **P 20 10 35.8 -0.3**
comp=Z,7.7nm,1.0s,mb4.6
EMIR Miracle 46.21 302 P **P 20 10 42.9 +3.9**
comp=Z,15nm,1.1s,mb4.8
RJF Les Rejaudoux 46.26 307 *eP* **P 20 10 39.0 -0.3**
comp=Z,27nm,0.9s,mb4.8
RJF *e*MLR MLR
comp=Z,193nm,19.8s,MS3.8
RJF Les Rejaudoux 46.26 307 *eP* **P 20 10 39.0 -0.3**
comp=Z,13nm,0.9s,mb4.9
RJF LR LR
comp=Z,190nm,19.8s,MS4.0
RJF Les Rejaudoux 46.26 307 *eP* **P 20 10 39.0 -0.3**
RJF pmax pmax
comp=Z,13nm,0.9s,mb4.9
RJF MLR MLR
comp=Z,190nm,19.8s,MS4.0
EBNR Beni Rached 46.55 295 P **P 20 10 40.0 -1.7**
HHC Hu-ho-hao-te 46.59 59 *eP* **P 20 10 43.0 +1.0**
HHC AP pP 20 10 47.3 -8.7
HHC AMB AMB
comp=Z,16nm,0.3s,mb5.4
HHC AMB AMB
comp=Z,109nm,4.3s
HHC LR LR
comp=N,230nm,21.0s
HHC LR LR
comp=E,179nm,11.0s
HHC LR LR
comp=Z,147nm,12.2s
LFF La Frestale 46.80 307 *eP* **P 20 10 43.1 -0.4**
comp=Z,27nm,0.8s,mb4.9
LFF La Frestale 46.80 307 *eP* **P 20 10 43.1 -0.4**
LFF pmax pmax
comp=Z,14nm,0.8s,mb4.9
LFF La Frestale 46.80 307 *eP* **P 20 10 43.1 -0.4**
comp=Z,14nm,0.8s,mb4.9
ETRT Tiaret 46.84 293 P **P 20 10 46.0 +2.0**
EANR 'Ain N'Sour 46.93 294 P **P 20 10 44.0 -0.7**
EPF Esparros 47.07 304 *eP* **P 20 10 45.5 -0.2**
ERTA Horta de San J 47.13 301 P **P 20 10 50.5 +4.3**
comp=Z,30nm,1.3s,mb5.1
MFF Saint Martin d 47.47 309 *eP* **P 20 10 48.1 -0.7**
LDF La Druitiere 47.57 311 *eP* **P 20 10 48.0 -1.5**
comp=Z,4.9nm,0.4s,mb4.6
LDF La Druitiere 47.57 311 *eP* **P 20 10 48.0 -1.5**
comp=Z,2.5nm,0.4s,mb4.6
ETSF Etsaut 47.73 304 *eP* **P 20 10 50.6 -0.2**
EMOS Mosqueruela 47.77 300 P **P 20 10 51.8 +0.6**
comp=Z,46nm,1.3s,mb5.3
EMOS Mosqueruela 47.77 300 P **P 20 10 51.8 +0.6**
comp=Z,46nm,1.3s,mb5.3
FLN La Foliniere 47.82 312 *eP* **P 20 10 50.6 -0.8**
comp=Z,83nm,1.4s,mb5.3
FLN *e*MLR MLR
comp=Z,101nm,17.8s,MS3.5
FLN La Foliniere 47.82 312 *eP* **P 20 10 50.6 -0.8**
comp=Z,42nm,1.4s,mb5.3
FLN LR LR
comp=Z,100nm,17.8s,MS3.8
FLN La Foliniere 47.82 312 *eP* **P 20 10 50.6 -0.8**
FLN pmax pmax
comp=Z,42nm,1.4s,mb5.3
FLN MLR MLR
comp=Z,100nm,17.8s,MS3.8
GRR Gorron 48.05 311 *eP* **P 20 10 52.8 -0.4**
SJPF Ste Jean 48.22 304 *eP* **P 20 10 54.0 -0.6**
SGMF Saint Gilles 49.17 311 *eP* **P 20 11 01.1 -0.7**
comp=Z,13nm,0.7s,mb4.7
SGMF Saint Gilles 49.17 311 *eP* **P 20 11 01.1 -0.7**
SGMF pmax pmax
comp=Z,7.0nm,0.7s,mb4.8
SGMF Saint Gilles 49.17 311 *eP* **P 20 11 01.1 -0.7**
comp=Z,6.5nm,0.7s,mb4.7
EVIA Vianos 49.48 298 P **P 20 11 05.8 +1.4**
comp=Z,3.9nm,0.6s,mb4.6
EVIA Vianos 49.48 298 P **P 20 11 05.8 +1.4**
EVIA pmax pmax
comp=Z,4.0nm,0.6s,mb4.6
EVIA Vianos 49.48 298 P **P 20 11 05.8 +1.4**
comp=Z,3.9nm,0.6s,mb4.6
QUIF Quistinic 49.57 310 *eP* **P 20 11 04.4 -0.5**
BOD Bodaibo 49.58 36 *eP* **P 20 11 04.3 -0.5**
BOD pmax pmax
comp=Z,21nm,1.2s,mb5.0
BOD Bodaibo 49.58 36 *eP* **P 20 11 04.3 -0.5**
comp=Z,21nm,1.2s,mb5.0
ROSF Rostrenen 49.65 311 *eP* **P 20 11 04.8 -0.7**
comp=Z,33nm,1.1s,mb5.0
ROSF Rostrenen 49.65 311 *eP* **P 20 11 04.8 -0.7**
ROSF pmax pmax
comp=Z,16nm,1.1s,mb5.0
ROSF Rostrenen 49.65 311 *eP* **P 20 11 04.8 -0.7**
comp=Z,16nm,1.1s,mb5.0
EBER Berja 50.00 296 P **P 20 11 10.8 +2.5**
comp=Z,23nm,1.5s,mb5.0
EBER Berja 50.00 296 P **P 20 11 10.8 +2.5**
comp=Z,23nm,1.5s,mb5.0
EQES Quesada 50.03 297 P **P 20 11 08.9 +0.4**
comp=Z,23nm,1.2s,mb5.1
EQES Quesada 50.03 297 P **P 20 11 08.9 +0.4**
comp=Z,23nm,1.2s,mb5.1
BJI Beijing 50.16 60 P **P 20 11 09.8 +0.3**
BJI AMB AMB
comp=Z,13nm,1.3s,mb4.8
BJI LR LR
comp=N,297nm,20.6s,MS4.3
BJI LR LR

comp=E,169nm,20.1s,MS4.3
BJI LR LR

WHN Wuhan 50.19 72 *e*P **P 20 11 12.5 +2.7**
ESDC Sonseca Array 50.50 300 P **P 20 11 13.0 +0.9**
comp=Z,2.2nm,0.8s,mb4.1
ESDC Sonseca Array 50.50 300 P **P 20 11 12.0 -0.1**
comp=Z,1.5nm,0.6s,mb4.1,baz=63,slow=7.0,SNR=10
ESDC Sonseca Array 50.50 300 P **P 20 11 13.0 +0.9**
comp=Z,2.2nm,0.8s,mb4.1
EBAN Banos Encina 50.54 298 P **P 20 11 12.8 +0.4**
comp=Z,9.9nm,0.8s,mb4.8
EBAN Banos Encina 50.54 298 P **P 20 11 12.8 +0.4**
EBAN pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
EBAN Banos Encina 50.54 298 P **P 20 11 12.8 +0.4**
comp=Z,9.9nm,0.8s,mb4.8
EGUA Guajares 50.55 296 P **P 20 11 13.2 +0.7**
comp=Z,3.3nm,0.9s,mb4.3
EGUA Guajares 50.55 296 P **P 20 11 13.2 +0.7**
EGUA pmax pmax
comp=Z,3.0nm,0.9s,mb4.2
EGUA Guajares 50.55 296 P **P 20 11 13.2 +0.7**
comp=Z,3.3nm,0.9s,mb4.3
PAB San Pablo 50.81 300 *e*P **P 20 11 14.4 0.0**
comp=Z,11nm,1.1s,mb4.7
PAB San Pablo 50.81 300 *e*P **P 20 11 14.4 0.0**
PAB pmax pmax
comp=Z,11nm,1.1s,mb4.7
PAB San Pablo 50.81 300 *e*P **P 20 11 14.4 0.0**
comp=Z,11nm,1.1s,mb4.7
EADA Adamuz 51.16 298 P **P 20 11 17.5 +0.5**
comp=Z,24nm,1.0s,mb5.1
EADA Adamuz 51.16 298 P **P 20 11 17.5 +0.5**
comp=Z,24nm,1.0s,mb5.1
EMIJ Mijas 51.55 296 P **P 20 11 19.2 -0.8**
comp=Z,30nm,1.2s,mb5.1
EMIJ Mijas 51.55 296 P **P 20 11 19.2 -0.8**
comp=Z,30nm,1.2s,mb5.1
ECAB El Cabril 51.83 298 P **P 20 11 23.1 +1.0**
comp=Z,95nm,1.2s,mb5.6
ZFT Errachidia 52.05 290 *i*P **P 20 11 25.0 +1.2**
HIA Hailar 52.21 48 *e*P **P 20 11 23.6 -1.1**
ESPR Espera 52.36 296 P **P 20 11 24.9 -1.1**
comp=Z,24nm,1.0s,mb5.1
ESPR Espera 52.36 296 P **P 20 11 24.9 -1.1**
comp=Z,24nm,1.0s,mb5.1
CZD Col de Zad 52.41 292 *e*P **P 20 11 27.0 +0.6**
EMIN Mina Concepcio 52.86 298 P **P 20 11 28.6 -1.1**
comp=Z,14nm,1.5s,mb4.7
PBAR Barrancos 53.08 298 *e*P **P 20 11 31.3 0.0**
comp=Z,40nm,1.6s,mb5.1
PVRL Vila Real 53.16 302 *e*P **P 20 11 32.4 +0.5**
PCBR Castelo Branco 53.17 300 *e*P **P 20 11 32.7 +0.7**
comp=Z,40nm,1.5s,mb5.1
NJ2 Nanjing 53.61 69 *e*P **P 20 11 35.5 +0.2**
NJ2 AP pP 20 11 47.5 -2.0
NJ2 PP PP 20 13 36.3 -0.1
NJ2 S **S 20 19 04.0 -1.2**
NJ2 XS sS 20 19 25.0 -4.0
NJ2 AMB AMB
comp=Z,30nm,0.6s,mb5.4
NJ2 AMB AMB
comp=Z,242nm,4.6s
NJ2 LR LR
comp=N,190nm,15.1s,MS4.3
NJ2 LR LR
comp=E,160nm,19.3s,MS4.3
PBEJ Beja 53.75 298 *e*P **P 20 11 34.9 -1.3**
EVO Evora 53.78 299 *e*P **P 20 11 36.9 +0.5**
comp=E,26nm,1.0s,mb4.8
EVO Evora 53.78 299 *e*P **P 20 11 39.9 +3.5**
EVOP Sao Brissos 53.87 299 *e*P **P 20 11 36.9 -0.2**
comp=E,13nm,1.0s,mb4.8
DL2 Dalian 54.49 61 P **P 20 11 41.3 -0.3**
DL2 *e*S **S 20 19 21.0 +4.2**
DL2 AMB AMB
comp=Z,10.0nm,0.9s,mb4.8
DL2 LR LR
comp=N,100nm,18.1s,MS4.2
DL2 LR LR
comp=E,130nm,17.0s,MS4.2
DL2 LR LR
comp=Z,110nm,16.5s,MS4.0
CN2 Changchun 56.58 54 *e*P **P 20 11 55.5 -1.0**
CN2 *e*XP sP 20 12 02.0 -15
CN2 *e*S **S 20 19 43.5 -0.9**
CN2 AMB AMB
comp=Z,20nm,1.3s,mb5.0
CN2 AMB AMB
comp=Z,200nm,4.0s
YAK Yakutsk 57.84 32⇑ *e*P **P 20 12 04.0 -1.1**
YAK pmax pmax
comp=Z,25nm,1.6s,mb5.0
YAK Yakutsk 57.84 32 *e*P **P 20 12 04.0 -1.1**
comp=Z,25nm,1.6s,mb5.0
TIXI Tiksi 58.12 21 *e*P **P 20 12 05.4 -1.5**
comp=Z,3.7nm,0.6s,mb4.6
TIXI Tiksi 58.12 21 *e*P **P 20 12 06.2 -0.7**
TIXI pmax pmax
comp=Z,10.0nm,1.6s,mb4.6
TIXI MLR MLR
comp=Z,206nm,14.0s,MS4.4
TIXI Tiksi 58.12 21 *e*P **P 20 12 05.4 -1.5**
comp=Z,3.7nm,0.6s,mb4.6
KSRS Korea Array 59.64 61 P **P 20 12 16.9 -1.2**
comp=Z,6.6nm,0.8s,mb4.7,baz=275,slow=6.6,SNR=29
KLR Kul'dur 60.05 47 *e*P **P 20 12 14.8 -5.8**
LBTB Lobatse 60.51 212 *e*P **P 20 12 25.4 +1.4**
LBTB pmax pmax
comp=Z,23nm,0.8s,mb5.4
LBTB Lobatse 60.51 212 *e*P **P 20 12 25.4 +1.4**
comp=Z,23nm,0.8s,mb5.4
DBIC Dimbokro 61.49 262 *e*P **P 20 12 31.6 +0.7**
comp=Z,38nm,1.3s,mb5.4
DBIC Dimbokro 61.49 262 P **P 20 12 31.7 +0.8**
DBIC pmax pmax
comp=Z,22nm,1.1s
DBIC Dimbokro 61.49 262 P **P 20 12 31.7 +0.8**
comp=Z,22nm,1.1s,mb5.2,baz=62,slow=4.6,SNR=8.6
DBIC Dimbokro 61.49 262 *e*P **P 20 12 31.6 +0.7**
comp=Z,38nm,1.3s,mb5.4
LIC Lamto 61.85 262 *e*P **P 20 12 33.3 -0.1**
comp=Z,49nm,1.2s,mb5.2
LIC *e*MLR MLR
comp=Z,87nm,17.8s,MS3.7
LIC Lamto 61.85 262 *e*P **P 20 12 33.3 -0.1**
comp=Z,25nm,1.2s,mb5.2
LIC LR LR
comp=Z,40nm,17.8s,MS3.6
LIC Lamto 61.85 262 *e*P **P 20 12 33.3 -0.1**
comp=Z,25nm,1.2s,mb5.2
HABR Khabarovsk 62.33 47 *e*P **P 20 12 33.9 -2.2**
HABR *e* 20 13 14.3
HABR *e*S **S 20 20 56.6 -1.9**
HABR Khabarovsk 62.33 47 *e*PcP PcP 20 13 14.3 -1.1
HABR *e*S **S 20 20 56.6 -1.9**
BOSA Boshof 63.75 210 *e*P **P 20 12 46.6 +1.0**
comp=Z,25nm,0.8s,mb5.3
BOSA Boshof 63.75 210 P **P 20 12 47.3 +1.7**
BOSA pmax pmax
comp=Z,15nm,0.6s,mb5.2
BOSA MLR MLR
comp=Z,119nm,18.8s,MS4.1
BOSA Boshof 63.75 210 P **P 20 12 47.2 +1.6**
comp=Z,15nm,0.6s,mb5.2,baz=30,slow=7.0,SNR=53
BOSA LR LR 20 39 53.3
comp=Z,119nm,18.8s,MS4.1,baz=257,slow=35
BOSA Boshof 63.75 210 *e*P **P 20 12 46.6 +1.0**
comp=Z,25nm,0.8s,mb5.3
YSS Yuzh-Sakhalins 67.75 48 *e*P **P 20 13 10.5 -0.8**
comp=Z,19nm,1.0s,mb5.1
YSS Yuzh-Sakhalins 67.75 48⇑ *e*P **P 20 13 10.8 -0.5**
YSS pmax pmax
comp=Z,25nm,1.3s,mb5.1
YSS Yuzh-Sakhalins 67.75 48 *e*P **P 20 13 10.5 -0.8**
comp=Z,19nm,1.0s,mb5.1
MJAR Matsushiro Arr 67.80 59 P **P 20 13 11.4 -0.4**
MJAR pmax pmax
comp=Z,6.0nm,1.1s
MJAR Matsushiro Arr 67.80 59 P **P 20 13 11.4 -0.4**
comp=Z,5.7nm,1.1s,mb4.5,baz=282,slow=9.8,SNR=10
SEY Seymchan 68.05 29⇑ *e*P **P 20 13 12.9 0.0**
BILL Bilibino 71.30 22 *e*P **P 20 13 33.2 +0.4**
comp=Z,6.6nm,0.8s,mb4.6
BILL Bilibino 71.30 22 *d*iP **P 20 13 33.5 +0.7**
BILL pmax pmax
comp=Z,13nm,1.3s,mb4.7
BILL Bilibino 71.30 22 *e*P **P 20 13 33.2 +0.4**
comp=Z,6.6nm,0.8s,mb4.6
FITZ Fitzroy Crossi 81.26 116 *e*P **P 20 14 30.9 +0.8**
comp=Z,7.8nm,0.8s,mb4.7
GUMO Guam 82.48 79 LR LR 20 53 39.5
comp=Z,75nm,19.4s,MS4.1,baz=135,slow=37
IMA2 Indian Mountai 83.36 12 *e*P **P 20 14 39.8 -0.5**
IMA2 Indian Mountai 83.36 12 *e*P **P 20 14 39.8 -0.5**
INK Inuvik 83.62 4 *e*P **P 20 14 41.1 -0.5**
comp=Z,351nm,1.2s
INK Inuvik 83.62 4 *e*P **P 20 14 41.1 -0.4**
INK pmax pmax
comp=Z,351nm,1.2s
INK Inuvik 83.62 4 *e*P **P 20 14 41.1 -0.4**
comp=Z,351nm,1.2s
KAKA Kakadu 84.02 108 *e*P **P 20 14 45.8 +1.3**
comp=Z,33nm,1.0s,mb5.4
SCHQ Schefferville 84.11 331 P **P 20 14 44.5 +0.2**
comp=Z,6.8nm,0.8s,mb4.8,baz=33,slow=7.1,SNR=5.5
SCHQ LR LR 20 55 43.0
comp=Z,49nm,19.4s,MS3.9,baz=118,slow=38
COLA College 85.45 10 *e*P **P 20 14 50.3 -0.5**
TTA Tatalina 85.70 14 *e*P **P 20 14 52.7 +0.5**
comp=Z,17nm,1.3s,mb5.1
TTA Tatalina 85.70 14 *e*P **P 20 14 52.7 +0.6**
TTA pmax pmax
comp=Z,17nm,1.3s,mb5.1
TTA Tatalina 85.70 14 *e*P **P 20 14 52.7 +0.6**
comp=Z,17nm,1.3s,mb5.1
MCK McKinley 86.34 11 *e*P **P 20 14 55.4 +0.1**
comp=Z,37nm,1.2s,mb5.5
MCK McKinley 86.34 11 *e*P **P 20 14 55.4 +0.1**
MCK pmax pmax
comp=Z,37nm,1.2s,mb5.5
MCK McKinley 86.34 11 *e*P **P 20 14 55.4 +0.1**
comp=Z,37nm,1.2s,mb5.5
EGAK Eagle 86.44 7 *e*P **P 20 14 55.8 +0.1**
comp=Z,24nm,1.1s,mb5.3
EGAK Eagle 86.44 7 *e*P **P 20 14 55.8 +0.1**
comp=Z,24nm,1.1s,mb5.3
DAWY Dawson 87.32 7 *e*P **P 20 15 00.4 +0.4**
DAWY Dawson 87.32 7 *e*P **P 20 15 00.4 +0.3**
WRA Warramunga Arr 89.23 113 P **P 20 15 11.0 +1.2**
WRA pmax pmax
comp=Z,5.0nm,1.0s
WRA Warramunga Arr 89.23 113 P **P 20 15 11.0 +1.2**
comp=Z,5.4nm,1.0s,mb4.8,baz=312,slow=4.2,SNR=23
WRAB Tennant Creek 89.23 113 *i*P **P 20 15 10.3 +0.5**
WB2 Warramunga Arr 89.24 113 *e*P **P 20 15 10.8 +1.0**
YKA Yellowknife Ar 89.44 356 P **P 20 15 10.7 +0.6**
YKA LR LR 21 02 08.5
YKA Yellowknife Ar 89.44 356 P **P 20 15 10.7 +0.6**
YKA pmax pmax
comp=Z,2.0nm,0.6s
YKA MLR MLR
comp=Z,87nm,18.0s
YKA Yellowknife Ar 89.44 356 P **P 20 15 10.7 +0.6**
comp=Z,1.7nm,0.6s,mb4.5,baz=2.7,slow=5.2,SNR=29
YKA LR LR 21 02 08.5
comp=Z,87nm,18.0s,MS4.2,baz=100,slow=40
ASAR Alice Springs 90.75 116 P **P 20 15 17.8 +1.0**
ASAR pmax pmax
comp=Z,2.0nm,0.7s
ASAR Alice Springs 90.75 116 P **P 20 15 17.8 +1.0**
comp=Z,2.0nm,0.7s,mb4.6,baz=306,slow=4.8,SNR=30
ULM Lac du Bonnet 98.19 342 LR LR 21 06 22.1
comp=Z,88nm,18.3s,MS4.3,baz=40,slow=39
CASY Casey 102.68 160 *e*P Pdif 20 15 59.6 -11
SNAA Sanae 107.52 197 *e*PKiKP PKiKP 20 20 26.1 -13
SNAA *e* 20 20 29.7
VNA2 Neumayer--Watz 108.28 198 *e*PKiKP PKiKP 20 20 30.0 -11
baz=182,slow=5.6
VNA2 *e* 20 20 33.5
VNA3 Neumayer Olymp 109.08 198 *e*PKiKP PKiKP 20 20 27.1 -15
VNA3 *e* 20 20 30.6
NVAR Mina Array Bea 113.63 355 PKiKP PKiKP 20 20 53.8 +1.9
comp=Z,0.6nm,0.6s,baz=11,slow=1.8,SNR=4.5
TXAR Lajitas Array 119.77 340 PKIKP PKPdf 20 21 04.6 +0.6
TXAR pmax pmax
comp=Z,1.0nm,0.5s
TXAR Lajitas Array 119.77 340 PKP PKPdf 20 21 04.5 +0.6
comp=Z,0.5nm,0.5s,baz=170,slow=0.8,SNR=5.5
CPUP Villa Florida 121.64 255 PKIKP PKPdf 20 21 07.2 -0.3
CPUP pmax pmax
comp=Z,1.0nm,0.4s
CPUP Villa Florida 121.64 255 PKP PKPdf 20 21 07.2 -0.3
comp=Z,0.5nm,0.4s,baz=169,slow=4.1,SNR=4.4
LPAZ La Paz 127.62 271 PKIKP PKPdf 20 21 19.0 -0.2
LPAZ pmax pmax
comp=Z,1.0nm,0.8s
LPAZ La Paz 127.62 271 PKP PKPdf 20 21 19.0 -0.2
comp=Z,0.9nm,0.8s,baz=53,slow=5.1,SNR=3.0

*IDC **25** 20:08:58.7±10.0,2573S×17972E,h618km±118km,*
mb3.3/4,mb1 3.5/6,mb1mx3.3/16,mbtmp3.4/6,Error
ellipse: s-maj=179.8km s-min=42.3km az=61.0
*NEIC **25** 20:09:03.3±7.5,26.13S×17897E,h600km,mb4.4/3,Error*
ellipse: s-maj=158.0km s-min=16.1km az=56.0
ISC 25 20:09:08.7±3.8,266S±02×1780E±07,h566km±37km,n10,
σ0:66/12,mb4.1/4,1D,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**11.63**	**183**	P	**P**	**20 11 43.9**	**+0.6**
	2.2nm,0.3s,baz=317,slow=3.1,SNR=9.7						
URZ				S	**S**	**20 13 49.8**	**-0.6**
	0.5nm,0.3s,baz=64,slow=22,SNR=7.3						
RPZ	**Rata Peaks**	**17.95**	**196**	P	**P**	**20 12 45.1**	**-0.1**
	2.0nm,0.3s,baz=11,slow=8.1,SNR=8.6						
RPZ				S	**S**	**20 15 41.6**	**+0.3**
	0.2nm,0.3s,baz=164,slow=20,SNR=1.7						
CTA	**Charters Tower**	**29.78**	**276**	*e*P	**P**	**20 14 31.1**	**+0.5**
	6.9nm,0.5s,mb4.4						
CTA	**Charters Tower**	**29.78**	**276**	P	**P**	**20 14 31.4**	**+0.8**
	7.6nm,0.5s,mb4.5,baz=98,slow=9.9,SNR=22						
CTAO	**Charters Tower**	**29.78**	**276**	*e*P	**P**	**20 14 31.2**	**+0.6**
	9.5nm,0.6s,mb4.5						
STKA	**Stephens Creek**	**32.07**	**252**	*e*P	**P**	**20 14 51.1**	**+1.1**
	1.2nm,0.6s,mb3.6						
STKA	**Stephens Creek**	**32.07**	**252**	P	**P**	**20 14 51.0**	**+1.0**
	1.3nm,0.5s,mb3.7,baz=99,slow=11,SNR=8.4						
ASAR	**Alice Springs**	**39.85**	**264**	P	**P**	**20 15 54.1**	**-0.2**
	3.0nm,0.5s,mb4.1,baz=90,slow=7.3,SNR=74						
WB2	**Warramunga Arr**	**40.47**	**270**	*i*P	**P**	**20 15 58.3**	**-0.9**
WRA	**Warramunga Arr**	**40.48**	**270**	P	**P**	**20 15 58.5**	**-0.8**
	3.3nm,0.4s,mb4.2,baz=104,slow=7.8,SNR=68						

*ISCJB **25** 20:10:50.9±1.1,3647N±006×2879E±004,h8km±7km,*
Error ellipse: s-maj=10.9km s-min=5.9km az=5.0
*ISK **25** 20:10:50.8,3648N×2882E,h10km,MD3.0*
*CSEM **25** 20:10:51.1±0.1,3653N×2883E,h12km,MD3.0,Error*
ellipse: s-maj=4.0km s-min=2.0km az=14.0
*DDA **25** 20:10:51.8,3658N×2876E,h7km±4km,Md3.0*
ISC 25 20:10:51.4±1.0,3648N±007×2881E±005,h15km±6km,n10,
σ0:74/16,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FETY	**Fethiye**	**0.27**	**54**	PG	**Pg**	**20 10 56.4**	**-0.8**
FETY				*e*SG	**Sg**	**20 11 01.2**	**+0.1**
AKAS	**Kas**	**0.68**	**110**	*i*P	**Pg**	**20 11 05.8**	**+1.0**
AKAS				*i*S	**Sg**	**20 11 18.5**	**+4.8**
YER	**Yerkesik**	**0.78**	**327**	*e*PG	**Pg**	**20 11 06.4**	**-0.3**
YER				*e*SG	**Sg**	**20 11 17.6**	**+0.6**
GOLH	**Golhisar**	**0.97**	**38**	*i*P	**Pb**	**20 11 08.9**	**-0.9**
GOLH				*i*S	**Sb**	**20 11 22.9**	**+0.4**
DAT	**Datca**	**1.02**	**285**	*e*PG	**Pg**	**20 11 11.1**	**-0.1**
MLSB	**Milas**	**1.17**	**315**	*e*PN	**Pn**	**20 11 13.3**	**+0.2**
BDRM	**Kayabasi**	**1.25**	**299**	*i*P	**Pn**	**20 11 12.2**	**-2.0**
BDRM				*i*S	**Sb**	**20 11 30.6**	**+0.1**
DENT	**Denizli**	**1.29**	**8**	*e*PN	**Pn**	**20 11 14.7**	**-0.1**
BODT	**Bodrum**	**1.34**	**296**	*e*PN	**Pn**	**20 11 16.5**	**+1.0**
AYDN	**Tasoluk**	**1.40**	**328**	*i*P	**Pn**	**20 11 16.6**	**+0.2**
AYDN				*i*S	**Sn**	**20 11 34.9**	**+0.3**

*ISCJB **25** 20:18:17.7±0.5,3853N±003×2164E±004,h10km±6km,*
Error ellipse: s-maj=5.5km s-min=4.3km az=148.1
*THE **25** 20:18:17.4,3839N×2174E,h16km,ML2.8*

*NEIC **25** 20:18:17.4,3851N×2165E,h14km,MD3.1(ATH),After*
ATH.
*ATH **25** 20:18:17.4,3851N×2165E,h14km±1km,MD3.1/9*
*CSEM **25** 20:18:18.2±0.1,3853N×2165E,h1km±1km,ML2.8,Error*
ellipse: s-maj=2.7km s-min=1.8km az=116.0
ISC 25 20:18:18.1±0.5,3852N±003×2165E±004,h15km±6km,n17,
σ0:96/25,2C,Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SELA	**Sela**	**0.31**	**142**	*e*Pg	**Pg**	**20 18 24.4**	**-0.2**
SELA				*e*Sg	**Sg**	**20 18 29.9**	**+1.0**
EVR	**Evrytania**	**0.41**	**18⇑**	*i*PB	**Pg**	**20 18 25.6**	**-0.8**
EVR				*e*SB	**Sg**	**20 18 32.3**	**+0.2**
RLS	**Riolos of Patr**	**0.48**	**197**	*e*PB	**Pb**	**20 18 26.9**	**-1.4**
AGG	**Agios Georgios**	**0.73**	**47**	*e*Pg	**Pg**	**20 18 31.6**	**-0.8**
AGG				*e*Sg	**Sg**	**20 18 43.2**	**+1.3**
AGG	**Agios Georgios**	**0.73**	**47**	*e*Pg	**Pg**	**20 18 31.5**	**-0.8**
AGG				*e*Sg	**Sg**	**20 18 43.2**	**+1.2**
KFL	**Anninata**	**0.79**	**239**	*e*Pg	**Pg**	**20 18 32.8**	**-0.7**
KFL				*e*Sg	**Sg**	**20 18 44.1**	**+0.3**
LKD	**Levkas**	**0.80**	**284**	*e*Pg	**Pg**	**20 18 32.6**	**-1.0**
LKD				*e*Sg	**Sg**	**20 18 45.6**	**+1.3**
VLS	**Valsamata**	**0.90**	**248**	*e*Pg	**Pg**	**20 18 31.8**	**-3.7**
VLS				*e*Sg	**Sg**	**20 18 47.7**	**+0.4**
VLS	**Valsamata**	**0.90**	**248⇑**	*i*Pb	**Pb**	**20 18 34.7**	**-0.7**
VLS				*e*Sg	**Sg**	**20 18 47.7**	**+0.4**
LKR	**Lokris**	**1.07**	**83**	*e*PB	**Pb**	**20 18 37.5**	**-0.7**
THL	**Klokotos Trika**	**1.08**	**15**	*e*Pg	**Pg**	**20 18 38.3**	**-0.7**
THL	**Klokotos Trika**	**1.08**	**15**	*e*Pb	**Pb**	**20 18 38.0**	**-0.5**
THL	**Klokotos Trika**	**1.08**	**15**	*e*Pg	**Pg**	**20 18 38.3**	**-0.7**
JAN	**Janina**	**1.29**	**332**	*e*PB	**Pb**	**20 18 42.5**	**+0.4**
ITM	**Ithomi**	**1.36**	**171**	*e*PB	**Pb**	**20 18 43.0**	**-0.2**
KEK	**Kerkira**	**1.87**	**310**	*e*PN	**Pn**	**20 18 51.2**	**+1.7**
VLI	**Veliai**	**2.07**	**150**	*e*PN	**Pn**	**20 18 54.1**	**+1.8**

*ISCJB **25** 20:24:11.1±0.6,2.19N×008×9634E±008,h26km,mb4.3/22,*
MS3.8/6,Error ellipse: s-maj=14.2km s-min=8.3km
az=39.0
*BJI **25** 20:24:11.1,2.19N×9627E,h31km,mB4.9,mb4.7,Ms4.2,*
Msz3.9
*IDC **25** 20:24:12.9±0.9,224N×9634E,h25km±4km,mb4.0/12,*
mb1 4.1/13,mb1mx3.9/21,mbtmp4.0/13,ML3.2/1,MS3.7/7,
Ms1 3.7/7,ms1mx3.4/30,Error ellipse: s-maj=28.8km
s-min=12.9km az=52.0
*NEIC **25** 20:24:13.5±7.1,222N×9631E,h31km±48km,mb4.5/6,*
Error ellipse: s-maj=30.3km s-min=7.5km az=59.0
ISC 25 20:24:13.3±0.6,220N±009×9635E±008,h28km,
h28km±.6km:pP-P,n44,σ0:97/39,mb4.3/22,MS3.8/6,1C,
Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.64**	**77**	Pn	**Pn**	**20 24 53.7**	**-0.4**
	4.6nm,0.3s,baz=271,slow=5.8,SNR=42						
PSI				LR	LR	20 25 47.0	
	comp=Z,457nm,21.0s,baz=58,slow=36						
KULM	**Kulim**	**5.28**	**54**	*e*P	**Pn**	**20 25 30.8**	**+0.4**
KSM	**Kuching**	**13.97**	**93**	*e*P	**Pn**	**20 27 31.5**	**+1.9**
CHTO	**Chiang Mai**	**16.71**	**9**	*e*P	**Pn**	**20 28 03.8**	**-1.8**
	2.3nm,0.7s						
SHL	**Shillong**	**23.63**	**350**	*e*P	**P**	**20 29 21.0**	**-1.5**
GYA	**Guiyang**	**26.08**	**21⇑**	*i*P	**P**	**20 29 45.8**	**+1.1**
GYA				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.3						
LSA	**Lhasa**	**27.79**	**350**	P	**P**	**20 30 01.0**	**+0.8**
LSA				AMB	AMB		
	comp=Z,20nm,1.0s,mb4.7						
LSA	**Lhasa**	**27.79**	**350**	*e*P	**P**	**20 30 00.6**	**+0.5**
	comp=Z,22nm,0.9s,mb4.8						
BATI	**Kupang**	**29.85**	**115**	LR	LR	20 46 17.2	
	comp=Z,263nm,20.1s,MS3.9,baz=109,slow=44						
XAN	**Xi'an**	**33.78**	**19**	P	**P**	**20 30 52.0**	**-1.0**
XAN				AP	pP	20 30 59.0	-2.1
XAN				AMB	AMB		
	comp=Z,29nm,3.7s						
LZH	**Lanzhou**	**34.43**	**11**	*e*P	**P**	**20 30 58.5**	**0.0**
LZH				AP	pP	20 31 06.5	-0.2
LZH				XP	sP	20 31 09.0	-1.1
LZH				AMB	AMB		
	comp=Z,26nm,1.1s,mb5.1						
LZH				AMB	AMB		
	comp=Z,117nm,4.3s						
FITZ	**Fitzroy Crossi**	**35.20**	**126**	P	**P**	**20 31 05.0**	**-0.4**
	comp=Z,1.9nm,0.5s,mb4.3,baz=308,slow=19,SNR=2.2						
GTA	**Gaotai**	**37.17**	**4**	*e*P	**P**	**20 31 21.8**	**-0.2**
GTA				AP	pP	20 31 29.3	-0.9
GTA				XP	sP	20 31 32.8	-0.8
GTA				AMB	AMB		
	comp=Z,9.0nm,1.0s,mb4.5						
BJT	**Baijiatuau**	**41.72**	**23**	*e*P	**P**	**20 32 00.8**	**+0.9**
	comp=Z,4.9nm,0.5s,mb4.4						
BJI	**Beijing**	**41.75**	**23**	P	**P**	**20 32 00.8**	**+0.7**
BJI				AMB	AMB		
	comp=Z,16nm,1.2s,mb4.5						
WRA	**Warramunga Arr**	**43.28**	**122**	P	**P**	**20 32 13.0**	**+0.1**
	comp=Z,0.9nm,0.5s,mb3.8,baz=301,slow=9.1,SNR=2.5						
WRA				pP	pP	20 32 20.9	-0.4
	comp=Z,3.5nm,0.6s,baz=300,slow=9.1,SNR=7.7						
WRAB	**Tennant Creek**	**43.29**	**122**	P	**P**	**20 32 17.2**	**+4.2**
ULHL	**Ulahol**	**43.76**	**338**	P	**P**	**20 32 17.0**	**+0.5**
	SNR=9.1						
UCH	**Uchtor**	**44.40**	**337**	P	**P**	**20 32 23.5**	**+1.9**
	SNR=10						
KBK	**Karagaybulak**	**44.60**	**337**	P	**P**	**20 32 24.8**	**+1.6**
	SNR=8.3						
AML	**Almayashu**	**44.65**	**336**	P	**P**	**20 32 25.1**	**+1.5**
	SNR=5.7						
ASAR	**Alice Springs**	**44.67**	**127**	P	**P**	**20 32 23.8**	**-0.3**
	comp=Z,0.9nm,0.8s,mb3.7,baz=308,slow=6.2,SNR=4.8						
ASAR				pP	pP	20 32 32.3	-0.1
	comp=Z,2.4nm,0.9s,baz=307,slow=7.5,SNR=5.2						
ASAR				pPcP		20 34 13.8	
	comp=Z,0.8nm,0.7s,baz=303,slow=3.2,SNR=4.5						
EKS2	**Erkin-Say**	**45.06**	**336**	P	**P**	**20 32 28.3**	**+1.4**
	SNR=7.8						
USP	**Ospenovka**	**45.29**	**338**	P	**P**	**20 32 29.8**	**+1.1**
	SNR=11						
KSRS	**Korea Array**	**45.52**	**36**	P	**P**	**20 32 28.9**	**-1.7**
	comp=Z,1.5nm,0.9s,mb3.9,baz=212,slow=8.9,SNR=5.7						
KSRS				LR	LR	20 52 19.6	
	comp=Z,72nm,19.2s,MS3.6,baz=220,slow=37						
MK31	**Makanchi Array**	**46.08**	**347**	*e*P	**P**	**20 32 34.9**	**+0.1**
MKAR	**Makanchi Array**	**46.08**	**347**	P	**P**	**20 32 35.0**	**+0.1**
	comp=Z,15nm,0.8s,mb5.0,baz=162,slow=7.9,SNR=97						
MKAR				LR	LR	20 54 45.4	
	comp=Z,43nm,18.2s,MS3.4,baz=260,slow=40						
SONM	**Songino Array**	**46.28**	**9**	P	**P**	**20 32 36.3**	**-0.1**
	comp=Z,2.5nm,0.8s,mb4.2,baz=188,slow=8.4,SNR=23						
SONM				pP	pP	20 32 44.2	-0.6
	comp=Z,3.9nm,0.9s,baz=191,slow=7.6,SNR=14						
SONM				PcP	PcP	20 34 12.1	+0.5
	comp=Z,1.1nm,0.9s,baz=184,slow=4.0,SNR=3.7						
KURK	**Kurchatov**	**50.62**	**345**	*e*P	**P**	**20 33 09.9**	**+0.1**
	comp=Z,8.4nm,1.1s,mb4.6						
ZAA0	**Zalesovo Array**	**52.45**	**351**	*e*P	**P**	**20 33 23.2**	**-0.2**
ZALV	**Zalesovo Beam**	**52.45**	**351**	P	**P**	**20 33 23.4**	**0.0**
ZALV	**Zalesovo Beam**	**52.45**	**351**	P	**P**	**20 33 23.4**	**0.0**
	comp=Z,15nm,0.8s,mb4.9,baz=177,slow=6.1,SNR=48						
CTA	**Charters Tower**	**53.70**	**117**	LR	LR	20 57 47.9	
	comp=Z,106nm,20.1s,MS3.9,baz=281,slow=38						
STKA	**Stephens Creek**	**54.65**	**132**	P	**P**	**20 33 39.9**	**-0.1**
	comp=Z,1.8nm,0.7s,mb4.2,baz=316,slow=10,SNR=3.5						
STKA				LR	LR	20 57 56.0	
	comp=Z,90nm,18.2s,MS3.9,baz=210,slow=37						
BRVK	**Borovoye**	**55.10**	**341**	*e*P	**P**	**20 33 42.1**	**-0.8**
	comp=Z,2.0nm,0.6s,mb4.3						
ARU	**Arti**	**61.94**	**337**	*e*P	**P**	**20 34 29.7**	**-0.8**
	comp=Z,3.9nm,1.0s,mb4.5						
TIXI	**Tiksi**	**72.36**	**10**	*e*P	**P**	**20 35 34.8**	**-1.5**
	comp=Z,8.0nm,1.4s,mb4.5						
AKASG	**Malin Array Be**	**73.95**	**322**	P	**P**	**20 35 45.1**	**-1.1**
	comp=Z,0.2nm,0.2s,mb3.6,baz=93,slow=4.0,SNR=7.5						
AKASG				pP	pP	20 35 53.1	-1.8
	comp=Z,0.8nm,0.6s,baz=93,slow=4.8,SNR=2.7						
FINES	**FINESS Array B**	**78.73**	**333**	P	**P**	**20 36 11.7**	**-1.3**
	comp=Z,1.4nm,0.7s,mb4.0,baz=66,slow=11,SNR=5.1						
ARCES	**ARCESS Array B**	**81.32**	**340**	P	**P**	**20 36 26.1**	**-0.8**
	comp=Z,3.2nm,0.

TXAR	**Lajitas Array**	**143.25**	**30**	PKhKP		20 43 41.9
	comp=Z,0.2nm,0.5s,baz=355,slow=1.9,SNR=4.0					
CPUP	**Villa Florida**	**145.15**	**224**	PKPbc	PKPbc	20 43 49.4 +0.7
	comp=Z,0.2nm,0.3s,baz=92,slow=4.3,SNR=3.8					

IDC 25 20:30:45.1±18.0**,2295S**×**17491W,h0**km**,mb4.1**/5**, mb1 4.2**/5**,mb1mx3.9**/17**,mbtmp4.1**/5**,Error ellipse: s-maj=342.3km s-min=144.2km az=82.0,Tonga Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**36.18**	**267**	P	P	20 37 50.4	+0.7
	4.5nm,0.6s,baz=110,slow=11,SNR=8.2						
STKA	**Stephens Creek**	**39.41**	**247**	P	P	20 38 15.4	-1.4
	1.1nm,0.6s,baz=80,slow=11,SNR=4.9						
ASAR	**Alice Springs**	**46.81**	**259**	P	P	20 39 16.8	-0.1
	0.7nm,0.6s,baz=95,slow=7.2,SNR=9.7						
WRA	**Warramunga Arr**	**47.15**	**264**	P	P	20 39 19.3	-0.3
	1.2nm,0.5s,baz=98,slow=7.1,SNR=33						
FITZ	**Fitzroy Crossi**	**55.58**	**263**	P	P	20 40 23.8	+0.9
	1.8nm,0.8s,baz=97,slow=17,SNR=4.4						

ISCJB ***25*** *20:40:10.2*±*1.5,27.19N*±*006*×*5359E*±*005,h5km*±*14km, Error ellipse: s-maj=10.9km s-min=7.4km az=8.1*
CSEM ***25*** *20:40:10.4*±*0.1,27.18N*×*5359E,h10km,ML3.0,Error ellipse: s-maj=2.8km s-min=2.5km az=163.0*
THR ***25*** *20:40:11.6*±*0.5,27.14N*×*5346E,h41km*±*4km,ML3.0*
ISC 25 20:40:12.1±1.5**,2722N**±007×**5358E**±005**,h8**km±14km**,n11,** σ0$61/17**,Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GHIR	**Ghir-Karzin**	**1.19**	**334**	*e*Pg	**Pg**	**20 40 34.3**	**-0.6**
GHIR				*e*Sg	**Sg**	**20 40 50.9**	**+0.5**
GHIR				AML	AML	20 40 51.6	
	comp=E,356nm,0.4s						
GHIR				AML	AML	20 40 54.7	
	comp=N,259nm,0.7s						
GHIR	**Ghir-Karzin**	**1.19**	**334**	*e*Pg	**Pg**	**20 40 34.3**	**-0.6**
	SNR=103						
GHIR				*e*Sg	**Sg**	**20 40 50.8**	**+0.4**
	SNR=103						
BNDS	**Bandar-Abbas**	**2.31**	**85**	*e*Pn	**Pn**	**20 40 50.5**	**0.0**
BNDS				*e*Sg	**Sg**	**20 41 26.3**	**-0.2**
SLWS		**3.57**	**228**	P	**Pn**	**20 41 09.2**	**+1.4**
SLWS		**3.57**	**228**	P	**Pn**	**20 41 09.2**	**+1.3**
SLWS				S	**Sn**	**20 41 49.5**	**-0.8**
KRBR	**Kerman**	**3.93**	**45**	*e*Pn	**Pn**	**20 41 13.4**	**+0.6**
KRBR				AML	AML	20 42 12.1	
	comp=N,12nm,0.3s						
BTHS		**4.00**	**219**	P	**Pn**	**20 41 14.2**	**+0.4**
BTHS		**4.00**	**219**	P	**Pn**	**20 41 14.2**	**+0.4**
BTHS				S	**Sn**	**20 41 54.5**	**-6.5**
NASN	**Na'in**	**5.60**	**353**	*e*Pn	**Pn**	**20 41 35.2**	**-0.6**
HRDDS		**5.67**	**222**	P	**Pn**	**20 41 36.6**	**-0.1**
LYLS		**7.73**	**230**	P	**Pn**	**20 42 04.7**	**-0.3**
LYLS				S	**Sn**	**20 43 27.8**	**-5.0**

IDC ***25*** *20:51:10.9*±*1.2,730S*×*15582E,h0km,mb3.9/5,mb1 4.0/6, mb1mx3.8/15,mbtmp4.0/6,ML4.4/1,Error ellipse: s-maj=30.2km s-min=27.4km az=38.0*
ISCJB ***25*** *20:51:12.1*±*5.7,72S*±*0.1*×*15587E*±*009,h15km*±*35km, mb3.8/5,Error ellipse: s-maj=24.9km s-min=11.5km az=27.7*
NEIC ***25*** *20:51:12.6*±*0.7,732S*×*15580E,h10km,Error ellipse: s-maj=21.7km s-min=15.5km az=205.0*
ISC 25 20:51:13.6±6.8**,72S**±01×**15584E**±009**,h14**km±42km**,n10,** σ1$14/12**,mb3.8/5,Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.63**	**119**	Pn	**Pn**	**20 52 22.5**	**-0.6**
HNR				Sn	**Sn**	**20 53 17.0**	**+0.4**
HNR	**Honiara**	**4.63**	**119**	Pn	**Pn**	**20 52 22.5**	**-0.6**
	16nm,0.3s,baz=258,slow=3.9,SNR=6.4						
HNR				Sn	**Sn**	**20 53 17.0**	**+0.4**
	4.3nm,0.3s,baz=134,slow=4.4,SNR=9.4						
CTA	**Charters Tower**	**15.82**	**215**	Pn	**Pn**	**20 54 58.2**	**+2.2**
	0.1nm,0.3s,baz=41,slow=19,SNR=2.4						
WRA	**Warramunga Arr**	**24.39**	**237**	P	**P**	**20 56 31.3**	**-0.3**
	2.7nm,1.1s,mb3.6,baz=64,slow=8.9,SNR=7.5						
ASAR	**Alice Springs**	**26.67**	**230**	P	**P**	**20 56 50.3**	**-1.9**
	0.3nm,0.7s,mb2.9,baz=59,slow=8.8,SNR=4.3						
SONM	**Songino Array**	**69.96**	**327**	P	**P**	**21 02 26.0**	**+1.5**
	0.7nm,0.8s,mb3.6,baz=125,slow=6.0,SNR=6.6						
MK31	**Makanchi Array**	**84.11**	**319**	*e*P	**P**	**21 03 44.4**	**+0.3**
MKAR	**Makanchi Array**	**84.11**	**319**	P	**P**	**21 03 44.0**	**0.0**
	2.4nm,0.7s,mb4.4,baz=103,slow=6.0,SNR=26						
ZALV	**Zalesovo Beam**	**84.82**	**326**	P	**P**	**21 03 46.5**	**-1.0**
ZALV	**Zalesovo Beam**	**84.82**	**326**	P	**P**	**21 03 46.5**	**-1.0**
	1.2nm,0.6s,mb4.2,baz=104,slow=6.3,SNR=5.5						

ISCJB ***25*** *21:03:01.8*±*0.5,4180N*±*002*×*2276E*±*004,h0km*±*5km, Error ellipse: s-maj=4.9km s-min=3.2km az=152.4*
CSEM ***25*** *21:03:02.4*±*0.1,4183N*×*2276E,h10km,ML2.5,Error ellipse: s-maj=1.8km s-min=1.3km az=67.0*
ATH ***25*** *21:03:02.2,4180N*×*2273E,h11km*±*6km,MD3.2/3*
SKO ***25*** *21:03:02.5,4178N*×*2274E,h15km,M2.1,ML2.5*
THE ***25*** *21:03:03.0,4179N*×*2277E,h1km,ML2.8*
BEO ***25*** *21:03:11.3*±*1.1,4217N*×*2272E,h5km*±*4km,ML2.3/3*
ISC 25 21:03:02.7±0.5**,4179N**±002×**2277E**±004**,h5**km±5km**,n24,** σ0$88/45**,1C,Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STIP	**Stip**	**0.45**	**257**	*e*Pg	**Pg**	**21 03 11.2**	**-0.1**
STIP				*e*Sg	**Sg**	**21 03 17.4**	**+0.3**
STIP	**Stip**	**0.45**	**257**	*i* Pg	**Pg**	**21 03 11.3**	**0.0**
STIP				*i* Sg	**Sg**	**21 03 17.4**	**+0.3**
STIP				*e*Lg		21 03 17.5	
	comp=N,66nm,0.2s						
STIP				*e*Lg		21 03 18.1	
	comp=E,54nm,0.2s						
STIP	**Stip**	**0.45**	**257**	*e*Pg	**Pg**	**21 03 11.2**	**-0.1**
STIP				*i* Sg	**Sg**	**21 03 17.4**	**+0.3**
VAY	**Valandovo**	**0.49**	**198**	*e*Pg	**Pg**	**21 03 12.2**	**0.0**
VAY				*e*Sg	**Sg**	**21 03 18.8**	**+0.1**
VAY	**Valandovo**	**0.49**	**198**	*i* Pg	**Pg**	**21 03 12.2**	**0.0**
VAY				*i* Sg	**Sg**	**21 03 18.9**	**+0.3**
VAY				*e*Lg		21 03 19.2	
	comp=N,293nm,0.5s						
VAY				*e*Lg		21 03 19.3	
	comp=E,142nm,0.2s						
VAY	**Valandovo**	**0.49**	**198**	*e*Pg	**Pg**	**21 03 12.2**	**0.0**
VAY				*i* Sg	**Sg**	**21 03 18.9**	**+0.3**
KNT	**Kendrikon**	**0.64**	**171**	*e*Pg	**Pg**	**21 03 15.3**	**+0.4**
KNT				*e*Sg	**Sg**	**21 03 24.1**	**+0.9**
VTS	**Vitosha**	**0.86**	**22**	*e*Pg	**Pg**	**21 03 19.4**	**+0.1**
VTS				*e*Sg	**Sg**	**21 03 31.3**	**+0.8**
VTS	**Vitosha**	**0.86**	**22**	*e*Pg	**Pg**	**21 03 20.4**	**+1.1**
VTS				*e*Sg	**Sg**	**21 03 30.4**	**-0.1**
GRG	**Griva**	**0.88**	**198**	*e*Pg	**Pg**	**21 03 19.4**	**-0.2**
SRS	**Serrai**	**0.92**	**137**	*e*Pg	**Pg**	**21 03 20.3**	**0.0**
SRS				*e*Sg	**Sg**	**21 03 32.3**	**+0.1**
NVR	**Nevrokopi**	**0.93**	**118**	⇑*i*PN	**Pn**	**21 03 20.8**	**-1.7**
NVR				*e*SB	**Sb**	**21 03 33.4**	**-0.6**
SOH	**Sokhos**	**1.07**	**155**	*e*Pg	**Pg**	**21 03 23.4**	**+0.3**
SOH				*e*Sg	**Sg**	**21 03 37.7**	**+0.8**
HORT	**Hortiatis**	**1.22**	**168**	*e*Pg	**Pg**	**21 03 26.1**	**0.0**
HORT				*e*Sg	**Sg**	**21 03 42.9**	**+1.0**
BARS	**Barje**	**1.24**	**326**	*e*Pg	**Pg**	**21 03 27.0**	**+0.5**
BARS				*e*Sg	**Sg**	**21 03 41.3**	**-1.4**
FNA	**Florina**	**1.46**	**227**	*e*Pg	**Pg**	**21 03 29.9**	**-0.7**
FNA				*e*Sg	**Sg**	**21 03 49.2**	**-0.3**
PLG	**Polygyros**	**1.51**	**160**	*e*PB	**Pb**	**21 03 30.0**	**-1.2**
PLG				*e*SB	**Sb**	**21 03 51.3**	**+0.7**
PLG	**Polygyros**	**1.51**	**160**	*e*Pg	**Pg**	**21 03 30.3**	**-1.3**
PLG				*e*Sb	**Sb**	**21 03 51.3**	**+0.7**
KZN	**Kozani**	**1.67**	**207**	*e*PB	**Pb**	**21 03 33.3**	**-0.6**
OUR	**Ouranopolis**	**1.72**	**147**	*e*Pb	**Pb**	**21 03 33.3**	**-1.6**
RDO	**Rodhopi**	**2.18**	**106**	*e*PN	**Pn**	**21 03 41.2**	**+1.6**
GRUS	**Gruza**	**2.58**	**325**	*e*Pn	**Pn**	**21 03 49.2**	**+4.0**
GRUS				*e*Sn	**Sn**	**21 04 17.4**	**+0.4**
GRUS				*e*Sn	**Sn**	**21 04 17.5**	**+0.5**
SVIS	**Svilajnac**	**2.75**	**336**	*e*Pn	**Pn**	**21 03 52.1**	**+4.6**
SVIS				*e*Sn	**Sn**	**21 04 20.2**	**-0.8**
DIVS	**Divibare**	**3.08**	**319**	*e*Pn	**Pn**	**21 03 57.3**	**+5.3**
DIVS				*e*Sn	**Sn**	**21 04 31.2**	**+2.0**

NNC ***25*** *21:16:27.9*±*8.3,3928N*×*9063E,h0km,mb3.6,Error ellipse: s-maj=75.9km s-min=68.8km az=18.0*
IDC ***25*** *21:16:31.3*±*1.0,37.12N*×*8476E,h0km,mb3.7/6, mb1 3.8/11,mb1mx3.6/25,mbtmp3.7/11,ML3.5/5,MS2.5/1, Ms1 2.5/1,ms1mx1.7/42,Error ellipse: s-maj=36.0km s-min=15.6km az=54.0*
NEIC ***25*** *21:16:33.0*±*0.7,37.13N*×*8473E,h10km,mb3.7/2,Error ellipse: s-maj=15.3km s-min=9.6km az=51.0*
ISCJB ***25*** *21:16:33.7*±*2.5,3723N*±*006*×*8469E*±*007,h27km*±*19km, mb3.6/6,Error ellipse: s-maj=10.6km s-min=8.7km az=139.8*
MOS ***25*** *21:16:34.1*±*0.7,3722N*×*8467E,h33km,mb4.2/2,Error ellipse: s-maj=24.5km s-min=10.7km az=101.6*
BJI ***25*** *21:16:36.8,3746N*×*8445E,h10km,ML3.9*
ISC 25 21:16:35.1±2.7**,3722N**±006×**8480E**±008**,h22**km±21km**, n34,** σ0$98/40**,mb3.6/6,5C-2D,Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMQ	**Urumqi**	**6.95**	**18**	*e*P	**Pn**	**21 18 20.3**	**+4.7**
WMQ				S	**Sn**	**21 19 39.3**	**+5.4**
WMQ				Smax			
	comp=N,51nm,1.0s						
WMQ				Smax			
	comp=E,50nm,0.9s						
KSH	**Kashi**	**7.30**	**291**	*e*P	**Pn**	**21 18 20.0**	**-0.4**
KSH				S	**Sn**	**21 19 42.5**	**-0.1**
KSH				Smax			
	comp=N,330nm,0.9s						
KSH				Smax			
	comp=E,290nm,0.8s						
AAK	**Ala-Archa**	**9.58**	**308**	*e*P	**Pn**	**21 18 51.6**	**0.0**
	comp=E,2.3nm,0.5s						
AAK	**Ala-Archa**	**9.58**	**308**	*e*P	**Pn**	**21 18 51.6**	**0.0**
AAK				pmax	pmax		
	comp=Z,2.0nm,0.5s						
AAK	**Ala-Archa**	**9.58**	**308**	Pn	**Pn**	**21 18 51.7**	**+0.1**
	comp=Z,0.2nm,0.3s,baz=119,slow=13,SNR=2.9						
AAK				Lg		21 21 34.5	
	comp=Z,0.6nm,0.3s,baz=252,slow=12,SNR=3.5						
MK31	**Makanchi Array**	**9.74**	**350**	Pn	**Pn**	**21 18 54.9**	**+1.1**
	comp=Z,7.3nm,1.0s,baz=158,slow=14,SNR=28						
MK31				⇑Sn	**Sn**	**21 20 45.5**	**+3.0**
	comp=Z,2.4nm,0.5s,baz=168,slow=22,SNR=4.1						
MK31	**Makanchi Array**	**9.74**	**350**	*e*P	**Pn**	**21 18 54.5**	**+0.6**
MKAR	**Makanchi Array**	**9.74**	**350**	P	**Pn**	**21 18 54.6**	**+0.7**
MKAR						21 20 41.9	
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MKAR				smax			
	comp=N,1.0nm,0.3s						
MKAR	**Makanchi Array**	**9.74**	**350**	Pn	**Pn**	**21 18 54.6**	**+0.7**
	comp=N,0.5nm,0.3s,baz=163,slow=13,SNR=10.0						
MKAR				Sn	**Sn**	**21 20 41.9**	**-0.6**
	comp=N,1.1nm,0.3s,baz=145,slow=20,SNR=5.3						
KURBB	**Kurchatov Arra**	**14.13**	**343**	⇓Pn	**Pn**	**21 19 52.0**	**-1.7**
	comp=N,0.3nm,0.6s						
KURBB				⇓Sn	**Sn**	**21 22 28.7**	**-1.0**
	comp=N,1.1nm,0.7s						
ZAL	**Zalesovo**	**16.72**	**360**	P	**Pn**	**21 20 26.2**	**-1.5**
ZAL						21 23 27.5	
ZAA0	**Zalesovo Array**	**16.73**	**0**	*e*P	**Pn**	**21 20 28.7**	**+0.9**
ZALV	**Zalesovo Beam**	**16.73**	**0**	Pn	**Pn**	**21 20 26.2**	**-1.7**
	comp=N,0.5nm,0.3s,baz=189,slow=12,SNR=9.2						
ZALV				Sn	**Sn**	**21 23 27.5**	**-5.4**
	comp=N,0.1nm,0.3s,baz=175,slow=17,SNR=3.3						
ZALV				LR	LR	21 26 16.9	
	comp=N,16nm,20.4s,baz=17,slow=35						
VOSK	**Vostochnaya**	**18.27**	**332**	⇑Pn	**Pn**	**21 20 47.1**	**+0.1**
	comp=N,2.1nm,0.7s						
BVA0	**Borovoye Array**	**18.73**	**332**	⇑Pn	**Pn**	**21 20 52.6**	**0.0**
	comp=N,0.4nm,0.9s,baz=139,slow=13,SNR=14						
BVAR	**Borovoye Array**	**18.73**	**332**	P	**Pn**	**21 20 52.1**	**-0.5**
	comp=N,0.2nm,0.3s,baz=123,slow=11,SNR=12						
BRVK	**Borovoye**	**18.80**	**332**	*e*P	**Pn**	**21 20 52.5**	**-0.9**
	comp=N,5.1nm,0.8s						
BRVK	**Borovoye**	**18.80**	**332**	*e*P	**Pn**	**21 20 52.5**	**-0.9**
BRVK				pmax	pmax		
	comp=Z,5.0nm,0.8s						
SONM	**Songino Array**	**19.06**	**49**	P	**Pn**	**21 20 57.5**	**+0.9**
	comp=Z,0.2nm,0.3s,baz=237,slow=11,SNR=13						
CHKZ	**Chkalovo**	**19.17**	**334**	⇑Pn	**Pn**	**21 20 57.6**	**-0.3**
	comp=Z,0.8nm,0.5s						
ZRNK	**Zerenda**	**19.21**	**330**	⇑Pn	**Pn**	**21 20 59.6**	**+1.3**
	comp=Z,3.9nm,0.8s						
ULN	**Ulaanbaatar**	**19.48**	**50**	*e*P	**Pn**	**21 21 02.2**	**+0.6**
	comp=Z,3.2nm,0.9s						
ULN	**Ulaanbaatar**	**19.48**	**50**	*e*P	**Pn**	**21 21 02.2**	**+0.6**
ULN				pmax	pmax		
	comp=Z,3.0nm,0.9s						
AKTK	**Aktyubinsk**	**23.25**	**313**	P	**P**	**21 21 42.4**	**+1.6**
AKTO	**Aktyubinsk**	**23.25**	**313**	P	**P**	**21 21 42.4**	**+1.6**
	comp=Z,6.0nm,0.6s,mb3.2,baz=98,slow=15,SNR=3.6						
ARCES	**ARCESS Array B**	**44.99**	**335**	P	**P**	**21 24 48.2**	**-0.1**
ARCES	**ARCESS Array B**	**44.99**	**335**	P	**P**	**21 24 48.2**	**-0.1**
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.8s						
ARCES	**ARCESS Array B**	**44.99**	**335**	P	**P**	**21 24 48.2**	**-0.1**
	comp=Z,2.2nm,0.8s,mb4.0,baz=91,slow=8.6,SNR=6.4						
WRA	**Warramunga Arr**	**73.55**	**132**	P	**P**	**21 28 05.6**	**-0.8**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
WRA	**Warramunga Arr**	**73.55**	**132**	P	**P**	**21 28 05.6**	**-0.8**
	comp=Z,0.8nm,0.7s,mb3.8,baz=328,slow=6.1,SNR=12						
ASAR	**Alice Springs**	**76.19**	**134**	P	**P**	**21 28 20.7**	**-0.8**
	comp=Z,0.2nm,0.6s,mb3.2,baz=321,slow=7.2,SNR=4.2						
YKA	**Yellowknife Ar**	**79.41**	**9**	P	**P**	**21 28 39.2**	**+0.2**
YKA	**Yellowknife Ar**	**79.41**	**9**	P	**P**	**21 28 39.2**	**+0.2**
	comp=Z,0.2nm,0.5s,mb3.3,baz=336,slow=5.8,SNR=4.2						
STKA	**Stephens Creek**	**86.83**	**135**	P	**P**	**21 29 17.9**	**+0.3**
	comp=Z,0.8nm,0.7s,mb4.1,baz=307,slow=5.1,SNR=2.8						

ISCJB ***25*** *21:23:52.6*±*0.8,3244N*±*009*×*13776E*±*0.10,h425km*±*7km, mb3.0/3,Error ellipse: s-maj=15.8km s-min=10.8km az=144.8*
JMA ***25*** *21:23:52.4*±*0.3,3247N*×*13771E,h431km,M3.4*
IDC ***25*** *21:23:53.8*±*2.1,3234N*×*13763E,h412km*±*36km,mb2.8/3, mb1 3.0/4,mb1mx2.6/22,mbtmp2.8/4,Error ellipse: s-maj=85.2km s-min=21.2km az=73.0*
ISC 25 21:23:53.9±0.8**,3249N**±009×**13777E**±010**,h418**km±7km**, n20,** σ0$97/27**,mb3.0/3,Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**1.83**	**70**	P	**P**	**21 24 51.6**	**+1.1**
JHJ2				S	**S**	**21 25 37.7**	**+1.3**
JWZ	**Kozaga**	**2.01**	**302**	P	**P**	**21 24 50.4**	**-1.1**
JWY	**Kouya**	**2.50**	**314**	P	**P**	**21 24 54.9**	**+0.2**
JOD2	**Odawara 2**	**2.97**	**21**	P	**P**	**21 24 59.4**	**+1.2**
JOD2				S	**S**	**21 25 50.8**	**+0.4**
JYN	**Shimob**	**3.06**	**12**	P	**P**	**21 24 59.4**	**+0.5**
JAI	**Aioi**	**3.07**	**296**	P	**P**	**21 24 58.1**	**-0.9**
JWT	**Wachi**	**3.41**	**325**	P	**P**	**21 25 01.8**	**+0.1**
BSO1	**Boso 1**	**3.44**	**50**	P	**P**	**21 25 00.9**	**-1.1**
BSO1				S	**S**	**21 25 55.9**	**-1.5**
JMN	**Monobe**	**3.49**	**292**	P	**P**	**21 25 02.0**	**-0.5**
JRY	**Ryogami san**	**3.64**	**15**	P	**P**	**21 25 04.5**	**+0.8**
JRY				S	**S**	**21 26 00.9**	**+0.4**
JAD	**Aida**	**3.87**	**310**	P	**P**	**21 25 05.7**	**-0.1**
MJAR	**Matsushiro Arr**	**4.05**	**5**	P	**P**	**21 25 08.4**	**+0.9**
	3.9nm,0.3s,baz=174,slow=9.9,SNR=38						
MAT	**Matsushiro**	**4.06**	**5**	P	**P**	**21 25 08.3**	**+0.8**
MAT				*e*S	**S**	**21 26 08.0**	**+0.6**
MAT	**Matsushiro**	**4.06**	**5**	P	**P**	**21 25 08.1**	**+0.6**
JTO	**Tosashimizu**	**4.20**	**276**	P	**P**	**21 25 08.1**	**-0.8**
JYT	**Yasato**	**4.23**	**28**	P	**P**	**21 25 08.8**	**-0.3**
JYT				S	**S**	**21 26 07.6**	**-2.8**
JMM	**Marumori**	**5.91**	**24**	P	**P**	**21 25 26.3**	**+0.3**
JMM				S	**S**	**21 26 38.9**	**-2.3**
MKAR	**Makanchi Array**	**44.15**	**306**	P	**P**	**21 31 23.9**	**+0.6**
	0.2nm,0.2s,mb3.0,baz=83,slow=9.9,SNR=3.9						
WRA	**Warramunga Arr**	**52.24**	**184**	P	**P**	**21 32 23.6**	**-0.8**
	0.2nm,0.4s,mb2.7,baz=0.1,slow=7.6,SNR=12						
FINES	**FINESS Array B**	**71.41**	**332**	P	**P**	**21 34 30.6**	**+0.7**
	0.9nm,0.9s,mb3.3,baz=61,slow=4.8,SNR=4.2						

ISK ***25*** *21:37:13.0,34.12N*×*3207E,h5km,MD3.6*
CSEM ***25*** *21:37:17.5*±*0.1,3450N*×*3205E,h10km,Mw3.1,Error ellipse: s-maj=1.9km s-min=1.0km az=56.0*
ISCJB ***25*** *21:37:18.9*±*0.3,3441N*±*002*×*3208E*±*003,h33km,mb3.7/2, Error ellipse: s-maj=3.6km s-min=2.3km az=154.4*
NEIC ***25*** *21:37:19.3,3451N*×*3202E,h22km,ML3.5(NIC),After NIC.*
NIC ***25*** *21:37:19.3*±*0.2,3451N*×*3202E,h22km,ML3.5,MW3.1*
IDC ***25*** *21:37:19.6*±*3.3,3437N*×*3186E,h46km*±*56km,mb3.7/2, mb1 3.5/7,mb1mx3.3/22,mbtmp3.4/7,ML3.6/5,Error ellipse: s-maj=36.6km s-min=28.4km az=59.0*
HLW ***25*** *21:37:20.8,3438N*×*3204E,h33km,Mb3.7*
GII ***25*** *21:37:20.9*±*0.0,3433N*×*3244E,h0km,ML3.0/8*
ISC 25 21:37:19.8±0.7**,3446N**±002×**3213E**±003**,h25**km±6km**,n70,** σ0$82/102**,mb3.7/2,10C-5D,Cyprus region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPCY	**Paphos**	**0.46**	**23**	⇑*e*P	**Pb**	**21 37 28.6**	**-0.8**
AKMC	**Akamas**	**0.59**	**16**	⇑*i*P	**Pb**	**21 37 30.8**	**-0.8**
SZAC	**Souni-Zanaja**	**0.69**	**64**	⇑*i*P	**Pb**	**21 37 32.9**	**-0.3**
	31nm,0.2s						
SZAC				S	**Sb**	**21 37 43.8**	**+1.4**
ALFC	**Alevga**	**0.80**	**29**	⇑*e*P	**Pb**	**21 37 33.8**	**-1.2**
	27nm,0.2s						
ALFC				S	**Sb**	**21 37 45.0**	**-0.5**
LEF	**Lefka**	**0.91**	**43**	*e*PN	**Pn**	**21 37 36.1**	**-1.0**
CSS	**Prodhromos**	**1.11**	**63**	P	**Pn**	**21 37 38.9**	**-0.9**
	12nm,0.2s						
CSS				S	**Sn**	**21 37 54.4**	**+0.1**
MAMC	**Mammari**	**1.15**	**51**	P	**Pn**	**21 37 39.7**	**-0.6**
LFK	**Lefkose**	**1.42**	**54**	*e*PN	**Pn**	**21 37 43.6**	**-0.4**
LFK				*e*SN	**Sn**	**21 38 06.3**	**+4.4**
EREN	**Erenkoy**	**1.99**	**57**	*e*PN	**Pn**	**21 37 52.0**	**+0.2**
IKL	**Isikli**	**2.19**	**35**	*e*PN	**Pn**	**21 37 55.1**	**+0.5**
ERMK	**Ermenek**	**2.27**	**16**	*i* P	**Pn**	**21 37 56.7**	**+1.0**
AKAS	**Kas**	**2.72**	**311**	*i* P	**Pn**	**21 38 01.4**	**-0.5**
AKAS	**Kas**	**2.72**	**311**	*i* P	**Pn**	**21 38 01.4**	**-0.5**
AKAS				*i* S	**Sn**	**21 38 28.9**	**-5.1**
HNTI	**Hanita**	**2.88**	**118**	Sn	**Sn**	**21 38 37.8**	**-0.3**
ELL	**Elmali**	**2.92**	**322**	*e*PN	**Pn**	**21 38 05.2**	**+0.6**
OFRI	**'Ofer**	**3.01**	**127**	Pn	**Pn**	**21 38 05.9**	**0.0**
OFRI				Sn	**Sn**	**21 38 41.0**	**-0.1**
MMAI	**Mount Meron Ar**	**3.08**	**117**	P	**Pn**	**21 38 06.7**	**-0.2**
	4.1nm,0.3s,baz=305,slow=12,SNR=43						
MMAI				S	**Sn**	**21 38 41.5**	**-1.5**
	20nm,0.3s,baz=313,slow=25,SNR=18						
MMA1	**Mount Meron ar**	**3.09**	**117**	Pn	**Pn**	**21 38 06.8**	**-0.2**
MMA1				Sn	**Sn**	**21 38 41.8**	**-1.2**
MERS	**Mersin**	**3.10**	**38**	*e*PN	**Pn**	**21 38 08.4**	**+1.3**
HWQ	**Hawqa**	**3.16**	**92**	*e*Pn	**Pn**	**21 38 13.1**	**+5.0**
KSDI	**Kefar Szold**	**3.20**	**112**	Pn	**Pn**	**21 38 08.3**	**-0.2**
KSDI				Sn	**Sn**	**21 38 44.8**	**-1.1**
RCY	**Rachaya**	**3.22**	**106**	*e*Pn	**Pn**	**21 38 08.0**	**-0.7**
SLTI	**Sal'it**	**3.29**	**131**	Pn	**Pn**	**21 38 09.9**	**+0.2**
SLTI				Sn	**Sn**	**21 38 47.6**	**-0.5**
SLTI	**Sal'it**	**3.29**	**131**	Pn	**Pn**	**21 38 09.9**	**+0.1**
SLTI				Sn	**Sn**	**21 38 47.6**	**-0.5**
FETY	**Fethiye**	**3.30**	**312**	*e*PN	**Pn**	**21 38 09.8**	**-0.1**
MMLI	**Mount Malkishu**	**3.41**	**125**	Pn	**Pn**	**21 38 11.7**	**+0.3**
MMLI				Sn	**Sn**	**21 38 51.3**	**+0.2**
GOLH	**Golhisar**	**3.47**	**324**	*i* P	**Pn**	**21 38 14.4**	**+2.2**
GOLH	**Golhisar**	**3.47**	**324**	*i* P	**Pn**	**21 38 14.4**	**+2.2**
GOLH				*i* S	**Sn**	**21 38 53.5**	**+1.0**
KONT	**Konya--Tatoy**	**3.49**	**3**	*e*PN	**Pn**	**21 38 14.4**	**+1.9**
HMDT	**Nahal Hemdat**	**3.59**	**127**	Pn	**Pn**	**21 38 14.2**	**+0.3**
HMDT				Sn	**Sn**	**21 38 55.2**	**-0.3**
HMDT	**Nahal Hemdat**	**3.59**	**127**	Pn	**Pn**	**21 38 14.2**	**+0.3**
HMDT				Sn	**Sn**	**21 38 55.2**	**-0.4**
KARA	**Karaisali**	**3.67**	**40**	*e*PN	**Pn**	**21 38 16.2**	**+1.2**
HTY	**Hatay**	**3.68**	**62**	*e*PN	**Pn**	**21 38 15.3**	**+0.2**
AMAG	**Maghara**	**3.91**	**166**	⇑*e*P	**Pn**	**21 38 18.3**	**+0.1**
DSI	**Dead Sea**	**3.97**	**136**	Pn	**Pn**	**21 38 19.3**	**+0.2**
DSI				Sn	**Sn**	**21 39 04.5**	**-0.3**
YTIR	**Yattir**	**3.98**	**140**	Pn	**Pn**	**21 38 20.0**	**+0.8**
YTIR				Sn	**

295nm,1.2s
MORC Moravsky Berou 0.67 249 *e*Pg **Pg 21 41 18.7 +0.4**
OJC Ojcow 0.86 76 *e*Pg **Pg 21 41 21.4 -0.6**
OJC *e*Sg **Sg 21 41 29.3 -3.9**
OJC Ojcow 0.86 76 *e*Pg **Pg 21 41 21.3 -0.7**
OJC *e*Sg **Sg 21 41 29.3 -3.9**
NIE Niedzica 1.32 116 *e*Pg **Pg 21 41 30.2 -0.6**
NIE *e*Sg **Sg 21 41 47.7 -0.2**
VRAC Vranov 1.43 241 *e*Pg **Pg 21 41 32.2 -0.7**
VRAC *e*Sg **Sg 21 41 50.7 -0.7**
24nm,0.4s
KOLL Kolacno 1.44 183 *e*PN **Pn 21 41 32.6 -0.3**
KOLL *e*SN **Sn 21 41 52.6 +0.2**
DPC Dobruska-Polom 1.44 284 *e*PG **Pg 21 41 33.0 -0.2**
DPC *e*SG **Sg 21 41 53.6 +1.8**
32nm,0.5s
DPC Dobruska-Polom 1.44 284 *e*Pg **Pg 21 41 32.7 -0.5**
DPC *e*Sg **Sg 21 41 52.4 +0.6**
VYHS Vyhne 1.54 172 *e*PN **Pn 21 41 33.8 -0.4**
VYHS *e*SN **Sn 21 41 54.3 -0.6**
KRUC Moravsky 1.67 236 *e*Pn **Pn 21 41 36.1 +0.1**
KRUC *e*Sg **Sg 21 41 58.4 -0.8**
MODS Modra-Piesok 1.83 207 *e*SN **Sn 21 42 04.0 +2.0**
STHS Stebnicka Huta 1.88 108 *e*PN **Pn 21 41 40.6 +1.7**
STHS *e*SN **Sn 21 42 08.4 +5.2**
KECS Kecovo 2.01 139 *e*PG **Pg 21 41 45.0 +0.9**
KECS *e*SN **Sn 21 42 07.3 +0.8**
CRVS Cervenica-Dubn 2.23 119 *e*PN **Pn 21 41 46.2 +2.5**
CRVS *e*SN **Sn 21 42 13.9 +2.0**
PSZ Piszkesteto 2.29 156⇑ *e*P **Pn 21 41 50.0 +5.4**
PRU Pruhonice 2.56 271 *e*PG **Pg 21 41 52.2 -2.3**
PRU *e*SG **Sg 21 42 28.2 +0.6**
9.9nm,0.6s
KOLS Kolonicke sedl 2.69 112 *e*PG **Pg 21 41 56.8 -0.2**
CONA Conrad Observa 2.72 221⇑ *i*Pn **Pn 21 41 50.0 -0.4**
CONA ⇓ *i*Pg **Pg 21 41 55.7 -1.9**
CONA ⇑ *i*Sg **Sg 21 42 31.3 -1.6**
4.3nm,0.4s
KWP Kalwaria 2.75 96 *e*Pn **Pn 21 41 49.6 -1.2**
KWP *e*Pg **Pg 21 41 55.7 -2.6**
BRG Berggiesshubel 3.04 288 PG **Pg 21 42 03.6 -0.2**
BRG SG **Sg 21 42 42.3 -0.9**
15nm,1.1s
KHC Kasperske Hory 3.33 256 *e*PN **Pn 21 41 58.8 0.0**
KHC *e*PG **Pg 21 42 06.2 -3.1**
KHC *ex* x 21 42 41.8
KHC *e*SG **Sg 21 42 53.2 +0.9**
15nm,1.1s
MOA Molln 3.54 234 ⇓ *i*Pn **Pn 21 42 01.5 -0.2**
MOA ⇓ *i*Pg **Pg 21 42 12.5 -0.8**
MOA ⇑ *i*Sg **Sg 21 42 59.2 +0.2**
comp=Z,5.5nm,0.5s
CLL Collm 3.73 292 *e*Pg **Pg 21 42 17.0 0.0**
CLL *i* Sg **Sg 21 43 10.4 +5.1**
comp=Z,16nm,1.0s
NKC Novy Kostel 3.90 276 *e*PG **Pg 21 42 17.9 -2.4**
NKC *e*SG **Sg 21 43 12.4 +1.6**
comp=Z,10nm,0.6s
MOX Moxa 4.46 281 *e*PG **Pg 21 42 30.8 -0.1**
MOX *e*SG **Sg 21 43 35.2 +6.5**

NEIC 25 22:02:18.0, 3950S×17454E, h209km, MG3.8(WEL), After WEL., North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEZ	**North Egmont**	**0.41**	**303**	P	Pn	22 02 45.6	-0.2
WAZ	**Wanganui**	**0.43**	**127**	P	Pn	22 02 46.3	+0.5
TWVZ	**Taurewa**	**0.82**	**59**	P	Pn	22 02 46.9	-0.7
TWVZ				S	Sn	22 02 55.6	-15
FWVZ	**Far West T-bar**	**0.82**	**73**	P	Pn	22 02 47.5	-0.1
FWVZ				S	Sn	22 03 09.0	-1.5
WPVZ	**Whakapapa**	**0.83**	**70**	P	Pn	22 02 47.4	-0.2
WNVZ	**Wahianoa**	**0.84**	**79**	P	Pn	22 02 47.7	0.0
WNVZ				S	Sn	22 03 09.7	-0.9
NGZ	**Ngauruhoe**	**0.88**	**69**	P	Pn	22 02 47.7	-0.2
TUVZ	**Tukino**	**0.89**	**75**	P	Pn	22 02 48.1	+0.1
WTVZ	**West Tongariro**	**0.90**	**65**	P	Pn	22 02 47.8	-0.2
MOVZ	**Moawhango**	**0.94**	**85**	P	Pn	22 02 47.9	-0.4
KIW	**Kapiti Island**	**1.39**	**168**	P	Pn	22 02 51.4	-0.1
MRZ	**Mangatainoka R**	**1.41**	**146**	P	Pn	22 02 51.7	+0.1
BKZ	**Black Stump Fm**	**1.55**	**78**	P	Pn	22 02 52.4	-0.5
CAW	**Cannon Point**	**1.66**	**166**	P	Pn	22 02 53.7	-0.1
TCW	**Tory Channel**	**1.72**	**187**	P	Pn	22 02 54.4	0.0
MRW	**Makara Radio**	**1.73**	**176**	P	Pn	22 02 54.3	-0.2
BFZ	**Birch Farm**	**1.76**	**133**	*e*P	Pn	22 02 55.0	+0.2
MTW	**Mount Morrison**	**1.81**	**156**	P	Pn	22 02 55.1	-0.2
SNZO	**South Karori**	**1.81**	**176**	P	Pn	22 02 54.9	-0.3
NNZ	**Nelson**	**1.93**	**207**	P	Pn	22 02 55.8	-0.6
MSWZ	**Moikau Station**	**1.99**	**164**	P	Pn	22 02 56.6	-0.4
PAWZ	**Paruwai Farm**	**2.00**	**161**	P	Pn	22 02 56.9	-0.2
QRZ	**Quartz Range**	**2.03**	**229**	P	Pn	22 02 55.7	-1.7
BSWZ	**Blackbirch Sta**	**2.27**	**193**	P	Pn	22 02 59.8	-0.1
URZ	**Urewera**	**2.36**	**59**	*e*P	Pn	22 02 59.0	-1.9
KNZ	**Kokohu**	**2.48**	**80**	P	Pn	22 03 01.6	-0.6
THZ	**Tophouse**	**2.58**	**208**	P	Pn	22 03 02.2	-1.0
MWZ	**Matawai**	**2.60**	**64**	P	Pn	22 03 02.2	-1.4
KHZ	**Kahutara**	**3.01**	**194**	*e*P	Pn	22 03 07.2	-0.9
DSZ	**Denniston Nort**	**3.06**	**222**	*e*P	Pn	22 03 07.0	-1.7
LTZ	**Lake Taylor**	**3.70**	**207**	*e*P	Pn	22 03 14.8	-1.5
MQZ	**McQueen's Vall**	**4.44**	**198**	*e*P	Pn	22 03 22.9	-2.5
FOZ	**Fox Glacier**	**5.45**	**220**	*e*P	Pn	22 03 34.8	-3.5
ODZ	**Otahua Downs**	**6.25**	**206**	*e*P	Pn	22 03 46.8	-1.6

IDC 25 22:09:14.6±14.0, 247N×9644E, h0km, mb3.7/3, mb1 3.6/4, mb1mx3.4/20, mbtmp3.6/4, ML2.7/1, Error ellipse: s-maj=307.0km s-min=36.3km az=23.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.51**	**82**	Pn	Pn	22 09 56.6	0.0
	1.4nm,0.3s,baz=290,slow=15,SNR=4.1						
MKAR	**Makanchi Array**	**45.83**	**346**	P	P	22 17 38.3	0.0
	1.4nm,0.7s,baz=163,slow=7.0,SNR=16						
SONM	**Songino Array**	**46.00**	**9**	P	P	22 17 39.7	+0.1
	0.1nm,0.4s,baz=195,slow=9.0,SNR=2.6						
ZALV	**Zalesovo Beam**	**52.19**	**351**	P	P	22 18 26.9	-0.1
	1.0nm,0.4s,baz=165,slow=6.2,SNR=5.0						

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*ISCJB **25** 22:13:25.0±0.6, 3542N±004×2348E±005, h11km, Error ellipse: s-maj=7.1km s-min=3.2km az=43.1*
*NEIC **25** 22:13:24.8, 3550N×2354E, h11km, ML3.6(ATH), ML3.5(THE), After ATH.*
*ATH **25** 22:13:24.8, 3550N×2354E, h11km±3km, MD3.6/13, ML3.6*
*CSEM **25** 22:13:25.1±0.2, 3544N×2352E, h2km, ML3.5, Error ellipse: s-maj=5.5km s-min=2.6km az=48.0*
*THE **25** 22:13:27.2, 3533N×2354E, h3km, ML3.5*
ISC 25 22:13:24.3±0.8, 3541N±005×2344E±005, h1km±6km, n26, σ0=99/38, 1C-1D, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARN	**Karanos**	**0.39**	**91**	*e*Pg	**Pg**	**22 13 31.8**	**0.0**
KARN				*e*Sg	**Sg**	**22 13 38.3**	**+1.4**
VAM	**Vamos**	**0.62**	**90⇑**	*i*PB	**Pg**	**22 13 35.7**	**-0.5**
GVD	**Gavdhos**	**0.78**	**137**	*e*Pg	**Pg**	**22 13 39.4**	**+0.2**
GVD				*e*Sg	**Sg**	**22 13 52.9**	**+3.6**
GVD	**Gavdhos**	**0.78**	**137**	*e*PB	**Pb**	**22 13 39.2**	**-1.4**
GVD				*e*SB	**Sb**	**22 13 51.5**	**-0.1**
GVD	**Gavdhos**	**0.78**	**137**	*e*Pg	**Pg**	**22 13 39.4**	**+0.2**
GVD				*e*Sb	**Sb**	**22 13 51.5**	**-0.1**
KYTH	**Kithira**	**0.93**	**340**	*e*PB	**Pb**	**22 13 41.5**	**-1.7**
KYTH				*e*SB	**Sb**	**22 13 54.5**	**-1.6**
SIVA	**Sivas**	**1.19**	**109**	*e*Pg	**Pg**	**22 13 45.6**	**-1.5**
SIVA				*e*Sg	**Sg**	**22 14 04.0**	**+1.6**
IDI	**Anoyia**	**1.19**	**95**	P	**Pg**	**22 13 46.6**	**-0.5**
VLI	**Veliai**	**1.37**	**343**	*e*PB	**Pn**	**22 13 49.6**	**-0.9**
LAST	**Lasithi**	**1.69**	**98**	*e*Pg	**Pn**	**22 13 55.0**	**+0.1**
LAST				*e*Sg	**Sg**	**22 14 18.0**	**-0.5**
NPS	**Neapolis**	**1.78**	**94**	⇓ *i*PG	**Pn**	**22 13 56.6**	**+0.4**
SANT	**Santorini**	**1.90**	**59**	*e*Pb	**Pn**	**22 13 57.4**	**-0.5**
SANT				*e*Sb	**Sb**	**22 14 24.7**	**+0.8**
SANT	**Santorini**	**1.90**	**59**	*e*Pb	**Pn**	**22 13 57.3**	**-0.5**
SANT				*e*Sb	**Sb**	**22 14 24.7**	**+0.7**
THR1	**Thera Island**	**1.90**	**59**	*e*Pb	**Pb**	**22 13 58.6**	**-1.1**
XRY	**Khrisi**	**1.92**	**105**	*e*PG	**Pg**	**22 14 01.0**	**-0.2**
PYL	**PYLOS**	**2.02**	**318**	*e*Pn	**Pb**	**22 14 02.2**	**+0.4**
PYL				*e*Sn	**Sg**	**22 14 30.1**	**+0.8**
DID	**Didima**	**2.10**	**356**	*e*Pn	**Pn**	**22 14 01.2**	**+0.6**
VLX	**Vlachokerasia**	**2.14**	**337**	*e*Pn	**Pn**	**22 14 04.4**	**+3.3**
VLX				*e*Sn	**Sg**	**22 14 40.4**	**+7.4**
ITM	**Ithomi**	**2.15**	**326**	*e*PN	**Pn**	**22 14 02.5**	**+1.3**
ZKR	**Zakros**	**2.29**	**97**	*e*Pn	**Pg**	**22 14 07.9**	**-0.3**
APE	**Apeiranthos**	**2.37**	**45**	*e*PB	**Pn**	**22 14 03.2**	**-1.0**
APE				*e*SN	**Sn**	**22 14 33.4**	**-0.5**
ATH	**Athens Observa**	**2.57**	**5**	*e*PN	**Pn**	**22 14 08.2**	**+1.2**
PTL	**Penteli**	**2.66**	**7**	*e*PN	**Pn**	**22 14 10.0**	**+1.8**
KARP	**Karpathos**	**3.04**	**86**	*e*PN	**Pn**	**22 14 13.8**	**+0.3**
SMG	**Samos**	**3.57**	**49**	*e*PN	**Pn**	**22 14 20.4**	**-0.4**
ARG	**Arkhangelos**	**3.89**	**77**	*e*PN	**Pn**	**22 14 25.5**	**+0.3**

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*ISCJB **25** 22:32:53.7±0.6, 524N±0.1×1763W±0.1, h181km±6km, mb3.4/8, Error ellipse: s-maj=22.1km s-min=10.8km az=155.8*
*MOS **25** 22:32:53.8±1.1, 5250N×17643W, h181km, mb4.0/1, Error ellipse: s-maj=29.5km s-min=18.6km az=70.3*
*NEIC **25** 22:32:55.0±0.8, 5236N×17625W, h181km±8km, mb4.1/2, Error ellipse: s-maj=20.2km s-min=10.2km az=156.0*
*IDC **25** 22:32:54.1±5.5, 5261N×17644W, h170km±50km, mb3.2/8, mb1 3.5/9, mb1mx3.3/24, mbtmp3.2/9, Error ellipse: s-maj=30.5km s-min=14.4km az=173.0*
ISC 25 22:32:54.9±0.6, 524N±01×1763W±01, h178km±6km, n25, σ0=98/24, mb3.4/8, 1C, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ADK	**Adak**	**0.59**	**202**	P	**Pn**	**22 33 19.9**	**+0.1**
ADK				S	**Sn**	**22 33 38.9**	**0.0**
NIKO	**Nikolski**	**4.58**	**80**	Pn	**Pn**	**22 34 03.3**	**0.0**
KDAK	**Kodiak Island**	**14.57**	**59**	P	**Pn**	**22 36 10.1**	**-2.3**
	0.2nm,0.3s,baz=259,slow=10,SNR=3.8						
PMR	**Palmer**	**17.29**	**47**	P	**Pn**	**22 36 50.8**	**+5.5**
	5.8nm,0.7s						
PMR	**Palmer**	**17.29**	**47**	P	**Pn**	**22 36 50.8**	**+5.4**
PMR				pmax	pmax		
	comp=Z,6.0nm,0.7s						
SML	**Sawmill**	**17.72**	**47**	*e*P	**Pn**	**22 36 50.6**	**+0.1**
IMA2	**Indian Mountai**	**17.75**	**31**	*e*P	**Pn**	**22 36 53.0**	**+2.2**
BILL	**Biiibino**	**17.76**	**338**	*e*P	**Pn**	**22 36 50.7**	**-0.2**
	comp=Z,10.0nm,0.9s						
BILL	**Biiibino**	**17.76**	**338⇑**	*i*P	**Pn**	**22 36 50.6**	**-0.2**
BILL				pmax	pmax		
	comp=Z,18nm,1.3s						
COLA	**College**	**19.14**	**38**	P	**P**	**22 37 05.0**	**+0.9**
YKA	**Yellowknife Ar**	**33.39**	**48**	P	**P**	**22 39 15.2**	**-0.7**
YKA	**Yellowknife Ar**	**33.39**	**48**	P	**P**	**22 39 15.2**	**-0.7**
	comp=Z,0.3nm,0.5s,mb3.3,baz=283,slow=8.4,SNR=5.7						
MAJO	**Matsushiro**	**35.46**	**262**	*e*P	**P**	**22 39 34.5**	**+0.5**
MJAR	**Matsushiro Arr**	**35.46**	**262**	P	**P**	**22 39 34.2**	**+0.2**
MJAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
MJAR	**Matsushiro Arr**	**35.46**	**262**	P	**P**	**22 39 34.2**	**+0.2**
	comp=Z,2.0nm,0.6s,mb3.9,baz=46,slow=7.2,SNR=7.5						
PDAR	**Pinedale Array**	**44.54**	**75**	P	**P**	**22 40 47.5**	**-1.2**
	comp=Z,0.3nm,0.4s,mb3.3,baz=280,slow=5.3,SNR=5.4						
PDAR				pP	pP	22 41 28.7	+1.3
	comp=Z,0.3nm,0.5s,baz=299,slow=3.9,SNR=2.8						
PDAR				PcP	PcP	22 42 30.6	+2.2
	comp=Z,0.5nm,0.6s,baz=308,slow=3.3,SNR=6.1						
SONM	**Songino Array**	**47.54**	**297**	P	**P**	**22 41 11.7**	**-0.2**
	comp=Z,0.3nm,0.7s,mb3.0,baz=52,slow=8.6,SNR=3.0						
SONM				PcP	PcP	22 42 37.7	-1.2
	comp=Z,0.2nm,0.6s,baz=58,slow=2.2,SNR=2.8						
TXAR	**Lajitas Array**	**57.00**	**84**	P	**P**	**22 42 23.4**	**+1.6**
	comp=Z,0.2nm,0.5s,mb3.2,baz=322,slow=5.7,SNR=3.2						
TXAR				pP	pP	22 43 02.6	+0.1
	comp=Z,0.2nm,0.6s,baz=316,slow=7.6,SNR=3.4						
MKAR	**Makanchi Array**	**60.56**	**309**	P	**P**	**22 42 44.6**	**-1.5**
MKAR	**Makanchi Array**	**60.56**	**309**	P	**P**	**22 42 44.6**	**-1.5**
	comp=Z,0.2nm,0.3s,mb3.5,baz=61,slow=7.5,SNR=2.6						
WRA	**Warramunga Arr**	**83.84**	**226**	P	**P**	**22 45 03.9**	**-0.3**
	comp=Z,0.4nm,0.4s,mb3.5,baz=32,slow=5.7,SNR=11						
ASAR	**Alice Springs**	**87.31**	**224**	P	**P**	**22 45 21.7**	**+0.5**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ASAR	**Alice Springs**	**87.31**	**224**	P	**P**	**22 45 21.7**	**+0.5**
	comp=Z,0.8nm,0.6s,mb3.7,baz=23,slow=5.3,SNR=11						
MAW	**Mawson**	**148.26**	**219**	PKPbc	PKPbc	22 52 17.8	-0.5
	comp=Z,2.4nm,0.7s,baz=76,slow=2.8,SNR=4.5						
BOSA	**Boshof**	**151.31**	**318**	PKPbc	PKPbc	22 52 25.4	-1.5
	comp=Z,0.9nm,0.5s,baz=140,slow=18,SNR=4.0						

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*CSEM **25** 23:03:25.3±0.6, 3872N×2900W, h0km±9km, ML2.6, Error ellipse: s-maj=12.8km s-min=3.2km az=74.0, After PDA*
*PDA **25** 23:03:25.3±0.6, 3872N×2900W, h0km±9km, MD3.5, ML2.6, Error ellipse: s-maj=12.8km s-min=3.2km az=74.0*
SVSA 25 23:03:25.3±0.6, 3872N×2900W, h0km±9km, MD3.5, ML2.6, Error ellipse: s-maj=12.8km s-min=3.2km az=74.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CALA	**Caldeira**	**0.27**	**121**	*e*P	Pg	23 03 30.5	0.0
CALA				*e*S	Sg	23 03 34.4	+0.4
HOR	**Horta**	**0.35**	**124**	*e*P	Pg	23 03 31.6	-0.3
HOR				*e*S	Sg	23 03 36.6	+0.2
PICO	**Pico**	**0.50**	**116**	*e*P	Pg	23 03 34.6	-0.3
PICO				*e*S	Sg	23 03 41.6	+0.3
ROSA	**Rosais**	**0.59**	**90**	*e*P	Pg	23 03 35.9	-0.7
ROSA				*e*S	Sg	23 03 43.6	-0.7
PMAN	**Manadas**	**0.72**	**97**	*e*P	Pg	23 03 37.6	-1.4
PMAN				*e*S	Sg	23 03 46.8	-1.5
PMAN				A		23 03 47.9	
	183nm,0.4s						
PMAN	**Manadas**	**0.72**	**97**	*e*P	Pg	23 03 37.6	-1.4
PMAN				*e*S	Sg	23 03 46.8	-1.5

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*MOS **25** 23:12:25.7±1.0, 3571N×14086E, h50km, mb4.3/2, Error ellipse: s-maj=19.7km s-min=14.1km az=122.5*
*ISCJB **25** 23:12:26.1±0.5, 3569N±004×14082E±007, h55km±4km, mb3.6/8, Error ellipse: s-maj=9.0km s-min=6.2km az=169.4*
*NEIC **25** 23:12:27.8±1.4, 3570N×14076E, h49km±13km, mb4.1/2, Error ellipse: s-maj=14.2km s-min=11.3km az=125.0*
*JMA **25** 23:12:27.0±0.1, 3567N×14073E, h47km±1km, M3.2 Broadband fault plane solution: P waves. NP1: φs=185.00000°, λ10.00000°, λ70.00000°. NP2: φs=26.00000°, δ81.00000°, λ93.00000°. Principal axes: T Plg54.0000°, Azm300.0000°; N Plg3.0000°, Azm205.0000°; P Plg36.0000°, Azm113.0000°;*
JMA Felt I J1.
*IDC **25** 23:12:36.2±1.5, 3527N×13953E, h91km±13km, mb3.2/6, mb1 3.4/7, mb1mx3.3/21, mbtmp3.2/7, MS2.8/1, Ms1 2.8/1, ms1mx2.4/13 Error ellipse: s-maj=37.8km s-min=10.4km az=71.0*
ISC 25 23:12:27.3±0.5, 3568N±004×14078E±006, h45km±4km, n31, σ0=81/35, mb3.6/8, 4D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.07**	**72**	⇓ P	**Pn**	**23 12 34.5**	**+0.1**
CHOJ				S	**Sn**	**23 12 39.9**	**+0.5**
JCN	**Nagara**	**0.54**	**241**	⇓ P	**Pn**	**23 12 38.6**	**-0.1**
JYT	**Yasato**	**0.72**	**319**	⇓ P	**Pn**	**23 12 40.8**	**-0.3**
BSO4	**Boso 4**	**0.78**	**208**	P	**Pn**	**23 12 41.6**	**-0.3**
BSO3	**Boso 3**	**0.90**	**194**	P	**Pn**	**23 12 43.4**	**-0.2**
JHO	**Hitachi**	**0.94**	**350**	⇓ P	**Pn**	**23 12 44.4**	**+0.3**
BSO1	**Boso 1**	**1.04**	**171**	P	**Pn**	**23 12 45.0**	**-0.4**
JAG	**Ashikaga**	**1.30**	**305**	P	**Pn**	**23 12 48.6**	**-0.5**
MJAR	**Matsushiro Arr**	**2.25**	**293**	P	**Pn**	**23 13 02.8**	**+0.8**
MJAR				pmax	pmax		
	comp=Z,7.0nm,0.3s						
MJAR	**Matsushiro Arr**	**2.25**	**293**	P	**Pn**	**23 13 02.8**	**+0.8**
	comp=Z,7.3nm,0.3s,baz=98,slow=14,SNR=43						
MAJO	**Matsushiro**	**2.25**	**293**	*e*Pn	**Pn**	**23 13 02.9**	**+0.8**
MAJO				Sn	**Sn**	**23 13 26.8**	**-1.8**
MAT	**Matsushiro**	**2.25**	**293**	P	**Pn**	**23 13 03.2**	**+1.2**
MAT				*e*S	**Sn**	**23 13 29.5**	**+0.9**
JHJ	**Hachijo jima 2**	**2.68**	**198**	P	**Pn**	**23 13 09.3**	**+1.3**
	comp=Z,63nm,0.3s,baz=36,slow=12,SNR=12						
JHJ				S	**Sn**	**23 13 37.7**	**-1.5**
	comp=Z,97nm,0.3s,baz=245,slow=23,SNR=9.8						
ERM	**Erimo**	**6.59**	**16**	Pn	**Pn**	**23 14 01.1**	**-0.5**
ERM				Sn	**Sn**	**23 15 14.1**	**-1.2**
KSRS	**Korea Array**	**10.49**	**283**	LR	LR	23 18 40.5	
	comp=Z,57nm,20.7s,baz=173,slow=38						
NACB	**Ninganchiao**	**20.16**	**241**	P	**P**	**23 16 56.5**	**-1.4**
PET	**Petropavlovsk**	**21.44**	**30**	*e*P	**P**	**23 17 11.5**	**+0.1**
SONM	**Songino Array**	**28.14**	**306**	P	**P**	**23 18 14.7**	**-0.3**
	comp=Z,0.2nm,0.4s,mb3.1,baz=104,slow=10,SNR=3.4						
LSA	**Lhasa**	**41.83**	**276**	*e*P	**P**	**23 20 12.1**	**-0.8**
ZALV	**Zalesovo Beam**	**42.46**	**313**	P	**P**	**23 20 17.9**	**+0.3**
	comp=Z,0.7nm,0.6s,mb3.5,baz=84,slow=13,SNR=3.1						
ZAL	**Zalesovo**	**42.47**	**313**	P	**P**	**23 20 17.9**	**+0.2**
MKAR	**Makanchi Array**	**44.41**	**303**	P	**P**	**23 20 33.9**	**+0.5**
MKAR	**Makanchi Array**	**44.41**	**303**	P	**P**	**23 20 33.9**	**+0.5**
	comp=Z,0.3nm,0.3s,mb3.5,baz=87,slow=10,SNR=5.3						
KURK	**Kurchatov**	**46.37**	**309**	P	**P**	**23 20 49.2**	**+0.3**
FITZ	**Fitzroy Crossi**	**55.38**	**198**	*e*P	**P**	**23 21 57.4**	**+0.6**
	comp=Z,1.6nm,0.5s,mb4.3						
WRAB	**Tennant Creek**	**55.64**	**187**	*e*P	**P**	**23 22 00.0**	**+1.3**
	comp=Z,0.9nm,0.6s,mb4.0						
WRAB	**Tennant Creek**	**55.64**	**187**	*e*P	**P**	**23 22 00.0**	**+1.3**
WRAB				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb4.0						
WRA	**Warramunga Arr**	**55.65**	**187**	P	**P**	**23 21 57.8**	**-1.0**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.3s						
WRA	**Warramunga Arr**	**55.65**	**187**	P	**P**	**23 21 57.8**	**-1.0**
	comp=Z,0.6nm,0.3s,mb4.1,baz=1.1,slow=7.9,SNR=22						
ASAR	**Alice Springs**	**59.38**	**187**	P	**P**	**23 22 25.9**	**+1.0**
	comp=Z,0.2nm,0.5s,mb3.4,baz=19,slow=12,SNR=4.4						
YKA	**Yellowknife Ar**	**65.24**	**30**	P	**P**	**23 23 13.6**	**+10**
	comp=Z,0.2nm,0.7s,mb3.2,baz=299,slow=6.5,SNR=4.4						

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*ISCJB **25** 23:25:22.6±1.6, 227S±0.1×17998E±0.10, h518km±21km, mb4.4/19, Error ellipse: s-maj=20.0km s-min=10.8km az=148.5*
*NEIC **25** 23:25:23.4±1.1, 2281S×17991W, h519km±13km, mb4.6/14, Error ellipse: s-maj=15.5km s-min=8.5km az=150.0*
*IDC **25** 23:25:25.5±1.8, 2290S×17989W, h546km±17km, mb3.5/7, mb1 3.8/8, mb1mx3.5/15, mbtmp3.4/8, Error ellipse: s-maj=26.4km s-min=16.9km az=161.0*
ISC 25 23:25:23.1±1.4, 228S±01×17994W±010, h512km±18km, n44, σ0=93/32, mb4.4/19, 1C-3D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**11.75**	**43**	*e*P	**P**	**23 27 58.6**	**-0.5**
URZ	**Urewera**	**15.62**	**189**	P	**P**	**23 28 39.6**	**+0.2**
	0.4nm,0.3s,baz=304,slow=3.6,SNR=4.2						
HNR	**Honiara**	**23.41**	**301**	*e*P	**P**	**23 29 50.9**	**-1.0**
	48nm,0.6s,mb5.3						
ARMA	**Armidale**	**26.48**	**247**	*e*P	**P**	**23 30 20.7**	**+1.7**
CNB	**Canberra Magne**	**29.46**	**238**	*e*P	**P**	**23 30 46.2**	**+1.2**
	19nm,0.7s,mb4.8						
CTA	**Charters Tower**	**31.54**	**268**	⇓ *i*P	**P**	**23 31 05.0**	**+1.9**
	38nm,0.3s,mb5.4						
CTAO	**Charters Tower**	**31.54**	**268**	*e*P	**P**	**23 31 05.0**	**+1.8**
	51nm,0.4s,mb5.4						
TAU	**Tasmania Unive**	**33.73**	**226**	*e*P	**P**	**23 31 21.0**	**-0.4**
	4.6nm,0.4s,mb4.4						
STKA	**Stephens Creek**	**35.19**	**247**	*e*P	**P**	**23 31 34.4**	**+0.5**
	5.4nm,0.6s,mb4.2						
STKA	**Stephens Creek**	**35.19**	**247**	P	**P**	**23 31 34.5**	**+0.6**
	6.8nm,0.6s,mb4.4,baz=86,slow=9.4,SNR=21						
ASAR	**Alice Springs**	**42.28**	**259**	P	**P**	**23 32 31.8**	**+0.4**
	12nm,0.8s,mb4.5,baz=94,slow=8.0,SNR=107						
ASAR				ScP	ScP	23 37 12.4	-3.0
	1.1nm,1.0s,baz=96,slow=4.1,SNR=4.8						
WB2	**Warramunga Arr**	**42.53**	**265**	⇓ *i*P	**P**	**23 32 33.4**	**-0.1**
WB2	**Warramunga Arr**	**42.53**	**265**	*e*P	**P**	**23 32 33.5**	**-0.1**
WRAB	**Tennant Creek**	**42.54**	**265**	*e*P	**P**	**23 32 33.4**	**-0.1**
	22nm,1.0s,mb4.6						
WRA	**Warramunga Arr**	**42.55**	**265**	P	**P**	**23 32 33.6**	**0.0**
	5.9nm,0.4s,mb4.5,baz=96,slow=8.3,SNR=274						
WRA				ScP	ScP	23 37 13.2	-3.3
	1.2nm,0.8s,baz=96,slow=4.1,SNR=12						
KAKA	**Kakadu**	**46.27**	**274**	*e*P	**P**	**23 33 02.6**	**+0.1**
	11nm,0.3s,mb4.9						
KAKA	**Kakadu**	**46.27**	**274**	*e*P	**P**	**23 33 02.4**	**-0.1**
FORT	**Forrest**	**46.75**	**249**	*e*P	**P**	**23 33 04.9**	**-1.0**
	43nm,0.6s,mb5.2						
FITZ	**Fitzroy Crossi**	**50.97**	**265**	⇓ *i*P	**P**	**23 33 37.5**	**+0.1**
	8.3nm,0.4s,mb4.4						
FITZ	**Fitzroy Crossi**	**50.97**	**265**	*e*P	**P**	**23 33 37.8**	**+0.4**
	11nm,0.6s,mb4.4						
KLBR	**Kellerberrin**	**55.47**	**247**	*e*P	**P**	**23 34 07.9**	**-1.4**
	9.5nm,0.6s,mb4.2						
VNDA	**Vanda**	**55.48**	**185**	P	**P**	**23 34 07.3**	**-1.3**
	0.6nm,0.7s,baz=33,slow=9.2,SNR=4.6						
MBWA	**Marble Bar**	**55.62**	**

*IDC **25** 23:47:07.6±0.9, 4029N×7780E, h0km, mb3.9/10, mb1 4.1/15, mb1mx4.0/25, mbtmp4.0/15, ML3.9/5, MS3.2/8, Ms1 3.3/8, ms1mx3.2/34, Error ellipse: s-maj=18.4km s-min=12.1km az=34.0*

*ISCJB **25** 23:47:08.3±0.9, 4026N±002×7789E±003, h15km±6km, mb4.2/23, MS3.4/5, Error ellipse: s-maj=4.2km s-min=3.5km az=166.3*

*BJI **25** 23:47:10.4, 4035N×7785E, h22km, mB4.7, mb4.4, ML4.5, Ms3.9, Msz3.7*

*MOS **25** 23:47:12.2±1.5, 4048N×7790E, h33km, mb4.2/12, Error ellipse: s-maj=10.4km s-min=5.9km az=101.1*

*NNC **25** 23:47:12.4±5.3, 4057N×7792E, h20km±22km, mb4.6, mpv4.8, Error ellipse: s-maj=37.6km s-min=17.1km az=143.0*

*NEIC **25** 23:47:13.5±2.3, 4045N×7790E, h30km±17km, mb4.3/4, Error ellipse: s-maj=9.1km s-min=7.1km az=169.0*

ISC 25 23:47:09.7±0.9,**4032N**±002×**7789E**±003,**h8**km±6km,**n120,** σ1§**43**/150,**mb4.2**/23,**MS3.4**/5,**22C-7D, Kyrgyzstan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**1.67**	**242**	⇑*i*PG	**Pg**	**23 47 40.8**	**-1.0**
KSH				SG	**Sg**	**23 48 03.0**	**-0.5**
KSH				Smax			
	comp=N,17μm,0.5s						
KSH				Smax			
	comp=E,32μm,0.7s						
ULHL	**Ulahol**	**2.29**	**328**	P	**Pn**	**23 47 49.7**	**+2.0**
	SNR=2144						
KZA	**Kyzart**	**2.65**	**312**	P	**Pn**	**23 47 54.5**	**+1.8**
	SNR=221						
KNDC	**Almaty**	**2.98**	**347**	⇑Pn	**Pn**	**23 47 59.5**	**+2.3**
	comp=E,314nm,0.2s						
KNDC				⇑Pg	**Pg**	**23 48 03.0**	**-3.8**
	comp=E,2μm,0.6s						
KNDC				⇑Lg		23 48 42.9	
	comp=E,2μm,0.3s						
AAA	**Alma-Ata**	**3.03**	**347**	*e*PN	**Pn**	**23 48 03.2**	**+5.2**
AAA				*e*		23 48 42.0	
AAA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
AAA				smax			
	comp=E,3.0nm,0.8s						
TKM2	**Tokmak 2**	**3.12**	**327**	⇑Pn	**Pn**	**23 48 01.1**	**+2.0**
	comp=E,208nm,0.5s						
TKM2				⇑Pg	**Pg**	**23 48 04.9**	**-4.5**
	comp=E,656nm,0.6s						
TKM2				⇑Lg		23 48 44.4	
	comp=E,2μm,0.7s						
TKM2	**Tokmak 2**	**3.12**	**327**	*e*Pn	**Pn**	**23 48 01.1**	**+2.0**
TKM2				*e*Sn	**Sn**	**23 48 36.5**	**+0.1**
TKM2	**Tokmak 2**	**3.12**	**327**	P	**Pn**	**23 48 01.3**	**+2.3**
	SNR=217						
UCH	**Uchtor**	**3.18**	**308**	*e*Pn	**Pn**	**23 48 01.7**	**+1.8**
UCH				*e*Sn	**Sn**	**23 48 39.9**	**+2.0**
UCH	**Uchtor**	**3.18**	**308**	P	**Pn**	**23 48 01.8**	**+1.9**
	SNR=352						
KBK	**Karagaybulak**	**3.21**	**318**	P	**Pn**	**23 48 02.6**	**+2.1**
	SNR=114						
AAK	**Ala-Archa**	**3.44**	**313**	*e*Pn	**Pn**	**23 48 04.7**	**+1.1**
AAK				*e*Sn	**Sn**	**23 48 42.1**	**-2.3**
AAK	**Ala-Archa**	**3.44**	**313**	Pn	**Pn**	**23 48 04.7**	**+1.1**
	comp=E,22nm,0.3s,baz=121,slow=8.2,SNR=174						
AAK				Pg	**Pg**	**23 48 09.1**	**-6.6**
	comp=E,141nm,0.3s,baz=133,slow=13,SNR=167						
AAK				Lg		23 48 53.5	
	comp=E,214nm,0.3s,baz=320,slow=19,SNR=28						
AAK				LR	LR	23 49 23.8	
	comp=E,327nm,19.4s,baz=124,slow=40						
AAK	**Ala-Archa**	**3.44**	**313**	P	**Pn**	**23 48 05.7**	**+2.1**
	SNR=50						
FRU	**Bishkek**	**3.51**	**317**	*i* PN	**Pn**	**23 48 06.8**	**+2.3**
FRU				*i*		23 48 12.5	
FRU				*i* S	**Sn**	**23 48 57.0**	**+11**
FRU				pmax	pmax		
	comp=Z,620nm,1.9s						
FRU				smax			
	comp=N,3μm,1.4s						
CHMS	**Chumysh**	**3.56**	**320**	P	**Pn**	**23 48 07.1**	**+1.9**
	SNR=87						
AML	**Almayashu**	**3.64**	**301**	*e*Pn	**Pn**	**23 48 08.1**	**+1.7**
AML				*e*Sn	**Sn**	**23 48 48.8**	**-0.6**
AML	**Almayashu**	**3.64**	**301**	P	**Pn**	**23 48 08.9**	**+2.5**
	SNR=62						
EKS2	**Erkin-Say**	**3.87**	**309**	*e*Pn	**Pn**	**23 48 11.7**	**+2.2**
EKS2				*e*Sn	**Sn**	**23 48 55.8**	**+0.7**
EKS2	**Erkin-Say**	**3.87**	**309**	P	**Pn**	**23 48 11.9**	**+2.5**
	SNR=118						
USP	**Ospenovka**	**3.88**	**320**	P	**Pn**	**23 48 11.3**	**+1.7**
	SNR=16						
KK31	**Karatay Array**	**6.18**	**299**	⇑Pn	**Pn**	**23 48 41.4**	**+0.2**
	comp=N,2.1nm,0.4s,baz=118,slow=12,SNR=66						
KK31				Pg	**Pg**	**23 49 00.8**	**-7.3**
	comp=N,22nm,0.5s,baz=143,slow=19,SNR=20						
KK31				⇑Lg		23 50 18.7	
	comp=N,190nm,0.8s,baz=105,slow=28,SNR=7.2						
KK31	**Karatay Array**	**6.18**	**299**	*i* PN	**Pn**	**23 48 41.4**	**+0.2**
KK31				pmax	pmax		
	comp=Z,2.0nm,0.3s						
MK31	**Makanchi Array**	**7.22**	**25**	Pn	**Pn**	**23 48 56.2**	**+0.7**
	comp=Z,25nm,0.7s,baz=198,slow=13,SNR=250						
MK31				⇑Sn	**Sn**	**23 50 16.4**	**-1.1**
	comp=Z,13nm,0.5s,baz=199,slow=21,SNR=4.7						
MK31				⇓Lg		23 50 48.5	
	comp=Z,66nm,0.7s,baz=203,slow=26,SNR=3.9						
MK31	**Makanchi Array**	**7.22**	**25**	*e*Pn	**Pn**	**23 48 55.9**	**+0.5**
MK31				*e*Sn	**Sn**	**23 50 13.1**	**-4.4**
MKAR	**Makanchi Array**	**7.22**	**25**	PN	**Pn**	**23 48 56.3**	**+0.9**
MKAR						23 50 18.0	
MKAR				pmax	pmax		
	comp=Z,5.0nm,0.3s						
MKAR				smax			
	comp=N,4.0nm,0.3s						
MKAR				MLR	MLR		
	comp=Z,112nm,19.7s						
MKAR	**Makanchi Array**	**7.22**	**25**	Pn	**Pn**	**23 48 56.3**	**+0.9**
	comp=Z,5.2nm,0.3s,baz=193,slow=12,SNR=148						
MKAR				Sn	**Sn**	**23 50 17.9**	**+0.4**
	comp=Z,4.3nm,0.3s,baz=207,slow=24,SNR=6.6						
MKAR				Lg		23 50 51.0	
	comp=Z,4.9nm,0.3s,baz=200,slow=27,SNR=6.7						
MKAR				LR	LR	23 52 11.2	
	comp=Z,112nm,19.7s,baz=202,slow=42						
CHCP	**Chirah Chowk**	**7.60**	**211**	⇑P	**Pn**	**23 49 03.2**	**+2.4**
DLH	**Dalhousie**	**7.91**	**192**	*e*P	**Pn**	**23 49 06.0**	**+1.0**
DLH				*e*S	**Sn**	**23 50 34.0**	**-0.7**
THN	**Thein Dam**	**8.06**	**193**	*e*P	**Pn**	**23 49 07.2**	**+0.2**
THN				*e*S	**Sn**	**23 50 37.8**	**-0.5**
WMQ	**Urumqi**	**8.09**	**61**	*e*P	**Pn**	**23 49 09.3**	**+1.9**
WMQ				S	**Sn**	**23 50 45.0**	**+6.0**
WMQ				Smax			
	comp=N,155nm,1.0s						
WMQ				Smax			
	comp=E,212nm,0.9s						
WMQ				LR	LR		
	comp=N,947nm,3.6s						
WMQ				LR	LR		
	comp=E,483nm,3.0s						
KLP	**Kalpa**	**8.77**	**178**	*e*P	**Pn**	**23 49 16.8**	**0.0**
KLP				*e*S	**Sn**	**23 50 50.7**	**-5.1**
KLP				AML	AML	23 50 58.9	
	comp=E,264nm,0.7s						
KLP				AML	AML	23 51 08.3	
	comp=N,229nm,0.9s						
SDNR	**Sundarnagar**	**8.83**	**185**	*e*P	**Pn**	**23 49 19.0**	**+1.4**
SDNR				*e*S	**Sn**	**23 50 52.0**	**-5.2**
BHK	**Bhakra**	**8.96**	**188**	*e*P	**Pn**	**23 49 18.8**	**-0.6**
THW	**Thamme Wali**	**8.98**	**215**	P	**Pn**	**23 49 19.6**	**-0.1**
KBL	**Kabul**	**9.09**	**233**	*e*Pn	**Pn**	**23 49 22.0**	**+0.9**
	comp=N,19nm,0.4s						
KBL				*e*Sn	**Sn**	**23 50 59.9**	**-3.7**
JOSI	**Joshimath**	**9.84**	**172**	*e*P	**Pn**	**23 49 30.6**	**-0.7**
JOSI				*e*S	**Sn**	**23 51 16.2**	**-5.7**
JOSI				AML	AML	23 51 26.6	
	comp=E,186nm,0.7s						
JOSI				AML	AML	23 51 27.2	
	comp=N,145nm,0.9s						
DDI	**Dehra Dun**	**9.97**	**179**	*e*P	**Pn**	**23 49 32.2**	**-1.1**
DDI				*ex*	x	23 51 25.2	
KURBB	**Kurchatov Arra**	**10.32**	**2**	⇓Pn	**Pn**	**23 49 37.6**	**-0.2**
	comp=N,1.6nm,0.8s						
KURBB				⇓Lg		23 52 30.2	
	comp=N,23nm,0.8s						
KURK	**Kurchatov**	**10.41**	**3**	⇑Pn	**Pn**	**23 49 38.8**	**-0.4**
KURK				⇑Lg		23 52 34.2	
	comp=N,335nm,1.9s						
KURK	**Kurchatov**	**10.41**	**3**	*e*Pn	**Pn**	**23 49 38.6**	**-0.6**
KURK							
	comp=N,16nm,0.8s						
KURK				*e*Sn	**Sn**	**23 51 31.4**	**-4.5**
KURK	**Kurchatov**	**10.41**	**3**	*e*P	**Pn**	**23 49 38.6**	**-0.6**
KURK				*e*		23 51 31.4	
KURK				pmax	pmax		
	comp=Z,16nm,0.8s						
DRP	**Derazinda**	**10.57**	**218**	P	**Pn**	**23 49 41.3**	**-0.1**
PTH	**Pithoragarh**	**10.91**	**169**	*ex*	x	23 49 56.9	
PTH				*ex*	x	23 51 45.1	
NDI	**New Delhi**	**11.62**	**183**	*e*P	**Pn**	**23 49 53.0**	**-2.8**
NDI				*e*S	**Sn**	**23 51 56.0**	**-10**
SONA	**Sohna**	**12.06**	**183**	*e*P	**Pn**	**23 50 01.6**	**-0.2**
SONA				*e*S	**Sn**	**23 52 06.8**	**-10**
SONA				AML	AML	23 52 11.9	
	comp=E,74nm,0.4s						
SONA				AML	AML	23 52 15.9	
	comp=N,49nm,0.5s						
KUDL	**Kundal**	**12.20**	**186**	*e*P	**Pn**	**23 50 01.6**	**-2.1**
KUDL				*e*S	**Sn**	**23 52 10.6**	**-9.2**
KUDL				AML	AML	23 52 20.9	
	comp=N,24nm,0.6s						
KHET	**Khetri**	**12.33**	**189**	*e*P	**Pn**	**23 50 03.5**	**-2.0**
KHET				*e*S	**Sn**	**23 52 12.7**	**-10**
KHET				AML	AML	23 52 20.8	
	comp=E,35nm,0.3s						
KHET				AML	AML	23 52 21.0	
	comp=N,27nm,0.5s						
VOSK	**Vostochnaya**	**13.28**	**341**	⇑Pn	**Pn**	**23 50 16.2**	**-2.1**
VOSK				⇑Lg		23 54 01.1	
	comp=N,14nm,1.1s						
BVA0	**Borovoye Array**	**13.70**	**341**	⇑Pn	**Pn**	**23 50 21.5**	**-2.6**
	comp=N,9.0nm,0.6s						
BVA0				⇓Lg		23 54 17.4	
	comp=N,2.4nm,0.8s,baz=151,slow=15,SNR=51						
BVAR	**Borovoye Array**	**13.70**	**341**	Pn	**Pn**	**23 50 21.5**	**-2.6**
BVAR				Lg		23 54 15.6	
	comp=N,14nm,1.4s,baz=151,slow=25,SNR=8.3						
BRVK	**Borovoye**	**13.76**	**340**	*e*Pn	**Pn**	**23 50 22.6**	**-2.3**
BRVK				*e*Sn	**Sn**	**23 52 55.1**	**-2.7**
BRVK	**Borovoye**	**13.76**	**340**	*e*P	**Pn**	**23 50 22.6**	**-2.3**
BRVK				*e*		23 52 55.1	
BRVK				pmax	pmax		
	comp=N,0.9nm,0.3s,baz=152,slow=13,SNR=48						
	comp=N,0.9nm,0.3s,baz=151,slow=22,SNR=5.0						
BVAR				LR	LR	23 55 49.4	
	comp=N,133nm,20.9s,baz=151,slow=38						
	comp=N,24nm,0.8s						
ZRNK	**Zerenda**	**14.02**	**337**	⇓Pn	**Pn**	**23 50 26.1**	**-2.3**
	comp=Z,6.3nm,0.7s						
ZRNK				⇑Lg		23 54 26.7	
	comp=Z,91nm,1.4s						
AJM	**Ajmer**	**14.06**	**192**	*i* P	**Pn**	**23 50 33.0**	**+3.8**
CHKZ	**Chkalovo**	**14.24**	**342**	⇑Pn	**Pn**	**23 50 28.6**	**-2.9**
	comp=Z,6.2nm,0.8s						
CHKZ				⇓Lg		23 54 30.8	
	comp=Z,57nm,1.1s						
ZAL	**Zalesovo**	**14.40**	**17**	P	**Pn**	**23 50 31.9**	**-1.8**
ZAA0	**Zalesovo Array**	**14.42**	**17**	*e*Pn	**Pn**	**23 50 33.4**	**-0.5**
ZALV	**Zalesovo Beam**	**14.42**	**17**	Pn	**Pn**	**23 50 31.9**	**-2.0**
ZALV				Lg		23 54 43.9	
ZALV				LR	LR	23 56 20.7	
ZALV	**Zalesovo Beam**	**14.42**	**17**	Pn	**Pn**	**23 50 31.9**	**-1.9**
	comp=Z,0.4nm,0.3s,baz=208,slow=13,SNR=8.8						
ZALV				Lg		23 54 43.9	
	comp=Z,0.3nm,0.3s,baz=191,slow=29,SNR=4.0						
ZALV				LR	LR	23 56 20.7	
	comp=Z,51nm,18.3s,baz=234,slow=38						
NVS	**Novosibirsk**	**14.96**	**12**	*e*P	**Pn**	**23 50 42.9**	**+1.6**
AB31	**Akbulak array**	**15.53**	**311**	Pn	**Pn**	**23 50 46.0**	**-2.8**
	comp=Z,2.9nm,0.6s,baz=115,slow=12,SNR=34						
AB31				⇑Lg		23 55 11.8	
	comp=Z,12nm,1.1s,baz=104,slow=24,SNR=4.7						
GTA	**Gaotai**	**16.86**	**86**	*e*P	**Pn**	**23 51 04.3**	**-1.7**
GTA				AP	pP	23 51 09.8	-0.6
GTA				XP	sP	23 51 12.8	+1.3
GTA				PP		23 51 19.8	
GTA				S	**Sn**	**23 54 11.8**	**-1.6**
GTA				XS	sS	23 54 20.0	-7.7
GTA				SS		23 54 32.3	
GTA				AMB	AMB		
	comp=Z,7.0nm,0.7s						
GTA				AMB	AMB		
	comp=Z,73nm,5.7s						
GTA				LR	LR		
	comp=N,202nm,15.6s						
GTA				LR	LR		
	comp=E,233nm,13.3s						
GTA				LR	LR		
	comp=Z,195nm,14.8s						
AKTK	**Aktyubinsk**	**17.19**	**313**	P	**Pn**	**23 51 09.2**	**-0.8**
AKTK				Lg		23 56 12.1	
AKTK				LR	LR	23 57 26.0	
AKTO	**Aktyubinsk**	**17.19**	**313**	⇓Pn	**Pn**	**23 51 09.2**	**-0.7**
	comp=Z,0.3nm,1.1s						
AKTO				⇑Lg		23 56 16.4	
	comp=Z,3.1nm,2.0s						
AKTO	**Aktyubinsk**	**17.19**	**313**	P	**Pn**	**23 51 09.2**	**-0.8**
	comp=Z,0.3nm,0.3s,baz=120,slow=14,SNR=13						
AKTO				Lg		23 56 12.1	
	comp=Z,0.2nm,0.3s,baz=76,slow=12,SNR=3.0						
AKTO				LR	LR	23 57 26.0	
	comp=Z,71nm,18.2s,baz=118,slow=36						
MOY	**Mondy**	**19.57**	**47**	*e*P	**Pn**	**23 51 39.3**	**+0.2**
SVE	**Sverdlovsk**	**19.98**	**332**	*e*P	**Pn**	**23 51 42.9**	**-1.0**
SVE				pmax	pmax		
	comp=Z,14nm,1.4s						
ZAK	**Zakamensk**	**20.40**	**52**	*e*P	**P**	**23 51 47.5**	**+0.7**
ZAK				pmax	pmax		
	comp=Z,9.0nm,1.0s						
ARU	**Arti**	**20.49**	**328**	*e*Pn	**P**	**23 51 47.5**	**-0.2**
	comp=Z,6.8nm,0.7s						
ARU				*e*Sn	**S**	**23 55 31.5**	**-5.5**
ARU	**Arti**	**20.49**	**328**	*c iP*	**P**	**23 51 46.7**	**-1.1**
ARU				*e*		23 52 03.6	
ARU				*e*PPP		23 52 12.1	
ARU				*e*S	**S**	**23 55 31.2**	**-5.8**
ARU				*e*SS		23 55 49.1	
ARU				pmax	pmax		
	comp=Z,8.0nm,1.7s						
LZH	**Lanzhou**	**20.80**	**93**	*e*P	**P**	**23 51 52.0**	**+0.6**
LZH				AMB	AMB		
	comp=Z,14nm,1.1s						
LZH				AMB	AMB		
	comp=Z,75nm,4.3s						
TLY	**Talaya**	**21.08**	**49**	*e*P	**P**	**23 52 00.6**	**+6.4**
TLY				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb3.9						
TLY				MLR	MLR		
	comp=Z,64nm,17.0s,MS3.1						
SONM	**Songino Array**	**21.73**	**60**	P	**P**	**23 52 01.8**	**+0.6**
SONM				pmax	pmax		
	comp=Z,5.0nm,0.7s						
SONM				MLR	MLR		
	comp=Z,87nm,20.2s						
SONM	**Songino Array**	**21.73**	**60**	P	**P**	**23 52 01.8**	**+0.6**
	comp=Z,4.6nm,0.7s,mb4.0,baz=258,slow=11,SNR=56						
SONM				LR	LR	00 01 46.8	
	comp=Z,87nm,20.2s,MS3.1,baz=268,slow=40						
ULN	**Ulaanbaatar**	**22.17**	**60**	*e*P	**P**	**23 52 06.4**	**+0.5**
	comp=Z,8.7nm,0.9s,mb4.2						
ULN	**Ulaanbaatar**	**22.17**	**60**	*e*P	**P**	**23 52 06.4**	**+0.5**
ULN				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.2						
HYB	**Hyderabad**	**22.83**	**178**	*e*P	**P**	**23 52 15.0**	**+1.9**
HYB				*e*S	S	23 56 47.5	+25
HYB	**Hyderabad**	**22.83**	**178**	*i* P	**P**	**23 52 17.5**	**+4.4**
HYB				*e*S	**S**	**23 56 23.0**	**+0.2**
XAN	**Xi'an**	**25.43**	**94**	P	**P**	**23 52 39.5**	**+1.7**
XAN				AP	pP	23 52 48.0	+7.7
XAN				AMB	AMB		
	comp=Z,6.0nm,0.9s,mb4.1						
KIV	**Kislovodsk**	**26.23**	**290**	P	**P**	**23 52 46.2**	**+1.3**
KIV	**Kislovodsk**	**26.23**	**290**	*e*P	**P**	**23 52 43.6**	**-1.4**
KIV				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb3.8						
KIV				MLR	MLR		
	comp=Z,114nm,13.0s,MS3.6						
BOD	**Bodaibo**	**28.96**	**41**	*e*P	**P**	**23 53 08.4**	**-0.8**
BOD				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.1						
ANN	**Anapa**	**29.91**	**292**	*e*P	**P**	**23 53 22.1**	**+4.3**
ANN				pmax	pmax		
	comp=Z,52nm,1.7s,mb5.0						
HIA	**Hailar**	**30.68**	**59**	*e*P	**P**	**23 53 25.3**	**+0.8**
OBN	**Obninsk**	**30.97**	**313**	P	**P**	**23 53 28.4**	**+1.4**
OBN	**Obninsk**	**30.97**	**313**	*e*P	**P**	**23 53 29.8**	**+2.8**
OBN				pmax	pmax		
	comp=Z,4.0nm,1.2s,mb4.1						
NJ2	**Nanjing**	**33.84**	**91**	*e*P	**P**	**23 53 55.0**	**+2.5**
NJ2				AMB	AMB		
	comp=Z,20nm,1.3s,mb4.9						
SNY	**Shenyang**	**34.17**	**72**	⇑P	**P**	**23 53 57.8**	**+2.6**
SNY				AMB	AMB		
	comp=Z,5.0nm,0.5s,mb4.7						
SNY				AMB	AMB		
	comp=Z,92nm,6.1s						
JOF	**Joensuu**	**35.55**	**325**	*e*p	**P**	**23 54 05.9**	**-1.0**
	comp=Z,2.5nm,0.4s,mb4.5						
FINES	**FINESS Array B**	**37.59**	**322**	P	**P**	**23 54 23.8**	**-0.5**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.7s						
FINES	**FINESS Array B**	**37.59**	**322**	P	**P**	**23 54 23.8**	**-0.6**
	comp=Z,2.3nm,0.7s,mb4.0,baz=106,slow=8.9,SNR=14						
YAK	**Yakutsk**	**37.69**	**37**	*e*P	**P**	**23 54 25.5**	**+0.4**
YAK				pmax	pmax		
	comp=Z,18nm,0.7s,mb4.9						
KSRS	**Korea Array**	**38.64**	**78**	P	**P**	**23 54 33.6**	**+0.1**
	comp=Z,1.1nm,0.5s,mb3.8,baz=279,slow=9.7,SNR=3.5						
KWP	**Kalwaria**	**39.33**	**303**	*e*P	**P**	**23 54 39.2**	**+0.1**
KEV	**Kevo**	**39.46**	**335**	*e*p	**P**	**23 54 37.3**	**-2.6**
	comp=Z,7.7nm,0.9s,mb4.4						
KEV	**Kevo**	**39.46**	**335**	*e*P	**P**	**23 54 37.3**	**-2.6**
KEV				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.5						
ARCES	**ARCESS Array B**	**39.87**	**334**	P	**P**	**23 54 42.9**	**-0.4**
ARCES	**ARCESS Array B**	**39.87**	**334**	P	**P**	**23 54 42.9**	**-0.4**
ARCES				pmax	pmax		
	comp=Z,3.0nm,0.6s						
ARCES	**ARCESS Array B**	**39.87**	**334**	P	**P**	**23 54 42.9**	**-0.4**
	comp=Z,2.6nm,0.6s,mb4.1,baz=100,slow=8.0,SNR=17						
TIXI	**Tiksi**	**40.20**	**22**	*e*P	**P**	**23 54 45.4**	**-0.7**
	comp=Z,4.6nm,0.4s,mb4.6						
TIXI	**Tiksi**	**40.20**	**22**	*e*P	**P**	**23 54 45.4**	**-0.7**
TIXI				pmax	pmax		
	comp=Z,5.0nm,0.4s,mb4.6						
GVD	**Gavdhos**	**42.44**	**280**	P	**P**	**23 55 07.1**	**+2.2**
NB2	**NORSAR Subarra**	**44.73**	**321**	P	**P**	**23 55 22.1**	**-0.9**
	comp=Z,2.0nm,0.6s,mb4.1,baz=86,slow=8.6						
NOA	**NORSAR Array B**	**44.73**	**321**	P	**P**	**23 55 22.3**	**-0.7**
NOA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
NOA				MLR	MLR		
	comp=Z,47nm,18.3s						
NOA	**NORSAR Array B**	**44.73**	**321**	P	**P**	**23 55 22.3**	**-0.7**
	comp=Z,1.9nm,0.7s,mb4.0,baz=87,slow=7.9,SNR=6.7						
NOA				LR	LR	00 14 40.5	
	comp=Z,47nm,18.3s,MS3.5,baz=240,slow=37						
NAO01	**NORSAR Array S**	**44.91**	**320**	*e*P	**P**	**23 55 23.9**	**-0.6**
GERES	**GERESS Array B**	**45.27**	**303**	P	**P**	**23 55 27.2**	**-0.2**
GERES				LR	LR	00 16 55.1	
GERES	**GERESS Array B**	**45.27**	**303**	P	**P**	**23 55 27.2**	**-0.2**
	comp=Z,0.4nm,0.4s,mb3.6,baz=63,slow=6.7,SNR=4.0						
GERES				LR	LR	00 16 55.1	
	comp=Z,62nm,19.8s,MS3.5,baz=66,slow=40						
TIP	**Timpagrande**	**46.17**	**289**	*e*P	**P**	**23 55 35.8**	**+1.0**
ESDC	**Sonseca Array**	**60.43**	**299**	P	**P**	**23 57 18.9**	**-0.7**
	comp=Z,0.5nm,0.5s,mb3.8,baz=56,slow=6.3,SNR=6.5						
IMA2	**Indian Mountai**	**66.76**	**20**	*e*P	**P**	**23 58 00.6**	**-0.4**
FITZ	**Fitzroy Crossi**	**73.15**	**133**	P	**P**	**23 58 42.4**	**+1.5**
YKA	**Yellowknife Ar**	**77.05**	**6**	P	**P**	**23 59 01.2**	**-1.5**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
YKA	**Yellowknife Ar**	**77.05**	**6**	P	**P**	**23 59 01.2**	**-1.5**
	comp=Z,0.6nm,0.5s,mb3.8,baz=345,slow=5.7,SNR=16						
WRA	**Warramunga Arr**	**79.69**	**127**	*i* P	**P**	**23 59 18.7**	**+0.8**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.9s						
WRA	**Warramunga Arr**	**79.69**	**127**	P	**P**	**23 59 17.3**	**-0.6**
	comp=Z,0.8nm,0.9s,mb3.7,baz=327,slow=4.9,SNR=4.6						
WRAB	**Tennant Creek**	**79.69**	**127**	*e*P	**P**	**23 59 20.5**	**+2.6**
WB2	**Warramunga Arr**	**79.70**	**127**	P	**P**	**23 59 18.5**	**+0.6**
ASAR	**Alice Springs**	**82.27**	**130**	P	**P**	**23 59 29.9**	**-1.6**
	comp=Z,0.4nm,0.6s,mb3.5,baz=311,slow=4.9,SNR=4.1						

IDC 25 23:49:34.7±10.0,**337S**×**12831E,h0**km,**mb3.6**/2, **mb1 3.8**/3,**mb1mx3.5**/16,**mbtmp3.6**/3,**ML3.3**/1,**Error ellipse: s-maj=155.7km s-min=133.5km az=133.0, Seram**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**17.49**	**161**	P	Pn	23 53 41.1	+0.9
	0.1nm,0.3s,baz=340,slow=12,SNR=10						
ASAR	**Alice Springs**	**20.89**	**165**	P	P	23 54 18.1	-0.6
	0.5nm,0.5s,baz=342,slow=11,SNR=6.6						
STKA	**Stephens Creek**	**30.99**	**158**	P	P	23 55 54.1	+0.2
	1.5nm,0.9s,baz=343,slow=14,SNR=3.0						

*NIED **26** 00:02:00, 3390N×13360E, h38km, Mw5.0 Best double couple: M0=4.17000×10^16 NP1:φs=318.00000°, δ78.00000°, λ161.00000°. NP2:φs=52.00000°, δ72.00000°, λ13.00000°.*

*MOS **26** 00:02:54.8±0.9, 3391N×13347E, h32km, mb5.0/52, MS4.4/23, Error ellipse: s-maj=7.7km s-min=4.2km az=107.5*

*ISCJB **26** 00:02:56.4±0.1, 3389N±002×13357E±002, h47km, mb4.8/116, MS4.4/43, Error ellipse: s-maj=2.8km s-min=2.0km az=153.9*

*JMA **26** 00:02:56.9, 3389N×13358E, h39km, M5.3 Broadband fault plane solution: P waves. NP1:φs=51.00000°, δ79.00000°, λ5.00000°. NP2:φs=320.00000°, δ85.00000°, λ169.00000°. Principal axes: T Plg11.0000°, Azm275.0000°; N Plg78.0000°, Azm116.0000°; P Plg4.0000°, Azm6.0000°;*

JMA Felt IV J1.

*BJI **26** 00:02:57.0, 3384N×13353E, h59km, mB4.9, mb4.9, Ms4.6, Msz4.4*

*IDC **26** 00:02:57.6±0.4, 3390N×13352E, h42km±3km, mb4.2/20, mb1 4.4/27, mb1mx4.3/33, mbtmp4.3/27, ML4

JET			S	Sn	00 03 14.2	-1.6
JJS	**Sakaide**	**0.58 35**	⇓P	**Pn**	**00 03 08.3**	**-2.0**
JJS			S	Sn	00 03 16.6	-2.4
JKU	**Kubokawa**	**0.71 214**	⇑P	**Pn**	**00 03 10.7**	**-1.3**
JKU			S	Sn	00 03 20.4	-1.6
JAI	**Aioi**	**0.77 98**	⇑P	**Pn**	**00 03 10.4**	**-2.4**
JAI			S	Sn	00 03 20.4	-3.1
JJG	**Jouge**	**0.80 337**	⇓P	**Pn**	**00 03 12.2**	**-1.1**
JHM	**Kurahashi**	**0.87 286**	⇑P	**Pn**	**00 03 13.3**	**-0.8**
JHM			S	Sn	00 03 26.3	+0.5
JNA	**Nagahama**	**0.94 249**	⇑P	**Pn**	**00 03 14.3**	**-0.8**
JNA			S	Sn	00 03 27.1	-0.5
UWA2	**Uwa jima 2**	**1.02 228**	⇑P	**Pn**	**00 03 15.2**	**-1.0**
UWA2			S	Sn	00 03 28.2	-1.3
JHS	**Saijyo**	**1.15 343**	⇓P	**Pn**	**00 03 17.0**	**-0.9**
JHS			eS	Sn	00 03 31.3	-1.2
JAD	**Aida**	**1.16 27**	⇓P	**Pn**	**00 03 16.1**	**-2.0**
JAD			eS	Sn	00 03 31.7	-1.2
JHT	**Toyohira**	**1.20 310**	⇑P	**Pn**	**00 03 17.9**	**-0.6**
JHT			eS	Sn	00 03 34.6	+0.9
JTO	**Tosashimizu**	**1.21 211**	⇓P	**Pn**	**00 03 17.4**	**-1.3**
JTO			S	Sn	00 03 33.0	-0.9
JAJ2	**Tsuna**	**1.23 65**	P	**Pn**	**00 03 16.8**	**-2.3**
JAJ2			S	Sn	00 03 31.6	-3.0
JKD	**Kudamatsu**	**1.39 277**	⇑P	**Pn**	**00 03 20.7**	**-0.5**
JHIK	**Hikimi**	**1.47 296**	⇑P	**Pn**	**00 03 21.6**	**-0.7**
JKR	**Kurayoshi**	**1.49 9**	⇓P	**Pn**	**00 03 21.5**	**-1.1**
JGT	**Gotsu**	**1.50 319**	⇑P	**Pn**	**00 03 22.1**	**-0.6**
JWM	**Minabe**	**1.52 91**	⇑P	**Pn**	**00 03 20.4**	**-2.5**
JNM	**Ikuma**	**1.65 346**	⇓P	**Pn**	**00 03 24.3**	**-0.4**
JKI	**Kunimi**	**1.66 261**	⇑P	**Pn**	**00 03 24.4**	**-0.5**
JUS	**Usuki**	**1.71 241**	⇑P	**Pn**	**00 03 24.4**	**-1.1**
JKSM	**Kasumi**	**1.92 29**	⇓P	**Pn**	**00 03 27.3**	**-1.2**
JTY	**Toyota**	**2.08 281**	⇑P	**Pn**	**00 03 30.4**	**-0.2**
JFA	**Akaike**	**2.29 266**	⇑P	**Pn**	**00 03 32.8**	**-0.7**
JNU	**Nakatsue**	**2.35 251**	P	**Pn**	**00 03 34.0**	**-0.3**
	120nm,0.3s,baz=57,slow=14,SNR=87					
JNU			S	Sn	00 04 02.1	+0.1
	523nm,0.3s,baz=82,slow=28,SNR=9.0					
JNU			LR	LR	00 04 40.1	
	comp=Z,5μm,19.0s,baz=61,slow=44					
JFI	**Itaya**	**2.67 261**	⇑P	**Pn**	**00 03 38.3**	**-0.4**
JUR	**Ureshino**	**3.10 256**	⇑P	**Pn**	**00 03 44.4**	**-0.2**
JII	**Iki**	**3.17 269**	P	**Pn**	**00 03 44.9**	**-0.6**
JTU	**Tsushima**	**3.48 281**	P	**Pn**	**00 03 48.8**	**-1.1**
MAJO	**Matsushiro**	**4.65 54**	*e*Pn	**Pn**	**00 04 05.9**	**+0.1**
MAT	**Matsushiro**	**4.65 54**	P	**Pn**	**00 04 05.5**	**-0.3**
MAT			S	Sn	00 04 54.6	-3.8
MJAR	**Matsushiro Arr**	**4.65 54**	P	**Pn**	**00 04 05.9**	**+0.1**
MJAR			S	Sn	00 04 59.9	+1.4
MJAR			pmax	pmax		
	comp=Z,15nm,0.3s					
MJAR			smax			
	comp=N,22nm,0.3s					
MJAR			MLR	MLR		
	comp=Z,1μm,21.8s					
MJAR	**Matsushiro Arr**	**4.65 54**	P	**Pn**	**00 04 05.9**	**0.0**
	comp=Z,15nm,0.3s,baz=240,slow=14,SNR=45					
MJAR			S	Sn	00 04 59.9	+1.4
	comp=Z,22nm,0.3s,baz=205,slow=29,SNR=7.3					
MJAR			LR	LR	00 05 47.6	
	comp=Z,1μm,21.8s,baz=220,slow=36					
JHJ	**Hachijo jima 2**	**5.28 97**	P	**Pn**	**00 04 12.9**	**-1.6**
	comp=Z,40nm,0.3s,baz=86,slow=22,SNR=6.9					
JHJ			S	Sn	00 05 13.9	-0.1
	comp=Z,26nm,0.3s,baz=263,slow=23,SNR=5.1					
JHJ			LR	LR	00 06 14.0	
	comp=Z,3μm,21.9s,baz=280,slow=37					
KSRS	**Korea Array**	**5.78 309**	P	**Pn**	**00 04 21.1**	**-0.2**
	comp=Z,15nm,0.3s,baz=130,slow=14,SNR=119					
KSRS			S	Sn	00 05 25.4	-1.0
	comp=Z,13nm,0.3s,baz=128,slow=18,SNR=6.1					
KSRS			LR	LR	00 06 45.8	
	comp=Z,2μm,18.6s,baz=122,slow=39					
KS15	**Wonju Array Si**	**5.80 309**	*e*Pn	**Pn**	**00 04 21.6**	**-0.1**
KS15			*e*Sn	Sn	00 05 24.8	-2.0
JAM	**Amami Oshima**	**6.42 213**	⇑P	**Pn**	**00 04 30.2**	**0.0**
INCN	**Inchon**	**6.66 304**	*e*Pn	**Pn**	**00 04 33.6**	**+0.2**
INCN	**Inchon**	**6.66 304**	Pn	**Pn**	**00 04 33.8**	**+0.4**
	SNR=5.8					
INCN	**Inchon**	**6.66 304**	P	**Pn**	**00 04 33.8**	**+0.4**
	SNR=5.8					
JOW	**Kunigami**	**8.38 214**	P	**Pn**	**00 04 56.0**	**-1.1**
	comp=Z,8.7nm,0.3s,baz=65,slow=12,SNR=17					
VLA	**Vladivostok**	**9.29 353**	*e*P	**Pn**	**00 05 09.3**	**-0.2**
CBIJ	**Chichi jima**	**10.08 130**	P	**Pn**	**00 05 21.4**	**+1.1**
	comp=Z,9.4nm,0.3s,baz=279,slow=20,SNR=4.4					
CBIJ			LR	LR	00 08 43.2	
	comp=Z,573nm,19.3s,baz=305,slow=34					
SSE	**Sheshan**	**10.79 258**	P	**Pn**	**00 05 31.5**	**+1.4**
SSE			XP		00 05 48.0	
SSE			S	Sn	00 07 32.3	+2.8
SSE			AMB	AMB		
	comp=Z,76nm,0.7s					
SSE			AMB	AMB		
	comp=Z,232nm,7.4s					
SSE			LR	LR		
	comp=N,2μm,11.9s					
SSE			LR	LR		
	comp=E,433nm,11.9s					
SSE			LR	LR		
	comp=Z,2μm,14.5s					
DL2	**Dalian**	**10.81 301**	⇑*i*P	**Pn**	**00 05 30.3**	**0.0**
DL2			XP		00 05 44.0	
DL2			S	Sn	00 07 28.5	-1.4
DL2			AMB	AMB		
	comp=Z,10.0nm,0.8s					
DL2			AMB	AMB		
	comp=Z,150nm,7.4s					
DL2			LR	LR		
	comp=N,2μm,15.3s					
DL2			LR	LR		
	comp=E,1μm,15.9s					
DL2			LR	LR		
	comp=Z,1μm,12.6s					
ERM	**Erimo**	**11.10 40**	*e*P	**Pn**	**00 05 34.1**	**-0.1**
MDJ	**Mudanjiang**	**11.13 345**	P	**Pn**	**00 05 34.5**	**-0.1**
MDJ			S	Sn	00 07 37.3	-0.1
MDJ			SCP	ScP	00 14 58.0	+1.3
MDJ			PCS	PcS	00 15 02.8	+1.0
MDJ			SCS	ScS	00 18 33.5	+1.7
MDJ			AMB	AMB		
	comp=Z,5.0nm,0.7s					
MDJ			AMB	AMB		
	comp=Z,109nm,4.9s					
MDJ			LR	LR		
	comp=N,474nm,22.1s					
MDJ			LR	LR		
	comp=E,962nm,18.3s					
MDJ			LR	LR		
	comp=Z,708nm,25.5s					
SNY	**Shenyang**	**11.15 318**	⇓P	**Pn**	**00 05 38.5**	**+3.6**
SNY			PP		00 05 48.0	
SNY			XP		00 05 52.8	
SNY			S	Sn	00 07 47.0	+8.9
SNY			AMB	AMB		
	comp=Z,16nm,0.5s					
SNY			AMB	AMB		
	comp=Z,110nm,7.5s					
SNY			LR	LR		
	comp=N,2μm,10.2s					
SNY			LR	LR		
	comp=E,3μm,10.9s					
SNY			LR	LR		
	comp=Z,1μm,11.4s					
CN2	**Changchun**	**11.72 330**	*e*P	**Pn**	**00 05 44.5**	**+1.9**
CN2			*e*PP		00 05 54.8	
CN2			*e*XP		00 05 59.8	
CN2			*e*S	Sn	00 07 54.8	+2.9
CN2			*e*SS		00 08 09.8	
CN2			AMB	AMB		
	comp=Z,20nm,1.0s					
CN2			AMB	AMB		
	comp=Z,200nm,3.0s					
CN2			LR	LR		
	comp=N,2μm,16.0s					
CN2			LR	LR		
	comp=E,2μm,16.0s					
CN2			LR	LR		
	comp=Z,800nm,16.0s					
ASAJ	**Asahikawa**	**12.39 32**	P	**Pn**	**00 05 51.6**	**-0.2**
ASAJ			pmax	pmax		
	comp=Z,2.0nm,0.3s					
ASAJ			MLR	MLR		
	comp=Z,667nm,21.0s					
ASAJ	**Asahikawa**	**12.39 32**	P	**Pn**	**00 05 51.5**	**-0.2**
	comp=Z,1.5nm,0.3s,baz=196,slow=16,SNR=6.6					
ASAJ			LR	LR	00 10 28.1	
	comp=Z,667nm,21.0s,baz=210,slow=36					
TIA	**Tai'an**	**13.64 284**	*e*P	**Pn**	**00 06 10.5**	**+1.6**
TIA			S	Sn	00 08 37.0	-1.9
TIA			LR	LR		
	comp=N,1μm,8.0s					
TIA			LR	LR		
	comp=E,446nm,7.0s					
TATO	**Taipei**	**13.75 233**	Pn	**Pn**	**00 06 11.0**	**+0.5**
YHNB	**Yeheng**	**14.03 232**	*e*Pn	**Pn**	**00 06 13.5**	**-0.8**
HABR	**Khabarovsk**	**14.60 4**	*i* P	**Pn**	**00 06 27.3**	**+5.6**
HABR			*e*		00 09 12.1	
HABR			pmax	pmax		
	comp=Z,211nm,1.2s					
YSS	**Yuzh-Sakhalins**	**14.79 25**	*e*Pn	**Pn**	**00 06 24.8**	**+0.6**
YSS	**Yuzh-Sakhalins**	**14.79 25**	⇑*e*P	**Pn**	**00 06 23.0**	**-1.3**
YSS			*e*S	Sn	00 09 04.0	-2.8
YSS			pmax	pmax		
	comp=Z,40nm,0.9s					
YSS			MLR	MLR		
	comp=N,600nm,15.0s					
YSS			MLR	MLR		
	comp=Z,700nm,15.0s					
BJT	**Baijiatuau**	**15.16 299**	Pn	**Pn**	**00 06 28.9**	**-0.1**
	comp=Z,238nm,0.9s					
BJT	**Baijiatuau**	**15.16 299**	P	**Pn**	**00 06 28.9**	**-0.1**
BJT			pmax	pmax		
	comp=Z,238nm,0.9s					
BJI	**Beijing**	**15.16 299**	P	**Pn**	**00 06 28.0**	**-1.1**
BJI			AP	pP	00 06 36.3	-8.2
BJI			XP	sP	00 06 42.3	-8.4
BJI			AMB	AMB		
	comp=Z,4.0nm,0.5s					
BJI			AMB	AMB		
	comp=Z,323nm,5.2s					
BJI			LR	LR		
	comp=N,3μm,16.0s					
BJI			LR	LR		
	comp=E,2μm,22.4s					
BJI			LR	LR		
	comp=Z,1μm,23.7s					
KLR	**Kul'dur**	**15.38 356**	*e*P	**Pn**	**00 06 29.0**	**-2.8**
KLR			pmax	pmax		
	comp=E,100nm,2.0s					
KLR			pmax	pmax		
	comp=Z,200nm,2.0s					
QZH	**Quanzhou**	**15.77 239**	P	**Pn**	**00 06 35.3**	**-1.7**
QZH			S	**S**	**00 09 31.0**	**-12**
QZH			LR	LR		
	comp=N,5μm,20.1s					
QZH			LR	LR		
	comp=E,7μm,24.4s					
QZH			LR	LR		
	comp=Z,2μm,18.7s					
WHN	**Wuhan**	**16.57 264**	⇑P	**Pn**	**00 06 47.5**	**+0.3**
WHN			PP		00 07 02.5	
WHN			AMB	AMB		
	comp=Z,474nm,11.8s					
WHN			LR	LR		
	comp=Z,2μm,17.6s					
TIY	**Taiyuan**	**17.53 289**	*e*P	**Pn**	**00 07 00.0**	**+1.0**
TIY			PP		00 07 17.3	
TIY			AMB	AMB		
	comp=Z,976nm,4.8s					
TIY			LR	LR		
	comp=N,1μm,7.8s					
TIY			LR	LR		
	comp=E,1μm,12.2s					
TIY			LR	LR		
	comp=Z,2μm,14.1s					
HIA	**Hailar**	**18.45 330**	*e*P	**Pn**	**00 07 10.6**	**+0.5**
	comp=Z,44nm,1.3s					
HIA	**Hailar**	**18.45 330**	*e*P	**Pn**	**00 07 10.6**	**+0.5**
HIA			pmax	pmax		
	comp=Z,44nm,1.3s					
HHC	**Hu-ho-hao-te**	**18.76 298**	⇑*i*P	**Pn**	**00 07 15.3**	**+1.3**
HHC			AP	pP	00 07 25.5	+1.1
HHC			XP	sP	00 07 31.5	+0.9
HHC			S	**S**	**00 10 46.3**	**+2.4**
HHC			XS	sS	00 10 52.5	-10
HHC			SS		00 11 05.0	
HHC			AMB	AMB		
	comp=Z,120nm,1.5s					
HHC			AMB	AMB		
	comp=Z,375nm,3.9s					
HHC			LR	LR		
	comp=N,2μm,19.0s					
HHC			LR	LR		
	comp=E,1μm,16.7s					
HHC			LR	LR		
	comp=Z,1μm,21.2s					
BTO	**Baotou**	**19.85 297**	*e*P	**Pn**	**00 07 26.0**	**-0.9**
BTO			S	**S**	**00 11 04.8**	**-1.0**
BTO			AMB	AMB		
	comp=Z,40nm,1.7s					
BTO			LR	LR		
	comp=N,672nm,17.4s					
BTO			LR	LR		
	comp=E,456nm,14.3s					
XAN	**Xi'an**	**20.41 277**	P	**P**	**00 07 34.5**	**+3.4**
XAN			PP		00 07 52.0	
XAN			PPP		00 08 02.5	
XAN			S	**S**	**00 11 18.3**	**+1.3**
XAN			PCP	PcP	00 11 42.5	+0.5
XAN			SCP	ScP	00 15 15.3	+0.9
XAN			SCS	ScS	00 18 54.5	-2.9
XAN			AMB	AMB		
	comp=Z,74nm,1.4s					
XAN			AMB	AMB		
	comp=Z,228nm,8.8s					
XAN			LR	LR		
	comp=N,595nm,16.1s					
XAN			LR	LR		
	comp=E,70nm,8.0s					
XAN			LR	LR		
	comp=Z,526nm,17.3s,MS4.0					
GZH	**Guangzhou**	**20.72 244**	P	**P**	**00 07 31.0**	**-3.6**
GZH			S	**S**	**00 11 16.3**	**-7.0**
GZH			LR	LR		
	comp=N,1μm,22.8s,MS4.4					
GZH			LR	LR		
	comp=E,904nm,21.6s,MS4.4					
GZH			LR	LR		
	comp=Z,1μm,13.3s					
GUMO	**Guam**	**22.69 150**	*e*P	**P**	**00 07 56.0**	**+0.3**
	comp=Z,221nm,1.2s,mb5.5					
GUMO	**Guam**	**22.69 150**	*e*P	**P**	**00 07 56.0**	**+0.3**
GUMO			pmax	pmax		
	comp=Z,221nm,1.2s,mb5.5					
NRGR	**Nerungri**	**23.55 348**	*e*P	**P**	**00 08 02.7**	**-1.2**
NRGR			S	**S**	**00 12 14.0**	**-0.1**
NRGR			smax			
	comp=E,97nm,0.5s					
CLNS	**Chul'man**	**23.69 348**	*e*P	**P**	**00 08 13.3**	**+8.1**
CLNS			pmax	pmax		
	comp=Z,22nm,0.8s,mb4.6					
CLNS			pmax	pmax		
	comp=N,15nm,1.0s					
CLNS			pmax	pmax		
	comp=E,8.0nm,1.0s					
ULN	**Ulaanbaatar**	**24.25 313**	*e*P	**P**	**00 08 10.4**	**-0.1**
ULN	**Ulaanbaatar**	**24.25 313**	P	**P**	**00 08 12.9**	**+2.4**
	SNR=22					
ULN	**Ulaanbaatar**	**24.25 313**	P	**P**	**00 08 12.9**	**+2.4**
	SNR=22					
GYA	**Guiyang**	**24.34 259**	⇓*i*P	**P**	**00 08 10.5**	**-1.0**
GYA			AP		00 08 24.8	
GYA			XP	sP	00 08 29.5	-0.4
GYA			PP		00 08 47.8	
GYA			PPP		00 08 58.5	
GYA			PCP	PcP	00 11 52.8	+2.7
GYA			S	**S**	**00 12 31.0**	**+3.5**
GYA			XS	sS	00 12 44.5	-4.1
GYA			SS		00 13 19.5	
GYA			SCP	ScP	00 15 26.3	+1.7
GYA			PCS	PcS	00 15 31.0	+0.9
GYA			AMB	AMB		
	comp=Z,20nm,1.0s,mb4.5					
GYA			AMB	AMB		
	comp=Z,170nm,7.2s					
GYA			LR	LR		
	comp=N,580nm,13.5s,MS4.4					
GYA			LR	LR		
	comp=E,510nm,12.9s,MS4.4					
GYA			LR	LR		
	comp=Z,1μm,13.8s,MS4.5					
LZH	**Lanzhou**	**24.38 284**	⇓*i*P	**P**	**00 08 13.0**	**+1.2**
LZH			AP		00 08 20.0	
LZH			PP		00 08 51.5	
LZH			PCP	PcP	00 11 54.5	+4.5
LZH			*e*S	**S**	**00 12 30.0**	**+2.0**
LZH			XS	sS	00 12 47.0	-2.1
LZH			SS		00 13 17.0	
LZH			AMB	AMB		
	comp=Z,64nm,1.2s,mb4.9					
LZH			AMB	AMB		
	comp=Z,182nm,5.0s					
LZH			LR	LR		
	comp=N,711nm,8.7s					
LZH			LR	LR		
	comp=Z,2μm,14.0s,MS4.7					
SONM	**Songino Array**	**24.64 313**	P	**P**	**00 08 13.2**	**-0.8**
SONM			pmax	pmax		
	comp=Z,8.0nm,0.8s					
SONM			MLR	MLR		
	comp=Z,363nm,18.2s					
SONM	**Songino Array**	**24.64 313**	P	**P**	**00 08 13.2**	**-0.8**
	comp=Z,8.3nm,0.8s,mb4.3,baz=129,slow=8.8,SNR=61					
SONM			LR	LR	00 18 53.7	
	comp=Z,363nm,18.2s,MS3.9,baz=115,slow=39					
CD2	**Chengdu**	**25.28 271**	P	**P**	**00 08 19.5**	**-0.5**
CD2			AP	pP	00 08 32.0	-0.5
CD2			XP	sP	00 08 36.8	-1.6
CD2			PP		00 08 57.8	
CD2			PCP	PcP	00 11 53.3	+1.2
CD2			S	**S**	**00 12 38.3**	**-4.1**
CD2			XS	sS	00 12 58.5	-5.2
CD2			SS		00 13 40.5	
CD2			AMB	AMB		
	comp=Z,80nm,1.1s,mb5.2					
CD2			AMB	AMB		
	comp=Z,230nm,6.7s					
CD2			LR	LR		
	comp=N,860nm,12.0s,MS4.8					
CD2			LR	LR		
	comp=E,1μm,12.6s,MS4.8					
CD2			LR	LR		
	comp=Z,2μm,15.0s,MS4.7					
QIZ	**Qiongzhong**	**25.78 241**	P	**P**	**00 08 23.8**	**-0.8**
QIZ			AP	pP	00 08 36.3	-0.9
QIZ			XP	sP	00 08 40.5	-2.5
QIZ			S	**S**	**00 12 51.5**	**+1.0**
QIZ			AMB	AMB		
	comp=Z,165nm,8.8s					
QIZ			LR	LR		
	comp=N,773nm,20.6s,MS4.4					
QIZ			LR	LR		
	comp=E,754nm,20.6s,MS4.4					
QIZ			LR	LR		
	comp=Z,603nm,14.3s					
PET	**Petropavlovsk**	**26.19 36**	*e*P	**P**	**00 08 28.8**	**+0.9**
BOD	**Bodaibo**	**27.32 337**	*e*P	**P**	**00 08 36.9**	**-1.2**
BOD			pmax	pmax		
	comp=Z,16nm,1.0s,mb4.5					
GTA	**Gaotai**	**27.50 291**	P	**P**	**00 08 40.0**	**0.0**
GTA			AP	pP	00 08 51.8	-0.8
GTA			XP	sP	00 08 57.0	-1.4
GTA			PP		00 09 29.5	
GTA			PCP	PcP	00 11 57.8	+0.7
GTA			S	**S**	**00 13 16.5**	**-0.9**
GTA			XS	sS	00 13 36.5	-2.3
GTA			SS		00 14 37.5	
GTA			AMB	AMB		
	comp=Z,59nm,1.1s,mb5.1					
GTA			AMB	AMB		
	comp=Z,189nm,6.5s					
GTA			LR	LR		
	comp=N,879nm,17.5s,MS4.5					
GTA			LR	LR		
	comp=E,588nm,17.5s,MS4.5					
GTA			LR	LR		
	comp=Z,856nm,17.5s,MS4.4					
ZAK	**Zakamensk**	**27.57 316**	*e*P	**P**	**00 08 40.5**	**+0.1**
ZAK			pmax	pmax		
	comp=Z,7.0nm,1.2s,mb4.2					
TLY	**Talaya**	**27.95 319**	*e*P	**P**	**00 08 43.7**	**0.0**
	comp=Z,3.5nm,0.8s,mb4.0					
TLY	**Talaya**	**27.95 319**	*e*P	**P**	**00 08 48.9**	**+5.1**
TLY			*e*S	**S**	**00 13 28.9**	**+4.8**
TLY			pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.0					
TLY			MLR	MLR		
	comp=Z,267nm,19.0s,MS3.9					
MA2	**Magadan**	**28.09 19**	*e*P	**P**	**00 08 43.8**	**-1.2**
MA2			*e*		00 09 01.4	
MA2			*e*		00 09 43.0	
MA2			*e*S	**S**	**00 13 24.2**	**-2.0**
MA2			*e*SS		00 14 52.6	
MA2			pmax	pmax		
	comp=Z,40nm,1.0s,mb5.0					
MA2			MLR	MLR		
	comp=Z,400nm,19.0s,MS4.0					
KMI	**Kunming**	**28.11 260**	P	**P**	**00 08 44.8**	**-0.7**
KMI			PP	PP	00 09 33.3	-16
KMI			S	**S**	**00 13 24.0**	**-3.2**
KMI			XS	sS	00 13 47.5	-1.0
KMI			SSS		00 15 08.5	
KMI			AMB	AMB		
	comp=Z,11nm,1.1s,mb4.4					
KMI			LR	LR		
	comp=N,533nm,13.7s,MS4.6					
KMI			LR	LR		
	comp=E,915nm,15.6s,MS4.6					
KMI			LR	LR		
	comp=Z,1μm,16.2s,MS4.5					
YAK	**Yakutsk**	**28.26 356**	*e*P	**P**	**00 08 45.7**	**-0.7**
YAK			*e**PP	pP	00 08 55.9	-3.2
YAK			*e*		00 09 35.6	
YAK			*e*		00 11 58.0	
YAK			*e*S	**S**	**00 13 24.1**	**-4.7**
YAK			*e*SS	SS	00 14 58.8	-31
YAK			*e*		00 19 28.4	
YAK			pmax	pmax		
	comp=Z,20nm,0.8s,mb4.8					
YAK			pmax	pmax		
	comp=N,14nm,1.1s					
YAK			pmax	pmax		
	comp=E,2.0nm,0.8s					
YAK			pmax	pmax		
	comp=Z,19nm,1.0s,mb4.7					
YAK			pmax	pmax		
	comp=E,13nm,1.2s					
YAK			smax			
	comp=N,156nm,3.7s					
YAK			smax			
	comp=Z,123nm,4.0s					
YAK			smax			
	comp=E,132nm,3.5s					
YAK			MLR	MLR		
	comp=Z,446nm,18.0s,MS4.1					
YAK			MLR	MLR		
	comp=N,315nm,16.0s,MS4.1					
YAK			MLR	MLR		
	comp=E,223nm,15.0s,MS4.1					
MOY	**Mondy**	**29.42 317**	*e*P	**P**	**00 08 57.5**	**+0.6**
SEY	**Seymchan**	**31.38 16**	⇑*e*P	**P**	**00 09 14.3**	**+0.3**
CHTO	**Chiang Mai**	**34.25 253**	*e*P	**P**	**00 09 39.8**	**+0.2**
	comp=E,45nm,1.5s,mb5.2					
CHTO	**Chiang Mai**	**34.25 253**	*e*P	**P**	**00 09 39.8**	**+0.2**
CHTO			pmax	pmax		
	comp=Z,45nm,1.5s,mb5.2					
CHTO	**Chiang Mai**	**34.25 253**	P	**P**	**00 09 41.0**	**+1.4**
	SNR=11					
CHTO	**Chiang Mai**	**34.25 253**	P	**P**	**00 09 41.0**	**+1.4**
	SNR=11					
LSA	**Lhasa**	**36.08 275**	P	**P**	**00 09 56.0**	**+0.7**
WMQ	**Urumqi**	**36.63 300**	⇑*i*P	**P**	**00 10 00.5**	**+0.7**
WMQ			AP	pP	00 10 12.5	-0.2
WMQ			XP	sP	00 10 18.0	-0.5
WMQ			PP	PP	00 11 26.0	+2.2
WMQ			S	**S**	**00 15 39.0**	**-0.3**
WMQ			SS	SS	00 18 09.0	-12
WMQ			AMB	AMB		
	comp=Z,20nm,1.2s,mb4.8					
WMQ			AMB	AMB		
	comp=Z,181nm,3.9s					
WMQ			LR	LR		

comp=N,2µm,20.2s,MS4.9
WMQ LR LR
comp=E,1µm,19.0s,MS4.9
WMQ LR LR
comp=Z,836nm,21.2s,MS4.5
TIXI Tiksi 37.89 358 *e*P **P 00 10 08.8 -1.4**
comp=Z,16nm,0.9s,mb4.8
TIXI Tiksi 37.89 358 *e*P **P 00 10 09.1 -1.0**
TIXI *e*S **S 00 15 55.9 -1.9**
TIXI pmax pmax
comp=Z,13nm,1.2s,mb4.5
TIXI MLR MLR
comp=Z,647nm,16.0s,MS4.5
BILL Bilibino 38.96 19 *e*P **P 00 10 19.6 +0.4**
comp=Z,80nm,1.4s,mb5.2
BILL Bilibino 38.96 19K*e*P **P 00 10 19.6 +0.5**
BILL *e**PP pP 00 10 31.7 -0.4
BILL pmax pmax
comp=Z,65nm,1.7s,mb5.1
BILL MLR MLR
comp=Z,300nm,16.0s,MS4.2
ZAA0 Zalesovo Array 39.45 316 *e*P **P 00 10 22.5 -0.9**
ZALV Zalesovo Beam 39.45 316 P **P 00 10 22.6 -0.8**
comp=Z,5.3nm,0.8s,mb4.3,baz=97,slow=8.0,SNR=20
ZALV PcP PcP 00 12 30.5 0.0
comp=Z,2.0nm,0.6s,baz=116,slow=3.4,SNR=3.6
ZAL Zalesovo 39.46 316 P **P 00 10 22.6 -0.9**
ZAL 00 12 30.5
MK31 Makanchi Array 40.44 304 *e*P **P 00 10 32.4 +0.7**
MKAR Makanchi Array 40.44 304 P **P 00 10 32.3 +0.6**
MKAR pmax pmax
comp=Z,23nm,0.8s
MKAR MLR MLR
comp=Z,281nm,19.1s
MKAR Makanchi Array 40.44 304 P **P 00 10 32.2 +0.6**
comp=Z,23nm,0.8s,mb5.0,baz=92,slow=10,SNR=262
MKAR LR LR 00 28 28.4
comp=Z,281nm,19.1s,MS4.1,baz=92,slow=38
NVS Novosibirsk 40.52 317 *e*P **P 00 10 31.3 -0.9**
NVS pmax pmax
comp=Z,10.0nm,1.0s,mb4.4
NVS pmax pmax
comp=E,10.0nm,1.4s
GUN Gumba 41.03 275 *e*P **P 00 10 37.6 +0.8**
comp=E,183nm,0.9s,mb5.7
PKI Pulchoki 41.54 275 *e*P **P 00 10 41.5 +0.5**
comp=E,81nm,0.8s,mb5.4
PKIN Phulchoki 41.55 275 *e*P **P 00 10 42.0 +0.9**
comp=E,55nm,0.7s,mb5.3
KKN Kakani 41.57 275 *e*P **P 00 10 41.8 +0.5**
comp=E,134nm,0.8s,mb5.6
KULM Kulim 41.72 234 *e*P **P 00 10 42.2 -0.3**
DMN Daman 41.78 275 *e*P **P 00 10 43.5 +0.5**
comp=E,73nm,0.9s,mb5.3
GKN Gorkha 42.03 276 *e*P **P 00 10 44.9 -0.1**
comp=E,124nm,0.9s,mb5.6
DANN Dangsing 42.63 277 *e*P **P 00 10 50.6 +0.7**
comp=E,234nm,0.6s
KURK Kurchatov 42.91 310 P **P 00 10 51.2 -0.6**
comp=E,73nm,0.8s,mb5.5,SNR=9.7
KURK Kurchatov 42.91 310 *e*P **P 00 10 51.2 -0.6**
comp=E,32nm,0.9s,mb5.1
KURK Kurchatov 42.91 310 *e*P **P 00 10 51.2 -0.6**
KURK pmax pmax
comp=Z,32nm,0.9s,mb5.0
KOLN Koldanda 42.97 276 *e*P **P 00 10 53.2 +0.6**
comp=Z,167nm,1.1s,mb5.7
PSI Prapat 44.71 234 P **P 00 11 07.3 +0.6**
PSI Prapat 44.71 234 P **P 00 11 07.3 +0.6**
PSI pmax pmax
comp=Z,4.0nm,0.4s,mb4.6
PSI Prapat 44.71 234 P **P 00 11 07.3 +0.6**
comp=Z,3.7nm,0.4s,mb4.6,baz=154,slow=10.0,SNR=4.0
ULHL Ulahol 45.12 298 P **P 00 11 10.6 +0.9**
SNR=15
TKM2 Tokmak 2 45.49 299 *e*P **P 00 11 13.1 +0.5**
comp=Z,44nm,0.9s,mb5.3
TKM2 Tokmak 2 45.49 299 *e*P **P 00 11 13.1 +0.5**
TKM2 pmax pmax
comp=Z,44nm,0.9s,mb5.3
TKM2 Tokmak 2 45.49 299 P **P 00 11 14.2 +1.7**
SNR=28
KSH Kashi 45.82 294 *e*P **P 00 11 17.0 +1.8**
KSH *e*AP pP 00 11 29.3 +0.9
KSH *e*XP sP 00 11 34.5 +0.4
KSH *e*PCP PcP 00 12 55.3 +3.3
KSH *e*PP PP 00 13 04.0 +0.9
KSH *e*PPP 00 13 47.5
KSH *e*SCP ScP 00 16 42.3 +1.4
KSH PCS PcS 00 16 48.3 +2.1
KSH S **S 00 17 55.8 +0.2**
KSH XS sS 00 18 16.3 -1.4
KSH SCS ScS 00 21 06.3 -0.5
KSH SS SS 00 21 11.0 -9.4
KSH AMB AMB
comp=Z,148nm,1.4s,mb5.7
KSH AMB AMB
comp=Z,382nm,5.1s
KSH LR LR
comp=N,1µm,10.5s
KSH LR LR
comp=E,694nm,6.8s
KSH LR LR
comp=Z,533nm,7.9s
KZA Kyzart 45.88 298 P **P 00 11 17.6 +1.9**
SNR=27
KBK Karagaybulak 46.00 299 P **P 00 11 17.9 +1.2**
SNR=24
CHMS Chumysh 46.09 299 P **P 00 11 17.9 +0.5**
SNR=12
FRU Bishkek 46.22 299 *e*P **P 00 11 18.0 -0.3**
FRU *e* 00 13 09.0
FRU pmax pmax
comp=Z,90nm,1.6s,mb5.5
USP Ospenovka 46.23 300 P **P 00 11 19.2 +0.8**
SNR=31
AAK Ala-Archa 46.34 299⇑*e*P **P 00 11 19.1 -0.2**
AAK pmax pmax
comp=Z,17nm,0.7s,mb5.1
AAK Ala-Archa 46.34 299 P **P 00 11 19.6 +0.3**
SNR=11
AAK Ala-Archa 46.34 299 P **P 00 11 19.6 +0.3**
SNR=11
AAK Ala-Archa 46.34 299 P **P 00 11 19.1 -0.2**
comp=Z,17nm,0.6s,mb5.2,baz=111,slow=5.9,SNR=51
AAK Ala-Archa 46.34 299 P **P 00 11 20.2 +0.9**
SNR=21
UCH Uchtor 46.39 298 *e*P **P 00 11 21.5 +1.7**
UCH Uchtor 46.39 298 P **P 00 11 21.7 +1.9**
SNR=31
DDI Dehra Dun 46.65 282 *e*P **P 00 11 23.0 +1.1**
EKS2 Erkin-Say 46.85 299 *e*P **P 00 11 23.4 0.0**
EKS2 Erkin-Say 46.85 299 P **P 00 11 23.4 +0.1**
SNR=14
AML Almayashu 47.01 298 P **P 00 11 26.5 +1.9**
SNR=41
NDI New Delhi 47.90 280 *e*P **P 00 11 30.5 -1.2**
comp=Z,1.0nm,0.8s,mb3.9
BVAR Borovoye Array 47.98 313 P **P 00 11 31.6 -0.3**
BVAR *PP pP 00 11 44.7 -0.5
BVAR pmax pmax
comp=Z,8.0nm,0.5s
BVAR pmax pmax
comp=Z,9.0nm,0.7s
BVAR Borovoye Array 47.98 313 P **P 00 11 31.6 -0.3**
comp=Z,7.6nm,0.5s,mb5.0,baz=102,slow=9.2,SNR=70
BVAR pP pP 00 11 44.7 -0.5
comp=Z,8.5nm,0.7s,baz=105,slow=8.1,SNR=11
BRVK Borovoye 48.04 314 P **P 00 11 32.5 +0.1**
comp=Z,105nm,0.6s,mb6.0,SNR=10
BRVK Borovoye 48.04 314 *e*P **P 00 11 32.0 -0.4**
comp=Z,17nm,0.8s,mb5.1
BRVK Borovoye 48.04 314 *e*P **P 00 11 32.0 -0.4**
BRVK pmax pmax
comp=Z,17nm,0.8s,mb5.1
HNR Honiara 49.86 145 LR LR 00 29 11.2
comp=Z,185nm,21.2s,MS4.1,baz=357,slow=32
HYB Hyderabad 51.62 266 *e*P **P 00 12 01.0 +1.0**
HYB Hyderabad 51.62 266 *i* P **P 00 12 01.0 +1.0**
FITZ Fitzroy Crossi 52.26 190 *e*P **P 00 12 04.7 +0.1**
comp=Z,11nm,0.8s,mb4.8
FITZ *e*pP pP 00 12 15.6 -2.4
FITZ *e*sP sP 00 12 20.6 -3.0
KBL Kabul 52.48 290 *e*P **P 00 12 06.4 +0.1**
comp=Z,10.0nm,0.8s,mb4.8
IMA2 Indian Mountai 52.60 29 *e*P **P 00 12 07.7 +1.1**

SVE Sverdlovsk 53.26 319⇓*e*P **P 00 12 11.8 +0.2**
SVE *e*S **S 00 19 33.7 -5.4**
SVE pmax pmax
comp=Z,27nm,0.6s,mb5.3
SVE MLR MLR
comp=Z,255nm,13.0s,MS4.5
WRAB Tennant Creek 53.54 179 P pP 00 12 24.9 -2.6
comp=Z,204nm,0.8s,SNR=5.4
WRAB Tennant Creek 53.54 179 *e*P **P 00 12 14.1 +0.1**
comp=Z,28nm,0.8s,mb5.2
WRAB Tennant Creek 53.54 179 *e*P **P 00 12 14.1 +0.1**
WRAB pmax pmax
comp=Z,28nm,0.8s,mb5.2
WB2 Warramunga Arr 53.55 179 *e*P **P 00 12 13.5 -0.6**
WB2 *e*pP pP 00 12 24.2 -3.3
WB2 *e*sP sP 00 12 28.8 -4.3
WRA Warramunga Arr 53.55 179 P **P 00 12 13.3 -0.8**
WRA pmax pmax
comp=Z,3.0nm,0.6s
WRA Warramunga Arr 53.55 179 P **P 00 12 13.3 -0.8**
comp=Z,2.7nm,0.6s,mb4.3,baz=356,slow=8.0,SNR=37
ARU Arti 54.45 319 P **P 00 12 20.7 +0.4**
comp=Z,220nm,0.6s,SNR=9.7
ARU Arti 54.45 319 *e*P **P 00 12 19.9 -0.5**
comp=Z,24nm,0.7s,mb5.2
ARU Arti 54.45 319 *e*P **P 00 12 20.1 -0.2**
ARU *e* 00 13 19.8
ARU *e* 00 14 20.7
ARU *e*PPP 00 15 34.4
ARU *e*S **S 00 19 55.6 +0.4**
ARU *e*SS SS 00 23 38.7 +1.1
ARU *e*SSS 00 25 40.8
ARU MLR MLR
comp=Z,203nm,18.0s,MS4.2
MCK McKinley 54.76 32 *e*P **P 00 12 22.8 +0.4**
comp=Z,13nm,1.3s,mb4.8
MCK McKinley 54.76 32 *e*P **P 00 12 22.8 +0.4**
MCK pmax pmax
comp=Z,13nm,1.3s,mb4.8
PMR Palmer 54.92 35 P **P 00 12 23.9 +0.3**
CTA Charters Tower 55.04 165 *e*P **P 00 12 24.8 -0.1**
comp=Z,2.9nm,0.5s,mb4.6
CTA *e*pP pP 00 12 36.3 -2.1
CTA *e*sP sP 00 12 40.6 -3.4
CTA Charters Tower 55.04 165 *e*P **P 00 12 24.8 -0.1**
CTA *e**PP pP 00 12 36.3 -2.1
CTA *e**SP sP 00 12 40.6 -3.4
CTA pmax pmax
comp=Z,3.0nm,0.5s
CTA Charters Tower 55.04 165 P **P 00 12 25.2 +0.3**
comp=Z,2.8nm,0.7s,mb4.4,baz=27,slow=9.0,SNR=3.2
CTA pP pP 00 12 36.2 -2.2
comp=Z,26nm,0.9s,baz=1.7,slow=6.3,SNR=8.2
CTA LR LR 00 33 56.2
comp=Z,242nm,20.6s,MS4.3,baz=223,slow=34
CTAO Charters Tower 55.04 165 *e*P **P 00 12 25.3 +0.4**
comp=Z,38nm,1.0s,mb5.4
CTAO Charters Tower 55.04 165 *e*P **P 00 12 25.3 +0.4**
CTAO pmax pmax
comp=Z,38nm,1.0s,mb5.4
COLA College 55.10 31 *e*P **P 00 12 26.8 +1.9**
comp=Z,7.0nm,0.8s,mb4.7
COLA College 55.10 31 *e*P **P 00 12 26.8 +1.9**
COLA pmax pmax
comp=Z,7.0nm,0.8s,mb4.7
PALK Pallekele 55.37 254 *e*P **P 00 12 28.6 +1.0**
comp=Z,7.5nm,0.7s,mb4.8
ASAR Alice Springs 57.25 180 P **P 00 12 41.5 +0.9**
ASAR pmax pmax
comp=Z,2.0nm,0.8s
ASAR Alice Springs 57.25 180 P **P 00 12 41.5 +0.9**
comp=Z,1.9nm,0.8s,mb4.2,baz=11,slow=12,SNR=15
ABKT Ailbek 59.64 298 P **P 00 12 58.6 +1.3**
comp=Z,83nm,0.9s,mb5.8,SNR=6.2
INK Inuvik 60.04 25 P **P 00 13 00.2 +0.6**
INK pP pP 00 13 11.7 -1.5
INK Inuvik 60.04 25 P **P 00 13 00.2 +0.7**
INK *PP pP 00 13 11.7 -1.5
INK pmax pmax
comp=Z,6.0nm,0.9s
INK pmax pmax
comp=Z,5.0nm,0.8s
INK Inuvik 60.04 25 P **P 00 13 00.2 +0.6**
comp=Z,5.5nm,0.8s,mb4.6,baz=293,slow=6.3,SNR=28
INK pP pP 00 13 11.7 -1.5
comp=Z,5.1nm,0.8s,baz=289,slow=5.3,SNR=7.0
TMCR Tamitsa 62.35 331 *e*P **P 00 13 19.9 +4.7**
APA Apatity 62.84 335⇑*i*P **P 00 13 13.0 -5.5**
APA pmax pmax
comp=Z,18nm,1.2s,mb5.1
KEV Kevo 64.02 338 *e*p **P 00 13 25.8 -0.4**
comp=Z,6.8nm,0.7s,mb4.8
KEV Kevo 64.02 338 *e*P **P 00 13 25.8 -0.4**
KEV pmax pmax
comp=Z,7.0nm,0.7s,mb4.8
FORT Forrest 64.54 185 *e*P pP 00 13 41.1 -2.7
comp=Z,23nm,0.7s
FORT Forrest 64.54 185 P **P 00 13 30.6 +0.6**
comp=Z,3.1nm,0.6s,mb4.5
ARCES ARCESS Array B 64.59 338 P **P 00 13 30.1 +0.2**
comp=Z,4.6nm,0.6s,mb4.7,baz=61,slow=7.7,SNR=21
ARCES LR LR 00 47 14.2
comp=Z,195nm,18.1s,MS4.3,baz=64,slow=41
ARE0 ARCESS Array S 64.59 338 *e*P **P 00 13 30.2 +0.3**
JOF Joensuu 65.61 331 *e*p **P 00 13 35.8 -0.9**
comp=Z,12nm,0.7s,mb5.0
MOS Moscow 65.83 322 *e*P **P 00 13 37.9 -0.3**
MOS *e* pP 00 13 53.1 +1.1
MOS *e* 00 14 11.0
STKA Stephens Creek 65.86 172 *e*P **P 00 13 42.3 +3.7**
comp=Z,3.2nm,0.7s,mb4.5
STKA *e*pP pP 00 13 50.3 -2.1
STKA *e*sP sP 00 13 53.6 -4.3
STKA Stephens Creek 65.86 172 *e*P **P 00 13 39.3 +0.7**
comp=Z,12nm,0.8s,mb5.0
STKA *e* pP 00 13 50.6 -1.8
STKA Stephens Creek 65.86 172 P **P 00 13 39.1 +0.5**
comp=Z,1.4nm,0.5s,mb4.3,baz=353,slow=8.4,SNR=2.3
STKA pP pP 00 13 50.2 -2.2
comp=Z,12nm,0.7s,baz=335,slow=8.3,SNR=8.6
STKA LR LR 00 40 15.0
comp=Z,230nm,20.7s,MS4.4,baz=26,slow=34
ARMA Armidale 66.22 163 *e*P **P 00 13 46.0 +5.1**
HATD Hatta, Dubai 66.63 285 P **P 00 13 45.3 +1.4**
SNR=6.0
HATD Hatta, Dubai 66.63 285 P **P 00 13 45.3 +1.4**
SNR=6.0
OBN Obninsk 66.64 322 *e*P **P 00 13 43.2 -0.2**
comp=Z,9.5nm,0.6s,mb5.0
OBN Obninsk 66.64 322*c e*P **P 00 13 43.0 -0.4**
OBN *e* pP 00 13 53.8 -3.5
OBN *e* pP 00 13 57.9 +0.6
OBN 00 14 13.0
OBN SS S 00 22 28.0 -3.1
OBN pmax pmax
comp=Z,18nm,1.1s,mb5.0
OBN MLR MLR
comp=Z,200nm,16.0s,MS4.4
ASHO Ashiyiah 66.76 285 P **P 00 13 45.1 +0.4**
SNR=7.8
ASHO Ashiyiah 66.76 285 P **P 00 13 45.1 +0.4**
SNR=7.8
VRSR Storozhevoye 66.92 317 *e*P **P 00 13 45.0 -0.3**
VRSR pmax pmax
comp=Z,3.0nm,0.8s,mb4.4
VRSR pmax pmax
comp=N,1.0nm,0.7s
VRSR pmax pmax
comp=E,3.0nm,0.7s
RES Resolute Bay 67.14 12 *e*P **P 00 13 46.7 +0.5**
comp=E,569nm,1.1s
RES Resolute Bay 67.14 12 *e*P **P 00 13 46.7 +0.4**
RES pmax pmax
comp=Z,569nm,1.1s
KIV Kislovodsk 67.97 309 P **P 00 13 52.6 +0.6**
comp=Z,127nm,0.9s,mb6.0,SNR=5.6
KIV Kislovodsk 67.97 309 *e*P **P 00 13 52.2 +0.2**
comp=Z,12nm,0.6s,mb5.1
KIV *e* pP 00 14 05.2 -0.7
KIV Kislovodsk 67.97 309 *e*P **P 00 13 52.4 +0.4**
KIV pmax pmax
comp=Z,28nm,1.2s,mb5.2
KIV Kislovodsk 67.97 309⇑*i*P **P 00 13 52.6 +0.6**
ONI Oni 68.08 307 P **P 00 13 53.5 +0.8**
DAG Danmarks Havn 68.23 353 *e*P **P 00 13 54.1 +0.9**

DAG pmax pmax
comp=Z,2.0nm,0.8s,mb4.2
DAG Danmarks Havn 68.23 353 *i* P **P 00 13 54.1 +0.9**
comp=Z,1.5nm,0.8s,mb4.1
FIA1 FINESS Array S 68.47 330 *e*P **P 00 13 54.8 -0.1**
FIA1 *e* pP 00 14 08.3 -0.4
FINES FINESS Array B 68.47 330 P **P 00 13 54.4 -0.4**
FINES pP pP 00 14 07.4 -1.4
FINES FINESS Array B 68.47 330 *i* P **P 00 13 54.4 -0.5**
FINES pmax pmax
comp=Z,3.0nm,0.5s
FINES FINESS Array B 68.47 330 P **P 00 13 54.4 -0.4**
comp=Z,2.5nm,0.5s,mb4.5,baz=79,slow=6.4,SNR=44
FINES pP pP 00 14 07.4 -1.4
comp=Z,7.6nm,0.6s,baz=68,slow=6.5,SNR=8.7
YKA Yellowknife Ar 69.64 27 P **P 00 14 02.5 +0.5**
YKA pP pP 00 14 16.1 +0.1
YKA LR LR 00 44 20.2
YKA Yellowknife Ar 69.64 27 P **P 00 14 02.6 +0.5**
YKA *PP pP 00 14 16.1 +0.1
YKA Yellowknife Ar 69.64 27 P **P 00 14 02.5 +0.5**
comp=Z,3.4nm,0.9s,mb4.3,baz=302,slow=6.3,SNR=32
YKA pP pP 00 14 16.1 +0.1
comp=Z,7.3nm,1.0s,baz=304,slow=6.1,SNR=13
YKA LR LR 00 44 20.3
comp=Z,65nm,20.6s,MS3.9,baz=210,slow=36
VSU Vasula 69.76 328 *e*P **P 00 14 01.9 -1.0**
ANN Anapa 70.92 311 *e*P **P 00 14 09.0 -1.2**
ANN *e**PP pP 00 14 23.7 -0.5
ANN *e*S S 00 23 20.4 -1.6
ANN pmax pmax
comp=Z,34nm,1.3s,mb5.1
ANN MLR MLR
comp=N,328nm,23.0s,MS5.1
ANN MLR MLR
comp=E,1µm,23.0s,MS5.1
ANN MLR MLR
comp=Z,392nm,23.0s,MS4.6
MIB Mutribah 71.19 294 *e*P **P 00 14 11.6 -0.5**
MIB AMb AMB 00 14 29.5
comp=Z,26nm,0.9s,mb5.2
RDF Al-Radifah 71.45 293 *e*P **P 00 14 13.5 -0.2**
RDF AMb AMB 00 14 31.3
comp=Z,62nm,1.1s,mb5.5
NAY Al-Naaiem 71.53 293 *e*P **P 00 14 13.6 -0.5**
RST Umm Al-Ruwaisa 71.59 293 *e*P **P 00 14 13.8 -0.8**
RST AMb AMB 00 14 30.1
comp=Z,18nm,0.6s,mb5.2
AKASG Malin Array Be 72.68 320 P **P 00 14 20.2 -0.5**
AKASG pmax pmax
comp=Z,6.0nm,0.6s
AKASG MLR MLR
comp=Z,216nm,19.1s
AKASG Malin Array Be 72.68 320 P **P 00 14 20.2 -0.5**
comp=Z,6.2nm,0.6s,mb4.7,baz=54,slow=6.2,SNR=44
AKASG LR LR 00 46 28.6
comp=Z,216nm,19.1s,MS4.4,baz=75,slow=36
AKBB Malin Array Si 72.68 320 *e*P **P 00 14 20.0 -0.7**
KIEV Kiev 72.69 320 *e*P **P 00 14 20.6 -0.2**
comp=Z,9.6nm,0.6s,mb4.9
KIEV Kiev 72.69 320 *e*P **P 00 14 20.6 -0.2**
KIEV pmax pmax
comp=Z,10.0nm,0.6s,mb4.9
MALT Malatya 73.47 305 *e*P **P 00 14 26.3 +0.7**
MALT *e*PcP PcP 00 14 42.6 +1.1
MALT Malatya 73.47 305⇓*i*P **P 00 14 27.0 +1.4**
SUW Suwalki 73.89 325 *e*P **P 00 14 28.3 +0.5**
NB2 NORSAR Subarra 74.42 335 P **P 00 14 28.6 -2.1**
comp=Z,4.4nm,1.1s,mb4.3,baz=46,slow=5.9
NOA NORSAR Array B 74.42 335 P **P 00 14 30.3 -0.5**
NOA LR LR 00 49 51.0
NOA NORSAR Array B 74.42 335 P **P 00 14 30.3 -0.4**
NOA pmax pmax
comp=Z,2.0nm,0.6s
NOA MLR MLR
comp=Z,127nm,18.8s
NOA NORSAR Array B 74.42 335 P **P 00 14 30.3 -0.4**
comp=Z,1.5nm,0.6s,mb4.1,baz=46,slow=5.8,SNR=9.5
NOA LR LR 00 49 51.0
comp=Z,127nm,18.8s,MS4.2,baz=180,slow=38
EDM Edmonton 75.69 35 P **P 00 14 40.3 +2.1**
BURAR Bucovina Array 76.59 319⇑*i*P **P 00 14 43.7 +0.3**
KWP Kalwaria 76.73 321 *e*P **P 00 14 44.9 +0.7**
KWP Kalwaria 76.73 321⇑*i*P **P 00 14 44.9 +0.7**
VRI Vrincioaia 76.76 317⇑P **P 00 14 45.8 +1.5**
VRI Vrincioaia 76.76 317⇑*i*P **P 00 14 45.8 +1.4**
NEW Newport 76.77 40 *e*P **P 00 14 44.8 +0.4**
NEW *e*PcP PcP 00 14 55.5 0.0
PLOR Plostina 76.81 317⇓*i*P **P 00 14 49.4 +4.7**
BSD Bornholm Skovb 76.97 329 *e*P **P 00 14 39.2 -6.2**
BSD pmax pmax
comp=Z,21nm,1.0s,mb5.0
BSD Bornholm Skovb 76.97 329 *i* P **P 00 14 39.2 -6.2**
comp=Z,21nm,1.0s,mb5.0
GKP Gorka Klasztor 77.14 326 *e*P **P 00 14 46.5 +0.1**
KOLS Kolonicke sedl 77.38 321 *e*P **P 00 14 47.9 +0.1**
KOLS *e*pP pP 00 14 58.4 -3.5
MLR Muntele Rosu 77.42 317⇓P **P 00 14 49.2 +1.1**
MLR Muntele Rosu 77.42 317⇓*i*P **P 00 14 49.2 +1.1**
UZH Uzhgorod 77.56 321⇓*i*P **P 00 14 48.6 -0.2**
UZH *i* pP 00 15 07.0 +4.1
STHS Stebnicka Huta 77.62 322 *e*P **P 00 14 50.4 +1.3**
comp=Z,6.6nm,1.1s,mb4.5
STHS Stebnicka Huta 77.62 322 *e*P **P 00 14 50.4 +1.3**
STHS pmax pmax
comp=Z,7.0nm,1.1s,mb4.5
CRVS Cervenica-Dubn 77.83 321 *e*P **P 00 14 50.7 +0.4**
CRVS *e*sP sP 00 15 12.9 +3.0
OJC Ojcow 77.86 323 *e*P **P 00 14 50.9 +0.5**
WALA Waterton Lakes 77.98 38 P **P 00 14 52.3 +1.2**
NIE Niedzica 78.10 322 *e*P **P 00 14 52.7 +0.9**
DRGR 78.45 319⇑P **P 00 14 55.1 +1.3**
DRGR 78.45 319⇑*i*P **P 00 14 55.1 +1.3**
KECS Kecovo 78.59 321 *e*P **P 00 14 52.3 -2.2**
comp=Z,2.0nm,0.7s,mb4.2
KECS Kecovo 78.59 321 *e*P **P 00 14 52.3 -2.2**
KECS pmax pmax
comp=Z,2.0nm,0.7s,mb4.2
OKC Ostrava-Krasne 78.92 323 *e*P **P 00 14 56.3 0.0**
OKC AMS AMS 00 53 20.0
comp=Z,400nm,18.0s,MS4.8
KSP Ksiaz 79.17 325 *e*P **P 00 14 58.2 +0.6**
PSZ Piszkesteto 79.25 321 *e*P **P 00 14 59.3 +1.1**
comp=Z,45nm,2.1s,mb5.0
PSZ Piszkesteto 79.25 321 *e*P **P 00 14 59.3 +1.1**
PSZ pmax pmax
comp=Z,45nm,2.1s,mb5.0
MORC Moravsky Berou 79.26 324 *e*P **P 00 14 58.4 +0.3**
MORC Moravsky Berou 79.26 324⇓*i*P **P 00 14 58.8 +0.6**
GZR Gura Zlata 79.27 318⇓P **P 00 14 58.3 0.0**
GZR Gura Zlata 79.27 318⇓*i*P **P 00 14 58.3 0.0**
VYHS Vyhne 79.44 322 *e*P **P 00 14 59.8 +0.6**
comp=Z,3.4nm,1.0s,mb4.2
VYHS *e* pP 00 15 17.4 +4.1
VYHS Vyhne 79.44 322 *e*P **P 00 14 59.8 +0.6**
VYHS *e* pP 00 15 17.4 +4.1
VYHS pmax pmax
comp=Z,3.0nm,1.0s,mb4.2
DPC Dobruska-Polom 79.48 325 *e*P **P 00 15 00.1 +0.7**
DPC *e*pP pP 00 15 12.9 -0.6
DPC AMS AMS 00 52 40.0
comp=Z,200nm,14.2s,MS4.6
UPC Upice 79.52 325 *e*P **P 00 15 00.3 +0.7**
FCC Fort Churchill 79.54 23 *e*P **P 00 15 00.0 +0.5**
comp=Z,11nm,0.9s,mb4.8
FCC Fort Churchill 79.54 23 *e*P **P 00 15 00.0 +0.5**
FCC pmax pmax
comp=Z,11nm,0.9s,mb4.8
CHMT Chamberlain Mo 79.67 40 *e*P **P 00 15 01.9 +1.4**
CHMT *e* pP 00 15 19.2 +4.7
FFC Flin Flon 79.69 29 *e*P **P 00 15 01.0 +0.6**
comp=Z,18µm,1.0s
FFC *e* pP 00 15 14.1 -0.4
BZS Buzias 79.77 319⇓P **P 00 15 01.1 +0.1**
BZS Buzias 79.77 319⇓*i*P **P 00 15 01.1 +0.1**
VRAC Vranov 80.03 324⇑P **P 00 15 03.5 +1.1**
VRAC Vranov 80.03 324 LR LR 00 53 26.2
comp=Z,345nm,20.1s,MS4.7,baz=296,slow=38
VRAC Vranov 80.03 324⇑*i*P **P 00 15 03.5 +1.1**
PVCC Panska Ves 80.20 325 *e*P **P 00 15 03.7 +0.5**
BRG Berggiesshubel 80.25 326 *e*P **P 00 15 03.8 +0.3**
comp=Z,60nm,2.9s,mb5.0
BRG *e*sP sP 00 15 25.3 +2.1
BRG Berggiesshubel 80.25 326 *e*P **P 00 15 04.0 +0.5**

comp=Z,5.0nm,1.0s,mb4.4
BRG *e* 00 15 23.1
comp=Z,3.2nm,0.9s
MODS Modra-Piesok 80.31 323 *e*P **P 00 15 04.8 +0.9**
MODS *ep*P pP 00 15 18.2 +0.2
CLL Collm 80.39 327⇑*i*P **P 00 15 04.0 -0.3**
comp=Z,10.0nm,1.0s,mb4.7
CLL *i* pP 00 15 19.1 +0.7
CLL LR LR
comp=Z,200nm,19.4s,MS4.5
CLL Collm 80.39 327⇑*i*P **P 00 15 04.0 -0.3**
CLL *i* pP 00 15 19.1 +0.7
CLL pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
CLL MLR MLR
comp=Z,200nm,19.4s,MS4.5
CLL Collm 80.39 327 *e*P **P 00 15 04.1 -0.2**
comp=Z,10.0nm,1.1s,mb4.7
CLL Collm 80.39 327⇑*i*P **P 00 15 04.0 -0.3**
comp=Z,10.0nm,1.0s,mb4.7
CLL *i* (PcP) PcP 00 15 09.2 -2.0
CLL *i* pP pP 00 15 19.1 +0.7
CLL *i* sP sP 00 15 26.2 +2.3
CLL LmH 00 47 00.0
comp=N,300nm,21.4s
CLL LmH 00 47 00.0
comp=E,200nm,21.9s
CLL LmV 00 50 00.0
comp=Z,200nm,19.4s
ZST Bratislava 80.51 323 *e*P **P 00 15 06.4 +1.4**
comp=Z,9.0nm,1.3s,mb4.5
ZST LR LR
comp=Z,200nm,16.7s,MS4.5
ZST Bratislava 80.51 323 *e*P **P 00 15 06.4 +1.4**
ZST pmax pmax
comp=Z,9.0nm,1.3s,mb4.5
ZST MLR MLR
comp=Z,200nm,16.7s,MS4.5
PRU Pruhonice 80.57 325 *e*P **P 00 15 05.8 +0.5**
PRU *ep*P pP 00 15 21.1 +1.6
TREC Trest 80.58 324 *e*P **P 00 15 06.2 +0.9**
VTS Vitosha 80.74 315⇑P **P 00 15 07.0 +0.7**
VTS Vitosha 80.74 315⇑*i*P **P 00 15 07.0 +0.7**
EGMT Eagleton 80.77 37 *e*P **P 00 15 07.2 +0.9**
comp=Z,22nm,1.0s,mb5.0
EGMT *e* pP 00 15 23.9 +3.3
CMB Columbia Colle 80.87 50 *e*P **P 00 15 08.1 +1.0**
DLMT Dillon 81.00 41 *e*P **P 00 15 08.8 +1.1**
comp=Z,15nm,0.9s,mb4.9
DLMT *e* pP 00 15 22.1 +0.3
PKSM Moragy 81.00 320⇓P **P 00 15 07.9 +0.3**
PKSM Moragy 81.00 320⇓*i*P **P 00 15 07.9 +0.2**
CLZ Clausthal 81.19 328 *e*P **P 00 15 08.8 +0.3**
CLZ pmax pmax
comp=Z,9.0nm,1.1s,mb4.6
CLZ Clausthal 81.19 328 *e*P **P 00 15 08.8 +0.3**
comp=Z,9.0nm,1.1s,mb4.6
TANN Tannenbergstha 81.26 326 *e*P **P 00 15 09.3 +0.4**
comp=Z,6.0nm,1.4s,mb4.3
CONA Conrad Observa 81.31 323⇑*i*P **P 00 15 10.3 +1.0**
comp=Z,7.4nm,1.0s,mb4.6
NKC Novy Kostel 81.39 326 *e*P **P 00 15 10.2 +0.6**
NKC *ep*P pP 00 15 25.2 +1.4
MOX Moxa 81.48 327 *e*P **P 00 15 08.8 -1.3**
MOX
comp=Z,200nm,17.0s
MOX Moxa 81.48 327 *e*P **P 00 15 10.1 0.0**
comp=Z,5.0nm,1.2s,mb4.3
KHC Kasperske Hory 81.62 325 *e*P **P 00 15 11.5 +0.7**
KHC *ep*P pP 00 15 26.7 +1.7
KHC AMS AMS 00 54 20.0
comp=Z,300nm,15.7s,MS4.8
MANZ Manzenberg 81.72 326 *e*P **P 00 15 11.6 +0.3**
comp=Z,7.0nm,1.1s,mb4.5
GEC2 GERESS Array S 81.75 325 *e*P **P 00 15 11.6 0.0**
GEC2 pmax pmax
comp=Z,9.0nm,1.3s,mb4.5
GEC2 GERESS Array S 81.75 325 *e*P **P 00 15 11.6 0.0**
comp=Z,9.0nm,1.3s,mb4.5
GERES GERESS Array B 81.75 325 P **P 00 15 12.1 +0.5**
GERES pmax pmax
comp=Z,2.0nm,0.8s
GERES MLR MLR
comp=Z,267nm,18.0s
GERES GERESS Array B 81.75 325 P **P 00 15 12.1 +0.6**
comp=Z,1.5nm,0.8s,mb4.0,baz=40,slow=4.4,SNR=12
GERES LR LR 00 55 16.5
comp=Z,266nm,18.0s,MS4.6,baz=234,slow=38
ROTZ Rotzenmuhle 81.82 326 *e*P **P 00 15 12.4 +0.5**
comp=Z,15nm,1.5s,mb4.7
ARSA Arzberg 81.94 323⇑*i*P **P 00 15 13.2 +0.6**
comp=Z,5.3nm,1.1s,mb4.4
WET Wettzell 81.94 325 *e*P **P 00 15 12.8 +0.3**
WET pmax pmax
comp=Z,6.0nm,1.2s,mb4.4
WET Wettzell 81.94 325 *e*P **P 00 15 12.8 +0.3**
comp=Z,6.0nm,1.2s,mb4.4
WET *es*P sP 00 15 35.2 +3.0
NVAR Mina Array Bea 81.95 49 P **P 00 15 14.2 +1.4**
comp=Z,0.3nm,0.5s,baz=289,slow=2.3,SNR=4.0
NVAR pP pP 00 15 25.4 -1.6
comp=Z,1.0nm,0.5s,baz=306,slow=3.8,SNR=5.7
GCMT Greycliff 82.28 39 *e*P **P 00 15 16.3 +1.9**
GCMT *e* pP 00 15 27.9 -0.7
GRA1 Grafenberg Arr 82.33 326 *e*P **P 00 15 15.4 +0.8**
comp=Z,27nm,1.4s,mb5.0
GRA1 *ep*P pP 00 15 30.9 +2.1
GRA1 *es*P sP 00 15 37.5 +3.2
GRA1 LR LR
comp=Z,200nm,19.9s,MS4.5
GRF Grafenberg Arr 82.33 326 *e*P **P 00 15 15.4 +0.8**
GRF *e**PP pP 00 15 30.9 +2.1
GRF pmax pmax
comp=Z,27nm,1.4s,mb5.0
GRF MLR MLR
comp=Z,200nm,19.9s,MS4.5
GRF Grafenberg Arr 82.33 326 *e*P **P 00 15 15.4 +0.8**
GRF *e**PP pP 00 15 30.9 +2.1
GRF pmax pmax
comp=Z,27nm,1.4s,mb5.0
GRF MLR MLR
comp=Z,200nm,19.9s,MS4.5
GRF Grafenberg Arr 82.33 326 *e*P **P 00 15 15.4 +0.8**
comp=Z,27nm,1.4s,mb5.0
GRF *ep*P pP 00 15 30.9 +2.1
GRF *es*P sP 00 15 37.5 +3.2
GRF *eL* 00 54 00.4
comp=Z,212nm,19.9s
GRFO Grafenberg 82.33 326 *e*P **P 00 15 14.7 +0.1**
comp=Z,15nm,1.1s,mb4.8
GRFO Grafenberg 82.33 326 *e*P **P 00 15 14.7 +0.1**
GRFO pmax pmax
comp=Z,15nm,1.1s,mb4.8
IMW Indian Meadow 82.85 41 *e*P **P 00 15 17.4 0.0**
comp=Z,4.3nm,0.8s,mb4.5
IMW *e* pP 00 15 30.5 -1.2
FLWY Flagg Ranch 82.86 41 P **P 00 15 18.4 +1.0**
comp=Z,7.2nm,0.8s,mb4.8
FLWY *e* pP 00 15 30.9 -0.7
FUR Furstenfeldbru 83.39 325 *e*P **P 00 15 20.7 +0.6**
FUR *e**PP pP 00 15 36.4 +2.1
FUR pmax pmax
comp=Z,24nm,1.1s,mb5.1
FUR Furstenfeldbru 83.39 325 *e*P **P 00 15 20.7 +0.6**
comp=Z,24nm,1.1s,mb5.1
FUR *ep*P pP 00 15 36.4 +2.1
STU Stuttgart 83.92 327 *e*P **P 00 15 22.8 0.0**
comp=Z,13nm,0.8s,mb5.1
STU *ep*P pP 00 15 38.9 +1.8
HWUT Hardware Ranch 84.00 43 P **P 00 15 24.2 +0.9**
comp=Z,2.2nm,0.9s,mb4.3
SQTA Sankt Quirin 84.09 325⇑*i*P **P 00 15 23.8 +0.1**
comp=Z,4.2nm,1.0s,mb4.5
SQTA Sankt Quirin 84.09 325⇑*i*P **P 00 15 23.8 +0.1**
SQTA pmax pmax
comp=Z,4.0nm,1.0s,mb4.5
DUG Dugway 84.19 45 *e*P **P 00 15 26.2 +1.9**
comp=Z,2.1nm,1.0s,mb4.2
DUG *e* pP 00 15 38.1 -0.5
DUG Dugway 84.19 45 *e*P **P 00 15 26.2 +1.9**
DUG *e* pP 00 15 38.1 -0.5
DUG pmax pmax
comp=Z,2.0nm,1.0s,mb4.2
BW06 Boulder Array 84.35 41 *e*P **P 00 15 25.7 +0.6**
PDAR Pinedale Array 84.35 41 P **P 00 15 26.0 +0.9**
comp=Z,0.8nm,0.9s,mb3.8,baz=113,slow=2.3,SNR=4.8
PDAR pP pP 00 15 36.9 -2.5
comp=Z,1.3nm,0.9s,baz=301,slow=1.2,SNR=6.1
FETA Feichten 84.46 325⇑*i*P **P 00 15 25.2 -0.3**
comp=Z,6.3nm,1.1s,mb4.7
BFO Black Forest 84.64 327 *e*P **P 00 15 26.5 +0.1**
BFO *e**PP pP 00 15 41.7 +1.0
BFO pmax pmax
comp=Z,21nm,1.4s,mb5.1
BFO Black Forest 84.64 327 *e*P **P 00 15 26.5 +0.1**
comp=Z,21nm,1.4s,mb5.1
BFO *ep*P pP 00 15 41.7 +1.0
DAVA Damuels 84.67 325⇑*i*P **P 00 15 27.0 +0.4**
comp=Z,19nm,1.1s,mb5.1
DAVA Damuels 84.67 325⇑*i*PcP PcP 00 15 27.0 -3.1
comp=Z,19nm,1.1s
DAVOX Davos/Dischmat 85.04 325 LR LR 00 56 11.3
comp=Z,241nm,19.1s,MS4.6,baz=42,slow=38
CDF Champ du Feu 85.05 327 *e*P **P 00 15 27.9 -0.6**
comp=Z,8.4nm,0.9s,mb4.6
CDF Champ du Feu 85.05 327 *e*P **P 00 15 27.9 -0.6**
comp=Z,4.2nm,0.9s,mb4.6
CDF Champ du Feu 85.05 327 *e*P **P 00 15 27.9 -0.6**
CDF pmax pmax
comp=Z,4.0nm,0.9s,mb4.5
ULM Lac du Bonnet 85.52 29 P **P 00 15 31.6 +0.8**
comp=Z,2.2nm,0.9s,mb4.4,baz=316,slow=7.8,SNR=4.6
ULM pP pP 00 15 44.5 -0.6
comp=Z,4.6nm,0.8s,baz=321,slow=4.6,SNR=5.9
ULM LR LR 00 54 24.7
comp=Z,96nm,18.6s,MS4.2,baz=353,slow=36
MSU Marysvale 85.65 46 *e*P **P 00 15 34.1 +2.4**
HINF Hinteralfeld 85.69 327 *e*P **P 00 15 30.9 -0.8**
SRU San Rafael 86.23 45 *e*P **P 00 15 36.0 +1.4**
comp=Z,3.9nm,0.7s,mb4.8
SRU *e* pP 00 15 51.6 +2.7
SRU San Rafael 86.23 45 *e*P **P 00 15 36.0 +1.4**
SRU *e* pP 00 15 51.6 +2.7
SRU pmax pmax
comp=Z,4.0nm,0.7s,mb4.8
TIP Timpagrande 86.67 316 *e*P **P 00 15 36.9 +0.2**
CABF La Chapelle 86.93 327 *e*P **P 00 15 37.1 -0.7**
LOR Lormes 87.43 328 *e*P **P 00 15 39.5 -0.7**
LOR *e*MLR MLR
comp=Z,185nm,18.8s,MS4.2
LOR Lormes 87.43 328 *e*P **P 00 15 39.5 -0.7**
LOR MLR MLR
comp=Z,190nm,18.8s,MS4.5
LPL La Plagne 87.45 326 *e*P **P 00 15 39.8 -0.6**
comp=Z,3.4nm,0.7s,mb4.4
LPL La Plagne 87.45 326 *e*P **P 00 15 39.8 -0.6**
comp=Z,1.7nm,0.6s,mb4.5
LPL La Plagne 87.45 326 *e*P **P 00 15 39.8 -0.6**
LPL pmax pmax
comp=Z,2.0nm,0.6s,mb4.5
LPG La Plagne 87.46 326 *e*P **P 00 15 39.8 -0.6**
comp=Z,11nm,1.0s,mb4.7
LPG La Plagne 87.46 326 *e*P **P 00 15 39.8 -0.6**
comp=Z,5.3nm,1.0s,mb4.7
LPG La Plagne 87.46 326 *e*P **P 00 15 39.8 -0.6**
LPG pmax pmax
comp=Z,5.0nm,1.0s,mb4.7
SSF Saint Saulge 87.74 328 *e*P **P 00 15 40.6 -1.1**
MBDF Montbardon 88.02 325 *e*P **P 00 15 42.0 -1.1**
LDF La Druitiere 88.05 331 *e*P **P 00 15 42.4 -0.8**
comp=Z,119nm,1.9s,mb5.5
LDF La Druitiere 88.05 331 *e*P **P 00 15 42.4 -0.8**
comp=Z,59nm,1.9s,mb5.5
LDF La Druitiere 88.05 331 *e*P **P 00 15 42.4 -0.8**
LDF pmax pmax
comp=Z,59nm,1.9s,mb5.5
FLN La Foliniere 88.06 332 *e*P **P 00 15 42.2 -1.0**
FLN *e*MLR MLR
comp=Z,308nm,19.8s,MS4.4
FLN La Foliniere 88.06 332 *e*P **P 00 15 42.2 -1.0**
FLN MLR MLR
comp=Z,310nm,19.8s,MS4.7
WUAZ Wupatki 88.09 48 *e*P **P 00 15 45.6 +2.0**
comp=Z,6.1nm,1.1s,mb4.7
SMCO Snowmass 88.22 43 *e*P **P 00 15 44.0 -0.2**
comp=Z,3.3nm,0.7s,mb4.7
SMCO *e* pP 00 15 58.2 -0.3
ORIF Oris-en-Rattie 88.30 326 *e*P **P 00 15 43.3 -1.1**
ORIF *e*MLR MLR
comp=Z,233nm,21.5s,MS4.3
GRR Gorron 88.51 332 *e*P **P 00 15 44.7 -0.7**
comp=Z,93nm,1.7s,mb5.5
GRR Gorron 88.51 332 *e*P **P 00 15 44.7 -0.7**
comp=Z,46nm,1.7s,mb5.5
GRR Gorron 88.51 332 *e*P **P 00 15 44.7 -0.7**
GRR pmax pmax
comp=Z,46nm,1.7s,mb5.5
PGF Pioggiola 88.53 322 *e*P **P 00 15 44.3 -1.3**
comp=Z,4.3nm,0.8s,mb4.5
PGF Pioggiola 88.53 322 *e*P **P 00 15 44.3 -1.3**
comp=Z,2.2nm,0.8s,mb4.5
PGF Pioggiola 88.53 322 *e*P **P 00 15 44.3 -1.3**
PGF pmax pmax
comp=Z,2.0nm,0.8s,mb4.5
ISCO Idaho Springs 88.55 41 *e*P **P 00 15 45.9 +0.1**
ISCO *e* pP 00 16 00.5 +0.4
MVCO Mesa Verde 88.69 45 *e*P **P 00 15 47.6 +1.1**
VIVF Saint-Julien-l 88.91 326 *e*P **P 00 15 46.2 -1.1**
FRF La Foret Royal 88.95 324 *e*P **P 00 15 46.1 -1.4**
EYMN Ely 89.10 28 P **P 00 15 48.2 +0.1**
comp=Z,5.5nm,0.9s,mb4.9
SMRF Simiane la Rot 89.15 325 *e*P **P 00 15 47.1 -1.4**
comp=Z,10nm,1.2s,mb4.7
SMRF Simiane la Rot 89.15 325 *e*P **P 00 15 47.1 -1.4**
comp=Z,10nm,1.2s,mb5.0
LMR La Mourre 89.19 324 *e*P **P 00 15 47.0 -1.6**
PPT Papeete 89.23 112 *e*LR LR 00 43 33.6
comp=Z,182nm,25.5s
PPT Papeete 89.23 112 LR LR 00 48 57.2
comp=Z,141nm,21.1s,MS4.4,baz=90,slow=31
LASF Ste Croix 89.88 326 *e*P **P 00 15 50.6 -1.3**
comp=Z,17nm,1.3s,mb4.9
CAF Calviac 90.03 328 *e*P **P 00 15 51.5 -1.1**
comp=Z,14nm,1.1s,mb4.9
CAF Calviac 90.03 328 *e*P **P 00 15 51.5 -1.1**
comp=Z,7.3nm,1.1s,mb4.9
CAF Calviac 90.03 328 *e*P **P 00 15 51.5 -1.1**
CAF pmax pmax
comp=Z,7.0nm,1.1s,mb4.9
LFF La Frestale 90.60 329 *e*P **P 00 15 54.0 -1.2**
MTLF Montolieu 91.20 327 *e*P **P 00 15 56.9 -1.1**
ANMO Albuquerque 91.44 45 *e*P **P 00 16 02.0 +2.7**
comp=Z,4.0nm,1.2s,mb4.6
ANMO Albuquerque 91.44 45 *e*P **P 00 16 02.0 +2.7**
ANMO pmax pmax
comp=Z,4.0nm,1.2s
TAOE Nuku Hiva Isla 91.84 99 *e*LR LR 00 44 48.4
comp=Z,6μm,23.6s
EPF Esparros 92.29 328 *e*P **P 00 16 00.7 -2.4**
TBI Tubuai 92.69 116 *e*LR LR 00 45 09.9
comp=Z,212nm,30.5s
KMBO Kilima Mbogo 95.84 273 LR LR 01 00 44.6
comp=Z,98nm,18.9s,MS4.3,baz=95,slow=36
TXAR Lajitas Array 97.06 48 LR LR 01 01 18.1
comp=Z,65nm,19.6s,MS4.1,baz=0.0,slow=36
RKT Rikitea 103.69 109 *e*LR LR 00 50 15.9
comp=Z,198nm,25.5s
SYO Syowa Base 122.58 205⇑*ep*Pdiff Pdif 00 18 17.7 -0.7
SYO Syowa Base 122.58 205⇑*ep*Pdiff 00 18 31.0
VNA2 Neumayer--Watz 137.44 198 *e*PKPdf PKPdf 00 22 14.2 -1.1
baz=111,slow=2.9
VNA2 *e* 00 22 17.9
VNA2 *e* 00 22 28.2
VNA2 *e* 00 22 31.8
VNA2 *e* 00 22 40.9
VNA2 *e* 00 22 59.4
VNA3 Neumayer Olymp 137.80 197 *e*PKPdf PKPdf 00 22 15.4 -0.6
VNA3 *e* 00 22 19.8
VNA3 *e* 00 22 30.0
VNA3 *e* 00 22 32.7
VNA3 *e* 00 22 42.9
VNA3 *e* 00 23 00.9
LPAZ La Paz 153.78 53 PKIKP PKPbc 00 22 57.4 +5.0
LPAZ 00 23 06.5
LPAZ pmax pmax
comp=Z,2.0nm,1.1s
LPAZ pmax pmax
comp=Z,3.0nm,0.8s
LPAZ La Paz 153.78 53 PKPbc PKPbc 00 22 57.4 +5.0
comp=Z,2.4nm,1.1s,baz=339,slow=5.4,SNR=5.3
LPAZ PKPab PKPab 00 23 06.5 +1.2
comp=Z,2.8nm,0.8s,baz=346,slow=6.3,SNR=6.4
PLCA Paso Flores 159.70 117 pPKPab pPKPab 00 23 46.5 +1.7
comp=Z,2.3nm,0.8s,baz=256,slow=3.8,SNR=3.5
BDFB Brasilia 161.77 5 pPKPab pPKPab 00 23 53.8 -0.3
comp=Z,1.3nm,0.8s,baz=24,slow=11,SNR=2.7

IDC 26 00:04:51.3±6.8, 1284N×14260E, h124km±86km, mb3.3/5, mb1 3.4/6, mb1mx3.3/21, mbtmp3.3/6, ML3.2/1, MS4.2/1, Ms1 4.2/1, ms1mx3.1/18, Error ellipse: s-maj=90.7km s-min=18.4km az=88.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**2.33**	**71**	P	Pn	00 05 30.8	+1.7
	6.1nm,0.3s,baz=315,slow=16,SNR=3.8						
GUMO				S	Sn	00 05 58.3	+0.2
	27nm,0.3s,baz=204,slow=22,SNR=10						
WRA	**Warramunga Arr**	**33.58**	**194**	P	P	00 11 19.4	-0.3
	0.8nm,0.8s,baz=8.7,slow=9.0,SNR=7.9						
ASAR	**Alice Springs**	**37.27**	**193**	P	P	00 11 51.5	+0.2
	0.2nm,0.4s,baz=22,slow=11,SNR=4.5						
PSI	**Prapat**	**44.34**	**261**	LR	LR	00 33 05.5	
	comp=Z,285nm,18.1s,baz=298,slow=38						
SONM	**Songino Array**	**46.10**	**326**	P	P	00 13 04.6	+1.7
	0.3nm,0.5s,baz=127,slow=6.0,SNR=3.2						
ZALV	**Zalesovo Beam**	**60.96**	**325**	P	P	00 14 49.9	-1.3
	0.5nm,0.3s,baz=110,slow=7.8,SNR=2.4						
BVAR	**Borovoye Array**	**69.15**	**322**	P	P	00 15 44.2	+0.1
	1.2nm,0.4s,baz=104,slow=8.1,SNR=7.2						

IDC 26 00:14:34.4±50.0, 1638S×17876W, h0km, mb4.1/3, mb1 4.3/3, mb1mx3.8/14, mbtmp4.1/3, Error ellipse: s-maj=922.9km s-min=157.0km az=77.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**39.10**	**239**	P	P	00 22 03.2	-0.3
	0.9nm,0.6s,baz=112,slow=11,SNR=3.8						
WRA	**Warramunga Arr**	**44.80**	**258**	P	P	00 22 49.0	+0.3
	1.0nm,0.6s,baz=91,slow=7.5,SNR=15						
ASAR	**Alice Springs**	**44.91**	**253**	P	P	00 22 51.0	-0.2
	4.4nm,0.6s,baz=87,slow=8.6,SNR=49						

IDC 26 00:15:39.8±1.8, 051S×12503E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.3/16, mbtmp3.4/3, Error ellipse: s-maj=169.0km s-min=26.0km az=63.0, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.36**	**155**	P	P	00 20 30.0	+1.2
	0.7nm,0.8s,baz=334,slow=11,SNR=10						
ASAR	**Alice Springs**	**24.58**	**160**	P	P	00 21 00.8	-0.8
	0.2nm,0.5s,baz=341,slow=7.6,SNR=5.7						
MKAR	**Makanchi Array**	**60.12**	**327**	P	P	00 25 49.1	+0.1
	0.4nm,0.4s,baz=119,slow=4.3,SNR=6.4						

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*ISCJB **26** 00:49:35.3±0.3, 3954N±001×1631E±002, h8km±2km, mb4.2/15, Error ellipse: s-maj=2.6km s-min=2.1km az=6.6*
*LDG **26** 00:49:35.8±0.2, 3994N×1618E, h10km, Mb4.6/13, Error ellipse: s-maj=7.9km s-min=4.4km az=25.0*
*NEIC **26** 00:49:35.0, 3956N×1640E, h2km, mb3.7/2, ML3.8(ROM), ML3.5(PDG), After ROM.*
NEIC Felt [IV] at Acri, Corigliano Calabro, Cosenza, Rende and Rossano; [III] at Montalto Uffugo.
*CSEM **26** 00:49:35.2±0.1, 3951N×1626E, h12km, ML4.3, Error ellipse: s-maj=1.3km s-min=0.9km az=87.0*
*IDC **26** 00:49:35.9±0.9, 3953N×1630E, h0km, mb3.8/10, mb1 3.9/19, mb1mx3.9/31, mbtmp3.8/19, ML3.7/7, MS2.9/1, Ms1 2.9/1, ms1mx2.5/39, Error ellipse: s-maj=15.8km s-min=13.8km az=85.0*
*MOS **26** 00:49:35.4±1.4, 3956N×1622E, h13km, mb4.1/9, Error ellipse: s-maj=6.1km s-min=4.0km az=83.1*
*ROM **26** 00:49:36.3±0.1, 3954N×1637E, h10km, Ml3.7/47, Error ellipse: s-maj=2.4km s-min=1.2km az=93.0*
*PDG **26** 00:49:36.1±1.2, 3949N×1645E, h6km±3km, ML3.5/9, Error ellipse: s-maj=1.5km s-min=2.6km az=0.0*
*THE **26** 00:49:37.0, 3959N×16.17E, h12km, ML4.3*
*PRU **26** 00:49:50.7, 4053N×1640E, h0km, M3.7*
*BEO **26** 00:49:55.6, 4088N×17.18E*
*NAO **26** 00:50:04.0, 4166N×1634E, h33km, mb3.6*

ISC 26 00:49:35.9±0.3, 3953N±001×1631E±002, h1km±2km, n205, σ1§14/248, mb4.3/15, 20C-13D, Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CARO	**Carolei**	**0.28**	**195**	⇑*i*Pg	**Pg**	**00 49 43.3**	**+2.1**
CARO				Sg	**Sg**	**00 49 48.7**	**+3.8**
	15μm,0.4s						
TIP	**Timpagrande**	**0.49**	**135**	*e*P	**Pg**	**00 49 46.0**	**+0.7**
TIP				*e*S	**Sg**	**00 49 53.0**	**+1.4**
TIP				Sg	**Sg**	**00 49 53.5**	**+1.9**
TIP	**Timpagrande**	**0.49**	**135**	⇑*i*Pg	**Pg**	**00 49 46.0**	**+0.7**
TIP				Sg	**Sg**	**00 49 53.5**	**+1.9**
	5μm,0.9s						
ORI	**Oriolo Calabro**	**0.55**	**11**	Pg	**Pg**	**00 49 46.1**	**-0.3**
ORI				Sg	**Sg**	**00 49 55.2**	**+1.6**
	10μm,0.4s						
SERS	**Sersale**	**0.57**	**149**	⇑*i*Pg	**Pg**	**00 49 47.6**	**+0.8**
	4μm,0.5s						
SCHR	**S. Chirico Rap**	**0.70**	**345**	Pg	**Pg**	**00 49 49.3**	**0.0**
SCHR				Sg	**Sg**	**00 50 00.7**	**+2.4**
	2μm,0.8s						
GRI	**Girifalco**	**0.71**	**173**	Pg	**Pg**	**00 49 50.6**	**+1.2**
	3μm,0.5s						
SIRI	**Monte Sirino -**	**0.74**	**333**	Pg	**Pg**	**00 49 50.6**	**+0.5**
	5μm,0.7s						
CRAC	**Craco**	**0.84**	**6**	Pg	**Pg**	**00 49 52.2**	**+0.1**
	5μm,0.9s						
MGR	**Morigerati**	**0.84**	**317**	Pg	**Pg**	**00 49 52.3**	**+0.2**
	4μm,0.6s						
MTSN	**Montesano sull**	**0.86**	**330**	Pg	**Pg**	**00 49 52.6**	**+0.3**
	4μm,0.7s						
MCEL	**Monticello**	**0.89**	**334**	Pg	**Pg**	**00 49 52.9**	**-0.1**
	3μm,0.8s						
BULG	**Bulgheria - Ca**	**0.91**	**308**	⇑*i*Pg	**Pg**	**00 49 53.7**	**+0.4**
JOPP	**Joppolo**	**0.97**	**200**	Pg	**Pg**	**00 49 55.5**	**+0.9**
	2μm,0.5s						
PTRP	**Pietrapertosa**	**1.01**	**349**	Pg	**Pg**	**00 49 55.8**	**+0.4**
	5μm,1.7s						
PLAC	**Placanica**	**1.08**	**175**	Pg	**Pg**	**00 49 57.5**	**+0.9**
	1μm,0.9s						
MIGL	**Miglionico**	**1.08**	**5**	Pg	**Pg**	**00 49 55.5**	**-1.2**
	10μm,0.9s						
CMPR	**Campora**	**1.11**	**316**	Pg	**Pg**	**00 49 56.7**	**-0.5**
	2μm,1.0s						
TA1	**Taranto**	**1.16**	**40**	*e*Pn	**Pn**	**00 49 59.1**	**-0.1**
CDRU	**Civita di Ruta**	**1.23**	**322**	Pg	**Pg**	**00 49 59.3**	**-0.3**
	794nm,0.7s						
SGO	**Sicignano**	**1.29**	**324**	Pg	**Pg**	**00 50 00.3**	**-0.3**
SG1	**Sgolgore (BA)**	**1.34**	**12**	*e*Pn	**Pn**	**00 50 00.9**	**-0.9**
SCLL	**Scilla**	**1.35**	**200**	Pg	**Pg**	**00 50 01.2**	**-0.6**
	220nm,0.4s						
NOCI	**Noci**	**1.39**	**24**	Pg	**Pn**	**00 49 59.9**	**-2.5**
	825nm,0.4s						
AMUR	**Altamura**	**1.40**	**9**	Pg	**Pn**	**00 50 01.9**	**-0.7**
	581nm,0.5s						
MSRU	**Castanea**	**1.41**	**207**	⇑*i*Pg	**Pg**	**00 50 01.7**	**-1.1**
	2μm,0.6s						
PALZ	**Palazzo San Ge**	**1.44**	**349**	Pg	**Pg**	**00 50 04.0**	**+0.4**
	3μm,1.0s						
MSI	**Messina ING**	**1.44**	**204**	Pg	**Pg**	**00 50 02.3**	**-1.3**
SOI	**Samo**	**1.46**	**188**	Pg	**Pg**	**00 50 03.3**	**-0.7**
SLNA	**Salina**	**1.50**	**231**	Pg	**Pg**	**00 50 03.0**	**-1.6**
	509nm,0.3s						
LLI	**Lipari**	**1.51**	**225**	Pg	**Pg**	**00 50 03.8**	**-1.1**
	6μm,0.9s						
MCRV	**Calabrutti - M**	**1.53**	**326**	Pg	**Pg**	**00 50 04.4**	**-0.9**
	2μm,1.1s						
PE1	**Pezze di Greco**	**1.54**	**33**	*e*Pn	**Pn**	**00 50 03.8**	**-0.7**
VPL	**Vulcano Piano**	**1.54**	**223**	Pg	**Pg**	**00 50 03.7**	**-1.8**
	2μm,0.7s						
MPAZ	**Palizzi**	**1.59**	**189**	Pg	**Pg**	**00 50 05.1**	**-1.2**
	811nm,0.8s						
MTTG	**Motta San Giov**	**1.59**	**198**	Pg	**Pg**	**00 50 04.9**	**-1.6**
	1μm,0.7s						
LCI	**Lecce**	**1.60**	**59**	⇑*i*Pg	**Pn**	**00 50 03.7**	**-1.7**
	212nm,0.5s						
SNAL	**S. Angelo Dei**	**1.63**	**329**	Pg	**Pg**	**00 50 06.5**	**-0.7**

3μm,1.2s
BAI **Bari** 1.64 15 *e*Pn Pn 00 50 05.3 -0.6
IFIL **Filicudi I Eol** 1.66 235 Pg Pn 00 50 05.1 -1.1
3μm,0.8s
CAFE **Carife** 1.71 332 Pg Pg 00 50 08.5 -0.2
2μm,1.5s
FG4 **Candela** 1.72 340 Pg Pg 00 50 08.2 -0.6
1μm,1.0s
SCTE **Santa Cesarea** 1.75 71 Pg Pn 00 50 05.7 -1.7
667nm,0.6s
MMME **Mongiuffi-Meli** 1.79 208⇑*i*Pg Pn 00 50 07.4 -0.5
981nm,0.9s
MRB1 **Monte Rocchett** 1.90 328 Pg Pg 00 50 10.8 -1.5
886nm,0.9s
ESLN **Serra La Nave** 2.11 210 Pg Pg 00 50 14.4 -1.9
FGMS **Monte Sant'Ang** 2.20 353 Pg Pn 00 50 12.3 -1.2
556nm,1.0s
MSAG **Monte S. Angel** 2.21 352 Pg Pn 00 50 14.2 +0.5
RGNG **Rignano Grg** 2.22 346 Pg Pn 00 50 14.8 +1.0
SACR **S. Croce Del S** 2.24 327 Pg Pn 00 50 14.9 +0.8
769nm,1.5s
GALF **Gagliano Caste** 2.27 218 Pg Pg 00 50 17.1 -2.3
1μm,0.7s
SGRT **San Giovanni R** 2.27 349 Pg Pn 00 50 15.6 +1.1
217nm,0.8s
PTRJ **Pietraroja** 2.29 324 Pg Pn 00 50 15.3 +0.6
978nm,1.5s
GIB **Gibilmanna** 2.35 230 Pg Pn 00 50 15.5 -0.2
342nm,0.8s
CSLB **Castelbuono** 2.37 229 Pg Pn 00 50 16.0 +0.1
91nm,0.6s
BSSO **Busso** 2.41 328 Pg Pn 00 50 17.3 +0.9
HAGA **Augusta** 2.41 202 Pg Pn 00 50 16.9 +0.4
280nm,0.4s
AGST **Augusta-Monte** 2.42 201 Pg Pn 00 50 17.0 +0.4
60nm,0.2s
FG2 **Serracapriola** 2.44 339 Pg Pn 00 50 18.6 +1.7
518nm,0.7s
VAE **Valguarnera** 2.53 217 Pn Pb 00 50 20.9 -1.1
6.5nm,0.3s,baz=158,slow=7.8,SNR=17
VAE Sn Sg 00 50 59.6 +2.5
12nm,0.3s,baz=346,slow=12,SNR=6.9
SSY **Sortino** 2.56 203 Pg Pn 00 50 19.1 +0.6
474nm,0.8s
HVZN **Vizzini** 2.66 209 Pg Pn 00 50 20.7 +0.9
934nm,0.9s
PZI **Palazzolo** 2.69 204 Pg Pn 00 50 20.6 +0.3
69nm,0.1s
KEK **Kerkira** 2.70 85 Pg Pn 00 50 20.0 -0.5
193nm,0.8s
CERA **Filignano** 2.71 321 Pg Pn 00 50 21.9 +1.3
327nm,1.0s
HAVL **Avola** 2.73 200 Pg Pn 00 50 21.2 +0.4
214nm,0.5s
RAFF **Raffo Rosso** 2.76 214⇑*i*Pg Pn 00 50 22.5 +1.2
203nm,0.7s
HMDC **Modica** 2.83 206 Pg Pn 00 50 23.9 +1.7
CORL **Corleone** 2.86 236 Pg Pn 00 50 23.4 +0.8
184nm,0.8s
POFI **Posta Fibreno** 2.95 319 Pg Pn 00 50 26.1 +2.2
VVLD **Villa Vallelon** 3.11 320 Pg Pn 00 50 28.3 +2.2
211nm,1.1s
IGT **Igoumenitsa** 3.11 89 *e*Pn Pn 00 50 25.1 -1.0
ERC **Érice** 3.27 244 Pg Pn 00 50 28.9 +0.7
165nm,0.8s
TIR **Tirane** 3.27 55 Pg Pn 00 50 27.4 -0.8
51nm,0.6s
TIR **Tirane** 3.27 55 *e*Pn Pn 00 50 27.5 -0.7
ULC **Ulcinj** 3.31 42⇑*i*Pn Pn 00 50 28.5 -0.3
ULC *e*Sn Sn 00 51 08.6 -0.1
HCY **Herceg Novi** 3.36 29⇓*i*Pn Pn 00 50 28.8 -0.7
HCY *e*Sn Sn 00 51 10.3 +0.3
BUM **Brajici-Budva** 3.40 34⇓*i*Pn Pn 00 50 29.8 -0.2
BUM *e*Sn Sn 00 51 11.1 +0.2
CERT **Cerreto** 3.50 315 Pg Pn 00 50 32.0 +0.6
STON **Ston** 3.50 17 *e*Pn Pn 00 50 30.7 -0.8
STON Sn Sn 00 51 10.4 -3.2
STON **Ston** 3.50 17 *e*Pn Pn 00 50 30.7 -0.8
STON Sn Sn 00 51 10.3 -3.3
AQU **L'Aquila** 3.58 323 *e*Pn Pn 00 50 35.6 +3.0
AQU Sn Sn 00 51 18.3 +2.8
AQU **L'Aquila** 3.58 323 S Sn 00 51 18.3 +2.8
PDG **Podgorica** 3.66 37⇓*i*Pn Pn 00 50 33.3 -0.4
TTG **Podgorica** 3.66 37⇓*i*Pn Pn 00 50 33.3 -0.4
TTG *e*Sn Sn 00 51 17.5 0.0
BRY **Bratogost** 3.77 26⇓*i*Pn Pn 00 50 34.9 -0.2
BRY *e*Sn Sn 00 51 20.4 +0.3
OHR **Ohrid** 3.78 64 *e*Pn Pn 00 50 39.8 +4.6
OHR *i* Sn Sn 00 51 19.9 -0.5
NKY **Niksic** 3.86 31⇑*i*Pn Pn 00 50 36.1 -0.3
NKY *e*Sn Sn 00 51 23.2 +0.8
FNA **Florina** 4.08 70 *e*Pn Pn 00 50 38.9 -0.6
FNA *e*Sn Sn 00 51 28.1 +0.3
BIA **Bitola** 4.12 67 *e*Pn Pn 00 50 39.3 -0.6
BIA *e*Sn Sn 00 51 28.9 +0.2
BIA **Bitola** 4.12 67 *i* Pn Pn 00 50 39.2 -0.7
BIA *i* Sn Sn 00 51 27.5 -1.1
PVY **Plav** 4.13 41⇑*i*Pn Pn 00 50 40.2 +0.1
PVY *e*Sn Sn 00 51 29.4 +0.3
UPM **Unac-Piva** 4.16 27⇑*i*Pn Pn 00 50 41.5 +1.0
UPM *e*Sn Sn 00 51 29.8 0.0
KRUS **Krusevo** 4.19 62 *i* Pn Pn 00 50 40.4 -0.6
KRUS *i* Sn Sn 00 51 28.6 -2.1
KRUS **Krusevo** 4.19 62 *i* Pn Pn 00 50 40.3 -0.7
KRUS *i* Sn Sn 00 51 28.5 -2.1
BEY **Berane** 4.30 38⇓*i*Pn Pn 00 50 42.8 +0.3
IVA **Berane** 4.30 38⇓*i*Pn Pn 00 50 42.8 +0.3
IVA *e*Sn Sn 00 51 33.1 -0.1
PLE **Pljevlja** 4.45 30⇑*i*Pn Pn 00 50 45.2 +0.7
PLE *e*Sn Sn 00 51 36.5 -0.5
AGG **Agios Georgios** 4.70 94 *e*Pn Pn 00 50 48.8 +0.9
AGG *e*Sn Sn 00 51 44.8 +1.7
LIT **Litokhoron** 4.79 81 *e*Pn Pn 00 50 50.1 +0.9
GRG **Griva** 4.88 71 *e*Pn Pn 00 50 49.6 -0.7
GRG *e*Sn Sn 00 51 45.0 -2.4
GRG **Griva** 4.88 71 *e*Pn Pn 00 50 49.6 -0.7
GRG *e*Sn Sn 00 51 45.0 -2.4
STIP **Stip** 4.97 62 *e*Pn Pn 00 50 50.2 -1.4
STIP *e*Sn Sn 00 51 47.0 -2.7
STIP **Stip** 4.97 62 *i* Pn Pn 00 50 50.6 -1.0
STIP *i* Sn Sn 00 51 46.4 -3.3
VAY **Valandovo** 5.10 67 *e*Pn Pn 00 50 54.4 +1.0
NVLJ **Novalja** 5.15 348 *e*Pn Pn 00 50 54.8 +0.7
NVLJ Sn Sn 00 51 54.4 +0.4
NVLJ **Novalja** 5.15 348 *e*Pn Pn 00 50 54.7 +0.6
KNT **Kendrikon** 5.29 70 *e*Pn Pn 00 50 54.9 -1.2
BARS **Barje** 5.31 50⇑*i*Pn Pn 00 50 57.6 +1.4
DIVS **Divibare** 5.33 30 *e*Pn Pn 00 50 55.8 -0.8
DIVS **Divibare** 5.33 30⇑*i*Pn Pn 00 50 55.7 -0.9
VSL **Villasalto** 5.36 272 *e*Pn Pn 00 50 55.8 -1.2
16nm,0.7s
VSL *e*Sn Sn 00 51 59.2 -0.2
GRUS **Gruza** 5.47 36⇑*i*Pn Pn 00 50 57.5 -0.9
DID **Didima** 5.79 108 *e*Pn Pn 00 51 02.6 -0.4
DID *e*Sn Sn 00 52 10.0 0.0
BOJS **Bojanci** 6.03 353 *i* Pn Pn 00 51 07.5 +1.4
BOJS *i* Sn Sn 00 52 14.9 -0.8
VTS **Vitosha** 6.05 57⇑*i*Pn Pn 00 51 09.0 +2.6
SKDS **Skadanscina** 6.25 345 *i* Pn Pn 00 51 10.6 +1.4
SKDS *e*Sn Sn 00 52 19.8 -1.5
PGF **Pioggiola** 6.30 301 *e*P Pn 00 51 08.2 -1.7
7.4nm,0.4s
PGF **Pioggiola** 6.30 301 *e*P Pn 00 51 08.2 -1.7
3.7nm,0.4s
GCIS **Gornji Cirnik** 6.36 356 *i* Pn Pn 00 51 11.3 +0.6
VISS **Visnje** 6.37 351 *i* Pn Pn 00 51 11.9 +1.1
VISS **Visnje** 6.37 351 *i* Pn Pn 00 51 11.9 +1.1
JAVS **Javornik** 6.58 346 *e*Pn Pn 00 51 14.9 +1.3
JAVS *i* Sn Sn 00 52 29.5 +0.2
JAVS **Javornik** 6.58 346 *e*Pn Pn 00 51 14.9 +1.2
PDKS **Podkum** 6.60 352 *i* Pn Pn 00 51 15.8 +1.8
KEST **Kesra** 6.70 238 Pn Pn 00 51 18.6 +3.3
0.3nm,0.3s,baz=324,slow=3.3,SNR=17
KEST LR LR 00 54 20.9
comp=Z,97nm,18.0s,baz=167,slow=43
VOY **Vojsko** 6.74 346 *e*Pn Pn 00 51 17.1 +1.2
VOY *e* 00 52 36.9
VOY *e* 00 53 00.8
PKSM **Moragy** 6.90 14⇑*i*Pn Pn 00 51 17.2 -0.9
OBKA **Obir** 7.10 350⇑*i*Pn Pn 00 51 21.9 +1.0
OBKA ⇓*i*Sn Sn 00 52 41.2 -0.9
PERS **Pernice** 7.16 353 *e*Pn Pn 00 51 23.6 +1.8
PERS *i* Sn Sn 00 52 39.9 -3.8
PERS **Pernice** 7.16 353 *e*Pn Pn 00 51 23.5 +1.8
PERS *i* Sn Sn 00 52 39.9 -3.8
ARSA **Arzberg** 7.74 356⇓*i*Pn Pn 00 51 29.7 0.0
LMR **La Mourre** 8.29 300 *e*P Pn 00 51 35.1 -2.1
1.7nm,0.6s
FRF **La Foret Royal** 8.29 302 *e*P Pn 00 51 35.3 -1.9
CONA **Conrad Observa** 8.41 358⇓*i*Pn Pn 00 51 39.4 +0.6
CONA ⇓*i*Sn Sn 00 53 13.6 -0.7
MOA **Molln** 8.45 351⇓*i*Pn Pn 00 51 40.5 +1.0
DAVOX **Davos/Dischmat** 8.64 329 Pn Pn 00 51 46.3 +4.3
0.2nm,0.3s,baz=140,slow=16,SNR=4.0
DAVOS **Davos** 8.72 329 P Pn 00 51 46.3 +3.2
LPG **La Plagne** 9.24 313 *e*P Pn 00 51 47.0 -3.2
6.9nm,0.8s
LPL **La Plagne** 9.26 313 *e*P Pn 00 51 47.5 -3.0
8.1nm,0.8s
MLR **Muntele Rosu** 9.28 47 Pn Pn 00 51 52.5 +1.7
0.4nm,0.3s,baz=124,slow=20,SNR=7.7
ORIF **Oris-en-Rattie** 9.43 308 *e*P Pn 00 51 50.0 -2.8
8.7nm,0.9s
KECS **Kecovo** 9.45 17 *e*PN Pn 00 51 54.4 +1.4
GERES **GERESS Array B** 9.50 350 Pn Pn 00 51 54.3 +0.5
0.3nm,0.3s,baz=167,slow=12,SNR=10
GERES Sn Sn 00 53 39.8 -1.4
0.4nm,0.3s,baz=163,slow=24,SNR=6.3
VRAC **Vranov** 9.78 1 Pn Pn 00 51 59.5 +1.8
0.2nm,0.3s,baz=171,slow=13,SNR=3.5
KHC **Kasperske Hory** 9.80 349 *e*P Pn 00 52 00.8 +2.9
KHC *e*Sn Sn 00 53 36.5 -12
KOLS **Kolonicke sedl** 10.33 22 *e*PN Pn 00 52 07.0 +1.9
KOLS **Kolonicke sedl** 10.33 22 *e*P Pn 00 52 07.1 +2.0
LASF **Ste Croix** 10.35 300 *e*P Pn 00 52 03.5 -1.9
25nm,1.5s
STHS **Stebnicka Huta** 10.50 18 *e*Pn Pn 00 52 12.7 +5.3
STHS **Stebnicka Huta** 10.50 18 *e*PN Pn 00 52 12.6 +5.2
AKASG **Malin Array Be** 14.40 35 Pn Pn 00 52 59.5 -1.2
baz=217,slow=44,SNR=3.9
FLN **La Foliniere** 15.16 313 *e*P Pn 00 53 07.0 -4.0
GRR **Gorron** 15.18 311 *e*P Pn 00 53 08.1 -3.3
ESDC **Sonseca Array** 15.63 277 Pn Pn 00 53 18.1 +0.8
0.1nm,0.3s,baz=296,slow=36,SNR=3.6
ANN **Anapa** 16.51 65 *e*P Pn 00 53 27.6 -1.0
ANN pmax pmax
comp=Z,46nm,1.6s
ANN **Anapa** 16.51 65 *e*P Pn 00 53 27.6 -1.0
comp=Z,46nm,1.6s
ROSF **Rostrenen** 16.59 308 *e*P Pn 00 53 27.2 -2.5
MMAI **Mount Meron Ar** 16.70 107 Pn Pn 00 53 31.8 +0.7
comp=Z,0.5nm,0.3s,baz=327,slow=5.3,SNR=5.3
MALT **Malatya** 17.25 87 Pn Pn 00 53 39.2 +1.1
comp=Z,2.8nm,0.9s
MALT **Malatya** 17.25 87 P Pn 00 53 39.2 +1.2
MALT pmax pmax
comp=Z,3.0nm,0.9s
MALT **Malatya** 17.25 87 P Pn 00 53 39.2 +1.2
comp=Z,3.0nm,0.9s
MDT **Midelt** 18.15 255 P Pn 00 53 49.8 +0.6
comp=Z,0.0nm,0.3s,baz=25,slow=12,SNR=2.6
EIL **Elat** 18.20 117 P Pn 00 53 49.9 +0.2
EIL **Elat** 18.20 117 P Pn 00 53 49.9 +0.2
comp=Z,0.1nm,0.3s,baz=334,slow=4.8,SNR=4.7
EVO **Evora** 18.91 275 *e*P Pn 00 53 58.5 0.0
comp=Z,7.2nm,0.6s
EVOP **Sao Brissos** 19.00 275 *e*P Pn 00 53 58.5 -1.0
comp=Z,3.6nm,0.6s
KIV **Kislovodsk** 20.14 69 *e*P P 00 54 11.7 +0.4
KIV pmax pmax
comp=Z,6.0nm,1.1s
KIV **Kislovodsk** 20.14 69 *e*P P 00 54 11.7 +0.4
comp=Z,6.0nm,1.1s
EKA **Eskdalemuir Ar** 20.47 327 P P 00 54 14.6 -0.2
EKA pmax pmax
comp=Z,1.0nm,0.8s
EKA **Eskdalemuir Ar** 20.47 327 P P 00 54 14.6 -0.2
comp=Z,1.2nm,0.8s,baz=132,slow=12,SNR=4.5
KONO **Kongsberg** 20.59 350 *e*P P 00 54 16.2 +0.2
OBN **Obninsk** 20.66 34 ⇑P P 00 54 14.4 -2.5
OBN pmax pmax
comp=Z,5.0nm,1.6s
HFS **Hagfors** 20.70 356 P P 00 54 16.8 -0.4
HFS pmax pmax
comp=Z,7.0nm,1.0s
HFS **Hagfors** 20.70 356 P P 00 54 16.8 -0.4
comp=Z,6.6nm,1.0s,baz=198,slow=9.3,SNR=8.2
NB2 **NORSAR Subarra** 21.77 353 P P 00 54 29.5 +0.7
comp=Z,3.1nm,0.8s,mb3.8,baz=168,slow=12
NOA **NORSAR Array B** 21.77 353 P P 00 54 29.0 +0.2
NOA **NORSAR Array B** 21.77 353 P P 00 54 29.0 +0.2
NOA pmax pmax
comp=Z,2.0nm,0.9s
NOA **NORSAR Array B** 21.77 353 P P 00 54 29.0 +0.2
comp=Z,2.2nm,0.9s,mb3.6,baz=185,slow=11,SNR=4.5
FINES **FINESS Array B** 22.76 12 P P 00 54 40.6 +1.3
FINES pmax pmax
comp=Z,2.0nm,0.5s
FINES **FINESS Array B** 22.76 12 P P 00 54 40.6 +1.3
comp=Z,2.0nm,0.5s,mb3.9,baz=186,slow=9.8,SNR=20
ARCES **ARCESS Array B** 30.47 6 P P 00 55 49.7 -0.1
ARCES pmax pmax
comp=Z,2.0nm,0.8s
ARCES **ARCESS Array B** 30.47 6 P P 00 55 49.6 -0.2
comp=Z,1.9nm,0.8s,mb4.0,baz=205,slow=5.4,SNR=4.7
ARU **Arti** 32.32 44*d*iP P 00 56 04.9 -1.3
ARU *e*S S 01 01 15.3 -5.3
ARU pmax pmax
comp=Z,7.0nm,2.3s,mb4.2
LIC **Lamto** 38.32 216 *e*P P 00 57 00.8 +2.5
comp=Z,71nm,1.5s,mb4.9
EKS2 **Erkin-Say** 42.71 66 *e*P P 00 57 35.2 +0.9
comp=Z,3.6nm,1.0s,mb4.1
EKS2 **Erkin-Say** 42.71 66 *e*P P 00 57 35.2 +0.8
KURK **Kurchatov** 44.13 54 *e*P P 00 57 46.7 +1.0
ZAL **Zalesovo** 47.24 49 P P 00 58 10.3 0.0
ZALV **Zalesovo Beam** 47.25 49 P P 00 58 10.3 -0.1
ZALV **Zalesovo Beam** 47.25 49 P P 00 58 10.3 -0.1
comp=Z,0.5nm,0.4s,mb4.0,baz=295,slow=7.8,SNR=3.5
MK31 **Makanchi Array** 47.40 58 *e*P P 00 58 11.5 -0.1
MK31 **Makanchi Array** 47.40 58 *e*P P 00 58 11.5 -0.1
MKAR **Makanchi Array** 47.40 58 P P 00 58 10.9 -0.7
MKAR pmax pmax
comp=Z,2.0nm,0.7s
MKAR **Makanchi Array** 47.40 58 P P 00 58 10.9 -0.7
comp=Z,1.7nm,0.7s,mb4.3,baz=282,slow=5.9,SNR=13
DANN **Dangsing** 55.88 79 *e*P P 00 59 15.5 +0.2
comp=Z,25nm,0.9s,mb5.2
DMN **Daman** 57.29 80 *e*P P 00 59 24.9 -0.4
comp=Z,8.7nm,0.6s,mb5.0
PKIN **Phulchoki** 57.52 79 *e*P P 00 59 26.8 -0.2
comp=Z,6.9nm,0.5s,mb5.0
GUN **Gumba** 57.72 79 *e*P P 00 59 28.1 -0.3
comp=Z,23nm,0.9s,mb5.2
SONM **Songino Array** 62.12 50 P P 00 59 58.4 +0.1
SONM pmax pmax
comp=Z,2.0nm,0.9s
SONM **Songino Array** 62.12 50 P P 00 59 58.4 +0.1
comp=Z,2.2nm,0.9s,mb4.4,baz=316,slow=7.5,SNR=8.5
YKA **Yellowknife Ar** 70.96 338 P P 01 00 53.8 -0.7
comp=Z,0.3nm,0.8s,mb3.5,baz=40,slow=5.9,SNR=6.5
YKA **Yellowknife Ar** 70.96 338 P P 01 00 53.8 -0.8
TXAR **Lajitas Array** 91.63 311 P P 01 02 45.0 +0.1
comp=Z,0.2nm,0.8s,mb3.5,baz=129,slow=3.4,SNR=3.7
ASAR **Alice Springs** 125.56 93 PKP PKPdf 01 08 37.9 -1.2
comp=Z,0.3nm,0.7s,baz=329,slow=1.1,SNR=3.7

*ISCJB **26** 00:58:22.8±1.2,4274N±005×7629E±007,h4km±9km,*
Error ellipse: s-maj=9.9km s-min=7.3km az=43.0
*NNC **26** 00:58:22.1±5.4,4258N×7621E,h0km,mb2.8,mpv2.5,*
Error ellipse: s-maj=96.2km s-min=27.2km az=35.0
*KNET **26** 00:58:23.8±0.8,4268N×7617E,h14km±2km,ml1.8,Error*
ellipse: s-maj=6.8km s-min=1.7km az=53.0
ISC 26 00:58:23.7±1.3,4272N±006×7625E±008,h3km±10km,n12,
σ0§83/18,12C-8D,Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ULHL	**Ulahol**	0.48	181	⇓P	Pg	00 58 32.7	-0.1
16nm,0.1s,SNR=33							
ULHL				⇓S	Sg	00 58 39.1	+0.2
46nm,0.2s							
TKM2	**Tokmak 2**	0.52	293	⇓P	Pg	00 58 33.5	-0.1
7.8nm,0.3s							
TKM2				⇑S	Sg	00 58 41.1	+0.7
18nm,0.2s							
TKM2	**Tokmak 2**	0.52	293	⇑P	Pg	00 58 33.5	-0.1
21nm,0.1s,SNR=11							
TKM2				⇓S	Sg	00 58 41.2	+0.8
121nm,0.1s							
KBK	**Karagaybulak**	0.96	266	⇑P	Pg	00 58 42.0	-0.1
8.0nm,0.1s,SNR=7.7							
KBK				⇓S	Sg	00 58 55.4	+0.9
19nm,0.1s							
KZA	**Kyzart**	0.98	229	⇑P	Pg	00 58 42.4	-0.1
2.5nm,0.1s,SNR=17							
CHMS	**Chumysh**	1.14	285	⇓P	Pg	00 58 44.2	-1.2
5.1nm,0.1s,SNR=14							
CHMS				⇑S	Sg	00 58 59.5	-0.6
18nm,0.2s							
AAK	**Ala-Archa**	1.30	267	⇓P	Pn	00 58 47.6	-1.1
3.7nm,0.1s,SNR=9.7							
AAK				⇓S	Sg	00 59 05.2	-0.1
5.9nm,0.2s							
USP	**Ospenovka**	1.39	294	⇑P	Pn	00 58 48.7	-1.3
7.0nm,0.2s,SNR=40							
EKS2	**Erkin-Say**	1.82	269	⇑P	Pn	00 58 57.3	+1.3
4.2nm,0.1s,SNR=7.4							
AML	**Almayashu**	1.98	254	⇑P	Pb	00 58 59.9	-0.5
2.4nm,0.2s,SNR=6.8							
KK31	**Karatay Array**	4.23	277	⇑Pg	Pb	00 59 40.3	+1.6
0.3nm,0.3s,baz=93,slow=16,SNR=7.2							
KK31				⇑Lg		01 00 37.1	
1.2nm,0.4s,baz=96,slow=26,SNR=7.9							
MK31	**Makanchi Array**	5.92	45	⇑Pn	Pn	00 59 52.8	+0.6
0.1nm,0.2s,baz=223,slow=16,SNR=3.2							
MK31				⇑Lg		01 01 25.3	
0.6nm,0.7s,baz=213,slow=29,SNR=3.6							

*ISCJB **26** 01:06:45.5±0.4,1129S±006×1304W±008,h10km,*
mb4.5/44,MS3.8/17,Error ellipse: s-maj=11.9km
s-min=8.1km az=5.4
*IDC **26** 01:06:46.1±0.8,1127S×1305W,h0km,mb4.1/11,*
mb1 4.2/12,mb1mx4.1/21,mbtmp4.1/12,ML3.5/1,MS3.8/13,
Ms1 3.8/13,ms1mx3.6/24,Error ellipse: s-maj=23.4km
s-min=19.0km az=120.0
*NEIC **26** 01:06:47.6±0.2,1132S×1305W,h10km,mb4.7/29,*
MS3.9/2,Error ellipse: s-maj=6.3km s-min=4.9km az=90.0
*SZGRF **26** 01:06:48.5,1191S×1206W,h33km,mb5.0,Ascension*
Island region
ISC 26 01:06:48.3±7.5,1133S±006×1302W±009,h14km±46km,
h16km±.5km:pP-P,n112,σ0§56/104,mb4.5/44,MS3.8/17,
Ascension Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIC	**Lamto**	19.17	25	*e*P	Pn	01 11 12.3	-0.1
25nm,0.9s							
LIC				*e*MLR	MLR		
comp=Z,178nm,22.2s							
LIC	**Lamto**	19.17	25	*e*P	Pn	01 11 12.3	-0.1
comp=Z,12nm,0.9s							
DBIC	**Dimbokro**	19.64	25	*e*P	Pn	01 11 17.8	-0.3
comp=Z,6.2nm,0.8s							
DBIC				LR	LR	01 16 08.9	
DBIC	**Dimbokro**	19.64	25	P	Pn	01 11 17.6	-0.5
comp=Z,0.1nm,0.3s,baz=306,slow=21,SNR=3.3							
DBIC				LR	LR	01 16 08.9	
comp=Z,49nm,20.2s,baz=269,slow=29							
BBTS	**Babate**	26.05	352	LR	LR	01 20 30.2	
comp=Z,138nm,20.7s,MS3.5,baz=36,slow=32							
TSUM	**Tsumeb**	30.51	109	*e*P	P	01 13 02.0	+0.7
BDFB	**Brasilia**	34.27	259	P	P	01 13 34.5	+0.3
comp=Z,1.1nm,0.6s,mb3.9,baz=121,slow=25,SNR=4.2							
BDFB				LR	LR	01 24 42.8	
comp=Z,113nm,19.4s,MS3.6,baz=268,slow=31							
SUR	**Sutherland**	37.50	129	P	P	01 14 01.2	-0.6
LBTB	**Lobatse**	38.99	116	*e*P	P	01 14 14.6	+0.2
BOSA	**Boshof**	39.66	121	P	P	01 14 22.0	+2.0
comp=Z,6.0nm,1.0s,mb4.3,baz=271,slow=6.6,SNR=5.1							
BOSA				LR	LR	01 27 26.3	
comp=Z,220nm,20.8s,MS4.0,baz=72,slow=31							
LSZ	**Lusaka**	40.26	100	P	P	01 14 25.5	+0.4
comp=Z,1.9nm,0.9s,mb3.8,baz=292,slow=12,SNR=3.8							
SIV	**San Ignacio**	46.84	259	P	P	01 15 18.6	+0.4
comp=Z,1.1nm,0.9s,mb3.8,baz=148,slow=4.0,SNR=4.4							
EVO	**Evora**	49.82	5	*e*P	P	01 15 40.1	-0.6
comp=Z,24nm,1.2s,mb4.8							
EVO				*e*MLR	MLR		
comp=Z,124nm,21.8s,MS3.6							
KMBO	**Kilima Mbogo**	50.91	82	LR	LR	01 34 44.3	
comp=Z,138nm,20.3s,MS4.0,baz=91,slow=33							
KEST	**Kesra**	51.36	23	P	P	01 15 51.0	-1.4
comp=Z,2.1nm,0.9s,mb4.1,baz=318,slow=1.6,SNR=6.3							
LPAZ	**La Paz**	53.61	258	*e*P	P	01 16 10.3	+0.7
LPAZ	**La Paz**	53.61	258	LR	LR	01 37 35.9	
comp=Z,84nm,18.2s,MS3.8,baz=255,slow=34							
ETSF	**Etsaut**	55.16	11	*e*P	P	01 16 20.1	-0.1
SJPF	**Ste Jean**	55.24	11	*e*P	P	01 16 20.5	-0.3
comp=Z,21nm,1.1s,mb4.8							
SJPF	**Ste Jean**	55.24	11	*e*P	P	01 16 20.5	-0.3
comp=Z,10nm,1.1s,mb4.8							
EPF	**Esparros**	55.46	12	*e*P	P	01 16 22.6	+0.2
comp=Z,7.8nm,0.9s,mb4.4							
EPF	**Esparros**	55.46	12	*e*P	P	01 16 22.6	+0.2
comp=Z,3.9nm,0.9s,mb4.4							
MTLF	**Montolieu**	56.16	13	*e*P	P	01 16 27.3	-0.1
LASF	**Ste Croix**	57.24	14	*e*P	P	01 16 35.2	+0.1
comp=Z,8.0nm,1.0s,mb4.4							
LMR	**La Mourre**	57.25	17	*e*P	P	01 16 34.5	-0.7
comp=Z,19nm,1.3s,mb4.7							
LMR	**La Mourre**	57.25	17	*e*P	P	01 16 34.5	-0.7
comp=Z,9.6nm,1.3s,mb4.7							
PGF	**Pioggiola**	57.29	19	*e*P	P	01 16 35.7	+0.2
LFF	**La Frestale**	57.37	12	*e*P	P	01 16 36.0	0.0
comp=Z,24nm,1.1s,mb4.8							
LFF	**La Frestale**	57.37	12	*e*P	P	01 16 36.0	0.0
comp=Z,12nm,1.1s,mb4.8							
FRF	**La Foret Royal**	57.50	17	*e*P	P	01 16 36.5	-0.4
comp=Z,5.4nm,0.9s,mb4.3							
FRF	**La Foret Royal**	57.50	17	*e*P	P	01 16 36.5	-0.4
comp=Z,2.7nm,0.9s,mb4.3							
SMRF	**Simiane la Rot**	57.58	16	*e*P	P	01 16 37.5	0.0
comp=Z,19nm,1.3s,mb4.7							
SMRF	**Simiane la Rot**	57.58	16	*e*P	P	01 16 37.5	0.0
comp=Z,19nm,1.3s,mb5.0							
CAF	**Calviac**	57.63	13	*e*P	P	01 16 37.9	+0.1
comp=Z,16nm,1.2s,mb4.6							
CAF	**Calviac**	57.63	13	*e*P	P	01 16 37.9	+0.1
comp=Z,8.1nm,1.2s,mb4.6							
RJF	**Les Rejaudoux**	57.88	12	*e*P	P	01 16 39.8	+0.2
RJF				*e*MLR	MLR		
comp=Z,130nm,20.5s,MS3.7							
RJF	**Les Rejaudoux**	57.88	12	*e*P	P	01 16 39.8	+0.2
RJF				LR	LR		
comp=Z,130nm,20.5s,MS4.0							
VIVF	**Saint-Julien-l**	58.17	15	*e*P	P	01 16 41.8	+0.2
comp=Z,12nm,1.1s,mb4.5							
VIVF	**Saint-Julien-l**	58.17	15	*e*P	P	01 16 41.8	+0.2
comp=Z,5.8nm,1.1s,mb4.5							
PLCA	**Paso Flores**	58.20	229	P	P	01 16 46.4	+4.4
PLCA				LR	LR	01 38 16.9	
PLCA	**Paso Flores**	58.20	229	P	P	01 16 46.4	+4.4
comp=Z,0.8nm,0.8s,mb3.8,baz=72,slow=13,SNR=2.9							
PLCA				LR	LR	01 38 16.9	
comp=Z,88nm,18.1s,MS3.9,baz=260,slow=32							
ORIF	**Oris-en-Rattie**	58.54	16	*e*P	P	01 16 44.4	+0.2
comp=Z,10nm,1.0s,mb4.5							
ORIF				*e*MLR	MLR		
comp=Z,91nm,18.5s,MS3.6							
ORIF	**Oris-en-Rattie**	58.54	16	*e*P	P	01 16 44.4	+0.2
comp=Z,5.1nm,1.0s,mb4.5							
MBDF	**Montbardon**	58.60	16	*e*P	P	01 16 45.1	+0.4
MFF	**Saint Martin d**	58.81	10	*e*P	P	01 16 46.3	+0.2
TCF	**Toulx Ste Croi**	58.96	12	*e*P	P	01 16 46.9	-0.2
LPG	**La Plagne**	59.31	16	*e*P	P	01 16 50.0	+0.4
comp=Z,11nm,1.0s,mb4.5							
LPG	**La Plagne**	59.31	16	*e*P	P	01 16 50.0	+0.4
comp=Z,5.5nm,1.0s,mb4.5							
LPL	**La Plagne**	59.32	16	*e*P	P	01 16 50.0	+0.4
comp=Z,11nm,0.9s,mb4.6							
LPL	**La Plagne**	59.32	16	*e*P	P	01 16 50.0	+0.4
comp=Z,5.3nm,0.9s,mb4.6							
VNA1	**Neumayer--Stat**	59.35	178	*e*

VNA2				*e*			01 16 58.1
VNA2				*e*			01 17 04.3
AVF	**Avril sur Loir**	**59.68**	**13**	*e*P		**P**	**01 16 52.3 +0.2**
VNA3	**Neumayer Olymp**	**59.91**	**179**	*e*		**P**	**01 16 51.8 -1.6**
VNA3				*e*			01 16 58.6
VNA3				*e*			01 17 01.7
ATD	**Arta Tunnel**	**59.96**	**70**	LR	LR		01 39 12.0
comp=Z,70nm,20.2s,MS3.8,baz=119,slow=32							
SSF	**Saint Saulge**	**59.97**	**13**	*e*P		**P**	**01 16 54.3 +0.2**
comp=Z,7.7nm,0.9s,mb4.4							
SSF	**Saint Saulge**	**59.97**	**13**	*e*P		**P**	**01 16 54.3 +0.2**
comp=Z,3.8nm,0.9s,mb4.4							
ROSF	**Rostrenen**	**60.02**	**7**	*e*P		**P**	**01 16 54.7 +0.3**
comp=Z,133nm,1.6s,mb5.4							
ROSF	**Rostrenen**	**60.02**	**7**	*e*P		**P**	**01 16 54.7 +0.3**
comp=Z,66nm,1.6s,mb5.4							
SGMF	**Saint Gilles**	**60.04**	**8**	*e*P		**P**	**01 16 54.7 +0.2**
comp=Z,47nm,1.3s,mb5.0							
SGMF	**Saint Gilles**	**60.04**	**8**	*e*P		**P**	**01 16 54.7 +0.2**
comp=Z,24nm,1.3s,mb5.1							
CABF	**La Chapelle**	**60.16**	**15**	*e*P		**P**	**01 16 55.4 0.0**
comp=Z,20nm,1.1s,mb4.8							
CABF	**La Chapelle**	**60.16**	**15**	*e*P		**P**	**01 16 55.4 0.0**
comp=Z,9.9nm,1.0s,mb4.8							
GRR	**Gorron**	**60.42**	**9**	*e*P		**P**	**01 16 57.4 +0.3**
SNAA	**Sanae**	**60.62**	**176**	*e*		**P**	**01 16 57.3 -1.0**
SNAA				*e*		pP	01 17 02.0 -0.9
SNAA				*e*			01 17 06.0
SNAA	**Sanae**	**60.62**	**176**	P		**P**	**01 16 57.9 -0.4**
comp=Z,1.0nm,0.9s,mb4.0,baz=350,slow=5.6,SNR=7.7							
LDF	**La Druitiere**	**60.74**	**10**	*e*P		**P**	**01 16 59.5 +0.2**
FLN	**La Foliniere**	**60.85**	**9**	*e*P		**P**	**01 17 00.0 0.0**
FLN				*e*MLR		MLR	
comp=Z,151nm,17.0s,MS3.9							
FLN	**La Foliniere**	**60.85**	**9**	*e*P		**P**	**01 17 00.0 0.0**
FLN				LR		LR	
comp=Z,150nm,17.0s,MS4.2							
HAU	**Haudompre**	**61.53**	**15**	*e*P		**P**	**01 17 04.7 0.0**
comp=Z,12nm,1.0s,mb4.7							
HAU				*e*MLR		MLR	
comp=Z,80nm,20.2s,MS3.6							
HAU	**Haudompre**	**61.53**	**15**	*e*P		**P**	**01 17 04.7 0.0**
comp=Z,6.0nm,1.0s,mb4.7							
HAU				LR		LR	
comp=Z,80nm,20.3s,MS3.9							
MEZF	**Maizieres J'vi**	**61.68**	**14**	*e*P		**P**	**01 17 05.8 +0.1**
comp=Z,10.0nm,0.8s,mb4.7							
MEZF	**Maizieres J'vi**	**61.68**	**14**	*e*P		**P**	**01 17 05.8 +0.1**
comp=Z,10.0nm,0.8s,mb5.0							
CDF	**Champ du Feu**	**62.14**	**15**	*e*P		**P**	**01 17 07.6 -1.2**
BFO	**Black Forest**	**62.34**	**16**	*e*P		**P**	**01 17 10.1 0.0**
comp=Z,42nm,2.2s,mb5.2							
BAIF	**Baives**	**62.96**	**12**	*e*P		**P**	**01 17 14.1 -0.1**
comp=Z,13nm,1.0s,mb4.7							
BAIF	**Baives**	**62.96**	**12**	*e*P		**P**	**01 17 14.1 -0.1**
comp=Z,6.7nm,1.0s,mb4.7							
ROSC	**El Rosal**	**63.08**	**281**	LR		LR	01 40 20.2
comp=Z,116nm,21.4s,MS4.0,baz=90,slow=32							
GIVF	**Givet**	**63.13**	**13**	*e*P		**P**	**01 17 15.5 +0.1**
GRA1	**Grafenberg Arr**	**64.38**	**17**	*e*P		**P**	**01 17 23.8 +0.2**
comp=Z,7.0nm,1.0s,mb4.7							
GRF	**Grafenberg Arr**	**64.38**	**17**	*e*P		**P**	**01 17 23.8 +0.2**
comp=Z,7.0nm,1.0s,mb4.7							
GEC2	**GERESS Array S**	**64.39**	**19**	*e*P		**P**	**01 17 23.3 -0.4**
comp=Z,5.0nm,1.0s,mb4.5							
GERES	**GERESS Array B**	**64.39**	**19**	P		**P**	**01 17 23.9 +0.2**
comp=Z,2.2nm,0.9s,mb4.2,baz=197,slow=7.0,SNR=11							
GERES				LR		LR	01 46 30.5
comp=Z,41nm,18.8s,MS3.6,baz=238,slow=37							
WET	**Wettzell**	**64.39**	**19**	*e*P		**P**	**01 17 23.4 -0.3**
comp=Z,7.0nm,1.1s,mb4.6							
ASF	**Jabal al Asfar**	**64.40**	**46**	LR		LR	01 43 40.3
comp=Z,51nm,20.4s,MS3.7,baz=244,slow=34							
ROTZ	**Rotzenmuhle**	**64.74**	**18**	*e*P		**P**	**01 17 25.6 -0.4**
comp=Z,7.0nm,1.1s,mb4.6							
MANZ	**Manzenberg**	**64.91**	**18**	*e*P		**P**	**01 17 26.9 -0.1**
comp=Z,9.0nm,1.3s,mb4.6							
MODS	**Modra-Piesok**	**65.22**	**22**	*e*P		**P**	**01 17 29.7 +0.6**
MOX	**Moxa**	**65.35**	**17**	*e*P		**P**	**01 17 30.1 +0.2**
comp=Z,11nm,1.4s,mb4.7							
MOX	**Moxa**	**65.35**	**17**	*e*P		**P**	**01 17 29.5 -0.4**
comp=Z,7.0nm,1.1s,mb4.6							
TANN	**Tannenbergstha**	**65.39**	**18**	*e*P		**P**	**01 17 29.9 -0.3**
comp=Z,8.0nm,1.2s,mb4.6							
KOLL	**Kolacno**	**65.80**	**22**	*e*P		**P**	**01 17 33.5 +0.6**
VYHS	**Vyhne**	**65.90**	**23**	*i* P		**P**	**01 17 34.1 +0.6**
comp=Z,5.3nm,1.2s,mb4.5							
VYHS				*e*		pP	01 17 38.7 +0.6
CLZ	**Clausthal**	**66.08**	**16**	*e*P		**P**	**01 17 34.9 +0.3**
BRG	**Berggiesshubel**	**66.24**	**18**	*e*P		**P**	**01 17 35.5 -0.2**
comp=Z,31nm,2.4s,mb4.9							
KECS	**Kecovo**	**66.52**	**24**	*e*P		**P**	**01 17 38.4 +0.9**
comp=Z,3.8nm,0.9s,mb4.4							
CRVS	**Cervenica-Dubn**	**67.24**	**24**	*e*P		**P**	**01 17 42.9 +0.8**
STHS	**Stebnicka Huta**	**67.57**	**23**	*e*P		**P**	**01 17 43.4 -0.8**
KOLS	**Kolonicke sedl**	**67.59**	**24**	*e*P		**P**	**01 17 44.7 +0.4**
BSEG	**Bad Segeberg**	**67.97**	**15**	*e*P		**P**	**01 17 46.7 +0.1**
comp=Z,14nm,0.2s,mb5.7							
KIEV	**Kiev**	**71.86**	**27**	*e*P		**P**	**01 18 09.6 -1.0**
comp=Z,20nm,1.1s,mb5.0							
AKASG	**Malin Array Be**	**71.88**	**27**	P		**P**	**01 18 09.8 -0.8**
comp=Z,7.3nm,0.8s,mb4.7,baz=224,slow=6.5,SNR=42							
AKBB	**Malin Array Si**	**71.88**	**27**	*e*P		**P**	**01 18 09.9 -0.8**
NOA	**NORSAR Array B**	**74.65**	**12**	P		**P**	**01 18 27.3 +0.5**
comp=Z,1.2nm,1.0s,mb3.8,baz=189,slow=4.1,SNR=2.9							
FINES	**FINESS Array B**	**78.78**	**18**	P		**P**	**01 18 50.7 +0.5**
FINES	**FINESS Array B**	**78.78**	**18**	P		**P**	**01 18 50.7 +0.5**
comp=Z,4.8nm,0.8s,mb4.5,baz=132,slow=2.8,SNR=15							
ARCES	**ARCESS Array B**	**85.00**	**13**	LR		LR	01 55 10.3
comp=Z,71nm,18.7s,MS4.1,baz=224,slow=34							
ULM	**Lac du Bonnet**	**94.09**	**320**	LR		LR	01 54 14.8
comp=Z,85nm,20.1s,MS4.2,baz=59,slow=30							
TXAR	**Lajitas Array**	**96.01**	**299**	P		**P**	**01 20 15.8 +0.3**
comp=Z,0.5nm,0.9s,mb3.9,baz=128,slow=8.1,SNR=3.4							

*IDC **26** 01:23:11.5±5.4,3652N×7135E,h193km±42km,mb3.4/5, mb1 3.5/10,mb1mx3.2/24,mbtmp3.3/10,Error ellipse: s-maj=45.6km s-min=22.7km az=32.0*
*MOS **26** 01:23:11.9±1.0,3660N×7119E,h212km,mb3.8/4,Error ellipse: s-maj=26.0km s-min=9.6km az=81.9*
*ISCJB **26** 01:23:12.7±0.4,3665N±003×7122E±006,h217km±6km, mb3.5/5,Error ellipse: s-maj=7.7km s-min=4.7km az=170.2*
*NEIC **26** 01:23:13.7±0.6,3660N×7138E,h215km±5km,mb4.3/4, Error ellipse: s-maj=11.8km s-min=6.6km az=130.0*
*NNC **26** 01:23:18.3±3.4,3706N×7107E,h205km±29km,mb2.5, mpv3.8,Error ellipse: s-maj=30.2km s-min=18.1km az=10.0*
*BJI **26** 01:23:23.5,3694N×7229E,h215km,mb4.0*
ISC 26 01:23:13.8±0.4,3664N±003×7127E±006,h208km±5km, n57,σ1°07/68,mb3.5/5,8C-2D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**2.77**	**221**	*e*Pn		**Pn**	**01 24 02.2**	**+1.0**
KBL				*e*Sn		**Sn**	**01 24 36.3**	**-2.0**
KSH	**Kashi**	**4.69**	**51**	P		**Pn**	**01 24 26.3**	**+1.9**
KSH				Smax				
comp=N,445nm,0.2s								
KSH				Smax				
comp=E,571nm,0.4s								
DLH	**Dalhousie**	**5.64**	**135**	*e*P		**Pn**	**01 24 37.0**	**+0.5**
DLH				*e*S		**Sn**	**01 25 44.0**	**+2.1**
AML	**Almayashu**	**5.79**	**18**	*e*Pn		**Pn**	**01 24 39.2**	**+0.9**
comp=E,39nm,0.4s								
AML				*e*Sn		**Sn**	**01 25 42.8**	**-2.7**
AML	**Almayashu**	**5.79**	**18**	P		**Pn**	**01 24 39.2**	**+0.8**
SNR=73								
UCH	**Uchtor**	**6.12**	**23**	*e*Pn		**Pn**	**01 24 43.5**	**+1.0**
comp=E,12nm,0.4s								
UCH				*e*Sn		**Sn**	**01 25 11.1**	**-1.8**
UCH	**Uchtor**	**6.12**	**23**	P		**Pn**	**01 24 43.5**	**+1.0**
SNR=30								
KZA	**Kyzart**	**6.24**	**28**	P		**Pn**	**01 24 44.6**	**+0.5**
SNR=16								
EKS2	**Erkin-Say**	**6.31**	**17**	*e*Pn		**Pn**	**01 24 45.5**	**+0.5**
comp=E,3.1nm,0.4s								
KK31	**Karatay Array**	**6.48**	**355**	P		**Pn**	**01 24 46.8**	**-0.3**
comp=E,1.5nm,0.3s,baz=171,slow=12,SNR=25								
KK31				⇑S		**Sn**	**01 25 55.9**	**-5.5**
comp=E,4.2nm,0.3s								
AAK	**Ala-Archa**	**6.48**	**22**	*e*Pn		**Pn**	**01 24 47.1**	**0.0**
AAK				*e*Sn		**Sn**	**01 25 59.6**	**-1.8**
AAK	**Ala-Archa**	**6.48**	**22**	PN		**Pn**	**01 24 47.6**	**+0.4**
AAK				S		**Sn**	**01 25 59.8**	**-1.6**
AAK				pmax	pmax			
comp=Z,5.0nm,0.3s								
AAK				smax				
comp=N,2.0nm,0.3s								
AAK	**Ala-Archa**	**6.48**	**22**	P		**Pn**	**01 24 47.6**	**+0.4**
comp=N,5.1nm,0.3s,baz=160,slow=5.5,SNR=35								
AAK				S		**Sn**	**01 25 59.8**	**-1.6**
comp=N,1.8nm,0.3s,baz=317,slow=23,SNR=44								
AAK	**Ala-Archa**	**6.48**	**22**	P		**Pn**	**01 24 48.2**	**+1.1**
SNR=15								
KBK	**Karagaybulak**	**6.64**	**24**	P		**Pn**	**01 24 50.9**	**+1.6**
SNR=6.7								
ULHL	**Ulahol**	**6.79**	**33**	P		**Pn**	**01 24 52.7**	**+1.5**
SNR=13								
SDNR	**Sundarnagar**	**6.98**	**136**	*e*P		**Pn**	**01 24 54.6**	**+0.8**
SDNR				*e*S		**Sn**	**01 26 10.4**	**-2.9**
TKM2	**Tokmak 2**	**7.10**	**27**	⇑P		**Pn**	**01 24 56.1**	**+0.9**
comp=N,6.1nm,0.5s								
TKM2				⇑S		**Sn**	**01 26 15.1**	**-0.8**
comp=N,4.2nm,0.7s								
TKM2	**Tokmak 2**	**7.10**	**27**	*e*Pn		**Pn**	**01 24 56.0**	**+0.9**
comp=N,12nm,0.6s								
TKM2				*e*Sn		**Sn**	**01 26 16.1**	**+0.1**
TKM2	**Tokmak 2**	**7.10**	**27**	*e*PN		**Pn**	**01 24 56.1**	**+0.9**
TKM2				*e*			01 26 16.1	
TKM2				pmax	pmax			
comp=Z,11nm,0.6s								
TKM2	**Tokmak 2**	**7.10**	**27**	P		**Pn**	**01 24 56.3**	**+1.1**
SNR=14								
MK31	**Makanchi Array**	**13.05**	**36**	⇓P		**Pn**	**01 26 10.8**	**-0.5**
comp=Z,0.4nm,0.5s,baz=204,slow=5.0,SNR=2.6								
MK31	**Makanchi Array**	**13.05**	**36**	*e*P		**Pn**	**01 26 10.4**	**-1.0**
MKAR	**Makanchi Array**	**13.05**	**36**	P		**Pn**	**01 26 11.0**	**-0.4**
comp=Z,0.2nm,0.3s,baz=221,slow=14,SNR=6.4								
DANN	**Dangsing**	**13.39**	**125**	*e*P		**Pn**	**01 26 16.0**	**+0.1**
comp=Z,6.8nm,0.4s								
KOLN	**Koldanda**	**13.68**	**127**	*e*P		**Pn**	**01 26 15.7**	**-3.7**
comp=Z,5.6nm,0.6s								
GKN	**Gorkha**	**14.20**	**124**	*e*P		**Pn**	**01 26 25.1**	**-0.8**
comp=Z,8.8nm,0.2s								
DMN	**Daman**	**14.77**	**124**	*e*P		**Pn**	**01 26 31.4**	**-1.5**
comp=Z,8.9nm,0.3s								
KKN	**Kakani**	**14.77**	**123**	*e*P		**Pn**	**01 26 32.2**	**-0.7**
comp=Z,17nm,0.6s								
KURK	**Kurchatov**	**15.03**	**18**	Pn		**Pn**	**01 26 34.6**	**-1.1**
AB31	**Akbulak array**	**15.06**	**330**	⇓P		**Pn**	**01 26 34.7**	**-1.5**
comp=Z,0.9nm,0.5s,baz=144,slow=14,SNR=26								
GUN	**Gumba**	**15.11**	**121**	*e*P		**Pn**	**01 26 37.9**	**+1.0**
comp=Z,11nm,0.3s								
JIRN	**Jiri**	**15.48**	**121**	*e*P		**Pn**	**01 26 41.3**	**-0.1**
VOSK	**Vostochnaya**	**16.08**	**359**	⇑P		**P**	**01 26 47.3**	**-0.4**
comp=Z,3.0nm,1.6s								
ZRNK	**Zerenda**	**16.38**	**355**	⇑P		**P**	**01 26 51.7**	**+0.7**
comp=Z,1.7nm,0.6s								
BVA0	**Borovoye Array**	**16.39**	**358**	⇑P		**P**	**01 26 52.0**	**+0.8**
comp=Z,0.3nm,0.8s,baz=158,slow=14,SNR=7.1								
BVAR	**Borovoye Array**	**16.39**	**358**	P		**P**	**01 26 51.0**	**-0.1**
comp=Z,0.3nm,0.3s,baz=147,slow=10,SNR=7.3								
BRVK	**Borovoye**	**16.43**	**358**	P		**P**	**01 26 51.1**	**-0.4**
AKTK	**Aktyubinsk**	**16.76**	**329**	P		**P**	**01 26 56.0**	**+0.7**
AKTO	**Aktyubinsk**	**16.76**	**329**	⇑P		**P**	**01 26 55.8**	**+0.5**
comp=Z,0.1nm,0.9s								
AKTO	**Aktyubinsk**	**16.76**	**329**	P		**P**	**01 26 56.0**	**+0.7**
AKTO				pmax	pmax			
comp=Z,1.0nm,0.3s								
AKTO	**Aktyubinsk**	**16.76**	**329**	P		**P**	**01 26 56.0**	**+0.7**
comp=Z,0.6nm,0.3s,baz=136,slow=7.9,SNR=9.2								
CHKZ	**Chkalovo**	**17.04**	**359**	⇑P		**P**	**01 26 59.6**	**+1.3**
comp=Z,0.9nm,0.5s								
ZAL	**Zalesovo**	**19.68**	**24**	P		**P**	**01 27 27.0**	**+0.1**
ZALV	**Zalesovo Beam**	**19.70**	**24**	P		**P**	**01 27 27.0**	**-0.1**
comp=Z,0.6nm,0.3s,baz=216,slow=11,SNR=6.7								
OBN	**Obninsk**	**29.97**	**319**	P		**P**	**01 29 02.0**	**-0.4**
FINES	**FINESS Array B**	**37.48**	**326**	P		**P**	**01 30 06.7**	**-0.3**
FINES				pmax	pmax			
comp=Z,1.0nm,0.4s								
FINES	**FINESS Array B**	**37.48**	**326**	P		**P**	**01 30 06.7**	**-0.3**
comp=Z,0.5nm,0.4s,mb3.4,baz=131,slow=7.8,SNR=4.9								
GVD	**Gavdhos**	**38.04**	**282**	P		**P**	**01 30 12.1**	**+0.1**
ARCES	**ARCESS Array B**	**41.09**	**337**	P		**P**	**01 30 37.5**	**+0.8**
ARCES				pmax	pmax			
comp=Z,3.0nm,0.7s								
ARCES	**ARCESS Array B**	**41.09**	**337**	P		**P**	**01 30 37.5**	**+0.8**
comp=Z,2.7nm,0.7s,mb3.8,baz=112,slow=8.1,SNR=13								
NB2	**NORSAR Subarra**	**44.40**	**323**	P		**P**	**01 31 02.9**	**-0.4**
comp=Z,1.5nm,0.5s,mb3.6,baz=97,slow=7.9								
NOA	**NORSAR Array B**	**44.40**	**323**	P		**P**	**01 31 03.3**	**0.0**
NOA				pmax	pmax			
comp=Z,2.0nm,0.5s								
NOA	**NORSAR Array B**	**44.40**	**323**	P		**P**	**01 31 03.2**	**-0.1**
comp=Z,2.1nm,0.5s,mb3.7,baz=96,slow=7.7,SNR=9.7								
YKA	**Yellowknife Ar**	**81.09**	**3**	P		**P**	**01 35 05.5**	**+0.2**
YKA				pmax	pmax			
comp=Z,1.0nm,0.4s								
YKA	**Yellowknife Ar**	**81.09**	**3**	P		**P**	**01 35 05.5**	**+0.3**
comp=Z,0.8nm,0.4s,mb3.7,baz=352,slow=5.4,SNR=39								
WRA	**Warramunga Arr**	**81.89**	**122**	P		**P**	**01 35 08.5**	**-1.6**
comp=Z,0.4nm,0.8s,mb3.1,baz=324,slow=4.7,SNR=4.9								

*MAN **26** 01:30:39,7.10N×12658E,h34km,mb4.7,ML3.6,MS3.6*
IDC 26 01:30:36.2±1.2,741N×12681E,h0km,mb3.7/5,mb1 3.8/5, mb1mx3.6/19,mbtmp3.7/5,Error ellipse: s-maj=84.9km s-min=19.3km az=72.0,Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**25.37**	**183**	P		P	01 36 06.1	+0.8
0.9nm,0.3s,baz=4.7,slow=14,SNR=14								
WRA	**Warramunga Arr**	**28.17**	**165**	P		P	01 36 29.6	-0.9
0.2nm,0.4s,baz=348,slow=9.6,SNR=4.6								
ASAR	**Alice Springs**	**31.65**	**168**	P		P	01 37 00.8	-0.5
0.3nm,0.3s,baz=338,slow=6.9,SNR=6.9								
MKAR	**Makanchi Array**	**54.62**	**324**	P		P	01 40 05.8	-0.8
1.4nm,0.7s,baz=125,slow=8.1,SNR=11								
ZALV	**Zalesovo Beam**	**57.38**	**332**	P		P	01 40 26.6	+0.3
0.4nm,0.3s,baz=115,slow=9.7,SNR=2.4								
TXAR	**Lajitas Array**	**119.26**	**51**	PKP		PKPdf	01 49 29.2	+1.1
0.1nm,0.3s,baz=235,slow=3.2,SNR=3.2								

*ISCJB **26** 01:47:35.9±0.3,4220S×006±8433E±009,h10km, mb4.6/31,MS4.1/14,Error ellipse: s-maj=10.0km s-min=8.4km az=37.7*
*BJI **26** 01:47:36.4,4240S×8343E,h30km,mb4.7*
*IDC **26** 01:47:36.1±0.5,4217S×8434E,h0km,mb4.4/16, mb1 4.5/16,mb1mx4.4/19,mbtmp4.4/16,MS4.1/14, Ms1 4.1/14,ms1mx3.9/28,Error ellipse: s-maj=18.3km s-min=14.2km az=157.0*
*GCMT **26** 01:47:37.9±0.3,4203S×8430E,h13km±1km,MW5.0/54, Moment Tensor Solution. s25,c33; s54,c83; Duration: 0 Moment tensor: Scale 10^16Nm; M_rr2.88±.20; M_θθ-0.53±.15; M_φφ-2.35±.15; M_rθ-1.55±.45; M_θφ-1.43±.11; M_φr-0.22±.39; Best double couple: M=3.39300×10^16 NP1:φ=9.00000°,δ40.00000°,λ57.00000°. NP2: φ=229.00000°,δ57.00000°,λ114.00000°. Principal axes: T 3.4970, Plg68.0000°, Azm189.0000°; N -0.2100, Plg20.0000°, Azm36.0000°; P -3.2880, Plg9.0000°, Azm302.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **26** 01:47:37.9±0.3,42.16S×8435E,h10km,mb4.7/12 Error ellipse: s-maj=11.3km s-min=8.6km az=162.0*
ISC 26 01:47:37.7±0.3,4220S±006×8435E±009,h10km, (h11km±3.7km:pP-P),n66,σ0°74/48,mb4.6/31,MS4.1/14, Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
NWAO	**Narrogin (SRO)**	**27.52**	**81**	LR		LR	02 01 54.6	
comp=Z,388nm,21.7s,MS3.9,baz=237,slow=31								
MAW	**Mawson**	**27.98**	**197**	*e*P		**P**	**01 53 26.9**	**-1.2**
5.0nm,0.9s,mb4.1								
MAW	**Mawson**	**27.98**	**197**	P		**P**	**01 53 27.2**	**-1.0**
3.1nm,0.8s,mb4.0,baz=344,slow=5.5,SNR=4.2								
MAW				LR		LR	02 02 03.3	
comp=Z,134nm,19.0s,MS3.5,baz=242,slow=31								
COCO	**West Island**	**31.82**	**24**	*e*P		**P**	**01 54 00.9**	**-1.6**
MBWA	**Marble Bar**	**36.33**	**66**	*e*P		**P**	**01 54 39.3**	**-2.4**
41nm,1.4s,mb5.2								
FORT	**Forrest**	**36.58**	**86**	*e*P		**P**	**01 54 47.5**	**+3.7**
12nm,0.7s,mb4.8								
FITZ	**Fitzroy Crossi**	**42.46**	**68**	*e*P		**P**	**01 55 34.1**	**+1.2**
4.3nm,1.0s,mb4.0								
FITZ	**Fitzroy Crossi**	**42.46**	**68**	*e*P		**P**	**01 55 34.0**	**+1.1**
7.2nm,1.0s,mb4.3								
FITZ	**Fitzroy Crossi**	**42.46**	**68**	P		**P**	**01 55 34.0**	**+1.0**
1.7nm,0.9s,mb3.7,baz=225,slow=11,SNR=3.9								
FITZ				LR		LR	02 10 23.6	
comp=Z,197nm,18.2s,MS4.0,baz=88,slow=32								
ASAR	**Alice Springs**	**44.84**	**82**	P		**P**	**01 55 52.0**	**0.0**
4.6nm,0.7s,mb4.4,baz=227,slow=8.0,SNR=38								
ASAR				PcP		PcP	01 57 33.8	0.0
1.5nm,0.8s,baz=214,slow=2.3,SNR=7.5								
STKA	**Stephens Creek**	**46.07**	**97**	*e*P		**P**	**01 56 02.9**	**+1.1**
STKA				*e*PcP		PcP	01 57 39.1	+1.1
STKA	**Stephens Creek**	**46.07**	**97**	P		**P**	**01 56 02.0**	**+0.3**
2.7nm,0.7s,mb4.3,baz=283,slow=7.3,SNR=5.6								
STKA				LR		LR	02 13 04.4	
comp=Z,359nm,18.6s,MS4.3,baz=210,slow=33								
VNDA	**Vanda**	**46.51**	**163**	*e*P		**P**	**01 56 04.3**	**-0.3**
2.5nm,0.7s,mb4.2								
VNDA	**Vanda**	**46.51**	**163**	P		**P**	**01 56 04.0**	**-0.6**
2.4nm,0.7s,mb4.2,baz=292,slow=7.2,SNR=8.7								
VNDA				LR		LR	02 13 16.0	
comp=Z,403nm,19.8s,MS4.4,baz=273,slow=33								
BATI	**Kupang**	**46.86**	**59**	LR		LR	02 12 56.9	
comp=Z,225nm,19.3s,MS4.1,baz=180,slow=32								
WRA	**Warramunga Arr**	**47.44**	**78**	P		**P**	**01 56 12.6**	**0.0**
6.1nm,0.7s,mb4.6,baz=232,slow=8.2,SNR=35								
WRA				PcP		PcP	01 57 41.7	-1.3
0.9nm,0.8s,baz=230,slow=2.9,SNR=4.7								
WRA				LR		LR	02 12 55.2	
comp=Z,253nm,21.8s,MS4.2,baz=235,slow=32								
WB2	**Warramunga Arr**	**47.45**	**78**	*e*P		**P**	**01 56 12.9**	**+0.3**
WRAB	**Tennant Creek**	**47.45**	**78**	*e*P		**P**	**01 56 13.1**	**+0.4**
15nm,1.1s,mb4.8								
SBA	**Scott Base**	**47.56**	**163**	P		**P**	**01 56 12.7**	**-0.1**
QSPA	**South Pole Qui**	**47.96**	**180**	P		**P**	**01 56 16.4**	**+0.5**
9.9nm,0.6s,mb5.0,baz=289,slow=3.9,SNR=34								
BOSA	**Boshof**	**49.13**	**266**	P		**P**	**01 56 25.8**	**+0.2**
4.1nm,0.7s,mb4.5,baz=157,slow=6.4,SNR=8.7								
BOSA				LR		LR	02 13 16.7	
comp=Z,408nm,18.3s,MS4.5,baz=128,slow=31								
SNAA	**Sanae**	**49.73**	**204**	*e*		**P**	**01 56 29.5**	**-0.1**
SNAA				*e*		pP	01 56 31.6	-1.1
SNAA				*e*			01 56 36.3	
SNAA	**Sanae**	**49.73**	**204**	P		**P**	**01 56 30.8**	**+1.2**
1.0nm,0.8s,mb3.9,baz=150,slow=4.0,SNR=9.7								
SUR	**Sutherland**	**50.45**	**259**	P		**P**	**01 56 35.7**	**+0.1**
7.2nm,0.7s,mb4.8,baz=128,slow=13,SNR=9.0								
LBTB	**Lobatse**	**50.87**	**270**	P		**P**	**01 56 38.0**	**-0.8**
4.7nm,0.8s,mb4.5,baz=141,slow=9.8,SNR=8.7								
VNA2	**Neumayer--Watz**	**51.35**	**205**	*e*		**P**	**01 56 41.4**	**-0.4**
baz=91,slow=7.2								
VNA2				*e*		pP	01 56 43.9	-1.1
VNA2				*e*			01 56 49.5	
VNA3	**Neumayer Olymp**	**51.95**	**204**	*e*		**P**	**01 56 46.1**	**-0.2**
VNA3				*e*		pP	01 56 49.0	-0.4
VNA3				*e*			01 56 54.4	
LSZ	**Lusaka**	**54.93**	**282**	*e*P		**P**	**01 57 08.4**	**-0.5**
10nm,1.1s,mb4.8								
CTA	**Charters Tower**	**56.12**	**87**	LR		LR	02 16 51.0	
comp=Z,232nm,20.2s,MS4.3,baz=229,slow=31								
CTAO	**Charters Tower**	**56.12**	**87**	*e*P		**P**	**01 57 17.8**	**+0.4**
3.9nm,0.7s,mb4.5								
KMBO	**Kilima Mbogo**	**58.75**	**301**	*e*P		**P**	**01 57 37.6**	**+1.6**
KMBO	**Kilima Mbogo**	**58.75**	**301**	P		**P**	**01 57 37.2**	**+1.2**
1.1nm,0.4s,mb4.3,baz=35,slow=23,SNR=5.0								
KMBO	

YER	Yerkesik	0.69	169	PG	Pg	01 57 11.4	-1.1
YER				eSG	Sg	01 57 21.4	0.0
YER	Yerkesik	0.69	169	Pg	Pg	01 57 11.8	-0.7
YER	Yerkesik	0.69	169	Pg	Pg	01 57 11.8	-0.7
YER				eSg	Sg	01 57 21.4	0.0
DENT	Denizli	0.73	94	PG	Pg	01 57 12.1	-1.2
KULA	Kula-Manisa	0.82	31	ePG	Pg	01 57 14.1	-1.0
KDAG	Bornova	0.89	312	iP	Pg	01 57 16.9	+0.6
KDAG				iS	Sg	01 57 28.5	+0.6
BDRM	Kayabasi	0.92	216	iP	Pg	01 57 16.1	-0.7
BDRM				iS	Sg	01 57 25.8	-2.8
BODT	Bodrum	0.98	221	ePG	Pg	01 57 17.4	-0.8
BODT	Bodrum	0.98	221	Pg	Pg	01 57 17.4	-0.8
SMG	Samos	1.02	265	ePN	Pn	01 57 18.8	-1.6
SMG				eSN	Sn	01 57 33.0	-2.2
BLCB	Balcova	1.02	304	ePg	Pg	01 57 19.2	+0.3
BLCB				eSg	Sg	01 57 34.7	+2.7
AKHS	Akhisar	1.09	348	iP	Pg	01 57 19.6	-0.6
AKHS				iS	Sg	01 57 33.8	-0.6
AKS	Akhisar	1.09	348	ePN	Pn	01 57 19.7	-1.8
DAT	Datca	1.16	202	ePN	Pn	01 57 20.3	-2.1
KHL	Karahalli	1.23	65	ePN	Pn	01 57 21.0	-2.3
GOLH	Golhisar	1.29	116	iP	Pg	01 57 22.1	-1.8
GOLH				iS	Sg	01 57 41.1	+0.5
URLA	Izmir	1.32	295	iP	Pn	01 57 25.1	+0.6
URLA				iS	Sg	01 57 43.0	+1.4
FETY	Fethiye	1.41	146	ePN	Pn	01 57 24.6	-1.2
NISR	Nisiros	1.43	214	ePN	Pn	01 57 27.0	+0.9
ARG	Arkhangelos	1.59	180	P	Pn	01 57 27.4	-0.9
GDZ	Gediz	1.67	40	iP	Pn	01 57 29.3	-0.1
GDZ				iS	Sn	01 57 50.1	-1.2
CHOS	Chios island	1.72	290	ePb	Pn	01 57 29.4	-0.7
CHOS				eSb	Sg	01 57 57.7	+3.1
TKTP	Tekketepe	1.76	82	iP	Pg	01 57 32.5	-0.5
TKTP				iS	Sg	01 57 57.1	+1.3
ELL	Elmali	1.78	126	ePN	Pn	01 57 30.8	-0.1
BALB	Balikesir	1.83	354	ePN	Pn	01 57 30.7	-1.0
DST	Dursunbey	1.84	13	ePN	Pn	01 57 30.6	-1.0
AYVA	Ayvalik	1.86	324	iP	Pn	01 57 30.5	-1.5
AYVA				iS	Sn	01 57 58.2	+2.0
ISP	Isparta	1.90	88	ePN	Pn	01 57 32.0	-0.5
ISP	Isparta	1.90	88	ePb	Pn	01 57 32.7	+0.2
ISP				eSb	Sg	01 58 01.7	+1.4
AKAS	Kas	1.98	142	iP	Pn	01 57 35.7	+2.1
AKAS				iS	Sn	01 58 02.3	+3.4
BCK	Bucak	2.00	99	ePN	Pn	01 57 33.1	-0.8
ALT	Altintas	2.00	51	ePN	Pn	01 57 33.3	-0.7
ALT	Altintas	2.00	51	Pn	Pn	01 57 33.6	-0.3
PRK	Paraskevi	2.03	315	ePN	Pn	01 57 33.5	-0.9
KSL	Kastellorizon	2.03	144	ePN	Pn	01 57 36.5	+2.1
KSL				eSB	Sb	01 58 05.0	+2.5
SHUT	Suhut-Afyon	2.06	68	ePN	Pn	01 57 34.2	-0.6
APE	Apeiranthos	2.18	251	ePn	Pn	01 57 36.6	+0.1
APE				eSn	Sg	01 58 16.3	+6.8
APE	Apeiranthos	2.18	251	ePn	Pn	01 57 36.3	-0.2
KARP	Karpathos	2.39	199	P	Pn	01 57 38.0	-1.2
KCT	Karacabey	2.46	4	ePN	Pn	01 57 39.1	-1.1
EDC	Edincik	2.54	356	ePN	Pn	01 57 41.5	+0.1
BNT	Bandirma	2.54	357	ePN	Pn	01 57 41.6	+0.2
SANT	Santorini	2.56	237	ePn	Pg	01 57 48.5	+0.1
SANT				eSn	Sg	01 58 29.2	+7.6
IZI	Iznik	2.73	22	ePN	Pn	01 57 43.7	-0.4
ESKT	Eskisehir	2.74	51	ePN	Pn	01 57 44.2	+0.1
ESKT	Eskisehir	2.74	51	Pn	Pn	01 57 44.8	+0.7
GEMT	Gemlik	2.75	17	ePN	Pn	01 57 44.1	-0.2
GEMT	Gemlik	2.75	17	Pn	Pn	01 57 45.0	+0.8
BORA	Eskisehir	2.76	41	iP	Pb	01 57 50.0	+0.8
BORA				iS	Sg	01 58 28.4	+0.6
LPK	Lapseki	2.77	338	ePN	Pn	01 57 43.8	-0.7
DERT	Derbent	2.82	25	ePN	Pn	01 57 45.3	+0.1
ADVT	Abdulvahap	2.91	25	ePN	Pn	01 57 46.8	+0.3
ADVT	Abdulvahap	2.91	25	Pn	Pn	01 57 47.0	+0.6
YLV	Yalova	2.92	19	ePN	Pn	01 57 47.3	+0.8
LIA	Limnos Island	3.09	313	ePN	Pn	01 57 47.4	-1.6
LIA	Limnos Island	3.09	313	ePn	Pn	01 57 46.7	-2.3
ZKR	Zakros	3.10	210	ePn	Pn	01 57 49.6	+0.6
ZKR				eSn	Sn	01 58 31.2	+4.7
KIZT	Kizilcal	3.15	69	ePN	Pn	01 57 49.8	+0.1
KIZT	Kizilcal	3.15	69	Pn	Pn	01 57 50.1	+0.3
HRT	Hereke	3.24	21	ePN	Pn	01 57 51.8	+0.9
HRT	Hereke	3.24	21	Pn	Pn	01 57 51.4	+0.5
HRT	Hereke	3.24	21	Pn	Pn	01 57 51.4	+0.4
NPS	Neapolis	3.24	219	ePN	Pn	01 57 51.0	0.0
ENEZ	Enez	3.29	333	ePN	Pn	01 57 51.8	+0.1
ISK	Istanbul-Kandi	3.33	12	ePN	Pn	01 57 52.9	+0.6
ISK	Istanbul-Kandi	3.33	12	Pn	Pn	01 57 53.4	+1.2
KONT	Konya--Tatoy	3.36	86	ePN	Pn	01 57 52.5	-0.1
LAST	Lasithi	3.39	220	ePn	Pn	01 57 54.0	+1.0
LAST	Lasithi	3.39	220	ePn	Pn	01 57 54.0	+0.9
ALN	Alexandroupoli	3.47	333	ePn	Pn	01 57 53.2	-1.0
ALN				eSn	Sg	01 58 48.4	-2.4
KLYT	Kilyos	3.51	12	ePN	Pn	01 57 55.9	+1.2
XRY	Khrisi	3.52	214	ePN	Pn	01 57 56.5	+1.6
MDU	Mudurnu	3.58	41	Pn	Pn	01 57 56.5	+0.8
MDU	Mudurnu	3.58	41	Pn	Pn	01 57 56.5	+0.8
SIVA	Sivas	3.86	225	ePn	Pn	01 58 02.2	+2.7
RDO	Rodhopi	3.88	330	ePN	Pn	01 57 59.1	-0.7
VAM	Vamos	3.96	234	ePN	Pn	01 58 02.8	+1.9
ERMK	Ermenek	4.00	105	iP	Pn	01 58 05.3	+3.8
ERMK				iS	Sb	01 58 58.8	-0.5
ANTO	Ankara	4.19	59	ePN	Pn	01 58 05.3	+1.2
KDZ	Kurdzhali	4.36	332	eP	Pn	01 58 06.0	-0.4
PLG	Polygyros	4.44	307	P	Pn	01 58 08.4	+0.9
KAMT	Kaman	4.66	69	ePN	Pn	01 58 10.0	+0.5
LEF	Lefka	4.70	123	ePN	Pn	01 58 11.3	+0.3
IKL	Isikli	4.73	108	ePN	Pn	01 58 12.2	+0.7
IKL	Isikli	4.73	108	Pn	Pn	01 58 12.6	+1.1
SRS	Serrai	4.81	315	ePn	Pn	01 58 12.3	-0.2
NVR	Nevrokopi	4.82	318	ePN	Pn	01 58 12.5	-0.2
LFK	Lefkose	5.04	118	ePN	Pn	01 58 16.5	+0.7
MMB	Musomiste	5.07	319	P	Pn	01 58 15.2	-0.9
EVR	Evrytania	5.08	284	P	Pn	01 58 18.4	+2.2
CSS	Prodhromos 22nm,0.7s	5.08	122	ePn	Pn	01 58 18.1	+1.8
CSS				eSn	Sn	01 59 18.2	+2.8
KNT	Kendrikon	5.24	311	ePn	Pn	01 58 19.0	+0.6
VAY	Valandovo	5.53	311	iP	Pn	01 58 22.5	+0.1
STIP	Stip	5.99	312	iP	Pn	01 58 29.4	+0.7
VTS	Vitosha	6.07	323	⇑iP	Pb	01 58 30.0	-0.2
VTS	Vitosha	6.07	323	eP	Pn	01 58 30.0	+0.1
BIA	Bitola	6.16	303	iP	Pn	01 58 31.7	+0.7
KRUS	Krusevo	6.38	306	iP	Pn	01 58 35.8	+1.7
KRUS	Krusevo	6.38	306	iP	Pn	01 58 35.7	+1.6
TIRR	Tirgusor	6.64	2	⇑iP	Pn	01 58 35.0	-2.7
BARS	Barje	6.93	318	⇑iPn	Pn	01 58 42.2	+0.5
MLR	Muntele Rosu	7.84	349	⇓iP	Pn	01 58 54.5	+0.3
PLOR	Plostina	8.11	353	⇑iP	Pn	01 58 59.3	+1.5
GRUS	Gruza	8.26	320	⇑iPn	Pn	01 58 59.4	-0.5
KOT	Kottamia	8.45	157	⇓eP	Pn	01 59 00.9	-1.7
GZR	Gura Zlata	8.56	334	⇓iP	Pn	01 59 03.4	-0.7
GLL	Jalalah	8.74	159	⇑eP	Pn	01 59 04.9	-1.7
SWA1		8.76	194	P	Pn	01 59 04.2	-2.6
SWA1				S	Sn	02 00 38.4	-7.6
DIVS	Divibare	8.78	318	⇑iPn	Pn	01 59 07.5	+0.4
SWA2		8.83	195	⇓eP	Pn	01 59 05.0	-2.7
TIP	Timpagrande 7.6nm,1.1s	9.01	282	eP	Pn	01 59 11.1	+0.9
TIP	Timpagrande 7.6nm,1.1s	9.01	282	eP	Pn	01 59 11.1	+0.9
BZS	Buzias	9.18	330	⇑iP	Pn	01 59 11.7	-0.9
BURAR	Bucovina Array	10.03	349	⇑iP	Pn	01 59 24.0	-0.1
HKAT	Jabal Katrina	10.49	150	⇑eP	Pn	01 59 28.8	-1.7

*ISCJB **26** 02:24:39.3±2.1, 68S±0.1×1298E±02, h136km±22km, mb3.8/6, Error ellipse: s-maj=39.9km s-min=13.5km az=160.0*
*IDC **26** 02:24:39.2±12.0, 680S×12954E, h110km±118km, mb3.7/2, mb1 3.8/4, mb1mx3.5/13, mbtmp3.6/4, ML3.8/2, Error ellipse: s-maj=259.1km s-min=39.0km az=62.0*
*NEIC **26** 02:24:40.8±2.7, 679S×12965E, h130km±29km, mb3.9/6, Error ellipse: s-maj=36.2km s-min=18.6km az=64.0*

ISC 26 02:24:44.0±1.5, 70S±01×1297E±02, h168km±16km, n13, σ1°06/18, mb3.8/6, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	Kakadu 29nm,0.3s	6.27	154	eP	Pn	02 26 15.1	+0.6
KAKA				eS	Sn	02 27 24.3	-1.3
FITZ	Fitzroy Crossi 4.4nm,0.6s	11.69	199	eP	Pn	02 27 26.3	+0.5
FITZ				eS	Sn	02 29 29.0	-6.4
WRA	Warramunga Arr 0.4nm,0.3s,baz=335,slow=14,SNR=20	13.61	161	P	Pn	02 27 50.0	-0.4
WRA				S	Sn	02 30 16.1	-5.5
WB2	Warramunga Arr 1.8nm,0.3s,baz=336,slow=22,SNR=10	13.62	161	eP	Pn	02 27 50.7	+0.3
WB2				eS	Sn	02 30 16.0	-5.7
ASAR	Alice Springs 0.5nm,0.3s,baz=346,slow=9.9,SNR=20	17.04	167	P	Pn	02 28 35.4	+3.0
ASAR				S	S	02 31 39.8	-0.7
STKA	Stephens Creek 2.9nm,1.5s,mb3.7	27.11	157	eP	P	02 30 13.7	+2.4
STKA	Stephens Creek 0.9nm,0.6s,mb3.6,baz=334,slow=12,SNR=4.5	27.11	157	P	P	02 30 13.8	+2.5
ULN	Ulaanbaatar 1.0nm,0.5s,mb3.9	58.19	342	eP	P	02 34 19.8	-0.5
MK31	Makanchi Array	68.07	327	eP	P	02 35 24.8	-0.6
MKAR	Makanchi Array 0.8nm,0.4s,mb3.8,baz=129,slow=8.0,SNR=7.8	68.07	327	P	P	02 35 25.4	+0.1
EKS2	Erkin-Say 1.1nm,0.6s,mb3.8	70.82	320	eP	P	02 35 43.7	+1.3
KURK	Kurchatov 1.4nm,0.6s,mb3.9	72.37	329	eP	P	02 35 50.6	-0.8
BRVK	Borovoye 1.1nm,0.6s,mb3.7	77.98	328	eP	P	02 36 22.6	-0.9

CASC 26 02:27:36.2±2.7, 1229N×8727W, h108km±14km, MD3.5, 3C-2D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TEL3	Telica 3	0.50	56	⇓iP	Pn	02 27 51.3	-1.6
TEL3				eS	Sn	02 28 06.5	+1.1
TELN	Telica	0.53	54	eP	Pn	02 27 51.3	-1.8
TELN				eS	Sn	02 28 07.5	+1.7
COPN	Copaltepe	0.68	99	⇑eP	Pn	02 27 53.4	-0.8
COPN				eS	Sn	02 28 08.2	+0.5
APYN	Apoyeque	0.90	94	⇑eP	Pn	02 27 55.0	-1.3
APYN				eS	Sn	02 28 13.0	+1.6
MGAN	Managua	1.01	98	eS	Sn	02 28 14.6	+1.2
TICN	Ticuantepe	1.05	104	eP	Pn	02 27 57.2	-0.6
TICN				eS	Sn	02 28 15.0	+0.9
HUEN		1.08	87	eP	Pn	02 27 57.9	-0.2
HUEN				eS	Sn	02 28 15.8	+1.2
VSM	San Miguel	1.49	319	eS	x	02 28 26.9	
SSNN	San Juan del S	1.71	125	eP	Pn	02 28 05.0	-0.5
SSNN				eS	Sn	02 28 28.1	+0.2
SNVI	San Vicente	2.01	311	eS	x	02 28 35.6	
LCBS	La Ceiba	2.14	309	eP	x	02 28 12.3	
LCBS				eS	x	02 28 38.5	
SNET	Serv Nac Est T	2.36	306	eP	x	02 28 13.7	
BOQS	Boqueron	2.43	306	eP	x	02 28 16.3	
BOQS				eS	x	02 28 45.6	
LIM1	Limonal	2.53	128	eP	Pn	02 28 15.6	-0.4
LIM1				eS	Sn	02 28 46.6	0.0
CUI		2.62	128	eP	Pn	02 28 16.5	-0.6
CUI				eS	Sn	02 28 50.7	+2.2
VCR	Vista de Mar	2.69	143	⇓eP	Pn	02 28 18.5	+0.5
VCR				eS	Sn	02 28 52.3	+2.0
SBLS	San Blas	2.76	304	eP	x	02 28 20.9	
SBLS				eS	x	02 28 51.9	
RTR	El Retiro	2.81	305	eP	x	02 28 21.9	
RTR				eS	x	02 28 55.6	
JCR	Jicaral	3.22	139	eP	Pn	02 28 25.5	+0.3
JCR				eS	Sn	02 29 01.9	-1.0
CGA2	Cerro Gallo 2	3.56	129	eP	Pn	02 28 31.0	+1.3
PRS1	Puriscal	3.70	128	eP	Pn	02 28 33.6	+2.0
PRS1				eS	Sn	02 29 17.4	+3.0
LCR2	La Lucha 2	4.09	128	eP	Pn	02 28 37.1	+0.3
URSC	Urasca	4.21	125	eP	Pn	02 28 40.6	+2.3
BAR1		4.93	128	eP	Pn	02 28 49.2	+1.1
CHI2		15.38	118	⇑iP		02 27 50.7	
CHI2				eS		02 28 04.9	
LAPE	La Pedrera	16.16	105	eP		02 28 11.8	
LAPE				eS		02 28 36.5	

*NIED **26** 02:30:00, 3720N×13670E, h8km, Mw3.6 Best double couple: M0:2.56000×10^14 NP1:φ0=68.00000°, δ65.00000°, λ108.00000°. NP2:φ0=210.00000°, δ30.00000°, λ56.00000°.*
*IDC **26** 02:30:33.4±0.9, 3723N×13671E, h0km, mb3.5/5, mb1 3.7/6, mb1mx3.5/23, mbtmp3.5/6, ML3.2/1, Error ellipse: s-maj=26.4km s-min=14.1km az=35.0*
*ISCJB **26** 02:30:34.4±0.9, 3725N±003×13671E±006, h11km±6km, mb3.4/5, Error ellipse: s-maj=7.6km s-min=5.8km az=3.9*
*JMA **26** 02:30:35.4, 3723N×13674E, h1^1km±1km, M3.9*
JMA Felt II J1.
*NEIC **26** 02:30:39.4±1.9, 37.15N×13684E, h45km±19km, MG3.9(JMA), Error ellipse: s-maj=23.2km s-min=19.9km az=66.0*

ISC 26 02:30:35.5±0.7, 3723N±003×13676E±006, h11km±5km, n15, σ0°68/19, mb3.4/5, 3D, Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JJH	Hakui	0.30	177	⇓iP	Pg	02 30 41.9	+0.3
JJH				eS	Sg	02 30 45.8	+0.1
JSZ	Suzu	0.53	65	P	Pg	02 30 45.8	0.0
JSZ				eS	Sg	02 30 53.3	+0.5
JHG	Hegura jima	0.63	12	P	Pg	02 30 47.3	-0.4
JHG				eS	Sg	02 30 56.0	-0.1
JTT	Ttatey	0.77	143	⇓iP	Pg	02 30 50.3	-0.1
JTT				eS	Sg	02 31 01.6	+1.1
JKG	Kaga	1.01	200	⇓iP	Pg	02 30 54.0	-0.9
MAJO	Matsushiro	1.35	120	eP	Pn	02 31 00.7	+0.5
MAT	Matsushiro	1.35	120	P	Pn	02 30 58.9	-1.3
MAT				S	Sb	02 31 18.2	+0.3
MJAR	Matsushiro Arr 33nm,0.3s,baz=291,slow=17,SNR=120	1.35	120	Pg	Pg	02 31 00.3	-1.1
MJAR				Lg		02 31 19.8	
KSRS	Korea Array 26nm,0.3s,baz=141,slow=26,SNR=16	7.04	274	Pn	Pn	02 32 19.6	+1.1
SONM	Songino Array 0.4nm,0.3s,baz=91,slow=14,SNR=5.1	24.61	305	P	P	02 35 56.3	+0.8
INK	Inuvik 0.5nm,0.7s,mb3.2,baz=114,slow=8.4,SNR=4.5	55.90	27	P	P	02 40 12.2	-0.5
WRA	Warramunga Arr 0.7nm,0.7s,mb3.8,baz=312,slow=2.5,SNR=5.1	56.91	183	P	P	02 40 19.5	-0.9
YKA	Yellowknife Ar 0.4nm,0.5s,mb3.7,baz=360,slow=7.7,SNR=11	65.47	29	P	P	02 41 18.1	+0.1
PDAR	Pinedale Array 0.1nm,0.6s,mb3.0,baz=312,slow=6.9,SNR=5.2	80.13	43	P	P	02 42 45.9	+0.4
LPAZ	La Paz 1.7nm,0.3s,baz=239,slow=2.4,SNR=22	149.69	53	PKPbc	PKPbc	02 50 24.9	-0.7

*TEH **26** 02:31:51.4, 28.12N×5631E, h12km, ML3.5*
*IDC **26** 02:31:54.5±6.1, 2757N×5626E, h0km, mb3.7/6, mb1 3.7/6, mb1mx3.5/22, mbtmp3.7/6, Error ellipse: s-maj=113.7km s-min=36.0km az=8.0*
*ISCJB **26** 02:31:59.6±0.4, 2817N±002×5636E±004, h12km, mb3.6/7, Error ellipse: s-maj=5.6km s-min=3.6km az=1.8*
*NEIC **26** 02:31:59.9, 2822N×5626E, h14km, ML3.5(THR), After THR.*
*THR **26** 02:31:59.7±1.3, 2822N×5626E, h14km±14km, ML3.5*
*CSEM **26** 02:31:59.9±0.1, 2817N×5626E, h16km, ML3.5, Error ellipse: s-maj=2.1km s-min=1.9km az=87.0*

ISC 26 02:32:01.3±1.4, 2814N±007×5632E±005, h16km±15km, n34, σ1°12/46, mb3.6/7, 1C-1D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBND	Bandar-abas	0.71	164	ePg	Pg	02 32 14.7	-0.5
IBND				eSg	Sg	02 32 24.0	-0.7
BNDS	Bandar-Abbas	0.74	190	ePg	Pg	02 32 15.0	-0.8
BNDS				eSg	Sg	02 32 26.9	+1.2
BNDS				AML	AML	02 32 34.0	
BNDS	Bandar-Abbas comp=N,2μm,0.4s	0.74	190	ePg	Pg	02 32 15.0	-0.9
BNDS				Sg	Sg	02 32 26.0	+0.3
KRBR	Kerman SNR=90	1.88	12	ePg	Pn	02 32 32.2	-0.7
KRBR				AML	AML	02 33 10.8	
KRBR	Kerman comp=N,478nm,0.5s	1.88	12	Pg	Pn	02 32 33.0	+0.2
KRBR				Sg	Sn	02 32 57.0	+0.7
GHIR	Ghir-Karzin comp=N,122nm,0.5s	2.94	274	ePn	Pn	02 32 47.8	+0.4
GHIR				AML	AML	02 33 49.7	
GHIR	Ghir-Karzin comp=E,125nm,0.6s	2.94	274	Pn	Pn	02 32 47.0	-0.5
GHIR				Sg	Sb	02 33 30.0	+0.8
IMOK	Mouk comp=Z,2μm,0.4s	3.30	287	⇑ePn	Pn	02 32 53.5	+1.2
IMOK				e		02 34 18.0	
IPAR	Pars comp=Z,1μm,0.3s	3.33	301	ePn	Pn	02 32 54.9	+2.1
IPAR				e		02 33 58.4	
IBAF	Bafgh comp=Z,822nm,0.2s	3.50	349	ePn	Pn	02 32 55.3	+0.1
IBAF				e		02 33 11.8	
IBAF				eSn	Sn	02 33 35.8	-0.5
IMEH	Mehriz comp=Z,638nm,0.2s	3.57	336	ePn	Pn	02 32 56.1	+0.1
IMEH				e		02 33 08.9	
ZHSF	Zahedan	4.18	68	Pn	Pn	02 33 05.0	+0.6
ZHSF				Sg	Sg	02 34 10.0	-5.5
ZHSF	Zahedan	4.18	68	ePn	Pn	02 33 05.8	+1.4
ZHSF				eSg	Sg	02 34 10.3	-5.2
ZHSF	Zahedan SNR=52	4.18	68	ePn	Pn	02 33 05.8	+1.4
ZHSF				eSg	Sg	02 34 10.3	-5.2
ICHK	Chekchek comp=Z,597nm,0.4s	4.42	338	ePn	Pn	02 33 08.4	+0.7
ICHK				e		02 33 30.2	
ICHK				eSn	Sn	02 33 58.5	-0.3
IKOO	Kooshah comp=Z,160nm,0.1s	4.87	28	ePn	Pn	02 33 14.5	+0.6
IKOO				eSn	Sn	02 34 09.4	-0.5
ITEG	Tejag	5.19	23	ePn	Pn	02 33 18.2	-0.1
IGAR	Gharneh comp=Z,595nm,0.0s	5.43	320	ePn	Pn	02 33 25.0	+3.4
IGAR				e		02 33 37.8	
IDAH	Dahanechah	5.52	33	ePn	Pn	02 33 23.4	+0.6
NASN	Na'in	5.55	328	Pn	Pn	02 33 23.0	-0.3
NASN	Na'in	5.55	328	ePn	Pn	02 33 23.3	+0.1
IZEF	Zefreh comp=Z,160nm,0.1s	5.86	325	⇓ePn	Pn	02 33 24.5	-3.0
IZEF				e		02 33 27.6	
IPIR	Pirpir comp=Z,228nm,0.1s	6.52	315	ePn	Pn	02 33 34.8	-1.8
IPIR				e		02 33 40.5	
IKLH	Kolahrood comp=N,212nm,0.2s	6.58	323	ePn	Pn	02 33 37.0	-0.5
IKLH				e		02 33 53.4	
IKLH				eSn	Sn	02 34 49.7	-2.5
AKTK	Aktyubinsk	22.31	3	P	P	02 36 59.0	+1.1
AKTK	Aktyubinsk	22.31	3	P	P	02 36 59.0	+1.0
AKTO	Aktyubinsk comp=N,3.5nm,0.8s,mb3.9,baz=190,slow=11,SNR=14	22.31	3	P	P	02 36 59.0	+1.1
MKAR	Makanchi Array comp=N,0.4nm,0.6s,mb3.3,baz=225,slow=8.0,SNR=4.5	27.58	41	P	P	02 37 46.8	-0.9
AKASG	Malin Array Be	30.46	325	P	P	02 38 13.3	+0.2
AKASG	Malin Array Be comp=N,0.2nm,0.4s,mb3.2,baz=137,slow=8.9,SNR=5.9	30.46	325	P	P	02 38 13.3	+0.2
ZALV	Zalesovo Beam comp=N,0.5nm,0.4s,mb3.8,baz=241,slow=11,SNR=4.1	33.16	31	P	P	02 38 38.8	+1.9
FINES	FINESS Array B comp=N,0.8nm,0.8s,mb3.5,baz=122,slow=7.2,SNR=3.4	38.92	337	P	P	02 39 24.8	-1.3
BSD	Bornholm Skovb comp=N,1.5nm,0.4s,mb4.1	40.13	324	iP	P	02 39 33.1	-3.2
SONM	Songino Array comp=N,1.1nm,0.9s,mb3.6,baz=257,slow=8.7,SNR=3.6	43.24	49	P	P	02 40 00.2	-1.6

*IGQ **26** 02:33:23.8, 268S×8086W, h10km±13km, Mb4.7, Ms4.6, Error ellipse: s-maj=14.0km s-min=2.6km az=161.5*
*IDC **26** 02:33:36.3±1.0, 255S×8080W, h0km, mb4.2/7, mb1 4.2/10, mb1mx4.0/22, mbtmp4. 1/10, ML3.9/3, MS3.7/4, Ms1 3.7/4, ms1mx3.1/27, Error ellipse: s-maj=32.3km s-min=17.0km az=65.0*
*NEIC **26** 02:33:39.4±5.1, 269S×8087W, h24km±37km, mb4.1/11, Error ellipse: s-maj=19.7km s-min=11.9km az=74.0*
*ISCJB **26** 02:33:41.7±2.4, 252S±009×808W±0.1, h51km±25km, mb4.0/14, MS3.6/2, Error ellipse: s-maj=20.9km s-min=13.9km az=160.0*

ISC 26 02:33:43.5±2.0, 26S±01×808W±01, h54km±22km, n44, σ0°83/27, mb4.0/14, MS3.6/2, 4C-5D, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHIS	Cerro-Chispas-	1.54	2	P	Px	02 33 53.8	
CHIS	Cerro-Chispas-	1.54	2	S	Sx	02 34 14.9	
ARRY	Arrayan	2.56	65	⇓P	Px	02 34 08.3	
PATA	Patacocha	2.58	65	⇓P	Px	02 34 09.7	
JUIV	Juive	2.59	63	P	Px	02 34 09.2	
RETU	Refugio	2.59	64	⇓P	Px	02 34 10.5	
RUN5	Runtun	2.63	63	P	Px	02 34 10.3	
RUN5	Runtun	2.63	63	S	Sx	02 34 44.7	
VC1	Cotopaxi 1	3.07	51	⇑P	Px	02 34 17.9	
VC1	Cotopaxi 1	3.07	51	⇑S	Sx	02 34 58.1	
PINO	Pino	3.25	42	⇓P	Px	02 34 19.1	
YANA	Yana	3.31	42	⇑P	Px	02 34 19.7	
ANTI	Antisana	3.37	51	⇓P	Px	02 34 22.0	
CONE	Cono NE Rev Vo	4.01	51	⇑P	Px	02 34 30.6	
ATAH	Atahualpa 2.2nm,0.3s,baz=344,slow=6.9,SNR=19	4.97	152	Pn	Pn	02 34 55.2	-0.4
ATAH				Sn	Sn	02 35 56.8	+5.0
ATAH				LR	LR	02 37 05.6	
NNA	Nana 4.6nm,0.3s,baz=318,slow=8.0,SNR=14	10.11	158	Pn	Pn	02 36 01.9	-4.1
SDV	Santo Domingo	15.24	41	Pn	Pn	02 37 16.0

0.7nm,0.7s,baz=134,slow=1.7,SNR=6.7
WRA Warramunga Arr 138.90 235 PKP PKPdf 02 53 03.8 -1.0
0.7nm,0.5s,baz=111,slow=1.9,SNR=8.0
FITZ Fitzroy Crossi 146.83 231 PKPbc PKPbc 02 53 22.6 +1.9
3.1nm,0.9s,baz=142,slow=6.7,SNR=4.0

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*NEIC **26** 02:38:34.7, 31.42S×69.45W, h138km, MD3.7(GUC), After GUC.*
GUC 26 02:38:34.7±0.7, 31.42S×69.45W, h138km±13km, MD3.7, ML3.7, 4C-5D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMCH	**Combarbala**	**1.35**	**280**	↑P	Pn	02 39 02.2	+0.5
CMCH				*i* S	Sn	02 39 23.5	+1.1
CMCH	**Combarbala**	**1.35**	**280**	↑P	Pn	02 39 02.2	+0.5
CMCH				*i* S	Sn	02 39 23.5	+1.1
CMCH				AML	AML	02 39 25.8	
	comp=E,6μm,0.6s						
JACH	**Jahuel**	**1.59**	**218**	*e*P	Pn	02 39 05.1	+0.8
JACH				*i* S	Sn	02 39 27.4	+0.5
OVCH	**Ovalle**	**1.71**	**298**	↑P	Pn	02 39 06.3	+0.6
OVCH				*i* S	Sn	02 39 29.8	+0.4
TLL	**Tololo Astrono**	**1.71**	**317**	*e*P	Pn	02 39 06.7	+1.0
TLL				*i* S	Sn	02 39 30.7	+1.3
CHNG	**Los Chungos**	**1.81**	**255**	↑P	Pn	02 38 48.2	-19
CHNG				*i* S	Sn	02 39 12.4	-19
PEL	**Peldehue**	**2.01**	**211**	↓P	Pn	02 39 09.8	+0.6
PEL				*i* S	Sn	02 39 36.2	+0.5
PEL				AML	AML	02 39 37.7	
	comp=N,462nm,0.2s						
FCH	**Farellones**	**2.03**	**200**	*e*P	Pn	02 39 10.5	+1.1
FCH				*i* S	Sn	02 39 37.9	+1.8
FCH				AML	AML	02 39 44.1	
	comp=E,320nm,0.2s						
LSCH	**La Serena**	**2.16**	**314**	↓P	Pn	02 39 11.5	+0.5
LSCH				*i* S	Sn	02 39 39.0	+0.1
LSCH	**La Serena**	**2.16**	**314**	↓P	Pn	02 39 11.5	+0.5
LSCH				*i* S	Sn	02 39 39.0	+0.1
LSCH				AML	AML	02 39 39.5	
	comp=N,173nm,0.2s						
CLCH	**Cerro Calan**	**2.17**	**205**	*e*P	Pn	02 39 11.8	+0.6
CLCH				*i* S	Sn	02 39 39.8	+0.6
CLCH				AML	AML	02 39 42.0	
	comp=E,428nm,0.7s						
RCDM	**Rinconada Maip**	**2.36**	**209**	↓P	Pn	02 39 14.0	+0.6
RCDM				*i* S	Sn	02 39 44.4	+1.1
RCDM	**Rinconada Maip**	**2.36**	**209**	↓P	Pn	02 39 14.0	+0.6
RCDM				*i* S	Sn	02 39 44.4	+1.1
RCDM				AML	AML	02 39 45.5	
	comp=E,436nm,0.2s						
ANTU	**Antumapu**	**2.36**	**205**	*i* P	Pn	02 39 13.8	+0.3
ANTU				*i* S	Sn	02 39 44.1	+0.7
ANTU	**Antumapu**	**2.36**	**205**	*i* P	Pn	02 39 13.8	+0.3
ANTU				*i* S	Sn	02 39 44.1	+0.7
ANTU				AML	AML	02 39 48.2	
	comp=N,239nm,0.4s						
PCH	**Pirque**	**2.37**	**202**	*e*P	Pn	02 39 14.6	+1.0
PCH				*i* S	Sn	02 39 44.4	+0.8
LMEL	**Las Melosas**	**2.50**	**195**	*e*P	Pn	02 39 16.2	+1.0
LMEL				S	Sn	02 39 51.8	+5.4
LMEL	**Las Melosas**	**2.50**	**195**	*e*P	Pn	02 39 16.2	+1.0
LMEL				*i* S	Sn	02 39 51.8	+5.4
LMEL				AML	AML	02 39 55.1	
	comp=N,183nm,0.2s						
TACH	**Talagante**	**2.56**	**209**	*e*P	Pn	02 39 16.0	+0.1
LCO	**Las Campanas**	**2.64**	**335**	*e*Pn	Pn	02 39 17.1	+0.1
LCO				*e*Sn	Sn	02 39 46.9	-2.6

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*ISCJB **26** 02:52:58.0±1.8, 75S±0.1×111.1E±0.1, h96km±18km, mb4.3/17, Error ellipse: s-maj=26.5km s-min=9.1km az=145.3*
*BJI **26** 02:52:58.4, 720S×111.20E, h89km, mB4.6, mb4.7, Ms4.2, Msz4.2*
*NEIC **26** 02:52:58.5±2.3, 723S×111.21E, h89km±23km, mb4.3/8, Error ellipse: s-maj=32.0km s-min=10.4km az=50.0*
NEIC Felt [IV] at Gunungkidul and Yogyakarta and [III] at Bantul and Klaten.
*IDC **26** 02:52:59.4±8.3, 742S×111.16E, h98km±73km, mb3.7/7, mb1 4.0/9, mb1mx3.8/19, mbtmp3.9/9, ML4.5/2, MS3.3/1, Ms1 3.3/1, ms1mx2.8/28, Error ellipse: s-maj=60.1km s-min=18.8km az=63.0*
ISC 26 02:52:59.4±1.6, 749S±010×1111E±01, h94km±16km, n32, σ1$21/30, mb4.3/17, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Kupang**	**12.72**	**103**	P	Pn	02 55 58.0	+1.1
	6.3nm,0.3s,baz=286,slow=19,SNR=3.1						
MBWA	**Marble Bar**	**15.95**	**149**	*e*P	Pn	02 56 40.4	+1.9
	27nm,0.9s						
KULM	**Kulim**	**16.42**	**320**	*e*P	Pn	02 56 42.6	-1.7
FITZ	**Fitzroy Crossi**	**17.67**	**128**	*e*P	Pn	02 56 57.9	-1.7
	12nm,0.7s						
FITZ				*e*S	S	03 00 03.6	-13
FITZ	**Fitzroy Crossi**	**17.67**	**128**	P	Pn	02 56 58.3	-1.3
	0.6nm,0.3s,baz=292,slow=5.0,SNR=10						
KAKA	**Kakadu**	**21.65**	**106**	*e*P	P	02 57 42.1	-0.4
	13nm,0.8s,mb4.3						
WRA	**Warramunga Arr**	**25.72**	**121**	P	P	02 58 20.2	-1.0
	4.1nm,0.6s,mb4.0,baz=296,slow=12,SNR=28						
WRA				LR	LR	03 08 00.1	
	comp=Z,74nm,20.6s,baz=115,slow=35						
WRAB	**Tennant Creek**	**25.72**	**121**	*e*P	P	02 58 22.4	+1.2
	7.7nm,0.7s,mb4.2						
WB2	**Warramunga Arr**	**25.73**	**121**	*e*P	P	02 58 21.2	-0.1
ASAR	**Alice Springs**	**27.17**	**129**	P	P	02 58 33.4	-0.8
	0.9nm,0.5s,mb3.6,baz=301,slow=8.3,SNR=16						
FORT	**Forrest**	**28.10**	**148**	*e*P	P	02 58 45.5	+3.1
	3.6nm,0.9s,mb3.9						
KMI	**Kunming**	**33.42**	**346**	P	P	02 59 31.0	+1.7
KMI				AP	pP	02 59 45.0	-5.7
KMI				AMB	AMB		
	comp=Z,6.0nm,0.9s,mb4.4						
GYA	**Guiyang**	**34.02**	**353**	P	P	02 59 34.3	-0.2
GYA				AP	pP	02 59 59.5	+3.6
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.7						
GYA				AMB	AMB		
	comp=Z,60nm,6.8s						
CTA	**Charters Tower**	**36.29**	**114**	P	P	02 59 53.0	-1.1
	comp=Z,3.0nm,0.8s,mb4.3,baz=151,slow=13,SNR=2.5						
STKA	**Stephens Creek**	**37.36**	**135**	*e*P	P	03 00 01.7	-1.3
	comp=Z,6.3nm,0.5s,mb4.8						
STKA	**Stephens Creek**	**37.36**	**135**	P	P	03 00 02.2	-0.9
	comp=Z,5.2nm,0.4s,mb4.8,baz=300,slow=7.0,SNR=11						
CD2	**Chengdu**	**38.82**	**350**	*e*P	P	03 00 16.0	+0.7
CD2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.8						
CD2				AMB	AMB		
	comp=Z,20nm,5.8s						
LZH	**Lanzhou**	**43.88**	**352**	*e*P	P	03 00 57.0	+0.4
LZH				AMB	AMB		
	comp=Z,14nm,1.0s,mb4.7						
BJI	**Beijing**	**47.52**	**5**	P	P	03 01 25.0	-0.2
BJI				S	S	03 08 12.5	-0.7
BJI				LR	LR		
	comp=N,77nm,15.4s						
BJI				LR	LR		
	comp=E,94nm,14.6s						
BJI				LR	LR		
	comp=Z,115nm,15.7s						
HHC	**Hu-ho-hao-te**	**48.10**	**0**	*e*P	P	03 01 31.8	+2.1
HHC				AP	pP	03 01 54.5	+2.4
HHC				XP	sP	03 02 05.8	+3.1
HHC				PCP	PcP	03 02 58.5	+2.5
HHC				PCS	PcS	03 06 54.0	+2.3
HHC				S	S	03 08 22.8	+1.5
HHC				SCS	ScS	03 11 15.5	+1.9
HHC				AMB	AMB		
	comp=Z,17nm,0.4s,mb5.2						
HHC				AMB	AMB		
	comp=Z,95nm,3.7s						
HHC				LR	LR		
	comp=N,79nm,11.2s						
HHC				LR	LR		
	comp=E,120nm,10.8s						
HHC				LR	LR		
	comp=Z,112nm,5.3s						
MDJ	**Mudanjiang**	**54.49**	**16**	P	P	03 02 16.5	-0.8
MDJ				AMB	AMB		
	comp=Z,3.0nm,1.0s,mb4.3						
MDJ				AMB	AMB		
	comp=Z,38nm,5.1s						
SONM	**Songino Array**	**55.24**	**356**	P	P	03 02 23.5	+0.8
	comp=Z,0.7nm,0.7s,mb3.8,baz=175,slow=7.3,SNR=3.7						
MKAR	**Makanchi Array**	**59.80**	**337**	P	P	03 02 52.8	-2.0
	comp=Z,0.3nm,0.4s,mb3.6,baz=152,slow=6.9,SNR=6.6						
KURK	**Kurchatov**	**64.41**	**338**	*e*P	P	03 03 21.2	-4.3
	comp=Z,8.1nm,1.2s,mb4.4						
PET	**Petropavlovsk**	**72.49**	**28**	*e*P	P	03 04 14.8	-0.9
VNDA	**Vanda**	**74.76**	**170**	*e*P	P	03 04 29.5	+0.7
	comp=Z,1.6nm,0.8s,mb3.8						
VNDA	**Vanda**	**74.76**	**170**	P	P	03 04 29.4	+0.6
	comp=Z,1.5nm,0.7s,mb3.8,baz=324,slow=4.9,SNR=9.6						
YKA	**Yellowknife Ar**	**115.87**	**22**	PKP	PKPdf	03 11 30.1	-0.7
YKA	**Yellowknife Ar**	**115.87**	**22**	PKP	PKPdf	03 11 30.1	-0.7
	comp=Z,0.3nm,0.6s,baz=326,slow=1.4,SNR=5.1						
TXAR	**Lajitas Array**	**140.76**	**52**	PKP	PKPdf	03 12 18.9	0.0
	comp=Z,0.3nm,0.7s,baz=281,slow=1.6,SNR=3.9						
MIAR	**Mount Ida**	**144.78**	**37**	*e*PKPdf	PKPdf	03 12 25.7	-0.2
WVT	**Waverly**	**146.66**	**29**	*e*PKPbc	PKPbc	03 12 30.1	-0.7

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*NIED **26** 02:55:00, 34.10N×135.30E, h8km, Mw3.9 Best double couple: M:9.06000×10^14 NP1:φ:333.00000°, δ:59.00000°, λ:72.00000°. NP2:φ:186.00000°, δ:35.00000°, λ:117.00000°.*
*IDC **26** 02:55:13.9±0.7, 340.5N×135.31E, h0km, mb3.9/11, mb1 4.0/15, mb1mx3.9/27, mbtmp3.9/15, ML3.5/4, MS2.8/2, Ms1 2.8/2, ms1mx2.2/38, Error ellipse: s-maj=16.1km s-min=12.7km az=148.0*
*MOS **26** 02:55:13.6±1.3, 340.7N×135.32E, h10km, mb4.4/8, Error ellipse: s-maj=17.8km s-min=11.6km az=91.4*
*BJI **26** 02:55:13.6, 340.0N×135.40E, h7km, mB4.6, mb4.5, Ms3.8, Msz3.7*
*ISCJB **26** 02:55:14.6±0.5, 34.11N±0.03×135.31E±0.03, h10km±3km, mb4.1/20, MS3.7/2, Error ellipse: s-maj=4.5km s-min=4.1km az=144.7*
*JMA **26** 02:55:15.0, 34.12N×135.32E, h7km, M4.0 Broadband fault plane solution: P waves. NP1:φ:183.00000°, δ:28.00000°, λ:118.00000°. NP2:φ:332.00000°, δ:65.00000°, λ:76.00000°. Principal axes: T Plg67.0000°, Azm216.0000°; N Plg13.0000°, Azm338.0000°; P Plg19.0000°, Azm73.0000°;*
JMA Felt III J1.
*NEIC **26** 02:55:15.7±0.5, 34.04N×135.37E, h10km, mb4.4/5 Error ellipse: s-maj=11.7km s-min=8.5km az=151.0*
NEIC Recorded [3 JMA] in Wakayama, [2 JMA] in Nara and [1 JMA] in Mie and Osaka Prefectures.
ISC 26 02:55:15.0±0.5, 34.12N±0.02×135.31E±0.03, h2km±3km, n51, σ1$03/63, mb4.1/20, MS3.7/2, 2C-4D, Near south coast of western Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JWY	**Kouya**	**0.25**	**66**	↓P	Pg	02 55 19.9	0.0
JWY				S	Sg	02 55 23.6	+0.4
JWM	**Minabe**	**0.27**	**173**	↑P	Pg	02 55 20.5	+0.3
JWM				S	Sg	02 55 24.2	+0.5
JAJ2	**Tsuna**	**0.47**	**310**	↓P	Pg	02 55 24.3	+0.3
JAJ2				S	Sg	02 55 30.6	+0.6
JHE	**Heguri**	**0.62**	**30**	↓P	Pg	02 55 26.8	-0.1
JHE				S	Sg	02 55 35.0	+0.1
JWZ	**Kozaga**	**0.67**	**150**	↑P	Pg	02 55 27.9	-0.1
JWZ				S	Sg	02 55 36.7	0.0
JMIK	**Miki**	**0.72**	**343**	↓P	Pg	02 55 29.1	+0.2
JMIK				*e*S	Sg	02 55 38.7	+0.5
MAJO	**Matsushiro**	**3.38**	**44**	*e*Pn	Pn	02 56 08.1	-0.8
MAT	**Matsushiro**	**3.38**	**44**	P	Pn	02 56 08.5	-0.3
MAT				*e*S	Sn	02 56 51.3	+1.8
MJAR	**Matsushiro Arr**	**3.38**	**44**	Pn	Pn	02 56 08.8	0.0
MJAR				Pg	Pg	02 56 17.7	-2.2
MJAR				Sn	Sn	02 56 55.7	+6.2
MJAR				Lg		02 57 04.6	
MJAR	**Matsushiro Arr**	**3.38**	**44**	Pn	Pn	02 56 08.8	0.0
	3.8nm,0.3s,baz=233,slow=14,SNR=15						
MJAR				Pg	Pg	02 56 17.7	-2.2
	15nm,0.3s,baz=222,slow=15,SNR=57						
MJAR				Sn	Sn	02 56 55.7	+6.2
	5.5nm,0.3s,baz=245,slow=18,SNR=4.9						
MJAR				Lg		02 57 04.6	
	9.6nm,0.3s,baz=225,slow=27,SNR=5.9						
JNU	**Nakatsue**	**3.83**	**256**	Pn	Pn	02 56 15.1	+0.1
	3.1nm,0.3s,baz=26,slow=12,SNR=15						
JNU				Pg	Pg	02 56 25.4	-3.1
	13nm,0.3s,baz=45,slow=13,SNR=24						
JNU				Sn	Sn	02 57 02.2	+1.6
	1.9nm,0.3s,baz=128,slow=7.4,SNR=3.6						
JNU				Lg		02 57 18.2	
	1.7nm,0.3s,baz=189,slow=32,SNR=3.0						
JHJ	**Hachijo jima 2**	**3.86**	**104**	Pn	Pn	02 56 16.2	+0.9
	20nm,0.3s,baz=70,slow=22,SNR=5.3						
JHJ				Sn	Sn	02 57 01.6	+0.3
	15nm,0.3s,baz=91,slow=20,SNR=2.5						
KSRS	**Korea Array**	**6.87**	**301**	Pn	Pn	02 56 57.1	+0.4
	0.8nm,0.3s,baz=116,slow=14,SNR=20						
KSRS				Sn	Sn	02 58 14.2	-1.3
	1.0nm,0.3s,baz=118,slow=24,SNR=8.0						
JOW	**Kunigami**	**9.46**	**222**	LR	LR	03 01 01.9	
	comp=Z,51nm,20.2s,baz=89,slow=37						
ASAJ	**Asahikawa**	**11.47**	**27**	LR	LR	03 02 49.0	
	comp=Z,53nm,18.6s,baz=305,slow=40						
KLR	**Kul'dur**	**15.33**	**351**	*e*P	Pn	02 58 49.8	-2.5
KLR				MLR	MLR		
	comp=Z,600nm,12.0s						
ULN	**Ulaanbaatar**	**25.20**	**312**	*e*P	P	03 00 41.7	-0.2
	comp=Z,7.2nm,0.9s,mb4.2						
ULN	**Ulaanbaatar**	**25.20**	**312**	*e*P	P	03 00 41.7	-0.2
ULN				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.2						
SONM	**Songino Array**	**25.60**	**311**	P	P	03 00 45.1	-0.4
SONM				pmax	pmax		
	comp=Z,6.0nm,0.9s						
SONM	**Songino Array**	**25.60**	**311**	P	P	03 00 45.1	-0.4
	comp=Z,5.9nm,0.9s,mb4.1,baz=128,slow=9.5,SNR=15						
LZH	**Lanzhou**	**25.77**	**283**	*e*P	P	03 00 51.0	+3.9
LZH				AMB	AMB		
	comp=Z,19nm,1.0s,mb4.6						
GYA	**Guiyang**	**25.83**	**261**	P	P	03 00 52.0	+4.2
GYA				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.3						
CD2	**Chengdu**	**26.75**	**272**	*e*P	P	03 00 57.8	+1.7
CD2				XP	sP	03 01 05.0	+8.0
CD2				PP		03 01 41.8	
CD2				S	S	03 05 30.0	-2.6
CD2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.5						
CD2				AMB	AMB		
	comp=Z,20nm,5.2s						
CD2				LR	LR		
	comp=N,270nm,13.2s						
CD2				LR	LR		
	comp=Z,130nm,10.8s,MS3.8						
KMI	**Kunming**	**29.60**	**261**	P	P	03 01 27.5	+5.9
KMI				AP	pP	03 01 32.0	+10
KMI				XP	sP	03 01 33.5	+11
KMI				AMB	AMB		
	comp=Z,11nm,1.0s,mb4.5						
KMI				LR	LR		
	comp=Z,120nm,13.9s,MS3.7						
MK31	**Makanchi Array**	**41.54**	**304**	*e*P	P	03 03 03.3	-0.4
MKAR	**Makanchi Array**	**41.54**	**304**	P	P	03 03 03.1	-0.6
MKAR				pmax	pmax		
	comp=Z,3.0nm,1.0s						
MKAR	**Makanchi Array**	**41.54**	**304**	P	P	03 03 03.1	-0.6
	comp=Z,2.5nm,0.9s,mb3.8,baz=101,slow=8.5,SNR=9.1						
TKM2	**Tokmak 2**	**46.67**	**299**	*e*P	P	03 03 45.4	+0.4
	comp=Z,10nm,1.4s,mb4.6						
TKM2	**Tokmak 2**	**46.67**	**299**	*e*P	P	03 03 45.4	+0.4
TKM2				pmax	pmax		
	comp=Z,10.0nm,1.4s,mb4.5						
UCH	**Uchtor**	**47.59**	**299**	*e*P	P	03 03 54.6	+2.5
	comp=Z,2.9nm,1.1s,mb4.2						
AML	**Almayashu**	**48.20**	**299**	*e*P	P	03 03 57.5	+0.6
	comp=Z,4.9nm,0.9s,mb4.5						
BVAR	**Borovoye Array**	**48.90**	**313**	P	P	03 04 01.7	-0.4
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
BVAR	**Borovoye Array**	**48.90**	**313**	P	P	03 04 01.7	-0.4
	comp=Z,1.1nm,0.6s,mb4.1,baz=91,slow=7.7,SNR=6.9						
WRA	**Warramunga Arr**	**53.77**	**181**	P	P	03 04 37.0	-1.9
WRA				pmax	pmax		
	comp=Z,2.7nm,0.9s,mb4.2,baz=358,slow=7.5,SNR=12						
ASAR	**Alice Springs**	**57.48**	**182**	P	P	03 05 04.8	-0.8
	comp=Z,0.4nm,0.5s,mb3.7,baz=14,slow=12,SNR=5.6						
INK	**Inuvik**	**59.20**	**26**	P	P	03 05 16.7	-0.4
INK	**Inuvik**	**59.20**	**26**	P	P	03 05 16.7	-0.4
	comp=Z,0.4nm,0.5s,mb3.8,baz=238,slow=18,SNR=7.4						
DZM	**Mont Dzumac**	**63.24**	**148**	*e*P	P	03 05 52.1	+7.1
STKA	**Stephens Creek**	**65.91**	**174**	P	P	03 06 00.9	-1.3
	comp=Z,1.8nm,0.8s,mb4.1,baz=325,slow=7.6,SNR=3.1						
RES	**Resolute Bay**	**66.60**	**13**	*e*P	P	03 06 07.1	+0.8
	comp=Z,47nm,0.7s						
YKA	**Yellowknife Ar**	**68.76**	**28**	P	P	03 06 19.3	-0.8
	comp=Z,0.2nm,0.5s,mb3.3,baz=298,slow=6.0,SNR=6.5						
FINES	**FINESS Array B**	**69.01**	**331**	P	P	03 06 20.0	-1.6
FINES				pmax	pmax		
	comp=Z,1.0nm,0.8s						
FINES	**FINESS Array B**	**69.01**	**331**	P	P	03 06 20.0	-1.6
	comp=Z,1.0nm,0.8s,mb3.8,baz=52,slow=9.0,SNR=3.5						
AKBB	**Malin Array Si**	**73.46**	**320**	*e*P	P	03 06 50.2	+1.4
FFC	**Flin Flon**	**78.77**	**30**	*e*P	P	03 07 20.1	+1.1
	comp=Z,1.5nm,0.7s,mb4.0						
FFC	**Flin Flon**	**78.77**	**30**	*e*P	P	03 07 20.1	+1.2
FFC				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb3.9						
PDAR	**Pinedale Array**	**83.21**	**42**	P	P	03 07 43.2	+0.3
	comp=Z,0.3nm,0.8s,mb3.4,baz=7.6,slow=2.7,SNR=2.9						
ULM	**Lac du Bonnet**	**84.59**	**30**	P	P	03 07 50.0	+0.2
	comp=Z,1.6nm,0.8s,mb4.2,baz=304,slow=6.3,SNR=4.3						
LPAZ	**La Paz**	**152.45**	**56**	PKIKP	PKPbc	03 15 12.4	-0.9
LPAZ				pmax	pmax		
	comp=Z,1.0nm,0.4s						
LPAZ	**La Paz**	**152.45**	**56**	PKPbc	PKPbc	03 15 12.4	-0.9
	comp=Z,0.8nm,0.4s,baz=196,slow=7.3,SNR=6.4						

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*ATH **26** 02:57:56.8, 38.10N×28.39E, h10km, MD3.2/3*
*ISCJB **26** 02:58:01.6±0.6, 37.81N±0.03×28.15E±0.04, h6km±6km, Error ellipse: s-maj=6.0km s-min=4.6km az=8.1*
*CSEM **26** 02:58:01.2±0.1, 37.81N×28.15E, h12km, MD3.1, Error ellipse: s-maj=2.3km s-min=1.6km az=106.0*
*ISK **26** 02:58:01.3, 37.81N×28.16E, h10km, MD3.0*
*DDA **26** 02:58:01.9, 37.81N×28.12E, h7km±4km, Md3.1*
ISC 26 02:58:02.1±0.5, 3781N±002×2814E±005, h11km±6km, n20, σ0$72/27, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AYDN	**Tasoluk**	**0.26**	**234**	*i* P	Pg	02 58 07.6	+0.3
AYDN				*i* S	Sg	02 58 11.1	+0.3
MLSB	**Milas**	**0.59**	**209**	PG	Pg	02 58 13.7	+0.1
MLSB				*e*SG	Sg	02 58 22.1	+0.8
YER	**Yerkesik**	**0.69**	**170**	PG	Pg	02 58 15.1	-0.3
YER				*e*SG	Sg	02 58 24.2	-0.1
DENT	**Denizli**	**0.71**	**94**	PG	Pg	02 58 15.4	-0.4
KULA	**Kula-Manisa**	**0.81**	**30**	PG	Pg	02 58 17.3	-0.5
KDAG	**Bornova**	**0.91**	**311**	*i* P	Pg	02 58 20.3	+0.7
KDAG				*i* S	Sg	02 58 31.6	+0.3
BDRM	**Kayabasi**	**0.93**	**217**	*i* P	Pg	02 58 19.4	-0.6
BDRM				*i* S	Sg	02 58 31.3	-0.7
BODT	**Bodrum**	**1.00**	**222**	PG	Pg	02 58 20.6	-0.7
BLCB	**Balcova**	**1.04**	**304**	*e*PG	Pg	02 58 22.2	+0.2
SMG	**Samos**	**1.04**	**265**	*e*PB	Pb	02 58 21.1	-0.9
SMG	**Samos**	**1.04**	**265**	*e*Pb	Pb	02 58 21.8	-0.2
AKHS	**Akhisar**	**1.09**	**347**	*i* P	Pb	02 58 22.7	-0.3
AKHS				*i* S	Sg	02 58 38.0	+0.6
AKS	**Akhisar**	**1.09**	**347**	*e*PN	Pn	02 58 22.8	-0.6
DAT	**Datca**	**1.17**	**203**	*e*PN	Pn	02 58 23.9	-0.5
FETY	**Fethiye**	**1.40**	**147**	*e*PN	Pn	02 58 27.4	-0.1
ARG	**Arkhangelos**	**1.59**	**180**	*e*PN	Pn	02 58 31.5	+1.3
DST	**Dursunbey**	**1.83**	**12**	*e*PN	Pn	02 58 33.4	-0.1
AKAS	**Kas**	**1.96**	**143**	*i* P	Pn	02 58 38.4	+3.0
AKAS				*i* S	Sn	02 59 05.6	+5.7
SHUT	**Suhut-Afyon**	**2.04**	**68**	*e*PN	Pn	02 58 36.6	+0.3
PRK	**Paraskevi**	**2.05**	**315**	*e*PN	Pn	02 58 33.0	-3.5

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*IDC **26** 03:00:43.4±6.0, 302.0N×137.47E, h350km±140km, mb2.9/2, mb1 3.1/4, mb1mx2.7/22, mbtmp3.0/4, Error ellipse: s-maj=195.1km s-min=66.0km az=57.0*
*ISCJB **26** 03:00:44.6±0.7, 305.9N±006×139.2E±0.2, h452km±10km, mb3.0/2, Error ellipse: s-maj=26.0km s-min=8.6km az=167.1*
*JMA **26** 03:00:44.4±0.2, 305.0N×138.99E, h449km, M3.5*
ISC 26 03:00:45.8±0.7, 3063N±007×1393E±02, h448km±10km, n16, σ1$36/22, mb3.0/2, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**2.51**	**10**	P	P	03 01 50.3	+1.2
JHJ2				*e*S	S	03 02 41.2	+0.6
JHJ	**Hachijo jima 2**	**2.51**	**9**	P	P	03 01 50.5	+1.4
	25nm,0.3s,baz=262,slow=20,SNR=7.3						
JHJ				S	S	03 02 41.9	+1.2
	9.8nm,0.3s,baz=237,slow=24,SNR=3.7						
JWZ	**Kozaga**	**4.21**	**314**	P	P	03 02 00.3	-2.3
BSO1	**Boso 1**	**4.25**	**19**	*e*S	S	03 03 08.3	+2.6
BSO3	**Boso 3**	**4.28**	**13**	*e*S	S	03 03 07.0	+0.8
CBIJ	**Chichi jima**	**4.33**	**144**	P	P	03 02 03.2	-0.7
CBIJ				*e*S	S	03 03 04.8	-2.5
JIE	**Ise**	**4.35**	**330**	P	P	03 02 03.6	-0.2
JNY	**Yasuok**	**4.87**	**346**	P	P	03 02 10.1	+1.4
JHU	**Hanno**	**5.20**	**360**	P	P	03 02 12.5	+0.6
JHU				*e*S	S	03 03 19.8	-2.4
JRY	**Ryogami san**	**5.38**	**356**	P	P	03 02 14.5	+0.9
JRY				*e*S	S	03 03 24.2	-1.2
JYT	**Yasato**	**5.63**	**7**	*e*S	S	03 03 27.7	-2.2
JAG	**Ashikaga**	**5.78**	**1**	P	P	03 02 17.9	+0.3
JAG				*e*S	S	03 03 29.7	-3.0
MJAR	**Matsushiro Arr**	**5.96**	**351**	P	P	03 02 19.8	+0.3
	0.9nm,0.3s,baz=175,slow=12,SNR=4.2						
JHO	**Hitachi**	**6.05**	**10**	*e*S	S	03 03 37.0	-0.8
WRA	**Warramunga Arr**	**50.51**	**186**	P	P	03 09 01.4	0.0
	0.7nm,0.5s,mb3.2,baz=0,slow=7.9,SNR=20						
ASAR	**Alice Springs**	**54.24**

KAKA	**Kakadu**	**13.07**	**114**	*e*P	**Pn**	**03 29 35.9**	**-0.1**
	13nm,0.5s						
KAKA				*e*S	**S**	**03 31 54.8**	**-6.0**
KAKA				*e*S	**S**	**03 31 55.3**	**-5.5**
WRA	**Warramunga Arr**	**18.42**	**134**	P	**P**	**03 30 33.9**	**-0.8**
	1.3nm,0.3s,baz=310,slow=11,SNR=83						
WRA				S	**S**	**03 33 50.0**	**+0.7**
	baz=308,slow=20,SNR=6.8						
WRAB	**Tennant Creek**	**18.43**	**133**	*e*P	**P**	**03 30 33.9**	**-0.9**
	7.8nm,0.9s						
WB2	**Warramunga Arr**	**18.43**	**133**	*e*P	**P**	**03 30 34.2**	**-0.6**
WB2				*e*S	**S**	**03 33 52.1**	**+2.6**
WB2	**Warramunga Arr**	**18.43**	**133**	*e*P	**P**	**03 30 33.9**	**-1.0**
WB2				*e*S	**S**	**03 33 52.1**	**+2.6**
ASAR	**Alice Springs**	**20.73**	**142**	P	**P**	**03 30 58.1**	**-0.8**
	5.4nm,0.4s,baz=316,slow=8.6,SNR=109						
FORT	**Forrest**	**24.27**	**163**	*e*P	**P**	**03 31 30.6**	**-0.5**
	7.5nm,0.9s,mb4.0						
FORT	**Forrest**	**24.27**	**163**	*e*P	**P**	**03 31 30.2**	**-0.9**
	1.9nm,0.8s,mb3.5						
STKA	**Stephens Creek**	**31.36**	**143**	*e*P	**P**	**03 32 33.3**	**-0.6**
	2.7nm,0.4s,mb4.1						
STKA	**Stephens Creek**	**31.36**	**143**	P	**P**	**03 32 33.4**	**-0.5**
	3.6nm,0.4s,mb4.2,baz=317,slow=9.5,SNR=16						
MK31	**Makanchi Array**	**63.72**	**332**	*e*P	**P**	**03 36 41.1**	**+0.5**
MKAR	**Makanchi Array**	**63.72**	**332**	P	**P**	**03 36 41.6**	**+1.0**
	1.0nm,0.5s,mb3.7,baz=146,slow=7.5,SNR=16						
ZALV	**Zalesovo Beam**	**68.11**	**338**	P	**P**	**03 37 08.1**	**-0.2**
	0.7nm,0.3s,mb3.9,baz=134,slow=6.2,SNR=2.9						
VNDA	**Vanda**	**73.25**	**171**	P	**P**	**03 37 38.4**	**-0.5**
	0.6nm,0.6s,mb3.4,baz=317,slow=3.3,SNR=5.7						
LPAZ	**La Paz**	**154.94**	**161**	PKPab	PKPab	03 46 24.4	+0.3
	0.7nm,0.5s,baz=198,slow=3.2,SNR=5.4						

TEH ***26*** *04:44:56.4, 3079N×5686E, h32km, ML3.7*
ISCJB ***26*** *03:45:20.7±1.3, 3086N±005×5682E±004, h6km±12km, Error ellipse: s-maj=8.6km s-min=5.1km az=163.4*
THR ***26*** *03:45:20.4±0.4, 3081N×5673E, h6km±5km, ML3.4*
CSEM ***26*** *03:45:21.9±0.1, 3086N×5678E, h16km, ML3.7, Error ellipse: s-maj=2.4km s-min=1.5km az=161.0*
ISC 26 03:45:22.3±1.6, 3084N±005×5682E±004, h10km±13km, n31, σ1º13/37, 1C-2D, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRBR	**Kerman**	**0.85**	**183**	*e*Pg	**Pg**	**03 45 36.7**	**-2.1**
KRBR				AML	AML	03 45 49.6	
	comp=N,2μm,0.3s						
IBAF	**Bafgh**	**1.31**	**305**	*e*Pn	**Pn**	**03 45 43.8**	**-2.9**
IBAF				*e*		03 45 46.7	
	comp=Z,33μm,0.1s						
IMEH	**Mehriz**	**1.97**	**287**	*e*Pn	**Pn**	**03 45 55.2**	**-0.6**
IMEH				*e*Sn	**Sn**	**03 46 20.5**	**0.0**
IMEH				*e*		03 46 25.2	
	comp=Z,16μm,0.2s						
IMEH	**Mehriz**	**1.97**	**287**	*e*Pn	**Pn**	**03 45 55.2**	**-0.6**
IMEH				*e*Sn	**Sn**	**03 46 20.5**	**0.0**
IKOO	**Kooshah**	**2.44**	**49**	*e*Pn	**Pn**	**03 46 02.0**	**-0.3**
IKOO				*e*Sn	**Sn**	**03 46 30.3**	**-1.9**
ICHK	**Chekchek**	**2.49**	**305**	*e*Pn	**Pn**	**03 46 03.6**	**+0.7**
ICHK				*e*Sn	**Sn**	**03 46 33.2**	**-0.2**
ICHK				*e*		03 46 42.5	
	comp=Z,8μm,0.3s						
ICHK	**Chekchek**	**2.49**	**305**	*e*Pn	**Pn**	**03 46 03.6**	**+0.7**
ICHK				*e*Sn	**Sn**	**03 46 33.2**	**-0.2**
ITEG	**Tejag**	**2.63**	**38**	*e*Pn	**Pn**	**03 46 04.7**	**-0.1**
IDAH	**Dahanechah**	**3.21**	**53**	*e*Pn	**Pn**	**03 46 13.7**	**+0.9**
IDAH				*e*Sn	**Sn**	**03 46 49.4**	**-1.8**
IMON	**Monand**	**3.37**	**45**	*e*Pn	**Pn**	**03 46 15.8**	**+0.8**
IPAR	**Pars**	**3.41**	**254**	*e*Pn	**Pn**	**03 46 16.3**	**+0.8**
BNDS	**Bandar-Abbas**	**3.47**	**190**	*e*Pn	**Pn**	**03 46 16.7**	**+0.3**
BNDS				AML	AML	03 47 02.4	
	comp=N,74nm,0.5s						
ISRV	**Sarvestan**	**3.52**	**247**	*e*Pn	**Pn**	**03 46 18.0**	**+0.9**
ISRV				*e*		03 46 30.7	
	comp=Z,1μm,0.2s						
ZHSF	**Zahedan**	**3.63**	**109**	*e*Pn	**Pn**	**03 46 20.2**	**+1.5**
NASN	**Na'in**	**3.94**	**301**	*e*Pn	**Pn**	**03 46 23.0**	**+0.2**
NASN				AML	AML	03 47 26.4	
	comp=E,54nm,0.6s						
NASN				AML	AML	03 47 35.2	
	comp=N,61nm,0.4s						
IMOK	**Mouk**	**3.98**	**244**	*e*Pn	**Pn**	**03 46 24.2**	**+0.7**
IMOK				*e*		03 47 43.7	
	comp=Z,655nm,0.4s						
GHIR	**Ghir-Karzin**	**4.20**	**234**	*e*Pn	**Pn**	**03 46 25.9**	**-0.5**
GHIR				AML	AML	03 47 40.9	
	comp=E,42nm,0.5s						
GHIR				AML	AML	03 47 46.5	
	comp=N,38nm,0.6s						
IZEF	**Zefreh**	**4.34**	**299**	*e*Pn	**Pn**	**03 46 24.6**	**-3.7**
IZEF				*e*		03 47 33.4	
	comp=Z,721nm,0.3s						
IKLH	**Kolahrood**	**5.09**	**300**	*e*Pn	**Pn**	**03 46 36.2**	**-2.4**
IKLH				*e*		03 47 00.6	
	comp=Z,290nm,0.2s						
IANJ	**Anjilo**	**5.22**	**333**	*e*Pn	**Pn**	**03 46 40.0**	**-0.4**
IANJ				*e*		03 48 21.8	
	comp=Z,345nm,0.3s						
ISFB	**Sefidab**	**5.22**	**313**	*e*Pn	**Pn**	**03 46 40.7**	**+0.3**
ISFB				*e*		03 48 18.6	
	comp=Z,493nm,0.3s						
IPIR	**Pirpir**	**5.37**	**292**	*e*Pn	**Pn**	**03 46 39.9**	**-2.6**
IPIR				*e*		03 48 22.9	
	comp=Z,416nm,0.3s						
IMOG	**Moghan**	**5.66**	**21**	*e*Pn	**Pn**	**03 46 46.4**	**-0.1**
IMOG				*e*		03 48 44.1	
	comp=Z,223nm,0.4s						
ISHM	**Shahmirzad**	**5.77**	**330**	*e*Pn	**Pn**	**03 46 52.9**	**+5.0**
ISHM				*e*		03 48 45.0	
	comp=Z,550nm,0.3s						
IFIR	**Firoozkooh**	**5.88**	**326**	*e*Pn	**Pn**	**03 46 50.4**	**+0.9**
IFIR				*e*		03 47 23.6	
	comp=Z,179nm,0.2s						
IPAY	**Payeh**	**5.88**	**17**	*e*Pn	**Pn**	**03 46 50.4**	**+0.9**
IPAY				*e*		03 46 52.4	
	comp=Z,264nm,0.1s						
IAKL	**Akhelmad**	**5.94**	**15**	*e*Pn	**Pn**	**03 46 51.1**	**+0.8**
IAKL				*e*		03 46 56.0	
	comp=Z,206nm,0.1s						
IKRD	**Kardeh**	**6.09**	**13**	*e*Pn	**Pn**	**03 46 56.2**	**+3.9**
IKRD				*e*		03 49 00.5	
	comp=Z,169nm,0.4s						
IMYA	**Miami**	**6.13**	**26**	*e*Pn	**Pn**	**03 46 54.0**	**+1.0**
IMYA				*e*		03 49 06.9	
	comp=Z,149nm,0.4s						
IDMV	**Damavand**	**6.20**	**321**	*e*Pn	**Pn**	**03 46 55.0**	**+1.1**
IDMV				*e*		03 47 24.6	
	comp=Z,448nm,0.3s						
IRAZ	**Razeghan**	**7.36**	**310**	*e*Pn	**Pn**	**03 47 10.2**	**+0.4**
IRAZ				*e*		03 49 36.0	
	comp=Z,135nm,0.3s						

ATH ***26*** *04:02:39.5, 3707N×2804E, h25km±1km, MD3.2/4*
CSEM ***26*** *04:02:40.6±0.1, 3704N×2792E, h2km, MD2.9, Error ellipse: s-maj=3.5km s-min=3.2km az=17.0*
NEIC ***26*** *04:02:40.0, 3702N×2796E, h14km, MD3.2(ATH), MD2.9(ISK), After ISK.*
DDA ***26*** *04:02:41.7, 3703N×2792E, h7km±5km, Md3.1*
ISK ***26*** *04:02:41.0, 3702N×2795E, h12km, MD2.9*
ISCJB ***26*** *04:02:41.2±0.4, 3701N±002×2796E±003, h15km±3km, Error ellipse: s-maj=4.1km s-min=4.0km az=24.4*
ISC 26 04:02:41.6±0.4, 3702N±003×2794E±003, h16km±3km, n20, σ0º82/36, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YER	**Yerkesik**	**0.30**	**66**	PG	**Pg**	**04 02 47.5**	**-0.5**
YER				*e*SG	**Sg**	**04 02 51.9**	**-0.4**
MLSB	**Milas**	**0.31**	**335**	PG	**Pg**	**04 02 47.7**	**-0.5**
MLSB				*e*SG	**Sg**	**04 02 52.7**	**0.0**
BDRM	**Kayabasi**	**0.40**	**277**	*i* P	**Pg**	**04 02 49.4**	**-0.5**
BDRM				*i* S	**Sg**	**04 02 56.0**	**+0.6**
DAT	**Datca**	**0.41**	**226**	PG	**Pg**	**04 02 49.4**	**-0.6**
DAT				*e*SG	**Sg**	**04 02 56.3**	**+0.8**
BODT	**Bodrum**	**0.51**	**275**	PG	**Pg**	**04 02 51.5**	**-0.3**
BODT				*e*SG	**Sg**	**04 02 59.5**	**+0.9**
AYDN	**Tasoluk**	**0.65**	**356**	*i* P	**Pg**	**04 02 54.0**	**-0.4**
AYDN				*i* S	**Sg**	**04 03 02.0**	**-1.0**
ARG	**Arkhangelos**	**0.81**	**169**	*e*PN	**Pb**	**04 02 56.0**	**-1.3**
ARG				*e*SN	**Sn**	**04 03 08.3**	**-1.7**
ARG	**Arkhangelos**	**0.81**	**169**	*e*Pb	**Pb**	**04 02 56.0**	**-1.3**
ARG				*e*Sn	**Sn**	**04 03 08.8**	**-1.2**
FETY	**Fethiye**	**0.99**	**112**	*e*PG	**Pg**	**04 03 01.0**	**+0.1**
SMG	**Samos**	**1.12**	**308**	*e*PN	**Pn**	**04 03 02.0**	**-0.6**
SMG				*e*SN	**Sn**	**04 03 17.3**	**-0.3**
SMG	**Samos**	**1.12**	**308**	*e*Pn	**Pn**	**04 03 03.0**	**+0.4**
SMG				*e*Sn	**Sn**	**04 03 17.3**	**-0.3**
DENT	**Denizli**	**1.14**	**49**	*e*PN	**Pn**	**04 03 02.4**	**-0.4**
GOLH	**Golhisar**	**1.31**	**80**	*i* P	**Pn**	**04 03 07.7**	**+2.4**
GOLH				*i* S	**Sn**	**04 03 26.3**	**+3.9**
AKAS	**Kas**	**1.55**	**120**	*i* P	**Pg**	**04 03 10.7**	**-0.7**
AKAS				*i* S	**Sg**	**04 03 33.0**	**+1.5**
AKAS	**Kas**	**1.55**	**120**	*i* P	**Pg**	**04 03 10.7**	**-0.7**
AKAS				*i* S	**Sg**	**04 03 33.0**	**+1.4**
MANT	**Manisa**	**1.55**	**18**	*i* P	**Pn**	**04 03 08.7**	**+0.1**
MANT				*i* S	**Sg**	**04 03 32.8**	**+1.1**
MANT	**Manisa**	**1.55**	**18**	*i* P	**Pn**	**04 03 08.6**	**+0.1**
MANT				*i* S	**Sg**	**04 03 32.8**	**+1.1**
KARP	**Karpathos**	**1.60**	**204**	*e*Pn	**Pn**	**04 03 09.3**	**+0.2**
KARP				*e*Sn	**Sn**	**04 03 29.9**	**+0.5**
KULA	**Kula-Manisa**	**1.60**	**21**	*e*PN	**Pn**	**04 03 09.6**	**+0.4**
APE	**Apeiranthos**	**1.93**	**272**	*e*PN	**Pn**	**04 03 14.0**	**+0.3**

TEH ***26*** *04:03:17.1, 2809N×5634E, h5km, ML4.3*
BJI ***26*** *04:03:27.9, 28.19N×5595E, h26km, mB5.0, mb4.7, Ms4.7, Msz4.1*
IDC ***26*** *04:03:27.5±0.7, 2815N×5640E, h0km, mb4.2/19, mb1 4.4/20, mb1mx4.3/25, mbtmp4.2/20, ML3.9/1, MS3.5/6, Ms1 3.5/6, ms1mx3.2/29, Error ellipse: s-maj=17.6km s-min=15.5km az=172.0*
OMAN ***26*** *04:03:29.3, 2859N×5619E, h100km*
MOS ***26*** *04:03:29.4±0.9, 2824N×5630E, h21km, mb4.7/43, Error ellipse: s-maj=8.2km s-min=4.6km az=123.4*
CSEM ***26*** *04:03:30.7±0.1, 2816N×5626E, h20km, mb4.7/8, Error ellipse: s-maj=3.6km s-min=2.3km az=87.0*
NEIC ***26*** *04:03:31.2, 2823N×5624E, h14km, mb4.6/43, ML4.0(THR), MN4.4(TEH), After THR.*
THR ***26*** *04:03:31.2±0.5, 2823N×5625E, h14km±5km, ML4.0*
ISCJB ***26*** *04:03:32.7±0.3, 2815N±002×5624E±003, h50km±3km, mb4.5/79, MS3.5/14, Error ellipse: s-maj=4.0km s-min=3.6km az=28.2*
SZGRF ***26*** *04:03:32.9, 2798N×5609E, h33km, mb4.3, Southern Iran*
ISC 26 04:03:34.6±0.3, 2815N±002×5625E±002, h52km±3km, h15km±6.8km: pP-P, n313, σ1º03/326, mb4.5/79, MS3.5/14, 12C-9D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDS	**Bandar-Abbas**	**0.75**	**185**	*e*Pg	**Pn**	**04 03 47.0**	**-2.1**
BNDS				AML	AML	04 04 12.5	
	comp=N,6μm,0.8s						
KRBR	**Kerman**	**1.88**	**14**	Pg	**Pn**	**04 04 04.0**	**-0.4**
KRBR				Sg	**Sn**	**04 04 28.0**	**+1.0**
KRBR	**Kerman**	**1.88**	**14**	*e*Pg	**Pn**	**04 04 04.2**	**-0.2**
KRBR				*e*Sg	**Sn**	**04 04 28.6**	**+1.6**
KRBR				AML	AML	04 04 42.9	
	comp=N,2μm,0.6s						
KRBR	**Kerman**	**1.88**	**14**	*e*Pg	**Pn**	**04 04 04.2**	**-0.2**
	SNR=90						
KRBR				*e*Sg	**Sn**	**04 04 28.6**	**+1.6**
	SNR=90						
BANOM	**Banah**	**2.21**	**179**	Pn	**Pn**	**04 04 14.1**	**+5.1**
	SNR=53						
BANOM	**Banah**	**2.21**	**179**	P	**Pn**	**04 04 14.1**	**+5.1**
	SNR=53						
BANOM	**Banah**	**2.21**	**179**	P	**Pn**	**04 04 14.1**	**+5.1**
	SNR=53						
BANOM	**Banah**	**2.21**	**179**	P	**Pn**	**04 04 14.1**	**+5.1**
	SNR=53						
BANOM	**Banah**	**2.21**	**179**	P	**Pn**	**04 04 14.1**	**+5.1**
	SNR=53						
BANOM	**Banah**	**2.21**	**179**	Pn	**Pn**	**04 04 09.2**	**+0.3**
	SNR=86						
BANOM				Sn	**Sn**	**04 04 37.7**	**+2.6**
GHIR	**Ghir-Karzin**	**2.88**	**274**	Pn	**Pn**	**04 04 18.0**	**-0.1**
GHIR				Sg	**Sn**	**04 05 00.0**	**+8.5**
GHIR	**Ghir-Karzin**	**2.88**	**274**	*e*Pn	**Pn**	**04 04 18.7**	**+0.6**
GHIR				AML	AML	04 05 23.6	
	comp=N,445nm,0.5s						
GHIR				AML	AML	04 05 44.2	
	comp=E,438nm,0.6s						
ISRV	**Sarvestan**	**3.02**	**295**	*e*Pn	**Pn**	**04 04 22.1**	**+2.2**
ISRV				*e*		04 05 46.7	
	comp=Z,31μm,0.8s						
ISRV	**Sarvestan**	**3.02**	**295**	Pn	**Pn**	**04 04 22.0**	**+2.1**
NAZ	**Nazwa, Dubai**	**3.19**	**190**	Pn	**Pn**	**04 04 22.9**	**+0.6**
NAZ	**Nazwa, Dubai**	**3.19**	**190**	P	**Pn**	**04 04 23.6**	**+1.3**
	SNR=35						
IMOK	**Mouk**	**3.23**	**287**	*e*Pn	**Pn**	**04 04 24.6**	**+1.7**
IMOK				*e*		04 05 53.6	
	comp=Z,8μm,0.4s						
IMOK	**Mouk**	**3.23**	**287**	Pn	**Pn**	**04 04 24.5**	**+1.6**
IPAR	**Pars**	**3.27**	**302**	*e*Pn	**Pn**	**04 04 25.4**	**+2.0**
IPAR				*e*		04 05 45.6	
	comp=Z,6μm,0.5s						
IPAR	**Pars**	**3.27**	**302**	Pn	**Pn**	**04 04 25.3**	**+1.9**
HATD	**Hatta, Dubai**	**3.31**	**182**	Pn	**Pn**	**04 04 24.3**	**+0.4**
	SNR=36						
HATD	**Hatta, Dubai**	**3.31**	**182**	Pn	**Pn**	**04 04 23.6**	**-0.3**
	SNR=39						
HATD	**Hatta, Dubai**	**3.31**	**182**	P	**Pn**	**04 04 24.3**	**+0.4**
	SNR=36						
ASHO	**Ashiyiah**	**3.45**	**183**	Pn	**Pn**	**04 04 26.4**	**+0.5**
	SNR=82						
IBAF	**Bafgh**	**3.48**	**350**	*e*Pn	**Pn**	**04 04 27.8**	**+1.5**
IBAF				*e*Sn	**Sn**	**04 05 09.1**	**+2.8**
IBAF				*e*		04 05 34.8	
	comp=Z,4μm,0.5s						
IBAF	**Bafgh**	**3.48**	**350**	*e*Pn	**Pn**	**04 04 27.8**	**+1.5**
IBAF				Sn	**Sn**	**04 05 09.0**	**+2.7**
IMEH	**Mehriz**	**3.53**	**337**	*e*Pn	**Pn**	**04 04 28.1**	**+1.1**
IMEH				*e*		04 04 44.4	
	comp=Z,3μm,0.2s						
IMEH	**Mehriz**	**3.53**	**337**	Pn	**Pn**	**04 04 28.0**	**+1.0**
ASUD	**Al Ashush, Dub**	**3.60**	**193**	P	**Pn**	**04 04 29.5**	**+1.5**
	SNR=21						
ZHSF	**Zahedan**	**4.23**	**69**	Pn	**Pn**	**04 04 37.0**	**+0.5**
ZHSF	**Zahedan**	**4.23**	**69**	*e*Pn	**Pn**	**04 04 37.3**	**+0.7**
ICHK	**Chekchek**	**4.38**	**339**	*e*Pn	**Pn**	**04 04 40.4**	**+1.8**
ICHK				*e*		04 05 02.5	
	comp=Z,3μm,0.3s						
IKOO	**Kooshah**	**4.88**	**29**	*e*Pn	**Pn**	**04 04 45.0**	**-0.5**
ITEG	**Tejag**	**5.20**	**24**	*e*Pn	**Pn**	**04 04 49.8**	**-0.1**
SMDO	**Samad**	**5.32**	**162**	Pn	**Pn**	**04 04 51.6**	**+0.1**
	SNR=11						
IGAR	**Gharneh**	**5.38**	**320**	*e*Pn	**Pn**	**04 04 52.1**	**-0.2**
IGAR				*e*		04 04 59.5	
	comp=Z,2μm,0.2s						
BSY	**Bisya**	**5.45**	**171**	Pn	**Pn**	**04 04 53.3**	**0.0**
	SNR=13						
BSY	**Bisya**	**5.45**	**171**	P	**Pn**	**04 04 53.3**	**0.0**
	SNR=13						
BSY	**Bisya**	**5.45**	**171**	P	**Pn**	**04 04 53.3**	**0.0**
	SNR=13						
BSY	**Bisya**	**5.45**	**171**	P	**Pn**	**04 04 53.3**	**0.0**
	SNR=13						
BSYO	**Bisya**	**5.47**	**170**	Pn	**Pn**	**04 04 53.3**	**-0.2**
	SNR=13						
NASN	**Na'in**	**5.51**	**328**	Pn	**Pn**	**04 04 54.0**	**0.0**
NASN	**Na'in**	**5.51**	**328**	*e*Pn	**Pn**	**04 04 54.8**	**+0.7**
IDAH	**Dahanechah**	**5.54**	**33**	*e*Pn	**Pn**	**04 04 55.3**	**+0.8**
IZEF	**Zefreh**	**5.82**	**325**	Pn	**Pn**	**04 04 54.5**	**-3.8**
IZEF	**Zefreh**	**5.82**	**325**	*e*Pn	**Pn**	**04 04 54.6**	**-3.7**
IZEF				*e*		04 05 01.8	
	comp=Z,610nm,0.2s						
IMON	**Monand**	**5.83**	**29**	*e*Pn	**Pn**	**04 04 59.2**	**+0.8**
SLWS		**6.03**	**238**	S	**Sn**	**04 06 05.8**	**-3.1**
SLWS		**6.03**	**238**	P	**Pn**	**04 05 02.1**	**+0.8**
BTHS		**6.35**	**231**	P	**Pn**	**04 05 04.8**	**-0.8**
IPIR	**Pirpir**	**6.47**	**316**	*e*Pn	**Pn**	**04 05 04.4**	**-2.8**
IPIR				*e*		04 05 10.5	
	comp=Z,895nm,0.1s						
IKLH	**Kolahrood**	**6.54**	**323**	*e*Pn	**Pn**	**04 05 04.6**	**-3.6**
IKLH				*e*		04 06 39.0	
	comp=Z,2μm,0.0s						
IKLH	**Kolahrood**	**6.54**	**323**	Pn	**Pn**	**04 05 04.5**	**-3.7**
ISFB	**Sefidab**	**7.08**	**332**	*e*Pn	**Pn**	**04 05 16.2**	**+0.6**
ISFB				*e*		04 05 49.2	
	comp=Z,352nm,0.4s						
QRN	**Al-Qurain**	**7.36**	**277**	*e*P	**Pn**	**04 05 18.5**	**-0.9**
QRN				AML	AML	04 06 42.8	
	comp=Z,80nm,0.3s						
IANJ	**Anjilo**	**7.56**	**345**	*e*Pn	**Pn**	**04 05 23.1**	**+0.9**
IANJ				*e*		04 07 46.5	
	comp=Z,400nm,0.5s						
IANJ	**Anjilo**	**7.56**	**345**	Pn	**Pn**	**04 05 23.0**	**+0.8**
KBD	**Kabd**	**7.59**	**280**	*e*P	**Pn**	**04 05 21.3**	**-1.3**
KBD				AML	AML	04 06 48.2	
	comp=Z,193nm,0.3s						
UMR	**Umm Al-Rimmam**	**7.61**	**283**	*e*P	**Pn**	**04 05 21.9**	**-1.0**
UMR				AML	AML	04 06 49.1	
	comp=Z,92nm,0.4s						
RDF	**Al-Radifah**	**7.69**	**278**	*e*P	**Pn**	**04 05 23.5**	**-0.5**
RDF				AML	AML	04 06 53.1	
	comp=Z,68nm,0.4s						
MIB	**Mutribah**	**7.98**	**284**	*e*P	**Pn**	**04 05 27.0**	**-0.9**
MIB				AML	AML	04 06 55.1	
	comp=Z,24nm,0.5s						
NAY	**Al-Naaiem**	**7.99**	**280**	*e*P	**Pn**	**04 05 27.5**	**-0.6**
NAY				AML	AML	04 06 57.8	
	comp=Z,15nm,0.5s						
HRDDS		**8.04**	**231**	P	**Pn**	**04 05 27.2**	**-1.6**
IDMV	**Damavand**	**8.23**	**335**	*e*	**Pn**	**04 05 39.1**	**+7.7**
	comp=Z,913nm,0.7s						
IDMV	**Damavand**	**8.23**	**335**	Pn	**Pn**	**04 05 32.5**	**+1.2**
DAMV	**Damavand**	**8.30**	**335**	Pn	**Pn**	**04 05 32.0**	**-0.3**
DAMV	**Damavand**	**8.30**	**335**	*e*Pn	**Pn**	**04 05 33.1**	**+0.8**
ASAO	**Ashtian**	**8.31**	**322**	Pn	**Pn**	**04 05 32.0**	**-0.4**
ASAO	**Ashtian**	**8.31**	**322**	*e*Pn	**Pn**	**04 05 32.9**	**+0.5**
IPAY	**Payeh**	**8.60**	**15**	Pn	**Pn**	**04 05 36.8**	**+0.4**
IPAY	**Payeh**	**8.60**	**15**	*e*Pn	**Pn**	**04 05 36.9**	**+0.5**
IPAY				*e*		04 08 34.6	
	comp=Z,123nm,0.3s						
IRAZ	**Razeghan**	**9.01**	**325**	*e*Pn	**Pn**	**04 05 42.9**	**+0.8**
IRAZ				*e*		04 05 53.1	
	comp=Z,248nm,0.2s						
IRAZ	**Razeghan**	**9.01**	**325**	Pn	**Pn**	**04 05 42.8**	**+0.7**
IKOM	**Komasi**	**9.60**	**311**	*e*Pn	**Pn**	**04 05 48.8**	**-1.3**
IKOM				*e*		04 05 56.5	
	comp=Z,838nm,0.2s						
LYLS		**10.18**	**235**	P	**Pn**	**04 05 55.8**	**-2.3**
IVIS	**Veis**	**10.24**	**311**	Pn	**Pn**	**04 05 56.9**	**-2.0**
IVIS	**Veis**	**10.24**	**311**	*e*Pn	**Pn**	**04 05 57.0**	**-1.9**
IVIS				*e*		04 06 04.8	
	comp=Z,638nm,0.2s						
IGHG	**Ghaleghazi**	**10.32**	**309**	Pn	**Pn**	**04 05 59.0**	**-1.0**
IGHG	**Ghaleghazi**	**10.32**	**309**	*e*Pn	**Pn**	**04 05 59.1**	**-0.9**
IGHG				*e*		04 08 16.0	
	comp=Z,874nm,0.4s						
WHFO	**Wadi Hawf**	**10.43**	**193**	Pn	**Pn**	**04 06 00.1**	**-1.5**
	SNR=14						
ASYS		**10.56**	**269**	P	**Pn**	**04 06 00.3**	**-3.1**
IDHR	**Dehrash**	**10.66**	**310**	*e*Pn	**Pn**	**04 06 03.6**	**-1.0**
IDHR				*e*		04 08 14.7	
	comp=Z,921nm,0.2s						
RBK	**Rabkut**	**10.76**	**191**	Pn	**Pn**	**04 06 07.4**	**+1.4**
	SNR=5.2						
ABTO	**Aybut**	**11.08**	**195**	Pn	**Pn**	**04 06 08.5**	**-2.0**
	SNR=14						
BHD	**Baghdad**	**11.42**	**299**	*ex*	x	04 06 10.0	
BHD				*ex*	x	04 08 10.0	
BHD				*ex*	x	04 10 18.0	
ASF	**Jabal al Asfar**	**17.21**	**288**	P	**Pn**	**04 07 28.5**	**-2.9**
ASF				S	**S**	**04 10 33.0**	**-16**
ASF				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASF	**Jabal al Asfar**	**17.21**	**288**	P	**Pn**	**04 07 28.5**	**-2.8**
	comp=Z,0.9nm,0.3s,baz=227,slow=1.4,SNR=6.9						
ASF				S	**S**	**04 10 33.0**	**-16**
	comp=Z,0.2nm,0.3s,baz=62,slow=14,SNR=2.8						
MALT	**Malatya**	**18.00**	**309**	*e*Pn	**Pn**	**04 07 41.8**	**+0.8**
MALT	**Malatya**	**18.00**	**309**	*e*P	**Pn**	**04 07 41.8**	**+0.8**
MMAI	**Mount Meron Ar**	**18.59**	**290**	P	**Pn**	**04 07 49.9**	**+1.7**
	comp=Z,0.5nm,0.3s,baz=236,slow=48,SNR=3.9						
EIL	**Elat**	**18.71**	**280**	P	**Pn**	**04 07 49.1**	**-0.6**
	comp=Z,0.4nm,0.3s,baz=44,slow=1.5,SNR=5.8						
KIV	**Kislovodsk**	**19.17**	**329**	*e*P	**Pn**	**04 07 51.5**	**-3.6**
KIV				*e*S	**S**	**04 11 25.1**	**-3.1**
KIV				pmax	pmax		
	comp=Z,14nm,1.2s						
KIV				MLR	MLR		
	comp=Z,46nm,14.0s						
KSH	**Kashi**	**19.88**	**50**	P	**Pn**	**04 08 02.0**	**-1.5**
AML	**Almayashu**	**19.90**	**41**	*e*P	**Pn**	**04 08 01.8**	**-2.0**
	comp=Z,8.5nm,0.8s						
AML	**Almayashu**	**19.90**	**41**	*e*P	**Pn**	**04 08 01.8**	**-1.9**
	comp=Z,8.5nm,0.8s						
EKS2	**Erkin-Say**	**20.29**	**40**	*e*P	**P**	**04 08 05.7**	**-0.2**
	comp=Z,13nm,1.0s						
EKS2	**Erkin-Say**	**20.29**	**40**	*e*P	**P**	**04 08 05.7**	**-0.2**
	comp=Z,13nm,1.0s						
SOC	**

comp=Z,69nm,20.6s
BVAR Borovoye Array 26.97 19 P **P 04 09 10.7 -0.5**
comp=Z,5.0nm,0.8s,mb4.1,baz=189,slow=8.6,SNR=12
BVAR PcP PcP 04 12 32.4 +0.7
comp=Z,0.5nm,0.4s,baz=68,slow=0.8,SNR=3.6
BVAR LR LR 04 20 58.2
comp=Z,69nm,20.6s,MS3.2,baz=222,slow=39
BVAR Borovoye Array 26.97 19 PcP PcP 04 12 32.4 +0.7
MK31 Makanchi Array 27.61 41 *e*P **P 04 09 16.8 -0.2**
MK31 Makanchi Array 27.61 41 *e*P **P 04 09 16.8 -0.2**
MKAR Makanchi Array 27.61 41 P **P 04 09 16.3 -0.7**
MKAR pmax pmax
comp=Z,1.0nm,0.4s
MKAR Makanchi Array 27.61 41 P **P 04 09 16.2 -0.8**
comp=Z,1.3nm,0.4s,mb3.9,baz=225,slow=7.9,SNR=24
MKAR Makanchi Array 27.61 41 P **P 04 09 16.2 -0.8**
KURK Kurchatov 28.19 31 *e*P **P 04 09 21.9 -0.2**
comp=Z,3.4nm,0.9s,mb4.0
KURK Kurchatov 28.19 31 *e*P **P 04 09 21.9 -0.2**
KURK pmax pmax
comp=Z,3.0nm,0.9s,mb3.9
KURK Kurchatov 28.19 31 *e*P **P 04 09 21.9 -0.2**
comp=Z,3.4nm,0.9s,mb4.0
MLR Muntele Rosu 29.56 314 P **P 04 09 36.4 +2.1**
MLR pmax pmax
comp=Z,3.0nm,0.9s
MLR Muntele Rosu 29.56 314 P **P 04 09 36.4 +2.1**
comp=Z,3.4nm,0.9s,mb4.1,baz=337,slow=7.7,SNR=3.1
WMQ Urumqi 29.65 50 *e*P **P 04 09 36.5 +1.4**
WMQ AMB AMB
comp=Z,10.0nm,1.0s,mb4.5
WMQ AMB AMB
comp=Z,97nm,5.0s
WMQ LR LR
comp=Z,143nm,23.2s,MS3.5
AKASG Malin Array Be 30.41 325 P **P 04 09 41.9 +0.1**
AKASG PcP PcP 04 12 40.5 +0.1
AKASG Malin Array Be 30.41 325 P **P 04 09 41.9 +0.1**
comp=Z,0.4nm,0.3s,mb3.6,baz=131,slow=7.8,SNR=19
AKASG PcP PcP 04 12 40.5 +0.1
comp=Z,0.1nm,0.3s,baz=90,slow=2.2,SNR=4.4
AKASG Malin Array Be 30.41 325 PcP PcP 04 12 40.5 +0.2
AKBB Malin Array Si 30.41 325 *e*P **P 04 09 40.5 -1.3**
AKBB Malin Array Si 30.41 325 *e*P **P 04 09 40.5 -1.3**
KIEV Kiev 30.42 325 *e*P **P 04 09 40.9 -1.0**
comp=Z,5.1nm,0.8s,mb4.3
KIEV Kiev 30.42 325 *e*P **P 04 09 40.9 -0.9**
KIEV pmax pmax
comp=Z,5.0nm,0.8s,mb4.3
KIEV Kiev 30.42 325 *e*P **P 04 09 40.9 -0.9**
comp=Z,5.1nm,0.8s,mb4.3
OBN Obninsk 30.48 338⇓ *e*P **P 04 09 44.2 +1.9**
OBN pmax pmax
comp=Z,11nm,1.5s,mb4.4
NVS Novosibirsk 33.07 29 *e*P **P 04 10 03.8 -1.3**
NVS *e* 04 15 24.2
ZAL Zalesovo 33.17 31 P **P 04 10 04.6 -1.3**
ZAA0 Zalesovo Array 33.18 31 *e*P **P 04 10 05.4 -0.7**
ZAA0 Zalesovo Array 33.18 31 *e*P **P 04 10 05.4 -0.7**
ZALV Zalesovo Beam 33.18 31 P **P 04 10 04.6 -1.4**
comp=Z,2.4nm,0.4s,mb4.4,baz=243,slow=9.7,SNR=7.1
KOLS Kolonicke sedl 33.31 318 *e*P **P 04 10 08.8 +1.5**
KWP Kalwaria 33.38 319 *e*P **P 04 10 08.1 +0.3**
comp=Z,21nm,1.3s,mb4.9
KWP Kalwaria 33.38 319 *e*P **P 04 10 08.1 +0.3**
KWP pmax pmax
comp=Z,21nm,1.3s,mb4.9
KWP Kalwaria 33.38 319 *e*P **P 04 10 08.1 +0.3**
comp=Z,21nm,1.3s,mb4.9
CRVS Cervenica-Dubn 33.78 317 *e*P **P 04 10 12.4 +1.0**
STHS Stebnicka Huta 34.13 318 *e*P **P 04 10 13.1 -1.3**
TIP Timpagrande 34.42 299 *e*P **P 04 10 18.3 +1.3**
comp=Z,9.4nm,1.1s,mb4.6
TIP Timpagrande 34.42 299 *e*P **P 04 10 18.3 +1.3**
comp=Z,9.4nm,1.1s,mb4.6
VYHS Vyhne 35.22 316 *e*P **P 04 10 23.2 -0.6**
OJC Ojcow 35.32 319 *e*P **P 04 10 25.1 +0.5**
MODS Modra-Piesok 36.15 315 *e*P **P 04 10 31.0 -0.8**
MORC Moravsky Berou 36.48 317 *e*P **P 04 10 34.0 -0.6**
comp=Z,1.5nm,0.6s,mb4.1
MORC Moravsky Berou 36.48 317 *e*P **P 04 10 34.0 -0.6**
MORC pmax pmax
comp=Z,1.0nm,0.6s,mb3.9
MORC Moravsky Berou 36.48 317 *e*P **P 04 10 34.0 -0.6**
comp=Z,1.5nm,0.6s,mb4.1
DPC Dobruska-Polom 37.42 317 *e*P **P 04 10 42.5 -0.1**
GTA Gaotai 37.59 61 *e*P **P 04 10 44.5 +0.4**
GTA AP pP 04 10 55.0 -2.6
GTA XP sP 04 10 58.3 -5.4
GTA PP PP 04 12 13.0 +2.4
GTA S **S 04 16 30.0 +0.1**
GTA XS sS 04 16 46.0 -6.7
GTA SS SS 04 19 03.3 -13
GTA AMB AMB
comp=Z,5.0nm,0.8s,mb4.3
GTA AMB AMB
comp=Z,80nm,5.7s
GTA LR LR
comp=N,113nm,16.3s,MS3.8
GTA LR LR
comp=E,67nm,15.2s,MS3.8
GTA LR LR
comp=Z,109nm,14.8s,MS3.8
UPC Upice 37.67 318 *e*P **P 04 10 45.5 +0.9**
MOA Molln 37.91 313⇑ *i*P **P 04 10 47.1 +0.3**
comp=Z,6.9nm,0.9s,mb4.4
JOF Joensuu 38.40 342 *e*p **P 04 10 51.7 +1.1**
comp=Z,1.4nm,0.4s,mb4.0
GEC2 GERESS Array S 38.55 314 *e*P **P 04 10 52.4 +0.3**
GERES GERESS Array B 38.55 314 P **P 04 10 51.4 -0.7**
GERES 04 13 04.9
GERES pmax pmax
comp=Z,1.0nm,0.7s
GERES MLR MLR
comp=Z,44nm,18.3s
GERES GERESS Array B 38.55 314 P **P 04 10 51.4 -0.7**
comp=Z,1.1nm,0.7s,mb3.7,baz=117,slow=11,SNR=6.6
GERES PcP PcP 04 13 04.9 +1.1
comp=Z,0.2nm,0.3s,baz=145,slow=3.3,SNR=3.5
GERES LR LR 04 30 15.1
comp=Z,44nm,18.3s,MS3.3,baz=86,slow=42
GERES GERESS Array B 38.55 314 PcP PcP 04 13 04.9 +1.1
KHC Kasperske Hory 38.71 315 *e*P **P 04 10 53.5 +0.1**
FINES FINESS Array B 38.89 337 P **P 04 10 54.2 -0.6**
FINES FINESS Array B 38.89 337 P **P 04 10 54.2 -0.5**
FINES pmax pmax
comp=Z,1.0nm,0.4s
FINES FINESS Array B 38.89 337 P **P 04 10 54.2 -0.6**
comp=Z,0.6nm,0.4s,mb3.7,baz=152,slow=8.3,SNR=7.3
BRG Berggiesshubel 39.03 317 *e*P **P 04 10 56.2 +0.1**
BRG pmax pmax
comp=Z,2.0nm,1.1s,mb3.8
BRG Berggiesshubel 39.03 317 *e*P **P 04 10 56.2 +0.1**
comp=Z,2.1nm,1.1s,mb3.8
WTTA Wattenberg 39.49 311⇑ *i*P **P 04 10 60.0 0.0**
comp=Z,16nm,1.2s,mb4.6
WTTA Wattenberg 39.49 311⇑ *i*P **P 04 11 00.0 0.0**
WTTA pmax pmax
comp=Z,16nm,1.2s,mb4.6
CLL Collm 39.73 318⇓ *i*P **P 04 11 02.7 +0.8**
CLL *i* 04 11 08.5
CLL pmax pmax
comp=Z,18nm,1.6s,mb4.5
CLL Collm 39.73 318 *e*P **P 04 11 02.8 +0.9**
CLL Collm 39.73 318⇓ *i*P **P 04 11 02.7 +0.8**
comp=Z,18nm,1.6s,mb4.5
CLL *i* sP sP 04 11 08.5 -13
ROTZ Rotzenmuhle 39.75 315 *e*P **P 04 11 02.5 +0.4**
SQTA Sankt Quirin 39.77 311⇑ *i*P **P 04 11 02.3 0.0**
comp=Z,3.4nm,0.7s,mb4.2
SQTA Sankt Quirin 39.77 311⇑ *i*P **P 04 11 02.3 +0.1**
SQTA pmax pmax
comp=Z,3.0nm,0.7s,mb4.1
MOTA Moosalm 39.86 311⇓ *i*P **P 04 11 02.8 -0.2**
comp=Z,7.0nm,1.1s,mb4.3
MOTA Moosalm 39.86 311⇓ *i*P **P 04 11 02.8 -0.2**
MOTA pmax pmax
comp=Z,7.0nm,1.1s,mb4.3
MANZ Manzenberg 39.87 315 *e*P **P 04 11 03.6 +0.5**
FETA Feichten 40.04 311⇑ *i*P **P 04 11 04.7 +0.1**
comp=Z,16nm,1.1s,mb4.7
BSD Bornholm Skovb 40.09 324⇓ *i*P **P 04 11 04.1 -0.7**
BSD pmax pmax
comp=Z,38nm,0.9s,mb5.1
BSD MLR MLR
comp=Z,69nm,16.0s,MS3.6
BSD Bornholm Skovb 40.09 324⇓ *i*P **P 04 11 04.1 -0.7**
comp=Z,38nm,0.9s,mb5.1
BSD *i* S sS 04 17 47.3 +17
BSD
comp=Z,60nm,16.0s
VSL Villasalto 40.15 299 *e*P **P 04 11 07.2 +1.6**
VSL Villasalto 40.15 299 *e*P **P 04 11 07.2 +1.7**
GRA1 Grafenberg Arr 40.35 315 *e*P **P 04 11 07.4 +0.4**
comp=Z,11nm,1.3s,mb4.4
GRF Grafenberg Arr 40.35 315 *e*P **P 04 11 07.4 +0.4**
GRF pmax pmax
comp=Z,11nm,1.3s,mb4.4
GRF Grafenberg Arr 40.35 315 *e*P **P 04 11 07.4 +0.4**
GRF pmax pmax
comp=Z,11nm,1.3s,mb4.4
GRF Grafenberg Arr 40.35 315 *e*P **P 04 11 07.4 +0.4**
comp=Z,11nm,1.3s,mb4.4
DAVA Damuels 40.66 311⇓ *i*P **P 04 11 09.6 -0.1**
comp=Z,14nm,0.8s,mb4.6
MOY Mondy 40.73 42 *e*P **P 04 11 11.5 +1.3**
LZH Lanzhou 40.75 66 *e*P **P 04 11 11.0 +0.4**
LZH AP pP 04 11 15.5 -8.7
LZH XP sP 04 11 18.5 -12
LZH AMB AMB
comp=Z,14nm,1.0s,mb4.5
CD2 Chengdu 41.19 74 *e*P **P 04 11 14.3 +0.1**
CD2 XP sP 04 11 28.0 -6.0
CD2 PP PP 04 12 52.5 +2.5
CD2 S **S 04 17 24.0 -0.2**
CD2 SS SS 04 20 22.3 -6.3
CD2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.6
CD2 AMB AMB
comp=Z,20nm,4.2s
CD2 LR LR
comp=N,80nm,12.1s
CD2 LR LR
comp=Z,60nm,13.2s,MS3.6
CLZ Clausthal 41.46 318 *e*P **P 04 11 17.4 +1.3**
KMI Kunming 41.48 83 P **P 04 11 18.0 +1.3**
KMI AP pP 04 11 22.0 -8.3
KMI AMB AMB
comp=Z,15nm,0.9s,mb4.6
KMI LR LR
comp=Z,56nm,20.7s,MS3.4
ZAK Zakamensk 41.77 45 *e*P **P 04 11 17.7 -1.0**
ZAK *e* 04 13 14.7
ZAK pmax pmax
comp=Z,3.0nm,1.5s,mb3.7
ZAK pmax pmax
comp=Z,2.0nm,1.0s,mb3.7
SBF Sospel 41.87 305 *e*P **P 04 11 19.5 -0.2**
comp=Z,17nm,0.8s,mb4.4
SBF Sospel 41.87 305 *e*P **P 04 11 19.5 -0.2**
SBF pmax pmax
comp=Z,8.0nm,0.8s,mb4.4
SBF Sospel 41.87 305 *e*P **P 04 11 19.5 -0.2**
comp=Z,8.4nm,0.8s,mb4.4
BSEG Bad Segeberg 42.13 321 *e*P **P 04 11 22.5 +0.9**
LPG La Plagne 42.53 308 *e*P **P 04 11 24.8 -0.2**
comp=Z,12nm,1.0s,mb4.3
LPG La Plagne 42.53 308 *e*P **P 04 11 24.8 -0.2**
LPG pmax pmax
comp=Z,6.0nm,1.0s,mb4.3
LPG La Plagne 42.53 308 *e*P **P 04 11 24.8 -0.2**
comp=Z,5.9nm,1.0s,mb4.3
BNI Bardonecchia 42.53 307 *e*P **P 04 11 26.4 +1.4**
comp=Z,16nm,1.4s,mb4.5
BNI Bardonecchia 42.53 307 *e*P **P 04 11 26.4 +1.4**
BNI pmax pmax
comp=Z,16nm,1.4s,mb4.6
BNI Bardonecchia 42.53 307 *e*P **P 04 11 26.4 +1.4**
comp=Z,16nm,1.4s,mb4.5
LPL La Plagne 42.54 308 *e*P **P 04 11 24.8 -0.3**
HINF Hinteralfeld 42.78 311 *e*P **P 04 11 26.5 -0.4**
ORIF Oris-en-Rattie 43.08 307 *e*P **P 04 11 29.4 0.0**
comp=Z,12nm,1.1s,mb4.2
ORIF Oris-en-Rattie 43.08 307 *e*P **P 04 11 29.4 0.0**
ORIF pmax pmax
comp=Z,6.0nm,1.1s,mb4.2
ORIF Oris-en-Rattie 43.08 307 *e*P **P 04 11 29.4 0.0**
comp=Z,6.1nm,1.1s,mb4.2
CABF La Chapelle 43.12 309 *e*P **P 04 11 29.8 +0.1**
comp=Z,48nm,1.4s,mb4.8
CABF La Chapelle 43.12 309 *e*P **P 04 11 29.8 +0.1**
CABF pmax pmax
comp=Z,24nm,1.4s,mb4.7
CABF La Chapelle 43.12 309 *e*P **P 04 11 29.8 +0.1**
comp=Z,24nm,1.4s,mb4.8
SMRF Simiane la Rot 43.22 305 *e*P **P 04 11 30.3 -0.3**
SONM Songino Array 43.28 49 P **P 04 11 30.8 -0.2**
SONM pmax pmax
comp=Z,5.0nm,0.9s
SONM MLR MLR
comp=Z,113nm,19.0s
SONM Songino Array 43.28 49 P **P 04 11 30.8 -0.2**
comp=Z,5.3nm,0.9s,mb4.3,baz=263,slow=8.7,SNR=43
SONM LR LR 04 31 08.0
comp=Z,113nm,19.0s,MS3.8,baz=194,slow=38
ULN Ulaanbaatar 43.72 49 *e*P **P 04 11 34.8 +0.2**
comp=Z,7.3nm,0.7s,mb4.5
ULN Ulaanbaatar 43.72 49 *e*P **P 04 11 34.8 +0.2**
ULN pmax pmax
comp=Z,7.0nm,0.7s,mb4.5
ULN Ulaanbaatar 43.72 49 *e*P **P 04 11 34.8 +0.2**
comp=Z,7.3nm,0.7s,mb4.5
MEZF Maizieres J'vi 44.07 312 *e*P **P 04 11 37.6 +0.2**
NB2 NORSAR Subarra 44.47 331 P **P 04 11 40.0 -0.3**
comp=Z,3.9nm,1.0s,mb4.1,baz=118,slow=8.6
NOA NORSAR Array B 44.47 331 P **P 04 11 40.1 -0.2**
NOA pmax pmax
comp=Z,2.0nm,0.9s
NOA MLR MLR
comp=Z,40nm,19.3s
NOA NORSAR Array B 44.47 331 P **P 04 11 40.1 -0.2**
comp=Z,2.4nm,0.9s,mb3.9,baz=117,slow=7.9,SNR=4.7
NOA LR LR 04 32 05.5
comp=Z,40nm,19.3s,MS3.4,baz=350,slow=39
GIVF Givet 44.47 314 *e*P **P 04 11 41.4 +0.9**
GYA Guiyang 44.57 80 P **P 04 11 42.3 +0.6**
GYA AP pP 04 11 48.0 -7.5
GYA XP sP 04 11 49.5 -12
GYA PP PP 04 13 29.0 +2.6
GYA S **S 04 18 18.3 +4.4**
GYA SS SS 04 21 29.5 -5.5
GYA SCS ScS 04 21 39.0 +3.8
GYA AMB AMB
comp=Z,10.0nm,0.8s,mb4.7
GYA AMB AMB
comp=Z,70nm,5.8s
GYA LR LR
comp=N,480nm,19.5s,MS4.5
GYA LR LR
comp=E,410nm,18.9s,MS4.5
GYA LR LR
comp=Z,340nm,19.8s,MS4.3
SMF Signal de Mont 44.66 309 *e*P **P 04 11 41.8 -0.3**
comp=Z,72nm,1.5s,mb5.0
SMF Signal de Mont 44.66 309 *e*P **P 04 11 41.8 -0.3**
SMF pmax pmax
comp=Z,36nm,1.5s,mb5.0
SMF Signal de Mont 44.66 309 *e*P **P 04 11 41.8 -0.3**
comp=Z,36nm,1.5s,mb5.0
LOR Lormes 44.71 310 *e*P **P 04 11 42.1 -0.4**
BAIF Baives 44.86 314 *e*P **P 04 11 44.6 +1.0**
KEV Kevo 44.92 346 *e*p **P 04 11 43.3 -0.5**
comp=Z,0.4nm,0.3s,mb3.7
SSF Saint Saulge 44.93 310 *e*P **P 04 11 44.1 -0.2**
comp=Z,26nm,1.1s,mb4.7
SSF Saint Saulge 44.93 310 *e*P **P 04 11 44.1 -0.2**
SSF pmax pmax
comp=Z,13nm,1.1s,mb4.7
SSF Saint Saulge 44.93 310 *e*P **P 04 11 44.1 -0.2**
comp=Z,13nm,1.1s,mb4.7
AVF Avril sur Loir 45.01 309 *e*P **P 04 11 44.5 -0.4**
comp=Z,38nm,1.5s,mb4.7
AVF Avril sur Loir 45.01 309 *e*P **P 04 11 44.5 -0.4**
AVF pmax pmax
comp=Z,19nm,1.5s,mb4.7
AVF Avril sur Loir 45.01 309 *e*P **P 04 11 44.5 -0.4**
comp=Z,19nm,1.5s,mb4.7
ARCES ARCESS Array B 45.07 345 P **P 04 11 45.1 +0.1**
ARCES pmax pmax
comp=Z,1.0nm,0.4s
ARCES ARCESS Array B 45.07 345 P **P 04 11 45.1 0.0**
comp=Z,0.6nm,0.4s,mb3.8,baz=151,slow=7.7,SNR=9.2
BGF Bois d'Agland 45.34 309 *e*P **P 04 11 47.3 -0.2**
comp=Z,39nm,1.4s,mb4.8
BGF Bois d'Agland 45.34 309 *e*P **P 04 11 47.3 -0.2**
BGF pmax pmax
comp=Z,19nm,1.4s,mb4.7
BGF Bois d'Agland 45.34 309 *e*P **P 04 11 47.3 -0.2**
comp=Z,19nm,1.4s,mb4.8
TCF Toulx Ste Croi 45.76 308 *e*P **P 04 11 50.9 +0.1**
comp=Z,29nm,1.3s,mb4.8
TCF Toulx Ste Croi 45.76 308 *e*P **P 04 11 50.9 +0.1**
TCF pmax pmax
comp=Z,15nm,1.3s,mb4.8
TCF Toulx Ste Croi 45.76 308 *e*P **P 04 11 50.9 +0.1**
comp=Z,15nm,1.3s,mb4.8
CAF Calviac 45.78 307 *e*P **P 04 11 51.2 +0.2**
RJF Les Rejaudoux 46.19 307 *e*P **P 04 11 54.7 +0.5**
comp=Z,31nm,1.2s,mb4.8
RJF Les Rejaudoux 46.19 307 *e*P **P 04 11 54.7 +0.5**
RJF pmax pmax
comp=Z,16nm,1.2s,mb4.8
RJF Les Rejaudoux 46.19 307 *e*P **P 04 11 54.7 +0.5**
comp=Z,16nm,1.2s,mb4.8
HHC Hu-ho-hao-te 46.61 59 *e*P **P 04 11 56.5 -1.1**
HHC PCP PcP 04 13 31.5 +0.6
HHC PP PP 04 13 46.5 -1.2
HHC PCS PcS 04 17 24.0 -1.6
HHC S **S 04 18 48.3 +5.4**
HHC SCS ScS 04 21 49.5 +1.7
HHC SS SS 04 22 01.5 -7.8
HHC AMB AMB
comp=Z,15nm,0.3s,mb5.4
HHC AMB AMB
comp=Z,82nm,4.3s
HHC LR LR
comp=N,183nm,19.1s
HHC LR LR
comp=E,288nm,26.0s
HHC LR LR
comp=Z,97nm,9.8s
LFF La Frestale 46.73 306 *e*P **P 04 11 58.6 +0.2**
comp=Z,64nm,1.4s,mb5.1
LFF La Frestale 46.73 306 *e*P **P 04 11 58.6 +0.2**
LFF pmax pmax
comp=Z,32nm,1.4s,mb5.1
LFF La Frestale 46.73 306 *e*P **P 04 11 58.6 +0.2**
comp=Z,32nm,1.4s,mb5.1
LDF La Druitiere 47.50 311 *e*P **P 04 12 03.8 -0.6**
QUIF Quistinic 49.50 310 *e*P **P 04 12 19.4 -0.4**
comp=Z,78nm,1.2s,mb5.3
QUIF Quistinic 49.50 310 *e*P **P 04 12 19.4 -0.4**
QUIF pmax pmax
comp=Z,39nm,1.3s,mb5.3
QUIF Quistinic 49.50 310 *e*P **P 04 12 19.4 -0.4**
comp=Z,39nm,1.2s,mb5.3
BOD Bodaibo 49.57 36 *e*P **P 04 12 19.1 -1.0**
BOD pmax pmax
comp=Z,11nm,1.5s,mb4.7
BJI Beijing 50.18 60 P **P 04 12 25.5 +0.4**
ESDC Sonseca Array 50.43 300 P **P 04 12 27.4 +0.4**
comp=Z,0.6nm,0.6s,mb3.8,baz=81,slow=7.9,SNR=4.4
LSZ Lusaka 51.01 216 *e*P **P 04 12 33.5 +2.1**
comp=Z,6.7nm,1.2s,mb4.5
LSZ Lusaka 51.01 216 *e*P **P 04 12 33.6 +2.1**
LSZ pmax pmax
comp=Z,7.0nm,1.2s,mb4.5
LSZ Lusaka 51.01 216 *e*P **P 04 12 33.5 +2.0**
comp=Z,6.7nm,1.2s,mb4.5
CN2 Changchun 56.58 54 *e*P **P 04 13 11.3 -0.7**
CN2 *e*AP pP 04 13 21.5 -4.7
CN2 *e*S S **04 20 57.8 -2.2**
CN2 *e*SS SS 04 24 45.5 -2.3
CN2 AMB AMB
comp=Z,10.0nm,0.7s,mb5.0
CN2 AMB AMB
comp=Z,300nm,3.0s
TIXI Tiksi 58.09 21⇑ *e*P **P 04 13 21.6 -0.5**
TIXI pmax pmax
comp=Z,9.0nm,2.3s,mb4.4
MDJ Mudanjiang 59.39 53 P **P 04 13 32.8 +1.2**
MDJ AP pP 04 13 36.0 -10
MDJ PP PP 04 15 43.8 +0.8
MDJ PCS PcS 04 18 22.8 +1.8
MDJ S **S 04 21 42.0 +5.4**
MDJ AMB AMB
comp=Z,3.0nm,1.6s,mb4.1
MDJ AMB AMB
comp=Z,44nm,3.7s
MDJ LR LR
comp=Z,28nm,24.4s,MS3.3
KSRS Korea Array 59.66 61 P **P 04 13 31.6 -2.0**
comp=Z,2.5nm,0.6s,mb4.4,baz=270,slow=6.4,SNR=14
LBTB Lobatse 60.53 212 *e*P **P 04 13 41.3 +1.7**
comp=Z,13nm,1.0s,mb5.0
LBTB Lobatse 60.53 212 *e*P **P 04 13 41.3 +1.7**
LBTB pmax pmax
comp=Z,13nm,1.0s,mb5.0
LBTB Lobatse 60.53 212 *e*P **P 04 13 41.3 +1.7**
comp=Z,13nm,1.0s,mb5.0
DBIC Dimbokro 61.45 262 *e*P **P 04 13 48.2 +2.0**
comp=Z,8.1nm,0.9s,mb4.8
DBIC Dimbokro 61.45 262 *e*P **P 04 13 48.2 +2.1**
DBIC pmax pmax
comp=Z,8.0nm,0.9s
DBIC Dimbokro 61.45 262 P **P 04 13 46.8 +0.7**
comp=Z,5.5nm,0.9s,mb4.7,baz=28,slow=5.5,SNR=5.4
DBIC Dimbokro 61.45 262 *e*P **P 04 13 48.2 +2.1**
comp=Z,8.1nm,0.9s,mb4.8
LIC Lamto 61.81 262⇑ *i*P **P 04 13 48.6 0.0**
comp=Z,29nm,1.1s,mb5.0
LIC Lamto 61.81 262⇑ *i*P **P 04 13 48.6 0.0**
comp=Z,15nm,1.1s,mb5.0
BOSA Boshof 63.77 210 P **P 04 14 02.3 +1.1**
BOSA pmax pmax
comp=Z,10.0nm,1.0s,mb4.8
BOSA Boshof 63.77 210 P **P 04 14 02.2 +1.0**
comp=Z,9.6nm,1.0s,mb4.8,baz=25,slow=5.4,SNR=9.8
BOSA Boshof 63.77 210 *e*P **P 04 14 02.3 +1.1**
comp=Z,11nm,1.0s,mb4.8
YSS Yuzh-Sakhalins 67.75 48⇑ *e*P **P 04 14 25.8 -0.9**
YSS pmax pmax
comp=Z,24nm,1.3s,mb5.1
SEY Seymchan 68.03 29⇑ *e*P **P 04 14 27.2 -1.0**
BILL Bilibino 71.27 22 *e*P **P 04 14 48.2 +0.2**
comp=Z,3.1nm,0.5s,mb4.5
BILL Bilibino 71.27 22 *e*P **P 04 14 48.2 +0.1**
BILL pmax pmax
comp=Z,3.0nm,0.5s,mb4.5
BILL Bilibino 71.27 22 *e*P **P 04 14 48.2 +0.1**
comp=Z,3.1nm,0.5s,mb4.5
IMA2 Indian Mountai 83.32 12 *e*P **P 04 15 54.5 -1.0**
IMA2 Indian Mountai 83.32 12 *e*P **P 04 15 54.5 -1.0**
SCHQ Schefferville 84.04 331 P **P 04 16 00.7 +1.3**
comp=Z,6.6nm,1.0s,mb4.7,baz=52,slow=8.0,SNR=4.8
MCK McKinley 86.29 11 *e*P **P 04 16 10.7 +0.2**
comp=Z,14nm,1.2s,mb5.0
MCK McKinley 86.29 11 *e*P **P 04 16 10.7 +0.2**
MCK pmax pmax
comp=Z,14nm,1.2s,mb5.1
MCK McKinley 86.29 11 *e*P **P 04 16 10.7 +0.2**
comp=Z,14nm,1.2s,mb5.0
EGAK Eagle 86.39 7 *e*P **P 04 16 11.8 +0.8**
comp=Z,14nm,1.3s,mb5.0
EGAK Eagle 86.39 7 *e*P **P 04 16 11.8 +0.8**
comp=Z,14nm,1.3s,mb5.0
DAWY Dawson 87.28 7 *e*P **P 04 16 16.1 +0.8**
DAWY Dawson 87.28 7 *e*P **P 04 16 16.1 +0.8**
WRA Warramunga Arr 89.29 113 P **P 04 16 25.5 -0.1**
WRA pmax pmax
comp=Z,2.0nm,0.9s
WRA Warramunga Arr 89.29 113 P **P 04 16 25.5 -0.1**
comp=Z,1.5nm,0.9s,mb4.3,baz=311,slow=4.7,SNR=9.9
YKA Yellowknife Ar 89.38 356 P **P 04 16 25.9 +0.6**
YKA pmax pmax
comp=Z,1.0nm,0.8s
YKA Yellowknife Ar 89.38 356 P **P 04 16 25.9 +0.6**
comp=Z,0.7nm,0.8s,mb4.0,baz=3.1,slow=4.9,SNR=13
ASAR Alice Springs 90.81 116 P **P 04 16 32.3 -0.3**
ASAR pmax pmax
comp=Z,1.0nm,0.7s
ASAR Alice Springs 90.81 116 P **P 04 16 32.3 -0.3**
comp=Z,0.8nm,0.7s,mb4.2,baz=310,slow=4.9,SNR=10

TEH ***26*** *04:58:45.4,28.11N×5626E,h9km,ML4.2*

OMAN ***26*** *04:59:29.1, 2882N×5659E, h50km*
BJI ***26*** *04:59:31.2, 2809N×5615E, h24km, mB5.0, mb4.7, Ms4.7, Msz4.4*
IDC ***26*** *04:59:31.1±0.6, 2817N×5637E, h0km, mb4.3/24, mb1 4.4/26, mb1mx4.4/29, mbtmp4.3/26, ML4.0/2, MS3.2/8, Ms1 3.3/8, ms1mx3.1/34, Error ellipse: s-maj=15.0km s-min=12.8km az=168.0*
CSEM ***26*** *04:59:31.2±0.1, 2825N×5630E, h10km, mb4.5/57, Ms3.5, Error ellipse: s-maj=2.0km s-min=1.8km az=95.0*
ISCJB ***26*** *04:59:32.3±0.2, 2824N±002×5629E±002, h15km, mb4.5/94, MS3.7/16, Error ellipse: s-maj=3.1km s-min=2.8km az=168.8*
MOS ***26*** *04:59:32.1±0.7, 2820N×5629E, h17km, mb4.7/54, Error ellipse: s-maj=7.9km s-min=4.3km az=122.8*
NEIC ***26*** *04:59:34.3, 2818N×5631E, h14km, mb4.6/42, ML3.9(THR), MN4.2(TEH), After THR.*
THR ***26*** *04:59:34.1±1.4, 2823N×5623E, h15km±10km, ML4.0*
SZGRF ***26*** *04:59:39.6, 2879N×5640E, h33km, mb4.5, Southern Iran*
ISC 26 04:59:34.1±0.2, 2823N±002×5633E±002, h16km, h16km±.9km: pP-P, n369, σ0.95/377, mb4.5/94, MS3.7/16, 20C-9D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBND	**Bandar-abas**	**0.80**	**166**	*e*Pg	**Pg**	**04 59 49.8**	**+0.2**
BNDS	**Bandar-Abbas**	**0.83**	**190**	*e*Pg	**Pg**	**04 59 49.7**	**-0.6**
BNDS				AML	AML	05 00 11.6	
	comp=N,6μm,0.4s						
BNDS	**Bandar-Abbas**	**0.83**	**190**	P	**Pb**	**04 59 49.0**	**-1.2**
BNDS	**Bandar-Abbas**	**0.83**	**190**	*e*Pg	**Pg**	**04 59 49.7**	**-0.6**
	SNR=91						
KRBR	**Kerman**	**1.79**	**12**	*e*Pg	**Pg**	**05 00 06.5**	**-2.0**
KRBR				AML	AML	05 00 38.4	
	comp=N,3μm,0.4s						
KRBR	**Kerman**	**1.79**	**12**	Pg	**Pg**	**05 00 06.0**	**-2.5**
KRBR				Sg	**Sg**	**05 00 32.0**	**+0.2**
BANOM	**Banah**	**2.29**	**181**	P	**Pn**	**05 00 13.4**	**+2.2**
	SNR=82						
BANOM	**Banah**	**2.29**	**181**	P	**Pn**	**05 00 13.5**	**+2.2**
	SNR=16						
BANOM	**Banah**	**2.29**	**181**	P	**Pn**	**05 00 13.5**	**+2.2**
	SNR=16						
BANOM	**Banah**	**2.29**	**181**	P	**Pn**	**05 00 13.4**	**+2.2**
	SNR=82						
BANOM	**Banah**	**2.29**	**181**	Pn	**Pn**	**05 00 13.4**	**+2.2**
	SNR=82						
BANOM	**Banah**	**2.29**	**181**	P	**Pn**	**05 00 13.4**	**+2.2**
	SNR=82						
BANOM	**Banah**	**2.29**	**181**	P	**Pn**	**05 00 11.2**	**-0.1**
	SNR=65						
BANOM	**Banah**	**2.29**	**181**	Pn	**Pn**	**05 00 13.4**	**+2.1**
	SNR=82						
BANOM				S	**Sn**	**05 00 40.0**	**+0.8**
GHIR	**Ghir-Karzin**	**2.95**	**272**	Pn	**Pn**	**05 00 21.0**	**+0.7**
GHIR	**Ghir-Karzin**	**2.95**	**272**	*e*Pn	**Pn**	**05 00 21.4**	**+1.1**
GHIR				AML	AML	05 01 25.1	
	comp=N,359nm,0.8s						
GHIR				AML	AML	05 01 36.4	
	comp=E,389nm,0.5s						
ISRV	**Sarvestan**	**3.05**	**293**	Pn	**Pn**	**05 00 25.3**	**+3.7**
IMOK	**Mouk**	**3.28**	**285**	*e*Pn	**Pn**	**05 00 27.6**	**+2.8**
IMOK				*e*		05 01 36.7	
	comp=Z,7μm,0.4s						
NAZ	**Nazwa, Dubai**	**3.28**	**191**	P	**Pn**	**05 00 26.4**	**+1.6**
	SNR=23						
IPAR	**Pars**	**3.29**	**300**	Pn	**Pn**	**05 00 28.8**	**+3.8**
HATD	**Hatta, Dubai**	**3.39**	**183**	P	**Pn**	**05 00 27.5**	**+1.1**
	SNR=27						
HATD	**Hatta, Dubai**	**3.39**	**183**	P	**Pn**	**05 00 29.6**	**+3.2**
	SNR=8.8						
HATD	**Hatta, Dubai**	**3.39**	**183**	P	**Pn**	**05 00 29.6**	**+3.2**
	SNR=8.8						
HATD	**Hatta, Dubai**	**3.39**	**183**	P	**Pn**	**05 00 27.5**	**+1.1**
	SNR=27						
HATD	**Hatta, Dubai**	**3.39**	**183**	Pn	**Pn**	**05 00 27.5**	**+1.1**
	SNR=27						
HATD	**Hatta, Dubai**	**3.39**	**183**	P	**Pn**	**05 00 27.5**	**+1.1**
	SNR=27						
HATD	**Hatta, Dubai**	**3.39**	**183**	P	**Pn**	**05 00 26.8**	**+0.4**
	SNR=31						
IBAF	**Bafgh**	**3.42**	**349**	*e*Pn	**Pn**	**05 00 29.9**	**+3.1**
IBAF				*e*		05 01 29.6	
	comp=Z,4μm,0.4s						
IMEH	**Mehriz**	**3.49**	**335**	*e*Pn	**Pn**	**05 00 31.5**	**+3.8**
IMEH				*e*		05 01 42.5	
	comp=Z,4μm,0.2s						
ASHO	**Ashiyiah**	**3.54**	**184**	P	**Pn**	**05 00 29.7**	**+1.3**
	SNR=40						
ASHO	**Ashiyiah**	**3.54**	**184**	P	**Pn**	**05 00 30.3**	**+2.0**
	SNR=29						
ASHO	**Ashiyiah**	**3.54**	**184**	P	**Pn**	**05 00 29.7**	**+1.3**
	SNR=40						
ASHO	**Ashiyiah**	**3.54**	**184**	Pn	**Pn**	**05 00 29.7**	**+1.3**
	SNR=40						
ASHO	**Ashiyiah**	**3.54**	**184**	P	**Pn**	**05 00 29.7**	**+1.3**
	SNR=40						
ASHO	**Ashiyiah**	**3.54**	**184**	P	**Pn**	**05 00 29.4**	**+1.0**
	SNR=21						
ASUD	**Al Ashush, Dub**	**3.69**	**194**	P	**Pn**	**05 00 32.4**	**+1.8**
	SNR=47						
ZHSF	**Zahedan**	**4.14**	**69**	Pn	**Pn**	**05 00 40.0**	**+3.4**
ZHSF	**Zahedan**	**4.14**	**69**	*e*Pn	**Pn**	**05 00 40.9**	**+4.2**
ZHSF	**Zahedan**	**4.14**	**69**	*e*Pn	**Pn**	**05 00 40.8**	**+4.2**
	SNR=42						
IKOO	**Kooshah**	**4.78**	**28**	*e*Pn	**Pn**	**05 00 48.7**	**+3.2**
BIDO	**Bidbid**	**4.96**	**160**	P	**Pn**	**05 00 46.8**	**-1.2**
	SNR=8.6						
ITEG	**Tejag**	**5.10**	**24**	*e*Pn	**Pn**	**05 00 54.8**	**+4.9**
IGAR	**Gharneh**	**5.37**	**319**	*e*Pn	**Pn**	**05 00 54.5**	**+1.0**
IGAR				*e*		05 01 05.4	
	comp=Z,2μm,0.2s						
SMDO	**Samad**	**5.37**	**163**	P	**Pn**	**05 00 55.4**	**+1.7**
	SNR=11						
IDAH	**Dahanechah**	**5.44**	**33**	*e*Pn	**Pn**	**05 00 58.9**	**+4.4**
NASN	**Na'in**	**5.48**	**327**	Pn	**Pn**	**05 00 58.0**	**+2.9**
NASN				Sg	**Sg**	**05 02 25.0**	**-4.9**
NASN	**Na'in**	**5.48**	**327**	*e*PN5	**Pn**	**05 00 57.6**	**+2.5**
BSY	**Bisya**	**5.51**	**172**	P	**Pn**	**05 00 56.5**	**+0.9**
	SNR=8.1						
BSY	**Bisya**	**5.51**	**172**	P	**Pn**	**05 00 56.5**	**+0.9**
	SNR=8.1						
BSY	**Bisya**	**5.51**	**172**	Pn	**Pn**	**05 00 56.5**	**+0.9**
	SNR=8.1						
BSY	**Bisya**	**5.51**	**172**	P	**Pn**	**05 00 56.5**	**+0.9**
	SNR=8.1						
BSYO	**Bisya**	**5.53**	**171**	P	**Pn**	**05 00 56.5**	**+0.6**
	SNR=8.1						
IMON	**Monand**	**5.72**	**29**	*e*Pn	**Pn**	**05 01 03.5**	**+5.0**
IZEF	**Zefreh**	**5.79**	**324**	Pn	**Pn**	**05 00 57.1**	**-2.3**
IZEF	**Zefreh**	**5.79**	**324**	⇑*e*Pn	**Pn**	**05 00 57.2**	**-2.2**
IZEF				*e*		05 01 07.4	
	comp=Z,689nm,0.3s						
JMDO	**Jabal Madar**	**6.05**	**164**	P	**Pn**	**05 01 03.6**	**+0.7**
	SNR=5.9						
SLWS		**6.13**	**237**	P	**Pn**	**05 01 04.3**	**+0.2**
SLWS		**6.13**	**237**	P	**Pn**	**05 01 04.3**	**+0.3**
SLWS				S	**Sn**	**05 02 11.9**	**-1.9**
BTHS		**6.45**	**231**	P	**Pn**	**05 01 08.5**	**+0.1**
IPIR	**Pirpir**	**6.46**	**315**	Pn	**Pn**	**05 01 06.4**	**-2.2**
IPIR	**Pirpir**	**6.46**	**315**	*e*	**Pn**	**05 01 15.8**	**+7.2**
	comp=Z,1μm,0.1s						
IKLH	**Kolahrood**	**6.52**	**322**	Pn	**Pn**	**05 01 07.1**	**-2.2**
IKLH	**Kolahrood**	**6.52**	**322**	*e*Pn	**Pn**	**05 01 07.2**	**-2.1**
IKLH				*e*		05 01 14.0	
	comp=Z,486nm,0.2s						
BOQSS		**6.63**	**251**	P	**Pn**	**05 01 10.6**	**-0.3**
ISFB	**Sefidab**	**7.04**	**331**	Pn	**Pn**	**05 01 19.8**	**+3.3**
ISFB	**Sefidab**	**7.04**	**331**	*e*Pn	**Pn**	**05 01 20.2**	**+3.7**
ISFB				*e*		05 01 54.5	
	comp=Z,521nm,0.3s						
QRN	**Al-Qurain**	**7.42**	**276**	*e*P	**Pn**	**05 01 22.3**	**+0.5**
QRN				AML	AML	05 02 46.0	
	comp=Z,83nm,0.4s						
IANJ	**Anjilo**	**7.51**	**345**	*e*Pn	**Pn**	**05 01 27.1**	**+4.2**
IANJ				*e*		05 04 17.8	
	comp=Z,410nm,0.6s						
KBD	**Kabd**	**7.64**	**279**	*e*P	**Pn**	**05 01 25.7**	**+0.9**
KBD				AML	AML	05 02 51.6	
	comp=Z,282nm,0.4s						
UMR	**Umm Al-Rimmam**	**7.66**	**282**	*e*P	**Pn**	**05 01 26.0**	**+0.9**
UMR				AML	AML	05 02 51.7	
	comp=Z,56nm,0.5s						
ISHM	**Shahmirzad**	**7.99**	**342**	Pn	**Pn**	**05 01 33.8**	**+4.3**
ISHM	**Shahmirzad**	**7.99**	**342**	*e*Pn	**Pn**	**05 01 33.6**	**+4.1**
ISHM				*e*		05 02 19.6	
	comp=Z,340nm,0.3s						
IFIR	**Firoozkooh**	**7.99**	**339**	Pn	**Pn**	**05 01 33.7**	**+4.1**
IFIR	**Firoozkooh**	**7.99**	**339**	*e*Pn	**Pn**	**05 01 33.8**	**+4.2**
IFIR				*e*		05 01 40.8	
	comp=Z,151nm,0.2s						
MIB	**Mutribah**	**8.03**	**283**	*e*P	**Pn**	**05 01 30.9**	**+0.8**
MIB				AML	AML	05 02 58.2	
	comp=Z,47nm,0.5s						
NAY	**Al-Naaiem**	**8.04**	**279**	*e*P	**Pn**	**05 01 30.7**	**+0.4**
NAY				AML	AML	05 02 59.1	
	comp=Z,27nm,0.6s						
HRDDS		**8.14**	**231**	P	**Pn**	**05 01 30.9**	**-0.8**
IDMV	**Damavand**	**8.19**	**335**	*e*Pn	**Pn**	**05 01 36.0**	**+3.7**
IDMV				*e*		05 01 42.8	
	comp=Z,389nm,0.4s						
DAMV	**Damavand**	**8.26**	**334**	*e*Pn	**Pn**	**05 01 36.1**	**+2.9**
ASAO	**Ashtian**	**8.29**	**321**	*e*Pn	**Pn**	**05 01 36.5**	**+2.9**
IPAY	**Payeh**	**8.51**	**15**	*e*Pn	**Pn**	**05 01 41.3**	**+4.7**
IPAY				*e*		05 01 46.8	
	comp=Z,199nm,0.4s						
IMYA	**Miami**	**8.70**	**21**	*e*Pn	**Pn**	**05 01 43.9**	**+4.6**
IMYA				*e*		05 04 48.7	
	comp=Z,349nm,0.6s						
IKRD	**Kardeh**	**8.72**	**12**	*e*Pn	**Pn**	**05 01 47.1**	**+7.5**
IKRD				*e*		05 02 31.4	
	comp=Z,219nm,0.5s						
IRAZ	**Razeghan**	**8.99**	**324**	Pn	**Pn**	**05 01 46.0**	**+2.7**
IKOM	**Komasi**	**9.60**	**310**	*e*Pn	**Pn**	**05 01 52.3**	**+0.7**
IKOM				*e*		05 01 58.4	
	comp=Z,915nm,0.1s						
IVIS	**Veis**	**10.24**	**310**	*e*	**Pn**	**05 02 08.7**	**+8.2**
	comp=Z,646nm,0.2s						
IVIS	**Veis**	**10.24**	**310**	Pn	**Pn**	**05 02 00.4**	**-0.1**
SNGE	**Sanandaj**	**10.26**	**314**	*e*PN5	**Pn**	**05 02 01.8**	**+1.1**
IGHG	**Ghaleghazi**	**10.33**	**309**	Pn	**Pn**	**05 02 02.2**	**+0.6**
IGHG	**Ghaleghazi**	**10.33**	**309**	*e*Pn	**Pn**	**05 02 02.3**	**+0.7**
IGHG				*e*		05 04 29.1	
	comp=Z,647nm,0.4s						
WHFO	**Wadi Hawf**	**10.52**	**193**	P	**Pn**	**05 02 03.1**	**-1.3**
	SNR=12						
IDHR	**Dehrash**	**10.66**	**310**	Pn	**Pn**	**05 02 06.5**	**+0.4**
IDHR	**Dehrash**	**10.66**	**310**	*e*Pn	**Pn**	**05 02 06.6**	**+0.5**
IDHR				*e*		05 04 11.8	
	comp=Z,1μm,0.2s						
ABTO	**Aybut**	**11.17**	**195**	P	**Pn**	**05 02 11.9**	**-1.3**
	SNR=13						
BHD	**Baghdad**	**11.44**	**299**	*ex*	x	05 02 13.0	
BHD				*ex*	x	05 04 45.0	
ASF	**Jabal al Asfar**	**17.25**	**288**	P	**Pn**	**05 03 31.3**	**-3.1**
ASF				S	**Sn**	**05 06 34.5**	**-11**
ASF				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASF				MLR	MLR		
	comp=Z,164nm,18.4s						
ASF	**Jabal al Asfar**	**17.25**	**288**	P	**Pn**	**05 03 31.3**	**-3.1**
	comp=Z,1.0nm,0.3s,baz=199,slow=4.9,SNR=6.1						
ASF				S	**Sn**	**05 06 34.5**	**-11**
	comp=Z,0.1nm,0.3s,baz=179,slow=23,SNR=1.9						
ASF				LR	LR	05 12 02.3	
	comp=Z,164nm,18.4s,baz=297,slow=43						
MALT	**Malatya**	**18.01**	**309**	*e*Pn	**Pn**	**05 03 45.2**	**+1.5**
MALT	**Malatya**	**18.01**	**309**	*e*P	**Pn**	**05 03 45.2**	**+1.5**
MMAI	**Mount Meron Ar**	**18.62**	**290**	P	**Pn**	**05 03 50.5**	**-0.7**
	comp=Z,0.6nm,0.3s,baz=206,slow=43,SNR=3.3						
MMAI				LR	LR	05 11 29.8	
	comp=Z,29nm,20.8s,baz=105,slow=38						
EIL	**Elat**	**18.76**	**280**	P	**Pn**	**05 03 52.8**	**-0.3**
	comp=Z,0.4nm,0.3s,baz=82,slow=4.7,SNR=8.2						
EIL				LR	LR	05 11 54.7	
	comp=Z,26nm,20.7s,baz=116,slow=40						
KIV	**Kislovodsk**	**19.14**	**329**	*e*P	**Pn**	**05 03 56.7**	**-0.7**
KIV				pmax	pmax		
	comp=Z,16nm,1.2s						
KIV	**Kislovodsk**	**19.14**	**329**	*e*P	**Pn**	**05 03 56.7**	**-0.7**
	comp=Z,16nm,1.2s						
SOC	**Sochi**	**20.33**	**323**	*e*P	**P**	**05 04 09.9**	**+0.3**
SOC				*e*PP		05 04 16.2	
SOC				*e*		05 04 31.7	
SOC				*e*S	**S**	**05 07 59.5**	**+2.6**
SOC				*e*SS		05 08 16.6	
SOC				pmax	pmax		
	comp=Z,20nm,0.9s						
SOC				MLR	MLR		
	comp=Z,97nm,10.0s,MS3.5						
SOC	**Sochi**	**20.33**	**323**	*e*P	**P**	**05 04 09.9**	**+0.3**
	comp=Z,20nm,0.9s						
AAK	**Ala-Archa**	**20.57**	**41**	*e*P	**P**	**05 04 12.7**	**+0.5**
	comp=Z,5.9nm,0.9s						
AAK	**Ala-Archa**	**20.57**	**41**	P	**P**	**05 04 12.7**	**+0.5**
AAK				pmax	pmax		
	comp=Z,3.0nm,0.5s						
AAK	**Ala-Archa**	**20.57**	**41**	P	**P**	**05 04 12.7**	**+0.5**
	comp=Z,2.6nm,0.5s,baz=223,slow=3.2,SNR=6.8						
AAK	**Ala-Archa**	**20.57**	**41**	*e*P	**P**	**05 04 12.7**	**+0.5**
	comp=Z,5.9nm,0.9s						
ATD	**Arta Tunnel**	**20.86**	**220**	P	**P**	**05 04 15.3**	**-0.1**
	comp=Z,14nm,0.9s,baz=72,slow=20,SNR=2.7						
AKTK	**Aktyubinsk**	**22.22**	**3**	P	**P**	**05 04 30.0**	**+0.2**
AKTK				LR	LR	05 14 39.9	
AKTK	**Aktyubinsk**	**22.22**	**3**	P	**P**	**05 04 30.0**	**+0.2**
AKTO	**Aktyubinsk**	**22.22**	**3**	P	**P**	**05 04 30.0**	**+0.2**
AKTO				pmax	pmax		
	comp=Z,12nm,1.1s,mb4.2						
AKTO				MLR	MLR		
	comp=Z,201nm,19.0s,MS3.6						
AKTO	**Aktyubinsk**	**22.22**	**3**	P	**P**	**05 04 30.0**	**+0.2**
	comp=Z,12nm,1.1s,mb4.2,baz=183,slow=11,SNR=18						
AKTO				LR	LR	05 14 39.9	
	comp=Z,201nm,19.0s,MS3.6,baz=220,slow=41						
ANN	**Anapa**	**22.37**	**323**	*e*P	**P**	**05 04 32.3**	**+0.9**
ANN				*e*S	**S**	**05 08 39.6**	**+2.7**
ANN				pmax	pmax		
	comp=Z,30nm,1.3s,mb4.6						
ANN	**Anapa**	**22.37**	**323**	*e*P	**P**	**05 04 32.3**	**+0.9**
	comp=Z,30nm,1.3s,mb4.6						
KOLN	**Koldanda**	**24.07**	**85**	*e*P	**P**	**05 04 47.3**	**-1.5**
	comp=Z,18nm,0.9s,mb4.5						
DANN	**Dangsing**	**24.14**	**83**	*e*P	**P**	**05 04 50.1**	**+0.6**
	comp=Z,48nm,0.6s,mb5.1						
GKN	**Gorkha**	**24.95**	**84**	*e*P	**P**	**05 04 56.8**	**-0.1**
DMN	**Daman**	**25.42**	**85**	*e*P	**P**	**05 05 00.9**	**-0.2**
	comp=Z,8.2nm,0.5s,mb4.5						
KKN	**Kakani**	**25.54**	**84**	*e*P	**P**	**05 05 02.4**	**+0.2**
	comp=Z,16nm,0.6s,mb4.7						
PKI	**Pulchoki**	**25.69**	**85**	*e*P	**P**	**05 05 03.7**	**+0.2**
	comp=Z,26nm,0.8s,mb4.8						
GUN	**Gumba**	**26.05**	**84**	*e*P	**P**	**05 05 07.4**	**+0.5**
	comp=Z,70nm,0.9s,mb5.2						
BRVK	**Borovoye**	**26.88**	**19**	*e*P	**P**	**05 05 14.5**	**+0.5**
BRVK	**Borovoye**	**26.88**	**19**	*e*P	**P**	**05 05 14.5**	**+0.5**
BVAR	**Borovoye Array**	**26.88**	**19**	P	**P**	**05 05 14.4**	**+0.4**
BVAR						05 08 35.9	
BVAR				pmax	pmax		
	comp=Z,4.0nm,0.7s						
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
BVAR				MLR	MLR		
	comp=Z,133nm,19.0s						
BVAR	**Borovoye Array**	**26.88**	**19**	P	**P**	**05 05 14.4**	**+0.4**
	comp=Z,3.8nm,0.7s,mb4.0,baz=201,slow=7.9,SNR=23						
BVAR				PcP	PcP	05 08 35.9	-0.1
	comp=Z,1.0nm,0.4s,baz=222,slow=2.0,SNR=6.4						
BVAR				LR	LR	05 17 20.2	
	comp=Z,133nm,19.0s,MS3.5,baz=329,slow=40						
BVAR	**Borovoye Array**	**26.88**	**19**	PcP	PcP	05 08 35.9	-0.1
MK31	**Makanchi Array**	**27.51**	**41**	*e*P	**P**	**05 05 20.1**	**+0.4**
MK31	**Makanchi Array**	**27.51**	**41**	*e*P	**P**	**05 05 20.1**	**+0.3**
MKAR	**Makanchi Array**	**27.51**	**41**	P	**P**	**05 05 20.0**	**+0.2**
MKAR	**Makanchi Array**	**27.51**	**41**	⇑*e*P	**P**	**05 05 20.0**	**+0.2**
MKAR	**Makanchi Array**	**27.51**	**41**	P	**P**	**05 05 20.0**	**+0.2**
	comp=Z,1.6nm,0.4s,mb4.0,baz=228,slow=8.2,SNR=31						
KURK	**Kurchatov**	**28.09**	**31**	*e*P	**P**	**05 05 24.8**	**-0.1**
	comp=Z,3.3nm,0.9s,mb4.0						
KURK	**Kurchatov**	**28.09**	**31**	*e*P	**P**	**05 05 24.8**	**-0.1**
KURK				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb3.9						
KURK	**Kurchatov**	**28.09**	**31**	*e*P	**P**	**05 05 24.8**	**-0.1**
	comp=Z,3.3nm,0.9s,mb4.0						
GVD	**Gavdhos**	**28.18**	**292**	*e*P	**P**	**05 05 24.2**	**-1.7**
GVD	**Gavdhos**	**28.18**	**292**	*e*P	**P**	**05 05 24.2**	**-1.7**
ARU	**Arti**	**28.23**	**3**	*e*P	**P**	**05 05 25.6**	**-0.5**
ARU				*e*		05 06 10.0	
ARU				*e*S	**S**	**05 10 09.3**	**-1.9**
WMQ	**Urumqi**	**29.55**	**50**	*e*P	**P**	**05 05 38.8**	**+0.9**
WMQ				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.7						
WMQ				AMB	AMB		
	comp=Z,136nm,5.4s						
WMQ				LR	LR		
	comp=Z,190nm,22.8s,MS3.7						
MLR	**Muntele Rosu**	**29.56**	**314**	⇓P	**P**	**05 05 40.4**	**+2.4**
MLR	**Muntele Rosu**	**29.56**	**314**	P	**P**	**05 05 39.5**	**+1.5**
MLR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
MLR				MLR	MLR		
	comp=Z,74nm,19.3s						
MLR	**Muntele Rosu**	**29.56**	**314**	P	**P**	**05 05 39.5**	**+1.5**
	comp=Z,1.4nm,0.4s,mb4.1,baz=283,slow=5.0,SNR=5.9						
MLR				LR	LR	05 20 07.2	
	comp=Z,74nm,19.3s,MS3.3,baz=308,slow=42						
MLR	**Muntele Rosu**	**29.56**	**314**	⇓*i*P	**P**	**05 05 40.4**	**+2.4**
AKASG	**Malin Array Be**	**30.39**	**325**	P	**P**	**05 05 44.3**	**-1.0**
AKASG						05 08 43.7	
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.5s						
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.6s						
AKASG	**Malin Array Be**	**30.39**	**325**	P	**P**	**05 05 44.3**	**-1.0**
	comp=Z,1.6nm,0.5s,mb4.0,baz=131,slow=7.7,SNR=25						
AKASG				PcP	PcP	05 08 43.7	-1.1
	comp=Z,1.4nm,0.6s,baz=85,slow=2.5,SNR=11						
AKASG	**Malin Array Be**	**30.39**	**325**	PcP	PcP	05 08 43.7	-1.1
AKBB	**Malin Array Si**	**30.39**	**325**	*e*P	**P**	**05 05 45.2**	**-0.1**
AKBB	**Malin Array Si**	**30.39**	**325**	*e*P	**P**	**05 05 45.2**	**-0.1**
KIEV	**Kiev**	**30.39**	**325**	*e*P	**P**	**05 05 44.9**	**-0.4**
	comp=Z,4.3nm,0.6s,mb4.4						
KIEV	**Kiev**	**30.39**	**325**	*e*P	**P**	**05 05 44.9**	**-0.4**
KIEV				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.3						
KIEV	**Kiev**	**30.39**	**325**	*e*P	**P**	**05 05 44.9**	**-0.4**
	comp=Z,4.3nm,0.6s,mb4.4						
OBN	**Obninsk**	**30.43**	**337**	⇑*e*P	**P**	**05 05 46.4**	**+0.7**
OBN				*e*		05 05 55.3	
OBN				pmax	pmax		
	comp=Z,13nm,1.3s,mb4.5						
OBN				MLR	MLR		
	comp=Z,100nm,15.0s,MS3.6						
OBN	**Obninsk**	**30.43**	**337**	*e*P	**P**	**05 05 46.4**	**+0.7**
	comp=Z,13nm,1.3s,mb4.5						
BURAR	**Bucovina Array**	**30.95**	**317**	⇓*i*P	**P**	**05 05 50.7**	**+0.4**
GZR	**Gura Zlata**	**31.57**	**312**	⇓*i*P	**P**	**05 05 55.9**	**+0.1**
DRGR		**32.14**	**314**	⇓P	**P**	**05 05 57.7**	**-3.1**
DRGR		**32.14**	**314**	⇓*i*P	**P**	**05 05 57.7**	**-3.1**
NVS	**Novosibirsk**	**32.97**	**29**	*e*P	**P**	**05 06 08.3**	**+0.3**
NVS				pmax	pmax		
	comp=Z,12nm,1.5s,mb4.6						
NVS				pmax	pmax		
	comp=N,14nm,1.8s						
NVS	**Novosibirsk**	**32.97**	**29**	*e*P	**P**	**05 06 08.3**	**+0.3**
	comp=N,14nm,1.8s,mb4.6						
ZAL	**Zalesovo**	**33.06**	**31**	P	**P**	**05 06 08.0**	**-0.8**
ZAA0	**Zalesovo Array**	**33.08**	**31**	*e*P	**P**	**05 06 08.3**	**-0.7**
ZAA0	**Zalesovo Array**	**33.08**	**31**	*e*P	**P**	**05 06 08.3**	**-0.6**
ZALV	**Zalesovo Beam**	**33.08**	**31**	P	**P**	**05 06 08.0**	**-0.9**
ZALV				LR	LR	05 19 55.4	
ZALV	**Zalesovo Beam**	**33.08**	**31**	P	**P**	**05 06 08.0**	**-0.9**
	comp=N,2.4nm,0.4s,mb4.5,baz=238,slow=10,SNR=12						
ZALV				LR	LR	05 19 55.4	
	comp=N,14nm,19.6s,baz=30,slow=37						
KOLS	**Kolonicke sedl**	**33.30**	**318**	*e*P	**P**	**05 06 12.1**	**+1.2**
KWP	**Kalwaria**	**33.36**	**319**	⇑P	**P**	**05 06 11.8**	**+0.3**
KWP	**Kalwaria**	**33.36**	**319**	⇑*i*P	**P**	**05 06 11.8**	**+0.4**
CRVS	**Cervenica-Dubn**	**33.77**	**317**	*e*P	**P**	**05 06 15.4**	**+0.4**
KECS	**Kecovo**	**34.19**	**316**	*e*P	**P**	**05 06 18.9**	**+0.2**
	comp=N,2.1nm,1.2s,mb3.9						
KECS	**Kecovo**	**34.19**	**316**	*e*P	**P**	**05 06 18.9**	**+0.2**
KECS				pmax	pmax		
	comp=Z,2.0nm,1.2s,mb3.9						
TIP	**Timpagrande**	**34.44**	**299**	*e*P	**P**	**05 06 21.6**	**+0.7**
	comp=Z,24nm,1.2s,mb5.0						
TIP	**Timpagrande**	**34.44**	**299**	*e*P	**P**	**05 06 21.6**	**+0.6**
	comp=Z,24nm,1.2s,mb5.0						
KMBO	**Kilima Mbogo**	**34.45**	**215**	*e*P	**P**	**05 06 22.7**	**+1.4**
	comp=Z,1.8nm,0.6s,mb4.2						
KMBO	**Kilima Mbogo**	**34.45**	**215**	*e*P	**P**	**05 06 22.7**	**+1.5**
KMBO				pmax	pmax		
	comp=Z,2.0nm,0.6s						
PKSM	**Moragy**	**34.57**	**312**	⇑P	**P**	**05 06 22.2**	**+0.2**
PKSM	**Moragy**	**34.57**	**312**	⇑*i*P	**P**	**05 06 22.2**	**+0.2**
**VYHS

CLL	**Collm**	**39.72**	**318**⇑	*i* P	**P**	**05 07 05.7**	**+0.1**
CLL				pmax	pmax		
comp=Z,29nm,2.1s,mb4.6							
CLL	**Collm**	**39.72**	**318**	*e*P	**P**	**05 07 05.7**	**+0.1**
comp=Z,6.0nm,0.9s,mb4.3							
CLL	**Collm**	**39.72**	**318**⇑	*i* P	**P**	**05 07 05.7**	**+0.1**
comp=Z,29nm,2.1s,mb4.6							
CLL	**Collm**	**39.72**	**318**⇑	*i* P	**P**	**05 07 05.7**	**+0.1**
comp=Z,29nm,2.1s,mb4.6							
ROTZ	**Rotzenmuhle**	**39.74**	**315**	*e*P	**P**	**05 07 05.7**	**-0.2**
comp=Z,8.0nm,1.0s,mb4.4							
SQTA	**Sankt Quirin**	**39.77**	**311**⇓	*i* P	**P**	**05 07 05.4**	**-0.6**
comp=Z,6.7nm,0.9s,mb4.4							
SQTA	**Sankt Quirin**	**39.77**	**311**⇓	*i* P	**P**	**05 07 05.5**	**-0.6**
SQTA				pmax	pmax		
comp=Z,7.0nm,0.9s,mb4.4							
SQTA	**Sankt Quirin**	**39.77**	**311**	P	**P**	**05 07 05.4**	**-0.7**
comp=Z,6.7nm,0.9s,mb4.4							
MOTA	**Moosalm**	**39.86**	**311**⇑	*i* P	**P**	**05 07 05.8**	**-1.1**
comp=Z,8.7nm,1.0s,mb4.5							
MOTA	**Moosalm**	**39.86**	**311**⇑	*i* P	**P**	**05 07 05.8**	**-1.1**
MOTA				pmax	pmax		
comp=Z,9.0nm,1.0s,mb4.5							
MANZ	**Manzenberg**	**39.87**	**315**	*e*P	**P**	**05 07 06.7**	**-0.2**
comp=Z,7.0nm,1.3s,mb4.2							
FETA	**Feichten**	**40.04**	**311**⇑	*i* P	**P**	**05 07 07.9**	**-0.5**
comp=Z,16nm,1.0s,mb4.7							
BSD	**Bornholm Skovb**	**40.07**	**324**⇑	*i* P	**P**	**05 07 07.2**	**-1.3**
BSD				pmax	pmax		
comp=Z,41nm,0.7s,mb5.3							
BSD	**Bornholm Skovb**	**40.07**	**324**⇑	*i* P	**P**	**05 07 07.2**	**-1.3**
comp=Z,41nm,0.7s,mb5.3							
VSL	**Villasalto**	**40.17**	**299**	*e*P	**P**	**05 07 10.5**	**+0.9**
comp=Z,13nm,1.0s,mb4.6							
KEST	**Kesra**	**40.24**	**293**	P	**P**	**05 07 12.0**	**+1.8**
comp=Z,1.1nm,0.8s,mb3.7,baz=326,slow=1.5,SNR=5.7							
GRA1	**Grafenberg Arr**	**40.34**	**315**	*e*P	**P**	**05 07 10.9**	**+0.1**
GRA1				LR	LR		
comp=Z,17nm,1.0s,mb4.7							
comp=Z,200nm,18.0s,MS4.0							
GRF	**Grafenberg Arr**	**40.34**	**315**	*e*P	**P**	**05 07 10.9**	**+0.1**
comp=Z,17nm,1.0s,mb4.7							
GRF				LR	LR		
comp=Z,200nm,18.0s,MS4.0							
GRF	**Grafenberg Arr**	**40.34**	**315**	*e*P	**P**	**05 07 10.9**	**+0.1**
GRF				pmax	pmax		
comp=Z,17nm,1.0s,mb4.7							
GRF				MLR	MLR		
comp=Z,200nm,18.0s,MS4.0							
GRF	**Grafenberg Arr**	**40.34**	**315**	*e*P	**P**	**05 07 10.9**	**+0.1**
GRF				pmax	pmax		
comp=Z,17nm,1.0s,mb4.7							
GRF				MLR	MLR		
comp=Z,200nm,18.0s,MS4.0							
MOX	**Moxa**	**40.35**	**316**	*e*P	**P**	**05 07 11.0**	**+0.1**
comp=Z,7.0nm,1.1s,mb4.3							
MOY	**Mondy**	**40.63**	**42**	*e*P	**P**	**05 07 14.6**	**+1.4**
LZH	**Lanzhou**	**40.66**	**66**	*e*P	**P**	**05 07 15.0**	**+1.4**
LZH				AP	pP	05 07 19.5	+1.0
LZH				XP	sP	05 07 21.3	+0.8
LZH				AMB	AMB		
comp=Z,15nm,1.1s,mb4.5							
DAVA	**Damuels**	**40.66**	**311**⇓	*i* P	**P**	**05 07 12.9**	**-0.6**
comp=Z,16nm,0.5s,mb4.9							
CD2	**Chengdu**	**41.10**	**74**	*e*P	**P**	**05 07 17.5**	**+0.1**
CD2				XP	sP	05 07 24.5	+0.3
CD2				PP	PP	05 08 55.5	+3.3
CD2				S	**S**	**05 13 29.0**	**-0.8**
CD2				SS	SS	05 16 26.5	-5.9
CD2				AMB	AMB		
comp=Z,10.0nm,0.6s,mb4.6							
CD2				AMB	AMB		
comp=Z,20nm,3.8s							
CD2				LR	LR		
comp=N,90nm,13.2s							
CD2				LR	LR		
comp=Z,80nm,12.6s,MS3.8							
KMI	**Kunming**	**41.40**	**83**	P	**P**	**05 07 20.0**	**+0.1**
KMI				AP	pP	05 07 24.3	-0.5
KMI				XP	sP	05 07 26.0	-0.7
KMI				AMB	AMB		
comp=Z,15nm,1.1s,mb4.5							
STU	**Stuttgart**	**41.41**	**313**	*e*P	**P**	**05 07 18.5**	**-1.2**
comp=Z,13nm,0.7s,mb4.7							
CLZ	**Clausthal**	**41.45**	**318**	*e*P	**P**	**05 07 20.5**	**+0.6**
CLZ				pmax	pmax		
comp=Z,26nm,1.2s,mb4.7							
CLZ	**Clausthal**	**41.45**	**318**	*e*P	**P**	**05 07 20.5**	**+0.6**
comp=Z,26nm,1.2s,mb4.7							
ZAK	**Zakamensk**	**41.67**	**45**	*e*P	**P**	**05 07 21.8**	**+0.1**
ZAK				*e*		05 09 17.9	
ZAK				pmax	pmax		
comp=Z,3.0nm,1.1s,mb3.8							
ZAK				pmax	pmax		
comp=Z,2.0nm,1.0s,mb3.7							
ZAK	**Zakamensk**	**41.67**	**45**	*e*P	**P**	**05 07 21.8**	**+0.1**
comp=Z,3.0nm,1.1s,mb3.8							
ZAK	**Zakamensk**	**41.67**	**45**	*e*PcP	PcP	05 09 17.9	-0.4
comp=Z,2.0nm,1.0s							
SBF	**Sospel**	**41.88**	**305**	*e*P	**P**	**05 07 23.2**	**-0.4**
BSEG	**Bad Segeberg**	**42.12**	**321**	*e*P	**P**	**05 07 25.9**	**+0.6**
comp=Z,14nm,1.0s,mb4.5							
TLY	**Talaya**	**42.22**	**43**	*e*P	**P**	**05 07 26.8**	**+0.6**
TLY				*e*S	**S**	**05 13 54.9**	**+9.2**
TLY				pmax	pmax		
comp=Z,5.0nm,0.7s,mb4.2							
TLY				MLR	MLR		
comp=Z,53nm,12.0s,MS3.6							
TLY	**Talaya**	**42.22**	**43**	*e*P	**P**	**05 07 26.8**	**+0.6**
comp=Z,5.0nm,0.7s,mb4.2							
MBDF	**Montbardon**	**42.44**	**306**	*e*P	**P**	**05 07 27.5**	**-0.6**
LPG	**La Plagne**	**42.53**	**308**	*e*P	**P**	**05 07 28.0**	**-0.9**
BNI	**Bardonecchia**	**42.54**	**307**	*e*P	**P**	**05 07 27.5**	**-1.4**
comp=Z,11nm,1.2s,mb4.5							
BNI	**Bardonecchia**	**42.54**	**307**	*e*P	**P**	**05 07 27.5**	**-1.4**
BNI				pmax	pmax		
comp=Z,11nm,1.2s,mb4.5							
BNI	**Bardonecchia**	**42.54**	**307**	*e*P	**P**	**05 07 27.5**	**-1.4**
comp=Z,11nm,1.2s,mb4.5							
LPL	**La Plagne**	**42.55**	**308**	*e*P	**P**	**05 07 28.4**	**-0.6**
comp=Z,11nm,0.8s,mb4.3							
LPL	**La Plagne**	**42.55**	**308**	*e*P	**P**	**05 07 28.4**	**-0.6**
LPL				pmax	pmax		
comp=Z,5.0nm,0.8s,mb4.3							
LPL	**La Plagne**	**42.55**	**308**	*e*P	**P**	**05 07 28.4**	**-0.6**
comp=Z,5.3nm,0.8s,mb4.3							
CDF	**Champ du Feu**	**42.59**	**312**	*e*P	**P**	**05 07 29.0**	**-0.3**
HINF	**Hinteralfeld**	**42.78**	**311**	*e*P	**P**	**05 07 29.9**	**-0.9**
CABF	**La Chapelle**	**43.12**	**309**	*e*P	**P**	**05 07 33.5**	**-0.2**
comp=Z,21nm,0.9s,mb4.6							
CABF	**La Chapelle**	**43.12**	**309**	*e*P	**P**	**05 07 33.5**	**-0.2**
CABF				pmax	pmax		
comp=Z,11nm,0.9s,mb4.6							
CABF	**La Chapelle**	**43.12**	**309**	*e*P	**P**	**05 07 33.5**	**-0.2**
comp=Z,10nm,0.9s,mb4.6							
IBBN	**Ibbenburen**	**43.12**	**318**	*e*P	**P**	**05 07 34.5**	**+0.9**
comp=Z,29nm,1.3s,mb4.8							
SONM	**Songino Array**	**43.17**	**49**	P	**P**	**05 07 34.5**	**+0.4**
SONM				pmax	pmax		
comp=Z,8.0nm,0.9s							
SONM	**Songino Array**	**43.17**	**49**	P	**P**	**05 07 34.5**	**+0.4**
comp=Z,7.8nm,0.9s,mb4.4,baz=266,slow=8.9,SNR=48							
MUD	**Monsted U'grnd**	**43.58**	**324**	*i* P	**P**	**05 07 37.8**	**+0.6**
MUD				pmax	pmax		
comp=Z,19nm,0.8s,mb4.9							
MUD	**Monsted U'grnd**	**43.58**	**324**	*i* P	**P**	**05 07 37.8**	**+0.6**
comp=Z,19nm,0.8s,mb4.9							
ULN	**Ulaanbaatar**	**43.62**	**49**	*e*P	**P**	**05 07 37.7**	**+0.1**
comp=Z,13nm,0.8s,mb4.7							
ULN	**Ulaanbaatar**	**43.62**	**49**	*e*P	**P**	**05 07 37.7**	**+0.1**
ULN				pmax	pmax		
comp=Z,13nm,0.8s,mb4.7							
ULN	**Ulaanbaatar**	**43.62**	**49**	*e*P	**P**	**05 07 37.7**	**+0.1**
comp=Z,13nm,0.8s,mb4.7							
MEZF	**Maizieres J'vi**	**44.07**	**312**	*e*P	**P**	**05 07 41.0**	**-0.3**
BCLA	**Clavier**	**44.22**	**315**	P	**P**	**05 07 43.1**	**+0.6**
BCLA	**Clavier**	**44.22**	**315**	P	**P**	**05 07 43.0**	**+0.6**
NB2	**NORSAR Subarra**	**44.43**	**330**	P	**P**	**05 07 43.4**	**-0.6**
comp=Z,9.0nm,1.0s,mb4.5,baz=116,slow=7.9							
NOA	**NORSAR Array B**	**44.43**	**330**	P	**P**	**05 07 43.6**	**-0.4**
NOA				pmax	pmax		
comp=Z,5.0nm,0.8s							
NOA				MLR	MLR		
comp=Z,38nm,19.2s							
NOA	**NORSAR Array B**	**44.43**	**330**	P	**P**	**05 07 43.5**	**-0.4**
comp=Z,4.5nm,0.8s,mb4.2,baz=117,slow=8.0,SNR=9.3							
NOA				LR	LR	05 28 43.1	
comp=Z,38nm,19.2s,MS3.3,baz=265,slow=39							
GIVF	**Givet**	**44.47**	**314**	*e*P	**P**	**05 07 45.1**	**+0.7**
LASF	**Ste Croix**	**44.47**	**305**	*e*P	**P**	**05 07 44.0**	**-0.6**
NAO01	**NORSAR Array S**	**44.49**	**330**	*e*P	**P**	**05 07 44.1**	**-0.3**
comp=Z,2.5nm,0.6s,mb4.1							
NAO01	**NORSAR Array S**	**44.49**	**330**	*e*P	**P**	**05 07 44.1**	**-0.3**
comp=Z,2.5nm,0.6s,mb4.1							
GYA	**Guiyang**	**44.49**	**80**	P	**P**	**05 07 43.8**	**-1.1**
GYA				AP	pP	05 07 47.5	-2.4
GYA				PCP	PcP	05 09 30.3	+2.0
GYA				PP	PP	05 09 31.5	+2.8
GYA				SCP	ScP	05 13 20.8	+0.9
GYA				S	**S**	**05 14 20.5**	**+0.8**
GYA				SS	SS	05 17 31.3	-7.8
GYA				SCS	ScS	05 17 41.5	-1.3
GYA				AMB	AMB		
comp=Z,10.0nm,0.8s,mb4.6							
GYA				AMB	AMB		
comp=Z,70nm,5.4s							
GYA				LR	LR		
comp=N,460nm,18.5s,MS4.6							
GYA				LR	LR		
comp=E,450nm,17.9s,MS4.6							
GYA				LR	LR		
comp=Z,440nm,18.8s,MS4.4							
KONO	**Kongsberg**	**44.56**	**328**	*e*P	**P**	**05 07 45.3**	**+0.3**
DOU	**Dourbes**	**44.61**	**314**	P	**P**	**05 07 46.2**	**+0.7**
SMF	**Signal de Mont**	**44.67**	**309**	*e*P	**P**	**05 07 45.4**	**-0.6**
comp=Z,31nm,1.2s,mb4.7							
SMF	**Signal de Mont**	**44.67**	**309**	*e*P	**P**	**05 07 45.4**	**-0.6**
SMF				pmax	pmax		
comp=Z,15nm,1.2s,mb4.7							
SMF	**Signal de Mont**	**44.67**	**309**	*e*P	**P**	**05 07 45.4**	**-0.6**
comp=Z,15nm,1.2s,mb4.7							
LOR	**Lormes**	**44.72**	**310**	*e*P	**P**	**05 07 45.6**	**-0.8**
BAIF	**Baives**	**44.85**	**314**	*e*P	**P**	**05 07 47.0**	**-0.5**
comp=Z,42nm,1.2s,mb4.8							
BAIF	**Baives**	**44.85**	**314**	*e*P	**P**	**05 07 47.0**	**-0.5**
BAIF				pmax	pmax		
comp=Z,21nm,1.2s,mb4.8							
BAIF	**Baives**	**44.85**	**314**	*e*P	**P**	**05 07 47.0**	**-0.5**
comp=Z,21nm,1.2s,mb4.8							
KEV	**Kevo**	**44.86**	**346**	*e*p	**P**	**05 07 46.7**	**-0.5**
comp=Z,1.0nm,0.4s,mb4.0							
KEV	**Kevo**	**44.86**	**346**	*e*P	**P**	**05 07 46.7**	**-0.5**
KEV				pmax	pmax		
comp=Z,1.0nm,0.4s,mb4.0							
SSF	**Saint Saulge**	**44.94**	**310**	*e*P	**P**	**05 07 47.6**	**-0.6**
comp=Z,28nm,1.0s,mb4.8							
SSF	**Saint Saulge**	**44.94**	**310**	*e*P	**P**	**05 07 47.6**	**-0.6**
SSF				pmax	pmax		
comp=Z,14nm,1.0s,mb4.8							
SSF	**Saint Saulge**	**44.94**	**310**	*e*P	**P**	**05 07 47.6**	**-0.6**
comp=Z,14nm,1.0s,mb4.8							
ARCES	**ARCESS Array B**	**45.01**	**345**	P	**P**	**05 07 49.3**	**+0.8**
ARCES				pmax	pmax		
comp=Z,2.0nm,0.7s							
ARCES	**ARCESS Array B**	**45.01**	**345**	P	**P**	**05 07 49.3**	**+0.8**
comp=Z,1.9nm,0.7s,mb4.0,baz=147,slow=7.1,SNR=5.7							
AVF	**Avril sur Loir**	**45.01**	**309**	*e*P	**P**	**05 07 48.2**	**-0.6**
comp=Z,30nm,1.4s,mb4.6							
AVF	**Avril sur Loir**	**45.01**	**309**	*e*P	**P**	**05 07 48.2**	**-0.6**
AVF				pmax	pmax		
comp=Z,15nm,1.4s,mb4.6							
AVF	**Avril sur Loir**	**45.01**	**309**	*e*P	**P**	**05 07 48.2**	**-0.6**
comp=Z,15nm,1.4s,mb4.6							
BGF	**Bois d'Agland**	**45.34**	**309**	*e*P	**P**	**05 07 50.9**	**-0.5**
comp=Z,20nm,1.1s,mb4.6							
BGF	**Bois d'Agland**	**45.34**	**309**	*e*P	**P**	**05 07 50.9**	**-0.5**
BGF				pmax	pmax		
comp=Z,10.0nm,1.1s,mb4.6							
BGF	**Bois d'Agland**	**45.34**	**309**	*e*P	**P**	**05 07 50.9**	**-0.5**
comp=Z,9.8nm,1.1s,mb4.6							
MTLF	**Montolieu**	**45.64**	**304**	*e*P	**P**	**05 07 53.9**	**+0.1**
TCF	**Toulx Ste Croi**	**45.76**	**308**	*e*P	**P**	**05 07 54.4**	**-0.4**
CAF	**Calviac**	**45.79**	**306**	*e*P	**P**	**05 07 54.9**	**-0.1**
RJF	**Les Rejaudoux**	**46.20**	**307**	*e*P	**P**	**05 07 58.2**	**0.0**
comp=Z,75nm,1.5s,mb5.1							
RJF				*e*MLR	MLR		
comp=Z,84nm,19.0s,MS3.4							
RJF	**Les Rejaudoux**	**46.20**	**307**	*e*P	**P**	**05 07 58.2**	**0.0**
comp=Z,38nm,1.5s,mb5.1							
RJF				LR	LR		
comp=Z,80nm,19.0s,MS3.7							
RJF	**Les Rejaudoux**	**46.20**	**307**	*e*P	**P**	**05 07 58.2**	**0.0**
RJF				pmax	pmax		
comp=Z,38nm,1.5s,mb5.1							
RJF				MLR	MLR		
comp=Z,80nm,19.0s,MS3.7							
HHC	**Hu-ho-hao-te**	**46.51**	**59**	*e*P	**P**	**05 08 00.0**	**-0.7**
HHC				AP	pP	05 08 05.3	-0.4
HHC				XP	sP	05 08 08.0	+0.4
HHC				PCP	PcP	05 09 35.5	+0.5
HHC				PP	PP	05 09 51.0	+1.1
HHC				PCS	PcS	05 13 28.5	-1.2
HHC				S	**S**	**05 14 50.8**	**+2.3**
HHC				SS	SS	05 18 05.3	-9.0
HHC				AMB	AMB		
comp=Z,23nm,0.3s,mb5.6							
HHC				AMB	AMB		
comp=Z,176nm,4.6s							
HHC				LR	LR		
comp=N,177nm,13.7s							
HHC				LR	LR		
comp=E,196nm,24.0s							
HHC				LR	LR		
comp=Z,78nm,6.7s							
LFF	**La Frestale**	**46.73**	**306**	*e*P	**P**	**05 08 02.3**	**-0.1**
LDF	**La Druitiere**	**47.50**	**311**	*e*P	**P**	**05 08 07.3**	**-1.0**
ETSF	**Etsaut**	**47.67**	**304**	*e*P	**P**	**05 08 09.9**	**+0.1**
comp=Z,26nm,1.3s,mb4.8							
ETSF	**Etsaut**	**47.67**	**304**	*e*P	**P**	**05 08 09.9**	**+0.1**
ETSF				pmax	pmax		
comp=Z,13nm,1.3s,mb4.8							
ETSF	**Etsaut**	**47.67**	**304**	*e*P	**P**	**05 08 09.9**	**+0.1**
comp=Z,13nm,1.3s,mb4.8							
FLN	**La Foliniere**	**47.75**	**312**	*e*P	**P**	**05 08 09.5**	**-0.8**
comp=Z,58nm,1.2s,mb5.2							
FLN				*e*MLR	MLR		
comp=Z,72nm,18.2s,MS3.4							
FLN	**La Foliniere**	**47.75**	**312**	*e*P	**P**	**05 08 09.5**	**-0.8**
comp=Z,29nm,1.2s,mb5.2							
FLN				LR	LR		
comp=Z,70nm,18.3s,MS3.7							
FLN	**La Foliniere**	**47.75**	**312**	*e*P	**P**	**05 08 09.5**	**-0.8**
FLN				pmax	pmax		
comp=Z,29nm,1.2s,mb5.2							
FLN				MLR	MLR		
comp=Z,70nm,18.3s,MS3.7							
GRR	**Gorron**	**47.97**	**311**	*e*P	**P**	**05 08 11.4**	**-0.6**
comp=Z,47nm,1.3s,mb5.1							
GRR	**Gorron**	**47.97**	**311**	*e*P	**P**	**05 08 11.4**	**-0.6**
GRR				pmax	pmax		
comp=Z,23nm,1.3s,mb5.0							
GRR	**Gorron**	**47.97**	**311**	*e*P	**P**	**05 08 11.4**	**-0.6**
comp=Z,24nm,1.3s,mb5.1							
SJPF	**Ste Jean**	**48.16**	**304**	*e*P	**P**	**05 08 13.0**	**-0.5**
BOD	**Bodaibo**	**49.46**	**37**	*e*P	**P**	**05 08 22.4**	**-0.9**
BOD				pmax	pmax		
comp=Z,14nm,1.1s,mb4.9							
BOD	**Bodaibo**	**49.46**	**37**	*e*P	**P**	**05 08 22.4**	**-0.9**
comp=Z,14nm,1.1s,mb4.9							
QUIF	**Quistinic**	**49.50**	**310**	*e*P	**P**	**05 08 23.1**	**-0.7**
BJI	**Beijing**	**50.08**	**60**	P	**P**	**05 08 27.5**	**-0.8**
BJI				AMB	AMB		
comp=Z,6.0nm,0.7s,mb4.7							
ESDC	**Sonseca Array**	**50.45**	**300**	P	**P**	**05 08 30.5**	**-0.7**
comp=Z,0.2nm,0.3s,mb3.6,baz=89,slow=6.2,SNR=4.4							
LSZ	**Lusaka**	**51.11**	**216**	*e*P	**P**	**05 08 36.2**	**-0.1**
comp=Z,1.6nm,0.5s,mb4.2							
LSZ	**Lusaka**	**51.11**	**216**	*e*P	**P**	**05 08 36.2**	**-0.1**
LSZ				pmax	pmax		
comp=Z,2.0nm,0.5s,mb4.3							
LSZ	**Lusaka**	**51.11**	**216**	*e*P	**P**	**05 08 36.2**	**-0.1**
comp=Z,1.6nm,0.5s,mb4.2							
EVO	**Evora**	**53.73**	**299**	*e*P	**P**	**05 08 54.5**	**-1.1**
EVO				*e*MLR	MLR		
comp=Z,76nm,17.2s,MS3.5							
EVOP	**Sao Brissos**	**53.82**	**299**	*e*P	**P**	**05 08 54.5**	**-1.7**
CN2	**Changchun**	**56.48**	**54**	*e*P	**P**	**05 09 15.0**	**-0.3**
CN2				*e*AP	pP	05 09 19.0	-1.4
CN2				*e*PP	PP	05 11 22.3	+1.4
CN2				*e*S	**S**	**05 17 03.5**	**-2.5**
CN2				*e*SS	SS	05 20 51.0	-2.0
CN2				AMB	AMB		
comp=Z,10.0nm,0.9s,mb4.8							
CN2				AMB	AMB		
comp=Z,200nm,3.0s							
TIXI	**Tiksi**	**57.99**	**21**⇑	*e*P	**P**	**05 09 25.2**	**-0.3**
TIXI				pmax	pmax		
comp=Z,6.0nm,1.7s,mb4.3							
TIXI	**Tiksi**	**57.99**	**21**	*e*P	**P**	**05 09 25.2**	**-0.3**
comp=Z,6.0nm,1.7s,mb4.3							
MDJ	**Mudanjiang**	**59.29**	**53**	P	**P**	**05 09 35.0**	**0.0**
MDJ				AMB	AMB		
comp=Z,4.0nm,1.3s,mb4.3							
MDJ				AMB	AMB		
comp=Z,23nm,4.5s							
KSRS	**Korea Array**	**59.56**	**61**	P	**P**	**05 09 35.5**	**-1.5**
comp=Z,3.6nm,0.5s,mb4.7,baz=277,slow=7.0,SNR=15							
LBTB	**Lobatse**	**60.63**	**212**	*e*P	**P**	**05 09 44.6**	**+0.2**
comp=Z,4.4nm,0.6s,mb4.8							
LBTB	**Lobatse**	**60.63**	**212**	*e*P	**P**	**05 09 44.6**	**+0.2**
LBTB				pmax	pmax		
comp=Z,4.0nm,0.6s,mb4.7							
LBTB	**Lobatse**	**60.63**	**212**	*e*P	**P**	**05 09 44.6**	**+0.2**
comp=Z,4.4nm,0.6s,mb4.8							
DBIC	**Dimbokro**	**61.52**	**262**	P	**P**	**05 09 49.9**	**-0.9**
DBIC				pmax	pmax		
comp=Z,4.0nm,0.8s							
DBIC	**Dimbokro**	**61.52**	**262**	P	**P**	**05 09 49.9**	**-0.9**
comp=Z,3.8nm,0.8s,mb4.6,baz=43,slow=14,SNR=4.3							
LIC	**Lamto**	**61.88**	**262**	*e*P	**P**	**05 09 52.1**	**-1.1**
comp=Z,60nm,1.4s,mb5.2							
LIC				*e*MLR	MLR		
comp=Z,103nm,18.8s,MS3.7							
LIC	**Lamto**	**61.88**	**262**	*e*P	**P**	**05 09 52.1**	**-1.1**
comp=Z,30nm,1.4s,mb5.2							
LIC				LR	LR		
comp=Z,50nm,18.8s,MS3.7							
LIC	**Lamto**	**61.88**	**262**	*e*P	**P**	**05 09 52.1**	**-1.1**
comp=Z,30nm,1.4s,mb5.2							
BOSA	**Boshof**	**63.87**	**210**	*e*P	**P**	**05 10 05.6**	**-0.4**
comp=Z,5.7nm,0.5s,mb4.9							
BOSA	**Boshof**	**63.87**	**210**	P	**P**	**05 10 05.9**	**-0.1**
BOSA				pmax	pmax		
comp=Z,8.0nm,0.6s,mb4.9							
BOSA	**Boshof**	**63.87**	**210**	P	**P**	**05 10 05.8**	**-0.2**
comp=Z,7.6nm,0.6s,mb4.9,baz=40,slow=7.8,SNR=35							
MJAR	**Matsushiro Arr**	**67.71**	**60**	P	**P**	**05 10 30.0**	**-0.9**
MJAR				pmax	pmax		
comp=Z,1.0nm,0.3s							
MJAR	**Matsushiro Arr**	**67.71**	**60**	P	**P**	**05 10 30.0**	**-0.9**
comp=Z,0.6nm,0.3s,mb4.2,baz=66,slow=21,SNR=4.4							
SEY	**Seymchan**	**67.93**	**29**⇑	*e*P	**P**	**05 10 31.1**	**-0.7**
BILL	**Bilibino**	**71.17**	**22**	*e*P	**P**	**05 10 51.8**	**+0.1**
BILL				pmax	pmax		
comp=Z,8.0nm,1.2s,mb4.5							
BILL	**Bilibino**	**71.17**	**22**	*e*P	**P**	**05 10 51.8**	**+0.1**
comp=Z,8.0nm,1.2s,mb4.5							
FITZ	**Fitzroy Crossi**	**81.30**	**116**	P	**P**	**05 11 49.7**	**-0.3**
comp=Z,2.1nm,0.6s,mb4.2,baz=218,slow=4.8,SNR=6.2							
IMA2	**Indian Mountai**	**83.23**	**12**	*e*P	**P**	**05 11 59.0**	**-0.4**
IMA2	**Indian Mountai**	**83.23**	**12**	*e*P	**P**	**05 11 59.0**	**-0.4**
INK	**Inuvik**	**83.48**	**4**	*e*P	**P**	**05 12 00.0**	**-0.7**
SCHQ	**Schefferville**	**84.00**	**331**	P	**P**	**05 12 03.2**	**-0.4**
SCHQ	**Schefferville**	**84.00**	**331**	P	**P**	**05 12 03.2**	**-0.3**
comp=Z,7.5nm,0.9s,mb4.8,baz=38,slow=5.1,SNR=6.1							
COLA	**College**	**85.31**	**10**	*e*P	**P**	**05 12 09.7**	**-0.3**
comp=Z,2.9nm,0.7s,mb4.5							
COLA	**College**	**85.31**	**10**	*e*P	**P**	**05 12 09.7**	**-0.3**
COLA				pmax	pmax		
comp=Z,3.0nm,0.7s,mb4.5							
COLA	**College**	**85.31**	**10**	*e*P	**P**	**05 12 09.7**	**-0.3**
comp=Z,2.8nm,0.7s,mb4.5							
EGAK	**Eagle**	**86.31**	**7**	*e*P	**P**	**05 12 15.1**	**+0.2**
comp=Z,13nm,1.2s,mb5.0							
EGAK	**Eagle**	**86.31**	**7**	*e*P	**P**	**05 12 15.1**	**+0.2**
comp=Z,13nm,1.2s,mb5.0							
DAWY	**Dawson**	**87.19**	**7**	*e*P	**P**	**05 12 19.5**	**+0.3**
DAWY	**Dawson**	**87.19**	**7**	*e*P	**P**	**05 12 19.5**	**+0.2**
WRA	**Warramunga Arr**	**89.26**	**113**	P	**P**	**05 12 28.8**	**-1.0**
WRA				pmax	pmax		
comp=Z,1.0nm,0.9s							
WRA	**Warramunga Arr**	**89.26**	**113**	P	**P**	**05 12 28.8**	**-1.0**
comp=Z,1.2nm,0.9s,mb4.2,baz=315,slow=4.2,SNR=12							
YKA	**Yellowknife Ar**	**89.31**	**356**	P	**P**	**05 12 28.7**	**-0.6**
YKA				pmax	pmax		
comp=Z,1.0nm,0.6s							
YKA	**Yellowknife Ar**	**89.31**	**356**	P	**P**	**05 12 28.7**	**-0.6**
comp=Z,0.9nm,0.6s,mb4.3,baz=1.7,slow=5.2,SNR=11							
YKA	**Yellowknife Ar**	**89.31**	**356**	P	**P**	**05 12 28.7**	**-0.6**
comp=Z,1.0nm,0.6s,mb4.3							
ASAR

*GCMT **26** 05:23:49.1±0.3,1547N×9616E,h12km,MW4.9/64, Moment Tensor Solution. s24,c29; s64,c101; Duration: 0 Moment tensor: Scale 1016Nm; Mrr~1.24±.09; Mθθ 1.02±.08; Mφφ0.22±.10; Mθφ0.48±.26; Mθφ2.57±.06; Mθr~0.04±.25; Best double couple: M0=2.68300×1016 NP1:φs6.00000°,δ72.00000°,λ-167.00000°. NP2: φs272.00000°,δ78.00000°,λ-19.00000°. Principal axes: T 3.2480, Plg4.0000°, Azm320.0000°; N -1.1300, Plg68.0000°, Azm61.0000°; P -2.1180, Plg22.0000°, Azm228.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 26 05:23:47.0±0.8,1559N±003×9608E±002,h14km±4km, h36km±3.1km:pP-P,n259,σ1§11/266,mb4.6/74,MS4.5/46, 11C-21D,Near south coast of Myanmar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NST	**Nakhon Sawan**	**3.90**	**88**	PN	**Pn**	**05 24 45.2**	**-1.4**
NST				SG	**Pb**	**05 24 49.8**	**-5.9**
NST				PG	**Pb**	**05 24 58.5**	**+2.8**
CM31	**Chiang Mai Arr**	**3.95**	**43**	*e*Pn	**Pn**	**05 24 47.5**	**+0.3**
CM31				*e*Pg	**Pb**	**05 25 00.9**	**+4.4**
CHG	**Chiang Mai**	**4.21**	**40**	⇓P	**Pn**	**05 24 50.6**	**-0.3**
CHTO	**Chiang Mai**	**4.21**	**40**	*e*Pn	**Pn**	**05 24 50.5**	**-0.3**
CHTO				*e*Pg	**Pg**	**05 25 07.6**	**-0.1**
CHTO				*e*Sg	**Sg**	**05 26 01.2**	**-1.1**
NNT	**Nongplab**	**4.63**	**130**	P	**Pn**	**05 24 54.8**	**-1.8**
CHRT	**Chiangrai**	**5.53**	**39**	PG	**Pn**	**05 25 09.0**	**+0.1**
CHRT				SG	**Pb**	**05 25 32.0**	**+8.7**
KKTK	**Khon Kaen**	**6.53**	**83**	PN	**Pn**	**05 25 23.1**	**+0.4**
KKTK				PG	**Pg**	**05 25 51.0**	**-1.0**
KKTK				SG	**Sg**	**05 27 12.0**	**-4.6**
IMP	**Imphal**	**9.36**	**348**	*e*P	**Pn**	**05 26 04.0**	**+2.4**
IMP				*ex*	**Sn**	**05 27 35.0**	**-12**
SHL	**Shillong**	**10.67**	**339**	*e*P	**Pn**	**05 26 18.5**	**-1.1**
SHL				*e*S	**Sn**	**05 28 13.0**	**-6.0**
KULM	**Kulim**	**11.18**	**156**	*e*Pn	**Pn**	**05 26 23.6**	**-3.0**
KULM	**Kulim**	**11.18**	**156**	⇑P	**Pn**	**05 26 28.0**	**+1.5**
KMI	**Kunming**	**11.35**	**32**	P	**Pn**	**05 26 35.8**	**+7.0**
KMI				AP		05 26 39.5	
KMI				PP		05 26 43.0	
KMI				PPP		05 26 50.0	
KMI				S	**Sn**	**05 28 43.3**	**+7.8**
KMI				XS		05 28 49.0	
KMI				SS		05 28 57.0	
KMI				SSS		05 29 08.5	
KMI				AMB	AMB		
	comp=Z,26nm,1.3s						
KMI				AMB	AMB		
	comp=Z,212nm,3.2s						
KMI				LR	LR		
	comp=N,4μm,15.5s						
KMI				LR	LR		
	comp=E,5μm,14.2s						
KMI				LR	LR		
	comp=Z,2μm,9.4s						
IPM	**Ipoh**	**12.06**	**156**	⇓P	**Pn**	**05 26 39.7**	**+1.1**
KTGM	**Kuala Trenggan**	**12.33**	**145**	⇑P	**Pn**	**05 26 43.4**	**+1.1**
VIS	**Vishakhapatnam**	**12.40**	**282**	*i* x	**Pn**	**05 26 39.3**	**-4.0**
VIS				*i* S	**Sn**	**05 28 49.7**	**-12**
BOK	**Bokaro**	**12.60**	**312**	*e*P	**Pn**	**05 26 44.8**	**-1.1**
BOK				AMb	AMB	05 26 56.0	
	comp=Z,31nm,0.9s						
BOK				*e*S	**Sn**	**05 28 56.1**	**-10**
PSI	**Prapat**	**13.01**	**167**	Pn	**Pn**	**05 26 53.2**	**+1.6**
PSI				LR	LR	05 32 37.3	
PSI	**Prapat**	**13.01**	**167**	Pn	**Pn**	**05 26 53.2**	**+1.6**
	comp=Z,0.1nm,0.3s,baz=350,slow=12,SNR=6.8						
PSI				LR	LR	05 32 37.3	
	comp=Z,2μm,18.2s,baz=326,slow=41						
FRIM	**Kepong**	**13.44**	**155**	⇑P	**Pn**	**05 26 58.3**	**+0.9**
QIZ	**Qiongzhong**	**13.58**	**73**	P	**Pn**	**05 26 58.5**	**-0.8**
QIZ				S	**Sn**	**05 29 30.0**	**-0.1**
QIZ				LR	LR		
	comp=N,5μm,15.2s						
QIZ				LR	LR		
	comp=E,2μm,15.2s						
QIZ				LR	LR		
	comp=Z,3μm,13.8s						
GYA	**Guiyang**	**14.63**	**41**	⇓*i*P	**Pn**	**05 27 16.3**	**+2.6**
GYA				AP	pP	05 27 21.3	-2.6
GYA				PP		05 27 28.3	
GYA				S	**Sn**	**05 30 01.5**	**+5.6**
GYA				SS		05 30 18.8	
GYA				PCP	PcP	05 32 29.0	+2.1
GYA				AMB	AMB		
	comp=Z,20nm,0.7s						
GYA				AMB	AMB		
	comp=Z,190nm,4.6s						
GYA				LR	LR		
	comp=N,680nm,13.4s						
GYA				LR	LR		
	comp=E,710nm,13.2s						
GYA				LR	LR		
	comp=Z,1μm,13.6s						
BLSP	**Bilaspur**	**14.71**	**298**	*e*P	**Pn**	**05 27 15.3**	**+0.5**
BLSP				AMb	AMB	05 27 29.4	
	comp=Z,34nm,1.3s						
BLSP				*ex*	x	05 30 03.2	
LSA	**Lhasa**	**14.76**	**343**	P	**Pn**	**05 27 13.8**	**-1.6**
LSA				LR	LR		
	comp=E,2μm,13.6s						
LSA				LR	LR		
	comp=Z,1μm,14.8s						
LSA	**Lhasa**	**14.76**	**343**	*e*Pn	**Pn**	**05 27 12.0**	**-3.4**
LSA				*e*Sn	**Sn**	**05 29 45.7**	**-13**
KGM	**Kluang**	**15.26**	**151**	⇑P	**Pn**	**05 27 28.5**	**+6.3**
GUN	**Gumba**	**15.48**	**324**	*e*P	**Pn**	**05 27 22.6**	**-2.4**
	comp=Z,279nm,1.1s						
DMN	**Daman**	**15.71**	**321**	*e*P	**Pn**	**05 27 29.2**	**+1.2**
	comp=Z,209nm,0.9s						
MYKOM	**Kota Tinggi**	**15.71**	**150**	⇓P	**Pn**	**05 27 32.7**	**+4.6**
KKN	**Kakani**	**15.74**	**322**	*e*P	**Pn**	**05 27 28.2**	**-0.2**
	comp=Z,29nm,0.5s						
GKN	**Gorkha**	**16.28**	**321**	*e*P	**Pn**	**05 27 33.3**	**-2.0**
	comp=Z,67nm,0.6s						
KOLN	**Koldanda**	**16.76**	**318**	*e*P	**Pn**	**05 27 42.3**	**+0.9**
	comp=Z,157nm,0.8s						
CD2	**Chengdu**	**16.79**	**23**	P	**Pn**	**05 27 41.8**	**0.0**
CD2				PP		05 27 55.0	
CD2				S	**Sn**	**05 30 49.5**	**+1.3**
CD2				AMB	AMB		
	comp=Z,70nm,1.3s						
CD2				AMB	AMB		
	comp=Z,220nm,3.6s						
CD2				LR	LR		
	comp=E,3μm,10.8s						
CD2				LR	LR		
	comp=Z,3μm,7.8s						
HYB	**Hyderabad**	**16.91**	**279**	*e*P	**Pn**	**05 27 46.0**	**+2.6**
HYB				*e*S	**Sn**	**05 30 56.5**	**+5.3**
HYB	**Hyderabad**	**16.91**	**279**	*i* P	**Pn**	**05 27 46.0**	**+2.6**
HYB				*e*S	**Sn**	**05 30 51.0**	**-0.2**
JBP	**Jabalpur**	**16.95**	**299**	⇑*e*P	**Pn**	**05 27 44.5**	**+0.7**
JBP				*ex*	x	05 28 03.3	
	comp=Z,116nm,1.4s						
JBP				*ex*	x	05 30 44.4	
DANN	**Dangsing**	**17.06**	**320**	*e*P	**Pn**	**05 27 41.9**	**-3.4**
	comp=Z,83nm,0.8s						
NGP	**Nagpur**	**17.08**	**291**	*e*P	**Pn**	**05 27 48.0**	**+2.4**
NGP				*ex*	x	05 27 49.7	
	comp=Z,27nm,1.3s						
NGP				*ex*	x	05 31 06.5	
PALK	**Pallekele**	**17.18**	**243**	*e*Pn	**Pn**	**05 27 44.0**	**-2.9**
	comp=Z,29nm,1.2s						
AKL	**Akola**	**18.81**	**288**	*e*P	**Pn**	**05 28 07.9**	**+1.0**
AKL				AMb	AMB	05 28 22.3	
	comp=Z,48nm,0.8s						
KOD	**Kodaikanal**	**18.91**	**256**	*e*P	**Pn**	**05 28 06.3**	**-1.7**
KOD				AMb	AMB	05 28 11.6	
	comp=Z,25nm,1.1s						
BHPL	**Bhopal**	**19.16**	**296**	*e*P	**Pn**	**05 28 10.3**	**-0.8**
BHPL				AMb	AMB	05 28 12.4	
	comp=Z,40nm,1.0s						
KSM	**Kuching**	**19.84**	**134**	*e*P	**Pn**	**05 28 17.1**	**-2.2**
KSM	**Kuching**	**19.84**	**134**	⇑P	**Pn**	**05 28 20.5**	**+1.2**
PTH	**Pithoragarh**	**20.16**	**316**	*e*P	**P**	**05 28 22.0**	**+1.0**
PTH				*ex*	x	05 32 03.0	
SBUM	**Sibu**	**20.58**	**128**	⇓P	**P**	**05 28 28.4**	**+2.7**
BTM	**Bintulu**	**20.78**	**125**	⇓P	**P**	**05 28 34.1**	**+6.2**
KAD	**Karad**	**21.07**	**278**	*e*P	**P**	**05 28 30.9**	**-0.2**
KAD				AMb	AMB	05 28 48.2	
	comp=Z,51nm,1.6s,mb4.6						
POO	**Poona**	**21.45**	**281**	*e*P	**P**	**05 28 35.9**	**+0.7**
POO				AMb	AMB	05 28 48.9	
	comp=Z,67nm,1.4s,mb4.8						
LZH	**Lanzhou**	**21.55**	**17**	⇓*i*P	**P**	**05 28 37.8**	**+1.7**
LZH				PP		05 29 01.5	
LZH				*e*S	**S**	**05 32 31.3**	**-3.3**
LZH				PCP	PcP	05 32 38.3	0.0
LZH				SS		05 33 11.5	
LZH				AMB	AMB		
	comp=Z,71nm,1.0s,mb5.0						
LZH				AMB	AMB		
	comp=Z,176nm,4.0s						
LZH				LR	LR		
	comp=N,4μm,13.2s						
LZH				LR	LR		
	comp=Z,4μm,14.3s,MS5.0						
XAN	**Xi'an**	**21.71**	**30**	P	**P**	**05 28 37.0**	**-0.8**
XAN				PPP		05 29 03.8	
XAN				S	**S**	**05 32 36.5**	**-1.3**
XAN				SS		05 33 16.5	
XAN				AMB	AMB		
	comp=Z,55nm,0.9s,mb5.0						
XAN				AMB	AMB		
	comp=Z,120nm,6.2s						
XAN				LR	LR		
	comp=N,1μm,16.9s,MS4.7						
XAN				LR	LR		
	comp=E,2μm,16.9s,MS4.7						
XAN				LR	LR		
	comp=Z,1μm,10.9s						
NDI	**New Delhi**	**21.76**	**310**	*e*P	**P**	**05 28 38.2**	**-0.1**
NDI				AMb	AMB	05 28 39.5	
	comp=Z,46nm,0.5s,mb5.2						
KKM	**Kota Kinabalu**	**21.91**	**113**	*e*P	**P**	**05 28 39.3**	**-0.8**
KKM	**Kota Kinabalu**	**21.91**	**113**	⇑P	**P**	**05 28 43.3**	**+3.2**
KDM	**Kudat**	**22.08**	**111**	⇓P	**P**	**05 28 43.5**	**+1.6**
DDI	**Dehra Dun**	**22.10**	**315**	*e*P	**P**	**05 28 44.0**	**+2.0**
DDI				*e*S	**S**	**05 32 47.0**	**+1.6**
WHN	**Wuhan**	**22.40**	**45**	⇑P	**P**	**05 28 45.8**	**+0.6**
WHN				S	**S**	**05 32 52.8**	**+1.6**
WHN				AMB	AMB		
	comp=Z,285nm,6.1s						
WHN				LR	LR		
	comp=Z,5μm,9.4s						
AJM	**Ajmer**	**22.72**	**302**	*e*P	**P**	**05 28 49.0**	**+0.4**
SDKM	**Sandakan**	**22.96**	**113**	⇑P	**P**	**05 28 56.6**	**+5.3**
QZH	**Quanzhou**	**23.05**	**63**	*i* P	**P**	**05 28 51.5**	**-0.6**
QZH				S	**S**	**05 32 57.5**	**-5.1**
QZH				LR	LR		
	comp=N,3μm,14.1s						
QZH				LR	LR		
	comp=E,2μm,9.5s						
QZH				LR	LR		
	comp=Z,2μm,10.6s,MS4.7						
SMLA	**Simla**	**23.20**	**315**	*e*P	**P**	**05 28 52.7**	**-0.9**
SMLA				AMb	AMB	05 29 15.0	
	comp=Z,182nm,0.0s						
SDNR	**Sundarnagar**	**23.56**	**316**	*e*P	**P**	**05 28 57.1**	**-0.2**
GTA	**Gaotai**	**23.95**	**7**	P	**P**	**05 29 02.0**	**+1.1**
GTA				AP		05 29 08.3	
GTA				XP	sP	05 29 11.8	+5.1
GTA				PP		05 29 38.5	
GTA				PCP	PcP	05 32 38.8	-4.3
GTA				S	**S**	**05 33 19.5**	**+2.4**
GTA				XS	sS	05 33 29.3	+5.4
GTA				AMB	AMB		
	comp=Z,20nm,1.6s,mb4.3						
GTA				AMB	AMB		
	comp=Z,131nm,6.1s						
GTA				LR	LR		
	comp=N,1μm,17.5s,MS4.6						
GTA				LR	LR		
	comp=E,1μm,19.8s,MS4.6						
GTA				LR	LR		
	comp=Z,1μm,16.7s,MS4.5						
TSM	**Tawau**	**24.19**	**115**	⇓P	**P**	**05 29 04.8**	**+1.5**
MYLDM	**Lahad Datu**	**24.33**	**113**	⇓P	**P**	**05 29 08.5**	**+3.9**
NJ2	**Nanjing**	**26.41**	**48**	*e*P	**P**	**05 29 23.0**	**-0.4**
NJ2				PP		05 30 04.3	
NJ2				S	**S**	**05 33 54.0**	**-2.6**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.5						
NJ2				AMB	AMB		
	comp=Z,202nm,4.2s						
NJ2				LR	LR		
	comp=N,4μm,12.5s,MS5.2						
NJ2				LR	LR		
	comp=E,3μm,15.1s,MS5.2						
SSE	**Sheshan**	**27.64**	**52**	P	**P**	**05 29 33.8**	**-0.6**
SSE				AP	pP	05 29 42.3	+3.7
SSE				S	**S**	**05 34 11.5**	**-4.5**
SSE				AMB	AMB		
	comp=Z,31nm,0.9s,mb4.9						
SSE				AMB	AMB		
	comp=Z,35nm,5.8s						
SSE				LR	LR		
	comp=N,2μm,11.9s,MS4.9						
SSE				LR	LR		
	comp=E,631nm,12.0s,MS4.9						
SSE				LR	LR		
	comp=Z,1μm,9.6s						
BTO	**Baotou**	**27.71**	**23**	*e*P	**P**	**05 29 33.0**	**-1.9**
HHC	**Hu-ho-hao-te**	**28.53**	**25**	*e*P	**P**	**05 29 43.0**	**+0.8**
HHC				PP	PP	05 30 34.8	-12
HHC				PCP	PcP	05 32 53.5	-0.2
HHC				XS	sS	05 34 48.0	+11
HHC				SS		05 35 57.8	
HHC				PCS	PcS	05 36 34.0	-2.0
HHC				AMB	AMB		
	comp=Z,22nm,0.4s,mb5.2						
HHC				AMB	AMB		
	comp=Z,88nm,4.1s						
HHC				LR	LR		
	comp=N,1μm,13.9s,MS4.8						
HHC				LR	LR		
	comp=E,997nm,12.9s,MS4.8						
HHC				LR	LR		
	comp=Z,1μm,13.5s,MS4.7						
WMQ	**Urumqi**	**29.03**	**347**	P	**P**	**05 29 47.3**	**+0.7**
WMQ				PP	PP	05 30 41.5	-11
WMQ				PPP		05 30 55.0	
WMQ				S	**S**	**05 34 38.0**	**+0.5**
WMQ				SS	SS	05 36 08.0	-33
WMQ				AMB	AMB		
	comp=Z,15nm,1.0s,mb4.7						
WMQ				AMB	AMB		
	comp=Z,92nm,4.8s						
WMQ				LR	LR		
	comp=N,970nm,13.5s,MS4.7						
WMQ				LR	LR		
	comp=E,1μm,15.2s,MS4.7						
WMQ				LR	LR		
	comp=Z,1μm,16.9s,MS4.5						
BJI	**Beijing**	**30.01**	**32**	P	**P**	**05 29 56.5**	**+1.2**
BJI				AMB	AMB		
	comp=Z,8.0nm,0.7s,mb4.6						
BJI				AMB	AMB		
	comp=Z,96nm,4.1s						
BJI				LR	LR		
	comp=N,974nm,16.6s,MS4.8						
BJI				LR	LR		
	comp=E,2μm,17.2s,MS4.8						
BJI				LR	LR		
	comp=Z,698nm,21.3s,MS4.3						
KBL	**Kabul**	**30.76**	**313**	*e*P	**P**	**05 30 01.4**	**-0.6**
	comp=Z,3.4nm,0.4s,mb4.5						
KBL	**Kabul**	**30.76**	**313**	*e*P	**P**	**05 30 01.4**	**-0.7**
KBL				pmax	pmax		
	comp=Z,3.0nm,0.4s,mb4.5						
JOW	**Kunigami**	**31.94**	**64**	LR	LR	05 45 23.5	
	comp=Z,696nm,18.3s,MS4.4,baz=180,slow=41						
DL2	**Dalian**	**32.28**	**39**	P	**P**	**05 30 16.0**	**+0.6**
DL2				*e*S	**S**	**05 35 31.0**	**+2.4**
DL2				AMB	AMB		
	comp=Z,20nm,0.9s,mb5.0						
DL2				LR	LR		
	comp=N,430nm,14.6s,MS4.3						
DL2				LR	LR		
	comp=E,310nm,15.6s,MS4.3						
DL2				LR	LR		
	comp=Z,580nm,14.6s,MS4.4						
AAK	**Ala-Archa**	**32.70**	**330**	*e*P	**P**	**05 30 19.6**	**+0.6**
	comp=Z,17nm,1.1s,mb4.9						
AAK	**Ala-Archa**	**32.70**	**330**	*e*P	**P**	**05 30 20.3**	**+1.3**
AAK				pmax	pmax		
	comp=Z,17nm,1.2s,mb4.8						
MK31	**Makanchi Array**	**33.16**	**343**	*e*P	**P**	**05 30 24.1**	**+1.1**
MKAR	**Makanchi Array**	**33.16**	**343**	P	**P**	**05 30 23.7**	**+0.7**
MKAR				pmax	pmax		
	comp=Z,7.0nm,0.9s						
MKAR				MLR	MLR		
	comp=Z,432nm,19.7s						
MKAR	**Makanchi Array**	**33.16**	**343**	P	**P**	**05 30 23.7**	**+0.7**
	comp=Z,6.5nm,0.9s,mb4.5,baz=151,slow=8.7,SNR=42						
MKAR				LR	LR	05 47 53.2	
	comp=Z,432nm,19.7s,MS4.2,baz=156,slow=44						
SONM	**Songino Array**	**33.26**	**13**	P	**P**	**05 30 24.2**	**+0.3**
SONM				pmax	pmax		
	comp=Z,2.0nm,0.9s						
SONM				MLR	MLR		
	comp=Z,1μm,18.8s						
SONM	**Songino Array**	**33.26**	**13**	P	**P**	**05 30 24.2**	**+0.4**
	comp=Z,2.3nm,0.9s,mb4.1,baz=199,slow=8.6,SNR=18						
SONM				LR	LR	05 45 27.4	
	comp=Z,1μm,18.8s,MS4.7,baz=194,slow=39						
ULN	**Ulaanbaatar**	**33.44**	**13**	*e*P	**P**	**05 30 26.0**	**+0.7**
	comp=Z,5.6nm,1.2s,mb4.4						
ULN	**Ulaanbaatar**	**33.44**	**13**	*e*P	**P**	**05 30 26.0**	**+0.6**
ULN				pmax	pmax		
	comp=Z,6.0nm,1.2s,mb4.4						
ZAK	**Zakamensk**	**35.19**	**8**	*e*P	**P**	**05 30 36.8**	**-3.7**
ZAK				*e*		05 33 10.4	
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.2s,mb4.1						
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.1s,mb4.1						
SNY	**Shenyang**	**35.28**	**37**	⇓P	**P**	**05 30 41.8**	**+0.4**
SNY				AMB	AMB		
	comp=Z,14nm,0.6s,mb5.1						
SNY				AMB	AMB		
	comp=Z,160nm,3.5s						
SNY				LR	LR		
	comp=E,940nm,16.5s						
SNY				LR	LR		
	comp=Z,753nm,14.5s,MS4.6						
KSRS	**Korea Array**	**35.59**	**46**	P	**P**	**05 30 43.0**	**-1.2**
KSRS				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.5						
KSRS				MLR	MLR		
	comp=Z,668nm,19.8s,MS4.4						
KSRS	**Korea Array**	**35.59**	**46**	P	**P**	**05 30 43.0**	**-1.2**
	comp=Z,3.9nm,0.7s,mb4.5,baz=240,slow=8.6,SNR=14						
KSRS				LR	LR	05 47 06.1	
	comp=Z,668nm,19.8s,MS4.4,baz=235,slow=39						
JNU	**Nakatsue**	**35.97**	**55**	P	**P**	**05 30 47.0**	**-0.5**
	comp=Z,12nm,0.9s,mb4.8,baz=350,slow=11,SNR=4.1						
JNU				LR	LR	05 44 40.5	
	comp=Z,368nm,21.9s,MS4.1,baz=140,slow=35						
TLY	**Talaya**	**36.51**	**8**	*e*P	**P**	**05 30 53.3**	**+1.5**
TLY				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.4						
TLY				MLR	MLR		
	comp=Z,594nm,15.0s,MS4.5						
CN2	**Changchun**	**37.60**	**36**	*e*P	**P**	**05 31 02.0**	**+0.8**
CN2				*e*PP	PP	05 32 30.3	+3.2
CN2				*e*S	**S**	**05 36 50.5**	**+0.2**
CN2				*e*SS	SS	05 39 24.0	-11
CN2				SCS	ScS	05 41 12.8	-1.6
CN2				AMB	AMB		
	comp=Z,20nm,1.1s,mb4.8						
CN2				AMB	AMB		
	comp=Z,100nm,3.0s						
CN2				LR	LR		
	comp=N,900nm,14.0s,MS4.8						
CN2				LR	LR		
	comp=E,500nm,14.0s,MS4.8						
CN2				LR	LR		
	comp=Z,800nm,15.0s,MS4.6						
KURK	**Kurchatov**	**37.76**	**342**	*e*P	**P**	**05 31 02.8**	**+0.3**
	comp=Z,15nm,0.9s,mb4.7						
KURK	**Kurchatov**	**37.76**	**342**	*e*P	**P**	**05 31 02.8**	**+0.3**
KURK				pmax	pmax		
	comp=Z,15nm,0.9s,mb4.7						
HIA	**Hailar**	**38.74**	**25**	*e*P	**P**	**05 31 11.2**	**+0.5**
	comp=Z,28nm,1.2s,mb4.9						
HIA	**Hailar**	**38.74**	**25**	*e*P	**P**	**05 31 11.2**	**+0.5**
HIA				pmax	pmax		
	comp=Z,28nm,1.2s						
ZAL	**Zalesovo**	**39.27**	**349**	P	**P**	**05 31 15.5**	**+0.4**
ZAL				pmax	pmax		
	comp=Z,20nm,1.0s						
ZAL				MLR	MLR		
	comp=Z,169nm,18.1s						
ZAA0	**Zalesovo Array**	**39.28**	**349**	*e*P	**P**	**05 31 16.0**	**+0.9**
ZALV	**Zalesovo Beam**	**39.28**	**349**	P	**P**	**05 31 15.5**	**+0.4**
ZALV				LR	LR	05 50 47.9	
ZALV	**Zalesovo Beam**	**39.28**	**349**	P	**P**	**05 31 15.5**	**+0.4**
	comp=Z,20nm,1.0s,mb4.8,baz=169,slow=8.6,SNR=40						
ZALV				LR	LR	05 50 47.9	
	comp=Z,169nm,18.1s,MS3.9,baz=211,slow=41						
NVS	**Novosibirsk**	**40.42**	**349**	*e*P	**P**	**05 31 24.7**	**+0.1**
NVS				*e*S	**S**	**05 37 32.3**	**-0.2**
NVS				pmax	pmax		
	comp=Z,55nm,2.1s,mb4.9						
NVS				pmax	pmax		
	comp=N,27nm,1.7s						
NVS				smax			
	comp=N,25nm,1.8s						
MDJ	**Mudanjiang**	**40.46**	**37**	P	**P**	**05 31 25.8**	**+0.6**
MDJ				PP	PP	05 32 57.5	-0.9
MDJ				S	**S**	**05 37 36.0**	**+2.5**
MDJ				AMB	AMB		
	comp=Z,8.0nm,1.8s,mb4.2						
MDJ				AMB	AMB		
	comp=Z,49nm,4.7s						
MDJ				LR	LR		
	comp=N,405nm,12.4s,MS4.7						
MDJ				LR	LR		
	comp=E,628nm,16.6s,MS4.7						
MDJ				LR	LR		
	comp=Z,640nm,18.9s,MS4.5						
BVAR	**Borovoye Array**	**42.49**	**337**	LR	LR	05 51 26.1	
	comp=Z,488nm,20.7s,MS4.4,baz=142,slow=39						
BRVK	**Borovoye**	**42.55**	**337**	*e*P	**P**	**05 31 42.8**	**+0.5**
	comp=Z,2.9nm,0.6s,mb4.2						
BRVK	**Borovoye**	**42.55**	**337**	*e*P	**P**	**05 31 42.8**	**+0.6**
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.2						
MJAR	**Matsushiro Arr**	**42.78**	**53**	P	**P**	**05 31 44.5**	**+0.2**
MJAR				pmax	pmax		
	comp=Z,6.0nm,0.8s						
MJAR				MLR	MLR		
	comp=Z,325nm,18.6s						
MJAR	**Matsushiro Arr**	**42.78**	**53**	P	**P**	**05 31 44.5**	**+0.2**
	comp=Z,5.5nm,0.8s,mb4.3,baz=264,slow=13,SNR=6.1						
MJAR				LR	LR	05 51 19.3	
	comp=Z,325nm,18.6s,MS4.2,baz=250,slow=39						
BOD	**Bodaibo**	**44.25**	**14**	*e*P	**P**	**05 31 54.4**	**-1.4**
BOD				pmax	pmax		
	comp=Z,5.0nm,1.3s,mb4.1						
KLR	**Kul'dur**	**44.36**	**33**	*e*P	**P**	**05 31 53.5**	**-3.4**
KLR				MLR	MLR		
	comp=E,500nm,13.0s						
KLR				MLR	MLR		
	comp=Z,2μm,13.0s,MS5.2						
AKTK	**Aktyubinsk**	**46.33**	**327**	P	**P**	**05 32 12.7**	**+0.3**
AKTK				LR	LR	05 54 31.8	
AKTO	**Aktyubinsk**	**46.33**	**327**	P	**P**	**05 32 12.7**	**+0.3**
AKTO				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.3						
AKTO				MLR	MLR		
	comp=Z,293nm,21.8s,MS4.2						
AKTO	**Aktyubinsk**	**46.33**	**327**	P	**P**	**05 32 12.7**	**+0.3**
	comp=Z,2.5nm,0.7s,mb4.3,baz=119,slow=6.4,SNR=7.8						
AKTO				LR	LR	05 54 31.8	
	comp=Z,293nm,21.8s,MS4.2,baz=134,slow=40						
CLNS	**Chul'man**	**46.59**	**21**	*e*P	**P**	**05 32 13.6**	**-0.8**
CLNS				*e*PP	pP	05 32 21.4	+2.7
CLNS				*e*		05 33 49.8	
CLNS				*e*		05 33 58.8	
CLNS				*e*S	**S**	**05 38 55.3**	**-7.4**
CLNS				pmax	pmax		
	comp=Z,18nm,0.8s,mb5.0						
CLNS				pmax	pmax		
	comp=N,18nm,1.0s						
CLNS				pmax	pmax		
	comp=

CLNS pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
CLNS smax
comp=E,380nm,13.7s
CLNS smax
comp=Z,90nm,14.0s
CLNS smax
comp=N,117nm,13.7s
CLNS MLR MLR
comp=N,400nm,12.0s,MS4.7
CLNS MLR MLR
comp=E,300nm,12.0s,MS4.7
CLNS MLR MLR
comp=Z,500nm,12.0s,MS4.7
GUMO Guam 47.18 86 LR LR 05 50 43.6
comp=Z,174nm,19.1s,MS4.0,baz=342,slow=34
SVE Sverdlovsk 49.10 335⇓ *e*P **P** **05 32 34.9 +1.0**
SVE *e*S **S** **05 39 35.5 -2.9**
SVE pmax pmax
comp=Z,17nm,0.9s,mb5.1
SVE MLR MLR
comp=Z,459nm,18.0s,MS4.5
YSS Yuzh-Sakhalins 49.64 41 P **P** **05 32 29.0 -9.2**
YSS MLR MLR
comp=E,300nm,15.0s
YSS MLR MLR
comp=Z,500nm,15.0s,MS4.6
ARU Arti 49.71 334 *d iP* **P** **05 32 38.6 +0.1**
ARU *e* 05 34 35.8
ARU *e*S **S** **05 39 46.8 -0.1**
ARU *e*SS SS 05 43 16.6 -2.6
ARU pmax pmax
comp=Z,14nm,1.7s,mb4.7
WRA Warramunga Arr 51.59 132 P **P** **05 32 51.9 -1.3**
WRA pmax pmax
comp=Z,4.0nm,0.8s
WRA MLR MLR
comp=Z,232nm,21.0s
WRA Warramunga Arr 51.59 132 P **P** **05 32 51.9 -1.2**
comp=Z,4.2nm,0.8s,mb4.4,baz=317,slow=7.6,SNR=20
WRA LR LR 05 56 35.6
comp=Z,232nm,21.0s,MS4.2,baz=315,slow=38
WRAB Tennant Creek 51.59 132 *e*P **P** **05 32 52.5 -0.6**
WRAB Tennant Creek 51.59 132 *e*P **P** **05 32 52.7 -0.5**
WB2 Warramunga Arr 51.59 132 *e*P **P** **05 32 52.9 -0.3**
NWAO Narrogin (SRO) 52.31 157 LR LR 05 53 40.2
comp=Z,418nm,19.7s,MS4.5,baz=326,slow=34
KIV Kislovodsk 53.15 314 *e*P **P** **05 33 06.1 +1.6**
comp=Z,69nm,1.1s,mb5.5
KIV Kislovodsk 53.15 314 *e*P **P** **05 33 04.9 +0.4**
KIV *e*S **S** **05 40 32.1 -2.7**
KIV pmax pmax
comp=Z,28nm,1.1s,mb5.1
ASAR Alice Springs 53.75 136 P **P** **05 33 08.3 -0.8**
ASAR pmax pmax
comp=Z,1.0nm,0.6s
ASAR Alice Springs 53.75 136 P **P** **05 33 08.2 -0.9**
comp=Z,1.0nm,0.6s,mb3.9,baz=312,slow=6.7,SNR=13
SOC Sochi 55.15 313 *e*P **P** **05 33 18.4 -0.7**
SOC *e**PP pP 05 33 28.4 +4.9
SOC *e**SP sP 05 33 31.3 +6.1
SOC *e* 05 34 18.8
SOC *e*PPP 05 36 41.0
SOC *e*S **S** **05 41 01.4 -0.5**
SOC *e* 05 43 00.6
SOC *e*SS SS 05 44 50.1 +4.2
SOC pmax pmax
comp=Z,10.0nm,0.6s,mb5.0
MALT Malatya 55.22 306 *e*P **P** **05 33 21.8 +2.1**
comp=Z,8.1nm,1.4s,mb4.6
MALT Malatya 55.22 306 *e*P **P** **05 33 21.8 +2.1**
MALT pmax pmax
comp=Z,8.0nm,1.4s,mb4.6
EIL Elat 57.56 295 LR LR 06 01 35.3
comp=Z,240nm,19.2s,MS4.3,baz=95,slow=40
MA2 Magadan 59.11 29 *e*P **P** **05 33 47.1 +0.3**
comp=Z,19nm,1.1s,mb5.0
MA2 Magadan 59.11 29 *e*P **P** **05 33 46.8 0.0**
MA2 S **S** **05 41 48.3 -5.2**
MA2 *e* 05 43 37.7
MA2 pmax pmax
comp=Z,30nm,1.0s,mb5.3
MA2 MLR MLR
comp=Z,400nm,18.0s,MS4.6
TIXI Tiksi 59.34 12 *e*P **P** **05 33 47.1 -1.2**
comp=Z,13nm,0.6s,mb5.1
TIXI Tiksi 59.34 12 *e*P **P** **05 33 46.9 -1.3**
TIXI pmax pmax
comp=Z,24nm,1.0s,mb5.2
TIXI MLR MLR
comp=Z,300nm,15.0s,MS4.5
OBN Obninsk 60.03 325 P **P** **05 33 54.0 +0.7**
OBN *e* 05 34 04.0
OBN *e* 05 34 08.5
OBN 05 36 04.0
OBN pmax pmax
comp=Z,30nm,1.8s,mb5.0
KMBO Kilima Mbogo 60.43 260 LR LR 05 57 11.4
comp=Z,190nm,19.4s,MS4.2,baz=83,slow=33
SEY Seymchan 61.18 26 *e*P **P** **05 33 58.1 -2.9**
AKASG Malin Array Be 63.45 319 P **P** **05 34 14.0 -2.4**
comp=Z,0.4nm,0.3s,mb4.1,baz=81,slow=5.9,SNR=5.2
AKASG LR LR 06 07 37.8
comp=Z,249nm,18.9s,MS4.4,baz=40,slow=42
STKA Stephens Creek 64.27 138 *e*P **P** **05 34 21.8 -0.2**
STKA Stephens Creek 64.27 138 P **P** **05 34 20.4 -1.6**
comp=Z,3.4nm,0.7s,mb4.5,baz=315,slow=5.7,SNR=7.3
STKA LR LR 06 05 30.1
comp=Z,484nm,19.6s,MS4.7,baz=109,slow=39
VRI Vrincioaia 64.63 314 ⇓P pP 05 34 36.5 +7.8
VRI Vrincioaia 64.63 314 ⇓*i*P pP 05 34 36.5 +7.8
PLOR Plostina 64.68 314 ⇓*i*P pP 05 34 37.8 +8.8
JOF Joensuu 64.82 333 *e*p **P** **05 34 25.2 0.0**
comp=Z,0.5nm,0.3s,mb4.0
JOF Joensuu 64.82 333 *e*p **P** **05 34 25.2 0.0**
comp=Z,0.5nm,0.3s,mb4.0
MLR Muntele Rosu 65.16 313 ⇓P **P** **05 34 28.5 +0.8**
MLR Muntele Rosu 65.16 313 ⇓*i*P **P** **05 34 28.5 +0.8**
BURAR Bucovina Array 65.77 315⇑*i*P **P** **05 34 39.4 +7.8**
FINES FINESS Array B 66.89 331 P **P** **05 34 37.0 -1.5**
FINES LR LR 06 07 41.3
FINES FINESS Array B 66.89 331 P **P** **05 34 37.0 -1.5**
FINES pmax pmax
comp=Z,2.0nm,0.6s
FINES MLR MLR
comp=Z,265nm,18.2s
FINES FINESS Array B 66.89 331 P **P** **05 34 37.0 -1.5**
comp=Z,1.8nm,0.6s,mb4.3,baz=108,slow=6.2,SNR=9.4
FINES LR LR 06 07 41.3
comp=Z,265nm,18.2s,MS4.5,baz=357,slow=39
DRGR 67.45 315 ⇓P pP 05 34 51.9 +5.1
DRGR 67.45 315 ⇓*i*P pP 05 34 51.8 +5.0
KWP Kalwaria 67.53 318 P **P** **05 34 43.9 +1.1**
comp=Z,28nm,1.0s,mb5.2
KWP Kalwaria 67.53 318 P **P** **05 34 43.9 +1.1**
KWP pmax pmax
comp=Z,28nm,1.0s,mb5.2
KWP Kalwaria 67.53 318 ⇓*i*P **P** **05 34 43.1 +0.3**
UZH Uzhgorod 67.77 317 *e*P pP 05 34 56.0 +7.2
UZH *e* 05 35 06.0
BILL Bilibino 68.26 22 *e*P **P** **05 34 46.0 -1.1**
comp=Z,1.7nm,0.6s,mb4.2
BILL Bilibino 68.26 22⇑*e*P **P** **05 34 46.3 -0.8**
BILL pmax pmax
comp=Z,10.0nm,1.1s,mb4.8
BILL MLR MLR
comp=Z,300nm,17.0s,MS4.6
CRVS Cervenica-Dubn 68.33 317 *e*P **P** **05 34 49.0 +1.1**
CRVS *e*pP pP 05 35 02.4 +10
ARCES ARCESS Array B 68.73 339 P **P** **05 34 50.0 0.0**
ARCES pmax pmax
comp=Z,4.0nm,0.8s
ARCES MLR MLR
comp=Z,280nm,21.9s
ARCES ARCESS Array B 68.73 339 P **P** **05 34 50.0 -0.1**
comp=Z,3.9nm,0.8s,mb4.4,baz=94,slow=7.3,SNR=7.7
ARCES LR LR 06 08 13.9
comp=Z,280nm,21.9s,MS4.5,baz=100,slow=39
KECS Kecovo 68.97 316 *e*P **P** **05 34 52.6 +0.7**
comp=Z,4.2nm,1.1s,mb4.3
KECS *e* 05 35 05.0
KECS Kecovo 68.97 316 *e*P **P** **05 34 52.6 +0.7**
KECS *e* 05 35 05.0
KECS pmax pmax
comp=Z,4.0nm,1.1s,mb4.3
KECS Kecovo 68.97 316 *e*P **P** **05 34 52.6 +0.7**
KECS *e*pP pP 05 35 04.9 +8.6
NIE Niedzica 69.08 317 *e*P pP 05 35 05.7 +8.7
OJC Ojcow 69.42 318 *e*P pP 05 35 03.8 +4.7
VYHS Vyhne 70.06 316 *e*P **P** **05 35 04.5 +5.8**
comp=Z,3.7nm,1.2s,mb4.2
VYHS *e* 05 35 11.1
VYHS Vyhne 70.06 316 *e*P **P** **05 35 04.5 +5.8**
VYHS *e* 05 35 11.1
VYHS pmax pmax
comp=Z,4.0nm,1.2s,mb4.2
MORC Moravsky Berou 70.88 318 *e*P **P** **05 35 04.5 +0.9**
comp=Z,20nm,1.5s,mb4.8
MORC Moravsky Berou 70.88 318 *e*P **P** **05 35 04.5 +0.9**
MORC pmax pmax
comp=Z,20nm,1.5s,mb4.8
MODS Modra-Piesok 71.11 316 *e*P **P** **05 35 08.0 +3.0**
MODS *e*PP PP 05 37 38.9 -3.6
BRG Berggiesshubel 73.13 319 *e*P **P** **05 35 17.0 -0.1**
BRG *e* 05 35 30.3
BRG pmax pmax
comp=Z,2.0nm,0.6s,mb4.2
BRG Berggiesshubel 73.13 319 *e*PcP PcP 05 35 30.1 -3.6
BRG Berggiesshubel 73.13 319 *e*P **P** **05 35 17.0 -0.1**
comp=Z,3.0nm,0.6s,mb4.4
BRG *e* 05 35 30.3
comp=Z,7.0nm,0.9s
GEC2 GERESS Array S 73.44 317 *e*P **P** **05 35 19.3 +0.3**
GEC2 GERESS Array S 73.44 317 *e*PcP PcP 05 35 31.8 -3.3
GERES GERESS Array B 73.44 317 P **P** **05 35 18.9 -0.1**
GERES pmax pmax
comp=Z,1.0nm,0.3s
GERES MLR MLR
comp=Z,183nm,19.8s
GERES GERESS Array B 73.44 317 P **P** **05 35 18.9 -0.1**
comp=Z,0.6nm,0.3s,mb4.1,baz=90,slow=5.3,SNR=6.4
GERES LR LR 06 12 16.2
comp=Z,183nm,19.8s,MS4.4,baz=285,slow=40
KHC Kasperske Hory 73.50 317 *e*pP pP 05 35 31.5 +7.7
CLL Collm 73.69 320 *e*P **P** **05 35 20.6 +0.2**
comp=Z,10.0nm,1.5s,mb4.5
CLL Collm 73.69 320 *e*P **P** **05 35 21.0 +0.6**
CLL LmV 05 15 00.0
comp=Z,200nm,19.3s
CLL *ex* x 05 35 25.0
CLL *e*sP sP 05 35 33.0 +6.5
CLL *e*PcP PcP 05 35 36.0 -0.1
comp=Z,8.0nm,1.2s
LSZ Lusaka 73.74 249 *e*P **P** **05 35 20.3 -0.9**
comp=Z,10nm,1.2s,mb4.6
LSZ Lusaka 73.74 249 *e*P **P** **05 35 20.3 -0.9**
LSZ pmax pmax
comp=Z,11nm,1.2s,mb4.7
WET Wettzell 73.96 317 *e*P **P** **05 35 21.0 -1.0**
WET pmax pmax
comp=Z,11nm,1.4s,mb4.6
WET Wettzell 73.96 317 *e*P **P** **05 35 21.0 -1.0**
comp=Z,11nm,1.4s,mb4.6
NB2 NORSAR Subarra 74.02 330 P **P** **05 35 21.4 -0.7**
comp=Z,1.7nm,0.8s,mb4.0,baz=86,slow=6.2
NOA NORSAR Array B 74.02 330 P **P** **05 35 21.5 -0.6**
NOA pmax pmax
comp=Z,3.0nm,0.9s
NOA MLR MLR
comp=Z,168nm,18.6s
NOA NORSAR Array B 74.02 330 P **P** **05 35 21.5 -0.6**
comp=Z,3.1nm,0.9s,mb4.3,baz=87,slow=5.9,SNR=6.3
NOA LR LR 06 12 36.4
comp=Z,168nm,18.6s,MS4.4,baz=255,slow=40
ROTZ Rotzenmuhle 74.33 318 *e*PcP PcP 05 35 38.4 -0.5
MOX Moxa 74.62 319 *e*(P) **P** **05 35 21.8 -4.0**
GRA1 Grafenberg Arr 74.98 318 *e*PcP PcP 05 35 41.3 -0.4
GRF Grafenberg Arr 74.98 318 *e*PcP PcP 05 35 41.3 -0.4
GRF *e*L 06 13 31.5
comp=Z,248nm,18.0s
GRF Grafenberg Arr 74.98 318 *e*PcP PcP 05 35 41.3 -0.4
PGF Pioggiola 77.51 311 *e*P **P** **05 35 41.9 -0.6**
comp=Z,24nm,1.0s,mb4.8
PGF Pioggiola 77.51 311 *e*P **P** **05 35 41.9 -0.6**
comp=Z,12nm,1.0s,mb4.8
PGF Pioggiola 77.51 311 *e*P **P** **05 35 41.9 -0.6**
PGF pmax pmax
comp=Z,12nm,1.0s,mb4.8
CDF Champ du Feu 77.73 317 *e*P **P** **05 35 42.9 -0.7**
HAU Haudompre 78.41 317 *e*P **P** **05 35 46.7 -0.6**
HAU *e*MLR MLR
comp=Z,252nm,19.2s,MS4.3
HAU Haudompre 78.41 317 *e*P **P** **05 35 46.7 -0.6**
HAU MLR MLR
comp=Z,250nm,19.3s,MS4.6
SBF Sospel 78.41 312 *e*P **P** **05 35 46.8 -0.6**
comp=Z,39nm,1.0s,mb5.0
SBF Sospel 78.41 312 *e*P **P** **05 35 46.8 -0.6**
comp=Z,19nm,1.0s,mb5.0
SBF Sospel 78.41 312 *e*P **P** **05 35 46.8 -0.6**
SBF pmax pmax
comp=Z,19nm,1.0s,mb5.0
KEST Kesra 78.47 304 P **P** **05 35 47.5 -0.4**
comp=Z,1.1nm,0.8s,mb3.8,baz=348,slow=8.7,SNR=3.0
LPG La Plagne 78.59 314 *e*P **P** **05 35 48.3 -0.1**
comp=Z,11nm,0.8s,mb4.5
LPG La Plagne 78.59 314 *e*P **P** **05 35 48.3 -0.1**
comp=Z,5.4nm,0.8s,mb4.5
LPG La Plagne 78.59 314 *e*P **P** **05 35 48.3 -0.1**
LPG pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
LPL La Plagne 78.60 314 *e*P **P** **05 35 48.3 -0.2**
comp=Z,18nm,1.0s,mb4.7
LPL La Plagne 78.60 314 *e*P **P** **05 35 48.3 -0.2**
comp=Z,9.1nm,1.0s,mb4.7
LPL La Plagne 78.60 314 *e*P **P** **05 35 48.3 -0.2**
LPL pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
MBDF Montbardon 78.72 313 *e*P **P** **05 35 48.9 -0.2**
BNI Bardonecchia 78.72 314 *e*P **P** **05 35 51.2 +2.1**
comp=Z,6.9nm,1.0s,mb4.5
BNI Bardonecchia 78.72 314 *e*P **P** **05 35 51.2 +2.0**
BNI pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
GIVF Givet 79.01 319 *e*P **P** **05 35 50.4 -0.2**
FRF La Foret Royal 79.03 312 *e*P **P** **05 35 50.3 -0.6**
comp=Z,33nm,1.0s,mb4.9
FRF La Foret Royal 79.03 312 *e*P **P** **05 35 50.3 -0.6**
comp=Z,16nm,1.0s,mb4.9
FRF La Foret Royal 79.03 312 *e*P **P** **05 35 50.3 -0.6**
FRF pmax pmax
comp=Z,16nm,1.0s,mb4.9
LMR La Mourre 79.17 312 *e*P **P** **05 35 51.1 -0.5**
comp=Z,32nm,1.2s,mb4.8
LMR La Mourre 79.17 312 *e*P **P** **05 35 51.1 -0.5**
comp=Z,16nm,1.2s,mb4.8
LMR La Mourre 79.17 312 *e*P **P** **05 35 51.1 -0.5**
LMR pmax pmax
comp=Z,16nm,1.2s,mb4.8
BAIF Baives 79.40 319 *e*P **P** **05 35 52.6 -0.2**
LBTB Lobatse 79.64 240 *e*P **P** **05 35 54.0 -0.5**
comp=Z,11nm,1.0s,mb4.8
LBTB Lobatse 79.64 240 *e*P **P** **05 35 54.0 -0.5**
LBTB pmax pmax
comp=Z,11nm,1.0s,mb4.7
VIVF Saint-Julien-l 80.16 314 *e*P **P** **05 35 56.4 -0.6**
LOR Lormes 80.20 316 *e*P **P** **05 35 56.6 -0.6**
comp=Z,14nm,1.0s,mb4.5
LOR *e*MLR MLR
comp=Z,163nm,21.8s,MS4.0
LOR Lormes 80.20 316 *e*P **P** **05 35 56.6 -0.6**
comp=Z,6.9nm,1.0s,mb4.5
LOR LR LR
comp=Z,160nm,21.8s,MS4.3
LOR Lormes 80.20 316 *e*P **P** **05 35 56.6 -0.6**
LOR pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
LOR MLR MLR
comp=Z,160nm,21.8s,MS4.3
SMF Signal de Mont 80.35 316 *e*P **P** **05 35 57.0 -1.0**
comp=Z,16nm,1.0s,mb4.6
SMF Signal de Mont 80.35 316 *e*P **P** **05 35 57.0 -1.0**
comp=Z,7.8nm,1.0s,mb4.6
SMF Signal de Mont 80.35 316 *e*P **P** **05 35 57.0 -1.0**
SMF pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
SSF Saint Saulge 80.48 316 *e*P **P** **05 35 58.0 -0.7**
comp=Z,42nm,1.5s,mb4.8
SSF Saint Saulge 80.48 316 *e*P **P** **05 35 58.0 -0.7**
comp=Z,21nm,1.5s,mb4.8
SSF Saint Saulge 80.48 316 *e*P **P** **05 35 58.0 -0.7**
SSF pmax pmax
comp=Z,21nm,1.5s,mb4.8
AVF Avril sur Loir 80.65 316 *e*P **P** **05 35 58.8 -0.8**
BGF Bois d'Agland 81.04 316 *e*P **P** **05 36 01.0 -0.7**
BOSA Boshof 81.31 237 *e*P **P** **05 36 03.0 -0.4**
comp=Z,12nm,1.0s,mb4.8
BOSA Boshof 81.31 237 *e*P **P** **05 36 03.0 -0.4**
BOSA pmax pmax
comp=Z,12nm,1.0s,mb4.8
BOSA Boshof 81.31 237 P **P** **05 36 02.7 -0.7**
comp=Z,8.2nm,0.9s,mb4.6,baz=75,slow=5.6,SNR=5.7
TCF Toulx Ste Croi 81.53 316 *e*P **P** **05 36 04.0 -0.3**
comp=Z,25nm,1.3s,mb4.7
TCF Toulx Ste Croi 81.53 316 *e*P **P** **05 36 04.0 -0.3**
comp=Z,12nm,1.3s,mb4.7
TCF Toulx Ste Croi 81.53 316 *e*P **P** **05 36 04.0 -0.3**
TCF pmax pmax
comp=Z,12nm,1.3s,mb4.7
IMA2 Indian Mountai 83.80 23 *e*P **P** **05 36 15.2 -0.5**
MAW Mawson 86.43 192 LR LR 06 08 47.4
comp=Z,165nm,21.7s,MS4.4,baz=248,slow=31
COLA College 86.52 23 *e*P **P** **05 36 28.8 -0.5**
MCK McKinley 86.67 24 *e*P **P** **05 36 30.5 +0.4**
INK Inuvik 89.10 16 *e*P **P** **05 36 40.9 -0.7**
comp=Z,215nm,1.3s
INK Inuvik 89.10 16 *e*P **P** **05 36 40.9 -0.7**
INK pmax pmax
comp=Z,215nm,1.3s
RES Resolute Bay 89.65 3 *e*P **P** **05 36 43.6 -0.6**
comp=Z,96nm,1.0s
RES Resolute Bay 89.65 3 *e*P **P** **05 36 43.6 -0.5**
RES pmax pmax
comp=Z,95nm,1.0s
YKA Yellowknife Ar 98.52 14 P **P** **05 37 23.5 -1.5**
YKA pmax pmax
comp=Z,1.0nm,1.0s
YKA Yellowknife Ar 98.52 14 P **P** **05 37 23.5 -1.4**
comp=Z,0.6nm,0.9s,mb4.1,baz=325,slow=4.4,SNR=5.1
YKA LR LR 06 27 11.8
comp=Z,86nm,19.5s,MS4.2,baz=40,slow=39
VNDA Vanda 100.06 168 LR LR 06 22 58.5
comp=Z,133nm,18.1s,MS4.5,baz=310,slow=36
ANMO Albuquerque 125.37 23 *e*PKPdf PKPdf 05 42 48.3 +0.2
WVT Waverly 128.43 4 *e*PKPdf PKPdf 05 42 53.0 -0.9
BDFB Brasilia 145.45 265 PKP2 PKPab 05 43 24.9 -0.9
BDFB pmax pmax
comp=Z,11nm,1.0s
BDFB Brasilia 145.45 265 PKPbc PKPbc 05 43 24.9 -0.8
comp=Z,11nm,1.0s,baz=111,slow=5.6,SNR=9.8
TGUH Tegucigalpa,Un 150.36 7 *e*PKPbc PKPbc 05 43 39.9 +0.9
TRQA Tornquist 150.41 217 *e*PKPbc PKPbc 05 43 37.6 -0.9
SDV Santo Domingo 152.35 331 *e*PKPdf PKPdf 05 43 36.4 -0.4
SDV *e*PKPbc PKPbc 05 43 42.9 -0.8
SDV *e*PKPab PKPab 05 43 53.8 +0.4
ROSC El Rosal 157.57 334 *e*PKPdf PKPdf 05 43 44.6 +0.5
ROSC *e*PKPab PKPab 05 44 16.9 +1.2

ISCJB ***26*** *05:26:46.8±1.2,2399S∘005×650W±0.1,h47km±11km, mb4.2/16,MS4.1/5,Error ellipse: s-maj=17.1km s-min=7.4km az=5.0*
IDC ***26*** *05:26:49.3±2.1,2396S×65.13W,h52km±19km,mb3.9/5, mb1 4.0/10,mb1mx3.8/19,mbtmp3.9/10,ML3.8/5,MS3.9/8, Ms1 3.9/8,ms1mx3.7/19,Error ellipse: s-maj=31.1km s-min=13.5km az=93.0*
BJI ***26*** *05:26:54.3,24.10S×66.40W,h77km,mB5.3,Ms5.0,Msz4.9*
NEIC ***26*** *05:26:54.4±1.6,24.10S×66.40W,h77km±14km,mb4.4/16, Error ellipse: s-maj=28.4km s-min=10.9km az=83.0*
NEIC Felt [III] at San Salvador de Jujuy.
ISC 26 05:26:49.1±0.9,2398S∘004×649W±01,h54km±9km,n43, σ1°25/32,mb4.2/16,MS4.1/5,Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCO	**Las Campanas**	**7.23**	**225**	*e*Pn	**Pn**	**05 28 23.5**	**-8.7**
CFAA	**Coronel Fontan**	**8.15**	**201**	P	**Pn**	**05 28 43.0**	**-1.8**
	0.4nm,0.3s,baz=20,slow=12,SNR=46						
CFAA				S	**Sn**	**05 30 16.4**	**+0.8**
	0.3nm,0.3s,baz=355,slow=7.3,SNR=4.9						
CFAA				LR	LR	05 32 29.9	
	comp=Z,106nm,19.6s,baz=23,slow=42						
LPAZ	**La Paz**	**8.23**	**338**	*e*Pn	**Pn**	**05 28 47.4**	**+1.4**
	14nm,1.0s						
LPAZ	**La Paz**	**8.23**	**338**	P	**Pn**	**05 28 46.6**	**+0.6**
	0.4nm,0.3s,baz=183,slow=9.7,SNR=14						
LPAZ				S	**Sn**	**05 30 18.4**	**+0.7**
	0.4nm,0.3s,baz=304,slow=4.3,SNR=4.7						
SIV	**San Ignacio**	**8.72**	**25**	P	**Pn**	**05 28 53.1**	**+0.5**
	4.4nm,0.3s,baz=211,slow=12,SNR=108						
SIV				S	**Sn**	**05 30 27.5**	**-2.0**
	baz=178,slow=17,SNR=2.3						
PLCA	**Paso Flores**	**17.37**	**195**	*e*P	**Pn**	**05 30 47.1**	**-0.5**
	5.3nm,0.9s						
PLCA	**Paso Flores**	**17.37**	**195**	P	**Pn**	**05 30 46.3**	**-1.4**
	0.2nm,0.3s,baz=4.2,slow=11,SNR=5.4						
PLCA				LR	LR	05 38 07.9	
	comp=Z,562nm,18.1s,baz=2.9,slow=39						
BDFB	**Brasilia**	**17.90**	**65**	P	**Pn**	**05 30 56.2**	**+1.9**
	0.1nm,0.3s,baz=233,slow=22,SNR=4.9						
BDFB				LR	LR	05 39 06.0	
	comp=Z,256nm,19.0s,baz=53,slow=41						
ATAH	**Atahualpa**	**21.28**	**320**	LR	LR	05 40 58.8	
	comp=Z,348nm,20.1s,MS3.7,baz=311,slow=40						
ROSC	**El Rosal**	**30.10**	**341**	*e*P	**P**	**05 32 56.8**	**+3.1**
ROSC	**El Rosal**	**30.10**	**341**	P	**P**	**05 32 53.9**	**+0.1**
	1.5nm,0.5s,mb4.0,baz=264,slow=22,SNR=2.2						
ROSC				LR	LR	05 46 11.0	
	comp=Z,186nm,18.1s,MS3.8,baz=17,slow=39						
PLAL	**Pickwick Lake**	**62.63**	**339**	*e*P	**P**	**05 37 06.5**	**-1.4**
	3.9nm,1.0s,mb4.5						
WVT	**Waverly**	**63.59**	**339**	*e*P	**P**	**05 37 12.5**	**-1.8**
	3.8nm,0.8s,mb4.5						
WVT				*e*	pP	05 37 22.3	-6.8
DBIC	**Dimbokro**	**65.97**	**70**	LR	LR	06 05 43.0	
	comp=Z,182nm,18.3s,MS4.3,baz=211,slow=35						
CCM	**Cathedral Cave**	**66.49**	**338**	*e*P	**P**	**05 37 32.4**	**-0.6**
	3.1nm,0.8s,mb4.4						
BINY	**Binghamton**	**66.64**	**351**	*e*P	**P**	**05 37 34.5**	**+0.6**
	12nm,0.9s,mb4.9						
MNTX	**Cornudas Mount**	**67.56**	**323**	*e*P	**P**	**05 37 38.5**	**-1.6**
	1.5nm,0.9s,mb4.0						
AMTX	**Amarillo**	**68.15**	**328**	*e*P	**P**	**05 37 41.5**	**-2.2**
	3.1nm,0.7s,mb4.5						
ANMO	**Albuquerque**	**70.63**	**325**	*e*P	**P**	**05 37 59.5**	**+0.5**
	0.9nm,1.1s,mb3.6						
SDCO	**Great Sand Dun**	**72.30**	**327**	*e*P	**P**	**05 38 09.6**	**+0.6**
	3.6nm,1.3s,mb4.1						
VNDA	**Vanda**	**75.04**	**189**	*e*P	**P**	**05 38 26.2**	**+1.6**
	8.6nm,1.3s,mb4.5						
VNDA	**Vanda**	**75.04**	**189**	P	**P**	**05 38 25.7**	**+1.1**
	3.1nm,1.0s,mb4.2,baz=154,slow=3.7,SNR=7.9						
TSUM	**Tsumeb**	**75.80**	**105**	*e*P	pP	05 38 40.8	-4.3
	11nm,1.1s						
MSU	**Marysvale**	**76.34**	**324**	*e*P	**P**	**05 38 33.8**	**+1.4**
DUG	**Dugway**	**77.89**	**324**	*e*P	**P**	**05 38 41.3**	**+0.2**
	4.1nm,1.2s,mb4.2						
PDAR	**Pinedale Array**	**78.13**	**328**	P	**P**	**05 38 40.6**	**-1.8**
	0.6nm,0.8s,mb3.6,baz=134,slow=6.4,SNR=4.9						
PPT	**Papeete**	**78.35**	**256**	LR	LR	06 07 05.9	
	comp=Z,234nm,20.9s,MS4.5,baz=246,slow=31						
BOSA	**Boshof**	**79.02**	**116**	*e*P	pP	05 38 57.9	-5.1
	10nm,1.1s						
SNOW	**Snow King Moun**	**79.23**	**328**	*e*P	**P**	**05 38 49.4**	**+0.9**
	3.9nm,1.0s,mb4.3						
TPAW	**Teton Pass**	**79.35**	**328**	*e*P	**P**	**05 38 51.1**	**+2.0**
MOOW	**Moose Ponds**	**79.44**	**328**	*e*P	**P**	**05 38 50.2**	**+0.6**
	16nm,2.1s,mb4.6						
NVAR	**Mina Array Bea**	**79.74**	**320**	P	**P**	**05 38 51.2**	**-0.2**
NVAR	**Mina Array Bea**	**79.74**	**320**	P	**P**	**05 38 51.2**	**-0.2**
	1.4nm,0.9s,mb3.9,baz=127,slow=6.3,SNR=5.5						
LSZ	**Lusaka**	**86.65**	**105**	*e*P	pP	05 39 39.1	-3.8
	14nm,1.8s						
LSZ	**Lusaka**	**86.65**	**105**	LR	LR	06 14 44.6	
	comp=Z,109nm,19.6s,MS4.3,baz=143,slow=33						
YKA	**Yellowknife Ar**	**94.78**	**339**	P	**P**	**05 40 04.0**	**-0.3**
	1.0nm,0.8s,mb4.3,baz=127,slow=4.3,SNR=19						
ASAR	**Alice Springs**	**129.25**	**202**	PKP	PKPdf	05 45 51.2	-0.9
	1.1nm,0.8s,baz=151,slow=3.1,SNR=9.4						
WRA	**Warramunga Arr**	**132.49**	**205**	PKP	PKPdf	05 45 58.1	-0.3
	1.5nm,1.0s,baz=161,slow=1.9,SNR=9.6						
ZAA0	**Zalesovo Array**	**142.45**	**29**	*e*PKPdf	PKPdf	05 46 18.7	+3.1
MK31	**Makanchi Array**	**145.26**	**41**	*e*PKPbc	PKPbc	05 46 22.1	+1.6
MKAR	**Makanchi Array**	**145.26**	**41**	PKPbc	PKPbc	05 46 21.9	+1.4
	2.3nm,0.9s,baz=327,slow=2.0,SNR=15						
HHC	**Hu-ho-hao-te**	**162.92**	**9**	*e*PKP	PKPdf	05 46 45.5	+0.1

HHC				APKP		05 47 13.0	
HHC				PKS		05 50 15.5	
HHC				PP	PP	05 51 21.5	+2.9
HHC				SKS	SKSdf	05 53 40.8	-4.8
HHC				SKKS	SKKSac	05 58 00.3	-2.7
HHC				PP	PP		
	comp=Z,211nm,7.5s						
HHC				LR	LR		
	comp=N,147nm,17.2s						
HHC				LR	LR		
	comp=E,242nm,15.7s						
HHC				LR	LR		
	comp=Z,114nm,4.3s						
BJI	**Beijing**	**163.96**	**357**	PKP	PKPdf	05 46 49.5	+3.1

KNET ***26*** *05:27:43.5±0.4, 41.29N×73.48E, h4km±2km, ml2.5, Error ellipse: s-maj=3.4km s-min=2.2km az=128.0*

ISC 26 05:27:45.1±1.3, 4133N±008×7323E±006, h10km, n11, σ19:33/17, 8C-8D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**0.87**	**23**	P	**Pg**	**05 28 00.1**	**-1.8**
	65nm,0.2s,SNR=240						
AML				⇓S	**Sg**	**05 28 13.7**	**+0.5**
	122nm,0.2s						
UCH	**Uchtor**	**1.31**	**47**	⇓P	**Pn**	**05 28 07.1**	**-2.4**
	16nm,0.2s,SNR=53						
UCH				⇓S	**Sb**	**05 28 25.6**	**-1.1**
	72nm,0.3s						
EKS2	**Erkin-Say**	**1.39**	**17**	⇓P	**Pn**	**05 28 09.5**	**-1.0**
	20nm,0.2s,SNR=56						
AAK	**Ala-Archa**	**1.60**	**35**	⇓P	**Pn**	**05 28 12.9**	**-0.6**
	22nm,0.2s,SNR=27						
AAK				⇑S	**Sn**	**05 28 35.6**	**+1.4**
	28nm,0.2s						
KZA	**Kyzart**	**1.68**	**63**	⇑P	**Pn**	**05 28 12.6**	**-1.9**
	12nm,0.3s,SNR=14						
KZA				⇑S	**Sn**	**05 28 35.9**	**-0.2**
	15nm,0.2s						
KBK	**Karagaybulak**	**1.84**	**43**	⇑P	**Pn**	**05 28 16.9**	**+0.1**
	14nm,0.2s,SNR=19						
CHMS	**Chumysh**	**2.01**	**34**	⇓P	**Pn**	**05 28 20.0**	**+1.0**
	25nm,0.2s,SNR=21						
CHMS				⇑S	**Sn**	**05 28 47.6**	**+3.4**
	40nm,0.3s						
USP	**Ospenovka**	**2.15**	**26**	⇓P	**Pn**	**05 28 22.7**	**+1.7**
	33nm,0.4s,SNR=43						
TKM2	**Tokmak 2**	**2.37**	**47**	⇑P	**Pn**	**05 28 25.3**	**+1.4**
	29nm,0.4s,SNR=42						
ULHL	**Ulahol**	**2.43**	**67**	⇓P	**Pn**	**05 28 25.6**	**+0.8**
	6.3nm,0.2s,SNR=12						
KK31	**Karatay Array**	**2.69**	**312**	⇑Pn	**Pn**	**05 28 30.0**	**+1.7**
	1.5nm,0.3s,baz=138,slow=15,SNR=49						
KK31				⇑Sn	**Sg**	**05 29 10.3**	**-1.1**
	9.8nm,0.5s,baz=136,slow=29						

IDC ***26*** *05:29:53.1±1.2, 40.43N×137.25E, h0km, mb3.8/4, mb1 3.9/6, mb1mx3.6/23, mbtmp3.8/6, ML4.1/2, Error ellipse: s-maj=46.9km s-min=22.9km az=81.0*

NEIC ***26*** *05:29:56.8±0.6, 40.50N×138.20E, h35km, MG3.7(JMA), Error ellipse: s-maj=16.8km s-min=10.0km az=90.0*

ISCJB ***26*** *05:30:01.3±0.5, 39.50N±005×140.04E±0.10, h180km±4km, mb3.8/4, Error ellipse: s-maj=13.6km s-min=6.3km az=24.9*

JMA ***26*** *05:30:03.1±0.1, 39.49N×140.04E, h169km±1km, M3.7*

ISC 26 05:30:02.3±0.5, 3949N±005×14004E±010, h176km±4km, n22, σ0:40/32, mb3.8/4, 1C-7D, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYW	**Yuwa**	**0.14**	**70**	P	**Pn**	**05 30 26.0**	**+0.4**
JYW				*e*S	**Sn**	**05 30 44.0**	**+0.5**
JRG	**Rokugo**	**0.47**	**102**	⇓P	**Pn**	**05 30 26.7**	**+0.2**
JRG				*e*S	**Sn**	**05 30 45.0**	**0.0**
JYK	**Kaneyama**	**0.62**	**157**	⇓P	**Pn**	**05 30 27.3**	**+0.1**
JYK				*e*S	**Sn**	**05 30 46.1**	**-0.2**
JAH	**Hinai**	**0.83**	**33**	⇓P	**Pn**	**05 30 28.9**	**+0.5**
JAH				*e*S	**Sn**	**05 30 48.3**	**-0.2**
JYA	**Atsumi**	**0.93**	**196**	⇓P	**Pn**	**05 30 29.4**	**+0.3**
JYA				*e*S	**Sn**	**05 30 49.3**	**-0.4**
JOM	**Ohasama**	**0.97**	**91**	⇓P	**Pn**	**05 30 29.7**	**+0.4**
JOM				*e*S	**Sn**	**05 30 50.0**	**-0.1**
JMK	**Ichinoseki**	**1.06**	**120**	⇓P	**Pn**	**05 30 30.2**	**+0.1**
JIW	**Iwasaki**	**1.10**	**359**	P	**Pn**	**05 30 30.7**	**+0.4**
JIW				*e*S	**Sn**	**05 30 52.0**	**0.0**
JANG	**Nango**	**1.43**	**52**	⇑P	**Pn**	**05 30 33.5**	**+0.3**
JANG				*e*S	**Sn**	**05 30 56.4**	**-0.8**
JMM	**Marumori**	**1.73**	**160**	⇓P	**Pn**	**05 30 36.2**	**0.0**
JMM				*e*S	**Sn**	**05 31 02.0**	**-0.3**
JNS	**Sasagawa**	**1.77**	**199**	P	**Pn**	**05 30 36.8**	**+0.2**
JSD	**Sado**	**2.01**	**224**	P	**Pn**	**05 30 39.3**	**+0.1**
JSD				*e*S	**Sn**	**05 31 06.7**	**-1.0**
JOT	**Ohata**	**2.04**	**22**	P	**Pn**	**05 30 39.9**	**+0.5**
MAJO	**Matsushiro**	**3.28**	**207**	*e*Pn	**Pn**	**05 30 54.5**	**+0.2**
MAT	**Matsushiro**	**3.28**	**207**	P	**Pn**	**05 30 54.2**	**0.0**
MJAR	**Matsushiro Arr**	**3.28**	**207**	Pn	**Pn**	**05 30 54.8**	**+0.6**
	5.6nm,0.3s,baz=15,slow=14,SNR=28						
ERM	**Erimo**	**3.46**	**42**	*e*Pn	**Pn**	**05 30 55.9**	**-0.4**
ASAJ	**Asahikawa**	**5.00**	**22**	Pn	**Pn**	**05 31 15.2**	**-0.8**
	8.2nm,0.3s,baz=267,slow=11,SNR=17						
JOF	**Joensuu**	**63.29**	**331**	*e*p	**P**	**05 40 11.5**	**-0.3**
	0.8nm,0.4s,mb3.9						
FINES	**FINESS Array B**	**66.14**	**331**	P	**P**	**05 40 30.4**	**+0.2**
	0.7nm,0.5s,mb3.7,baz=40,slow=9.9,SNR=3.3						
NOA	**NORSAR Array B**	**71.50**	**336**	P	**P**	**05 41 03.6**	**+0.3**
	0.5nm,0.5s,mb3.5,baz=51,slow=5.4,SNR=3.3						
AKASG	**Malin Array Be**	**71.70**	**321**	P	**P**	**05 41 04.2**	**-0.5**
	1.2nm,0.3s,mb4.1,baz=45,slow=6.6,SNR=7.0						

IDC 26 05:33:30.0±1.5, 3729S×17361E, h0km, mb3.5/2, mb1 3.7/3, mb1mx3.6/11, mbtmp3.5/3, ML3.0/1, Error ellipse: s-maj=149.4km s-min=27.1km az=15.0, Off west coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**2.94**	**110**	Pn	Pn	05 34 16.5	-1.5
	2.1nm,0.3s,baz=298,slow=3.0,SNR=34						
URZ				Sn	Sn	05 34 48.8	-5.1
	3.9nm,0.3s,baz=128,slow=9.1,SNR=12						
ASAR	**Alice Springs**	**36.55**	**280**	P	P	05 40 37.9	+0.4
	0.7nm,0.6s,baz=120,slow=8.1,SNR=7.2						
WRA	**Warramunga Arr**	**38.24**	**286**	P	P	05 40 50.1	-1.8
	0.4nm,0.6s,baz=119,slow=7.7,SNR=5.6						
NOA	**NORSAR Array B**	**153.77**	**341**	PKPbc	PKPbc	05 53 31.9	+1.8
	1.3nm,0.9s,baz=43,slow=2.2,SNR=2.7						

IDC 26 05:43:57.4±3.9, 1212N×9195E, h0km, mb3.4/3, mb1 3.5/3, mb1mx3.4/20, mbtmp3.4/3, Error ellipse: s-maj=137.0km s-min=30.6km az=65.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**35.51**	**349**	P	P	05 50 56.1	+0.2
	0.7nm,0.8s,baz=167,slow=8.5,SNR=5.5						
SONM	**Songino Array**	**37.60**	**16**	P	P	05 51 13.6	-0.1
	0.3nm,0.7s,baz=226,slow=8.2,SNR=3.3						
WRA	**Warramunga Arr**	**52.49**	**127**	P	P	05 53 12.7	+0.1
	0.5nm,0.8s,baz=300,slow=9.4,SNR=5.6						

IDC ***26*** *06:01:58.0±1.0, 0.93N×97.18E, h0km, mb4.2/10, mb1 4.3/11, mb1mx4.1/21, mbtmp4.2/11, ML3.5/1, MS3.7/3, Ms1 3.7/3, ms1mx3.3/29, Error ellipse: s-maj=35.6km s-min=15.7km az=58.0*

BJI ***26*** *06:02:00.3, 0.42N×97.34E, h62km, mB5.1, mb4.8, Ms4.1, Msz4.1*

NEIC ***26*** *06:02:02.8±0.5, 0.95N×97.28E, h30km, mb4.5/4, Error ellipse: s-maj=12.1km s-min=7.7km az=59.0*

ISCJB ***26*** *06:02:05.7±2.8, 1.1N±0.1×97.5E±0.2, h68km±21km, mb4.3/23, Error ellipse: s-maj=30.6km s-min=12.4km az=149.4*

MOS ***26*** *06:02:06.6±0.8, 1.16N×97.48E, h75km, mb4.5/11, Error ellipse: s-maj=20.0km s-min=10.7km az=85.4*

ISC 26 06:02:06.5±2.7, 11N±01×975E±02, h58km±20km, n44, σ0:76/42, mb4.3/23, MS4.1/3, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.23**	**40**	P	**Pn**	**06 02 40.6**	**-0.5**
PSI				pmax	pmax		
	comp=Z,11nm,0.3s						
PSI				MLR	MLR		
	comp=Z,380nm,18.4s						
PSI	**Prapat**	**2.23**	**40**	Pn	**Pn**	**06 02 40.6**	**-0.5**
	comp=Z,11nm,0.3s,baz=270,slow=5.9,SNR=41						
PSI				LR	LR	06 03 42.0	
	comp=Z,380nm,18.4s,baz=315,slow=42						
KULM	**Kulim**	**5.24**	**37**	*e*Pn	**Pn**	**06 03 22.2**	**-0.1**
KMI	**Kunming**	**24.43**	**12**	P	**P**	**06 07 22.0**	**+2.1**
KMI				AMB	AMB		
	comp=Z,31nm,1.2s,mb4.6						
GYA	**Guiyang**	**26.73**	**19**	P	**P**	**06 07 40.3**	**-0.4**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.3						
WHN	**Wuhan**	**33.38**	**27**	*e*P	**P**	**06 08 40.3**	**+0.8**
WHN				LR	LR		
	comp=Z,326nm,14.6s,MS4.2						
FITZ	**Fitzroy Crossi**	**33.63**	**126**	P	**P**	**06 08 41.9**	**+0.1**
	comp=Z,1.4nm,0.8s,mb3.9,baz=243,slow=14,SNR=3.9						
XAN	**Xi'an**	**34.49**	**17**	P	**P**	**06 08 49.5**	**+0.4**
XAN				AMB	AMB		
	comp=Z,8.0nm,0.9s,mb4.7						
GTA	**Gaotai**	**38.20**	**3**	*e*P	**P**	**06 09 21.3**	**+0.6**
GTA				AMB	AMB		
	comp=Z,9.0nm,1.0s,mb4.5						
WRA	**Warramunga Arr**	**41.73**	**122**	P	**P**	**06 09 50.2**	**0.0**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
WRA	**Warramunga Arr**	**41.73**	**122**	P	**P**	**06 09 50.2**	**0.0**
	comp=Z,1.2nm,0.7s,mb3.6,baz=300,slow=9.1,SNR=14						
ASAR	**Alice Springs**	**43.09**	**127**	P	**P**	**06 10 01.5**	**+0.2**
ASAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
ASAR	**Alice Springs**	**43.09**	**127**	P	**P**	**06 10 01.4**	**+0.2**
	comp=Z,1.8nm,0.8s,mb3.9,baz=298,slow=7.6,SNR=17						
KSRS	**Korea Array**	**45.78**	**34**	P	**P**	**06 10 23.5**	**+1.0**
KSRS				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.5						
KSRS	**Korea Array**	**45.78**	**34**	P	**P**	**06 10 23.5**	**+1.0**
	comp=Z,5.7nm,0.9s,mb4.5,baz=220,slow=8.9,SNR=13						
UCH	**Uchtor**	**45.87**	**336**	*e*P	**P**	**06 10 24.0**	**+0.9**
	comp=Z,3.2nm,0.9s,mb4.2						
AML	**Almayashu**	**46.13**	**335**	*e*P	**P**	**06 10 26.1**	**+0.9**
	comp=Z,3.7nm,0.4s,mb4.7						
AAK	**Ala-Archa**	**46.22**	**336**	*e*P	**P**	**06 10 25.7**	**-0.1**
AAK				pmax	pmax		
	comp=Z,2.0nm,1.1s,mb4.0						
SONM	**Songino Array**	**47.20**	**8**	P	**P**	**06 10 33.9**	**+0.5**
SONM						06 12 04.1	
SONM				pmax	pmax		
	comp=Z,4.0nm,0.8s						
SONM				pmax	pmax		
	comp=Z,2.0nm,0.8s						
SONM	**Songino Array**	**47.20**	**8**	P	**P**	**06 10 33.9**	**+0.5**
	comp=Z,3.8nm,0.8s,mb4.4,baz=188,slow=9.9,SNR=21						
SONM				PcP	PcP	06 12 04.1	0.0
	comp=Z,1.7nm,0.8s,baz=185,slow=3.0,SNR=5.3						
ULN	**Ulaanbaatar**	**47.33**	**9**	*e*P	**P**	**06 10 35.2**	**+0.8**
	comp=Z,2.8nm,0.6s,mb4.4						
ULN	**Ulaanbaatar**	**47.33**	**9**	*e*P	**P**	**06 10 35.2**	**+0.8**
ULN				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.4						
MKAR	**Makanchi Array**	**47.42**	**346**	P	**P**	**06 10 34.9**	**-0.3**
MKAR						06 12 05.2	
MKAR				pmax	pmax		
	comp=Z,5.0nm,0.9s						
MKAR	**Makanchi Array**	**47.42**	**346**	P	**P**	**06 10 34.9**	**-0.3**
	comp=Z,4.5nm,0.9s,mb4.4,baz=160,slow=7.5,SNR=9.4						
MKAR				PcP	PcP	06 12 05.2	+0.3
	comp=Z,0.4nm,0.7s,baz=187,slow=5.8,SNR=1.5						
ZAK	**Zakamensk**	**49.36**	**5**	*e*P	**P**	**06 10 50.2**	**+0.2**
ZAK				*e*		06 13 41.9	
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.3s,mb4.0						
TLY	**Talaya**	**50.68**	**5**	*e*P	**P**	**06 10 59.3**	**-0.7**
HIA	**Hailar**	**51.66**	**18**	*e*P	**P**	**06 11 07.1**	**-0.3**
KURK	**Kurchatov**	**51.98**	**345**	*e*P	**P**	**06 11 09.5**	**-0.2**
	comp=Z,7.7nm,1.0s,mb4.6						
KURK	**Kurchatov**	**51.98**	**345**	*e*P	**P**	**06 11 09.5**	**-0.2**
KURK				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.6						
STKA	**Stephens Creek**	**53.06**	**132**	P	**P**	**06 11 18.6**	**+0.5**
	comp=Z,4.3nm,0.8s,mb4.4,baz=319,slow=3.2,SNR=7.5						
STKA				LR	LR	06 35 56.3	
	comp=Z,156nm,18.5s,MS4.1,baz=207,slow=38						
ZAL	**Zalesovo**	**53.71**	**351**	P	**P**	**06 11 22.5**	**+0.1**
ZAL				pmax	pmax		
	comp=Z,3.0nm,0.3s						
ZAA0	**Zalesovo Array**	**53.72**	**351**	*e*P	**P**	**06 11 22.2**	**-0.2**
ZALV	**Zalesovo Beam**	**53.72**	**351**	P	**P**	**06 11 22.5**	**0.0**
	comp=Z,3.3nm,0.3s,mb4.7,baz=177,slow=5.8,SNR=18						
KLR	**Kul'dur**	**56.23**	**26**	*e*P	**P**	**06 11 37.8**	**-2.9**
BOD	**Bodaibo**	**58.07**	**10**	*e*P	**P**	**06 11 53.4**	**-0.2**
BOD				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.7						
YAK	**Yakutsk**	**65.45**	**16**	*e*P	**P**	**06 12 42.2**	**-0.9**
YAK				pmax	pmax		
	comp=Z,21nm,0.8s,mb5.2						
OBN	**Obninsk**	**72.87**	**328**	P	**P**	**06 13 28.0**	**-1.2**
TIXI	**Tiksi**	**73.25**	**10**	*e*P	**P**	**06 13 30.2**	**-0.9**
TIXI				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.3						
SEY	**Seymchan**	**73.76**	**23**	*e*P	**P**	**06 13 33.0**	**-1.3**
ARCES	**ARCESS Array B**	**82.74**	**340**	P	**P**	**06 14 23.4**	**-0.4**
ARCES				pmax	pmax		
	comp=Z,3.0nm,1.0s						
ARCES				MLR	MLR		
	comp=Z,81nm,19.6s						
ARCES	**ARCESS Array B**	**82.74**	**340**	P	**P**	**06 14 23.4**	**-0.4**
	comp=Z,3.0nm,1.0s,mb4.3,baz=338,slow=9.2,SNR=3.8						
ARCES				LR	LR	06 53 09.2	
	comp=Z,81nm,19.6s,MS4.1,baz=288,slow=37						
GERES	**GERESS Array B**	**85.09**	**319**	P	**P**	**06 14 36.4**	**+0.2**
	comp=Z,0.2nm,0.4s,mb3.6,baz=43,slow=8.0,SNR=4.6						
TXAR	**Lajitas Array**	**143.62**	**32**	PKP	PKPdf	06 21 35.0	-0.6
TXAR	**Lajitas Array**	**143.62**	**32**	PKP	PKPdf	06 21 35.0	-0.6
	comp=Z,0.3nm,0.6s,baz=5.7,slow=1.3,SNR=3.9						

NEIC ***26*** *06:05:33.8, 27.98S×69.59W, h80km, MG4.0(GUC), After GUC.*

GUC 26 06:05:33.8±0.7, 2798S×6959W, h80km, ML4.0, 5C-2D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPCH	**Copiapo**	**0.92**	**312**	⇑*i*P	Pn	06 05 52.1	+0.2
CPCH				*i* S	Sn	06 06 05.8	+0.5
CPCH	**Copiapo**	**0.92**	**312**	⇑*i*P	Pn	06 05 52.1	+0.2
CPCH				*i* S	Sn	06 06 05.8	+0.5
CPCH				AML	AML	06 06 07.1	
	comp=N,40μm,0.1s						
VACH	**Vallenar**	**1.19**	**240**	⇓*i*P	Pn	06 05 55.8	+0.6
VACH				*i* S	Sn	06 06 12.4	+1.1
VACH	**Vallenar**	**1.19**	**240**	⇓*i*P	Pn	06 05 55.8	+0.6
VACH				*i* S	Sn	06 06 12.4	+1.1
VACH				AML	AML	06 06 13.7	
	comp=N,5μm,0.1s						
LSCH	**La Serena**	**2.41**	**217**	⇑*i*P	Pn	06 06 11.7	+0.6
LSCH				*i* S	Sn	06 06 39.9	+0.1
TLL	**Tololo Astrono**	**2.43**	**206**	⇑*i*P	Pn	06 06 12.5	+1.1
TLL				*i* S	Sn	06 06 41.8	+1.6
TLL	**Tololo Astrono**	**2.43**	**206**	⇑*i*P	Pn	06 06 12.5	+1.1
TLL				*i* S	Sn	06 06 41.8	+1.6
TLL				AML	AML	06 06 43.9	
	comp=N,161nm,0.4s						
CMCH	**Combarbala**	**3.42**	**201**	*i* P	Pn	06 06 23.6	-1.1
CMCH				*i* S	Sn	06 07 02.8	-1.4
CMCH	**Combarbala**	**3.42**	**201**	*i* P	Pn	06 06 23.6	-1.1
CMCH				*i* S	Sn	06 07 02.8	-1.4
CMCH				AML	AML	06 07 04.3	
	comp=N,213nm,0.5s						

CASC 26 06:24:03.1±2.4, 1083N×8660W, h13km±9km, MD4.0, 5C-2D, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SSNN	**San Juan del S**	**0.87**	**58**	*e*P	Pg	06 24 20.6	+0.7
VCR	**Vista de Mar**	**1.18**	**126**	*e*P	Pn	06 24 23.8	-1.5
CRUN	**El Crucero**	**1.19**	**14**	*e*P	Pn	06 24 25.0	-0.4
MADN	**Villa Maderas**	**1.20**	**61**	*e*P	Pn	06 24 23.2	-2.4
APON	**Apoyo**	**1.20**	**26**	⇑*e*P	Pn	06 24 25.1	-0.6
CONN	**Concepcion**	**1.21**	**52**	*e*P	Pn	06 24 24.3	-1.4
TICN	**Ticuantepe**	**1.25**	**17**	*e*P	Pn	06 24 25.8	-0.5
LIM1	**Limonal**	**1.33**	**95**	⇑*i*P	Pn	06 24 26.2	-1.2
LIM1				*i* S	Sb	06 24 42.9	-2.0
XAVN	**Gruta Xavier**	**1.34**	**12**	⇓*e*P	Pn	06 24 26.9	-0.6
COPN	**Copaltepe**	**1.35**	**0**	*e*P	Pn	06 24 26.7	-0.9
TISN	**Laguna Tiscapa**	**1.35**	**14**	⇑*e*P	Pn	06 24 27.1	-0.6
MGAN	**Managua**	**1.36**	**15**	⇑*e*P	Pn	06 24 27.1	-0.7
2RIO	**Dos Rios de Up**	**1.38**	**102**	*i* P	Pn	06 24 24.6	-3.5
APYN	**Apoyeque**	**1.42**	**10**	⇑*e*P	Pn	06 24 28.0	-0.7
HUEN		**1.56**	**16**	*e*P	Pn	06 24 29.7	-0.9
MOMJ	**Momotombo**	**1.57**	**2**	*e*P	Pn	06 24 28.9	-1.8
TEL3	**Telica 3**	**1.75**	**352**	*e*P	Pn	06 24 32.3	-0.9
JCR	**Jicaral**	**1.76**	**123**	*e*P	Pn	06 24 31.3	-2.0
BOAB	**BOACO BROADBAN**	**1.85**	**29**	*e*P	Pn	06 24 33.8	-0.8
BOAB				*e*S	Sn	06 25 00.5	+2.5
CGA2	**Cerro Gallo 2**	**2.25**	**111**	*e*P	Pn	06 24 40.0	0.0
PRS1	**Puriscal**	**2.40**	**110**	*e*P	Pn	06 24 41.6	-0.6
LAJ	**Bijagual**	**2.62**	**111**	⇓*e*P	Pn	06 24 41.3	-3.9
LCR2	**La Lucha 2**	**2.77**	**113**	*e*P	Pn	06 24 48.6	+1.3
LCR2				*e*S	Sn	06 25 22.2	+1.5
QCR	**Quepos**	**2.77**	**120**	*e*P	Pn	06 24 49.2	+1.9
URSC	**Urasca**	**2.95**	**109**	*e*P	Pn	06 24 50.1	+0.5
BAR1		**3.60**	**116**	*e*P	Pn	06 24 59.6	+1.0
LAPE	**La Pedrera**	**15.18**	**101**	*i* P		06 24 23.4	
LAPE				*i* S		06 24 39.1	

ISCJB ***26*** *06:29:47.6±2.3, 202N±0.1×454W±04, h10km, mb4.0/8, MS3.8/10, Error ellipse: s-maj=60.1km s-min=18.7km az=179.8*

IDC ***26*** *06:29:48.0±2.9, 20.11N×45.42W, h0km, mb4.0/7, mb1 4.2/7, mb1mx3.8/24, mbtmp4.0/7, MS3.8/10, Ms1 3.8/10, ms1mx3.5/30, Error ellipse: s-maj=79.5km s-min=23.1km az=90.0*

NEIC ***26*** *06:29:49.5±1.7, 2009N×45.40W, h10km, mb4.6/1, Error ellipse: s-maj=46.5km s-min=14.1km az=90.0*

ISC 26 06:29:49.7±2.4, 201N±01×454W±05, h10km, n16, σ0:31/11, mb4.0/8, MS3.8/10, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDV	**Santo Domingo**	**26.83**	**249**	P	**P**	**06 35 30.1**	**-0.4**
	4.2nm,1.1s,mb3.9,baz=324,slow=5.7,SNR=4.2						
SDV				LR	LR	06 43 49.0	
	comp=Z,72nm,21.3s,MS3.2,baz=2.5,slow=31						
BBTS	**Babate**	**28.03**	**97**	LR	LR	06 43 48.4	
	comp=Z,202nm,20.9s,MS3.7,baz=69,slow=30						
SIV	**San Ignacio**	**39.05**	**204**	P	**P**	**06 37 16.7**	**-0.2**
	1.1nm,0.9s,mb3.6,baz=55,slow=11,SNR=5.8						
DBIC	**Dimbokro**	**41.49**	**103**	LR	LR	06 51 45.7	
	comp=Z,155nm,21.0s,MS3.9,baz=274,slow=32						
LPAZ	**La Paz**	**42.52**	**213**	P	**P**	**06 37 45.9**	**+0.3**
	2.9nm,0.9s,mb4.0,baz=30,slow=8.3,SNR=10						
ULM	**Lac du Bonnet**	**49.77**	**320**	P	**P**	**06 38 42.4**	**+0.1**
ULM				LR	LR	06 55 58.7	
ULM	**Lac du Bonnet**	**49.77**	**320**	P	**P**	**06 38 42.4**	**+0.1**
	3.5nm,1.0s,mb4.3,baz=132,slow=6.8,SNR=5.4						
ULM				LR	LR	06 55 58.7	
	comp=Z,114nm,18.5s,MS3.9,baz=34,slow=32						
TXAR	**Lajitas Array**	**53.28**	**292**	P	**P**	**06 39 09.0**	**+0.1**
TXAR				LR	LR	07 04 03.7	
TXAR	**Lajitas Array**	**53.28**	**292**	P	**P**	**06 39 09.0**	**+0.1**
	0.5nm,0.8s,mb3.5,baz=71,slow=7.0,SNR=4.0						
TXAR				LR	LR	07 04 03.7	
	comp=Z,77nm,20.1s,MS3.8,baz=5.0,slow=39						
NOA	**NORSAR Array B**	**56.61**	**29**	LR	LR	07 00 42.8	
	comp=Z,46nm,18.4s,MS3.6,baz=0.0,slow=33						
PDAR	**Pinedale Array**	**57.82**	**308**	P	**P**	**06 39 41.4**	**0.0**
	3.3nm,1.0s,mb4.3,baz=101,slow=7.9,SNR=13						
PDAR				LR	LR	06 59 55.0	
	comp=Z,143nm,20.0s,MS4.1,baz=76,slow=31						
HWUT	**Hardware Ranch**	**59.30**	**307**	*e*P	**P**	**06 39 52.2**	**+0.5**
	5.0nm,1.0s,mb4.5						
YKA	**Yellowknife Ar**	**62.78**	**331**	P	**P**	**06 40 14.5**	**-0.5**
YKA				LR	LR	07 08 17.5	
YKA	**Yellowknife Ar**	**62.78**	**331**	P	**P**	**06 40 14.5**	**-0.5**
	0.7nm,0.9s,mb3.8,baz=101,slow=7.5,SNR=8.0						
YKA				LR	LR	07 08 17.5	
	comp=Z,61nm,18.8s,MS3.8,baz=135,slow=37						
KMBO	**Kilima Mbogo**	**83.46**	**94**	LR	LR	07 20 43.8	
	comp=Z,74nm,18.8s,MS4.1,baz=60,slow=37						
BOSA	**Boshof**	**83.62**	**123**	LR	LR	07 11 26.1	
	comp=Z,99nm,20.2s,MS4.2,baz=155,slow=30						

IDC ***26*** *06:39:46.0±1.8, 32.13N×137.82E, h0km, mb3.4/2, mb1 3.6/3, mb1mx3.2/21, mbtmp3.3/3, Error ellipse: s-maj=235.1km s-min=31.7km az=94.0*

ISCJB ***26*** *06:40:03.0±0.8, 345N±02×1376E±02, h328km±16km, mb3.0/2, Error ellipse: s-maj=35.1km s-min=17.1km az=22.9*

JMA ***26*** *06:40:03.9±0.1, 34.26N×137.56E, h316km, M2.6*

ISC 26 06:40:04.2±0.8, 345N±02×1376E±02, h328km±16km, n12, σ0:71/17, mb3.0/2, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNY	**Yasuok**	**0.89**	**13**	P	**Pn**	**06 40 47.1**	**+0.1**
JGM	**Miyama**	**1.41**	**329**	P	**Pn**	**06 40 49.3**	**-0.2**
JRY	**Ryogami san**	**1.85

0.1nm,0.3s,baz=329,slow=15,SNR=5.8
FITZ S Sn 07 24 47.7 -8.8
0.5nm,0.3s,baz=190,slow=18,SNR=11
WRA Warramunga Arr 20.99 124 P P 07 23 55.8 -0.8
0.3nm,0.3s,baz=297,slow=12,SNR=24
ASAR Alice Springs 22.73 133 P P 07 24 14.6 +0.8
0.5nm,0.3s,baz=306,slow=8.5,SNR=13
SONM Songino Array 56.88 352 P P 07 28 52.5 -0.5
0.5nm,0.6s,baz=171,slow=8.9,SNR=4.8
MKAR Makanchi Array 62.84 335 P P 07 29 34.0 +0.4
0.1nm,0.3s,baz=153,slow=4.8,SNR=2.9
YKA Yellowknife Ar 115.07 23 PKP PKPdf 07 37 46.4 +0.1
0.1nm,0.4s,baz=315,slow=2.2,SNR=6.4

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*IDC **26** 07:24:59.6±8.5, 699S×128 40E, h152km±69km, mb3.5/1, mb1 3.9/5, mb1mx3.5/15, mbtmp3.8/5, Error ellipse: s-maj=92.9km s-min=49.3km az=1.0*
ISC 26 07:25:11.1±2.2, 80S±01×12840E±007, h178km±19km, n9, σ1º01/15, mb3.7/1, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Kupang**	**5.18**	**244**	P	**Pn**	**07 26 22.4**	**-4.9**
	9.2nm,0.3s,baz=124,slow=3.1,SNR=4.0						
BATI				S	**Sn**	**07 27 26.8**	**-0.4**
	22nm,0.3s,baz=140,slow=15,SNR=6.5						
KAKA	**Kakadu**	**6.18**	**140**	*eP*	**Pn**	**07 26 40.2**	**-0.2**
	29nm,0.1s						
KAKA				*e*S	**Sn**	**07 27 50.9**	**+0.2**
FITZ	**Fitzroy Crossi**	**10.44**	**195**	*eP*	**Pn**	**07 27 36.1**	**-0.2**
	11nm,0.3s						
FITZ				*e*S	**Sn**	**07 29 32.0**	**-0.4**
FITZ	**Fitzroy Crossi**	**10.44**	**195**	P	**Pn**	**07 27 36.2**	**-0.1**
	1.8nm,0.3s,baz=32,slow=11,SNR=21						
FITZ				S	**Sn**	**07 29 34.1**	**+1.7**
	0.7nm,0.3s,baz=70,slow=23,SNR=4.0						
WRA	**Warramunga Arr**	**13.23**	**155**	P	**Pn**	**07 28 11.7**	**-0.6**
	1.2nm,0.3s,baz=338,slow=11,SNR=28						
WRA				S	**Sn**	**07 30 39.4**	**-0.1**
	1.4nm,0.3s,baz=332,slow=22,SNR=13						
WB2	**Warramunga Arr**	**13.24**	**155**	*eP*	**Pn**	**07 28 15.0**	**+2.6**
WB2				*e*S	**Sn**	**07 30 38.5**	**-1.1**
ASAR	**Alice Springs**	**16.49**	**162**	P	**Pn**	**07 28 53.9**	**+1.4**
	2.0nm,0.3s,baz=339,slow=10,SNR=206						
STKA	**Stephens Creek**	**26.79**	**154**	*eP*	**P**	**07 30 33.6**	**-1.0**
	0.9nm,0.5s,mb3.7						
STKA	**Stephens Creek**	**26.79**	**154**	P	**P**	**07 30 33.4**	**-1.2**
	0.8nm,0.4s,mb3.7,baz=346,slow=10,SNR=5.8						

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*ISCJB **26** 07:25:48.1±1.6, 375N±0.1×722E±0.3, h183km±51km, Error ellipse: s-maj=42.4km s-min=14.2km az=160.7*
*NNC **26** 07:25:52.7±15.0, 3785N×7041E, h0km, mb3.4, mpv3.8, Error ellipse: s-maj=267.6km s-min=99.1km az=108.0*
ISC 26 07:25:48.7±1.6, 375N±01×720E±03, h150km±39km, n12, σ0º94/13, 3D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**4.82**	**15**	P	**Pn**	**07 27 00.3**	**+0.8**
	SNR=150						
UCH	**Uchtor**	**5.12**	**21**	P	**Pn**	**07 27 03.6**	**+0.2**
	SNR=9.3						
KZA	**Kyzart**	**5.22**	**27**	P	**Pn**	**07 27 04.6**	**-0.3**
	SNR=7.6						
EKS2	**Erkin-Say**	**5.35**	**14**	P	**Pn**	**07 27 07.9**	**+1.3**
	SNR=8.0						
AAK	**Ala-Archa**	**5.49**	**20**	P	**Pn**	**07 27 08.9**	**+0.5**
	SNR=19						
KK31	**Karatay Array**	**5.73**	**349**	P	**Pn**	**07 27 12.7**	**+1.0**
	7.4nm,0.5s,baz=158,slow=11,SNR=67						
KK31				⇓S	**Sn**	**07 28 14.8**	**-1.8**
	5.3nm,0.3s						
ULHL	**Ulahol**	**5.76**	**33**	P	**Pn**	**07 27 11.2**	**-0.9**
	SNR=5.3						
DLH	**Dalhousie**	**5.90**	**145**	*e*S	**Sn**	**07 28 20.0**	**-0.7**
DLH	**Dalhousie**	**5.90**	**145**	*eP*	**Sn**	**07 28 15.0**	**-5.7**
TKM2	**Tokmak 2**	**6.08**	**26**	P	**Pn**	**07 27 15.9**	**-0.4**
	SNR=14						
AB31	**Akbulak array**	**14.66**	**327**	⇓P	**Pn**	**07 29 09.5**	**+0.9**
	0.4nm,0.4s,baz=138,slow=12,SNR=8.2						
AKTO	**Aktyubinsk**	**16.37**	**327**	⇓P	**Pn**	**07 29 28.5**	**-1.2**
	0.1nm,1.4s						

CASC 26 08:22:31.1±1.9, 956N×8483W, h8km±8km, MD3.6, ML3.1, 6C-12D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCR	**Jicaral**	**0.40**	**316**	⇓*iP*	Pg	08 22 39.0	0.0
JCR				*e*S	Sg	08 22 45.8	+1.5
CGA2	**Cerro Gallo 2**	**0.58**	**38**	⇓*iP*	Pg	08 22 42.9	+0.6
CGA2				*e*S	Sg	08 22 50.4	+0.6
PRS1	**Puriscal**	**0.66**	**50**	⇓*iP*	Pg	08 22 42.5	-1.3
QCR	**Quepos**	**0.67**	**102**	⇓*eP*	Pg	08 22 43.9	-0.1
LAJ	**Bijagual**	**0.76**	**66**	⇑*iP*	Pg	08 22 37.8	-7.9
LCR2	**La Lucha 2**	**0.83**	**77**	⇓*iP*	Pg	08 22 46.8	-0.3
SJS	**Escuela Geolog**	**0.85**	**64**	⇑*eP*	Pg	08 22 47.7	+0.2
FORC	**Fortuna**	**0.92**	**10**	⇓*iP*	Pg	08 22 48.5	-0.3
VCR	**Vista de Mar**	**0.97**	**305**	⇑*eP*	Pg	08 22 48.9	-0.9
2RIO	**Dos Rios de Up**	**1.04**	**337**	⇓*eP*	Pg	08 22 56.3	+5.2
BUS	**Buena Vista**	**1.05**	**90**	⇑*eP*	Pg	08 22 51.1	-0.2
BUS				*e*S	Sg	08 23 06.8	+1.7
URSC	**Urasca**	**1.07**	**75**	⇓*iP*	Pg	08 22 51.1	-0.6
CUI		**1.15**	**343**	⇓*iP*	Pg	08 22 51.7	-1.5
CUI				*e*S	Sg	08 23 07.2	-1.0
LIM1	**Limonal**	**1.21**	**340**	⇓*iP*	Pb	08 22 52.6	-1.6
BAR1		**1.53**	**102**	⇓*iP*	Pn	08 22 57.5	-1.2
BAR1				*e*S	Sn	08 23 18.4	-0.4
MADN	**Villa Maderas**	**1.96**	**339**	⇓*eP*	Pn	08 23 06.3	+1.6
SSNN	**San Juan del S**	**1.99**	**330**	⇑*eP*	Pn	08 23 06.7	+1.7
CONN	**Concepcion**	**2.14**	**339**	⇑*eP*	Pn	08 23 09.0	+1.8
APON	**Apoyo**	**2.64**	**333**	*eP*	Pn	08 23 13.6	-0.5
MGAN	**Managua**	**2.92**	**332**	*i*	Pn	08 24 05.3	+47
	comp=E,97nm,0.5s						
COPN	**Copaltepe**	**3.13**	**327**	*eP*	Pn	08 23 20.2	-0.5
COPN				*e*S	Sn	08 23 57.4	-0.9
CHI2		**12.04**	**113**	*eP*		08 23 29.2	
LAPE	**La Pedrera**	**13.26**	**98**	*iP*		08 22 54.6	
LAPE				*i* S		08 23 13.9	

GUC 26 08:48:00.6±0.6, 3169S×7198W, h13km±7km, MD3.8, ML2.9, 4C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHNG	**Los Chungos**	**0.45**	**115**	⇑*iP*	Pg	08 47 51.2	-18
CHNG				*i* S	Sg	08 47 58.2	-17
CMCH	**Combarbala**	**0.98**	**58**	*iP*	Pb	08 48 18.1	-1.3
CMCH				*e*S	Sb	08 48 31.9	-0.3
CMCH				AML	AML	08 48 39.3	
	comp=E,1μm,0.7s						
PEL	**Peldehue**	**1.81**	**143**	*eP*	Pn	08 48 31.6	+0.2
PEL				*i* S	Sn	08 48 54.9	+0.6
PEL				AML	AML	08 49 02.5	
	comp=E,323nm,0.5s						
TLL	**Tololo Astrono**	**1.82**	**34**	*eP*	Pn	08 48 32.2	+0.6
TLL				*i* S	Sn	08 48 55.9	+1.4
TLL				AML	AML	08 49 11.9	
	comp=E,105nm,0.6s						
RCDM	**Rinconada Maip**	**2.04**	**151**	AML	AML	08 49 08.0	
	comp=E,88nm,0.6s						
CLCH	**Cerro Calan**	**2.09**	**145**	*eP*	Pn	08 48 36.1	+0.8
CLCH				*i* S	Sn	08 49 02.9	+1.8
CLCH				AML	AML	08 49 11.7	
	comp=N,153nm,0.5s						
TACH	**Talagante**	**2.14**	**156**	⇑*iP*	Pn	08 48 36.3	+0.3
TACH				*i* S	Sn	08 49 04.2	+1.8
FCH	**Farellones**	**2.16**	**139**	⇑*iP*	Pn	08 48 37.6	+1.3
FCH				*i* S	Sn	08 49 05.6	+2.7
FCH				AML	AML	08 49 15.5	
	comp=E,54nm,0.7s						
PCH	**Pirque**	**2.28**	**148**	⇑*iP*	Pn	08 48 39.3	+1.3
PCH				*i* S	Sn	08 49 08.3	+2.4
SJCH	**San Jose de Ma**	**2.38**	**145**	AML	AML	08 49 19.7	
	comp=N,54nm,0.6s						
LMEL	**Las Melosas**	**2.62**	**146**	AML	AML	08 49 30.0	
	comp=N,58nm,0.4s						

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*ISCJB **26** 08:57:12.8±2.6, 18S±05×1014E±07, h194km±25km, mb3.4/6, Error ellipse: s-maj=133.0km s-min=19.7km az=145.7*
*IDC **26** 08:57:14.5±2.8, 170S×10166E, h184km±31km, mb3.3/6, mb1 3.4/7, mb1mx3.2/20, mbtmp3.3/7, Error ellipse: s-maj=88.1km s-min=13.9km az=56.0*
ISC 26 08:57:13.5±2.6, 18S±05×1015E±07, h180km±26km, n7, σ0º80/7, mb3.6/6, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**5.24**	**331**	P	**Pn**	**08 58 30.7**	**0.0**
	0.9nm,0.3s,baz=153,slow=13,SNR=8.1						
WRA	**Warramunga Arr**	**36.83**	**122**	P	**P**	**09 04 03.6**	**-0.9**
	0.5nm,0.4s,mb3.5,baz=297,slow=11,SNR=14						
ASAR	**Alice Springs**	**38.18**	**127**	P	**P**	**09 04 15.9**	**0.0**
	0.9nm,0.5s,mb3.7,baz=302,slow=8.2,SNR=23						
STKA	**Stephens Creek**	**48.18**	**133**	P	**P**	**09 05 36.8**	**+0.9**
	0.9nm,0.4s,mb3.8,baz=315,slow=8.6,SNR=6.7						
SONM	**Songino Array**	**49.63**	**4**	P	**P**	**09 05 47.2**	**+0.6**
	1.0nm,0.5s,mb3.7,baz=189,slow=9.2,SNR=8.5						
MKAR	**Makanchi Array**	**51.26**	**343**	P	**P**	**09 05 58.4**	**-0.4**
	0.3nm,0.4s,mb3.3,baz=139,slow=8.0,SNR=5.4						
BVAR	**Borovoye Array**	**60.53**	**339**	P	**P**	**09 07 04.3**	**-0.2**
	0.3nm,0.4s,mb3.4,baz=151,slow=9.7,SNR=2.3						

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*NAO **26** 09:24:32.7±1.1, 5931N×2689E, ML2.2*
*BER **26** 09:24:33.2±2.6, 5935N×2705E, h0km, ML2.2(NAO), Suspected explosion*
HEL 26 09:24:33.6±0.1, 5931N×2716E, h0km, ML1.7, ML2.2(NAO), **Explosion, Baltic States - Belarus - Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VSU	**Vasula**	**0.87**	**195**	*eP*	Pg	09 24 49.3	-1.0
VSU				*e*S	Sg	09 25 00.5	-1.1
VJF	**Virojoki**	**1.25**	**9**	*eP*	Pg	09 24 55.8	-1.8
VJF				*e*SB	Sb	09 25 12.8	-2.0
VJF				MSG		09 25 12.8	
	comp=Z,3.2nm,0.2s						
MEF	**Metsahovi**	**1.67**	**304**	*e*PG	Pg	09 25 03.5	-2.1
MEF				*e*S	Sn	09 25 21.0	-5.2
MEF				MSG		09 25 21.0	
	comp=Z,14nm,0.4s						
FIA0	**FINESS Array S**	**2.21**	**346**	*eP*	Pn	09 25 10.9	-0.6
	baz=167						
FIA0				*e*SB	Sb	09 25 40.7	-1.6
FIA0				MSG		09 25 40.7	
	comp=Z,3.5nm,0.3s						
FIA0	**FINESS Array S**	**2.21**	**346**	Pn	Pn	09 25 11.0	-0.5
	baz=165,slow=18						
FIA0				Lg		09 25 41.0	
	baz=167,slow=28						
FIA0				Rg		09 25 51.6	
	baz=165,slow=37						
FIA1	**FINESS Array S**	**2.21**	**346**	*e*PB	Pb	09 25 12.3	-2.1
FIA1				*e*SG	Sg	09 25 41.8	-2.8
KEF	**Keuruu**	**3.08**	**340**	*e*PB	Pb	09 25 26.7	-2.6
RAF	**Rauma**	**3.20**	**305**	*eP*	Pn	09 25 26.1	+1.0
	baz=114						
HFS	**Hagfors**	**6.86**	**283**	*e*	Sn	09 27 24.1	-10
HFS				*e*SG	Sg	09 28 04.1	-10
HFS	**Hagfors**	**6.86**	**283**	Sn	Sn	09 27 24.1	-10
HFS				Lg		09 28 04.1	
	baz=91,slow=37						
ARA0	**ARCESS Array S**	**10.30**	**357**	Pn	Pn	09 26 59.6	-2.7
	baz=175,slow=14						
ARA0				Sn	Sn	09 28 48.0	-10
	baz=169,slow=28						
ARA0	**ARCESS Array S**	**10.30**	**357**	*eP*	Pn	09 26 59.6	-2.7
ARA0				*e*S	Sn	09 28 48.0	-10

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*ISCJB **26** 09:25:19.4±1.0, 6.12N±008×1270E±0.1, h197km±8km, mb4.1/16, Error ellipse: s-maj=24.8km s-min=8.7km az=157.6*
*NEIC **26** 09:25:19.4±0.4, 6.13N×127.13E, mb4.6/7, Error ellipse: s-maj=17.0km s-min=6.7km az=65.0*
*IDC **26** 09:25:21.4±2.4, 607N×12700E, h198km±22km, mb3.9/11, mb1 4.0/11, mb1mx3.7/21, mbtmp3.9/11, Error ellipse: s-maj=36.7km s-min=9.6km az=70.0*
*MAN **26** 09:25:22, 625N×12684E, h181km, mb4.6, ML3.5, MS3.5*
ISC 26 09:25:20.7±1.0, 611N±007×1270E±01, h191km±8km, n28, σ0º73/29, mb4.2/16, 3C, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**1.70**	**304**	*e*Pn	**Pn**	**09 25 56.7**	**+1.2**
DAV				*e*Sn	**Sn**	**09 26 21.5**	**+8.2**
BATI	**Kupang**	**16.55**	**192**	P	**Pn**	**09 29 03.8**	**+1.7**
	9.0nm,0.3s,baz=182,slow=1.7,SNR=3.5						
KSM	**Kuching**	**17.28**	**255**	*eP*	**Pn**	**09 29 10.4**	**-0.5**
KAKA	**Kakadu**	**19.46**	**164**	⇑*iP*	**P**	**09 29 33.1**	**0.0**
	69nm,0.6s						
FITZ	**Fitzroy Crossi**	**24.09**	**183**	⇑*iP*	**P**	**09 30 18.6**	**-0.3**
	7.1nm,0.6s,mb4.4						
FITZ	**Fitzroy Crossi**	**24.09**	**183**	P	**P**	**09 30 18.7**	**-0.2**
	3.0nm,0.5s,mb4.1,baz=10.0,slow=13,SNR=12						
WRAB	**Tennant Creek**	**26.87**	**165**	*eP*	**P**	**09 30 43.0**	**-0.8**
	11nm,0.8s,mb4.5						
WRAB				*e*pP	pP	09 31 18.8	-3.8
WRA	**Warramunga Arr**	**26.88**	**165**	P	**P**	**09 30 42.9**	**-1.1**
	4.4nm,0.6s,mb4.2,baz=348,slow=9.9,SNR=54						
WRA				ScP	ScP	09 37 22.4	-1.2
	0.2nm,0.7s,baz=345,slow=3.6,SNR=6.9						
WB2	**Warramunga Arr**	**26.88**	**165**	⇑*iP*	**P**	**09 30 42.8**	**-1.1**
PSI	**Prapat**	**28.18**	**265**	P	**P**	**09 30 55.5**	**-0.2**
PSI	**Prapat**	**28.18**	**265**	P	**P**	**09 30 55.5**	**-0.2**
	2.9nm,0.7s,mb4.1,baz=80,slow=11,SNR=3.6						
ASAR	**Alice Springs**	**30.35**	**167**	P	**P**	**09 31 14.3**	**-0.3**
	1.9nm,0.3s,mb4.3,baz=341,slow=7.1,SNR=22						
ASAR				ScP	ScP	09 37 33.0	-1.4
	0.4nm,0.6s,baz=330,slow=2.9,SNR=4.5						
FORT	**Forrest**	**36.69**	**178**	*eP*	**P**	**09 32 09.5**	**+0.2**
	26nm,0.6s,mb5.0						
MUN	**Mundaring**	**39.25**	**195**	*eP*	**P**	**09 32 31.2**	**+0.5**
NWAO	**Narrogin (SRO)**	**39.91**	**193**	P	**P**	**09 32 36.6**	**+0.5**
	2.4nm,0.5s,mb4.1,baz=30,slow=8.3,SNR=3.7						
STKA	**Stephens Creek**	**40.26**	**161**	*eP*	**P**	**09 32 38.9**	**-0.1**
	6.0nm,0.3s,mb4.7						
STKA	**Stephens Creek**	**40.26**	**161**	P	**P**	**09 32 39.0**	**0.0**
	12nm,0.5s,mb4.8,baz=338,slow=7.9,SNR=25						
ARMA	**Armidale**	**43.31**	**148**	*eP*	**P**	**09 33 04.2**	**+0.4**
SONM	**Songino Array**	**45.15**	**340**	P	**P**	**09 33 19.6**	**+1.4**
	0.3nm,0.5s,mb3.1,baz=155,slow=7.1,SNR=3.1						
CNB	**Canberra Magne**	**46.27**	**154**	*eP*	**P**	**09 33 27.8**	**+0.7**
	12nm,0.9s,mb4.5						
MK31	**Makanchi Array**	**55.78**	**324**	*eP*	**P**	**09 34 38.0**	**+0.2**
MK31				*e*pP	pP	09 35 19.9	-1.3
MKAR	**Makanchi Array**	**55.78**	**324**	P	**P**	**09 34 38.3**	**+0.5**
	1.5nm,0.4s,mb4.1,baz=112,slow=8.1,SNR=25						
ZALV	**Zalesovo Beam**	**58.61**	**332**	P	**P**	**09 34 57.0**	**-0.4**
	0.4nm,0.3s,mb3.7,baz=126,slow=6.1,SNR=2.3						
KURK	**Kurchatov**	**59.90**	**327**	*eP*	**P**	**09 35 06.6**	**+0.2**
	8.8nm,1.0s,mb4.5						
BVAR	**Borovoye Array**	**65.49**	**326**	P	**P**	**09 35 43.7**	**+0.4**
	3.0nm,0.7s,mb4.2,baz=119,slow=8.6,SNR=16						
AKTK	**Aktyubinsk**	**71.98**	**321**	P	**P**	**09 36 23.1**	**-0.3**
AKTO	**Aktyubinsk**	**71.98**	**321**	P	**P**	**09 36 23.1**	**-0.3**
	2.4nm,0.8s,mb4.0,baz=87,slow=9.5,SNR=8.6						
ARCES	**ARCESS Array B**	**88.32**	**340**	P	**P**	**09 37 48.9**	**-1.4**
	2.7nm,0.9s,mb4.1,baz=83,slow=7.7,SNR=4.1						

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*ISCJB **26** 09:33:27.8±5.1, 3171S±009×723W±02, h26km±40km, mb3.5/3, Error ellipse: s-maj=32.8km s-min=14.3km az=3.8*
*NEIC **26** 09:33:29.9±4.3, 3166S×7221W, h24km±32km, Error ellipse: s-maj=24.7km s-min=11.4km az=94.0*
*IDC **26** 09:33:32.3±4.2, 3167S×7206W, h40km±38km, mb3.4/3, mb1 3.6/7, mb1mx3.5/19, mbtmp3.5/7, ML3.7/3, Error ellipse: s-maj=38.8km s-min=23.5km az=93.0*
ISC 26 09:33:30.3±5.2, 3167S±009×722W±02, h26km±41km, n10, σ0º95/9, mb3.5/3, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCO	**Las Campanas**	**2.94**	**26**	*e*Pn	**Pn**	**09 34 14.6**	**-0.7**
CFAA	**Coronel Fontan**	**3.36**	**90**	Pn	**Pn**	**09 34 22.7**	**+1.6**
	1.5nm,0.3s,baz=260,slow=15,SNR=77						
PLCA	**Paso Flores**	**9.14**	**172**	Pn	**Pn**	**09 35 39.8**	**-0.7**
	0.4nm,0.3s,baz=352,slow=7.6,SNR=5.6						
LPAZ	**La Paz**	**15.75**	**14**	Pn	**Pn**	**09 37 11.1**	**+0.7**
LPAZ	**La Paz**	**15.75**	**14**	Pn	**Pn**	**09 37 11.1**	**+0.7**
	0.0nm,0.3s,baz=166,slow=6.2,SNR=4.5						
SIV	**San Ignacio**	**18.60**	**36**	P	**Pn**	**09 37 45.4**	**-0.6**
	0.1nm,0.3s,baz=242,slow=13,SNR=7.5						
BDFB	**Brasilia**	**27.19**	**60**	P	**P**	**09 39 10.4**	**-1.5**
	0.6nm,0.5s,mb3.4,baz=164,slow=25,SNR=4.8						
SNAA	**Sanae**	**53.79**	**158**	P	**P**	**09 42 50.3**	**+0.2**
	0.8nm,0.8s,mb3.7,baz=288,slow=6.7,SNR=6.4						
TXAR	**Lajitas Array**	**67.65**	**330**	P	**P**	**09 44 25.8**	**+0.9**
	0.2nm,0.6s,mb3.3,baz=144,slow=7.8,SNR=2.8						
ZALV	**Zalesovo Beam**	**152.29**	**30**	PKPab	PKPab	09 53 33.0	-0.1
	3.9nm,0.7s,baz=292,slow=3.3,SNR=12						

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*GUC **26** 09:34:15.8±0.7, 3151S×7163W, h25km±4km, MD4.6, ML4.9*
*ISCJB **26** 09:34:16.2±0.7, 3149S±002×7178W±009, h52km±6km, mb4.5/24, Error ellipse: s-maj=12.9km s-min=3.5km az=175.8*
*NEIC **26** 09:34:17.1±1.0, 3150S×7167W, h45km±8km, mb4.8/13, Error ellipse: s-maj=12.2km s-min=6.3km az=74.0*
*IDC **26** 09:34:17.7±2.4, 3150S×7166W, h51km±20km, mb4.3/14, mb1 4.4/19, mb1mx4.4/22, mbtmp4.3/19, ML4.4/5, MS4.2/2, Ms1 4.1/2, ms1mx3.5/18, Error ellipse: s-maj=20.2km s-min=12.4km az=76.0*
*BJI **26** 09:34:19.0, 3102S×7220W, h68km, mB4.9, Ms5.2, Msz5.0*
ISC 26 09:34:17.2±0.7, 3149S±002×7175W±009, h46km±6km, h36km±4.0km: pP-P, n117, σ1º00/76, mb4.6/23, 6C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHNG	**Los Chungos**	**0.45**	**152**	⇑*iP*	Px	09 34 04.9	
CHNG				*i* S	Sx	09 34 11.1	
CHNG				AML	AML	09 34 11.7	
	comp=E,105μm,0.6s						
CMCH	**Combarbala**	**0.71**	**64**	⇑*iP*	**Pn**	**09 34 28.0**	**-2.9**
CMCH				AML	AML	09 34 41.7	
	comp=E,152μm,0.4s						
OVCH	**Ovalle**	**0.99**	**28**	*i* P	**Pn**	**09 34 33.2**	**-1.6**
OVCH				*i* S	**Sn**	**09 34 46.5**	**-1.1**
OVCH				AML	AML	09 34 49.7	
	comp=N,76μm,0.2s						
PACH	**Papudo**	**1.08**	**166**	⇑*iP*	**Pn**	**09 34 34.2**	**-1.7**
TLL	**Tololo Astrono**	**1.55**	**32**	⇓*iP*	**Pn**	**09 34 42.3**	**0.0**
TLL				*i* S	**Sn**	**09 35 02.4**	**+1.2**
TLL				AML	AML	09 35 06.2	
	comp=E,24μm,0.4s						
LSCH	**La Serena**	**1.63**	**16**	⇓*iP*	**Pn**	**09 34 43.4**	**-0.1**
LSCH				*i* S	**Sn**	**09 35 04.4**	**+1.1**
LSCH				AML	AML	09 35 13.5	
	comp=E,5μm,0.7s						
PEL	**Peldehue**	**1.88**	**152**	*eP*	**Pn**	**09 34 47.3**	**+0.4**
PEL				*i* S	**Sn**	**09 35 09.8**	**+0.3**
PEL				AML	AML	09 35 19.2	
	comp=E,33μm,0.6s						
RCDM	**Rinconada Maip**	**2.15**	**158**	*eP*	**Pn**	**09 34 50.0**	**-0.6**
RCDM				AML	AML	09 35 24.2	
	comp=E,9μm,0.9s						
DSCH	**Colegio Aleman**	**2.15**	**153**	AML	AML	09 35 25.9	
	comp=E,4μm,0.4s						
STL	**Santa Lucia**	**2.16**	**155**	*eP*	**Pn**	**09 34 50.7**	**0.0**
STL				*i* S	**Sn**	**09 35 17.3**	**+1.1**
STL				AML	AML	09 35 24.6	
	comp=N,2μm,0.3s						
CLCH	**Cerro Calan**	**2.16**	**152**	*eP*	**Pn**	**09 34 50.8**	**0.0**
CLCH				*i* S	**Sn**	**09 35 17.5**	**+1.2**
CLCH				AML	AML	09 35 21.6	
	comp=N,27μm,0.5s						
CLCH				AML	AML	09 35 25.1	
	comp=E,23μm,0.6s						
FCH	**Farellones**	**2.21**	**146**	*eP*	**Pn**	**09 34 52.1**	**+0.7**
FCH				⇓*iP*		09 34 52.1	
FCH				*i* S	**Sn**	**09 35 18.9**	**+1.3**
FCH				AML	AML	09 35 25.7	
	comp=E,9μm,0.6s						
FSR	**Penalolen**	**2.24**	**153**	*eP*	**Pn**	**09 34 52.2**	**+0.4**
FSR				*i* S	**Sn**	**09 35 18.5**	**+0.3**
FSR				AML	AML	09 35 28.0	
	comp=N,23μm,0.7s						
TACH	**Talagante**	**2.27**	**163**	*eP*	**Pn**	**09 34 52.2**	**0.0**
ANTU	**Antumapu**	**2.28**	**156**	⇑*iP*	**Pn**	**09 34 52.2**	**-0.2**
ANTU				AML	AML	09 35 28.9	
	comp=N,14μm,0.5s						
YECH	**El Yeso**	**2.59**	**148**	AML	AML	09 35 39.7	
	comp=N,15μm,0.5s						
LCO	**Las Campanas**	**2.63**	**20**	*e*Pn	**Pn**	**09 34 55.9**	**-1.2**
LCO				*e*S	**Sn**	**09 35 30.5**	**+2.6**
LMEL	**Las Melosas**	**2.69**	**151**	AML	AML	09 35 39.4	
	comp=N,9μm,0.4s						
CFAA	**Coronel Fontan**	**3.00**	**93**	P	**Pn**	**09 35 03.6**	**+1.4**
	comp=N,36nm,0.3s,baz=261,slow=11,SNR=45						
CFAA				S	**Sn**	**09 35 41.9**	**+4.9**
	comp=N,93nm,0.3s,baz=85,slow=14,SNR=13						
CFAA				LR	LR	09 36 27.5	
	comp=N,399nm,21.0s,baz=345,slow=44						
VACH	**Vallenar**	**3.03**	**17**	*i* S	**Sn**	**09 35 41.4**	**+3.8**
CICH	**Cipreses**	**3.04**	**159**	*i* P	**Pn**	**09 35 02.5**	**-0.3**
PLCA	**Paso Flores**	**9.28**	**174**	*e*Pn	**Pn**	**09 36 27.2**	**-1.2**
	comp=N,10nm,0.7s						
PLCA	**Paso Flores**	**9.28**	**174**	P	**Pn**	**09 36 27.4**	**-1.0**
	comp=N,1.0nm,0.3s,baz=330,slow=11,SNR=11						
PLCA				LR	LR	09 40 00.4	
	comp=N,704nm,19.0s,baz=349,slow=37						
TRQA	**Tornquist**	**10.37**	**132**	*e*Pn	**Pn**	**09 36 41.7**	**-1.5**
TRQA				*e*Sn	**Sn**	**09 38 33.5**	**-4.4**
ARE	**Arequipa**	**14.96**	**1**	*eP*	**Pn**	**09 37 53.0**	**+7.3**
LPAZ	**

DBIC Dimbokro 74.15 72 P **P 09 45 48.7 -0.6**
comp=N,39nm,0.8s,mb5.4,baz=214,slow=6.1,SNR=47
LBNH Lisbon 75.36 360 *e*P **P 09 45 56.5 +1.0**
comp=N,17nm,0.8s,mb5.0
LBNH *e*pP pP 09 46 07.2 -1.7
MAW Mawson 75.52 164 P **P 09 45 56.2 -0.2**
comp=N,8.4nm,0.8s,mb4.7,baz=227,slow=8.4,SNR=13
SDCO Great Sand Dun 75.74 333 *e*P **P 09 45 59.3 +1.4**
comp=N,2.5nm,0.7s,mb4.2
SDCO *e*pP pP 09 46 08.3 -3.0
FRNY Flat Rock 75.97 359 *e*P **P 09 45 59.1 +0.1**
SMCO Snowmass 77.56 333 *e*P **P 09 46 09.7 +1.6**
comp=N,7.1nm,0.8s,mb4.7
RAR Rarotonga 77.62 253 LR LR 10 12 04.3
comp=N,242nm,18.6s,baz=79,slow=29
CCUT Cedar City 78.92 327 *e*P **P 09 46 17.6 +1.9**
SRU San Rafael 78.95 330 *e*P **P 09 46 16.8 +0.9**
TSUM Tsumeb 79.67 106 *e*P **P 09 46 20.1 -0.2**
comp=N,13nm,1.0s,mb4.8
BOSA Boshof 81.03 118 P **P 09 46 27.1 -0.4**
comp=N,15nm,0.9s,mb5.0,baz=233,slow=6.2,SNR=18
PDAR Pinedale Array 81.64 333 P **P 09 46 30.2 +0.1**
comp=N,0.7nm,0.7s,mb3.7,baz=131,slow=5.3,SNR=5.6
NVAR Mina Array Bea 81.97 325 P **P 09 46 33.5 +1.5**
comp=N,1.5nm,0.8s,mb4.0,baz=133,slow=5.6,SNR=6.6
ULM Lac du Bonnet 84.14 345 *e*P **P 09 46 42.3 -0.7**
comp=N,5.3nm,0.8s,mb4.7
ULM Lac du Bonnet 84.14 345 P **P 09 46 42.1 -0.9**
comp=N,5.5nm,0.8s,mb4.8,baz=160,slow=5.1,SNR=17
MCMT McKenzie Canyo 84.67 332 *e*P **P 09 46 46.9 +1.1**
MCMT *e*pP pP 09 46 57.6 -1.7
SCHQ Schefferville 86.07 3 P **P 09 46 52.2 -0.3**
SCHQ Schefferville 86.07 3 P **P 09 46 52.2 -0.3**
comp=N,7.0nm,1.1s,mb4.8,baz=121,slow=7.3,SNR=3.9
FFC Flin Flon 89.72 343 *e*P **P 09 47 09.1 -0.9**
LSZ Lusaka 90.36 108 *e*P **P 09 47 14.8 +0.8**
comp=N,6.5nm,0.8s,mb5.0
ESDC Sonseca Array 94.66 46 P **P 09 47 31.9 -1.3**
comp=N,0.2nm,0.3s,mb4.0,baz=235,slow=25,SNR=4.1
YKA Yellowknife Ar 99.76 341 P Pdif 09 47 55.0 -1.3
YKA Yellowknife Ar 99.76 341 P Pdif 09 47 55.0 -1.3
comp=N,0.4nm,0.7s,baz=141,slow=4.3,SNR=10
ASAR Alice Springs 119.91 207 PKP PKPdf 09 53 00.5 -2.7
comp=N,0.6nm,0.8s,baz=142,slow=2.5,SNR=5.0
KIEV Kiev 120.29 46 *e*PKPdf PKPdf 09 53 01.8 -1.0
AKASG Malin Array Be 120.30 46 PKP PKPdf 09 53 01.4 -1.4
AKASG Malin Array Be 120.30 46 PKP PKPdf 09 53 01.4 -1.4
comp=N,3.1nm,0.8s,baz=263,slow=3.0,SNR=13
AKBB Malin Array Si 120.30 46 *e*PKPdf PKPdf 09 53 01.1 -1.8
FINES FINESS Array B 120.78 34 PKP PKPdf 09 53 02.4 -1.1
comp=N,2.2nm,0.9s,baz=143,slow=1.0,SNR=4.5
ARCES ARCESS Array B 121.63 24 PKP PKPdf 09 53 04.5 -0.4
comp=N,1.9nm,0.7s,baz=259,slow=2.5,SNR=6.2
WRA Warramunga Arr 123.07 210 PKP PKPdf 09 53 08.2 -1.0
comp=N,1.7nm,0.7s,baz=156,slow=1.8,SNR=14
MALT Malatya 123.55 62 *e*PKPdf PKPdf 09 53 10.1 +0.5
ARU Arti 137.66 39 *e*PKPdf PKPdf 09 53 36.0 +0.3
BRVK Borovoye 145.18 41 *e*PKPdf PKPdf 09 53 49.5 +0.3
BVAR Borovoye Array 145.25 41 PKPbc PKPbc 09 53 49.6 +0.4
comp=N,26nm,0.6s,baz=295,slow=2.1,SNR=14
POO Poona 146.41 104 *e*x PKPdf 09 53 52.0 -0.4
YAK Yakutsk 146.44 342 *e*PKPdf PKPdf 09 53 52.7 +1.6
KBL Kabul 147.12 74 *e*PKPdf PKPdf 09 53 55.3 +2.2
HYB Hyderabad 149.67 111 *i*PKP PKPdf 09 53 57.0 -0.7
KSM Kuching 150.09 184 *e*PKPbc PKPbc 09 54 03.2 -0.4
KSM *e*PKPab PKPab 09 54 10.0 +0.6
PSI Prapat 150.14 161 PKPbc PKPbc 09 54 02.8 -1.0
comp=N,11nm,0.8s,baz=234,slow=3.8,SNR=11
PSI PKPab PKPab 09 54 09.2 -0.4
comp=N,16nm,0.8s,baz=251,slow=2.1,SNR=9.9
ASAJ Asahikawa 150.30 305 PKPbc PKPbc 09 54 03.0 -0.1
comp=N,14nm,0.9s,baz=256,slow=6.2,SNR=4.3
ASAJ PKPab PKPab 09 54 10.4 +0.8
comp=N,11nm,0.8s,baz=304,slow=19,SNR=3.5
EKS2 Erkin-Say 150.51 58 *e*PKPbc PKPbc 09 54 04.5 +0.8
EKS2 Erkin-Say 150.51 58 P PKPbc 09 54 04.3 +0.6
SNR=15
AML Almayashu 150.54 59 *e*PKPdf PKPdf 09 53 59.1 +0.8
AML *e*PKPbc PKPbc 09 54 04.6 +0.8
AML Almayashu 150.54 59 P PKPbc 09 54 04.5 +0.6
SNR=10.0
NVS Novosibirsk 150.67 30⇑ *i*P PKPbc 09 54 03.6 -0.1
NVS pmax pmax
comp=Z,59nm,0.9s
NVS pmax pmax
comp=E,21nm,1.1s
KURK Kurchatov 150.84 40 *e*PKPdf PKPdf 09 53 58.6 +0.1
KURK *e*PKPbc PKPbc 09 54 04.4 +0.1
USP Ospenovka 150.91 57 P PKPbc 09 54 05.1 +0.4
SNR=13
AAK Ala-Archa 151.03 58 *e*PKPdf PKPdf 09 53 59.2 0.0
AAK *e*PKPbc PKPbc 09 54 04.8 -0.1
AAK Ala-Archa 151.03 58 PKP PKPdf 09 53 59.5 +0.4
comp=E,1.8nm,0.7s,baz=247,slow=7.7,SNR=1.2
AAK PKPbc PKPbc 09 54 05.0 +0.1
comp=E,16nm,0.7s,baz=203,slow=4.6,SNR=6.0
AAK Ala-Archa 151.03 58 P PKPbc 09 54 06.0 +1.0
SNR=12
UCH Uchtor 151.13 59 *e*PKPdf PKPdf 09 54 01.0 +1.7
UCH *e*PKPbc PKPbc 09 54 06.5 +1.3
UCH Uchtor 151.13 59 P PKPbc 09 54 06.4 +1.2
SNR=19
KZA Kyzart 151.69 59 P PKPbc 09 54 07.7 +1.2
SNR=7.0
TKM2 Tokmak 2 151.77 57 *e*PKPdf PKPdf 09 54 00.9 +0.6
TKM2 *e*PKPbc PKPbc 09 54 07.0 +0.3
TKM2 *e*PKPab PKPab 09 54 16.0 +0.3
TKM2 Tokmak 2 151.77 57 P PKPbc 09 54 07.2 +0.5
SNR=7.8
ZAA0 Zalesovo Array 151.95 30 *e*PKPbc PKPbc 09 54 06.8 +0.1
ZALV Zalesovo Beam 151.95 30 PKP PKPdf 09 54 00.3 +0.2
comp=E,3.8nm,0.8s,baz=263,slow=1.2,SNR=6.0
ZALV PKPbc PKPbc 09 54 06.8 +0.1
comp=E,96nm,0.6s,baz=301,slow=3.1,SNR=131
ZALV PKPab PKPab 09 54 16.1 0.0
comp=E,9.7nm,0.5s,baz=318,slow=3.2,SNR=6.5
MKAR Makanchi Array 154.88 45 PKPbc PKPbc 09 54 13.2 -0.1
comp=E,5.7nm,0.7s,baz=324,slow=2.2,SNR=18
MKAR PKPab PKPab 09 54 28.7 0.0
comp=E,5.3nm,0.8s,baz=294,slow=3.9,SNR=9.8
SONM Songino Array 163.61 4 PKP PKPdf 09 54 14.7 0.0
comp=E,0.9nm,0.9s,baz=66,slow=5.0,SNR=3.7
SONM PKPab PKPab 09 55 07.0 +0.6
comp=E,1.0nm,0.8s,baz=356,slow=3.7,SNR=3.8
BJI Beijing 169.31 325 PKP PKPdf 09 54 18.5 -0.9
BJI PP PP 09 59 19.0 -2.3
BJI LR LR
comp=N,262nm,16.1s
BJI LR LR
comp=E,256nm,12.9s
HHC Hu-ho-hao-te 170.28 345 *e*PKP PKPdf 09 54 18.5 -1.4
HHC PKS 09 57 51.8
HHC PP PP 09 59 26.3 +0.6
HHC SKS SKSdf 10 01 17.0 -2.6
HHC PP PP
comp=Z,114nm,5.3s
HHC LR LR
comp=N,161nm,20.1s
HHC LR LR
comp=E,98nm,13.2s
HHC LR LR
comp=Z,113nm,7.1s
KMI Kunming 172.01 141 PKP PKPdf 09 54 24.0 +2.7
LZH Lanzhou 174.13 37 *e*PKP PKPdf 09 54 23.5 +1.7
GYA Guiyang 174.80 164 *e*PKP PKPdf 09 54 21.0 -1.3
GYA PKP2 PKPab 09 55 58.5 +2.0
GYA PKS 09 57 53.0
GYA PP PP 09 59 51.5 +3.6
GYA SKS SKSdf 10 01 19.3 -2.5
GYA PP PP
comp=Z,110nm,8.4s
GYA LR LR
comp=N,280nm,23.4s
GYA LR LR
comp=E,310nm,25.2s
GYA LR LR
comp=Z,240nm,24.6s
CD2 Chengdu 176.11 97 *e*PKP PKPdf 09 54 22.0 -0.5
CD2 PKP2 PKPab 09 56 03.5 +0.9
CD2 PP PP 09 59 57.8 +1.8
CD2 PP PP
comp=Z,120nm,10.2s

CSEM ***26*** *09:38:56.8±0.2, 3655N×2883E, h21km±1km, MD2.9, Error ellipse: s-maj=5.0km s-min=2.2km az=9.0*
ISCJB ***26*** *09:38:57.7±0.8, 3654N±007×2888E±005, h27km±5km, Error ellipse: s-maj=12.3km s-min=6.1km az=7.4*
ISK ***26*** *09:38:57.0, 3657N×2886E, h23km, MD2.9*
DDA ***26*** *09:38:58.5, 3647N×2869E, h7km±5km, Md2.9*
ISC 26 09:38:57.8±0.8, 3653N±007×2887E±005, h24km±6km, n15, σ0§60/24, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FETY	**Fethiye**	**0.20**	**59**	PG	**Pb**	**09 39 02.5**	**-0.8**
FETY				*e*SG	**Sb**	**09 39 07.0**	**-0.1**
AKAS	**Kas**	**0.67**	**116**	*i*P	**Pb**	**09 39 11.6**	**+0.9**
AKAS				*i*S	**Sb**	**09 39 24.7**	**+5.2**
YER	**Yerkesik**	**0.76**	**322**	*e*PG	**Pb**	**09 39 11.9**	**-0.4**
YER				*e*SG	**Sb**	**09 39 23.0**	**+0.6**
ELL	**Elmali**	**0.86**	**75**	*e*PG	**Pb**	**09 39 14.6**	**+0.5**
GOLH	**Golhisar**	**0.90**	**38**	*i*P	**Pb**	**09 39 14.7**	**+0.1**
GOLH				*i*S	**Sb**	**09 39 31.3**	**+5.2**
DAT	**Datca**	**1.06**	**281**	*e*PG	**Pn**	**09 39 16.8**	**-0.3**
DAT				*e*SG	**Sb**	**09 39 30.9**	**+0.1**
MLSB	**Milas**	**1.16**	**311**	*e*PN	**Pn**	**09 39 17.7**	**-0.8**
DENT	**Denizli**	**1.23**	**6**	*e*PN	**Pn**	**09 39 18.8**	**-0.5**
BDRM	**Kayabasi**	**1.26**	**295**	*i*P	**Pn**	**09 39 20.0**	**+0.1**
BDRM				*i*S	**Sn**	**09 39 35.9**	**-0.2**
BODT	**Bodrum**	**1.36**	**293**	*e*PN	**Pn**	**09 39 20.9**	**-0.3**
BODT				*e*SN	**Sn**	**09 39 38.2**	**-0.2**
AYDN	**Tasoluk**	**1.38**	**325**	*i*P	**Pn**	**09 39 22.6**	**+1.2**
AYDN				*i*S	**Sn**	**09 39 40.1**	**+1.2**
AYDN	**Tasoluk**	**1.38**	**325**	*i*P	**Pn**	**09 39 22.6**	**+1.1**
AYDN				*i*S	**Sn**	**09 39 40.1**	**+1.2**
ISP	**Isparta**	**1.85**	**45**	*e*PN	**Pn**	**09 39 28.1**	**+0.2**
KHL	**Karahalli**	**1.86**	**16**	*e*PN	**Pn**	**09 39 27.3**	**-0.9**
KULA	**Kula-Manisa**	**1.98**	**355**	*e*PN	**Pn**	**09 39 29.3**	**-0.5**

IDC ***26*** *09:39:50.8±0.5, 1810S×17309E, h0km, mb5.0/19, mb1 5.1/20, mb1mx5.1/21, mbtmp5.0/20, ML4.8/1, MS4.5/23, Ms1 4.5/23, ms1mx4.5/27, Error ellipse: s-maj=11.8km s-min=10.4km az=101.0*
LDG ***26*** *09:39:51.2±0.1, 1817S×17282E, h10km, Mb5.7/2, Ms4.8/9, Error ellipse: s-maj=14.6km s-min=4.1km az=136.0*
ISCJB ***26*** *09:39:53.4±0.2, 1814S±004×17287E±003, h23km, mb5.2/91, MS4.7/56, Error ellipse: s-maj=6.1km s-min=4.5km az=165.5*
BJI ***26*** *09:39:53.6, 1754S×17282E, h9km, mB5.5, mb5.2, Ms5.0, Msz4.7*
SZGRF ***26*** *09:39:54.2, 1895S×17307E, h21km, mb5.0, Fiji Islands region*
NEIC ***26*** *09:39:55.1±0.1, 1810S×17293E, mb5.3/55, MS5.0/5, MW5.3, Error ellipse: s-maj=7.4km s-min=4.7km az=147.0, Moment Tensor Solution. s10 Moment tensor: Scale 1017Nm; Mrr=1.06; Mθθ0.78; Mφφ0.28; Mrθ-0.30; Mθφ0.62; Mφr-0.06; Best double couple: M0=1.20000×1017 NP1: φs229.00000°, δ38.00000°, λ-101.00000°. NP2: φs62.00000°, δ52.00000°, λ-82.00000°. Principal axes: T 1.2400, Plg7.0000°, Azm147.0000°; N -0.1300, Plg7.0000°, Azm237.0000°; P -1.1100, Plg80.0000°, Azm10.0000°;*
GCMT ***26*** *09:39:55.1±0.1, 1805S×17295E, h12km, MW5.4/107, Moment Tensor Solution. s90,c160; s107,c207; Duration: 1s2 Moment tensor: Scale 1017Nm; Mrr-1.50±.02; Mθθ1.61±.02; Mφφ-0.10±.02; Mrθ-0.25±.05; Mθφ0.01±.02; Mφr-0.08±.06; Best double couple: M0 1.57700×1017 NP1:φs273.00000°, δ41.00000°, λ-85.00000°. NP2:φs86.00000°, δ50.00000°, λ-94.00000°. Principal axes: T 1.6300, Plg5.0000°, Azm179.0000°; N -0.0990, Plg3.0000°, Azm89.0000°; P -1.5240, Plg84.0000°, Azm324.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
MOS ***26*** *09:39:56.1±1.6, 1789S×17279E, h33km, mb5.6/32, MS4.9/20 Error ellipse: s-maj=8.9km s-min=8.6km az=36.8*
ISC 26 09:39:55.2±0.2, 1813S±004×17293E±003, h25km, h25km±.6km:pP-P, n506, σ0§80/219, mb5.2/91, MS4.7/56, 30C-39D, Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FUNA	**Funafuti**	**11.33**	**33**	*e*Pn	**Pn**	**09 42 32.3**	**-3.4**
532nm,1.7s							
RAO	**Raoul Island**	**13.88**	**145**	LR	LR	09 47 23.0	
comp=Z,4μm,20.9s,baz=320,slow=33							
HNR	**Honiara**	**15.28**	**303**	*e*Pn	**Pn**	**09 43 28.8**	**-0.6**
222nm,1.1s							
HNR	**Honiara**	**15.28**	**303**	*e*P	**Pn**	**09 43 28.8**	**-0.7**
HNR				pmax	pmax		
comp=Z,222nm,1.1s							
HNR	**Honiara**	**15.28**	**303**	Pn	**Pn**	**09 43 28.4**	**-1.1**
comp=Z,4.2nm,0.3s,baz=261,slow=5.1,SNR=2.3							
HNR				Sn	**Sn**	**09 46 18.3**	**+0.2**
comp=Z,3.9nm,0.3s,baz=84,slow=3.6,SNR=1.7							
HNR				LR	LR	09 48 35.3	
comp=Z,658nm,20.0s,baz=170,slow=34							
AFI	**Afiamalu**	**15.29**	**76**	*e*Pn	**Pn**	**09 43 30.3**	**+0.7**
comp=Z,112nm,1.0s							
AFI	**Afiamalu**	**15.29**	**76**	*e*P	**Pn**	**09 43 30.3**	**+0.7**
AFI				pmax	pmax		
comp=Z,112nm,1.0s							
URZ	**Urewera**	**20.38**	**171**	P	**P**	**09 44 31.0**	**+0.8**
comp=Z,69nm,1.1s,baz=24,slow=6.1,SNR=15							
URZ				S	**S**	**09 48 23.9**	**+6.5**
comp=Z,0.8nm,0.4s,baz=215,slow=12,SNR=2.4							
URZ				LR	LR	09 50 42.2	
comp=Z,3μm,18.8s,MS4.7,baz=290,slow=32							
EIDS	**Eidsvold**	**21.51**	**247**	*e*P	**P**	**09 44 43.8**	**+1.3**
comp=Z,23nm,1.3s,mb4.5							
ARMA	**Armidale**	**22.90**	**234**	*e*P	**P**	**09 44 59.2**	**+2.0**
SNZO	**South Karori**	**23.15**	**177**	*e*P	**P**	**09 45 00.4**	**+0.6**
comp=Z,76nm,1.2s,mb5.0							
THZ	**Tophouse**	**23.55**	**180**	*e*P	**P**	**09 45 03.6**	**-0.3**
WVZ	**Waitaha Valley**	**24.93**	**184**	*e*P	**P**	**09 45 16.3**	**-0.2**
CTA	**Charters Tower**	**25.27**	**261**	⇓*i*P	**P**	**09 45 20.7**	**+0.9**
comp=Z,26nm,0.8s,mb4.8							
CTA	**Charters Tower**	**25.27**	**261**	⇓*i*P	**P**	**09 45 20.7**	**+0.9**
CTA				pmax	pmax		
comp=Z,26nm,0.8s							
CTA	**Charters Tower**	**25.27**	**261**	P	**P**	**09 45 20.6**	**+0.8**
comp=Z,32nm,0.8s,mb4.9,baz=85,slow=11,SNR=34							
CTA				PcP	PcP	09 48 52.5	-0.3
comp=Z,5.3nm,0.9s,baz=45,slow=4.3,SNR=3.5							
CTA				S	**S**	**09 49 50.0**	**+5.7**
comp=Z,1.2nm,0.7s,baz=234,slow=13,SNR=1.8							
CTA				LR	LR	09 53 32.6	
comp=Z,217nm,20.7s,MS3.6,baz=103,slow=32							
CTAO	**Charters Tower**	**25.27**	**261**	*e*P	**P**	**09 45 20.4**	**+0.7**
comp=Z,41nm,0.9s,mb5.0							
CTAO				*e*pP	pP	09 45 27.6	+0.6
CTAO	**Charters Tower**	**25.27**	**261**	*e*P	**P**	**09 45 20.4**	**+0.6**
CTAO				*e**PP	pP	09 45 27.6	+0.6
CTAO				pmax	pmax		
comp=Z,41nm,0.9s,mb5.0							
RPZ	**Rata Peaks**	**25.55**	**183**	P	**P**	**09 45 23.1**	**+1.0**
comp=Z,8.7nm,0.8s,mb4.3,baz=3.4,slow=20,SNR=4.3							
RPZ				S	**S**	**09 49 54.4**	**+6.1**
comp=Z,5.0nm,0.5s,baz=297,slow=16,SNR=4.5							
RPZ				LR	LR	09 53 58.1	
comp=Z,3μm,21.6s,MS4.8,baz=326,slow=33							
CNB	**Canberra Magne**	**27.02**	**226**	*e*P	**P**	**09 45 36.3**	**+0.9**
comp=Z,32nm,1.1s,mb4.8							
STKA	**Stephens Creek**	**31.39**	**238**	*e*P	**P**	**09 46 14.8**	**+0.5**
comp=Z,11nm,1.1s,mb4.6							
STKA	**Stephens Creek**	**31.39**	**238**	P	**P**	**09 46 14.9**	**+0.6**
comp=Z,13nm,1.1s,mb4.7,baz=72,slow=8.4,SNR=10							
STKA				PcP	PcP	09 49 06.9	-0.8
comp=Z,7.7nm,1.1s,baz=8.1,slow=6.5,SNR=4.0							
STKA				S	**S**	**09 51 27.9**	**+7.4**
comp=Z,1.9nm,1.0s,baz=313,slow=20,SNR=2.3							
STKA				LR	LR	09 58 06.0	
comp=Z,1μm,18.2s,MS4.7,baz=67,slow=35							
TBI	**Tubuai**	**35.49**	**105**	*e*S	**S**	**09 52 14.1**	**-10**
comp=Z,250nm,30.2s							
TBI				*e*LQ		09 54 31.7	
comp=Z,1μm,32.0s							
TBI				*e*LR	LR	09 55 56.4	
comp=Z,880nm,32.2s							
PAE	**Paea**	**35.64**	**95**	*e*P	**P**	**09 46 47.9**	**-3.6**
comp=Z,140nm,1.4s,mb5.7							
PAE	**Paea**	**35.64**	**95**	*e*P	**P**	**09 46 47.9**	**-3.6**
PAE				pmax	pmax		
comp=Z,140nm,1.4s,mb5.7							
PPT	**Papeete**	**35.66**	**95**	*e*P	**P**	**09 46 48.6**	**-3.1**
comp=Z,43nm,1.2s,mb5.3							
PPT				*e*S	**S**	**09 52 19.2**	**-7.7**
comp=Z,298nm,26.2s							
PPT				*e*LR	LR	09 56 21.9	
comp=Z,885nm,29.8s							
PPT	**Papeete**	**35.66**	**95**	P	**P**	**09 46 49.4**	**-2.2**
comp=Z,13nm,0.6s,mb5.0,baz=250,slow=13,SNR=3.7							
PPT				LR	LR	09 56 47.6	
comp=Z,309nm,21.2s,MS4.0,baz=260,slow=29							
WB2	**Warramunga Arr**	**36.46**	**261**	*e*P	**P**	**09 46 57.3**	**-1.2**
WB2				*e*PcP	PcP	09 49 21.9	-0.4
WRAB	**Tennant Creek**	**36.46**	**261**	P	**P**	**09 46 57.0**	**-1.5**
comp=Z,130nm,0.7s,mb6.0,SNR=9.8							
WRAB	**Tennant Creek**	**36.46**	**261**	*e*P	**P**	**09 46 57.2**	**-1.3**
comp=Z,24nm,1.0s,mb5.1							
WRAB				*e*pP	pP	09 47 04.2	-1.7
WRAB				*e*PcP	PcP	09 49 21.8	-0.6
WRAB	**Tennant Creek**	**36.46**	**261**	*e*P	**P**	**09 46 57.2**	**-1.3**
WRAB				*e**PP	pP	09 47 04.2	-1.7
WRAB				*e*		09 49 21.8	
WRAB				pmax	pmax		
comp=Z,24nm,1.0s,mb5.1							
WRA	**Warramunga Arr**	**36.47**	**261**	P	**P**	**09 46 57.4**	**-1.2**
WRA						09 49 21.4	
WRA	**Warramunga Arr**	**36.47**	**261**	P	**P**	**09 46 57.4**	**-1.2**
comp=Z,17nm,0.9s,mb5.0,baz=92,slow=9.0,SNR=101							
WRA				PcP	PcP	09 49 21.4	-1.0
comp=Z,13nm,1.1s,baz=86,slow=2.7,SNR=13							
WRA				LR	LR	10 01 23.8	
comp=Z,219nm,18.3s,MS4.0,baz=75,slow=35							
ASAR	**Alice Springs**	**36.79**	**255**	P	**P**	**09 47 00.8**	**-0.5**
comp=Z,33nm,0.9s,mb5.2,baz=83,slow=8.5,SNR=237							
ASAR				PcP	PcP	09 49 22.3	-1.0
comp=Z,13nm,0.9s,baz=97,slow=3.1,SNR=21							
PMOR	**Pomariorio Ree**	**37.64**	**91**	*e*P	**P**	**09 47 05.2**	**-3.4**
comp=Z,67nm,1.3s,mb5.2							
KAKA	**Kakadu**	**39.34**	**272**	*e*P	**P**	**09 47 22.2**	**-0.7**
comp=Z,22nm,1.0s,mb4.8							
GUMO	**Guam**	**41.95**	**317**	LR	LR	10 02 56.5	
comp=Z,645nm,19.2s,MS4.5,baz=134,slow=33							
FORT	**Forrest**	**42.47**	**244**	*e*P	**P**	**09 47 48.2**	**-0.4**
comp=Z,49nm,1.1s,mb5.0							
FITZ	**Fitzroy Crossi**	**44.84**	**262**	⇓*i*P	**P**	**09 48 07.8**	**0.0**
comp=Z,80nm,1.0s,mb5.5							
FITZ	**Fitzroy Crossi**	**44.84**	**262**	P	**P**	**09 48 07.9**	**+0.2**
comp=Z,52nm,1.0s,mb5.3,baz=100,slow=10.0,SNR=56							
FITZ				LR	LR	10 04 25.7	
comp=Z,348nm,21.5s,MS4.2,baz=277,slow=33							
RKT	**Rikitea**	**48.81**	**105**	*e*LR	LR	10 02 05.9	
comp=Z,694nm,32.5s							
MBWA	**Marble Bar**	**50.00**	**257**	*e*P	**P**	**09 48 47.7**	**-0.2**
comp=Z,45nm,1.0s,mb5.5							
MBWA				*e*pP	pP	09 48 54.9	-0.6
KLBR	**Kellerberrin**	**51.34**	**244**	*e*P	**P**	**09 48 56.9**	**-1.0**
comp=Z,61nm,1.2s,mb5.4							
NWAO	**Narrogin (SRO)**	**51.82**	**242**	*e*P	**P**	**09 49 01.7**	**+0.3**
comp=Z,32nm,1.1s,mb5.2							
NWAO				*e*pP	pP	09 49 08.6	-0.5
NWAO	**Narrogin (SRO)**	**51.82**	**242**	*e*P	**P**	**09 49 01.7**	**+0.3**
NWAO				*e**PP	pP	09 49 08.6	-0.5
NWAO				pmax	pmax		
comp=Z,31nm,1.1s							
MYLDM	**Lahad Datu**	**58.45**	**288**	⇓P	**P**	**09 49 50.7**	**+1.2**
TSM	**Tawau**	**58.65**	**287**	⇑P	**P**	**09 49 51.2**	**+0.2**
VNDA	**Vanda**	**59.67**	**183**	*e*P	**P**	**09 49 56.0**	**-1.0**
comp=Z,12nm,1.6s,mb4.7							
VNDA				*e*PcP	PcP	09 50 43.3	-0.6
VNDA	**Vanda**	**59.67**	**183**	*e*P	**P**	**09 49 56.0**	**-1.1**
VNDA				*e*		09 50 43.3	
VNDA				pmax	pmax		
comp=Z,12nm,1.6s							
VNDA	**Vanda**	**59.67**	**183**	P	**P**	**09 49 55.1**	**-2.0**
comp=Z,1.4nm,0.9s,mb4.0,baz=351,slow=8.4,SNR=4.2							
SDKM	**Sandakan**	**59.82**	**288**	⇓P	**P**	**09 49 59.0**	**0.0**
SBA	**Scott Base**	**59.83**	**182**	*e*P	**P**	**09 49 58.4**	**+0.2**
comp=Z,18nm,1.5s,mb4.9							
SBA				*e*pP	pP	09 50 05.8	0.0
SBA	**Scott Base**	**59.83**	**182**	*e*P	**P**	**09 49 58.4**	**+0.3**
SBA				*e**PP	pP	09 50 05.8	-0.1
SBA				pmax	pmax		
comp=Z,18nm,1.5s,mb4.9							
JHJ	**Hachijo jima 2**	**60.00**	**328**	LR	LR	10 10 03.3	
comp=Z,539nm,21.5s,MS4.7,baz=130,slow=30							
KKM	**Kota Kinabalu**	**60.88**	**288**	⇓P	**P**	**09 50 06.6**	**+0.4**
JOW	**Kunigami**	**62.25**	**315**	LR	LR	10 12 18.4	
comp=Z,560nm,20.9s,MS4.7,baz=134,slow=31							
BTM	**Bintulu**	**62.62**	**284**	⇓P	**P**	**09 50 18.3**	**+0.3**
SBUM	**Sibu**	**63.14**	**282**	⇓P	**P**	**09 50 22.0**	**+0.4**
MJAR	**Matsushiro Arr**	**63.51**	**329**	P	**P**	**09 50 23.2**	**-0.2**
MJAR				S	**S**	**09 59 00.0**	**+4.6**
MJAR	**Matsushiro Arr**	**63.51**	**329**	P	**P**	**09 50 23.2**	**-0.2**
comp=Z,20nm,1.1s,mb5.0,baz=160,slow=6.5,SNR=19							
MJAR				S	**S**	**09 58 60.0**	**+4.6**
comp=Z,1.4nm,1.0s,baz=324,slow=47,SNR=2.5							
MJAR				LR	LR	10 13 05.7	
comp=Z,427nm,21.6s,MS4.6,baz=60,slow=31							
MAJO	**Matsushiro**	**63.51**	**329**	*e*P	**P**	**09 50 23.2**	**-0.3**
comp=Z,54nm,1.4s,mb5.4							
MAJO	**Matsushiro**	**63.51**	**329**	*e*P	**P**	**09 50 23.2**	**-0.3**
MAJO				pmax	pmax		
comp=Z,54nm,1.4s,mb5.4							
KSM	**Kuching**	**64.58**	**281**	*e*P	**P**	**09 50 30.8**	**-0.2**
KSM				*e*pP	pP	09 50 37.1	-1.7
KSM	**Kuching**	**64.58**	**281**	⇑P	**P**	**09 50 30.9**	**-0.1**
JNU	**Nakatsue**	**64.89**	**322**	P	**P**	**09 50 32.5**	**-0.1**
JNU				S	**S**	**09 59 18.3**	**+5.7**
JNU				LR	LR	10 13 32.2	
JNU	**Nakatsue**	**64.89**	**322**	P	**P**	**09 50 32.5**	**-0.1**
comp=Z,26nm,1.1s,mb5.2,baz=134,slow=4.8,SNR=8.8							
JNU				S	**S**	**09 59 18.3**	**+5.7**
comp=Z,2.2nm,0.8s,baz=301,slow=44,SNR=2.2							
JNU				LR	LR	10 13 32.2	
comp=Z,280nm,20.5s,MS4.4,baz=119,slow=31							
ASAJ	**Asahikawa**	**67.88**	**337**	LR	LR	10 15 08.0	
comp=Z,798nm,20.8s,MS4.9,baz=29,slow=31							
KSRS	**Korea Array**	**69.65**	**323**	P	**P**	**09 51 03.0**	**+0.3**
comp=Z,5.5nm,1.0s,mb4.4,baz=140,slow=6.5,SNR=19							
KSRS				LR	LR	10 19 44.1	
comp=Z,199nm,18.4s,MS4.4,baz=131,slow=34							
SSE	**Sheshan**	**69.75**	**314**	P	**P**	**09 51 02.0**	**-1.4**
SSE				XP	sP	09 51 15.0	+0.8
SSE				S	S	10 00 09.0	-2.2
SSE				SS	SS	10 04 39.5

PET			pmax	pmax		
	comp=Z,300nm,4.3s					
PET			MLR	MLR		
	comp=Z,600nm,13.0s,MS5.0					
PET			MLR	MLR		
	comp=Z,500nm,21.0s					
QIZ	**Qiongzhong**	**72.12 298**	P	**P**	**09 51 20.0**	**+1.9**
QIZ			XP	sP	09 51 27.5	-1.4
QIZ			LR	LR		
	comp=N,188nm,14.2s					
KTGM	**Kuala Trenggan**	**72.63 282**	⇓P	**P**	**09 51 22.1**	**+0.8**
FRIM	**Kepong**	**73.32 279**	⇓P	**P**	**09 51 24.8**	**-0.6**
MDJ	**Mudanjiang**	**73.89 329**	P	**P**	**09 51 28.5**	**+0.5**
MDJ			AP	pP	09 51 35.0	-0.9
MDJ			XP	sP	09 51 37.8	-1.0
MDJ			S	S	10 00 59.8	+1.5
MDJ			XS	sS	10 01 11.0	-0.3
MDJ			SCS	ScS	10 01 37.0	+0.8
MDJ			AMB	AMB		
	comp=Z,21nm,1.5s,mb4.8					
MDJ			AMB	AMB		
	comp=Z,173nm,5.1s					
MDJ			LR	LR		
	comp=N,228nm,32.4s,MS4.5					
MDJ			LR	LR		
	comp=E,310nm,35.6s,MS4.5					
MDJ			LR	LR		
	comp=Z,401nm,35.6s,MS4.5					
MDJ	**Mudanjiang**	**73.89 329**	*e*P	**P**	**09 51 29.0**	**+1.0**
	comp=Z,19nm,1.1s,mb4.9					
MDJ			*e*pP	pP	09 51 35.9	0.0
WHN	**Wuhan**	**74.26 310**	⇓P	**P**	**09 51 31.0**	**+0.5**
WHN			AMB	AMB		
	comp=Z,82nm,1.1s,mb5.6					
WHN			AMB	AMB		
	comp=Z,714nm,5.0s					
WHN			LR	LR		
	comp=Z,728nm,21.1s,MS4.9					
IPM	**Ipoh**	**74.30 280**	⇓P	**P**	**09 51 31.4**	**+0.2**
DL2	**Dalian**	**74.31 321**	*i* P	**P**	**09 51 31.3**	**+0.7**
DL2			S	S	10 01 08.5	+5.2
DL2			SS	SS	10 05 47.5	-2.5
DL2			AMB	AMB		
	comp=Z,30nm,0.9s,mb5.2					
DL2			AMB	AMB		
	comp=Z,180nm,3.7s					
DL2			LR	LR		
	comp=N,130nm,16.2s,MS4.5					
DL2			LR	LR		
	comp=E,160nm,15.5s,MS4.5					
DL2			LR	LR		
	comp=Z,240nm,17.0s,MS4.6					
HABR	**Khabarovsk**	**74.42 335**	*e*P	**P**	**09 51 29.2**	**-1.8**
HABR			*e**SP	sP	09 51 44.8	+3.0
HABR			*e*PPP		09 56 01.3	
HABR			*e*S	S	10 01 03.1	-1.0
HABR			*e*		10 01 38.3	
HABR			*e*SS	SS	10 05 50.7	-0.5
HABR			pmax	pmax		
	comp=Z,91nm,1.7s,mb5.4					
KULM	**Kulim**	**74.93 281**	⇓P	**P**	**09 51 35.0**	**+0.1**
CN2	**Changchun**	**75.40 327**	*e*P	**P**	**09 51 37.0**	**+0.2**
CN2			*e*AP	pP	09 51 43.0	-1.7
CN2			PCP	PcP	09 51 50.5	+0.6
CN2			*e*S	S	10 01 15.3	0.0
CN2			AMB	AMB		
	comp=Z,40nm,1.3s,mb5.2					
CN2			AMB	AMB		
	comp=Z,400nm,3.0s					
CN2			LR	LR		
	comp=N,400nm,21.0s,MS4.7					
CN2			LR	LR		
	comp=E,200nm,21.0s,MS4.7					
CN2			LR	LR		
	comp=Z,500nm,25.0s,MS4.7					
PSI	**Prapat**	**75.71 278**	P	**P**	**09 51 38.1**	**-1.3**
	comp=Z,44nm,1.1s,mb5.3,baz=142,slow=3.3,SNR=24					
GYA	**Guiyang**	**78.11 303**	P	**P**	**09 51 51.8**	**-0.7**
GYA			AP	pP	09 52 02.5	+2.1
GYA			PCP	PcP	09 52 04.0	+2.0
GYA			XP	sP	09 52 06.5	+3.2
GYA			AMB	AMB		
	comp=Z,20nm,1.0s,mb5.0					
GYA			AMB	AMB		
	comp=Z,130nm,6.8s					
GYA			LR	LR		
	comp=N,580nm,20.4s,MS5.0					
GYA			LR	LR		
	comp=E,410nm,21.2s,MS5.0					
GYA			LR	LR		
	comp=Z,540nm,20.6s,MS4.9					
BJT	**Baijiatuau**	**78.33 319**	*e*P	**P**	**09 51 54.2**	**+0.7**
	comp=Z,25nm,1.2s,mb5.0					
BJT	**Baijiatuau**	**78.33 319**	*e*P	**P**	**09 51 54.2**	**+0.8**
BJT			pmax	pmax		
	comp=Z,25nm,1.2s					
BJI	**Beijing**	**78.34 319**	P	**P**	**09 51 53.8**	**+0.3**
BJI			AP	pP	09 52 00.5	-0.9
BJI			XP	sP	09 52 03.0	-1.3
BJI			AMB	AMB		
	comp=Z,36nm,1.5s,mb5.1					
BJI			AMB	AMB		
	comp=Z,568nm,4.5s					
BJI			LR	LR		
	comp=N,270nm,21.9s,MS4.7					
BJI			LR	LR		
	comp=E,366nm,24.5s,MS4.7					
BJI			LR	LR		
	comp=Z,628nm,34.5s					
MA2	**Magadan**	**79.52 349**	*e*P	**P**	**09 51 58.9**	**-0.6**
	comp=Z,19nm,1.1s,mb4.9					
MA2			*e*pP	pP	09 52 05.7	-1.7
MA2	**Magadan**	**79.52 349**	*e*P	**P**	**09 51 58.4**	**-1.1**
MA2			*e*	pP	09 52 05.7	-1.7
MA2			*e*S	S	10 01 56.1	-3.1
MA2			*e*		10 02 01.2	
MA2			*e*PS		10 02 45.3	
MA2			*e*SSS		10 10 29.7	
MA2			pmax	pmax		
	comp=Z,40nm,1.4s,mb5.2					
MA2			MLR	MLR		
	comp=Z,300nm,18.0s,MS4.7					
XAN	**Xi'an**	**79.99 311**	P	**P**	**09 52 03.0**	**+0.3**
XAN			AP	pP	09 52 13.3	+2.7
XAN			PPP		09 57 09.0	
XAN			S	S	10 02 10.8	+5.4
XAN			AMB	AMB		
	comp=Z,36nm,1.9s,mb5.0					
XAN			AMB	AMB		
	comp=Z,173nm,6.5s					
XAN			LR	LR		
	comp=N,78nm,25.3s,MS4.5					
XAN			LR	LR		
	comp=E,236nm,24.3s,MS4.5					
XAN			LR	LR		
	comp=Z,395nm,24.6s,MS4.7					
KMI	**Kunming**	**80.70 300**	P	**P**	**09 52 07.0**	**+0.3**
KMI			AMB	AMB		
	comp=Z,12nm,1.7s,mb4.5					
KMI			LR	LR		
	comp=Z,177nm,24.4s,MS4.3					
MAW	**Mawson**	**80.75 201**	*e*P	**P**	**09 52 05.8**	**-0.5**
	comp=Z,38nm,1.4s,mb5.1					
MAW	**Mawson**	**80.75 201**	*e*P	**P**	**09 52 05.8**	**-0.4**
MAW			pmax	pmax		
	comp=Z,38nm,1.4s					
MAW	**Mawson**	**80.75 201**	P	**P**	**09 52 05.8**	**-0.4**
	comp=Z,18nm,1.1s,mb4.9,baz=110,slow=6.6,SNR=15					
MAW			LR	LR	10 21 28.0	
	comp=Z,354nm,21.9s,MS4.7,baz=307,slow=31					
KDAK	**Kodiak Island**	**80.87 18**	LR	LR	10 22 05.9	
	comp=Z,779nm,19.0s,MS5.1,baz=14,slow=31					
CHTO	**Chiang Mai**	**81.41 293**	*e*P	**P**	**09 52 10.8**	**+0.2**
	comp=Z,6.0nm,1.0s,mb4.5					
CHTO	**Chiang Mai**	**81.41 293**	*e*P	**P**	**09 52 10.8**	**+0.2**
CHTO			pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.5					
HHC	**Hu-ho-hao-te**	**81.71 318**	*e*P	**P**	**09 52 12.5**	**+0.8**
HHC			AP	pP	09 52 19.3	-0.3
HHC			XP	sP	09 52 22.0	-0.5
HHC			AMB	AMB		
	comp=Z,47nm,1.0s,mb5.4					
HHC			AMB	AMB		
	comp=Z,324nm,4.3s					
HHC			LR	LR		
	comp=N,227nm,22.5s,MS4.7					
HHC			LR	LR		
	comp=E,290nm,20.6s,MS4.7					
HHC			LR	LR		
	comp=Z,694nm,38.7s					
HIA	**Hailar**	**81.98 328**	*e*P	**P**	**09 52 12.3**	**-0.6**
	comp=Z,3.9nm,0.7s,mb4.5					
HIA	**Hailar**	**81.98 328**	*e*P	**P**	**09 52 12.3**	**-0.6**
HIA			pmax	pmax		
	comp=Z,4.0nm,0.7s					
CD2	**Chengdu**	**82.38 306**	P	**P**	**09 52 16.5**	**+1.0**
CD2			AP	pP	09 52 23.5	+0.1
CD2			XP	sP	09 52 26.8	+0.5
CD2			AMB	AMB		
	comp=Z,30nm,1.0s,mb5.2					
CD2			AMB	AMB		
	comp=Z,140nm,5.8s					
CD2			LR	LR		
	comp=N,240nm,16.8s,MS4.8					
CD2			LR	LR		
	comp=E,260nm,13.2s,MS4.8					
CD2			LR	LR		
	comp=Z,270nm,13.2s,MS4.8					
SEY	**Seymchan**	**82.40 351**	⇑*e*P	**P**	**09 52 13.5**	**-1.3**
GAMB	**Gambell**	**82.52 7**	*e*P	**P**	**09 52 15.8**	**+0.4**
BTO	**Baotou**	**82.58 317**	*e*P	**P**	**09 52 16.0**	**-0.2**
SVW2	**Sparrevohn**	**82.90 15**	*e*P	**P**	**09 52 16.9**	**-0.5**
KHMM	**Horse Mountain**	**83.00 43**	*e*P	**P**	**09 52 19.7**	**+1.3**
OHCM	**Honcut**	**83.72 45**	*e*P	**P**	**09 52 22.1**	**-0.1**
OHCM			*e*pP	pP	09 52 29.3	-0.9
MWC	**Mount Wilson**	**83.74 51**	*e*P	**P**	**09 52 22.7**	**+0.3**
SLKM	**Skilak Lake**	**83.82 17**	*e*P	**P**	**09 52 21.9**	**-0.3**
CMB	**Columbia Colle**	**83.84 47**	*e*P	**P**	**09 52 22.5**	**-0.3**
	comp=Z,35nm,1.1s,mb5.4					
CMB	**Columbia Colle**	**83.84 47**	*e*P	**P**	**09 52 22.5**	**-0.3**
CMB			pmax	pmax		
	comp=Z,35nm,1.1s,mb5.4					
YBH	**Yreka Blue Hor**	**84.10 43**	*e*P	**P**	**09 52 24.6**	**+0.5**
	comp=Z,59nm,1.4s,mb5.5					
YBH	**Yreka Blue Hor**	**84.10 43**	*e*P	**P**	**09 52 24.6**	**+0.5**
YBH			pmax	pmax		
	comp=Z,59nm,1.4s					
HUMO	**Hull Mountain**	**84.39 42**	*e*P	**P**	**09 52 25.9**	**+0.4**
	comp=Z,34nm,1.1s,mb5.4					
TTA	**Tatalina**	**84.40 14**	*e*P	**P**	**09 52 25.3**	**+0.2**
LZH	**Lanzhou**	**84.63 311**	*e*P	**P**	**09 52 28.8**	**+1.9**
LZH			AMB	AMB		
	comp=Z,105nm,1.4s,mb5.8					
LZH			AMB	AMB		
	comp=Z,204nm,4.1s					
LZH			LR	LR		
	comp=E,1μm,16.0s					
LZH			LR	LR		
	comp=Z,1μm,18.5s,MS5.4					
PFO	**Pinyon Flat Ob**	**84.67 52**	*e*P	**P**	**09 52 27.2**	**+0.1**
NRGR	**Nerungri**	**84.72 336**	*e*P	**P**	**09 52 27.7**	**+0.9**
NRGR			S	S	10 02 56.3	+3.6
NRGR			smax			
	comp=N,34nm,0.5s					
CLNS	**Chul'man**	**84.78 336**	*e*P	**P**	**09 52 25.2**	**-1.9**
CLNS			*e**PP	pP	09 52 33.7	-1.4
CLNS			*e*		09 55 39.6	
CLNS			*e*S	S	10 02 52.1	-1.2
CLNS			*e*PS		10 04 07.6	
CLNS			*e*SS	SS	10 08 22.2	-3.9
CLNS			pmax	pmax		
	comp=Z,63nm,1.2s,mb5.6					
CLNS			pmax	pmax		
	comp=N,40nm,1.4s					
CLNS			pmax	pmax		
	comp=E,10.0nm,0.9s					
CLNS			pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.6					
CLNS			pmax	pmax		
	comp=N,5.0nm,1.1s					
CLNS			pmax	pmax		
	comp=E,4.0nm,1.0s					
CLNS			smax			
	comp=N,157nm,11.9s					
CLNS			smax			
	comp=Z,59nm,10.9s					
CLNS			smax			
	comp=E,126nm,12.1s					
CLNS			MLR	MLR		
	comp=Z,200nm,17.0s,MS4.6					
CLNS			MLR	MLR		
	comp=N,200nm,9.0s					
CLNS			MLR	MLR		
	comp=E,200nm,14.0s					
MTUM	**Tungsten Hills**	**84.80 48**	*e*P	**P**	**09 52 28.2**	**+0.6**
PMR	**Palmer**	**85.01 17**	*e*P	**P**	**09 52 27.6**	**-0.6**
	comp=E,31nm,1.5s,mb5.2					
PMR			LR	LR		
	comp=Z,500nm,20.0s,MS4.9					
PMR	**Palmer**	**85.01 17**	*e*P	**P**	**09 52 27.6**	**-0.6**
PMR			pmax	pmax		
	comp=Z,31nm,1.5s,mb5.2					
PMR			MLR	MLR		
	comp=Z,500nm,20.0s,MS4.9					
GSC	**Goldstone**	**85.14 51**	*e*P	**P**	**09 52 29.5**	**0.0**
NVAR	**Mina Array Bea**	**85.47 47**	P	**P**	**09 52 31.6**	**+0.6**
	comp=Z,17nm,1.1s,mb5.1,baz=222,slow=5.1,SNR=50					
GLA	**Glamis**	**85.67 53**	*e*P	**P**	**09 52 32.6**	**+0.5**
	comp=Z,38nm,1.0s,mb5.6					
GLA	**Glamis**	**85.67 53**	*e*P	**P**	**09 52 32.6**	**+0.5**
GLA			pmax	pmax		
	comp=Z,38nm,1.0s,mb5.6					
MOD	**Modoc**	**85.75 43**	*e*P	**P**	**09 52 32.5**	**+0.2**
	comp=Z,43nm,1.0s,mb5.6					
BILL	**Bilibino**	**86.06 357**	*e*P	**P**	**09 52 32.4**	**-0.9**
BILL			*e*pP	pP	09 52 39.7	-1.6
BILL	**Bilibino**	**86.06 357**	κ*e*P	**P**	**09 52 32.5**	**-0.8**
BILL			*e*	pP	09 52 39.4	-1.9
BILL			*e*		10 03 05.5	
BILL			*e*PS		10 04 10.6	
BILL			pmax	pmax		
	comp=Z,37nm,1.4s,mb5.4					
BILL			MLR	MLR		
	comp=Z,200nm,18.0s,MS4.6					
TPNV	**Topopah Spring**	**86.27 49**	*e*P	**P**	**09 52 35.2**	**+0.2**
	comp=Z,69nm,1.9s,mb5.6					
TPNV	**Topopah Spring**	**86.27 49**	*e*P	**P**	**09 52 35.3**	**+0.3**
TPNV			pmax	pmax		
	comp=Z,69nm,1.9s,mb5.6					
LDFC	**Landfair**	**86.30 51**	*e*P	**P**	**09 52 36.2**	**+0.9**
YAK	**Yakutsk**	**86.92 341**	⇑*e*P	**P**	**09 52 36.7**	**-0.9**
YAK			pmax	pmax		
	comp=Z,106nm,1.5s,mb5.8					
SYO	**Syowa Base**	**86.94 195**	⇓*e*P	**P**	**09 52 35.0**	**-2.8**
SYO	**Syowa Base**	**86.94 195**	⇓*e*PcP	PcP	09 52 39.6	-0.4
IMA2	**Indian Mountai**	**87.62 13**	*e*P	**P**	**09 52 40.6**	**-0.3**
IMA2			*e*pP	pP	09 52 48.3	-0.7
COLA	**College**	**88.01 16**	*i* P	**P**	**09 52 41.2**	**-1.6**
ULN	**Ulaanbaatar**	**88.11 322**	*i* P	**P**	**09 52 43.8**	**+0.1**
SONM	**Songino Array**	**88.48 322**	P	**P**	**09 52 45.9**	**+0.5**
	comp=Z,11nm,1.1s,mb5.0,baz=128,slow=4.5,SNR=58					
SONM			LR	LR	10 28 08.3	
	comp=Z,208nm,21.1s,MS4.5,baz=106,slow=33					
TUC	**Tucson**	**88.49 55**	*e*P	**P**	**09 52 47.7**	**+1.8**
	comp=Z,12nm,1.1s,mb5.0					
TUC	**Tucson**	**88.49 55**	*e*P	**P**	**09 52 47.7**	**+1.8**
TUC			pmax	pmax		
	comp=Z,12nm,1.1s,mb5.0					
CCUT	**Cedar City**	**88.61 50**	*e*P	**P**	**09 52 46.8**	**+0.5**
ARUT	**Antelope Range**	**88.65 49**	*e*P	**P**	**09 52 46.9**	**+0.4**
GTA	**Gaotai**	**88.94 312**	P	**P**	**09 52 48.8**	**+1.0**
GTA			AP	pP	09 52 55.3	-0.6
GTA			XP	sP	09 52 58.0	-0.7
GTA			PP	PP	09 56 21.5	+3.6
GTA			SKS		10 03 15.8	
GTA			S	S	10 03 35.5	+1.0
GTA			XS	sS	10 03 45.0	-2.8
GTA			SS	SS	10 09 30.0	+2.0
GTA			AMB	AMB		
	comp=Z,43nm,1.6s,mb5.5					
GTA			AMB	AMB		
	comp=Z,378nm,5.0s					
GTA			LR	LR		
	comp=N,146nm,21.3s,MS4.7					
GTA			LR	LR		
	comp=E,253nm,21.3s,MS4.7					
GTA			LR	LR		
	comp=Z,315nm,25.9s,MS4.6					
BMO	**Blue Mountains**	**89.06 42**	*e*P	**P**	**09 52 48.0**	**-0.3**
	comp=Z,38nm,1.4s,mb5.5					
BMO			*e*pP	pP	09 52 57.1	+0.8
BMO	**Blue Mountains**	**89.06 42**	*e*P	**P**	**09 52 48.0**	**-0.2**
BMO			*e**PP	pP	09 52 57.1	+0.8
BMO			pmax	pmax		
	comp=Z,38nm,1.4s,mb5.5					
DLBC	**Dease Lake**	**89.49 26**	*e*P	**P**	**09 52 50.3**	**+0.4**
MSU	**Marysvale**	**89.85 49**	*e*P	**P**	**09 52 53.0**	**+0.9**
BOD	**Bodaibo**	**89.92 333**	⇓*i*P	**P**	**09 52 51.3**	**-0.6**
BOD			pmax	pmax		
	comp=Z,19nm,1.4s,mb5.2					
MAIT	**Maitri**	**90.36 186**	*e*P	**P**	**09 52 49.7**	**-4.3**
SNAA	**Sanae**	**90.38 181**	*e*P	**P**	**09 52 52.2**	**-1.9**
SNAA			*e*		09 52 55.3	
SNAA			*e*	pP	09 52 59.7	-2.4
SNAA			*e*		09 53 02.9	
SNAA			*e*		09 53 09.7	
SNAA	**Sanae**	**90.38 181**	P	**P**	**09 52 52.1**	**-1.9**
	comp=Z,13nm,1.1s,mb5.2,baz=186,slow=4.0,SNR=44					
NLU	**North Lily Min**	**90.50 48**	*e*P	**P**	**09 52 55.5**	**+0.4**
HVU	**Hansel Valley**	**90.74 46**	*e*P	**P**	**09 52 56.4**	**+0.2**
	comp=Z,27nm,1.1s,mb5.5					
HVU			*e*pP	pP	09 53 03.0	-1.2
HVU	**Hansel Valley**	**90.74 46**	*e*P	**P**	**09 52 56.4**	**+0.2**
HVU			*e**PP	pP	09 53 03.0	-1.2
HVU			pmax	pmax		
	comp=Z,27nm,1.1s,mb5.5					
NOQ	**North Oquirrh**	**90.74 47**	*e*P	**P**	**09 52 56.6**	**+0.4**
	comp=Z,62nm,1.6s,mb5.7					
MPU	**Maple Canyon**	**90.83 48**	*e*P	**P**	**09 52 57.1**	**+0.5**
	comp=Z,31nm,1.3s,mb5.5					
MPU			*e*pP	pP	09 53 03.4	-1.3
TMUT	**Trail Mountain**	**90.86 49**	*e*P	**P**	**09 52 56.9**	**+0.1**
TMUT			*e*pP	pP	09 53 04.7	-0.2
CTU	**Camp Tracy**	**91.02 47**	*e*P	**P**	**09 52 57.8**	**+0.3**
	comp=Z,32nm,1.2s,mb5.5					
CTU			*e*pP	pP	09 53 05.0	-0.5
VNA2	**Neumayer--Watz**	**91.17 180**	*e*P	**P**	**09 52 56.1**	**-1.7**
	baz=172,slow=3.7					
VNA2			*e*		09 52 59.9	
VNA2			*e*	pP	09 53 03.1	-2.7
VNA2			*e*		09 53 07.2	
VNA2			*e*		09 53 13.6	
JLU	**Jordanelle**	**91.19 48**	*e*P	**P**	**09 52 58.4**	**+0.1**
JLU			*e*pP	pP	09 53 05.9	-0.4
DAU	**Daniels Canyon**	**91.25 48**	*e*P	**P**	**09 52 59.5**	**+0.9**
SRU	**San Rafael**	**91.28 49**	*e*P	**P**	**09 52 59.0**	**+0.3**
	comp=Z,19nm,1.2s,mb5.3					
SRU	**San Rafael**	**91.28 49**	*e*P	**P**	**09 52 59.0**	**+0.3**
SRU			pmax	pmax		
	comp=Z,19nm,1.2s,mb5.3					
VNA1	**Neumayer--Stat**	**91.45 180**	*e*P	**P**	**09 52 57.8**	**-1.2**
VNA1			*e*		09 53 00.6	
VNA1			*e*	pP	09 53 04.9	-2.2
VNA1			*e*		09 53 08.9	
VNA1			*e*		09 53 15.2	
ZAK	**Zakamensk**	**91.48 323**	*e*P	**P**	**09 52 58.8**	**-0.6**
ZAK			pmax	pmax		
	comp=Z,17nm,1.4s,mb5.2					
HWUT	**Hardware Ranch**	**91.50 47**	*e*P	**P**	**09 52 59.4**	**-0.3**
	comp=Z,15nm,1.2s,mb5.2					
HWUT			*e*pP	pP	09 53 06.8	-1.0
IRK	**Irkutsk**	**91.78 325**	*i* P	**P**	**09 52 59.8**	**-0.9**
IRK			*e*		09 58 43.0	
IRK			pmax	pmax		
	comp=Z,41nm,1.4s,mb5.6					
TLY	**Talaya**	**91.87 324**	P	**P**	**09 53 01.7**	**+0.5**
	comp=Z,135nm,1.1s,mb6.2,SNR=6.6					
TLY	**Talaya**	**91.87 324**	*e*P	**P**	**09 53 01.0**	**-0.1**
	comp=Z,29nm,1.1s,mb5.5					
TLY	**Talaya**	**91.87 324**	*e*P	**P**	**09 53 00.6**	**-0.6**
TLY			*e*S	S	10 03 48.4	-12
TLY			*e*PS	PS	10 05 14.7	+0.8
TLY			pmax	pmax		
	comp=Z,38nm,1.2s,mb5.6					
MCMT	**McKenzie Canyo**	**91.91 43**	*e*P	**P**	**09 53 02.1**	**+0.5**
BSMT	**Bassoo Peak**	**91.94 40**	*e*P	**P**	**09 53 01.0**	**-0.6**
LSA	**Lhasa**	**91.96 301**	*e*P	**P**	**09 53 02.9**	**+0.8**
MSO	**Missoula**	**92.03 41**	*e*P	**P**	**09 53 01.6**	**-0.4**
LAZ	**Ladron**	**92.10 55**	*e*P	**P**	**09 53 03.3**	**+0.6**
LENM	**Lemitar**	**92.14 55**	*e*P	**P**	**09 53 02.4**	**-0.4**
DLMT	**Dillon**	**92.29 43**	*e*P	**P**	**09 53 03.0**	**-0.3**
	comp=Z,17nm,1.1s,mb5.3					
BNM	**Barren Site**	**92.41 55**	*e*P	**P**	**09 53 04.2**	**+0.1**
LPM	**Los Pinos Moun**	**92.46 55**	*e*P	**P**	**09 53 04.9**	**+0.6**
CHMT	**Chamberlain Mo**	**92.50 41**	*e*P	**P**	**09 53 03.9**	**-0.2**
DCID1	**Drake Creek**	**92.53 45**	*e*P	**P**	**09 53 05.0**	**+0.6**
MNTX	**Cornudas Mount**	**92.56 58**	*e*P	**P**	**09 53 04.7**	**-0.2**
	comp=Z,22nm,1.0s,mb5.5					
LRM	**Limekiln Ridge**	**92.57 42**	*e*P	**P**	**09 53 04.0**	**-0.5**
TPAW	**Teton Pass**	**92.65 45**	*e*P	**P**	**09 53 05.5**	**+0.5**
REDW	**Red Top Meadow**	**92.66 45**	*e*P	**P**	**09 53 05.5**	**+0.4**
	comp=Z,26nm,1.3s,mb5.5					
SNOW	**Snow King Moun**	**92.77 45**	*e*P	**P**	**09 53 06.1**	**+0.6**
	comp=Z,18nm,1.4s,mb5.3					
IMW	**Indian Meadow**	**92.81 45**	*e*P	**P**	**09 53 06.0**	**+0.3**
	comp=Z,15nm,1.3s,mb5.3					
ANMO	**Albuquerque**	**92.81 54**	*e*P	**P**	**09 53 05.9**	**0.0**
	comp=Z,21nm,1.1s,mb5.5					
ANMO			*e*pP	pP	09 53 12.4	-1.6
ANMO	**Albuquerque**	**92.81 54**	*e*P	**P**	**09 53 05.9**	**0.0**
ANMO			*e**PP	pP	09 53 12.4	-1.6
ANMO			pmax	pmax		
	comp=Z,21nm,1.1s					
QLMT	**Earthquake Lak**	**92.84 44**	*e*P	**P**	**09 53 05.9**	**0.0**
MOOW	**Moose Ponds**	**92.88 45**	*e*P	**P**	**09 53 06.3**	**+0.2**
	comp=Z,18nm,1.8s,mb5.2					
LOHW	**Long Hollow**	**92.93 45**	*e*P	**P**	**09 53 06.2**	**0.0**
BOZ	**Bozeman (W)**	**93.03 43**	*e*P	**P**	**09 53 06.9**	**+0.3**
	comp=Z,14nm,1.3s,mb5.2					
BOZ	**Bozeman (W)**	**93.03 43**	*e*P	**P**	**09 53 06.9**	**+0.2**
BOZ			pmax	pmax		
	comp=Z,14nm,1.3s,mb5.2					
TXAR	**Lajitas Array**	**93.18 60**	P	**P**	**09 53 08.2**	**+0.5**
	comp=Z,15nm,0.9s,mb5.4,baz=228,slow=5.1,SNR=121					
BW06	**Boulder Array**	**93.32 46**	*e*P	**P**	**09 53 07.8**	**-0.3**
	comp=Z,19nm,1.6s,mb5.3					
PDAR	**Pinedale Array**	**93.32 46**	P	**P**	**09 53 06.6**	**-1.5**
	comp=Z,1.6nm,0.9s,mb4.4,baz=204,slow=3.3,SNR=15					
PDAR			LR	LR	10 27 09.2	
	comp=Z,197nm,22.0s,MS4.5,baz=285,slow=30					
MOY	**Mondy**	**93.34 324**	*e*P	**P**	**09 53 07.6**	**-0.4**
MOY			pmax	pmax		
	comp=Z,46nm,2.0s,mb5.6					
LKWY	**Lake**	**93.42 44**	*e*P	**P**	**09 53 09.8**	**+1.3**
SMCO	**Snowmass**	**93.87 50**	*e*P	**P**	**09 53 10.9**	**+0.2**
	comp=Z,5.3nm,0.8s,mb5.0					
PALK	**Pallekele**	**94.33 276**	*e*P	**P**	**09 53 14.2**	**+0.7**
RLMT	**Red Lodge**	**94.38 44**	*e*P	**P**	**09 53 12.8**	**-0.1**
	comp=Z,6.8nm,1.2s,mb5.0					
RLMT			*e*pP	pP	09 53 19.6	-1.3
TIXI	**Tiksi**	**94.41 347**	⇑*e*P	**P**	**09 53 11.1**	**-1.4**
TIXI	**Tiksi**	**94.41 347**	⇑*e*P	**P**	**09 53 11.0**	**-1.5**
TIXI			pmax	pmax		
	comp=Z,12nm,1.2s,mb5.2					
INK	**Inuvik**	**94.42 17**	*e*P	**P**	**09 53 12.0**	**-0.6**
INK	**Inuvik**	**94.42 17**	LR	LR	10 29 14.1	
	comp=Z,569nm,20.1s,MS5.0,baz=201,slow=31					
SDCO	**Great Sand Dun**	**94.48 52**	*e*P	**P**	**09 53 13.8**	**+0.3**
RWWY	**Rawlins**	**94.57 48**	*e*P	**P**	**09 53 13.8**	**-0.1**
	comp=Z,17nm,1.2s,mb5.3					
AMTX	**Amarillo**	**96.51 56**	*e*P	**P**	**09 53 22.0**	**-0.9**
	comp=Z,12nm,0.9s,mb5.3					
AMTX			*e*pP	pP	09 53 30.1	-0.9
PLCA	**Paso Flores**	**96.99 137**	LR	LR	10 26 58.3	
	comp=Z,230nm,19.8s,MS4.7,baz=245,slow=29					
RSSD

comp=E,561nm,29.2s
WMQ LR LR
comp=Z,530nm,25.2s,MS4.9
ZALV Zalesovo Beam 103.35 323 Pdiff Pdif 09 53 51.8 -1.4
comp=Z,1.4nm,0.7s,baz=111,slow=3.2,SNR=5.3
ZAL Zalesovo 103.36 323 P Pdif 09 53 51.8 -1.4
MKAR Makanchi Array 103.42 315 Pdiff Pdif 09 53 53.8 +0.4
comp=Z,2.7nm,0.8s,baz=94,slow=5.6,SNR=18
MKAR PKKPbc PKKPbc 10 09 45.0 -3.6
comp=Z,0.5nm,0.9s,baz=273,slow=2.7,SNR=5.1
NNA Nana 104.95 108 Pdif Pdif 09 53 59.3 -1.0
NNA Nana 104.95 108 Pdif Pdif 09 53 59.3 -0.9
comp=Z,12nm,0.8s,baz=217,slow=5.1,SNR=2.6
ARU Arti 118.37 325⇑ *e*PKP PKPdf 09 58 38.8 -1.5
ARU Arti 118.37 325 *i* PKIKP PKPdf 09 58 38.6 -1.7
ARU 09 59 54.1
ARU 10 05 29.6
ARU SP SP 10 09 34.7 -4.8
ARU MLR MLR
comp=Z,372nm,19.0s,MS5.0
BOSA Boshof 123.99 215 PKP PKPdf 09 58 50.3 -1.7
comp=Z,5.6nm,1.1s,baz=146,slow=3.6,SNR=4.1
APA Apatity 124.28 342⇓ *i*PKIKP PKPdf 09 58 50.0 -1.3
APA pmax pmax
comp=Z,32nm,1.2s
KEV Kevo 124.34 346 *e*p PKPdf 09 58 52.2 +0.8
comp=Z,0.4nm,0.4s
ARCES ARCESS Array B 124.85 347 PKP PKPdf 09 58 51.5 -0.9
ARCES ARCESS Array B 124.85 347 PKP PKPdf 09 58 51.5 -0.9
comp=Z,12nm,0.8s,baz=5.2,slow=1.3,SNR=17
BDFB Brasilia 127.53 127 PKP PKPdf 09 58 57.1 -1.9
comp=Z,3.3nm,0.9s,baz=33,slow=20,SNR=6.6
JOF Joensuu 128.04 339 *e*p PKPdf 09 58 54.1 -4.5
comp=Z,4.4nm,0.8s
OBN Obninsk 130.43 329⇑ *e*PKP PKPdf 09 59 02.4 -1.0
OBN *e*PKPdf PKPdf 09 59 02.6 -0.8
OBN Obninsk 130.43 329⇑ *i*PKIKP PKPdf 09 59 02.6 -0.8
OBN *e*SSS 10 23 33.7
OBN pmax pmax
comp=Z,46μm,2.0s
FINES FINESS Array B 130.83 340 PKP PKPdf 09 59 02.3 -1.7
comp=Z,5.7nm,1.0s,baz=91,slow=8.0,SNR=11
ANN Anapa 134.43 316 *i* PKIKP PKPdf 09 59 09.7 -1.6
ANN *e* 10 01 41.7
ANN pmax pmax
comp=Z,34nm,0.9s
ANN MLR MLR
comp=N,1μm,25.0s,MS5.5
ANN MLR MLR
comp=E,509nm,25.0s,MS5.5
ANN MLR MLR
comp=Z,367nm,25.0s,MS5.0
NB2 NORSAR Subarra135.21 347 PKPdf PKPdf 09 59 10.7 -1.5
comp=Z,7.5nm,1.1s,baz=25,slow=1.9
NB2 NORSAR Subarra135.21 347 PKPdf PKPdf 09 59 10.7 -1.5
baz=25,slow=1.9
NOA NORSAR Array B 135.21 347 PKP PKPdf 09 59 11.3 -0.9
NOA NORSAR Array B 135.21 347 PKP PKPdf 09 59 11.3 -0.9
comp=Z,4.1nm,1.0s,baz=32,slow=2.0,SNR=6.2
AKASG Malin Array Be 136.56 327 PKP PKPdf 09 59 14.2 -0.9
comp=Z,0.5nm,0.4s,baz=41,slow=1.2,SNR=16
LVV L'vov 139.74 329 *e*PKIKP PKPdf 09 59 20.9 0.0
KOLS Kolonicke sedl 141.19 329 *e*PKP PKPdf 09 59 21.5 -2.1
MLR Muntele Rosu 141.33 322 ⇓PKHKP 09 59 18.2
MLR Muntele Rosu 141.33 322⇓ *i*P PKPdf 09 59 18.1 -5.9
UZH Uzhgorod 141.38 329⇑ *i*PKIKP PKPdf 09 59 20.2 -3.7
UZH *e* 09 59 28.2
CRVS Cervenica-Dubn 141.60 330 *e*PKP PKPdf 09 59 20.6 -3.7
VOIR 141.88 323⇑P PKPdf 09 59 20.9 -4.1
VOIR 141.88 323⇑ *i*P PKPdf 09 59 20.9 -4.1
DRGR 142.36 326⇓P PKPdf 09 59 21.6 -4.2
DRGR 142.36 326⇓ *i*P PKPdf 09 59 21.6 -4.2
KECS Kecovo 142.36 330 *e*PKP PKPdf 09 59 20.7 -5.0
OKC Ostrava-Krasne 142.45 333 *e*PKP PKPdf 09 59 22.9 -2.9
DPC Dobruska-Polom 142.81 335 *e*PKP PKPdf 09 59 22.7 -3.7
UPC Upice 142.81 336 *e*PKP PKPdf 09 59 23.0 -3.4
PSZ Piszkesteto 143.04 330⇑ *e*PKP PKPdf 09 59 26.8 -0.1
VYHS Vyhne 143.13 331 *e*PKP PKPdf 09 59 24.4 -2.7
GZR Gura Zlata 143.19 324⇑P PKPdf 09 59 24.0 -3.3
GZR Gura Zlata 143.19 324⇑ *i*P PKPdf 09 59 24.0 -3.3
KOLL Kolacno 143.26 331 *e*PKP PKPdf 09 59 24.9 -2.4
CLL Collm 143.27 339 *i* PKP PKPdf 09 59 23.5 -3.7
CLL *i* 09 59 30.0
CLL LR LR
comp=Z,300nm,22.6s,MS5.0
CLL Collm 143.27 339 *e*PKPbc PKPdf 09 59 23.6 -3.6
CLL Collm 143.27 339 *i* PKPdf PKPdf 09 59 23.5 -3.7
comp=Z,47nm,2.0s
CLL *i* PKiKP PKiKP 09 59 30.0 -0.5
CLL Lm 11 00 00.0
comp=N,300nm,21.0s
CLL Lm 11 00 00.0
comp=E,200nm,20.5s
BRG Berggiesshubel 143.30 338 *e*PKP PKPdf 09 59 25.3 -2.0
BRG *i* 09 59 30.0
BRG LR LR
comp=Z,310nm,30.5s,MS4.9
BRG Berggiesshubel 143.30 338 *e*PKPbc PKPdf 09 59 24.0 -3.3
BRG Berggiesshubel 143.30 338 *e*PKP PKPdf 09 59 25.3 -2.0
comp=Z,11nm,1.1s
BRG *i* 09 59 30.0
comp=Z,28nm,1.4s
BRG
comp=N,444nm,19.2s
BRG
comp=E,247nm,22.8s
BRG
comp=Z,524nm,30.5s
PVCC Panska Ves 143.35 337 *e*PKP PKPdf 09 59 24.6 -2.8
PVCC AMS AMS 11 16 10.0
comp=Z,500nm,21.4s,MS5.2
FBE Freiberg 143.47 338 *e*PKPbc PKPdf 09 59 24.4 -3.2
CLZ Clausthal 143.65 342 *e*PKPbc PKPdf 09 59 25.2 -2.7
BZS Buzias 143.69 325⇓P PKPdf 09 59 24.8 -3.3
BZS Buzias 143.69 325⇓ *i*P PKPdf 09 59 24.8 -3.4
KDZ Kurdzhali 143.70 317 *i* P PKPdf 09 59 25.8 -2.5
BUD Budapest 143.76 330⇑ *e*PKP PKPdf 09 59 27.8 -0.4
PRU Pruhonice 143.80 336 *e*PKP PKPdf 09 59 25.7 -2.5
PRU AMS AMS 11 16 50.0
comp=Z,400nm,26.8s,MS5.1
RDO Rodhopi 143.87 316 *e*P PKPdf 09 59 26.0 -2.6
MODS Modra-Piesok 143.92 332 *e*PKP PKPdf 09 59 26.2 -2.3
PLD Plovdiv 143.92 318 *i* P PKPdf 09 59 26.1 -2.6
TREC Trest 143.98 335 *e*PKP PKPdf 09 59 26.4 -2.1
PGB Panagyurishte 144.02 319 *i* P PKPdf 09 59 27.1 -1.7
ZST Bratislava 144.13 332 *e*PKP PKPdf 09 59 27.1 -1.7
ZST LR LR
comp=Z,200nm,23.0s,MS4.8
ARG Arkhangelos 144.13 307 *e*P PKPdf 09 59 27.5 -1.7
RZN Rozhen 144.13 318 *i* P PKPdf 09 59 27.4 -1.7
TANN Tannenbergstha 144.21 339 *e*PKPbc PKPdf 09 59 26.7 -2.2
WERD Werda 144.23 339 *e*PKPbc PKPdf 09 59 26.8 -2.1
PRK Paraskevi 144.27 313 *e*P PKPdf 09 59 27.5 -1.9
GUNZ Gunzen 144.29 339 *e*PKPbc PKPdf 09 59 27.5 -1.6
MOX Moxa 144.30 340 *e*PKP PKPdf 09 59 27.3 -1.7
comp=Z,32nm,1.4s
MOX
comp=Z,400nm,23.0s
MOX Moxa 144.30 340 *e*PKIKP PKPdf 09 59 27.3 -1.7
MOX pmax pmax
comp=Z,32nm,1.4s
MOX MLR MLR
comp=Z,400nm,23.0s,MS5.1
MOX Moxa 144.30 340 *e*PKPbc PKPdf 09 59 26.9 -2.1
DMUB Kingscourt 144.30 360 *e*P PKPdf 09 59 26.8 -2.2
WERN Wernitzgruen 144.34 339 *e*PKPbc PKPdf 09 59 27.7 -1.4
NKC Novy Kostel 144.36 338 *e*PKP PKPdf 09 59 27.5 -1.7
NKC Novy Kostel 144.36 338 *e*PKPbc PKPdf 09 59 27.3 -1.9
WTSB Winterswijk 144.51 345 *e*PKiKP PKiKP 09 59 27.8 -5.2
comp=Z,44nm,1.9s
SMG Samos 144.52 310 *e*P PKPdf 09 59 28.0 -1.9
VTS Vitosha 144.59 320 *e*P PKPdf 09 59 28.8 -1.0
VTS Vitosha 144.59 320⇓ *i*P PKPdf 09 59 28.6 -1.2
VTS Vitosha 144.59 320 *i* P PKPdf 09 59 28.7 -1.1
UBBA Unterbreizbach 144.66 341 *e*PKPbc PKPdf 09 59 28.2 -1.5
MANZ Manzenberg 144.69 338 *e*PKPbc PKPdf 09 59 28.6 -1.1
SOP Sopron 144.76 332⇓ *e*PKP PKPdf 09 59 29.0 -0.9
MMB Musomiste 144.81 318 *i* P PKPdf 09 59 29.3 -0.9
ROTZ Rotzenmuhle 144.84 338 *e*PKPbc PKPdf 09 59 29.1 -0.9
PKSM Moragy 144.84 328⇓P PKPdf 09 59 28.5 -1.7
PKSM Moragy 144.84 328⇓ *i*P PKPdf 09 59 28.5 -1.6
NVR Nevrokopi 144.86 318 *e*P PKPdf 09 59 28.7 -1.6
KHC Kasperske Hory 144.86 336 *e*PKIKP PKPdf 09 59 28.9 -1.2
KHC *e* 09 59 38.0
KHC MLR MLR
comp=Z,600nm,33.3s,MS5.1
KHC Kasperske Hory 144.86 336 *e*PKP PKPdf 09 59 28.9 -1.2
KHC *e*pPKP pPKPdf 09 59 38.0 -0.3
KHC *e*x x 09 59 50.5
KHC AMS AMS 11 17 00.0
comp=Z,600nm,33.3s,MS5.1
DCN Croghan 144.86 0 *e*P PKPdf 09 59 28.5 -1.4
CONA Conrad Observa 144.88 333⇑ *i*PKPdf PKPdf 09 59 29.0 -1.1
comp=Z,486nm,2.6s,SNR=15
DLF Lyons Farm 144.91 359 *e*P PKPdf 09 59 28.8 -1.2
DSB Dublin 144.96 359 *e*PKPdf PKPdf 09 59 29.2 -0.9
GEC2 GERESS Array S 145.04 336 *e*PKPbc PKPbc 09 59 29.3 -0.5
GERES GERESS Array B 145.04 336 PKPbc PKPbc 09 59 29.6 -0.2
comp=Z,22nm,0.8s,baz=33,slow=3.2,SNR=81
KKB Krupnik 145.07 319 *i* P PKPbc 09 59 30.2 +0.1
KARP Karpathos 145.10 307 *e*P PKPbc 09 59 30.4 0.0
WET Wettzell 145.11 337 *e*PKPbc PKPbc 09 59 29.8 -0.2
SRS Serrai 145.15 318 *e*P PKPbc 09 59 31.1 +0.7
GRF Grafenberg Arr 145.25 339 *e*PKPbc PKPbc 09 59 30.8 +0.4
GRF *e*pPKPbc pPKPbc 09 59 37.1 -1.5
GRF *e*L 11 02 52.0
comp=Z,281nm,21.6s
GRFO Grafenberg 145.25 339 *e*PKPdf PKPdf 09 59 30.8 +0.1
OUR Ourancopolis 145.30 316 *e*P PKPbc 09 59 30.2 -0.8
SOH Sokhos 145.46 317 *e*P PKPdf 09 59 30.3 -1.1
ARSA Arzberg 145.54 332⇓ *i*P PKPdf 09 59 31.4 0.0
comp=Z,291nm,1.9s,SNR=14
DIVS Divibare 145.55 325 *e*P PKPdf 09 59 31.5 +0.1
KNT Kendrikon 145.57 318 *e*P PKPdf 09 59 30.6 -1.0
MOA Molln 145.62 334 *i* P PKPdf 09 59 31.7 +0.3
comp=Z,331nm,1.6s,SNR=54
PLG Polygyros 145.63 317 *e*P PKPdf 09 59 31.0 -0.7
PLG Polygyros 145.63 317 *e*P PKPdf 09 59 30.5 -1.2
VAY Valandovo 145.69 319 *e*P PKPdf 09 59 30.7 -1.1
VAY Valandovo 145.69 319 *i* PKP PKPdf 09 59 30.5 -1.2
STIP Stip 145.72 319 *i* PKP PKPdf 09 59 30.8 -1.0
HGN Heimansgroeve 145.83 345 *e*PKiKP PKiKP 09 59 31.3 -4.5
comp=Z,146nm,1.9s
HGN Heimansgroeve 145.83 345 *e*PP PP 10 02 44.5 -8.1
BEBN Eben Emael 145.86 346 PKP PKPdf 09 59 32.7 +0.9
MEM Membach 145.96 345 PKP PKPdf 09 59 32.8 +0.9
ZKR Zakros 145.98 306 *e*P PKPdf 09 59 32.1 -0.4
SKO Skopje 146.02 320 *e*P PKPdf 09 59 33.7 +1.4
SKO Skopje 146.02 320 *i* PKP PKPdf 09 59 33.2 +0.9
SANT Santorini 146.07 309 *e*P PKPdf 09 59 31.6 -1.0
TOD Tromm 146.10 341 PKP PKPdf 09 59 32.5 +0.3
UCC Uccle 146.16 347 PKP PKPdf 09 59 32.7 +0.5
ABH Alteburg 146.22 343 PKP PKPdf 09 59 33.4 +1.0
BCLA Clavier 146.30 346 PKP PKPdf 09 59 33.7 +1.2
XOR Xorichti 146.32 315 *e*P PKPdf 09 59 32.9 0.0
PLE Pljevlja 146.38 324⇑ *i*PKP PKPdf 09 59 34.6 +1.7
NPS Neapolis 146.38 307 *e*P PKPdf 09 59 34.5 +1.4
IVA Berane 146.38 323⇑ *i*PKP PKPdf 09 59 33.9 +1.0
LIT Litokhoron 146.40 317 *e*P PKPdf 09 59 31.9 -1.1
GOLS Golise 146.44 331 *e*PKPbc PKPbc 09 59 34.1 -0.1
SNF Seneffe 146.45 347 PKP PKPdf 09 59 34.4 +1.7
XRY Khrisi 146.46 306 *e*P PKPdf 09 59 34.0 +0.7
SISC Sisak 146.48 330 P PKPdf 09 59 33.2 +0.3
KRUS Krusevo 146.49 320 *i* PKP PKPdf 09 59 34.1 +1.0
PVY Plav 146.51 323⇑ *i*PKP PKPdf 09 59 34.9 +1.8
RUP Ruppelstein 146.51 343 PKP PKPdf 09 59 33.9 +1.0
FUR Furstenfeldbru 146.52 338 *e*PKPbc PKPbc 09 59 34.6 +0.2
LAST Lasithi 146.52 307 *e*P PKPdf 09 59 31.8 -1.6
OBKA Obir 146.54 333⇓ *i*P PKPdf 09 59 33.7 +0.7
comp=Z,169nm,2.3s,SNR=8.0
KTD Kalmit 146.57 342 PKP PKPdf 09 59 34.0 +1.0
KBA Koelnbreinsper 146.61 334⇓ *i*P PKPdf 09 59 34.0 +0.9
comp=Z,101nm,1.4s,SNR=9.4
GIVF Givet 146.71 346 *e*PKP1 PKPbc 09 59 33.1 -1.8
comp=Z,166nm,1.3s
STU Stuttgart 146.71 340 *e*PKPbc PKPbc 09 59 34.9 0.0
UPM Unac-Piva 146.73 324⇑ *i*PKP PKPdf 09 59 35.4 +1.9
FNA Florina 146.74 319 *e*P PKPdf 09 59 34.5 +0.9
DOU Dourbes 146.77 346 PKP PKPbc 09 59 35.2 +0.2
WLF Walferdange 146.79 344 *e*PKPab PKPbc 09 59 35.6 +0.5
WLF Walferdange 146.79 344 PKP PKPbc 09 59 35.7 +0.6
WLF Walferdange 146.79 344 *e*PKPbc PKPbc 09 59 35.7 +0.6
LKR Lokris 146.80 314 *e*P PKPdf 09 59 33.7 0.0
MYKA Terra Mystica 146.84 334⇓ *i*PKPbc PKPbc 09 59 34.1 -1.3
comp=Z,521nm,1.8s
BAIF Baives 146.89 347 *e*PKP1 PKPbc 09 59 33.7 -1.7
comp=Z,173nm,1.3s
LJU Ljubljana 146.91 332 *e*PKPbc PKPbc 09 59 35.1 -0.4
OHR Ohrid 146.91 320 *e*P PKPdf 09 59 34.5 +0.7
OHR Ohrid 146.91 320 *i* PKP PKPdf 09 59 34.3 +0.4
NKY Niksic 146.93 324⇑ *i*PKP PKPbc 09 59 35.3 -0.5
LANF Langenberg 146.95 342 PKP PKPbc 09 59 34.7 -0.9
BOJS Bojanci 146.99 331 *e*PKPbc PKPbc 09 59 35.1 -0.7
TTG Podgorica 147.03 323⇑ *i*PKP PKPdf 09 59 34.9 +0.9
SIVA Sivas 147.08 307 *e*P PKPbc 09 59 36.0 -0.4
WATA Walderalm 147.10 336⇓ *i*P PKPbc 09 59 35.9 -0.2
comp=Z,49nm,1.2s
LTK Loutraki 147.13 313 *e*P PKPdf 09 59 34.5 +0.2
BRY Bratogost 147.13 324 *e*PKP PKPdf 09 59 35.5 +1.4
WTTA Wattenberg 147.14 336⇓ *i*P PKPbc 09 59 35.8 -0.4
comp=Z,231nm,1.6s,SNR=23
PTCC Patocco-Chiusa 147.14 334 PKP PKPdf 09 59 34.2 +0.2
DID Didima 147.19 312 *e*P PKPdf 09 59 34.9 +0.5
VOY Vojsko 147.20 333 *e*PKPbc PKPbc 09 59 35.2 -1.2
ABTA Abfaltersbach 147.21 335⇓ *i*PKPbc PKPbc 09 59 35.4 -1.0
comp=Z,109nm,1.4s,SNR=16
JAVS Javornik 147.23 332 *i* PKPbc PKPbc 09 59 35.6 -0.9
MOTA Moosalm 147.27 337⇓ *i*P PKPbc 09 59 36.2 -0.3
comp=Z,82nm,1.1s,SNR=14
RETA Reutte 147.28 337 *i* PKPbc PKPbc 09 59 36.3 -0.2
comp=Z,288nm,2.5s,SNR=19
GMNA Gemona 147.29 334 PKP PKPbc 09 59 35.9 -0.7
BUM Brajici-Budva 147.32 323⇑ *i*PKP PKPbc 09 59 35.8 -1.0
ULC Ulcinj 147.33 322⇑ *i*PKP PKPbc 09 59 36.0 -0.9
SQTA Sankt Quirin 147.33 337⇑ *i*P PKPbc 09 59 36.7 0.0
comp=Z,76nm,1.1s,SNR=16
BFO Black Forest 147.37 341 *e*PKPbc PKPbc 09 59 36.6 -0.2
MEV Metsovon 147.39 317 *e*P PKPbc 09 59 37.1 0.0
SPAK Spaichingen-Ko 147.43 340 PKP PKPbc 09 59 36.3 -0.7
HCY Herceg Novi 147.45 324⇑ *i*PKP PKPdf 09 59 35.8 +1.1
EVR Evrytania 147.47 316 *e*P PKPbc 09 59 36.4 -1.0
CDF Champ du Feu 147.62 342 *e*PKP1 PKPbc 09 59 35.6 -1.9
comp=Z,218nm,1.2s
FETA Feichten 147.68 337⇓ *i*PKPbc PKPbc 09 59 37.7 0.0
comp=Z,163nm,1.5s,SNR=17
GVD Gavdhos 147.70 307 *e*PKPbc PKPbc 09 59 37.2 -1.0
GVD Gavdhos 147.70 307 *e*P PKPbc 09 59 37.5 -0.7
SELA Sela 147.74 314 *e*P PKPbc 09 59 38.2 0.0
VLI Veliai 147.76 311 *e*P PKPdf 09 59 36.0 +0.6
DAVA Damuels 147.76 338 *i* P PKPbc 09 59 37.8 -0.1
comp=Z,240nm,1.7s,SNR=19
ECH Echery 147.83 342 PKP PKPbc 09 59 37.2 -0.8
VLX Vlachokerasia 147.85 313 *e*P PKPbc 09 59 37.7 -0.8
NVLJ Novalja 147.87 330 P PKPdf 09 59 33.6 -1.7
FELD Feldberg im Sc 147.88 341 PKP PKPbc 09 59 37.2 -1.0
APPI Appiano 147.94 336 PKP PKPbc 09 59 37.6 -0.8
RLS Riolos of Patr 148.14 314 *e*P PKPbc 09 59 38.8 -0.4
MEZF Maizieres J'vi 148.14 345 *e*PKP1 PKPbc 09 59 37.4 -1.5
comp=Z,152nm,1.1s
THEF They Montfort 148.15 343 PKP PKPbc 09 59 38.0 -0.9
MOF Molkenrain 148.16 342 PKP PKPbc 09 59 38.5 -0.5
HAU Haudompre 148.25 343 *e*PKP1 PKPbc 09 59 37.3 -1.9
comp=Z,160nm,1.3s
HAU *e*MLR MLR
comp=Z,248nm,21.5s,MS4.7
HAU Haudompre 148.25 343 *e*PKIKP PKPdf 09 59 37.3 +1.5
HAU MLR MLR
comp=Z,250nm,21.5s,MS5.0
ITM Ithomi 148.26 313 *e*P PKPbc 09 59 38.4 -1.2
HINF Hinteralfeld 148.28 342 *e*PKP1 PKPbc 09 59 37.2 -2.1
comp=Z,136nm,1.4s
KEK Kerkira 148.34 318 *e*P PKPbc 09 59 39.3 -0.4
LKD Levkas 148.35 316 *e*P PKPbc 09 59 38.8 -0.9
PYL PYLOS 148.53 312 *e*P PKPbc 09 59 38.5 -1.7
MABI Malga Bissina 148.57 336 PKP PKPdf 09 59 35.9 -0.5
VLS Valsamata 148.67 315 *e*P PKPbc 09 59 40.0 -0.6
LOMF Lomont 148.71 342 PKP PKPbc 09 59 40.1 -0.3
FLN La Foliniere 148.98 352 *e*PKP1 PKPbc 09 59 38.9 -2.1
comp=Z,234nm,1.3s
FLN *e*MLR MLR
comp=Z,246nm,21.8s,MS4.7
FLN La Foliniere 148.98 352 *e*PKIKP PKPbc 09 59 38.9 -2.1
FLN MLR MLR
comp=Z,250nm,21.8s,MS5.0
LDF La Droitiere 149.10 351 *e*PKP1 PKPbc 09 59 39.1 -2.2
comp=Z,137nm,1.4s
VAI Varese 149.38 338 PKP PKPbc 09 59 41.3 -0.8
GRR Gorron 149.40 352 *e*PKP1 PKPbc 09 59 40.1 -2.0
comp=Z,278nm,1.4s
CING Cingoli 149.56 330 PKP PKPbc 09 59 42.7 0.0
RGNG Rignano Grg 149.58 325 PKP PKPbc 09 59 42.2 -0.6
LOR Lormes 149.59 345 *e*PKP1 PKPbc 09 59 40.7 -1.9
comp=Z,208nm,1.3s
LOR *e*MLR MLR
comp=Z,200nm,19.2s,MS4.6
LOR Lormes 149.59 345 *e*PKHKP 09 59 40.7
LOR MLR MLR
comp=Z,200nm,19.3s,MS4.9
CABF La Chapelle 149.59 342 *e*PKP1 PKPbc 09 59 41.3 -1.3
comp=Z,268nm,1.3s
OG01 Vacheresse 149.66 341 PKP PKPbc 09 59 42.7 -0.1
ROSF Rostrenen 149.72 355 *e*PKP1 PKPbc 09 59 40.6 -2.3
comp=Z,206nm,1.5s
SGMF Saint Gilles 149.73 354 *e*PKP1 PKPbc 09 59 40.7 -2.2
comp=Z,238nm,1.4s
ORO Oropa 149.86 339 PKP PKPbc 09 59 42.8 -0.5
SSF Saint Saulge 149.87 346 *e*PKP1 PKPbc 09 59 41.4 -1.9
comp=Z,199nm,1.2s
HYF Humbligny 149.87 347 *e*PKP1 PKPbc 09 59 41.8 -1.5
FNVD Fontana Vidola 149.87 333 PKP PKPbc 09 59 43.7 +0.3
MURB Monte Urbino 149.96 331 PKP PKPbc 09 59 43.0 -0.6
ERBM Eremo 149.97 335 PKP PKPbc 09 59 43.8 +0.2
ASS Assisi 150.06 330 PKP PKPbc 09 59 43.2 -0.7
QUIF Quistinic 150.12 355 *e*PKP1 PKPbc 09 59 41.5 -2.4
comp=Z,73nm,1.2s
AVF Avril sur Loir 150.16 346 *e*PKP1 PKPbc 09 59 41.7 -2.3
comp=Z,99nm,1.2s
SMF Signal de Mont 150.17 345 *e*PKP1 PKPbc 09 59 41.9 -2.1
comp=Z,134nm,1.1s
AQU L'Aquila 150.23 329 *e*PKPbc PKPbc 09 59 44.2 -0.1
AQU L'Aquila 150.23 329⇑ *i*P PKPbc 09 59 45.4 +1.1
RSL Roselend 150.26 340 PKP PKPbc 09 59 44.0 -0.3
OG05 Jujurieux 150.29 342 PKP PKPbc 09 59 43.9 -0.4
MIDA Miranda 150.31 327 PKP PKPbc 09 59 43.0 -1.5
CSNT Castellina Chi 150.36 332 PKP PKPbc 09 59 42.5 -2.1
LPL La Plagne 150.38 340 *e*PKP1 PKPbc 09 59 43.2 -1.4
comp=Z,80nm,1.1s
LPG La Plagne 150.38 340 *e*PKP1 PKPbc 09 59 43.3 -1.3
comp=Z,159nm,1.4s
BGF Bois d'Agland 150.49 346 *e*PKP1 PKPbc 09 59 42.8 -2.0
comp=Z,94nm,1.0s
TIP Timpagrande 150.54 320 *e*PKPbc PKPbc 09 59 45.1 -0.1
MNS Montasola 150.56 329 PKP PKPbc 09 59 43.9 -1.2
MGR Morigerati 150.64 323 PKP PKPbc 09 59 43.6 -1.8
GRFL Gerfalco 150.75 332 PKP PKPbc 09 59 44.4 -1.1
BNI Bardonecchia 150.80 340 *e*PKPdf PKPdf 09 59 39.9 -0.1
BNI *e*PKPbc PKPbc 09 59 45.8 +0.2
PLDF La Plantade 150.86 345 PKP PKPbc 09 59 44.7 -1.0
TCF Toulx Ste Croi 150.89 347 *e*PKP1 PKPbc 09 59 43.7 -2.1
comp=Z,180nm,1.2s
AGO Saint Agoulin 150.90 345 PKP PKPbc 09 59 44.8 -1.0
GRN Grenoble 150.93 341 PKP PKPbc 09 59 45.6 -0.3
FIN Finale Ligure 151.00 337 PKP PKPbc 09 59 44.9 -1.2
MFF Saint Martin d 151.04 350 *e*PKP1 PKPbc 09 59 44.0 -2.1
comp=Z,135nm,1.1s
MBDF Montbardon 151.06 339 *e*PKP1 PKPbc 09 59 44.1 -2.1
comp=Z,69nm,1.1s
LCHF La Chataignera 151.07 351 PKP PKPbc 09 59 45.0 -1.2
ORIF Oris-en-Rattie 151.18 341 *e*PKP1 PKPbc 09 59 44.6 -1.9
comp=Z,59nm,0.9s
ORIF *e*MLR MLR
comp=Z,324nm,23.0s,MS4.8
PYM Petit Puy Mans 151.22 345 PKP PKPbc 09 59 45.0 -1.5
SURF Saint Ours 151.26 339 PKP PKPbc 09 59 46.0 -0.7
SAOF Saorge 151.43 338 PKP PKPbc 09 59 44.5 -2.6
AUTN L'Aution 151.47 338 PKP PKPbc 09 59 45.1 -2.1
TOUF Mont Tournerai 151.52 338 PKP PKPbc 09 59 45.1 -2.2
SBF Sospel 151.58 338 *e*PKP1 PKPbc 09 59 44.8 -2.6
comp=Z,195nm,1.1s
LUCF Luceram 151.59 338 PKP PKPbc 09 59 45.3 -2.2
VIVF Saint-Julien-l 151.60 342 *e*PKP1 PKPbc 09 59 45.6 -1.9
comp=Z,90nm,1.2s
OG25 Le Caire 151.61 340 PKP PKPbc 09 59 46.6 -0.9
LBL Lubilhac 151.64 345 PKP PKPbc 09 59 46.4 -1.1
MVIF Mont Vial 151.66 338 PKP PKPbc 09 59 44.9 -2.7
OG26 St.-Nazaire-De 151.66 341 PKP PKPbc 09 59 46.8 -0.8
CALN Calern 151.88 338 PKP PKPbc 09 59 45.8 -2.3
RJF Les Rejaudoux 151.98 347 *e*PKP1 PKPbc 09 59 46.3 -2.0
comp=Z,50nm,1.0s
RJF *e*MLR MLR
comp=Z,407nm,22.5s,MS4.9
RJF Les Rejaudoux 151.98 347 *e*PKIKP PKPbc 09 59 46.3 -2.0
RJF MLR MLR
comp=Z,410nm,22.5s,MS5.2
PGF Pioggiola 152.09 334 *e*PKP1 PKPbc 09 59 46.3 -2.3
comp=Z,170nm,1.2s
SMRF Simiane la Rot 152.12 340 *e*PKP1 PKPbc 09 59 47.0 -1.7
comp=Z,152nm,1.4s
FRF La Foret Royal 152.13 338 *e*PKP1 PKPbc 09 59 46.2 -2.5
comp=Z,84nm,1.1s
VILF Villemus 152.19 340 PKP PKPbc 09 59 47.9 -0.9
CAF Calviac 152.22 346 *e*PKP1 PKPbc 09 59 46.9 -1.9
comp=Z,59nm,1.4s
TAVF Tavernes 152.28 339 PKP PKPbc 09 59 46.9 -2.1
LMR La Mourre 152.38 338 *e*PKP1 PKPbc 09 59 46.8 -2.5
comp=Z,82nm,1.2s
PRAF Pradon 152.41 341 PKP PKPbc 09 59 48.1 -1.2
PUYF Puyloubier 152.48 340 PKP PKPbc 09 59 47.2 -2.3
LFF La Frestale 152.49 348 *e*PKP1 PKPbc 09 59 47.4 -2.1
TREF Trevaresse 152.50 340 PKP PKPbc 09 59 47.9 -1.6
LASF Ste Croix 152.55 343 *e*PKP1 PKPbc 09 59 47.7 -1.9
comp=Z,48nm,1.1s
BERF Bertagne 152.68 339 PKP PKPbc 09 59 47.9 -2.0
GELF Grande-Etoile 152.70 340 PKP PKPbc 09 59 47.9 -2.1
MTLF Montolieu 153.67 345 *e*PKP1 PKPbc 09 59 50.0 -2.1
comp=Z,25nm,1.1s
KEST Kesra 157.22 324 PKPab PKPab 10 00 21.0 +0.8
comp=Z,5.4nm,1.1s,baz=328,slow=4.7,SNR=7.6
ESDC Sonseca Array 158.37 353 PKPab PKPab 10 00 24.6 -0.3
comp=Z,4.2nm,0.8s,baz=7.1,slow=4.3,SNR=15
EVO Evora 159.66 2 *e*PKIKP PKPdf 09 59 51.0 -1.2
EVO *e*MLR MLR
comp=Z,411nm,22.0s,MS4.9

IDC ***26*** *10:00:39.1±0.5, 1804S×17301E, h0km, mb4.9/19, mb1 5.0/20, mb1mx4.9/21, mbtmp4.8/20, ML4.5/1, MS4.5/20, Ms1 4.5/20, ms1mx4.4/24, Error ellipse: s-maj=12.7km s-min=10.4km az=88.0*

BJI ***26*** *10:00:40.1, 1807S×17343E, h26km, mB5.5, mb5.0, Ms4.8, Msz4.5*

NEIC ***26*** *10:00:41.4±0.2, 1804S×17288E, h10km, mb5.2/55, Error ellipse: s-maj=12.0km s-min=6.3km az=151.0*

GCMT ***26*** *10:00:41.3±0.1, 1807S×17295E, h12km, MW5.3/108, Moment Tensor Solution. s74,c120; s108,c203; Duration: 1±2 Moment tensor: Scale* 10^{17}*Nm;* M_{rr}*-1.28±.02;* $M_{\theta\theta}$*1.22±.02;* $M_{\phi\phi}$*0.05±.02;* $M_{r\theta}$*-0.18±.05;* $M_{\theta\phi}$*-0.32±.01;* $M_{\phi r}$*-0.19±.06; Best double couple:* M_0*1.31700×*10^{17} *NP1:*ϕ_s*294.00000°,* δ*43.00000°,* λ*-75.00000°. NP2:*ϕ_s*94.00000°,* δ*49.00000°,* λ*-103.00000°. Principal axes: T 1.3060, Plg3.0000°, Azm194.0000°; N 0.0180, Plg10.0000°, Azm103.0000°; P -1.3270, Plg80.0000°, Azm300.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISCJB ***26*** *10:00:43.0±0.2, 1816S±006×17281E±004, h33km, mb5.1/85, MS4.7/40 Error ellipse: s-maj=8.3km s-min=4.5km az=161.7*

LDG ***26*** *10:00:42.0±0.2, 1767S×17235E, h10km, Mb5.5/2, Ms4.7/8, Error ellipse: s-maj=20.7km s-min=5.5km az=130.0*

SZGRF ***26*** *10:00:42.8, 1909S×17268E, h33km, mb5.1, Vanuatu Islands region*

MOS ***26*** *10:00:47.6±1.6, 1791S×17267E, h60km, mb5.4/32, MS4.9/12, Error ellipse: s-maj=10.4km s-min=9.0km az=85.5*

ISC 26 10:00:44.9±0.2, 1812S±006×17285E±004, h35km, (h37km±1.8km:pP-P), n663, σ0 59/434, mb5.1/85, MS4.7/40, 133C-155D, Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**13.93**	**144**	LR	LR	10 08 12.2	
comp=Z,2μm,21.3

HNR Sn **Sn** **10 07 10.4 +5.6**
5.4nm,0.3s,baz=82,slow=3.0,SNR=2.3
HNR LR LR 10 08 30.3
comp=Z,633nm,20.9s,baz=170,slow=31
URZ Urewera 20.41 170 P **P** **10 05 20.1 +1.2**
URZ S **S** **10 09 10.2 +4.7**
URZ Urewera 20.41 170 P **P** **10 05 20.1 +1.2**
26nm,1.0s,baz=17,slow=5.5,SNR=17
URZ S **S** **10 09 10.2 +4.7**
3.1nm,0.9s,baz=277,slow=10,SNR=3.9
URZ LR LR 10 11 39.3
comp=Z,2µm,18.9s,MS4.5,baz=160,slow=32
EIDS Eidsvold 21.45 247 *e*P **P** **10 05 32.4 +2.1**
21nm,1.4s,mb4.3
ARMA Armidale 22.85 234 *e*P **P** **10 05 47.0 +1.9**
ARMA *e*S **S** **10 10 05.2 +13**
CTA Charters Tower 25.20 261 *e*P **P** **10 06 08.5 +1.0**
17nm,0.9s,mb4.6
CTA Charters Tower 25.20 261 *e*P **P** **10 06 08.5 +1.0**
CTA pmax pmax
comp=Z,17nm,0.9s
CTA Charters Tower 25.20 261 P **P** **10 06 08.6 +1.1**
comp=Z,20nm,0.9s,mb4.6,baz=80,slow=11,SNR=17
CTA S **S** **10 10 39.1 +8.4**
comp=Z,1.2nm,0.6s,baz=255,slow=24,SNR=2.1
CTAO Charters Tower 25.20 261 *e*P **P** **10 06 09.0 +1.6**
comp=Z,22nm,0.8s,mb4.7
CTAO Charters Tower 25.20 261 *e*P **P** **10 06 09.0 +1.5**
CTAO pmax pmax
comp=Z,22nm,0.8s,mb4.7
RPZ Rata Peaks 25.56 183 S **S** **10 10 40.5 +4.7**
comp=Z,2.6nm,0.6s,baz=276,slow=23,SNR=2.2
STKA Stephens Creek 31.34 238 *e*P **P** **10 07 03.2 +1.0**
comp=Z,9.0nm,1.1s,mb4.5
STKA Stephens Creek 31.34 238 P **P** **10 07 02.2 +0.1**
comp=Z,13nm,1.1s,mb4.7,baz=93,slow=7.3,SNR=7.6
STKA PcP PcP 10 09 55.4 -0.3
comp=Z,7.1nm,1.2s,baz=287,slow=2.6,SNR=3.7
STKA S **S** **10 12 14.1 +7.0**
comp=Z,2.0nm,0.8s,baz=115,slow=12,SNR=2.8
STKA LR LR 10 19 02.5
comp=Z,2µm,18.6s,MS4.7,baz=67,slow=35
TBI Tubuai 35.56 105 *e*LR LR 10 16 42.9
comp=Z,298nm,33.5s
PPT Papeete 35.73 95 *e*S **S** **10 13 08.0 -7.4**
comp=Z,265nm,26.8s
PPT *e*LR LR 10 17 08.7
comp=Z,710nm,27.8s
PPT Papeete 35.73 95 LR LR 10 18 20.5
comp=Z,491nm,21.6s,MS4.2,baz=261,slow=30
WB2 Warramunga Arr 36.39 261 *e*P **P** **10 07 45.2 -1.0**
WB2 *e*PCP PcP 10 10 09.9 -0.3
WRAB Tennant Creek 36.39 261 P **P** **10 07 45.8 -0.4**
comp=Z,98nm,1.1s,mb5.7,SNR=5.3
WRAB Tennant Creek 36.39 261 *e*P **P** **10 07 45.4 -0.8**
comp=Z,26nm,1.2s,mb5.0
WRAB *e*PcP PcP 10 10 10.1 -0.1
WRAB Tennant Creek 36.39 261 *e*P **P** **10 07 45.4 -0.8**
WRAB *e* 10 10 10.1
WRAB pmax pmax
comp=Z,26nm,1.2s,mb5.0
WRA Warramunga Arr 36.40 261 P **P** **10 07 45.2 -1.1**
WRA PcP PcP 10 10 09.8 -0.5
WRA Warramunga Arr 36.40 261 P **P** **10 07 45.2 -1.1**
comp=Z,11nm,1.1s,mb4.7,baz=91,slow=8.7,SNR=35
WRA PcP PcP 10 10 09.8 -0.5
comp=Z,11nm,1.1s,baz=94,slow=2.4,SNR=13
WRA LR LR 10 20 58.4
comp=Z,416nm,18.4s,MS4.2,baz=25,slow=33
ASAR Alice Springs 36.72 255 P **P** **10 07 48.5 -0.4**
comp=Z,23nm,1.0s,mb5.0,baz=84,slow=8.4,SNR=103
ASAR PcP PcP 10 10 10.7 -0.5
comp=Z,9.5nm,0.9s,baz=97,slow=3.3,SNR=24
KAKA Kakadu 39.27 272 *e*P **P** **10 08 10.4 -0.2**
comp=Z,34nm,1.2s,mb5.0
GUMO Guam 41.89 317 S **S** **10 14 52.2 +4.1**
comp=Z,37nm,0.5s,baz=178,slow=18,SNR=1.8
GUMO LR LR 10 22 50.0
comp=Z,385nm,19.9s,MS4.3,baz=140,slow=32
FORT Forrest 42.42 244 *e*P **P** **10 08 34.5 -1.9**
comp=Z,8.2nm,1.3s,mb4.2
FITZ Fitzroy Crossi 44.77 262 *e*P **P** **10 08 55.7 +0.2**
comp=Z,55nm,1.1s,mb5.3
FITZ Fitzroy Crossi 44.77 262 P **P** **10 08 56.0 +0.6**
comp=Z,36nm,1.1s,mb5.1,baz=101,slow=9.7,SNR=32
FITZ LR LR 10 25 37.2
comp=Z,373nm,20.9s,MS4.3,baz=98,slow=33
TAOE Nuku Hiva Isla 46.51 85 *e*LR LR 10 20 50.5
comp=Z,11µm,27.3s
BATI Kupang 48.22 272 P **P** **10 09 24.2 +1.6**
comp=Z,83nm,0.9s,mb5.8,baz=324,slow=4.6,SNR=4.3
RKT Rikitea 48.88 105 *e*LR LR 10 22 54.7
comp=Z,674nm,37.0s
MBWA Marble Bar 49.94 257 *e*P **P** **10 09 36.1 +0.5**
comp=Z,65nm,1.3s,mb5.5
NWAO Narrogin (SRO) 51.76 242 *e*P **P** **10 09 48.9 -0.4**
comp=Z,41nm,1.3s,mb5.2
NWAO Narrogin (SRO) 51.76 242 *e*P **P** **10 09 48.9 -0.3**
NWAO pmax pmax
comp=Z,41nm,1.3s
DRV Dumont d'Urvil 53.00 196 PP PP 10 11 56.0 -1.6
DRV S **S** **10 17 37.0 +12**
DRV SS SS 10 21 02.0 -2.0
DRV R 10 25 00.0
DRV R 12 51 00.0
DRV R 17 30 00.0
CBIJ Chichi jima 53.90 326 LR LR 10 27 55.5
comp=Z,386nm,20.1s,MS4.5,baz=133,slow=30
VNDA Vanda 59.68 183 *e*P **P** **10 10 43.9 -1.4**
comp=Z,14nm,1.7s,mb4.7
VNDA Vanda 59.68 183 *e*P **P** **10 10 43.9 -1.4**
VNDA pmax pmax
comp=Z,14nm,1.7s
VNDA Vanda 59.68 183 P **P** **10 10 44.5 -0.8**
comp=Z,1.2nm,0.8s,mb4.0,baz=14,slow=7.6,SNR=6.5
VNDA S **S** **10 18 58.9 +5.7**
comp=Z,0.7nm,0.9s,baz=314,slow=9.3,SNR=2.5
VNDA LR LR 10 32 44.8
comp=Z,918nm,19.2s,MS4.9,baz=24,slow=32
SBA Scott Base 59.84 181 *e*P **P** **10 10 46.3 0.0**
comp=Z,14nm,0.8s,mb5.0
SBA Scott Base 59.84 181 *e*P **P** **10 10 46.3 -0.1**
SBA pmax pmax
comp=Z,14nm,0.8s,mb5.0
JOW Kunigami 62.19 315 LR LR 10 33 49.1
comp=Z,429nm,21.3s,MS4.6,baz=150,slow=32
MJAR Matsushiro Arr 63.46 329 P **P** **10 11 11.0 -0.3**
comp=Z,15nm,1.1s,mb5.0,baz=162,slow=5.2,SNR=48
MJAR LR LR 10 33 53.4
comp=Z,341nm,21.4s,MS4.5,baz=70,slow=31
MAJO Matsushiro 63.46 329 *e*P **P** **10 11 11.2 -0.1**
comp=Z,62nm,1.5s,mb5.5
MAJO Matsushiro 63.46 329 *e*P **P** **10 11 11.2 -0.1**
MAJO pmax pmax
comp=Z,63nm,1.5s,mb5.5
MAT Matsushiro 63.46 329 P **P** **10 11 10.9 -0.4**
KSM Kuching 64.51 281 *e*P **P** **10 11 18.8 +0.1**
JNU Nakatsue 64.84 322 P **P** **10 11 20.3 -0.1**
comp=Z,18nm,1.1s,mb5.0,baz=352,slow=5.7,SNR=4.2
JNU LR LR 10 33 57.8
comp=Z,209nm,20.8s,MS4.3,baz=72,slow=31
KSRS Korea Array 69.60 323 P **P** **10 11 50.7 +0.2**
comp=Z,3.1nm,0.9s,mb4.2,baz=144,slow=5.9,SNR=11
KSRS LR LR 10 37 46.5
comp=Z,207nm,19.8s,MS4.4,baz=134,slow=32
NJ2 Nanjing 71.86 314 *e*P **P** **10 12 05.5 +1.1**
MDJ Mudanjiang 73.85 329 P **P** **10 12 16.8 +0.9**
MDJ PP PP 10 15 03.3 +2.0
MDJ AMB AMB
comp=Z,12nm,1.7s,mb4.5
MDJ AMB AMB
comp=Z,176nm,5.6s
MDJ LR LR
comp=N,237nm,34.7s,MS4.4
MDJ LR LR
comp=E,254nm,36.5s,MS4.4
MDJ LR LR
comp=Z,313nm,36.5s,MS4.3
WHN Wuhan 74.20 310 ⇑P **P** **10 12 19.0 +0.7**
WHN AMB AMB
comp=Z,112nm,1.4s,mb5.6
WHN LR LR
comp=Z,618nm,22.9s,MS4.8
HABR Khabarovsk 74.38 335 *e*P **P** **10 12 18.8 -0.1**
HABR *e* pP 10 12 31.0 +1.1
HABR *e* 10 15 03.6
HABR *e*PPP 10 16 50.5
HABR *e*S S 10 21 51.4 +0.6
HABR *e* 10 22 25.2
HABR *e*SS SS 10 26 40.3 +2.3
CN2 Changchun 75.36 327 *e*P **P** **10 12 25.5 +0.8**
CN2 *e*PP PP 10 15 19.0 +4.9
CN2 AMB AMB
comp=Z,30nm,1.4s,mb5.0
CN2 AMB AMB
comp=Z,400nm,4.0s
CN2 LR LR
comp=N,400nm,21.0s,MS4.7
CN2 LR LR
comp=E,200nm,21.0s,MS4.7
CN2 LR LR
comp=Z,500nm,23.0s,MS4.8
PSI Prapat 75.64 278 P **P** **10 12 26.1 -1.0**
comp=Z,16nm,1.0s,mb4.9,baz=183,slow=6.3,SNR=16
KLR Kul'dur 76.33 334 *e*P **P** **10 12 27.0 -3.1**
GYA Guiyang 78.04 303 P **P** **10 12 40.3 0.0**
GYA PCP PcP 10 12 50.8 +0.9
GYA PP PP 10 15 42.5 +5.4
GYA AMB AMB
comp=Z,20nm,1.0s,mb5.0
GYA AMB AMB
comp=Z,120nm,6.8s
GYA LR LR
comp=N,480nm,21.4s,MS4.9
GYA LR LR
comp=E,410nm,22.2s,MS4.9
GYA LR LR
comp=Z,440nm,20.6s,MS4.8
BJT Baijiatuau 78.28 319 *e*P **P** **10 12 41.9 +0.6**
comp=Z,86nm,1.6s,mb5.4
BJT Baijiatuau 78.28 319 *e*P **P** **10 12 41.9 +0.6**
BJT pmax pmax
comp=Z,86nm,1.6s
BJI Beijing 78.29 319 P **P** **10 12 41.3 0.0**
BJI PP PP 10 15 38.8 -0.1
BJI S S 10 22 25.8 -8.3
BJI AMB AMB
comp=Z,27nm,1.7s,mb4.9
BJI AMB AMB
comp=Z,519nm,3.9s
BJI LR LR
comp=N,227nm,21.1s,MS4.6
BJI LR LR
comp=E,225nm,23.8s,MS4.6
BJI LR LR
comp=Z,344nm,34.3s
MA2 Magadan 79.49 349 *e*P **P** **10 12 46.8 -0.7**
comp=Z,22nm,1.1s,mb5.0
MA2 Magadan 79.49 349 *e*P **P** **10 12 46.8 -0.7**
MA2 pmax pmax
comp=Z,22nm,1.1s,mb5.0
XAN Xi'an 79.94 311 P **P** **10 12 51.0 +0.5**
XAN PP PP 10 15 58.5 +5.8
XAN PPP 10 17 52.5
XAN S S 10 22 58.0 +6.1
XAN AMB AMB
comp=Z,23nm,1.8s,mb4.8
XAN AMB AMB
comp=Z,142nm,6.2s
XAN LR LR
comp=N,82nm,20.9s,MS4.5
XAN LR LR
comp=E,190nm,20.7s,MS4.5
XAN LR LR
comp=Z,265nm,24.7s,MS4.5
KMI Kunming 80.64 300 P **P** **10 12 56.3 +1.8**
KMI AMB AMB
comp=Z,12nm,1.1s,mb4.7
KMI LR LR
comp=N,140nm,22.8s,MS4.5
KMI LR LR
comp=E,209nm,25.0s,MS4.5
KMI LR LR
comp=Z,144nm,20.7s,MS4.3
MAW Mawson 80.73 201 *e*P **P** **10 12 54.1 -0.1**
comp=Z,32nm,1.3s,mb5.1
MAW Mawson 80.73 201 *e*P **P** **10 12 54.1 -0.2**
MAW pmax pmax
comp=Z,32nm,1.3s
MAW Mawson 80.73 201 P **P** **10 12 54.2 -0.1**
comp=Z,12nm,1.0s,mb4.8,baz=101,slow=7.2,SNR=12
MAW LR LR 10 42 52.8
comp=Z,390nm,18.8s,MS4.8,baz=305,slow=31
HHC Hu-ho-hao-te 81.66 318 *e*P **P** **10 13 00.5 +1.0**
HHC S S 10 23 02.0 -7.5
HHC AMB AMB
comp=Z,43nm,1.1s,mb5.3
HHC AMB AMB
comp=Z,171nm,4.3s
HHC LR LR
comp=N,174nm,20.1s,MS4.6
HHC LR LR
comp=E,262nm,22.5s,MS4.6
HHC LR LR
comp=Z,528nm,40.7s
CD2 Chengdu 82.32 306 P **P** **10 13 04.0 +0.7**
CD2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.8
SEY Seymchan 82.38 351 ⇑*e*P **P** **10 13 01.5 -1.3**
GAMB Gambell 82.52 7 *e*P **P** **10 13 03.5 0.0**
comp=Z,59nm,1.6s,mb5.4
BTO Baotou 82.52 317 *e*P **P** **10 13 04.0 -0.1**
SVW2 Sparrevohn 82.91 15 *e*P **P** **10 13 05.0 -0.6**
Q03C Winters 83.05 46 ⇓P **P** **10 13 07.7 +0.9**
baz=83
GASB Alder Springs 83.09 45 ⇓P **P** **10 13 07.7 +0.7**
baz=83
N02C Big Bar 83.29 43 ⇑P **P** **10 13 08.3 +0.2**
baz=84
O02C Red Bluff 83.30 44 ⇑P **P** **10 13 08.7 +0.5**
baz=84
Q04C Lincoln 83.59 46 ⇑P **P** **10 13 09.9 +0.3**
baz=84
S05C Merced 83.59 47 ⇓P **P** **10 13 09.3 -0.4**
baz=84,SNR=11
ARVC Arvin 83.63 50 ⇓P **P** **10 13 09.8 -0.2**
baz=84
WDC Whiskeytown Da 83.67 44 *e*P **P** **10 13 09.7 -0.3**
comp=Z,17nm,1.3s,mb5.0
WDC Whiskeytown Da 83.67 44 *e*P **P** **10 13 09.7 -0.3**
WDC pmax pmax
comp=Z,17nm,1.3s,mb5.0
WDC Whiskeytown Da 83.67 44 ⇑P **P** **10 13 09.8 -0.2**
baz=84
O03C Acorn Hollow, 83.71 45 ⇑P **P** **10 13 10.0 -0.3**
baz=84
OHCM Honcut 83.76 45 *e*P **P** **10 13 10.6 +0.1**
VES Vestal, Richgr 83.78 49 ⇑P **P** **10 13 10.1 -0.6**
baz=84,SNR=6.7
L02A Cave Junction 83.78 42 ⇑P **P** **10 13 10.4 -0.1**
baz=84
MWC Mount Wilson 83.79 51 *e*P **P** **10 13 11.1 +0.3**
SLKM Skilak Lake 83.83 17 *e*P **P** **10 13 09.5 -0.8**
ORV Oroville 83.85 45 ⇑P **P** **10 13 10.6 -0.4**
baz=84,SNR=14
T06C Millerton Lake 83.87 48 ⇓P **P** **10 13 10.8 -0.3**
baz=84,SNR=14
M02C Callahan 83.87 43 ⇑P **P** **10 13 11.4 +0.3**
baz=84,SNR=7.7
CMB Columbia Colle 83.88 47 *e*P **P** **10 13 11.1 0.0**
comp=Z,24nm,1.1s,mb5.2
CMB Columbia Colle 83.88 47 *e*P **P** **10 13 11.1 0.0**
CMB pmax pmax
comp=Z,24nm,1.1s,mb5.2
CMB Columbia Colle 83.88 47 ⇑P **P** **10 13 10.7 -0.4**
baz=84,SNR=16
LAVA Lava Cap Winer 83.98 46 ⇑P **P** **10 13 11.3 -0.4**
baz=84
BFSC Mount Baldy St 84.09 51 ⇓P **P** **10 13 11.9 -0.4**
baz=84
EDW2 Edwards Air Fo 84.13 51 P **P** **10 13 12.7 +0.2**
baz=84,SNR=8.3
YBH Yreka Blue Hor 84.14 43 *e*P **P** **10 13 12.8 +0.4**
comp=Z,30nm,1.2s,mb5.3
YBH Yreka Blue Hor 84.14 43 *e*P **P** **10 13 12.8 +0.4**
YBH pmax pmax
comp=Z,29nm,1.2s
YBH Yreka Blue Hor 84.14 43 ⇑P **P** **10 13 12.6 +0.3**
baz=84,SNR=11
MURC Murrieta 84.15 52 ⇓P **P** **10 13 12.1 -0.6**
baz=84,SNR=5.2
K02A Glendale 84.17 42 ⇓P **P** **10 13 12.6 +0.1**
baz=84
HELL Mitchell Peak 84.20 49 ⇑P **P** **10 13 12.5 -0.3**
baz=84,SNR=12
M03C McCloud 84.29 43 ⇑P **P** **10 13 13.1 -0.1**
baz=84,SNR=9.9
KCC Kaiser Creek 84.29 48 P **P** **10 13 13.8 +0.6**
baz=84,SNR=8.7
P05C Yuba Gap, Truc 84.33 46 ⇑P **P** **10 13 13.5 0.0**
baz=84,SNR=13
TTA Tatalina 84.40 14 *e*P **P** **10 13 13.6 +0.4**
R05C Kirkwood Meado 84.41 46 ⇓P **P** **10 13 14.0 +0.2**
baz=85,SNR=10
HUMO Hull Mountain 84.42 42 *e*P **P** **10 13 14.2 +0.4**
comp=Z,23nm,1.3s,mb5.2
HUMO Hull Mountain 84.42 42 ⇑P **P** **10 13 14.0 +0.2**
baz=85,SNR=8.7
J02A Umpqua 84.42 41 ⇓P **P** **10 13 13.9 +0.1**
baz=85
MONP Monument Peak 84.43 53 ⇓P **P** **10 13 14.4 +0.3**
baz=85
O05C Quincy 84.44 45 ⇑P **P** **10 13 14.1 +0.1**
baz=85
HATC Hat Creek Radi 84.50 44 ⇓P **P** **10 13 14.5 +0.2**
baz=85,SNR=5.5
O04C Chester 84.50 45 ⇓P **P** **10 13 14.4 +0.1**
baz=85,SNR=11
LZH Lanzhou 84.57 311 ⇑*i*P **P** **10 13 16.8 +2.1**
LZH PP PP 10 16 35.0 +4.2
LZH AMB AMB
comp=Z,78nm,1.5s,mb5.6
LZH AMB AMB
comp=Z,177nm,4.1s
I02A Mapleton 84.60 40 ⇑P **P** **10 13 14.9 +0.3**
baz=85
LRMC Laurel Mountai 84.62 50 ⇑P **P** **10 13 15.1 +0.1**
baz=85,SNR=8.2
NRGR Nerungri 84.68 336 *e*P **P** **10 13 14.3 -0.4**
TNA Tin City 84.69 8 *e*P **P** **10 13 14.7 0.0**
comp=Z,121nm,1.6s,mb5.8
PFO Pinyon Flat Ob 84.72 52 ⇑P **P** **10 13 15.3 -0.2**
baz=85
M04C Macdoel 84.73 43 ⇓P **P** **10 13 15.5 +0.1**
baz=85
CLNS Chul'man 84.74 336 *e*P **P** **10 13 14.4 -0.6**
CLNS pmax pmax
comp=Z,27nm,1.2s,mb5.2
CLNS pmax pmax
comp=N,16nm,1.4s
CLNS pmax pmax
comp=E,6.0nm,1.1s
R06C Coleville 84.76 47 ⇑P **P** **10 13 15.9 +0.3**
baz=85,SNR=17
BEKR Beckwourth 84.77 45 P **P** **10 13 15.7 +0.1**
baz=85,SNR=18
J03A Ideyld Park 84.81 41 ⇓P **P** **10 13 16.0 +0.3**
baz=85
R07C Lee Vining 84.84 47 ⇓P **P** **10 13 16.3 +0.3**
baz=85,SNR=7.2
MTUM Tungsten Hills 84.84 48 *e*P **P** **10 13 16.9 +0.9**
H02A Toledo 84.84 40 ⇑P **P** **10 13 16.5 +0.6**
baz=85
ELFS Eagle Lake Fie 84.89 44 ⇑P **P** **10 13 17.0 +0.8**
baz=85
L04A Klamath Falls 84.89 43 ⇓P **P** **10 13 16.1 0.0**
baz=85,SNR=6.0
WCN Washoe City 84.91 46 ⇓P **P** **10 13 16.4 +0.1**
baz=85,SNR=10
SWSC Sam W. Stewart 84.93 53 ⇑P **P** **10 13 16.6 0.0**
baz=85,SNR=6.2
M05C Lookout 84.97 44 ⇓P **P** **10 13 16.5 -0.1**
baz=85,SNR=8.7
P06A Stead Airport, 85.00 46 ⇓P **P** **10 13 17.2 +0.4**
baz=85,SNR=5.7
PMR Palmer 85.02 17 *e*P **P** **10 13 18.8 +2.4**
comp=E,26nm,1.7s,mb5.1
PMR Palmer 85.02 17 *e*P **P** **10 13 18.8 +2.5**
PMR pmax pmax
comp=Z,26nm,1.7s,mb5.1
MPMC Manual Prospec 85.03 50 ⇓P **P** **10 13 17.1 +0.1**
baz=85,SNR=9.3
S08C White Mtn Res 85.18 48 ⇓P **P** **10 13 18.3 +0.5**
baz=85,SNR=16
GSC Goldstone 85.19 51 *e*P **P** **10 13 18.1 +0.2**
comp=Z,29nm,1.4s,mb5.2
GSC Goldstone 85.19 51 *e*P **P** **10 13 18.1 +0.2**
GSC pmax pmax
comp=Z,29nm,1.4s,mb5.2
GSC Goldstone 85.19 51 ⇓P **P** **10 13 17.5 -0.3**
baz=85,SNR=7.0
K04A Chilquin 85.21 42 ⇓P **P** **10 13 17.9 +0.1**
baz=85
BELC Belle Mtn. 85.23 52 ⇑P **P** **10 13 18.1 0.0**
baz=85,SNR=15
O06A Flanigan 85.27 45 P **P** **10 13 18.4 +0.2**
baz=86,SNR=26
H03A Soap Creek Ran 85.28 40 ⇓P **P** **10 13 18.2 +0.2**
baz=86
J04A Umpqua Nationa 85.28 42 ⇑P **P** **10 13 18.3 +0.2**
baz=86,SNR=7.1
HEC Hector,Ludlow 85.34 51 ⇓P **P** **10 13 18.5 -0.1**
baz=86,SNR=6.8
M06C Likely Place G 85.34 44 ⇓P **P** **10 13 18.7 +0.3**
baz=86,SNR=10
BC3 Big Chuckw Mtn 85.49 53 ⇑P **P** **10 13 19.6 +0.2**
baz=86,SNR=11
L05A Lakeview 85.51 43 ⇑P **P** **10 13 19.6 +0.4**
baz=86,SNR=7.1
GRAC Grapevine Rang 85.53 49 ⇓P **P** **10 13 19.8 +0.3**
baz=86,SNR=14
N06A Buffalo Meadow 85.55 45 ⇑P **P** **10 13 19.5 0.0**
baz=86,SNR=13
FURC Furnace Creek, 85.66 50 P **P** **10 13 20.0 -0.1**
baz=86,SNR=11
GLA Glamis 85.71 53 *e*P **P** **10 13 21.4 +0.9**
comp=Z,24nm,0.9s,mb5.4
GLA Glamis 85.71 53 *e*P **P** **10 13 21.4 +0.9**
GLA pmax pmax
comp=Z,25nm,0.9s,mb5.4
GLA Glamis 85.71 53 ⇓P **P** **10 13 20.7 +0.2**
baz=86,SNR=13
MOD Modoc 85.79 43 *e*P **P** **10 13 21.3 +0.6**
comp=Z,36nm,1.1s,mb5.5
MOD Modoc 85.79 43 P **P** **10 13 21.0 +0.4**
baz=86,SNR=8.9
K05A Summer Lake 85.80 43 ⇑P **P** **10 13 21.0 +0.3**
baz=86,SNR=16
GMRC Granite Mounta 85.81 52 ⇓P **P** **10 13 20.8 -0.2**
baz=86,SNR=5.5
J05A Fort Rock 85.86 42 P **P** **10 13 21.4 +0.5**
baz=86,SNR=24
TUQ Turquoise Mtn. 85.90 51 ⇑P **P** **10 13 21.0 -0.4**
baz=86,SNR=7.5
IRM Iron Mountain 85.93 52 ⇑P **P** **10 13 21.5 -0.1**
baz=86,SNR=14
S09A Goldfield 85.96 48 ⇓P **P** **10 13 21.3 -0.3**
baz=86,SNR=5.8
H04A Detroit Lake 85.96 40 ⇑P **P** **10 13 20.9 -0.5**
baz=86,SNR=7.4
Q08A Gabbs 85.97 47 ⇓P **P** **10 13 21.2 -0.4**
baz=86,SNR=17
U10A Ash Meadows, A 86.03 50 ⇑P **P** **10 13 21.9 -0.1**
baz=86,SNR=8.1
BILL Bilibino 86.05 358 *e*P **P** **10 13 20.9 -0.5**
comp=Z,32nm,1.4s,mb5.4
BILL Bilibino 86.05 358 *de*P **P** **10 13 20.8 -0.5**
BILL pmax pmax
comp=Z,33nm,1.4s,mb5.4
E03A Lebam 86.08 38 ⇓P **P** **10 13 21.8 -0.2**
baz=86
N07B Gerlach 86.14 45 ⇑P **P** **10 13 22.3 -0.1**
baz=86,SNR=13
Y12C Blythe 86.23 53 ⇑P **P** **10 13 22.9 -0.2**
baz=86
P08A Dixie Valley 86.25 46 ⇓P **P** **10 13 23.2 +0.2**
baz=86
D03A Wishkah Elem. 86.26 38 ⇓P **P** **10 13 23.1 +0.3**
baz=86
I05A Bend 86.27 41 ⇓P **P** **10 13 22.9 -0.1**
baz=86,SNR=7.3
R09A Tonopah 86.29 48 ⇑P **P** **10 13 22.8 -0.4**
baz=86,SNR=7.6
TPNV Topopah Spring 86.31 49 *e*P **P** **10 13 24.1 +0.8**
comp=Z,6.5nm,0.7s,mb5.0
TPNV Topopah Spring 86.31 49 *e*P **P** **10 13 24.1 +0.7**
TPNV pmax pmax
comp=Z,6.0nm,0.7s,mb4.9
LDFC Landfair 86.35 51 *e*P **P** **10 13 24.5 +0.9**
V11A Goodsprings 86.43 51 ⇓P **P** **10 13 24.0 0.0**
baz=87
L07A Adell 86.47 44 ⇓P **P** **10 13 24.4 +0.4**

baz=87,SNR=22
S10A Tonopah Range, 86.49 48 P P 10 13 24.4 +0.2
baz=87,SNR=17
J06A Christmas Vall 86.53 42 ⇑P P 10 13 24.0 -0.3
baz=87,SNR=14
H05A Madras 86.53 41 ⇓P P 10 13 24.0 -0.2
baz=87,SNR=6.7
PDMCI Parker Dam,Lak 86.75 52 ⇑P P 10 13 25.6 0.0
baz=87,SNR=14
G05A Wamic 86.77 40 ⇑P P 10 13 25.2 -0.2
baz=87
Y13A Salome 86.79 53 ⇑P P 10 13 26.0 +0.2
baz=87,SNR=8.1
D04A Dobbs Creek Ra 86.82 38 ⇑P P 10 13 25.9 +0.3
baz=87
I06A Prineville 86.83 42 ⇑P P 10 13 25.9 +0.2
baz=87,SNR=15
P09A Austin 86.83 47 ⇓P P 10 13 25.9 0.0
baz=87,SNR=5.3
M08A Happy Creek Ra 86.84 45 ⇑P P 10 13 26.2 +0.3
baz=87,SNR=14
K07A Rock Creek Ran 86.85 43 P P 10 13 26.2 +0.4
baz=87,SNR=20
R10A Warm Springs 86.86 48 ⇑P P 10 13 26.4 +0.4
baz=87,SNR=5.1
YAK Yakutsk 86.89 341⇑eP P 10 13 24.8 -0.8
YAK Yakutsk 86.89 341 eP P 10 13 24.5 -1.1
YAK pmax pmax
comp=Z,36nm,1.2s,mb5.5
YAK pmax pmax
comp=N,11nm,1.6s
YAK pmax pmax
comp=E,7.0nm,1.1s
SYO Syowa Base 86.93 195⇑eP P 10 13 22.6 -3.3
SYO Syowa Base 86.93 195⇑ePcP PcP 10 13 25.3 -2.8
S11A Rachel 86.97 49 ⇑P P 10 13 26.4 -0.2
baz=87,SNR=7.5
F05A White Salmon 87.00 40 ⇑P P 10 13 26.4 -0.2
baz=87
Q10A Clear Creek Ra 87.02 48 ⇑P P 10 13 26.7 -0.1
baz=87,SNR=6.7
O09A Fish Creek Ran 87.07 46 ⇓P P 10 13 27.1 +0.1
baz=87,SNR=14
X13A Yucca 87.11 52 ⇓P P 10 13 27.2 -0.1
baz=87,SNR=11
J07A Hines 87.13 43 ⇑P P 10 13 27.0 -0.2
baz=87,SNR=8.7
H06A Lindquist Farm 87.13 41 ⇑P P 10 13 26.8 -0.4
baz=87,SNR=16
N09A Rock Creek Ran 87.15 45 ⇓P P 10 13 27.5 +0.1
baz=87,SNR=9.7
T11A Corn Creek, Al 87.18 49 ⇑P P 10 13 27.5 -0.1
baz=87,SNR=14
L08A Fields 87.21 44 P P 10 13 28.0 +0.4
baz=87,SNR=25
W13A Hualapai Mount 87.27 52 ⇓P P 10 13 28.3 +0.2
baz=87,SNR=6.9
Z14A Wintersburg 87.28 54 ⇑P P 10 13 28.3 +0.1
baz=87,SNR=6.0
U12A Valley of Fire 87.34 50 ⇓P P 10 13 28.4 0.0
baz=88,SNR=5.2
D05A Enumclaw 87.34 38 ⇑P P 10 13 28.3 +0.2
baz=88,SNR=8.2
I07A Izee 87.34 42 ⇑P P 10 13 28.3 +0.1
baz=88,SNR=14
K08A Mann Creek Ran 87.36 43 ⇑P P 10 13 28.4 +0.1
baz=88,SNR=17
R11A Troy Canyon, C 87.39 48 ⇓P P 10 13 28.4 -0.3
baz=88,SNR=7.5
Y14A Wickenburg 87.46 53 ⇓P P 10 13 28.9 -0.2
baz=88,SNR=7.7
V13A Grand Canyon W 87.51 51 ⇑P P 10 13 29.3 0.0
baz=88
Q11A Duckwater 87.56 48 ⇑P P 10 13 29.5 +0.1
baz=88,SNR=17
115A Sonoran Desert 87.57 55 ⇓P P 10 13 29.7 +0.1
baz=88
L09A Wilkinson Ranc 87.58 44 ⇓P P 10 13 29.6 +0.2
baz=88,SNR=15
O10A Cortez Mining, 87.60 46 ⇓P P 10 13 29.7 +0.1
baz=88,SNR=6.4
S12A Delamar Landin 87.61 49 ⇓P P 10 13 29.9 +0.2
baz=88,SNR=11
E06A Yakima 87.62 39 ⇓P P 10 13 29.3 -0.2
baz=88,SNR=7.3
IMA2 Indian Mountai 87.63 13 eP P 10 13 26.8 -2.2
J08A Circle Bar Ran 87.66 43 ⇓P P 10 13 29.9 +0.1
baz=88,SNR=21
A04A Legoe Bay, Lum 87.70 37 ⇓P P 10 13 29.9 +0.1
baz=88
U13A Pakoon Wash 87.75 51 ⇓P P 10 13 30.6 +0.2
baz=88,SNR=11
X14A Yava 87.76 53 ⇓P P 10 13 30.6 +0.1
baz=88,SNR=13
G07A Ruggs Ranch, H 87.80 41 ⇓P P 10 13 30.1 -0.3
baz=88,SNR=11
B05A Bryant 87.82 37 ⇓P P 10 13 30.4 0.0
baz=88
K09A Rome 87.85 44 ⇓P P 10 13 30.8 +0.1
baz=88,SNR=29
I08A Drewsey 87.86 42 ⇓P P 10 13 30.8 +0.1
baz=88,SNR=10
216A Three Points, 87.90 55 ⇑P P 10 13 31.5 +0.3
baz=88,SNR=5.2
W14A Seligman 87.92 52 ⇑P P 10 13 31.5 +0.3
baz=88,SNR=13
116A Eloy 87.92 55 ⇓P P 10 13 31.4 +0.1
baz=88
F07A Phinny Hill Vi 87.94 40 ⇑P P 10 13 31.0 0.0
baz=88
Y15A Casa Rosa Ranc 87.98 53 P P 10 13 31.8 +0.3
baz=88,SNR=20
COLA College 88.01 16 eP P 10 13 26.4 -4.5
comp=E,9.7nm,1.2s,mb4.9
COLA College 88.01 16 eP P 10 13 26.4 -4.5
COLA pmax pmax
comp=Z,10.0nm,1.2s,mb4.9
D06A Cle Elum 88.02 39 ⇓P P 10 13 31.4 0.0
baz=88
T13A Saint George 88.04 50 ⇓P P 10 13 31.8 +0.1
baz=88,SNR=9.6
ULN Ulaanbaatar 88.06 322 eP P 10 13 32.4 +0.8
comp=Z,67nm,1.7s,mb5.6
ULN Ulaanbaatar 88.06 322 eP P 10 13 32.4 +0.9
ULN pmax pmax
comp=Z,67nm,1.7s,mb5.6
V14A Boquillas Ranc 88.07 52 ⇓P P 10 13 32.3 +0.4
baz=88,SNR=11
H08A Prairie City 88.08 42 ⇓P P 10 13 31.3 -0.5
baz=88,SNR=6.2
R12A Pony Springs, 88.08 49 ⇑P P 10 13 32.1 +0.2
baz=88,SNR=16
O11A Cowboy Ranch, 88.11 47 ⇑P P 10 13 32.3 +0.3
baz=88,SNR=17
M10A I.L. Ranch, Tu 88.11 45 ⇑P P 10 13 32.3 +0.3
baz=88,SNR=22
J09A Fry Pan Ranch, 88.12 43 ⇓P P 10 13 32.1 +0.2
baz=88,SNR=32
Q12A Willow Creek R 88.22 48 ⇑P P 10 13 32.7 +0.1
baz=88
G08A Pilot Rock 88.25 41 ⇓P P 10 13 32.5 0.0
baz=88,SNR=16
X15A Humboldt 88.27 53 ⇑P P 10 13 33.3 +0.4
baz=88,SNR=16
E07A Sunnyside 88.31 40 ⇓P P 10 13 32.9 +0.1
baz=88
S13A Holt Ranch, En 88.31 50 ⇑P P 10 13 33.3 +0.3
baz=88,SNR=12
217A Green Valley 88.31 56 ⇑P P 10 13 33.4 +0.3
baz=88,SNR=12
U14A Mt Trumbull 88.33 51 ⇓P P 10 13 33.4 +0.3
baz=88,SNR=16
N11A Elko Archery C 88.35 46 ⇑P P 10 13 33.1 0.0
baz=88
P12A McGill 88.35 48 ⇓P P 10 13 33.4 +0.2
baz=88,SNR=9.6
L10A Juniper Basin 88.40 45 P P 10 13 33.6 +0.3
baz=89,SNR=27
I09A Lost Marbles R 88.42 43 ⇑P P 10 13 33.3 -0.1
baz=89,SNR=12
SONM Songino Array 88.43 322 P P 10 13 33.9 +0.6
comp=Z,6.5nm,1.1s,mb4.8,baz=135,slow=4.0,SNR=37
SONM LR LR 10 48 33.1
comp=Z,285nm,21.1s,MS4.7,baz=88,slow=32
Z16A Peralta Trail, 88.44 54 ⇓P P 10 13 33.8 +0.1
baz=89,SNR=7.1
K10A MacKenzie Ranc 88.45 44 ⇑P P 10 13 33.6 +0.1
baz=89
W15A Williams 88.52 52 ⇓P P 10 13 34.8 +0.8
baz=89
D07A Quincy 88.54 39 ⇓P P 10 13 33.8 0.0
baz=89
TUC Tucson 88.54 55 eP P 10 13 36.2 +1.9
comp=Z,6.6nm,0.8s,mb5.0
TUC Tucson 88.54 55 eP P 10 13 36.2 +2.0
TUC pmax pmax
comp=Z,7.0nm,0.8s,mb5.0
M11A Holland Ranch, 88.58 45 ⇓P P 10 13 34.5 +0.3
baz=89,SNR=19
A06A Chilliwack 88.59 37 ⇓P P 10 13 33.7 -0.3
baz=89
F08A Pendleton 88.61 41 ⇑P P 10 13 33.9 -0.3
baz=89,SNR=5.9
Y16A Circle Bar Ran 88.61 54 ⇑P P 10 13 34.7 +0.2
baz=89,SNR=11
CCUT Cedar City 88.66 50 eP P 10 13 35.3 +0.7
T14A Hurricane 88.66 50 ⇓P P 10 13 34.9 +0.3
baz=89,SNR=12
117A Oracle 88.68 55 ⇑P P 10 13 35.1 +0.3
baz=89,SNR=14
ARUT Antelope Range 88.70 50 eP P 10 13 35.2 +0.3
C07A Waterville 88.73 38 ⇓P P 10 13 33.9 -0.8
baz=89,SNR=6.5
E08A Dider Farm, El 88.76 40 ⇑P P 10 13 34.8 -0.1
baz=89,SNR=8.0
Q13A Wheeler Ranch, 88.76 48 P P 10 13 35.2 +0.1
baz=89,SNR=20
H09A Durkee 88.78 42 ⇓P P 10 13 34.9 -0.2
baz=89,SNR=9.9
O12A Currie 88.80 47 ⇑P P 10 13 35.4 +0.2
baz=89,SNR=11
J10A Berg Farm, Mel 88.80 43 ⇑P P 10 13 35.3 +0.1
baz=89,SNR=5.6
V15A Kaibab Nationa 88.84 52 ⇓P P 10 13 36.0 +0.4
baz=89
318A Bisbee 88.84 56 ⇓P P 10 13 36.0 +0.3
baz=89,SNR=7.5
N12A Clover Valley, 88.84 46 ⇓P P 10 13 35.5 +0.1
baz=89,SNR=15
X16A Lo Mia Camp, P 88.84 53 ⇓P P 10 13 35.9 +0.3
baz=89,SNR=13
S14A Cedar City 88.88 50 ⇓P P 10 13 36.0 +0.3
baz=89,SNR=11
GTA Gaotai 88.89 312 P P 10 13 36.5 +0.8
GTA PP PP 10 17 07.0 +1.4
GTA AMB AMB
comp=Z,24nm,1.5s,mb5.3
GTA AMB AMB
comp=Z,212nm,5.3s
GTA LR LR
comp=N,126nm,16.7s,MS4.6
GTA LR LR
comp=E,154nm,17.9s,MS4.6
GTA LR LR
comp=Z,224nm,22.1s,MS4.5
L11A Cat Creek Ranc 88.92 45 ⇑P P 10 13 36.2 +0.4
baz=89,SNR=24
P13A Bates Ranch, G 88.97 48 ⇑P P 10 13 36.4 +0.3
baz=89
218A Dragoon 89.00 56 ⇑P P 10 13 36.6 +0.2
baz=89,SNR=11
K11A Parker Ranch, 89.00 44 ⇑P P 10 13 36.3 +0.2
baz=89,SNR=19
Y17A Roosevelt 89.02 54 ⇓P P 10 13 36.4 -0.1
baz=89,SNR=7.0
B07A Winthrop 89.06 38 ⇑P P 10 13 36.0 -0.3
baz=89,SNR=14
I10A Payette 89.07 43 ⇓P P 10 13 36.8 +0.4
baz=89
BMO Blue Mountains 89.09 42 eP P 10 13 36.3 -0.2
comp=Z,39nm,1.5s,mb5.5
BMO Blue Mountains 89.09 42 eP P 10 13 36.3 -0.2
BMO pmax pmax
comp=Z,39nm,1.5s,mb5.5
F09A S2 Ranch, Elgi 89.10 41 ⇑P P 10 13 36.5 0.0
baz=89,SNR=6.5
D08A Wollman Farm, 89.11 39 ⇓P P 10 13 36.4 -0.1
baz=89,SNR=9.0
T15A Red Dirt Ranch 89.16 51 ⇑P P 10 13 37.1 +0.1
baz=89
Z17A San Carlos Hig 89.16 55 ⇑P P 10 13 36.3 -0.8
baz=89
M12A Wells 89.17 46 ⇑P P 10 13 37.3 +0.4
baz=89,SNR=15
A07A Ashnola River, 89.20 37 ⇑P P 10 13 36.9 +0.1
baz=89,SNR=14
R14A James Farms, M 89.21 49 P P 10 13 37.8 +0.6
baz=89,SNR=6.4
O13A Hicks Ranch, I 89.27 47 ⇓P P 10 13 37.9 +0.4
baz=90
X17A Forest Lakes 89.30 54 ⇓P P 10 13 38.4 +0.7
baz=90,SNR=18
118A Homack Ranch, 89.31 55 ⇓P P 10 13 38.1 +0.3
baz=90
E09A Wood Farm, Sta 89.33 40 ⇓P P 10 13 37.1 -0.5
baz=90,SNR=8.7
H10A Noah's Angus R 89.33 42 ⇓P P 10 13 37.1 -0.5
baz=90
C08A Higginbotham F 89.37 39 ⇓P P 10 13 37.3 -0.5
baz=90,SNR=6.4
319A Douglas 89.38 57 ⇑P P 10 13 38.6 +0.4
baz=90,SNR=11
L12A House Creek Ra 89.41 45 ⇓P P 10 13 38.5 +0.4
baz=90,SNR=15
G10A Bishop Farm, J 89.41 42 P P 10 13 37.9 -0.1
baz=90,SNR=29
MFID Camas Ranch 89.41 44 ⇓P P 10 13 38.1 +0.1
baz=90,SNR=26
N13A Wendover, West 89.42 46 ⇑P P 10 13 38.3 +0.2
baz=90,SNR=7.0
B08A Colville Reser 89.47 38 ⇑P P 10 13 37.4 -0.8
baz=90,SNR=13
D09A Jones Farm, Ri 89.48 40 ⇑P P 10 13 38.2 -0.1
baz=90,SNR=12
DLBC Dease Lake 89.51 26 eP P 10 13 37.2 -0.9
I11A Placerville 89.54 43 ⇓P P 10 13 38.6 0.0
baz=90,SNR=27
219A White Tail Can 89.63 56 ⇓P P 10 13 39.5 +0.2
baz=90,SNR=15
F10A Beach Ranch, E 89.65 41 P P 10 13 38.9 -0.1
baz=90,SNR=17
M13A Montello 89.66 46 ⇑P P 10 13 39.4 +0.1
baz=90,SNR=12
Y18A Canyon Day Jun 89.68 54 ⇓P P 10 13 40.3 +0.8
baz=90,SNR=22
K12A Draper Farm, C 89.69 45 ⇓P P 10 13 39.5 +0.1
baz=90,SNR=9.7
T16A Glen Canyon Da 89.79 51 ⇓P P 10 13 40.3 +0.3
baz=90,SNR=12
A08A Turner Farm, O 89.79 38 ⇑P P 10 13 39.4 -0.3
baz=90,SNR=22
J12A Stokes Ranch, 89.82 44 ⇓P P 10 13 40.3 +0.3
baz=90,SNR=43
C09A Chrisman Ranch 89.84 39 ⇓P P 10 13 39.5 -0.5
baz=90,SNR=5.9
H11A Donnelly 89.85 42 ⇑P P 10 13 39.9 -0.2
baz=90,SNR=24
119A Ashpeak Ranch, 89.87 55 ⇓P P 10 13 40.7 +0.2
baz=90,SNR=8.4
BOD Bodaibo 89.88 333 eP P 10 13 38.5 -1.4
BOD pmax pmax
comp=Z,14nm,1.4s,mb5.1
MSU Marysvale 89.90 49 eP P 10 13 41.5 +1.0
G11A Walters Elk Ra 90.00 42 P P 10 13 40.3 -0.4
baz=90,SNR=39
X18A Snowflake 90.03 54 ⇑P P 10 13 41.4 +0.3
baz=90,SNR=13
Z19A T-Link Ranch, 90.10 55 ⇓P P 10 13 42.0 +0.5
baz=90
D10A Wagner Farm, O 90.11 40 ⇑P P 10 13 40.9 -0.3
baz=90
L13A Double Diamond 90.11 45 ⇑P P 10 13 41.9 +0.6
baz=90,SNR=8.1
N14A Grayback Hills 90.12 47 ⇑P P 10 13 41.4 0.0
baz=90
A09A Danville 90.20 38 ⇑P P 10 13 41.5 -0.1
baz=90,SNR=12
B09A Rice 90.20 38 ⇓P P 10 13 41.3 -0.3
baz=90,SNR=12
K13A Stover Farm, H 90.25 45 ⇓P P 10 13 42.4 +0.4
baz=90,SNR=10
BGU Big Grassy Mou 90.26 47 eP P 10 13 41.6 -0.5
M14A Sheep Mountain 90.28 46 ⇑P P 10 13 42.1 0.0
baz=90,SNR=18
F11A Grangeville 90.28 41 ⇑P P 10 13 40.6 -1.5
baz=90,SNR=7.2
Y19A Nutrioso 90.35 54 ⇓P P 10 13 43.1 +0.5
baz=90
MAIT Maitri 90.36 186 eP P 10 13 38.1 -4.0
SNAA Sanae 90.39 181 eP P 10 13 40.0 -2.2
SNAA e 10 13 43.0
SNAA e 10 13 47.5
SNAA e pP 10 13 50.5 -2.8
SNAA e 10 13 54.5
SNAA Sanae 90.39 181 i P P 10 13 39.4 -2.8
HLID Hailey 90.41 44 ⇓P P 10 13 42.7 0.0
baz=91,SNR=18
E11A Bogner Ranch, 90.45 41 ⇓P P 10 13 41.5 -1.3
baz=91,SNR=9.0
X19A St. Johns 90.49 54 ⇑P P 10 13 43.7 +0.3
baz=91,SNR=12
J13A Cove Ranch, Pi 90.50 44 ⇑P P 10 13 43.3 +0.2
baz=91,SNR=22
H12A Diamond D Ranc 90.53 43 ⇓P P 10 13 42.8 -0.4
baz=91,SNR=30
NLU North Lily Min 90.54 48 eP P 10 13 43.8 +0.4
N15A Stansbury Isla 90.60 47 ⇓P P 10 13 43.8 +0.1
baz=91
D11A Klaveano Farm, 90.68 40 P P 10 13 43.2 -0.6
baz=91,SNR=21
B10A Chitwood Farm, 90.70 39 ⇓P P 10 13 43.6 -0.3
baz=91
I13A Wildhorse Cree 90.75 44 ⇓P P 10 13 44.3 0.0
baz=91,SNR=16
HVU Hansel Valley 90.78 46 eP P 10 13 45.3 +0.8
comp=Z,33nm,1.2s,mb5.5
HVU Hansel Valley 90.78 46 eP P 10 13 45.3 +0.8
HVU pmax pmax
comp=Z,33nm,1.2s,mb5.5
NOQ North Oquirrh 90.78 47 eP P 10 13 42.0 -2.5
comp=Z,61nm,1.7s,mb5.7
F12A Elk City 90.79 42 ⇑P P 10 13 43.7 -0.7
baz=91,SNR=27
A10A Northport 90.81 38 ⇓P P 10 13 43.9 -0.5
baz=91,SNR=8.1
K14A Jones Ranch, D 90.81 45 ⇑P P 10 13 44.3 -0.3
baz=91,SNR=9.9
MPU Maple Canyon 90.88 48 eP P 10 13 44.9 -0.1
comp=Z,10nm,0.8s,mb5.2
M15A Larsen Ranch, 90.88 46 ⇓P P 10 13 44.8 -0.1
baz=91
TMUT Trail Mountain 90.90 49 eP P 10 13 46.1 +1.0
H13A Challis 90.93 43 P P 10 13 45.4 +0.3
baz=91,SNR=18
CTU Camp Tracy 91.06 47 eP P 10 13 46.2 +0.4
comp=Z,24nm,1.2s,mb5.4
G13A Cobalt 91.16 43 ⇓P P 10 13 45.7 -0.4
baz=91,SNR=8.2
VNA2 Neumayer--Watz 91.19 180 eP P 10 13 44.1 -1.8
VNA2 e 10 13 47.1
VNA2 e 10 13 51.4
VNA2 e pP 10 13 55.0 -2.1
VNA2 e 10 13 59.2
JLU Jordanelle 91.23 48 eP P 10 13 46.9 +0.3
B11A Sandpoint 91.27 39 ⇓P P 10 13 46.4 -0.1
baz=92
D12A Red Ives Fores 91.28 41 ⇓P P 10 13 46.1 -0.5
baz=92
DAU Daniels Canyon 91.30 48 eP P 10 13 46.8 -0.1
SRU San Rafael 91.32 49 eP P 10 13 47.3 +0.2
comp=Z,15nm,1.1s,mb5.2
SRU San Rafael 91.32 49 eP P 10 13 47.3 +0.2
SRU pmax pmax
comp=Z,15nm,1.1s,mb5.2
F13A Darby 91.39 42 ⇑P P 10 13 46.3 -0.9
baz=92
ZAK Zakamensk 91.43 323 eP P 10 13 46.9 -0.4
ZAK e 10 26 16.0
ZAK pmax pmax
comp=Z,14nm,1.5s,mb5.1
VNA1 Neumayer--Stat 91.46 180 eP P 10 13 45.5 -1.7
VNA1 e 10 13 48.5
VNA1 e 10 13 52.6
VNA1 e pP 10 13 55.9 -2.4
VNA1 e 10 14 00.4
A11A Hall Mountain, 91.50 39 P P 10 13 48.2 +0.6
baz=92,SNR=13
HWUT Hardware Ranch 91.54 47 eP P 10 13 47.8 -0.2
comp=Z,13nm,1.4s,mb5.1
G14A Jackson 91.72 43 ⇓P P 10 13 48.3 -0.5
baz=92,SNR=6.0
IRK Irkutsk 91.73 325 eP P 10 13 47.8 -0.8
IRK pmax pmax
comp=Z,35nm,1.5s,mb5.5
E13A Victor 91.75 41 ⇑P P 10 13 47.8 -1.1
baz=92
TLY Talaya 91.82 324 P P 10 13 49.5 +0.5
comp=Z,94nm,1.0s,mb6.1,SNR=5.9
TLY Talaya 91.82 324 eP P 10 13 48.8 -0.3
comp=Z,19nm,1.2s,mb5.3
TLY Talaya 91.82 324 eP P 10 13 49.0 0.0
TLY pmax pmax
comp=Z,26nm,1.2s,mb5.4
TLY MLR MLR
comp=Z,153nm,19.0s,MS4.5
D13A Huson 91.86 41 ⇓P P 10 13 48.3 -1.0
baz=92
MCMT McKenzie Canyo 91.95 43 eP P 10 13 50.2 +0.4
F14A Wisdom 92.01 42 ⇑P P 10 13 49.4 -0.7
baz=92
C13A Hot Springs 92.03 40 ⇓P P 10 13 49.0 -1.1
baz=92
LAZ Ladron 92.14 55 eP P 10 13 51.2 +0.3
E14A Clinton 92.18 42 ⇓P P 10 13 50.4 -0.4
baz=92,SNR=7.7
LENM Lemitar 92.19 55 eP P 10 13 51.9 +0.7
G15A Dillon 92.32 43 ⇑P P 10 13 51.4 -0.2
baz=92,SNR=6.5
DLMT Dillon 92.33 43 eP P 10 13 51.3 -0.3
comp=Z,12nm,1.1s,mb5.2
B13A Whitefish 92.39 40 ⇑P P 10 13 50.8 -1.0
baz=93
D14A Greenough 92.44 41 ⇑P P 10 13 50.5 -1.5
baz=93,SNR=6.8
BNM Barren Site 92.45 55 eP P 10 13 52.5 +0.1
LPM Los Pinos Moun 92.51 55 eP P 10 13 53.3 +0.6
CHMT Chamberlain Mo 92.53 41 eP P 10 13 52.4 0.0
F15A Butte 92.59 42 ⇑P P 10 13 52.1 -0.6
baz=93
MNTX Cornudas Mount 92.61 58 eP P 10 13 52.9 -0.3
comp=Z,18nm,1.0s,mb5.5
TPAW Teton Pass 92.69 45 eP P 10 13 53.2 -0.1
comp=Z,30nm,1.9s,mb5.4
REDW Red Top Meadow 92.70 45 eP P 10 13 53.0 -0.4
comp=Z,20nm,1.4s,mb5.3
E15A Deer Lodge 92.72 42 ⇓P P 10 13 52.5 -0.8
baz=93
SNOW Snow King Moun 92.81 45 eP P 10 13 52.7 -1.1
comp=Z,3.7nm,1.1s,mb4.7
IMW Indian Meadow 92.85 45 eP P 10 13 54.3 +0.3
comp=Z,14nm,1.4s,mb5.2
ANMO Albuquerque 92.86 54 eP P 10 13 54.0 -0.3
comp=Z,20nm,1.1s,mb5.5
ANMO Albuquerque 92.86 54 eP P 10 13 54.0 -0.3
ANMO pmax pmax
comp=Z,19nm,1.1s
MOOW Moose Ponds 92.92 45 eP P 10 13 53.7 -0.6
comp=Z,9.1nm,1.6s,mb5.0
LOHW Long Hollow 92.97 45 eP P 10 13 54.6 +0.1
comp=Z,4.4nm,1.1s,mb4.8
WALA Waterton Lakes 93.00 39 eP P 10 13 54.8 +0.2
comp=Z,2.7nm,0.6s,mb4.8
D15A Lincoln 93.05 41 ⇓P P 10 13 54.3 -0.5
baz=93
BOZ Bozeman (W) 93.07 43 ⇓P P 10 13 54.8 -0.1
baz=93,SNR=7.9
YMR Madison River 93.13 44 eP P 10 13 55.5 +0.3
comp=Z,6.2nm,0.9s,mb5.0
TXAR Lajitas Array 93.23 60 P P 10 13 57.0 +0.9
comp=Z,12nm,0.9s,mb5.3,baz=229,slow=4.9,SNR=102
TXAR LR LR 10 45 41.2
comp=Z,578nm,21.7s,MS5.0,baz=40,slow=29
MOY Mondy 93.30 324 eP P 10 13 55.6 -0.3
MOY pmax pmax
comp=Z,35nm,1.9s,mb5.5
PDAR Pinedale Array 93.36 46 P P 10 13 56.0 -0.4
comp=Z,3.7nm,1.2s,mb4.7,baz=224,slow=4.1,SNR=11
PDAR LR LR 10 46 50.5
comp=Z,380nm,21.1s,MS4.8,baz=285,slow=30
SMCO Snowmass 93.92 50 eP P 10 13 59.6 +0.6
comp=Z,2.7nm,0.8s,mb4.7
TIXI Tiksi 94.39 347 eP P 10 13 59.3 -1.2

comp=Z,4.9nm,1.0s,mb4.9
TIXI Tiksi 94.39 347 *e*P **P 10 13 59.3 -1.2**
TIXI pmax pmax
comp=Z,5.0nm,1.0s,mb4.9
INK Inuvik 94.44 17 *e*P **P 10 13 59.6 -1.2**
INK Inuvik 94.44 17 P **P 10 13 59.7 -1.0**
comp=Z,4.4nm,1.2s,mb4.8,baz=218,slow=5.0,SNR=7.5
SDCO Great Sand Dun 94.53 52 *e*P **P 10 14 01.3 -0.5**
comp=Z,5.6nm,1.4s,mb4.8
AMTX Amarillo 96.56 56 *e*P **P 10 14 10.5 -0.7**
comp=Z,6.8nm,0.9s,mb5.1
PLCA Paso Flores 97.04 137 P **P 10 14 13.2 -0.2**
comp=Z,3.8nm,1.1s,mb4.7,baz=249,slow=12,SNR=3.6
PLCA LR LR 10 47 12.9
comp=Z,205nm,21.5s,MS4.6,baz=50,slow=29
RSSD Black Hills 97.60 46 *e*P **P 10 14 15.0 -0.7**
comp=Z,12nm,1.5s,mb5.2
RSSD Black Hills 97.60 46 *e*P **P 10 14 15.0 -0.7**
RSSD pmax pmax
comp=Z,11nm,1.5s,mb5.2
YKA Yellowknife Ar 98.13 27 P **P 10 14 16.8 -0.8**
comp=Z,2.5nm,1.0s,mb4.7,baz=251,slow=4.4,SNR=22
YKA LR LR 10 51 39.3
comp=Z,232nm,19.8s,MS4.7,baz=85,slow=31
WMQ Urumqi 98.93 313 *e*P **P 10 14 20.8 -0.9**
WMQ AMB AMB
comp=Z,13nm,0.9s,mb5.5
WMQ AMB AMB
comp=Z,116nm,3.7s
ZALV Zalesovo Beam 103.30 323 Pdif Pdif 10 14 39.9 -1.1
ZALV Zalesovo Beam 103.30 323 Pdiff Pdif 10 14 39.9 -1.1
comp=Z,0.4nm,0.3s,baz=99,slow=7.7,SNR=4.6
ZAL Zalesovo 103.31 323 P Pdif 10 14 39.9 -1.2
MKAR Makanchi Array 103.36 315 Pdiff Pdif 10 14 41.9 +0.6
comp=Z,3.1nm,1.1s,baz=92,slow=6.1,SNR=15
POO Poona 103.82 285 *ex* x 10 19 49.0
POO *ex* x 10 23 27.0
ARU Arti 118.32 325⇑*e*PKP PKPdf 10 19 27.4 -0.8
ARU Arti 118.32 325 *i* PKIKP PKPdf 10 19 27.1 -1.1
ARCES ARCESS Array B 124.82 347 PKP PKPdf 10 19 39.2 -1.2
comp=Z,11nm,0.8s,baz=343,slow=1.3,SNR=13
BDFB Brasilia 127.59 127 PKP PKPdf 10 19 45.2 -2.0
comp=Z,0.6nm,0.4s,baz=174,slow=24,SNR=4.9
JOF Joensuu 128.00 339 *ep* PKPdf 10 19 37.3 -9.3
comp=Z,4.2nm,0.8s
OBN Obninsk 130.39 329⇓*e*PKP PKPdf 10 19 51.3 -0.1
OBN Obninsk 130.39 329 *d* *i*PKIKP PKPdf 10 19 51.7 +0.3
OBN pmax pmax
comp=Z,41nm,1.4s
OBN MLR MLR
comp=Z,100nm,16.0s,MS4.6
FINES FINESS Array B 130.80 340 PKP PKPdf 10 19 50.1 -1.8
comp=Z,2.0nm,0.8s,baz=67,slow=5.0,SNR=7.7
KMBO Kilima Mbogo 132.32 251 PKP PKPdf 10 19 55.9 -0.5
comp=Z,1.3nm,0.4s,baz=247,slow=21,SNR=4.8
NB2 NORSAR Subarra135.18 347 PKPdf PKPdf 10 19 59.2 -1.0
comp=Z,6.5nm,1.0s,baz=26,slow=1.9
NB2 NORSAR Subarra135.18 347 PKPdf PKPdf 10 19 59.2 -1.0
baz=26,slow=1.9
NOA NORSAR Array B 135.18 347 PKP PKPdf 10 19 59.1 -1.2
comp=Z,2.9nm,0.9s,baz=33,slow=2.0,SNR=6.3
AKASG Malin Array Be 136.52 327 PKP PKPdf 10 20 01.8 -1.2
comp=Z,0.3nm,0.2s,baz=41,slow=1.3,SNR=14
TIRR Tirgusor 140.34 319 ⇓P PKPdf 10 20 06.3 -4.0
TIRR Tirgusor 140.34 319⇑*i*P 10 20 02.5
TIRR S PKPdf 10 20 06.2 -4.1
TIRR Tirgusor 140.34 319 ⇓*i*P PKPdf 10 20 06.3 -4.0
KOLS Kolonicke sedl 141.14 329 *e*PKP PKPdf 10 20 10.5 -1.1
MLR Muntele Rosu 141.28 322 PKhKP 10 20 06.1
comp=Z,7.9nm,1.2s,baz=56,slow=8.2,SNR=3.8
MLR Muntele Rosu 141.28 322⇓*i*P PKPdf 10 20 09.4 -2.5
STHS Stebnicka Huta 141.31 330 *e*PKP PKPdf 10 20 10.4 -1.5
DRGR 142.31 326⇑P PKPdf 10 20 09.4 -4.4
DRGR 142.31 326⇑*i*P PKPdf 10 20 09.4 -4.3
KECS Kecovo 142.31 330 *e*PKP PKPdf 10 20 11.5 -2.2
MORC Moravsky Berou 142.71 333⇑P PKPdf 10 20 15.0 +0.6
MORC Moravsky Berou 142.71 333⇑*i*P PKPdf 10 20 15.0 +0.7
EKA Eskdalemuir Ar 142.73 356 PKhKP 10 20 08.5
comp=Z,2.0nm,1.0s,baz=0.0,slow=5.0,SNR=3.9
DPC Dobruska-Polom 142.77 335 *e*PKP PKPdf 10 20 10.9 -3.5
UPC Upice 142.77 335 *e*PKP PKPdf 10 20 11.0 -3.4
PSZ Piszkesteto 142.99 329⇑*e*PKP PKPdf 10 20 14.8 -0.1
VYHS Vyhne 143.08 331 *e*PKP PKPdf 10 20 12.5 -2.6
GZR Gura Zlata 143.15 324⇑*i*P PKPdf 10 20 12.6 -2.7
KOLL Kolacno 143.22 331 *e*PKP PKPdf 10 20 13.6 -1.7
KOLL Kolacno 143.22 331 *e*PKP PKPdf 10 20 13.5 -1.8
CLL Collm 143.24 339 *e*PKPdf PKPdf 10 20 12.0 -3.2
CLL *e*PKiKP PKiKP 10 20 18.0 -0.5
CLL Lm 11 18 00.0
comp=Z,200nm,21.7s
BRG Berggiesshubel 143.26 338 *e*PKP PKPdf 10 20 13.6 -1.7
comp=Z,4.5nm,0.7s
BRG *e* 10 20 18.1
comp=Z,27nm,1.4s
PVCC Panska Ves 143.31 337 *e*PKP PKPdf 10 20 13.1 -2.3
PVCC AMS AMS 10 55 30.0
comp=Z,700nm,23.3s,MS5.4
VRAC Vranov 143.47 334 PKP PKPdf 10 20 12.8 -2.9
comp=Z,2.0nm,0.4s,baz=121,slow=14,SNR=11
CLZ Clausthal 143.62 342 *e*PKPbc PKPdf 10 20 13.6 -2.3
BZS Buzias 143.64 325⇑P PKPdf 10 20 12.9 -3.3
BZS Buzias 143.64 325⇑*i*P PKPdf 10 20 12.9 -3.2
KDZ Kurdzhali 143.65 317 *i* P PKPdf 10 20 13.6 -2.7
PRU Pruhonice 143.76 336 *e*PKP PKPdf 10 20 14.0 -2.2
PRU AMS AMS 10 55 50.0
comp=Z,500nm,22.1s,MS5.2
MODS Modra-Piesok 143.88 332 *e*PKP PKPdf 10 20 14.1 -2.4
TREC Trest 143.94 335 *e*PKP PKPdf 10 20 15.2 -1.3
TREC AMS AMS 10 55 00.0
comp=Z,400nm,24.8s,MS5.1
ZST Bratislava 144.09 332 *e*PKP PKPdf 10 20 15.8 -1.0
TANN Tannenbergstha 144.17 338 *e*PKPbc PKPdf 10 20 14.7 -2.2
WERD Werda 144.20 339 *e*PKPbc PKPdf 10 20 14.7 -2.2
GUNZ Gunzen 144.26 339 *e*PKPbc PKPdf 10 20 15.3 -1.8
MOX Moxa 144.26 339 *e*PKP PKPdf 10 20 15.5 -1.6
comp=Z,32nm,1.4s
MOX
comp=Z,200nm,24.0s
MOX Moxa 144.26 339 *e*PKIKP PKPdf 10 20 15.5 -1.6
MOX pmax pmax
comp=Z,32nm,1.4s
MOX MLR MLR
comp=Z,200nm,24.0s,MS4.8
MOX Moxa 144.26 339 *e*PKPbc PKPdf 10 20 14.7 -2.4
DMUB Kingscourt 144.29 360 *e*P PKPdf 10 20 16.1 -0.9
WERN Wernitzgruen 144.31 338 *e*PKPbc PKPdf 10 20 15.4 -1.7
NKC Novy Kostel 144.33 338 *e*PKP PKPdf 10 20 15.6 -1.6
WTSB Winterswijk 144.48 345 *e*PKiKP PKiKP 10 20 15.7 -5.3
comp=Z,39nm,1.7s
VTS Vitosha 144.54 320 ⇓P PKPdf 10 20 16.6 -1.2
VTS Vitosha 144.54 320 ⇓*i*P PKPdf 10 20 16.6 -1.2
VTS Vitosha 144.54 320 *i* P PKPdf 10 20 16.5 -1.3
MANZ Manzenberg 144.66 338 *e*PKPbc PKPdf 10 20 16.4 -1.3
SOP Sopron 144.72 332⇑*e*PKP PKPdf 10 20 17.7 -0.2
MMB Musomiste 144.76 318 *i* P PKPdf 10 20 17.2 -1.0
PKSM Moragy 144.80 328 ⇓P PKPdf 10 20 16.8 -1.3
PKSM Moragy 144.80 328 ⇓*i*P PKPdf 10 20 16.8 -1.3
ROTZ Rotzenmuhle 144.80 338 *e*PKPbc PKPdf 10 20 17.0 -1.0
KHC Kasperske Hory 144.82 336 *e*PKP PKPdf 10 20 17.2 -0.9
KHC *ex* x 10 20 27.5
KHC AMS AMS 10 56 20.0
comp=Z,600nm,24.5s,MS5.3
CONA Conrad Observa 144.84 333 ⇓*i*PKPdf PKPdf 10 20 17.4 -0.7
comp=Z,335nm,2.4s,SNR=15
DCN Croghan 144.85 0 *e*P PKPdf 10 20 16.9 -1.1
DLF Lyons Farm 144.90 359 *e*P PKPdf 10 20 17.1 -1.0
DSB Dublin 144.94 359 *e*PKPdf PKPdf 10 20 17.1 -1.0
GEC2 GERESS Array S 145.01 336 *e*PKPdf PKPdf 10 20 16.8 -1.6
GEC2 GERESS Array S 145.01 336 *e*PKPbc PKPdf 10 20 17.4 -1.0
GERES GERESS Array B 145.01 336 PKP PKPdf 10 20 17.8 -0.6
comp=Z,14nm,0.8s,baz=46,slow=3.9,SNR=59
KKB Krupnik 145.02 319 *i* P PKPbc 10 20 18.0 0.0
WET Wettzell 145.08 337 *e*PKPbc PKPbc 10 20 17.8 -0.2
GRF Grafenberg Arr 145.21 339 *e*PKPbc PKPbc 10 20 18.6 +0.2
GRF *eL* 11 21 35.5
comp=Z,314nm,21.1s
GRFO Grafenberg 145.21 339 *e*PKPbc PKPbc 10 20 18.8 +0.4
ARSA Arzberg 145.50 332 ⇓*i*P PKPdf 10 20 19.4 +0.1
comp=Z,278nm,1.9s,SNR=24
MOA Molln 145.57 334 ⇓*i*P PKPdf 10 20 19.8 +0.3
comp=Z,242nm,1.5s,SNR=30
VAY Valandovo 145.64 319 *i* PKP PKPdf 10 20 17.9 -1.9
STIP Stip 145.67 319 *i* PKP PKPdf 10 20 20.4 +0.6
HGN Heimansgroeve 145.80 345 *e*PKiKP PKiKP 10 20 20.0 -3.8
comp=Z,107nm,1.7s
BEBN Eben Emael 145.84 345 PKP PKPdf 10 20 20.4 +0.7
MEM Membach 145.93 345 PKP PKPdf 10 20 21.0 +1.1
SKO Skopje 145.97 320 *i* PKP PKPdf 10 20 20.6 +0.3
SANT Santorini 146.01 309 *e*PKPbc PKPbc 10 20 19.5 -1.8
TOD Tromm 146.07 341 PKP PKPdf 10 20 21.0 +0.8
UCC Uccle 146.13 347 PKP PKPdf 10 20 20.0 -0.3
ABH Alteburg 146.19 343 PKP PKPdf 10 20 21.4 +1.0
BCLA Clavier 146.27 346 PKP PKPdf 10 20 22.5 +2.0
PLE Pljevlja 146.33 324 ⇓*i*PKP PKPdf 10 20 22.4 +1.6
IVA Berane 146.33 323 ⇓*i*PKP PKPdf 10 20 21.9 +1.0
GOLS Golise 146.39 331 *e*PKPbc PKPbc 10 20 22.2 0.0
SNF Seneffe 146.42 347 PKP PKPdf 10 20 22.6 +1.8
KRUS Krusevo 146.43 320 *i* PKP PKPdf 10 20 21.2 +0.1
SISC Sisak 146.44 329 P PKPdf 10 20 22.0 +1.0
PVY Plav 146.46 322 ⇓*i*PKP PKPdf 10 20 22.0 +0.9
RUP Ruppelstein 146.49 343 PKP PKPdf 10 20 22.6 +1.7
OBKA Obir 146.50 332 ⇓*i*P PKPdf 10 20 21.9 +0.9
comp=Z,158nm,2.3s
KTD Kalmit 146.54 342 PKP PKPdf 10 20 22.1 +1.1
KBA Koelnbreinsper 146.57 334 *i* P PKPdf 10 20 22.2 +1.1
comp=Z,87nm,1.4s,SNR=10
BIA Bitola 146.59 319 *i* PKP PKPdf 10 20 21.8 +0.4
UPM Unac-Piva 146.68 324 ⇓*i*PKP PKPdf 10 20 22.9 +1.5
GIVF Givet 146.68 346 *e*PKP1 PKPbc 10 20 22.6 -0.3
comp=Z,122nm,1.2s
DOU Dourbes 146.74 346 PKP PKPdf 10 20 23.1 +1.8
WLF Walferdange 146.76 344 *e*PKPbc PKPbc 10 20 23.6 +0.6
WLF Walferdange 146.76 344 PKP PKPbc 10 20 24.2 +1.1
WLF Walferdange 146.76 344 *e*PKPbc PKPbc 10 20 23.5 +0.4
MYKA Terra Mystica 146.80 333⇑*i*PKPbc PKPbc 10 20 22.4 -0.9
comp=Z,306nm,1.7s
OHR Ohrid 146.86 320 *i* PKP PKPdf 10 20 22.7 +0.9
BAIF Baives 146.86 347 *e*PKP1 PKPbc 10 20 23.2 -0.2
comp=Z,160nm,1.3s
NKY Niksic 146.88 324 ⇓*i*PKP PKPdf 10 20 23.5 +1.7
LANF Langenberg 146.92 342 PKP PKPdf 10 20 22.9 +1.2
TTG Podgorica 146.98 323 ⇓*i*PKP PKPdf 10 20 22.7 +0.7
WATA Walderalm 147.06 336 ⇓*i*P PKPdf 10 20 23.9 +2.0
comp=Z,54nm,1.3s
BRY Bratogost 147.08 324 ⇓*i*PKP PKPdf 10 20 23.2 +1.1
WTTA Wattenberg 147.10 336 ⇓*i*P PKPdf 10 20 23.9 +1.8
comp=Z,203nm,1.7s,SNR=19
PTCC Patocco-Chiusa 147.10 334 PKP PKPdf 10 20 23.3 +1.3
VOY Vojsko 147.16 333 *e*PKPbc PKPbc 10 20 23.1 -1.3
VOY *e* 10 20 29.7
ABTA Abfaltersbach 147.17 335 ⇓*i*PKPbc PKPbc 10 20 23.3 -1.0
comp=Z,134nm,1.6s,SNR=18
MOTA Moosalm 147.23 337 ⇓*i*P PKPdf 10 20 24.4 +2.2
comp=Z,74nm,1.1s,SNR=14
RETA Reute 147.24 337 ⇓*i*PKPbc PKPbc 10 20 24.4 -0.1
comp=Z,200nm,2.2s,SNR=17
GMNA Gemona 147.25 333 PKP PKPdf 10 20 24.3 +2.0
BUM Brajici-Budva 147.27 323⇑*i*PKP PKPdf 10 20 23.5 +1.0
ULC Ulcinj 147.28 322 ⇓*i*PKP PKPdf 10 20 24.0 +1.5
SQTA Sankt Quirin 147.30 337 ⇓*i*P PKPbc 10 20 24.7 0.0
comp=Z,57nm,1.1s,SNR=15
SQTA Sankt Quirin 147.30 337 ⇓*i*pPKPdf pPKPdf 10 20 24.7 -9.1
comp=Z,57nm,1.1s,SNR=15
BFO Black Forest 147.34 341 *e*PKPbc PKPbc 10 20 24.4 -0.4
BFO Black Forest 147.34 341 *e*PKPbc PKPbc 10 20 24.3 -0.5
SPAK Spaichingen-Ko 147.40 340 PKP PKPdf 10 20 23.1 +0.6
HCY Herceg Novi 147.40 324 ⇓*i*PKP PKPdf 10 20 23.5 +0.8
STON Ston 147.57 325 P PKPdf 10 20 23.9 +0.9
CDF Champ du Feu 147.59 342 *e*PKP1 PKPbc 10 20 25.1 -0.4
comp=Z,201nm,1.3s
FETA Feichten 147.64 337 ⇓*i*pPKPdf pPKPdf 10 20 25.8 -8.6
comp=Z,106nm,1.5s,SNR=20
DAVA Damuels 147.73 338⇑*i*P PKPbc 10 20 25.8 0.0
comp=Z,197nm,1.7s,SNR=12
DAVA Damuels 147.73 338⇑*i*pPKPdf pPKPdf 10 20 25.8 -8.7
comp=Z,197nm,1.7s,SNR=12
ECH Echery 147.80 342 PKP PKPdf 10 20 25.0 +1.9
NVLJ Novalja 147.83 330 P PKPdf 10 20 25.4 +2.1
FELD Feldberg im Sc 147.84 341 PKP PKPdf 10 20 24.5 +1.3
CTI Castel Tesino 148.09 335 PKP PKPbc 10 20 26.7 -0.2
MEZF Maizieres J'vi 148.12 345 *e*PKP1 PKPbc 10 20 26.8 -0.1
comp=Z,374nm,1.6s
THEF They Montfort 148.12 343 PKP PKPbc 10 20 26.2 -0.7
MOF Molkenrain 148.13 342 PKP PKPdf 10 20 25.0 +1.3
DAVOS Davos 148.14 338 PKP2 PKPbc 10 20 27.5 +0.5
DAVOX Davos/Dischmat 148.16 338 PKPbc PKPbc 10 20 27.4 +0.4
comp=Z,54nm,1.0s,baz=239,slow=0.7,SNR=32
HAU Haudompre 148.22 343 *e*PKP1 PKPbc 10 20 26.7 -0.5
comp=Z,105nm,1.2s
HAU *e*MLR MLR
comp=Z,225nm,20.5s,MS4.6
HAU Haudompre 148.22 343 *e*PKP2 PKPbc 10 20 26.7 -0.5
HAU MLR MLR
comp=Z,230nm,20.5s,MS5.0
BRMO Bormio 148.23 337 PKP PKPbc 10 20 27.6 +0.3
HINF Hinteralfeld 148.25 342 *e*PKP1 PKPbc 10 20 26.6 -0.6
comp=Z,123nm,1.4s
TUE Stuetta 148.61 338 PKP PKPbc 10 20 28.4 +0.2
LOMF Lomont 148.67 342 PKP PKPdf 10 20 25.7 +1.1
FLN La Foliniere 148.96 351 *e*PKP1 PKPbc 10 20 28.3 -0.7
comp=Z,206nm,1.3s
FLN *e*MLR MLR
comp=Z,228nm,21.2s,MS4.6
FLN La Foliniere 148.96 351 *e*PKP2 PKPbc 10 20 28.3 -0.7
FLN MLR MLR
comp=Z,230nm,21.3s,MS4.9
LDF La Druitiere 149.07 351 *e*PKP1 PKPbc 10 20 28.5 -0.8
comp=Z,138nm,1.4s
VAI Varese 149.34 338 PKP PKPbc 10 20 29.7 -0.4
GRR Gorron 149.38 352 *e*PKP1 PKPbc 10 20 29.5 -0.6
comp=Z,152nm,1.2s
CING Cingoli 149.52 330 PKP PKPbc 10 20 30.8 +0.2
RGNG Rignano Grg 149.53 325 PKP PKPbc 10 20 30.3 -0.4
LOR Lormes 149.56 345 *e*PKP1 PKPbc 10 20 30.1 -0.5
comp=Z,150nm,1.2s
LOR *e*MLR MLR
comp=Z,247nm,22.2s,MS4.7
LOR Lormes 149.56 345 *e*PKP2 PKPbc 10 20 30.1 -0.5
LOR MLR MLR
comp=Z,250nm,22.3s,MS5.0
CABF La Chapelle 149.56 342 *e*PKP1 PKPbc 10 20 30.6 0.0
comp=Z,242nm,1.4s
OG01 Vacheresse 149.63 341 PKP PKPbc 10 20 30.5 -0.3
ROSF Rostrenen 149.70 355 *e*PKP1 PKPbc 10 20 30.0 -0.9
comp=Z,248nm,1.7s
PIEI Pieia 149.70 331 PKP PKPbc 10 20 31.1 0.0
SGMF Saint Gilles 149.72 354 *e*PKP1 PKPbc 10 20 30.1 -0.8
comp=Z,173nm,1.3s
FNVD Fontana Vidola 149.83 333 PKP PKPbc 10 20 31.8 +0.4
SSF Saint Saulge 149.84 345 *e*PKP1 PKPbc 10 20 30.8 -0.5
comp=Z,172nm,1.2s
HYF Humbligny 149.84 347 *e*PKP1 PKPbc 10 20 31.1 -0.2
GSCL Gusciola 149.91 334 PKP PKPbc 10 20 32.1 +0.6
BOB Bobbio (Coli) 150.02 336 PKP PKPbc 10 20 31.9 +0.1
QUIF Quistinic 150.11 355 *e*PKP1 PKPbc 10 20 30.8 -1.1
comp=Z,223nm,1.6s
AVF Avril sur Loir 150.13 345 *e*PKP1 PKPbc 10 20 31.1 -0.9
comp=Z,70nm,1.2s
SMF Signal de Mont 150.14 345 *e*PKP1 PKPbc 10 20 31.3 -0.7
comp=Z,127nm,1.2s
AQU L'Aquila 150.18 328 *e*PKPbc PKPbc 10 20 32.7 +0.4
AQU L'Aquila 150.18 328⇑*i*P PKPbc 10 20 33.5 +1.2
RSL Roselend 150.22 340 PKP PKPbc 10 20 31.8 -0.5
OG05 Jujurieux 150.26 342 PKP PKPbc 10 20 32.2 -0.1
RNI2 Rionero Sannit 150.28 327 PKP PKPbc 10 20 32.2 -0.3
LPL La Plagne 150.34 340 *e*PKP1 PKPbc 10 20 32.6 +0.1
comp=Z,108nm,1.3s
LPG La Plagne 150.35 340 *e*PKP1 PKPbc 10 20 32.7 +0.1
comp=Z,140nm,1.4s
BGF Bois d'Agland 150.47 346 *e*PKP1 PKPbc 10 20 32.2 -0.6
comp=Z,91nm,1.1s
TIP Timpagrande 150.49 320 *e*PKPbc PKPbc 10 20 32.4 -0.8
GRFL Gerfalco 150.71 332 PKP PKPbc 10 20 32.8 -0.7
BNI Bardonecchia 150.77 340 *e*PKPbc PKPbc 10 20 32.4 -1.2
GDM Grand'Maison 150.82 341 PKP PKPbc 10 20 33.6 -0.1
PLDF La Plantade 150.83 344 PKP PKPdf 10 20 30.2 +2.1
TCF Toulx Ste Croi 150.87 347 *e*PKP1 PKPbc 10 20 33.1 -0.7
comp=Z,174nm,1.3s
AGO Saint Agoulin 150.87 345 PKP PKPdf 10 20 31.6 +3.5
GRN Grenoble 150.90 341 PKP PKPbc 10 20 33.6 -0.3
RDP Rocca di Papa 150.97 328 PKP PKPbc 10 20 33.9 -0.3
MFF Saint Martin d 151.02 350 *e*PKP1 PKPbc 10 20 33.4 -0.7
comp=Z,127nm,1.1s
MBDF Montbardon 151.03 339 *e*PKP1 PKPbc 10 20 33.6 -0.6
comp=Z,55nm,1.0s
ORIF Oris-en-Rattie 151.15 341 *e*PKP1 PKPbc 10 20 34.0 -0.5
comp=Z,45nm,0.9s
ORIF *e*MLR MLR
comp=Z,280nm,22.2s,MS4.7
PYM Petit Puy Mans 151.19 345 PKP PKPdf 10 20 31.6 +3.0
SURF Saint Ours 151.23 339 PKP PKPdf 10 20 34.5 +5.8
SAOF Saorge 151.40 338 PKP PKPdf 10 20 29.9 +0.9
AUTN L'Aution 151.44 338 PKP PKPdf 10 20 30.0 +0.9
TOUF Mont Tournerai 151.49 338 PKP PKPdf 10 20 30.4 +1.3
SBF Sospel 151.55 338 *e*PKP1 PKPbc 10 20 34.2 -1.2
comp=Z,146nm,1.1s
LUCF Luceram 151.56 338 PKP PKPdf 10 20 30.7 +1.5
VIVF Saint-Julien-l 151.57 342 *e*PKP1 PKPbc 10 20 35.0 -0.4
comp=Z,99nm,1.2s
LBL Lubilhac 151.61 344 PKP PKPdf 10 20 32.6 +3.3
MVIF Mont Vial 151.62 338 PKP PKPdf 10 20 30.1 +0.8
OG26 St.-Nazaire-De 151.63 341 PKP PKPdf 10 20 35.3 +6.0
REVF Revere 151.68 337 PKP PKPdf 10 20 30.3 +0.9
CALN Calern 151.84 338 PKP PKPdf 10 20 30.6 +0.9
RJF Les Rejaudoux 151.95 347 *e*PKP1 PKPbc 10 20 35.7 -0.6
comp=Z,91nm,1.4s
RJF *e*MLR MLR
comp=Z,538nm,22.8s,MS5.0
PGF Pioggiola 152.05 334 *e*PKP1 PKPbc 10 20 35.6 -1.0
comp=Z,142nm,1.2s
SMRF Simiane la Rot 152.09 340 *e*PKP1 PKPbc 10 20 36.3 -0.4
comp=Z,121nm,1.3s
FRF La Foret Royal 152.09 338 *e*PKP1 PKPbc 10 20 35.7 -1.0
comp=Z,62nm,1.1s
VILF Villemus 152.15 340 PKP PKPdf 10 20 32.0 +1.9
CAF Calviac 152.19 346 *e*PKP1 PKPbc 10 20 36.2 -0.7
comp=Z,85nm,1.6s
TAVF Tavernes 152.25 339 PKP PKPdf 10 20 32.5 +2.2
LMR La Mourre 152.34 338 *e*PKP1 PKPbc 10 20 36.2 -1.0
comp=Z,88nm,1.2s
PRAF Pradon 152.37 341 PKP PKPdf 10 20 33.0 +2.5
PUYF Puyloubier 152.44 340 PKP PKPdf 10 20 33.2 +2.6
LFF La Frestale 152.46 348 *e*PKP1 PKPbc 10 20 36.8 -0.7
comp=Z,114nm,1.3s
TREF Trevaresse 152.46 340 PKP PKPdf 10 20 33.3 +2.7
LASF Ste Croix 152.52 343 *e*PKP1 PKPbc 10 20 37.1 -0.5
comp=Z,86nm,1.3s
KEST Kesra 157.17 323 PKPab PKPab 10 21 09.2 +1.1
comp=Z,5.2nm,1.2s,baz=77,slow=1.2,SNR=6.9
ESDC Sonseca Array 158.35 353 PKPab PKPab 10 21 13.0 +0.1
comp=Z,2.9nm,0.8s,baz=8.2,slow=4.4,SNR=33
EVO Evora 159.65 2 *e*PKIKP PKPdf 10 20 39.3 -1.0
comp=Z,28nm,1.0s
EVO *e*MLR MLR
comp=Z,392nm,22.8s,MS4.9
MDT Midelt 165.19 352 PKPab PKPab 10 21 43.2 +0.2
comp=Z,5.3nm,0.9s,baz=18,slow=5.0,SNR=5.9
LIC Lamto 167.99 190 *e*PKIKP PKPdf 10 20 45.8 -2.9
comp=Z,25nm,1.1s
DBIC Dimbokro 168.40 191 PKPab PKPab 10 21 57.1 -0.5
comp=Z,7.2nm,1.0s,baz=200,slow=3.6,SNR=4.2

IDC 26 10:00:52.7±1.3, 329N×12759E, h0km, mb3.7/6, mb1 3.9/6, mb1mx3.7/18, mbtmp3.7/6, MS4.2/3, Ms1 4.2/3, ms1mx3.5/30, Error ellipse: s-maj=100.2km s-min=17.7km az=72.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**21.34**	**185**	P	P	10 05 41.7	+0.2
	0.8nm,0.5s,baz=8.1,slow=14,SNR=3.1						
WRA	**Warramunga Arr**	**24.02**	**164**	P	P	10 06 09.1	-0.3
	2.1nm,0.9s,baz=344,slow=9.6,SNR=11						
ASAR	**Alice Springs**	**27.49**	**167**	P	P	10 06 40.0	-0.9
	0.4nm,0.5s,baz=347,slow=7.4,SNR=3.5						
STKA	**Stephens Creek**	**37.42**	**160**	P	P	10 08 07.5	-0.2
	4.2nm,0.9s,baz=335,slow=8.1,SNR=3.9						
SONM	**Songino Array**	**47.99**	**341**	P	P	10 09 34.6	+1.3
	0.4nm,0.8s,baz=142,slow=4.9,SNR=3.0						
MKAR	**Makanchi Array**	**58.41**	**325**	P	P	10 10 50.1	0.0
	0.3nm,0.5s,baz=126,slow=8.7,SNR=6.4						
MKAR				LR	LR	10 38 33.8	
	comp=Z,148nm,20.8s,baz=88,slow=39						
ZALV	**Zalesovo Beam**	**61.37**	**333**	LR	LR	10 39 10.1	
	comp=Z,146nm,20.1s,baz=92,slow=37						
AKASG	**Malin Array Be**	**92.78**	**321**	LR	LR	10 58 55.9	
	comp=Z,236nm,21.6s,baz=20,slow=38						

IDC 26 10:29:59.5±3.9, 1309N×14385E, h133km±77km, mb3.1/3, mb1 3.3/3, mb1mx3.0/19, mbtmp3.1/3, Error ellipse: s-maj=151.8km s-min=22.6km az=83.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.11**	**64**	P	Pn	10 30 24.4	+0.7
	17nm,0.3s,baz=318,slow=16,SNR=13						
GUMO				S	Sn	10 30 42.2	+0.1
	60nm,0.3s,baz=2.4,slow=24,SNR=14						
WRA	**Warramunga Arr**	**34.14**	**196**	P	P	10 36 32.0	+0.1
	1.2nm,0.7s,baz=17,slow=9.5,SNR=17						
ASAR	**Alice Springs**	**37.81**	**195**	P	P	10 37 02.9	-0.3
	0.4nm,0.5s,baz=18,slow=12,SNR=12						
MKAR	**Makanchi Array**	**61.16**	**316**	P	P	10 39 60.0	0.0
	0.2nm,0.5s,baz=98,slow=6.0,SNR=3.4						

GUC 26 10:47:51.2±0.5, 3153S×7161W, h25km±3km, MD3.7, ML3.0, 7C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMCH	**Combarbala**	**0.63**	**56**⇑	*i*P	Pb	10 48 03.5	-0.1
CMCH				*i* S	Sb	10 48 12.4	+0.5
CMCH				AML	AML	10 48 19.1	
	comp=N,2μm,0.5s						
OVCH	**Ovalle**	**0.98**	**21**⇑	*i*P	Pn	10 48 08.7	-0.7
OVCH				*i* S	Sb	10 48 21.9	-0.2
OVCH				AML	AML	10 48 25.0	
	comp=N,770nm,0.2s						
JACH	**Jahuel**	**1.44**	**143**⇑	*i*P	Pn	10 48 17.4	+1.7
JACH				*i* S	Sn	10 48 36.2	+2.5
TLL	**Tololo Astrono**	**1.52**	**27**	⇓*i*P	Pn	10 48 17.9	+1.1
TLL				*i* S	Sn	10 48 37.9	+2.1
TLL				AML	AML	10 48 40.1	
	comp=E,171nm,0.3s						
ROCH	**El Roble**	**1.53**	**161**⇑	*i*P	Pn	10 48 17.1	+0.2
ROCH				*i* S	Sn	10 48 37.2	+1.2
PEL	**Peldehue**	**1.79**	**154**⇑	*i*P	Pn	10 48 21.7	+1.2
PEL				*i* S	Sn	10 48 44.6	+2.1
PEL				AML	AML	10 48 49.6	
	comp=E,469nm,0.2s						
RCDM	**Rinconada Maip**	**2.07**	**161**	*i* P	Pn	10 48 25.9	+1.5
RCDM				*i* S	Sn	10 48 52.0	+2.6
RCDM				AML	AML	10 48 58.6	
	comp=E,177nm,0.1s						
CLCH	**Cerro Calan**	**2.07**	**154**⇑	*i*P	Pn	10 48 25.9	+1.5
CLCH				*i* S	Sn	10 48 52.0	+2.6
CLCH				AML	AML	10 49 03.3	
	comp=N,181nm,0.5s						
FCH	**Farellones**	**2.11**	**149**⇑	*i*P	Pn	10 48 26.8	+1.9
FCH				*i* S	Sn	10 48 54.5	+4.0
FCH				AML	AML	10 49 05.2	
	comp=E,121nm,0.2s						

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*ISCJB **26** 10:54:12.4±0.9, 3650N×006×2879E±004, h7km±7km, Error ellipse: s-maj=10.4km s-min=4.8km az=4.8*
*CSEM **26** 10:54:12.0±0.2, 3654N×2879E, h12km, MD2.8, Error ellipse: s-maj=6.6km s-min=3.0km az=12.0*
*ISK **26** 10:54:12.1, 3653N×2879E, h17km, MD2.8*
*DDA **26** 10:54:15.5, 3663N×2880E, h8km±4km, Md3.0*

ISC 26 10:54:13.0±0.8, 3652N×006×2880E±004, h12km±7km, n11, σ0:70/20, Dodecanese Islands

| Code | Station Name | Δ° | AZ° | Phase ID Op | ISC | Time h

DAT *e*SG **Sg** **10 54 46.5 +0.9**
BDRM Kayabasi 1.22 297 *i* P **Pn** **10 54 36.5 +0.7**
BDRM *i* S **Sb** **10 54 51.8 +0.2**
BODT Bodrum 1.32 295 *e*PN **Pn** **10 54 35.9 -1.2**
AYDN Tasoluk 1.36 327 *i* P **Pn** **10 54 38.5 +0.8**
AYDN *i* S **Sb** **10 54 55.7 +0.1**

IDC 26 11:06:26.2±5.1,773N×13653E,h0km,mb3.3/3,mb1 3.5/3, mb1mx3.3/17,mbtmp3.3/3,Error ellipse: s-maj=273.9km s-min=29.7km az=78.0,Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**27.58**	**184**	P	P	11 12 15.3	+0.1
	0.2nm,0.6s,baz=4.3,slow=9.8,SNR=4.6						
SONM	**Songino Array**	**47.45**	**333**	P	P	11 15 03.1	+0.4
	0.3nm,0.7s,baz=144,slow=10,SNR=2.5						
MKAR	**Makanchi Array**	**60.33**	**320**	P	P	11 16 36.5	-0.4
	0.3nm,0.7s,baz=114,slow=8.5,SNR=3.6						

GUC 26 11:35:59.1±0.6,3167S×7209W,h30km±2km,MD3.7, ML3.2,8C-2D,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHNG	**Los Chungos**	**0.54**	**113**	⇓*i*P	Pb	11 35 50.3	-20
CHNG				*i* S	Sb	11 35 58.4	-19
CMCH	**Combarbala**	**1.05**	**62**	⇑*i*P	Pn	11 36 17.6	-0.2
CMCH				*i* S	Sn	11 36 32.0	+0.6
CMCH				AML	AML	11 36 34.0	
	comp=N,2μm,0.8s						
ROCH	**El Roble**	**1.59**	**145**	*i* P	Pn	11 36 26.7	+1.6
ROCH				*i* S	Sn	11 36 47.9	+3.1
JACH	**Jahuel**	**1.62**	**129**	⇑*i*P	Pn	11 36 26.9	+1.2
JACH				*i* S	Sn	11 36 48.3	+2.7
TLL	**Tololo Astrono**	**1.86**	**37**	*i* P	Pn	11 36 30.8	+1.9
TLL				*i* S	Sn	11 36 55.2	+3.8
TLL				AML	AML	11 37 05.8	
	comp=N,195nm,0.6s						
PEL	**Peldehue**	**1.89**	**142**	⇑*i*P	Pn	11 36 30.5	+1.1
PEL				*i* S	Sn	11 36 55.0	+2.8
PEL				AML	AML	11 37 01.9	
	comp=E,625nm,0.5s						
RCDM	**Rinconada Maip**	**2.11**	**150**	*i* P	Pn	11 36 33.6	+1.2
RCDM				*i* S	Sn	11 36 59.8	+2.1
RCDM				AML	AML	11 37 09.4	
	comp=E,148nm,0.4s						
CLCH	**Cerro Calan**	**2.16**	**143**	⇑*i*P	Pn	11 36 34.5	+1.4
CLCH				*i* S	Sn	11 37 01.4	+2.5
CLCH				AML	AML	11 37 11.3	
	comp=N,267nm,0.5s						
TACH	**Talagante**	**2.21**	**154**	⇑*i*P	Pn	11 36 35.0	+1.4
TACH				*i* S	Sn	11 37 02.4	+2.4
FCH	**Farellones**	**2.25**	**138**	*i* P	Pn	11 36 35.5	+1.2
FCH				*i* S	Sn	11 37 03.9	+2.9
FCH				AML	AML	11 37 11.9	
	comp=E,89nm,0.2s						
LNV	**Longovilo**	**2.35**	**166**	⇑*i*P	Pn	11 36 37.0	+1.3
PCH	**Pirque**	**2.36**	**146**	*i* P	Pn	11 36 37.4	+1.6
PCH				*i* S	Sn	11 37 06.4	+2.7
LMEL	**Las Melosas**	**2.69**	**144**	⇓*i*P	Pn	11 36 42.0	+1.6
LMEL				*i* S	Sn	11 37 14.4	+2.5
LMEL				AML	AML	11 37 27.1	
	comp=E,81nm,0.4s						
CICH	**Cipreses**	**2.99**	**153**	⇑*i*P	Pn	11 36 46.2	+1.7
CICH				*i* S	Sn	11 37 22.2	+2.8
SFDO	**San Fernando**	**3.07**	**163**	⇑*i*P	Pn	11 36 47.1	+1.5
SFDO				*i* S	Sn	11 37 23.5	+2.2

IDC 26 11:50:26.3±2.7,1874S×17303E,h0km,mb3.6/3, mb1 3.9/3,mb1mx3.6/14,mbtmp3.5/3,MS3.4/1,Ms1 3.4/1, ms1mx3.0/25,Error ellipse: s-maj=303.2km s-min=35.8km az=162.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPZ	**Rata Peaks**	**24.95**	**183**	LR	LR	12 03 06.5	
	comp=Z,94nm,20.6s,baz=26,slow=30						
WRA	**Warramunga Arr**	**36.47**	**262**	P	P	11 57 32.5	-0.8
	0.3nm,0.7s,baz=96,slow=8.8,SNR=5.0						
ASAR	**Alice Springs**	**36.72**	**255**	P	P	11 57 36.2	+0.8
	0.7nm,0.7s,baz=82,slow=8.7,SNR=5.9						
TXAR	**Lajitas Array**	**93.39**	**60**	P	P	12 03 43.9	+0.1
	0.3nm,0.8s,baz=212,slow=4.4,SNR=4.8						

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*CSEM **26** 11:54:28.0,3839N×2050E,h5km,MD3.7/7,After ATH*
*NEIC **26** 11:54:28.0,3839N×2050E,h5km,MD3.7(ATH),After ATH.*

ATH 26 11:54:28.3,3838N×2049E,h4km,MD3.7/7,1C,Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.22**	**159**	⇑*i*PG	Pg	11 54 32.5	0.0
VLS				*e*SG	Sg	11 54 36.7	+1.4
RLS	**Riolos of Patr**	**0.83**	**112**	*e*PB	Pb	11 54 44.7	-0.6
EVR	**Evrytania**	**1.16**	**62**	*e*PB	Pb	11 54 48.9	-2.1
JAN	**Janina**	**1.30**	**12**	*e*PG	Pg	11 54 52.5	-0.8
KEK	**Kerkira**	**1.44**	**338**	*e*PN	Pn	11 54 55.3	+0.2
ITM	**Ithomi**	**1.65**	**136**	*e*PB	Pb	11 55 00.0	+0.7
ITM				*e*SB	Sb	11 55 22.2	+1.7
THL	**Klokotos Trika**	**1.68**	**45**	*e*PB	Pb	11 54 59.9	+0.2
LKR	**Lokris**	**1.99**	**81**	*e*Pn	Pn	11 55 06.7	+4.0

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*MAN **26** 12:01:22,1263N×12338E,h17km,mb4.9,ML3.8,MS3.8*
MAN INTENSITY II - MASBATE CITY.
*ISCJB **26** 12:01:23.9±1.6,1250N±004×12347E±006,h40km±14km, mb4.7/74,MS4.3/15,Error ellipse: s-maj=9.5km s-min=5.8km az=164.0*
*MOS **26** 12:01:23.1±1.1,1251N×12345E,h33km,mb4.9/29, MS4.3/5,Error ellipse: s-maj=13.6km s-min=6.7km az=113.1*
*IDC **26** 12:01:26.8±4.5,1248N×12339E,h50km±45km,mb4.2/17, mb1 4.2/17,mb1mx4.1/23,mbtmp4.2/17,Error ellipse: s-maj=25.2km s-min=11.4km az=77.0*
*BJI **26** 12:01:26.5,1234N×12324E,h64km,mB4.9,mb4.7,Ms4.5, Msz4.2*
*NEIC **26** 12:01:27.9±2.1,1250N×12346E,h61km±19km,mb4.8/29, Error ellipse: s-maj=8.9km s-min=5.3km az=70.0*
NEIC Felt [II PIVS] at Masbate.

ISC 26 12:01:27.0±1.3,1250N±004×12345E±006,h51km±12km, h44km±2.8km:pP-P,n152,σ0°97/157,mb4.7/74,MS4.3/15, 12C-5D,Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QIZ	**Qiongzhong**	**14.61**	**298**	P	**Pn**	**12 04 49.0**	**-1.8**
QIZ				S	**Sn**	**12 07 36.8**	**+5.3**
QIZ				AMB	AMB		
	comp=Z,182nm,7.7s						
QIZ				LR	LR		
	comp=N,549nm,13.7s						
QIZ				LR	LR		
	comp=E,381nm,15.0s						
QIZ				LR	LR		
	comp=Z,672nm,15.0s						
KSM	**Kuching**	**17.02**	**231**	*e*P	**Pn**	**12 05 24.2**	**+2.6**
SSE	**Sheshan**	**18.62**	**354**	P	**Pn**	**12 05 40.3**	**-0.7**
SSE				S	**S**	**12 09 04.5**	**-5.0**
SSE				XS	sS	12 09 22.5	-6.1
SSE				AMB	AMB		
	comp=Z,18nm,0.9s						
SSE				AMB	AMB		
	comp=Z,57nm,4.9s						
SSE				LR	LR		
	comp=N,341nm,17.9s						
SSE				LR	LR		
	comp=E,106nm,18.0s						
SSE				LR	LR		
	comp=Z,477nm,17.3s						
WHN	**Wuhan**	**19.83**	**336**	⇑P	**Pn**	**12 05 54.0**	**-1.4**
WHN				LR	LR		
	comp=Z,1μm,19.6s						
NJ2	**Nanjing**	**19.91**	**348**	*e*P	**Pn**	**12 05 58.5**	**+2.1**
NJ2				AP	pP	12 06 09.5	+3.4
NJ2				XP	sP	12 06 14.5	+1.9
NJ2				PP		12 06 18.0	
NJ2				AMB	AMB		
	comp=Z,30nm,0.8s						
NJ2				AMB	AMB		
	comp=Z,180nm,3.8s						
NJ2				LR	LR		
	comp=N,520nm,11.0s						
NJ2				LR	LR		
	comp=E,690nm,11.6s						
GYA	**Guiyang**	**21.02**	**314**	⇑*i*P	**P**	**12 06 08.5**	**+2.1**
GYA				AP		12 06 21.8	
GYA				XP	sP	12 06 27.5	+2.9
GYA				PP		12 06 33.5	
GYA				PPP		12 06 43.8	
GYA				AMB	AMB		
	comp=Z,20nm,0.8s,mb4.5						
GYA				AMB	AMB		
	comp=Z,150nm,4.8s						
GYA				LR	LR		
	comp=N,1μm,15.4s,MS4.8						
GYA				LR	LR		
	comp=E,2μm,16.2s,MS4.8						
GYA				LR	LR		
	comp=Z,1μm,15.6s,MS4.5						
JNU	**Nakatsue**	**21.62**	**17**	P	**P**	**12 06 13.3**	**+0.6**
	comp=Z,6.9nm,0.9s,mb4.1,baz=143,slow=12,SNR=3.7						
BATI	**Kupang**	**22.56**	**179**	P	**P**	**12 06 22.8**	**-0.1**
	comp=Z,18nm,0.7s,mb4.6,baz=126,slow=13,SNR=2.8						
KMI	**Kunming**	**23.24**	**306**	P	**P**	**12 06 30.5**	**+0.5**
KMI				AP		12 06 43.0	
KMI				XP	sP	12 06 49.0	+0.6
KMI				PP		12 07 03.8	
KMI				AMB	AMB		
	comp=Z,39nm,1.4s,mb4.6						
KMI				AMB	AMB		
	comp=Z,179nm,3.8s						
KMI				LR	LR		
	comp=N,195nm,14.7s,MS3.8						
KMI				LR	LR		
	comp=E,243nm,18.7s,MS3.8						
KMI				LR	LR		
	comp=Z,324nm,17.9s,MS3.8						
KULM	**Kulim**	**23.62**	**254**	*e*P	**P**	**12 06 33.1**	**-0.6**
CM31	**Chiang Mai Arr**	**24.34**	**287**	*e*P	**P**	**12 06 39.1**	**-1.1**
	comp=Z,2.6nm,0.5s,mb3.9						
CHTO	**Chiang Mai**	**24.40**	**288**	*e*P	**P**	**12 06 38.8**	**-2.0**
	comp=Z,3.8nm,0.9s,mb3.8						
CHTO	**Chiang Mai**	**24.40**	**288**	*e*P	**P**	**12 06 38.8**	**-1.9**
CHTO				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb3.9						
KSRS	**Korea Array**	**25.17**	**8**	P	**P**	**12 06 48.6**	**+1.1**
KSRS				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb3.8						
KSRS	**Korea Array**	**25.17**	**8**	P	**P**	**12 06 48.6**	**+1.1**
	comp=Z,2.2nm,0.7s,mb3.8,baz=190,slow=11,SNR=9.1						
XAN	**Xi'an**	**25.19**	**331**	P	**P**	**12 06 46.5**	**-1.3**
XAN				AP	pP	12 06 58.5	-2.3
XAN				PP		12 07 30.8	
XAN				PPP		12 07 42.5	
XAN				AMB	AMB		
	comp=Z,17nm,1.0s,mb4.5						
XAN				AMB	AMB		
	comp=Z,117nm,13.3s						
XAN				LR	LR		
	comp=N,303nm,18.8s,MS4.2						
XAN				LR	LR		
	comp=E,626nm,22.3s,MS4.2						
XAN				LR	LR		
	comp=Z,418nm,22.1s,MS3.9						
CD2	**Chengdu**	**25.81**	**318**	*e*P	**P**	**12 06 53.3**	**-0.1**
CD2				AP	pP	12 07 04.5	-2.0
CD2				XP	sP	12 07 10.5	-2.1
CD2				PP		12 07 35.3	
CD2				AMB	AMB		
	comp=Z,40nm,0.7s,mb5.1						
CD2				LR	LR		
	comp=N,1μm,13.6s,MS4.8						
CD2				LR	LR		
	comp=E,1μm,14.4s,MS4.8						
CD2				LR	LR		
	comp=Z,600nm,13.2s,MS4.3						
PSI	**Prapat**	**26.12**	**250**	P	**P**	**12 06 56.1**	**-0.3**
PSI				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.2						
PSI	**Prapat**	**26.12**	**250**	P	**P**	**12 06 56.0**	**-0.4**
	comp=Z,4.7nm,0.6s,mb4.2,baz=6.5,slow=13,SNR=8.0						
KAKA	**Kakadu**	**26.59**	**160**	*e*P	**P**	**12 06 59.9**	**-0.6**
	comp=Z,13nm,0.7s,mb4.6						
BJI	**Beijing**	**28.17**	**348**	P	**P**	**12 07 19.5**	**+5.0**
BJI				AMB	AMB		
	comp=Z,11nm,0.9s,mb4.5						
BJI				AMB	AMB		
	comp=Z,188nm,3.4s						
BJI				LR	LR		
	comp=N,216nm,13.9s						
BJI				LR	LR		
	comp=E,441nm,21.0s						
BJI				LR	LR		
	comp=Z,546nm,34.5s						
LZH	**Lanzhou**	**29.39**	**326**	*e*P	**P**	**12 07 26.3**	**+0.9**
LZH				AP	pP	12 07 37.5	-1.0
LZH				PP	PP	12 08 23.0	-9.5
LZH				PCP	PcP	12 10 30.3	-0.3
LZH				AMB	AMB		
	comp=Z,42nm,1.5s,mb5.0						
LZH				AMB	AMB		
	comp=Z,115nm,4.8s						
LZH				LR	LR		
	comp=N,1μm,16.6s						
LZH				LR	LR		
	comp=Z,2μm,18.0s,MS4.7						
HHC	**Hu-ho-hao-te**	**30.10**	**342**	*e*P	**P**	**12 07 36.0**	**+4.4**
HHC				AP	pP	12 07 47.8	+3.0
HHC				XP	sP	12 07 53.0	+2.1
HHC				PP	PP	12 08 35.3	-5.1
HHC				AMB	AMB		
	comp=Z,16nm,0.4s,mb5.1						
HHC				AMB	AMB		
	comp=Z,87nm,5.3s						
HHC				LR	LR		
	comp=N,358nm,18.2s,MS4.1						
HHC				LR	LR		
	comp=E,282nm,19.0s,MS4.1						
HHC				LR	LR		
	comp=Z,466nm,23.1s,MS4.1						
FITZ	**Fitzroy Crossi**	**30.49**	**176**	*e*P	**P**	**12 07 34.8**	**-0.4**
	comp=Z,7.7nm,1.1s,mb4.3						
FITZ	**Fitzroy Crossi**	**30.49**	**176**	P	**P**	**12 07 34.4**	**-0.8**
	comp=Z,3.2nm,1.0s,mb4.0,baz=334,slow=12,SNR=4.6						
CN2	**Changchun**	**31.23**	**3**	*e*P	**P**	**12 07 46.0**	**+4.4**
CN2				*e*XP	sP	12 08 05.0	+4.1
CN2				*e*PP	PP	12 08 50.5	-2.4
CN2				AMB	AMB		
	comp=Z,10.0nm,1.2s,mb4.5						
CN2				AMB	AMB		
	comp=Z,100nm,3.0s						
CN2				LR	LR		
	comp=N,400nm,13.0s,MS4.4						
CN2				LR	LR		
	comp=E,300nm,13.0s,MS4.4						
CN2				LR	LR		
	comp=Z,400nm,15.0s,MS4.2						
MDJ	**Mudanjiang**	**32.43**	**8**	P	**P**	**12 07 52.0**	**-0.1**
MDJ				AP	pP	12 08 05.0	-0.3
MDJ				AMB	AMB		
	comp=Z,6.0nm,1.1s,mb4.3						
MDJ				AMB	AMB		
	comp=Z,55nm,5.2s						
MDJ				LR	LR		
	comp=N,393nm,27.4s,MS4.0						
MDJ				LR	LR		
	comp=E,179nm,30.8s,MS4.0						
MDJ				LR	LR		
	comp=Z,482nm,37.5s						
MDJ	**Mudanjiang**	**32.43**	**8**	*e*P	**P**	**12 07 52.1**	**0.0**
	comp=Z,68nm,1.5s,mb5.2						
SHL	**Shillong**	**32.45**	**298**	*e*P	**P**	**12 07 54.0**	**+1.5**
SHL				*e*S	**S**	**12 13 03.0**	**-0.8**
WRAB	**Tennant Creek**	**33.97**	**161**	*e*P	**P**	**12 08 05.3**	**-0.4**
	comp=Z,4.3nm,0.6s,mb4.6						
WRAB	**Tennant Creek**	**33.97**	**161**	*e*P	**P**	**12 08 05.3**	**-0.4**
WRAB				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.5						
WRA	**Warramunga Arr**	**33.98**	**161**	P	**P**	**12 08 05.2**	**-0.6**
WRA						12 10 43.1	
WRA				pmax	pmax		
	comp=Z,6.0nm,1.0s						
WRA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
WRA	**Warramunga Arr**	**33.98**	**161**	P	**P**	**12 08 05.2**	**-0.6**
	comp=Z,5.7nm,1.0s,mb4.5,baz=337,slow=10.0,SNR=18						
WRA				PcP	PcP	12 10 43.1	-0.1
	comp=Z,0.5nm,0.6s,baz=339,slow=3.0,SNR=4.6						
WB2	**Warramunga Arr**	**33.98**	**161**	*e*P	**P**	**12 08 05.2**	**-0.6**
GTA	**Gaotai**	**33.99**	**326**	*e*P	**P**	**12 08 05.8**	**0.0**
GTA				AP	pP	12 08 19.5	+0.4
GTA				XP	sP	12 08 25.0	-0.1
GTA				PP	PP	12 09 20.8	-2.7
GTA				PCP	PcP	12 10 44.5	+1.6
GTA				AMB	AMB		
	comp=Z,16nm,1.2s,mb4.8						
GTA				AMB	AMB		
	comp=Z,74nm,4.6s						
GTA				LR	LR		
	comp=N,315nm,18.6s,MS4.2						
GTA				LR	LR		
	comp=E,277nm,17.5s,MS4.2						
GTA				LR	LR		
	comp=Z,206nm,16.0s,MS4.0						
LSA	**Lhasa**	**34.49**	**305**	P	**P**	**12 08 11.0**	**+0.8**
LSA	**Lhasa**	**34.49**	**305**	*e*P	**P**	**12 08 10.7**	**+0.4**
	comp=Z,15nm,0.8s,mb5.0						
LSA	**Lhasa**	**34.49**	**305**	*e*P	**P**	**12 08 10.7**	**+0.5**
LSA				pmax	pmax		
	comp=Z,15nm,0.8s,mb5.0						
HIA	**Hailar**	**36.78**	**356**	*e*P	**P**	**12 08 31.0**	**+1.4**
	comp=Z,33nm,1.8s,mb4.9						
HIA	**Hailar**	**36.78**	**356**	*e*P	**P**	**12 08 31.0**	**+1.4**
HIA				pmax	pmax		
	comp=Z,33nm,1.8s						
HABR	**Khabarovsk**	**37.14**	**13**	P	**P**	**12 08 29.5**	**-3.1**
HABR				*e**PP	pP	12 08 39.1	-6.9
HABR				*e*		12 09 54.3	
HABR				*e*S	**S**	**12 14 14.3**	**-1.1**
HABR				*e**SS	sS	12 14 30.2	-7.7
KLR	**Kul'dur**	**37.26**	**9**	*e*P	**P**	**12 08 33.7**	**+0.1**
KLR				pmax	pmax		
	comp=E,35nm,1.8s						
KLR				pmax	pmax		
	comp=Z,53nm,1.8s,mb5.1						
ASAR	**Alice Springs**	**37.37**	**164**	P	**P**	**12 08 35.1**	**+0.2**
ASAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
ASAR	**Alice Springs**	**37.37**	**164**	P	**P**	**12 08 35.0**	**+0.2**
	comp=Z,1.7nm,0.6s,mb4.0,baz=337,slow=7.4,SNR=17						
ULN	**Ulaanbaatar**	**37.83**	**342**	*e*P	**P**	**12 08 38.4**	**0.0**
	comp=Z,10nm,1.0s,mb4.5						
ULN	**Ulaanbaatar**	**37.83**	**342**	*e*P	**P**	**12 08 38.4**	**0.0**
ULN				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.5						
SONM	**Songino Array**	**38.00**	**341**	P	**P**	**12 08 39.9**	**0.0**
SONM				pmax	pmax		
	comp=Z,3.0nm,0.9s						
SONM	**Songino Array**	**38.00**	**341**	P	**P**	**12 08 39.9**	**-0.1**
	comp=Z,3.2nm,0.9s,mb4.0,baz=159,slow=8.8,SNR=18						
GUN	**Gumba**	**38.26**	**299**	*e*P	**P**	**12 08 42.1**	**-0.4**
	comp=Z,91nm,1.1s,mb5.4						
KKN	**Kakani**	**38.74**	**299**	*e*P	**P**	**12 08 45.7**	**-0.8**
	comp=Z,27nm,0.9s,mb5.0						
DMN	**Daman**	**38.84**	**299**	*e*P	**P**	**12 08 46.5**	**-0.8**
	comp=Z,41nm,1.1s,mb5.1						
GKN	**Gorkha**	**39.35**	**299**	*e*P	**P**	**12 08 50.6**	**-0.9**
KOLN	**Koldanda**	**40.18**	**298**	*e*P	**P**	**12 08 58.0**	**-0.4**
	comp=Z,29nm,0.9s,mb5.0						
DANN	**Dangsing**	**40.19**	**299**	*e*P	**P**	**12 08 57.3**	**-1.2**
	comp=Z,43nm,1.0s,mb5.2						
TLY	**Talaya**	**42.23**	**342**	*e*P	**P**	**12 09 20.0**	**+5.1**
TLY				*e*		12 19 12.2	
TLY				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.2						
TLY				MLR	MLR		
	comp=Z,327nm,23.0s,MS4.2						
MOY	**Mondy**	**43.08**	**340**	*e*P	**P**	**12 09 21.9**	**+0.1**
MOY				pmax	pmax		
	comp=Z,22nm,2.1s,mb4.5						
WMQ	**Urumqi**	**43.77**	**322**	P	**P**	**12 09 28.0**	**+0.5**
WMQ				AP	pP	12 09 40.0	-1.2
WMQ				XP	sP	12 09 46.0	-1.2
WMQ				PP	PP	12 11 13.0	+2.8
WMQ				AMB	AMB		
	comp=Z,13nm,0.8s,mb4.7						
WMQ				AMB	AMB		
	comp=Z,180nm,3.6s						
WMQ				LR	LR		
	comp=N,880nm,19.0s,MS4.8						
WMQ				LR	LR		
	comp=E,562nm,19.0s,MS4.8						
WMQ				LR	LR		
	comp=Z,539nm,20.8s,MS4.4						
NRGR	**Nerungri**	**44.07**	**1**	*e*P	**P**	**12 09 35.8**	**+6.1**
KLBR	**Kellerberrin**	**44.18**	**187**	*e*P	**P**	**12 09 31.1**	**+0.2**
	comp=Z,40nm,1.2s,mb5.0						
MUN	**Mundaring**	**44.77**	**189**	*e*P	**P**	**12 09 35.9**	**+0.4**
NWAO	**Narrogin (SRO)**	**45.56**	**187**	*e*P	**P**	**12 09 42.0**	**+0.2**
	comp=Z,42nm,0.8s,mb5.4						
NWAO	**Narrogin (SRO)**	**45.56**	**187**	*e*P	**P**	**12 09 42.0**	**+0.2**
NWAO				pmax	pmax		
	comp=Z,42nm,0.8s						
BOD	**Bodaibo**	**45.79**	**353**	*e*P	**P**	**12 09 41.5**	**-1.8**
BOD				pmax	pmax		
	comp=Z,5.0nm,1.9s,mb4.1						
EIDS	**Eidsvold**	**46.28**	**145**	*e*P	**P**	**12 09 47.7**	**0.0**
	comp=Z,2.6nm,0.8s,mb4.2						
STKA	**Stephens Creek**	**47.43**	**159**	*e*P	**P**	**12 09 56.9**	**+0.4**
	comp=Z,4.8nm,0.7s,mb4.5						
STKA	**Stephens Creek**	**47.43**	**159**	P	**P**	**12 09 57.0**	**+0.5**
	comp=Z,4.1nm,0.8s,mb4.4,baz=344,slow=9.9,SNR=8.9						
MK31	**Makanchi Array**	**48.59**	**323**	*e*P	**P**	**12 10 05.9**	**+0.6**
MKAR	**Makanchi Array**	**48.59**	**323**	P	**P**	**12 10 05.5**	**+0.2**
MKAR				pmax	pmax		
	comp=Z,7.0nm,0.8s						
MKAR	**Makanchi Array**	**48.59**	**323**	P	**P**	**12 10 05.5**	**+0.2**
	comp=Z,6.7nm,0.8s,mb4.7,baz=309,slow=25,SNR=4.3						
PET	**Petropavlovsk**	**49.20**	**27**	*i* P	**P**	**12 10 10.2**	**+0.3**
PET				pmax	pmax		
	comp=Z,57nm,1.4s,mb5.4						
YAK	**Yakutsk**	**49.65**	**4**	*e*P	**P**	**12 10 17.7**	**+4.5**
YAK				*e**PP	pP	12 10 25.9	-1.2
YAK				*e*		12 11 32.3	
YAK				*e*S	**S**	**12 17 26.2**	**+8.3**
YAK				*e*SS	SS	12 20 48.0	-2.6
YAK				pmax	pmax		
	comp=Z,14nm,1.2s,mb4.9						
YAK				pmax	pmax		
	comp=N,10.0nm,1.4s						
YAK				pmax	pmax		
	comp=E,4.0nm,1.0s						
YAK				pmax	pmax		
	comp=Z,136nm,2.4s,mb5.5						
YAK				pmax	pmax		
	comp=N,87nm,2.0s						
YAK				pmax	pmax		
	comp=E,58nm,3.0s						
YAK				smax			
	comp=E,54nm,2.7s						
YAK				smax			
	comp=Z,42nm,3.3s						
YAK				smax			
	comp=N,82nm,4.4s						
YAK				MLR	MLR		
	comp=Z,418nm,19.0s,MS4.5						
YAK				MLR	MLR		
	comp=N,395nm,16.0s,MS4.6						
YAK				MLR	MLR		
	comp=E,307nm,15.0s,MS4.6						
ULHL	**Ulahol**	**50.45**	**315**	P	**P**	**12 10 20.4**	**+0.8**
	SNR=8.0						
KZA	**Kyzart**	**51.08**	**314**	P	**P**	**12 10 25.8**	**+1.5**
	SNR=11						
ZAA0	**Zalesovo Array**	**51.36**	**332**	*e*P	**P**	**12 10 25.9**	**-0.2**
ZALV	**Zalesovo Beam**	**51.36**	**332**	P	**P**	**12 10 25.6**	**-0.5**
	comp=E,7.6nm,0.7s,mb4.7,baz=118,slow=7.0,SNR=31						
ZAL	**Zalesovo**	**51.36**	**332**	P	**P**	**12 10 25.7**	**-0.5**
ZAL				pmax	pmax		
	comp=Z,8.0nm,0.7s						
UCH	**Uchtor**	**51.65**	**314**	*e*P	**P**	**12 10 30.2**	**+1.6**
	comp=Z,9.4nm,0.8s,mb4.8						
UCH	**Uchtor**	**51.65**	**314**	P	**P**	**12 10 30.1**	**+1.5**
	SNR=15						
AAK	**Ala-Archa**	**51.80**	**315**	*e*P	**P**	**12 10 28.7**	**-1.1**
	comp=Z,6.0nm,1.3s,mb4.4						
AAK	**Ala-Archa**	**51.80**	**315**	⇓*i*P	**P**	**12 10 29.0**	**-0.7**
AAK				pmax	pmax		

comp=Z,8.0nm,1.6s,mb4.4
USP Ospenovka 52.02 316 P **P 12 10 31.9 +0.5**
SNR=6.0
AML Almayashu 52.19 314 *e*P **P 12 10 33.8 +1.2**
comp=Z,6.2nm,0.8s,mb4.6
AML *e*PcP PcP 12 11 45.0 +1.2
AML Almayashu 52.19 314 P **P 12 10 34.0 +1.4**
SNR=9.0
EKS2 Erkin-Say 52.31 315 *e*P **P 12 10 34.1 +0.6**
comp=Z,6.6nm,0.9s,mb4.6
NVS Novosibirsk 52.64 332 ⇓*i*P **P 12 10 34.7 -1.0**
NVS pmax pmax
comp=N,28nm,1.7s
NVS pmax pmax
comp=E,27nm,1.7s
NVS pmax pmax
comp=Z,31nm,1.7s,mb5.0
KURK Kurchatov 52.67 326 *e*P **P 12 10 36.6 +0.5**
comp=Z,65nm,1.2s,mb5.4
KURK Kurchatov 52.67 326 *e*P **P 12 10 36.6 +0.6**
KURK pmax pmax
comp=Z,65nm,1.2s,mb5.4
KBL Kabul 53.80 304 *e*P **P 12 10 45.4 +0.7**
comp=Z,28nm,1.0s,mb5.1
KBL Kabul 53.80 304 *e*P **P 12 10 45.4 +0.8**
KBL pmax pmax
comp=Z,28nm,1.0s,mb5.2
SEY Seymchan 54.39 16 ⇑*i*P **P 12 10 48.6 +0.2**
BRVK Borovoye 58.34 325 *e*P **P 12 11 17.2 +0.5**
comp=Z,27nm,1.1s,mb5.2
BRVK Borovoye 58.34 325 *e*P **P 12 11 17.2 +0.5**
BRVK pmax pmax
comp=Z,27nm,1.1s,mb5.2
TIXI Tiksi 59.20 2 *e*P **P 12 11 21.1 -1.3**
comp=Z,88nm,1.9s,mb5.5
TIXI Tiksi 59.20 2 *e*P **P 12 11 21.0 -1.4**
TIXI pmax pmax
comp=Z,17nm,1.1s,mb5.0
TIXI MLR MLR
comp=Z,773nm,18.0s,MS4.9
BILL Bilibino 62.05 17 *e*P **P 12 11 41.4 -0.4**
comp=Z,29nm,1.4s,mb5.2
BILL Bilibino 62.05 17 *ce*P **P 12 11 41.8 0.0**
BILL *e* 12 11 47.2
BILL 12 12 20.0
BILL 12 14 01.0
BILL pmax pmax
comp=Z,26nm,1.6s,mb5.1
BILL MLR MLR
comp=Z,200nm,18.0s,MS4.3
SVE Sverdlovsk 64.85 327 *e*P **P 12 12 00.6 +0.1**
SVE pmax pmax
comp=Z,23nm,1.3s,mb5.0
ARU Arti 65.85 327 *e*P **P 12 12 06.2 -0.8**
comp=Z,8.1nm,0.8s,mb4.8
ARU Arti 65.85 327 *c i*P **P 12 12 06.0 -1.0**
ARU *e* 12 12 34.6
ARU *e*S S 12 20 50.2 +0.2
ARU *e*SS SS 12 25 00.2 -5.1
ARU pmax pmax
comp=Z,10.0nm,1.0s,mb4.8
RPZ Rata Peaks 70.77 145 P **P 12 12 37.9 0.0**
comp=Z,2.2nm,0.3s,mb4.6,baz=194,slow=1.6,SNR=4.9
QRN Al-Qurain 71.51 296 *e*P **P 12 12 38.1 -4.7**
QRN AMb AMB 12 12 43.6
comp=Z,87nm,1.2s,mb5.6
RDF Al-Radifah 71.82 297 *e*P **P 12 12 39.3 -5.4**
RDF AMb AMB 12 12 46.3
comp=Z,47nm,1.0s,mb5.4
MIB Mutribah 71.93 297 *e*P **P 12 12 40.6 -4.7**
MIB AMb AMB 12 12 47.5
comp=Z,31nm,0.9s,mb5.3
NAY Al-Naaiem 72.06 297 *e*P **P 12 12 40.4 -5.7**
NAY AMb AMB 12 12 47.2
comp=Z,27nm,1.0s,mb5.1
KIV Kislovodsk 74.81 312 *e*P **P 12 13 03.1 +1.1**
comp=Z,35nm,0.7s,mb5.4
KIV Kislovodsk 74.81 312 *e*P **P 12 13 02.8 +0.8**
KIV pmax pmax
comp=Z,49nm,1.0s,mb5.4
KIV Kislovodsk 74.81 312 ⇑*i*P **P 12 13 03.2 +1.2**
IMA2 Indian Mountai 75.77 25 *e*P **P 12 13 08.0 +1.0**
VORD Divnogorie 76.73 320 *e*P **P 12 13 10.9 -1.9**
VORD pmax pmax
comp=Z,10.0nm,1.2s,mb4.6
VORD pmax pmax
comp=N,30nm,0.8s
VORD pmax pmax
comp=E,30nm,0.8s
SOC Sochi 76.98 312 *e*P **P 12 13 13.5 -0.9**
SOC *e**SP sP 12 13 25.8 -9.0
SOC *e* 12 16 07.5
SOC *e*S S 12 22 53.0 -6.0
SOC pmax pmax
comp=Z,27nm,0.9s,mb5.2
MCK McKinley 77.83 27 *e*P **P 12 13 18.5 -0.2**
comp=Z,14nm,1.0s,mb4.8
MCK McKinley 77.83 27 *e*P **P 12 13 18.5 -0.2**
MCK pmax pmax
comp=Z,14nm,1.0s,mb4.8
OBN Obninsk 78.08 324 P **P 12 13 20.0 -0.2**
OBN pmax pmax
comp=Z,8.0nm,1.2s,mb4.5
OBN MLR MLR
comp=Z,100nm,21.0s,MS4.1
MALT Malatya 78.50 307 *e*P **P 12 13 24.1 +1.2**
comp=Z,7.0nm,1.1s,mb4.5
MALT Malatya 78.50 307 *e*P **P 12 13 24.2 +1.3**
MALT pmax pmax
comp=Z,7.0nm,1.1s,mb4.5
MALT Malatya 78.50 307 ⇓*i*P **P 12 13 24.4 +1.5**
ANN Anapa 78.50 314 *e*P **P 12 13 20.6 -2.2**
ANN pmax pmax
comp=Z,43nm,1.1s,mb5.3
ARCES ARCESS Array B 81.15 339 P **P 12 13 35.4 -1.2**
ARCES pmax pmax
comp=Z,4.0nm,0.9s
ARCES ARCESS Array B 81.15 339 P **P 12 13 35.4 -1.2**
comp=Z,3.9nm,0.9s,mb4.3,baz=23,slow=4.0,SNR=4.2
DAWY Dawson 81.97 26 *e*P **P 12 13 41.2 +0.1**
FINES FINESS Array B 82.62 331 P **P 12 13 44.7 +0.2**
FINES pmax pmax
comp=Z,3.0nm,1.0s
FINES FINESS Array B 82.62 331 P **P 12 13 44.7 +0.2**
comp=Z,3.1nm,1.0s,mb4.3,baz=83,slow=4.5,SNR=2.9
AKASG Malin Array Be 83.09 320 P **P 12 13 46.1 -1.1**
AKASG pmax pmax
comp=Z,1.0nm,0.3s
AKASG Malin Array Be 83.09 320 P **P 12 13 46.0 -1.2**
comp=Z,0.7nm,0.3s,mb4.1,baz=66,slow=4.9,SNR=14
INK Inuvik 83.23 21 *e*P **P 12 13 47.2 -0.3**
ISP Isparta 84.74 307 *e*P **P 12 13 55.5 -0.3**
comp=Z,19nm,0.8s,mb5.3
ISP Isparta 84.74 307 *e*P **P 12 13 55.5 -0.4**
ISP pmax pmax
comp=Z,19nm,0.8s,mb5.3
TIRR Tirgusor 84.91 314 ⇑*i*P **P 12 13 57.0 +0.4**
VRI Vrincioaia 85.76 316 ⇑P **P 12 14 02.0 +1.2**
VRI Vrincioaia 85.76 316 ⇑*i*P **P 12 14 02.0 +1.2**
PLOR Plostina 85.81 316 ⇓*i*P **P 12 14 02.1 +1.0**
SUW Suwalki 85.94 324 *e*P **P 12 14 02.2 +0.7**
MLR Muntele Rosu 86.38 316 ⇑P **P 12 14 04.7 +0.8**
MLR Muntele Rosu 86.38 316 ⇑*i*P **P 12 14 04.7 +0.8**
KMBO Kilima Mbogo 86.53 268 *e*P **P 12 14 06.9 +1.7**
comp=Z,15nm,1.3s,mb5.1
KMBO Kilima Mbogo 86.53 268 P **P 12 14 07.1 +1.9**
KMBO pmax pmax
comp=Z,8.0nm,1.0s
KMBO Kilima Mbogo 86.53 268 P **P 12 14 07.1 +1.8**
comp=Z,7.5nm,1.0s,mb4.9,baz=40,slow=6.4,SNR=13
KWP Kalwaria 87.42 320 *e*P **P 12 14 09.6 +0.8**
KWP Kalwaria 87.42 320 *e*P **P 12 14 09.6 +0.8**
KWP Kalwaria 87.42 320 ⇓*i*P **P 12 14 09.9 +1.1**
KOLS Kolonicke sedl 87.89 320 *e*P **P 12 14 12.2 +1.1**
UZH Uzhgorod 87.96 319 ⇑*i*P **P 12 14 12.8 +1.4**
CRVS Cervenica-Dubn 88.41 320 *e*P **P 12 14 13.2 -0.4**
CRVS Cervenica-Dubn 88.41 320 *e*P **P 12 14 13.1 -0.5**
KECS Kecovo 89.15 320 *e*P **P 12 14 17.4 +0.3**
comp=Z,2.3nm,1.2s,mb4.4
KECS Kecovo 89.15 320 *e*P **P 12 14 17.4 +0.3**
KECS pmax pmax
comp=Z,2.0nm,1.2s,mb4.3
RES Resolute Bay 89.78 9 *e*P **P 12 14 18.8 -0.8**
VYHS Vyhne 90.19 320 *e*P **P 12 14 21.9 0.0**
comp=Z,56nm,3.8s
VYHS Vyhne 90.19 320 *e*P **P 12 14 21.9 0.0**
VYHS pmax pmax
comp=Z,56nm,3.8s
MODS Modra-Piesok 91.21 320 *e*P **P 12 14 24.0 -2.7**
YKA Yellowknife Ar 92.83 23 P **P 12 14 34.1 +0.2**
YKA pmax pmax
comp=Z,1.0nm,0.9s
YKA Yellowknife Ar 92.83 23 P **P 12 14 34.1 +0.2**
comp=Z,1.1nm,0.9s,mb4.3,baz=304,slow=5.1,SNR=10

MAN 26 12:02:06,800N×12641E,h1km,mb3.6,ML2.3,MS1.8, Mindanao

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*MAN **26** 12:04:31, 1263N×12338E, h17km, mb5.7, ML4.7, MS5.3*
MAN INTENSITY III - MASBATE CITY; INTENSITY II - IROSIN, SORSOGON, LEGASPI CITY.
*ISCJB **26** 12:04:32.6±1.5, 1250N±004×12349E±006, h36km±13km, mb4.8/80, MS4.2/24, Error ellipse: s-maj=9.9km s-min=5.8km az=161.4*
*MOS **26** 12:04:32.4±1.1, 1255N×12348E, h33km, mb4.9/30, MS4.2/6, Error ellipse: s-maj=14.2km s-min=6.7km az=112.0*
*IDC **26** 12:04:35.7±4.4, 1254N×12342E, h47km±44km, mb4.2/18, mb1 4.2/18, mb1mx4.2/22, mbtmp4.2/18, MS4.1/11, Ms1 4.1/11, ms1mx3.9/31, Error ellipse: s-maj=26.0km s-min=11.8km az=79.0*
*BJI **26** 12:04:37.2, 1223N×12333E, h92km, mB5.0, mb4.8*
*NEIC **26** 12:04:38.7±1.6, 1249N×12345E, h76km±15km, mb4.9/31, Error ellipse: s-maj=8.7km s-min=5.1km az=81.0*
NEIC Felt [III PIVS] at Masbate. Also felt [III PIVS] at Irosin, Luzon; [II PIVS] at Legaspi, Luzon and Roxas City, Panay; [I PIVS] at Zarraga, Panay. Felt at Sorsogon, Luzon.
*GCMT **26** 12:04:38.7±0.2, 1268N×12346E, h16km, MW5.0/89, Moment Tensor Solution. s34,c42; s89,c142; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-3.87±.21; $M_{\theta\theta}$3.80±.14; $M_{\phi\phi}$0.07±.14; $M_{r\theta}$0.71±.33; $M_{\theta\phi}$-0.53±.10; $M_{\phi r}$-0.45±.50; Best double couple: $M_0$3.96100×10^{16} NP1:ϕ_s93.00000°, δ40.00000°, λ-98.00000°. NP2: ϕ_s283.00000°, δ51.00000°, λ-84.00000°. Principal axes: T 3.9470, Plg6.0000°, Azm8.0000°; N 0.0270, Plg5.0000°, Azm99.0000°; P -3.9740, Plg83.0000°, Azm230.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 26 12:04:39.8±1.2, 1250N±003×12343E±006, h86km±11km, h80km±4.7km: pP-P, n170, σ1§00/175, mb4.7/80, 10C-7D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOW	**Kunigami**	**14.97**	**17**	P	**Pn**	**12 08 08.8**	**+2.0**
	1.4nm,0.3s,baz=136,slow=15,SNR=4.5						
JOW				LR	LR	12 13 11.5	
	comp=Z,818nm,18.3s,baz=168,slow=34						
KSM	**Kuching**	**17.00**	**231**	*e*P	**Pn**	**12 08 33.6**	**+1.3**
WHN	**Wuhan**	**19.83**	**336**	⇑P	**Pn**	**12 09 03.5**	**-2.5**
WHN				S	**S**	**12 12 47.0**	**+4.7**
WHN				LR	LR		
	comp=Z,831nm,18.5s						
NJ2	**Nanjing**	**19.91**	**349**	*e*P	**Pn**	**12 09 08.3**	**+1.3**
NJ2				AP	pP	12 09 22.3	+0.8
NJ2				PP		12 09 29.0	
NJ2				XP	sP	12 09 32.5	+0.1
NJ2				S	**S**	**12 12 43.0**	**-1.0**
NJ2				AMB	AMB		
	comp=Z,30nm,0.5s						
NJ2				AMB	AMB		
	comp=Z,1μm,3.8s						
NJ2				LR	LR		
	comp=N,3μm,17.5s						
NJ2				LR	LR		
	comp=E,4μm,16.2s						
NJ2				LR	LR		
	comp=Z,11μm,14.1s						
GUMO	**Guam**	**20.92**	**85**	LR	LR	12 15 54.3	
	comp=Z,366nm,18.2s,baz=264,slow=32						
GYA	**Guiyang**	**21.00**	**314**	⇑*i*P	**P**	**12 09 18.5**	**+2.1**
GYA				AP		12 09 35.8	
GYA				XP	sP	12 09 45.8	+1.5
GYA				PPP		12 09 55.0	
GYA				S	**S**	**12 13 03.5**	**-2.1**
GYA				PCP	PcP	12 13 22.5	+2.0
GYA				SS		12 13 41.5	
GYA				SCP	ScP	12 16 51.0	+1.2
GYA				PCS	PcS	12 16 59.5	+0.8
GYA				AMB	AMB		
	comp=Z,20nm,0.8s,mb4.5						
GYA				AMB	AMB		
	comp=Z,160nm,5.8s						
GYA				LR	LR		
	comp=N,2μm,15.8s						
GYA				LR	LR		
	comp=E,2μm,16.4s						
GYA				LR	LR		
	comp=Z,2μm,15.7s						
JNU	**Nakatsue**	**21.63**	**17**	P	**P**	**12 09 21.1**	**-2.0**
	comp=Z,9.4nm,0.9s,mb4.1,baz=123,slow=15,SNR=5.3						
JNU				LR	LR	12 16 29.1	
	comp=Z,705nm,21.0s,baz=178,slow=33						
BATI	**Kupang**	**22.56**	**179**	P	**P**	**12 09 33.9**	**+0.9**
	comp=Z,19nm,0.5s,mb4.7,baz=117,slow=3.1,SNR=4.7						
BATI				LR	LR	12 19 00.2	
	comp=Z,537nm,20.4s,baz=173,slow=38						
CBIJ	**Chichi jima**	**22.81**	**48**	LR	LR	12 17 44.7	
	comp=Z,208nm,20.7s,baz=230,slow=35						
KMI	**Kunming**	**23.22**	**306**	P	**P**	**12 09 39.0**	**-0.5**
KMI				AP		12 09 53.8	
KMI				S	**S**	**12 13 44.8**	**-0.2**
KMI				AMB	AMB		
	comp=Z,39nm,1.6s,mb4.5						
KMI				AMB	AMB		
	comp=Z,390nm,7.2s						
KMI				LR	LR		
	comp=N,325nm,11.8s						
KMI				LR	LR		
	comp=E,289nm,14.5s						
KMI				LR	LR		
	comp=Z,285nm,15.8s						
KULM	**Kulim**	**23.60**	**254**	*e*P	**P**	**12 09 42.0**	**-1.1**
CM31	**Chiang Mai Arr**	**24.32**	**287**	*e*P	**P**	**12 09 48.3**	**-1.3**
	comp=Z,5.4nm,0.8s,mb3.9						
KSRS	**Korea Array**	**25.18**	**8**	P	**P**	**12 09 56.5**	**-0.7**
KSRS				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.0						
KSRS				MLR	MLR		
	comp=Z,389nm,19.5s						
KSRS	**Korea Array**	**25.18**	**8**	P	**P**	**12 09 56.5**	**-0.7**
	comp=Z,5.3nm,0.8s,mb4.0,baz=186,slow=11,SNR=15						
KSRS				LR	LR	12 19 17.8	
	comp=Z,389nm,19.5s,baz=190,slow=35						
XAN	**Xi'an**	**25.19**	**331**	P	**P**	**12 09 56.0**	**-1.3**
XAN				AP	pP	12 10 18.0	+1.2
XAN				AMB	AMB		
	comp=Z,23nm,0.9s,mb4.6						
XAN				AMB	AMB		
	comp=Z,134nm,13.0s						
XAN				LR	LR		
	comp=N,305nm,14.0s						
XAN				LR	LR		
	comp=E,123nm,12.2s						
XAN				LR	LR		
	comp=Z,380nm,14.9s						
JHJ	**Hachijo jima 2**	**25.40**	**33**	LR	LR	12 19 36.5	
	comp=Z,328nm,21.6s,baz=1.8,slow=36						
CD2	**Chengdu**	**25.80**	**318**	P	**P**	**12 10 02.3**	**-0.6**
CD2				AP	pP	12 10 19.5	-3.0
CD2				PP		12 10 46.3	
CD2				PCP	PcP	12 13 29.3	-1.3
CD2				S	**S**	**12 14 25.5**	**-0.6**
CD2				XS	sS	12 14 55.3	-4.8
CD2				SS		12 15 37.0	
CD2				SCS	ScS	12 20 49.3	-2.8
CD2				AMB	AMB		
	comp=Z,70nm,0.7s,mb5.2						
CD2				AMB	AMB		
	comp=Z,120nm,5.8s						
CD2				LR	LR		
	comp=N,560nm,13.2s						
CD2				LR	LR		
	comp=E,750nm,13.8s						
CD2				LR	LR		
	comp=Z,780nm,10.8s						
PSI	**Prapat**	**26.10**	**250**	P	**P**	**12 10 05.0**	**-0.8**
PSI				LR	LR	12 19 52.8	
PSI	**Prapat**	**26.10**	**250**	P	**P**	**12 10 05.0**	**-0.8**
PSI				pmax	pmax		
	comp=Z,3.0nm,0.4s,mb4.1						
PSI				MLR	MLR		
	comp=Z,619nm,18.3s						
PSI	**Prapat**	**26.10**	**250**	P	**P**	**12 10 05.0**	**-0.8**
	comp=Z,3.2nm,0.4s,mb4.1,baz=79,slow=3.3,SNR=6.9						
PSI				LR	LR	12 19 52.8	
	comp=Z,619nm,18.3s,baz=78,slow=35						
KAKA	**Kakadu**	**26.59**	**160**	*e*P	**P**	**12 10 10.4**	**+0.2**
	comp=Z,14nm,0.6s,mb4.7						
MJAR	**Matsushiro Arr**	**27.39**	**27**	LR	LR	12 18 54.1	
	comp=Z,476nm,21.9s,baz=235,slow=31						
BJI	**Beijing**	**28.17**	**348**	P	**P**	**12 10 25.8**	**+1.7**
BJI				AMB	AMB		
	comp=Z,7.0nm,0.9s,mb4.2						
SNY	**Shenyang**	**29.22**	**0**	⇓P	**P**	**12 10 38.3**	**+5.0**
SNY				AMB	AMB		
	comp=Z,24nm,1.3s,mb4.7						
SNY				LR	LR		
	comp=N,442nm,16.6s						
SNY				LR	LR		
	comp=Z,557nm,16.7s						
LZH	**Lanzhou**	**29.38**	**326**	*e*P	**P**	**12 10 36.3**	**+1.5**
LZH				AP	pP	12 10 53.0	-1.6
LZH				PCP	PcP	12 13 39.0	-0.1
LZH				*e*S	**S**	**12 15 27.0**	**+4.6**
LZH				XS	sS	12 15 58.0	+1.5
LZH				SS	SS	12 17 05.0	-25
LZH				AMB	AMB		
	comp=Z,57nm,1.5s,mb5.0						
LZH				AMB	AMB		
	comp=Z,109nm,4.5s						
LZH				LR	LR		
	comp=E,1μm,12.4s						
LZH				LR	LR		
	comp=Z,1μm,13.9s						
HHC	**Hu-ho-hao-te**	**30.10**	**342**	*e*P	**P**	**12 10 43.5**	**+2.3**
HHC				AP	pP	12 11 01.3	+0.3
HHC				PP	PP	12 11 44.3	-6.4
HHC				PCP	PcP	12 13 43.8	+2.9
HHC				S	**S**	**12 15 38.8**	**+5.2**
HHC				SCP	ScP	12 17 14.5	-1.1
HHC				SS	SS	12 17 23.3	-22
HHC				PCS	PcS	12 17 26.5	+2.2
HHC				AMB	AMB		
	comp=Z,30nm,0.3s,mb5.4						
HHC				AMB	AMB		
	comp=Z,91nm,7.3s						
HHC				LR	LR		
	comp=N,242nm,14.9s						
HHC				LR	LR		
	comp=E,227nm,7.8s						
HHC				LR	LR		
	comp=Z,281nm,15.5s						
FITZ	**Fitzroy Crossi**	**30.48**	**176**	*e*P	**P**	**12 10 43.6**	**-1.1**
	comp=Z,7.1nm,0.9s,mb4.3						
FITZ	**Fitzroy Crossi**	**30.48**	**176**	P	**P**	**12 10 44.6**	**-0.1**
	comp=Z,3.0nm,0.9s,mb3.9,baz=352,slow=11,SNR=4.3						
CN2	**Changchun**	**31.24**	**3**	*e*P	**P**	**12 10 55.3**	**+4.1**
CN2				*e*XP	sP	12 11 22.3	+1.3
CN2				*e*PP	PP	12 12 01.5	-1.8
CN2				*e*S	**S**	**12 15 55.5**	**+4.2**
CN2				*e*SS	SS	12 17 48.0	-20
CN2				AMB	AMB		
	comp=Z,10.0nm,1.2s,mb4.4						
CN2				AMB	AMB		
	comp=Z,200nm,6.0s						
CN2				LR	LR		
	comp=N,400nm,16.0s						
CN2				LR	LR		
	comp=E,400nm,16.0s						
CN2				LR	LR		
	comp=Z,600nm,16.0s						
MDJ	**Mudanjiang**	**32.44**	**8**	P	**P**	**12 11 01.0**	**-0.7**
MDJ				S	**S**	**12 16 10.3**	**+0.3**
MDJ				SCP	ScP	12 17 24.5	+1.2
MDJ				PCS	PcS	12 17 32.5	+0.5
MDJ				AMB	AMB		
	comp=Z,9.0nm,1.1s,mb4.4						
MDJ				AMB	AMB		
	comp=Z,29nm,4.4s						
MDJ				LR	LR		
	comp=N,393nm,30.7s						
MDJ				LR	LR		
	comp=E,109nm,12.7s						
MDJ				LR	LR		
	comp=Z,482nm,31.2s						
MDJ	**Mudanjiang**	**32.44**	**8**	*e*P	**P**	**12 11 01.5**	**-0.1**
	comp=Z,116nm,1.6s,mb5.4						
MBWA	**Marble Bar**	**33.64**	**186**	*e*P	**P**	**12 11 11.8**	**-0.6**
	comp=Z,14nm,1.3s,mb4.6						
WRAB	**Tennant Creek**	**33.97**	**161**	*e*P	**P**	**12 11 14.1**	**-1.2**
	comp=Z,8.8nm,0.8s,mb4.6						
WRAB	**Tennant Creek**	**33.97**	**161**	*e*P	**P**	**12 11 14.1**	**-1.2**
WRAB				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.7						
WRA	**Warramunga Arr**	**33.98**	**161**	P	**P**	**12 11 14.7**	**-0.6**
WRA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
WRA	**Warramunga Arr**	**33.98**	**161**	P	**P**	**12 11 14.7**	**-0.6**
	comp=Z,2.3nm,0.7s,mb4.1,baz=344,slow=9.3,SNR=13						
WB2	**Warramunga Arr**	**33.98**	**161**	*e*P	**P**	**12 11 14.9**	**-0.4**
GTA	**Gaotai**	**33.98**	**326**	*e*P	**P**	**12 11 15.0**	**-0.2**
GTA				AP	pP	12 11 32.5	-2.7
GTA				PP	PP	12 12 31.0	-2.7
GTA				PCP	PcP	12 13 53.3	+1.8
GTA				S	**S**	**12 16 32.0**	**-2.1**
GTA				AMB	AMB		
	comp=Z,17nm,1.2s,mb4.8						
GTA				AMB	AMB		
	comp=Z,140nm,4.6s						
GTA				LR	LR		
	comp=N,689nm,19.8s						
GTA				LR	LR		
	comp=E,566nm,20.1s						
GTA				LR	LR		
	comp=Z,442nm,18.3s						
GTA				PP	PP		
	comp=Z,184nm,7.6s						
GTA				LR	LR		
	comp=N,91nm,15.6s						
GTA				LR	LR		
	comp=E,106nm,16.3s						
GTA				LR	LR		
	comp=Z,120nm,14.4s						
LSA	**Lhasa**	**34.47**	**305**	P	**P**	**12 11 19.5**	**-0.1**
LSA	**Lhasa**	**34.47**	**305**	*e*P	**P**	**12 11 19.7**	**+0.1**
	comp=Z,24nm,0.8s,mb5.1						
LSA	**Lhasa**	**34.47**	**305**	*e*P	**P**	**12 11 19.7**	**+0.1**
LSA				pmax	pmax		
	comp=Z,24nm,0.8s,mb5.1						
KLR	**Kul'dur**	**37.27**	**9**	*e*P	**P**	**12 11 40.2**	**-2.9**
KLR				pmax	pmax		
	comp=Z,70nm,1.8s,mb5.3						
ASAR	**Alice Springs**	**37.37**	**164**	P	**P**	**12 11 44.1**	**-0.2**
ASAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
ASAR	**Alice Springs**	**37.37**	**164**	P	**P**	**12 11 44.1**	**-0.2**
	comp=Z,1.6nm,0.6s,mb4.1,baz=341,slow=6.4,SNR=11						
ULN	**Ulaanbaatar**	**37.82**	**342**	*e*P	**P**	**12 11 47.1**	**-0.8**
	comp=Z,8.9nm,0.8s,mb4.7						
ULN	**Ulaanbaatar**	**37.82**	**342**	*e*P	**P**	**12 11 47.1**	**-0.8**
ULN				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.7						
SONM	**Songino Array**	**38.00**	**341**	P	**P**	**12 11 49.4**	**+0.1**
SONM				pmax	pmax		
	comp=Z,4.0nm,0.8s						
SONM				MLR	MLR		
	comp=Z,335nm,20.6s						
SONM	**Songino Array**	**38.00**	**341**	P	**P**	**12 11 49.4**	**0.0**
	comp=Z,3.6nm,0.8s,mb4.3,baz=163,slow=10,SNR=15						
SONM				LR	LR	12 28 18.8	
	comp=Z,334nm,20.6s,baz=150,slow=38						
GUN	**Gumba**	**38.25**	**299**	*e*P	**P**	**12 11 51.1**	**-0.7**
	comp=Z,56nm,0.7s,mb5.5						
KKN	**Kakani**	**38.73**	**299**	*e*P	**P**	**12 11 54.3**	**-1.5**
	comp=Z,18nm,0.7s,mb5.0						
DMN	**Daman**	**38.83**	**299**	*e*P	**P**	**12 11 55.5**	**-1.1**
	comp=Z,40nm,1.0s,mb5.2						
GKN	**Gorkha**	**39.33**	**299**	*e*P	**P**	**12 11 59.5**	**-1.3**

comp=Z,26nm,0.9s,mb5.1
KOLN Koldanda 40.16 298 *e*P **P 12 12 06.3 -1.4**
comp=Z,29nm,0.9s,mb5.1
DANN Dangsing 40.17 299 *e*P **P 12 12 06.7 -1.1**
comp=Z,34nm,0.8s,mb5.2
TLY Talaya 42.23 342 *e*P **P 12 12 24.5 +0.2**
TLY pmax pmax
comp=Z,7.0nm,0.7s,mb4.5
IRK Irkutsk 42.54 343 *e*P **P 12 12 32.3 +5.5**
IRK pmax pmax
comp=Z,23nm,1.1s,mb4.8
FORT Forrest 43.26 174 *e*P **P 12 12 32.4 -0.4**
comp=Z,15nm,0.6s,mb4.9
WMQ Urumqi 43.77 322⇑ *i*P **P 12 12 37.8 +1.0**
WMQ AP pP 12 12 56.0 -1.4
WMQ XP sP 12 13 05.0 -2.3
WMQ PP PP 12 14 22.0 +1.8
WMQ S **S 12 19 02.0 +1.1**
WMQ AMB AMB
comp=Z,10.0nm,1.0s,mb4.5
WMQ AMB AMB
comp=Z,194nm,3.7s
WMQ LR LR
comp=N,664nm,17.0s
WMQ LR LR
comp=E,458nm,13.3s
WMQ LR LR
comp=Z,469nm,16.0s
KLBR Kellerberrin 44.17 187 *e*P **P 12 12 40.0 -0.1**
comp=Z,11nm,0.6s,mb4.8
MUN Mundaring 44.76 189 *e*P **P 12 12 44.5 -0.3**
NWAO Narrogin (SRO) 45.55 187 *e*P **P 12 12 51.5 +0.4**
comp=Z,41nm,0.8s,mb5.2
NWAO Narrogin (SRO) 45.55 187 *e*P **P 12 12 51.5 +0.4**
NWAO pmax pmax
comp=Z,41nm,0.8s
BOD Bodaibo 45.80 353 *e*P **P 12 12 58.1 +5.4**
BOD *e* 12 14 23.0
BOD pmax pmax
comp=Z,7.0nm,1.9s,mb4.1
EIDS Eidsvold 46.29 144 *e*P **P 12 12 56.4 -0.7**
comp=Z,6.7nm,1.1s,mb4.3
STKA Stephens Creek 47.43 159 *e*P **P 12 13 05.5 -0.3**
comp=Z,5.1nm,0.6s,mb4.4
STKA Stephens Creek 47.43 159 P **P 12 13 06.3 +0.5**
comp=Z,4.2nm,0.7s,mb4.3,baz=330,slow=10,SNR=10
MK31 Makanchi Array 48.58 323 *e*P **P 12 13 14.4 -0.1**
MKAR Makanchi Array 48.58 323 P **P 12 13 14.5 0.0**
MKAR pmax pmax
comp=Z,22nm,0.8s
MKAR Makanchi Array 48.58 323 P **P 12 13 14.4 -0.1**
comp=Z,22nm,0.8s,mb5.1,baz=124,slow=8.2,SNR=48
PET Petropavlovsk 49.21 27 *e*P **P 12 13 20.8 +1.6**
comp=Z,130nm,1.8s,mb5.6
PET Petropavlovsk 49.21 27 *e*P **P 12 13 20.8 +1.6**
PET pmax pmax
comp=Z,130nm,1.8s,mb5.6
YAK Yakutsk 49.66 4 *e*P **P 12 13 22.4 -0.1**
comp=Z,17nm,0.6s,mb5.2
YAK Yakutsk 49.66 4 *e*P **P 12 13 22.4 -0.1**
YAK pmax pmax
comp=Z,17nm,0.6s,mb5.2
ULHL Ulahol 50.44 315 P **P 12 13 29.8 +1.0**
SNR=14
KZA Kyzart 51.07 315 P **P 12 13 34.8 +1.3**
SNR=16
TKM2 Tokmak 2 51.13 316 *e*P **P 12 13 34.0 +0.1**
comp=Z,6.9nm,0.6s,mb4.9
TKM2 Tokmak 2 51.13 316 *e*P **P 12 13 34.0 0.0**
TKM2 pmax pmax
comp=Z,7.0nm,0.6s,mb4.9
TKM2 Tokmak 2 51.13 316 P **P 12 13 34.4 +0.5**
SNR=9.9
ZAA0 Zalesovo Array 51.35 332 *e*P **P 12 13 34.3 -1.0**
ZALV Zalesovo Beam 51.35 332 P **P 12 13 34.7 -0.7**
ZALV Zalesovo Beam 51.35 332 P **P 12 13 34.7 -0.7**
comp=Z,12nm,0.7s,mb5.1,baz=117,slow=7.9,SNR=29
ZAL Zalesovo 51.35 332 P **P 12 13 34.7 -0.7**
ZAL pmax pmax
comp=Z,12nm,0.7s
KBK Karagaybulak 51.48 315 P **P 12 13 37.3 +0.7**
SNR=10
UCH Uchtor 51.63 314 *e*P **P 12 13 38.7 +1.0**
comp=Z,10nm,0.6s,mb5.0
UCH Uchtor 51.63 314 P **P 12 13 39.1 +1.4**
SNR=18
AAK Ala-Archa 51.79 315 *e*P **P 12 13 38.8 -0.1**
comp=Z,3.5nm,0.8s,mb4.4
AAK Ala-Archa 51.79 315 *e*P **P 12 13 38.8 0.0**
AAK pmax pmax
comp=Z,3.0nm,0.8s,mb4.4
USP Ospenovka 52.01 316 P **P 12 13 40.6 +0.1**
SNR=8.2
AML Almayashu 52.18 314 *e*P **P 12 13 42.6 +0.9**
comp=Z,8.1nm,0.6s,mb4.9
AML Almayashu 52.18 314 P **P 12 13 43.1 +1.4**
SNR=12
NVS Novosibirsk 52.63 332 *i*P **P 12 13 44.0 -0.9**
NVS pmax pmax
comp=N,51nm,1.8s
NVS pmax pmax
comp=E,43nm,1.8s
NVS pmax pmax
comp=Z,64nm,1.8s,mb5.3
KURK Kurchatov 52.67 326 P **P 12 13 45.4 +0.2**
comp=Z,173nm,1.4s,mb5.9,SNR=14
KURK Kurchatov 52.67 326 *e*P **P 12 13 45.1 -0.1**
comp=Z,67nm,1.2s,mb5.5
KURK Kurchatov 52.67 326 *e*P **P 12 13 45.1 -0.1**
KURK pmax pmax
comp=Z,67nm,1.2s,mb5.5
KBL Kabul 53.78 304 *e*P **P 12 13 53.7 0.0**
comp=Z,21nm,0.7s,mb5.3
KBL Kabul 53.78 304 *e*P **P 12 13 53.7 0.0**
KBL pmax pmax
comp=Z,21nm,0.7s,mb5.3
SEY Seymchan 54.40 16 *e*P **P 12 13 57.0 -0.7**
BRVK Borovoye 58.33 325 P **P 12 14 26.5 +0.7**
comp=Z,138nm,0.7s,SNR=10
BRVK Borovoye 58.33 325 *e*P **P 12 14 25.4 -0.3**
comp=Z,15nm,0.6s,mb5.2
BRVK Borovoye 58.33 325 *e*P **P 12 14 25.5 -0.3**
BRVK pmax pmax
comp=Z,15nm,0.6s,mb5.2
TIXI Tiksi 59.21 2 *e*P **P 12 14 29.8 -1.7**
comp=Z,53nm,1.4s,mb5.4
TIXI Tiksi 59.21 2 *e*P **P 12 14 30.1 -1.4**
TIXI *e* 12 14 35.9
TIXI pmax pmax
comp=Z,19nm,0.9s,mb5.1
BILL Bilibino 62.06 17 *e*P **P 12 14 50.0 -0.9**
comp=Z,53nm,1.6s,mb5.3
BILL Bilibino 62.06 17⇑ *e*P **P 12 14 51.2 +0.2**
BILL *i* 12 14 56.8
BILL pmax pmax
comp=Z,38nm,1.6s,mb5.2
BILL MLR MLR
comp=Z,100nm,15.0s
SVE Sverdlovsk 64.84 327 *e*P **P 12 15 09.6 +0.1**
SVE pmax pmax
comp=Z,16nm,0.7s,mb5.0
ARU Arti 65.84 327 *e*P **P 12 15 15.1 -0.9**
comp=Z,13nm,0.6s,mb4.9
ARU Arti 65.84 327 *d i*P **P 12 15 15.0 -1.0**
ARU *e* pP 12 15 40.4 +2.4
ARU *e* 12 17 37.4
ARU *e*S S 12 23 59.9 +3.9
ARU *e*SS SS 12 28 17.9 +5.9
ARU pmax pmax
comp=Z,31nm,1.7s,mb4.9
QRN Al-Qurain 71.49 296 *e*P **P 12 15 51.7 0.0**
QRN AMb AMB 12 15 54.5
comp=Z,108nm,1.5s,mb5.5
QRN Al-Qurain 71.49 296 *e*P **P 12 15 51.8 +0.1**
QRN AMb AMB 12 15 53.7
comp=Z,108nm,1.0s,mb5.7
KBD Kabd 71.66 297 *e*P **P 12 15 52.5 -0.2**
KBD AMb AMB 12 15 55.5
comp=Z,120nm,0.9s,mb5.7
RDF Al-Radifah 71.80 297 *e*P **P 12 15 53.1 -0.4**
RDF AMb AMB 12 15 55.1
comp=Z,84nm,0.9s,mb5.5
RDF Al-Radifah 71.80 297 *e*P **P 12 15 53.8 +0.2**
RDF AMb AMB 12 15 55.6
comp=Z,83nm,1.0s,mb5.5
MIB Mutribah 71.92 297 *e*P **P 12 15 53.8 -0.4**
MIB AMb AMB 12 15 56.8
comp=Z,59nm,0.7s,mb5.5
MIB Mutribah 71.92 297 *e*P **P 12 15 54.1 0.0**
MIB AMb AMB 12 15 56.9
comp=Z,59nm,0.7s,mb5.5
NAY Al-Naaiem 72.04 297 *e*P **P 12 15 54.7 -0.2**
NAY AMb AMB 12 15 56.9
comp=Z,21nm,0.8s,mb5.0
NAY Al-Naaiem 72.04 297 *e*P **P 12 15 55.1 +0.2**
NAY AMb AMB 12 15 56.8
comp=Z,21nm,0.8s,mb5.0
KIV Kislovodsk 74.80 312 P **P 12 16 11.9 +1.0**
comp=Z,449nm,0.6s,SNR=6.1
KIV Kislovodsk 74.80 312 *e*P **P 12 16 12.0 +1.1**
comp=Z,45nm,0.6s,mb5.4
KIV Kislovodsk 74.80 312 *e*P **P 12 16 10.9 0.0**
KIV pmax pmax
comp=Z,41nm,0.7s,mb5.3
KIV MLR MLR
comp=Z,111nm,17.0s
KIV Kislovodsk 74.80 312⇑ *i*P **P 12 16 11.5 +0.6**
IMA2 Indian Mountai 75.78 25 *e*P **P 12 16 15.7 -0.3**
VORD Divnogorie 76.72 320 *e*P **P 12 16 21.4 -0.3**
VORD pmax pmax
comp=Z,20nm,1.5s,mb4.6
VORD pmax pmax
comp=N,20nm,1.6s
VORD pmax pmax
comp=E,20nm,0.9s
VRSR Storozhevoye 76.77 320 *e*P **P 12 16 22.2 +0.3**
VRSR pmax pmax
comp=Z,3.0nm,1.2s,mb3.9
VRSR pmax pmax
comp=N,1.0nm,0.8s
VRSR pmax pmax
comp=E,3.0nm,1.0s
SOC Sochi 76.97 312 *e*P **P 12 16 22.7 -0.5**
SOC *e* 12 19 20.9
SOC *e*S S 12 26 10.3 +5.6
SOC *e*SS SS 12 31 07.2 +4.2
SOC pmax pmax
comp=Z,23nm,0.7s,mb5.0
MCK McKinley 77.85 27 *e*P **P 12 16 26.7 -1.0**
comp=Z,34nm,1.3s,mb4.9
MCK McKinley 77.85 27 *e*P **P 12 16 26.7 -1.0**
MCK pmax pmax
comp=Z,34nm,1.3s,mb4.9
OBN Obninsk 78.07 324 P **P 12 16 29.0 -0.1**
OBN 12 16 38.0
OBN pmax pmax
comp=Z,14nm,2.0s,mb4.3
OBN MLR MLR
comp=Z,100nm,16.0s
MALT Malatya 78.48 307 *e*P **P 12 16 33.2 +1.5**
comp=Z,7.6nm,0.8s,mb4.5
MALT Malatya 78.48 307 *e*P **P 12 16 33.3 +1.6**
MALT pmax pmax
comp=Z,8.0nm,0.8s,mb4.5
MALT Malatya 78.48 307⇓ *i*P **P 12 16 33.1 +1.4**
JOF Joensuu 79.94 332 *e*p **P 12 16 35.6 -3.6**
comp=Z,1.7nm,0.5s,mb4.1
KEV Kevo 80.59 339 *e*p **P 12 16 33.9 -8.6**
comp=Z,0.5nm,0.4s,mb3.7
ARCES ARCESS Array B 81.14 339 P **P 12 16 45.3 -0.2**
ARCES pmax pmax
comp=Z,2.0nm,0.6s
ARCES ARCESS Array B 81.14 339 P **P 12 16 45.2 -0.2**
comp=Z,1.9nm,0.6s,mb4.1,baz=71,slow=5.3,SNR=11
FINES FINESS Array B 82.62 331 P **P 12 16 53.6 +0.3**
FINES pmax pmax
comp=Z,1.0nm,0.5s
FINES FINESS Array B 82.62 331 P **P 12 16 53.5 +0.2**
comp=Z,1.2nm,0.5s,mb4.0,baz=49,slow=5.8,SNR=7.5
AKASG Malin Array Be 83.08 320 P **P 12 16 56.0 0.0**
AKASG pmax pmax
comp=Z,2.0nm,0.6s
AKASG Malin Array Be 83.08 320 P **P 12 16 56.0 0.0**
comp=Z,2.2nm,0.6s,mb4.2,baz=67,slow=4.9,SNR=13
INK Inuvik 83.25 21 *e*P **P 12 16 56.2 -0.2**
TIRR Tirgusor 84.90 314⇓ *i*P **P 12 17 05.9 +0.6**
TIRR Tirgusor 84.90 314⇓ *i*P **P 12 17 05.9 +0.5**
VRI Vrincioaia 85.75 316⇓ *i*P **P 12 17 11.8 +2.3**
PLOR Plostina 85.80 316⇑ *i*P **P 12 17 10.7 +0.9**
MLR Muntele Rosu 86.37 316⇑ *i*P **P 12 17 14.5 +1.8**
MLR Muntele Rosu 86.37 316⇑ *i*P **P 12 17 14.5 +1.9**
KMBO Kilima Mbogo 86.51 268 *e*P **P 12 17 15.8 +1.9**
comp=Z,6.0nm,1.0s,mb4.5
KMBO Kilima Mbogo 86.51 268 *e*P **P 12 17 15.8 +1.9**
KMBO pmax pmax
comp=Z,6.0nm,1.0s
KMBO Kilima Mbogo 86.51 268 P **P 12 17 15.7 +1.8**
comp=Z,3.1nm,0.6s,mb4.4,baz=46,slow=7.8,SNR=12
LVV L'vov 86.53 320 *e*P **P 12 17 17.9 +4.6**
KWP Kalwaria 87.41 320 *e*P **P 12 17 19.3 +1.7**
KWP Kalwaria 87.41 320⇓ *i*P **P 12 17 18.7 +1.1**
KOLS Kolonicke sedl 87.88 320 *e*P **P 12 17 22.1 +2.3**
UZH Uzhgorod 87.95 319 *i*P **P 12 17 22.0 +1.8**
DRGR 88.20 318⇑ *i*P **P 12 17 21.6 +0.2**
DRGR 88.20 318⇑ *i*P **P 12 17 21.6 +0.2**
CRVS Cervenica-Dubn 88.40 320 *e*P **P 12 17 23.2 +0.9**
KECS Kecovo 89.14 320 *e*P **P 12 17 26.3 +0.5**
comp=Z,2.1nm,1.0s,mb4.1
KECS Kecovo 89.14 320 *e*P **P 12 17 26.3 +0.5**
KECS pmax pmax
comp=Z,2.0nm,1.0s,mb4.1
NB2 NORSAR Subarra 89.53 333 P **P 12 17 26.9 -0.5**
comp=Z,2.1nm,0.9s,mb4.3,baz=65,slow=4.8
NOA NORSAR Array B 89.53 333 P **P 12 17 27.1 -0.3**
NOA pmax pmax
comp=Z,1.0nm,0.8s
NOA MLR MLR
comp=Z,177nm,19.0s
NOA NORSAR Array B 89.53 333 P **P 12 17 27.1 -0.2**
comp=Z,1.2nm,0.8s,mb4.1,baz=67,slow=4.7,SNR=4.0
NOA LR LR 12 59 51.8
comp=Z,176nm,19.0s,baz=35,slow=37
RES Resolute Bay 89.79 9 *e*P **P 12 17 28.1 -0.2**
VYHS Vyhne 90.18 320 *e*P **P 12 17 31.4 +0.7**
comp=Z,12nm,2.2s,mb4.6
VYHS Vyhne 90.18 320 *e*P **P 12 17 31.4 +0.7**
VYHS pmax pmax
comp=Z,12nm,2.2s,mb4.6
VNDA Vanda 92.49 172 P **P 12 17 40.8 +0.2**
VNDA pmax pmax
comp=Z,1.0nm,1.1s
VNDA Vanda 92.49 172 P **P 12 17 40.8 +0.1**
comp=Z,1.2nm,1.1s,mb4.0,baz=353,slow=2.4,SNR=3.3
YKA Yellowknife Ar 92.84 23 P **P 12 17 42.8 +0.1**
YKA pmax pmax
comp=Z,1.0nm,0.7s
YKA Yellowknife Ar 92.84 23 P **P 12 17 42.8 +0.1**
comp=Z,0.8nm,0.7s,mb4.2,baz=304,slow=4.6,SNR=12
TXAR Lajitas Array 118.41 47 PKIKP PKPdf 12 23 19.6 +1.6
TXAR pmax pmax
comp=Z,1.0nm,0.9s
TXAR Lajitas Array 118.41 47 PKP PKPdf 12 23 19.6 +1.5
comp=Z,0.5nm,0.9s,baz=252,slow=0.8,SNR=4.2

MOS ***26*** *12:13:26.7±0.8, 28.08S×70.68W, h33km, mb5.5/50, Error ellipse: s-maj=12.7km s-min=6.5km az=93.4*
ISCJB ***26*** *12:13:28.3±0.1, 28.16S±0.02×70.58W±0.04, h49km, mb5.4/127, MS4.5/16, Error ellipse: s-maj=5.0km s-min=2.8km az=176.2*
BJI ***26*** *12:13:28.0, 27.61S×71.60W, h41km, mB5.2, Ms5.5, Msz5.2*
GUC ***26*** *12:13:29.0±0.7, 28.16S×70.78W, h45km±2km, ML5.4*
IDC ***26*** *12:13:29.7±0.3, 28.09S×70.66W, h50km±2km, mb4.9/21, mb1 4.9/25, mb1mx4.8/27, mbtmp4.8/25, MS4.3/21, Ms1 4.3/21, ms1mx4.2/29, Error ellipse: s-maj=15.2km s-min=7.1km az=70.0*
NEIC ***26*** *12:13:29.0, 28.16S×70.78W, h45km, mb5.5/120, After GUC.*
NEIC Felt [IV] at Alto del Carmen; [III] at Copiapo, Huasco, Tierra Amarilla and Vallenar; [II] at Caldera, La Higuera and La Serena.
GCMT ***26*** *12:13:29.0±0.2, 28.10S×71.11W, h49km±1km, MW5.2/69, Moment Tensor Solution. s48,c59; s69,c102; Duration: 0 Moment tensor: Scale 10^16Nm; M_rr5.45±.25; M_θθ1.51±.18; M_φφ-6.96±.19; M_rθ2.16±.12; M_φθ-1.38±.14; M_rφ-2.06±.16; Best double couple: M_0 7.12600×10^16 NP1:φs33.00000°, δ43.00000°, λ128.00000°. NP2: φs166.00000°, δ58.00000°, λ60.00000°. Principal axes: T 6.8370, Plg64.0000°, Azm23.0000°; N 0.5780, Plg25.0000°, Azm183.0000°; P -7.4150, Plg8.0000°, Azm277.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
LDG ***26*** *12:13:32.1±0.5, 27.57S×70.74W, h65km, Mb5.4/18, Ms4.4/10 Error ellipse: s-maj=30.4km s-min=16.6km az=64.0*
ISC 26 12:13:30.1±0.1, 28.20S±0.02×70.57W±0.04, h51km, h51km±.3km:pP-P, n707, σ0.963/588, mb5.4/127, MS4.5/16, 170C-153D, Central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VACH	**Vallenar**	**0.41**	**203**	↑*i*P	**Pn**	**12 13 39.5**	**-0.9**
VACH				*i* S	**Sn**	**12 13 46.8**	**-1.0**
LCO	**Las Campanas**	**0.82**	**188**	*e*P	**Pn**	**12 13 44.8**	**-0.7**
LCO				*e*S	**Sn**	**12 13 54.6**	**-2.1**
CPCH	**Copiapo**	**0.86**	**13**	↓*i*P	**Pn**	**12 13 45.7**	**-0.2**
CPCH				*i* S	**Sn**	**12 13 58.2**	**+0.7**
CPCH	**Copiapo**	**0.86**	**13**	↓*i*P	**Pn**	**12 13 45.7**	**-0.2**
CPCH				*i* S	**Sn**	**12 13 58.2**	**+0.7**
CPCH				AML	AML	12 13 59.6	
	comp=N,155μm,0.6s						
LSCH	**La Serena**	**1.80**	**199**	*e*P	**Pn**	**12 13 58.1**	**-0.6**
LSCH				*i* S	**Sn**	**12 14 20.1**	**-0.3**
TLL	**Tololo Astrono**	**1.97**	**186**	↑*e*P	**Pn**	**12 14 01.4**	**+0.4**
TLL				AML	AML	12 14 48.3	
	comp=N,39μm,0.7s						
OVCH	**Ovalle**	**2.46**	**193**	↓*i*P	**Pn**	**12 14 07.0**	**-0.7**
OVCH				*i* S	**Sn**	**12 14 36.7**	**0.0**
OVCH	**Ovalle**	**2.46**	**193**	↓*i*P	**Pn**	**12 14 07.0**	**-0.7**
OVCH				*i* S	**Sn**	**12 14 36.7**	**0.0**
OVCH				AML	AML	12 14 53.5	
	comp=N,39μm,0.6s						
CMCH	**Combarbala**	**2.99**	**187**	↑*i*P	**Pn**	**12 14 14.9**	**0.0**
CMCH				*i* S	**Sn**	**12 14 50.2**	**+0.7**
CHNG	**Los Chungos**	**3.76**	**192**	*e*P	Px	12 14 05.0	
CHNG				*i* S	Sx	12 14 47.2	
CFAA	**Coronel Fontan**	**3.96**	**150**	P	**Pn**	**12 14 31.4**	**+3.2**
CFAA				S	**Sn**	**12 15 19.9**	**+6.6**
CFAA				LR	LR	12 16 17.9	
CFAA	**Coronel Fontan**	**3.96**	**150**	P	**Pn**	**12 14 31.4**	**+3.2**
	comp=N,49nm,0.3s,baz=327,slow=12,SNR=215						
CFAA				S	**Sn**	**12 15 19.9**	**+6.6**
	comp=N,60nm,0.3s,baz=234,slow=22,SNR=10						
CFAA				LR	LR	12 16 17.9	
	comp=N,517nm,21.7s,baz=324,slow=41						
ARE	**Arequipa**	**11.71**	**356**	*e*P	**Pn**	**12 16 16.0**	**+1.5**
CPUP	**Villa Florida**	**11.93**	**84**	LR	LR	12 21 28.9	
	comp=N,3μm,20.5s,baz=183,slow=40						
LPAZ	**La Paz**	**12.06**	**11**	*e*Pn	**Pn**	**12 16 17.2**	**-2.2**
	comp=N,42nm,0.7s						
LPAZ	**La Paz**	**12.06**	**11**	*e*P	**Pn**	**12 16 17.2**	**-2.1**
LPAZ				pmax	pmax		
	comp=Z,43nm,0.7s						
LPAZ	**La Paz**	**12.06**	**11**	P	**Pn**	**12 16 17.2**	**-2.1**
	comp=Z,0.5nm,0.3s,baz=196,slow=6.3,SNR=12						
LPAZ				LR	LR	12 21 18.9	
	comp=Z,2μm,21.2s,baz=198,slow=39						
TRQA	**Tornquist**	**12.18**	**146**	*e*Pn	**Pn**	**12 16 22.2**	**+1.4**
PLCA	**Paso Flores**	**12.51**	**180**	*e*Pn	**Pn**	**12 16 25.3**	**+0.1**
	comp=Z,4.3nm,0.5s						
PLCA	**Paso Flores**	**12.51**	**180**	*e*P	**Pn**	**12 16 25.3**	**+0.1**
PLCA				pmax	pmax		
	comp=Z,4.0nm,0.5s						
PLCA	**Paso Flores**	**12.51**	**180**	P	**Pn**	**12 16 24.8**	**-0.5**
	comp=Z,0.4nm,0.3s,baz=352,slow=13,SNR=9.4						
PLCA				LR	LR	12 21 38.8	
	comp=Z,2μm,20.9s,baz=352,slow=39						
SIV	**San Ignacio**	**14.99**	**38**	P	**Pn**	**12 16 56.3**	**-2.4**
	comp=Z,1.5nm,0.3s,baz=226,slow=12,SNR=13						
NNA	**Nana**	**17.16**	**339**	*e*P	**Pn**	**12 17 25.8**	**-0.5**
	comp=Z,32nm,0.9s						
NNA	**Nana**	**17.16**	**339**	P	**Pn**	**12 17 28.3**	**+2.0**
	comp=Z,0.7nm,0.3s,baz=194,slow=8.7,SNR=6.8						
NNA				LR	LR	12 22 37.1	
	comp=Z,1μm,21.4s,baz=165,slow=32						
ATAH	**Atahualpa**	**22.34**	**339**	P	**P**	**12 18 22.9**	**-0.8**
	comp=Z,35nm,1.1s,mb4.7,baz=170,slow=7.8,SNR=24						
ATAH				LR	LR	12 25 15.1	
	comp=Z,816nm,20.4s,baz=39,slow=32						
BDFB	**Brasilia**	**24.32**	**64**	P	**P**	**12 18 43.5**	**+0.5**
BDFB				*SP	sP	12 19 00.8	-1.3
BDFB	**Brasilia**	**24.32**	**64**	P	**P**	**12 18 43.5**	**+0.4**
	comp=Z,16nm,0.8s,mb4.5,baz=227,slow=17,SNR=22						
BDFB				sP	sP	12 19 00.8	-1.3
	comp=Z,24nm,0.9s,baz=205,slow=21,SNR=7.7						
BDFB				LR	LR	12 29 29.5	
	comp=Z,531nm,18.2s,baz=22,slow=39						
EFI	**East Falkland**	**25.26**	**162**	*e*P	**P**	**12 18 51.7**	**+0.5**
	comp=Z,61nm,0.8s,mb5.2						
EFI	**East Falkland**	**25.26**	**162**	*e*P	**P**	**12 18 51.7**	**+0.5**
EFI				pmax	pmax		
	comp=Z,61nm,0.8s,mb5.2						
CAM4	**Nova Friburgo**	**25.95**	**83**	*e*P	**P**	**12 18 58.5**	**+0.7**
CAM4				*i*		12 19 01.6	
CAM4				*i*	pP	12 19 10.5	-0.3
CAM4				*i*	pP	12 19 15.8	+5.0
CAM4				*i*		12 19 38.0	
USHA	**Ushuaia**	**26.66**	**177**	P	**P**	**12 19 03.9**	**0.0**
	comp=Z,31nm,0.8s,mb4.9,baz=347,slow=6.5,SNR=11						
USHA				LR	LR	12 30 11.8	
	comp=Z,695nm,21.2s,MS4.2,baz=123,slow=37						
CAM3	**Guarapari**	**28.29**	**81**	(P)	**P**	**12 19 19.7**	**+0.9**
CAM3				*i*		12 19 21.8	
CAM3				*i*		19 38 16.4	
ROSC	**El Rosal**	**33.06**	**353**	*e*P	**P**	**12 20 02.4**	**+1.6**
ROSC	**El Rosal**	**33.06**	**353**	P	**P**	**12 20 02.4**	**+1.6**
	comp=Z,22nm,0.7s,mb5.2,baz=119,slow=7.8,SNR=9.9						
ROSC				LR	LR	12 33 41.5	
	comp=Z,343nm,21.0s,baz=284,slow=37						
RPN	**Rapa Nui**	**34.25**	**262**	LR	LR	12 30 30.0	
	comp=Z,375nm,20.7s,baz=121,slow=30						
PMSA	**Palmer Station**	**36.82**	**175**	*e*P	**P**	**12 20 33.2**	**+0.4**
	comp=Z,66nm,0.8s,mb5.5						
PMSA				*e*pP	pP	12 20 45.8	-0.3
PMSA	**Palmer Station**	**36.82**	**175**	P	**P**	**12 20 32.2**	**-0.5**
	comp=Z,18nm,0.8s,mb4.9,baz=322,slow=15,SNR=5.2						
SDV	**Santo Domingo**	**36.86**	**360**	*e*P	**P**	**12 20 32.1**	**-1.5**
	comp=Z,62nm,1.0s,mb5.4						
SDV				*e*pP	pP	12 20 50.4	+3.4
SDV	**Santo Domingo**	**36.86**	**360**	P	**P**	**12 20 32.1**	**-1.5**
	comp=Z,29nm,0.8s,mb5.2,baz=203,slow=7.7,SNR=34						
SDV				sP	sP	12 20 50.7	-2.3
	comp=Z,50nm,0.8s,baz=242,slow=5.3,SNR=11						
PCRV	**Puerto La Cruz**	**38.58**	**9**	P	**P**	**12 20 47.0**	**-1.1**
	comp=Z,24nm,0.7s,mb5.0,baz=232,slow=2.6,SNR=7.6						
PCRV				sP	sP	12 21 06.1	-1.4
	comp=Z,20nm,0.9s,baz=50,slow=1.5,SNR=5.5						
RCBR	**Riachuelo**	**39.68**	**62**	*e*P	**P**	**12 20 58.4**	**+1.0**
	comp=Z,91nm,1.1s,mb5.4						
RCBR				*e*pP	pP	12 21 14.7	+3.9
JTS	**JuntasAbangare**	**40.71**	**338**	*e*P	**P**	**12 21 05.5**	**-0.3**
	comp=Z,23nm,0.8s,mb4.9						
JTS				*e*pP	pP	12 21 19.0	-0.3
JTS				*e*sP	sP	12 21 24.4	-0.9
JTS	**JuntasAbangare**	**40.71**	**338**	*e*P	**P**	**12 21 05.5**	**-0.3**
JTS				*e*PP	pP	12 21 19.0	-0.3
JTS				pmax	pmax		
	comp=Z,23nm,0.8s						
JTS	**JuntasAbangare**	**40.71**	**338**	P	**P**	**12 21 05.5**	**-0.4**
	comp=Z,19nm,0.8s,mb4.8,baz=184,slow=4.9,SNR=11						
SJG	**San Juan**	**46.23**	**6**	*e*P	**P**	**12 21 47.7**	**-2.5**
	comp=Z,41nm,0.8s,mb5.4						
SJG	**San Juan**	**46.23**	**6**	P	**P**	**12 21 48.2**	**-2.1**
	comp=Z,33nm,0.6s,mb5.4,baz=204,slow=4.1,SNR=9.4						
CBYP	**Canovanas**	**46.42**	**6**	*e*P	**P**	**12 21 44.1**	**-7.5**
CBYP				*e*pP	pP	12 22 03.5	-1.9
CMIG	**Matias Romero**	**50.80**	**329**	P	**P**	**12 22 24.7**	**-0.7**
	comp=Z,21nm,0.9s,mb5.1,baz=120,slow=4.2,SNR=33						
CMIG				pP	pP	12 22 37.9	-1.4
	comp=Z,20nm,0.9s,baz=151,slow=3.7,SNR=10.0						
CMIG				sP	sP	12 22 44.2	-0.9
	comp=Z,28nm,0.8s,baz=138,slow=4.0,SNR=11						
CMIG				LR	LR	12 38 51.7	
	comp=Z,147nm,18.0s,baz=155,slow=30						
TEIG	**Tepich**	**51.09**	**338**	*e*P	**P**	**12 22 26.8**	**-0.7**
	comp=Z,139nm,0.6s,mb6.1						
TEIG				*e*pP	pP	12 22 40.0	-1.4
TEIG				*e*sP	sP	12 22 45.9	-1.4
TEIG	**Tepich**	**51.09**	**338**	P	**P**	**12 22 26.7**	**-0.8**
	comp=Z,152nm,0.7s,mb6.1,baz=154,slow=3.5,SNR=99						
TEIG				pP	pP	12 22 39.9	-1.5
	comp=Z,61nm,0.7s,baz=132,slow=4.3,SNR=7.0						
TEIG				sP	sP	12 22 46.1	-1.2

comp=Z,77nm,0.6s,baz=157,slow=4.8,SNR=6.2
VNA3 Neumayer Olymp 54.30 160 *e*PKPdf **P 12 22 51.1 +0.5**
VNA3 *e* pP 12 23 04.5 -0.1
VNA3 *e* 12 23 10.4
VNA3 *e* 12 23 55.0
VNA1 Neumayer--Stat 54.56 159 *e*PKPdf **P 12 22 53.0 +0.5**
VNA1 *e* pP 12 23 07.0 +0.5
VNA1 *e* 12 23 12.8
VNA1 *e* 12 23 55.0
VNA2 Neumayer--Watz 54.91 159 *e*PKPdf **P 12 22 55.7 +0.6**
VNA2 *e* pP 12 23 09.3 +0.2
VNA2 *e* 12 23 16.2
VNA2 *e* 12 23 56.3
SNAA Sanae 56.52 159 *e*PKPdf **P 12 23 06.8 +0.2**
SNAA *e* pP 12 23 20.4 -0.2
SNAA *e* 12 23 28.5
SNAA Sanae 56.52 159 P **P 12 23 06.9 +0.3**
comp=Z,26nm,0.7s,mb5.4,baz=283,slow=7.1,SNR=281
SNAA pP pP 12 23 20.2 -0.4
comp=Z,18nm,0.8s,baz=290,slow=7.0,SNR=11
SNAA sP sP 12 23 28.1 +1.6
comp=Z,14nm,0.7s,baz=285,slow=8.0,SNR=5.9
SNAA LR LR 12 46 57.8
comp=Z,92nm,20.0s,baz=238,slow=36
RKT Rikitea 57.68 259 *e*S **S 12 31 09.0 -1.6**
comp=Z,348nm,36.8s
RKT *e*LR LR 12 40 03.5
comp=Z,388nm,23.2s
BBSR BB Station 60.49 6 *e*P **P 12 23 34.2 -0.5**
comp=Z,44nm,1.0s,mb5.4
MAIT Maitri 61.14 158 *e*P pP 12 23 49.9 -3.0
COW Cow Castle Cre 61.99 350 *e*P **P 12 23 43.8 -1.0**
COW *e*pP pP 12 23 57.6 -1.4
COW *e*sP sP 12 24 03.4 -1.4
HKT Hockley 62.66 335 *e*P **P 12 23 48.6 -0.7**
comp=Z,17nm,1.0s,mb5.1
HKT *e*pP pP 12 24 02.4 -1.1
HKT *e*sP sP 12 24 08.9 -0.4
HKT Hockley 62.66 335 *e*P **P 12 23 48.6 -0.7**
HKT *e**PP pP 12 24 02.4 -1.2
HKT pmax pmax
comp=Z,17nm,1.0s,mb5.1
JSC Jenkinsville 62.96 350 *e*P **P 12 23 49.6 -1.6**
JSC *e*pP pP 12 24 03.5 -2.0
JSC Jenkinsville 62.96 350 P **P 12 23 50.3 -0.9**
JSC *e* pP 12 24 04.1 -1.4
NATX Nacogdoches 63.88 337 *e*P **P 12 23 57.7 +0.3**
comp=Z,159nm,1.0s,mb6.0
NATX *e*pP pP 12 24 10.9 -0.7
CPCT Cooper Cave 64.66 347 *e*P **P 12 24 01.1 -1.2**
CPCT *e*pP pP 12 24 14.8 -1.9
SWET Sewanee 64.72 346 *e*P **P 12 24 01.5 -1.3**
SWET *e*pP pP 12 24 15.0 -2.1
SWET *e*sP sP 12 24 21.6 -1.2
PLAL Pickwick Lake 64.98 344 *e*P **P 12 24 02.5 -2.0**
comp=Z,80nm,1.0s,mb5.7
PLAL *e*pP pP 12 24 16.2 -2.6
PLAL *e*sP sP 12 24 22.9 -1.7
TXAR Lajitas Array 65.38 328 P **P 12 24 07.0 -0.3**
TXAR pP pP 12 24 20.4 -1.1
TXAR sP sP 12 24 26.8 -0.5
TXAR P'P' 12 52 48.9
TXAR Lajitas Array 65.38 328 P **P 12 24 07.0 -0.2**
TXAR *PP pP 12 24 20.4 -1.1
TXAR Lajitas Array 65.38 328 P **P 12 24 07.0 -0.3**
comp=Z,11nm,0.7s,mb5.0,baz=149,slow=8.4,SNR=118
TXAR pP pP 12 24 20.4 -1.1
comp=Z,8.7nm,0.8s,baz=156,slow=8.6,SNR=8.9
TXAR sP sP 12 24 26.8 -0.5
comp=Z,17nm,0.8s,baz=140,slow=6.0,SNR=14
TXAR PKPPKP 12 52 48.9
comp=Z,0.8nm,0.8s,baz=140,slow=2.8,SNR=4.1
TZTN Tazewell 65.54 349 *e*P **P 12 24 06.8 -1.3**
comp=Z,72nm,1.2s,mb5.6
TZTN *e*pP pP 12 24 20.8 -1.7
URVA University of 65.75 354 *e*P **P 12 24 08.7 -0.6**
URVA *e*pP pP 12 24 22.0 -1.7
ELN Prospectdale 65.78 351 *e*P **P 12 24 08.7 -0.9**
ELN *e*pP pP 12 24 22.3 -1.6
WVT Waverly 66.02 345 *e*P **P 12 24 09.4 -1.7**
comp=Z,117nm,0.9s,mb5.9
WVT *e*pP pP 12 24 23.4 -2.1
WVT Waverly 66.02 345 *e*P **P 12 24 09.4 -1.7**
WVT *e**PP pP 12 24 23.4 -2.1
WVT pmax pmax
comp=Z,117nm,0.9s,mb5.9
GNAR Gosnell 66.40 343 *e*P **P 12 24 13.0 -0.6**
comp=Z,3μm,1.0s
GNAR *e*pP pP 12 24 26.8 -1.2
GLAT Glass 66.50 344 *e*P **P 12 24 12.7 -1.6**
GLAT *e*pP pP 12 24 27.0 -1.6
PARMO Parma 66.99 343 *e*P **P 12 24 16.8 -0.6**
PARMO *e*pP pP 12 24 29.7 -2.1
TAOE Nuku Hiva Isla 67.90 272 *e*LR LR 12 44 53.2
comp=Z,14μm,25.5s
MCWV Mont Chateau 68.06 352 *e*P **P 12 24 23.1 -0.9**
comp=Z,80nm,1.0s,mb5.7
MCWV *e*pP pP 12 24 37.7 -0.7
MVL Millersville 68.06 355 *e*P **P 12 24 24.4 +0.4**
comp=Z,62nm,0.9s,mb5.6
MVL *e*pP pP 12 24 38.2 -0.3
MNTX Cornudas Mount 68.16 328 *e*P **P 12 24 23.5 -1.4**
comp=Z,16nm,0.7s,mb5.2
MNTX *e*pP pP 12 24 37.5 -1.8
MNTX *e*sP sP 12 24 43.7 -1.4
CCM Cathedral Cave 68.69 343 *e*P **P 12 24 27.0 -1.0**
comp=Z,129nm,0.7s,mb6.0
CCM *e*pP pP 12 24 41.0 -1.4
CCM Cathedral Cave 68.69 343 *e*P **P 12 24 27.0 -1.0**
CCM *e**PP pP 12 24 41.1 -1.4
CCM pmax pmax
comp=Z,129nm,0.7s,mb6.0
SSPA Standing Stone 68.82 354 *e*P **P 12 24 28.2 -0.5**
comp=Z,60nm,1.0s,mb5.5
SSPA *e*pP pP 12 24 41.8 -1.4
PAL Palisades 68.92 357 *e*P **P 12 24 30.0 +0.6**
PAL *e**PP pP 12 24 44.0 +0.2
SBA Scott Base 69.00 191 *e*P **P 12 24 29.9 +0.3**
comp=Z,14nm,1.1s,mb4.8
SBA *e*pP pP 12 24 41.9 -2.0
SBA Scott Base 69.00 191 *e*P **P 12 24 29.9 +0.4**
SBA *e**PP pP 12 24 41.9 -2.1
SBA pmax pmax
comp=Z,14nm,1.1s,mb4.8
AMTX Amarillo 69.29 333 *e*P **P 12 24 31.2 -0.6**
comp=Z,123nm,1.3s,mb5.7
AMTX *e*pP pP 12 24 45.4 -0.8
BRYW Bryant College 69.77 359 *e*P **P 12 24 35.0 +0.4**
comp=Z,247nm,0.8s,mb6.2
BRYW *e*pP pP 12 24 49.3 +0.3
319A Douglas 69.78 325 ⇑P **P 12 24 35.3 +0.4**
baz=70
VNDA Vanda 70.02 191 *e*P **P 12 24 36.1 +0.2**
comp=Z,7.8nm,1.0s,mb4.6
VNDA Vanda 70.02 191 *e*P **P 12 24 36.1 +0.2**
VNDA pmax pmax
comp=Z,8.0nm,1.0s
VNDA Vanda 70.02 191 P **P 12 24 36.8 +1.0**
comp=Z,4.6nm,0.9s,mb4.4,baz=132,slow=6.0,SNR=17
VNDA PKP2bc 12 52 34.8
comp=Z,2.8nm,1.0s,baz=278,slow=6.8,SNR=6.6
TBI Tubuai 70.03 254 *e*S S 12 33 43.0 -0.8
comp=Z,163nm,31.5s
TBI Tubuai 70.03 254 *e*LR LR 12 45 51.1
comp=Z,346nm,30.8s
ALLY Alegheny Colle 70.06 352 *e*P **P 12 24 36.1 -0.3**
comp=Z,79nm,0.8s,mb5.7
ALLY *e*pP pP 12 24 50.0 -0.9
QUA2 Belchertown 70.14 359 *e*P **P 12 24 36.7 -0.2**
comp=Z,80nm,1.1s,mb5.6
QUA2 *e*pP pP 12 24 50.7 -0.7
318A Bisbee 70.19 325 ⇓P **P 12 24 37.7 +0.3**
baz=70
BINY Binghamton 70.22 356 *e*P **P 12 24 37.0 -0.4**
comp=Z,95nm,1.0s,mb5.7
BINY *e*pP pP 12 24 51.8 -0.1
WES Weston 70.23 359 *e*P **P 12 24 36.7 -0.7**
comp=Z,40nm,1.1s,mb5.3
WES *e*pP pP 12 24 52.5 +0.6
WES Weston 70.23 359 P **P 12 24 37.1 -0.3**
WES *e**PP pP 12 24 52.5 +0.6
WES pmax pmax
comp=Z,40nm,1.1s,mb5.3
219A White Tail Can 70.27 326 ⇓P **P 12 24 38.4 +0.4**
baz=70
HRV Adam Dziewonsk 70.36 359 *e*P **P 12 24 37.7 -0.5**
comp=Z,44nm,1.0s,mb5.3
HRV *e*pP pP 12 24 52.4 -0.3
HRV Adam Dziewonsk 70.36 359 *e*P **P 12 24 37.7 -0.5**
HRV *e**PP pP 12 24 52.4 -0.3
HRV pmax pmax
comp=Z,45nm,1.0s,mb5.3
ERPA Erie 70.50 353 *e*P **P 12 24 38.5 -0.6**
comp=Z,144nm,1.0s,mb5.9
ERPA *e*pP pP 12 24 52.4 -1.2
218A Dragoon 70.65 325 ⇑P **P 12 24 40.6 +0.4**
baz=71
BNM Barren Site 70.78 329 *e*P **P 12 24 40.7 -0.3**
BNM *e*pP pP 12 24 55.5 0.0
SYO Syowa Base 70.80 159 ⇓*i*P **P 12 24 39.0 -1.7**
SYO Syowa Base 70.80 159 ⇓*e*P **P 12 24 49.8 +9.1**
217A Green Valley 70.88 324 ⇓P **P 12 24 41.9 +0.2**
baz=71
119A Ashpeak Ranch, 70.92 326 ⇑P **P 12 24 42.3 +0.5**
baz=71
LPM Los Pinos Moun 70.92 329 *e*P **P 12 24 42.3 +0.4**
LPM *e*pP pP 12 24 56.1 -0.2
LENM Lemitar 70.95 329 *e*P **P 12 24 42.8 +0.8**
LENM *e*pP pP 12 24 57.0 +0.5
118A Homack Ranch, 71.14 326 ⇓P **P 12 24 43.4 +0.2**
baz=71
LAZ Ladron 71.23 329 *e*P **P 12 24 43.9 +0.2**
LAZ *e*pP pP 12 24 58.3 +0.2
ACCN Adirondack Com 71.28 358 *e*P **P 12 24 44.3 +0.5**
comp=Z,63nm,0.9s,mb5.5
ACCN *e*pP pP 12 24 57.9 -0.4
TUC Tucson 71.29 325 *e*P **P 12 24 45.4 +1.2**
comp=Z,28nm,1.4s,mb5.0
TUC *e*pP pP 12 24 59.2 +0.6
TUC Tucson 71.29 325 *e*P **P 12 24 45.4 +1.3**
TUC *e**PP pP 12 24 59.3 +0.7
TUC pmax pmax
comp=Z,28nm,1.4s,mb5.0
FFD Franklin Falls 71.32 359 *e*P **P 12 24 44.6 +0.6**
comp=Z,52nm,0.5s,mb5.7
FFD *e*pP pP 12 24 58.7 +0.2
Z19A T-Link Ranch, 71.32 326 ⇓P **P 12 24 45.0 +0.7**
baz=72
ANMO Albuquerque 71.37 329 *e*P **P 12 24 44.8 +0.3**
comp=Z,16nm,0.9s,mb5.0
ANMO *e*pP pP 12 24 58.6 -0.4
ANMO Albuquerque 71.37 329 *e*P **P 12 24 44.8 +0.2**
ANMO *e**PP pP 12 24 58.6 -0.5
ANMO pmax pmax
comp=Z,16nm,0.9s
216A Three Points, 71.39 324 ⇓P **P 12 24 45.0 +0.3**
baz=72
117A Oracle 71.48 325 ⇑P **P 12 24 45.5 +0.3**
baz=72
Z18A Geronimo 71.53 326 ⇓P **P 12 24 45.9 +0.4**
baz=72
HNH Hanover 71.56 359 *e*P **P 12 24 46.0 +0.5**
comp=Z,57nm,1.0s,mb5.5
HNH *e*pP pP 12 25 00.8 +0.7
LIC Lamto 71.78 72 ⇑*i*P **P 12 24 47.8 +0.3**
comp=Z,74nm,0.9s,mb5.3
LIC *e*MLR MLR
comp=Z,344nm,22.5s,MS4.3
LIC Lamto 71.78 72 ⇑*i*P **P 12 24 47.8 +0.3**
comp=Z,37nm,0.9s,mb5.3
LIC LR LR
comp=Z,170nm,22.5s,MS4.3
Y19A Nutrioso 71.86 327 ⇑P **P 12 24 48.4 +1.0**
baz=72
NCB Newcomb 71.89 357 *e*P **P 12 24 47.2 -0.2**
comp=Z,57nm,1.0s,mb5.5
NCB *e*pP pP 12 25 01.4 -0.5
Z17A San Carlos Hig 71.92 326 ⇑P **P 12 24 48.1 +0.2**
baz=72
116A Eloy 71.96 324 ⇑P **P 12 24 48.4 +0.2**
baz=72
CBKS Cedar Bluff 72.02 336 *e*P **P 12 24 47.9 -0.4**
comp=Z,14nm,0.8s,mb4.9
CBKS *e*pP pP 12 25 02.5 -0.3
CBKS Cedar Bluff 72.02 336 *e*P **P 12 24 47.9 -0.4**
CBKS *e**PP pP 12 25 02.5 -0.3
CBKS pmax pmax
comp=Z,14nm,0.8s,mb4.9
Y18A Canyon Day Jun 72.09 326 ⇑P **P 12 24 49.2 +0.3**
baz=72
LBNH Lisbon 72.09 359 *e*P **P 12 24 48.8 +0.1**
comp=Z,68nm,0.8s,mb5.6
LBNH *e*pP pP 12 25 03.6 +0.4
LBNH Lisbon 72.09 359 *e*P **P 12 24 49.4 +0.8**
LBNH *e**PP pP 12 25 03.6 +0.4
LBNH pmax pmax
comp=Z,68nm,0.9s,mb5.6
DBIC Dimbokro 72.16 72 *e*P **P 12 24 49.9 +0.1**
comp=Z,59nm,0.8s,mb5.6
DBIC Dimbokro 72.16 72 P **P 12 24 50.5 +0.7**
DBIC pmax pmax
comp=Z,59nm,0.9s
DBIC Dimbokro 72.16 72 P **P 12 24 50.3 +0.5**
comp=Z,54nm,0.8s,mb5.5,baz=215,slow=6.1,SNR=54
DBIC sP sP 12 25 10.2 +0.1
comp=Z,37nm,0.6s,baz=216,slow=6.3,SNR=9.1
DBIC LR LR 12 53 17.8
comp=Z,248nm,21.4s,MS4.5,baz=222,slow=33
X19A St. Johns 72.26 327 ⇑P **P 12 24 50.2 +0.4**
baz=72
115A Sonoran Desert 72.34 324 ⇑P **P 12 24 51.0 +0.6**
baz=73
WVL Waterville 72.41 1 *e*P **P 12 24 51.0 +0.5**
comp=Z,62nm,0.9s,mb5.5
WVL *e*pP pP 12 25 05.8 +0.7
Y17A Roosevelt 72.43 326 ⇑P **P 12 24 51.4 +0.5**
baz=73
Z16A Peralta Trail, 72.44 325 ⇓P **P 12 24 51.2 +0.2**
baz=73
PPT Papeete 72.44 259 *e*S S 12 34 12.3 +0.4
comp=Z,275nm,33.2s
PPT Papeete 72.44 259 *e*LR LR 12 46 55.2
comp=Z,523nm,23.2s,baz=122
EMMW East Machias 72.61 2 *e*P **P 12 24 52.1 +0.4**
comp=Z,92nm,0.8s,mb5.8
EMMW *e*pP pP 12 25 05.7 -0.5
EMMW *e*pP pP 12 25 06.0 -0.3
X18A Snowflake 72.66 327 ⇑P **P 12 24 52.9 +0.7**
baz=73
FRNY Flat Rock 72.73 358 *e*P **P 12 24 52.7 +0.3**
comp=Z,138nm,1.0s,mb5.8
FRNY *e*pP pP 12 25 06.9 0.0
Y16A Circle Bar Ran 72.89 325 ⇑P **P 12 24 54.3 +0.6**
baz=73
X17A Forest Lakes 72.92 326 ⇑P **P 12 24 54.8 +1.0**
baz=73
MSNY Massena 72.95 357 *e*P **P 12 24 52.9 -0.8**
MSNY *e*pP pP 12 25 07.7 -0.5
Z14A Wintersburg 73.23 324 ⇑P **P 12 24 55.8 +0.1**
baz=74
X16A Lo Mia Camp, P 73.30 326 ⇑P **P 12 24 56.7 +0.7**
baz=74
SDCO Great Sand Dun 73.31 332 *e*P **P 12 24 56.6 +0.5**
comp=Z,76nm,1.4s,mb5.4
SDCO *e*pP pP 12 25 10.7 0.0
Y15A Casa Rosa Ranc 73.38 325 ⇓P **P 12 24 56.8 +0.2**
baz=74
Y14A Wickenburg 73.71 324 ⇑P **P 12 24 58.7 +0.2**
baz=74
X15A Humboldt 73.75 325 ⇓P **P 12 24 59.3 +0.5**
baz=74
GLA Glamis 73.99 322 *e*P **P 12 25 00.4 +0.3**
comp=Z,48nm,1.2s,mb5.3
GLA *e*pP pP 12 25 14.8 0.0
GLA Glamis 73.99 322 *e*P **P 12 25 00.4 +0.3**
GLA *e**PP pP 12 25 14.8 +0.1
GLA pmax pmax
comp=Z,48nm,1.2s,mb5.3
GLA Glamis 73.99 322 ⇓P **P 12 25 00.4 +0.3**
baz=74
Y13A Salome 74.05 324 ⇓P **P 12 25 00.9 +0.5**
baz=74
X14A Yava 74.07 325 ⇑P **P 12 25 01.1 +0.5**
baz=74
W15A Williams 74.31 326 ⇓P **P 12 25 02.9 +0.9**
baz=75
Y12C Blythe 74.36 323 ⇓P **P 12 25 02.5 +0.2**
baz=75
DVTC Desert V Tower 74.38 321 ⇑P **P 12 25 02.8 +0.4**
baz=75
SWSC Sam W. Stewart 74.43 322 ⇑P **P 12 25 02.9 +0.2**
baz=75
PDMCI Parker Dam,Lak 74.58 324 ⇑P **P 12 25 03.6 0.0**
baz=75
X13A Yucca 74.65 324 ⇑P **P 12 25 04.4 +0.4**
baz=75
BAR Barrett 74.72 321 *e*P **P 12 25 04.9 +0.5**
BAR *e*pP pP 12 25 19.3 +0.3
MONP Monument Peak 74.73 321 ⇑P **P 12 25 05.1 +0.6**
baz=75
W14A Seligman 74.75 325 ⇑P **P 12 25 05.4 +0.8**
baz=75
V15A Kaibab Nationa 74.78 326 ⇑P **P 12 25 05.5 +0.8**
baz=75
BC3 Big Chuckw Mtn 74.79 322 ⇑P **P 12 25 05.1 +0.3**
baz=75
IRM Iron Mountain 75.01 323 ⇓P **P 12 25 06.3 +0.2**
baz=75
W13A Hualapai Mount 75.07 324 ⇑P **P 12 25 07.2 +0.8**
baz=75
V14A Boquillas Ranc 75.09 325 ⇓P **P 12 25 07.6 +1.1**
baz=75
109C Camp Elliot, M 75.11 321 ⇓P **P 12 25 06.7 +0.1**
baz=75
SMCO Snowmass 75.14 331 *e*P **P 12 25 07.6 +0.9**
comp=Z,85nm,1.0s,mb5.6
SMCO *e*pP pP 12 25 21.8 +0.5
NEE2 Needles Airpor 75.20 324 ⇓P **P 12 25 07.3 +0.2**
baz=75
PFO Pinyon Flat Ob 75.30 322 *e*P **P 12 25 07.9 +0.2**
comp=Z,17nm,1.1s,mb4.9
PFO *e*pP pP 12 25 21.6 -0.7
PFO Pinyon Flat Ob 75.30 322 *e*P **P 12 25 08.2 +0.5**
PFO *e**PP pP 12 25 21.8 -0.5
PFO Pinyon Flat Ob 75.30 322 ⇓P **P 12 25 08.3 +0.6**
baz=76
BELC Belle Mtn. 75.34 322 ⇑P **P 12 25 08.4 +0.4**
baz=76
T16A Glen Canyon Da 75.38 327 ⇓P **P 12 25 08.8 +0.7**
baz=76
MURC Murrieta 75.70 321 ⇓P **P 12 25 10.5 +0.5**
baz=76
V13A Grand Canyon W 75.71 325 ⇑P **P 12 25 10.5 +0.5**
baz=76
W12A Cal Nev Ari 75.74 324 ⇓P **P 12 25 10.3 +0.1**
baz=76
U14A Mt Trumbull 75.75 326 ⇑P **P 12 25 11.1 +0.9**
baz=76
GMRC Granite Mounta 75.75 323 ⇓P **P 12 25 10.9 +0.6**
baz=76
T15A Red Dirt Ranch 75.83 327 ⇓P **P 12 25 11.8 +1.2**
baz=76
BBRC Big Bear Sol-O 76.04 322 ⇑P **P 12 25 12.7 +0.8**
baz=76
U13A Pakoon Wash 76.14 325 ⇓P **P 12 25 13.2 +0.7**
baz=76
HEC Hector,Ludlow 76.15 323 ⇓P **P 12 25 13.1 +0.5**
baz=76
T14A Hurricane 76.21 326 ⇓P **P 12 25 13.5 +0.7**
baz=76
CIS Catalina Islan 76.23 320 ⇑P **P 12 25 13.3 +0.3**
baz=76
PHWY Pilot Hill 76.32 334 *e*P **P 12 25 13.8 +0.4**
PHWY *e*pP pP 12 25 28.0 0.0
TUQ Turquoise Mtn. 76.39 323 ⇑P **P 12 25 14.4 +0.5**
baz=77
BFSC Mount Baldy St 76.43 321 ⇓P **P 12 25 14.3 +0.2**
baz=77
U12A Valley of Fire 76.44 325 ⇑P **P 12 25 14.6 +0.4**
baz=77
V11A Goodsprings 76.44 324 ⇑P **P 12 25 14.5 +0.4**
baz=77
T13A Saint George 76.58 326 ⇓P **P 12 25 15.6 +0.7**
baz=77
SRU San Rafael 76.64 329 *e*P **P 12 25 15.4 +0.2**
comp=Z,53nm,0.9s,mb5.5
SRU *e*pP pP 12 25 29.7 -0.1
SRU San Rafael 76.64 329 *e*P **P 12 25 15.4 +0.2**
SRU *e**PP pP 12 25 29.7 -0.1
SRU pmax pmax
comp=Z,53nm,0.9s,mb5.5
MWC Mount Wilson 76.64 321 *e*P **P 12 25 16.1 +0.7**
MWC *e*pP pP 12 25 30.1 +0.1
CCUT Cedar City 76.73 326 *e*P **P 12 25 16.8 +1.1**
CCUT *e*pP pP 12 25 31.1 +0.7
SNCC San Nicolas Is 76.75 320 ⇑P **P 12 25 17.2 +1.2**
baz=77
GSC Goldstone 76.76 323 *e*P **P 12 25 16.4 +0.4**
comp=Z,47nm,1.2s,mb5.3
GSC *e*pP pP 12 25 30.7 +0.1
GSC Goldstone 76.76 323 *e*P **P 12 25 16.4 +0.4**
GSC *e**PP pP 12 25 30.7 +0.1
GSC pmax pmax
comp=Z,47nm,1.2s,mb5.3
GSC Goldstone 76.76 323 ⇑P **P 12 25 16.5 +0.5**
baz=77
S14A Cedar City 76.80 327 ⇓P **P 12 25 17.0 +0.9**
baz=77
DECC Green Verdugo 76.81 321 ⇓P **P 12 25 16.6 +0.4**
baz=77
MSU Marysvale 76.92 328 *e*P **P 12 25 17.4 +0.6**
MSU *e*pP pP 12 25 31.7 +0.2
ARUT Antelope Range 76.95 326 *e*P **P 12 25 17.9 +0.8**
ARUT *e*pP pP 12 25 31.6 0.0
S13A Holt Ranch, En 77.00 326 ⇑P **P 12 25 18.1 +0.9**
baz=77
EDW2 Edwards Air Fo 77.09 322 ⇓P **P 12 25 17.7 -0.2**
baz=77
TMUT Trail Mountain 77.10 329 *e*P **P 12 25 18.5 +0.7**
TMUT *e*pP pP 12 25 33.0 +0.5
BLG Laguna Peak 77.11 320 ⇑P **P 12 25 18.1 +0.1**
baz=77
R14A James Farms, M 77.15 327 ⇑P **P 12 25 19.1 +0.9**
baz=77
OSI Osito Adit 77.30 321 ⇓P **P 12 25 19.3 +0.3**
baz=78
RWWY Rawlins 77.35 333 *e*P **P 12 25 19.6 +0.5**
comp=Z,124nm,0.9s,mb5.8
RWWY *e*pP pP 12 25 34.1 +0.3
BSC Santa Cruz Isl 77.35 320 ⇓P **P 12 25 20.5 +1.2**
baz=78
U10A Ash Meadows, A 77.36 324 ⇓P **P 12 25 20.0 +0.7**
baz=78
LRMC Laurel Mountai 77.37 322 ⇑P **P 12 25 19.8 +0.4**
baz=78
T11A Corn Creek, Al 77.41 325 ⇓P **P 12 25 20.4 +0.8**
baz=78
S12A Delamar Landin 77.51 325 ⇑P **P 12 25 21.0 +0.9**
baz=78
FURC Furnace Creek, 77.67 323 ⇓P **P 12 25 21.5 +0.4**
baz=78
MPMC Manual Prospec 77.70 323 ⇑P **P 12 25 21.5 +0.3**
baz=78
TPNV Topopah Spring 77.72 324 *e*P **P 12 25 22.2 +0.9**
comp=Z,56nm,1.3s,mb5.3
TPNV *e*pP pP 12 25 35.7 -0.3
TPNV Topopah Spring 77.72 324 *e*P **P 12 25 22.2 +0.9**
TPNV *e**PP pP 12 25 35.7 -0.3
TPNV pmax pmax
comp=Z,56nm,1.3s,mb5.3
TPNV Topopah Spring 77.72 324 ⇓P **P 12 25 22.0 +0.7**
baz=78
ARVC Arvin 77.73 321 ⇓P **P 12 25 21.7 +0.3**
baz=78
MPU Maple Canyon 77.87 329 *e*P **P 12 25 22.6 +0.5**
comp=Z,195nm,1.4s,mb5.8
MPU *e*pP pP 12 25 36.8 0.0
R12A Pony Springs, 77.95 326 ⇑P **P 12 25 23.3 +0.8**
baz=78
S11A Rachel 77.99 325 ⇓P **P 12 25 23.8 +1.0**
baz=78
DAU Daniels Canyon 78.02 329 *e*P **P 12 25 23.5 +0.6**
DAU *e*pP pP 12 25 38.0 +0.4
NLU North Lily Min 78.03 329 *e*P **P 12 25 23.8 +0.9**
NLU *e*pP pP 12 25 38.0 +0.3
PKM Peak Mountain 78.11 320 ⇓P **P 12 25 24.2 +0.6**
baz=78
Q13A Wheeler Ranch, 78.15 327 ⇓P **P 12 25 24.3 +0.7**
baz=78
RSSD Black Hills 78.21 336 *e*P **P 12 25 23.3 -0.6**
comp=Z,81nm,1.1s,mb5.6
RSSD *e*pP pP 12 25 38.3 -0.2
RSSD Black Hills 78.21 336 *e*P **P 12 25 23.3 -0.6**
RSSD *e**PP pP 12 25 38.3 -0.3
RSSD pmax pmax
comp=Z,81nm,1.1s,mb5.6

JLU	Jordanelle	78.26 329	eP	P	12 25 24.7	+0.5
JLU			epP	pP	12 25 38.8	-0.1
CWC	Cottonwood Cre	78.30 323	⇑P	P	12 25 25.1	+0.5
baz=78						
GRAC	Grapevine Rang	78.34 323	⇓P	P	12 25 25.2	+0.5
baz=79						
MAW	Mawson	78.37 163	eP	P	12 25 24.7	+0.1
comp=Z,20nm,0.9s,mb5.0						
MAW	Mawson	78.37 163	eP	P	12 25 24.7	+0.1
MAW			pmax	pmax		
comp=Z,20nm,0.9s						
MAW	Mawson	78.37 163	P	P	12 25 24.8	+0.2
comp=Z,24nm,0.8s,mb5.2,baz=212,slow=6.0,SNR=29						
MAW			LR	LR	13 00 37.0	
comp=Z,281nm,19.1s,MS4.6,baz=244,slow=36						
VES	Vestal, Richgr	78.39 322	⇑P	P	12 25 25.2	+0.1
baz=79						
R11A	Troy Canyon, C	78.45 325	⇓P	P	12 25 26.1	+0.7
baz=79						
CTU	Camp Tracy	78.47 329	eP	P	12 25 25.8	+0.4
comp=Z,50nm,0.9s,mb5.5						
CTU			epP	pP	12 25 39.7	-0.4
SMMC	Simmler	78.52 321	⇑P	P	12 25 26.3	+0.5
baz=79						
P13A	Bates Ranch, G	78.54 327	⇓P	P	12 25 26.5	+0.7
baz=79						
NOQ	North Oquirrh	78.60 329	eP	P	12 25 25.8	-0.3
comp=Z,96nm,1.6s,mb5.5						
NOQ			epP	pP	12 25 40.2	-0.6
Q12A	Willow Creek R	78.61 326	⇓P	P	12 25 26.5	+0.3
baz=79						
S10A	Tonopah Range,	78.64 325	⇓P	P	12 25 26.9	+0.5
baz=79						
R10A	Warm Springs	78.77 325	⇓P	P	12 25 27.9	+0.9
baz=79						
S09A	Goldfield	78.81 324	⇑P	P	12 25 27.5	+0.2
baz=79						
TIN	Tinemaha	78.83 323	⇑P	P	12 25 28.1	+0.6
baz=79						
Q11A	Duckwater	78.87 326	⇓P	P	12 25 28.1	+0.5
baz=79						
V05C	Boulder Hill,	78.87 321	⇑P	P	12 25 28.1	+0.4
baz=79						
N15A	Stansbury Isla	78.98 329	⇑P	P	12 25 28.2	+0.1
baz=79						
HELL	Mitchell Peak	78.98 322	⇑P	P	12 25 28.2	-0.2
baz=79						
P12A	McGill	78.98 327	⇓P	P	12 25 28.7	+0.5
baz=79						
O13A	Hicks Ranch, I	79.05 328	⇑P	P	12 25 29.0	+0.4
baz=79						
R09A	Tonopah	79.12 324	⇑P	P	12 25 29.2	+0.2
baz=79						
HWUT	Hardware Ranch	79.12 330	eP	P	12 25 28.8	-0.2
comp=Z,159nm,0.8s,mb6.0						
HWUT			epP	pP	12 25 43.0	-0.6
S08C	White Mtn Res	79.14 323	⇓P	P	12 25 29.6	+0.5
baz=79						
PDAR	Pinedale Array	79.21 332	P	P	12 25 29.0	-0.4
comp=Z,9.6nm,0.9s,mb4.7,baz=131,slow=5.9,SNR=41						
PDAR			pP	pP	12 25 43.6	-0.4
comp=Z,28nm,0.9s,baz=134,slow=6.2,SNR=31						
PDAR			PKKPbc	PKKPbc	12 44 19.0	-3.1
comp=Z,0.5nm,0.6s,baz=202,slow=1.6,SNR=4.6						
PDAR			LR	LR	12 57 44.0	
comp=Z,130nm,20.4s,MS4.3,baz=80,slow=34						
Q10A	Clear Creek Ra	79.22 325	⇑P	P	12 25 30.2	+0.6
baz=80						
MTUM	Tungsten Hills	79.24 323	eP	P	12 25 30.4	+0.7
MTUM			epP	pP	12 25 44.4	0.0
BGU	Big Grassy Mou	79.24 329	eP	P	12 25 29.2	-0.4
BGU			epP	pP	12 25 43.7	-0.6
V04C	Ramage Ranch,	79.24 320	⇑P	P	12 25 29.9	+0.2
baz=80						
N14A	Grayback Hills	79.25 328	⇓P	P	12 25 29.7	+0.1
baz=80						
SPUT	South Promonto	79.28 329	eP	P	12 25 30.4	+0.5
SPUT			epP	pP	12 25 44.2	-0.3
PKD	Parkfield	79.28 321	⇑P	P	12 25 30.2	+0.2
baz=80						
M15A	Larsen Ranch,	79.40 329	⇓P	P	12 25 30.4	-0.1
baz=80						
O12A	Currie	79.53 327	⇑P	P	12 25 31.6	+0.4
baz=80						
MLAC	Mammoth Lakes	79.59 323	⇑P	P	12 25 32.0	+0.5
baz=80						
T06C	Millerton Lake	79.60 322	⇓P	P	12 25 31.2	-0.4
baz=80						
RAR	Rarotonga	79.60 252	LR	LR	12 51 52.7	
comp=Z,294nm,20.9s,MS4.6,baz=254,slow=29						
TSUM	Tsumeb	79.60 106	eP	P	12 25 32.9	+0.7
comp=Z,35nm,0.9s,mb5.3						
KCC	Kaiser Creek	79.62 322	⇓P	P	12 25 31.7	-0.1
baz=80						
Q09A	Carvers	79.63 325	⇓P	P	12 25 32.1	+0.4
baz=80						
U04C	Hernandez Rese	79.72 321	⇓P	P	12 25 32.7	+0.4
baz=80						
V03C	Hunter Liggett	79.72 320	⇓P	P	12 25 32.6	+0.2
baz=80						
N13A	Wendover, West	79.73 328	⇑P	P	12 25 32.1	-0.2
baz=80						
R08A	Mina	79.74 324	⇑P	P	12 25 32.5	+0.2
baz=80						
HVU	Hansel Valley	79.80 329	eP	P	12 25 32.8	+0.2
comp=Z,111nm,0.9s,mb5.8						
HVU			epP	pP	12 25 46.6	-0.8
HVU	Hansel Valley	79.80 329	eP	P	12 25 32.8	+0.2
HVU			e*PP	pP	12 25 46.6	-0.8
HVU			pmax	pmax		
comp=Z,111nm,0.9s,mb5.8						
M14A	Sheep Mountain	79.84 329	⇑P	P	12 25 32.7	-0.1
baz=80						
AHID	Auburn Hatcher	79.86 331	eP	P	12 25 32.9	-0.1
comp=Z,52nm,0.6s,mb5.6						
AHID			epP	pP	12 25 47.0	-0.6
O11A	Cowboy Ranch,	79.86 327	⇓P	P	12 25 33.4	+0.4
baz=80						
P10A	Eureka	79.86 326	⇓P	P	12 25 33.3	+0.2
baz=80						
NVAR	Mina Array Bea	79.90 324	PKKPbc	PKKPbc	12 44 18.9	-1.3
comp=Z,0.7nm,0.7s,baz=350,slow=2.2,SNR=3.8						
Q08A	Gabbs	80.03 324	⇑P	P	12 25 34.1	+0.1
baz=80						
R07C	Lee Vining	80.04 323	⇑P	P	12 25 34.8	+0.8
baz=80						
T05C	Eagle Field, D	80.04 321	⇑P	P	12 25 34.5	+0.4
baz=80						
M13A	Montello	80.11 328	⇓P	P	12 25 34.0	-0.3
baz=80						
N12A	Clover Valley,	80.12 327	⇓P	P	12 25 34.3	-0.1
baz=80						
P09A	Austin	80.15 325	⇑P	P	12 25 34.6	0.0
baz=80						
HAST	Hastings Reser	80.17 320	⇑P	P	12 25 35.0	+0.3
baz=80						
S05C	Merced	80.18 322	⇑P	P	12 25 34.9	0.0
baz=80						
REDW	Red Top Meadow	80.24 331	eP	P	12 25 34.9	-0.1
comp=Z,105nm,1.1s,mb5.7						
REDW			epP	pP	12 25 49.3	-0.4
SNOW	Snow King Moun	80.28 332	eP	P	12 25 35.5	+0.3
comp=Z,79nm,0.9s,mb5.6						
SNOW			epP	pP	12 25 49.0	-0.9
LOHW	Long Hollow	80.34 332	eP	P	12 25 35.5	0.0
comp=Z,64nm,1.0s,mb5.5						
LOHW			epP	pP	12 25 49.9	-0.4
TPAW	Teton Pass	80.38 331	eP	P	12 25 35.8	0.0
comp=Z,92nm,1.0s,mb5.7						
TPAW			epP	pP	12 25 50.0	-0.4
O10A	Cortez Mining,	80.39 326	⇑P	P	12 25 35.9	0.0
baz=81						
N11A	Elko Archery C	80.43 327	⇓P	P	12 25 35.9	-0.2
baz=81						
PACP	Pacheco Peak	80.46 321	⇑P	P	12 25 36.3	-0.1
baz=81						
M12A	Wells	80.50 328	⇓P	P	12 25 36.2	-0.2
baz=81						
MOOW	Moose Ponds	80.51 332	eP	P	12 25 36.2	-0.2
comp=Z,21nm,0.8s,mb5.1						
MOOW			epP	pP	12 25 50.5	-0.6
Q07A	Schurz	80.54 324	⇓P	P	12 25 37.2	+0.5
baz=81						
DCID1	Drake Creek	80.57 331	eP	P	12 25 37.4	+0.7
DCID1			epP	pP	12 25 51.4	0.0
R06C	Coleville	80.57 323	⇓P	P	12 25 37.7	+0.8
baz=81						
L13A	Double Diamond	80.58 329	⇑P	P	12 25 37.0	+0.2
baz=81						
K14A	Jones Ranch, D	80.59 330	⇑P	P	12 25 36.6	-0.2
baz=81						
O09A	Fish Creek Ran	80.64 326	⇓P	P	12 25 36.9	-0.3
baz=81						
IMW	Indian Meadow	80.71 332	eP	P	12 25 37.6	+0.2
comp=Z,89nm,1.1s,mb5.6						
IMW			epP	pP	12 25 51.6	-0.6
CMB	Columbia Colle	80.71 322	eP	P	12 25 37.5	-0.2
comp=Z,20nm,1.3s,mb4.9						
CMB			epP	pP	12 25 51.5	-0.9
CMB	Columbia Colle	80.71 322	eP	P	12 25 37.5	-0.1
CMB			e*PP	pP	12 25 51.5	-0.9
CMB			pmax	pmax		
comp=Z,20nm,1.3s,mb4.9						
CMB	Columbia Colle	80.71 322	⇑P	P	12 25 37.4	-0.2
baz=81						
N10A	Dunphy	80.72 326	⇓P	P	12 25 37.4	-0.2
baz=81						
P08A	Dixie Valley	80.73 325	⇓P	P	12 25 37.9	+0.2
baz=81						
FLWY	Flagg Ranch	80.76 332	eP	P	12 25 36.7	-1.1
comp=Z,150nm,0.9s,mb5.9						
FLWY			epP	pP	12 25 52.0	-0.5
S04C	Ingram Canyon,	80.84 321	⇓P	P	12 25 38.6	+0.2
baz=81						
M11A	Holland Ranch,	80.93 327	⇑P	P	12 25 39.1	+0.4
baz=81						
LKWY	Lake	81.03 332	eP	P	12 25 40.0	+0.9
comp=Z,33nm,1.1s,mb5.2						
LKWY			epP	pP	12 25 54.6	+0.6
LKWY	Lake	81.03 332	eP	P	12 25 40.0	+0.8
LKWY			e*PP	pP	12 25 54.6	+0.7
LKWY			pmax	pmax		
comp=Z,33nm,1.1s,mb5.2						
R05C	Kirkwood Meado	81.03 323	⇓P	P	12 25 39.8	+0.4
baz=81						
RLMT	Red Lodge	81.04 333	eP	P	12 25 39.1	-0.1
comp=Z,60nm,0.8s,mb5.6						
RLMT			epP	pP	12 25 53.6	-0.4
BNLO	Ben Lomond (Sa	81.04 321	⇑P	P	12 25 39.5	0.0
baz=81						
K13A	Stover Farm, H	81.08 329	⇓P	P	12 25 39.5	0.0
baz=81						
L12A	House Creek Ra	81.12 328	⇓P	P	12 25 39.9	+0.2
baz=81						
YFT	Old Faithful	81.12 332	eP	P	12 25 41.5	+1.9
YFT			epP	pP	12 25 55.3	+0.9
WENL	Wente Brothers	81.16 321	⇓P	P	12 25 40.4	+0.3
baz=81						
ULM	Lac du Bonnet	81.26 344	eP	P	12 25 38.7	-1.6
comp=Z,136nm,1.0s,mb5.8						
ULM			epP	pP	12 25 53.3	-1.7
ULM	Lac du Bonnet	81.26 344	P	P	12 25 39.1	-1.2
comp=Z,29nm,0.9s,mb5.2,baz=150,slow=4.9,SNR=39						
ULM			pP	pP	12 25 53.8	-1.2
comp=Z,103nm,0.9s,baz=156,slow=5.2,SNR=49						
ULM			PKKPbc	PKKPbc	12 44 14.6	-3.3
comp=Z,0.3nm,0.3s,baz=47,slow=2.5,SNR=5.5						
WCN	Washoe City	81.31 324	⇓P	P	12 25 41.2	+0.4
baz=82						
N09A	Rock Creek Ran	81.33 326	⇑P	P	12 25 40.5	-0.3
baz=82						
YMR	Madison River	81.35 332	eP	P	12 25 41.5	+0.7
comp=Z,157nm,0.9s,mb5.9						
YMR			epP	pP	12 25 55.9	+0.3
M10A	I.L. Ranch, Tu	81.36 327	⇑P	P	12 25 41.3	+0.3
baz=82						
LAVA	Lava Cap Winer	81.43 323	⇓P	P	12 25 41.4	-0.1
baz=82						
K12A	Draper Farm, C	81.45 329	⇓P	P	12 25 41.6	+0.2
baz=82						
BDM	Black Diamond	81.46 321	⇑P	P	12 25 41.5	-0.1
baz=82						
L11A	Cat Creek Ranc	81.48 328	⇑P	P	12 25 41.7	+0.1
baz=82						
BOSA	Boshof	81.66 118	eP	P	12 25 42.9	-0.2
comp=Z,36nm,0.9s,mb5.3						
BOSA			epP	pP	12 25 59.8	+2.0
BOSA	Boshof	81.66 118	eP	P	12 25 42.9	-0.2
BOSA			e*PP	pP	12 25 59.8	+2.0
BOSA			pmax	pmax		
comp=Z,36nm,0.9s,mb5.3						
BOSA	Boshof	81.66 118	P	P	12 25 43.4	+0.3
comp=Z,35nm,0.9s,mb5.3,baz=249,slow=4.6,SNR=38						
BOSA			LR	LR	12 58 21.3	
comp=Z,247nm,20.6s,MS4.5,baz=67,slow=33						
P06A	Stead Airport,	81.66 324	⇑P	P	12 25 42.9	+0.3
baz=82						
QLMT	Earthquake Lak	81.67 332	eP	P	12 25 43.2	+0.7
QLMT			epP	pP	12 25 57.6	+0.2
J13A	Cove Ranch, Pi	81.71 329	⇓P	P	12 25 43.4	+0.5
baz=82						
L10A	Juniper Basin	81.75 327	⇑P	P	12 25 43.4	+0.4
baz=82						
P05C	Yuba Gap, Truc	81.76 323	⇑P	P	12 25 43.6	+0.4
baz=82						
Q04C	Lincoln	81.83 322	⇓P	P	12 25 43.8	+0.3
baz=82						
FARB	Farallon Islan	81.91 321	⇑P	P	12 25 44.0	0.0
baz=82						
HLID	Hailey	81.95 329	⇑P	P	12 25 44.6	+0.5
baz=82						
N07B	Gerlach	82.00 325	⇑P	P	12 25 44.3	-0.1
baz=82						
J12A	Stokes Ranch,	82.02 329	⇑P	P	12 25 44.4	0.0
baz=82						
Q03C	Winters	82.03 322	⇑P	P	12 25 44.3	-0.3
baz=82						
BEKR	Beckwourth	82.04 324	⇓P	P	12 25 44.8	+0.2
baz=82						
CVS	Carmenet Viney	82.07 321	⇑P	P	12 25 44.6	-0.2
baz=82						
K11A	Parker Ranch,	82.08 328	⇑P	P	12 25 44.7	0.0
baz=82						
I13A	Wildhorse Cree	82.09 330	⇑P	P	12 25 45.3	+0.5
baz=82						
MCCM	Marconi Confer	82.16 321	⇓P	P	12 25 45.3	0.0
baz=82						
M08A	Happy Creek Ra	82.20 326	⇓P	P	12 25 45.3	-0.1
baz=82						
OHCM	Honcut	82.25 323	eP	P	12 25 45.9	+0.2
OHCM			epP	pP	12 26 00.1	-0.4
NSHM	Saint Helena R	82.27 321	eP	P	12 25 45.5	-0.4
NSHM			epP	pP	12 25 60.0	-0.7
L09A	Wilkinson Ranc	82.28 327	⇑P	P	12 25 45.8	0.0
baz=82						
SUTB	Sutter Butte	82.33 322	⇑P	P	12 25 45.6	-0.6
baz=83						
G15A	Dillon	82.39 332	⇑P	P	12 25 46.4	+0.1
baz=83						
O05C	Quincy	82.40 323	⇑P	P	12 25 46.7	+0.1
baz=83						
N06A	Buffalo Meadow	82.41 324	⇓P	P	12 25 46.4	-0.1
baz=83						
ORV	Oroville	82.41 323	⇑P	P	12 25 46.7	+0.1
baz=83						
BOZ	Bozeman (W)	82.42 332	eP	P	12 25 46.0	-0.5
comp=Z,13nm,0.8s,mb4.9						
BOZ			epP	pP	12 26 00.3	-0.9
BOZ	Bozeman (W)	82.42 332	eP	P	12 25 46.0	-0.5
BOZ			e*PP	pP	12 26 00.3	-0.9
BOZ			pmax	pmax		
comp=Z,13nm,0.8s,mb4.9						
BOZ	Bozeman (W)	82.42 332	⇑P	P	12 25 46.0	-0.5
baz=83						
MNRC	McLaughlin Nat	82.44 322	⇑P	P	12 25 46.8	+0.1
baz=83						
K10A	MacKenzie Ranc	82.47 328	⇑P	P	12 25 46.6	-0.2
baz=83						
MFID	Camas Ranch	82.48 329	⇑P	P	12 25 46.8	0.0
baz=83						
M07A	Soldier Meadow	82.55 325	⇓P	P	12 25 47.1	-0.2
baz=83						
DLMT	Dillon	82.59 332	eP	P	12 25 47.5	+0.1
comp=Z,71nm,1.1s,mb5.6						
DLMT			epP	pP	12 26 01.9	-0.3
H13A	Challis	82.67 330	⇑P	P	12 25 48.0	+0.2
baz=83						
L08A	Fields	82.74 326	⇓P	P	12 25 48.1	-0.1
baz=83						
SCHQ	Schefferville	82.75 2	P	P	12 25 47.5	-0.4
comp=Z,21nm,1.0s,mb5.1,baz=150,slow=4.3,SNR=11						
O04C	Chester	82.75 323	⇓P	P	12 25 48.1	-0.3
baz=83						
ELFS	Eagle Lake Fie	82.78 324	⇑P	P	12 25 48.5	+0.1
baz=83						
K09A	Rome	82.82 327	⇑P	P	12 25 48.4	-0.3
baz=83						
G14A	Jackson	82.86 331	⇓P	P	12 25 48.8	0.0
baz=83						
LRM	Limekiln Ridge	82.90 332	eP	P	12 25 48.7	-0.2
LRM			epP	pP	12 26 03.5	-0.3
H12A	Diamond D Ranc	82.92 330	⇑P	P	12 25 49.1	0.0
baz=83						
I11A	Placerville	82.92 329	⇑P	P	12 25 48.7	-0.4
baz=83						
J10A	Berg Farm, Mel	82.92 328	⇓P	P	12 25 48.8	-0.3
baz=83						
F15A	Butte	82.93 332	⇑P	P	12 25 49.2	+0.1
baz=83						
O03C	Acorn Hollow,	83.02 323	⇑P	P	12 25 49.6	-0.1
baz=83						
G13A	Cobalt	83.08 330	⇑P	P	12 25 50.1	+0.2
baz=83						
M06C	Likely Place G	83.08 324	⇓P	P	12 25 50.0	0.0
baz=83						
L07A	Adell	83.10 326	⇓P	P	12 25 50.4	+0.2
baz=83						
GASB	Alder Springs	83.14 322	⇑P	P	12 25 50.7	+0.4
baz=83						
K08A	Mann Creek Ran	83.22 327	⇓P	P	12 25 50.5	-0.2
baz=84						
F14A	Wisdom	83.28 331	⇑P	P	12 25 51.1	+0.2
baz=84						
HATC	Hat Creek Radi	83.31 324	⇓P	P	12 25 51.0	-0.2
baz=84						
J09A	Fry Pan Ranch,	83.33 327	⇓P	P	12 25 50.9	-0.3
baz=84						
P01C	Double 8 Ranch	83.35 322	⇓P	P	12 25 51.4	0.0
baz=84						
I10A	Payette	83.45 328	⇑P	P	12 25 51.6	-0.2
baz=84						
E15A	Deer Lodge	83.46 332	⇓P	P	12 25 51.7	-0.1
baz=84						
MOD	Modoc	83.50 325	eP	P	12 25 52.5	+0.3
comp=Z,61nm,0.8s,mb5.8						
MOD			epP	pP	12 26 06.8	-0.2
MOD	Modoc	83.50 325	⇓P	P	12 25 51.8	-0.4
baz=84						
M05C	Lookout	83.53 324	⇑P	P	12 25 51.9	-0.5
baz=84						
O02C	Red Bluff	83.55 322	⇑P	P	12 25 51.8	-0.6
baz=84						
K07A	Rock Creek Ran	83.56 326	⇑P	P	12 25 52.5	+0.1
baz=84						
H11A	Donnelly	83.56 329	⇑P	P	12 25 51.9	-0.5
baz=84						
LBTB	Lobatse	83.59 115	eP	P	12 25 53.2	0.0
comp=Z,41nm,0.8s,mb5.6						
LBTB	Lobatse	83.59 115	P	P	12 25 53.5	+0.3
LBTB			pmax	pmax		
comp=Z,41nm,0.8s,mb5.6						
F13A	Darby	83.67 331	⇑P	P	12 25 52.8	-0.1
baz=84						
J08A	Circle Bar Ran	83.68 327	⇑P	P	12 25 53.1	0.0
baz=84						
WDC	Whiskeytown Da	83.71 323	eP	P	12 25 51.7	-1.5
comp=Z,16nm,1.3s,mb5.0						
WDC			epP	pP	12 26 05.9	-2.2
WDC	Whiskeytown Da	83.71 323	eP	P	12 25 51.7	-1.5
WDC			e*PP	pP	12 26 05.9	-2.2
WDC			pmax	pmax		
comp=Z,16nm,1.3s,mb5.0						
WDC	Whiskeytown Da	83.71 323	⇑P	P	12 25 52.0	-1.3
baz=84						
I09A	Lost Marbles R	83.80 328	⇓P	P	12 25 53.2	-0.4
baz=84						
H10A	Noah's Angus R	83.81 329	⇓P	P	12 25 52.9	-0.8
baz=84						
E14A	Clinton	83.81 332	⇑P	P	12 25 53.7	+0.1
baz=84						
L05A	Lakeview	83.88 325	⇑P	P	12 25 54.3	+0.2
baz=84						
D15A	Lincoln	83.91 333	⇑P	P	12 25 53.9	-0.2
baz=84						
M03C	McCloud	83.98 324	⇓P	P	12 25 53.8	-0.8
baz=84						
F12A	Elk City	84.04 330	⇓P	P	12 25 54.5	-0.4
baz=84						
O01C	Eel River Cons	84.08 322	⇓P	P	12 25 54.8	-0.4
baz=84						
J07A	Hines	84.10 327	⇑P	P	12 25 55.1	-0.1
baz=84						
CHMT	Chamberlain Mo	84.11 332	eP	P	12 25 54.9	-0.2
CHMT			epP	pP	12 26 09.8	-0.2
E13A	Victor	84.12 331	⇑P	P	12 25 55.2	0.0
baz=84						
I08A	Drewsey	84.14 327	⇓P	P	12 25 55.3	-0.1
baz=84						
M04C	Macdoel	84.20 324	⇑P	P	12 25 55.5	-0.2
baz=84						
G11A	Walters Elk Ra	84.21 330	⇓P	P	12 25 55.7	0.0
baz=84						
BMO	Blue Mountains	84.26 329	eP	P	12 25 55.0	-0.9
comp=Z,127nm,2.0s,mb5.7						
BMO			epP	pP	12 26 09.5	-1.3
N02C	Big Bar	84.29 323	⇓P	P	12 25 56.1	-0.1
baz=84						
H09A	Durkee	84.29 328	⇓P	P	12 25 55.9	-0.2
baz=84						
MSO	Missoula	84.33 332	eP	P	12 25 57.5	+1.3
MSO			epP	pP	12 26 10.4	-0.7
D14A	Greenough	84.35 332	⇑P	P	12 25 56.4	+0.1
baz=85						
K05A	Summer Lake	84.40 325	⇑P	P	12 25 56.9	+0.1
baz=85						
J06A	Christmas Vall	84.42 326	⇓P	P	12 25 56.5	-0.3
baz=85						
M02C	Callahan	84.45 323	⇓P	P	12 25 56.6	-0.4
baz=85						
L04A	Klamath Falls	84.51 324	⇑P	P	12 25 57.0	-0.3
baz=85						
G10A	Bishop Farm, J	84.52 329	⇑P	P	12 25 56.9	-0.3
baz=85						
F11A	Grangeville	84.54 330	⇑P	P	12 25 56.5	-0.9
baz=85						
YBH	Yreka Blue Hor	84.62 324	eP	P	12 25 56.6	-1.3
comp=Z,16nm,0.9s,mb5.2						
YBH			epP	pP	12 26 11.0	-1.7
YBH	Yreka Blue Hor	84.62 324	eP	P	12 25 56.6	-1.2
YBH			e*PP	pP	12 26 11.0	-1.7
YBH			pmax	pmax		
comp=Z,17nm,0.9s						
YBH	Yreka Blue Hor	84.62 324	⇑P	P	12 25 56.7	-1.2
baz=85						
I07A	Izee	84.72 327	⇓P	P	12 25 58.4	+0.1
baz=85						
K04A	Chilquin	84.74 325	⇓P	P	12 25 58.1	-0.4
baz=85						
D13A	Huson	84.75 332	⇑P	P	12 25 58.1	-0.3
baz=85						
G09A	Cove	84.81 329	⇑P	P	12 25 58.3	-0.4
baz=85						
E11A	Bogner Ranch,	84.93 330	⇑P	P	12 25 58.3	-0.9
baz=85						
I06A	Prineville	84.96 326	⇓P	P	12 25 59.8	+0.3
baz=85						
J05A	Fort Rock	84.98 325	⇓P	P	12 25 59.6	0.0
baz=85						
C14A	Swan Lake	84.99 332	⇑P	P	12 25 59.4	-0.1
baz=85						
F10A	Beach Ranch, E	85.08 329	⇑P	P	12 25 59.3	-0.7
baz=85						
D12A	Red Ives Fores	85.10 331	⇑P	P	12 25 59.8	-0.4
baz=85						
H07A	Lands Inn, Kim	85.13 327	⇓P	P	12 25 59.8	-0.5
baz=85						
F09A	S2 Ranch, Elgi	85.19 329	⇑P	P	12 26 00.3	-0.3
baz=85						
C13A	Hot Springs	85.26 332	⇓P	P	12 26 00.7	-0.3
baz=86						
G08A	Pilot Rock	85.36 328	⇓P	P	12 26 01.0	-0.5
baz=86						
HUMO	Hull Mountain	85.37 324	⇓P	P	12 26 00.6	-1.0
baz=86						
L02A	Cave Junction	85.39 323	⇑P	P	12 26 01.5	-0.2
baz=86						
J04A	Umpqua Nationa	85.39 325	⇓P	P	12 26 01.2	-0.5
baz=86						
E10A	Myers Farm, Un	85.42 330	⇓P	P	12 26 01.2	-0.6
baz=86						
D11A	Klaveano Farm,	85.52 331	⇑P	P	12 26 01.0	-1.2
baz=86						

H06A **Lindquist Farm** 85.60 327 ⇓P P 12 26 02.9 +0.2
baz=86
I05A **Bend** 85.64 326 ⇑P P 12 26 03.2 +0.3
baz=86
F08A **Pendleton** 85.66 328 ⇓P P 12 26 03.3 +0.4
baz=86
G07A **Ruggs Ranch, H** 85.68 328 ⇓P P 12 26 03.4 +0.3
baz=86
K02A **Glendale** 85.76 324 ⇑P P 12 26 03.6 0.0
baz=86
B13A **Whitefish** 85.77 332 ⇓P P 12 26 03.2 -0.2
baz=86
CASY **Casey** 85.82 180 *e*P P 12 26 04.1 +0.5
E09A **Wood Farm, Sta** 85.91 329 ⇓P P 12 26 03.1 -1.0
baz=86
D10A **Wagner Farm, O** 85.93 330 ⇑P P 12 26 03.1 -1.1
baz=86
I04A **Tendick Farm,** 85.94 325 ⇓P P 12 26 03.5 -0.9
baz=86
WALA **Waterton Lakes** 86.08 333 *e*P P 12 26 05.0 0.0
comp=Z,66nm,0.9s,mb5.9
WALA *e*pP pP 12 26 19.1 -0.8
G06A **Carlson Farm,** 86.11 327 ⇓P P 12 26 05.3 +0.1
baz=86
A13A **Flathead Natio** 86.19 333 ⇓P P 12 26 05.3 -0.1
baz=86
J02A **Umpqua** 86.23 324 ⇑P P 12 26 05.9 +0.1
baz=86
B12A **Libby** 86.31 332 ⇓P P 12 26 05.8 -0.3
baz=87
E08A **Dider Farm, El** 86.31 329 ⇑P P 12 26 05.5 -0.6
baz=87
D09A **Jones Farm, Ri** 86.40 330 ⇑P P 12 26 05.8 -0.8
baz=87
G05A **Wamic** 86.45 327 ⇓P P 12 26 06.7 -0.1
baz=87
H04A **Detroit Lake** 86.47 326 ⇑P P 12 26 06.1 -0.8
baz=87
I03A **Eugene** 86.51 325 ⇓P P 12 26 06.7 -0.5
baz=87
C10A **Spilker Farm,** 86.53 331 ⇑P P 12 26 06.5 -0.7
baz=87
B11A **Sandpoint** 86.61 331 ⇑P P 12 26 07.1 -0.4
baz=87
D08A **Wollman Farm,** 86.67 329 ⇑P P 12 26 07.2 -0.7
baz=87
I02A **Mapleton** 86.81 325 ⇑P P 12 26 08.5 -0.2
baz=87
FFC **Flin Flon** 86.89 342 P P 12 26 07.6 -1.2
comp=Z,55nm,1.0s,mb5.7,SNR=5.4
FFC **Flin Flon** 86.89 342 *e*P P 12 26 07.5 -1.3
comp=Z,27nm,1.0s,mb5.4
FFC *e*pP pP 12 26 21.6 -2.1
FFC **Flin Flon** 86.89 342 *e*P P 12 26 07.5 -1.3
FFC *e**PP pP 12 26 21.6 -2.1
FFC pmax pmax
comp=Z,27nm,1.0s,mb5.4
C09A **Chrisman Ranch** 86.94 330 ⇓P P 12 26 08.7 -0.5
baz=87
COR **Corvallis** 86.95 325 *e*P P 12 26 08.9 -0.4
comp=Z,192nm,1.2s,mb6.2
COR *e*pP pP 12 26 22.1 -2.1
COR **Corvallis** 86.95 325 *e*P P 12 26 08.9 -0.4
COR *e**PP pP 12 26 22.1 -2.1
COR pmax pmax
comp=Z,192nm,1.2s,mb6.2
F05A **White Salmon** 86.98 327 ⇓P P 12 26 09.0 -0.5
baz=87
G04A **Mulino** 86.99 326 ⇑P P 12 26 08.8 -0.7
baz=87
A11A **Hall Mountain,** 87.01 332 ⇓P P 12 26 08.8 -0.6
baz=87
H03A **Soap Creek Ran** 87.01 325 ⇑P P 12 26 09.4 -0.2
baz=87
E06A **Yakima** 87.24 328 ⇑P P 12 26 10.2 -0.5
baz=88
D07A **Quincy** 87.25 329 ⇓P P 12 26 10.3 -0.4
baz=88
C08A **Higginbotham F** 87.27 330 ⇑P P 12 26 10.1 -0.7
baz=88
B09A **Rice** 87.36 331 ⇓P P 12 26 10.2 -1.0
baz=88
G03A **Yamhill** 87.46 326 ⇓P P 12 26 11.5 -0.2
baz=88
F04A **Amboy** 87.48 327 ⇑P P 12 26 11.1 -0.7
baz=88
A10A **Northport** 87.53 331 ⇑P P 12 26 10.8 -1.2
baz=88
E05A **Randle** 87.62 327 ⇑P P 12 26 11.2 -1.3
baz=88
D06A **Cle Elum** 87.65 328 ⇓P P 12 26 11.8 -0.9
baz=88
C07A **Waterville** 87.66 329 ⇓P P 12 26 11.9 -0.7
baz=88
LON **Longmire** 87.78 328 *e*P P 12 26 12.5 -0.8
LON *e*pP pP 12 26 27.0 -1.2
B08A **Colville Reser** 87.83 330 ⇑P P 12 26 12.2 -1.2
baz=88
A09A **Danville** 87.97 331 ⇑P P 12 26 12.8 -1.3
baz=88
EGRO **El Granado** 88.14 45 P P 12 26 15.5 +0.3
comp=Z,14nm,0.9s,mb5.2
D05A **Enumclaw** 88.18 328 ⇓P P 12 26 14.1 -1.1
baz=88
A08A **Turner Farm, O** 88.25 330 ⇑P P 12 26 14.7 -0.7
baz=88
B07A **Winthrop** 88.26 330 ⇑P P 12 26 14.4 -1.0
baz=88
C05A **Tolt Reservoir** 88.41 328 ⇓P P 12 26 14.9 -1.3
baz=89
EVO **Evora** 88.43 44⇑ *i*P P 12 26 16.6 0.0
comp=Z,17nm,0.8s,mb5.0
EVO *e*MLR MLR
comp=Z,502nm,22.2s,MS4.6
E03A **Lebam** 88.47 327 ⇓P P 12 26 16.0 -0.5
baz=89
URZ **Urewera** 88.51 227 LR LR 12 55 55.1
comp=Z,323nm,21.8s,MS4.7,baz=152,slow=29
EJIF **Jimena Fronter** 88.77 47 P P 12 26 18.0 -0.2
comp=Z,16nm,1.0s,mb5.3
EJIF **Jimena Fronter** 88.77 47 P P 12 26 18.0 -0.2
EJIF pmax pmax
comp=Z,16nm,1.0s,mb5.3
ESPR **Espera** 88.77 46 P P 12 26 18.1 -0.1
comp=Z,18nm,0.8s,mb5.5
EMIN **Mina Concepcio** 88.79 45 P P 12 26 18.1 -0.2
comp=Z,6.0nm,0.6s,mb5.1
A07A **Ashnola River,** 88.81 330 ⇓P P 12 26 17.5 -0.6
baz=89
FCC **Fort Churchill** 88.82 348 *e*P P 12 26 17.4 -0.4
comp=Z,66nm,0.8s,mb6.0
FCC *e*pP pP 12 26 31.9 -0.8
FCC **Fort Churchill** 88.82 348 *e*P P 12 26 17.4 -0.5
FCC *e**PP pP 12 26 32.0 -0.8
FCC pmax pmax
comp=Z,66nm,0.8s,mb6.0
RPZ **Rata Peaks** 88.88 220 LR LR 12 55 33.7
comp=Z,358nm,20.3s,MS4.8,baz=180,slow=28
B06A **Marblemount** 88.91 329 ⇓P P 12 26 17.3 -1.3
baz=89
B05A **Bryant** 89.01 328 ⇑P P 12 26 17.9 -1.1
baz=89
C04A **Brinnon** 89.03 328 ⇓P P 12 26 18.4 -0.7
baz=89
EBAD **Badajoz** 89.18 44 P P 12 26 20.1 -0.1
comp=Z,20nm,1.6s,mb5.2
EDM **Edmonton** 89.20 336 *e*P P 12 26 18.1 -1.6
EDM *e*pP pP 12 26 32.5 -2.2
B04A **Port Angeles** 89.52 328 ⇓P P 12 26 20.7 -0.7
baz=90
A05A **Maple Falls** 89.54 329 ⇓P P 12 26 20.5 -1.0
baz=90
ELOJ **Sierra Loja** 90.03 47 P P 12 26 23.9 -0.2
comp=Z,19nm,1.3s,mb5.3
ELOJ **Sierra Loja** 90.03 47 P P 12 26 23.9 -0.2
ELOJ pmax pmax
comp=Z,19nm,1.3s,mb5.3
ERON **Agron** 90.18 47 P P 12 26 24.7 -0.1
comp=Z,4.7nm,1.3s,mb4.7
ELUQ **Luque** 90.20 47 P P 12 26 24.5 -0.4
comp=Z,7.0nm,1.1s,mb4.9
ELUQ **Luque** 90.20 47 P P 12 26 24.5 -0.4
ELUQ pmax pmax
comp=Z,7.0nm,1.1s,mb4.9
EADA **Adamuz** 90.36 46 P P 12 26 23.8 -1.8
comp=Z,18nm,1.5s,mb5.2
LSZ **Lusaka** 90.38 107 *e*P P 12 26 27.1 +0.8
comp=Z,35nm,1.5s,mb5.5
LSZ **Lusaka** 90.38 107 P P 12 26 27.7 +1.3
LSZ pmax pmax
comp=Z,35nm,1.5s,mb5.5
ELOB **Lobios** 90.47 42 P P 12 26 26.2 +0.2
comp=Z,44nm,1.9s,mb5.5
ECOG **Cogollos-Vega** 90.48 47 P P 12 26 26.4 +0.2
comp=Z,20nm,1.2s,mb5.3
ECOG **Cogollos-Vega** 90.48 47 P P 12 26 26.4 +0.2
ECOG pmax pmax
comp=Z,20nm,1.2s,mb5.3
EBER **Berja** 90.70 48 P P 12 26 26.9 -0.3
comp=Z,15nm,1.3s,mb5.2
STS **Santiago** 90.82 40 P P 12 26 27.9 +0.3
comp=Z,17nm,1.1s,mb5.3
STS **Santiago** 90.82 40 P P 12 26 27.9 +0.2
STS pmax pmax
comp=Z,17nm,1.1s,mb5.3
EBAN **Banos Encina** 90.86 46 P P 12 26 27.6 -0.3
comp=Z,24nm,0.8s,mb5.6
EBAN **Banos Encina** 90.86 46 P P 12 26 27.6 -0.3
EBAN pmax pmax
comp=Z,24nm,0.8s,mb5.6
EQES **Quesada** 91.11 47 P P 12 26 28.5 -0.6
comp=Z,9.2nm,0.8s,mb5.2
ECAL **Calabor** 91.30 42 P P 12 26 30.7 +0.9
comp=Z,52nm,1.6s,mb5.6
ERUA **La Rua** 91.33 42 P P 12 26 30.2 +0.1
comp=Z,15nm,1.4s,mb5.1
ERUA **La Rua** 91.33 42 P P 12 26 30.2 +0.2
ERUA pmax pmax
comp=Z,15nm,1.4s,mb5.1
ESDC **Sonseca Array** 91.63 45 P P 12 26 31.3 -0.2
comp=Z,2.8nm,0.8s,mb4.6
ESDC **Sonseca Array** 91.63 45 P P 12 26 31.3 -0.1
comp=Z,2.8nm,0.8s,mb4.7,baz=255,slow=4.5,SNR=8.2
ESDC LR LR 13 04 56.1
comp=Z,266nm,20.1s,MS4.7,baz=205,slow=34
EVIA **Vianos** 91.95 47 P P 12 26 32.9 -0.2
comp=Z,11nm,0.8s,mb5.2
EVIA **Vianos** 91.95 47 P P 12 26 32.9 -0.1
EVIA pmax pmax
comp=Z,11nm,0.8s,mb5.2
GUD **Guadarrama** 92.08 44 P P 12 26 33.6 0.0
comp=Z,8.5nm,1.1s,mb5.0
GUD **Guadarrama** 92.08 44 P P 12 26 33.6 +0.1
GUD pmax pmax
comp=Z,9.0nm,1.1s,mb5.0
EMUR **La Murta** 92.32 48 P P 12 26 33.3 -1.4
comp=Z,19nm,1.6s,mb5.2
EARI **Arriondas** 93.01 42 P P 12 26 37.7 -0.1
comp=Z,138nm,1.4s,mb6.2
ECHE **Chera** 93.48 47 P P 12 26 40.6 +0.6
comp=Z,8.8nm,0.9s,mb5.2
ECHE **Chera** 93.48 47 P P 12 26 40.6 +0.6
ECHE pmax pmax
comp=Z,9.0nm,0.9s,mb5.2
ETOR **Torete** 93.48 45 P P 12 26 40.6 +0.5
comp=Z,12nm,1.0s,mb5.3
ETOR **Torete** 93.48 45 P P 12 26 40.6 +0.6
ETOR pmax pmax
comp=Z,12nm,1.0s,mb5.3
ELAN **Lanestosa** 94.02 42 P P 12 26 43.8 +1.4
comp=Z,48nm,1.2s,mb5.8
EIBI **Ibiza** 94.67 48 P P 12 26 45.7 +0.2
comp=Z,51nm,1.6s,mb5.7
SJPF **Ste Jean** 95.28 43 *e*P P 12 26 49.0 +0.8
comp=Z,46nm,1.2s,mb5.5
SJPF **Ste Jean** 95.28 43 *e*P P 12 26 49.0 +0.8
comp=Z,23nm,1.2s,mb5.5
SJPF **Ste Jean** 95.28 43 *e*P P 12 26 49.0 +0.8
SJPF pmax pmax
comp=Z,23nm,1.2s,mb5.5
ETSF **Etsaut** 95.57 44 *e*P P 12 26 50.3 +0.8
comp=Z,23nm,1.1s,mb5.2
ETSF **Etsaut** 95.57 44 *e*P P 12 26 50.3 +0.8
comp=Z,12nm,1.1s,mb5.2
ETSF **Etsaut** 95.57 44 *e*P P 12 26 50.3 +0.8
ETSF pmax pmax
comp=Z,12nm,1.1s,mb5.2
EPF **Esparros** 96.20 44 *e*P P 12 26 52.8 +0.4
YKA **Yellowknife Ar** 96.99 341 P P 12 26 54.0 -1.5
YKA pP pP 12 27 08.9 -1.6
YKA PKKPbc PKKPbc 12 43 35.4 -3.1
YKA **Yellowknife Ar** 96.99 341 P P 12 26 54.0 -1.5
YKA *PP pP 12 27 08.9 -1.6
YKA **Yellowknife Ar** 96.99 341 P P 12 26 54.0 -1.5
comp=Z,3.1nm,0.8s,mb4.8,baz=141,slow=4.2,SNR=67
YKA pP pP 12 27 08.9 -1.6
comp=Z,8.3nm,0.7s,baz=141,slow=4.3,SNR=42
YKA PKKPbc PKKPbc 12 43 35.4 -3.1
comp=Z,0.2nm,0.5s,baz=323,slow=3.7,SNR=5.0
MTLF **Montolieu** 97.52 45 *e*P P 12 26 58.3 -0.1
comp=Z,28nm,1.3s,mb5.3
MTLF **Montolieu** 97.52 45 *e*P P 12 26 58.3 -0.1
comp=Z,14nm,1.3s,mb5.3
MTLF **Montolieu** 97.52 45 *e*P P 12 26 58.3 -0.1
MTLF pmax pmax
comp=Z,14nm,1.3s,mb5.3
MFF **Saint Martin d** 97.85 41 *e*P P 12 26 59.6 -0.2
comp=Z,18nm,0.8s,mb5.3
MFF **Saint Martin d** 97.85 41 *e*P P 12 26 59.6 -0.2
comp=Z,8.9nm,0.8s,mb5.3
MFF **Saint Martin d** 97.85 41 *e*P P 12 26 59.6 -0.2
MFF pmax pmax
comp=Z,9.0nm,0.8s,mb5.3
KEST **Kesra** 98.49 54 LR LR 13 12 57.6
comp=Z,217nm,21.0s,MS4.6,baz=189,slow=36
LDF **La Druitiere** 98.94 39 *e*P P 12 27 03.9 -0.7
comp=Z,38nm,1.0s,mb5.6
LDF **La Druitiere** 98.94 39 *e*P P 12 27 03.9 -0.7
comp=Z,19nm,1.0s,mb5.6
LDF **La Druitiere** 98.94 39 *e*P P 12 27 03.9 -0.7
LDF pmax pmax
comp=Z,19nm,1.0s,mb5.6
DLBC **Dease Lake** 99.43 333 *e*P P 12 27 06.4 -0.2
DLBC *e*pP pP 12 27 20.0 -1.5
VIVF **Saint-Julien-l** 99.82 44 *e*P Pdif 12 27 09.2 +0.4
comp=Z,12nm,0.8s
VIVF **Saint-Julien-l** 99.82 44 *e*P Pdif 12 27 09.2 +0.4
comp=Z,5.8nm,0.8s
VIVF **Saint-Julien-l** 99.82 44 *e*P Pdif 12 27 09.2 +0.4
VIVF pmax pmax
comp=Z,6.0nm,0.8s,mb5.1
SMRF **Simiane la Rot** 99.94 45 *e*P Pdif 12 27 10.3 +1.0
FRF **La Foret Royal** 100.42 46 *e*P Pdif 12 27 12.1 +0.6
comp=Z,44nm,1.2s
FRF **La Foret Royal** 100.42 46 *e*P Pdif 12 27 12.1 +0.6
comp=Z,22nm,1.2s
FRF **La Foret Royal** 100.42 46 *e*P Pdif 12 27 12.1 +0.6
FRF pmax pmax
comp=Z,22nm,1.2s
ORIF **Oris-en-Rattie** 100.59 45 *e*P Pdif 12 27 13.1 +0.9
comp=Z,23nm,1.0s
ORIF *e*MLR MLR
comp=Z,307nm,20.5s,MS4.5
ORIF **Oris-en-Rattie** 100.59 45 *e*P Pdif 12 27 13.1 +0.9
comp=Z,12nm,1.0s
ORIF **Oris-en-Rattie** 100.59 45 *e*P Pdif 12 27 13.1 +0.9
ORIF pmax pmax
comp=Z,12nm,1.0s
SBF **Sospel** 101.06 46 *e*P Pdif 12 27 14.9 +0.6
comp=Z,44nm,1.0s
SBF **Sospel** 101.06 46 *e*P Pdif 12 27 14.9 +0.6
comp=Z,22nm,1.0s
SBF **Sospel** 101.06 46 *e*P Pdif 12 27 14.9 +0.6
SBF pmax pmax
comp=Z,22nm,1.0s
LPL **La Plagne** 101.41 44 *e*P Pdif 12 27 17.0 +1.1
comp=Z,21nm,1.0s
LPL **La Plagne** 101.41 44 *e*P Pdif 12 27 17.0 +1.1
comp=Z,10nm,1.0s
LPL **La Plagne** 101.41 44 *e*P Pdif 12 27 17.0 +1.1
LPL pmax pmax
comp=Z,11nm,1.0s
LPG **La Plagne** 101.41 44 *e*P Pdif 12 27 17.1 +1.2
comp=Z,20nm,1.0s
LPG **La Plagne** 101.41 44 *e*P Pdif 12 27 17.1 +1.2
comp=Z,10nm,1.0s
LPG **La Plagne** 101.41 44 *e*P Pdif 12 27 17.1 +1.2
LPG pmax pmax
comp=Z,10.0nm,1.0s
INK **Inuvik** 106.68 340 Pdiff Pdif 12 27 38.0 -1.3
comp=Z,2.6nm,1.2s,baz=196,slow=3.3,SNR=4.1
KIEV **Kiev** 117.26 45 *e*PKPdf PKPdf 12 32 08.1 -1.2
AKASG **Malin Array Be** 117.28 45 PKP PKPdf 12 32 08.0 -1.3
comp=Z,1.9nm,0.4s,baz=264,slow=2.8,SNR=21
AKASG pPKP pPKPdf 12 32 22.8 -1.9
comp=Z,2.1nm,0.6s,baz=267,slow=2.5,SNR=4.0
ARCES **ARCESS Array B** 118.22 23 PKKPbc PKKPbc 12 42 29.1 -2.1
comp=Z,1.0nm,0.6s,baz=83,slow=3.8,SNR=7.5
MALT **Malatya** 121.08 60 *e*PKPdf PKPdf 12 32 17.3 +0.3
OBN **Obninsk** 122.29 40⇓ *i*PKIKP PKPdf 12 32 18.0 -0.8
OBN *e* 12 32 33.2
OBN PS PS 12 43 48.0 -2.3
OBN pmax pmax
comp=Z,12nm,0.6s
OBN MLR MLR
comp=Z,100nm,21.0s,MS4.4
SOC **Sochi** 123.05 54 *e*PKIKP PKPdf 12 32 19.3 -1.3
SOC pmax pmax
comp=Z,22nm,1.0s
ASAR **Alice Springs** 123.30 207 PKIKP PKPdf 12 32 20.4 -1.4
ASAR 12 32 35.2
ASAR **Alice Springs** 123.30 207 PKP PKPdf 12 32 20.4 -1.5
comp=Z,6.4nm,0.5s,baz=128,slow=1.6,SNR=120
ASAR pPKP pPKPdf 12 32 35.1 -2.1
comp=Z,5.1nm,0.8s,baz=152,slow=2.2,SNR=9.8
ASAR PKKPbc PKKPbc 12 42 11.2 -0.3
comp=Z,1.3nm,0.7s,baz=332,slow=3.2,SNR=12
VORD **Divnogorie** 123.63 46 *e*PKIKP PKPdf 12 32 20.5 -1.0
VORD pmax pmax
comp=N,9.0nm,0.6s
VORD pmax pmax
comp=Z,6.0nm,0.6s
VORD pmax pmax
comp=E,10.0nm,0.8s
KIV **Kislovodsk** 125.23 54 *i*PKIKP PKPdf 12 32 25.1 +0.3
KIV pmax pmax
comp=Z,15nm,1.2s
KIV MLR MLR
comp=Z,97nm,20.0s,MS4.5
WB2 **Warramunga Arr** 126.42 210 *e*P PKPdf 12 32 27.0 -0.9
WRA **Warramunga Arr** 126.42 210 PKP PKPdf 12 32 26.7 -1.2
comp=Z,24nm,0.7s,baz=154,slow=1.7,SNR=312
WRA pPKP pPKPdf 12 32 41.6 -1.8
comp=Z,9.7nm,0.7s,baz=161,slow=1.5,SNR=14
WRAB **Tennant Creek** 126.43 210 *e*PKPdf PKPdf 12 32 26.8 -1.1
WRAB *e*pPKPdf pPKPdf 12 32 41.4 -2.0
BILL **Bilibino** 128.10 336 *e*PKPdf PKPdf 12 32 29.2 -0.4
BILL **Bilibino** 128.10 336*c* *i*PKIKP PKPdf 12 32 29.2 -0.3
BILL *e* 12 32 36.8
BILL 12 32 44.0
BILL 12 34 34.0
BILL pmax pmax
comp=Z,11nm,0.9s
MBWA **Marble Bar** 129.94 193 *e*PKPdf PKPdf 12 32 33.3 -1.3
FITZ **Fitzroy Crossi** 131.37 201 *e*P PKPdf 12 32 36.6 -0.8
comp=Z,17nm,0.7s
KAKA **Kakadu** 133.63 212 *e*P PKPdf 12 32 39.5 -2.2
comp=Z,7.5nm,0.6s
ARU **Arti** 134.45 37 *e*PKPdf PKPdf 12 32 42.2 +0.3
ARU **Arti** 134.45 37 *i*PKIKP PKPdf 12 32 42.1 +0.2
ARU 12 35 15.5
ARU SS SS 12 53 02.9 +1.2
AKTK **Aktyubinsk** 135.51 46 PKP PKPdf 12 32 43.5 -0.5
AKTO **Aktyubinsk** 135.51 46 PKP PKPdf 12 32 43.5 -0.5
comp=Z,3.9nm,0.9s,baz=315,slow=3.5,SNR=13
SEY **Seymchan** 135.52 334⇑ *i*PKIKP PKPdf 12 32 44.1 +0.4
YAK **Yakutsk** 143.60 344 *e*PKPdf PKPdf 12 32 55.0 -3.4
YAK **Yakutsk** 143.60 344 *e*PKIKP PKPdf 12 32 54.3 -4.1
YAK *e* 12 33 09.1
YAK pmax pmax
comp=N,6.0nm,0.9s
YAK pmax pmax
comp=Z,41nm,0.9s
YAK pmax pmax
comp=E,6.0nm,1.1s
YAK pmax pmax
comp=Z,34nm,1.0s
YAK pmax pmax
comp=N,9.0nm,1.2s
YAK pmax pmax
comp=E,7.0nm,1.4s
BHJ **Bhuj** 143.94 89 *e*P PKPdf 12 32 59.7 -0.5
KOD **Kodaikanal** 145.09 114 *e*P PKPbc 12 33 02.2 +0.2
KBL **Kabul** 145.12 69 *e*PKPdf PKPdf 12 33 00.2 -1.8
PALK **Pallekele** 145.79 122 *e*PKPdf PKPdf 12 33 04.1 +0.4
KAD **Karad** 145.85 101 *e*P PKPdf 12 33 03.7 0.0
POO **Poona** 146.06 99⇓ *i*P PKPdf 12 33 03.0 -1.0
comp=E,30nm,1.0s
POO *e*P 12 33 04.8
NVS **Novosibirsk** 147.30 28 *e*PKIKP PKPdf 12 33 04.6 -0.4
NVS *e* 12 33 18.8
NVS pmax pmax
comp=N,18nm,1.0s
NVS pmax pmax
comp=E,17nm,1.0s
NVS pmax pmax
comp=Z,90nm,1.0s
KURK **Kurchatov** 147.65 37 *e*PKPdf PKPdf 12 33 05.8 +0.2
KURK *e*PKPbc PKPbc 12 33 08.9 +0.5
EKS2 **Erkin-Say** 147.82 54 P PKPdf 12 33 07.5 +1.2
SNR=26
AML **Almayashu** 147.90 55 P PKPdf 12 33 07.8 +1.4
SNR=39
YSS **Yuzh-Sakhalins** 147.95 315⇑ *e*PKP2 PKPab 12 33 08.3 -3.9
YSS pmax pmax
comp=Z,30nm,0.8s
AAK **Ala-Archa** 148.34 54 *i*PKIKP PKPdf 12 33 07.2 +0.1
AAK MLR MLR
comp=Z,100nm,22.0s,MS4.6
AAK **Ala-Archa** 148.34 54 P PKPdf 12 33 08.7 +1.7
SNR=31
LATR **Latur** 148.37 101 *e*P PKPdf 12 33 08.2 +0.3
FRU **Bishkek** 148.38 53 *e*PKIKP PKPdf 12 33 07.0 -0.1
FRU *i* 12 33 11.0
FRU pmax pmax
comp=Z,210nm,1.8s
CHMS **Chumysh** 148.42 53 P PKPbc 12 33 11.7 +0.9
SNR=14
UCH **Uchtor** 148.46 54 *e*PKPdf PKPdf 12 33 08.8 +1.5
UCH *e*PKPbc PKPbc 12 33 12.4 +1.5
UCH **Uchtor** 148.46 54 P PKPbc 12 33 12.8 +1.9
SNR=5.5
ZAL **Zalesovo** 148.59 28 PKIKP PKPdf 12 33 07.0 -0.1
ZAL 12 33 10.9
ZAA0 **Zalesovo Array** 148.59 28 *e*PKPdf PKPdf 12 33 07.0 -0.2
ZAA0 *e*PKPbc PKPbc 12 33 10.5 -0.3
ZALV **Zalesovo Beam** 148.59 28 PKP PKPdf 12 33 07.0 -0.1
comp=Z,114nm,0.7s,baz=318,slow=2.0,SNR=38
ZALV PKPbc PKPbc 12 33 10.9 0.0
comp=Z,114nm,0.7s,baz=308,slow=3.2,SNR=84
ZALV pPKPbc pPKPbc 12 33 25.6 -0.6
comp=Z,122nm,0.9s,baz=302,slow=3.3,SNR=15
KBK **Karagaybulak** 148.66 53 P PKPbc 12 33 12.5 +1.1
SNR=14
KZA **Kyzart** 149.03 54 P PKPbc 12 33 13.8 +1.5
SNR=9.3
TKM2 **Tokmak 2** 149.04 53 *e*PKPdf PKPdf 12 33 09.1 +0.9
TKM2 *e*PKPbc PKPbc 12 33 12.6 +0.2
TKM2 **Tokmak 2** 149.04 53 P PKPbc 12 33 12.9 +0.6
SNR=25
AJM **Ajmer** 149.11 85 *e*P PKPdf 12 33 09.0 +0.2
ASAJ **Asahikawa** 149.12 310 PKPbc PKPbc 12 33 12.2 -0.3
comp=Z,19nm,0.8s,baz=298,slow=15,SNR=5.2
AKL **Akola** 149.63 97 *e*P PKPdf 12 33 10.2 +0.4
HYB **Hyderabad** 149.67 104 *e*P PKPbc 12 33 15.0 +0.4
HYB *e* 12 33 20.5
HYB *e* 12 33 29.5
HYB **Hyderabad** 149.67 104 *i*PKP PKPdf 12 33 09.0 -1.0
comp=Z,100nm,1.0s
HYB *e* 12 33 20.5
HYB *e*pPKP pPKPdf 12 33 29.5 +4.0
ULHL **Ulahol** 149.69 54 P PKPbc 12 33 15.2 +1.2
SNR=18
BOD **Bodaibo** 150.22 355 *e*PKIKP PKPdf 12 33 13.0 +3.4
BOD pmax pmax
comp=Z,31nm,1.0s
THN **Thein Dam** 150.67 73 *ex* PKPbc 12 33 19.7 +3.0
BHPL **Bhopal** 150.80 92 *e*P PKPdf 12 33 12.3 +0.7
BHPL AMb AMB 12 33 19.1
comp=Z,34nm,1.7s
DLH **Dalhousie** 150.88 73 *ex* PKPbc 12 33 17.0 -0.1
NGP **Nagpur** 151.57 97 *e*P PKPdf 12 33 10.8 -2.0
HABR **Khabarovsk** 151.70 323 *e*PKIKP PKPdf 12 33 10.5 -1.7
HABR *i* 12 33 18.1
HABR *e* 12 40 13.0
SDNR **Sundarnagar** 151.71 75 *ex* PKPbc 12 33 18.4 -0.7
NDI **New Delhi** 151.72 81 *e*P PKPdf 12 33 12.7 -0.1
MKAR **Makanchi Array** 151.79 42 PKPbc PKPbc 12 33 18.6 -0.1
comp=Z,47nm,0.7s,baz=320,slow=2.1,SNR=61

MKAR pPKPbc pPKPbc 12 33 33.5 -0.7
comp=Z,25nm,0.7s,baz=302,slow=1.7,SNR=9.5
SMLA Simla 151.87 76 *ex* PKPbc PKPbc 12 33 19.4 -0.1
PSI Prapat 152.83 157 PKPbc PKPbc 12 33 21.3 -0.9
comp=Z,7.6nm,0.6s,baz=339,slow=1.0,SNR=10
KLR Kul'dur 152.90 327 *e*PKIKP PKPdf 12 33 09.7 -4.2
MJAR Matsushiro Arr 154.38 296 PKP PKPdf 12 33 15.8 -0.7
MJAR PKPbc PKPbc 12 33 24.1 -0.8
MJAR PKPab PKPab 12 33 38.7 -0.5
MJAR pPKPab pPKPab 12 33 53.5 -0.7
MJAR Matsushiro Arr 154.38 296 PKIKP PKPdf 12 33 15.8 -0.7
MJAR 12 33 24.1
MJAR 12 33 38.7
MJAR Matsushiro Arr 154.38 296 PKP PKPdf 12 33 15.8 -0.7
comp=Z,5.5nm,1.1s,baz=137,slow=0.3,SNR=8.0
MJAR PKPbc PKPbc 12 33 24.1 -0.8
comp=Z,5.0nm,0.9s,baz=101,slow=0.3,SNR=7.2
MJAR PKPab PKPab 12 33 38.7 -0.5
comp=Z,7.7nm,0.7s,baz=82,slow=4.0,SNR=15
MJAR pPKPab pPKPab 12 33 53.5 -0.7
comp=Z,6.1nm,0.7s,baz=84,slow=3.5,SNR=5.1
MAT Matsushiro 154.38 296 PKP PKPdf 12 33 13.8 -2.7
PTH Pithoragarh 154.41 80 *e*P PKPbc 12 33 27.0 +1.9
BLSP Bilaspur 154.60 98 *e*P PKPdf 12 33 17.6 +0.4
IRK Irkutsk 155.67 8 *e*PKIKP pPKPdf 12 33 33.7 +0.5
IRK *e* 12 33 43.7
IRK pmax pmax
comp=Z,26nm,1.6s
TLY Talaya 156.14 9 *e*PKPdf PKPdf 12 33 18.8 +0.4
WMQ Urumqi 156.60 42 PKP PKPdf 12 33 19.5 +0.3
WMQ APKP 12 33 34.0
WMQ XPKP 12 33 40.0
WMQ PKP2 PKPab 12 33 51.0 +2.6
WMQ PP PP 12 37 30.0 +3.4
WMQ PP PP
comp=Z,154nm,4.6s
WMQ LR LR
comp=N,186nm,37.2s
WMQ LR LR
comp=E,247nm,26.4s
WMQ LR LR
comp=Z,230nm,21.9s
MDJ Mudanjiang 157.03 321 PKP PKPdf 12 33 18.5 -1.2
MDJ Mudanjiang 157.03 321 *e*PKPdf PKPdf 12 33 18.8 -1.0
ZAK Zakamensk 157.35 10 *e*PKIKP PKPdf 12 33 20.5 +0.6
ZAK pmax pmax
comp=Z,5.0nm,1.1s
ZAK pmax pmax
comp=Z,7.0nm,1.2s
ZAK pmax pmax
comp=Z,8.0nm,1.2s
BOK Bokaro 158.40 96 *e*P PKPdf 12 33 18.9 -3.2
CN2 Changchun 159.80 325 *e*PKP PKPdf 12 33 20.8 -2.3
SONM Songino Array 160.25 6 PKIKP PKPdf 12 33 23.5 0.0
SONM 12 33 38.7
SONM 12 34 04.1
SONM Songino Array 160.25 6 PKP PKPdf 12 33 23.5 +0.1
comp=Z,4.0nm,0.9s,baz=190,slow=0.7,SNR=10
SONM pPKP pPKPdf 12 33 38.7 -0.3
comp=Z,2.6nm,0.9s,baz=41,slow=1.3,SNR=3.8
SONM PKPab PKPab 12 34 04.1 +0.1
comp=Z,4.8nm,0.8s,baz=328,slow=4.1,SNR=10.0
SONM pPKPab pPKPab 12 34 18.9 -0.1
comp=Z,8.4nm,0.8s,baz=326,slow=4.2,SNR=9.6
ULN Ulaanbaatar 160.28 5 *e*PKPdf PKPdf 12 33 23.2 -0.3
KSRS Korea Array 161.95 305 PKP PKPdf 12 33 25.3 -0.3
comp=Z,8.9nm,1.0s,baz=116,slow=0.8,SNR=18
KSRS pPKP pPKPdf 12 33 40.6 -0.5
comp=Z,5.7nm,1.0s,baz=107,slow=0.8,SNR=5.3
KSRS PKPab PKPab 12 34 11.7 -0.2
comp=Z,3.4nm,1.1s,baz=67,slow=4.0,SNR=5.1
KSRS pPKPab pPKPab 12 34 26.9 0.0
comp=Z,4.5nm,1.1s,baz=65,slow=5.2,SNR=2.9
BJI Beijing 166.94 336 PKP PKPdf 12 33 30.5 +0.5
HHC Hu-ho-hao-te 167.26 353 *e*PKP PKPdf 12 33 30.3 +0.1
HHC APKP 12 33 40.5
HHC XPKP 12 33 46.0
HHC PKS 12 37 00.5
HHC PP PP 12 38 25.8 +3.4
HHC SKS SKSdf 12 40 27.3 -2.4
HHC PP PP
comp=Z,151nm,6.1s
HHC LR LR
comp=N,56nm,3.9s
HHC LR LR
comp=E,122nm,3.7s
HHC LR LR
comp=Z,77nm,10.0s
LZH Lanzhou 170.82 30 *e*PKP PKPdf 12 33 33.3 +0.7
LZH APKP 12 33 45.5
LZH XPKP 12 33 49.0
LZH SKS SKSdf 12 40 31.0 -0.7
LZH SKKS SKKSac 12 45 23.0 -0.9
LZH SS SS 12 59 40.3 +0.4
LZH PP PP
comp=Z,129nm,6.1s
LZH LR LR
comp=E,305nm,17.5s
LZH LR LR
comp=Z,291nm,18.1s
NJ2 Nanjing 170.98 297 *e*PKP PKPdf 12 33 34.5 +1.7
KMI Kunming 173.28 116 PKP PKPdf 12 33 33.5 -0.5
XAN Xi'an 174.16 4 PKP PKPdf 12 33 33.8 -0.3
XAN APKP 12 33 43.5
CD2 Chengdu 174.37 60 *e*PKP PKPdf 12 33 35.5 +1.3
CD2 APKP 12 33 46.5
CD2 XPKP 12 33 50.3
CD2 PKP2 PKPab 12 35 09.5 +2.5
CD2 PP PP 12 39 03.0 +3.5
CD2 SKS SKSdf 12 40 33.5 +0.3
CD2 SKKS SKKSac 12 45 43.5 +2.0
CD2 PP PP
comp=Z,620nm,10.8s
CD2 LR LR
comp=N,450nm,22.2s
CD2 LR LR
comp=E,540nm,24.2s
CD2 LR LR
comp=Z,450nm,20.2s
WHN Wuhan 175.11 300 ⇓PKP PKPdf 12 33 35.3 +0.8
WHN PKP2 PKPab 12 35 09.5 -0.8
GYA Guiyang 176.99 125 *i* PKP PKPdf 12 33 33.3 -1.7
GYA APKP 12 33 49.8
GYA XPKP 12 33 55.3
GYA PKP2 PKPab 12 35 20.5 +1.7
GYA PKS 12 37 05.0
GYA PP PP 12 39 14.0 +2.2
GYA SKS SKSdf 12 40 30.3 -3.6
GYA SKKS SKKSac 12 45 53.5 -0.5
GYA PP PP
comp=Z,190nm,8.4s
GYA LR LR
comp=N,2μm,25.4s
GYA LR LR
comp=E,3μm,24.2s
GYA LR LR
comp=Z,2μm,25.6s

NIED ***26*** *12:23:00, 4670N×15290E, h38km, Mw4.7 Best double couple: M0 1.46000×10^16 NP1:φs322.00000°, δ78.00000°, λ45.00000°. NP2:φs221.00000°, δ46.00000°, λ164.00000°.*
GCMT ***26*** *12:23:30.8±0.4, 4659N×15276E, h50km±1km, MW5.0/54, Moment Tensor Solution. s29,c41; s54,c79; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr2.96±.18; Mθθ-0.81±.15; Mφφ-2.15±.13; Mrθ0.22±.10; Mθφ-1.51±.08; Mφr1.20±.08; Best double couple: M0 3.28300×10^16 NP1:φs222.00000°, δ36.00000°, λ104.00000°. NP2: φs24.00000°, δ56.00000°, λ80.00000°. Principal axes: T 3.2320, Plg77.0000°, Azm262.0000°; N 0.1040, Plg8.0000°, Azm30.0000°; P -3.3340, Plg10.0000°, Azm122.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***26*** *12:23:30.8±0.2, 4668N×15243E, h10km, mb5.0/76 Error ellipse: s-maj=5.8km s-min=3.3km az=160.0*
BJI ***26*** *12:23:30.4, 4678N×15288E, h33km, mB5.0, mb4.8, Ms4.5, Msz4.2*
ISCJB ***26*** *12:23:32.6±0.2, 4662N±003×15254E±003, h34km, mb4.8/144, MS4.2/35, Error ellipse: s-maj=4.9km s-min=2.0km az=146.1*
JMA ***26*** *12:23:33.0±0.7, 4670N×15290E, h30km, M5.2*

SZGRF ***26*** *12:23:33.9, 4667N×15349E, h33km, mb5.0, MS4.5, Kuril Islands, Russia*
MOS ***26*** *12:23:34.6±0.9, 4665N×15248E, h52km, mb5.1/59, MS4.3/16, Error ellipse: s-maj=7.7km s-min=4.7km az=96.1*
IDC ***26*** *12:23:34.6±0.4, 4670N×15246E, h36km±3km, mb4.3/26, mb1 4.5/27, mb1mx4.5/30, mbtmp4.3/27, ML4.1/1, MS4.1/18, Ms1 4.1/18, ms1mx4.0/30, Error ellipse: s-maj=14.1km s-min=10.6km az=128.0*
SKHL ***26*** *12:23:35.2±2.7, 4680N×15250E, h57km±23km, mb5.3/7, mbh5.3/1, mbv5.8/2, ms4.5/4, msh5.7/3*
ISC 26 12:23:35.0±0.2, 4670N±003×15251E±004, h36km, h36km±1.0km:pP-P, n412, σ1§05/419, mb4.8/144, MS4.2/35, 26C-22D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.55**	**247**	*i* P	N	**Pn**	**12 24 27.6**	**0.0**
KUR				*i* S		**Sn**	**12 25 09.9**	**+1.6**
KUR				pmax		pmax		
	comp=N,160nm,0.5s							
KUR				pmax		pmax		
	comp=E,230nm,0.5s							
KUR				pmax		pmax		
	comp=Z,460nm,0.5s							
KUR				smax				
	comp=N,8μm,2.0s							
KUR				smax				
	comp=E,8μm,2.0s							
KUR				smax				
	comp=N,2μm,0.5s							
KUR				smax				
	comp=E,1μm,0.5s							
KUR	**Kuril'sk**	**3.55**	**247**	⇓*i* P		**Pn**	**12 24 27.6**	**0.0**
KUR				AMB		AMB	12 24 33.0	
	comp=E,160nm,0.5s							
KUR				AMB		AMB	12 24 33.0	
	comp=E,228nm,0.5s							
KUR				AMB		AMB	12 24 33.0	
	comp=E,456nm,0.5s							
KUR				*i* S		**Sn**	**12 25 09.9**	**+1.6**
KUR				A			12 25 11.0	
	comp=E,8μm,2.0s							
KUR				A			12 25 11.0	
	comp=E,8μm,2.0s							
KUR				A			12 25 15.4	
	comp=E,2μm,0.5s							
KUR				A			12 25 15.4	
	comp=E,1μm,0.5s							
SKR	**Severo-Kuril's**	**4.65**	**30**	*e*P		**Pn**	**12 24 42.7**	**+0.1**
SKR				AMB		AMB	12 24 45.0	
	comp=E,60nm,0.4s							
SKR				AMB		AMB	12 24 45.0	
	comp=E,120nm,0.5s							
SKR				A			12 25 41.0	
	comp=E,2μm,6.0s							
SKR				A			12 25 41.0	
	comp=E,2μm,6.0s							
SKR				A			12 25 55.6	
	comp=E,470nm,0.5s							
SKR				A			12 25 55.6	
	comp=E,650nm,0.5s							
SKR				A			12 25 55.6	
	comp=E,230nm,0.5s							
SKR				AMS		AMS	12 26 26.0	
	comp=E,4μm,14.0s							
SKR				AMS		AMS	12 26 26.0	
	comp=E,3μm,14.0s							
SKR				AMS		AMS	12 26 26.0	
	comp=E,4μm,14.0s							
SKR				AMS		AMS	12 26 26.0	
	comp=E,3μm,14.0s							
YUK	**Yuzh-Kuril'sk**	**5.39**	**243**	⇓*i* PN		**Pn**	**12 24 56.0**	**+3.2**
YUK				S		**Sn**	**12 25 55.5**	**+2.0**
YUK				pmax		pmax		
	comp=N,360nm,0.3s							
YUK				pmax		pmax		
	comp=E,260nm,0.3s							
YUK				pmax		pmax		
	comp=Z,760nm,0.3s							
YUK				pmax		pmax		
	comp=Z,3μm,1.0s							
YUK				smax				
	comp=N,2μm,0.5s							
YUK				smax				
	comp=E,810nm,0.5s							
YUK				smax				
	comp=N,6μm,2.0s							
YUK				smax				
	comp=E,8μm,2.0s							
YUK	**Yuzh-Kuril'sk**	**5.39**	**243**	⇓*i* P		**Pn**	**12 24 56.0**	**+3.2**
YUK				AMB		AMB	12 24 58.0	
	comp=E,360nm,0.3s							
YUK				AMB		AMB	12 24 58.0	
	comp=E,260nm,0.3s							
YUK				AMB		AMB	12 24 58.0	
	comp=E,760nm,0.3s							
YUK				AMB		AMB	12 24 58.0	
	comp=E,3μm,1.0s							
YUK				*e*S		**Sn**	**12 25 55.5**	**+2.0**
YUK				A			12 26 13.0	
	comp=E,2μm,0.5s							
YUK				A			12 26 13.0	
	comp=E,810nm,0.5s							
YUK				A			12 26 26.0	
	comp=E,6μm,2.0s							
YUK				A			12 26 26.0	
	comp=E,8μm,2.0s							
NEM2	**Nemuro 2**	**5.84**	**238**	P		**Pn**	**12 24 59.8**	**+0.8**
NEM2				*e*S		**Sn**	**12 26 04.0**	**-0.6**
JRA	**Rausu**	**5.89**	**245**	P		**Pn**	**12 25 04.0**	**+4.3**
JNK	**Nakash**	**6.33**	**243**	P		**Pn**	**12 25 08.4**	**+2.7**
JNK				*e*S		**Sn**	**12 26 19.6**	**+3.0**
JTKR	**Abashiri--Toko**	**6.64**	**249**	P		**Pn**	**12 25 13.9**	**+3.8**
JAK	**Akkeshi**	**6.67**	**239**	P		**Pn**	**12 25 11.2**	**+0.8**
JAK				*e*S		**Sn**	**12 26 25.0**	**-0.1**
YSS	**Yuzh-Sakhalins**	**6.70**	**276**	*e*Pn		**Pn**	**12 25 15.8**	**+5.1**
YSS	**Yuzh-Sakhalins**	**6.70**	**276**	⇓*i* PN		**Pn**	**12 25 15.0**	**+4.2**
YSS				pmax		pmax		
	comp=E,120nm,0.9s							
YSS				pmax		pmax		
	comp=Z,120nm,0.9s							
YSS				MLR		MLR		
	comp=N,1μm,17.0s							
YSS				MLR		MLR		
	comp=E,2μm,17.0s							
YSS				MLR		MLR		
	comp=Z,2μm,17.0s							
YSS	**Yuzh-Sakhalins**	**6.70**	**276**	⇓*i* P		**Pn**	**12 25 15.0**	**+4.2**
YSS				AMB		AMB	12 25 18.1	
	comp=Z,120nm,0.9s							
YSS				AMB		AMB	12 25 18.1	
	comp=Z,120nm,0.9s							
YSS				*es*P			12 25 34.8	
YSS				*e*S		**Sn**	**12 26 29.0**	**+3.3**
YSS				*e*LQ			12 26 47.0	
YSS				*e*LR		LR	12 27 10.0	
YSS				AMS		AMS	12 27 34.0	
	comp=Z,2μm,17.0s							
YSS				AMS		AMS	12 27 34.0	
	comp=Z,1μm,17.0s							
YSS				AMS		AMS	12 27 34.0	
	comp=Z,2μm,17.0s							
JMP	**Maruseppu**	**6.98**	**251**	P		**Pn**	**12 25 19.5**	**+4.8**
JAR	**Ashorobuto**	**7.07**	**244**	P		**Pn**	**12 25 18.6**	**+2.8**
JAR				*e*S		**Sn**	**12 26 38.1**	**+3.3**
JOB	**Onbets**	**7.24**	**242**	P		**Pn**	**12 25 20.6**	**+2.4**
JOB				*e*S		**Sn**	**12 26 39.8**	**+0.7**
UGL	**Uglegorsk**	**7.41**	**293**	*e*P		**Pn**	**12 25 26.0**	**+5.4**
UGL				AMB		AMB	12 25 29.5	
	comp=Z,160nm,0.9s							
UGL				AMS		AMS	12 28 11.0	
	comp=Z,2μm,17.0s							
UGL				AMS		AMS	12 28 11.0	
	comp=Z,1μm,17.0s							
UGL				AMS		AMS	12 28 11.0	
	comp=Z,2μm,17.0s							
ASAJ	**Asahikawa**	**7.44**	**253**	P		**Pn**	**12 25 26.0**	**+5.1**
ASAJ	**Asahikawa**	**7.44**	**253**	PN		**Pn**	**12 25 26.1**	**+5.2**
ASAJ				pmax		pmax		
	comp=Z,10.0nm,0.3s							
ASAJ				MLR		MLR		
	comp=Z,1μm,20.5s							
ASAJ	**Asahikawa**	**7.44**	**253**	Pn		**Pn**	**12 25 26.1**	**+5.2**
	comp=Z,10nm,0.3s,baz=83,slow=11,SNR=85							
ASAJ				LR		LR	12 28 08.5	
	comp=Z,1μm,20.5s,baz=90,slow=37							
JKK2	**Kamakawa 2**	**7.44**	**251**	P		**Pn**	**12 25 25.4**	**+4.4**
PET	**Petropavlovsk**	**7.47**	**30**	*e*Pn		**Pn**	**12 25 23.0**	**+1.7**
PET				*e*Sn		**Sn**	**12 26 46.6**	**+1.8**
JWK2	**Keihoku**	**7.52**	**263**	P		**Pn**	**12 25 28.8**	**+6.8**
JCH	**Churui**	**7.69**	**241**	P		**Pn**	**12 25 25.7**	**+1.3**
JCH				*e*S		**Sn**	**12 26 49.0**	**-1.2**
JFR	**Furan**	**7.87**	**247**	P		**Pn**	**12 25 30.2**	**+3.3**
JAB	**Ashibetsu**	**7.94**	**250**	P		**Pn**	**12 25 32.8**	**+4.9**
ERM	**Erimo**	**8.17**	**238**	*e*Pn		**Pn**	**12 25 33.2**	**+2.3**
	comp=Z,114nm,0.6s							
ERM				*e*Sn		**Sn**	**12 27 01.1**	**-1.0**
ERM	**Erimo**	**8.17**	**238**	*e*PN		**Pn**	**12 25 33.3**	**+2.3**
ERM				pmax		pmax		
	comp=Z,114nm,0.6s							
JEM	**Erimo**	**8.17**	**238**	P		**Pn**	**12 25 32.9**	**+1.9**
JEM				*e*S		**Sn**	**12 27 01.0**	**-1.0**
JBT2	**Biratori 2**	**8.21**	**245**	P		**Pn**	**12 25 34.1**	**+2.5**
JNBK	**Urakawa-nobuka**	**8.25**	**241**	P		**Pn**	**12 25 32.6**	**+0.5**
JNBK				*e*S		**Sn**	**12 27 02.4**	**-1.6**
JEW	**Eniwo**	**8.76**	**248**	P		**Pn**	**12 25 42.0**	**+2.9**
OKH	**Okha**	**9.21**	**322**	*e*PN		**Pn**	**12 25 52.0**	**+6.9**
OKH				*e*S		**Sn**	**12 27 33.5**	**+6.2**
OKH				pmax		pmax		
	comp=Z,1μm,2.0s							
OKH	**Okha**	**9.21**	**322**	*e*P		**Pn**	**12 25 52.0**	**+6.9**
OKH				AMB		AMB	12 25 52.1	
	comp=Z,1μm,2.0s							
OKH				AMB		AMB	12 25 53.6	
	comp=Z,200nm,1.0s							
OKH				*e*S		**Sn**	**12 27 33.5**	**+6.2**
OKH				*e*LQ			12 28 02.0	
OKH				AMS		AMS	12 30 06.0	
	comp=Z,1μm,13.0s							
OKH				AMS		AMS	12 30 06.0	
	comp=Z,2μm,16.0s							
OKH				AMS		AMS	12 30 06.0	
	comp=Z,2μm,15.0s							
OKH				AMB		AMB	12 32 03.0	
	comp=Z,100nm,1.0s							
JNB	**Noboribetsu**	**9.21**	**247**	P		**Pn**	**12 25 47.5**	**+2.3**
JNB				*e*S		**Sn**	**12 27 26.1**	**-1.4**
JKB	**Kayabe**	**9.53**	**244**	P		**Pn**	**12 25 49.6**	**0.0**
JKB				*e*S		**Sn**	**12 27 31.1**	**-4.2**
JSH	**Shimam**	**9.76**	**250**	P		**Pn**	**12 25 55.8**	**+3.1**
JOT	**Ohata**	**9.81**	**241**	P		**Pn**	**12 25 53.3**	**-0.2**
JYM2	**Yakumo 2**	**9.82**	**247**	P		**Pn**	**12 25 55.2**	**+1.7**
NKL	**Nikolayevsk**	**9.98**	**315**	*i* P		**Pn**	**12 25 57.5**	**+1.7**
NKL				AMB		AMB	12 25 59.2	
	comp=Z,90nm,1.3s							
NKL				AMB		AMB	12 25 59.2	
	comp=Z,120nm,1.3s							
NKL				AMB		AMB	12 25 59.2	
	comp=Z,200nm,1.3s							
NKL				AMB		AMB	12 25 59.5	
	comp=Z,300nm,2.5s							
NKL				AMB		AMB	12 25 59.5	
	comp=Z,500nm,2.5s							
NKL				*e*L			12 28 32.0	
NKL				AMS		AMS	12 30 28.0	
	comp=Z,1μm,16.0s							
NKL				AMS		AMS	12 30 28.0	
	comp=Z,900nm,16.0s							
NKL				AMS		AMS	12 30 28.0	
	comp=Z,2μm,16.0s							
JSR	**Shiriuchi**	**10.11**	**244**	P		**Pn**	**12 25 58.2**	**+0.7**
JTM	**Tenmabayashi**	**10.16**	**239**	P		**Pn**	**12 25 57.6**	**-0.7**
JTM				*e*S		**Sn**	**12 27 45.6**	**-5.3**
JANG	**Nango**	**10.18**	**236**	P		**Pn**	**12 25 56.5**	**-2.0**
JANG				*e*S		**Sn**	**12 27 41.7**	**-10**
JTH	**Tanohata**	**10.28**	**233**	*e*S		**Sn**	**12 27 44.2**	**-10**
JOSM	**Okushiri--Mats**	**10.40**	**248**	P		**Pn**	**12 26 02.9**	**+1.3**
JOM	**Ohasama**	**10.92**	**233**	P		**Pn**	**12 26 06.8**	**-1.8**
OFUJ	**Ofunato**	**11.00**	**230**	P		**Pn**	**12 26 07.4**	**-2.3**
OFUJ				*e*S		**Sn**	**12 28 02.3**	**-9.1**
TEY	**Ternei**	**11.22**	**267**	*e*P		**Pn**	**12 26 16.0**	**+3.3**
TEY				AMS		AMS	12 30 33.0	
	comp=Z,970nm,15.0s							
JRG	**Rokugo**	**11.34**	**234**	P		**Pn**	**12 26 13.4**	**-1.0**
JRG				*e*S		**Sn**	**12 28 13.7**	**-6.0**
JIO	**Ouri**	**11.63**	**229**	P		**Pn**	**12 26 16.8**	**-1.6**
JIO				*e*S		**Sn**	**12 28 16.5**	**-10**
HABR	**Khabarovsk**	**11.92**	**285**	*i* PN		**Pn**	**12 26 24.5**	**+2.2**
HABR				pmax		pmax		
	comp=Z,38nm,2.1s							
HABR				MLR		MLR		
	comp=Z,1μm,18.2s							
JYA	**Atsumi**	**12.41**	**234**	P		**Pn**	**12 26 28.2**	**-0.8**
MA2	**Magadan**	**12.94**	**356**	*e*Pn		**Pn**	**12 26 39.1**	**+2.9**
MA2	**Magadan**	**12.94**	**356**	*c i* PN		**Pn**	**12 26 39.6**	**+3.4**
MA2				pmax		pmax		
	comp=N,20nm,0.6s							
MA2				pmax		pmax		
	comp=Z,40nm,0.6s							
MA2				MLR		MLR		
	comp=Z,300nm,18.0s							
KLR	**Kul'dur**	**14.13**	**288**	*e*P		**Pn**	**12 26 54.2**	**+1.8**
KLR				*e*			12 29 26.0	
KLR				MLR		MLR		
	comp=E,1μm,13.0s							
KLR				MLR		MLR		
	comp=Z,2μm,13.0s							
MAJO	**Matsushiro**	**14.72**	**232**	*e*Pn		**Pn**	**12 27 00.1**	**-0.5**
MAT	**Matsushiro**	**14.72**	**232**	P		**Pn**	**12 26 59.4**	**-1.1**
MAT				*e*S		**Sn**	**12 29 45.0**	**+2.8**
MAT	**Matsushiro**	**14.72**	**232**	P		**Pn**	**12 26 58.5**	**-2.0**
MJAR	**Matsushiro Arr**	**14.72**	**232**	Pn		**Pn**	**12 26 58.7**	**-1.8**
MJAR				LR		LR	12 33 48.3	
MJAR	**Matsushiro Arr**	**14.72**	**232**	P		**Pn**	**12 26 58.7**	**-1.8**
MJAR				pmax		pmax		
	comp=Z,1.0nm,0.3s							
MJAR				MLR		MLR		
	comp=Z,207nm,18.5s							
MJAR	**Matsushiro Arr**	**14.72**	**232**	Pn		**Pn**	**12 26 58.7**	**-1.8**
	comp=Z,0.7nm,0.3s,baz=28,slow=14,SNR=12							
MJAR				LR		LR	12 33 48.3	
	comp=Z,207nm,18.4s,baz=35,slow=42							
MDJ	**Mudanjiang**	**16.15**	**271**	P		**Pn**	**12 27 16.0**	**-3.0**
MDJ				S		**S**	**12 30 15.3**	**-14**
MDJ				AMB		AMB		
	comp=Z,179nm,8.6s							
MDJ				LR		LR		
	comp=N,367nm,17.9s							
MDJ				LR		LR		
	comp=E,394nm,22.8s							
MDJ				LR		LR		
	comp=Z,678nm,19.0s							
MDJ	**Mudanjiang**	**16.15**	**271**	*e*P		**Pn**	**12 27 19.8**	**+0.8**
	comp=Z,26nm,1.1s							
SEY	**Seymchan**	**16.27**	**360**	*e*P		**Pn**	**12 27 23.3**	**+2.8**
JHJ	**Hachijo jima 2**	**16.68**	**220**	LR		LR	12 33 06.3	
	comp=Z,202nm,19.5s,baz=79,slow=34							
ZEA	**Zeya**	**17.57**	**303**	*e*P		**Pn**	**12 27 36.2**	**-0.6**
ZEA				AMB		AMB	12 27 39.2	
	comp=Z,28nm,1.2s							
CN2	**Changchun**	**19.23**	**271**	*e*P		**Pn**	**12 27 56.3**	**-0.8**
CLNS	**Chul'man**	**19.74**	**311**	*e*P		pP	12 28 13.4	+2.7
CLNS				pmax		pmax		
	comp=Z,33nm,0.9s							
CLNS				pmax		pmax		
	comp=N,13nm,0.8s							
CLNS				pmax		pmax		
	comp=E,16nm,0.7s							
CLNS				MLR		MLR		
	comp=Z,1μm,16.0s							
CLNS				MLR		MLR		
	comp=N,500nm,17.0s							
CLNS				MLR		MLR		
	comp=E,1μm,17.0s							
NRGR	**Nerungri**	**19.77**	**310**	*e*P		pP	12 28 16.5	+5.5
YAK	**Yakutsk**	**20.14**	**328**	*e*P		**P**	**12 28 08.0**	**+2.3**
	comp=E,43nm,0.6s							
YAK	**Yakutsk**	**20.14**	**328**	*e*P		**P**	**12 28 07.4**	**+1.7**
YAK				*e*			12 28 24.6	
YAK				*e*S		**S**	**12 32 10.1**	**+21**
YAK				*e*			12 39 28.6	
YAK				pmax		pmax		
	comp=Z,48nm,0.7s							
YAK				pmax		pmax		
	comp=N,13nm,1.3s							
YAK				pmax		pmax		
	comp=E,21nm,1.2s							
YAK				pmax		pmax		

comp=Z,362nm,2.3s
YAK pmax pmax
comp=N,305nm,2.2s
YAK pmax pmax
comp=E,435nm,2.4s
YAK smax
comp=N,197nm,3.0s
YAK smax
comp=Z,298nm,5.0s
YAK smax
comp=E,124nm,2.8s
YAK MLR MLR
comp=N,282nm,12.0s,MS4.0
YAK MLR MLR
comp=Z,396nm,12.0s,MS4.0
YAK MLR MLR
comp=E,252nm,13.0s,MS4.0
KSRS Korea Array 20.38 252 P **P** **12 28 09.8 +1.3**
comp=E,14nm,0.9s,baz=55,slow=11,SNR=30
KSRS PcP PcP 12 32 20.9 +0.9
comp=E,0.8nm,0.5s,baz=343,slow=1.3,SNR=5.5
KSRS LR LR 12 34 58.7
comp=E,350nm,20.4s,MS3.7,baz=46,slow=34
KS15 Wonju Array Si 20.42 252 *e*P **P** **12 28 06.5 -2.3**
KS15 *e*Pn **P** **12 28 10.7 +1.9**
SNY Shenyang 21.22 267 ⇓P **P** **12 28 18.0 +0.5**
SNY S **S** **12 32 10.8 -0.4**
SNY AMB AMB
comp=Z,102nm,1.2s,mb5.0
SNY AMB AMB
comp=Z,150nm,7.5s
SNY LR LR
comp=E,620nm,18.6s
SNY LR LR
comp=Z,90nm,20.1s
JNU Nakatsue 21.34 238 P **P** **12 28 19.0 +0.2**
comp=Z,23nm,1.0s,mb4.5,baz=3.7,slow=5.8,SNR=11
JNU LR LR 12 37 12.8
comp=Z,158nm,20.1s,MS3.4,baz=37,slow=38
HIA Hailar 21.99 289 *e*P **P** **12 28 24.2 -1.4**
comp=Z,19nm,1.2s,mb4.4
HIA Hailar 21.99 289 *e*P **P** **12 28 24.2 -1.4**
HIA pmax pmax
comp=Z,19nm,1.2s
BILL Bilibino 22.54 14 *e*P **P** **12 28 32.9 +1.6**
comp=Z,5.8nm,0.5s,mb4.3
BILL Bilibino 22.54 14 P **P** **12 28 33.0 +1.7**
BILL *e* 12 28 44.3
BILL pmax pmax
comp=Z,9.0nm,0.8s,mb4.2
BILL MLR MLR
comp=Z,400nm,20.0s,MS3.9
DL2 Dalian 23.84 262 P **P** **12 28 46.8 +2.1**
DL2 S **S** **12 33 03.0 +5.0**
DL2 AMB AMB
comp=Z,20nm,0.9s,mb4.5
DL2 LR LR
comp=N,130nm,13.3s,MS3.8
DL2 LR LR
comp=E,180nm,14.9s,MS3.8
DL2 LR LR
comp=Z,160nm,15.5s,MS3.6
BOD Bodaibo 25.70 310 *e*P **P** **12 29 00.0 -1.4**
BOD *e* 12 29 14.2
BOD pmax pmax
comp=Z,4.0nm,1.1s,mb3.9
BJI Beijing 27.06 269 P **P** **12 29 12.8 -1.0**
BJI AMB AMB
comp=Z,6.0nm,0.5s,mb4.4
BJI AMB AMB
comp=Z,164nm,8.5s
BJI LR LR
comp=N,281nm,16.4s,MS4.2
BJI LR LR
comp=E,526nm,19.1s,MS4.2
BJI LR LR
comp=Z,508nm,19.4s,MS4.1
TIXI Tiksi 27.40 344 *e*P **P** **12 29 14.0 -2.6**
TIXI pmax pmax
comp=Z,2.0nm,0.9s,mb3.6
TIXI MLR MLR
comp=Z,900nm,21.0s,MS4.3
JOW Kunigami 27.56 232 LR LR 12 39 02.7
comp=Z,157nm,19.4s,MS3.6,baz=70,slow=34
NJ2 Nanjing 29.58 252 *e*P **P** **12 29 36.8 +0.4**
NJ2 AMB AMB
comp=Z,30nm,0.6s,mb5.2
ULN Ulaanbaatar 30.52 289 *e*P **P** **12 29 44.5 0.0**
comp=Z,10.0nm,0.9s,mb4.7
ULN Ulaanbaatar 30.52 289 *e*P **P** **12 29 44.5 0.0**
ULN pmax pmax
comp=Z,10.0nm,0.9s,mb4.7
SONM Songino Array 30.96 289 P **P** **12 29 46.7 -1.7**
SONM 12 32 43.5
SONM pmax pmax
comp=Z,1.0nm,0.9s
SONM MLR MLR
comp=Z,613nm,19.0s
SONM Songino Array 30.96 289 P **P** **12 29 46.7 -1.6**
comp=Z,1.3nm,0.9s,mb3.8,baz=68,slow=9.1,SNR=7.5
SONM PcP PcP 12 32 43.5 -0.3
comp=Z,0.8nm,0.7s,baz=90,slow=3.1,SNR=3.9
SONM LR LR 12 43 20.4
comp=Z,613nm,19.0s,MS4.3,baz=65,slow=38
TLY Talaya 31.83 297 *e*P **P** **12 29 55.2 -0.8**
TLY MLR MLR
comp=Z,100nm,18.0s,MS3.5
ZAK Zakamensk 32.32 295 *e*P **P** **12 29 59.6 -0.7**
ZAK pmax pmax
comp=Z,3.0nm,1.1s,mb4.0
SVW2 Sparrevohn 32.82 45 *e*P **P** **12 30 05.9 +1.3**
IMA2 Indian Mountai 34.09 36 *e*P **P** **12 30 15.3 -0.3**
KDAK Kodiak Island 34.46 51 P **P** **12 30 18.4 -0.5**
comp=Z,5.4nm,0.5s,mb4.7,baz=217,slow=4.9,SNR=4.6
XAN Xi'an 35.09 265 P **P** **12 30 25.0 +0.4**
XAN AP pP 12 30 32.0 -3.0
XAN PPP 12 32 29.3
XAN AMB AMB
comp=Z,18nm,1.3s,mb4.8
XAN AMB AMB
comp=Z,87nm,12.2s
XAN LR LR
comp=N,100nm,14.4s,MS4.0
XAN LR LR
comp=E,182nm,14.7s,MS4.0
XAN LR LR
comp=Z,275nm,17.0s,MS4.1
MCK McKinley 35.96 40 *e*P **P** **12 30 31.5 -0.2**
comp=Z,13nm,0.9s,mb4.9
MCK *e* pP 12 30 41.6 -0.5
MCK McKinley 35.96 40 *e*P **P** **12 30 31.5 -0.2**
MCK *e* pP 12 30 41.6 -0.5
MCK pmax pmax
comp=Z,13nm,0.9s,mb4.9
SML Sawmill 36.30 44 *e*P **P** **12 30 33.5 -1.1**
COLA College 36.44 38 *e*P **P** **12 30 36.2 +0.4**
comp=Z,26nm,1.0s,mb5.1
COLA *e* pP 12 30 45.4 -0.7
COLA College 36.44 38 *e*P **P** **12 30 36.2 +0.4**
COLA *e* pP 12 30 45.4 -0.8
COLA pmax pmax
comp=Z,26nm,1.0s,mb5.1
LZH Lanzhou 37.47 271 *e*P **P** **12 30 46.8 +1.9**
LZH PP PP 12 32 17.0 +6.3
LZH AMB AMB
comp=Z,42nm,1.5s,mb5.0
LZH AMB AMB
comp=Z,144nm,4.1s
LZH LR LR
comp=E,411nm,15.7s
LZH LR LR
comp=Z,472nm,18.7s,MS4.3
GTA Gaotai 38.57 279 *e*P **P** **12 30 55.0 +0.9**
GTA AP pP 12 30 59.3 -5.2
GTA PP PP 12 32 27.5 +4.9
GTA PCP PcP 12 33 06.5 +0.5
GTA S **S** **12 36 51.5 +4.0**
GTA SCP ScP 12 36 53.5 +2.4
GTA SS SS 12 39 34.0 -3.9
GTA AMB AMB
comp=Z,4.0nm,1.2s,mb4.0
GTA AMB AMB
comp=Z,203nm,4.9s
GTA LR LR
comp=N,185nm,16.3s,MS4.2
GTA LR LR
comp=E,211nm,14.4s,MS4.2
GTA LR LR
comp=Z,276nm,15.6s,MS4.2
DAWY Dawson 40.15 39 *e*P **P** **12 31 07.6 +0.7**
CD2 Chengdu 40.46 265 P **P** **12 31 09.5 -0.4**
CD2 PP PP 12 32 46.3 +2.9
CD2 PCP PcP 12 33 12.0 -0.2
CD2 AMB AMB
comp=Z,40nm,1.1s,mb5.1
CD2 AMB AMB
comp=Z,120nm,4.8s
CD2 LR LR
comp=N,250nm,12.6s,MS4.4
CD2 LR LR
comp=E,310nm,14.4s,MS4.4
CD2 LR LR
comp=Z,210nm,12.8s,MS4.2
GYA Guiyang 41.30 257 ⇑*i*P **P** **12 31 15.0 -1.9**
GYA AP pP 12 31 24.8 -2.6
GYA XP sP 12 31 28.5 -3.2
GYA PCP PcP 12 33 16.5 +1.5
GYA AMB AMB
comp=Z,20nm,1.0s,mb4.7
GYA AMB AMB
comp=Z,120nm,5.4s
GYA LR LR
comp=N,480nm,15.8s,MS4.6
GYA LR LR
comp=E,460nm,16.6s,MS4.6
GYA LR LR
comp=Z,510nm,15.5s,MS4.5
INK Inuvik 41.92 32 *e*P **P** **12 31 22.2 +0.7**
comp=Z,323nm,0.8s,mb6.0
INK *e* pP 12 31 31.9 -0.1
INK Inuvik 41.92 32 P **P** **12 31 22.1 +0.6**
INK *PP pP 12 31 31.7 -0.3
INK pmax pmax
comp=Z,7.0nm,0.8s
INK Inuvik 41.92 32 P **P** **12 31 22.1 +0.6**
comp=Z,7.3nm,0.8s,mb4.3,baz=292,slow=7.3,SNR=32
INK pP pP 12 31 31.7 -0.3
comp=Z,9.8nm,0.8s,baz=287,slow=9.3,SNR=12
ZALV Zalesovo Beam 42.30 306 P **P** **12 31 23.5 -1.3**
comp=Z,1.5nm,0.5s,mb3.9,baz=68,slow=6.9,SNR=7.4
ZALV LR LR 12 50 12.1
comp=Z,688nm,18.9s,MS4.6,baz=72,slow=38
ZAL Zalesovo 42.32 306 P **P** **12 31 23.5 -1.4**
QIZ Qiongzhong 44.45 246 P **P** **12 31 41.5 -0.9**
QIZ S **S** **12 38 18.3 +3.4**
QIZ LR LR
comp=E,233nm,15.8s
QIZ LR LR
comp=Z,172nm,14.3s,MS4.1
WMQ Urumqi 44.56 291 *e*P **P** **12 31 42.5 -0.6**
WMQ AMB AMB
comp=Z,7.0nm,0.6s,mb4.7
WMQ LR LR
comp=N,606nm,14.5s,MS4.8
WMQ LR LR
comp=E,634nm,17.8s,MS4.8
WMQ LR LR
comp=Z,584nm,20.0s,MS4.5
KMI Kunming 44.82 259 P **P** **12 31 46.0 +0.6**
KMI AMB AMB
comp=Z,12nm,1.1s,mb4.6
DLBC Dease Lake 45.93 46 *e*P **P** **12 31 54.7 +0.9**
MK31 Makanchi Array 46.59 297 *e*P **P** **12 31 58.1 -1.0**
MKAR Makanchi Array 46.59 297 P **P** **12 31 58.1 -1.0**
MKAR pmax pmax
comp=Z,3.0nm,0.6s
MKAR MLR MLR
comp=Z,853nm,18.6s
MKAR Makanchi Array 46.59 297 P **P** **12 31 58.1 -1.0**
comp=Z,3.1nm,0.6s,mb4.4,baz=68,slow=7.8,SNR=30
MKAR LR LR 12 52 44.8
comp=Z,853nm,18.6s,MS4.7,baz=62,slow=38
KURK Kurchatov 47.05 303 *e*P **P** **12 32 01.2 -1.4**
comp=Z,2.7nm,0.5s,mb4.4
KURK Kurchatov 47.05 303 *e*P **P** **12 32 01.2 -1.4**
KURK pmax pmax
comp=Z,3.0nm,0.5s,mb4.5
LSA Lhasa 49.86 273 P **P** **12 32 26.5 +1.9**
LSA Lhasa 49.86 273 *e*P **P** **12 32 26.4 +1.9**
comp=Z,8.8nm,0.4s,mb5.1
LSA Lhasa 49.86 273 *e*P **P** **12 32 26.4 +1.8**
LSA pmax pmax
comp=Z,9.0nm,0.4s,mb5.2
BVAR Borovoye Array 50.57 309 P **P** **12 32 29.3 -0.3**
BVAR 12 33 46.6
BVAR pmax pmax
comp=Z,2.0nm,0.5s
BVAR MLR MLR
comp=Z,382nm,18.2s
BVAR Borovoye Array 50.57 309 P **P** **12 32 29.3 -0.3**
comp=Z,2.2nm,0.5s,mb4.3,baz=54,slow=7.6,SNR=13
BVAR PcP PcP 12 33 46.6 -0.3
comp=Z,3.1nm,0.6s,baz=86,slow=0.8,SNR=4.6
BVAR LR LR 12 55 57.9
comp=Z,382nm,18.2s,MS4.5,baz=60,slow=38
BRVK Borovoye 50.61 309 *e*P **P** **12 32 29.1 -0.8**
comp=Z,3.5nm,0.6s,mb4.5
BRVK *e* 12 32 46.5
BRVK Borovoye 50.61 309 *e*P **P** **12 32 29.1 -0.8**
BRVK *e* 12 32 46.5
BRVK pmax pmax
comp=Z,4.0nm,0.6s,mb4.5
RES Resolute Bay 51.02 18 *e*P **P** **12 32 31.8 -1.0**
comp=Z,72nm,0.6s,mb5.8
RES Resolute Bay 51.02 18 *e*P **P** **12 32 31.8 -0.9**
RES pmax pmax
comp=Z,72nm,0.6s,mb5.8
YKW3 Yellowknife Ar 51.18 36 *e*P **P** **12 32 34.6 +0.5**
YKA Yellowknife Ar 51.22 37 P **P** **12 32 34.3 0.0**
YKA pP pP 12 32 44.5 -0.5
YKA PcP PcP 12 33 48.4 -0.7
YKA LR LR 12 55 50.0
YKA Yellowknife Ar 51.22 37 P **P** **12 32 34.3 0.0**
YKA *PP pP 12 32 44.5 -0.6
YKA 12 33 48.4
YKA pmax pmax
comp=Z,2.0nm,0.8s
YKA MLR MLR
comp=Z,69nm,18.1s
YKA Yellowknife Ar 51.22 37 P **P** **12 32 34.3 0.0**
comp=Z,1.6nm,0.8s,mb4.0,baz=301,slow=7.1,SNR=15
YKA pP pP 12 32 44.5 -0.5
comp=Z,1.9nm,0.5s,baz=298,slow=7.2,SNR=14
YKA PcP PcP 12 33 48.4 -0.7
comp=Z,1.0nm,0.5s,baz=306,slow=3.8,SNR=7.1
YKA LR LR 12 55 50.0
comp=Z,68nm,18.1s,MS3.7,baz=155,slow=38
CHTO Chiang Mai 51.70 256 *e*P **P** **12 32 39.1 +0.6**
comp=Z,10nm,1.0s,mb4.7
CHTO Chiang Mai 51.70 256 *e*P **P** **12 32 39.1 +0.6**
CHTO pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
USP Ospenovka 53.14 297 P **P** **12 32 48.8 -0.1**
SNR=6.1
AAK Ala-Archa 53.48 296 *e*P **P** **12 32 51.0 -0.5**
comp=Z,13nm,0.8s,mb4.9
AAK *e* 12 33 06.9
AAK Ala-Archa 53.48 296 *e*P **P** **12 32 51.0 -0.4**
AAK *e* 12 33 06.9
AAK pmax pmax
comp=Z,13nm,0.8s,mb4.9
JIRN Jiri 54.53 274 *e*P **P** **12 33 00.1 +0.8**
comp=Z,12nm,0.3s,mb5.5
GUN Gumba 54.59 275 *e*P **P** **12 33 00.4 +0.7**
comp=Z,26nm,0.6s,mb5.5
ARU Arti 54.77 317 *e*P **P** **12 32 57.6 -3.0**
KKN Kakani 55.08 275 *e*P **P** **12 33 04.1 +0.9**
comp=Z,84nm,1.0s,mb5.7
DMN Daman 55.31 275 *e*P **P** **12 33 06.0 +1.1**
comp=Z,135nm,1.1s,mb5.9
GKN Gorkha 55.38 276 *e*P **P** **12 33 06.1 +0.7**
comp=Z,53nm,0.7s,mb5.7
DANN Dangsing 55.77 276 *e*P **P** **12 33 09.4 +1.2**
comp=Z,44nm,0.6s,mb5.7
HNR Honiara 56.27 171 LR LR 12 51 59.6
comp=Z,191nm,20.8s,MS4.2,baz=0.8,slow=30
EDM Edmonton 56.65 46 *e*P pP 12 33 24.4 -0.6
EDM Edmonton 56.65 46 *e*P **P** **12 33 14.3 +0.2**
EDM *e*PP pP 12 33 24.8 -0.2
DAG Danmarks Havn 56.68 358 ⇑*i*P **P** **12 33 12.8 -1.2**
DAG pmax pmax
comp=Z,6.0nm,0.8s,mb4.7
DAG Danmarks Havn 56.68 358 ⇑*i*P **P** **12 33 12.8 -1.2**
comp=Z,6.0nm,0.8s,mb4.7
KEV Kevo 57.25 340 *e*p **P** **12 33 17.2 -0.9**
comp=Z,0.5nm,0.4s,mb3.9
KEV Kevo 57.25 340 *e*P **P** **12 33 17.2 -0.9**
KEV pmax pmax
comp=Z,1.0nm,0.4s,mb4.2
ARCES ARCESS Array B 57.77 341 P **P** **12 33 21.8 0.0**
ARCES pmax pmax
comp=Z,4.0nm,1.0s
ARCES ARCESS Array B 57.77 341 P **P** **12 33 21.8 0.0**
comp=Z,4.0nm,1.0s,mb4.4,baz=32,slow=7.0,SNR=8.4
KSM Kuching 58.11 232 *e*P **P** **12 33 22.5 -2.4**
KSM *e* pP 12 33 35.5 -0.2
WALA Waterton Lakes 58.80 50 *e*P **P** **12 33 29.4 +0.2**
comp=Z,24nm,1.3s,mb5.1
BMO Blue Mountains 59.45 56 *e*P **P** **12 33 34.8 +0.9**
comp=Z,6.6nm,1.2s,mb4.5
BMO *e* pP 12 33 44.0 -0.8
MSO Missoula 60.12 52 *e*P **P** **12 33 39.1 +0.7**
comp=Z,16nm,1.3s,mb4.9
MSO *e* pP 12 33 49.0 -0.4
CHMT Chamberlain Mo 60.45 52 *e*P **P** **12 33 41.1 +0.5**
KULM Kulim 60.67 244 *e*P **P** **12 33 41.2 -1.5**
FFC Flin Flon 61.05 40 *e*P **P** **12 33 44.8 +0.2**
comp=Z,13nm,1.0s,mb5.0
FFC Flin Flon 61.05 40 *e*P **P** **12 33 44.8 +0.2**
FFC pmax pmax
comp=Z,13nm,1.0s,mb5.0
JOF Joensuu 61.20 333 *e*p **P** **12 33 44.3 -1.2**
comp=Z,2.2nm,0.4s,mb4.6
FCC Fort Churchill 61.53 33 *e*P **P** **12 33 47.3 -0.6**
comp=Z,9.3nm,0.7s,mb5.0
FCC Fort Churchill 61.53 33 *e*P **P** **12 33 47.3 -0.5**
FCC pmax pmax
comp=Z,9.0nm,0.7s,mb5.0
LRM Limekiln Ridge 61.56 52 *e*P **P** **12 33 48.9 +0.6**
LRM *e* pP 12 33 58.2 -1.0
MCMT McKenzie Canyo 61.97 53 *e*P **P** **12 33 49.6 -1.4**
BOZ Bozeman (W) 62.12 52 *e*P **P** **12 33 52.5 +0.5**
comp=Z,32nm,1.6s,mb5.2
BOZ *e* pP 12 34 03.1 +0.1
BOZ Bozeman (W) 62.12 52 *e*P **P** **12 33 52.5 +0.5**
BOZ *e* pP 12 34 03.1 +0.2
BOZ pmax pmax
comp=Z,32nm,1.6s,mb5.2
QLMT Earthquake Lak 62.74 53 *e*P **P** **12 33 57.4 +1.2**
QLMT *e* pP 12 34 07.3 +0.1
GCMT Greycliff 63.08 51 *e*P **P** **12 33 59.0 +0.6**
GCMT *e* pP 12 34 09.5 +0.1
LKWY Lake 63.48 52 *e*P **P** **12 34 03.2 +2.2**
LKWY *e* pP 12 34 13.5 +1.4
IMW Indian Meadow 63.61 53 *e*P **P** **12 34 03.0 +1.0**
comp=Z,9.6nm,1.1s,mb4.7
IMW *e* pP 12 34 13.9 +1.0
FLWY Flagg Ranch 63.63 53 *e*P **P** **12 34 03.4 +1.4**
comp=Z,17nm,1.3s,mb4.9
FLWY *e* pP 12 34 14.1 +1.1
RLMT Red Lodge 63.73 51 *e*P **P** **12 34 04.0 +1.3**
comp=Z,6.1nm,0.9s,mb4.6
RLMT *e* pP 12 34 13.8 +0.1
MOOW Moose Ponds 63.82 53 *e*P **P** **12 34 04.5 +1.2**
comp=Z,8.2nm,1.0s,mb4.7
MOOW *e* pP 12 34 14.7 +0.4
TPAW Teton Pass 63.87 54 *e*P **P** **12 34 05.0 +1.4**
comp=Z,16nm,1.0s,mb5.0
FINES FINESS Array B 63.91 335 P **P** **12 34 02.8 -0.8**
FINES pmax pmax
comp=Z,8.0nm,0.5s
FINES FINESS Array B 63.91 335 P **P** **12 34 02.8 -0.9**
comp=Z,8.0nm,0.5s,mb5.0,baz=38,slow=7.7,SNR=52
LOHW Long Hollow 63.98 53 *e*P **P** **12 34 05.1 +0.7**
comp=Z,11nm,1.3s,mb4.7
LOHW *e* pP 12 34 15.2 -0.2
SNOW Snow King Moun 64.00 54 *e*P **P** **12 34 05.6 +1.1**
comp=Z,6.7nm,0.9s,mb4.7
SNOW *e* pP 12 34 15.4 -0.1
REDW Red Top Meadow 64.01 54 *e*P **P** **12 34 05.8 +1.3**
comp=Z,14nm,1.0s,mb5.0
HWUT Hardware Ranch 64.75 56 *e*P **P** **12 34 09.9 +0.5**
comp=Z,8.7nm,1.2s,mb4.7
BW06 Boulder Array 65.11 54 *e*P **P** **12 34 11.7 -0.1**
comp=Z,7.8nm,0.9s,mb4.7
BW06 *e* pP 12 34 22.0 -0.8
PDAR Pinedale Array 65.11 54 P **P** **12 34 12.3 +0.5**
comp=Z,5.4nm,0.9s,mb4.6,baz=292,slow=2.2,SNR=32
PDAR pP pP 12 34 22.4 -0.4
comp=Z,5.1nm,0.8s,baz=294,slow=2.2,SNR=14
OBN Obninsk 65.12 325 P **P** **12 34 11.0 -0.6**
OBN *e* 12 43 23.8
OBN pmax pmax
comp=Z,9.0nm,1.3s,mb4.6
OBN MLR MLR
comp=Z,200nm,23.0s,MS4.2
JLU Jordanelle 65.47 56 *e*P **P** **12 34 14.5 +0.3**
NLU North Lily Min 65.54 57 *e*P **P** **12 34 14.8 +0.2**
NLU *e* pP 12 34 24.6 -1.1
DAU Daniels Canyon 65.71 56 *e*P **P** **12 34 17.0 +1.3**
DAU *e* pP 12 34 29.4 +2.6
MPU Maple Canyon 65.76 57 *e*P **P** **12 34 16.4 +0.4**
comp=Z,3.9nm,0.4s,mb4.8
MSU Marysvale 66.43 58 *e*P **P** **12 34 21.1 +0.7**
MSU *e* 12 34 36.8
TMUT Trail Mountain 66.48 57 *e*P **P** **12 34 20.8 +0.2**
TMUT *e* pP 12 34 31.4 -0.3
CTA Charters Tower 66.71 186 LR LR 12 58 08.6
comp=Z,112nm,20.4s,MS4.1,baz=138,slow=31
CTAO Charters Tower 66.71 186 *e*P **P** **12 34 21.4 -0.8**
comp=Z,6.3nm,0.9s,mb4.7
CTAO Charters Tower 66.71 186 *e*P **P** **12 34 21.4 -0.7**
CTAO pmax pmax
comp=Z,6.0nm,0.9s,mb4.6
ULM Lac du Bonnet 66.83 40 P **P** **12 34 21.5 -1.2**
comp=Z,2.8nm,0.8s,mb4.4,baz=289,slow=6.1,SNR=5.1
ULM pP pP 12 34 33.3 -0.5
comp=Z,3.5nm,0.8s,baz=303,slow=4.0,SNR=5.1
LDFC Landfair 66.95 63 *e*P **P** **12 34 24.2 +0.5**
LDFC *e*pP pP 12 34 39.4 +4.6
SRU San Rafael 67.00 57 *e*P **P** **12 34 24.3 +0.4**
comp=Z,6.4nm,1.0s,mb4.6
SRU *e* pP 12 34 33.4 -1.6
SRU San Rafael 67.00 57 *e*P **P** **12 34 24.3 +0.3**
SRU pmax pmax
comp=Z,6.0nm,1.0s,mb4.6
RWWY Rawlins 67.13 53 *e*P **P** **12 34 24.3 -0.5**
comp=Z,6.2nm,0.8s,mb4.7
RSSD Black Hills 67.18 49 *e*P **P** **12 34 25.0 0.0**
comp=Z,11nm,0.9s,mb4.9
RSSD Black Hills 67.18 49 *e*P **P** **12 34 25.0 0.0**
RSSD pmax pmax
comp=Z,11nm,0.9s,mb4.9
NB2 NORSAR Subarra 68.14 341 P **P** **12 34 30.1 -0.7**
comp=Z,10.0nm,0.6s,mb5.0,baz=28,slow=6.5
NOA NORSAR Array B 68.14 341 P **P** **12 34 30.3 -0.5**
NOA pmax pmax
comp=Z,10.0nm,0.7s
NOA NORSAR Array B 68.14 341 P **P** **12 34 30.3 -0.5**
comp=Z,9.7nm,0.7s,mb4.9,baz=28,slow=6.4,SNR=32
WRAB Tennant Creek 68.32 198 *e*P **P** **12 34 30.4 -1.9**
WB2 Warramunga Arr 68.33 198 *e*P **P** **12 34 31.5 -0.8**
WRA Warramunga Arr 68.33 198 P **P** **12 34 31.3 -1.1**
WRA *PP pP 12 34 42.2 -1.3
WRA pmax pmax
comp=Z,3.0nm,0.8s
WRA Warramunga Arr 68.33 198 P **P** **12 34 31.3 -1.1**
comp=Z,3.3nm,0.8s,mb4.4,baz=16,slow=7.0,SNR=8.7
WRA pP pP 12 34 42.2 -1.2
comp=Z,2.3nm,1.0s,baz=16,slow=6.7,SNR=3.5
HFS Hagfors 68.36 339 P **P** **12 34 31.5 -0.7**
HFS pmax pmax
comp=Z,15nm,0.5s
HFS Hagfors 68.36 339 P **P** **12 34 31.5 -0.7**
comp=Z,15nm,0.5s,mb5.2,baz=52,slow=5.8,SNR=73
FITZ Fitzroy Crossi 68.90 207 *e*P **P** **12 34 36.1 +0.1**
comp=Z,9.5nm,1.0s,mb4.7
SMCO Snowmass 68.98 55 *e*P **P** **12 34 36.0 -0.4**
comp=Z,9.9nm,0.8s,mb4.8
SMCO *e* pP 12 34 47.5 0.0
KONO Kongsberg 69.75 341 *e*P **P** **12 34 40.4 -0.4**
KIV Kislovodsk 70.54 314 *e*P **P** **12 34 46.0 +0.1**
KIV pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
KIV MLR MLR
comp=Z,260nm,17.0s,MS4.5
SDCO Great Sand Dun 70.80 55 *e*P **P** **12 34 47.3 -0.3**

comp=Z,5.6nm,1.4s,mb4.3
AKASG **Malin Array Be 71.36 326** P **P 12 34 49.7 -1.0**
AKASG LR LR 13 08 23.7
AKASG **Malin Array Be 71.36 326** P **P 12 34 49.7 -1.1**
AKASG pmax pmax
comp=Z,9.0nm,0.4s
AKASG MLR MLR
comp=Z,201nm,19.1s
AKASG **Malin Array Be 71.36 326** P **P 12 34 49.7 -1.0**
comp=Z,9.3nm,0.4s,mb5.1,baz=35,slow=6.0,SNR=48
AKASG LR LR 13 08 23.7
comp=Z,201nm,19.1s,MS4.4,baz=40,slow=38
AKBB Malin Array Si 71.36 326 *e*P **P 12 34 49.5 -1.3**
AKBB Malin Array Si 71.36 326 P **P 12 34 50.0 -0.8**
KIEV Kiev 71.37 326 *e*P **P 12 34 49.5 -1.4**
comp=Z,8.4nm,0.5s,mb4.9
KIEV Kiev 71.37 326 *e*P **P 12 34 49.5 -1.3**
KIEV pmax pmax
comp=Z,8.0nm,0.5s,mb4.9
TUC Tucson 71.47 62 *e*P **P 12 34 53.0 +1.3**
comp=Z,1.2nm,0.9s,mb3.8
TUC Tucson 71.47 62 *e*P **P 12 34 53.8 +2.0**
TUC *e**PP pP 12 35 08.7 +5.8
ASAR Alice Springs 72.03 198 P **P 12 34 55.2 +0.3**
ASAR *PP pP 12 35 06.4 +0.3
ASAR pmax pmax
comp=Z,3.0nm,0.7s
ASAR Alice Springs 72.03 198 P **P 12 34 55.2 +0.3**
comp=Z,2.7nm,0.7s,mb4.3,baz=11,slow=6.1,SNR=14
ASAR pP pP 12 35 06.4 +0.3
comp=Z,3.8nm,1.0s,baz=9.6,slow=5.4,SNR=7.0
ANMO Albuquerque 72.21 58 ⇓*i*P **P 12 34 55.6 -0.6**
BNM Barren Site 72.68 59 *e*P **P 12 34 58.7 -0.3**
BNM *e* 12 35 13.4
KWP Kalwaria 74.65 329 *e*P **P 12 35 10.7 +0.4**
KWP Kalwaria 74.65 329 *e*P **P 12 35 10.7 +0.4**
KWP Kalwaria 74.65 329 *e*P **P 12 35 10.5 +0.2**
KWP *e* pP 12 35 22.2 +0.7
KWP pmax pmax
comp=Z,29nm,1.0s,mb5.2
KWP Kalwaria 74.65 329 ⇓*i*P **P 12 35 10.7 +0.4**
BSEG Bad Segeberg 74.72 338 *e*P **P 12 35 10.2 -0.4**
comp=Z,14nm,1.2s,mb4.8
AMTX Amarillo 75.00 55 *e*P **P 12 35 13.0 +0.5**
comp=Z,18nm,1.0s,mb5.0
AMTX *e* pP 12 35 23.3 -0.4
OJC Ojcow 75.16 331 *e*P **P 12 35 12.8 -0.4**
STHS Stebnicka Huta 75.35 330 *e*P **P 12 35 15.2 +0.9**
STHS *e*PCP PcP 12 35 32.6 +5.2
KOLS Kolonicke sedl 75.39 329 *e*P **P 12 35 14.3 -0.3**
CRVS Cervenica-Dubn 75.71 329 *e*P **P 12 35 15.9 -0.5**
OKC Ostrava-Krasne 76.04 332 *e*P **P 12 35 18.0 -0.2**
UPC Upice 76.14 333 *e*P **P 12 35 18.6 -0.2**
DPC Dobruska-Polom 76.18 333 *e*P **P 12 35 19.0 0.0**
DPC AMS AMS 13 12 50.0
comp=Z,300nm,12.8s,MS4.8
MORC Moravsky Berou 76.29 332 *e*P **P 12 35 19.1 -0.5**
comp=Z,13nm,1.0s,mb4.8
MORC Moravsky Berou 76.29 332 *e*P **P 12 35 19.1 -0.6**
MORC pmax pmax
comp=Z,13nm,1.0s,mb4.8
MORC Moravsky Berou 76.29 332 ⇑*i*P **P 12 35 19.6 -0.1**
EKA Eskdalemuir Ar 76.29 346 P **P 12 35 18.6 -0.9**
EKA pmax pmax
comp=Z,1.0nm,0.4s
EKA Eskdalemuir Ar 76.29 346 P **P 12 35 18.6 -1.0**
comp=Z,1.1nm,0.4s,mb4.1,baz=25,slow=4.9,SNR=9.9
CLL Collm 76.34 335 *e*P **P 12 35 19.0 -0.9**
comp=Z,24nm,1.1s,mb5.0
CLL Collm 76.34 335 ⇑*i*P **P 12 35 19.0 -0.9**
comp=Z,25nm,1.1s,mb5.1
CLL *e*PcP PcP 12 35 33.0 +1.3
CLL LmV 13 14 00.0
comp=Z,200nm,19.8s
CLL LmV 13 59 00.0
comp=Z,200nm,20.4s
KECS Kecovo 76.41 329 *e*P **P 12 35 20.3 0.0**
comp=Z,3.3nm,0.7s,mb4.4
KECS Kecovo 76.41 329 *e*P **P 12 35 20.3 0.0**
KECS pmax pmax
comp=Z,3.0nm,0.7s,mb4.3
BRG Berggiesshubel 76.45 334 *e*P **P 12 35 19.8 -0.7**
comp=Z,9.0nm,1.4s,mb4.5
BRG Berggiesshubel 76.45 334 *e*P **P 12 35 19.7 -0.9**
comp=Z,9.2nm,1.4s,mb4.5
BRG
comp=N,434nm,19.7s
BRG
comp=E,212nm,17.6s
BRG
comp=Z,346nm,14.0s
FBE Freiberg 76.58 335 *e*P **P 12 35 21.0 -0.3**
comp=Z,24nm,1.3s,mb5.0
CLZ Clausthal 76.60 337 *e*P **P 12 35 21.3 0.0**
CLZ pmax pmax
comp=Z,25nm,1.3s,mb5.0
CLZ Clausthal 76.60 337 *e*P **P 12 35 21.3 0.0**
comp=Z,25nm,1.3s,mb5.0
IBBN Ibbenburen 76.85 339 *e*P **P 12 35 22.7 -0.1**
comp=Z,44nm,1.4s,mb5.2
MLR Muntele Rosu 76.87 325 ⇓P **P 12 35 23.7 +0.7**
MLR Muntele Rosu 76.87 325 P **P 12 35 23.7 +0.7**
MLR pmax pmax
comp=Z,9.0nm,0.6s
MLR Muntele Rosu 76.87 325 P **P 12 35 23.7 +0.7**
comp=Z,8.8nm,0.6s,mb4.8,baz=60,slow=1.0,SNR=19
MLR Muntele Rosu 76.87 325 ⇓*i*P **P 12 35 23.7 +0.7**
MALT Malatya 76.88 312 *e*P **P 12 35 24.7 +1.5**
comp=Z,10nm,1.0s,mb4.7
MALT Malatya 76.88 312 *e*P **P 12 35 24.7 +1.5**
MALT pmax pmax
comp=Z,11nm,1.0s,mb4.7
MALT Malatya 76.88 312 ⇑*i*P **P 12 35 24.3 +1.1**
VYHS Vyhne 76.97 330 *i* P **P 12 35 23.3 -0.2**
comp=Z,8.9nm,1.5s,mb4.5
VYHS *e* 12 35 37.8
VYHS Vyhne 76.97 330 *i* P **P 12 35 23.3 -0.2**
VYHS *e* 12 35 37.8
VYHS pmax pmax
comp=Z,9.0nm,1.5s,mb4.5
VRAC Vranov 77.00 332 ⇑P **P 12 35 23.6 -0.1**
VRAC Vranov 77.00 332 P **P 12 35 24.2 +0.5**
VRAC pmax pmax
comp=Z,5.0nm,0.5s
VRAC Vranov 77.00 332 P **P 12 35 24.2 +0.5**
comp=Z,4.5nm,0.5s,mb4.7,baz=47,slow=9.9,SNR=9.1
VRAC Vranov 77.00 332 ⇑*i*P **P 12 35 23.6 -0.1**
DRGR 77.03 327 ⇑P **P 12 35 23.8 -0.2**
DRGR 77.03 327 ⇑*i*P **P 12 35 23.8 -0.1**
PRU Pruhonice 77.05 334 *e*P **P 12 35 23.5 -0.4**
VOIR 77.27 325 ⇑P **P 12 35 25.9 +0.7**
VOIR 77.27 325 ⇑*i*P **P 12 35 25.9 +0.7**
TANN Tannenbergstha 77.29 335 *e*P **P 12 35 25.2 -0.1**
comp=Z,21nm,2.0s,mb4.7
WERD Werda 77.31 335 *e*P **P 12 35 25.0 -0.4**
comp=Z,13nm,1.4s,mb4.7
MOX Moxa 77.33 336 *e*P **P 12 35 25.3 -0.2**
comp=Z,15nm,1.2s,mb4.8
MOX Moxa 77.33 336 *e*P **P 12 35 25.3 -0.2**
MOX pmax pmax
comp=Z,15nm,1.2s,mb4.8
MOX Moxa 77.33 336 *e*P **P 12 35 25.0 -0.5**
comp=Z,12nm,1.1s,mb4.7
TREC Trest 77.37 333 AMS AMS 13 12 40.0
comp=Z,500nm,23.5s,MS4.8
GUNZ Gunzen 77.38 335 *e*P **P 12 35 25.6 -0.2**
comp=Z,16nm,1.3s,mb4.8
WERN Wernitzgruen 77.43 335 *e*P **P 12 35 26.0 -0.1**
comp=Z,18nm,1.4s,mb4.8
NKC Novy Kostel 77.46 335 *e*P **P 12 35 25.4 -0.8**
MODS Modra-Piesok 77.59 331 *e*P **P 12 35 27.2 +0.2**
UBBA Unterbreizbach 77.62 337 *e*P **P 12 35 26.5 -0.6**
comp=Z,47nm,2.1s,mb5.0
BUG Bochum--Univer 77.77 339 *e*P **P 12 35 27.3 -0.6**
comp=Z,16nm,0.9s,mb5.0
MANZ Manzenberg 77.78 335 *e*P **P 12 35 27.6 -0.4**
comp=Z,10.0nm,1.1s,mb4.7
ZST Bratislava 77.81 331 *e*P **P 12 35 28.7 +0.5**
comp=Z,7.9nm,0.5s,mb4.9
ZST LR LR
comp=Z,200nm,18.5s,MS4.5
ZST Bratislava 77.81 331 *e*P **P 12 35 28.7 +0.5**
ZST pmax pmax
comp=Z,8.0nm,0.5s,mb4.9
ZST MLR MLR
comp=Z,200nm,18.5s,MS4.5
ZST Bratislava 77.81 331 *e*P **P 12 35 28.7 +0.5**
TXAR Lajitas Array 77.88 60 P **P 12 35 28.8 -0.2**
TXAR *PP pP 12 35 39.9 -0.3
TXAR *SP sP 12 35 45.0 +0.6
TXAR pmax pmax
comp=Z,5.0nm,0.9s
TXAR Lajitas Array 77.88 60 P **P 12 35 28.8 -0.2**
comp=Z,5.1nm,0.9s,mb4.5,baz=297,slow=4.4,SNR=38
TXAR pP pP 12 35 39.9 -0.3
comp=Z,2.3nm,0.6s,baz=302,slow=4.3,SNR=10
TXAR sP sP 12 35 45.0 +0.6
comp=Z,5.2nm,0.5s,baz=299,slow=4.3,SNR=20
ROTZ Rotzenmuhle 77.94 335 *e*P **P 12 35 28.6 -0.3**
comp=Z,12nm,1.0s,mb4.8
KHC Kasperske Hory 78.10 334 *e*P **P 12 35 29.9 +0.1**
KHC *e*pP pP 12 35 34.0 -7.1
KHC *e*x x 12 35 52.1
KHC AMS AMS 13 12 00.0
comp=Z,300nm,23.9s,MS4.5
CCM Cathedral Cave 78.17 46 *e*P **P 12 35 29.8 -0.6**
comp=Z,9.4nm,1.0s,mb4.7
CCM Cathedral Cave 78.17 46 *e*P **P 12 35 29.8 -0.6**
CCM pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
GZR Gura Zlata 78.19 326 ⇓P **P 12 35 30.2 -0.2**
GZR Gura Zlata 78.19 326 ⇓*i*P **P 12 35 30.2 -0.2**
GRA1 Grafenberg Arr 78.30 335 *e*P **P 12 35 30.8 -0.1**
comp=Z,21nm,0.8s,mb5.1
GRA1 LR LR
comp=Z,200nm,20.0s,MS4.4
GRF Grafenberg Arr 78.30 335 *e*P **P 12 35 30.8 -0.1**
GRF pmax pmax
comp=Z,21nm,0.8s,mb5.1
GRF MLR MLR
comp=Z,200nm,20.0s,MS4.4
GRF Grafenberg Arr 78.30 335 *e*P **P 12 35 30.8 -0.1**
GRF pmax pmax
comp=Z,21nm,0.8s,mb5.1
GRF MLR MLR
comp=Z,200nm,20.0s,MS4.4
GRF Grafenberg Arr 78.30 335 *e*P **P 12 35 30.8 -0.1**
comp=Z,21nm,0.8s,mb5.1
GRF *e*L 13 12 23.5
comp=Z,203nm,20.0s
WET Wettzell 78.30 334 *e*P **P 12 35 30.9 0.0**
WET pmax pmax
comp=Z,20nm,1.3s,mb4.9
WET Wettzell 78.30 334 *e*P **P 12 35 30.9 0.0**
comp=Z,20nm,1.3s,mb4.9
GEC2 GERESS Array S 78.32 334 *e*P **P 12 35 30.6 -0.4**
GEC2 pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
GEC2 GERESS Array S 78.32 334 *e*P **P 12 35 30.6 -0.4**
comp=Z,8.0nm,1.0s,mb4.6
GERES GERESS Array B 78.32 334 P **P 12 35 30.9 -0.1**
GERES pmax pmax
comp=Z,3.0nm,0.6s
GERES MLR MLR
comp=Z,310nm,18.3s
GERES GERESS Array B 78.32 334 P **P 12 35 30.9 -0.2**
comp=Z,2.5nm,0.6s,mb4.3,baz=35,slow=4.9,SNR=11
GERES LR LR 13 14 38.5
comp=Z,310nm,18.3s,MS4.7,baz=96,slow=39
MIB Mutribah 78.33 301 *e*P **P 12 35 31.4 -0.1**
MIB AMb AMB 12 35 32.5
comp=Z,54nm,0.6s,mb5.6
BZS Buzias 78.43 327 ⇓P **P 12 35 31.2 -0.5**
BZS Buzias 78.43 327 ⇓*i*P **P 12 35 31.2 -0.5**
CONA Conrad Observa 78.45 332 ⇑*i*pP **P 12 35 32.0 +0.2**
comp=Z,19nm,1.3s,mb4.9
KBD Kabd 78.58 300 *e*P **P 12 35 32.7 -0.2**
KBD AMb AMB 12 35 33.6
comp=Z,136nm,0.8s,mb5.9
HGN Heimansgroeve 78.72 339 *e*P **P 12 35 32.7 -0.6**
comp=Z,23nm,1.5s,mb4.9
QRN Al-Qurain 78.77 300 *e*P **P 12 35 33.8 -0.1**
QRN AMb AMB 12 35 34.9
comp=Z,56nm,0.7s,mb5.6
NAY Al-Naaiem 78.80 301 *e*P **P 12 35 33.5 -0.6**
NAY AMb AMB 12 35 35.6
comp=Z,41nm,1.1s,mb5.3
STKA Stephens Creek 78.83 189 LR LR 13 08 33.4
comp=Z,206nm,19.8s,MS4.5,baz=27,slow=34
MEM Membach 78.85 339 P **P 12 35 33.6 -0.3**
comp=Z,13nm,1.1s,mb4.8
RDF Al-Radifah 78.85 300 *e*P **P 12 35 34.6 +0.2**
RDF AMb AMB 12 35 36.2
comp=Z,87nm,1.0s,mb5.7
PKSM Moragy 79.00 329 ⇓P **P 12 35 34.0 -0.8**
PKSM Moragy 79.00 329 ⇓*i*P **P 12 35 34.0 -0.8**
BCLA Clavier 79.20 339 P **P 12 35 35.6 -0.3**
comp=Z,13nm,1.3s,mb4.7
GIVF Givet 79.61 340 *e*P **P 12 35 37.4 -0.7**
FUR Furstenfeldbru 79.65 335 *e*P **P 12 35 38.6 +0.2**
FUR pmax pmax
comp=Z,19nm,0.7s,mb5.1
FUR Furstenfeldbru 79.65 335 *e*P **P 12 35 38.6 +0.2**
comp=Z,19nm,0.7s,mb5.1
BAIF Baives 79.79 340 *e*P **P 12 35 38.5 -0.6**
KBA Koelnbreinsper 80.00 333 ⇓*i*P **P 12 35 40.4 +0.1**
comp=Z,28nm,1.1s,mb5.1
KBA Koelnbreinsper 80.00 333 ⇓*i*pP **P 12 35 40.4 +0.1**
comp=Z,28nm,1.1s,mb5.1
KBA Koelnbreinsper 80.00 333 ⇓*i*P **P 12 35 40.4 +0.2**
KBA pmax pmax
comp=Z,28nm,1.1s,mb5.1
RAR Rarotonga 80.15 136 LR LR 13 05 45.5
comp=Z,192nm,21.4s,MS4.4,baz=64,slow=32
BFO Black Forest 80.34 337 P **P 12 35 42.0 0.0**
BFO *e* 12 36 04.3
BFO pmax pmax
comp=Z,13nm,1.0s,mb4.8
BFO Black Forest 80.34 337 *e*P **P 12 35 41.6 -0.4**
comp=Z,14nm,1.0s,mb4.8
WTTA Wattenberg 80.36 334 ⇑*i*P **P 12 35 42.2 0.0**
comp=Z,36nm,1.4s,mb5.1
WTTA Wattenberg 80.36 334 ⇑*i*pP **P 12 35 42.2 0.0**
comp=Z,36nm,1.4s,mb5.1
WTTA Wattenberg 80.36 334 ⇑*i*P **P 12 35 42.2 0.0**
WTTA pmax pmax
comp=Z,36nm,1.4s,mb5.1
VTS Vitosha 80.37 325 ⇑P **P 12 35 42.2 -0.1**
VTS Vitosha 80.37 325 ⇑*i*P **P 12 35 42.2 -0.1**
RETA Reutte 80.42 335 ⇑*i*pP **P 12 35 42.4 -0.1**
comp=Z,20nm,1.5s,mb4.8
MOTA Moosalm 80.44 335 ⇑*i*P **P 12 35 42.8 +0.2**
comp=Z,23nm,1.1s,mb5.0
MOTA Moosalm 80.44 335 ⇑*i*pP **P 12 35 42.8 +0.2**
comp=Z,23nm,1.1s,mb5.0
MOTA Moosalm 80.44 335 ⇑*i*P **P 12 35 42.8 +0.2**
MOTA pmax pmax
comp=Z,23nm,1.1s,mb5.0
SQTA Sankt Quirin 80.52 334 ⇑*i*P **P 12 35 43.3 +0.2**
comp=Z,19nm,1.1s,mb4.9
SQTA Sankt Quirin 80.52 334 ⇑*i*pP **P 12 35 43.3 +0.2**
comp=Z,19nm,1.1s,mb4.9
SQTA Sankt Quirin 80.52 334 ⇑*i*P **P 12 35 43.3 +0.2**
SQTA pmax pmax
comp=Z,19nm,1.1s,mb4.9
CDF Champ du Feu 80.55 337 *e*P **P 12 35 42.5 -0.7**
comp=Z,51nm,1.2s,mb5.0
CDF Champ du Feu 80.55 337 *e*P **P 12 35 42.5 -0.7**
comp=Z,26nm,1.2s,mb5.0
CDF Champ du Feu 80.55 337 *e*P **P 12 35 42.5 -0.7**
CDF pmax pmax
comp=Z,26nm,1.2s,mb5.0
DAVA Damuels 80.85 335 ⇓*i*P **P 12 35 44.8 0.0**
comp=Z,8.8nm,0.8s,mb4.7
DAVA Damuels 80.85 335 ⇓*i*pP **P 12 35 44.8 0.0**
comp=Z,8.8nm,0.8s,mb4.7
MEZF Maizieres J'vi 81.03 339 *e*P **P 12 35 45.5 -0.3**
comp=Z,94nm,1.1s,mb5.3
MEZF Maizieres J'vi 81.03 339 *e*P **P 12 35 45.5 -0.3**
comp=Z,94nm,1.1s,mb5.6
HAU Haudompre 81.16 338 *e*P **P 12 35 45.7 -0.8**
comp=Z,18nm,0.7s,mb4.8
HAU Haudompre 81.16 338 *e*P **P 12 35 45.7 -0.8**
comp=Z,8.8nm,0.7s,mb4.8
HAU Haudompre 81.16 338 *e*P **P 12 35 45.7 -0.8**
HAU pmax pmax
comp=Z,9.0nm,0.7s,mb4.8
HINF Hinteralfeld 81.20 337 *e*P **P 12 35 45.7 -1.0**
comp=Z,25nm,1.1s,mb4.8
HINF Hinteralfeld 81.20 337 *e*P **P 12 35 45.7 -1.0**
comp=Z,12nm,1.1s,mb4.8
HINF Hinteralfeld 81.20 337 *e*P **P 12 35 45.7 -1.0**
HINF pmax pmax
comp=Z,12nm,1.1s,mb4.7
DAVOS Davos 81.28 335 P **P 12 35 47.8 +0.7**
DAVOX Davos/Dischmat 81.31 335 P **P 12 35 47.8 +0.5**
comp=Z,4.9nm,0.8s,mb4.5,baz=354,slow=9.4,SNR=5.6
PLAL Pickwick Lake 82.16 46 *e*P **P 12 35 50.3 -1.7**
comp=Z,6.1nm,0.8s,mb4.6
PPT Papeete 82.47 125 LR LR 13 03 52.4
comp=Z,256nm,20.7s,MS4.6,baz=281,slow=29
LOR Lormes 82.48 339 *e*P **P 12 35 52.7 -0.7**
comp=Z,26nm,0.9s,mb4.9
LOR Lormes 82.48 339 *e*P **P 12 35 52.7 -0.7**
comp=Z,13nm,0.9s,mb4.9
LOR Lormes 82.48 339 *e*P **P 12 35 52.7 -0.7**
LOR pmax pmax
comp=Z,13nm,0.9s,mb4.9
GRR Gorron 82.49 342 *e*P **P 12 35 52.8 -0.7**
comp=Z,110nm,1.4s,mb5.3
GRR Gorron 82.49 342 *e*P **P 12 35 52.8 -0.7**
comp=Z,55nm,1.4s,mb5.3
GRR Gorron 82.49 342 *e*P **P 12 35 52.8 -0.7**
GRR pmax pmax
comp=Z,55nm,1.4s,mb5.3
CABF La Chapelle 82.52 337 *e*P **P 12 35 53.2 -0.4**
SSF Saint Saulge 82.76 339 *e*P **P 12 35 54.2 -0.7**
comp=Z,23nm,1.1s,mb4.8
SSF Saint Saulge 82.76 339 *e*P **P 12 35 54.2 -0.7**
comp=Z,11nm,1.1s,mb4.8
SSF Saint Saulge 82.76 339 *e*P **P 12 35 54.2 -0.7**
SSF pmax pmax
comp=Z,11nm,1.1s,mb4.8
SWET Sewanee 83.02 45 *e*P **P 12 35 55.0 -1.5**
AVF Avril sur Loir 83.05 339 *e*P **P 12 35 55.9 -0.5**
comp=Z,61nm,1.2s,mb5.2
AVF Avril sur Loir 83.05 339 *e*P **P 12 35 55.9 -0.5**
comp=Z,30nm,1.2s,mb5.2
AVF Avril sur Loir 83.05 339 *e*P **P 12 35 55.9 -0.5**
AVF pmax pmax
comp=Z,30nm,1.2s,mb5.2
SMF Signal de Mont 83.06 339 *e*P **P 12 35 56.0 -0.5**
comp=Z,91nm,1.2s,mb5.4
SMF Signal de Mont 83.06 339 *e*P **P 12 35 56.0 -0.5**
comp=Z,46nm,1.2s,mb5.4
SMF Signal de Mont 83.06 339 *e*P **P 12 35 56.0 -0.5**
SMF pmax pmax
comp=Z,46nm,1.2s,mb5.4
LPL La Plagne 83.36 337 *e*P **P 12 35 58.2 +0.2**
comp=Z,18nm,0.9s,mb4.8
LPL La Plagne 83.36 337 *e*P **P 12 35 58.2 +0.2**
comp=Z,8.8nm,0.9s,mb4.8
LPL La Plagne 83.36 337 *e*P **P 12 35 58.2 +0.2**
LPL pmax pmax
comp=Z,9.0nm,0.9s,mb4.8
LPG La Plagne 83.37 337 *e*P **P 12 35 58.4 +0.4**
comp=Z,19nm,1.0s,mb4.8
LPG La Plagne 83.37 337 *e*P **P 12 35 58.4 +0.4**
comp=Z,9.5nm,1.0s,mb4.8
LPG La Plagne 83.37 337 *e*P **P 12 35 58.4 +0.4**
LPG pmax pmax
comp=Z,10.0nm,1.0s,mb4.8
CPCT Cooper Cave 83.51 44 *e*P **P 12 35 58.1 -0.8**
TCF Toulx Ste Croi 83.80 340 *e*P **P 12 35 59.9 -0.3**
comp=Z,23nm,1.1s,mb4.9
TCF Toulx Ste Croi 83.80 340 *e*P **P 12 35 59.9 -0.3**
comp=Z,11nm,1.1s,mb4.9
TCF Toulx Ste Croi 83.80 340 *e*P **P 12 35 59.9 -0.3**
TCF pmax pmax
comp=Z,11nm,1.1s,mb4.9
ORIF Oris-en-Rattie 84.14 337 *e*P **P 12 36 02.1 +0.1**
VIVF Saint-Julien-l 84.52 338 *e*P **P 12 36 03.2 -0.7**
comp=Z,40nm,1.1s,mb5.1
VIVF Saint-Julien-l 84.52 338 *e*P **P 12 36 03.2 -0.7**
comp=Z,20nm,1.1s,mb5.2
VIVF Saint-Julien-l 84.52 338 *e*P **P 12 36 03.2 -0.7**
VIVF pmax pmax
comp=Z,20nm,1.1s,mb5.2
LMR La Mourre 85.43 336 *e*P **P 12 36 08.0 -0.5**
comp=Z,74nm,1.2s,mb5.4
LMR La Mourre 85.43 336 *e*P **P 12 36 08.0 -0.5**
comp=Z,37nm,1.2s,mb5.4
LMR La Mourre 85.43 336 *e*P **P 12 36 08.0 -0.5**
LMR pmax pmax
comp=Z,37nm,1.2s,mb5.4
LHS Liberty Hill 86.04 42 *e*P **P 12 36 07.3 -4.5**
ESDC Sonseca Array 91.48 342 P **P 12 36 36.2 -1.2**
comp=Z,0.6nm,0.5s,mb4.2,baz=24,slow=3.5,SNR=6.4
KEST Kesra 91.51 331 P **P 12 36 37.6 0.0**
comp=Z,2.3nm,1.0s,mb4.5,baz=259,slow=1.6,SNR=4.8
VNDA Vanda 124.08 178 PKIKP PKPdf 12 42 26.8 -1.0
VNDA pmax pmax
comp=Z,1.0nm,0.9s
VNDA Vanda 124.08 178 PKP PKPdf 12 42 26.8 -1.0
comp=Z,1.2nm,0.9s,baz=291,slow=3.9,SNR=5.3
SIV San Ignacio 138.60 54 PKP PKPdf 12 42 56.8 -0.2
comp=Z,2.4nm,0.9s,baz=234,slow=1.7,SNR=7.0
BDFB Brasilia 144.63 36 PKIKP PKPdf 12 43 05.9 -1.9
BDFB pmax pmax
comp=Z,4.0nm,0.8s
BDFB Brasilia 144.63 36 PKP PKPdf 12 43 05.9 -1.9
comp=Z,3.6nm,0.8s,baz=341,slow=13,SNR=6.6
PLCA Paso Flores 148.62 95 *e*PKPbc PKPbc 12 43 17.4 -0.2
PLCA Paso Flores 148.62 95 PKPbc PKPbc 12 43 17.4 -0.2
comp=Z,7.6nm,0.9s,baz=261,slow=4.8,SNR=14
PLCA pPKPbc pPKPbc 12 43 28.9 -0.3
comp=Z,7.8nm,0.9s,baz=269,slow=2.9,SNR=7.4
MAIT Maitri 149.44 204 *e*PKPdf PKPdf 12 43 14.7 +0.5
SNAA Sanae 152.38 197 *e*PKPdf PKPbc 12 43 24.5 -1.1
SNAA *e* 12 43 29.9
SNAA *e* 12 43 37.0
SNAA *e* 12 43 41.2
SNAA *e* 12 43 42.7
SNAA *e* 12 43 49.0
SNAA *e* 12 43 58.5
SNAA *e* 12 44 06.4
SNAA *e* 15 06 44.3
SNAA *e* 15 06 50.1
SNAA Sanae 152.38 197 PKIKP PKPbc 12 43 24.5 -1.1
SNAA 12 43 34.8
SNAA pmax pmax
comp=Z,2.0nm,0.9s
SNAA pmax pmax
comp=Z,3.0nm,1.0s
SNAA Sanae 152.38 197 PKPbc PKPbc 12 43 24.5 -1.1
comp=Z,1.5nm,0.9s,baz=168,slow=8.8,SNR=17
SNAA PKPab PKPab 12 43 34.8 -1.1
comp=Z,2.7nm,1.0s,baz=133,slow=5.2,SNR=7.5
VNA2 Neumayer--Watz 153.85 195 *e*PKPdf PKPbc 12 43 28.1 -0.7
baz=151,slow=2.1
VNA2 *e* 12 43 33.4
VNA2 *e* 12 43 41.4
VNA2 *e* 12 43 44.8
VNA2 *e* 12 43 46.2
VNA2 *e* 12 43 51.1
VNA2 *e* 12 44 02.8
VNA3 Neumayer Olymp 153.95 193 *e*PKPdf PKPbc 12 43 27.9 -1.1
VNA3 *e* 12 43 33.3
VNA3 *e* 12 43 41.9
VNA3 *e* 12 43 44.8
VNA3 *e* 12 43 46.3
VNA3 *e* 12 43 52.2
VNA3 *e* 12 44 02.8
VNA1 Neumayer--Stat 154.23 195 *e*PKPdf PKPab 12 43 41.9 -1.8
VNA1 *e* 12 43 44.1
VNA1 *e* 12 43 45.8
VNA1 *e* 12 43 52.6
VNA1 *e* 12 44 02.0

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*ISCJB **26** 12:29:34.7±0.7,3932N±003×2364E±005,h12km±7km, Error ellipse: s-maj=6.5km s-min=4.9km az=32.3*
*NEIC **26** 12:29:34.8,3931N×2369E,h2km,MD3.1(ATH),After ATH.*
*ATH **26** 12:29:34.8,3931N×2369E,h2km,MD3.1/4*
*CSEM **26** 12:29:35.5±0.1,3932N×2365E,h5km,ML2.9,Error ellipse: s-maj=2.2km s-min=1.8km az=146.0*
*THE **26** 12:29:35.4,3930N×2364E,h13km,ML2.9*
ISC 26 12:29:35.1±0.7,3931N±003×2366E±005,h13km±7km,n13, σ0:80/22,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
AOS	**Alonnisos**	**0.22**	**130**	*e*Pg		**Pg**	**12 29 40.0**	**+0.1**
AOS	**Alonnisos**	**0.22**	**130**	*e*Pg		**Pg**	**12 29 40.0**	**+0.1**

NEO	**Neokhori**	**0.34**	**269**	*e*PG	**Pg**	**12 29 41.9**	**-0.1**
NEO				*e*SG	**Sg**	**12 29 47.1**	**+0.5**
XOR	**Xorichti**	**0.37**	**278**	*e*Pg	**Pg**	**12 29 42.2**	**-0.3**
XOR				*e*Sg	**Sg**	**12 29 47.7**	**+0.2**
PAIG	**Paliouri**	**0.61**	**1**	*e*Pg	**Pg**	**12 29 47.7**	**+0.6**
PAIG				*e*Sg	**Sg**	**12 29 57.3**	**+2.1**
LKR	**Lokris**	**0.84**	**218**	*e*Pg	**Pg**	**12 29 50.9**	**-0.4**
LKR				*e*Sg	**Sg**	**12 30 02.6**	**+0.3**
LKR	**Lokris**	**0.84**	**218**	*e*PG	**Pg**	**12 29 51.1**	**-0.2**
LKR				*e*SG	**Sg**	**12 30 03.0**	**+0.7**
OUR	**Ouranopolis**	**1.05**	**14**	*e*Pg	**Pg**	**12 29 55.3**	**0.0**
PLG	**Polygyros**	**1.07**	**351**	*e*PG	**Pg**	**12 29 55.1**	**-0.7**
PLG				*e*SG	**Sg**	**12 30 09.6**	**-0.2**
AGG	**Agios Georgios**	**1.07**	**255**	*e*Pg	**Pg**	**12 29 55.2**	**-0.6**
AGG				*e*Sg	**Sg**	**12 30 10.9**	**+1.1**
LIT	**Litokhoron**	**1.20**	**311**	*e*Pg	**Pg**	**12 29 56.3**	**-1.9**
LIT				*e*Sg	**Sg**	**12 30 12.5**	**-1.2**
LIA	**Limnos Island**	**1.31**	**63**	*e*PB	**Pb**	**12 29 59.2**	**-0.4**
GRG	**Griva**	**1.90**	**330**	*e*Pb	**Pn**	**12 30 07.1**	**-0.1**
GRG				*e*Sb	**Sn**	**12 30 31.8**	**+0.8**

GII ***26*** *12:31:35.8±1.0, 3380N×3587E, h0km, ML1.9/5*
GRAL ***26*** *12:31:35.5±0.4, 3374N×3549E, h17km±3km, MD2.7*
ISCJB ***26*** *12:31:36.4±0.9, 3383N±003×3590E±008, h0km, Error ellipse: s-maj=9.3km s-min=4.2km az=172.2*
CSEM ***26*** *12:31:37.2±0.2, 3378N×3579E, h2km, ML2.7, Error ellipse: s-maj=8.2km s-min=2.7km az=87.0, Mining explosion.*

ISC 26 12:31:37.4±0.8, 3382N±003×3586E±008, h0km, n12, σ1§03/21, Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BHL	**Bhannes**	**0.19**	**297**	*i* Pg	**Pg**	**12 31 40.4**	**-0.7**
BHL				*i* Sg	**Sg**	**12 31 43.6**	**0.0**
RCY	**Rachaya**	**0.33**	**186**	*i* Pg	**Pg**	**12 31 42.7**	**-1.1**
RCY				*i* Sg	**Sg**	**12 31 48.1**	**+0.1**
HWQ	**Hawqa**	**0.47**	**9**	*e*Pg	**Pg**	**12 31 47.2**	**+0.8**
HWQ				*e*Sg	**Sg**	**12 31 55.9**	**+3.5**
HRI	**Mount Hermon**	**0.56**	**191**	Pg	**Pg**	**12 31 47.9**	**-0.2**
HRI				Sg	**Sg**	**12 31 56.2**	**+0.9**
KSDI	**Kefar Szold**	**0.64**	**195**	Pg	**Pg**	**12 31 48.8**	**-0.9**
KSDI				Sg	**Sg**	**12 31 59.3**	**+1.2**
KSHT	**Keshet**	**0.83**	**183**	Pg	**Pg**	**12 31 52.7**	**-0.6**
KSHT				Sg	**Sg**	**12 32 05.2**	**+1.1**
MMB1	**Mount Meron ar**	**0.88**	**205**	Pg	**Pg**	**12 31 53.2**	**-1.1**
MMB1				Sg	**Sg**	**12 32 07.9**	**+2.2**
MMA0B	**Mount Meron ar**	**0.88**	**206**	Sg	**Sg**	**12 32 07.2**	**+1.4**
MMB2	**Mount Meron ar**	**0.89**	**206**	Pg	**Pg**	**12 31 53.5**	**-1.0**
MMLI	**Mount Malkishu**	**1.42**	**195**	Pn	**Pn**	**12 32 02.8**	**-1.7**
MMLI				Sn	**Sn**	**12 32 23.7**	**-0.2**
HMDT	**Nahal Hemdat**	**1.58**	**190**	Pn	**Pn**	**12 32 05.6**	**-1.1**
HMDT				Sn	**Sn**	**12 32 27.6**	**-0.2**
SLTI	**Sal'it**	**1.71**	**204**	Sn	**Sn**	**12 32 31.2**	**+0.1**

CSEM ***26*** *12:35:41.7±0.1, 3795N×2197E, h10km, ML3.6, Error ellipse: s-maj=2.7km s-min=2.1km az=64.0*
NEIC ***26*** *12:35:41.5, 3794N×2199E, h22km, MD3.5(ATH), ML3.6(THE), After ATH.*
ATH ***26*** *12:35:41.5, 3794N×2199E, h22km±2km, MD3.5/8*
ISCJB ***26*** *12:35:42.3±0.4, 3793N±003×2197E±003, h18km±6km, Error ellipse: s-maj=5.0km s-min=3.9km az=37.5*
THE ***26*** *12:35:42.0, 3794N×2201E, h3km, ML3.6*

ISC 26 12:35:41.9±0.4, 3793N±003×2200E±003, h15km±4km, n23, σ1§13/35, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SELA	**Sela**	**0.35**	**346**	*e*Pg	**Pg**	**12 35 48.6**	**-0.6**
SELA				*e*Sg	**Sg**	**12 35 54.1**	**0.0**
RLS	**Riolos of Patr**	**0.44**	**287**	*e*PB	**Pg**	**12 35 49.9**	**-0.8**
RLS				*e*SB	**Sg**	**12 35 56.8**	**+0.2**
VLX	**Vlachokerasia**	**0.64**	**152**	*e*Pg	**Pg**	**12 35 54.0**	**-0.4**
VLX				*e*Sg	**Sg**	**12 36 04.3**	**+1.5**
ITM	**Ithomi**	**0.75**	**184**	*e*PB	**Pb**	**12 35 55.6**	**-1.1**
ITM				*e*SN	**Sn**	**12 36 07.8**	**-1.3**
LTK	**Loutraki**	**0.77**	**83**	*e*Pg	**Pg**	**12 35 57.7**	**+0.8**
LTK				*e*Sg	**Sg**	**12 36 08.0**	**+0.9**
KFL	**Anninata**	**0.97**	**281**	*e*Pg	**Pg**	**12 36 00.3**	**-0.4**
KFL				*e*Sg	**Sg**	**12 36 15.7**	**+2.3**
EVR	**Evrytania**	**0.99**	**351**	*e*PN	**Pn**	**12 36 00.6**	**-0.7**
PYL	**PYLOS**	**1.05**	**191**	*e*Pg	**Pg**	**12 36 01.3**	**-1.0**
LKR	**Lokris**	**1.07**	**47**	*e*Pg	**Pg**	**12 36 01.2**	**-1.3**
LKR	**Lokris**	**1.07**	**47**	*e*PN	**Pn**	**12 36 01.8**	**-0.5**
DID	**Didima**	**1.07**	**113**	*e*Pg	**Pg**	**12 36 02.2**	**-0.4**
DID				*e*Sg	**Sg**	**12 36 17.4**	**+0.8**
AGG	**Agios Georgios**	**1.12**	**13**	*e*Pg	**Pg**	**12 36 02.0**	**-1.5**
AGG				*e*Sg	**Sg**	**12 36 18.2**	**+0.1**
AGG	**Agios Georgios**	**1.12**	**13**	*e*Pg	**Pg**	**12 36 02.0**	**-1.5**
AGG				*e*Sg	**Sg**	**12 36 18.2**	**+0.1**
VLS	**Valsamata**	**1.14**	**283**	*e*Pg	**Pg**	**12 36 02.5**	**-1.3**
VLS				*e*Sg	**Sg**	**12 36 20.0**	**+1.3**
VLS	**Valsamata**	**1.14**	**283**	*e*PN	**Pn**	**12 36 02.5**	**-0.8**
VLS				*e*SN	**Sn**	**12 36 20.2**	**+1.6**
NAIG	**Nisos Aigina**	**1.19**	**98**	*e*PN	**Pn**	**12 36 04.5**	**+0.5**
LKD	**Levkas**	**1.31**	**307**	*e*Pg	**Pg**	**12 36 05.3**	**-1.9**
LKD				*e*Sg	**Sg**	**12 36 26.6**	**+2.3**
VLI	**Veliai**	**1.42**	**148**	*e*PN	**Pn**	**12 36 08.6**	**+1.4**
PTL	**Penteli**	**1.48**	**85**	*e*PN	**Pn**	**12 36 08.0**	**+0.1**
THL	**Klokotos Trika**	**1.63**	**0**	*e*PN	**Pn**	**12 36 11.2**	**+1.2**
NEO	**Neokhori**	**1.68**	**35**	*e*PN	**Pn**	**12 36 11.1**	**+0.5**
MEV	**Metsovon**	**1.94**	**342**	*e*Pb	**Pb**	**12 36 18.3**	**+1.3**
KEK	**Kerkira**	**2.47**	**317**	*e*PB	**Pb**	**12 36 23.9**	**-2.1**

JMA 26 12:59:44.1±0.2, 4377N×14720E, h39km, M3.8, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**1.13**	**250**	P	Pn	13 00 04.0	+0.6
NEM2				*e*S	Sn	13 00 18.8	+1.0
JRA	**Rausu**	**1.51**	**277**	P	Pn	13 00 09.8	+1.2
JRA				*e*S	Sn	13 00 28.4	+1.3
JNK	**Nakash**	**1.81**	**265**	P	Pn	13 00 13.6	+0.9
JNK				*e*S	Sn	13 00 35.3	+0.9
JAK	**Akkeshi**	**1.98**	**248**	P	Pn	13 00 15.8	+0.7
JAK				*e*S	Sn	13 00 39.2	+0.5
JTKR	**Abashiri--Toko**	**2.39**	**276**	P	Pn	13 00 21.7	+1.0
JAR	**Ashorobuto**	**2.54**	**260**	P	Pn	13 00 24.2	+1.5
JOB	**Onbets**	**2.60**	**252**	P	Pn	13 00 25.1	+1.5
JOB				*e*S	Sn	13 00 55.8	+1.8
JCH	**Churui**	**3.04**	**249**	P	Pn	13 00 30.5	+0.9
JCH				*e*S	Sn	13 01 06.2	+1.6
JEM	**Erimo**	**3.45**	**241**	P	Pn	13 00 39.2	+3.9
JNBK	**Urakawa-nobuka**	**3.58**	**247**	P	Pn	13 00 38.6	+1.5

ISCJB ***26*** *13:30:50.6±0.7, 4334N±003×12688W±008, h9km±8km, mb3.8/6, MS3.4/3, Error ellipse: s-maj=9.9km s-min=3.7km az=164.0*
IDC ***26*** *13:30:51.7±2.5, 4334N×12668W, h0km, mb3.5/4, mb1 3.9/7, mb1mx3.7/25, mbtmp3.6/7, ML3.3/3, MS3.5/4, Ms1 3.5/4, ms1mx2.9/30, Error ellipse: s-maj=37.5km s-min=18.6km az=62.0*
NEIC ***26*** *13:30:52.1±1.5, 4331N×12698W, h10km, mb3.9/6, Error ellipse: s-maj=19.1km s-min=8.5km az=71.0*

ISC 26 13:30:53.1±0.9, 4330N±003×12690W±008, h17km±10km, n93, σ0§92/125, mb3.8/6, MS3.4/3, 33C-44D, Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
K01A	**Sixes**	**1.85**	**104**	⇑P	**Pn**	**13 31 22.0**	**-2.0**
K01A	baz=1.9,SNR=26			⇑S	**Sn**	**13 31 45.6**	**-1.4**
KEBM	**Edson Butte**	**1.93**	**102**	*e*Pn	**Pn**	**13 31 23.1**	**-2.0**
KEBM				*e*S	**Sn**	**13 31 49.6**	**+0.6**
KBO	**Bosley Butte**	**2.25**	**118**	*e*Pn	**Pn**	**13 31 28.2**	**-1.3**
KBO				*e*Sn	**Sn**	**13 31 55.7**	**-1.2**
I02A	**Mapleton**	**2.34**	**71**	⇓P	**Pn**	**13 31 29.4**	**-1.3**
I02A	baz=2.4,SNR=107			⇓S	**Sn**	**13 31 58.7**	**-0.4**
J02A	**Umpqua**	**2.43**	**87**	⇓P	**Pn**	**13 31 30.0**	**-2.0**
J02A	baz=2.5,SNR=15			⇓S	**Sn**	**13 32 00.9**	**-0.4**
H02A	**Toledo**	**2.51**	**56**	P	**Pn**	**13 31 31.9**	**-1.2**
H02A	baz=2.6,SNR=43			⇑S	**Sn**	**13 32 02.6**	**-0.6**
K02A	**Glendale**	**2.56**	**101**	⇓P	**Pn**	**13 31 32.6**	**-1.2**
K02A	baz=2.7,SNR=54			⇑S	**Sn**	**13 32 03.9**	**-0.6**
L02A	**Cave Junction**	**2.69**	**114**	⇑P	**Pn**	**13 31 34.5**	**-1.0**
L02A	baz=2.8,SNR=22			⇑S	**Sn**	**13 32 07.3**	**-0.4**
I03A	**Eugene**	**2.72**	**74**	P	**Pn**	**13 31 35.1**	**-0.8**
I03A	baz=2.8,SNR=268			⇑S	**Sn**	**13 32 08.4**	**0.0**
KRMB	**Red Mountain**	**2.84**	**128**	*e*Pn	**Pn**	**13 31 36.9**	**-0.7**
KRMB				*e*Sn	**Sn**	**13 32 10.5**	**-0.9**
J03A	**Ideyld Park**	**2.88**	**87**	⇑P	**Pn**	**13 31 37.3**	**-0.8**
J03A	baz=3.0,SNR=58			⇓S	**Sn**	**13 32 11.9**	**-0.3**
COR	**Corvallis**	**2.90**	**62**	*e*Pn	**Pn**	**13 31 37.7**	**-0.7**
COR				*e*S	**Sn**	**13 32 12.4**	**-0.6**
H03A	**Soap Creek Ran**	**2.95**	**61**	⇓P	**Pn**	**13 31 38.3**	**-0.8**
H03A	baz=3.0			⇓S	**Sn**	**13 32 14.6**	**+0.5**
HUMO	**Hull Mountain**	**2.98**	**102**	*e*Pn	**Pn**	**13 31 38.0**	**-1.5**
HUMO				*e*Sn	**Sn**	**13 32 12.2**	**-2.7**
HUMO	**Hull Mountain**	**2.98**	**102**	⇑P	**Pn**	**13 31 38.6**	**-1.0**
HUMO	baz=3.1,SNR=48			⇓S	**Sn**	**13 32 14.9**	**+0.1**
G03A	**Yamhill**	**3.29**	**51**	⇑P	**Pn**	**13 31 43.1**	**-0.7**
G03A	baz=3.4			⇓S	**Sn**	**13 32 22.7**	**+0.1**
YBH	**Yreka Blue Hor**	**3.47**	**115**	*e*Pn	**Pn**	**13 31 47.4**	**+1.1**
YBH				*e*Sn	**Sn**	**13 32 30.2**	**+3.2**
YBH	**Yreka Blue Hor**	**3.47**	**115**	⇓P	**Pn**	**13 31 47.1**	**+0.8**
YBH	baz=3.6,SNR=13			⇑S	**Sn**	**13 32 27.8**	**+0.8**
J04A	**Umpqua Nationa**	**3.50**	**89**	⇑P	**Pn**	**13 31 47.5**	**+0.8**
J04A	baz=3.6,SNR=16			⇓S	**Sn**	**13 32 28.4**	**+0.7**
F03A	**Seaside**	**3.56**	**41**	⇑P	**Pn**	**13 31 46.6**	**-0.9**
F03A	baz=3.6			⇑S	**Sn**	**13 32 29.6**	**+0.6**
M02C	**Callahan**	**3.56**	**121**	⇓S	**Sn**	**13 32 29.1**	**+0.1**
H04A	**Detroit Lake**	**3.68**	**66**	⇑P	**Pn**	**13 31 49.3**	**+0.2**
H04A	baz=3.8,SNR=117			⇓S	**Sn**	**13 32 33.3**	**+1.3**
G04A	**Mulino**	**3.71**	**58**	⇑P	**Pn**	**13 31 49.9**	**+0.3**
G04A	baz=3.8,SNR=26			⇓S	**Sn**	**13 32 34.2**	**+1.4**
E03A	**Lebam**	**4.02**	**35**	P	**Pn**	**13 31 52.9**	**-0.9**
E03A	baz=4.1,SNR=43			⇑S	**Sn**	**13 32 39.8**	**-0.7**
J05A	**Fort Rock**	**4.14**	**88**	⇓P	**Pn**	**13 31 55.0**	**-0.4**
F04A	**Amboy**	**4.15**	**49**	⇓P	**Pn**	**13 31 55.8**	**+0.3**
F04A	baz=4.2			⇑S	**Sn**	**13 32 44.0**	**+0.4**
I05A	**Bend**	**4.18**	**76**	⇓P	**Pn**	**13 31 55.8**	**-0.2**
H05A	**Madras**	**4.31**	**70**	⇑P	**Pn**	**13 31 57.7**	**-0.2**
D03A	**Wishkah Elem.**	**4.41**	**29**	⇓P	**Pn**	**13 31 58.7**	**-0.6**
K05A	**Summer Lake**	**4.45**	**95**	⇑P	**Pn**	**13 31 59.3**	**-0.4**
G05A	**Wamic**	**4.46**	**62**	⇓P	**Pn**	**13 31 60.0**	**+0.1**
NLWA	**Neilton Lookou**	**4.62**	**27**	*e*Pn	**Pn**	**13 32 01.1**	**-0.9**
NLWA				*e*Sn	**Sn**	**13 32 49.8**	**-5.5**
NLWA	**Neilton Lookou**	**4.62**	**27**	⇓P	**Pn**	**13 32 01.4**	**-0.7**
NLWA	baz=4.7,SNR=18			⇑S	**Sn**	**13 32 53.3**	**-1.9**
F05A	**White Salmon**	**4.67**	**54**	⇓P	**Pn**	**13 32 02.9**	**+0.1**
D04A	**Dobbs Creek Ra**	**4.79**	**36**	⇓P	**Pn**	**13 32 04.7**	**+0.3**
G06A	**Carlson Farm,**	**4.90**	**65**	⇑P	**Pn**	**13 32 06.0**	**+0.1**
G06A	baz=5.0,SNR=29			⇓S	**Sn**	**13 33 03.1**	**+0.9**
H06A	**Lindquist Farm**	**4.95**	**71**	⇑P	**Pn**	**13 32 07.0**	**+0.4**
F06A	**Goldendale**	**5.03**	**58**	⇓P	**Pn**	**13 32 07.8**	**+0.2**
C04A	**Brinnon**	**5.21**	**31**	⇓P	**Pn**	**13 32 09.5**	**-0.7**
C04A	baz=5.3			⇓S	**Sn**	**13 33 09.3**	**-0.5**
D05A	**Enumclaw**	**5.21**	**40**	⇓P	**Pn**	**13 32 10.7**	**+0.5**
D05A	baz=5.3,SNR=12			⇓S	**Sn**	**13 33 11.4**	**+1.5**
E06A	**Yakima**	**5.31**	**50**	⇑P	**Pn**	**13 32 12.4**	**+0.8**
B04A	**Port Angeles**	**5.32**	**25**	⇑P	**Pn**	**13 32 11.4**	**-0.3**
B04A	baz=5.4,SNR=6.7			⇓S	**Sn**	**13 33 10.9**	**-1.7**
I07A	**Izee**	**5.42**	**79**	⇓P	**Pn**	**13 32 12.8**	**-0.3**
G07A	**Ruggs Ranch, H**	**5.55**	**67**	⇓P	**Pn**	**13 32 15.2**	**+0.3**
K07A	**Rock Creek Ran**	**5.65**	**94**	⇓P	**Pn**	**13 32 15.8**	**-0.4**
L07A	**Adell**	**5.72**	**100**	⇓P	**Pn**	**13 32 17.3**	**0.0**
C05A	**Tolt Reservoir**	**5.72**	**38**	⇓P	**Pn**	**13 32 17.2**	**0.0**
C05A	baz=5.8,SNR=15			⇓S	**Sn**	**13 33 22.9**	**+0.4**
D06A	**Cle Elum**	**5.79**	**46**	⇓P	**Pn**	**13 32 18.7**	**+0.6**
PGC	**Sidney**	**5.87**	**23**	*e*Pn	**Pn**	**13 32 18.5**	**-0.7**
PGC				*e*Sn	**Sn**	**13 33 23.0**	**-3.0**
B05A	**Bryant**	**6.00**	**32**	⇓P	**Pn**	**13 32 20.6**	**-0.4**
B05A	baz=6.0,SNR=13			⇓S	**Sn**	**13 33 29.5**	**+0.3**
G08A	**Pilot Rock**	**6.04**	**68**	⇑P	**Pn**	**13 32 21.8**	**+0.3**
H08A	**Prairie City**	**6.07**	**76**	⇓P	**Pn**	**13 32 22.0**	**0.0**
HAWA	**Hanford**	**6.09**	**57**	*e*Pn	**Pn**	**13 32 22.1**	**0.0**
WVOR	**Wild Horse Val**	**6.14**	**95**	*e*Pn	**Pn**	**13 32 22.4**	**-0.5**
E08A	**Dider Farm, El**	**6.42**	**57**	⇓P	**Pn**	**13 32 26.6**	**-0.2**
B06A	**Marblemount**	**6.45**	**34**	⇑P	**Pn**	**13 32 27.3**	**+0.2**
C07A	**Waterville**	**6.51**	**45**	⇓P	**Pn**	**13 32 28.5**	**+0.4**
F09A	**S2 Ranch, Elgi**	**6.87**	**66**	⇑P	**Pn**	**13 32 32.5**	**-0.4**
BMO	**Blue Mountains**	**7.09**	**74**	*e*P	**Pn**	**13 32 35.8**	**-0.1**
H10A	**Noah's Angus R**	**7.45**	**77**	⇑P	**Pn**	**13 32 40.8**	**-0.1**
C09A	**Chrisman Ranch**	**7.55**	**50**	⇑P	**Pn**	**13 32 42.8**	**+0.5**
G11A	**Walters Elk Ra**	**7.91**	**71**	⇑P	**Pn**	**13 32 47.1**	**-0.1**
B09A	**Rice**	**7.97**	**47**	⇑P	**Pn**	**13 32 48.1**	**0.0**
K11A	**Parker Ranch,**	**7.98**	**90**	⇓P	**Pn**	**13 32 48.5**	**+0.3**
F11A	**Grangeville**	**8.10**	**68**	⇑P	**Pn**	**13 32 49.8**	**0.0**
C10A	**Spilker Farm,**	**8.11**	**53**	⇓P	**Pn**	**13 32 50.3**	**+0.3**
NVAR	**Mina Array Bea**	**8.13**	**124**	Pn	**Pn**	**13 32 51.2**	**+1.0**
NEW	**Newport**	**8.45**	**51**	*e*Pn	**Pn**	**13 32 54.3**	**-0.3**
NEW	**Newport**	**8.45**	**51**	Pn	**Pn**	**13 32 54.9**	**+0.3**
NEW	LR			LR	LR	13 36 21.3	
MSO	**Missoula**	**9.83**	**64**	*e*Pn	**Pn**	**13 33 13.1**	**-0.4**
MCMT	**McKenzie Canyo**	**10.23**	**77**	*e*Pn	**Pn**	**13 33 20.4**	**+1.4**
CHMT	**Chamberlain Mo**	**10.31**	**65**	*e*Pn	**Pn**	**13 33 20.2**	**+0.2**
DLMT	**Dillon**	**10.46**	**74**	*e*Pn	**Pn**	**13 33 23.8**	**+1.6**
LRM	**Limekiln Ridge**	**10.62**	**71**	*e*Pn	**Pn**	**13 33 24.9**	**+0.5**
WALA	**Waterton Lakes**	**10.69**	**53**	*e*Pn	**Pn**	**13 33 26.1**	**+0.9**
BOZ	**Bozeman (W)**	**11.17**	**73**	*e*Pn	**Pn**	**13 33 32.6**	**+0.7**
TPAW	**Teton Pass**	**11.61**	**84**	*e*Pn	**Pn**	**13 33 41.1**	**+3.1**
ARUT	**Antelope Range**	**11.62**	**114**	*e*Pn	**Pn**	**13 33 41.4**	**+3.3**
LKWY	**Lake**	**11.97**	**78**	*e*Pn	**Pn**	**13 33 46.3**	**+3.5**
BW06	**Boulder Array**	**12.71**	**86**	*e*Pn	**Pn**	**13 33 54.9**	**+2.0**
PDAR	**Pinedale Array**	**12.71**	**86**	Pn	**Pn**	**13 33 55.6**	**+2.7**
ISCO	**Idaho Springs**	**16.31**	**95**	*e*P	**Pn**	**13 34 41.8**	**+0.6**
SDCO	**Great Sand Dun**	**17.18**	**102**	*e*P	**Pn**	**13 34 53.8**	**+1.6**
BNM	**Barren Site**	**18.23**	**113**	*e*P	**Pn**	**13 35 07.6**	**+2.4**
FFC	**Flin Flon**	**19.83**	**46**	*e*P	**Pn**	**13 35 23.5**	**-0.9**
YKA	**Yellowknife Ar**	**20.54**	**16**	P	**P**	**13 35 31.0**	**+0.6**
ECSD	**EROS,Sioux Fal**	**21.92**	**78**	*e*P	**P**	**13 35 46.8**	**+1.4**
AGMN	**Agassiz Refuge**	**22.12**	**66**	*e*P	**P**	**13 35 48.5**	**+1.0**
ULM	**Lac du Bonnet**	**22.25**	**61**	P	**P**	**13 35 49.4**	**+0.5**
ULM	LR			LR	LR	13 44 55.4	
TXAR	**Lajitas Array**	**23.24**	**119**	P	**P**	**13 36 00.1**	**+0.6**
WMOK	**Wichita Mounta**	**23.38**	**102**	*e*P	**P**	**13 36 02.3**	**+1.4**
INK	**Inuvik**	**25.31**	**354**	P	**P**	**13 36 18.8**	**+0.4**
INK	LR			LR	LR	13 45 46.0	
SCHQ	**Schefferville**	**39.82**	**52**	LR	LR	13 54 13.3	

baz=2.5; baz=3.6; baz=3.7; baz=3.8; baz=3.9; baz=4.0; baz=4.1; baz=4.2; baz=4.3; baz=4.4,SNR=8.5; baz=4.5,SNR=15; baz=4.5,SNR=12; baz=4.5,SNR=34; baz=4.7; baz=5.3; baz=5.4; baz=5.5,SNR=8.7; baz=5.6,SNR=28; baz=5.7,SNR=18; baz=5.8,SNR=9.2; baz=5.8,SNR=15; baz=5.8; baz=6.0; baz=6.4; baz=6.5; baz=6.6; baz=6.9; baz=7.5; baz=7.6; baz=8.0; baz=8.0; baz=8.1; baz=8.2; baz=8.2; 9.1nm,0.5s; 2.5nm,0.4s; 8.3nm,0.8s; 7.3nm,0.7s; 8.4nm,1.0s; 4.0nm,0.8s; 4.6nm,0.9s; 1.5nm,0.3s; 4.8nm,1.4s; 0.0nm,0.3s,baz=273,slow=12,SNR=12; 2.0nm,0.9s; 4.6nm,1.1s; 17nm,1.1s,mb4.4; 2.4nm,0.6s,mb3.8,baz=267,slow=10,SNR=8.6; comp=Z,124nm,20.6s,MS3.3,baz=348,slow=38; 0.3nm,0.7s,mb2.8,baz=294,slow=9.2,SNR=4.3; 7.0nm,1.1s,mb4.0; 2.4nm,1.0s,mb3.7,baz=175,slow=8.0,SNR=6.5; comp=Z,102nm,19.8s,MS3.3,baz=153,slow=35; comp=Z,80nm,19.1s,MS3.6,baz=267,slow=35

MAN 26 13:48:50, 1269N×12334E, h98km, mb4.3, ML3.1, MS2.9, Luzon

ISCJB ***26*** *13:52:01.5±0.7, 3997N±003×3542E±007, h10km, Error ellipse: s-maj=7.8km s-min=4.2km az=175.3*
CSEM ***26*** *13:52:01.3±0.2, 3996N×3530E, h30km, MD2.8, Error ellipse: s-maj=6.3km s-min=4.2km az=37.0*
ISK ***26*** *13:52:01.1, 3999N×3531E, h28km, MD2.8*
DDA ***26*** *13:52:04.0, 3997N×3525E, h7km±6km, Md2.8*

ISC 26 13:52:02.0±0.8, 3997N±003×3542E±007, h10km, n12, σ1§55/18, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOZ	**Yozgat**	**0.34**	**194**	*e*PG	**Pg**	**13 52 09.7**	**+0.9**
YOZ				*e*SG	**Sg**	**13 52 15.6**	**+2.3**
CORM	**Corum**	**0.64**	**289**	*e*PG	**Pg**	**13 52 13.7**	**-0.8**
CTKT	**Corum**	**0.81**	**324**	*i* P	**Pg**	**13 52 18.5**	**+0.8**
CTKT				*i* S	**Sg**	**13 52 28.9**	**+0.6**
CDAG	**Cicekdag**	**0.88**	**247**	*i* P	**Pg**	**13 52 16.1**	**-2.9**
CDAG				*i* S	**Sg**	**13 52 29.1**	**-1.4**
BNN	**Bunyan**	**1.16**	**164**	*e*PN	**Pn**	**13 52 22.8**	**-1.5**
SVSK	**Karacayir**	**1.21**	**92**	*e*PN	**Pn**	**13 52 23.9**	**-1.0**
AVNT	**Avonos**	**1.27**	**201**	*i* P	**Pg**	**13 52 26.7**	**+0.3**
AVNT				*i* S	**Sg**	**13 52 45.4**	**+2.5**
KAMT	**Kaman**	**1.45**	**246**	*e*PN	**Pn**	**13 52 25.1**	**-3.1**
BOYT	**Boyabat**	**1.50**	**345**	*i* P	**Pg**	**13 52 30.9**	**+0.1**
BOYT				*i* S	**Sg**	**13 52 53.4**	**+3.1**
TOS	**Tosya**	**1.51**	**315**	*e*PN	**Pn**	**13 52 25.4**	**-3.7**
CANT	**Cankiri**	**1.52**	**295**	*e*PN	**Pn**	**13 52 25.5**	**-3.8**
ELDT	**Eldivan**	**1.61**	**289**	*i* P	**Pg**	**13 52 33.9**	**+0.9**
ELDT				*i* S	**Sg**	**13 52 59.3**	**+5.4**

IDC 26 13:55:26.9±1.3, 732S×15477E, h0km, mb3.7/5, mb1 3.9/6, mb1mx3.8/15, mbtmp3.8/6, ML4.5/1, MS3.1/1, Ms1 3.1/1, ms1mx2.6/21, Error ellipse: s-maj=32.6km s-min=23.0km az=103.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.53**	**113**	Pn	Pn	13 56 52.0	+1.5
	13nm,0.3s,baz=267,slow=18,SNR=18						
CTA	**Charters Tower**	**15.14**	**212**	LR	LR	14 03 46.2	
	comp=Z,77nm,19.2s,baz=229,slow=33						
WRA	**Warramunga Arr**	**23.45**	**236**	P	P	14 00 39.5	+1.2
	1.7nm,0.9s,baz=61,slow=9.6,SNR=12						
ASAR	**Alice Springs**	**25.79**	**229**	P	P	14 00 58.4	-1.4
	0.6nm,0.9s,baz=60,slow=10,SNR=4.3						
STKA	**Stephens Creek**	**27.35**	**205**	P	P	14 01 13.4	-0.3
	1.7nm,0.8s,baz=22,slow=12,SNR=2.6						
MJAR	**Matsushiro Arr**	**46.32**	**341**	P	P	14 03 56.2	+1.6
	2.3nm,0.7s,baz=163,slow=8.4,SNR=5.6						
SONM	**Songino Array**	**69.49**	**327**	P	P	14 06 36.1	-1.1
	0.3nm,0.6s,baz=141,slow=5.5,SNR=2.5						

TEH ***26*** *14:10:48.7, 2807N×5622E, h4km, ML4.3*
BJI ***26*** *14:11:02.8, 2756N×5551E, h10km, mB4.9, mb4.6, Ms4.2, Msz3.8*
IDC ***26*** *14:11:11.7±0.7, 2814N×5636E, h0km, mb4.2/19, mb1 4.3/22, mb1mx4.2/28, mbtmp4.2/22, ML3.9/3, MS3.3/10, Ms1 3.3/10, ms1mx3.1/33, Error ellipse: s-maj=16.6km s-min=14.5km az=4.0*
NEIC ***26*** *14:11:13.2±0.4, 2808N×5639E, h10km, mb4.1/14, ML4.1(THR), MN4.3(TEH), Error ellipse: s-maj=6.9km s-min=5.4km az=192.0*
CSEM ***26*** *14:11:13.4±0.1, 2831N×5627E, h20km, mb4.2/17, Ms4.1, Error ellipse: s-maj=1.9km s-min=1.6km az=156.0*
THR ***26*** *14:11:14.3±1.7, 2823N×5626E, h14km±13km, ML4.1*
MOS ***26*** *14:11:15.1±0.9, 2823N×5630E, h33km

GHIR AML AML 14 13 14.5
comp=N,437nm,0.5s
GHIR AML AML 14 13 14.9
comp=E,453nm,0.6s
ISRV Sarvestan 3.04 296 Pn **Pn 14 12 05.7 +1.9**
ISRV Sarvestan 3.04 296 *e*Pn **Pn 14 12 05.8 +2.0**
ISRV *e* 14 13 10.2
comp=Z,9μm,0.4s
NAZ Nazwa, Dubai 3.14 190 P **Pn 14 12 06.7 +1.5**
SNR=20
IMOK Mouk 3.25 288 Pn **Pn 14 12 07.4 +0.7**
IMOK Mouk 3.25 288 *e*Pn **Pn 14 12 07.5 +0.8**
IMOK *e* 14 13 34.9
comp=Z,9μm,0.6s
HATD Hatta, Dubai 3.26 182 Pn **Pn 14 12 07.5 +0.6**
SNR=24
HATD Hatta, Dubai 3.26 182 P **Pn 14 12 07.5 +0.6**
SNR=24
HATD Hatta, Dubai 3.26 182 Pn **Pn 14 12 07.2 +0.3**
SNR=22
IPAR Pars 3.30 303 *e*Pn **Pn 14 12 08.6 +1.2**
IPAR *e* 14 13 25.6
comp=Z,8μm,0.4s
ASHO Ashiyiah 3.40 183 ⇓Pn **Pn 14 12 09.5 +0.6**
SNR=59
IBAF Bafgh 3.53 351 Pn **Pn 14 12 10.0 -0.6**
IBAF Bafgh 3.53 351 *e*Pn **Pn 14 12 10.1 -0.5**
ASUD Al Ashush, Dub 3.55 194 P **Pn 14 12 12.7 +1.8**
SNR=34
IMEH Mehriz 3.58 337 Pn **Pn 14 12 11.3 +0.1**
IMEH Mehriz 3.58 337 *e*Pn **Pn 14 12 11.4 +0.2**
SHI Shiraz 3.62 296 Pn **Pn 14 12 13.1 +1.3**
SHI Shiraz 3.62 296 *e*Pn **Pn 14 12 13.2 +1.4**
ZHSF Zahedan 4.25 68 Pn **Pn 14 12 20.0 -0.4**
ZHSF Zahedan 4.25 68 *e*Pn **Pn 14 12 21.2 +0.8**
ICHK Chekchek 4.43 339 Pn **Pn 14 12 23.7 +0.8**
ICHK Chekchek 4.43 339 *e*Pn **Pn 14 12 23.8 +0.9**
IKOO Kooshah 4.93 28 *e*Pn **Pn 14 12 30.7 +1.0**
SMDO Samad 5.27 162 ⇓Pn **Pn 14 12 33.5 -1.0**
SNR=8.6
IGAR Gharneh 5.42 321 *e* **Pn 14 12 31.6 -4.9**
comp=Z,3μm,0.2s
NASN Na'in 5.55 328 *e*Pn **Pn 14 12 38.7 +0.4**
IDAH Dahanechah 5.58 33 *e*Pn **Pn 14 12 40.2 +1.5**
IZEF Zefreh 5.86 326 *e* **Pn 14 12 33.6 -8.9**
comp=Z,896nm,0.3s
IMON Monand 5.87 29 *e*Pn **Pn 14 12 43.9 +1.2**
SLWS 6.00 238 S **Sn 14 13 50.8 -1.1**
SLWS 6.00 238 P **Pn 14 12 45.3 +0.8**
BTHS 6.31 232 P **Pn 14 12 48.8 +0.1**
BOQSS 6.52 252 S **Sn 14 14 03.8 -0.8**
BOQSS 6.52 252 P **Pn 14 12 51.1 -0.5**
ISFB Sefidab 7.12 332 Pn **Pn 14 12 59.9 +0.1**
ISFB Sefidab 7.12 332 *e*Pn **Pn 14 13 00.0 +0.2**
ISFB *e* 14 13 11.2
comp=Z,268nm,0.2s
KFJS 7.33 273 P **Pn 14 13 02.7 -0.1**
KBD Kabd 7.60 280 *e*P **Pn 14 13 05.2 -1.1**
KBD AML AML 14 14 32.5
comp=Z,126nm,0.3s
IANJ Anjilo 7.61 345 Pn **Pn 14 13 07.6 +1.1**
IANJ Anjilo 7.61 345 *e*Pn **Pn 14 13 07.7 +1.2**
IANJ *e* 14 16 01.5
comp=Z,346nm,0.5s
UMR Umm Al-Rimmam 7.62 283 *e*P **Pn 14 13 05.0 -1.7**
UMR AML AML 14 14 32.2
comp=Z,50nm,0.4s
RDF Al-Radifah 7.70 278 *e*P **Pn 14 13 06.2 -1.5**
RDF AML AML 14 14 34.5
comp=Z,32nm,0.3s
ILAS Lasjerd 7.79 340 *e*Pn **Pn 14 13 10.2 +1.3**
ILAS *e* 14 15 14.2
comp=Z,176nm,0.1s
MIB Mutribah 7.99 284 *e*P **Pn 14 13 10.8 -0.9**
MIB AML AML 14 14 41.6
comp=Z,45nm,0.4s
NAY Al-Naaiem 8.00 280 *e*P **Pn 14 13 10.8 -1.0**
NAY AML AML 14 14 43.4
comp=Z,19nm,0.4s
ISHM Shahmirzad 8.09 343 Pn **Pn 14 13 13.8 +0.8**
ISHM Shahmirzad 8.09 343 *e*Pn **Pn 14 13 13.9 +0.9**
ISHM *e* 14 13 32.7
comp=Z,231nm,0.2s
IFIR Firoozkooh 8.09 339 Pn **Pn 14 13 13.6 +0.6**
IFIR Firoozkooh 8.09 339 *e*Pn **Pn 14 13 13.7 +0.7**
IFIR *e* 14 14 24.7
comp=Z,213nm,0.0s
IDMV Damavand 8.28 335 *e*Pn **Pn 14 13 16.3 +0.7**
ASAO Ashtian 8.35 322 Pn **Pn 14 13 15.0 -1.6**
ASAO Ashtian 8.35 322 *e*Pn **Pn 14 13 16.1 -0.5**
IPAY Payeh 8.65 15 *e*Pn **Pn 14 13 21.6 +0.9**
IPAY *e* 14 13 41.7
comp=Z,102nm,0.2s
IMYA Miami 8.85 21 *e*Pn **Pn 14 13 24.4 +1.0**
IMYA *e* 14 16 12.9
comp=Z,144nm,0.5s
IKRD Kardeh 8.86 12 *e*Pn **Pn 14 13 27.3 +3.7**
IMHD Mahdasht 8.93 329 *e*Pn **Pn 14 13 25.0 +0.5**
IMHD *e* 14 15 20.7
comp=Z,283nm,0.0s
IRAZ Razeghan 9.06 325 *e*Pn **Pn 14 13 26.8 +0.5**
IRAZ *e* 14 13 30.9
comp=Z,333nm,0.1s
ISHV Shirvan 9.49 7 Pn **Pn 14 13 33.8 +1.6**
ISHV Shirvan 9.49 7 *e*Pn **Pn 14 13 33.9 +1.7**
IKOM Komasi 9.63 311 Pn **Pn 14 13 33.9 -0.2**
IKOM Komasi 9.63 311 *e*Pn **Pn 14 13 34.0 -0.1**
IKOM *e* 14 13 36.1
comp=Z,1μm,0.1s
IKOM *e*Sn **Sn 14 15 17.0 -3.8**
IVIS Veis 10.28 311 *e*Pn **Pn 14 13 40.9 -2.1**
IVIS *e* 14 13 47.4
comp=Z,543nm,0.1s
IVIS *e*Sn **Sn 14 15 32.3 -4.4**
SNGE Sanandaj 10.30 315 Pn **Pn 14 13 42.0 -1.4**
SNGE Sanandaj 10.30 315 *e*Pn **Pn 14 13 42.4 -1.0**
IGHG Ghaleghazi 10.36 309 *e*Pn **Pn 14 13 42.6 -1.5**
IGHG *e* 14 13 49.2
comp=Z,540nm,0.1s
WHFO Wadi Hawf 10.38 193 ⇓Pn **Pn 14 13 42.5 -2.0**
SNR=6.7
IDHR Dehrash 10.69 310 Pn **Pn 14 13 47.7 -0.9**
IDHR Dehrash 10.69 310 *e*Pn **Pn 14 13 47.8 -0.8**
IDHR *e* 14 15 50.9
comp=Z,2μm,0.2s
ABTO Aybut 11.03 195 ⇓Pn **Pn 14 13 51.5 -1.9**
SNR=6.5
KBL Kabul 12.68 56 P **Pn 14 14 12.2 -3.6**
ASF Jabal al Asfar 17.22 288 P **Pn 14 15 14.9 -0.2**
ASF pmax pmax
comp=Z,1.0nm,0.3s
ASF MLR MLR
comp=Z,91nm,21.0s
ASF Jabal al Asfar 17.22 288 P **Pn 14 15 14.9 -0.2**
comp=Z,0.7nm,0.3s,baz=187,slow=5.3,SNR=3.5
ASF LR LR 14 23 28.4
comp=Z,91nm,21.0s,baz=124,slow=43
MALT Malatya 18.03 309 P **Pn 14 15 25.4 +0.4**
comp=Z,7.3nm,0.9s
MALT Malatya 18.03 309 P **Pn 14 15 25.4 +0.4**
MALT pmax pmax
comp=Z,7.0nm,0.9s
MALT Malatya 18.03 309 P **Pn 14 15 25.4 +0.4**
comp=Z,7.3nm,0.9s
MMAI Mount Meron Ar 18.60 290 P **Pn 14 15 32.3 +0.4**
comp=Z,0.5nm,0.3s,baz=107,slow=14,SNR=3.9
EIL Elat 18.72 280 P **Pn 14 15 34.2 +0.9**
comp=Z,0.2nm,0.3s,baz=31,slow=4.0,SNR=4.7
EIL LR LR 14 23 59.1
comp=Z,45nm,20.1s,baz=107,slow=41
EIL Elat 18.72 280 P **Pn 14 15 34.2 +0.9**
KIV Kislovodsk 19.21 329 *e*P **Pn 14 15 45.8 +6.7**
KIV pmax pmax
comp=Z,6.0nm,0.7s
KIV MLR MLR
comp=Z,28nm,14.0s
AML Almayashu 19.94 41 *e*P **Pn 14 15 45.2 -2.5**
comp=Z,11nm,0.7s
EKS2 Erkin-Say 20.32 40 *e*P **P 14 15 49.9 0.0**
comp=Z,5.3nm,0.8s
EKS2 Erkin-Say 20.32 40 *e*P **P 14 15 49.8 0.0**
comp=Z,5.3nm,0.8s
SOC Sochi 20.40 324 *e*P **P 14 15 51.2 +0.6**
SOC *e* 14 16 14.3
SOC *e*S **S 14 19 40.8 +4.7**
SOC *e*SS 14 20 11.6
SOC pmax pmax
comp=Z,7.0nm,0.5s
SOC Sochi 20.40 324 *e*P **P 14 15 51.2 +0.6**
comp=Z,7.0nm,0.5s
UCH Uchtor 20.48 42 *e*P **P 14 15 46.7 -4.8**
comp=Z,3.9nm,0.8s
AAK Ala-Archa 20.72 41 *e*P **P 14 15 53.2 -0.9**
comp=Z,3.5nm,0.7s
AAK Ala-Archa 20.72 41 P **P 14 15 52.1 -2.0**
AAK pmax pmax
comp=Z,3.0nm,0.7s
AAK Ala-Archa 20.72 41 P **P 14 15 52.1 -1.9**
comp=Z,3.2nm,0.7s,baz=280,slow=5.2,SNR=7.0
AAK Ala-Archa 20.72 41 *e*P **P 14 15 53.2 -0.9**
comp=Z,3.5nm,0.7s
ATD Arta Tunnel 20.72 220 LR LR 14 24 22.2
comp=Z,68nm,18.1s,MS3.1,baz=61,slow=38
TKM2 Tokmak 2 21.53 42 P **P 14 16 02.2 -0.6**
comp=Z,6.6nm,1.0s,mb4.0
TKM2 Tokmak 2 21.53 42 P **P 14 16 02.2 -0.7**
TKM2 pmax pmax
comp=Z,7.0nm,1.0s,mb4.0
TKM2 Tokmak 2 21.53 42 P **P 14 16 02.2 -0.7**
comp=Z,6.6nm,1.0s,mb4.0
AKTK Aktyubinsk 22.35 3 P **P 14 16 10.9 -0.5**
AKTK LR LR 14 24 56.2
AKTK Aktyubinsk 22.35 3 P **P 14 16 10.9 -0.6**
AKTO Aktyubinsk 22.35 3 P **P 14 16 10.9 -0.6**
AKTO pmax pmax
comp=Z,10.0nm,0.7s,mb4.3
AKTO MLR MLR
comp=Z,41nm,18.6s,MS2.9
AKTO Aktyubinsk 22.35 3 P **P 14 16 10.9 -0.5**
comp=Z,10nm,0.7s,mb4.4,baz=180,slow=10,SNR=20
AKTO LR LR 14 24 56.2
comp=Z,41nm,18.6s,MS2.9,baz=63,slow=37
ANN Anapa 22.43 323 *e*P **P 14 16 17.1 +4.7**
ANN pmax pmax
comp=Z,22nm,0.7s,mb4.7
HYB Hyderabad 23.11 113 *i*P **P 14 16 20.0 +0.2**
HYB Hyderabad 23.11 113 *e*P **P 14 16 20.0 +0.2**
DANN Dangsing 24.23 83 *e*P **P 14 16 30.5 +0.4**
comp=Z,48nm,0.8s,mb5.0
GKN Gorkha 25.03 83 *e*P **P 14 16 37.2 -0.2**
DMN Daman 25.50 84 *e*P **P 14 16 41.9 +0.3**
KKN Kakani 25.62 84 *e*P **P 14 16 42.3 -0.5**
comp=Z,11nm,0.4s,mb4.7
PKIN Phulchoki 25.76 84 *e*P **P 14 16 43.6 -0.4**
comp=Z,26nm,1.0s,mb4.7
PKI Pulchoki 25.77 84 *e*P **P 14 16 44.3 +0.2**
GUN Gumba 26.14 83 *e*P **P 14 16 47.6 +0.2**
comp=Z,34nm,0.8s,mb5.0
BRVK Borovoye 27.02 19 *e*P **P 14 16 54.4 -0.7**
comp=Z,3.7nm,0.8s,mb4.0
BRVK Borovoye 27.02 19 *e*P **P 14 16 54.4 -0.7**
BRVK pmax pmax
comp=Z,4.0nm,0.8s,mb4.0
BRVK Borovoye 27.02 19 *e*P **P 14 16 54.4 -0.7**
comp=Z,3.7nm,0.8s,mb4.0
BVAR Borovoye Array 27.02 19 P **P 14 16 54.5 -0.6**
BVAR pmax pmax
comp=Z,2.0nm,0.6s
BVAR MLR MLR
comp=Z,49nm,20.2s
BVAR Borovoye Array 27.02 19 P **P 14 16 54.5 -0.6**
comp=Z,2.3nm,0.6s,mb3.9,baz=202,slow=8.9,SNR=16
BVAR LR LR 14 28 13.2
comp=Z,49nm,20.2s,MS3.1,baz=354,slow=38
MKAR Makanchi Array 27.65 41 P **P 14 17 00.5 -0.3**
MKAR pmax pmax
comp=Z,2.0nm,0.5s
MKAR MLR MLR
comp=Z,48nm,20.8s
MKAR Makanchi Array 27.65 41 P **P 14 17 00.5 -0.4**
comp=Z,2.1nm,0.5s,mb4.1,baz=224,slow=8.2,SNR=20
MKAR LR LR 14 28 04.1
comp=Z,48nm,20.8s,MS3.1,baz=33,slow=37
KURK Kurchatov 28.24 31 *i*P **P 14 17 04.4 -1.6**
WMQ Urumqi 29.68 50 *e*P **P 14 17 19.5 +0.6**
WMQ AMB AMB
comp=Z,6.0nm,0.7s,mb4.4
WMQ AMB AMB
comp=Z,84nm,4.3s
WMQ LR LR
comp=Z,128nm,26.0s,MS3.4
AKASG Malin Array Be 30.46 325 P **P 14 17 25.7 0.0**
AKASG pmax pmax
comp=Z,1.0nm,0.4s
AKASG Malin Array Be 30.46 325 P **P 14 17 25.7 +0.1**
comp=Z,1.3nm,0.4s,mb4.0,baz=131,slow=8.5,SNR=12
KIEV Kiev 30.46 325 *e*P **P 14 17 24.9 -0.8**
comp=Z,4.9nm,0.6s,mb4.4
KIEV Kiev 30.46 325 *e*P **P 14 17 24.9 -0.8**
KIEV pmax pmax
comp=Z,5.0nm,0.6s,mb4.4
KIEV Kiev 30.46 325 *e*P **P 14 17 24.9 -0.8**
comp=Z,4.9nm,0.6s,mb4.4
OBN Obninsk 30.53 338 P **P 14 17 28.0 +1.8**
OBN pmax pmax
comp=Z,4.0nm,0.5s,mb4.5
OBN Obninsk 30.53 338 P **P 14 17 28.0 +1.8**
comp=Z,4.0nm,0.5s,mb4.5
ZAL Zalesovo 33.21 31 P **P 14 17 49.2 -0.6**
ZAA0 Zalesovo Array 33.23 31 *e*P **P 14 17 48.3 -1.7**
ZAA0 Zalesovo Array 33.23 31 *e*P **P 14 17 48.3 -1.6**
ZALV Zalesovo Beam 33.23 31 P **P 14 17 49.1 -0.8**
comp=Z,3.2nm,0.3s,mb4.7,baz=231,slow=8.6,SNR=19
ZALV LR LR 14 33 07.7
comp=Z,44nm,20.1s,MS3.2,baz=124,slow=40
KWP Kalwaria 33.41 319 *e*P **P 14 17 51.2 -0.4**
KWP Kalwaria 33.41 319 *e*P **P 14 17 51.2 -0.4**
OJC Ojcow 35.36 319 *e*P **P 14 18 07.7 -0.7**
MORC Moravsky Berou 36.52 317 P **P 14 18 19.4 +1.0**
MORC Moravsky Berou 36.52 317 P **P 14 18 19.4 +1.0**
DPC Dobruska-Polom 37.46 317 *e*pP pP 14 18 35.0 -5.2
GTA Gaotai 37.61 61 *e*P **P 14 18 28.3 +0.5**
GTA AP pP 14 18 33.0 -8.6
GTA XP sP 14 18 35.3 -13
GTA AMB AMB
comp=Z,3.0nm,0.6s,mb4.2
UPC Upice 37.70 318 *e*P **P 14 18 32.7 +4.3**
JOF Joensuu 38.45 342 *e*p **P 14 18 34.6 +0.1**
comp=Z,1.0nm,0.3s,mb4.0
GERES GERESS Array B 38.59 314 P **P 14 18 35.8 -0.1**
GERES pmax pmax
comp=Z,1.0nm,0.4s
GERES GERESS Array B 38.59 314 P **P 14 18 35.8 -0.1**
comp=Z,0.7nm,0.4s,mb3.7,baz=106,slow=9.8,SNR=3.7
KHC Kasperske Hory 38.75 315 *e*P **P 14 18 41.2 +4.0**
KHC *ex* x 14 18 50.5
FINES FINESS Array B 38.94 337 P **P 14 18 39.5 +0.9**
FINES pmax pmax
comp=Z,2.0nm,0.6s
FINES FINESS Array B 38.94 337 P **P 14 18 39.5 +0.9**
comp=Z,1.6nm,0.6s,mb4.0,baz=136,slow=10.0,SNR=12
CLL Collm 39.77 318 *e*P **P 14 18 50.0 +4.3**
CLL Collm 39.77 318 *e*(P) **P 14 18 49.0 +3.3**
SQTA Sankt Quirin 39.80 311 ⇑*i*P **P 14 18 46.0 0.0**
comp=Z,1.8nm,0.7s,mb3.9
SQTA Sankt Quirin 39.80 311 ⇑*i*P **P 14 18 46.0 0.0**
SQTA pmax pmax
comp=Z,2.0nm,0.7s,mb4.0
FETA Feichten 40.08 311 ⇑*i*P **P 14 18 48.4 +0.1**
comp=Z,4.8nm,0.5s,mb4.5
DAVA Damuels 40.70 311 ⇑*i*P **P 14 18 53.2 -0.2**
comp=Z,8.9nm,0.6s,mb4.6
MOY Mondy 40.77 42 *e*P **P 14 18 54.8 +0.8**
LZH Lanzhou 40.77 66 *e*P **P 14 18 55.5 +1.3**
LZH AP pP 14 18 57.5 -11
LZH XP sP 14 18 59.0 -15
LZH AMB AMB
comp=Z,13nm,1.0s,mb4.5
CD2 Chengdu 41.20 74 *e*P **P 14 18 57.5 -0.3**
CD2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.6
CD2 AMB AMB
comp=Z,30nm,5.8s
ZAK Zakamensk 41.81 45 *e*P **P 14 19 01.9 -0.6**
ZAK *e* 14 20 56.2
ZAK pmax pmax
comp=Z,2.0nm,0.7s,mb3.9
ZAK pmax pmax
comp=Z,1.0nm,1.1s,mb3.4
ZAK Zakamensk 41.81 45 *e*P **P 14 19 01.9 -0.6**
comp=Z,2.0nm,0.7s,mb3.9
ZAK Zakamensk 41.81 45 *e*PcP PcP 14 20 56.2 -1.5
comp=Z,1.0nm,1.1s
TLY Talaya 42.36 43 P **P 14 19 06.7 -0.3**
comp=Z,1.9nm,0.9s,mb3.7
TLY Talaya 42.36 43 *e*P **P 14 19 03.6 -3.4**
TLY Talaya 42.36 43 P **P 14 19 06.7 -0.3**
comp=Z,1.9nm,0.9s,mb3.7
MBDF Montbardon 42.46 307 *e*P **P 14 19 07.9 0.0**
LPL La Plagne 42.57 308 *e*P **P 14 19 09.3 +0.5**
ORIF Oris-en-Rattie 43.11 307 *e*P **P 14 19 13.6 +0.4**
SONM Songino Array 43.31 49 P **P 14 19 15.2 +0.5**
SONM pmax pmax
comp=Z,4.0nm,0.7s
SONM MLR MLR
comp=Z,74nm,20.0s
SONM Songino Array 43.31 49 P **P 14 19 15.2 +0.4**
comp=Z,3.7nm,0.7s,mb4.2,baz=273,slow=10.0,SNR=21
SONM LR LR 14 38 26.7
comp=Z,74nm,19.9s,MS3.6,baz=243,slow=38
ULN Ulaanbaatar 43.76 49 *e*P **P 14 19 18.4 0.0**
comp=Z,5.9nm,0.5s,mb4.6
ULN Ulaanbaatar 43.76 49 *e*P **P 14 19 18.4 +0.1**
ULN pmax pmax
comp=Z,6.0nm,0.5s,mb4.6
ULN Ulaanbaatar 43.76 49 *e*P **P 14 19 18.4 +0.1**
comp=Z,5.9nm,0.5s,mb4.6
NB2 NORSAR Subarra 44.51 331 P **P 14 19 23.9 -0.3**
comp=Z,1.0nm,0.5s,mb3.9,baz=120,slow=7.9
NOA NORSAR Array B 44.51 331 P **P 14 19 24.0 -0.2**
NOA pmax pmax
comp=Z,1.0nm,0.5s
NOA NORSAR Array B 44.51 331 P **P 14 19 24.0 -0.2**
comp=Z,1.1nm,0.5s,mb4.0,baz=116,slow=7.9,SNR=7.6
GYA Guiyang 44.58 80 P **P 14 19 23.8 -1.4**
GYA AMB AMB
comp=Z,10.0nm,0.8s,mb4.7
SMF Signal de Mont 44.70 309 *e*P **P 14 19 25.8 0.0**
SSF Saint Saulge 44.96 310 *e*P **P 14 19 28.1 +0.1**
KEV Kevo 44.97 346 *e*p **P 14 19 26.6 -1.1**
comp=Z,1.2nm,0.4s,mb4.1
KEV Kevo 44.97 346 *e*P **P 14 19 26.6 -1.1**
KEV pmax pmax
comp=Z,1.0nm,0.4s,mb4.0
ARCES ARCESS Array B 45.12 345 P **P 14 19 29.8 +0.9**
ARCES pmax pmax
comp=Z,3.0nm,0.9s
ARCES ARCESS Array B 45.12 345 P **P 14 19 29.8 +0.9**
comp=Z,3.2nm,0.9s,mb4.2,baz=151,slow=8.4,SNR=18
HHC Hu-ho-hao-te 46.64 59 *e*P **P 14 19 41.3 0.0**
HHC AP pP 14 19 46.0 -9.4
HHC XP sP 14 19 48.8 -13
HHC PP PP 14 21 31.3 -0.2
HHC PCS PcS 14 25 07.5 -1.7
HHC S **S 14 26 31.5 +4.9**
HHC SCS ScS 14 29 32.3 +1.0
HHC AMB AMB
comp=Z,15nm,0.4s,mb5.3
HHC AMB AMB
comp=Z,65nm,3.6s
HHC LR LR
comp=N,97nm,16.9s
HHC LR LR
comp=E,124nm,11.4s
HHC LR LR
comp=Z,56nm,7.3s
BOD Bodaibo 49.61 36 *e*P **P 14 20 03.0 -0.9**
BOD pmax pmax
comp=Z,7.0nm,1.0s,mb4.7
BOD Bodaibo 49.61 36 *e*P **P 14 20 03.0 -0.9**
comp=Z,7.0nm,1.0s,mb4.7
BJI Beijing 50.20 60 P **P 14 20 07.3 -1.4**
BJI AMB AMB
comp=Z,5.0nm,0.4s,mb4.9
SFS San Fernando 52.66 296 P **P 14 20 28.5 +1.3**
comp=Z,407nm,1.0s
SFS San Fernando 52.66 296 P **P 14 20 28.5 +1.4**
SFS pmax pmax
comp=Z,407nm,1.0s
SFS San Fernando 52.66 296 P **P 14 20 28.5 +1.4**
comp=Z,407nm,1.0s
YAK Yakutsk 57.87 32 P **P 14 21 03.0 -1.2**
comp=Z,12nm,0.6s,mb5.1
YAK Yakutsk 57.87 32 *e*P **P 14 21 02.8 -1.4**
YAK pmax pmax
comp=Z,11nm,0.5s,mb5.1
YAK Yakutsk 57.87 32 *e*P **P 14 21 02.8 -1.4**
comp=Z,11nm,0.5s,mb5.1
KSRS Korea Array 59.69 61 P **P 14 21 16.5 -0.8**
comp=Z,2.9nm,0.5s,mb4.5,baz=279,slow=7.0,SNR=23
KLR Kul'dur 60.08 47 *e*P **P 14 21 17.2 -2.6**
DBIC Dimbokro 61.44 262 P **P 14 21 30.6 +1.1**
DBIC pmax pmax
comp=Z,1.0nm,0.5s
DBIC Dimbokro 61.44 262 P **P 14 21 30.6 +1.1**
comp=Z,1.3nm,0.5s,mb4.4,baz=31,slow=5.1,SNR=7.2
JNU Nakatsue 63.17 65 LR LR 14 55 22.2
comp=Z,34nm,18.2s,MS3.6,baz=234,slow=42
BOSA Boshof 63.72 210 P **P 14 21 45.9 +1.5**
BOSA Boshof 63.72 210 P **P 14 21 45.9 +1.5**
BOSA pmax pmax
comp=Z,3.0nm,0.5s,mb4.6
BOSA Boshof 63.72 210 P **P 14 21 45.9 +1.6**
comp=Z,3.3nm,0.5s,mb4.6,baz=24,slow=5.7,SNR=5.8
BILL Bilibino 71.32 22 *e*P **P 14 22 31.8 0.0**
BILL pmax pmax
comp=Z,3.0nm,1.0s,mb4.2
BILL Bilibino 71.32 22 *e*P **P 14 22 31.8 0.0**
comp=Z,3.0nm,1.0s,mb4.2
FITZ Fitzroy Crossi 81.31 116 P **P 14 23 30.4 +1.2**
comp=Z,2.1nm,0.6s,mb4.2,baz=228,slow=6.4,SNR=12
SCHQ Schefferville 84.08 331 P **P 14 23 44.0 +0.9**
SCHQ Schefferville 84.08 331 P **P 14 23 44.0 +0.9**
comp=Z,2.7nm,0.7s,mb4.5,baz=64,slow=9.5,SNR=4.8
WRA Warramunga Arr 89.27 113 P **P 14 24 09.8 +0.9**
WRA pmax pmax
comp=Z,1.0nm,0.5s
WRA Warramunga Arr 89.27 113 P **P 14 24 09.8 +0.9**
comp=Z,0.6nm,0.5s,mb4.2,baz=317,slow=4.1,SNR=13
YKA Yellowknife Ar 89.43 356 P **P 14 24 10.5 +1.5**
YKA LR LR 15 12 31.8
YKA Yellowknife Ar 89.43 356 P **P 14 24 10.5 +1.5**
comp=Z,0.8nm,0.8s,mb4.1,baz=2.1,slow=5.1,SNR=18
YKA LR LR 15 12 31.8
comp=Z,31nm,18.9s,MS3.8,baz=75,slow=41
ASAR Alice Springs 90.79 116 P **P 14 24 16.9 +1.0**
ASAR pmax pmax
comp=Z,1.0nm,0.6s
ASAR Alice Springs 90.79 116 P **P 14 24 16.9 +0.9**
comp=Z,0.7nm,0.6s,mb4.1,baz=306,slow=4.9,SNR=13
TXAR Lajitas Array 119.75 340 PKP PKPdf 14 30 03.8 +1.0
comp=Z,0.2nm,0.5s,baz=182,slow=2.9,SNR=3.4

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*MAN **26** 14:13:07, 1273N×12338E, h51km, mb4.7, ML3.6, MS3.6*
IDC 26 14:13:05.0±2.9, 1248N×12353E, h0km, mb3.6/4, mb1 3.7/4, mb1mx3.5/19, mbtmp3.6/4, MS2.8/2, Ms1 2.8/2, ms1mx2.6/23, Error ellipse: s-maj=284.6km s-min=22.8km az=64.0, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JOW	**Kunigami**	**14.96**	**17**	LR	LR	14 21 55.0	
comp=Z,62nm,18.8s,baz=220,slow=35							
KSRS	**Korea Array**	**25.18**	**8**	LR	LR	14 29 04.0	
comp=Z,14nm,21.7s,baz=175,slow=38							
WRA	**Warramunga Arr**	**33.93**	**162**	P	P	14 19 49.5	-0.5
0.3nm,0.7s,baz=340,slow=9.8,SNR=3.4							
ASAR	**Alice Springs**	**37.33**	**164**	P	P	14 20 19.6	+0.4
0.5nm,0.9s,baz=354,slow=7.0,SNR=5.8							
MKAR	**Makanchi Array**	**48.65**	**323**	P	P	14 21 51.0	+0.2
1.6nm,0.8s,baz=123,slow=8.8,SNR=9.2							
BVAR	**Borovoye Array**	**58.33**	**325**	P	P	14 23 01.4	-0.3
1.6nm,1.0s,baz=111,slow=8.1,SNR=4.7							

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*IDC **26** 14:13:50.0±2.4, 558S×10135E, h0km, mb3.8/7, mb1 3.9/7, mb1mx3.7/19, mbtmp3.8/7, Error ellipse: s-maj=94.4km s-min=18.7km az=52.0*
*ISCJB **26** 14:13:51.0±0.7, 59S±0.1×1010E±01, h33km, mb3.9/9, Error ellipse: s-maj=17.8km s-min=13.5km az=151.5*
*NEIC **26** 14:13:53.0±0.5, 584S×10100E, h30km, mb4.2/2, Error ellipse: s-maj=14.5km s-min=10.4km az=68.0*
ISC 26 14:13:53.6±0.7, 59S±01×1011E±01, h35km, n13, σ0°81/12, mb3.9/9, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCO	**West Island**	**7.55**	**213**	*e*Pn	**Pn**	**14 15 40.8**	**-0.4**
BATI	**Kupang**	**22.79**	**102**	P	**P**	**14 18 51.4**	**-2.0**
	12nm,0.5s,mb4.5,baz=126,slow=22,SNR=5.1						
WRA	**Warramunga Arr**	**35.24**	**117**	P	**P**	**14 20 45.2**	**+0.1**
	0.3nm,0.5s,mb3.5,baz=299,slow=8.5,SNR=7.3						
WRAB	**Tennant Creek**	**35.24**	**116**	*e*P	**P**	**14 20 45.2**	**+0.1**
	4.1nm,0.9s,mb4.4						
ASAR	**Alice Springs**	**36.22**	**123**	P	**P**	**14 20 54.1**	**+0.7**
	0.2nm,0.5s,mb3.3,baz=299,slow=7.8,SNR=8.5						
STKA	**Stephens Creek**	**45.85**	**130**	P	**P**	**14 22 13.8**	**+1.2**
	3.0nm,1.1s,mb4.2,baz=283,slow=14,SNR=2.6						
SONM	**Songino Array**	**53.67**	**4**	P	**P**	**14 23 12.3**	**+0.6**
	1.0nm,0.9s,mb3.8,baz=182,slow=10,SNR=5.1						
TKM2	**Tokmak 2**	**53.77**	**337**	P	**P**	**14 23 20.5**	**+8.0**
AAK	**Ala-Archa**	**53.96**	**336**	P	**P**	**14 23 14.3**	**+0.4**
	1.0nm,0.6s,mb3.9						
MKAR	**Makanchi Array**	**55.00**	**344**	P	**P**	**14 23 21.2**	**-0.2**
MKAR	**Makanchi Array**	**55.00**	**344**	P	**P**	**14 23 21.2**	**-0.2**
	0.4nm,0.5s,mb3.7,baz=140,slow=9.2,SNR=3.6						
ZALV	**Zalesovo Beam**	**61.13**	**349**	P	**P**	**14 24 03.5**	**-0.7**
	0.9nm,0.7s,mb4.0,baz=163,slow=2.5,SNR=4.4						
TXAR	**Lajitas Array**	**146.98**	**42**	PKPbc	PKPbc	14 33 34.6	+1.4
	0.2nm,0.7s,baz=26,slow=4.3,SNR=3.0						

GUC 26 14:36:02.0±0.7, 3174S×7194W, h0^{km}±5^{km}, MD3.6, ML2.9, 2C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMCH	**Combarbala**	**0.98**	**55**	⇑*i*P	Pg	14 36 21.0	+0.3
CMCH				*i* S	Sg	14 36 35.5	+2.1
CMCH				AML	AML	14 36 38.8	
	comp=E,901nm,0.4s						
ROCH	**El Roble**	**1.46**	**148**	*i* P	Pn	14 36 29.2	-0.4
ROCH				*i* S	Sg	14 36 50.0	+1.1
JACH	**Jahuel**	**1.48**	**130**	*i* P	Pn	14 36 29.2	-0.6
JACH				*i* S	Sg	14 36 50.0	+0.5
PEL	**Peldehue**	**1.76**	**143**	⇓*i*P	Pn	14 36 36.5	+2.8
PEL				*i* S	Sn	14 37 00.9	+4.1
PEL				AML	AML	14 37 05.2	
	comp=E,348nm,0.3s						
TLL	**Tololo Astrono**	**1.84**	**32**	⇓*i*P	Pn	14 36 35.4	+0.5
TLL				*i* S	Sn	14 37 00.9	+2.0
TLL				AML	AML	14 37 15.2	
	comp=N,107nm,0.5s						
RCDM	**Rinconada Maip**	**1.99**	**152**	AML	AML	14 37 12.1	
	comp=N,106nm,0.6s						
CLCH	**Cerro Calan**	**2.03**	**145**	AML	AML	14 37 15.9	
	comp=N,179nm,0.7s						
FCH	**Farellones**	**2.11**	**139**	*e*P	Pn	14 36 39.6	+1.1
FCH				*i* S	Sn	14 37 07.9	+2.4
FCH				AML	AML	14 37 18.4	
	comp=N,72nm,0.2s						
PCH	**Pirque**	**2.23**	**148**	⇑*i*P	Pn	14 36 41.2	+1.0
PCH				*i* S	Sn	14 37 10.6	+2.2
CHCH	**Chadas Angostu**	**2.44**	**154**	*i* P	Pn	14 36 44.3	+1.2
CHCH				*i* S	Sn	14 37 16.6	+2.9
LMEL	**Las Melosas**	**2.56**	**146**	*i* P	Pn	14 36 46.3	+1.6
LMEL				*i* S	Sn	14 37 19.9	+3.3
LMEL				AML	AML	14 37 27.6	
	comp=N,78nm,0.3s						

NEIC ***26*** *14:39:49.6±0.8, 4554N×15137E, h10^{km}, mb4.4/2, Error ellipse: s-maj=20.6km s-min=15.7km az=160.0*
MOS ***26*** *14:39:52.7±1.8, 4566N×151.17E, h48^{km}, mb4.3/8, Error ellipse: s-maj=17.4km s-min=11.0km az=58.5*
JMA ***26*** *14:39:53.1±0.6, 4573N×151.17E, h30^{km}, M4.7*
ISCJB ***26*** *14:39:53.3±1.1, 4549N±009×151.1E±0.1, h59^{km}±12^{km}, mb3.9/9, Error ellipse: s-maj=17.1km s-min=7.1km az=142.2*
SKHL ***26*** *14:39:53.4±2.5, 4590N×15100E, h55^{km}±22^{km}, mb5.1/3*
IDC ***26*** *14:39:57.5±4.2, 4569N×15108E, h74^{km}±38^{km}, mb3.6/8, mb1 3.8/9, mb1mx3.6/21, mbtmp3.6/9, ML3.4/1, Error ellipse: s-maj=28.5km s-min=16.9km az=127.0*

ISC 26 14:39:55.0±0.9, 4543N±009×1512E±01, h58^{km}±10^{km}, n54, σ1^{s}35/71, mb3.9/9, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**2.35**	**266**	*e*PN	**Pn**	**14 40 27.0**	**-4.2**
KUR				*i* S	**Sn**	**14 40 54.3**	**-4.5**
KUR				pmax	pmax		
	comp=N,230nm,0.5s						
KUR				pmax	pmax		
	comp=E,230nm,0.5s						
KUR				pmax	pmax		
	comp=Z,380nm,0.5s						
KUR				smax			
	comp=N,2μm,0.5s						
KUR				smax			
	comp=E,840nm,0.5s						
KUR	**Kuril'sk**	**2.35**	**266**	*e*P	**Pn**	**14 40 27.0**	**-4.2**
KUR				AMB	AMB	14 40 28.6	
	comp=E,228nm,0.5s						
KUR				AMB	AMB	14 40 28.6	
	comp=E,380nm,0.5s						
KUR				*i* S	**Sn**	**14 40 54.3**	**-4.5**
KUR				A		14 40 58.0	
	comp=E,2μm,0.5s						
KUR				A		14 40 58.0	
	comp=E,836nm,0.5s						
YUK	**Yuzh-Kuril'sk**	**4.04**	**252**	*e*PN	**Pn**	**14 40 56.3**	**+2.0**
YUK				*e*S	**Sn**	**14 41 42.0**	**+1.7**
YUK				pmax	pmax		
	comp=E,250nm,0.4s						
YUK				pmax	pmax		
	comp=Z,230nm,0.4s						
YUK				smax			
	comp=N,760nm,0.5s						
YUK				smax			
	comp=E,690nm,0.5s						
YUK				smax			
	comp=N,6μm,3.0s						
YUK				smax			
	comp=E,8μm,3.0s						
YUK	**Yuzh-Kuril'sk**	**4.04**	**252**	*e*P	**Pn**	**14 40 56.3**	**+2.0**
YUK				AMB	AMB	14 40 56.9	
	comp=E,250nm,0.4s						
YUK				AMB	AMB	14 40 56.9	
	comp=E,230nm,0.4s						
YUK				*e*S	**Sn**	**14 41 42.0**	**+1.7**
YUK				A		14 41 46.6	
	comp=E,760nm,0.5s						
YUK				A		14 41 46.6	
	comp=E,690nm,0.5s						
NEM2	**Nemuro 2**	**4.41**	**244**	P	**Pn**	**14 40 58.7**	**-0.7**
NEM2				*e*S	**Sn**	**14 41 48.3**	**-1.1**
JRA	**Rausu**	**4.57**	**253**	P	**Pn**	**14 41 04.3**	**+2.7**
JNK	**Nakash**	**4.98**	**251**	P	**Pn**	**14 41 08.1**	**+1.0**
JNK				*e*S	**Sn**	**14 42 04.8**	**+1.5**
JAK	**Akkeshi**	**5.26**	**245**	P	**Pn**	**14 41 10.4**	**-0.6**
JAK				*e*S	**Sn**	**14 42 08.9**	**-1.3**
JTKR	**Abashiri--Toko**	**5.39**	**257**	P	**Pn**	**14 41 13.8**	**+1.1**
JAR	**Ashorobuto**	**5.73**	**251**	P	**Pn**	**14 41 18.6**	**+1.2**
JAR				*e*S	**Sn**	**14 42 22.5**	**+0.8**
JOB	**Onbets**	**5.86**	**247**	P	**Pn**	**14 41 19.7**	**+0.5**
JOB				*e*S	**Sn**	**14 42 23.1**	**-1.8**
YSS	**Yuzh-Sakhalins**	**6.05**	**288**	*e*Pn	**Pn**	**14 41 20.8**	**-1.0**
YSS	**Yuzh-Sakhalins**	**6.05**	**288**	*e*P	**Pn**	**14 41 21.0**	**-0.8**
SKR	**Severo-Kuril's**	**6.21**	**30**	*e*P	**Pn**	**14 41 19.0**	**-5.0**
SKR				AMB	AMB	14 41 21.9	
	comp=E,110nm,0.9s						
SKR				AMB	AMB	14 41 21.9	
	comp=E,50nm,0.5s						
SKR				AMB	AMB	14 41 21.9	
	comp=E,80nm,0.5s						
SKR				*e*S	**Sn**	**14 42 22.5**	**-11**
SKR				A		14 42 47.0	
	comp=E,70nm,0.5s						
SKR				A		14 42 47.0	
	comp=E,80nm,0.5s						
SKR				A		14 42 47.0	
	comp=E,40nm,0.5s						
JKK2	**Kamakawa 2**	**6.22**	**258**	P	**Pn**	**14 41 26.3**	**+2.2**
ASAJ	**Asahikawa**	**6.25**	**261**	PN	**Pn**	**14 41 26.7**	**+2.1**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ	**Asahikawa**	**6.25**	**261**	P	**Pn**	**14 41 26.7**	**+2.1**
	comp=Z,0.8nm,0.3s,baz=8.3,slow=18,SNR=9.1						
JCH	**Churui**	**6.30**	**246**	P	**Pn**	**14 41 24.8**	**-0.5**
JCH				*e*S	**Sn**	**14 42 33.2**	**-2.6**
JFR	**Furan**	**6.57**	**253**	P	**Pn**	**14 41 31.4**	**+2.5**
JEM	**Erimo**	**6.74**	**242**	P	**Pn**	**14 41 33.2**	**+1.9**
JEM				*e*S	**Sn**	**14 42 45.7**	**-0.9**
JNBK	**Urakawa-nobuka**	**6.86**	**246**	P	**Pn**	**14 41 32.2**	**-0.7**
JNBK				*e*S	**Sn**	**14 42 48.4**	**-1.1**
JBT2	**Biratori 2**	**6.88**	**250**	P	**Pn**	**14 41 33.7**	**+0.5**
JBT2				*e*S	**Sn**	**14 42 50.6**	**+0.6**
JKB	**Kayabe**	**8.17**	**248**	P	**Pn**	**14 41 50.1**	**-0.7**
JKB				*e*S	**Sn**	**14 43 15.0**	**-6.6**
JYM2	**Yakumo 2**	**8.50**	**251**	P	**Pn**	**14 41 55.1**	**-0.2**
JANG	**Nango**	**8.71**	**238**	P	**Pn**	**14 41 56.0**	**-2.2**
JANG				*e*S	**Sn**	**14 43 27.2**	**-7.7**
JTM	**Tenmabayashi**	**8.73**	**241**	P	**Pn**	**14 41 57.8**	**-0.7**
JTM				*e*S	**Sn**	**14 43 28.5**	**-6.9**
JTH	**Tanohata**	**8.78**	**235**	*e*S	**Sn**	**14 43 29.1**	**-7.6**
PET	**Petropavlovsk**	**9.03**	**30**	*e*PN	**Pn**	**14 42 01.8**	**-0.8**
PET				MLR	MLR		
	comp=Z,100nm,19.0s						
OFUJ	**Ofunato**	**9.48**	**231**	*e*S	**Sn**	**14 43 45.9**	**-7.9**
JRG	**Rokugo**	**9.86**	**236**	*e*S	**Sn**	**14 43 54.7**	**-8.2**
JIO	**Ouri**	**10.11**	**230**	P	**Pn**	**14 42 15.4**	**-1.9**
JIO				*e*S	**Sn**	**14 43 59.8**	**-9.3**
YAK	**Yakutsk**	**20.77**	**331**	*e*P	**P**	**14 44 32.3**	**+1.6**
	comp=Z,15nm,0.6s						
YAK	**Yakutsk**	**20.77**	**331**	*e*P	**P**	**14 44 32.3**	**+1.6**
YAK				pmax	pmax		
	comp=Z,15nm,0.6s						
MCK	**McKinley**	**37.53**	**39**	P	**P**	**14 47 03.0**	**+0.2**
	comp=Z,7.3nm,1.1s,mb4.3						
MCK	**McKinley**	**37.53**	**39**	P	**P**	**14 47 03.1**	**+0.2**
MCK				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.3						
COLA	**College**	**38.00**	**37**	P	**P**	**14 47 06.3**	**-0.6**
ZALV	**Zalesovo Beam**	**42.31**	**306**	PcP	PcP	14 49 35.1	-0.1
	comp=Z,0.6nm,0.5s,baz=40,slow=2.5,SNR=5.4						
INK	**Inuvik**	**43.48**	**32**	*e*P	**P**	**14 47 51.4**	**-0.6**
INK	**Inuvik**	**43.48**	**32**	P	**P**	**14 47 51.6**	**-0.4**
INK				pmax	pmax		
	comp=Z,4.0nm,0.6s						
INK	**Inuvik**	**43.48**	**32**	P	**P**	**14 47 51.5**	**-0.4**
	comp=Z,3.7nm,0.6s,mb4.3,baz=294,slow=7.9,SNR=27						
MKAR	**Makanchi Array**	**46.36**	**298**	P	**P**	**14 48 15.1**	**0.0**
	comp=Z,0.2nm,0.5s,mb3.3,baz=77,slow=4.5,SNR=2.5						
MKAR				PcP	PcP	14 49 49.1	-0.1
	comp=Z,0.3nm,0.5s,baz=264,slow=0.4,SNR=3.6						
RES	**Resolute Bay**	**52.51**	**18**	*e*P	**P**	**14 48 59.3**	**-2.3**
YKA	**Yellowknife Ar**	**52.78**	**36**	P	**P**	**14 49 03.1**	**-0.6**
YKA	**Yellowknife Ar**	**52.78**	**36**	P	**P**	**14 49 03.1**	**-0.6**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.4s						
YKA	**Yellowknife Ar**	**52.78**	**36**	P	**P**	**14 49 03.1**	**-0.6**
	comp=Z,0.5nm,0.4s,mb3.8,baz=298,slow=7.0,SNR=12						
PDAR	**Pinedale Array**	**66.61**	**52**	P	**P**	**14 50 39.3**	**+0.2**
	comp=Z,0.4nm,0.4s,mb3.8,baz=298,slow=3.2,SNR=4.5						
WRA	**Warramunga Arr**	**66.84**	**197**	P	**P**	**14 50 42.2**	**+1.6**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
WRA	**Warramunga Arr**	**66.84**	**197**	P	**P**	**14 50 42.2**	**+1.6**
	comp=Z,0.5nm,0.5s,mb3.8,baz=15,slow=6.8,SNR=13						
NOA	**NORSAR Array B**	**69.03**	**340**	P	**P**	**14 50 51.9**	**-2.1**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
NOA	**NORSAR Array B**	**69.03**	**340**	P	**P**	**14 50 51.9**	**-2.1**
	comp=Z,0.7nm,0.5s,mb3.9,baz=27,slow=6.4,SNR=3.3						
ASAR	**Alice Springs**	**70.54**	**197**	P	**P**	**14 51 06.5**	**+2.9**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
ASAR	**Alice Springs**	**70.54**	**197**	P	**P**	**14 51 06.5**	**+2.9**
	comp=Z,0.6nm,0.9s,mb3.5,baz=12,slow=5.8,SNR=6.7						
TXAR	**Lajitas Array**	**79.32**	**59**	P	**P**	**14 51 55.2**	**+0.8**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
TXAR	**Lajitas Array**	**79.32**	**59**	P	**P**	**14 51 55.1**	**+0.7**
	comp=Z,1.2nm,0.5s,mb4.1,baz=297,slow=4.3,SNR=17						

ISCJB ***26*** *14:53:30.8±1.8, 1540S±007×16583E±008, h39^{km}±16^{km}, mb4.5/20, MS4.0/13, Error ellipse: s-maj=13.3km s-min=10.8km az=10.7*
BJI ***26*** *14:53:33.9, 1530S×16580E, h58^{km}, mB4.7, mb4.6, Ms5.0, Msz4.5*
NEIC ***26*** *14:53:34.0±2.5, 1527S×16584E, h59^{km}±22^{km}, mb4.6/11, Error ellipse: s-maj=18.3km s-min=13.8km az=110.0*
IDC ***26*** *14:53:35.1±4.4, 1523S×16578E, h69^{km}±40^{km}, mb4.0/7, mb1 4.2/9, mb1mx3.9/17, mbtmp4.1/9, ML4.8/2, MS3.8/14, Ms1 3.8/14, ms1mx3.6/31, Error ellipse: s-maj=28.7km s-min=22.1km az=73.0*
LDG ***26*** *14:53:44.9±0.3, 1752S×16252E, h10^{km}, Mb4.4/2, Error ellipse: s-maj=160.3km s-min=8.4km az=52.0*

ISC 26 14:53:32.8±1.5, 1539S±005×16578E±008, h39^{km}±13^{km}, h37^{km}±1.6^{km}: pP-P, n61, σ1^{s}28/38, mb4.5/20, MS4.0/13, 1C, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**6.68**	**175**	*e*P	**Pn**	**14 55 08.7**	**+0.3**
DZM				*e*S	**Sn**	**14 56 19.1**	**-4.2**
HNR	**Honiara**	**8.21**	**315**	*e*Pn	**Pn**	**14 55 29.4**	**-0.1**
	672nm,0.9s						
HNR				*e*Sn	**Sn**	**14 56 59.2**	**-1.9**
HNR	**Honiara**	**8.21**	**315**	P	**Pn**	**14 55 30.3**	**+0.8**
	85nm,0.3s,baz=136,slow=1.8,SNR=30						
HNR				S	**Sn**	**14 57 00.0**	**-1.1**
	69nm,0.3s,baz=75,slow=18,SNR=7.7						
HNR				LR	LR	14 58 24.1	
	comp=Z,205nm,18.8s,baz=175,slow=36						
EIDS	**Eidsvold**	**16.97**	**232**	*e*Pn	**Pn**	**14 57 28.9**	**+1.5**
	6.2nm,0.8s						
EIDS				*e*Sn	**Sn**	**15 00 33.6**	**-1.5**
CTA	**Charters Tower**	**19.18**	**253**	*e*P	**Pn**	**14 57 56.3**	**+2.0**
	7.1nm,0.6s						
CTA	**Charters Tower**	**19.18**	**253**	P	**Pn**	**14 57 55.0**	**+0.6**
CTA				LR	LR	15 04 29.1	
CTA	**Charters Tower**	**19.18**	**253**	P	**Pn**	**14 57 55.0**	**+0.6**
	0.5nm,0.3s,baz=86,slow=12,SNR=14						
CTA				LR	LR	15 04 29.1	
	comp=Z,233nm,19.2s,baz=313,slow=34						
CTAO	**Charters Tower**	**19.18**	**253**	*e*P	**Pn**	**14 57 55.9**	**+1.5**
	11nm,0.8s						
CNB	**Canberra Magne**	**24.71**	**214**	*e*P	pP	14 59 05.0	+3.9
	32nm,1.7s						
URZ	**Urewera**	**24.88**	**158**	P	**P**	**14 58 52.7**	**+0.8**
	6.1nm,0.7s,mb4.2,baz=15,slow=2.2,SNR=3.9						
URZ				LR	LR	15 06 40.7	
	comp=Z,180nm,20.0s,MS3.6,baz=15,slow=31						
STKA	**Stephens Creek**	**27.48**	**229**	*e*P	**P**	**14 59 16.1**	**+0.7**
	5.8nm,0.9s,mb4.1						
STKA	**Stephens Creek**	**27.48**	**229**	*e*P	**P**	**14 59 15.6**	**+0.2**
	2.9nm,0.5s,mb4.1						
STKA				*e*		14 59 31.0	
STKA	**Stephens Creek**	**27.48**	**229**	P	**P**	**14 59 16.1**	**+0.7**
	2.0nm,0.4s,mb4.0,baz=44,slow=9.1,SNR=14						
STKA				LR	LR	15 10 22.2	
	comp=Z,315nm,18.1s,MS3.9,baz=33,slow=36						
RPZ	**Rata Peaks**	**28.59**	**172**	LR	LR	15 09 15.1	
	comp=Z,340nm,19.7s,MS4.0,baz=22,slow=33						
WRAB	**Tennant Creek**	**30.26**	**257**	P	**P**	**14 59 39.7**	**-0.6**
	12nm,1.3s,mb4.5						
WRA	**Warramunga Arr**	**30.27**	**257**	P	**P**	**14 59 40.2**	**-0.2**
	0.4nm,0.5s,mb3.4,baz=79,slow=6.3,SNR=16						
ASAR	**Alice Springs**	**31.10**	**250**	P	**P**	**14 59 47.5**	**-0.1**
	3.1nm,0.5s,mb4.4,baz=72,slow=9.8,SNR=63						
GUMO	**Guam**	**35.45**	**323**	LR	LR	15 12 45.7	
	comp=Z,144nm,21.8s,MS3.7,baz=159,slow=33						
FORT	**Forrest**	**37.73**	**239**	*e*P	**P**	**15 00 42.3**	**-2.6**
	27nm,0.7s,mb5.1						
FITZ	**Fitzroy Crossi**	**38.48**	**260**	*e*P	**P**	**15 00 50.9**	**-0.5**
	5.3nm,0.6s,mb4.5						
FITZ	**Fitzroy Crossi**	**38.48**	**260**	LR	LR	15 16 16.1	
	comp=Z,142nm,20.2s,MS3.8,baz=268,slow=35						
MBWA	**Marble Bar**	**43.99**	**255**	*e*P	**P**	**15 01 36.8**	**+0.2**
	11nm,1.0s,mb4.5						
KSM	**Kuching**	**57.33**	**282**	P	**P**	**15 03 19.3**	**+2.0**
KSM				*e*	pP	15 03 30.3	+1.3
JNU	**Nakatsue**	**58.63**	**326**	LR	LR	15 23 49.8	
	comp=Z,63nm,21.3s,MS3.7,baz=50,slow=31						
VNDA	**Vanda**	**62.18**	**181**	*e*P	**P**	**15 03 49.0**	**-0.7**
	3.4nm,0.9s,mb4.5						
VNDA	**Vanda**	**62.18**	**181**	P	**P**	**15 03 49.4**	**-0.4**
	2.1nm,0.7s,mb4.4,baz=3.4,slow=6.8,SNR=12						
SBA	**Scott Base**	**62.48**	**180**	*e*P	**P**	**15 03 52.1**	**+0.3**
	9.3nm,1.0s,mb4.9						
KSRS	**Korea Array**	**63.48**	**327**	LR	LR	15 27 47.6	
	comp=Z,40nm,21.4s,MS3.6,baz=334,slow=32						
MDJ	**Mudanjiang**	**68.19**	**333**	P	**P**	**15 04 30.0**	**+0.9**
MDJ				AMB	AMB		
	comp=Z,6.0nm,2.1s,mb4.3						
MDJ				AMB	AMB		
	comp=Z,42nm,4.0s						
GYA	**Guiyang**	**70.91**	**306**	P	**P**	**15 04 47.5**	**+1.2**
GYA				AP	pP	15 04 59.3	+1.2
GYA				PCP	PcP	15 05 09.3	+2.7
GYA				PP	PP	15 07 28.0	+4.0
GYA				S	S	15 14 01.8	+2.5
GYA				XS	sS	15 14 19.5	+0.6
GYA				SKS		15 14 43.5	
GYA				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.7						
GYA				AMB	AMB		
	comp=Z,70nm,6.4s						
GYA				LR	LR		
	comp=N,480nm,20.8s,MS4.9						
GYA				LR	LR		
	comp=E,460nm,21.6s,MS4.9						
GYA				LR	LR		
	comp=Z,410nm,20.5s,MS4.7						
BJI	**Beijing**	**71.88**	**322**	P	**P**	**15 04 52.8**	**+1.0**
BJI				AMB	AMB		
	comp=Z,5.0nm,0.5s,mb4.7						
KMI	**Kunming**	**73.44**	**303**	P	**P**	**15 05 03.0**	**+1.6**
KMI				AP	pP	15 05 13.8	+0.5
KMI				XP	sP	15 05 19.0	+1.2
KMI				AMB	AMB		
	comp=Z,7.0nm,0.9s,mb4.6						
KMI				AMB	AMB		
	comp=Z,65nm,4.3s						
HHC	**Hu-ho-hao-te**	**75.16**	**320**	*e*P	**P**	**15 05 12.5**	**+1.4**
HHC				AP	pP	15 05 23.0	0.0
HHC				PP	PP	15 08 02.0	+2.0
HHC				S	S	15 14 46.5	-0.5
HHC				AMB	AMB		
	comp=Z,13nm,0.4s,mb5.2						
HHC				AMB	AMB		
	comp=Z,132nm,5.1s						
HHC				LR	LR		
	comp=N,107nm,9.0s						
HHC				LR	LR		
	comp=E,116nm,4.7s						
HHC				LR	LR		
	comp=Z,85nm,7.3s						
LZH	**Lanzhou**	**77.70**	**313**	*e*P	**P**	**15 05 27.5**	**+1.9**
LZH				AP	pP	15 05 37.0	-0.6
LZH				AMB	AMB		
	comp=Z,13nm,1.0s,mb4.8						
KDAK	**Kodiak Island**	**80.58**	**21**	LR	LR	15 34 58.8	
	comp=Z,130nm,19.6s,MS4.3,baz=324,slow=31						
MAW	**Mawson**	**80.74**	**202**	LR	LR	15 34 37.3	
	comp=Z,117nm,21.9s,MS4.2,baz=245,slow=30						
MCK	**McKinley**	**86.22**	**18**	*e*P	**P**	**15 06 08.4**	**-1.3**
	comp=Z,6.6nm,0.9s,mb4.9						
COLA	**College**	**87.38**	**18**	*e*P	**P**	**15 06 13.1**	**-2.2**
	comp=Z,6.1nm,0.8s,mb4.9						
SYO	**Syowa Base**	**87.67**	**197**	⇑*e*P	**P**	**15 06 14.8**	**-2.1**
PDAR	**Pinedale Array**	**96.45**	**48**	LR	LR	15 45 13.1	
	comp=Z,75nm,20.0s,MS4.2,baz=86,slow=32						
MKAR	**Makanchi Array**	**96.69**	**317**	P	**P**	**15 06 56.9**	**-2.1**
	comp=Z,0.1nm,0.7s,mb3.4,baz=86,slow=5.9,SNR=2.3						
ZALV	**Zalesovo Beam**	**97.07**	**324**	LR	LR	15 47 29.8	
	comp=Z,21nm,18.6s,MS3.6,baz=7.7,slow=33						
TXAR	**Lajitas Array**	**97.85**	**62**	LR	LR	15 41 05.0	
	comp=Z,71nm,20.6s,MS4.1,baz=355,slow=29						
YKA	**Yellowknife Ar**	**98.79**	**28**	P	**P**	**15 07 06.8**	**-1.2**
YKA	**Yellowknife Ar**	**98.79**	**28**	P	**P**	**15 07 06.8**	**-1.2**
	comp=Z,0.8nm,0.7s,mb4.4,baz=256,slow=4.7,SNR=17						
LOR	**Lormes**	**144.84**	**338**	*e*PKP1	PKPdf	15 13 22.3	+17
	comp=Z,5.5nm,0.5s						
SSF	**Saint Saulge**	**145.14**	**339**	*e*PKP1	PKPbc	15 13 23.4	+18
	comp=Z,42nm,1.1s						
SMF	**Signal de Mont**	**145.38**	**338**	*e*PKP1	PKPbc	15 13 23.9	+17
	comp=Z,49nm,1.1s						
AVF	**Avril sur Loir**	**145.43**	**339**	*e*PKP1	PKPbc	15 13 24.0	+17
	comp=Z,44nm,1.2s						
MBDF	**Montbardon**	**145.78**	**333**	*e*PKP1	PKPbc	15 13 25.3	+18
	comp=Z,32nm,1.1s						
BGF	**Bois d'Agland**	**145.81**	**339**	*e*PKP1	PKPbc	15 13 25.3	+18
	comp=Z,14nm,0.6s						
ORIF	**Oris-en-Rattie**	**146.01**	**334**	*e*PKP1	PKPbc	15 13 26.4	+18
	comp=Z,29nm,0.9s						
SBF	**Sospel**	**146.16**	**331**	*e*PKP1	PKPbc	15 13 26.3	+17
	comp=Z,59nm,0.9s						
TCF	**Toulx Ste Croi**	**146.26**	**339**	*e*PKP1	PKPbc	15 13 26.8	+18
VIVF	**Saint-Julien-l**	**146.56**	**335**	*e*PKP1	PKPbc	15 13 28.6	+19
	comp=Z,14nm,0.9s						
MFF	**Saint Martin d**	**146.73**	**342**	*e*PKP1	PKPbc	15 13 28.0	+17
	comp=Z,27nm,0.9s						
FRF	**La Foret Royal**	**146.75**	**332**	*e*PKP1	PKPbc	15 13 28.2	+18
	comp=Z,68nm,1.1s						
SMRF	**Simiane la Rot**	**146.90**	**333**	*e*PKP1	PKPbc	15 13 29.1	+18
	comp=Z,37nm,1.3s						
LMR	**La Mourre**	**146.99**	**332**	*e*PKP1	PKPbc	15 13 28.9	+18
	comp=Z,58nm,1.1s						
LASF	**Ste Croix**	**147.53**	**335**	*e*PKP1	PKPbc	15 13 30.8	+18
MTLF	**Montolieu**	**148.80**	**337**	*e*PKP1	PKPbc	15 13 34.1	+18

**NEIC 26 15:16:15.0, 1936N×15508W, h10^{km}, MD3

region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.81**	**117**	*e*Sn	**Sn**	**15 40 48.9**	**+6.9**
HNR	**Honiara**	**4.81**	**117**	Pn	**Pn**	**15 39 47.1**	**-0.4**
5.5nm,0.3s,baz=277,slow=4.4,SNR=8.4							
CTA	**Charters Tower**	**15.68**	**214**	Pn	**Pn**	**15 42 16.3**	**+1.1**
0.1nm,0.3s,baz=28,slow=17,SNR=3.5							
CTAO	**Charters Tower**	**15.68**	**214**	*e*Pn	**Pn**	**15 42 16.7**	**+1.5**
7.5nm,1.0s							
KAKA	**Kakadu**	**23.46**	**255**	*e*P	**P**	**15 43 42.2**	**-0.6**
7.4nm,0.6s,mb4.3							
KAKA	**Kakadu**	**23.46**	**255**	*e*P	**P**	**15 43 41.8**	**-0.9**
25nm,0.8s,mb4.7							
WRAB	**Tennant Creek**	**24.18**	**236**	*e*P	**P**	**15 43 49.4**	**0.0**
8.9nm,1.1s,mb4.1							
WB2	**Warramunga Arr**	**24.19**	**236**	*e*P	**P**	**15 43 49.3**	**-0.1**
WRA	**Warramunga Arr**	**24.20**	**236**	P	**P**	**15 43 49.8**	**+0.3**
5.3nm,0.9s,mb4.0,baz=62,slow=9.5,SNR=31							
ASAR	**Alice Springs**	**26.49**	**230**	P	**P**	**15 44 09.6**	**-0.6**
0.9nm,0.7s,mb3.4,baz=58,slow=9.7,SNR=22							
ASAR				PcP	PcP	15 47 34.6	+0.3
0.2nm,0.6s,baz=72,slow=3.0,SNR=3.6							
STKA	**Stephens Creek**	**27.80**	**206**	*e*P	**P**	**15 44 22.4**	**+0.6**
3.4nm,0.9s,mb4.0							
STKA	**Stephens Creek**	**27.80**	**206**	*e*P	**P**	**15 44 21.4**	**-0.4**
4.1nm,0.7s,mb4.2							
STKA	**Stephens Creek**	**27.80**	**206**	P	**P**	**15 44 21.6**	**-0.3**
3.6nm,0.7s,mb4.1,baz=46,slow=9.7,SNR=6.9							
FITZ	**Fitzroy Crossi**	**31.13**	**247**	*e*P	**P**	**15 44 51.0**	**-0.6**
6.1nm,0.6s,mb4.6							
FITZ	**Fitzroy Crossi**	**31.13**	**247**	P	**P**	**15 44 51.1**	**-0.5**
4.3nm,0.8s,mb4.3,baz=126,slow=22,SNR=18							
CM31	**Chiang Mai Arr**	**61.44**	**295**	*e*P	**P**	**15 48 49.0**	**-0.1**
3.4nm,0.9s,mb4.5							
SONM	**Songino Array**	**69.86**	**327**	P	**P**	**15 49 43.5**	**+0.6**
0.5nm,0.6s,mb3.6,baz=130,slow=6.4,SNR=4.3							
BILL	**Bilibino**	**75.46**	**4**	*e*P	**P**	**15 50 14.8**	**-0.9**
6.7nm,1.4s,mb4.4							
MK31	**Makanchi Array**	**83.98**	**319**	*e*P	**P**	**15 51 02.4**	**0.0**
MKAR	**Makanchi Array**	**83.98**	**319**	P	**P**	**15 51 02.8**	**+0.5**
2.3nm,0.8s,mb4.4,baz=104,slow=5.5,SNR=11							
MAW	**Mawson**	**84.42**	**203**	*e*P	**P**	**15 51 04.0**	**-0.2**
30nm,1.8s,mb5.1							
ZALV	**Zalesovo Beam**	**84.71**	**326**	P	**P**	**15 51 05.5**	**-0.4**
0.5nm,0.4s,mb4.0,baz=128,slow=6.4,SNR=3.4							
YKA	**Yellowknife Ar**	**96.25**	**28**	P	**P**	**15 52 01.6**	**+1.6**
0.1nm,0.3s,mb3.7,baz=268,slow=4.4,SNR=4.0							

MAN 26 15:43:47,1260N×12341E,h15km,mb4.3,ML3.1,MS2.9, Luzon

*NEIC **26** 15:52:58.9,1898N×6445W,h25km,MD3.7(RSPR),After RSPR.*

RSPR 26 15:52:58.9,1898N×6445W,h25km±5km,MD3.7/18, MD3.7/18,14C-2D,Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABV	**Anegada**	**0.27**	**156**	⇑*i*P	Pb	15 53 04.9	-0.6
TBVI	**Tortola**	**0.58**	**196**	*e*S	Sb	15 53 16.9	-1.5
TBVI	**Tortola**	**0.58**	**196**	⇑*i*P	Pb	15 53 09.3	-1.2
TBVI	**Tortola**	**0.58**	**196**	⇑*i*P	Pb	15 53 09.3	-1.2
TBVI				*e*S	Sb	15 53 16.9	-1.5
STVI	**Saint Thomas**	**0.79**	**217**	⇓*e*P	Pb	15 53 12.3	-1.7
MTP	**Monte Pirata**	**1.37**	**230**	⇑*e*P	Pn	15 53 14.6	-7.8
CBYP	**Canovanas**	**1.51**	**242**	⇑*e*P	Pn	15 53 17.1	-7.3
HUMP	**Col San Antoni**	**1.57**	**238**	⇓*e*P	Pn	15 53 23.1	-2.1
HUMP				*e*S	Sn	15 53 42.5	-2.3
CPD	**Cerro la Pandu**	**1.68**	**236**	⇑*e*P	Pn	15 53 23.5	-3.2
CPD				*e*S	Sn	15 53 45.8	-1.7
SJG	**San Juan**	**1.83**	**242**	⇑*i*P	Pn	15 53 26.9	-2.0
SJG	**San Juan**	**1.83**	**242**	⇑*e*P	Pn	15 53 26.8	-2.0
SJG				*e*S	Sn	15 53 48.4	-2.8
CELP	**Cerrillos**	**2.21**	**246**	⇑*i*P	Pn	15 53 32.2	-1.8
CELP				*e*S	Sn	15 53 58.5	-2.2
ICM	**Isla Caja Muer**	**2.25**	**242**	⇑*e*P	Pn	15 53 33.4	-1.1
AOPR	**Arecibo Observ**	**2.27**	**254**	⇑*e*P	Pn	15 53 32.4	-2.5
LRS	**Lares**	**2.37**	**254**	⇑*e*P	Pn	15 53 35.0	-1.3
GBPR	**Guanica, Bosqu**	**2.52**	**247**	⇑*e*P	Pn	15 53 36.6	-1.7
AGPR	**Aguadilla, PR**	**2.58**	**259**	⇑*e*P	Pn	15 53 36.9	-2.2
LSP	**Las Mesas**	**2.63**	**253**	⇑*e*P	Pn	15 53 38.0	-1.8
CRPR	**Cabo Rojo, PR**	**2.71**	**249**	⇑*e*P	Pn	15 53 39.1	-1.7
CRPR				*e*S	Sn	15 54 09.6	-3.2
SMN1	**Samana, DR**	**4.57**	**273**	⇑*e*P	Pn	15 54 04.7	-1.8
DR12	**Loma Pena Alta**	**4.67**	**268**	⇑*e*P	Pn	15 54 07.5	-0.4
SDDR	**Presa de Saban**	**6.47**	**271**	*e*Pn	Pn	15 54 30.5	-2.2
33nm,0.6s							
SDDR				*e*Sn	Sn	15 55 44.3	-1.5
SDV	**Santo Domingo**	**11.69**	**212**	*e*Pn	Pn	15 55 48.2	+4.0
7.2nm,0.9s							
SDV				*e*Sn	Sn	15 57 54.6	+0.5

*CSEM **26** 16:06:02.1±0.2,4564N×2664E,h139km±1km,MD3.5/3, Error ellipse: s-maj=1.8km s-min=0.6km az=17.0,After BUC*

BUC 26 16:06:02.1±0.2,4564N×2664E,h139km±1km,MD3.5/3, 4C-1D,Error ellipse: s-maj=1.8km s-min=0.6km az=17.0, Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VRI	**Vrincioaia**	**0.23**	**15**	⇓*i*P	Pn	16 06 21.3	+0.2
VRI				*i*S	Sn	16 06 35.6	0.0
MLR	**Muntele Rosu**	**0.51**	**253**	⇑*i*P	Pn	16 06 22.5	+0.3
MLR				*i*S	Sn	16 06 38.6	+1.2
SNX	**Sinaia**	**0.84**	**251**	⇑*i*P	Pn	16 06 25.1	+0.7
HARR	**Harsova**	**1.32**	**136**	⇑*i*P	Pn	16 06 29.3	+0.4
HARR				*i*S	Sn	16 06 50.2	+1.0
TIRR	**Tirgusor**	**1.72**	**133**	⇑*i*P	Pn	16 06 33.8	+0.5
TIRR				*i*S	Sn	16 06 56.9	-0.3

IDC 26 16:06:57.5±5.3,671S×15427E,h0km,mb3.5/3,mb1 3.7/3, mb1mx3.5/14,mbtmp3.5/3,Error ellipse: s-maj=157.7km s-min=40.0km az=112.0,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.40**	**234**	P	P	16 12 08.3	-0.1
1.1nm,0.9s,baz=58,slow=9.3,SNR=8.3							
ASAR	**Alice Springs**	**25.84**	**227**	P	P	16 12 30.4	-0.4
0.5nm,0.7s,baz=58,slow=9.3,SNR=8.7							
MKAR	**Makanchi Array**	**82.72**	**319**	P	P	16 19 23.8	+0.6
0.5nm,0.7s,baz=122,slow=3.8,SNR=4.3							

*NIED **26** 16:37:00,4240N×14360E,h50km,Mw5.1 Best double couple: M0 4.35000×10^16 NP1:φs102.00000°,δ89.00000°, λ100.00000°. NP2:φs200.00000°,δ10.00000°,λ8.00000°.*

*MOS **26** 16:37:55.1±0.9,4241N×14358E,h47km,mb5.5/123, MS4.6/39,Error ellipse: s-maj=6.6km s-min=3.6km az=105.9*

*BJI **26** 16:37:55.4,4237N×14357E,h53km,mB5.0,mb5.3,Ms4.4, Msz4.1*

*ISCJB **26** 16:37:56.2±0.1,4238N±002×14358E±002,h56km, mb5.2/264,MS4.5/99,Error ellipse: s-maj=2.5km s-min=1.5km az=150.2*

*NEIC **26** 16:37:57.7±0.1,4244N×14356E,mb5.3/225, MW5.0(NIED),Error ellipse: s-maj=3.2km s-min=2.4km az=152.0*

NEIC Felt at Kushiro, Hokkaido and Misawa, Honshu. Recorded [4 JMA] in the Urahore area, [3 JMA] in south-central Hokkaido and [2 JMA] in much of southern Hokkaido. Also recorded [2 JMA] in Aomori and Iwate; [1 JMA] in Miyagi Prefectures, Honshu.

*SZGRF **26** 16:37:57.9,4310N×14456E,h36km,mb5.2,MS4.8, Hokkaido, Japan, region*

*GCMT **26** 16:37:57.7±0.2,4243N×14352E,h26km,MW5.3/89, Moment Tensor Solution. s59,c72; s89,c150; Duration: 1s0 Moment tensor: Scale 10^16Nm; Mrr0.13±.13; Mθθ0.15±.10; Mφφ-0.28±.12; Mrθ9.52±.37; Mφφ0.17±.08; Mφr-1.93±.20; Best double couple: M0 9.71700×10^16 NP1:φs8.00000°,δ1.00000°,λ176.00000°. NP2: φs102.00000°,δ90.00000°,λ89.00000°. Principal axes: T 9.8150, Plg45.0000°, Azm10.0000°; N -0.1970, Plg1.0000°, Azm102.0000°; P -9.6180, Plg45.0000°, Azm193.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*IDC **26** 16:37:57.8±0.4,4243N×14356E,h56km±3km,mb4.9/23, mb1 5.0/27,mb1mx5.0/28,mbtmp4.9/27,MS4.4/29, Ms1 4.4/29,ms1mx4.3/36 Error ellipse: s-maj=11.9km s-min=9.9km az=98.0*

*JMA **26** 16:37:57.2±0.1,4237N×14361E,h58km±1km,M5.2 Broadband fault plane solution: P waves. NP1: φs180.00000°,δ0.00000°,λ18.00000°. NP2:φs72.00000°, δ90.00000°,λ90.00000°. Principal axes: T Plg45.0000°, Azm342.0000°; N Plg0.0000°, Azm72.0000°; P Plg45.0000°, Azm162.0000°;*

JMA Felt IV J1.

*BGS **26** 16:38:06.5±1.6,4331N×14061E,h56km,mb5.1*

ISC 26 16:37:58.2±0.1,4243N±002×14354E±002,h58km, h58km±.4km:pP-P,n1141,σ0 81/1139,mb5.2/264,MS4.5/99, 210C-139D,Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCH	**Churui**	**0.23**	**326**	⇓P	**Pn**	**16 38 07.1**	**-0.4**
JCH				*e*S	**Sn**	**16 38 13.9**	**-0.4**
ERM	**Erimo**	**0.50**	**214**	Pn	**Pn**	**16 38 09.5**	**-0.4**
473μm,0.4s							
ERM	**Erimo**	**0.50**	**214**	⇓*e*Pn	**Pn**	**16 38 08.8**	**-1.2**
ERM				*e*Sn	**Sn**	**16 38 16.4**	**-2.0**
JEM	**Erimo**	**0.50**	**214**	⇑P	**Pn**	**16 38 08.7**	**-1.2**
JOB	**Onbets**	**0.53**	**25**	⇓P	**Pn**	**16 38 09.8**	**-0.4**
JOB				*e*S	**Sn**	**16 38 19.0**	**0.0**
JNBK	**Urakawa-nobuka**	**0.60**	**256**	⇓P	**Pn**	**16 38 10.8**	**-0.3**
JNBK				*e*S	**Sn**	**16 38 20.8**	**+0.4**
JAR	**Ashorobuto**	**0.89**	**11**	⇓P	**Pn**	**16 38 14.3**	**-0.3**
JAR				*e*S	**Sn**	**16 38 27.0**	**+0.2**
JBT2	**Biratori 2**	**0.93**	**292**	⇓P	**Pn**	**16 38 15.0**	**-0.2**
JFR	**Furan**	**1.01**	**317**	⇓P	**Pn**	**16 38 15.7**	**-0.6**
JFR				*e*S	**Sn**	**16 38 30.7**	**+1.1**
JAK	**Akkeshi**	**1.03**	**56**	⇓P	**Pn**	**16 38 14.6**	**-1.9**
JAK				*e*S	**Sn**	**16 38 27.8**	**-2.2**
JAB	**Ashibetsu**	**1.45**	**319**	⇓P	**Pn**	**16 38 23.3**	**+1.3**
JNK	**Nakash**	**1.45**	**36**	⇓P	**Pn**	**16 38 20.6**	**-1.5**
JNK				*e*S	**Sn**	**16 38 37.6**	**-2.4**
JTKR	**Abashiri--Toko**	**1.57**	**10**	P	**Pn**	**16 38 24.1**	**+0.4**
ASAJ	**Asahikawa**	**1.82**	**338**	P	**Pn**	**16 38 28.4**	**+1.2**
206nm,0.3s,baz=192,slow=11,SNR=1095							
ASAJ				S	**Sn**	**16 38 52.4**	**+3.3**
1μm,0.3s,baz=193,slow=13,SNR=24							
ASAJ				LR	LR	16 39 26.4	
comp=Z,11μm,21.0s,baz=126,slow=49							
JNB	**Noboribetsu**	**1.85**	**272**	⇓P	**Pn**	**16 38 28.9**	**+1.4**
JKB	**Kayabe**	**1.94**	**255**	⇓P	**Pn**	**16 38 29.9**	**+1.2**
JOT	**Ohata**	**2.13**	**241**	⇓P	**Pn**	**16 38 31.8**	**+0.5**
YUK	**Yuzh-Kuril'sk**	**2.34**	**46**	*e*PN	**Pn**	**16 38 33.3**	**-0.9**
YUK				*e*S	**Sn**	**16 38 59.9**	**-1.8**
YUK				pmax	pmax		
comp=E,180nm,0.5s							
YUK				pmax	pmax		
comp=Z,2μm,0.5s							
YUK				pmax	pmax		
comp=N,5μm,1.0s							
YUK				pmax	pmax		
comp=E,3μm,0.6s							
YUK				smax			
comp=N,80μm,1.0s							
YUK				smax			
comp=E,65nm,0.8s							
JTM	**Tenmabayashi**	**2.47**	**229**	⇓P	**Pn**	**16 38 36.1**	**+0.1**
JANG	**Nango**	**2.55**	**217**	P	**Pn**	**16 38 36.0**	**-1.1**
JKZ	**Kuzumaki**	**2.95**	**215**	⇓P	**Pn**	**16 38 41.8**	**-0.8**
KUR	**Kuril'sk**	**4.21**	**47**	⇑*i*PN	**Pn**	**16 38 56.5**	**-3.2**
KUR				*i*S	**Sn**	**16 39 43.8**	**-3.7**
KUR				pmax	pmax		
comp=N,6μm,2.0s							
KUR				pmax	pmax		
comp=Z,8μm,2.0s							
KUR				pmax	pmax		
comp=N,380nm,0.6s							
KUR				pmax	pmax		
comp=E,720nm,0.6s							
KUR				pmax	pmax		
comp=Z,2μm,0.6s							
KUR				smax			
comp=N,24μm,2.0s							
KUR				smax			
comp=E,26μm,2.0s							
KUR				smax			
comp=N,1μm,0.8s							
KUR				smax			
comp=E,6μm,0.8s							
JIO	**Ouri**	**4.30**	**204**	P	**Pn**	**16 38 58.6**	**-2.5**
YSS	**Yuzh-Sakhalins**	**4.56**	**353**	⇑*e*Pn	**Pn**	**16 39 04.8**	**+0.3**
YSS	**Yuzh-Sakhalins**	**4.56**	**353**	⇑*i*PN	**Pn**	**16 39 05.0**	**+0.4**
YSS				*e*S	**Sn**	**16 39 56.0**	**-0.2**
YSS				pmax	pmax		
comp=N,330nm,0.8s							
YSS				pmax	pmax		
comp=E,360nm,0.8s							
YSS				pmax	pmax		
comp=Z,320nm,0.8s							
YSS				pmax	pmax		
comp=Z,600nm,1.0s							
YSS				smax			
comp=N,2μm,1.0s							
YSS				smax			
comp=E,2μm,1.0s							
YSS				MLR	MLR		
comp=N,4μm,19.0s							
YSS				MLR	MLR		
comp=Z,4μm,19.0s							
YSS				MLR	MLR		
comp=E,3μm,17.0s							
JAW	**Awa shima**	**5.14**	**221**	P	**Pn**	**16 39 12.5**	**-0.1**
JNS	**Sasagawa**	**5.62**	**216**	P	**Pn**	**16 39 18.7**	**-0.5**
JSD	**Sado**	**5.96**	**224**	P	**Pn**	**16 39 23.7**	**-0.1**
JSB	**Shiboa**	**6.12**	**208**	P	**Pn**	**16 39 24.7**	**-1.3**
JIZZ	**Izumozaki**	**6.13**	**219**	P	**Pn**	**16 39 26.7**	**+0.5**
JHK	**Hiroka**	**6.23**	**215**	⇓P	**Pn**	**16 39 26.9**	**-0.6**
JHO	**Hitachi**	**6.24**	**203**	P	**Pn**	**16 39 24.1**	**-3.6**
JJN	**Nakama**	**6.74**	**220**	P	**Pn**	**16 39 34.8**	**+0.4**
JAG	**Ashikaga**	**6.78**	**209**	P	**Pn**	**16 39 33.2**	**-1.7**
JHG	**Hegura jima**	**6.83**	**230**	P	**Pn**	**16 39 36.5**	**+0.9**
MJAR	**Matsushiro Arr**	**7.17**	**217**	PN	**Pn**	**16 39 40.0**	**-0.4**
MJAR				pmax	pmax		
comp=Z,19nm,0.3s							
MJAR	**Matsushiro Arr**	**7.17**	**217**	P	**Pn**	**16 39 40.0**	**-0.4**
comp=Z,19nm,0.3s,baz=30,slow=13,SNR=247							
MAJO	**Matsushiro**	**7.18**	**217**	⇓*i*Pn	**Pn**	**16 39 39.7**	**-0.8**
comp=Z,244nm,0.7s							
MAJO	**Matsushiro**	**7.18**	**217**	⇓*i*PN	**Pn**	**16 39 39.7**	**-0.7**
MAJO				pmax	pmax		
comp=Z,244nm,0.7s							
MAT	**Matsushiro**	**7.18**	**217**	P	**Pn**	**16 39 39.8**	**-0.6**
MAT				S	**Sn**	**16 41 02.6**	**+2.1**
JNG	**Nsakai**	**7.34**	**217**	P	**Pn**	**16 39 42.2**	**-0.4**
JTT	**Ttatey**	**7.53**	**222**	P	**Pn**	**16 39 46.1**	**+0.8**
JJH	**Hakui**	**7.57**	**226**	P	**Pn**	**16 39 46.3**	**+0.5**
JGN	**Niukaw**	**7.85**	**220**	P	**Pn**	**16 39 50.0**	**+0.4**
JOD2	**Odawara 2**	**7.95**	**207**	P	**Pn**	**16 39 47.2**	**-3.8**
JNY	**Yasuok**	**8.33**	**214**	P	**Pn**	**16 39 55.2**	**-1.0**
JGF	**Kuroka**	**8.34**	**217**	P	**Pn**	**16 39 55.7**	**-0.7**
HABR	**Khabarovsk**	**8.49**	**318**	*i*PN	**Pn**	**16 39 58.9**	**+0.6**
HABR				*e*		16 41 36.7	
HABR				pmax	pmax		
comp=Z,199nm,1.6s							
JIZS	**Izushimoda**	**8.52**	**207**	P	**Pn**	**16 39 55.0**	**-3.8**
JGM	**Miyama**	**8.55**	**220**	P	**Pn**	**16 39 59.7**	**+0.4**
VLA	**Vladivostok**	**8.59**	**279**	*e*PN	**Pn**	**16 40 01.2**	**+1.4**
VLA				pmax	pmax		
comp=Z,339nm,1.3s							
JAO	**Obara**	**8.66**	**216**	P	**Pn**	**16 40 00.9**	**+0.1**
JFM	**Mihama**	**9.05**	**223**	P	**Pn**	**16 40 07.0**	**+0.9**
JAA	**Atsumi**	**9.25**	**215**	P	**Pn**	**16 40 07.2**	**-1.6**
TSUJ	**Tsu 2**	**9.51**	**218**	P	**Pn**	**16 40 11.5**	**-0.8**
JIE	**Ise**	**9.64**	**216**	P	**Pn**	**16 40 12.7**	**-1.5**
JHJ	**Hachijo jima 2**	**9.75**	**199**	P	**Pn**	**16 40 11.4**	**-4.3**
comp=Z,76nm,0.3s,baz=256,slow=23,SNR=24							
JHJ				S	**Sn**	**16 41 51.7**	**-12**
comp=Z,157nm,0.3s,baz=260,slow=23,SNR=11							
JKN2	**Miekihoku**	**9.96**	**217**	P	**Pn**	**16 40 16.4**	**-2.2**
MDJ	**Mudanjiang**	**10.36**	**287**	P	**Pn**	**16 40 27.3**	**+3.3**
MDJ				S	**Sn**	**16 42 24.8**	**+6.3**
MDJ				SCP	ScP	16 49 55.0	+1.6
MDJ				PCS	PcS	16 50 01.0	+1.5
MDJ				SCS	ScS	16 53 30.3	+2.2
MDJ				AMB	AMB		
comp=Z,11nm,0.9s							
MDJ				AMB	AMB		
comp=Z,106nm,4.4s							
MDJ				LR	LR		
comp=N,1μm,27.9s							
MDJ				LR	LR		
comp=E,488nm,29.1s							
MDJ				LR	LR		
comp=Z,484nm,20.4s							
MDJ	**Mudanjiang**	**10.36**	**287**	⇑*i*Pn	**Pn**	**16 40 27.3**	**+3.4**
comp=Z,36nm,0.8s							
KLR	**Kul'dur**	**10.66**	**314**	*e*PN	**Pn**	**16 40 27.0**	**-1.1**
KLR				*e*		16 42 39.0	
KLR				pmax	pmax		
comp=E,380nm,1.4s							
KLR				pmax	pmax		
comp=Z,280nm,1.4s							
KLR				MLR	MLR		
comp=Z,3μm,11.0s							
OKH	**Okha**	**11.14**	**358**	*e*PN	**Pn**	**16 40 38.0**	**+3.5**
OKH				pmax	pmax		
comp=Z,1μm,2.2s							
SKR	**Severo-Kuril's**	**11.95**	**42**	*e*PN	**Pn**	**16 40 39.6**	**-6.0**
SKR				pmax	pmax		
comp=N,450nm,1.0s							
SKR				pmax	pmax		
comp=E,490nm,1.0s							
SKR				pmax	pmax		
comp=Z,770nm,1.0s							
SKR				MLR	MLR		
comp=E,3μm,14.0s							
SKR				MLR	MLR		
comp=Z,3μm,14.0s							
JTY	**Toyota**	**12.73**	**234**	P	**Pn**	**16 40 56.5**	**+0.2**
JKI	**Kunimi**	**12.88**	**231**	P	**Pn**	**16 40 57.5**	**-0.8**
KSRS	**Korea Array**	**12.96**	**253**	P	**Pn**	**16 41 00.3**	**+0.8**
comp=Z,1.0nm,0.3s,baz=69,slow=13,SNR=123							
KSRS				S	**Sn**	**16 43 30.8**	**+8.7**
comp=Z,2.6nm,0.3s,baz=54,slow=24,SNR=10							
KSRS				LR	LR	16 45 42.1	
comp=Z,973nm,20.3s,baz=60,slow=36							
KSRS				ScP	ScP	16 49 58.6	+1.4
comp=Z,0.1nm,0.3s,baz=349,slow=1.3,SNR=4.6							
CN2	**Changchun**	**13.29**	**282**	*e*P	**Pn**	**16 41 04.5**	**+0.6**
CN2				*e*AP		16 41 12.0	
CN2				*e*PP		16 41 15.5	
CN2				*e*S	**Sn**	**16 43 31.8**	**+1.9**
CN2				AMB	AMB		
comp=Z,30nm,1.0s							
CN2				AMB	AMB		
comp=Z,100nm,3.0s							
CN2				LR	LR		
comp=N,1μm,15.0s							
CN2				LR	LR		
comp=E,300nm,15.0s							
CN2				LR	LR		
comp=Z,800nm,16.0s							
JNU	**Nakatsue**	**13.64**	**231**	P	**Pn**	**16 41 07.0**	**-1.7**
comp=Z,1.5nm,0.3s,baz=49,slow=17,SNR=30							
JNU				LR	LR	16 46 32.0	
comp=Z,1μm,21.5s,baz=49,slow=38							
INCN	**Inchon**	**13.87**	**255**	*e*Pn	**Pn**	**16 41 09.7**	**-2.1**
comp=Z,46nm,0.8s							
PET	**Petropavlovsk**	**14.66**	**38**	*e*Pn	**Pn**	**16 41 16.8**	**-5.3**
comp=Z,172nm,1.3s							
PET				*e*Sn	**Sn**	**16 43 53.6**	**-9.4**
PET	**Petropavlovsk**	**14.66**	**38**	*e*P	**Pn**	**16 41 16.9**	**-5.1**
PET				*e*S	**Sn**	**16 43 54.3**	**-8.8**
PET				pmax	pmax		
comp=Z,500nm,6.5s							
PET				pmax	pmax		
comp=Z,100nm,1.4s							
PET				pmax	pmax		
comp=Z,300nm,8.1s							
PET				smax			
comp=N,49nm,1.1s							
PET				smax			
comp=N,400nm,14.6s							
PET				MLR	MLR		
comp=Z,1μm,20.0s							
PET				MLR	MLR		
comp=Z,1μm,18.0s							
SNY	**Shenyang**	**14.82**	**274**	⇓P	**Pn**	**16 41 24.5**	**+0.2**
SNY				S	**Sn**	**16 44 05.0**	**-2.2**
SNY				SS		16 44 21.5	
SNY				AMB	AMB		
comp=Z,22nm,0.8s							
SNY				AMB	AMB		
comp=Z,110nm,12.0s							
SNY				LR	LR		
comp=N,522nm,12.4s							
SNY				LR	LR		
comp=Z,437nm,14.5s							
JTSR	**Tashiro 2**	**15.09**	**226**	P	**Pn**	**16 41 25.6**	**-2.2**
JFU	**Fukue jima 2**	**15.23**	**235**	P	**Pn**	**16 41 28.6**	**-1.0**
CBIJ	**Chichi jima**	**15.34**	**185**	P	**Pn**	**16 41 26.1**	**-4.8**
comp=Z,15nm,0.3s,baz=286,slow=19,SNR=16							
CBIJ				S	S	16 44 02.5	-31
comp=Z,29nm,0.3s,baz=16,slow=19,SNR=7.5							
DL2	**Dalian**	**16.98**	**265**	P	**Pn**	**16 41 51.0**	**-0.7**
DL2				AP	pP	16 42 00.5	-4.8
DL2				XP	sP	16 42 09.0	-3.6
DL2				S	**S**	**16 44 58.0**	**-8.7**
DL2				SS		16 45 19.5	
DL2				AMB	AMB		
comp=Z,60nm,0.7s							
DL2				AMB	AMB		
comp=Z,150nm,5.3s							
DL2				LR	LR		
comp=N,180nm,14.8s							
DL2				LR	LR		
comp=E,190nm,16.6s							
DL2				LR	LR		
comp=Z,290nm,15.2s							
MA2	**Magadan**	**17.74**	**12**	⇑*e*Pn	**Pn**	**16 41 57.6**	**-3.2**
comp=Z,130nm,0.9s							
MA2	**Magadan**	**17.74**	**12**	*c i*P	**Pn**	**16 41 58.2**	**-2.7**
MA2				*e*S	**S**	**16 45 11.1**	**-11**
MA2				pmax	pmax		
comp=N,200nm,0.9s							
MA2				pmax	pmax		
comp=Z,200nm,0.9s							
MA2				MLR	MLR		
comp=Z,500nm,20.0s							
HIA	**Hailar**	**17.89**	**301**	*e*Pn	**Pn**	**16 42 01.9**	**-0.9**
comp=Z,31nm,0.7s							
HIA	**Hailar**	**17.89**	**301**	*e*P	**Pn**	**16 42 01.9**	**-0.8**
HIA				pmax	pmax		
comp=Z,31nm,0.7s							
NRGR	**Nerungri**	**18.66**	**326**	*e*P	**Pn**	**16 42 11.2**	**-0.8**
NRGR				S	**S**	**16 45 42.5**	**+2.0**
NRGR				smax			
comp=E,145nm,0.9s							
CLNS	**Chul'man**	**18.71**	**327**	*e*P	**Pn**	**16 42 11.7**	**-0.9**
CLNS				pmax	pmax		
comp=E,23nm,1.0s							
CLNS				pmax	pmax		
comp=Z,48nm,1.0s							
CLNS				pmax	pmax		
comp=N,38n

BJT MLR MLR
comp=Z,656nm,22.0s
SSE Sheshan 21.11 245 P **P 16 42 38.3 +0.3**
SSE XP sP 16 42 54.5 -3.5
SSE S **S 16 46 27.5 -2.1**
SSE XS sS 16 46 43.8 -6.6
SSE AMB AMB
comp=Z,43nm,0.7s,mb4.9
SSE AMB AMB
comp=Z,161nm,7.3s
SSE LR LR
comp=N,172nm,17.7s,MS4.0
SSE LR LR
comp=E,551nm,17.7s,MS4.0
SSE LR LR
comp=Z,693nm,17.7s,MS4.1
SEY Seymchan 21.19 11⇑ *i*P **P 16 42 35.8 -2.7**
YAK Yakutsk 21.30 342 *e*P **P 16 42 35.4 -4.2**
comp=Z,127nm,0.8s,mb5.3
YAK *e* 16 42 55.3
YAK *e*S **S 16 46 25.6 -7.1**
YAK LR LR
comp=Z,1μm,20.0s,MS4.2
YAK Yakutsk 21.30 342 *i* P **P 16 42 37.1 -2.6**
YAK *e* 16 42 54.7
YAK *e*S **S 16 46 28.8 -3.9**
YAK *e*SS 16 46 58.5
YAK pmax pmax
comp=Z,101nm,0.9s,mb5.2
YAK pmax pmax
comp=N,33nm,1.2s
YAK smax
comp=N,726nm,1.9s
YAK smax
comp=Z,175nm,1.2s
YAK smax
comp=E,432nm,1.5s
YAK MLR MLR
comp=N,841nm,21.0s,MS4.2
YAK MLR MLR
comp=Z,1μm,21.0s,MS4.2
YAK MLR MLR
comp=E,482nm,17.0s,MS4.2
TIA Tai'an 21.31 262 P **P 16 42 37.5 -2.5**
TIA AMB AMB
comp=Z,85nm,0.9s,mb5.1
NJ2 Nanjing 22.14 250 *e*P **P 16 42 47.0 -1.9**
NJ2 AP 16 42 56.5
NJ2 XP sP 16 43 05.0 -4.0
NJ2 PP 16 43 16.3
NJ2 S **S 16 46 44.0 -5.6**
NJ2 XS sS 16 47 06.0 -4.7
NJ2 AMB AMB
comp=Z,50nm,0.8s,mb5.0
NJ2 AMB AMB
comp=Z,360nm,5.7s
NJ2 LR LR
comp=N,850nm,13.7s,MS4.5
NJ2 LR LR
comp=E,1μm,15.4s,MS4.5
SMY Shemya 22.88 53 *e*P **P 16 42 54.7 -1.9**
comp=E,198nm,1.1s,mb5.5
SMY Shemya 22.88 53 *e*P **P 16 42 54.7 -1.9**
SMY pmax pmax
comp=Z,198nm,1.1s,mb5.5
BOD Bodaibo 24.14 320 *e*P **P 16 43 05.3 -3.1**
BOD *e* 16 54 06.3
BOD pmax pmax
comp=Z,17nm,1.3s,mb4.3
TIY Taiyuan 24.19 269 P **P 16 43 08.0 -1.0**
TIY XP sP 16 43 22.0 -8.1
TIY PPP 16 43 56.0
TIY S **S 16 47 21.8 -1.4**
TIY LR LR
comp=N,342nm,7.8s
TIY LR LR
comp=E,343nm,7.4s
TIY LR LR
comp=Z,449nm,11.3s,MS4.2
BTO Baotou 25.07 277 *e*P **P 16 43 18.3 +1.2**
BTO AMB AMB
comp=Z,28nm,0.5s,mb5.0
TATO Taipei 25.17 233 *e*P **P 16 43 18.4 +0.3**
comp=Z,636nm,1.7s
TATO LR LR
comp=Z,1μm,20.0s,MS4.3
YHNB Yeheng 25.46 233 *e*P **P 16 43 19.9 -0.8**
NACB Ninganchiao 25.71 232 *e*P **P 16 43 19.7 -3.4**
ULN Ulaanbaatar 26.13 295⇑ *e*P **P 16 43 26.6 0.0**
comp=Z,14nm,0.7s,mb4.6
ULN LR LR
comp=Z,521nm,19.0s,MS4.1
ULN Ulaanbaatar 26.13 295⇑ *e*P **P 16 43 26.6 0.0**
ULN pmax pmax
comp=Z,14nm,0.7s,mb4.6
ULN MLR MLR
comp=Z,521nm,19.0s,MS4.1
ULN Ulaanbaatar 26.13 295 P **P 16 43 27.6 +1.1**
SNR=11
WHN Wuhan 26.16 253 ⇑P **P 16 43 25.5 -1.5**
WHN XP sP 16 43 47.3 -0.8
WHN PP 16 44 05.0
WHN S **S 16 47 54.5 -0.2**
WHN AMB AMB
comp=Z,311nm,0.7s,mb6.0
WHN AMB AMB
comp=Z,516nm,3.6s
WHN LR LR
comp=Z,999nm,18.0s,MS4.4
SONM Songino Array 26.57 295 P **P 16 43 31.1 +0.5**
SONM pmax pmax
comp=Z,12nm,0.6s
SONM MLR MLR
comp=Z,560nm,18.6s
SONM Songino Array 26.57 295 P **P 16 43 31.1 +0.5**
comp=Z,12nm,0.6s,mb4.6,baz=91,slow=8.6,SNR=51
SONM LR LR 16 55 00.2
comp=Z,560nm,18.6s,MS4.1,baz=90,slow=38
IRK Irkutsk 28.05 304 *e*P **P 16 43 43.9 +0.2**
IRK *e* 16 44 32.0
IRK *e*S **S 16 48 24.9 +0.9**
IRK pmax pmax
comp=Z,28nm,1.1s,mb4.8
XAN Xi'an 28.30 264 P **P 16 43 46.5 +0.4**
XAN PP PP 16 44 37.0 -14
XAN PPP 16 44 52.3
XAN PCP PcP 16 46 58.3 +0.4
XAN S **S 16 48 30.0 +1.7**
XAN SS SS 16 49 55.0 -34
XAN AMB AMB
comp=Z,28nm,0.6s,mb5.1
XAN AMB AMB
comp=Z,105nm,7.6s
XAN LR LR
comp=N,144nm,16.0s,MS3.9
XAN LR LR
comp=E,233nm,17.5s,MS3.9
XAN LR LR
comp=Z,249nm,20.0s,MS3.8
TLY Talaya 28.39 303⇑ *e*P **P 16 43 46.3 -0.5**
comp=Z,15nm,0.7s,mb4.7
TLY LR LR
comp=Z,211nm,21.0s
TLY Talaya 28.39 303 *e*P **P 16 43 46.8 0.0**
TLY *e*S **S 16 48 33.2 +3.7**
TLY pmax pmax
comp=Z,20nm,0.9s,mb4.8
TLY MLR MLR
comp=Z,159nm,13.0s,MS3.8
TLY Talaya 28.39 303 P **P 16 43 48.2 +1.4**
SNR=8.0
BILL Bilibino 28.40 18⇑ *e*P **P 16 43 41.9 -4.7**
comp=Z,21nm,0.8s,mb4.8
BILL LR LR
comp=Z,554nm,22.0s,MS4.1
BILL Bilibino 28.40 18 *c e*P **P 16 43 42.6 -4.1**
BILL pP 16 43 55.9 -5.1
BILL 16 44 35.9
BILL *e*S **S 16 48 27.0 -2.2**
BILL pmax pmax
comp=Z,28nm,1.1s,mb4.8
BILL MLR MLR
comp=Z,600nm,22.0s,MS4.2
ZAK Zakamensk 28.58 300⇓ *i*P **P 16 43 48.9 +0.4**
ZAK pmax pmax
comp=Z,16nm,1.2s,mb4.6

GUMO Guam 28.76 177 PFAKE 16 44 00.0 +10
GUMO LR LR
comp=Z,804nm,21.0s,MS4.3
GUMO Guam 28.76 177 LR LR 16 53 51.3
comp=Z,650nm,21.7s,MS4.2,baz=39,slow=33
ENH Enshi 29.79 257 PFAKE 16 44 10.0 +11
ENH LR LR
comp=Z,5.0nm,22.0s
MOY Mondy 30.04 303 *e*P **P 16 44 02.5 +1.1**
MOY pmax pmax
comp=Z,56nm,1.5s,mb5.1
TIXI Tiksi 30.18 351⇑ *e*P **P 16 43 57.7 -4.7**
comp=Z,22nm,1.3s,mb4.7
TIXI Tiksi 30.18 351 *e*P **P 16 43 57.7 -4.7**
TIXI *e*S **S 16 48 56.2 -0.9**
TIXI pmax pmax
comp=Z,10.0nm,1.0s,mb4.5
TIXI MLR MLR
comp=Z,408nm,14.0s,MS4.2
LZH Lanzhou 31.17 272⇓ *i*P **P 16 44 13.5 +2.0**
LZH AP pP 16 44 24.0 -1.9
LZH XP sP 16 44 28.5 -4.2
LZH PCP PcP 16 47 07.0 +1.8
LZH *e*S **S 16 49 15.0 +1.7**
LZH AMB AMB
comp=Z,84nm,1.0s,mb5.5
LZH AMB AMB
comp=Z,338nm,4.5s
LZH LR LR
comp=E,452nm,13.6s
LZH LR LR
comp=Z,667nm,13.8s,MS4.5
GTA Gaotai 32.91 280 P **P 16 44 28.0 +1.3**
GTA AP pP 16 44 37.8 -3.4
GTA XP sP 16 44 41.5 -6.5
GTA PP PP 16 45 38.5 -3.4
GTA PCP PcP 16 47 11.3 +1.4
GTA S **S 16 49 43.3 +3.0**
GTA XS sS 16 49 59.3 -5.6
GTA SCP ScP 16 50 50.5 +1.6
GTA PCS PcS 16 50 56.5 +1.2
GTA SS SS 16 51 43.8 -20
GTA SCS ScS 16 54 49.5 +0.4
GTA AMB AMB
comp=Z,65nm,0.7s,mb5.7
GTA AMB AMB
comp=Z,117nm,5.3s
GTA LR LR
comp=N,421nm,19.8s
GTA LR LR
comp=E,217nm,13.7s
GTA LR LR
comp=Z,325nm,14.4s
GAMB Gambell 33.31 35 *e*P **P 16 44 28.4 -1.5**
comp=Z,15nm,1.2s,mb4.8
GAMB *e* pP 16 44 43.1 -1.2
CD2 Chengdu 33.63 263 P **P 16 44 33.3 +0.2**
CD2 AP pP 16 44 43.0 -4.6
CD2 PP PP 16 45 43.8 -6.2
CD2 PCP PcP 16 47 13.0 +0.9
CD2 S **S 16 49 53.0 +1.3**
CD2 PCS PcS 16 50 57.8 -0.3
CD2 SS SS 16 51 57.3 -21
CD2 AMB AMB
comp=Z,100nm,0.9s
CD2 AMB AMB
comp=Z,150nm,6.6s
CD2 LR LR
comp=N,370nm,13.8s,MS4.4
CD2 LR LR
comp=E,390nm,16.8s,MS4.4
CD2 LR LR
comp=Z,280nm,18.0s,MS4.0
GYA Guiyang 34.02 254⇓ *i*P **P 16 44 35.3 -1.2**
GYA AP pP 16 44 53.0 +2.0
GYA XP sP 16 44 59.3 +1.5
GYA PP PP 16 45 54.0 -0.4
GYA PCP PcP 16 47 15.5 +2.2
GYA S **S 16 49 58.5 +0.7**
GYA XS sS 16 50 23.5 +1.1
GYA SCP ScP 16 50 54.5 +1.4
GYA PCS PcS 16 51 01.8 +2.2
GYA SS SS 16 52 08.5 -18
GYA SCS ScS 16 54 54.3 -0.9
GYA AMB AMB
comp=Z,50nm,0.8s,mb5.5
GYA LR LR
comp=N,2μm,20.4s,MS5.0
GYA LR LR
comp=E,2μm,21.2s,MS5.0
GYA LR LR
comp=Z,3μm,22.6s,MS4.9
UNV Unalaska Valle 34.55 53 P **P 16 44 40.1 -0.7**
UNV LR LR
comp=Z,2μm,22.0s,MS4.7
TNA Tin City 35.40 33 *e*P **P 16 44 46.9 -1.1**
comp=Z,128nm,1.3s
QIZ Qiongzhong 36.81 241 P **P 16 45 01.8 +1.3**
QIZ AP pP 16 45 15.0 -0.2
QIZ PP PP 16 46 26.5 +1.2
QIZ S **S 16 50 40.8 +0.1**
QIZ LR LR
comp=E,382nm,15.7s
QIZ LR LR
comp=Z,402nm,15.8s,MS4.3
QIZ Qiongzhong 36.81 241 *e*P **P 16 45 01.7 +1.2**
comp=Z,40nm,1.2s,mb5.1
QIZ LR LR
comp=Z,352nm,20.0s,MS4.2
KMI Kunming 37.64 256 P **P 16 45 08.5 +1.0**
KMI AP pP 16 45 19.3 -2.9
KMI XP sP 16 45 24.0 -4.9
KMI PP PP 16 46 36.3 +2.1
KMI PPP 16 46 57.5
KMI PCP PcP 16 47 24.3 +0.3
KMI S **S 16 50 52.5 -0.7**
KMI XS sS 16 51 11.8 -6.2
KMI SS SS 16 53 25.0 -14
KMI SSS 16 53 57.3
KMI AMB AMB
comp=Z,124nm,0.9s,mb5.6
KMI AMB AMB
comp=Z,323nm,3.4s
KMI LR LR
comp=N,186nm,19.2s
KMI LR LR
comp=E,328nm,13.5s
KMI LR LR
comp=Z,331nm,16.0s,MS4.2
DAV Davao City (W) 38.63 209 PFAKE 16 45 30.0 +14
DAV LR LR
comp=Z,855nm,20.0s,MS4.6
CHGN Chignik 39.06 49 *e*P **P 16 45 19.9 +0.8**
ZAA0 Zalesovo Array 39.70 308 *e*P **P 16 45 24.1 -0.3**
ZALV Zalesovo Beam 39.70 308 P **P 16 45 24.1 -0.3**
comp=Z,33nm,0.7s,mb5.2,baz=88,slow=7.7,SNR=138
ZALV PcP PcP 16 47 31.1 +1.1
comp=Z,6.6nm,0.7s,baz=84,slow=3.6,SNR=3.4
ZALV pPcP 16 47 47.0
comp=Z,24nm,0.8s,baz=82,slow=3.0,SNR=7.0
ZALV ScP ScP 16 51 14.4 +0.7
comp=Z,4.5nm,0.8s,baz=82,slow=3.4,SNR=7.7
ZALV LR LR 17 02 39.4
comp=Z,65nm,20.7s,baz=115,slow=37
ZAL Zalesovo 39.71 308 P **P 16 45 24.2 -0.3**
ZAL 16 47 31.1
TTA Tatalina 40.12 38 *e*P **P 16 45 27.4 -0.4**
WMQ Urumqi 40.12 292⇑ *i*P **P 16 45 29.0 +0.9**
WMQ AP pP 16 45 44.0 +1.2
WMQ XP sP 16 45 51.0 +1.4
WMQ PP PP 16 47 06.0 +4.9
WMQ S **S 16 51 30.0 -0.2**
WMQ XS sS 16 51 57.0 +1.9
WMQ SS SS 16 54 26.0 -3.3
WMQ AMB AMB
comp=Z,26nm,1.0s,mb4.9
WMQ AMB AMB
comp=Z,150nm,4.0s
WMQ LR LR
comp=N,741nm,16.0s,MS4.7
WMQ LR LR
comp=E,467nm,15.0s,MS4.7
WMQ LR LR
comp=Z,472nm,23.0s

SVW2 Sparrevohn 40.31 41 *e*P **P 16 45 28.7 -0.7**
NVS Novosibirsk 40.49 309⇑ *i*P **P 16 45 30.5 -0.5**
NVS *e* 16 47 39.6
NVS *e*S **S 16 51 33.5 -1.9**
NVS pmax pmax
comp=N,8.0nm,1.1s
NVS pmax pmax
comp=E,27nm,1.1s
NVS pmax pmax
comp=Z,29nm,1.1s,mb4.9
NVS smax
comp=N,17nm,2.0s
NVS smax
comp=E,26nm,1.9s
IMA2 Indian Mountai 41.25 33 *e*P **P 16 45 36.1 -1.0**
KDAK Kodiak Island 42.08 46 *e*P **P 16 45 42.6 -1.4**
comp=E,45nm,0.8s,mb5.2
KDAK Kodiak Island 42.08 46 P **P 16 45 42.8 -1.2**
comp=E,54nm,0.8s,mb5.2,baz=333,slow=2.2,SNR=12
KDM Kudat 42.52 221⇓ P **P 16 45 49.4 +1.4**
MK31 Makanchi Array 42.85 298 *e*P **P 16 45 50.7 +0.3**
MK31 Makanchi Array 42.85 298 *i* P **P 16 45 50.8 +0.4**
MK31 pmax pmax
comp=Z,39nm,0.8s,mb5.2
MKAR Makanchi Array 42.85 298 P **P 16 45 50.7 +0.3**
MKAR pPcP 16 47 58.0
MKAR LR LR 17 03 56.8
MKAR Makanchi Array 42.85 298 P **P 16 45 50.7 +0.3**
comp=Z,11nm,0.6s,mb4.8,baz=78,slow=9.0,SNR=95
MKAR pPcP 16 47 58.0
comp=Z,10nm,0.8s,baz=46,slow=3.7,SNR=3.6
MKAR LR LR 17 03 56.7
comp=Z,147nm,18.1s,MS3.9,baz=72,slow=36
SLKM Skilak Lake 42.97 42 *e*P **P 16 45 50.1 -1.0**
MYLDM Lahad Datu 43.25 218 ⇓P **P 16 45 56.4 +2.5**
MCK McKinley 43.29 37 *e*P **P 16 45 52.5 -1.2**
comp=Z,47nm,0.7s,mb5.3
MCK *e*pP pP 16 46 07.4 -1.2
MCK LR LR
comp=Z,221nm,20.0s,MS4.1
MCK McKinley 43.29 37 *e*P **P 16 45 52.5 -1.2**
MCK *e**PP pP 16 46 07.4 -1.2
MCK pmax pmax
comp=Z,47nm,0.7s,mb5.3
MCK MLR MLR
comp=Z,221nm,20.0s,MS4.1
PMR Palmer 43.38 40 *e*P **P 16 45 53.7 -0.8**
comp=Z,52nm,1.0s,mb5.2
PMR LR LR
comp=Z,500nm,22.0s,MS4.4
PMR Palmer 43.38 40 *e*P **P 16 45 53.7 -0.8**
PMR pmax pmax
comp=Z,52nm,1.0s,mb5.2
PMR MLR MLR
comp=Z,500nm,22.0s,MS4.4
KKTK Khon Kaen 43.39 246 ⇓P **P 16 45 56.1 +1.1**
comp=Z,1μm,0.6s
SDKM Sandakan 43.45 220 ⇑P **P 16 45 56.6 +1.1**
LSA Lhasa 43.57 271 P **P 16 45 58.3 +1.9**
LSA AP pP 16 46 09.5 -1.8
LSA PP PP 16 47 34.5 -4.0
LSA S **S 16 52 24.0 +2.6**
LSA XS sS 16 52 43.0 -3.6
LSA LR LR
comp=N,200nm,31.8s,MS3.9
LSA LR LR
comp=E,150nm,35.4s,MS3.9
LSA LR LR
comp=Z,270nm,24.5s
LSA Lhasa 43.57 271⇓ *e*P **P 16 45 58.3 +1.9**
comp=Z,40nm,0.9s,mb5.1
LSA *e*pP pP 16 46 12.1 +0.8
LSA LR LR
comp=Z,232nm,20.0s,MS4.1
LSA Lhasa 43.57 271⇓ *e*P **P 16 45 58.3 +1.9**
LSA *e**PP pP 16 46 12.1 +0.8
LSA pmax pmax
comp=Z,39nm,0.9s,mb5.1
LSA MLR MLR
comp=Z,232nm,20.0s,MS4.1
KKM Kota Kinabalu 43.57 221 *e*P **P 16 45 58.0 +1.5**
KKM Kota Kinabalu 43.57 221 ⇓P **P 16 45 58.1 +1.6**
COLA College 43.69 35 *e*P **P 16 45 56.2 -0.7**
comp=Z,154nm,0.8s
COLA *e*pP pP 16 46 11.9 +0.1
COLA LR LR
comp=Z,510nm,21.0s,MS4.4
COLA College 43.69 35 *e*P **P 16 45 56.2 -0.7**
COLA *e**PP pP 16 46 11.9 +0.1
COLA pmax pmax
comp=Z,154nm,0.8s
COLA MLR MLR
comp=Z,510nm,21.0s,MS4.4
SML Sawmill 43.74 40 *e*P **P 16 45 56.8 -0.5**
SML *e*pP pP 16 46 12.6 +0.4
KURK Kurchatov 44.08 304 P **P 16 46 00.6 +0.4**
comp=Z,408nm,0.7s,SNR=56
KURK Kurchatov 44.08 304⇑ *i*P **P 16 46 00.2 0.0**
comp=Z,46nm,0.8s,mb5.3
KURK *e*S **S 16 52 24.6 -3.7**
KURK LR LR
comp=Z,100nm,20.0s
KURK Kurchatov 44.08 304 *c i*P **P 16 46 00.2 0.0**
TSM Tawau 44.32 218 ⇑P **P 16 46 03.5 +1.0**
CHG Chiang Mai 44.37 252 ⇓P **P 16 46 03.9 +1.0**
comp=Z,150nm,0.7s
CHTO Chiang Mai 44.37 252⇓ *i*P **P 16 46 03.7 +0.8**
comp=Z,38nm,0.8s,mb5.2
CHTO Chiang Mai 44.37 252⇓ *i*P **P 16 46 03.7 +0.8**
CHTO pmax pmax
comp=Z,38nm,0.8s,mb5.2
CHTO Chiang Mai 44.37 252 P **P 16 46 04.3 +1.4**
SNR=18
CM31 Chiang Mai Arr 44.60 252 *e*P **P 16 46 05.6 +0.9**
CM31 LR LR
comp=Z,256nm,19.0s,MS4.2
DIV Divide 45.05 40⇑ *e*P **P 16 46 07.4 -0.4**
comp=Z,45nm,0.6s,mb5.5
DIV *e*pP pP 16 46 23.0 +0.3
SHL Shillong 45.30 265 *e*P **P 16 46 10.5 +0.3**
SHL *e*x x 16 52 55.0
NST Nakhon Sawan 45.68 248 ⇑P **P 16 46 15.0 +1.7**
comp=Z,43nm,1.0s,mb5.3
MENT Mentasta 45.72 38 *e*P **P 16 46 12.9 -0.2**
EGAK Eagle 46.54 35⇑ *e*P **P 16 46 18.5 -1.0**
comp=Z,113nm,1.1s
EGAK *e*pP pP 16 46 33.5 -1.0
BTM Bintulu 47.58 223 ⇑P **P 16 46 28.5 +0.3**
NNT Nongplab 48.14 245 P **P 16 46 29.0 -3.6**
JIRN Jiri 48.34 272 *e*P **P 16 46 35.2 +1.2**
comp=Z,5.3nm,0.2s,mb5.2
BRVK Borovoye 48.34 309 P **P 16 46 34.1 +0.5**
comp=Z,192nm,1.0s,SNR=29
BRVK Borovoye 48.34 309⇑ *i*P **P 16 46 33.7 +0.1**
comp=Z,33nm,1.0s,mb5.3
BRVK *e* 16 48 16.8
BRVK *e*S **S 16 53 28.2 -1.1**
BRVK LR LR
comp=Z,197nm,20.0s,MS4.1
BRVK Borovoye 48.34 309⇑ *i*P **P 16 46 33.7 +0.1**
BRVK *e*S **S 16 53 28.2 -1.1**
BRVK pmax pmax
comp=Z,33nm,1.0s,mb5.3
BRVK MLR MLR
comp=Z,197nm,20.0s,MS4.1
GUN Gumba 48.43 272 *e*P **P 16 46 35.7 +1.0**
comp=Z,229nm,0.8s,mb6.2
ULHL Ulahol 48.51 294 P **P 16 46 36.5 +1.3**
SNR=8.4
SBUM Sibu 48.66 224 ⇑P **P 16 46 37.4 +0.9**
TKM2 Tokmak 2 48.67 295 *e*P **P 16 46 37.5 +1.2**
comp=Z,26nm,0.6s,mb5.4
TKM2 LR LR
comp=Z,313nm,21.0s,MS4.3
TKM2 Tokmak 2 48.67 295 *e*P **P 16 46 37.5 +1.2**
TKM2 pmax pmax
comp=Z,26nm,0.6s,mb5.4
TKM2 MLR MLR
comp=Z,313nm,21.0s,MS4.3
TKM2 Tokmak 2 48.67 295 P **P 16 46 37.8 +1.4**
SNR=26
INK Inuvik 48.87 29 LR LR 17 09 01.0
comp=Z,515nm,21.0s,MS4.5,baz=295,slow=38
KKN Kakani 48.94 272 *e*P **P 16 46 39.3 +0.7**
comp=Z,91nm,0.9s

PKI	**Pulchoki**	**48.96**	**272**	*e*P	**P**	**16 46 39.4**	**+0.6**
	comp=Z,55nm,0.6s						
PKIN	**Phulchoki**	**48.97**	**272**	*e*P	**P**	**16 46 39.4**	**+0.6**
	comp=Z,29nm,0.6s,mb5.5						
DMN	**Daman**	**49.17**	**272**	*e*P	**P**	**16 46 41.2**	**+0.9**
	comp=Z,36nm,0.5s						
KBK	**Karagaybulak**	**49.22**	**295**	P	**P**	**16 46 41.9**	**+1.4**
	SNR=21						
KZA	**Kyzart**	**49.25**	**294**	P	**P**	**16 46 42.8**	**+2.0**
	SNR=8.7						
USP	**Ospenovka**	**49.27**	**296**	P	**P**	**16 46 41.7**	**+0.9**
	SNR=8.7						
GKN	**Gorkha**	**49.30**	**273**	*e*P	**P**	**16 46 41.8**	**+0.5**
	comp=Z,27nm,0.3s						
FRU	**Bishkek**	**49.37**	**295**	*i* P	**P**	**16 46 42.0**	**+0.4**
FRU				*e*	pP	16 47 01.0	+4.2
AAK	**Ala-Archa**	**49.53**	**295**	*e*P	**P**	**16 46 42.5**	**-0.4**
	comp=Z,5.5nm,0.6s,mb4.8						
AAK				LR	LR		
	comp=Z,204nm,19.0s,MS4.1						
AAK	**Ala-Archa**	**49.53**	**295**	*c i*P	**P**	**16 46 42.7**	**-0.2**
AAK				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.6						
AAK				MLR	MLR		
	comp=Z,200nm,20.0s,MS4.1						
AAK	**Ala-Archa**	**49.53**	**295**	P	**P**	**16 46 43.8**	**+0.9**
	SNR=8.1						
UCH	**Uchtor**	**49.69**	**295**	*e*P	**P**	**16 46 43.9**	**-0.2**
	comp=Z,11nm,0.9s,mb4.9						
UCH				*e*		16 48 23.2	
UCH				LR	LR		
	comp=Z,153nm,20.0s,MS4.0						
DANN	**Dangsing**	**49.76**	**274**	*e*P	**P**	**16 46 46.1**	**+1.3**
	comp=Z,236nm,0.7s						
KSH	**Kashi**	**49.87**	**291**	*e*P	**P**	**16 46 46.5**	**+1.0**
KSH				*e*AP	pP	16 47 01.8	+1.1
KSH				*e*XP	sP	16 47 08.8	+1.5
KSH				*e*PCP	PcP	16 48 06.3	+1.1
KSH				*e*PP	PP	16 48 42.8	+2.4
KSH				*e*PPP		16 49 38.5	
KSH				*e*SCP	ScP	16 51 51.0	-4.8
KSH				PCS	PcS	16 52 01.8	-0.3
KSH				S	**S**	**16 53 49.5**	**-1.6**
KSH				XS	sS	16 54 16.5	-0.1
KSH				SCS	ScS	16 56 28.3	-3.2
KSH				SS	SS	16 57 19.8	-4.2
KSH				AMB	AMB		
	comp=Z,39nm,0.5s						
KSH				AMB	AMB		
	comp=Z,361nm,5.4s						
KSH				LR	LR		
	comp=N,465nm,8.6s						
KSH				LR	LR		
	comp=E,549nm,4.7s						
KSH				LR	LR		
	comp=Z,553nm,9.2s						
EKS2	**Erkin-Say**	**50.00**	**295**	⇑*i*P	**P**	**16 46 46.0**	**-0.5**
	comp=Z,11nm,0.6s,mb5.1						
EKS2				*e*		16 48 23.5	
EKS2				LR	LR		
	comp=Z,257nm,19.0s,MS4.2						
EKS2	**Erkin-Say**	**50.00**	**295**	P	**P**	**16 46 47.3**	**+0.8**
	SNR=16						
KOLN	**Koldanda**	**50.19**	**273**	*e*P	**P**	**16 46 49.1**	**+1.0**
	comp=Z,38nm,0.5s						
AML	**Almayashu**	**50.28**	**295**	*e*P	**P**	**16 46 49.7**	**+1.2**
	comp=Z,11nm,0.7s,mb5.0						
AML				*e*		16 48 24.8	
AML				LR	LR		
	comp=Z,282nm,20.0s,MS4.3						
AML	**Almayashu**	**50.28**	**295**	P	**P**	**16 46 50.3**	**+1.7**
	SNR=6.1						
KSM	**Kuching**	**50.48**	**225**	⇓*i*P	**P**	**16 46 51.4**	**+1.0**
KSM	**Kuching**	**50.48**	**225**	⇓P	**P**	**16 46 51.7**	**+1.3**
SKAG	**Skagway**	**50.49**	**41**	*e*P	**P**	**16 46 51.0**	**+1.1**
	comp=Z,57nm,1.3s,mb5.4						
BOK	**Bokaro**	**50.76**	**268**	*e*P	**P**	**16 46 52.8**	**+0.4**
SIT	**Sitka**	**51.30**	**44**	*e*P	**P**	**16 46 56.5**	**+0.6**
	comp=Z,74nm,1.0s,mb5.6						
SIT	**Sitka**	**51.30**	**44**	*e*P	**P**	**16 46 56.6**	**+0.6**
SIT				pmax	pmax		
	comp=Z,74nm,1.0s,mb5.6						
KTGM	**Kuala Trenggan**	**51.43**	**236**	⇑P	**P**	**16 46 59.5**	**+2.0**
PTH	**Pithoragarh**	**51.72**	**277**	*e*P	**P**	**16 47 01.0**	**+1.4**
LGTI	**Lohaghat**	**51.75**	**277**	*e*P	**P**	**16 47 01.0**	**+1.2**
KK31	**Karatay Array**	**51.98**	**297**	*i* P	**P**	**16 47 01.2**	**-0.1**
KK31				pmax	pmax		
	comp=Z,5.0nm,0.5s,mb4.7						
SVE	**Sverdlovsk**	**52.28**	**316**	⇓*e*P	**P**	**16 47 03.6**	**+0.3**
SVE				*e*S	**S**	**16 54 37.8**	**+14**
SVE				*e*SS	SS	16 57 55.1	-6.4
SVE				pmax	pmax		
	comp=Z,83nm,0.9s						
SVE				MLR	MLR		
	comp=Z,451nm,19.0s,MS4.5						
KULM	**Kulim**	**53.00**	**238**	⇓*i*P	**P**	**16 47 10.3**	**+1.1**
KULM	**Kulim**	**53.00**	**238**	⇓P	**P**	**16 47 10.7**	**+1.5**
CRAG	**Craig**	**53.03**	**45**	*e*P	**P**	**16 47 09.4**	**+0.6**
	comp=Z,58nm,0.8s,mb5.6						
SDNR	**Sundarnagar**	**53.06**	**281**	*e*P	**P**	**16 47 09.0**	**-0.4**
SMLA	**Simla**	**53.11**	**281**	*e*P	**P**	**16 47 09.5**	**-0.3**
SMLA				AMb	AMB	16 47 12.6	
	comp=Z,87nm,0.4s						
IPM	**Ipoh**	**53.40**	**237**	⇓P	**P**	**16 47 12.6**	**+0.5**
THN	**Thein Dam**	**53.48**	**283**	*e*P	**P**	**16 47 12.0**	**-0.5**
ARU	**Arti**	**53.49**	**316**	P	**P**	**16 47 11.3**	**-0.9**
	comp=Z,453nm,0.9s,SNR=28						
ARU	**Arti**	**53.49**	**316**	*e*P	**P**	**16 47 11.7**	**-0.6**
	comp=Z,70nm,0.9s,mb5.6						
ARU				LR	LR		
	comp=Z,459nm,21.0s,MS4.5						
ARU	**Arti**	**53.49**	**316**	*c i*P	**P**	**16 47 11.8**	**-0.4**
ARU				*e*		16 48 15.1	
ARU				*e*		16 49 11.1	
ARU				*e*PPP		16 50 17.8	
ARU				*e*S	**S**	**16 54 41.4**	**+1.0**
ARU				*e*		16 56 52.2	
ARU				*e*SS	SS	16 58 16.1	-4.5
ARU				pmax	pmax		
	comp=Z,112nm,1.2s						
ARU				MLR	MLR		
	comp=Z,363nm,20.0s,MS4.4						
HNR	**Honiara**	**53.75**	**160**	*e*P	**P**	**16 47 14.3**	**-0.3**
	comp=Z,210nm,1.3s						
HNR	**Honiara**	**53.75**	**160**	P	**P**	**16 47 14.2**	**-0.4**
HNR				pmax	pmax		
	comp=Z,39nm,0.3s						
HNR				MLR	MLR		
	comp=Z,355nm,21.2s,MS4.4						
HNR	**Honiara**	**53.75**	**160**	P	**P**	**16 47 14.2**	**-0.4**
	comp=Z,39nm,0.3s,baz=121,slow=3.1,SNR=3.8						
HNR				LR	LR	17 07 26.3	
	comp=Z,355nm,21.2s,MS4.4,baz=360,slow=33						
MYKOM	**Kota Tinggi**	**53.82**	**232**	⇑P	**P**	**16 47 16.6**	**+1.4**
KGM	**Kluang**	**53.95**	**233**	⇑P	**P**	**16 47 17.7**	**+1.6**
FRIM	**Kepong**	**54.00**	**236**	⇓P	**P**	**16 47 17.5**	**+1.0**
NDI	**New Delhi**	**54.39**	**278**	*e*P	**P**	**16 47 18.6**	**-0.6**
NDI				AMb	AMB	16 47 28.0	
	comp=Z,34nm,0.8s,mb5.3						
BLSP	**Bilaspur**	**54.53**	**269**	*e*P	**P**	**16 47 20.1**	**-0.2**
BLSP				AMb	AMB	16 47 21.6	
	comp=Z,40nm,1.0s,mb5.4						
ALE	**Alert**	**54.63**	**4**	P	**P**	**16 47 19.0**	**-1.2**
	comp=Z,368nm,1.2s,SNR=32						
BATI	**Kupang**	**55.45**	**204**	LR	LR	17 07 29.7	
	comp=Z,615nm,21.9s,MS4.6,baz=268,slow=32						
SPB4	**Spitsbergen Ar**	**55.57**	**349**	⇑*e*P	**P**	**16 47 25.4**	**-1.6**
KBS	**Kingsbay**	**55.63**	**350**	⇑*i*P	**P**	**16 47 26.5**	**-1.0**
	comp=Z,28nm,0.8s,mb5.3						
KBS	**Kingsbay**	**55.63**	**350**	⇑*i*P	**P**	**16 47 26.5**	**-1.0**
KBS				pmax	pmax		
	comp=Z,27nm,0.8s,mb5.3						
KAKA	**Kakadu**	**55.80**	**193**	⇓*i*P	**P**	**16 47 28.8**	**-0.6**
	comp=Z,124nm,0.8s						
AB31	**Akbulak array**	**55.81**	**308**	⇑*e*P	**P**	**16 47 29.3**	**+0.2**
VIS	**Vishakhapatnam**	**56.36**	**263**	*e*P	**P**	**16 47 34.4**	**+0.9**
KBL	**Kabul**	**57.13**	**289**	*e*P	**P**	**16 47 38.2**	**-0.5**
	comp=Z,30nm,0.8s,mb5.4						
BBB	**Bella Bella**	**57.13**	**47**	LR	LR	17 09 56.6	
	comp=Z,174nm,19.3s,MS4.2,baz=350,slow=34						
BHPL	**Bhopal**	**57.35**	**273**	*e*P	**P**	**16 47 40.2**	**-0.2**
NGP	**Nagpur**	**57.40**	**270**	*e*P	**P**	**16 47 39.8**	**-1.1**
NGP				AMb	AMB	16 47 41.7	
	comp=Z,48nm,1.8s,mb5.2						
YKA	**Yellowknife Ar**	**58.35**	**32**	P	**P**	**16 47 46.2**	**-0.7**
YKA				pP	pP	16 48 01.9	-0.5
YKA				LR	LR	17 14 53.6	
YKA	**Yellowknife Ar**	**58.35**	**32**	P	**P**	**16 47 46.2**	**-0.7**
YKA				*PP	pP	16 48 01.8	-0.6
YKA				pmax	pmax		
	comp=Z,26nm,0.7s						
YKA				MLR	MLR		
	comp=Z,91nm,21.1s						
YKA	**Yellowknife Ar**	**58.35**	**32**	P	**P**	**16 47 46.2**	**-0.7**
	comp=Z,26nm,0.7s,mb5.4,baz=304,slow=6.8,SNR=237						
YKA				pP	pP	16 48 01.8	-0.5
	comp=Z,25nm,0.8s,baz=306,slow=6.6,SNR=12						
YKA				LR	LR	17 14 53.6	
	comp=Z,91nm,21.1s,MS3.9,baz=200,slow=38						
APA	**Apatity**	**58.47**	**335**	⇓*i*P	**P**	**16 47 46.0**	**-1.6**
APA				pmax	pmax		
	comp=Z,26nm,1.0s,mb5.2						
TMCR	**Tamitsa**	**58.84**	**330**	*e*P	**P**	**16 47 48.7**	**-1.5**
KEV	**Kevo**	**59.00**	**339**	*e*p	**P**	**16 47 49.5**	**-1.8**
	comp=Z,2.9nm,0.3s,mb4.8						
KEV	**Kevo**	**59.00**	**339**	*e*P	**P**	**16 47 49.5**	**-1.8**
KEV				pmax	pmax		
	comp=Z,3.0nm,0.3s,mb4.8						
AKL	**Akola**	**59.18**	**271**	*e*P	**P**	**16 47 53.7**	**+0.5**
AKL				AMb	AMB	16 47 54.3	
	comp=Z,66nm,0.8s						
ARCES	**ARCESS Array B**	**59.55**	**339**	P	**P**	**16 47 54.4**	**-0.6**
ARCES				pmax	pmax		
	comp=Z,7.0nm,0.6s						
ARCES				MLR	MLR		
	comp=Z,254nm,19.1s						
ARCES	**ARCESS Array B**	**59.55**	**339**	P	**P**	**16 47 54.4**	**-0.6**
	comp=Z,6.6nm,0.6s,mb4.9,baz=36,slow=7.2,SNR=67						
ARCES				LR	LR	17 18 41.0	
	comp=Z,254nm,19.1s,MS4.4,baz=41,slow=41						
HYB	**Hyderabad**	**60.07**	**267**	*e*P	**P**	**16 47 59.5**	**+0.1**
HYB	**Hyderabad**	**60.07**	**267**	*i* P	**P**	**16 47 59.5**	**+0.1**
KTK1	**Kautokeino**	**60.50**	**339**	*e*P	**P**	**16 48 01.8**	**+0.3**
	comp=Z,59nm,1.3s,mb5.5						
KTK1	**Kautokeino**	**60.50**	**339**	*e*P	**P**	**16 48 01.8**	**+0.3**
KTK1				AMb	AMB	16 48 03.9	
	comp=Z,59nm,1.3s,mb5.5						
KTK1				*e*pP	pP	16 48 16.9	-0.2
DAG	**Danmarks Havn**	**60.54**	**355**	*e*P	**P**	**16 48 00.0**	**-1.8**
DAG				pmax	pmax		
	comp=Z,15nm,1.0s,mb5.1						
DAG	**Danmarks Havn**	**60.54**	**355**	*i* P	**P**	**16 48 00.0**	**-1.8**
	comp=Z,15nm,1.0s,mb5.1						
LATR	**Latur**	**60.92**	**269**	*e*P	**P**	**16 48 04.1**	**-1.1**
LATR				AMb	AMB	16 48 23.8	
	comp=Z,48nm,1.4s,mb5.4						
TRO	**Tromso**	**61.16**	**341**	*e*P	**P**	**16 48 04.4**	**-1.6**
TRO				*e*pP	pP	16 48 20.1	-1.5
B04A	**Port Angeles**	**61.78**	**49**	⇑P	**P**	**16 48 10.3**	**-0.3**
	baz=62						
A04A	**Legoe Bay, Lum**	**61.87**	**49**	⇑P	**P**	**16 48 11.0**	**-0.1**
	baz=62						
NLWA	**Neilton Lookou**	**61.94**	**50**	*e*P	**P**	**16 48 11.2**	**-0.5**
	comp=Z,33nm,1.3s,mb5.3						
NLWA				*e*pP	pP	16 48 25.2	-2.1
NLWA	**Neilton Lookou**	**61.94**	**50**	⇑P	**P**	**16 48 11.7**	**0.0**
	baz=62						
JOF	**Joensuu**	**62.00**	**331**	*e*p	**P**	**16 48 09.9**	**-1.9**
	comp=Z,5.0nm,0.4s,mb5.0						
D03A	**Wishkah Elem.**	**62.15**	**50**	⇑P	**P**	**16 48 12.6**	**-0.5**
	baz=62						
CTA	**Charters Tower**	**62.25**	**177**	⇓*i*P	**P**	**16 48 13.0**	**-0.9**
	comp=Z,15nm,0.8s,mb5.2						
CTA	**Charters Tower**	**62.25**	**177**	⇓*i*P	**P**	**16 48 13.0**	**-0.9**
CTA				pmax	pmax		
	comp=Z,15nm,0.8s						
CTA	**Charters Tower**	**62.25**	**177**	LR	LR	17 11 34.0	
	comp=Z,350nm,21.0s,MS4.5,baz=6.1,slow=32						
CTAO	**Charters Tower**	**62.25**	**177**	⇓*e*P	**P**	**16 48 12.5**	**-1.4**
	comp=Z,73nm,1.4s,mb5.6						
CTAO				*e*pP	pP	16 48 27.6	-2.0
CTAO				LR	LR		
	comp=Z,220nm,20.0s,MS4.3						
CTAO	**Charters Tower**	**62.25**	**177**	⇓*e*P	**P**	**16 48 12.5**	**-1.4**
CTAO				*e*PP	pP	16 48 27.6	-2.0
CTAO				pmax	pmax		
	comp=Z,73nm,1.4s,mb5.6						
CTAO				MLR	MLR		
	comp=Z,220nm,20.0s,MS4.3						
C04A	**Brinnon**	**62.27**	**50**	⇓P	**P**	**16 48 13.4**	**-0.5**
	baz=62						
A06A	**Chilliwack**	**62.34**	**48**	⇓P	**P**	**16 48 13.8**	**-0.5**
	baz=62						
FITZ	**Fitzroy Crossi**	**62.45**	**199**	⇓*i*P	**P**	**16 48 15.1**	**-0.2**
	comp=Z,51nm,0.9s						
B05A	**Bryant**	**62.46**	**49**	⇑P	**P**	**16 48 14.8**	**-0.3**
	baz=62,SNR=7.2						
E03A	**Lebam**	**62.58**	**51**	⇓P	**P**	**16 48 15.9**	**-0.1**
	baz=62						
WRAB	**Tennant Creek**	**62.62**	**190**	P	**P**	**16 48 15.0**	**-1.4**
	comp=Z,394nm,0.8s,SNR=27						
WRAB	**Tennant Creek**	**62.62**	**190**	⇓*i*P	**P**	**16 48 15.2**	**-1.2**
	comp=Z,55nm,0.8s						
WRAB				*e*pP	pP	16 48 34.3	+2.2
WRAB	**Tennant Creek**	**62.62**	**190**	⇓*i*P	**P**	**16 48 15.2**	**-1.2**
WRAB				*e*PP	pP	16 48 34.3	+2.2
WRAB				pmax	pmax		
	comp=Z,55nm,0.8s						
WB2	**Warramunga Arr**	**62.63**	**190**	⇓*i*P	**P**	**16 48 15.4**	**-1.1**
WRA	**Warramunga Arr**	**62.63**	**190**	P	**P**	**16 48 15.4**	**-1.0**
	comp=Z,40nm,0.6s,baz=8.5,slow=6.8,SNR=303						
WRA				PKKP		17 09 05.6	
	comp=Z,0.4nm,1.0s,baz=153,slow=3.6,SNR=5.3						
B06A	**Marblemount**	**62.66**	**48**	⇑P	**P**	**16 48 15.7**	**-0.7**
	baz=62,SNR=6.9						
ABKT	**Ailbek**	**62.73**	**298**	P	**P**	**16 48 17.3**	**+0.2**
	comp=Z,80nm,0.6s,SNR=5.5						
POO	**Poona**	**62.86**	**271**	*e*P	**P**	**16 48 17.0**	**-1.2**
F03A	**Seaside**	**62.92**	**52**	⇓P	**P**	**16 48 17.7**	**-0.5**
	baz=63						
A07A	**Ashnola River,**	**62.96**	**47**	P	**P**	**16 48 18.5**	**+0.1**
	baz=63,SNR=21						
C05A	**Tolt Reservoir**	**63.00**	**49**	⇓P	**P**	**16 48 18.5**	**-0.2**
	baz=63,SNR=5.3						
E04A	**Onalaska**	**63.04**	**51**	⇓P	**P**	**16 48 19.0**	**0.0**
	baz=63						
D05A	**Enumclaw**	**63.12**	**50**	⇓P	**P**	**16 48 19.8**	**+0.2**
	baz=63						
C06A	**Tall Timber Ra**	**63.32**	**49**	⇑P	**P**	**16 48 20.9**	**+0.1**
	baz=63						
KAD	**Karad**	**63.38**	**270**	*e*P	**P**	**16 48 21.2**	**-0.4**
KAD				AMb	AMB	16 48 22.1	
	comp=Z,31nm,0.4s						
B07A	**Winthrop**	**63.44**	**48**	P	**P**	**16 48 21.8**	**+0.1**
	baz=63,SNR=13						
F04A	**Amboy**	**63.58**	**51**	⇓P	**P**	**16 48 22.6**	**0.0**
	baz=63,SNR=6.5						
LOF	**Lofoten**	**63.58**	**341**	*e*P	**P**	**16 48 23.9**	**+1.6**
A08A	**Turner Farm, O**	**63.62**	**47**	P	**P**	**16 48 22.9**	**+0.1**
	baz=63,SNR=21						
D06A	**Cle Elum**	**63.76**	**49**	⇑P	**P**	**16 48 23.5**	**-0.2**
	baz=64,SNR=5.3						
C07A	**Waterville**	**63.91**	**48**	P	**P**	**16 48 24.6**	**-0.1**
	baz=64,SNR=9.8						
MOS	**Moscow**	**63.92**	**323**	*e*P	**P**	**16 48 24.0**	**-0.7**
MOS				*e*	pP	16 48 39.9	-0.5
MOS				*e*		16 50 48.4	
MOS				*e*S	**S**	**16 56 54.9**	**-0.9**
MOS				pmax	pmax		
	comp=Z,103nm,1.2s						
B08A	**Colville Reser**	**63.93**	**47**	P	**P**	**16 48 24.8**	**0.0**
	baz=64,SNR=17						
G04A	**Mulino**	**63.96**	**52**	⇑P	**P**	**16 48 24.8**	**-0.3**
	baz=64						
A09A	**Danville**	**63.98**	**47**	P	**P**	**16 48 25.4**	**+0.3**
	baz=64,SNR=20						
E06A	**Yakima**	**64.06**	**50**	P	**P**	**16 48 26.2**	**+0.5**
	baz=64,SNR=10						
F05A	**White Salmon**	**64.16**	**51**	⇑P	**P**	**16 48 26.7**	**+0.3**
	baz=64						
KEBM	**Edson Butte**	**64.19**	**55**	P	**P**	**16 48 27.2**	**+0.5**
KEBM				*e*pP	pP	16 48 41.4	-0.9
I03A	**Eugene**	**64.19**	**53**	⇑P	**P**	**16 48 27.1**	**+0.4**
	baz=64						
D07A	**Quincy**	**64.25**	**49**	⇑P	**P**	**16 48 26.6**	**-0.4**
	baz=64						
J02A	**Umpqua**	**64.36**	**54**	⇑P	**P**	**16 48 27.8**	**+0.1**
	baz=64,SNR=5.4						
C08A	**Higginbotham F**	**64.42**	**48**	P	**P**	**16 48 28.1**	**0.0**
	baz=64,SNR=9.3						
H04A	**Detroit Lake**	**64.43**	**52**	⇓P	**P**	**16 48 28.0**	**-0.2**
	baz=64,SNR=10						
A10A	**Northport**	**64.52**	**46**	P	**P**	**16 48 28.8**	**+0.1**
	baz=64,SNR=16						
B09A	**Rice**	**64.53**	**47**	P	**P**	**16 48 29.0**	**+0.2**
	baz=64,SNR=9.8						
G05A	**Wamic**	**64.61**	**51**	⇓P	**P**	**16 48 29.1**	**-0.2**
	baz=64						
F06A	**Goldendale**	**64.61**	**50**	⇑P	**P**	**16 48 30.1**	**+0.7**
	baz=64						
E07A	**Sunnyside**	**64.68**	**49**	⇓P	**P**	**16 48 30.1**	**+0.3**
	baz=64						
J03A	**Ideyld Park**	**64.72**	**54**	⇑P	**P**	**16 48 30.5**	**+0.4**
	baz=64						
K02A	**Glendale**	**64.76**	**54**	⇓P	**P**	**16 48 30.5**	**+0.1**
	baz=64						
OBN	**Obninsk**	**64.78**	**323**	*e*P	**P**	**16 48 28.6**	**-1.7**
	comp=Z,85nm,1.1s,mb5.7						
OBN				LR	LR		
	comp=Z,425nm,21.0s,MS4.6						
OBN	**Obninsk**	**64.78**	**323**	*c e*P	**P**	**16 48 29.7**	**-0.6**
OBN				*e*	pP	16 48 43.3	-2.7
OBN				*e*		16 49 03.8	
OBN				S	**S**	**16 57 06.0**	**-0.4**
OBN				pmax	pmax		
	comp=Z,111nm,1.5s						
OBN				MLR	MLR		
	comp=Z,300nm,18.0s,MS4.5						
I04A	**Tendick Farm,**	**64.81**	**53**	⇑P	**P**	**16 48 30.6**	**-0.1**
	baz=65,SNR=11						
FINES	**FINESS Array B**	**64.82**	**332**	P	**P**	**16 48 29.7**	**-0.8**
FINES				LR	LR	17 19 33.6	
FINES	**FINESS Array B**	**64.82**	**332**	P	**P**	**16 48 29.7**	**-0.8**
FINES				pmax	pmax		
	comp=Z,46nm,0.6s						
FINES				MLR	MLR		
	comp=Z,656nm,19.8s						
FINES	**FINESS Array B**	**64.82**	**332**	P	**P**	**16 48 29.7**	**-0.8**
	comp=Z,46nm,0.6s,baz=54,slow=7.4,SNR=201						
FINES				LR	LR	17 19 33.7	
	comp=Z,656nm,19.8s,MS4.8,baz=233,slow=38						
C09A	**Chrisman Ranch**	**64.83**	**48**	P	**P**	**16 48 30.8**	**0.0**
	baz=65,SNR=11						
MOR8	**Moi Rana**	**64.88**	**340**	*e*P	**P**	**16 48 28.7**	**-2.1**
	comp=Z,98nm,0.9s						
MOR8	**Moi Rana**	**64.88**	**340**	*e*P	**P**	**16 48 28.7**	**-2.1**
MOR8				AMb	AMB	16 48 30.4	
	comp=Z,98nm,0.9s						
D08A	**Wollman Farm,**	**64.91**	**48**	P	**P**	**16 48 31.3**	**0.0**
	baz=65,SNR=12						
HAWA	**Hanford**	**64.96**	**49**	⇑*e*P	**P**	**16 48 31.5**	**-0.1**
	comp=Z,60nm,1.4s,mb5.4						
HAWA				*e*pP	pP	16 48 46.5	-0.9
G06A	**Carlson Farm,**	**65.01**	**51**	⇑P	**P**	**16 48 31.9**	**0.0**
	baz=65,SNR=6.3						
H05A	**Madras**	**65.01**	**52**	⇓P	**P**	**16 48 31.7**	**-0.2**
	baz=65						
F07A	**Phinny Hill Vi**	**65.03**	**50**	⇓P	**P**	**16 48 32.1**	**0.0**
	baz=65,SNR=7.6						
L02A	**Cave Junction**	**65.04**	**55**	⇑P	**P**	**16 48 32.1**	**-0.1**
	baz=65						
E08A	**Dider Farm, El**	**65.17**	**49**	P	**P**	**16 48 33.2**	**+0.3**
	baz=65,SNR=6.5						
HUMO	**Hull Mountain**	**65.17**	**54**	*e*P	**P**	**16 48 32.9**	**-0.2**
	comp=Z,5.5nm,0.6s,mb4.8						
HUMO				*e*pP	pP	16 48 49.5	+0.7
HUMO	**Hull Mountain**	**65.17**	**54**	⇑P	**P**	**16 48 33.4**	**+0.3**
	baz=65						
A11A	**Hall Mountain,**	**65.17**	**46**	⇑P	**P**	**16 48 33.1**	**+0.2**
	baz=65,SNR=26						
PALK	**Pallekele**	**65.17**	**257**	⇓*e*P	**P**	**16 48 33.4**	**0.0**
PALK				LR	LR		
	comp=Z,87nm,21.0s,MS3.9						
D09A	**Jones Farm, Ri**	**65.25**	**48**	P	**P**	**16 48 33.5**	**0.0**
	baz=65,SNR=8.5						
J04A	**Umpqua Nationa**	**65.31**	**53**	⇓P	**P**	**16 48 34.3**	**+0.4**
	baz=65,SNR=14						
C10A	**Spilker Farm,**	**65.34**	**47**	⇓P	**P**	**16 48 34.3**	**+0.2**
	baz=65						
H06A	**Lindquist Farm**	**65.47**	**51**	⇑P	**P**	**16 48 34.9**	**-0.1**
	baz=65						
B11A	**Sandpoint**	**65.48**	**46**	P	**P**	**16 48 35.5**	**+0.5**
	baz=65,SNR=9.1						
KOD	**Kodaikanal**	**65.53**	**261**	*e*P	**P**	**16 48 33.0**	**-2.7**
KOD				AMb	AMB	16 48 38.5	
	comp=Z,28nm,0.8s,mb5.3						
G07A	**Ruggs Ranch, H**	**65.54**	**50**	P	**P**	**16 48 35.7**	**+0.3**
	baz=65,SNR=6.5						
A12A	**Yaak River Ran**	**65.56**	**45**	⇑P	**P**	**16 48 36.0**	**+0.5**
	baz=65						
E09A	**Wood Farm, Sta**	**65.66**	**49**	P	**P**	**16 48 36.5**	**+0.3**
	baz=65,SNR=17						
F08A	**Pendleton**	**65.73**	**50**	⇑P	**P**	**16 48 36.8**	**+0.2**
	baz=66,SNR=6.8						
J05A	**Fort Rock**	**65.80**	**53**	⇓P	**P**	**16 48 37.6**	**+0.5**
	baz=66,SNR=16						
D10A	**Wagner Farm, O**	**65.82**	**48**	⇓P	**P**	**16 48 37.0**	**-0.1**
	baz=66						
YBH	**Yreka Blue Hor**	**65.83**	**55**	*e*P	**P**	**16 48 37.9**	**+0.6**
	comp=Z,31nm,1.0s,mb5.3						
YBH				*e*pP	pP	16 48 53.2	+0.2
YBH	**Yreka Blue Hor**	**65.83**	**55**	*e*P	**P**	**16 48 37.9**	**+0.6**
YBH				*e*PP	pP	16 48 53.3	+0.2
YBH				pmax	pmax		
	comp=Z,31nm,1.0s						
YBH	**Yreka Blue Hor**	**65.83**	**55**	⇓P	**P**	**16 48 37.8**	**+0.5**
	baz=66,SNR=10						
K04A	**Chilquin**	**65.

baz=66
J06A Christmas Vall 66.46 52 P P 16 48 41.8 +0.5
baz=66,SNR=7.5
F10A Beach Ranch, E 66.50 49 P P 16 48 42.1 +0.6
baz=66,SNR=5.5
KCPM Cahto Peak 66.50 57 *eP* **P 16 48 42.0 +0.3**
KCPM *epP* pP 16 48 57.8 +0.4
B13A Whitefish 66.53 45 P P 16 48 42.2 +0.5
baz=66,SNR=21
H08A Prairie City 66.56 51 P P 16 48 42.5 +0.6
baz=66,SNR=11
G09A Cove 66.61 50 ⇓P **P 16 48 42.3 +0.1**
baz=66
WDC Whiskeytown Da 66.61 56 *eP* **P 16 48 41.8 -0.6**
comp=Z,37nm,1.0s,mb5.4
WDC *epP* pP 16 48 57.2 -0.9
WDC Whiskeytown Da 66.61 56 *eP* **P 16 48 41.8 -0.5**
WDC *e**PP pP 16 48 57.3 -0.8
WDC pmax pmax
comp=Z,37nm,1.0s,mb5.4
WDC Whiskeytown Da 66.61 56 P **P 16 48 42.5 +0.1**
baz=66,SNR=7.1
VSU Vasula 66.65 329 ⇑*i*P **P 16 48 41.9 -0.4**
O02C Red Bluff 66.70 56 ⇑P **P 16 48 43.4 +0.5**
baz=66
L05A Lakeview 66.77 54 ⇑P **P 16 48 43.2 -0.1**
baz=66,SNR=7.4
P01C Double 8 Ranch 66.78 57 ⇑P **P 16 48 43.4 0.0**
baz=66
E11A Bogner Ranch, 66.83 48 P **P 16 48 43.5 -0.1**
baz=67,SNR=9.4
D12A Red Ives Fores 66.86 47 P **P 16 48 43.5 -0.4**
baz=67,SNR=8.3
J07A Hines 66.88 52 P **P 16 48 44.8 +0.8**
baz=67,SNR=7.2
C13A Hot Springs 66.90 46 P **P 16 48 44.5 +0.4**
baz=67,SNR=16
G10A Bishop Farm, J 66.97 49 P **P 16 48 44.9 +0.3**
baz=67,SNR=15
MBWA Marble Bar 66.98 204 *eP* **P 16 48 43.9 -0.8**
comp=Z,11nm,0.6s,mb5.1
I08A Drewsey 66.98 51 ⇑P **P 16 48 44.8 +0.2**
baz=67,SNR=10
M05C Lookout 67.00 55 ⇓P **P 16 48 44.8 0.0**
baz=67,SNR=9.0
H09A Durkee 67.04 50 ⇑P **P 16 48 45.1 +0.1**
baz=67,SNR=7.3
GASB Alder Springs 67.05 57 ⇓P **P 16 48 45.7 +0.5**
baz=67,SNR=6.3
HATC Hat Creek Radi 67.13 55 ⇑P **P 16 48 46.1 +0.5**
baz=67,SNR=9.3
BMO Blue Mountains 67.13 50 *eP* **P 16 48 45.5 0.0**
comp=Z,41nm,1.0s,mb5.4
BMO *epP* pP 16 49 01.0 -0.4
F11A Grangeville 67.14 48 P **P 16 48 45.7 +0.1**
baz=67,SNR=15
MOD Modoc 67.18 54 *eP* **P 16 48 45.7 -0.2**
comp=Z,35nm,1.0s,mb5.3
MOD *epP* pP 16 49 01.8 +0.1
MOD Modoc 67.18 54 P **P 16 48 46.3 +0.4**
baz=67,SNR=12
C14A Swan Lake 67.28 46 P **P 16 48 46.9 +0.4**
baz=67,SNR=26
D13A Huson 67.32 46 ⇑P **P 16 48 46.3 -0.4**
baz=67,SNR=21
K07A Rock Creek Ran 67.33 52 ⇑P **P 16 48 46.8 0.0**
baz=67,SNR=14
J08A Circle Bar Ran 67.37 51 P **P 16 48 47.7 +0.6**
baz=67,SNR=9.4
G11A Walters Elk Ra 67.38 49 ⇓P **P 16 48 46.6 -0.5**
baz=67,SNR=53
I09A Lost Marbles R 67.42 51 ⇑P **P 16 48 47.2 -0.2**
baz=67,SNR=12
M06C Likely Place G 67.49 54 ⇑P **P 16 48 48.1 +0.2**
baz=67
H10A Noah's Angus R 67.61 50 ⇑P **P 16 48 48.3 -0.3**
baz=67,SNR=20
O04C Chester 67.66 55 ⇑P **P 16 48 49.4 +0.4**
baz=67,SNR=6.8
L07A Adell 67.68 53 ⇓P **P 16 48 49.7 +0.7**
baz=67,SNR=26
MNRC McLaughlin Nat 67.69 57 ⇑P **P 16 48 49.5 +0.3**
baz=67
ELFS Eagle Lake Fie 67.69 55 P **P 16 48 50.0 +0.8**
baz=67,SNR=9.3
F12A Elk City 67.72 48 P **P 16 48 49.5 +0.2**
baz=67,SNR=30
K08A Mann Creek Ran 67.75 52 P **P 16 48 50.1 +0.6**
baz=68,SNR=10
J09A Fry Pan Ranch, 67.79 51 P **P 16 48 50.4 +0.6**
baz=68,SNR=12
EIDS Eidsvold 67.81 173 *eP* **P 16 48 49.6 -0.3**
comp=Z,10nm,0.8s,mb4.9
EIDS *epP* pP 16 49 06.8 +1.0
D14A Greenough 67.84 46 P **P 16 48 49.9 -0.1**
baz=68,SNR=14
WVOR Wild Horse Val 67.84 52 *eP* **P 16 48 50.2 +0.1**
comp=Z,47nm,1.1s,mb5.4
WVOR *epP* pP 16 49 05.7 -0.2
WVOR Wild Horse Val 67.84 52 *eP* **P 16 48 50.2 +0.1**
WVOR *e**PP pP 16 49 05.7 -0.2
WVOR pmax pmax
comp=Z,47nm,1.1s,mb5.4
ORV Oroville 67.86 56 ⇑P **P 16 48 49.6 -0.7**
baz=68,SNR=8.4
E13A Victor 67.87 47 ⇑P **P 16 48 49.6 -0.6**
baz=68,SNR=6.6
I10A Payette 67.89 50 ⇓P **P 16 48 50.5 +0.1**
baz=68
SUTB Sutter Butte 67.89 57 ⇓P **P 16 48 49.9 -0.5**
baz=68
H11A Donnelly 67.95 49 P **P 16 48 50.6 -0.1**
baz=68,SNR=5.6
O05C Quincy 67.98 56 ⇓P **P 16 48 50.6 -0.4**
baz=68
OHCM Honcut 68.01 56 *eP* **P 16 48 50.5 -0.7**
OHCM *epP* pP 16 49 06.5 -0.6
CHMT Chamberlain Mo 68.08 46 *eP* **P 16 48 51.0 -0.5**
CHMT *epP* pP 16 49 06.4 -0.9
Q03C Winters 68.10 57 ⇓P **P 16 48 51.2 -0.6**
baz=68
N06A Buffalo Meadow 68.16 54 ⇓P **P 16 48 52.0 -0.1**
baz=68,SNR=14
L08A Fields 68.16 52 ⇓P **P 16 48 52.4 +0.3**
baz=68,SNR=5.5
M07A Soldier Meadow 68.16 54 P **P 16 48 53.0 +0.8**
baz=68,SNR=14
F13A Darby 68.20 47 P **P 16 48 51.8 -0.6**
baz=68,SNR=9.4
K09A Rome 68.21 52 ⇑P **P 16 48 52.5 +0.1**
baz=68
E14A Clinton 68.26 47 P **P 16 48 52.6 0.0**
baz=68,SNR=10
FFC Flin Flon 68.32 35 P **P 16 48 52.0 -0.8**
comp=Z,506nm,0.8s,SNR=30
FFC Flin Flon 68.32 35 *eP* **P 16 48 52.4 -0.5**
comp=Z,57nm,0.8s
FFC *epP* pP 16 49 08.6 -0.1
FFC LR LR
comp=Z,227nm,20.0s,MS4.4
FFC Flin Flon 68.32 35 *eP* **P 16 48 52.4 -0.4**
FFC *e**PP pP 16 49 08.6 -0.1
FFC pmax pmax
comp=Z,57nm,0.8s
FFC MLR MLR
comp=Z,227nm,20.0s,MS4.4
BEKR Beckwourth 68.38 55 ⇓P **P 16 48 53.3 -0.2**
baz=68,SNR=20
D15A Lincoln 68.39 46 ⇑P **P 16 48 53.3 -0.2**
baz=68,SNR=6.2
O06A Flanigan 68.52 55 ⇑P **P 16 48 54.1 -0.3**
baz=68,SNR=8.2
P05C Yuba Gap, Truc 68.57 56 P **P 16 48 54.9 +0.2**
baz=68,SNR=5.1
M08A Happy Creek Ra 68.59 53 ⇑P **P 16 48 55.3 +0.4**
baz=68
KIV Kislovodsk 68.64 310 P **P 16 48 56.7 +1.7**
comp=Z,280nm,0.9s,SNR=7.9
KIV Kislovodsk 68.64 310 *eP* **P 16 48 56.3 +1.2**
comp=Z,60nm,0.8s,mb5.6
KIV LR LR
comp=Z,296nm,19.0s,MS4.5
KIV Kislovodsk 68.64 310 *eP* **P 16 48 55.6 +0.6**
KIV *e* 16 49 17.6
KIV *eS* S 16 57 56.7 +3.4
KIV *eSS* SS 17 02 22.0 +4.3
KIV pmax pmax
comp=Z,19nm,4.2s
KIV pmax pmax
comp=Z,49nm,1.0s,mb5.4
KIV Kislovodsk 68.64 310 ⇑*i*P **P 16 48 56.9 +1.9**
DGRG David-gareji 68.64 307 P **P 16 48 51.4 -3.7**
N07B Gerlach 68.65 54 ⇑P **P 16 48 55.4 +0.2**
baz=68
K10A MacKenzie Ranc 68.66 51 ⇓P **P 16 48 55.5 +0.3**
baz=68,SNR=12
H12A Diamond D Ranc 68.69 49 P **P 16 48 55.3 -0.1**
baz=68,SNR=22
G13A Cobalt 68.69 48 P **P 16 48 54.9 -0.5**
baz=68,SNR=13
E15A Deer Lodge 68.71 46 P **P 16 48 55.5 0.0**
baz=68,SNR=11
LAVA Lava Cap Winer 68.82 57 P **P 16 48 56.2 0.0**
baz=69,SNR=7.6
MFID Camas Ranch 68.86 50 P **P 16 48 56.7 +0.3**
baz=69,SNR=8.4
HRY Holter Researc 68.96 46 *eP* **P 16 48 57.1 +0.1**
HRY *epP* pP 16 49 13.1 +0.2
MNK Minsk 68.98 326 *eP* **P 16 48 55.0 -2.0**
H13A Challis 69.02 48 P **P 16 48 57.4 0.0**
baz=69,SNR=21
G14A Jackson 69.02 47 ⇑P **P 16 48 57.1 -0.4**
baz=69
ONI Oni 69.06 309 P **P 16 48 58.8 +1.1**
WCN Washoe City 69.09 56 ⇓P **P 16 48 58.0 +0.1**
baz=69,SNR=5.8
K11A Parker Ranch, 69.14 51 P **P 16 48 58.4 +0.2**
baz=69,SNR=7.2
F15A Butte 69.17 47 ⇓P **P 16 48 58.5 +0.2**
baz=69,SNR=24
EGMT Eagleton 69.19 43 *eP* **P 16 48 58.1 -0.3**
comp=Z,55nm,1.0s,mb5.4
EGMT *epP* pP 16 49 13.6 -0.7
R05C Kirkwood Meado 69.26 56 ⇑P **P 16 48 59.1 +0.1**
baz=69,SNR=6.4
L10A Juniper Basin 69.32 52 P **P 16 48 59.8 +0.4**
baz=69,SNR=7.8
J12A Stokes Ranch, 69.37 50 P **P 16 49 00.1 +0.4**
baz=69,SNR=14
DLMT Dillon 69.42 47 *eP* **P 16 49 00.1 +0.2**
comp=Z,113nm,0.8s
DLMT *epP* pP 16 49 16.0 +0.3
N09A Rock Creek Ran 69.47 53 ⇓P **P 16 49 00.6 +0.3**
baz=69
CMB Columbia Colle 69.48 57 *eP* **P 16 49 00.2 -0.1**
comp=Z,33nm,1.0s,mb5.2
CMB *epP* pP 16 49 16.3 0.0
CMB Columbia Colle 69.48 57 *eP* **P 16 49 00.2 -0.2**
CMB *e**PP pP 16 49 16.3 0.0
CMB pmax pmax
comp=Z,33nm,1.0s,mb5.2
CMB Columbia Colle 69.48 57 P **P 16 49 00.6 +0.3**
baz=69,SNR=6.9
I13A Wildhorse Cree 69.50 49 P **P 16 49 00.9 +0.5**
baz=69,SNR=26
PACP Pacheco Peak 69.55 58 ⇑P **P 16 49 00.6 -0.3**
baz=69
HLID Hailey 69.56 49 P **P 16 49 01.3 +0.5**
baz=69,SNR=8.8
G15A Dillon 69.60 47 ⇓P **P 16 49 01.0 0.0**
baz=69,SNR=39
MCMT McKenzie Canyo 69.62 48 *eP* **P 16 49 00.7 -0.4**
MCMT *epP* pP 16 49 16.1 -0.9
M10A I.L. Ranch, Tu 69.63 52 ⇑P **P 16 49 01.7 +0.4**
baz=69
L11A Cat Creek Ranc 69.68 51 P **P 16 49 02.3 +0.7**
baz=69,SNR=16
BOZ Bozeman (W) 69.75 46 *eP* **P 16 49 02.1 +0.1**
comp=Z,56nm,0.6s
BOZ *epP* pP 16 49 18.4 +0.6
BOZ Bozeman (W) 69.75 46 *eP* **P 16 49 02.1 +0.2**
BOZ *e**PP pP 16 49 18.4 +0.6
BOZ pmax pmax
comp=Z,56nm,0.6s
R06C Coleville 69.76 56 ⇓P **P 16 49 02.5 +0.4**
baz=70,SNR=7.1
J13A Cove Ranch, Pi 69.80 49 P **P 16 49 02.8 +0.5**
baz=70,SNR=11
NB2 NORSAR Subarra 69.84 337 P **P 16 49 01.6 -0.6**
comp=Z,57nm,0.8s,mb5.5,baz=36,slow=6.5
NOA NORSAR Array B 69.84 337 P **P 16 49 01.6 -0.6**
NOA pmax pmax
comp=Z,49nm,0.8s
NOA MLR MLR
comp=Z,267nm,22.0s
NOA NORSAR Array B 69.84 337 P **P 16 49 01.6 -0.7**
comp=Z,49nm,0.8s,mb5.5,baz=35,slow=6.1,SNR=172
NOA LR LR 17 22 23.6
comp=Z,267nm,22.0s,MS4.5,baz=0.0,slow=38
P08A Dixie Valley 69.86 54 ⇑P **P 16 49 03.3 +0.6**
baz=70
K12A Draper Farm, C 69.87 50 ⇓P **P 16 49 03.3 +0.6**
baz=70
S05C Merced 69.94 58 ⇑P **P 16 49 03.2 -0.1**
baz=70
O09A Fish Creek Ran 70.10 54 P **P 16 49 04.9 +0.8**
baz=70,SNR=11
L12A House Creek Ra 70.12 51 ⇓P **P 16 49 05.2 +1.0**
baz=70
M11A Holland Ranch, 70.12 52 ⇑P **P 16 49 05.2 +0.9**
baz=70,SNR=6.9
R07C Lee Vining 70.28 56 P **P 16 49 06.2 +0.9**
baz=70,SNR=15
K13A Stover Farm, H 70.33 50 ⇑P **P 16 49 06.1 +0.6**
baz=70
SFJD Kangerlussuaq 70.37 6 *eP* **P 16 49 04.0 -1.3**
comp=Z,92nm,1.4s,mb5.5
SFJD Kangerlussuaq 70.37 6 *eP* **P 16 49 04.1 -1.2**
SFJD pmax pmax
comp=Z,93nm,1.4s,mb5.5
QLMT Earthquake Lak 70.39 47 *eP* **P 16 49 05.6 -0.3**
QLMT *epP* pP 16 49 21.7 -0.1
O10A Cortez Mining, 70.43 53 P **P 16 49 07.2 +1.1**
baz=70,SNR=6.5
Q08A Gabbs 70.47 55 ⇑P **P 16 49 06.5 +0.1**
baz=70
P09A Austin 70.52 54 ⇓P **P 16 49 07.3 +0.6**
baz=70
NVAR Mina Array Bea 70.52 56 P **P 16 49 07.3 +0.6**
NVAR pP pP 16 49 22.8 +0.1
NVAR Mina Array Bea 70.52 56 P **P 16 49 07.3 +0.6**
comp=Z,17nm,0.7s,mb5.1,baz=282,slow=8.5,SNR=86
NVAR pP pP 16 49 22.8 +0.1
comp=Z,31nm,0.7s,baz=296,slow=6.9,SNR=23
T06C Millerton Lake 70.54 57 ⇑P **P 16 49 07.1 +0.2**
baz=70
KCC Kaiser Creek 70.59 57 P **P 16 49 07.7 +0.6**
baz=70,SNR=7.1
M12A Wells 70.64 51 P **P 16 49 08.3 +0.9**
baz=70,SNR=10
YMR Madison River 70.75 47 *eP* **P 16 49 08.5 +0.5**
comp=Z,121nm,1.2s
YMR pP pP 16 49 23.9 -0.1
L13A Double Diamond 70.77 50 ⇓P **P 16 49 09.0 +0.9**
baz=70
YNR Norris Junctio 70.87 47 *eP* **P 16 49 09.7 +0.9**
YNR *epP* pP 16 49 26.2 +1.5
K14A Jones Ranch, D 70.91 50 P **P 16 49 10.0 +1.0**
baz=71,SNR=8.0
N12A Clover Valley, 70.93 52 P **P 16 49 09.9 +0.8**
baz=71,SNR=9.2
Q09A Carvers 70.94 55 ⇓P **P 16 49 10.0 +0.7**
baz=71
YFT Old Faithful 70.96 47 *eP* **P 16 49 10.8 +1.5**
YFT *epP* pP 16 49 27.2 +2.0
ANN Anapa 70.98 314 *eP* pP 16 49 19.8 -5.6
ANN pmax pmax
comp=Z,99nm,1.7s,mb5.5
ANN MLR MLR
comp=Z,413nm,25.0s,MS4.6
O11A Cowboy Ranch, 71.03 53 ⇓P **P 16 49 10.4 +0.6**
baz=71,SNR=6.6
MTUM Tungsten Hills 71.03 57 *eP* **P 16 49 10.2 +0.3**
MTUM *epP* pP 16 49 24.8 -1.0
AKASG Malin Array Be 71.04 322 P **P 16 49 09.1 -0.6**
AKASG pmax pmax
comp=Z,16nm,0.7s
AKASG MLR MLR
comp=Z,360nm,18.9s
AKASG Malin Array Be 71.04 322 P **P 16 49 09.1 -0.6**
comp=Z,16nm,0.7s,mb5.1,baz=42,slow=6.0,SNR=79
AKASG LR LR 17 23 46.2
comp=Z,360nm,18.9s,MS4.7,baz=30,slow=39
AKBB Malin Array Si 71.04 322 *eP* **P 16 49 08.9 -0.8**
AKBB *epP* pP 16 49 24.8 -0.8
KIEV Kiev 71.05 322 *eP* **P 16 49 08.8 -1.0**
comp=Z,46nm,1.2s,mb5.3
KIEV *epP* pP 16 49 24.8 -0.9
KIEV Kiev 71.05 322 *eP* **P 16 49 08.8 -0.9**
KIEV *e**PP pP 16 49 24.8 -0.9
KIEV pmax pmax
comp=Z,46nm,1.2s,mb5.3
HYA Hoyanger 71.10 340 *eP* **P 16 49 10.6 +0.7**
comp=Z,62nm,1.1s,mb5.5
HYA Hoyanger 71.10 340 *eP* **P 16 49 10.6 +0.7**
HYA AMb AMB 16 49 12.1
comp=Z,62nm,1.1s,mb5.5
HYA *epP* pP 16 49 25.7 -0.1
HYA *esP* sP 16 49 32.1 -0.1
M13A Montello 71.11 51 ⇑P **P 16 49 10.7 +0.4**
baz=71
HELL Mitchell Peak 71.17 57 P **P 16 49 10.6 -0.1**
baz=71,SNR=18
S08C White Mtn Res 71.19 56 P **P 16 49 11.7 +0.9**
baz=71,SNR=11
SUW Suwalki 71.23 327 *eP* **P 16 49 10.5 -0.3**
WBK Wadi Bani Khal 71.23 284 P **P 16 49 13.1 +1.8**
SNR=6.3
IMW Indian Meadow 71.27 47 *eP* **P 16 49 11.9 +0.7**
comp=Z,81nm,0.9s
IMW *epP* pP 16 49 28.1 +1.0
FLWY Flagg Ranch 71.28 47 *eP* **P 16 49 12.3 +1.0**
comp=Z,141nm,1.4s
FLWY *epP* pP 16 49 27.9 +0.7
DCID1 Drake Creek 71.33 48 *eP* **P 16 49 13.1 +1.5**
DCID1 *epP* pP 16 49 28.1 +0.6
RLMT Red Lodge 71.35 46 *eP* **P 16 49 11.7 0.0**
comp=Z,61nm,1.2s,mb5.4
RLMT *epP* pP 16 49 28.0 +0.4
R09A Tonopah 71.39 55 P **P 16 49 12.3 +0.3**
baz=71,SNR=14
Q10A Clear Creek Ra 71.42 54 P **P 16 49 12.5 +0.3**
baz=71,SNR=13
KONO Kongsberg 71.45 337 *eP* **P 16 49 11.9 -0.1**
MOOW Moose Ponds 71.47 47 *eP* **P 16 49 12.8 +0.4**
comp=Z,66nm,1.0s,mb5.5
MOOW *epP* pP 16 49 29.3 +1.0
O12A Currie 71.48 52 P **P 16 49 13.0 +0.5**
baz=71,SNR=13
M14A Sheep Mountain 71.49 50 P **P 16 49 13.2 +0.7**
baz=71,SNR=6.7
TPAW Teton Pass 71.53 48 *eP* **P 16 49 13.5 +0.7**
comp=Z,123nm,1.2s
TPAW *epP* pP 16 49 29.4 +0.7
S09A Goldfield 71.62 56 P **P 16 49 14.0 +0.5**
baz=71,SNR=9.7
HVU Hansel Valley 71.63 50 *eP* **P 16 49 13.7 +0.3**
comp=Z,49nm,1.0s,mb5.4
HVU *epP* pP 16 49 29.2 -0.1
HVU Hansel Valley 71.63 50 *eP* **P 16 49 13.7 +0.3**
HVU *e**PP pP 16 49 29.2 -0.2
HVU pmax pmax
comp=Z,49nm,1.0s,mb5.4
DGMT Dagmar 71.64 40 *eP* **P 16 49 12.6 -0.8**
comp=Z,87nm,1.1s,mb5.6
DGMT *epP* pP 16 49 27.6 -1.7
SNOW Snow King Moun 71.65 48 P **P 16 49 14.3 +0.8**
comp=Z,51nm,0.9s,mb5.5
SNOW *epP* pP 16 49 28.9 -0.6
REDW Red Top Meadow 71.67 48 *eP* **P 16 49 14.2 +0.6**
comp=Z,132nm,1.4s
REDW *epP* pP 16 49 29.7 +0.2
VES Vestal, Richgr 71.67 58 ⇑P **P 16 49 13.7 -0.1**
baz=71
PKM Peak Mountain 71.80 59 ⇓P **P 16 49 15.2 +0.7**
baz=72
HOQ Hoqain 71.81 286 P **P 16 49 15.7 +0.9**
SNR=15
Q11A Duckwater 71.86 54 ⇓P **P 16 49 15.2 +0.4**
baz=72
LAO LASA Array 71.87 43 P **P 16 49 15.4 +0.7**
comp=Z,86nm,1.1s,mb5.6
LAO *epP* pP 16 49 30.3 -0.4
HATD Hatta, Dubai 71.87 287 P **P 16 49 16.3 +1.1**
SNR=10
S10A Tonopah Range, 71.88 55 ⇑P **P 16 49 14.9 0.0**
baz=72,SNR=14
P12A McGill 71.89 53 P **P 16 49 15.6 +0.5**
baz=72,SNR=9.8
AHID Auburn Hatcher 71.92 48 *epP* **P 16 49 15.3 +0.2**
ASK Askoy 71.94 340 *eP* **P 16 49 15.4 +0.5**
comp=Z,159nm,2.0s,mb5.6
ASK Askoy 71.94 340 *eP* **P 16 49 15.4 +0.5**
ASK AMb AMB 16 49 18.7
comp=Z,159nm,2.0s,mb5.6
BER Bergen 71.99 340 *eP* **P 16 49 15.9 +0.7**
GRAC Grapevine Rang 72.00 56 ⇓P **P 16 49 16.2 +0.5**
baz=72,SNR=6.6
N14A Grayback Hills 72.00 51 ⇑P **P 16 49 15.8 +0.2**
baz=72
ASHO Ashiyiah 72.01 287 P **P 16 49 17.2 +1.2**
SNR=12
M15A Larsen Ranch, 72.03 50 ⇓P **P 16 49 16.0 +0.2**
baz=72
BGU Big Grassy Mou 72.05 51 *eP* **P 16 49 15.7 -0.3**
BGU *epP* pP 16 49 31.5 -0.4
ODD1 Odda 72.05 339 *eP* **P 16 49 15.1 -0.4**
comp=Z,65nm,1.6s,mb5.3
ODD1 Odda 72.05 339 *eP* **P 16 49 15.1 -0.4**
ODD1 AMb AMB 16 49 18.2
comp=Z,65nm,1.6s,mb5.3
R11A Troy Canyon, C 72.22 54 ⇓P **P 16 49 16.8 -0.2**
baz=72,SNR=20
Q12A Willow Creek R 72.22 53 ⇓P **P 16 49 17.4 +0.5**
baz=72
HWUT Hardware Ranch 72.43 49 *eP* **P 16 49 18.3 +0.1**
comp=Z,66nm,1.1s,mb5.5
HWUT *epP* pP 16 49 33.7 -0.4
HWUT LR LR
comp=Z,205nm,19.0s,MS4.4
P13A Bates Ranch, G 72.43 52 P **P 16 49 18.6 +0.4**
baz=72,SNR=6.6
MPMC Manual Prospec 72.52 57 P **P 16 49 19.2 +0.4**
baz=72,SNR=14
S11A Rachel 72.57 55 P **P 16 49 19.9 +0.8**
baz=72,SNR=9.2
DUG Dugway 72.65 51 *eP* **P 16 49 19.6 +0.1**
comp=Z,86nm,1.2s,mb5.6
DUG *epP* pP 16 49 35.9 +0.4
DUG Dugway 72.65 51 *eP* **P 16 49 19.6 +0.1**
DUG *e**PP pP 16 49 35.9 +0.4
DUG pmax pmax
comp=Z,87nm,1.2s,mb5.6
DUG Dugway 72.65 51 P **P 16 49 20.1 +0.6**
baz=72,SNR=8.6
FURC Furnace Creek, 72.65 56 P **P 16 49 20.2 +0.6**
baz=72,SNR=11
OSI Osito Adit 72.67 59 ⇑P **P 16 49 20.2 +0.4**
baz=72
TPNV Topopah Spring 72.72 56 *eP* **P 16 49 19.4 -0.6**
comp=Z,39nm,0.8s,mb5.4
TPNV *epP* pP 16 49 36.4 +0.4
TPNV LR LR
comp=Z,403nm,21.0s,MS4.7
TPNV Topopah Spring 72.72 56 *eP* **P 16 49 19.4 -0.6**
TPNV *e**PP pP 16 49 36.4 +0.4
TPNV pmax pmax
comp=Z,39nm,0.8s,mb5.4
TPNV MLR MLR
comp=Z,403nm,21.0s,MS4.7
TPNV Topopah Spring 72.72 56 P **P 16 49 20.4 +0.4**
baz=72,SNR=8.9
NOQ North Oquirrh 72.75 51 *eP* **P 16 49 20.0 -0.1**
comp=Z,94nm,1.1s,mb5.6
NOQ *epP* pP 16 49 33.6 -2.4
Q13A Wheeler Ranch, 72.75 53 P **P 16 49 20.8 +0.7**
baz=72,SNR=18
PDAR Pinedale Array 72.77 48 P **P 16 49 20.1 -0.1**
comp=Z,7.6nm,0.6s,mb4.8,baz=261,slow=1.7,SNR=64
PDAR pP pP 16 49 36.2 +0.1
comp=Z,35nm,0.6s,baz=271,slow=2.8,SNR=33
LRMC Laurel Mountai 72.77 58 ⇓P **P 16 49 20.5 +0.2**
baz=72
R12A Pony Springs, 72.81 54 ⇓P **P 16 49 20.8 +0.3**
baz=73
ARMA Armidale 72.87 173 *eP* **P 16 49 21.3 +0.6**
CTU Camp Tracy 72.93 50 *eP* **P 16 49 21.2 0.0**
comp=Z,39nm,1.1s,mb5.2
CTU *epP* pP 16 49 35.8 -1.3
EDW2 Edwards Air Fo 72.97 58 P **P 16 49 21.8 +0.3**

baz=73,SNR=8.3
U10A Ash Meadows, A 73.01 56 ⇑P P 16 49 22.1 +0.4
baz=73,SNR=7.7
S12A Delamar Landin 73.14 54 ⇑P P 16 49 22.9 +0.5
baz=73
T11A Corn Creek, Al 73.15 55 ⇓P P 16 49 22.8 +0.2
baz=73,SNR=19
JLU Jordanelle 73.16 50 eP P 16 49 22.6 +0.1
JLU epP pP 16 49 36.9 -1.7
NLU North Lily Min 73.23 51 eP P 16 49 23.1 +0.1
DAU Daniels Canyon 73.40 50 eP P 16 49 24.4 +0.4
DAU epP pP 16 49 40.0 +0.1
GSC Goldstone 73.44 57 eP P 16 49 24.0 -0.3
comp=Z,30nm,1.0s,mb5.2
GSC epP pP 16 49 39.7 -0.6
GSC Goldstone 73.44 57 eP P 16 49 24.0 -0.3
GSC e*PP pP 16 49 39.7 -0.6
GSC pmax pmax
comp=Z,30nm,1.0s,mb5.2
GSC Goldstone 73.44 57 P P 16 49 24.5 +0.3
baz=73,SNR=6.5
MPU Maple Canyon 73.44 51 eP P 16 49 24.4 +0.1
comp=Z,19nm,0.6s,mb5.2
MPU e pP 16 49 40.2 0.0
BFSC Mount Baldy St 73.59 59 ⇓P P 16 49 25.3 +0.1
baz=73
S13A Holt Ranch, En 73.75 54 P P 16 49 26.6 +0.5
baz=74,SNR=11
KIS Kishinev 73.85 320 eP P 16 49 25.0 -1.5
KIS e pP 16 49 40.0 -2.5
KIS MLR MLR
comp=Z,300nm,20.0s,MS4.6
TUQ Turquoise Mtn. 73.90 57 P P 16 49 27.4 +0.5
baz=74,SNR=14
V11A Goodsprings 73.94 56 ⇓P P 16 49 27.4 +0.2
baz=74
STKA Stephens Creek 73.96 182 eP P 16 49 27.0 -0.1
comp=Z,13nm,0.8s,mb4.9
STKA Stephens Creek 73.96 182 P P 16 49 27.1 0.0
comp=Z,14nm,0.7s,mb5.0,baz=344,slow=8.0,SNR=28
STKA LR LR 17 22 59.4
comp=Z,205nm,21.1s,MS4.4,baz=278,slow=36
LVV L'vov 73.98 324 eP P 16 49 27.7 +0.5
HEC Hector,Ludlow 74.04 57 ⇓P P 16 49 27.8 0.0
baz=74
CCUT Cedar City 74.07 54 eP P 16 49 28.2 +0.3
CCUT epP pP 16 49 44.3 +0.4
T13A Saint George 74.09 54 P P 16 49 29.3 +1.3
baz=74,SNR=6.0
U12A Valley of Fire 74.09 55 ⇑P P 16 49 28.3 +0.2
baz=74
MSU Marysvale 74.13 52 eP P 16 49 28.9 +0.7
MSU epP pP 16 49 45.0 +0.7
ULM Lac du Bonnet 74.13 35 eP P 16 49 26.5 -1.5
comp=Z,26nm,0.9s,mb5.2
ULM epP pP 16 49 41.1 -3.0
ULM Lac du Bonnet 74.13 35 P P 16 49 27.0 -1.1
comp=Z,22nm,0.9s,mb5.1,baz=315,slow=6.8,SNR=42
ULM LR LR 17 21 48.7
comp=Z,256nm,19.1s,MS4.5,baz=211,slow=36
TMUT Trail Mountain 74.17 51 eP P 16 49 28.0 -0.4
TMUT epP pP 16 49 44.4 -0.1
FORT Forrest 74.22 194 eP P 16 49 29.3 +0.7
comp=Z,91nm,0.7s
U13A Pakoon Wash 74.45 55 P P 16 49 31.0 +0.8
baz=74,SNR=24
RGN Rugen 74.47 332 eP P 16 49 30.2 +0.3
comp=Z,50nm,1.0s,mb5.4
GMRC Granite Mounta 74.49 57 P P 16 49 30.7 +0.3
baz=74,SNR=13
T14A Hurricane 74.56 54 ⇓P P 16 49 31.4 +0.6
baz=74
W12A Cal Nev Ari 74.64 56 ⇓P P 16 49 31.8 +0.6
baz=74
UMR Umm Al-Rimmam 74.67 296 eP P 16 49 30.8 -0.8
UMR AMb AMB 16 49 48.8
comp=Z,53nm,0.6s
SRU San Rafael 74.69 51 eP P 16 49 31.5 0.0
comp=Z,38nm,0.9s,mb5.3
SRU epP pP 16 49 46.8 -0.7
SRU San Rafael 74.69 51 eP P 16 49 31.5 0.0
SRU e*PP pP 16 49 46.8 -0.7
SRU pmax pmax
comp=Z,38nm,0.9s,mb5.3
KWP Kalwaria 74.69 325 eP P 16 49 31.9 +0.6
KWP Kalwaria 74.69 325 ⇓iP P 16 49 32.1 +0.8
MALT Malatya 74.74 308 eP P 16 49 32.7 +0.9
comp=Z,11nm,0.9s,mb4.8
MALT epP pP 16 49 48.3 +0.5
MALT Malatya 74.74 308 eP P 16 49 32.7 +0.9
MALT e*PP pP 16 49 48.3 +0.4
MALT pmax pmax
comp=Z,11nm,0.9s,mb4.8
MALT Malatya 74.74 308 ⇓iP P 16 49 33.6 +1.8
MIB Mutribah 74.76 296 eP P 16 49 31.4 -0.7
MIB AMb AMB 16 49 49.7
comp=Z,60nm,0.8s,mb5.6
PFO Pinyon Flat Ob 74.76 58 eP P 16 49 31.6 -0.4
comp=Z,8.7nm,0.9s,mb4.7
PFO epP pP 16 49 47.3 -0.7
PFO Pinyon Flat Ob 74.76 58 eP P 16 49 31.6 -0.4
PFO e*PP pP 16 49 47.3 -0.7
PFO pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
PFO Pinyon Flat Ob 74.76 58 LR LR 17 15 00.3
comp=Z,233nm,21.2s,MS4.5,baz=50,slow=30
PFO Pinyon Flat Ob 74.76 58 ⇑P P 16 49 31.9 -0.1
baz=74
RSSD Black Hills 74.76 44 eP P 16 49 31.1 -0.7
comp=Z,66nm,1.1s,mb5.5
RSSD epP pP 16 49 47.5 -0.3
RSSD LR LR
comp=Z,916nm,20.0s,MS5.1
RSSD Black Hills 74.76 44 eP P 16 49 31.1 -0.7
RSSD e*PP pP 16 49 47.5 -0.4
RSSD pmax pmax
comp=Z,66nm,1.1s,mb5.5
RSSD MLR MLR
comp=Z,916nm,20.0s,MS5.1
RWWY Rawlins 74.78 47 eP P 16 49 31.6 -0.4
comp=Z,29nm,1.3s,mb5.0
RWWY epP pP 16 49 46.4 -1.6
BELC Belle Mtn. 74.79 58 ⇑P P 16 49 32.1 -0.1
baz=74
V13A Grand Canyon W 74.81 55 ⇓P P 16 49 32.3 0.0
baz=75,SNR=17
U14A Mt Trumbull 74.92 54 P P 16 49 33.6 +0.7
baz=75,SNR=16
T15A Red Dirt Ranch 75.00 53 ⇑P P 16 49 33.8 +0.5
baz=75
NAY Al-Naaiem 75.18 296 eP P 16 49 34.2 -0.3
NAY AMb AMB 16 49 52.1
comp=Z,38nm,0.8s,mb5.4
RDF Al-Radifah 75.18 296 eP P 16 49 34.4 -0.1
RDF AMb AMB 16 49 50.4
comp=Z,42nm,0.6s,mb5.5
IRM Iron Mountain 75.21 57 ⇓P P 16 49 34.5 -0.1
baz=75,SNR=11
MONP Monument Peak 75.25 59 ⇓P P 16 49 35.0 +0.1
baz=75
BC3 Big Chuckw Mtn 75.36 58 P P 16 49 35.4 0.0
baz=75,SNR=11
W13A Hualapai Mount 75.37 56 ⇑P P 16 49 35.5 0.0
baz=75,SNR=16
KOLS Kolonicke sedl 75.41 324 eP P 16 49 35.7 +0.2
KOLS e 16 49 44.1
KOLS Kolonicke sedl 75.41 324 eP P 16 49 35.7 +0.2
KOLS e 16 49 44.0
OJC Ojcow 75.46 327 eP P 16 49 35.9 +0.2
STHS Stebnicka Huta 75.48 325 eP P 16 49 36.6 +0.7
comp=Z,19nm,0.9s,mb5.0
STHS e pP 16 49 51.4 -0.5
STHS Stebnicka Huta 75.48 325 eP P 16 49 36.6 +0.7
STHS e pP 16 49 51.4 -0.5
STHS pmax pmax
comp=Z,19nm,0.9s,mb5.0
V14A Boquillas Ranc 75.49 55 P P 16 49 37.1 +0.9
baz=75,SNR=41
AGMN Agassiz Refuge 75.60 36 eP P 16 49 35.1 -1.4
comp=Z,57nm,1.3s,mb5.3
AGMN epP pP 16 49 49.2 -3.5
SWSC Sam W. Stewart 75.61 59 ⇑P P 16 49 37.0 +0.1
baz=75
VRI Vrincioaia 75.67 320 ⇓P P 16 49 37.6 +0.6
VRI Vrincioaia 75.67 320 ⇓iP P 16 49 37.6 +0.6
PLOR Plostina 75.72 320 ⇑iP P 16 49 38.3 +1.0

X13A Yucca 75.74 56 P P 16 49 38.0 +0.4
baz=76,SNR=30
PDMCI Parker Dam,Lak 75.75 57 P P 16 49 37.9 +0.2
baz=76,SNR=7.3
ORE Reay 75.78 343 eP P 16 49 37.8 +0.4
CRVS Cervenica-Dubn 75.78 325 eP P 16 49 37.9 +0.3
CRVS epP pP 16 49 54.6 +0.9
W14A Seligman 75.79 55 ⇑P P 16 49 38.2 +0.3
baz=76,SNR=36
NIE Niedzica 75.87 326 eP P 16 49 39.0 +0.9
TIRR Tirgusor 75.87 318 ⇓P P 16 49 38.3 +0.1
TIRR Tirgusor 75.87 318 ⇓iP P 16 49 38.3 +0.1
Y12C Blythe 75.87 57 ⇑P P 16 49 38.4 0.0
baz=76,SNR=7.0
MLA1 Latheron 75.91 343 eP P 16 49 37.7 -0.5
V15A Kaibab Nationa 75.93 54 ⇑P P 16 49 39.7 +1.0
baz=76
BSEG Bad Segeberg 75.98 334 eP P 16 49 38.6 0.0
comp=Z,44nm,1.4s,mb5.2
RUE Ruedersdorf 75.98 331 eP P 16 49 38.9 +0.2
comp=Z,99nm,1.7s,mb5.5
PHWY Pilot Hill 76.00 46 P P 16 49 39.2 +0.2
PHWY e 16 49 47.3
PHWY epP pP 16 49 54.2 -0.9
GLA Glamis 76.15 58 eP P 16 49 39.6 -0.4
comp=Z,55nm,1.0s,mb5.4
GLA epP pP 16 49 55.7 -0.3
GLA Glamis 76.15 58 eP P 16 49 39.6 -0.4
GLA e*PP pP 16 49 55.7 -0.3
GLA pmax pmax
comp=Z,55nm,1.0s,mb5.4
GLA Glamis 76.15 58 P P 16 49 40.3 +0.3
baz=76,SNR=12
RSC Scourie 76.26 344 eP P 16 49 40.2 +0.1
Y13A Salome 76.26 57 ⇓P P 16 49 40.8 +0.2
baz=76
W15A Williams 76.31 55 ⇓P P 16 49 41.4 +0.5
baz=76,SNR=5.5
MLR Muntele Rosu 76.32 320 P P 16 49 41.4 +0.7
MLR Muntele Rosu 76.32 320 ⇓iP P 16 49 41.4 +0.7
KSP Ksiaz 76.37 329 eP P 16 49 41.3 +0.4
KSP Ksiaz 76.37 329⇑eP P 16 49 41.0 +0.1
KSP e*PP pP 16 49 56.7 -0.3
KSP MLR MLR
comp=Z,1µm,21.1s,MS5.2
X14A Yava 76.40 56 P P 16 49 42.4 +1.0
baz=76,SNR=24
OKC Ostrava-Krasne 76.43 327 eP P 16 49 41.8 +0.5
OKC epP pP 16 49 57.8 +0.5
OKC AMS AMS 17 25 50.0
comp=Z,300nm,16.7s,MS4.7
MVH1 Achvaich 76.44 343 eP P 16 49 40.5 -0.7
REB Eisghbrachaidh 76.50 344 eP P 16 49 41.8 +0.3
KECS Kecovo 76.52 325 eP P 16 49 41.7 -0.1
comp=Z,5.3nm,1.0s,mb4.4
KECS e pP 16 49 58.3 +0.4
KECS Kecovo 76.52 325 eP P 16 49 41.7 -0.1
KECS e pP 16 49 58.3 +0.4
KECS pmax pmax
comp=Z,5.0nm,1.0s,mb4.4
MCD Coleburn Disti 76.55 342 eP P 16 49 41.4 -0.4
WUAZ Wupatki 76.61 54 eP P 16 49 43.2 +0.6
comp=Z,28nm,1.0s,mb5.1
WUAZ epP pP 16 49 59.3 +0.6
WUAZ Wupatki 76.61 54 ⇑P P 16 49 43.0 +0.4
baz=76
SNX Sinaia 76.62 320 ⇓iP P 16 49 42.0 -0.4
SMCO Snowmass 76.65 49 eP P 16 49 43.1 +0.4
comp=Z,49nm,1.0s,mb5.4
SMCO epP pP 16 49 57.1 -1.7
Y14A Wickenburg 76.69 56 ⇑P P 16 49 43.2 +0.2
baz=76,SNR=15
MORC Moravsky Berou 76.72 327 eP P 16 49 43.0 +0.1
comp=Z,36nm,1.0s,mb5.3
MORC epP pP 16 49 58.8 -0.2
MORC Moravsky Berou 76.72 327 eP P 16 49 43.0 +0.1
MORC e*PP pP 16 49 58.8 -0.2
MORC pmax pmax
comp=Z,36nm,1.0s,mb5.3
MORC Moravsky Berou 76.72 327 ⇓iP P 16 49 43.7 +0.8
UPC Upice 76.74 329 eP P 16 49 43.5 +0.5
UPC epP pP 16 49 59.6 +0.5
DPC Dobruska-Polom 76.75 328 eP P 16 49 43.9 +0.9
DPC epP pP 16 50 00.0 +0.9
DPC AMS AMS 17 26 00.0
comp=Z,500nm,19.1s,MS4.8
VOIR 76.78 321 P P 16 49 44.4 +1.0
VOIR 76.78 321 ⇓iP P 16 49 44.3 +1.0
X15A Humboldt 76.79 55 ⇓P P 16 49 44.2 +0.6
baz=76,SNR=14
DRGR 76.84 323 P P 16 49 44.2 +0.6
DRGR 76.84 323 ⇓iP P 16 49 44.2 +0.6
MDO Dochfour 76.92 343 eP P 16 49 43.4 -0.5
ISCO Idaho Springs 76.97 48 eP P 16 49 45.0 +0.5
comp=Z,40nm,1.2s,mb5.2
ISCO epP pP 16 50 00.1 -0.5
ISCO LR LR
comp=Z,327nm,19.0s,MS4.7
ISCO Idaho Springs 76.97 48 eP P 16 49 45.0 +0.5
ISCO e*PP pP 16 50 00.1 -0.5
ISCO pmax pmax
comp=Z,40nm,1.2s,mb5.2
ISCO MLR MLR
comp=Z,327nm,19.0s,MS4.7
KAC Achnashellach 77.07 343 eP P 16 49 44.2 -0.5
Y15A Casa Rosa Ranc 77.09 56 P P 16 49 45.8 +0.5
baz=77,SNR=21
Z14A Wintersburg 77.11 57 ⇓P P 16 49 45.3 -0.1
baz=77
MVCO Mesa Verde 77.15 51 eP P 16 49 45.2 -0.4
comp=Z,33nm,0.8s,mb5.3
MVCO epP pP 16 50 02.0 +0.3
MVCO Mesa Verde 77.15 51 ⇓P P 16 49 45.9 +0.3
baz=77
VYHS Vyhne 77.20 326 eP P 16 49 45.9 +0.3
comp=Z,12nm,1.3s,mb4.7
VYHS e pP 16 50 01.6 -0.1
VYHS Vyhne 77.20 326 eP P 16 49 45.9 +0.3
VYHS e pP 16 50 01.6 -0.1
VYHS pmax pmax
comp=Z,12nm,1.3s,mb4.7
PSZ Piszkesteto 77.21 325 eP P 16 49 45.6 -0.1
comp=Z,30nm,1.4s,mb5.0
PSZ epP pP 16 50 02.0 +0.2
PSZ Piszkesteto 77.21 325 eP P 16 49 45.6 -0.1
PSZ e*PP pP 16 50 02.0 +0.2
PSZ pmax pmax
comp=Z,30nm,1.4s,mb5.0
PSZ Piszkesteto 77.21 325 ⇓iP P 16 49 46.6 +0.9
PSZ Piszkesteto 77.21 325⇓eP P 16 49 46.7 +1.0
CLL Collm 77.22 331⇑iP P 16 49 45.3 -0.4
comp=Z,34nm,1.0s,mb5.2
CLL i 16 49 49.0
CLL e pP 16 50 01.0 -0.8
CLL LR LR
comp=Z,600nm,20.0s,MS4.9
CLL Collm 77.22 331⇑iP P 16 49 45.3 -0.4
CLL e pP 16 50 01.0 -0.8
CLL pmax pmax
comp=Z,34nm,1.0s,mb5.2
CLL MLR MLR
comp=Z,600nm,20.0s,MS4.9
CLL Collm 77.22 331 eP P 16 49 45.2 -0.5
comp=Z,34nm,1.0s,mb5.2
CLL Collm 77.22 331⇑iP P 16 49 45.3 -0.4
comp=Z,34nm,1.0s,mb5.2
CLL Lm 16 26 00.0
comp=N,500nm,20.3s
CLL Lm 16 26 00.0
comp=E,200nm,18.5s
CLL Lm 16 26 00.0
comp=Z,600nm,20.0s
CLL i x x 16 49 49.0
CLL epP pP 16 50 01.0 -0.8
CLL i x x 16 50 15.7
CLL eS S 16 59 30.0 -2.5
BRG Berggiesshubel 77.23 330 eP P 16 49 45.4 -0.4
comp=Z,10.0nm,1.3s,mb4.6
BRG i pP 16 50 01.8 -0.1
BRG LR LR
comp=Z,470nm,19.1s,MS4.8
BRG Berggiesshubel 77.23 330 eP P 16 49 45.4 -0.3
BRG i pP 16 50 01.8 0.0
BRG pmax pmax
comp=Z,10.0nm,1.3s,mb4.6

BRG MLR MLR
comp=Z,470nm,19.1s,MS4.8
BRG Berggiesshubel 77.23 330 eP P 16 49 45.6 -0.1
comp=Z,17nm,1.3s,mb4.8
BRG esP sP 16 50 01.5 -6.8
BRG Berggiesshubel 77.23 330 eP P 16 49 45.4 -0.4
comp=Z,17nm,1.3s,mb4.8
BRG i pP 16 50 01.8 -0.1
comp=Z,17nm,1.1s
BRG
comp=N,461nm,18.8s
BRG
comp=E,379nm,18.2s
BRG
comp=Z,787nm,19.1s
PVCC Panska Ves 77.27 329 eP P 16 49 46.5 +0.5
PVCC epP pP 16 50 02.6 +0.5
PVCC AMS AMS 17 26 00.0
comp=Z,800nm,22.1s,MS5.0
KPL Plockton 77.29 343 eP P 16 49 46.0 +0.1
KPL AMb AMB 16 49 47.9
comp=Z,78nm,1.7s,mb5.3
KOLL Kolacno 77.31 326 eP P 16 49 47.5 +1.2
X16A Lo Mia Camp, P 77.32 55 ⇓P P 16 49 46.9 +0.4
baz=77,SNR=13
KLBR Kellerberrin 77.38 202 eP P 16 49 46.2 -0.4
comp=Z,34nm,1.0s,mb5.2
FBE Freiberg 77.41 330 eP P 16 49 46.7 0.0
comp=Z,19nm,0.9s,mb5.0
VRAC Vranov 77.47 328 P P 16 49 47.9 +0.8
VRAC Vranov 77.47 328⇑iP P 16 49 48.0 +0.9
Y16A Circle Bar Ran 77.66 55 P P 16 49 49.1 +0.6
baz=77,SNR=14
ELO Logie Almond 77.67 342 eP P 16 49 48.1 +0.1
CLZ Clausthal 77.71 332 eP P 16 49 48.5 +0.1
CLZ pmax pmax
comp=Z,55nm,1.5s,mb5.3
CLZ Clausthal 77.71 332 eP P 16 49 48.5 +0.1
comp=Z,55nm,1.5s,mb5.3
KAR1 Arisaig 77.72 343 eP P 16 49 48.3 0.0
PRU Pruhonice 77.72 329 eP P 16 49 48.8 +0.3
PRU epP pP 16 50 05.0 +0.4
PRU AMS AMS 17 25 40.0
comp=Z,500nm,19.3s,MS4.8
EYMN Ely 77.74 34 eP P 16 49 47.5 -1.2
comp=Z,87nm,1.1s,mb5.6
EYMN epP pP 16 50 03.0 -1.7
X17A Forest Lakes 77.76 55 P P 16 49 50.4 +1.4
baz=78,SNR=5.1
EBH Black Hill 77.82 342 eP P 16 49 49.6 +0.7
GZR Gura Zlata 77.87 322 ⇓P P 16 49 49.1 -0.3
GZR Gura Zlata 77.87 322 ⇓iP P 16 49 49.1 -0.3
BUD Budapest 77.91 325⇓eP P 16 49 50.6 +1.0
ESY Stoneypath 77.92 341 eP P 16 49 49.1 -0.3
TREC Trest 77.92 328 eP P 16 49 50.1 +0.5
TREC AMS AMS 17 26 40.0
comp=Z,500nm,22.3s,MS4.8
MODS Modra-Piesok 77.94 327 eP P 16 49 50.9 +1.2
MODS epP pP 16 50 06.7 +0.8
115A Sonoran Desert 78.00 57 P P 16 49 51.3 +0.9
baz=78,SNR=5.8
Z16A Peralta Trail, 78.06 56 ⇓P P 16 49 51.4 +0.7
baz=78
EAB Aberfoyle 78.07 342 eP P 16 49 51.0 +0.7
X18A Snowflake 78.14 54 ⇑P P 16 49 51.8 +0.7
baz=78
EBL Broad Law 78.15 341 eP P 16 49 50.0 -0.8
TANN Tannenbergstha 78.15 330 eP P 16 49 50.7 -0.2
comp=Z,7.0nm,1.2s,mb4.5
ZST Bratislava 78.15 327 epP pP 16 50 07.9 +0.9
Y17A Roosevelt 78.17 55 P P 16 49 51.9 +0.6
baz=78,SNR=7.7
EAU Auchinoon 78.18 342 eP P 16 49 51.3 +0.4
WERD Werda 78.18 331 eP P 16 49 51.0 0.0
comp=Z,22nm,1.7s,mb4.8
WERD esP sP 16 50 06.6 -7.0
IBBN Ibbenburen 78.19 334 eP P 16 49 50.7 -0.3
comp=Z,48nm,1.4s,mb5.2
MUN Mundaring 78.19 203 eP P 16 49 51.3 +0.2
BZS Buzias 78.23 323 P P 16 49 51.6 +0.2
BZS Buzias 78.23 323 ⇓iP P 16 49 51.4 0.0
GUNZ Gunzen 78.24 331 eP P 16 49 51.3 -0.1
comp=Z,12nm,0.9s,mb4.8
MOX Moxa 78.27 331 eP P 16 49 51.4 -0.1
comp=Z,30nm,1.6s,mb5.0
MOX e pP 16 50 07.3 -0.3
MOX
comp=Z,400nm,20.0s
MOX Moxa 78.27 331 eP P 16 49 51.4 -0.1
MOX e pP 16 50 07.3 -0.3
MOX pmax pmax
comp=Z,30nm,1.6s,mb5.0
MOX MLR MLR
comp=Z,400nm,20.0s,MS4.7
MOX Moxa 78.27 331 eP P 16 49 51.3 -0.2
comp=Z,13nm,0.9s,mb4.9
WERN Wernitzgruen 78.28 330 eP P 16 49 51.6 0.0
comp=Z,24nm,1.4s,mb4.9
WERN esP sP 16 50 07.3 -6.9
NKC Novy Kostel 78.30 330 eP P 16 49 52.1 +0.4
NKC epP pP 16 50 08.0 +0.1
NKC AMS AMS 17 27 20.0
comp=Z,600nm,17.4s,MS5.0
SDCO Great Sand Dun 78.48 49 eP P 16 49 53.0 +0.1
comp=Z,31nm,1.2s,mb5.1
SDCO epP pP 16 50 09.1 0.0
SDCO LR LR
comp=Z,198nm,20.0s,MS4.4
ESK Eskdalemuir 78.60 341 eP P 16 49 53.0 -0.3
ESK AMb AMB 16 49 55.0
comp=Z,33nm,1.7s,mb5.0
X19A St. Johns 78.61 54 P P 16 49 54.6 +1.0
baz=78,SNR=16
Y18A Canyon Day Jun 78.61 55 P P 16 49 54.8 +1.0
baz=78,SNR=5.8
MANZ Manzenberg 78.63 330 eP P 16 49 53.4 -0.1
comp=Z,16nm,1.3s,mb4.8
Z17A San Carlos Hig 78.67 55 ⇑P P 16 49 55.0 +1.0
baz=78
UBBA Unterbreizbach 78.69 332 eP P 16 49 53.3 -0.5
comp=Z,24nm,1.7s,mb4.8
ECSD EROS,Sioux Fal 78.70 40 eP P 16 49 53.0 -1.0
comp=Z,74nm,1.1s,mb5.5
ECSD epP pP 16 50 08.9 -1.3
ECK Cauldkaine Hil 78.71 341 eP P 16 49 52.7 -1.1
ROTZ Rotzenmuhle 78.78 330 eP P 16 49 54.5 +0.2
comp=Z,81nm,2.2s,mb5.3
NWAO Narrogin (SRO) 78.78 202 eP P 16 49 54.1 -0.2
comp=Z,57nm,1.3s,mb5.3
NWAO Narrogin (SRO) 78.78 202 eP P 16 49 54.1 -0.2
NWAO pmax pmax
comp=Z,57nm,1.3s
SOP Sopron 78.78 327 eP P 16 49 55.4 +1.0
KHC Kasperske Hory 78.78 329⇑iP P 16 49 54.7 +0.3
KHC Kasperske Hory 78.78 329 eP P 16 49 54.7 +0.3
KHC epP pP 16 50 11.0 +0.5
KHC AMS AMS 17 28 30.0
comp=Z,600nm,17.6s,MS5.0
WTSB Winterswijk 78.78 334 eP P 16 49 53.9 -0.5
comp=Z,29nm,1.6s,mb5.0
CONA Conrad Observa 78.86 327⇑iP P 16 49 55.6 +0.8
comp=Z,20nm,1.4s,mb4.9
Y19A Nutrioso 78.95 54 P P 16 49 56.7 +1.1
baz=79,SNR=9.2
216A Three Points, 78.95 57 ⇑P P 16 49 56.8 +1.1
baz=79
GEC2 GERESS Array S 78.97 329 eP P 16 49 55.2 -0.2
GEC2 pmax pmax
comp=Z,17nm,1.5s,mb4.8
GEC2 GERESS Array S 78.97 329 eP P 16 49 55.2 -0.2
comp=Z,17nm,1.5s,mb4.8
GERES GERESS Array B 78.97 329 P P 16 49 55.4 0.0
comp=Z,3.8nm,0.7s,mb4.4,baz=35,slow=4.9,SNR=29
GERES pP pP 16 50 10.7 -0.9
comp=Z,3.9nm,0.6s,baz=45,slow=4.0,SNR=7.4
GERES PKKPbc PKKPbc 17 08 46.1 -0.2
comp=Z,0.2nm,0.5s,baz=302,slow=2.5,SNR=3.6
GERES LR LR 17 28 06.1
comp=Z,491nm,20.1s,MS4.8,baz=40,slow=38
117A Oracle 79.01 56 ⇑P P 16 49 55.9 0.0
baz=79,SNR=9.6
WET Wettzell 79.04 330 eP P 16 49 56.1 +0.3
WET pmax pmax
comp=Z,24nm,1.1s,mb5.0
WET Wettzell 79.04 330 eP P 16 49 56.1 +0.3
comp=Z,24nm,1.1s,mb5.0

PKSM **Moragy** 79.07 325 ⇓P P 16 49 55.8 -0.2
PKSM **Moragy** 79.07 325 ⇓*i*P P 16 49 55.8 -0.2
BUG **Bochum--Univer** 79.08 334 *e*P P 16 49 55.4 -0.6
comp=Z,37nm,1.4s,mb5.1
GMK **Mull of Kintyr** 79.12 343 *e*P P 16 49 56.5 +0.4
TUC **Tucson** 79.16 56 *e*P P 16 49 58.3 +1.5
comp=Z,24nm,1.2s,mb5.0
TUC *e*pP pP 16 50 13.8 +0.9
TUC **Tucson** 79.16 56 *e*P P 16 49 58.3 +1.5
TUC *e**PP pP 16 50 13.9 +1.0
TUC pmax pmax
comp=Z,24nm,1.2s,mb5.0
GRA1 **Grafenberg Arr** 79.20 331 *e*P P 16 49 57.0 +0.4
comp=Z,59nm,1.4s,mb5.3
GRA1 *e*sP sP 16 50 12.0 -7.2
GRA1 LR LR
comp=Z,500nm,19.4s,MS4.9
GRF **Grafenberg Arr** 79.20 331 *e*P P 16 49 57.0 +0.4
GRF *e**SP sP 16 50 12.0 -7.2
GRF pmax pmax
comp=Z,59nm,1.4s,mb5.3
GRF MLR MLR
comp=Z,500nm,19.4s,MS4.9
GRF **Grafenberg Arr** 79.20 331 *e*P P 16 49 57.0 +0.4
GRF *e**SP sP 16 50 12.0 -7.2
GRF pmax pmax
comp=Z,59nm,1.4s,mb5.3
GRF MLR MLR
comp=Z,500nm,19.4s,MS4.9
GRF **Grafenberg Arr** 79.20 331 *e*P P 16 49 57.0 +0.4
comp=Z,59nm,1.4s,mb5.3
GRF *e*sP sP 16 50 12.0 -7.2
GRF *e*L 17 28 35.8
comp=Z,452nm,19.4s
GRFO **Grafenberg** 79.20 331 *e*P P 16 49 56.5 -0.1
comp=Z,36nm,1.1s,mb5.2
GRFO *e* 16 50 02.5
GRFO *e*pP pP 16 50 12.3 -0.5
GRFO **Grafenberg** 79.20 331 *e*P P 16 49 56.5 -0.1
GRFO *e* 16 50 02.5
GRFO *e**PP pP 16 50 12.3 -0.5
GRFO pmax pmax
comp=Z,36nm,1.1s,mb5.2
CKE **Keswick** 79.24 341 *e*P P 16 49 56.8 +0.1
GAL1 **Galloway** 79.37 342 *e*P P 16 49 57.0 -0.4
GAL1 AMb AMB 16 49 59.1
comp=Z,59nm,1.4s,mb5.3
Z19A **T-Link Ranch,** 79.41 54 ⇑P P 16 49 58.6 +0.5
baz=79
118A **Homack Ranch,** 79.43 55 P P 16 49 58.9 +0.6
baz=79,SNR=17
GCL **Cushendall** 79.49 343 *e*P P 16 49 58.2 +0.1
217A **Green Valley** 79.51 57 P P 16 49 59.3 +0.6
baz=79,SNR=10
MOA **Molln** 79.56 328 ⇑*i*P P 16 49 58.9 +0.2
comp=Z,6.7nm,0.9s,mb4.6
RAO **Raoul Island** 79.67 146 LR LR 17 17 12.0
comp=Z,294nm,21.9s,MS4.6,baz=21,slow=30
SCHQ **Schefferville** 79.71 17 *e*P P 16 49 58.5 -0.8
comp=Z,35nm,1.0s,mb5.2
SCHQ *e*pP pP 16 50 14.1 -1.4
SCHQ LR LR
comp=Z,733nm,22.0s,MS5.0
SCHQ **Schefferville** 79.71 17 P P 16 49 58.7 -0.6
comp=Z,17nm,0.7s,mb5.1,baz=5.1,slow=5.9,SNR=29
SCHQ pP pP 16 50 14.3 -1.2
comp=Z,20nm,0.8s,baz=348,slow=5.7,SNR=6.9
SCHQ LR LR 17 25 45.0
comp=Z,312nm,19.8s,MS4.7,baz=321,slow=36
119A **Ashpeak Ranch,** 79.75 55 ⇑P P 16 50 00.1 +0.2
baz=80,SNR=6.4
VTS **Vitosha** 79.80 320 P P 16 50 01.4 +1.3
VTS **Vitosha** 79.80 320 ⇑*i*P P 16 50 00.9 +0.9
218A **Dragoon** 79.84 56 ⇑P P 16 50 01.2 +0.7
baz=80
LAZ **Ladron** 79.90 52 *e*P P 16 50 01.5 +0.8
LAZ *e*pP pP 16 50 17.2 +0.3
ANMO **Albuquerque** 79.91 52 *e*P P 16 50 01.1 +0.3
comp=Z,31nm,1.2s,mb5.1
ANMO *e*pP pP 16 50 16.9 0.0
ANMO **Albuquerque** 79.91 52 *e*P P 16 50 01.1 +0.3
ANMO *e**PP pP 16 50 16.9 -0.1
ANMO pmax pmax
comp=Z,31nm,1.2s
HGN **Heimansgroeve** 80.10 334 *e*P pP 16 50 16.5 -1.2
comp=Z,21nm,1.3s
TOD **Tromm** 80.13 332 *e*P P 16 50 00.3 -1.4
COWI **Conover** 80.19 34 *e*P P 16 50 00.6 -1.5
comp=Z,28nm,0.8s,mb5.2
COWI *e*pP pP 16 50 16.3 -2.0
MEM **Membach** 80.21 334 P P 16 50 01.7 -0.4
comp=Z,13nm,1.3s,mb4.7
PERS **Pernice** 80.21 327 *e*P P 16 50 02.1 0.0
PERS *e* pP 16 50 18.3 -0.1
GMM **Mts of Mourne** 80.23 342 *e*P P 16 50 02.2 +0.1
318A **Bisbee** 80.25 56 P P 16 50 03.2 +0.5
baz=80,SNR=14
LPM **Los Pinos Moun** 80.26 52 *e*P P 16 50 03.3 +0.6
LPM *e*pP pP 16 50 17.4 -1.5
219A **White Tail Can** 80.31 55 P P 16 50 03.6 +0.6
baz=80,SNR=18
ABH **Alteburg** 80.32 333 *e*P P 16 50 00.7 -2.0
BNM **Barren Site** 80.37 52 *e*P P 16 50 03.7 +0.4
BNM *e*pP pP 16 50 18.6 -0.9
FUR **Furstenfeldbru** 80.45 330 *e*P P 16 50 03.7 +0.3
FUR pmax pmax
comp=Z,41nm,1.1s,mb5.3
FUR **Furstenfeldbru** 80.45 330 *e*P P 16 50 03.7 +0.3
comp=Z,41nm,1.1s,mb5.3
OBKA **Obir** 80.54 327 ⇑*i*P P 16 50 03.9 -0.1
comp=Z,9.4nm,0.7s,mb4.8
KBA **Koelnbreinsper** 80.55 328 ⇑*i*P P 16 50 04.6 +0.6
comp=Z,19nm,0.9s,mb5.0,SNR=7.1
KBA **Koelnbreinsper** 80.55 328 ⇑*i*P P 16 50 04.6 +0.6
KBA pmax pmax
comp=Z,19nm,0.9s,mb5.0
BCLA **Clavier** 80.60 334 P P 16 50 03.5 -0.7
comp=Z,13nm,1.5s,mb4.6
RUP **Ruppelstein** 80.64 333 *e*P P 16 50 03.0 -1.4
WPM1 **Penmaenmawr** 80.65 341 *e*P P 16 50 04.7 +0.2
STU **Stuttgart** 80.69 331 *e*P P 16 50 04.5 -0.2
comp=Z,26nm,0.9s,mb5.2
319A **Douglas** 80.73 56 P P 16 50 05.8 +0.6
baz=80,SNR=5.2
DMUB **Kingscourt** 80.75 343 *e*P P 16 50 06.0 +1.1
MYKA **Terra Mystica** 80.80 328 ⇑*i*P P 16 50 04.9 -0.4
comp=Z,21nm,1.0s,mb5.0
SBD1 **Bryn Du** 80.82 340 ⇑*e*P P 16 50 05.3 0.0
YLL **Llanberis** 80.83 341 *e*P P 16 50 04.9 -0.4
CBKS **Cedar Bluff** 80.83 45 *e*P P 16 50 04.0 -1.6
comp=Z,136nm,1.4s
CBKS *e*pP pP 16 50 20.0 -1.8
CBKS **Cedar Bluff** 80.83 45 *e*P P 16 50 04.1 -1.5
CBKS *e**PP pP 16 50 20.0 -1.8
CBKS pmax pmax
comp=Z,136nm,1.4s
STIP **Stip** 80.97 320 *i* P P 16 50 06.3 -0.1
LANF **Langenberg** 81.00 332 *e*P P 16 50 05.6 -0.8
WATA **Walderalm** 81.02 329 ⇑*i*P P 16 50 06.9 +0.4
comp=Z,20nm,1.1s,mb5.0
WATA **Walderalm** 81.02 329 ⇑*i*P P 16 50 06.9 +0.4
WATA pmax pmax
comp=Z,20nm,1.1s,mb5.0
GIVF **Givet** 81.03 335 *e*P P 16 50 06.0 -0.5
WTTA **Wattenberg** 81.06 329 ⇑*i*P P 16 50 07.1 +0.4
comp=Z,19nm,0.8s,mb5.1
WTTA **Wattenberg** 81.06 329 ⇑*i*P P 16 50 07.1 +0.4
WTTA pmax pmax
comp=Z,19nm,0.8s,mb5.1
BOJS **Bojanci** 81.07 326 *i* P P 16 50 06.3 -0.5
BOJS *i* pP 16 50 23.1 +0.1
VAY **Valandovo** 81.07 319 *i* P P 16 50 05.2 -1.7
PTCC **Patocco-Chiusa** 81.10 328 P P 16 50 06.3 -0.7
comp=Z,9.1nm,0.6s,mb4.9
DOU **Dourbes** 81.10 335 P P 16 50 06.3 -0.6
SKO **Skopje** 81.11 320 *i* P P 16 50 08.2 +1.1
MOTA **Moosalm** 81.19 329 ⇑*i*P P 16 50 07.8 +0.4
comp=Z,27nm,1.0s,mb5.2,SNR=14
MOTA **Moosalm** 81.19 329 ⇑*i*P P 16 50 07.8 +0.4
MOTA pmax pmax
comp=Z,27nm,1.0s,mb5.1
RETA **Reutte** 81.20 330 ⇑*i*P P 16 50 07.7 +0.2
comp=Z,22nm,1.0s,mb5.1
DLF **Lyons Farm** 81.23 342 *e*P P 16 50 07.3 -0.2
JAVS **Javornik** 81.24 327 *e*P P 16 50 06.7 -1.0
JAVS *e* pP 16 50 22.8 -1.1
BAIF **Baives** 81.26 335 *e*P P 16 50 07.1 -0.6
SQTA **Sankt Quirin** 81.26 329 ⇑*i*P P 16 50 08.1 +0.3
comp=Z,16nm,1.0s,mb4.9,SNR=9.6
SQTA **Sankt Quirin** 81.26 329 ⇑*i*P P 16 50 08.1 +0.3
SQTA pmax pmax
comp=Z,16nm,1.0s,mb4.9
BFO **Black Forest** 81.38 332 P P 16 50 08.3 -0.1
comp=Z,65nm,0.8s,mb5.6,SNR=5.2
BFO **Black Forest** 81.38 332 *e*P P 16 50 08.0 -0.4
BFO pmax pmax
comp=Z,47nm,1.8s,mb5.1
BFO **Black Forest** 81.38 332 *e*P P 16 50 08.0 -0.4
comp=Z,47nm,1.8s,mb5.1
SPAK **Spaichingen-Ko** 81.41 331 *e*P P 16 50 07.8 -0.7
HTR **Trewern Hill** 81.58 340 *e*P P 16 50 09.1 -0.2
MCH1 **Michaelchurch** 81.58 340 *e*P P 16 50 09.7 +0.3
MCH1 *e*P 16 50 09.7
MCH1 AMb AMB 16 50 09.9
comp=Z,49nm,1.6s,mb5.2
FETA **Feichten** 81.61 330 ⇑*i*P P 16 50 09.9 +0.3
comp=Z,23nm,1.2s,mb5.0,SNR=18
KRUS **Krusevo** 81.67 320 *i* P P 16 50 10.9 +0.8
CDF **Champ du Feu** 81.67 332 ⇑*i*P P 16 50 09.7 -0.2
comp=Z,25nm,0.9s,mb4.8
CDF **Champ du Feu** 81.67 332 ⇑*i*P P 16 50 09.7 -0.2
comp=Z,12nm,0.9s,mb4.8
CDF **Champ du Feu** 81.67 332 ⇑*i*P P 16 50 09.7 -0.2
CDF pmax pmax
comp=Z,12nm,0.9s,mb4.8
DAVA **Damuels** 81.70 330 ⇑*i*P P 16 50 10.2 +0.1
comp=Z,34nm,1.2s,mb5.1,SNR=8.1
FELD **Feldberg im Sc** 81.88 332 *e*P P 16 50 10.2 -0.8
ECH **Echery** 81.88 332 *e*P P 16 50 09.8 -1.2
RAR **Rarotonga** 82.09 128 LR LR 17 22 51.2
comp=Z,301nm,19.2s,MS4.7,baz=293,slow=33
BRMO **Bormio** 82.19 329 P P 16 50 13.6 +0.9
comp=Z,30nm,1.1s,mb5.1
KSU1 **Kansas State U** 82.22 43 *e*P P 16 50 11.0 -2.0
comp=Z,56nm,0.6s
KSU1 *e*pP pP 16 50 27.4 -1.8
HINF **Hinteralfeld** 82.33 332 *e*P P 16 50 12.7 -0.7
comp=Z,9.7nm,0.7s,mb4.5
HINF **Hinteralfeld** 82.33 332 *e*P P 16 50 12.7 -0.7
comp=Z,4.8nm,0.7s,mb4.5
HINF **Hinteralfeld** 82.33 332 *e*P P 16 50 12.7 -0.7
HINF pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
HAU **Haudompre** 82.34 333 *e*P P 16 50 12.9 -0.5
comp=Z,14nm,0.8s,mb4.6
HAU *e*MLR MLR
comp=Z,295nm,21.0s,MS4.3
HAU **Haudompre** 82.34 333 *e*P P 16 50 12.9 -0.5
comp=Z,6.9nm,0.8s,mb4.6
HAU LR LR
comp=Z,290nm,21.0s,MS4.6
HAU **Haudompre** 82.34 333 *e*P P 16 50 12.9 -0.5
HAU pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
HAU MLR MLR
comp=Z,290nm,21.0s,MS4.6
MEZF **Maizieres J'vi** 82.34 334 ⇑*i*P P 16 50 13.3 -0.1
comp=Z,26nm,0.8s,mb4.9
MEZF **Maizieres J'vi** 82.34 334 ⇑*i*P P 16 50 13.3 -0.1
comp=Z,26nm,0.8s,mb5.2
MABI **Malga Bissina** 82.50 329 P P 16 50 13.6 -0.7
AMTX **Amarillo** 82.67 49 *e*P P 16 50 15.1 -0.3
comp=Z,17nm,0.8s,mb5.1
AMTX *e*pP pP 16 50 31.8 +0.1
LOMF **Lomont** 82.74 332 *e*P P 16 50 14.3 -1.2
MNTX **Cornudas Mount** 82.85 53 *e*P P 16 50 16.1 -0.3
comp=Z,27nm,1.3s,mb5.1
MNTX *e*pP pP 16 50 32.0 -0.7
VAI **Varese** 83.31 330 P P 16 50 17.9 -0.6
comp=Z,45nm,0.7s,mb5.6
VAI **Varese** 83.31 330 P P 16 50 17.9 -0.6
VAI pmax pmax
comp=Z,45nm,0.7s,mb5.6
CABF **La Chapelle** 83.63 332 *e*P P 16 50 20.0 -0.1
comp=Z,13nm,0.9s,mb4.8
CABF **La Chapelle** 83.63 332 *e*P P 16 50 20.0 -0.1
comp=Z,6.6nm,0.9s,mb4.8
CABF **La Chapelle** 83.63 332 *e*P P 16 50 20.0 -0.1
CABF pmax pmax
comp=Z,7.0nm,0.9s,mb4.8
ORO **Oropa** 83.80 330 P P 16 50 21.1 +0.1
comp=Z,8.5nm,0.5s,mb5.1
ORO **Oropa** 83.80 330 P P 16 50 21.1 +0.1
ORO pmax pmax
comp=Z,9.0nm,0.5s,mb5.2
LOR **Lormes** 83.81 334 ⇑*i*P P 16 50 20.7 -0.4
comp=Z,40nm,0.9s,mb5.2
LOR *e*MLR MLR
comp=Z,462nm,21.2s,MS4.5
LOR **Lormes** 83.81 334 ⇑*i*P P 16 50 20.7 -0.4
comp=Z,20nm,0.9s,mb5.2
LOR LR LR
comp=Z,460nm,21.3s,MS4.8
LOR **Lormes** 83.81 334 ⇑*i*P P 16 50 20.7 -0.4
LOR pmax pmax
comp=Z,20nm,0.9s,mb5.2
LOR MLR MLR
comp=Z,460nm,21.3s,MS4.8
FLN **La Foliniere** 83.83 337 *e*P P 16 50 20.4 -0.7
comp=Z,22nm,0.7s,mb5.1
FLN *e*MLR MLR
comp=Z,354nm,22.8s,MS4.4
FLN **La Foliniere** 83.83 337 *e*P P 16 50 20.4 -0.7
comp=Z,11nm,0.7s,mb5.1
FLN LR LR
comp=Z,350nm,22.8s,MS4.7
FLN **La Foliniere** 83.83 337 *e*P P 16 50 20.4 -0.7
FLN pmax pmax
comp=Z,11nm,0.7s,mb5.1
FLN MLR MLR
comp=Z,350nm,22.8s,MS4.7
SEI **Scarperia** 83.84 327 P P 16 50 22.8 +1.5
comp=Z,171nm,0.9s
VMG **Vicchio** 83.84 327 P P 16 50 22.6 +1.3
comp=Z,35nm,0.9s,mb5.5
SNTG **Esanatoglia** 83.86 326 P P 16 50 21.4 0.0
comp=Z,44nm,1.2s,mb5.5
LDF **La Druitiere** 83.87 337 *e*P P 16 50 20.6 -0.7
comp=Z,16nm,0.8s,mb4.9
LDF **La Druitiere** 83.87 337 *e*P P 16 50 20.6 -0.7
comp=Z,8.2nm,0.8s,mb4.9
LDF **La Druitiere** 83.87 337 *e*P P 16 50 20.6 -0.7
LDF pmax pmax
comp=Z,8.0nm,0.8s,mb4.9
GSCL **Gusciola** 83.89 328 P P 16 50 22.6 +1.1
comp=Z,41nm,1.0s,mb5.5
ERBM **Eremo** 83.91 328 P P 16 50 22.5 +0.9
comp=Z,38nm,0.9s,mb5.5
CRE **Caprese Michel** 83.96 327 P P 16 50 22.3 +0.4
comp=Z,9.9nm,0.7s,mb5.0
CRE **Caprese Michel** 83.96 327 P P 16 50 22.3 +0.4
CRE pmax pmax
comp=Z,10.0nm,0.7s,mb5.0
BOB **Bobbio (Coli)** 83.98 329 P P 16 50 22.0 0.0
SSF **Saint Saulge** 84.11 334 ⇑*i*P P 16 50 22.2 -0.4
comp=Z,23nm,0.8s,mb5.0
SSF **Saint Saulge** 84.11 334 ⇑*i*P P 16 50 22.2 -0.4
comp=Z,11nm,0.8s,mb5.0
SSF **Saint Saulge** 84.11 334 ⇑*i*P P 16 50 22.2 -0.4
SSF pmax pmax
comp=Z,11nm,0.8s,mb5.0
BDI **Bagni Di Lucca** 84.13 328 P P 16 50 23.6 +0.8
NRCA **Norcia** 84.14 326 P P 16 50 23.4 +0.6
comp=Z,63nm,1.0s
ASS **Assisi** 84.14 326 P P 16 50 23.4 +0.6
comp=Z,3.7nm,1.0s,mb4.5
ASS **Assisi** 84.14 326 P P 16 50 23.4 +0.6
ASS pmax pmax
comp=Z,4.0nm,1.0s,mb4.5
GRR **Gorron** 84.27 337 *e*P P 16 50 23.0 -0.4
comp=Z,39nm,0.7s,mb5.4
GRR **Gorron** 84.27 337 *e*P P 16 50 23.0 -0.4
comp=Z,19nm,0.7s,mb5.3
GRR **Gorron** 84.27 337 *e*P P 16 50 23.0 -0.4
GRR pmax pmax
comp=Z,19nm,0.7s,mb5.3
OG05 **Jujurieux** 84.34 332 *e*P P 16 50 22.9 -0.9
LPL **La Plagne** 84.35 331 ⇑*i*P P 16 50 24.2 +0.4
comp=Z,27nm,0.8s,mb5.2
LPL **La Plagne** 84.35 331 ⇑*i*P P 16 50 24.2 +0.4
comp=Z,14nm,0.8s,mb5.1
LPL **La Plagne** 84.35 331 ⇑*i*P P 16 50 24.2 +0.4
LPL pmax pmax
comp=Z,14nm,0.8s,mb5.1
LPG **La Plagne** 84.36 331 ⇑*i*P P 16 50 24.3 +0.4
comp=Z,37nm,0.8s,mb5.2
LPG **La Plagne** 84.36 331 ⇑*i*P P 16 50 24.3 +0.4
comp=Z,18nm,0.8s,mb5.3
LPG **La Plagne** 84.36 331 ⇑*i*P P 16 50 24.3 +0.4
LPG pmax pmax
comp=Z,18nm,0.8s,mb5.2
SMF **Signal de Mont** 84.36 333 ⇑*i*P P 16 50 23.6 -0.3
comp=Z,56nm,0.9s,mb5.4
SMF **Signal de Mont** 84.36 333 ⇑*i*P P 16 50 23.6 -0.3
comp=Z,28nm,0.9s,mb5.4
SMF **Signal de Mont** 84.36 333 ⇑*i*P P 16 50 23.6 -0.3
SMF pmax pmax
comp=Z,28nm,0.9s,mb5.4
WMOK **Wichita Mounta** 84.38 47 *e*P P 16 50 23.4 -0.7
comp=Z,42nm,1.1s,mb5.5
WMOK *e*pP pP 16 50 39.7 -0.8
WMOK **Wichita Mounta** 84.38 47 *e*P P 16 50 23.5 -0.7
WMOK *e**PP pP 16 50 39.7 -0.8
WMOK pmax pmax
comp=Z,42nm,1.1s,mb5.5
AVF **Avril sur Loir** 84.40 334 ⇑*i*P P 16 50 23.8 -0.2
comp=Z,54nm,0.7s,mb5.5
AVF **Avril sur Loir** 84.40 334 ⇑*i*P P 16 50 23.8 -0.2
comp=Z,27nm,0.7s,mb5.5
AVF **Avril sur Loir** 84.40 334 ⇑*i*P P 16 50 23.8 -0.2
AVF pmax pmax
comp=Z,27nm,0.7s,mb5.5
AQU **L'Aquila** 84.41 325 *e*P P 16 50 23.5 -0.7
comp=Z,19nm,0.8s,mb5.3
AQU *e*pP pP 16 50 40.8 +0.3
AQU **L'Aquila** 84.41 325 *e*P P 16 50 23.5 -0.7
AQU *e**PP pP 16 50 40.8 +0.3
AQU pmax pmax
comp=Z,19nm,0.8s,mb5.3
HDIL **Hopedale** 84.58 38 *e*P P 16 50 23.8 -1.3
comp=Z,67nm,0.8s
HDIL *e*pP pP 16 50 38.9 -2.5
BNI **Bardonecchia** 84.77 331 *e*P P 16 50 25.4 -0.5
comp=Z,16nm,0.9s,mb5.2
BNI **Bardonecchia** 84.77 331 *e*P P 16 50 25.4 -0.5
BNI pmax pmax
comp=Z,16nm,0.9s,mb5.2
BGF **Bois d'Agland** 84.77 334 ⇑*i*P P 16 50 26.2 +0.3
comp=Z,25nm,0.8s,mb5.1
BGF **Bois d'Agland** 84.77 334 ⇑*i*P P 16 50 26.2 +0.3
comp=Z,13nm,0.8s,mb5.1
BGF **Bois d'Agland** 84.77 334 ⇑*i*P P 16 50 26.2 +0.3
BGF pmax pmax
comp=Z,13nm,0.8s,mb5.1
SGMF **Saint Gilles** 84.88 338 *e*P P 16 50 26.5 +0.1
comp=Z,39nm,0.9s,mb5.2
SGMF **Saint Gilles** 84.88 338 *e*P P 16 50 26.5 +0.1
comp=Z,19nm,0.9s,mb5.2
SGMF **Saint Gilles** 84.88 338 *e*P P 16 50 26.5 +0.1
SGMF pmax pmax
comp=Z,19nm,0.9s,mb5.2
FIN **Finale Ligure** 84.93 329 P P 16 50 25.8 -1.0
ROSF **Rostrenen** 85.00 338 *e*P P 16 50 27.1 +0.1
comp=Z,130nm,1.3s,mb5.6
ROSF **Rostrenen** 85.00 338 *e*P P 16 50 27.1 +0.1
comp=Z,65nm,1.3s,mb5.6
ROSF **Rostrenen** 85.00 338 *e*P P 16 50 27.1 +0.1
ROSF pmax pmax
comp=Z,65nm,1.3s,mb5.6
MBDF **Montbardon** 85.02 331 ⇑*i*P P 16 50 26.9 -0.3
comp=Z,23nm,0.9s,mb5.0
MBDF **Montbardon** 85.02 331 ⇑*i*P P 16 50 26.9 -0.3
comp=Z,11nm,0.9s,mb5.0
MBDF **Montbardon** 85.02 331 ⇑*i*P P 16 50 26.9 -0.3
MBDF pmax pmax
comp=Z,11nm,0.9s,mb5.0
TAU **Tasmania Unive** 85.02 177 *e*P P 16 50 25.4 -1.4
comp=Z,24nm,0.9s,mb5.3
TAU **Tasmania Unive** 85.02 177 *e*P P 16 50 25.4 -1.4
TAU pmax pmax
comp=Z,24nm,0.9s,mb5.3
PLDF **La Plantade** 85.03 333 *e*P P 16 50 27.2 0.0
ORIF **Oris-en-Rattie** 85.17 331 ⇑*i*P P 16 50 28.1 +0.1
comp=Z,30nm,0.8s,mb5.2
ORIF *e*MLR MLR
comp=Z,246nm,20.8s,MS4.3
ORIF **Oris-en-Rattie** 85.17 331 ⇑*i*P P 16 50 28.1 +0.1
comp=Z,15nm,0.8s,mb5.2
ORIF **Oris-en-Rattie** 85.17 331 ⇑*i*P P 16 50 28.1 +0.1
ORIF pmax pmax
comp=Z,15nm,0.8s,mb5.2
TCF **Toulx Ste Croi** 85.21 334 ⇑*i*P P 16 50 28.1 0.0
comp=Z,15nm,0.8s,mb4.9
TCF **Toulx Ste Croi** 85.21 334 ⇑*i*P P 16 50 28.1 0.0
comp=Z,7.4nm,0.8s,mb4.9
TCF **Toulx Ste Croi** 85.21 334 ⇑*i*P P 16 50 28.1 0.0
TCF pmax pmax
comp=Z,7.0nm,0.8s,mb4.8
GVD **Gavdhos** 85.25 314 *e*P P 16 50 27.6 -0.9
comp=Z,54nm,0.9s
GVD *e*pP pP 16 50 44.7 -0.2
IMI **Imperia** 85.30 330 P P 16 50 28.2 -0.4
QUIF **Quistinic** 85.35 338 *e*P P 16 50 28.5 -0.3
comp=Z,29nm,0.8s,mb5.2
QUIF **Quistinic** 85.35 338 *e*P P 16 50 28.5 -0.3
comp=Z,15nm,0.8s,mb5.2
QUIF **Quistinic** 85.35 338 *e*P P 16 50 28.5 -0.3
QUIF pmax pmax
comp=Z,15nm,0.8s,mb5.2
SAOF **Saorge** 85.36 330 *e*P P 16 50 27.7 -1.2
AUTN **L'Aution** 85.40 330 *e*P P 16 50 28.2 -0.9
TOUF **Mont Tournerai** 85.45 330 *e*P P 16 50 27.9 -1.5
SBF **Sospel** 85.51 330 ⇑*i*P P 16 50 28.9 -0.8
comp=Z,62nm,0.8s,mb5.6
SBF **Sospel** 85.51 330 ⇑*i*P P 16 50 28.9 -0.8
comp=Z,31nm,0.8s,mb5.6
SBF **Sospel** 85.51 330 ⇑*i*P P 16 50 28.9 -0.8
SBF pmax pmax
comp=Z,31nm,0.8s,mb5.6
LUCF **Luceram** 85.52 330 *e*P P 16 50 28.5 -1.2
AAM **Ann Arbor** 85.56 33 P P 16 50 29.2 -0.7
comp=Z,48nm,0.8s
AAM *e*pP pP 16 50 45.6 -0.7
AAM **Ann Arbor** 85.56 33 P P 16 50 29.2 -0.7
AAM *e**PP pP 16 50 45.6 -0.7
AAM pmax pmax
comp=Z,48nm,0.8s
OG25 **Le Caire** 85.58 331 *e*P P 16 50 29.0 -1.0
TXAR **Lajitas Array** 85.58 54 P P 16 50 30.3 0.0
TXAR *PP pP 16 50 46.7 +0.1
TXAR pmax pmax
comp=Z,12nm,0.8s
TXAR **Lajitas Array** 85.58 54 P P 16 50 30.3 0.0
comp=Z,12nm,0.8s,mb5.2,baz=294,slow=3.5,SNR=128
TXAR pP pP 16 50 46.6 0.0
comp=Z,29nm,0.7s,baz=295,slow=3.3,SNR=27
MVIF **Mont Vial** 85.59 330 *e*P P 16 50 28.6 -1.5
REVF **Revere** 85.64 330 *e*P P 16 50 29.4 -0.9
VIVF **Saint-Julien-l** 85.65 332 ⇑*i*P P 16 50 30.5 +0.2
comp=Z,50nm,0.8s,mb5.5
VIVF **Saint-Julien-l** 85.65 332 ⇑*i*P P 16 50 30.5 +0.2
comp=Z,25nm,0.8s,mb5.5
VIVF **Saint-Julien-l** 85.65 332 ⇑*i*P P 16 50 30.5 +0.2
VIVF pmax pmax
comp=Z,25nm,0.8s,mb5.5
CCM **Cathedral Cave** 85.67 40 *e*P P 16 50 29.8 -0.8
comp=Z,66nm,0.9s
CCM *e*pP pP 16 50 45.9 -1.0
CCM **Cathedral Cave** 85.67 40 *e*P P 16 50 29.8 -0.8
CCM *e**PP pP 16 50 45.9 -1.0
CCM pmax pmax
comp=Z,66nm,0.9s
MFF **Saint Martin d** 85.67 336 *e*P P 16 50 30.6 +0.2
comp=Z,59nm,0.9s,mb5.5
MFF **Saint Martin d** 85.67 336 *e*P P 16 50 30.6 +0.2
comp=Z,30nm,0.9s,mb5.5
MFF **Saint Martin d** 85.67 336 *e*P P 16 50 30.6 +0.2
MFF pmax pmax
comp=Z,30nm,0.9s,mb5.5
CALN **Calern** 85.81 330 *e*P P 16 50 29.8 -1.4
URZ **Urewera** 85.92 154 P P 16 50 31.4 -0.1
comp=Z,7.6nm,1.0s,mb4.9,baz=315,slow=11,SNR=3.9
URZ LR LR 17 25 36.3
comp=Z,170nm,20.5s,MS4.4,baz=233,slow=33
PGF **Pioggiola** 86.04 328 ⇑*i*P P 16 50 32.4 +0.1
comp=Z,15nm,0.8s,mb5.0
PGF **Pioggiola** 86.04 328 ⇑*i*P P 16 50 32.4 +0.1
comp=Z,7.3nm,0.8s,mb5.0

PGF **Pioggiola** 86.04 328⇑ *i*P P 16 50 32.4 +0.1
PGF pmax pmax
comp=Z,7.0nm,0.8s,mb4.9
FRF **La Foret Royal** 86.06 330 *e*P P 16 50 31.8 -0.6
comp=Z,82nm,1.3s,mb5.5
FRF **La Foret Royal** 86.06 330 *e*P P 16 50 31.8 -0.6
comp=Z,41nm,1.3s,mb5.5
FRF **La Foret Royal** 86.06 330 *e*P P 16 50 31.8 -0.6
FRF pmax pmax
comp=Z,41nm,1.3s,mb5.5
SMRF **Simiane la Rot** 86.09 331 *e*P P 16 50 32.7 +0.1
comp=Z,17nm,1.0s,mb4.9
SMRF **Simiane la Rot** 86.09 331 *e*P P 16 50 32.7 +0.1
comp=Z,17nm,1.0s,mb5.2
VILF **Villemus** 86.15 331 *e*P P 16 50 32.5 -0.4
TAVF **Tavernes** 86.23 331 *e*P P 16 50 32.2 -1.0
RJF **Les Rejaudoux** 86.31 334 *e*P P 16 50 33.9 +0.3
comp=Z,30nm,0.9s,mb5.2
RJF *e*MLR MLR
comp=Z,423nm,22.2s,MS4.5
RJF **Les Rejaudoux** 86.31 334 *e*P P 16 50 33.9 +0.3
comp=Z,15nm,0.9s,mb5.2
RJF LR LR
comp=Z,420nm,22.3s,MS4.8
RJF **Les Rejaudoux** 86.31 334 *e*P P 16 50 33.9 +0.3
RJF pmax pmax
comp=Z,15nm,0.9s,mb5.2
RJF MLR MLR
comp=Z,420nm,22.3s,MS4.8
LMR **La Mourre** 86.31 330⇑ *i*P P 16 50 33.2 -0.4
comp=Z,86nm,0.9s,mb5.7
LMR **La Mourre** 86.31 330⇑ *i*P P 16 50 33.2 -0.4
comp=Z,43nm,0.9s
LMR **La Mourre** 86.31 330⇑ *i*P P 16 50 33.2 -0.4
LMR pmax pmax
comp=Z,43nm,0.9s
PRAF **Pradon** 86.39 331 *e*P P 16 50 33.0 -1.0
PUYF **Puyloubier** 86.44 331 *e*P P 16 50 34.2 0.0
CAF **Calviac** 86.47 334⇑ *i*P P 16 50 35.2 +0.8
comp=Z,58nm,0.8s,mb5.6
CAF **Calviac** 86.47 334⇑ *i*P P 16 50 35.2 +0.8
comp=Z,29nm,0.8s,mb5.6
CAF **Calviac** 86.47 334⇑ *i*P P 16 50 35.2 +0.8
CAF pmax pmax
comp=Z,29nm,0.8s,mb5.6
LASF **Ste Croix** 86.61 332⇑ *i*P P 16 50 35.5 +0.4
comp=Z,23nm,0.8s,mb5.1
BERF **Bertagne** 86.63 331 *e*P P 16 50 34.5 -0.7
GELF **Grande-Etoile** 86.66 331 *e*P P 16 50 35.5 +0.1
LONY **Lake Ozonia** 86.88 26 *e*P P 16 50 34.9 -1.5
comp=Z,15nm,0.9s,mb5.2
LONY *e*pP pP 16 50 50.7 -2.0
LFF **La Frestale** 86.88 335 *e*P P 16 50 37.0 +0.6
comp=Z,89nm,0.9s
LFF **La Frestale** 86.88 335 *e*P P 16 50 37.0 +0.6
comp=Z,45nm,0.9s
LFF **La Frestale** 86.88 335 *e*P P 16 50 37.0 +0.6
LFF pmax pmax
comp=Z,45nm,0.9s
JCT **Junction City** 87.00 51 *e*P P 16 50 36.6 -0.6
comp=Z,32nm,0.9s,mb5.6
JCT *e*pP pP 16 50 52.8 -0.8
JCT **Junction City** 87.00 51 *e*P P 16 50 36.6 -0.6
JCT *e**PP pP 16 50 52.8 -0.8
JCT pmax pmax
comp=Z,32nm,0.9s,mb5.5
MIAR **Mount Ida** 87.28 44 *e*P P 16 50 37.9 -0.7
comp=Z,46nm,0.8s
MIAR *e*pP pP 16 50 54.4 -0.5
MIAR **Mount Ida** 87.28 44 *e*P P 16 50 37.9 -0.6
MIAR *e**PP pP 16 50 54.4 -0.5
MIAR pmax pmax
comp=Z,46nm,0.8s
ALLY **Alegheny Colle** 87.49 31 *e*P P 16 50 38.2 -1.2
comp=Z,15nm,0.5s,mb5.5
ALLY *e*pP pP 16 50 54.4 -1.4
PARMO **Parma** 87.49 40 *e*P P 16 50 38.8 -0.7
PARMO *e*pP pP 16 50 54.4 -1.5
NCB **Newcomb** 87.57 26 *e*P P 16 50 38.6 -1.1
comp=Z,10nm,0.8s,mb5.1
NCB *e*pP pP 16 50 54.9 -1.3
ACSO **Alum Creek Sta** 87.57 34 *e*P P 16 50 39.0 -0.8
comp=Z,14nm,0.6s,mb5.3
ACSO *e*pP pP 16 50 54.5 -1.8
MTLF **Montolieu** 87.82 333 *e*P P 16 50 41.5 +0.5
comp=Z,27nm,0.9s,mb5.2
MTLF **Montolieu** 87.82 333 *e*P P 16 50 41.5 +0.5
comp=Z,14nm,0.9s,mb5.2
MTLF **Montolieu** 87.82 333 *e*P P 16 50 41.5 +0.5
MTLF pmax pmax
comp=Z,14nm,0.9s,mb5.2
PKME **Peaks-Kenny Pk** 87.91 23 *e*P P 16 50 40.5 -0.8
comp=Z,20nm,1.0s,mb5.3
PKME *e*pP pP 16 50 56.7 -1.1
LBNH **Lisbon** 88.06 25 PFAKE 16 50 50.0 +7.9
LBNH LR LR
comp=Z,201nm,19.0s,MS4.5
ACCN **Adirondack Com** 88.28 26 *e*P P 16 50 42.3 -0.8
comp=Z,12nm,1.1s,mb5.0
ACCN *e*pP pP 16 50 58.2 -1.4
EJON **La Jonquera** 88.38 332 P P 16 50 44.5 +0.9
comp=Z,5.3nm,0.5s,mb5.0
EPF **Esparros** 88.72 334 *e*P P 16 50 44.3 -0.9
comp=Z,10nm,0.8s,mb4.9
EPF **Esparros** 88.72 334 *e*P P 16 50 44.3 -0.9
comp=Z,5.2nm,0.8s,mb4.9
EPF **Esparros** 88.72 334 *e*P P 16 50 44.3 -0.9
EPF pmax pmax
comp=Z,5.0nm,0.8s,mb4.9
WVT **Waverly** 88.83 39 *e*P P 16 50 45.1 -0.8
comp=Z,36nm,0.9s
WVT *e*pP pP 16 51 00.3 -2.0
WVT **Waverly** 88.83 39 *e*P P 16 50 45.1 -0.8
WVT *e**PP pP 16 51 00.3 -2.0
WVT pmax pmax
comp=Z,35nm,0.9s
EBIE **Bielsa** 89.09 334 P P 16 50 47.1 +0.2
comp=Z,7.3nm,0.7s,mb5.1
ETSF **Etsaut** 89.13 334⇑ *i*P P 16 50 47.9 +0.8
comp=Z,31nm,0.6s,mb5.5
ETSF **Etsaut** 89.13 334⇑ *i*P P 16 50 47.9 +0.8
comp=Z,16nm,0.6s,mb5.5
ETSF **Etsaut** 89.13 334⇑ *i*P P 16 50 47.9 +0.8
ETSF pmax pmax
comp=Z,16nm,0.6s,mb5.5
EALK **Alkurruntz** 89.14 335 P P 16 50 47.1 0.0
comp=Z,28nm,0.9s,mb5.6
SJPF **Ste Jean** 89.15 335 *e*P P 16 50 46.7 -0.5
ELIZ **Elizondo** 89.19 335 P P 16 50 46.9 -0.5
comp=Z,24nm,1.0s,mb5.5
ELIZ **Elizondo** 89.19 335 P P 16 50 46.9 -0.5
ELIZ pmax pmax
comp=Z,24nm,1.0s,mb5.5
SSPA **Standing Stone** 89.22 30 *e*P P 16 50 47.2 -0.4
comp=Z,60nm,0.9s
SSPA *e*pP pP 16 51 03.3 -0.8
RPZ **Rata Peaks** 89.24 160 P P 16 50 47.1 -0.1
comp=Z,16nm,0.8s,mb5.4,baz=35,slow=4.1,SNR=8.2
RPZ LR LR 17 23 06.5
comp=Z,310nm,20.7s,MS4.7,baz=356,slow=30
MCWV **Mont Chateau** 89.32 32 *e*P P 16 50 47.5 -0.6
comp=Z,21nm,0.8s,mb5.5
MCWV *e*pP pP 16 51 03.1 -1.4
MCWV LR LR
comp=Z,383nm,19.0s,MS4.8
EMIR **Miracle** 89.32 333 P P 16 50 48.5 +0.5
comp=Z,51nm,1.5s,mb5.6
ELAN **Lanestosa** 89.71 337 P P 16 50 49.0 -0.8
comp=Z,20nm,0.9s,mb5.4
HRV **Adam Dziewonsk** 89.74 25 *e*P P 16 50 49.4 -0.6
comp=Z,19nm,1.0s,mb5.4
HRV *e*pP pP 16 51 06.0 -0.4
HRV LR LR
comp=Z,194nm,22.0s,MS4.5
HRV **Adam Dziewonsk** 89.74 25 *e*P P 16 50 49.4 -0.6
HRV *e**PP pP 16 51 06.0 -0.5
HRV pmax pmax
comp=Z,19nm,1.0s,mb5.4
HRV MLR MLR
comp=Z,194nm,22.0s,MS4.5
WES **Weston** 89.92 25 PFAKE 16 51 00.0 +9.1
WES LR LR
comp=Z,1μm,21.0s,MS5.3
EPOB **Poblet** 89.97 333 P P 16 50 51.1 0.0
comp=Z,9.8nm,0.5s,mb5.4
ECRI **Cripan** 90.00 336 P P 16 50 50.6 -0.6
comp=Z,7.2nm,0.6s,mb5.2
ECRI **Cripan** 90.00 336 P P 16 50 50.7 -0.5
ECRI pmax pmax
comp=Z,7.0nm,0.6s,mb5.2
EARI **Arriondas** 90.16 338 P P 16 50 50.7 -1.3
comp=Z,294nm,2.4s
ESAC **San Caprasio** 90.16 334 P P 16 50 51.6 -0.4
comp=Z,8.3nm,0.3s,mb5.5
MVL **Millersville** 90.35 30 *e*P P 16 50 52.2 -0.7
comp=Z,23nm,1.3s,mb5.3
MVL *e*pP pP 16 51 08.6 -0.7
TZTN **Tazewell** 90.43 36 *e*P P 16 50 51.4 -1.9
comp=Z,39nm,1.0s
TZTN *e*pP pP 16 51 07.1 -2.7
TZTN LR LR
comp=Z,298nm,19.0s,MS4.7
SWET **Sewanee** 90.47 38 *e*P P 16 50 52.4 -1.2
SWET *e*pP pP 16 51 08.8 -1.2
ERTA **Horta de San J** 90.58 333 P P 16 50 53.3 -0.7
comp=Z,31nm,1.2s,mb5.5
CPCT **Cooper Cave** 90.91 37 *e*P P 16 50 55.6 0.0
CPCT *e*pP pP 16 51 11.1 -1.0
ELN **Prospectdale** 91.04 34 *e*P P 16 50 55.3 -0.9
ELN *e*pP pP 16 51 11.6 -1.0
TKL **Tuckaleechee C** 91.07 37 LR LR 17 31 40.7
comp=Z,229nm,21.5s,MS4.6,baz=84,slow=35
BLA **Blacksburg** 91.19 34 *e*P P 16 50 57.3 +0.4
comp=Z,32nm,0.9s
BLA *e*pP pP 16 51 12.9 -0.4
BLA **Blacksburg** 91.19 34 *e*P P 16 50 57.3 +0.4
BLA *e**PP pP 16 51 12.9 -0.4
BLA pmax pmax
comp=Z,32nm,0.9s
EMOS **Mosqueruela** 91.38 333 P P 16 50 57.9 +0.2
comp=Z,7.0nm,0.6s,mb5.2
ETOR **Torete** 91.48 335 P P 16 50 58.6 +0.5
comp=Z,13nm,0.6s,mb5.4
ETOR **Torete** 91.48 335 P P 16 50 58.7 +0.5
ETOR pmax pmax
comp=Z,13nm,0.6s,mb5.4
ERUA **La Rua** 91.53 339 P P 16 50 57.0 -1.3
comp=Z,3.6nm,0.8s,mb4.8
ERUA **La Rua** 91.53 339 P P 16 50 57.0 -1.3
ERUA pmax pmax
comp=Z,4.0nm,0.8s,mb4.8
CBN **Corbin** 91.54 31 PFAKE 16 51 10.0 +12
CBN LR LR
comp=Z,300nm,19.0s,MS4.8
KEST **Kesra** 91.67 324 P P 16 50 59.6 +0.5
comp=Z,1.3nm,0.7s,mb4.4,baz=325,slow=6.6,SNR=5.2
KEST LR LR 17 37 20.5
comp=Z,152nm,20.8s,MS4.4,baz=329,slow=39
GUD **Guadarrama** 92.30 336 P P 16 51 01.7 -0.2
comp=Z,4.6nm,0.7s,mb4.9
GUD **Guadarrama** 92.30 336 P P 16 51 01.7 -0.2
GUD pmax pmax
comp=Z,5.0nm,0.7s,mb5.0
MVO **Moncorvo** 92.64 338 *e*P P 16 51 03.3 -0.2
comp=Z,18nm,1.0s,mb5.5
ESDC **Sonseca Array** 93.12 335 P P 16 51 05.7 0.0
comp=Z,2.6nm,0.8s,mb4.7
ESDC **Sonseca Array** 93.12 335 P P 16 51 05.8 +0.1
comp=Z,2.1nm,0.6s,mb4.7,baz=14,slow=3.7,SNR=11
ESDC LR LR 17 36 59.1
comp=Z,248nm,20.2s,MS4.7,baz=330,slow=38
ESLA **Sonseca Array** 93.13 335 PFAKE 16 51 20.0 +14
ESLA LR LR
comp=Z,3μm,22.0s
ETOB **Tobarra** 93.29 333 P P 16 51 06.7 +0.2
comp=Z,12nm,0.7s,mb5.4
MTE **Manteigas** 93.50 338 *e*P P 16 51 05.4 -2.0
comp=Z,38nm,1.2s
EVIA **Vianos** 93.61 334 P P 16 51 08.7 +0.7
comp=Z,13nm,0.8s,mb5.4
EVIA **Vianos** 93.61 334 P P 16 51 08.7 +0.7
EVIA pmax pmax
comp=Z,13nm,0.8s,mb5.4
EMUR **La Murta** 93.91 333 P P 16 51 10.4 +1.0
comp=Z,4.2nm,0.3s,mb5.3
EQES **Quesada** 94.55 334 P P 16 51 12.3 0.0
comp=Z,2.4nm,0.6s,mb4.8
EADA **Adamuz** 94.70 335 P P 16 51 11.8 -1.2
comp=Z,4.6nm,0.5s,mb5.2
EBAD **Badajoz** 94.88 337 P P 16 51 13.2 -0.6
comp=Z,3.0nm,0.4s,mb5.1
PVAQ **Vaqueiros** 96.34 337 *e*P P 16 51 19.3 -1.2
DWPF **Disney** 98.49 39 PFAKE 16 51 40.0 +10
DWPF LR LR
comp=Z,264nm,20.0s,MS4.7
KMBO **Kilima Mbogo** 102.75 280 PFAKE 16 52 00.0 +11
KMBO LR LR
comp=Z,100nm,22.0s,MS4.3
JTS **JuntasAbangare** 111.32 52 PFAKE 16 56 40.0 +14
JTS LR LR
comp=Z,223nm,20.0s,MS4.7
VNDA **Vanda** 120.21 175 *e*PKPdf PKPdf 16 56 41.1 0.0
VNDA *e*pPKPdf pPKPdf 16 56 57.1 -1.0
VNDA LR LR
comp=Z,294nm,21.0s,MS4.9
VNDA **Vanda** 120.21 175 PKP PKPdf 16 56 41.3 +0.2
comp=Z,2.7nm,0.7s,baz=310,slow=3.4,SNR=17
VNDA pPKP pPKPdf 16 56 58.2 +0.1
comp=Z,2.3nm,0.7s,baz=350,slow=4.0,SNR=6.7
SBA **Scott Base** 120.85 174 *e*PKPdf PKPdf 16 56 43.0 +0.7
SBA *e*pPKPdf pPKPdf 16 57 00.0 +0.6
DBIC **Dimbokro** 123.28 321 PKP PKPdf 16 56 48.7 -0.3
DBIC LR LR
comp=Z,179nm,20.0s,MS4.7
DBIC **Dimbokro** 123.28 321 PKP PKPdf 16 56 48.7 -0.3
comp=Z,2.3nm,0.7s,baz=43,slow=1.3,SNR=3.8
MAW **Mawson** 125.09 208 PKIKP PKPdf 16 56 51.0 +0.4
MAW 16 57 06.7
MAW pmax pmax
comp=Z,11nm,0.8s
MAW **Mawson** 125.09 208 PKP PKPdf 16 56 51.0 +0.4
comp=Z,11nm,0.8s,baz=78,slow=1.0,SNR=16
MAW pPKP pPKPdf 16 57 06.7 -1.0
comp=Z,9.2nm,0.8s,baz=0.3,slow=1.7,SNR=7.1
BOSA **Boshof** 128.95 265 PKP PKPdf 16 56 54.4 -4.8
BOSA PKP PKPdf 16 57 00.8 +1.5
BOSA **Boshof** 128.95 265 *i* PKIKP PKPdf 16 56 54.4 -4.9
BOSA pmax pmax
comp=Z,3.0nm,1.0s
BOSA **Boshof** 128.95 265 PKhKP 16 56 54.4
comp=Z,2.5nm,1.0s,baz=332,slow=4.3,SNR=3.2
BOSA PKP PKPdf 16 57 00.8 +1.5
comp=Z,1.3nm,0.6s,baz=127,slow=16,SNR=4.7
QSPA **South Pole Qui** 132.16 180 PKP PKPdf 16 57 04.1 +0.3
QSPA LR LR
comp=Z,1.0nm,19.0s
QSPA **South Pole Qui** 132.16 180 PKP PKPdf 16 57 04.1 +0.3
comp=Z,11nm,1.0s,baz=298,slow=2.7,SNR=12
SYO **Syowa Base** 133.73 209‖ *e*PKPdf PKPdf 16 57 05.5 -1.5
SYO **Syowa Base** 133.73 209‖ *e*PKIKP PKiKP 16 57 09.5 +1.2
LPAZ **La Paz** 142.42 56 *e*PKPpre 16 57 21.0
LPAZ PKP PKPdf 16 57 24.2 -0.4
LPAZ *e*pPKPdf pPKPdf 16 57 39.6 -2.1
LPAZ LR LR
comp=Z,141nm,20.0s,MS4.7
LPAZ **La Paz** 142.42 56 PKP PKPdf 16 57 24.2 -0.4
comp=Z,1.2nm,0.8s,baz=359,slow=7.4,SNR=3.6
MAIT **Maitri** 142.91 204 *e*PKPdf PKPdf 16 57 17.8 -6.0
SIV **San Ignacio** 146.25 46 PKPbc PKPbc 16 57 32.3 -0.1
comp=Z,24nm,0.6s,baz=308,slow=2.2,SNR=115
SIV pPKPbc pPKPbc 16 57 48.6 -0.7
comp=Z,89nm,0.9s,baz=315,slow=3.6,SNR=24
SNAA **Sanae** 146.38 198 *e*PKPdf PKPdf 16 57 30.8 +1.0
SNAA *e* 16 57 31.3
SNAA *e* 16 57 32.9
SNAA *e* 16 57 39.1
SNAA *e* 16 57 43.1
SNAA *e* 16 57 49.3
SNAA *e* 17 00 55.0
SNAA *e* 17 01 05.0
SNAA *e* 17 01 12.4
SNAA **Sanae** 146.38 198⇑ *i*PKP2 PKPab 16 57 29.7 -2.5
VNA2 **Neumayer--Watz** 147.95 198 *e*PKPdf PKPdf 16 57 33.0 +0.6
VNA2 *e* 16 57 36.2
VNA2 *e* 16 57 38.5
VNA2 *e* 16 57 42.7
VNA2 *e* 16 57 47.9
VNA2 *e* 16 57 53.7
VNA2 *e* 17 01 05.0
VNA2 *e* 17 01 11.2
VNA2 *e* 17 01 13.6
VNA3 **Neumayer Olymp** 148.19 196 *e*PKPdf PKPdf 16 57 33.2 +0.4
VNA3 *e* 16 57 36.3
VNA3 *e* 16 57 38.5
VNA3 *e* 16 57 47.9
VNA3 *e* 16 57 53.5
VNA3 *e* 17 01 05.8
VNA3 *e* 17 01 10.8
VNA1 **Neumayer--Stat** 148.34 197 *e*PKPdf PKPdf 16 57 33.7 +0.6
VNA1 *e* 16 57 37.4
VNA1 *e* 16 57 39.2
VNA1 *e* 16 57 45.8
VNA1 *e* 16 57 50.1
VNA1 *e* 16 57 55.2
VNA1 *e* 17 01 07.0
VNA1 *e* 17 01 12.3
VNA1 *e* 17 01 15.2
LCO **Las Campanas** 149.37 75 *e*PKPdf PKPdf 16 57 34.5 -1.6
LCO *e*PKPbc PKPbc 16 57 40.5 0.0
LCO *e*pPKPdf pPKPdf 16 57 54.7 +1.6
BDFB **Brasilia** 151.52 24 PKIKP PKPbc 16 57 46.2 +0.3
BDFB pmax pmax
comp=Z,6.0nm,0.7s
BDFB **Brasilia** 151.52 24 PKPbc PKPbc 16 57 46.2 +0.2
comp=Z,6.0nm,0.7s,baz=224,slow=5.3,SNR=14
CFAA **Coronel Fontan** 152.57 77 PKPbc PKPbc 16 57 47.6 -0.3
comp=Z,1.4nm,0.7s,baz=278,slow=2.6,SNR=18
CFAA pPKPbc pPKPbc 16 58 03.5 -1.4
comp=Z,1.0nm,0.6s,baz=286,slow=1.9,SNR=6.6
PLCA **Paso Flores** 154.54 98 PKPbc PKPbc 16 57 52.3 +0.4
PLCA pPKPbc pPKPbc 16 58 08.0 -1.0
PLCA **Paso Flores** 154.54 98 PKIKP PKPbc 16 57 52.3 +0.4
PLCA 16 58 08.0
PLCA pmax pmax
comp=Z,1.0nm,0.5s
PLCA **Paso Flores** 154.54 98 PKPbc PKPbc 16 57 52.3 +0.4
comp=Z,1.0nm,0.5s,baz=18,slow=3.6,SNR=4.4
PLCA pPKPbc pPKPbc 16 58 08.0 -1.0
comp=Z,5.4nm,0.8s,baz=290,slow=3.4,SNR=6.9
CPUP **Villa Florida** 156.55 53 PKP2 PKPab 16 58 15.4 -0.3
CPUP pmax pmax
comp=Z,2.0nm,0.6s
CPUP **Villa Florida** 156.55 53 PKPab PKPab 16 58 15.4 -0.3
comp=Z,1.7nm,0.6s,baz=281,slow=2.8,SNR=3.6

ISCJB ***26*** *16:45:42.5±0.5,3163S±002×7208W±005,h10km,mb4.1/8, MS3.0/2,Error ellipse: s-maj=6.2km s-min=2.9km az=175.7*
GUC ***26*** *16:45:43.9±0.7,3167S×7187W,h5km,MD4.5,ML4.3*
NEIC ***26*** *16:45:43.9,3167S×7187W,h5km,mb4.4/4,ML4.3(GUC), After GUC.*
IDC ***26*** *16:45:47.7±4.7,3171S×7196W,h37km±40km,mb3.8/4, mb1 4.1/9,mb1mx3.9/20,mbtmp3.8/9,ML4.1/5,MS3.2/3, Ms1 3.1/3,ms1mx2.6/32,Error ellipse: s-maj=43.8km s-min=19.8km az=90.0*

ISC 26 16:45:44.0±0.4,3163S±002×7198W±005,h10km,n51, σ0:96/61,mb4.1/8,MS3.0/2,5C-3D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMCH	**Combarbala**	**0.95**	**62**	*i* P	**Pg**	**16 46 01.2**	**-1.2**
CMCH				*i* S	**Sg**	**16 46 13.8**	**-1.0**
CMCH	**Combarbala**	**0.95**	**62**	*i* P	**Pg**	**16 46 01.2**	**-1.2**
CMCH				*i* S	**Sg**	**16 46 13.8**	**-1.0**
CMCH				AML	AML	16 46 20.0	
	comp=E,46μm,0.5s						
OVCH	**Ovalle**	**1.22**	**33**	‖ *i*P	**Pn**	**16 46 06.1**	**-1.0**
OVCH				*i* S	**Sb**	**16 46 23.0**	**0.0**
IHA	**Instituto Hidr**	**1.42**	**168**	*e*P	**Pn**	**16 46 08.4**	**-1.4**
ROCH	**El Roble**	**1.57**	**149**	⇑ *i*P	**Pn**	**16 46 10.8**	**-1.1**
ROCH				*i* S	**Sn**	**16 46 32.1**	**-0.1**
JACH	**Jahuel**	**1.57**	**132**	*e*P	**Pn**	**16 46 10.6**	**-1.4**
JACH				*i* S	**Sn**	**16 46 30.6**	**-1.9**
TLL	**Tololo Astrono**	**1.78**	**35**	⇑ *i*P	**Pn**	**16 46 15.2**	**+0.4**
TLL				*i* S	**Sn**	**16 46 39.4**	**+1.9**
TLL	**Tololo Astrono**	**1.78**	**35**	⇑ *i*P	**Pn**	**16 46 15.2**	**+0.4**
TLL				*i* S	**Sn**	**16 46 39.4**	**+1.9**
TLL				AML	AML	16 46 45.7	
	comp=E,11μm,0.4s						
LSCH	**La Serena**	**1.83**	**20**	‖ *i*P	**Pn**	**16 46 15.8**	**+0.3**
LSCH				*i* S	**Sn**	**16 46 40.5**	**+1.7**
PEL	**Peldehue**	**1.86**	**144**	⇑ *i*P	**Pn**	**16 46 15.0**	**-1.0**
PEL				*i* S	**Sn**	**16 46 39.3**	**-0.2**
PEL				AML	AML	16 46 50.1	
	comp=N,6μm,0.6s						
LCCH	**Las Cruces**	**1.87**	**169**	*e*P	**Pn**	**16 46 16.3**	**+0.2**
LCCH				*i* S	**Sn**	**16 46 40.5**	**+0.8**
RCDM	**Rinconada Maip**	**2.10**	**152**	*e*P	**Pn**	**16 46 18.9**	**-0.3**
RCDM				*i* S	**Sn**	**16 46 40.0**	**+0.6**
RCDM	**Rinconada Maip**	**2.10**	**152**	*e*P	**Pn**	**16 46 18.9**	**-0.3**
RCDM				*i* S	**Sn**	**16 46 46.0**	**+0.6**
RCDM				AML	AML	16 46 52.7	
	comp=E,2μm,0.6s						
CLCH	**Cerro Calan**	**2.14**	**146**	⇑ *i*P	**Pn**	**16 46 19.6**	**-0.2**
CLCH				*i* S	**Sn**	**16 46 46.5**	**+0.1**
CLCH				AML	AML	16 46 49.7	
	comp=E,4μm,0.7s						
TACH	**Talagante**	**2.20**	**157**	*e*P	**Pn**	**16 46 20.3**	**-0.3**
FCH	**Farellones**	**2.21**	**140**	‖ *i*P	**Pn**	**16 46 20.6**	**-0.1**
FCH				*i* S	**Sn**	**16 46 49.2**	**+1.0**
FCH				AML	AML	16 46 54.4	
	comp=E,2μm,0.7s						
ANTU	**Antumapu**	**2.24**	**150**	*e*P	**Pn**	**16 46 21.1**	**0.0**
ANTU				*i* S	**Sn**	**16 46 49.7**	**+0.8**
ANTU	**Antumapu**	**2.24**	**150**	*e*P	**Pn**	**16 46 21.1**	**0.0**
ANTU				*i* S	**Sn**	**16 46 49.7**	**+0.8**
ANTU				AML	AML	16 46 58.8	
	comp=N,2μm,0.6s						
PCH	**Pirque**	**2.34**	**148**	*e*P	**Pn**	**16 46 22.4**	**-0.1**
LMEL	**Las Melosas**	**2.67**	**146**	*e*P	**Pn**	**16 46 28.1**	**+1.0**
LMEL				*i* S	**Sn**	**16 47 01.5**	**+2.1**
LMEL	**Las Melosas**	**2.67**	**146**	*e*P	**Pn**	**16 46 28.1**	**+1.0**
LMEL				*i* S	**Sn**	**16 47 01.5**	**+2.1**
LMEL				AML	AML	16 47 08.1	
	comp=E,1μm,0.5s						
CACH	**El Canelo**	**2.74**	**155**	*e*P	**Pn**	**16 46 29.2**	**+1.2**
LCO	**Las Campanas**	**2.84**	**23**	*e*Pn	**Pn**	**16 46 28.8**	**-0.6**
LCO				*e*Sn	**Sn**	**16 47 03.5**	**-0.2**
CICH	**Cipreses**	**2.98**	**154**	*e*P	**Pn**	**16 46 31.8**	**+0.5**
CFAA	**Coronel Fontan**	**3.19**	**90**	Pn	**Pn**	**16 46 36.9**	**+2.6**
	comp=E,5.3nm,0.3s,baz=259,slow=9.2,SNR=171						
CFAA				Sn	**Sn**	**16 47 19.7**	**+7.3**
	comp=E,11nm,0.3s,baz=359,slow=15,SNR=8.1						
PLCA	**Paso Flores**	**9.15**	**173**	*e*P	**Pn**	**16 47 54.5**	**-1.6**
	comp=E,4.5nm,0.8s						
PLCA	**Paso Flores**	**9.15**	**173**	Pn	**Pn**	**16 47 55.5**	**-0.6**
	comp=E,0.5nm,0.3s,baz=338,slow=11,SNR=8.7						
PLCA				LR	LR	16 51 22.4	
	comp=E,163nm,18.6s,baz=350,slow=37						
TRQA	**Tornquist**	**10.42**	**131**	*e*Pn	**Pn**	**16 48 13.5**	**+0.1**
	comp=E,24nm,0.9s						
CPUP	**Villa Florida**	**13.87**	**71**	*e*Pn	**Pn**	**16 48 57.5**	**-3.2**
	comp=E,18nm,0.5s						
CPUP	**Villa Florida**	**13.87**	**71**	Pn	**Pn**	**16 49 00.2**	**-0.4**
	comp=E,0.6nm,0.3s,baz=220,slow=11,SNR=4.7						
LPAZ	**La Paz**	**15.67**	**14**	Pn	**Pn**	**16 49 25.4**	**+0.4**
	comp=E,0.3nm,0.3s,baz=201,slow=4.1,SNR=4.3						
SIV	**San Ignacio**	**18.47**	**35**	P	**Pn**	**16 50 00.3**	**+0.1**
	comp=E,0.4nm,0.3s,baz=208,slow=12,SNR=4.8						
ATAH	**Atahualpa**	**25.23**	**345**	LR	LR	16 59 24.8	
	comp=E,67nm,20.7s,MS3.1,baz=229,slow=32						
BDFB	**Brasilia**	**27.03**	**59**	LR	LR	17 02 21.8	
	comp=E,28nm,21.5s,MS2.8,baz=9.6,slow=37						
TEIG	**Tepich**	**53.88**	**341**	*e*P	**P**	**16 55 06.9**	**-0.6**
	comp=E,12nm,0.6s,mb5.0						
QSPA	**South Pole Qui**	**58.60**	**180**	P	**P**	**16 55 40.5**	**0.0**
	comp=E,2.0nm,0.6s,mb4.3,baz=171,slow=4.9,SNR=18						
TXAR	**Lajitas Array**	**67.70**	**330**	P	**P**	**16 56 41.5**	**0.0**
	comp=E,0.6nm,0.6s,mb3.8,baz=145,slow=7.6,SNR=5.8						
WVT	**Waverly**	**69.03**	**346**	*e*P	**P**	**16 56 48.4**	**-1.3**
	comp=E,6.0nm,1.0s,mb4.5						
MNTX	**Cornudas Mount**	**70.48**	**330**	*e*P	**P**	**16 56 57.4**	**-1.3**
	comp=E,1.7nm,0.9s,mb4.0						
SDCO	**Great Sand Dun**	**75.78**	**333**	*e*P	**P**	**16 57 30.6**	**+0.7**
	comp=E,1.1nm,0.6s,mb4.0						
PDAR	**Pinedale Array**	**81.68**	**333**	P	**P**	**16 58 03.0**	**+0.7**
PDAR	**Pinedale Array**	**81.68**	**333**	P	**P**	**16 58 03.0**	**+0.7**
	comp=E,0.4nm,0.7s,mb3.5,baz=108,slow=8.6,SNR=2.8						
NVAR	**Mina Array Bea**	**81.97**	**325**	P	**P**	**16 58 04.9**	**+1.0**
	comp=E,1.9nm,0.7s,mb4.1,baz=185,slow=5.4,SNR=9.6						
ASAR	**Alice Springs**	**119.69**	**207**	PKP	PKPdf	17 04 32.5	-2.2
	comp=E,0.3nm,0.7s,baz=131,slow=1.6,SNR=6.0						

ASAR				pPKP	pPKPdf	17 04 41.5	+3.2
	comp=E,0.2nm,0.8s,baz=123,slow=1.6,SNR=5.9						
WRA	**Warramunga Arr**	**122.84**	**210**	PKP	PKPdf	17 04 39.5	-1.5
	comp=E,0.6nm,0.6s,baz=163,slow=1.7,SNR=22						
WRA				pPKP	pPKPdf	17 04 48.0	+3.6
	comp=E,0.5nm,0.4s,baz=157,slow=1.6,SNR=15						
BRVK	**Borovoye**	**145.42**	**41**	*e*PKPdf	PKPdf	17 05 21.2	-0.5
KURK	**Kurchatov**	**151.08**	**40**	*e*PKPbc	PKPbc	17 05 35.3	-1.5
UCH	**Uchtor**	**151.37**	**59**	*e*PKPbc	PKPbc	17 05 38.2	+0.4
UCH				*e*PKPab	PKPab	17 05 46.6	+0.6
ZAA0	**Zalesovo Array**	**152.18**	**30**	*e*PKPbc	PKPbc	17 05 38.2	-1.0
ZALV	**Zalesovo Beam**	**152.18**	**30**	PKPbc	PKPbc	17 05 38.7	-0.6
	comp=E,7.5nm,0.6s,baz=302,slow=3.0,SNR=40						
SONM	**Songino Array**	**163.77**	**4**	PKPab	PKPab	17 06 39.3	+0.2
	comp=E,0.6nm,0.9s,baz=318,slow=2.0,SNR=4.2						

IDC 26 16:47:05.6±8.5, 2411S×6705W, h180km±73km, mb1 3.5/3, mb1mx3.2/17, mbtmp3.4/3, Error ellipse: s-maj=90.6km s-min=35.1km az=2.0, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**7.85**	**352**	P	Pn	16 48 57.9	+0.9
	1.0nm,0.3s,baz=168,slow=8.9,SNR=25						
SIV	**San Ignacio**	**9.84**	**36**	P	Pn	16 49 22.6	-0.5
	0.6nm,0.3s,baz=221,slow=16,SNR=11						
BDFB	**Brasilia**	**19.77**	**68**	P	P	16 51 22.5	+0.4
	0.9nm,0.3s,baz=227,slow=16,SNR=16						
ASAR	**Alice Springs**	**128.33**	**205**	PKP	PKPdf	17 05 50.9	-0.5
	0.4nm,0.5s,baz=131,slow=1.5,SNR=8.9						
WRA	**Warramunga Arr**	**131.50**	**207**	PKP	PKPdf	17 05 57.7	+0.2
	0.4nm,0.5s,baz=159,slow=1.8,SNR=8.6						
MKAR	**Makanchi Array**	**146.64**	**40**	PKPbc	PKPbc	17 06 25.2	-0.7
	0.4nm,0.5s,baz=302,slow=2.7,SNR=2.6						

*ISCJB **26** 16:52:46.7±0.9, 6952N±007×1446W±02, h10km, mb3.8/3, Error ellipse: s-maj=11.6km s-min=7.9km az=140.7*
*NEIC **26** 16:52:48.8±0.9, 6956N×14486W, h10km, ML3.8, Error ellipse: s-maj=17.4km s-min=12.0km az=118.0*
*IDC **26** 16:52:49.0±2.7, 6972N×14423W, h0km, mb3.7/3, mb1 3.9/5, mb1mx3.6/22, mbtmp3.7/5, ML3.4/2, Error ellipse: s-maj=69.5km s-min=22.0km az=45.0*

ISC 26 16:52:48.8±0.9, 6954N±007×1445W±02, h10km, n11, σ1§19/16, mb3.8/3, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
INK	**Inuvik**	**4.16**	**102**	Pn	**Pn**	**16 53 52.8**	**+0.6**
	1.3nm,0.3s,baz=298,slow=7.5,SNR=20						
INK				Sn	**Sn**	**16 54 40.0**	**-0.8**
	2.8nm,0.3s,baz=292,slow=20,SNR=4.1						
COLA	**College**	**4.86**	**197**	*e*Pn	**Pn**	**16 54 01.5**	**-0.3**
COLA				*e*Sn	**Sn**	**16 54 58.1**	**+0.1**
IMA2	**Indian Mountai**	**4.92**	**229**	*e*Pn	**Pn**	**16 53 59.9**	**-2.7**
IMA2				*e*Pg	**Pg**	**16 54 14.2**	**-8.7**
EGAK	**Eagle**	**4.96**	**163**	*e*Pn	**Pn**	**16 54 02.9**	**-0.3**
MCK	**McKinley**	**6.09**	**199**	*e*Pn	**Pn**	**16 54 18.7**	**+0.1**
SML	**Sawmill**	**7.92**	**193**	*e*Pn	**Pn**	**16 54 45.9**	**+2.1**
YKA	**Yellowknife Ar**	**13.92**	**106**	Pn	**Pn**	**16 56 02.1**	**-3.7**
YKA				Sn	**Sn**	**16 58 29.2**	**-11**
YKA	**Yellowknife Ar**	**13.92**	**106**	Pn	**Pn**	**16 56 02.1**	**-3.7**
	0.3nm,0.3s,baz=312,slow=13,SNR=14						
YKA				Sn	**Sn**	**16 58 29.2**	**-11**
	0.3nm,0.3s,baz=314,slow=23,SNR=6.1						
PDAR	**Pinedale Array**	**32.27**	**128**	P	**P**	**16 59 19.4**	**+2.2**
	0.6nm,0.6s,mb3.6,baz=20,slow=4.9,SNR=4.4						
FINES	**FINESS Array B**	**49.14**	**6**	P	**P**	**17 01 35.8**	**-0.1**
	1.6nm,0.9s,mb4.0,baz=1.1,slow=9.5,SNR=3.8						
AKASG	**Malin Array Be**	**59.99**	**5**	P	**P**	**17 02 55.3**	**+0.5**
	0.8nm,0.6s,mb3.9,baz=358,slow=6.9,SNR=8.7						

IDC 26 17:09:23.6±21.0, 1743S×17884W, h550km±260km, mb3.3/5, mb1 3.5/5, mb1mx3.1/16, mbtmp3.3/5, Error ellipse: s-maj=95.9km s-min=76.9km az=154.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**33.12**	**260**	P	P	17 15 14.9	0.0
	6.4nm,1.1s,baz=101,slow=10,SNR=3.1						
STKA	**Stephens Creek**	**38.50**	**241**	*e*P	P	17 15 58.9	-0.3
	2.8nm,1.1s						
STKA	**Stephens Creek**	**38.50**	**241**	P	P	17 15 59.0	-0.2
	1.9nm,0.4s,baz=78,slow=9.3,SNR=9.7						
WB2	**Warramunga Arr**	**44.30**	**259**	*e*P	P	17 16 44.7	-0.5
WRA	**Warramunga Arr**	**44.31**	**259**	P	P	17 16 45.3	0.0
	0.9nm,0.5s,baz=92,slow=6.9,SNR=30						
ASAR	**Alice Springs**	**44.52**	**254**	P	P	17 16 46.8	-0.2
	11nm,0.5s,baz=89,slow=7.9,SNR=361						
TXAR	**Lajitas Array**	**86.09**	**58**	P	P	17 21 06.9	+0.1
	0.2nm,0.8s,baz=215,slow=6.1,SNR=3.5						

*IDC **26** 17:15:25.0±1.4, 709S×14881E, h0km, mb3.8/7, mb1 4.0/9, mb1mx3.9/15, mbtmp3.8/9, ML3.6/2, Error ellipse: s-maj=45.1km s-min=18.6km az=93.0*
*ISCJB **26** 17:15:27.8±1.1, 7175S±0.10×1488E±02, h33km, mb3.9/8, Error ellipse: s-maj=29.4km s-min=13.2km az=8.9*
*NEIC **26** 17:15:30.0±2.9, 7195S×14889E, h38km±25km, mb4.0/4, Error ellipse: s-maj=22.9km s-min=18.1km az=88.0*

ISC 26 17:15:30.2±1.1, 717S±009×1488E±02, h35km, n16, σ0§48/16, mb3.9/8, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**13.07**	**190**	Pn	**Pn**	**17 18 33.5**	**0.0**
	0.1nm,0.3s,baz=29,slow=13,SNR=2.1						
WRAB	**Tennant Creek**	**18.88**	**226**	*e*P	**Pn**	**17 19 48.5**	**-0.1**
	3.6nm,0.7s						
WB2	**Warramunga Arr**	**18.89**	**226**	*e*P	**Pn**	**17 19 48.3**	**-0.3**
WRA	**Warramunga Arr**	**18.89**	**226**	P	**Pn**	**17 19 48.3**	**-0.4**
	0.4nm,0.3s,baz=53,slow=11,SNR=31						
ASAR	**Alice Springs**	**21.74**	**219**	P	**P**	**17 20 18.9**	**+0.1**
	1.0nm,0.4s,mb3.6,baz=58,slow=9.4,SNR=19						
FITZ	**Fitzroy Crossi**	**25.01**	**242**	*e*P	**P**	**17 20 52.0**	**+0.9**
	7.7nm,0.4s,mb4.6						
FITZ	**Fitzroy Crossi**	**25.01**	**242**	P	**P**	**17 20 52.0**	**+0.9**
	2.1nm,0.4s,mb4.0,baz=65,slow=8.4,SNR=20						
STKA	**Stephens Creek**	**25.48**	**194**	*e*P	**P**	**17 20 54.3**	**-0.9**
	5.2nm,1.0s,mb4.0						
STKA	**Stephens Creek**	**25.48**	**194**	P	**P**	**17 20 55.1**	**0.0**
	1.7nm,0.7s,mb3.7,baz=5.8,slow=7.4,SNR=6.5						
KSRS	**Korea Array**	**48.47**	**338**	P	**P**	**17 24 08.9**	**-0.5**
	1.1nm,0.6s,mb4.0,baz=155,slow=9.4,SNR=5.4						
SONM	**Songino Array**	**66.27**	**330**	P	**P**	**17 26 15.2**	**+0.3**
	0.4nm,0.6s,mb3.7,baz=156,slow=4.2,SNR=3.9						
TLY	**Talaya**	**70.18**	**332**	P	**P**	**17 26 33.8**	**-5.5**
	2.1nm,0.6s,mb4.2						
VNDA	**Vanda**	**70.66**	**177**	*e*P	**P**	**17 26 41.7**	**-0.1**
	1.2nm,0.8s,mb3.9						
VNDA	**Vanda**	**70.66**	**177**	P	**P**	**17 26 43.0**	**+1.1**
	0.5nm,0.4s,mb3.8,baz=338,slow=5.4,SNR=7.2						
MKAR	**Makanchi Array**	**79.50**	**320**	P	**P**	**17 27 33.2**	**-0.1**
MKAR	**Makanchi Array**	**79.50**	**320**	P	**P**	**17 27 33.2**	**-0.1**
	0.4nm,0.8s,mb3.4,baz=117,slow=6.1,SNR=3.8						

*BJI **26** 17:42:42.7, 5320N×15660E, h247km, mB4.4, mb4.3*
*MOS **26** 17:42:43.9±1.0, 5316N×15657E, h245km, mb3.9/13, Error ellipse: s-maj=13.5km s-min=9.6km az=97.9*
*ISCJB **26** 17:42:44.2±0.3, 5309N±005×15664E±0.10, h253km±4km, mb3.9/33, Error ellipse: s-maj=11.3km s-min=5.5km az=40.7*
*KRSC **26** 17:42:44.4±0.2, 5293N×15732E, h266km±36km, ML4.5*
*NEIC **26** 17:42:45.8±0.8, 5322N×15658E, h247km±8km, mb4.1/13, Error ellipse: s-maj=12.9km s-min=9.0km az=163.0*
*IDC **26** 17:42:50.1±3.8, 5326N×15654E, h289km±38km, mb3.3/15, mb1 3.5/16, mb1mx3.4/22, mbtmp3.3/16, Error ellipse: s-maj=16.4km s-min=11.3km az=134.0*

ISC 26 17:42:45.3±0.3, 5310N±005×15662E±009, h246km±3km, n92, σ1§10/107, mb3.9/33, 2C-3D, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MIPR	**Malaya Ipel'ka**	**0.83**	**174**	*i*P	**Pn**	**17 43 20.5**	**+1.5**
MIPR				*i*S	**S**	**17 43 47.0**	**+1.6**
GNL	**Ganaly**	**0.99**	**52**	*i*P	**Pn**	**17 43 20.9**	**+1.2**
GNL				*i*S	**S**	**17 43 48.2**	**+1.3**
GRL	**Gorelyy**	**1.04**	**121**	*e*P	**Pn**	**17 43 21.1**	**+1.0**
PET	**Petropavlovsk**	**1.23**	**93**	⇓*i*P	**Pn**	**17 43 21.4**	**+0.2**
PET				*e*S	**S**	**17 43 45.0**	**-4.4**
PET	**Petropavlovsk**	**1.23**	**93**	*i*P	**Pn**	**17 43 21.6**	**+0.4**
PET				*i*S	**S**	**17 43 49.3**	**-0.1**
AVH	**Avacha**	**1.28**	**82**	*i*P	**Pn**	**17 43 22.3**	**+0.7**
RUS	**Russkaya**	**1.33**	**119**	*i*P	**Pn**	**17 43 21.6**	**-0.3**
RUS				*i*S	**S**	**17 43 48.8**	**-1.9**
NLC	**Nalytchevo**	**1.64**	**86**	*e*P	**Pn**	**17 43 23.6**	**-0.6**
NLC				*i*S	**S**	**17 43 53.3**	**-1.6**
KII	**Karymskiy**	**1.93**	**60**	*e*P	**Pn**	**17 43 27.0**	**+0.3**
SPN	**Mys Shipunski**	**2.05**	**89**	*i*P	**Pn**	**17 43 26.4**	**-1.4**
SPN				*i*S	**S**	**17 43 56.2**	**-5.1**
SKR	**Severo-Kuril's**	**2.44**	**188**	*e*PN	**Pn**	**17 43 29.5**	**-2.1**
SKR				*i*S	**S**	**17 44 06.9**	**-1.3**
SKR				pmax	pmax		
	comp=Z,240nm,0.9s						
SKR				pmax	pmax		
	comp=N,30nm,0.4s						
SKR				pmax	pmax		
	comp=E,80nm,0.9s						
SKR				smax			
	comp=N,120nm,0.5s						
SKR				smax			
	comp=E,330nm,0.2s						
TUMR	**Tumrok**	**3.01**	**42**	*e*P	**Pn**	**17 43 38.4**	**+0.9**
TUMR				*i*S	**S**	**17 44 18.9**	**0.0**
MKZ	**Mys Kozlova**	**3.36**	**62**	*e*P	**Pn**	**17 43 40.0**	**-1.4**
MKZ				*i*S	**S**	**17 44 19.0**	**-6.8**
SRDR	**Sredinnyy**	**3.69**	**28**	*e*P	**Pn**	**17 43 46.6**	**+1.5**
BDR	**Baidarnaya**	**4.37**	**35**	*e*P	**Pn**	**17 43 54.5**	**+1.4**
SRKR	**Sorokina**	**4.42**	**35**	*e*P	**Pn**	**17 43 53.7**	**0.0**
SMKR	**Semkarok**	**4.47**	**37**	*e*P	**Pn**	**17 43 55.4**	**+1.1**
SMKR				*i*S	**S**	**17 44 47.5**	**-1.9**
KBTR	**Krutoberegovo**	**4.76**	**47**	*e*P	**Pn**	**17 43 57.3**	**-0.5**
KBTR				*i*S	**S**	**17 44 50.5**	**-5.1**
ASAJ	**Asahikawa**	**12.90**	**231**	PN	**Pn**	**17 45 44.6**	**+4.7**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ	**Asahikawa**	**12.90**	**231**	P	**Pn**	**17 45 44.6**	**+4.7**
	comp=Z,0.8nm,0.3s,baz=72,slow=19,SNR=7.1						
HABR	**Khabarovsk**	**14.39**	**260**	⇑*i*P	**Pn**	**17 45 57.4**	**-0.6**
HABR				S	**S**	**17 48 36.0**	**-1.1**
HABR				pmax	pmax		
	comp=Z,19nm,1.5s						
BILL	**Bilibino**	**15.69**	**13**	*e*P	**Pn**	**17 46 12.5**	**-0.9**
	comp=Z,2.2nm,0.3s						
BILL	**Bilibino**	**15.69**	**13**	P	**Pn**	**17 46 13.0**	**-0.3**
BILL				pmax	pmax		
	comp=Z,5.0nm,1.0s						
YAK	**Yakutsk**	**16.87**	**313**	⇓*e*P	**P**	**17 46 25.9**	**+0.5**
	comp=Z,84nm,0.8s						
YAK	**Yakutsk**	**16.87**	**313**	*e*P	**P**	**17 46 25.5**	**+0.1**
YAK				*e*S	**S**	**17 49 18.5**	**-10**
YAK				pmax	pmax		
	comp=Z,72nm,0.9s						
YAK				pmax	pmax		
	comp=N,13nm,1.3s						
YAK				pmax	pmax		
	comp=E,27nm,1.2s						
YAK				smax			
	comp=N,32nm,2.4s						
MDJ	**Mudanjiang**	**19.61**	**255**	P	**P**	**17 46 52.0**	**-3.1**
MDJ				XP	sP	17 48 03.8	-1.8
MDJ				S	**S**	**17 50 18.0**	**-4.6**
MDJ				SCP	ScP	17 54 13.8	-1.4
MDJ				PCS	PcS	17 54 39.5	-0.9
MDJ				AMB	AMB		
	comp=Z,6.0nm,2.4s						
MDJ				AMB	AMB		
	comp=Z,75nm,5.5s						
TIXI	**Tiksi**	**22.23**	**337**	*e*P	**P**	**17 47 21.4**	**+0.3**
	comp=Z,5.8nm,0.6s,mb4.3						
TIXI	**Tiksi**	**22.23**	**337**	*e*P	**P**	**17 47 21.8**	**+0.7**
TIXI				pmax	pmax		
	comp=Z,5.0nm,0.5s,mb4.3						
CN2	**Changchun**	**22.51**	**258**	*e*P	**P**	**17 47 20.5**	**-3.5**
HIA	**Hailar**	**23.26**	**275**	*e*P	**P**	**17 47 31.8**	**+1.1**
	comp=Z,8.2nm,0.6s,mb4.4						
HIA	**Hailar**	**23.26**	**275**	*e*P	**P**	**17 47 31.8**	**+1.1**
HIA				pmax	pmax		
	comp=Z,8.0nm,0.6s						
BOD	**Bodaibo**	**24.31**	**298**	*e*P	**P**	**17 47 40.2**	**+0.1**
BOD				pmax	pmax		
	comp=Z,3.0nm,1.8s,mb3.6						
KSRS	**Korea Array**	**25.31**	**243**	P	**P**	**17 47 50.6**	**+1.3**
	comp=Z,0.7nm,0.4s,mb3.6,baz=42,slow=8.8,SNR=5.2						
BJI	**Beijing**	**30.29**	**261**	P	**P**	**17 48 32.3**	**-1.2**
BJI				AMB	AMB		
	comp=Z,4.0nm,0.8s,mb4.1						
SONM	**Songino Array**	**31.85**	**281**	P	**P**	**17 48 49.2**	**+2.2**
	comp=Z,0.3nm,0.4s,mb3.2,baz=73,slow=5.3,SNR=5.9						
SONM				PcP	PcP	17 51 31.3	+0.1
	comp=Z,0.4nm,0.6s,baz=100,slow=1.7,SNR=4.2						
INK	**Inuvik**	**35.14**	**37**	*e*P	**P**	**17 49 15.4**	**+0.3**
	comp=Z,46nm,0.5s,mb5.3						
INK	**Inuvik**	**35.14**	**37**	P	**P**	**17 49 15.4**	**+0.3**
INK				pmax	pmax		
	comp=Z,1.0nm,0.5s						
INK	**Inuvik**	**35.14**	**37**	P	**P**	**17 49 15.4**	**+0.3**
	comp=Z,1.1nm,0.5s,mb3.7,baz=296,slow=7.2,SNR=19						
LZH	**Lanzhou**	**40.25**	**267**	*e*P	**P**	**17 49 57.0**	**-1.1**
LZH				AP	pP	17 50 49.0	+0.2
LZH				XP	sP	17 51 17.0	+0.3
LZH				AMB	AMB		
	comp=Z,14nm,1.1s,mb4.3						
ZALV	**Zalesovo Beam**	**41.00**	**301**	PcP	PcP	17 51 58.7	0.0
	comp=Z,1.1nm,0.4s,baz=88,slow=2.7,SNR=7.8						
CD2	**Chengdu**	**43.89**	**261**	*e*P	**P**	**17 50 27.0**	**-0.5**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.3						
CD2				AMB	AMB		
	comp=Z,20nm,4.2s						
RES	**Resolute Bay**	**44.09**	**21**	*e*P	**P**	**17 50 28.2**	**-0.3**
	comp=Z,81nm,0.7s,mb5.2						
RES	**Resolute Bay**	**44.09**	**21**	*e*P	**P**	**17 50 28.2**	**-0.3**
RES				pmax	pmax		
	comp=Z,81nm,0.7s,mb5.2						
YKA	**Yellowknife Ar**	**44.56**	**41**	P	**P**	**17 50 32.5**	**+0.2**
YKA	**Yellowknife Ar**	**44.56**	**41**	*e*P	**P**	**17 50 32.5**	**+0.2**
YKA	**Yellowknife Ar**	**44.56**	**41**	P	**P**	**17 50 32.5**	**+0.2**
	comp=Z,0.6nm,0.6s,mb3.1,baz=302,slow=7.7,SNR=10.0						
WMQ	**Urumqi**	**44.98**	**287**	*e*P	**P**	**17 50 36.5**	**+0.6**
GYA	**Guiyang**	**45.47**	**254**	P	**P**	**17 50 38.5**	**-1.4**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.2						
KURK	**Kurchatov**	**45.94**	**300**	*e*P	**P**	**17 50 42.3**	**-0.9**
	comp=Z,4.1nm,0.3s,mb4.2						
KURK				*e*PcP	PcP	17 52 14.7	-0.8
KURK	**Kurchatov**	**45.94**	**300**	*e*P	**P**	**17 50 42.3**	**-0.9**
KURK				*e*		17 52 14.7	
KURK				pmax	pmax		
	comp=Z,4.0nm,0.3s,mb4.2						
MK31	**Makanchi Array**	**46.25**	**294**	*e*P	**P**	**17 50 45.5**	**-0.2**
MKAR	**Makanchi Array**	**46.25**	**294**	*e*P	**P**	**17 50 45.8**	**+0.1**
MKAR	**Makanchi Array**	**46.25**	**294**	P	**P**	**17 50 45.8**	**+0.1**
	comp=Z,2.0nm,0.4s,mb3.8,baz=54,slow=6.8,SNR=63						
BRVK	**Borovoye**	**48.76**	**307**	*e*P	**P**	**17 51 04.4**	**-0.5**
	comp=Z,3.0nm,0.4s,mb4.0						
BRVK				*e*pP	pP	17 52 24.1	+27
BRVK	**Borovoye**	**48.76**	**307**	*e*P	**P**	**17 51 04.4**	**-0.5**
BRVK				*e**PP	pP	17 52 24.1	+27
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.4s,mb4.0						
ARU	**Arti**	**51.95**	**316**	*e*P	**P**	**17 51 27.8**	**-0.8**
	comp=Z,11nm,0.5s,mb4.5						
ARU	**Arti**	**51.95**	**316**	*e*d*i*P	**P**	**17 51 28.0**	**-0.6**
ARU				*e**PP	pP	17 52 19.0	-3.0
ARU				*e*		17 52 36.6	
ARU				*e*S	**S**	**17 58 30.9**	**-1.0**
ARU				*e*SS	SS	18 02 07.5	-4.0
ARU				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.3						
LSA	**Lhasa**	**52.34**	**271**	*e*P	**P**	**17 51 34.5**	**+2.6**
	comp=Z,2.5nm,0.9s,mb3.6						
LSA	**Lhasa**	**52.34**	**271**	*e*P	**P**	**17 51 34.5**	**+2.6**
LSA				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb3.7						
TKM2	**Tokmak 2**	**52.38**	**294**	*e*P	**P**	**17 51 31.8**	**-0.2**
	comp=Z,1.6nm,0.6s,mb3.6						
TKM2	**Tokmak 2**	**52.38**	**294**	*e*P	**P**	**17 51 31.8**	**-0.2**
TKM2				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb3.7						
ARCES	**ARCESS Array B**	**52.61**	**341**	P	**P**	**17 51 32.5**	**-0.8**
ARCES						17 52 39.2	
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.8s						
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.8s						
ARCES	**ARCESS Array B**	**52.61**	**341**	P	**P**	**17 51 32.5**	**-0.8**
	comp=Z,1.5nm,0.8s,mb3.5,baz=39,slow=8.2,SNR=7.1						
ARCES				PcP	PcP	17 52 39.2	-0.5
	comp=Z,2.3nm,0.8s,baz=27,slow=3.0,SNR=8.6						
AAK	**Ala-Archa**	**53.18**	**294**	*e*P	**P**	**17 51 37.1**	**-0.8**
	comp=Z,4.4nm,0.8s,mb3.9						
AAK	**Ala-Archa**	**53.18**	**294**	⇑*i*P	**P**	**17 51 37.8**	**-0.1**
AAK				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb3.8						
EKS2	**Erkin-Say**	**53.56**	**295**	*e*P	**P**	**17 51 40.7**	**+0.1**
	comp=Z,5.6nm,0.8s,mb4.2						
AML	**Almayashu**	**53.96**	**294**	P	**P**	**17 51 43.0**	**-0.5**
	comp=Z,1.7nm,0.6s,mb3.8						
JOF	**Joensuu**	**56.65**	**333**	*e*p	**P**	**17 52 00.5**	**-1.8**
	comp=Z,1.5nm,0.3s,mb4.1						
JIRN	**Jiri**	**56.80**	**273**	*e*P	**P**	**17 52 04.9**	**+1.0**
GUN	**Gumba**	**56.81**	**273**	*e*P	**P**	**17 52 04.9**	**+1.0**
KKN	**Kakani**	**57.26**	**274**	*e*P	**P**	**17 52 07.9**	**+0.8**
GKN	**Gorkha**	**57.49**	**274**	*e*P	**P**	**17 52 09.4**	**+0.7**
DMN	**Daman**	**57.49**	**274**	*e*P	**P**	**17 52 09.5**	**+0.8**
DANN	**Dangsing**	**57.76**	**275**	*e*P	**P**	**17 52 12.1**	**+1.5**
KOLN	**Koldanda**	**58.28**	**275**	*e*P	**P**	**17 52 15.4**	**+1.2**
FINES	**FINESS Array B**	**59.25**	**335**	P	**P**	**17 52 19.7**	**-0.6**
FINES	**FINESS Array B**	**59.25**	**335**	P	**P**	**17 52 19.7**	**-0.6**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
FINES	**FINESS Array B**	**59.25**	**335**	P	**P**	**17 52 19.7**	**-0.6**
	comp=Z,0.6nm,0.4s,mb3.6,baz=47,slow=7.1,SNR=12						
PDAR	**Pinedale Array**	**59.33**	**59**	P	**P**	**17 52 22.2**	**+1.1**
	comp=Z,0.5nm,0.6s,mb3.3,baz=4.8,slow=1.8,SNR=3.9						
KBL	**Kabul**	**61.88**	**291**	*e*P	**P**	**17 52 36.9**	**-1.5**
	comp=Z,3.5nm,0.8s,mb4.0						
SCHQ	**Schefferville**	**66.58**	**26**	P	**P**	**17 53 07.8**	**-0.7**
	comp=Z,2.2nm,0.7s,mb3.9,baz=353,slow=8.1,SNR=6.3						
GOF	**Gofitskoye**	**66.94**	**315**	*e*P	**P**	**17 53 08.6**	**-2.4**
AKASG	**Malin Array Be**	**67.50**	**327**	P	**P**	**17 53 13.0**	**-1.3**
AKASG	**Malin Array Be**	**67.50**	**327**	*e*P	**P**	**17 53 13.0**	**-1.3**
AKASG	**Malin Array Be**	**67.50**	**327**	P	**P**	**17 53 13.0**	**-1.3**
	comp=Z,1.3nm,0.3s,mb4.0,baz=31,slow=6.8,SNR=9.9						
TXAR	**Lajitas Array**	**72.54**	**64**	P	**P**	**17 53 46.0**	**+0.7**
	comp=Z,0.2nm,0.4s,mb3.1,baz=303,slow=4.2,SNR=4.8						
GERES	**GERESS Array B**	**73.68**	**335**	P	**P**	**17 53 52.2**	**+0.6**
	comp=Z,0.4nm,0.5s,mb3.4,baz=39,slow=6.8,SNR=4.9						
WRA	**Warramunga Arr**	**75.26**	**202**	P	**P**	**17 54 01.7**	**+0.8**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
WRA	**Warramunga Arr**	**75.26**	**202**	P	**P**	**17 54 01.7**	**+0.9**
	comp=Z,1.1nm,0.5s,mb3.7,baz=11,slow=6.1,SNR=22						
ASAR	**Alice Springs**	**78.95**	**201**	P	**P**	**17 54 22.9**	**+1.6**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ASAR	**Alice Springs**	**78.95**	**201**	P	**P**	**17 54 22.9**	**+1.5**
	comp=Z,1.3nm,0.6s,mb3.8,baz=13,slow=4.9,SNR=40						
KEST	**Kesra**	**87.08**	**334**	P	**P**	**17 55 02.9**	**0.0**
	comp=Z,1.2nm,0.5s,mb3.9,baz=344,slow=3.7,SNR=11						

IDC 26 17:46:15.6±5.8, 882S×15650E, h0km, mb3.5/3, mb1 3.6/3, mb1mx3.4/14, mbtmp3.5/3, Error ellipse: s-maj=97.9km s-min=78.1km az=13.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.11**	**240**	P	P	17 51 33.7	+0.5
	0.6nm,0.5s,baz=67,slow=9.4,SNR=13						
ASAR	**Alice Springs**	**26.18**	**233**	P	P	17 51 51.6	-0.3
	0.3nm,0.9s,baz=60,slow=11,SNR=3.8						
STKA	**Stephens Creek**	**26.80**	**209**	P	P	17 51 57.5	+0.1
	1.1nm,0.6s,baz=39,slow=13,SNR=4.8						

IDC 26 17:52:58.2±1.9, 334N×9575E, h0km, mb3.5/5, mb1 3.7/6, mb1mx3.5/20, mbtmp3.5/6, ML2.9/1, Error ellipse: s-maj=69.4km s-min=20.9km az=54.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**3.21**	**99**	Pn	Pn	17 53 52.0	+2.0
	1.3nm,0.3s,baz=278,slow=12,SNR=5.6						
WRA	**Warramunga Arr**	**44.40**	**123**	P	P	18 01 10.5	-0.5
	0.3nm,0.6s,baz=302,slow=9.2,SNR=5.4						
MKAR	**Makanchi Array**	**44.84**	**347**	P	P	18 01 14.1	0.0
	0.4nm,0.5s,baz=159

HMAT				S	Sn	19 28 18.1	-4.1
ERMK	**Ermenek**	**4.69**	**73**	*i* P	Pn	19 27 40.2	+1.4
ERMK				*i* S	Sn	19 28 31.6	-1.2
ERMK	**Ermenek**	**4.69**	**73**	*i* P	Pn	19 27 40.2	+1.4
ERMK				*i* S	Sn	19 28 31.5	-1.2
KONT	**Konya--Tatoy**	**4.79**	**56**	*e*PN	Pn	19 27 41.5	+1.4
KIZT	**Kizilcal**	**5.04**	**45**	*e*PN	Pn	19 27 43.7	0.0
SWA1		**6.24**	**193**	⇓P	Pn	19 28 00.5	+0.4
SWA1				S	Sn	19 29 05.8	-5.2
SWA2		**6.31**	**195**⇑	*e*P	Pn	19 28 01.6	+0.5
HSAF	**As Saff**	**6.74**	**147**	⇓P	Pn	19 28 06.8	-0.3
AMAG	**Maghara**	**6.81**	**132**	⇓P	Pn	19 28 07.2	-0.8
GLL	**Jalalah**	**6.85**	**146**	⇑P	Pn	19 28 07.7	-0.8
HNKL	**Nakhl**	**7.79**	**132**	⇓P	Pn	19 28 21.0	-0.4
HNKL				S	Sn	19 29 41.0	-8.1

*IDC **26** 19:28:05.9±0.7, 689S×1545E, h0km, mb4.2/11, mb1 4.4/12, mb1mx4.3/15, mbtmp4.2/12, ML4.2/1, MS3.6/3, Ms1 3.6/3, ms1mx3.0/23, Error ellipse: s-maj=25.3km s-min=18.1km az=112.0*

*ISCJB **26** 19:28:09.9±2.9, 69S±0.1×1546E±0.1, h35km±28km, mb4.5/24, MS3.5/3, Error ellipse: s-maj=22.1km s-min=13.2km az=138.6*

*BJI **26** 19:28:10.7, 690S×1546O E, h40km, mb4.7*

*NEIC **26** 19:28:12.9±1.8, 695S×1564E, h51km±17km, mb4.2/7, Error ellipse: s-maj=17.1km s-min=8.6km az=145.0*

ISC 26 19:28:12.7±2.3, 70S±0.1×1546E±0.1, h47km±24km, n38, σ0§82/33, mb4.5/24, MS3.5/3, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.78**	**115**	Pn		**Pn**		**19 29 35.8**	**-0.2**
	5.6nm,0.3s,baz=272,slow=14,SNR=3.5								
CTA	**Charters Tower**	**15.35**	**211**	Pn		**Pn**		**19 31 47.9**	**+1.5**
	0.1nm,0.3s,baz=62,slow=13,SNR=3.8								
CTAO	**Charters Tower**	**15.35**	**211**	P		**Pn**		**19 31 47.9**	**+1.5**
	6.2nm,0.8s								
WRAB	**Tennant Creek**	**23.52**	**235**	*e*P		**P**		**19 33 18.1**	**-0.8**
	11nm,1.0s,mb4.2								
WB2	**Warramunga Arr**	**23.52**	**235**	*e*P		**P**		**19 33 18.1**	**-0.8**
WRA	**Warramunga Arr**	**23.53**	**235**	P		**P**		**19 33 17.9**	**-1.1**
	4.8nm,0.8s,mb4.0,baz=55,slow=9.5,SNR=30								
WRA				PcP		PcP		19 37 04.2	+0.6
	0.4nm,0.6s,baz=61,slow=2.3,SNR=4.7								
ASAR	**Alice Springs**	**25.91**	**228**	P		**P**		**19 33 40.1**	**-0.5**
	4.1nm,1.0s,mb3.9,baz=62,slow=9.1,SNR=18								
STKA	**Stephens Creek**	**27.59**	**205**	*e*P		**P**		**19 33 55.8**	**+0.2**
	2.4nm,0.9s,mb3.8								
STKA	**Stephens Creek**	**27.59**	**205**	P		**P**		**19 33 54.2**	**-1.4**
	3.2nm,0.9s,mb4.0,baz=14,slow=8.1,SNR=5.9								
STKA				LR		LR		19 44 28.2	
	comp=Z,134nm,20.5s,MS3.5,baz=20,slow=36								
FITZ	**Fitzroy Crossi**	**30.33**	**246**	*e*P		**P**		**19 34 20.1**	**-0.1**
	8.1nm,1.4s,mb4.3								
FITZ	**Fitzroy Crossi**	**30.33**	**246**	P		**P**		**19 34 19.5**	**-0.7**
	1.7nm,0.6s,mb4.0,baz=68,slow=9.7,SNR=8.9								
FITZ				LR		LR		19 47 14.1	
	comp=Z,99nm,20.9s,MS3.4,baz=0.5,slow=38								
JHJ	**Hachijo jima 2**	**42.32**	**341**	LR		LR		19 51 36.7	
	comp=Z,76nm,19.4s,MS3.6,baz=128,slow=33								
KSRS	**Korea Array**	**50.78**	**332**	P		**P**		**19 37 06.8**	**-1.5**
	0.9nm,0.6s,mb3.9,baz=145,slow=7.2,SNR=5.7								
XAN	**Xi'an**	**59.47**	**316**	P		**P**		**19 38 10.3**	**-0.8**
XAN				AMB		AMB			
	comp=Z,7.0nm,0.9s,mb4.7								
LZH	**Lanzhou**	**64.07**	**316**	*e*P		**P**		**19 38 43.0**	**+0.9**
LZH				AMB		AMB			
	comp=Z,24nm,1.1s,mb5.1								
GTA	**Gaotai**	**68.50**	**317**	*e*P		**P**		**19 39 11.5**	**+1.1**
GTA				AP		pP		19 39 21.3	-2.5
GTA				XP		sP		19 39 25.3	-3.8
GTA				AMB		AMB			
	comp=Z,8.0nm,0.8s,mb4.7								
ULN	**Ulaanbaatar**	**68.82**	**328**	*e*P		**P**		**19 39 12.3**	**+0.1**
	comp=Z,1.6nm,0.8s,mb4.0								
SONM	**Songino Array**	**69.15**	**327**	P		**P**		**19 39 14.0**	**-0.2**
	comp=Z,1.4nm,0.6s,mb4.1,baz=145,slow=6.0,SNR=16								
VNDA	**Vanda**	**70.59**	**178**	P		**P**		**19 39 23.7**	**+1.1**
	comp=Z,0.7nm,0.8s,mb3.6,baz=225,slow=4.1,SNR=3.0								
LSA	**Lhasa**	**70.99**	**305**	P		**P**		**19 39 27.0**	**+1.1**
LSA	**Lhasa**	**70.99**	**305**	*e*P		**P**		**19 39 27.1**	**+1.1**
	comp=Z,3.5nm,0.6s,mb4.5								
GUN	**Gumba**	**74.82**	**301**	*e*P		**P**		**19 39 49.1**	**+0.4**
	comp=Z,28nm,0.7s,mb5.3								
PKI	**Pulchoki**	**75.12**	**301**	*e*P		**P**		**19 39 51.6**	**+1.2**
PKIN	**Phulchoki**	**75.14**	**301**	*e*P		**P**		**19 39 51.3**	**+0.8**
	comp=Z,6.0nm,0.5s,mb4.8								
KKN	**Kakani**	**75.30**	**301**	*e*P		**P**		**19 39 51.8**	**+0.4**
	comp=Z,17nm,0.6s,mb5.1								
GKN	**Gorkha**	**75.90**	**301**	*e*P		**P**		**19 39 55.0**	**+0.1**
	comp=Z,20nm,0.8s,mb5.1								
KOLN	**Koldanda**	**76.72**	**301**	*e*P		**P**		**19 39 59.8**	**+0.3**
	comp=Z,17nm,0.8s,mb5.0								
DANN	**Dangsing**	**76.74**	**301**	*e*P		**P**		**19 40 00.1**	**+0.5**
	comp=Z,14nm,0.7s,mb5.0								
MCK	**McKinley**	**82.19**	**22**	*e*P		**P**		**19 40 28.3**	**-0.2**
	comp=Z,2.7nm,0.8s,mb4.2								
MK31	**Makanchi Array**	**83.18**	**319**	*e*P		**P**		**19 40 33.5**	**-0.5**
MKAR	**Makanchi Array**	**83.18**	**319**	P		**P**		**19 40 33.9**	**-0.1**
	comp=Z,3.5nm,0.6s,mb4.6,baz=101,slow=5.0,SNR=48								
ZALV	**Zalesovo Beam**	**83.99**	**326**	P		**P**		**19 40 36.4**	**-1.6**
	comp=Z,1.1nm,0.5s,mb4.2,baz=106,slow=5.9,SNR=5.1								
NVAR	**Mina Array Bea**	**92.00**	**52**	P		**P**		**19 41 17.4**	**+0.5**
	comp=Z,2.0nm,0.8s,mb4.5,baz=260,slow=4.2,SNR=4.7								
YKA	**Yellowknife Ar**	**96.50**	**28**	P		**P**		**19 41 36.1**	**-0.8**
	comp=Z,0.9nm,0.6s,mb4.3,baz=266,slow=4.6,SNR=18								
AKASG	**Malin Array Be**	**117.34**	**324**	PKP		PKPdf		19 46 52.1	-1.0
	comp=Z,1.1nm,0.5s,baz=55,slow=2.1,SNR=5.2								
NB2	**NORSAR Subarra**	**119.59**	**341**	PKPdf		PKPdf		19 46 56.3	-0.8
	comp=Z,0.9nm,0.7s,baz=43,slow=2.0								
NOA	**NORSAR Array B**	**119.59**	**341**	PKP		PKPdf		19 46 55.8	-1.3
	comp=Z,0.7nm,0.6s,baz=45,slow=1.9,SNR=4.1								
GERES	**GERESS Array B**	**126.87**	**329**	PKP		PKPdf		19 47 12.0	+0.5
	comp=Z,1.2nm,0.6s,baz=48,slow=2.0,SNR=12								

*ISCJB **26** 19:38:23.6±1.5, 3835S±004×1787E±0.1, h35km±9km, mb4.1/6, Error ellipse: s-maj=18.9km s-min=7.4km az=178.9*

*IDC **26** 19:38:23.4±1.3, 3786S×17836E, h0km, mb4.1/6, mb1 4.2/6, mb1mx4.0/16, mbtmp4.1/6, Error ellipse: s-maj=30.9km s-min=22.9km az=161.0*

*NEIC **26** 19:38:26.4, 3826S×17858E, h33km, mb4.4/1, ML4.2(WEL), After WEL.*

NEIC Felt at Tolaga Bay.

ISC 26 19:38:22.6±1.8, 3838S±004×1787E±01, h16km±7km, n42, σ1§10/42, mb4.1/6, 2C-2D, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PUZ	**Puketiti**	**0.48**	**309**	⇓P		**Pg**		**19 38 30.7**	**-1.5**
PUZ				S		**Sg**		**19 38 39.1**	**+0.4**
MXZ	**Matakaoa Point**	**0.88**	**337**	⇓P		**Pb**		**19 38 40.0**	**+0.5**
MXZ				S		**Sb**		**19 38 51.8**	**+0.8**
MWZ	**Matawai**	**0.95**	**272**	P		**Pb**		**19 38 40.5**	**-0.1**
KNZ	**Kokohu**	**1.05**	**232**⇑	*e*P		**Pb**		**19 38 44.5**	**+2.1**
URZ	**Urewera**	**1.28**	**275**	⇑P		**Pn**		**19 38 45.8**	**0.0**
URZ	**Urewera**	**1.28**	**275**	Pn		**Pn**		**19 38 45.8**	**0.0**
	165nm,0.3s,baz=118,slow=5.6,SNR=1295								
URZ				Sn		**Sn**		**19 39 00.6**	**-2.0**
	177nm,0.3s,baz=352,slow=20,SNR=27								
WIZ	**White Island**	**1.49**	**304**	P		**Pn**		**19 38 47.7**	**-1.0**
MARZ	**Manawahe**	**1.67**	**283**	P		**Pn**		**19 38 50.7**	**-0.5**
TAZ	**Tarawera**	**1.76**	**274**	P		**Pn**		**19 38 52.9**	**+0.5**
MKRZ	**Makatiti**	**1.80**	**277**	*e*P		**Pn**		**19 38 53.5**	**+0.5**
BKZ	**Black Stump Fm**	**1.92**	**245**	P		**Pn**		**19 38 55.7**	**+1.1**
TGRZ	**Tauranga**	**2.06**	**288**	P		**Pn**		**19 38 55.3**	**-1.2**
MOVZ	**Moawhango**	**2.54**	**245**	P		**Pn**		**19 39 04.5**	**+1.3**
TUVZ	**Tukino**	**2.56**	**249**	P		**Pn**		**19 39 05.0**	**+1.5**
WTVZ	**West Tongariro**	**2.56**	**252**	P		**Pn**		**19 39 04.5**	**+1.0**
NGZ	**Ngauruhoe**	**2.57**	**251**	P		**Pn**		**19 39 04.9**	**+1.3**
WPVZ	**Whakapapa**	**2.62**	**251**	*e*P		**Pn**		**19 39 05.7**	**+1.4**
WNVZ	**Wahianoa**	**2.62**	**248**	*e*P		**Pn**		**19 39 05.2**	**+0.9**
TOZ	**Tahuroa Road**	**2.63**	**283**	P		**Pn**		**19 39 03.9**	**-0.5**
FWVZ	**Far West T-bar**	**2.63**	**250**	*e*P		**Pn**		**19 39 05.6**	**+1.2**
KUZ	**Kuaotunu**	**2.90**	**303**	P		**Pn**		**19 39 06.5**	**-1.5**
BFZ	**Birch Farm**	**3.00**	**219**	*e*P		**Pn**		**19 39 09.4**	**0.0**
WAZ	**Wanganui**	**3.22**	**244**	P		**Pn**		**19 39 14.0**	**+1.4**
MRZ	**Mangatainoka R**	**3.34**	**226**	*e*P		**Pn**		**19 39 13.9**	**-0.2**
MTW	**Mount Morrison**	**3.73**	**221**	*e*P		**Pn**		**19 39 18.5**	**-1.0**
KIW	**Kapiti Island**	**3.85**	**229**	*e*P		**Pn**		**19 39 20.8**	**-0.4**
TCW	**Tory Channel**	**4.45**	**229**	P		**Pn**		**19 39 28.5**	**-0.9**
NNZ	**Nelson**	**5.00**	**234**	*e*P		**Pn**		**19 39 35.5**	**-1.5**
FOZ	**Fox Glacier**	**8.58**	**230**	*e*P		**Pn**		**19 40 23.7**	**-2.4**
LBZ	**Lake Benmore**	**8.79**	**224**	*e*P		**Pn**		**19 40 27.0**	**-1.9**
ODZ	**Otahua Downs**	**8.99**	**220**	*e*P		**Pn**		**19 40 30.4**	**-1.3**
STKA	**Stephens Creek**	**30.91**	**271**	P		**P**		**19 44 39.8**	**+1.3**
	4.9nm,1.0s,mb4.3,baz=101,slow=12,SNR=5.2								
CTA	**Charters Tower**	**33.46**	**294**	P		**P**		**19 45 01.5**	**+0.5**
	1.9nm,0.5s,mb4.3,baz=113,slow=12,SNR=5.6								
ASAR	**Alice Springs**	**40.72**	**278**	P		**P**		**19 46 02.8**	**+0.1**
	1.2nm,0.3s,mb4.0,baz=119,slow=6.4,SNR=64								
WB2	**Warramunga Arr**	**42.43**	**283**	*e*P		**P**		**19 46 17.0**	**+0.3**
WRA	**Warramunga Arr**	**42.44**	**283**	P		**P**		**19 46 16.4**	**-0.4**
	1.5nm,0.5s,mb3.9,baz=122,slow=7.2,SNR=34								
FITZ	**Fitzroy Crossi**	**50.22**	**278**	*e*P		**P**		**19 47 17.5**	**-0.5**
	5.6nm,1.4s,mb4.4								
FITZ	**Fitzroy Crossi**	**50.22**	**278**	P		**P**		**19 47 17.2**	**-0.7**
	0.3nm,0.3s,mb3.8,baz=143,slow=6.5,SNR=5.1								
QSPA	**South Pole Qui**	**51.75**	**180**	P		**P**		**19 47 36.4**	**+7.8**
	1.0nm,0.7s,mb3.9,baz=37,slow=0.7,SNR=7.0								
ARCES	**ARCESS Array B**	**145.65**	**344**	PKPbc		PKPbc		19 58 00.9	+1.6
	1.7nm,0.7s,baz=44,slow=2.7,SNR=9.7								
JOF	**Joensuu**	**148.52**	**332**	*e*p		PKPdf		19 58 06.6	+2.6
	1.9nm,0.5s								
FINES	**FINESS Array B**	**151.37**	**333**	PKPbc		PKPbc		19 58 15.9	+1.3
	1.2nm,0.7s,baz=38,slow=3.4,SNR=8.8								

*ISCJB **26** 19:42:22.9±1.1, 5025N±009×1499E±0.1, h518km±13km, mb3.8/29, Error ellipse: s-maj=15.3km s-min=10.8km az=44.1*

*MOS **26** 19:42:23.0±0.8, 5026N×14991E, h521km, mb3.8/11, Error ellipse: s-maj=17.8km s-min=10.0km az=113.2*

*NEIC **26** 19:42:24.5±1.2, 5020N×14990E, h525km±17km, mb4.2/4, Error ellipse: s-maj=10.1km s-min=7.8km az=139.0*

*IDC **26** 19:42:25.6±2.9, 5020N×14986E, h538km±34km, mb3.1/15, mb1 3.2/16, mb1mx3.1/23, mbtmp3.1/16, Error ellipse: s-maj=16.9km s-min=12.1km az=105.0*

ISC 26 19:42:23.4±1.1, 5024N±008×1499E±01, h508km±13km, n60, σ0§53/61, mb3.8/29, 5C-6D, Sea of Okhotsk

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
YSS	**Yuzh-Sakhalins**	**5.78**	**238**	*e*P		**P**		**19 43 58.3**	**+0.3**
MJAR	**Matsushiro Arr**	**16.10**	**216**	P		**P**		**19 45 44.9**	**0.0**
	0.1nm,0.3s,baz=14,slow=10,SNR=3.8								
YAK	**Yakutsk**	**16.24**	**324**⇑	*e*P		**P**		**19 45 44.7**	**-1.2**
YAK				pmax		pmax			
	comp=Z,7.0nm,0.8s								
KSRS	**Korea Array**	**20.28**	**239**	P		**P**		**19 46 24.2**	**+0.2**
	comp=Z,0.9nm,0.5s,baz=34,slow=12,SNR=5.1								
TIXI	**Tiksi**	**23.52**	**343**	*i* P		**P**		**19 46 52.5**	**-0.1**
TIXI				pmax		pmax			
	comp=Z,5.0nm,2.3s,mb3.5								
ULN	**Ulaanbaatar**	**27.92**	**282**	*i* P		**P**		**19 47 31.3**	**-0.5**
SONM	**Songino Array**	**28.34**	**282**	P		**P**		**19 47 35.8**	**+0.3**
	comp=Z,0.3nm,0.5s,mb3.0,baz=69,slow=7.0,SNR=3.6								
TLY	**Talaya**	**28.81**	**291**	*i* P		**P**		**19 47 40.9**	**+1.3**
TLY				pmax		pmax			
	comp=Z,1.0nm,1.1s,mb3.2								
ZAK	**Zakamensk**	**29.41**	**289**	*e*P		**P**		**19 47 44.5**	**-0.3**
ZAK				pmax		pmax			
	comp=Z,1.0nm,1.1s,mb3.2								
IMA2	**Indian Mountai**	**32.33**	**39**	*e*P		**P**		**19 48 10.4**	**+0.7**
ZALV	**Zalesovo Beam**	**38.91**	**301**	P		**P**		**19 49 04.5**	**0.0**
ZALV				PcP		PcP		19 51 01.4	-0.8
ZALV	**Zalesovo Beam**	**38.91**	**301**	P		**P**		**19 49 04.5**	**0.0**
	comp=Z,1.8nm,0.4s,mb3.8,baz=58,slow=7.1,SNR=11								
ZALV				PcP		PcP		19 51 01.4	-0.8
	comp=Z,0.8nm,0.3s,baz=86,slow=2.0,SNR=4.0								
ZAL	**Zalesovo**	**38.93**	**301**	P		**P**		**19 49 04.5**	**-0.1**
ZAL								19 51 01.5	
INK	**Inuvik**	**39.90**	**34**	P		**P**		**19 49 12.9**	**+0.7**
INK				pmax		pmax			
	comp=Z,1.0nm,0.3s								
INK	**Inuvik**	**39.90**	**34**	P		**P**		**19 49 12.9**	**+0.7**
	comp=Z,0.9nm,0.3s,mb3.6,baz=301,slow=6.0,SNR=3.8								
MK31	**Makanchi Array**	**43.54**	**293**	*e*P		**P**		**19 49 41.5**	**+0.2**
MKAR	**Makanchi Array**	**43.54**	**293**	*e*P		**P**		**19 49 41.5**	**+0.2**
MKAR	**Makanchi Array**	**43.54**	**293**	P		**P**		**19 49 41.5**	**+0.1**
	comp=Z,2.8nm,0.5s,mb3.9,baz=66,slow=8.2,SNR=34								
MKAR				PcP		PcP		19 51 16.6	-1.2
	comp=Z,0.2nm,0.3s,baz=65,slow=5.9,SNR=4.5								
KURK	**Kurchatov**	**43.73**	**299**	*e*P		**P**		**19 49 42.6**	**-0.1**
	comp=Z,8.3nm,0.8s,mb4.2								
KURK	**Kurchatov**	**43.73**	**299**	*e*P		**P**		**19 49 42.6**	**-0.2**
KURK				pmax		pmax			
	comp=Z,8.0nm,0.8s,mb4.2								
BVAR	**Borovoye Array**	**47.05**	**306**	P		**P**		**19 50 08.6**	**+0.5**
BVAR								19 51 28.6	
BVAR				pmax		pmax			
	comp=Z,6.0nm,0.4s								
BVAR				pmax		pmax			
	comp=Z,1.0nm,0.5s								
BVAR	**Borovoye Array**	**47.05**	**306**	P		**P**		**19 50 08.6**	**+0.5**
	comp=Z,6.0nm,0.4s,mb4.4,baz=57,slow=7.5,SNR=33								
BVAR				PcP		PcP		19 51 28.6	-1.5
	comp=Z,0.5nm,0.5s,baz=29,slow=6.9,SNR=2.9								
BRVK	**Borovoye**	**47.09**	**306**	*e*P		**P**		**19 50 08.8**	**+0.4**
	comp=Z,4.4nm,0.6s,mb4.1								
BRVK	**Borovoye**	**47.09**	**306**	*e*P		**P**		**19 50 08.9**	**+0.5**
BRVK				pmax		pmax			
	comp=Z,4.0nm,0.6s,mb4.0								
RES	**Resolute Bay**	**48.20**	**19**	*e*P		**P**		**19 50 16.6**	**+0.1**
	comp=Z,82nm,0.9s								
RES	**Resolute Bay**	**48.20**	**19**	*e*P		**P**		**19 50 16.6**	**+0.1**
RES				pmax		pmax			
	comp=Z,82nm,0.9s								
YKA	**Yellowknife Ar**	**49.41**	**37**	P		**P**		**19 50 26.0**	**+0.4**
	comp=Z,0.4nm,0.4s,mb3.1,baz=304,slow=7.3,SNR=7.2								
YKA				PcP		PcP		19 51 38.6	+0.1
	comp=Z,0.3nm,0.5s,baz=310,slow=3.2,SNR=5.0								
AAK	**Ala-Archa**	**50.47**	**292**⇑	*i*P		**P**		**19 50 32.7**	**-1.0**
AAK				pmax		pmax			
	comp=Z,3.0nm,0.9s,mb3.6								
ARU	**Arti**	**51.03**	**314**	*d i*P		**P**		**19 50 37.4**	**-0.1**
ARU				*e*				19 51 44.5	
ARU				*e*				19 52 37.4	
ARU				*e*S		**S**		**19 57 17.6**	**+1.5**
ARU				pmax		pmax			
	comp=Z,7.0nm,0.6s,mb4.2								
JIRN	**Jiri**	**52.70**	**270**	*e*P		**P**		**19 50 50.3**	**+0.3**
GUN	**Gumba**	**52.73**	**270**	*e*P		**P**		**19 50 50.3**	**+0.1**
	comp=Z,7.1nm,0.4s,mb4.3								
KKN	**Kakani**	**53.19**	**270**	*e*P		**P**		**19 50 53.7**	**+0.1**
	comp=Z,6.9nm,0.6s,mb4.2								
DMN	**Daman**	**53.43**	**270**	*e*P		**P**		**19 50 55.6**	**+0.3**
	comp=Z,9.1nm,0.7s,mb4.2								
GKN	**Gorkha**	**53.46**	**271**	*e*P		**P**		**19 50 55.2**	**-0.3**
	comp=Z,7.1nm,0.4s,mb4.3								
DANN	**Dangsing**	**53.78**	**272**	*e*P		**P**		**19 50 58.2**	**+0.4**
	comp=Z,11nm,0.6s,mb4.4								
ARCES	**ARCESS Array B**	**53.84**	**339**	P		**P**		**19 50 57.6**	**+0.1**
ARCES				pmax		pmax			
	comp=Z,1.0nm,0.6s								
ARCES	**ARCESS Array B**	**53.84**	**339**	P		**P**		**19 50 57.5**	**0.0**
	comp=Z,0.9nm,0.6s,mb3.3,baz=27,slow=6.3,SNR=7.5								
KOLN	**Koldanda**	**54.28**	**272**	*e*P		**P**		**19 51 01.2**	**-0.1**
	comp=Z,5.7nm,0.6s,mb4.1								
JOF	**Joensuu**	**57.26**	**331**	*e*p		**P**		**19 51 20.4**	**-1.0**
	comp=Z,1.0nm,0.3s,mb3.6								
FINES	**FINESS Array B**	**59.97**	**333**	P		**P**		**19 51 39.4**	**-0.2**
FINES	**FINESS Array B**	**59.97**	**333**	*e*P		**P**		**19 51 39.4**	**-0.3**
FINES	**FINESS Array B**	**59.97**	**333**	P		**P**		**19 51 39.4**	**-0.2**
	comp=Z,2.3nm,0.4s,mb4.0,baz=42,slow=7.3,SNR=23								
NB2	**NORSAR Subarra**	**64.22**	**339**	P		**P**		**19 52 07.1**	**-0.2**
	comp=Z,0.8nm,0.5s,mb3.5,baz=26,slow=6.5								
NOA	**NORSAR Array B**	**64.22**	**339**	P		**P**		**19 52 07.4**	**+0.1**
NOA				pmax		pmax			
	comp=Z,1.0nm,0.4s								
NOA	**NORSAR Array B**	**64.22**	**339**	P		**P**		**19 52 07.4**	**+0.1**
	comp=Z,1.0nm,0.4s,mb3.7,baz=28,slow=6.4,SNR=5.0								
AKASG	**Malin Array Be**	**67.47**	**324**	P		**P**		**19 52 27.1**	**-0.7**
AKASG				pmax		pmax			
	comp=Z,1.0nm,0.4s								
AKASG	**Malin Array Be**	**67.47**	**324**	P		**P**		**19 52 27.1**	**-0.7**
	comp=Z,1.3nm,0.4s,mb3.9,baz=34,slow=6.1,SNR=8.1								
SCHQ	**Schefferville**	**70.87**	**22**	P		**P**		**19 52 47.7**	**-0.5**
	comp=Z,0.8nm,0.4s,mb3.6,baz=257,slow=14,SNR=5.2								
WRA	**Warramunga Arr**	**71.22**	**195**	P		**P**		**19 52 49.7**	**-0.9**
	comp=Z,0.3nm,0.6s,mb3.0,baz=12,slow=6.4,SNR=4.1								
BURAR	**Bucovina Array**	**71.51**	**324**⇑	*i*P		**P**		**19 52 52.0**	**0.0**
CLL	**Collm**	**72.40**	**333**⇓	*i*P		**P**		**19 52 56.6**	**-0.5**
	comp=Z,3.0nm,0.6s,mb4.0								
CLL	**Collm**	**72.40**	**333**⇓	*i*P		**P**		**19 52 56.6**	**-0.5**
CLL				pmax		pmax			
	comp=Z,3.0nm,0.6s,mb4.0								
CLL	**Collm**	**72.40**	**333**⇓	*i*P		**P**		**19 52 56.6**	**-0.5**
	comp=Z,3.0nm,0.6s,mb4.0								
MLR	**Muntele Rosu**	**73.00**	**322**	⇓P		**P**		**19 53 00.2**	**-0.5**
MLR	**Muntele Rosu**	**73.00**	**322**	⇓*i*P		**P**		**19 53 00.2**	**-0.5**
MALT	**Malatya**	**73.25**	**310**	⇑P		**P**		**19 53 03.2**	**+0.9**
MALT	**Malatya**	**73.25**	**310**	⇑*i*P		**P**		**19 53 03.2**	**+0.9**
GERES	**GERESS Array B**	**74.38**	**332**	P		**P**		**19 53 08.5**	**0.0**
	comp=Z,0.4nm,0.5s,mb3.2,baz=30,slow=8.1,SNR=3.7								
ASAR	**Alice Springs**	**74.94**	**195**	P		**P**		**19 53 11.8**	**-0.1**
ASAR				pmax		pmax			
	comp=Z,1.0nm,0.4s								
ASAR	**Alice Springs**	**74.94**	**195**	P		**P**		**19 53 11.8**	**-0.1**
	comp=Z,0.6nm,0.4s,mb3.5,baz=8.5,slow=5.1,SNR=19								

*ISCJB **26** 19:58:13.7±1.4, 3832S±005×1787E±0.1, h33km, mb3.6/3, Error ellipse: s-maj=15.3km s-min=7.3km az=7.3*

*IDC **26** 19:58:13.7±3.0, 3771S×17824E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.6/14, mbtmp3.7/3, Error ellipse: s-maj=76.4km s-min=25.6km az=136.0*

*NEIC **26** 19:58:17.0, 3823S×17838E, h15km, ML3.8(WEL), After WEL.*

ISC 26 19:58:15.4±1.3, 3830S±005×1786E±01, h35km, n21, σ0§92/24, mb3.6/3, 1D, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PUZ	**Puketiti**	**0.37**	**307**	⇓P		**Pn**		**19 58 20.7**	**-3.6**
PUZ				S		**Sn**		**19 58 24.1**	**-6.2**
MXZ	**Matakaoa Point**	**0.78**	**340**	P		**Pn**		**19 58 29.8**	**0.0**
MXZ				S		**Sn**		**19 58 40.3**	**0.0**
MWZ	**Matawai**	**0.87**	**267**	P		**Pn**		**19 58 30.5**	**-0.6**
KNZ	**Kokohu**	**1.04**	**226**	*e*P		**Pn**		**19 58 34.5**	**+1.0**
URZ	**Urewera**	**1.20**	**271**	P		**Pn**		**19 58 35.7**	**+0.1**
URZ	**Urewera**	**1.20**	**271**	Pn		**Pn**		**19 58 35.8**	**+0.2**
	104nm,0.3s,baz=103,slow=6.7,SNR=495								
URZ				Sn		**Sn**		**19 58 50.9**	**+0.2**
	212nm,0.3s,baz=156,slow=20,SNR=27								
WIZ	**White Island**	**1.38**	**304**	P		**Pn**		**19 58 37.6**	**-0.5**
MARZ	**Manawahe**	**1.58**	**281**	P		**Pn**		**19 58 40.5**	**-0.3**
MKRZ	**Makatiti**	**1.71**

0.6nm,0.4s,mb3.7,baz=90,slow=10,SNR=2.8
MKAR Makanchi Array 44.04 302 P **P 20 12 08.1 -0.5**
0.2nm,0.3s,mb3.4,baz=86,slow=9.7,SNR=3.0
FITZ Fitzroy Crossi 56.50 198 P **P 20 13 40.4 -2.5**
1.0nm,1.0s,mb3.8,baz=348,slow=14,SNR=2.9
WRA Warramunga Arr 56.77 188 P **P 20 13 44.9 +0.2**
0.3nm,1.0s,mb3.3,baz=1.7,slow=6.7,SNR=2.7

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*BJI **26** 20:16:34.0, 5398N×17092E, h12km, mB4.8, mb4.7, Ms4.4, Msz4.1*
*ISCJB **26** 20:16:36.0±1.5, 5386N±005×17085E±005, h16km±10km, mb4.6/67, MS3.9/25, Error ellipse: s-maj=8.6km s-min=5.0km az=2.1*
*IDC **26** 20:16:36.1±0.6, 5395N×17072E, h0km, mb4.2/21, mb1 4.3/21, mb1mx4.3/26, mbtmp4.2/21, MS3.7/16, Ms1 3.7/16, ms1mx3.4/32, Error ellipse: s-maj=19.2km s-min=13.1km az=142.0*
*NEIC **26** 20:16:37.5±3.4, 5385N×17087E, h14km±21km, mb4.8/29, ML4.2(AEIC), Error ellipse: s-maj=9.0km s-min=5.6km az=179.0*
*MOS **26** 20:16:38.6±1.3, 5388N×17079E, h33km, mb4.7/28, Error ellipse: s-maj=11.8km s-min=8.0km az=106.2*
ISC 26 20:16:39.7±1.4, 5385N±005×17088E±005, h29km±10km, h29km±1.9km:pP-P, n361, σ1§15/149, mb4.6/67, MS3.9/25, 81C-99D, Near Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SMY	**Shemya**	**2.24**	**119**		P		**Pn**	**20 17 12.2**	**-2.5**
SMY					S		**Sn**	**20 17 40.1**	**-1.2**
AMKA	**Amchitka**	**5.70**	**112**		P		**Pn**	**20 17 59.9**	**-2.4**
AMKA					S		**Sn**	**20 19 02.9**	**-3.7**
PET	**Petropavlovsk**	**7.35**	**268**	*e*	P		**Pn**	**20 18 24.8**	**-0.1**
	35nm,0.6s								
PET	**Petropavlovsk**	**7.35**	**268**	*e*	P		**Pn**	**20 18 24.1**	**-0.9**
PET				*e*	S		**Sn**	**20 19 44.5**	**-2.8**
PET					smax				
	comp=E,123nm,0.7s								
PET					MLR		MLR		
	comp=Z,400nm,13.0s								
SKR	**Severo-Kuril's**	**9.59**	**257**	*e*	P		**Pn**	**20 18 48.9**	**-6.7**
SKR					pmax		pmax		
	comp=N,110nm,1.0s								
SKR					pmax		pmax		
	comp=Z,110nm,1.0s								
SKR					pmax		pmax		
	comp=E,60nm,0.7s								
SEY	**Seymchan**	**13.25**	**321**	⇑ *e*	P		**Pn**	**20 19 46.8**	**+1.2**
BILL	**Bilibino**	**14.40**	**353**	*e*	P		**Pn**	**20 20 01.3**	**0.0**
	comp=E,20nm,0.8s								
BILL	**Bilibino**	**14.40**	**353**	⇑	P		**Pn**	**20 20 02.0**	**+0.7**
BILL					pmax		pmax		
	comp=Z,7.0nm,1.1s								
BILL					MLR		MLR		
	comp=Z,200nm,15.0s								
TTA	**Tatalina**	**19.37**	**49**	*e*	P		**Pn**	**20 21 03.8**	**-0.2**
	comp=Z,55nm,1.4s								
TTA	**Tatalina**	**19.37**	**49**	*e*	P		**Pn**	**20 21 03.8**	**-0.2**
TTA					pmax		pmax		
	comp=Z,55nm,1.4s								
KDAK	**Kodiak Island**	**20.73**	**64**		P		**P**	**20 21 20.1**	**+2.6**
	comp=Z,16nm,1.1s,baz=253,slow=14,SNR=4.5								
ASAJ	**Asahikawa**	**20.83**	**254**		P		**P**	**20 21 19.9**	**+1.2**
ASAJ					pmax		pmax		
	comp=Z,18nm,0.8s								
ASAJ					MLR		MLR		
	comp=Z,125nm,19.2s								
ASAJ	**Asahikawa**	**20.83**	**254**		P		**P**	**20 21 19.9**	**+1.1**
	comp=Z,18nm,0.8s,baz=348,slow=9.5,SNR=3.7								
ASAJ					LR		LR	20 28 53.1	
	comp=Z,125nm,19.2s,MS3.3,baz=22,slow=36								
IMA2	**Indian Mountai**	**21.18**	**41**	*e*	P		**P**	**20 21 22.3**	**-0.1**
MCK	**McKinley**	**22.66**	**48**	*e*	P		**P**	**20 21 38.2**	**+0.1**
	comp=Z,14nm,0.9s,mb4.4								
MCK	**McKinley**	**22.66**	**48**	*e*	P		**P**	**20 21 38.2**	**+0.1**
MCK					pmax		pmax		
	comp=Z,14nm,0.9s,mb4.4								
HABR	**Khabarovsk**	**22.93**	**271**	*e*	P		**P**	**20 21 41.8**	**+0.7**
HABR				*e*	S		**S**	**20 25 49.3**	**+0.2**
HABR				*e*	SS		sS	20 26 05.8	+2.9
HABR				*e*	SS			20 26 22.7	
YAK	**Yakutsk**	**22.98**	**307**	*e*	P		**P**	**20 21 40.5**	**-1.0**
	comp=Z,27nm,0.8s,mb4.7								
YAK	**Yakutsk**	**22.98**	**307**	*e*	P		**P**	**20 21 39.9**	**-1.6**
YAK				*e*	*PP			20 21 47.4	
YAK				*e*				20 21 55.9	
YAK				*e*	S		**S**	**20 25 47.0**	**-2.7**
YAK					pmax		pmax		
	comp=Z,23nm,1.0s,mb4.6								
YAK					pmax		pmax		
	comp=N,5.0nm,1.2s								
YAK					pmax		pmax		
	comp=E,15nm,1.2s								
YAK					pmax		pmax		
	comp=Z,40nm,1.1s,mb4.8								
YAK					pmax		pmax		
	comp=N,18nm,1.3s								
YAK					pmax		pmax		
	comp=E,43nm,1.8s								
YAK					smax				
	comp=N,55nm,1.7s								
YAK					smax				
	comp=Z,62nm,2.6s								
YAK					smax				
	comp=E,145nm,4.1s								
YAK					MLR		MLR		
	comp=Z,97nm,8.0s								
YAK					MLR		MLR		
	comp=N,209nm,14.0s,MS3.9								
YAK					MLR		MLR		
	comp=E,177nm,14.0s,MS3.9								
COLA	**College**	**23.28**	**45**	*e*	P		**P**	**20 21 44.3**	**-0.3**
	comp=E,14nm,0.8s,mb4.5								
COLA	**College**	**23.28**	**45**	*e*	P		**P**	**20 21 44.3**	**-0.3**
COLA					pmax		pmax		
	comp=Z,14nm,0.8s,mb4.4								
KLR	**Kul'dur**	**24.54**	**275**	*e*	P		**P**	**20 21 53.4**	**-3.1**
KLR					pmax		pmax		
	comp=E,46nm,1.8s								
KLR					pmax		pmax		
	comp=Z,53nm,1.8s,mb4.8								
KLR					MLR		MLR		
	comp=Z,800nm,13.0s,MS4.4								
TIXI	**Tiksi**	**25.37**	**330**	*e*	P		**P**	**20 22 04.5**	**+0.7**
	comp=Z,14nm,0.8s,mb4.6								
TIXI	**Tiksi**	**25.37**	**330**	⇑ *e*	P		**P**	**20 22 05.2**	**+1.4**
TIXI					pmax		pmax		
	comp=Z,13nm,1.4s,mb4.3								
EGAK	**Eagle**	**26.12**	**46**	*e*	P		**P**	**20 22 08.7**	**-2.0**
	comp=Z,13nm,0.7s,mb4.6								
DAWY	**Dawson**	**26.89**	**48**	*e*	P		**P**	**20 22 19.8**	**+2.3**
MDJ	**Mudanjiang**	**28.14**	**268**		P		**P**	**20 22 25.5**	**-3.4**
MDJ					S		**S**	**20 27 10.0**	**-2.1**
MDJ					SCP		ScP	20 29 21.0	+0.1
MDJ					PCS		PcS	20 29 22.3	-2.0
MDJ					AMB		AMB		
	comp=Z,39nm,3.0s								
MDJ					LR		LR		
	comp=N,150nm,17.8s								
MDJ					LR		LR		
	comp=E,113nm,23.0s								
MDJ					LR		LR		
	comp=Z,198nm,17.5s,MS3.8								
MAT	**Matsushiro**	**28.45**	**246**		P		**P**	**20 22 33.3**	**+1.5**
MJAR	**Matsushiro Arr**	**28.45**	**246**		P		**P**	**20 22 33.9**	**+2.1**
MJAR					pmax		pmax		
	comp=Z,2.0nm,0.7s								
MJAR					MLR		MLR		
	comp=Z,137nm,20.8s								
MJAR	**Matsushiro Arr**	**28.45**	**246**		P		**P**	**20 22 33.9**	**+2.0**
	comp=Z,1.9nm,0.7s,mb3.9,baz=358,slow=16,SNR=5.6								
MJAR					LR		LR	20 33 33.4	
	comp=Z,137nm,20.8s,MS3.5,baz=40,slow=36								
INK	**Inuvik**	**29.28**	**39**	*e*	P		**P**	**20 22 39.9**	**+1.1**
	comp=Z,117nm,0.6s,mb5.8								
INK	**Inuvik**	**29.28**	**39**		P		**P**	**20 22 40.6**	**+1.8**
INK					pmax		pmax		
	comp=Z,1.0nm,0.5s								
INK	**Inuvik**	**29.28**	**39**		P		**P**	**20 22 40.6**	**+1.8**
	comp=Z,1.0nm,0.5s,mb3.8,baz=253,slow=4.2,SNR=4.5								
CN2	**Changchun**	**31.05**	**270**	*e*	P		**P**	**20 22 50.5**	**-4.3**
CN2				*e*	S		**S**	**20 27 52.0**	**-5.9**
CN2					LR		LR		
	comp=N,200nm,12.0s,MS4.2								
CN2					LR		LR		
	comp=E,200nm,12.0s,MS4.2								
CN2					LR		LR		
	comp=Z,200nm,15.0s,MS3.9								
BOD	**Bodaibo**	**31.37**	**301**	*e*	P		**P**	**20 22 57.0**	**-0.5**
BOD				*e*			pP	20 23 05.8	-0.2
BOD					pmax		pmax		
	comp=Z,13nm,0.8s,mb4.8								
BOD					pmax		pmax		
	comp=Z,18nm,0.7s,mb5.0								
KSRS	**Korea Array**	**33.60**	**258**		P		**P**	**20 23 18.5**	**+1.3**
	comp=Z,2.1nm,0.7s,mb4.2,baz=44,slow=8.8,SNR=11								
KSRS					LR		LR	20 36 55.6	
	comp=Z,57nm,18.4s,MS3.3,baz=241,slow=36								
BBB	**Bella Bella**	**35.75**	**67**		LR		LR	20 38 34.7	
	comp=Z,120nm,18.1s,MS3.7,baz=315,slow=37								
YKA	**Yellowknife Ar**	**38.10**	**46**		P		**P**	**20 23 55.3**	**-0.1**
YKA	**Yellowknife Ar**	**38.10**	**46**		P		**P**	**20 23 55.3**	**-0.1**
YKA					pmax		pmax		
	comp=Z,1.0nm,0.7s								
YKA	**Yellowknife Ar**	**38.10**	**46**		P		**P**	**20 23 55.3**	**-0.1**
	comp=Z,1.1nm,0.7s,mb3.7,baz=292,slow=8.1,SNR=9.2								
BJI	**Beijing**	**38.83**	**272**		P		**P**	**20 23 58.0**	**-3.8**
BJI					S		**S**	**20 29 59.8**	**+2.3**
BJI					AMB		AMB		
	comp=Z,19nm,0.7s,mb4.9								
BJI					AMB		AMB		
	comp=Z,70nm,5.0s								
BJI					LR		LR		
	comp=N,88nm,14.7s,MS4.1								
BJI					LR		LR		
	comp=E,189nm,14.9s,MS4.1								
BJI					LR		LR		
	comp=Z,229nm,23.6s								
TLY	**Talaya**	**39.36**	**295**	*e*	P		**P**	**20 24 06.2**	**+0.1**
TLY					pmax		pmax		
	comp=Z,8.0nm,1.3s,mb4.3								
TLY					MLR		MLR		
	comp=Z,117nm,19.0s,MS3.7								
ULN	**Ulaanbaatar**	**39.51**	**288**	*e*	P		**P**	**20 24 08.0**	**+0.6**
	comp=Z,9.8nm,1.1s,mb4.5								
ULN	**Ulaanbaatar**	**39.51**	**288**	*e*	P		**P**	**20 24 08.0**	**+0.6**
ULN					pmax		pmax		
	comp=Z,10.0nm,1.1s,mb4.5								
SONM	**Songino Array**	**39.89**	**289**		P		**P**	**20 24 11.5**	**+0.9**
SONM					LR		LR	20 40 41.8	
SONM	**Songino Array**	**39.89**	**289**		P		**P**	**20 24 11.5**	**+0.9**
SONM					pmax		pmax		
	comp=Z,6.0nm,0.7s								
SONM					MLR		MLR		
	comp=Z,110nm,19.1s								
SONM	**Songino Array**	**39.89**	**289**		P		**P**	**20 24 11.5**	**+0.9**
	comp=Z,5.8nm,0.7s,mb4.4,baz=58,slow=8.7,SNR=58								
SONM					LR		LR	20 40 41.8	
	comp=Z,110nm,19.1s,MS3.7,baz=61,slow=36								
ZAK	**Zakamensk**	**40.23**	**294**	*e*	P		**P**	**20 24 12.9**	**-0.5**
ZAK					pmax		pmax		
	comp=Z,3.0nm,1.3s,mb3.9								
C04A	**Brinnon**	**40.89**	**71**	⇓	P		pP	20 24 27.6	+0.1
	baz=41								
A06A	**Chilliwack**	**40.95**	**68**	⇓	P		pP	20 24 28.7	+0.7
	baz=41								
B05A	**Bryant**	**41.08**	**69**	⇓	P		pP	20 24 29.4	+0.4
	baz=41								
A07A	**Ashnola River,**	**41.58**	**67**	⇑	P		pP	20 24 33.8	+0.6
	baz=42								
C05A	**Tolt Reservoir**	**41.62**	**70**	⇑	P		pP	20 24 33.9	+0.4
	baz=42								
B07A	**Winthrop**	**42.06**	**68**	⇓	P		pP	20 24 37.6	+0.5
	baz=42								
F04A	**Amboy**	**42.23**	**73**	⇓	P		pP	20 24 38.9	+0.4
	baz=42								
A08A	**Turner Farm, O**	**42.24**	**67**	⇓	P		pP	20 24 39.0	+0.4
	baz=42								
D06A	**Cle Elum**	**42.38**	**70**	⇓	P		pP	20 24 40.2	+0.5
	baz=43								
H03A	**Soap Creek Ran**	**42.48**	**75**	⇑	P		pP	20 24 40.8	+0.2
	baz=43								
C07A	**Waterville**	**42.53**	**69**	⇑	P		pP	20 24 40.9	0.0
	baz=43								
B08A	**Colville Reser**	**42.55**	**68**		P		pP	20 24 40.9	-0.2
	baz=43,SNR=5.5								
I02A	**Mapleton**	**42.58**	**76**	⇓	P		pP	20 24 41.5	+0.1
	baz=43								
A09A	**Danville**	**42.60**	**67**		P		pP	20 24 42.1	+0.6
	baz=43,SNR=5.1								
E06A	**Yakima**	**42.68**	**71**	⇓	P		pP	20 24 42.6	+0.4
	baz=43								
D07A	**Quincy**	**42.86**	**70**	⇓	P		pP	20 24 43.9	+0.2
	baz=43								
EDM	**Edmonton**	**43.01**	**59**	*e*	P		**P**	**20 24 36.9**	**+0.9**
C08A	**Higginbotham F**	**43.03**	**68**	⇓	P		pP	20 24 45.1	+0.1
	baz=43								
H04A	**Detroit Lake**	**43.10**	**74**	⇓	P		pP	20 24 45.7	0.0
	baz=43								
J02A	**Umpqua**	**43.11**	**76**	⇓	P		pP	20 24 45.6	-0.1
	baz=43								
B09A	**Rice**	**43.16**	**67**		P		pP	20 24 46.4	+0.4
	baz=43,SNR=6.0								
A10A	**Northport**	**43.16**	**66**	⇓	P		pP	20 24 46.6	+0.6
	baz=43								
E07A	**Sunnyside**	**43.30**	**70**	⇑	P		pP	20 24 47.4	+0.2
	baz=44								
C09A	**Chrisman Ranch**	**43.45**	**68**	⇑	P		pP	20 24 48.7	+0.3
	baz=44								
I04A	**Tendick Farm,**	**43.52**	**75**	⇓	P		pP	20 24 49.3	+0.3
	baz=44								
D08A	**Wollman Farm,**	**43.52**	**69**	⇑	P		pP	20 24 49.4	+0.3
	baz=44								
HAWA	**Hanford**	**43.58**	**70**	*e*	P		**P**	**20 24 40.7**	**-0.1**
	comp=Z,18nm,0.9s,mb4.8								
G06A	**Carlson Farm,**	**43.65**	**72**	⇓	P		pP	20 24 50.3	+0.2
	baz=44								
F07A	**Phinny Hill Vi**	**43.65**	**71**	⇑	P		pP	20 24 50.6	+0.6
	baz=44								
H05A	**Madras**	**43.67**	**73**	⇓	P		pP	20 24 50.4	+0.1
	baz=44								
E08A	**Dider Farm, El**	**43.78**	**70**	⇓	P		pP	20 24 51.4	+0.3
	baz=44								
A11A	**Hall Mountain,**	**43.82**	**65**	⇑	P		pP	20 24 52.2	+0.9
	baz=44								
L02A	**Cave Junction**	**43.85**	**78**	⇓	P		pP	20 24 51.1	-0.6
	baz=44								
D09A	**Jones Farm, Ri**	**43.86**	**69**	⇑	P		pP	20 24 52.0	+0.3
	baz=44								
HUMO	**Hull Mountain**	**43.94**	**77**	⇑	P		pP	20 24 52.6	+0.2
	baz=44								
J04A	**Umpqua Nationa**	**44.03**	**75**	⇑	P		pP	20 24 53.6	+0.4
	baz=44								
B11A	**Sandpoint**	**44.12**	**66**	⇓	P		pP	20 24 54.3	+0.5
	baz=44								
H06A	**Lindquist Farm**	**44.12**	**73**	⇑	P		pP	20 24 53.8	-0.1
	baz=44								
G07A	**Ruggs Ranch, H**	**44.18**	**72**	⇓	P		pP	20 24 54.4	+0.1
	baz=44								
E09A	**Wood Farm, Sta**	**44.28**	**69**	⇑	P		pP	20 24 55.0	-0.1
	baz=44								
J05A	**Fort Rock**	**44.50**	**75**	⇑	P		pP	20 24 56.5	-0.4
	baz=45,SNR=7.3								
G08A	**Pilot Rock**	**44.56**	**71**	⇑	P		pP	20 24 57.4	+0.1
	baz=45								
YBH	**Yreka Blue Hor**	**44.63**	**78**	⇓	P		pP	20 24 58.3	+0.3
	baz=45,SNR=5.9								
I06A	**Prineville**	**44.68**	**73**	⇑	P		pP	20 24 58.8	+0.5
	baz=45								
M02C	**Callahan**	**44.76**	**78**	⇑	P		pP	20 24 59.9	+0.8
	baz=45								
L04A	**Klamath Falls**	**44.82**	**76**	⇓	P		pP	20 25 00.3	+0.8
	baz=45								
N02C	**Big Bar**	**44.87**	**79**	⇑	P		pP	20 25 00.4	+0.6
	baz=45								
E10A	**Myers Farm, Un**	**44.87**	**69**	⇓	P		pP	20 25 00.6	+0.8
	baz=45								
D11A	**Klaveano Farm,**	**44.95**	**68**	⇓	P		pP	20 25 01.8	+1.3
	baz=45								
I07A	**Izee**	**44.99**	**73**	⇑	P		pP	20 25 01.2	+0.4
	baz=45								
K05A	**Summer Lake**	**45.05**	**75**	⇓	P		pP	20 25 01.5	+0.2
	baz=45,SNR=5.1								
WALA	**Waterton Lakes**	**45.07**	**64**	*e*	P		**P**	**20 24 51.8**	**-0.8**
	comp=Z,23nm,1.0s,mb5.0								
M04C	**Macdoel**	**45.10**	**77**	⇓	P		pP	20 25 02.2	+0.5
	baz=45								
F10A	**Beach Ranch, E**	**45.11**	**69**	⇑	P		pP	20 25 02.0	+0.3
	baz=45								
J06A	**Christmas Vall**	**45.14**	**74**		P		pP	20 25 02.9	+0.8
	baz=45,SNR=5.9								
B13A	**Whitefish**	**45.18**	**65**	⇓	P		pP	20 25 02.9	+0.6
	baz=45								
H08A	**Prairie City**	**45.20**	**72**	⇓	P		pP	20 25 02.7	+0.2
	baz=45								
G09A	**Cove**	**45.23**	**70**	⇓	P		pP	20 25 03.5	+0.8
	baz=45								
M03C	**McCloud**	**45.26**	**78**	⇓	P		pP	20 25 02.7	-0.3
	baz=45								
WDC	**Whiskeytown Da**	**45.47**	**79**	⇑	P		pP	20 25 04.2	-0.4
	baz=46								
L05A	**Lakeview**	**45.51**	**76**	⇓	P		pP	20 25 04.7	-0.3
	baz=46,SNR=5.9								
C13A	**Hot Springs**	**45.53**	**66**	⇓	P		pP	20 25 04.9	-0.2
	baz=46								
J07A	**Hines**	**45.55**	**74**	⇓	P		pP	20 25 06.0	+0.8
	baz=46								
O02C	**Red Bluff**	**45.58**	**79**	⇑	P		pP	20 25 05.6	0.0
	baz=46								
G10A	**Bishop Farm, J**	**45.59**	**70**		P		pP	20 25 05.7	+0.1
	baz=46,SNR=5.1								
I08A	**Drewsey**	**45.63**	**72**	⇓	P		pP	20 25 06.4	+0.5
	baz=46								
H09A	**Durkee**	**45.67**	**71**	⇑	P		pP	20 25 06.8	+0.6
	baz=46								
F11A	**Grangeville**	**45.76**	**69**	⇑	P		pP	20 25 07.3	+0.5
	baz=46								
M05C	**Lookout**	**45.77**	**77**	⇑	P		pP	20 25 06.8	-0.3
	baz=46								
MOD	**Modoc**	**45.91**	**76**	*e*	P		**P**	**20 25 00.0**	**+0.7**
	comp=Z,10nm,0.6s,mb4.9								
MOD	**Modoc**	**45.91**	**76**	⇑	P		pP	20 25 08.2	+0.1
	baz=46,SNR=6.9								
HATC	**Hat Creek Radi**	**45.94**	**78**	⇑	P		pP	20 25 08.3	-0.1
	baz=46								
D13A	**Huson**	**45.95**	**66**	⇓	P		pP	20 25 08.5	+0.1
	baz=46								
GASB	**Alder Springs**	**45.97**	**80**	⇓	P		pP	20 25 08.1	-0.5
	baz=46								
G11A	**Walters Elk Ra**	**45.99**	**69**		P		pP	20 25 08.6	-0.2
	baz=46,SNR=5.8								
K07A	**Rock Creek Ran**	**46.01**	**74**	⇓	P		pP	20 25 09.4	+0.5
	baz=46,SNR=9.0								
J08A	**Circle Bar Ran**	**46.03**	**73**	⇓	P		pP	20 25 09.1	0.0
	baz=46								
I09A	**Lost Marbles R**	**46.06**	**72**		P		pP	20 25 09.6	+0.3
	baz=46,SNR=5.1								
H10A	**Noah's Angus R**	**46.23**	**71**		P		pP	20 25 10.7	0.0
	baz=46,SNR=5.7								
F12A	**Elk City**	**46.33**	**68**		P		pP	20 25 11.1	-0.3
	baz=47,SNR=6.7								
L07A	**Adell**	**46.39**	**75**	⇓	P		pP	20 25 11.3	-0.6
	baz=46,SNR=6.6								
K08A	**Mann Creek Ran**	**46.42**	**74**	⇓	P		pP	20 25 12.2	0.0
	baz=47								
J09A	**Fry Pan Ranch,**	**46.44**	**73**		P		pP	20 25 12.8	+0.4
	baz=47,SNR=7.0								
D14A	**Greenough**	**46.48**	**66**	⇓	P		pP	20 25 12.7	+0.2
	baz=47								
O04C	**Chester**	**46.48**	**78**	⇓	P		pP	20 25 13.0	+0.4
	baz=47								
ELFS	**Eagle Lake Fie**	**46.49**	**77**	⇑	P		pP	20 25 12.9	+0.2
	baz=47								
E13A	**Victor**	**46.50**	**67**	⇑	P		pP	20 25 13.7	+1.0
	baz=47								
H11A	**Donnelly**	**46.57**	**70**	⇓	P		pP	20 25 13.6	+0.3
	baz=47								
MNRC	**McLaughlin Nat**	**46.63**	**80**	⇑	P		pP	20 25 14.8	+0.9
	baz=47								
ORV	**Oroville**	**46.74**	**79**		P		pP	20 25 14.4	-0.3
	baz=47,SNR=5.4								
F13A	**Darby**	**46.82**	**68**	⇑	P		pP	20 25 15.3	+0.1
	baz=47								
L08A	**Fields**	**46.84**	**74**		P		pP	20 25 16.4	+0.9
	baz=47,SNR=6.1								
K09A	**Rome**	**46.87**	**73**		P		pP	20 25 16.1	+0.4
	baz=47,SNR=6.1								
M07A	**Soldier Meadow**	**46.89**	**76**	⇑	P		pP	20 25 16.3	+0.4
	baz=47,SNR=9.2								
E14A	**Clinton**	**46.89**	**67**	⇓	P		pP	20 25 16.0	+0.2
	baz=47								
N06A	**Buffalo Meadow**	**46.92**	**77**		P		pP	20 25 16.8	+0.7
	baz=47,SNR=6.7								
D15A	**Lincoln**	**47.03**	**65**	⇓	P		pP	20 25 17.2	+0.3
	baz=47								
I11A	**Placerville**	**47.10**	**71**	⇑	P		pP	20 25 17.4	0.0
	baz=47								
BEKR	**Beckwourth**	**47.20**	**78**	⇑	P		pP	20 25 18.5	+0.2
	baz=47								
M08A	**Happy Creek Ra**	**47.30**	**75**	⇓	P		pP	20 25 19.4	+0.4
	baz=48,SNR=5.6								
K10A	**MacKenzie Ranc**	**47.30**	**73**		P		pP	20 25 19.7	+0.6
	baz=48,SNR=5.7								
O06A	**Flanigan**	**47.31**	**77**	⇑	P		pP	20 25 19.5	+0.4
	baz=47								
H12A	**Diamond D Ranc**	**47.31**	**69**	⇑	P		pP	20 25 19.2	+0.1
	baz=48								
G13A	**Cobalt**	**47.31**	**68**		P		pP	20 25 18.6	-0.5
	baz=48,SNR=7.7								
L09A	**Wilkinson Ranc**	**47.34**	**74**	⇑	P		pP	20 25 20.0	+0.7
	baz=48								
E15A	**Deer Lodge**	**47.35**	**66**		P		pP	20 25 19.1	-0.2
	baz=48,SNR=5.7								
N07B	**Gerlach**	**47.40**	**76**	⇓	P		pP	20 25 19.8	0.0
	baz=48,SNR=5.2								
P05C	**Yuba Gap, Truc**	**47.42**	**79**	⇓	P		pP	20 25 19.8	-0.3
	baz=48								
MFID	**Camas Ranch**	**47.48**	**71**	⇑	P		pP	20 25 20.6	+0.1
	baz=48								
H13A	**Challis**	**47.63**	**69**	⇓	P		pP	20 25 21.7	+0.1
	baz=48								
ZALV	**Zalesovo Beam**	**47.63**	**307**		P		**P**	**20 25 11.7**	**-1.0**
	comp=Z,1.2nm,0.6s,mb4.1,baz=38,slow=5.7,SNR=6.6								
ZALV					LR		LR	20 45 32.3	
	comp=Z,63nm,19.7s,MS3.6,baz=80,slow=37								
G14A	**Jackson**	**47.64**	**68**	⇑	P		pP	20 25 21.7	0.0
	baz=48

baz=49
O09A Fish Creek Ran 48.82 75 ⇑P pP 20 25 31.7 +0.8
baz=49
GTA Gaotai 48.83 283 ⇑P **P 20 25 22.8 +0.7**
GTA AP pP 20 25 27.5 -3.4
GTA XP sP 20 25 29.5 -4.9
GTA PCP PcP 20 26 47.5 +1.1
GTA PP PP 20 27 16.0 +0.8
GTA S **S 20 32 26.5 +3.2**
GTA XS sS 20 32 33.3 -4.5
GTA SS SS 20 35 51.8 -1.7
GTA AMB AMB
comp=Z,11nm,0.9s,mb4.9
GTA AMB AMB
comp=Z,109nm,4.9s
GTA LR LR
comp=N,144nm,14.8s,MS4.2
GTA LR LR
comp=E,153nm,18.2s,MS4.2
GTA LR LR
comp=Z,166nm,15.2s,MS4.1
S05C Merced 48.90 80 ⇓P pP 20 25 32.2 +0.7
baz=49
QLMT Earthquake Lak 49.01 67 *e*P **P 20 25 22.1 -1.3**
O10A Cortez Mining, 49.14 75 ⇓P pP 20 25 34.2 +0.9
baz=49
R07C Lee Vining 49.14 79 ⇑P pP 20 25 34.1 +0.8
baz=49
P09A Austin 49.26 76 ⇓P pP 20 25 34.9 +0.6
baz=49
Q08A Gabbs 49.27 77 P pP 20 25 35.1 +0.8
baz=49,SNR=6.1
V03C Hunter Liggett 49.27 82 ⇓P pP 20 25 35.0 +0.6
baz=49
U04C Hernandez Rese 49.30 82 ⇑P pP 20 25 34.9 +0.3
baz=49
NVAR Mina Array Bea 49.34 78 P **P 20 25 29.4 +3.3**
comp=Z,1.2nm,0.6s,mb4.1,baz=310,slow=6.7,SNR=8.2
L13A Double Diamond 49.40 71 ⇓P pP 20 25 35.8 +0.5
baz=50
T06C Millerton Lake 49.49 80 ⇓P pP 20 25 36.2 +0.2
baz=50
KCC Kaiser Creek 49.50 80 P pP 20 25 36.8 +0.6
baz=50,SNR=6.2
K14A Jones Ranch, D 49.53 70 ⇑P pP 20 25 37.3 +1.0
baz=50
N12A Clover Valley, 49.60 73 ⇓P pP 20 25 37.6 +0.8
baz=50
O11A Cowboy Ranch, 49.73 74 ⇓P pP 20 25 38.6 +0.8
baz=50
IMW Indian Meadow 49.89 68 *e*P **P 20 25 30.3 +0.2**
comp=Z,7.2nm,0.9s,mb4.7
FLWY Flagg Ranch 49.90 67 *e*P **P 20 25 31.6 +1.4**
comp=Z,15nm,0.6s,mb5.2
S08C White Mtn Res 50.05 79 ⇓P pP 20 25 41.1 +0.8
baz=50,SNR=5.2
N13A Wendover, West 50.07 73 ⇓P pP 20 25 41.1 +0.7
baz=50
HELL Mitchell Peak 50.12 80 P pP 20 25 40.9 +0.1
baz=50,SNR=5.5
O12A Currie 50.15 74 ⇑P pP 20 25 42.0 +1.0
baz=50
Q10A Clear Creek Ra 50.18 76 ⇑P pP 20 25 41.6 +0.4
baz=50,SNR=7.4
R09A Tonopah 50.19 77 P pP 20 25 41.5 +0.2
baz=50,SNR=9.0
S09A Goldfield 50.45 78 ⇑P pP 20 25 43.9 +0.6
baz=51
Q11A Duckwater 50.59 76 P pP 20 25 45.0 +0.6
baz=51,SNR=6.5
P12A McGill 50.59 75 P pP 20 25 44.9 +0.5
baz=51,SNR=6.0
R10A Warm Springs 50.60 77 P pP 20 25 45.2 +0.8
baz=51,SNR=5.2
VES Vestal, Richgr 50.66 81 ⇓P pP 20 25 44.9 0.0
baz=51
S10A Tonopah Range, 50.68 77 P pP 20 25 45.6 +0.5
baz=51,SNR=7.7
GRAC Grapevine Rang 50.86 79 ⇓P pP 20 25 47.2 +0.7
baz=51
PKM Peak Mountain 50.88 82 ⇑P pP 20 25 47.1 +0.5
baz=51
Q12A Willow Creek R 50.93 75 ⇓P pP 20 25 47.5 +0.6
baz=51
R11A Troy Canyon, C 50.97 76 P pP 20 25 47.4 +0.2
baz=51,SNR=9.0
P13A Bates Ranch, G 51.12 74 ⇑P pP 20 25 49.0 +0.7
baz=51
S11A Rachel 51.36 77 ⇓P pP 20 25 51.0 +0.8
baz=52
MPMC Manual Prospec 51.44 80 ⇓P pP 20 25 51.3 +0.5
baz=52
Q13A Wheeler Ranch, 51.45 74 P pP 20 25 52.0 +1.1
baz=52,SNR=6.9
FURC Furnace Creek, 51.52 79 P pP 20 25 52.3 +0.9
baz=52,SNR=6.0
TPNV Topopah Spring 51.54 78 *e*P **P 20 25 46.3 +3.6**
comp=Z,9.8nm,0.8s,mb4.8
TPNV *e* 20 25 52.4
TPNV Topopah Spring 51.54 78 *e*P **P 20 25 46.3 +3.6**
TPNV *e* 20 25 52.4
TPNV pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
OSI Osito Adit 51.72 82 ⇓P pP 20 25 53.7 +0.7
baz=52
LRMC Laurel Mountai 51.73 80 ⇓P pP 20 25 53.6 +0.6
baz=52
U10A Ash Meadows, A 51.86 78 ⇓P pP 20 25 55.3 +1.4
baz=52
BLG Laguna Peak 51.88 82 ⇑P pP 20 25 55.1 +1.0
baz=52
S12A Delamar Landin 51.90 76 P pP 20 25 55.4 +1.2
baz=52,SNR=6.7
T11A Corn Creek, Al 51.94 77 P pP 20 25 55.2 +0.7
baz=52,SNR=11
EDW2 Edwards Air Fo 51.97 81 ⇓P pP 20 25 55.0 +0.2
baz=52
SHOC Shoshone 52.25 79 ⇓P pP 20 25 57.6 +0.7
baz=52
GSC Goldstone 52.36 80 P **P 20 25 48.6 -0.2**
comp=Z,12nm,0.9s,mb4.8
GSC *e* pP 20 25 58.0 +0.2
GSC Goldstone 52.36 80 P **P 20 25 48.6 -0.2**
GSC *e* pP 20 25 58.0 +0.3
GSC pmax pmax
comp=Z,12nm,0.9s,mb4.8
GSC Goldstone 52.36 80 P pP 20 25 58.1 +0.4
baz=52,SNR=5.3
S13A Holt Ranch, En 52.48 76 P pP 20 25 59.4 +0.8
baz=53,SNR=6.6
KURK Kurchatov 52.63 307 *e*P **P 20 25 49.4 -1.2**
comp=Z,28nm,1.0s,mb5.1
KURK Kurchatov 52.63 307 *e*P **P 20 25 49.4 -1.2**
KURK pmax pmax
comp=Z,28nm,1.0s,mb5.2
WMQ Urumqi 52.65 295 *e*P **P 20 25 51.5 +0.7**
WMQ AP pP 20 26 00.0 +0.3
WMQ XP sP 20 26 04.0 +0.8
WMQ AMB AMB
comp=Z,12nm,0.8s,mb4.9
WMQ AMB AMB
comp=Z,131nm,5.2s
WMQ LR LR
comp=N,655nm,20.8s,MS4.8
WMQ LR LR
comp=E,431nm,18.6s,MS4.8
WMQ LR LR
comp=Z,228nm,20.8s,MS4.2
TUQ Turquoise Mtn. 52.78 79 ⇑P pP 20 26 01.6 +0.8
baz=53
V11A Goodsprings 52.79 78 ⇑P pP 20 26 01.9 +1.0
baz=53
T13A Saint George 52.85 76 ⇑P pP 20 26 02.4 +1.1
baz=53
U12A Valley of Fire 52.89 77 ⇓P pP 20 26 02.7 +1.1
baz=53
HEC Hector,Ludlow 52.97 80 ⇑P pP 20 26 02.6 +0.4
baz=53
U13A Pakoon Wash 53.23 77 P pP 20 26 05.2 +1.1
baz=53,SNR=8.2
T14A Hurricane 53.29 76 ⇑P pP 20 26 05.6 +1.1
baz=53
GMRC Granite Mounta 53.40 79 ⇓P pP 20 26 05.6 +0.2
baz=54
ULM Lac du Bonnet 53.41 53 P **P 20 25 55.9 -0.4**
ULM LR LR 20 49 50.6
ULM Lac du Bonnet 53.41 53 P **P 20 25 55.9 -0.4**
comp=Z,1.4nm,0.6s,mb4.0,baz=288,slow=3.2,SNR=2.7
ULM LR LR 20 49 50.6
comp=Z,61nm,19.2s,MS3.7,baz=266,slow=37
RSSD Black Hills 53.46 63 *e*P **P 20 25 56.5 -0.2**
comp=Z,6.3nm,0.6s,mb4.7
RSSD *e* pP 20 26 05.8 +0.1
RSSD Black Hills 53.46 63 *e*P **P 20 25 56.6 -0.2**
RSSD *e* pP 20 26 05.8 +0.1
RSSD pmax pmax
comp=Z,6.0nm,0.6s,mb4.7
MK31 Makanchi Array 53.46 301 *e*P **P 20 25 55.6 -1.2**
MKAR Makanchi Array 53.46 301 P **P 20 25 55.7 -1.1**
MKAR pmax pmax
comp=Z,2.0nm,0.4s
MKAR Makanchi Array 53.46 301 P **P 20 25 55.7 -1.1**
comp=Z,2.3nm,0.4s,mb4.4,baz=54,slow=6.7,SNR=24
V13A Grand Canyon W 53.62 77 P pP 20 26 07.9 +0.9
baz=54,SNR=5.9
U14A Mt Trumbull 53.68 76 ⇓P pP 20 26 08.6 +1.1
baz=54
T15A Red Dirt Ranch 53.72 75 ⇑P pP 20 26 08.5 +0.8
baz=54
BELC Belle Mtn. 53.75 80 ⇑P pP 20 26 08.0 +0.1
baz=54
GYA Guiyang 53.98 266 *e*P **P 20 25 57.5 -3.3**
GYA AMB AMB
comp=Z,10.0nm,1.0s,mb4.7
IRM Iron Mountain 54.13 80 ⇑P pP 20 26 11.1 +0.3
baz=54
W13A Hualapai Mount 54.20 78 ⇓P pP 20 26 11.6 +0.3
baz=54
T16A Glen Canyon Da 54.25 75 ⇓P pP 20 26 12.0 +0.4
baz=54
V14A Boquillas Ranc 54.28 77 ⇓P pP 20 26 12.4 +0.6
baz=54,SNR=7.9
BC3 Big Chuckw Mtn 54.32 80 ⇑P pP 20 26 12.3 +0.2
baz=54
ARCES ARCESS Array B 54.36 346 P **P 20 26 02.8 -0.2**
ARCES pmax pmax
comp=Z,3.0nm,0.9s
ARCES MLR MLR
comp=Z,46nm,18.3s
ARCES ARCESS Array B 54.36 346 P **P 20 26 02.8 -0.2**
comp=Z,3.4nm,0.9s,mb4.3,baz=22,slow=9.9,SNR=5.1
ARCES LR LR 20 53 14.8
comp=Z,46nm,18.3s,MS3.6,baz=186,slow=40
W14A Seligman 54.59 77 P pP 20 26 15.1 +1.0
baz=55,SNR=5.8
X13A Yucca 54.59 78 ⇑P pP 20 26 14.6 +0.5
baz=55
PDMCI Parker Dam,Lak 54.62 79 ⇓P pP 20 26 15.5 +1.2
baz=55
PV10 Paradox Valley 54.67 72 P **P 20 26 09.5 +3.7**
V15A Kaibab Nationa 54.68 76 ⇑P pP 20 26 16.1 +1.3
baz=55
Y12C Blythe 54.79 79 ⇑P pP 20 26 15.9 +0.4
baz=55
BRVK Borovoye 54.79 313 *e*P **P 20 26 06.2 -0.1**
comp=Z,9.4nm,0.8s,mb4.9
BRVK Borovoye 54.79 313 *e*P **P 20 26 06.2 -0.2**
BRVK pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
GLA Glamis 55.11 80 ⇓P pP 20 26 18.2 +0.3
baz=55
Y13A Salome 55.15 79 ⇑P pP 20 26 18.7 +0.6
baz=55
X14A Yava 55.23 78 P pP 20 26 20.0 +1.3
baz=55,SNR=5.9
Y14A Wickenburg 55.54 78 ⇑P pP 20 26 21.5 +0.5
baz=56
X15A Humboldt 55.59 77 ⇓P pP 20 26 22.2 +0.8
baz=56
Y15A Casa Rosa Ranc 55.92 78 ⇓P pP 20 26 24.7 +1.0
baz=56
X16A Lo Mia Camp, P 56.10 77 P pP 20 26 26.6 +1.7
baz=56,SNR=5.5
Y16A Circle Bar Ran 56.47 77 ⇓P pP 20 26 28.5 +0.8
baz=57
115A Sonoran Desert 56.88 79 P pP 20 26 32.0 +1.4
baz=57,SNR=5.9
Z16A Peralta Trail, 56.88 78 ⇓P pP 20 26 31.5 +0.9
baz=57
Y17A Roosevelt 56.96 77 P pP 20 26 32.1 +1.0
baz=57,SNR=6.3
ARU Arti 56.98 322 *e*P **P 20 26 21.6 -0.5**
comp=Z,20nm,1.4s,mb5.0
ARU Arti 56.98 322 *d*/*P* **P 20 26 21.1 -0.9**
ARU *e* 20 28 23.9
ARU *e*S **S 20 34 13.9 -0.1**
ARU *e*SS SS 20 37 58.1 -3.7
ARU pmax pmax
comp=Z,18nm,2.5s,mb4.7
EYMN Ely 57.08 53 *e*P **P 20 26 22.4 -0.4**
comp=Z,14nm,0.7s,mb5.1
EYMN *e* pP 20 26 30.9 -0.9
SDCO Great Sand Dun 57.10 70 *e*P **P 20 26 23.6 +0.6**
comp=Z,7.6nm,1.1s,mb4.6
SDCO *e* pP 20 26 32.8 +0.7
116A Eloy 57.28 78 ⇓P pP 20 26 34.5 +1.1
baz=57
KMI Kunming 57.31 269 P **P 20 26 25.0 +0.3**
KMI AP pP 20 26 29.8 -3.9
KMI XP sP 20 26 31.8 -5.3
KMI PP PP 20 28 30.5 -1.4
KMI S **S 20 34 16.5 -2.5**
KMI SS SS 20 38 08.3 +0.1
KMI SSS 20 40 15.8
KMI AMB AMB
comp=Z,10.0nm,0.8s,mb4.9
KMI LR LR
comp=N,132nm,12.6s,MS4.2
KMI LR LR
comp=E,75nm,15.9s,MS4.2
KMI LR LR
comp=Z,104nm,16.8s,MS4.0
X19A St. Johns 57.33 75 ⇓P pP 20 26 34.7 +0.9
baz=58
Y18A Canyon Day Jun 57.37 76 ⇓P pP 20 26 35.6 +1.5
baz=58
Y19A Nutrioso 57.69 75 ⇑P pP 20 26 38.0 +1.7
baz=58
216A Three Points, 57.83 79 ⇓P pP 20 26 38.1 +0.8
baz=58
Z19A T-Link Ranch, 58.16 76 ⇓P pP 20 26 40.3 +0.7
baz=58
118A Homack Ranch, 58.23 77 P pP 20 26 41.0 +0.9
baz=58,SNR=7.9
119A Ashpeak Ranch, 58.52 76 ⇓P pP 20 26 43.1 +1.0
baz=59
ANMO Albuquerque 58.56 73 LR LR 20 51 29.7
comp=Z,76nm,21.8s,MS3.8,baz=13,slow=36
218A Dragoon 58.67 78 P pP 20 26 44.3 +1.1
baz=59,SNR=6.5
BNM Barren Site 59.05 73 P **P 20 26 36.8 0.0**
BNM *e* pP 20 26 47.2 +1.4
318A Bisbee 59.10 78 ⇓P pP 20 26 47.2 +1.1
baz=59
219A White Tail Can 59.11 77 P pP 20 26 47.2 +1.0
baz=59,SNR=9.1
JOF Joensuu 59.35 340 *e*p **P 20 26 37.4 -1.0**
comp=Z,1.5nm,0.4s,mb4.4
319A Douglas 59.55 78 ⇓P pP 20 26 50.3 +0.9
baz=60
TKM2 Tokmak 2 59.57 302 P **P 20 26 38.3 -2.0**
comp=Z,3.0nm,0.8s,mb4.4
TKM2 Tokmak 2 59.57 302 P **P 20 26 38.3 -1.9**
TKM2 pmax pmax
comp=Z,3.0nm,0.8s,mb4.4
AAK Ala-Archa 60.33 302 *e*P **P 20 26 44.1 -1.4**
comp=Z,6.7nm,1.0s,mb4.6
AAK Ala-Archa 60.33 302 ⇑*e*P **P 20 26 44.7 -0.8**
AAK pmax pmax
comp=Z,8.0nm,1.2s,mb4.6
EKS2 Erkin-Say 60.67 303 *e*P **P 20 26 47.6 -0.1**
comp=Z,5.9nm,0.9s,mb4.7
LSA Lhasa 60.72 281 P **P 20 26 49.3 +0.9**
LSA Lhasa 60.72 281 *e*P **P 20 26 49.9 +1.5**
comp=Z,6.0nm,0.8s,mb4.8
LSA Lhasa 60.72 281 *e*P **P 20 26 49.9 +1.5**
LSA pmax pmax
comp=Z,6.0nm,0.8s,mb4.8
AML Almayashu 61.10 303 *e*P **P 20 26 50.6 -0.1**
comp=Z,3.6nm,0.8s,mb4.5
FINES FINESS Array B 61.72 342 P **P 20 26 54.1 -0.5**
FINES pmax pmax
comp=Z,2.0nm,0.7s
FINES MLR MLR
comp=Z,68nm,18.3s
FINES FINESS Array B 61.72 342 P **P 20 26 54.1 -0.5**
comp=Z,2.3nm,0.7s,mb4.4,baz=28,slow=9.5,SNR=7.5
FINES LR LR 20 56 10.7
comp=Z,68nm,18.3s,MS3.8,baz=38,slow=39
HDIL Hopedale 63.60 57 *e*P **P 20 27 15.7 +8.2**
HNR Honiara 63.72 192 LR LR 20 54 14.9
comp=Z,107nm,19.4s,MS4.0,baz=359,slow=35
NB2 NORSAR Subarra 64.32 349 P **P 20 27 11.7 -0.2**
comp=Z,1.1nm,0.6s,mb4.1,baz=14,slow=6.9
NOA NORSAR Array B 64.32 349 P **P 20 27 11.8 -0.1**
NOA LR LR 21 00 24.2
NOA NORSAR Array B 64.32 349 P **P 20 27 11.8 -0.1**
NOA pmax pmax
comp=Z,1.0nm,0.5s
NOA MLR MLR
comp=Z,54nm,18.2s
NOA NORSAR Array B 64.32 349 P **P 20 27 11.8 -0.1**
comp=Z,1.0nm,0.5s,mb4.1,baz=13,slow=6.6,SNR=4.6
NOA LR LR 21 00 24.2
comp=Z,54nm,18.2s,MS3.8,baz=95,slow=41
GUN Gumba 65.11 284 *e*P **P 20 27 17.8 +0.2**
comp=Z,21nm,0.8s,mb5.2
KKN Kakani 65.55 284 *e*P **P 20 27 20.6 +0.2**
comp=Z,15nm,0.9s,mb5.0
PKI Pulchoki 65.64 284 *e*P **P 20 27 21.1 +0.1**
comp=Z,5.1nm,0.5s,mb4.8
PKIN Phulchoki 65.64 284 *e*P **P 20 27 21.0 0.0**
comp=Z,13nm,0.8s,mb5.0
GKN Gorkha 65.76 285 *e*P **P 20 27 21.5 -0.2**
comp=Z,11nm,0.6s,mb5.1
DMN Daman 65.79 284 *e*P **P 20 27 22.2 +0.3**
comp=Z,8.7nm,0.8s,mb4.9
DANN Dangsing 66.00 286 *e*P **P 20 27 23.4 +0.1**
comp=Z,18nm,0.8s,mb5.2
KOLN Koldanda 66.53 285 *e*P **P 20 27 26.2 -0.5**
comp=Z,13nm,0.8s,mb5.0
PLAL Pickwick Lake 68.50 60 *e*P **P 20 27 37.9 -1.2**
comp=Z,11nm,0.7s,mb5.0
PLAL *e* pP 20 27 47.0 -1.2
KBL Kabul 69.25 300 *e*P **P 20 27 42.0 -1.7**
comp=Z,7.1nm,0.9s,mb4.6
KBL *e* pP 20 27 51.4 -1.4
LRAL Lakeview Retre 70.58 61 *e*P **P 20 27 52.2 +0.3**
comp=Z,6.3nm,0.7s,mb4.7
LRAL *e* pP 20 27 59.3 -1.7
AKASG Malin Array Be 70.96 335 P **P 20 27 54.1 +0.2**
AKASG pmax pmax
comp=Z,1.0nm,0.4s
AKASG MLR MLR
comp=Z,79nm,18.3s
AKASG Malin Array Be 70.96 335 P **P 20 27 54.0 +0.1**
comp=Z,0.6nm,0.4s,mb3.9,baz=25,slow=6.0,SNR=6.5
AKASG LR LR 21 02 38.3
comp=Z,79nm,18.3s,MS4.0,baz=20,slow=39
KWP Kalwaria 73.46 339 ⇓P **P 20 28 10.1 +1.2**
KWP Kalwaria 73.46 339 ⇓*P* **P 20 28 10.1 +1.2**
CLL Collm 73.59 346 *P* **P 20 28 19.8 +10**
UPC Upice 73.89 344 *e*PCP PcP 20 28 26.0 -0.7
DPC Dobruska-Polom 73.99 343 *e*PCP PcP 20 28 24.4 -2.8
PRU Pruhonice 74.63 344 *e*PCP PcP 20 28 30.0 +0.1
NKC Novy Kostel 74.71 346 *e*PCP PcP 20 28 30.2 -0.1
BURAR Bucovina Array 74.80 337 ⇑*P* **P 20 28 17.7 +1.0**
KHC Kasperske Hory 75.62 345 *e*P **P 20 28 22.5 +1.1**
KHC *e*x x 20 28 33.2
GERES GERESS Array B 75.88 345 P **P 20 28 23.8 +0.9**
comp=Z,0.4nm,0.4s,mb3.7,baz=33,slow=5.1,SNR=6.3
GERES LR LR 21 03 35.8
comp=Z,43nm,18.0s,MS3.8,baz=60,slow=37
MLR Muntele Rosu 76.62 335 ⇓P **P 20 28 31.7 +4.6**
MLR Muntele Rosu 76.62 335 ⇓*P* **P 20 28 31.7 +4.5**
CTA Charters Tower 76.63 204 P **P 20 28 28.7 +1.3**
CTA pmax pmax
comp=Z,3.0nm,0.7s
CTA Charters Tower 76.63 204 P **P 20 28 28.7 +1.4**
comp=Z,2.6nm,0.7s,mb4.3,baz=21,slow=8.6,SNR=4.7
BZS Buzias 77.50 338 ⇑*P* **P 20 28 33.3 +1.2**
PPT Papeete 78.81 142 LR LR 20 54 27.9
comp=Z,277nm,21.7s,MS4.5,baz=346,slow=29
WRA Warramunga Arr 79.94 215 P **P 20 28 46.1 +0.4**
WRA pmax pmax
comp=Z,3.0nm,0.9s
WRA Warramunga Arr 79.94 215 P **P 20 28 46.1 +0.4**
comp=Z,2.6nm,0.8s,mb4.2,baz=29,slow=6.1,SNR=15
LPL La Plagne 80.09 349 *e*P **P 20 28 46.3 0.0**
LPG La Plagne 80.11 349 *e*P **P 20 28 46.9 +0.5**
comp=Z,20nm,1.2s,mb4.6
LPG La Plagne 80.11 349 *e*P **P 20 28 46.9 +0.5**
comp=Z,10nm,1.2s,mb4.6
LPG La Plagne 80.11 349 *e*P **P 20 28 46.9 +0.5**
LPG pmax pmax
comp=Z,10.0nm,1.2s,mb4.6
FITZ Fitzroy Crossi 81.49 223 P **P 20 28 54.6 +0.6**
comp=Z,2.6nm,0.9s,mb4.2,baz=17,slow=5.2,SNR=4.8
FITZ LR LR 21 08 00.4
comp=Z,42nm,18.6s,MS3.8,baz=78,slow=38
ASAR Alice Springs 83.54 214 P **P 20 29 04.8 +0.2**
ASAR pmax pmax
comp=Z,2.0nm,0.7s
ASAR Alice Springs 83.54 214 P **P 20 29 04.8 +0.2**
comp=Z,2.1nm,0.7s,mb4.4,baz=11,slow=5.0,SNR=26
STKA Stephens Creek 89.06 205 P **P 20 29 33.1 +1.6**
comp=Z,4.8nm,1.1s,mb4.7,baz=322,slow=23,SNR=4.1
MAW Mawson 144.51 219 PKIKP PKPdf 20 36 10.7 -0.9
MAW pmax pmax
comp=Z,2.0nm,0.8s
MAW Mawson 144.51 219 PKP PKPdf 20 36 10.7 -0.8
comp=Z,2.2nm,0.8s,baz=94,slow=4.6,SNR=4.3

IDC 26 21:21:27.3±10.0, 1857S×17803W, h650km±147km, mb3.4/6, mb1 3.6/6, mb1mx3.2/16, mbtmp3.4/6, Error ellipse: s-maj=96.2km s-min=48.8km az=163.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**33.70**	**261**	*e*P	P	21 27 18.1	+0.3
3.3nm,0.3s							
CTA	**Charters Tower**	**33.70**	**261**	P	P	21 27 17.9	+0.1
5.8nm,0.4s,baz=90,slow=9.4,SNR=9.3							
STKA	**Stephens Creek**	**38.63**	**242**	*e*P	P	21 27 58.0	+0.1
4.6nm,1.2s							
STKA	**Stephens Creek**	**38.63**	**242**	P	P	21 27 58.1	+0.2
2.2nm,0.4s,baz=69,slow=8.7,SNR=7.2							
WB2	**Warramunga Arr**	**44.86**	**260**	*e*P	P	21 28 46.4	-0.2
WRA	**Warramunga Arr**	**44.87**	**260**	P	P	21 28 46.7	0.0
4.4nm,0.3s,baz=98,slow=6.9,SNR=261							
ASAR	**Alice Springs**	**44.97**	**255**	P	P	21 28 47.5	+0.2
5.5nm,0.5s,baz=87,slow=8.1,SNR=111							
KAKA	**Kakadu**	**47.94**	**269**	*e*P	P	21 29 09.9	+0.2
6.3nm,0.6s							
FITZ	**Fitzroy Crossi**	**53.28**	**261**	*e*P	P	21 29 48.4	+0.2
1.6nm,0.3s							
FITZ	**Fitzroy Crossi**	**53.28**	**261**	P	P	21 29 48.4	+0.2
1.0nm,0.3s,baz=125,slow=8.2,SNR=4.9							
TXAR	**Lajitas Array**	**86.04**	**57**	P	P	21 33 01.6	+0.2
0.8nm,0.7s,baz=231,slow=6.0,SNR=12							

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*ISCJB **26** 21:35:58.3±1.1, 11.19N±004×8742W±007, h10km, mb3.5/3, Error ellipse: s-maj=10.0km s-min=6.0km az=175.4*
*CASC **26** 21:36:01.4±1.9, 1121N×87.14W, h0km±6km, MD3.6, ML3.2*
*IDC **26** 21:36:02.0±1.5, 1238N×8594W, h0km, mb3.4/3, mb1 3.7/4, mb1mx3.5/19, mbtmp3.4/4, Error ellipse: s-maj=61.0km s-min=21.4km az=66.0*
ISC 26 21:35:59.4±1.6, 1124N±005×8738W±007, h10km±9km, n22, n0 88/27, mb3.5/3, 4C-6D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COPN	**Copaltepe**	**1.21**	**39**	⇓*e*P	**Pg**	**21 36 23.1**	**+0.4**
COPN				*e*S	**Sg**	**21 36 38.9**	**+0.4**
CSAN		**1.33**	**45**	⇓*e*P	**Pn**	**21 36 23.9**	**-0.2**
XAVN	**Gruta Xavier**	**1.37**	**49**	*e*P	**Pn**	**21 36 24.0**	**-0.6**
TICN	**Ticuantepe**	**1.38**	**55**	*e*P	**Pn**	**21 36 24.5**	**-0.2**
TISN	**Laguna Tiscapa**	**1.41**	**50**	⇑*e*P	**Pn**	**21 36 25.0**	**-0.2**
APYN	**Apoyeque**	**1.41**	**45**	⇓*e*P	**Pn**	**21 36 25.2**	**0.0**
MOMJ	**Momotombo**	**1.42**	**35**	⇑*e*P	**Pn**	**21 36 26.2**	**+0.8**
TEL3	**Telica 3**	**1.43**	**21**	⇓*e*P	**Pn**	**21 36 27.7**	**+2.3**
MGAN	**Managua**	**1.43**	**51**	⇓*e*P	**Pn**	**21 36 25.2**	**-0.2**
MGAN				*e*S	**Sb**	**21 36 44.1**	**-0.4**
MGAN				*i*		21 36 46.6	
comp=E,517nm,0.3s							
APON	**Apoyo**	**1.45**	**62**	*e*P	**Pn**	**21 36 24.3**	**-1.5**

APON				*e*S	**Sn**	**21 36 44.7**	**-0.2**
HUEN		**1.61**	**47⇑**	*e*P	**Pn**	**21 36 27.7**	**-0.2**
HUEN				*e*S	**Sn**	**21 36 49.9**	**+1.1**
CONN	**Concepcion**	**1.75**	**79⇓**	*e*P	**Pn**	**21 36 27.4**	**-2.4**
MADN	**Villa Maderas**	**1.82**	**84**	*e*P	**Pn**	**21 36 29.8**	**-1.0**
VCR	**Vista de Mar**	**2.04**	**123**	*e*P	**Pn**	**21 36 34.7**	**+0.9**
JTS	**JuntasAbangare**	**2.56**	**111**	Pn	**Pn**	**21 36 40.7**	**-0.4**
	comp=E,6.4nm,0.3s,baz=331,slow=14,SNR=15						
JTS				Sn	**Sn**	**21 37 12.2**	**-0.1**
	comp=E,2.4nm,0.3s,baz=270,slow=19,SNR=3.8						
JCR	**Jicaral**	**2.62**	**122**	*e*P	**Pn**	**21 36 41.5**	**-0.3**
JCR				*e*S	**Sn**	**21 37 14.8**	**+1.1**
LCR2	**La Lucha 2**	**3.64**	**114**	*e*P	**Pn**	**21 36 57.1**	**+1.2**
URSC	**Urasca**	**3.81**	**111⇑**	*e*P	**Pn**	**21 36 58.2**	**+0.1**
CHI2		**15.01**	**115**	*e*P	Px	21 36 27.8	
TXAR	**Lajitas Array**	**23.56**	**322**	P	**P**	**21 41 14.5**	**+4.1**
	comp=E,0.6nm,0.8s,mb3.1,baz=135,slow=9.9,SNR=7.3						
SCHQ	**Schefferville**	**46.41**	**16**	P	**P**	**21 44 18.5**	**-7.5**
	comp=E,1.4nm,0.6s,mb4.1,baz=225,slow=8.6,SNR=3.5						
YKA	**Yellowknife Ar**	**54.79**	**345**	P	**P**	**21 45 28.5**	**-0.8**
	comp=E,0.1nm,0.3s,mb3.3,baz=137,slow=7.7,SNR=5.9						

NIED ***26*** *22:00:00,4670N×15240E,h38km,Mw4.1 Best double couple: M0 1.85000×10^15 NP1:φ=314.00000°,δ67.00000°, λ31.00000°. NP2:φ=210.00000°,δ62.00000°,λ153.00000°.*
SKHL ***26*** *22:00:26.8±2.0,4670N×15240E,h63km±33km,mb4.9/4*
BJI ***26*** *22:00:27.6,4670N×15220E,h35km,mB4.5,mb4.4*
NEIC ***26*** *22:00:27.7±0.4,4668N×15224E,h35km,mb4.3/14,Error ellipse: s-maj=10.6km s-min=6.2km az=140.0*
ISCJB ***26*** *22:00:27.2±0.9,4658N±006×15220E±008,h46km±7km, mb4.3/42,MS3.4/6,Error ellipse: s-maj=11.2km s-min=6.3km az=139.9*
MOS ***26*** *22:00:27.9±1.3,4655N×15231E,h57km,mb4.3/20,Error ellipse: s-maj=9.1km s-min=7.9km az=105.2*
IDC ***26*** *22:00:33.1±3.9,4653N×15221E,h86km±34km,mb3.6/15, mb1 3.8/16,mb1mx3.7/23,mbtmp3.6/16,MS3.2/7, Ms1 3.2/7,ms1mx3.1/31,Error ellipse: s-maj=19.4km s-min=17.2km az=122.0*
ISC 26 22:00:29.1±0.7,4663N±005×15222E±007,h46km±6km, n153,σ1§08/158,mb4.3/42,MS3.4/6,12C-5D,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
KUR	**Kuril'sk**	**3.34**	**247⇑**	*i*PN		**Pn**	**22 01 17.2**	**-1.5**
KUR				*i* S		**Sn**	**22 01 56.7**	**-0.4**
KUR				pmax	pmax			
	comp=N,140nm,0.5s							
KUR				pmax	pmax			
	comp=E,110nm,0.5s							
KUR				pmax	pmax			
	comp=Z,230nm,0.5s							
KUR				smax				
	comp=N,420nm,0.5s							
KUR				smax				
	comp=E,490nm,0.5s							
KUR	**Kuril'sk**	**3.34**	**247⇑**	*i*P		**Pn**	**22 01 17.2**	**-1.5**
KUR				AMB	AMB		22 01 17.7	
	comp=E,137nm,0.5s							
KUR				AMB	AMB		22 01 17.7	
	comp=E,114nm,0.5s							
KUR				AMB	AMB		22 01 17.7	
	comp=E,228nm,0.5s							
KUR				*i* S		**Sn**	**22 01 56.7**	**-0.4**
KUR				A			22 02 07.0	
	comp=E,418nm,0.5s							
KUR				A			22 02 07.0	
	comp=E,494nm,0.5s							
SKR	**Severo-Kuril's**	**4.81**	**31**	*e*P		**Pn**	**22 01 37.6**	**-1.3**
SKR				AMB	AMB		22 01 40.1	
	comp=E,40nm,0.5s							
SKR				AMB	AMB		22 01 40.1	
	comp=E,50nm,0.5s							
SKR				*e*S		**Sn**	**22 02 30.0**	**-3.3**
SKR				A			22 02 32.5	
	comp=E,100nm,0.2s							
SKR				A			22 02 32.5	
	comp=E,160nm,0.2s							
SKR				A			22 02 32.5	
	comp=E,40nm,0.5s							
YUK	**Yuzh-Kuril'sk**	**5.18**	**242**	*e*PN		**Pn**	**22 01 47.2**	**+3.3**
YUK				*e*S		**Sn**	**22 02 46.4**	**+4.1**
YUK				pmax	pmax			
	comp=E,230nm,0.5s							
YUK				pmax	pmax			
	comp=Z,230nm,0.5s							
YUK				smax				
	comp=N,1μm,0.8s							
YUK				smax				
	comp=E,410nm,0.5s							
YUK	**Yuzh-Kuril'sk**	**5.18**	**242**	*e*P		**Pn**	**22 01 47.2**	**+3.3**
YUK				AMB	AMB		22 01 52.3	
	comp=E,230nm,0.5s							
YUK				*e*S		**Sn**	**22 02 46.4**	**+4.1**
YUK				A			22 03 05.5	
	comp=E,410nm,0.5s							
YUK				A			22 03 05.5	
	comp=E,1μm,0.8s							
NEM2	**Nemuro 2**	**5.63**	**237**	P		**Pn**	**22 01 49.4**	**-0.7**
NEM2				*e*S		**Sn**	**22 02 51.2**	**-2.3**
JRA	**Rausu**	**5.68**	**244**	P		**Pn**	**22 01 53.7**	**+2.8**
JNK	**Nakash**	**6.12**	**243**	P		**Pn**	**22 01 58.5**	**+1.7**
JNK				*e*S		**Sn**	**22 03 01.6**	**-3.8**
JTKR	**Abashiri--Toko**	**6.43**	**249**	P		**Pn**	**22 02 04.1**	**+2.9**
JAK	**Akkeshi**	**6.46**	**239**	P		**Pn**	**22 02 01.1**	**-0.5**
JAK				*e*S		**Sn**	**22 03 11.9**	**-2.1**
YSS	**Yuzh-Sakhalins**	**6.51**	**276**	*e*P		**Pn**	**22 02 06.5**	**+4.4**
	comp=E,28nm,0.6s							
YSS				*e*			22 02 17.1	
YSS				Sn		**Sn**	**22 03 13.9**	**-1.1**
YSS	**Yuzh-Sakhalins**	**6.51**	**276**	*e*PN		**Pn**	**22 02 06.6**	**+4.5**
YSS				pmax	pmax			
	comp=Z,28nm,0.6s							
YSS	**Yuzh-Sakhalins**	**6.51**	**276⇑**	*e*P		**Pn**	**22 02 06.1**	**+4.0**
JMP	**Maruseppu**	**6.77**	**250**	P		**Pn**	**22 02 09.3**	**+3.5**
JAR	**Ashorobuto**	**6.86**	**244**	P		**Pn**	**22 02 08.7**	**+1.8**
JAR				*e*S		**Sn**	**22 03 24.6**	**+1.0**
JOB	**Onbets**	**7.03**	**241**	P		**Pn**	**22 02 10.0**	**+0.6**
ASAJ	**Asahikawa**	**7.23**	**253**	P		**Pn**	**22 02 16.1**	**+4.1**
ASAJ	**Asahikawa**	**7.23**	**253**	PN		**Pn**	**22 02 16.2**	**+4.2**
ASAJ				pmax	pmax			
	comp=Z,4.0nm,0.3s							
ASAJ				MLR	MLR			
	comp=Z,97nm,21.1s							
ASAJ	**Asahikawa**	**7.23**	**253**	P		**Pn**	**22 02 16.1**	**+4.1**
	comp=Z,3.5nm,0.3s,baz=84,slow=19,SNR=21							
ASAJ				LR	LR		22 05 04.1	
	comp=Z,97nm,21.1s,baz=17,slow=38							
JKK2	**Kamakawa 2**	**7.23**	**251**	P		**Pn**	**22 02 15.3**	**+3.3**
JCH	**Churui**	**7.48**	**241**	P		**Pn**	**22 02 15.3**	**-0.2**
JCH				*e*S		**Sn**	**22 03 36.5**	**-2.5**
PET	**Petropavlovsk**	**7.63**	**31**	Pn		**Pn**	**22 02 13.1**	**-4.5**
JFR	**Furan**	**7.66**	**247**	P		**Pn**	**22 02 19.8**	**+1.8**
ERM	**Erimo**	**7.96**	**238**	*e*Pn		**Pn**	**22 02 23.4**	**+1.3**
	comp=Z,81nm,0.6s							
ERM				Sn		**Sn**	**22 03 46.3**	**-4.6**
ERM	**Erimo**	**7.96**	**238**	*e*PN		**Pn**	**22 02 23.5**	**+1.4**
ERM				pmax	pmax			
	comp=Z,81nm,0.6s							
JEM	**Erimo**	**7.96**	**238**	P		**Pn**	**22 02 22.9**	**+0.8**
JBT2	**Biratori 2**	**8.00**	**245**	P		**Pn**	**22 02 23.5**	**+0.8**
JNBK	**Urakawa-nobuka**	**8.04**	**241**	*e*S		**Sn**	**22 03 51.6**	**-1.2**
JKB	**Kayabe**	**9.32**	**243**	P		**Pn**	**22 02 40.1**	**-0.6**
JYM2	**Yakumo 2**	**9.61**	**246**	P		**Pn**	**22 02 45.2**	**+0.6**
NKL	**Nikolayevsk**	**9.90**	**315**	*e*P		**Pn**	**22 02 49.2**	**+0.7**
NKL				AMB	AMB		22 02 51.5	
	comp=Z,26nm,1.1s							
NKL				AMB	AMB		22 02 51.5	
	comp=Z,38nm,1.1s							
JTM	**Tenmabayashi**	**9.96**	**238**	P		**Pn**	**22 02 47.5**	**-1.9**
JANG	**Nango**	**9.97**	**235**	*e*S		**Sn**	**22 04 31.1**	**-8.9**
MA2	**Magadan**	**13.00**	**357**	*e*Pn		**Pn**	**22 03 27.4**	**-3.5**
KLR	**Kul'dur**	**13.97**	**288**	*e*P		**Pn**	**22 03 45.8**	**+1.7**
MJAR	**Matsushiro Arr**	**14.52**	**231**	P		**Pn**	**22 03 47.3**	**-4.3**
	comp=Z,0.3nm,0.3s,baz=19,slow=14,SNR=4.8							
MJAR				LR	LR		22 09 51.6	
	comp=Z,52nm,20.3s,baz=75,slow=39							
MAJO	**Matsushiro**	**14.52**	**231**	Pn		**Pn**	**22 03 50.4**	**-1.2**
	comp=Z,7.7nm,0.6s							
MAJO				*e*			22 03 58.0	
MAJO	**Matsushiro**	**14.52**	**231**	P		**Pn**	**22 03 50.4**	**-1.2**
MAJO				pmax	pmax			
	comp=Z,8.0nm,0.6s							
MDJ	**Mudanjiang**	**15.95**	**271**	*e*Pn		**Pn**	**22 04 07.2**	**-2.9**
	comp=Z,8.9nm,1.1s							
YAK	**Yakutsk**	**20.10**	**328**	*e*P		**P**	**22 05 02.5**	**+4.0**
YAK				pmax	pmax			
	comp=Z,20nm,0.9s							
YAK				pmax	pmax			
	comp=N,6.0nm,1.6s							
YAK				pmax	pmax			
	comp=E,6.0nm,1.1s							
KSRS	**Korea Array**	**20.17**	**252**	P		**P**	**22 05 00.6**	**+1.1**
	comp=E,6.2nm,0.8s,baz=55,slow=11,SNR=18							
KSRS				LR	LR		22 12 24.5	
	comp=E,29nm,18.5s,MS2.7,baz=178,slow=35							
INCN	**Inchon**	**21.00**	**253**	P		**P**	**22 05 08.1**	**-0.4**
HIA	**Hailar**	**21.82**	**289**	P		**P**	**22 05 15.3**	**-1.9**
BILL	**Bilibino**	**22.66**	**14**	P		**P**	**22 05 23.7**	**-2.1**
BILL	**Bilibino**	**22.66**	**14**	P		**P**	**22 05 28.0**	**+2.2**
BOD	**Bodaibo**	**25.59**	**310**	*e*P		**P**	**22 05 53.4**	**-0.2**
BJT	**Baijiatuau**	**26.87**	**269**	P		**P**	**22 06 04.6**	**-0.7**
ULN	**Ulaanbaatar**	**30.36**	**289**	P		**P**	**22 06 35.5**	**-0.7**
SONM	**Songino Array**	**30.79**	**289**	P		**P**	**22 06 41.7**	**+1.6**
SONM				pmax	pmax			
	comp=Z,1.0nm,0.7s							
SONM				MLR	MLR			
	comp=Z,41nm,18.5s							
SONM	**Songino Array**	**30.79**	**289**	P		**P**	**22 06 41.7**	**+1.6**
	comp=Z,0.5nm,0.7s,mb3.4,baz=68,slow=8.4,SNR=5.3							
SONM				LR	LR		22 19 58.5	
	comp=Z,41nm,18.5s,MS3.1,baz=307,slow=38							
TLY	**Talaya**	**31.69**	**297**	P		**P**	**22 06 47.4**	**-0.5**
ZAK	**Zakamensk**	**32.17**	**295**	*e*P		**P**	**22 06 51.9**	**-0.2**
ZAK				pmax	pmax			
	comp=Z,1.0nm,1.1s,mb3.6							
IMA2	**Indian Mountai**	**34.27**	**36**	*e*P		**P**	**22 07 10.4**	**+0.2**
XAN	**Xi'an**	**34.89**	**265**	P		**P**	**22 07 15.5**	**-0.5**
XAN				AP	pP		22 07 23.3	-4.9
XAN				AMB	AMB			
	comp=Z,7.0nm,0.9s,mb4.6							
ENH	**Enshi**	**36.74**	**259**	*e*P		**P**	**22 07 32.0**	**+0.2**
CD2	**Chengdu**	**40.26**	**265**	P		**P**	**22 08 02.0**	**+0.7**
CD2				AMB	AMB			
	comp=Z,20nm,1.0s,mb4.8							
INK	**Inuvik**	**42.09**	**32**	*e*P		**P**	**22 08 16.6**	**+0.7**
	comp=Z,66nm,0.7s,mb5.4							
INK	**Inuvik**	**42.09**	**32**	P		**P**	**22 08 16.3**	**+0.4**
INK				pmax	pmax			
	comp=Z,1.0nm,0.5s							
INK	**Inuvik**	**42.09**	**32**	P		**P**	**22 08 16.3**	**+0.4**
	comp=Z,1.0nm,0.5s,mb3.7,baz=310,slow=3.7,SNR=8.3							
ZALV	**Zalesovo Beam**	**42.19**	**306**	P		**P**	**22 08 16.7**	**-0.2**
ZALV				PcP	PcP		22 10 10.6	+0.3
ZALV				LR	LR		22 27 03.6	
ZALV	**Zalesovo Beam**	**42.19**	**306**	P		**P**	**22 08 16.7**	**-0.2**
	comp=Z,0.4nm,0.5s,mb3.3,baz=60,slow=3.5,SNR=2.7							
ZALV				PcP	PcP		22 10 10.6	+0.3
	comp=Z,0.8nm,0.6s,baz=83,slow=4.6,SNR=5.9							
ZALV				LR	LR		22 27 03.6	
	comp=Z,62nm,19.0s,MS3.5,baz=96,slow=38							
ZAL	**Zalesovo**	**42.20**	**306**	P		**P**	**22 08 16.7**	**-0.3**
ZAL							22 10 10.6	
MK31	**Makanchi Array**	**46.45**	**297**	*e*P		**P**	**22 08 50.3**	**-0.7**
MK31				*e*PcP	PcP		22 10 24.9	-0.1
MKAR	**Makanchi Array**	**46.45**	**297**	P		**P**	**22 08 50.5**	**-0.6**
MKAR				PcP	PcP		22 10 24.9	-0.1
MKAR	**Makanchi Array**	**46.45**	**297**	P		**P**	**22 08 50.5**	**-0.6**
MKAR							22 10 24.9	
MKAR				pmax	pmax			
	comp=Z,1.0nm,0.5s							
MKAR				pmax	pmax			
	comp=Z,1.0nm,0.4s							
MKAR	**Makanchi Array**	**46.45**	**297**	P		**P**	**22 08 50.5**	**-0.6**
	comp=Z,1.3nm,0.5s,mb4.2,baz=66,slow=7.3,SNR=12							
MKAR				PcP	PcP		22 10 24.9	-0.1
	comp=Z,0.7nm,0.4s,baz=76,slow=2.7,SNR=4.6							
KURK	**Kurchatov**	**46.92**	**303**	*e*P		**P**	**22 08 53.1**	**-1.6**
	comp=Z,1.1nm,0.4s,mb4.1							
KURK	**Kurchatov**	**46.92**	**303**	*e*P		**P**	**22 08 53.1**	**-1.6**
KURK				pmax	pmax			
	comp=Z,1.0nm,0.4s,mb4.1							
LSA	**Lhasa**	**49.66**	**273**	P		**P**	**22 09 17.8**	**+1.7**
LSA	**Lhasa**	**49.66**	**273**	*e*P		**P**	**22 09 17.2**	**+1.1**
	comp=Z,4.8nm,0.6s,mb4.7							
LSA				*e*PcP	PcP		22 10 37.5	+0.6
LSA	**Lhasa**	**49.66**	**273**	*e*P		**P**	**22 09 17.2**	**+1.1**
LSA				*e*			22 10 37.5	
LSA				pmax	pmax			
	comp=Z,5.0nm,0.6s,mb4.7							
BVAR	**Borovoye Array**	**50.46**	**309**	P		**P**	**22 09 23.1**	**+1.3**
BVAR							22 10 39.1	
BVAR				pmax	pmax			
	comp=Z,1.0nm,0.5s							
BVAR				pmax	pmax			
	comp=Z,1.0nm,0.4s							
BVAR				MLR	MLR			
	comp=Z,49nm,19.6s							
BVAR	**Borovoye Array**	**50.46**	**309**	P		**P**	**22 09 23.1**	**+1.3**
	comp=Z,1.0nm,0.5s,mb4.1,baz=51,slow=6.9,SNR=8.8							
BVAR				PcP	PcP		22 10 39.1	-0.3
	comp=Z,1.0nm,0.4s,baz=68,slow=3.7,SNR=6.0							
BVAR				LR	LR		22 31 25.3	
	comp=Z,49nm,19.6s,MS3.5,baz=235,slow=37							
BRVK	**Borovoye**	**50.50**	**309**	*e*P		**P**	**22 09 22.1**	**0.0**
	comp=Z,1.8nm,0.5s,mb4.3							
BRVK	**Borovoye**	**50.50**	**309**	*e*P		**P**	**22 09 22.1**	**0.0**
BRVK				pmax	pmax			
	comp=Z,2.0nm,0.5s,mb4.3							
RES	**Resolute Bay**	**51.15**	**18**	*e*P		**P**	**22 09 25.8**	**-0.9**
	comp=Z,20nm,0.4s,mb5.4							
RES	**Resolute Bay**	**51.15**	**18**	*e*P		**P**	**22 09 25.8**	**-0.9**
RES				pmax	pmax			
	comp=Z,20nm,0.4s,mb5.4							
YKA	**Yellowknife Ar**	**51.39**	**36**	P		**P**	**22 09 29.4**	**+0.8**
YKA	**Yellowknife Ar**	**51.39**	**36**	P		**P**	**22 09 29.4**	**+0.8**
	comp=Z,0.4nm,0.7s,mb3.5,baz=300,slow=7.4,SNR=4.9							
TKM2	**Tokmak 2**	**52.50**	**296**	*e*P		**P**	**22 09 37.2**	**0.0**
	comp=Z,0.8nm,0.5s,mb3.9							
TKM2	**Tokmak 2**	**52.50**	**296**	*e*P		**P**	**22 09 37.2**	**0.0**
TKM2				pmax	pmax			
	comp=Z,1.0nm,0.5s,mb4.0							
AAK	**Ala-Archa**	**53.34**	**296**	*e*P		**P**	**22 09 43.7**	**+0.3**
	comp=Z,1.7nm,0.8s,mb4.0							
AAK	**Ala-Archa**	**53.34**	**296**	*e*P		**P**	**22 09 43.7**	**+0.3**
AAK				pmax	pmax			
	comp=Z,2.0nm,0.8s,mb4.1							
EKS2	**Erkin-Say**	**53.77**	**296**	*e*P		**P**	**22 09 46.4**	**-0.1**
	comp=Z,2.3nm,0.6s,mb4.3							
AML	**Almayashu**	**54.11**	**296**	*e*P		**P**	**22 09 48.4**	**-0.7**
	comp=Z,1.1nm,0.4s,mb4.1							
JIRN	**Jiri**	**54.34**	**274**	*e*P		**P**	**22 09 52.2**	**+1.3**
	comp=Z,4.7nm,0.3s,mb5.0							
GUN	**Gumba**	**54.40**	**274**	*e*P		**P**	**22 09 52.1**	**+0.8**
	comp=Z,8.5nm,0.4s,mb5.0							
ARU	**Arti**	**54.69**	**317**	*e*P		**P**	**22 09 52.2**	**-0.8**
	comp=Z,2.4nm,0.4s,mb4.6							
ARU	**Arti**	**54.69**	**317**	*e*P		**P**	**22 09 52.3**	**-0.7**
ARU				pmax	pmax			
	comp=Z,2.0nm,0.4s,mb4.5							
KKN	**Kakani**	**54.88**	**275**	*e*P		**P**	**22 09 55.8**	**+0.9**
	comp=Z,17nm,0.6s,mb5.2							
DMN	**Daman**	**55.12**	**275**	*e*P		**P**	**22 09 57.5**	**+0.9**
GKN	**Gorkha**	**55.19**	**275**	*e*P		**P**	**22 09 57.7**	**+0.6**
	comp=Z,24nm,0.6s,mb5.4							
DANN	**Dangsing**	**55.58**	**276**	*e*P		**P**	**22 10 01.0**	**+1.2**
	comp=Z,33nm,0.6s							
KOLN	**Koldanda**	**56.05**	**276**	*e*P		**P**	**22 10 04.2**	**+1.0**
	comp=Z,19nm,0.6s,mb5.3							
ARCES	**ARCESS Array B**	**57.77**	**341**	P		**P**	**22 10 16.0**	**+1.2**
ARCES				pmax	pmax			
	comp=Z,2.0nm,0.9s							
ARCES	**ARCESS Array B**	**57.77**	**341**	P		**P**	**22 10 15.9**	**+1.2**
	comp=Z,2.2nm,0.9s,mb4.2,baz=12,slow=6.2,SNR=4.3							
AKTO	**Aktyubinsk**	**58.35**	**311**	LR	LR		22 37 59.6	
	comp=Z,74nm,18.0s,MS3.9,baz=128,slow=38							
KBL	**Kabul**	**61.54**	**291**	*e*P		**P**	**22 10 40.7**	**-0.5**
	comp=Z,2.1nm,0.6s,mb4.4							
FCC	**Fort Churchill**	**61.70**	**33**	P		**P**	**22 10 41.4**	**-0.5**
FINES	**FINESS Array B**	**63.89**	**334**	P		**P**	**22 10 56.0**	**-0.5**
FINES				pmax	pmax			
	comp=Z,1.0nm,0.5s							
FINES	**FINESS Array B**	**63.89**	**334**	P		**P**	**22 10 56.0**	**-0.5**
	comp=Z,0.9nm,0.5s,mb4.1,baz=48,slow=6.9,SNR=13							
REDW	**Red Top Meadow**	**64.21**	**54**	P		**P**	**22 10 58.4**	**-0.5**
	comp=Z,11nm,0.6s,mb5.1							
NB2	**NORSAR Subarra**	**68.14**	**341**	P		**P**	**22 11 23.4**	**-0.4**
	comp=Z,1.2nm,0.5s,mb4.2,baz=28,slow=6.5							
NOA	**NORSAR Array B**	**68.14**	**341**	P		**P**	**22 11 23.8**	**0.0**
NOA	**NORSAR Array B**	**68.14**	**341**	P		**P**	**22 11 23.8**	**0.0**
NOA				pmax	pmax			
	comp=Z,2.0nm,0.5s							
NOA	**NORSAR Array B**	**68.14**	**341**	P		**P**	**22 11 23.8**	**0.0**
	comp=Z,1.5nm,0.5s,mb4.3,baz=28,slow=6.4,SNR=8.3							
WRAB	**Tennant Creek**	**68.19**	**198**	*e*P		**P**	**22 11 24.9**	**+0.4**
	comp=Z,1.5nm,0.6s,mb4.2							
WRAB	**Tennant Creek**	**68.19**	**198**	*e*P		**P**	**22 11 24.9**	**+0.5**
WRAB				pmax	pmax			
	comp=Z,2.0nm,0.6s,mb4.3							
WRA	**Warramunga Arr**	**68.20**	**198**	P		**P**	**22 11 22.8**	**-1.7**
WRA				pmax	pmax			
	comp=Z,1.0nm,0.8s							
WRA	**Warramunga Arr**	**68.20**	**198**	P		**P**	**22 11 22.8**	**-1.7**
	comp=Z,0.8nm,0.8s,mb3.8,baz=18,slow=7.0,SNR=5.7							
KIV	**Kislovodsk**	**70.44**	**314**	P		**P**	**22 11 38.8**	**+0.5**
	comp=Z,3.9nm,0.9s,mb4.3							
KIV	**Kislovodsk**	**70.44**	**314**	*e*P		**P**	**22 11 38.5**	**+0.2**
KIV				pmax	pmax			
	comp=Z,4.0nm,1.0s,mb4.3							
KIV				MLR	MLR			
	comp=Z,40nm,17.0s,MS3.7							
AKASG	**Malin Array Be**	**71.31**	**326**	*e*P		**P**	**22 11 42.8**	**-0.6**
AKASG	**Malin Array Be**	**71.31**	**326**	P		**P**	**22 11 42.8**	**-0.6**
	comp=Z,0.9nm,0.3s,mb4.1,baz=34,slow=6.1,SNR=6.9							
ASAR	**Alice Springs**	**71.90**	**198**	P		**P**	**22 11 46.1**	**-1.0**
ASAR				pmax	pmax			
	comp=Z,1.0nm,0.7s							
ASAR	**Alice Springs**	**71.90**	**198**	P		**P**	**22 11 46.1**	**-1.0**
	comp=Z,0.5nm,0.7s,mb3.6,baz=11,slow=5.5,SNR=5.0							
PALK	**Pallekele**	**72.07**	**261**	P		**P**	**22 11 48.5**	**-0.1**
KWP	**Kalwaria**	**74.61**	**329⇑**	*i*P		**P**	**22 12 03.5**	**+0.5**
BURAR	**Bucovina Array**	**75.35**	**326⇑**	*i*P		**P**	**22 12 07.5**	**+0.2**
MORC	**Moravsky Berou**	**76.26**	**332**	⇓P		**P**	**22 12 12.4**	**0.0**
MORC	**Moravsky Berou**	**76.26**	**332**	⇓*i*P		**P**	**22 12 12.4**	**0.0**
CLL	**Collm**	**76.32**	**335**	⇓*i*P		**P**	**22 12 11.8**	**-0.9**
	comp=Z,3.0nm,0.9s,mb4.2							
CLL	**Collm**	**76.32**	**335**	⇓*i*P		**P**	**22 12 11.8**	**-0.9**
CLL				pmax	pmax			
	comp=Z,3.0nm,0.9s,mb4.2							
CLL	**Collm**	**76.32**	**335**	⇓*i*P		**P**	**22 12 11.8**	**-0.9**
	comp=Z,3.0nm,0.9s,mb4.2							
MALT	**Malatya**	**76.78**	**312⇑**	*i*P		**P**	**22 12 16.9**	**+1.3**
MLR	**Muntele Rosu**	**76.81**	**324⇑**	P		**P**	**22 12 16.4**	**+0.8**
MLR	**Muntele Rosu**	**76.81**	**324⇑**	*i*P		**P**	**22 12 16.4**	**+0.8**
VOIR		**77.21**	**325⇑**	P		**P**	**22 12 18.4**	**+0.6**
VOIR		**77.21**	**325⇑**	*i*P		**P**	**22 12 18.5**	**+0.6**
KHC	**Kasperske Hory**	**78.08**	**334**	*e*P		**P**	**22 12 22.9**	**+0.3**
TXAR	**Lajitas Array**	**78.09**	**60**	P		**P**	**22 12 23.0**	**0.0**
TXAR				pmax	pmax			
	comp=Z,1.0nm,0.5s							
TXAR	**Lajitas Array**	**78.09**	**60**	P		**P**	**22 12 23.0**	**0.0**
	comp=Z,0.5nm,0.5s,mb3.7,baz=294,slow=4.8,SNR=12							
MIB	**Mutribah**	**78.20**	**301**	*e*P		**P**	**22 12 22.7**	**-0.9**
MIB				AMb	AMB		22 12 24.8	
	comp=Z,15nm,0.8s,mb5.0							
GERES	**GERESS Array B**	**78.30**	**333**	P		**P**	**22 12 23.9**	**+0.1**
GERES				pmax	pmax			
	comp=Z,1.0nm,0.6s							
GERES	**GERESS Array B**	**78.30**	**333**	P		**P**	**22 12 23.9**	**0.0**
	comp=Z,0.6nm,0.6s,mb3.7,baz=104,slow=5.6,SNR=6.3							
KBD	**Kabd**	**78.45**	**300**	*e*P		**P**	**22 12 24.7**	**-0.4**
KBD				AMb	AMB		22 12 26.2	
	comp=Z,58nm,0.9s							
NAY	**Al-Naaiem**	**78.66**	**301**	*e*P		**P**	**22 12 25.5**	**-0.7**
NAY				AMb	AMB		22 12 27.4	
	comp=Z,6.0nm,0.9s,mb4.5							
RDF	**Al-Radifah**	**78.72**	**300**	*e*P		**P**	**22 12 25.9**	**-0.6**
RDF				AMb	AMB		22 12 28.3	
	comp=Z,16nm,0.9s,mb5.0							
VTS	**Vitosha**	**80.32**	**324**	⇑P		**P**	**22 12 35.5**	**+0.5**
VTS	**Vitosha**	**80.32**	**324**	⇑*i*P		**P**	**22 12 35.5**	**+0.5**
CDF	**Champ du Feu**	**80.54**	**337**	*e*P		**P**	**22 12 36.0**	**0.0**
HINF	**Hinteralfeld**	**81.20**	**337**	*e*P		**P**	**22 12 39.1**	**-0.5**
LOR	**L

NAY eS Sn 22 20 20.0 -0.4
NAY AML AML 22 20 24.8
comp=Z,9.7nm,0.6s
NAY Al-Naaiem 4.83 288 eP Pn 22 19 23.9 -0.1
NAY eS Sn 22 20 20.0 -0.4
comp=Z,9.7nm,0.6s
MIB Mutribah 4.93 295 eP Pn 22 19 25.6 +0.2
MIB eS Sn 22 20 22.6 -0.3
MIB AML AML 22 20 24.9
comp=Z,22nm,0.4s
MIB Mutribah 4.93 295 eP Pn 22 19 25.6 +0.3
MIB eS Sn 22 20 22.6 -0.3
NASN Na'in 4.95 3 ePn Pn 22 19 25.6 0.0
NASN Sn Sn 22 20 20.8 -2.6
IPIR Pirpir 5.02 344 e Sn 22 20 25.1 -0.1
comp=Z,207nm,0.2s
IKLH Kolahrood 5.52 352 e Sn 22 20 47.6 +10
comp=Z,818nm,0.0s

*ISCJB **26** 22:20:22.0±0.5, 3293N±004×10425E±006, h10km, mb3.8/10, MS3.1/2, Error ellipse: s-maj=8.1km s-min=5.8km az=156.4*
*IDC **26** 22:20:23.2±0.9, 3316N×10451E, h0km, mb3.6/7, mb1 3.8/9, mb1mx3.7/22, mbtmp3.6/9, ML3.4/2, MS3.3/4, Ms1 3.3/4, ms1mx3.0/29, Error ellipse: s-maj=39.3km s-min=17.7km az=54.0*
*BJI **26** 22:20:24.2, 3271N×10422E, h30km, mb4.3, mB4.6, ML4.1, Ms3.9, Msz3.8*
*MOS **26** 22:20:25.7±1.3, 3306N×10433E, h32km, mb4.0/7, Error ellipse: s-maj=19.4km s-min=10.1km az=105.7*
*NEIC **26** 22:20:28.2±0.8, 3315N×10438E, h35km, mb3.8/3, Error ellipse: s-maj=16.1km s-min=13.4km az=82.0*
ISC 26 22:20:23.3±0.5, 3288N±005×10426E±008, h10km, n39, σ1°51/47, mb3.8/10, MS3.1/2, 1C, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CD2	**Chengdu**	**2.01**	**192**	P	**Pn**	**22 20 55.0**	**-2.2**
CD2				Smax			
	comp=N,2μm,0.7s						
CD2				Smax			
	comp=E,3μm,0.7s						
LZH	**Lanzhou**	**3.22**	**354**	P	**Pn**	**22 21 16.3**	**+2.4**
LZH				PG	**Pg**	**22 21 24.3**	**-0.7**
LZH				S	**Sn**	**22 21 58.0**	**+5.7**
LZH				SG	**Sg**	**22 22 08.3**	**+1.6**
LZH				Smax			
	comp=N,588nm,0.6s						
LZH				Smax			
	comp=E,1μm,0.7s						
LZH				LR	LR		
	comp=E,1μm,6.0s						
XAN	**Xi'an**	**4.07**	**72**	P	**Pn**	**22 21 26.0**	**+0.4**
XAN				S	**Sn**	**22 22 07.0**	**-6.2**
XAN				LR	LR		
	comp=N,388nm,6.5s						
XAN				LR	LR		
	comp=E,1μm,13.7s						
GYA	**Guiyang**	**6.73**	**161**	P	**Pn**	**22 22 00.0**	**-2.2**
GYA				PG	**Pg**	**22 22 23.0**	**-9.2**
GYA				Smax			
	comp=N,140nm,0.9s						
GYA				Smax			
	comp=E,100nm,1.0s						
GTA	**Gaotai**	**7.44**	**332**	P	**Pn**	**22 22 12.0**	**+0.1**
GTA				PG	**Pg**	**22 22 35.5**	**-10**
GTA				S	**Sn**	**22 23 34.0**	**-2.4**
GTA				Smax			
	comp=N,13nm,1.2s						
GTA				Smax			
	comp=E,15nm,1.2s						
KMI	**Kunming**	**7.84**	**190**	P	**Pn**	**22 22 09.8**	**-7.6**
KMI				S	**Sn**	**22 23 35.5**	**-11**
KMI				Smax			
	comp=N,20nm,1.5s						
KMI				Smax			
	comp=E,19nm,1.6s						
KMI				LR	LR		
	comp=N,511nm,9.9s						
KMI				LR	LR		
	comp=E,228nm,9.6s						
KMI				LR	LR		
	comp=Z,529nm,11.5s						
WHN	**Wuhan**	**8.91**	**102**	⇑P	**Pn**	**22 22 35.5**	**+3.5**
WHN				eS	**Sn**	**22 24 18.0**	**+5.5**
WHN				LR	LR		
	comp=Z,392nm,4.6s						
LSA	**Lhasa**	**11.65**	**258**	ePn	**Pn**	**22 23 13.6**	**+4.0**
SONM	**Songino Array**	**15.03**	**6**	Pn	**Pn**	**22 23 54.5**	**-1.2**
	comp=Z,0.1nm,0.3s,baz=186,slow=12,SNR=8.3						
SONM				LR	LR	22 30 13.2	
	comp=Z,201nm,19.0s,baz=194,slow=40						
ULN	**Ulaanbaatar**	**15.12**	**7**	ePn	**Pn**	**22 23 54.9**	**-2.0**
	comp=Z,5.2nm,1.2s						
ULN				Sn	**Sn**	**22 26 36.4**	**-7.9**
ULN	**Ulaanbaatar**	**15.12**	**7**	eP	**Pn**	**22 23 54.9**	**-2.0**
ULN						22 26 36.4	
ULN				pmax	pmax		
	comp=Z,5.0nm,1.2s						
WMQ	**Urumqi**	**16.94**	**315**	eP	**Pn**	**22 24 20.8**	**+0.4**
WMQ				AMB	AMB		
	comp=Z,5.0nm,0.6s						
WMQ				AMB	AMB		
	comp=Z,65nm,3.5s						
WMQ				LR	LR		
	comp=N,416nm,8.7s						
WMQ				LR	LR		
	comp=E,554nm,6.2s						
WMQ				LR	LR		
	comp=Z,320nm,11.0s						
ZAK	**Zakamensk**	**17.51**	**358**	eP	**Pn**	**22 24 28.1**	**+0.8**
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.3s						
CN2	**Changchun**	**19.82**	**51**	eP	**Pn**	**22 24 56.3**	**+0.7**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.7s						
KSRS	**Korea Array**	**19.86**	**70**	P	**Pn**	**22 24 53.2**	**-2.9**
	comp=Z,0.2nm,0.3s,baz=252,slow=11,SNR=7.4						
KSRS				LR	LR	22 33 13.1	
	comp=Z,73nm,19.3s,baz=334,slow=39						
MK31	**Makanchi Array**	**21.76**	**316**	P	**P**	**22 25 14.4**	**-0.5**
MKAR	**Makanchi Array**	**21.76**	**316**	P	**P**	**22 25 14.8**	**-0.2**
MKAR	**Makanchi Array**	**21.76**	**316**	P	**P**	**22 25 14.8**	**-0.1**
MKAR				pmax	pmax		
	comp=Z,3.0nm,1.0s						
MKAR	**Makanchi Array**	**21.76**	**316**	P	**P**	**22 25 14.8**	**-0.2**
	comp=Z,2.6nm,1.0s,mb3.6,baz=105,slow=13,SNR=8.0						
JNU	**Nakatsue**	**22.31**	**82**	LR	LR	22 34 47.2	
	comp=Z,78nm,19.5s,MS3.1,baz=44,slow=39						
ZAL	**Zalesovo**	**25.20**	**332**	P	**P**	**22 25 47.7**	**-1.1**
ZAA0	**Zalesovo Array**	**25.20**	**332**	eP	**P**	**22 25 47.8**	**-1.1**
ZALV	**Zalesovo Beam**	**25.20**	**332**	P	**P**	**22 25 47.7**	**-1.2**
	comp=Z,1.6nm,0.5s,mb3.8,baz=133,slow=8.7,SNR=7.1						
AAK	**Ala-Archa**	**25.36**	**301**	eP	**P**	**22 25 51.8**	**+1.4**
	comp=Z,1.2nm,0.7s,mb3.5						
AAK	**Ala-Archa**	**25.36**	**301**	eP	**P**	**22 25 51.8**	**+1.4**
AAK				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb3.5						
BOD	**Bodaibo**	**25.81**	**12**	eP	**P**	**22 25 54.3**	**-0.1**
KURK	**Kurchatov**	**25.93**	**321**	eP	**P**	**22 25 55.9**	**+0.4**
	comp=Z,1.6nm,0.7s,mb3.7						
KURK	**Kurchatov**	**25.93**	**321**	eP	**P**	**22 25 55.9**	**+0.4**
KURK				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb3.8						
MJAR	**Matsushiro Arr**	**28.07**	**73**	LR	LR	22 37 45.0	
	comp=Z,56nm,21.9s,MS3.1,baz=50,slow=38						
BVAR	**Borovoye Array**	**31.50**	**320**	P	**P**	**22 26 46.7**	**+1.5**
	comp=Z,0.3nm,0.4s,mb3.5,baz=82,slow=10,SNR=2.8						
FINES	**FINESS Array B**	**56.18**	**326**	P	**P**	**22 30 05.2**	**+2.3**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
FINES	**FINESS Array B**	**56.18**	**326**	P	**P**	**22 30 05.2**	**+2.3**
	comp=Z,1.1nm,0.7s,mb4.0,baz=90,slow=9.5,SNR=5.2						
WRA	**Warramunga Arr**	**59.88**	**147**	P	**P**	**22 30 31.1**	**+1.8**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
WRA	**Warramunga Arr**	**59.88**	**147**	P	**P**	**22 30 31.1**	**+1.8**
	comp=Z,0.7nm,0.5s,mb3.9,baz=323,slow=9.4,SNR=2.2						
KWP	**Kalwaria**	**60.60**	**312**	eP	**P**	**22 30 37.0**	**+2.9**
	comp=Z,2.5nm,0.6s,mb4.5						
KWP	**Kalwaria**	**60.60**	**312**	eP	**P**	**22 30 37.0**	**+3.0**
KWP				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.6						
ASAR	**Alice Springs**	**62.94**	**149**	P	**P**	**22 30 53.0**	**+3.0**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ASAR	**Alice Springs**	**62.94**	**149**	P	**P**	**22 30 53.0**	**+3.0**
	comp=Z,0.6nm,0.5s,mb4.0,baz=336,slow=7.2,SNR=2.1						
YKA	**Yellowknife Ar**	**79.97**	**17**	P	**P**	**22 32 30.7**	**-1.6**
	comp=Z,0.1nm,0.3s,mb3.3,baz=326,slow=4.7,SNR=4.5						

*NEIC **26** 22:20:59.4±1.9, 628S×13037E, h94km±21km, mb4.2/2, Error ellipse: s-maj=17.3km s-min=10.0km az=61.0*
*IDC **26** 22:21:00.6±5.7, 630S×13042E, h106km±62km, mb3.5/4, mb1 3.9/8, mb1mx3.7/14, mbtmp3.7/8, Error ellipse: s-maj=52.4km s-min=32.7km az=57.0*
*ISCJB **26** 22:21:01.4±2.5, 642S±010×1302E±01, h133km±26km, mb3.7/5, Error ellipse: s-maj=20.3km s-min=10.1km az=137.1*
ISC 26 22:21:03.5±1.8, 650S±008×1302E±01, h137km±18km, n16, σ0°99/21, mb3.7/5, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Kupang**	**7.46**	**240**	P	**Pn**	**22 22 51.1**	**+1.4**
	7.6nm,0.3s,baz=108,slow=4.1,SNR=12						
BATI				S	**Sn**	**22 24 11.2**	**-1.7**
	18nm,0.3s,baz=185,slow=23,SNR=18						
FITZ	**Fitzroy Crossi**	**12.37**	**201**	P	**Pn**	**22 23 55.0**	**0.0**
	1.2nm,0.3s,baz=20,slow=12,SNR=18						
FITZ				S	**Sn**	**22 26 03.8**	**-7.7**
	1.1nm,0.3s,baz=64,slow=17,SNR=6.0						
WRAB	**Tennant Creek**	**13.94**	**164**	ePn	**Pn**	**22 24 15.2**	**0.0**
	8.1nm,0.9s						
WRA	**Warramunga Arr**	**13.95**	**164**	P	**Pn**	**22 24 14.7**	**-0.7**
	0.8nm,0.3s,baz=338,slow=13,SNR=36						
WRA				S	**Sn**	**22 26 42.8**	**-6.8**
	2.4nm,0.3s,baz=333,slow=24,SNR=6.4						
WB2	**Warramunga Arr**	**13.95**	**164**	ePn	**Pn**	**22 24 15.3**	**-0.1**
WB2				eSn	**Sn**	**22 26 45.5**	**-4.2**
ASAR	**Alice Springs**	**17.43**	**169**	P	**Pn**	**22 25 00.2**	**+1.8**
	0.6nm,0.3s,baz=349,slow=9.4,SNR=40						
ASAR				S	**S**	**22 28 10.6**	**-1.2**
	0.8nm,0.3s,baz=358,slow=27,SNR=7.2						
MBWA	**Marble Bar**	**17.76**	**214**	eP	**Pn**	**22 25 03.5**	**+1.2**
	22nm,1.6s						
KKM	**Kota Kinabalu**	**18.72**	**311**	eP	**P**	**22 25 11.5**	**-0.3**
KULM	**Kulim**	**31.75**	**291**	P	**P**	**22 27 15.4**	**+0.4**
MJAR	**Matsushiro Arr**	**43.47**	**9**	P	**P**	**22 28 51.1**	**-1.9**
	1.6nm,0.6s,mb3.8,baz=152,slow=8.7,SNR=4.4						
LSA	**Lhasa**	**51.99**	**316**	eP	**P**	**22 29 59.1**	**+0.2**
	1.0nm,0.4s,mb3.8						
SONM	**Songino Array**	**58.04**	**341**	P	**P**	**22 30 42.3**	**+0.3**
	0.4nm,0.8s,mb3.3,baz=166,slow=7.2,SNR=2.8						
MKAR	**Makanchi Array**	**67.93**	**327**	P	**P**	**22 31 47.6**	**+0.2**
	1.8nm,0.6s,mb4.0,baz=126,slow=7.8,SNR=22						
ZALV	**Zalesovo Beam**	**71.23**	**334**	P	**P**	**22 32 07.1**	**-0.4**
	0.3nm,0.3s,mb3.5,baz=64,slow=3.4,SNR=2.6						
KURK	**Kurchatov**	**72.21**	**328**	P	**P**	**22 32 13.1**	**-0.3**
VNDA	**Vanda**	**72.91**	**173**	P	**P**	**22 32 18.8**	**+1.6**

*NEIC **26** 23:04:44.2, 1912N×6446W, h11km, MD3.5(RSPR), After RSPR.*
RSPR 26 23:04:44.2, 1912N×6446W, h11km±1km, MD3.5/9, MD3.5/9, 6C-3D, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABV	**Anegada**	**0.40**	**163**	⇓iP	Pg	23 04 51.9	-0.3
ABV	**Anegada**	**0.40**	**163**	eS	Sg	23 04 57.8	+0.3
TBVI	**Tortola**	**0.71**	**192**	⇑eP	Pg	23 04 55.9	-2.1
TBVI				eS	Sg	23 05 06.9	-0.4
STVI	**Saint Thomas**	**0.89**	**212**	⇑eP	Pg	23 04 59.2	-2.3
STVI				eS	Sg	23 05 11.5	-1.6
HUMP	**Col San Antoni**	**1.64**	**234**	⇑eP	Pn	23 05 10.2	-2.8
HUMP				eS	Sn	23 05 30.2	-3.9
CPD	**Cerro la Pandu**	**1.75**	**232**	ePn	Pn	23 05 03.4	-11
CPD				ePg	Pg	23 05 10.7	-7.2
CPD				Sn	Sn	23 05 27.1	-10
SJG	**San Juan**	**1.89**	**238**	⇓eP	Pn	23 05 13.6	-2.8
SJG				eS	Sn	23 05 35.9	-4.4
SJG	**San Juan**	**1.89**	**238**	⇑eP	Pn	23 05 13.8	-2.7
SJG				eS	Sn	23 05 36.1	-4.2
CELP	**Cerrillos**	**2.26**	**243**	⇓iP	Pn	23 05 19.2	-2.4
CELP				eS	Sn	23 05 45.9	-3.6
ICM	**Isla Caja Muer**	**2.31**	**239**	⇑eP	Pn	23 05 20.1	-2.1
AOPR	**Arecibo Observ**	**2.31**	**251**	⇑eP	Pn	23 05 19.7	-2.5

*THE **26** 23:14:51.4, 3832N×2036E, h3km, ML3.3*
*NEIC **26** 23:14:51.4, 3832N×2036E, h0km, MD3.6(ATH), ML3.3(THE), After THE.*
*ATH **26** 23:14:51.4, 3824N×2035E, h13km±2km, MD3.6/5*
*ISCJB **26** 23:14:52.3±1.0, 3830N±004×2039E±007, h10km, Error ellipse: s-maj=9.3km s-min=3.7km az=151.0*
*CSEM **26** 23:14:52.2±0.4, 3830N×2035E, h2km, MD3.6, Error ellipse: s-maj=8.7km s-min=3.2km az=69.0*
ISC 26 23:14:52.1±1.1, 3827N±004×2036E±008, h10km, n15, σ1°25/25, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.21**	**116**	ePg	**Pg**	**23 14 56.0**	**-0.5**
VLS				eSg	**Sg**	**23 14 59.7**	**+0.4**
VLS	**Valsamata**	**0.21**	**116**	ePG	**Pg**	**23 14 55.9**	**-0.5**
VLS				eSG	**Sg**	**23 14 59.7**	**+0.4**
KFL	**Anninata**	**0.38**	**115**	ePg	**Pg**	**23 14 58.9**	**-0.6**
KFL				eSg	**Sg**	**23 15 05.4**	**+0.9**
LKD	**Levkas**	**0.50**	**28**	ePg	**Pg**	**23 14 59.4**	**-2.5**
LKD				eSg	**Sg**	**23 15 06.1**	**-2.3**
LKD	**Levkas**	**0.50**	**28**	eSg	**Sg**	**23 15 06.1**	**-2.3**
SELA	**Sela**	**1.21**	**89**	ePg	**Pg**	**23 15 13.3**	**-2.1**
SELA				eSg	**Sg**	**23 15 31.9**	**+0.8**
IGT	**Igoumenitsa**	**1.26**	**359**	ePg	**Pg**	**23 15 13.2**	**-3.2**
IGT				eSg	**Sg**	**23 15 32.8**	**0.0**
EVR	**Evrytania**	**1.31**	**60**	ePB	**Pb**	**23 15 17.2**	**+0.4**
JAN	**Janina**	**1.44**	**15**	ePG	**Pg**	**23 15 18.4**	**-1.4**
JAN				eSB	**Sb**	**23 15 38.9**	**+1.5**
KEK	**Kerkira**	**1.51**	**343**	ePB	**Pb**	**23 15 20.4**	**+0.2**
SRN	**Sarande**	**1.63**	**350**	ePn	**Pn**	**23 15 21.5**	**+0.6**
SRN				i Sn	**Sg**	**23 15 46.9**	**+2.2**
ITM	**Ithomi**	**1.65**	**131**	ePB	**Pb**	**23 15 22.4**	**-0.3**
THL	**Klokotos Trika**	**1.83**	**44**	ePb	**Pn**	**23 15 24.1**	**+0.4**
THL				eSb	**Sn**	**23 15 47.6**	**+0.7**
THL	**Klokotos Trika**	**1.83**	**44**	ePn	**Pn**	**23 15 24.5**	**+0.9**
THL				eSb	**Sn**	**23 15 47.6**	**+0.7**
LKR	**Lokris**	**2.11**	**79**	ePN	**Pn**	**23 15 29.0**	**+1.5**

*NEIC **26** 23:23:51.9±0.3, 681S×15572E, h10km, mb4.6/15, Error ellipse: s-maj=8.4km s-min=6.1km az=104.0*
*ISCJB **26** 23:23:55.0±0.3, 688S±005×15570E±007, h44km, mb4.5/30, MS3.6/5, Error ellipse: s-maj=9.5km s-min=7.4km az=4.6*
*IDC **26** 23:23:56.6±0.5, 689S×15568E, h42km±3km, mb4.1/14, mb1 4.2/14, mb1mx4.2/16, mbtmp4.1/14, MS3.7/6, Ms1 3.6/6, ms1mx3.5/14, Error ellipse: s-maj=22.9km s-min=12.2km az=93.0*
ISC 26 23:23:57.0±0.3, 689S±005×15569E±007, h46km, h46km±.9km: pP-P, n77, σ0°69/67, mb4.5/30, MS3.6/5, 1C, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.91**	**121**	Pn	**Pn**	**23 25 07.4**	**-0.9**
HNR				ePg	**Pn**	**23 25 25.6**	**+17**
HNR				Sn	**Sn**	**23 26 04.5**	**+0.6**
HNR				S	**Sn**	**23 26 10.5**	**+6.5**
HNR	**Honiara**	**4.91**	**121**	P	**Pn**	**23 25 14.5**	**+6.1**
	15nm,0.3s,baz=260,slow=9.3,SNR=6.9						
HNR				S	**Sn**	**23 26 10.5**	**+6.5**
	21nm,0.3s,baz=86,slow=23,SNR=5.2						
HNR				LR	LR	23 27 01.7	
	comp=Z,508nm,20.0s,baz=360,slow=38						
CTA	**Charters Tower**	**16.00**	**214**	eP	**Pn**	**23 27 40.5**	**+1.5**
	4.6nm,0.6s						
CTA	**Charters Tower**	**16.00**	**214**	P	**Pn**	**23 27 42.4**	**+3.4**
	0.5nm,0.3s,baz=33,slow=12,SNR=7.4						
CTAO	**Charters Tower**	**16.00**	**214**	eP	**Pn**	**23 27 40.3**	**+1.3**
	5.4nm,0.6s						
GUMO	**Guam**	**23.01**	**332**	LR	LR	23 35 57.8	
	comp=Z,139nm,19.9s,MS3.4,baz=21,slow=31						
KAKA	**Kakadu**	**23.62**	**254**	eP	**P**	**23 29 03.3**	**-0.9**
	16nm,0.6s,mb4.6						
WRAB	**Tennant Creek**	**24.43**	**236**	eP	**P**	**23 29 12.1**	**+0.6**
	16nm,0.9s,mb4.5						
WB2	**Warramunga Arr**	**24.44**	**236**	eP	**P**	**23 29 11.8**	**+0.2**
WRA	**Warramunga Arr**	**24.45**	**236**	P	**P**	**23 29 12.3**	**+0.6**
	3.6nm,0.6s,mb4.0,baz=61,slow=9.7,SNR=43						
WRA				PcP	PcP	23 32 50.3	+0.4
	1.3nm,0.6s,baz=62,slow=2.1,SNR=6.3						
WRA				LR	LR	23 38 37.9	
	comp=Z,138nm,18.1s,MS3.5,baz=20,slow=36						
ASAR	**Alice Springs**	**26.76**	**229**	P	**P**	**23 29 32.5**	**-0.2**
	1.7nm,0.7s,mb3.7,baz=59,slow=9.3,SNR=17						
ASAR				pP	pP	23 29 43.0	-1.8
	2.2nm,0.8s,baz=60,slow=8.8,SNR=8.2						
ASAR				PcP	PcP	23 32 55.3	+0.3
	1.0nm,0.6s,baz=51,slow=2.8,SNR=5.2						
STKA	**Stephens Creek**	**28.13**	**206**	eP	**P**	**23 29 44.2**	**-0.6**
	9.2nm,2.0s,mb4.1						
STKA	**Stephens Creek**	**28.13**	**206**	P	**P**	**23 29 44.0**	**-0.8**
	2.5nm,0.8s,mb3.9,baz=59,slow=12,SNR=3.8						
STKA				sP	sP	23 30 01.2	-1.2
	7.7nm,0.9s,baz=14,slow=3.4,SNR=4.9						
STKA				LR	LR	23 40 49.1	
	comp=Z,241nm,18.1s,MS3.8,baz=116,slow=36						
FITZ	**Fitzroy Crossi**	**31.33**	**246**	eP	**P**	**23 30 12.9**	**-0.4**
	17nm,0.7s,mb5.0						
FORT	**Forrest**	**35.14**	**224**	eP	**P**	**23 30 45.6**	**-0.8**
	18nm,0.7s,mb5.1						
MBWA	**Marble Bar**	**37.54**	**244**	eP	**P**	**23 31 06.7**	**-0.3**
	7.0nm,0.6s,mb4.6						
RPZ	**Rata Peaks**	**39.08**	**162**	P	**P**	**23 31 19.8**	**+0.2**
	11nm,0.9s,mb4.6,baz=42,slow=2.0,SNR=6.6						
KKM	**Kota Kinabalu**	**41.43**	**287**	eP	**P**	**23 31 38.9**	**-0.6**
KLBR	**Kellerberrin**	**43.08**	**230**	eP	**P**	**23 31 51.9**	**-0.8**
NACB	**Ninganchiao**	**45.38**	**314**	P	**P**	**23 32 11.0**	**-0.1**
KSM	**Kuching**	**46.04**	**279**	eP	**P**	**23 32 18.1**	**+1.4**
MJAR	**Matsushiro Arr**	**46.21**	**340**	P	**P**	**23 32 16.4**	**-1.0**
	0.9nm,0.3s,mb4.2,baz=164,slow=7.6,SNR=4.4						
MAJO	**Matsushiro**	**46.21**	**340**	P	**P**	**23 32 17.6**	**+0.1**
KSRS	**Korea Array**	**51.17**	**332**	P	**P**	**23 32 55.5**	**-0.1**
	0.5nm,0.3s,mb3.9,baz=146,slow=9.5,SNR=4.4						
KSRS				PcP	PcP	23 34 11.4	+0.8
	1.8nm,0.7s,baz=141,slow=3.8,SNR=4.6						
KSRS				LR	LR	23 50 50.4	
	comp=Z,56nm,19.7s,MS3.6,baz=166,slow=32						
YSS	**Yuzh-Sakhalins**	**54.82**	**349**	eP	**P**	**23 33 22.3**	**0.0**
KULM	**Kulim**	**56.25**	**281**	P	**P**	**23 33 32.7**	**-0.5**
MDJ	**Mudanjiang**	**56.40**	**338**	eP	**P**	**23 33 33.5**	**-0.2**
COCO	**West Island**	**58.19**	**260**	P	**P**	**23 33 46.8**	**-0.2**
CASY	**Casey**	**66.91**	**198**	eP	**P**	**23 34 43.6**	**-0.6**
	37nm,1.1s,mb5.3						
ULN	**Ulaanbaatar**	**69.28**	**327**	eP	**P**	**23 35 00.7**	**+1.3**
	1.7nm,0.7s,mb4.1						
SONM	**Songino Array**	**69.62**	**327**	P	**P**	**23 35 02.6**	**+1.2**
	2.6nm,0.7s,mb4.3,baz=135,slow=6.7,SNR=28						
SONM				pP	pP	23 35 14.9	+0.1
	1.9nm,0.7s,baz=142,slow=5.3,SNR=8.2						
VNDA	**Vanda**	**70.67**	**179**	P	**P**	**23 35 08.0**	**+0.5**
VNDA	**Vanda**	**70.67**	**179**	P	**P**	**23 35 08.0**	**+0.5**
	1.0nm,0.8s,mb3.8,baz=350,slow=5.7,SNR=6.3						
SBA	**Scott Base**	**71.17**	**178**	eP	**P**	**23 35 11.6**	**+1.2**
	2.6nm,0.9s,mb4.2						
LSA	**Lhasa**	**71.78**	**304**	eP	**P**	**23 35 15.8**	**+0.7**
	2.1nm,0.5s,mb4.3						
BILL	**Bilibino**	**75.12**	**4**	P	**P**	**23 35 34.0**	**+0.2**
	9.4nm,0.9s,mb4.7						
GUN	**Gumba**	**75.65**	**301**	eP	**P**	**23 35 38.4**	**+0.6**
	17nm,0.6s,mb5.2						
PALK	**Pallekele**	**76.10**	**279**	P	**P**	**23 35 40.9**	**+0.3**
KKN	**Kakani**	**76.13**	**301**	eP	**P**	**23 35 41.1**	**+0.6**
DMN	**Daman**	**76.23**	**300**	eP	**P**	**23 35 41.7**	**+0.6**
	12nm,0.7s,mb5.0						
GKN	**Gorkha**	**76.74**	**301**	eP	**P**	**23 35 44.1**	**+0.2**
	13nm,0.6s,mb5.0						
KOLN	**Koldanda**	**77.56**	**300**	eP	**P**	**23 35 48.4**	**-0.2**
	5.3nm,0.5s,mb4.7						
DANN	**Dangsing**	**77.57**	**301**	eP	**P**	**23 35 48.7**	**+0.1**
	6.2nm,0.6s,mb4.7						
HYB	**Hyderabad**	**79.89**	**289**	eP	**P**	**23 36 01.0**	**-0.5**
HYB	**Hyderabad**	**79.89**	**289**	i P	**P**	**23 36 01.0**	**-0.5**
IMA2	**Indian Mountai**	**81.48**	**19**	eP	**P**	**23 36 09.0**	**0.0**
MCK	**McKinley**	**81.70**	**22**	eP	**P**	**23 36 09.7**	**-0.5**
	5.3nm,0.8s,mb4.5						
QSPA	**South Pole Qui**	**83.09**	**180**	P	**P**	**23 36 17.7**	**+0.4**
QSPA				pP	pP	23 36 31.2	+0.3
QSPA	**South Pole Qui**	**83.09**	**180**	P	**P**	**23 36 17.7**	**+0.4**
	3.9nm,0.6s,mb4.7,baz=342,slow=1.1,SNR=30						
QSPA				pP	pP	23 36 31.2	+0.3
	4.8nm,0.9s,baz=16,slow=3.3,SNR=5.4						
MK31	**Makanchi Array**	**83.78**	**319**	eP	**P**	**23 36 21.4**	**0.0**
MKAR	**Makanchi Array**	**83.78**	**319**	P	**P**	**23 36 21.4**	**+0.1**
	2.6nm,0.7s,mb4.5,baz=109,slow=5.5,SNR=17						
MKAR				pP	pP	23 36 34.8	-0.2
	1.9nm,0.7s,baz=93,slow=10,SNR=2.6						
ZALV	**Zalesovo Beam**	**84.48**	**326**	P	**P**	**23 36 24.2**	**-0.5**
	2.0nm,0.7s,mb4.3,baz=114,slow=5.9,SNR=8.0						
ZALV				pP	pP	23 36 37.8	-0.6
	1.2nm,0.5s,baz=120,slow=5.2,SNR=3.4						
MAW	**Mawson**	**84.76**	**203**	eP	**P**	**23 36 26.3**	**+0.3**
	4.6nm,0.6s,mb4.8						
MAW	**Mawson**	**84.76**	**203**	P	**P**	**23 36 26.1**	**+0.1**
	2.3nm,0.8s,mb4.4,baz=99,slow=9.2,SNR=13						
MAW				pP	pP	23 36 39.4	-0.2
	4.3nm,0.8s,mb4.4,baz=119,slow=14,SNR=4.4						
EGAK	**Eagle**	**85.15**	**23**	P	**P**	**23 36 28.5**	**+0.5**
KURK	**Kurchatov**	**87.17**	**322**	P	**P**	**23 36 38.2**	**0.0**
AAK	**Ala-Archa**	**88.18**	**313**	eP	**P**	**23 36 43.2**	**0.0**
EKS2	**Erkin-Say**	**88.70**	**313**	eP	**P**	**23 36 44.0**	**-1.7**
INK	**Inuvik**	**89.38**	**21**	P	**P**	**23 36 47.7**	**-0.5**
INK				pP	p

s-maj=445.8km s-min=29.5km az=82.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.61**	**190**	P	Pn	23 57 55.7	-2.8
	0.1nm,0.3s,baz=14,slow=12,SNR=5.5						
ASAR	**Alice Springs**	**23.33**	**190**	P	P	23 58 38.4	+1.1
	0.4nm,0.7s,baz=14,slow=12,SNR=3.2						
MKAR	**Makanchi Array**	**67.65**	**322**	P	P	00 04 26.1	0.0
	0.3nm,0.3s,baz=112,slow=7.8,SNR=4.9						

IDC 26 23:55:55.4±3.4, 424S×12698E, h0km, mb3.0/1, mb1 3.7/2, mb1mx3.3/16, mbtmp3.4/2, ML3.6/1, Error ellipse: s-maj=345.5km s-min=57.2km az=73.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**17.18**	**156**	P	Pn	23 59 57.8	+0.9
	0.2nm,0.3s,baz=332,slow=12,SNR=14						
ASAR	**Alice Springs**	**20.44**	**162**	P	P	00 00 34.0	-0.4
	0.2nm,0.4s,baz=349,slow=12,SNR=5.9						
LPAZ	**La Paz**	**154.72**	**144**	PKPbc	PKPbc	00 16 00.4	+0.9
	1.0nm,0.4s,baz=210,slow=2.4,SNR=6.9						

*ISCJB **27** 00:30:36.0±0.5, 196S±0.1×67.16E±009, h10km, mb4.0/11, MS3.7/5, Error ellipse: s-maj=15.4km s-min=12.5km az=179.1*
*IDC **27** 00:30:36.4±1.2, 1959S×67.17E, h0km, mb3.9/7, mb1 3.9/7, mb1mx3.8/21, mbtmp3.9/7, MS3.7/5, Ms1 3.6/5, ms1mx3.2/34, Error ellipse: s-maj=39.0km s-min=25.3km az=24.0*
*NEIC **27** 00:30:37.9±0.4, 1960S×67.11E, h10km, mb4.3/4, Error ellipse: s-maj=12.4km s-min=9.8km az=181.0*
ISC 27 00:30:38.0±0.5, 196S±01×6713E±009, h10km, n25, σ0§77/21, mb4.0/11, MS3.7/5, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCO	**West Island**	**29.48**	**80**	P	**P**	**00 36 40.9**	**-1.6**
KMBO	**Kilima Mbogo**	**34.53**	**299**	*e*P	**P**	**00 37 24.8**	**-2.1**
	3.8nm,1.4s,mb4.1						
LSZ	**Lusaka**	**37.34**	**270**	P	**P**	**00 37 51.9**	**+0.9**
	1.6nm,0.7s,mb4.0,baz=102,slow=11,SNR=5.0						
LBTB	**Lobatse**	**38.68**	**254**	P	**P**	**00 38 02.6**	**+0.5**
BOSA	**Boshof**	**39.09**	**249**	P	**P**	**00 38 05.3**	**-0.2**
BOSA	**Boshof**	**39.09**	**249**	LR	LR	00 50 56.6	
	comp=Z,76nm,20.0s,MS3.5,baz=143,slow=31						
MAW	**Mawson**	**48.05**	**182**	LR	LR	00 53 34.0	
	comp=Z,124nm,21.7s,MS3.9,baz=250,slow=29						
LSA	**Lhasa**	**54.23**	**26**	P	**P**	**00 40 04.5**	**+0.5**
ASF	**Jabal al Asfar**	**59.08**	**330**	LR	LR	01 02 08.0	
	comp=Z,35nm,18.7s,MS3.5,baz=60,slow=32						
ASAR	**Alice Springs**	**61.71**	**107**	P	**P**	**00 40 56.3**	**-0.5**
	0.7nm,0.8s,mb3.9,baz=267,slow=5.6,SNR=6.1						
EKS2	**Erkin-Say**	**62.27**	**6**	*e*P	**P**	**00 41 00.4**	**+0.3**
	1.4nm,0.6s,mb4.3						
AAK	**Ala-Archa**	**62.31**	**6**	*e*P	**P**	**00 41 00.5**	**+0.2**
	2.6nm,1.3s,mb4.2						
TKM2	**Tokmak 2**	**62.71**	**7**	*e*P	**P**	**00 41 03.7**	**+0.7**
	1.8nm,0.7s,mb4.3						
WRA	**Warramunga Arr**	**62.83**	**103**	P	**P**	**00 41 04.6**	**+0.2**
	0.7nm,0.8s,mb3.9,baz=260,slow=5.8,SNR=6.2						
WB2	**Warramunga Arr**	**62.84**	**103**	P	**P**	**00 41 04.7**	**+0.3**
WRAB	**Tennant Creek**	**62.84**	**103**	P	**P**	**00 41 04.9**	**+0.4**
MKAR	**Makanchi Array**	**67.50**	**11**	P	**P**	**00 41 35.0**	**+0.9**
MKAR				LR	LR	01 09 44.2	
MKAR	**Makanchi Array**	**67.50**	**11**	P	**P**	**00 41 35.0**	**+0.9**
	0.2nm,0.3s,mb3.6,baz=180,slow=7.3,SNR=4.9						
MKAR				LR	LR	01 09 44.2	
	comp=Z,44nm,18.4s,MS3.7,baz=0.0,slow=35						
KURK	**Kurchatov**	**70.75**	**8**	P	**P**	**00 41 54.4**	**+0.3**
VNDA	**Vanda**	**72.01**	**167**	*e*P	**P**	**00 42 01.8**	**+0.3**
ZALV	**Zalesovo Beam**	**74.83**	**11**	P	**P**	**00 42 18.2**	**-0.1**
	1.5nm,0.6s,mb4.1,baz=224,slow=6.0,SNR=6.5						
SONM	**Songino Array**	**75.81**	**26**	P	**P**	**00 42 24.4**	**+0.3**
	1.1nm,0.8s,mb3.9,baz=208,slow=6.2,SNR=9.4						
ARU	**Arti**	**76.09**	**355**	*e*P	**P**	**00 42 25.4**	**-0.1**
AKASG	**Malin Array Be**	**77.56**	**336**	P	**P**	**00 42 32.4**	**-1.5**
	0.3nm,0.4s,mb3.6,baz=138,slow=5.1,SNR=4.3						
KSRS	**Korea Array**	**80.57**	**45**	LR	LR	01 16 48.8	
	comp=Z,47nm,19.1s,MS3.9,baz=200,slow=34						

*IDC **27** 00:35:32.0±0.8, 3169S×7204W, h0km, mb4.1/5, mb1 4.1/10, mb1mx3.9/20, mbtmp3.9/10, ML4.1/5, MS3.7/3, Ms1 3.7/3, ms1mx3.1/26, Error ellipse: s-maj=17.5km s-min=15.5km az=153.0*
*ISCJB **27** 00:35:34.6±0.5, 3174S±003×7234W±006, h33km, mb4.2/7, MS3.4/2, Error ellipse: s-maj=7.3km s-min=3.5km az=166.0*
*GUC **27** 00:35:34.4±1.0, 3176S×7221W, h25km±5km, MD4.4, ML4.3*
*NEIC **27** 00:35:34.4, 3176S×7221W, h25km, mb4.3/3, ML4.3(GUC), After GUC.*
ISC 27 00:35:36.6±0.4, 3171S±003×7220W±005, h35km, n55, σ1§17/67, mb4.2/7, MS3.4/2, 7C-11D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMCH	**Combarbala**	**1.15**	**63**	AML	AML	00 36 09.8	
	comp=N,63μm,0.6s						
OVCH	**Ovalle**	**1.39**	**38**	AML	AML	00 36 22.9	
	comp=N,6μm,0.6s						
ROCH	**El Roble**	**1.61**	**142⇑**	*i*P	**Pn**	**00 36 01.4**	**-1.1**
JACH	**Jahuel**	**1.67**	**126⇓**	*i*P	**Pn**	**00 36 02.6**	**-0.7**
JACH				*i* S	**Sn**	**00 36 23.2**	**-0.3**
LCCH	**Las Cruces**	**1.84**	**163⇑**	*i*P	**Pn**	**00 36 04.5**	**-1.1**
PEL	**Peldehue**	**1.92**	**139⇑**	*i*P	**Pn**	**00 36 05.9**	**-0.8**
PEL				*i* S	**Sn**	**00 36 30.9**	**+1.3**
PEL				AML	AML	00 36 37.3	
	comp=E,8μm,0.4s						
TLL	**Tololo Astrono**	**1.95**	**38**	AML	AML	00 36 47.4	
	comp=N,3μm,0.7s						
LSCH	**La Serena**	**1.98**	**25⇑**	*i*P	**Pn**	**00 36 08.4**	**+0.9**
LSCH				*i* S	**Sn**	**00 36 33.3**	**+2.2**
LSCH	**La Serena**	**1.98**	**25⇑**	*i*P	**Pn**	**00 36 08.4**	**+0.9**
LSCH				*i* S	**Sn**	**00 36 33.3**	**+2.2**
LSCH				AML	AML	00 36 42.5	
	comp=N,1μm,0.4s						
RCDM	**Rinconada Maip**	**2.12**	**147**	*e*P	**Pn**	**00 36 09.5**	**-0.1**
RCDM				*i* S	**Sn**	**00 36 35.8**	**+1.1**
RCDM	**Rinconada Maip**	**2.12**	**147**	*e*P	**Pn**	**00 36 09.5**	**-0.1**
RCDM				*i* S	**Sn**	**00 36 35.8**	**+1.1**
RCDM				AML	AML	00 36 43.7	
	comp=N,2μm,0.4s						
STL	**Santa Lucia**	**2.16**	**143**	*e*P	**Pn**	**00 36 11.6**	**+1.5**
STL				AML	AML	00 36 47.8	
	comp=E,655nm,1.0s						
DSCH	**Colegio Aleman**	**2.17**	**141**	AML	AML	00 36 44.3	
	comp=N,1μm,0.8s						
CLCH	**Cerro Calan**	**2.19**	**141⇓**	*i*P	**Pn**	**00 36 09.8**	**-0.7**
CLCH				*i* S	**Sn**	**00 36 39.7**	**+3.4**
CLCH				AML	AML	00 36 56.1	
	comp=E,5μm,0.8s						
CLCH				AML	AML	00 36 56.7	
	comp=E,6μm,0.9s						
TACH	**Talagante**	**2.21**	**152⇓**	*i*P	**Pn**	**00 36 10.5**	**-0.3**
TACH				*i* S	**Sn**	**00 36 37.4**	**+0.6**
FSR	**Penalolen**	**2.25**	**142**	AML	AML	00 36 49.6	
	comp=E,4μm,0.7s						
ANTU	**Antumapu**	**2.27**	**145**	*e*P	**Pn**	**00 36 11.1**	**-0.5**
ANTU				AML	AML	00 36 51.4	
	comp=N,3μm,0.8s						
FCH	**Farellones**	**2.28**	**136⇓**	*i*P	**Pn**	**00 36 11.1**	**-0.6**
FCH				*i* S	**Sn**	**00 36 39.2**	**+0.7**
FCH				AML	AML	00 36 49.1	
	comp=N,2μm,0.5s						
LNV	**Longovilo**	**2.33**	**164⇓**	*i*P	**Pn**	**00 36 10.8**	**-1.7**
PCH	**Pirque**	**2.37**	**144⇓**	*i*P	**Pn**	**00 36 12.4**	**-0.6**
CHCH	**Chadas Angostu**	**2.57**	**150⇓**	*i*P	**Pn**	**00 36 15.6**	**-0.1**
LMEL	**Las Melosas**	**2.71**	**142⇓**	*i*P	**Pn**	**00 36 17.6**	**-0.1**
LMEL				*i* S	**Sn**	**00 36 50.1**	**+0.9**
LMEL	**Las Melosas**	**2.71**	**142⇓**	*i*P	**Pn**	**00 36 17.6**	**-0.1**
LMEL				*i* S	**Sn**	**00 36 50.1**	**+0.9**
LMEL				AML	AML	00 37 02.0	
	comp=N,2μm,0.3s						
CACH	**El Canelo**	**2.75**	**151⇑**	*i*P	**Pn**	**00 36 18.9**	**+0.7**
CACH				*i* S	**Sn**	**00 36 51.9**	**+1.7**
LCO	**Las Campanas**	**2.99**	**26**	*e*Pn	**Pn**	**00 36 18.9**	**-2.6**
LCO				*e*Sn	**Sn**	**00 36 58.3**	**+2.3**
LCO				*e*Sg	**Sn**	**00 37 05.5**	**+10**
CICH	**Cipreses**	**3.00**	**151⇓**	*i*P	**Pn**	**00 36 21.9**	**+0.3**
SFDO	**San Fernando**	**3.06**	**161⇑**	*i*P	**Pn**	**00 36 22.1**	**-0.3**
VACH	**Vallenar**	**3.37**	**22**	AML	AML	00 37 26.1	
	comp=N,3μm,0.5s						
CFAA	**Coronel Fontan**	**3.38**	**89**	Pn	**Pn**	**00 36 25.8**	**-1.0**
CFAA				Pg	**Pn**	**00 36 30.1**	**+3.2**
CFAA				Sn	**Sn**	**00 37 04.9**	**-0.8**
CFAA				Lg		00 37 14.8	
CFAA	**Coronel Fontan**	**3.38**	**89**	Pn	**Pn**	**00 36 25.8**	**-1.0**
	comp=N,3.0nm,0.3s,baz=261,slow=16,SNR=86						
CFAA				Pg	**Pn**	**00 36 30.1**	**+3.2**
	comp=N,4.0nm,0.3s,baz=260,slow=15,SNR=163						
CFAA				Sn	**Sn**	**00 37 04.9**	**-0.8**
	comp=N,3.3nm,0.3s,baz=294,slow=12,SNR=2.8						
CFAA				Lg		00 37 14.8	
	comp=N,3.8nm,0.3s,baz=352,slow=18,SNR=3.9						
COCH	**Cobquecura**	**4.43**	**186⇓**	*i*P	**Pn**	**00 36 39.9**	**-1.5**
COCH				*i* S	**Sn**	**00 37 28.6**	**-3.1**
PLCA	**Paso Flores**	**9.10**	**172**	*e*Pn	**Pn**	**00 37 44.8**	**-0.6**
PLCA				Lg		00 40 19.1	
PLCA	**Paso Flores**	**9.10**	**172**	Pn	**Pn**	**00 37 45.0**	**-0.4**
	comp=N,0.8nm,0.3s,baz=344,slow=12,SNR=20						
PLCA				Lg		00 40 19.1	
	comp=N,0.1nm,0.3s,baz=52,slow=13,SNR=2.3						
TRQA	**Tornquist**	**10.51**	**130**	Pn	**Pn**	**00 38 05.1**	**+0.4**
	comp=N,34nm,0.8s						
TRQA				*e*Sn	**Sn**	**00 40 09.6**	**+8.6**
CPUP	**Villa Florida**	**14.06**	**71**	*e*Pn	**Pn**	**00 38 50.7**	**-2.6**
CPUP				*e*Sn	**Sn**	**00 41 25.0**	**-3.2**
CPUP	**Villa Florida**	**14.06**	**71**	Pn	**Pn**	**00 38 51.8**	**-1.6**
	comp=N,0.7nm,0.3s,baz=229,slow=12,SNR=5.1						
CPUP				Sn	**Sn**	**00 41 27.9**	**-0.3**
	comp=N,0.6nm,0.3s,baz=313,slow=9.8,SNR=1.9						
CPUP				Lg		00 42 53.5	
	comp=N,0.7nm,0.3s,baz=146,slow=20,SNR=2.3						
CPUP				LR	LR	00 44 41.1	
	comp=N,534nm,18.7s,baz=221,slow=39						
LPAZ	**La Paz**	**15.79**	**14**	*e*Pn	**Pn**	**00 39 15.9**	**-0.5**
	comp=N,4.8nm,1.0s						
LPAZ	**La Paz**	**15.79**	**14**	Pn	**Pn**	**00 39 15.4**	**-1.0**
	comp=N,0.1nm,0.3s,baz=196,slow=5.1,SNR=7.3						
SIV	**San Ignacio**	**18.64**	**35**	P	**Pn**	**00 39 49.7**	**-2.2**
	comp=N,0.2nm,0.3s,baz=222,slow=12,SNR=11						
ATAH	**Atahualpa**	**25.26**	**345**	LR	LR	00 48 50.3	
	comp=N,92nm,19.2s,MS3.3,baz=268,slow=32						
BDFB	**Brasilia**	**27.23**	**60**	P	**P**	**00 41 15.8**	**-1.5**
	comp=N,1.8nm,0.6s,mb3.8,baz=244,slow=16,SNR=6.0						
BDFB				LR	LR	00 53 45.9	
	comp=N,142nm,21.2s,MS3.5,baz=192,slow=40						
SDV	**Santo Domingo**	**40.40**	**2**	P	**P**	**00 43 14.1**	**+2.7**
JTS	**JuntasAbangare**	**43.51**	**342**	*e*P	**P**	**00 43 37.4**	**+0.5**
SJG	**San Juan**	**49.88**	**8**	P	**P**	**00 44 25.7**	**-0.8**
VNA2	**Neumayer--Watz**	**52.17**	**158**	*e*	**P**	**00 44 44.0**	**+0.7**
	baz=291,slow=8.8						
VNA2				*e*		00 44 48.7	
VNA2				*e*	pP	00 44 53.0	-0.8
VNA2				*e*		00 44 57.1	
VNA2				*e*		00 45 01.3	
SNAA	**Sanae**	**53.75**	**158**	*e*	**P**	**00 44 55.8**	**+0.9**
SNAA				*e*		00 44 59.5	
SNAA				*e*	pP	00 45 04.6	-0.8
SNAA				*e*	pP	00 45 08.8	+3.4
SNAA				*e*		00 45 12.9	
SNAA	**Sanae**	**53.75**	**158**	P	**P**	**00 44 55.8**	**+0.9**
	comp=N,2.0nm,0.8s,mb4.1,baz=270,slow=5.5,SNR=14						
TEIG	**Tepich**	**53.90**	**341**	*e*P	**P**	**00 44 56.7**	**+0.2**
	comp=N,7.1nm,0.4s,mb5.0						
QSPA	**South Pole Qui**	**58.52**	**180**	P	**P**	**00 45 29.7**	**+0.9**
	comp=N,3.1nm,0.9s,mb4.3,baz=153,slow=5.3,SNR=9.4						
TXAR	**Lajitas Array**	**67.68**	**330**	P	**P**	**00 46 31.4**	**+1.2**
	comp=N,0.6nm,0.6s,mb3.8,baz=163,slow=9.4,SNR=1.8						
DBIC	**Dimbokro**	**74.58**	**72**	P	**P**	**00 47 12.9**	**+0.5**
	comp=N,3.6nm,0.8s,mb4.4,baz=236,slow=9.9,SNR=4.0						
SDCO	**Great Sand Dun**	**75.77**	**333**	*e*P	**P**	**00 47 20.1**	**+1.4**
	comp=N,7.0nm,1.9s,mb4.3						
ZALV	**Zalesovo Beam**	**152.34**	**30**	PKPbc	PKPbc	00 55 28.7	+0.4
ZALV				PKPab	PKPab	00 55 39.0	+0.7
ZALV	**Zalesovo Beam**	**152.34**	**30**	PKPbc	PKPbc	00 55 28.7	+0.4
	comp=N,2.3nm,0.6s,baz=292,slow=2.5,SNR=9.5						
ZALV				PKPab	PKPab	00 55 39.0	+0.7
	comp=N,2.5nm,0.5s,baz=299,slow=3.0,SNR=5.8						
MKAR	**Makanchi Array**	**155.31**	**45**	PKPab	PKPab	00 55 51.8	+0.6
	comp=N,0.3nm,0.3s,baz=285,slow=2.4,SNR=3.9						

*ISCJB **27** 00:56:20.0±0.4, 2943N±009×4334W±007, h10km, mb4.0/18, MS3.7/8, Error ellipse: s-maj=13.4km s-min=8.8km az=160.9*
*IDC **27** 00:56:20.2±1.4, 2941N×4330W, h0km, mb3.9/12, mb1 4.1/12, mb1mx3.9/27, mbtmp3.9/12, MS3.7/8, Ms1 3.6/8, ms1mx3.2/33, Error ellipse: s-maj=47.2km s-min=17.9km az=2.0*
*NEIC **27** 00:56:21.6±0.3, 2942N×4334W, h10km, mb4.7/5, Error ellipse: s-maj=11.1km s-min=7.7km az=161.0*
ISC 27 00:56:21.8±0.4, 2941N±009×4335W±007, h10km, n32, σ0§85/27, mb4.0/18, MS3.7/8, 1C, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTP	**Monte Pirata**	**23.19**	**246**	P	**P**	**01 01 28.6**	**-0.3**
SJG	**San Juan**	**23.66**	**247**	P	**P**	**01 01 32.9**	**-0.8**
BBTS	**Babate**	**28.77**	**115**	LR	LR	01 10 31.4	
	comp=Z,142nm,20.7s,MS3.6,baz=289,slow=30						
SCHQ	**Schefferville**	**30.51**	**333**	LR	LR	01 13 49.7	
	comp=Z,112nm,18.5s,MS3.5,baz=153,slow=34						
MTE	**Manteigas**	**31.15**	**60**	*e*P	**P**	**01 02 40.3**	**-0.5**
	34nm,1.4s,mb5.0						
MDT	**Midelt**	**33.22**	**74**	P	**P**	**01 03 00.5**	**+1.5**
	1.1nm,0.3s,mb4.2,baz=228,slow=13,SNR=4.2						
ESLA	**Sonseca Array**	**33.79**	**62**	*e*P	**P**	**01 03 03.7**	**-0.2**
	2.4nm,1.2s,mb4.0						
RCBR	**Riachuelo**	**35.76**	**167**	P	**P**	**01 03 21.1**	**0.0**
DBIC	**Dimbokro**	**42.72**	**114**	LR	LR	01 19 17.5	
	comp=Z,179nm,19.2s,MS4.0,baz=252,slow=32						
AGMN	**Agassiz Refuge**	**44.09**	**310**	P	**P**	**01 04 28.9**	**-1.1**
	3.2nm,0.8s,mb4.1						
ULM	**Lac du Bonnet**	**44.32**	**313**	P	**P**	**01 04 32.5**	**+0.6**
ULM				LR	LR	01 21 23.1	
ULM	**Lac du Bonnet**	**44.32**	**313**	P	**P**	**01 04 32.5**	**+0.6**
	0.9nm,0.6s,mb3.6,baz=90,slow=13,SNR=3.0						
ULM				LR	LR	01 21 23.1	
	comp=Z,63nm,21.3s,MS3.5,baz=48,slow=34						
KEST	**Kesra**	**44.42**	**68**	P	**P**	**01 04 32.7**	**-0.1**
	1.7nm,0.8s,mb3.8,baz=208,slow=8.9,SNR=5.9						
BDFB	**Brasilia**	**45.01**	**186**	LR	LR	01 21 33.6	
	comp=Z,50nm,18.9s,MS3.5,baz=181,slow=34						
FETA	**Feichten**	**45.05**	**52**	P	**P**	**01 04 39.0**	**+1.3**
	1.2nm,0.6s,mb3.9						
GERES	**GERESS Array B**	**47.14**	**49**	P	**P**	**01 04 53.8**	**-0.3**
	0.8nm,0.8s,mb3.7,baz=261,slow=6.6,SNR=7.9						
OBKA	**Obir**	**47.66**	**52⇑**	*i*P	**P**	**01 04 58.1**	**-0.1**
	comp=Z,5.2nm,0.7s,mb4.7						
LPAZ	**La Paz**	**51.34**	**211**	*e*P	**P**	**01 05 26.9**	**+0.3**
TXAR	**Lajitas Array**	**52.02**	**286**	P	**P**	**01 05 31.6**	**-0.1**
	1.8nm,1.0s,mb4.0,baz=92,slow=7.3,SNR=14						
TXAR				LR	LR	01 27 41.6	
	comp=Z,58nm,19.5s,MS3.6,baz=350,slow=36						
BNM	**Barren Site**	**53.24**	**292**	*e*P	**P**	**01 05 42.1**	**+1.4**
FINES	**FINESS Array B**	**54.85**	**33**	P	**P**	**01 05 49.8**	**-2.1**
	2.1nm,0.9s,mb4.2,baz=154,slow=5.3,SNR=4.7						
MLR	**Muntele Rosu**	**55.65**	**53**	P	**P**	**01 05 59.0**	**+1.0**
	1.6nm,1.0s,mb4.0,baz=341,slow=12,SNR=3.1						
YKA	**Yellowknife Ar**	**55.74**	**328**	P	**P**	**01 05 58.3**	**0.0**
	0.5nm,1.0s,mb3.5,baz=92,slow=7.0,SNR=6.2						
YKA				LR	LR	01 28 25.2	
	comp=Z,75nm,20.9s,MS3.8,baz=45,slow=34						
MSU	**Marysvale**	**56.62**	**299**	P	**P**	**01 06 04.7**	**-0.4**
CPUP	**Villa Florida**	**57.02**	**195**	*e*P	**P**	**01 06 07.7**	**-0.2**
	47nm,2.0s,mb5.2						
AKASG	**Malin Array Be**	**57.10**	**46**	P	**P**	**01 06 07.0**	**-1.3**
	0.2nm,0.3s,mb3.6,baz=271,slow=6.7,SNR=4.8						
NVAR	**Mina Array Bea**	**61.29**	**300**	P	**P**	**01 06 38.9**	**+1.4**
	0.9nm,0.8s,mb3.9,baz=67,slow=7.6,SNR=4.8						
AKTK	**Aktyubinsk**	**74.60**	**41**	P	**P**	**01 08 01.0**	**0.0**
AKTO	**Aktyubinsk**	**74.60**	**41**	P	**P**	**01 08 01.0**	**0.0**
	0.8nm,0.6s,mb3.8,baz=316,slow=8.0,SNR=5.6						
TSUM	**Tsumeb**	**76.06**	**122**	P	**P**	**01 08 10.7**	**+0.8**
LSZ	**Lusaka**	**82.03**	**112**	P	**P**	**01 08 41.5**	**-1.1**
	0.9nm,0.8s,mb3.8,baz=263,slow=6.9,SNR=3.8						
BOSA	**Boshof**	**87.30**	**125**	LR	LR	01 44 47.2	
	comp=Z,70nm,18.3s,MS4.1,baz=317,slow=33						

*ISCJB **27** 01:01:42.4±0.5, 3513N±004×2314E±006, h79km±5km, mb3.6/8, Error ellipse: s-maj=8.6km s-min=4.7km az=150.3*
*CSEM **27** 01:01:42.8±0.1, 3516N×2325E, h76km, ML3.9, Error ellipse: s-maj=3.1km s-min=1.4km az=66.0*
*NEIC **27** 01:01:43.2, 3521N×2325E, h76km, MG3.8(ATH), After ATH.*
*ATH **27** 01:01:43.2, 3521N×2325E, h76km±3km, ML3.8*
*HLW **27** 01:01:43.1, 3525N×2331E, h33km, Mb3.4*
*IDC **27** 01:01:45.3±5.2, 3560N×2364E, h42km±39km, mb3.5/8, mb1 3.5/11, mb1mx3.4/25, mbtmp3.4/11, ML3.7/3, Error ellipse: s-maj=66.0km s-min=23.0km az=28.0*
*THE **27** 01:01:46.2, 3529N×2327E, h69km, ML3.9*
ISC 27 01:01:43.7±0.4, 3515N±003×2316E±006, h69km±6km, n58, σ1§09/71, mb3.6/8, 1C-5D, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARN	**Karanos**	**0.67**	**67**	*e*Pg	**Pn**	**01 01 57.4**	**-0.9**
KARN				*e*Sg	**Sn**	**01 02 08.0**	**-1.0**
KARN	**Karanos**	**0.67**	**67**	*e*Pg	**Pn**	**01 01 57.3**	**-1.0**
KARN				*e*Sg	**Sn**	**01 02 08.0**	**-1.0**
GVD	**Gavdhos**	**0.82**	**111**	*e*Pg	**Pn**	**01 02 00.2**	**+0.2**
GVD				*e*Sg	**Sn**	**01 02 13.9**	**+1.8**
GVD	**Gavdhos**	**0.82**	**111**	*e*P	**Pn**	**01 01 59.8**	**-0.2**
GVD	**Gavdhos**	**0.82**	**111**	*e*Pg	**Pn**	**01 02 00.2**	**+0.2**
GVD				*e*Sg	**Sn**	**01 02 13.9**	**+1.9**
VAM	**Vamos**	**0.89**	**73**	*e*P	**Pn**	**01 02 00.9**	**+0.1**
VAM				*e*S	**Sn**	**01 02 13.1**	**-0.4**
KYTH	**Kithira**	**1.14**	**355**	*e*P	**Pn**	**01 02 04.0**	**+0.1**
SIVA	**Sivas**	**1.36**	**95**	*e*Pg	**Pn**	**01 02 08.0**	**+1.2**
IDI	**Anoyia**	**1.43**	**84**	P	**Pn**	**01 02 08.6**	**+0.9**
VLI	**Veliai**	**1.58**	**354**	*e*P	**Pn**	**01 02 10.0**	**+0.3**
LAST	**Lasithi**	**1.90**	**89**	*e*Pb	**Pn**	**01 02 16.1**	**+2.1**
NPS	**Neapolis**	**2.02**	**86**	*e*P	**Pn**	**01 02 16.1**	**+0.6**
SANT	**Santorini**	**2.24**	**56**	*e*Pn	**Pn**	**01 02 18.3**	**-0.3**
SANT				*e*Sn	**Sn**	**01 02 43.8**	**-1.3**
SANT	**Santorini**	**2.24**	**56**	*e*Pn	**Pn**	**01 02 18.1**	**-0.5**
SANT	**Santorini**	**2.24**	**56**	*e*Pn	**Pn**	**01 02 18.1**	**-0.4**
SANT				*e*Sn	**Sn**	**01 02 43.8**	**-1.3**
ITM	**Ithomi**	**2.26**	**334**	*e*P	**Pn**	**01 02 19.5**	**+0.6**
VLX	**Vlachokerasia**	**2.31**	**344**	*e*Pn	**Pn**	**01 02 22.9**	**+3.4**
DID	**Didima**	**2.36**	**2**	*e*Pn	**Pn**	**01 02 20.1**	**-0.1**
NAIG	**Nisos Aigina**	**2.62**	**6**	*e*P	**Pn**	**01 02 24.0**	**+0.2**
APE	**Apeiranthos**	**2.72**	**44**	*e*P	**Pn**	**01 02 24.6**	**-0.5**
ATH	**Athens Observa**	**2.86**	**9**	*e*P	**Pn**	**01 02 27.0**	**0.0**
PTL	**Penteli**	**2.95**	**11**	*e*P	**Pn**	**01 02 27.8**	**-0.5**
RLS	**Riolos of Patr**	**3.21**	**335**	*e*P	**Pn**	**01 02 32.6**	**+0.9**
KARP	**Karpathos**	**3.30**	**82**	*e*P	**Pn**	**01 02 33.4**	**+0.4**
LKR	**Lokris**	**3.50**	**358**	*e*Pn	**Pn**	**01 02 35.9**	**+0.1**
LKR	**Lokris**	**3.50**	**358**	*e*Pn	**Pn**	**01 02 35.8**	**+0.1**
LKR	**Lokris**	**3.50**	**358**	P	**Pn**	**01 02 36.5**	**+0.8**
EVR	**Evrytania**	**3.92**	**344**	P	**Pn**	**01 02 44.6**	**+3.2**
SMG	**Samos**	**3.92**	**48**	P	**Pn**	**01 02 42.1**	**+0.7**
SLUM		**4.03**	**154**	⇓P	**Pn**	**01 02 43.5**	**+0.6**
SLUM				S	**Sn**	**01 03 27.1**	**-1.8**
SLUM		**4.03**	**154**	P	**Pn**	**01 02 43.5**	**+0.5**
SLUM				S	**Sn**	**01 03 27.1**	**-1.8**
NEO	**Neokhori**	**4.15**	**1**	P	**Pn**	**01 02 45.2**	**+0.6**
ARG	**Arkhangelos**	**4.18**	**74**	*e*P	**Pn**	**01 02 45.5**	**+0.4**
JAN	**Janina**	**4.86**	**339**	P	**Pn**	**01 02 55.8**	**+1.5**
IGT	**Igoumenitsa**	**4.92**	**334**	*e*Pn	**Pn**	**01 02 54.0**	**-1.1**
IGT				*e*Sn	**Sn**	**01 03 45.1**	**-5.6**
HMAT	**Matruh**	**5.22**	**140⇑**	*e*P	**Pn**	**01 02 59.3**	**0.0**
PLG	**Polygyros**	**5.22**	**2**	P	**Pn**	**01 02 59.9**	**+0.6**
SRN	**Sarande**	**5.35**	**333**	*e*Pg	**Pn**	**01 02 58.8**	**-2.2**
SRN				*i* Sg	**Sn**	**01 03 56.5**	**-4.7**

Ml3.2/57, Error ellipse: s-maj=2.2km s-min=1.6km az=124.0
*CSEM **27** 01:19:30.5±0.1, 4297N×1373E, h30km, ML3.0/3, Error ellipse: s-maj=1.7km s-min=1.0km az=65.0*
*LDG **27** 01:19:32.2±0.1, 4295N×1362E, h10km, Ml3.3/12, Error ellipse: s-maj=5.0km s-min=2.6km az=59.0*
*THE **27** 01:19:35.1, 4170N×1390E, h5km*
ISC 27 01:19:30.5±0.2, 4290N±001×1363E±002, h17km±2km, n144, σ1§18/190, 8C-11D, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFFI	**Offida**	**0.05**	**54**	Pg	**Pg**	**01 19 34.3**	**+0.6**
OFFI	56μm,0.6s			Sg	**Sg**	**01 19 38.2**	**+2.4**
TRTR	**Tortoreto Alta**	**0.23**	**114**	Pg	**Pg**	**01 19 36.7**	**+0.9**
TRTR	5μm,0.4s			Sg	**Sg**	**01 19 41.9**	**+2.4**
TERO	**Teramo**	**0.28**	**183**	⇑iPg	**Pg**	**01 19 36.8**	**+0.2**
TERO	3μm,0.5s			Sg	**Sg**	**01 19 42.3**	**+1.5**
NRCA	**Norcia**	**0.38**	**260**	Pg	**Pg**	**01 19 38.5**	**+0.1**
LNSS	**Leonessa**	**0.53**	**235**	Pg	**Pg**	**01 19 41.1**	**+0.1**
LNSS	5μm,0.3s			Sg	**Sg**	**01 19 50.0**	**+1.9**
VCEL	**Villa Celiera**	**0.53**	**163**	Pg	**Pg**	**01 19 41.0**	**-0.1**
VCEL	2μm,0.6s			Sg	**Sg**	**01 19 51.1**	**+2.8**
CESI	**CESI - Serrava**	**0.54**	**281**	⇓iPg	**Pg**	**01 19 41.1**	**-0.1**
CING	**Cingoli**	**0.57**	**326**	Pg	**Pg**	**01 19 41.1**	**-0.7**
CING	684nm,0.5s			Sg	**Sg**	**01 19 50.4**	**+1.0**
AQU	**L'Aquila**	**0.57**	**197**	Pg	**Pg**	**01 19 41.5**	**-0.4**
SNTG	**Esanatoglia**	**0.61**	**305**	Pg	**Pg**	**01 19 42.0**	**-0.6**
SNTG	2μm,0.5s			Sg	**Sg**	**01 19 52.4**	**+1.6**
FAGN	**Fagnano**	**0.64**	**183**	Pg	**Pg**	**01 19 42.3**	**-0.8**
AOI	**Ancona**	**0.65**	**358**	Pg	**Pg**	**01 19 42.9**	**-0.4**
ASS	**Assisi**	**0.73**	**283**	Pg	**Pg**	**01 19 44.5**	**-0.3**
FIAM	**Fiamignano**	**0.74**	**211**	Pg	**Pg**	**01 19 44.2**	**-0.7**
ARVD	**Arcevia**	**0.78**	**320**	Pg	**Pg**	**01 19 45.0**	**-0.7**
CAFR	**Castel Frentan**	**0.86**	**141**	Pg	**Pg**	**01 19 46.5**	**-0.8**
MNS	**Montasola**	**0.87**	**234**	Pg	**Pg**	**01 19 46.7**	**-0.7**
MURB	**Monte Urbino**	**0.88**	**294**	Pg	**Pg**	**01 19 47.0**	**-0.7**
FSSB	**Fossombrone**	**1.00**	**322**	Pg	**Pg**	**01 19 49.2**	**-0.8**
PIEI	**Piela**	**1.02**	**309**	Pg	**Pg**	**01 19 49.1**	**-1.1**
VVLD	**Villa Vallelon**	**1.03**	**180**	Pg	**Pg**	**01 19 49.4**	**-1.1**
CERT	**Cerreto**	**1.07**	**207**	Pg	**Pg**	**01 19 50.8**	**-0.3**
MTCE	**Montecelio**	**1.10**	**217**	Pg	**Pg**	**01 19 51.5**	**-0.2**
GUAR	**Guarcino**	**1.13**	**192**	Pg	**Pg**	**01 19 52.8**	**+0.4**
CDCA	**Citt' di Caste**	**1.16**	**299**	Pg	**Pg**	**01 19 52.6**	**-0.3**
BADI	**Badiali**	**1.18**	**301**	Pg	**Pg**	**01 19 52.5**	**-0.8**
PESA	**Pesaro**	**1.19**	**331**	Pg	**Pg**	**01 19 53.0**	**-0.4**
POFI	**Posta Fibreno**	**1.19**	**177**	Pg	**Pg**	**01 19 53.1**	**-0.3**
SDI	**San Donato**	**1.20**	**173**	Pg	**Pg**	**01 19 52.3**	**-1.4**
FRES	**Fresagrandinar**	**1.21**	**140**	Pg	**Pg**	**01 19 53.6**	**-0.2**
RNI2	**Rionero Sannit**	**1.26**	**162**	Pg	**Pg**	**01 19 55.2**	**+0.3**
SACS	**San Casciano d**	**1.26**	**268**	Pg	**Pg**	**01 19 54.7**	**-0.2**
RDP	**Rocca di Papa**	**1.33**	**211**	Pg	**Pg**	**01 19 56.3**	**+0.2**
CERA	**Filignano**	**1.34**	**167**	Pg	**Pg**	**01 19 55.5**	**-0.8**
RSM	**Repubblica di**	**1.34**	**321**	Pg	**Pg**	**01 19 56.2**	**-0.1**
MA9	**Marino**	**1.34**	**213**	Pg	**Pg**	**01 19 57.1**	**+0.8**
MIDA	**Miranda**	**1.34**	**159**	Pg	**Pg**	**01 19 54.7**	**-1.7**
LATE	**Laterza**	**1.37**	**258**	Pg	**Pg**	**01 19 56.4**	**-0.6**
LAV9	**Lanuvio**	**1.41**	**210**	Pg	**Pg**	**01 19 57.1**	**-0.5**
CRE	**Caprese Michel**	**1.42**	**301**	Pg	**Pg**	**01 19 57.2**	**-0.6**
TOLF	**Tolfa**	**1.47**	**236**	Pg	**Pg**	**01 19 57.6**	**-1.1**
BSSO	**Busso**	**1.54**	**152**	Pg	**Pg**	**01 19 59.2**	**-0.9**
VAGA	**Valle Agricola**	**1.55**	**163**	Pg	**Pg**	**01 19 59.6**	**-0.8**
CIGN	**Sant'Elia a Pi**	**1.57**	**142**	Pg	**Pg**	**01 19 58.6**	**-2.1**
ARCI	**Arcidosso**	**1.58**	**269**	Pg	**Pg**	**01 20 00.1**	**-0.8**
FG2	**Serracapriola**	**1.58**	**133**	Pg	**Pn**	**01 19 57.9**	**+0.2**
MOCO	**Biccari - m.te**	**1.58**	**165**	Pg	**Pg**	**01 20 04.5**	**+3.5**
SGG	**Gregorio Mates**	**1.62**	**159**	Pg	**Pg**	**01 20 00.4**	**-1.2**
RFI	**Roccamonfina**	**1.62**	**170**	Pg	**Pg**	**01 20 00.5**	**-1.2**
PTRJ	**Pietraroja**	**1.68**	**156**	Pg	**Pg**	**01 20 02.3**	**-0.5**
SACR	**S. Croce Del S**	**1.71**	**152**	Pg	**Pg**	**01 20 01.5**	**-1.8**
CSNT	**Castellina Chi**	**1.80**	**289**	Pg	**Pn**	**01 20 02.3**	**+1.6**
VMG	**Vicchio**	**1.85**	**306**	Pg	**Pn**	**01 20 02.1**	**+0.7**
NVLJ	**Novalja**	**1.89**	**28**	*e*Pn	**Pn**	**01 20 01.1**	**-0.9**
NVLJ				Sn	**Sn**	**01 20 24.4**	**-1.0**
PSB1	**Pescosannita**	**1.90**	**152**	Pg	**Pn**	**01 20 04.3**	**+2.3**
RGNG	**Rignano Grg**	**1.90**	**130**	Pg	**Pn**	**01 20 02.8**	**+0.7**
SGRT	**San Giovanni R**	**1.94**	**125**	Pg	**Pn**	**01 20 03.2**	**+0.5**
FG5	**Orsara di Pugl**	**2.03**	**142**	Pg	**Pn**	**01 20 05.7**	**+1.8**
MRB1	**Monte Rocchett**	**2.04**	**150**	Pg	**Pg**	**01 20 07.2**	**-2.5**
MSAG	**Monte S. Angel**	**2.07**	**124**	Pg	**Pn**	**01 20 05.1**	**+0.7**
FGMS	**Monte Sant'Ang**	**2.10**	**124**	Pg	**Pg**	**01 20 04.8**	**-6.0**
CRMI	**Carmignano**	**2.13**	**295**	Pg	**Pn**	**01 20 07.0**	**+1.8**
CMPO	**Campotto Po**	**2.13**	**322**	Pg	**Pn**	**01 20 06.9**	**+1.6**
SGTA	**Sant Agata di**	**2.19**	**143**	Pg	**Pn**	**01 20 07.6**	**+1.5**
CAFE	**Carife**	**2.23**	**147**	Pg	**Pb**	**01 20 09.3**	**-0.9**
FG4	**Candela**	**2.26**	**141**	Pg	**Pn**	**01 20 08.8**	**+1.7**
CSSN	**Cassano Irpino**	**2.29**	**152**	Pg	**Pb**	**01 20 10.6**	**-0.8**
SNAL	**S. Angelo Dei**	**2.30**	**149**	Pg	**Pn**	**01 20 09.9**	**+2.3**
PZZT	**Monte Pizzetto**	**2.36**	**302**	Pg	**Pn**	**01 20 10.7**	**+2.4**
MCRV	**Calabrutti - M**	**2.41**	**151**	Pg	**Pn**	**01 20 11.1**	**+2.0**
VULT	**Monte Vulture**	**2.45**	**142**	Pg	**Pn**	**01 20 11.2**	**+1.6**
BDI	**Bagni Di Lucca**	**2.49**	**299**	Pg	**Pn**	**01 20 11.5**	**+1.3**
MAIM	44nm,0.6s	**2.50**	**295**	Pg	**Pn**	**01 20 12.7**	**+2.4**
GSCL	**Gusciola**	**2.64**	**304**	Pg	**Pb**	**01 20 15.6**	**-1.7**
MRVN	**Minervino Murg**	**2.66**	**133**	Pg	**Pn**	**01 20 13.0**	**+0.5**
SKDS	**Skadanscina**	**2.66**	**6**	*i* Pn	**Pn**	**01 20 11.5**	**-1.0**
SGO	**Sicignano**	**2.66**	**151**	Pg	**Pn**	**01 20 14.2**	**+1.7**
BOJS	**Bojanci**	**2.85**	**24**	*i* Pn	**Pn**	**01 20 15.0**	**-0.1**
CMPR	**Campora**	**2.87**	**153**	Pg	**Pn**	**01 20 17.8**	**+2.3**
AMUR	**Altamura**	**2.99**	**131**	Pg	**Pn**	**01 20 17.4**	**+0.4**
STON	**Ston**	**2.99**	**89**	*e*Pn	**Pn**	**01 20 17.3**	**+0.2**
STON				Sn	**Sn**	**01 20 51.1**	**-1.5**
STON	**Ston**	**2.99**	**89**	*e*Pn	**Pn**	**01 20 17.3**	**+0.2**
STON				Sn	**Sn**	**01 20 51.0**	**-1.6**
JAVS	**Javornik**	**3.01**	**6**	*i* Pn	**Pn**	**01 20 16.4**	**-0.9**
BAI	**Bari**	**3.02**	**125**	*e*Pn	**Pn**	**01 20 18.2**	**+0.8**
BAI				*e*Sn	**Sn**	**01 20 52.4**	**-0.7**
SG1	**Sgolgore (BA)**	**3.07**	**131**	*e*Pn	**Pn**	**01 20 19.0**	**+0.8**
SG1				*e*Sn	**Sn**	**01 20 54.4**	**-0.1**
VOY	**Vojsko**	**3.13**	**3**	*e*Pn	**Pn**	**01 20 18.3**	**-0.7**
VOY				*e*Sn	**Sn**	**01 20 55.2**	**-0.8**
PGF	**Pioggiola**	**3.43**	**266**	*e*Pn	**Pn**	**01 20 25.9**	**+2.8**
CTI	**Castel Tesino**	**3.45**	**336**	Pg	**Pn**	**01 20 23.2**	**-0.1**
PE1	**Pezze di Greco**	**3.53**	**125**	*e*Pn	**Pn**	**01 20 25.1**	**+0.7**
PE1				*e*Sn	**Sn**	**01 21 04.7**	**-1.0**
MAGA	**Magasa**	**3.59**	**324**	Pg	**Pn**	**01 20 25.0**	**-0.3**
OBKA	**Obir**	**3.67**	**10**	⇑*i*Pn	**Pn**	**01 20 25.1**	**-1.2**
OBKA				*i* Sg	**Sg**	**01 21 29.5**	**+1.3**
OBKA	**Obir**	**3.67**	**10**	⇑*i*Pn	**Pn**	**01 20 25.1**	**-1.2**
OBKA				⇓*i*Sg	**Sg**	**01 21 29.5**	**+1.3**
OBKA	**Obir**	**3.67**	**10**	Pn	**Pn**	**01 20 25.1**	**-1.2**
TA1	**Taranto**	**3.70**	**131**	*e*Pn	**Pn**	**01 20 26.2**	**-0.7**
FVI	**Forni Avoltri**	**3.74**	**351**	Pg	**Pn**	**01 20 27.4**	**0.0**
MABI	**Malga Bissina**	**3.86**	**326**	Pg	**Pn**	**01 20 29.2**	**+0.2**
ABTA	**Abfaltersbach**	**3.92**	**349**	*i* Pn	**Pn**	**01 20 30.1**	**+0.2**
APPI	**Appiano**	**3.96**	**335**	Pg	**Pn**	**01 20 30.5**	**+0.1**
SEST	**Monte Rota**	**3.97**	**346**	Pg	**Pn**	**01 20 31.1**	**+0.5**
BRMO	**Bormio**	**4.26**	**328**	Pg	**Pn**	**01 20 35.8**	**+1.3**
MUGIO	**Muggio**	**4.46**	**314**	Pg	**Pn**	**01 20 37.0**	**-0.2**
VAI	**Varese**	**4.57**	**312**	Pg	**Pn**	**01 20 38.9**	**+0.1**
WTTA	**Wattenberg**	**4.58**	**343**	⇑*i*Pn	**Pn**	**01 20 39.7**	**+0.8**
WTTA				⇓*i*Sn	**Sn**	**01 21 34.6**	**+2.9**
FETA	**Feichten**	**4.60**	**334**	⇑*i*Pn	**Pn**	**01 20 40.2**	**+1.0**
FETA				⇑*i*Sn	**Sn**	**01 21 35.2**	**+3.0**
SQTA	**Sankt Quirin**	**4.64**	**339**	⇑*i*Pn	**Pn**	**01 20 40.6**	**+0.8**
SQTA	**Sankt Quirin**	**4.64**	**339**	Pn	**Pn**	**01 20 40.6**	**+0.8**
WATA	**Walderalm**	**4.66**	**343**	⇓*i*Pn	**Pn**	**01 20 40.7**	**+0.6**
WATA				*i* Sn	**Sn**	**01 21 37.2**	**+3.5**
WATA	**Walderalm**	**4.66**	**343**	⇓*i*Pn	**Pn**	**01 20 40.7**	**+0.6**
WATA				⇓*i*Sn	**Sn**	**01 21 37.2**	**+3.5**
MOTA	**Moosalm**	**4.79**	**339**	⇓*i*Pn	**Pn**	**01 20 42.2**	**+0.5**
MOTA				⇓*i*Sn	**Sn**	**01 21 40.1**	**+3.4**
MOA	**Molln**	**4.97**	**5**	⇑*i*Pn	**Pn**	**01 20 43.4**	**-0.8**
MOA				⇓*i*Sn	**Sn**	**01 21 42.2**	**+1.0**
RETA	**Reutte**	**5.01**	**337**	⇓*i*Pn	**Pn**	**01 20 46.4**	**+1.6**
FRF	**La Foret Royal**	**5.14**	**280**	*e*Pn	**Pn**	**01 20 47.6**	**+1.0**
FRF	1.3nm,0.3s			*e*Sn	**Sn**	**01 21 43.4**	**-2.1**
FRF	**La Foret Royal**	**5.14**	**280**	*e*Pn	**Pn**	**01 20 47.6**	**+1.0**
FRF	0.6nm,0.3s			*e*Sn	**Sn**	**01 21 43.4**	**-2.1**
LMR	**La Mourre**	**5.23**	**277**	*e*Pn	**Pn**	**01 20 49.6**	**+1.8**
CONA	**Conrad Observa**	**5.27**	**17**	⇓*i*Pn	**Pn**	**01 20 48.1**	**-0.2**
LPG	**La Plagne**	**5.58**	**300**	*e*Pn	**Pn**	**01 20 52.7**	**+0.1**
LPG	8.6nm,0.6s			*e*Sn	**Sn**	**01 21 53.9**	**-2.4**
LPG	**La Plagne**	**5.58**	**300**	*e*Pn	**Pn**	**01 20 52.7**	**+0.1**
LPG	4.3nm,0.6s			*e*Sn	**Sn**	**01 21 53.9**	**-2.4**
LPL	**La Plagne**	**5.60**	**300**	*e*Pn	**Pn**	**01 20 53.4**	**+0.5**
LPL	5.3nm,0.3s			*e*Sn	**Sn**	**01 21 53.2**	**-3.6**
LPL	**La Plagne**	**5.60**	**300**	*e*Pn	**Pn**	**01 20 53.4**	**+0.5**
LPL	2.7nm,0.3s			*e*Sn	**Sn**	**01 21 53.2**	**-3.6**
ORIF	**Oris-en-Rattie**	**5.95**	**292**	*e*Pn	**Pn**	**01 20 58.9**	**+1.2**
SMRF	**Simiane la Rot**	**5.96**	**283**	*e*P	**Pn**	**01 21 01.6**	**+3.8**
BIA	**Bitola**	**6.04**	**106**	*e*Pn	**Pn**	**01 20 59.5**	**+0.6**
BIA				*e*Sn	**Sn**	**01 22 06.1**	**-1.5**
IGT	**Igoumenitsa**	**6.08**	**121**	*e*Pn	**Pn**	**01 20 56.0**	**-3.5**
FNA	**Florina**	**6.16**	**107**	*e*Pn	**Pn**	**01 21 01.4**	**+0.8**
FNA				*e*Sn	**Sn**	**01 22 08.1**	**-2.6**
KHC	**Kasperske Hory**	**6.23**	**360**	*e*PN	**Pn**	**01 21 00.2**	**-1.3**
KHC				*e*SN	**Sn**	**01 22 09.6**	**-2.7**
KHC				x	x	01 22 18.5	
KHC				x	x	01 22 30.0	
CABF	**La Chapelle**	**6.52**	**307**	*e*Pn	**Pn**	**01 21 06.1**	**+0.5**
CABF	2.6nm,0.3s			*e*Sn	**Sn**	**01 22 16.2**	**-3.3**
CABF	**La Chapelle**	**6.52**	**307**	*e*Pn	**Pn**	**01 21 06.1**	**+0.5**
CABF	1.3nm,0.3s			*e*Sn	**Sn**	**01 22 16.2**	**-3.3**
HINF	**Hinteralfeld**	**6.85**	**318**	*e*Pn	**Pn**	**01 21 09.4**	**-0.6**
HINF	15nm,0.4s			*e*Sn	**Sn**	**01 22 23.0**	**-4.5**
HINF	**Hinteralfeld**	**6.85**	**318**	*e*Pn	**Pn**	**01 21 09.4**	**-0.6**
HINF	7.6nm,0.4s			*e*Sn	**Sn**	**01 22 23.0**	**-4.5**
CDF	**Champ du Feu**	**7.08**	**323**	*e*Pn	**Pn**	**01 21 12.7**	**-0.5**
PRU	**Pruhonice**	**7.12**	**5**	*e*PN	**Pn**	**01 21 11.2**	**-2.5**
HAU	**Haudompre**	**7.22**	**317**	*e*Pn	**Pn**	**01 21 14.0**	**-1.2**
HAU	15nm,0.4s			*e*Sn	**Sn**	**01 22 32.7**	**-4.1**
SMF	**Signal de Mont**	**7.90**	**302**	*e*Pn	**Pn**	**01 21 23.8**	**-0.7**
SMF	2.8nm,0.2s			*e*Sn	**Sn**	**01 22 48.9**	**-4.5**
SMF	**Signal de Mont**	**7.90**	**302**	*e*Pn	**Pn**	**01 21 23.8**	**-0.7**
SMF	1.4nm,0.2s			*e*Sn	**Sn**	**01 22 48.9**	**-4.5**
LOR	**Lormes**	**8.17**	**306**	*e*Pn	**Pn**	**01 21 27.9**	**-0.3**
LOR	3.1nm,0.2s			*e*Sn	**Sn**	**01 22 55.6**	**-4.5**
LOR	**Lormes**	**8.17**	**306**	*e*Pn	**Pn**	**01 21 27.9**	**-0.3**
LOR	1.5nm,0.2s			*e*Sn	**Sn**	**01 22 55.6**	**-4.5**
AVF	**Avril sur Loir**	**8.27**	**302**	*e*Pn	**Pn**	**01 21 28.6**	**-0.9**
SSF	**Saint Saulge**	**8.29**	**304**	*e*Pn	**Pn**	**01 21 29.3**	**-0.5**
SSF	0.8nm,0.2s			*e*Sn	**Sn**	**01 22 58.1**	**-4.9**
SSF	**Saint Saulge**	**8.29**	**304**	*e*Pn	**Pn**	**01 21 29.3**	**-0.5**
SSF	0.4nm,0.2s			*e*Sn	**Sn**	**01 22 58.1**	**-4.9**
BGF	**Bois d'Agland**	**8.50**	**299**	*e*Pn	**Pn**	**01 21 32.0**	**-0.7**
BGF	3.9nm,0.4s			*e*Sn	**Sn**	**01 23 02.9**	**-5.2**
BGF	**Bois d'Agland**	**8.50**	**299**	*e*Pn	**Pn**	**01 21 32.0**	**-0.7**
BGF	2.0nm,0.4s			*e*Sn	**Sn**	**01 23 02.9**	**-5.2**
TCF	**Toulx Ste Croi**	**8.82**	**296**	*e*Pn	**Pn**	**01 21 36.4**	**-0.7**
TCF	1.0nm,0.2s			*e*Sn	**Sn**	**01 23 11.7**	**-4.3**
TCF	**Toulx Ste Croi**	**8.82**	**296**	*e*Pn	**Pn**	**01 21 36.4**	**-0.7**
TCF	0.5nm,0.2s			*e*Sn	**Sn**	**01 23 11.7**	**-4.3**
GIVF	**Givet**	**9.41**	**323**	*e*Pn	**Pn**	**01 21 45.2**	**0.0**

IDC 27 01:26:37.2±7.4, 736S×12894E, h91km±80km, mb3.3/1, mb1 3.8/5, mb1mx3.5/15, mbtmp3.6/5, ML3.9/4, Error ellipse: s-maj=65.1km s-min=23.5km az=27.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Kupang**	**5.93**	**241**	P	Pn	01 28 04.5	+2.0
BATI	15nm,0.3s,baz=134,slow=1.5,SNR=16			S	Sn	01 29 08.2	-1.0
FITZ	**Fitzroy Crossi**	**11.15**	**196**	P	Pn	01 29 13.4	-0.2
FITZ	19nm,0.3s,baz=329,slow=22,SNR=15			S	Sn	01 31 09.2	-7.2
WRA	**Warramunga Arr**	**13.56**	**158**	P	Pn	01 29 46.6	+0.8
WRA	1.4nm,0.3s,baz=324,slow=12,SNR=20			S	Sn	01 32 11.3	-3.6
ASAR	**Alice Springs**	**16.90**	**164**	P	Pn	01 30 30.1	+2.0
ASAR	1.7nm,0.3s,baz=335,slow=22,SNR=13			S	S	01 33 31.3	-9.0
MKAR	**Makanchi Array**	**67.96**	**327**	P	P	01 37 26.2	-0.1
	0.4nm,0.3s,baz=338,slow=9.8,SNR=28						
	0.2nm,0.4s,baz=116,slow=8.2,SNR=4.3						

*ISCJB **27** 01:35:49.9±0.7, 05S×01×1254E×03, h33km, mb4.2/10, Error ellipse: s-maj=39.5km s-min=12.7km az=160.9*
*IDC **27** 01:35:56.5±12.0, 054S×12574E, h79km±129km, mb3.6/6, mb1 3.7/7, mb1mx3.5/17, mbtmp3.6/7, ML3.6/1, Error ellipse: s-maj=73.1km s-min=27.0km az=81.0*
ISC 27 01:35:51.9±0.7, 06S×01×1253E×03, h35km, n11, σ1§05/11, mb4.2/10, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**17.39**	**179**	P	**Pn**	**01 39 55.3**	**+3.4**
	0.2nm,0.3s,baz=7.2,slow=16,SNR=6.6						
WRA	**Warramunga Arr**	**21.16**	**156**	P	**P**	**01 40 33.4**	**-0.8**
	1.6nm,0.5s,mb3.6,baz=334,slow=11,SNR=25						
ASAR	**Alice Springs**	**24.40**	**161**	P	**P**	**01 41 07.3**	**+0.2**
	0.8nm,0.6s,mb3.4,baz=345,slow=13,SNR=14						
KSRS	**Korea Array**	**37.95**	**3**	P	**P**	**01 43 05.8**	**-0.5**
	2.7nm,0.6s,mb4.2,baz=180,slow=9.1,SNR=12						
SONM	**Songino Array**	**50.98**	**344**	P	**P**	**01 44 51.0**	**+0.9**
	0.9nm,0.7s,mb3.8,baz=158,slow=8.7,SNR=7.3						
MKAR	**Makanchi Array**	**60.34**	**327**	P	**P**	**01 45 58.7**	**+1.3**
	1.2nm,0.4s,mb4.3,baz=123,slow=7.8,SNR=21						
ZALV	**Zalesovo Beam**	**63.82**	**335**	P	**P**	**01 46 20.6**	**+0.1**
	0.7nm,0.4s,mb4.1,baz=136,slow=6.6,SNR=4.0						
RDF	**Al-Radifah**	**79.56**	**299**	*e*P	**P**	**01 47 53.4**	**-2.4**
RDF				AMb	AMB	01 47 58.9	
	comp=Z,14nm,1.1s,mb4.8						
MIB	**Mutribah**	**79.85**	**300**	*e*P	**P**	**01 47 56.9**	**-0.4**
MIB				AMb	AMB	01 48 00.3	
	comp=Z,4.5nm,0.6s,mb4.6						
NAY	**Al-Naaiem**	**79.87**	**300**	*e*P	**P**	**01 47 56.9**	**-0.5**
NAY				AMb	AMB	01 48 00.1	
	comp=Z,2.8nm,0.9s,mb4.2						
RST	**Umm Al-Ruwaisa**	**80.11**	**300**	*e*P	**P**	**01 47 59.3**	**+0.5**
RST				AMb	AMB	01 48 01.4	
	comp=Z,9.6nm,0.4s,mb5.0						

*ISCJB **27** 02:17:36.9±0.2, 545S×004×10484E×005, h33km, mb4.7/75, MS4.2/27, Error ellipse: s-maj=7.8km s-min=5.1km az=144.6*
*BJI **27** 02:17:37.1, 586S×10462E, h62km, mB5.0, mb4.7, Ms4.8, Msz4.4*
*NEIC **27** 02:17:38.9±1.2, 542S×10490E, h36km±10km, mb4.7/31, Error ellipse: s-maj=9.1km s-min=4.8km az=45.0*
NEIC Felt [III] at Kruni and [II] at Beranti and Kotabumi.
*MOS **27** 02:17:39.3±1.4, 531S×10494E, h49km, mb4.9/37, MS4.0/8, Error ellipse: s-maj=12.6km s-min=6.6km az=118.5*
*IDC **27** 02:17:40.6±2.7, 544S×10480E, h53km±23km, mb4.4/22, mb1 4.5/23, mb1mx4.4/24, mbtmp4.4/23, ML4.8/2, MS4.0/14, Ms1 4.0/14, ms1mx3.9/28, Error ellipse: s-maj=15.1km s-min=9.9km az=49.0*
ISC 27 02:17:34.4±1.6, 547S±004×10480E±005, h5km±10km, n223, σ0§96/186, mb4.7/75, MS4.2/27, 12C-10D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPI	**Padang Panjang**	**6.65**	**318**	P	Px	02 19 27.4	
	99nm,1.3s						
PSI	**Prapat**	**10.10**	**324**	P	**Pn**	**02 20 01.6**	**+1.4**
PSI				pmax	pmax		
	comp=Z,1.0nm,0.3s						
PSI				MLR	MLR		
	comp=Z,725nm,18.5s						
PSI	**Prapat**	**10.10**	**324**	P	**Pn**	**02 20 01.6**	**+1.3**
	comp=Z,0.9nm,0.3s,baz=226,slow=5.9,SNR=2.6						
PSI				LR	LR	02 24 34.9	
	comp=Z,724nm,18.4s,baz=145,slow=42						
BATI	**Kupang**	**19.26**	**105**	P	**Pn**	**02 22 02.7**	**+1.7**
	comp=Z,22nm,0.3s,baz=272,slow=2.1,SNR=46						
MBWA	**Marble Bar**	**21.28**	**138**	*e*P	**P**	**02 22 21.6**	**-0.3**
	comp=Z,16nm,0.7s,mb4.5						
FITZ	**Fitzroy Crossi**	**23.91**	**123**	⇓*i*P	**P**	**02 22 48.8**	**-0.6**
	comp=Z,29nm,0.5s,mb5.0						
FITZ	**Fitzroy Crossi**	**23.91**	**123**	P	**P**	**02 22 49.5**	**+0.1**
	comp=Z,21nm,0.6s,mb4.7,baz=311,slow=6.1,SNR=61						
CHTO	**Chiang Mai**	**24.82**	**347**	*e*P	**P**	**02 22 57.6**	**-0.1**
	comp=Z,8.2nm,0.9s,mb4.3						
CHTO	**Chiang Mai**	**24.82**	**347**	*e*P	**P**	**02 22 57.6**	**0.0**
CHTO				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.2						
QIZ	**Qiongzhong**	**24.85**	**11**	P	**P**	**02 22 59.0**	**+1.1**
QIZ				S	**S**	**02 27 21.5**	**+0.1**
QIZ				AMB	AMB		
	comp=Z,82nm,3.2s						
QIZ				LR	LR		
	comp=E,973nm,19.8s						
QIZ				LR	LR		
	comp=Z,486nm,15.4s,MS4.1						
KAKA	**Kakadu**	**28.20**	**107**	*e*P	**P**	**02 23 28.5**	**+0.2**
	comp=Z,34nm,0.9s,mb5.0						
NWAO	**Narrogin (SRO)**	**29.67**	**159**	LR	LR	02 35 05.2	
	comp=Z,282nm,18.4s,MS3.9,baz=137,slow=35						
KMI	**Kunming**	**30.48**	**356**	P	**P**	**02 23 51.0**	**+2.6**
KMI				PP	PP	02 24 52.0	-5.2
KMI				PPP		02 25 06.5	
KMI				S	**S**	**02 28 49.3**	**-0.8**
KMI				SS	SS	02 30 33.5	-27
KMI				SSS		02 30 55.0	
KMI				AMB	AMB		
	comp=Z,9.0nm,0.9s,mb4.5						
KMI				AMB	AMB		
	comp=Z,84nm,5.2s						
KMI				LR	LR		
	comp=N,923nm,11.1s,MS4.7						
KMI				LR	LR		
	comp=E,463nm,11.5s,MS4.7						
KMI				LR	LR		
	comp=Z,921nm,12.5s,MS4.6						
GYA	**Guiyang**	**31.79**	**3**	*e*P	**P**	**02 24 01.8**	**+1.9**
GYA				PP	PP	02 25 08.8	-3.0
GYA				PCP	PcP	02 26 53.0	+1.7
GYA				S	**S**	**02 29 11.3**	**+0.6**
GYA				SS	SS	02 31 02.8	-24
GYA				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.7						
GYA				AMB	AMB		
	comp=Z,80nm,4.9s						
GYA				LR	LR		
	comp=N,480nm,17.4s,MS4.3						
GYA				LR	LR		
	comp=E,410nm,18.2s,MS4.3						
GYA				LR	LR		
	comp=Z,490nm,18.6s,MS4.2						
WRA	**Warramunga Arr**	**32.12**	**119**	P	**P**	**02 24 02.3**	**-0.6**
WRA						02 26 52.3	
WRA				pmax	pmax		
	comp=Z,9.0nm,0.7s						
WRA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
WRA				MLR	MLR		
	comp=Z,120nm,18.1s						
WRA	**Warramunga Arr**	**32.12**	**119**	P	**P**	**02 24 02.3**	**-0.7**
	comp=Z,9.4nm,0.7s,mb4.7,baz=291,slow=9.9,SNR=96						
WRA				PcP	PcP	02 26 52.3	0.0
	comp=Z,1.3nm,0.5s,baz=318,slow=2.0,SNR=6.2						
WRA				LR	LR	02 39 19.9	
	comp=Z,120nm,18

comp=N,1.7nm,0.9s,baz=288,slow=16,SNR=6.4
CD2 Chengdu 36.19 358⇑iP P 02 24 38.5 +0.4
CD2 PP PP 02 26 02.0 +1.5
CD2 S **S 02 30 18.3 -0.4**
CD2 SS SS 02 32 44.0 -13
CD2 AMB AMB
comp=Z,20nm,0.6s,mb5.2
CD2 AMB AMB
comp=Z,40nm,5.2s
CD2 LR LR
comp=N,540nm,12.8s,MS4.8
CD2 LR LR
comp=E,940nm,14.4s,MS4.8
CD2 LR LR
comp=Z,530nm,12.0s,MS4.5
WHN Wuhan 36.96 14⇑P P 02 24 45.0 +0.3
WHN *e*S **S 02 30 34.0 +3.5**
WHN LR LR
comp=Z,555nm,15.7s,MS4.5
JIRN Jiri 37.53 332 *e*P **P 02 24 49.2 -0.3**
GUN Gumba 37.88 332 *e*P **P 02 24 51.9 -0.6**
comp=Z,6.6nm,0.3s,mb4.8
DMN Daman 38.00 331 *e*P **P 02 24 52.7 -0.8**
comp=Z,4.2nm,0.3s,mb4.6
KKN Kakani 38.06 331 *e*P **P 02 24 53.0 -1.1**
GKN Gorkha 38.55 331 *e*P **P 02 24 57.8 -0.4**
KOLN Koldanda 38.88 329 *e*P **P 02 25 00.7 -0.2**
comp=Z,8.1nm,0.5s,mb4.7
DANN Dangsing 39.27 330 *e*P **P 02 25 03.6 -0.6**
comp=Z,20nm,0.5s,mb5.1
JOW Kunigami 39.34 34 P **P 02 25 03.4 -1.5**
comp=Z,4.6nm,0.3s,mb4.8,baz=110,slow=24,SNR=7.8
NJ2 Nanjing 39.65 19 *e*P **P 02 25 07.5 +0.2**
NJ2 S **S 02 31 10.0 -1.0**
NJ2 AMB AMB
comp=Z,20nm,0.8s,mb4.9
NJ2 AMB AMB
comp=Z,1μm,4.2s
NJ2 LR LR
comp=N,520nm,13.2s,MS4.6
NJ2 LR LR
comp=E,250nm,13.1s,MS4.6
LZH Lanzhou 41.35 359 *e*P **P 02 25 19.8 -1.5**
LZH PP PP 02 27 01.5 +4.6
LZH PCP PcP 02 27 18.0 -1.7
LZH *e*S **S 02 31 26.0 -10**
LZH SS SS 02 34 32.0 -8.3
LZH AMB AMB
comp=Z,13nm,1.0s,mb4.5
LZH AMB AMB
comp=Z,93nm,4.5s
LZH LR LR
comp=N,369nm,13.4s
LZH LR LR
comp=Z,411nm,14.2s,MS4.4
CTA Charters Tower 42.81 114 *e*P **P 02 25 34.1 +0.6**
comp=Z,11nm,1.3s,mb4.4
CTA Charters Tower 42.81 114 P **P 02 25 34.3 +0.8**
CTA pmax pmax
comp=Z,18nm,1.1s
CTA MLR MLR
comp=Z,193nm,19.0s
CTA Charters Tower 42.81 114 P **P 02 25 34.2 +0.7**
comp=Z,18nm,1.1s,mb4.7,baz=277,slow=10,SNR=9.6
CTA LR LR 02 44 37.6
comp=Z,193nm,19.0s,MS4.0,baz=66,slow=38
CTAO Charters Tower 42.81 114 *e*P **P 02 25 33.6 0.0**
comp=Z,37nm,1.3s,mb5.0
CTAO Charters Tower 42.81 114 *e*P **P 02 25 33.6 +0.1**
CTAO pmax pmax
comp=Z,37nm,1.3s,mb5.0
STKA Stephens Creek 43.28 132⇓*i*P **P 02 25 37.1 -0.1**
comp=Z,19nm,0.4s,mb5.2
STKA Stephens Creek 43.28 132 P **P 02 25 37.9 +0.7**
comp=Z,21nm,0.4s,mb5.2,baz=307,slow=8.2,SNR=72
STKA LR LR 02 45 59.0
comp=Z,135nm,20.2s,MS3.8,baz=281,slow=39
GTA Gaotai 44.90 355 *e*P **P 02 25 51.5 +1.5**
GTA PCP PcP 02 27 32.5 +0.9
GTA PP PP 02 27 38.0 +3.0
GTA S **S 02 32 28.8 +0.5**
GTA SS SS 02 35 42.3 -7.5
GTA AMB AMB
comp=Z,2.0nm,0.9s,mb4.0
GTA AMB AMB
comp=Z,52nm,4.6s
GTA LR LR
comp=N,442nm,19.4s,MS4.7
GTA LR LR
comp=E,602nm,17.9s,MS4.7
GTA LR LR
comp=Z,338nm,14.4s,MS4.4
BJI Beijing 46.48 12 P **P 02 26 03.3 +0.8**
BJI S **S 02 32 52.0 +0.8**
BJI AMB AMB
comp=Z,3.0nm,0.3s,mb4.7
BJI AMB AMB
comp=Z,124nm,7.1s
BJI LR LR
comp=N,246nm,17.8s,MS4.6
BJI LR LR
comp=E,534nm,17.8s,MS4.6
BJI LR LR
comp=Z,157nm,20.8s,MS4.0
HHC Hu-ho-hao-te 46.51 7 *e*P **P 02 26 04.8 +2.1**
HHC PP PP 02 27 54.0 +1.9
HHC PCS PcS 02 31 34.0 +2.3
HHC S **S 02 32 56.5 +4.9**
HHC SS SS 02 36 10.3 -7.5
HHC AMB AMB
comp=Z,20nm,0.3s,mb5.5
HHC AMB AMB
comp=Z,106nm,7.4s
HHC LR LR
comp=N,431nm,14.0s
HHC LR LR
comp=E,312nm,9.6s
HHC LR LR
comp=Z,402nm,14.3s,MS4.5
KSRS Korea Array 47.84 25 P **P 02 26 14.4 +1.2**
KSRS pmax pmax
comp=Z,1.0nm,0.4s,mb4.2
KSRS Korea Array 47.84 25 P **P 02 26 14.3 +1.2**
comp=Z,0.9nm,0.4s,mb4.1,baz=212,slow=7.4,SNR=5.2
EIDS Eidsvold 48.48 119 *e*P **P 02 26 18.3 -0.2**
comp=Z,10nm,1.3s,mb4.7
WMQ Urumqi 51.44 344 *e*P **P 02 26 40.3 -0.2**
WMQ AMB AMB
comp=Z,7.0nm,0.9s,mb4.6
WMQ AMB AMB
comp=Z,81nm,4.0s
WMQ LR LR
comp=Z,180nm,32.0s,MS3.9
MJAR Matsushiro Arr 52.19 34 P **P 02 26 46.2 0.0**
MJAR Matsushiro Arr 52.19 34 P **P 02 26 46.2 0.0**
MJAR pmax pmax
comp=Z,4.0nm,1.0s
MJAR Matsushiro Arr 52.19 34 P **P 02 26 46.2 0.0**
comp=Z,4.1nm,1.0s,mb4.3,baz=212,slow=7.3,SNR=7.8
CN2 Changchun 52.47 19 *e*P **P 02 26 51.8 +3.6**
CN2 *e*PP PP 02 28 50.5 +3.3
CN2 *e*S **S 02 34 16.5 +1.5**
CN2 LR LR
comp=N,1μm,19.0s,MS5.0
CN2 LR LR
comp=E,700nm,19.0s,MS5.0
CN2 LR LR
comp=Z,200nm,19.0s,MS4.2
SONM Songino Array 53.10 1 P **P 02 26 53.4 +0.7**
SONM PcP PcP 02 28 00.0 -1.1
SONM Songino Array 53.10 1 P **P 02 26 53.4 +0.7**
SONM 02 28 00.0
SONM pmax pmax
comp=Z,6.0nm,0.9s
SONM pmax pmax
comp=Z,2.0nm,0.5s
SONM Songino Array 53.10 1 P **P 02 26 53.4 +0.7**
comp=Z,6.4nm,0.9s,mb4.5,baz=177,slow=8.6,SNR=29
SONM PcP PcP 02 28 00.0 -1.1
comp=Z,1.6nm,0.5s,baz=187,slow=3.4,SNR=6.4
ULN Ulaanbaatar 53.15 2 *e*P **P 02 26 54.0 +0.9**
comp=Z,3.1nm,0.9s,mb4.2
ULN Ulaanbaatar 53.15 2 *e*P **P 02 26 54.0 +0.9**
ULN pmax pmax
comp=Z,3.0nm,0.9s,mb4.2
UCH Uchtor 54.90 333 *e*P **P 02 27 05.8 -0.2**
comp=Z,1.6nm,0.6s,mb4.2
TKM2 Tokmak 2 54.97 334 *e*P **P 02 27 06.0 -0.6**
comp=Z,5.8nm,0.5s,mb4.9
TKM2 Tokmak 2 54.97 334 *e*P **P 02 27 06.0 -0.5**
TKM2 pmax pmax
comp=Z,6.0nm,0.5s,mb4.9
AML Almayashu 55.20 332 *e*P **P 02 27 07.5 -0.7**
comp=Z,2.5nm,0.5s,mb4.5
AAK Ala-Archa 55.23 333 *e*P **P 02 27 06.3 -2.1**
comp=Z,1.5nm,0.8s,mb4.1
AAK Ala-Archa 55.23 333 *e*P **P 02 27 07.4 -1.0**
AAK pmax pmax
comp=Z,3.0nm,1.3s,mb4.2
EKS2 Erkin-Say 55.58 333 *e*P **P 02 27 10.1 -0.8**
comp=Z,5.0nm,0.8s,mb4.6
ZAK Zakamensk 55.65 359 *e*P **P 02 27 11.0 -0.2**
ZAK pmax pmax
comp=Z,2.0nm,0.9s,mb4.2
MK31 Makanchi Array 55.73 341 *e*P **P 02 27 11.6 -0.4**
MKAR Makanchi Array 55.73 341 P **P 02 27 10.8 -1.2**
MKAR LR LR 02 54 16.6
MKAR Makanchi Array 55.73 341 P **P 02 27 10.8 -1.2**
MKAR pmax pmax
comp=Z,2.0nm,0.5s
MKAR MLR MLR
comp=Z,132nm,20.1s
MKAR Makanchi Array 55.73 341 P **P 02 27 10.8 -1.1**
comp=Z,2.1nm,0.5s,mb4.4,baz=147,slow=7.9,SNR=12
MKAR LR LR 02 54 16.6
comp=Z,132nm,20.1s,MS4.0,baz=177,slow=39
TLY Talaya 56.94 359 *e*P **P 02 27 21.7 +1.2**
TLY pmax pmax
comp=Z,5.0nm,0.7s,mb4.7
TLY MLR MLR
comp=Z,218nm,16.0s,MS4.3
OPO Ambohidratompo 57.60 252 P **P 02 27 25.4 -0.4**
comp=Z,6.7nm,1.1s,mb4.6,baz=47,slow=12,SNR=3.6
KLR Kul'dur 59.32 20 *e*P **P 02 27 34.2 -3.0**
HABR Khabarovsk 59.90 23 *e*P **P 02 27 36.8 -4.4**
HABR *e* 02 28 23.9
HABR *e*S **S 02 35 45.0 -8.6**
KURK Kurchatov 60.34 341 *e*P **P 02 27 43.1 -1.2**
comp=Z,4.2nm,0.9s,mb4.5
KURK Kurchatov 60.34 341 *e*P **P 02 27 43.1 -1.1**
KURK pmax pmax
comp=Z,4.0nm,0.9s,mb4.5
ZAL Zalesovo 61.53 347 P **P 02 27 51.2 -1.0**
ZAL pmax pmax
comp=Z,3.0nm,0.4s
ZAL MLR MLR
comp=Z,140nm,18.8s
ZAA0 Zalesovo Array 61.54 347 *e*P **P 02 27 50.7 -1.5**
ZALV Zalesovo Beam 61.54 347 P **P 02 27 51.2 -1.1**
ZALV LR LR 02 56 59.3
ZALV Zalesovo Beam 61.54 347 P **P 02 27 51.2 -1.1**
comp=Z,3.3nm,0.4s,mb4.8,baz=153,slow=5.0,SNR=9.6
ZALV LR LR 02 56 59.3
comp=Z,140nm,18.8s,MS4.1,baz=146,slow=38
BOD Bodaibo 63.52 5 *e*P **P 02 28 04.6 -0.9**
BOD pmax pmax
comp=Z,5.0nm,1.2s,mb4.4
KBD Kabd 64.73 306 *e*P **P 02 28 13.9 -0.2**
KBD AMb AMB 02 28 16.4
comp=Z,66nm,0.5s,mb5.9
RDF Al-Radifah 64.76 305 *e*P **P 02 28 14.0 -0.2**
RDF AMb AMB 02 28 22.4
comp=Z,37nm,1.0s,mb5.4
UMR Umm Al-Rimmam 64.86 306 *e*P **P 02 28 14.0 -0.8**
UMR AMb AMB 02 28 16.4
comp=Z,36nm,0.4s,mb5.8
NAY Al-Naaiem 65.13 306 *e*P **P 02 28 15.9 -0.7**
NAY AMb AMB 02 28 24.0
comp=Z,11nm,0.6s,mb5.1
BRVK Borovoye 65.19 338 *e*P **P 02 28 15.0 -1.5**
comp=Z,3.0nm,0.6s,mb4.5
BRVK Borovoye 65.19 338 *e*P **P 02 28 15.0 -1.5**
BRVK pmax pmax
comp=Z,3.0nm,0.6s,mb4.5
MIB Mutribah 65.26 306 *e*P **P 02 28 16.7 -0.8**
MIB AMb AMB 02 28 25.2
comp=Z,24nm,0.7s,mb5.3
RST Umm Al-Ruwaisa 65.42 306 *e*P **P 02 28 17.6 -0.9**
RST AMb AMB 02 28 26.2
comp=Z,28nm,0.8s,mb5.4
KMBO Kilima Mbogo 67.55 271 *e*P **P 02 28 33.4 +0.9**
comp=Z,1.9nm,0.7s,mb4.2
KMBO Kilima Mbogo 67.55 271 P **P 02 28 32.5 +0.1**
comp=Z,1.1nm,0.4s,mb4.2,baz=229,slow=24,SNR=5.1
KMBO LR LR 02 55 21.3
comp=Z,75nm,19.2s,MS3.9,baz=93,slow=34
MAW Mawson 68.20 196 *e*P **P 02 28 35.8 +0.3**
comp=Z,34nm,1.1s,mb5.3
MAW Mawson 68.20 196 *e*P **P 02 28 35.8 +0.3**
MAW pmax pmax
comp=Z,34nm,1.1s
MAW Mawson 68.20 196 P **P 02 28 35.3 -0.2**
comp=Z,17nm,0.9s,mb5.1,baz=41,slow=5.0,SNR=21
RPZ Rata Peaks 69.15 135 P **P 02 28 41.0 -1.0**
comp=Z,7.8nm,0.6s,mb4.8,baz=214,slow=1.3,SNR=7.0
RPZ LR LR 02 55 39.0
comp=Z,266nm,21.5s,MS4.5,baz=91,slow=33
YAK Yakutsk 69.99 12 *e*P **P 02 28 46.3 -0.3**
YAK pmax pmax
comp=Z,15nm,0.9s,mb4.9
YAK pmax pmax
comp=N,7.0nm,1.2s
YAK pmax pmax
comp=E,4.0nm,0.9s
DGRG David-gareji 71.45 317 P **P 02 28 57.0 +1.0**
MTA Mtatsminda 71.95 317 P **P 02 28 59.7 +0.7**
ARU Arti 72.32 335 *e*P **P 02 29 00.5 -0.4**
comp=E,3.8nm,0.4s,mb4.7
ARU Arti 72.32 335*d iP* **P 02 29 00.1 -0.8**
ARU *e* 02 31 36.4
ARU *e*S S 02 38 20.8 -3.7
ARU *e*SS SS 02 42 55.2 -7.6
ARU pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
ONI Oni 73.22 317 P **P 02 29 06.7 +0.1**
KIV Kislovodsk 74.29 318 *e*P **P 02 29 12.6 -0.2**
comp=Z,9.7nm,0.9s,mb4.7
KIV Kislovodsk 74.29 318 *e*P **P 02 29 12.4 -0.4**
KIV pmax pmax
comp=Z,16nm,1.3s,mb4.8
GOF Gofitskoye 74.52 320 *e*P **P 02 29 23.5 +9.4**
MALT Malatya 75.21 312 *e*P **P 02 29 18.8 +0.5**
comp=Z,5.2nm,1.0s,mb4.4
MALT Malatya 75.21 312 *e*P **P 02 29 18.8 +0.5**
MALT pmax pmax
comp=Z,5.0nm,1.0s,mb4.4
MALT Malatya 75.21 312⇑*i*P **P 02 29 19.5 +1.2**
LSZ Lusaka 75.69 256 *e*P **P 02 29 21.6 +0.1**
comp=Z,2.1nm,0.6s,mb4.2
LSZ Lusaka 75.69 256 *e*P **P 02 29 21.6 +0.1**
LSZ pmax pmax
comp=Z,2.0nm,0.6s,mb4.2
SOC Sochi 76.13 317 *e*P **P 02 29 21.9 -1.5**
SOC *e*PPP 02 33 56.7
SOC *e*S S 02 39 05.7 -2.2
SOC pmax pmax
comp=Z,15nm,1.0s,mb4.9
SYO Syowa Base 76.18 200⇓*e*P **P 02 29 22.2 -1.1**
SYO Syowa Base 76.18 200⇓*e*X 02 29 29.0
VNDA Vanda 77.86 169 *e*P **P 02 29 32.5 -0.1**
comp=Z,21nm,1.3s,mb4.9
VNDA Vanda 77.86 169 *e*P **P 02 29 32.5 -0.1**
VNDA pmax pmax
comp=Z,21nm,1.3s
VNDA Vanda 77.86 169 P **P 02 29 32.4 -0.2**
comp=Z,8.0nm,1.0s,mb4.6,baz=301,slow=6.3,SNR=27
LBTB Lobatse 77.94 246 *e*P **P 02 29 35.8 +1.7**
comp=Z,7.9nm,1.0s,mb4.6
LBTB Lobatse 77.94 246 *e*P **P 02 29 35.8 +1.8**
LBTB pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
ANN Anapa 78.10 318 *e*P **P 02 29 33.3 -1.2**
ANN *e* 02 29 42.6
ANN *e* 02 32 29.2
ANN *e*S S 02 39 25.7 -3.6
ANN *e*SS SS 02 44 29.9 -1.2
ANN pmax pmax
comp=Z,42nm,1.2s,mb5.2
BOSA Boshof 78.23 242 P **P 02 29 34.4 -1.3**
comp=Z,2.2nm,0.8s,mb4.2,baz=107,slow=12,SNR=6.1
BOSA LR LR 03 00 50.5
comp=Z,110nm,18.9s,MS4.2,baz=342,slow=33
TIXI Tiksi 78.58 8 *e*P **P 02 29 34.8 -1.8**
TIXI pmax pmax
comp=Z,6.0nm,1.1s,mb4.4
SIM Simferopol' 80.38 317 *e*P **P 02 29 47.7 +0.7**
SIM pmax pmax
comp=Z,18nm,0.9s,mb5.0
OBN Obninsk 82.27 327 *e*P **P 02 29 56.7 0.0**
OBN *e* 02 33 02.0
OBN *e*SS SS 02 45 28.8 -4.2
OBN pmax pmax
comp=Z,68nm,1.8s,mb5.3
TIRR Tirgusor 84.17 316 ⇓P **P 02 30 06.4 -0.4**
TIRR Tirgusor 84.17 316⇓*i*P **P 02 30 06.4 -0.4**
HARR Harsova 84.56 316⇑P **P 02 30 09.6 +0.8**
HARR Harsova 84.56 316⇑*i*P **P 02 30 09.6 +0.8**
BILL Bilibino 84.78 19 *e*P **P 02 30 05.5 -3.9**
BILL MLR MLR
comp=Z,100nm,17.0s,MS4.3
AKASG Malin Array Be 85.15 322 P **P 02 30 10.8 -0.8**
comp=Z,5.4nm,0.7s,mb4.8,baz=86,slow=4.8,SNR=36
AKASG LR LR 03 17 08.3
comp=Z,63nm,19.4s,MS4.0,baz=310,slow=42
AKBB Malin Array Si 85.15 322 *e*P **P 02 30 10.6 -1.0**
TSUM Tsumeb 85.60 251 *e*P **P 02 30 15.4 +0.8**
comp=Z,6.0nm,1.2s,mb4.7
VRI Vrincioaia 85.64 317 P **P 02 30 15.6 +1.4**
VRI Vrincioaia 85.64 317⇑*i*P **P 02 30 15.2 +1.0**
PLOR Plostina 85.69 317 P **P 02 30 16.4 +2.0**
PLOR Plostina 85.69 317⇑*i*P **P 02 30 16.1 +1.7**
MLR Muntele Rosu 86.10 316 P **P 02 30 17.8 +1.3**
MLR Muntele Rosu 86.10 316⇑*i*P **P 02 30 17.4 +0.9**
BURAR Bucovina Array 87.02 318⇑*i*P **P 02 30 22.3 +1.4**
JOF Joensuu 87.41 334 *e*p **P 02 30 17.9 -4.6**
comp=Z,15nm,0.8s,mb5.3
LVV L'vov 88.21 320 *e*P **P 02 30 27.1 +0.5**
GZR Gura Zlata 88.28 316 P **P 02 30 28.2 +1.2**
DRGR 88.55 317 P **P 02 30 29.5 +1.2**
DRGR 88.55 317⇓*i*P **P 02 30 29.1 +0.8**
KWP Kalwaria 89.02 320 *e*P **P 02 30 30.8 +0.4**
KWP Kalwaria 89.02 320 *e*P **P 02 30 30.8 +0.4**
KWP Kalwaria 89.02 320⇑*i*P **P 02 30 30.9 +0.5**
BZS Buzias 89.12 316 P **P 02 30 31.7 +0.8**
BZS Buzias 89.12 316⇓*i*P **P 02 30 31.4 +0.4**
KOLS Kolonicke sedl 89.19 319 *i* P **P 02 30 32.6 +1.4**
FINES FINESS Array B 89.40 332 P **P 02 30 32.0 +0.1**
comp=Z,7.3nm,0.9s,mb5.0,baz=111,slow=5.8,SNR=18
FINES LR LR 03 17 33.2
comp=Z,82nm,19.0s,MS4.2,baz=72,slow=40
SUW Suwalki 89.48 324 *e*P **P 02 30 32.5 +0.1**
STHS Stebnicka Huta 89.93 320 *i* P **P 02 30 35.7 +1.0**
comp=Z,7.1nm,1.0s,mb5.0
STHS *e* 02 30 41.9
STHS Stebnicka Huta 89.93 320 *i* P **P 02 30 35.7 +1.0**
STHS pmax pmax
comp=Z,7.0nm,1.0s,mb5.0
KECS Kecovo 90.30 319 *i* P **P 02 30 37.0 +0.6**
comp=Z,2.3nm,0.9s,mb4.5
KECS Kecovo 90.30 319 *i* P **P 02 30 37.0 +0.6**
KECS pmax pmax
comp=Z,2.0nm,0.9s,mb4.5
SNAA Sanae 90.32 198 *e*P **P 02 30 37.4 +1.3**
SNAA *e* 02 30 43.5
SNAA *e* 02 30 47.8
SNAA Sanae 90.32 198⇓*i*P **P 02 30 37.6 +1.5**
PSZ Piszkesteto 90.61 318 *e*P **P 02 30 37.9 0.0**
comp=Z,7.2nm,1.1s,mb4.9
PSZ Piszkesteto 90.61 318 *e*P **P 02 30 37.9 0.0**
PSZ pmax pmax
comp=Z,7.0nm,1.1s,mb4.9
PKSM Moragy 91.25 316 ⇑P **P 02 30 41.1 +0.2**
PKSM Moragy 91.25 316⇑*i*P **P 02 30 41.2 +0.3**
ARCES ARCESS Array B 91.36 340 P **P 02 30 40.2 -0.7**
ARCES LR LR 03 15 07.6
ARCES ARCESS Array B 91.36 340 P **P 02 30 40.2 -0.7**
ARCES pmax pmax
comp=Z,3.0nm,0.9s
ARCES MLR MLR
comp=Z,150nm,18.9s
ARCES ARCESS Array B 91.36 340 P **P 02 30 40.2 -0.7**
comp=Z,2.5nm,0.9s,mb4.5,baz=80,slow=7.5,SNR=5.1
ARCES LR LR 03 15 07.6
comp=Z,150nm,18.9s,MS4.5,baz=293,slow=38
VYHS Vyhne 91.39 318 *e*P **P 02 30 41.7 +0.2**
VNA2 Neumayer--Watz 91.96 198 *e*P **P 02 30 44.1 +0.4**
VNA2 *e* 02 30 50.6
VNA2 *e* 02 30 54.9
VNA1 Neumayer--Stat 92.33 198 *e*P **P 02 30 47.2 +1.7**
VNA1 *e* 02 30 53.3
VNA1 *e* 02 30 57.4
MORC Moravsky Berou 92.37 320 *e*P **P 02 30 45.5 -0.6**
comp=Z,4.0nm,1.0s,mb4.7
MORC Moravsky Berou 92.37 320 *e*P **P 02 30 45.5 -0.5**
MORC pmax pmax
comp=Z,4.0nm,1.0s,mb4.7
MODS Modra-Piesok 92.40 318 *e*P **P 02 30 46.8 +0.6**
GOLS Golise 93.33 316 *i* P **P 02 30 50.9 +0.4**
BOJS Bojanci 93.55 315 *e*P **P 02 30 51.7 +0.2**
LJU Ljubljana 94.09 316 *e*P **P 02 30 54.5 +0.4**
BRG Berggiesshubel 94.75 321 *e*P **P 02 30 57.4 +0.5**
BRG pmax pmax
comp=Z,2.0nm,0.6s,mb4.7
BRG Berggiesshubel 94.75 321 *e*P **P 02 30 57.4 +0.5**
comp=Z,3.7nm,0.6s,mb5.0
GERES GERESS Array B 94.81 318 P **P 02 30 56.9 -0.4**
GERES pmax pmax
comp=Z,1.0nm,0.7s
GERES GERESS Array B 94.81 318 P **P 02 30 56.9 -0.4**
comp=Z,0.8nm,0.7s,mb4.2,baz=92,slow=3.2,SNR=8.7
NOA NORSAR Array B 96.49 331 P **P 02 31 02.8 -1.8**
comp=Z,1.9nm,0.9s,mb4.5,baz=94,slow=5.0,SNR=3.6
NOA LR LR 03 19 50.8
comp=Z,51nm,20.3s,MS4.0,baz=0.0,slow=39
YKA Yellowknife Ar 116.17 19 PKP PKPdf 02 36 16.6 -1.9
YKA PKKPbc PKKPbc 02 46 48.5 -2.1
YKA Yellowknife Ar 116.17 19 PKP PKPdf 02 36 16.6 -1.9
comp=Z,0.2nm,0.5s,baz=315,slow=2.9,SNR=9.6
YKA PKKPbc PKKPbc 02 46 48.5 -2.0
comp=Z,1.3nm,0.9s,baz=135,slow=3.7,SNR=6.9
FCC Fort Churchill 124.87 12 *e*PKPdf PKPdf 02 36 34.7 -0.6
FFC Flin Flon 126.35 19 *e*PKPdf PKPdf 02 36 38.0 -0.2
CHMT Chamberlain Mo 127.33 32 *e*PKPdf PKPdf 02 36 39.7 -0.7
BOZ Bozeman (W) 129.00 32 *e*PKPdf PKPdf 02 36 43.7 +0.1
NVAR Mina Array Bea 129.01 44 PKP PKPdf 02 36 42.6 -1.3
comp=Z,0.8nm,0.8s,baz=338,slow=1.8,SNR=5.0
QLMT Earthquake Lak 129.64 33 *e*PKPdf PKPdf 02 36 45.3 +0.5
MOOW Moose Ponds 130.72 34 *e*PKPdf PKPdf 02 36 47.5 +0.6
LOHW Long Hollow 130.88 34 *e*PKPdf PKPdf 02 36 48.0 +0.7
HWUT Hardware Ranch 131.59 36 *e*PKPdf PKPdf 02 36 50.1 +1.5
DUG Dugway 131.68 39 *e*PKPdf PKPdf 02 36 49.1 +0.2
BW06 Boulder Array 132.01 34 *e*PKPdf PKPdf 02 36 47.3 -2.1
ULM Lac du Bonnet 132.11 18 PKP PKPdf 02 36 41.7 -7.7
ULM *e*PKPdf PKPdf 02 36 49.2 -0.1
ULM Lac du Bonnet 132.11 18 PKhKP 02 36 41.7
comp=Z,1.9nm,0.9s,baz=249,slow=20,SNR=3.4
RSSD Black Hills 133.93 29 *e*PKPdf PKPdf 02 36 52.8 -0.2
SDCO Great Sand Dun 137.66 36 *e*PKPdf PKPdf 02 37 01.0 +0.9
ANMO Albuquerque 138.86 40 *e*PKPdf PKPdf 02 37 03.0 +0.6
MNTX Cornudas Mount 141.54 44 *e*PKPdf PKPdf 02 37 05.0 -2.4
WMOK Wichita Mounta 143.62 34 *e*PKPpre 02 37 08.2
CPUP Villa Florida 143.95 208 *e*PKPdf PKPdf 02 37 10.1 -1.7
CPUP *e* 02 37 16.9
CPUP Villa Florida 143.95 208 PKP PKPdf 02 37 09.9 -1.9
comp=Z,3.2nm,0.7s,baz=67,slow=3.1,SNR=5.1
TXAR Lajitas Array 144.13 45 PKIKP PKPdf 02 37 10.7 -1.3
TXAR pmax pmax
comp=Z,3.0nm,0.5s
TXAR Lajitas Array 144.13 45 PKP PKPdf 02 37 10.7 -1.4
comp=Z,3.0nm,0.5s,baz=238,slow=0.9,SNR=59
CCM Cathedral Cave 144.43 22 *e*PKPpre 02 37 08.9
ACSO Alum Creek Sta 144.69 10 *e*PKPdf PKPdf 02 37 10.2 -2.5
SSPA Standing Stone 144.91 4 *e*PKPdf PKPdf 02 37 11.0 -2.0
MVL Millersville 145.61 2 *e*PKPdf PKPdf 02 37 13.8 -0.5
MCWV Mont Chateau 145.71 6 *e*PKPbc PKPbc 02 37 14.3 -0.5
BDFB Brasilia 145.87 232 PKP2 PKPab 02 37 16.2 -0.1
BDFB pmax pmax
comp=Z,5.0nm,0.5s
BDFB Brasilia 145.87 232 PKPbc PKPbc 02 37 16.2 +0.3
comp=Z,4.9nm,0.5s,baz=121,slow=5.4,SNR=17
JCT Junction City 146.02 40 *e*PKPbc PKPbc 02 37 16.0 0.0
MIAR Mount Ida 146.44 28 *e*PKPbc PKPbc 02 37 16.1 -1.0
WVT Waverly 147.36 19 *e*PKPbc PKPbc 02 37 18.8 -0.9
ELN Prospectdale 147.99 8 *e*PKPbc PKPbc 02 37 19.8 -1.6
NATX Nacogdoches 148.12 33 *e*PKPbc PKPbc 02 37 22.0 0.0

TZTN	Tazewell	148.14	13	*e*PKPbc	PKPbc	02 37 20.6	-1.2
PLAL	Pickwick Lake	148.32	20	*e*PKPbc	PKPbc	02 37 21.1	-1.3
SWET	Sewanee	148.79	17	*e*PKPbc	PKPbc	02 37 22.5	-1.0
HKT	Hockley	148.83	36	*e*PKPbc	PKPbc	02 37 24.2	+0.4
CPCT	Cooper Cave	148.96	15	*e*PKPbc	PKPbc	02 37 23.3	-0.7
LRAL	Lakeview Retre	150.46	20	*e*PKPbc	PKPbc	02 37 27.0	-0.7
JSC	Jenkinsville	150.79	10	*e*PKPbc	PKPbc	02 37 28.2	-0.3
GOGA	Godfrey	151.16	14	*e*PKPbc	PKPbc	02 37 28.8	-0.6
LPAZ	La Paz	157.28	198	*e*PKPdf	PKPdf	02 37 32.8	+0.3
LPAZ				PKPbc	PKPdf	02 37 44.9	+12
LPAZ				PKPab	PKPab	02 38 05.1	+1.9
LPAZ	La Paz	157.28	198	*e*PKIKP	PKPdf	02 37 32.8	+0.3
LPAZ						02 37 44.9	
LPAZ	La Paz	157.28	198	PKPbc	PKPdf	02 37 44.9	+12
	comp=Z,1.4nm,0.9s,baz=150,slow=9.1,SNR=4.2						
LPAZ				PKPab	PKPab	02 38 05.1	+1.9
	comp=Z,2.3nm,0.8s,baz=127,slow=8.7,SNR=6.8						
JTS	JuntasAbangare	169.22	63	*e*PKPdf	PKPdf	02 37 43.7	-0.2

IDC 27 02:17:56.1±6.0, 1531S×17889W, h0km, mb4.1/3, mb1 4.4/3, mb1mx3.9/14, mbtmp4.1/3, Error ellipse: s-maj=317.9km s-min=35.1km az=145.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	44.70	257	P	P	02 26 12.0	+0.6
	1.3nm,0.6s,baz=92,slow=7.1,SNR=5.2						
ASAR	Alice Springs	45.10	252	P	P	02 26 14.4	-0.1
	9.2nm,0.7s,baz=85,slow=8.3,SNR=25						
YKA	Yellowknife Ar	92.18	25	P	P	02 31 08.8	+1.5
	0.2nm,0.8s,baz=256,slow=4.6,SNR=3.8						
BRG	Berggiesshubel	143.05	346	*i* P	PKPdf	02 37 26.9	-5.0
	3.5nm,0.8s						
GERES	GERESS Array B	145.00	345	PKPbc	PKPbc	02 37 32.1	-2.5
	0.9nm,0.6s,baz=36,slow=2.5,SNR=7.8						

*CSEM **27** 02:24:31.1±0.5, 3521N×2774E, h2km, MD3.7, Error ellipse: s-maj=12.6km s-min=3.7km az=156.0*

ATH 27 02:24:36.0, 3579N×2732E, h12km, MD3.7/4, 1C, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	Karpathos	0.28	208	⇑*i*PG	Pg	02 24 41.7	+0.1
ARG	Arkhangelos	0.78	57	*e*PB	Pb	02 24 50.9	-0.6
BDRM	Kayabasi	1.28	4	*i* P	Pn	02 25 04.2	+4.6
NPS	Neapolis	1.49	250	*e*PB	Pb	02 25 03.6	0.0
AKAS	Kas	1.91	76	*i* P	Pn	02 25 02.1	-6.2
AYDN	Tasoluk	1.92	13	*i* P	Pn	02 25 12.8	+4.3
GOLH	Golhisar	2.31	51	*i* P	Pn	02 25 13.4	-0.5
VAM	Vamos	2.57	262	*e*PN	Pn	02 25 20.1	+2.7

*NEIC **27** 02:56:22.5, 3160S×7226W, h33km, ML3.8(GUC), After GUC.*

GUC 27 02:56:22.5±0.6, 3160S×7226W, h33km±2km, MD3.9, ML3.8, 11C-3D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMCH	Combarbala	1.16	69	⇑*i*P	Pn	02 56 42.3	0.0
CMCH				*i* S	Sn	02 56 57.8	+0.8
CMCH	Combarbala	1.16	69	⇑*i*P	Pn	02 56 42.3	0.0
CMCH				*i* S	Sn	02 56 57.8	+0.8
CMCH				AML	AML	02 57 00.1	
	comp=E,5μm,0.4s						
OVCH	Ovalle	1.34	43	*i* P	Pn	02 56 45.8	+0.9
OVCH				*i* S	Sn	02 57 03.9	+2.3
IHA	Instituto Hidr	1.51	160	⇑*i*P	Pn	02 56 48.2	+1.0
IHA				*i* S	Sn	02 57 08.2	+2.5
ROCH	El Roble	1.73	143	*e*P	Pn	02 56 52.0	+1.8
ROCH				*i* S	Sn	02 57 14.8	+3.7
JACH	Jahuel	1.78	128	*i* P	Pn	02 56 52.1	+1.3
JACH				*i* S	Sn	02 57 15.0	+2.7
TLL	Tololo Astrono	1.90	42	*i* P	Pn	02 56 56.1	+3.6
TLL				*i* S	Sn	02 57 20.6	+5.2
TLL	Tololo Astrono	1.90	42	*i* P	Pn	02 56 56.1	+3.6
TLL				*i* S	Sn	02 57 20.6	+5.2
TLL				AML	AML	02 57 30.8	
	comp=N,732nm,0.6s						
LSCH	La Serena	1.90	28	*i* P	Pn	02 56 58.2	+5.6
LSCH				*i* S	Sn	02 57 22.2	+6.9
PEL	Peldehue	2.03	139	⇓*i*P	Pn	02 56 55.6	+1.3
PEL				*i* S	Sn	02 57 21.4	+2.8
PEL				AML	AML	02 57 30.8	
	comp=N,2μm,0.4s						
RCDM	Rinconada Maip	2.25	147	⇓*i*P	Pn	02 56 58.5	+1.2
RCDM				*i* S	Sn	02 57 26.3	+2.5
RCDM	Rinconada Maip	2.25	147	⇓*i*P	Pn	02 56 58.5	+1.2
RCDM				*i* S	Sn	02 57 26.3	+2.5
RCDM				AML	AML	02 57 32.7	
	comp=E,517nm,0.3s						
CLCH	Cerro Calan	2.31	141	⇑*i*P	Pn	02 56 59.5	+1.4
CLCH				*i* S	Sn	02 57 27.6	+2.3
CLCH				AML	AML	02 57 35.7	
	comp=E,1μm,0.6s						
TACH	Talagante	2.33	152	*i* P	Pn	02 56 59.8	+1.4
TACH				*i* S	Sn	02 57 28.2	+2.3
FSR	Penalolen	2.38	142	⇑*i*P	Pn	02 57 00.6	+1.5
FSR				*i* S	Sn	02 57 29.4	+2.4
FSR	Penalolen	2.38	142	⇑*i*P	Pn	02 57 00.6	+1.5
FSR				*i* S	Sn	02 57 29.4	+2.4
FSR				AML	AML	02 57 39.6	
	comp=N,749nm,0.4s						
ANTU	Antumapu	2.39	145	⇑*i*P	Pn	02 57 00.6	+1.3
ANTU				*i* S	Sn	02 57 29.8	+2.3
ANTU	Antumapu	2.39	145	⇑*i*P	Pn	02 57 00.6	+1.3
ANTU				*i* S	Sn	02 57 29.8	+2.3
ANTU				AML	AML	02 57 44.5	
	comp=E,638nm,0.4s						
FCH	Farellones	2.39	136	⇑*i*P	Pn	02 57 00.8	+1.5
FCH				*i* S	Sn	02 57 30.3	+2.8
FCH				AML	AML	02 57 37.0	
	comp=N,478nm,0.4s						
PCH	Pirque	2.49	144	⇑*i*P	Pn	02 57 02.2	+1.5
PCH				*i* S	Sn	02 57 32.7	+2.7
CHCH	Chadas Angostu	2.69	150	*i* P	Pn	02 57 04.8	+1.4
CHCH				*i* S	Sn	02 57 37.3	+2.5
LMEL	Las Melosas	2.83	143	*i* P	Pn	02 57 07.1	+1.7
LMEL				*i* S	Sn	02 57 41.2	+2.9
LMEL	Las Melosas	2.83	143	*i* P	Pn	02 57 07.1	+1.7
LMEL				*i* S	Sn	02 57 41.2	+2.9
LMEL				AML	AML	02 57 49.5	
	comp=N,455nm,0.2s						
CACH	El Canelo	2.87	151	⇑*i*P	Pn	02 57 08.2	+2.3
CACH				*i* S	Sn	02 57 43.2	+4.0
CICH	Cipreses	3.12	151	*e*P	Pn	02 57 11.1	+1.8
CICH				*i* S	Sn	02 57 47.8	+2.4
SFDO	San Fernando	3.18	161	*i* P	Pn	02 57 11.9	+1.7
SFDO				*i* S	Sn	02 57 49.0	+2.2

SKHL 27 03:05:56.7±0.1, 5309N×12897E, h8km±1km, mb3.7/5, 1C, Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YASR	Yasnyy	0.63	289	*i* Pg	Pg	03 06 07.8	-1.0
YASR				AMB	AMB	03 06 08.1	
	31nm,0.4s						
YASR				AMB	AMB	03 06 08.1	
	73nm,0.4s						
YASR				AMB	AMB	03 06 08.1	
	62nm,0.4s						
YASR				pPg		03 06 10.0	
YASR				*i* Sg	Sg	03 06 15.8	-1.2
YASR				A		03 06 16.4	
	13nm,0.4s						
YASR				A		03 06 16.4	
	160nm,0.4s						
YASR				A		03 06 16.4	
	23nm,0.4s						
ZEA	Zeya	1.22	303	*e*Pg	Pg	03 06 20.2	+0.2
ZEA				AMB	AMB	03 06 20.4	
	64nm,0.2s						
ZEA				*e*Sg	Sg	03 06 34.9	-0.9
ZEA				A		03 06 36.7	
	120nm,0.2s						
BMKR	Bomnak	1.63	357	*e*Pn	Pn	03 06 26.0	+0.4
BMKR				*e*Pg	Pg	03 06 26.5	-1.4
BMKR				AMB	AMB	03 06 27.0	
	18nm,0.4s						
BMKR				AMB	AMB	03 06 27.0	
	23nm,0.4s						
BMKR				*e*Sn	Sn	03 06 47.0	+0.3
BMKR				*e*Sg	Sg	03 06 47.6	-1.3
BMKR				A		03 06 49.4	
	48nm,0.4s						
BMKR				A		03 06 49.4	
	186nm,0.4s						
BMKR				A		03 06 49.4	
	28nm,0.4s						
KROS	Kirovskiy	1.79	319	*e*Pn	Pn	03 06 28.7	+0.8
KROS				⇑*i*Pg	Pg	03 06 29.5	-1.6
KROS				AMB	AMB	03 06 29.9	
	25nm,0.4s						
KROS				pPg		03 06 31.9	
KROS				*e*Sn	Sn	03 06 52.1	+1.3
KROS				*e*Sg	Sg	03 06 52.9	-1.4
KROS				A		03 06 54.2	
	89nm,0.5s						
KROS				A		03 06 54.2	
	97nm,0.5s						
EKMR	Ekimchan	2.40	89	*e*Pn	Pn	03 06 37.3	+1.1
EKMR				*e*Pg	Pg	03 06 40.0	-2.7
EKMR				AMB	AMB	03 06 41.2	
	6.0nm,0.4s						
EKMR				*e*Sg	Sg	03 07 11.0	-2.8
EKMR				A		03 07 15.3	
	90nm,0.6s						
EKMR				A		03 07 15.3	
	52nm,0.6s						
KLR	Kul'dur	4.24	155	*e*Sn	Sn	03 07 49.0	-2.2
KLR				*e*Sg	Sg	03 08 06.2	-6.6
CLNS	Chul'man	4.43	330	*e*Sg	Sg	03 08 16.5	-2.3
CLNS				A		03 08 26.8	
	36nm,0.6s						
TUP	Tupik	5.51	288	*e*Pn	Pn	03 07 23.4	+4.4
TUP				*e*Sg	Sg	03 08 51.7	-1.9
TUP				A		03 08 56.1	
	18nm,0.9s						

IDC 27 03:20:41.0±3.7, 5361S×2819E, h0km, mb3.7/5, mb1 3.9/5, mb1mx3.7/16, mbtmp3.7/5, MS3.3/1, Ms1 3.2/1, ms1mx2.8/23, Error ellipse: s-maj=83.2km s-min=37.9km az=140.0, South of Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAW	Mawson	21.64	144	P	P	03 25 33.6	+1.2
	5.5nm,0.9s,baz=274,slow=9.1,SNR=6.2						
MAW				LR	LR	03 33 18.6	
	comp=Z,67nm,18.3s,baz=68,slow=35						
SNAA	Sanae	22.57	205	P	P	03 25 44.0	+1.6
	0.8nm,0.8s,baz=56,slow=8.8,SNR=6.4						
QSPA	South Pole Qui	36.61	180	P	P	03 27 46.7	-1.5
	2.4nm,0.9s,baz=296,slow=0.3,SNR=7.0						
ASAR	Alice Springs	80.07	116	P	P	03 32 52.7	+0.3
	0.3nm,0.5s,baz=204,slow=6.0,SNR=3.6						
WRA	Warramunga Arr	83.32	115	P	P	03 33 09.8	+0.1
	0.7nm,0.9s,baz=216,slow=5.7,SNR=3.7						

IDC 27 03:38:44.4±1.0, 049S×12247E, h0km, mb3.7/6, mb1 3.9/6, mb1mx3.8/17, mbtmp3.7/6, MS3.6/2, Ms1 3.6/2, ms1mx2.9/27, Error ellipse: s-maj=37.5km s-min=19.6km az=63.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	22.56	150	P	P	03 43 47.0	+0.7
	2.1nm,0.7s,baz=330,slow=10,SNR=19						
PSI	Prapat	23.76	278	P	P	03 43 58.0	-0.9
	5.7nm,0.9s,baz=85,slow=11,SNR=6.3						
PSI				LR	LR	03 53 28.6	
	comp=Z,182nm,18.1s,baz=209,slow=37						
ASAR	Alice Springs	25.57	155	P	P	03 44 14.8	-0.5
	0.9nm,0.9s,baz=348,slow=16,SNR=7.8						
MJAR	Matsushiro Arr	39.64	20	P	P	03 46 17.2	-0.7
	1.0nm,0.5s,baz=182,slow=9.6,SNR=4.0						
ASAJ	Asahikawa	47.90	20	LR	LR	04 03 51.5	
	comp=Z,46nm,21.6s,baz=124,slow=32						
SONM	Songino Array	50.12	346	P	P	03 47 42.3	+1.0
	1.3nm,1.0s,baz=167,slow=8.7,SNR=6.4						
MKAR	Makanchi Array	58.75	329	P	P	03 48 44.5	+0.4
	0.6nm,0.8s,baz=123,slow=7.4,SNR=2.9						

IDC 27 03:51:37.6±4.3, 790S×14776E, h0km, mb3.5/3, mb1 3.8/4, mb1mx3.6/12, mbtmp3.6/4, ML3.4/1, Error ellipse: s-maj=126.4km s-min=29.3km az=107.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	17.67	226	P	Pn	03 55 45.9	+0.5
	0.1nm,0.3s,baz=52,slow=12,SNR=8.2						
ASAR	Alice Springs	20.55	219	P	P	03 56 18.1	+0.2
	1.2nm,0.8s,baz=48,slow=9.9,SNR=11						
KSRS	Korea Array	48.78	339	P	P	04 00 26.1	+1.7
	1.0nm,0.7s,baz=147,slow=7.2,SNR=4.7						
MKAR	Makanchi Array	79.43	321	P	P	04 03 44.7	-1.1
	0.2nm,0.2s,baz=94,slow=7.5,SNR=2.0						

*CSEM **27** 04:46:43.1±0.6, 3821N×22.14E, h10km, ML3.6, Error ellipse: s-maj=17.0km s-min=11.4km az=119.0*
*ISCJB **27** 04:46:44.8±0.9, 3820N±004×22.19E±006, h23km±8km, Error ellipse: s-maj=9.1km s-min=6.3km az=29.6*
*NEIC **27** 04:46:44.1±0.9, 3817N×22.15E, h10km, ML3.6(THE), Error ellipse: s-maj=12.6km s-min=8.1km az=120.0*
*ATH **27** 04:46:44.3, 3821N×22.10E, h32km±5km, MD3.1/6*

ISC 27 04:46:44.1±1.0, 3821N±004×2224E±006, h13km±6km, n13, σ1§34/22, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RLS	Riolos of Patr	0.62	257	*e*PN	Pg	04 46 55.5	-0.8
RLS				*e*SN	Sg	04 47 04.5	-0.1
RLS	Riolos of Patr	0.62	257	*e*P	Pg	04 46 55.5	-0.8
RLS				*e*S	Sg	04 47 05.2	+0.6
LKR	Lokris	0.75	53	*e*PN	Pn	04 47 01.0	+0.7
EVR	Evrytania	0.79	335	*e*PN	Pn	04 46 58.1	-2.8
EVR				*e*SN	Sn	04 47 10.0	-2.5
AGG	Agios Georgios	0.82	5	P	Pg	04 46 59.6	-0.4
AGG				S	Sg	04 47 11.3	+0.5
AGG	Agios Georgios	0.82	5	P	Pg	04 46 59.6	-0.4
AGG				S	Sg	04 47 11.3	+0.5
ITM	Ithomi	1.05	194	*e*PN	Pn	04 47 02.5	-2.1
VLS	Valsamata	1.30	269	P	Pn	04 47 07.8	-0.1
VLS				S	Sb	04 47 26.4	+1.5
VLS	Valsamata	1.30	269	*e*PN	Pn	04 47 07.3	-0.6
VLS	Valsamata	1.30	269	P	Pn	04 47 07.8	-0.1
VLS				S	Sb	04 47 26.4	+1.5
VLI	Veliai	1.59	159	*e*PN	Pn	04 47 13.3	+1.4
MEV	Metsovon	1.76	334	P	Pn	04 47 16.0	+1.7
MEV				S	Sn	04 47 37.5	+0.9
MEV	Metsovon	1.76	334	P	Pn	04 47 16.0	+1.7
MEV				S	Sn	04 47 37.5	+0.9

IDC 27 05:40:04.2±2.3, 603S×13060E, h0km, mb3.7/1, mb1 4.0/4, mb1mx3.7/12, mbtmp3.8/4, ML3.8/3, Error ellipse: s-maj=90.9km s-min=28.4km az=78.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	12.94	202	Pn	Pn	05 43 09.7	+0.1
	0.4nm,0.3s,baz=34,slow=12,SNR=37						
FITZ				Sn	Sn	05 45 21.3	-13
	0.3nm,0.3s,baz=166,slow=20,SNR=3.9						
WRA	Warramunga Arr	14.30	166	Pn	Pn	05 43 27.4	-0.8
	0.4nm,0.3s,baz=349,slow=13,SNR=19						
WRA				Sn	Sn	05 45 56.6	-11
	0.4nm,0.3s,baz=334,slow=24,SNR=8.9						
ASAR	Alice Springs	17.82	170	P	Pn	05 44 14.1	+0.3
	0.3nm,0.3s,baz=345,slow=10,SNR=20						
MKAR	Makanchi Array	67.75	326	P	P	05 51 03.8	+0.2
	0.3nm,0.4s,baz=116,slow=8.0,SNR=6.0						

MEX 27 05:41:59.3±1.1, 1780N×9976W, h63km±11km, MD3.6, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MEIG	Mezcala	0.19	46	*i* P	Pn	05 42 08.1	-0.9
MEIG				*i* S	Sn	05 42 14.1	-1.9
PLIG	Platanillo	0.64	22	*i* P	Pn	05 42 12.0	-1.1
PLIG				*i* S	Sn	05 42 21.1	-2.0
ACX	Acapulco	0.94	189	*i* P	Pn	05 42 14.2	-2.5
ACX				*i* S	Sn	05 42 28.9	-0.6
PPM	Popocatepetl	1.66	40	*i* P	Pn	05 42 26.3	+0.1
PPM				*i* S	Sn	05 42 45.9	-0.7
UTMO	Huajuapan	1.86	89	*i* P	Pn	05 42 27.9	-1.0
UTMO				*i* S	Sn	05 42 49.2	-2.3

*GUC **27** 05:47:21.4±1.0, 3169S×7061W, h3km, MD3.9, ML3.3*
*NEIC **27** 05:47:21.4, 3169S×7061W, h3km, mb3.8/3, ML3.3(GUC), After GUC.*
*IDC **27** 05:47:21.2±2.1, 3179S×7049W, h0km, mb3.4/2, mb1 3.9/5, mb1mx3.7/15, mbtmp3.7/5, ML4.1/3, MS2.7/1, Ms1 2.6/1, ms1mx2.4/12, Error ellipse: s-maj=49.7km s-min=16.3km az=5.0*
*ISCJB **27** 05:47:22.1±0.3, 3169S±002×7053W±006, h10km, mb3.4/4, Error ellipse: s-maj=7.5km s-min=2.6km az=176.4*

ISC 27 05:47:22.9±0.3, 3171S±002×7058W±006, h10km, n37, σ1§21/53, mb3.4/4, 10C-4D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMCH	Combarbala	0.64	326	⇑*i*P	Pg	05 47 33.7	-1.7
CMCH				*i* S	Sg	05 47 43.2	-0.6
CMCH	Combarbala	0.64	326	⇑*i*P	Pg	05 47 33.7	-1.7
CMCH				*i* S	Sg	05 47 43.2	-0.6
CMCH				AML	AML	05 47 44.7	
	comp=N,7μm,0.7s						
JACH	Jahuel	0.97	180	⇓*i*P	Pg	05 47 39.3	-2.3
JACH				*i* S	Sg	05 47 52.1	-2.1
OVCH	Ovalle	1.22	334	⇑*i*P	Pn	05 47 44.3	-1.8
OVCH				AML	AML	05 48 10.0	
	comp=N,1μm,0.5s						
PEL	Peldehue	1.43	183	⇑*i*P	Pn	05 47 47.2	-1.8
PEL				*i* S	Sn	05 48 07.0	-0.9
PEL				AML	AML	05 48 20.5	
	comp=E,786nm,0.5s						
TLL	Tololo Astrono	1.55	353	*e*P	Pn	05 47 49.6	-0.9
TLL				*i* S	Sn	05 48 11.0	+0.3
TLL	Tololo Astrono	1.55	353	*e*P	Pn	05 47 49.6	-0.9
TLL				*i* S	Sn	05 48 11.0	+0.3
TLL				AML	AML	05 48 17.7	
	comp=N,2μm,0.7s						
IHA	Instituto Hidr	1.59	214	⇑*i*P	Pn	05 47 50.2	-0.9
IHA				*i* S	Sn	05 48 11.7	0.0
FCH	Farellones	1.63	171	⇓*i*P	Pn	05 47 50.6	-1.2
FCH				*i* S	Sn	05 48 12.9	+0.1
FCH				AML	AML	05 48 27.5	
	comp=E,310nm,0.3s						
CLCH	Cerro Calan	1.68	179	⇓*i*P	Pn	05 47 51.4	-1.0
CLCH				*i* S	Sn	05 48 14.8	+0.7
CLCH				AML	AML	05 48 21.2	
	comp=N,609nm,0.4s						
CLCH				AML	AML	05 48 21.8	
	comp=N,636nm,0.5s						
STL	Santa Lucia	1.72	182	AML	AML	05 48 24.9	
	comp=E,80nm,0.8s						
RCDM	Rinconada Maip	1.79	186	*e*P	Pn	05 47 53.1	-0.7
RCDM				*i* S	Sn	05 48 17.3	+0.7
RCDM	Rinconada Maip	1.79	186	*e*P	Pn	05 47 53.1	-0.7
RCDM				*i* S	Sn	05 48 17.3	+0.7
RCDM				AML	AML	05 48 20.0	
	comp=E,497nm,0.2s						
ANTU	Antumapu	1.85	181	⇑*i*P	Pn	05 47 54.4	-0.4
ANTU				*i* S	Sn	05 48 19.3	+1.0
ANTU	Antumapu	1.85	181	⇑*i*P	Pn	05 47 54.4	-0.4
ANTU				*i* S	Sn	05 48 19.3	+1.0
ANTU				AML	AML	05 48 26.6	
	comp=N,511nm,0.6s						
LSCH	La Serena	1.88	342	*i* P	Pn	05 47 55.2	0.0
LSCH				*i* S	Sn	05 48 20.6	+1.6
LSCH	La Serena	1.88	342	*i* P	Pn	05 47 55.2	0.0
LSCH				*i* S	Sn	05 48 20.6	+1.6
LSCH				AML	AML	05 48 23.7	
	comp=N,229nm,0.4s						
PCH	Pirque	1.91	178	⇓*i*P	Pn	05 47 55.4	-0.1
PCH				*i* S	Sn	05 48 21.8	+2.2
TACH	Talagante	1.96	189	⇑*i*P	Pn	05 47 55.9	-0.4
TACH				*i* S	Sn	05 48 22.2	+1.3
CFAA	Coronel Fontan	2.00	88	Pn	Pn	05 47 56.3	-0.6
	comp=N,1.3nm,0.3s,baz=262,slow=14,SNR=49						
CFAA				Lg		05 48 22.1	
	comp=N,5.7nm,0.3s,baz=145,slow=17,SNR=20						
LMEL	Las Melosas	2.16	172	⇑*i*P	Pn	05 47 59.9	+1.0
LMEL				AML	AML	05 48 41.0	
	comp=N,504nm,0.3s						
CHCH	Chadas Angostu	2.22	181	*e*S	Sn	05 48 29.9	+2.7
LNV	Longovilo	2.35	197	⇑*i*P	Pn	05 48 02.0	+0.5
LCO	Las Campanas	2.69	358	*e*Pn	Pn	05 48 07.6	+1.3
LCO				*e*Sn	Sn	05 48 42.1	+3.2
SFDO	San Fernando	2.92	187	*i* P	Pn	05 48 10.5	+1.1
TRQA	Tornquist	9.49	134	*e*Pn	Pn	05 49 40.6	+1.0
	comp=N,17nm,0.6s						
CPUP	Villa Florida	12.77	69	*e*Pn	Pn	05 50 23.2	-1.4
CPUP	Villa Florida	12.77	69	Pn	Pn	05 50 22.9	-1.7
	comp=N,0.5nm,0.3s,baz=234,slow=13,SNR=4.1						
LPAZ	La Paz	15.51	9	*e*P	Pn	05 51 04.2	+2.3
	comp=N,4.5nm,0.8s						
LPAZ	La Paz	15.51	9	Pn	Pn	05 51 04.5	+2.7
	comp=N,0.2nm,0.3s,baz=197,slow=8.7,SNR=20						
SIV	San Ignacio	17.89	31	P	Pn	05 51 31.5	-0.4
	comp=N,0.2nm,0.3s,baz=222,slow=10,SNR=9.2						
BDFB	Brasilia	26.05	57	P	P	05 52 56.2	-0.4
	comp=N,0.5nm,0.5s,mb3.3,baz=204,slow=18,SNR=3.9						
ROSC	El Rosal	36.53	354	*e*P	P	05 54 28.2	-0.6
TXAR	Lajitas Array	68.37	329	P	P	05 58 25.0	+0.4
	comp=N,0.2nm,0.7s,mb3.2,baz=145,slow=11,SNR=2.9						
MNTX	Cornudas Mount	71.15	329	*e*P	P	05 58 42.0	+0.3
	comp=N,0.4nm,0.4s,mb3.7						
SDCO	Great Sand Dun	76.40	332	*e*P	P	05 59 14.4	+2.1
	comp=N,0.3nm,0.7s,mb3.3						
ZALV	Zalesovo Beam	151.64	31	PKPbc	PKPbc	06 07 17.2	+0.3
	comp=N,1.5nm,0.6s,baz=298,slow=1.4,SNR=4.6						

*BJI **27** 05:55:58.6, 720S×15500E, h10km, mb4.9*
*NEIC **27** 05:55:59.6±0.3, 7.17S×15497E, h10km, mb4.6/14, Error ellipse: s-maj=9.6km s-min=7.6km az=131.0*
*IDC **27** 05:56:04.1±4.5, 728S×15494E, h40km±39km, mb4.2/10, mb1 4.3/11, mb1mx4.2/14, mbtmp4.2/11, ML4.1/1, MS3.5/4, Ms1 3.5/4, ms1mx3.1/16, Error ellipse: s-maj=22.8km s-min=20.7km az=86.0*
*ISCJB **27** 05:56:05.8±2.0, 731S±009×15508E±007, h74km±19km, mb4.5/29, Error ellipse: s-maj=15.4km s-min=10.5km az=148.3*

ISC 27 05:56:07.5±1.7, 734S±008×15508E±007, h75km±16km, n50, σ0§72/45, mb4.5/29, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	5.25	114	Pn	Pn	05 57 23.2	-0.3
HNR				LR	LR	05 58 29.1	
HNR	Honiara	5.25	114	Pn

comp=Z,139nm,19.6s,baz=85,slow=36
ASAR Alice Springs 26.01 229 P **P 06 01 32.8 -0.9**
3.3nm,0.6s,mb4.0,baz=63,slow=9.3,SNR=57
STKA Stephens Creek 27.46 205 *eP* **P 06 01 47.9 +1.3**
4.9nm,0.8s,mb4.1
STKA Stephens Creek 27.46 205 P **P 06 01 45.8 -0.8**
5.8nm,0.8s,mb4.1,baz=16,slow=12,SNR=7.0
STKA LR LR 06 10 53.0
comp=Z,158nm,20.1s,baz=202,slow=32
FITZ Fitzroy Crossi 30.59 247 *eP* **P 06 02 13.4 -1.2**
10.0nm,0.6s,mb4.7
URZ Urewera 36.67 150 P **P 06 03 06.9 -0.1**
4.2nm,0.8s,mb4.4,baz=63,slow=4.5,SNR=4.4
MBWA Marble Bar 36.80 244 *eP* **P 06 03 08.1 -0.3**
7.7nm,0.7s,mb4.7
KLBR Kellerberrin 42.33 230 *eP* **P 06 03 53.9 -0.4**
12nm,0.6s,mb4.8
KULM Kulim 55.74 281 *eP* **P 06 05 37.8 +0.8**
XAN Xi'an 60.01 316 P **P 06 06 06.3 -0.3**
XAN AP pP 06 06 13.5 -12
XAN AMB AMB
comp=Z,7.0nm,1.0s,mb4.7
CD2 Chengdu 62.10 311 P **P 06 06 20.8 0.0**
CD2 AMB AMB
comp=Z,30nm,0.7s,mb5.4
GTA Gaotai 69.05 317 *eP* **P 06 07 06.8 +1.4**
GTA AP pP 06 07 16.5 -8.6
GTA XP sP 06 07 20.5 -13
GTA AMB AMB
comp=Z,5.0nm,1.0s,mb4.3
SONM Songino Array 69.67 327 P **P 06 07 08.7 -0.3**
comp=Z,0.9nm,0.5s,mb3.9,baz=146,slow=7.6,SNR=7.3
VNDA Vanda 70.24 178 *eP* **P 06 07 11.7 -0.4**
comp=Z,2.8nm,1.1s,mb4.0
VNDA Vanda 70.24 178 P **P 06 07 13.3 +1.2**
comp=Z,1.6nm,1.0s,mb3.8,baz=42,slow=5.3,SNR=7.1
JIRN Jiri 75.03 301 *eP* **P 06 07 42.1 +0.6**
GUN Gumba 75.36 301 *eP* **P 06 07 44.0 +0.6**
comp=Z,16nm,0.6s,mb4.9
KKN Kakani 75.84 301 *eP* **P 06 07 45.7 -0.4**
comp=Z,12nm,0.6s,mb4.8
DMN Daman 75.94 301 *eP* **P 06 07 47.3 +0.6**
comp=Z,20nm,0.8s,mb4.9
GKN Gorkha 76.45 301 *eP* **P 06 07 49.9 +0.4**
KOLN Koldanda 77.27 301 *eP* **P 06 07 53.6 -0.6**
comp=Z,4.2nm,0.5s,mb4.4
DANN Dangsing 77.28 301 *eP* **P 06 07 54.4 +0.2**
comp=Z,8.1nm,0.6s,mb4.6
SVW2 Sparrevohn 78.28 22 *eP* **P 06 07 59.7 +0.7**
TTA Tatalina 79.31 21 *eP* **P 06 08 04.8 +0.2**
comp=Z,16nm,1.1s,mb4.8
SLKM Skilak Lake 80.02 24 *eP* **P 06 08 07.8 -0.7**
IMA2 Indian Mountai 82.09 19 *eP* **P 06 08 19.4 0.0**
MCK McKinley 82.34 22 *eP* **P 06 08 20.1 -0.7**
comp=Z,25nm,0.8s,mb5.1
COLA College 83.37 21 *eP* **P 06 08 25.0 -1.1**
comp=Z,10nm,0.8s,mb4.7
MKAR Makanchi Array 83.72 319 P **P 06 08 28.6 +0.4**
comp=Z,2.1nm,0.6s,mb4.1,baz=102,slow=5.5,SNR=20
MAW Mawson 84.11 203 P **P 06 08 31.4 +1.5**
comp=Z,3.4nm,0.9s,mb4.2,baz=81,slow=6.6,SNR=4.2
ZALV Zalesovo Beam 84.51 326 P **P 06 08 31.4 -0.7**
comp=Z,2.0nm,0.6s,mb4.2,baz=94,slow=7.1,SNR=5.2
TKM2 Tokmak 2 87.31 314 *eP* **P 06 08 46.7 +0.5**
comp=Z,2.8nm,0.6s,mb4.4
AAK Ala-Archa 88.04 313 *eP* **P 06 08 48.8 -1.0**
comp=Z,1.7nm,0.7s,mb4.2
EKS2 Erkin-Say 88.57 313 *eP* **P 06 08 53.0 +0.8**
comp=Z,2.2nm,0.6s,mb4.4
INK Inuvik 90.01 21 *eP* **P 06 08 58.4 0.0**
comp=Z,301nm,1.1s
YKA Yellowknife Ar 96.60 28 P **P 06 09 29.1 +0.3**
comp=Z,1.5nm,0.7s,mb4.5,baz=266,slow=4.6,SNR=26
LPAZ La Paz 131.22 119 *e*PKPdf PKPdf 06 15 14.2 +2.3
LPAZ La Paz 131.22 119 PKP PKPdf 06 15 14.4 +2.4
comp=Z,1.8nm,0.9s,baz=52,slow=2.7,SNR=6.4
CPUP Villa Florida 134.07 138 *e*PKPdf PKPdf 06 15 18.7 +1.5
CPUP Villa Florida 134.07 138 PKP PKPdf 06 15 18.8 +1.6
comp=Z,0.6nm,0.6s,baz=147,slow=17,SNR=3.0
BDFB Brasilia 147.68 135 PKPbc PKPbc 06 15 45.1 +0.6
comp=Z,3.3nm,0.9s,baz=226,slow=11,SNR=13

IDC 27 07:17:52.9±4.9, 2500S×17821W, h0km, mb3.7/3, mb1 4.0/3, mb1mx3.8/12, mbtmp3.7/3, Error ellipse: s-maj=317.3km s-min=35.5km az=159.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**43.47**	**261**	P	P	07 25 58.2	+0.1
	1.0nm,0.9s,baz=99,slow=8.2,SNR=5.3						
WRA	**Warramunga Arr**	**43.96**	**267**	P	P	07 26 02.0	-0.1
	1.3nm,0.8s,baz=106,slow=7.6,SNR=6.5						
NVAR	**Mina Array Bea**	**84.42**	**43**	P	P	07 30 28.0	+0.7
	0.5nm,0.8s,baz=234,slow=7.7,SNR=3.6						
NB2	**NORSAR Subarra**	**143.40**	**352**	PKP	PKPdf	07 37 26.1	-2.7
	comp=Z,0.4nm,0.6s,baz=10,slow=3.2						
NOA	**NORSAR Array B**	**143.40**	**352**	PKP	PKPdf	07 37 26.5	-2.2
	comp=Z,2.4nm,0.9s,baz=16,slow=4.6,SNR=3.7						

IDC 27 07:24:01.8±13.0, 570S×10824E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.5/18, mbtmp3.6/4, MS3.9/1, Ms1 3.9/1, ms1mx2.7/26, Error ellipse: s-maj=224.7km s-min=176.6km az=147.0, Java Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**20.99**	**127**	P	P	07 28 47.6	+0.7
	1.2nm,0.9s,baz=312,slow=14,SNR=3.8						
WRA	**Warramunga Arr**	**29.05**	**122**	P	P	07 30 03.1	-0.9
	0.2nm,0.4s,baz=293,slow=10,SNR=5.8						
ASAR	**Alice Springs**	**30.48**	**128**	P	P	07 30 16.6	-0.1
	0.6nm,0.6s,baz=304,slow=9.6,SNR=10						
CTA	**Charters Tower**	**39.59**	**115**	LR	LR	07 48 55.4	
	comp=Z,167nm,21.6s,baz=64,slow=38						
STKA	**Stephens Creek**	**40.62**	**134**	P	P	07 31 44.2	+0.6
	0.8nm,0.3s,baz=307,slow=10,SNR=6.1						

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*IDC **27** 07:25:24.0±2.1, 2369N×9389E, h0km, mb3.4/4, mb1 3.6/4, mb1mx3.4/19, mbtmp3.4/4, Error ellipse: s-maj=88.6km s-min=23.5km az=69.0*
*ISCJB **27** 07:25:29.2±1.8, 238N±0.1×9370E±008, h59km±18km, mb3.4/4, Error ellipse: s-maj=22.0km s-min=11.9km az=175.9*
ISC 27 07:25:30.7±1.9, 238N±01×938E±01, h50km±20km, n13, σ0§94/15, mb3.4/4, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IMP	**Imphal**	**1.00**	**7**	*i* P	**Pn**	07 25 49.0	+0.5
IMP				*e*S	**Sn**	07 26 01.0	-0.6
SHL	**Shillong**	**2.48**	**316**	*e*PN	**Pn**	07 26 10.0	+1.3
SHL				*e*SN	**Sn**	07 26 34.8	-3.0
JIRN	**Jiri**	**7.87**	**301**	*eP*	**Pn**	07 27 23.3	+0.8
GUN	**Gumba**	**8.23**	**302**	*eP*	**Pn**	07 27 27.7	+0.2
	17nm,0.2s						
KKN	**Kakani**	**8.65**	**299**	*eP*	**Pn**	07 27 33.5	+0.3
	11nm,0.2s						
DMN	**Daman**	**8.71**	**298**	*eP*	**Pn**	07 27 35.4	+1.3
GKN	**Gorkha**	**9.25**	**299**	*eP*	**Pn**	07 27 41.1	-0.4
	24nm,0.3s						
KOLN	**Koldanda**	**10.01**	**296**	*eP*	**Pn**	07 27 51.0	-0.8
	6.4nm,0.2s						
DANN	**Dangsing**	**10.10**	**299**	*eP*	**Pn**	07 27 51.8	-1.3
MKAR	**Makanchi Array**	**24.75**	**341**	P	**P**	07 30 48.2	+0.8
	0.2nm,0.5s,mb2.9,baz=170,slow=8.6,SNR=3.1						
SONM	**Songino Array**	**26.02**	**20**	P	**P**	07 30 59.3	+0.4
	0.4nm,0.7s,mb3.1,baz=201,slow=7.7,SNR=3.2						
WRA	**Warramunga Arr**	**58.74**	**134**	P	**P**	07 35 22.7	-1.0
	0.4nm,0.3s,mb3.9,baz=321,slow=7.5,SNR=11						
ASAR	**Alice Springs**	**61.16**	**138**	P	**P**	07 35 40.1	-0.1
	0.3nm,0.5s,mb3.7,baz=319,slow=7.0,SNR=5.2						

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*IDC **27** 07:28:39.3±3.6, 2625S×17763W, h0km, mb3.9/4, mb1 4.2/4, mb1mx3.9/13, mbtmp3.9/4, Error ellipse: s-maj=210.9km s-min=31.4km az=161.0*
*ISCJB **27** 07:28:42.7±1.1, 266S±03×1776W±02, h33km, mb3.9/4, Error ellipse: s-maj=38.9km s-min=24.4km az=6.9*
ISC 27 07:28:44.5±1.1, 266S±03×1776W±02, h35km, n8, σ0§87/6, mb3.9/4, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**33.75**	**273**	P	**P**	07 35 23.9	+1.0
	3.4nm,1.0s,mb4.2,baz=108,slow=6.4,SNR=3.6						
ASAR	**Alice Springs**	**43.80**	**263**	P	**P**	07 36 47.0	-0.1
	1.6nm,0.8s,mb3.8,baz=111,slow=8.5,SNR=13						
WRA	**Warramunga Arr**	**44.45**	**268**	P	**P**	07 36 51.4	-1.0
	1.9nm,0.8s,mb3.9,baz=105,slow=7.8,SNR=11						
VNA3	**Neumayer Olymp**	**82.02**	**176**	*e*	**P**	07 41 00.2	-0.3
VNA3				*e*		07 41 05.4	
VNA2	**Neumayer--Watz**	**82.46**	**177**	*e*	**P**	07 41 03.3	+0.5
	baz=216,slow=5.0						
VNA2				*e*		07 41 08.5	
NVAR	**Mina Array Bea**	**85.24**	**43**	P	**P**	07 41 17.4	0.0
	0.4nm,0.7s,mb3.6,baz=226,slow=8.7,SNR=4.6						
NB2	**NORSAR Subarra**	**145.09**	**353**	PKP	PKPdf	07 48 15.1	-2.4
	comp=Z,1.2nm,0.8s,baz=13,slow=3.7						
NOA	**NORSAR Array B**	**145.09**	**353**	PKP	PKPdf	07 48 15.2	-2.2
	comp=Z,1.8nm,0.8s,baz=15,slow=2.4,SNR=4.9						

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*IDC **27** 07:31:34.8±0.8, 2630S×17765W, h0km, mb4.5/9, mb1 4.7/10, mb1mx4.6/15, mbtmp4.5/10, ML4.7/1, MS3.6/2, Ms1 3.6/2, ms1mx3.3/21, Error ellipse: s-maj=23.8km s-min=20.2km az=144.0*
*NEIC **27** 07:31:39.9±2.9, 2635S×17765W, h35km±26km, mb4.8/7, Error ellipse: s-maj=23.1km s-min=12.7km az=182.0*
*ISCJB **27** 07:31:40.1±2.8, 265S±0.1×1777W±0.1, h48km±23km, mb4.5/13, Error ellipse: s-maj=25.0km s-min=15.8km az=19.4*
ISC 27 07:31:41.2±2.7, 265S±01×1777W±01, h45km±23km, h41km±6.7km: pP-P, n36, σ0§95/27, mb4.5/13, 2C, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.78**	**184**	Pn	**Pn**	07 32 22.9	-0.3
	113nm,0.3s,baz=66,slow=20,SNR=3.8						
RAO				Sn	**Sn**	07 33 01.7	+6.3
	138nm,0.3s,baz=260,slow=23,SNR=6.2						
RAO				LR	LR	07 33 27.1	
	comp=Z,989nm,20.3s,baz=34,slow=38						
URZ	**Urewera**	**12.55**	**199**	LR	LR	07 39 06.8	
	comp=Z,253nm,19.8s,baz=52,slow=36						
EIDS	**Eidsvold**	**28.08**	**265**	*eP*	**P**	07 37 30.1	+1.4
	8.4nm,0.8s,mb4.4						
CTA	**Charters Tower**	**33.66**	**273**	*eP*	**P**	07 38 19.0	+1.1
	7.6nm,0.7s,mb4.7						
CTA	**Charters Tower**	**33.66**	**273**	P	**P**	07 38 19.4	+1.5
	8.3nm,0.7s,mb4.8,baz=105,slow=11,SNR=14						
CTAO	**Charters Tower**	**33.66**	**273**	*eP*	**P**	07 38 17.5	-0.4
	62nm,1.8s,mb5.2						
STKA	**Stephens Creek**	**35.81**	**252**	*eP*	**P**	07 38 37.3	+0.9
	7.5nm,0.9s,mb4.6						
STKA	**Stephens Creek**	**35.81**	**252**	P	**P**	07 38 37.5	+1.1
	9.1nm,1.0s,mb4.7,baz=80,slow=10,SNR=8.6						
ASAR	**Alice Springs**	**43.74**	**263**	P	**P**	07 39 42.5	+0.1
	10nm,0.9s,mb4.5,baz=112,slow=8.0,SNR=55						
WB2	**Warramunga Arr**	**44.36**	**268**	*eP*	**P**	07 39 46.7	-0.7
WRAB	**Tennant Creek**	**44.37**	**268**	*eP*	**P**	07 39 47.1	-0.3
	11nm,0.9s,mb4.6						
WRA	**Warramunga Arr**	**44.38**	**268**	P	**P**	07 39 47.0	-0.5
	10nm,0.8s,mb4.6,baz=104,slow=8.0,SNR=43						
KAKA	**Kakadu**	**48.66**	**276**	*eP*	**P**	07 40 19.9	-1.2
	10nm,0.7s,mb5.0						
VNDA	**Vanda**	**52.02**	**186**	P	**P**	07 40 47.3	+1.7
	3.1nm,1.1s,mb4.1,baz=4.2,slow=5.2,SNR=5.4						
FITZ	**Fitzroy Crossi**	**52.76**	**267**	*eP*	**P**	07 40 51.7	-0.2
	14nm,1.0s,mb4.8						
FITZ	**Fitzroy Crossi**	**52.76**	**267**	P	**P**	07 40 51.0	-0.9
	7.9nm,0.9s,mb4.6,baz=124,slow=9.1,SNR=16						
MAW	**Mawson**	**76.08**	**200**	P	**P**	07 43 23.8	+0.2
	5.0nm,0.9s,mb4.5,baz=115,slow=8.1,SNR=6.9						
SYO	**Syowa Base**	**80.99**	**193**	⇑*eP*	**P**	07 43 48.5	-2.2
SYO	**Syowa Base**	**80.99**	**193**	⇑*eP*	**P**	07 43 54.5	+3.8
SNAA	**Sanae**	**82.06**	**178**	*e*	**P**	07 43 53.2	-3.1
SNAA				*e*		07 43 58.1	
SNAA				*e*	pP	07 44 01.7	-8.0
SNAA				*e*	pP	07 44 06.4	-3.3
VNA3	**Neumayer Olymp**	**82.19**	**176**	*e*	**P**	07 43 56.3	-0.7
VNA3				*e*		07 44 01.5	
VNA3				*e*	pP	07 44 06.4	-4.0
VNA3				*e*	pP	07 44 10.6	+0.2
VNA2	**Neumayer--Watz**	**82.63**	**177**	*e*	**P**	07 43 59.3	0.0
	baz=191,slow=4.6						
VNA2				*e*		07 44 04.4	
VNA2				*e*	pP	07 44 09.5	-3.2
VNA2				*e*	pP	07 44 12.7	0.0
VNA1	**Neumayer--Stat**	**82.86**	**176**	*e*	**P**	07 44 00.7	+0.2
VNA1				*e*		07 44 06.4	
VNA1				*e*	pP	07 44 11.1	-2.8
VNA1				*e*	pP	07 44 15.2	+1.3
NVAR	**Mina Array Bea**	**85.17**	**43**	P	**P**	07 44 13.2	+0.5
	2.1nm,0.8s,mb4.3,baz=232,slow=11,SNR=14						
TXAR	**Lajitas Array**	**90.03**	**57**	P	**P**	07 44 36.9	+0.7
TXAR	**Lajitas Array**	**90.03**	**57**	P	**P**	07 44 36.9	+0.7
	0.6nm,0.9s,mb3.9,baz=186,slow=6.3,SNR=5.6						
REDW	**Red Top Meadow**	**92.64**	**42**	*eP*	**P**	07 44 47.4	-0.6
	6.4nm,1.4s,mb4.9						
ARCES	**ARCESS Array B**	**134.82**	**349**	PKP	PKPdf	07 50 54.0	-0.1
	2.7nm,0.8s,baz=5.7,slow=3.6,SNR=3.9						
FINES	**FINESS Array B**	**141.54**	**342**	PKP	PKPdf	07 51 01.0	-5.7
FINES	**FINESS Array B**	**141.54**	**342**	PKhKP		07 51 01.0	
	1.4nm,0.9s,baz=15,slow=8.3,SNR=3.9						
NB2	**NORSAR Subarra**	**144.92**	**352**	PKP	PKPdf	07 51 10.6	-2.1
	comp=Z,15nm,0.9s,baz=12,slow=3.5						
NOA	**NORSAR Array B**	**144.92**	**352**	PKP	PKPdf	07 51 11.0	-1.7
	comp=Z,8.5nm,0.9s,baz=16,slow=2.4,SNR=16						
NAO01	**NORSAR Array S**	**145.15**	**353**	*e*PKPbc	PKPbc	07 51 11.7	-1.0
AKASG	**Malin Array Be**	**148.26**	**327**	PKPbc	PKPbc	07 51 20.5	-1.5
AKASG	**Malin Array Be**	**148.26**	**327**	PKPbc	PKPbc	07 51 20.5	-1.5
	comp=Z,2.5nm,0.6s,baz=44,slow=3.9,SNR=12						
CLL	**Collm**	**153.90**	**345**	*e*PKPbc	PKPbc	07 51 35.0	-0.2
	comp=Z,8.0nm,1.3s						

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*ISCJB **27** 07:33:47.2±0.8, 3999N±004×4234E±005, h1km±10km, Error ellipse: s-maj=6.5km s-min=5.9km az=154.6*
*ISK **27** 07:33:47.0, 3998N×4235E, h5km, MD3.1*
*CSEM **27** 07:33:47.0, 3998N×4235E, h5km, MD3.1, After ISK*
ISC 27 07:33:48.1±0.7, 3996N±004×4234E±005, h7km±8km, n11, σ0§61/15, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGRB	**Hanur-Agry**	**0.64**	**127**	PG	**Pg**	07 33 59.9	-0.5
AGRB				*e*SG	**Sg**	07 34 09.2	+0.5
EZM	**Erzurum**	**0.75**	**266**	*e*PG	**Pg**	07 34 02.2	-0.3
EZM				*e*SG	**Sg**	07 34 13.0	+0.6
KARS	**Kars**	**0.87**	**41**	*e*PG	**Pg**	07 34 03.6	-1.3
KARS				*e*SG	**Sg**	07 34 16.2	0.0
BCA	**Borcka**	**1.58**	**340**	*e*PN	**Pn**	07 34 16.1	-0.5
VANB	**Van**	**1.59**	**149**	*e*PN	**Pn**	07 34 17.0	+0.2
PZAR	**Pazar-Rize**	**1.64**	**318**	*e*PN	**Pn**	07 34 17.0	-0.4
BINT	**Bingol**	**1.79**	**233**	*e*PN	**Pn**	07 34 19.6	+0.1
EZC	**Erzincan**	**1.95**	**265**	*e*PN	**Pn**	07 34 27.0	+5.3
KTUT	**Trabzon**	**2.21**	**298**	*e*PN	**Pn**	07 34 25.0	-0.3
GUMT	**Gumushane**	**2.24**	**284**	*e*PN	**Pn**	07 34 25.7	0.0
ONI	**Oni**	**2.75**	**17**	P	**Pn**	07 34 33.7	+1.0
ONI				S	**Sg**	07 35 17.3	+0.9

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*NEIC **27** 07:37:17.6±0.4, 692S×15582E, mb4.7/7, Error ellipse: s-maj=11.6km s-min=10.2km az=80.0*
*ISCJB **27** 07:37:21.9±2.1, 705S±009×15592E±008, h88km±21km, mb4.5/25, Error ellipse: s-maj=15.5km s-min=11.7km az=143.5*
*IDC **27** 07:37:22.6±2.7, 705S×15589E, h79km±25km, mb4.2/13, mb1 4.3/14, mb1mx4.2/18, mbtmp4.3/14, MS4.0/2, Ms1 4.0/2, ms1mx3.0/26, Error ellipse: s-maj=17.0km s-min=15.3km az=55.0*
ISC 27 07:37:23.5±1.9, 705S±008×15592E±008, h87km±20km, n43, σ0§69/37, mb4.5/25, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.64**	**121**	P	**Pn**	07 38 30.2	-1.0
	17nm,0.3s,baz=178,slow=0.6,SNR=4.1						
HNR				S	**Sn**	07 39 24.2	+0.3
	22nm,0.3s,baz=275,slow=23,SNR=9.1						
CTA	**Charters Tower**	**15.99**	**215**	P	**Pn**	07 41 05.6	+2.2
	0.3nm,0.3s,baz=35,slow=14,SNR=4.0						
ARMA	**Armidale**	**23.59**	**189**	*eP*	**P**	07 42 27.3	+0.9
KAKA	**Kakadu**	**23.79**	**254**	*eP*	**P**	07 42 28.1	-0.3
	15nm,0.7s,mb4.4						
WRAB	**Tennant Creek**	**24.53**	**236**	*eP*	**P**	07 42 34.9	-0.2
	12nm,0.6s,mb4.5						
WB2	**Warramunga Arr**	**24.53**	**236**	*eP*	**P**	07 42 34.9	-0.2
WRA	**Warramunga Arr**	**24.54**	**236**	P	**P**	07 42 35.1	-0.1
	14nm,0.7s,mb4.5,baz=62,slow=9.6,SNR=104						
WRA				pP		07 42 44.4	
	4.0nm,0.4s,baz=65,slow=9.8,SNR=21						
WRA				PcP	PcP	07 46 11.5	0.0
	1.8nm,0.8s,baz=60,slow=2.4,SNR=7.6						
ASAR	**Alice Springs**	**26.83**	**230**	P	**P**	07 42 55.0	-0.9
	2.3nm,0.6s,mb3.9,baz=60,slow=9.5,SNR=38						
ASAR				pP	pP	07 43 04.5	-11
	2.7nm,0.3s,baz=59,slow=9.6,SNR=26						
ASAR				PcP	PcP	07 46 16.9	+0.2
	0.9nm,0.4s,baz=73,slow=2.5,SNR=7.8						
STKA	**Stephens Creek**	**28.08**	**207**	P	**P**	07 43 07.5	+0.5
	2.6nm,0.8s,mb3.8,baz=56,slow=12,SNR=3.6						
STKA				LR	LR	07 53 16.4	
	comp=Z,223nm,18.3s,baz=150,slow=34						
FITZ	**Fitzroy Crossi**	**31.47**	**247**	*eP*	**P**	07 43 35.7	-1.4
	8.5nm,0.6s,mb4.7						
FITZ	**Fitzroy Crossi**	**31.47**	**247**	P	**P**	07 43 36.4	-0.7
	4.4nm,0.6s,mb4.4,baz=83,slow=8.1,SNR=24						
URZ	**Urewera**	**36.52**	**151**	P	**P**	07 44 20.5	0.0
	5.4nm,1.0s,mb4.4,baz=264,slow=2.5,SNR=4.1						
RPZ	**Rata Peaks**	**38.86**	**162**	P	**P**	07 44 40.2	0.0
	18nm,0.7s,mb5.0,baz=170,slow=1.9,SNR=12						
KLBR	**Kellerberrin**	**43.15**	**230**	*eP*	**P**	07 45 14.6	-1.0
	24nm,0.8s,mb5.0						
MUN	**Mundaring**	**44.51**	**231**	*eP*	**P**	07 45 26.1	-0.4
KSRS	**Korea Array**	**51.42**	**331**	P	**P**	07 46 20.0	+0.4
	2.4nm,0.6s,mb4.4,baz=147,slow=7.6,SNR=9.1						
ULN	**Ulaanbaatar**	**69.54**	**327**	*eP*	**P**	07 48 23.9	+1.0
	6.8nm,0.8s,mb4.5						
SONM	**Songino Array**	**69.88**	**327**	P	**P**	07 48 25.9	+1.0
	12nm,0.6s,mb4.9,baz=141,slow=6.3,SNR=82						
VNDA	**Vanda**	**70.50**	**179**	P	**P**	07 48 28.4	+0.1
	1.5nm,0.9s,mb3.8,baz=328,slow=5.6,SNR=6.6						
BILL	**Bilibino**	**75.27**	**4**	*eP*	**P**	07 48 56.7	+0.2
	4.4nm,0.9s,mb4.2						
GUN	**Gumba**	**75.93**	**301**	*eP*	**P**	07 49 01.3	+0.1
	19nm,0.6s,mb5.0						
PKI	**Pulchoki**	**76.24**	**301**	*eP*	**P**	07 49 03.0	+0.1
KKN	**Kakani**	**76.41**	**301**	*eP*	**P**	07 49 03.7	-0.2
	7.2nm,0.5s,mb4.7						
DMN	**Daman**	**76.51**	**300**	*eP*	**P**	07 49 04.9	+0.5
	14nm,0.5s,mb5.0						
GKN	**Gorkha**	**77.01**	**301**	*eP*	**P**	07 49 07.4	+0.1
	14nm,0.4s,mb5.0						
KOLN	**Koldanda**	**77.84**	**300**	*eP*	**P**	07 49 11.9	0.0
	9.9nm,0.5s,mb4.8						
DANN	**Dangsing**	**77.85**	**301**	*eP*	**P**	07 49 11.8	-0.1
	15nm,0.6s,mb4.9						
MK31	**Makanchi Array**	**84.05**	**318**	*eP*	**P**	07 49 44.9	+0.4
MKAR	**Makanchi Array**	**84.05**	**318**	P	**P**	07 49 44.8	+0.3
	9.1nm,0.7s,mb4.8,baz=100,slow=5.8,SNR=88						
ZAA0	**Zalesovo Array**	**84.74**	**326**	*eP*	**P**	07 49 47.0	-0.8
ZALV	**Zalesovo Beam**	**84.74**	**326**	P	**P**	07 49 46.6	-1.1
	5.7nm,0.5s,mb4.8,baz=114,slow=5.0,SNR=15						
AAK	**Ala-Archa**	**88.45**	**313**	P	**P**	07 50 05.2	-1.0
AAK	**Ala-Archa**	**88.45**	**313**	P	**P**	07 50 05.2	-1.0
	2.5nm,0.6s,mb4.5,baz=151,slow=9.2,SNR=7.0						
AML	**Almayashu**	**88.94**	**313**	*eP*	**P**	07 50 09.4	+0.9
	4.8nm,0.8s,mb4.6						
RPN	**Rapa Nui**	**91.03**	**117**	LR	LR	08 25 59.0	
	comp=Z,98nm,18.3s,baz=195,slow=32						
YKA	**Yellowknife Ar**	**95.96**	**28**	P	**P**	07 50 40.0	-0.4
YKA	**Yellowknife Ar**	**95.96**	**28**	P	**P**	07 50 40.0	-0.4
	0.2nm,0.7s,mb3.7,baz=270,slow=4.4,SNR=5.8						
KIV	**Kislovodsk**	**111.53**	**314**	*e*Pn	PKiKP	07 55 51.0	+3.1
AKASG	**Malin Array Be**	**118.11**	**325**	PKP	PKPdf	07 55 58.7	-1.7
AKASG	**Malin Array Be**	**118.11**	**325**	PKP	PKPdf	07 55 58.7	-1.7
	0.7nm,0.4s,baz=49,slow=2.1,SNR=6.6						
BOSA	**Boshof**	**120.70**	**231**	PKP	PKPdf	07 56 06.2	+0.2
	2.5nm,0.7s,baz=180,slow=4.0,SNR=4.4						
GERES	**GERESS Array B**	**127.57**	**329**	PKP	PKPdf	07 56 18.7	+0.2
	0.9nm,0.5s,baz=22,slow=1.4,SNR=6.6						
BDFB	**Brasilia**	**147.29**	**134**	PKPbc	PKPbc	07 56 57.6	-0.3
	6.6nm,0.7s,baz=217,slow=5.6,SNR=21						

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*CSEM **27** 07:40:52.9±0.2, 4229N×4507E, h10km, mb3.9, Error ellipse: s-maj=4.7km s-min=2.7km az=14.0*
*MOS **27** 07:40:53.1±1.7, 4226N×4507E, h10km, mb3.9/1, Error ellipse: s-maj=12.4km s-min=6.6km az=115.0*
*ISCJB **27** 07:40:54.1±0.7, 4241N±003×4508E±004, h7km±7km, Error ellipse: s-maj=6.0km s-min=4.3km az=21.7*
*TIF **27** 07:40:56.7, 4248N×4494E, h10km±2km*
ISC 27 07:40:55.5±0.6, 4241N±003×4503E±004, h13km±6km, n23, σ1§16/40, 1C-1D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNJR	**Sundja**	**0.68**	**346**	*e*Pg	**Pg**	07 41 08.7	0.0
SNJR				*i* Sg	**Sg**	07 41 17.8	+0.2
LACR	**Lac**	**0.68**	**308**	*i* Pg	**Pg**	07 41 07.6	-1.2
LACR				*i* Sg	**Sg**	07 41 16.7	-1.1
VLKR	**Vladikavka

1.4nm,0.4s,baz=4.1,slow=8.6,SNR=5.1
MKAR Makanchi Array 61.30 316 P P 07 57 23.8 -0.2
0.3nm,0.5s,baz=108,slow=4.7,SNR=3.7

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*ISCJB **27** 07:54:38.7±0.3,4431N±003×3297E±003,h10km,mb3.5/3, Error ellipse: s-maj=4.2km s-min=2.7km az=179.5*
*MOS **27** 07:54:39.9±1.5,4429N×3292E,h17km,mb3.8/2,Error ellipse: s-maj=8.7km s-min=8.1km az=153.8*
*CSEM **27** 07:54:39.4±0.1,4437N×3292E,h15km,mb3.8*
*NEIC **27** 07:54:40.3±0.6,4432N×3303E,h10km,ML3.0(BUC), Error ellipse: s-maj=8.8km s-min=7.3km az=71.0*
*IDC **27** 07:54:40.0±2.2,4446N×3301E,h0km,mb3.4/2,mb1 3.9/6, mb1mx3.6/21,mbtmp3.8/6,ML3.4/3,Error ellipse: s-maj=23.2km s-min=18.5km az=146.0*
ISC 27 07:54:40.4±0.3,4430N±003×3302E±003,h10km,n80, σ1§17/102,mb3.5/3,4C-14D,Crimea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SEV	**Sevastopol'**	**0.53**	**61**	*e*P	**Pg**	**07 54 52.1**	**+1.5**
SEV				*e*		07 54 59.3	
YAL	**Yalta**	**0.83**	**76**	*e*P	**Pg**	**07 54 56.7**	**+0.3**
YAL				*e*S	**Sg**	**07 55 07.5**	**+0.2**
SIM	**Simferopol'**	**1.02**	**50**	*ce*P	**Pg**	**07 55 01.3**	**+1.3**
SIM				*e*S	**Sg**	**07 55 14.8**	**+1.6**
SIM				pmax	pmax		
	comp=Z,138nm,0.3s						
SIM	**Simferopol'**	**1.02**	**50**	*e*P	**Pg**	**07 55 01.2**	**+1.2**
SIM				*e*S	**Sg**	**07 55 14.8**	**+1.6**
ALU	**Alushta**	**1.06**	**68**	*e*P	**Pg**	**07 55 00.8**	**0.0**
ALU				*i* S	**Sg**	**07 55 14.3**	**-0.3**
SUDU	**Sudak**	**1.53**	**66**	*e*P	**Pn**	**07 55 06.3**	**-1.5**
SUDU				*e*S	**Sn**	**07 55 25.1**	**-2.6**
FEO	**Feodosiya**	**1.84**	**66**	*e*P	**Pg**	**07 55 16.8**	**+1.2**
FEO				*e*		07 55 38.4	
BZK	**Bozkurt**	**2.44**	**163**	*e*PN	**Pn**	**07 55 19.7**	**-0.6**
BZK				*e*SN	**Sn**	**07 55 47.6**	**-2.5**
BZK	**Bozkurt**	**2.44**	**163**	Pn	**Pn**	**07 55 21.5**	**+1.3**
BZK	**Bozkurt**	**2.44**	**163**	Pn	**Pn**	**07 55 21.5**	**+1.3**
DIKM	**Dikmen**	**3.11**	**147**	*e*PN	**Pn**	**07 55 28.6**	**-0.9**
DIKM				*e*SN	**Sn**	**07 56 03.2**	**-3.4**
ANN	**Anapa**	**3.19**	**79**	*e*P	**Pn**	**07 55 31.5**	**+0.9**
ANN				*e*S	**Sn**	**07 56 06.3**	**-2.4**
KDZE	**Karadeniz Ereo**	**3.20**	**202**	*e*PN	**Pn**	**07 55 31.3**	**+0.6**
TIRR	**Tirgusor**	**3.31**	**274**	⇑P	**Pn**	**07 55 31.5**	**-0.7**
TIRR				S	**Sn**	**07 56 07.3**	**-4.2**
TIRR	**Tirgusor**	**3.31**	**274**	⇑*i*P	**Pn**	**07 55 31.5**	**-0.6**
TIRR	**Tirgusor**	**3.31**	**274**	⇑P	**Pn**	**07 55 31.5**	**-0.6**
TIRR				S	**Sn**	**07 56 07.3**	**-4.2**
TOS	**Tosya**	**3.34**	**167**	*e*PN	**Pn**	**07 55 32.8**	**+0.3**
TOS	**Tosya**	**3.34**	**167**	Pn	**Pn**	**07 55 32.8**	**+0.3**
TOS	**Tosya**	**3.34**	**167**	Pn	**Pn**	**07 55 32.8**	**+0.2**
HARR	**Harsova**	**3.66**	**278**	⇓P	**Pn**	**07 55 36.9**	**-0.1**
HARR				S	**Sn**	**07 56 17.4**	**-2.9**
HARR	**Harsova**	**3.66**	**278**	⇓*i*P	**Pn**	**07 55 36.9**	**-0.1**
HARR	**Harsova**	**3.66**	**278**	⇓P	**Pn**	**07 55 36.9**	**-0.1**
HARR				S	**Sn**	**07 56 17.4**	**-2.9**
KVT	**Kavak**	**3.91**	**144**	*e*PN	**Pn**	**07 55 39.8**	**-0.7**
KVT	**Kavak**	**3.91**	**144**	Pn	**Pn**	**07 55 39.0**	**-1.4**
KVT	**Kavak**	**3.91**	**144**	Pn	**Pn**	**07 55 39.0**	**-1.4**
KLYT	**Kilyos**	**4.22**	**225**	*e*PN	**Pn**	**07 55 44.9**	**+0.2**
HRT	**Hereke**	**4.26**	**217**	*e*PN	**Pn**	**07 55 46.0**	**+0.7**
HRT	**Hereke**	**4.26**	**217**	Pn	**Pn**	**07 55 46.7**	**+1.4**
HRT	**Hereke**	**4.26**	**217**	Pn	**Pn**	**07 55 46.7**	**+1.4**
GULT	**Gulveren**	**4.28**	**207**	*e*PN	**Pn**	**07 55 46.1**	**+0.5**
CORM	**Corum**	**4.28**	**163**	*e*PN	**Pn**	**07 55 45.7**	**+0.2**
BADT	**Buyukada**	**4.49**	**221**	*e*PN	**Pn**	**07 55 49.2**	**+0.9**
YLV	**Yalova**	**4.60**	**217**	*e*PN	**Pn**	**07 55 50.9**	**+1.0**
CTT	**Catalca**	**4.62**	**229**	*e*PN	**Pn**	**07 55 50.5**	**+0.4**
CTT	**Catalca**	**4.62**	**229**	Pn	**Pn**	**07 55 48.7**	**-1.5**
CTT	**Catalca**	**4.62**	**229**	Pn	**Pn**	**07 55 48.7**	**-1.5**
VRI	**Vrincioaia**	**4.73**	**292**	⇓P	**Pn**	**07 55 53.1**	**+1.5**
VRI				S	**Sn**	**07 56 45.2**	**-1.3**
VRI	**Vrincioaia**	**4.73**	**292**	⇓*i*P	**Pn**	**07 55 53.1**	**+1.5**
VRI	**Vrincioaia**	**4.73**	**292**	⇓P	**Pn**	**07 55 53.1**	**+1.5**
VRI				S	**Sn**	**07 56 45.2**	**-1.2**
IZI	**Iznik**	**4.75**	**215**	*e*PN	**Pn**	**07 55 52.8**	**+0.8**
IZI	**Iznik**	**4.75**	**215**	Pn	**Pn**	**07 55 53.1**	**+1.1**
TOKT	**Tokat**	**4.75**	**145**	*e*PN	**Pn**	**07 55 51.7**	**-0.3**
PLOR	**Plostina**	**4.77**	**291**	⇓*i*P	**Pn**	**07 55 53.8**	**+1.5**
PLOR	**Plostina**	**4.77**	**291**	P	**Pn**	**07 55 53.9**	**+1.6**
PLOR				S	**Sn**	**07 56 46.6**	**-1.0**
SOC	**Sochi**	**4.89**	**96**	*e*P	**Pn**	**07 55 55.2**	**+1.4**
SOC				*e*S	**Sn**	**07 56 50.7**	**+0.3**
MLR	**Muntele Rosu**	**5.17**	**286**	⇓P	**Pn**	**07 55 59.5**	**+1.9**
MLR	**Muntele Rosu**	**5.17**	**286**	P	**Pn**	**07 55 59.2**	**+1.5**
MLR						07 56 57.2	
MLR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MLR				smax			
	comp=N,6.0nm,0.3s						
MLR	**Muntele Rosu**	**5.17**	**286**	Pn	**Pn**	**07 55 59.2**	**+1.5**
	comp=N,0.6nm,0.3s,baz=55,slow=3.1,SNR=5.0						
MLR				Sn	**Sn**	**07 56 57.2**	**-0.2**
	comp=N,5.7nm,0.3s,baz=130,slow=19,SNR=10.0						
MLR	**Muntele Rosu**	**5.17**	**286**	⇓*i*P	**Pn**	**07 55 59.5**	**+1.8**
MLR	**Muntele Rosu**	**5.17**	**286**	S	**Sn**	**07 56 57.4**	**+0.1**
SVSK	**Karacayir**	**5.28**	**145**	*e*PN	**Pn**	**07 55 59.1**	**-0.1**
ESPY	**Espiye-Giresun**	**5.40**	**127**	*e*PN	**Pn**	**07 55 59.5**	**-1.4**
RKY	**Sarkoy-Tekirda**	**5.63**	**232**	*e*PN	**Pn**	**07 56 04.7**	**+0.7**
ALT	**Altintas**	**5.67**	**204**	*e*PN	**Pn**	**07 56 05.1**	**+0.5**
GUMT	**Gumushane**	**6.13**	**126**	*e*PN	**Pn**	**07 56 09.5**	**-1.4**
BURAR	**Bucovina Array**	**6.37**	**304**	⇓*i*P	**Pn**	**07 56 14.7**	**+0.5**
BURAR	**Bucovina Array**	**6.37**	**304**	S	**Sn**	**07 57 20.3**	**-6.7**
AKASG	**Malin Array Be**	**6.91**	**339**	Pn	**Pn**	**07 56 19.5**	**-2.0**
AKASG				Sn	**Sn**	**07 57 33.8**	**-6.2**
AKASG				Lg		07 58 15.9	
AKASG	**Malin Array Be**	**6.91**	**339**	P	**Pn**	**07 56 19.5**	**-2.0**
AKASG						07 57 33.8	
AKASG				pmax	pmax		
	comp=Z,7.0nm,0.3s						
AKASG				smax			
	comp=N,15nm,0.3s						
AKASG	**Malin Array Be**	**6.91**	**339**	Pn	**Pn**	**07 56 19.5**	**-2.0**
	comp=N,7.0nm,0.3s,baz=158,slow=12,SNR=20						
AKASG				Sn	**Sn**	**07 57 33.8**	**-6.2**
	comp=N,15nm,0.3s,baz=152,slow=24,SNR=13						
AKASG				Lg		07 58 15.9	
	comp=N,9.1nm,0.3s,baz=157,slow=30,SNR=4.0						
AKBB	**Malin Array Si**	**6.91**	**339**	*e*Pn	**Pn**	**07 56 20.9**	**-0.7**
AKBB				*e*S	**Sn**	**07 57 34.6**	**-5.5**
AKBB	**Malin Array Si**	**6.91**	**339**	*e*Pn	**Pn**	**07 56 20.9**	**-0.6**
GZR	**Gura Zlata**	**7.37**	**282**	⇓P	**Pn**	**07 56 28.1**	**+0.3**
GZR				S	**Sn**	**07 57 46.3**	**-5.1**
GZR	**Gura Zlata**	**7.37**	**282**	⇓*i*P	**Pn**	**07 56 28.1**	**+0.3**
GZR	**Gura Zlata**	**7.37**	**282**	S	**Sn**	**07 57 46.3**	**-5.1**
DRGR		**7.66**	**293**	⇓P	**Pn**	**07 56 32.0**	**+0.2**
DRGR				S	**Sn**	**07 57 54.0**	**-4.6**
DRGR		**7.66**	**293**	⇓*i*P	**Pn**	**07 56 32.0**	**+0.2**
DRGR		**7.66**	**293**	S	**Sn**	**07 57 54.0**	**-4.6**
VSU	**Vasula**	**14.71**	**347**	*i* P	**Pn**	**07 58 01.9**	**-6.3**
FINES	**FINESS Array B**	**17.66**	**349**	P	**Pn**	**07 58 39.7**	**-6.5**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.3s						
FINES	**FINESS Array B**	**17.66**	**349**	Pn	**Pn**	**07 58 39.0**	**-7.2**
	comp=Z,0.5nm,0.3s,baz=165,slow=16,SNR=19						
HFS	**Hagfors**	**19.67**	**331**	P	**Pn**	**07 59 07.1**	**-3.5**
HFS				pmax	pmax		
	comp=Z,1.0nm,0.3s						
HFS	**Hagfors**	**19.67**	**331**	P	**Pn**	**07 59 07.1**	**-3.5**
	comp=Z,1.0nm,0.3s,baz=129,slow=14,SNR=15						
NB2	**NORSAR Subarra**	**21.18**	**330**	P	**P**	**07 59 26.2**	**+0.6**
	comp=Z,1.6nm,0.6s,mb3.5,baz=135,slow=12						
NOA	**NORSAR Array B**	**21.18**	**330**	P	**P**	**07 59 25.5**	**-0.1**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.4s						
NOA	**NORSAR Array B**	**21.18**	**330**	P	**P**	**07 59 25.4**	**-0.1**
	comp=Z,0.9nm,0.4s,mb3.4,baz=134,slow=12,SNR=4.7						
ARCES	**ARCESS Array B**	**25.59**	**354**	P	**P**	**08 00 12.5**	**+3.2**
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.9s						
ARCES	**ARCESS Array B**	**25.59**	**354**	P	**P**	**08 00 12.5**	**+3.2**
	comp=Z,1.9nm,0.9s,mb3.6,baz=165,slow=11,SNR=2.2						
YKA	**Yellowknife Ar**	**70.44**	**345**	P	**P**	**08 05 54.0**	**-0.3**
YKA	**Yellowknife Ar**	**70.44**	**345**	P	**P**	**08 05 54.1**	**-0.2**
	comp=Z,0.3nm,0.5s,mb3.5,baz=24,slow=6.0,SNR=11						

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*CSEM **27** 07:55:05.0,4221N×4510E,h6km,mb3.8,Error ellipse: s-maj=13.2km s-min=5.9km az=245.0,After OBN*

*MOS **27** 07:55:05.2±0.9,4221N×4510E,h6km,mb3.8/1,Error ellipse: s-maj=13.2km s-min=5.9km az=114.5*
*ISCJB **27** 07:55:07.0±0.5,4241N±003×4516E±003,h10km,Error ellipse: s-maj=4.5km s-min=2.9km az=14.8*
*TIF **27** 07:55:06.5,4237N×4512E,h10km±2km*
ISC 27 07:55:07.0±0.6,4237N±003×4515E±003,h10km,n27, σ1§24/50,2D,Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTA	**Mtatsminda**	**0.72**	**202**	P	**Pg**	**07 55 25.1**	**+4.1**
MTA				S	**Sg**	**07 55 37.6**	**+7.2**
SNJR	**Sundja**	**0.74**	**340**	*e*Pg	**Pg**	**07 55 22.9**	**+1.6**
SNJR				*i* Sg	**Sg**	**07 55 31.5**	**+0.5**
VLKR	**Vladikavkaz**	**0.76**	**333**	*e*Pg	**Pg**	**07 55 22.5**	**+0.8**
VLKR				*e*Sg	**Sg**	**07 55 31.3**	**-0.4**
LACR	**Lac**	**0.78**	**306**	*i* Pg	**Pg**	**07 55 21.0**	**-1.0**
LACR				*i* Sg	**Sg**	**07 55 30.0**	**-2.2**
GOR	**Gori**	**0.86**	**244**	P	**Pg**	**07 55 23.2**	**-0.4**
GOR				S	**Sg**	**07 55 37.9**	**+3.1**
ZEI	**Tsey**	**1.01**	**294**	*i* Pg	**Pg**	**07 55 25.4**	**-1.0**
ZEI				*i* Sg	**Sg**	**07 55 37.5**	**-2.0**
ARNR	**Ardon**	**1.04**	**322**	*e*PG	**Pg**	**07 55 27.2**	**+0.2**
ARNR				*i* S	**Sg**	**07 55 40.4**	**-0.2**
BTKR	**Batakoyurt**	**1.10**	**336**	*e*Pg	**Pg**	**07 55 28.9**	**+0.8**
BTKR				*e*Sg	**Sg**	**07 55 43.2**	**+0.8**
XNZR	**Khunzakh**	**1.16**	**81**	*e*PG	**Pg**	**07 55 29.6**	**+0.2**
XNZR				*i* S	**Sg**	**07 55 45.2**	**+0.7**
XNZR				pmax	pmax		
	comp=Z,110nm,0.2s						
XNZR	**Khunzakh**	**1.16**	**81**	*e*Pg	**Pg**	**07 55 29.6**	**+0.2**
	comp=Z,110nm,0.2s						
XNZR				*i* Sg	**Sg**	**07 55 45.2**	**+0.7**
KMSR	**Komsomolskaya**	**1.18**	**328**	*e*Pg	**Pg**	**07 55 29.8**	**+0.1**
KMSR				*e*Sg	**Sg**	**07 55 45.3**	**+0.2**
UNCR	**Uncukul**	**1.26**	**74**	*i* PG	**Pg**	**07 55 30.0**	**-1.3**
UNCR				*e*S	**Sb**	**07 55 46.0**	**-1.2**
UNCR				pmax	pmax		
	comp=Z,54nm,0.2s						
UNCR	**Uncukul**	**1.26**	**74**	*i* Pg	**Pg**	**07 55 30.0**	**-1.3**
	comp=Z,54nm,0.2s						
UNCR				*e*Sg	**Sb**	**07 55 46.0**	**-1.2**
DIGR	**Digorskoe uzhe**	**1.27**	**295**	*i* Pg	**Pg**	**07 55 30.0**	**-1.5**
DIGR				*e*Sg	**Sg**	**07 55 45.6**	**-2.4**
ONI	**Oni**	**1.28**	**280**	P	**Pn**	**07 55 30.7**	**-0.1**
ONI				S	**Sb**	**07 55 47.7**	**+0.1**
LSNR	**Lesken**	**1.33**	**313**	*i* Pg	**Pg**	**07 55 32.0**	**-0.6**
LSNR				*e*Sg	**Sg**	**07 55 49.0**	**-1.0**
KRNR	**Karanay**	**1.38**	**70**	⇓*i*PG	**Pg**	**07 55 31.5**	**-1.9**
KRNR				*e*S	**Sb**	**07 55 49.8**	**-0.6**
KRNR				pmax	pmax		
	comp=Z,57nm,0.2s						
KRNR	**Karanay**	**1.38**	**70**	*i* Pg	**Pg**	**07 55 31.5**	**-1.9**
	comp=Z,57nm,0.2s						
KRNR				*e*Sg	**Sb**	**07 55 49.8**	**-0.6**
TRKR	**Terskaya**	**1.39**	**347**	*e*Pg	**Pg**	**07 55 34.0**	**+0.4**
TRKR				*i* Sg	**Sg**	**07 55 52.9**	**+1.2**
PRTR	**Priterechnaya**	**1.52**	**336**	*e*Pn	**Pn**	**07 55 36.3**	**+2.1**
PRTR				*i* Sg	**Sg**	**07 55 55.4**	**-0.5**
KUBR	**Kubataba**	**1.92**	**319**	*e*Pn	**Pn**	**07 55 39.6**	**-0.1**
PYA	**Pyatigorsk**	**2.26**	**318**	*e*PN	**Pn**	**07 55 44.9**	**+0.5**
PYA				*i* S	**Sn**	**07 56 14.2**	**+1.9**
SHAR	**Shatzhatmas**	**2.28**	**308**	*e*PN	**Pn**	**07 55 47.2**	**+2.5**
SHAR				*i* S	**Sn**	**07 56 16.3**	**+3.5**
KIV	**Kislovodsk**	**2.40**	**312**	*e*Sg	**Sg**	**07 56 20.5**	**-3.6**
KIV	**Kislovodsk**	**2.40**	**312**	*e*PN	**Pn**	**07 55 49.3**	**+3.0**
KIV				*i* S	**Sn**	**07 56 19.5**	**+3.7**
KIV	**Kislovodsk**	**2.40**	**312**	⇓*i*P	**Pg**	**07 55 52.0**	**-1.0**
KIV	**Kislovodsk**	**2.40**	**312**	S	**Sn**	**07 56 20.3**	**+4.5**

IDC 27 07:59:58.3±2.1,5231N×3563E,h0km,mb3.6/1,mb1 3.8/6, mb1mx3.5/21,mbtmp3.6/6,ML3.6/5,MS4.1/1,Ms1 4.1/1, ms1mx2.3/32,Error ellipse: s-maj=24.4km s-min=11.6km az=120.0,Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKASG	**Malin Array Be**	**4.31**	**251**	Pn	Pn	08 01 03.7	-1.4
	2.1nm,0.3s,baz=56,slow=12,SNR=4.4						
AKASG				Pg	Pg	08 01 14.1	-6.8
	4.7nm,0.3s,baz=58,slow=15,SNR=9.5						
AKASG				Sn	Sn	08 01 52.5	-3.5
	4.9nm,0.3s,baz=133,slow=30,SNR=4.1						
AKASG				Lg		08 02 11.8	
	4.9nm,0.3s,baz=61,slow=29,SNR=14						
FINES	**FINESS Array B**	**10.53**	**334**	Pn	Pn	08 02 26.4	-3.8
	0.3nm,0.3s,baz=147,slow=13,SNR=4.1						
FINES				Sn	Sn	08 04 17.4	-11
	0.3nm,0.3s,baz=191,slow=29,SNR=4.4						
FINES				Lg		08 05 27.0	
	0.3nm,0.3s,baz=154,slow=28,SNR=2.7						
HFS	**Hagfors**	**14.44**	**311**	Pn	Pn	08 03 16.6	-7.0
	0.3nm,0.3s,baz=145,slow=23,SNR=3.4						
NOA	**NORSAR Array B**	**15.92**	**313**	Pn	Pn	08 03 36.4	-7.0
	0.3nm,0.3s,baz=113,slow=13,SNR=3.0						
ARCES	**ARCESS Array B**	**17.92**	**348**	P	Pn	08 04 07.1	-1.4
	0.8nm,0.3s,baz=152,slow=12,SNR=21						
BVAR	**Borovoye Array**	**20.97**	**74**	P	P	08 04 46.9	+4.3
	0.4nm,0.4s,baz=272,slow=9.4,SNR=3.4						
BVAR				LR	LR	08 14 26.5	
	comp=Z,471nm,19.5s,baz=185,slow=41						
YKA	**Yellowknife Ar**	**63.15**	**345**	P	P	08 10 26.2	-1.0
	0.4nm,0.6s,baz=13,slow=6.7,SNR=17						

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*MOS **27** 08:02:47.8±0.9,546N×9467E,h33km,mb6.4/132, MS5.4/85,Error ellipse: s-maj=6.7km s-min=3.3km az=123.3*
*ISCJB **27** 08:02:47.2±0.1,536N±002×9461E±002,h31km, mb6.2/351,MS5.7/245,Error ellipse: s-maj=3.2km s-min=2.2km az=13.7*
*BJI **27** 08:02:48.3,524N×9451E,h51km,mB6.1,mb6.2,Ms5.9, Msz5.8*
*CRAAG **27** 08:02:48.4,534N×9467E,Mb6.3*
*NEIC **27** 08:02:49.6±0.1,536N×9464E,h38km,mb6.3/173,ME5.7, MS5.8/173,MW5.9,Error ellipse: s-maj=3.7km s-min=2.3km az=209.0 Broadband fault plane solution: P waves. NP1:φs135.00000°,δ65.00000°,λ90.00000°. NP2:φs315.00000°,δ25.00000°,λ90.00000°. Principal axes: T Plg70.0000°, Azm45.0000°; N Plg0.0000°, Azm0.0000°; P Plg20.0000°, Azm225.0000°; Moment Tensor Solution. s38 Moment tensor: Scale 10^17 Nm; Mrr6.91; Mθθ-3.26; Mφφ-3.64; Mrθ5.40; Mθφ1.74; Mφr-4.58; Best double couple: M0=9.30000×10^17 NP1:φs320.00000°, δ20.00000°,λ97.00000°. NP2:φs132.00000°,δ70.00000°, λ87.00000°. Principal axes: T 10.2000, Plg65.0000°, Azm38.0000°; N -1.8000, Plg2.0000°, Azm133.0000°; P -8.4000, Plg25.0000°, Azm224.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*
NEIC Felt [IV] at Banda Aceh and in Aceh Besar; [III] in Aceh Barat. Felt at Bandar. Also felt at Kathu, Krabi and Phuket, Thailand.
*GCMT **27** 08:02:49.7±0.1,509N×9443E,h49km,MW5.9/109, Moment Tensor Solution. s109,c232; s106,c314; Duration: ≥2 Moment tensor: Scale 10^18Nm; Mrr0.62±.01; Mθθ-0.30±.01; Mφφ-0.31±.01; Mrθ0.41±.01; Mθφ0.38±.01; Mφr-0.37±.01; Best double couple: M0=0.86000×10^18 NP1:φs319.00000°,δ25.00000°, λ95.00000°. NP2:φs133.00000°,δ65.00000°,λ88.00000°. Principal axes: T 0.8260, Plg70.0000°, Azm38.0000°; N 0.0690, Plg2.0000°, Azm134.0000°; P -0.8940, Plg20.0000°, Azm225.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
*SZGRF **27** 08:02:51.1,573N×9444E,h33km,mb6.3,MS5.3, Northern Sumatera, Indonesia*
*IDC **27** 08:02:53.7±0.8,537N×9474E,h72km±5km,mb5.4/37, mb1 5.4/37,mb1mx5.4/37,mbtmp5.4/37,MS5.4/30, Ms1 5.4/30,ms1mx5.4/33,Error ellipse: s-maj=8.4km s-min=5.5km az=50.0*
*BGS **27** 08:02:56.7,650N×9331E,h33km,mb5.9,MS5.3*
ISC 27 08:02:49.4±0.1,537N±002×9461E±002,h33km, h33km±1.4km:pP-P,n1741,c0§88/1235,mb6.2/350,

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MS5.7/245,519C-175D,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PKT	**Phuket**	**4.46**	**53**	P	**Sb**	**08 05 00.0**	**-0.5**
KULM	**Kulim**	**6.02**	**90**	*e*Pn	**Pn**	**08 04 13.7**	**-2.4**
KULM	**Kulim**	**6.02**	**90**	⇑P	**Pn**	**08 04 19.5**	**+3.3**
KULM	**Kulim**	**6.02**	**90**	⇓S	**Sn**	**08 05 23.2**	**-0.7**
SNG	**Songkhla**	**6.24**	**73**	P	**Pn**	**08 04 22.0**	**+2.8**
SNG				SG	**Sn**	**08 05 29.0**	**-0.4**
IPM	**Ipoh**	**6.46**	**98**	⇓P	**Pn**	**08 04 24.4**	**+2.2**
IPM	**Ipoh**	**6.46**	**98**	⇑S	**Sn**	**08 05 36.0**	**+1.3**
FRIM	**Kepong**	**7.31**	**107**	⇑P	**Pn**	**08 04 35.6**	**+1.7**
FRIM	**Kepong**	**7.31**	**107**	⇓P	**Pn**	**08 04 36.5**	**+2.6**
KTGM	**Kuala Trenggan**	**8.49**	**90**	⇓P	**Pn**	**08 04 52.9**	**+2.8**
KGM	**Kluang**	**9.31**	**111**	⇓P	**Pn**	**08 05 03.1**	**+1.8**
MYKOM	**Kota Tinggi**	**9.88**	**111**	⇑P	**Pn**	**08 05 10.5**	**+1.3**
NST	**Nakhon Sawan**	**11.59**	**27**	P	**Pn**	**08 05 38.0**	**+5.4**
	375nm,0.7s						
PALK	**Pallekele**	**13.95**	**279**	*e*Pn	**Pn**	**08 06 04.8**	**-0.1**
PALK	**Pallekele**	**13.95**	**279**	Pn	**Pn**	**08 06 05.9**	**+1.0**
	SNR=31						
PALK	**Pallekele**	**13.95**	**279**	P	**Pn**	**08 06 05.9**	**+1.0**
	SNR=31						
CHG	**Chiang Mai**	**14.02**	**17**	⇑P	**Pn**	**08 06 09.7**	**+3.9**
	150nm,1.6s						
CHTO	**Chiang Mai**	**14.02**	**17**	*e*Pn	**Pn**	**08 06 02.6**	**-3.1**
CHTO				*e*Sn	**Sn**	**08 08 41.5**	**+1.3**
CHTO	**Chiang Mai**	**14.02**	**17**	Pn	**Pn**	**08 06 09.5**	**+3.8**
	SNR=649						
CHTO	**Chiang Mai**	**14.02**	**17**	P	**Pn**	**08 06 09.5**	**+3.8**
	SNR=649						
CHRT	**Chiangrai**	**15.27**	**19**	⇑P	**Pn**	**08 06 26.5**	**+3.9**
	3μm,0.8s						
KSM	**Kuching**	**16.14**	**103**	*e*Pn	**Pn**	**08 06 32.7**	**-1.3**
KSM				*e*Sn	**Sn**	**08 09 32.1**	**+0.1**
KSM	**Kuching**	**16.14**	**103**	⇓P	**Pn**	**08 06 35.6**	**+1.7**
VIS	**Vishakhapatnam**	**16.50**	**319**	*i* P	**Pn**	**08 06 40.0**	**+1.5**
VIS				AMb	AMB	08 06 46.9	
	comp=Z,1μm,1.3s						
VIS				*i* x	x	08 09 29.1	
COCO	**West Island**	**17.58**	**173**	*e*Pn	**Pn**	**08 06 46.3**	**-5.6**
	comp=Z,1μm,1.7s						
COCO				*e*Sn	**Sn**	**08 10 08.3**	**+1.4**
KOD	**Kodaikanal**	**17.65**	**287**	*e*P	**Pn**	**08 06 53.1**	**+0.2**
SBUM	**Sibu**	**17.81**	**99**	⇓P	**Pn**	**08 06 55.8**	**+0.9**
CAL	**Calcutta**	**18.12**	**341**	*e*P	**Pn**	**08 06 57.9**	**-0.6**
CAL				*e*x	x	08 10 30.2	
BTM	**Bintulu**	**18.55**	**96**	⇓P	**Pn**	**08 07 03.7**	**-0.2**
IMP	**Imphal**	**19.32**	**358**	*e*P	**Pn**	**08 07 10.0**	**-3.0**
IMP				*e*x	x	08 10 45.0	
HYB	**Hyderabad**	**19.75**	**309**	*e*P	**Pn**	**08 07 18.0**	**-0.3**
	comp=Z,320nm,1.0s						
HYB				*e*S	**Sn**	**08 11 00.0**	**+0.6**
HYB				*e*		08 12 34.0	
HYB	**Hyderabad**	**19.75**	**309**	*e*P	**Pn**	**08 07 18.0**	**-0.3**
HYB				*e*S	**Sn**	**08 11 00.0**	**+0.6**
HYB				pmax	pmax		
	comp=Z,320nm,1.0s						
HYB	**Hyderabad**	**19.75**	**309**	⇑*i*P	**Pn**	**08 07 18.5**	**+0.2**
	comp=Z,320nm,1.0s						
HYB				*e*S	**Sn**	**08 10 54.0**	**-5.4**
HYB				LR	LR	08 12 34.0	
	comp=Z,13nm,22.0s						
QIZ	**Qiongzhong**	**20.13**	**46**	P	**P**	**08 07 23.0**	**+2.3**
QIZ				S	**S**	**08 11 04.3**	**-0.8**
QIZ				AMB	AMB		
	comp=Z,551nm,1.4s						
QIZ				LR	LR		
	comp=N,27μm,16.9s,MS5.8						
QIZ				LR	LR		
	comp=E,23μm,16.9s,MS5.8						
QIZ				LR	LR		
	comp=Z,33μm,19.1s,MS5.7						
QIZ	**Qiongzhong**	**20.13**	**46**	*e*P	**P**	**08 07 21.0**	**+0.3**
	comp=Z,578nm,1.0s						
QIZ				*e*S	**S**	**08 11 04.3**	**-0.8**
QIZ				LR	LR		
	comp=Z,35μm,19.0s,MS5.7						
BOK	**Bokaro**	**20.16**	**336**	*e*P	**P**	**08 07 22.4**	**+1.4**
BOK				AMb	AMB	08 07 26.8	
	comp=Z,4μm,1.3s						
SHL	**Shillong**	**20.25**	**353**	*e*P	**P**	**08 07 21.5**	**-0.5**
SHL				*e*x	x	08 10 50.5	
BLSP	**Bilaspur**	**20.58**	**325**	*e*P	**P**	**08 07 27.5**	**+1.9**
BLSP				AMb	AMB	08 07 33.2	
	comp=Z,3μm,1.2s						
BLSP				*e*x	x	08 11 11.9	
SHBG	**Sah

BHPL	**Bhopal**	**24.30**	**319**	*e*P	**P**	**08 08 05.7 +1.8**
LSA	**Lhasa**	**24.42**	**353**	P	**P**	**08 08 05.0 0.0**
LSA				S	**S**	**08 12 22.5 -0.3**
LSA				XS	sS	08 12 43.3 +4.8
LSA				AMB	AMB	
	comp=Z,4μm,7.4s					
LSA				LR	LR	
	comp=N,6μm,30.9s,MS5.1					
LSA				LR	LR	
	comp=E,7μm,27.7s,MS5.1					
LSA				LR	LR	
	comp=Z,14μm,29.6s,MS5.3					
LSA	**Lhasa**	**24.42**	**353**	*e*P	**P**	**08 08 02.5 -2.5**
	comp=Z,1μm,1.1s,mb6.3					
LSA				*e*S	**S**	**08 12 21.1 -1.7**
LSA				LR	LR	
	comp=Z,8μm,20.0s,MS5.2					
LSA	**Lhasa**	**24.42**	**353**	*e*P	**P**	**08 08 02.5 -2.5**
LSA				*e*S	**S**	**08 12 21.1 -1.7**
LSA				pmax	pmax	
	comp=Z,1μm,1.1s,mb6.3					
LSA				MLR	MLR	
	comp=Z,8μm,20.0s,MS5.2					
GKN	**Gorkha**	**24.43**	**338**	*e*P	**P**	**08 08 05.0 0.0**
	comp=Z,2μm,0.8s,mb6.5					
KOLN	**Koldanda**	**24.62**	**336**	*e*P	**P**	**08 08 07.1 +0.3**
	comp=Z,2μm,0.8s,mb6.6					
DANN	**Dangsing**	**25.07**	**337**	*e*P	**P**	**08 08 11.2 +0.3**
	comp=Z,1μm,0.6s,mb6.6					
BOM	**Bombay**	**25.15**	**304**	*e*P	**P**	**08 08 12.0 +0.3**
BOM				*ex*	x	08 12 40.4
HKC	**Hong Kong Obse**	**25.33**	**46**	⇑*i*P	**P**	**08 08 14.0 +0.7**
DGAR	**Diego Garcia**	**25.49**	**240**	*e*P	**P**	**08 08 14.5 -0.3**
	comp=Z,613nm,1.4s,mb5.9					
DGAR				LR	LR	
	comp=Z,18μm,22.0s,MS5.5					
DGAR	**Diego Garcia**	**25.49**	**240**	*e*P	**P**	**08 08 14.5 -0.4**
DGAR				pmax	pmax	
	comp=Z,613nm,1.4s,mb5.9					
DGAR				MLR	MLR	
	comp=Z,18μm,22.0s,MS5.5					
CD2	**Chengdu**	**26.83**	**18**	P	**P**	**08 08 26.8 0.0**
CD2				AP	pP	08 08 35.5 -0.8
CD2				PP		08 09 11.0
CD2				S	**S**	**08 12 59.5 -1.5**
CD2				SS		08 14 15.3
CD2				AMB	AMB	
	comp=Z,1μm,1.2s,mb6.2					
CD2				AMB	AMB	
	comp=Z,5μm,3.6s					
CD2				LR	LR	
	comp=N,9μm,14.4s,MS5.7					
CD2				LR	LR	
	comp=E,16μm,18.0s,MS5.7					
CD2				LR	LR	
	comp=Z,14μm,17.4s,MS5.6					
BHV	**Bhavnagar**	**27.17**	**309**	*ex*	x	08 09 33.5
LGTI	**Lohaghat**	**27.53**	**332**	*e*P	**P**	**08 08 33.0 -0.1**
PTH	**Pithoragarh**	**27.63**	**332**	*e*P	**P**	**08 08 36.0 +2.0**
PTH				*e*S	**S**	**08 13 15.0 +1.2**
NDI	**New Delhi**	**28.45**	**327**	*ex*	x	08 07 55.7
NDI				AMb	AMB	08 08 01.2
	comp=Z,349nm,1.0s,mb5.9					
NDI				*e*S	**S**	**08 13 27.0 +0.3**
ENH	**Enshi**	**28.47**	**28**	PFAKE		08 08 50.0 +8.5
ENH				LR	LR	
	comp=Z,3.0nm,20.0s					
DDI	**Dehra Dun**	**29.32**	**330**	*e*P	**P**	**08 08 48.6 -0.4**
DDI				*e*S	**S**	**08 13 42.8 +2.5**
BHJ	**Bhuj**	**29.92**	**309**	*ex*	x	08 08 57.4
QZH	**Quanzhou**	**30.14**	**47**	⇑*i*P	**P**	**08 08 58.0 +1.6**
QZH				AP	pP	08 09 13.0 +7.0
QZH				S	**S**	**08 13 54.5 +1.2**
QZH				SCP	ScP	08 15 33.8 -3.6
QZH				AMB	AMB	
	comp=Z,580nm,1.1s,mb6.2					
QZH				AMB	AMB	
	comp=Z,4μm,3.8s					
QZH				LR	LR	
	comp=N,14μm,17.7s,MS6.0					
QZH				LR	LR	
	comp=E,26μm,13.3s,MS6.0					
QZH				LR	LR	
	comp=Z,29μm,21.2s					
SMLA	**Simla**	**30.42**	**329**	*e*P	**P**	**08 08 59.1 +0.4**
SMLA				AMb	AMB	08 09 02.6
	comp=Z,525nm,1.7s,mb6.0					
DAV	**Davao City (W)**	**30.83**	**85**	PFAKE		08 09 10.0 +7.3
DAV				LR	LR	
	comp=Z,5μm,21.0s,MS5.2					
DAV	**Davao City (W)**	**30.83**	**85**	P	**P**	**08 09 04.6 +2.0**
	SNR=8.5					
DAV	**Davao City (W)**	**30.83**	**85**	P	**P**	**08 09 04.6 +2.0**
	SNR=8.5					
BHK	**Bhakra**	**31.03**	**329**	*ex*	**P**	**08 09 07.6 +3.4**
WHN	**Wuhan**	**31.19**	**34**	⇑*i*P	**P**	**08 09 06.0 +0.5**
WHN				PP	PP	08 10 13.3 -3.1
WHN				PPP		08 10 31.3
WHN				S	**S**	**08 14 10.0 +0.4**
WHN				XS	sS	08 14 33.3 +7.9
WHN				SCP	ScP	08 15 37.8 -3.0
WHN				PCS	PcS	08 15 42.0 -2.3
WHN				AMB	AMB	
	comp=Z,1μm,1.2s,mb6.7					
WHN				AMB	AMB	
	comp=Z,3μm,9.2s					
WHN				LR	LR	
	comp=Z,65μm,14.3s,MS6.4					
XAN	**Xi'an**	**31.47**	**23**	P	**P**	**08 09 08.0 0.0**
XAN				AP	pP	08 09 16.8 -0.8
XAN				PP	PP	08 10 08.5 -11
XAN				PPP		08 18 19.5
XAN				SCS	ScS	08 19 38.8 -0.5
XAN				AMB	AMB	
	comp=Z,922nm,1.2s,mb6.5					
XAN				AMB	AMB	
	comp=Z,1μm,12.0s					
XAN				LR	LR	
	comp=N,8μm,19.3s,MS5.5					
XAN				LR	LR	
	comp=E,4μm,18.7s,MS5.5					
XAN				LR	LR	
	comp=Z,18μm,19.1s,MS5.8					
LZH	**Lanzhou**	**31.73**	**14**	⇑*i*P	**P**	**08 09 10.5 +0.2**
LZH				AP	pP	08 09 20.3 +0.4
LZH				PP	PP	08 10 19.0 -3.3
LZH				PCP	PcP	08 12 03.5 +2.1
LZH				*e*S	**S**	**08 14 14.3 -3.6**
LZH				AMB	AMB	
	comp=Z,509nm,1.0s,mb6.3					
LZH				AMB	AMB	
	comp=Z,2μm,4.3s					
LZH				LR	LR	
	comp=E,10μm,15.4s					
LZH				LR	LR	
	comp=Z,14μm,18.2s,MS5.7					
NACB	**Ninganchiao**	**31.98**	**51**	*e*P	**P**	**08 09 13.2 +0.5**
YHNB	**Yeheng**	**32.08**	**50**	*e*P	**P**	**08 09 15.4 +1.9**
DLH	**Dalhousie**	**32.16**	**330**	*e*P	**P**	**08 09 13.0 -1.1**
THN	**Thein Dam**	**32.20**	**329**	*e*P	**P**	**08 09 13.0 -1.4**
TATO	**Taipei**	**32.33**	**50**	*e*P	**P**	**08 09 16.8 +1.2**
	comp=Z,2μm,2.3s,mb6.5					
TATO				LR	LR	
	comp=Z,13μm,20.0s,MS5.6					
BATI	**Kupang**	**32.81**	**118**	P	**P**	**08 09 16.9 -3.1**
	comp=Z,108nm,0.6s,mb5.9,baz=298,slow=3.2,SNR=14					
BATI				S	**S**	**08 14 24.1 -11**
	comp=Z,59nm,0.9s,baz=3.5,slow=21,SNR=3.9					
BATI				ScS	ScS	08 19 46.9 0.0
	comp=Z,15nm,0.4s,baz=93,slow=22,SNR=8.8					
BATI				LR	LR	08 24 04.0
	comp=Z,8μm,19.8s,MS5.4,baz=310,slow=39					
GTA	**Gaotai**	**34.22**	**7**	⇑*i*P	**P**	**08 09 32.5 +0.6**
GTA				AP	pP	08 09 41.0 -0.6
GTA				PP	PP	08 10 47.5 -2.3
GTA				PCP	PcP	08 12 09.5 +1.3
GTA				S	**S**	**08 14 55.3 -1.2**
GTA				SCP	ScP	08 15 49.8 -1.2
GTA				SS	SS	08 17 06.0 -20
GTA				SCS	ScS	08 19 50.0 -3.2
GTA				AMB	AMB	
	comp=Z,677nm,1.3s,mb6.4					
GTA				AMB	AMB	
	comp=Z,4μm,8.1s					
GTA				LR	LR	
	comp=N,6μm,23.2s,MS5.4					
GTA				LR	LR	
	comp=E,4μm,23.6s,MS5.4					
GTA				LR	LR	
	comp=Z,8μm,23.6s,MS5.4					
NJ2	**Nanjing**	**34.92**	**38**	*e*P	**P**	**08 09 39.3 +1.2**
NJ2				AP	pP	08 09 49.3 +1.5
NJ2				XP	sP	08 09 54.0 +2.2
NJ2				PP	PP	08 11 03.0 +5.3
NJ2				S	**S**	**08 15 08.0 +0.5**
NJ2				XS	sS	08 15 26.0 +2.5
NJ2				AMB	AMB	
	comp=Z,480nm,0.7s,mb6.5					
NJ2				AMB	AMB	
	comp=Z,1μm,7.3s					
NJ2				LR	LR	
	comp=N,39μm,14.0s,MS6.4					
NJ2				LR	LR	
	comp=E,28μm,14.5s,MS6.4					
NJ2				LR	LR	
	comp=Z,36μm,12.2s,MS6.3					
SSE	**Sheshan**	**35.75**	**41**	P	**P**	**08 09 46.5 +1.2**
SSE				PP	PP	08 11 11.5 +4.6
SSE				AMB	AMB	
	comp=Z,206nm,1.4s,mb5.9					
SSE				AMB	AMB	
	comp=Z,1μm,5.9s					
SSE				LR	LR	
	comp=N,10μm,19.1s,MS5.7					
SSE				LR	LR	
	comp=E,9μm,19.1s,MS5.7					
SSE				LR	LR	
	comp=Z,15μm,21.6s,MS5.7					
TIY	**Taiyuan**	**36.07**	**24**	⇑*i*P	**P**	**08 09 48.3 +0.4**
TIY				XP	sP	08 10 02.8 +1.2
TIY				PCP	PcP	08 12 14.3 +0.6
TIY				S	**S**	**08 15 31.0 +6.0**
TIY				XS	sS	08 15 45.5 +4.5
TIY				SCS	ScS	08 19 59.0 -4.3
TIY				AMB	AMB	
	comp=Z,3μm,4.0s					
TIY				LR	LR	
	comp=N,33μm,17.5s,MS6.3					
TIY				LR	LR	
	comp=E,29μm,18.0s,MS6.3					
TIY				LR	LR	
	comp=Z,43μm,18.3s,MS6.2					
MBWA	**Marble Bar**	**36.09**	**138**	*e*P	**P**	**08 09 47.1 -1.2**
MBWA	**Marble Bar**	**36.09**	**138**	*e*P	**P**	**08 09 47.1 -1.2**
	comp=Z,462nm,1.9s,mb6.1					
MBWA				LR	LR	
	comp=Z,4μm,22.0s,MS5.2					
MBWA	**Marble Bar**	**36.09**	**138**	P	**P**	**08 09 47.5 -0.8**
	SNR=11					
MBWA	**Marble Bar**	**36.09**	**138**	P	**P**	**08 09 47.5 -0.8**
	SNR=11					
TIA	**Tai'an**	**37.01**	**31**	⇑P	**P**	**08 09 56.5 +0.5**
TIA				S	**S**	**08 15 43.0 +3.5**
TIA				AMB	AMB	
	comp=Z,483nm,1.2s,mb6.2					
TIA				AMB	AMB	
	comp=Z,2μm,4.0s					
TIA				LR	LR	
	comp=N,6μm,16.0s,MS5.6					
TIA				LR	LR	
	comp=E,2μm,11.0s,MS5.6					
KBL	**Kabul**	**37.45**	**324**	*e*P	**P**	**08 09 59.4 -0.3**
	comp=E,15nm,0.6s,mb5.0					
BTO	**Baotou**	**37.72**	**19**	*e*P	**P**	**08 10 01.8 -0.1**
BTO				AMB	AMB	
	comp=Z,94nm,0.9s,mb5.5					
KSH	**Kashi**	**37.94**	**336**	*i* P	**P**	**08 10 05.3 +1.5**
KSH				*e*AP	pP	08 10 14.3 +0.8
KSH				*e*XP	sP	08 10 18.0 +0.5
KSH				*e*PP	PP	08 11 33.0 +2.1
KSH				*e*PPP		08 11 55.0
KSH				*e*PCP	PcP	08 12 21.8 +2.5
KSH				S	**S**	**08 15 52.5 -0.9**
KSH				*e*SCP	ScP	08 16 04.8 +0.1
KSH				PCS	PcS	08 16 08.3 +0.2
KSH				SS	SS	08 18 28.3 -13
KSH				SCS	ScS	08 20 12.5 -1.2
KSH				AMB	AMB	
	comp=Z,9μm,3.6s					
KSH				LR	LR	
	comp=N,17μm,19.6s,MS6.0					
KSH				LR	LR	
	comp=E,12μm,17.2s,MS6.0					
KSH				LR	LR	
	comp=Z,11μm,23.0s					
WBK	**Wadi Bani Khal**	**38.44**	**300**	P	**P**	**08 10 11.4 +3.1**
	SNR=13					
WBK	**Wadi Bani Khal**	**38.44**	**300**	P	**P**	**08 10 11.4 +3.1**
	SNR=13					
HHC	**Hu-ho-hao-te**	**38.46**	**21**	*e*P	**P**	**08 10 09.5 +1.3**
HHC				S	**S**	**08 15 57.0 -4.3**
HHC				LR	LR	
	comp=N,15μm,19.4s					
FITZ	**Fitzroy Crossi**	**38.48**	**128**	*e*P	**P**	**08 10 07.1 -1.6**
	comp=N,133nm,1.0s,mb5.6					
FITZ				*e*PCP	PcP	08 12 22.0 +0.6
FITZ				*e*S	**S**	**08 15 48.9 -13**
FITZ	**Fitzroy Crossi**	**38.48**	**128**	*e*P	**P**	**08 10 07.2 -1.5**
FITZ	**Fitzroy Crossi**	**38.48**	**128**	P	**P**	**08 10 07.2 -1.5**
FITZ				PcP	PcP	08 12 21.1 -0.3
	comp=N,11nm,0.5s,baz=288,slow=5.3,SNR=5.3					
FITZ				S	**S**	**08 15 47.2 -15**
	comp=N,2.1nm,0.6s,baz=325,slow=22,SNR=1.7					
FITZ				ScS	ScS	08 20 14.4 -3.2
	comp=N,5.1nm,1.2s,baz=219,slow=23,SNR=4.0					
FITZ				LR	LR	08 28 26.4
	comp=N,3μm,19.1s,MS5.1,baz=142,slow=40					
JOW	**Kunigami**	**38.54**	**53**	P	**P**	**08 10 10.2 +1.1**
	comp=N,169nm,0.8s,mb5.8,baz=240,slow=6.6,SNR=26					
JOW				LR	LR	08 25 43.8
	comp=N,13μm,21.9s,MS5.7,baz=226,slow=36					
WMQ	**Urumqi**	**38.78**	**352**	⇑*i*P	**P**	**08 10 12.0 +1.2**
WMQ				AP	pP	08 10 22.0 +1.5
WMQ				XP	sP	08 10 26.0 +1.5
WMQ				PP	PP	08 11 44.0 +4.0
WMQ				PCP	PcP	08 12 24.0 +2.2
WMQ				S	**S**	**08 16 06.0 0.0**
WMQ				SS	SS	08 18 47.0 -11
WMQ				AMB	AMB	
	comp=Z,72nm,1.7s,mb5.1					
WMQ				AMB	AMB	
	comp=Z,3μm,4.2s					
WMQ				LR	LR	
	comp=N,4μm,20.2s,MS5.4					
WMQ				LR	LR	
	comp=E,5μm,24.8s,MS5.4					
WMQ				LR	LR	
	comp=Z,7μm,28.0s,MS5.3					
SMDO	**Samad**	**39.39**	**300**	P	**P**	**08 10 18.8 +2.6**
	SNR=18					
SMDO	**Samad**	**39.39**	**300**	P	**P**	**08 10 18.8 +2.6**
	SNR=18					
BIDO	**Bidbid**	**39.49**	**301**	P	**P**	**08 10 19.8 +2.7**
	SNR=40					
BIDO	**Bidbid**	**39.49**	**301**	P	**P**	**08 10 19.8 +2.7**
	SNR=40					
ULHL	**Ulahol**	**40.19**	**339**	P	**P**	**08 10 23.6 +1.0**
	SNR=130					
HOQ	**Hoqain**	**40.21**	**301**	P	**P**	**08 10 25.8 +2.7**
	SNR=38					
HOQ	**Hoqain**	**40.21**	**301**	P	**P**	**08 10 25.8 +2.7**
	SNR=38					
KZA	**Kyzart**	**40.41**	**338**	P	**P**	**08 10 26.0 +1.6**
	SNR=341					
UCH	**Uchtor**	**40.83**	**337**	*e*P	**P**	**08 10 29.1 +1.3**
	comp=Z,27nm,2.3s					
UCH				LR	LR	
	comp=Z,3μm,20.0s,MS5.2					
UCH	**Uchtor**	**40.83**	**337**	P	**P**	**08 10 29.4 +1.6**
	SNR=747					
AAA	**Alma-Ata**	**40.85**	**340**	*c i*P	**P**	**08 10 29.5 +1.5**
AAA				*e*S	**S**	**08 16 37.5 +0.4**
AAA				pmax	pmax	
	comp=Z,10μm,4.0s					
AAA				smax		
	comp=N,6μm,7.0s					
AAA				MLR	MLR	
	comp=Z,4μm,18.0s,MS5.4					
TKM2	**Tokmak 2**	**41.01**	**339**	*e*P	**P**	**08 10 30.4 +1.1**
	comp=Z,45nm,0.3s,mb5.6					
TKM2				LR	LR	
	comp=Z,4μm,19.0s,MS5.3					
TKM2	**Tokmak 2**	**41.01**	**339**	*e*P	**P**	**08 10 30.5 +1.1**
TKM2				pmax	pmax	
	comp=Z,45nm,0.3s,mb5.6					
TKM2				MLR	MLR	
	comp=Z,4μm,19.0s,MS5.3					
TKM2	**Tokmak 2**	**41.01**	**339**	P	**P**	**08 10 30.3 +0.9**
	SNR=202					
KBK	**Karagaybulak**	**41.02**	**338**	P	**P**	**08 10 31.3 +1.8**
	SNR=302					
AML	**Almayashu**	**41.07**	**336**	*e*P	**P**	**08 10 31.2 +1.4**
	comp=Z,2.2nm,0.6s					
AML				*e*PP	PP	08 12 06.9 +1.9
AML				LR	LR	
	comp=Z,4μm,20.0s,MS5.3					
AML	**Almayashu**	**41.07**	**336**	P	**P**	**08 10 31.5 +1.7**
	SNR=45					
AAK	**Ala-Archa**	**41.18**	**337**	*e*P	**P**	**08 10 31.2 +0.4**
	comp=Z,271nm,0.8s,mb5.9					
AAK				*e*PP	PP	08 12 06.3 +0.1
AAK				LR	LR	
	comp=Z,5μm,20.0s,MS5.3					
AAK	**Ala-Archa**	**41.18**	**337**	P	**P**	**08 10 31.2 +0.5**
AAK						08 12 05.2
AAK				S	**S**	**08 16 41.5 -0.5**
AAK				SS	SS	08 19 43.3 -2.5
AAK						08 20 30.6
AAK				pmax	pmax	
	comp=Z,364nm,0.9s,mb6.0					
AAK				pmax	pmax	
	comp=Z,57nm,0.8s,mb5.2					
AAK				pmax	pmax	
	comp=N,11nm,0.8s					
AAK				smax		
	comp=N,10.0nm,0.8s					
AAK				pmax	pmax	
	comp=N,1.0nm,0.5s					
AAK				pmax	pmax	
	comp=N,4.0nm,0.9s					
AAK				MLR	MLR	
	comp=Z,5μm,21.3s,MS5.3					
AAK	**Ala-Archa**	**41.18**	**337**	P	**P**	**08 10 31.5 +0.8**
	SNR=287					
AAK	**Ala-Archa**	**41.18**	**337**	P	**P**	**08 10 31.5 +0.8**
	SNR=287					
AAK	**Ala-Archa**	**41.18**	**337**	P	**P**	**08 10 31.2 +0.4**
	comp=Z,364nm,0.9s,mb6.0,baz=152,slow=7.3,SNR=245					
AAK				PP	PP	08 12 05.2 -1.0
	comp=Z,57nm,0.8s,baz=141,slow=13,SNR=1.8					
AAK				ScP	ScP	08 16 14.4 -2.8
	comp=Z,11nm,0.8s,baz=142,slow=6.5,SNR=4.0					
AAK				S	**S**	**08 16 41.5 -0.5**
	comp=Z,9.8nm,0.8s,baz=213,slow=11,SNR=1.8					
AAK				SS	SS	08 19 43.3 -2.5
	comp=Z,1.1nm,0.5s,baz=210,slow=21,SNR=1.6					
AAK				ScS	ScS	08 20 30.6 -2.1
	comp=Z,4.0nm,0.9s,baz=271,slow=22,SNR=8.5					
AAK				LR	LR	08 29 22.3
	comp=Z,5μm,21.3s,MS5.3,baz=147,slow=38					
AAK	**Ala-Archa**	**41.18**	**337**	P	**P**	**08 10 32.2 +1.5**
	SNR=419					
RBK	**Rabkut**	**41.30**	**290**	P	**P**	**08 10 35.7 +3.6**
	SNR=9.1					
RBK	**Rabkut**	**41.30**	**290**	P	**P**	**08 10 35.7 +3.6**
	SNR=9.1					
FRU	**Bishkek**	**41.30**	**338**	⇑*i*P	**P**	**08 10 32.5 +0.7**
FRU				pmax	pmax	
	comp=Z,3μm,2.5s,mb6.5					
CHMS	**Chumysh**	**41.39**	**338**	P	**P**	**08 10 33.3 +0.8**
	SNR=127					
DL2	**Dalian**	**41.39**	**32**	⇑*i*P	**P**	**08 10 33.8 +1.2**
DL2				XP	sP	08 10 48.0 +1.6
DL2				PP	PP	08 12 11.5 +2.9
DL2				PCP	PcP	08 12 27.5 -2.9
DL2				XPCP		08 12 42.0
DL2				SCP	ScP	08 16 14.0 -4.1
DL2				PCS	PcS	08 16 20.0 -1.5
DL2				S	**S**	**08 16 46.8 +1.5**
DL2				XS	sS	08 17 09.3 +7.8
DL2				SCS	ScS	08 20 27.8 -6.3
DL2				AMB	AMB	
	comp=Z,520nm,1.1s,mb6.1					
DL2				AMB	AMB	
	comp=Z,1μm,5.1s					
DL2				LR	LR	
	comp=N,4μm,17.4s,MS5.5					
DL2				LR	LR	
	comp=E,5μm,18.0s,MS5.5					
DL2				LR	LR	
	comp=Z,5μm,19.5s,MS5.4					
EKS2	**Erkin-Say**	**41.48**	**337**	*e*P	**P**	**08 10 34.6 +1.4**
	comp=Z,193nm,0.4s,mb6.1					
EKS2				*e*PP	PP	08 12 11.6 +2.2
EKS2				LR	LR	
	comp=Z,4μm,21.0s,MS5.3					
EKS2	**Erkin-Say**	**41.48**	**337**	P	**P**	**08 10 34.8 +1.5**
	SNR=261					
HATD	**Hatta, Dubai**	**41.66**	**302**	P	**P**	**08 10 37.1 +2.1**
	SNR=65					
HATD	**Hatta, Dubai**	**41.66**	**302**	P	**P**	**08 10 37.1 +2.1**
	SNR=65					
KAKA	**Kakadu**	**41.66**	**116**	*e*P	**P**	**08 10 33.0 -2.1**
	comp=Z,71nm,0.6s,mb5.5					
ASHO	**Ashiyiah**	**41.67**	**302**	P	**P**	**08 10 37.4 +2.3**
	SNR=26					
ASHO	**Ashiyiah**	**41.67**	**302**	P	**P**	**08 10 37.4 +2.3**
	SNR=26					
USP	**Ospenovka**	**41.72**	**338**	P	**P**	**08 10 36.0 +0.9**
	SNR=453					
WHFO	**Wadi Hawf**	**41.79**	**291**	P	**P**	**08 10 38.1 +2.0**
	SNR=20					
WHFO	**Wadi Hawf**	**41.79**	**291**	P	**P**	**08 10 38.1 +2.0**
	SNR=20					
BANOM	**Banah**	**41.93**	**303**	P	**P**	**08 10 40.2 +3.0**
	SNR=10					
BANOM	**Banah**	**41.93**	**303**	P	**P**	**08 10 40.2 +3.0**
	SNR=10					
ABTO	**Aybut**	**42.11**	**290**	P	**P**	**08 10 42.2 +3.4**
	SNR=13					
ABTO	**Aybut**	**42.11**	**290**	P	**P**	**08 10 42.2 +3.4**
	SNR=13					
MUN	**Mundaring**	**42.46**	**152**	*e*P	**P**	**08 10 41.2 -0.1**
MUN				*e*SCP	ScP	08 16 34.8 +12
MUN				*e*S	**S**	**08 16 58.8 -2.3**
MUN				*e*SS	SS	08 20 28.6 +17
MUN	**Mundaring**	**42.46**	**152**	*e*P	**P**	**08 10 41.2 -0.1**
MUN				*e*S	**S**	**08 16 58.8 -2.3**
MK31	**Makanchi Array**	**42.62**	**347**	*e*P	**P**	**08 10 43.2 +0.7**
MK31	**Makanchi Array**	**42.62**	**347**	*i* P	**P**	**08 10 43.1 +0.7**
MK31				pmax	pmax	
	comp=Z,608nm,0.7s,mb6.4					
MKAR	**Makanchi Array**	**42.62**	**347**	P	**P**	**08 10 43.1 +0.7**
MKAR				S	**S**	**08 17 00.9 -2.3**
MKAR						08 20 38.5
MKAR				pmax	pmax	
	comp=Z,601nm,0.8s					
MKAR				pmax	pmax	
	comp=N,5.0nm,0.8s					
MKAR				smax		
	comp=N,5.0nm,1.0s					
MKAR				pmax	pmax	
	comp=N,1.0nm,0.8s					
MKAR				MLR	MLR	
	comp=Z,1μm,20.8s					
MKAR	**Makanchi Array**	**42.62**	**347**	P	**P**	**08 10 43.1 +0.7**
	comp=Z,601nm,0.8s,mb6.4,baz=160,slow=7.4,SNR=777					
MKAR				ScP	ScP	08 16 19.8 -3.0
	comp=Z,4.5nm,0.8s,baz=178,slow=4.2,SNR=2.9					
MKAR				S	**S**	**08 17 00.9 -2.3**
	comp=Z,4.9nm,1.0s,baz=312,slow=49,SNR=1.9					
MKAR				ScS	ScS	08 20 38.5 -2.8
	comp=Z,1.0nm,0.8s,baz=261,slow=39,SNR=2.2					
MKAR				LR	LR	08 33 06.9
	comp=Z,1μm,20.8s,MS4.8,baz=157,slow=42					
KLBR	**Kellerberrin**	**42.87**	**150**	*e*P	**P**	**08 10 44.4 -0.3**
	comp=Z,153nm,1.7s,mb5.5					
KLBR				*e*pP	pP	08 10 53.6 -0.9
KLBR				*e*SCP	ScP	08 16 34.4 +10
KK31	**Karatay Array**	**43.20**	**334**	*i* P	**P**	**08 10 47.3 +0.1**
KK31				pmax	pmax	
	comp=Z,673nm,1.3s,mb6.2					
INCN	**Inchon**	**43.30**	**38**	*e*P	**P**	**08 10 48.0 -0.1**
	comp=Z,554nm,1.1s,mb6.2					
INCN				LR	LR	
	comp=Z,17μm,20.0s,MS6.0					
INCN	**Inchon**	**43.30**	**38**	P	**P**	**08 10 48.4 +0.3**
	SNR=34					

INCN	**Inchon**	**43.30**	**38**	P	**P**	**08 10 48.4**	**+0.3**
	SNR=34						
SONM	**Songino Array**	**43.50**	**12**	P	**P**	**08 10 49.8**	**+0.2**
SONM						08 12 31.2	
SONM						08 12 37.4	
SONM						08 20 42.7	
SONM				pmax	pmax		
	comp=Z,239nm,0.8s						
SONM				pmax	pmax		
	comp=Z,25nm,1.2s						
SONM				pmax	pmax		
	comp=Z,33nm,0.6s						
SONM				pmax	pmax		
	comp=N,24nm,1.2s						
SONM				pmax	pmax		
	comp=N,1.0nm,0.7s						
SONM				MLR	MLR		
	comp=Z,7μm,19.2s						
SONM	**Songino Array**	**43.50**	**12**	P	**P**	**08 10 49.8**	**+0.2**
	comp=Z,239nm,0.8s,mb6.0,baz=193,slow=8.1,SNR=680						
SONM				PP	PP	08 12 31.2	+0.1
	comp=Z,25nm,1.2s,baz=192,slow=13,SNR=1.9						
SONM				PcP	PcP	08 12 37.4	+0.2
	comp=Z,33nm,0.6s,baz=197,slow=3.5,SNR=8.3						
SONM				ScP	ScP	08 16 23.9	-2.4
	comp=Z,24nm,1.1s,baz=197,slow=3.8,SNR=7.7						
SONM				ScS	ScS	08 20 42.7	-4.0
	comp=Z,0.8nm,0.7s,baz=333,slow=12,SNR=4.0						
SONM				LR	LR	08 31 44.8	
	comp=Z,7μm,19.2s,MS5.6,baz=197,slow=40						
JNU	**Nakatsue**	**43.60**	**46**	P	**P**	**08 10 51.3**	**+0.7**
	comp=Z,255nm,0.9s,mb5.9,baz=237,slow=7.8,SNR=87						
JNU				PP	PP	08 12 34.5	+2.0
	comp=Z,24nm,1.0s,baz=225,slow=9.1,SNR=2.1						
JNU				ScP	ScP	08 16 23.4	-3.7
JNU				LR	LR	08 31 25.4	
	comp=Z,9μm,18.9s,MS5.7,baz=44,slow=39						
ULN	**Ulaanbaatar**	**43.66**	**12**	*e*P	**P**	**08 10 51.0**	**+0.1**
	comp=Z,230nm,0.6s,mb6.1						
ULN				LR	LR		
	comp=Z,8μm,20.0s,MS5.6						
ULN	**Ulaanbaatar**	**43.66**	**12**	*e*P	**P**	**08 10 51.0**	**+0.1**
ULN				pmax	pmax		
	comp=Z,230nm,0.6s,mb6.1						
ULN				MLR	MLR		
	comp=Z,8μm,20.0s,MS5.6						
ULN	**Ulaanbaatar**	**43.66**	**12**	P	**P**	**08 10 51.2**	**+0.3**
	SNR=111						
ULN	**Ulaanbaatar**	**43.66**	**12**	P	**P**	**08 10 51.2**	**+0.3**
	SNR=111						
NWAO	**Narrogin (SRO)**	**43.72**	**152**	*e*P	**P**	**08 10 51.1**	**-0.4**
	comp=Z,704nm,2.1s,mb6.0						
NWAO				*e*pP	pP	08 11 00.2	-1.2
NWAO				*e*PP	PP	08 12 32.4	-1.4
NWAO				LR	LR		
	comp=Z,3μm,20.0s,MS5.2						
NWAO	**Narrogin (SRO)**	**43.72**	**152**	*e*P	**P**	**08 10 51.1**	**-0.5**
NWAO				*e**PP	pP	08 11 00.2	-1.2
NWAO				*e*		08 12 32.4	
NWAO				pmax	pmax		
	comp=Z,704nm,2.1s						
NWAO				MLR	MLR		
	comp=Z,3μm,20.0s						
NWAO	**Narrogin (SRO)**	**43.72**	**152**	ScP	ScP	08 16 24.3	-3.2
	comp=Z,14nm,1.0s,baz=304,slow=5.6,SNR=3.1						
NWAO				S	**S**	**08 17 17.0**	**-2.7**
	comp=Z,7.7nm,1.0s,baz=161,slow=3.3,SNR=1.7						
NWAO				SS	SS	08 20 34.5	-1.8
	comp=Z,5.6nm,1.0s,baz=332,slow=19,SNR=2.2						
NWAO				LR	LR	08 29 38.4	
	comp=Z,4μm,19.8s,MS5.3,baz=325,slow=37						
KS15	**Wonju Array Si**	**44.05**	**39**	*e*P	**P**	**08 10 54.9**	**+0.7**
KSRS	**Korea Array**	**44.08**	**39**	P	**P**	**08 10 54.3**	**-0.1**
	comp=Z,100nm,0.8s,mb5.6,baz=223,slow=8.9,SNR=176						
KSRS				PcP	PcP	08 12 38.0	-1.3
	comp=Z,6.8nm,0.7s,baz=225,slow=2.9,SNR=3.1						
KSRS				ScP	ScP	08 16 25.3	-3.6
	comp=Z,11nm,1.1s,baz=225,slow=4.9,SNR=8.4						
KSRS				S	**S**	**08 17 21.6**	**-3.2**
	comp=Z,2.4nm,1.1s,baz=169,slow=39,SNR=2.3						
KSRS				LR	LR	08 30 52.0	
	comp=Z,7μm,19.7s,MS5.6,baz=232,slow=38						
SNY	**Shenyang**	**44.54**	**31**	⇑P	**P**	**08 10 58.3**	**+0.3**
SNY				AP	pP	08 11 12.5	+4.6
SNY				XP	sP	08 11 17.5	+5.7
SNY				PP	PP	08 12 39.0	-3.4
SNY				S	**S**	**08 17 33.8**	**+2.4**
SNY				AMB	AMB		
	comp=Z,499nm,1.7s,mb6.1						
SNY				LR	LR		
	comp=N,10μm,18.6s,MS5.8						
SNY				LR	LR		
	comp=E,4μm,17.4s,MS5.8						
SNY				LR	LR		
	comp=Z,13μm,18.6s,MS5.9						
ZAK	**Zakamensk**	**45.45**	**8**	⇓*i*P	**P**	**08 11 05.1**	**0.0**
ZAK				*e*		08 12 43.3	
ZAK				pmax	pmax		
	comp=Z,144nm,1.5s,mb5.6						
ZAK				pmax	pmax		
	comp=Z,45nm,1.6s,mb5.0						
VAN	**Vannovskaya**	**46.40**	**320**	*i* P	**P**	**08 11 13.5**	**+0.7**
MOY	**Mondy**	**46.45**	**5**	*e*P	**P**	**08 11 12.8**	**-0.2**
MOY				pmax	pmax		
	comp=Z,330nm,3.0s						
WRA	**Warramunga Arr**	**46.46**	**124**	P	**P**	**08 11 12.9**	**-0.6**
WRA				S	**S**	**08 17 54.1**	**-5.6**
WRA				pmax	pmax		
	comp=Z,297nm,0.9s						
WRA				pmax	pmax		
	comp=N,9.0nm,1.1s						
WRA				smax			
	comp=N,33nm,1.1s						
WRA				MLR	MLR		
	comp=Z,4μm,21.6s						
WRA	**Warramunga Arr**	**46.46**	**124**	P	**P**	**08 11 12.9**	**-0.6**
	comp=Z,296nm,0.9s,mb6.2,baz=303,slow=9.4,SNR=195						
WRA				ScP	ScP	08 16 36.5	-2.6
	comp=Z,9.3nm,1.1s,baz=310,slow=3.5,SNR=6.6						
WRA				S	**S**	**08 17 54.1**	**-5.6**
	comp=Z,33nm,1.1s,baz=296,slow=17,SNR=14						
WRA				LR	LR	08 31 56.5	
	comp=Z,4μm,21.6s,MS5.3,baz=285,slow=38						
WRAB	**Tennant Creek**	**46.46**	**124**	*e*P	**P**	**08 11 13.2**	**-0.4**
	comp=Z,258nm,0.6s,mb6.3						
WRAB				LR	LR		
	comp=Z,5μm,22.0s,MS5.4						
WRAB	**Tennant Creek**	**46.46**	**124**	*e*P	**P**	**08 11 13.2**	**-0.4**
WRAB				pmax	pmax		
	comp=Z,258nm,0.6s,mb6.3						
WRAB				MLR	MLR		
	comp=Z,5μm,22.0s,MS5.4						
WB2	**Warramunga Arr**	**46.47**	**124**	*e*P	**P**	**08 11 12.9**	**-0.7**
WB2				*es*P	sP	08 11 28.2	+0.7
WB2				*e*S	**S**	**08 17 54.9**	**-4.9**
WB2				*e*SS	SS	08 21 01.2	-25
WB2	**Warramunga Arr**	**46.47**	**124**	*e*P	**P**	**08 11 13.0**	**-0.6**
TLY	**Talaya**	**46.77**	**8**	*e*P	**P**	**08 11 16.2**	**+0.8**
	comp=Z,122nm,0.8s,mb5.9						
TLY				LR	LR		
	comp=Z,8μm,19.0s,MS5.7						
TLY	**Talaya**	**46.77**	**8**	*c i*P	**P**	**08 11 16.2**	**+0.7**
TLY				*e*		08 13 06.6	
TLY				*e*S	**S**	**08 17 59.6**	**-3.6**
TLY				*e*SS	SS	08 21 05.8	-24
TLY				pmax	pmax		
	comp=Z,253nm,1.0s,mb6.1						
TLY				MLR	MLR		
	comp=Z,7μm,18.0s,MS5.7						
TLY	**Talaya**	**46.77**	**8**	P	**P**	**08 11 16.5**	**+1.1**
	SNR=142						
TLY	**Talaya**	**46.77**	**8**	P	**P**	**08 11 16.5**	**+1.1**
	SNR=142						
CN2	**Changchun**	**46.91**	**31**	*e*P	**P**	**08 11 17.0**	**+0.3**
CN2				*e*XP	sP	08 11 30.8	+0.2
CN2				PCP	PcP	08 12 49.0	-0.1
CN2				PP	PP	08 13 08.0	+0.6
CN2				*e*S	**S**	**08 18 05.5**	**-0.1**
CN2				*e*SS	SS	08 21 26.3	-6.3
CN2				AMB	AMB		
	comp=Z,320nm,1.6s,mb6.0						
CN2				AMB	AMB		
	comp=Z,3μm,3.0s						
CN2				LR	LR		
	comp=N,6μm,17.0s,MS5.8						
CN2				LR	LR		
	comp=E,7μm,17.0s,MS5.8						
CN2				LR	LR		
	comp=Z,8μm,17.0s,MS5.7						
KURK	**Kurchatov**	**47.14**	**346**	*e*P	**P**	**08 11 19.4**	**+1.1**
	comp=Z,2μm,1.1s,mb6.9						
KURK				LR	LR		
	comp=Z,4μm,20.0s,MS5.4						
KURK	**Kurchatov**	**47.14**	**346**	*e*P	**P**	**08 11 19.5**	**+1.1**
KURK				pmax	pmax		
	comp=Z,2μm,1.1s,mb6.9						
KURK				MLR	MLR		
	comp=Z,4μm,20.0s,MS5.4						
IRK	**Irkutsk**	**47.41**	**8**	⇑*i*P	**P**	**08 11 20.6**	**+0.2**
IRK				*e*		08 13 15.2	
IRK				*e*S	**S**	**08 18 10.0**	**-2.3**
IRK				*e*		08 21 08.7	
IRK				pmax	pmax		
	comp=Z,770nm,2.0s,mb6.3						
ASAR	**Alice Springs**	**47.98**	**129**	P	**P**	**08 11 24.6**	**-0.7**
ASAR				S	**S**	**08 18 16.9**	**-4.3**
ASAR				pmax	pmax		
	comp=Z,33nm,0.4s						
ASAR				pmax	pmax		
	comp=N,4.0nm,1.0s						
ASAR				smax			
	comp=N,24nm,1.0s						
ASAR	**Alice Springs**	**47.98**	**129**	P	**P**	**08 11 24.6**	**-0.7**
	comp=N,33nm,0.4s,mb5.7,baz=299,slow=8.1,SNR=720						
ASAR				ScP	ScP	08 16 42.5	-2.9
	comp=N,4.2nm,1.0s,baz=304,slow=4.0,SNR=3.2						
ASAR				S	**S**	**08 18 16.9**	**-4.4**
	comp=N,24nm,0.9s,baz=293,slow=14,SNR=18						
FORT	**Forrest**	**48.11**	**140**	*e*P	**P**	**08 11 25.7**	**-0.5**
	comp=N,122nm,0.7s,mb6.0						
FORT	**Forrest**	**48.11**	**140**	*e*P	**P**	**08 11 25.8**	**-0.4**
HIA	**Hailar**	**48.65**	**22**	*e*P	**P**	**08 11 30.3**	**+0.2**
	comp=N,429nm,1.1s,mb6.4						
HIA				LR	LR		
	comp=Z,25μm,20.0s,MS6.2						
HIA	**Hailar**	**48.65**	**22**	*e*P	**P**	**08 11 30.3**	**+0.2**
HIA				pmax	pmax		
	comp=Z,429nm,1.1s						
HIA				MLR	MLR		
	comp=Z,25μm,20.0s						
ZAL	**Zalesovo**	**49.08**	**352**	P	**P**	**08 11 33.9**	**+0.6**
ZAL						08 12 55.1	
ZAL				S	**S**	**08 18 34.6**	**-1.3**
ZAL						08 21 17.0	
ZAA0	**Zalesovo Array**	**49.09**	**352**	*e*P	**P**	**08 11 33.9**	**+0.5**
ZALV	**Zalesovo Beam**	**49.09**	**352**	P	**P**	**08 11 33.9**	**+0.5**
ZALV				PcP	PcP	08 12 55.0	-1.6
ZALV				ScP	ScP	08 16 47.0	-2.5
ZALV				S	**S**	**08 18 34.6**	**-1.4**
ZALV				ScS	ScS	08 21 16.9	-5.9
ZALV				LR	LR	08 35 10.2	
ZALV	**Zalesovo Beam**	**49.09**	**352**	P	**P**	**08 11 33.9**	**+0.5**
	comp=Z,569nm,0.9s,mb6.6,baz=177,slow=6.6,SNR=596						
ZALV				PcP	PcP	08 12 55.1	-1.6
	comp=Z,24nm,0.5s,baz=163,slow=5.0,SNR=2.5						
ZALV				ScP	ScP	08 16 47.0	-2.5
	comp=Z,46nm,1.1s,baz=188,slow=2.2,SNR=8.1						
ZALV				S	**S**	**08 18 34.6**	**-1.4**
	comp=Z,2.6nm,0.8s,baz=318,slow=20,SNR=3.6						
ZALV				ScS	ScS	08 21 16.9	-5.9
	comp=Z,9.7nm,1.1s,baz=167,slow=8.1,SNR=4.1						
ZALV				LR	LR	08 35 10.2	
	comp=Z,1μm,21.3s,MS5.0,baz=177,slow=39						
LBOS		**49.31**	**284**	*e*P	**P**	**08 11 38.8**	**+3.1**
MDJ	**Mudanjiang**	**49.64**	**33**	P	**P**	**08 11 38.8**	**+1.1**
MDJ				PCP	PcP	08 12 59.8	+1.0
MDJ				PP	PP	08 13 33.0	+0.6
MDJ				SCP	ScP	08 16 47.5	-4.6
MDJ				PCS	PcS	08 16 55.3	-0.1
MDJ				S	**S**	**08 18 48.5**	**+4.5**
MDJ				AMB	AMB		
	comp=Z,493nm,1.4s,mb6.3						
MDJ				AMB	AMB		
	comp=Z,2μm,5.2s						
MDJ				LR	LR		
	comp=N,8μm,15.7s,MS5.8						
MDJ				LR	LR		
	comp=E,2μm,14.9s,MS5.8						
MDJ				LR	LR		
	comp=Z,9μm,14.9s,MS5.9						
MDJ	**Mudanjiang**	**49.64**	**33**	*e*P	**P**	**08 11 38.5**	**+0.8**
	comp=Z,929nm,1.4s,mb6.6						
MDJ				LR	LR		
	comp=Z,8μm,20.0s,MS5.7						
QRN	**Al-Qurain**	**49.90**	**303**	*e*P	**P**	**08 11 39.8**	**-0.2**
QRN				AMb	AMB	08 11 45.0	
	comp=Z,622nm,1.6s,mb6.4						
VLA	**Vladivostok**	**49.96**	**35**	*d i*P	**P**	**08 11 40.2**	**0.0**
VLA				pmax	pmax		
	comp=Z,1μm,1.7s,mb6.6						
GUMO	**Guam**	**50.16**	**77**	P	**P**	**08 11 40.0**	**-2.2**
GUMO				pmax	pmax		
	comp=Z,48nm,0.7s,mb5.6						
GUMO				MLR	MLR		
	comp=Z,2μm,21.3s,MS5.1						
GUMO	**Guam**	**50.16**	**77**	P	**P**	**08 11 40.0**	**-2.2**
	comp=Z,48nm,0.7s,mb5.7,baz=202,slow=22,SNR=2.2						
GUMO				LR	LR	08 32 37.2	
	comp=Z,2μm,21.3s,MS5.1,baz=75,slow=36						
NVS	**Novosibirsk**	**50.18**	**351**	⇑*i*P	**P**	**08 11 41.4**	**-0.2**
NVS				*e*S	**S**	**08 18 42.7**	**-8.5**
NVS				*e*		08 21 23.5	
NVS				pmax	pmax		
	comp=N,858nm,1.6s						
NVS				pmax	pmax		
	comp=E,421nm,1.6s						
NVS				pmax	pmax		
	comp=Z,976nm,1.6s,mb6.6						
NVS				smax			
	comp=N,268nm,1.9s						
NVS				smax			
	comp=E,239nm,1.9s						
DHBB	**Dhamar BB**	**50.20**	**284**	*e*P	**P**	**08 11 45.6**	**+3.1**
KBD	**Kabd**	**50.22**	**304**	*e*P	**P**	**08 11 42.7**	**+0.2**
KBD				AMb	AMB	08 11 46.6	
	comp=Z,2μm,1.6s,mb6.8						
JHJ	**Hachijo jima 2**	**50.24**	**51**	P	**P**	**08 11 42.4**	**-0.1**
	comp=Z,198nm,0.8s,mb6.2,baz=253,slow=13,SNR=3.6						
JHJ				LR	LR	08 32 20.5	
	comp=Z,5μm,21.3s,MS5.5,baz=80,slow=35						
RDF	**Al-Radifah**	**50.26**	**303**	*e*P	**P**	**08 11 42.9**	**+0.1**
RDF				AMb	AMB	08 11 59.6	
	comp=Z,354nm,1.1s,mb6.3						
UMR	**Umm Al-Rimmam**	**50.32**	**304**	*e*P	**P**	**08 11 43.2**	**0.0**
UMR				AMb	AMB	08 11 47.1	
	comp=Z,332nm,1.2s,mb6.2						
TRBA	**At Turbah**	**50.36**	**283**	*e*P	**P**	**08 11 46.7**	**+3.0**
TRBA				AMb	AMB	08 11 48.4	
	comp=Z,248nm,1.5s,mb6.0						
MAJO	**Matsushiro**	**50.52**	**46**	*e*P	**P**	**08 11 44.6**	**0.0**
	comp=Z,851nm,1.8s,mb6.4						
MAJO				LR	LR		
	comp=Z,9μm,22.0s,MS5.7						
MAJO	**Matsushiro**	**50.52**	**46**	*e*P	**P**	**08 11 44.6**	**0.0**
MAJO				pmax	pmax		
	comp=Z,851nm,1.8s,mb6.4						
MAJO				MLR	MLR		
	comp=Z,9μm,22.0s,MS5.7						
MAT	**Matsushiro**	**50.52**	**46**	P	**P**	**08 11 43.9**	**-0.7**
MAT				S	**S**	**08 19 02.0**	**+5.3**
MJAR	**Matsushiro Arr**	**50.52**	**46**	P	**P**	**08 11 44.8**	**+0.2**
MJAR						08 13 02.6	
MJAR						08 21 28.4	
MJAR				pmax	pmax		
	comp=Z,51nm,0.8s						
MJAR				pmax	pmax		
	comp=Z,25nm,1.0s						
MJAR				pmax	pmax		
	comp=N,10.0nm,0.9s						
MJAR				pmax	pmax		
	comp=N,1.0nm,0.2s						
MJAR				MLR	MLR		
	comp=Z,6μm,20.7s						
MJAR	**Matsushiro Arr**	**50.52**	**46**	P	**P**	**08 11 44.8**	**+0.1**
	comp=Z,51nm,0.8s,mb5.5,baz=244,slow=7.2,SNR=107						
MJAR				PcP	PcP	08 13 02.6	+0.3
	comp=Z,25nm,0.9s,baz=241,slow=3.8,SNR=6.6						
MJAR				ScP	ScP	08 16 52.5	-3.6
	comp=Z,9.7nm,0.9s,baz=234,slow=3.7,SNR=8.0						
MJAR				ScS	ScS	08 21 28.4	-5.0
	comp=Z,1.0nm,0.2s,baz=286,slow=5.1,SNR=3.0						
MJAR				LR	LR	08 34 52.6	
	comp=Z,6μm,20.7s,MS5.6,baz=255,slow=38						
NAY	**Al-Naaiem**	**50.62**	**304**	*e*P	**P**	**08 11 45.4**	**-0.1**
NAY				AMb	AMB	08 12 02.5	
	comp=Z,192nm,0.9s,mb6.0						
MIB	**Mutribah**	**50.72**	**304**	*e*P	**P**	**08 11 46.2**	**0.0**
MIB				AMb	AMB	08 11 49.2	
	comp=Z,555nm,0.8s,mb6.5						
BVAR	**Borovoye Array**	**51.50**	**342**	P	**P**	**08 11 51.8**	**+0.2**
BVAR				S	**S**	**08 19 07.4**	**-2.2**
BVAR						08 21 36.0	
BVAR				pmax	pmax		
	comp=Z,134nm,0.7s						
BVAR				pmax	pmax		
	comp=N,13nm,1.1s						
BVAR				smax			
	comp=N,18nm,1.0s						
BVAR				pmax	pmax		
	comp=N,16nm,1.3s						
BVAR	**Borovoye Array**	**51.50**	**342**	P	**P**	**08 11 51.8**	**+0.2**
	comp=N,134nm,0.7s,mb6.0,baz=145,slow=8.3,SNR=414						
BVAR				ScP	ScP	08 16 57.5	-2.4
	comp=N,13nm,1.1s,baz=96,slow=4.3,SNR=3.3						
BVAR				S	**S**	**08 19 07.4**	**-2.1**
	comp=N,18nm,1.0s,baz=140,slow=17,SNR=8.5						
BVAR				ScS	ScS	08 21 36.0	-3.3
	comp=N,16nm,1.2s,baz=74,slow=6.3,SNR=3.8						
BRVK	**Borovoye**	**51.56**	**341**	*e*P	**P**	**08 11 52.3**	**+0.2**
	comp=N,212nm,0.8s,mb6.1						
BRVK				*e*S	**S**	**08 19 10.2**	**-0.2**
BRVK				LR	LR		
	comp=Z,4μm,19.0s,MS5.5						
BRVK	**Borovoye**	**51.56**	**341**	*e*P	**P**	**08 11 52.3**	**+0.2**
BRVK				*e*S	**S**	**08 19 10.3**	**-0.1**
BRVK				pmax	pmax		
	comp=Z,212nm,0.8s,mb6.1						
BRVK				MLR	MLR		
	comp=Z,4μm,19.0s,MS5.5						
COEN	**Coen**	**51.87**	**112**	*e*P	**P**	**08 11 53.2**	**-1.8**
	comp=Z,41nm,1.0s,mb5.3						
ABPO	**Ambohimpanom**	**52.57**	**241**	*e*P	**P**	**08 12 01.2**	**+1.1**
	comp=Z,22nm,0.8s,mb5.1						
ABPO				*e*PcP	PcP	08 13 10.4	+0.2
ABPO				LR	LR		
	comp=Z,4μm,20.0s,MS5.4						
AB31	**Akbulak array**	**52.64**	**332**	*i* P	**P**	**08 12 00.6**	**+0.4**
KLR	**Kul'dur**	**53.81**	**29κ**	*i*P	**P**	**08 12 06.0**	**-2.8**
KLR				pmax	pmax		
	comp=N,1μm,9.0s						
KLR				pmax	pmax		
	comp=E,1μm,9.0s						
KLR				pmax	pmax		
	comp=Z,3μm,9.0s						
KLR				pmax	pmax		
	comp=N,150nm,1.8s						
KLR				pmax	pmax		
	comp=E,780nm,1.8s						
KLR				pmax	pmax		
	comp=Z,1μm,1.8s,mb6.6						
KLR				MLR	MLR		
	comp=N,4μm,13.0s						
KLR				MLR	MLR		
	comp=Z,18μm,13.0s,MS6.3						
BHD	**Baghdad**	**54.24**	**307**	*i* x	x	08 12 09.0	
BHD				*ex*	x	08 12 27.0	
BHD				*ex*	x	08 13 14.0	
BHD				*ex*	x	08 19 41.0	
BHD				*ex*	x	08 21 55.0	
BHD				*ex*	x	08 22 13.0	
AKTK	**Aktyubinsk**	**54.36**	**332**	P	**P**	**08 12 12.6**	**-0.2**
AKTK				S	**S**	**08 19 45.6**	**-3.1**
AKTK				ScS	ScS	08 21 56.6	-3.0
AKTO	**Aktyubinsk**	**54.36**	**332**	P	**P**	**08 12 12.6**	**-0.2**
AKTO				S	**S**	**08 19 45.6**	**-3.1**
AKTO						08 21 56.6	
AKTO				pmax	pmax		
	comp=Z,103nm,0.8s,mb5.8						
AKTO				smax			
	comp=N,7.0nm,1.0s						
AKTO				pmax	pmax		
	comp=N,4.0nm,1.0s						
AKTO	**Aktyubinsk**	**54.36**	**332**	P	**P**	**08 12 12.6**	**-0.2**
	comp=N,103nm,0.8s,mb5.8,baz=133,slow=7.5,SNR=189						
AKTO				S	**S**	**08 19 45.6**	**-3.1**
	comp=N,6.5nm,0.9s,baz=344,slow=20,SNR=9.1						
AKTO				ScS	ScS	08 21 56.6	-3.0
	comp=N,3.8nm,1.0s,baz=246,slow=22,SNR=4.9						
BOD	**Bodaibo**	**54.47**	**13**	*e*P	**P**	**08 12 13.1**	**-0.4**
BOD				*e*		08 19 46.2	
BOD				*e*		08 21 53.1	
BOD				pmax	pmax		
	comp=Z,409nm,1.6s,mb6.1						
HABR	**Khabarovsk**	**55.00**	**32**	⇑*i*P	**P**	**08 12 17.3**	**-0.2**
HABR				*e**PP	pP	08 12 26.6	-0.9
HABR				*e**SP	sP	08 12 29.7	-1.8
HABR				*e*		08 13 18.3	
HABR				*e*		08 14 20.5	
HABR				*e*S	**S**	**08 19 58.4**	**+1.1**
HABR				*e**SS	sS	08 20 09.3	-4.6
HABR				*e*		08 22 01.7	
HABR				*e*SS	SS	08 23 42.3	+1.0
HABR				pmax	pmax		
	comp=Z,479nm,1.3s,mb6.4						
MAK	**Makhachkala**	**55.90**	**320**	*e*P	**P**	**08 12 22.1**	**-2.0**
MAK	**Makhachkala**	**55.90**	**320**	*c i*P	**P**	**08 12 24.2**	**+0.1**
MAK				*i*		08 14 31.2	
MAK				*i* S	**S**	**08 20 06.9**	**-2.7**
MAK				*i*		08 22 09.4	
MAK				pmax	pmax		
	comp=Z,371nm,1.6s,mb6.2						
MAK				pmax	pmax		
	comp=N,76nm,0.4s						
MAK				pmax	pmax		
	comp=E,17nm,0.3s						
MAK				pmax	pmax		
	comp=Z,1703μm,2.8s						
MAK				pmax	pmax		
	comp=N,619μm,2.4s						
MAK				pmax	pmax		
	comp=E,1111μm,2.1s						
MAK				smax			
	comp=N,1995μm,3.8s						
MAK				smax			
	comp=E,1442μm,2.4s						
CUKT	**Cukurca**	**56.22**	**312**	*e*P	**P**	**08 12 25.5**	**-1.0**
HKR	**Hakkari**	**56.24**	**312**	*e*P	**P**	**08 12 26.6**	**0.0**
HAKT	**HAKKARI**	**56.26**	**312**	⇑*i*P	**P**	**08 12 26.1**	**-0.6**
MSL	**Mosul**	**56.27**	**310**	*ex*	x	08 12 26.0	
MSL				*ex*	x	08 12 44.0	
MSL				*ex*	x	08 13 35.0	
MSL				*ex*	x	08 20 09.0	
MSL				*ex*	x	08 22 12.0	
ERM	**Erimo**	**56.42**	**42**	*i* P	**P**	**08 12 28.1**	**+0.3**
ERM				LR	LR		
	comp=Z,10μm,21.0s,MS5.9						
ERM	**Erimo**	**56.42**	**42**	*d i*P	**P**	**08 12 28.1**	**+0.3**
NRGR	**Nerungri**	**56.42**	**19**	*i* P	**P**	**08 12 28.1**	**+0.6**
NRGR				S	**S**	**08 20 14.0**	**-2.0**
NRGR				smax			
	comp=N,174nm,2.8s						
CLNS	**Chul'man**	**56.62**	**19**	*e*P	**P**	**08 12 27.2**	**-1.7**
CLNS	**Chul'man**	**56.62**	**19**	⇑*i*P	**P**	**08 12 27.2**	**-1.7**
CLNS				*e**PP	pP	08 12 34.6	-4.4
CLNS				*e*		08 13 22.6	
CLNS				*e*		08 14 31.6	
CLNS				*e*S	**S**	**08 20 17.4**	**-1.3**
CLNS				pmax	pmax		
	comp=N,177nm,1.8s						
CLNS				pmax	pmax		
	comp=Z,309nm,1.8s,mb6.0						
CLNS				pmax	pmax		
	comp=E,98nm,1.2s						
CLNS				pmax	pmax		
	comp=Z,22nm,1.0s,mb5.1						
CLNS				pmax	pmax		
	comp=N,30nm,1.1s						
CLNS				pmax	pmax		
	comp=E,18nm,0.9s				

CLNS MLR MLR
comp=N,6µm,17.0s,MS5.9
CLNS MLR MLR
comp=E,7µm,19.0s,MS5.9
CTA Charters Tower 56.70 118 *e*P **P** **08 12 29.3 -0.9**
comp=E,86nm,1.2s,mb5.7
CTA *e*S **S** **08 20 17.5 -3.4**
CTA *e*SS ScS 08 22 14.3 -3.2
CTA Charters Tower 56.70 118 *e*P **P** **08 12 29.3 -0.9**
CTA *e*S **S** **08 20 17.5 -3.4**
CTA *e*SS ScS 08 22 14.3 -3.2
CTA pmax pmax
comp=Z,86nm,1.2s
CTA Charters Tower 56.70 118 ScP ScP 08 17 21.1 -2.3
comp=Z,11nm,1.1s,baz=243,slow=7.8,SNR=3.2
CTA S **S** **08 20 16.4 -4.5**
comp=Z,7.0nm,1.3s,baz=165,slow=20,SNR=2.9
CTA LR LR 08 37 47.3
comp=Z,5µm,21.6s,MS5.6,baz=287,slow=37
CTAO Charters Tower 56.70 118 *e*P **P** **08 12 29.2 -1.0**
comp=Z,342nm,1.4s,mb6.2
CTAO LR LR
comp=Z,5µm,22.0s,MS5.6
CTAO Charters Tower 56.70 118 *e*P **P** **08 12 29.2 -1.0**
CTAO pmax pmax
comp=Z,342nm,1.4s,mb6.2
CTAO MLR MLR
comp=Z,5µm,22.0s,MS5.6
VANB Van 56.88 313 *e*P **P** **08 12 30.4 -0.7**
ASAJ Asahikawa 57.02 40 P **P** **08 12 32.6 +0.6**
ASAJ pmax pmax
comp=Z,117nm,1.0s
ASAJ MLR MLR
comp=Z,6µm,18.3s
ASAJ Asahikawa 57.02 40 P **P** **08 12 32.6 +0.6**
comp=Z,117nm,1.0s,mb5.9,baz=256,slow=12,SNR=20
ASAJ LR LR 08 38 55.4
comp=Z,6µm,18.3s,MS5.7,baz=188,slow=38
DYDN Diyadin 57.02 314⇑*i*P **P** **08 12 32.0 -0.2**
AGRB Hanur-Agry 57.53 314 *e*P **P** **08 12 36.1 +0.4**
KMBO Kilima Mbogo 57.64 265 *e*P **P** **08 12 38.9 +1.9**
comp=Z,19nm,0.7s,mb5.2
KMBO LR LR
comp=Z,8µm,22.0s,MS5.8
KMBO Kilima Mbogo 57.64 265 *e*P **P** **08 12 38.9 +1.9**
KMBO pmax pmax
comp=Z,19nm,0.7s
KMBO MLR MLR
comp=Z,8µm,22.0s
KMBO Kilima Mbogo 57.64 265 P **P** **08 12 39.3 +2.3**
SNR=21
KMBO Kilima Mbogo 57.64 265 P **P** **08 12 39.3 +2.3**
SNR=21
KMBO Kilima Mbogo 57.64 265 P **P** **08 12 38.6 +1.6**
baz=70,slow=9.2
KMBO LR LR 08 33 48.0
comp=Z,4µm,19.7s,MS5.6,baz=183,slow=32
ADE Adelaide 57.71 137 P **P** **08 12 37.4 +0.4**
KARS Kars 57.86 315 *e*P **P** **08 12 38.6 +0.5**
SVE Sverdlovsk 57.89 339*d*i*P* **P** **08 12 38.2 +0.3**
SVE *e*S **S** **08 20 26.7 -8.6**
SVE *e* 08 22 24.4
SVE pmax pmax
comp=Z,722nm,1.5s,mb6.5
SVE pmax pmax
comp=Z,578nm,5.2s
SVE MLR MLR
comp=Z,3µm,18.0s,MS5.4
STKA Stephens Creek 58.06 133 *e*P **P** **08 12 38.7 -0.8**
comp=Z,49nm,0.6s,mb5.7
STKA *e*S **S** **08 20 34.9 -3.5**
STKA Stephens Creek 58.06 133 P **P** **08 12 38.8 -0.7**
comp=Z,65nm,1.1s,mb5.6,baz=297,slow=7.3,SNR=38
STKA S **S** **08 20 34.0 -4.4**
comp=Z,3.8nm,1.0s,baz=290,slow=17,SNR=2.7
STKA LR LR 08 38 35.2
comp=Z,2µm,20.6s,MS5.3,baz=300,slow=37
BTMT Batman 58.13 312 *e*P **P** **08 12 39.8 -0.1**
MARD Mardin 58.36 311⇑*i*P **P** **08 12 41.2 -0.4**
ARU Arti 58.37 337 *e*P **P** **08 12 40.9 -0.3**
comp=Z,649nm,1.4s,mb6.5
ARU LR LR
comp=Z,3µm,20.0s,MS5.4
ARU Arti 58.37 337*c i*P **P** **08 12 41.0 -0.2**
ARU *e* 08 13 29.7
ARU *e* 08 14 48.3
ARU *e*S **S** **08 20 40.3 -1.3**
ARU *e* 08 22 18.8
ARU *e*SSS 08 27 02.3
ARU pmax pmax
comp=Z,609nm,1.7s,mb6.3
ARU MLR MLR
comp=Z,3µm,20.0s,MS5.4
YSS Yuzh-Sakhalins 58.48 37 *e*P **P** **08 12 42.7 +0.5**
comp=Z,402nm,1.1s,mb6.4
YSS *e*PcP PcP 08 13 32.7 +0.1
YSS LR LR
comp=Z,6µm,20.0s,MS5.7
YSS Yuzh-Sakhalins 58.48 37⇑*i*P **P** **08 12 42.4 +0.2**
YSS *e**PP pP 08 12 54.2 +1.8
YSS *e**SP sP 08 13 00.0 +3.7
YSS *e* 08 13 29.0
YSS *e* 08 14 46.0
YSS *e*S **S** **08 20 32.0 -11**
YSS *e* 08 21 04.0
YSS *e*SS SS 08 24 38.0 +1.8
YSS pmax pmax
comp=N,140nm,1.1s
YSS pmax pmax
comp=Z,530nm,1.1s,mb6.5
YSS MLR MLR
comp=Z,6µm,20.0s,MS5.7
YSS MLR MLR
comp=N,4µm,22.0s,MS5.7
YSS MLR MLR
comp=E,6µm,20.0s,MS5.7
HOMI Horasan 58.49 314⇑*i*P **P** **08 12 42.2 -0.2**
BNGL BINGOL 58.64 313⇑*i*P **P** **08 12 43.5 0.0**
ERZM Erzurum 58.82 314⇑*i*P **P** **08 12 44.6 -0.2**
EZM Erzurum 58.82 314 *e*P **P** **08 12 45.0 +0.2**
ARTV Artvin 58.90 315⇑*i*P **P** **08 12 45.1 -0.2**
BINT Bingol 59.10 313 *e*P **P** **08 12 47.0 +0.3**
BCA Borcka 59.21 316 *e*P **P** **08 12 47.0 -0.5**
KOPT Kop Dagi 59.48 314⇑*i*P **P** **08 12 49.3 -0.1**
KIV Kislovodsk 59.49 319 *e*P **P** **08 12 49.0 -0.3**
comp=E,246nm,1.0s,mb6.2
KIV LR LR
comp=Z,1µm,22.0s,MS5.1
KIV Kislovodsk 59.49 319*c i*P **P** **08 12 48.9 -0.4**
KIV pmax pmax
comp=Z,290nm,1.0s,mb6.3
PZAR Pazar-Rize 59.62 315 *e*P **P** **08 12 50.1 -0.1**
GOF Gofitskoye 59.73 320 *e*P **P** **08 12 56.0 +5.1**
GOF *i*S **S** **08 21 01.9 +2.3**
GOF pmax pmax
comp=Z,250nm,1.3s,mb6.1
GOF smax
comp=N,180nm,1.6s
GOF smax
comp=E,260nm,1.6s
URFA Urfa 59.88 310 *e*P **P** **08 12 52.6 +0.5**
EZC Erzincan 59.88 313 *e*P **P** **08 12 54.8 +2.7**
ASF Jabal al Asfar 59.98 304 P **P** **08 12 54.2 +1.3**
ASF S **S** **08 21 04.3 +0.9**
ASF 08 22 41.9
ASF pmax pmax
comp=Z,34nm,1.1s
ASF smax
comp=N,1.0nm,0.4s
ASF pmax pmax
comp=N,1.0nm,0.7s
ASF Jabal al Asfar 59.98 304 P **P** **08 12 54.2 +1.3**
comp=N,34nm,1.1s,mb5.3,baz=343,slow=3.0,SNR=44
ASF S **S** **08 21 04.3 +1.0**
comp=N,0.7nm,0.4s,baz=50,slow=23,SNR=2.6
ASF ScS ScS 08 22 41.9 +0.6
comp=N,1.2nm,0.7s,baz=44,slow=23,SNR=4.5
ELZG Elazig 60.08 312⇑*i*P **P** **08 12 53.7 +0.2**
ATAB Bozova 60.28 310⇑*i*P **P** **08 12 55.3 +0.4**
MACK Trabzon 60.33 315⇑*i*P **P** **08 12 54.9 -0.3**
KTUT Trabzon 60.35 315 *e*P **P** **08 12 55.0 -0.2**
GUMT Gumushane 60.37 314 *e*P **P** **08 12 55.6 +0.2**
MALT Malatya 60.44 311 *e*P **P** **08 12 56.4 +0.4**
MALT Malatya 60.44 311 *e*P **P** **08 12 56.3 +0.3**
comp=N,205nm,1.4s,mb6.0
MALT Malatya 60.44 311 *e*P **P** **08 12 56.3 +0.4**
MALT pmax pmax
comp=Z,205nm,1.4s,mb6.0
MALT Malatya 60.44 311⇑*i*P **P** **08 12 56.3 +0.4**
MYA Malataya 60.45 311 *e*P **P** **08 12 56.5 +0.6**
KEMA Kemaliye 60.69 312⇑*i*P **P** **08 12 57.4 -0.2**
GZT Gaziantep 60.81 310⇑*i*P **P** **08 12 59.0 +0.6**
GAZ Gaziantep 61.02 310 *e*P **P** **08 13 00.7 +0.8**
ESPY Espiye-Giresun 61.06 314 *e*P **P** **08 12 59.8 -0.3**
EIL Elat 61.08 301 P **P** **08 13 01.3 +0.8**
EIL S **S** **08 21 17.9 +0.3**
EIL LR LR 08 40 21.8
EIL Elat 61.08 301 P **P** **08 13 01.3 +0.8**
comp=Z,20nm,0.7s,mb5.3,baz=65,slow=1.9,SNR=35
EIL S **S** **08 21 17.9 +0.3**
comp=Z,0.8nm,0.3s,baz=40,slow=23,SNR=2.7
EIL LR LR 08 40 21.8
comp=Z,6µm,18.4s,MS5.8,baz=314,slow=37
RCY Rachaya 61.17 305 *e*P **P** **08 13 02.5 +1.5**
HWQ Hawqa 61.26 306 *e*P **P** **08 13 02.8 +1.2**
SOC Sochi 61.32 317 *i*P **P** **08 13 01.0 -0.8**
SOC Sochi 61.32 317*c i*P **P** **08 13 00.2 -1.6**
SOC *e**PP pP 08 13 09.2 -2.8
SOC *e**SP sP 08 13 13.5 -2.4
SOC *e* 08 13 41.2
SOC *i*PPP 08 16 42.1
SOC *e*S **S** **08 21 12.0 -8.0**
SOC *e**SS sS 08 21 36.3 -0.5
SOC *e* 08 22 45.7
SOC *e*SS SS 08 25 16.9 -4.0
SOC pmax pmax
comp=Z,208nm,1.0s,mb6.2
GRSN GIRESUNGRSN 61.39 314⇓*i*P **P** **08 13 01.5 -0.9**
MMAI Mount Meron Ar 61.40 305 P **P** **08 13 04.2 +1.6**
comp=Z,40nm,0.8s,mb5.6,baz=96,slow=7.9,SNR=46
MMAI S **S** **08 21 22.2 +0.7**
comp=Z,0.4nm,0.2s,baz=226,slow=51,SNR=3.1
MMAI LR LR 08 40 48.8
comp=Z,3µm,21.1s,MS5.5,baz=100,slow=37
BHL Bhannes 61.40 306 *e*P **P** **08 13 03.8 +1.2**
HTY Hatay 61.57 308 *e*P **P** **08 13 04.3 +0.7**
ANDN Andirin 61.80 310⇑*i*P **P** **08 13 05.6 +0.4**
SVSK Karacayir 61.99 313 *e*P **P** **08 13 06.6 +0.2**
CEYT Ceyhan 62.10 309 *e*P **P** **08 13 08.0 +0.8**
KOZT Kozan 62.17 310 *e*P **P** **08 13 10.8 +3.1**
YAK Yakutsk 62.22 18 *e*P **P** **08 13 06.5 -1.0**
comp=Z,255nm,0.6s,mb6.5
YAK LR LR
comp=Z,8µm,22.0s,MS5.8
YAK Yakutsk 62.22 18*c i*P **P** **08 13 06.4 -1.1**
YAK *e**PP pP 08 13 20.5 +2.8
YAK *e* 08 13 48.0
YAK *e* 08 15 19.7
YAK *e*S **S** **08 21 25.1 -5.7**
YAK *e**SS sS 08 21 49.2 +1.6
YAK *e* 08 22 49.1
YAK pmax pmax
comp=Z,359nm,1.0s,mb6.5
YAK pmax pmax
comp=N,154nm,1.2s
YAK pmax pmax
comp=E,254nm,1.6s
YAK pmax pmax
comp=N,231nm,2.8s
YAK pmax pmax
comp=Z,280nm,2.8s,mb5.9
YAK pmax pmax
comp=E,163nm,2.2s
YAK smax
comp=E,174nm,1.4s
YAK smax
comp=Z,119nm,2.6s
YAK smax
comp=N,214nm,2.5s
YAK MLR MLR
comp=Z,8µm,21.0s,MS5.8
YAK MLR MLR
comp=N,7µm,25.0s
YAK MLR MLR
comp=E,7µm,19.0s
TOKT Tokat 62.45 313 *e*P **P** **08 13 09.4 -0.1**
BNN Bunyan 62.53 311 *e*P **P** **08 13 10.0 -0.1**
KARA Karaisali 62.71 309 *e*P **P** **08 13 11.8 +0.6**
EIDS Eidsvold 62.75 122 *e*P **P** **08 13 10.9 -0.8**
EIDS Eidsvold 62.75 122 *e*P **P** **08 13 10.9 -0.8**
comp=E,40nm,1.2s,mb5.4
EREN Erenkoy 62.97 307 *e*P **P** **08 13 13.3 +0.3**
MERS Mersin 63.02 309 *e*P **P** **08 13 13.6 +0.3**
KVT Kavak 63.04 314 *e*P **P** **08 13 13.4 0.0**
AVNT Avonos 63.26 311⇑*i*P **P** **08 13 14.7 -0.1**
NIG Nigde 63.27 310 *e*P **P** **08 13 14.3 -0.6**
ANN Anapa 63.29 318 *e*P **P** **08 13 12.8 -2.2**
ANN Anapa 63.29 318 *e*P **P** **08 13 09.7 -5.3**
ANN *e**PP pP 08 13 20.2 -5.0
ANN *e* 08 13 47.4
ANN *e*S **S** **08 21 38.0 -6.8**
ANN pmax pmax
comp=Z,149nm,1.5s,mb5.9
ANN MLR MLR
comp=N,662nm,21.0s,MS5.0
ANN MLR MLR
comp=E,810nm,21.0s,MS5.0
ANN MLR MLR
comp=Z,1µm,21.0s,MS5.1
LFK Lefkose 63.42 307 *e*P **P** **08 13 16.2 +0.1**
CSS Prodhromos 63.51 306 P **P** **08 13 16.9 +0.2**
comp=Z,3.5nm,1.2s
IKL Isikli 63.52 308 *e*P **P** **08 13 16.3 -0.3**
MAMC Mammari 63.65 307 P **P** **08 13 17.3 -0.2**
DIKM Dikmen 63.77 314 *e*P **P** **08 13 17.8 -0.4**
CORM Corum 63.81 312 *e*P **P** **08 13 18.5 0.0**
CTKT Corum 63.81 313⇑*i*P **P** **08 13 18.3 -0.2**
CDAG Cicekdag 63.85 312⇑*i*P **P** **08 13 15.8 -3.0**
LEF Lefka 63.90 306 *e*P **P** **08 13 19.8 +0.6**
BOYT Boyabat 63.96 314⇓*i*P **P** **08 13 19.1 -0.4**
BYBT Boyabat 64.07 314 *e*P **P** **08 13 19.9 -0.3**
ALFC Alevga 64.14 306 P **P** **08 13 20.6 -0.2**
comp=Z,3.0nm,0.8s
ERMK Ermenek 64.22 308 *i*P **P** **08 13 22.6 +1.3**
KAMT Kaman 64.27 311 *e*P **P** **08 13 22.0 +0.5**
TOS Tosya 64.49 313 *e*P **P** **08 13 22.5 -0.5**
VORD Divnogorie 64.52 325 *e*P **P** **08 13 21.5 -1.4**
VORD pmax pmax
comp=N,90nm,0.8s
VORD pmax pmax
comp=Z,240nm,0.8s,mb6.3
VORD pmax pmax
comp=E,240nm,1.0s
VORD MLR MLR
comp=Z,2µm,24.0s,MS5.1
VORD MLR MLR
comp=N,2µm,20.0s,MS5.3
VORD MLR MLR
comp=E,2µm,25.0s,MS5.3
CANT Cankiri 64.67 313 *e*P **P** **08 13 24.1 0.0**
VRSR Storozhevoye 64.68 325*c i*P **P** **08 13 22.4 -1.6**
VRSR *e**PP pP 08 13 28.6 -5.6
VRSR *e* 08 13 57.0
VRSR *e*S **S** **08 21 55.0 -6.9**
VRSR *e* 08 23 10.1
VRSR pmax pmax
comp=Z,30nm,0.9s,mb5.3
VRSR pmax pmax
comp=N,10.0nm,0.8s
VRSR pmax pmax
comp=E,40nm,0.9s
VRSR smax
comp=N,90nm,3.8s
VRSR smax
comp=Z,40nm,4.0s
VRSR smax
comp=E,150nm,3.8s
VRSR MLR MLR
comp=Z,280nm,19.0s
VRSR MLR MLR
comp=E,210nm,20.0s
BZK Bozkurt 64.76 314 *e*P **P** **08 13 24.6 -0.1**
ELDT Eldivan 64.78 312⇓*i*P **P** **08 13 24.3 -0.5**
KONT Konya--Tatoy 64.95 309 *e*P **P** **08 13 26.1 +0.1**
ARMA Armidale 65.08 127 *e*P **P** **08 13 27.7 +0.7**
ARMA *e*S S 08 22 03.4 -4.1
ARMA Armidale 65.08 127 *e*P **P** **08 13 27.3 +0.3**
ANTO Ankara 65.08 312 *e*P **P** **08 13 26.5 -0.4**
ANTO Ankara 65.08 312 *e*P **P** **08 13 26.4 -0.5**
comp=E,429nm,1.4s,mb6.3
ANTO LR LR
comp=Z,1µm,22.0s,MS5.1
ANTO Ankara 65.08 312 *e*P **P** **08 13 26.4 -0.5**
ANTO pmax pmax
comp=Z,429nm,1.4s,mb6.3
ANTO MLR MLR
comp=Z,1µm,22.0s,MS5.1
ANTO Ankara 65.08 312 P **P** **08 13 26.6 -0.3**
SNR=62
ANTO Ankara 65.08 312 P **P** **08 13 26.6 -0.3**
SNR=62
ANTO Ankara 65.08 312⇑*i*P **P** **08 13 26.5 -0.4**
BALT Daday 65.09 313⇑*i*P **P** **08 13 26.8 0.0**
KDHN Kadinhani 65.27 310⇑*i*P **P** **08 13 26.7 -1.4**
CNB Canberra Magne 65.39 133 *e*P **P** **08 13 28.4 -0.5**
comp=Z,259nm,1.5s,mb6.0
SAFT Safranbolu 65.52 313 *e*P **P** **08 13 28.9 -0.7**
KIZT Kizilcal 65.53 310 *e*P **P** **08 13 29.0 -0.8**
SIM Simferopol' 65.56 317*c e*P **P** **08 13 30.0 +0.1**
SIM *e*S S 08 22 08.1 -4.9
SIM pmax pmax
comp=Z,149nm,0.8s,mb6.1
SIM pmax pmax
comp=Z,260nm,9.4s
ANTB Antalya 66.05 308 *e*P **P** **08 13 31.6 -1.5**
RIV Riverview 66.08 131 *e*P **P** **08 13 34.0 +0.6**
BCK Bucak 66.21 309 *e*P **P** **08 13 32.4 -1.8**
ISP Isparta 66.35 309 *e*P **P** **08 13 34.5 -0.6**
ISP Isparta 66.35 309 P **P** **08 13 34.5 -0.6**
ISP Isparta 66.35 309 *e*P **P** **08 13 35.0 -0.1**
ISP pmax pmax
comp=Z,860nm,1.6s,mb6.5
ISP Isparta 66.35 309⇑*i*P **P** **08 13 34.5 -0.6**
KDZE Karadeniz Ereo 66.44 313 *e*P **P** **08 13 34.7 -0.8**
ESKT Eskisehir 66.46 311 *e*P **P** **08 13 35.0 -0.7**
ESKT Eskisehir 66.46 311 *i*P **P** **08 13 34.7 -1.0**
SHUT Suhut-Afyon 66.47 310 *e*P **P** **08 13 35.6 -0.3**
TKTP Tekketepe 66.54 309⇑*i*P **P** **08 13 35.7 -0.6**
HENT Hendek 66.72 312 *i*P **P** **08 13 36.9 -0.5**
AKAS Kas 66.74 307⇑*i*P **P** **08 13 36.3 -1.3**
HNR Honiara 66.75 103 *e*P **P** **08 13 37.0 -1.0**
comp=Z,4µm,1.8s,mb7.1
HNR LR LR
comp=Z,1µm,22.0s,MS5.2
HNR Honiara 66.75 103 *e*P **P** **08 13 37.0 -1.0**
HNR pmax pmax
comp=Z,4µm,1.8s,mb7.1
HNR MLR MLR
comp=Z,1µm,22.0s,MS5.2
HNR Honiara 66.75 103 P **P** **08 13 36.9 -1.1**
comp=Z,508nm,1.0s,mb6.5,baz=182,slow=1.5,SNR=44
BORA Eskisehir 66.84 311⇑*i*P **P** **08 13 37.4 -0.7**
ALT Altintas 66.92 310 *e*P **P** **08 13 38.4 -0.2**
GULT Gulveren 66.92 312 *e*P **P** **08 13 38.1 -0.5**
GOLH Golhisar 66.97 308⇑*i*P **P** **08 13 38.7 -0.3**
KHL Karahalli 67.21 309 *e*P **P** **08 13 40.0 -0.5**
FETY Fethiye 67.23 307 *e*P **P** **08 13 40.0 -0.7**
GDZ Gediz 67.40 310⇑*i*P **P** **08 13 40.8 -0.9**
MOS Moscow 67.45 329 *e*P **P** **08 13 38.3 -3.4**
MOS Moscow 67.45 329 *e*P **P** **08 13 37.3 -4.4**
MOS *e* 08 16 11.8
MOS *e*PPP 08 17 50.4
MOS *i*S S 08 22 30.2 -5.2
MOS pmax pmax
comp=Z,2µm,2.0s,mb6.8
MOS pmax pmax
comp=Z,997nm,1.6s,mb6.6
MOS smax
comp=N,3µm,4.2s
MOS smax
comp=E,1µm,3.8s
MOS MLR MLR
comp=Z,3µm,21.0s,MS5.5
DENT Denizli 67.48 309 *e*P **P** **08 13 42.4 +0.2**
ADVT Abdulvahap 67.49 312 *e*P **P** **08 13 41.7 -0.6**
DERT Derbent 67.52 311 *e*P **P** **08 13 44.8 +2.3**
DALT Dalyan (Mudla) 67.61 308 *e*P **P** **08 13 42.8 -0.3**
HRT Hereke 67.63 312 *e*P **P** **08 13 42.4 -0.7**
TAU Tasmania Unive 67.66 141 *e*P **P** **08 13 42.7 -0.5**
comp=Z,50nm,0.9s,mb5.5
TAU LR LR
comp=Z,3µm,21.0s,MS5.5
TAU Tasmania Unive 67.66 141 *e*P **P** **08 13 42.7 -0.5**
TAU pmax pmax
comp=Z,50nm,0.9s,mb5.5
TAU MLR MLR
comp=Z,3µm,21.0s,MS5.5
IZI Iznik 67.67 311 *e*P **P** **08 13 43.2 -0.2**
OBN Obninsk 67.74 328 *e*P **P** **08 13 42.8 -0.7**
comp=Z,809nm,1.4s,mb6.6
OBN LR LR
comp=Z,2µm,21.0s,MS5.4
OBN Obninsk 67.74 328*c i*P **P** **08 13 42.6 -0.9**
OBN *e* 08 14 10.3
OBN *e* 08 16 10.9
OBN *e*S S 08 22 34.5 -4.4
OBN pmax pmax
comp=Z,1µm,2.6s,mb6.5
OBN MLR MLR
comp=Z,2µm,24.0s,MS5.3
YLV Yalova 67.80 312 *e*P **P** **08 13 43.5 -0.7**
GEMT Gemlik 67.90 311 *e*P **P** **08 13 44.1 -0.8**
KULA Kula-Manisa 67.92 309 *e*P **P** **08 13 44.8 -0.2**
ARG Arkhangelos 67.92 307 *e*P **P** **08 13 46.0 +1.0**
YER Yerkesik 67.95 308 *e*P **P** **08 13 44.6 -0.7**
SKR Severo-Kuril's 68.05 37 *e*P **P** **08 13 42.0 -3.6**
SKR *e* pP 08 13 51.0 -4.9
SKR *e* pP 08 13 53.5 -2.4
SKR *e*S S 08 23 06.0 +23
SKR *e*PS 08 23 25.0
SKR *e* 08 23 32.0
SKR pmax pmax
comp=N,270nm,1.0s
SKR pmax pmax
comp=E,220nm,1.0s
SKR pmax pmax
comp=Z,670nm,1.0s,mb6.6
SKR pmax pmax
comp=Z,5µm,3.0s
SKR smax
comp=E,4µm,10.0s
SKR MLR MLR
comp=N,4µm,16.0s,MS6.0
SKR MLR MLR
comp=E,5µm,16.0s,MS6.0
SKR MLR MLR
comp=Z,8µm,16.0s,MS6.1
ISK Istanbul-Kandi 68.13 312 *e*P **P** **08 13 45.8 -0.5**
DST Dursunbey 68.15 311 *e*P **P** **08 13 46.5 0.0**
KLYT Kilyos 68.19 312 *e*P **P** **08 13 46.3 -0.3**
AYDN Tasoluk 68.36 308⇑*i*P **P** **08 13 47.6 -0.2**
MLSB Milas 68.38 308 *e*P **P** **08 13 46.8 -1.1**
DAT Datca 68.44 307 *e*P **P** **08 13 47.3 -1.0**
KARP Karpathos 68.58 306 *e*P **P** **08 13 44.0 -5.2**
BDRM Kayabasi 68.60 308⇑*i*P **P** **08 13 47.8 -1.6**
ELBA Catalca 68.62 312⇑*i*P **P** **08 13 48.2 -1.1**
AKHS Akhisar 68.64 310⇑*i*P **P** **08 13 49.3 -0.2**
AKS Akhisar 68.64 310 *e*P **P** **08 13 49.6 +0.1**
BODT Bodrum 68.71 308 *e*P **P** **08 13 49.2 -0.7**
BALB Balikesir 68.73 310 *e*P **P** **08 13 49.9 -0.2**
MA2 Magadan 68.77 27 *e*P **P** **08 13 49.7 -0.2**
comp=Z,278nm,1.0s,mb6.1
MA2 LR LR
comp=Z,3µm,19.0s,MS5.5
MA2 Magadan 68.77 27*c i*P **P** **08 13 49.6 -0.3**
MA2 *e* 08 14 10.5
MA2 *e* 08 16 23.1
MA2 *e*S S 08 22 49.8 -1.2
MA2 *e*PS 08 23 12.5
MA2 *e* 08 23 32.6
MA2 pmax pmax
comp=Z,500nm,1.2s,mb6.3
MA2 pmax pmax
comp=N,200nm,1.3s
MA2 MLR MLR
comp=Z,12µm,18.2s,MS6.2
BNT Bandirma 68.84 311 *e*P **P** **08 13 51.3 +0.6**
LSZ Lusaka 68.89 251 *e*P **P** **08 13 51.6 +0.1**
comp=Z,418nm,2.2s,mb6.0
LSZ LR LR
comp=Z,10µm,20.0s,MS6.1
LSZ Lusaka 68.89 251 *e*P **P** **08 13 51.6 +0.1**
LSZ pmax pmax

comp=Z,419nm,2.2s,mb6.0
LSZ MLR MLR
comp=Z,10μm,20.0s,MS6.1
LSZ Lusaka 68.89 251 P **P** **08 13 52.6 +1.1**
SNR=13
LSZ Lusaka 68.89 251 P **P** **08 13 52.6 +1.1**
SNR=13
KDAG Bornova 68.97 309⇑*i*P **P** **08 13 51.8 +0.2**
SMG Samos 69.19 308 *e*P **P** **08 13 52.0 -0.9**
ZKR Zakros 69.28 305 P **P** **08 13 53.8 +0.2**
TIRR Tirgusor 69.35 316 ⇑P **P** **08 13 53.3 -0.6**
TIRR Tirgusor 69.35 316 P **P** **08 13 53.6 -0.2**
TIRR Tirgusor 69.35 316⇑*i*P **P** **08 13 53.3 -0.5**
SART Tekirdag 69.45 311⇑*i*P **P** **08 13 53.7 -0.8**
RKY Sarkoy-Tekirda 69.45 311 *e*P **P** **08 13 53.8 -0.7**
URLA Izmir 69.48 309⇑*i*P **P** **08 13 54.8 +0.1**
AYVA Ayvalik 69.57 310⇑*i*P **P** **08 13 54.9 -0.4**
TIXI Tiksi 69.59 11 *e*P **P** **08 13 53.5 -1.3**
comp=Z,557nm,1.1s,mb6.4
TIXI LR LR
comp=Z,9μm,20.0s,MS6.0
TIXI Tiksi 69.59 11*c i*P **P** **08 13 53.5 -1.2**
TIXI *e* 08 16 24.3
TIXI *e*S S 08 22 53.4 -6.9
TIXI *i* SS SS 08 27 23.1 -5.3
TIXI pmax pmax
comp=Z,892nm,1.5s,mb6.5
TIXI smax
comp=N,206nm,7.4s
TIXI smax
comp=E,193nm,7.7s
TIXI MLR MLR
comp=Z,10μm,20.0s,MS6.0
TIXI MLR MLR
comp=N,5μm,19.0s,MS5.9
TIXI MLR MLR
comp=E,4μm,18.0s,MS5.9
KIS Kishinev 69.68 318α *i*P **P** **08 13 53.0 -2.8**
KIS *e* 08 14 14.0
KIS *e* 08 16 30.0
KIS *e* 08 18 16.0
KIS *e*S S 08 22 55.0 -7.3
KIS *e* 08 23 20.0
KIS *e*PS 08 23 50.0
KIS pmax pmax
comp=Z,800nm,2.0s,mb6.3
KIS pmax pmax
comp=Z,2μm,4.0s
KIS MLR MLR
comp=Z,2μm,17.0s,MS5.3
KIS Kishinev 69.68 318⇑*i*P **P** **08 13 53.0 -2.8**
comp=Z,800nm,2.0s,mb6.3
KIS Kishinev 69.68 318 *e*PcP PcP 08 14 14.0 -4.5
KIS *e*S S 08 22 55.0 -7.3
HARR Harsova 69.74 316 ⇓P **P** **08 13 56.8 +0.6**
HARR Harsova 69.74 316 ⇓*i*P **P** **08 13 56.8 +0.6**
NPS Neapolis 69.79 306 *e*P **P** **08 13 56.0 -0.7**
PRD Provadia 69.79 314 *i* P **P** **08 13 56.2 -0.4**
LAST Lasithi 69.89 305 P **P** **08 13 57.6 +0.3**
EZN Ezine 69.94 310 *e*P **P** **08 13 57.4 -0.2**
EDRB Edirne 70.00 313 *e*P **P** **08 13 57.4 -0.4**
SANT Santorini 70.07 307 P **P** **08 13 57.6 -0.8**
APE Apeiranthos 70.11 307 ⇑P **P** **08 13 58.2 -0.5**
APE Apeiranthos 70.11 307⇑*i*P **P** **08 13 58.2 -0.5**
BOZC Bozcaada 70.15 310⇑*i*P **P** **08 13 58.5 -0.3**
ENEZ Enez 70.23 311 *e*P **P** **08 13 58.8 -0.5**
JMB Yambol 70.23 313 P **P** **08 13 59.2 -0.1**
JMB Yambol 70.23 313 *i* P **P** **08 13 59.4 +0.1**
PET Petropavlovsk 70.29 35 *e*P **P** **08 13 58.8 -0.6**
comp=Z,96nm,0.7s,mb5.8
PET LR LR
comp=Z,4μm,20.0s,MS5.7
PET Petropavlovsk 70.29 35α *i*P **P** **08 13 58.2 -1.2**
PET *e* 08 16 37.4
PET *e*PPP 08 18 09.8
PET *e*S S 08 23 06.5 -2.6
PET *e*PS 08 23 32.0
PET pmax pmax
comp=Z,2μm,4.1s
PET pmax pmax
comp=Z,212nm,0.9s,mb6.1
PET pmax pmax
comp=Z,1μm,13.5s
PET pmax pmax
comp=Z,500nm,9.9s
PET pmax pmax
comp=Z,900nm,16.0s
PET MLR MLR
comp=Z,5μm,20.0s,MS5.8
PET MLR MLR
comp=Z,4μm,14.0s
GADA Gvkgeada 70.33 311 *e*P **P** **08 13 59.3 -0.6**
ALN Alexandroupoli 70.34 311 P **P** **08 13 59.6 -0.4**
AKASG Malin Array Be 70.40 322 P **P** **08 13 58.4 -1.7**
AKASG PP PP 08 16 34.6 -1.6
AKASG S S 08 23 04.3 -6.2
AKASG P'P' 08 41 58.5
AKASG Malin Array Be 70.40 322 P **P** **08 13 58.4 -1.7**
AKASG 08 16 34.6
AKASG S S 08 23 04.3 -6.2
AKASG pmax pmax
comp=Z,44nm,0.6s
AKASG pmax pmax
comp=Z,5.0nm,0.8s
AKASG Malin Array Be 70.40 322 P **P** **08 13 58.4 -1.7**
comp=Z,44nm,0.6s,mb5.6,baz=94,slow=4.7,SNR=172
AKASG PP PP 08 16 34.6 -1.6
comp=Z,5.2nm,0.8s,baz=99,slow=7.2,SNR=6.1
AKASG S S 08 23 04.3 -6.2
comp=Z,0.1nm,0.3s,baz=100,slow=10,SNR=9.3
AKASG PKPPKP 08 41 58.5
comp=Z,0.2nm,0.2s,baz=282,slow=3.4,SNR=9.0
AKBB Malin Array Si 70.40 322 *e*P **P** **08 13 58.7 -1.4**
AKBB Malin Array Si 70.40 322 P **P** **08 13 58.1 -2.0**
SIVA Sivas 70.41 305 P **P** **08 14 00.8 +0.3**
RDO Rodhopi 70.76 312 *e*P **P** **08 14 01.5 -1.0**
LIA Limnos Island 70.82 310 *e*P **P** **08 14 00.5 -2.4**
VRI Vrincioaia 70.83 317 ⇑P **P** **08 14 03.2 +0.4**
VRI Vrincioaia 70.83 317 P **P** **08 14 03.5 +0.7**
VRI Vrincioaia 70.83 317⇑*i*P **P** **08 14 03.2 +0.4**
SZH Strazhica 70.86 314 *i* P **P** **08 14 03.0 -0.1**
PLOR Plostina 70.88 317 P **P** **08 14 03.6 +0.5**
PLOR Plostina 70.88 317⇑*i*P **P** **08 14 03.5 +0.4**
DIM Dimitrovgrad 70.92 313 *i* P **P** **08 14 03.0 -0.5**
KDZ Kurdzhali 70.94 312 *i* P **P** **08 14 03.5 -0.1**
VAM Vamos 70.95 305 *e*P **P** **08 14 04.0 +0.2**
GVD Gavdhos 70.98 305 P **P** **08 14 03.8 -0.2**
BUC1 Bucharest 71.00 315 P **P** **08 14 05.1 +1.2**
SEY Seymchan 71.00 24⇑*i*P **P** **08 14 02.9 -0.7**
TMCR Tamitsa 71.10 337⇓*i*P **P** **08 14 04.1 0.0**
TMCR *e* 08 16 40.6
TMCR pmax pmax
comp=Z,309nm,1.3s,mb6.1
PVL Pavlikeni 71.28 314 *i* P **P** **08 14 06.2 +0.6**
MLR Muntele Rosu 71.28 316 P **P** **08 14 05.9 +0.3**
MLR S S 08 23 17.7 -3.3
MLR pmax pmax
comp=Z,138nm,0.9s
MLR smax
comp=N,1.0nm,0.4s
MLR Muntele Rosu 71.28 316 P **P** **08 14 05.9 +0.3**
comp=N,138nm,0.9s,mb5.9,baz=79,slow=1.7,SNR=112
MLR S S 08 23 17.7 -3.3
comp=N,1.3nm,0.4s,baz=144,slow=22,SNR=9.4
MLR Muntele Rosu 71.28 316⇑*i*P **P** **08 14 06.0 +0.4**
ZIMR 71.33 314 P **P** **08 14 06.1 +0.1**
PLD Plovdiv 71.54 313 P **P** **08 14 06.8 -0.5**
PLD Plovdiv 71.54 313 *i* P **P** **08 14 06.6 -0.6**
ATH Athens Observa 71.67 308 *e*P **P** **08 14 07.0 -1.1**
MIR Mirnyy 71.75 181⇓*i*P **P** **08 14 09.0 +1.1**
MIR *i* 08 14 26.5
MIR pmax pmax
comp=Z,300nm,1.7s,mb6.0
OUR Ouranopolis 71.80 311 P **P** **08 14 09.3 +0.5**
NVR Nevrokopi 72.04 312 *e*P **P** **08 14 09.5 -0.8**
VLI Veliai 72.13 307 *e*P **P** **08 14 08.5 -2.4**
MMB Musomiste 72.18 312 *i* P **P** **08 14 10.6 -0.5**
SRS Serrai 72.21 311 P **P** **08 14 10.2 -1.0**
PLG Polygyros 72.21 311 P **P** **08 14 10.6 -0.7**
PLG Polygyros 72.21 311 *e*P **P** **08 14 10.0 -1.3**
XOR Xorichti 72.26 310 P **P** **08 14 10.5 -1.1**
LKR Lokris 72.32 309 P **P** **08 14 10.0 -2.0**
LKR Lokris 72.32 309 *e*P **P** **08 14 10.0 -2.0**

SOH Sokhos 72.34 311 P **P** **08 14 12.6 +0.5**
CASY Casey 72.40 173 *e*P **P** **08 14 12.3 +0.5**
CASY LR LR
comp=Z,6μm,20.0s,MS5.9
HORT Hortiatis 72.50 311 P **P** **08 14 11.9 -1.1**
CRAR CRAIOVA 72.56 315 P **P** **08 14 14.5 +1.2**
THE Thessaloniki 72.61 311 P **P** **08 14 12.5 -1.1**
PUL Pulkovo 72.62 331⇑*e*P **P** **08 14 14.3 +1.0**
KKB Krupnik 72.69 312 *i* P **P** **08 14 13.2 -1.0**
VTS Vitosha 72.71 313 P **P** **08 14 14.1 -0.1**
VTS Vitosha 72.71 313⇑*i*P **P** **08 14 13.9 -0.3**
VTS Vitosha 72.71 313 *i* P **P** **08 14 13.7 -0.5**
KNT Kendrikon 72.73 311 P **P** **08 14 13.5 -0.9**
AGG Agios Georgios 72.88 309 P **P** **08 14 13.1 -2.2**
LIT Litokhoron 72.89 310 P **P** **08 14 14.1 -1.3**
ITM Ithomi 72.98 307 *e*P **P** **08 14 14.5 -1.5**
THL Klokotos Trika 73.19 310 *e*P **P** **08 14 14.0 -3.2**
EVR Evrytania 73.27 309 *e*P **P** **08 14 15.5 -2.1**
JOF Joensuu 73.30 335 *e*p **P** **08 14 16.9 -0.4**
comp=Z,24nm,0.5s,mb5.4
JOF Joensuu 73.30 335 *e*p PP 08 17 00.4 -0.3
comp=Z,21nm,0.8s
JOF Joensuu 73.30 335 *e*P **P** **08 14 16.9 -0.4**
JOF pmax pmax
comp=Z,24nm,0.5s,mb5.4
STIP Stip 73.33 312 *e*P **P** **08 14 17.3 -0.7**
LVV L'vov 73.43 320 *i* P **P** **08 14 17.9 -0.4**
RLS Riolos of Patr 73.44 308 *e*P **P** **08 14 18.0 -0.7**
GZR Gura Zlata 73.46 316 ⇑P **P** **08 14 19.0 +0.4**
GZR Gura Zlata 73.46 316 P **P** **08 14 18.8 +0.2**
GZR Gura Zlata 73.46 316⇑*i*P **P** **08 14 19.0 +0.4**
KZN Kozani 73.47 310 *e*P **P** **08 14 17.5 -1.3**
LBTB Lobatse 73.47 242 *e*P **P** **08 14 19.9 +0.8**
comp=Z,119nm,1.0s,mb5.8
LBTB LR LR
comp=Z,8μm,21.0s,MS6.0
LBTB Lobatse 73.47 242 *e*P **P** **08 14 19.9 +0.8**
LBTB pmax pmax
comp=Z,119nm,1.0s,mb5.8
LBTB MLR MLR
comp=Z,8μm,21.0s,MS6.0
DRGR 73.73 317 ⇑P **P** **08 14 20.4 +0.2**
DRGR 73.73 317⇑*i*P **P** **08 14 20.4 +0.2**
MEV Metsovon 73.82 310 P **P** **08 14 20.8 -0.1**
FNA Florina 73.82 311 P **P** **08 14 19.2 -1.7**
BIA Bitola 73.89 311 *e*P **P** **08 14 19.8 -1.4**
SKO Skopje 73.92 312 P **P** **08 14 20.5 -0.9**
SKO Skopje 73.92 312⇑*i*P **P** **08 14 20.4 -1.0**
VSU Vasula 73.97 330⇓*e*P **P** **08 14 21.1 -0.2**
KRUS Krusevo 73.99 311⇑*i*P **P** **08 14 20.8 -1.0**
JAN Janina 74.09 310 *e*P **P** **08 14 21.5 -1.0**
VLS Valsamata 74.14 308 P **P** **08 14 21.6 -1.1**
VLS Valsamata 74.14 308 *e*P **P** **08 14 21.0 -1.8**
LKD Levkas 74.15 309 P **P** **08 14 22.1 -0.7**
KWP Kalwaria 74.23 320 *i* P **P** **08 14 23.2 +0.2**
comp=Z,1μm,1.6s,mb6.6
KWP *e*pP pP 08 14 29.8 -3.7
KWP *e*S S 08 23 50.3 -4.1
KWP *e*SKS 08 24 29.2
KWP LMZ 08 49 03.6
comp=Z,1μm,24.9s
KWP Kalwaria 74.23 320⇑*i*P **P** **08 14 23.2 +0.2**
KWP *e*pP pP 08 14 29.8 -3.6
KWP *e*S S 08 23 50.3 -4.2
KWP *e*SKS 08 24 29.2
KWP Kalwaria 74.23 320⇑*i*P **P** **08 14 23.2 +0.2**
KWP *e*'PP pP 08 14 29.8 -3.6
KWP *e*S S 08 23 50.3 -4.2
KWP *e* 08 24 29.2
KWP pmax pmax
comp=Z,1μm,1.6s,mb6.6
KWP MLR MLR
comp=Z,1μm,24.9s,MS5.2
KWP Kalwaria 74.23 320⇑*i*P **P** **08 14 23.1 +0.1**
KBN Korca 74.25 311 *e*PN **P** **08 14 22.7 -0.6**
OHR Ohrid 74.30 311 P **P** **08 14 21.4 -2.2**
OHR Ohrid 74.30 311⇑*i*P **P** **08 14 21.4 -2.2**
BZS Buzias 74.30 316 ⇓P **P** **08 14 23.2 -0.4**
BZS Buzias 74.30 316⇓*i*P **P** **08 14 23.2 -0.3**
UZH Uzhgorod 74.33 319⇓*i*P **P** **08 14 23.2 -0.4**
UZH *e* 08 14 39.2
UZH *e*S S 08 23 53.0 -2.5
UZH *e*PS 08 24 40.0
UZH *e*SS SS 08 28 40.0 -1.8
APA Apatity 74.34 340⇓*i*P **P** **08 14 23.4 +0.1**
APA *i* 08 14 38.0
APA *i* 08 17 11.3
APA *e*S S 08 23 51.0 -4.1
APA pmax pmax
comp=Z,350nm,1.4s,mb6.1
APA pmax pmax
comp=Z,1μm,10.0s
KOLS Kolonicke sedl 74.39 319 *e*P **P** **08 14 24.4 +0.4**
PHP Peshkopia 74.63 312 *e*PN **P** **08 14 23.6 -1.9**
BOSA Boshof 74.67 239 *e*P **P** **08 14 26.2 +0.3**
comp=Z,114nm,1.0s,mb5.8
BOSA *e*pP pP 08 14 35.9 -0.5
BOSA LR LR
comp=Z,5μm,22.0s,MS5.7
BOSA Boshof 74.67 239 P **P** **08 14 26.3 +0.3**
BOSA S S 08 23 58.6 -1.5
BOSA pmax pmax
comp=Z,18nm,0.6s,mb5.2
BOSA smax
comp=N,4.0nm,1.1s
BOSA Boshof 74.67 239 P **P** **08 14 26.3 +0.3**
comp=N,18nm,0.6s,mb5.2,baz=65,slow=6.9,SNR=19
BOSA S S 08 23 58.5 -1.5
comp=N,4.1nm,1.1s,baz=293,slow=18,SNR=2.4
BOSA LR LR 08 41 40.2
comp=N,4μm,21.4s,MS5.7,baz=70,slow=31
SUW Suwalki 74.80 325 *i* P **P** **08 14 25.5 -0.8**
comp=N,1μm,1.5s,mb6.6
SUW *e*S S 08 23 54.5 -6.2
SUW *e*SKS 08 24 27.5
SUW LMZ 08 48 46.1
comp=N,2μm,25.9s
SUW Suwalki 74.80 325⇑*i*P **P** **08 14 25.5 -0.7**
SUW *e*S S 08 23 54.5 -6.1
SUW *e*SKS 08 24 27.5
SUW Suwalki 74.80 325⇑*i*P **P** **08 14 25.5 -0.7**
SUW *e*S S 08 23 54.5 -6.1
SUW *e* 08 24 27.5
SUW pmax pmax
comp=Z,1μm,1.5s,mb6.6
SUW MLR MLR
comp=Z,2μm,25.9s,MS5.2
KEK Kerkira 74.91 310 *e*P **P** **08 14 25.5 -1.7**
CRVS Cervenica-Dubn 74.91 319 *e*P **P** **08 14 28.1 +1.1**
CRVS Cervenica-Dubn 74.91 319 *e*P **P** **08 14 28.0 +1.0**
TIR Tirane 75.02 311 P **P** **08 14 26.6 -1.2**
TIR Tirane 75.02 311 *e*PN **P** **08 14 28.2 +0.4**
PUK Puka 75.08 312 *e*PN **P** **08 14 26.5 -1.6**
PVY Plav 75.08 313⇑*i*P **P** **08 14 27.6 -0.5**
FIA1 FINESS Array S 75.13 332 *e*P **P** **08 14 27.2 -0.7**
FINES FINESS Array B 75.13 332 P **P** **08 14 27.2 -0.8**
FINES S S 08 23 58.9 -5.2
FINES pmax pmax
comp=Z,16nm,0.5s
FINES smax
comp=N,2.0nm,0.9s
FINES MLR MLR
comp=Z,2μm,21.3s
FINES FINESS Array B 75.13 332 P **P** **08 14 27.2 -0.8**
comp=Z,16nm,0.5s,mb5.2,baz=104,slow=7.4,SNR=64
FINES S S 08 23 58.9 -5.1
comp=Z,2.2nm,0.9s,baz=348,slow=18,SNR=3.5
FINES LR LR 08 51 39.4
comp=Z,2μm,21.3s,MS5.4,baz=271,slow=39
STHS Stebnicka Huta 75.14 320 *e*P **P** **08 14 28.8 +0.5**
comp=Z,63nm,1.8s,mb5.2
STHS Stebnicka Huta 75.14 320 *e*P **P** **08 14 28.8 +0.5**
STHS pmax pmax
comp=Z,63nm,1.8s,mb5.2
IVA Berane 75.17 313⇑*i*P **P** **08 14 27.9 -0.7**
KECS Kecovo 75.49 319 *e*P **P** **08 14 30.3 0.0**
comp=Z,23nm,1.5s,mb4.9
KECS Kecovo 75.49 319 *e*P **P** **08 14 30.3 0.0**
KECS pmax pmax
comp=Z,23nm,1.5s,mb4.9
ULC Ulcinj 75.55 312⇑*i*P **P** **08 14 30.0 -0.8**
PLE Pljevlja 75.58 313⇑*i*P **P** **08 14 31.2 +0.2**
TTG Podgorica 75.59 312⇑*i*P **P** **08 14 29.6 -1.4**

NIE Niedzica 75.74 320 *e*P **P** **08 14 32.3 +0.6**
NIE e 08 14 52.7
NIE Niedzica 75.74 320 *e*P **P** **08 14 32.3 +0.6**
NIE *e* 08 14 52.7
WAR Warsaw 75.74 323 *e*P **P** **08 14 31.8 +0.1**
WAR *e*S S 08 24 08.6 -2.5
WAR *e*SKS 08 24 43.1
WAR LMZ 08 52 36.4
comp=Z,2μm,22.2s
PSZ Piszkesteto 75.80 318 *e*P **P** **08 14 32.1 0.0**
comp=Z,638nm,1.5s,mb6.3
PSZ Piszkesteto 75.80 318 *e*P **P** **08 14 32.2 +0.1**
PSZ pmax pmax
comp=Z,638nm,1.5s,mb6.3
PSZ Piszkesteto 75.80 318⇓*i*P **P** **08 14 32.1 0.0**
NKY Niksic 75.82 313⇑*i*P **P** **08 14 31.5 -0.8**
BUM Brajici-Budva 75.84 312⇑*i*P **P** **08 14 31.9 -0.6**
UPM Unac-Piva 75.92 313⇑*i*P **P** **08 14 31.9 -1.0**
HCY Herceg Novi 76.15 312⇑*i*P **P** **08 14 33.2 -1.0**
BRY Bratogost 76.16 313⇑*i*P **P** **08 14 33.3 -1.0**
OJC Ojcow 76.18 320 *e*P **P** **08 14 34.3 0.0**
OJC *e*S S 08 24 12.1 -4.0
OJC L 08 55 10.7
comp=Z,0.7nm,20.6s
OJC Ojcow 76.18 320 *e*P **P** **08 14 34.3 0.0**
OJC *e*S S 08 24 12.1 -4.0
MAW Mawson 76.19 192 *e*P **P** **08 14 35.0 +1.1**
comp=Z,6.3nm,0.6s
MAW *e*pP pP 08 14 44.4 +0.1
MAW *e*S S 08 24 15.8 +0.4
MAW Mawson 76.19 192 P **P** **08 14 34.8 +0.9**
MAW S S 08 24 13.3 -2.1
MAW pmax pmax
comp=Z,5.0nm,0.7s
MAW smax
comp=N,2.0nm,0.9s
MAW pmax pmax
comp=Z,10.0nm,1.2s
MAW Mawson 76.19 192 P **P** **08 14 34.8 +1.0**
comp=Z,5.2nm,0.7s,baz=45,slow=5.8,SNR=10.0
MAW S S 08 24 13.3 -2.1
comp=Z,1.9nm,0.9s,baz=260,slow=13,SNR=2.1
MAW PKPPKP 08 41 51.9
comp=Z,10nm,1.2s,baz=256,slow=18,SNR=3.3
MAW LR LR 08 45 01.0
comp=Z,3μm,18.0s,MS5.6,baz=11,slow=33
BUD Budapest 76.33 317⇑*e*P **P** **08 14 35.0 -0.1**
PKSM Moragy 76.44 316⇑*i*P **P** **08 14 35.6 -0.2**
VYHS Vyhne 76.58 318 *e*P **P** **08 14 36.6 +0.1**
comp=Z,294nm,1.7s,mb5.9
VYHS Vyhne 76.58 318 *e*P **P** **08 14 36.6 +0.1**
VYHS pmax pmax
comp=Z,295nm,1.7s,mb5.9
KOLL Kolacno 76.87 319 *e*P **P** **08 14 39.5 +1.3**
OKC Ostrava-Krasne 77.19 320⇑*i*P **P** **08 14 40.1 +0.2**
OKC *e*S S 08 24 22.4 -4.7
OKC AMS AMS 08 50 40.0
comp=Z,800nm,21.9s,MS5.0
RAC Raciborz 77.19 320 *e*P **P** **08 14 40.6 +0.7**
RAC *e*S S 08 24 21.9 -5.2
RAC LR LR
comp=Z,1μm,22.9s,MS5.2
TIP Timpagrande 77.21 309 *e*P **P** **08 14 40.4 0.0**
comp=Z,351nm,1.6s,mb6.0
KEV Kevo 77.34 341 *e*p **P** **08 14 39.9 -0.5**
comp=Z,126nm,0.8s,mb5.9
KEV Kevo 77.34 341 P **P** **08 14 40.6 +0.2**
KEV pmax pmax
comp=Z,170nm,1.0s,mb5.9
MORC Moravsky Berou 77.57 320 ⇑P **P** **08 14 42.6 +0.5**
MORC Moravsky Berou 77.57 320⇑*i*P **P** **08 14 42.5 +0.4**
MODS Modra-Piesok 77.59 318 *e*P **P** **08 14 42.7 +0.5**
comp=Z,530nm,1.9s,mb6.2
MODS Modra-Piesok 77.59 318 *e*P **P** **08 14 42.7 +0.5**
MODS pmax pmax
comp=Z,530nm,1.9s,mb6.2
MODS Modra-Piesok 77.59 318 *e*P **P** **08 14 42.7 +0.5**
MODS *e* 10 45 31.2
ZST Bratislava 77.69 318 *e*P **P** **08 14 43.3 +0.5**
comp=Z,470nm,1.1s,mb6.3
ZST Bratislava 77.69 318 *e*P **P** **08 14 43.3 +0.5**
ZST pmax pmax
comp=Z,470nm,1.1s,mb6.3
ZST Bratislava 77.69 318 *e*P **P** **08 14 43.3 +0.5**
ZST *e* 10 02 48.0
ARCES ARCESS Array B 77.77 340 P **P** **08 14 42.5 -0.3**
ARCES 08 17 37.5
ARCES S S 08 24 29.9 -2.8
ARCES pmax pmax
comp=Z,94nm,1.0s
ARCES pmax pmax
comp=Z,49nm,1.1s
ARCES smax
comp=N,4.0nm,0.9s
ARCES MLR MLR
comp=Z,3μm,21.0s
ARCES ARCESS Array B 77.77 340 P **P** **08 14 42.5 -0.3**
comp=Z,94nm,0.9s,mb5.7,baz=93,slow=5.7,SNR=72
ARCES PP PP 08 17 37.5 -0.9
comp=Z,48nm,1.1s,baz=125,slow=8.9,SNR=6.3
ARCES S S 08 24 29.9 -2.8
comp=Z,4.4nm,0.9s,baz=16,slow=18,SNR=3.0
ARCES LR LR 08 52 16.3
comp=Z,3μm,21.0s,MS5.5,baz=112,slow=38
ARE0 ARCESS Array S 77.77 340 *e*P **P** **08 14 43.1 +0.3**
ARE0 *e*PP PP 08 17 40.1 +1.7
SOP Sopron 78.01 317⇑*e*P **P** **08 14 44.8 +0.2**
KOGS Kog 78.11 316 *e*P **P** **08 14 45.3 +0.1**
VRAC Vranov 78.14 319 ⇑P **P** **08 14 45.5 +0.2**
VRAC Vranov 78.14 319 P **P** **08 14 45.4 +0.2**
VRAC pmax pmax
comp=Z,27nm,0.7s
VRAC Vranov 78.14 319 P **P** **08 14 45.4 +0.1**
comp=Z,27nm,0.7s,mb5.3,baz=106,slow=5.4,SNR=54
VRAC Vranov 78.14 319⇑*i*P **P** **08 14 45.5 +0.3**
GKP Gorka Klasztor 78.17 323 *i* P **P** **08 14 45.0 -0.3**
comp=Z,800nm,1.4s,mb6.5
GKP *e*S S 08 24 32.6 -5.0
GKP *e*SKS 08 25 00.2
GKP LMZ 08 46 28.1
comp=Z,2μm,32.2s
GKP Gorka Klasztor 78.17 323⇑*i*P **P** **08 14 45.0 -0.3**
comp=Z,0.8nm,1.4s
GKP *e*S S 08 24 32.6 -5.0
GKP *e*SKS 08 25 00.2
GKP LR LR
comp=Z,2μm,32.2s,MS5.3
BILL Bilibino 78.23 21 *e*P **P** **08 14 44.2 -1.2**
comp=Z,404nm,1.5s,mb6.1
BILL LR LR
comp=Z,12μm,19.0s,MS6.2
BILL Bilibino 78.23 21*c i*P **P** **08 14 44.3 -1.1**
BILL *e*S S 08 24 37.7 0.0
BILL pmax pmax
comp=Z,348nm,1.8s,mb6.0
BILL MLR MLR
comp=Z,10μm,17.0s,MS6.2
KTK1 Kautokeino 78.39 340 *e*P **P** **08 14 46.8 +0.6**
DPC Dobruska-Polom 78.41 320⇑*i*P **P** **08 14 47.4 +0.6**
DPC AMS AMS 08 56 10.0
comp=Z,1μm,22.0s,MS5.1
KSP Ksiaz 78.48 321 *i* P **P** **08 14 47.9 +0.8**
comp=Z,2μm,2.0s,mb6.7
KSP LMZ 08 52 58.6
comp=Z,2μm,24.9s
KSP Ksiaz 78.48 321⇑*e*P **P** **08 14 47.5 +0.4**
KSP *e*pP pP 08 14 55.6 -2.0
KSP *e*S S 08 24 28.0 -13
KSP Ksiaz 78.48 321⇑*e*P **P** **08 14 47.5 +0.4**
KSP *e*'PP pP 08 14 55.6 -2.0
CONA Conrad Observa 78.50 318 *i* P **P** **08 14 47.3 0.0**
comp=Z,1μm,2.5s,mb6.4,SNR=23
FG2 Serracapriola 78.58 311 P **P** **08 14 48.8 +0.9**
comp=Z,685nm,1.5s,mb6.4
CRES Cresnjev 78.61 316 *e*P **P** **08 14 47.9 0.0**
CRES *e* 08 15 08.2
CRES *e* 08 15 42.0
CESS Cesta pri Krsk 78.62 316 *e*P **P** **08 14 48.2 +0.2**
UPC Upice 78.63 320⇑*i*P **P** **08 14 48.4 +0.5**
UPC *e*pP pP 08 15 04.3 +5.9
ARSA Arzberg 78.67 317 *i* P **P** **08 14 48.6 +0.3**
comp=Z,2μm,2.1s,mb6.6,SNR=26
BOJS Bojanci 78.73 315 *e*P **P** **08 14 48.5 -0.1**
BOJS *e* 08 15 08.8

BOJS eS S 08 24 34.6 -9.3
TREC Trest 78.86 319⇑iP P 08 14 49.4 +0.2
NVLJ Novalja 78.94 314 P P 08 14 48.6 -1.2
VAE Valguarnera 78.98 307 P P 08 14 52.0 +1.9
comp=Z,30nm,0.6s,mb5.4,baz=115,slow=3.7,SNR=19
VAE S S 08 24 48.1 +1.2
comp=Z,19nm,0.3s,baz=345,slow=19,SNR=1.8
CSLB Castelbuono 79.27 307 P P 08 14 51.7 -0.1
comp=Z,323nm,1.7s,mb6.0
LJU Ljubljana 79.27 316 eP P 08 14 51.9 +0.4
LJU eS S 08 24 44.5 -5.2
OBKA Obir 79.29 316 iP P 08 14 52.0 +0.4
comp=Z,2μm,2.1s,mb6.6,SNR=36
SUR Sutherland 79.31 236 eP P 08 14 53.9 +1.9
comp=Z,38nm,0.7s,mb5.4
SUR LR LR
comp=Z,3μm,20.0s,MS5.7
CEY Cerknica 79.33 315 eP P 08 14 51.5 -0.4
SMY Shemya 79.39 37 eP P 08 14 51.8 -0.2
comp=Z,866nm,1.0s,mb6.6
SMY LR LR
comp=Z,2μm,23.0s,MS5.3
SMY Shemya 79.39 37 eP P 08 14 51.8 -0.2
SMY pmax pmax
comp=Z,866nm,1.0s,mb6.6
SMY MLR MLR
comp=Z,2μm,23.0s,MS5.3
PRU Pruhonice 79.52 320⇑iP P 08 14 53.1 +0.3
PRU eS S 08 24 49.3 -2.9
PRU AMS AMS 08 55 10.0
comp=Z,900nm,19.7s,MS5.1
PVCC Panska Ves 79.55 320⇑iP P 08 14 53.3 +0.3
PVCC epP pP 08 15 04.8 +1.4
PVCC AMS AMS 08 55 50.0
comp=Z,1μm,19.6s,MS5.3
MOA Molln 79.56 318 iP P 08 14 52.9 -0.2
comp=Z,826nm,2.1s,mb6.3,SNR=28
TSUM Tsumeb 79.58 249 PFAKE 08 15 10.0 +16
TSUM LR LR
comp=Z,4μm,19.0s,MS5.8
PRA Prague 79.60 320⇑P P 08 14 54.0 +0.7
VOY Vojsko 79.71 316⇑iP P 08 14 53.4 -0.6
BSD Bornholm Skovb 79.72 325⇑iP P 08 14 52.6 -1.2
BSD i S S 08 24 48.2 -5.9
BSD pmax pmax
comp=Z,220nm,1.6s,mb5.8
BSD MLR MLR
comp=Z,2μm,19.0s,MS5.3
BSD Bornholm Skovb 79.72 325⇑iP P 08 14 52.6 -1.2
comp=Z,215nm,1.6s,mb5.8
BSD i 08 15 12.3
BSD iS S 08 24 48.2 -5.9
BSD
comp=Z,1μm,19.0s
AQU L'Aquila 79.91 312 eP P 08 14 55.0 -0.2
comp=Z,756nm,1.6s,mb6.4
AQU L'Aquila 79.91 312 P P 08 14 55.6 +0.5
AQU pmax pmax
comp=Z,760nm,1.6s,mb6.4
AQU L'Aquila 79.91 312⇑iP P 08 14 55.2 +0.1
MYKA Terra Mystica 79.92 316⇓iP P 08 14 55.0 0.0
comp=Z,6μm,2.1s
BRG Berggiesshubel 79.97 321⇑iP P 08 14 55.5 +0.3
comp=Z,373nm,1.8s,mb6.0
BRG e 08 15 12.3
BRG S S 08 24 55.0 -1.8
BRG LR LR
comp=Z,1μm,16.5s,MS5.3
BRG Berggiesshubel 79.97 321⇑iP P 08 14 55.5 +0.3
BRG e 08 15 12.3
BRG S S 08 24 55.0 -1.8
BRG pmax pmax
comp=Z,373nm,1.8s,mb6.0
BRG MLR MLR
comp=Z,1μm,16.5s,MS5.3
BRG Berggiesshubel 79.97 321 eP P 08 14 55.5 +0.3
comp=Z,623nm,1.8s,mb6.2
BRG Berggiesshubel 79.97 321⇑iP P 08 14 55.5 +0.3
comp=Z,623nm,1.8s,mb6.2
BRG e 08 15 12.3
comp=Z,264nm,1.8s
BRG S S 08 24 55.0 -1.8
BRG
comp=Z,2μm,16.5s
BRG
comp=N,885nm,17.2s
BRG
comp=E,2μm,17.2s
USI Ustica 79.98 308 P P 08 14 55.1 -0.5
GEC2 GERESS Array S 80.00 319 eP P 08 14 55.8 +0.4
GEC2 pmax pmax
comp=Z,449nm,1.2s,mb6.3
GEC2 GERESS Array S 80.00 319 eP P 08 14 55.8 +0.4
comp=Z,449nm,1.2s,mb6.3
GERES GERESS Array B 80.00 319 P P 08 14 55.7 +0.3
GERES S S 08 24 53.5 -3.7
GERES LR LR 08 55 25.3
GERES GERESS Array B 80.00 319 P P 08 14 55.7 +0.3
comp=Z,74nm,0.7s,mb5.8,baz=91,slow=5.5,SNR=278
GERES S S 08 24 53.5 -3.7
comp=Z,0.2nm,0.3s,baz=67,slow=24,SNR=3.2
GERES LR LR 08 55 25.3
comp=Z,702nm,20.9s,MS5.0,baz=93,slow=39
TRO Tromso 80.02 340 eP P 08 14 53.0 -2.1
TRO eS S 08 24 55.6 -1.1
TRO AMS AMS 08 53 39.6
comp=Z,2μm,21.0s,MS5.5
KHC Kasperske Hory 80.09 319⇑iP P 08 14 55.9 -0.1
KHC e 08 15 02.5
KHC eS S 08 24 55.1 -3.1
KHC MLR MLR
comp=Z,1μm,18.3s,MS5.2
KHC Kasperske Hory 80.09 319⇑iP P 08 14 55.9 -0.1
KHC pP pP 08 15 02.5 -3.9
KHC eS S 08 24 55.1 -3.1
KHC AMS AMS 08 55 10.0
comp=Z,1μm,18.3s,MS5.2
CING Cingoli 80.10 313 P P 08 14 56.1 0.0
PTCC Patocco-Chiusa 80.11 316 P P 08 14 55.9 -0.2
comp=Z,240nm,0.9s,mb6.1
KBA Koelnbreinsper 80.14 317⇓iP P 08 14 55.8 -0.5
comp=Z,648nm,2.2s,mb6.2,SNR=25
KBA Koelnbreinsper 80.14 317⇓iP P 08 14 55.8 -0.5
KBA pmax pmax
comp=Z,648nm,2.2s,mb6.2
RUE Ruedersdorf 80.18 322 eP P 08 14 56.4 0.0
comp=Z,1μm,1.6s,mb6.6
RUE Ruedersdorf 80.18 322 eP P 08 14 56.3 0.0
comp=Z,1μm,1.8s,mb6.5
GMNA Gemona 80.18 316 P P 08 14 56.5 0.0
comp=Z,1μm,1.0s,mb6.7
CERT Cerreto 80.21 312 P P 08 14 55.8 -0.9
FBE Freiberg 80.34 321 eP P 08 14 57.5 +0.2
comp=Z,738nm,1.7s,mb6.3
WET Wettzell 80.55 319 eP P 08 14 58.7 +0.3
WET pmax pmax
comp=Z,706nm,1.9s,mb6.3
WET Wettzell 80.55 319 eP P 08 14 58.7 +0.3
comp=Z,706nm,1.9s,mb6.3
ROM9 Roma 80.56 311 P P 08 14 58.7 +0.1
MURB Monte Urbino 80.58 313 P P 08 14 58.4 -0.3
CLL Collm 80.59 321⇑iP P 08 14 58.2 -0.4
comp=Z,314nm,1.6s,mb6.0
CLL eS S 08 24 59.0 -4.3
CLL LR LR
comp=Z,2μm,21.2s,MS5.3
CLL Collm 80.59 321⇑iP P 08 14 58.2 -0.4
CLL eS S 08 24 59.0 -4.3
CLL pmax pmax
comp=Z,314nm,1.6s,mb6.0
CLL MLR MLR
comp=Z,2μm,21.2s,MS5.3
CLL Collm 80.59 321 eP P 08 14 58.3 -0.3
comp=Z,319nm,1.6s,mb6.0
CLL Collm 80.59 321⇑iP P 08 14 58.2 -0.4
comp=Z,314nm,1.6s,mb6.0
CLL ePIp 08 15 00.0
comp=Z,500nm,24.2s
CLL ex x 08 16 57.0
CLL ePP PP 08 17 51.0 -11
CLL ex x 08 18 27.0
CLL ePPP 08 20 08.0
CLL eS S 08 24 59.0 -4.3
comp=N,1μm,35.5s
CLL eS S 08 24 59.0 -4.3
comp=E,400nm,26.8s
CLL eScS ScS 08 25 18.0 -4.7
CLL ePPS 08 26 04.0
CLL eSS SS 08 30 24.0 +7.9
CLL eSSS 08 33 52.0
CLL e(SSSS) 08 36 04.0
CLL ex x 08 38 29.0
CLL LmV 08 57 00.0
comp=Z,2μm,21.2s
RGN Rugen 80.60 324 eP P 08 14 58.6 +0.1
comp=Z,655nm,1.7s,mb6.3
RGN Rugen 80.60 324 eP P 08 14 58.7 +0.2
comp=Z,751nm,1.8s,mb6.3
ABTA Abfaltersbach 80.70 316 iP P 08 14 58.7 -0.5
comp=Z,617nm,2.1s,mb6.2,SNR=53
HFS Hagfors 80.84 330 P P 08 14 59.6 -0.1
HFS pmax pmax
comp=Z,24nm,0.7s
HFS Hagfors 80.84 330 P P 08 14 59.6 -0.1
comp=Z,24nm,0.7s,mb5.2,baz=107,slow=5.1,SNR=34
TANN Tannenbergstha 80.88 320 eP P 08 15 00.3 +0.1
comp=Z,301nm,1.7s,mb6.0
NKC Novy Kostel 80.88 320⇑iP P 08 15 00.4 +0.2
NKC epP pP 08 15 15.6 +4.9
NKC eS S 08 25 05.0 -1.4
PTS Pantelleria 80.90 306 P P 08 15 00.7 +0.1
comp=Z,960nm,1.8s,mb6.4
PTS Pantelleria 80.90 306 P P 08 15 00.7 +0.1
PTS pmax pmax
comp=Z,960nm,1.8s,mb6.4
WERN Wernitzgruen 80.93 320 eP P 08 15 00.7 +0.3
comp=Z,238nm,1.7s,mb5.8
GUNZ Gunzen 80.96 320 eP P 08 15 00.8 +0.2
comp=Z,324nm,1.6s,mb6.0
BJO Bjornoya 80.97 345 AMS AMS 08 56 09.8
comp=Z,2μm,3.9s
WERD Werda 80.98 320 eP P 08 15 00.7 0.0
comp=Z,317nm,1.6s,mb6.0
ROTZ Rotzenmuhle 81.02 319 eP P 08 15 01.4 +0.5
comp=Z,569nm,1.7s,mb6.2
MANZ Manzenberg 81.09 320 eP P 08 15 01.9 +0.6
comp=Z,503nm,1.5s,mb6.2
MOR8 Moi Rana 81.14 336 eP P 08 15 00.7 -0.5
MOR8 AMb AMB 08 15 02.9
comp=Z,270nm,1.6s,mb5.9
COP Copenhagen 81.18 325⇑iP P 08 15 01.4 -0.2
COP e 08 15 37.9
COP iS S 08 25 07.7 -1.6
COP
comp=Z,580nm,20.0s
WTTA Wattenberg 81.31 317⇑iP P 08 15 02.1 -0.5
comp=Z,965nm,1.8s,mb6.4,SNR=32
WTTA Wattenberg 81.31 317⇑iP P 08 15 02.1 -0.4
WTTA pmax pmax
comp=Z,965nm,1.8s,mb6.4
WATA Walderalm 81.36 317⇑iP P 08 15 02.0 -0.7
comp=Z,254nm,1.3s,mb6.0,SNR=15
WATA Walderalm 81.36 317⇑iP P 08 15 02.0 -0.8
WATA pmax pmax
comp=Z,254nm,1.3s,mb6.0
MOX Moxa 81.43 320 eP P 08 15 03.0 -0.1
comp=Z,508nm,2.0s,mb6.1
MOX
comp=Z,1μm,20.0s
MOX Moxa 81.43 320 eP P 08 15 03.0 -0.1
MOX pmax pmax
comp=Z,508nm,2.0s,mb6.1
MOX MLR MLR
comp=Z,1μm,20.0s,MS5.2
MOX Moxa 81.43 320 eP P 08 15 03.1 0.0
comp=Z,474nm,1.8s,mb6.1
APPI Appiano 81.58 316 P P 08 15 02.9 -1.0
FUR Furstenfeldbru 81.58 318 eP P 08 15 03.6 -0.3
FUR pmax pmax
comp=Z,691nm,1.7s,mb6.3
FUR Furstenfeldbru 81.58 318 eP P 08 15 03.6 -0.3
comp=Z,691nm,1.7s,mb6.3
MAON Monte Argentar 81.59 312 P P 08 15 03.8 -0.3
SQTA Sankt Quirin 81.61 317⇑iP P 08 15 03.6 -0.4
comp=Z,140nm,1.0s,mb5.8,SNR=32
SQTA Sankt Quirin 81.61 317⇑iP P 08 15 03.6 -0.5
SQTA pmax pmax
comp=Z,141nm,1.0s,mb5.8
FNVD Fontana Vidola 81.62 314 P P 08 15 05.1 +0.9
GRA1 Grafenberg Arr 81.66 319 eP P 08 15 04.8 +0.5
comp=Z,561nm,1.5s,mb6.3
GRA1 eS S 08 25 13.6 -0.9
GRA1 LR LR
comp=Z,1μm,20.1s,MS5.3
GRF Grafenberg Arr 81.66 319 eP P 08 15 04.8 +0.5
GRF eS S 08 25 13.6 -0.9
GRF pmax pmax
comp=Z,561nm,1.5s,mb6.3
GRF MLR MLR
comp=Z,1μm,20.1s,MS5.3
GRF Grafenberg Arr 81.66 319 eP P 08 15 04.8 +0.5
GRF eS S 08 25 13.6 -0.9
GRF pmax pmax
comp=Z,561nm,1.5s,mb6.3
GRF MLR MLR
comp=Z,1μm,20.1s,MS5.3
GRF Grafenberg Arr 81.66 319 eP P 08 15 04.8 +0.5
comp=Z,561nm,1.5s,mb6.3
GRF eS S 08 25 13.6 -0.9
GRF eL 08 58 03.7
comp=Z,1μm,20.1s
GRFO Grafenberg 81.66 319 eP P 08 15 04.8 +0.5
comp=Z,646nm,1.7s,mb6.3
GRFO LR LR
comp=Z,1μm,20.0s,MS5.3
GRFO Grafenberg 81.66 319 eP P 08 15 04.8 +0.5
GRFO pmax pmax
comp=Z,646nm,1.7s,mb6.3
GRFO MLR MLR
comp=Z,1μm,20.0s,MS5.3
MOTA Moosalm 81.68 317 iP P 08 15 04.0 -0.5
comp=Z,201nm,1.2s,mb5.9,SNR=36
MOTA Moosalm 81.68 317 iP P 08 15 04.0 -0.5
MOTA pmax pmax
comp=Z,201nm,1.2s,mb5.9
GRFL Gerfalco 81.71 313 P P 08 15 03.9 -0.8
comp=Z,148nm,1.0s,mb5.9
LOF Lofoten 81.72 338 eP P 08 15 07.6 +3.4
LOF AMb AMB 08 15 18.5
comp=Z,313nm,1.6s,mb6.0
RETA Reutte 81.91 317⇑iP P 08 15 05.4 -0.3
comp=Z,1μm,1.9s,mb6.5,SNR=22
FETA Feichten 81.93 317 iP P 08 15 05.6 -0.2
comp=Z,936nm,2.5s,mb6.3,SNR=68
MABI Malga Bissina 82.07 316 P P 08 15 06.6 +0.1
NB2 NORSAR Subarra 82.13 331 P P 08 15 05.4 -1.1
comp=Z,359nm,1.7s,mb6.0,baz=93,slow=5.6
NOA NORSAR Array B 82.13 331 P P 08 15 05.5 -1.1
NOA PP PP 08 18 20.2 +5.5
NOA S S 08 25 14.6 -4.4
NOA LR LR 08 57 22.5
NOA NORSAR Array B 82.13 331 P P 08 15 05.5 -1.0
NOA 08 18 20.3
NOA S S 08 25 14.6 -4.3
NOA pmax pmax
comp=Z,24nm,1.0s
NOA pmax pmax
comp=Z,3.0nm,0.7s
NOA NORSAR Array B 82.13 331 P P 08 15 05.5 -1.1
comp=Z,24nm,1.0s,mb5.1,baz=94,slow=5.4,SNR=21
NOA PP PP 08 18 20.2 +5.5
comp=Z,2.8nm,0.7s,baz=83,slow=7.2,SNR=4.3
NOA S S 08 25 14.6 -4.4
comp=Z,0.3nm,0.7s,baz=338,slow=11,SNR=2.1
NOA LR LR 08 57 22.5
comp=Z,2μm,19.6s,MS5.4,baz=90,slow=40
VLC Villacollemand 82.15 314 eP P 08 15 07.0 0.0
FUORN Ofenpass-Fuorn 82.25 316⇑iPdiff P 08 15 07.8 +0.3
comp=Z,1μm,2.3s,mb6.4
CLZ Clausthal 82.25 321 eP P 08 15 07.4 +0.1
CLZ pmax pmax
comp=Z,492nm,1.7s,mb6.2
CLZ Clausthal 82.25 321 eP P 08 15 07.4 +0.1
comp=Z,492nm,1.7s,mb6.2
NAO01 NORSAR Array S 82.28 331 eP P 08 15 06.2 -1.1
comp=Z,50nm,1.1s,mb5.4
NAO01 LR LR
comp=Z,2μm,20.0s,MS5.4
BSEG Bad Segeberg 82.33 324 eP P 08 15 07.9 +0.2
comp=Z,563nm,1.6s,mb6.2
SPB4 Spitsbergen Ar 82.38 348 eP P 08 15 06.8 -0.7
BERNI Berninapass 82.41 316⇑iPdiff P 08 15 08.9 +0.6
comp=Z,1μm,1.5s,mb6.6
UBBA Unterbreizbach 82.46 320 eP P 08 15 08.5 0.0
comp=Z,474nm,2.1s,mb6.0
DAVOX Davos/Dischmat 82.51 316 P P 08 15 09.0 +0.2
comp=Z,135nm,0.6s,mb6.2,baz=129,slow=5.7,SNR=171
DAVOX Davos/Dischmat 82.51 316⇑iPdiff P 08 15 09.2 +0.4
comp=Z,1μm,1.9s,mb6.6
DAVA Damuels 82.51 317 iP P 08 15 08.8 0.0
comp=Z,1μm,1.9s,mb6.6,SNR=35
AMKA Amchitka 82.53 39 eP P 08 15 08.2 -0.6
DAVOS Davos 82.57 316 P P 08 15 09.0 -0.1
DGI Dorgali Grotta 82.75 310 P P 08 15 09.6 -0.6
LIENZ Kamor/St.Gall 82.78 317⇑ePdiff P 08 15 10.2 0.0
comp=Z,948nm,1.8s,mb6.5
VDL Val di Lei 82.81 316⇑iPdiff P 08 15 10.4 0.0
comp=Z,603nm,2.3s,mb6.2
BOB Bobbio (Coli) 82.82 314 P P 08 15 10.8 +0.3
PLONS Plons/SG 82.85 317⇑iPdiff P 08 15 10.7 +0.1
comp=Z,1μm,1.9s,mb6.6
KONO Kongsberg 82.88 329 eP P 08 15 10.2 -0.3
comp=Z,204nm,1.4s,mb6.0
KONO LR LR
comp=Z,3μm,21.0s,MS5.6
KONO Kongsberg 82.88 329⇑iP P 08 15 09.4 -1.1
KONO AMb AMB 08 15 14.8
comp=Z,276nm,2.2s,mb5.9
KONO AMS AMS 08 57 26.7
comp=Z,2μm,20.2s,MS5.5
KONO Kongsberg 82.88 329 eP P 08 15 10.2 -0.3
KONO pmax pmax
comp=Z,205nm,1.4s,mb6.0
KONO MLR MLR
comp=Z,3μm,21.0s,MS5.6
TUE Stuetta 82.88 316 P P 08 15 10.7 -0.1
VSL Villasalto 82.94 309 eP P 08 15 10.8 -0.5
comp=Z,596nm,1.6s,mb6.4
STU Stuttgart 82.97 318 eP P 08 15 11.0 -0.2
comp=Z,660nm,1.9s,mb6.3
MUD Monsted U'grnd 83.03 326⇑iP P 08 15 11.8 +0.5
MUD i 08 15 30.6
MUD eS S 08 25 27.1 -1.2
MUD pmax pmax
comp=Z,170nm,1.6s,mb5.8
MUD MLR MLR
comp=Z,1μm,20.0s,MS5.3
MUD Monsted U'grnd 83.03 326⇑iP P 08 15 11.8 +0.5
comp=Z,168nm,1.6s,mb5.8
MUD i 08 15 30.6
MUD eS S 08 25 27.1 -1.2
MUD
comp=Z,1μm,20.0s
KEST Kesra 83.05 305 P P 08 15 12.7 +0.8
comp=Z,27nm,0.8s,mb5.3,baz=34,slow=0.6,SNR=79
KEST S S 08 25 24.7 -4.7
comp=Z,0.9nm,1.0s,baz=299,slow=20,SNR=4.5
KEST LR LR 08 51 37.5
comp=Z,1μm,22.0s,MS5.2,baz=173,slow=35
CORF Corte 83.06 312 eP P 08 15 11.4 -0.4
MUGIO Muggio 83.09 315⇑iPdiff P 08 15 11.9 0.0
comp=Z,630nm,2.2s,mb6.2
LLS Linth-Limmern 83.11 316⇑iPdiff P 08 15 11.8 -0.1
comp=Z,512nm,1.7s,mb6.3
WEIN Weingarten 83.12 317⇑iPdiff P 08 15 10.9 -1.1
comp=Z,666nm,1.8s,mb6.4
SYO Syowa Base 83.16 197⇑eP P 08 15 11.2 -0.5
SYO Syowa Base 83.16 197⇓eP pP 08 15 21.2 -1.0
PGF Pioggiola 83.17 312⇑iP P 08 15 12.4 0.0
comp=Z,1μm,1.6s,mb6.3
PGF Pioggiola 83.17 312⇑iP P 08 15 12.4 0.0
comp=Z,506nm,1.6s,mb6.3
PGF Pioggiola 83.17 312⇑iP P 08 15 12.4 0.0
PGF pmax pmax
comp=Z,506nm,1.6s,mb6.3
WILA Wila 83.17 317⇑ePdiff P 08 15 11.9 -0.4
comp=Z,599nm,1.9s,mb6.3
STEIN Stein am Rhein 83.20 317⇑iPdiff P 08 15 12.2 -0.2
comp=Z,638nm,1.7s,mb6.4
TOD Tromm 83.23 319 eP P 08 15 12.1 -0.4
SPAK Spaichingen-Ko 83.25 318 eP P 08 15 12.3 -0.3
FUSIO Fusio 83.35 316⇑iPdiff P 08 15 13.0 -0.2
comp=Z,297nm,2.1s,mb6.0
KBS Kingsbay 83.36 349 PFAKE 08 15 20.0 +7.4
KBS LR LR
comp=Z,2μm,21.0s,MS5.6
KBS Kingsbay 83.36 349⇑iP P 08 15 11.3 -1.3
KBS AMb AMB 08 15 14.6
comp=Z,259nm,1.5s,mb6.0
KBS ePP PP 08 18 25.8 +1.4
KBS eSKS 08 25 27.9
KBS eSS SS 08 30 57.3 +1.2
KBS AMS AMS 08 59 16.1
comp=Z,2μm,21.5s,MS5.5
KBS Kingsbay 83.36 349c iP P 08 15 11.7 -0.9
MUO Muotathal 83.36 317⇑iPdiff P 08 15 12.7 -0.5
comp=Z,1μm,1.8s,mb6.7
SLE Schleitheim 83.45 317⇑iPdiff P 08 15 13.4 -0.3
comp=Z,516nm,1.9s,mb6.2
BNALP Bannalp 83.51 316⇑iPdiff P 08 15 14.0 0.0
comp=Z,537nm,1.9s,mb6.3
BFO Black Forest 83.55 318 eP P 08 15 13.6 -0.6
BFO pmax pmax
comp=Z,122nm,1.1s,mb5.9
BFO Black Forest 83.55 318 eP P 08 15 13.6 -0.6
comp=Z,122nm,1.1s,mb5.9
QLNO Quiliano 83.61 314 P P 08 15 13.8 -0.8
HASLI Hasliberg/Brie 83.70 316⇑iPdiff P 08 15 14.8 -0.2
comp=Z,673nm,1.9s,mb6.5
KTD Kalmit 83.70 319 eP P 08 15 14.5 -0.4
SULZ Cheisacher 83.71 317⇑iPdiff P 08 15 14.5 -0.5
comp=Z,588nm,1.7s,mb6.4
FIN Finale Ligure 83.71 314 P P 08 15 14.7 -0.4
HLG Helgoland 83.77 324 eP P 08 15 15.3 +0.1
comp=Z,352nm,1.5s,mb6.3
FELD Feldberg im Sc 83.78 317 eP P 08 15 14.8 -0.6
MMK Mattmark 83.84 316⇑iPdiff P 08 15 15.7 0.0
comp=Z,501nm,1.8s,mb6.3
IBBN Ibbenburen 83.86 322 eP P 08 15 15.8 +0.1
comp=Z,810nm,1.8s,mb6.5
LANF Langenberg 83.89 319 eP P 08 15 15.5 -0.4
RPZ Rata Peaks 83.96 135 S S 08 25 33.3 -4.8
comp=Z,2.3nm,0.3s,baz=91,slow=21,SNR=5.0
BALST Balsthal 84.00 317⇑iPdiff P 08 15 16.1 -0.4
comp=Z,706nm,2.0s,mb6.5
ABH Alteburg 84.04 319 eP P 08 15 16.6 0.0
WIMIS Wimmis 84.06 316⇑iPdiff P 08 15 16.7 -0.1
comp=Z,554nm,2.0s,mb6.3
LKBD Leukerbad 84.07 316⇑iPdiff P 08 15 17.1 +0.2
comp=Z,954nm,1.6s,mb6.7
BUG Bochum--Univer 84.18 321 eP P 08 15 17.3 0.0
comp=Z,558nm,1.7s,mb6.4
SAOF Saorge 84.19 314 eP P 08 15 17.5 -0.1
DIX Grande Dixence 84.23 316⇑iPdiff P 08 15 17.6 -0.1
comp=Z,1μm,1.9s,mb6.7
CDF Champ du Feu 84.25 318⇑iP P 08 15 17.3 -0.5
comp=Z,650nm,1.8s,mb6.2
CDF Champ du Feu 84.25 318⇑iP P 08 15 17.3 -0.5
comp=Z,325nm,1.8s,mb6.2
CDF Champ du Feu 84.25 318⇑iP P 08 15 17.3 -0.5
CDF pmax pmax
comp=Z,325nm,1.8s,mb6.2
SBF Sospel 84.28 313⇑iP P 08 15 17.9 -0.1
comp=Z,555nm,0.9s,mb6.4
SBF Sospel 84.28 313⇑iP P 08 15 17.9 -0.1
comp=Z,277nm,0.9s,mb6.4
SBF Sospel 84.28 313⇑iP P 08 15 17.9 -0.1
SBF pmax pmax
comp=Z,277nm,0.9s,mb6.4
AUTN L'Aution 84.28 314 eP P 08 15 18.2 +0.2
AUTN L'Aution 84.28 314 eP P 08 15 18.3 +0.3
SENIN Lac Senin/Sane 84.30 316⇑ePdiff P 08 15 18.4 +0.4
comp=Z,749nm,1.9s,mb6.5
BOURR Bourrignon 84.31 317⇑iPdiff P 08 15 18.0 -0.1
comp=Z,483nm,1.9s,mb6.3
REVF Revere 84.33 313 eP P 08 15 18.0 -0.3
ECH Echery 84.34 318 eP P 08 15 17.2 -1.0
LUCF Luceram 84.34 313 eP P 08 15 18.5 +0.2
RUP Ruppelstein 84.36 319 eP P 08 15 17.9 -0.4
MOF Molkenrain 84.36 317 eP P 08 15 17.5 -0.8
TOUF Mont Tournerai 84.41 314 eP P 08 15 18.5 -0.2
GRYON Gryon 84.43 316⇑iPdiff P 08 15 18.8 +0.1
comp=Z,423nm,1.6s,mb6.3
WTSB Winterswijk 84.46 322⇑eP P 08 15 18.6 -0.2
comp=Z,264nm,1.5s,mb6.1
MVIF Mont Vial 84.48 313 eP P 08 15 19.2 +0.2
TORNY Torny/Romont 84.52 316⇑iPdiff P 08 15 19.1 0.0

comp=Z,789nm,1.6s,mb6.6
SALAN Lac Salanfe 84.53 316⇑iPdiff P 08 15 19.4 +0.2
comp=Z,638nm,1.8s,mb6.5
AIGLE Aigle 84.53 316⇑iPdiff P 08 15 19.1 -0.2
comp=Z,514nm,1.8s,mb6.4
ABSA Djebel Ababsia 84.55 306 P P 08 15 20.0 +0.4
HINF Hinteralfeld 84.55 317⇑iP P 08 15 18.5 -0.8
comp=Z,405nm,1.6s,mb6.0
HINF Hinteralfeld 84.55 317⇑iP P 08 15 18.5 -0.8
comp=Z,203nm,1.6s,mb6.0
HINF Hinteralfeld 84.55 317⇑iP P 08 15 18.5 -0.8
HINF pmax pmax
comp=Z,203nm,1.6s,mb6.0
CMAH Djebel Manchou 84.58 306 P P 08 15 21.0 +1.3
EMV Vieux Emosson 84.58 316⇑iPdiff P 08 15 19.7 +0.2
comp=Z,702nm,1.8s,mb6.5
LOMF Lomont 84.59 317 eP P 08 15 18.7 -0.8
CALN Calern 84.68 313 eP P 08 15 20.3 +0.3
LPG La Plagne 84.71 315⇑iP P 08 15 20.4 +0.3
comp=Z,626nm,1.3s,mb6.3
LPG La Plagne 84.71 315⇑iP P 08 15 20.4 +0.3
comp=Z,313nm,1.3s,mb6.3
LPG La Plagne 84.71 315⇑iP P 08 15 20.4 +0.3
LPG pmax pmax
comp=Z,313nm,1.3s,mb6.3
LPL La Plagne 84.72 315⇑iP P 08 15 20.3 +0.1
comp=Z,635nm,1.2s,mb6.3
LPL La Plagne 84.72 315⇑iP P 08 15 20.3 +0.1
comp=Z,318nm,1.2s,mb6.3
LPL La Plagne 84.72 315⇑iP P 08 15 20.3 +0.1
LPL pmax pmax
comp=Z,318nm,1.2s,mb6.3
MBDF Montbardon 84.72 314⇑iP P 08 15 19.5 -0.7
comp=Z,128nm,0.9s,mb5.8
MBDF Montbardon 84.72 314⇑iP P 08 15 19.5 -0.7
comp=Z,64nm,0.9s,mb5.8
MBDF Montbardon 84.72 314⇑iP P 08 15 19.5 -0.7
MBDF pmax pmax
comp=Z,64nm,0.9s,mb5.8
BNI Bardonecchia 84.78 315 eP P 08 15 19.8 -0.7
comp=Z,124nm,1.1s,mb6.0
BNI Bardonecchia 84.78 315 eP P 08 15 19.8 -0.7
BNI pmax pmax
comp=Z,124nm,1.1s,mb6.0
BRANT Les Verrieres 84.84 317⇑ePdiff P 08 15 20.4 -0.4
comp=Z,544nm,2.1s,mb6.3
FRF La Foret Royal 84.86 313⇑iP P 08 15 20.9 -0.1
comp=Z,819nm,1.3s,mb6.4
FRF La Foret Royal 84.86 313⇑iP P 08 15 20.9 -0.1
comp=Z,410nm,1.3s,mb6.4
FRF La Foret Royal 84.86 313⇑iP P 08 15 20.9 -0.1
FRF pmax pmax
comp=Z,410nm,1.3s,mb6.4
HAU Haudompre 84.89 318⇑iP P 08 15 20.3 -0.7
comp=Z,404nm,1.1s,mb6.2
HAU eMLR MLR
comp=Z,1μm,21.2s,MS4.9
HAU Haudompre 84.89 318⇑iP P 08 15 20.3 -0.7
comp=Z,202nm,1.0s,mb6.2
HAU LR LR
comp=Z,1μm,21.3s,MS5.2
HAU Haudompre 84.89 318⇑iP P 08 15 20.3 -0.7
HAU pmax pmax
comp=Z,202nm,1.0s,mb6.2
HAU MLR MLR
comp=Z,1μm,21.3s,MS5.2
WLF Walferdange 84.95 319 eP P 08 15 21.7 +0.5
comp=Z,558nm,1.8s,mb6.4
WLF Walferdange 84.95 319 P P 08 15 21.8 +0.5
WLF pmax pmax
comp=Z,560nm,1.7s,mb6.4
WLF Walferdange 84.95 319 P P 08 15 21.8 +0.5
comp=Z,188nm,2.0s,mb5.9
WLF Walferdange 84.95 319 eP P 08 15 21.6 +0.3
comp=Z,538nm,1.7s,mb6.4
LMR La Mourre 84.97 313⇑iP P 08 15 21.4 -0.1
comp=Z,526nm,1.4s,mb6.2
LMR La Mourre 84.97 313⇑iP P 08 15 21.4 -0.1
comp=Z,263nm,1.4s,mb6.2
LMR La Mourre 84.97 313⇑iP P 08 15 21.4 -0.1
LMR pmax pmax
comp=Z,263nm,1.4s,mb6.2
GIMEL St. Georges / 85.00 316⇑iPdiff P 08 15 21.7 +0.1
comp=Z,496nm,1.8s,mb6.3
MEM Membach 85.00 320 P P 08 15 21.3 -0.2
BER Bergen 85.02 330 eP P 08 15 22.0 +0.7
BER eS S 08 25 47.6 -0.5
BER AMS AMS 08 58 54.2
comp=Z,2μm,21.7s,MS5.4
ADK Adak 85.02 38 eP P 08 15 20.2 -1.3
comp=Z,382nm,1.2s,mb6.4
ADK LR LR
comp=Z,2μm,21.0s,MS5.5
ADK Adak 85.02 38 eP P 08 15 20.2 -1.4
ADK pmax pmax
comp=Z,382nm,1.2s,mb6.4
ADK MLR MLR
comp=Z,2μm,21.0s,MS5.5
CAEH 'Ain El Ouahch 85.03 306 P P 08 15 23.0 +1.0
HGN Heimansgroeve 85.05 320⇑eP P 08 15 21.5 -0.2
comp=Z,136nm,1.6s,mb5.8
HGN Heimansgroeve 85.05 320 ePP PP 08 18 38.0 -0.9
HGN Heimansgroeve 85.05 320 eS S 08 25 48.7 0.0
HGN Heimansgroeve 85.05 320 eSS SS 08 31 20.6 -1.6
THEF They Montfort 85.12 318 eP P 08 15 21.3 -0.8
CABF La Chapelle 85.12 316⇑iP P 08 15 22.2 0.0
comp=Z,1μm,1.8s,mb6.5
CABF La Chapelle 85.12 316⇑iP P 08 15 22.2 0.0
comp=Z,623nm,1.8s,mb6.4
CABF La Chapelle 85.12 316⇑iP P 08 15 22.2 0.0
CABF pmax pmax
comp=Z,623nm,1.8s,mb6.4
CKFL Kef-Lekhel 85.15 306 P P 08 15 24.0 +1.4
BEBN Eben Emael 85.20 320 P P 08 15 22.2 -0.3
TAVF Tavernes 85.29 313 eP P 08 15 23.5 +0.4
CASM Ain Smara 85.35 306 P P 08 15 25.0 +1.4
ORIF Oris-en-Rattie 85.35 315⇑iP P 08 15 23.2 -0.2
comp=Z,206nm,1.0s,mb5.9
ORIF eMLR MLR
comp=Z,2μm,22.8s,MS5.1
ORIF Oris-en-Rattie 85.35 315⇑iP P 08 15 23.2 -0.2
comp=Z,103nm,1.0s,mb5.9
ORIF Oris-en-Rattie 85.35 315⇑iP P 08 15 23.2 -0.2
ORIF pmax pmax
comp=Z,103nm,1.0s,mb5.9
STOF St-Etienne Org 85.38 314 eP P 08 15 24.0 +0.5
CTEI Djebel Teioual 85.42 306 P P 08 15 26.0 +2.0
FUNA Funafuti 85.46 99 PFAKE 08 15 40.0 +15
FUNA LR LR
comp=Z,12μm,19.0s,MS6.3
BCLA Clavier 85.46 320 P P 08 15 23.4 -0.4
comp=Z,88nm,2.0s,mb5.5
VILF Villemus 85.52 313 eP P 08 15 24.7 +0.4
PUYF Puyloubier 85.55 313 eP P 08 15 24.5 +0.1
BERF Bertagne 85.57 313 eP P 08 15 25.0 +0.5
SMRF Simiane la Rot 85.62 314⇑iP P 08 15 25.2 +0.5
comp=Z,1μm,1.7s,mb6.5
SMRF Simiane la Rot 85.62 314⇑iP P 08 15 25.2 +0.5
comp=Z,1μm,1.7s,mb6.8
MEZF Maizieres J'vi 85.73 318⇑iP P 08 15 24.9 -0.3
comp=Z,787nm,1.8s,mb6.3
MEZF Maizieres J'vi 85.73 318⇑iP P 08 15 24.9 -0.3
comp=Z,787nm,1.8s,mb6.6
MIDW Midway 85.75 62 PFAKE 08 15 40.0 +14
MIDW LR LR
comp=Z,3μm,22.0s,MS5.6
GELF Grande-Etoile 85.76 313 eP P 08 15 25.2 -0.2
TREF Trevaresse 85.78 313 eP P 08 15 25.3 -0.2
GIVF Givet 85.79 320⇑iP P 08 15 25.3 -0.1
comp=Z,321nm,1.5s,mb6.0
GIVF Givet 85.79 320⇑iP P 08 15 25.3 -0.1
comp=Z,161nm,1.5s,mb6.0
GIVF Givet 85.79 320⇑iP P 08 15 25.3 -0.1
GIVF pmax pmax
comp=Z,161nm,1.5s,mb6.0
DFRA Djebel Bou Aff 85.82 306 P P 08 15 27.0 +1.1
CMER Merouana 85.86 305 P P 08 15 28.0 +1.9
PRAF Pradon 85.92 313 eP P 08 15 26.5 +0.3
DOU Dourbes 85.93 320 P P 08 15 25.9 -0.2
UCC Uccle 86.04 320 P P 08 15 26.3 -0.4
comp=Z,138nm,2.5s,mb5.7
SNF Seneffe 86.11 320 P P 08 15 26.6 -0.4
comp=Z,122nm,2.1s,mb5.8
SNZO South Karori 86.11 132 PFAKE 08 15 40.0 +13
SNZO LR LR
comp=Z,3μm,20.0s,MS5.7

CKHR Kef el Ahmar 86.15 306 P P 08 15 28.0 +0.4
BAIF Baives 86.18 320⇑iP P 08 15 27.4 0.0
comp=Z,763nm,1.7s,mb6.4
BAIF Baives 86.18 320⇑iP P 08 15 27.4 0.0
comp=Z,382nm,1.7s,mb6.3
BAIF Baives 86.18 320⇑iP P 08 15 27.4 0.0
BAIF pmax pmax
comp=Z,382nm,1.7s,mb6.3
VIVF Saint-Julien-I 86.21 315⇑iP P 08 15 27.5 -0.1
comp=Z,336nm,1.2s,mb6.2
VIVF Saint-Julien-I 86.21 315⇑iP P 08 15 27.5 -0.1
comp=Z,168nm,1.2s,mb6.2
VIVF Saint-Julien-I 86.21 315⇑iP P 08 15 27.5 -0.1
VIVF pmax pmax
comp=Z,168nm,1.2s,mb6.2
SET Setif 86.23 306 P P 08 15 29.0 +1.1
LOR Lormes 86.61 317⇑iP P 08 15 29.2 -0.3
comp=Z,916nm,1.6s,mb6.5
LOR eMLR MLR
comp=Z,1μm,22.2s,MS4.9
LOR Lormes 86.61 317⇑iP P 08 15 29.2 -0.3
comp=Z,458nm,1.6s,mb6.5
LOR LR LR
comp=Z,1μm,22.3s,MS5.2
LOR Lormes 86.61 317⇑iP P 08 15 29.2 -0.3
LOR pmax pmax
comp=Z,458nm,1.6s,mb6.5
LOR MLR MLR
comp=Z,1μm,22.3s,MS5.2
SMF Signal de Mont 86.67 316⇑iP P 08 15 29.4 -0.4
comp=Z,346nm,1.1s,mb6.2
SMF Signal de Mont 86.67 316⇑iP P 08 15 29.4 -0.4
comp=Z,173nm,1.1s,mb6.2
SMF Signal de Mont 86.67 316⇑iP P 08 15 29.4 -0.4
SMF pmax pmax
comp=Z,173nm,1.1s,mb6.2
LASF Ste Croix 86.85 314⇑iP P 08 15 30.9 +0.1
comp=Z,865nm,1.7s,mb6.4
GAMB Gambell 86.86 26 eP P 08 15 30.1 -0.3
comp=Z,843nm,1.4s,mb6.8
SSF Saint Saulge 86.86 317⇑iP P 08 15 30.5 -0.3
comp=Z,540nm,1.6s,mb6.2
SSF Saint Saulge 86.86 317⇑iP P 08 15 30.5 -0.3
comp=Z,270nm,1.6s,mb6.2
SSF Saint Saulge 86.86 317⇑iP P 08 15 30.5 -0.3
SSF pmax pmax
comp=Z,270nm,1.6s,mb6.2
PLDF La Plantade 86.87 316 eP P 08 15 30.4 -0.5
AVF Avril sur Loir 86.99 317⇑iP P 08 15 30.8 -0.6
comp=Z,805nm,1.8s,mb6.4
AVF Avril sur Loir 86.99 317⇑iP P 08 15 30.8 -0.6
comp=Z,403nm,1.8s,mb6.3
AVF Avril sur Loir 86.99 317⇑iP P 08 15 30.8 -0.6
AVF pmax pmax
comp=Z,403nm,1.8s,mb6.3
LBL Lubilhac 87.19 315 eP P 08 15 32.7 +0.3
AGO Saint Agoulin 87.20 316 eP P 08 15 32.1 -0.4
PYM Petit Puy Mans 87.31 316 eP P 08 15 33.0 0.0
BGF Bois d'Agland 87.36 316⇑iP P 08 15 33.2 0.0
comp=Z,650nm,1.4s,mb6.4
BGF Bois d'Agland 87.36 316⇑iP P 08 15 33.2 0.0
comp=Z,325nm,1.4s,mb6.4
BGF Bois d'Agland 87.36 316⇑iP P 08 15 33.2 0.0
BGF pmax pmax
comp=Z,325nm,1.4s,mb6.4
HYF Humbligny 87.44 317⇑iP P 08 15 33.8 +0.2
EJON La Jonquera 87.69 312 P P 08 15 34.3 -0.6
comp=Z,127nm,1.3s,mb6.0
TCF Toulx Ste Croi 87.82 316⇑iP P 08 15 35.4 0.0
comp=Z,540nm,1.7s,mb6.2
TCF Toulx Ste Croi 87.82 316⇑iP P 08 15 35.4 0.0
comp=Z,270nm,1.7s,mb6.2
TCF Toulx Ste Croi 87.82 316⇑iP P 08 15 35.4 0.0
TCF pmax pmax
comp=Z,270nm,1.7s,mb6.2
AEU East Anglia Un 87.83 322⇑eP P 08 15 35.0 -0.3
ETOS Mallorca 87.98 310 P P 08 15 37.2 +0.8
comp=Z,696nm,1.8s,mb6.6
CAF Calviac 88.05 315⇑iP P 08 15 36.8 +0.2
comp=Z,590nm,1.8s,mb6.2
CAF Calviac 88.05 315⇑iP P 08 15 36.8 +0.2
comp=Z,295nm,1.8s,mb6.2
CAF Calviac 88.05 315⇑iP P 08 15 36.8 +0.2
CAF pmax pmax
comp=Z,295nm,1.8s,mb6.2
ABA Alger-Bouzarea 88.08 307 P P 08 15 38.0 +1.1
MTLF Montolieu 88.09 313⇑iP P 08 15 36.9 +0.1
comp=Z,225nm,1.2s,mb6.0
MTLF Montolieu 88.09 313⇑iP P 08 15 36.9 +0.1
comp=Z,113nm,1.2s,mb6.0
MTLF Montolieu 88.09 313⇑iP P 08 15 36.9 +0.1
MTLF pmax pmax
comp=Z,113nm,1.2s,mb6.0
EMHD Djebel Mahouad 88.20 306 P P 08 15 40.0 +2.5
TNA Tin City 88.24 24 eP P 08 15 36.7 -0.4
comp=Z,260nm,1.3s,mb6.3
TNA LR LR
comp=Z,3μm,20.0s,MS5.7
LRW Lerwick 88.27 330⇑eP P 08 15 37.1 -0.2
LRW ⇑eP 08 15 37.1
LRW AMb AMB 08 15 41.0
comp=Z,242nm,1.8s,mb6.1
RJF Les Rejaudoux 88.40 315⇑iP P 08 15 38.6 +0.4
comp=Z,1μm,1.8s,mb6.5
RJF eMLR MLR
comp=Z,955nm,20.8s,MS4.9
RJF Les Rejaudoux 88.40 315⇑iP P 08 15 38.6 +0.4
comp=Z,530nm,1.8s,mb6.5
RJF LR LR
comp=Z,960nm,20.8s,MS5.2
RJF Les Rejaudoux 88.40 315⇑iP P 08 15 38.6 +0.4
RJF pmax pmax
comp=Z,531nm,1.8s,mb6.5
RJF MLR MLR
comp=Z,960nm,20.8s,MS5.2
WAL1 Walls 88.47 330⇑eP P 08 15 38.3 +0.1
EMIR Miracle 88.75 312 P P 08 15 40.4 +0.4
comp=Z,1μm,2.7s,mb6.7
LFF La Frestale 88.99 315⇑iP P 08 15 41.3 +0.3
comp=Z,865nm,1.7s,mb6.5
LFF La Frestale 88.99 315⇑iP P 08 15 41.3 +0.3
comp=Z,433nm,1.7s,mb6.5
LFF La Frestale 88.99 315⇑iP P 08 15 41.3 +0.3
LFF pmax pmax
comp=Z,433nm,1.7s,mb6.5
EPOB Poblet 89.14 311 P P 08 15 42.0 +0.2
comp=Z,508nm,1.9s,mb6.5
LDF La Druitiere 89.14 319⇑iP P 08 15 41.6 0.0
comp=Z,1μm,1.8s,mb6.6
LDF La Druitiere 89.14 319⇑iP P 08 15 41.6 0.0
comp=Z,573nm,1.8s,mb6.6
LDF La Druitiere 89.14 319⇑iP P 08 15 41.6 0.0
LDF pmax pmax
comp=Z,573nm,1.8s,mb6.6
SKP1 Kophill 89.18 322⇑eP P 08 15 41.8 +0.1
EIBI Ibiza 89.19 309 P P 08 15 43.0 +1.0
comp=Z,879nm,2.3s,mb6.7
JMIC Jan Mayen 89.22 341 P P 08 15 42.3 +0.8
comp=Z,56nm,0.7s,mb6.0,baz=140,slow=6.7,SNR=4.6
EBNR Beni Rached 89.34 306 P P 08 15 45.0 +2.2
CWF Charnwood Fore 89.35 323⇑eP P 08 15 42.2 -0.3
CWF AMb AMB 08 15 45.0
comp=Z,250nm,1.7s,mb6.3
FLN La Foliniere 89.36 319⇑iP P 08 15 42.6 0.0
comp=Z,919nm,1.7s,mb6.5
FLN eMLR MLR
comp=Z,2μm,21.8s,MS5.2
FLN La Foliniere 89.36 319⇑iP P 08 15 42.6 0.0
comp=Z,460nm,1.7s,mb6.5
FLN LR LR
comp=Z,2μm,21.8s,MS5.5
FLN La Foliniere 89.36 319⇑iP P 08 15 42.6 0.0
FLN pmax pmax
comp=Z,460nm,1.7s,mb6.5
FLN MLR MLR
comp=Z,2μm,21.8s,MS5.5
HPK Haverah Park 89.37 324 P P 08 15 41.7 -0.8
HPK AMb AMB 08 15 46.3
comp=Z,341nm,1.6s,mb6.4
HPK Haverah Park 89.37 324⇑eP P 08 15 41.7 -0.8
HPK AMb AMB 08 15 46.3
comp=Z,341nm,1.6s,mb6.4
HPK AMS AMS 09 01 45.2
comp=Z,649nm,21.8s,MS5.0
MFF Saint Martin d 89.40 317⇑iP P 08 15 43.0 +0.1
comp=Z,942nm,1.8s,mb6.5
MFF Saint Martin d 89.40 317⇑iP P 08 15 43.0 +0.1

comp=Z,471nm,1.8s,mb6.5
MFF Saint Martin d 89.40 317⇑iP P 08 15 43.0 +0.1
MFF pmax pmax
comp=Z,471nm,1.8s,mb6.5
KBI1 Birley Grange 89.41 323⇑eP P 08 15 42.4 -0.4
ECHA Ech Chlef 89.48 306 P P 08 15 45.8 +2.3
WOL Wolverton 89.49 321⇑eP P 08 15 43.3 +0.1
EPF Esparros 89.49 313⇑iP P 08 15 43.1 -0.3
comp=Z,271nm,1.8s,mb6.0
EPF Esparros 89.49 313⇑iP P 08 15 43.1 -0.3
comp=Z,135nm,1.8s,mb6.0
EPF Esparros 89.49 313⇑iP P 08 15 43.1 -0.3
EPF pmax pmax
comp=Z,135nm,1.8s,mb6.0
XSO Sourhope Farm 89.50 326⇑eP P 08 15 42.6 -0.5
LHO Holmfirth 89.56 324⇑eP P 08 15 43.3 -0.2
XAL Allendale 89.58 325⇑eP P 08 15 43.4 -0.1
ETRT Tiaret 89.62 305 P P 08 15 46.9 +2.7
KWE Weaver Farm 89.63 323⇑eP P 08 15 43.8 0.0
ESY Stoneypath 89.64 326⇑eP P 08 15 43.6 -0.1
GRR Gorron 89.65 318⇑iP P 08 15 44.1 +0.1
comp=Z,702nm,1.7s,mb6.4
GRR Gorron 89.65 318⇑iP P 08 15 44.1 +0.1
comp=Z,351nm,1.7s,mb6.4
GRR Gorron 89.65 318⇑iP P 08 15 44.1 +0.1
GRR pmax pmax
comp=Z,351nm,1.7s,mb6.4
MLA1 Latheron 89.66 328⇑eP P 08 15 43.6 -0.2
EBIE Bielsa 89.68 313 P P 08 15 44.7 +0.4
comp=Z,644nm,2.5s,mb6.5
NIKO Nikolski 89.69 37 eP P 08 15 43.1 -1.0
comp=Z,1μm,1.5s,mb7.0
MCD Coleburn Disti 89.72 328⇑eP P 08 15 43.9 -0.3
EANR 'Ain N'Sour 89.72 306 P P 08 15 46.3 +1.7
ERTA Horta de San J 89.74 311 P P 08 15 45.1 +0.4
comp=Z,906nm,2.0s,mb6.8
SSW Stow on the Wo 89.79 322⇑eP P 08 15 43.4 -1.1
ORE Reay 89.82 329⇑eP P 08 15 44.0 -0.6
SWN1 Swindon 89.82 322⇑eP P 08 15 43.9 -0.9
SWN1 AMb AMB 08 15 48.6
comp=Z,498nm,1.6s,mb6.6
STNC Stoke 89.84 323⇑eP P 08 15 44.3 -0.5
STNC AMb AMB 08 15 48.7
comp=Z,270nm,2.2s,mb6.2
EBL Broad Law 89.90 326⇑eP P 08 15 45.1 +0.1
EDI Edinburgh 89.95 326 P P 08 15 44.8 -0.4
EDI AMb AMB 08 15 49.0
comp=Z,208nm,1.8s,mb6.2
EDI Edinburgh 89.95 326⇑eP P 08 15 44.8 -0.4
EDI AMb AMB 08 15 49.0
comp=Z,208nm,1.8s,mb6.2
EDI AMS AMS 09 00 42.5
comp=Z,1μm,22.1s,MS5.2
DAG Danmarks Havn 90.01 348⇓eP P 08 15 42.8 -2.3
DAG pmax pmax
comp=Z,130nm,1.2s,mb6.1
DAG MLR MLR
comp=Z,38μm,20.0s,MS6.8
DAG MLR MLR
comp=N,20μm,21.0s,MS6.7
DAG MLR MLR
comp=E,21μm,23.0s,MS6.7
DAG Danmarks Havn 90.01 348⇓iP P 08 15 42.8 -2.3
comp=E,128nm,1.2s,mb6.1
DAG
comp=Z,38μm,20.0s
EKA Eskdalemuir Ar 90.04 326 P P 08 15 45.4 -0.3
EKA pmax pmax
comp=Z,21nm,0.7s
EKA Eskdalemuir Ar 90.04 326 P P 08 15 45.4 -0.3
comp=Z,20nm,0.7s,mb5.6,baz=101,slow=4.9,SNR=29
ECK Cauldkaine Hil 90.04 325⇑eP P 08 15 45.4 -0.3
OJGS Djebel Guires 90.05 306 P P 08 15 48.0 +1.8
ESK Eskdalemuir 90.06 326 P P 08 15 45.8 0.0
ESK AMb AMB 08 15 48.6
comp=Z,180nm,1.8s,mb6.1
ESK Eskdalemuir 90.06 326⇑eP P 08 15 45.8 0.0
ESK AMb AMB 08 15 48.6
comp=Z,180nm,1.8s,mb6.1
ESK AMS AMS 09 00 47.8
comp=Z,1μm,20.5s,MS5.3
ESK Eskdalemuir 90.06 326 eP P 08 15 43.7 -2.1
comp=Z,322nm,1.8s,mb6.3
ESK LR LR
comp=Z,2μm,22.0s,MS5.4
ESK Eskdalemuir 90.06 326 eP P 08 15 43.7 -2.1
ESK pmax pmax
comp=Z,322nm,1.8s,mb6.3
ESK MLR MLR
comp=Z,2μm,22.0s,MS5.4
EBH Black Hill 90.08 326⇑eP P 08 15 45.7 -0.1
OKGL Djebel Kef Gue 90.08 306 P P 08 15 48.5 +2.2
EAU Auchinoon 90.11 326⇑eP P 08 15 46.3 +0.3
CKE Keswick 90.13 325⇑eP P 08 15 45.8 -0.3
MVH1 Achvaich 90.15 328⇑eP P 08 15 45.9 -0.3
ELO Logie Almond 90.15 327 eP P 08 15 45.8 -0.4
SWK Warminster 90.15 321⇑eP P 08 15 45.1 -1.2
ETSF Etsaut 90.17 313⇑iP P 08 15 47.2 +0.7
comp=Z,96nm,0.9s,mb5.8
ETSF Etsaut 90.17 313⇑iP P 08 15 47.2 +0.7
comp=Z,48nm,0.9s,mb5.8
ETSF Etsaut 90.17 313⇑iP P 08 15 47.2 +0.7
ETSF pmax pmax
comp=Z,48nm,0.9s,mb5.8
HAE Alders End 90.20 322⇑eP P 08 15 46.2 -0.3
ESAC San Caprasio 90.25 312 P P 08 15 47.1 +0.2
comp=Z,1μm,2.5s,mb6.8
HLM1 Long Mynd 90.33 323⇑eP P 08 15 46.9 -0.2
MDO Dochfour 90.33 328⇑eP P 08 15 46.7 -0.2
OJBR Djebel Berber 90.37 306 P P 08 15 51.0 +3.3
RAO Raoul Island 90.39 119 PFAKE 08 16 00.0 +12
RAO LR LR
comp=Z,2μm,22.0s,MS5.5
VNDA Vanda 90.39 168 eP P 08 15 46.2 -0.6
comp=Z,102nm,1.4s,mb6.0
VNDA LR LR
comp=Z,3μm,20.0s,MS5.8
VNDA Vanda 90.39 168 P P 08 15 46.6 -0.3
VNDA S SKSac 08 26 09.5 -5.8
VNDA pmax pmax
comp=Z,6.0nm,0.8s
VNDA smax
comp=N,1.0nm,1.0s
VNDA pmax pmax
comp=Z,3.0nm,1.0s
VNDA Vanda 90.39 168 P P 08 15 46.6 -0.2
comp=Z,5.8nm,0.8s,mb4.9,baz=301,slow=5.7,SNR=23
VNDA S SKSac 08 26 09.5 -5.8
comp=Z,0.6nm,0.9s,baz=175,slow=20,SNR=2.5
VNDA PKKPbc PKKPbc 08 33 16.3 -2.3
comp=Z,2.9nm,1.0s,baz=121,slow=2.5,SNR=6.2
VNDA LR LR 08 52 38.0
comp=Z,4μm,19.1s,MS5.8,baz=296,slow=33
HGH Gray Hill 90.42 322⇑eP P 08 15 47.3 -0.3
EMOS Mosqueruela 90.43 310 P P 08 15 49.0 +1.2
comp=Z,1μm,1.6s,mb6.9
EBEN Beniarda 90.45 309 P P 08 15 48.4 +0.5
comp=Z,872nm,2.5s,mb6.6
MCH1 Michaelchurch 90.48 322 P P 08 15 47.5 -0.3
MCH1 AMb AMB 08 15 52.5
comp=Z,155nm,2.1s,mb6.0
MCH1 AMb AMB 08 15 52.6
comp=Z,155nm,2.1s,mb6.0
MCH1 Michaelchurch 90.48 322⇑eP P 08 15 47.5 -0.3
MCH1 ⇑eP 08 15 47.5
MCH1 AMb AMB 08 15 52.5
comp=Z,155nm,2.1s,mb6.0
MCH1 AMb AMB 08 15 52.6
comp=Z,155nm,2.1s,mb6.0
SBD1 Bryn Du 90.49 323⇑eP P 08 15 47.4 -0.5
EAB Aberfoyle 90.55 326 eP P 08 15 48.4 +0.4
RSC Scourie 90.58 329⇑eP P 08 15 48.3 +0.1
SJPF Ste Jean 90.62 313⇑iP P 08 15 49.2 +0.5
comp=Z,227nm,1.2s,mb6.1
SJPF Ste Jean 90.62 313⇑iP P 08 15 49.2 +0.5
comp=Z,114nm,1.2s,mb6.1
SJPF Ste Jean 90.62 313⇑iP P 08 15 49.2 +0.5
SJPF pmax pmax
comp=Z,114nm,1.2s,mb6.1
HTR Trewern Hill 90.64 322⇑eP P 08 15 48.2 -0.4
REB Eisghbrachaidh 90.69 328 eP P 08 15 48.6 -0.1
PGBU Glenifferbraes 90.69 326⇑eP P 08 15 47.6 -1.1
PGBU AMb AMB 08 15 52.7
comp=Z,214nm,1.7s,mb6.2
SGMF Saint Gilles 90.80 318⇑iP P 08 15 49.2 -0.2

comp=Z,838nm,1.7s,mb6.5
SGMF Saint Gilles 90.80 318⇑ iP P 08 15 49.2 -0.2
comp=Z,419nm,1.7s,mb6.5
SGMF Saint Gilles 90.80 318⇑ iP P 08 15 49.2 -0.2
SGMF pmax pmax
comp=Z,419nm,1.7s,mb6.5
ODJA Bouhanifia 90.81 305 P **P 08 15 53.0 +3.3**
EALK Alkurruntz 90.81 313 P **P 08 15 50.0 +0.5**
comp=Z,628nm,2.1s,mb6.6
KAC Achnashellach 90.82 328⇑ eP P 08 15 49.1 -0.1
WPM1 Penmaenmawr 90.82 324⇑ eP P 08 15 49.5 +0.2
ELIZ Elizondo 90.83 313 P **P 08 15 50.5 +0.9**
comp=Z,276nm,1.8s,mb6.3
ELIZ Elizondo 90.83 313 P **P 08 15 50.5 +0.8**
ELIZ pmax pmax
comp=Z,276nm,1.8s,mb6.3
ECHE Chera 90.90 310 P **P 08 15 50.8 +0.8**
comp=Z,84nm,1.0s,mb6.0
ECHE Chera 90.90 310 P **P 08 15 50.8 +0.7**
ECHE pmax pmax
comp=Z,84nm,1.0s,mb6.0
UNV Unalaska Valle 90.94 36 eP **P 08 15 48.5 -1.4**
comp=Z,49nm,1.1s,mb5.8
UNV LR LR
comp=Z,5µm,19.0s,MS6.0
KSB Sheil Bridge 90.94 328⇑ eP P 08 15 49.7 -0.1
GIM North Isle of 90.96 325⇑ eP P 08 15 50.2 +0.2
YLL Llanberis 91.00 323⇑ eP P 08 15 49.4 -0.8
GAL1 Galloway 91.00 325 P **P 08 15 50.2 0.0**
GAL1 AMb AMB 08 15 53.9
comp=Z,179nm,1.9s,mb6.1
GAL1 Galloway 91.00 325⇑ eP P 08 15 50.2 0.0
GAL1 AMb AMB 08 15 53.9
comp=Z,179nm,1.9s,mb6.1
GAL1 AMS AMS 09 02 56.9
comp=Z,1µm,22.4s,MS5.2
RRR Rubha Reidh 91.01 328⇑ eP P 08 15 50.3 +0.2
WME Myndd Eilian 91.03 324⇑ eP P 08 15 50.1 -0.2
KPL Plockton 91.04 328 P **P 08 15 50.3 +0.1**
KPL AMb AMB 08 15 54.1
comp=Z,234nm,1.7s,mb6.2
KPL Plockton 91.04 328⇑ eP P 08 15 50.3 +0.1
KPL AMb AMB 08 15 54.1
comp=Z,234nm,1.7s,mb6.2
KPL AMS AMS 09 03 19.3
comp=Z,1µm,18.9s,MS5.4
USTO Oran 91.08 306 P **P 08 15 55.0 +4.0**
WLF1 Llynfaes 91.10 324⇑ eP P 08 15 50.4 -0.3
WIM Isle of Man 91.11 324⇑ eP P 08 15 50.5 -0.2
RTO Tolsta 91.12 329⇑ eP P 08 15 51.3 +0.7
YRE Yr Eifl 91.18 323⇑ eP P 08 15 50.9 -0.2
CART Cartagena 91.20 308 eP **P 08 15 51.6 +0.1**
comp=Z,291nm,1.4s,mb6.4
YRC Rhoscolyn 91.22 324⇑ eP P 08 15 51.0 -0.2
KAR1 Arisaig 91.22 327⇑ eP P 08 15 51.4 +0.3
QUIF Quistinic 91.25 318⇑ iP P 08 15 51.0 -0.5
comp=Z,628nm,1.7s,mb6.4
QUIF Quistinic 91.25 318⇑ iP P 08 15 51.0 -0.5
comp=Z,314nm,1.7s,mb6.4
QUIF Quistinic 91.25 318⇑ iP P 08 15 51.0 -0.5
QUIF pmax pmax
comp=Z,314nm,1.7s,mb6.4
ROSF Rostrenen 91.25 319⇑ iP P 08 15 51.5 0.0
comp=Z,796nm,1.7s,mb6.5
ROSF Rostrenen 91.25 319⇑ iP P 08 15 51.5 0.0
comp=Z,398nm,1.7s,mb6.5
ROSF Rostrenen 91.25 319⇑ iP P 08 15 51.5 0.0
ROSF pmax pmax
comp=Z,398nm,1.7s,mb6.5
DYA Yadsworthy 91.33 321 P **P 08 15 51.6 -0.2**
DYA AMb AMB 08 15 55.3
comp=Z,383nm,1.7s,mb6.5
DYA Yadsworthy 91.33 321⇑ eP P 08 15 51.6 -0.2
DYA AMb AMB 08 15 55.3
comp=Z,383nm,1.7s,mb6.5
DYA AMS AMS 09 03 38.5
comp=Z,1µm,19.9s,MS5.4
EMUR La Murta 91.35 308 P **P 08 15 52.2 0.0**
comp=Z,413nm,1.8s,mb6.5
RRH Rhenigidale 91.46 328⇑ eP P 08 15 52.4 +0.2
ETOB Tobarra 91.48 309 P **P 08 15 53.3 +0.6**
comp=Z,760nm,2.2s,mb6.6
SBA Scott Base 91.50 168 eP **P 08 15 52.5 +0.5**
comp=Z,154nm,1.4s,mb6.1
SBA LR LR
comp=Z,3µm,19.0s,MS5.7
SBA Scott Base 91.50 168 eP **P 08 15 52.5 +0.5**
SBA pmax pmax
comp=Z,154nm,1.4s,mb6.1
SBA MLR MLR
comp=Z,3µm,19.0s,MS5.7
ETOR Torete 91.56 311 P **P 08 15 53.6 +0.5**
comp=Z,78nm,1.4s,mb5.8
ETOR Torete 91.56 311 P **P 08 15 53.6 +0.5**
ETOR pmax pmax
comp=Z,78nm,1.4s,mb5.8
ALE Alert 91.62 357 P **P 08 15 52.0 -0.6**
comp=Z,733nm,1.2s,mb6.9,SNR=100
ODZI Dziouia 91.69 305 P **P 08 15 56.0 +2.2**
OLHC Oulhaca 91.84 305 P **P 08 15 58.0 +3.5**
ELAN Lanestosa 92.20 314 P **P 08 15 55.5 -0.5**
comp=Z,690nm,2.4s,mb6.6
EVIA Vianos 92.22 309 P **P 08 15 56.9 +0.7**
comp=Z,190nm,1.6s,mb6.2
EVIA Vianos 92.22 309 P **P 08 15 56.9 +0.7**
EVIA pmax pmax
comp=Z,190nm,1.6s,mb6.2
ENIJ Nijar 92.23 307 P **P 08 15 57.0 +0.7**
comp=Z,326nm,1.8s,mb6.4
ENIJ Nijar 92.23 307 P **P 08 15 57.0 +0.7**
ENIJ pmax pmax
comp=Z,326nm,1.8s,mb6.4
DLF Lyons Farm 92.36 324 eP **P 08 15 57.0 +0.5**
DMUB Kingscourt 92.45 325 eP **P 08 15 57.6 +0.7**
NVL N'lazarevskaya 92.64 199 eP **P 08 15 59.7 +2.3**
NVL e*PP pP 08 16 10.8 +2.8
NVL e*SP sP 08 16 15.1 +3.3
NVL eS SKSac 08 26 21.7 -6.5
NVL e 08 27 03.8
NVL pmax pmax
comp=Z,37nm,1.9s,mb5.5
MAIT Maitri 92.68 199 eP **P 08 15 56.3 -1.2**
DCN Croghan 92.78 324 eP **P 08 15 58.9 +0.4**
EBER Berja 92.79 307 P **P 08 15 59.4 +0.5**
comp=Z,693nm,1.8s,mb6.8
EQES Quesada 92.79 308 P **P 08 15 58.9 0.0**
comp=Z,452nm,2.2s,mb6.5
EALB Alboran 93.05 306 P **P 08 15 59.8 -0.3**
comp=Z,665nm,2.4s,mb6.6
GUD Guadarrama 93.16 311 P **P 08 16 01.2 +0.8**
comp=Z,76nm,0.9s,mb6.1
GUD Guadarrama 93.16 311 P **P 08 16 01.2 +0.7**
GUD pmax pmax
comp=Z,76nm,0.9s,mb6.1
ESDC Sonseca Array 93.18 310 P **P 08 16 00.8 +0.2**
comp=Z,161nm,2.1s,mb6.1
ESDC Sonseca Array 93.18 310 P **P 08 16 00.9 +0.3**
comp=Z,21nm,0.8s,mb5.6,baz=59,slow=4.3,SNR=44
ESDC PKKPbc PKKPbc 08 33 07.8 -2.2
comp=Z,0.5nm,0.4s,baz=298,slow=3.2,SNR=5.0
ESDC LR LR 09 02 39.4
comp=Z,691nm,20.0s,MS5.1,baz=75,slow=38
ESLA Sonseca Array 93.18 310 eP **P 08 16 01.0 +0.4**
comp=Z,64nm,1.5s,mb5.8
ESLA LR LR
comp=Z,5µm,19.0s,MS6.0
ECOG Cogollos-Vega 93.26 308 P **P 08 16 00.9 -0.2**
comp=Z,5.6nm,0.6s,mb5.2
ECOG Cogollos-Vega 93.26 308 P **P 08 16 00.9 -0.1**
ECOG pmax pmax
comp=Z,6.0nm,0.6s,mb5.2
EBAN Banos Encina 93.29 309 P **P 08 16 00.9 -0.2**
comp=Z,41nm,1.2s,mb5.7
EBAN Banos Encina 93.29 309 P **P 08 16 00.9 -0.2**
EBAN pmax pmax
comp=Z,41nm,1.2s,mb5.7
EGUA Guajares 93.33 307 P **P 08 16 01.8 +0.4**
comp=Z,26nm,1.5s,mb5.4
EGUA Guajares 93.33 307 P **P 08 16 01.8 +0.4**
EGUA pmax pmax
comp=Z,26nm,1.5s,mb5.4
EARI Arriondas 93.47 314 P **P 08 16 02.1 +0.2**
comp=Z,29nm,0.9s,mb5.7
PAB San Pablo 93.49 310 eP **P 08 16 01.9 -0.1**
comp=Z,134nm,1.5s,mb6.2
PAB LR LR
comp=Z,1µm,21.0s,MS5.3
PAB San Pablo 93.49 310 eP **P 08 16 01.9 -0.1**
PAB pmax pmax
comp=Z,134nm,1.5s,mb6.2
PAB MLR MLR
comp=Z,1µm,21.0s,MS5.3
IMA2 Indian Mountai 93.75 22 eP **P 08 16 02.8 +0.2**
EADA Adamuz 93.91 309 P **P 08 16 03.8 -0.1**
comp=Z,446nm,2.0s,mb6.5
TTA Tatalina 93.93 26 eP **P 08 16 03.8 +0.3**
SDPT Sand Point 94.02 34 eP **P 08 16 03.5 -0.6**
comp=Z,196nm,1.0s,mb6.5
EMIJ Mijas 94.33 307 P **P 08 16 04.3 -1.6**
comp=Z,327nm,2.5s,mb6.3
ECAB El Cabril 94.57 309 P **P 08 16 06.1 -1.0**
comp=Z,11nm,0.6s,mb5.5
SVW2 Sparrevohn 94.75 27 eP **P 08 16 07.3 0.0**
ECAL Calabor 94.83 313 P **P 08 16 08.0 -0.2**
EJIF Jimena Fronter 94.91 307 P **P 08 16 08.8 +0.2**
comp=Z,227nm,1.6s,mb6.3
EJIF Jimena Fronter 94.91 307 P **P 08 16 08.8 +0.2**
EJIF pmax pmax
comp=Z,227nm,1.6s,mb6.3
ESPR Espera 95.14 308 P **P 08 16 09.2 -0.4**
comp=Z,515nm,3.6s
MVO Moncorvo 95.20 312 eP **P 08 16 10.1 +0.2**
comp=Z,97nm,1.6s,mb6.0
MVO Moncorvo 95.20 312 eS S 08 27 18.8 -4.3
MVO Moncorvo 95.20 312 eLR LR 08 49 38.5
comp=Z,845nm,20.0s
QSPA South Pole Qui 95.28 180 PFAKE 08 16 20.0 +11
QSPA LR LR
comp=Z,1.0nm,22.0s
QSPA South Pole Qui 95.28 180 PKKPbc PKKPbc 08 33 03.8 -2.2
baz=168,slow=2.2
EBAD Badajoz 95.68 310 P **P 08 16 10.7 -1.4**
PVRL Vila Real 95.69 312 eP **P 08 16 12.7 +0.6**
comp=Z,66nm,1.9s,mb5.7
MTE Manteigas 95.74 311 eP **P 08 16 13.0 +0.7**
comp=Z,36nm,1.9s,mb5.9
MTE Manteigas 95.74 311 eS S 08 27 27.3 -0.5
MTE eSS SS 08 34 14.3 +17
MTE Manteigas 95.74 311 eLR LR 08 49 54.7
comp=Z,874nm,20.0s
PBAR Barrancos 95.81 309 eP **P 08 16 13.1 +0.4**
comp=Z,88nm,1.8s,mb5.9
PBAR Barrancos 95.81 309 eS S 08 27 29.5 +1.0
PBAR Barrancos 95.81 309 eLR LR 08 49 17.0
comp=Z,1µm,20.0s
PCBR Castelo Branco 95.81 311 eP **P 08 16 14.0 +1.3**
comp=Z,53nm,1.7s,mb5.7
PCAB Cabril 95.83 313 eP **P 08 16 14.0 +1.3**
comp=Z,66nm,1.9s,mb5.7
PESTR Estremoz 96.09 310 eP **P 08 16 13.7 -0.3**
comp=Z,32nm,1.6s,mb5.5
PESTR Estremoz 96.09 310 eS S 08 27 28.5 -2.4
PESTR eSS SS 08 34 07.8 +5.4
PESTR Estremoz 96.09 310 eLR LR 08 51 42.5
comp=Z,947nm,20.0s
EGRO El Granado 96.28 309 P **P 08 16 13.3 -1.5**
COLA College 96.46 22 eP **P 08 16 13.6 -1.4**
comp=Z,21nm,1.1s,mb5.5
COLA LR LR
comp=Z,2µm,21.0s,MS5.7
COLA College 96.46 22 eP **P 08 16 13.6 -1.4**
COLA pmax pmax
comp=Z,21nm,1.1s,mb5.5
COLA MLR MLR
comp=Z,2µm,21.0s,MS5.7
PBEJ Beja 96.48 309 eP **P 08 16 16.5 +0.8**
comp=Z,60nm,1.8s,mb5.7
EVO Evora 96.49 310 eP **P 08 16 16.5 +0.7**
EVO eMLR MLR
comp=Z,2µm,22.8s,MS5.3
PVAQ Vaqueiros 96.49 308 eP **P 08 16 16.4 +0.6**
comp=Z,79nm,1.7s,mb5.9
PVAQ Vaqueiros 96.49 308 eS S 08 27 30.3 -4.1
PVAQ Vaqueiros 96.49 308 eLR LR 08 50 59.4
comp=Z,1µm,20.0s
MCK McKinley 96.56 24 eP **P 08 16 14.6 -0.9**
comp=Z,308nm,1.7s,mb6.5
MCK ePP PP 08 20 08.3 -1.2
MCK LR LR
comp=Z,3µm,22.0s,MS5.7
MCK McKinley 96.56 24 eP **P 08 16 14.6 -0.9**
MCK e 08 20 08.3
MCK pmax pmax
comp=Z,308nm,1.7s,mb6.5
MCK MLR MLR
comp=Z,3µm,22.0s,MS5.7
PBDV Barranco-do-Ve 96.69 308 eP **P 08 16 17.3 +0.6**
comp=Z,108nm,1.6s,mb6.0
PBDV Barranco-do-Ve 96.69 308 eS S 08 27 33.3 -2.9
PBDV eSS SS 08 34 14.8 +3.8
PBDV A 09 03 06.1
comp=Z,1µm,20.0s
MORF Marmelete 97.24 309 eS S 08 27 36.1 -4.8
MORF A 09 03 42.1
comp=Z,2µm,20.0s
PMAFR Mafra 97.36 310 eS S 08 27 42.5 +0.6
PMAFR eSS SS 08 34 22.6 +2.3
PMAFR Mafra 97.36 310 eLR LR 08 52 41.5
comp=Z,918nm,20.0s
KDAK Kodiak Island 97.37 30 PFAKE 08 16 30.0 +11
KDAK LR LR
comp=Z,1µm,21.0s,MS5.3
SLKM Skilak Lake 97.40 27 eP **P 08 16 18.4 -1.0**
SLKM ePP PP 08 20 15.6 -0.6
SNAA Sanae 97.41 198 ePdiff **P 08 16 20.8 +1.7**
SNAA e pP 08 16 30.3 +0.5
SNAA e 08 16 36.2
SNAA e 08 16 41.6
PFVI Vila Bisbo 97.41 308 eS S 08 27 40.0 -2.4
PFVI A 09 04 16.9
comp=Z,1µm,20.0s
PMR Palmer 97.42 26 eP **P 08 16 19.1 -0.3**
comp=Z,182nm,1.5s,mb6.3
PMR LR LR
comp=Z,2µm,19.0s,MS5.7
PMR Palmer 97.42 26 eP **P 08 16 19.1 -0.3**
PMR pmax pmax
comp=Z,182nm,1.5s,mb6.3
PMR MLR MLR
comp=Z,2µm,19.0s,MS5.7
SML Sawmill 97.66 25 eP **P 08 16 19.9 -0.6**
SML Sawmill 97.66 25 P **P 08 16 20.1 -0.4**
DBIC Dimbokro 98.74 278 P **P 08 16 28.4 +2.0**
DBIC S SKSac 08 26 58.3 -4.5
DBIC pmax pmax
comp=Z,10.0nm,1.1s
DBIC smax
comp=N,2.0nm,0.9s
DBIC Dimbokro 98.74 278 P **P 08 16 28.4 +1.9**
comp=N,9.9nm,1.1s,mb5.3,baz=158,slow=4.3,SNR=4.3
DBIC S SKSac 08 26 58.3 -4.5
comp=N,2.0nm,0.9s,baz=300,slow=21.SNR=3.0
DBIC LR LR 08 58 06.3
comp=N,2µm,21.9s,MS5.5,baz=64,slow=34
VNA2 Neumayer--Watz 98.96 199 ePdiff **P 08 16 28.3 +2.2**
baz=65,slow=2.5
VNA2 e pP 08 16 38.2 +1.4
VNA2 e 08 16 44.1
VNA2 e 08 16 50.3
EGAK Eagle 98.98 21 PFAKE 08 16 40.0 +14
EGAK LR LR
comp=Z,4µm,20.0s,MS5.9
MENT Mentasta 99.00 23 eP **P 08 16 27.7 +1.2**
DIV Divide 99.07 25 PFAKE 08 16 40.0 +13
DIV LR LR
comp=Z,11µm,19.0s,MS6.4
INK Inuvik 99.26 16 eP **P 08 16 26.5 -1.0**
comp=Z,5µm,1.4s
INK Inuvik 99.26 16 eP **P 08 16 26.5 -1.0**
INK pmax pmax
comp=Z,5µm,1.4s
VNA1 Neumayer--Stat 99.30 199 ePdiff **P 08 16 28.1 +0.5**
VNA1 e pP 08 16 40.3 +2.0
VNA1 e 08 16 44.8
VNA1 e 08 16 50.5
VNA3 Neumayer Olymp 99.63 199 ePdiff Pdif 08 16 30.4 +0.9
VNA3 e 08 16 39.6
VNA3 e 08 16 45.9
VNA3 e 08 16 51.8
RES Resolute Bay 99.87 3 ePdif Pdif 08 16 30.0 -0.6
comp=Z,3µm,1.2s
RES Resolute Bay 99.87 3 eP Pdif 08 16 30.0 -0.5
RES pmax pmax
comp=Z,3µm,1.2s
DAWY Dawson 100.02 21 ePdif Pdif 08 16 30.3 -0.9
SFJD Kangerlussuaq 103.65 347 PFAKE 08 17 00.0 +13
SFJD LR LR
comp=Z,2µm,20.0s,MS5.7
KIP Kipapa 104.08 66 PFAKE 08 17 00.0 +11
KIP LR LR
comp=Z,3µm,19.0s,MS5.9
SIT Sitka 105.81 26 PFAKE 08 21 20.0 +11
SIT LR LR
comp=Z,11µm,22.0s,MS6.4
POHA Pohakuloa 106.70 68 PFAKE 08 21 20.0 +7.8
POHA LR LR
comp=Z,2µm,19.0s,MS5.6
YKA Yellowknife Ar 108.74 14 Pdif Pdif 08 17 09.3 -0.6
YKA PKPdf PKiKP 08 21 14.2 -0.6
YKA PP PP 08 21 33.8 -6.7
YKA PKKPbc PKKPbc 08 32 21.8 -4.1
YKA Yellowknife Ar 108.74 14 P Pdif 08 17 09.3 -0.6
YKA pmax pmax
comp=Z,3.0nm,1.0s
YKA pmax pmax
comp=Z,1.0nm,0.6s
YKA pmax pmax
comp=Z,4.0nm,0.8s
YKA Yellowknife Ar 108.74 14 Pdiff Pdif 08 17 09.3 -0.6
comp=Z,3.4nm,1.0s,baz=334,slow=4.9,SNR=25
YKA PKiKP PKiKP 08 21 14.1 -0.6
comp=Z,1.1nm,0.6s,baz=350,slow=2.0,SNR=12
YKA PP PP 08 21 33.8 -6.7
comp=Z,3.9nm,0.8s,baz=331,slow=6.4,SNR=10
YKA PKKPbc PKKPbc 08 32 21.8 -4.1
comp=Z,0.3nm,0.6s,baz=149,slow=3.3,SNR=8.3
ASCN Ascension 109.47 264 PFAKE 08 21 30.0 +12
ASCN LR LR
comp=Z,3µm,20.0s,MS5.9
CMLA Cha da Macela 109.84 313 PFAKE 08 21 30.0 +12
CMLA LR LR
comp=Z,1µm,20.0s,MS5.5
FCC Fort Churchill 115.70 5 ePKPdf PKPdf 08 21 26.5 -1.6
FCC ePP PP 08 22 27.1 -3.1
TBI Tubuai 115.90 113 ePP PP 08 22 28.6 -5.0
comp=Z,296nm,30.2s
TBI Tubuai 115.90 113 ePS PS 08 32 14.2 -1.3
TBI eSS SS 08 38 35.5 +2.0
comp=Z,893nm,32.0s
TBI Tubuai 115.90 113 eLR LR 08 56 25.3
comp=Z,3µm,23.0s
PPT Papeete 116.20 107 ePP PP 08 22 26.0 -10
comp=Z,311nm,27.5s
PPT Papeete 116.20 107 ePS PS 08 32 17.1 -1.3
comp=Z,2µm,26.5s
PPT eSS SS 08 38 34.1 -3.7
comp=Z,1µm,34.2s
PPT Papeete 116.20 107 eLR LR 08 56 38.5
comp=Z,1µm,22.5s
EDM Edmonton 117.04 18 ePKPdf PKPdf 08 21 30.4 -0.5
A04A Legoe Bay, Lum 117.05 27 ⇑P PKPdf 08 21 30.6 -0.4
baz=117
A05A Maple Falls 117.12 26 ⇑P PKPdf 08 21 30.1 -1.1
baz=117,SNR=7.2
B04A Port Angeles 117.17 28 ⇓P PKPdf 08 21 30.8 -0.5
baz=117
NLWA Neilton Lookou 117.48 28 PFAKE 08 21 40.0 +8.1
NLWA LR LR
comp=Z,2µm,20.0s,MS5.7
NLWA Neilton Lookou 117.48 28 ⇑P PKPdf 08 21 31.9 0.0
baz=117
B05A Bryant 117.66 27 ⇓P PKPdf 08 21 31.5 -0.8
baz=118,SNR=19
D03A Wishkah Elem. 117.72 29 ⇑P PKPdf 08 21 32.0 -0.3
baz=118
B06A Marblemount 117.75 26 ⇑P PKPdf 08 21 31.5 -0.9
baz=118,SNR=6.8
A07A Ashnola River, 117.82 25 ⇓P PKPdf 08 21 31.7 -0.8
baz=118,SNR=12
SCHQ Schefferville 118.06 348 ePKPdf PKPdf 08 21 32.4 -0.4
SCHQ LR LR
comp=Z,2µm,19.0s,MS5.8
SCHQ Schefferville 118.06 348 PKP PKPdf 08 21 32.1 -0.7
comp=Z,6.4nm,0.5s,baz=356,slow=1.8,SNR=37
SCHQ PP PP 08 22 41.1 -5.6
comp=Z,18nm,1.1s,baz=34,slow=8.2,SNR=4.1
E03A Lebam 118.23 29 ⇑P PKPdf 08 21 32.9 -0.4
baz=118
C05A Tolt Reservoir 118.27 27 ⇑P PKPdf 08 21 32.8 -0.6
baz=118,SNR=8.7
A08A Turner Farm, O 118.36 25 ⇓P PKPdf 08 21 32.9 -0.7
baz=118,SNR=12
B07A Winthrop 118.38 26 ⇑P PKPdf 08 21 32.8 -0.8
baz=118,SNR=10
D05A Enumclaw 118.51 28 ⇓P PKPdf 08 21 33.4 -0.5
baz=118,SNR=12
FFC Flin Flon 118.55 11 ePKPdf PKPdf 08 21 32.5 -1.2
FFC ePP PP 08 22 46.6 -3.5
FFC LR LR
comp=Z,3µm,22.0s,MS5.8
E04A Onalaska 118.60 28 ⇑P PKPdf 08 21 33.7 -0.4
baz=118
A09A Danville 118.63 24 ⇑P PKPdf 08 21 33.6 -0.4
baz=118,SNR=8.2
F03A Seaside 118.67 29 ⇓P PKPdf 08 21 33.8 -0.5
baz=118
PMSA Palmer Station 118.78 190 PFAKE 08 21 50.0 +16
PMSA LR LR
comp=Z,3µm,19.0s,MS5.9
B08A Colville Reser 118.80 25 ⇑P PKPdf 08 21 33.5 -0.9
baz=119,SNR=11
C07A Waterville 119.00 26 ⇑P PKPdf 08 21 33.8 -1.0
baz=119,SNR=13
D06A Cle Elum 119.03 27 ⇓P PKPdf 08 21 34.0 -0.8
baz=119,SNR=11
A10A Northport 119.04 24 ⇑P PKPdf 08 21 34.0 -0.8
baz=119,SNR=6.5
E05A Randle 119.08 28 ⇑P PKPdf 08 21 34.0 -1.0
baz=119
F04A Amboy 119.22 29 ⇓P PKPdf 08 21 34.8 -0.5
baz=119,SNR=11
B09A Rice 119.24 24 ⇓P PKPdf 08 21 34.7 -0.6
baz=119,SNR=20
G03A Yamhill 119.25 30 ⇑P PKPdf 08 21 35.4 +0.1
baz=119
C08A Higginbotham F 119.36 25 ⇑P PKPdf 08 21 34.7 -0.8
baz=119,SNR=6.8
D07A Quincy 119.41 26 ⇑P PKPdf 08 21 34.9 -0.7
baz=119,SNR=9.5
E06A Yakima 119.45 27 ⇑P PKPdf 08 21 35.3 -0.5
baz=119,SNR=15
A11A Hall Mountain, 119.53 23 ⇑P PKPdf 08 21 35.6 -0.2
baz=119,SNR=26
C09A Chrisman Ranch 119.68 25 ⇑P PKPdf 08 21 35.2 -0.9
baz=120,SNR=14
H03A Soap Creek Ran 119.70 30 ⇑P PKPdf 08 21 36.0 -0.3
baz=120
B10A Chitwood Farm, 119.72 24 ⇓P PKPdf 08 21 35.4 -0.8
baz=120
F05A White Salmon 119.72 28 ⇑P PKPdf 08 21 35.7 -0.6
baz=120
G04A Mulino 119.72 29 ⇓P PKPdf 08 21 35.9 -0.4
baz=120
COR Corvallis 119.76 30 PFAKE 08 21 50.0 +14
COR LR LR
comp=Z,2µm,21.0s,MS5.8
NEW Newport 119.78 24 ePKPdf PKPdf 08 21 35.8 -0.5
NEW LR LR
comp=Z,4µm,22.0s,MS6.0
A12A Yaak River Ran 119.82 23 ⇑P PKPdf 08 21 35.7 -0.7
baz=120
I02A Mapleton 119.90 31 ⇓P PKPdf 08 21 36.3 -0.4
baz=120
B11A Sandpoint 119.95 23 ⇓P PKPdf 08 21 36.0 -0.7
baz=120,SNR=7.6
E07A Sunnyside 119.95 27 ⇑P PKPdf 08 21 36.1 -0.5
baz=120
D08A Wollman Farm, 119.98 26 ⇑P PKPdf 08 21 36.0 -0.7
baz=120,SNR=11
C10A Spilker Farm, 120.06 24 ⇑P PKPdf 08 21 36.2 -0.7
baz=120,SNR=11
F06A Goldendale 120.12 28 ⇓P PKPdf 08 21 36.7 -0.4
baz=120
I03A Eugene 120.20 31 ⇑P PKPdf 08 21 36.6 -0.6
baz=120
HAWA Hanford 120.22 27 ePKPdf PKPdf 08 21 36.9 -0.3
HAWA LR LR

comp=Z,2µm,22.0s,MS5.7
B12A Libby 120.22 23 ⇑P PKPdf 08 21 36.6 -0.5
baz=120
D09A Jones Farm, Ri 120.24 25 ⇑P PKPdf 08 21 36.3 -0.9
baz=120,SNR=15
H04A Detroit Lake 120.24 30 ⇑P PKPdf 08 21 36.5 -0.9
baz=120,SNR=13
G05A Wamic 120.26 29 ⇑P PKPdf 08 21 37.0 -0.4
baz=120
A13A Flathead Natio 120.29 22 ⇓P PKPdf 08 21 37.0 -0.2
baz=120
E08A Dider Farm, El 120.36 26 ⇓P PKPdf 08 21 37.1 -0.4
baz=120,SNR=12
K01A Sixes 120.39 33 ⇑P PKPdf 08 21 37.1 -0.6
baz=120
F07A Phinny Hill Vi 120.42 27 ⇑P PKPdf 08 21 37.4 -0.2
baz=120,SNR=10
G06A Carlson Farm, 120.59 28 ⇑P PKPdf 08 21 37.5 -0.4
baz=120,SNR=11
D10A Wagner Farm, O 120.68 25 ⇑P PKPdf 08 21 37.1 -1.0
baz=120
B13A Whitefish 120.73 22 ⇓P PKPdf 08 21 37.5 -0.7
baz=121,SNR=34
E09A Wood Farm, Sta 120.74 26 ⇓P PKPdf 08 21 37.4 -0.8
baz=121,SNR=11
H05A Madras 120.74 29 ⇓P PKPdf 08 21 37.9 -0.4
baz=121,SNR=18
I04A Tendick Farm, 120.77 30 ⇑P PKPdf 08 21 37.7 -0.7
baz=121,SNR=10.0
J03A Ideyld Park 120.79 31 ⇑P PKPdf 08 21 37.9 -0.5
baz=121,SNR=10
K02A Glendale 120.94 32 ⇑P PKPdf 08 21 38.2 -0.5
baz=121,SNR=5.5
G07A Ruggs Ranch, H 121.01 28 ⇑P PKPdf 08 21 38.2 -0.6
baz=121,SNR=6.2
F08A Pendleton 121.02 27 ⇑P PKPdf 08 21 38.2 -0.6
baz=121,SNR=6.2
I05A Bend 121.08 30 ⇓P PKPdf 08 21 38.4 -0.5
baz=121,SNR=13
D11A Klaveano Farm, 121.08 24 ⇑P PKPdf 08 21 37.5 -1.4
baz=121,SNR=24
H06A Lindquist Farm 121.10 28 ⇑P PKPdf 08 21 38.6 -0.4
baz=121,SNR=19
E10A Myers Farm, Un 121.20 25 ⇑P PKPdf 08 21 38.1 -1.0
baz=121,SNR=19
M01C Crescent City 121.24 33 ⇓P PKPdf 08 21 38.8 -0.5
baz=121
C13A Hot Springs 121.26 23 ⇓P PKPdf 08 21 38.2 -1.0
baz=121,SNR=16
L02A Cave Junction 121.31 33 ⇓P PKPdf 08 21 38.6 -0.8
baz=121
G08A Pilot Rock 121.32 27 P PKPdf 08 21 39.0 -0.3
baz=121,SNR=18
J04A Umpqua Nationa 121.32 31 ⇑P PKPdf 08 21 39.1 -0.3
baz=121,SNR=20
HUMO Hull Mountain 121.33 32 ePKPdf PKPdf 08 21 39.7 +0.2
HUMO LR LR
comp=Z,2µm,21.0s,MS5.8
HUMO Hull Mountain 121.33 32 ⇑P PKPdf 08 21 39.3 -0.2
baz=121,SNR=19
F09A S2 Ranch, Elgi 121.47 26 ⇓P PKPdf 08 21 38.8 -0.9
baz=121,SNR=21
D12A Red Ives Fores 121.47 24 P PKPdf 08 21 38.0 -1.6
baz=121,SNR=12
C14A Swan Lake 121.50 22 ⇓P PKPdf 08 21 38.6 -1.0
baz=121,SNR=27
F10A Beach Ranch, E 121.56 26 ⇑P PKPdf 08 21 39.0 -0.8
baz=121,SNR=48
H07A Lands Inn, Kim 121.57 28 ⇑P PKPdf 08 21 39.4 -0.5
baz=121,SNR=31
E11A Bogner Ranch, 121.68 25 P PKPdf 08 21 38.8 -1.2
baz=122,SNR=38
J05A Fort Rock 121.73 30 ⇓P PKPdf 08 21 40.1 -0.1
baz=122,SNR=26
I06A Prineville 121.75 29 ⇓P PKPdf 08 21 40.1 -0.1
baz=122,SNR=22
D13A Huson 121.79 23 P PKPdf 08 21 39.0 -1.2
baz=122,SNR=27
K04A Chilquin 121.97 31 ⇓P PKPdf 08 21 40.2 -0.5
baz=122
I07A Izee 121.98 28 ⇑P PKPdf 08 21 40.5 -0.2
baz=122,SNR=33
H08A Prairie City 122.04 28 ⇑P PKPdf 08 21 40.3 -0.5
baz=122,SNR=25
YBH Yreka Blue Hor 122.08 32 PFAKE 08 21 50.0 +9.1
YBH LR LR
comp=Z,2µm,20.0s,MS5.8
YBH Yreka Blue Hor 122.08 32 ⇑P PKPdf 08 21 40.0 -0.9
baz=122
F11A Grangeville 122.08 25 ⇑P PKPdf 08 21 39.4 -1.4
baz=122,SNR=31
G10A Bishop Farm, J 122.14 26 ⇓P PKPdf 08 21 39.3 -1.6
baz=122,SNR=12
D14A Greenough 122.16 22 P PKPdf 08 21 39.8 -1.2
baz=122,SNR=37
L04A Klamath Falls 122.20 32 ⇓P PKPdf 08 21 40.7 -0.5
baz=122,SNR=6.8
MSO Missoula 122.21 23 ePKPdf PKPdf 08 21 40.0 -1.0
MSO ePP PP 08 23 16.8 0.0
MSO LR LR
comp=Z,3µm,22.0s,MS5.9
M02C Callahan 122.24 33 ⇓P PKPdf 08 21 41.2 -0.1
baz=122,SNR=14
J06A Christmas Vall 122.29 30 P PKPdf 08 21 41.2 -0.1
baz=122,SNR=40
K05A Summer Lake 122.31 30 ⇓P PKPdf 08 21 41.3 -0.1
baz=122,SNR=18
N02C Big Bar 122.39 34 ⇑P PKPdf 08 21 41.2 -0.4
baz=122,SNR=7.9
H09A Durkee 122.39 27 ⇓P PKPdf 08 21 40.5 -1.0
baz=122,SNR=11
CHMT Chamberlain Mo 122.40 22 ePKPdf PKPdf 08 21 40.6 -0.8
CHMT ePP PP 08 23 16.8 0.0
BMO Blue Mountains 122.40 26 ePKPdf PKPdf 08 21 40.1 -1.3
BMO LR LR
comp=Z,2µm,20.0s,MS5.7
G11A Walters Elk Ra 122.42 25 P PKPdf 08 21 40.4 -1.1
baz=122,SNR=39
E13A Victor 122.43 23 ⇓P PKPdf 08 21 40.5 -1.0
baz=122,SNR=88
M04C Macdoel 122.50 32 ⇑P PKPdf 08 21 41.1 -0.6
baz=122,SNR=15
I08A Drewsey 122.56 28 ⇓P PKPdf 08 21 41.4 -0.3
baz=122,SNR=26
F12A Elk City 122.56 24 ⇑P PKPdf 08 21 40.0 -1.7
baz=122,SNR=10
D15A Lincoln 122.57 22 ⇑P PKPdf 08 21 40.7 -1.0
baz=122,SNR=22
J07A Hines 122.61 29 ⇑P PKPdf 08 21 41.9 0.0
baz=122,SNR=30
EGMT Eagleton 122.69 19 ePKPdf PKPdf 08 21 41.6 -0.3
EGMT LR LR
comp=Z,4µm,19.0s,MS6.1
EGMT Eagleton 122.69 19 ⇓P PKPdf 08 21 41.4 -0.5
baz=122
M03C McCloud 122.71 32 ⇑P PKPdf 08 21 41.5 -0.7
baz=123,SNR=9.2
E14A Clinton 122.72 23 ⇑P PKPdf 08 21 41.0 -1.0
baz=122,SNR=36
L05A Lakeview 122.83 31 ⇓P PKPdf 08 21 42.4 0.0
baz=123,SNR=15
H10A Noah's Angus R 122.86 26 ⇑P PKPdf 08 21 41.0 -1.3
baz=123,SNR=29
I09A Lost Marbles R 122.89 27 ⇓P PKPdf 08 21 41.8 -0.6
baz=123,SNR=16
F13A Darby 122.91 24 P PKPdf 08 21 41.0 -1.4
baz=123,SNR=34
WDC Whiskeytown Da 122.97 33 PFAKE 08 21 50.0 +7.3
WDC LR LR
comp=Z,2µm,21.0s,MS5.7
WDC Whiskeytown Da 122.97 33 ⇑P PKPdf 08 21 41.7 -1.0
baz=123,SNR=7.0
KIPM Iron Peak 122.98 35 ePKPdf PKPdf 08 21 42.3 -0.4
J08A Circle Bar Ran 123.02 28 ⇓P PKPdf 08 21 42.5 -0.1
baz=123,SNR=50
E15A Deer Lodge 123.04 22 ⇑P PKPdf 08 21 41.4 -1.2
baz=123,SNR=15
H11A Donnelly 123.09 26 ⇓P PKPdf 08 21 41.9 -0.9
baz=123,SNR=36
O02C Red Bluff 123.12 34 ⇑P PKPdf 08 21 42.7 -0.2
baz=123,SNR=8.2
K07A Rock Creek Ran 123.15 29 P PKPdf 08 21 43.2 +0.2
baz=123,SNR=51
M05C Lookout 123.17 32 ⇓P PKPdf 08 21 42.7 -0.3
baz=123,SNR=19
MOD Modoc 123.21 31 ePKPdf PKPdf 08 21 43.1 0.0
MOD ePP PP 08 23 23.9 +1.4
MOD LR LR
comp=Z,2µm,21.0s,MS5.7
MOD Modoc 123.21 31 ⇑P PKPdf 08 21 43.1 0.0
baz=123,SNR=23
I10A Payette 123.23 27 ⇓P PKPdf 08 21 42.6 -0.4
baz=123,SNR=9.7
F14A Wisdom 123.27 23 ⇓P PKPdf 08 21 42.7 -0.4
baz=123,SNR=7.8
P01C Double 8 Ranch 123.30 35 ⇓P PKPdf 08 21 43.0 -0.4
baz=123
J09A Fry Pan Ranch, 123.37 28 ⇑P PKPdf 08 21 43.0 -0.4
baz=123,SNR=22
HATC Hat Creek Radi 123.39 32 ⇑P PKPdf 08 21 42.9 -0.5
baz=123,SNR=12
K08A Mann Creek Ran 123.49 29 ⇑P PKPdf 08 21 43.5 -0.1
baz=123,SNR=40
G13A Cobalt 123.52 24 ⇓P PKPdf 08 21 42.2 -1.4
baz=123,SNR=13
GASB Alder Springs 123.52 34 ⇓P PKPdf 08 21 43.3 -0.5
baz=123,SNR=12
F15A Butte 123.59 22 ⇓P PKPdf 08 21 42.8 -0.9
baz=123,SNR=12
L07A Adell 123.61 30 ⇓P PKPdf 08 21 44.1 +0.3
baz=124,SNR=29
M06C Likely Place G 123.63 31 ⇑P PKPdf 08 21 43.6 -0.3
baz=124,SNR=14
WVOR Wild Horse Val 123.64 29 ePKPdf PKPdf 08 21 43.8 -0.1
WVOR LR LR
comp=Z,1µm,20.0s,MS5.6
O03C Acorn Hollow, 123.66 33 ⇓P PKPdf 08 21 43.1 -1.0
baz=124
H12A Diamond D Ranc 123.70 25 P PKPdf 08 21 43.5 -0.5
baz=124,SNR=26
G14A Jackson 123.71 24 ⇓P PKPdf 08 21 43.7 -0.3
baz=124,SNR=50
I11A Placerville 123.74 26 ⇑P PKPdf 08 21 43.1 -0.9
baz=124,SNR=30
J10A Berg Farm, Mel 123.76 27 ⇓P PKPdf 08 21 43.7 -0.4
baz=124,SNR=19
HOPS Hopland 123.77 35 PFAKE 08 22 00.0 +16
HOPS LR LR
comp=Z,2µm,20.0s,MS5.7
HOPS Hopland 123.77 35 ⇓P PKPdf 08 21 43.5 -0.7
baz=124
ULM Lac du Bonnet 123.87 8 ePKPdf PKPdf 08 21 42.8 -1.3
ULM LR LR
comp=Z,5µm,20.0s,MS6.2
ULM Lac du Bonnet 123.87 8 PKP PKPdf 08 21 43.0 -1.2
comp=Z,30nm,0.8s,baz=347,slow=3.2,SNR=64
ULM PP PP 08 23 20.8 -5.5
comp=Z,41nm,1.3s,baz=332,slow=8.1,SNR=4.4
ULM PKKPbc PKKPbc 08 31 29.1 -3.2
comp=Z,0.6nm,0.4s,baz=162,slow=3.2,SNR=3.9
K09A Rome 123.88 28 ⇓P PKPdf 08 21 44.3 -0.1
baz=124,SNR=67
DGMT Dagmar 123.91 15 ePKPdf PKPdf 08 21 44.1 -0.1
DGMT LR LR
comp=Z,3µm,19.0s,MS6.0
ELFS Eagle Lake Fie 123.92 32 ⇓P PKPdf 08 21 44.5 0.0
baz=124,SNR=8.8
H13A Challis 123.94 25 ⇓P PKPdf 08 21 43.9 -0.5
baz=124,SNR=46
O04C Chester 123.94 33 ⇑P PKPdf 08 21 44.3 -0.3
baz=124,SNR=22
DLMT Dillon 123.95 23 ePKPdf PKPdf 08 21 44.3 -0.1
L08A Fields 123.97 29 ⇑P PKPdf 08 21 44.6 +0.1
baz=124,SNR=52
BOZ Bozeman (W) 124.08 22 ePKPdf PKPdf 08 21 44.5 -0.2
BOZ LR LR
comp=Z,2µm,20.0s,MS5.9
G15A Dillon 124.15 23 ⇓P PKPdf 08 21 44.7 -0.1
baz=124,SNR=75
M07A Soldier Meadow 124.16 30 ⇓P PKPdf 08 21 45.1 +0.2
baz=124,SNR=20
MFID Camas Ranch 124.19 27 ⇓P PKPdf 08 21 44.7 -0.2
baz=124,SNR=49
MNRC McLaughlin Nat 124.21 35 ⇑P PKPdf 08 21 45.0 -0.1
baz=124,SNR=7.8
K10A MacKenzie Ranc 124.22 28 ⇓P PKPdf 08 21 44.9 -0.1
baz=124,SNR=23
ORV Oroville 124.26 33 ⇓P PKPdf 08 21 44.2 -0.9
baz=124,SNR=8.0
O05C Quincy 124.29 33 ⇑P PKPdf 08 21 44.8 -0.5
baz=124,SNR=9.5
MCMT McKenzie Canyo 124.29 23 ePKPdf PKPdf 08 21 44.8 -0.3
N06A Buffalo Meadow 124.30 31 ⇑P PKPdf 08 21 45.2 0.0
baz=124,SNR=37
SUTB Sutter Butte 124.33 34 ⇑P PKPdf 08 21 44.1 -1.2
baz=124
NSHM Saint Helena R 124.36 35 ePKPdf PKPdf 08 21 45.7 +0.3
OHCM Honcut 124.42 34 ePKPdf PKPdf 08 21 45.0 -0.5
L09A Wilkinson Ranc 124.43 29 ⇓P PKPdf 08 21 45.6 +0.1
baz=124,SNR=27
MCCM Marconi Confer 124.46 36 PFAKE 08 22 00.0 +14
MCCM LR LR
comp=Z,1µm,22.0s,MS5.6
MCCM Marconi Confer 124.46 36 ⇓P PKPdf 08 21 45.1 -0.5
baz=124
M08A Happy Creek Ra 124.51 30 ⇑P PKPdf 08 21 45.8 +0.1
baz=124,SNR=31
I13A Wildhorse Cree 124.53 25 ⇓P PKPdf 08 21 45.5 -0.1
baz=124,SNR=45
CVS Carmenet Viney 124.56 35 ⇑P PKPdf 08 21 45.5 -0.3
baz=124,SNR=7.3
K11A Parker Ranch, 124.61 27 ⇓P PKPdf 08 21 45.5 -0.3
baz=124,SNR=12
Q03C Winters 124.62 35 ⇓P PKPdf 08 21 46.3 +0.4
baz=124
J12A Stokes Ranch, 124.64 26 P PKPdf 08 21 46.0 +0.1
baz=124,SNR=44
BEKR Beckwourth 124.66 32 ⇑P PKPdf 08 21 45.4 -0.5
baz=124,SNR=13
HLID Hailey 124.69 25 ⇓P PKPdf 08 21 45.8 -0.1
baz=124
N07B Gerlach 124.72 31 ⇑P PKPdf 08 21 46.0 0.0
baz=125,SNR=17
O06A Flanigan 124.72 32 ⇓P PKPdf 08 21 45.6 -0.4
baz=125,SNR=25
Q04C Lincoln 124.83 34 ⇓P PKPdf 08 21 46.0 -0.3
baz=125,SNR=5.5
QLMT Earthquake Lak 124.84 22 ePKPdf PKPdf 08 21 46.6 +0.5
J13A Cove Ranch, Pi 124.92 25 P PKPdf 08 21 46.5 +0.2
baz=125,SNR=107
P05C Yuba Gap, Truc 124.93 33 ⇓P PKPdf 08 21 46.1 -0.4
baz=125,SNR=11
L10A Juniper Basin 124.95 28 P PKPdf 08 21 47.0 +0.5
baz=125,SNR=60
LAO LASA Array 124.98 17 PFAKE 08 22 00.0 +14
LAO LR LR
comp=Z,4µm,20.0s,MS6.1
P06A Stead Airport, 125.04 32 ⇑P PKPdf 08 21 46.5 -0.2
baz=125,SNR=7.0
N08A GE Springer Mi 125.14 30 P PKPdf 08 21 47.1 +0.3
baz=125,SNR=32
YMR Madison River 125.15 22 ePKPdf PKPdf 08 21 47.3 +0.5
YMR ePP PP 08 23 37.1 +1.9
YMR LR LR
comp=Z,3µm,20.0s,MS6.0
BDM Black Diamond 125.17 35 ⇓P PKPdf 08 21 46.8 -0.2
baz=125
L11A Cat Creek Ranc 125.21 27 ⇑P PKPdf 08 21 47.0 +0.1
baz=125,SNR=35
K12A Draper Farm, C 125.22 26 ⇓P PKPdf 08 21 46.7 -0.2
baz=125,SNR=15
YNR Norris Junctio 125.22 22 ePKPdf PKPdf 08 21 47.8 +1.0
LAVA Lava Cap Winer 125.25 34 ⇑P PKPdf 08 21 46.4 -0.7
baz=125,SNR=13
JRSC Jasper Ridge 125.33 36 ⇑P PKPdf 08 21 47.0 -0.3
baz=125
M10A I.L. Ranch, Tu 125.35 28 ⇓P PKPdf 08 21 47.6 +0.4
baz=125,SNR=33
RLMT Red Lodge 125.38 21 ePKPdf PKPdf 08 21 47.3 +0.2
RLMT ePP PP 08 23 35.8 -0.9
RLMT LR LR
comp=Z,3µm,20.0s,MS5.9
N09A Rock Creek Ran 125.39 30 ⇓P PKPdf 08 21 47.6 +0.3
baz=125,SNR=26
YFT Old Faithful 125.39 22 ePKPdf PKPdf 08 21 48.9 +1.7
WCN Washoe City 125.39 32 ⇑P PKPdf 08 21 47.4 +0.1
baz=125,SNR=15
LKWY Lake 125.45 22 ePKPdf PKPdf 08 21 49.1 +1.8
LKWY LR LR
comp=Z,5µm,19.0s,MS6.2
WENL Wente Brothers 125.46 35 ⇑P PKPdf 08 21 46.9 -0.6
baz=125
L12A House Creek Ra 125.56 27 ⇓P PKPdf 08 21 47.5 -0.1
baz=125,SNR=27
K13A Stover Farm, H 125.57 26 ⇑P PKPdf 08 21 47.7 +0.1
baz=125,SNR=26
TAOE Nuku Hiva Isla 125.59 97 eLR LR 09 01 09.6
comp=Z,37µm,23.6s
R05C Kirkwood Meado 125.65 33 P PKPdf 08 21 47.9 0.0
baz=126,SNR=19
P07A Fallon 125.67 32 ⇑P PKPdf 08 21 48.0 +0.1
baz=126
FLWY Flagg Ranch 125.75 22 ePKPdf PKPdf 08 21 47.5 -0.4
FLWY ePP PP 08 23 40.0 +0.7
M11A Holland Ranch, 125.77 28 ⇑P PKPdf 08 21 48.5 +0.5
baz=126,SNR=38
AGMN Agassiz Refuge 125.78 9 ePKPdf PKPdf 08 21 46.5 -1.3
AGMN LR LR
comp=Z,3µm,20.0s,MS6.0
S04C Ingram Canyon, 125.79 35 ⇓P PKPdf 08 21 47.7 -0.4
baz=126,SNR=5.9
IMW Indian Meadow 125.82 23 ePKPdf PKPdf 08 21 47.9 -0.1
CMB Columbia Colle 125.95 34 ePKPdf PKPdf 08 21 48.4 -0.1
CMB LR LR
comp=Z,1µm,22.0s,MS5.5
CMB Columbia Colle 125.95 34 ⇓P PKPdf 08 21 47.8 -0.7
baz=126,SNR=10
P08A Dixie Valley 125.98 31 ⇓P PKPdf 08 21 48.8 +0.3
baz=126,SNR=11
DCID1 Drake Creek 125.98 23 ePKPdf PKPdf 08 21 48.6 +0.3
N10A Dunphy 125.98 29 ⇓P PKPdf 08 21 48.6 +0.1
baz=126,SNR=5.9
MOOW Moose Ponds 126.02 23 ePKPdf PKPdf 08 21 48.3 -0.1
K14A Jones Ranch, D 126.04 25 ⇑P PKPdf 08 21 48.5 0.0
baz=126,SNR=46
O09A Fish Creek Ran 126.07 30 ⇓P PKPdf 08 21 48.5 -0.1
baz=126,SNR=17
L13A Double Diamond 126.08 26 ⇓P PKPdf 08 21 48.9 +0.3
baz=126,SNR=18
R06C Coleville 126.12 33 ⇑P PKPdf 08 21 48.8 0.0
baz=126,SNR=16
PACP Pacheco Peak 126.16 36 ⇑P PKPdf 08 21 49.0 +0.1
baz=126,SNR=6.1
Q07A Schurz 126.16 32 ⇑P PKPdf 08 21 49.1 +0.2
baz=126
TPAW Teton Pass 126.16 23 ePKPdf PKPdf 08 21 49.0 +0.3
TPAW ePP PP 08 23 43.0 +1.0
M12A Wells 126.19 27 P PKPdf 08 21 49.4 +0.6
baz=126,SNR=71
LOHW Long Hollow 126.19 23 ePKPdf PKPdf 08 21 48.7 -0.1
SAO San Andreas Ge 126.23 36 PFAKE 08 22 00.0 +11
SAO LR LR
comp=Z,1µm,20.0s,MS5.6
SNOW Snow King Moun 126.26 23 ePKPdf PKPdf 08 21 49.1 +0.2
SNOW ePP PP 08 23 42.8 +0.2
N11A Elko Archery C 126.28 28 ⇓P PKPdf 08 21 49.3 +0.3
baz=126,SNR=7.3
REDW Red Top Meadow 126.31 23 ePKPdf PKPdf 08 21 49.0 0.0
O10A Cortez Mining, 126.32 29 ⇑P PKPdf 08 21 49.3 +0.2
baz=126,SNR=25
HAST Hastings Reser 126.43 36 ⇓P PKPdf 08 21 49.4 -0.1
baz=126,SNR=6.3
S05C Merced 126.47 35 ⇑P PKPdf 08 21 49.2 -0.3
baz=126,SNR=6.7
P09A Austin 126.56 30 ⇑P PKPdf 08 21 49.7 +0.1
baz=126,SNR=6.5
M13A Montello 126.57 27 P PKPdf 08 21 49.9 +0.3
baz=126,SNR=76
N12A Clover Valley, 126.58 28 ⇑P PKPdf 08 21 49.9 +0.3
baz=126,SNR=55
T05C Eagle Field, D 126.59 35 ⇓P PKPdf 08 21 50.1 +0.3
baz=126
EYMN Ely 126.64 5 ePKPdf PKPdf 08 21 48.8 -0.7
EYMN ePP PP 08 23 42.1 -2.8
EYMN LR LR
comp=Z,3µm,19.0s,MS5.9
R07C Lee Vining 126.65 33 ⇑P PKPdf 08 21 50.1 +0.3
baz=126,SNR=12
Q08A Gabbs 126.67 32 ⇑P PKPdf 08 21 49.9 +0.1
baz=126,SNR=21
AHID Auburn Hatcher 126.71 23 ePKPdf PKPdf 08 21 49.9 +0.1
AHID LR LR
comp=Z,2µm,19.0s,MS5.8
NVAR Mina Array Bea 126.80 32 PKP PKPdf 08 21 50.2 +0.2
comp=Z,29nm,1.1s,baz=329,slow=1.1,SNR=71
NVAR PP PP 08 23 45.7 -0.8
comp=Z,3.5nm,0.9s,baz=308,slow=4.4,SNR=3.2
M14A Sheep Mountain 126.82 26 P PKPdf 08 21 50.0 -0.1
baz=127,SNR=45
HVU Hansel Valley 126.84 25 ePKPdf PKPdf 08 21 49.1 -1.0
O11A Cowboy Ranch, 126.85 29 ⇓P PKPdf 08 21 50.2 +0.1
baz=127,SNR=38
V03C Hunter Liggett 126.86 36 ⇑P PKPdf 08 21 50.4 +0.1
baz=127
U04C Hernandez Rese 126.89 36 ⇓P PKPdf 08 21 50.6 +0.2
baz=127
N13A Wendover, West 126.96 27 ⇑P PKPdf 08 21 50.3 0.0
baz=127,SNR=23
R08A Mina 126.96 32 ⇑P PKPdf 08 21 50.7 +0.3
baz=127,SNR=8.8
KCC Kaiser Creek 127.05 34 ⇓P PKPdf 08 21 50.1 -0.5
baz=127,SNR=13
T06C Milleton Lake 127.06 34 ⇑P PKPdf 08 21 50.2 -0.4
baz=127,SNR=22
Q09A Carvers 127.08 31 ⇓P PKPdf 08 21 50.6 0.0
baz=127
O12A Currie 127.17 28 P PKPdf 08 21 51.0 +0.3
baz=127,SNR=66
M15A Larsen Ranch, 127.24 25 ⇓P PKPdf 08 21 49.9 -0.9
baz=127,SNR=12
U05C Westside ANR, 127.30 35 ⇑P PKPdf 08 21 51.4 +0.3
baz=127,SNR=8.5
BW06 Boulder Array 127.31 22 ePKPdf PKPdf 08 21 50.2 -0.7
BW06 ePP PP 08 23 48.7 -0.9
BW06 LR LR
comp=Z,4µm,19.0s,MS6.1
PKD Parkfield 127.32 36 ⇑P PKPdf 08 21 50.9 -0.2
baz=127
V04C Ramage Ranch, 127.34 36 ⇓P PKPdf 08 21 51.0 -0.3
baz=127
SPUT South Promonto 127.37 26 ePKPdf PKPdf 08 21 51.2 +0.1
SPUT epPKPdf pPKPdf 08 22 02.4 +0.4
N14A Grayback Hills 127.42 26 ⇑P PKPdf 08 21 51.1 0.0
baz=127,SNR=43
BGU Big Grassy Mou 127.43 26 ePKPdf PKPdf 08 21 51.5 +0.3
MTUM Tungsten Hills 127.44 33 ePKPdf PKPdf 08 21 51.7 +0.4
Q10A Clear Creek Ra 127.49 30 ⇓P PKPdf 08 21 51.4 0.0
baz=127,SNR=24
HWUT Hardware Ranch 127.49 25 ePKPdf PKPdf 08 21 50.8 -0.6
HWUT LR LR
comp=Z,3µm,21.0s,MS5.9
S08C White Mtn Res 127.55 33 ⇓P PKPdf 08 21 51.9 +0.4
baz=127,SNR=28
PKME Peaks-Kenny Pk 127.58 346 ePKPdf PKPdf 08 21 51.2 -0.1
PKME LR LR
comp=Z,2µm,21.0s,MS5.8
R09A Tonopah 127.59 31 ⇓P PKPdf 08 21 51.6 0.0
baz=127,SNR=21
O13A Hicks Ranch, I 127.64 28 ⇓P PKPdf 08 21 51.9 +0.3
baz=128,SNR=8.8
HELL Mitchell Peak 127.68 34 ⇓P PKPdf 08 21 51.4 -0.5
baz=128,SNR=27
N15A Stansbury Isla 127.68 26 ⇑P PKPdf 08 21 51.3 -0.4
baz=128
PTRM Twissleman Ran 127.72 36 ePKPdf PKPdf 08 21 53.0 +1.0
P12A McGill 127.72 29 ⇓P PKPdf 08 21 52.1 +0.2
baz=128,SNR=41
V05C Boulder Hill, 127.75 36 ⇑P PKPdf 08 21 52.1 +0.1
baz=128
Q11A Duckwater 127.85 30 ⇑P PKPdf 08 21 52.2 +0.1
baz=128,SNR=29
TIN Tinemaha 127.85 33 ⇑P PKPdf 08 21 52.3 +0.2
baz=128
S09A Goldfield 127.89 32 ⇓P PKPdf 08 21 52.3 +0.1
baz=128,SNR=39
R10A Warm Springs 127.95 31 ⇑P PKPdf 08 21 52.5 +0.2
baz=128,SNR=6.4
RSSD Black Hills 127.95 17 ePKPdf PKPdf 08 21 51.6 -0.5
RSSD LR LR
comp=Z,783nm,21.0s,MS5.4
NOQ North Oquirrh 128.05 26 ePKPdf PKPdf 08 21 52.7 +0.3
S10A Tonopah Range, 128.07 31 P PKPdf 08 21 52.9 +0.3
baz=128,SNR=55
SMMC Simmler 128.08 36 ⇓P PKPdf 08 21 52.8 +0.2
baz=128,SNR=8.4
Q12A Willow Creek R 128.10 29 ⇓P PKPdf 08 21 52.7 +0.1
baz=128,SNR=15
DUG Dugway 128.12 27 ePKPdf PKPdf 08 21 52.7 +0.2
DUG LR LR
comp=Z,2µm,22.0s,MS5.7
DUG Dugway 128.12 27 ⇑P PKPdf 08 21 52.7 +0.1
baz=128

P13A **Bates Ranch, G** 128.16 28 ⇑P PKPdf 08 21 52.6 -0.1
baz=128,SNR=30
CTU **Camp Tracy** 128.17 25 *e*PKPdf PKPdf 08 21 52.9 +0.3
VES **Vestal, Richgr** 128.24 35 ⇑P PKPdf 08 21 51.8 -1.1
baz=128,SNR=9.8
R11A **Troy Canyon, C** 128.26 30 ⇑P PKPdf 08 21 53.2 +0.3
baz=128,SNR=86
GRAC **Grapevine Rang** 128.35 33 P PKPdf 08 21 53.1 0.0
baz=128,SNR=17
JLU **Jordanelle** 128.38 25 *e*PKPdf PKPdf 08 21 53.2 +0.2
PKM **Peak Mountain** 128.48 36 ⇑P PKPdf 08 21 53.8 +0.5
baz=128,SNR=7.4
Q13A **Wheeler Ranch,** 128.55 29 ⇓P PKPdf 08 21 53.5 +0.1
baz=128,SNR=42
EFI **East Falkland** 128.57 201 PFAKE 08 22 00.0 +7.0
EFI LR LR
comp=Z,2μm,20.0s,MS5.8
DAU **Daniels Canyon** 128.62 25 *e*PKPdf PKPdf 08 21 53.9 +0.4
DAU *e*PP PP 08 23 57.5 -0.8
NLU **North Lily Min** 128.64 26 *e*PKPdf PKPdf 08 21 53.3 -0.2
NLU *e*PP PP 08 23 58.2 -0.3
COWI **Conover** 128.65 3 *e*PKPdf PKPdf 08 21 52.3 -1.1
COWI LR LR
comp=Z,3μm,21.0s,MS5.9
ISA **Isabella** 128.71 35 PFAKE 08 22 10.0 +16
ISA LR LR
comp=Z,3.0nm,19.0s
S11A **Rachel** 128.72 31 ⇑P PKPdf 08 21 54.0 +0.2
baz=129,SNR=29
R12A **Pony Springs,** 128.76 29 ⇓P PKPdf 08 21 53.9 0.0
baz=129,SNR=11
MPU **Maple Canyon** 128.78 26 *e*PKPdf PKPdf 08 21 54.1 +0.2
MPU LR LR
comp=Z,2μm,21.0s,MS5.9
ARVC **Arvin** 128.89 35 ⇓P PKPdf 08 21 54.2 0.0
baz=129,SNR=9.7
FRNY **Flat Rock** 128.92 349 *e*PKPdf PKPdf 08 21 52.6 -1.3
MPMC **Manual Prospec** 128.98 34 ⇓P PKPdf 08 21 54.6 +0.3
baz=129,SNR=36
TPNV **Topopah Spring** 128.99 32 *e*PKPdf PKPdf 08 21 54.0 -0.3
TPNV LR LR
comp=Z,1μm,21.0s,MS5.6
TPNV **Topopah Spring** 128.99 32 ⇓P PKPdf 08 21 54.2 -0.1
baz=129
FURC **Furnace Creek,** 129.02 33 ⇑P PKPdf 08 21 54.5 +0.2
baz=129,SNR=16
RKT **Rikitea** 129.09 115 *e*PP PP 08 23 59.0 -4.0
comp=Z,220nm,27.5s
RKT **Rikitea** 129.09 115 *e*PS PS 08 34 11.5 -1.2
comp=Z,365nm,27.0s
RKT *e*SS SS 08 41 24.8 +3.5
comp=Z,970nm,33.5s
RKT **Rikitea** 129.09 115 *e*LR LR 09 02 42.7
comp=Z,2μm,33.2s
RWWY **Rawlins** 129.11 21 *e*PKPdf PKPdf 08 21 54.3 0.0
RWWY *e*PP PP 08 24 01.5 +0.2
LBNH **Lisbon** 129.15 348 *e*PKPdf PKPdf 08 21 54.5 +0.1
LBNH LR LR
comp=Z,2μm,20.0s,MS5.8
S12A **Delamar Landin** 129.20 30 ⇑P PKPdf 08 21 55.4 +0.7
baz=129,SNR=25
BSC **Santa Cruz Isl** 129.21 37 ⇓P PKPdf 08 21 55.0 +0.2
baz=129
LRMC **Laurel Mountai** 129.29 34 ⇓P PKPdf 08 21 55.2 +0.3
baz=129,SNR=18
T11A **Corn Creek, Al** 129.30 31 ⇓P PKPdf 08 21 55.3 +0.5
baz=129,SNR=52
LONY **Lake Ozonia** 129.30 350 *e*PKPdf PKPdf 08 21 53.4 -1.3
LONY LR LR
comp=Z,1μm,20.0s,MS5.6
OSI **Osito Adit** 129.32 36 ⇑P PKPdf 08 21 55.3 +0.3
baz=129
U10A **Ash Meadows, A** 129.34 32 ⇑P PKPdf 08 21 55.7 +0.7
baz=129,SNR=16
BLG **Laguna Peak** 129.47 37 ⇓P PKPdf 08 21 55.3 0.0
baz=129
EDW2 **Edwards Air Fo** 129.55 35 P PKPdf 08 21 55.6 +0.2
baz=129,SNR=17
TMUT **Trail Mountain** 129.56 26 *e*PKPdf PKPdf 08 21 55.8 +0.4
S13A **Holt Ranch, En** 129.72 29 ⇓P PKPdf 08 21 56.1 +0.4
baz=130,SNR=37
HNH **Hanover** 129.74 348 *e*PKPdf PKPdf 08 21 55.1 -0.4
SHOC **Shoshone** 129.76 33 ⇓P PKPdf 08 21 55.9 +0.1
baz=130
MSU **Marysvale** 129.77 27 *e*PKPdf PKPdf 08 21 57.1 +1.3
MSU *e*PP PP 08 24 06.4 +0.6
SNCC **San Nicolas Is** 129.79 38 PFAKE 08 22 10.0 +14
SNCC LR LR
comp=Z,2μm,21.0s,MS5.8
SNCC **San Nicolas Is** 129.79 38 ⇓P PKPdf 08 21 56.2 +0.3
baz=130
U11A **Corn Creek** 129.84 32 ⇑P PKPdf 08 21 56.5 +0.5
baz=130,SNR=6.3
NCB **Newcomb** 129.87 350 *e*PKPdf PKPdf 08 21 55.5 -0.3
NCB LR LR
comp=Z,2μm,22.0s,MS5.8
S14A **Cedar City** 129.91 29 ⇓P PKPdf 08 21 56.5 +0.5
baz=130,SNR=26
GSC **Goldstone** 129.91 34 *e*PKPdf PKPdf 08 21 56.5 +0.4
GSC LR LR
comp=Z,2μm,22.0s,MS5.7
GSC **Goldstone** 129.91 34 ⇑P PKPdf 08 21 56.4 +0.3
baz=130,SNR=21
T12A **Moapa** 129.95 31 ⇓P PKPdf 08 21 56.5 +0.4
baz=130
CCUT **Cedar City** 129.98 29 *e*PKPdf PKPdf 08 21 56.5 +0.3
SRU **San Rafael** 130.01 26 *e*PKPdf PKPdf 08 21 56.1 -0.1
GLMI **Grayling** 130.03 359 PFAKE 08 22 10.0 +14
GLMI LR LR
comp=Z,2μm,22.0s,MS5.8
PHWY **Pilot Hill** 130.06 20 *e*PKPdf PKPdf 08 21 55.3 -0.9
ECSD **EROS,Sioux Fal** 130.09 11 *e*PKPdf PKPdf 08 21 55.9 -0.3
ECSD LR LR
comp=Z,2μm,21.0s,MS5.9
RRX **Edison Barstow** 130.11 34 ⇑P PKPdf 08 21 56.9 +0.4
baz=130
T13A **Saint George** 130.13 30 ⇑P PKPdf 08 21 56.9 +0.4
baz=130,SNR=37
BFSC **Mount Baldy St** 130.20 35 ⇓P PKPdf 08 21 56.5 -0.2
baz=130,SNR=8.9
V11A **Goodsprings** 130.26 32 ⇑P PKPdf 08 21 57.0 +0.2
baz=130,SNR=10
U12A **Valley of Fire** 130.27 31 ⇓P PKPdf 08 21 57.0 +0.2
baz=130,SNR=21
TUQ **Turquoise Mtn.** 130.29 33 ⇑P PKPdf 08 21 57.0 +0.2
baz=130,SNR=21
ACCN **Adirondack Com** 130.33 349 *e*PKPdf PKPdf 08 21 56.5 -0.1
CIS **Catalina Islan** 130.35 37 ⇑P PKPdf 08 21 57.1 +0.1
baz=130
T14A **Hurricane** 130.50 29 ⇓P PKPdf 08 21 57.8 +0.6
baz=130,SNR=24
HEC **Hector,Ludlow** 130.52 34 ⇑P PKPdf 08 21 57.5 +0.2
baz=130,SNR=11
U13A **Pakoon Wash** 130.57 31 ⇓P PKPdf 08 21 57.6 +0.2
baz=130,SNR=18
BBRC **Big Bear Sol-O** 130.61 35 ⇑P PKPdf 08 21 57.7 +0.2
baz=130,SNR=9.1
HRV **Adam Dziewonsk** 130.72 347 *e*PKPdf PKPdf 08 21 56.9 -0.5
HRV *e*PP PP 08 24 09.7 -1.9
HRV LR LR
comp=Z,2μm,21.0s,MS5.7
RCBR **Riachuelo** 130.75 267 PFAKE 08 22 10.0 +12
RCBR LR LR
comp=Z,1μm,20.0s,MS5.6
WES **Weston** 130.78 346 PFAKE 08 22 10.0 +12
WES LR LR
comp=Z,1μm,20.0s,MS5.6
T15A **Red Dirt Ranch** 130.88 29 ⇓P PKPdf 08 21 58.0 +0.1
baz=131,SNR=11
MURC **Murrieta** 130.92 36 ⇑P PKPdf 08 21 58.2 +0.1
baz=131,SNR=13
GMRC **Granite Mounta** 130.93 33 ⇑P PKPdf 08 21 58.4 +0.4
baz=131,SNR=31
W12A **Cal Nev Ari** 130.96 32 ⇓P PKPdf 08 21 58.3 +0.2
baz=131
U14A **Mt Trumbull** 130.96 30 ⇓P PKPdf 08 21 58.4 +0.3
baz=131,SNR=25
V13A **Grand Canyon W** 131.00 31 ⇑P PKPdf 08 21 58.6 +0.4
baz=131,SNR=37
QUA2 **Belchertown** 131.12 347 *e*PKPdf PKPdf 08 21 57.4 -0.8
PV10 **Paradox Valley** 131.26 25 *e*PKPdf PKPdf 08 21 58.8 +0.3
BRYW **Bryant College** 131.27 346 *e*PKPdf PKPdf 08 21 58.5 0.0
BELC **Belle Mtn.** 131.32 34 ⇓P PKPdf 08 21 59.0 +0.1
baz=131,SNR=15
T16A **Glen Canyon Da** 131.32 28 ⇑P PKPdf 08 21 58.4 -0.3
baz=131,SNR=11

ISCO **Idaho Springs** 131.34 21 *e*PKPdf PKPdf 08 21 58.5 -0.2
ISCO LR LR
comp=Z,3μm,20.0s,MS6.0
PFO **Pinyon Flat Ob** 131.35 35 *e*PKPdf PKPdf 08 21 59.1 +0.3
PFO LR LR
comp=Z,2μm,20.0s,MS5.8
PFO **Pinyon Flat Ob** 131.35 35 ⇑P PKPdf 08 21 59.0 +0.1
baz=131,SNR=11
SMCO **Snowmass** 131.39 22 *e*PKPdf PKPdf 08 21 58.8 0.0
109C **Camp Elliot, M** 131.49 36 ⇓P PKPdf 08 21 59.4 +0.2
baz=131
NEE2 **Needles Airpor** 131.50 32 ⇓P PKPdf 08 21 58.8 -0.4
baz=131
V14A **Boquillas Ranc** 131.62 30 ⇑P PKPdf 08 21 59.7 +0.3
baz=132,SNR=28
W13A **Hualapai Mount** 131.63 32 ⇑P PKPdf 08 22 00.0 +0.6
baz=132,SNR=22
PV01 **Paradox Valley** 131.66 25 *e*PKPdf PKPdf 08 21 59.2 -0.1
IRM **Iron Mountain** 131.67 33 ⇑P PKPdf 08 21 59.9 +0.4
baz=132,SNR=35
JFWS **Jewell Farm** 131.75 5 *e*PKPdf PKPdf 08 21 58.4 -0.9
JFWS LR LR
comp=Z,2μm,21.0s,MS5.9
BC3 **Big Chuckw Mtn** 131.88 34 ⇓P PKPdf 08 22 00.1 +0.2
baz=132,SNR=13
MONP **Monument Peak** 131.89 36 ⇓P PKPdf 08 22 00.4 +0.5
baz=132,SNR=16
BINY **Binghamton** 131.89 351 *e*PKPdf PKPdf 08 21 59.2 -0.5
BINY LR LR
comp=Z,2μm,22.0s,MS5.8
V15A **Kaibab Nationa** 131.94 29 ⇓P PKPdf 08 22 00.4 +0.5
baz=132,SNR=6.2
W14A **Seligman** 131.96 31 ⇑P PKPdf 08 22 00.5 +0.5
baz=132,SNR=30
X13A **Yucca** 132.05 32 ⇓P PKPdf 08 22 00.6 +0.4
baz=132,SNR=22
PDMCI **Parker Dam,Lak** 132.11 32 ⇑P PKPdf 08 22 00.5 +0.2
baz=132,SNR=19
SWSC **Sam W. Stewart** 132.21 35 ⇓P PKPdf 08 22 00.6 +0.1
baz=132,SNR=9.4
DVTC **Desert V Tower** 132.24 36 ⇑P PKPdf 08 22 00.9 +0.3
baz=132,SNR=8.1
Y12C **Blythe** 132.32 33 ⇑P PKPdf 08 22 00.9 +0.2
baz=132,SNR=11
W15A **Williams** 132.40 30 ⇑P PKPdf 08 22 01.4 +0.6
baz=132,SNR=20
SCIA **State Center** 132.41 8 *e*PKPdf PKPdf 08 22 00.5 -0.2
SCIA LR LR
comp=Z,2μm,19.0s,MS5.9
MVCO **Mesa Verde** 132.47 25 *e*PKPdf PKPdf 08 21 59.0 -1.9
MVCO LR LR
comp=Z,2μm,20.0s,MS5.8
MVCO **Mesa Verde** 132.47 25 ⇑P PKPdf 08 22 01.2 +0.3
baz=132
ERPA **Erie** 132.49 355 *e*PKPdf PKPdf 08 22 00.7 -0.1
ERPA LR LR
comp=Z,2μm,21.0s,MS5.8
WUAZ **Wupatki** 132.57 29 *e*PKPdf PKPdf 08 22 02.0 +0.8
WUAZ **Wupatki** 132.57 29 ⇓P PKPdf 08 22 01.4 +0.3
baz=132
X14A **Yava** 132.64 31 ⇓P PKPdf 08 22 01.7 +0.4
baz=132,SNR=23
Y13A **Salome** 132.65 33 ⇑P PKPdf 08 22 01.6 +0.3
baz=132,SNR=17
PAL **Palisades** 132.67 348 *e*PKPdf PKPdf 08 22 01.4 +0.2
GLA **Glamis** 132.68 34 *e*PKPdf PKPdf 08 22 01.9 +0.5
GLA LR LR
comp=Z,2μm,19.0s,MS5.8
GLA **Glamis** 132.68 34 ⇑P PKPdf 08 22 01.5 +0.1
baz=132,SNR=15
CPNY **Central Park** 132.88 348 *e*PKPdf PKPdf 08 22 02.1 +0.6
X15A **Humboldt** 132.96 31 ⇑P PKPdf 08 22 02.3 +0.4
baz=133,SNR=25
ALLY **Alegheny Colle** 132.97 355 *e*PKPdf PKPdf 08 21 57.6 -4.1
Y14A **Wickenburg** 132.99 32 ⇓P PKPdf 08 22 02.1 +0.1
baz=133,SNR=16
SDCO **Great Sand Dun** 133.20 22 PFAKE 08 22 10.0 +7.7
SDCO LR LR
comp=Z,2μm,20.0s,MS5.9
Y15A **Casa Rosa Ranc** 133.33 31 ⇓P PKPdf 08 22 03.0 +0.3
baz=133,SNR=31
X16A **Lo Mia Camp, P** 133.41 30 ⇑P PKPdf 08 22 03.1 +0.3
baz=133,SNR=22
Z14A **Wintersburg** 133.47 32 ⇑P PKPdf 08 22 03.1 +0.3
baz=133,SNR=6.6
SSPA **Standing Stone** 133.71 352 *e*PKPdf PKPdf 08 22 02.6 -0.5
SSPA LR LR
comp=Z,2μm,20.0s,MS5.7
Y16A **Circle Bar Ran** 133.82 30 ⇓P PKPdf 08 22 03.9 +0.4
baz=134,SNR=9.4
X18A **Snowflake** 134.05 29 ⇓P PKPdf 08 22 04.2 +0.3
baz=134,SNR=5.6
CBKS **Cedar Bluff** 134.08 16 *e*PKPdf PKPdf 08 22 02.0 -1.8
CBKS LR LR
comp=Z,3μm,20.0s,MS6.1
MVL **Millersville** 134.10 350 *e*PKPdf PKPdf 08 22 04.0 +0.1
HDIL **Hopedale** 134.16 4 PFAKE 08 22 20.0 +16
HDIL LR LR
comp=Z,3μm,20.0s,MS6.1
Z16A **Peralta Trail,** 134.27 31 ⇑P PKPdf 08 22 04.6 +0.2
baz=134,SNR=9.5
Y17A **Roosevelt** 134.29 30 ⇓P PKPdf 08 22 04.8 +0.4
baz=134,SNR=25
115A **Sonoran Desert** 134.36 32 ⇓P PKPdf 08 22 05.0 +0.4
baz=134,SNR=8.2
X19A **St. Johns** 134.44 28 ⇑P PKPdf 08 22 04.8 +0.1
baz=134,SNR=12
KSU1 **Kansas State U** 134.56 12 *e*PKPdf PKPdf 08 22 04.3 -0.4
KSU1 LR LR
comp=Z,3μm,20.0s,MS6.0
ACSO **Alum Creek Sta** 134.57 357 *e*PKPdf PKPdf 08 22 04.1 -0.7
ACSO LR LR
comp=Z,2μm,20.0s,MS5.9
Y18A **Canyon Day Jun** 134.62 29 ⇑P PKPdf 08 22 05.5 +0.4
baz=134,SNR=20
116A **Eloy** 134.74 32 ⇓P PKPdf 08 22 05.7 +0.4
baz=135,SNR=11
Z17A **San Carlos Hig** 134.79 30 ⇓P PKPdf 08 22 06.1 +0.8
baz=135,SNR=12
Y19A **Nutrioso** 134.85 28 ⇓P PKPdf 08 22 06.0 +0.5
baz=135,SNR=16
MCWV **Mont Chateau** 134.91 354 *e*PKPdf PKPdf 08 22 06.4 +1.0
MCWV LR LR
comp=Z,3μm,22.0s,MS6.0
Z18A **Geronimo** 135.18 30 ⇑P PKPdf 08 22 06.5 +0.4
baz=135,SNR=6.0
117A **Oracle** 135.24 31 ⇑P PKPdf 08 22 06.8 +0.6
baz=135,SNR=15
ANMO **Albuquerque** 135.25 25 PFAKE 08 22 20.0 +14
ANMO LR LR
comp=Z,2μm,20.0s,MS5.8
216A **Three Points,** 135.31 32 ⇑P PKPdf 08 22 06.8 +0.4
baz=135,SNR=6.4
Z19A **T-Link Ranch,** 135.38 29 ⇓P PKPdf 08 22 06.9 +0.5
baz=135
TUC **Tucson** 135.42 31 PFAKE 08 22 20.0 +13
TUC LR LR
comp=Z,1μm,21.0s,MS5.7
TUC **Tucson** 135.42 31 PKiKP PKiKP 08 22 08.8 +0.7
TUC SKPbc SKPbc 08 25 35.0 -0.4
LAZ **Ladron** 135.43 26 *e*PKPdf PKPdf 08 22 03.5 -3.1
118A **Homack Ranch,** 135.57 30 ⇑P PKPdf 08 22 07.4 +0.5
baz=135,SNR=23
LENM **Lemitar** 135.71 26 *e*PKPdf PKPdf 08 22 07.0 -0.1
LPM **Los Pinos Moun** 135.73 25 *e*PKPdf PKPdf 08 22 07.3 +0.2
119A **Ashpeak Ranch,** 135.80 29 ⇑P PKPdf 08 22 07.6 +0.3
baz=136,SNR=12
Y22C **IRIS PASSCAL I** 135.81 26 ⇑P PKPdf 08 22 07.6 +0.4
baz=136
217A **Green Valley** 135.82 32 ⇑P PKPdf 08 22 07.6 +0.2
baz=136,SNR=20
CBN **Corbin** 136.02 351 PFAKE 08 22 20.0 +12
CBN LR LR
comp=Z,3μm,22.0s,MS6.0
218A **Dragoon** 136.06 31 ⇑P PKPdf 08 22 07.7 -0.1
baz=136,SNR=13
219A **White Tail Can** 136.44 30 ⇑P PKPdf 08 22 08.5 0.0
baz=136,SNR=24
CCM **Cathedral Cave** 136.46 7 PFAKE 08 22 20.0 +12
CCM LR LR
comp=Z,3μm,19.0s,MS6.1
318A **Bisbee** 136.52 31 ⇓P PKPdf 08 22 08.6 0.0
baz=136,SNR=13
URVA **University of** 136.66 351 *e*PKPdf PKPdf 08 22 08.3 -0.4
319A **Douglas** 136.93 30 ⇑P PKPdf 08 22 09.8 +0.3
baz=137,SNR=14
AMTX **Amarillo** 137.12 20 PFAKE 08 22 20.0 +10

AMTX LR LR
comp=Z,4μm,22.0s,MS6.1
BLA **Blacksburg** 137.39 354 *e*PKPdf PKPdf 08 22 09.1 -1.0
ELN **Prospectdale** 137.41 355 *e*PKPdf PKPdf 08 22 09.5 -0.6
BBSR **BB Station** 137.62 334 PFAKE 08 22 20.0 +9.3
BBSR LR LR
comp=Z,1μm,20.0s,MS5.6
PARMO **Parma** 137.99 5 *e*PKPdf PKPdf 08 22 11.4 +0.2
WMOK **Wichita Mounta** 138.16 17 *e*PKPdf PKPdf 08 22 11.8 +0.2
WMOK *e*PP PP 08 24 58.2 -0.7
WMOK LR LR
comp=Z,3μm,21.0s,MS6.0
TZTN **Tazewell** 138.27 358 PFAKE 08 22 20.0 +8.2
TZTN LR LR
comp=Z,3μm,21.0s,MS6.0
GLAT **Glass** 138.42 5 *e*PKPdf PKPdf 08 22 11.2 -0.8
MNTX **Cornudas Mount** 138.50 26 PFAKE 08 22 20.0 +7.7
MNTX LR LR
comp=Z,2μm,19.0s,MS5.9
GNAR **Gosnell** 138.66 6 *e*PKPdf PKPdf 08 22 13.3 +0.8
WVT **Waverly** 138.66 3 *e*PKPdf PKPdf 08 22 12.4 0.0
WVT LR LR
comp=Z,2μm,20.0s,MS6.0
HBAR **Harrisburg** 139.00 7 *e*PKPdf PKPdf 08 22 13.9 +0.8
CPCT **Cooper Cave** 139.39 359 *e*PKPdf PKPdf 08 22 12.3 -1.5
MIAR **Mount Ida** 139.56 10 *e*PKPdf PKPdf 08 22 10.4 -3.8
MIAR LR LR
comp=Z,2μm,19.0s,MS5.9
SWET **Sewanee** 139.63 1 *e*PKPdf PKPdf 08 22 11.1 -3.2
PLAL **Pickwick Lake** 139.79 3 PFAKE 08 22 30.0 +15
PLAL LR LR
comp=Z,3μm,19.0s,MS6.0
TRQA **Tornquist** 141.11 210 *e*PKPdf PKPdf 08 22 17.6 +0.8
TRQA LR LR
comp=Z,2μm,21.0s,MS5.8
TXAR **Lajitas Array** 141.29 26 PKP PKPdf 08 22 17.1 -0.3
TXAR PP PP 08 25 16.4 -2.0
TXAR SKPbc SKPbc 08 25 48.0 -4.1
TXAR **Lajitas Array** 141.29 26 PKIKP PKPdf 08 22 17.2 -0.2
TXAR 08 25 16.4
TXAR **Lajitas Array** 141.29 26 PKhKP 08 22 10.6
comp=Z,3.0nm,0.5s,baz=281,slow=2.0,SNR=27
TXAR PKP PKPdf 08 22 17.1 -0.3
comp=Z,10.0nm,0.6s,baz=248,slow=0.7,SNR=24
TXAR PP PP 08 25 16.4 -2.0
comp=Z,3.0nm,0.9s,baz=9.5,slow=2.7,SNR=3.8
TXAR SKPbc SKPbc 08 25 48.0 -4.1
comp=Z,21nm,1.1s,baz=347,slow=3.7,SNR=7.6
GOGA **Godfrey** 141.39 357 *e*PKPdf PKPdf 08 22 13.3 -4.2
GOGA LR LR
comp=Z,2μm,20.0s,MS5.9
NHSC **New Hope** 141.42 353 PFAKE 08 22 30.0 +12
NHSC LR LR
comp=Z,1μm,21.0s,MS5.7
JCT **Junction City** 141.78 20 PFAKE 08 22 30.0 +12
JCT LR LR
comp=Z,3μm,22.0s,MS6.0
LRAL **Lakeview Retre** 141.78 2 *e*PKPdf PKPdf 08 22 18.1 -0.1
LRAL LR LR
comp=Z,2μm,20.0s,MS6.0
BDFB **Brasilia** 141.92 252 *i* PKIKP PKPdf 08 22 14.3 -4.6
BDFB pmax pmax
comp=Z,3.0nm,0.8s
BDFB **Brasilia** 141.92 252 PKhKP 08 22 14.3
comp=Z,2.6nm,0.8s,baz=61,slow=23,SNR=4.4
NATX **Nacogdoches** 142.04 13 *e*PKPdf PKPdf 08 22 13.5 -5.2
NATX LR LR
comp=Z,3μm,20.0s,MS6.1
PLCA **Paso Flores** 142.35 199 PFAKE 08 22 30.0 +11
PLCA LR LR
comp=Z,2μm,21.0s,MS5.9
PLCA **Paso Flores** 142.35 199 *i* PKHKP 08 22 14.1
PLCA pmax pmax
comp=Z,1.0nm,0.6s
PLCA pmax pmax
comp=N,6.0nm,1.0s
PLCA **Paso Flores** 142.35 199 PKhKP 08 22 14.1
comp=N,1.4nm,0.6s,baz=354,slow=3.8,SNR=11
PLCA SKP 08 25 44.6
comp=N,6.4nm,1.0s,baz=214,slow=2.1,SNR=3.2
HKT **Hockley** 143.49 15 *e*PKPdf PKPdf 08 22 17.4 -3.9
HKT LR LR
comp=Z,3μm,19.0s,MS6.1
BRAL **Brewton** 143.79 2 *e*PKPdf PKPdf 08 22 19.0 -2.8
BRAL LR LR
comp=Z,2μm,19.0s,MS5.9
KVTX **Kingsville** 145.12 20 *e*PKPbc PKPbc 08 22 24.3 +0.6
KVTX LR LR
comp=Z,2μm,19.0s,MS5.9
CPUP **Villa Florida** 146.05 229 *e*PKPdf PKPdf 08 22 25.4 -0.4
CPUP LR LR
comp=Z,530nm,21.0s,MS5.3
CPUP **Villa Florida** 146.05 229 PKPbc PKPbc 08 22 25.9 -0.8
comp=Z,18nm,0.6s,baz=89,slow=3.0,SNR=47
DWPF **Disney** 146.50 354 *e*PKPdf PKPdf 08 22 27.6 +1.0
DWPF LR LR
comp=Z,3μm,19.0s,MS6.1
BBGH **Gun Hill** 148.43 306 PFAKE 08 22 40.0 +10
BBGH LR LR
comp=Z,3μm,20.0s,MS6.0
MVM **Montagne Vaucl** 148.66 309 *e*P PKPbc 08 22 34.3 +0.1
FDF **Fort de France** 148.75 310 *e*P PKPbc 08 22 34.3 -0.1
SFJM **Santa Fe** 149.01 33 *i* P PKPdf 08 22 32.0 +1.1
SLW **Petit Monier** 149.02 309 *e*P PKPbc 08 22 35.5 +0.4
CFAA **Coronel Fontan** 149.34 210 PKP PKPdf 08 22 31.2 +0.1
comp=Z,2.8nm,0.6s,baz=170,slow=1.6,SNR=34
CFAA PKPbc PKPbc 08 22 35.0 -0.4
comp=Z,3.7nm,0.8s,baz=143,slow=3.0,SNR=41
MTP **Monte Pirata** 149.56 320 *e*PKPdf PKPdf 08 22 29.9 -2.0
CPD **Cerro la Pandu** 149.83 321 *e*PKPdf PKPdf 08 22 30.5 -1.8
CPD *e*PKPbc PKPbc 08 22 35.9 -1.1
CPD *e*PKPab PKPab 08 22 42.0 -0.4
SJG **San Juan** 149.92 321 *e*PKPdf PKPdf 08 22 32.9 +0.5
SJG *e*PKPbc PKPbc 08 22 37.7 +0.4
SJG LR LR
comp=Z,2μm,22.0s,MS5.9
SJG **San Juan** 149.92 321 PKHKP 08 22 31.9
SJG pmax pmax
comp=Z,21nm,0.2s
SJG pmax pmax
comp=Z,28nm,0.3s
SJG **San Juan** 149.92 321 PKP PKPdf 08 22 31.9 -0.5
comp=Z,21nm,0.2s,baz=320,slow=16,SNR=5.2
SJG PKPbc PKPbc 08 22 37.1 -0.2
comp=Z,28nm,0.2s,baz=354,slow=5.5,SNR=16
TPR **Prospect** 150.50 304 *e*P PKPdf 08 22 33.0 -0.5
GRW **Mount Saint Ca** 150.68 307 *e*P PKPdf 08 22 34.6 +0.9
GRGR **Grenville** 150.69 306 *e*PKPbc PKPbc 08 22 39.3 +0.1
TBH **Brigand Hill** 151.11 303 *e*P PKPdf 08 22 34.9 +0.6
TRN **Trinidad (W)** 151.30 304 *e*P PKPbc 08 22 42.3 +1.6
TPP **Pointe-a-Pierr** 151.52 303 *e*P PKPbc 08 22 43.5 +2.3
TCE **Chacachacare** 151.56 304 *e*P PKPdf 08 22 37.4 +2.3
SOR **Soroa** 151.92 355 *e*P PKPdf 08 22 31.0 -4.4
SDDR **Presa de Saban** 152.10 330 *e*PKPdf PKPdf 08 22 36.8 +1.0
SDDR *e*PKPbc PKPbc 08 22 42.9 +0.6
SDDR LR LR
comp=Z,2μm,21.0s,MS5.9
MGV **Manicaragua** 152.18 349 *e*P PKPdf 08 22 36.8 +1.0
ZIIG **Zihuatanejo** 152.20 34 *i* P PKPdf 08 22 36.2 +0.3
PPM **Popocatepetl** 152.44 28 *i* P PKPdf 08 22 37.0 +0.7
CCCC **Cccc** 152.56 344 *e*P PKPdf 08 22 36.8 +0.4
LCO **Las Campanas** 152.68 209 *e*PKPdf PKPdf 08 22 36.3 -0.1
LCO *e*PKPbc PKPbc 08 22 43.3 0.0
LCO LR LR
comp=Z,2μm,21.0s,MS6.0
RCC **Rio Carpintero** 153.06 340 *e*P PKPdf 08 22 31.4 -5.7
CAIG **El Cayaco** 153.31 33 *i* P PKPdf 08 22 37.5 -0.1
LMGC **Las Mercedes** 153.42 342 *e*P PKPdf 08 22 39.3 +1.6
SIV **San Ignacio** 153.91 244 PKP PKPdf 08 22 37.2 -1.2
comp=Z,5.9nm,0.9s,baz=115,slow=2.9,SNR=16
PCRV **Puerto La Cruz** 154.20 307 PKP PKPdf 08 22 36.3 -2.6
comp=Z,11nm,0.8s,baz=355,slow=22,SNR=1.9
TEIG **Tepich** 154.41 6 *e*PKPdf PKPdf 08 22 38.4 -0.7
TEIG *e*PKPbc PKPbc 08 22 47.0 -0.4
TEIG *e*PKPab PKPab 08 23 01.3 -0.1
TEIG LR LR
comp=Z,2μm,20.0s,MS6.0
PNIG **Pinotepa** 154.98 30 *i* P PKPdf 08 22 40.2 +0.3
HUIG **Huatulco** 156.47 27 ⇑*i* P PKPdf 08 22 42.1 +0.2
SCX **San Cristobal** 156.90 18 *i* P PKPdf 08 22 42.0 -0.5
SDV **Santo Domingo** 159.58 314 *e*PKPdf PKPdf 08 22 45.4 -0.4
SDV *e*PKPab PKPab 08 23 23.5 -0.5
SDV LR LR
comp=Z,744nm,22.0s,MS5.5

SDV	**Santo Domingo**	**159.58**	**314**	PKP	PKPdf	08 22 45.2	-0.6
	comp=Z,33nm,1.2s,baz=257,slow=0.3,SNR=22						
SDV				PP	PP	08 27 03.5	-1.2
	comp=Z,9.9nm,1.2s,baz=43,slow=7.4,SNR=3.5						
LPAZ	**La Paz**	**159.89**	**236**	*e*PKPdf	PKPdf	08 22 46.2	+0.2
LPAZ				*e*PKPab	PKPab	08 23 27.4	+2.1
LPAZ				LR	LR		
	comp=Z,2μm,21.0s,MS5.9						
LPAZ	**La Paz**	**159.89**	**236**	PKP	PKPdf	08 22 46.7	+0.6
	comp=Z,14nm,1.1s,baz=54,slow=2.4,SNR=36						
TGUH	**Tegucigalpa,Un**	**160.61**	**6**	*e*PKPdf	PKPdf	08 22 46.7	-0.2
TGUH				LR	LR		
	comp=Z,2μm,20.0s						
JTS	**JuntasAbangare**	**164.44**	**358**	PFAKE		08 23 00.0	+9.2
JTS				LR	LR		
	comp=Z,2μm,21.0s						
BCIP	**Isla Barro Col**	**164.54**	**339**	*e*PKPdf	PKPdf	08 22 49.8	-1.0
BCIP				*e*PKPab	PKPab	08 23 44.7	-0.8
BCIP				LR	LR		
	comp=Z,3μm,22.0s						
ROSC	**El Rosal**	**165.00**	**312**	*e*PKPdf	PKPdf	08 22 51.4	+0.2
ROSC				*e*PKPab	PKPab	08 23 48.0	+0.2
ROSC	**El Rosal**	**165.00**	**312**	PKP	PKPdf	08 22 51.4	+0.1
	comp=Z,26nm,0.9s,baz=113,slow=0.7,SNR=37						
ROSC				PP	PP	08 27 35.4	+1.8
	comp=Z,3.5nm,0.7s,baz=323,slow=5.1,SNR=2.3						
NNA	**Nana**	**169.29**	**232**	PKP	PKPdf	08 22 53.0	-1.4
NNA				LR	LR		
	comp=Z,2μm,21.0s						
NNA	**Nana**	**169.29**	**232**	PKP	PKPdf	08 22 53.0	-1.4
	comp=Z,10nm,0.9s,baz=133,slow=0.6,SNR=3.8						
ATAH	**Atahualpa**	**172.86**	**257**	PKP	PKPdf	08 22 56.6	+0.4
	comp=Z,9.1nm,0.9s,baz=307,slow=2.1,SNR=16						
ATAH				PP	PP	08 28 17.6	+3.1
	comp=Z,1.8nm,0.5s,baz=186,slow=18,SNR=2.3						

*ISCJB **27** 08:19:40.6±0.3,3866N±003×40.10E±003,h2km, Error ellipse: s-maj=4.1km s-min=2.8km az=156.0*
*CSEM **27** 08:19:40.3±0.1,3876N×4009E,h2km,MD3.3, Error ellipse: s-maj=2.9km s-min=1.9km az=168.0*
*ISK **27** 08:19:41.1,3879N×4008E,h6km,MD3.3*
*DDA **27** 08:19:41.9,3865N×4009E,h7km±5km,Md3.4*

ISC 27 08:19:41.2±0.6,3866N±003×4010E±003,h3km±5km,n25, σ1°06/37,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BINT	**Bingol**	**0.37**	**55**	PG	**Pg**	**08 19 47.8**	**-0.6**
BINT				*e*SG	**Sg**	**08 19 53.2**	**+0.1**
BNGL	**BINGOL**	**0.87**	**70**	*i* P	**Pg**	**08 19 57.4**	**-0.4**
BNGL				*i* S	**Sg**	**08 20 09.9**	**+0.8**
ELZG	**Elazig**	**0.89**	**260**	*i* P	**Pg**	**08 19 57.7**	**-0.6**
ELZG				*i* S	**Sg**	**08 20 08.7**	**-1.2**
EZC	**Erzincan**	**1.11**	**348**	*e*PN	**Pn**	**08 20 02.9**	**-0.7**
BTMT	**Batman**	**1.19**	**113**	*e*PN	**Pn**	**08 20 04.2**	**-0.5**
BTMT				*e*SN	**Sn**	**08 20 20.6**	**-0.7**
MYA	**Malataya**	**1.36**	**256**	*e*PN	**Pn**	**08 20 07.9**	**+0.8**
MALT	**Malatya**	**1.36**	**256**	*e*PN	**Pn**	**08 20 06.9**	**-0.2**
KOPT	**Kop Dagi**	**1.39**	**13**	*i* P	**Pn**	**08 20 06.0**	**-1.5**
KOPT				*i* S	**Sg**	**08 20 26.8**	**+1.0**
KOPT	**Kop Dagi**	**1.39**	**13**	*i* P	**Pn**	**08 20 05.9**	**-1.6**
KOPT				*i* S	**Sg**	**08 20 26.8**	**+1.0**
KEMA	**Kemaliye**	**1.39**	**296**	*i* P	**Pn**	**08 20 05.4**	**-2.1**
KEMA				*i* S	**Sg**	**08 20 25.7**	**-0.3**
MARD	**Mardin**	**1.45**	**158**	*i* P	**Pn**	**08 20 08.8**	**+0.5**
MARD				*i* S	**Sb**	**08 20 26.6**	**-1.0**
EZM	**Erzurum**	**1.58**	**38**	*e*PN	**Pn**	**08 20 09.2**	**-0.8**
ERZM	**Erzurum**	**1.58**	**38**	*i* P	**Pn**	**08 20 09.5**	**-0.6**
ERZM				*i* S	**Sn**	**08 20 30.8**	**-0.3**
URFA	**Urfa**	**1.59**	**220**	*e*PN	**Pn**	**08 20 11.1**	**+0.9**
GUMT	**Gumushane**	**1.86**	**345**	*e*PN	**Pn**	**08 20 13.0**	**-0.9**
HOMI	**Horasan**	**1.96**	**45**	*i* P	**Pn**	**08 20 15.7**	**+0.3**
HOMI				*i* S	**Sg**	**08 20 44.8**	**+0.5**
GZT	**Gaziantep**	**2.39**	**238**	*i* P	**Pn**	**08 20 18.9**	**-2.4**
GZT				*i* S	**Sg**	**08 20 58.9**	**+0.8**
AGRB	**Hanur-Agry**	**2.42**	**67**	*e*PN	**Pn**	**08 20 22.1**	**+0.4**
ESPY	**Espiye-Giresun**	**2.49**	**335**	*e*PN	**Pn**	**08 20 21.6**	**-1.0**
GRSN	**GIRESUNGRSN**	**2.67**	**329**	*i* P	**Pn**	**08 20 28.5**	**+3.5**
GRSN				*i* S	**Sn**	**08 20 59.2**	**+1.4**
SVSK	**Karacayir**	**2.72**	**298**	*e*PN	**Pn**	**08 20 26.4**	**+0.7**
GAZ	**Gaziantep**	**2.73**	**238**	*e*PN	**Pn**	**08 20 27.7**	**+1.8**
CUKT	**Cukurca**	**3.11**	**116**	*e*PN	**Pn**	**08 20 33.3**	**+2.2**
BNN	**Bunyan**	**3.33**	**275**	*e*PN	**Pn**	**08 20 34.9**	**+0.7**
KOZT	**Kozan**	**3.58**	**252**	*e*PN	**Pn**	**08 20 39.4**	**+1.8**

*ISCJB **27** 08:29:04.6±0.6,3065S±007×1800E±02,h380km±8km, mb3.6/5, Error ellipse: s-maj=23.1km s-min=8.4km az=18.6*
*IDC **27** 08:29:04.9±0.9,3072S×17972W,h384km±12km,mb3.4/4, mb1 3.6/7,mb1mx3.4/16,mbtmp3.5/7, Error ellipse: s-maj=32.8km s-min=16.5km az=122.0*
*NEIC **27** 08:29:06.3±0.9,3069S×17997W,h384km±12km, Error ellipse: s-maj=27.5km s-min=11.7km az=96.0*

ISC 27 08:29:06.0±0.6,3070S±007×1800E±02,h369km±8km,n39, σ1°06/41,mb3.6/5,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.34**	**53**	P	**Pn**	**08 30 02.2**	**+0.7**
RAO				S	**S**	**08 30 44.9**	**-1.2**
RAO	**Raoul Island**	**2.34**	**53**	P	**Pn**	**08 30 02.2**	**+0.7**
	67nm,0.3s,baz=124,slow=22,SNR=4.3						
RAO				S	**S**	**08 30 44.9**	**-1.2**
	131nm,0.3s,baz=246,slow=23,SNR=3.3						
MXZ	**Matakaoa Point**	**6.99**	**191**	*e*P	**Pn**	**08 30 51.2**	**+2.7**
PUZ	**Puketiti**	**7.49**	**190**	*e*P	**Pn**	**08 30 56.4**	**+2.1**
PUZ				S	**S**	**08 32 21.8**	**-0.9**
MWZ	**Matawai**	**7.88**	**194**	*e*P	**Pn**	**08 30 59.1**	**+0.3**
URZ	**Urewera**	**7.90**	**197**	*e*P	**Pn**	**08 30 58.5**	**-0.6**
URZ	**Urewera**	**7.90**	**197**	P	**Pn**	**08 30 58.7**	**-0.4**
	9.5nm,0.3s,baz=333,slow=2.6,SNR=78						
URZ				S	**S**	**08 32 30.9**	**-0.7**
	8.2nm,0.3s,baz=250,slow=21,SNR=17						
KNZ	**Kokohu**	**8.52**	**192**	*e*P	**Pn**	**08 31 08.5**	**+2.3**
BKZ	**Black Stump Fm**	**8.92**	**198**	*e*P	**Pn**	**08 31 10.4**	**-0.6**
BKZ				S	**S**	**08 32 52.3**	**-1.1**
FWVZ	**Far West T-bar**	**9.27**	**202**	*e*P	**Pn**	**08 31 17.8**	**+2.7**
WNVZ	**Wahianoa**	**9.32**	**201**	P	**Pn**	**08 31 16.6**	**+0.8**
TSZ	**Takapari Road**	**9.89**	**198**	*e*P	**Pn**	**08 31 22.4**	**-0.1**
WAZ	**Wanganui**	**9.91**	**203**	*e*P	**Pn**	**08 31 24.7**	**+2.0**
BFZ	**Birch Farm**	**10.41**	**196**	*e*P	**Pn**	**08 31 27.4**	**-1.2**
MRZ	**Mangatainoka R**	**10.56**	**198**	*e*P	**Pn**	**08 31 29.4**	**-0.9**
KIW	**Kapiti Island**	**10.94**	**201**	P	**Pn**	**08 31 34.6**	**-0.2**
MTW	**Mount Morrison**	**11.04**	**198**	P	**Pn**	**08 31 36.1**	**0.0**
CAW	**Cannon Point**	**11.12**	**199**	P	**Pn**	**08 31 36.2**	**-0.7**
MRW	**Makara Radio**	**11.34**	**201**	P	**Pn**	**08 31 39.7**	**+0.2**
TCW	**Tory Channel**	**11.46**	**202**	P	**Pn**	**08 31 39.5**	**-1.4**
NNZ	**Nelson**	**11.77**	**205**	*e*P	**Pn**	**08 31 43.5**	**-1.1**
THZ	**Tophouse**	**12.42**	**205**	*e*P	**P**	**08 31 51.0**	**-0.2**
KHZ	**Kahutara**	**12.78**	**202**	*e*P	**P**	**08 31 55.9**	**+0.7**
LTZ	**Lake Taylor**	**13.54**	**205**	*e*P	**P**	**08 32 04.2**	**+0.7**
RPZ	**Rata Peaks**	**14.79**	**206**	P	**P**	**08 32 17.9**	**+0.6**
	0.9nm,0.3s,baz=196,slow=23,SNR=4.5						
FOZ	**Fox Glacier**	**15.21**	**210**	*e*P	**P**	**08 32 21.0**	**-0.9**
JCZ	**Jackson Bay**	**16.03**	**210**	*e*P	**P**	**08 32 30.6**	**0.0**
STKA	**Stephens Creek**	**32.69**	**258**	P	**P**	**08 35 06.8**	**+1.5**
STKA	**Stephens Creek**	**32.69**	**258**	P	**P**	**08 35 06.8**	**+1.5**
	3.1nm,0.7s,mb3.7,baz=93,slow=12,SNR=9.4						
ASAR	**Alice Springs**	**41.33**	**268**	P	**P**	**08 36 16.8**	**-0.6**
	1.0nm,0.5s,mb3.3,baz=105,slow=7.2,SNR=21						
WRA	**Warramunga Arr**	**42.35**	**274**	P	**P**	**08 36 24.8**	**-0.7**
	2.7nm,0.4s,mb3.7,baz=111,slow=7.9,SNR=38						
FITZ	**Fitzroy Crossi**	**50.60**	**271**	P	**P**	**08 37 28.2**	**-0.7**
	1.3nm,0.6s,mb3.3,baz=88,slow=5.3,SNR=4.7						
QSPA	**South Pole Qui**	**59.41**	**180**	P	**P**	**08 38 31.3**	**+0.9**
QSPA	**South Pole Qui**	**59.41**	**180**	P	**P**	**08 38 31.3**	**+0.9**
	3.5nm,0.6s,mb4.0,baz=32,slow=0.9,SNR=31						
VNA3	**Neumayer Olymp**	**78.12**	**177**	*e*	**P**	**08 40 23.6**	**-1.0**
VNA3				*e*		08 40 26.5	
VNA2	**Neumayer--Watz**	**78.53**	**178**	*e*	**P**	**08 40 26.3**	**-0.5**
	baz=191,slow=5.0						
VNA2				*e*		08 40 29.0	
ARCES	**ARCESS Array B**	**138.49**	**347**	PKhKP		08 47 36.9	
	2.5nm,0.8s,baz=0,0,slow=1.8,SNR=5.1						
FINES	**FINESS Array B**	**144.79**	**338**	PKP	PKPdf	08 47 55.4	-3.2
	3.4nm,0.4s,baz=55,slow=4.1,SNR=17						
NOA	**NORSAR Array B**	**148.75**	**349**	PKPbc	PKPbc	08 48 06.3	-3.2
	1.4nm,0.7s,baz=17,slow=4.2,SNR=5.9						

*NIED **27** 09:08:00,4090N×14320E,h32km,Mw4.3 Best double couple: Mo3.00000×1015 NP1:φ=33.00000°,δ75.00000°, λ116.00000°. NP2:φ=151.00000°,δ30.00000°,λ31.00000°.*
*JMA **27** 09:08:12.6±0.1,4095N×14324E,h23km,M4.3*
*ISCJB **27** 09:08:13.8±0.7,4098N±003×14328E±007,h42km±5km, mb4.0/15, Error ellipse: s-maj=9.9km s-min=3.9km az=26.6*
*MOS **27** 09:08:14.6±1.0,4104N×14297E,h47km,mb4.3/12, Error ellipse: s-maj=17.2km s-min=9.9km az=95.9*
*NEIC **27** 09:08:16.2±0.9,4105N×14307E,h44km±8km,mb4.3/1, Error ellipse: s-maj=13.1km s-min=7.8km az=115.0*
*IDC **27** 09:08:16.9±2.8,4101N×14307E,h55km±24km,mb3.7/11, mb1 3.8/14,mb1mx3.7/24,mbtmp3.7/14,ML3.5/3,MS3.2/2, Ms1 3.2/2,ms1mx2.8/34, Error ellipse: s-maj=25.4km s-min=15.5km az=85.0*

ISC 27 09:08:14.8±1.3,4101N±003×14326E±007,h31km±9km, n62,σ1°00/73,mb4.0/15,5C-3D,Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERM	**Erimo**	**1.00**	**356**	*e*P	**Pn**	**09 08 32.4**	**-0.3**
JEM	**Erimo**	**1.00**	**356**	⇑P	**Pn**	**09 08 32.2**	**-0.5**
JEM				*e*S	**Sn**	**09 08 45.7**	**0.0**
JNBK	**Urakawa-nobuka**	**1.32**	**344**	⇑P	**Pn**	**09 08 37.0**	**0.0**
JNBK				*e*S	**Sn**	**09 08 54.3**	**+0.8**
JANG	**Nango**	**1.47**	**245**	⇓P	**Pn**	**09 08 37.5**	**-1.5**
JCH	**Churui**	**1.60**	**3**	⇓P	**Pn**	**09 08 40.7**	**-0.2**
JCH				*e*S	**Sn**	**09 09 00.9**	**+0.5**
JTM	**Tenmabayashi**	**1.67**	**263**	⇑P	**Pn**	**09 08 41.1**	**-0.7**
JTM				*e*S	**Sn**	**09 09 01.7**	**-0.5**
JOT	**Ohata**	**1.71**	**283**	⇓P	**Pn**	**09 08 41.6**	**-0.7**
JBT2	**Biratori 2**	**1.88**	**340**	P	**Pn**	**09 08 45.4**	**+0.6**
JBT2				*e*S	**Sn**	**09 09 08.8**	**+1.4**
JKB	**Kayabe**	**1.89**	**298**	⇑P	**Pn**	**09 08 44.2**	**-0.6**
JOM	**Ohasama**	**2.15**	**225**	P	**Pn**	**09 08 48.3**	**-0.1**
JOM				*e*S	**Sn**	**09 09 14.3**	**+0.3**
JFR	**Furan**	**2.20**	**347**	P	**Pn**	**09 08 50.8**	**+1.7**
JAK	**Akkeshi**	**2.25**	**28**	P	**Pn**	**09 08 49.3**	**-0.5**
JAK				*e*S	**Sn**	**09 09 15.6**	**-0.9**
JEW	**Eniwo**	**2.27**	**324**	P	**Pn**	**09 08 50.6**	**+0.6**
JAR	**Ashorobuto**	**2.31**	**9**	P	**Pn**	**09 08 50.2**	**-0.4**
JAR				*e*S	**Sn**	**09 09 17.5**	**-0.5**
JMK	**Ichinoseki**	**2.59**	**218**	⇑P	**Pn**	**09 08 54.1**	**-0.3**
ASAJ	**Asahikawa**	**3.14**	**351**	P	**Pn**	**09 09 03.1**	**+1.1**
ASAJ				pmax	pmax		
	comp=Z,5.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,220nm,19.1s						
ASAJ	**Asahikawa**	**3.14**	**351**	P	**Pn**	**09 09 03.0**	**+1.1**
	comp=Z,4.6nm,0.3s,baz=207,slow=12,SNR=26						
ASAJ				LR	LR	09 10 41.2	
	comp=Z,220nm,19.1s,baz=163,slow=46						
KUR	**Kuril'sk**	**5.40**	**37**	P	**Pn**	**09 09 40.4**	**+7.3**
KUR				*e*S	**Sn**	**09 10 30.0**	**-4.1**
KUR				pmax	pmax		
	comp=N,170nm,0.9s						
KUR				pmax	pmax		
	comp=E,110nm,0.9s						
KUR				pmax	pmax		
	comp=Z,440nm,0.9s						
KUR				smax			
	comp=N,190nm,0.5s						
KUR				smax			
	comp=E,150nm,0.5s						
YSS	**Yuzh-Sakhalins**	**5.95**	**357**	*e*P	**Pb**	**09 09 58.0**	**+0.4**
MAJO	**Matsushiro**	**5.96**	**223**	*e*Pn	**Pn**	**09 09 41.3**	**+0.6**
	comp=E,18nm,0.6s						
MAJO	**Matsushiro**	**5.96**	**223**	*e*P	**Pn**	**09 09 41.3**	**+0.6**
MAJO				pmax	pmax		
	comp=Z,18nm,0.6s						
MAT	**Matsushiro**	**5.96**	**223**	P	**Pn**	**09 09 40.9**	**+0.2**
MAT				*e*S	**Sn**	**09 10 48.5**	**+0.7**
MJAR	**Matsushiro Arr**	**5.96**	**223**	P	**Pn**	**09 09 41.4**	**+0.7**
MJAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MJAR				MLR	MLR		
	comp=Z,343nm,18.2s						
MJAR	**Matsushiro Arr**	**5.96**	**223**	P	**Pn**	**09 09 41.4**	**+0.7**
	comp=Z,1.3nm,0.3s,baz=30,slow=14,SNR=27						
MJAR				LR	LR	09 12 09.8	
	comp=Z,343nm,18.2s,baz=70,slow=40						
KLR	**Kul'dur**	**11.54**	**319**	*e*P	**Pn**	**09 10 55.7**	**-1.5**
KSRS	**Korea Array**	**12.41**	**258**	P	**Pn**	**09 11 09.8**	**+0.7**
	comp=Z,0.3nm,0.3s,baz=118,slow=38,SNR=6.1						
YAK	**Yakutsk**	**22.58**	**343**	*e*P	**P**	**09 13 07.6**	**-4.6**
YAK				*e*S	**S**	**09 17 12.6**	**-5.3**
YAK				pmax	pmax		
	comp=Z,19nm,1.2s,mb4.4						
YAK				pmax	pmax		
	comp=N,5.0nm,0.9s						
YAK				pmax	pmax		
	comp=E,2.0nm,0.8s						
YAK				smax			
	comp=N,25nm,1.9s						
YAK				smax			
	comp=E,11nm,1.1s						
BOD	**Bodaibo**	**25.10**	**322**	*e*P	**P**	**09 13 34.4**	**-1.9**
BOD				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.2						
SONM	**Songino Array**	**27.00**	**297**	P	**P**	**09 13 53.0**	**-0.6**
SONM				pmax	pmax		
	comp=Z,2.0nm,0.7s						
SONM	**Songino Array**	**27.00**	**297**	P	**P**	**09 13 53.0**	**-0.6**
	comp=Z,2.1nm,0.7s,mb3.8,baz=82,slow=9.3,SNR=12						
IMA2	**Indian Mountai**	**42.55**	**33**	*e*P	**P**	**09 16 08.7**	**+1.6**
MK31	**Makanchi Array**	**43.34**	**299**	*e*P	**P**	**09 16 13.0**	**-0.7**
MKAR	**Makanchi Array**	**43.34**	**299**	P	**P**	**09 16 12.8**	**-0.9**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
MKAR	**Makanchi Array**	**43.34**	**299**	P	**P**	**09 16 12.8**	**-0.9**
	comp=Z,1.9nm,0.6s,mb4.0,baz=84,slow=9.6,SNR=17						
JIRN	**Jiri**	**48.18**	**273**	*e*P	**P**	**09 16 54.4**	**+2.2**
GUN	**Gumba**	**48.28**	**273**	*e*P	**P**	**09 16 54.5**	**+1.5**
KKN	**Kakani**	**48.80**	**273**	*e*P	**P**	**09 16 59.1**	**+2.2**
BVAR	**Borovoye Array**	**49.03**	**310**	P	**P**	**09 16 57.9**	**-0.5**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
BVAR	**Borovoye Array**	**49.03**	**310**	P	**P**	**09 16 57.9**	**-0.4**
	comp=Z,0.9nm,0.4s,mb4.2,baz=68,slow=8.5,SNR=5.2						
TKM2	**Tokmak 2**	**49.09**	**296**	*e*P	**P**	**09 16 58.6**	**-0.4**
	comp=Z,1.4nm,0.4s,mb4.3						
TKM2	**Tokmak 2**	**49.09**	**296**	*e*P	**P**	**09 16 58.6**	**-0.4**
TKM2				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.2						
GKN	**Gorkha**	**49.17**	**274**	*e*P	**P**	**09 17 01.2**	**+1.4**
DANN	**Dangsing**	**49.66**	**275**	*e*P	**P**	**09 17 03.2**	**-0.3**
	comp=Z,13nm,0.3s						
KOLN	**Koldanda**	**50.08**	**274**	*e*P	**P**	**09 17 08.4**	**+1.7**
INK	**Inuvik**	**50.20**	**29**	*e*P	**P**	**09 17 08.3**	**+1.3**
	comp=Z,127nm,0.6s						
AKTK	**Aktyubinsk**	**57.13**	**311**	P	**P**	**09 17 56.0**	**-2.0**
AKTO	**Aktyubinsk**	**57.13**	**311**	P	**P**	**09 17 56.0**	**-2.0**
AKTO				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.4						
AKTO	**Aktyubinsk**	**57.13**	**311**	P	**P**	**09 17 56.0**	**-2.0**
	comp=Z,2.6nm,0.7s,mb4.4,baz=62,slow=13,SNR=9.5						
YKA	**Yellowknife Ar**	**59.66**	**32**	P	**P**	**09 18 15.8**	**+0.3**
	comp=Z,0.2nm,0.7s,mb3.2,baz=297,slow=6.5,SNR=3.6						
WRA	**Warramunga Arr**	**61.21**	**190**	P	**P**	**09 18 25.5**	**-1.0**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
WRA	**Warramunga Arr**	**61.21**	**190**	P	**P**	**09 18 25.5**	**-1.0**
	comp=Z,1.1nm,0.5s,mb4.2,baz=6.6,slow=6.9,SNR=34						
ASAR	**Alice Springs**	**64.93**	**189**	P	**P**	**09 18 50.6**	**-0.5**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ASAR	**Alice Springs**	**64.93**	**189**	P	**P**	**09 18 50.6**	**-0.5**
	comp=Z,1.0nm,0.8s,mb3.9,baz=5.0,slow=5.7,SNR=15						
FINES	**FINESS Array B**	**65.97**	**332**	P	**P**	**09 18 56.1**	**-1.4**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
FINES	**FINESS Array B**	**65.97**	**332**	P	**P**	**09 18 56.0**	**-1.4**
	comp=Z,1.4nm,0.5s,mb4.2,baz=60,slow=8.2,SNR=6.8						
NB2	**NORSAR Subarra**	**71.07**	**338**	P	**P**	**09 19 28.6**	**-0.7**
	comp=Z,0.8nm,0.6s,mb3.8,baz=37,slow=6.2						
NOA	**NORSAR Array B**	**71.07**	**338**	P	**P**	**09 19 28.7**	**-0.6**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
NOA	**NORSAR Array B**	**71.07**	**338**	P	**P**	**09 19 28.7**	**-0.6**
	comp=Z,1.2nm,0.7s,mb3.9,baz=37,slow=6.2,SNR=4.0						
AKASG	**Malin Array Be**	**72.03**	**322**	P	**P**	**09 19 34.3**	**-1.0**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.3s						
AKASG	**Malin Array Be**	**72.03**	**322**	P	**P**	**09 19 34.3**	**-1.0**
	comp=Z,0.5nm,0.3s,mb3.9,baz=43,slow=6.1,SNR=10.0						
CLL	**Collm**	**78.35**	**331**	*e*P	**P**	**09 20 12.0**	**+0.3**
	comp=Z,9.0nm,1.1s,mb4.6						
TXAR	**Lajitas Array**	**86.58**	**54**	P	**P**	**09 20 56.0**	**+0.9**
	comp=Z,0.1nm,0.6s,mb3.2,baz=288,slow=2.8,SNR=3.9						

JMA 27 09:13:31.7±0.3,4376N×14815E,h0km,M4.0,East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**1.79**	**258**	P	Pn	09 14 04.0	+0.1
NEM2				*e*S	Sn	09 14 27.9	+0.6
JRA	**Rausu**	**2.20**	**276**	P	Pn	09 14 10.4	+1.0
JRA				*e*S	Sn	09 14 39.3	+2.0
JNK	**Nakash**	**2.50**	**267**	P	Pn	09 14 14.4	+0.9
JNK				*e*S	Sn	09 14 45.9	+1.3
JAK	**Akkeshi**	**2.63**	**254**	P	Pn	09 14 16.2	+0.8
JAK				*e*S	Sn	09 14 48.9	+0.9
JAR	**Ashorobuto**	**3.22**	**263**	P	Pn	09 14 25.3	+1.8
JAR				*e*S	Sn	09 15 04.3	+1.8
JCH	**Churui**	**3.68**	**254**	P	Pn	09 14 31.4	+1.6
JNBK	**Urakawa-nobuka**	**4.22**	**251**	P	Pn	09 14 38.8	+1.5
JNBK				*e*S	Sn	09 15 28.4	+1.1
JKB	**Kayabe**	**5.56**	**253**	P	Pn	09 14 57.6	+2.0
JKB				*e*S	Sn	09 15 59.3	-0.9
JOT	**Ohata**	**5.76**	**248**	*e*S	Sn	09 16 03.6	-1.5
JANG	**Nango**	**5.99**	**238**	*e*S	Sn	09 16 07.4	-3.3

*ISK **27** 09:22:05.4,3986N×3307E,h2km,MD2.8*
*CSEM **27** 09:22:05.6±0.1,3987N×3308E,h5km,MD2.8, Error ellipse: s-maj=2.1km s-min=1.0km az=4.0*
*ISCJB **27** 09:22:06.2±0.6,3989N±003×3311E±003,h1km±6km, Error ellipse: s-maj=5.3km s-min=4.0km az=163.1*
*DDA **27** 09:22:07.3,3991N×3318E,h7km±4km,Md3.0*

ISC 27 09:22:06.6±0.6,3989N±003×3309E±003,h1km±6km,n14, σ0°90/25,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANTO	**Ankara**	**0.23**	**264**	PG	**Pg**	**09 22 10.5**	**-0.4**
ANTO				*e*SG	**Sg**	**09 22 14.4**	**+0.5**
LOD	**Lodumlu**	**0.25**	**269**	PG	**Pg**	**09 22 11.1**	**-0.2**
LOD				*e*SG	**Sg**	**09 22 15.2**	**+0.7**
ELDT	**Eldivan**	**0.65**	**24**	*i* P	**Pg**	**09 22 18.8**	**-0.3**
ELDT				*i* S	**Sg**	**09 22 27.3**	**-0.2**
KAMT	**Kaman**	**0.71**	**137**	*e*PG	**Pg**	**09 22 19.8**	**-0.4**
KAMT				*e*SG	**Sg**	**09 22 30.3**	**+0.8**
CDAG	**Cicekdag**	**1.03**	**105**	*i* P	**Pg**	**09 22 23.7**	**-2.5**
CDAG				*i* S	**Sg**	**09 22 38.4**	**-1.2**
CDAG	**Cicekdag**	**1.03**	**105**	*i* P	**Pg**	**09 22 23.7**	**-2.6**
CDAG				*i* S	**Sg**	**09 22 38.3**	**-1.3**
CORM	**Corum**	**1.22**	**76**	*e*PN	**Pn**	**09 22 29.9**	**-0.8**
KIZT	**Kizilcal**	**1.38**	**223**	*e*PN	**Pn**	**09 22 32.0**	**-0.9**
CTKT	**Corum**	**1.49**	**60**	*i* P	**Pn**	**09 22 34.9**	**+0.3**
CTKT				*i* S	**Sg**	**09 22 56.3**	**+1.7**
KDHN	**Kadinhani**	**1.56**	**209**	*i* P	**Pn**	**09 22 35.2**	**-0.3**
KDHN				*i* S	**Sn**	**09 22 57.0**	**+0.7**
KDHN	**Kadinhani**	**1.56**	**209**	*i* P	**Pn**	**09 22 35.2**	**-0.3**
KDHN				*i* S	**Sn**	**09 22 57.0**	**+0.6**
YOZ	**Yozgat**	**1.74**	**98**	*e*PN	**Pn**	**09 22 37.8**	**-0.1**
AVNT	**Avonos**	**1.77**	**128**	*i* P	**Pn**	**09 22 38.2**	**-0.1**
AVNT				*i* S	**Sg**	**09 23 05.1**	**+1.8**
BOYT	**Boyabat**	**2.06**	**42**	*i* P	**Pn**	**09 22 41.8**	**-0.5**
BOYT				*i* S	**Sn**	**09 23 09.6**	**+0.9**

*JMA **27** 09:28:19.7±0.1,2570N×12505E,h13km±2km,M3.2*
*ISCJB **27** 09:28:20.3±1.9,2570N±009×125.1E±0.1,h21km±13km, mb3.5/3, Error ellipse: s-maj=19.5km s-min=7.7km az=42.6*
*IDC **27** 09:28:38.6±10.0,2544N×127.19E,h138km±56km,mb3.0/3, mb1 3.3/3,mb1mx3.0/17,mbtmp3.0/3

FORC			*i* S	Sn	10 25 34.0	+0.9
PRS1	**Puriscal**	**0.32 131**	⇑*iP*	Pn	10 25 24.8	+0.7
LAJ	**Bijagual**	**0.54 128**	⇓*iP*	Pn	10 25 26.2	+0.3
LAJ			*e*S	Sn	10 25 37.1	+0.8
SJS	**Escuela Geolog**	**0.56 117**	*e*P	Pn	10 25 26.8	+0.8
SJS			*e*S	Sn	10 25 37.6	+1.1
JCR	**Jicaral**	**0.65 238**	⇑*e*P	Pn	10 25 26.9	0.0
JCR			*e*S	Sn	10 25 38.2	+0.1
LCR2	**La Lucha 2**	**0.71 130**	⇑*iP*	Pn	10 25 28.1	+0.5
LCR2			*e*S	Sn	10 25 40.3	+1.1
URSC	**Urasca**	**0.85 115**	⇓*iP*	Pn	10 25 29.7	+0.7
URSC			*e*S	Sn	10 25 43.4	+1.5
LIM1	**Limonal**	**0.85 306**	⇑*e*P	Pn	10 25 29.4	+0.3
QCR	**Quepos**	**0.86 153**	⇑*iP*	Pn	10 25 29.4	+0.3
QCR			*e*S	Sn	10 25 42.7	+0.6
BUS	**Buena Vista**	**1.01 129**	⇑*e*P	Pn	10 25 31.9	+0.9
BUS			*e*S	Sn	10 25 46.9	+1.6
VCR	**Vista de Mar**	**1.06 266**	*e*P	Pn	10 25 31.6	+0.1
VCR			*e*S	Sn	10 25 46.1	-0.3
BAR1		**1.55 128**	⇑*e*P	Pn	10 25 38.2	+0.4
BAR1			*e*S	Sn	10 25 57.7	+0.3
LAPE	**La Pedrera**	**13.09 100**	⇓*e*P		10 25 31.3	
LAPE			*i* S		10 25 45.8	

GUC 27 10:42:25.9±0.7, 2556S×6998W, h58km±95km, MD3.5, ML2.9, 2C-1D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPN1	**Cerro Paranal**	**1.00 338**		⇓*iP*	Pn	10 42 45.4	+1.4
CPN1				*i* S	Sn	10 42 59.3	+2.1
CPN1				AML	AML	10 43 01.9	
	comp=E,906nm,0.3s						
CPCH	**Copiapo**	**1.82 190**		⇑*iP*	Pn	10 42 55.1	+0.2
CPCH				*i* S	Sn	10 43 17.9	+1.1
ANCH	**Antofagasta**	**1.91 348**		⇑*e*P	Pn	10 42 59.1	+3.0
ANCH				*e*S	Sn	10 43 22.6	+3.6
CEN1	**Los Morros**	**2.17 355**		*i* P	Pn	10 42 58.0	-1.7
CEN1				*i* S	Sn	10 43 22.1	-3.3
CEN1				AML	AML	10 43 35.0	
	comp=E,69nm,0.5s						

IDC 27 10:47:05.2±4.6, 3035S×17890W, h0km, mb3.4/2, mb1 3.7/2, mb1mx3.5/12, mbtmp3.4/2, Error ellipse: s-maj=256.2km s-min=68.0km az=167.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**42.34 267**		P	P	10 54 59.7	-1.4
	0.2nm,0.5s,baz=104,slow=6.4,SNR=4.4						
WRA	**Warramunga Arr**	**43.32 273**		P	P	10 55 10.1	+1.0
	0.3nm,0.4s,baz=112,slow=7.9,SNR=12						
FINES	**FINESS Array B**	**144.83 339**		PKP	PKPdf	11 06 42.9	-0.6
	1.1nm,0.3s,baz=58,slow=4.5,SNR=11						

*ATH **27** 10:48:02.4, 4125N×2011E, h10km, MD3.3/3*
*TIR **27** 10:48:02.7±3.1, 4104N×1995E, h18km±35km, ML2.8*
*ISCJB **27** 10:48:03.8±0.4, 4110N±002×2011E±003, h5km, Error ellipse: s-maj=4.0km s-min=2.3km az=135.5*
*NEIC **27** 10:48:04.1, 4108N×1998E, h7km, MD3.3(ATH), ML3.1(PDG), After PDG.*
*CSEM **27** 10:48:04.2±0.1, 4116N×2016E, h5km, ML3.1/10, Error ellipse: s-maj=2.1km s-min=1.2km az=43.0*
*PDG **27** 10:48:04.1±0.4, 4108N×1998E, h7km±1km, ML3.1/10, Error ellipse: s-maj=1.6km s-min=2.2km az=0.0*

ISC 27 10:48:04.1±0.5, 4108N±002×2009E±003, h2km±4km, n45, σ1§02/76, 7C-4D, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIR	**Tirane**	**0.32 328**		*e*PG	**Pg**	**10 48 09.7**	**-0.6**
TIR				*i* SG	**Sg**	**10 48 15.7**	**+1.2**
QSH	**Qafa e Shtames**	**0.47 343**		*e*PG	**Pg**	**10 48 11.1**	**-2.0**
QSH				*i* SG	**Sg**	**10 48 18.5**	**-0.7**
OHR	**Ohrid**	**0.54 86**		*i* Pg	**Pg**	**10 48 13.4**	**-1.0**
OHR				*i* Sg	**Sg**	**10 48 22.3**	**+0.9**
OHR	**Ohrid**	**0.54 86**		*i* Pg	**Pg**	**10 48 13.3**	**-1.1**
OHR				*i* Sg	**Sg**	**10 48 22.3**	**+0.9**
KBN	**Korca**	**0.69 130**		*e*PG	**Pg**	**10 48 17.3**	**-0.1**
KBN				*i* SG	**Sg**	**10 48 30.2**	**+3.8**
KRUS	**Krusevo**	**0.92 71**		*i* Pg	**Pg**	**10 48 20.7**	**-1.1**
KRUS	**Krusevo**	**0.92 71**		*i* Pg	**Pg**	**10 48 20.6**	**-1.2**
BIA	**Bitola**	**0.93 93**		*i* Pg	**Pg**	**10 48 21.0**	**-1.1**
BIA				*e*Sg	**Sg**	**10 48 34.2**	**0.1**
BIA	**Bitola**	**0.93 93**		*i* Pg	**Pg**	**10 48 20.9**	**-1.1**
BIA				*e*Sg	**Sg**	**10 48 34.1**	**0.0**
PUK	**Puka**	**0.98 351**		*e*PG	**Pg**	**10 48 21.4**	**-1.5**
PUK				*i* SG	**Sg**	**10 48 36.8**	**+1.2**
ULC	**Ulcinj**	**1.09 325**		⇓*i*Pg	**Pg**	**10 48 23.8**	**-1.2**
ULC				*e*Sg	**Sg**	**10 48 40.0**	**+0.9**
ULC	**Ulcinj**	**1.09 325**		*i* PG	**Pg**	**10 48 23.6**	**-1.4**
ULC				*i* SG	**Sg**	**10 48 40.0**	**+0.9**
SRN	**Sarande**	**1.20 183**		*e*PN	**Pg**	**10 48 29.0**	**+2.0**
SKO	**Skopje**	**1.35 48**		*e*Pn	**Pg**	**10 48 31.6**	**+1.6**
SKO				*e*Sg	**Sg**	**10 48 47.7**	**+0.1**
SKO	**Skopje**	**1.35 48**		*i* Pg	**Pg**	**10 48 29.2**	**-0.8**
SKO				*i* Sg	**Sg**	**10 48 47.4**	**-0.2**
SKO	**Skopje**	**1.35 48**		*i* Pg	**Pg**	**10 48 29.2**	**-0.8**
SKO	**Skopje**	**1.35 48**		*e*Pn	**Pg**	**10 48 31.6**	**+1.6**
SKO				*i* Sg	**Sg**	**10 48 47.3**	**-0.3**
KEK	**Kerkira**	**1.38 189**		*e*PB	**Pg**	**10 48 31.5**	**+1.0**
PDG	**Podgorica**	**1.49 336**		*i* PG	**Pn**	**10 48 31.0**	**-0.8**
PDG				*i* SG	**Sg**	**10 48 52.7**	**+0.7**
PDG	**Podgorica**	**1.49 336**		⇑*i*Pg	**Pn**	**10 48 31.0**	**-0.8**
PDG				*e*Sg	**Sg**	**10 48 52.7**	**+0.7**
TTG	**Podgorica**	**1.49 336**		⇑*i*Pg	**Pn**	**10 48 31.0**	**-0.8**
TTG				*e*Sg	**Sg**	**10 48 52.7**	**+0.7**
KZN	**Kozani**	**1.49 120**		*e*PB	**Pb**	**10 48 32.1**	**-0.4**
BUM	**Brajici-Budva**	**1.52 324**		⇑*i*Pg	**Pn**	**10 48 31.4**	**-0.8**
BUM				*e*Sg	**Sg**	**10 48 53.7**	**+0.9**
BUM	**Brajici-Budva**	**1.52 324**		*i* PG	**Pn**	**10 48 31.4**	**-0.8**
BUM				*i* SG	**Sg**	**10 48 53.7**	**+0.9**
PVY	**Plav**	**1.52 357**		⇓*i*Pg	**Pg**	**10 48 32.7**	**-0.6**
PVY				*e*Sg	**Sg**	**10 48 55.2**	**+2.2**
PVY	**Plav**	**1.52 357**		*i* PG	**Pg**	**10 48 32.7**	**-0.6**
PVY				*i* SG	**Sg**	**10 48 55.2**	**+2.2**
JAN	**Janina**	**1.53 157**		*e*PB	**Pb**	**10 48 34.0**	**+0.8**
BEY	**Berane**	**1.80 355**		*i* PG	**Pn**	**10 48 36.9**	**+0.8**
BEY				*i* SG	**Sg**	**10 49 02.3**	**+0.3**
IVA	**Berane**	**1.80 355**		⇑*i*Pn	**Pn**	**10 48 36.9**	**+0.8**
IVA				*e*Sn	**Sg**	**10 49 02.3**	**+0.3**
HCY	**Herceg Novi**	**1.82 320**		⇓*i*Pn	**Pn**	**10 48 35.6**	**-0.7**
HCY				*e*Sn	**Sb**	**10 49 00.6**	**-0.6**
HCY	**Herceg Novi**	**1.82 320**		*i* PG	**Pn**	**10 48 35.6**	**-0.7**
HCY				*i* SG	**Sb**	**10 49 00.6**	**-0.6**
NKY	**Niksic**	**1.92 335**		⇑*i*Pn	**Pn**	**10 48 38.4**	**+0.7**
NKY				*e*Sn	**Sb**	**10 49 03.8**	**-0.3**
NKY	**Niksic**	**1.92 335**		*i* PG	**Pn**	**10 48 38.4**	**+0.7**
NKY				*i* SG	**Sb**	**10 49 03.8**	**-0.3**
PE1	**Pezze di Greco**	**2.04 263**		*e*Pn	**Pn**	**10 48 38.1**	**-1.3**
BRY	**Bratogost**	**2.16 328**		⇑*i*Pn	**Pn**	**10 48 40.7**	**-0.3**
BRY				*e*Sn	**Sb**	**10 49 09.2**	**-1.8**
BARS	**Barje**	**2.17 36**		*e*Pn	**Pn**	**10 48 41.2**	**0.0**
BARS				*e*Sg	**Sn**	**10 49 08.9**	**+0.2**
UPM	**Unac-Piva**	**2.30 336**		⇓*i*Pn	**Pn**	**10 48 43.5**	**+0.5**
UPM				*e*Sn	**Sn**	**10 49 12.7**	**+0.8**
PLE	**Pljevlja**	**2.31 347**		⇑*i*Pn	**Pn**	**10 48 43.5**	**+0.3**
PLE				*e*Sn	**Sn**	**10 49 13.5**	**+1.4**
KKB	**Krupnik**	**2.38 70**		*i* P	**Pn**	**10 48 43.8**	**-0.3**
SG1	**Sgolgore (BA)**	**2.59 266**		*e*Pn	**Pn**	**10 48 47.7**	**+0.7**
VTS	**Vitosha**	**2.78 56**		*i* P	**Pn**	**10 48 49.1**	**-0.5**
MMB	**Musomiste**	**2.79 78**		*e*P	**Pn**	**10 48 51.5**	**+1.8**
GRUS	**Gruza**	**2.85 9**		*e*Pn	**Pn**	**10 48 49.3**	**-1.2**
DIVS	**Divibare**	**3.02 359**		*e*Pn	**Pn**	**10 48 51.4**	**-1.5**
DIVS				*e*Sg	**Sn**	**10 49 30.8**	**+1.2**
RZN	**Rozhen**	**3.53 79**		*i* P	**Pn**	**10 48 59.9**	**0.0**

*BJI **27** 10:53:16.8, 526S×127.10E, h107km, mB5.0, mb4.7*
*IDC **27** 10:53:18.6±4.9, 470S×12667E, h60km±50km, mb3.8/7, mb1 4.0/8, mb1mx3.8/16, mbtmp3.9/8, ML4.0/1, MS3.3/1, Ms1 3.3/1, ms1mx2.7/31, Error ellipse: s-maj=46.4km s-min=22.6km az=71.0*
*NEIC **27** 10:53:19.5±2.9, 5.13S×12680E, h97km±33km, mb4.1/3, Error ellipse: s-maj=25.2km s-min=18.4km az=89.0*

*ISCJB **27** 10:53:20.4±3.1, 52S±02×1269E±01, h127km±38km, mb4.2/11, Error ellipse: s-maj=31.3km s-min=18.3km az=37.2*

ISC 27 10:53:21.4±2.4, 52S±01×1269E±01, h117km±29km, n23, σ0§63/23, mb4.2/11, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Kupang**	**5.97 213**		P	**Pn**	**10 54 48.0**	**+0.5**
	3.6nm,0.3s,baz=29,slow=8.3,SNR=3.6						
BATI				LR	LR	10 57 39.8	
	comp=Z,219nm,18.1s,baz=100,slow=42						
KAKA	**Kakadu**	**9.26 144**		*e*P	**Pn**	**10 55 32.3**	**+0.2**
	6.9nm,0.5s						
FITZ	**Fitzroy Crossi**	**12.93 186**		*e*P	**Pn**	**10 56 19.1**	**-1.7**
	4.6nm,0.6s						
FITZ	**Fitzroy Crossi**	**12.93 186**		P	**Pn**	**10 56 19.5**	**-1.3**
	0.3nm,0.3s,baz=16,slow=12,SNR=11						
WRAB	**Tennant Creek**	**16.36 154**		*e*P	**Pn**	**10 57 04.3**	**0.0**
	9.3nm,0.8s						
WRA	**Warramunga Arr**	**16.37 155**		P	**Pn**	**10 57 04.6**	**+0.3**
	0.2nm,0.3s,baz=328,slow=13,SNR=19						
WB2	**Warramunga Arr**	**16.37 154**		*e*P	**Pn**	**10 57 04.8**	**+0.4**
ASAR	**Alice Springs**	**19.59 161**		P	**P**	**10 57 47.5**	**+7.1**
	9.3nm,0.7s,baz=340,slow=11,SNR=114						
STKA	**Stephens Creek**	**29.92 154**		P	**P**	**10 59 25.9**	**+7.7**
STKA	**Stephens Creek**	**29.92 154**		P	**P**	**10 59 25.9**	**+7.7**
	1.7nm,0.7s,mb3.8,baz=338,slow=11,SNR=2.9						
GYA	**Guiyang**	**37.06 329**		P	**P**	**11 00 20.8**	**+0.6**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.8						
KSRS	**Korea Array**	**42.40 1**		P	**P**	**11 01 04.2**	**0.0**
	comp=Z,2.6nm,0.8s,mb4.0,baz=184,slow=10,SNR=9.5						
XAN	**Xi'an**	**42.54 338**		P	**P**	**11 01 04.5**	**-1.0**
XAN				AMB	AMB		
	comp=Z,11nm,0.8s,mb4.6						
MJAR	**Matsushiro Arr**	**42.80 13**		P	**P**	**11 01 06.5**	**-1.0**
	comp=Z,1.9nm,0.9s,mb3.8,baz=185,slow=9.3,SNR=4.5						
MDJ	**Mudanjiang**	**49.60 2**		P	**P**	**11 02 00.5**	**-0.1**
MDJ				AMB	AMB		
	comp=Z,9.0nm,0.9s,mb4.7						
MDJ				AMB	AMB		
	comp=Z,75nm,4.0s						
MDJ	**Mudanjiang**	**49.60 2**		*e*P	**P**	**11 02 00.4**	**-0.2**
ULN	**Ulaanbaatar**	**55.62 344**		*e*P	**P**	**11 02 45.1**	**+0.2**
	comp=Z,2.4nm,0.8s,mb4.3						
SONM	**Songino Array**	**55.78 343**		P	**P**	**11 02 46.3**	**+0.3**
	comp=Z,1.9nm,0.9s,mb4.1,baz=159,slow=5.2,SNR=11						
MK31	**Makanchi Array**	**65.04 328**		*e*P	**P**	**11 03 49.4**	**+0.4**
MKAR	**Makanchi Array**	**65.04 328**		P	**P**	**11 03 49.5**	**+0.4**
MKAR				PcP	PcP	11 04 23.1	+2.1
MKAR	**Makanchi Array**	**65.04 328**		P	**P**	**11 03 49.5**	**+0.4**
	comp=Z,2.2nm,0.7s,mb4.1,baz=128,slow=7.6,SNR=22						
MKAR				PcP	PcP	11 04 23.1	+2.1
	comp=Z,0.5nm,0.6s,baz=126,slow=4.2,SNR=2.5						
ZALV	**Zalesovo Beam**	**68.61 335**		P	**P**	**11 04 10.9**	**-0.6**
	comp=Z,1.9nm,0.7s,mb4.0,baz=123,slow=5.3,SNR=8.4						
TIXI	**Tiksi**	**76.67 1**		*e*P	**P**	**11 04 59.9**	**+1.0**
	comp=Z,3.1nm,1.0s,mb4.0						

IDC 27 11:17:30.6±1.0, 2878N×4328W, h0km, mb3.8/10, mb1 3.9/10, mb1mx3.8/24, mbtmp3.8/10, Error ellipse: s-maj=37.0km s-min=20.4km az=151.0, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEST	**Kesra**	**44.60 67**		P	P	11 25 45.4	+0.8
	2.2nm,0.9s,baz=290,slow=5.0,SNR=5.1						
GERES	**GERESS Array B**	**47.50 49**		P	P	11 26 06.9	-0.4
	0.5nm,0.5s,baz=259,slow=12,SNR=4.1						
SIV	**San Ignacio**	**47.72 203**		P	P	11 26 09.2	-0.1
	1.0nm,0.8s,baz=250,slow=18,SNR=2.2						
TXAR	**Lajitas Array**	**52.25 286**		P	P	11 26 42.5	-1.2
	0.8nm,1.1s,baz=45,slow=26,SNR=5.2						
FINES	**FINESS Array B**	**55.33 33**		P	P	11 27 05.5	-0.3
	1.4nm,0.8s,baz=242,slow=3.0,SNR=2.8						
YKA	**Yellowknife Ar**	**56.31 328**		PcP	PcP	11 28 10.2	+0.1
	0.3nm,0.8s,baz=90,slow=4.9,SNR=5.7						
AKASG	**Malin Array Be**	**57.48 46**		P	P	11 27 20.8	-0.6
	0.5nm,0.5s,baz=279,slow=6.0,SNR=5.0						
NVAR	**Mina Array Bea**	**61.67 300**		P	P	11 27 51.8	+1.4
	0.4nm,0.7s,baz=98,slow=3.7,SNR=3.4						
AKTO	**Aktyubinsk**	**75.03 40**		P	P	11 29 13.5	-0.4
	1.1nm,0.6s,baz=307,slow=8.3,SNR=5.3						
BVAR	**Borovoye Array**	**80.28 34**		P	P	11 29 44.2	+1.0
	1.1nm,0.7s,baz=316,slow=4.1,SNR=5.5						
MKAR	**Makanchi Array**	**90.16 34**		P	P	11 30 32.5	-0.2
	0.6nm,0.8s,baz=332,slow=8.5,SNR=4.0						

*IDC **27** 11:18:14.6±1.4, 2616S×17733W, h0km, mb4.2/6, mb1 4.4/7, mb1mx4.2/15, mbtmp4.2/7, ML4.7/1, MS3.5/4, Ms1 3.5/4, ms1mx3.2/16, Error ellipse: s-maj=33.5km s-min=26.8km az=86.0*
*NEIC **27** 11:18:20.6±4.5, 2623S×17733W, h43km±38km, mb4.5/3, Error ellipse: s-maj=40.9km s-min=22.5km az=199.0*

ISC 27 11:18:19.2±6.8, 262S±01×1774W±03, h29km±47km, n19, σ0§65/15, mb4.2/6, MS3.6/2, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**3.11 189**		Pn	**Pn**	**11 19 06.2**	**-0.1**
RAO				Sn	**Sn**	**11 19 42.5**	**0.0**
RAO				LR	LR	11 20 08.6	
RAO	**Raoul Island**	**3.11 189**		Pn	**Pn**	**11 19 06.2**	**-0.1**
	93nm,0.3s,baz=269,slow=22,SNR=3.6						
RAO				Sn	**Sn**	**11 19 42.5**	**+0.1**
	108nm,0.3s,baz=99,slow=22,SNR=5.8						
RAO				LR	LR	11 20 08.6	
	comp=Z,516nm,21.4s,baz=10,slow=36						
URZ	**Urewera**	**12.92 200**		LR	LR	11 25 59.6	
	comp=Z,127nm,19.8s,baz=204,slow=36						
HNR	**Honiara**	**27.17 304**		LR	LR	11 32 55.9	
	comp=Z,203nm,20.2s,MS3.7,baz=180,slow=32						
CTA	**Charters Tower**	**33.90 273**		*e*P	**P**	**11 25 01.7**	**+1.9**
	3.1nm,0.8s,mb4.3						
CTA	**Charters Tower**	**33.90 273**		P	**P**	**11 25 01.7**	**+1.9**
	3.3nm,0.6s,mb4.4,baz=100,slow=11,SNR=5.2						
CTA				LR	LR	11 37 14.1	
	comp=Z,111nm,20.6s,MS3.6,baz=224,slow=34						
CTAO	**Charters Tower**	**33.90 273**		*e*P	**P**	**11 25 00.9**	**+1.1**
	5.5nm,0.8s,mb4.5						
STKA	**Stephens Creek**	**36.16 251**		P	**P**	**11 25 19.5**	**+0.3**
	3.4nm,0.9s,mb4.3,baz=341,slow=22,SNR=3.8						
ASAR	**Alice Springs**	**44.04 262**		P	**P**	**11 26 24.6**	**-0.1**
	4.3nm,1.0s,mb4.2,baz=111,slow=7.8,SNR=24						
WB2	**Warramunga Arr**	**44.63 268**		*e*P	**P**	**11 26 28.7**	**-0.7**
WRA	**Warramunga Arr**	**44.65 268**		P	**P**	**11 26 29.1**	**-0.4**
	4.4nm,0.9s,mb4.3,baz=105,slow=8.0,SNR=22						
VNDA	**Vanda**	**52.34 186**		P	**P**	**11 27 27.8**	**-0.2**
	1.8nm,1.1s,mb3.9,baz=333,slow=8.8,SNR=3.8						
FITZ	**Fitzroy Crossi**	**53.03 266**		*e*P	**P**	**11 27 33.1**	**-0.9**
	6.1nm,0.9s,mb4.5						
FITZ	**Fitzroy Crossi**	**53.03 266**		P	**P**	**11 27 33.2**	**-0.7**
	3.3nm,0.9s,mb4.2,baz=136,slow=6.2,SNR=6.9						
VNA2	**Neumayer--Watz**	**82.92 177**		*e*	**P**	**11 30 41.3**	**+0.4**
VNA2				*e*		11 30 45.8	
VNA2				*e*		11 30 54.1	
NB2	**NORSAR Subarra**	**144.65 353**		PKP	PKPdf	11 37 52.7	+0.2
	comp=Z,6.4nm,1.2s,baz=10,slow=3.2						
NOA	**NORSAR Array B**	**144.65 353**		PKP	PKPdf	11 37 52.9	+0.4
	comp=Z,5.9nm,0.9s,baz=16,slow=2.4,SNR=12						
HFS	**Hagfors**	**145.20 350**		PKPbc	PKPbc	11 37 53.8	+0.7
	comp=Z,6.9nm,0.9s,baz=20,slow=4.9,SNR=8.7						
AKASG	**Malin Array Be**	**148.15 327**		PKPbc	PKPbc	11 37 59.5	-2.5
	comp=Z,0.4nm,0.3s,baz=35,slow=3.1,SNR=6.1						

*ISCJB **27** 11:20:24.2±0.4, 2905N±009×4325W±006, h10km, mb4.3/35, MS3.8/18, Error ellipse: s-maj=13.4km s-min=7.0km az=164.7*
*IDC **27** 11:20:24.1±0.6, 2910N×4323W, h0km, mb4.0/20, mb1 4.1/20, mb1mx4.1/28, mbtmp4.0/20, MS3.8/16, Ms1 3.8/16, ms1mx3.6/32, Error ellipse: s-maj=19.2km s-min=14.2km az=142.0*
*NEIC **27** 11:20:25.8±0.3, 2903N×4322W, h10km, mb4.5/15, Error ellipse: s-maj=9.0km s-min=4.9km az=162.0*

ISC 27 11:20:26.0±0.4, 2905N±009×4321W±006, h10km, n75, σ0§76/65, mb4.3/35, MS3.8/18, 15C, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBTS	**Babate**	**28.51 114**		LR	LR	11 34 59.2	
	comp=Z,362nm,20.1s,MS4.0,baz=140,slow=31						
MTE	**Manteigas**	**31.23 59**		P	**P**	**11 26 41.9**	**-3.7**
SDV	**Santo Domingo**	**32.64 238**		*e*P	**P**	**11 27 02.9**	**+4.6**
	7.1nm,0.9s,mb4.6						
MDT	**Midelt**	**33.20 74**		LR	LR	11 37 29.7	
	comp=Z,395nm,19.3s,MS4.1,baz=314,slow=31						
ESDC	**Sonseca Array**	**33.85 61**		P	**P**	**11 27 07.8**	**-0.8**
	0.4nm,0.3s,mb3.8,baz=263,slow=9.3,SNR=4.1						
SJPF	**Ste Jean**	**36.34 56**		⇑*iP*	**P**	**11 27 30.5**	**+0.5**
	30nm,1.3s,mb4.8						
SJPF	**Ste Jean**	**36.34 56**		⇑*iP*	**P**	**11 27 30.5**	**+0.5**
	15nm,1.3s,mb4.8						
MFF	**Saint Martin d**	**37.73 50**		⇑*iP*	**P**	**11 27 42.3**	**+0.5**
	62nm,1.4s,mb4.8						
MFF	**Saint Martin d**	**37.73 50**		⇑*iP*	**P**	**11 27 42.3**	**+0.5**
	31nm,1.4s,mb4.8						
LFF	**La Frestale**	**38.02 53**		*e*P	**P**	**11 27 44.5**	**+0.2**
BORG	**Borgarnes**	**38.29 15**		LR	LR	11 40 35.7	
	comp=Z,99nm,18.8s,MS3.6,baz=17,slow=32						
MTLF	**Montolieu**	**38.86 56**		⇑*iP*	**P**	**11 27 51.3**	**-0.1**
	15nm,1.2s,mb4.3						
MTLF	**Montolieu**	**38.86 56**		⇑*iP*	**P**	**11 27 51.3**	**-0.1**
	7.7nm,1.2s,mb4.3						
CAF	**Calviac**	**38.95 53**		*e*P	**P**	**11 27 52.1**	**0.0**
TCF	**Toulx Ste Croi**	**39.27 51**		⇑*iP*	**P**	**11 27 55.0**	**+0.3**
	21nm,1.2s,mb4.5						
TCF	**Toulx Ste Croi**	**39.27 51**		⇑*iP*	**P**	**11 27 55.0**	**+0.3**
	10nm,1.2s,mb4.4						
LASF	**Ste Croix**	**40.12 55**		⇑*iP*	**P**	**11 28 02.3**	**+0.4**
	28nm,1.2s,mb4.6						
SSF	**Saint Saulge**	**40.27 50**		*e*P	**P**	**11 28 02.2**	**-0.9**
	16nm,1.1s,mb4.4						
SSF	**Saint Saulge**	**40.27 50**		*e*P	**P**	**11 28 02.2**	**-0.9**
	8.1nm,1.1s,mb4.4						
SMF	**Signal de Mont**	**40.44 51**		⇑*iP*	**P**	**11 28 04.8**	**+0.3**
	52nm,1.3s,mb4.8						
SMF	**Signal de Mont**	**40.44 51**		⇑*iP*	**P**	**11 28 04.8**	**+0.3**
	26nm,1.3s,mb4.8						
LOR	**Lormes**	**40.55 50**		⇑*iP*	**P**	**11 28 05.4**	**0.0**
LOR				*e*MLR	MLR		
	comp=Z,116nm,19.5s,MS3.4						
LOR	**Lormes**	**40.55 50**		⇑*iP*	**P**	**11 28 05.4**	**0.0**
LOR				LR	LR		
	comp=Z,120nm,19.5s,MS3.8						
VIVF	**Saint-Julien-l**	**40.78 54**		*e*P	**P**	**11 28 08.1**	**+0.8**
LPL	**La Plagne**	**42.30 53**		*e*P	**P**	**11 28 21.2**	**+1.4**
LPG	**La Plagne**	**42.31 53**		*e*P	**P**	**11 28 21.4**	**+1.5**
HAU	**Haudompre**	**42.32 49**		⇑*iP*	**P**	**11 28 20.9**	**+0.9**
HAU				*e*MLR	MLR		
	comp=Z,158nm,19.2s,MS3.6						
HAU	**Haudompre**	**42.32 49**		⇑*iP*	**P**	**11 28 20.9**	**+0.9**
HAU				LR	LR		
	comp=Z,160nm,19.3s,MS3.9						
CDF	**Champ du Feu**	**43.00 49**		*e*P	**P**	**11 28 24.6**	**-0.8**
	comp=Z,6.7nm,0.8s,mb4.1						
CDF	**Champ du Feu**	**43.00 49**		*e*P	**P**	**11 28 24.6**	**-0.8**
	comp=Z,3.3nm,0.8s,mb4.1						
VSL	**Villasalto**	**44.14 62**		*e*P	**P**	**11 28 35.0**	**+0.2**
KEST	**Kesra**	**44.44 67**		P	**P**	**11 28 37.2**	**0.0**
	comp=Z,3.5nm,0.9s,mb4.1,baz=265,slow=5.9,SNR=6.3						
KEST				LR	LR	11 44 06.6	
	comp=Z,52nm,19.8s,MS3.5,baz=250,slow=32						
DAVOX	**Davos/Dischmat**	**44.58 52**		P	**P**	**11 28 37.8**	**-0.4**
	comp=Z,4.0nm,0.9s,mb4.3,baz=238,slow=8.5,SNR=4.2						
DAVOX				LR	LR	11 43 17.8	
	comp=Z,166nm,20.9s,MS3.9,baz=82,slow=31						
ULM	**Lac du Bonnet**	**44.66 313**		P	**P**	**11 28 37.7**	**-1.1**
	comp=Z,2.5nm,0.8s,mb4.1,baz=81,slow=6.8,SNR=4.8						
ULM				LR	LR	11 44 41.9	
	comp=Z,159nm,20.6s,MS3.9,baz=34,slow=33						
BDFB	**Brasilia**	**44.67 187**		P	**P**	**11 28 39.3**	**+0.2**
	comp=Z,1.3nm,0.5s,mb4.0,baz=194,slow=24,SNR=3.1						
BDFB				LR	LR	11 45 38.7	
	comp=Z,46nm,18.6s,MS3.4,baz=127,slow=34						
JMIC	**Jan Mayen**	**46.19 15**		LR	LR	11 42 50.0	
	comp=Z,77

ellipse: s-maj=2.6km s-min=1.9km az=101.0, Mining explosion.
SGS ***27*** *11:20:55.2, 2988N×3615E, h5km*
ISC 27 11:20:53.5±0.7, **2981N**±002×**3625E**±004, **h0**km, **n27**, σ0§**81**/43, **2C-6D, Western Arabian Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HRFI	**Mount Harif**	**1.08**	**282**	Pg	**Pg**	**11 21 13.4**	**-0.8**
HRFI				Sg	**Sg**	**11 21 28.8**	**+0.6**
HQLS		**1.15**	**244**	P	**Pg**	**11 21 15.5**	**-0.1**
HQLS		**1.15**	**244**	P	**Pg**	**11 21 15.5**	**-0.1**
HQLS				S	**Sg**	**11 21 30.8**	**+0.2**
MBH	**Mount Berech**	**1.16**	**270**	Pg	**Pg**	**11 21 15.5**	**-0.3**
MBH				Sg	**Sg**	**11 21 31.2**	**+0.4**
ZFRI	**Zfri**	**1.19**	**309**	Pg	**Pg**	**11 21 14.7**	**-1.7**
ZFRI				Sg	**Sg**	**11 21 32.2**	**+0.4**
PRNI	**Paran**	**1.21**	**297**	Pg	**Pg**	**11 21 15.6**	**-1.1**
PRNI				Sg	**Sg**	**11 21 32.5**	**+0.1**
JLOS		**1.26**	**212**	P	**Pg**	**11 21 18.3**	**+0.6**
JLOS		**1.26**	**212**	P	**Pg**	**11 21 18.3**	**+0.7**
JLOS				S	**Sg**	**11 21 34.8**	**+0.8**
KRMI	**Paran Flat**	**1.36**	**283**	Pg	**Pg**	**11 21 18.6**	**-1.0**
KRMI				Sg	**Sg**	**11 21 36.8**	**-0.4**
HBST	**Basata**	**1.45**	**246**	⇓P	**Pn**	**11 21 22.0**	**+1.0**
MZDA	**Masada**	**1.68**	**333**	Pn	**Pn**	**11 21 23.1**	**-1.0**
MZDA				Sn	**Sn**	**11 21 46.4**	**-0.1**
HDHB	**Dhahab**	**1.79**	**233**	⇑P	**Pn**	**11 21 25.6**	**-0.1**
HDHB				S	**Sn**	**11 21 53.1**	**+4.0**
RTMI	**Retamim**	**1.83**	**313**	Pn	**Pn**	**11 21 25.4**	**-0.9**
RTMI				Sn	**Sn**	**11 21 49.9**	**-0.2**
YTIR	**Yattir**	**1.83**	**328**	Pn	**Pn**	**11 21 25.6**	**-0.7**
YTIR				Sn	**Sn**	**11 21 51.5**	**+1.4**
DSI	**Dead Sea**	**1.91**	**337**	Pn	**Pn**	**11 21 26.7**	**-0.6**
DSI				Sn	**Sn**	**11 21 53.1**	**+1.1**
KZIT	**Kziot**	**1.94**	**305**	Pn	**Pn**	**11 21 27.1**	**-0.6**
KZIT				Sn	**Sn**	**11 21 52.4**	**-0.4**
KZIT	**Kziot**	**1.94**	**305**	Pn	**Pn**	**11 21 27.1**	**-0.6**
RSHS		**1.97**	**221**	P	**Pn**	**11 21 27.4**	**-0.7**
HNKL	**Nakhl**	**1.98**	**274**	⇓P	**Pn**	**11 21 28.0**	**-0.2**
HNKL				S	**Sn**	**11 21 57.0**	**+3.3**
HKAT	**Jabal Katrina**	**2.35**	**238**	⇑P	**Pn**	**11 21 33.6**	**+0.1**
HMDT	**Nahal Hemdat**	**2.52**	**346**	Pn	**Pn**	**11 21 35.9**	**+0.3**
HMDT				Sn	**Sn**	**11 22 08.7**	**+1.7**
TR1		**2.70**	**229**	⇓P	**Pn**	**11 21 38.2**	**0.0**
MMLI	**Mount Malkishu**	**2.72**	**345**	Pn	**Pn**	**11 21 38.4**	**0.0**
MMLI				Sn	**Sn**	**11 22 13.3**	**+1.4**
AMAG	**Maghara**	**2.76**	**288**	⇓P	**Pn**	**11 21 37.9**	**-1.1**
SUZ		**2.97**	**271**	⇓P	**Pn**	**11 21 42.1**	**+0.2**
ZNM		**2.97**	**263**	⇓P	**Pn**	**11 21 42.4**	**+0.5**
WJHS		**3.07**	**178**	P	**Pn**	**11 21 43.6**	**+0.4**

IDC ***27*** *11:28:52.7±4.3, 1148S×16649E, h0km, mb4.2/6, mb1 4.3/6, mb1mx3.9/16, mbtmp4.2/6, Error ellipse: s-maj=104.4km s-min=46.1km az=117.0*
NEIC ***27*** *11:28:55.0±2.1, 1133S×16635E, h10km, mb3.7/2, Error ellipse: s-maj=47.0km s-min=24.3km az=109.0*
ISC 27 11:28:59.4±2.9, **1148S**±02×**1662E**±04, **h35**km, **n9**, σ0§**54**/9, **mb4.0**/8, **Santa Cruz Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**21.08**	**243**	P	**P**	**11 33 42.3**	**+1.5**
	3.1nm, 0.7s, mb3.7, baz=62, slow=12, SNR=4.4						
CTAO	**Charters Tower**	**21.08**	**243**	*e*P	**P**	**11 33 40.7**	**-0.1**
ARMA	**Armidale**	**23.31**	**213**	*e*P	**P**	**11 34 04.7**	**+0.2**
	0.3nm, 0.9s, mb2.7						
STKA	**Stephens Creek**	**30.55**	**224**	P	**P**	**11 35 09.5**	**-0.2**
	3.9nm, 0.7s, mb4.3, baz=48, slow=9.4, SNR=8.8						
WRA	**Warramunga Arr**	**31.83**	**250**	P	**P**	**11 35 20.7**	**-0.4**
	2.6nm, 0.8s, mb4.1, baz=85, slow=9.4, SNR=12						
ASAR	**Alice Springs**	**33.08**	**244**	P	**P**	**11 35 31.1**	**-1.0**
	2.0nm, 0.6s, mb4.2, baz=69, slow=9.5, SNR=43						
FITZ	**Fitzroy Crossi**	**39.76**	**255**	P	**P**	**11 36 29.3**	**+0.1**
	2.6nm, 0.7s, mb4.1, baz=88, slow=7.7, SNR=8.3						
MBWA	**Marble Bar**	**45.55**	**252**	*e*P	**P**	**11 37 16.5**	**+0.4**
	6.1nm, 0.9s, mb4.5						
MKAR	**Makanchi Array**	**94.08**	**317**	P	**P**	**11 42 14.3**	**+0.1**
	0.7nm, 0.7s, mb4.2, baz=100, slow=6.3, SNR=4.7						

IDC 27 11:38:13.1±3.5, **675S×15507E, h0**km, **mb3.6**/3, **mb1 3.8**/3, **mb1mx3.5**/13, **mbtmp3.6**/3, **Error ellipse: s-maj=103.8km s-min=35.2km az=116.0, Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.02**	**235**	P	P	11 43 30.8	+0.9
	0.8nm, 0.5s, baz=60, slow=9.5, SNR=19						
ASAR	**Alice Springs**	**26.39**	**228**	P	P	11 43 50.6	-0.8
	0.4nm, 0.9s, baz=59, slow=9.4, SNR=3.2						
MKAR	**Makanchi Array**	**83.27**	**319**	P	P	11 50 41.9	+0.2
	0.9nm, 0.5s, baz=96, slow=7.0, SNR=9.0						

NEIC 27 11:39:39.1, 5995N×14739W, h15km, **ML3.9**(PMR), **ML3.6**(AEIC), **After AEIC., Gulf of Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MID	**Middleton Isla**	**0.75**	**134**	P	Pg	11 39 53.0	-0.6
SEW	**Seward**	**1.04**	**279**	P	Pb	11 39 57.1	-1.7
SEW				S	Sb	11 40 11.6	-0.7
RAGM	**Ragged Mountai**	**1.43**	**71**	P	Pn	11 40 02.5	-1.9
RAGM				S	Sn	11 40 20.6	-2.3
DIV	**Divide**	**1.43**	**33**	*e*P	Pn	11 40 02.5	-2.0
DIV				*e*S	Sn	11 40 20.3	-2.7
SLKM	**Skilak Lake**	**1.52**	**293**	P	Pn	11 40 03.5	-2.2
KNK	**Knik Glacier**	**1.56**	**341**	P	Pn	11 40 04.3	-1.9
RC01	**Rabbit Creek A**	**1.63**	**316**	P	Pn	11 40 05.3	-1.9
BMRM	**Bremner River**	**1.72**	**52**	P	Pn	11 40 06.5	-1.9
PMR	**Palmer**	**1.86**	**333**	P	Pn	11 40 08.4	-0.9
SML	**Sawmill**	**1.92**	**347**	P	Pn	11 40 10.2	-1.0
PAX	**Paxson**	**3.17**	**16**	P	Pn	11 40 28.0	-0.4
KDAK	**Kodiak Island**	**3.46**	**233**	*e*P	Pn	11 40 30.4	-2.0
MENT	**Mentasta**	**3.48**	**29**	P	Pn	11 40 31.7	-0.9
TRF	**Thorofare Moun**	**3.77**	**340**	P	Pn	11 40 35.8	-0.9
MCK	**McKinley**	**3.87**	**350**	P	Pn	11 40 37.3	-0.6
KTH	**Kantishna Hill**	**3.99**	**337**	P	Pn	11 40 38.9	-0.7
DOT	**Dot Lake**	**4.04**	**22**	P	Pn	11 40 39.4	-0.8
BCA3	**Beaver Creek A**	**4.12**	**38**	P	Pn	11 40 40.4	-1.1
SVW2	**Sparrevohn**	**4.21**	**289**	P	Pn	11 40 40.6	-2.0
IL1	**Eielson Array**	**4.85**	**3**	P	Pn	11 40 49.5	-1.9
COLA	**College**	**4.95**	**358**	P	Pn	11 40 51.5	-1.2
TT01	**Tatalina**	**5.09**	**309**	P	Pn	11 40 52.7	-2.1
TTA	**Tatalina**	**5.10**	**310**	*e*P	Pn	11 40 53.9	-1.0
DAWY	**Dawson**	**5.59**	**39**	*e*P	Pn	11 41 00.5	-1.0
EGAK	**Eagle**	**5.65**	**28**	P	Pn	11 41 01.6	-0.7
IM3	**Indian Mountai**	**6.71**	**337**	P	Pn	11 41 15.0	-2.0
IMA2	**Indian Mountai**	**6.77**	**338**	*e*P	Pn	11 41 17.0	-0.8
IMA2				*e*P		11 41 22.0	

IDC 27 11:59:10.7±6.8, **1748S×17865W, h573**km±75km, **mb3.4**/5, **mb1 3.6**/5, **mb1mx3.2**/15, **mbtmp3.4**/5, **Error ellipse: s-maj=91.6km s-min=36.4km az=156.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**33.29**	**260**	P	P	12 05 02.1	+0.2
	1.5nm, 0.6s, baz=85, slow=11, SNR=2.7						
STKA	**Stephens Creek**	**38.63**	**241**	P	P	12 05 45.7	-0.2
	3.9nm, 0.5s, baz=92, slow=9.7, SNR=13						
WRA	**Warramunga Arr**	**44.48**	**259**	P	P	12 06 31.7	-0.4
	1.9nm, 0.5s, baz=94, slow=7.2, SNR=54						
WRA				PcP	PcP	12 08 02.9	0.0
	0.4nm, 0.5s, baz=91, slow=3.5, SNR=4.0						
ASAR	**Alice Springs**	**44.68**	**254**	P	P	12 06 33.5	0.0
	28nm, 0.6s, baz=89, slow=8.3, SNR=639						
ASAR				PcP	PcP	12 08 03.2	-0.4
	1.1nm, 1.0s, baz=100, slow=4.1, SNR=4.7						
TXAR	**Lajitas Array**	**85.96**	**58**	P	P	12 10 51.2	+0.1
	0.4nm, 0.8s, baz=228, slow=6.3, SNR=5.9						

ISCJB ***27*** *12:23:30.9±0.8, 2637S×004×2744E±004, h12km±6km, Error ellipse: s-maj=6.5km s-min=5.4km az=44.7*
PRE ***27*** *12:23:30.6±0.5, 2642S×2740E, h2km, ML3.1*
ISC 27 12:23:31.3±0.5, **2635S**±003×**2746E**±004, **h14**km±4km, **n11**, σ1§**03**/22, **South Africa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KLOF	**Kloof**	**0.14**	**91**	*e*P	**Pg**	**12 23 34.8**	**-0.2**
KLOF				*e*S	**Sg**	**12 23 37.0**	**-0.5**
KLOF				AML	AML	12 23 37.6	
	comp=Z,7μm,0.3s						
PRYS	**Parys**	**0.58**	**188**	*e*P	**Pg**	**12 23 43.6**	**+0.8**
PRYS				*e*S	**Sg**	**12 23 51.6**	**+1.1**
PRYS				AML	AML	12 23 53.1	
	comp=Z,145nm,0.3s						
KSR	**Koster**	**0.70**	**314**	*e*P	**Pg**	**12 23 44.5**	**-0.6**
KSR				*e*S	**Sg**	**12 23 54.7**	**+0.4**
KSR				AML	AML	12 24 09.0	
	comp=Z,250nm,0.5s						
ERPM	**east rand prop**	**0.71**	**82**	*e*P	**Pg**	**12 23 44.7**	**-0.5**
ERPM				*e*S	**Sg**	**12 23 52.6**	**-2.0**
ERPM				AML	AML	12 23 53.9	
	comp=Z,477nm,0.4s						
SLR	**Silverton**	**0.96**	**51**	*e*P	**Pb**	**12 23 50.7**	**+1.0**
SLR				*e*S	**Sb**	**12 24 03.3**	**+1.0**
SLR				AML	AML	12 24 10.8	
	comp=Z,96nm,0.2s						
SEK	**Senekal**	**1.98**	**176**	*e*P	**Pn**	**12 24 04.7**	**+0.3**
SEK				*e*S	**Sn**	**12 24 29.6**	**+0.7**
SEK				AML	AML	12 24 33.2	
	comp=Z,197nm,0.4s						
SWZ	**Schweizer**	**2.07**	**246**	*e*P	**Pn**	**12 24 06.3**	**+0.7**
SWZ				*e*S	**Sn**	**12 24 31.8**	**+0.4**
SWZ				AML	AML	12 24 41.5	
	comp=Z,200nm,0.5s						
HVD	**Gariep Dam**	**4.58**	**202**	*e*P	**Pn**	**12 24 40.7**	**+0.6**
HVD				*e*S	**Sn**	**12 25 31.6**	**-1.5**
HVD				AML	AML	12 26 04.0	
	comp=Z,8.5nm,0.4s						
PKA	**Prieska**	**5.31**	**230**	*e*P	**Pn**	**12 24 50.4**	**+0.2**
PKA				*e*S	**Sn**	**12 25 49.0**	**-2.2**
PKA				AML	AML	12 26 31.8	
	comp=Z,22nm,0.6s						
UPI	**Upington**	**5.87**	**249**	*e*P	**Pn**	**12 24 58.4**	**+0.5**
UPI				*e*S	**Sn**	**12 26 02.7**	**-2.3**
UPI				AML	AML	12 26 44.1	
	comp=Z,9.5nm,0.7s						
SUR	**Sutherland**	**8.35**	**222**	*e*P	**Pn**	**12 25 32.9**	**+0.9**
SUR				*e*S	**Sn**	**12 27 01.8**	**-4.2**

ISCJB ***27*** *12:27:38.7±0.7, 2640S±004×2751E±004, h11km±5km, Error ellipse: s-maj=6.7km s-min=5.1km az=44.3*
PRE ***27*** *12:27:38.8±0.2, 2642S×2748E, h2km, ML2.9*
ISC 27 12:27:39.2±0.5, **2638S**±004×**2752E**±004, **h10**km±5km, **n11**, σ0§**91**/22, **South Africa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KLOF	**Kloof**	**0.09**	**72**	*e*P	**Pg**	**12 27 41.5**	**-0.2**
KLOF				*e*S	**Sg**	**12 27 43.3**	**-0.2**
KLOF				AML	AML	12 27 44.6	
	comp=Z,6μm,0.1s						
PRYS	**Parys**	**0.56**	**194**	*e*P	**Pg**	**12 27 50.1**	**-0.1**
PRYS				*e*S	**Sg**	**12 27 58.0**	**+0.4**
PRYS				AML	AML	12 28 01.6	
	comp=Z,149nm,0.3s						
ERPM	**east rand prop**	**0.67**	**79**	*e*P	**Pg**	**12 27 51.4**	**-0.7**
ERPM				*e*S	**Sg**	**12 27 59.7**	**-1.1**
ERPM				AML	AML	12 28 01.1	
	comp=Z,183nm,0.2s						
KSR	**Koster**	**0.76**	**313**	*e*P	**Pg**	**12 27 53.4**	**-0.5**
KSR				*e*S	**Sg**	**12 28 04.4**	**+0.4**
KSR				AML	AML	12 28 14.5	
	comp=Z,115nm,0.1s						
SLR	**Silverton**	**0.94**	**47**	*e*P	**Pg**	**12 27 57.4**	**+0.1**
SLR				*e*S	**Sg**	**12 28 10.4**	**+0.8**
SLR				AML	AML	12 28 18.0	
	comp=Z,82nm,0.2s						
SEK	**Senekal**	**1.94**	**177**	*e*P	**Pn**	**12 28 12.8**	**+0.6**
SEK				*e*S	**Sn**	**12 28 37.6**	**+1.0**
SEK				AML	AML	12 28 40.0	
	comp=Z,94nm,0.4s						
SWZ	**Schweizer**	**2.11**	**247**	*e*P	**Pn**	**12 28 14.9**	**+0.4**
SWZ				*e*S	**Sn**	**12 28 41.5**	**+0.7**
SWZ				AML	AML	12 28 48.4	
	comp=Z,95nm,0.2s						
HVD	**Gariep Dam**	**4.57**	**202**	*e*P	**Pn**	**12 28 49.1**	**+0.7**
HVD				*e*S	**Sn**	**12 29 40.4**	**-1.1**
HVD				AML	AML	12 30 14.4	
	comp=Z,7.3nm,0.5s						
PKA	**Prieska**	**5.33**	**231**	*e*P	**Pn**	**12 28 59.4**	**+0.6**
PKA				*e*S	**Sn**	**12 29 58.5**	**-1.9**
PKA				AML	AML	12 30 38.6	
	comp=Z,12nm,0.4s						
UPI	**Upington**	**5.91**	**249**	*e*P	**Pn**	**12 29 07.7**	**+0.9**
UPI				*e*S	**Sn**	**12 30 12.3**	**-2.3**
UPI				AML	AML	12 30 53.6	
	comp=Z,5.6nm,0.4s						
SUR	**Sutherland**	**8.36**	**223**	*e*P	**Pn**	**12 29 41.5**	**+1.0**
SUR				*e*S	**Sn**	**12 31 11.2**	**-3.8**

NIED ***27*** *12:30:00, 4590N×14320E, h340km, Mw4.3 Best double couple: M0 3.50000×10^15 NP1:*φ*s322.00000°,* δ*85.00000°, λ-32.00000°. NP2:*φ*s56.00000°,* δ*58.00000°, λ-174.00000°.*
BJI ***27*** *12:30:34.5, 4610N×14313E, h336km, mB4.5, mb4.5*
MOS ***27*** *12:30:35.0±1.1, 4603N×14298E, h337km, mb3.9/16, Error ellipse: s-maj=11.7km s-min=7.7km az=93.7*
NEIC ***27*** *12:30:35.6±0.5, 4600N×14313E, h332km±6km, mb4.5/10, MW4.3(NIED), Error ellipse: s-maj=8.7km s-min=6.6km az=141.0*
ISCJB ***27*** *12:30:35.5±0.1, 4599N±003×14296E±003, h333km±2km, mb4.0/38, Error ellipse: s-maj=4.2km s-min=3.4km az=178.8*
JMA ***27*** *12:30:35.6±0.2, 4585N×14323E, h341km±2km, M4.4*
IDC ***27*** *12:30:36.0±0.6, 4604N×14306E, h328km±7km, mb3.7/15, mb1 3.8/17, mb1mx3.7/24, mbtmp3.7/17, Error ellipse: s-maj=12.8km s-min=10.8km az=139.0*
SKHL ***27*** *12:30:36.5±0.8, 4596N×14285E, h327km±12km, mb4.6/10, msh4.6/1*
ISC 27 12:30:36.1±0.1, **4604N**±003×**14297E**±003, **h323**km±2km, **n293**, σ0§**88**/322, **mb4.0**/38, **81C-79D, Sakhalin Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YSS	**Yuzh-Sakhalins**	**0.93**	**351**	*e*P	**Pn**	**12 31 20.7**	**+2.1**
YSS	**Yuzh-Sakhalins**	**0.93**	**351**	*d i*PN	**Pn**	**12 31 20.5**	**+1.9**
YSS	**Yuzh-Sakhalins**	**0.93**	**351**	⇓*i*P	**Pn**	**12 31 20.8**	**+2.2**
YSS				AMB	AMB	12 31 21.8	
	110nm,0.5s						
YSS				*i* S	**S**	**12 31 55.0**	**+2.5**
YSS				A		12 31 56.9	
	540nm,1.0s						
YSS				A		12 31 56.9	
	430nm,1.0s						
JWK2	**Keihoku**	**1.04**	**226**	⇑P	**Pn**	**12 31 21.0**	**+1.8**
JWK2				*e*S	**S**	**12 31 55.6**	**+2.0**
JSE	**Soyaes**	**1.11**	**194**	⇑P	**Pn**	**12 31 20.4**	**+0.8**
JSE				*e*S	**S**	**12 31 55.1**	**+0.8**
JRR	**Rishiri**	**1.47**	**233**	P	**Pn**	**12 31 23.1**	**+1.7**
JRR				*e*S	**S**	**12 32 00.4**	**+2.8**
ASAJ	**Asahikawa**	**1.94**	**188**	PN	**Pn**	**12 31 24.8**	**+0.2**
ASAJ				S	**S**	**12 32 04.6**	**+1.2**
ASAJ				pmax	pmax		
	comp=Z,42nm,0.3s						
ASAJ	**Asahikawa**	**1.94**	**188**	P	**Pn**	**12 31 24.8**	**+0.2**
	comp=Z,42nm,0.3s,baz=5.4,slow=6.3,SNR=358						
ASAJ				S	**S**	**12 32 04.6**	**+1.2**
	baz=142,slow=32,SNR=6.0						
JYG	**Yagishiri**	**1.95**	**215**	P	**Pn**	**12 31 25.6**	**+1.0**
JKK2	**Kamakawa 2**	**2.17**	**184**	⇑P	**Pn**	**12 31 26.9**	**+0.5**
JKK2				*e*S	**S**	**12 32 07.0**	**+0.5**
JTKR	**Abashiri--Toko**	**2.17**	**162**	⇑P	**Pn**	**12 31 26.4**	**0.0**
JTKR				*e*S	**S**	**12 32 05.9**	**-0.7**
JHR	**Hokuryu**	**2.46**	**201**	P	**Pn**	**12 31 29.3**	**+0.6**
JRA	**Rausu**	**2.60**	**143**	P	**Pn**	**12 31 29.8**	**-0.1**
JRA				*e*S	**S**	**12 32 13.2**	**+0.3**
JAR	**Ashorobuto**	**2.80**	**168**	⇑P	**Pn**	**12 31 31.5**	**-0.2**
JAR				*e*S	**S**	**12 32 15.0**	**-1.3**
YUK	**Yuzh-Kuril'sk**	**2.87**	**133**	*e*P	**Pn**	**12 31 32.0**	**-0.3**
YUK				AMB	AMB	12 31 33.5	
	comp=Z,140nm,0.4s						
YUK				*e*S	**S**	**12 32 16.0**	**-1.3**
YUK				A		12 32 27.0	
	comp=Z,710nm,0.5s						
YUK				A		12 32 27.0	
	comp=Z,390nm,0.5s						
JFR	**Furan**	**2.89**	**185**	P	**Pn**	**12 31 32.3**	**-0.2**
JFR				*e*S	**S**	**12 32 17.2**	**-0.5**
UGL	**Uglegorsk**	**3.10**	**349**	⇑*i*P	**Pn**	**12 31 36.8**	**+2.5**
UGL				AMB	AMB	12 31 37.5	
	comp=Z,210nm,0.5s						
UGL				*e*S	**S**	**12 32 24.0**	**+3.0**
UGL				A		12 32 26.0	
	comp=Z,200nm,0.9s						
UGL				A		12 32 26.0	
	comp=Z,110nm,0.9s						
UGL				A		12 32 26.0	
	comp=Z,900nm,4.0s						
UGL				A		12 32 26.0	
	comp=Z,700nm,4.0s						
JSK	**Shakotan**	**3.22**	**214**	P	**Pn**	**12 31 36.5**	**+0.8**
JAK	**Akkeshi**	**3.29**	**157**	P	**Pn**	**12 31 34.1**	**-2.2**
JAK				*e*S	**S**	**12 32 20.1**	**-4.5**
NEM2	**Nemuro 2**	**3.33**	**143**	P	**Pn**	**12 31 33.7**	**-3.0**
NEM2				*e*S	**S**	**12 32 19.3**	**-6.0**
JEW	**Eniwo**	**3.38**	**199**	P	**Pn**	**12 31 37.6**	**+0.4**
JEW				*e*S	**S**	**12 32 26.7**	**+0.4**
JCH	**Churui**	**3.44**	**175**	⇑P	**Pn**	**12 31 35.7**	**-2.1**
JCH				*e*S	**S**	**12 32 21.5**	**-5.8**
KUR	**Kuril'sk**	**3.53**	**101**	*e*P	**Pn**	**12 31 35.0**	**-3.7**
KUR				AMB	AMB	12 31 35.5	
	comp=Z,91nm,0.5s						
JNBK	**Urakawa-nobuka**	**3.76**	**182**	P	**Pn**	**12 31 39.5**	**-1.7**
JNBK				*e*S	**S**	**12 32 30.3**	**-3.1**
ERM	**Erimo**	**4.03**	**178**	*e*P	**Pn**	**12 31 42.4**	**-1.5**
ERM				*e*S	**S**	**12 32 27.6**	**-11**
JKB	**Kayabe**	**4.38**	**199**	P	**Pn**	**12 31 46.3**	**-1.4**
JKB				*e*S	**S**	**12 32 39.1**	**-6.2**
TEY	**Ternei**	**4.58**	**260**	*e*P	**Pn**	**12 31 51.0**	**+1.1**
TEY				AMB	AMB	12 31 52.0	
	comp=Z,40nm,1.0s						
TEY				*e*S	**S**	**12 32 50.0**	**+0.8**
TEY				A		12 32 51.0	
	comp=Z,43nm,1.0s						
TEY				A		12 32 51.0	
	comp=Z,86nm,1.0s						
JOSM	**Okushiri--Mats**	**4.69**	**214**	P	**Pn**	**12 31 50.5**	**-0.6**
JOT	**Ohata**	**4.86**	**197**	⇑P	**Pn**	**12 31 51.0**	**-2.0**
JOT				*e*S	**S**	**12 32 48.9**	**-6.1**
HABR	**Khabarovsk**	**5.91**	**297**	⇓*i*PN	**Pn**	**12 32 07.8**	**+2.9**
HABR				*e**SP		12 33 11.3	
HABR				pmax	pmax		
	comp=Z,73nm,0.9s						
GRNR	**Gornyy**	**6.43**	**320**	*e*P	**Pn**	**12 32 08.1**	**-2.8**
GRNR				AMB	AMB	12 32 09.0	
	comp=Z,82nm,1.2s						
GRNR				*e*S	**S**	**12 33 26.0**	**-1.7**
GRNR				A		12 33 28.0	
	comp=Z,15nm,0.4s						
NKL	**Nikolayevsk**	**7.27**	**349**	*e*P	**Pn**	**12 32 19.0**	**-1.9**
NKL				AMB	AMB	12 32 19.4	
	comp=Z,18nm,0.8s						
NKL				*e*S	**S**	**12 33 46.0**	**+0.1**
OKH	**Okha**	**7.52**	**360**	*e*P	**Pn**	**12 32 27.0**	**+3.1**
OKH				AMB	AMB	12 32 27.8	
	comp=Z,203nm,0.5s						
KLR	**Kul'dur**	**8.22**	**297**	*e*PN	**Pn**	**12 32 31.0**	**-1.4**
KLR				pmax	pmax		
	comp=Z,42nm,1.8s						
VLA	**Vladivostok**	**8.43**	**254**	*i* PN	**Pn**	**12 32 34.9**	**-0.1**
VLA				pmax	pmax		
	comp=Z,15nm,0.9s						
VLA	**Vladivostok**	**8.43**	**254**	*e*P	**Pn**	**12 32 34.9**	**-0.1**
MDJ	**Mudanjiang**	**9.53**	**266**	P	**Pn**	**12 32 49.5**	**+1.2**
MDJ				AMB	AMB		
	comp=Z,77nm,0.8s						
MDJ				AMB	AMB		
	comp=Z,48nm,3.5s						
MDJ	**Mudanjiang**	**9.53**	**266**	*e*P	**Pn**	**12 32 49.9**	**+1.5**
	comp=Z,100nm,1.0s						
EKMR	**Ekimchan**	**9.58**	**321**	*e*P	**Pn**	**12 32 47.0**	**-1.8**
EKMR				AMB	AMB	12 32 48.5	
	comp=Z,8.0nm,0.5s						
EKMR				*e*S	**S**	**12 34 36.0**	**-1.2**
SKR	**Severo-Kuril's**	**9.90**	**57**	*e*P	**Pn**	**12 32 50.5**	**-2.3**
SKR				AMB	AMB	12 32 51.5	
	comp=Z,100nm,0.5s						
MAJO	**Matsushiro**	**10.14**	**202**	*e*P	**Pn**	**12 32 54.5**	**-1.3**
	comp=Z,35nm,0.6s						
MAJO	**Matsushiro**	**10.14**	**202**	*e*PN	**Pn**	**12 32 54.5**	**-1.3**
MAJO				pmax	pmax		
	comp=Z,35nm,0.6s						
MAT	**Matsushiro**	**10.14**	**202**	P	**Pn**	**12 32 53.9**	**-1.9**
MJAR	**Matsushiro Arr**	**10.14**	**202**	PN	**Pn**	**12 32 54.8**	**-1.0**
MJAR				pmax	pmax		
	comp=Z,5.0nm,0.3s						
MJAR	**Matsushiro Arr**	**10.14**	**202**	P	**Pn**	**12 32 54.8**	**-1.0**
	comp=Z,4.6nm,0.3s,baz=21,slow=11,SNR=76						
YASR	**Yasnyy**	**12.11**	**312**	*e*P	**Pn**	**12 33 17.6**	**-1.6**
YASR				AMB	AMB	12 33 19.5	
	comp=Z,17nm,0.6s						
PET	**Petropavlovsk**	**12.34**	**50**	*e*PN	**Pn**	**12 33 24.2**	**+2.1**
PET				*e*S	**S**	**12 35 37.5**	**-1.3**
PET				pmax	pmax		
	comp=Z,19nm,0.7s						
PET				smax			
	comp=E,37nm,0.9s						
BMKR	**Bomnak**	**12.49**	**319**	*e*P	**Pn**	**12 33 20.9**	**-3.0**
BMKR				AMB	AMB	12 33 22.9	
	comp=E,13nm,0.7s						
CN2	**Changchun**	**12.62**	**266**	*e*P	**Pn**	**12 33 24.8**	**-0.7**
CN2				*e*S	**S**	**12 35 40.5**	**-4.8**
CN2				AMB	AMB		
	comp=Z,50nm,0.6s						
ZEA	**Zeya

HHC LR LR
comp=E,139nm,4.0s
HHC LR LR
comp=Z,85nm,6.1s
ULN Ulaanbaatar 24.45 287 *d iP* **P 12 35 26.2 0.0**
BTO Baotou 24.46 269 *e*P **P 12 35 26.8 +0.3**
SONM Songino Array 24.89 287 P **P 12 35 30.7 +0.5**
SONM pmax pmax
comp=Z,4.0nm,0.5s
SONM pmax pmax
comp=N,1.0nm,0.8s
SONM Songino Array 24.89 287 P **P 12 35 30.7 +0.5**
comp=N,4.2nm,0.5s,mb3.9,baz=84,slow=8.9,SNR=47
SONM ScP ScP 12 42 02.7 -0.7
comp=N,1.4nm,0.8s,baz=122,slow=1.8,SNR=11
BILL Bilibino 25.12 21 *e*P **P 12 35 30.0 -1.9**
comp=N,1.5nm,0.5s,mb3.5
BILL Bilibino 25.12 21 *i* P **P 12 35 31.7 -0.3**
BILL pmax pmax
comp=Z,2.0nm,0.9s,mb3.4
TIXI Tiksi 26.55 350⇊ *e*P **P 12 35 43.1 -1.6**
TIXI pmax pmax
comp=Z,2.0nm,1.5s,mb3.1
LZH Lanzhou 30.86 265 *e*P **P 12 36 24.5 +1.5**
LZH AP pP 12 37 30.5 +6.0
LZH XP sP 12 38 09.5 +7.6
LZH AMB AMB
comp=Z,25nm,1.5s,mb4.2
GTA Gaotai 32.07 274 P **P 12 36 35.0 +1.4**
GTA AMB AMB
comp=Z,27nm,0.6s,mb4.7
CD2 Chengdu 33.84 257 *e*P **P 12 36 51.0 +2.2**
CD2 PP PP 12 38 20.0 +6.8
CD2 XP sP 12 38 34.0 +5.8
CD2 S **S 12 41 53.8 +5.3**
CD2 XS sS 12 43 47.5 +6.2
CD2 AMB AMB
comp=Z,10.0nm,0.7s,mb4.2
CD2 AMB AMB
comp=Z,20nm,4.2s
ZALV Zalesovo Beam 37.25 304 P **P 12 37 17.6 +0.3**
comp=Z,1.6nm,0.6s,mb3.4,baz=128,slow=4.1,SNR=4.6
ZAL Zalesovo 37.26 304 P **P 12 37 17.6 +0.2**
NVS Novosibirsk 37.97 306 *e*P **P 12 37 19.2 -4.1**
NVS *e*S **S 12 42 42.5 -7.8**
NVS pmax pmax
comp=Z,15nm,2.0s,mb3.9
NVS smax
comp=E,20nm,1.9s
KMI Kunming 38.28 251 P **P 12 37 25.5 -0.7**
KMI XP sP 12 39 05.0 -1.6
KMI AMB AMB
comp=Z,10.0nm,1.0s,mb4.0
IMA2 Indian Mountai 38.51 36 *e*P **P 12 37 25.8 -1.8**
WMQ Urumqi 38.53 287 *e*P **P 12 37 27.5 -0.6**
WMQ AMB AMB
comp=Z,6.0nm,0.6s,mb4.0
WMQ AMB AMB
comp=Z,84nm,3.7s
KDAK Kodiak Island 39.93 49 P **P 12 37 38.5 -0.9**
KDAK Kodiak Island 39.93 49 P **P 12 37 38.5 -0.9**
comp=Z,7.1nm,0.7s,mb4.0,baz=319,slow=19,SNR=8.0
MK31 Makanchi Array 40.91 294 *e*P **P 12 37 47.2 -0.3**
MKAR Makanchi Array 40.91 294 P **P 12 37 47.7 +0.2**
MKAR pmax pmax
comp=Z,4.0nm,0.7s
MKAR Makanchi Array 40.91 294 P **P 12 37 47.6 +0.1**
comp=Z,3.6nm,0.7s,mb3.7,baz=78,slow=8.5,SNR=24
COLA College 41.02 37⇊ *e*P **P 12 37 47.3 -0.8**
KURK Kurchatov 41.79 301 *d iP* **P 12 37 53.7 -0.8**
EGAK Eagle 43.85 37 *e*P **P 12 38 08.6 -2.1**
comp=Z,3.5nm,0.5s,mb3.8
BVAR Borovoye Array 45.75 306 P **P 12 38 25.5 -0.2**
BVAR pmax pmax
comp=Z,1.0nm,0.5s
BVAR Borovoye Array 45.75 306 P **P 12 38 25.5 -0.3**
comp=Z,0.8nm,0.5s,mb3.1,baz=72,slow=9.5,SNR=7.3
INK Inuvik 45.95 31 *e*P **P 12 38 25.4 -1.6**
comp=Z,137nm,0.4s
INK Inuvik 45.95 31 P **P 12 38 25.6 -1.4**
INK pmax pmax
comp=Z,4.0nm,0.4s
INK Inuvik 45.95 31 P **P 12 38 25.6 -1.5**
comp=Z,3.6nm,0.4s,mb3.9,baz=304,slow=6.3,SNR=71
TKM2 Tokmak 2 46.87 292 *e*P **P 12 38 35.3 +0.8**
comp=Z,3.9nm,1.0s,mb3.6
TKM2 Tokmak 2 46.87 292 *e*P **P 12 38 35.3 +0.8**
TKM2 pmax pmax
comp=Z,4.0nm,1.0s,mb3.6
AAK Ala-Archa 47.72 292 *e*P **P 12 38 40.6 -0.4**
AAK Ala-Archa 47.72 292⇈ *e*P **P 12 38 40.7 -0.3**
AAK pmax pmax
comp=Z,6.0nm,1.7s,mb3.5
JIRN Jiri 47.95 268 *e*P **P 12 38 43.9 +1.0**
GUN Gumba 48.01 268 *e*P **P 12 38 43.6 +0.2**
comp=Z,7.3nm,0.4s,mb4.2
AML Almayashu 48.48 292 *e*P **P 12 38 48.0 +1.2**
KKN Kakani 48.50 269 *e*P **P 12 38 47.5 +0.4**
comp=Z,3.2nm,0.3s,mb4.0
PKI Pulchoki 48.54 268 *e*P **P 12 38 48.0 +0.5**
comp=Z,5.9nm,0.4s,mb4.2
DMN Daman 48.73 269 *e*P **P 12 38 49.5 +0.6**
comp=Z,7.0nm,0.7s,mb4.0
GKN Gorkha 48.82 269 *e*P **P 12 38 49.8 +0.3**
comp=Z,9.9nm,0.4s,mb4.4
DANN Dangsing 49.21 270 *e*P **P 12 38 53.4 +0.9**
comp=Z,24nm,0.4s,mb4.8
KOLN Koldanda 49.68 270 *e*P **P 12 38 56.6 +0.6**
comp=Z,6.3nm,0.5s,mb4.1
RES Resolute Bay 53.61 16 *e*P **P 12 39 22.7 -1.5**
comp=Z,457nm,0.6s
RES Resolute Bay 53.61 16 *e*P **P 12 39 22.7 -1.5**
RES pmax pmax
comp=Z,457nm,0.6s
YKA Yellowknife Ar 55.54 33 P **P 12 39 37.0 -1.0**
YKA Yellowknife Ar 55.54 33 P **P 12 39 37.0 -1.0**
YKA pmax pmax
comp=Z,7.0nm,0.6s
YKA Yellowknife Ar 55.54 33 P **P 12 39 37.0 -1.0**
comp=Z,7.3nm,0.6s,mb4.2,baz=307,slow=7.0,SNR=223
ARE0 ARCESS Array S 56.04 338 *e*P **P 12 39 39.7 -1.7**
JOF Joensuu 58.65 330 *e*p **P 12 39 57.0 -2.6**
comp=Z,1.2nm,0.3s,mb3.8
JOF Joensuu 58.65 330 *e*P **P 12 39 57.0 -2.6**
JOF pmax pmax
comp=Z,1.0nm,0.3s,mb3.7
B05A Bryant 60.41 50⇑P **P 12 40 11.2 -0.6**
baz=60
A07A Ashnola River, 60.84 48⇓P **P 12 40 14.4 -0.2**
baz=60
B07A Winthrop 61.34 49⇑P **P 12 40 17.6 -0.3**
baz=61
FINES FINESS Array B 61.45 331 P **P 12 40 17.7 -0.8**
FINES pmax pmax
comp=Z,2.0nm,0.5s
FINES FINESS Array B 61.45 331 P **P 12 40 17.7 -0.8**
comp=Z,1.9nm,0.5s,mb3.8,baz=51,slow=7.7,SNR=12
F04A Amboy 61.66 52⇑P **P 12 40 20.0 -0.2**
baz=61
B08A Colville Reser 61.81 49⇑P **P 12 40 21.0 -0.1**
baz=62
A09A Danville 61.82 48⇑P **P 12 40 21.2 0.0**
baz=62
C07A Waterville 61.85 50⇑P **P 12 40 20.8 -0.6**
baz=62
E06A Yakima 62.07 51⇑P **P 12 40 23.1 +0.3**
baz=62
A10A Northport 62.34 47⇓P **P 12 40 24.5 -0.1**
baz=62
B09A Rice 62.39 48⇑P **P 12 40 24.9 -0.1**
baz=62
H04A Detroit Lake 62.56 53⇓P **P 12 40 26.0 -0.1**
baz=62
J02A Umpqua 62.60 55⇑P **P 12 40 26.8 +0.4**
baz=62
C09A Chrisman Ranch 62.72 49⇓P **P 12 40 26.7 -0.4**
baz=62
A11A Hall Mountain, 62.96 47⇓P **P 12 40 29.1 +0.4**
baz=63
I04A Tendick Farm, 62.99 54⇓P **P 12 40 29.1 +0.2**
baz=63
I05A Bend 63.40 53⇓P **P 12 40 31.9 +0.3**
baz=63
J04A Umpqua Nationa 63.51 54⇑P **P 12 40 32.4 +0.1**
baz=63
H06A Lindquist Farm 63.55 52⇓P **P 12 40 32.5 -0.1**
baz=63
G07A Ruggs Ranch, H 63.58 51⇓P **P 12 40 32.9 +0.1**
baz=63
D10A Wagner Farm, O 63.71 49⇑P **P 12 40 33.0 -0.6**
baz=63
F08A Pendleton 63.73 51⇓P **P 12 40 33.9 +0.2**
baz=63
J05A Fort Rock 63.97 54⇓P **P 12 40 35.8 +0.5**
baz=64
YBH Yreka Blue Hor 64.12 56⇑P **P 12 40 36.4 +0.1**
baz=64
I06A Prineville 64.13 53⇓P **P 12 40 36.5 +0.2**
baz=64
E10A Myers Farm, Un 64.17 49⇑P **P 12 40 36.7 +0.2**
baz=64
D11A Klaveano Farm, 64.21 48⇑P **P 12 40 36.5 -0.3**
baz=64
B13A Whitefish 64.30 46⇓P **P 12 40 37.9 +0.6**
baz=64
N02C Big Bar 64.35 57⇑P **P 12 40 36.9 -0.9**
baz=64
I07A Izee 64.43 52⇑P **P 12 40 38.2 -0.1**
baz=64
F10A Beach Ranch, E 64.44 50⇓P **P 12 40 38.1 -0.2**
baz=64
K05A Summer Lake 64.52 54⇑P **P 12 40 39.4 +0.5**
baz=64
M04C Macdoel 64.59 56⇑P **P 12 40 39.4 +0.1**
baz=64
J06A Christmas Vall 64.60 53⇓P **P 12 40 39.1 -0.3**
baz=64
H08A Prairie City 64.60 52⇑P **P 12 40 39.4 0.0**
baz=64
C13A Hot Springs 64.70 47⇓P **P 12 40 40.1 +0.2**
baz=64
E11A Bogner Ranch, 64.73 49⇑P **P 12 40 39.9 -0.2**
baz=64
G10A Bishop Farm, J 64.94 50⇓P **P 12 40 41.6 +0.1**
baz=65
J07A Hines 64.99 53⇑P **P 12 40 42.6 +0.7**
baz=65
L05A Lakeview 64.99 55⇑P **P 12 40 42.5 +0.6**
baz=65
I08A Drewsey 65.05 52⇑P **P 12 40 42.9 +0.6**
baz=65
C14A Swan Lake 65.06 46⇓P **P 12 40 42.2 -0.1**
baz=65
D13A Huson 65.15 47⇓P **P 12 40 42.7 -0.1**
baz=65
M05C Lookout 65.26 56⇑P **P 12 40 43.8 +0.2**
baz=65
G11A Walters Elk Ra 65.32 50 P **P 12 40 43.6 -0.3**
baz=65,SNR=7.4
MOD Modoc 65.39 55⇓P **P 12 40 44.4 -0.1**
baz=65
HATC Hat Creek Radi 65.43 56⇑P **P 12 40 45.1 +0.3**
baz=65
J08A Circle Bar Ran 65.47 52⇓P **P 12 40 45.1 +0.2**
baz=65
K07A Rock Creek Ran 65.47 53 P **P 12 40 45.6 +0.6**
baz=65,SNR=7.3
H10A Noah's Angus R 65.60 51 P **P 12 40 45.7 -0.1**
baz=65,SNR=5.8
F12A Elk City 65.62 49 P **P 12 40 46.3 +0.4**
baz=65,SNR=6.8
D14A Greenough 65.64 47⇓P **P 12 40 45.9 -0.1**
baz=65
E13A Victor 65.72 48⇓P **P 12 40 46.2 -0.3**
baz=65
L07A Adell 65.86 54 P **P 12 40 48.4 +0.9**
baz=66,SNR=5.8
J09A Fry Pan Ranch, 65.87 52⇓P **P 12 40 47.8 +0.3**
baz=66
K08A Mann Creek Ran 65.87 53⇓P **P 12 40 47.7 +0.2**
baz=66
I10A Payette 65.90 51⇑P **P 12 40 47.8 +0.1**
baz=66
H11A Donnelly 65.92 50⇓P **P 12 40 47.5 -0.3**
baz=66
O04C Chester 65.97 56⇑P **P 12 40 48.6 +0.4**
baz=66
F13A Darby 66.08 48⇑P **P 12 40 48.1 -0.7**
baz=66
E14A Clinton 66.09 47⇑P **P 12 40 49.0 +0.2**
baz=66
MNRC McLaughlin Nat 66.11 58⇓P **P 12 40 49.3 +0.2**
baz=66
WRA Warramunga Arr 66.13 189 P **P 12 40 48.2 -1.1**
WRA pmax pmax
comp=Z,1.0nm,0.7s
WRA Warramunga Arr 66.13 189 P **P 12 40 48.2 -1.1**
comp=Z,0.9nm,0.7s,mb3.6,baz=5.6,slow=6.8,SNR=13
D15A Lincoln 66.17 46⇑P **P 12 40 49.4 +0.1**
baz=66
ORV Oroville 66.22 57⇑P **P 12 40 49.1 -0.7**
baz=66
SUTB Sutter Butte 66.27 58⇓P **P 12 40 49.2 -0.8**
baz=66
O05C Quincy 66.30 57⇓P **P 12 40 50.1 -0.2**
baz=66
L08A Fields 66.30 53⇑P **P 12 40 50.4 +0.1**
baz=66
K09A Rome 66.31 53⇑P **P 12 40 50.2 -0.1**
baz=66
NB2 NORSAR Subarra 66.36 337 P **P 12 40 49.1 -1.1**
comp=Z,0.6nm,0.4s,mb3.7,baz=33,slow=6.5
NOA NORSAR Array B 66.36 337 P **P 12 40 49.4 -0.8**
NOA NORSAR Array B 66.36 337 P **P 12 40 49.4 -0.8**
NOA pmax pmax
comp=Z,1.0nm,0.5s
NOA NORSAR Array B 66.36 337 P **P 12 40 49.4 -0.8**
comp=Z,0.7nm,0.5s,mb3.6,baz=35,slow=6.3,SNR=4.9
M07A Soldier Meadow 66.37 54 P **P 12 40 51.4 +0.7**
baz=66,SNR=7.9
N06A Buffalo Meadow 66.41 55⇓P **P 12 40 51.2 +0.3**
baz=66
E15A Deer Lodge 66.52 47⇓P **P 12 40 51.5 -0.1**
baz=66
G13A Cobalt 66.60 49⇓P **P 12 40 51.3 -0.8**
baz=66
H12A Diamond D Ranc 66.64 50 P **P 12 40 52.4 +0.1**
baz=66,SNR=7.6
BEKR Beckwourth 66.69 56⇑P **P 12 40 52.6 -0.1**
baz=66
K10A MacKenzie Ranc 66.73 52⇓P **P 12 40 53.0 0.0**
baz=66
O06A Flanigan 66.80 56⇑P **P 12 40 53.3 -0.1**
baz=66
EGMT Eagleton 66.86 44⇓P **P 12 40 53.4 -0.3**
baz=66
MFID Camas Ranch 66.88 51⇑P **P 12 40 54.5 +0.7**
baz=67
P05C Yuba Gap, Truc 66.91 57⇑P **P 12 40 53.8 -0.3**
baz=67
H13A Challis 66.94 49⇑P **P 12 40 53.8 -0.4**
baz=67
F15A Butte 67.00 47 P **P 12 40 54.7 +0.2**
baz=67,SNR=7.3
LAVA Lava Cap Winer 67.19 57⇓P **P 12 40 55.6 -0.3**
baz=67
K11A Parker Ranch, 67.20 52⇓P **P 12 40 56.2 +0.4**
baz=67
N08A GE Springer Mi 67.36 54⇑P **P 12 40 56.9 0.0**
baz=67
J12A Stokes Ranch, 67.38 51⇓P **P 12 40 57.0 0.0**
baz=67
WCN Washoe City 67.41 56⇓P **P 12 40 57.7 +0.5**
baz=67
L10A Juniper Basin 67.42 52⇓P **P 12 40 57.4 +0.1**
baz=67
I13A Wildhorse Cree 67.46 50 P **P 12 40 58.0 +0.5**
baz=67,SNR=12
G15A Dillon 67.46 48 P **P 12 40 57.8 +0.4**
baz=67,SNR=18
HLID Hailey 67.54 50⇑P **P 12 40 58.2 +0.2**
baz=67
L11A Cat Creek Ranc 67.75 52⇑P **P 12 40 59.8 +0.5**
baz=67
M10A I.L. Ranch, Tu 67.75 53⇑P **P 12 40 59.6 +0.3**
baz=67
J13A Cove Ranch, Pi 67.78 50⇓P **P 12 40 59.8 +0.4**
baz=68
CMB Columbia Colle 67.88 58⇑P **P 12 40 59.7 -0.4**
baz=68
K12A Draper Farm, C 67.90 51⇑P **P 12 41 00.7 +0.4**
baz=68
R06C Coleville 68.10 57⇑P **P 12 41 01.8 +0.3**
baz=68
L12A House Creek Ra 68.17 52⇓P **P 12 41 02.6 +0.7**
baz=68
M11A Holland Ranch, 68.23 53⇑P **P 12 41 03.2 +0.9**
baz=68
S05C Merced 68.37 58⇓P **P 12 41 03.6 +0.4**
baz=68
R07C Lee Vining 68.63 57⇑P **P 12 41 04.6 -0.2**
baz=68
M12A Wells 68.72 52⇑P **P 12 41 06.1 +0.8**
baz=68
Q08A Gabbs 68.76 56⇓P **P 12 41 06.1 +0.5**
baz=68
NVAR Mina Array Bea 68.83 56 P **P 12 41 06.3 +0.3**
comp=Z,3.2nm,0.7s,mb4.2,baz=315,slow=4.6,SNR=32
K14A Jones Ranch, D 68.89 50⇑P **P 12 41 07.0 +0.7**
baz=69
N12A Clover Valley, 69.04 53⇓P **P 12 41 07.8 +0.5**
baz=69
M13A Montello 69.17 52⇓P **P 12 41 08.3 +0.2**
baz=69
M14A Sheep Mountain 69.52 51⇓P **P 12 41 10.6 +0.5**
baz=69
HELL Mitchell Peak 69.59 58⇓P **P 12 41 10.0 -0.6**
baz=69
O12A Currie 69.60 53⇑P **P 12 41 10.9 +0.2**
baz=69
Q10A Clear Creek Ra 69.66 55⇑P **P 12 41 10.8 -0.3**
baz=69
R09A Tonopah 69.67 56⇓P **P 12 41 10.7 -0.4**
baz=69
ASAR Alice Springs 69.86 189 P **P 12 41 12.1 -0.1**
ASAR pmax pmax
comp=Z,1.0nm,0.5s
ASAR Alice Springs 69.86 189 P **P 12 41 12.1 -0.2**
comp=Z,1.4nm,0.5s,mb3.9,baz=4.8,slow=5.6,SNR=42
S09A Goldfield 69.94 56⇑P **P 12 41 12.6 -0.1**
baz=70
M15A Larsen Ranch, 70.03 51 P **P 12 41 13.5 +0.2**
baz=70,SNR=5.1
N14A Grayback Hills 70.06 52⇓P **P 12 41 13.5 0.0**
baz=70
P12A McGill 70.06 54⇑P **P 12 41 13.6 +0.1**
baz=70
S10A Tonopah Range, 70.17 56⇓P **P 12 41 14.2 0.0**
baz=70
GRAC Grapevine Rang 70.35 57⇓P **P 12 41 15.8 +0.6**
baz=70
N15A Stansbury Isla 70.39 51⇓P **P 12 41 15.6 +0.1**
baz=70
Q12A Willow Creek R 70.40 54⇓P **P 12 41 15.8 +0.3**
baz=70
R11A Troy Canyon, C 70.45 55⇓P **P 12 41 15.8 0.0**
baz=70
P13A Bates Ranch, G 70.57 53⇑P **P 12 41 16.8 +0.3**
baz=70
DUG Dugway 70.72 52⇓P **P 12 41 17.8 +0.4**
baz=70
S11A Rachel 70.84 55⇓P **P 12 41 18.5 +0.3**
baz=70
Q13A Wheeler Ranch, 70.92 54 P **P 12 41 19.3 +0.7**
baz=71,SNR=5.5
MPMC Manual Prospec 70.92 58⇓P **P 12 41 18.7 0.0**
baz=71
FURC Furnace Creek, 71.01 57⇓P **P 12 41 19.2 0.0**
baz=71
R12A Pony Springs, 71.02 54⇓P **P 12 41 19.6 +0.4**
baz=71
TPNV Topopah Spring 71.03 56⇓P **P 12 41 19.5 +0.2**
baz=71
S12A Delamar Landin 71.38 55⇑P **P 12 41 22.1 +0.7**
baz=71
ULM Lac du Bonnet 71.41 35 P **P 12 41 20.2 -1.2**
ULM Lac du Bonnet 71.41 35 P **P 12 41 20.2 -1.2**
comp=Z,4.6nm,0.6s,mb4.4,baz=327,slow=7.0,SNR=13
T11A Corn Creek, Al 71.42 55 P **P 12 41 21.9 +0.3**
baz=71,SNR=5.8
EDW2 Edwards Air Fo 71.43 59⇑P **P 12 41 21.8 +0.1**
baz=71
S13A Holt Ranch, En 71.96 54⇑P **P 12 41 25.5 +0.7**
baz=72
T13A Saint George 72.33 55⇑P **P 12 41 27.7 +0.7**
baz=72
HEC Hector,Ludlow 72.45 58⇑P **P 12 41 28.0 +0.3**
baz=72
U13A Pakoon Wash 72.72 55 P **P 12 41 29.9 +0.5**
baz=72,SNR=6.6
GMRC Granite Mounta 72.88 58⇓P **P 12 41 30.5 +0.2**
baz=73
V13A Grand Canyon W 73.11 56⇓P **P 12 41 31.7 +0.1**
baz=73
U14A Mt Trumbull 73.17 55⇑P **P 12 41 32.7 +0.8**
baz=73
T15A Red Dirt Ranch 73.19 54⇓P **P 12 41 32.5 +0.5**
baz=73
IRM Iron Mountain 73.62 58⇓P **P 12 41 34.8 +0.3**
baz=73
W13A Hualapai Mount 73.69 56⇓P **P 12 41 35.4 +0.4**
baz=73
V14A Boquillas Ranc 73.77 55 P **P 12 41 36.0 +0.7**
baz=73,SNR=5.2
W14A Seligman 74.08 56⇓P **P 12 41 37.7 +0.5**
baz=74
X13A Yucca 74.08 57 P **P 12 41 37.3 +0.1**
baz=74,SNR=5.3
PDMCI Parker Dam,Lak 74.11 57⇑P **P 12 41 37.2 -0.1**
baz=74
Y12C Blythe 74.27 58⇓P **P 12 41 38.6 +0.3**
baz=74
X14A Yava 74.72 56⇑P **P 12 41 41.4 +0.5**
baz=74
Y14A Wickenburg 75.03 57⇓P **P 12 41 42.6 0.0**
baz=75
X15A Humboldt 75.08 56 P **P 12 41 43.5 +0.6**
baz=75,SNR=5.1
MVCO Mesa Verde 75.21 52⇑P **P 12 41 44.1 +0.5**
baz=75
Y15A Casa Rosa Ranc 75.41 56⇓P **P 12 41 45.2 +0.4**
baz=75
ESKT Eskisehir 75.41 312 *i* P **P 12 41 41.4 -3.3**
X16A Lo Mia Camp, P 75.59 55⇓P **P 12 41 46.8 +1.0**
baz=75
Y16A Circle Bar Ran 75.95 56⇑P **P 12 41 48.4 +0.5**
baz=76
ECSD EROS,Sioux Fal 76.20 40 *e*P **P 12 41 47.8 -1.3**
comp=Z,3.3nm,0.5s,mb4.3
SCHQ Schefferville 76.38 17 P **P 12 41 49.0 -0.9**
comp=Z,1.8nm,0.4s,mb4.1,baz=346,slow=6.2,SNR=8.4
Y17A Roosevelt 76.45 55⇓P **P 12 41 51.0 +0.4**
baz=76
X19A St. Johns 76.80 54⇓P **P 12 41 53.1 +0.5**
baz=76
Y18A Canyon Day Jun 76.85 55⇑P **P 12 41 53.1 +0.3**
baz=76
117A Oracle 77.33 56⇑P **P 12 41 55.9 +0.4**
baz=77
118A Homack Ranch, 77.72 56⇑P **P 12 41 58.1 +0.4**
baz=77
217A Green Valley 77.86 57⇑P **P 12 41 59.1 +0.6**
baz=78
ANMO Albuquerque 77.99 52⇈ *e*P **P 12 41 59.4 +0.3**
219A White Tail Can 78.60 56⇑P **P 12 42 02.9 +0.5**
baz=78
319A Douglas 79.04 56⇑P **P 12 42 05.4 +0.5**
baz=79
TXAR Lajitas Array 83.77 54 P **P 12 42 29.5 0.0**
TXAR pmax pmax
comp=Z,2.0nm,0.6s
TXAR Lajitas Array 83.77 54 P **P 12 42 29.5 0.0**
comp=Z,1.5nm,0.6s,mb4.0,baz=295,slow=4.3,SNR=31
VNA2 Neumayer--Watz 151.24 200 *e*PKPdf PKPbc 12 49 49.4 -0.6
baz=108,slow=1.2
VNA2 *e* 12 49 59.0

MAN 27 12:37:05,1263N×12342E,h1km,mb3.8,ML2.5,MS2.1, Luzon

MAN 27 12:40:14,1708N×12151E,h47km,mb4.2,ML3.0,MS2.8, Luzon

MAN 27 12:44:51,1853N×12246E,h34km,mb4.0,ML2.8,MS2.5, Luzon

IDC 27 12:52:21.2±5.5,3131S×17945E,h439km±220km,mb3.1/3, mb1 3.2/4,mb1mx3.0/13,mbtmp3.1/4,Error ellipse: s-maj=372.2km s-min=23.9km az=107.0,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**3.06**	**49**	P	P	12 53 28.2	+0.2
	106nm,0.3s,baz=62,slow=22,SNR=5.8						
URZ	**Urewera**	**7.19**	**195**	P	P	12 54 08.1	+0.5
	1.7nm,0.3s,baz=291,slow=0.9,SNR=10						
URZ				S	S	12 55 34.1	-0.7
	1.7nm,0.3s,baz=86,slow=18,SNR=16						
STKA	**Stephens Creek**	**32.15**	**259**	P	P	12 58 12.7	+1.8
	5.2nm,0.9s,baz=117,slow=12,SNR=4.3						
ASAR	**Alice Springs**	**40.89**	**269**	P	P	12 59 23.2	-0.4
	0.5nm,0.7s,baz=103,slow=7.4,SNR=7.8						
WRA	**Warramunga Arr**	**41.96**	**275**	P	P	12 59 31.5	-0.7
	0.7nm,0.3s,baz=111,slow=8.1,SNR=21						

*ISCJB **27** 12:55:24.2±0.9,369N±0.1×1355E±0.1,h367km±9km,Error ellipse: s-maj=19.9km s-min=11.2km az=145.1*
*JMA **27** 12:55:24.8±0.4,3700N×13539E,h357km±4km,M2.5*
*IDC **27** 12:55:25.4±1.3,3697N×13546E,h358km±21km,mb3.0/1, mb1 3.1/4,mb1mx2.7/23,mbtmp2.9/4,Error ellipse: s-maj=36.8km s-min=29.6km az=170.0*

ISC 27 12:55:25.3±0.8,369N±01×1355E±01,h358km±9km,n14, σ0°46/16,Sea of Japan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKG	**Kaga**	**0.92**	**134**	P	Pn	12 56 11.4	-0.3
JGM	**Miyama**	**1.56**	**141**	P	Pn	12 56 15.3	+0.6
JGM				*e*S	S	12 56 54.0	-0.2
JWT	**Wachi**	**1.64**	**183**	P	Pn	12 56 14.9	-0.3
MAT	**Matsushiro**	**2.19**	**99**	P	Pn	12 56 19.1	+0.4
MAT	**Matsushiro**	**2.19**	**99**	P	Pn	12 56 19.2	+0.5
MJAR	**Matsushiro Arr**	**2.20**	**99**	P	Pn	12 56 19.6	+0.9
	1.6nm,0.3s,baz=280,slow=9.5,SNR=31						
JSD	**Sado**	**2.45**	**62**	P	Pn	12 56 20.9	+0.4
JWY	**Kouya**	**2.70**	**179**	P	Pn	12 56 22.9	+0.1
JHS	**Saijyo**	**2.74**	**226**	P	Pn	12 56 22.7	-0.3
JMK	**Ichinoseki**	**4.94**	**64**	P	Pn	12 56 44.7	+0.2
JMK				*e*S	S	12 57 48.3	-0.4
BSO1	**Boso 1**	**4.98**	**115**	P	Pn	12 56 44.1	-1.0
KSRS	**Korea Array**	**6.09**	**277**	P	Pn	12 56 57.1	-0.2
	0.2nm,0.3s,baz=98,slow=13,SNR=6.2						
ASAJ	**Asahikawa**	**8.98**	**35**	P	Pn	12 57 30.7	-0.2
	1.2nm,0.3s,baz=230,slow=7.9,SNR=11						
WRA	**Warramunga Arr**	**56.57**	**181**	P	P	13 04 32.1	+0.2
	0.4nm,0.3s,baz=359,slow=7.6,SNR=14						

MAN 27 13:02:46,1160N×12523E,h31km,mb3.5,ML2.2,MS1.6, Samar

MAN 27 13:18:39,1261N×12339E,h18km,mb4.4,ML3.2,MS3.0, Luzon

*SZGRF **27** 13:20:15.9,1892S×17800W,h33km,Fiji Islands region*
*ISCJB **27** 13:21:19.0±1.1,1793S±007×17866W±005,h579km±14km, mb4.5/36,Error ellipse: s-maj=12.4km s-min=5.6km az=152.0*
*BJI **27** 13:21:19.8,1790S×17850W,h579km,mB4.8,mb4.4*
*NEIC **27** 13:21:19.8±1.0,1794S×17853W,h580km±13km,mb4.6/21, Error ellipse: s-maj=15.2km s-min=7.1km az=146.0*
*MOS **27** 13:21:19.9±1.7,1767S×17870W,h573km,mb4.5/17, Error ellipse: s-maj=14.8km s-min=11.3km az=48.6*
*IDC **27** 13:21:20.9±2.5,1801S×17855W,h591km±31km,mb3.7/11, mb1 3.9/11,mb1mx3.9/15,mbtmp3.7/11,Error ellipse: s-maj=17.4km s-min=12.9km az=151.0*

ISC 27 13:21:20.2±1.1,1790S±007×17864W±005,h578km±13km, n398,σ0°65/316,mb4.5/36,83C-78D,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.70**	**60**	*e*P	P	13 23 14.7	-1.3
	235nm,0.7s						
AFI	**Afiamalu**	**7.70**	**60**	*e*P	P	13 23 14.7	-1.3
AFI				pmax	pmax		
	comp=Z,235nm,0.7s						
URZ	**Urewera**	**20.62**	**190**	P	P	13 25 18.0	-2.3
	comp=Z,6.0nm,0.5s,baz=94,slow=18,SNR=9.8						
RPZ	**Rata Peaks**	**27.17**	**197**	P	P	13 26 16.1	-2.2
	comp=Z,4.4nm,0.6s,mb4.3,baz=136,slow=14,SNR=4.2						
EIDS	**Eidsvold**	**29.06**	**250**	*e*P	P	13 26 35.7	+0.6
	comp=Z,9.9nm,0.8s,mb4.5						
ARMA	**Armidale**	**29.75**	**240**	⇓*i*P	P	13 26 42.8	+1.9
CTA	**Charters Tower**	**33.23**	**261**	⇓*i*P	P	13 27 11.8	+1.1
	comp=Z,22nm,0.7s,mb4.9						
CTA	**Charters Tower**	**33.23**	**261**	⇓*i*P	P	13 27 11.8	+1.1
CTA				pmax	pmax		
	comp=Z,22nm,0.7s						
CTAO	**Charters Tower**	**33.23**	**261**	*e*P	P	13 27 11.7	+1.1
	comp=Z,26nm,0.7s,mb5.0						
CTAO	**Charters Tower**	**33.23**	**261**	*e*P	P	13 27 11.7	+1.0
CTAO				pmax	pmax		
	comp=Z,26nm,0.7s,mb5.0						
CNB	**Canberra Magne**	**33.26**	**232**	*e*P	P	13 27 12.1	+1.4
	comp=Z,44nm,0.5s,mb5.3						
COEN	**Coen**	**36.89**	**270**	*e*P	P	13 27 42.8	+1.7
	comp=Z,28nm,0.8s,mb4.8						
STKA	**Stephens Creek**	**38.44**	**241**	⇓*i*P	P	13 27 54.9	+1.4
	comp=Z,30nm,0.8s,mb4.9						
STKA	**Stephens Creek**	**38.44**	**241**	P	P	13 27 55.0	+1.5
	comp=Z,44nm,0.9s,mb5.0,baz=85,slow=9.0,SNR=65						
WB2	**Warramunga Arr**	**44.41**	**260**	⇓*i*P	P	13 28 40.4	-0.3
WRAB	**Tennant Creek**	**44.41**	**260**	*e*P	P	13 28 40.6	-0.1
	comp=Z,16nm,0.5s,mb4.8						
WRAB	**Tennant Creek**	**44.41**	**260**	*e*P	P	13 28 40.6	-0.1
WRAB				pmax	pmax		
	comp=Z,16nm,0.5s,mb4.8						
WRA	**Warramunga Arr**	**44.42**	**260**	P	P	13 28 40.7	-0.1
WRA				pmax	pmax		
	comp=Z,17nm,0.5s						
WRA	**Warramunga Arr**	**44.42**	**260**	P	P	13 28 40.7	0.0
	comp=Z,17nm,0.5s,mb4.8,baz=95,slow=7.1,SNR=732						
ASAR	**Alice Springs**	**44.58**	**254**	P	P	13 28 42.8	+0.8
ASAR				S	S	13 34 35.9	-0.7
ASAR				pmax	pmax		
	comp=Z,114nm,0.6s						
ASAR				smax			
	comp=N,2.0nm,1.0s						
ASAR	**Alice Springs**	**44.58**	**254**	P	P	13 28 42.8	+0.8
	comp=N,114nm,0.6s,baz=87,slow=8.6,SNR=2210						
ASAR				S	S	13 34 35.9	-0.8
	comp=N,2.0nm,1.0s,baz=94,slow=15,SNR=9.3						
KAKA	**Kakadu**	**47.36**	**269**	*e*P	P	13 29 03.4	+0.2
	comp=N,22nm,0.4s,mb5.0						
FORT	**Forrest**	**49.81**	**245**	*e*P	P	13 29 19.3	-1.8
	comp=N,71nm,0.6s,mb5.3						
FITZ	**Fitzroy Crossi**	**52.81**	**261**	*e*P	P	13 29 43.0	+0.1
	comp=N,5.0nm,0.6s,mb4.0						
MBWA	**Marble Bar**	**57.86**	**256**	*e*P	P	13 30 17.6	-0.3
KLBR	**Kellerberrin**	**58.63**	**244**	*e*P	P	13 30 22.4	-0.5
	comp=N,24nm,0.6s,mb4.5						
NWAO	**Narrogin (SRO)**	**59.02**	**242**	*e*P	P	13 30 23.4	-2.0
MUN	**Mundaring**	**59.93**	**243**	*e*P	P	13 30 31.5	0.0
SBA	**Scott Base**	**60.41**	**184**	*e*P	P	13 30 35.2	+1.4
VNDA	**Vanda**	**60.43**	**185**	*e*P	P	13 30 33.6	-0.4
VNDA	**Vanda**	**60.43**	**185**	P	P	13 30 34.6	+0.6
VNDA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
VNDA	**Vanda**	**60.43**	**185**	P	P	13 30 34.6	+0.5
	comp=Z,1.1nm,0.6s,baz=359,slow=7.8,SNR=12						
MJAR	**Matsushiro Arr**	**67.77**	**323**	P	P	13 31 21.0	-0.1
MJAR				pmax	pmax		
	comp=Z,5.0nm,0.5s						
MJAR	**Matsushiro Arr**	**67.77**	**323**	P	P	13 31 21.0	-0.1
	comp=Z,4.6nm,0.5s,mb4.2,baz=154,slow=5.9,SNR=14						
MAT	**Matsushiro**	**67.77**	**323**	P	P	13 31 21.0	-0.1
KSM	**Kuching**	**72.47**	**277**	*e*P	P	13 31 50.5	+1.1
KSRS	**Korea Array**	**74.55**	**318**	P	P	13 32 01.9	+1.2
KSRS				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb3.5						
KSRS	**Korea Array**	**74.55**	**318**	P	P	13 32 01.9	+1.1
	comp=Z,1.2nm,0.7s,mb3.5,baz=131,slow=6.2,SNR=6.3						
HAST	**Hastings Reser**	**76.29**	**44**	⇓P	P	13 32 10.3	-0.1
	baz=76						
U04C	**Hernandez Rese**	**76.79**	**45**	⇑P	P	13 32 13.3	+0.2
	baz=77						
PACP	**Pacheco Peak**	**76.82**	**44**	⇓P	P	13 32 13.4	+0.1
	baz=77						
S04C	**Ingram Canyon,**	**77.07**	**43**	⇑P	P	13 32 14.9	+0.3
	baz=77						
MNRC	**McLaughlin Nat**	**77.14**	**42**	⇓P	P	13 32 15.3	+0.3
	baz=77						
GASB	**Alder Springs**	**77.43**	**41**	⇓P	P	13 32 15.8	-0.7
	baz=78						
O02C	**Red Bluff**	**77.69**	**40**	⇑P	P	13 32 18.4	+0.5
	baz=78						
BFSC	**Mount Baldy St**	**77.79**	**48**	⇑P	P	13 32 17.7	-0.9
	baz=78						
T06C	**Millerton Lake**	**77.86**	**45**	⇓P	P	13 32 18.4	-0.6
	baz=78						
EDW2	**Edwards Air Fo**	**77.89**	**47**	P	P	13 32 19.1	0.0
	baz=78,SNR=7.1						
MONP	**Monument Peak**	**77.98**	**50**	P	P	13 32 20.1	+0.5
	baz=78,SNR=6.9						
CMB	**Columbia Colle**	**77.98**	**43**	⇑P	P	13 32 19.2	-0.4
	baz=78,SNR=5.1						
MDJ	**Mudanjiang**	**78.06**	**325**	P	P	13 32 20.3	+0.6
MDJ				AMB	AMB		
	comp=Z,9.0nm,1.1s,mb4.1						
MDJ				AMB	AMB		
	comp=Z,59nm,5.2s						
MDJ	**Mudanjiang**	**78.06**	**325**	*e*P	P	13 32 19.2	-0.6
	comp=Z,4.6nm,0.8s,mb4.0						
WDC	**Whiskeytown Da**	**78.08**	**40**	⇑P	P	13 32 19.6	-0.4
	baz=78						
ORV	**Oroville**	**78.13**	**42**	⇓P	P	13 32 19.8	-0.5
	baz=78						
HELL	**Mitchell Peak**	**78.14**	**45**	P	P	13 32 20.0	-0.4
	baz=78,SNR=5.2						
KCC	**Kaiser Creek**	**78.30**	**44**	⇓P	P	13 32 21.1	-0.1
	baz=78						
M02C	**Callahan**	**78.37**	**39**	⇑P	P	13 32 21.7	+0.2
	baz=78						
LRMC	**Laurel Mountai**	**78.41**	**47**	⇑P	P	13 32 22.0	+0.1
	baz=78						
P05C	**Yuba Gap, Truc**	**78.56**	**42**	⇓P	P	13 32 22.6	+0.1
	baz=79						
R05C	**Kirkwood Meado**	**78.56**	**43**	⇑P	P	13 32 22.3	-0.3
	baz=79						
CWC	**Cottonwood Cre**	**78.65**	**46**	⇑P	P	13 32 23.0	-0.1
	baz=79						
YBH	**Yreka Blue Hor**	**78.66**	**39**	⇓P	P	13 32 23.1	0.0
	baz=79,SNR=5.4						
O05C	**Quincy**	**78.73**	**41**	⇑P	P	13 32 23.4	-0.1
	baz=79						
M03C	**McCloud**	**78.75**	**40**	⇑P	P	13 32 23.5	0.0
	baz=79						
MLAC	**Mammoth Lakes**	**78.78**	**44**	⇑P	P	13 32 24.0	+0.2
	baz=79						
K02A	**Glendale**	**78.81**	**38**	⇓P	P	13 32 23.9	0.0
	baz=79						
MTUM	**Tungsten Hills**	**78.82**	**45**	*e*P	P	13 32 24.2	+0.2
O04C	**Chester**	**78.83**	**41**	⇓P	P	13 32 23.4	-0.6
	baz=79						
BELC	**Belle Mtn.**	**78.84**	**49**	⇑P	P	13 32 24.1	-0.2
	baz=79						
MPMC	**Manual Prospec**	**78.86**	**46**	⇑P	P	13 32 24.0	-0.3
	baz=79,SNR=5.3						
R06C	**Coleville**	**78.87**	**43**	P	P	13 32 24.9	+0.7
	baz=79,SNR=5.8						
HATC	**Hat Creek Radi**	**78.88**	**41**	⇓P	P	13 32 23.8	-0.5
	baz=79						
R07C	**Lee Vining**	**78.89**	**44**	⇑P	P	13 32 24.5	+0.1
	baz=79,SNR=8.7						
HUMO	**Hull Mountain**	**79.03**	**38**	⇑P	P	13 32 25.0	0.0
	baz=79,SNR=5.9						
BEKR	**Beckwourth**	**79.03**	**42**	P	P	13 32 25.2	+0.1
	baz=79,SNR=8.3						
BC3	**Big Chuckw Mtn**	**79.06**	**49**	⇓P	P	13 32 25.7	+0.3
	baz=79						
WCN	**Washoe City**	**79.10**	**43**	P	P	13 32 25.9	+0.4
	baz=79,SNR=5.8						
S08C	**White Mtn Res**	**79.16**	**45**	P	P	13 32 26.6	+0.7
	baz=79,SNR=7.6						
M04C	**Macdoel**	**79.21**	**40**	⇓P	P	13 32 25.9	-0.1
	baz=79						
GLA	**Glamis**	**79.22**	**50**	⇓P	P	13 32 27.0	+0.8
	baz=79						
ELFS	**Eagle Lake Fie**	**79.23**	**41**	⇑P	P	13 32 26.1	0.0
	baz=79						
I02A	**Mapleton**	**79.37**	**37**	⇑P	P	13 32 26.3	-0.4
	baz=80						
M05C	**Lookout**	**79.39**	**40**	P	P	13 32 27.2	+0.3
	baz=80,SNR=6.0						
L04A	**Klamath Falls**	**79.41**	**39**	⇑P	P	13 32 26.7	-0.3
	baz=80						
GRAC	**Grapevine Rang**	**79.44**	**46**	P	P	13 32 27.6	+0.4
	baz=80,SNR=6.4						
GMRC	**Granite Mounta**	**79.48**	**48**	⇓P	P	13 32 27.5	-0.1
	baz=80						
J03A	**Ideyld Park**	**79.49**	**38**	⇓P	P	13 32 26.7	-0.7
	baz=80						
IRM	**Iron Mountain**	**79.53**	**49**	⇓P	P	13 32 28.4	+0.5
	baz=80						
O06A	**Flanigan**	**79.54**	**42**	P	P	13 32 27.7	0.0
	baz=80,SNR=10.0						
NVAR	**Mina Array Bea**	**79.57**	**44**	P	P	13 32 27.9	0.0
	comp=Z,5.7nm,0.8s,mb4.0,baz=220,slow=7.1,SNR=45						
TUQ	**Turquoise Mtn.**	**79.62**	**48**	⇑P	P	13 32 28.4	+0.1
	baz=80						
R08A	**Mina**	**79.66**	**44**	P	P	13 32 28.4	0.0
	baz=80,SNR=5.0						
M06C	**Likely Place G**	**79.72**	**41**	P	P	13 32 29.1	+0.4
	baz=80,SNR=6.4						
Y12C	**Blythe**	**79.78**	**50**	⇓P	P	13 32 29.2	0.0
	baz=80						
U10A	**Ash Meadows, A**	**79.84**	**47**	⇓P	P	13 32 29.9	+0.5
	baz=80						
N06A	**Buffalo Meadow**	**79.86**	**41**	P	P	13 32 29.5	+0.1
	baz=80,SNR=8.6						
CN2	**Changchun**	**79.88**	**322**	*e*P	P	13 32 28.8	-0.6
CN2				AMB	AMB		
	comp=Z,10.0nm,1.2s,mb4.0						
J04A	**Umpqua Nationa**	**79.91**	**38**	P	P	13 32 30.1	+0.5
	baz=80,SNR=11						
L05A	**Lakeview**	**79.98**	**40**	P	P	13 32 30.9	+0.9
	baz=80,SNR=5.3						
Q08A	**Gabbs**	**80.05**	**44**	P	P	13 32 30.7	+0.2
	baz=80,SNR=5.3						
I04A	**Tendick Farm,**	**80.06**	**38**	⇓P	P	13 32 30.0	-0.3
	baz=80						
TPNV	**Topopah Spring**	**80.17**	**46**	⇓P	P	13 32 31.3	+0.1
	baz=80						
MOD	**Modoc**	**80.22**	**40**	*e*P	P	13 32 31.0	-0.2
	comp=Z,111nm,1.2s,mb5.1						
MOD	**Modoc**	**80.22**	**40**	P	P	13 32 31.4	+0.2
	baz=80,SNR=5.8						
R09A	**Tonopah**	**80.29**	**45**	P	P	13 32 31.9	+0.2
	baz=80,SNR=5.2						
Y13A	**Salome**	**80.32**	**50**	P	P	13 32 32.6	+0.7
	baz=80,SNR=5.3						
PDMCI	**Parker Dam,Lak**	**80.33**	**49**	⇑P	P	13 32 32.2	+0.2
	baz=80						
K05A	**Summer Lake**	**80.33**	**39**	P	P	13 32 32.5	+0.6
	baz=80,SNR=7.7						
N07B	**Gerlach**	**80.42**	**42**	P	P	13 32 32.7	+0.4
	baz=80,SNR=7.5						
WHN	**Wuhan**	**80.42**	**306**	*e*P	P	13 32 35.8	+3.2
S10A	**Tonopah Range,**	**80.44**	**45**	P	P	13 32 32.7	+0.2
	baz=80,SNR=10						
J05A	**Fort Rock**	**80.45**	**39**	P	P	13 32 32.9	+0.5
	baz=80,SNR=20						
G03A	**Yamhill**	**80.48**	**36**	⇑P	P	13 32 31.1	-1.4
	baz=81						
M07A	**Soldier Meadow**	**80.63**	**41**	P	P	13 32 33.8	+0.4
	baz=81,SNR=7.2						
X13A	**Yucca**	**80.69**	**49**	⇑P	P	13 32 34.2	+0.3
	baz=81						
H04A	**Detroit Lake**	**80.72**	**37**	P	P	13 32 33.4	-0.4
	baz=81,SNR=6.2						
Z14A	**Wintersburg**	**80.75**	**51**	⇓P	P	13 32 34.7	+0.5
	baz=81						
R10A	**Warm Springs**	**80.83**	**45**	P	P	13 32 35.0	+0.5
	baz=81,SNR=5.4						
S11A	**Rachel**	**80.87**	**46**	⇓P	P	13 32 35.0	+0.3
	baz=81						
L07A	**Adell**	**80.88**	**40**	P	P	13 32 35.1	+0.5
	baz=81,SNR=13						
W13A	**Hualapai Mount**	**80.90**	**49**	⇑P	P	13 32 35.5	+0.5
	baz=81						
P09A	**Austin**	**80.94**	**43**	⇑P	P	13 32 35.5	+0.5
	baz=81						
N08A	**GE Springer Mi**	**80.95**	**42**	P	P	13 32 35.3	+0.2
	baz=81,SNR=5.1						
115A	**Sonoran Desert**	**80.97**	**51**	⇑P	P	13 32 35.8	+0.5
	baz=81						
Y14A	**Wickenburg**	**80.98**	**50**	⇓P	P	13 32 35.6	+0.2
	baz=81						
T11A	**Corn Creek, Al**	**81.03**	**46**	P	P	13 32 35.8	+0.2
	baz=81,SNR=8.9						
Q10A	**Clear Creek Ra**	**81.04**	**44**	⇑P	P	13 32 35.9	+0.3
	baz=81						
E03A	**Lebam**	**81.07**	**35**	⇓P	P	13 32 35.4	-0.2
	baz=81						
J06A	**Christmas Vall**	**81.08**	**39**	P	P	13 32 35.5	-0.1
	baz=81,SNR=9.0						
U12A	**Valley of Fire**	**81.10**	**47**	⇓P	P	13 32 36.2	+0.3
	baz=81						
M08A	**Happy Creek Ra**	**81.16**	**41**	P	P	13 32 36.6	+0.5
	baz=81,SNR=7.2						
V13A	**Grand Canyon W**	**81.20**	**48**	⇓P	P	13 32 36.8	+0.3
	baz=81						
216A	**Three Points,**	**81.22**	**52**	⇓P	P	13 32 37.2	+0.5
	baz=81						
O09A	**Fish Creek Ran**	**81.23**	**43**	⇓P	P	13 32 36.6	+0.1
	baz=81						
116A	**Eloy**	**81.29**	**52**	⇓P	P	13 32 37.4	+0.4
	baz=81						
K07A	**Rock Creek Ran**	**81.31**	**40**	P	P	13 32 37.1	+0.2
	baz=81,SNR=14						
X14A	**Yava**	**81.31**	**50**	P	P	13 32 37.7	+0.6
	baz=81,SNR=7.6						
F04A	**Amboy**	**81.33**	**36**	⇑P	P	13 32 36.3	-0.6
	baz=81						
R11A	**Troy Canyon, C**	**81.34**	**45**	P	P	13 32 37.0	-0.2
	baz=81,SNR=5.7						
N09A	**Rock Creek Ran**	**81.38**	**42**	⇓P	P	13 32 37.1	-0.1
	baz=82						
I06A	**Prineville**	**81.44**	**38**	P	P	13 32 38.0	+0.5
	baz=82,SNR=14						
S12A	**Delamar Landin**	**81.47**	**46**	P	P	13 32 38.8	+1.0
	baz=82,SNR=7.3						
Y15A	**Casa Rosa Ranc**	**81.48**	**50**	P	P	13 32 38.3	+0.4
	baz=82,SNR=8.9						
U13A	**Pakoon Wash**	**81.49**	**47**	P	P	13 32 38.5	+0.5
	baz=82,SNR=10						
W14A	**Seligman**	**81.53**	**49**	P	P	13 32 38.9	+0.7
	baz=82,SNR=9.0						
WVOR	**Wild Horse Val**	**81.54**	**40**	*e*P	P	13 32 38.0	-0.1
	comp=Z,14nm,1.0s,mb4.4						
WVOR	**Wild Horse Val**	**81.54**	**40**	*e*P	P	13 32 38.0	-0.1
WVOR				pmax	pmax		
	comp=Z,14nm,1.0s,mb4.5						
G05A	**Wamic**	**81.55**	**37**	⇓P	P	13 32 37.4	-0.6
	baz=82						
Q11A	**Duckwater**	**81.55**	**45**	P	P	13 32 38.2	0.0
	baz=82,SNR=9.8						
L08A	**Fields**	**81.59**	**41**	P	P	13 32 38.6	+0.3
	baz=82,SNR=17						
217A	**Green Valley**	**81.60**	**53**	P	P	13 32 39.5	+0.8
	baz=82,SNR=6.1						
J07A	**Hines**	**81.66**	**39**	P	P	13 32 38.8	+0.1
	baz=82,SNR=6.0						
V14A	**Boquillas Ranc**	**81.72**	**49**	P	P	13 32 39.5	+0.4
	baz=82,SNR=12						
O10A	**Cortez Mining,**	**81.75**	**43**	⇓P	P	13 32 39.1	0.0
	baz=82						
X15A	**Humboldt**	**81.80**	**50**	P	P	13 32 40.1	+0.6
	baz=82,SNR=5.3						
K08A	**Mann Creek Ran**	**81.80**	**40**	P	P	13 32 39.7	+0.3
	baz=82,SNR=13						
H06A	**Lindquist Farm**	**81.82**	**38**	P	P	13 32 39.4	0.0
	baz=82,SNR=15						
T13A	**Saint George**	**81.83**	**47**	⇓P	P	13 32 40.1	+0.5
	baz=82						
F05A	**White Salmon**	**81.84**	**36**	⇓P	P	13 32 38.9	-0.6
	baz=82						
Z16A	**Peralta Trail,**	**81.86**	**51**	⇑P	P	13 32 40.3	+0.4
	baz=82						
TUC	**Tucson**	**81.87**	**52**	*e*P	P	13 32 42.3	+2.4
	comp=Z,6.4nm,1.1s,mb4.1						
TUC	**Tucson**	**81.87**	**52**	*e*P	P	13 32 42.3	+2.3
TUC				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.0						
L09A	**Wilkinson Ranc**	**81.92**	**41**	⇑P	P	13 32 39.9	-0.1
	baz=82						
G06A	**Carlson Farm,**	**81.94**	**37**	⇑P	P	13 32 39.5	-0.5
	baz=82						
I07A	**Izee**	**81.94**	**39**	P	P	13 32 40.2	+0.2
	baz=82,SNR=18						
R12A	**Pony Springs,**	**82.00**	**46**	P	P	13 32 40.8	+0.3
	baz=82,SNR=7.6						
117A	**Oracle**	**82.02**	**52**	⇑P	P	13 32 41.4	+0.7
	baz=82						
B04A	**Port Angeles**	**82.03**	**34**	⇓P	P	13 32 39.5	-0.9
	baz=82						
U14A	**Mt Trumbull**	**82.04**	**48**	P	P	13 32 41.4	+0.6
	baz=82,SNR=20						
Y16A	**Circle Bar Ran**	**82.07**	**51**	⇓P	P	13 32 41.7	+0.8
	baz=82						
318A	**Bisbee**	**82.08**	**53**	P	P	13 32 41.8	+0.7
	baz=82,SNR=6.1						
W15A	**Williams**	**82.10**	**49**	⇓P	P	13 32 41.8	+0.8
	baz=82						
C04A	**Brinnon**	**82.11**	**34**	⇑P	P	13 32 40.4	-0.4
	baz=82						
S13A	**Holt Ranch, En**	**82.14**	**47**	P	P	13 32 41.5	+0.3
	baz=82,SNR=5.9						
J08A	**Circle Bar Ran**	**82.15**	**40**	P	P	13 32 41.3	+0.1
	baz=82,SNR=8.7						
F06A	**Goldendale**	**82.16**	**37**	⇑P	P	13 32 41.0	-0.1
	baz=82						
H07A	**Lands Inn, Kim**	**82.19**	**38**	⇓P	P	13 32 41.0	-0.3
	baz=82						
Q12A	**Willow Creek R**	**82.20**	**45**	P	P	13 32 41.6	+0.2
	baz=82,SNR=6.0						
O11A	**Cowboy Ranch,**	**82.21**	**44**	P	P	13 32 41.6	+0.1
	baz=82,SNR=9.2						
K09A	**Rome**	**82.25**	**41**	P	P	13 32 41.8	+0.2
	baz=82,SNR=17						
218A	**Dragoon**	**82.28**	**53**	⇑P	P	13 32 43.0	+1.0
	baz=82						
D05A	**Enumclaw**	**82.32**	**35**	⇑P	P	13 32 41.2	-0.7
	baz=82						
X16A	**Lo Mia Camp, P**	**82.35**	**50**	P	P	13 32 43.0	+0.6
	baz=82,SNR=7.9

O12A	**Currie**	82.88	44	⇑P		P	13 32 44.8	0.0
	baz=83							
219A	**White Tail Can**	82.89	53	⇑P		P	13 32 45.5	+0.4
	baz=83							
T15A	**Red Dirt Ranch**	82.89	48	⇑P		P	13 32 45.5	+0.5
	baz=83							
B05A	**Bryant**	82.91	34	⇓P		P	13 32 44.6	-0.2
	baz=83							
I09A	**Lost Marbles R**	82.94	39	⇑P		P	13 32 44.9	-0.2
	baz=83							
G08A	**Pilot Rock**	82.94	38	P		P	13 32 45.0	0.0
	baz=83,SNR=9.1							
D06A	**Cle Elum**	82.96	36	⇑P		P	13 32 45.0	-0.1
	baz=83							
P13A	**Bates Ranch, G**	82.96	45	⇓P		P	13 32 45.2	-0.1
	baz=83							
N12A	**Clover Valley,**	82.99	43	P		P	13 32 45.6	+0.2
	baz=83,SNR=6.7							
Y18A	**Canyon Day Jun**	83.09	51	⇑P		P	13 32 46.7	+0.6
	baz=83							
E07A	**Sunnyside**	83.14	36	⇑P		P	13 32 45.4	-0.6
	baz=83							
L11A	**Cat Creek Ranc**	83.21	42	P		P	13 32 46.7	+0.3
	baz=83,SNR=8.9							
F08A	**Pendleton**	83.33	38	⇑P		P	13 32 46.6	-0.4
	baz=83							
K11A	**Parker Ranch,**	83.35	41	P		P	13 32 47.3	+0.2
	baz=83,SNR=7.0							
M12A	**Wells**	83.36	43	P		P	13 32 47.6	+0.4
	baz=83,SNR=6.7							
H09A	**Durkee**	83.36	39	⇑P		P	13 32 46.9	-0.2
	baz=83							
D07A	**Quincy**	83.44	36	⇑P		P	13 32 47.2	-0.3
	baz=84							
X18A	**Snowflake**	83.49	51	⇓P		P	13 32 48.5	+0.5
	baz=84							
T16A	**Glen Canyon Da**	83.50	48	⇑P		P	13 32 48.3	+0.3
	baz=84							
E08A	**Dider Farm, El**	83.56	37	⇓P		P	13 32 47.7	-0.4
	baz=84							
L12A	**House Creek Ra**	83.67	42	⇑P		P	13 32 49.0	+0.3
	baz=84							
C07A	**Waterville**	83.68	35	P		P	13 32 48.1	-0.6
	baz=84,SNR=5.6							
SEY	**Seymchan**	83.72	347	⇑*e*P		P	13 32 48.0	-0.5
A06A	**Chilliwack**	83.73	34	⇓P		P	13 32 49.0	+0.1
	baz=84							
MSU	**Marysvale**	83.75	46	*e*P		P	13 32 49.6	+0.4
Y19A	**Nutrioso**	83.75	52	P		P	13 32 50.0	+0.7
	baz=84,SNR=5.5							
F09A	**S2 Ranch, Elgi**	83.79	38	⇓P		P	13 32 49.2	0.0
	baz=84							
MFID	**Camas Ranch**	83.81	41	⇑P		P	13 32 48.9	-0.5
	baz=84							
M13A	**Montello**	83.81	43	P		P	13 32 49.9	+0.4
	baz=84,SNR=5.9							
H10A	**Noah's Angus R**	83.87	39	P		P	13 32 49.2	-0.4
	baz=84,SNR=8.2							
X19A	**St. Johns**	83.94	51	⇓P		P	13 32 51.2	+1.0
	baz=84							
D08A	**Wollman Farm,**	83.95	36	P		P	13 32 50.0	0.0
	baz=84,SNR=5.2							
K12A	**Draper Farm, C**	83.99	42	⇑P		P	13 32 49.9	-0.4
	baz=84							
I11A	**Placerville**	83.99	40	P		P	13 32 50.5	+0.2
	baz=84,SNR=6.2							
G10A	**Bishop Farm, J**	84.02	39	P		P	13 32 50.0	-0.4
	baz=84,SNR=5.4							
B07A	**Winthrop**	84.09	35	P		P	13 32 50.5	-0.1
	baz=84,SNR=6.2							
DUG	**Dugway**	84.13	45	⇓P		P	13 32 51.5	+0.4
	baz=84							
J12A	**Stokes Ranch,**	84.18	41	P		P	13 32 51.7	+0.5
	baz=84,SNR=6.5							
A07A	**Ashnola River,**	84.29	34	⇑P		P	13 32 51.2	-0.4
	baz=84							
C08A	**Higginbotham F**	84.29	36	⇓P		P	13 32 51.2	-0.5
	baz=84							
D09A	**Jones Farm, Ri**	84.30	37	P		P	13 32 51.8	0.0
	baz=84,SNR=7.7							
L13A	**Double Diamond**	84.32	43	⇓P		P	13 32 52.0	+0.1
	baz=84							
F10A	**Beach Ranch, E**	84.33	38	P		P	13 32 51.2	-0.6
	baz=84,SNR=13							
H11A	**Donnelly**	84.38	40	P		P	13 32 52.2	+0.1
	baz=84,SNR=9.1							
M14A	**Sheep Mountain**	84.42	43	P		P	13 32 52.3	-0.1
	baz=84,SNR=6.4							
B08A	**Colville Reser**	84.46	35	P		P	13 32 51.8	-0.7
	baz=85,SNR=8.1							
K13A	**Stover Farm, H**	84.52	42	⇓P		P	13 32 52.9	0.0
	baz=85							
MCK	**McKinley**	84.58	13	*e*P		P	13 32 51.3	-1.4
	comp=Z,11nm,0.9s,mb4.5							
MCK	**McKinley**	84.58	13	*e*P		P	13 32 51.3	-1.4
MCK				pmax	pmax			
	comp=Z,11nm,0.9s,mb4.5							
G11A	**Walters Elk Ra**	84.59	39	P		P	13 32 52.6	-0.6
	baz=85,SNR=16							
HLID	**Hailey**	84.77	41	P		P	13 32 54.4	+0.3
	baz=85,SNR=11							
A08A	**Turner Farm, O**	84.83	35	P		P	13 32 54.0	-0.3
	baz=85,SNR=8.5							
J13A	**Cove Ranch, Pi**	84.83	41	P		P	13 32 54.7	+0.3
	baz=85,SNR=7.3							
GYA	**Guiyang**	84.84	300	P		P	13 32 54.3	-0.6
GYA				AP	pP		13 35 01.3	+2.4
GYA				XP	sP		13 35 57.5	+0.3
GYA				PP	PP		13 36 25.5	+3.0
GYA				SKS			13 42 23.0	
GYA				XS	sS		13 46 16.5	-0.5
GYA				AMB	AMB			
	comp=Z,10.0nm,1.0s,mb4.4							
D10A	**Wagner Farm, O**	84.89	37	⇑P		P	13 32 53.8	-0.8
	baz=85							
M15A	**Larsen Ranch,**	84.99	44	⇑P		P	13 32 55.2	-0.1
	baz=85							
H12A	**Diamond D Ranc**	85.00	40	P		P	13 32 54.9	-0.3
	baz=85,SNR=12							
K14A	**Jones Ranch, D**	85.04	42	⇓P		P	13 32 55.8	+0.4
	baz=85							
E11A	**Bogner Ranch,**	85.13	38	⇓P		P	13 32 54.7	-1.1
	baz=85							
I13A	**Wildhorse Cree**	85.13	41	⇓P		P	13 32 55.2	-0.7
	baz=85							
B09A	**Rice**	85.15	36	P		P	13 32 55.5	-0.3
	baz=85,SNR=7.0							
SRU	**San Rafael**	85.17	46	*e*P		P	13 32 55.9	-0.2
	comp=Z,3.1nm,0.7s,mb4.0							
SRU	**San Rafael**	85.17	46	*e*P		P	13 32 55.9	-0.3
SRU				pmax	pmax			
	comp=Z,3.0nm,0.7s,mb4.0							
A09A	**Danville**	85.22	35	⇑P		P	13 32 55.6	-0.5
	baz=85							
H13A	**Challis**	85.38	40	P		P	13 32 57.0	0.0
	baz=86,SNR=6.1							
F12A	**Elk City**	85.38	39	P		P	13 32 56.6	-0.4
	baz=86,SNR=19							
D11A	**Klaveano Farm,**	85.43	37	⇓P		P	13 32 56.9	-0.3
	baz=86							
NEW	**Newport**	85.63	36	*e*P		P	13 32 57.0	-1.1
	comp=Z,9.1nm,1.3s,mb4.2							
NEW	**Newport**	85.63	36	*e*P		P	13 32 57.0	-1.1
NEW				pmax	pmax			
	comp=Z,9.0nm,1.3s							
G13A	**Cobalt**	85.66	40	P		P	13 32 58.4	0.0
	baz=86,SNR=5.5							
A10A	**Northport**	85.78	35	⇑P		P	13 32 58.4	-0.5
	baz=86							
IMA2	**Indian Mountai**	85.80	10	*e*P		P	13 32 57.7	-0.8
COLA	**College**	85.81	13	*c i*P		P	13 32 56.8	-1.8
F13A	**Darby**	85.95	39	P		P	13 32 59.2	-0.5
	baz=86,SNR=9.7							
PV01	**Paradox Valley**	86.10	48	*e*P		P	13 32 59.9	-0.7
TXAR	**Lajitas Array**	86.18	58	P		P	13 33 01.9	+0.7
TXAR				pmax	pmax			
	comp=Z,6.0nm,0.8s							
TXAR	**Lajitas Array**	86.18	58	P		P	13 33 01.9	+0.7
	comp=Z,6.3nm,0.8s,mb4.3,baz=218,slow=7.0,SNR=47							
G14A	**Jackson**	86.21	40	⇓P		P	13 33 01.4	+0.4
	baz=86							
ANMO	**Albuquerque**	86.26	52	⇑*e*P		P	13 33 01.4	-0.1
E13A	**Victor**	86.37	39	⇑P		P	13 33 00.8	-0.8
	baz=86							
MCMT	**McKenzie Canyo**	86.38	41	*e*P		P	13 33 01.8	+0.1
BILL	**Bilibino**	86.40	354	⇓*e*P		P	13 33 00.7	-0.6
BILL				pmax	pmax			
	comp=Z,5.0nm,0.9s,mb4.1							
A11A	**Hall Mountain,**	86.43	36	P		P	13 33 02.0	+0.1
	baz=86,SNR=5.9							
D13A	**Huson**	86.55	38	⇑P		P	13 33 01.8	-0.7
	baz=87							
G15A	**Dillon**	86.77	40	P		P	13 33 03.6	+0.1
	baz=87,SNR=7.7							
E14A	**Clinton**	86.77	39	P		P	13 33 03.2	-0.4
	baz=87,SNR=6.2							
C13A	**Hot Springs**	86.78	37	⇓P		P	13 33 02.9	-0.6
	baz=87							
F15A	**Butte**	87.09	40	⇑P		P	13 33 04.7	-0.3
	baz=87							
D14A	**Greenough**	87.10	38	⇓P		P	13 33 04.3	-0.8
	baz=87							
HHC	**Hu-ho-hao-te**	87.11	315	*e*P		P	13 33 04.8	-0.5
HHC				AP	pP		13 35 13.3	+3.0
HHC				XP	sP		13 36 12.5	+4.2
HHC				PP	PP		13 36 39.0	-1.2
HHC				SKS			13 42 35.8	
HHC				S	S		13 42 58.3	+1.5
HHC				XS	sS		13 46 40.5	+1.0
HHC				SS	SS		13 49 01.5	+2.9
HHC				AMB	AMB			
	comp=Z,25nm,0.4s,mb5.3							
HHC				AMB	AMB			
	comp=Z,110nm,3.9s							
IMW	**Indian Meadow**	87.13	42	*e*P		P	13 33 05.5	+0.2
	comp=Z,14nm,1.1s,mb4.6							
B13A	**Whitefish**	87.20	37	⇓P		P	13 33 04.1	-1.4
	baz=87							
QLMT	**Earthquake Lak**	87.26	41	*e*P		P	13 33 06.1	+0.2
E15A	**Deer Lodge**	87.29	39	⇓P		P	13 33 05.0	-0.9
	baz=87							
KMI	**Kunming**	87.63	297	P		P	13 33 10.0	+1.9
KMI				AMB	AMB			
	comp=Z,5.0nm,1.2s,mb4.1							
D15A	**Lincoln**	87.67	39	P		P	13 33 07.5	-0.2
	baz=88,SNR=5.3							
CD2	**Chengdu**	88.88	303	*e*P		P	13 33 14.8	+1.0
CD2				XP	sP		13 36 22.5	+5.3
CD2				PP	PP		13 36 58.0	+3.7
CD2				SKS			13 42 46.8	
CD2				S	S		13 43 11.3	-2.2
CD2				SS	SS		13 49 27.3	+2.9
CD2				AMB	AMB			
	comp=Z,10.0nm,0.6s,mb4.8							
CD2				AMB	AMB			
	comp=Z,30nm,6.8s							
SYO	**Syowa Base**	89.11	193	⇑*e*X		P	13 33 10.8	-3.4
YAK	**Yakutsk**	89.49	338	⇑*e*P		P	13 33 14.1	-1.8
YAK				pmax	pmax			
	comp=Z,5.0nm,0.6s,mb4.5							
SNAA	**Sanae**	90.61	179	*e*P		P	13 33 19.6	-1.5
SNAA				*e*			13 33 20.6	
VNA2	**Neumayer--Watz**	91.20	177	*e*P		P	13 33 22.9	-0.9
	baz=208,slow=5.0							
VNA2				*e*			13 33 23.8	
VNA1	**Neumayer--Stat**	91.42	177	*e*P		P	13 33 23.1	-1.7
VNA1				*e*			13 33 24.2	
INK	**Inuvik**	91.94	15	*e*P		P	13 33 25.6	-1.5
	comp=Z,184nm,1.0s							
INK	**Inuvik**	91.94	15	*e*P		P	13 33 25.6	-1.4
INK				pmax	pmax			
	comp=Z,184nm,1.0s							
ULN	**Ulaanbaatar**	93.01	320	⇑*e*P		P	13 33 33.1	+0.7
SONM	**Songino Array**	93.40	319	P		P	13 33 34.5	+0.3
	comp=Z,0.4nm,0.5s,mb3.7,baz=128,slow=5.7,SNR=4.2							
YKA	**Yellowknife Ar**	94.42	25	P		P	13 33 37.3	-1.2
YKA				pmax	pmax			
	comp=Z,1.0nm,0.5s							
YKA	**Yellowknife Ar**	94.42	25	P		P	13 33 37.3	-1.1
	comp=Z,0.8nm,0.5s,mb4.1,baz=239,slow=4.6,SNR=21							
TIXI	**Tiksi**	96.09	345	⇓*e*P		P	13 33 44.5	-1.4
TIXI				pmax	pmax			
	comp=Z,4.0nm,1.9s,mb4.3							
KURK	**Kurchatov**	111.67	318	*e*PKiKP	PKiKP		13 38 48.0	-1.5
BVAR	**Borovoye Array**	116.70	321	PKIKP	PKPdf		13 38 57.5	-1.6
BVAR				pmax	pmax			
	comp=Z,1.0nm,0.4s							
BVAR	**Borovoye Array**	116.70	321	PKP	PKPdf		13 38 57.5	-1.5
	comp=Z,1.2nm,0.4s,baz=276,slow=0.4,SNR=7.9							
AKTO	**Aktyubinsk**	124.72	319	PKIKP	PKPdf		13 39 13.9	-0.7
AKTO				pmax	pmax			
	comp=Z,1.0nm,0.6s							
AKTO	**Aktyubinsk**	124.72	319	PKP	PKPdf		13 39 13.9	-0.7
	comp=Z,0.9nm,0.6s,baz=15,slow=2.8,SNR=3.6							
ARCES	**ARCESS Array B**	126.27	350	PKIKP	PKPdf		13 39 16.0	-1.0
ARCES				pmax	pmax			
	comp=Z,3.0nm,0.8s							
ARCES	**ARCESS Array B**	126.27	350	PKP	PKPdf		13 39 16.0	-1.0
	comp=Z,3.0nm,0.8s,baz=10,slow=2.7,SNR=6.8							
FINES	**FINESS Array B**	133.12	344	PKIKP	PKPdf		13 39 27.9	-2.3
FINES				pmax	pmax			
	comp=Z,1.0nm,0.7s							
FINES	**FINESS Array B**	133.12	344	PKP	PKPdf		13 39 27.9	-2.3
	comp=Z,1.4nm,0.7s,baz=68,slow=5.1,SNR=3.7							
OBN	**Obninsk**	134.19	332	*e*PKIKP	PKPdf		13 39 34.5	+2.1
OBN				*e*			13 42 08.8	
OBN				pmax	pmax			
	comp=Z,5.0nm,0.9s							
NOA	**NORSAR Array B**	136.34	353	PKP	PKPdf		13 39 37.0	+0.7
	comp=Z,0.4nm,0.6s,baz=8.1,slow=3.1,SNR=3.7							
AKASG	**Malin Array Be**	140.45	332	PKHKP			13 39 36.7	
AKASG							13 39 45.3	
AKASG				pmax	pmax			
	comp=Z,1.0nm,0.6s							
AKASG				pmax	pmax			
	comp=Z,1.0nm,0.4s							
AKASG	**Malin Array Be**	140.45	332	PKhKP			13 39 36.7	
	comp=Z,1.0nm,0.6s,baz=47,slow=4.2,SNR=8.4							
AKASG				PKP	PKPdf		13 39 45.3	+1.2
	comp=Z,0.8nm,0.4s,baz=43,slow=2.5,SNR=5.5							
LVV	**L'vov**	143.31	335	*e*PKHKP			13 39 40.3	
BSEG	**Bad Segeberg**	143.37	351	*e*PKPbc	PKPdf		13 39 46.8	-2.3
BURAR	**Bucovina Array**	144.51	332	⇑*i*P	PKPdf		13 39 52.4	+1.1
OJC	**Ojcow**	144.53	340	*e*PKP	PKPdf		13 39 51.0	-0.2
STHS	**Stebnicka Huta**	144.70	337	*e*PKP	PKPdf		13 39 51.6	0.0
KOLS	**Kolonicke sedl**	144.71	336	*e*PKP	PKPdf		13 39 51.9	+0.3
UZH	**Uzhgorod**	144.95	336	⇓*i*PKIKP	PKPdf		13 39 53.0	+1.0
NIE	**Niedzica**	145.03	338	*e*PKP	PKPdf		13 39 53.0	+0.9
KSP	**Ksiaz**	145.04	343	*e*PKIKP	PKPdf		13 39 52.8	+0.7
CRVS	**Cervenica-Dubn**	145.05	337	*e*PKP	PKPdf		13 39 53.0	+0.8
CLZ	**Clausthal**	145.39	350	*e*PKPbc	PKPbc		13 39 53.4	-0.6
CLL	**Collm**	145.41	347	⇑*i*PKIKP	PKPdf		13 39 53.2	+0.5
CLL				pmax	pmax			
	comp=Z,21nm,0.9s							
CLL	**Collm**	145.41	347	*e*PKPbc	PKPbc		13 39 53.2	-0.8
CLL	**Collm**	145.41	347	⇑*i*PKPbc	PKPbc		13 39 53.2	-0.8
	comp=Z,21nm,0.9s							
UPC	**Upice**	145.42	343	*e*PKP	PKPdf		13 39 54.0	+1.3
UPC				*ex*	x		13 39 55.6	
DPC	**Dobruska-Polom**	145.48	343	*e*PKP	PKPdf		13 39 54.2	+1.4
BRG	**Berggiesshubel**	145.61	346	*i* PKHKP			13 39 50.3	
BRG				*i*			13 39 54.2	
BRG				pmax	pmax			
	comp=Z,4.0nm,0.6s							
BRG				pmax	pmax			
	comp=Z,1.0nm,0.7s							
BRG	**Berggiesshubel**	145.61	346	*e*PKPbc	PKPbc		13 39 54.1	-0.5
BRG	**Berggiesshubel**	145.61	346	*i* PKP	PKPdf		13 39 50.3	-2.8
	comp=Z,2.3nm,0.6s							
BRG				*i*			13 39 54.2	
	comp=Z,11nm,0.7s							
MORC	**Moravsky Berou**	145.64	341	⇓*i*P	PKPdf		13 39 54.6	+1.5
FBE	**Freiberg**	145.70	347	*e*PKPbc	PKPbc		13 39 54.4	-0.5
FBE				*e*PKPab	PKPab		13 39 56.2	-0.4
MLR	**Muntele Rosu**	145.71	329	⇓*i*P	PKPbc		13 39 56.1	+1.0
KECS	**Kecovo**	145.76	337	*e*PKP	PKPdf		13 39 54.6	+1.2
PVCC	**Panska Ves**	145.78	345	*e*PKP	PKPdf		13 39 55.2	+1.9
DRGR		146.24	333	⇓*i*P	PKPbc		13 39 56.4	-0.1
PRU	**Pruhonice**	146.28	345	*e*PKP	PKPdf		13 39 56.1	+1.9
VYHS	**Vyhne**	146.34	339	*e*PKP	PKPbc		13 39 56.5	-0.2
TANN	**Tannenbergstha**	146.37	347	*e*PKPbc	PKPbc		13 39 56.0	-0.7
TANN				*e*PKPab	PKPab		13 39 58.3	-1.0
WERD	**Werda**	146.37	347	*e*PKPbc	PKPbc		13 39 56.0	-0.7
WERD				*e*PKPab	PKPab		13 39 58.0	-1.3
KOLL	**Kolacno**	146.41	339	*e*PKP	PKPdf		13 39 56.4	+1.9
GUNZ	**Gunzen**	146.44	347	*e*PKPbc	PKPbc		13 39 56.5	-0.5
GUNZ				*e*PKPab	PKPab		13 39 58.8	-0.8
WERN	**Wernitzgruen**	146.51	347	*e*PKPbc	PKPbc		13 39 56.6	-0.5
WERN				*e*PKPab	PKPab		13 39 59.4	-0.4
NKC	**Novy Kostel**	146.54	347	*e*PKP	PKPbc		13 39 56.9	-0.3
NKC				*ex*	x		13 39 59.3	
MANZ	**Manzenberg**	146.85	347	*e*PKPbc	PKPbc		13 39 57.4	-0.6
MODS	**Modra-Piesok**	146.96	340	*e*PKP	PKPbc		13 39 58.6	+0.2
ROTZ	**Rotzenmuhle**	147.03	347	*e*PKPbc	PKPbc		13 39 58.2	-0.3
GZR	**Gura Zlata**	147.29	332	⇓PKHKP	PKPbc		13 39 58.9	-0.5
GZR	**Gura Zlata**	147.29	332	⇓*i*P	PKPbc		13 39 58.8	-0.6
GRF	**Grafenberg Arr**	147.31	348	*e*PKPbc	PKPbc		13 39 58.9	-0.4
KHC	**Kasperske Hory**	147.31	345	*e*PKP	PKPbc		13 39 58.9	-0.4
KHC				*ex*	x		13 40 03.0	
GEC2	**GERESS Array S**	147.55	345	*e*PKPbc	PKPbc		13 39 59.3	-0.6
GERES	**GERESS Array B**	147.55	345	PKIKP	PKPbc		13 39 59.4	-0.5
GERES				pmax	pmax			
	comp=Z,5.0nm,0.6s							
GERES	**GERESS Array B**	147.55	345	PKPbc	PKPbc		13 39 59.4	-0.5
	comp=Z,5.2nm,0.6s,baz=11,slow=2.7,SNR=34							
GIVF	**Givet**	147.76	356	⇑*i*PKP1	PKPbc		13 39 59.8	-0.6
	comp=Z,20nm,0.6s							
BAIF	**Baives**	147.84	357	⇑*i*PKP1	PKPbc		13 40 00.1	-0.5
	comp=Z,13nm,0.6s							
WLF	**Walferdange**	148.08	354	*e*PKPbc	PKPbc		13 40 00.8	-0.4
PKSM	**Moragy**	148.34	337	⇓*i*P	PKPbc		13 40 01.7	-0.3
FUR	**Furstenfeldbru**	148.75	347	*e*PKPbc	PKPbc		13 40 02.6	-0.3
BFO	**Black Forest**	149.12	351	*e*PKPbc	PKPbc		13 40 03.1	-0.7
VTS	**Vitosha**	149.17	328	⇑*i*P	PKPbc		13 40 03.8	-0.3
FLN	**La Foliniere**	149.18	2	⇑*i*PKP1	PKPbc		13 40 02.9	-1.1
	comp=Z,29nm,0.9s							
CDF	**Champ du Feu**	149.19	352	*e*PKP1	PKPbc		13 40 03.4	-0.6
	comp=Z,8.5nm,0.6s							
MEZF	**Maizieres J'vi**	149.33	355	*e*PKP1	PKPbc		13 40 03.9	-0.4
	comp=Z,13nm,0.7s							
LDF	**La Druitiere**	149.36	2	⇑*i*PKP1	PKPbc		13 40 03.2	-1.2
GRR	**Gorron**	149.54	3	⇑*i*PKP1	PKPbc		13 40 03.9	-0.9
	comp=Z,17nm,0.5s							
SGMF	**Saint Gilles**	149.56	5	*e*PKP1	PKPbc		13 40 04.5	-0.4
HAU	**Haudompre**	149.70	353	⇑*i*PKP1	PKPbc		13 40 04.4	-0.8
	comp=Z,15nm,0.7s							
LEGS	**Legarje**	149.72	341	*e*PKPbc	PKPbc		13 40 04.5	-0.8
LEGS				*i*			13 40 12.3	
HINF	**Hinteralfeld**	149.83	353	⇑*i*PKP1	PKPbc		13 40 04.7	-0.8
LJU	**Ljubljana**	149.88	342	*e*PKPbc	PKPbc		13 40 04.9	-0.9
VISS	**Visnje**	150.00	341	*e*PKPbc	PKPbc		13 40 05.2	-0.9
VISS				*i*			13 40 13.2	
BOJS	**Bojanci**	150.14	340	*e*PKPbc	PKPbc		13 40 05.8	-0.5
LOR	**Lormes**	150.64	357	⇑*i*PKP1	PKPbc		13 40 06.7	-0.7
	comp=Z,11nm,0.5s							
SSF	**Saint Saulge**	150.87	357	⇑*i*PKP1	PKPbc		13 40 07.2	-0.8
	comp=Z,12nm,0.6s							
CABF	**La Chapelle**	151.11	353	*e*PKP1	PKPbc		13 40 08.4	-0.1
AVF	**Avril sur Loir**	151.15	357	*e*PKP1	PKPbc		13 40 07.5	-1.1
	comp=Z,3.5nm,0.5s							
SMF	**Signal de Mont**	151.26	356	*e*PKP1	PKPbc		13 40 07.9	-1.0
MFF	**Saint Martin d**	151.35	2	⇑*i*PKP1	PKPbc		13 40 08.1	-1.0
	comp=Z,16nm,0.9s							
BGF	**Bois d'Agland**	151.40	358	*e*PKP1	PKPbc		13 40 08.4	-0.8
	comp=Z,11nm,0.6s							
TCF	**Toulx Ste Croi**	151.69	359	*e*PKP1	PKPbc		13 40 08.9	-0.9
	comp=Z,14nm,0.9s							
ESDC	**Sonseca Array**	157.82	11	PKPab	PKPab		13 40 47.2	-0.7
	comp=Z,0.4nm,0.5s,baz=338,slow=3.2,SNR=4.5							

ISCJB ***27*** *13:49:26.9±0.2, 700S±003×15595E±003, h46km, mb5.7/116, MS5.4/186, Error ellipse: s-maj=4.4km s-min=3.9km az=163.0*

BJI ***27*** *13:49:26.7, 696S×15606E, h50km, mB5.7, mb5.4, Ms5.2, Msz5.2*

CRAAG ***27*** *13:49:27.6, 701S×15595E, Mw5.8*

MOS ***27*** *13:49:28.0±0.9, 695S×15596E, h50km, mb5.9/44, MS5.2/37, Error ellipse: s-maj=7.9km s-min=6.0km az=103.2*

GCMT ***27*** *13:49:28.3±0.1, 723S×15590E, h49km, MW5.8/110, Moment Tensor Solution. s110,c214; s109,c292; Duration: 1s9 Moment tensor: Scale 1017Nm; Mrr5.73±.06; Mθθ-3.81±.04; Mφφ-1.92±.05; Mrθ-0.45±.04; Mθφ3.22±.04; Mφr-0.50±.04; Best double couple: M0 6.01800×1017 NP1:φs134.00000°, δ45.00000°, λ100.00000°. NP2:φs300.00000°, δ46.00000°, λ80.00000°. Principal axes: T 5.8150, Plg83.0000°, Azm129.0000°; N 0.4060, Plg7.0000°, Azm307.0000°; P -6.2210, Plg0.0000°, Azm37.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

NEIC ***27*** *13:49:28.3±0.1, 697S×15594E, mb5.8/62, MS5.5/130, MW5.7 Error ellipse: s-maj=4.6km s-min=4.0km az=108.0, Moment Tensor Solution. s39 Moment tensor: Scale 1017Nm; Mrr4.34; Mθθ-1.67; Mφφ-2.66; Mrθ-0.18; Mθφ1.43; Mφr-1.08; Best double couple: M0

WRA S **S** **13 59 01.0 -1.3**
WRA pmax pmax
comp=Z,68nm,0.7s
WRA pmax pmax
comp=Z,17nm,0.8s
WRA pmax pmax
comp=Z,79nm,1.1s
WRA smax
comp=N,7.0nm,0.9s
WRA MLR MLR
comp=Z,13μm,18.3s
WRA pmax pmax
comp=Z,1.0nm,0.8s
WRA Warramunga Arr 24.57 236 P **P** **13 54 44.8 +0.3**
comp=Z,68nm,0.7s,mb5.3,baz=60,slow=9.5,SNR=212
WRA PcP PcP 13 58 22.4 +0.6
comp=Z,17nm,0.8s,baz=58,slow=2.0,SNR=5.6
WRA pPcP 13 58 35.8
comp=Z,79nm,1.1s,baz=51,slow=1.9,SNR=8.1
WRA S **S** **13 59 01.0 -1.4**
comp=Z,7.0nm,0.9s,baz=120,slow=24,SNR=2.4
WRA LR LR 14 04 24.1
comp=Z,13μm,18.3s,MS5.5,baz=55,slow=36
WRA P3KP 14 29 08.3
comp=Z,1.0nm,0.8s,baz=193,slow=2.9,SNR=5.6
ASAR Alice Springs 26.85 230 P **P** **13 55 04.9 -0.3**
ASAR 13 58 27.6
ASAR pmax pmax
comp=Z,28nm,0.8s
ASAR pmax pmax
comp=Z,6.0nm,0.6s
ASAR pmax pmax
comp=Z,18nm,0.6s
ASAR Alice Springs 26.85 230 P **P** **13 55 04.9 -0.3**
comp=Z,28nm,0.8s,mb4.8,baz=62,slow=8.7,SNR=182
ASAR PcP PcP 13 58 27.6 +0.6
comp=Z,6.3nm,0.6s,baz=60,slow=2.5,SNR=3.9
ASAR pPcP 13 58 41.0
comp=Z,18nm,0.6s,baz=68,slow=2.5,SNR=7.7
RIV Riverview 27.04 189 *e*P **P** **13 55 06.8 +0.1**
RIV *e*pP pP 13 55 20.5 +1.3
STKA Stephens Creek 28.11 207 *e*P **P** **13 55 14.2 -2.2**
comp=Z,16nm,0.7s,mb4.8
STKA *e*pP pP 13 55 28.4 -0.5
STKA *e*S **S** **13 59 56.6 -1.6**
STKA Stephens Creek 28.11 207 P **P** **13 55 16.1 -0.3**
comp=Z,19nm,0.9s,mb4.7,baz=9.8,slow=9.9,SNR=22
STKA pP pP 13 55 29.0 +0.2
comp=Z,165nm,0.6s,baz=14,slow=8.9,SNR=38
STKA pPcP 13 58 43.2
comp=Z,38nm,0.9s,baz=82,slow=6.2,SNR=3.0
STKA LR LR 14 06 20.7
comp=Z,14μm,19.2s,MS5.6,baz=29,slow=36
CNB Canberra Magne 28.80 191 *e*P **P** **13 55 22.4 0.0**
comp=Z,36nm,0.9s,mb5.1
CNB *e*pP pP 13 55 36.3 +1.4
FITZ Fitzroy Crossi 31.49 247 *e*P **P** **13 55 46.0 -0.5**
comp=Z,56nm,0.6s,mb5.6
FITZ *i* pP pP 13 55 57.7 -1.3
FITZ *e*S **S** **14 00 46.2 -5.3**
FITZ Fitzroy Crossi 31.49 247 P **P** **13 55 46.2 -0.3**
comp=Z,31nm,0.6s,mb5.3,baz=81,slow=9.3,SNR=114
FITZ pP pP 13 55 58.4 -0.6
comp=Z,377nm,0.6s,baz=81,slow=7.8,SNR=52
FITZ pPcP 13 58 52.2
comp=Z,45nm,0.8s,baz=350,slow=20,SNR=4.6
FITZ LR LR 14 08 45.9
comp=Z,7μm,18.8s,MS5.4,baz=75,slow=37
ADE Adelaide 32.01 207 *e*P **P** **13 55 50.9 +0.1**
BATI Kupang 32.05 262 P **P** **13 55 52.0 +0.6**
comp=Z,37nm,0.6s,mb5.4,baz=245,slow=2.9,SNR=7.3
BATI pP pP 13 56 04.2 +0.2
comp=Z,224nm,0.9s,baz=82,slow=0.9,SNR=20
BATI LR LR 14 11 09.2
comp=Z,7μm,18.2s,MS5.4,baz=102,slow=41
AFI Afiamalu 32.46 105 *e*P **P** **13 55 55.2 +0.2**
comp=Z,375nm,1.1s,mb6.1
AFI *e*pP pP 13 56 09.2 +1.6
AFI LR LR
comp=Z,56μm,20.0s,MS6.2
AFI Afiamalu 32.46 105 *e*P **P** **13 55 55.2 +0.2**
AFI *e**PP pP 13 56 09.2 +1.6
AFI pmax pmax
comp=Z,375nm,1.1s,mb6.1
AFI MLR MLR
comp=Z,56μm,20.0s,MS6.2
RAO Raoul Island 33.11 135 P **P** **13 55 59.9 -0.6**
comp=Z,248nm,0.3s,mb6.6
RAO Raoul Island 33.11 135 P **P** **13 55 59.9 -0.6**
RAO pmax pmax
comp=Z,248nm,0.3s,mb6.6
RAO Raoul Island 33.11 135 LR LR 14 07 23.3
comp=Z,2μm,20.6s,MS4.8,baz=334,slow=32
DAV Davao City (W) 33.35 294 P **P** **13 56 07.3 +4.5**
comp=Z,347nm,0.7s,mb6.4
DAV *e*pP pP 13 56 15.0 -0.4
FORT Forrest 35.21 224 *e*P **P** **13 56 18.3 -0.4**
comp=Z,110nm,0.8s,mb5.8
FORT *e*pP pP 13 56 30.6 -0.8
KAPI Kappang 36.02 271 P **P** **13 56 25.2 -0.7**
comp=Z,902nm,0.8s,mb6.8,SNR=12
URZ Urewera 36.53 151 P **P** **13 56 31.2 +1.3**
comp=Z,15nm,0.6s,mb5.0,baz=266,slow=2.7,SNR=10
URZ LR LR 14 10 05.3
comp=Z,2μm,19.1s,MS5.0,baz=127,slow=34
TAU Tasmania Unive 36.54 191 P **P** **13 56 31.2 +1.3**
comp=Z,547nm,1.2s,mb6.3,SNR=5.6
TAU Tasmania Unive 36.54 191 *e*P **P** **13 56 30.9 +1.0**
comp=Z,593nm,1.2s,mb6.3
TAU *e*pP pP 13 56 42.9 +0.3
TAU Tasmania Unive 36.54 191 *e*P **P** **13 56 30.9 +1.0**
TAU *e**PP pP 13 56 42.9 +0.3
TAU pmax pmax
comp=Z,593nm,1.2s,mb6.3
MBWA Marble Bar 37.70 244 *e*P **P** **13 56 39.5 -0.6**
comp=Z,321nm,0.9s,mb6.0
MBWA *e*pP pP 13 56 51.7 -1.1
MBWA LR LR
comp=Z,7μm,20.0s,MS5.5
SNZO South Karori 38.02 157 *e*P **P** **13 56 42.4 0.0**
comp=Z,152nm,1.1s,mb5.6
RPZ Rata Peaks 38.88 162 P **P** **13 56 49.1 -0.6**
comp=Z,101nm,0.8s,mb5.6,baz=317,slow=0.9,SNR=47
MYLDM Lahad Datu 39.27 287 ⇑P **P** **13 56 55.4 +2.0**
TSM Tawau 39.61 285 ⇓P **P** **13 56 56.7 +0.5**
SDKM Sandakan 40.65 287 ⇓P **P** **13 57 04.6 -0.2**
KDM Kudat 41.38 289 ⇓P **P** **13 57 12.1 +1.2**
KKM Kota Kinabalu 41.70 287 *e*P **P** **13 57 13.9 +0.5**
KKM *e*pP pP 13 57 25.8 -0.5
KKM Kota Kinabalu 41.70 287 ⇓P **P** **13 57 14.0 +0.6**
JHJ Hachijo jima 2 42.77 340 LR LR 14 14 32.0
comp=Z,1μm,18.0s,MS4.9,baz=51,slow=35
JOW Kunigami 43.02 323 LR LR 14 12 54.5
comp=Z,2μm,21.9s,MS5.0,baz=157,slow=33
KLBR Kellerberrin 43.18 230 *e*P **P** **13 57 24.3 -0.9**
comp=Z,130nm,0.7s,mb5.8
KLBR *e*pP pP 13 57 37.1 -1.1
MIDW Midway 43.50 35 P **P** **13 57 30.6 +2.8**
comp=Z,358nm,1.3s,mb5.9
MIDW *e*pP pP 13 57 42.4 +1.6
MIDW LR LR
comp=Z,8μm,20.0s,MS5.6
BTM Bintulu 43.95 282 ⇑P **P** **13 57 32.7 +1.0**
NWAO Narrogin (SRO) 44.17 229 *e*P **P** **13 57 32.5 -0.7**
comp=Z,154nm,0.8s,mb5.8
NWAO *e*pP pP 13 57 44.6 -1.5
NWAO LR LR
comp=Z,6μm,20.0s,MS5.5
NWAO Narrogin (SRO) 44.17 229 P **P** **13 57 32.8 -0.4**
NWAO *PP pP 13 57 45.7 -0.5
NWAO pmax pmax
comp=Z,52nm,0.9s
NWAO pmax pmax
comp=Z,165nm,0.7s
NWAO Narrogin (SRO) 44.17 229 P **P** **13 57 32.8 -0.4**
comp=Z,52nm,0.8s,mb5.3,baz=57,slow=7.6,SNR=42
NWAO pP pP 13 57 45.6 -0.5
comp=Z,165nm,0.7s,baz=61,slow=7.5,SNR=34
MUN Mundaring 44.53 231 *e*P **P** **13 57 35.9 -0.2**
MUN *e*pP pP 13 57 47.5 -1.6
MUN *e*S **S** **14 04 07.9 -0.5**
SBUM Sibu 44.62 281 ⇓P **P** **13 57 37.8 +0.7**
RAR Rarotonga 45.05 113 LR LR 14 13 06.1
comp=Z,3μm,21.6s,MS5.1,baz=287,slow=31
NACB Ninganchiao 45.64 314 *e*P **P** **13 57 45.5 +0.5**
NACB *e*pP pP 13 57 57.2 -0.8

YHNB Yeheng 46.10 314 *e*P **P** **13 57 48.7 +0.1**
KSM Kuching 46.30 279 *e*P **P** **13 57 50.3 0.0**
KSM *e*pP pP 13 58 02.6 -0.8
KSM Kuching 46.30 279 ⇓P **P** **13 57 50.6 +0.3**
MJAR Matsushiro Arr 46.41 340 P **P** **13 57 50.4 -0.4**
MJAR *PP pP 13 58 02.4 -1.5
MJAR 13 59 44.0
MJAR pmax pmax
comp=Z,19nm,0.9s
MJAR pmax pmax
comp=Z,39nm,0.8s
MJAR pmax pmax
comp=Z,9.0nm,0.6s
MJAR Matsushiro Arr 46.41 340 P **P** **13 57 50.4 -0.4**
comp=Z,19nm,0.9s,mb5.0,baz=164,slow=7.7,SNR=43
MJAR pP pP 13 58 02.4 -1.5
comp=Z,39nm,0.8s,baz=162,slow=6.3,SNR=21
MJAR PP PP 13 59 44.0 +3.4
comp=Z,8.7nm,0.6s,baz=161,slow=4.5,SNR=4.7
MAJO Matsushiro 46.41 340 *e*P **P** **13 57 50.4 -0.4**
comp=Z,61nm,0.8s,mb5.6
MAJO LR LR
comp=Z,1μm,20.0s,MS4.8
MAJO Matsushiro 46.41 340 *e*P **P** **13 57 50.4 -0.4**
MAJO pmax pmax
comp=Z,61nm,0.8s,mb5.6
MAJO MLR MLR
comp=Z,1μm,20.0s,MS4.8
MAT Matsushiro 46.41 340 P **P** **13 57 50.4 -0.4**
MAT S **S** **14 04 32.0 -3.3**
JNU Nakatsue 46.48 331 P **P** **13 57 52.5 +1.1**
comp=Z,44nm,0.8s,mb5.4,baz=118,slow=9.3,SNR=24
JNU pP pP 13 58 03.5 -1.0
comp=Z,52nm,0.8s,baz=62,slow=5.9,SNR=8.4
JNU LR LR 14 15 03.6
comp=Z,1μm,21.8s,MS4.8,baz=317,slow=33
QZH Quanzhou 48.28 312 P **P** **13 58 06.5 +0.9**
QZH S **S** **14 05 02.0 -0.2**
QZH AMB AMB
comp=Z,70nm,0.8s,mb5.7
QZH AMB AMB
comp=Z,920nm,6.1s
QZH LR LR
comp=N,2μm,14.3s,MS5.4
QZH LR LR
comp=E,2μm,15.2s,MS5.4
QZH LR LR
comp=Z,3μm,24.0s
ERM Erimo 50.18 348 PFAKE 13 58 30.0 +10
ERM LR LR
comp=Z,2μm,19.0s,MS5.2
SSE Sheshan 50.41 321 P **P** **13 58 22.3 +0.6**
SSE AP pP 13 58 34.0 -0.9
SSE S **S** **14 05 30.0 -1.9**
SSE AMB AMB
comp=Z,35nm,0.8s,mb5.4
SSE AMB AMB
comp=Z,361nm,6.8s
SSE LR LR
comp=N,1μm,21.8s,MS4.9
SSE LR LR
comp=E,713nm,22.0s,MS4.9
SSE LR LR
comp=Z,2μm,20.7s,MS5.0
GZH Guangzhou 51.27 307 P **P** **13 58 28.5 +0.2**
GZH S **S** **14 05 45.5 +1.5**
GZH LR LR
comp=N,617nm,25.9s
GZH LR LR
comp=E,2μm,19.6s
GZH LR LR
comp=Z,3μm,25.0s,MS5.2
KSRS Korea Array 51.40 331 P **P** **13 58 29.6 +0.6**
comp=Z,28nm,0.8s,mb5.2,baz=149,slow=8.1,SNR=107
KSRS pP pP 13 58 41.9 -0.3
comp=Z,58nm,1.0s,baz=144,slow=7.2,SNR=15
KSRS LR LR 14 19 10.5
comp=Z,450nm,20.9s,MS4.5,baz=142,slow=35
INCN Inchon 52.05 330 *e*P **P** **13 58 34.7 +0.9**
comp=Z,413nm,1.7s,mb6.1
INCN *e*pP pP 13 58 47.0 -0.1
INCN LR LR
comp=Z,2μm,21.0s,MS5.1
QIZ Qiongzhong 52.27 300 P **P** **13 58 36.5 +0.6**
QIZ S **S** **14 05 52.8 -5.1**
QIZ AMB AMB
comp=Z,70nm,1.2s,mb5.5
QIZ LR LR
comp=E,1μm,28.3s
QIZ LR LR
comp=Z,3μm,27.9s,MS5.2
QIZ Qiongzhong 52.27 300 *e*P **P** **13 58 37.1 +1.2**
comp=Z,350nm,0.9s,mb6.3
QIZ *e*pP pP 13 58 49.2 +0.1
QIZ LR LR
comp=Z,2μm,22.0s,MS5.2
ASAJ Asahikawa 52.31 348 P **P** **13 58 37.3 +1.6**
ASAJ *PP pP 13 58 50.6 +1.7
ASAJ pmax pmax
comp=Z,38nm,0.9s
ASAJ pmax pmax
comp=Z,70nm,0.7s
ASAJ Asahikawa 52.31 348 P **P** **13 58 37.3 +1.6**
comp=Z,38nm,0.9s,mb5.3,baz=243,slow=15,SNR=11
ASAJ pP pP 13 58 50.6 +1.7
comp=Z,70nm,0.7s,baz=206,slow=11,SNR=12
ASAJ LR LR 14 20 15.6
comp=Z,2μm,19.4s,MS5.2,baz=178,slow=35
NJ2 Nanjing 52.53 320 *e*P **P** **13 58 39.0 +1.4**
NJ2 AP pP 13 58 50.3 -0.5
NJ2 PP PP 14 00 39.0 +2.0
NJ2 S **S** **14 06 01.0 0.0**
NJ2 AMB AMB
comp=Z,60nm,1.2s,mb5.4
NJ2 AMB AMB
comp=Z,1μm,4.2s
NJ2 LR LR
comp=Z,15μm,12.2s,MS6.2
MYKOM Kota Tinggi 52.70 278 ⇓P **P** **13 58 39.1 -0.1**
KGM Kluang 53.26 278 ⇓P **P** **13 58 43.2 -0.1**
KIP Kipapa 53.30 57 PFAKE 13 58 50.0 +6.6
KIP LR LR
comp=Z,5μm,21.0s,MS5.5
KTGM Kuala Trenggan 54.09 282 ⇓P **P** **13 58 49.5 0.0**
PPT Papeete 54.10 107 *e*S **S** **14 06 20.2 -2.7**
comp=Z,1μm,26.5s
PPT *e*LQ 14 12 03.9
comp=Z,3μm,25.0s
PPT *e*LR LR 14 14 19.3
comp=Z,3μm,22.2s,baz=276
PPT Papeete 54.10 107 *e*P **P** **13 58 49.7 +0.3**
PPT Papeete 54.10 107 P **P** **13 58 51.1 +1.6**
comp=Z,27nm,0.7s,mb5.3,baz=307,slow=8.7,SNR=6.4
PPT LR LR 14 17 04.1
comp=Z,2μm,21.3s,MS5.1,baz=276,slow=31
PAE Paea 54.11 107 *e*P **P** **13 58 50.5 +1.1**
comp=Z,77nm,0.9s,mb5.6
PAE Paea 54.11 107 *e*P **P** **13 58 50.5 +1.1**
PAE pmax pmax
comp=Z,77nm,0.9s,mb5.6
KHU Kahuku 54.40 60 *e*P **P** **13 58 52.0 +0.5**
TVO Taravao 54.43 107 *e*P **P** **13 58 53.2 +1.4**
comp=Z,122nm,0.8s,mb5.9
TVO Taravao 54.43 107 *e*P **P** **13 58 53.2 +1.4**
TVO pmax pmax
comp=Z,122nm,0.8s,mb5.9
VLA Vladivostok 54.47 339*d* *i*P **P** **13 58 52.2 +0.6**
VLA pmax pmax
comp=Z,165nm,2.0s,mb5.6
VLA MLR MLR
comp=Z,1μm,28.0s,MS4.8
WHN Wuhan 54.61 315 ⇑P **P** **13 58 53.5 +0.7**
WHN AP pP 13 59 05.5 -0.6
WHN S **S** **14 06 28.0 -1.3**
WHN AMB AMB
comp=Z,1μm,7.8s
WHN LR LR
comp=Z,3μm,20.1s,MS5.3
POHA Pohakuloa 54.68 60 PFAKE 13 59 10.0 +16
POHA LR LR
comp=Z,5μm,20.0s,MS5.6
TBI Tubuai 54.82 114 *e*P **P** **13 58 55.1 +0.6**
comp=Z,287nm,1.2s,mb6.2
TBI *e*S **S** **14 06 30.1 -2.3**
comp=Z,633nm,28.5s
TBI *e*LQ 14 12 27.7
comp=Z,4μm,37.8s
TBI *e*LR LR 14 14 45.6
comp=Z,8μm,29.2s,baz=284
TBI Tubuai 54.82 114 *e*P **P** **13 58 55.1 +0.6**
comp=Z,287nm,1.2s,mb6.2
TBI *e*S **S** **14 06 30.1 -2.3**
TBI *e*LQ 14 12 27.7
YSS Yuzh-Sakhalins 55.00 349 *e*P **P** **13 58 56.1 +0.8**
comp=Z,107nm,0.8s,mb5.9
YSS *e*pP pP 13 59 09.3 +0.6
YSS Yuzh-Sakhalins 55.00 349⇑*e*P **P** **13 58 56.0 +0.7**
YSS *e**PP pP 13 59 09.6 +1.0
YSS *e**SP sP 13 59 16.9 +2.7
YSS *e* 13 59 50.0
YSS *e*PPP 14 02 17.0
YSS *e*S **S** **14 06 34.0 +0.1**
YSS *e*PS 14 06 42.0
YSS *e*SS SS 14 10 22.0 +3.6
YSS pmax pmax
comp=Z,50nm,1.0s,mb5.5
YSS pmax pmax
comp=N,20nm,0.9s
YSS MLR MLR
comp=N,2μm,19.0s,MS5.2
YSS MLR MLR
comp=E,1μm,19.0s,MS5.2
YSS MLR MLR
comp=Z,2μm,19.0s,MS5.2
UBT Ubonrachathani 55.08 294 ⇑P pP 13 59 10.0 +0.2
comp=Z,694nm,0.6s
FRIM Kepong 55.15 279 ⇑P **P** **13 58 56.7 -0.3**
PMOR Pomariorio Ree 55.59 103 *e*P **P** **13 59 01.5 +1.3**
comp=Z,218nm,1.0s,mb6.1
DL2 Dalian 55.68 328⇑*i*P **P** **13 59 01.0 +0.6**
DL2 AP pP 13 59 13.0 -0.7
DL2 S **S** **14 06 41.3 -2.0**
DL2 SS SS 14 10 26.8 -2.7
DL2 AMB AMB
comp=Z,40nm,0.8s,mb5.5
DL2 AMB AMB
comp=Z,210nm,6.9s
DL2 LR LR
comp=N,530nm,21.2s,MS4.7
DL2 LR LR
comp=E,430nm,20.5s,MS4.7
DL2 LR LR
comp=Z,1μm,23.9s,MS5.0
VAH Vaihoa 55.85 104 *e*P **P** **13 59 03.1 +1.0**
comp=Z,117nm,1.0s,mb5.9
IPM Ipoh 55.97 280 ⇓P **P** **13 59 02.8 -0.2**
TIA Tai'an 56.35 322 *e*P **P** **13 59 05.0 -0.2**
TIA AMB AMB
comp=Z,31nm,1.0s,mb5.3
KULM Kulim 56.50 281 *e*P **P** **13 59 05.9 -0.9**
KULM *e*pP pP 13 59 18.5 -1.7
KULM Kulim 56.50 281 ⇓P **P** **13 59 06.3 -0.5**
MDJ Mudanjiang 56.61 338 P **P** **13 59 07.5 +0.6**
MDJ AP pP 13 59 19.8 -0.5
MDJ PP PP 14 01 14.0 +0.6
MDJ SCP ScP 14 03 59.0 +0.4
MDJ PCS PcS 14 04 03.5 +0.1
MDJ S **S** **14 06 59.0 +3.5**
MDJ AMB AMB
comp=Z,37nm,1.1s,mb5.3
MDJ AMB AMB
comp=Z,445nm,5.2s
MDJ LR LR
comp=N,660nm,18.0s,MS4.9
MDJ LR LR
comp=E,767nm,19.8s,MS4.9
MDJ LR LR
comp=Z,1μm,18.0s,MS5.0
MDJ Mudanjiang 56.61 338 *e*P **P** **13 59 07.5 +0.5**
comp=Z,179nm,1.5s,mb5.9
MDJ *e*pP pP 13 59 20.4 +0.1
MDJ LR LR
comp=Z,1μm,21.0s,MS5.0
SNY Shenyang 56.91 331 ⇑P **P** **13 59 09.3 +0.2**
SNY S **S** **14 06 56.5 -3.0**
SNY AMB AMB
comp=Z,30nm,1.2s,mb5.2
SNY LR LR
comp=N,532nm,16.8s,MS5.0
SNY LR LR
comp=E,780nm,18.0s,MS5.0
SNY LR LR
comp=Z,1μm,18.6s,MS5.0
SNG Songkhla 56.94 283 P **P** **13 59 09.0 -0.9**
comp=Z,480nm,1.0s,mb6.5
CN2 Changchun 57.61 334 *e*P **P** **13 59 14.5 +0.5**
CN2 *e*AP pP 13 59 26.8 -0.6
CN2 *e*PP PP 14 01 24.0 +1.6
CN2 *e*S **S** **14 07 07.3 -1.4**
CN2 *e*SS SS 14 11 00.5 +0.8
CN2 AMB AMB
comp=Z,40nm,0.8s,mb5.5
CN2 AMB AMB
comp=Z,600nm,5.0s
CN2 LR LR
comp=N,900nm,19.0s,MS5.0
CN2 LR LR
comp=E,800nm,19.0s,MS5.0
CN2 LR LR
comp=Z,2μm,23.0s,MS5.1
PSI Prapat 57.72 278 P **P** **13 59 16.3 +0.9**
PSI pmax pmax
comp=Z,16nm,1.0s,mb5.0
PSI Prapat 57.72 278 P **P** **13 59 16.3 +0.9**
comp=Z,16nm,0.9s,mb5.0,baz=157,slow=5.9,SNR=7.3
GYA Guiyang 58.21 307⇑*i*P **P** **13 59 18.0 -0.5**
GYA AP pP 13 59 31.8 -0.2
GYA PCP PcP 14 00 11.0 +1.4
GYA PP PP 14 01 32.0 +4.0
GYA PPP 14 02 54.8
GYA SCP ScP 14 04 06.0 -0.1
GYA PCS PcS 14 04 11.0 -0.2
GYA S **S** **14 07 11.5 -5.6**
GYA SCS ScS 14 09 02.5 -2.1
GYA SS SS 14 11 11.5 +1.8
GYA SSS 14 13 34.0
GYA AMB AMB
comp=Z,60nm,0.8s,mb5.7
GYA AMB AMB
comp=Z,240nm,6.4s
GYA LR LR
comp=N,2μm,22.7s,MS5.3
GYA LR LR
comp=E,2μm,20.4s,MS5.3
GYA LR LR
comp=Z,2μm,22.2s,MS5.2
HABR Khabarovsk 58.23 344⇓*e*P **P** **13 59 18.2 0.0**
HABR *e**PP pP 13 59 31.5 -0.2
HABR *e**SP sP 13 59 35.9 -1.3
HABR *e* 14 00 09.3
HABR *e* 14 01 27.8
HABR *e*S **S** **14 07 18.1 +1.5**
HABR *e**SS sS 14 07 42.3 +3.3
HABR *e* 14 09 01.4
HABR pmax pmax
comp=Z,101nm,1.6s,mb5.6
COCO West Island 58.40 260 *e*P **P** **13 59 20.9 +0.7**
comp=Z,597nm,1.4s,mb6.4
COCO LR LR
comp=Z,2μm,20.0s,MS5.2
NNT Nongplab 59.15 289 P **P** **13 59 26.0 +0.7**
BJT Baijiatuau 59.46 325 *e*P **P** **13 59 27.1 +0.1**
comp=Z,19nm,0.6s,mb5.3
BJT LR LR
comp=Z,2μm,22.0s,MS5.2
BJT Baijiatuau 59.46 325 *e*P **P** **13 59 27.1 +0.2**
BJT pmax pmax
comp=Z,19nm,0.6s
BJT MLR MLR
comp=Z,2μm,22.0s
BJI Beijing 59.47 325 P **P** **13 59 26.5 -0.5**
BJI PP PP 14 01 41.5 +2.6
BJI S **S** **14 07 38.0 +5.0**
BJI SS SS 14 11 32.0 +3.0
BJI AMB AMB
comp=Z,29nm,1.2s,mb5.2
BJI AMB AMB
comp=Z,609nm,4.2s
BJI LR LR
comp=N,882nm,23.8s,MS5.1
BJI LR LR

comp=E,1μm,21.9s,MS5.1
BJI LR LR
comp=Z,2μm,36.9s
PKT Phuket 59.49 284 P **P** **13 59 20.5 -7.2**
NST Nakhon Sawan 59.67 293 ⇓P pP 13 59 42.0 -0.3
comp=Z,500nm,0.7s
PET Petropavlovsk 59.86 2 *e*P **P** **13 59 29.7 +0.3**
comp=Z,113nm,1.0s,mb5.8
PET *ep*P pP 13 59 43.4 +0.5
PET LR LR
comp=Z,3μm,22.0s,MS5.4
PET Petropavlovsk 59.86 2 *i* P **P** **13 59 30.0 +0.6**
PET pmax pmax
comp=Z,35nm,0.9s,mb5.4
PET MLR MLR
comp=Z,1μm,16.0s,MS5.1
KLR Kul'dur 59.87 342 *e*P **P** **13 59 26.8 -2.8**
KLR *e* pP 13 59 38.8 -4.3
KLR *e*S **S** **14 07 38.5 +0.6**
KLR pmax pmax
comp=E,35nm,1.8s
KLR pmax pmax
comp=Z,120nm,1.8s,mb5.6
KLR pmax pmax
comp=N,500nm,7.5s
KLR pmax pmax
comp=Z,1μm,7.5s
KLR MLR MLR
comp=N,600nm,13.0s
KLR MLR MLR
comp=Z,1μm,13.0s,MS5.2
NANT Nan 60.17 296 ⇑P **P** **13 59 30.0 -2.3**
comp=Z,1μm,1.0s
TIY Taiyuan 60.19 321 ⇑*i*P **P** **13 59 32.3 +0.2**
TIY S **S** **14 07 42.5 +0.1**
TIY AMB AMB
comp=Z,682nm,6.3s
TIY LR LR
comp=N,1μm,16.8s,MS5.2
TIY LR LR
comp=E,609nm,13.9s,MS5.2
TIY LR LR
comp=Z,2μm,20.9s
XAN Xi'an 60.37 316 P **P** **13 59 33.0 -0.3**
XAN PCS PcS 14 04 23.5 +3.0
XAN SCS ScS 14 09 15.0 -5.3
XAN AMB AMB
comp=Z,35nm,1.1s,mb5.3
XAN LR LR
comp=N,438nm,27.5s,MS5.0
XAN LR LR
comp=E,1μm,23.4s,MS5.0
XAN LR LR
comp=Z,2μm,23.7s,MS5.2
DRV Dumont d'Urvil 60.55 187 P **P** **13 59 39.0 +5.0**
DRV Dumont d'Urvil 60.55 187 PP PP 14 02 00.0 +12
DRV S **S** **14 07 58.0 +12**
DRV SS SS 14 11 55.0 +10
DRV L 14 15 00.0
KMI Kunming 60.80 304 P **P** **13 59 37.5 +1.0**
KMI AP pP 13 59 50.0 +0.1
KMI PP PP 14 01 52.8 +1.8
KMI PPP 14 03 18.8
KMI S **S** **14 07 49.8 -0.8**
KMI SS SS 14 11 49.5 -1.0
KMI SSS 14 14 28.0
KMI AMB AMB
comp=Z,30nm,1.0s,mb5.4
KMI AMB AMB
comp=Z,585nm,6.8s
KMI LR LR
comp=N,449nm,20.3s,MS5.1
KMI LR LR
comp=E,2μm,22.6s,MS5.1
KMI LR LR
comp=Z,2μm,22.6s,MS5.3
CM31 Chiang Mai Arr 61.63 295 PFAKE 13 59 50.0 +7.8
CM31 LR LR
comp=Z,706nm,22.0s,MS4.8
CHG Chiang Mai 61.75 296 ⇑P **P** **13 59 43.5 +0.5**
comp=Z,312nm,1.1s,mb6.3
CHTO Chiang Mai 61.75 296 *e*P **P** **13 59 43.2 +0.2**
comp=Z,613nm,1.4s,mb6.5
CHTO *ep*P pP 13 59 56.3 -0.2
CHTO LR LR
comp=Z,757nm,22.0s,MS4.8
CHTO Chiang Mai 61.75 296 *e*P **P** **13 59 43.2 +0.2**
CHTO *e**PP pP 13 59 56.3 -0.2
CHTO pmax pmax
comp=Z,613nm,1.4s,mb6.5
CHTO MLR MLR
comp=Z,757nm,22.0s,MS4.8
CD2 Chengdu 62.54 310 P **P** **13 59 48.3 +0.2**
CD2 PP PP 14 02 06.3 +0.1
CD2 PCS PcS 14 04 28.5 -1.8
CD2 S **S** **14 08 11.5 -0.9**
CD2 SCS ScS 14 09 33.3 -3.5
CD2 SS SS 14 12 17.5 0.0
CD2 AMB AMB
comp=Z,120nm,0.7s,mb6.1
CD2 AMB AMB
comp=Z,700nm,7.5s
CD2 LR LR
comp=N,2μm,21.6s,MS5.4
CD2 LR LR
comp=E,3μm,25.2s,MS5.4
CD2 LR LR
comp=Z,2μm,25.8s,MS5.2
HHC Hu-ho-hao-te 62.66 323 ⇑*i*P **P** **13 59 49.5 +0.8**
HHC AP pP 14 00 02.5 +0.3
HHC XP sP 14 00 09.8 +2.1
HHC PP PP 14 02 12.0 +4.9
HHC SCP ScP 14 04 24.5 -1.0
HHC PCS PcS 14 04 31.0 +0.5
HHC S **S** **14 08 14.5 +0.8**
HHC SCS ScS 14 09 32.5 -4.8
HHC SS SS 14 12 23.5 +4.4
HHC AMB AMB
comp=Z,58nm,0.8s,mb5.8
HHC AMB AMB
comp=Z,611nm,5.5s
HHC LR LR
comp=N,962nm,20.6s,MS5.0
HHC LR LR
comp=E,782nm,21.6s,MS5.0
HHC LR LR
comp=Z,1μm,22.1s,MS5.1
ADK Adak 63.19 19 *e*P **P** **13 59 51.6 -0.4**
comp=Z,114nm,1.0s,mb6.0
ADK *ep*P pP 14 00 05.9 +0.4
ADK Adak 63.19 19 *e*P **P** **13 59 51.6 -0.4**
ADK *e**PP pP 14 00 05.9 +0.4
ADK pmax pmax
comp=Z,114nm,1.0s,mb6.0
TAOE Nuku Hiva Isla 63.27 96 *e*LR LR 14 18 41.9
comp=Z,71μm,22.0s
BTO Baotou 63.44 322 *e*P **P** **13 59 54.0 +0.2**
BTO AMB AMB
comp=Z,14nm,0.8s,mb5.1
HIA Hailar 64.34 335 *e*P **P** **14 00 00.1 +0.5**
comp=Z,159nm,1.1s,mb6.0
HIA *ep*P pP 14 00 12.9 -0.3
HIA LR LR
comp=Z,1μm,20.0s,MS5.1
HIA Hailar 64.34 335 *e*P **P** **14 00 00.1 +0.5**
HIA *e**PP pP 14 00 12.9 -0.3
HIA pmax pmax
comp=Z,159nm,1.1s
HIA MLR MLR
comp=Z,1μm,20.0s
LZH Lanzhou 64.98 315 *e*P **P** **14 00 05.3 +1.2**
LZH PCP PcP 14 00 37.3 +0.5
LZH PP PP 14 02 30.5 +2.9
LZH *e*S **S** **14 08 44.0 +1.3**
LZH SCS ScS 14 09 50.3 -4.9
LZH AMB AMB
comp=Z,42nm,1.0s,mb5.4
LZH AMB AMB
comp=Z,623nm,5.4s
LZH LR LR
comp=E,2μm,17.4s
LZH LR LR
comp=Z,2μm,18.7s,MS5.4
MA2 Magadan 66.51 357 *e*P **P** **14 00 12.3 -1.1**
comp=Z,63nm,0.9s,mb5.7
MA2 *ep*P pP 14 00 27.8 +0.8
MA2 LR LR
comp=Z,2μm,21.0s,MS5.2
MA2 Magadan 66.51 357 *e*P **P** **14 00 12.0 -1.4**
MA2 *e**PP pP 14 00 28.8 +1.8
MA2 *e*S S 14 08 59.2 -1.1
MA2 *e* 14 09 55.3
MA2 pmax pmax
comp=Z,30nm,0.8s,mb5.4
MA2 MLR MLR
comp=Z,1μm,20.1s,MS5.2
CASY Casey 66.85 198 *e*P **P** **14 00 15.1 -0.5**
CASY *ep*P pP 14 00 28.0 -1.2
RKT Rikitea 68.07 112 *e*P **P** **14 00 24.5 +0.4**
comp=Z,88nm,0.9s,mb5.8
RKT *e*S S 14 09 19.0 -1.6
comp=Z,355nm,28.8s
RKT *e*LQ 14 18 01.4
comp=Z,2μm,35.5s
RKT *e*LR LR 14 20 53.9
comp=Z,7μm,28.5s,baz=280
RKT Rikitea 68.07 112 *e*P **P** **14 00 24.5 +0.4**
comp=Z,88nm,0.9s,mb5.8
RKT *e*S S 14 09 19.0 -1.6
RKT *e*LQ 14 18 01.4
RKT Rikitea 68.07 112 *e*P **P** **14 00 24.5 +0.4**
RKT *e*S S 14 09 19.0 -1.6
RKT pmax pmax
comp=Z,88nm,0.9s,mb5.8
IMP Imphal 68.10 300 *e*P **P** **14 00 24.0 -0.2**
IMP *ex* x 14 01 02.0
GTA Gaotai 69.39 317 P **P** **14 00 33.0 +1.0**
GTA AP pP 14 00 45.5 -0.2
GTA PP PP 14 03 08.3 +2.4
GTA S S 14 09 34.8 -0.8
GTA SCS ScS 14 10 27.5 -1.9
GTA SS SS 14 14 02.8 -0.9
GTA AMB AMB
comp=Z,23nm,1.3s,mb5.0
GTA AMB AMB
comp=Z,533nm,7.6s
GTA LR LR
comp=N,673nm,22.1s,MS5.0
GTA LR LR
comp=E,954nm,25.1s,MS5.0
GTA LR LR
comp=Z,2μm,24.7s,MS5.2
ULN Ulaanbaatar 69.53 327 *e*P **P** **14 00 33.8 +1.2**
comp=Z,126nm,0.9s,mb5.8
ULN *ep*P pP 14 00 46.6 +0.3
ULN Ulaanbaatar 69.53 327 P **P** **14 00 34.0 +1.4**
ULN pmax pmax
comp=Z,130nm,0.9s,mb5.9
SEY Seymchan 69.81 358 ⇑*e*P **P** **14 00 34.2 +0.2**
SONM Songino Array 69.86 327 P **P** **14 00 35.9 +1.3**
SONM *PP pP 14 00 47.9 -0.5
SONM pmax pmax
comp=Z,129nm,0.8s
SONM pmax pmax
comp=Z,52nm,0.8s
SONM pmax pmax
comp=Z,4.0nm,1.0s
SONM Songino Array 69.86 327 P **P** **14 00 35.9 +1.2**
comp=Z,129nm,0.8s,mb5.9,baz=136,slow=6.4,SNR=734
SONM pP pP 14 00 47.9 -0.4
comp=Z,52nm,0.8s,baz=170,slow=0.9,SNR=8.1
SONM PKPPKP 14 28 39.7
comp=Z,4.1nm,1.0s,baz=282,slow=3.2,SNR=21
SONM LR LR 14 30 50.7
comp=Z,1μm,21.6s,MS5.1,baz=133,slow=36
SHL Shillong 70.11 300 ⇑*i*P **P** **14 00 37.0 +0.4**
SHL *ex* x 14 10 01.0
VNDA Vanda 70.53 179 *e*P **P** **14 00 38.4 +0.1**
comp=Z,108nm,1.0s,mb5.7
VNDA *ep*P pP 14 00 51.7 -0.4
VNDA Vanda 70.53 179 P **P** **14 00 38.5 +0.2**
VNDA *PP pP 14 00 53.8 +1.8
VNDA pmax pmax
comp=Z,13nm,0.9s
VNDA pmax pmax
comp=Z,75nm,0.9s
VNDA Vanda 70.53 179 P **P** **14 00 38.5 +0.2**
comp=Z,13nm,0.9s,mb4.9,baz=337,slow=6.6,SNR=38
VNDA pP pP 14 00 53.8 +1.7
comp=Z,75nm,0.9s,baz=338,slow=6.5,SNR=40
VNDA LR LR 14 25 58.7
comp=Z,2μm,20.9s,MS5.4,baz=181,slow=31
SBA Scott Base 71.02 178 *e*P **P** **14 00 42.3 +1.0**
comp=Z,416nm,1.7s,mb6.1
SBA *ep*P pP 14 00 55.0 -0.1
SBA Scott Base 71.02 178 *e*P **P** **14 00 42.3 +1.0**
SBA *e**PP pP 14 00 55.0 0.0
SBA pmax pmax
comp=Z,416nm,1.7s,mb6.1
YAK Yakutsk 71.78 347 *e*P **P** **14 00 46.0 0.0**
comp=Z,230nm,1.0s,mb6.1
YAK *ep*P pP 14 01 00.2 +0.4
YAK Yakutsk 71.78 347 *e*P **P** **14 00 46.2 +0.2**
YAK *e**PP pP 14 00 58.7 -1.1
YAK *e*S S 14 10 02.3 -0.2
YAK *e* 14 10 43.8
YAK *e*SS SS 14 14 34.7 -4.8
YAK pmax pmax
comp=Z,24nm,1.1s,mb5.0
YAK pmax pmax
comp=N,13nm,1.5s
YAK pmax pmax
comp=E,6.0nm,1.3s
YAK pmax pmax
comp=Z,139nm,2.9s,mb5.4
YAK pmax pmax
comp=N,55nm,2.0s
YAK pmax pmax
comp=E,87nm,2.5s
YAK smax
comp=N,542nm,6.0s
YAK smax
comp=Z,191nm,4.2s
YAK smax
comp=E,321nm,4.8s
YAK MLR MLR
comp=Z,1μm,21.0s,MS5.1
YAK MLR MLR
comp=N,732nm,18.0s,MS5.0
YAK MLR MLR
comp=E,496nm,21.0s,MS5.0
LSA Lhasa 72.05 304 P **P** **14 00 49.0 +0.7**
LSA PP PP 14 03 34.8 +5.8
LSA S S 14 09 57.5 -9.4
LSA LR LR
comp=E,930nm,24.8s
LSA LR LR
comp=Z,2μm,25.5s,MS5.2
LSA Lhasa 72.05 304 *e*P **P** **14 00 49.5 +1.1**
comp=Z,176nm,1.1s,mb5.9
LSA *ep*P pP 14 01 02.4 +0.2
LSA LR LR
comp=Z,384nm,21.0s,MS4.7
LSA Lhasa 72.05 304 *e*P **P** **14 00 49.5 +1.2**
LSA *e**PP pP 14 01 02.4 +0.3
LSA pmax pmax
comp=Z,176nm,1.1s,mb5.9
LSA MLR MLR
comp=Z,384nm,21.0s,MS4.7
CAL Calcutta 72.33 296 *ex* x 14 00 44.5
BOD Bodaibo 72.98 338 *i* P **P** **14 00 52.6 -0.7**
BOD *e* pP 14 01 04.7 -2.4
BOD pmax pmax
comp=Z,23nm,1.6s,mb4.9
BOD pmax pmax
comp=Z,68nm,1.5s,mb5.4
ZAK Zakamensk 73.01 328 ⇓*i*P **P** **14 00 53.9 +0.3**
ZAK *e* pP 14 01 06.6 -0.8
ZAK pmax pmax
comp=Z,49nm,1.0s,mb5.4
ZAK pmax pmax
comp=Z,58nm,1.3s,mb5.3
MIR Mirnyy 73.01 202 ⇑*i*P **P** **14 00 54.0 +0.7**
MIR pmax pmax
comp=Z,300nm,1.5s,mb6.0
TLY Talaya 73.56 329 P **P** **14 00 57.3 +0.5**
comp=Z,288nm,1.0s,mb6.2,SNR=8.1
TLY Talaya 73.56 329 *e*P **P** **14 00 57.1 +0.4**
TLY *ep*P pP 14 01 10.3 -0.3
TLY Talaya 73.56 329 *c i*P **P** **14 00 57.3 +0.5**
TLY *e* pP 14 01 08.8 -1.8
TLY *e*S S 14 10 20.4 -2.8
TLY *e* 14 10 57.4
TLY pmax pmax
comp=Z,47nm,0.9s,mb5.4
IRK Irkutsk 73.57 330 ⇑*i*P **P** **14 00 56.0 -0.8**
IRK *e* pP 14 01 09.3 -1.4
IRK pmax pmax
comp=Z,124nm,0.8s,mb5.9
GAMB Gambell 74.71 14 *e*P **P** **14 01 03.6 +0.3**
comp=Z,11nm,1.1s,mb4.7
GAMB *ep*P pP 14 01 17.4 +0.3
BOK Bokaro 74.83 297 *e*P **P** **14 01 05.1 +0.3**
BOK AMb AMB 14 01 07.0
comp=Z,137nm,1.2s,mb5.8
BOK *ex* x 14 10 34.2
MOY Mondy 74.92 328 *e*P **P** **14 01 05.7 +1.0**
MOY pmax pmax
comp=Z,173nm,1.8s,mb5.7
BILL Bilibino 75.24 4 *e*P **P** **14 01 06.7 +0.4**
comp=Z,263nm,1.2s,mb6.0
BILL *ep*P pP 14 01 20.4 +0.3
BILL LR LR
comp=Z,1μm,22.0s,MS5.2
BILL Bilibino 75.24 4 *c i*P **P** **14 01 06.6 +0.4**
BILL *e* pP 14 01 21.0 +0.9
BILL pmax pmax
comp=Z,45nm,0.9s,mb5.4
BILL MLR MLR
comp=Z,2μm,24.0s,MS5.2
VIS Vishakhapatnam 75.75 290 *e*P **P** **14 01 10.4 +0.2**
VIS AMb AMB 14 01 13.5
comp=Z,159nm,1.4s,mb5.8
VIS *e*S S 14 10 49.5 +0.6
PALK Pallekele 76.36 279 P **P** **14 01 14.6 +0.8**
comp=Z,352nm,1.6s,mb6.0,SNR=8.8
PALK Pallekele 76.36 279 *e*P **P** **14 01 13.9 +0.1**
comp=Z,565nm,1.5s,mb6.3
PALK *ep*P pP 14 01 25.7 -1.9
PALK LR LR
comp=Z,829nm,20.0s,MS5.0
KDAK Kodiak Island 76.79 26 PFAKE 14 01 30.0 +15
KDAK LR LR
comp=Z,583nm,19.0s,MS4.9
KDAK Kodiak Island 76.79 26 pP pP 14 01 32.4 +3.2
comp=Z,27nm,1.0s,baz=282,slow=4.1,SNR=6.1
TNA Tin City 77.11 15 P **P** **14 01 14.9 -2.0**
comp=Z,29nm,0.8s,mb5.3
SVW2 Sparrevohn 77.68 22 *e*P **P** **14 01 20.6 +0.5**
SVW2 *ep*P pP 14 01 32.9 -1.1
MDRS Chennai 77.76 285 ⇑*e*P **P** **14 01 20.5 -1.1**
BLSP Bilaspur 77.80 294 *e*P **P** **14 01 21.2 -0.5**
BLSP AMb AMB 14 01 22.3
comp=Z,178nm,0.7s,mb6.1
TTA Tatalina 78.73 20 *e*P **P** **14 01 23.9 -2.0**
comp=Z,91nm,1.3s,mb5.5
TTA *ep*P pP 14 01 39.3 -0.5
TTA Tatalina 78.73 20 *e*P **P** **14 01 23.9 -2.0**
TTA *e**PP pP 14 01 39.3 -0.6
TTA pmax pmax
comp=Z,91nm,1.3s,mb5.5
SLKM Skilak Lake 79.39 24 *e*P **P** **14 01 29.2 -0.3**
SLKM *ep*P pP 14 01 43.0 -0.5
WMQ Urumqi 79.48 317 ⇑*i*P **P** **14 01 30.8 +0.3**
WMQ AP pP 14 01 44.0 -0.4
WMQ PP PP 14 04 33.0 +1.6
WMQ PPP 14 06 23.0
WMQ S S 14 11 27.0 -1.3
WMQ SKS 14 11 38.0
WMQ SS SS 14 16 38.0 +1.1
WMQ AMB AMB
comp=Z,47nm,1.3s,mb5.3
WMQ AMB AMB
comp=Z,942nm,5.3s
WMQ LR LR
comp=N,573nm,15.5s
WMQ LR LR
comp=E,842nm,23.8s
WMQ LR LR
comp=Z,2μm,26.4s
KOD Kodaikanal 79.98 282 *e*P **P** **14 01 35.0 +1.2**
HYB Hyderabad 80.15 289 *e*P **P** **14 01 34.0 -0.7**
comp=Z,150nm,1.0s,mb5.9
HYB *e* 14 01 38.0
HYB *e* pP 14 01 45.0 -3.6
HYB *e*S S 14 11 32.0 -4.4
HYB Hyderabad 80.15 289 *e*P **P** **14 01 34.0 -0.7**
HYB *e* pP 14 01 45.0 -3.6
HYB *e*S S 14 11 32.0 -4.4
HYB pmax pmax
comp=Z,150nm,1.0s,mb5.9
HYB Hyderabad 80.15 289 *i* P **P** **14 01 34.0 -0.7**
comp=Z,150nm,1.0s,mb5.9
HYB *e*PcP PcP 14 01 42.5 +0.6
HYB *e* pP 14 01 45.0 -3.6
HYB *e*S S 14 11 35.0 -1.4
TRD Trivandrum 80.21 280 *e*P **P** **14 01 36.1 +1.0**
NGP Nagpur 80.40 293 *e*P **P** **14 01 35.2 -0.7**
NGP *ex* x 14 01 36.9
comp=Z,183nm,1.5s
NGP *ex* x 14 11 35.2
PMR Palmer 80.44 23 *e*P **P** **14 01 33.8 -1.5**
comp=Z,84nm,1.3s,mb5.5
PMR LR LR
comp=Z,2μm,21.0s,MS5.4
PMR Palmer 80.44 23 *e*P **P** **14 01 33.8 -1.5**
PMR pmax pmax
comp=Z,84nm,1.3s,mb5.5
PMR MLR MLR
comp=Z,2μm,21.0s,MS5.4
TIXI Tiksi 80.52 352 *e*P **P** **14 01 34.3 -1.1**
comp=Z,134nm,1.6s,mb5.6
TIXI *ep*P pP 14 01 47.8 -1.7
TIXI LR LR
comp=Z,1μm,20.0s,MS5.2
TIXI Tiksi 80.52 352 *e*P **P** **14 01 34.1 -1.4**
TIXI *e*S S 14 11 36.3 -1.9
TIXI *e*SS SS 14 16 47.4 -3.9
TIXI pmax pmax
comp=Z,26nm,1.6s,mb4.9
TIXI MLR MLR
comp=Z,477nm,17.0s,MS4.9
SML Sawmill 80.88 23 *e*P **P** **14 01 33.0 -4.6**
SML *ep*P pP 14 01 51.0 -0.6
LGTI Lohaghat 81.10 301 *e*P **P** **14 01 39.0 -0.5**
PTH Pithoragarh 81.15 301 *e*P **P** **14 01 40.0 +0.2**
IMA2 Indian Mountai 81.53 19 *e*P **P** **14 01 40.7 -0.3**
IMA2 *ep*P pP 14 01 53.7 -1.3
DIV Divide 81.55 25 P **P** **14 01 41.5 +0.4**
comp=Z,65nm,1.3s,mb5.4
DIV LR LR
comp=Z,7μm,22.0s,MS6.0
MCK McKinley 81.74 22 *e*P **P** **14 01 40.7 -1.4**
comp=Z,99nm,1.0s,mb5.7
MCK *ep*P pP 14 01 55.2 -1.0
MCK LR LR
comp=Z,2μm,21.0s,MS5.5
MCK McKinley 81.74 22 *e*P **P** **14 01 40.7 -1.4**
MCK *e**PP pP 14 01 55.2 -0.9
MCK pmax pmax
comp=Z,99nm,1.0s,mb5.7
MCK MLR MLR
comp=Z,2μm,21.0s,MS5.5
AKL Akola 82.18 292 *i* P **P** **14 01 44.9 -0.5**
AKL *i* x x 14 12 15.6
LATR Latur 82.20 290 *e*P **P** **14 01 45.1 -0.4**
LATR AMb AMB 14 01 59.3
comp=Z,345nm,2.1s,mb5.9
BHPL Bhopal 82.28 295 *e*P **P** **14 01 45.1 -0.8**
BHPL AMb AMB 14 01 48.1
comp=Z,169nm,0.9s,mb6.0
BHPL *ex* x 14 11 52.2
DGAR Diego Garcia 82.68 263 PFAKE 14 02 00.0 +12
DGAR LR LR
comp=Z,2μm,22.0s,MS5.4
COLA College 82.77 21 *e*P **P** **14 01 45.9 -1.6**
comp=Z,56nm,0.9s,mb5.6
COLA *e* pP 14 01 59.9 -1.6
COLA LR LR
comp=Z,4μm,20.0s,MS5.7
COLA College 82.77 21 *e*P **P** **14 01 45.9 -1.6**
COLA *e* pP 14 01 59.9 -1.6
COLA pmax pmax
comp=Z,57nm,0.9s,mb5.6

COLA MLR MLR
comp=Z,4μm,20.0s,MS5.7
QSPA South Pole Qui 82.95 180 PKKPbc PKKPbc 14 20 24.6 +11
comp=Z,4.6nm,0.8s,baz=201,slow=0.7,SNR=8.5
QSPA LR LR 14 33 54.1
comp=Z,2μm,20.2s,MS5.5,baz=226,slow=32
MNGI Mangalore 82.96 284 *eP* **P** **14 01 49.8 +0.3**
MNGI AMb AMB 14 02 05.8
comp=Z,304nm,1.5s,mb6.1
NDI New Delhi 83.53 300 *eP* **P** **14 01 51.0 -1.3**
MK31 Makanchi Array 84.04 318 *eP* **P** **14 01 54.5 +0.1**
MK31 *ep*P pP 14 02 09.0 +0.6
MKAR Makanchi Array 84.04 318 P **P** **14 01 54.6 +0.2**
MKAR *PP pP 14 02 08.7 +0.2
MKAR pmax pmax
comp=Z,99nm,0.7s
MKAR pmax pmax
comp=Z,225nm,0.7s
MKAR pmax pmax
comp=Z,1.0nm,0.5s
MKAR pmax pmax
comp=Z,1.0nm,0.7s
MKAR MLR MLR
comp=Z,517nm,19.5s
MKAR Makanchi Array 84.04 318 P **P** **14 01 54.6 +0.2**
comp=Z,98nm,0.7s,mb6.0,baz=101,slow=5.7,SNR=537
MKAR pP pP 14 02 08.7 +0.2
comp=Z,225nm,0.7s,baz=104,slow=5.8,SNR=42
MKAR PKKPbc PKKPbc 14 20 22.0 +11
comp=Z,0.5nm,0.5s,baz=302,slow=2.3,SNR=4.0
MKAR PKPPKP 14 28 31.5
comp=Z,1.4nm,0.7s,baz=270,slow=0.6,SNR=5.3
MKAR LR LR 14 40 39.0
comp=Z,517nm,19.5s,MS4.9,baz=108,slow=36
SMLA Simla 84.06 302 *eP* **P** **14 01 54.9 0.0**
KAD Karad 84.25 288 *eP* **P** **14 01 55.5 -0.6**
GOA Goa 84.30 286 *ex* pP 14 02 08.0 -2.4
GOA AMb AMB 14 02 09.9
comp=Z,1μm,1.0s
ZAA0 Zalesovo Array 84.72 326 *eP* **P** **14 01 56.8 -0.9**
ZAA0 *ep*P pP 14 02 08.8 -3.0
ZALV Zalesovo Beam 84.72 326 P **P** **14 01 56.9 -0.8**
comp=Z,56nm,0.7s,mb5.8,baz=113,slow=5.4,SNR=159
ZALV pP pP 14 02 11.4 -0.4
comp=Z,54nm,0.5s,baz=113,slow=5.4,SNR=19
ZALV PKPPKP 14 28 30.9
comp=Z,1.6nm,0.6s,baz=299,slow=3.1,SNR=6.3
ZALV LR LR 14 40 14.0
comp=Z,526nm,21.4s,MS4.9,baz=204,slow=36
MAW Mawson 84.73 203 *eP* **P** **14 01 57.5 0.0**
comp=Z,34nm,0.7s,mb5.6
MAW *ep*P pP 14 02 11.1 -0.5
MAW Mawson 84.73 203 *eS* S 14 12 20.8 -0.6
MAW Mawson 84.73 203 *eP* **P** **14 01 57.5 0.0**
comp=Z,34nm,0.7s,mb5.6
MAW *ep*P pP 14 02 11.1 -0.5
MAW *eS* S 14 12 20.8 -0.6
MAW Mawson 84.73 203 *eP* **P** **14 01 57.5 0.0**
MAW *e**PP pP 14 02 11.1 -0.5
MAW *eS* S 14 12 20.8 -0.6
MAW pmax pmax
comp=Z,34nm,0.7s
MAW Mawson 84.73 203 P **P** **14 01 57.3 -0.3**
comp=Z,44nm,0.8s,mb5.6,baz=100,slow=9.2,SNR=78
MAW pP pP 14 02 11.3 -0.3
comp=Z,173nm,0.9s,baz=95,slow=6.1,SNR=32
MAW LR LR 14 38 08.8
comp=Z,931nm,18.2s,MS5.2,baz=84,slow=34
ZAL Zalesovo 84.73 326 P **P** **14 01 56.9 -0.8**
ZAL *PP pP 14 02 11.4 -0.4
POO Poona 84.75 289 *eP* **P** **14 01 57.8 -0.9**
POO AMb AMB 14 02 00.8
comp=Z,208nm,1.1s,mb6.2
EGAK Eagle 85.19 23 *eP* **P** **14 01 59.8 0.0**
comp=Z,68nm,1.3s,mb5.6
EGAK *ep*P pP 14 02 14.5 +0.7
EGAK LR LR
comp=Z,2μm,21.0s,MS5.5
DLH Dalhousie 85.35 303 *eP* **P** **14 02 00.0 -1.4**
THN Thein Dam 85.53 303 *eP* **P** **14 02 01.0 -1.3**
DAWY Dawson 85.55 23 *eP* **P** **14 02 01.9 +0.2**
DAWY *ep*P pP 14 02 16.0 +0.2
NVS Novosibirsk 85.89 326⇑ *i* P **P** **14 02 02.6 -0.9**
NVS *i* pP 14 02 16.0 -1.6
NVS *eS* S 14 12 17.0 -16
NVS pmax pmax
comp=Z,194nm,2.0s,mb6.0
NVS pmax pmax
comp=N,43nm,1.6s
NVS pmax pmax
comp=E,109nm,1.8s
NVS smax
comp=E,121nm,2.7s
KSH Kashi 86.73 310 *eP* **P** **14 02 10.0 +2.0**
KSH *eA*P pP 14 02 23.3 +1.1
KSH *eX*P sP 14 02 28.3 +0.8
KSH *eP*P PP 14 05 36.5 +5.5
KSH *eP*PP 14 07 33.3
KSH SKS 14 12 30.5
KSH S S 14 12 43.3 +1.2
KSH SS SS 14 18 29.5 +4.8
KSH LR LR
comp=N,731nm,5.2s
KSH LR LR
comp=E,759nm,4.9s
KSH LR LR
comp=Z,2μm,22.2s,MS5.5
BHV Bhavnagar 86.84 292 *eP* **P** **14 02 08.0 -0.9**
ULHL Ulahol 87.10 313 P pP 14 02 24.8 +0.9
SNR=5.3
MCCM Marconi Confer 87.41 51 PFAKE 14 02 20.0 +8.6
MCCM LR LR
comp=Z,2μm,21.0s,MS5.5
KURK Kurchatov 87.43 322 P **P** **14 02 10.3 -0.8**
comp=Z,301nm,0.5s,mb6.8,SNR=31
KURK Kurchatov 87.43 322 *eP* **P** **14 02 10.2 -0.9**
comp=Z,99nm,1.3s,mb5.9
KURK *ep*P pP 14 02 24.1 -1.1
KURK LR LR
comp=Z,642nm,21.0s,MS5.0
KURK Kurchatov 87.43 322 *eP* **P** **14 02 10.2 -0.9**
KURK *e**PP pP 14 02 24.1 -1.2
KURK pmax pmax
comp=Z,99nm,1.3s,mb5.9
KURK MLR MLR
comp=Z,642nm,21.0s,MS5.0
HOPS Hopland 87.43 50 PFAKE 14 02 20.0 +8.6
HOPS LR LR
comp=Z,3μm,22.0s,MS5.6
TKM2 Tokmak 2 87.70 314 *eP* **P** **14 02 12.7 0.0**
comp=Z,58nm,0.7s,mb5.9
TKM2 Tokmak 2 87.70 314 *eP* **P** **14 02 12.7 0.0**
TKM2 pmax pmax
comp=Z,58nm,0.7s,mb5.9
TKM2 Tokmak 2 87.70 314 P **P** **14 02 12.9 +0.2**
SNR=35
KZA Kyzart 87.79 313 P **P** **14 02 14.3 +1.2**
SNR=90
KBK Karagaybulak 88.12 313 P **P** **14 02 14.9 +0.3**
SNR=19
HUMO Hull Mountain 88.21 47 *eP* **P** **14 02 13.5 -1.6**
comp=Z,49nm,1.7s,mb5.5
HUMO LR LR
comp=Z,3μm,22.0s,MS5.7
YBH Yreka Blue Hor 88.22 48 P **P** **14 02 15.8 +0.6**
comp=Z,11nm,1.1s,mb5.0
YBH Yreka Blue Hor 88.22 48 P **P** **14 02 15.8 +0.7**
YBH pmax pmax
comp=Z,11nm,1.1s
CHMS Chumysh 88.33 314 P **P** **14 02 15.6 0.0**
SNR=25
COR Corvallis 88.35 45 PFAKE 14 02 30.0 +14
COR LR LR
comp=Z,2μm,21.0s,MS5.5
UCH Uchtor 88.35 313 P **P** **14 02 16.8 +1.1**
SNR=44
FRU Bishkek 88.39 313⇑ *i* P **P** **14 02 15.8 -0.1**
FRU *i* pP 14 02 29.0 -1.1
FRU pmax pmax
comp=Z,236nm,2.4s,mb6.0
AAK Ala-Archa 88.44 313 P **P** **14 02 15.4 -0.8**
SNR=37
AAK Ala-Archa 88.44 313 PFAKE 14 02 30.0 +14
AAK LR LR
comp=Z,522nm,20.0s,MS5.0
AAK Ala-Archa 88.44 313 P **P** **14 02 15.5 -0.7**
AAK *PP pP 14 02 29.9 -0.4
AAK pmax pmax
comp=Z,30nm,0.7s,mb5.6
AAK pmax pmax
comp=Z,67nm,0.8s,mb5.9
AAK Ala-Archa 88.44 313 P **P** **14 02 15.5 -0.7**
comp=Z,30nm,0.7s,mb5.6,baz=115,slow=4.7,SNR=84
AAK *p*P pP 14 02 29.9 -0.4
comp=Z,67nm,0.8s,baz=132,slow=7.2,SNR=18
AAK Ala-Archa 88.44 313 P **P** **14 02 16.4 +0.2**
SNR=39
NLWA Neilton Lookou 88.53 42 PFAKE 14 02 30.0 +14
NLWA LR LR
comp=Z,4μm,20.0s,MS5.8
USP Ospenovka 88.56 314 P **P** **14 02 16.6 -0.1**
SNR=43
AML Almayashu 88.93 313 PFAKE 14 02 30.0 +12
AML LR LR
comp=Z,794nm,20.0s,MS5.1
AML Almayashu 88.93 313 P **P** **14 02 19.4 +0.9**
SNR=69
EKS2 Erkin-Say 88.97 313 PFAKE 14 02 30.0 +11
EKS2 LR LR
comp=Z,690nm,21.0s,MS5.0
EKS2 Erkin-Say 88.97 313 P **P** **14 02 18.7 +0.1**
SNR=23
CMB Columbia Colle 89.33 52 PFAKE 14 02 30.0 +10
CMB LR LR
comp=Z,1μm,22.0s,MS5.3
BHJ Bhuj 89.33 293 *eP* **P** **14 02 20.6 -0.2**
INK Inuvik 89.42 21 *eP* **P** **14 02 19.5 -0.7**
comp=Z,2μm,1.2s
INK *ep*P pP 14 02 33.7 -0.6
INK Inuvik 89.42 21 *eP* **P** **14 02 19.5 -0.7**
INK *e**PP pP 14 02 33.7 -0.6
INK pmax pmax
comp=Z,2μm,1.2s
INK Inuvik 89.42 21 P **P** **14 02 20.3 +0.1**
comp=Z,6.8nm,1.0s,mb4.9,baz=239,slow=6.0,SNR=16
MOD Modoc 90.02 48 PFAKE 14 02 30.0 +6.4
MOD LR LR
comp=Z,4μm,20.0s,MS5.8
MTUM Tungsten Hills 90.66 53 P **P** **14 02 25.1 -1.5**
MTUM *ep*P pP 14 02 42.9 +2.1
NVAR Mina Array Bea 91.01 52 P **P** **14 02 28.4 +0.1**
NVAR pP pP 14 02 44.0 +1.5
NVAR PKKPbc PKKPbc 14 19 55.5 +2.1
NVAR P'P' 14 28 01.9
NVAR Mina Array Bea 91.01 52 P **P** **14 02 28.4 +0.1**
comp=Z,1.6nm,0.9s,baz=256,slow=9.5,SNR=8.9
NVAR pP pP 14 02 44.0 +1.5
comp=Z,3.3nm,0.8s,baz=248,slow=4.0,SNR=10.0
NVAR PKKPbc PKKPbc 14 19 55.5 +2.1
comp=Z,0.6nm,0.7s,baz=86,slow=2.4,SNR=4.8
NVAR PKPPKP 14 28 01.9
comp=Z,0.9nm,0.9s,baz=74,slow=4.6,SNR=4.0
WVOR Wild Horse Val 91.33 48 *eP* **P** **14 02 27.2 -2.5**
comp=Z,22nm,1.3s,mb5.3
WVOR *ep*P pP 14 02 43.7 -0.2
WVOR Wild Horse Val 91.33 48 *eP* **P** **14 02 27.2 -2.5**
WVOR *e**PP pP 14 02 43.7 -0.1
WVOR pmax pmax
comp=Z,22nm,1.3s,mb5.3
KBL Kabul 91.38 304 *eP* **P** **14 02 28.9 -1.2**
comp=Z,56nm,0.8s,mb6.0
KBL *ep*P pP 14 02 41.7 -2.6
KK31 Karatay Array 91.41 313 *i* P **P** **14 02 29.1 -0.9**
KK31 pmax pmax
comp=Z,31nm,1.0s,mb5.6
GSC Goldstone 91.79 55 PFAKE 14 02 40.0 +8.0
GSC LR LR
comp=Z,2μm,20.0s,MS5.5
PFO Pinyon Flat Ob 91.86 57 PFAKE 14 02 40.0 +7.7
PFO LR LR
comp=Z,3μm,20.0s,MS5.7
TPNV Topopah Spring 92.44 53 *eP* **P** **14 02 35.1 +0.2**
comp=Z,57nm,1.7s,mb5.6
TPNV *ep*P pP 14 02 49.0 -0.1
TPNV Topopah Spring 92.44 53 *eP* **P** **14 02 35.1 +0.2**
TPNV *e**PP pP 14 02 49.0 -0.1
TPNV pmax pmax
comp=Z,57nm,1.7s,mb5.6
SYO Syowa Base 92.60 199‖ *i* P **P** **14 02 32.5 -2.5**
SYO Syowa Base 92.60 199‖ *e*PcP PcP 14 02 34.0 -1.7
SYO Syowa Base 92.60 199‖ *eX* pP 14 02 45.0 -4.2
BMO Blue Mountains 92.61 45 PFAKE 14 02 50.0 +14
BMO LR LR
comp=Z,2μm,20.0s,MS5.6
BRVK Borovoye 92.94 323 P **P** **14 02 35.5 -1.4**
comp=Z,265nm,1.1s,mb6.6,SNR=21
BRVK Borovoye 92.94 323 *eP* **P** **14 02 35.6 -1.3**
comp=Z,43nm,0.9s,mb5.9
BRVK *ep*P pP 14 02 48.6 -2.4
BRVK LR LR
comp=Z,780nm,19.0s,MS5.2
BRVK Borovoye 92.94 323 *eP* **P** **14 02 35.6 -1.3**
BRVK *e**PP pP 14 02 48.6 -2.4
BRVK pmax pmax
comp=Z,43nm,0.9s,mb5.9
BRVK MLR MLR
comp=Z,780nm,19.0s,MS5.2
GLA Glamis 93.15 57 PFAKE 14 02 50.0 +12
GLA LR LR
comp=Z,2μm,20.0s,MS5.5
NEW Newport 93.16 42 PFAKE 14 02 50.0 +12
NEW LR LR
comp=Z,4μm,21.0s,MS5.9
MSO Missoula 95.16 44 PFAKE 14 03 00.0 +13
MSO LR LR
comp=Z,2μm,21.0s,MS5.6
DUG Dugway 95.44 50 PFAKE 14 03 00.0 +11
DUG LR LR
comp=Z,2μm,21.0s,MS5.6
MCMT McKenzie Canyo 95.76 46 P **P** **14 02 52.1 +2.1**
MCMT *ep*P pP 14 03 03.0 -1.2
MSU Marysvale 95.80 52 P **P** **14 02 48.7 -1.6**
MSU *ep*P pP 14 03 06.7 +2.2
YKA Yellowknife Ar 95.93 28 P **P** **14 02 49.5 -0.8**
YKA *p*P pP 14 03 03.4 -1.1
YKA PKKPbc PKKPbc 14 19 37.1 -4.3
YKA Yellowknife Ar 95.93 28 P **P** **14 02 49.5 -0.8**
YKA *PP pP 14 03 03.4 -1.1
YKA pmax pmax
comp=Z,3.0nm,0.8s
YKA pmax pmax
comp=Z,7.0nm,0.8s
YKA pmax pmax
comp=Z,1.0nm,0.6s
YKA Yellowknife Ar 95.93 28 P **P** **14 02 49.5 -0.8**
comp=Z,3.3nm,0.8s,mb4.8,baz=267,slow=4.4,SNR=42
YKA *p*P pP 14 03 03.4 -1.1
comp=Z,6.6nm,0.8s,baz=265,slow=4.6,SNR=20
YKA PKKPbc PKKPbc 14 19 37.1 -4.3
comp=Z,0.7nm,0.6s,baz=80,slow=3.0,SNR=15
YKA tx tx 14 19 49.8
comp=Z,2.9nm,0.6s,baz=84,slow=2.8,SNR=27
MPU Maple Canyon 96.33 51 PFAKE 14 03 00.0 +7.3
MPU LR LR
comp=Z,2μm,22.0s,MS5.6
HWUT Hardware Ranch 96.48 49 PFAKE 14 03 00.0 +6.6
HWUT LR LR
comp=Z,2μm,22.0s,MS5.6
BOZ Bozeman (W) 96.68 45 PFAKE 14 03 00.0 +5.9
BOZ LR LR
comp=Z,2μm,22.0s,MS5.5
AHID Auburn Hatcher 96.90 48 PFAKE 14 03 10.0 +15
AHID LR LR
comp=Z,2μm,20.0s,MS5.6
LKWY Lake 97.49 46 PFAKE 14 03 10.0 +12
LKWY LR LR
comp=Z,3μm,20.0s,MS5.8
BW06 Boulder Array 98.03 48 PFAKE 14 03 10.0 +10
BW06 LR LR
comp=Z,3μm,20.0s,MS5.8
EGMT Eagleton 98.06 43 PFAKE 14 03 10.0 +10
EGMT LR LR
comp=Z,2μm,21.0s,MS5.7
RLMT Red Lodge 98.32 45 PFAKE 14 03 10.0 +8.5
RLMT LR LR
comp=Z,2μm,19.0s,MS5.6
MVCO Mesa Verde 98.63 53 PFAKE 14 03 10.0 +6.8
MVCO LR LR
comp=Z,2μm,22.0s,MS5.6
MAIT Maitri 98.75 191 *eP* **P** **14 02 59.4 -3.6**
AB31 Akbulak array 99.18 319 *i* P **P** **14 03 02.9 -2.4**
ARU Arti 99.89 326 *eP* Pdif 14 03 06.3 -2.0
comp=Z,6.2nm,0.6s
ARU LR LR
comp=Z,1μm,21.0s,MS5.3
ARU Arti 99.89 326 *c i* P Pdif 14 03 06.2 -2.1
ARU *e* 14 07 11.3
ARU *eS* SKSac 14 13 40.4 -2.5
ARU SP SP 14 16 04.2 -2.2
ARU *eSS* SS 14 21 24.3 -7.5
ARU pmax pmax
comp=Z,24nm,2.5s,mb5.2
ARU MLR MLR
comp=Z,1μm,20.0s,MS5.3
ANMO Albuquerque 100.21 56 PFAKE 14 03 20.0 +10
ANMO LR LR
comp=Z,1μm,22.0s,MS5.3
SNAA Sanae 100.22 187 *i* P Pdif 14 03 09.1 -0.8
SNAA Sanae 100.22 187 *eP*diff Pdif 14 03 08.5 -1.4
SNAA *e* 14 03 13.2
SNAA *e* 14 03 17.7
SNAA *e* 14 03 25.6
SNAA *e* 14 03 29.7
SNAA *e* 14 03 36.6
SNAA *e* 14 04 54.6
SNAA *e* 14 07 15.1
SNAA *e* 14 07 36.2
SNAA *e* 14 07 48.9
SNAA *e* 14 07 54.9
SNAA Sanae 100.22 187 *i* P Pdif 14 03 09.0 -0.9
LAO LASA Array 100.45 44 PFAKE 14 03 20.0 +9.1
LAO LR LR
comp=Z,2μm,22.0s,MS5.6
ISCO Idaho Springs 100.95 51 PFAKE 14 03 20.0 +6.9
ISCO LR LR
comp=Z,1μm,20.0s,MS5.5
MNTX Cornudas Mount 101.03 59 PFAKE 14 03 20.0 +6.6
MNTX LR LR
comp=Z,4μm,22.0s,MS5.9
VNA3 Neumayer Olymp 101.31 185 *eP*diff Pdif 14 03 13.3 -1.4
VNA3 *e* 14 03 18.6
VNA3 *e* 14 03 23.1
VNA3 *e* 14 03 30.0
VNA3 *e* 14 03 32.5
VNA3 *e* 14 03 42.0
VNA3 *e* 14 03 49.5
VNA3 *e* 14 07 37.4
VNA3 *e* 14 07 52.1
VNA2 Neumayer--Watz 101.41 186 *eP*diff Pdif 14 03 14.1 -1.0
VNA2 *e* 14 03 18.5
VNA2 *e* 14 03 24.4
VNA2 *e* 14 03 31.0
VNA2 *e* 14 03 33.9
VNA2 *e* 14 03 41.6
VNA2 *e* 14 03 50.5
VNA2 *e* 14 04 59.3
VNA2 *e* 14 07 38.7
VNA2 *e* 14 07 52.6
VNA2 *e* 14 07 57.6
VNA1 Neumayer--Stat 101.76 185 *eP*diff Pdif 14 03 15.8 -0.9
VNA1 *e* 14 03 20.0
VNA1 *e* 14 03 26.3
VNA1 *e* 14 03 32.9
VNA1 *e* 14 03 35.5
VNA1 *e* 14 07 38.7
VNA1 *e* 14 07 52.8
VNA1 *e* 14 07 57.6
DGMT Dagmar 101.77 42 PFAKE 14 03 30.0 +13
DGMT LR LR
comp=Z,2μm,20.0s,MS5.7
TXAR Lajitas Array 102.46 62 PKiKP PKiKP 14 07 45.0 +3.2
comp=Z,0.7nm,0.9s,baz=238,slow=5.2,SNR=3.2
TXAR PKKPbc PKKPbc 14 19 20.9 -0.9
comp=Z,0.4nm,0.7s,baz=133,slow=2.4,SNR=4.1
TXAR tx tx 14 19 33.4
comp=Z,1.3nm,0.7s,baz=106,slow=4.8,SNR=8.6
PMSA Palmer Station 102.49 164 PFAKE 14 03 30.0 +10
PMSA LR LR
comp=Z,2μm,19.0s,MS5.6
FFC Flin Flon 102.69 36 PFAKE 14 03 30.0 +9.2
FFC LR LR
comp=Z,4μm,21.0s,MS5.9
AMTX Amarillo 104.14 56 PFAKE 14 03 40.0 +13
AMTX LR LR
comp=Z,1μm,20.0s,MS5.5
ABPO Ambohimpanom 105.17 248 PFAKE 14 08 00.0 +13
ABPO LR LR
comp=Z,2μm,22.0s,MS5.6
CBKS Cedar Bluff 105.53 52 PFAKE 14 08 00.0 +13
CBKS LR LR
comp=Z,2μm,21.0s,MS5.5
JCT Junction City 105.81 60 PFAKE 14 08 00.0 +12
JCT LR LR
comp=Z,2μm,22.0s,MS5.6
KBS Kingsbay 105.93 353 PFAKE 14 08 00.0 +13
KBS LR LR
comp=Z,1μm,22.0s,MS5.4
KBS Kingsbay 105.93 353 *ePP* PP 14 07 57.5 -0.5
KBS *e* 14 16 51.5
KBS AMS AMS 14 47 38.2
comp=Z,1μm,21.9s,MS5.3
AGMN Agassiz Refuge 107.31 42 PFAKE 14 08 00.0 +10
AGMN LR LR
comp=Z,2μm,20.0s,MS5.7
ECSD EROS,Sioux Fal 107.43 46 PFAKE 14 08 00.0 +9.5
ECSD LR LR
comp=Z,3μm,21.0s,MS5.8
KVTX Kingsville 107.55 63 PFAKE 14 08 00.0 +8.8
KVTX LR LR
comp=Z,2μm,20.0s,MS5.6
KSU1 Kansas State U 107.94 51 PFAKE 14 08 00.0 +8.4
KSU1 LR LR
comp=Z,2μm,22.0s,MS5.6
HKT Hockley 109.27 61 PFAKE 14 08 10.0 +16
HKT LR LR
comp=Z,2μm,22.0s,MS5.6
KEV Kevo 109.33 343 PFAKE 14 08 00.0 +6.7
KEV LR LR
comp=Z,1μm,22.0s,MS5.5
ARCES ARCESS Array B 109.88 343 PKPdf PKiKP 14 07 55.2 +0.8
ARCES PKKPbc PKKPbc 14 18 57.7 -2.5
ARCES ARCESS Array B 109.88 343 PKiKP PKiKP 14 07 55.2 +0.8
comp=Z,2.6nm,0.8s,baz=90,slow=1.8,SNR=5.1
ARCES PKKPbc PKKPbc 14 18 57.7 -2.5
comp=Z,5.7nm,0.8s,baz=238,slow=1.7,SNR=3.6
ARCES tx tx 14 19 10.9
comp=Z,6.9nm,0.8s,baz=250,slow=2.5,SNR=6.3
NATX Nacogdoches 110.16 59 PFAKE 14 08 10.0 +14
NATX LR LR
comp=Z,3μm,20.0s,MS5.9
DAG Danmarks Havn 110.23 359 *i* P 14 08 10.0
comp=Z,3.0nm,0.8s
EYMN Ely 110.25 41 PFAKE 14 08 10.0 +14
EYMN LR LR
comp=Z,2μm,22.0s,MS5.7
MIAR Mount Ida 110.82 56 PFAKE 14 08 10.0 +13
MIAR LR LR
comp=Z,2μm,22.0s,MS5.7
GOF Gofitskoye 111.06 316 *eP*KIKP PKiKP 14 07 57.4 +0.1
KIV Kislovodsk 111.52 314 PFAKE 14 08 10.0 +12
KIV LR LR
comp=Z,407nm,20.0s,MS5.0
TRO Tromso 111.59 345 *e* SP 14 18 05.5 +0.2
TRO AMS AMS 14 54 03.8
comp=Z,773nm,22.3s,MS5.2
COWI Conover 112.24 43 PFAKE 14 08 10.0 +11
COWI LR LR
comp=Z,3μm,20.0s,MS5.8
CCM Cathedral Cave 112.25 52 PFAKE 14 08 10.0 +10
CCM LR LR
comp=Z,2μm,19.0s,MS5.7
OBN Obninsk 112.27 327 PFAKE 14 08 10.0 +11
OBN LR LR
comp=Z,1μm,20.0s,MS5.4
OBN Obninsk 112.27 327 *eP*KIKP 14 08 12.6
OBN *e* 14 08 40.9
OBN *eP*S PS 14 18 14.2 -4.8
OBN *eSS* SS 14 24 13.8 -6.4
OBN pmax pmax
comp=Z,12nm,1.4s
HDIL Hopedale 113.31 49 PFAKE 14 08 10.0 +8.3
HDIL LR LR
comp=Z,2μm,20.0s,MS5.7
SOC Sochi 113.70 315 *eP* Pdif 14 04 10.3 +0.5
SOC *e* 14 08 52.4

SOC e 14 14 44.8
SOC eSSS 14 28 54.5
SOC MLR MLR
comp=Z,816nm,23.0s,MS5.3
FINES FINESS Array B 114.34 336 PKP PKiKP 14 08 02.1 -0.9
FINES PKKPbc PKKPbc 14 18 47.6 +2.5
FINES FINESS Array B 114.34 336 PKP PKiKP 14 08 02.1 -0.9
comp=Z,4.2nm,0.8s,baz=108,slow=6.2,SNR=10
FINES PKKPbc PKKPbc 14 18 47.6 +2.5
comp=Z,1.9nm,0.8s,baz=25,slow=5.0,SNR=4.3
FINES tx tx 14 18 56.6
comp=Z,5.7nm,0.9s,baz=255,slow=5.7,SNR=6.9
EFI East Falkland 114.67 157 PFAKE 14 08 20.0 +16
EFI LR LR
comp=Z,834nm,20.0s,MS5.3
PLAL Pickwick Lake 115.25 55 PFAKE 14 08 20.0 +14
PLAL LR LR
comp=Z,1μm,20.0s,MS5.6
JMIC Jan Mayen 115.35 354 e PKKPbc 14 18 38.0 -3.9
GLMI Grayling 115.64 43 PFAKE 14 08 20.0 +14
GLMI LR LR
comp=Z,1μm,19.0s,MS5.6
MALT Malatya 115.82 309 ePKPdf PKPdf 14 08 06.3 -0.3
MALT epPKPdf pPKPdf 14 08 19.8 -1.5
MALT Malatya 115.82 309 ⇑iP PKPdf 14 08 02.7 -3.9
PLCA Paso Flores 116.14 142 PFAKE 14 08 20.0 +13
PLCA LR LR
comp=Z,594nm,19.0s,MS5.2
PLCA Paso Flores 116.14 142 PKKPbc PKKPbc 14 18 36.7 -1.7
comp=Z,4.4nm,0.7s,baz=12,slow=3.2,SNR=6.6
PLCA tx tx 14 18 51.7
comp=Z,8.4nm,0.8s,baz=49,slow=5.3,SNR=9.7
LRAL Lakeview Retre 116.45 57 PFAKE 14 08 20.0 +12
LRAL LR LR
comp=Z,2μm,20.0s,MS5.8
BRAL Brewton 116.70 59 PFAKE 14 08 20.0 +11
BRAL LR LR
comp=Z,2μm,21.0s,MS5.6
AAM Ann Arbor 117.02 46 PFAKE 14 08 20.0 +11
AAM LR LR
comp=Z,2μm,22.0s,MS5.7
SIM Simferopol' 117.20 317 i PKIKP pPKPdf 14 08 24.0 +0.3
SIM 14 09 18.0
SIM pmax pmax
comp=Z,100nm,12.0s
ACSO Alum Creek Sta 118.07 48 PFAKE 14 08 20.0 +9.1
ACSO LR LR
comp=Z,2μm,19.0s,MS5.7
AKASG Malin Array Be 118.10 325 PKP PKPdf 14 08 09.3 -1.2
AKASG pPKP pPKPdf 14 08 23.4 -1.8
AKASG PKKPab PKKPab 14 18 29.8 -3.1
AKASG Malin Array Be 118.10 325 PKIKP PKPdf 14 08 09.4 -1.2
AKASG 14 08 23.4
AKASG pmax pmax
comp=Z,12nm,0.7s
AKASG pmax pmax
comp=Z,16nm,0.7s
AKASG pmax pmax
comp=Z,2.0nm,0.8s
AKASG Malin Array Be 118.10 325 PKP PKPdf 14 08 09.3 -1.2
comp=Z,12nm,0.7s,baz=61,slow=2.2,SNR=54
AKASG pPKP pPKPdf 14 08 23.4 -1.8
comp=Z,16nm,0.7s,baz=64,slow=2.2,SNR=17
AKASG PKKPab PKKPab 14 18 29.8 -3.1
comp=Z,1.6nm,0.8s,baz=253,slow=4.5,SNR=6.8
AKASG tx tx 14 18 42.0
comp=Z,1.6nm,0.6s,baz=256,slow=4.2,SNR=9.6
AKBB Malin Array Si 118.10 325 ePKPdf PKPdf 14 08 08.9 -1.7
AKBB epPKPdf pPKPdf 14 08 22.3 -2.9
KMBO Kilima Mbogo 118.28 265 ePKPdf PKPdf 14 08 11.9 -0.1
KMBO epPKPdf pPKPdf 14 08 25.6 -1.1
KMBO LR LR
comp=Z,936nm,22.0s,MS5.4
KMBO Kilima Mbogo 118.28 265 PKIKP PKPdf 14 08 12.5 +0.4
KMBO 14 08 26.1
KMBO pmax pmax
comp=Z,4.0nm,0.8s
KMBO pmax pmax
comp=Z,6.0nm,0.9s
KMBO Kilima Mbogo 118.28 265 PKP PKPdf 14 08 12.5 +0.5
comp=Z,3.8nm,0.8s,baz=39,slow=5.9,SNR=10
KMBO pPKP pPKPdf 14 08 26.1 -0.6
comp=Z,6.2nm,0.9s,baz=55,slow=4.8,SNR=6.4
GOGA Godfrey 119.29 56 PFAKE 14 08 20.0 +6.6
GOGA LR LR
comp=Z,2μm,20.0s,MS5.8
ERPA Erie 119.67 45 PFAKE 14 08 20.0 +6.1
ERPA LR LR
comp=Z,3μm,19.0s,MS5.9
ANTO Ankara 119.68 312 ePKPdf PKPdf 14 08 13.3 -0.7
ANTO epPKPdf pPKPdf 14 08 27.0 -1.6
ANTO LR LR
comp=Z,367nm,22.0s,MS5.0
ANTO Ankara 119.68 312 ⇓iP PKPdf 14 08 08.2 -5.8
SUW Suwalki 119.72 330 ePKP PKPdf 14 08 13.5 -0.1
SUW e 14 08 26.7
JTS JuntasAbangare 119.80 82 PFAKE 14 08 30.0 +15
JTS LR LR
comp=Z,1μm,21.0s,MS5.5
KIS Kishinev 119.90 321 eP PP 14 09 42.0 +3.8
KIS LRM 14 58 24.0
comp=Z,800nm,20.0s
NB2 NORSAR Subarra120.03 341 PKPdf PKPdf 14 08 12.7 -1.3
comp=Z,4.9nm,0.8s,baz=41,slow=2.0
NB2 NORSAR Subarra120.03 341 PKPdf pPKPdf 14 08 26.8 -1.8
comp=Z,14nm,0.8s,baz=41,slow=2.0
NB2 NORSAR Subarra120.03 341 PKKP PKKPbc 14 18 36.2 +11
comp=Z,3.9nm,1.0s,baz=221,slow=4.4
NOA NORSAR Array B120.03 341 PKP PKPdf 14 08 12.6 -1.4
NOA pPKP pPKPdf 14 08 26.9 -1.8
NOA NORSAR Array B120.03 341 PKIKP PKPdf 14 08 12.6 -1.4
NOA 14 08 26.9
NOA pmax pmax
comp=Z,4.0nm,0.8s
NOA pmax pmax
comp=Z,6.0nm,0.7s
NOA NORSAR Array B120.03 341 PKP PKPdf 14 08 12.6 -1.4
comp=Z,3.6nm,0.8s,baz=43,slow=1.9,SNR=11
NOA pPKP pPKPdf 14 08 26.9 -1.8
comp=Z,6.4nm,0.7s,baz=44,slow=1.9,SNR=13
NAO01 NORSAR Array S 120.28 341 PKPdf PKPdf 14 08 13.4 -1.1
NAO01 LR LR
comp=Z,1μm,19.0s,MS5.5
MCWV Mont Chateau 120.55 48 PFAKE 14 08 30.0 +14
MCWV LR LR
comp=Z,3μm,21.0s,MS5.9
BOSA Boshof 120.72 231 ePKPdf PKPdf 14 08 15.4 -0.9
BOSA epPKPdf pPKPdf 14 08 28.5 -2.5
BOSA LR LR
comp=Z,2μm,19.0s,MS5.7
BOSA Boshof 120.72 231 PKIKP PKPdf 14 08 15.8 -0.6
BOSA 14 08 29.7
BOSA pmax pmax
comp=Z,11nm,0.7s
BOSA pmax pmax
comp=Z,24nm,0.9s
BOSA Boshof 120.72 231 PKP PKPdf 14 08 15.8 -0.5
comp=Z,11nm,0.7s,baz=123,slow=2.3,SNR=19
BOSA pPKP pPKPdf 14 08 29.7 -1.3
comp=Z,24nm,0.9s,baz=135,slow=2.4,SNR=11
TIRR Tirgusor 121.17 318 ⇑iP PKPdf 14 08 15.8 -0.9
LHS Liberty Hill 121.22 54 eP Pdif 14 04 39.7 -3.5
SCHQ Schefferville 121.38 27 pPKP pPKPdf 14 08 30.6 -0.8
comp=Z,4.7nm,1.0s,baz=297,slow=6.8,SNR=4.1
HARR Harsova 121.40 319 P PKPdf 14 08 17.4 +0.2
KONO Kongsberg 121.61 341 PFAKE 14 08 30.0 +13
KONO LR LR
comp=Z,1μm,22.0s,MS5.5
KONO Kongsberg 121.61 341 ePP PP 14 09 48.6 -0.7
PSN Preselentsi 121.63 318 eP PKPdf 14 08 23.0 +5.4
SSPA Standing Stone 121.65 46 PKPdf PKPdf 14 08 15.7 -2.1
BURAR Bucovina Array 121.83 323 ⇑iP PKPdf 14 08 18.5 +0.6
DWPF Disney 122.00 61 PFAKE 14 08 30.0 +11
DWPF LR LR
comp=Z,1μm,21.0s,MS5.6
SUR Sutherland 122.03 225 ePKPdf PKPdf 14 08 19.3 +0.5
NHSC New Hope 122.05 55 PFAKE 14 08 30.0 +11
NHSC LR LR
comp=Z,2μm,22.0s,MS5.8
LBTB Lobatse 122.12 235 ePKPdf PKPdf 14 08 18.4 -0.8
LBTB epPKPdf pPKPdf 14 08 31.2 -2.6
LBTB LR LR
comp=Z,2μm,19.0s,MS5.8
KWP Kalwaria 122.29 326 ePKP PKPdf 14 08 18.5 -0.2
KWP e 14 08 32.6

KWP Kalwaria 122.29 326 ⇓iP PKPdf 14 08 18.3 -0.4
BER Bergen 122.34 343 ePP PP 14 09 52.2 -1.9
BER AMS AMS 14 58 35.4
comp=Z,742nm,19.8s,MS5.3
MLR Muntele Rosu 122.34 320 ⇓iP PKPdf 14 08 18.0 -0.9
LONY Lake Ozonia 122.40 41 PFAKE 14 08 30.0 +11
LONY LR LR
comp=Z,5μm,21.0s,MS6.1
BINY Binghamton 122.43 44 PFAKE 14 08 30.0 +11
BINY LR LR
comp=Z,2μm,19.0s,MS5.8
LCO Las Campanas 122.58 131 ePKPdf PKPdf 14 08 19.4 -0.6
LCO epPKPdf pPKPdf 14 08 33.2 -1.4
LCO LR LR
comp=Z,341nm,21.0s,MS5.0
CBN Corbin 122.83 49 PFAKE 14 08 30.0 +10
CBN LR LR
comp=Z,2μm,20.0s,MS5.7
BSD Bornholm Skovb 122.87 335 i PKIKP PKPdf 14 08 18.9 -0.7
BSD e 14 08 31.8
BSD i 14 09 57.5
BSD pmax pmax
comp=Z,14nm,0.8s
BSD MLR MLR
comp=Z,620nm,21.0s,MS5.2
BSD Bornholm Skovb 122.87 335 i P PKPdf 14 08 18.9 -0.7
comp=Z,14nm,0.8s
BSD e 14 08 31.8
BSD i 14 09 57.5
BSD
comp=Z,620nm,21.0s
KOLS Kolonicke sedl 122.90 325 ePKP PKPdf 14 08 19.8 -0.1
KOLS e 14 08 35.9
NCB Newcomb 122.91 41 PFAKE 14 08 30.0 +10
NCB LR LR
comp=Z,5μm,22.0s,MS6.1
GKP Gorka Klasztor 123.02 332 ePKP PKPdf 14 08 19.6 -0.4
GKP e 14 08 34.3
UZH Uzhgorod 123.04 325 ePKIKP PKPdf 14 08 20.2 0.0
STHS Stebnicka Huta 123.22 326 ePKP PKPdf 14 08 20.8 +0.3
STHS e 14 08 34.5
CRVS Cervenica-Dubn 123.37 326 ePKP PKPdf 14 08 20.6 -0.2
CRVS e 14 08 36.2
COP Copenhagen 123.50 336 ePKIKP PKPdf 14 08 23.2 +2.4
COP i 14 10 06.5
COP MLR MLR
comp=Z,340nm,20.0s,MS5.0
COP Copenhagen 123.50 336 i P PKPdf 14 08 23.2 +2.4
COP e 14 09 43.0
COP i 14 10 06.5
COP
comp=Z,330nm,20.0s
OJC Ojcow 123.56 328 ePKPdf PKPdf 14 08 20.8 -0.3
OJC epPKPdf pPKPdf 14 08 34.9 -0.9
LSZ Lusaka 123.68 247 ePKPdf PKPdf 14 08 21.7 -0.6
LSZ epPKPdf pPKPdf 14 08 34.9 -2.1
LSZ LR LR
comp=Z,2μm,19.0s,MS5.7
NIE Niedzica 123.73 327 ePKPdf PKPdf 14 08 22.1 +0.7
NIE epPKPdf pPKPdf 14 08 35.7 -0.4
DRRR 123.73 323 ⇑iP PKPdf 14 08 20.9 -0.6
KECS Kecovo 124.14 326 ePKP PKPdf 14 08 21.3 -1.0
KECS e 14 08 35.6
MUD Monsted U'grnd 124.19 338 i P PP 14 09 53.2 -14
MUD
comp=Z,820nm,20.0s
NNA Nana 124.23 110 PFAKE 14 08 30.0 +6.6
NNA LR LR
comp=Z,637nm,19.0s,MS5.3
LBNH Lisbon 124.28 40 PFAKE 14 08 30.0 +7.3
LBNH LR LR
comp=Z,5μm,20.0s,MS6.1
LBNH Lisbon 124.28 40 PKIKP PKPdf 14 08 16.1 -6.6
KDZ Kurdzhali 124.31 316 eP PKPdf 14 08 21.9 -0.9
GZR Gura Zlata 124.37 321 P PKPdf 14 08 22.7 -0.1
GZR Gura Zlata 124.37 321 ⇑iP PKPdf 14 08 22.5 -0.3
OKC Ostrava-Krasne 124.65 328 ePKP PKPdf 14 08 22.9 -0.3
OKC epPKP pPKPdf 14 08 37.5 -0.4
OKC AMS AMS 15 05 10.0
comp=Z,800nm,20.6s,MS5.4
PSZ Piszkesteto 124.78 325 ePKPdf PKPdf 14 08 22.7 -0.8
PSZ epPKPdf pPKPdf 14 08 34.8 -3.4
PSZ Piszkesteto 124.78 325 ⇓iP PKPdf 14 08 23.2 -0.3
PSZ Piszkesteto 124.78 325 ⇑esPKP/D 14 08 37.3
BZS Buzias 124.97 322 P PKPdf 14 08 23.7 -0.2
BZS Buzias 124.97 322 ⇓iP PKPdf 14 08 23.0 -1.0
KSP Ksiaz 124.99 330 ePKP PKPdf 14 08 24.3 +0.5
KSP e 14 08 38.0
KSP Ksiaz 124.99 330 ePKP PKPdf 14 08 23.3 -0.5
KSP epPKP pPKPdf 14 08 37.4 -1.1
KSP ePP PP 14 10 13.0 +0.6
KSP eSP SP 14 19 56.0 -11
KSP eSS SS 14 27 04.0 -0.4
KSP LR LR
comp=Z,3μm,21.9s,MS5.9
KSP Ksiaz 124.99 330 ePKIKP PKPdf 14 08 23.3 -0.5
KSP e 14 08 37.4
KSP e 14 10 13.0
KSP eSS SS 14 27 04.0 -0.4
MORC Moravsky Berou 125.00 328 ePKPdf PKPdf 14 08 23.3 -0.5
MORC epPKPdf pPKPdf 14 08 37.7 -0.9
MORC Moravsky Berou 125.00 328 ⇓iP PKPdf 14 08 21.8 -2.1
VYHS Vyhne 125.05 326 ePKP PKPdf 14 08 23.6 -0.4
VYHS e 14 08 37.4
RUE Ruedersdorf 125.13 333 ePKP PKPdf 14 08 24.1 +0.1
RUE epPKP pPKPdf 14 08 37.5 -1.2
KOLL Kolacno 125.24 327 ePKP PKPdf 14 08 23.9 -0.5
KOLL e 14 08 38.1
DPC Dobruska-Polom 125.28 329 ePKP PKPdf 14 08 24.3 -0.1
DPC epPKP pPKPdf 14 08 38.3 -0.8
DPC AMS AMS 15 02 30.0
comp=Z,1μm,21.4s,MS5.5
UPC Upice 125.34 330 ePKP PKPdf 14 08 24.5 0.0
UPC epPKP pPKPdf 14 08 38.2 -1.0
VTS Vitosha 125.39 318 P PKPdf 14 08 24.7 -0.2
VTS Vitosha 125.39 318 ⇑iP PKPdf 14 08 24.4 -0.5
VTS Vitosha 125.39 318 eP PKPdf 14 08 24.3 -0.6
PKME Peaks-Kenny Pk 125.44 38 PFAKE 14 08 40.0 +15
PKME LR LR
comp=Z,4μm,20.0s,MS6.0
BUD Budapest 125.51 325 ⇓esPKP/D 14 08 39.4
BSEG Bad Segeberg 125.61 336 ePKP PKPdf 14 08 24.8 -0.1
VRAC Vranov 125.78 328 ⇑iP PKPdf 14 08 25.2 -0.2
MODS Modra-Piesok 125.97 327 i PKP PKPdf 14 08 26.0 +0.2
MODS e 14 08 39.5
PVCC Panska Ves 126.04 330 ePKP PKPdf 14 08 26.1 +0.3
PVCC epPKP pPKPdf 14 08 39.5 -1.0
PVCC AMS AMS 15 06 20.0
comp=Z,1μm,20.5s,MS5.5
BRG Berggiesshubel 126.12 331 i PKP PKPdf 14 08 25.9 -0.1
BRG i pPKP pPKPdf 14 08 39.7 -0.9
BRG LR LR
comp=Z,660nm,24.0s,MS5.2
BRG Berggiesshubel 126.12 331 ePKP PKPdf 14 08 25.8 -0.2
BRG Berggiesshubel 126.12 331 i PKP PKPdf 14 08 25.9 -0.1
comp=Z,19nm,0.8s
BRG i pPKP pPKPdf 14 08 39.7 -0.9
comp=Z,81nm,1.1s
BRG
comp=Z,1μm,24.0s
BRG
comp=N,718nm,24.2s
BRG
comp=E,601nm,24.2s
ZST Bratislava 126.17 327 ePKP PKPdf 14 08 25.9 -0.3
ZST e 14 08 40.1
ZST LR LR
comp=Z,300nm,21.6s,MS4.9
ZST Bratislava 126.17 327 ePKP PKPdf 14 08 25.8 -0.4
ZST e 14 08 40.0
ZST e 22 55 56.2
CLL Collm 126.27 332 i PKP PKPdf 14 08 25.8 -0.5
CLL ⇑ipPKP pPKPdf 14 08 39.8 -1.1
CLL ePP PP 14 10 25.0 +4.1
CLL eSKP 14 11 52.0
CLL Collm 126.27 332 ⇑iPKIKP PKPdf 14 08 25.8 -0.5
CLL i 14 08 39.8
CLL e 14 10 25.0
CLL pmax pmax
comp=Z,20nm,0.8s
CLL Collm 126.27 332 ePKP PKPdf 14 08 25.8 -0.5
CLL epPKP pPKPdf 14 08 39.3 -1.6

CLL Collm 126.27 332 i PKPdf PKPdf 14 08 25.8 -0.5
comp=Z,20nm,0.8s
CLL ⇑ipPKPdf pPKPdf 14 08 39.8 -1.1
comp=Z,47nm,0.9s
CLL esPKPdf 14 08 46.0
CLL ePP PP 14 10 25.0 +4.1
CLL eSKPdf SKPdf 14 11 52.0 -5.9
CLL ePPP 14 13 08.0
CLL eSKKSac SKKSac 14 17 18.0 +2.8
CLL eSKSP 14 20 14.0
CLL ex x 14 20 38.0
CLL ePPS 14 21 59.0
CLL eSS SS 14 27 18.0 -2.4
CLL ex x 14 28 14.0
CLL eSSS 14 32 12.0
TREC Trest 126.36 329 ePKP PKPdf 14 08 26.1 -0.4
TREC epPKP pPKPdf 14 08 39.9 -1.2
FBE Freiberg 126.37 331 ePKP PKPdf 14 08 26.3 -0.2
FBE epPKP pPKPdf 14 08 39.6 -1.5
PRU Pruhonice 126.40 330 ePKP PKPdf 14 08 26.3 -0.3
PRU epPKP pPKPdf 14 08 39.9 -1.3
PRU AMS AMS 15 06 00.0
comp=Z,1μm,22.0s,MS5.5
PKSM Moragy 126.43 324 P PKPdf 14 08 26.2 -0.5
PKSM Moragy 126.43 324 ⇑iP PKPdf 14 08 26.5 -0.2
SOP Sopron 126.77 327 ⇑esPKP/D 14 08 40.9
CONA Conrad Observa 127.00 327 ⇑iPKIKP PKiKP 14 08 27.1 -1.1
comp=Z,12nm,1.0s
CONA ⇑ipPKiKP 14 08 41.9
comp=Z,48nm,1.1s
CLZ Clausthal 127.09 334 ePKP PKPdf 14 08 27.7 -0.1
TANN Tannenbergstha 127.13 331 ePKP PKPdf 14 08 27.4 -0.5
WERD Werda 127.18 332 ePKP PKPdf 14 08 28.0 0.0
WERD epPKP pPKPdf 14 08 41.5 -1.2
GUNZ Gunzen 127.22 331 epPKP pPKPdf 14 08 41.7 -1.1
WERN Wernitzgruen 127.25 331 ePKP PKPdf 14 08 28.2 0.0
NKC Novy Kostel 127.26 331 ePKP PKPdf 14 08 27.9 -0.3
NKC epPKP pPKPdf 14 08 41.6 -1.2
NKC AMS AMS 15 05 00.0
comp=Z,1μm,23.2s,MS5.5
MOX Moxa 127.37 332 ePKP PKPdf 14 08 28.3 -0.1
MOX e 14 08 41.7
comp=Z,86nm,1.7s
MOX
comp=Z,400nm,23.0s
MOX Moxa 127.37 332 ePKIKP PKPdf 14 08 28.3 -0.1
MOX e 14 08 41.7
MOX pmax pmax
comp=Z,86nm,1.7s
MOX MLR MLR
comp=Z,400nm,23.0s,MS5.0
MOX Moxa 127.37 332 ePKP PKPdf 14 08 28.2 -0.2
MOX epPKP pPKPdf 14 08 41.6 -1.4
KHC Kasperske Hory 127.43 330 ePKIKP PKPdf 14 08 28.6 0.0
KHC e 14 08 42.0
KHC MLR MLR
comp=Z,1μm,23.4s,MS5.5
KHC Kasperske Hory 127.43 330 ePKP PKPdf 14 08 28.6 0.0
KHC epPKP pPKPdf 14 08 42.0 -1.2
KHC ex x 14 08 57.0
KHC AMS AMS 15 04 20.0
comp=Z,1μm,23.4s,MS5.5
GEC2 GERESS Array S 127.55 329 ePKP PKPdf 14 08 28.4 -0.4
GEC2 epPKP pPKPdf 14 08 42.0 -1.4
GERES GERESS Array B 127.55 329 PKIKP PKPdf 14 08 28.9 +0.1
GERES 14 08 43.0
GERES pmax pmax
comp=Z,12nm,0.7s
GERES pmax pmax
comp=Z,19nm,0.7s
GERES GERESS Array B 127.55 329 PKP PKPdf 14 08 28.9 +0.1
comp=Z,12nm,0.7s,baz=70,slow=1.6,SNR=63
GERES pPKP pPKPdf 14 08 43.0 -0.4
comp=Z,19nm,0.7s,baz=70,slow=1.6,SNR=22
MANZ Manzenberg 127.58 331 ePKP PKPdf 14 08 28.4 -0.4
MANZ epPKP pPKPdf 14 08 42.2 -1.3
KOGS Kog 127.66 326 ePKPdf PKPdf 14 08 28.3 -0.8
ROTZ Rotzenmuhle 127.69 331 epPKP pPKPdf 14 08 42.5 -1.2
WET Wettzell 127.77 330 ePKP PKPdf 14 08 28.8 -0.4
WET epPKP pPKPdf 14 08 42.8 -1.1
GVD Gavdhos 127.86 309 ePKPdf PKPdf 14 08 27.8 -2.1
GVD epPKPdf pPKPdf 14 08 42.9 -1.6
UBBA Unterbreizbach 127.98 333 ePKP PKPdf 14 08 28.9 -0.7
UBBA epPKP pPKPdf 14 08 42.7 -1.5
GRA1 Grafenberg Arr 128.21 331 ePKP PKPdf 14 08 29.6 -0.4
GRA1 epPKP pPKPdf 14 08 43.1 -1.6
GRA1 LR LR
comp=Z,800nm,21.9s,MS5.4
GRF Grafenberg Arr 128.21 331 ePKP PKPdf 14 08 29.6 -0.4
GRF epPKP pPKPdf 14 08 43.1 -1.6
GRF eL 15 07 54.0
comp=Z,784nm,21.9s
GRFO Grafenberg 128.21 331 ePKPdf PKPdf 14 08 29.4 -0.7
GRFO epPKPdf pPKPdf 14 08 43.4 -1.3
GRFO LR LR
comp=Z,862nm,22.0s,MS5.4
WTSB Winterswijk 128.50 336 ePKiKP pPKPdf 14 08 44.4 -0.8
comp=Z,90nm,1.6s
BOJS Bojanci 128.78 325 ePKPdf PKPdf 14 08 30.9 -0.3
BOJS epPKPdf pPKPdf 14 08 44.8 -1.1
LJU Ljubljana 128.86 326 i PKPdf PKPdf 14 08 30.9 -0.4
LJU epPKPdf pPKPdf 14 08 44.3 -1.7
ESK Eskdalemuir 129.04 345 PFAKE 14 08 40.0 +8.6
ESK LR LR
comp=Z,746nm,22.0s,MS5.3
VOY Vojsko 129.22 326 ePKPdf PKPdf 14 08 30.6 -1.5
VOY epPKPdf pPKPdf 14 08 44.8 -1.9
VOY e 14 09 01.2
WTTA Wattenberg 129.63 329 ⇑i pPKPdf 14 08 46.4 -1.1
comp=Z,113nm,1.2s
WTTA Wattenberg 129.63 329 ⇑iPKPdf PKPdf 14 08 32.0 -0.8
comp=Z,11nm,0.6s
WTTA ⇑ipPKiKP 14 08 46.4
comp=Z,113nm,1.2s
HGN Heimansgroeve 129.77 336 ePKiKP pPKPdf 14 08 46.5 -1.1
comp=Z,71nm,1.6s
HGN Heimansgroeve 129.77 336 ePP PP 14 10 43.4 -0.3
BEBN Eben Emael 129.85 336 aPKPdf pPKPdf 14 08 47.2 -0.5
MOTA Moosalm 129.85 329 ⇑i pPKPdf 14 08 46.7 -1.2
comp=Z,108nm,1.5s
MOTA Moosalm 129.85 329 ⇑iPKPdf PKPdf 14 08 32.1 -1.1
comp=Z,21nm,1.4s
MOTA ⇑ipPKPdf pPKPdf 14 08 46.7 -1.2
comp=Z,108nm,1.5s
MEM Membach 129.86 335 aPKPdf pPKPdf 14 08 46.9 -0.8
SQTA Sankt Quirin 129.88 329 ⇑i pPKPdf 14 08 46.9 -1.0
comp=Z,99nm,1.5s
SQTA Sankt Quirin 129.88 329 ⇑iPKiKP PKiKP 14 08 32.7 -1.3
comp=Z,25nm,1.6s
SQTA ⇑ipPKiKP 14 08 46.9
comp=Z,99nm,1.5s
FETA Feichten 130.26 329 ⇑iPKPdf PKPdf 14 08 33.3 -0.8
comp=Z,11nm,0.9s
FETA ⇑ipPKiKP 14 08 48.1
comp=Z,78nm,1.5s
BCLA Clavier 130.29 336 aPKPdf pPKPdf 14 08 47.7 -0.9
LANF Langenberg 130.29 333 PKP pPKPdf 14 08 47.3 -1.4
UCC Uccle 130.38 337 aPKPdf pPKPdf 14 08 48.0 -0.7
DAVA Damuels 130.50 330 ⇑i pPKPdf 14 08 48.1 -1.0
comp=Z,37nm,0.9s
DAVA Damuels 130.50 330 ⇑iPKPdf PKPdf 14 08 31.3 -3.2
comp=Z,7.7nm,1.0s
DAVA ⇑ipPKiKP 14 08 48.1
comp=Z,37nm,0.9s
WLF Walferdange 130.51 335 ePKPdf PKPdf 14 08 35.8 +1.3
WLF epPKPdf pPKPdf 14 08 48.6 -0.4
WLF Walferdange 130.51 335 aPKPdf pPKPdf 14 08 49.1 +0.1
WLF Walferdange 130.51 335 ePKP PKPdf 14 08 34.4 0.0
WLF epPKP pPKPdf 14 08 48.5 -0.6
BFO Black Forest 130.52 332 ePKPdf PKPdf 14 08 33.3 -1.1
BFO epPKPdf pPKPdf 14 08 47.3 -1.8
BFO LR LR
comp=Z,484nm,21.0s,MS5.2
BFO Black Forest 130.52 332 PKIKP PKPdf 14 08 34.0 -0.5
BFO e 14 08 47.4
STR Strasbourg 130.60 333 PKP pPKPdf 14 08 48.1 -1.2
LPAZ La Paz 130.63 118 ePKPdf PKPdf 14 08 35.6 +0.1
LPAZ epPKPdf pPKPdf 14 08 49.7 -0.6
LPAZ LR LR
comp=Z,796nm,21.0s,MS5.4
LPAZ La Paz 130.63 118 PKP PKPdf 14 08 36.3 +0.7
comp=Z,1.6nm,0.6s,baz=33,slow=8.4,SNR=6.4
SNF Seneffe 130.63 336 aPKPdf pPKPdf 14 08 47.4 -1.8

GIVF	Givet	130.73	336	ePKIKP	PKPdf	14 08 35.5	+0.7
BRMO	Bormio	130.81	329	PKP	PKPdf	14 08 34.5	-0.6
DOU	Dourbes	130.83	336	PKPdf	PKPdf	14 08 35.3	+0.3
DOU				aPKPdf		14 08 49.6	
CDF	Champ du Feu	130.95	333	ePKIKP	PKPdf	14 08 33.7	-1.6
comp=Z,12nm,0.8s							
BAIF	Baives	131.02	336	ePKIKP	PKPdf	14 08 34.3	-1.0
comp=Z,11nm,0.7s							
ECH	Echery	131.15	333	PKP	pPKPdf	14 08 47.2	-3.1
CING	Cingoli	131.23	324	PKP	PKPdf	14 08 35.8	-0.2
DMUB	Kingscourt	131.24	347	eP	pPKPdf	14 08 50.5	+0.2
TIP	Timpagrande	131.31	317	ePKPdf	pPKPdf	14 08 37.1	+0.9
TIP				epPKPdf	pPKPdf	14 08 49.9	-1.0
MRLC	Muro Lucano	131.32	320	PKP	PKPdf	14 08 34.5	-1.7
TUE	Stuetta	131.33	330	PKP	PKPdf	14 08 35.5	-0.6
MOF	Molkenrain	131.42	332	PKP	pPKPdf	14 08 48.2	-2.6
SNTG	Esanatoglia	131.45	324	PKP	PKPdf	14 08 37.1	+0.7
PIEI	Pieia	131.52	325	PKP	PKPdf	14 08 34.9	-1.6
SGO	Sicignano	131.54	320	PKP	PKPdf	14 08 36.5	-0.2
HINF	Hinteralfeld	131.58	332	ePKIKP	PKPdf	14 08 35.1	-1.4
comp=Z,35nm,0.9s							
THEF	They Montfort	131.66	333	PKP	pPKPdf	14 08 50.1	-1.2
HAU	Haudompre	131.67	333	ePKIKP	PKPdf	14 08 35.4	-1.2
comp=Z,34nm,0.8s							
HAU				eMLR	MLR		
comp=Z,681nm,21.8s,MS5.0							
HAU	Haudompre	131.67	333	ePKIKP	PKPdf	14 08 35.4	-1.2
HAU				MLR	MLR		
comp=Z,680nm,21.8s,MS5.3							
SFI	Santa Sofia	131.68	325	PKP	PKPdf	14 08 37.0	+0.2
DCN	Croghan	131.83	347	eP	pPKPdf	14 08 51.1	-0.3
VVLD	Villa Vallelon	131.87	322	PKP	PKPdf	14 08 36.8	-0.4
MEZF	Maizieres J'vi	131.87	334	ePKIKP	PKPdf	14 08 36.3	-0.7
comp=Z,58nm,0.8s							
ZCCA	Zocca	131.88	326	PKP	PKPdf	14 08 37.7	+0.5
FNVD	Fontana Vidola	131.92	326	PKP	PKPdf	14 08 37.4	+0.2
LOMF	Lomont	131.93	332	PKP	pPKPdf	14 08 50.5	-1.3
SOI	Samo	132.34	317	PKP	PKPdf	14 08 37.7	-0.5
CABF	La Chapelle	132.81	332	ePKIKP	PKPdf	14 08 38.3	-0.6
comp=Z,45nm,0.9s							
LPL	La Plagne	133.30	330	ePKIKP	PKPdf	14 08 39.2	-0.6
comp=Z,39nm,1.0s							
LPG	La Plagne	133.30	330	ePKIKP	PKPdf	14 08 39.3	-0.5
comp=Z,33nm,0.9s							
LOR	Lormes	133.33	334	ePKIKP	PKPdf	14 08 38.9	-0.9
comp=Z,34nm,1.1s							
LOR				eMLR	MLR		
comp=Z,1μm,21.5s,MS5.2							
LOR	Lormes	133.33	334	ePKIKP	PKPdf	14 08 38.9	-0.9
LOR				MLR	MLR		
comp=Z,1μm,21.5s,MS5.5							
SSF	Saint Saulge	133.64	334	ePKIKP	PKPdf	14 08 39.6	-0.8
comp=Z,32nm,0.9s							
BNI	Bardonecchia	133.66	330	ePKPdf	PKPdf	14 08 40.4	-0.1
BNI				epPKPdf	pPKPdf	14 08 54.6	-0.6
CPUP	Villa Florida	133.74	137	ePKPdf	PKPdf	14 08 39.0	-2.2
CPUP	Villa Florida	133.74	137	PKIKP	PKPdf	14 08 41.8	+0.6
CPUP	Villa Florida	133.74	137	PKP	PKPdf	14 08 40.4	-0.9
comp=Z,1.6nm,0.6s,baz=283,slow=2.7,SNR=4.3							
SMF	Signal de Mont	133.81	333	ePKIKP	PKPdf	14 08 39.6	-1.1
comp=Z,22nm,1.0s							
MBDF	Montbardon	133.84	330	ePKIKP	PKPdf	14 08 39.9	-0.9
FLN	La Foliniere	133.87	338	ePKIKP	PKPdf	14 08 39.7	-1.1
comp=Z,42nm,1.0s							
FLN				eMLR	MLR		
comp=Z,2μm,21.5s,MS5.4							
FLN	La Foliniere	133.87	338	ePKIKP	PKPdf	14 08 39.7	-1.1
FLN				MLR	MLR		
comp=Z,2μm,21.5s,MS5.7							
SDV	Santo Domingo	133.87	84	ePKPdf	PKPdf	14 08 39.4	-2.4
LDF	La Druitiere	133.87	338	ePKIKP	PKPdf	14 08 39.7	-1.1
AVF	Avril sur Loir	133.92	334	ePKIKP	PKPdf	14 08 39.6	-1.3
SAOF	Saorge	133.96	328	PKP	pPKPdf	14 08 54.3	-1.5
AUTN	L'Aution	134.02	328	PKP	pPKPdf	14 08 53.9	-2.0
TOUF	Mont Tournerai	134.10	329	PKP	pPKPdf	14 08 53.9	-2.1
SBF	Sospel	134.11	328	ePKIKP	PKPdf	14 08 40.1	-1.3
LUCF	Luceram	134.13	328	PKP	pPKPdf	14 08 53.1	-3.0
PGF	Pioggiola	134.15	326	ePKIKP	PKPdf	14 08 40.5	-1.0
comp=Z,94nm,1.0s							
ORIF	Oris-en-Rattie	134.15	330	ePKIKP	PKPdf	14 08 40.1	-1.3
comp=Z,33nm,0.9s							
ORIF				eMLR	MLR		
comp=Z,1μm,21.8s,MS5.2							
MVIF	Mont Vial	134.23	328	PKP	pPKPdf	14 08 53.4	-2.9
GRR	Gorron	134.32	338	ePKIKP	PKPdf	14 08 40.7	-0.9
BGF	Bois d'Agland	134.32	334	ePKIKP	PKPdf	14 08 40.9	-0.8
comp=Z,30nm,0.9s							
PLDF	La Plantade	134.43	333	PKP	pPKPdf	14 08 55.5	-1.1
CALN	Calern	134.47	329	PKP	pPKPdf	14 08 56.3	-0.4
AGO	Saint Agoulin	134.59	333	PKP	pPKPdf	14 08 55.6	-1.3
BBSR	BB Station	134.61	51	PFAKE		14 08 50.0	+7.3
BBSR				LR	LR		
comp=Z,903nm,19.0s,MS5.5							
FRF	La Foret Royal	134.73	328	ePKIKP	PKPdf	14 08 41.5	-1.0
comp=Z,12nm,0.6s							
VIVF	Saint-Julien-l	134.78	331	ePKIKP	PKPdf	14 08 41.9	-0.7
comp=Z,36nm,1.1s							
STOF	St-Etienne Org	134.79	329	PKP	pPKPdf	14 08 55.4	-1.9
TCF	Toulx Ste Croi	134.80	334	ePKIKP	PKPdf	14 08 41.9	-0.7
comp=Z,36nm,0.9s							
PYM	Petit Puy Mans	134.87	333	PKP	pPKPdf	14 08 56.3	-1.1
LMR	La Mourre	134.96	328	ePKIKP	PKPdf	14 08 41.9	-1.1
comp=Z,34nm,1.0s							
SMRF	Simiane la Rot	134.98	330	ePKIKP	PKPdf	14 08 42.5	-0.5
TAVF	Tavernes	134.99	329	PKP	pPKPdf	14 08 56.1	-1.6
VILF	Villemus	135.00	329	PKP	pPKPdf	14 08 56.7	-1.0
SGMF	Saint Gilles	135.03	340	ePKIKP	PKPdf	14 08 42.0	-1.0
ROSF	Rostrenen	135.20	340	ePKIKP	PKPdf	14 08 42.1	-1.2
PUYF	Puyloubier	135.23	329	PKP	pPKPdf	14 08 56.4	-1.8
PRAF	Pradon	135.31	330	PKP	pPKPdf	14 08 56.4	-1.9
BERF	Bertagne	135.40	329	PKP	pPKPdf	14 08 56.7	-1.8
GELF	Grande-Etoile	135.48	329	PKP	pPKPdf	14 08 57.2	-1.4
MFF	Saint Martin d	135.53	336	ePKIKP	PKPdf	14 08 43.1	-0.8
comp=Z,21nm,0.8s							
QUIF	Quistinic	135.53	340	ePKIKP	PKPdf	14 08 43.0	-0.9
LASF	Ste Croix	135.75	331	ePKIKP	PKPdf	14 08 43.7	-0.7
comp=Z,19nm,0.8s							
VSL	Villasalto	135.87	322	ePKPdf	PKPdf	14 08 44.0	-0.9
VSL				epPKPdf	pPKPdf	14 08 56.9	-2.6
RJF	Les Rejaudoux	135.88	334	ePKIKP	PKPdf	14 08 44.7	+0.1
comp=Z,21nm,1.0s							
RJF				eMLR	MLR		
comp=Z,883nm,22.2s,MS5.1							
RJF	Les Rejaudoux	135.88	334	ePKIKP	PKPdf	14 08 44.7	+0.1
RJF				MLR	MLR		
comp=Z,880nm,22.3s,MS5.4							
SIV	San Ignacio	136.82	122	PKP	PKPdf	14 08 47.9	+0.7
SIV	San Ignacio	136.82	122	PKhKP		14 08 35.2	
comp=Z,2.0nm,1.0s,baz=259,slow=1.8,SNR=4.7							
SIV				PKP	PKPdf	14 08 47.9	+0.7
comp=Z,4.6nm,0.9s,baz=244,slow=4.0,SNR=7.4							
KEST	Kesra	138.13	318	PKP	PKPdf	14 08 48.0	-1.2
comp=Z,2.9nm,0.8s,baz=310,slow=3.8,SNR=8.1							
EPF	Esparros	138.19	333	ePKIKP	PKPdf	14 08 49.1	+0.1
comp=Z,20nm,0.9s							
EMIR	Miracle	138.50	331	PKP	PKPdf	14 08 46.8	-2.8
EBIE	Bielsa	138.55	333	PKP	PKPdf	14 08 48.6	-1.1
ETSF	Etsaut	138.70	334	ePKIKP	PKPdf	14 08 50.6	+0.7
comp=Z,32nm,0.7s							
SJPF	Ste Jean	138.81	334	ePKIKP	PKPdf	14 08 48.5	-1.6
CMAH	Djebel Manchou	138.85	320	P	PKPdf	14 08 52.0	+1.6
ABSA	Djebel Ababsia	139.03	320	P	PKPdf	14 08 52.0	+1.2
CAEH	'Ain El Ouahch	139.12	321	P	PKPdf	14 08 54.0	+3.1
EPOB	Poblet	139.15	331	PKP	PKPdf	14 08 49.1	-1.7
CKFL	Kef-Lekhel	139.44	321	P	PKPdf	14 08 58.0	+6.5
CASM	Ain Smara	139.67	321	P	PKPdf	14 08 55.0	+3.1
ERTA	Horta de San J	139.81	331	PKP	PKPdf	14 08 49.0	-3.0
CTEI	Djebel Teioual	139.84	320	P	PKPdf	14 08 55.0	+2.8
DFRA	Djebel Bou Aff	139.87	321	P	PKPdf	14 08 52.0	-0.3
SET	Setif	140.39	321	P	PKPdf	14 08 55.0	+1.8
CKHR	Kef el Ahmar	140.44	321	P	PKPdf	14 08 56.2	+2.9
CMER	Merouana	140.44	320	P	PKPdf	14 08 59.0	+5.7
EMOS	Mosqueruela	140.66	331	PKP	PKPdf	14 08 52.4	-1.2
ETOR	Torete	141.03	333	PKP	PKPdf	14 08 49.1	-5.1
ECHE	Chera	141.50	331	PKP	PKPdf	14 08 53.4	-1.7
ERUA	La Rua	141.72	340	PKP	PKPdf	14 08 54.3	-1.1
STS	Santiago	141.75	341	PKP	PKPdf	14 08 54.6	-0.9
EBEN	Beniarda	141.81	329	PKP	PKPdf	14 08 54.1	-1.6
EMHD	Djebel Mahouad	141.87	323	P	PKPdf	14 08 50.9	-5.0
GUD	Guadarrama	142.09	335	PKP	PKPdf	14 08 51.0	-5.1
ELOB	Lobios	142.50	340	PKP	PKPdf	14 08 56.6	-0.2
ETOB	Tobarra	142.52	330	PKP	PKPdf	14 08 56.2	-0.8
EBNR	Beni Rached	142.63	325	P	PKPdf	14 08 52.5	-4.7
MVO	Moncorvo	142.76	339	ePKP	PKPdf	14 08 54.4	-2.9
MVO	Moncorvo	142.76	339	eLR	LR	14 59 20.0	
comp=Z,728nm,20.0s							
ESDC	Sonseca Array	142.81	334	PKP	PKPdf	14 08 53.7	-3.7
ESDC	Sonseca Array	142.81	334	PKhKP		14 08 53.7	
comp=Z,5.0nm,0.8s,baz=25,slow=3.2,SNR=16							
ESLA	Sonseca Array	142.81	334	ePKPpre		14 08 54.0	
ESLA				LR	LR		
comp=Z,4μm,20.0s,MS6.2							
ECHA	Ech Chlef	142.83	325	P	PKPdf	14 08 53.3	-4.3
EVIA	Vianos	142.98	331	PKP	PKPdf	14 08 55.2	-2.6
EMUR	La Murta	142.98	329	PKP	PKPdf	14 08 55.6	-2.2
PAB	San Pablo	143.08	334	ePKPpre		14 08 54.8	
PAB				LR	LR		
comp=Z,861nm,20.0s,MS5.5							
PAB	San Pablo	143.08	334	PKIKP	PKPdf	14 08 55.3	-2.6
EANR	'Ain N'Sour	143.12	325	P	PKPdf	14 08 54.4	-3.7
ETRT	Tiaret	143.40	324	P	PKPdf	14 08 56.0	-2.6
MTE	Manteigas	143.62	339	ePKP	PKPdf	14 08 56.9	-2.0
MTE				epPKP	pPKPdf	14 09 10.4	-3.1
MTE	Manteigas	143.62	339	eLR	LR	14 59 41.7	
comp=Z,803nm,24.8s							
MTE	Manteigas	143.62	339	ePKPpre		14 08 56.5	
EQES	Quesada	143.92	331	PKP	PKPdf	14 08 57.6	-1.8
EBAN	Banos Encina	143.96	332	PKP	PKPdf	14 08 57.7	-1.9
PCBR	Castelo Branco	144.09	338	ePKP	PKPdf	14 08 58.3	-1.4
PCBR				epPKP	pPKPdf	14 09 11.4	-3.0
ENIJ	Nijar	144.14	329	PKP	PKPdf	14 08 57.7	-2.2
USTO	Oran	144.20	326	P	pPKPdf	14 09 13.0	-1.7
ODJA	Bouhanifia	144.27	325	P	pPKPdf	14 09 14.0	-0.8
EADA	Adamuz	144.32	333	PKP	PKPdf	14 08 59.2	-0.9
EBER	Berja	144.54	330	PKP	PKPdf	14 08 58.9	-1.7
BBGH	Gun Hill	144.56	77	PFAKE		14 09 10.0	+8.8
BBGH				LR	LR		
comp=Z,1μm,19.0s,MS5.8							
ECOG	Cogollos-Vega	144.57	331	PKP	PKPdf	14 08 58.8	-1.8
PTOM	Tomar	144.62	339	ePKP	PKPdf	14 09 00.3	-0.3
PTOM				epPKP	pPKPdf	14 09 13.6	-1.7
ELUQ	Luque	144.67	332	PKP	PKPdf	14 08 59.8	-1.0
ECAB	El Cabril	144.77	334	PKP	PKPdf	14 09 00.7	-0.3
EBAD	Badajoz	144.85	337	PKP	PKPdf	14 09 00.7	-0.3
ERON	Agron	144.89	331	PKP	PKPdf	14 08 58.9	-2.3
EGUA	Guajares	144.93	331	PKP	PKPdf	14 09 00.3	-0.9
ELOJ	Sierra Loja	144.96	332	PKP	PKPdf	14 09 00.2	-1.1
PESTR	Estremoz	144.98	337	ePKP	PKPdf	14 09 00.3	-1.0
PESTR				epPKP	pPKPdf	14 09 12.9	-3.0
PESTR	Estremoz	144.98	337	eLR	LR	15 00 39.6	
comp=Z,1μm,22.0s							
PBAR	Barrancos	145.36	336	ePKP	PKPdf	14 09 01.9	-0.1
PBAR				epPKP	pPKPdf	14 09 15.4	-1.2
PBAR	Barrancos	145.36	336	eLR	LR	15 01 20.1	
comp=Z,1μm,20.1s							
EALB	Alboran	145.36	329	PKP	PKPdf	14 09 01.2	-0.8
EVO	Evora	145.43	338	↑iPKIKP	PKPdf	14 09 02.1	0.0
comp=Z,231nm,1.6s							
EVO				eMLR	MLR		
comp=Z,860nm,23.0s,MS5.2							
EVO	Evora	145.43	338	ePKP	PKPdf	14 09 02.0	-0.1
EVO				epPKP	pPKPdf	14 09 15.0	-1.7
PMAFR	Mafra	145.52	339	ePKP	PKPdf	14 09 02.0	-0.2
PMAFR				epPKP	pPKPdf	14 09 16.1	-0.8
PMAFR	Mafra	145.52	339	eLR	LR	15 02 33.2	
comp=Z,650nm,22.0s							
EMIN	Mina Concepcio	145.56	335	PKP	PKPdf	14 09 02.8	+0.5
CAM4	Nova Friburgo	145.64	149	↑iP	PKPdf	14 09 03.0	+0.1
CAM4				*i*		14 09 16.7	
CAM4				*i*		14 09 19.3	
CAM4				*i*		14 09 23.8	
CAM4				*i*		14 09 29.3	
CAM4				*i*		14 09 31.2	
LIS	Lisbon	145.69	339	eP	PKPdf	14 09 00.2	-2.3
EMIJ	Mijas	145.72	332	PKP	PKPdf	14 09 02.2	-0.4
PBEJ	Beja	145.82	337	ePKP	PKPdf	14 09 03.6	+0.9
PBEJ				epPKP	pPKPdf	14 09 17.8	+0.4
ESPR	Espera	145.96	333	PKP	PKPdf	14 09 04.2	+1.2
EGRO	El Granado	146.09	336	PKP	PKPdf	14 09 04.3	+1.1
EJIF	Jimena Fronter	146.13	333	PKP	PKPdf	14 09 04.3	+1.0
PVAQ	Vaqueiros	146.30	336	ePKP	PKPdf	14 09 02.9	-0.7
PVAQ				epPKP	pPKPdf	14 09 18.7	+0.4
PVAQ	Vaqueiros	146.30	336	eLR	LR	15 01 38.5	
comp=Z,901nm,20.0s							
SFS	San Fernando	146.45	333	PKPdf	PKPdf	14 09 05.4	+1.5
PBDV	Barranco-do-Ve	146.52	336	ePKP	PKPdf	14 09 05.7	+1.7
PBDV				epPKP	pPKPdf	14 09 19.6	+1.0
PBDV	Barranco-do-Ve	146.52	336	eLR	LR	15 01 43.9	
comp=Z,883nm,20.2s							
MORF	Marmelete	146.75	337	ePKP	PKPdf	14 09 06.2	+1.9
MORF				epPKP	pPKPdf	14 09 19.7	+0.7
MORF	Marmelete	146.75	337	eLR	LR	15 03 51.8	
comp=Z,1μm,21.0s							
PFVI	Vila Bisbo	146.97	337	ePKP	PKPdf	14 09 06.1	+1.4
PFVI				epPKP	pPKPdf	14 09 20.4	+1.0
PFVI	Vila Bisbo	146.97	337	eLR	LR	15 01 54.4	
comp=Z,892nm,22.0s							
BDFB	Brasilia	147.30	134	PKP2	PKPab	14 09 07.9	-2.1
BDFB				pmax	pmax		
comp=Z,35nm,0.8s							
BDFB				pmax	pmax		
comp=Z,79nm,0.7s							
BDFB	Brasilia	147.30	134	PKPbc	PKPbc	14 09 07.9	-0.3
comp=Z,35nm,0.8s,baz=236,slow=3.7,SNR=38							
BDFB				pPKP	pPKPdf	14 09 21.1	+0.6
comp=Z,79nm,0.7s,baz=178,slow=5.6,SNR=22							
CAM3	Guarapari	148.03	150	↑iP	PKPdf	14 09 09.8	+2.9
CAM3				*i*		14 09 13.2	
CAM3				*i*		14 09 23.1	
CAM3				*i*		14 09 41.3	
CMLA	Cha da Macela	149.37	2	PFAKE		14 09 20.0	+11
CMLA				LR	LR		
comp=Z,2μm,22.0s,MS5.8							
DBIC	Dimbokro	160.92	270	ePKPdf	PKPdf	14 09 24.0	-1.0
DBIC				epPKPdf	pPKPdf	14 09 37.6	-2.1
DBIC				LR	LR		
comp=Z,1μm,22.0s							
DBIC	Dimbokro	160.92	270	PKIKP	PKPdf	14 09 24.4	-0.6
DBIC						14 09 38.9	
DBIC						14 10 07.6	
DBIC				pmax	pmax		
comp=Z,7.0nm,0.9s							
DBIC				pmax	pmax		
comp=Z,31nm,1.1s							
DBIC				pmax	pmax		
comp=Z,35nm,0.7s							
DBIC				pmax	pmax		
comp=Z,148nm,1.0s							
DBIC	Dimbokro	160.92	270	PKP	PKPdf	14 09 24.4	-0.6
comp=Z,6.7nm,0.9s,baz=84,slow=3.6,SNR=5.8							
DBIC				pPKP	pPKPdf	14 09 38.9	-0.8
comp=Z,31nm,1.1s,baz=74,slow=3.2,SNR=12							
DBIC				PKPab	PKPab	14 10 07.6	-0.1
comp=Z,35nm,0.7s,baz=90,slow=4.9,SNR=19							
DBIC				pPKPab	pPKPab	14 10 20.8	-1.2
comp=Z,148nm,0.9s,baz=73,slow=4.7,SNR=22							
LIC	Lamto	161.06	269	ePKIKP	PKPdf	14 09 23.8	-1.3
comp=Z,109nm,1.5s							
LIC				eMLR	MLR		
comp=Z,1μm,19.5s							
LIC	Lamto	161.06	269	ePKPdf	PKPdf	14 09 23.8	-1.3
LIC				LR	LR		
comp=Z,550nm,19.5s							
ASCN	Ascension	162.26	213	PFAKE		14 09 40.0	+14
ASCN				LR	LR		
comp=Z,845nm,19.0s							
RCBR	Riachuelo	162.61	137	PFAKE		14 09 40.0	+13
RCBR				LR	LR		
comp=Z,1μm,20.0s							

MAN 27 13:56:33, 1706N×12144E, h39km, mb4.5, ML3.4, MS3.3, Luzon

MAN 27 14:26:50, 1259N×12340E, h14km, mb4.1, ML2.9, MS2.6, Luzon

IDC 27 14:40:45.4±18.0, 1727S×17918W, h557km±182km, mb3.4/4, mb1 3.6/4, mb1mx3.0/15, mbtmp3.4/4, Error ellipse: s-maj=115.6km s-min=86.1km az=91.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**38.30**	**240**	P	P	14 47 18.9	+0.1
2.1nm,0.5s,baz=89,slow=8.9,SNR=14							
WRA	**Warramunga Arr**	**44.03**	**259**	P	P	14 48 03.5	-0.9
1.8nm,0.7s,baz=94,slow=7.8,SNR=48							
ASAR	**Alice Springs**	**44.26**	**254**	P	P	14 48 06.0	-0.2
9.4nm,0.4s,baz=89,slow=7.8,SNR=332							
ASAR				PcP	PcP	14 49 37.8	-0.6
0.5nm,0.5s,baz=113,slow=3.9,SNR=4.1							
FITZ	**Fitzroy Crossi**	**52.41**	**260**	P	P	14 49 07.7	+1.0
1.0nm,0.3s,baz=114,slow=8.8,SNR=6.5							
GERES	**GERESS Array B**	**146.81**	**344**	PKPbc	PKPbc	14 59 24.7	-0.5
0.5nm,0.5s,baz=347,slow=4.0,SNR=5.3							

*IDC **27** 14:46:52.7±2.4, 255S×13968E, h0km, mb4.1/3, mb1 4.5/5, mb1mx4.0/13, mbtmp4.4/5, ML4.5/2, Error ellipse: s-maj=78.4km s-min=24.0km az=93.0*
*ISCJB **27** 14:46:56.6±6.2, 27S±02×1395E±03, h38km±55km, mb4.2/6, Error ellipse: s-maj=47.7km s-min=22.5km az=161.3*
*NEIC **27** 14:46:58.7±0.8, 267S×13935E, h35km, mb4.2/4, Error ellipse: s-maj=36.7km s-min=8.0km az=91.0*
ISC 27 14:46:58.9±6.1, 27S±02×1395E±03, h40km±55km, n12, σ0§51/12, mb4.2/6, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Kupang**	**17.41**	**244**	P	**Pn**	**14 50 59.5**	**+0.6**
4.6nm,0.3s,baz=116,slow=1.0,SNR=12							
WRAB	**Tennant Creek**	**17.87**	**196**	*e*Pn	**Pn**	**14 51 04.1**	**-0.4**
6.3nm,0.7s							
WB2	**Warramunga Arr**	**17.88**	**196**	*e*Pn	**Pn**	**14 51 04.0**	**-0.6**
WRA	**Warramunga Arr**	**17.88**	**196**	P	**Pn**	**14 51 04.8**	**+0.1**
1.0nm,0.3s,baz=17,slow=12,SNR=39							
ASAR	**Alice Springs**	**21.55**	**194**	P	**P**	**14 51 45.8**	**+0.8**
3.2nm,0.6s,mb3.9,baz=20,slow=10,SNR=48							
MBWA	**Marble Bar**	**26.60**	**225**	P	**P**	**14 52 33.3**	**-0.4**
4.7nm,0.7s,mb4.1							
YAK	**Yakutsk**	**64.97**	**355**	P	**P**	**14 57 34.9**	**+0.6**
7.3nm,0.6s,mb4.9							
MK31	**Makanchi Array**	**70.24**	**322**	*e*P	**P**	**14 58 07.6**	**-0.4**
MKAR	**Makanchi Array**	**70.24**	**322**	P	**P**	**14 58 08.5**	**+0.6**
2.0nm,0.6s,mb4.2,baz=118,slow=8.0,SNR=12							
ZALV	**Zalesovo Beam**	**72.30**	**330**	P	**P**	**14 58 19.7**	**-0.5**
0.7nm,0.4s,mb3.9,baz=103,slow=6.4,SNR=3.3							
KURK	**Kurchatov**	**74.14**	**325**	*e*P	**P**	**14 58 30.6**	**-0.5**
2.2nm,0.8s,mb4.1							
VNDA	**Vanda**	**75.74**	**175**	P	**P**	**14 58 40.2**	**+0.3**

*IDC **27** 15:02:11.0±1.4, 4673N×15573E, h0km, mb4.0/3, mb1 4.2/5, mb1mx3.7/22, mbtmp4.0/5, ML3.4/2, Error ellipse: s-maj=67.4km s-min=25.5km az=144.0*
*ISCJB **27** 15:02:14.3±0.9, 467N±0.1×1555E±02, h33km, mb3.8/5, Error ellipse: s-maj=19.7km s-min=11.7km az=41.6*
*MOS **27** 15:02:14.3±1.3, 4673N×15550E, h33km, mb4.1/4, Error ellipse: s-maj=22.4km s-min=16.0km az=52.0*
ISC 27 15:02:16.4±0.9, 467N±01×1557E±02, h35km, n14, σ1§04/14, mb3.8/5, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**5.63**	**257**	PN	**Pn**	**15 03 33.8**	**-3.7**
KUR				pmax	pmax		
comp=Z,170nm,0.7s							
ASAJ	**Asahikawa**	**9.55**	**259**	Pn	**Pn**	**15 04 30.8**	**-0.5**
comp=Z,0.4nm,0.3s,baz=82,slow=15,SNR=4.2							
ERM	**Erimo**	**10.11**	**247**	*i* PN	**Pn**	**15 04 40.6**	**+1.7**
MJAR	**Matsushiro Arr**	**16.51**	**238**	Pn	**Pn**	**15 06 03.0**	**-2.1**
comp=Z,0.2nm,0.3s,baz=29,slow=12,SNR=6.2							
YAK	**Yakutsk**	**21.31**	**325**	*i* P	**P**	**15 07 00.6**	**+0.8**
YAK				pmax	pmax		
comp=Z,8.0nm,1.2s,mb3.9							
BILL	**Bilibino**	**22.06**	**11**	*e*P	**P**	**15 07 06.9**	**-0.8**
BILL				*e*		15 07 15.2	
BILL				*e*		15 11 03.5	
BILL				pmax	pmax		
comp=Z,2.0nm,1.0s,mb3.5							
BILL				MLR	MLR		
comp=Z,100nm,16.0s							
TIXI	**Tiksi**	**28.00**	**342**	*i* P	**P**	**15 08 03.0**	**-0.5**
KURK	**Kurchatov**	**48.83**	**305**	*i* P	**P**	**15 10 58.7**	**+0.8**
WRA	**Warramunga Arr**	**69.09**	**201**	P	**P**	**15 13 18.6**	**0.0**
WRA				pmax	pmax		
comp=Z,1.0nm,0

GUMT	**Gumushane**	**0.57 282**	*e*PG	**Pg**	**15 22 25.9**	**-1.0**
GUMT			*e*SG	**Sg**	**15 22 33.7**	**-0.8**
EZC	**Erzincan**	**0.67 207**	*e*PG	**Pg**	**15 22 31.0**	**+2.2**
EZC			*e*SG	**Sg**	**15 22 43.1**	**+5.5**
MACK	**Trabzon**	**0.69 331**	*i* P	**Pg**	**15 22 28.5**	**-0.6**
MACK			*i* S	**Sg**	**15 22 39.5**	**+1.4**
KTUT	**Trabzon**	**0.73 332**	*e*PG	**Pg**	**15 22 29.5**	**-0.3**
KTUT			*e*SG	**Sg**	**15 22 40.4**	**+1.0**
PZAR	**Pazar-Rize**	**0.98 32**	*e*PG	**Pg**	**15 22 34.9**	**+0.2**
EZM	**Erzurum**	**0.98 116**	*e*PG	**Pg**	**15 22 34.3**	**-0.5**
EZM			*e*SG	**Sg**	**15 22 48.4**	**+0.8**
ERZM	**Erzurum**	**0.99 116**	⇓*i*P	**Pg**	**15 22 34.1**	**-0.6**
ESPY	**Espiye-Giresun**	**1.27 297**	*e*PN	**Pn**	**15 22 38.7**	**-0.9**
ESPY			*e*SN	**Sn**	**15 22 55.9**	**-0.7**
BCA	**Borcka**	**1.53 44**	*e*PN	**Pn**	**15 22 43.3**	**+0.2**
GRSN	**GIRESUNGRSN**	**1.59 292**	*i* P	**Pn**	**15 22 44.1**	**+0.1**
GRSN			*i* S	**Sn**	**15 23 05.5**	**+1.0**
KEMA	**Kemaliye**	**1.71 232**	*e*P	**Pn**	**15 22 44.7**	**-0.8**
KEMA			*i* S	**Sn**	**15 23 09.0**	**+1.5**
SVSK	**Karacayir**	**2.50 261**	*e*PN	**Pn**	**15 22 55.7**	**-0.8**

IDC 27 15:27:27.1±4.1, 687S×15537E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.6/13, mbtmp3.6/4, Error ellipse: s-maj=119.8km s-min=30.6km az=112.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.20**	**235**	P	P	15 32 46.3	+0.8
	0.5nm,0.4s,baz=60,slow=9.3,SNR=27						
WRA				pP		15 32 56.2	
	0.6nm,0.5s,baz=60,slow=9.3,SNR=6.1						
ASAR	**Alice Springs**	**26.54**	**229**	P	P	15 33 06.1	-0.6
	0.2nm,0.4s,baz=60,slow=9.7,SNR=10						
ASAR				pP		15 33 16.1	
	0.3nm,0.3s,baz=58,slow=9.4,SNR=3.0						
SONM	**Songino Array**	**69.44**	**327**	P	P	15 38 37.6	+0.6
	0.6nm,0.7s,baz=115,slow=5.1,SNR=4.8						
MKAR	**Makanchi Array**	**83.56**	**319**	P	P	15 39 57.0	-0.2
	0.9nm,0.7s,baz=101,slow=6.3,SNR=3.9						

*ISCJB **27** 15:33:52.8±0.4, 6178S±005×598W±02, h10km, mb4.8/22, MS4.6/3, Error ellipse: s-maj=13.2km s-min=7.9km az=177.1*
*IDC **27** 15:33:52.4±0.7, 6173S×5987W, h0km, mb4.6/11, mb1 4.6/12, mb1mx4.5/18, mbtmp4.5/12, ML4.9/1, MS4.0/2, Ms1 4.0/2, ms1mx3.4/20, Error ellipse: s-maj=26.2km s-min=16.2km az=93.0*
*BJI **27** 15:33:53.9, 6180S×5970W, h10km, mB4.8, Ms5.0, Msz4.9*
*NEIC **27** 15:33:54.0±0.4, 6183S×5973W, h10km, mb5.0/16, Error ellipse: s-maj=17.6km s-min=9.5km az=93.0*
ISC 27 15:33:54.4±0.4, 6181S±005×599W±02, h10km, n64, σ1§38/43, mb4.8/22, MS4.6/3, 2D, South Shetland Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMSA	**Palmer Station**	**3.50**	**210**	*e*Pn	**Pn**	**15 34 50.4**	**+1.6**
PMSA				*e*Sn	**Sn**	**15 35 43.4**	**+13**
PMSA	**Palmer Station**	**3.50**	**210**	Pn	**Pn**	**15 34 51.1**	**+2.3**
	11nm,0.3s,baz=42,slow=11,SNR=55						
USHA	**Ushuaia**	**8.30**	**324**	LR	LR	15 38 22.5	
	comp=Z,1μm,19.6s,baz=158,slow=33						
EFI	**East Falkland**	**10.21**	**7**	*e*Pn	**Pn**	**15 36 21.8**	**+1.0**
VNA3	**Neumayer Olymp**	**21.42**	**137**	*e*	**P**	**15 38 43.6**	**+1.6**
VNA3				*e*		15 38 47.3	
VNA3				*e*		15 38 57.0	
VNA3				*e*		15 39 03.5	
VNA1	**Neumayer--Stat**	**21.89**	**135**	*e*	**P**	**15 38 49.2**	**+2.2**
VNA1				*e*		15 38 52.7	
VNA1				*e*		15 38 59.7	
VNA1				*e*		15 39 05.2	
VNA1				*e*		15 39 17.9	
PLCA	**Paso Flores**	**22.07**	**338**	*e*P	**P**	**15 38 49.9**	**+0.8**
	17nm,1.3s,mb4.3						
PLCA	**Paso Flores**	**22.07**	**338**	P	**P**	**15 38 50.0**	**+0.9**
	6.1nm,1.1s,mb4.0,baz=175,slow=9.7,SNR=8.1						
VNA2	**Neumayer--Watz**	**22.17**	**136**	*e*	**P**	**15 38 51.4**	**+1.4**
	baz=261,slow=11						
VNA2				*e*		15 38 55.3	
VNA2				*e*		15 39 04.1	
VNA2				*e*		15 39 09.1	
VNA2				*e*		15 39 21.7	
VNA2				*e*		15 40 04.5	
VNA2				*e*		15 40 31.0	
SNAA	**Sanae**	**23.59**	**138**	*e*	**P**	**15 39 06.1**	**+1.2**
SNAA				*e*		15 39 10.0	
SNAA				*e*		15 39 16.1	
SNAA				*e*		15 39 24.9	
SNAA				*e*		15 40 04.8	
SNAA				*e*		15 40 27.4	
SNAA	**Sanae**	**23.59**	**138**	P	**P**	**15 39 06.2**	**+1.4**
	6.2nm,0.8s,mb4.1,baz=276,slow=8.1,SNR=42						
TRQA	**Tornquist**	**23.82**	**356**	*e*P	**P**	**15 39 08.2**	**+0.9**
	6.7nm,0.6s,mb4.2						
MAIT	**Maitri**	**28.38**	**139**	*e*P	**P**	**15 39 47.4**	**-0.8**
QSPA	**South Pole Qui**	**28.41**	**180**	P	**P**	**15 39 49.8**	**+1.4**
	13nm,0.8s,mb4.7,baz=160,slow=3.5,SNR=80						
CPUP	**Villa Florida**	**35.52**	**4**	*e*P	**P**	**15 40 50.6**	**-0.6**
CPUP	**Villa Florida**	**35.52**	**4**	P	**P**	**15 40 51.0**	**-0.1**
	4.6nm,0.8s,mb4.4,baz=162,slow=8.0,SNR=5.0						
SYO	**Syowa Base**	**37.57**	**144**	⇓*e*P	**P**	**15 41 07.2**	**-1.0**
SYO	**Syowa Base**	**37.57**	**144**	⇓*e*pP	pP	15 41 18.0	+6.7
SBA	**Scott Base**	**37.71**	**195**	*e*P	**P**	**15 41 11.6**	**+2.3**
	11nm,1.0s,mb4.5						
VNDA	**Vanda**	**38.56**	**193**	*e*P	**P**	**15 41 18.3**	**+1.8**
	7.3nm,1.4s,mb4.2						
VNDA	**Vanda**	**38.56**	**193**	P	**P**	**15 41 17.6**	**+1.2**
	1.5nm,0.7s,mb3.8,baz=141,slow=6.2,SNR=11						
MAW	**Mawson**	**44.42**	**153**	*e*P	**P**	**15 42 05.4**	**+0.8**
	36nm,1.0s,mb5.0						
MAW	**Mawson**	**44.42**	**153**	P	**P**	**15 42 05.5**	**+1.0**
	24nm,0.9s,mb4.9,baz=220,slow=9.4,SNR=31						
MAW				PcP	PcP	15 43 48.1	+0.2
	5.7nm,0.6s,baz=211,slow=6.0,SNR=6.6						
LPAZ	**La Paz**	**45.84**	**349**	*e*P	**P**	**15 42 18.1**	**+1.7**
	5.6nm,1.0s,mb4.5						
CASY	**Casey**	**52.02**	**175**	*e*P	**P**	**15 43 00.3**	**-3.0**
	34nm,1.4s,mb5.1						
SUR	**Sutherland**	**57.75**	**99**	*e*P	**P**	**15 43 45.4**	**+0.2**
	14nm,0.6s,mb5.2						
BOSA	**Boshof**	**62.98**	**100**	*e*P	**P**	**15 44 19.9**	**-1.1**
BOSA	**Boshof**	**62.98**	**100**	P	**P**	**15 44 20.4**	**-0.6**
	17nm,0.7s,mb5.3,baz=203,slow=6.8,SNR=35						
LBTB	**Lobatse**	**66.20**	**99**	*e*P	**P**	**15 44 40.8**	**-1.2**
	22nm,0.8s,mb5.2						
LSZ	**Lusaka**	**75.80**	**96**	*e*P	**P**	**15 45 40.0**	**-0.4**
	14nm,0.8s,mb4.9						
LSZ				*e*		15 45 51.5	
DBIC	**Dimbokro**	**80.30**	**56**	*e*P	**P**	**15 46 04.1**	**-1.2**
	29nm,1.4s,mb5.0						
DBIC	**Dimbokro**	**80.30**	**56**	P	**P**	**15 46 04.5**	**-0.8**
	1.8nm,0.4s,mb4.4,baz=157,slow=7.6,SNR=6.8						
DBIC				LR	LR	16 12 38.9	
	comp=Z,92nm,19.0s,MS4.1,baz=194,slow=29						
STKA	**Stephens Creek**	**85.03**	**198**	*e*P	**P**	**15 46 29.4**	**-0.4**
	2.6nm,0.9s,mb4.4						
STKA	**Stephens Creek**	**85.03**	**198**	*e*P	**P**	**15 46 29.2**	**-0.6**
	4.0nm,0.7s,mb4.7						
STKA	**Stephens Creek**	**85.03**	**198**	P	**P**	**15 46 29.1**	**-0.7**
	2.7nm,0.7s,mb4.5,baz=52,slow=4.8,SNR=8.0						
NWAO	**Narrogin (SRO)**	**85.57**	**178**	*e*P	**P**	**15 46 31.1**	**-1.4**
	14nm,1.0s,mb5.1						
MUN	**Mundaring**	**86.49**	**177**	*e*P	**P**	**15 46 36.3**	**-0.8**
KLBR	**Kellerberrin**	**86.91**	**178**	*e*P	**P**	**15 46 37.8**	**-1.3**
	6.5nm,0.5s,mb5.1						
FORT	**Forrest**	**87.51**	**187**	*e*P	**P**	**15 46 41.3**	**-0.8**
	13nm,0.5s,mb5.4						
ASAR	**Alice Springs**	**94.10**	**193**	P	**P**	**15 47 11.1**	**-1.8**
	1.1nm,0.5s,mb4.5,baz=167,slow=4.4,SNR=51						
ASAR				PP	PP	15 50 57.5	-0.7
	0.7nm,0.9s,baz=166,slow=9.1,SNR=4.9						
WB2	**Warramunga Arr**	**97.73**	**194**	*e*P	**P**	**15 47 27.5**	**-1.9**
WB2	**Warramunga Arr**	**97.73**	**194**	*e*P	**P**	**15 47 27.1**	**-2.3**
WRA	**Warramunga Arr**	**97.73**	**194**	P	**P**	**15 47 27.8**	**-1.6**
	1.4nm,0.4s,mb4.8,baz=178,slow=4.0,SNR=52						
WRA				PP	PP	15 51 26.0	-0.5
	0.6nm,0.8s,baz=181,slow=6.7,SNR=7.1						
WRAB	**Tennant Creek**	**97.74**	**194**	*e*P	**P**	**15 47 27.2**	**-2.3**
	16nm,1.3s,mb5.4						
GERES	**GERESS Array B**	**124.91**	**51**	PKP	PKPdf	15 52 52.3	-0.9
	0.9nm,0.5s,baz=254,slow=1.0,SNR=8.0						
CLL	**Collm**	**126.70**	**48**	*e*PKPdf	PKPdf	15 52 56.0	-0.6

YKA	**Yellowknife Ar**	**130.69**	**330**	PKP	PKPdf	15 53 03.6	-0.2
	0.4nm,0.6s,baz=143,slow=2.5,SNR=9.2						
ARCES	**ARCESS Array B**	**144.15**	**37**	PKP	PKPdf	15 53 25.5	-2.9
	1.8nm,0.4s,baz=224,slow=3.1,SNR=37						
AML	**Almayashu**	**146.30**	**104**	*e*PKPdf	PKPdf	15 53 33.4	+0.5
AML				*e*		15 53 45.3	
AML	**Almayashu**	**146.30**	**104**	P	PKPdf	15 53 33.9	+0.9
	SNR=12						
UCH	**Uchtor**	**146.75**	**105**	*e*PKPdf	PKPdf	15 53 34.6	+0.9
UCH	**Uchtor**	**146.75**	**105**	P	PKPdf	15 53 35.3	+1.6
	SNR=8.6						
EKS2	**Erkin-Say**	**146.75**	**104**	*e*PKPdf	PKPdf	15 53 34.3	+0.6
KZA	**Kyzart**	**146.97**	**106**	P	PKPdf	15 53 35.9	+1.9
	SNR=5.3						
AAK	**Ala-Archa**	**147.06**	**104**	*e*PKPdf	PKPdf	15 53 33.7	-0.5
AAK	**Ala-Archa**	**147.06**	**104**	P	PKPdf	15 53 35.5	+1.2
	SNR=6.5						
KBK	**Karagaybulak**	**147.28**	**105**	P	PKPdf	15 53 36.2	+1.6
	SNR=5.3						
CD2	**Chengdu**	**147.31**	**153**	*e*PKP	PKPdf	15 53 33.8	-1.2
CD2				PP	PP	15 57 05.5	+2.7
CD2				SKS	SKSdf	16 00 37.0	-6.4
CD2				SS	SS	16 16 03.5	-0.8
CD2				LR	LR		
	comp=N,150nm,22.4s						
CD2				LR	LR		
	comp=Z,130nm,24.2s,MS4.6						
TKM2	**Tokmak 2**	**147.79**	**105**	*e*PKPbc	PKPbc	15 53 36.6	-1.7
GAMB	**Gambell**	**150.07**	**304**	*e*PKPbc	PKPbc	15 53 43.5	+0.1
MKAR	**Makanchi Array**	**153.81**	**108**	PKPbc	PKPbc	15 53 50.5	-1.9
MKAR				PKPab	PKPab	15 54 05.3	-0.3
MKAR	**Makanchi Array**	**153.81**	**108**	PKPbc	PKPbc	15 53 50.5	-1.9
	comp=Z,0.7nm,0.5s,baz=349,slow=2.9,SNR=4.4						
MKAR				PKPab	PKPab	15 54 05.3	-0.3
	comp=Z,3.4nm,0.8s,baz=222,slow=3.9,SNR=12						
HHC	**Hu-ho-hao-te**	**158.38**	**162**	*e*PKP	PKPdf	15 53 52.0	+1.2
HHC				PKS		15 57 22.8	
HHC				SKS	SKSdf	16 00 52.8	-3.2
HHC				SKKS	SKKSac	16 04 54.3	+0.2
HHC				PP	PP		
	comp=Z,80nm,7.6s						
HHC				LR	LR		
	comp=E,159nm,4.6s						
HHC				LR	LR		
	comp=Z,132nm,14.1s,MS4.9						
ULN	**Ulaanbaatar**	**164.19**	**146**	*e*PKPab	PKPab	15 54 48.5	-2.1

*ISCJB **27** 15:42:50.5±0.2, 3711N±001×11529W±001, h10km, Error ellipse: s-maj=1.7km s-min=1.7km az=26.7*
*NEIC **27** 15:42:50.6±0.3, 3710N×11532W, h5km, ML3.6, MW3.8(SLM), Error ellipse: s-maj=5.4km s-min=4.0km az=156.0*
*IDC **27** 15:42:50.8±0.9, 3703N×11528W, h0km, mb3.0/1, mb1 3.7/6, mb1mx3.5/25, mbtmp3.4/6, ML2.8/5, Error ellipse: s-maj=17.5km s-min=9.1km az=41.0*
ISC 27 15:42:51.1±0.1, 3710N±001×11528W±001, h10km, n111, σ1§09/176, 48C-51D, Southern Nevada

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
T11A	**Corn Creek, Al**	**0.15**	**18**	⇓P	**Pg**	**15 42 53.2**	**-1.3**
	baz=0.1,SNR=1000						
T11A				⇓S	**Sg**	**15 42 54.4**	**-2.5**
	baz=0.1						
T12A	**Moapa**	**0.58**	**129**	P	**Pg**	**15 43 01.4**	**-1.1**
	baz=0.6,SNR=118						
T12A				⇓S	**Sg**	**15 43 09.4**	**-0.8**
	baz=0.6						
S12A	**Delamar Landin**	**0.61**	**34**	P	**Pg**	**15 43 02.3**	**-0.8**
	baz=0.6,SNR=418						
S12A				⇓S	**Sg**	**15 43 09.4**	**-1.7**
	baz=0.6						
S11A	**Rachel**	**0.66**	**326**	⇓P	**Pg**	**15 43 02.5**	**-1.4**
	baz=0.7,SNR=77						
S11A				⇑S	**Sg**	**15 43 11.7**	**-0.9**
	baz=0.7						
U11A	**Corn Creek**	**0.68**	**187**	⇑P	**Pg**	**15 43 03.6**	**-0.6**
	baz=0.7,SNR=73						
U11A				⇑S	**Sg**	**15 43 13.1**	**0.0**
	baz=0.7						
TPNV	**Topopah Spring**	**0.79**	**260**	*e*Pg	**Pg**	**15 43 05.3**	**-1.1**
TPNV				*e*Sg	**Sg**	**15 43 15.7**	**-1.0**
TPNV	**Topopah Spring**	**0.79**	**260**	P	**Pg**	**15 43 05.4**	**-1.0**
	baz=0.8,SNR=1000						
TPNV				⇓S	**Sg**	**15 43 15.7**	**-1.0**
	baz=0.8						
U12A	**Valley of Fire**	**0.89**	**138**	⇓P	**Pg**	**15 43 06.8**	**-1.5**
	baz=0.9						
U10A	**Ash Meadows, A**	**1.08**	**232**	⇓P	**Pb**	**15 43 11.0**	**-0.9**
	baz=1.1,SNR=376						
U10A				⇓S	**Sg**	**15 43 25.4**	**-0.5**
	baz=1.1						
T13A	**Saint George**	**1.10**	**94**	⇓P	**Pb**	**15 43 10.9**	**-1.3**
	baz=1.1,SNR=195						
T13A				⇓S	**Sg**	**15 43 25.8**	**-0.8**
	baz=1.1						
S13A	**Holt Ranch, En**	**1.23**	**66**	⇓P	**Pn**	**15 43 13.4**	**-1.0**
	baz=1.2,SNR=812						
U13A	**Pakoon Wash**	**1.26**	**122**	⇑P	**Pn**	**15 43 13.6**	**-1.1**
	baz=1.3,SNR=1000						
U13A				⇓S	**Sb**	**15 43 30.4**	**-0.7**
	baz=1.3						
V11A	**Goodsprings**	**1.26**	**186**	⇓P	**Pn**	**15 43 14.1**	**-0.7**
	baz=1.3,SNR=118						
V11A				⇑S	**Sb**	**15 43 31.1**	**-0.2**
	baz=1.3						
R11A	**Troy Canyon, C**	**1.27**	**349**	⇓P	**Pn**	**15 43 13.6**	**-1.4**
	baz=1.3,SNR=1000						
R11A				⇓S	**Sb**	**15 43 31.3**	**-0.4**
	baz=1.3						
S10A	**Tonopah Range,**	**1.33**	**309**	P	**Pn**	**15 43 15.0**	**-0.8**
	baz=1.3,SNR=1000						
R12A	**Pony Springs,**	**1.34**	**23**	⇓P	**Pn**	**15 43 15.4**	**-0.5**
	baz=1.3,SNR=1000						
R12A				⇑S	**Sb**	**15 43 33.4**	**-0.1**
	baz=1.3						
FURC	**Furnace Creek,**	**1.42**	**244**	⇓P	**Pn**	**15 43 16.9**	**0.0**
	baz=1.4,SNR=201						
FURC				⇑S	**Sn**	**15 43 36.1**	**+0.5**
	baz=1.4						
R10A	**Warm Springs**	**1.44**	**326**	P	**Pn**	**15 43 17.0**	**-0.3**
	baz=1.4,SNR=576						
SHOC	**Shoshone**	**1.44**	**214**	⇓P	**Pn**	**15 43 17.3**	**0.0**
	baz=1.4,SNR=20						
SHOC				⇓S	**Sn**	**15 43 37.3**	**+1.0**
	baz=1.4						
CCUT	**Cedar City**	**1.59**	**73**	*e*Pn	**Pn**	**15 43 19.6**	**+0.3**
CCUT				*e*Sn	**Sn**	**15 43 41.3**	**+1.3**
ARUT	**Antelope Range**	**1.62**	**64**	*e*Pn	**Pn**	**15 43 19.9**	**+0.1**
ARUT				*e*Sn	**Sn**	**15 43 40.1**	**-0.6**
V13A	**Grand Canyon W**	**1.62**	**140**	⇓P	**Pn**	**15 43 20.1**	**+0.4**
	baz=1.6,SNR=227						
V13A				⇓S	**Sn**	**15 43 41.6**	**+0.9**
	baz=1.6						
S09A	**Goldfield**	**1.67**	**293**	P	**Pn**	**15 43 19.9**	**-0.6**
	baz=1.7,SNR=201						
S09A				⇑Sb	**Sb**	**15 43 44.2**	**+1.1**
	baz=1.7						
GRAC	**Grapevine Rang**	**1.68**	**267**	⇑P	**Pn**	**15 43 20.3**	**-0.2**
	baz=1.7,SNR=61						
GRAC				⇓Sb	**Sb**	**15 43 44.4**	**+1.2**
	baz=1.7						
TUQ	**Turquoise Mtn.**	**1.74**	**198**	⇑P	**Pn**	**15 43 21.3**	**0.0**
	baz=1.7						
T14A	**Hurricane**	**1.76**	**90**	⇑P	**Pn**	**15 43 21.5**	**-0.1**
	baz=1.7,SNR=35						
T14A				⇑Sb	**Sb**	**15 43 46.1**	**+0.6**
	baz=1.7						
Q11A	**Duckwater**	**1.77**	**350**	⇑P	**Pn**	**15 43 21.2**	**-0.6**
	baz=1.8,SNR=125						
Q11A				⇓S	**Sn**	**15 43 45.6**	**+1.3**
	baz=1.8						
S14A	**Cedar City**	**1.81**	**68**	⇑Pb	**Pb**	**15 43 23.4**	**-0.9**
	baz=1.8						
S14A				⇑Sb	**Sb**	**15 43 48.6**	**+1.6**
	baz=1.8						
U14A	**Mt Trumbull**	**1.82**	**111**	⇑Pb	**Pb**	**15 43 23.4**	**-1.1**
	baz=1.8,SNR=216						
U14A				⇓Sb	**Sb**	**15 43 48.5**	**+1.3**
	baz=1.8						
W12A	**Cal Nev Ari**	**1.82**	**169**	⇑Pb	**Pb**	**15 43 24.0**	**-0.6**
	baz=1.8						
R09A	**Tonopah**	**1.82**	**309**	P	**Pn**	**15 43 22.1**	**-0.5**
	baz=1.8,SNR=386						
R09A				⇑Sb	**Sb**	**15 43 48.5**	**+1.0**
	baz=1.8						
Q10A	**Clear Creek Ra**	**1.94**	**333**	⇑P	**Pn**	**15 43 23.7**	**-0.4**
	baz=1.9,SNR=27						
Q10A				⇑Sb	**Sb**	**15 43 52.0**	**+1.2**
	baz=1.9						
Q12A	**Willow Creek R**	**1.97**	**10**	⇑P	**Pn**	**15 43 24.3**	**-0.3**
	baz=2.0,SNR=21						
Q12A				⇓S	**Sn**	**15 43 49.9**	**+0.6**
	baz=2.0						
MPMC	**Manual Prospec**	**2.06**	**240**	⇓P	**Pn**	**15 43 25.6**	**-0.1**
	baz=2.1,SNR=138						
MPMC				⇑Sb	**Sb**	**15 43 56.4**	**+2.2**
	baz=2.1						
Q13A	**Wheeler Ranch,**	**2.10**	**28**	⇓P	**Pn**	**15 43 26.1**	**-0.3**
	baz=2.1,SNR=68						
GSC	**Goldstone**	**2.18**	**215**	*e*Pn	**Pn**	**15 43 27.2**	**-0.2**
GSC				*e*Pg	**Pg**	**15 43 31.0**	**-1.8**
GSC				*e*Sn	**Sn**	**15 43 54.7**	**+0.3**
GSC	**Goldstone**	**2.18**	**215**	⇓P	**Pn**	**15 43 27.6**	**+0.2**
	baz=2.2						
V14A	**Boquillas Ranc**	**2.28**	**129**	⇓P	**Pn**	**15 43 29.9**	**+1.0**
	baz=2.3						
V14A				⇓Sb	**Sb**	**15 44 02.1**	**+1.4**
	baz=2.3						
W13A	**Hualapai Mount**	**2.29**	**150**	⇑P	**Pn**	**15 43 29.2**	**+0.2**
	baz=2.3,SNR=19						
W13A				⇑S	**Sn**	**15 43 58.3**	**+1.1**
	baz=2.3						
Q09A	**Carvers**	**2.29**	**320**	⇑P	**Pn**	**15 43 28.9**	**-0.1**
	baz=2.3						
T15A	**Red Dirt Ranch**	**2.32**	**91**	⇑P	**Pn**	**15 43 30.1**	**+0.7**
	baz=2.3,SNR=58						
T15A				⇓Sb	**Sb**	**15 44 02.6**	**+0.9**
	baz=2.3						
GMRC	**Granite Mounta**	**2.33**	**188**	⇑P	**Pn**	**15 43 29.2**	**-0.3**
	baz=2.3,SNR=155						
S08C	**White Mtn Res**	**2.34**	**281**	⇑P	**Pn**	**15 43 29.5**	**-0.2**
	baz=2.3,SNR=26						
S08C				⇑Sb	**Sb**	**15 44 04.4**	**+2.0**
	baz=2.3						
CWC	**Cottonwood Cre**	**2.34**	**255**	⇑Sb	**Sb**	**15 44 04.5**	**+2.1**
	baz=2.3						
P12A	**McGill**	**2.39**	**7**	⇑P	**Pn**	**15 43 30.4**	**0.0**
	baz=2.4,SNR=73						
P12A				⇑Sb	**Sb**	**15 44 04.5**	**+0.7**
	baz=2.4						
HEC	**Hector,Ludlow**	**2.42**	**201**	⇑P	**Pn**	**15 43 30.9**	**+0.1**
	baz=2.4						
LRMC	**Laurel Mountai**	**2.53**	**231**	⇓P	**Pn**	**15 43 32.3**	**0.0**
	baz=2.5						
P13A	**Bates Ranch, G**	**2.56**	**23**	⇑P	**Pn**	**15 43 32.5**	**-0.1**
	baz=2.6						
R08A	**Mina**	**2.57**	**300**	⇓P	**Pn**	**15 43 32.3**	**-0.4**
	baz=2.6,SNR=7.2						
W14A	**Seligman**	**2.59**	**136**	⇓P	**Pn**	**15 43 33.5**	**+0.5**
	baz=2.6,SNR=14						
MTUM	**Tungsten Hills**	**2.63**	**277**	*e*Pn	**Pn**	**15 43 33.5**	**-0.2**
MTUM				*e*Sg	**Sg**	**15 44 14.2**	**-1.6**
Q08A	**Gabbs**	**2.74**	**311**	P	**Pn**	**15 43 34.8**	**-0.3**
	baz=2.7,SNR=17						
NVAR	**Mina Array Bea**	**2.74**	**300**	Pn	**Pn**	**15 43 35.1**	**-0.1**
	7.9nm,0.3s,baz=118,slow=13,SNR=165						
NVAR				Lg		15 44 18.8	
	50nm,0.3s,baz=62,slow=25,SNR=9.3						
X13A	**Yucca**	**2.76**	**154**	⇑P	**Pn**	**15 43 35.3**	**-0.1**
	baz=2.8,SNR=7.5						
V15A	**Kaibab Nationa**	**2.81**	**116**	⇓P	**Pn**	**15 43 37.0**	**+0.9**
	baz=2.8,SNR=13						
V15A				⇓Sb	**Sb**	**15 44 17.6**	**+1.7**
	baz=2.8						
MSU	**Marysvale**	**2.83**	**59**	*e*Pn	**Pn**	**15 43 38.5**	**+2.1**
MSU				*e*Sg	**Sg**	**15 44 20.8**	**-1.4**
P09A	**Austin**	**2.85**	**330**	⇑P	**Pn**	**15 43 36.8**	**+0.1**
	baz=2.9,SNR=7.7						
P09A				⇑Sb	**Sb**	**15 44 19.8**	**+2.6**
	baz=2.9						
IRM	**Iron Mountain**	**2.93**	**178**	⇓P	**Pn**	**15 43 37.9**	**+0.1**
	baz=2.9						
T16A	**Glen Canyon Da**	**3.02**	**91**	⇑P	**Pn**	**15 43 39.6**	**+0.6**
	baz=3.0						
T16A				⇑Sb	**Sb**	**15 44 23.0**	**+1.1**
	baz=3.0						
HELL	**Mitchell Peak**	**3.03**	**263**	⇓P	**Pn**	**15 43 39.2**	**+0.1**
	baz=3.0,SNR=7.6						
HELL				⇑Sb	**Sb**	**15 44 24.2**	**+2.0**
	baz=3.0						
O11A	**Cowboy Ranch,**	**3.04**	**355**	⇓P	**Pn**	**15 43 39.3**	**0.0**
	baz=3.0						
O11A				⇑Sb	**Sb**	**15 44 24.9**	**+2.3**
	baz=3.0						
EDW2	**Edwards Air Fo**	**3.12**	**226**	⇑P	**Pn**	**15 43 40.3**	**0.0**
	baz=3.1						
O12A	**Currie**	**3.19**	**7**	⇓P	**Pn**	**15 43 41.3**	**-0.1**
	baz=3.2,SNR=158						
X14A	**Yava**	**3.26**	**143**	⇓P	**Pn**	**15 43 42.9**	**+0.6**
	baz=3.3,SNR=12						
O10A	**Cortez Mining,**	**3.33**	**344**	⇓P	**Pn**	**15 43 43.5**	**+0.

OHCM *e*Pg **Pg** **15 44 29.0 -5.0**
MVCO Mesa Verde 5.42 87 *e*Pg **Pb** **15 44 24.6 -1.3**
PV01 Paradox Valley 5.43 77 *e*Pn **Pn** **15 44 13.8 +1.7**
PV01 *e*Pg **Pg** **15 44 29.4 -5.7**
WVOR Wild Horse Val 5.92 335 *e*Pn **Pn** **15 44 19.4 +0.5**
4.2nm,1.2s
WVOR *e*Pg **Pg** **15 44 41.5 -3.0**
TUC Tucson 6.04 141 *e*Pn **Pn** **15 44 20.3 -0.2**
TUC *e*Pg **Pg** **15 44 41.8 -5.1**
TUC *e*Sg **Sg** **15 45 58.2 -6.9**
MOD Modoc 6.17 323 *e*Pn **Pn** **15 44 25.4 +3.0**
MOD *e*Pg **Pg** **15 44 46.9 -2.5**
MOD *e*Sg **Sg** **15 46 05.4 -3.9**
ANMO Albuquerque 7.46 104 *e*Pn **Pn** **15 44 34.5 -5.5**
ANMO *e*Pg **Pg** **15 45 08.8 -5.1**
ANMO Albuquerque 7.46 104 Pn **Pn** **15 44 40.5 +0.5**
0.2nm,0.3s,baz=306,slow=12,SNR=4.4
FLWY Flagg Ranch 7.80 25 *e*Pn **Pn** **15 44 45.6 +1.0**
SDCO Great Sand Dun 7.81 82 *e*Pn **Pn** **15 44 45.9 +1.1**
SDCO *e*Pg Pn 15 45 15.8 +31
SDCO *e*Sg Sn 15 46 54.9 +42
TXAR Lajitas Array 12.42 125 Pn **Pn** **15 45 50.7 +2.7**
0.1nm,0.3s,baz=299,slow=11,SNR=3.2
ULM Lac du Bonnet 19.16 41 P **Pn** **15 47 16.8 +1.4**
0.1nm,0.3s,baz=236,slow=13,SNR=3.3
YKA Yellowknife Ar 25.43 1 P **P** **15 48 21.9 +3.2**
0.3nm,0.7s,baz=180,slow=9.6,SNR=6.5

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*NEIC **27** 15:46:11.9, 19.15N×6804W, h15km, MD3.5(RSPR), After RSPR.*
RSPR 27 15:46:11.9, 1915N×6804W, h15km±31km, MD3.5/11, MD3.5/11, 9C-2D, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGPR	**Aguadilla, PR**	**1.11**	**128⇑**	*e*P	Pb	15 46 28.7	-4.1
AGPR				*e*S	Sb	15 46 42.9	-4.2
LSP	**Las Mesas**	**1.33**	**137⇑**	*e*P	Pn	15 46 32.6	-3.3
LSP				*e*S	Sn	15 46 48.8	-4.5
LRS	**Lares**	**1.42**	**127⇓**	*e*P	Pn	15 46 33.4	-3.8
LRS				*e*S	Sn	15 46 51.4	-4.2
CRPR	**Cabo Rojo, PR**	**1.44**	**142⇓**	*e*P	Pn	15 46 34.5	-2.9
AOPR	**Arecibo Observ**	**1.46**	**123⇑**	*e*P	Pn	15 46 34.1	-3.6
AOPR				*e*S	Sn	15 46 53.1	-3.5
GBPR	**Guanica, Bosqu**	**1.61**	**137⇑**	*e*P	Pn	15 46 38.7	-1.0
GBPR	**Guanica, Bosqu**	**1.61**	**137**	*e*S	Sn	15 46 57.7	-2.5
CELP	**Cerrillos**	**1.75**	**128⇑**	*e*P	Pn	15 46 39.0	-2.7
CELP				*e*S	Sn	15 46 59.6	-4.1
ICM	**Isla Caja Muer**	**1.91**	**131⇑**	*e*P	Pn	15 46 42.4	-1.4
ICM				*e*S	Sn	15 47 04.4	-3.2
SJG	**San Juan**	**2.07**	**120⇑**	*e*P	Pn	15 46 43.6	-2.4
SJG	**San Juan**	**2.07**	**120⇑**	*e*P	Pn	15 46 43.6	-2.5
SJG				*e*S	Sn	15 47 08.5	-3.1
HUMP	**Col San Antoni**	**2.31**	**115⇑**	*e*P	Pn	15 46 47.6	-1.7
SDDR	**Presa de Saban**	**3.08**	**267**	*e*Pn	Pn	15 47 03.0	+3.1
SDDR				*e*Sn	Sn	15 47 45.7	+9.2

IDC 27 16:30:06.5±1.1, 952S×15763E, h0km, mb3.8/5, mb1 4.0/6, mb1mx3.8/14, mbtmp3.8/6, ML3.5/1, Error ellipse: s-maj=40.5km s-min=20.3km az=164.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.29**	**88**	Pn	Pn	16 30 44.7	-0.7
	14nm,0.3s,baz=255,slow=3.5,SNR=7.9						
HNR				Sn	Sn	16 31 14.1	-0.2
	24nm,0.3s,baz=274,slow=15,SNR=4.7						
WRA	**Warramunga Arr**	**24.76**	**243**	P	P	16 35 30.6	+0.5
	2.2nm,0.8s,baz=68,slow=10,SNR=12						
ASAR	**Alice Springs**	**26.68**	**235**	P	P	16 35 47.1	-0.3
	0.7nm,0.8s,baz=70,slow=10,SNR=8.4						
SONM	**Songino Array**	**72.86**	**327**	P	P	16 41 37.3	+0.1
	0.6nm,0.8s,baz=130,slow=7.0,SNR=4.9						
MKAR	**Makanchi Array**	**87.02**	**318**	P	P	16 42 53.1	-0.7
	0.3nm,0.4s,baz=90,slow=4.3,SNR=2.6						
NVAR	**Mina Array Bea**	**91.24**	**51**	P	P	16 43 15.9	+1.9
	0.2nm,0.4s,baz=233,slow=4.1,SNR=4.3						

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*ISCJB **27** 17:13:41.6±2.0, 408S±005×1377E±0.1, h131km±17km, mb4.1/9, Error ellipse: s-maj=23.4km s-min=8.5km az=172.2*
*NEIC **27** 17:13:47.2±3.2, 423S×13739E, h164km±28km, mb4.2/8, Error ellipse: s-maj=25.2km s-min=12.8km az=224.0*
*IDC **27** 17:13:48.9±3.5, 424S×13745E, h178km±33km, mb3.6/3, mb1 3.9/8, mb1mx3.6/14, mbtmp3.8/8, Error ellipse: s-maj=31.7km s-min=14.9km az=88.0*
ISC 27 17:13:46.4±1.9, 426S±006×1375E±01, h154km±17km, n30, σ0997/33, mb4.2/9, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**9.78**	**210**	*e*P	**Pn**	**17 16 02.5**	**-1.0**
	9.6nm,0.4s						
BATI	**Kupang**	**14.94**	**246**	P	**Pn**	**17 17 12.9**	**+2.8**
	5.6nm,0.3s,baz=359,slow=9.5,SNR=13						
WRAB	**Tennant Creek**	**15.88**	**191**	*e*Pn	**Pn**	**17 17 22.3**	**+0.8**
	41nm,0.5s						
WRAB				*e*		17 18 05.5	
WRAB				*e*S	**S**	**17 20 15.5**	**-3.0**
WB2	**Warramunga Arr**	**15.89**	**191**	*e*P	**Pn**	**17 17 22.4**	**+0.7**
WB2	**Warramunga Arr**	**15.89**	**191**	*e*Pn	**Pn**	**17 17 22.5**	**+0.8**
WB2				*e*		17 18 05.0	
WB2				*e*S	**S**	**17 20 14.3**	**-4.4**
WRA	**Warramunga Arr**	**15.89**	**191**	P	**Pn**	**17 17 22.4**	**+0.7**
	8.3nm,0.3s,baz=14,slow=13,SNR=267						
WRA				S	**S**	**17 20 19.2**	**+0.4**
	0.3nm,0.3s,baz=15,slow=22,SNR=6.0						
CTA	**Charters Tower**	**17.90**	**152**	*e*P	**Pn**	**17 17 44.6**	**-1.3**
	3.7nm,0.6s						
CTA	**Charters Tower**	**17.90**	**152**	P	**Pn**	**17 17 47.2**	**+1.3**
CTA	**Charters Tower**	**17.90**	**152**	P	**Pn**	**17 17 47.2**	**+1.3**
	0.4nm,0.3s,baz=325,slow=12,SNR=14						
CTAO	**Charters Tower**	**17.90**	**152**	*e*P	**Pn**	**17 17 44.3**	**-1.6**
	6.5nm,0.7s						
CTAO				*e*		17 18 09.4	
FITZ	**Fitzroy Crossi**	**18.00**	**219**	*e*P	**Pn**	**17 17 45.6**	**-1.5**
	4.2nm,0.8s						
FITZ	**Fitzroy Crossi**	**18.00**	**219**	P	**Pn**	**17 17 45.6**	**-1.6**
	0.1nm,0.3s,baz=48,slow=13,SNR=10.0						
ASAR	**Alice Springs**	**19.61**	**190**	P	**P**	**17 18 04.0**	**+1.1**
	9.6nm,0.3s,baz=16,slow=10,SNR=440						
ASAR				S	**S**	**17 21 36.7**	**+0.8**
	1.0nm,0.3s,baz=13,slow=23,SNR=14						
MBWA	**Marble Bar**	**24.09**	**224**	P	**P**	**17 18 47.4**	**-0.4**
	5.8nm,0.9s,mb4.1						
STKA	**Stephens Creek**	**27.74**	**173**	*e*P	**P**	**17 19 20.7**	**+0.1**
	4.0nm,1.3s,mb4.0						
STKA	**Stephens Creek**	**27.74**	**173**	P	**P**	**17 19 19.4**	**-1.2**
	29nm,1.5s,mb4.8						
STKA	**Stephens Creek**	**27.74**	**173**	P	**P**	**17 19 20.0**	**-0.6**
	1.8nm,0.5s,mb4.1,baz=338,slow=9.2,SNR=7.3						
KULM	**Kulim**	**38.01**	**284**	P	**P**	**17 20 49.0**	**-0.9**
JIRN	**Jiri**	**58.74**	**306**	*e*P	**P**	**17 23 29.0**	**+0.6**
GUN	**Gumba**	**59.09**	**306**	*e*P	**P**	**17 23 31.3**	**+0.4**
	6.1nm,0.5s,mb4.7						
DMN	**Daman**	**59.60**	**305**	*e*P	**P**	**17 23 34.8**	**+0.5**
	5.9nm,0.5s,mb4.7						
GKN	**Gorkha**	**60.14**	**306**	*e*P	**P**	**17 23 38.1**	**+0.1**
	5.0nm,0.5s,mb4.6						
KOLN	**Koldanda**	**60.89**	**305**	*e*P	**P**	**17 23 43.3**	**+0.2**
DANN	**Dangsing**	**60.98**	**306**	*e*P	**P**	**17 23 43.9**	**+0.2**
MKAR	**Makanchi Array**	**70.28**	**323**	P	**P**	**17 24 42.6**	**-0.4**
	0.7nm,0.5s,mb3.6,baz=121,slow=6.4,SNR=6.0						
UCH	**Uchtor**	**73.32**	**316**	*e*P	**P**	**17 25 01.6**	**+0.4**
	2.0nm,0.8s,mb3.9						
KURK	**Kurchatov**	**74.29**	**326**	P	**P**	**17 25 05.4**	**-1.3**
	1.2nm,0.8s,mb3.7						
VNDA	**Vanda**	**74.36**	**175**	*e*P	**P**	**17 25 05.9**	**-0.8**
	1.8nm,0.9s,mb3.8						
VNDA	**Vanda**	**74.36**	**175**	P	**P**	**17 25 06.3**	**-0.4**
	1.4nm,0.9s,mb3.7,baz=338,slow=5.7,SNR=6.2						
LPAZ	**La Paz**	**147.46**	**129**	PKPbc	PKPbc	17 33 13.7	+0.5
	1.1nm,0.6s,baz=54,slow=1.1,SNR=4.9						

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*IDC **27** 17:21:06.5±0.8, 2012S×16893E, h0km, mb4.4/11, mb1 4.5/12, mb1mx4.4/16, mbtmp4.4/12, ML3.8/1, MS3.5/5, Ms1 3.5/5, ms1mx3.2/20, Error ellipse: s-maj=22.6km s-min=19.8km az=109.0*

*BJI **27** 17:21:07.2, 1999S×16991E, h30km, mB5.0, mb4.9, Ms4.7, Msz4.4*
*NEIC **27** 17:21:07.8±0.4, 2010S×16899E, h10km, mb4.7/15, Error ellipse: s-maj=12.1km s-min=10.6km az=143.0*
*LDG **27** 17:21:08.4±0.2, 1993S×16873E, h10km, Mb4.9/3, Error ellipse: s-maj=16.8km s-min=3.4km az=125.0*
*ISCJB **27** 17:21:09.9±0.4, 2022S±008×16888E±0.10, h33km, mb4.6/26, MS3.7/4, Error ellipse: s-maj=12.9km s-min=10.7km az=169.4*
*SZGRF **27** 17:21:09.7, 2047S×17007E, h33km, Vanuatu Islands*
*BGS **27** 17:21:09.4±2.8, 2010S×16899E, h10km, mb4.7(NEIC)*
ISC 27 17:21:11.8±0.4, 2022S±007×16894E±009, h35km, (h27km±1.8km:pP-P), n129, σ0988/40, mb4.6/26, MS3.7/4, 31C-4D, Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**13.80**	**320**	LR	LR	17 29 04.4	
	comp=Z,93nm,18.8s,baz=2.9,slow=35						
URZ	**Urewera**	**19.32**	**160**	P	**Pn**	**17 25 34.2**	**-1.0**
	0.3nm,0.3s,baz=307,slow=5.1,SNR=3.6						
URZ				LR	LR	17 30 12.7	
	comp=Z,150nm,21.9s,baz=254,slow=28						
CTA	**Charters Tower**	**21.30**	**266**	*e*P	**P**	**17 25 57.9**	**+2.4**
	5.3nm,0.5s,mb4.1						
CTA	**Charters Tower**	**21.30**	**266**	P	**P**	**17 25 55.4**	**-0.1**
	11nm,0.7s,mb4.3,baz=96,slow=12,SNR=18						
CTAO	**Charters Tower**	**21.30**	**266**	*e*P	**P**	**17 25 57.8**	**+2.3**
	12nm,0.8s,mb4.3						
STKA	**Stephens Creek**	**27.09**	**239**	*e*P	**P**	**17 26 52.1**	**+0.8**
	3.7nm,0.7s,mb4.0						
STKA	**Stephens Creek**	**27.09**	**239**	*e*P	**P**	**17 26 54.2**	**+2.9**
	16nm,1.2s,mb4.4						
STKA	**Stephens Creek**	**27.09**	**239**	P	**P**	**17 26 52.6**	**+1.3**
	7.9nm,1.0s,mb4.2,baz=86,slow=14,SNR=8.3						
STKA				LR	LR	17 36 50.4	
	comp=Z,153nm,18.8s,MS3.6,baz=24,slow=35						
WB2	**Warramunga Arr**	**32.45**	**264**	*e*P	**P**	**17 27 37.7**	**-1.2**
WRAB	**Tennant Creek**	**32.45**	**264**	*e*P	**P**	**17 27 37.3**	**-1.6**
	5.1nm,0.9s,mb4.3						
WRA	**Warramunga Arr**	**32.46**	**264**	P	**P**	**17 27 37.8**	**-1.3**
	3.1nm,0.8s,mb4.2,baz=96,slow=8.1,SNR=26						
WRA				PcP	PcP	17 30 25.6	-0.2
	0.3nm,0.5s,baz=91,slow=3.3,SNR=4.6						
WRA				LR	LR	17 39 19.5	
	comp=Z,79nm,19.6s,MS3.4,baz=85,slow=34						
ASAR	**Alice Springs**	**32.63**	**257**	P	**P**	**17 27 40.2**	**-0.2**
	12nm,0.6s,mb5.0,baz=85,slow=9.0,SNR=163						
FITZ	**Fitzroy Crossi**	**40.87**	**265**	*e*P	**P**	**17 28 50.9**	**+0.2**
	10nm,0.8s,mb4.5						
FITZ	**Fitzroy Crossi**	**40.87**	**265**	*e*P	**P**	**17 28 50.4**	**-0.3**
	50nm,1.5s,mb4.9						
FITZ	**Fitzroy Crossi**	**40.87**	**265**	P	**P**	**17 28 50.2**	**-0.5**
	2.3nm,0.7s,mb3.9,baz=132,slow=10,SNR=9.1						
FITZ				LR	LR	17 45 06.5	
	comp=Z,91nm,21.6s,MS3.6,baz=229,slow=35						
MBWA	**Marble Bar**	**45.90**	**260**	*e*P	**P**	**17 29 30.6**	**-0.5**
	9.2nm,0.9s,mb4.7						
NWAO	**Narrogin (SRO)**	**47.52**	**244**	*e*P	**P**	**17 29 49.0**	**+5.2**
	8.1nm,0.8s,mb4.8						
VNDA	**Vanda**	**57.45**	**182**	*e*P	**P**	**17 30 56.9**	**+0.3**
VNDA	**Vanda**	**57.45**	**182**	P	**P**	**17 30 57.1**	**+0.5**
	0.8nm,0.8s,mb3.8,baz=16,slow=7.7,SNR=7.0						
SBA	**Scott Base**	**57.69**	**181**	*e*P	**P**	**17 30 59.4**	**+1.1**
	4.7nm,0.9s,mb4.5						
KSM	**Kuching**	**61.32**	**283**	*e*P	**P**	**17 31 24.4**	**+0.1**
MJAR	**Matsushiro Arr**	**63.48**	**333**	P	**P**	**17 31 37.1**	**-1.2**
	1.5nm,0.6s,mb4.3,baz=163,slow=9.2,SNR=5.4						
ASAJ	**Asahikawa**	**68.42**	**340**	P	**P**	**17 32 10.4**	**+0.6**
	6.9nm,0.7s,mb4.8,baz=172,slow=27,SNR=6.2						
YSS	**Yuzh-Sakhalins**	**70.91**	**341**	P	**P**	**17 32 25.1**	**-0.1**
	12nm,0.9s,mb4.8						
MDJ	**Mudanjiang**	**73.85**	**332**	*e*P	**P**	**17 32 42.7**	**0.0**
	6.5nm,0.8s,mb4.6						
CN2	**Changchun**	**75.15**	**329**	*e*P	**P**	**17 32 50.0**	**-0.3**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.8						
MAW	**Mawson**	**77.42**	**202**	P	**P**	**17 33 04.1**	**+1.1**
	comp=Z,3.4nm,0.8s,mb4.3,baz=124,slow=14,SNR=5.4						
BJT	**Baijiatuao**	**77.51**	**321**	P	**P**	**17 33 04.0**	**+0.2**
	comp=Z,12nm,1.0s,mb4.8						
CD2	**Chengdu**	**80.61**	**308**	*e*P	**P**	**17 33 22.5**	**+1.5**
CD2				PP	PP	17 36 29.0	+3.8
CD2				S	S	17 43 28.8	+2.9
CD2				SS	SS	17 48 45.3	+5.8
CD2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.9						
CD2				AMB	AMB		
	comp=Z,20nm,5.2s						
CD2				LR	LR		
	comp=N,140nm,15.6s						
CD2				LR	LR		
	comp=Z,100nm,16.8s,MS4.2						
HHC	**Hu-ho-hao-te**	**80.78**	**320**	*e*P	**P**	**17 33 23.0**	**+1.3**
HHC				AP	pP	17 33 30.0	-2.7
HHC				XP	sP	17 33 31.8	-4.9
HHC				PP	PP	17 36 28.0	+1.6
HHC				SKS		17 43 36.3	
HHC				SS	SS	17 48 47.5	+5.8
HHC				AMB	AMB		
	comp=Z,27nm,0.4s,mb5.5						
HHC				AMB	AMB		
	comp=Z,85nm,5.1s						
HHC				LR	LR		
	comp=N,100nm,5.5s						
HHC				LR	LR		
	comp=E,131nm,16.7s						
HHC				LR	LR		
	comp=Z,84nm,5.5s						
SYO	**Syowa Base**	**83.92**	**196⇓**	*e*pP	pP	17 33 41.3	-7.5
ULN	**Ulaanbaatar**	**87.48**	**324**	*e*P	**P**	**17 33 55.6**	**0.0**
	comp=Z,8.9nm,1.0s,mb5.0						
YAK	**Yakutsk**	**87.72**	**343**	*e*P	**P**	**17 33 56.2**	**-0.2**
	comp=Z,11nm,0.9s,mb5.1						
SONM	**Songino Array**	**87.83**	**323**	P	**P**	**17 33 57.9**	**+0.6**
	comp=Z,5.3nm,0.8s,mb4.8,baz=145,slow=5.6,SNR=31						
CMB	**Columbia Colle**	**88.02**	**48**	*e*P	**P**	**17 33 57.8**	**-0.6**
	comp=Z,3.4nm,0.9s,mb4.6						
BILL	**Bilibino**	**88.02**	**359**	*e*P	**P**	**17 33 56.5**	**-1.2**
	comp=Z,1.8nm,0.7s,mb4.4						
SNAA	**Sanae**	**88.17**	**183**	*e*	**P**	**17 33 58.7**	**0.0**
SNAA				*e*	pP	17 34 07.3	-2.5
VNA3	**Neumayer Olymp**	**88.78**	**180**	*e*	**P**	**17 34 00.8**	**-0.7**
VNA3				*e*		17 34 05.8	
VNA3				*e*	pP	17 34 10.1	-2.5
VNA3				*e*		17 34 16.2	
VNA2	**Neumayer--Watz**	**89.06**	**181**	*e*	**P**	**17 34 02.7**	**-0.2**
	baz=188,slow=4.8						
VNA2				*e*		17 34 07.0	
VNA2				*e*	pP	17 34 12.1	-1.9
VNA2				*e*		17 34 18.0	
VNA1	**Neumayer--Stat**	**89.36**	**181**	*e*	**P**	**17 33 56.3**	**-7.9**
VNA1				*e*	pP	17 34 05.1	-10
VNA1				*e*		17 34 12.0	
NVAR	**Mina Array Bea**	**89.66**	**49**	P	**P**	**17 34 06.4**	**+0.3**
	comp=Z,2.0nm,1.0s,mb4.4,baz=218,slow=5.3,SNR=6.3						
LSA	**Lhasa**	**89.80**	**302**	*e*P	**P**	**17 34 07.8**	**+0.8**
	comp=Z,2.7nm,0.6s,mb4.8						
RES	**Resolute Bay**	**110.98**	**16**	*e*PKPdf	PKiKP	17 39 37.4	-3.1
ARCES	**ARCESS Array B**	**125.94**	**345**	PKP	PKPdf	17 40 08.6	-0.7
ARCES	**ARCESS Array B**	**125.94**	**345**	PKP	PKPdf	17 40 08.6	-0.7
	comp=Z,1.3nm,0.5s,baz=50,slow=1.8,SNR=11						
FINES	**FINESS Array B**	**131.38**	**337**	PKP	PKPdf	17 40 19.2	-0.7
	comp=Z,0.6nm,0.5s,baz=87,slow=3.1,SNR=6.0						
BRG	**Berggiesshubel**	**143.62**	**333**	*i* P	PKPdf	17 40 39.5	-3.2
	comp=Z,3.7nm,0.8s						
CLL	**Collm**	**143.68**	**334⇓**	*i* PKPdf	PKPdf	17 40 40.0	-2.8
	comp=Z,5.0nm,0.8s						
EBL	**Broad Law**	**143.99**	**352**	*e*P	PKPdf	17 40 43.5	+0.3
PRU	**Pruhonice**	**144.01**	**332**	*e*PKP	PKPdf	17 40 41.2	-2.2
TANN	**Tannenbergstha**	**144.58**	**334**	*e*PKPbc	PKPdf	17 40 43.3	-1.1
WERD	**Werda**	**144.62**	**334**	*e*PKPbc	PKPdf	17 40 43.3	-1.2
GUNZ	**Gunzen**	**144.68**	**334**	*e*PKPbc	PKPdf	17 40 43.8	-0.8
WERN	**Wernitzgruen**	**144.72**	**334**	*e*PKPbc	PKPdf	17 40 43.9	-0.8
NKC	**Novy Kostel**	**144.73**	**334**	*e*PKP	PKPdf	17 40 43.9	-0.8
MOX	**Moxa**	**144.75**	**335**	*e*PKP	PKPdf	17 40 43.8	-0.9
	comp=Z,21nm,1.1s						
MOX	**Moxa**	**144.75**	**335**	*e*PKPbc	PKPdf	17 40 43.5	-1.2
IBBN	**Ibbenburen**	**144.78**	**340**	*e*PKPbc	PKPdf	17 40 43.6	-1.1
MANZ	**Manzenberg**	**145.06**	**334**	*e*PKPbc	PKPbc	17 40 44.9	+0.2
KHC	**Kasperske Hory**	**145.06**	**331**	*e*PKP	PKPdf	17 40 44.8	-0.5
GAL1	**Galloway**	**145.07**	**354**	*e*P	PKPbc	17 40 44.6	+0.1
ROTZ	**Rotzenmuhle**	**145.18**	**333**	*e*PKPbc	PKPbc	17 40 45.2	+0.1
GEC2	**GERESS Array S**	**145.21**	**331**	*e*PKPbc	PKPbc	17 40 45.2	0.0
GERES	**GERESS Array B**	**145.21**	**331**	PKPbc	PKPbc	17 40 45.3	+0.1
	comp=Z,4.6nm,0.7s,baz=36,slow=4.4,SNR=42						
UBBA	**Unterbreizbach**	**145.24**	**336**	*e*PKPbc	PKPbc	17 40 45.2	0.0
GRA1	**Grafenberg Arr**	**145.65**	**334**	*e*PKPbc	PKPbc	17 40 46.9	+0.3
GRF	**Grafenberg Arr**	**145.65**	**334**	*e*PKPbc	PKPbc	17 40 46.9	+0.3
MOA	**Molln**	**145.66**	**329⇑**	*i*P	PKPdf	17 40 46.8	+0.5
	comp=Z,21nm,1.1s						
BUG	**Bochum--Univer**	**145.68**	**340**	*e*PKPbc	PKPbc	17 40 46.1	-0.5
WIM	**Isle of Man**	**145.78**	**353**	*e*P	PKPdf	17 40 46.4	0.0
LHO	**Holmfirth**	**145.99**	**350**	*e*P	PKPdf	17 40 46.3	-0.4
KBI1	**Birley Grange**	**146.21**	**350⇑**	*e*P	PKPdf	17 40 47.4	+0.2
KWE	**Weaver Farm**	**146.50**	**350⇑**	*e*P	PKPdf	17 40 48.3	+0.7
WPM1	**Penmaenmawr**	**146.56**	**352⇑**	*e*P	PKPdf	17 40 48.5	+0.8
YRC	**Rhoscolyn**	**146.65**	**353⇑**	*e*P	PKPdf	17 40 48.6	+0.7
CWF	**Charnwood Fore**	**146.67**	**349**	*e*P	PKPdf	17 40 48.6	+0.7
FUR	**Furstenfeldbru**	**146.80**	**332**	*e*PKPbc	PKPbc	17 40 50.1	0.0
MEM	**Membach**	**146.81**	**340**	PKP	PKPdf	17 40 49.5	+1.2
SBD1	**Bryn Du**	**146.82**	**351⇑**	*e*P	PKPdf	17 40 49.4	+1.2
UCC	**Uccle**	**147.15**	**342**	PKP	PKPdf	17 40 50.8	+2.0
BCLA	**Clavier**	**147.19**	**341**	PKP	PKPdf	17 40 50.8	+1.9
STU	**Stuttgart**	**147.19**	**335**	*e*PKPbc	PKPbc	17 40 51.2	0.0
SNF	**Seneffe**	**147.43**	**342**	PKP	PKPdf	17 40 51.1	+1.8
MOTA	**Moosalm**	**147.50**	**331⇓**	*i*P	PKPdf	17 40 51.7	+2.2
	comp=Z,6.8nm,1.0s						
MOTA	**Moosalm**	**147.50**	**331⇓**	*i*pPKPdf	pPKPdf	17 40 51.7	-9.3
	comp=Z,6.8nm,1.0s						
SSW	**Stow on the Wo**	**147.51**	**349**	*e*P	PKPdf	17 40 49.7	+0.4
SKP1	**Kophill**	**147.55**	**348**	*e*P	PKPdf	17 40 51.2	+1.7
HAE	**Alders End**	**147.56**	**350**	*e*P	PKPdf	17 40 51.4	+2.0
WLF	**Walferdange**	**147.57**	**339**	*e*PKPbc	PKPbc	17 40 52.7	+0.5
WLF	**Walferdange**	**147.57**	**339**	PKP	PKPbc	17 40 53.0	+0.9
WLF	**Walferdange**	**147.57**	**339**	*e*PKPbc	PKPbc	17 40 52.5	+0.3
GIVF	**Givet**	**147.62**	**341⇑**	*i*PKP1	PKPbc	17 40 52.1	-0.2
	comp=Z,43nm,0.8s						
HTR	**Trewern Hill**	**147.63**	**351**	*e*P	PKPdf	17 40 51.3	+1.7
MCH1	**Michaelchurch**	**147.66**	**351⇑**	*e*P	PKPdf	17 40 51.6	+2.0
MCH1				⇑*e*P		17 40 51.6	
MCH1				*e*P		17 40 51.6	
DOU	**Dourbes**	**147.70**	**341**	PKP	PKPbc	17 40 52.5	-0.1
BAIF	**Baives**	**147.85**	**341⇑**	*i*PKP1	PKPbc	17 40 52.9	0.0
	comp=Z,40nm,0.9s						
BFO	**Black Forest**	**147.89**	**335**	*e*PKPbc	PKPbc	17 40 52.4	-0.7
BFO				*e*PKPab	PKPab	17 40 55.8	+0.2
FETA	**Feichten**	**147.91**	**331⇑**	*i*pPKPdf	pPKPdf	17 40 53.2	-8.5
	comp=Z,6.0nm,0.6s						
WOL	**Wolverton**	**148.02**	**348**	*e*P	PKPdf	17 40 52.6	+2.4
CDF	**Champ du Feu**	**148.23**	**337⇑**	*i*PKP1	PKPbc	17 40 53.7	-0.3
	comp=Z,18nm,0.7s						
HAU	**Haudompre**	**148.91**	**337⇑**	*i*PKP1	PKPbc	17 40 55.4	-0.3
	comp=Z,12nm,0.6s						
MEZF	**Maizieres J'vi**	**148.94**	**339⇑**	*i*PKP1	PKPbc	17 40 55.9	+0.1
	comp=Z,57nm,1.2s						
DYA	**Yadsworthy**	**149.32**	**351**	*e*P	PKPdf	17 40 54.1	+1.8
CABF	**La Chapelle**	**150.17**	**336⇑**	*i*PKP1	PKPbc	17 40 59.1	+0.2
	comp=Z,20nm,0.8s						
FLN	**La Foliniere**	**150.28**	**346⇑**	*i*PKP1	PKPbc	17 40 58.5	-0.6
	comp=Z,34nm,0.9s						
LDF	**La Druitiere**	**150.35**	**345⇑**	*i*PKP1	PKPbc	17 40 58.5	-0.8
	comp=Z,13nm,0.7s						
LOR	**Lormes**	**150.41**	**339⇑**	*i*PKP1	PKPbc	17 40 59.1	-0.4
	comp=Z,25nm,0.9s						
SSF	**Saint Saulge**	**150.71**	**339⇑**	*i*PKP1	PKPbc	17 40 59.9	-0.3
	comp=Z,24nm,1.0s						
GRR	**Gorron**	**150.72**	**346⇑**	*i*PKP1	PKPbc	17 40 59.6	-0.5
	comp=Z,17nm,0.6s						
LPL	**La Plagne**	**150.81**	**334**	*e*PKP1	PKPbc	17 41 00.6	+0.1
	comp=Z,11nm,0.6s						
LPG	**La Plagne**	**150.82**	**334⇑**	*i*PKP1	PKPbc	17 41 00.8	+0.3
	comp=Z,16nm,0

VNA2 *e* 17 50 35.4
GERES **GERESS Array B 145.28 331** PKPbc PKPbc 17 57 11.4 0.0
1.2nm,0.6s,baz=28,slow=3.2,SNR=14
GRA1 **Grafenberg Arr 145.73 334** *e*PKP PKPdf 17 57 11.9 -0.4
GRF **Grafenberg Arr 145.73 334** *e*PKP PKPdf 17 57 11.9 -0.4
GIVF **Givet 147.72 341** *e*PKP1 PKPbc 17 57 18.4 -0.1
16nm,0.7s
BAIF **Baives 147.94 341** *e*PKP1 PKPbc 17 57 19.1 0.0
16nm,1.0s
CDF **Champ du Feu 148.31 336** *e*PKP1 PKPbc 17 57 19.9 -0.2
HINF **Hinteralfeld 148.96 336** *e*PKP1 PKPbc 17 57 21.6 -0.2
HAU **Haudompre 149.00 337** *e*PKP1 PKPbc 17 57 21.6 -0.3
MEZF **Maizieres J'vi 149.03 339** *e*PKP1 PKPbc 17 57 22.2 +0.2
CABF **La Chapelle 150.25 336** *e*PKP1 PKPbc 17 57 25.2 +0.2
FLN **La Foliniere 150.39 346** *e*PKP1 PKPbc 17 57 24.7 -0.6
LDF **La Druitiere 150.46 345** *e*PKP1 PKPbc 17 57 24.8 -0.6
LOR **Lormes 150.50 339** *e*PKP1 PKPbc 17 57 25.2 -0.4
16nm,1.2s
SSF **Saint Saulge 150.80 339** *e*PKP1 PKPbc 17 57 26.2 -0.1
GRR **Gorron 150.82 346** *e*PKP1 PKPbc 17 57 25.8 -0.5
LPL **La Plagne 150.89 334** *e*PKP1 PKPbc 17 57 26.8 +0.2
4.6nm,0.7s
LPG **La Plagne 150.90 334** *e*PKP1 PKPbc 17 57 26.9 +0.3
4.0nm,0.6s
SGMF **Saint Gilles 151.31 348** *e*PKP1 PKPbc 17 57 26.6 -0.9
ROSF **Rostrenen 151.37 349** *e*PKP1 PKPbc 17 57 26.7 -0.9
ORIF **Oris-en-Rattie 151.73 334** *e*PKP1 PKPbc 17 57 28.3 -0.2
9.0nm,0.8s
QUIF **Quistinic 151.75 349** *e*PKP1 PKPbc 17 57 27.5 -1.0
TCF **Toulx Ste Croi 151.91 340** *e*PKP1 PKPbc 17 57 28.5 -0.4
13nm,1.1s
MFF **Saint Martin d 152.31 344** *e*PKP1 PKPbc 17 57 29.1 -0.7
SMRF **Simiane la Rot 152.62 333** *e*PKP1 PKPbc 17 57 30.6 0.0
CAF **Calviac 153.16 339** *e*PKP1 PKPbc 17 57 31.7 0.0
LASF **Ste Croix 153.24 335** *e*PKP1 PKPbc 17 57 31.8 -0.1

IDC 27 17:43:38.6±9.2, 184S×12820E, h0km, mb4.0/2, mb1 4.3/5, mb1mx3.8/17, mbtmp4.1/5, ML4.2/3, Error ellipse: s-maj=132.3km s-min=60.9km az=159.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Kupang**	**9.46**	**208**	Pn	Pn	17 45 58.1	+2.0
1.4nm,0.3s,baz=117,slow=9.2,SNR=4.4							
FITZ	**Fitzroy Crossi**	**16.35**	**189**	*e*P	Pn	17 47 28.1	-1.6
5.2nm,1.4s							
FITZ	**Fitzroy Crossi**	**16.35**	**189**	Pn	Pn	17 47 28.2	-1.5
0.3nm,0.3s,baz=18,slow=9.7,SNR=12							
WRA	**Warramunga Arr**	**18.96**	**162**	P	Pn	17 48 01.4	-0.8
1.9nm,0.3s,baz=340,slow=11,SNR=148							
WB2	**Warramunga Arr**	**18.97**	**162**	*e*P	Pn	17 48 01.2	-1.0
ASAR	**Alice Springs**	**22.39**	**166**	P	P	17 48 37.5	-1.2
2.7nm,0.4s,baz=345,slow=11,SNR=95							
STKA	**Stephens Creek**	**32.44**	**158**	P	P	17 50 11.5	+1.0
0.6nm,0.3s,baz=329,slow=9.6,SNR=6.8							

NIED ***27*** *18:15:00, 37.30N×13670E, h5km, Mw3.6 Best double couple: M0=2.95000×10^14 NP1:φ0=32.00000°, δ73.00000°, λ64.00000°. NP2:φ0=270.00000°, δ31.00000°, λ145.00000°.*
JMA 27 18:15:57.2, 3733N×13670E, h5km±1km, M3.8, 1C-3D Broadband fault plane solution: P waves. NP1: φ0=15.00000°, δ42.00000°, λ24.00000°. **NP2:** φ0=266.00000°, δ74.00000°, λ130.00000°. **Principal axes:** T Plg46.0000°, Azm217.0000°; N Plg38.0000°, Azm74.0000°; P Plg19.0000°, Azm328.0000°; **Near west coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JJH	**Hakui**	**0.41**	**171**	⇓P	Pg	18 16 05.6	+0.5
JJH				*e*S	Sg	18 16 11.5	+1.1
JSZ	**Suzu**	**0.54**	**77**	⇑P	Pg	18 16 07.7	+0.1
JSZ				S	Sg	18 16 15.4	+0.7
JHG	**Hegura jima**	**0.55**	**19**	⇓P	Pg	18 16 07.9	+0.2
JHG				S	Sg	18 16 15.9	+1.1
JTT	**Ttatey**	**0.88**	**145**	⇓P	Pg	18 16 14.1	0.0
MAT	**Matsushiro**	**1.44**	**123**	P	Pn	18 16 23.2	-0.7
MAT				S	Sb	18 16 42.5	-0.6

ISCJB ***27*** *18:24:18.9±1.6, 2973N±008×6965E±007, h4km±9km, mb3.8/12 Error ellipse: s-maj=14.1km s-min=7.7km az=30.2*
IDC ***27*** *18:24:20.6±1.1, 2983N×6948E, h0km, mb3.7/11, mb1 3.9/12, mb1mx3.8/24, mbtmp3.7/12, ML3.9/1, Error ellipse: s-maj=30.2km s-min=18.6km az=45.0*
MOS ***27*** *18:24:24.5±1.6, 3003N×6958E, h33km, mb4.1/9, Error ellipse: s-maj=27.2km s-min=13.3km az=89.2*
ISC 27 18:24:21.2±1.7, 2979N±007×6960E±007, h7km±9km, n45, σ1°21/53, mb3.8/12, 3C, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRP	**Derazinda**	**2.02**	**15**	P	**Pg**	**18 25 00.5**	**+0.6**
THW	**Thamme Wali**	**3.51**	**31**	P	**Pn**	**18 25 17.4**	**+1.2**
CHCP	**Chirah Chowk**	**4.96**	**38**	P	**Pn**	**18 25 37.5**	**+1.3**
AJM	**Ajmer**	**5.54**	**125**	*e*P	**Pb**	**18 25 51.0**	**-7.4**
KHET	**Khetri**	**5.71**	**106**	*e*P	**Pb**	**18 25 54.4**	**-6.7**
KHET				*e*S	**Sg**	**18 27 22.4**	**-2.1**
KHET				AML	AML	18 27 35.1	
comp=E,42nm,0.8s							
KHET				AML	AML	18 27 39.7	
comp=N,48nm,0.6s							
THN	**Thein Dam**	**5.87**	**62**	*e*P	**Pn**	**18 25 49.3**	**+0.6**
KUDL	**Kundal**	**6.26**	**104**	*e*P	**Pn**	**18 25 57.9**	**+3.9**
KUDL				*e*S	**Sb**	**18 27 30.4**	**+4.8**
KUDL				AML	AML	18 27 58.6	
comp=N,60nm,0.5s							
SDNR	**Sundarnagar**	**6.58**	**73**	*e*P	**Pn**	**18 26 00.0**	**+1.6**
SDNR				*e*x	**Sn**	**18 27 13.6**	**-0.1**
SONA	**Sohna**	**6.73**	**101**	*e*P	**Pn**	**18 26 06.1**	**+5.6**
SONA				*e*S	**Sb**	**18 27 46.9**	**+7.6**
SONA				AML	AML	18 28 03.6	
comp=N,37nm,0.7s							
SONA				AML	AML	18 28 06.3	
comp=E,45nm,0.5s							
NDI	**New Delhi**	**6.75**	**98**	*e*x	**Pn**	**18 26 01.0**	**+0.2**
NDI				*e*x	**Pg**	**18 26 32.0**	**+1.5**
NDI				*e*x	x	18 27 23.5	
KLP	**Kalpa**	**7.65**	**75**	*e*P	**Pn**	**18 26 13.8**	**+0.6**
KLP				*e*S	**Sb**	**18 27 59.4**	**-6.4**
KLP				AML	AML	18 28 54.4	
comp=N,170nm,0.5s							
KLP				AML	AML	18 28 56.5	
comp=E,160nm,0.9s							
JOSI	**Joshimath**	**8.66**	**82**	*e*P	**Pn**	**18 26 28.7**	**+1.7**
JOSI				*e*S	**Sn**	**18 28 23.5**	**+19**
JOSI				AML	AML	18 29 16.6	
comp=E,166nm,1.2s							
JOSI				AML	AML	18 29 24.0	
comp=N,129nm,0.7s							
KOLN	**Koldanda**	**12.45**	**96**	*e*P	**Pn**	**18 27 18.2**	**-0.7**
comp=N,17nm,0.8s							
DANN	**Dangsing**	**12.47**	**93**	*e*P	**Pn**	**18 27 19.0**	**-0.2**
comp=N,43nm,0.7s							
GKN	**Gorkha**	**13.30**	**94**	*e*P	**Pn**	**18 27 29.3**	**-1.2**
comp=N,10nm,0.5s							
KK31	**Karatay Array**	**13.31**	**3**	⇑Pn	**Pn**	**18 27 28.4**	**-2.1**
comp=N,4.2nm,0.6s,baz=194,slow=13,SNR=57							
KK31				⇑Sn	**Sn**	**18 29 48.8**	**-10**
comp=N,2.0nm,0.7s,baz=192,slow=24,SNR=5.4							
AAK	**Ala-Archa**	**13.41**	**16**	P	**Pn**	**18 27 29.0**	**-2.9**
AAK				pmax	pmax		
comp=Z,1.0nm,0.3s							
AAK	**Ala-Archa**	**13.41**	**16**	Pn	**Pn**	**18 27 29.0**	**-2.9**
comp=Z,0.8nm,0.3s,baz=158,slow=4.7,SNR=10							
DMN	**Daman**	**13.79**	**95**	*e*P	**Pn**	**18 27 36.8**	**-0.4**
KKN	**Kakani**	**13.90**	**94**	*e*P	**Pn**	**18 27 37.5**	**-1.2**
comp=Z,16nm,0.6s							
GUN	**Gumba**	**14.39**	**93**	*e*P	**Pn**	**18 27 44.1**	**-1.3**
comp=Z,86nm,0.8s							
JIRN	**Jiri**	**14.71**	**94**	*e*P	**Pn**	**18 27 48.9**	**-0.9**
MKAR	**Makanchi Array**	**19.64**	**27**	P	**Pn**	**18 28 49.7**	**-2.0**
comp=Z,0.3nm,0.3s,baz=202,slow=9.2,SNR=4.6							
KURK	**Kurchatov**	**21.97**	**15**	⇑*e*P	**P**	**18 29 14.7**	**-0.9**
AKTO	**Aktyubinsk**	**22.39**	**340**	P	**P**	**18 29 21.7**	**+1.7**
AKTO				pmax	pmax		
comp=Z,2.0nm,0.6s,mb3.7							
AKTO	**Aktyubinsk**	**22.39**	**340**	P	**P**	**18 29 21.6**	**+1.6**
comp=Z,2.3nm,0.6s,mb3.8,baz=154,slow=14,SNR=8.4							
BVAR	**Borovoye Array**	**23.22**	**1**	P	**P**	**18 29 28.4**	**-0.4**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BVAR				pmax	pmax		
comp=Z,3.0nm,0.7s							
BVAR	**Borovoye Array**	**23.22**	**1**	P	**P**	**18 29 28.4**	**-0.4**
comp=Z,2.8nm,0.7s,mb3.8,baz=152,slow=6.6,SNR=9.3							
BRVK	**Borovoye**	**23.25**	**1**	*i* P	**P**	**18 29 33.3**	**+4.2**
ZALV	**Zalesovo Beam**	**26.55**	**20**	P	**P**	**18 29 59.5**	**0.0**
comp=Z,1.2nm,0.6s,mb3.6,baz=202,slow=11,SNR=5.6							
SONM	**Songino Array**	**33.46**	**47**	P	**P**	**18 31 03.2**	**+2.4**
SONM				pmax	pmax		
comp=Z,1.0nm,0.6s							
SONM	**Songino Array**	**33.46**	**47**	P	**P**	**18 31 03.2**	**+2.4**
comp=Z,0.6nm,0.6s,mb3.7,baz=239,slow=10,SNR=4.8							
OBN	**Obninsk**	**34.58**	**327**	*e*P	**P**	**18 31 04.4**	**-6.0**
OBN				pmax	pmax		
comp=Z,3.0nm,0.6s,mb4.4							
AKASG	**Malin Array Be**	**36.62**	**316**	P	**P**	**18 31 27.8**	**-0.2**
AKASG				pmax	pmax		
comp=Z,1.0nm,0.5s							
AKASG	**Malin Array Be**	**36.62**	**316**	P	**P**	**18 31 27.8**	**-0.2**
comp=Z,0.7nm,0.5s,mb3.8,baz=100,slow=7.2,SNR=2.9							
GERES	**GERESS Array B**	**46.12**	**311**	P	**P**	**18 32 45.6**	**-0.5**
comp=Z,0.4nm,0.6s,mb3.5,baz=81,slow=8.2,SNR=4.1							
KSRS	**Korea Array**	**48.50**	**65**	P	**P**	**18 33 05.4**	**+0.6**
comp=Z,0.6nm,0.6s,mb3.8,baz=258,slow=6.9,SNR=3.6							
NOA	**NORSAR Array B**	**49.19**	**327**	P	**P**	**18 33 08.8**	**-0.9**
NOA				pmax	pmax		
comp=Z,1.0nm,0.8s							
NOA	**NORSAR Array B**	**49.19**	**327**	P	**P**	**18 33 08.8**	**-0.8**
comp=Z,1.1nm,0.8s,mb4.0,baz=104,slow=7.6,SNR=4.0							
WRA	**Warramunga Arr**	**79.55**	**120**	P	**P**	**18 36 30.5**	**+1.3**
WRA				pmax	pmax		
comp=Z,1.0nm,0.8s							
WRA	**Warramunga Arr**	**79.55**	**120**	P	**P**	**18 36 30.5**	**+1.3**
comp=Z,1.1nm,0.8s,mb3.9,baz=321,slow=5.0,SNR=13							
ASAR	**Alice Springs**	**81.47**	**123**	P	**P**	**18 36 40.6**	**+1.2**
ASAR				pmax	pmax		
comp=Z,1.0nm,0.6s							
ASAR	**Alice Springs**	**81.47**	**123**	P	**P**	**18 36 40.6**	**+1.2**
comp=Z,0.5nm,0.6s,mb3.6,baz=304,slow=5.4,SNR=14							
YKA	**Yellowknife Ar**	**87.98**	**2**	P	**P**	**18 37 11.0**	**-0.7**
YKA				pmax	pmax		
comp=Z,1.0nm,0.8s							
YKA	**Yellowknife Ar**	**87.98**	**2**	P	**P**	**18 37 11.0**	**-0.7**
comp=Z,0.9nm,0.8s,mb4.0,baz=345,slow=5.3,SNR=9.3							

ISK ***27*** *18:26:43.6, 3867N×3974E, h14km, MD3.0*
CSEM ***27*** *18:26:43.9±0.1, 3867N×3969E, h15km, MD2.6, Error ellipse: s-maj=5.8km s-min=3.1km az=128.0*
ISCJB ***27*** *18:26:49.6±0.9, 3847N±005×3944E±006, h10km, Error ellipse: s-maj=8.2km s-min=4.7km az=135.6*
DDA ***27*** *18:26:52.0, 3844N×3935E, h5km±3km, Md2.6*
ISC 27 18:26:50.8±0.9, 3847N±005×3940E±006, h10km, n9, σ1°26/14, 1C, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SVRC	**Sivrice-ELAZID**	**0.12**	**220**	PG	**Pg**	**18 26 52.8**	**-0.8**
ELZG	**Elazig**	**0.33**	**275**	*i* P	**Pg**	**18 26 57.2**	**-0.1**
ELZG				*i* S	**Sg**	**18 27 00.4**	**-1.3**
MYA	**Malataya**	**0.78**	**260**	*e*PN	**Pg**	**18 27 05.0**	**-0.8**
MALT	**Malatya**	**0.78**	**259**	*e*PN	**Pg**	**18 27 04.9**	**-0.9**
KEMA	**Kemaliye**	**1.07**	**319**	⇑*i*P	**Pg**	**18 27 11.0**	**-0.3**
KEMA				*i* S	**Sg**	**18 27 27.2**	**+2.0**
URFA	**Urfa**	**1.12**	**204**	*e*PN	**Pg**	**18 27 09.9**	**-2.5**
URFA				*e*SN	**Sg**	**18 27 28.4**	**+1.4**
MARD	**Mardin**	**1.59**	**136**	*i* P	**Pg**	**18 27 20.6**	**-0.5**
MARD				*i* S	**Sg**	**18 27 42.1**	**+0.4**
GZT	**Gaziantep**	**1.83**	**233**	*e*P	**Pn**	**18 27 23.9**	**+1.6**
GZT				*i* S	**Sn**	**18 27 47.3**	**+1.8**
SVSK	**Karacayir**	**2.36**	**308**	*e*PN	**Pn**	**18 27 24.1**	**-5.4**

CASC ***27*** *18:28:23.2±2.5, 1105N×8721W, h10km±7km, MD4.6, ML4.3, mb4.7(NEIC)*
IDC ***27*** *18:28:27.2±3.3, 1160N×8668W, h23km±22km, mb4.3/9, mb1 4.5/11, mb1mx4.2/22, mbtmp4.3/11, ML3.6/2, MS4.2/12, Ms1 4.2/12, ms1mx3.9/27, Error ellipse: s-maj=31.6km s-min=13.8km az=52.0*
ISCJB ***27*** *18:28:30.7±0.5, 1140N±005×8664W±006, h73km±4km, mb4.5/52, Error ellipse: s-maj=11.9km s-min=4.4km az=143.6*
BJI ***27*** *18:28:32.3, 1150N×8670W, h70km, mB5.1, Ms5.0, Msz4.7*
NEIC ***27*** *18:28:32.3±1.5, 1145N×8674W, h71km±13km, mb4.7/47, Error ellipse: s-maj=12.7km s-min=7.1km az=220.0*
ISC 27 18:28:31.5±0.5, 1142N±005×8666W±006, h63km±5km, n221, σ0°84/192, mb4.6/52, 44C-44D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRUN	**El Crucero**	**0.66**	**32**	⇓*e*P	**Pn**	**18 28 46.5**	**+0.9**
TICN	**Ticuantepe**	**0.74**	**34**	⇑*e*P	**Pn**	**18 28 47.4**	**+0.9**
APON	**Apoyo**	**0.76**	**49**	⇓*e*P	**Pn**	**18 28 48.0**	**+1.3**
COPN	**Copaltepe**	**0.76**	**5**	⇓*e*P	**Pn**	**18 28 46.6**	**-0.2**
CSAN		**0.80**	**17**	⇓*e*P	**Pn**	**18 28 47.4**	**+0.2**
XAVN	**Gruta Xavier**	**0.80**	**24**	⇑*e*P	**Pn**	**18 28 47.8**	**+0.7**
SSNN	**San Juan del S**	**0.80**	**99**	⇑*e*P	**Pn**	**18 28 47.4**	**+0.2**
SSNN				*e*S	**Sn**	**18 29 06.4**	**+7.6**
TISN	**Laguna Tiscapa**	**0.81**	**28**	⇓*e*P	**Pn**	**18 28 48.1**	**+0.7**
MGAN	**Managua**	**0.83**	**29**	⇑*e*P	**Pn**	**18 28 48.3**	**+0.8**
MGAN				*e*S	**Sn**	**18 29 07.4**	**+8.0**
MGAN				*i*		18 29 08.4	
comp=N,5μm,0.2s							
MOMJ	**Momotombo**	**0.99**	**6**	⇑*e*P	**Pn**	**18 28 49.5**	**-0.2**
MOMJ				*e*S	**Sn**	**18 29 10.0**	**+7.0**
CONN	**Concepcion**	**1.02**	**82**	⇑*e*P	**Pn**	**18 28 50.7**	**+0.7**
HUEN		**1.03**	**27**	⇑*e*P	**Pn**	**18 28 51.1**	**+1.0**
HUEN				*e*S	**Sn**	**18 29 15.1**	**+11**
CNGN	**Cerro Negro**	**1.08**	**358**	⇑*e*P	**Pn**	**18 28 49.0**	**-1.8**
MADN	**Villa Maderas**	**1.10**	**90**	⇑*e*P	**Pn**	**18 28 51.4**	**+0.4**
TEL3	**Telica 3**	**1.17**	**351**	⇑*e*P	**Pn**	**18 28 50.9**	**-1.0**
TEL3				*e*S	**Sn**	**18 29 12.6**	**+5.5**
TELN	**Telica**	**1.19**	**352**	⇑*e*P	**Pn**	**18 28 51.3**	**-1.0**
LIM1	**Limonal**	**1.55**	**117**	⇑*e*P	**Pn**	**18 28 55.6**	**-1.3**
VCR	**Vista de Mar**	**1.63**	**142**	⇑*e*P	**Pn**	**18 28 53.9**	**-4.1**
2RIO	**Dos Rios de Up**	**1.65**	**122**	⇑*e*P	**Pn**	**18 28 54.9**	**-3.4**
JTS	**JuntasAbangare**	**2.01**	**124**	*e*Pn	**Pn**	**18 29 00.5**	**-2.7**
JTS	**JuntasAbangare**	**2.01**	**124**	Pn	**Pn**	**18 29 00.7**	**-2.5**
comp=N,15nm,0.3s,baz=302,slow=21,SNR=125							
JTS				Pg	**Pn**	**18 29 04.5**	**+1.3**
comp=N,54nm,0.3s,baz=320,slow=17,SNR=138							
JTS				Sn	**Sn**	**18 29 26.5**	**-0.8**
comp=N,84nm,0.3s,baz=293,slow=18,SNR=6.5							
JTS				Lg		18 29 37.8	
comp=N,166nm,0.3s,baz=246,slow=19,SNR=8.7							
JCR	**Jicaral**	**2.17**	**136**	*e*P	**Pn**	**18 29 02.2**	**-3.2**
JCR				*e*S	**Sn**	**18 29 32.3**	**+1.0**
CNCH	**Conchagua**	**2.18**	**328**	⇓*e*P	x	18 29 22.1	
CNCH				*e*S	x	18 29 51.5	
BLLM	**Bellamira**	**2.54**	**323**	⇓*e*P	x	18 29 26.9	
BLLM				*e*S	x	18 29 59.6	
VSM	**San Miguel**	**2.55**	**322**	*e*P	x	18 29 27.9	
VSM				*e*S	x	18 30 00.5	
CGA2	**Cerro Gallo 2**	**2.56**	**123**	*e*P	**Pn**	**18 29 10.3**	**-0.4**
TGUH	**Tegucigalpa,Un**	**2.69**	**347**	*e*Pn	**Pn**	**18 29 11.0**	**-1.5**
PRS1	**Puriscal**	**2.71**	**121**	*e*P	**Pn**	**18 29 11.6**	**-1.1**
CAHU	**Cacacuatique**	**2.79**	**327**	*e*P	x	18 29 31.8	
CAHU				*e*S	x	18 30 07.8	
LAJ	**Bijagual**	**2.93**	**122**	*e*P	**Pn**	**18 29 09.5**	**-6.2**
LCR2	**La Lucha 2**	**3.09**	**122**	⇓*e*P	**Pn**	**18 29 18.2**	**+0.3**
QCR	**Quepos**	**3.15**	**129**	*e*P	**Pn**	**18 29 17.9**	**-0.9**
LCBS	**La Ceiba**	**3.18**	**315**	⇓*e*P	x	18 29 34.4	
LCBS				*e*S	x	18 30 12.5	
LFRS	**El Faro**	**3.22**	**313**	⇑*e*P	x	18 29 34.9	
LFRS				*e*S	x	18 30 13.6	
URSC	**Urasca**	**3.23**	**119**	*e*P	**Pn**	**18 29 20.7**	**+0.9**
BUS	**Buena Vista**	**3.40**	**123**	*e*P	**Pn**	**18 29 22.3**	**+0.2**
BOQS	**Boqueron**	**3.45**	**312**	*e*P	x	18 29 38.7	
BOQS				*e*S	x	18 30 18.8	
SBLS	**San Blas**	**3.77**	**310**	⇑*e*P	x	18 29 42.8	
SBLS				*e*S	x	18 30 25.2	
BAR1		**3.94**	**123**	⇑*e*P	**Pn**	**18 29 29.2**	**-0.3**
TEIG	**Tepich**	**8.90**	**350**	LR	LR	18 34 33.1	
comp=N,1μm,19.5s,baz=77,slow=42							
ROSC	**El Rosal**	**13.83**	**117**	*e*Pn	**Pn**	**18 31 53.9**	**+9.3**
ROSC	**El Rosal**	**13.83**	**117**	LR	LR	18 37 16.2	
comp=N,778nm,20.1s,baz=164,slow=38							
CHI2		**14.44**	**117**	⇑*e*P	Px	18 28 51.6	
SDV	**Santo Domingo**	**15.97**	**98**	*e*P	**Pn**	**18 32 14.7**	**+2.3**
comp=N,26nm,1.2s							

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDV				*e*		18 32 32.3	
SDV	**Santo Domingo**	**15.97**	**98**	Pn	**Pn**	**18 32 13.1**	**+0.7**
comp=N,0.3nm,0.3s,baz=271,slow=5.7,SNR=12							
ATAH	**Atahualpa**	**20.06**	**155**	LR	LR	18 39 42.3	
comp=N,1μm,19.4s,baz=188,slow=33							
HKT	**Hockley**	**20.32**	**337**	*e*P	**P**	**18 33 02.7**	**+0.2**
comp=N,85nm,1.4s							
LRAL	**Lakeview Retre**	**21.52**	**359**	*e*P	**P**	**18 33 16.8**	**+1.4**
comp=N,29nm,0.8s,mb4.8							
NATX	**Nacogdoches**	**21.55**	**341**	*e*P	**P**	**18 33 15.9**	**+0.1**
comp=N,51nm,0.7s,mb5.1							
PCRV	**Puerto La Cruz**	**21.66**	**91**	P	**P**	**18 33 18.0**	**+0.9**
comp=N,18nm,0.9s,mb4.5,baz=60,slow=2.3,SNR=4.1							
GOGA	**Godfrey**	**22.09**	**7**	*e*P	**P**	**18 33 24.1**	**+2.7**
comp=N,22nm,0.8s,mb4.7							
JCT	**Junction City**	**22.56**	**329**	*e*P	**P**	**18 33 24.6**	**-1.9**
comp=N,45nm,1.5s,mb4.7							
PLAL	**Pickwick Lake**	**23.50**	**357**	*e*P	**P**	**18 33 35.5**	**-0.2**
comp=N,35nm,1.1s,mb4.7							
SWET	**Sewanee**	**23.70**	**1**	*e*P	**P**	**18 33 39.0**	**+1.4**
TXAR	**Lajitas Array**	**23.86**	**321**	P	**P**	**18 33 38.1**	**-1.1**
comp=N,7.4nm,0.7s,mb4.2,baz=135,slow=10,SNR=74							
TXAR				PcP	PcP	18 37 22.8	+2.0
comp=N,2.3nm,0.9s,baz=145,slow=4.6,SNR=8.3							
MIAR	**Mount Ida**	**23.87**	**346**	*e*P	**P**	**18 33 38.3**	**-0.9**
comp=N,22nm,0.8s,mb4.6							
CPCT	**Cooper Cave**	**24.00**	**4**	*e*P	**P**	**18 33 41.4**	**+1.0**
TKL	**Tuckaleechee C**	**24.28**	**6**	P	**P**	**18 33 41.4**	**-1.5**
comp=N,21nm,0.9s,mb4.6,baz=168,slow=12,SNR=9.2							
HBAR	**Harrisburg**	**24.30**	**352**	*e*P	**P**	**18 33 43.2**	**+0.1**
WVT	**Waverly**	**24.63**	**358**	*e*P	**P**	**18 33 45.4**	**-0.7**
comp=N,18nm,1.3s,mb4.5							
TZTN	**Tazewell**	**25.18**	**6**	*e*P	**P**	**18 33 51.1**	**+0.1**
comp=N,8.3nm,0.8s,mb4.3							
WMOK	**Wichita Mounta**	**25.71**	**336**	*e*P	**P**	**18 33 55.7**	**-0.2**
comp=N,50nm,1.1s,mb5.0							
GDL2	**Guadalupe Moun**	**26.34**	**324**	*e*P	**P**	**18 34 02.7**	**+1.0**
MNTX	**Cornudas Mount**	**26.58**	**322**	*e*P	**P**	**18 34 03.0**	**-0.8**
comp=N,14nm,1.1s,mb4.4							
CCM	**Cathedral Cave**	**26.84**	**352**	*e*P	**P**	**18 34 05.4**	**-0.6**
comp=N,26nm,1.0s,mb4.7							
AMTX	**Amarillo**	**27.07**	**332**	*e*P	**P**	**18 34 08.6**	**+0.5**
comp=N,44nm,1.7s,mb4.7							
KSU1	**Kansas State U**	**28.96**	**344**	*e*P	**P**	**18 34 24.0**	**-0.9**
comp=N,40nm,1.0s,mb5.1							
BNM	**Barren Site**	**29.06**	**324**	*e*P	**P**	**18 34 25.6**	**-0.3**
HDIL	**Hopedale**	**29.12**	**356**	*e*P	**P**	**18 34 25.4**	**-0.9**
comp=N,23nm,0.7s,mb5.0							
LAZ	**Ladron**	**29.54**	**324**	*e*P	**P**	**18 34 33.9**	**+3.7**
MVL	**Millersville**	**29.90**	**16**	*e*P	**P**	**18 34 34.6**	**+1.4**
comp=N,11nm,0.9s,mb4.6							
SSPA	**Standing Stone**	**30.11**	**13**	*e*P	**P**	**18 34 36.3**	**+1.1**
comp=N,13nm,0.8s,mb4.7							
217A	**Green Valley**	**30.12**	**316**	⇓P	**P**	**18 34 36.0**	**+0.6**
baz=30							
Y19A	**Nutrioso**	**30.49**	**321**	⇑P	**P**	**18 34 39.5**	**+0.9**
baz=30							
ERPA	**Erie**	**31.14**	**10**	*e*P	**P**	**18 34 44.3**	**+0.1**
comp=N,22nm,0.4s,mb5.3							
SDCO	**Great Sand Dun**	**31.19**	**330**	*e*P	**P**	**18 34 44.9**	**+0.2**
comp=N,2.7nm,0.6s,mb4.2							
JFWS	**Jewell Farm**	**31.54**	**355**	*e*P	**P**	**18 34 46.7**	**-0.9**
comp=N,18nm,0.9s,mb4.9							
MVCO	**Mesa Verde**	**32.33**	**326**	*e*P	**P**	**18 34 55.0**	**+0.3**
comp=N,23nm,1.8s,mb4.7							
MVCO	**Mesa Verde**	**32.33**	**326**	⇑P	**P**	**18 34 55.1**	**+0.4**
baz=32							
WUAZ	**Wupatki**	**32.83**	**321**	*e*P	**P**	**18 35 01.3**	**+2.2**
comp=N,6.7nm,0.9s,mb4.6							
WUAZ				*e*		18 35 11.2	
SMCO	**Snowmass**	**33.03**	**330**	*e*P	**P**	**18 35 00.6**	**-0.2**
comp=N,9.9nm,1.1s,mb4.7							
PV01	**Paradox Valley**	**33.05**	**327**	*e*P	**P**	**18 35 01.2**	**+0.3**
LPAZ	**La Paz**	**33.07**	**146**	LR	LR	18 48 43.5	
comp=N,410nm,18.2s,baz=122,slow=37							
ECSD	**EROS,Sioux Fal**	**33.33**	**347**	*e*P	**P**	**18 35 01.5**	**-1.9**
comp=

comp=N,1.2nm,0.6s,mb3.8,baz=118,slow=7.7,SNR=11
NVAR PcP PcP 18 38 02.9 +1.8
comp=N,3.3nm,0.9s,baz=120,slow=4.2,SNR=11
O10A Cortez Mining, 39.00 323 ⇓P **P 18 35 52.3 +0.5**
baz=39
Q08A Gabbs 39.00 320 ⇓P **P 18 35 51.9 +0.1**
baz=39
KCC Kaiser Creek 39.04 317 ⇓P **P 18 35 52.5 +0.3**
baz=39
ULM Lac du Bonnet 39.46 351 *e*P **P 18 35 52.9 -2.5**
comp=N,26nm,1.0s,mb4.9
ULM Lac du Bonnet 39.46 351 P **P 18 35 53.0 -2.5**
comp=N,19nm,0.9s,mb4.8,baz=167,slow=8.8,SNR=32
ULM LR LR 18 52 22.7
comp=N,242nm,21.5s,baz=172,slow=36
L11A Cat Creek Ranc 39.79 326 ⇓P **P 18 35 58.8 +0.5**
baz=40
N09A Rock Creek Ran 39.96 323 ⇓P **P 18 35 59.7 -0.1**
baz=40
HLID Hailey 40.03 328 P **P 18 36 00.5 +0.2**
baz=40,SNR=6.3
I13A Wildhorse Cree 40.12 329 P **P 18 36 01.7 +0.6**
baz=40,SNR=6.2
MCMT McKenzie Canyo 40.16 331 *e*P **P 18 36 02.1 +0.7**
J12A Stokes Ranch, 40.17 327 P **P 18 36 01.4 -0.1**
baz=40,SNR=7.4
BOZ Bozeman (W) 40.22 333 *e*P **P 18 36 01.1 -0.7**
comp=N,2.1nm,0.6s,mb4.0
BOZ Bozeman (W) 40.22 333 P **P 18 36 01.8 -0.1**
baz=40,SNR=5.8
G15A Dillon 40.24 331 ⇑P **P 18 36 02.5 +0.4**
baz=40
R05C Kirkwood Meado 40.29 318 ⇓P **P 18 36 03.2 +0.6**
baz=40
K11A Parker Ranch, 40.34 326 ⇓P **P 18 36 03.1 +0.1**
baz=40
H13A Challis 40.66 329 ⇑P **P 18 36 05.6 +0.1**
baz=41
MFID Camas Ranch 40.67 327 ⇓P **P 18 36 05.5 -0.1**
baz=41
LRM Limekiln Ridge 40.72 332 *e*P **P 18 36 05.8 -0.3**
F15A Butte 40.76 332 ⇑P **P 18 36 06.4 +0.1**
baz=41
H12A Diamond D Ranc 40.95 329 ⇓P **P 18 36 08.0 +0.1**
baz=41
G13A Cobalt 41.03 330 ⇓P **P 18 36 08.1 -0.5**
baz=41
K09A Rome 41.24 325 P **P 18 36 11.0 +0.7**
baz=41,SNR=9.0
E15A Deer Lodge 41.27 333 ⇓P **P 18 36 10.6 +0.1**
baz=41
L08A Fields 41.27 324 ⇓P **P 18 36 11.0 +0.4**
baz=41,SNR=7.9
N06A Buffalo Meadow 41.30 321 ⇑P **P 18 36 11.3 +0.5**
baz=41
WVOR Wild Horse Val 41.59 324 *e*P **P 18 36 12.8 -0.4**
comp=N,8.8nm,1.0s,mb4.3
D15A Lincoln 41.68 333 ⇑P **P 18 36 14.0 +0.1**
baz=42
K08A Mann Creek Ran 41.69 324 P **P 18 36 14.2 +0.2**
baz=42,SNR=12
L07A Adell 41.75 323 ⇑P **P 18 36 14.8 +0.3**
baz=42
ELFS Eagle Lake Fie 41.78 320 ⇓P **P 18 36 15.3 +0.6**
baz=42
H10A Noah's Angus R 41.95 328 ⇓P **P 18 36 15.6 -0.6**
baz=42
E13A Victor 41.99 331 ⇑P **P 18 36 15.7 -0.7**
baz=42
F12A Elk City 42.00 330 P **P 18 36 15.9 -0.6**
baz=42,SNR=15
I09A Lost Marbles R 42.07 326 ⇓P **P 18 36 16.6 -0.5**
baz=42
K07A Rock Creek Ran 42.11 324 ⇓P **P 18 36 17.5 +0.1**
baz=42
G11A Walters Elk Ra 42.26 329 ⇓P **P 18 36 18.1 -0.5**
baz=42
BMO Blue Mountains 42.42 327 *e*P **P 18 36 18.5 -1.4**
comp=N,3.0nm,0.8s,mb4.0
G10A Bishop Farm, J 42.62 328 ⇑P **P 18 36 20.8 -0.8**
baz=43
E11A Bogner Ranch, 42.90 330 ⇑P **P 18 36 23.4 -0.4**
baz=43
H08A Prairie City 42.94 326 ⇑P **P 18 36 23.6 -0.5**
baz=43
I07A Izee 43.12 325 ⇓P **P 18 36 25.3 -0.3**
baz=43
F10A Beach Ranch, E 43.14 329 ⇓P **P 18 36 25.4 -0.4**
baz=43
F09A S2 Ranch, Elgi 43.31 328 ⇓P **P 18 36 26.5 -0.7**
baz=43
D09A Jones Farm, Ri 44.43 329 ⇑P **P 18 36 36.1 0.0**
baz=44
D08A Wollman Farm, 44.74 329 ⇑P **P 18 36 38.5 0.0**
baz=45
FFC Flin Flon 44.87 347 *e*P **P 18 36 38.7 -0.7**
comp=N,6.1nm,1.0s,mb4.4
H04A Detroit Lake 45.01 324 ⇓P **P 18 36 40.4 -0.3**
baz=45
B09A Rice 45.28 331 ⇑P **P 18 36 42.4 -0.5**
baz=45
C07A Waterville 45.74 329 ⇑P **P 18 36 46.3 -0.1**
baz=46
SCHQ Schefferville 46.05 16 *e*P **P 18 36 47.7 -1.1**
comp=N,7.3nm,1.0s,mb4.6
SCHQ Schefferville 46.05 16 P **P 18 36 48.0 -0.8**
comp=N,7.2nm,1.0s,mb4.6,baz=164,slow=4.7,SNR=7.0
SCHQ LR LR 18 58 43.0
comp=N,372nm,18.3s,baz=210,slow=40
C05A Tolt Reservoir 46.58 328 ⇓P **P 18 36 52.9 -0.2**
baz=46
BDFB Brasilia 46.75 124 P **P 18 36 55.4 +0.6**
comp=N,1.6nm,0.6s,mb4.1,baz=275,slow=13,SNR=5.1
BDFB LR LR 18 57 21.5
comp=N,405nm,18.9s,baz=306,slow=37
A07A Ashnola River, 46.80 330 ⇑P **P 18 36 54.7 0.0**
baz=47
CPUP Villa Florida 47.12 143 LR LR 18 58 07.0
comp=N,193nm,18.3s,baz=315,slow=38
FCC Fort Churchill 47.58 355 *e*P **P 18 36 59.3 -1.4**
comp=N,3.8nm,0.8s,mb4.5
PLCA Paso Flores 53.98 165 P **P 18 37 50.5 +1.5**
PLCA Paso Flores 53.98 165 P **P 18 37 50.5 +1.5**
comp=N,2.0nm,0.8s,mb4.1,baz=314,slow=7.9,SNR=3.0
YKA Yellowknife Ar 54.81 345 P **P 18 37 53.0 -1.8**
YKA PcP PcP 18 38 56.2 -0.2
YKA Yellowknife Ar 54.81 345 P **P 18 37 53.0 -1.7**
comp=N,5.6nm,0.9s,mb4.6,baz=138,slow=7.5,SNR=71
YKA PcP PcP 18 38 56.2 -0.2
comp=N,0.3nm,0.6s,baz=144,slow=3.9,SNR=5.1
YKW3 Yellowknife Ar 54.87 345 *e*P **P 18 37 53.6 -1.6**
RKT Rikitea 58.43 234 *e*S **S 18 46 28.7 +8.9**
comp=N,287nm,25.5s
RKT *e*LR LR 18 55 25.6
comp=N,308nm,30.8s
RES Resolute Bay 63.42 358 *e*P **P 18 38 53.0 -1.1**
comp=N,102nm,0.8s
INK Inuvik 64.42 342 *e*P **P 18 39 00.0 -0.7**
comp=N,394nm,1.3s
PPT Papeete 68.48 246 *e*S S 18 48 32.0 +6.9
comp=N,90nm,24.2s
PPT Papeete 68.48 246 *e*LR LR 19 00 04.3
comp=N,243nm,24.8s
TBI Tubuai 70.47 240 *e*S S 18 48 57.6 +9.3
comp=N,85nm,25.0s
TBI Tubuai 70.47 240 *e*LR LR 19 01 14.0
comp=N,203nm,25.2s
NOA NORSAR Array B 83.89 29 LR LR 19 15 29.2
comp=N,76nm,19.0s,baz=170,slow=34
BILL Bilibino 85.76 339 *e*P **P 18 41 03.7 +0.2**
comp=N,9.2nm,1.1s,mb4.9
GERES GERESS Array B 88.21 41 LR LR 19 15 09.4
comp=N,137nm,20.1s,baz=187,slow=32
FINES FINESS Array B 90.55 26 LR LR 19 24 47.7
comp=N,93nm,18.1s,baz=356,slow=37
AKASG Malin Array Be 96.91 35 LR LR 19 22 45.9
comp=N,116nm,18.4s,baz=270,slow=34
CN2 Changchun 117.76 334 *e*PKP PKPdf 18 47 07.3 -3.6
SONM Songino Array 119.88 350 PKP PKPdf 18 47 14.9 0.0
comp=N,0.7nm,0.8s,baz=19,slow=1.3,SNR=6.4
KSRS Korea Array 121.56 328 PKP PKPdf 18 47 18.9 +0.5
comp=N,2.7nm,0.8s,baz=7.9,slow=1.8,SNR=14
BJI Beijing 124.59 339 PKP PKPdf 18 47 24.3 +0.1
BJI PP PP 18 49 09.8 -0.4
BJI SKS SKSdf 18 54 28.8 -2.0
BJI SS SS 19 05 58.5 +0.2
BJI LR LR
comp=N,123nm,19.3s
BJI LR LR
comp=E,96nm,10.6s
BJI LR LR
comp=Z,173nm,38.5s
WMQ Urumqi 124.79 5 *e*PKP PKPdf 18 47 26.5 +2.1
WMQ LR LR
comp=Z,204nm,21.9s
HHC Hu-ho-hao-te 125.34 343 *e*PKP PKPdf 18 47 21.3 -4.3
HHC XPKP 18 47 58.0
HHC PP PP 18 49 16.3 +1.2
HHC PKS 18 50 57.5
HHC SKS SKSdf 18 54 22.8 -9.4
HHC PP PP
comp=Z,92nm,5.9s
HHC LR LR
comp=N,200nm,15.9s
HHC LR LR
comp=E,175nm,15.3s
HHC LR LR
comp=Z,100nm,15.1s
GTA Gaotai 129.08 354 *e*PKP PKPdf 18 47 34.5 +1.7
GTA XPKP 18 47 57.8
GTA PP PP 18 49 41.8 +2.2
GTA PKS 18 51 10.0
GTA SKS SKSdf 18 54 40.5 +1.3
GTA PP PP
comp=Z,86nm,5.3s
GTA LR LR
comp=N,103nm,15.6s
GTA LR LR
comp=E,112nm,17.5s
GTA LR LR
comp=Z,129nm,17.1s
CD2 Chengdu 136.75 347 *e*PKP PKPdf 18 47 46.3 -1.1
CD2 XPKP 18 48 13.3
CD2 PP PP 18 50 31.3 +2.5
CD2 PKS 18 51 21.0
CD2 SKS SKSdf 18 54 51.5 -1.7
CD2 SKKS SKKSac 18 57 18.0 -1.6
CD2 SS SS 19 08 27.8 +1.0
CD2 PP PP
comp=Z,120nm,10.8s
CD2 LR LR
comp=N,130nm,20.2s
CD2 LR LR
comp=Z,160nm,22.2s
ASAR Alice Springs 139.59 247 PKP PKPdf 18 47 51.4 -1.4
comp=Z,0.8nm,0.8s,baz=108,slow=2.0,SNR=6.3
WB2 Warramunga Arr 139.71 253 *e*P PKPdf 18 47 53.3 +0.2
WRA Warramunga Arr 139.72 253 PKP PKPdf 18 47 52.1 -1.0
comp=Z,1.1nm,0.8s,baz=100,slow=2.5,SNR=9.9
GYA Guiyang 140.19 341 *e*PKP PKPdf 18 47 53.3 -0.6
GYA XPKP 18 48 20.5
GYA PP PP 18 50 53.5 +3.3
GYA PP PP
comp=Z,120nm,8.9s
KMI Kunming 142.55 346 PKP PKPdf 18 47 57.5 -0.6
FITZ Fitzroy Crossi 148.11 254 *e*P PKPdf 18 48 11.5 +3.7
comp=Z,6.3nm,1.0s
CHTO Chiang Mai 149.46 350 *e*PKPdf PKPdf 18 48 11.0 +1.0
CHTO *e*PKPbc PKPbc 18 48 15.0 +0.6

*CSEM **27** 19:54:15.5±0.5,4368N×1750E,h2km,ML2.7/10,Error ellipse: s-maj=9.4km s-min=4.7km az=81.0*
*ISCJB **27** 19:54:18.2±0.5,4358N±003×1765E±004,h10km,Error ellipse: s-maj=5.3km s-min=3.4km az=42.1*
*BEO **27** 19:54:19.5±2.6,4357N×1756E,h18km±3km,ML2.5/4*
*PDG **27** 19:54:20.4±0.3,4353N×1778E,h1km±1km,ML2.7/10, Error ellipse: s-maj=1.0km s-min=1.6km az=0.0*
*NEIC **27** 19:54:20.4,4353N×1778E,h1km,ML2.7(PDG),After PDG.*

ISC 27 19:54:19.5±0.5,4359N±003×1767E±004,h10km,n20, σ1§04/35,5C-5D,Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STON	**Ston**	**0.72**	**178**	⇓*i*Pg	**Pg**	**19 54 32.5**	**-0.8**
STON				*e*Sg	**Sg**	**19 54 43.7**	**+1.1**
BRY	**Bratogost**	**0.94**	**137**	*e*Pg	**Pg**	**19 54 36.3**	**-1.3**
BRY				*e*Sg	**Sg**	**19 54 49.3**	**-0.5**
UPM	**Unac-Piva**	**0.99**	**113**	*e*Pg	**Pg**	**19 54 36.7**	**-1.7**
UPM				*e*Sg	**Sg**	**19 54 51.3**	**+0.1**
NKY	**Niksic**	**1.25**	**128**	⇓*i*Pg	**Pg**	**19 54 41.3**	**-2.1**
NKY				*e*Sg	**Sg**	**19 54 59.9**	**+0.4**
PLE	**Pljevlja**	**1.29**	**101**	⇓*i*Pg	**Pg**	**19 54 42.5**	**-1.6**
PLE				*i* Sg	**Sg**	**19 55 01.0**	**+0.2**
HCY	**Herceg Novi**	**1.29**	**152**	⇑*i*Pg	**Pg**	**19 54 42.5**	**-1.8**
HCY				*i* Sg	**Sg**	**19 55 00.8**	**-0.3**
BUM	**Brajici-Budva**	**1.57**	**144**	⇓*i*Pg	**Pg**	**19 54 48.5**	**-1.1**
BUM				*e*Sg	**Sg**	**19 55 11.0**	**+1.0**
PDG	**Podgorica**	**1.65**	**134**	*e*Pg	**Pn**	**19 54 48.2**	**-0.2**
PDG				*e*Sg	**Sg**	**19 55 13.1**	**+0.7**
TTG	**Podgorica**	**1.65**	**134**	*e*Pg	**Pn**	**19 54 48.2**	**-0.2**
TTG				*e*Sg	**Sg**	**19 55 13.1**	**+0.7**
DIVS	**Divibare**	**1.76**	**72**	⇑*i*Pn	**Pn**	**19 54 49.9**	**-0.1**
DIVS				*e*Sn	**Sn**	**19 55 13.2**	**+0.8**
BEY	**Berane**	**1.78**	**113**	⇑*i*Pn	**Pn**	**19 54 51.2**	**+0.9**
BEY				*e*Sn	**Sg**	**19 55 17.0**	**+0.3**
IVA	**Berane**	**1.78**	**113**	⇑*i*Pn	**Pn**	**19 54 51.2**	**+0.9**
IVA				*e*Sn	**Sg**	**19 55 17.0**	**+0.3**
PVY	**Plav**	**1.96**	**120**	⇓*i*Pn	**Pn**	**19 54 54.9**	**+2.2**
PVY				*e*Sn	**Sg**	**19 55 22.1**	**-0.4**
ULC	**Ulcinj**	**2.00**	**144**	⇑*i*Pn	**Pn**	**19 54 54.8**	**+1.5**
ULC				*e*Sn	**Sb**	**19 55 22.4**	**+1.6**
FGSL	**Fruska Gora**	**2.20**	**44**	*e*Pn	**Pn**	**19 54 55.6**	**-0.4**
GRUS	**Gruza**	**2.23**	**81**	*e*Pn	**Pn**	**19 54 57.9**	**+1.4**
NVLJ	**Novalja**	**2.24**	**297**	*e*Pn	**Pg**	**19 55 01.7**	**-0.7**
NVLJ				Sn	**Sg**	**19 55 32.0**	**+0.7**
NVLJ	**Novalja**	**2.24**	**297**	*e*Pn	**Pg**	**19 55 01.6**	**-0.7**
PKSM	**Moragy**	**2.71**	**14**	*e*Pn	**Pn**	**19 55 03.3**	**+0.2**
BARS	**Barje**	**3.14**	**103**	*e*Pn	**Pn**	**19 55 08.8**	**-0.1**

*ISCJB **27** 19:55:11.6±0.2,37.11N±001×11530W±002,h10km,Error ellipse: s-maj=1.8km s-min=1.7km az=148.8*
*NEIC **27** 19:55:11.4,37.13N×11529W,h9km,ML3.6(REN),After REN.*

ISC 27 19:55:12.0±0.2,3712N±001×11529W±001,h10km,n100, σ1§16/170,48C-53D,Southern Nevada

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
T11A	**Corn Creek, Al**	**0.14**	**24**	⇑P	**Pg**	**19 55 14.0**	**-1.2**
baz=0.1,SNR=1000							
T12A	**Moapa**	**0.60**	**130**	⇓P	**Pg**	**19 55 22.3**	**-1.4**
baz=0.6,SNR=87							
T12A				⇑S	**Sg**	**19 55 30.1**	**-1.5**
baz=0.6							
S12A	**Delamar Landin**	**0.60**	**35**	⇓P	**Pg**	**19 55 23.1**	**-0.7**
baz=0.6,SNR=264							
S12A				⇓S	**Sg**	**19 55 30.4**	**-1.3**
baz=0.6							
S11A	**Rachel**	**0.64**	**326**	⇓P	**Pg**	**19 55 23.3**	**-1.2**
baz=0.7,SNR=32							
S11A				⇓S	**Sg**	**19 55 32.3**	**-0.5**
baz=0.7							
U11A	**Corn Creek**	**0.69**	**186**	⇑S	**Sg**	**19 55 33.8**	**-0.8**
baz=0.7							
TPNV	**Topopah Spring**	**0.79**	**258**	*e*Pg	**Pg**	**19 55 26.3**	**-0.9**
TPNV	**Topopah Spring**	**0.79**	**258**	⇑P	**Pg**	**19 55 26.1**	**-1.0**
baz=0.8							
TPNV				⇓S	**Sg**	**19 55 37.0**	**-0.4**
baz=0.8							
U12A	**Valley of Fire**	**0.91**	**138**	⇓P	**Pg**	**19 55 28.2**	**-1.4**
baz=0.9,SNR=358							
U12A				⇑Sn	**Sn**	**19 55 44.4**	**+0.3**
baz=0.9							
U10A	**Ash Meadows, A**	**1.09**	**231**	⇓P	**Pb**	**19 55 31.7**	**-1.2**
baz=1.1,SNR=1000							
T13A	**Saint George**	**1.11**	**95**	⇑P	**Pb**	**19 55 31.7**	**-1.6**
baz=1.1,SNR=288							
T13A				⇑S	**Sg**	**19 55 46.8**	**-1.0**
baz=1.1							
S13A	**Holt Ranch, En**	**1.23**	**67**	⇑P	**Pn**	**19 55 34.0**	**-1.3**
baz=1.2,SNR=408							
S13A				⇑S	**Sb**	**19 55 51.0**	**-0.3**
baz=1.2							
R11A	**Troy Canyon, C**	**1.25**	**349**	⇑P	**Pn**	**19 55 35.0**	**-0.7**
baz=1.3,SNR=1000							
R11A				⇑S	**Sb**	**19 55 51.7**	**-0.3**
baz=1.3							
U13A	**Pakoon Wash**	**1.27**	**123**	⇓P	**Pn**	**19 55 34.4**	**-1.4**
baz=1.3,SNR=859							
U13A				⇓S	**Sb**	**19 55 51.8**	**-0.7**
baz=1.3							
V11A	**Goodsprings**	**1.28**	**185**	⇓P	**Pn**	**19 55 35.1**	**-0.8**
baz=1.3,SNR=130							
V11A				⇑S	**Sb**	**19 55 52.5**	**-0.1**
baz=1.3							
S10A	**Tonopah Range,**	**1.31**	**308**	⇑P	**Pn**	**19 55 35.9**	**-0.6**
baz=1.3,SNR=631							
R12A	**Pony Springs,**	**1.33**	**24**	⇓P	**Pn**	**19 55 36.1**	**-0.5**
baz=1.3,SNR=710							
R12A				⇑S	**Sb**	**19 55 54.5**	**+0.4**
baz=1.3							
FURC	**Furnace Creek,**	**1.42**	**243**	⇑P	**Pn**	**19 55 37.5**	**-0.3**
baz=1.4,SNR=170							
FURC				⇑S	**Sn**	**19 55 56.8**	**+0.3**
baz=1.4							
R10A	**Warm Springs**	**1.42**	**326**	⇓P	**Pn**	**19 55 37.7**	**-0.2**
baz=1.4,SNR=15							
R10A				⇑S	**Sn**	**19 55 57.6**	**+0.9**
baz=1.4							
SHOC	**Shoshone**	**1.45**	**214**	⇑P	**Pn**	**19 55 38.2**	**-0.1**
baz=1.4,SNR=214							
SHOC				⇑S	**Sn**	**19 55 58.2**	**+0.8**
baz=1.4							
CCUT	**Cedar City**	**1.60**	**74**	*e*Pn	**Pn**	**19 55 40.9**	**+0.6**
CCUT				*e*Sn	**Sn**	**19 56 02.2**	**+1.2**
ARUT	**Antelope Range**	**1.62**	**65**	*e*Pn	**Pn**	**19 55 41.5**	**+0.8**
ARUT				*e*Sg	**Sg**	**19 56 04.7**	**+0.6**
V13A	**Grand Canyon W**	**1.64**	**140**	P	**Pn**	**19 55 41.0**	**0.0**
baz=1.6,SNR=288							
V13A				⇑S	**Sn**	**19 56 02.6**	**+0.5**
baz=1.6							
S09A	**Goldfield**	**1.66**	**292**	P	**Pn**	**19 55 40.7**	**-0.5**
baz=1.7,SNR=392							
S09A				⇑S	**Sn**	**19 56 03.7**	**+1.3**
baz=1.7							
GRAC	**Grapevine Rang**	**1.67**	**267**	⇓P	**Pn**	**19 55 41.3**	**0.0**
baz=1.7,SNR=86							
GRAC				⇑S	**Sn**	**19 56 04.0**	**+1.3**
baz=1.7							
Q11A	**Duckwater**	**1.75**	**351**	⇑P	**Pn**	**19 55 42.0**	**-0.5**
baz=1.8,SNR=93							
Q11A				⇓S	**Sn**	**19 56 06.3**	**+1.5**
baz=1.8							
TUQ	**Turquoise Mtn.**	**1.75**	**197**	⇓P	**Pn**	**19 55 42.0**	**-0.4**
baz=1.7,SNR=55							
TUQ				⇓S	**Sn**	**19 56 06.2**	**+1.4**
baz=1.7							
T14A	**Hurricane**	**1.77**	**91**	⇑P	**Pn**	**19 55 42.0**	**-0.7**
baz=1.7,SNR=37							
T14A				⇓S	**Sn**	**19 56 06.1**	**+0.9**
baz=1.7							
R09A	**Tonopah**	**1.81**	**309**	⇓P	**Pn**	**19 55 42.9**	**-0.3**
baz=1.8,SNR=333							
R09A				⇓Sb	**Sb**	**19 56 09.6**	**+1.8**
baz=1.8							
S14A	**Cedar City**	**1.81**	**68**	⇓P	**Pn**	**19 55 42.6**	**-0.6**
baz=1.8							
S14A				⇑Sb	**Sb**	**19 56 09.3**	**+1.4**
baz=1.8							
U14A	**Mt Trumbull**	**1.83**	**112**	⇓Pb	**Pb**	**19 55 44.2**	**-1.4**
baz=1.8,SNR=155							
U14A				⇑S	**Sn**	**19 56 07.6**	**+0.9**
baz=1.8							
W12A	**Cal Nev Ari**	**1.84**	**169**	⇑P	**Pn**	**19 55 43.2**	**-0.5**
baz=1.8,SNR=7.9							
W12A				⇑S	**Sn**	**19 56 08.0**	**+0.9**
baz=1.8							
Q10A	**Clear Creek Ra**	**1.92**	**333**	⇓P	**Pn**	**19 55 44.6**	**-0.2**
baz=1.9,SNR=81							
Q10A				⇑Sb	**Sb**	**19 56 13.0**	**+1.9**
baz=1.9							
Q12A	**Willow Creek R**	**1.96**	**11**	⇓P	**Pn**	**19 55 45.0**	**-0.3**
baz=2.0							
Q12A				⇓S	**Sn**	**19 56 12.0**	**+2.2**
baz=2.0							
MPMC	**Manual Prospec**	**2.06**	**240**	P	**Pn**	**19 55 46.5**	**-0.2**
baz=2.1,SNR=321							
Q13A	**Wheeler Ranch,**	**2.09**	**28**	⇑P	**Pn**	**19 55 47.0**	**-0.2**
baz=2.1							
R14A	**James Farms, M**	**2.15**	**56**	⇓Pb	**Pb**	**19 55 50.9**	**-0.2**
baz=2.1							
GSC	**Goldstone**	**2.19**	**215**	*e*Pn	**Pn**	**19 55 48.2**	**-0.2**
GSC				*e*Pg	**Pg**	**19 55 51.9**	**-2.0**
GSC				*e*Sg	**Sg**	**19 56 21.9**	**-0.3**
GSC	**Goldstone**	**2.19**	**215**	⇑P	**Pn**	**19 55 48.5**	**+0.1**
baz=2.2							
Q09A	**Carvers**	**2.27**	**320**	⇑P	**Pn**	**19 55 49.8**	**+0.1**
baz=2.3							
V14A	**Boquillas Ranc**	**2.30**	**129**	⇑P	**Pn**	**19 55 50.7**	**+0.7**
baz=2.3,SNR=50							
V14A				⇑Sb	**Sb**	**19 56 22.8**	**+0.7**
baz=2.3							
W13A	**Hualapai Mount**	**2.31**	**150**	⇓P	**Pn**	**19 55 50.0**	**-0.2**
baz=2.3,SNR=9.8							
W13A				⇑S	**Sn**	**19 56 18.5**	**-0.1**
baz=2.3							
S08C	**White Mtn Res**	**2.33**	**280**	⇓P	**Pn**	**19 55 50.3**	**-0.1**
baz=2.3,SNR=24							
S08C				⇓Sb	**Sb**	**19 56 25.0**	**+2.1**
baz=2.3							
T15A	**Red Dirt Ranch**	**2.33**	**92**	⇓P	**Pn**	**19 55 50.2**	**-0.2**
baz=2.3,SNR=26							
T15A				⇓Sb	**Sb**	**19 56 23.7**	**+0.8**
baz=2.3							
GMRC	**Granite Mounta**	**2.35**	**187**	P	**Pn**	**19 55 50.2**	**-0.4**
baz=2.3,SNR=17							
GMRC				⇑Sb	**Sb**	**19 56 25.4**	**+1.9**
baz=2.3							
P12A	**McGill**	**2.37**	**7**	⇑P	**Pn**	**19 55 51.2**	**+0.2**
baz=2.4,SNR=26							
P12A				⇓Sb	**Sb**	**19 56 25.3**	**+1.1**
baz=2.4							
NEE2	**Needles Airpor**	**2.41**	**167**	⇑Sb	**Sb**	**19 56 27.3**	**+2.2**
baz=2.4							
HEC	**Hector,Ludlow**	**2.43**	**201**	⇑P	**Pn**	**19 55 51.6**	**-0.2**
baz=2.4,SNR=20							
LRMC	**Laurel Mountai**	**2.54**	**231**	⇑P	**Pn**	**19 55 53.0**	**-0.2**
baz=2.5,SNR=10							
P13A	**Bates Ranch, G**	**2.54**	**23**	P	**Pn**	**19 55 53.5**	**+0.2**
baz=2.6,SNR=17							
R08A	**Mina**	**2.55**	**300**	⇓P	**Pn**	**19 55 53.5**	**+0.1**
baz=2.6							
MTUM	**Tungsten Hills**	**2.62**	**276**	*e*Pn	**Pn**	**19 55 54.5**	**+0.1**
MTUM				*e*Pg	**Pg**	**19 55 59.1**	**-3.2**
MTUM				*e*Sn	**Sn**	**19 56 25.5**	**-0.8**
MTUM				*e*Sg	**Sg**	**19 56 35.2**	**-1.1**
P10A	**Eureka**	**2.67**	**340**	⇓P	**Pn**	**19 55 55.4**	**+0.4**
baz=2.7,SNR=9.8							
P10A				⇓Sb	**Sb**	**19 56 35.5**	**+2.9**
baz=2.7							
X13A	**Yucca**	**2.78**	**154**	⇓P	**Pn**	**19 55 56.4**	**-0.2**
baz=2.8,SNR=14							
V15A	**Kaibab Nationa**	**2.83**	**116**	⇑P	**Pn**	**19 55 57.4**	**+0.2**
baz=2.8,SNR=8.8							
V15A				⇑Sb	**Sb**	**19 56 38.8**	**+1.6**
baz=2.8							
MSU	**Marysvale**	**2.83**	**60**	Pn	**Pn**	**19 55 58.7**	**+1.4**
P09A	**Austin**	**2.83**	**330**	⇓Sb	**Sb**	**19 56 40.3**	**+2.9**
baz=2.9							
IRM	**Iron Mountain**	**2.95**	**178**	⇓P	**Pn**	**19 55 58.8**	**-0.1**
baz=2.9,SNR=9.1							
HELL	**Mitchell Peak**	**3.02**	**263**	⇑P	**Pn**	**19 56 00.1**	**+0.2**
baz=3.0,SNR=6.0							
O11A	**Cowboy Ranch,**	**3.02**	**355**	⇓P	**Pn**	**19 56 00.2**	**+0.3**
baz=3.0,SNR=15							
O11A				⇓Sb	**Sb**	**19 56 45.9**	**+2.9**
baz=3.0							
T16A	**Glen Canyon Da**	**3.03**	**91**	⇑Sb	**Sb**	**19 56 44.0**	**+0.9**
baz=3.0							
O12A	**Currie**	**3.18**	**8**	P	**Pn**	**19 56 02.0**	**0.0**
baz=3.2,SNR=71							
KCC	**Kaiser Creek**	**3.22**	**275**	⇑Sb	**Sb**	**19 56 52.1**	**+3.5**
baz=3.2							
X14A	**Yava**	**3.28**	**143**	⇓P	**Pn**	**19 56 03.5**	**0.0**
baz=3.3							
O10A	**Cortez Mining,**	**3.31**	**344**	⇓P	**Pn**	**19 56 04.0**	**+0.2**
baz=3.3,SNR=6.7							
O10A				⇓Sb	**Sb**	**19 56 54.6**	**+3.5**
baz=3.3							
O09A	**Fish Creek Ran**	**3.39**	**335**	⇑P	**Pn**	**19 56 05.3**	**+0.3**
baz=3.4							
BC3	**Big Chuckw Mtn**	**3.46**	**182**	⇓P	**Pn**	**19 56 06.0**	**+0.1**
baz=3.5,SNR=13							
WUAZ	**Wupatki**	**3.54**	**116**	*e*Pn	**Pn**	**19 56 08.2**	**+1.1**
WUAZ				*e*Pg	**Pg**	**19 56 15.1**	**-4.8**
WUAZ				*e*S	**Sb**	**19 56 59.7**	**+1.8**

X15A	Humboldt	3.61	136	⇑P		Pn	19 56 08.4	+0.3
	baz=3.6,SNR=18							
PFO	Pinyon Flat Ob	3.62	196	*e*Pn		Pn	19 56 08.1	-0.1
PFO				*e*Pg		Pg	19 56 18.4	-3.1
PFO	Pinyon Flat Ob	3.62	196	⇓P		Pn	19 56 08.4	+0.2
	baz=3.6,SNR=8.4							
DUG	Dugway	3.64	31	*e*Pn		Pn	19 56 10.7	+2.4
N12A	Clover Valley,	3.74	3	⇓P		Pn	19 56 09.8	+0.1
	baz=3.8,SNR=16							
NLU	North Lily Min	3.79	41	*e*P		Pn	19 56 18.4	+7.8
NLU				*e*Sg		Sg	19 57 11.1	-2.8
TMUT	Trail Mountain	3.88	55	*e*Pg		Pg	19 56 21.4	-5.1
GLA	Glamis	4.07	175	*e*Pn		Pn	19 56 14.8	+0.5
GLA				*e*Pg		Pg	19 56 27.5	-2.6
GLA				*e*Sg		Sg	19 57 22.8	0.0
MPU	Maple Canyon	4.07	44	*e*Pg		Pg	19 56 26.8	-3.2
MPU				*e*Sg		Sg	19 57 21.8	-1.0
N14A	Grayback Hills	4.08	23	⇓Pb		Pb	19 56 23.4	-0.5
	baz=4.1							
X16A	Lo Mia Camp, P	4.13	130	⇓P		Pn	19 56 16.2	+1.1
	baz=4.1							
CMB	Columbia Colle	4.15	284	*e*Pg		Pg	19 56 26.6	-4.9
CMB				*e*Sg		Sg	19 57 24.0	-1.4
BGU	Big Grassy Mou	4.19	24	*e*Pn		Pn	19 56 16.0	0.0
BGU				*e*Sn		Sn	19 57 03.3	-1.7
SRU	San Rafael	4.25	61	*e*Pn		Pn	19 56 21.1	+4.2
SRU				*e*Pg		Pg	19 56 28.3	-5.3
SRU				*e*Sg		Sg	19 57 25.5	-3.1
M12A	Wells	4.30	4	⇑P		Pn	19 56 17.4	-0.1
	baz=4.3,SNR=9.7							
M13A	Montello	4.33	11	⇓P		Pn	19 56 17.7	-0.2
	baz=4.3							
CTU	Camp Tracy	4.51	37	Pn		Pn	19 56 22.7	+2.2
CTU				*e*Pg		Pg	19 56 35.9	-2.6
CTU				*e*Sg		Sg	19 57 36.9	-0.1
DAU	Daniels Canyon	4.56	43	*e*Pg		Pg	19 56 35.4	-3.9
DAU				*e*Sg		Sg	19 57 39.1	+0.8
JLU	Jordanelle	4.59	40	*e*Pn		Pn	19 56 23.9	+2.3
JLU				*e*Pg		Pg	19 56 39.1	-0.9
M14A	Sheep Mountain	4.63	18	⇓P		Pn	19 56 22.3	+0.2
	baz=4.6,SNR=7.2							
SPUT	South Promonto	4.73	27	*e*Pn		Pn	19 56 25.2	+1.7
SPUT				*e*Pg		Pg	19 56 40.5	-2.1
SPUT				*e*Sg		Sg	19 57 39.0	-5.0
BEKR	Beckwourth	4.83	306	⇓P		Pn	19 56 25.4	+0.6
	baz=4.8							
Y17A	Roosevelt	4.98	132	⇓P		Pn	19 56 27.9	+1.1
	baz=5.0,SNR=5.8							
L10A	Juniper Basin	5.04	350	⇓P		Pn	19 56 29.0	+1.3
	baz=5.1							
HVU	Hansel Valley	5.05	22	*e*Pn		Pn	19 56 29.8	+2.1
	24nm,0.6s							
HVU				*e*Pg		Pg	19 56 45.5	-3.2
HVU				*e*Sg		Sg	19 57 48.4	-5.7
PV10	Paradox Valley	5.11	74	*e*Pg		Pg	19 56 43.6	-6.3
PV10				*e*Sg		Sg	19 57 52.4	-3.7
HWUT	Hardware Ranch	5.33	32	*e*Pn		Pn	19 56 32.7	+1.0
	8.0nm,0.6s							
HWUT				*e*Pg		Pg	19 56 51.1	-3.1
HWUT				*e*Sg		Sg	19 58 03.1	-0.1
PV01	Paradox Valley	5.43	77	*e*Pn		Pn	19 56 31.2	-1.8
PV01				*e*Pg		Pg	19 56 50.0	-6.0
PV01				*e*Sg		Sg	19 57 59.8	-6.5
WVOR	Wild Horse Val	5.90	335	*e*Pg		Pg	19 57 02.5	-2.5
	8.7nm,0.6s							
WVOR				*e*Sg		Sg	19 58 16.9	-4.6
TUC	Tucson	6.06	141	*e*Pn		Pn	19 56 44.3	+2.6
	4.1nm,0.7s							
TUC				*e*Pg		Pg	19 57 01.4	-6.7
TUC				*e*Sg		Sg	19 58 20.9	-5.7
MOD	Modoc	6.15	323	*e*Pg		Pg	19 57 08.6	-1.3
	7.0nm,0.9s							
MOD				*e*Sg		Sg	19 58 27.6	-1.9
SMCO	Snowmass	6.87	70	*e*Pg		Pg	19 57 18.9	-4.7
	4.0nm,0.5s							
SDCO	Great Sand Dun	7.81	82	*e*Pg		Px	19 57 36.0	
	2.3nm,0.8s							

NNC 27 20:29:27.6±4.0,5705N×6125E,h0km,mb3.5,mpv3.2, 9C-3D,Error ellipse: s-maj=34.2km s-min=15.4km az=159.0,Ural Mountains region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ZRNK	Zerenda	6.06	129	⇑Pn	Pn	20 30 58.5	+0.1
	2.3nm,0.9s						
ZRNK				⇓Sn	Sn	20 32 10.0	+1.7
	4.2nm,0.5s						
CHKZ	Chkalovo	6.32	118	⇓Pn	Pn	20 31 01.2	-0.7
	0.9nm,0.3s						
CHKZ				⇑Sn	Sn	20 32 16.2	+1.5
	5.3nm,0.7s						
BVA0	Borovoye Array	6.62	124	⇑Pn	Pn	20 31 06.1	+0.1
	0.3nm,0.7s,baz=134,slow=7.5,SNR=14						
BVA0				⇑Sn	Sn	20 32 24.3	+2.3
	0.6nm,0.5s,baz=308,slow=24,SNR=23						
AKTO	Aktyubinsk	6.89	198	⇑Pn	Pn	20 31 10.8	+0.9
AKTO				⇑Sn	Sn	20 32 30.8	+1.8
	0.1nm,0.6s						
AKTO				Lg		20 33 06.8	
VOSK	Vostochnaya	7.08	124	⇑Pn	Pn	20 31 13.5	+1.0
	2.7nm,1.1s						
AB31	Akbulak array	7.84	186	⇑Pn	Pn	20 31 18.8	-4.0
	0.3nm,0.2s,baz=11,slow=12,SNR=46						
AB31				⇑Sn	Sn	20 32 53.6	+1.3
	0.7nm,0.3s,baz=5.4,slow=23,SNR=2.7						
AB31				⇓Lg		20 33 36.6	
	3.0nm,0.4s,baz=9.9,slow=30,SNR=6.0						

IDC 27 21:09:37.3±2.8,2039S×16835E,h0km,mb3.8/4, mb1 4.1/4,mb1mx3.8/12,mbtmp3.8/4,Error ellipse: s-maj=131.7km s-min=31.7km az=156.0,Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	31.89	265	P	P	21 16 03.8	-0.7
	0.5nm,1.0s,baz=90,slow=8.3,SNR=3.9						
ASAR	Alice Springs	32.05	258	P	P	21 16 06.0	0.0
	1.2nm,0.6s,baz=85,slow=9.3,SNR=22						
SONM	Songino Array	87.64	323	P	P	21 22 28.1	+0.7
	0.2nm,0.6s,baz=134,slow=4.2,SNR=3.6						
NVAR	Mina Array Bea	90.19	49	P	P	21 22 38.9	-0.8
	0.7nm,0.7s,baz=235,slow=7.3,SNR=4.5						
GERES	GERESS Array B	145.09	330	PKPbc	PKPbc	21 29 16.7	+0.7
	0.9nm,0.6s,baz=54,slow=1.7,SNR=12						

IDC 27 21:10:46.0±2.4,556N×12615E,h0km,mb3.5/3,mb1 3.7/3, mb1mx3.5/17,mbtmp3.5/3,Error ellipse: s-maj=198.7km s-min=26.3km az=65.0,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	26.59	163	P	P	21 16 26.7	+0.6
	0.7nm,0.5s,baz=342,slow=10,SNR=9.7						
ASAR	Alice Springs	30.02	166	P	P	21 16 56.1	-0.6
	0.2nm,0.5s,baz=339,slow=7.3,SNR=4.9						
MKAR	Makanchi Array	55.73	325	P	P	21 20 24.4	0.0
	0.4nm,0.4s,baz=116,slow=6.9,SNR=6.6						

*SKO **27** 21:28:39.0,4072N×2157E,h15km,M2.4,ML2.8*
*ISCJB **27** 21:28:40.7±0.4,4081N±003×2161E±004,h10km,Error ellipse: s-maj=4.9km s-min=3.3km az=144.7*
*NEIC **27** 21:28:41.4,4076N×2165E,h19km,MD3.2(ATH),After ATH.*
*ATH **27** 21:28:41.4,4076N×2165E,h19km±2km,MD3.2/7*
*CSEM **27** 21:28:41.0±0.1,4080N×2158E,h8km,ML2.8,Error ellipse: s-maj=4.1km s-min=2.5km az=67.0*

ISC 27 21:28:41.1±0.6,4079N±003×2162E±004,h6km±7km,n20, σ0°83/31,4C-1D,Greece

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BIA	Bitola	0.32	316	*i*Pg	Pg	21 28 45.9	-1.4
BIA				*i*Sg	Sg	21 28 51.6	0.0
BIA	Bitola	0.32	316	*i*Pg	Pg	21 28 45.9	-1.4
BIA				*i*Sg	Sg	21 28 51.5	-0.1
KZN	Kozani	0.50	166	⇓*i*PB	Pg	21 28 50.3	-0.4
KZN				*e*SB	Sg	21 28 58.0	+0.9
KRUS	Krusevo	0.64	335	⇑*i*Pg	Pg	21 28 53.1	-0.4
KRUS				*i*Sg	Sg	21 29 02.3	+0.4
KRUS	Krusevo	0.64	335	⇑*i*Pg	Pg	21 28 53.0	-0.5
KRUS				*i*Sg	Sg	21 29 02.2	+0.3
OHR	Ohrid	0.70	298	⇑*i*Pg	Pg	21 28 52.7	-1.8
OHR				*e*Lg		21 29 03.4	
	comp=N,315nm,0.5s						
OHR				*i*Sg	Sg	21 29 03.7	+0.1
OHR				*e*Lg		21 29 04.3	
	comp=E,341nm,0.4s						
OHR	Ohrid	0.70	298	⇑*i*Pg	Pg	21 28 52.7	-1.8
OHR				*i*Sg	Sg	21 29 03.7	+0.1
VAY	Valandovo	0.90	53	*i*Pg	Pg	21 28 57.9	-0.5
VAY				*i*Sg	Sg	21 29 10.9	+0.9
VAY	Valandovo	0.90	53	*i*Pg	Pg	21 28 57.8	-0.5
VAY				*i*Sg	Sg	21 29 10.9	+0.9
STIP	Stip	1.00	25	*e*Pg	Pg	21 29 00.5	+0.1
STIP	Stip	1.00	25	*e*Pg	Pg	21 29 00.4	+0.1
SKO	Skopje	1.19	354	*e*Pg	Pg	21 29 03.5	-0.4
SKO	Skopje	1.19	354	*e*Pg	Pg	21 29 03.5	-0.4
THL	Klokotos Trika	1.26	166	*e*PN	Pn	21 29 04.2	-1.0
THL				*e*SN	Sn	21 29 21.7	-0.8
JAN	Janina	1.27	208	*e*PN	Pn	21 29 05.5	+0.1
PLG	Polygyros	1.45	106	*e*PN	Pn	21 29 08.1	+0.2
QSH	Qafa e Shtames	1.48	300	*e*Pn	Pg	21 29 10.0	+0.4
QSH				*i*Sn	Sg	21 29 31.0	+2.2
KEK	Kerkira	1.76	233	*e*PN	Pn	21 29 12.8	+0.7
EVR	Evrytania	1.88	175	*e*PN	Pn	21 29 14.2	+0.5
NEO	Neokhori	1.93	140	*e*PN	Pn	21 29 14.9	+0.5

*JMA **27** 21:49:05.6±0.2,3028N×13904E,h476km,M3.6*
*ISCJB **27** 21:49:06.9±0.4,3022N±005×13865E±009,h443km±5km, mb3.9/19,Error ellipse: s-maj=12.2km s-min=7.8km az=161.6*
*MOS **27** 21:49:06.6±0.9,3023N×13850E,h441km,mb3.7/8,Error ellipse: s-maj=32.4km s-min=15.1km az=105.9*
*IDC **27** 21:49:07.7±0.6,3024N×13869E,h433km±7km,mb3.2/11, mb1 3.4/16,mb1mx3.3/23,mbtmp3.3/16,Error ellipse: s-maj=17.1km s-min=8.8km az=72.0*

ISC 27 21:49:08.5±0.6,3032N±007×13870E±009,h444km±6km, n49,σ0°95/58,mb3.9/19,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JHJ	Hachijo jima 2	2.94	18	P	P	21 50 15.1	+0.6
	16nm,0.3s,baz=26,slow=23,SNR=12						
JHJ				S	S	21 51 08.5	+0.3
	32nm,0.3s,baz=74,slow=23,SNR=6.1						
JHJ2	Mitsune	2.94	19	P	P	21 50 15.0	+0.5
JHJ2				*e*S	S	21 51 09.7	+1.5
JIE	Ise	4.39	338	P	P	21 50 28.9	+2.2
CBIJ	Chichi jima	4.44	136	P	P	21 50 24.9	-2.4
CBIJ				S	S	21 51 26.7	-4.7
CBIJ	Chichi jima	4.44	136	P	P	21 50 24.9	-2.4
	30nm,0.3s,baz=328,slow=4.8,SNR=36						
CBIJ				S	S	21 51 26.4	-5.0
	61nm,0.3s,baz=328,slow=22,SNR=18						
BSO3	Boso 3	4.72	18	*e*S	S	21 51 36.1	0.0
BSO1	Boso 1	4.73	23	*e*S	S	21 51 35.4	-0.8
BSO4	Boso 4	4.86	16	*e*S	S	21 51 39.0	+0.6
JOD2	Odawara 2	4.94	4	P	P	21 50 32.7	+0.9
JOD2				*e*S	S	21 51 39.4	-0.5
JNY	Yasuok	5.07	352	P	P	21 50 34.0	+0.9
JEG	Eigenji	5.18	339	P	P	21 50 36.0	+1.8
JHU	Hanno	5.54	5	*e*S	S	21 51 45.1	-5.5
JRY	Ryogami san	5.68	2	P	P	21 50 39.2	0.0
JRY				S	S	21 51 51.4	-1.9
JAG	Ashikaga	6.12	6	P	P	21 50 42.2	-1.5
JAG				S	S	21 51 55.9	-5.6
MJAR	Matsushiro Arr	6.22	356	P	P	21 50 44.0	-0.7
MJAR				pmax	pmax		
	comp=Z,2.0nm,0.3s						
MJAR	Matsushiro Arr	6.22	356	P	P	21 50 44.0	-0.7
	comp=Z,2.3nm,0.3s,baz=171,slow=11,SNR=28						
MAT	Matsushiro	6.22	356	P	P	21 50 44.0	-0.7
MAT				S	S	21 52 00.3	-3.1
MAT	Matsushiro	6.22	356	P	P	21 50 44.1	-0.6
JHO	Hitachi	6.46	14	P	P	21 50 46.3	-1.0
JHO				S	S	21 52 03.3	-4.8
JNU	Nakatsue	7.22	295	P	P	21 50 55.2	-0.2
	comp=Z,0.7nm,0.3s,baz=88,slow=12,SNR=7.7						
KSRS	Korea Array	11.43	311	P	P	21 51 41.5	+0.4
	comp=Z,1.6nm,0.3s,baz=126,slow=11,SNR=39						
SONM	Songino Array	30.27	314	P	P	21 54 41.3	-0.1
SONM				pmax	pmax		
	comp=Z,1.0nm,0.4s						
SONM	Songino Array	30.27	314	P	P	21 54 41.3	-0.1
	comp=Z,0.8nm,0.4s,mb3.4,baz=122,slow=8.7,SNR=19						
BILL	Bilibino	41.09	15	*e*P	P	21 56 13.3	+1.9
BILL				pmax	pmax		
	comp=Z,3.0nm,1.3s,mb3.5						
ZALV	Zalesovo Beam	45.05	318	P	P	21 56 42.1	-0.7
	comp=Z,0.5nm,0.3s,mb3.3,baz=90,slow=8.9,SNR=4.0						
ZAL	Zalesovo	45.06	318	P	P	21 56 42.2	-0.7
JIRN	Jiri	45.67	280	*e*P	P	21 56 48.4	+0.4
	comp=Z,13nm,0.2s,mb4.8						
GUN	Gumba	45.86	281	*e*P	P	21 56 49.7	+0.2
	comp=Z,17nm,0.4s,mb4.7						
MKAR	Makanchi Array	46.08	307	P	P	21 56 50.5	-0.3
	comp=Z,0.3nm,0.3s,mb3.1,baz=92,slow=8.6,SNR=8.0						
KKN	Kakani	46.41	281	*e*P	P	21 56 53.4	-0.3
	comp=Z,4.5nm,0.3s,mb4.3						
DMN	Daman	46.61	281	*e*P	P	21 56 54.8	-0.4
	comp=Z,6.6nm,0.4s,mb4.4						
GKN	Gorkha	46.89	281	*e*P	P	21 56 57.0	-0.4
	comp=Z,6.6nm,0.3s,mb4.5						
DANN	Dangsing	47.54	282	*e*P	P	21 57 02.3	0.0
	comp=Z,14nm,0.4s,mb4.6						
KOLN	Koldanda	47.84	281	*e*P	P	21 57 04.4	-0.1
	comp=Z,6.0nm,0.3s,mb4.4						
WRA	Warramunga Arr	50.15	185	P	P	21 57 21.4	-0.3
WRA						21 58 33.6	
WRA				pmax	pmax		
	comp=Z,1.0nm,0.4s						
WRA	Warramunga Arr	50.15	185	P	P	21 57 21.4	-0.3
	comp=Z,0.8nm,0.4s,mb3.4,baz=1.5,slow=7.9,SNR=31						
WRA				PcP	PcP	21 58 33.6	+0.2
	comp=Z,0.3nm,0.4s,baz=355,slow=4.2,SNR=4.5						
ASAR	Alice Springs	53.88	185	P	P	21 57 48.5	-0.2
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ASAR	Alice Springs	53.88	185	P	P	21 57 48.5	-0.2
	comp=Z,0.5nm,0.5s,mb3.0,baz=15,slow=13,SNR=12						
STKA	Stephens Creek	61.92	177	P	P	21 58 43.7	+0.2
	comp=Z,1.7nm,0.7s,mb3.7,baz=315,slow=8.6,SNR=2.6						
ARCES	ARCESS Array B	69.48	340	P	P	21 59 31.4	+0.8
ARCES				pmax	pmax		
	comp=Z,3.0nm,0.8s						
ARCES	ARCESS Array B	69.48	340	P	P	21 59 31.4	+0.8
	comp=Z,3.0nm,0.8s,mb4.0,baz=76,slow=9.0,SNR=9.9						
YKA	Yellowknife Ar	70.76	28	P	P	21 59 39.2	+0.9
YKA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
YKA	Yellowknife Ar	70.76	28	P	P	21 59 39.2	+0.9
	comp=Z,1.0nm,0.8s,mb3.4,baz=296,slow=6.1,SNR=12						
JOF	Joensuu	70.83	332	*ep*	P	21 59 32.9	-5.8
NOA	NORSAR Array B	79.47	337	P	P	22 00 27.1	-0.2
NOA				pmax	pmax		
	comp=Z,1.0nm,0.9s						
NOA	NORSAR Array B	79.47	337	P	P	22 00 27.1	-0.2
	comp=Z,1.4nm,0.9s,mb3.6,baz=44,slow=5.3,SNR=3.2						
NVAR	Mina Array Bea	80.90	51	P	P	22 00 36.5	+1.3
	comp=Z,0.4nm,0.5s,mb3.4,baz=293,slow=6.4,SNR=6.1						
TXAR	Lajitas Array	96.05	51	P	P	22 01 46.7	-0.8
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
TXAR	Lajitas Array	96.05	51	P	P	22 01 46.7	-0.8
	comp=Z,0.5nm,0.7s,mb3.8,baz=249,slow=7.5,SNR=5.4						

IDC 27 22:10:29.3±3.4,4896N×2787W,h0km,mb3.4/2, mb1 3.6/2,mb1mx3.2/24,mbtmp3.4/2,MS3.2/4,Ms1 3.2/4, ms1mx2.8/25,Error ellipse: s-maj=123.7km s-min=51.1km az=15.0,Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NOA	NORSAR Array B	25.04	46	LR	LR	22 24 42.3	
	comp=Z,40nm,18.4s,baz=255,slow=34						
DAVOX	Davos/Dischmat	25.25	81	LR	LR	22 24 46.6	
	comp=Z,50nm,21.6s,baz=270,slow=34						
GERES	GERESS Array B	27.08	74	LR	LR	22 26 53.8	
	comp=Z,46nm,18.2s,baz=112,slow=36						
SJG	San Juan	43.58	239	LR	LR	22 32 34.4	
	comp=Z,36nm,18.1s,baz=104,slow=30						
YKA	Yellowknife Ar	46.88	321	P	P	22 19 00.6	-0.1
	0.3nm,0.8s,baz=65,slow=7.3,SNR=3.8						
MKAR	Makanchi Array	67.02	44	P	P	22 21 23.8	+0.1
	0.2nm,0.3s,baz=318,slow=7.1,SNR=4.8						
WRA	Warramunga Arr	147.71	33	PKPbc	PKPbc	22 30 15.2	-0.6
	0.3nm,0.7s,baz=344,slow=2.7,SNR=2.8						
ASAR	Alice Springs	150.94	36	PKPbc	PKPbc	22 30 23.6	-0.2
	0.8nm,0.7s,baz=336,slow=2.3,SNR=8.2						

*IDC **27** 22:18:35.5±2.5,641S×14687E,h0km,mb3.5/4,mb1 3.7/5, mb1mx3.5/14,mbtmp3.5/5,ML3.6/1,Error ellipse: s-maj=67.0km s-min=28.6km az=96.0*
*ISCJB **27** 22:18:39.3±1.8,65S±01×1468E±03,h33km,mb3.4/4, Error ellipse: s-maj=49.0km s-min=18.5km az=13.8*
*NEIC **27** 22:18:41.4±1.7,653S×14677E,h35km,mb3.4/2,Error ellipse: s-maj=46.4km s-min=16.6km az=102.0*

ISC 27 22:18:41.7±1.9,65S±01×1467E±04,h35km,n9,σ0°72/9, mb3.4/4,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRAB	Tennant Creek	17.96	221	Pn	Pn	22 22 47.7	-1.0
	0.6nm,0.3s						
WRA	Warramunga Arr	17.97	221	P	Pn	22 22 49.9	+1.0
	0.2nm,0.3s,baz=41,slow=12,SNR=5.0						
ASAR	Alice Springs	21.05	215	P	P	22 23 23.4	+0.8
	0.5nm,0.3s,mb3.3,baz=48,slow=9.9,SNR=17						
FITZ	Fitzroy Crossi	23.57	239	*e*P	P	22 23 48.5	-0.9
	0.9nm,0.3s,mb3.7						
FITZ	Fitzroy Crossi	23.57	239	P	P	22 23 48.9	-0.5
	1.0nm,0.6s,mb3.4,baz=64,slow=9.8,SNR=5.9						
STKA	Stephens Creek	25.68	190	*e*P	P	22 24 07.8	-0.7
STKA	Stephens Creek	25.68	190	P	P	22 24 08.4	0.0
	0.8nm,0.5s,mb3.5,baz=13,slow=9.0,SNR=2.6						
MK31	Makanchi Array	77.73	321	*e*P	P	22 30 35.4	+0.5
MKAR	Makanchi Array	77.73	321	P	P	22 30 34.7	-0.2
	0.1nm,0.4s,mb3.1,baz=116,slow=5.6,SNR=3.8						

*SZGRF **27** 22:43:57.7,4056N×144.12E,h33km,mb4.6,Off east coast of Honshu, Japan*
*NIED **27** 22:44:00,4200N×14230E,h65km,Mw4.4 Best double couple: M0 3.76000×10^15 NP1:φs15.00000°,δ69.00000°, λ85.00000°. NP2:φs210.00000°,δ22.00000°,λ103.00000°.*
*BJI **27** 22:44:09.0,4189N×14229E,h74km,mB4.7,mb4.6,Ms3.8, Msz3.7*
*ISCJB **27** 22:44:09.4±0.2,4198N±002×14230E±003,h69km±2km, mb4.5/81,Error ellipse: s-maj=4.7km s-min=3.1km az=141.7*
*MOS **27** 22:44:09.0±0.9,4198N×14225E,h65km,mb4.8/26,Error ellipse: s-maj=10.5km s-min=5.4km az=110.6*
*JMA **27** 22:44:09.5±0.2,4196N×14233E,h69km±3km,M4.1 Broadband fault plane solution: P waves. NP1: φs155.00000°,δ9.00000°,λ39.00000°. NP2:φs26.00000°, δ84.00000°,λ97.00000°. Principal axes: T Plg50.0000°, Azm304.0000°; N Plg7.0000°, Azm206.0000°; P Plg39.0000°, Azm110.0000°;*
JMA Felt II J1.
*NEIC **27** 22:44:11.1±0.6,4200N×14230E,h72km±6km,mb4.5/14, MW4.3(NIED) Error ellipse: s-maj=7.5km s-min=6.6km az=145.0*
NEIC Recorded [2 JMA] in the Tomakomai area and [1 JMA] in south-central and southwestern Hokkaido. Also recorded [2 JMA] in Aomori Prefecture, Honshu.
*IDC **27** 22:44:11.5±1.4,4197N×14228E,h78km±11km,mb4.2/18, mb1 4.2/21,mb1mx4.2/24,mbtmp4.1/21,MS3.3/11, Ms1 3.3/11,ms1mx3.1/36,Error ellipse: s-maj=16.2km s-min=10.5km az=108.0*

ISC 27 22:44:10.4±0.2,4199N±002×14232E±003,h65km±2km, h70km±2.2km:pP-P,n229,σ0°85/248,mb4.6/81,42C-21D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JNBK	Urakawa-nobuka	0.43	48	⇑P	Pn	22 44 21.2	-0.9
JNBK				*e*S	Sn	22 44 30.4	-0.2
ERM	Erimo	0.62	87	*e*P	Pn	22 44 23.5	-0.5
ERM				*e*S	Sn	22 44 33.3	-0.8
JEM	Erimo	0.62	87	⇑P	Pn	22 44 23.8	-0.2
JEM				*e*S	Sn	22 44 34.1	+0.1
JBT2	Biratori 2	0.79	2	⇓P	Pn	22 44 25.6	-0.4
JBT2				*e*S	Sn	22 44 37.5	0.0
JKB	Kayabe	0.97	264	⇓P	Pn	22 44 27.5	-0.6
JKB				*e*S	Sn	22 44 40.5	+0.2
JCH	Churui	0.99	51	⇑P	Pn	22 44 28.4	-0.1
JCH				*e*S	Sn	22 44 42.4	+1.4
JNB	Noboribetsu	1.07	297	⇓P	Pn	22 44 28.5	-0.9
JNB				*e*S	Sn	22 44 42.5	-0.3
JEW	Eniwo	1.07	323	⇓P	Pn	22 44 29.5	0.0
JEW				*e*S	Sn	22 44 43.5	+0.7
JOT	Ohata	1.13	238	⇓P	Pn	22 44 29.8	-0.4
JOT				*e*S	Sn	22 44 44.5	+0.2
JFR	Furan	1.19	10	⇓P	Pn	22 44 30.9	-0.2
JFR				*e*S	Sn	22 44 46.1	+0.3
JOB	Onbets	1.45	50	⇑P	Pn	22 44 35.1	+0.7
JOB				*e*S	Sn	22 44 53.9	+1.8
JYM2	Yakumo 2	1.46	276	⇓P	Pn	22 44 34.2	-0.4
JSR	Shiriuchi	1.50	253	P	Pn	22 44 34.6	-0.5
JSR				*e*S	Sn	22 44 52.5	-0.8
JAR	Ashorobuto	1.69	39	⇑P	Pn	22 44 37.6	-0.1
JANG	Nango	1.72	201	⇑P	Pn	22 44 37.8	-0.4
JANG				*e*S	Sn	22 44 58.5	-0.4
JHR	Hokuryu	1.81	346	⇓P	Pn	22 44 40.2	+0.9
JHR				*e*S	Sn	22 45 03.6	+2.7
ASAJ	Asahikawa	2.14	5	P	Pn	22 44 44.5	+0.8
ASAJ				S	Sn	22 45 12.3	+3.3
ASAJ				pmax	pmax		
	comp=Z,80

KSRS Korea Array 11.97 253 P **Pn** **22 47 00.9 +2.8**
comp=Z,1.8nm,0.3s,baz=63,slow=14,SNR=31
KSRS LR LR 22 51 08.4
comp=Z,105nm,21.2s,baz=346,slow=35
CN2 Changchun 12.51 284 *e*P **Pn** **22 47 06.0 +0.6**
CN2 *e*AP 22 47 15.5
CN2 *e*XP 22 47 24.5
CN2 *e*S **Sn** **22 49 23.3 +0.4**
CN2 LR LR
comp=N,300nm,14.0s
CN2 LR LR
comp=E,100nm,14.0s
CN2 LR LR
comp=Z,100nm,14.0s
JNU Nakatsue 12.67 229 LR LR 22 51 05.4
comp=Z,60nm,20.7s,baz=325,slow=33
DL2 Dalian 16.05 266 P **Pn** **22 47 54.0 +2.1**
DL2 AMB AMB
comp=Z,20nm,1.0s
HIA Hailar 17.35 302 *i* P **Pn** **22 48 08.0 +0.1**
BJI Beijing 19.80 273 P **Pn** **22 48 33.5 -4.0**
BJI AP pP 22 48 48.5 -0.6
BJI XS sS 22 52 37.0 -0.2
BJI AMB AMB
comp=Z,18nm,1.0s
BJI AMB AMB
comp=Z,84nm,3.9s
BJI LR LR
comp=N,83nm,18.7s
BJI LR LR
comp=E,137nm,10.2s
BJI LR LR
comp=Z,146nm,27.9s
BJT Baijiatuau 19.82 273 *e*P **Pn** **22 48 33.1 -4.5**
comp=Z,11nm,0.8s
BJT Baijiatuau 19.82 273 *e*P **Pn** **22 48 33.1 -4.5**
BJT pmax pmax
comp=Z,11nm,0.8s
YAK Yakutsk 21.45 344 *i* P **P** **22 48 51.4 -1.6**
YAK pmax pmax
comp=Z,10.0nm,0.4s,mb4.5
SEY Seymchan 21.80 12 *i* P **P** **22 48 54.2 -2.5**
HHC Hu-ho-hao-te 23.04 278 *e*P **P** **22 49 09.8 -0.2**
HHC AP 22 49 26.3
HHC XP sP 22 49 35.8 +3.7
HHC PP 22 49 42.5
HHC PCP PcP 22 52 59.5 +2.4
HHC S **S** **22 53 17.5 +1.9**
HHC XS sS 22 53 34.8 -6.4
HHC SS 22 53 57.8
HHC AMB AMB
comp=Z,16nm,0.5s,mb4.7
HHC AMB AMB
comp=Z,93nm,4.7s
HHC LR LR
comp=N,83nm,12.5s
HHC LR LR
comp=E,118nm,5.9s
HHC LR LR
comp=Z,72nm,5.9s
BOD Bodaibo 23.90 321 *e*P **P** **22 49 10.5 -7.3**
BOD pmax pmax
comp=Z,3.0nm,0.6s,mb3.9
YHNB Yeheng 24.48 232 *e*P **P** **22 49 23.1 -0.3**
WHN Wuhan 25.17 252 *e*P **P** **22 49 28.5 -1.1**
ULN Ulaanbaatar 25.50 295 *e*P **P** **22 49 32.2 -0.2**
ULN Ulaanbaatar 25.50 295⇓*e*P **P** **22 49 32.7 +0.3**
SONM Songino Array 25.94 295 P **P** **22 49 36.4 0.0**
SONM pmax pmax
comp=Z,5.0nm,0.6s
SONM MLR MLR
comp=Z,53nm,21.2s
SONM Songino Array 25.94 295 P **P** **22 49 36.4 0.0**
comp=Z,5.2nm,0.6s,mb4.3,baz=76,slow=8.7,SNR=34
SONM LR LR 23 00 01.9
comp=Z,53nm,21.2s,baz=170,slow=37
XAN Xi'an 27.35 264 P **P** **22 49 49.3 0.0**
XAN AMB AMB
comp=Z,7.0nm,1.0s,mb4.2
TLY Talaya 27.88 304 *e*P **P** **22 49 54.0 +0.3**
TLY Talaya 27.88 304⇑*e*P **P** **22 49 53.8 0.0**
TLY pmax pmax
comp=Z,1.0nm,0.6s,mb3.6
ZAK Zakamensk 28.03 301 *e*P **P** **22 49 54.3 -0.8**
ZAK pmax pmax
comp=Z,2.0nm,1.2s,mb3.6
MOY Mondy 29.53 303 *e*P **P** **22 50 08.3 -0.1**
LZH Lanzhou 30.28 272 *e*P **P** **22 50 14.3 -0.9**
LZH AMB AMB
comp=Z,14nm,1.0s,mb4.7
GTA Gaotai 32.09 280 *e*P **P** **22 50 31.3 +0.2**
GTA AP pP 22 50 45.3 -1.6
GTA PP PP 22 51 39.5 -5.0
GTA PCP PcP 22 53 20.3 +1.3
GTA S **S** **22 55 38.0 -0.7**
GTA SS SS 22 57 32.8 -26
GTA AMB AMB
comp=Z,2.0nm,0.7s,mb4.1
GTA AMB AMB
comp=Z,65nm,4.9s
GTA LR LR
comp=N,75nm,14.8s
GTA LR LR
comp=E,71nm,16.0s
GTA LR LR
comp=Z,118nm,15.2s
CD2 Chengdu 32.68 263 *e*P **P** **22 50 36.8 +0.4**
CD2 AP pP 22 50 52.3 +0.2
CD2 XP sP 22 51 01.3 +1.6
CD2 PP PP 22 51 47.3 -3.9
CD2 S **S** **22 55 47.0 -1.0**
CD2 XS sS 22 56 14.8 -0.1
CD2 SS SS 22 57 47.0 -24
CD2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.9
CD2 AMB AMB
comp=Z,30nm,4.2s
CD2 LR LR
comp=N,210nm,12.8s
CD2 LR LR
comp=E,300nm,13.4s
CD2 LR LR
comp=Z,250nm,12.6s
GYA Guiyang 33.03 253 P **P** **22 50 40.3 +0.8**
GYA AP pP 22 50 58.3 +3.0
GYA XP sP 22 51 06.5 +3.7
GYA PP PP 22 51 53.5 -1.6
GYA PCP PcP 22 53 24.0 +2.1
GYA S **S** **22 55 53.5 0.0**
GYA XS sS 22 56 22.8 +2.4
GYA SCP ScP 22 57 01.3 +1.0
GYA SCS ScS 23 00 59.8 -1.0
GYA AMB AMB
comp=Z,20nm,1.0s,mb5.0
GYA AMB AMB
comp=Z,110nm,5.2s
GYA LR LR
comp=N,450nm,18.7s
GYA LR LR
comp=E,500nm,17.4s
GYA LR LR
comp=Z,420nm,18.2s
KMI Kunming 36.65 255 P **P** **22 51 13.0 +2.3**
KMI AP pP 22 51 28.0 +1.4
KMI XP sP 22 51 35.8 +1.6
KMI AMB AMB
comp=Z,6.0nm,1.3s,mb4.3
ZAA0 Zalesovo Array 39.26 308 *e*P **P** **22 51 31.9 -0.3**
ZAA0 *e* pP 22 51 48.2 -0.2
ZALV Zalesovo Beam 39.26 308 P **P** **22 51 31.9 -0.4**
ZALV PcP PcP 22 53 40.0 0.0
ZALV ScP ScP 22 57 22.6 -0.1
ZALV LR LR 23 08 37.5
ZALV Zalesovo Beam 39.26 308 P **P** **22 51 31.9 -0.4**
comp=Z,6.9nm,0.5s,mb4.7,baz=90,slow=8.0,SNR=10
ZALV PcP PcP 22 53 40.0 0.0
comp=Z,2.3nm,0.5s,baz=102,slow=2.9,SNR=5.0
ZALV ScP ScP 22 57 22.5 -0.1
comp=Z,0.3nm,0.3s,baz=48,slow=4.3,SNR=2.9
ZALV LR LR 23 08 37.5
comp=Z,32nm,19.4s,baz=78,slow=37
ZAL Zalesovo 39.27 308 P **P** **22 51 31.9 -0.5**
ZAL 22 53 40.0
ZAL 22 57 22.6
WMQ Urumqi 39.44 292 P **P** **22 51 34.3 +0.3**
WMQ AMB AMB
comp=Z,9.0nm,0.9s,mb4.5
WMQ AMB AMB
comp=Z,110nm,4.6s
IMA2 Indian Mountai 42.11 33 *e*P **P** **22 51 55.0 -0.6**
MK31 Makanchi Array 42.26 298 *e*P **P** **22 51 56.8 -0.3**
MK31 Makanchi Array 42.26 298 *i* P **P** **22 51 56.6 -0.5**
MK31 pmax pmax
comp=Z,13nm,0.7s,mb4.7
MKAR Makanchi Array 42.26 298 P **P** **22 51 57.0 -0.1**
MKAR 22 53 50.0
MKAR pmax pmax
comp=Z,9.0nm,0.7s
MKAR pmax pmax
comp=Z,1.0nm,0.6s
MKAR MLR MLR
comp=Z,32nm,21.1s
MKAR Makanchi Array 42.26 298 P **P** **22 51 57.0 -0.1**
comp=Z,8.6nm,0.7s,mb4.5,baz=83,slow=9.5,SNR=79
MKAR PcP PcP 22 53 50.0 +0.2
comp=Z,0.7nm,0.6s,baz=66,slow=4.9,SNR=3.2
MKAR LR LR 23 08 48.4
comp=Z,32nm,21.1s,baz=357,slow=35
LSA Lhasa 42.67 270 P **P** **22 52 01.8 +1.1**
LSA Lhasa 42.67 270 *e*P **P** **22 52 00.1 -0.6**
comp=Z,3.2nm,0.4s,mb4.4
LSA Lhasa 42.67 270 *e*P **P** **22 52 00.1 -0.6**
LSA pmax pmax
comp=Z,3.0nm,0.4s,mb4.4
CHTO Chiang Mai 43.37 251 *e*P **P** **22 52 06.6 +0.2**
KURK Kurchatov 43.58 304 *e*P **P** **22 52 06.2 -1.4**
comp=Z,21nm,0.9s,mb4.9
KURK Kurchatov 43.58 304 *e*P **P** **22 52 06.3 -1.4**
KURK pmax pmax
comp=Z,21nm,0.9s,mb4.9
JIRN Jiri 47.45 271 *e*P **P** **22 52 39.3 +0.8**
GUN Gumba 47.54 272 *e*P **P** **22 52 39.9 +0.6**
comp=Z,45nm,0.4s
CHKZ Chkalovo 47.55 310 *i* P **P** **22 52 38.6 -0.4**
CHKZ pmax pmax
comp=Z,5.0nm,0.4s,mb4.9
BRVK Borovoye 47.92 309 *i* P **P** **22 52 42.0 +0.1**
BRVK pmax pmax
comp=Z,5.0nm,1.0s,mb4.5
TKM2 Tokmak 2 48.04 295⇑*i* P **P** **22 52 43.4 +0.4**
comp=Z,23nm,0.6s,mb5.4
TKM2 *e* pP 22 53 00.3 +0.9
TKM2 Tokmak 2 48.04 295⇑*i* P **P** **22 52 43.4 +0.5**
TKM2 *e* pP 22 53 00.3 +0.9
TKM2 pmax pmax
comp=Z,23nm,0.6s,mb5.4
TKM2 Tokmak 2 48.04 295 P **P** **22 52 43.6 +0.7**
SNR=31
KKN Kakani 48.05 272 *e*P **P** **22 52 43.5 +0.2**
comp=Z,19nm,0.6s,mb5.3
PKI Pulchoki 48.08 272 *e*P **P** **22 52 43.6 +0.2**
comp=Z,12nm,0.5s,mb5.2
DMN Daman 48.28 272 *e*P **P** **22 52 45.3 +0.3**
comp=Z,14nm,0.5s,mb5.2
GKN Gorkha 48.42 273 *e*P **P** **22 52 46.0 -0.1**
comp=Z,25nm,0.5s,mb5.5
KBK Karagaybulak 48.58 295 P **P** **22 52 47.6 +0.5**
SNR=24
KZA Kyzart 48.61 294 P **P** **22 52 48.6 +1.3**
SNR=6.6
USP Ospenovka 48.64 296 P **P** **22 52 47.3 -0.3**
SNR=11
DANN Dangsing 48.89 273 *e*P **P** **22 52 50.5 +0.9**
comp=Z,77nm,0.5s
AAK Ala-Archa 48.90 295 *e*P **P** **22 52 48.0 -1.5**
AAK Ala-Archa 48.90 295 P **P** **22 52 48.6 -0.9**
AAK pmax pmax
comp=Z,7.0nm,0.3s,mb5.2
AAK Ala-Archa 48.90 295 P **P** **22 52 48.6 -1.0**
comp=Z,7.1nm,0.3s,mb5.2,baz=106,slow=4.7,SNR=21
AAK Ala-Archa 48.90 295 P **P** **22 52 49.7 +0.2**
SNR=5.7
KOLN Koldanda 49.32 273 *e*P **P** **22 52 53.3 +0.4**
comp=Z,18nm,0.4s,mb5.5
EKS2 Erkin-Say 49.37 295 *e*P **P** **22 52 52.9 -0.2**
comp=Z,9.9nm,0.6s,mb5.0
EKS2 *e* pP 22 53 11.1 +1.4
EKS2 Erkin-Say 49.37 295 P **P** **22 52 53.3 +0.1**
SNR=10
AML Almayashu 49.64 295 *e*P **P** **22 52 55.8 +0.6**
comp=Z,5.5nm,0.8s,mb4.6
INK Inuvik 49.69 29 P **P** **22 52 55.0 -0.2**
INK Inuvik 49.69 29 P **P** **22 52 55.0 -0.2**
INK pmax pmax
comp=Z,2.0nm,0.3s
INK Inuvik 49.69 29 P **P** **22 52 55.0 -0.2**
comp=Z,1.8nm,0.3s,mb4.5,baz=290,slow=6.4,SNR=14
KK31 Karatay Array 51.37 297 *i* P **P** **22 53 07.7 -0.6**
KK31 pmax pmax
comp=Z,11nm,0.5s,mb5.0
AKTO Aktyubinsk 55.97 310 *i* P **P** **22 53 41.1 -0.6**
RES Resolute Bay 57.64 15 *e*P **P** **22 53 52.1 -1.1**
comp=Z,175nm,1.0s
RES Resolute Bay 57.64 15 *e*P **P** **22 53 52.1 -1.1**
RES pmax pmax
comp=Z,175nm,1.0s
KEV Kevo 59.08 338 *e*p **P** **22 54 02.0 -1.3**
comp=Z,2.1nm,0.4s,mb4.5
KEV Kevo 59.08 338 *e*P **P** **22 54 02.0 -1.3**
KEV pmax pmax
comp=Z,2.0nm,0.4s,mb4.5
YKA Yellowknife Ar 59.20 32 P **P** **22 54 04.0 -0.2**
YKA pmax pmax
comp=Z,1.0nm,0.5s
YKA Yellowknife Ar 59.20 32 P **P** **22 54 04.0 -0.2**
comp=Z,1.4nm,0.5s,mb4.3,baz=306,slow=6.4,SNR=33
ARCES ARCESS Array B 59.63 339 P **P** **22 54 06.7 -0.4**
ARCES pmax pmax
comp=Z,1.0nm,0.5s
ARCES MLR MLR
comp=Z,41nm,21.4s
ARCES ARCESS Array B 59.63 339 P **P** **22 54 06.7 -0.4**
comp=Z,0.8nm,0.5s,mb4.0,baz=64,slow=7.5,SNR=8.3
ARCES LR LR 23 21 27.3
comp=Z,41nm,21.4s,baz=302,slow=38
FUNA Funafuti 60.55 137 *e*P **P** **22 54 16.4 +2.4**
comp=Z,70nm,0.5s
JOF Joensuu 61.95 331 *e*p **P** **22 54 21.4 -1.5**
comp=Z,4.4nm,0.4s,mb4.9
JOF Joensuu 61.95 331 *e*P **P** **22 54 21.4 -1.5**
JOF pmax pmax
comp=Z,4.0nm,0.4s,mb4.9
WRA Warramunga Arr 62.06 189 P **P** **22 54 23.0 -1.1**
WRA pmax pmax
comp=Z,2.0nm,0.5s
WRA Warramunga Arr 62.06 189 P **P** **22 54 23.0 -1.0**
comp=Z,1.6nm,0.5s,mb4.4,baz=2.3,slow=6.8,SNR=11
OBN Obninsk 64.58 322⇓*e*P **P** **22 54 40.1 -0.3**
OBN *e**PP pP 22 54 57.7 0.0
OBN *e**SP sP 22 55 06.1 +1.2
OBN *e* 22 57 05.8
OBN *e*S **S** **23 03 13.9 -0.9**
OBN pmax pmax
comp=Z,4.0nm,0.4s,mb4.8
FINES FINESS Array B 64.78 332 P **P** **22 54 40.9 -0.7**
FINES pmax pmax
comp=Z,6.0nm,0.5s
FINES MLR MLR
comp=Z,49nm,18.1s
FINES FINESS Array B 64.78 332 P **P** **22 54 40.9 -0.8**
comp=Z,5.6nm,0.5s,mb4.9,baz=59,slow=7.2,SNR=111
FINES LR LR 23 23 52.3
comp=Z,49nm,18.1s,baz=104,slow=37
ASAR Alice Springs 65.78 188 P **P** **22 54 48.2 -0.3**
ASAR pmax pmax
comp=Z,1.0nm,0.4s
ASAR Alice Springs 65.78 188 P **P** **22 54 48.2 -0.3**
comp=Z,0.6nm,0.4s,mb3.9,baz=1.8,slow=7.2,SNR=11
KIV Kislovodsk 68.23 310 *e*P **P** **22 55 03.8 -0.1**
KIV Kislovodsk 68.23 310*d*/*i*P **P** **22 55 05.1 +1.2**
KIV pmax pmax
comp=Z,37nm,1.6s,mb5.2
NB2 NORSAR Subarra 69.90 337 P **P** **22 55 13.0 -1.0**
comp=Z,3.5nm,0.5s,mb4.5,baz=35,slow=6.5
NOA NORSAR Array B 69.90 337 P **P** **22 55 13.3 -0.7**
NOA pmax pmax
comp=Z,5.0nm,0.7s
NOA MLR MLR
comp=Z,17nm,21.2s
NOA NORSAR Array B 69.90 337 P **P** **22 55 13.2 -0.7**
comp=Z,5.1nm,0.7s,mb4.5,baz=36,slow=6.2,SNR=26
NOA LR LR 23 28 41.2
comp=Z,17nm,21.2s,baz=95,slow=38
ANN Anapa 70.63 313 *e*P **P** **22 55 17.7 -1.0**
ANN *e**PP pP 22 55 36.2 0.0
ANN *e* pP 22 55 38.5 +2.3
ANN *e* 22 57 57.8
ANN *e*S S 23 04 27.7 +0.2
ANN *e*SS SS 23 09 06.7 +7.4
ANN pmax pmax
comp=Z,66nm,1.5s,mb5.3
AKASG Malin Array Be 70.83 322 P **P** **22 55 19.2 -0.6**
AKASG pmax pmax
comp=Z,4.0nm,0.5s
AKASG Malin Array Be 70.83 322 P **P** **22 55 19.1 -0.7**
comp=Z,3.8nm,0.5s,mb4.6,baz=44,slow=6.4,SNR=35
AKBB Malin Array Si 70.83 322 *e*P **P** **22 55 18.4 -1.4**
AKBB *e*pP pP 22 55 37.1 -0.2
AKBB *e*sP sP 22 55 46.1 +1.6
MOOW Moose Ponds 72.43 47 *e*P **P** **22 55 31.8 +2.2**
comp=Z,3.2nm,1.0s,mb4.2
TPNV Topopah Spring 73.71 55 *e*P **P** **22 55 37.8 +0.6**
comp=Z,140nm,1.3s,mb5.7
TPNV Topopah Spring 73.71 55 *e*P **P** **22 55 37.8 +0.6**
TPNV pmax pmax
comp=Z,141nm,1.3s,mb5.7
MALT Malatya 74.30 308 *e*P **P** **22 55 42.0 +1.3**
MALT Malatya 74.30 308⇑*i*P **P** **22 55 41.8 +1.1**
KWP Kalwaria 74.53 324 *e*P **P** **22 55 42.6 +0.8**
KWP Kalwaria 74.53 324⇑*i*P **P** **22 55 42.1 +0.3**
BURAR Bucovina Array 74.87 321⇑*i*P **P** **22 55 44.6 +0.8**
ULM Lac du Bonnet 75.00 34 P **P** **22 55 44.0 -0.6**
comp=Z,1.2nm,0.5s,mb4.1,baz=319,slow=8.8,SNR=3.6
KOLS Kolonicke sedl 75.23 324 *e*P **P** **22 55 45.9 0.0**
STHS Stebnicka Huta 75.32 325 *e*P **P** **22 55 47.7 +1.3**
comp=Z,3.8nm,0.6s,mb4.5
STHS Stebnicka Huta 75.32 325 *e*P **P** **22 55 47.7 +1.3**
STHS pmax pmax
comp=Z,4.0nm,0.6s,mb4.5
OJC Ojcow 75.33 326 *e*P **P** **22 55 46.6 +0.2**
VRI Vrincioaia 75.42 319⇓*i*P **P** **22 55 48.4 +1.4**
VRI Vrincioaia 75.42 319⇓*i*P **P** **22 55 48.4 +1.4**
PLOR Plostina 75.47 319⇑*i*P **P** **22 55 48.2 +0.9**
TIRR Tirgusor 75.59 317⇑*i*P **P** **22 55 48.1 +0.1**
TIRR Tirgusor 75.59 317⇑*i*P **P** **22 55 48.1 +0.1**
CRVS Cervenica-Dubn 75.61 324 *e*P **P** **22 55 48.3 +0.3**
MLR Muntele Rosu 76.07 320 LR LR 23 30 56.6
comp=Z,29nm,20.5s,baz=217,slow=37
KECS Kecovo 76.36 324 *e*P **P** **22 55 51.3 -1.0**
comp=Z,2.0nm,1.0s,mb4.0
KECS Kecovo 76.36 324 *e*P **P** **22 55 51.3 -1.0**
KECS pmax pmax
comp=Z,2.0nm,1.0s,mb4.0
MORC Moravsky Berou 76.60 327⇑*i*P **P** **22 55 54.1 +0.5**
MORC Moravsky Berou 76.60 327⇑*i*P **P** **22 55 54.1 +0.5**
DRGR 76.64 322⇓*i*P **P** **22 55 54.6 +0.7**
DRGR 76.64 322⇓*i*P **P** **22 55 54.6 +0.7**
UPC Upice 76.64 328⇑*e*P **P** **22 55 54.3 +0.5**
DPC Dobruska-Polom 76.64 328⇑*i*P **P** **22 55 54.2 +0.3**
DPC *e*pP pP 22 56 14.6 +3.1
VYHS Vyhne 77.05 325 *e*P **P** **22 55 56.6 +0.4**
comp=Z,3.3nm,1.2s,mb4.1
VYHS Vyhne 77.05 325 *e*P **P** **22 55 56.6 +0.4**
VYHS pmax pmax
comp=Z,3.0nm,1.2s,mb4.1
VYHS Vyhne 77.05 325 *e*P **P** **22 55 56.5 +0.3**
CLL Collm 77.16 330⇑*i*P **P** **22 55 56.1 -0.6**
comp=Z,5.0nm,1.0s,mb4.4
CLL *i* sP sP 22 56 21.5 0.0
CLL Collm 77.16 330⇑*i*P **P** **22 55 56.1 -0.6**
CLL *i* *SP sP 22 56 21.5 0.0
CLL pmax pmax
comp=Z,5.0nm,1.0s,mb4.4
CLL Collm 77.16 330⇑*i*P **P** **22 55 56.1 -0.6**
comp=Z,5.0nm,1.0s,mb4.4
KOLL Kolacno 77.17 326 *e*P **P** **22 55 57.8 +0.9**
VRAC Vranov 77.35 327⇑P **P** **22 55 58.8 +0.9**
VRAC Vranov 77.35 327 LR LR 23 34 15.7
comp=Z,26nm,18.4s,baz=187,slow=39
VRAC Vranov 77.35 327⇑*i*P **P** **22 55 58.8 +0.9**
PRU Pruhonice 77.63 329⇑*e*P **P** **22 55 59.7 +0.3**
PRU *e*x x 22 56 24.5
MODS Modra-Piesok 77.80 326 *e*P **P** **22 56 01.1 +0.7**
comp=Z,18nm,2.6s,mb4.5
MODS Modra-Piesok 77.80 326 *e*P **P** **22 56 01.1 +0.7**
MODS pmax pmax
comp=Z,19nm,2.6s,mb4.6
ZST Bratislava 78.02 326 *e*P **P** **22 56 02.3 +0.7**
BZS Buzias 78.02 322⇓P **P** **22 56 01.1 -0.5**
BZS Buzias 78.02 322⇓*i*P **P** **22 56 01.1 -0.6**
KHC Kasperske Hory 78.69 329*d*/*i*P **P** **22 56 05.8 +0.5**
KHC Kasperske Hory 78.69 329⇑*i*P **P** **22 56 05.5 +0.2**
GERES GERESS Array B 78.88 328 P **P** **22 56 06.4 +0.1**
GERES pmax pmax
comp=Z,1.0nm,0.5s
GERES MLR MLR
comp=Z,26nm,21.2s
GERES GERESS Array B 78.88 328 P **P** **22 56 06.4 +0.1**
comp=Z,1.0nm,0.5s,mb4.0,baz=38,slow=5.3,SNR=15
GERES LR LR 23 33 03.7
comp=Z,26nm,21.2s,baz=202,slow=37
PKSM Moragy 78.90 324⇓P **P** **22 56 06.0 -0.5**
PKSM Moragy 78.90 324⇓*i*P **P** **22 56 06.0 -0.5**
GRA1 Grafenberg Arr 79.13 330 *e*P **P** **22 56 08.0 +0.3**
comp=Z,6.0nm,0.8s,mb4.6
GRF Grafenberg Arr 79.13 330 *e*P **P** **22 56 08.0 +0.3**
GRF pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
GRF Grafenberg Arr 79.13 330 *e*P **P** **22 56 08.0 +0.3**
comp=Z,6.0nm,0.8s,mb4.6
VTS Vitosha 79.54 319⇑*i*P **P** **22 56 10.5 +0.5**
PERS Pernice 80.08 326 *e*P **P** **22 56 13.0 +0.2**
MEM Membach 80.20 333 P **P** **22 56 13.6 +0.1**
SCHQ Schefferville 80.39 17 P **P** **22 56 14.3 -0.1**
SCHQ Schefferville 80.39 17 P **P** **22 56 14.3 -0.1**
comp=Z,1.2nm,0.4s,mb4.2,baz=12,slow=10,SNR=8.3
PDKS Podkum 80.58 326 *e*P **P** **22 56 15.0 -0.6**
BCLA Clavier 80.60 334 P **P** **22 56 14.9 -0.7**
BOJS Bojanci 80.92 325 *e*P **P** **22 56 17.1 -0.4**
GIVF Givet 81.03 334 *e*P **P** **22 56 18.1 +0.2**
JAVS Javornik 81.11 326 *i*P **P** **22 56 17.5 -0.9**
BAIF Baives 81.27 334 *e*P **P** **22 56 18.5 -0.7**
CDF Champ du Feu 81.63 332 *e*P **P** **22 56 20.9 -0.2**
comp=Z,6.7nm,0.7s,mb4.4
HINF Hinteralfeld 82.29 332 *e*P **P** **22 56 24.3 -0.3**
MEZF Maizieres J'vi 82.33 333 *e*P **P** **22 56 24.6 -0.2**
LOR Lormes 83.80 333⇑*i*P **P** **22 56 31.8 -0.6**
comp=Z,12nm,0.8s,mb4.8
LOR *e*MLR MLR
comp=Z,41nm,20.5s
FLN La Foliniere 83.87 336 *e*P **P** **22 56 32.0 -0.7**
comp=Z,4.4nm,0.6s,mb4.5
FLN *e*MLR MLR
comp=Z,49nm,19.8s
LDF La Druitiere 83.91 336⇑*i*P **P** **22 56 32.3 -0.6**
comp=Z,10nm,0.8s,mb4.7
SSF Saint Saulge 84.10 333⇑*i*P **P** **22 56 33.5 -0.4**
comp=Z,10nm,0.8s,mb4.7
LPL La Plagne 84.29 330⇑*i*P **P** **22 56 35.1 +0.2**
comp=Z,8.3nm,0.7s,mb4.7
LPG La Plagne 84.30 330⇑*i*P **P** **22 56 35.3 +0.3**
comp=Z,6.0nm,0.6s,mb4.6
GRR Gorron 84.32 336⇑*i*P **P** **22 56 34.6 -0.4**
comp=Z,14nm,0.8s,mb4.8
SMF Signal de Mont 84.35 333 *e*P **P** **22 56 34.8 -0.4**
comp=Z,10.0nm,0.8s,mb4.7
AVF Avril sur Loir 84.39 333⇑*i*P **P** **22 56 35.1 -0.3**
comp=Z,20nm,0.7s,mb5.1
BGF Bois d'Agland 84.76 333 *e*P **P** **22 56 37.0 -0.3**
SGMF Saint Gilles 84.94 337 *e*P **P** **22 56 38.0 -0.1**
comp=Z,3.5nm,0.4s,mb4.5
MBDF Montbardon 84.95 330 *e*P **P** **22 56 37.9 -0.4**
comp=Z,8.4nm,0.6s,mb4.7
ROSF Rostrenen 85.07 338 *e*P **P** **22 56 38.8 0.0**
comp=Z,6.2nm,0.6s,mb4.6
ORIF Oris-en-Rattie 85.11 331⇑*i*P **P** **22 56 39.2 +0.1**
comp=Z,7.4nm,0.7s,mb4.6
ORIF *e*MLR MLR
comp=Z,42nm,20.8s
TCF Toulx Ste Croi 85.21 333⇑*i*P **P** **22 56 39.5 0.0**
comp=Z,3.6nm,0.6s,mb4.4
QUIF Quistinic 85.42 338 *e*P **P** **22 56 40.2 -0.3**
comp=Z,8.1nm,0.7s,mb4.7
SBF Sospel 85.43 329⇑*i*P **P** **22 56 39.9 -0.8**
comp=Z,20nm,0.8s,mb5.0
VIVF Saint-Julien-l 85.61 331⇑*i*P **P** **22 56 41.5 0.0**

comp=Z,12nm,0.9s,mb4.8
MFF Saint Martin d 85.69 335 *e*P **P 22 56 42.0 +0.1**
comp=Z,14nm,0.8s,mb4.9
URZ Urewera 85.93 153 P **P 22 56 42.5 -0.4**
comp=Z,26nm,1.1s,mb5.4,baz=314,slow=5.6,SNR=3.6
LMR La Mourre 86.23 329 *e*P **P 22 56 44.1 -0.6**
comp=Z,7.1nm,0.6s,mb4.7
RJF Les Rejaudoux 86.31 333⇑ *i*P **P 22 56 45.2 +0.2**
comp=Z,4.8nm,0.8s,mb4.5
RJF *e*MLR MLR
comp=Z,45nm,17.2s
CAF Calviac 86.45 333⇑ *i*P **P 22 56 46.4 +0.7**
comp=Z,17nm,0.7s,mb5.1
TXAR Lajitas Array 86.56 53 P **P 22 56 47.5 +1.0**
TXAR pmax pmax
comp=Z,1.0nm,0.7s
TXAR Lajitas Array 86.56 53 P **P 22 56 47.5 +0.9**
comp=Z,1.2nm,0.7s,mb4.2,baz=296,slow=3.6,SNR=13
LASF Ste Croix 86.57 331 *e*P **P 22 56 46.5 +0.2**
LFF La Frestale 86.89 334⇑ *i*P **P 22 56 48.3 +0.5**
comp=Z,10nm,0.7s,mb4.9
EPF Esparros 88.71 333 *e*P **P 22 56 56.3 -0.3**
ETSF Etsaut 89.13 334⇑ *i*P **P 22 56 59.3 +0.8**
comp=Z,8.0nm,0.7s,mb4.8
ESDC Sonseca Array 93.14 335 P **P 22 57 15.8 -1.5**
comp=Z,0.2nm,0.4s,mb3.9,baz=21,slow=4.1,SNR=4.3
SNAA Sanae 145.67 199 *e*PKPdf PKPdf 23 03 40.7 +0.7
SNAA *e* 23 03 44.0
SNAA *e* 23 03 59.4
SNAA *e* 23 04 02.3
SNAA *e* 23 04 10.6
VNA2 Neumayer--Watz 147.25 198 *e*PKPdf PKPdf 23 03 43.9 +1.3
VNA2 *e* 23 03 45.4
VNA2 *e* 23 03 47.7
VNA2 *e* 23 04 06.5
VNA2 *e* 23 04 09.9
VNA2 *e* 23 04 14.2
VNA3 Neumayer Olymp 147.52 196 *e*PKPdf PKPdf 23 03 45.4 +2.3
VNA3 *e* 23 03 46.5
VNA1 Neumayer--Stat 147.65 198 *e*PKPdf PKPdf 23 03 46.9 +3.6
VNA1 *e* 23 03 48.8
VNA1 *e* 23 04 06.3

BJI ***27*** *22:52:05.3, 1600S×17340E, h10km, mb4.9*
ISCJB ***27*** *22:52:05.2±2.6, 1597S±008×17341E±007, h2km±15km, mb4.5/24, MS4.2/19, Error ellipse: s-maj=13.6km s-min=11.0km az=153.0*
LDG ***27*** *22:52:06.8±0.5, 1669S×17400E, h10km, Ms4.3/8, Error ellipse: s-maj=70.5km s-min=2.5km az=132.0*
IDC ***27*** *22:52:07.2±0.7, 1592S×17329E, h0km, mb4.2/14, mb1 4.4/14, mb1mx4.4/16, mbtmp4.2/14, MS4.1/15, Ms1 4.1/15, ms1mx4.1/20, Error ellipse: s-maj=21.5km s-min=17.4km az=108.0*
NEIC ***27*** *22:52:08.3±0.3, 1597S×17342E, h10km, mb4.9/13, MS4.5/4, Error ellipse: s-maj=14.4km s-min=9.6km az=147.0*
GCMT ***27*** *22:52:08.3±0.2, 1599S×17351E, h12km, MW5.1/85, Moment Tensor Solution. s51,c66; s85,c131; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}=-4.91±.10; $M_{\theta\theta}$=1.51±.10; $M_{\phi\phi}$=3.40±.10; $M_{r\theta}$=-0.75±.33; $M_{\theta\phi}$=-2.08±.09; $M_{\phi r}$=-0.10±.31; Best double couple: M_0=4.88100×10^{16} NP1:ϕ_s=335.00000°, δ=44.00000°, λ=-79.00000°. NP2: ϕ_s=140.00000°, δ=47.00000°, λ=-100.00000°. Principal axes: T 4.7510, Plg2.0000°, Azm237.0000°; N 0.2600, Plg7.0000°, Azm147.0000°; P -5.0110, Plg82.0000°, Azm341.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 27 22:52:08.3±2.8, 1596S±008×17342E±007, h11km±16km, n114, σ1§20/46, mb4.5/24, MS4.2/19, 5D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**14.45**	**84**	P	n	**Pn**	**22 55 32.0**	**-1.0**
	140nm,1.7s							
HNR	**Honiara**	**14.65**	**295**	LR		LR	22 59 13.7	
	comp=Z,163nm,21.8s,baz=179,slow=29							
URZ	**Urewera**	**22.45**	**172**	P		**P**	**22 57 09.0**	**+1.7**
	18nm,1.1s,mb4.4,baz=38,slow=15,SNR=3.2							
URZ				LR		LR	23 04 00.3	
	comp=Z,349nm,21.1s,MS3.8,baz=211,slow=32							
EIDS	**Eidsvold**	**22.87**	**242**	*e*P		**P**	**22 57 12.8**	**+0.9**
	10nm,1.2s,mb4.1							
RAR	**Rarotonga**	**25.92**	**106**	LR		LR	23 05 11.7	
	comp=Z,591nm,22.0s,MS4.1,baz=284,slow=30							
CTA	**Charters Tower**	**26.14**	**257**	*e*P		**P**	**22 57 44.4**	**+1.7**
	3.2nm,1.0s,mb3.8							
CTA	**Charters Tower**	**26.14**	**257**	P		**P**	**22 57 43.2**	**+0.5**
	1.8nm,0.6s,mb3.8,baz=99,slow=13,SNR=2.4							
CTA				LR		LR	23 06 15.4	
	comp=Z,720nm,20.4s,MS4.2,baz=81,slow=33							
CTAO	**Charters Tower**	**26.14**	**257**	*e*P		**P**	**22 57 44.2**	**+1.5**
	4.6nm,0.8s,mb4.1							
RPZ	**Rata Peaks**	**27.73**	**184**	P		**P**	**22 57 57.9**	**+1.1**
	15nm,1.0s,mb4.6,baz=45,slow=1.4,SNR=1.8							
RPZ				LR		LR	23 07 28.5	
	comp=Z,958nm,20.2s,MS4.4,baz=8.2,slow=33							
STKA	**Stephens Creek**	**32.96**	**236**	*e*P		**P**	**22 58 44.5**	**+1.3**
	6.4nm,1.0s,mb4.5							
STKA	**Stephens Creek**	**32.96**	**236**	*e*P		**P**	**22 58 43.4**	**+0.2**
	28nm,1.5s,mb5.0							
STKA	**Stephens Creek**	**32.96**	**236**	P		**P**	**22 58 43.9**	**+0.7**
	3.9nm,0.8s,mb4.4,baz=25,slow=5.3,SNR=4.8							
STKA				LR		LR	23 10 55.1	
	comp=Z,710nm,19.4s,MS4.4,baz=28,slow=34							
PPT	**Papeete**	**35.44**	**98**	*e*S		**S**	**23 04 40.6**	**+0.7**
	155nm,26.2s							
PPT				*e*LQ			23 07 07.8	
	1μm,27.8s							
PPT				*e*LR		LR	23 09 04.5	
	780nm,28.2s,baz=269							
PPT	**Papeete**	**35.44**	**98**	LR		LR	23 09 56.5	
	comp=Z,301nm,21.4s,MS4.0,baz=40,slow=30							
TBI	**Tubuai**	**35.65**	**108**	*e*S		**S**	**23 04 44.1**	**+1.0**
	150nm,30.2s							
TBI				*e*LQ			23 07 14.7	
	928nm,30.0s							
TBI				*e*LR		LR	23 08 58.3	
	678nm,30.8s,baz=284							
WB2	**Warramunga Arr**	**37.32**	**258**	*e*P		**P**	**22 59 20.6**	**-0.3**
WRAB	**Tennant Creek**	**37.32**	**258**	*e*P		**P**	**22 59 19.3**	**-1.6**
	8.9nm,1.1s,mb4.5							
WRA	**Warramunga Arr**	**37.33**	**258**	P		**P**	**22 59 19.1**	**-1.9**
	3.4nm,0.9s,mb4.2,baz=91,slow=10,SNR=22							
WRA				LR		LR	23 13 22.7	
	comp=Z,329nm,19.0s,MS4.2,baz=125,slow=34							
ASAR	**Alice Springs**	**37.86**	**252**	P		**P**	**22 59 25.5**	**+0.1**
	4.6nm,0.8s,mb4.3,baz=80,slow=8.9,SNR=37							
ASAR				PcP		PcP	23 01 41.8	-0.1
	1.2nm,0.8s,baz=87,slow=2.5,SNR=5.8							
FITZ	**Fitzroy Crossi**	**45.63**	**260**	*e*P		**P**	**23 00 24.4**	**-4.8**
	14nm,1.0s,mb4.8							
FITZ	**Fitzroy Crossi**	**45.63**	**260**	*e*P		**P**	**23 00 27.6**	**-1.6**
	24nm,1.0s,mb5.1							
TAOE	**Nuku Hiva Isla**	**45.82**	**87**	*e*S		**S**	**23 07 12.4**	**-2.5**
	7μm,28.5s							
TAOE				*e*LR		LR	23 13 29.7	
	34μm,28.7s							
RKT	**Rikitea**	**48.95**	**107**	*e*S		**S**	**23 07 59.6**	**+0.3**
	236nm,29.5s							
RKT				*e*LR		LR	23 15 05.5	
	676nm,31.8s							
MBWA	**Marble Bar**	**50.96**	**256**	*e*P		**P**	**23 01 11.0**	**+0.6**
	31nm,1.3s,mb5.1							
VNDA	**Vanda**	**61.85**	**183**	*e*P		**P**	**23 02 25.1**	**-2.0**
	10.0nm,1.5s,mb4.7							
VNDA				*e*PcP		PcP	23 03 07.4	-0.5
VNDA				LR		LR	23 24 12.4	
VNDA	**Vanda**	**61.85**	**183**	P		**P**	**23 02 26.7**	**-0.4**
	2.6nm,1.2s,mb4.2,baz=15,slow=9.8,SNR=6.3							
VNDA				LR		LR	23 24 12.4	
	comp=Z,388nm,21.4s,MS4.5,baz=16,slow=31							
MJAR	**Matsushiro Arr**	**61.91**	**328**	P		**P**	**23 02 27.8**	**-0.2**
MJAR				LR		LR	23 25 06.2	
MJAR	**Matsushiro Arr**	**61.91**	**328**	P		**P**	**23 02 27.8**	**-0.2**
	2.8nm,0.8s,mb4.4,baz=155,slow=6.8,SNR=7.8							
MJAR				LR		LR	23 25 06.1	
	comp=Z,78nm,19.6s,MS3.9,baz=255,slow=32							
SBA	**Scott Base**	**62.00**	**182**	*e*P		**P**	**23 02 28.8**	**+0.7**
	27nm,1.2s,mb5.2							
CASY	**Casey**	**64.70**	**203**	*e*P		**P**	**23 02 45.5**	**-0.6**
	4.4nm,0.5s,mb4.7							

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
KSRS	**Korea Array**	**68.22**	**322**	P		**P**	**23 03 08.6**	**-0.4**
	1.2nm,0.8s,mb4.0,baz=152,slow=8.1,SNR=5.4							
KSRS				LR		LR	23 29 09.5	
	comp=Z,31nm,19.5s,MS3.5,baz=140,slow=33							
CN2	**Changchun**	**73.87**	**326**	*e*P		**P**	**23 03 44.5**	**+1.3**
CN2				AMB		AMB		
	comp=Z,10.0nm,0.8s,mb4.8							
TTA	**Tatalina**	**82.19**	**14**	*e*P		**P**	**23 04 29.8**	**+0.9**
	comp=Z,105nm,2.1s,mb5.4							
MAW	**Mawson**	**82.93**	**201**	*e*P		**P**	**23 04 31.1**	**-1.8**
	comp=Z,8.7nm,1.2s,mb4.7							
MAW				LR		LR	23 37 31.8	
MAW	**Mawson**	**82.93**	**201**	P		**P**	**23 04 34.1**	**+1.2**
	comp=Z,3.8nm,1.0s,mb4.4,baz=150,slow=4.3,SNR=4.7							
MAW				LR		LR	23 37 31.8	
	comp=Z,142nm,18.4s,MS4.4,baz=246,slow=33							
LZH	**Lanzhou**	**83.59**	**310**	*e*P		**P**	**23 04 32.0**	**-4.9**
LZH				AMB		AMB		
	comp=Z,14nm,1.0s,mb5.0							
NVAR	**Mina Array Bea**	**83.66**	**47**	P		**P**	**23 04 38.7**	**+1.6**
NVAR	**Mina Array Bea**	**83.66**	**47**	P		**P**	**23 04 38.7**	**+1.6**
	comp=Z,1.0nm,0.8s,mb4.0,baz=222,slow=6.2,SNR=11							
MCK	**McKinley**	**84.60**	**16**	*e*P		**P**	**23 04 40.1**	**-1.3**
	comp=Z,40nm,1.8s,mb5.2							
SONM	**Songino Array**	**87.08**	**322**	P		**P**	**23 04 55.7**	**+1.7**
	comp=Z,0.3nm,0.9s,mb3.5,baz=184,slow=3.8,SNR=2.7							
PV10	**Paradox Valley**	**90.34**	**50**	*e*P		**P**	**23 05 07.8**	**-1.9**
PV01	**Paradox Valley**	**90.60**	**50**	*e*P		**P**	**23 05 10.3**	**-0.6**
BNM	**Barren Site**	**90.78**	**55**	*e*P		**P**	**23 05 13.1**	**+1.3**
TXAR	**Lajitas Array**	**91.70**	**60**	P		**P**	**23 05 17.9**	**+1.6**
	comp=Z,0.7nm,0.9s,mb4.0,baz=234,slow=4.2,SNR=8.4							
TXAR				LR		LR	23 39 55.6	
	comp=Z,223nm,18.1s,MS4.7,baz=135,slow=31							
SNAA	**Sanae**	**92.55**	**181**	*e*PKPdf		**P**	**23 05 17.4**	**-2.0**
SNAA				*e*			23 05 24.5	
VNA3	**Neumayer Olymp**	**92.99**	**179**	*e*PKPdf		**P**	**23 05 20.1**	**-1.3**
VNA3				*e*			23 05 27.9	
VNA2	**Neumayer--Watz**	**93.33**	**180**	*e*PKPdf		**P**	**23 05 22.2**	**-0.8**
VNA2				*e*			23 05 29.5	
YKA	**Yellowknife Ar**	**95.96**	**26**	P		**P**	**23 05 35.0**	**0.0**
YKA				LR		LR	23 39 32.0	
YKA	**Yellowknife Ar**	**95.96**	**26**	P		**P**	**23 05 35.0**	**0.0**
	comp=Z,0.6nm,0.8s,mb4.1,baz=255,slow=5.0,SNR=8.2							
YKA				LR		LR	23 39 32.0	
	comp=Z,154nm,21.1s,MS4.5,baz=165,slow=30							
PLCA	**Paso Flores**	**98.23**	**136**	LR		LR	23 40 50.7	
	comp=Z,48nm,19.1s,MS4.0,baz=212,slow=30							
DPC	**Dobruska-Polom**	**141.03**	**337**	*e*PKP		PKPdf	23 11 45.9	+7.3
KHC	**Kasperske Hory**	**143.06**	**338**	*e*PKP		PKPdf	23 11 47.5	+5.2
GERES	**GERESS Array B**	**143.25**	**337**	PKP		PKPdf	23 11 40.6	-2.0
	comp=Z,0.3nm,0.7s,baz=85,slow=1.5,SNR=6.6							
GRA1	**Grafenberg Arr**	**143.38**	**341**	*e*PKP		PKPdf	23 11 40.8	-2.0
GRF	**Grafenberg Arr**	**143.38**	**341**	*e*PKP		PKPdf	23 11 40.8	-2.0
VAY	**Valandovo**	**144.34**	**321**	*i* P		PKPdf	23 11 48.5	+3.7
SKO	**Skopje**	**144.62**	**323**	*i* P		PKPdf	23 11 45.8	+0.6
BAIF	**Baives**	**144.89**	**348**	*e*PKP1		PKPdf	23 11 45.1	-0.3
LJU	**Ljubljana**	**145.20**	**334**	*e*PKP		PKPdf	23 11 46.1	0.0
BOJS	**Bojanci**	**145.31**	**333**	*e*PKP		PKPdf	23 11 46.7	+0.4
WTTA	**Wattenberg**	**145.33**	**338**⇓ *i*P			PKPbc	23 11 46.6	+0.5
	comp=Z,19nm,1.4s,SNR=6.9							
RETA	**Reutte**	**145.45**	**339**⇓ *i*PKPdf			PKPdf	23 11 47.0	+0.5
	comp=Z,16nm,1.3s							
MOTA	**Moosalm**	**145.45**	**339**⇓ *i*P			PKPbc	23 11 47.0	+0.5
	comp=Z,30nm,1.4s,SNR=9.2							
MOTA	**Moosalm**	**145.45**	**339**⇓ *i*P			PKPbc	23 11 47.0	+0.5
BFO	**Black Forest**	**145.47**	**342**	*e*PKP		PKPdf	23 11 46.5	0.0
CEY	**Cerknica**	**145.49**	**334**	*e*PKP		PKPdf	23 11 47.1	+0.4
SQTA	**Sankt Quirin**	**145.52**	**338**⇓ *i*P			PKPdf	23 11 47.1	+0.4
	comp=Z,43nm,1.6s,SNR=8.2							
OHR	**Ohrid**	**145.53**	**322**	*i* P		PKPdf	23 11 47.2	+0.3
CDF	**Champ du Feu**	**145.70**	**344**	*e*PKP1		PKPbc	23 11 47.7	+0.5
	comp=Z,97nm,1.4s							
FETA	**Feichten**	**145.86**	**339**	*i* pPKPdf		pPKPdf	23 11 48.7	-2.3
	comp=Z,23nm,1.4s,SNR=9.9							
DAVA	**Damuels**	**145.92**	**340**	*i* P		PKPdf	23 11 48.8	+1.5
	comp=Z,30nm,1.3s,SNR=12							
MEZF	**Maizieres J'vi**	**146.18**	**346**	*e*PKP1		PKPbc	23 11 49.5	+0.8
	comp=Z,163nm,1.5s							
HAU	**Haudompre**	**146.32**	**344**	*e*PKP1		PKPbc	23 11 49.5	+0.4
	comp=Z,61nm,1.5s							
HAU				*e*MLR		MLR		
	comp=Z,84nm,20.2s,MS4.2							
HAU	**Haudompre**	**146.32**	**344**	*e*PKP		PKPdf	23 11 49.5	+1.5
HAU				LR		LR		
	comp=Z,80nm,20.3s,MS4.5							
CTI	**Castel Tesino**	**146.35**	**337**	PKP		PKPdf	23 11 49.6	+1.5
HINF	**Hinteralfeld**	**146.36**	**344**	*e*PKP1		PKPbc	23 11 49.5	+0.3
	comp=Z,82nm,1.8s							
BRMO	**Bormio**	**146.45**	**339**	PKP		PKPbc	23 11 50.5	+0.9
FLN	**La Foliniere**	**146.91**	**353**	*e*PKP1		PKPbc	23 11 50.9	+0.1
FLN				*e*MLR		MLR		
	comp=Z,94nm,21.2s,MS4.2							
FLN	**La Foliniere**	**146.91**	**353**	*e*PKP		PKPbc	23 11 50.9	+0.1
FLN				LR		LR		
	comp=Z,90nm,21.3s,MS4.5							
LDF	**La Druitiere**	**147.03**	**352**	*e*PKP1		PKPbc	23 11 51.1	-0.1
	comp=Z,25nm,1.2s							
GRR	**Gorron**	**147.32**	**353**	*e*PKP1		PKPbc	23 11 52.2	+0.2
	comp=Z,15nm,0.8s							
ROSF	**Rostrenen**	**147.60**	**356**	*e*PKP1		PKPbc	23 11 52.9	+0.1
	comp=Z,46nm,1.3s							
LOR	**Lormes**	**147.61**	**347**	*e*PKP1		PKPbc	23 11 53.2	+0.4
	comp=Z,28nm,1.2s							
LOR				*e*MLR		MLR		
	comp=Z,93nm,20.8s,MS4.2							
LOR	**Lormes**	**147.61**	**347**	*e*PKP		PKPbc	23 11 53.2	+0.4
LOR				LR		LR		
	comp=Z,90nm,20.8s,MS4.5							
SGMF	**Saint Gilles**	**147.63**	**355**	*e*PKP1		PKPbc	23 11 53.0	+0.2
	comp=Z,58nm,1.2s							
CABF	**La Chapelle**	**147.67**	**344**	*e*PKP1		PKPbc	23 11 53.9	+0.9
	comp=Z,26nm,1.0s							
SSF	**Saint Saulge**	**147.88**	**347**	*e*PKP1		PKPbc	23 11 54.1	+0.5
	comp=Z,31nm,1.1s							
QUIF	**Quistinic**	**148.01**	**356**	*e*PKP1		PKPbc	23 11 53.8	-0.1
SNTG	**Esanatoglia**	**148.10**	**332**	PKP		PKPbc	23 11 55.1	+0.8
AVF	**Avril sur Loir**	**148.17**	**347**	*e*PKP1		PKPbc	23 11 54.4	+0.1
	comp=Z,14nm,1.1s							
GSCL	**Gusciola**	**148.19**	**336**	PKP		PKPdf	23 11 46.1	-5.1
ERBM	**Eremo**	**148.19**	**337**	PKP		PKPbc	23 11 55.9	+1.4
SMF	**Signal de Mont**	**148.20**	**346**	*e*PKP1		PKPbc	23 11 54.7	+0.3
	comp=Z,16nm,1.1s							
NRCA	**Norcia**	**148.36**	**332**	PKP		PKPbc	23 11 55.3	+0.3
LPL	**La Plagne**	**148.49**	**342**	*e*PKP1		PKPbc	23 11 56.2	+1.0
	comp=Z,7.8nm,0.8s							
LPG	**La Plagne**	**148.50**	**342**	*e*PKP1		PKPbc	23 11 56.3	+1.1
	comp=Z,15nm,0.9s							
BGF	**Bois d'Agland**	**148.50**	**348**	*e*PKP1		PKPbc	23 11 55.5	+0.3
	comp=Z,22nm,0.9s							
TCF	**Toulx Ste Croi**	**148.89**	**348**	*e*PKP1		PKPbc	23 11 56.5	+0.3
	comp=Z,45nm,1.3s							
BNI	**Bardonecchia**	**148.92**	**342**	*e*PKPbc		PKPbc	23 11 57.2	+0.8
MFF	**Saint Martin d**	**148.99**	**351**	*e*PKP1		PKPbc	23 11 56.6	+0.1
	comp=Z,55nm,1.3s							
MBDF	**Montbardon**	**149.19**	**341**	*e*PKP1		PKPbc	23 11 57.4	+0.4
	comp=Z,28nm,1.3s							
ORIF	**Oris-en-Rattie**	**149.28**	**343**	*e*PKP1		PKPbc	23 11 57.7	+0.4
	comp=Z,23nm,1.3s							
ORIF				*e*MLR		MLR		
	comp=Z,91nm,21.2s,MS4.2							
VIVF	**Saint-Julien-l**	**149.67**	**344**	*e*PKP1		PKPbc	23 11 58.7	+0.5
	comp=Z,44nm,1.4s							
SBF	**Sospel**	**149.75**	**340**	*e*PKP1		PKPbc	23 11 58.3	-0.1
	comp=Z,62nm,1.4s							
RJF	**Les Rejaudoux**	**149.97**	**349**	*e*PKP1		PKPbc	23 11 59.2	+0.3
	comp=Z,66nm,1.7s							
RJF				*e*MLR		MLR		
	comp=Z,107nm,21.2s,MS4.3							
RJF	**Les Rejaudoux**	**149.97**	**349**	*e*PKP		PKPbc	23 11 59.2	+0.3
RJF				LR		LR		
	comp=Z,110nm,21.3s,MS4.6							
CAF	**Calviac**	**150.22**	**348**	*e*PKP1		PKPbc	23 12 00.0	+0.4
	comp=Z,38nm,1.5s							
SMRF	**Simiane la Rot**	**150.23**	**342**	*e*PKP1		PKPbc	23 12 00.3	+0.7
	comp=Z,62nm,1.4s							
FRF	**La Foret Royal**	**150.27**	**340**	*e*PKP1		PKPbc	23 11 59.7	0.0
PGF	**Pioggiola**	**150.33**	**336**	*e*PKP1		PKPbc	23 12 00.0	+0.1
	comp=Z,48nm,1.3s							
LFF	**La Frestale**	**150.46**	**349**	*e*PKP1		PKPbc	23 12 00.4	+0.3
	comp=Z,45nm,1.4s							
LMR	**La Mourre**	**150.52**	**340**	*e*PKP1		PKPbc	23 12 00.3	0.0
	comp=Z,32nm,1.2s							
LASF	**Ste Croix**	**150.61**	**345**	*e*PKP1		PKPbc	23 12 00.9	+0.4
	comp=Z,54nm,1.5s							
ETSF	**Etsaut**	**152.66**	**350**	*e*PKP1		PKPbc	23 12 05.9	+0.6

NEIC ***27*** *22:56:30.8, 1821N×6801W, h115km, MD3.5(RSPR), After RSPR.*

RSPR 27 22:56:30.8, 1821N×6801W, h115km±1km, MD3.5/14, MD3.5/14, 12C-4D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
IMO	**Isla Mona**	**0.14**	**136**⇑	*e*P		Pn	22 56 46.1	-0.6
IMO				*e*S		Sn	22 56 58.4	-0.1
LSP	**Las Mesas**	**0.88**	**92**⇑	*e*P		Pn	22 56 51.6	+0.3
CRPR	**Cabo Rojo, PR**	**0.88**	**103**⇑	*e*P		Pn	22 56 51.2	0.0
CRPR				*e*S		Sn	22 57 05.8	-0.8
AGPR	**Aguadilla, PR**	**0.89**	**73**⇑	*e*P		Pn	22 56 51.6	+0.3
AGPR				*e*S		Sn	22 57 06.5	-0.4
GBPR	**Guanica, Bosqu**	**1.10**	**102**⇑	*e*P		Pn	22 56 53.0	-0.5
GBPR	**Guanica, Bosqu**	**1.10**	**102**	*e*S		Sn	22 57 10.3	-0.2
LRS	**Lares**	**1.11**	**86**⇑	*e*P		Pn	22 56 53.8	+0.3
LRS				*e*S		Sn	22 57 10.4	-0.3
AOPR	**Arecibo Observ**	**1.20**	**83**⇑	*e*P		Pn	22 56 54.6	+0.1
AOPR				*e*S		Sn	22 57 11.9	-0.6
CELP	**Cerrillos**	**1.37**	**95**⇓	*e*P		Pn	22 56 56.9	+0.5
CELP				*e*S		Sn	22 57 15.5	-0.3
DR12	**Loma Pena Alta**	**1.42**	**294**⇑	*e*P		Pn	22 56 56.2	-0.8
ICM	**Isla Caja Muer**	**1.45**	**102**⇓	*e*P		Pn	22 56 57.7	+0.3
ICM				*e*S		Sn	22 57 17.4	-0.1
SMN1	**Samana, DR**	**1.54**	**309**⇓	*e*P		Pn	22 56 58.1	-0.3
SMN1	**Samana, DR**	**1.54**	**309**	*e*S		Sn	22 57 18.9	-0.5
SJG	**San Juan**	**1.77**	**93**⇑	*e*P		Pn	22 57 01.4	+0.2
SJG				*e*S		Sn	22 57 23.7	-0.7
SJG	**San Juan**	**1.77**	**93**⇑	*e*P		Pn	22 57 01.3	0.0
SJG	**San Juan**	**1.77**	**93**⇑	*e*P		Pn	22 57 01.3	0.0
SJG				*e*S		Sn	22 57 23.7	-0.7
CPD	**Cerro la Pandu**	**2.00**	**95**	*e*Pn		Pn	22 57 02.7	-1.3
CPD				*e*Sn		Sn	22 57 26.1	-3.4
HUMP	**Col San Antoni**	**2.06**	**92**⇓	*e*P		Pn	22 57 05.1	+0.4
HUMP				*e*S		Sn	22 57 30.8	+0.1
MTP	**Monte Pirata**	**2.34**	**92**	*e*Pn		Pn	22 57 02.8	-5.6
MTP				*e*Sn		Sn	22 57 31.6	-5.6
SDDR	**Presa de Saban**	**3.20**	**284**	*e*Pn		Pn	22 57 23.5	+3.9
SDDR				*e*Sn		Sn	22 58 04.8	+7.5
TBVI	**Tortola**	**3.23**	**86**⇑	*e*P		Pn	22 57 21.2	+1.2
TBVI				*e*S		Sn	22 57 57.4	-0.6

NDI ***27*** *23:02:49.6±4.1, 1064N×8382E, h10km, ML3.5*
ISCJB ***27*** *23:02:58.1±1.5, 1146N±0.10×8328E±006, h10km, Error ellipse: s-maj=14.4km s-min=8.5km az=9.7*

ISC 27 23:02:55.2±1.2, 1111N±008×8331E±006, h10km, n19, σ1§19/26, 1C, Bay of Bengal

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
VIS	**Vishakhapatnam**	**6.57**	**0**	*e*P		**Pn**	**23 04 32.0**	**0.0**
VIS				*e*S		**Sn**	**23 05 46.0**	**-1.0**
VIS				AML		AML	23 09 45.7	
	comp=E,3.0nm,0.4s							
VIS				AML		AML	23 09 46.2	
	comp=N,2.5nm,0.3s							
TRD	**Trivandrum**	**6.77**	**248**	*e*P		**Pn**	**23 04 32.4**	**-2.3**
TRD				*e*S		**Sn**	**23 05 48.2**	**-3.8**
TRD				AML		AML	23 09 03.1	
	comp=E,21nm,0.3s							
TRD				AML		AML	23 09 04.1	
	comp=N,19nm,0.2s							
HYB	**Hyderabad**	**7.78**	**324**	*e*P		**Pn**	**23 04 55.0**	**+6.4**
LATR	**Latur**	**9.76**	**319**	*e*P		**Pn**	**23 05 18.7**	**+2.9**
LATR				*e*S		**Sn**	**23 07 06.6**	**+1.0**
LATR				AML		AML	23 07 16.3	
	comp=N,42nm,0.2s							
LATR				AML		AML	23 07 16.6	
	comp=E,35nm,0.3s							
NGP	**Nagpur**	**10.79**	**338**	*e*P		**Pn**	**23 05 32.4**	**+2.6**
NGP				*e*S		**Sn**	**23 07 30.5**	**-0.2**
NGP				AML		AML	23 09 07.0	
	comp=Z,7.4nm,0.2s							
NGP				AML		AML

ISC 27 23:22:57.6±0.2, 3903Km±002×1594E±002, h115km±2km, n240, σ1§11/276, mb3.9/10, 43C-42D, Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CARO	**Carolei**	**0.31**	**44**	⇓*i*Pg	**Pn**	**23 23 14.2**	**+0.3**
CARO				Sg	**Sn**	**23 23 26.1**	**-0.1**
	5μm,0.5s						
JOPP	**Joppolo**	**0.43**	**186**	⇓*i*Pg	**Pn**	**23 23 14.5**	**0.0**
JOPP				Sg	**Sn**	**23 23 26.6**	**-0.6**
	6μm,0.4s						
GRI	**Girifalco**	**0.43**	**119**	Pg	**Pn**	**23 23 15.1**	**+0.6**
GRI				Sg	**Sn**	**23 23 29.3**	**+2.1**
	2μm,0.4s						
SERS	**Sersale**	**0.58**	**89**	⇓*i*Pg	**Pn**	**23 23 16.5**	**+1.0**
SERS				Sg	**Sn**	**23 23 30.6**	**+1.7**
	3μm,0.3s						
TIP	**Timpagrande**	**0.65**	**77**	⇓*i*Pg	**Pn**	**23 23 17.1**	**+1.1**
TIP				Sg	**Sn**	**23 23 31.5**	**+1.6**
	2μm,0.8s						
TDS	**Terranova Siba**	**0.70**	**26**	⇑*i*Pg	**Pn**	**23 23 17.3**	**+0.9**
PLAC	**Placanica**	**0.70**	**146**	⇓*i*Pg	**Pn**	**23 23 16.9**	**+0.5**
PLAC				Sg	**Sn**	**23 23 32.0**	**+1.5**
	416nm,0.3s						
SCLL	**Scilla**	**0.80**	**193**	⇓*i*Pg	**Pn**	**23 23 16.6**	**-0.6**
MSRU	**Castanea**	**0.84**	**204**	⇓*i*Pg	**Pn**	**23 23 16.8**	**-0.8**
MSRU				Sg	**Sn**	**23 23 31.0**	**-1.7**
	6μm,0.4s						
MSI	**Messina ING**	**0.88**	**200**	⇓*i*Pg	**Pn**	**23 23 17.2**	**-0.8**
SOI	**Samo**	**0.96**	**175**	⇓*i*Pg	**Pn**	**23 23 18.8**	**0.0**
SOI				Sg	**Sn**	**23 23 33.6**	**-1.2**
	1μm,0.7s						
LLI	**Lipari**	**0.97**	**233**	⇑*e*Pg	**Pn**	**23 23 18.7**	**-0.2**
	7μm,0.6s						
SLNA	**Salina**	**0.98**	**242**	⇑*e*Pg	**Pn**	**23 23 18.7**	**-0.3**
	537nm,0.4s						
VPL	**Vulcano Piano**	**0.99**	**229**	⇑*e*Pg	**Pn**	**23 23 18.5**	**-0.6**
	3μm,0.6s						
MTTG	**Motta San Giov**	**1.05**	**191**	⇓*e*Pg	**Pn**	**23 23 19.4**	**-0.2**
MTTG				Sg	**Sn**	**23 23 35.8**	**-0.5**
	3μm,0.4s						
MPAZ	**Palizzi**	**1.08**	**177**	⇓*i*Pg	**Pn**	**23 23 19.9**	**-0.1**
MPAZ				Sg	**Sn**	**23 23 36.1**	**-0.8**
	2μm,0.3s						
ORI	**Oriolo Calabro**	**1.10**	**21**	Pg	**Pn**	**23 23 21.3**	**+1.1**
	2μm,0.4s						
BULG	**Bulgheria - Ca**	**1.13**	**338**	Pg	**Pn**	**23 23 20.8**	**+0.3**
MGR	**Morigerati**	**1.14**	**345**	Pg	**Pn**	**23 23 20.8**	**+0.2**
	772nm,0.5s						
SIRI	**Monte Sirino -**	**1.15**	**357**	⇓*e*Pg	**Pn**	**23 23 20.9**	**+0.2**
	600nm,0.4s						
IFIL	**Filicudi I Eol**	**1.17**	**247**	⇑*i*Pg	**Pn**	**23 23 20.2**	**-0.7**
	3μm,0.7s						
SCHR	**S. Chirico Rap**	**1.17**	**5**	Pg	**Pn**	**23 23 21.7**	**+0.8**
	212nm,0.5s						
MMME	**Mongiuffi-Meli**	**1.22**	**206**	⇓*i*Pg	**Pn**	**23 23 21.3**	**-0.2**
MMME				Sg	**Sn**	**23 23 38.9**	**-0.7**
	2μm,0.4s						
MTSN	**Montesano sull**	**1.24**	**353**	Pg	**Pn**	**23 23 21.8**	**+0.1**
MCEL	**Monticello**	**1.29**	**355**	Pg	**Pn**	**23 23 22.6**	**+0.3**
	243nm,0.5s						
CMPR	**Campora**	**1.37**	**339**	⇑*i*Pg	**Pn**	**23 23 23.4**	**+0.2**
	161nm,0.5s						
CRAC	**Craco**	**1.39**	**16**	Pg	**Pn**	**23 23 24.6**	**+1.3**
	3μm,0.2s						
PTRP	**Pietrapertosa**	**1.49**	**4**	⇑*e*Pg	**Pn**	**23 23 26.2**	**+1.7**
	189μm,9.3s						
CDRU	**Civita di Ruta**	**1.54**	**342**	Pg	**Pn**	**23 23 25.5**	**+0.4**
	83nm,0.3s						
SGO	**Scignano**	**1.60**	**343**	Pg	**Pn**	**23 23 26.5**	**+0.7**
	78nm,0.4s						
MIGL	**Miglionico**	**1.62**	**14**	⇑*i*Pg	**Pn**	**23 23 25.9**	**-0.1**
	2μm,0.5s						
GALF	**Gagliano Caste**	**1.71**	**220**	Pg	**Pn**	**23 23 27.8**	**+0.7**
	927nm,0.5s						
TA1	**Taranto**	**1.72**	**37**	*i*Pn	**Pn**	**23 23 27.1**	**-0.2**
TA1				*e*Sn	**Sn**	**23 23 47.4**	**-2.6**
MRLC	**Muro Lucano**	**1.76**	**349**	⇑*e*Pg	**Pn**	**23 23 29.2**	**+1.5**
	31nm,0.3s						
GIB	**Gibilmanna**	**1.83**	**236**	⇑*e*Pg	**Pn**	**23 23 28.0**	**-0.6**
	285nm,0.8s						
CSLB	**Castelbuono**	**1.84**	**234**	⇑*i*Pg	**Pn**	**23 23 28.1**	**-0.6**
	68nm,0.2s						
MCRV	**Calabrutti - M**	**1.84**	**342**	Pg	**Pn**	**23 23 29.5**	**+0.7**
	70nm,0.3s						
HAGA	**Augusta**	**1.85**	**200**	⇓*i*Pg	**Pn**	**23 23 27.0**	**-1.9**
AGST	**Augusta-Monte**	**1.86**	**198**	⇓*e*Pg	**Pn**	**23 23 27.1**	**-1.9**
AGST				Sg	**Sn**	**23 23 49.2**	**-3.8**
	506nm,0.2s						
SG1	**Sgolgore (BA)**	**1.89**	**17**	*i*Pn	**Pn**	**23 23 28.5**	**-0.9**
SG1				*e*Sn	**Sn**	**23 23 52.8**	**-0.9**
PALZ	**Palazzo San Ge**	**1.91**	**0**	⇑*e*Pg	**Pn**	**23 23 29.4**	**-0.2**
	149nm,0.3s						
VULT	**Monte Vulture**	**1.94**	**353**	⇑*e*Pg	**Pn**	**23 23 30.3**	**+0.4**
	127nm,0.3s						
AMUR	**Altamura**	**1.94**	**15**	⇑*e*Pg	**Pn**	**23 23 29.2**	**-0.8**
NOCI	**Noci**	**1.96**	**26**	⇑*e*Pg	**Pn**	**23 23 28.9**	**-1.3**
VAE	**Valguarnera**	**1.96**	**218**	P	**Pn**	**23 23 34.5**	**+4.2**
	2.7nm,0.3s,baz=81,slow=13,SNR=8.3						
VAE				S	**Sn**	**23 24 06.9**	**+12**
	16nm,0.3s,baz=332,slow=16,SNR=7.8						
SNAL	**S. Angelo Dei**	**1.97**	**344**	Pg	**Pn**	**23 23 31.3**	**+0.9**
	175nm,0.9s						
SSY	**Sortino**	**2.00**	**200**	⇓*e*Pg	**Pn**	**23 23 28.8**	**-1.9**
MRVN	**Minervino Murg**	**2.04**	**5**	⇑*e*Pg	**Pn**	**23 23 30.4**	**-0.8**
CAFE	**Carife**	**2.06**	**345**	Pg	**Pn**	**23 23 32.8**	**+1.2**
	74nm,0.7s						
HVZN	**Vizzini**	**2.09**	**208**	⇓*e*Pg	**Pn**	**23 23 30.5**	**-1.4**
	939nm,0.4s						
PE1	**Pezze di Greco**	**2.11**	**32**	*e*Pn	**Pn**	**23 23 30.8**	**-1.3**
PE1				*e*Sn	**Sn**	**23 23 57.2**	**-1.3**
FG4	**Candela**	**2.12**	**351**	Pg	**Pn**	**23 23 33.7**	**+1.4**
	66nm,0.3s						
LCI	**Lecce**	**2.12**	**52**	⇑*i*Pg	**Pn**	**23 23 31.9**	**-0.4**
PZI	**Palazzolo**	**2.12**	**202**	⇓*i*Pg	**Pn**	**23 23 30.7**	**-1.6**
SGTA	**Sant Agata di**	**2.15**	**348**	Pg	**Pn**	**23 23 33.6**	**+1.0**
HAVL	**Avola**	**2.17**	**198**	⇓*e*Pg	**Pn**	**23 23 31.0**	**-1.9**
USI	**Ustica**	**2.18**	**262**	⇑*i*Pg	**Pn**	**23 23 32.0**	**-1.0**
	158nm,0.6s						
BAI	**Bari**	**2.19**	**19**	*i*Pn	**Pn**	**23 23 31.9**	**-1.3**
BAI				*e*Sn	**Sn**	**23 23 58.8**	**-1.7**
RAFF	**Raffo Rosso**	**2.19**	**215**	⇓*e*Pg	**Pn**	**23 23 32.9**	**-0.3**
	261nm,0.6s						
MRB1	**Monte Rocchett**	**2.22**	**341**	Pg	**Pn**	**23 23 34.5**	**+1.0**
	85nm,0.5s						
HMDC	**Modica**	**2.26**	**204**	Pg	**Pn**	**23 23 32.5**	**-1.6**
MCT	**Mte Cammarata**	**2.29**	**233**	⇑*i*Pg	**Pn**	**23 23 36.7**	**+2.3**
	186nm,1.4s						
FG5	**Orsara di Pugl**	**2.31**	**347**	Pg	**Pn**	**23 23 36.0**	**+1.4**
	28nm,0.4s						
PSB1	**Pescosannita**	**2.35**	**339**	Pg	**Pn**	**23 23 36.2**	**+1.0**
	89nm,1.1s						
CORL	**Corleone**	**2.36**	**242**	⇑*i*Pg	**Pn**	**23 23 35.5**	**+0.2**
	186nm,0.6s						
SACR	**S. Croce Del S**	**2.54**	**339**	⇓*i*Pg	**Pn**	**23 23 38.4**	**+0.7**
	68nm,1.4s						
PTRJ	**Pietraroja**	**2.57**	**336**	⇓*i*Pg	**Pn**	**23 23 38.6**	**+0.6**
	36nm,0.7s						
SGG	**Gregorio Mates**	**2.64**	**334**	⇑*i*Pg	**Pn**	**23 23 39.7**	**+0.8**
	23nm,0.5s						
RGNG	**Rignano Grg**	**2.65**	**354**	Pg	**Pn**	**23 23 38.8**	**-0.3**
MS1	**Monte Sant'Ang**	**2.67**	**0**	*e*Pn	**Pn**	**23 23 38.9**	**-0.4**
MS1				*e*Sn	**Sn**	**23 24 10.4**	**-1.0**
FGMS	**Monte Sant'Ang**	**2.67**	**0**	Pg	**Pn**	**23 23 38.7**	**-0.7**
MSAG	**Monte S. Angel**	**2.68**	**360**	Pg	**Pn**	**23 23 38.7**	**-0.7**
	156nm,0.2s						
BSSO	**Busso**	**2.71**	**338**	Pg	**Pn**	**23 23 40.9**	**+1.0**
	68nm,1.4s						
VAGA	**Valle Agricola**	**2.71**	**332**	Pg	**Pn**	**23 23 40.8**	**+0.9**
	35nm,0.9s						
SGRT	**San Giovanni R**	**2.72**	**357**	Pg	**Pn**	**23 23 39.4**	**-0.6**
	84nm,0.2s						
ERC	**Erice**	**2.81**	**250**	⇑*i*Pg	**Pn**	**23 23 40.9**	**-0.3**
	420nm,0.8s						
FG2	**Serracapriola**	**2.83**	**348**	Pg	**Pn**	**23 23 41.9**	**+0.5**
	57nm,0.3s						
TRIV	**Trivento**	**2.93**	**339**	Pg	**Pn**	**23 23 44.3**	**+1.6**
	29nm,1.0s						
RNI2	**Rionero Sannit**	**3.00**	**333**	Pg	**Pn**	**23 23 45.7**	**+2.1**
	37nm,0.9s						
KEK	**Kerkira**	**3.07**	**76**	*e*P	**Pn**	**23 23 45.0**	**+0.4**
KEK	**Kerkira**	**3.07**	**76**	⇑*e*Pg	**Pn**	**23 23 44.9**	**+0.3**
SRN	**Sarande**	**3.26**	**74**	*e*PN	**Pn**	**23 23 47.2**	**+0.2**
TPE	**Tepelena**	**3.39**	**67**	*e*PN	**Pn**	**23 23 49.3**	**+0.5**
VLS	**Valsamata**	**3.74**	**102**	*e*P	**Pn**	**23 23 54.0**	**+0.5**
TIR	**Tirane**	**3.79**	**51**	*e*PN	**Pn**	**23 23 54.9**	**+0.7**
TIR	**Tirane**	**3.79**	**51**	*e*Pn	**Pn**	**23 23 54.0**	**-0.2**
TIR	**Tirane**	**3.79**	**51**	Pg	**Pn**	**23 23 54.4**	**+0.2**
JAN	**Janina**	**3.86**	**79**	*e*P	**Pn**	**23 23 56.5**	**+1.4**
ULC	**Ulcinj**	**3.87**	**40**	⇓*i*Pn	**Pn**	**23 23 54.0**	**-1.1**
ULC				*e*Sn	**Sn**	**23 24 38.3**	**-1.4**
HCY	**Herceg Novi**	**3.93**	**29**	⇓*i*Pn	**Pn**	**23 23 54.7**	**-1.3**
HCY				*e*Sn	**Sn**	**23 24 39.8**	**-1.4**
BUM	**Brajici-Budva**	**3.96**	**34**	⇓*i*Pn	**Pn**	**23 23 55.8**	**-0.7**
BUM				*e*Sn	**Sn**	**23 24 40.6**	**-1.5**
KBN	**Korca**	**4.06**	**65**	*e*PN	**Pn**	**23 23 58.2**	**+0.5**
STON	**Ston**	**4.06**	**19**	*e*Pn	**Pn**	**23 23 57.4**	**-0.4**
STON				Sn	**Sn**	**23 24 41.4**	**-3.0**
STON	**Ston**	**4.06**	**19**	*e*Pn	**Pn**	**23 23 57.3**	**-0.4**
STON				Sn	**Sn**	**23 24 41.4**	**-3.0**
PDG	**Podgorica**	**4.23**	**36**	⇓*i*Pn	**Pn**	**23 23 59.1**	**-0.9**
PDG				*e*Sn	**Sn**	**23 24 47.3**	**-1.2**
TTG	**Podgorica**	**4.23**	**36**	⇓*i*Pn	**Pn**	**23 23 59.1**	**-0.9**
TTG				*e*Sn	**Sn**	**23 24 47.3**	**-1.2**
PUK	**Puka**	**4.26**	**44**	*e*PN	**Pn**	**23 24 00.0**	**-0.4**
OHR	**Ohrid**	**4.27**	**59**	⇑*i*Pn	**Pn**	**23 24 01.2**	**+0.7**
BRY	**Bratogost**	**4.34**	**26**	⇓*i*Pn	**Pn**	**23 24 00.6**	**-0.9**
BRY				*e*Sn	**Sn**	**23 24 50.0**	**-1.1**
NKY	**Niksic**	**4.43**	**31**	⇓*i*Pn	**Pn**	**23 24 02.8**	**+0.1**
NKY				*e*Sn	**Sn**	**23 24 52.2**	**-1.1**
RLS	**Riolos of Patr**	**4.44**	**101**	*e*P	**Pn**	**23 24 04.0**	**+1.1**
EVR	**Evrytania**	**4.58**	**90**	*e*P	**Pn**	**23 24 03.5**	**-1.2**
BIA	**Bitola**	**4.58**	**63**	⇑*i*Pn	**Pn**	**23 24 05.2**	**+0.4**
KZN	**Kozani**	**4.68**	**72**	*e*P	**Pn**	**23 24 08.0**	**+2.0**
PVY	**Plav**	**4.69**	**39**	⇓*i*Pn	**Pn**	**23 24 06.6**	**+0.3**
PVY				*i*Sn	**Sn**	**23 24 57.6**	**-2.0**
UPM	**Unac-Piva**	**4.73**	**27**	⇓*i*Pn	**Pn**	**23 24 06.7**	**-0.1**
UPM				*e*Sn	**Sn**	**23 25 00.1**	**-0.5**
THL	**Klokotos Trika**	**4.74**	**82**	*e*P	**Pn**	**23 24 08.0**	**+1.1**
BEY	**Berane**	**4.87**	**37**	⇓*i*Pn	**Pn**	**23 24 09.7**	**+1.1**
BEY				*i*Sn	**Sn**	**23 25 02.0**	**-1.8**
IVA	**Berane**	**4.87**	**37**	⇓*i*Pn	**Pn**	**23 24 09.7**	**+1.1**
IVA				*i*Sn	**Sn**	**23 25 02.0**	**-1.8**
PLE	**Pljevlja**	**5.02**	**30**	⇓*i*Pn	**Pn**	**23 24 11.6**	**+0.9**
PLE				*e*Sn	**Sn**	**23 25 06.3**	**-1.3**
ITM	**Ithomi**	**5.07**	**110**	*e*P	**Pn**	**23 24 11.5**	**+0.1**
SKO	**Skopje**	**5.12**	**53**	⇑*i*Pn	**Pn**	**23 24 13.1**	**+1.2**
STIP	**Stip**	**5.46**	**59**	*i*Pn	**Pn**	**23 24 16.7**	**+0.1**
LKR	**Lokris**	**5.53**	**92**	*e*P	**Pn**	**23 24 18.0**	**+0.5**
VAY	**Valandovo**	**5.57**	**64**	⇑*i*Pn	**Pn**	**23 24 17.6**	**-0.4**
VAY				*i*Sg	**Sn**	**23 25 19.8**	**-1.0**
VAY	**Valandovo**	**5.57**	**64**	⇑*i*Pn	**Pn**	**23 24 17.6**	**-0.5**
VAY				*i*Sg	**Sn**	**23 25 19.7**	**-1.1**
NVLJ	**Novalja**	**5.58**	**352**	*e*Pn	**Pn**	**23 24 22.2**	**+4.0**
NVLJ				Sn	**Sn**	**23 25 20.9**	**-0.2**
NEO	**Neokhori**	**5.67**	**85**	*e*P	**Pn**	**23 24 20.0**	**+0.6**
BARS	**Barje**	**5.85**	**48**	⇑*i*Pn	**Pn**	**23 24 21.5**	**-0.3**
BARS				*e*Sn	**Sn**	**23 25 27.6**	**+0.1**
DIVS	**Divibare**	**5.90**	**30**	⇑*i*Pn	**Pn**	**23 24 21.9**	**-0.7**
DIVS				*e*Sn	**Sn**	**23 25 28.3**	**-0.5**
PLG	**Polygyros**	**5.94**	**75**	*e*P	**Pn**	**23 24 23.0**	**-0.1**
VLI	**Velíai**	**6.00**	**110**	*e*P	**Pn**	**23 24 25.0**	**+1.1**
GRUS	**Gruza**	**6.03**	**35**	⇑*i*Pn	**Pn**	**23 24 23.7**	**-0.6**
KKB	**Krupnik**	**6.14**	**60**	*i*P	**Pn**	**23 24 26.5**	**+0.7**
ATH	**Athens Observa**	**6.19**	**97**	*e*P	**Pn**	**23 24 26.5**	**0.0**
KEST	**Kesra**	**6.20**	**240**	P	**Pn**	**23 24 28.2**	**+1.6**
	0.2nm,0.3s,baz=58,slow=3.2,SNR=12						
PGF	**Pioggiola**	**6.33**	**306**	*e*P	**Pn**	**23 24 30.9**	**+2.6**
	5.0nm,0.5s						
PGF	**Pioggiola**	**6.33**	**306**	*e*P	**Pn**	**23 24 30.9**	**+2.6**
	2.5nm,0.5s						
PGF	**Pioggiola**	**6.33**	**306**	*e*P	**Pn**	**23 24 30.9**	**+2.6**
PGF				pmax	pmax		
	comp=Z,3.0nm,0.5s						
MMB	**Musomiste**	**6.48**	**64**	*i*P	**Pn**	**23 24 31.4**	**+1.1**
VTS	**Vitosha**	**6.56**	**55**	*i*P	**Pn**	**23 24 32.1**	**+0.6**
VTS	**Vitosha**	**6.56**	**55**	⇓*i*Pn	**Pn**	**23 24 32.4**	**+0.9**
RZN	**Rozhen**	**7.21**	**66**	*i*P	**Pn**	**23 24 41.8**	**+1.6**
PKSM	**Moragy**	**7.45**	**15**	⇓*i*P	**Pn**	**23 24 42.9**	**-0.5**
PKSM	**Moragy**	**7.45**	**15**	⇓*i*Pn	**Pn**	**23 24 42.7**	**-0.7**
BZS	**Buzias**	**7.81**	**31**	⇑*i*P	**Pn**	**23 24 47.2**	**-1.1**
APE	**Apeiranthos**	**7.82**	**102**	*e*P	**Pn**	**23 24 47.7**	**-0.9**
GZR	**Gura Zlata**	**8.13**	**36**	⇓P	**Pn**	**23 24 52.4**	**-0.3**
GZR	**Gura Zlata**	**8.13**	**36**	⇓*i*P	**Pn**	**23 24 52.4**	**-0.3**
FRF	**La Foret Royal**	**8.33**	**306**	*e*P	**Pn**	**23 25 03.6**	**+8.2**
SZH	**Strazhica**	**8.64**	**58**	*i*P	**Pn**	**23 25 00.0**	**+0.3**
MBDF	**Montbardon**	**8.89**	**313**	*e*P	**Pn**	**23 25 07.9**	**+4.8**
	comp=Z,13nm,0.7s						
MBDF	**Montbardon**	**8.89**	**313**	*e*P	**Pn**	**23 25 07.9**	**+4.8**
	comp=Z,6.7nm,0.7s						
MBDF	**Montbardon**	**8.89**	**313**	*e*P	**Pn**	**23 25 07.9**	**+4.8**
MBDF				pmax	pmax		
	comp=Z,7.0nm,0.7s						
LPG	**La Plagne**	**9.38**	**316**	*e*P	**Pn**	**23 25 10.7**	**+1.0**
	comp=Z,7.4nm,0.7s						
LPG	**La Plagne**	**9.38**	**316**	*e*P	**Pn**	**23 25 10.7**	**+1.0**
LPG				pmax	pmax		
	comp=Z,4.0nm,0.7s						
LPG	**La Plagne**	**9.38**	**316**	*e*P	**Pn**	**23 25 10.7**	**+1.0**
	comp=Z,3.7nm,0.7s						
LPL	**La Plagne**	**9.40**	**316**	*e*P	**Pn**	**23 25 10.8**	**+0.8**
	comp=Z,6.3nm,0.7s						
LPL	**La Plagne**	**9.40**	**316**	*e*P	**Pn**	**23 25 10.8**	**+0.8**
LPL				pmax	pmax		
	comp=Z,3.0nm,0.7s						
LPL	**La Plagne**	**9.40**	**316**	*e*P	**Pn**	**23 25 10.8**	**+0.8**
	comp=Z,3.2nm,0.7s						
ORIF	**Oris-en-Rattie**	**9.52**	**311**	*e*P	**Pn**	**23 25 14.1**	**+2.5**
	comp=Z,10nm,1.0s						
ORIF	**Oris-en-Rattie**	**9.52**	**311**	*e*P	**Pn**	**23 25 14.1**	**+2.5**
	comp=Z,5.3nm,1.0s						
ORIF	**Oris-en-Rattie**	**9.52**	**311**	*e*P	**Pn**	**23 25 14.1**	**+2.5**
ORIF				pmax	pmax		
	comp=Z,5.0nm,1.0s						
MLR	**Muntele Rosu**	**9.83**	**46**	P	**Pn**	**23 25 18.0**	**+2.3**
MLR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MLR	**Muntele Rosu**	**9.83**	**46**	P	**Pn**	**23 25 18.0**	**+2.2**
	comp=Z,0.6nm,0.3s,baz=211,slow=6.9,SNR=12						
MLR	**Muntele Rosu**	**9.83**	**46**	⇓*i*P	**Pn**	**23 25 17.7**	**+2.0**
GERES	**GERESS Array B**	**9.94**	**351**	P	**Pn**	**23 25 16.7**	**-0.5**
	comp=Z,0.2nm,0.3s,baz=172,slow=12,SNR=5.5						
LASF	**Ste Croix**	**10.36**	**303**	*e*P	**Pn**	**23 25 29.1**	**+6.2**
	comp=Z,4.5nm,0.7s						
PLOR	**Plostina**	**10.44**	**46**	⇑*i*P	**Pn**	**23 25 25.8**	**+1.9**
CABF	**La Chapelle**	**10.47**	**320**	*e*P	**Pn**	**23 25 23.7**	**-0.6**
	comp=Z,3.8nm,0.4s						
CABF	**La Chapelle**	**10.47**	**320**	*e*P	**Pn**	**23 25 23.7**	**-0.6**
CABF				pmax	pmax		
	comp=Z,2.0nm,0.4s						
CABF	**La Chapelle**	**10.47**	**320**	*e*P	**Pn**	**23 25 23.7**	**-0.6**
	comp=Z,1.9nm,0.4s						
HARR	**Harsova**	**10.58**	**54**	⇓P	**Pn**	**23 25 27.6**	**+1.9**
HARR	**Harsova**	**10.58**	**54**	⇓*i*P	**Pn**	**23 25 27.6**	**+1.8**
HINF	**Hinteralfeld**	**10.98**	**326**	*e*P	**Pn**	**23 25 27.8**	**-3.3**
	comp=Z,6.4nm,0.7s						
HINF	**Hinteralfeld**	**10.98**	**326**	*e*P	**Pn**	**23 25 27.8**	**-3.3**
	comp=Z,3.2nm,0.7s						
HINF	**Hinteralfeld**	**10.98**	**326**	*e*P	**Pn**	**23 25 27.8**	**-3.3**
HINF				pmax	pmax		
	comp=Z,3.0nm,0.7s						
MTLF	**Montolieu**	**11.20**	**297**	*e*P	**Pn**	**23 25 42.1**	**+8.0**
	comp=Z,3.6nm,0.6s						
MTLF	**Montolieu**	**11.20**	**297**	*e*P	**Pn**	**23 25 42.1**	**+8.0**
	comp=Z,1.8nm,0.6s						
MTLF	**Montolieu**	**11.20**	**297**	*e*P	**Pn**	**23 25 42.1**	**+8.0**
MTLF				pmax	pmax		
	comp=Z,2.0nm,0.6s						
CDF	**Champ du Feu**	**11.27**	**329**	*e*P	**Pn**	**23 25 30.7**	**-4.3**
	comp=Z,5.2nm,0.8s						
CDF	**Champ du Feu**	**11.27**	**329**	*e*P	**Pn**	**23 25 30.7**	**-4.3**
	comp=Z,2.6nm,0.8s						
CDF	**Champ du Feu**	**11.27**	**329**	*e*P	**Pn**	**23 25 30.7**	**-4.3**
CDF				pmax	pmax		
	comp=Z,3.0nm,0.8s						
HAU	**Haudompre**	**11.35**	**325**	*e*P	**Pn**	**23 25 32.8**	**-3.2**
CAF	**Calviac**	**11.88**	**304**	*e*P	**Pn**	**23 25 52.7**	**+10**
	comp=Z,2.8nm,0.7s						
AVF	**Avril sur Loir**	**12.04**	**314**	*e*P	**Pn**	**23 25 54.4**	**+9.2**
	comp=Z,3.5nm,0.6s						
RJF	**Les Rejaudoux**	**12.39**	**305**	⇑*i*P	**Pn**	**23 25 59.1**	**+9.2**
	comp=Z,4.4nm,0.6s						
EBIE	**Bielsa**	**12.50**	**292**	P	**Pn**	**23 26 00.8**	**+9.4**
LFF	**La Frestale**	**12.75**	**302**	⇑*i*P	**Pn**	**23 26 02.6**	**+8.1**
	comp=Z,6.3nm,0.6s						
LFF	**La Frestale**	**12.75**	**302**	⇑*i*P	**Pn**	**23 26 02.6**	**+8.1**
	comp=Z,3.2nm,0.6s						
LFF	**La Frestale**	**12.75**	**302**	⇑*i*P	**Pn**	**23 26 02.6**	**+8.1**
LFF				pmax	pmax		
	comp=Z,3.0nm,0.6s						
ETSF	**Etsaut**	**13.05**	**292**	*e*P	**Pn**	**23 26 09.3**	**+11**
	comp=Z,3.3nm,0.4s						
SJPF	**Ste Jean**	**13.57**	**293**	*e*P	**Pn**	**23 26 14.0**	**+8.7**
	comp=Z,6.7nm,0.6s						
GIVF	**Givet**	**13.59**	**328**	⇑*i*P	**Pn**	**23 26 10.5**	**+5.0**
	comp=Z,10nm,0.6s						
GIVF	**Givet**	**13.59**	**328**	⇑*i*P	**Pn**	**23 26 10.5**	**+5.0**
	comp=Z,5.3nm,0.6s						
GIVF	**Givet**	**13.59**	**328**	⇑*i*P	**Pn**	**23 26 10.5**	**+5.0**
GIVF				pmax	pmax		
	comp=Z,5.0nm,0.6s						
ETOR	**Torete**	**13.93**	**283**	P	**Pn**	**23 26 14.9**	**+5.0**
	comp=Z,5.3nm,0.3s						
ETOR	**Torete**	**13.93**	**283**	P	**Pn**	**23 26 14.9**	**+5.0**
ETOR				pmax	pmax		
	comp=Z,5.0nm,0.3s						
MFF	**Saint Martin d**	**14.01**	**308**	*e*P	**Pn**	**23 26 17.6**	**+6.8**
AKASG	**Malin Array Be**	**14.97**	**34**	P	**Pn**	**23 26 25.7**	**+2.7**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.3s						
AKASG	**Malin Array Be**	**14.97**	**34**	P	**Pn**	**23 26 24.4**	**+1.5**
	comp=Z,1.0nm,0.3s,baz=225,slow=10,SNR=7.2						
LDF	**La Druitiere**	**15.00**	**315**	⇑*i*P	**Pn**	**23 26 27.8**	**+4.4**
	comp=Z,10.0nm,0.7s						
LDF	**La Druitiere**	**15.00**	**315**	⇑*i*P	**Pn**	**23 26 27.8**	**+4.4**
	comp=Z,5.0nm,0.7s						
LDF	**La Druitiere**	**15.00**	**315**	⇑*i*P	**Pn**	**23 26 27.8**	**+4.4**
LDF				pmax	pmax		
	comp=Z,5.0nm,0.7s						
FLN	**La Foliniere**	**15.29**	**315**	*e*P	**Pn**	**23 26 31.4**	**+4.3**
GRR	**Gorron**	**15.30**	**313**	*e*P	**Pn**	**23 26 31.0**	**+3.8**
SGMF	**Saint Gilles**	**16.22**	**311**	*e*P	**Pn**	**23 26 40.9**	**+2.3**
EMIJ	**Mijas**	**16.55**	**268**	P	**Pn**	**23 26 44.0**	**+1.1**
	comp=Z,1.1nm,0.3s						
EMIJ	**Mijas**	**16.55**	**268**	P	**Pn**	**23 26 44.0**	**+1.2**
	comp=Z,1.1nm,0.3s						
ROSF	**Rostrenen**	**16.68**	**310**	*e*P	**Pn**	**23 26 45.6**	**+1.3**
MMAI	**Mount Meron Ar**	**16.84**	**105**	P	**Pn**	**23 26 45.0**	**-1.4**
	comp=Z,0.6nm,0.3s,baz=310,slow=12,SNR=8.8						
ANN	**Anapa**	**16.98**	**63**	*e*P	**Pn**	**23 26 47.9**	**-0.1**
ANN

61C-57D, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAJU	**Pajala**	**1.35**	**125**	*e*P	**Pg**	**23 30 24.2**	**-0.3**
HEF	**Hetta**	**1.40**	**63**	*e*P	**Pn**	**23 30 24.6**	**-0.9**
HEF				*e*S	**Sg**	**23 30 42.5**	**-1.2**
HEF	**Hetta**	**1.40**	**63**	P	**Pn**	**23 30 24.6**	**-0.9**
HEF				S	**Sg**	**23 30 42.5**	**-1.2**
ERTU	**Ertsjaerv**	**1.46**	**149⇑**	*e*P	**Pn**	**23 30 26.2**	**-0.1**
ERTU	**Ertsjaerv**	**1.46**	**149**	⇑P	**Pn**	**23 30 26.2**	**-0.2**
KTK1	**Kautokeino**	**1.63**	**41**	*e*P	**Pn**	**23 30 29.3**	**+0.7**
KTK1				*e*SN	**Sn**	**23 30 51.9**	**+1.6**
KTK1				AML	AML	23 30 56.0	
	comp=Z,69nm,0.4s						
KTK1	**Kautokeino**	**1.63**	**41**	P	**Pn**	**23 30 29.3**	**+0.7**
KTK1				*e*Sg	**Sg**	**23 30 51.9**	**+0.9**
	comp=Z,69nm,0.4s,SNR=90						
HARU	**Harads**	**1.68**	**170**	*e*P	**Pn**	**23 30 29.7**	**+0.4**
HARU	**Harads**	**1.68**	**170**	P	**Pn**	**23 30 29.6**	**+0.3**
TRO	**Tromso**	**1.90**	**346**	*e*P	**Pn**	**23 30 31.4**	**-0.9**
TRO				*e*S	**Sn**	**23 30 55.6**	**-1.3**
TRO				AML	AML	23 30 59.0	
	comp=Z,59nm,0.3s						
TRO	**Tromso**	**1.90**	**346**	*e*P	**Pn**	**23 30 31.4**	**-0.9**
	SNR=50						
TRO				*e*S	**Sn**	**23 30 55.7**	**-1.2**
	comp=Z,59nm,0.3s,SNR=50						
KALU	**Kalix**	**2.30**	**147⇓**	*e*P	**Pn**	**23 30 39.6**	**+1.7**
SGF	**Sodankyl**	**2.42**	**96**	*e*P	**Pn**	**23 30 40.6**	**+1.2**
SGF				*e*S	**Sn**	**23 31 10.9**	**+1.3**
SGF				MSG		23 31 17.2	
	comp=Z,48nm,0.3s						
SGF	**Sodankyl**	**2.42**	**96**	P	**Pn**	**23 30 40.6**	**+1.1**
SGF				S	**Sn**	**23 31 10.9**	**+1.2**
	comp=Z,48nm,0.3s						
LOF	**Lofoten**	**2.56**	**280**	*e*P	**Pn**	**23 30 42.9**	**+1.4**
LOF				AML	AML	23 31 27.5	
	comp=Z,44nm,0.5s						
LOF	**Lofoten**	**2.56**	**280**	P	**Pn**	**23 30 42.8**	**+1.3**
ARA0	**ARCESS Array S**	**2.58**	**45**	Pn	**Pn**	**23 30 42.0**	**+0.3**
	baz=226,slow=16						
ARA0				Sn	**Sn**	**23 31 13.1**	**-0.6**
	baz=233,slow=28						
ARA0	**ARCESS Array S**	**2.58**	**45**	*e*P	**Pn**	**23 30 42.0**	**+0.3**
ARA0				*e*S	**Sn**	**23 31 13.1**	**-0.6**
ARA0	**ARCESS Array S**	**2.58**	**45**	P	**Pn**	**23 30 42.0**	**+0.3**
ARA0				S	**Sn**	**23 31 13.0**	**-0.7**
ARCES	**ARCESS Array B**	**2.58**	**45**	Pg	**Pg**	**23 30 42.3**	**-5.8**
	comp=Z,4.0nm,0.3s,baz=226,slow=14,SNR=57						
ARCES				Lg		23 31 17.4	
	comp=Z,1.5nm,0.3s,baz=233,slow=24,SNR=14						
MOR8	**Moi Rana**	**2.82**	**237**	*e*SG	**Sg**	**23 31 22.2**	**-7.2**
MOR8				AML	AML	23 31 23.3	
	comp=Z,98nm,0.4s						
KEV	**Kevo**	**3.13**	**48**	*e*P	**Pn**	**23 30 50.1**	**+0.8**
KEV				*e*S	**Sn**	**23 31 27.5**	**+0.3**
KEV				MSG		23 31 37.2	
	comp=Z,13nm,0.2s						
KEV	**Kevo**	**3.13**	**48**	P	**Pn**	**23 30 50.0**	**+0.8**
KEV				S	**Sn**	**23 31 27.5**	**+0.3**
	comp=Z,13nm,0.2s						
STOK	**Stokkvaagen**	**3.21**	**246**	*e*P	**Pn**	**23 30 50.7**	**+0.4**
STOK				AML	AML	23 31 47.0	
	comp=Z,46nm,0.6s						
OUL	**Oulu**	**3.54**	**138**	*e*P	**Pn**	**23 30 56.4**	**+1.5**
OUL				*e*SB	**Sb**	**23 31 45.1**	**-0.6**
OUL				*e*SG	**Sg**	**23 31 50.0**	**-2.4**
OUL				MSG		23 31 56.4	
	comp=Z,11nm,0.3s						
MSF	**Maaselka**	**3.95**	**115**	*e*P	**Pn**	**23 31 02.1**	**+1.6**
MSF				*e*S	**Sn**	**23 31 48.2**	**+0.9**
MSF				*e*SG	**Sg**	**23 32 02.6**	**-2.8**
MSF				MSG		23 32 07.0	
	comp=Z,12nm,0.3s						
MSF	**Maaselka**	**3.95**	**115**	P	**Pn**	**23 31 02.0**	**+1.6**
MSF				S	**Sn**	**23 31 48.2**	**+0.9**
MSF				Sg	**Sg**	**23 32 02.6**	**-2.8**
	comp=Z,12nm,0.3s						
KU6	**Riekki**	**4.18**	**111**	*e*P	**Pn**	**23 31 04.9**	**+1.2**
KU6				*e*SG	**Sg**	**23 32 10.4**	**-2.7**
KU6	**Riekki**	**4.18**	**111**	P	**Pn**	**23 31 04.8**	**+1.1**
KU6				Sg	**Sg**	**23 32 10.3**	**-2.7**
APA0	**Apatity Array**	**4.84**	**87**	Pn	**Pn**	**23 31 12.5**	**-0.3**
	baz=294,slow=12						
APA0				Sn	**Sn**	**23 32 08.2**	**-1.3**
	baz=284,slow=28						
APA0				Lg		23 32 28.2	
	baz=266,slow=28						
APA0	**Apatity Array**	**4.84**	**87**	*e*P	**Pn**	**23 31 12.5**	**-0.3**
APA0				*e*S	**Sn**	**23 32 08.2**	**-1.3**
APA0				*e*SG		23 32 28.2	
APA0	**Apatity Array**	**4.84**	**87**	P	**Pn**	**23 31 12.4**	**-0.4**
APA0				S	**Sn**	**23 32 08.1**	**-1.4**
APA0				Sg		23 32 28.2	
VAF	**Ylistaro**	**4.89**	**167**	*e*P	**Pn**	**23 31 15.1**	**+1.7**
VAF				*e*S	**Sn**	**23 32 10.9**	**+0.3**
VAF	**Ylistaro**	**4.89**	**167**	P	**Pn**	**23 31 15.1**	**+1.7**
VAF				S	**Sn**	**23 32 10.8**	**+0.2**
FIA0	**FINESS Array S**	**6.86**	**156**	Pn	**Pn**	**23 31 40.7**	**+0.4**
	baz=349,slow=12						
FIA0				Sn	**Sn**	**23 32 58.4**	**-0.6**
	baz=352,slow=22						
FIA0				Lg		23 33 32.6	
	baz=344,slow=28						
FIA0	**FINESS Array S**	**6.86**	**156**	*e*P	**Pn**	**23 31 40.7**	**+0.4**
FIA0				*e*S	**Sn**	**23 32 58.4**	**-0.6**
FIA0				*e*SG		23 33 32.6	
FINES	**FINESS Array B**	**6.86**	**156**	Pn	**Pn**	**23 31 42.2**	**+1.8**
	comp=Z,0.4nm,0.3s,baz=342,slow=13,SNR=12						
FINES				Lg		23 33 33.4	
	comp=Z,1.1nm,0.3s,baz=348,slow=25,SNR=9.3						
NB2	**NORSAR Subarra**	**7.84**	**214**	Pn	**Pn**	**23 31 53.6**	**-0.2**
	baz=22,slow=12						
NB2				Lg		23 34 05.1	
	baz=27,slow=37						
NB2	**NORSAR Subarra**	**7.84**	**214**	*e*P	**Pn**	**23 31 53.6**	**-0.2**
NB2				*e*		23 34 05.1	
NOA	**NORSAR Array B**	**7.84**	**214**	Pn	**Pn**	**23 31 54.2**	**+0.4**
	comp=Z,0.4nm,0.3s,baz=24,slow=11,SNR=4.3						
NOA				Lg		23 34 08.1	
	comp=Z,1.2nm,0.3s,baz=35,slow=22,SNR=6.5						
HFS	**Hagfors**	**8.23**	**204**	Pn	**Pn**	**23 31 57.5**	**-1.6**
	baz=13,slow=14						
HFS				Sn	**Sn**	**23 33 29.9**	**-2.8**
	baz=21,slow=22						
HFS				Lg		23 34 15.9	
	baz=23,slow=28						
HFS	**Hagfors**	**8.23**	**204**	*e*P	**Pn**	**23 31 57.5**	**-1.6**
HFS				*e*S	**Sn**	**23 33 29.9**	**-2.8**
HFS				*e*SG		23 34 15.9	
HFS	**Hagfors**	**8.23**	**204**	Pn	**Pn**	**23 31 58.3**	**-0.9**
	comp=Z,0.2nm,0.3s,baz=18,slow=14,SNR=7.8						
HFS				Sn	**Sn**	**23 33 29.9**	**-2.8**
	comp=Z,0.4nm,0.3s,baz=15,slow=22,SNR=4.5						
HFS				Lg		23 34 18.4	
	comp=Z,1.1nm,0.3s,baz=20,slow=28,SNR=6.4						
HFS	**Hagfors**	**8.23**	**204**	Pn	**Pn**	**23 31 57.5**	**-1.7**
	SNR=8.3						
HFS				Sg		23 34 15.9	
SPA0	**Spitsbergen Ar**	**10.48**	**356**	Pn	**Pn**	**23 32 28.8**	**-1.2**
	baz=164,slow=12						
SPA0	**Spitsbergen Ar**	**10.48**	**356**	*e*P	**Pn**	**23 32 28.8**	**-1.2**

IDC ***27*** *23:47:55.1±0.5, 5466N×16092E, h0km, mb4.2/25, mb1 4.4/26, mb1mx4.4/27, mbtmp4.3/26, ML4.5/1, MS3.9/14, Ms1 3.9/14, ms1mx3.7/32, Error ellipse: s-maj=16.4km s-min=11.9km az=150.0*

NEIC ***27*** *23:47:56.7±0.2, 5467N×16093E, h10km, mb4.7/26, Error ellipse: s-maj=8.6km s-min=4.6km az=154.0*

NEIC Felt [II] at Petropavlovsk-Kamchatskiy.

BJI ***27*** *23:47:58.5, 5429N×16043E, h5km, mB4.8, mb4.5, Ms4.6, Msz4.1*

KRSC ***27*** *23:47:58.8±0.4, 5443N×16147E, h35km±25km, ML5.2*

ISCJB ***27*** *23:47:59.1±0.1, 5443N±002×16141E±003, h33km, mb4.5/83, MS4.0/16, Error ellipse: s-maj=2.6km s-min=2.0km az=147.3*

MOS ***27*** *23:48:00.1±1.1, 5458N×16104E, h48km, mb4.6/26, Error ellipse: s-maj=10.0km s-min=5.0km az=80.4*

MOS Felt (II) at Petropavlovsk-Kamchatskiy.

SZGRF ***27*** *23:48:03.6, 5386N×16129E, h33km, mb4.6, Off east coast of Kamchatka Peninsula, Russia*

ISC 27 23:48:00.5±0.8, 5447N±002×16128E±003, h30km±6km, h16km±1.6km:pP-P, n351, σ1§10/369, mb4.5/83, MS4.0/16,

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
	comp=N,500nm,15.0s,MS4.4						
CN2				LR	LR		
	comp=E,800nm,15.0s,MS4.4						
CN2				LR	LR		
	comp=Z,800nm,15.0s,MS4.4						
KDAK	**Kodiak Island**	**25.54**	**64**	P	**P**	**23 53 24.4**	**-1.6**
KDAK	**Kodiak Island**	**25.54**	**64**	P	**P**	**23 53 24.4**	**-1.6**
	comp=Z,11nm,0.6s,mb4.5,baz=248,slow=6.0,SNR=8.5						
HIA	**Hailar**	**25.88**	**276**	*i* P	**P**	**23 53 27.9**	**-1.3**
BOD	**Bodaibo**	**26.12**	**297**	*e*P	**P**	**23 53 29.2**	**-2.1**
BOD				pmax	pmax		
	comp=Z,7.0nm,1.2s,mb4.1						
MCK	**McKinley**	**26.51**	**50**	*e*P	**P**	**23 53 33.6**	**-1.2**
	comp=Z,28nm,1.1s,mb4.7						
MCK	**McKinley**	**26.51**	**50**	*e*P	**P**	**23 53 33.6**	**-1.2**
MCK				pmax	pmax		
	comp=Z,28nm,1.1s,mb4.7						
COLA	**College**	**26.94**	**47**	*e*P	**P**	**23 53 37.9**	**-0.7**
	comp=Z,16nm,0.9s,mb4.5						
SML	**Sawmill**	**26.96**	**54**	*e*P	**P**	**23 53 38.2**	**-0.7**
KSRS	**Korea Array**	**28.40**	**247**	P	**P**	**23 53 50.8**	**-1.1**
	comp=Z,3.1nm,0.6s,mb4.1,baz=42,slow=9.4,SNR=17						
KSRS				LR	LR	00 04 31.6	
	comp=Z,240nm,19.6s,MS3.8,baz=48,slow=35						
EGAK	**Eagle**	**29.80**	**47**	*e*P	**P**	**23 54 01.6**	**-2.5**
DAWY	**Dawson**	**30.66**	**48**	*e*P	**P**	**23 54 10.9**	**-0.8**
INK	**Inuvik**	**32.35**	**39**	*e*P	**P**	**23 54 25.7**	**-0.8**
INK	**Inuvik**	**32.35**	**39**	P	**P**	**23 54 25.6**	**-0.9**
INK				pmax	pmax		
	comp=Z,3.0nm,0.6s						
INK	**Inuvik**	**32.35**	**39**	P	**P**	**23 54 25.6**	**-0.9**
	comp=Z,2.9nm,0.6s,mb4.3,baz=289,slow=7.8,SNR=40						
BJI	**Beijing**	**33.22**	**263**	P	**P**	**23 54 34.8**	**+0.4**
BJI				AMB	AMB		
	comp=Z,3.0nm,0.6s,mb4.4						
SKAG	**Skagway**	**33.74**	**55**	*e*P	**P**	**23 54 38.8**	**+0.1**
SONM	**Songino Array**	**34.29**	**282**	P	**P**	**23 54 40.0**	**-3.6**
SONM						23 57 18.3	
SONM				pmax	pmax		
	comp=Z,1.0nm,0.5s						
SONM				pmax	pmax		
	comp=Z,1.0nm,0.7s						
SONM				pmax	pmax		
	comp=N,1.0nm,0.8s						
SONM				MLR	MLR		
	comp=Z,128nm,18.9s						
SONM	**Songino Array**	**34.29**	**282**	P	**P**	**23 54 40.0**	**-3.6**
	comp=Z,0.9nm,0.5s,mb4.0,baz=213,slow=30,SNR=8.9						
SONM				PcP	PcP	23 57 18.3	-0.9
	comp=Z,1.1nm,0.7s,baz=84,slow=1.1,SNR=7.2						
SONM				ScP	ScP	00 01 04.0	+2.3
	comp=Z,0.9nm,0.8s,baz=74,slow=2.1,SNR=7.2						
SONM				LR	LR	00 10 24.8	
	comp=Z,128nm,18.9s,MS3.7,baz=80,slow=40						
HHC	**Hu-ho-hao-te**	**35.38**	**268**	*e*P	**P**	**23 54 55.0**	**+1.9**
HHC				AP	pP	23 55 00.0	-2.0
HHC				XP	sP	23 55 02.5	-3.2
HHC				PP	PP	23 56 14.0	+0.5
HHC				PCP	PcP	23 57 24.5	+2.0
HHC				AMB	AMB		
	comp=Z,17nm,0.3s,mb5.5						
HHC				AMB	AMB		
	comp=Z,60nm,4.3s						
HHC				LR	LR		
	comp=N,340nm,16.1s,MS4.3						
HHC				LR	LR		
	comp=E,255nm,14.3s,MS4.3						
HHC				LR	LR		
	comp=Z,196nm,18.2s,MS3.9						
DLBC	**Dease Lake**	**36.67**	**55**	*e*P	**P**	**23 55 05.5**	**+1.6**
NJ2	**Nanjing**	**37.37**	**251**	*e*P	**P**	**23 55 12.5**	**+2.3**
NJ2				AP	pP	23 55 17.0	-2.2
NJ2				XP	sP	23 55 19.5	-3.3
NJ2				AMB	AMB		
	comp=Z,20nm,0.7s,mb5.1						
WHN	**Wuhan**	**41.02**	**254**	*e*P	**P**	**23 55 40.0**	**-0.7**
YKA	**Yellowknife Ar**	**41.68**	**44**	P	**P**	**23 55 44.7**	**-0.9**
YKA				LR	LR	00 15 17.7	
YKA	**Yellowknife Ar**	**41.68**	**44**	*i* P	**P**	**23 55 44.7**	**-1.0**
YKA				pmax	pmax		
	comp=Z,3.0nm,0.6s						
YKA	**Yellowknife Ar**	**41.68**	**44**	P	**P**	**23 55 44.7**	**-0.9**
	comp=Z,3.0nm,0.6s,mb4.1,baz=299,slow=7.9,SNR=43						
YKA				LR	LR	00 15 17.7	
	comp=Z,89nm,18.3s,MS3.7,baz=20,slow=39						
RES	**Resolute Bay**	**41.78**	**23**	*e*P	**P**	**23 55 45.6**	**-0.8**
ZALV	**Zalesovo Beam**	**42.63**	**302**	P	**P**	**23 55 49.7**	**-3.8**
	comp=Z,0.4nm,0.3s,mb3.6,baz=35,slow=8.0,SNR=2.6						
ZAL	**Zalesovo**	**42.65**	**302**	P	**P**	**23 55 49.7**	**-4.0**
NVS	**Novosibirsk**	**42.92**	**304**	*e*P	**P**	**23 55 53.5**	**-2.4**
LZH	**Lanzhou**	**43.06**	**269**	*e*P	**P**	**23 55 56.0**	**-1.2**
LZH				AP	pP	23 55 59.0	-7.3
LZH				XP	sP	23 56 01.5	-8.5
LZH				AMB	AMB		
	comp=Z,13nm,1.0s,mb4.6						
SPB4	**Spitsbergen Ar**	**45.89**	**351**	*e*P	**P**	**23 56 21.7**	**+2.3**
B05A	**Bryant**	**46.03**	**65**	⇓P	**P**	**23 56 20.7**	**0.0**
	baz=46						
A07A	**Ashnola River,**	**46.44**	**63**	⇑P	**P**	**23 56 24.2**	**+0.1**
	baz=46						
C06A	**Tall Timber Ra**	**46.87**	**64**	⇑P	**P**	**23 56 26.7**	**-0.7**
	baz=47						
B07A	**Winthrop**	**46.94**	**63**	⇓P	**P**	**23 56 27.6**	**-0.4**
	baz=47						
A08A	**Turner Farm, O**	**47.08**	**62**	⇓P	**P**	**23 56 29.1**	**+0.1**
	baz=47						
WMQ	**Urumqi**	**47.18**	**289**	*e*P	**P**	**23 56 32.0**	**+2.1**
WMQ				AMB	AMB		
	comp=Z,7.0nm,1.0s,mb4.5						
WMQ				AMB	AMB		
	comp=Z,91nm,4.3s						
EDM	**Edmonton**	**47.38**	**55**	*e*P	**P**	**23 56 30.8**	**-0.5**
B08A	**Colville Reser**	**47.42**	**63**	⇑P	**P**	**23 56 31.9**	**+0.3**
	baz=47						
A09A	**Danville**	**47.42**	**62**	⇑P	**P**	**23 56 31.1**	**-0.5**
	baz=47						
KURK	**Kurchatov**	**47.61**	**301**	*e*P	**P**	**23 56 29.1**	**-4.0**
	comp=Z,5.6nm,0.7s,mb4.7						
KURK	**Kurchatov**	**47.61**	**301**	*e*P	**P**	**23 56 29.1**	**-4.0**
KURK				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.7						
C08A	**Higginbotham F**	**47.93**	**63**	⇓P	**P**	**23 56 34.9**	**-0.7**
	baz=48						
B09A	**Rice**	**47.99**	**62**	⇑P	**P**	**23 56 36.1**	**0.0**
	baz=48						
MK31	**Makanchi Array**	**48.20**	**295**	*e*P	**P**	**23 56 37.1**	**-0.6**
MKAR	**Makanchi Array**	**48.20**	**295**	P	**P**	**23 56 33.6**	**-4.1**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
MKAR				MLR	MLR		
	comp=Z,76nm,18.1s						
MKAR	**Makanchi Array**	**48.20**	**295**	P	**P**	**23 56 33.6**	**-4.1**
	comp=Z,0.6nm,0.4s,mb4.0,baz=33,slow=6.3,SNR=6.6						
MKAR				LR	LR	00 17 57.8	
	comp=Z,76nm,18.1s,MS3.7,baz=214,slow=38						
H04A	**Detroit Lake**	**48.24**	**68**	⇑P	**P**	**23 56 37.9**	**-0.2**
	baz=48						
A11A	**Hall Mountain,**	**48.56**	**61**	⇑P	**P**	**23 56 40.3**	**-0.2**
	baz=48						
NEW	**Newport**	**48.62**	**62**	*e*P	**P**	**23 56 40.0**	**-0.9**
	comp=Z,8.0nm,1.0s,mb4.7						
NEW	**Newport**	**48.62**	**62**	*e*P	**P**	**23 56 40.1**	**-0.8**
NEW				pmax	pmax		
	comp=Z,8.0nm,1.0s						
I04A	**Tendick Farm,**	**48.70**	**69**	⇓P	**P**	**23 56 41.0**	**-0.6**
	baz=48						
E09A	**Wood Farm, Sta**	**49.21**	**64**	⇑P	**P**	**23 56 45.3**	**-0.2**
	baz=49						
G07A	**Ruggs Ranch, H**	**49.22**	**66**	⇑P	**P**	**23 56 45.7**	**+0.1**
	baz=49						
J04A	**Umpqua Nationa**	**49.23**	**70**	⇓P	**P**	**23 56 45.5**	**-0.2**
	baz=49						
G08A	**Pilot Rock**	**49.58**	**66**	⇑P	**P**	**23 56 48.5**	**+0.1**
	baz=49						
J05A	**Fort Rock**	**49.68**	**69**	⇑P	**P**	**23 56 49.4**	**+0.3**
	baz=49,SNR=5.8						
WALA	**Waterton Lakes**	**49.74**	**59**	*e*P	**P**	**23 56 49.5**	**0.0**
E10A	**Myers Farm, Un**	**49.78**	**64**	⇑P	**P**	**23 56 49.6**	**-0.2**
	baz=50						
I06A	**Prineville**	**49.80**	**68**	⇑P	**P**	**23 56 50.3**	**+0.3**
	baz=50						
B13A	**Whitefish**	**49.90**	**60**	⇑P	**P**	**23 56 50.7**	**0.0**
	baz=50						
F10A	**Beach Ranch, E**	**50.05**	**64**	⇑P	**P**	**23 56 52.0**	**+0.1**
	baz=50						
BSMT	**Bassoo Peak**	**50.08**	**61**	*e*P	**P**	**23 56 52.5**	**+0.4**

BVAR **Borovoye Array** 50.09 308 P P 23 56 48.3 -3.8
BVAR 23 58 09.5
BVAR pmax pmax
comp=Z,1.0nm,0.4s
BVAR pmax pmax
comp=Z,2.0nm,0.4s
BVAR Borovoye Array 50.09 308 P P 23 56 48.3 -3.8
comp=Z,1.0nm,0.4s,mb4.2,baz=46,slow=6.4,SNR=6.9
BVAR PcP PcP 23 58 09.5 -1.8
comp=Z,1.9nm,0.4s,baz=57,slow=2.7,SNR=7.2
BRVK Borovoye 50.12 308 *e*P P 23 56 53.6 +1.3
K05A Summer Lake 50.24 70 ⇑P P 23 56 53.1 -0.2
baz=50
H08A Prairie City 50.25 66 ⇑P P 23 56 53.2 -0.2
baz=50
J06A Christmas Vall 50.29 69 ⇓P P 23 56 54.4 +0.6
baz=50
C13A Hot Springs 50.30 61 ⇓P P 23 56 54.3 +0.5
baz=50,SNR=11
E11A Bogner Ranch, 50.33 63 ⇓P P 23 56 53.7 -0.4
baz=50
M04C Macdoel 50.35 71 ⇓P P 23 56 54.4 +0.1
baz=50
G10A Bishop Farm, J 50.56 65 ⇑P P 23 56 56.2 +0.5
baz=50
J07A Hines 50.67 68 ⇓P P 23 56 56.5 0.0
baz=50
F11A Grangeville 50.67 64 ⇑P P 23 56 56.7 +0.1
baz=50
H09A Durkee 50.69 66 ⇑P P 23 56 57.0 +0.3
baz=50
I08A Drewsey 50.71 67 ⇓P P 23 56 56.7 -0.2
baz=50
L05A Lakeview 50.73 70 ⇓P P 23 56 57.5 +0.5
baz=50
D13A Huson 50.75 61 ⇑P P 23 56 56.5 -0.7
baz=50
BMO Blue Mountains 50.75 65 *e*P P 23 56 55.9 -1.3
WDC Whiskeytown Da 50.78 73 ⇓P P 23 56 57.9 +0.5
baz=50
O02C Red Bluff 50.91 73 ⇑P P 23 56 59.1 +0.6
baz=51
G11A Walters Elk Ra 50.93 64 P P 23 56 59.0 +0.4
baz=51,SNR=6.2
MOD Modoc 51.12 70 *e*P P 23 56 59.3 -0.7
comp=Z,6.1nm,0.6s,mb4.7
MOD Modoc 51.12 70 P P 23 57 01.5 +1.5
baz=51,SNR=6.0
J08A Circle Bar Ran 51.13 67 ⇑P P 23 57 00.9 +0.8
baz=51
K07A Rock Creek Ran 51.16 69 ⇓P P 23 57 00.8 +0.5
baz=51
MSO Missoula 51.19 61 *e*P P 23 56 59.5 -1.0
H10A Noah's Angus R 51.22 65 ⇑P P 23 57 01.1 +0.3
baz=51
F12A Elk City 51.23 63 ⇓P P 23 57 00.7 0.0
baz=51
D14A Greenough 51.24 61 P P 23 57 00.7 -0.1
baz=51,SNR=7.0
CHMT Chamberlain Mo 51.48 61 *e*P P 23 57 03.0 +0.3
H11A Donnelly 51.53 65 P P 23 57 03.1 +0.1
baz=51,SNR=9.5
K08A Mann Creek Ran 51.55 68 ⇓P P 23 57 04.2 +1.0
baz=51
FFC Flin Flon 51.56 47 *e*P P 23 57 02.5 -0.7
comp=Z,5.3nm,0.9s,mb4.5
FFC Flin Flon 51.56 47 *e*P P 23 57 02.5 -0.7
FFC pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
E14A Clinton 51.69 61 ⇓P P 23 57 04.6 +0.3
baz=52
KEV Kevo 51.73 341 *e*p P 23 57 06.0 +1.8
comp=Z,3.0nm,0.6s,mb4.4
KEV Kevo 51.73 341 *e*P P 23 57 06.0 +1.8
KEV pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
KMI Kunming 51.76 260 P P 23 57 07.0 +2.0
KMI AP pP 23 57 13.0 -1.2
KMI AMB AMB
comp=Z,9.0nm,1.2s,mb4.6
ELFS Eagle Lake Fie 51.76 71 ⇑P P 23 57 05.1 +0.3
baz=52
O04C Chester 51.77 72 ⇓P P 23 57 05.0 +0.1
baz=52
D15A Lincoln 51.77 60 ⇓P P 23 57 05.2 +0.3
baz=52
FCC Fort Churchill 51.97 40 *e*P P 23 57 08.9 +2.8
comp=Z,13nm,1.2s,mb4.7
FCC Fort Churchill 51.97 40 *e*P P 23 57 08.9 +2.8
FCC pmax pmax
comp=Z,13nm,1.2s,mb4.7
K09A Rome 51.98 68 ⇑P P 23 57 06.6 +0.1
baz=52
L08A Fields 51.99 68 ⇓P P 23 57 06.7 +0.1
baz=52
M07A Soldier Meadow 52.09 70 ⇓P P 23 57 07.6 +0.3
baz=52
E15A Deer Lodge 52.12 61 P P 23 57 07.5 0.0
baz=52,SNR=8.0
N06A Buffalo Meadow 52.16 71 ⇑P P 23 57 08.1 +0.3
baz=52
ARCES ARCESS Array B 52.20 342 P P 23 57 05.0 -2.7
ARCES pmax pmax
comp=Z,3.0nm,1.0s
ARCES ARCESS Array B 52.20 342 P P 23 57 05.0 -2.6
comp=Z,3.3nm,1.0s,mb4.2,baz=21,slow=7.7,SNR=3.2
G13A Cobalt 52.20 63 ⇑P P 23 57 08.1 0.0
baz=52
HRY Holter Researc 52.34 60 *e*P P 23 57 09.3 +0.2
K10A MacKenzie Ranc 52.38 67 ⇑P P 23 57 09.8 +0.3
baz=52
M08A Happy Creek Ra 52.48 69 ⇑P P 23 57 10.6 +0.5
baz=52
BEKR Beckwourth 52.48 72 ⇓P P 23 57 10.7 +0.5
baz=52
H13A Challis 52.55 64 ⇑P P 23 57 10.3 -0.3
baz=52
O06A Flanigan 52.57 71 ⇑P P 23 57 11.7 +0.8
baz=52
F15A Butte 52.60 61 ⇓P P 23 57 10.5 -0.5
baz=52
QIZ Qiongzhong 52.60 249 *e*P P 23 57 07.2 -4.1
comp=Z,40nm,1.3s,mb5.2
N07B Gerlach 52.62 70 ⇓P P 23 57 11.7 +0.5
baz=52
K11A Parker Ranch, 52.84 66 ⇑P P 23 57 13.0 +0.2
baz=53
BDM Black Diamond 52.97 75 ⇑P P 23 57 13.8 0.0
baz=53
J12A Stokes Ranch, 53.01 65 ⇓P P 23 57 14.4 +0.3
baz=53
LAVA Lava Cap Winer 53.04 73 ⇓P P 23 57 14.3 0.0
baz=53
I13A Wildhorse Cree 53.07 64 P P 23 57 15.2 +0.7
baz=53,SNR=7.0
N08A GE Springer Mi 53.07 70 ⇑P P 23 57 15.1 +0.5
baz=53
L10A Juniper Basin 53.08 67 ⇑P P 23 57 14.6 0.0
baz=53
BOZ Bozeman (W) 53.17 61 *e*P P 23 57 15.3 +0.1
J13A Cove Ranch, Pi 53.39 65 ⇑P P 23 57 17.4 +0.5
baz=53
L11A Cat Creek Ranc 53.40 67 P P 23 57 17.8 +0.9
baz=53,SNR=6.5
R05C Kirkwood Meado 53.45 73 ⇓P P 23 57 18.0 +0.7
baz=53
K12A Draper Farm, C 53.53 66 ⇓P P 23 57 18.6 +0.7
baz=53
CMB Columbia Colle 53.74 74 ⇓P P 23 57 19.9 +0.3
baz=54
R06C Coleville 53.92 72 ⇑P P 23 57 21.2 +0.3
baz=54
R07C Lee Vining 54.45 73 ⇓P P 23 57 25.2 +0.5
baz=54
P09A Austin 54.48 70 ⇓P P 23 57 25.5 +0.7
baz=54
K14A Jones Ranch, D 54.51 65 ⇑P P 23 57 25.8 +0.7
baz=54
Q08A Gabbs 54.53 71 P P 23 57 26.2 +1.0
baz=54,SNR=11
NVAR Mina Array Bea 54.63 72 P P 23 57 26.9 +1.0
comp=Z,3.3nm,0.6s,mb4.5,baz=316,slow=7.0,SNR=30
N12A Clover Valley, 54.71 67 ⇓P P 23 57 27.0 +0.5
baz=54
FLWY Flagg Ranch 54.73 62 *e*P P 23 57 27.9 +1.3
comp=Z,14nm,1.0s,mb5.0
RLMT Red Lodge 54.73 60 *e*P P 23 57 27.4 +0.8
IMW Indian Meadow 54.74 62 *e*P P 23 57 28.1 +1.4
comp=Z,5.5nm,0.8s,mb4.6
KCC Kaiser Creek 54.85 73 ⇑P P 23 57 28.6 +1.0
baz=55
MOOW Moose Ponds 54.94 62 *e*P P 23 57 28.6 +0.5
TPAW Teton Pass 55.02 63 *e*P P 23 57 30.2 +1.5
comp=Z,10.0nm,1.2s,mb4.7
AAK Ala-Archa 55.10 296 *e*P P 23 57 26.4 -2.9
comp=Z,2.0nm,0.8s,mb4.2
AAK Ala-Archa 55.10 296 *e*P P 23 57 26.4 -2.9
AAK pmax pmax
comp=Z,2.0nm,0.8s,mb4.2
O12A Currie 55.28 68 ⇑P P 23 57 31.0 +0.4
baz=55
S08C White Mtn Res 55.36 72 ⇓P P 23 57 31.8 +0.5
baz=55
R09A Tonopah 55.44 71 P P 23 57 32.6 +0.8
baz=55,SNR=7.5
HELL Mitchell Peak 55.47 74 ⇑P P 23 57 31.9 -0.2
baz=55
M15A Larsen Ranch, 55.66 65 ⇓P P 23 57 33.4 0.0
baz=55
N14A Grayback Hills 55.70 66 ⇑P P 23 57 34.0 +0.4
baz=56
S09A Goldfield 55.73 72 ⇑P P 23 57 34.6 +0.7
baz=56
SPUT South Promonto 55.77 65 *e*P P 23 57 35.0 +0.9
R10A Warm Springs 55.83 71 ⇓P P 23 57 35.7 +1.0
baz=56
S10A Tonopah Range, 55.93 71 ⇑P P 23 57 36.1 +0.7
baz=56
HWUT Hardware Ranch 56.02 65 *e*P P 23 57 37.0 +1.0
comp=Z,16nm,1.6s,mb4.8
R11A Troy Canyon, C 56.18 70 ⇑P P 23 57 37.5 +0.4
baz=56
BW06 Boulder Array 56.25 62 *e*P P 23 57 38.1 +0.6
comp=Z,5.9nm,0.9s,mb4.6
P13A Bates Ranch, G 56.25 68 ⇑P P 23 57 37.8 +0.2
baz=56
DUG Dugway 56.37 67 *e*P P 23 57 39.3 +0.9
Q13A Wheeler Ranch, 56.60 68 P P 23 57 41.3 +1.1
baz=56,SNR=7.8
JOF Joensuu 56.61 335 *e*p P 23 57 36.6 -3.2
comp=Z,1.1nm,0.5s,mb4.1
JOF Joensuu 56.61 335 *e*P P 23 57 36.6 -3.2
JOF pmax pmax
comp=Z,1.0nm,0.5s,mb4.1
R12A Pony Springs, 56.73 69 ⇑P P 23 57 41.8 +0.7
baz=56
MPMC Manual Prospec 56.77 73 ⇓P P 23 57 41.6 +0.2
baz=56
JLU Jordanelle 56.80 65 *e*P P 23 57 41.7 +0.1
TPNV Topopah Spring 56.82 72 *e*P P 23 57 42.5 +0.8
comp=Z,7.6nm,1.1s,mb4.6
TPNV Topopah Spring 56.82 72 *e*P P 23 57 42.5 +0.8
TPNV pmax pmax
comp=Z,8.0nm,1.1s,mb4.7
FURC Furnace Creek, 56.83 72 ⇑P P 23 57 42.3 +0.6
baz=57
S12A Delamar Landin 57.12 70 ⇓P P 23 57 44.7 +0.9
baz=57
T11A Corn Creek, Al 57.18 71 ⇓P P 23 57 44.5 +0.2
baz=57
BLG Laguna Peak 57.30 76 ⇓P P 23 57 45.4 +0.2
baz=57
EDW2 Edwards Air Fo 57.35 75 ⇑P P 23 57 45.3 -0.1
baz=57
ULM Lac du Bonnet 57.37 48 P P 23 57 44.4 -1.0
comp=Z,3.1nm,0.6s,mb4.5,baz=300,slow=7.6,SNR=5.2
ULM LR LR 00 21 18.3
comp=Z,132nm,19.7s,MS4.0,baz=336,slow=35
AKTK Aktyubinsk 57.41 312 P P 23 57 44.0 -1.7
AKTK PcP PcP 23 58 37.3 -1.9
AKTO Aktyubinsk 57.41 312 P P 23 57 44.0 -1.7
AKTO 23 58 37.3
AKTO pmax pmax
comp=Z,3.0nm,0.5s,mb4.6
AKTO Aktyubinsk 57.41 312 P P 23 57 44.0 -1.7
comp=Z,0.4nm,0.4s,mb3.8,baz=55,slow=12,SNR=2.4
AKTO PcP PcP 23 58 37.3 -1.9
comp=Z,3.4nm,0.5s,baz=66,slow=5.8,SNR=8.2
SNCC San Nicolas Is 57.67 77 ⇓P P 23 57 48.9 +1.1
baz=57
GSC Goldstone 57.71 73 *e*P P 23 57 48.7 +0.7
GSC Goldstone 57.71 73 ⇓P P 23 57 48.2 +0.2
baz=58
TMUT Trail Mountain 57.87 66 *e*P P 23 57 52.8 +3.8
TUQ Turquoise Mtn. 58.10 73 ⇑P P 23 57 50.5 -0.3
baz=58
HEC Hector,Ludlow 58.32 73 ⇓P P 23 57 52.3 +0.1
baz=58
SRU San Rafael 58.37 66 *e*P P 23 57 53.4 +0.8
GMRC Granite Mounta 58.73 73 ⇓P P 23 57 55.2 +0.1
baz=58
V13A Grand Canyon W 58.87 71 ⇓P P 23 57 56.7 +0.6
baz=59
T15A Red Dirt Ranch 58.90 69 ⇑P P 23 57 56.9 +0.6
baz=59
U14A Mt Trumbull 58.90 70 ⇑P P 23 57 57.1 +0.8
baz=59
BELC Belle Mtn. 59.11 74 ⇓P P 23 57 57.7 -0.1
baz=59
FINES FINESS Array B 59.13 337 P P 23 57 55.4 -2.1
FINES FINESS Array B 59.13 337 *i* P P 23 57 55.4 -2.1
FINES pmax pmax
comp=Z,2.0nm,0.4s
FINES FINESS Array B 59.13 337 P P 23 57 55.4 -2.1
comp=Z,1.7nm,0.4s,mb4.4,baz=35,slow=7.8,SNR=21
PFO Pinyon Flat Ob 59.14 74 ⇓P P 23 57 57.9 -0.1
baz=59
IRM Iron Mountain 59.47 73 ⇑P P 23 58 00.6 +0.3
baz=59
W13A Hualapai Mount 59.48 71 ⇓P P 23 58 00.8 +0.4
baz=59
V14A Boquillas Ranc 59.52 70 ⇓P P 23 58 01.0 +0.4
baz=59
BC3 Big Chuckw Mtn 59.67 74 ⇓P P 23 58 00.6 -1.1
baz=59
W14A Seligman 59.84 71 ⇑P P 23 58 03.1 +0.3
baz=60
SMCO Snowmass 60.20 64 *e*P P 23 58 05.6 +0.4
comp=Z,4.4nm,1.0s,mb4.4
ISCO Idaho Springs 60.44 62 *e*P P 23 58 08.0 +1.2
Y13A Salome 60.46 72 ⇓P P 23 58 07.5 +0.5
baz=60
GLA Glamis 60.47 74 *e*P P 23 58 07.8 +0.7
GLA Glamis 60.47 74 ⇓P P 23 58 07.1 0.0
baz=60
X14A Yava 60.50 71 ⇑P P 23 58 07.4 +0.1
baz=60
X15A Humboldt 60.84 71 ⇑P P 23 58 09.8 +0.1
baz=61
EYMN Ely 61.00 47 *e*P P 23 58 09.7 -0.8
comp=Z,5.1nm,0.8s,mb4.7
X16A Lo Mia Camp, P 61.33 70 ⇓P P 23 58 13.3 +0.3
baz=61
OBN Obninsk 61.73 328 *e*P P 23 58 20.0 +4.7
OBN *e*S S 00 06 39.5 +3.8
OBN *e*SS SS 00 10 41.5 +4.9
OBN pmax pmax
comp=Z,3.0nm,1.0s,mb4.4
ECSD EROS,Sioux Fal 61.93 53 *e*P P 23 58 19.3 +2.4
115A Sonoran Desert 62.18 72 P P 23 58 19.8 +1.1
baz=62,SNR=5.6
Y17A Roosevelt 62.20 70 ⇓P P 23 58 19.2 +0.3
baz=62
NB2 NORSAR Subarra 62.41 344 P P 23 58 17.3 -2.5
comp=Z,1.8nm,0.7s,mb4.3,baz=20,slow=6.9
NOA NORSAR Array B 62.41 344 P P 23 58 17.6 -2.2
comp=Z,1.5nm,0.6s,mb4.3,baz=20,slow=6.8,SNR=9.5
NOA LR LR 00 31 42.1
comp=Z,48nm,18.9s,MS3.7,baz=0.0,slow=42
117A Oracle 63.10 71 ⇓P P 23 58 25.6 +0.7
baz=63
216A Three Points, 63.13 72 ⇑P P 23 58 25.8 +0.7
baz=63
ANMO Albuquerque 63.63 66 *e*P P 23 58 32.4 +4.0
HNR Honiara 63.67 181 LR LR 00 21 24.3
comp=Z,128nm,20.2s,MS4.1,baz=356,slow=32
218A Dragoon 63.94 71 ⇓P P 23 58 30.4 0.0
baz=64
SCHQ Schefferville 64.10 29 P P 23 58 32.0 +0.9
comp=Z,5.5nm,0.9s,mb4.6,baz=350,slow=8.5,SNR=7.4
SCHQ LR LR 00 28 20.9
comp=Z,118nm,19.9s,MS4.1,baz=43,slow=38
MNTX Cornudas Mount 66.70 68 *e*P P 23 58 48.5 +0.2
AKASG Malin Array Be 67.79 329 P P 23 58 51.9 -3.0
AKASG pmax pmax
comp=Z,1.0nm,0.3s
AKASG MLR MLR
comp=Z,74nm,18.2s
AKASG Malin Array Be 67.79 329 P P 23 58 51.9 -2.9
comp=Z,0.5nm,0.3s,mb4.0,baz=29,slow=6.7,SNR=2.4
AKASG LR LR 00 33 50.4
comp=Z,74nm,18.2s,MS4.0,baz=355,slow=41
WMOK Wichita Mounta 67.82 61 *e*P P 23 58 54.8 -0.5
TXAR Lajitas Array 69.46 68 P P 23 59 05.8 +0.2
TXAR LR LR 00 33 05.0
TXAR Lajitas Array 69.46 68 P P 23 59 05.8 +0.1
TXAR pmax pmax
comp=Z,2.0nm,0.5s
TXAR MLR MLR
comp=Z,70nm,18.2s
TXAR Lajitas Array 69.46 68 P P 23 59 05.8 +0.2
comp=Z,1.7nm,0.5s,mb4.2,baz=299,slow=4.8,SNR=25
TXAR LR LR 00 33 05.0
comp=Z,70nm,18.2s,MS3.9,baz=180,slow=39
KWP Kalwaria 70.59 333 ⇑*i*P P 23 59 14.0 +1.7
KAKA Kakadu 71.25 210 *e*P P 23 59 16.5 -0.1
comp=Z,7.5nm,0.5s,mb4.9
CLL Collm 71.31 340 *e*P P 23 59 15.0 -1.6
CLL *i* sP sP 23 59 20.7 -9.0
comp=Z,10.0nm,1.3s
BRG Berggiesshubel 71.53 339 *e*P P 23 59 23.0 +5.1
BRG pmax pmax
comp=Z,6.0nm,1.6s,mb4.3
BRG Berggiesshubel 71.53 339 *e*P P 23 59 23.0 +5.1
comp=Z,10nm,1.6s,mb4.5
BURAR Bucovina Array 71.73 330 ⇑*i*P P 23 59 17.3 -1.9
MOX Moxa 72.22 340 *e*P P 23 59 24.9 +2.8
GRA1 Grafenberg Arr 73.20 340 *e*P P 23 59 33.0 +5.1
comp=Z,6.0nm,1.1s,mb4.4
GRF Grafenberg Arr 73.20 340 *e*P P 23 59 33.0 +5.1
GRF pmax pmax
comp=Z,6.0nm,1.1s,mb4.4
GRF Grafenberg Arr 73.20 340 *e*P P 23 59 33.0 +5.1
comp=Z,6.0nm,1.1s,mb4.4
KHC Kasperske Hory 73.25 338 *e*P P 23 59 32.5 +4.3
MEM Membach 73.26 344 P P 23 59 30.6 +2.4
comp=Z,10.0nm,1.0s,mb4.7
MLR Muntele Rosu 73.44 329 ⇓*i*P P 23 59 28.4 -1.0
GERES GERESS Array B 73.50 338 P P 23 59 28.4 -1.3
GERES pmax pmax
comp=Z,1.0nm,0.5s
GERES GERESS Array B 73.50 338 P P 23 59 28.4 -1.3
comp=Z,0.6nm,0.5s,mb3.8,baz=40,slow=5.1,SNR=8.7
BCLA Clavier 73.56 344 P P 23 59 31.3 +1.3
comp=Z,5.2nm,1.2s,mb4.3
SWET Sewanee 73.68 52 *e*P P 23 59 29.4 -1.6
GIVF Givet 73.94 344 *e*P P 23 59 30.2 -2.0
BAIF Baives 74.08 345 *e*P P 23 59 31.1 -1.9
comp=Z,8.6nm,0.8s,mb4.4
CDF Champ du Feu 75.17 342 *e*P P 23 59 37.5 -1.9
comp=Z,25nm,1.2s,mb4.7
CTA Charters Tower 75.37 195 *e*P P 23 59 40.7 0.0
comp=Z,5.1nm,0.9s,mb4.5
CTA Charters Tower 75.37 195 *e*P P 23 59 40.7 0.0
CTA pmax pmax
comp=Z,5.0nm,0.9s
MEZF Maizieres J'vi 75.46 344 *e*P P 23 59 39.4 -1.7
comp=Z,13nm,0.8s,mb4.6
HAU Haudompre 75.72 343 *e*P P 23 59 40.6 -2.0
HINF Hinteralfeld 75.82 343 *e*P P 23 59 41.0 -2.1
FLN La Foliniere 76.00 348 *e*P P 23 59 41.7 -2.4
comp=Z,18nm,0.9s,mb4.7
LDF La Druitiere 76.12 347 *e*P P 23 59 42.4 -2.4
GRR Gorron 76.41 348 *e*P P 23 59 44.4 -2.1
comp=Z,22nm,0.8s,mb4.8
ROSF Rostrenen 76.74 349 *e*P P 23 59 46.4 -2.0
comp=Z,11nm,0.7s,mb4.6
SGMF Saint Gilles 76.74 349 *e*P P 23 59 46.4 -2.0
comp=Z,30nm,1.0s,mb4.9
LOR Lormes 76.85 344 *e*P P 23 59 46.9 -2.1
comp=Z,15nm,0.9s,mb4.6
SSF Saint Saulge 77.11 345 *e*P P 23 59 48.4 -2.0
CABF La Chapelle 77.12 343 *e*P P 23 59 49.0 -1.5
comp=Z,22nm,1.1s,mb4.7
QUIF Quistinic 77.14 349 *e*P P 23 59 49.3 -1.3
AVF Avril sur Loir 77.39 345 *e*P P 23 59 50.2 -1.8
comp=Z,17nm,1.1s,mb4.6
SMF Signal de Mont 77.46 344 *e*P P 23 59 50.4 -2.0
comp=Z,10nm,1.0s,mb4.4
WRAB Tennant Creek 77.62 206 *c i*P P 23 59 53.1 -0.4
WB2 Warramunga Arr 77.63 206 *e*P P 23 59 53.2 -0.3
WRA Warramunga Arr 77.63 206 *i* P P 23 59 53.2 -0.3
WRA pmax pmax
comp=Z,5.0nm,0.7s
WRA Warramunga Arr 77.63 206 P P 23 59 53.2 -0.3
comp=Z,4.7nm,0.7s,mb4.5,baz=20,slow=5.8,SNR=17
TCF Toulx Ste Croi 78.06 345 *e*P P 23 59 53.9 -1.9
comp=Z,38nm,1.5s,mb4.8
LPL La Plagne 78.06 342 *e*P P 23 59 55.3 -0.5
comp=Z,17nm,0.9s,mb4.7
MFF Saint Martin d 78.08 347 *e*P P 23 59 54.1 -1.8
comp=Z,6.4nm,0.7s,mb4.4
LPG La Plagne 78.08 342 *e*P P 23 59 55.5 -0.4
comp=Z,19nm,1.0s,mb4.7
FITZ Fitzroy Crossi 78.44 214 *e*P P 23 59 57.8 -0.2
comp=Z,6.0nm,0.6s,mb4.7
ORIF Oris-en-Rattie 78.80 342 *e*P P 23 59 59.1 -0.8
comp=Z,24nm,1.2s,mb4.7
VIVF Saint-Julien-l 79.06 343 *e*P P 00 00 00.2 -1.1
comp=Z,15nm,1.0s,mb4.5
CAF Calviac 79.41 345 *e*P P 00 00 02.1 -1.1
comp=Z,18nm,1.1s,mb4.6
LFF La Frestale 79.59 346 *e*P P 00 00 02.9 -1.3
MTLF Montolieu 80.94 345 *e*P P 00 00 10.6 -0.9
comp=Z,14nm,0.9s,mb4.6
MMAI Mount Meron Ar 81.20 316 P P 00 00 11.6 -1.5
comp=Z,0.5nm,0.4s,mb3.8,baz=32,slow=4.9,SNR=10.0
ASAR Alice Springs 81.31 205 P P 00 00 13.8 +0.3
ASAR pmax pmax
comp=Z,4.0nm,0.8s
ASAR Alice Springs 81.31 205 P P 00 00 13.8 +0.3
comp=Z,4.4nm,0.8s,mb4.4,baz=15,slow=5.9,SNR=27
ASF Jabal al Asfar 81.33 315 LR LR 00 38 01.8
comp=Z,190nm,18.9s,MS4.5,baz=250,slow=37
EPF Esparros 81.52 346 *e*P P 00 00 13.1 -1.5
comp=Z,6.2nm,0.7s,mb4.3
ETSF Etsaut 81.77 347 *e*P P 00 00 16.0 +0.1
comp=Z,11nm,0.7s,mb4.6
EPON Pontenova 82.08 352 P P 00 00 19.7 +2.2
EPOB Poblet 83.05 345 P P 00 00 25.5 +2.9
ESDC Sonseca Array 85.37 349 P P 00 00 33.8 -0.6
comp=Z,7.6nm,0.7s,mb5.0,baz=3.2,slow=4.7,SNR=15
KEST Kesra 86.96 337 P P 00 00 40.8 -1.6
comp=Z,0.5nm,0.5s,mb4.0,baz=333,slow=4.5,SNR=3.0
STKA Stephens Creek 87.66 197 *e*P P 00 00 45.3 -0.1
STKA Stephens Creek 87.66 197 P P 00 00 45.0 -0.4
comp=Z,2.1nm,0.8s,mb4.5,baz=349,slow=14,SNR=3.0
STKA LR LR 00 40 06.0
comp=Z,95nm,19.5s,MS4.2,baz=26,slow=36
DBIC Dimbokro 117.98 344 PKIKP PKPdf 00 06 42.6 -1.6
DBIC pmax pmax
comp=Z,1.0nm,0.4s
DBIC Dimbokro 117.98 344 PKP PKPdf 00 06 42.6 -1.6
comp=Z,0.8nm,0.4s,baz=117,slow=4.5,SNR=3.8
VNDA Vanda 131.72 180 PKP PKPdf 00 07 08.7 +0.2
comp=Z,0.3nm,0.5s,baz=354,slow=5.7,SNR=3.7
QSPA South Pole Qui 144.22 180 PKP PKPdf 00 07 28.9 -2.4
comp=Z,9.6nm,0.7s,baz=347,slow=1.4,SNR=69

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*CSEM **27** 23:48:43.6±0.2,3255N∧3182E,h35km,ML3.0,Error*
ellipse: s-maj=3.9km s-min=2.2km az=138.0
*HLW **27** 23:48:45.9,3250N∧3186E,h29km,Mb3.0*
*GII **27** 23:48:47.3±0.9,3251N∧3202E,h27km±20km,ML2.5/10*
ISC 27 23:48:45.7±0.9,**3249N**±004∧**3196E**±005,**h35**km,**n29,**
σ0:63/50,1C-8D,Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMAG	**Maghara**	**2.13**	**150**	⇑P	**Pn**	**23 49 19.0**	**+0.2**
AMAG				S	**Sn**	**23 49 43.6**	**-0.4**
KOT	**Kottamia**	**2.56**	**183**	⇓P	**Pn**	**23 49 24.6**	**-0.1**
KOT				S	**Sn**	**23 49 52.6**	**-2.0**
KOT	**Kottamia**	**2.56**	**183**	⇓P	**Pn**	**23 49 24.6**	**-0.1**
KOT				S	**Sn**	**23 49 52.6**	**-2.0**
OFRI	**'Ofer**	**2.56**	**86**	Pn	**Pn**	**23 49 23.8**	**-0.9**
OFRI				Sn	**Sn**	**23 49 53.1**	**-1.5**
KZIT	**Kziot**	**2.61**	**127**	Pn	**Pn**	**23 49 26.3**	**+0.9**
KZIT				Sn	**Sn**	**23 49 56.1**	**+0.2**
SLTI	**Sal'it**	**2.62**	**95**	Pn	**Pn**	**23 49 25.2**	**-0.3**
SLTI				Sn	**Sn**	**23 49 55.5**	**-0.7**

RTMI	**Retamim**	**2.73**	**121**	Pn	**Pn**	**23**	**49**	**27.4**	**+0.2**
RTMI				Sn	**Sn**	**23**	**49**	**58.7**	**-0.2**
RTMI	**Retamim**	**2.73**	**121**	Pn	**Pn**	**23**	**49**	**27.3**	**+0.2**
RTMI				Sn	**Sn**	**23**	**49**	**58.7**	**-0.2**
SUZ		**2.75**	**164**	⇓P	**Pn**	**23**	**49**	**27.3**	**+0.1**
HNTI	**Hanita**	**2.77**	**77**	Pn	**Pn**	**23**	**49**	**28.0**	**+0.4**
HNTI				Sn	**Sn**	**23**	**49**	**59.5**	**-0.4**
HSAF	**As Saff**	**2.88**	**187**	⇓P	**Pn**	**23**	**49**	**28.9**	**-0.2**
GLL	**Jalalah**	**2.91**	**184**	⇓P	**Pn**	**23**	**49**	**29.5**	**-0.1**
MMLI	**Mount Malkishu**	**2.93**	**90**	Pn	**Pn**	**23**	**49**	**29.3**	**-0.5**
MMLI				Sn	**Sn**	**23**	**50**	**03.0**	**-0.7**
MMA2	**Mount Meron ar**	**2.95**	**79**	Pn	**Pn**	**23**	**49**	**29.9**	**-0.2**
MMA2				Sn	**Sn**	**23**	**50**	**04.5**	**+0.2**
HMDT	**Nahal Hemdat**	**3.03**	**94**	Pn	**Pn**	**23**	**49**	**31.5**	**+0.3**
HMDT				Sn	**Sn**	**23**	**50**	**06.7**	**+0.5**
DSI	**Dead Sea**	**3.05**	**107**	Pn	**Pn**	**23**	**49**	**31.6**	**+0.2**
DSI				Sn	**Sn**	**23**	**50**	**07.0**	**+0.3**
DSI	**Dead Sea**	**3.05**	**107**	Pn	**Pn**	**23**	**49**	**31.6**	**+0.2**
DSI				Sn	**Sn**	**23**	**50**	**07.0**	**+0.3**
RMNI	**Mount Ramon**	**3.05**	**128**	Sn	**Sn**	**23**	**50**	**06.8**	**+0.1**
HNKL	**Nakhl**	**3.09**	**145**	⇓P	**Pn**	**23**	**49**	**32.2**	**+0.2**
HNKL				S	**Sn**	**23**	**50**	**06.5**	**-1.2**
HNKL	**Nakhl**	**3.09**	**145**	⇓P	**Pn**	**23**	**49**	**32.2**	**+0.2**
HNKL				S	**Sn**	**23**	**50**	**06.5**	**-1.2**
MZDA	**Masada**	**3.13**	**111**	Pn	**Pn**	**23**	**49**	**33.3**	**+0.8**
MZDA				Sn	**Sn**	**23**	**50**	**09.1**	**+0.5**
KSDI	**Kefar Szold**	**3.19**	**76**	Pn	**Pn**	**23**	**49**	**33.7**	**+0.3**
KSDI				Sn	**Sn**	**23**	**50**	**10.1**	**-0.1**
ZFRI	**Zfri**	**3.36**	**124**	Pn	**Pn**	**23**	**49**	**35.6**	**-0.1**
ZFRI				Sn	**Sn**	**23**	**50**	**14.0**	**-0.4**
PRNI	**Paran**	**3.37**	**129**	Sn	**Sn**	**23**	**50**	**15.3**	**+0.8**
HRFI	**Mount Harif**	**3.60**	**132**	Pn	**Pn**	**23**	**49**	**39.6**	**+0.6**
HRFI				Sn	**Sn**	**23**	**50**	**20.7**	**+0.5**
MBH	**Mount Berech**	**3.70**	**136**	Sn	**Sn**	**23**	**50**	**23.6**	**+0.9**
MBH	**Mount Berech**	**3.70**	**136**	Sn	**Sn**	**23**	**50**	**23.5**	**+0.8**
EIL	**Elat**	**3.81**	**137**	Pn	**Pn**	**23**	**49**	**42.9**	**+1.0**
EIL				Sn	**Sn**	**23**	**50**	**25.2**	**-0.2**
HBST	**Basata**	**4.04**	**143**	⇓P	**Pn**	**23**	**49**	**46.1**	**+0.9**

*ISK **27** 23:52:24.6, 35.13N×3177E, h5km, MD3.0*
*CSEM **27** 23:52:25.6±0.5, 3449N×3234E, h0km±33km, ML2.3, Error ellipse: s-maj=199.2km s-min=3.1km az=102.0*
*GII **27** 23:52:28.2±0.0, 3470N×3278E, h0km±1km, ML2.3/4*
ISC 27 23:52:27.7±1.8, 3451N±006×322E±01, h35km, n10, σ0§97/16, Cyprus region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LEF	**Lefka**	**0.83**	**43**	*e*PG	**Pn**	**23 52 42.0**	**-1.0**
LEF				*e*SG	**Sn**	**23 52 54.8**	**+0.8**
LFK	**Lefkose**	**1.34**	**55**	*e*PN	**Pn**	**23 52 52.1**	**+2.3**
LFK				*e*SN	**Sn**	**23 53 12.1**	**+5.7**
IKL	**Isikli**	**2.11**	**35**	*e*PN	**Pn**	**23 52 58.8**	**-1.6**
HNTI	**Hanita**	**2.86**	**119**	Sn	**Sn**	**23 53 43.7**	**-0.4**
MMC7	**Mount Meron ar**	**3.05**	**118**	Pn	**Pn**	**23 53 12.6**	**-0.8**
MMC7				Sn	**Sn**	**23 53 48.3**	**-0.5**
MMC1	**Mount Meron ar**	**3.06**	**118**	Pn	**Pn**	**23 53 13.3**	**-0.2**
MMA1	**Mount Meron ar**	**3.06**	**118**	Pn	**Pn**	**23 53 13.7**	**+0.1**
MMA1				Sn	**Sn**	**23 53 49.2**	**+0.1**
MMA2	**Mount Meron ar**	**3.07**	**118**	Pn	**Pn**	**23 53 13.7**	**+0.1**
KSDI	**Kefar Szold**	**3.17**	**114**	Pn	**Pn**	**23 53 15.3**	**+0.2**
KSDI				Sn	**Sn**	**23 53 50.5**	**-1.2**
MMLI	**Mount Malkishu**	**3.40**	**127**	Pn	**Pn**	**23 53 19.5**	**+1.2**
MMLI				Sn	**Sn**	**23 53 58.5**	**+1.2**

*ISCJB **28** 00:01:39.8±0.6, 4168N±005×2429E±005, h10km, Error ellipse: s-maj=6.6km s-min=5.0km az=172.2*
*CSEM **28** 00:01:40.0±0.2, 4172N×2425E, h15km, MD2.8, Error ellipse: s-maj=4.8km s-min=2.7km az=152.0*
*SOF **28** 00:01:40.0, 4170N×2427E, h16km, MD2.8*
*NEIC **28** 00:01:41.3, 4162N×2429E, h3km, MD3.2(ATH), After ATH.*
*ATH **28** 00:01:41.3, 4162N×2429E, h3km, MD3.2/4*
ISC 28 00:01:40.3±0.6, 4169N±004×2427E±005, h10km, n11, σ0§63/13, Greece-Bulgaria border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RZN	**Rozhen**	**0.33**	**90**	*i* Pg	**Pg**	**00 01 47.6**	**+0.7**
MMB	**Musomiste**	**0.42**	**256**	*i* Pg	**Pg**	**00 01 49.2**	**+0.7**
NVR	**Nevrokopi**	**0.46**	**222**	*e*PG	**Pg**	**00 01 49.3**	**+0.1**
NVR				*e*SG	**Sg**	**00 01 55.6**	**+0.3**
PLD	**Plovdiv**	**0.53**	**38**	*i* Pg	**Pg**	**00 01 51.6**	**+1.1**
KDZ	**Kurdzhali**	**0.86**	**92**	*i* Pg	**Pg**	**00 01 55.9**	**-1.0**
PGB	**Panagyurishte**	**0.86**	**355**	*i* Pg	**Pg**	**00 01 56.3**	**-0.6**
KKB	**Krupnik**	**0.90**	**282**	*i* Pg	**Pg**	**00 01 57.1**	**-0.6**
RDO	**Rodhopi**	**1.10**	**119**	*e*PG	**Pg**	**00 02 01.2**	**-0.2**
RDO				*e*SG	**Sg**	**00 02 15.7**	**0.0**
VTS	**Vitosha**	**1.20**	**319**	*i* P	**Pb**	**00 02 03.0**	**-0.1**
PLG	**Polygyros**	**1.46**	**206**	*e*PG	**Pg**	**00 02 07.7**	**-0.5**
JAN	**Janina**	**3.30**	**233**	*e*PN	**Pn**	**00 02 36.1**	**+4.1**

*NEIC **28** 00:13:36.1, 1549N×9717W, h19km, MD3.7(MEX), After MEX.*
MEX 28 00:13:36.1±0.5, 1549N×9717W, h19km±32km, MD3.7, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**1.06**	**75**	*i* P	Pb	00 13 52.4	-3.5
HUIG				*i* S	Sb	00 14 05.8	-3.6
PNIG	**Pinotepa**	**1.28**	**314**	*i* P	Pn	00 13 56.5	-2.5
PNIG				*i* S	Sn	00 14 10.7	-5.0
VHO	**Vista Hermosa**	**1.63**	**15**	*i* P	Pn	00 14 01.1	-2.6
VHO				*i* S	Sn	00 14 19.6	-4.6
OXX	**Oaxaca**	**1.64**	**15**	*i* P	Pn	00 14 03.2	-0.7
OXX				*i* S	Sn	00 14 21.7	-2.8
UTMO	**Huajuapan**	**2.40**	**345**	*i* P	Pn	00 14 12.0	-2.4
UTMO				*i* S	Sn	00 14 40.6	-2.7
TPIG	**Tehuac#an**	**2.92**	**356**	*i* S	Sn	00 14 53.2	-2.8
MEIG	**Mezcala**	**3.37**	**316**	*i* S	Sn	00 15 04.2	-3.0
PPM	**Popocatepetl**	**3.82**	**339**	*i* P	Pn	00 14 31.1	-2.7
PPM				*i* S	Sn	00 15 15.4	-2.8

*IDC **28** 00:20:42.6±1.3, 055N×12658E, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.8/15, mbtmp3.8/4, MS3.5/1, Ms1 3.5/1, ms1mx2.8/28, Error ellipse: s-maj=137.2km s-min=20.9km az=69.0*
NEIC 28 00:20:46.6±0.8, 070N×12697E, h30km, mb3.9/1, Error ellipse: s-maj=123.0km s-min=9.3km az=67.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRAB	**Tennant Creek**	**21.74**	**161**	*e*P	P	00 25 35.9	+0.2
	3.8nm,0.8s						
WRA	**Warramunga Arr**	**21.75**	**161**	P	P	00 25 36.0	+0.2
	3.3nm,0.7s,baz=338,slow=11,SNR=8.5						
WB2	**Warramunga Arr**	**21.75**	**161**	*e*P	P	00 25 36.2	+0.4
ASAR	**Alice Springs**	**25.14**	**165**	P	P	00 26 09.2	+0.1
	2.8nm,0.7s,baz=344,slow=10,SNR=23						
JOW	**Kunigami**	**26.01**	**3**	LR	LR	00 36 22.6	
	comp=Z,87nm,18.2s,baz=95,slow=36						
STKA	**Stephens Creek**	**35.23**	**158**	*e*P	P	00 27 37.8	-0.7
SONM	**Songino Array**	**50.23**	**342**	P	P	00 29 40.3	+0.4
	0.5nm,0.9s,baz=138,slow=9.0,SNR=3.7						
MK31	**Makanchi Array**	**60.18**	**326**	*e*P	P	00 30 51.3	-0.3
MKAR	**Makanchi Array**	**60.18**	**326**	P	P	00 30 52.0	+0.4
	1.2nm,0.8s,baz=125,slow=8.5,SNR=7.3						

*NEIC **28** 00:22:09.5, 1555N×9718W, h8km, MD4.1(MEX), After MEX.*
MEX 28 00:22:09.5±1.1, 1555N×9718W, h8km±16km, MD4.1, 1C, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**1.06**	**78**	*e*P	Pg	00 22 26.3	-3.5
HUIG				*i* S	Sg	00 22 40.9	-2.7
PNIG	**Pinotepa**	**1.24**	**313**	*e*P	Pn	00 22 29.7	-3.5
PNIG				*i* S	Sb	00 22 44.8	-4.6
VHO	**Vista Hermosa**	**1.58**	**16**	*i* P	Pn	00 22 35.2	-2.6
VHO				*i* S	Sn	00 22 53.1	-5.4
OXX	**Oaxaca**	**1.59**	**16**	*i* P	Pn	00 22 37.3	-0.7
OXX				*i* S	Sn	00 22 56.3	-2.5
UTMO	**Huajuapan**	**2.35**	**345**	*e*P	Pn	00 22 49.5	+1.0
UTMO				*i* S	Sn	00 23 14.1	-3.5
CMIG	**Matias Romero**	**2.69**	**55**	*e*P	Pn	00 22 50.3	-2.9
CMIG				*i* S	Sn	00 23 22.5	-3.4
TPIG	**Tehuac#an**	**2.86**	**357**	⇑*i*P	Pn	00 22 59.2	+3.7
TPIG				*i* S	Sn	00 23 28.2	-2.1
CAIG	**El Cayaco**	**3.32**	**297**	*i* P	Pn	00 22 59.2	-2.6
CAIG				*i* S	Sn	00 23 37.8	-3.8
MEIG	**Mezcala**	**3.33**	**316**	*i* S	Sn	00 23 37.0	-4.7
PLIG	**Platanillo**	**3.60**	**322**	*i* S	Sn	00 23 47.1	-1.3
PPM	**Popocatepetl**	**3.77**	**339**	*i* P	Pn	00 23 06.6	-1.3
PPM				*i* S	Sn	00 23 50.4	-2.1
CCIG	**Comitan**	**4.91**	**81**	*i* S	Sn	00 24 18.8	-2.0

*DHMR **28** 00:25:37.2±1.6, 1192N×4391E, h5km±8km, ML4.6*
*ISCJB **28** 00:25:41.5±0.5, 1193N±004×4394E±004, h10km, mb4.0/12, MS3.6/5, Error ellipse: s-maj=8.2km s-min=3.2km az=135.3*
*CSEM **28** 00:25:42.2±0.2, 1179N×4385E, h5km, mb4.6/2, Error ellipse: s-maj=10.7km s-min=2.9km az=149.0*
*NEIC **28** 00:25:42.9, 1205N×4387E, h8km, mb4.6/2, ML4.6(DHMR), ML4.4(ARO), After ARO.*
*IDC **28** 00:25:44.4±1.3, 1189N×4378E, h0km, mb3.9/10, mb1 4.0/11, mb1mx3.8/24, mbtmp3.9/11, MS3.6/7, Ms1 3.6/7, ms1mx3.3/26, Error ellipse: s-maj=32.2km s-min=9.4km az=148.0*
ISC 28 00:25:42.3±0.6, 1193N±005×4387E±005, h10km, n53, σ1§63/72, mb4.0/12, MS3.6/5, 6C-3D, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATA	**Atar**	**0.80**	**234**	P	**Pg**	**00 25 58.0**	**+0.1**
ATA				S	**Sg**	**00 26 10.1**	**+1.8**
ATA	**Atar**	**0.80**	**234**	P	**Pg**	**00 25 58.0**	**+0.2**
ATA				S	**Sg**	**00 26 10.1**	**+1.8**
TDD	**Tadjoura Ara**	**0.95**	**263**	P	**Pg**	**00 25 59.3**	**-1.4**
TDD	**Tadjoura Ara**	**0.95**	**263**	P	**Pg**	**00 25 59.3**	**-1.3**
ATD	**Arta Tunnel**	**1.08**	**249**	Pg	**Pg**	**00 26 02.3**	**-0.7**
ATD				Lg		00 26 17.3	
ATD	**Arta Tunnel**	**1.08**	**249**	Pg	**Pg**	**00 26 02.3**	**-0.7**
	194nm,0.3s,baz=70,slow=3.8,SNR=1277						
ATD				Lg		00 26 17.3	
	861nm,0.3s,baz=255,slow=20,SNR=51						
SGH	**Sud-Ghoubbet**	**1.31**	**248**	P	**Pn**	**00 26 05.5**	**-1.2**
SGH				S	**Sb**	**00 26 23.7**	**-0.1**
SGH	**Sud-Ghoubbet**	**1.31**	**248**	P	**Pn**	**00 26 05.5**	**-1.1**
SGH				S	**Sb**	**00 26 23.7**	**-0.1**
TRBA	**At Turbah**	**1.32**	**10**	*i* P	**Pn**	**00 26 03.0**	**-3.8**
TRBA				*i* S	**Sb**	**00 26 20.3**	**-3.8**
TRBA	**At Turbah**	**1.32**	**10**	⇑*e*P	**Pn**	**00 26 01.9**	**-4.9**
TRBA				*i* S	**Sb**	**00 26 20.3**	**-3.8**
TRBA				AML	AML	00 26 27.4	
	comp=E,13μm,0.5s						
DAF	**Dafare**	**1.35**	**257**	P	**Pn**	**00 26 07.3**	**+0.1**
DAF	**Dafare**	**1.35**	**257**	P	**Pn**	**00 26 07.3**	**+0.1**
ADEN	**Aden**	**1.38**	**52**	*i* P	**Pn**	**00 26 03.0**	**-4.6**
ADEN				*i* S	**Sb**	**00 26 21.0**	**-4.8**
ADEN	**Aden**	**1.38**	**52**	⇓*i*P	**Pn**	**00 26 03.0**	**-4.6**
ADEN				*i* S	**Sb**	**00 26 21.0**	**-4.8**
ADEN				AML	AML	00 26 28.1	
	comp=E,27μm,0.7s						
ADEN	**Aden**	**1.38**	**52**	*i* P	**Pn**	**00 26 03.0**	**-4.6**
ADEN				*i* S	**Sb**	**00 26 21.0**	**-4.8**
GBR	**Grand-Bara**	**1.58**	**241**	P	**Pn**	**00 26 09.6**	**-0.8**
GBR	**Grand-Bara**	**1.58**	**241**	P	**Pn**	**00 26 09.6**	**-0.8**
UDYN	**Al 'Udayn**	**2.03**	**3**	*i* P	**Pn**	**00 26 13.8**	**-2.8**
UDYN				*i* S	**Sn**	**00 26 41.8**	**-0.2**
UDYN	**Al 'Udayn**	**2.03**	**3**	⇑*i*P	**Pn**	**00 26 13.8**	**-2.8**
UDYN				*i* S	**Sn**	**00 26 41.8**	**-0.2**
UDYN				AML	AML	00 26 51.1	
	comp=N,6μm,1.0s						
UDYN	**Al 'Udayn**	**2.03**	**3**	⇑*i*P	**Pn**	**00 26 13.8**	**-2.8**
UDYN				*i* S	**Sn**	**00 26 41.8**	**-0.3**
	comp=N,3μm,1.0s						
LBOS		**2.35**	**35**	*i* P	**Pn**	**00 26 19.0**	**-2.1**
LBOS				*i* S	**Sn**	**00 26 50.7**	**+0.6**
LBOS		**2.35**	**35**	⇑*i*P	**Pn**	**00 26 17.7**	**-3.4**
LBOS				*i* S	**Sn**	**00 26 50.7**	**+0.6**
BDHA	**Al Bayda'**	**2.62**	**39**	*i* P	**Pn**	**00 26 23.0**	**-1.8**
BDHA				*i* S	**Sn**	**00 26 58.4**	**+1.7**
BDHA	**Al Bayda'**	**2.62**	**39**	⇑*i*P	**Pn**	**00 26 21.5**	**-3.3**
BDHA				*i* S	**Sn**	**00 26 58.4**	**+1.7**
BDHA				AML	AML	00 27 04.0	
	comp=N,4μm,0.5s						
BDHA	**Al Bayda'**	**2.62**	**39**	⇑*i*P	**Pn**	**00 26 21.5**	**-3.3**
BDHA				*i* S	**Sn**	**00 26 58.3**	**+1.6**
	comp=N,2μm,0.5s						
DHBB	**Dhamar BB**	**2.68**	**11**	*i* P	**Pn**	**00 26 24.3**	**-1.2**
DHBB				*i* S	**Sn**	**00 27 00.4**	**+2.4**
HAJJ	**Hajjah**	**3.76**	**356**	⇓*i*P	**Pn**	**00 26 38.7**	**-1.7**
HAJJ				*i* S	**Sn**	**00 27 26.0**	**+1.2**
HAJJ				AML	AML	00 27 44.0	
	comp=E,3μm,0.5s						
HAJJ	**Hajjah**	**3.76**	**356**	⇓*i*P	**Pn**	**00 26 38.7**	**-1.7**
HAJJ				*i* S	**Sn**	**00 27 26.0**	**+1.3**
	comp=E,1μm,0.5s						
MUKL	**Al Mukalla**	**5.63**	**63**	*i* P	**Pn**	**00 27 02.7**	**-3.5**
MUKL				*i* S	**Sn**	**00 28 10.1**	**-0.9**
FURI	**Furi**	**5.93**	**240**	*e*PN	**Pb**	**00 27 20.9**	**-4.9**
FURI				*e*S	**Sg**	**00 28 42.7**	**-10**
KMBO	**Kilima Mbogo**	**14.54**	**207**	Pn	**Pn**	**00 29 10.9**	**+2.7**
KMBO				Lg		00 33 08.3	
KMBO				LR	LR	00 34 39.4	
KMBO	**Kilima Mbogo**	**14.54**	**207**	Pn	**Pn**	**00 29 10.9**	**+2.7**
	baz=30,slow=16,SNR=5.8						
KMBO				Lg		00 33 08.3	
	comp=E,0.2nm,0.3s,baz=70,slow=23,SNR=3.7						
KMBO				LR	LR	00 34 39.4	
	comp=E,351nm,19.1s,baz=106,slow=37						
KMBO	**Kilima Mbogo**	**14.54**	**207**	Pn	**Pn**	**00 29 10.9**	**+2.6**
EIL	**Elat**	**19.51**	**336**	LR	LR	00 35 41.7	
	comp=E,129nm,21.9s,baz=142,slow=31						
EIL				Lg		00 35 58.1	
	comp=E,0.1nm,0.3s,baz=50,slow=23,SNR=3.8						
ASF	**Jabal al Asfar**	**21.15**	**343**	P	**P**	**00 30 32.0**	**+4.4**
	comp=E,2.5nm,0.8s,mb3.6,baz=11,slow=7.4,SNR=4.4						
ASF				Lg		00 36 45.7	
	comp=E,1.1nm,0.9s,baz=345,slow=20,SNR=3.0						
MMAI	**Mount Meron Ar**	**22.38**	**341**	P	**P**	**00 30 43.8**	**+3.1**
	comp=E,1.8nm,1.0s,mb3.5,baz=49,slow=14,SNR=3.5						
MMAI				LR	LR	00 38 06.2	
	comp=E,112nm,20.5s,MS3.3,baz=180,slow=33						
KIV	**Kislovodsk**	**31.93**	**358**	*e*P	**P**	**00 32 14.1**	**+6.0**
	comp=E,6.9nm,0.9s,mb4.5						
KIV	**Kislovodsk**	**31.93**	**358**	*e*P	**P**	**00 32 14.1**	**+6.0**
AML	**Almayashu**	**39.75**	**35**	*e*P	**P**	**00 33 17.3**	**+2.0**
	comp=E,14nm,0.8s,mb4.7						
AML	**Almayashu**	**39.75**	**35**	*e*P	**P**	**00 33 17.3**	**+2.1**
AKASG	**Malin Array Be**	**40.48**	**346**	P	**P**	**00 33 24.9**	**+3.8**
	comp=E,0.8nm,0.6s,mb3.6,baz=168,slow=7.4,SNR=9.2						
AAK	**Ala-Archa**	**40.53**	**35**	P	**P**	**00 33 26.9**	**+5.2**
	comp=E,3.3nm,0.8s,mb4.0,baz=229,slow=9.3,SNR=6.6						
GERES	**GERESS Array B**	**44.51**	**332**	P	**P**	**00 33 57.5**	**+3.6**
	comp=E,1.5nm,0.8s,mb3.9,baz=126,slow=6.8,SNR=13						
BVAR	**Borovoye Array**	**46.16**	**22**	P	**P**	**00 34 11.2**	**+4.2**
	comp=E,1.8nm,0.9s,mb4.0,baz=196,slow=8.9,SNR=6.6						
MK31	**Makanchi Array**	**47.47**	**35**	*e*P	**P**	**00 34 17.8**	**+0.5**
MK31	**Makanchi Array**	**47.47**	**35**	*e*P	**P**	**00 34 17.8**	**+0.5**
MKAR	**Makanchi Array**	**47.47**	**35**	P	**P**	**00 34 21.5**	**+4.2**
	comp=E,2.3nm,0.7s,mb4.2,baz=224,slow=6.8,SNR=6.7						
MKAR				LR	LR	00 58 42.4	
	comp=E,48nm,18.1s,MS3.5,baz=5.0,slow=42						
ZALV	**Zalesovo Beam**	**52.95**	**29**	P	**P**	**00 35 02.2**	**+3.5**
ZALV				LR	LR	01 00 56.6	
ZALV	**Zalesovo Beam**	**52.95**	**29**	P	**P**	**00 35 02.2**	**+3.5**
	comp=E,2.9nm,0.9s,mb4.2,baz=236,slow=6.9,SNR=8.6						
ZALV				LR	LR	01 00 56.6	
	comp=E,112nm,19.6s,MS3.9,baz=116,slow=40						
NOA	**NORSAR Array B**	**54.52**	**341**	P	**P**	**00 35 14.1**	**+4.0**
	comp=E,0.5nm,0.7s,mb3.7,baz=141,slow=6.3,SNR=3.2						
NOA				LR	LR	00 59 58.0	
	comp=E,34nm,18.1s,MS3.5,baz=80,slow=38						
ARCES	**ARCESS Array B**	**58.74**	**353**	LR	LR	01 00 29.9	
	comp=E,75nm,19.7s,MS3.8,baz=185,slow=36						
SONM	**Songino Array**	**62.87**	**42**	P	**P**	**00 36 12.5**	**+3.9**
	comp=E,1.7nm,0.8s,mb4.2,baz=240,slow=7.4,SNR=9.4						
TXAR	**Lajitas Array**	**128.39**	**323**	PKP	PKPdf	00 44 55.0	+5.0
	comp=E,0.3nm,0.7s,baz=117,slow=4.5,SNR=4.2						

IDC 28 00:26:31.6±2.0, 052N×12661E, h0km, mb3.9/4, mb1 4.2/4, mb1mx3.8/15, mbtmp4.0/4, Error ellipse: s-maj=172.7km s-min=26.2km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.70**	**160**	P	P	00 31 24.5	+0.3
	2.8nm,0.6s,baz=339,slow=11,SNR=9.7						
WB2	**Warramunga Arr**	**21.70**	**160**	*e*P	P	00 31 24.9	+0.6
ASAR	**Alice Springs**	**25.06**	**164**	P	P	00 31 57.8	0.0
	3.4nm,0.8s,baz=344,slow=8.9,SNR=22						
STKA	**Stephens Creek**	**35.20**	**158**	P	P	00 33 27.4	-0.2
	2.0nm,0.6s,baz=321,slow=13,SNR=2.9						
MKAR	**Makanchi Array**	**60.13**	**326**	P	P	00 36 41.0	+0.1
	0.6nm,0.7s,baz=114,slow=7.0,SNR=3.6						

*NIED **28** 00:27:00, 3570N×13660E, h11km, Mw4.1 Best double couple: M0 1.70000×10^15 NP1:φs197.00000°, δ52.00000°, λ110.00000°. NP2:φs345.00000°, δ42.00000°, λ66.00000°.*
*BJI **28** 00:27:15.2, 3504N×13751E, h9km, mB4.6, mb4.4, Ms4.0, Msz3.9*
*IDC **28** 00:27:22.6±0.5, 3566N×13657E, h0km, mb4.1/20, mb1 4.2/22, mb1mx4.2/28, mbtmp4.1/22, ML3.7/2, MS3.1/3, Ms1 3.1/3, ms1mx2.8/35, Error ellipse: s-maj=13.7km s-min=10.7km az=144.0*
*ISCJB **28** 00:27:23.9±0.6, 3565N±004×13661E±004, h17km±4km, mb4.2/30, MS4.0/2, Error ellipse: s-maj=6.0km s-min=5.5km az=153.5*
*NEIC **28** 00:27:24.7, 3573N×13663E, h10km, mb4.5/5, MW4.1(NIED), After JMA.*
NEIC Recorded [3 JMA] in Fukui and Gifu; [2 JMA] in Ishikawa, Nagano, Shizuoka and Toyama; [1 JMA] in Aichi, Hyogo, Kyoto, Mie, Osaka, Shiga and Yamanashi Prefectures.
*JMA **28** 00:27:24.6, 3573N×13663E, h10km±1km, M4.6 Broadband fault plane solution: P waves. NP1: φs0.00000°, δ36.00000°, λ76.00000°. NP2:φs197.00000°, δ56.00000°, λ100.00000°. Principal axes: T Plg77.0000°, Azm139.0000°; N Plg8.0000°, Azm11.0000°; P Plg10.0000°, Azm280.0000°;*
JMA Felt III J1.
*MOS **28** 00:27:25.6±1.1, 3561N×13659E, h33km, mb4.4/16 Error ellipse: s-maj=13.8km s-min=7.5km az=92.6*
ISC 28 00:27:24.7±0.5, 3568N±003×13666E±004, h10km±3km, n77, σ1§00/78, mb4.2/30, MS4.0/2, 2C-3D, Western Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JGM	**Miyama**	**0.05**	**69**	⇓P	**Pg**	**00 27 26.9**	**+0.2**
JGM				S	**Sg**	**00 27 28.4**	**+0.3**
JKG	**Kaga**	**0.65**	**336**	⇓P	**Pg**	**00 27 36.4**	**-0.9**
JKG				*e*S	**Sg**	**00 27 44.6**	**-1.2**
TSUJ	**Tsu 2**	**0.99**	**192**	⇑P	**Pg**	**00 27 44.0**	**+0.3**
TSUJ				S	**Sg**	**00 27 57.5**	**+0.9**
MAJO	**Matsushiro**	**1.52**	**55**	*e*Pn	**Pn**	**00 27 52.0**	**+0.3**
MAJO				*e*Sn	**Sn**	**00 28 12.7**	**+1.1**
MAT	**Matsushiro**	**1.52**	**55**	P	**Pn**	**00 27 52.1**	**+0.3**
MAT				S	**Sn**	**00 28 13.0**	**+1.4**
MJAR	**Matsushiro Arr**	**1.52**	**55**	Pg	**Pg**	**00 27 52.3**	**-1.5**
	355nm,0.3s,baz=240,slow=17,SNR=809						
MJAR				Lg		00 28 13.9	
	335nm,0.3s,baz=242,slow=27,SNR=22						
JHJ	**Hachijo jima 2**	**3.63**	**134**	Pn	**Pn**	**00 28 21.2**	**+0.3**
	14nm,0.3s,baz=234,slow=19,SNR=4.1						
JHJ				LR	LR	00 29 47.9	
	comp=Z,176nm,19.1s,baz=114,slow=39						
JNU	**Nakatsue**	**5.42**	**244**	Pn	**Pn**	**00 28 46.6**	**+1.1**
	2.4nm,0.3s,baz=41,slow=11,SNR=9.4						
JNU				Lg		00 30 15.1	
	3.6nm,0.3s,baz=306,slow=27,SNR=6.9						
KSRS	**Korea Array**	**7.25**	**287**	Pn	**Pn**	**00 29 11.3**	**+0.7**
	1.2nm,0.3s,baz=96,slow=14,SNR=18						
KSRS				Sn	**Sn**	**00 30 34.3**	**+1.3**
	5.0nm,0.3s,baz=104,slow=24,SNR=22						
KSRS				LR	LR	00 31 55.6	
	comp=Z,211nm,19.0s,baz=357,slow=38						
ASAJ	**Asahikawa**	**9.57**	**27**	LR	LR	00 33 13.8	
	comp=Z,112nm,18.1s,baz=121,slow=36						
CN2	**Changchun**	**11.83**	**317**	*e*P	**Pn**	**00 30 20.3**	**+6.9**
YSS	**Yuzh-Sakhalins**	**12.15**	**20**	*e*Pn	**Pn**	**00 30 17.1**	**-0.5**
	12nm,0.4s						
YSS	**Yuzh-Sakhalins**	**12.15**	**20**	*e*P	**Pn**	**

WRAB pmax pmax
comp=Z,4.0nm,0.7s,mb4.6
WB2 Warramunga Arr 55.36 183 *eP* **P 00 36 57.7 -1.0**
WB2 Warramunga Arr 55.36 183 *eP* **P 00 36 57.6 -1.1**
WRA Warramunga Arr 55.36 183 *i P* **P 00 36 58.4 -0.3**
WRA pmax pmax
comp=Z,7.0nm,0.7s
WRA Warramunga Arr 55.36 183 P **P 00 36 58.1 -0.6**
comp=Z,7.1nm,0.7s,mb4.8,baz=359,slow=7.6,SNR=39
INK Inuvik 57.31 26 P **P 00 37 12.1 -0.1**
INK pmax pmax
comp=Z,1.0nm,0.5s
INK Inuvik 57.31 26 P **P 00 37 12.1 -0.1**
comp=Z,0.6nm,0.5s,mb3.9,baz=290,slow=7.8,SNR=8.5
ASAR Alice Springs 59.08 183 P **P 00 37 24.9 -0.1**
ASAR pmax pmax
comp=Z,3.0nm,0.6s
ASAR Alice Springs 59.08 183 P **P 00 37 24.9 -0.1**
comp=Z,3.0nm,0.6s,mb4.5,baz=12,slow=13,SNR=48
YKA Yellowknife Ar 66.86 29 P **P 00 38 15.9 -0.4**
YKA Yellowknife Ar 66.86 29 P **P 00 38 15.9 -0.4**
comp=Z,0.2nm,0.7s,mb3.3,baz=306,slow=12,SNR=7.0
STKA Stephens Creek 67.36 175 P **P 00 38 19.5 -0.3**
STKA Stephens Creek 67.36 175 P **P 00 38 19.5 -0.2**
comp=Z,4.5nm,0.9s,mb4.5,baz=4.8,slow=12,SNR=3.2
FINES FINESS Array B 68.18 331 P **P 00 38 23.9 -0.8**
FINES pmax pmax
comp=Z,1.0nm,0.6s
FINES FINESS Array B 68.18 331 P **P 00 38 23.9 -0.8**
comp=Z,0.9nm,0.6s,mb4.0,baz=116,slow=4.4,SNR=6.1
KIV Kislovodsk 68.85 309 *eP* **P 00 38 29.6 +0.4**
KIV pmax pmax
comp=Z,5.0nm,1.0s,mb4.4
NWAO Narrogin (SRO) 70.64 197 P **P 00 38 39.6 -0.5**
NWAO pmax pmax
comp=Z,4.0nm,0.6s
NWAO Narrogin (SRO) 70.64 197 P **P 00 38 39.6 -0.5**
comp=Z,3.5nm,0.6s,mb4.5,baz=40,slow=7.9,SNR=4.0
AKASG Malin Array Be 72.96 321 P **P 00 38 53.0 -1.1**
AKASG pmax pmax
comp=Z,1.0nm,0.6s
AKASG Malin Array Be 72.96 321 P **P 00 38 53.0 -1.1**
comp=Z,1.1nm,0.6s,mb4.0,baz=51,slow=6.3,SNR=7.3
BHD Baghdad 73.15 299 *ex* x 00 47 41.0
NB2 NORSAR Subarra 73.89 336 P **P 00 38 58.2 -1.1**
comp=Z,0.6nm,0.7s,mb3.6,baz=42,slow=5.9
NOA NORSAR Array B 73.89 336 P **P 00 38 58.5 -0.8**
NOA pmax pmax
comp=Z,1.0nm,0.7s
NOA NORSAR Array B 73.89 336 P **P 00 38 58.5 -0.9**
comp=Z,0.7nm,0.7s,mb3.7,baz=41,slow=5.9,SNR=4.7
NVAR Mina Array Bea 78.84 51 P **P 00 39 28.6 +0.8**
comp=Z,0.8nm,0.7s,mb3.7,baz=307,slow=4.5,SNR=6.8
CLL Collm 80.28 328 *i P* **P 00 39 34.6 -0.9**
CLL *e* 00 39 45.0
CLL pmax pmax
comp=Z,6.0nm,1.3s,mb4.4
CLL Collm 80.28 328 *i P* **P 00 39 34.6 -0.9**
comp=Z,6.0nm,1.3s,mb4.4
CLL *e*(PcP) PcP 00 39 45.0 +2.4
KHC Kasperske Hory 81.61 326 *i P* **P 00 39 41.0 -1.6**
GERES GERESS Array B 81.76 326 P **P 00 39 43.1 -0.3**
comp=Z,0.2nm,0.7s,mb3.2,baz=38,slow=5.0,SNR=3.9
ULM Lac du Bonnet 82.69 31 P **P 00 39 47.5 -0.8**
comp=Z,1.5nm,0.7s,mb4.1,baz=266,slow=4.6,SNR=3.3
SCHQ Schefferville 87.61 13 P **P 00 40 12.8 0.0**
SCHQ Schefferville 87.61 13 P **P 00 40 12.8 0.0**
comp=Z,2.7nm,0.9s,mb4.5,baz=18,slow=6.4,SNR=4.0
TXAR Lajitas Array 93.95 50 P **P 00 40 43.3 +0.4**
TXAR pmax pmax
comp=Z,1.0nm,0.7s
TXAR Lajitas Array 93.95 50 P **P 00 40 43.3 +0.4**
comp=Z,0.7nm,0.7s,mb4.2,baz=284,slow=3.1,SNR=9.5
LPAZ La Paz 150.65 55 PKIKP PKPbc 00 47 17.8 +0.5
LPAZ pmax pmax
comp=Z,2.0nm,0.7s
LPAZ La Paz 150.65 55 PKPbc PKPbc 00 47 17.8 +0.5
comp=Z,1.5nm,0.7s,baz=7.1,slow=8.1,SNR=6.0

*IDC **28** 00:45:00.5±2.1, 4714N×1524ZE, h0km, mb3.9/7, mb1 4.0/7, mb1mx3.7/21, mbtmp3.9/7, MS3.2/3, Ms1 3.2/3, ms1mx2.8/36, Error ellipse: s-maj=55.9km s-min=26.4km az=162.0*
*ISCJB **28** 00:45:04.6±2.3, 468N±02×1525E±02, h53km±20km, mb3.8/7, MS3.5/2, Error ellipse: s-maj=33.3km s-min=14.5km az=135.3*
*MOS **28** 00:45:04.8±1.8, 4683N×1523ZE, h58km, mb4.3/4, Error ellipse: s-maj=26.0km s-min=15.4km az=76.0*
*NEIC **28** 00:45:29.6±4.7, 4807N×1517 6E, h203km±29km, mb4.3/2, Error ellipse: s-maj=60.7km s-min=27.1km az=171.0*
ISC 28 00:45:08.0±2.0,468N±02×1524E±02,h67km±16km,n24, σ0§95/22,mb3.7/7,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**3.54**	**245**	*e*PN	**Pn**	**00 45 57.0**	**-3.6**
KUR				*e*S	**Sn**	**00 46 41.3**	**+0.1**
KUR				pmax	pmax		
	comp=Z,90nm,0.3s						
KUR				smax			
	comp=N,220nm,0.8s						
KUR				smax			
	comp=E,320nm,0.8s						
PET	**Petropavlovsk**	**7.41**	**31**	Pn	**Pn**	**00 47 05.3**	**+12**
	comp=E,11nm,0.4s						
ASAJ	**Asahikawa**	**7.42**	**252**	LR	LR	00 49 26.4	
	comp=E,54nm,20.7s,baz=333,slow=35						
ERM	**Erimo**	**8.18**	**238**	*e*PN	**Pn**	**00 47 03.3**	**-0.7**
MA2	**Magadan**	**12.83**	**356**	*e*Pn	**Pn**	**00 48 07.8**	**+0.5**
	comp=E,7.8nm,0.8s						
MA2	**Magadan**	**12.83**	**356**	*e*PN	**Pn**	**00 48 07.8**	**+0.6**
MA2				pmax	pmax		
	comp=Z,8.0nm,0.8s						
KSRS	**Korea Array**	**20.37**	**252**	P	**P**	**00 49 41.4**	**+2.4**
	comp=Z,1.2nm,0.4s,baz=55,slow=10,SNR=6.6						
BILL	**Bilibino**	**22.45**	**14**	*i P*	**P**	**00 49 56.2**	**-4.7**
BILL				pmax	pmax		
	comp=Z,8.0nm,2.1s,mb3.7						
INK	**Inuvik**	**41.86**	**32**	P	**P**	**00 52 51.1**	**+0.2**
	comp=Z,0.4nm,0.5s,mb3.4,baz=325,slow=5.6,SNR=8.5						
MK31	**Makanchi Array**	**46.50**	**297**	*e*P	**P**	**00 53 28.8**	**+0.5**
MKAR	**Makanchi Array**	**46.50**	**297**	P	**P**	**00 53 28.7**	**+0.4**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
MKAR	**Makanchi Array**	**46.50**	**297**	P	**P**	**00 53 27.6**	**-0.6**
	comp=Z,0.8nm,0.8s,mb3.5,baz=64,slow=8.7,SNR=6.2						
HNR	**Honiara**	**56.38**	**171**	LR	LR	01 16 57.8	
	comp=Z,75nm,18.6s,baz=175,slow=34						
AKTO	**Aktyubinsk**	**58.34**	**311**	LR	LR	01 22 54.1	
	comp=Z,19nm,19.5s,baz=305,slow=39						
FINES	**FINESS Array B**	**63.79**	**334**	P	**P**	**00 55 31.7**	**-0.8**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
FINES	**FINESS Array B**	**63.79**	**334**	P	**P**	**00 55 31.7**	**-0.8**
	comp=Z,1.0nm,0.4s,mb4.0,baz=34,slow=7.0,SNR=16						
NB2	**NORSAR Subarra**	**68.02**	**341**	P	**P**	**00 55 58.9**	**-0.8**
	comp=Z,0.8nm,0.5s,mb3.8,baz=28,slow=6.5						
NOA	**NORSAR Array B**	**68.02**	**341**	P	**P**	**00 55 59.0**	**-0.7**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
NOA	**NORSAR Array B**	**68.02**	**341**	P	**P**	**00 55 59.0**	**-0.6**
	comp=Z,1.2nm,0.6s,mb3.9,baz=28,slow=6.4,SNR=7.6						
AKASG	**Malin Array Be**	**71.24**	**326**	P	**P**	**00 56 18.8**	**-0.8**
AKASG	**Malin Array Be**	**71.24**	**326**	P	**P**	**00 56 18.8**	**-0.8**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.3s						
AKASG	**Malin Array Be**	**71.24**	**326**	P	**P**	**00 56 18.8**	**-0.8**
	comp=Z,1.1nm,0.3s,mb4.2,baz=36,slow=6.3,SNR=8.3						
TXAR	**Lajitas Array**	**77.88**	**60**	P	**P**	**00 56 59.5**	**+1.1**
TXAR	**Lajitas Array**	**77.88**	**60**	P	**P**	**00 56 58.1**	**-0.3**
	comp=Z,0.2nm,0.7s,mb3.0,baz=289,slow=3.8,SNR=4.8						

*SOF **28** 00:49:20.6, 4172N×2427E, h20km, MD2.7*
*ISCJB **28** 00:49:21.1±0.7, 4172N±006×2425E±006, h4km±13km, Error ellipse: s-maj=10.9km s-min=6.9km az=156.0*
*CSEM **28** 00:49:21.2±0.1, 4172N×2425E, h12km, MD2.7, Error ellipse: s-maj=1.9km s-min=1.3km az=171.0*
*ATH **28** 00:49:21.1, 4171N×2427E, h2km±1km, MD3.2/3*
ISC 28 00:49:21.5±0.7,4170N±006×2427E±006,h8km±12km,n9, σ0§66/11,Greece-Bulgaria border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RZN	**Rozhen**	**0.34**	**92**	*i* Pg	**Pg**	**00 49 28.6**	**+0.5**
MMB	**Musomiste**	**0.42**	**254**	*i* Pg	**Pg**	**00 49 30.0**	**+0.3**
NVR	**Nevrokopi**	**0.47**	**221**	*e*PG	**Pg**	**00 49 30.3**	**-0.2**
NVR				*e*SG	**Sg**	**00 49 37.0**	**+0.4**
PLD	**Plovdiv**	**0.52**	**39**	*i* Pg	**Pg**	**00 49 32.7**	**+1.2**
KDZ	**Kurdzhali**	**0.86**	**93**	*i* Pg	**Pg**	**00 49 36.9**	**-1.2**
KKB	**Krupnik**	**0.90**	**281**	*i* Pg	**Pg**	**00 49 38.0**	**-0.8**
RDO	**Rodhopi**	**1.10**	**120**	*e*PB	**Pb**	**00 49 42.2**	**-0.6**
RDO				*e*SB	**Sb**	**00 49 57.5**	**+0.1**
VTS	**Vitosha**	**1.19**	**319**	*i* Pg	**Pg**	**00 49 44.0**	**-0.3**
PLG	**Polygyros**	**1.47**	**205**	*e*PN	**Pn**	**00 49 48.8**	**+0.6**

*ISCJB **28** 00:54:31.8±1.4, 179S±02×1786W±01, h505km±20km, mb3.9/11, Error ellipse: s-maj=28.7km s-min=14.7km az=149.2*
*NEIC **28** 00:54:33.0±1.0, 1786S×17855W, h510km±13km, mb4.1/4, Error ellipse: s-maj=19.8km s-min=9.8km az=148.0*
*IDC **28** 00:54:32.2±7.4, 1780S×17852W, h496km±87km, mb3.4/8, mb1 3.7/8, mb1mx3.5/15, mbtmp3.4/8, Error ellipse: s-maj=32.6km s-min=22.6km az=19.0*
ISC 28 00:54:32.9±1.4,179S±02×1786W±01,h505km±20km,n19, σ0§64/17,mb3.9/11,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**7.63**	**60**	*e*P	**P**	**00 56 25.8**	**0.0**
URZ	**Urewera**	**20.67**	**190**	P	**P**	**00 58 36.5**	**-0.7**
	9.0nm,0.7s,baz=300,slow=8.1,SNR=6.2						
CTAO	**Charters Tower**	**33.29**	**260**	*e*P	**P**	**01 00 28.4**	**+0.1**
	8.3nm,1.0s,mb4.1						
STKA	**Stephens Creek**	**38.51**	**241**	*e*P	**P**	**01 01 12.9**	**+1.4**
	5.5nm,0.5s,mb4.2						
STKA	**Stephens Creek**	**38.51**	**241**	*e*P	**P**	**01 01 12.4**	**+1.0**
STKA	**Stephens Creek**	**38.51**	**241**	P	**P**	**01 01 12.9**	**+1.4**
	7.3nm,0.5s,mb4.4,baz=56,slow=9.1,SNR=8.8						
WB2	**Warramunga Arr**	**44.47**	**260**	*e*P	**P**	**01 01 58.5**	**-0.4**
WRAB	**Tennant Creek**	**44.47**	**260**	*e*P	**P**	**01 01 58.5**	**-0.5**
	3.0nm,0.6s,mb3.9						
WRA	**Warramunga Arr**	**44.48**	**260**	P	**P**	**01 01 59.1**	**+0.1**
	2.3nm,0.5s,mb3.9,baz=93,slow=7.5,SNR=17						
ASAR	**Alice Springs**	**44.65**	**254**	P	**P**	**01 02 00.8**	**+0.6**
	27nm,0.6s,mb4.9,baz=88,slow=8.3,SNR=379						
MBWA	**Marble Bar**	**57.93**	**256**	*e*P	**P**	**01 03 36.2**	**-0.5**
	1.4nm,0.3s,mb3.8						
NWAO	**Narrogin (SRO)**	**59.09**	**242**	*e*P	**P**	**01 03 44.3**	**-0.1**
	17nm,1.1s,mb4.3						
VNDA	**Vanda**	**60.48**	**185**	*e*P	**P**	**01 03 52.4**	**-0.4**
	0.2nm,0.3s,mb3.0						
VNDA	**Vanda**	**60.48**	**185**	P	**P**	**01 03 53.6**	**+0.8**
	0.3nm,0.4s,mb3.1,baz=359,slow=6.0,SNR=4.5						
NVAR	**Mina Array Bea**	**79.50**	**44**	P	**P**	**01 05 47.0**	**+0.2**
	0.9nm,0.7s,mb3.4,baz=231,slow=10,SNR=7.1						
TXAR	**Lajitas Array**	**86.11**	**58**	P	**P**	**01 06 21.2**	**+1.0**
	1.0nm,0.7s,mb3.6,baz=220,slow=5.8,SNR=13						
YKA	**Yellowknife Ar**	**94.36**	**25**	P	**P**	**01 06 56.6**	**-1.1**
	0.2nm,0.5s,mb3.4,baz=237,slow=4.4,SNR=5.4						
CLL	**Collm**	**145.38**	**347**	*e*PKPbc	PKPbc	01 13 13.0	-0.9
GERES	**GERESS Array B**	**147.53**	**345**	PKPbc	PKPbc	01 13 18.5	-1.3
	0.7nm,0.5s,baz=20,slow=2.7,SNR=7.5						

*IDC **28** 01:01:12.4±0.6, 831N×7752W, h23km±3km, mb3.9/11, mb1 4.2/12, mb1mx4.0/19, mbtmp4.0/12, ML4.2/1, MS3.4/3, Ms1 3.4/3, ms1mx3.0/19, Error ellipse: s-maj=24.5km s-min=13.0km az=72.0*
*ISCJB **28** 01:01:14.0±0.9, 846N±006×7745W±005, h42km±10km, mb4.0/13, MS3.5/2, Error ellipse: s-maj=9.4km s-min=7.5km az=0.5*
*NEIC **28** 01:01:15.2±1.1, 832N×7754W, h46km±11km, mb4.3/2, Error ellipse: s-maj=14.2km s-min=9.9km az=55.0*
*CASC **28** 01:01:25.9±2.8, 1137N×7838W, h0km±999km, MD4.6, mb4.3(NEIC)*
ISC 28 01:01:15.4±0.7,842N±006×7749W±004,h41km±8km, h22km±2.6km:pP-P,n38,σ1§29/37,mb4.0/13,MS3.5/2,1C, Panama-Colombia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BCIP	**Isla Barro Col**	**2.44**	**288**	*e*Pn	**Pn**	**01 01 51.6**	**-1.1**
BCIP				*e*Sn	**Sn**	**01 02 20.0**	**-1.3**
AZU	**Azuero**	**2.83**	**258**	⇑*i*P	**Pn**	**01 01 57.4**	**-0.6**
AZU				*e*S	**Sn**	**01 02 30.3**	**-0.5**
ROSC	**El Rosal**	**4.73**	**138**	Pn	**Pn**	**01 02 26.1**	**+1.9**
	5.9nm,0.3s,baz=288,slow=5.1,SNR=31						
CNI	**Changuinola**	**5.07**	**282**	*e*P	**Pn**	**01 02 39.1**	**+10**
BAR1		**5.81**	**279**	*e*P	**Pn**	**01 02 41.9**	**+2.8**
URSC	**Urasca**	**6.37**	**283**	*e*P	**Pn**	**01 02 51.3**	**+4.6**
LCR2	**La Lucha 2**	**6.56**	**282**	*e*P	**Pn**	**01 02 52.1**	**+2.6**
LCR2				*e*S	**Sn**	**01 04 01.9**	**-1.3**
QCR	**Quepos**	**6.67**	**279**	*e*P	**Pn**	**01 02 55.2**	**+4.3**
SDV	**Santo Domingo**	**6.80**	**86**	Pn	**Pn**	**01 02 51.8**	**-0.9**
SDV				Sn	**Sn**	**01 04 05.4**	**-3.4**
SDV	**Santo Domingo**	**6.80**	**86**	Pn	**Pn**	**01 02 51.8**	**-0.9**
	5.0nm,0.3s,baz=288,slow=11,SNR=46						
SDV				Sn	**Sn**	**01 04 05.4**	**-3.4**
	12nm,0.3s,baz=66,slow=18,SNR=14						
PRS1	**Puriscal**	**6.91**	**284**	*e*P	**Pn**	**01 02 58.9**	**+4.7**
SDDR	**Presa de Saban**	**12.11**	**29**	*e*Pn	**Pn**	**01 04 06.1**	**+0.7**
	32nm,0.4s						
SDDR				*e*Sn	**Sn**	**01 06 18.6**	**-0.5**
PTP	**Ponta Puerca**	**15.12**	**49**	*e*P	Px	01 02 48.9	
ATAH	**Atahualpa**	**15.34**	**183**	Pn	**Pn**	**01 04 52.3**	**+3.1**
	0.2nm,0.3s,baz=48,slow=14,SNR=3.6						
TEIG	**Tepich**	**15.71**	**320**	LR	LR	01 10 27.0	
	comp=Z,96nm,21.5s,baz=102,slow=35						
LRAL	**Lakeview Retre**	**26.03**	**342**	*e*P	**P**	**01 06 47.5**	**+2.8**
	4.4nm,0.9s,mb4.0						
LPAZ	**La Paz**	**26.23**	**159**	P	**P**	**01 06 46.5**	**-0.2**
LPAZ	**La Paz**	**26.23**	**159**	P	**P**	**01 06 46.5**	**-0.2**
	1.1nm,0.8s,mb3.5,baz=329,slow=14,SNR=2.5						
TKL	**Tuckaleechee C**	**27.72**	**349**	LR	LR	01 17 08.6	
	comp=Z,90nm,19.2s,MS3.4,baz=293,slow=34						
SIV	**San Ignacio**	**29.19**	**146**	P	**P**	**01 07 10.9**	**-2.3**
	1.5nm,0.8s,mb3.8,baz=343,slow=11,SNR=6.6						
SIV				pP	pP	01 07 18.1	-6.4
	3.1nm,0.8s,baz=324,slow=10.0,SNR=9.3						
CCM	**Cathedral Cave**	**32.02**	**339**	*e*P	**P**	**01 07 38.3**	**+0.4**
	5.5nm,0.8s,mb4.4						
TXAR	**Lajitas Array**	**32.20**	**314**	pP	pP	01 07 46.1	-4.9
	0.7nm,0.9s,baz=152,slow=10.0,SNR=4.6						
BDFB	**Brasilia**	**37.73**	**129**	LR	LR	01 25 01.1	
	comp=Z,89nm,18.1s,MS3.6,baz=182,slow=38						
ULM	**Lac du Bonnet**	**44.42**	**343**	P	**P**	**01 09 21.7**	**-0.4**
ULM	**Lac du Bonnet**	**44.42**	**343**	P	**P**	**01 09 21.7**	**-0.4**
	4.7nm,0.9s,mb4.2,baz=149,slow=9.6,SNR=9.1						
NVAR	**Mina Array Bea**	**47.30**	**316**	P	**P**	**01 09 45.7**	**+0.7**
NVAR				PcP	PcP	01 11 16.2	+0.7
NVAR	**Mina Array Bea**	**47.30**	**316**	P	**P**	**01 09 45.7**	**+0.7**
	0.7nm,0.8s,mb3.6,baz=118,slow=7.0,SNR=4.9						
NVAR				PcP	PcP	01 11 16.2	+0.7
	0.3nm,0.7s,baz=106,slow=4.9,SNR=2.8						
PLCA	**Paso Flores**	**49.32**	**173**	P	**P**	**01 09 59.4**	**-1.0**
	0.3nm,0.3s,mb3.8,baz=330,slow=14,SNR=2.4						
PLCA				pP	pP	01 10 06.7	-5.5
	1.8nm,0.8s,baz=326,slow=10,SNR=4.7						
YKA	**Yellowknife Ar**	**60.33**	**341**	P	**P**	**01 11 19.5**	**-0.3**
YKA				pP	pP	01 11 26.4	-5.3
YKA				sP	sP	01 11 30.1	-6.4
YKA	**Yellowknife Ar**	**60.33**	**341**	P	**P**	**01 11 19.5**	**-0.3**
	4.3nm,0.7s,mb4.6,baz=131,slow=7.1,SNR=151						
YKA				pP	pP	01 11 26.4	-5.3
	3.0nm,0.6s,baz=131,slow=7.2,SNR=13						
YKA				sP	sP	01 11 30.1	-6.4
	3.0nm,0.6s,baz=131,slow=7.2,SNR=16						
ESDC	**Sonseca Array**	**72.00**	**51**	P	**P**	**01 12 36.1**	**+1.0**
	1.0nm,0.6s,mb3.9,baz=270,slow=6.2,SNR=7.4						
NOA	**NORSAR Array B**	**82.08**	**29**	P	**P**	**01 13 31.9**	**+0.6**
NOA	**NORSAR Array B**	**82.08**	**29**	P	**P**	**01 13 31.9**	**+0.6**
	0.7nm,0.8s,mb3.6,baz=297,slow=4.5,SNR=3.5						
GERES	**GERESS Array B**	**84.52**	**42**	P	**P**	**01 13 44.6**	**+0.5**
	0.9nm,0.6s,mb4.0,baz=268,slow=4.0,SNR=8.0						
ARCES	**ARCESS Array B**	**86.69**	**20**	P	**P**	**01 13 53.2**	**-1.2**
	2.9nm,0.8s,mb4.5,baz=297,slow=4.0,SNR=5.7						
FINES	**FINESS Array B**	**89.08**	**28**	P	**P**	**01 14 05.8**	**-0.3**
	1.7nm,0.9s,mb4.3,baz=213,slow=6.3,SNR=3.6						
ASAR	**Alice Springs**	**146.34**	**240**	PKPbc	PKPbc	01 20 51.2	-1.4
	2.0nm,0.7s,baz=119,slow=3.7,SNR=16						
ASAR				pPKPbc	pPKPbc	01 20 59.0	-6.5
	2.7nm,0.8s,baz=119,slow=4.0,SNR=10						
WRA	**Warramunga Arr**	**147.15**	**246**	PKPbc	PKPbc	01 20 52.5	-2.5
	1.0nm,0.7s,baz=103,slow=2.5,SNR=6.6						

IDC 28 01:07:31.1±8.8,1952S×16900E,h174km±80km,mb3.5/6, mb1 3.7/7,mb1mx3.6/14,mbtmp3.5/7,Error ellipse: s-maj=43.0km s-min=21.5km az=28.0,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**19.96**	**161**	P	P	01 11 49.7	-0.1
	1.0nm,0.3s,baz=325,slow=17,SNR=6.2						
CTA	**Charters Tower**	**21.41**	**265**	P	P	01 12 06.4	+1.0
	2.6nm,0.5s,baz=84,slow=12,SNR=4.1						
WRA	**Warramunga Arr**	**32.60**	**263**	P	P	01 13 45.3	-1.0
	0.4nm,0.3s,baz=91,slow=8.3,SNR=7.2						
ASAR	**Alice Springs**	**32.84**	**256**	P	P	01 13 48.5	+0.1
	4.4nm,0.6s,baz=84,slow=8.8,SNR=80						
VNDA	**Vanda**	**58.15**	**182**	P	P	01 17 06.2	+0.2
	0.8nm,0.8s,baz=336,slow=5.4,SNR=3.7						
SONM	**Songino Array**	**87.31**	**323**	P	P	01 19 58.9	+1.0
	0.3nm,0.5s,baz=145,slow=3.5,SNR=3.4						
NVAR	**Mina Array Bea**	**89.15**	**49**	P	P	01 20 07.3	+0.4
	0.4nm,0.6s,baz=223,slow=4.6,SNR=3.6						
YKA	**Yellowknife Ar**	**101.01**	**27**	P	Pdif	01 20 59.2	-1.5
	0.1nm,0.4s,baz=259,slow=5.0,SNR=4.0						
ARCES	**ARCESS Array B**	**125.28**	**345**	PKP	PKPdf	01 26 09.8	-0.5
	1.9nm,0.7s,baz=50,slow=3.8,SNR=7.8						
GERES	**GERESS Array B**	**144.63**	**332**	PKP	PKPdf	01 26 46.4	-0.3
	1.0nm,0.6s,baz=42,slow=4.2,SNR=14						

*CSEM **28** 01:07:34.8, 3826N×2047E, h20km, MD3.5/8, After ATH*
*NEIC **28** 01:07:34.8, 3826N×2047E, h20km, MD3.5(ATH), After ATH.*
ATH 28 01:07:34.8,3826N×2047E,h20km±1km,MD3.5/8,Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VLS	**Valsamata**	**0.12**	**131**	*e*PB	Pb	01 07 39.0	0.0
VLS				*e*SB	Sb	01 07 43.0	+1.2
RLS	**Riolos of Patr**	**0.81**	**104**	*e*PN	Pn	01 07 50.7	-0.4
EVR	**Evrytania**	**1.24**	**58**	*e*PN	Pn	01 07 58.0	+1.1
JAN	**Janina**	**1.43**	**12**	*e*PN	Pn	01 08 01.2	+1.7
KEK	**Kerkira**	**1.54**	**340**	*e*PN	Pn	01 08 03.3	+2.2
ITM	**Ithomi**	**1.58**	**133**	*e*PN	Pn	01 08 03.7	+2.1
THL	**Klokotos Trika**	**1.77**	**42**	*e*PN	Pn	01 08 06.5	+2.2
NEO	**Neokhori**	**2.39**	**63**	*e*PN	Pn	01 08 15.2	+2.4

*ISCJB **28** 01:11:06.8±0.4, 3653N±002×7042E±005, h203km±4km, mb3.8/17, Error ellipse: s-maj=6.3km s-min=3.5km az=172.4*
*MOS **28** 01:11:07.8±1.2, 3656N×7037E, h214km, mb4.2/12, Error ellipse: s-maj=16.4km s-min=7.1km az=79.8*
*BJI **28** 01:11:07.8, 3658N×7045E, h197km, mb4.6*
*NEIC **28** 01:11:07.5±0.6, 3645N×7050E, h204km±6km, mb5.0/7, Error ellipse: s-maj=9.2km s-min=6.5km az=107.0*
*IDC **28** 01:11:08.6±0.9, 3644N×7046E, h212km±8km, mb3.7/13, mb1 3.9/16, mb1mx3.7/25, mbtmp3.8/16, Error ellipse: s-maj=13.7km s-min=10.7km az=106.0*
*NNC **28** 01:11:15.1±4.0, 3721N×7020E, h193km±34km, mb3.6, mpv5.0, Error ellipse: s-maj=33.1km s-min=22.0km az=14.0*
ISC 28 01:11:07.5±0.4,3654N±002×7038E±005,h196km±4km, h213km±2.9km:pP-P,n100,σ1§15/124,mb3.8/17,7C-14D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KBL	**Kabul**	**2.27**	**209**	⇓*i*Pn	**Pn**	**01 11 49.4**	**+0.7**
KBL				*e*Sn	**Sn**	**01 12 20.2**	**-0.4**
CHCP	**Chirah Chowk**	**3.72**	**140**	⇓P	**Pn**	**01 12 07.7**	**+2.0**
CHCP				S	**Sn**	**01 12 48.0**	**-3.2**
THW	**Thamme Wali**	**3.90**	**163**	⇑P	**Pn**	**01 12 09.2**	**+1.3**
KSH	**Kashi**	**5.32**	**54**	P	**Pn**	**01 12 26.0**	**+0.2**
THN	**Thein Dam**	**6.01**	**131**	*e*P	**Pn**	**01 12 34.2**	**-0.7**
THN				*e*S	**Sn**	**01 13 40.5**	**-3.4**
AML	**Almayashu**	**6.14**	**24**	⇓*i*Pn	**Pn**	**01 12 37.5**	**+1.0**
	341nm,0.5s						
AML				*e*Sn	**Sn**	**01 13 45.6**	**-1.3**
AML	**Almayashu**	**6.14**	**24**	P	**Pn**	**01 12 37.5**	**+1.1**
	SNR=364						
UCH	**Uchtor**	**6.52**	**28**	⇓*i*Pn	**Pn**	**01 12 42.4**	**+1.1**
	205nm,0.5s						
UCH				*e*Sn	**Sn**	**01 13 54.5**	**-1.2**
UCH	**Uchtor**	**6.52**	**28**	P	**Pn**	**01 12 42.5**	**+1.2**
	SNR=142						
KK31	**Karatay Array**	**6.56**	**1**	P	**Pn**	**01 12 42.2**	**+0.4**
	22nm,0.2s,baz=200,slow=27,SNR=478						
KK31				⇑S	**Sn**	**01 13 47.6**	**-9.0**
	37nm,0.2s,baz=205,slow=176,SNR=8.4						
EKS2	**Erkin-Say**	**6.65**	**22**	⇓*i*Pn	**Pn**	**01 12 44.0**	**+1.0**
	73nm,0.7s						
EKS2				*e*Sn	**Sn**	**01 13 57.0**	**-1.8**
EKS2	**Erkin-Say**	**6.65**	**22**	P	**Pn**	**01 12 44.1**	**+1.0**
	SNR=58						
KZA	**Kyzart**	**6.69**	**33**	P	**Pn**	**01 12 44.4**	**+0.8**
	SNR=39						
AAK	**Ala-Archa**	**6.86**	**26**	PN	**Pn**	**01 12 45.9**	**+0.1**
AAK				S	**Sn**	**01

comp=Z,48nm,0.3s
AB31 Akbulak array 14.81 332 ⇓P **Pn 01 14 26.5 -0.9**
comp=Z,11nm,0.5s,baz=147,slow=12,SNR=175
AB31 ⇑S **Sn 01 17 04.1 -8.9**
comp=Z,4.1nm,0.5s,baz=159,slow=22,SNR=3.9
DMN Daman 15.32 121 *e*P **Pn 01 14 34.6 +0.9**
comp=Z,31nm,0.4s
KKN Kakani 15.32 120 *e*P **Pn 01 14 33.4 -0.4**
comp=Z,56nm,0.5s
KURK Kurchatov 15.36 20 ⇓P **Pn 01 14 32.8 -1.2**
KURK ⇑S **S 01 17 17.8 -6.5**
comp=Z,26nm,1.8s
KURK Kurchatov 15.36 20 *e*Pn **Pn 01 14 33.2 -0.8**
comp=Z,6.6nm,0.8s
KURK Kurchatov 15.36 20 *e*P **Pn 01 14 33.2 -0.8**
KURK pmax pmax
comp=Z,7.0nm,0.8s
PKIN Phulchoki 15.54 121 *e*P **Pn 01 14 37.7 +1.3**
PKI Pulchoki 15.55 121 *e*P **Pn 01 14 37.9 +1.3**
comp=Z,63nm,0.6s
GUN Gumba 15.67 119 *e*P **Pn 01 14 39.3 +1.3**
comp=Z,36nm,0.3s
JIRN Jiri 16.04 119 *e*P **Pn 01 14 44.8 +2.3**
comp=Z,20nm,0.2s
VOSK Vostochnaya 16.19 1 ⇑P **Pn 01 14 43.4 -0.6**
comp=Z,21nm,1.1s
ZRNK Zerenda 16.44 357 ⇑P **Pn 01 14 47.4 +0.4**
comp=Z,15nm,0.7s
BVA0 Borovoye Array 16.48 0 ⇓P **Pn 01 14 47.4 -0.1**
comp=Z,2.1nm,0.8s,baz=163,slow=10,SNR=77
BVAR Borovoye Array 16.48 0 P **Pn 01 14 47.7 +0.2**
BVAR pmax pmax
comp=Z,4.0nm,0.3s
BVAR Borovoye Array 16.48 0 P **Pn 01 14 47.7 +0.2**
comp=Z,4.4nm,0.3s,baz=162,slow=12,SNR=52
AKTK Aktyubinsk 16.50 331 P **Pn 01 14 48.1 +0.3**
AKTK S **S 01 17 47.3 -2.0**
AKTO Aktyubinsk 16.50 331 ⇓P **Pn 01 14 48.0 +0.2**
comp=Z,1.0nm,0.8s
AKTO ⇓S **S 01 17 47.3 -2.0**
comp=Z,0.1nm,0.7s
AKTO Aktyubinsk 16.50 331 P **Pn 01 14 48.1 +0.3**
AKTO S **S 01 17 47.3 -2.0**
AKTO pmax pmax
comp=Z,4.0nm,0.3s
AKTO Aktyubinsk 16.50 331 P **Pn 01 14 48.1 +0.3**
comp=Z,3.6nm,0.3s,baz=142,slow=12,SNR=113
AKTO S **S 01 17 47.3 -2.0**
comp=Z,0.3nm,0.3s,baz=158,slow=19,SNR=3.8
BRVK Borovoye 16.52 360 *e*P **Pn 01 14 48.0 0.0**
comp=Z,31nm,0.7s
BRVK Borovoye 16.52 360 *e*P **Pn 01 14 48.0 +0.1**
BRVK pmax pmax
comp=Z,31nm,0.7s
BLSP Bilaspur 17.61 141 *e*P **Pn 01 14 57.2 -4.1**
BOK Bokaro 18.43 129 *e*P **P 01 15 07.4 -0.9**
ZAL Zalesovo 20.07 25 P **P 01 15 26.4 +0.8**
ZAL S **S 01 19 01.1 +1.1**
ZAA0 Zalesovo Array 20.09 25 *e*P **P 01 15 26.1 +0.3**
ZALV Zalesovo Beam 20.09 25 P **P 01 15 26.4 +0.6**
comp=Z,11nm,0.3s,baz=218,slow=11,SNR=65
ZALV S **S 01 19 01.1 +0.7**
comp=Z,3.2nm,0.9s,baz=215,slow=18,SNR=4.5
NVS Novosibirsk 20.33 22 *e*P **P 01 15 28.2 -0.1**
NVS *e* 01 16 34.5
NVS *e*S **S 01 18 52.3 -13**
NVS pmax pmax
comp=Z,23nm,1.3s
NVS pmax pmax
comp=N,20nm,1.5s
NVS smax
comp=N,16nm,1.8s
NVS smax
comp=E,12nm,1.7s
HYB Hyderabad 20.37 157 *e*P **P 01 15 32.0 +2.8**
HYB Hyderabad 20.37 157 *i*P **P 01 15 32.0 +2.8**
ARU Arti 21.44 342 *e*P **P 01 15 40.9 +0.9**
comp=E,7.3nm,0.6s,mb4.4
ARU Arti 21.44 342 *e*P **P 01 15 40.9 +0.9**
ARU pmax pmax
comp=Z,7.0nm,0.6s,mb4.4
GTA Gaotai 23.33 74 *e*P **P 01 16 00.0 +2.0**
ZAK Zakamensk 27.34 49 *e*P **P 01 16 35.8 +1.8**
ZAK *e* pP 01 17 19.4 +5.7
ZAK pmax pmax
comp=Z,2.0nm,0.9s,mb3.8
ZAK pmax pmax
comp=Z,2.0nm,1.1s,mb3.7
SONM Songino Array 28.72 56 P **P 01 16 48.0 +1.7**
SONM pmax pmax
comp=Z,2.0nm,0.7s
SONM Songino Array 28.72 56 P **P 01 16 48.0 +1.7**
comp=Z,1.7nm,0.7s,mb3.8,baz=260,slow=9.7,SNR=14
GYA Guiyang 32.36 98 *e*P **P 01 17 19.0 +0.5**
GYA AMB AMB
comp=Z,10.0nm,0.8s,mb4.4
JOF Joensuu 35.59 330 *e*p **P 01 17 46.3 +0.5**
comp=Z,1.8nm,0.3s,mb4.1
JOF Joensuu 35.59 330 *e*P **P 01 17 46.3 +0.5**
JOF pmax pmax
comp=Z,2.0nm,0.3s,mb4.1
BOD Bodaibo 35.63 39 *e*P **P 01 17 47.0 +0.8**
BOD pmax pmax
comp=Z,2.0nm,0.8s,mb3.7
FINES FINESS Array B 37.17 326 P **P 01 18 00.0 +0.8**
FINES *PP pP 01 18 43.5 +3.2
FINES pmax pmax
comp=Z,1.0nm,0.4s
FINES pmax pmax
comp=Z,1.0nm,0.7s
FINES FINESS Array B 37.17 326 P **P 01 18 00.0 +0.8**
comp=Z,0.6nm,0.4s,mb3.5,baz=119,slow=11,SNR=7.8
FINES pP pP 01 18 43.5 +3.1
comp=Z,1.0nm,0.7s,baz=111,slow=10,SNR=1.6
KEV Kevo 40.58 338 *e*p **P 01 18 25.9 -1.5**
ARCES ARCESS Array B 40.92 338 P **P 01 18 31.0 +0.9**
ARCES pmax pmax
comp=Z,4.0nm,0.9s
ARCES ARCESS Array B 40.92 338 P **P 01 18 31.0 +0.8**
comp=Z,3.6nm,0.8s,mb3.8,baz=104,slow=7.0,SNR=10
NB2 NORSAR Subarra 44.05 323 P **P 01 18 54.9 -0.5**
comp=Z,2.9nm,0.9s,mb3.6,baz=96,slow=7.9
NOA NORSAR Array B 44.05 323 P **P 01 18 55.4 0.0**
NOA *PP pP 01 19 41.0 +3.2
NOA pmax pmax
comp=Z,3.0nm,1.0s
NOA pmax pmax
comp=Z,1.0nm,0.7s
NOA NORSAR Array B 44.05 323 P **P 01 18 55.4 0.0**
comp=Z,2.8nm,1.0s,mb3.6,baz=96,slow=7.8,SNR=6.7
NOA pP pP 01 19 41.0 +3.2
comp=Z,1.4nm,0.7s,baz=96,slow=8.1,SNR=3.7
KSRS Korea Array 45.34 71 P **P 01 19 05.3 -0.6**
comp=Z,0.5nm,0.3s,mb3.3,baz=295,slow=6.6,SNR=3.6
KMBO Kilima Mbogo 48.49 227 P **P 01 19 31.3 +0.7**
comp=Z,0.4nm,0.4s,mb3.1,baz=38,slow=16,SNR=10
FITZ Fitzroy Crossi 75.32 126 P **P 01 22 28.3 -0.9**
comp=Z,1.1nm,0.6s,mb3.7,baz=319,slow=3.6,SNR=3.6
BOSA Boshof 77.46 220 P **P 01 22 39.9 -1.1**
BOSA Boshof 77.46 220 P **P 01 22 39.9 -1.1**
BOSA pmax pmax
comp=Z,4.0nm,0.9s,mb4.0
BOSA Boshof 77.46 220 P **P 01 22 39.9 -1.1**
comp=Z,4.3nm,0.9s,mb4.1,baz=56,slow=9.9,SNR=5.6
YKA Yellowknife Ar 81.23 2 P **P 01 23 01.1 +0.1**
YKA *PP pP 01 23 52.0 +3.4
YKA pmax pmax
comp=Z,1.0nm,0.7s
YKA pmax pmax
comp=Z,1.0nm,0.6s
YKA Yellowknife Ar 81.23 2 P **P 01 23 01.1 +0.1**
comp=Z,1.4nm,0.7s,mb3.7,baz=350,slow=5.4,SNR=30
YKA pP pP 01 23 52.0 +3.4
comp=Z,1.2nm,0.6s,baz=352,slow=5.4,SNR=10
WRA Warramunga Arr 82.43 121 P **P 01 23 05.8 -2.1**
WRA pmax pmax
comp=Z,3.0nm,0.6s
WRA Warramunga Arr 82.43 121 P **P 01 23 05.8 -2.1**
comp=Z,2.8nm,0.6s,mb4.1,baz=322,slow=4.8,SNR=18
WB2 Warramunga Arr 82.44 121 *e*P **P 01 23 05.7 -2.2**
ASAR Alice Springs 84.69 124 P **P 01 23 17.4 -1.9**
ASAR pmax pmax
comp=Z,3.0nm,0.6s
ASAR Alice Springs 84.69 124 P **P 01 23 17.4 -1.9**
comp=Z,2.6nm,0.6s,mb4.1,baz=312,slow=4.9,SNR=34
CTA Charters Tower 91.01 114 P **P 01 23 47.5 -2.1**
CTA Charters Tower 91.01 114 P **P 01 23 47.5 -2.0**
CTA pmax pmax
comp=Z,2.0nm,0.6s
CTA Charters Tower 91.01 114 P **P 01 23 47.5 -2.1**
comp=Z,1.8nm,0.6s,mb4.2,baz=337,slow=5.7,SNR=3.7

CASC 28 01:15:45.3±2.2, 1058N×8645W, h29km±10km, MD3.7, ML2.8, 2D, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SSNN	**San Juan del S**	**0.92**	**40**	⇓*e*P	Pn	01 16 02.0	-0.2
SSNN				*e*S	Sb	01 16 15.3	+0.8
SSNN				*i*		01 16 21.4	
	comp=Z,224nm,0.4s						
VCR	**Vista de Mar**	**0.93**	**119**	*e*P	Pn	01 16 01.5	-0.9
MADN	**Villa Maderas**	**1.22**	**48**	*e*P	Pn	01 16 06.0	-0.4
MADN				*e*S	Sn	01 16 22.2	+0.3
CONN	**Concepcion**	**1.27**	**40**	*e*P	Pn	01 16 07.1	0.0
TICN	**Ticuantepe**	**1.46**	**8**	*e*P	Pn	01 16 10.1	+0.4
JCR	**Jicaral**	**1.50**	**119**	*e*P	Pn	01 16 09.6	-0.8
COPN	**Copaltepe**	**1.59**	**355**	⇓*e*P	Pn	01 16 11.1	-0.5
CGA2	**Cerro Gallo 2**	**2.03**	**106**	*e*P	Pn	01 16 19.5	+1.9
CGA2				*e*S	Sn	01 16 42.4	+0.3
PRS1	**Puriscal**	**2.19**	**106**	*e*P	Pn	01 16 20.7	+0.9
LAJ	**Bijagual**	**2.40**	**107**	*e*P	Pn	01 16 17.9	-4.8
LCR2	**La Lucha 2**	**2.55**	**109**	*e*P	Pn	01 16 25.4	+0.7
URSC	**Urasca**	**2.73**	**106**	*e*P	Pn	01 16 29.6	+2.3
BAR1		**3.37**	**113**	*e*P	Pn	01 16 35.2	-0.8
BAR1				*e*S	Sn	01 17 15.3	+0.3

*IDC **28** 02:02:48.8±5.7, 3680N×7576E, h0km, mb3.7/3, mb1 3.8/4, mb1mx3.4/20, mbtmp3.6/4, ML3.0/1, MS2.7/1, Ms1 2.7/1, ms1mx2.2/24, Error ellipse: s-maj=111.8km s-min=55.3km az=157.0*

ISC 28 02:02:53.6±2.4, 367N±02×758E±02, h35km, n13, σ0°43/12, mb3.5/3, 2D, Kashmir-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KZA	**Kyzart**	**5.36**	**356**	P	**Pn**	**02 04 10.7**	**-0.3**
SNR=7.3							
ULHL	**Ulahol**	**5.52**	**4**	P	**Pn**	**02 04 13.1**	**-0.1**
SNR=14							
UCH	**Uchtor**	**5.57**	**350**	P	**Pn**	**02 04 13.9**	**-0.1**
SNR=12							
AML	**Almayashu**	**5.63**	**344**	P	**Pn**	**02 04 14.8**	**+0.1**
SNR=7.1							
KBK	**Karagaybulak**	**5.95**	**354**	P	**Pn**	**02 04 20.0**	**+0.8**
SNR=5.6							
TKM2	**Tokmak 2**	**6.18**	**359**	⇓Pn	**Pn**	**02 04 21.5**	**-0.8**
4.1nm,0.3s							
TKM2	**Tokmak 2**	**6.18**	**359**	P	**Pn**	**02 04 22.0**	**-0.3**
SNR=10							
KK31	**Karatay Array**	**7.54**	**329**	⇓Pn	**Pn**	**02 04 41.3**	**+0.4**
0.2nm,0.2s,baz=77,slow=13,SNR=24							
KK31				Lg		02 05 46.5	
3.0nm,0.3s,baz=75,slow=18,SNR=16							
MKAR	**Makanchi Array**	**11.17**	**24**	Pn	**Pn**	**02 05 30.8**	**+0.2**
0.1nm,0.3s,baz=209,slow=15,SNR=3.2							
BVAR	**Borovoye Array**	**16.72**	**349**	LR	LR	02 13 50.3	
comp=Z,25nm,20.7s,baz=177,slow=40							
FINES	**FINESS Array B**	**39.47**	**325**	P	**P**	**02 10 20.2**	**0.0**
1.6nm,0.9s,mb3.8,baz=106,slow=10,SNR=4.5							
ARCES	**ARCESS Array B**	**42.43**	**336**	P	**P**	**02 10 43.8**	**-0.7**
2.7nm,0.8s,mb3.9,baz=100,slow=10,SNR=3.3							
YKA	**Yellowknife Ar**	**80.77**	**5**	P	**P**	**02 15 03.4**	**+0.4**
0.1nm,0.6s,mb2.9,baz=346,slow=5.3,SNR=4.3							

*ISCJB **28** 02:12:57.6±1.1, 3645N±007×2879E±004, h5km±8km, Error ellipse: s-maj=11.1km s-min=6.0km az=4.8*
*CSEM **28** 02:12:57.5±0.1, 3648N×2880E, h10km, MD2.9, Error ellipse: s-maj=2.3km s-min=1.1km az=14.0*
*ISK **28** 02:12:57.6, 3649N×2880E, h16km, MD2.9*
*DDA **28** 02:12:59.3, 3649N×2882E, h5km±3km, Md2.9*

ISC 28 02:12:58.2±1.1, 3646N±006×2879E±005, h8km±9km, n10, σ0°55/17, 2C, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FETY	**Fethiye**	**0.29**	**52**	PG	**Pg**	**02 13 03.9**	**-0.1**
FETY				*e*SG	**Sg**	**02 13 08.4**	**+0.4**
AKAS	**Kas**	**0.69**	**108**	*e*P	**Pg**	**02 13 12.2**	**+0.7**
AKAS				*i* S	**Sg**	**02 13 25.2**	**+4.7**
YER	**Yerkesik**	**0.79**	**329**	*e*PG	**Pg**	**02 13 13.1**	**-0.3**
YER				*e*SG	**Sg**	**02 13 24.2**	**+0.5**
ELL	**Elmali**	**0.94**	**72**	*e*PG	**Pg**	**02 13 15.9**	**-0.4**
GOLH	**Golhisar**	**0.99**	**38**	⇑*i*P	**Pg**	**02 13 16.1**	**-1.2**
GOLH				*i* S	**Sg**	**02 13 30.3**	**+0.1**
DAT	**Datca**	**1.01**	**286**	*e*PG	**Pg**	**02 13 17.6**	**-0.1**
BDRM	**Kayabasi**	**1.24**	**300**	*e*P	**Pn**	**02 13 22.1**	**+0.4**
BDRM				*i* S	**Sb**	**02 13 37.8**	**-0.2**
AYDN	**Tasoluk**	**1.41**	**329**	⇑*i*P	**Pn**	**02 13 24.6**	**+0.5**
AYDN				*i* S	**Sb**	**02 13 43.2**	**+0.5**
AYDN	**Tasoluk**	**1.41**	**329**	*i* P	**Pn**	**02 13 24.5**	**+0.5**
AYDN				*i* S	**Sb**	**02 13 43.2**	**+0.5**
BLCB	**Balcova**	**2.38**	**325**	*e*PN	**Pn**	**02 13 36.4**	**-0.9**

*NEIC **28** 02:13:02.4, 17.17N×100.42W, h36km, MD4.0(MEX), After MEX.*

MEX 28 02:13:02.4±0.5, 1717N×10043W, h36km±6km, MD4.0, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.20**	**128**	*i* P	Pn	02 13 07.9	-1.3
CAIG				*i* S	Sn	02 13 12.0	-1.9
ACX	**Acapulco**	**0.57**	**121**	*i* P	Pn	02 13 13.7	-0.4
ACX				*i* S	Sn	02 13 20.0	-2.3
ACX	**Acapulco**	**0.57**	**121**	*e*P	Pn	02 13 12.3	-1.8
ACX				*i* P		02 13 13.7	
ACX				*i* S	Sn	02 13 20.0	-2.3
MEIG	**Mezcala**	**1.08**	**46**	*e*P	Pn	02 13 18.7	-2.3
MEIG				*i* S	Sn	02 13 32.1	-2.6
PLIG	**Platanillo**	**1.50**	**36**	*e*P	Pn	02 13 25.7	-1.2
PLIG				*i* S	Sn	02 13 44.5	-0.7
YAIG	**Yautepec**	**2.12**	**37**	*e*P	Pn	02 13 33.7	-1.7
YAIG				*i* S	Sn	02 13 58.9	-1.7
MZVM		**2.31**	**29**	*e*P	Pn	02 13 37.1	-0.9
MZVM				*i* S	Sn	02 14 03.5	-1.6
PNIG	**Pinotepa**	**2.34**	**109**	*i* P	Pn	02 13 36.0	-2.3
PNIG				*i* S	Sn	02 14 03.7	-2.1
SZVM	**Salazar**	**2.36**	**25**	*e*P	Pn	02 13 36.0	-2.7
SZVM				*i* S	Sn	02 14 04.9	-1.5
PPM	**Popocatepetl**	**2.55**	**42**	*i* P	Pn	02 13 41.3	0.0
PPM				*i* S	Sn	02 14 09.5	-1.6
UTMO	**Huajuapan**	**2.59**	**75**	*i* P	Pn	02 13 41.2	-0.6
UTMO				*i* S	Sn	02 14 11.1	-1.0
PBVM	**Pinon**	**2.59**	**29**	*i* P	Pn	02 13 44.4	+2.5
PBVM				*i* S	Sn	02 14 09.3	-2.9
PTVM	**Pico Tres Padr**	**2.71**	**27**	*e*P	Pn	02 13 37.8	-5.7
PTVM				*i* S	Sn	02 14 20.1	+5.0
IIO	**Organos**	**2.90**	**34**	*e*P	Pn	02 13 45.6	-0.5
IIO				*i* S	Sn	02 14 18.4	-1.4
TPIG	**Tehuac#an**	**3.17**	**66**	*i* P	Pn	02 13 48.6	-1.2
TPIG				*i* S	Sn	02 14 25.2	-1.3
VHO	**Vista Hermosa**	**3.53**	**91**	*i* P	Pn	02 13 55.9	+1.1
VHO				*i* S	Sn	02 14 33.8	-1.6
CMIG	**Matias Romero**	**5.30**	**90**	*i* P	Pn	02 14 20.1	+1.0

NEIC 28 02:34:33.1, 3709S×17701E, h225km, MG3.9(WEL), 1C, After WEL., Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.14**	**115**	*e*P	Pn	02 35 05.3	-1.0
MXZ				S	S	02 35 32.4	+0.2
URZ	**Urewera**	**1.17**	**176**	P	Pn	02 35 06.6	+0.1
MWZ	**Matawai**	**1.31**	**162**	P	Pn	02 35 08.0	+0.5
PUZ	**Puketiti**	**1.40**	**135**	⇑*e*P	Pn	02 35 08.4	+0.3
KNZ	**Kokohu**	**2.00**	**165**	*e*P	Pn	02 35 14.0	+0.6
BKZ	**Black Stump Fm**	**2.11**	**191**	P	Pn	02 35 14.6	+0.1
TWVZ	**Taurewa**	**2.34**	**212**	P	Pn	02 35 17.8	+1.0
NGZ	**Ngauruhoe**	**2.36**	**208**	P	Pn	02 35 18.6	+1.6
WPVZ	**Whakapapa**	**2.41**	**208**	*e*P	Pn	02 35 18.6	+1.1
TUVZ	**Tukino**	**2.42**	**206**	P	Pn	02 35 18.4	+0.7
FWVZ	**Far West T-bar**	**2.45**	**208**	*e*P	Pn	02 35 19.0	+1.0
WNVZ	**Wahianoa**	**2.50**	**206**	P	Pn	02 35 19.0	+0.5
MOVZ	**Moawhango**	**2.52**	**203**	P	Pn	02 35 18.7	0.0
TSZ	**Takapari Road**	**3.08**	**195**	P	Pn	02 35 24.3	-0.6
BFZ	**Birch Farm**	**3.64**	**189**	*e*P	Pn	02 35 30.6	-0.7
MRZ	**Mangatainoka R**	**3.74**	**197**	P	Pn	02 35 31.2	-1.4
KIW	**Kapiti Island**	**4.11**	**203**	P	Pn	02 35 35.3	-1.7
MTW	**Mount Morrison**	**4.23**	**196**	P	Pn	02 35 36.6	-1.9
CAW	**Cannon Point**	**4.29**	**200**	P	Pn	02 35 37.3	-1.9
MRW	**Makara Radio**	**4.51**	**203**	P	Pn	02 35 39.8	-2.1
MSWZ	**Moikau Station**	**4.53**	**197**	P	Pn	02 35 40.0	-2.2
SNZO	**South Karori**	**4.58**	**202**	*e*P	Pn	02 35 40.4	-2.4
NNZ	**Nelson**	**5.00**	**213**	*e*P	Pn	02 35 45.3	-2.7
QRZ	**Quartz Range**	**5.11**	**222**	*e*P	Pn	02 35 46.5	-2.9
BSWZ	**Blackbirch Sta**	**5.22**	**207**	*e*P	Pn	02 35 49.1	-1.6
THZ	**Tophouse**	**5.65**	**213**	*e*P	Pn	02 35 53.6	-2.5
KHZ	**Kahutara**	**5.96**	**206**	*e*P	Pn	02 35 57.8	-2.2
LTZ	**Lake Taylor**	**6.75**	**211**	*e*P	Pn	02 36 07.4	-2.8
MQZ	**McQueen's Vall**	**7.40**	**205**	*e*P	Pn	02 36 14.6	-3.9
RPZ	**Rata Peaks**	**8.03**	**213**	*e*P	Pn	02 36 23.3	-3.2
ODZ	**Otahua Downs**	**9.29**	**209**	*e*P	Pn	02 36 39.9	-2.8
JCZ	**Jackson Bay**	**9.38**	**219**	*e*P	Pn	02 36 38.6	-5.3

IDC 28 02:36:31.3±5.5, 2462S×17881W, h0km, mb3.7/3, mb1 4.0/3, mb1mx3.8/12, mbtmp3.7/3, MS3.9/1, Ms1 3.9/1, ms1mx3.0/17, Error ellipse: s-maj=355.9km s-min=35.6km az=158.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPT	**Papeete**	**28.12**	**81**	LR	LR	02 50 51.5	
comp=Z,255nm,19.5s,baz=285,slow=31							
ASAR	**Alice Springs**	**42.99**	**261**	P	P	02 44 33.1	+0.6
1.3nm,1.0s,baz=102,slow=8.6,SNR=7.6							
WRA	**Warramunga Arr**	**43.44**	**266**	P	P	02 44 35.6	-0.7
1.0nm,0.9s,baz=106,slow=7.6,SNR=7.2							
NVAR	**Mina Array Bea**	**84.52**	**43**	P	P	02 49 06.5	+0.4
0.7nm,0.9s,baz=232,slow=6.8,SNR=3.7							
NB2	**NORSAR Subarra**	**142.95**	**352**	PKP	PKPdf	02 56 05.5	-0.8
comp=Z,1.2nm,1.0s,baz=20,slow=3.8							
NOA	**NORSAR Array B**	**142.95**	**352**	PKhKP		02 56 01.4	
comp=Z,2.3nm,1.0s,baz=21,slow=3.9,SNR=2.9							

CASC 28 02:38:37.8±2.5, 1030N×8636W, h17km±11km, MD3.7, ML2.6, 6C, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VCR	**Vista de Mar**	**0.74**	**104**	⇑*e*P	Pb	02 38 51.7	-0.6
VCR				*e*S	Sg	02 39 01.5	-0.5
SSNN	**San Juan del S**	**1.10**	**27**	*e*P	Pb	02 38 57.6	-0.8
SSN	**San Juan del S**	**1.11**	**27**	*e*P	Pb	02 38 56.8	-1.8
SSN				*e*S	Sb	02 39 15.1	+2.3
LIM1	**Limonal**	**1.16**	**70**	⇑*i*P	Pn	02 38 57.9	-1.4
LIM1				*e*S	Sb	02 39 14.5	+0.3
JCR	**Jicaral**	**1.31**	**110**	*e*P	Pn	02 38 60.0	-1.4
MADN	**Villa Maderas**	**1.37**	**36**	⇑*i*P	Pn	02 39 01.9	-0.3
CONN	**Concepcion**	**1.45**	**30**	⇑*e*P	Pn	02 39 02.4	-0.8
TICN	**Ticuantepe**	**1.73**	**4**	*e*P	Pn	02 39 07.6	+0.5
COPN	**Copaltepe**	**1.88**	**353**	*e*P	Pn	02 39 09.6	+0.4
CGA2	**Cerro Gallo 2**	**1.89**	**98**	*e*P	Pn	02 39 09.5	+0.2
HUEN		**2.03**	**5**	*e*P	Pn	02 39 11.6	+0.3
PRS1	**Puriscal**	**2.04**	**99**	*e*P	Pn	02 39 10.7	-0.7
BOAB	**BOACO BROADBAN**	**2.24**	**18**	⇑*e*P	Pn	02 39 14.0	-0.2
LAJ	**Bijagual**	**2.25**	**101**	*e*P	Pn	02 39 10.6	-3.7
LCR2	**La Lucha 2**	**2.39**	**103**	*e*P	Pn	02 39 17.0	+0.8
URSC	**Urasca**	**2.58**	**100**	*e*P	Pn	02 39 20.2	+1.3
BAR1		**3.18**	**109**	*e*P	Pn	02 39 28.8	+1.7
CHI2		**13.71**	**113**	*e*P		02 39 14.7	
LAPE	**La Pedrera**	**14.86**	**99**	⇑*i*P		02 38 55.7	
LAPE				*e*S		02 39 13.9	

*ISCJB **28** 02:43:22.1±0.9, 2403S±005×670W±0.1, h168km±15km, mb3.4/2, Error ellipse: s-maj=18.1km s-min=7.2km az=6.3*
*NEIC **28** 02:43:23.7±0.8, 2402S×6703W, h169km±9km, mb3.8/1, Error ellipse: s-maj=14.6km s-min=7.8km az=97.0*
*IDC **28** 02:43:23.3±1.7, 2407S×6702W, h160km±17km, mb3.3/2, mb1 3.7/7, mb1mx3.4/19, mbtmp3.6/7, Error ellipse: s-maj=28.2km s-min=13.9km az=99.0*

ISC 28 02:43:22.7±0.8, 2401S±005×671W±01, h156km±14km, n18, σ0°94/17, mb3.4/2, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCO	**Las Campanas**	**5.96**	**213**	*e*Pn	**Pn**	**02 44 50.3**	**+1.4**
24nm,0.3s							
LCO				*e*Sn	**Sn**	**02 45 56.3**	**-0.1**
CFAA	**Coronel Fontan**	**7.64**	**188**	P	**Pn**	**02 45 11.2**	**0.0**
0.2nm,0.3s,baz=22,slow=12,SNR=10.0							
CFAA				S	**Sn**	**02 46 34.3**	**-2.4**
0.5nm,0.3s,baz=279,slow=22,SNR=11							
LPAZ	**La Paz**	**7.75**	**352**	*e*Pn	**Pn**	**02 45 16.2**	**+3.4**
5.5nm,0.5s							
LPAZ	**La Paz**	**7.75**	**352**	P	**Pn**	**02 45 16.6**	**+3.8**
1.6nm,0.3s,baz=154,slow=9.3,SNR=46							
LPAZ				S	**Sn**	**02 46 38.7**	**-0.7**
0.3nm,0.3s,baz=249,slow=6.0,SNR=2.4							
SIV	**San Ignacio**	**9.75**	**36**	P	**Pn**	**02 45 39.5**	**+0.1**
1.3nm,0.3s,baz=230,slow=9.5,SNR=40							
TRQA	**Tornquist**	**14.66**	**164**	*e*P	**Pn**	**02 46 42.7**	**+0.2**
5.5nm,0.7s							
NNA	**Nana**	**15.15**	**320**	*e*P	**Pn**	**02 46 48.6**	**-0.2**
11nm,0.5s							
NNA	**Nana**	**15.15**	**320**	P	**Pn**	**02 46 49.2**	**+0.4**
3.3nm,0.3s,baz=149,slow=12,SNR=6.6							
PLCA	**Paso Flores**	**16.93**	**189**	*e*P	**Pn**	**02 47 11.3**	**+1.0**
2.9nm,0.7s							
PLCA	**Paso Flores**	**16.93**	**189**	P	**Pn**	**02 47 11.4**	**+1.1**
0.2nm,0.3s,baz=36,slow=12,SNR=5.6							
BDFB	**Brasilia**	**19.73**	**69**	P	**P**	**02 47 40.5**	**+0.1**
1.0nm,0.3s,baz=235,slow=18,SNR=39							
SNAA	**Sanae**	**59.36**	**161**	P	**P**	**02 53 08.1**	**+0.1**
0.7nm,0.6s,mb3.7,baz=271,slow=5.8,SNR=7.8							
YKA	**Yellowknife Ar**	**94.12**	**340**	P	**P**	**02 56 21.9**	**-1.0**
YKA	**Yellowknife Ar**	**94.12**	**340**	P	**P**	**02 56 21.9**	**-1.0**
0.1nm,0.5s,mb3.2,baz=133,slow=4.1,SNR=5.2							
ASAR	**Alice Springs**	**128.43**	**205**	PKP	PKPdf	03 02 10.8	-0.7
0.4nm,0.7s,baz=123,slow=2.1,SNR=5.9							
WRA	**Warramunga Arr**	**131.60**	**207**	PKP	PKPdf	03 02 17.2	-0.5
0.2nm,0.5s,baz=163,slow=1.7,SNR=8.9							
MKAR	**Makanchi Array**	**146.56**	**39**	PKPbc	PKPbc	03 02 45.5	-0.2
MKAR	**Makanchi Array**	**146.56**	**39**	PKPbc	PKPbc	03 02 45.5	-0.2
0.4nm,0.7s,baz=64,slow=4.3,SNR=3.5							

*ISCJB **28** 03:39:59.1±2.8, 1901S±008×17289W±007, h6km±17km, mb4.8/37, MS4.2/16, Error ellipse: s-maj=14.8km s-min=8.6km az=143.5*
*IDC **28** 03:40:04.5±3.2, 1908S×17280W, h33km±24km, mb4.4/11, mb1 4.6/11, mb1mx4.4/16, mbtmp4.4/11, MS3.8/11, Ms1 3.8/

HNR Honiara 27.97 286 LR LR 03 55 38.4
comp=Z,156nm,18.8s,MS3.6,baz=358,slow=33
TAOE Nuku Hiva Isla 33.26 77 eLR LR 03 55 02.4
9µm,28.2s
ARMA Armidale 34.07 244 eP **P** **03 46 46.1 -0.1**
RKT Rikitea 35.54 103 eLR LR 03 55 57.7
354nm,31.8s
CTA Charters Tower 38.47 261⇓iP **P** **03 47 22.8 -1.2**
7.8nm,0.5s,mb4.7
CTA Charters Tower 38.47 261⇓iP **P** **03 47 22.8 -1.2**
CTA pmax pmax
comp=Z,8.0nm,0.5s
CTA Charters Tower 38.47 261 LR LR 04 01 34.8
comp=Z,130nm,18.0s,MS3.8,baz=57,slow=34
CTAO Charters Tower 38.47 261 eP **P** **03 47 22.7 -1.3**
comp=Z,12nm,0.6s,mb4.8
CTAO Charters Tower 38.47 261 eP **P** **03 47 22.7 -1.3**
CTAO pmax pmax
comp=Z,12nm,0.6s,mb4.8
COEN Coen 42.37 270 eP **P** **03 47 55.3 -0.9**
comp=Z,4.1nm,0.8s,mb4.1
STKA Stephens Creek 42.79 243 eP **P** **03 47 58.7 -0.8**
comp=Z,5.8nm,0.8s,mb4.4
STKA Stephens Creek 42.79 243 P **P** **03 47 58.9 -0.7**
comp=Z,6.7nm,0.7s,mb4.5,baz=66,slow=7.2,SNR=9.7
STKA LR LR 04 03 23.2
comp=Z,117nm,20.0s,MS3.8,baz=26,slow=33
ASAR Alice Springs 49.57 255 P **P** **03 48 52.2 -0.8**
ASAR S **S** **03 55 58.6 -1.3**
ASAR pmax pmax
comp=Z,45nm,0.8s
ASAR smax
comp=N,1.0nm,0.8s
ASAR Alice Springs 49.57 255 P **P** **03 48 52.2 -0.8**
comp=N,45nm,0.8s,mb5.5,baz=86,slow=8.6,SNR=325
ASAR S **S** **03 55 58.5 -1.3**
comp=N,0.6nm,0.8s,baz=97,slow=16,SNR=6.0
WB2 Warramunga Arr 49.60 260 eP **P** **03 48 51.8 -1.5**
WRAB Tennant Creek 49.60 260 eP **P** **03 48 51.7 -1.5**
comp=N,35nm,1.0s,mb5.3
WRAB Tennant Creek 49.60 260 eP **P** **03 48 51.7 -1.6**
WRAB pmax pmax
comp=Z,35nm,1.0s,mb5.3
WRA Warramunga Arr 49.61 260 P **P** **03 48 52.3 -1.1**
WRA S **S** **03 56 01.7 +1.2**
WRA pmax pmax
comp=Z,20nm,0.8s
WRA smax
comp=N,2.0nm,0.9s
WRA Warramunga Arr 49.61 260 P **P** **03 48 52.3 -1.1**
comp=N,20nm,0.8s,mb5.2,baz=97,slow=7.3,SNR=109
WRA S **S** **03 56 01.7 +1.2**
comp=N,1.6nm,0.9s,baz=95,slow=14,SNR=11
WRA LR LR 04 08 28.4
comp=N,132nm,19.5s,MS4.0,baz=85,slow=34
KAKA Kakadu 52.81 268 eP **P** **03 49 16.4 -1.1**
comp=N,30nm,0.6s,mb5.4
FORT Forrest 54.32 245 eP **P** **03 49 27.5 -0.8**
comp=N,2.6nm,0.7s,mb4.3
FITZ Fitzroy Crossi 58.03 260 eP **P** **03 49 54.9 -0.1**
comp=N,7.3nm,0.6s,mb4.9
FITZ Fitzroy Crossi 58.03 260 LR LR 04 13 13.4
comp=N,81nm,19.1s,MS3.9,baz=123,slow=34
SBA Scott Base 59.74 185 eP **P** **03 50 07.4 +1.4**
comp=N,9.0nm,0.8s,mb4.8
SBA Scott Base 59.74 185 eP **P** **03 50 07.4 +1.4**
SBA pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
VNDA Vanda 59.89 186 eP **P** **03 50 07.8 +0.8**
comp=Z,4.5nm,1.1s,mb4.4
VNDA Vanda 59.89 186 eP **P** **03 50 07.8 +0.8**
VNDA pmax pmax
comp=Z,5.0nm,1.1s
VNDA Vanda 59.89 186 P **P** **03 50 05.5 -1.5**
comp=Z,2.4nm,0.8s,mb4.3,baz=19,slow=7.9,SNR=9.6
MBWA Marble Bar 62.91 255 eP **P** **03 50 27.9 -0.4**
comp=Z,6.0nm,0.6s,mb4.9
MJAR Matsushiro Arr 71.99 320 P **P** **03 51 25.9 +0.5**
MJAR pmax pmax
comp=Z,5.0nm,0.9s
MJAR Matsushiro Arr 71.99 320 P **P** **03 51 25.9 +0.5**
comp=Z,5.1nm,0.9s,mb4.5,baz=156,slow=5.9,SNR=10
MAJO Matsushiro 71.99 320 eP **P** **03 51 26.1 +0.8**
PET Petropavlovsk 75.83 343 iP **P** **03 51 44.7 -2.7**
NVAR Mina Array Bea 76.66 41 P **P** **03 51 52.1 -0.4**
comp=Z,1.4nm,0.9s,mb3.9,baz=220,slow=6.9,SNR=8.9
KSM Kuching 78.03 276 eP **P** **03 52 02.2 +1.5**
KSM Kuching 78.03 276⇑P **P** **03 52 02.7 +1.9**
TUC Tucson 78.28 50 eP **P** **03 52 02.9 +1.2**
TUC epP pP 03 52 13.5 +3.7
KSRS Korea Array 79.06 316 P **P** **03 52 08.3 +2.4**
comp=Z,11nm,0.9s,mb4.8,baz=134,slow=5.9,SNR=38
KSRS LR LR 04 24 45.2
comp=Z,33nm,18.3s,MS3.7,baz=172,slow=34
KS15 Wonju Array Si 79.08 316 eP **P** **03 52 08.5 +2.5**
ARUT Antelope Range 79.39 44 eP **P** **03 52 07.4 -0.3**
MSU Marysvale 80.62 44 eP **P** **03 52 14.1 -0.2**
MSU epP pP 03 52 25.5 +3.1
MNTX Cornudas Mount 81.96 53 eP **P** **03 52 21.3 -0.4**
comp=Z,54nm,3.0s
MDJ Mudanjiang 82.16 323 P **P** **03 52 23.8 +1.5**
MDJ AMB AMB
comp=Z,8.0nm,1.4s,mb4.5
MDJ AMB AMB
comp=Z,58nm,5.1s
TXAR Lajitas Array 82.19 55 P **P** **03 52 22.8 -0.1**
comp=Z,0.9nm,0.9s,mb3.7,baz=219,slow=9.6,SNR=4.9
TXAR LR LR 04 23 18.6
comp=Z,64nm,21.7s,MS4.0,baz=5.0,slow=32
ANMO Albuquerque 82.72 49 eP **P** **03 52 25.5 0.0**
GDL2 Guadalupe Moun 82.96 53 eP **P** **03 52 26.5 -0.3**
GDL2 epP pP 03 52 38.1 +3.2
TPAW Teton Pass 84.12 40 eP **P** **03 52 34.0 +1.5**
comp=Z,7.2nm,1.3s,mb4.6
CN2 Changchun 84.14 320 eP **P** **03 52 33.8 +1.2**
CN2 eAP pP 03 52 44.3 +3.6
CN2 eS S 04 02 55.0 -0.9
CN2 AMB AMB
comp=Z,10.0nm,0.5s,mb5.2
CN2 AMB AMB
comp=Z,200nm,4.0s
SNOW Snow King Moun 84.22 40 eP **P** **03 52 32.5 -0.5**
comp=Z,2.3nm,0.5s,mb4.6
SMCO Snowmass 84.43 45 eP **P** **03 52 34.6 +0.5**
comp=Z,8.0nm,1.4s,mb4.7
MCK McKinley 84.53 10 eP **P** **03 52 32.3 -1.8**
comp=Z,10nm,1.1s,mb4.9
MCK McKinley 84.53 10 eP **P** **03 52 32.3 -1.8**
MCK pmax pmax
comp=Z,10.0nm,1.1s,mb4.9
QLMT Earthquake Lak 84.56 39 eP **P** **03 52 34.5 -0.1**
QLMT epP pP 03 52 45.5 +2.7
MAW Mawson 84.58 199 P **P** **03 52 34.7 +0.2**
MAW pmax pmax
comp=Z,5.0nm,0.7s
MAW Mawson 84.58 199 P **P** **03 52 34.7 +0.1**
comp=Z,4.8nm,0.7s,mb4.7,baz=124,slow=5.3,SNR=9.7
BW06 Boulder Array 84.59 41 eP **P** **03 52 34.0 -0.9**
comp=Z,33nm,2.6s,mb5.0
COLA College 85.77 10 eP **P** **03 52 39.4 -0.9**
comp=Z,15nm,0.9s,mb5.2
COLA epP pP 03 52 50.6 +2.3
COLA College 85.77 10 eP **P** **03 52 39.4 -0.9**
COLA e*PP pP 03 52 50.7 +2.3
COLA pmax pmax
comp=Z,15nm,0.9s,mb5.2
SEY Seymchan 86.09 345⇑eP **P** **03 52 42.2 +0.3**
AMTX Amarillo 86.17 51 eP **P** **03 52 42.3 -0.6**
comp=Z,7.7nm,0.9s,mb4.9
DAWY Dawson 86.75 14 eP **P** **03 52 45.3 +0.2**
PLCA Paso Flores 86.75 132 eP **P** **03 52 45.5 -0.4**
comp=Z,2.9nm,1.0s,mb4.5
PLCA Paso Flores 86.75 132 eP **P** **03 52 45.5 -0.4**
PLCA pmax pmax
comp=Z,3.0nm,1.0s
PLCA Paso Flores 86.75 132 LR LR 04 25 33.9
comp=Z,43nm,18.7s,MS3.9,baz=93,slow=32
BILL Bilibino 88.10 352 eP **P** **03 52 51.1 -0.5**
BILL Bilibino 88.10 352⇑eP **P** **03 52 51.6 0.0**
BILL pmax pmax
comp=Z,8.0nm,1.2s,mb4.8
BJI Beijing 88.28 313 P **P** **03 52 54.3 +1.2**
BJI PP PP 03 56 21.0 +0.1
BJI S S 04 03 36.5 -0.1
BJI SS SS 04 09 26.0 -0.7
BJI AMB AMB
comp=Z,12nm,1.4s,mb4.9
BJI AMB AMB
comp=Z,105nm,4.6s
BJI LR LR
comp=N,126nm,14.5s,MS4.7
BJI LR LR
comp=E,166nm,15.4s,MS4.7
BJI LR LR
comp=Z,89nm,23.1s
SNAA Sanae 89.33 177⇓eP **P** **03 52 55.7 -1.8**
GYA Guiyang 90.16 298 P **P** **03 53 01.8 -0.4**
GYA AP pP 03 53 14.5 +4.1
GYA XP sP 03 53 18.8 +5.5
GYA PP PP 03 56 39.5 +3.3
GYA SKS 04 03 29.5
GYA S S 04 03 52.3 -2.4
GYA SS SS 04 09 55.5 +1.0
GYA AMB AMB
comp=Z,10.0nm,1.0s,mb5.1
GYA AMB AMB
comp=Z,90nm,6.4s
GYA LR LR
comp=N,450nm,20.7s,MS5.0
GYA LR LR
comp=E,420nm,21.8s,MS5.0
GYA LR LR
comp=Z,480nm,22.6s,MS4.9
INK Inuvik 91.61 14 eP **P** **03 53 06.8 -1.1**
HHC Hu-ho-hao-te 91.81 313 eP **P** **03 53 11.8 +2.2**
HHC AP pP 03 53 21.0 +3.3
HHC XP sP 03 53 26.0 +5.4
HHC PP PP 03 56 53.8 +4.8
HHC SKS 04 03 38.0
HHC S S 04 04 12.5 +3.3
HHC XS sS 04 04 28.5 +5.8
HHC SS SS 04 10 21.5 +3.7
HHC AMB AMB
comp=Z,16nm,0.4s,mb5.7
HHC AMB AMB
comp=Z,111nm,4.6s
HHC LR LR
comp=N,131nm,16.6s,MS4.7
HHC LR LR
comp=E,204nm,15.5s,MS4.7
HHC LR LR
comp=Z,61nm,8.4s
KMI Kunming 93.02 295 P **P** **03 53 14.8 -0.7**
KMI AP pP 03 53 26.8 +3.2
KMI XP sP 03 53 29.8 +3.2
KMI PP PP 03 57 02.5 +3.7
KMI S S 04 04 19.0 -1.6
KMI SS SS 04 10 35.5 -0.2
KMI SSS 04 14 12.5
KMI AMB AMB
comp=Z,10.0nm,0.7s,mb5.3
KMI AMB AMB
comp=Z,78nm,3.2s
KMI LR LR
comp=N,108nm,18.6s,MS4.6
KMI LR LR
comp=E,140nm,15.6s,MS4.6
KMI LR LR
comp=Z,94nm,16.8s,MS4.3
YKA Yellowknife Ar 93.17 23 P **P** **03 53 13.9 -1.3**
YKA Yellowknife Ar 93.17 23 P **P** **03 53 13.9 -1.4**
YKA pmax pmax
comp=Z,1.0nm,0.9s
YKA Yellowknife Ar 93.17 23 P **P** **03 53 13.9 -1.3**
comp=Z,0.8nm,0.9s,mb4.1,baz=233,slow=4.1,SNR=13
CHTO Chiang Mai 94.31 288 eP **P** **03 53 23.4 +1.8**
comp=Z,3.7nm,0.8s,mb4.9
CHTO Chiang Mai 94.31 288 eP **P** **03 53 23.4 +1.8**
CHTO pmax pmax
comp=Z,4.0nm,0.8s,mb4.9
LZH Lanzhou 95.74 306 eP **P** **03 53 30.0 +2.3**
LZH AP pP 03 53 42.0 +6.1
LZH XP sP 03 53 46.3 +7.5
LZH PP PP 03 57 24.5 +4.7
LZH SKS 04 04 02.3
LZH eS S 04 04 41.0 -2.9
LZH XS sS 04 04 58.0 +0.5
LZH AMB AMB
comp=Z,16nm,1.4s,mb5.3
LZH AMB AMB
comp=Z,50nm,5.0s
LZH LR LR
comp=E,349nm,17.3s
LZH LR LR
comp=Z,529nm,18.5s,MS5.0
ULM Lac du Bonnet 96.38 39 LR LR 04 31 42.4
comp=Z,81nm,19.8s,MS4.2,baz=0.7,slow=32
LPAZ La Paz 98.11 110 LR LR 04 28 59.4
comp=Z,49nm,20.8s,MS4.0,baz=37,slow=30
TIXI Tiksi 98.57 344 iP **P** **03 53 40.4 +0.7**
TIXI pmax pmax
comp=Z,2.0nm,1.1s,mb4.6
ROSC El Rosal 99.63 88 LR LR 04 28 54.0
comp=Z,40nm,18.1s,MS4.0,baz=27,slow=29
WMQ Urumqi 109.59 311 ePKP PKiKP 03 58 32.0 -0.3
MKAR Makanchi Array 113.67 314 iPKIKP PKiKP 03 58 38.9 -1.0
MKAR pmax pmax
comp=Z,1.0nm,0.6s
MKAR Makanchi Array 113.67 314 PKiKP PKiKP 03 58 38.9 -1.0
comp=Z,0.5nm,0.6s,baz=68,slow=0.7,SNR=4.8
KURK Kurchatov 116.14 318⇑iPKIKP PKPdf 03 58 44.9 +0.4
EKS2 Erkin-Say 119.67 309 ePKPdf PKPdf 03 58 51.0 -0.5
BRVK Borovoye 121.04 321 ePKPdf PKPdf 03 58 53.0 -0.9
KBL Kabul 123.38 299 ePKPdf PKPdf 03 58 59.4 +0.4
OBN Obninsk 137.57 335 iPKIKP PKPdf 03 59 27.1 +1.9
OBN pmax pmax
comp=Z,4.0nm,0.8s
KIV Kislovodsk 141.22 318 iPKIKP PKPdf 03 59 33.4 +1.2
KIV pmax pmax
comp=Z,4.0nm,0.9s
AKASG Malin Array Be 143.81 336 PKHKP 03 59 34.0
AKASG pmax pmax
comp=Z,1.0nm,0.4s
AKASG Malin Array Be 143.81 336 PKP PKPdf 03 59 34.0 -2.6
comp=Z,0.5nm,0.4s,baz=32,slow=2.4,SNR=6.5
KMBO Kilima Mbogo 144.29 239 ePKPdf PKPdf 03 59 37.6 -1.0
KMBO Kilima Mbogo 144.29 239 PKIKP PKPdf 03 59 37.9 -0.7
KMBO pmax pmax
comp=Z,6.0nm,0.9s
KMBO Kilima Mbogo 144.29 239 PKP PKPdf 03 59 37.9 -0.8
comp=Z,5.9nm,0.9s,baz=53,slow=4.0,SNR=16
ELZG Elazig 146.21 312⇓iP PKPbc 03 59 44.2 +2.0
LVV L'vov 146.38 340 ePKIKP PKPdf 03 59 42.2 +1.2
LVV e 03 59 53.2
MALT Malatya 146.69 312 ePKPbc PKPbc 03 59 44.8 +1.2
MALT Malatya 146.69 312⇓iP PKPbc 03 59 45.1 +1.5
KSP Ksiaz 147.38 349 ePKP PKPbc 03 59 45.8 +0.7
CLL Collm 147.41 353 iPKP PKPbc 03 59 45.1 -0.1
CLL i 03 59 47.8
CLL e 04 00 16.0
CLL Collm 147.41 353 iPKIKP PKPbc 03 59 45.1 -0.1
CLL i 03 59 47.8
CLL Collm 147.41 353 iPKPbc PKPbc 03 59 45.1 -0.1
comp=Z,12nm,1.2s
CLL iPKPab PKPab 03 59 47.8 +0.7
CLL iPKPbc PKPbc 03 59 56.6 +3.1
CLL ex x 04 00 16.0
BOYT Boyabat 147.43 319⇑iP PKPbc 03 59 46.7 +1.1
BRG Berggiesshubel 147.72 352 ePKP PKPbc 03 59 46.5 +0.5
comp=Z,5.3nm,1.0s
GZT Gaziantep 147.72 311⇓iP PKPbc 03 59 47.3 +0.8
BURAR Bucovina Array 147.85 337⇑iP PKPbc 03 59 48.5 +2.0
DPC Dobruska-Polom 147.85 349 ePKPbc PKPbc 03 59 47.1 +0.7
CTKT Corum 147.96 318⇑iP PKPbc 03 59 47.2 +0.2
PVCC Panska Ves 147.97 351 ePKPbc PKPbc 03 59 47.1 +0.4
UZH Uzhgorod 147.98 341 ePKIKP PKPdf 03 59 45.2 +1.5
UZH i 03 59 53.0
CRVS Cervenica-Dubn 147.98 342 ePKP PKPbc 03 59 48.1 +1.3
MORC Moravsky Berou 148.16 347 ePKPbc PKPbc 03 59 47.5 +0.2
BALT Daday 148.29 321⇓iP PKPbc 03 59 48.6 +0.8
MEM Membach 148.43 1 PKP PKPbc 03 59 47.8 -0.2
PRU Pruhonice 148.50 351 ePKPbc PKPbc 03 59 48.1 0.0
ELDT Eldivan 148.88 319⇑iP PKPbc 03 59 49.9 +0.5
BAIF Baives 148.90 4 ePKP1 PKPbc 03 59 47.8 -1.4
comp=Z,30nm,1.3s
VYHS Vyhne 149.07 345 ePKP PKPbc 03 59 50.4 +0.8
GRA1 Grafenberg Arr 149.18 355 ePKP PKPbc 03 59 49.8 -0.1
GRF Grafenberg Arr 149.18 355 ePKP PKPbc 03 59 49.8 -0.1
MLR Muntele Rosu 149.30 334⇓P PKPbc 03 59 51.6 +1.3
MLR Muntele Rosu 149.30 334⇓iP PKPbc 03 59 51.6 +1.3
WLF Walferdange 149.38 1 ePKPbc PKPbc 03 59 50.2 -0.1
DRGR 149.45 339⇓P PKPbc 03 59 51.2 +0.6
DRGR 149.45 339⇓iP PKPbc 03 59 51.2 +0.6
KHC Kasperske Hory 149.47 352 diPKHKP PKPbc 03 59 50.5 -0.1
KHC Kasperske Hory 149.47 352 ePKPbc PKPbc 03 59 50.4 -0.2
ANTO Ankara 149.64 319 ePKPbc PKPbc 03 59 52.2 +0.8
FLN La Foliniere 149.66 10 ePKP1 PKPbc 03 59 50.0 -1.1
comp=Z,61nm,1.3s
GERES GERESS Array B 149.74 351 PKHKP PKPbc 03 59 50.9 -0.4
GERES pmax pmax
comp=Z,2.0nm,1.0s
GERES GERESS Array B 149.74 351 PKPbc PKPbc 03 59 50.9 -0.4
comp=Z,1.5nm,1.0s,baz=50,slow=2.1,SNR=9.8
LDF La Druitiere 149.88 10 ePKP1 PKPbc 03 59 50.7 -0.9
comp=Z,40nm,1.3s
QUIF Quistinic 149.94 14 ePKP1 PKPbc 03 59 50.7 -1.1
comp=Z,39nm,1.3s
MEZF Maizieres J'vi 150.50 3 ePKP1 PKPbc 03 59 52.8 -0.3
comp=Z,10nm,0.9s
CDF Champ du Feu 150.64 360 ePKP1 PKPbc 03 59 52.9 -0.6
comp=Z,18nm,1.3s
BZS Buzias 150.85 339⇑P PKPbc 03 59 54.3 +0.3
BZS Buzias 150.85 339⇑iP PKPbc 03 59 54.3 +0.2
HAU Haudompre 151.04 1 ePKP1 PKPbc 03 59 53.9 -0.5
comp=Z,12nm,1.0s
PKSM Moragy 151.23 343⇑P PKPbc 03 59 54.6 -0.3
PKSM Moragy 151.23 343⇑iP PKPbc 03 59 54.6 -0.3
LOR Lormes 151.66 5 ePKP1 PKPbc 03 59 55.3 -0.6
comp=Z,18nm,1.2s
SSF Saint Saulge 151.84 5 ePKP1 PKPbc 03 59 55.7 -0.6
comp=Z,36nm,1.3s
AVF Avril sur Loir 152.09 6 ePKP1 PKPbc 03 59 55.9 -1.0
BGF Bois d'Agland 152.27 6 ePKP1 PKPbc 03 59 56.5 -0.8
comp=Z,11nm,0.9s
SMF Signal de Mont 152.28 5 ePKP1 PKPbc 03 59 56.4 -0.9
CABF La Chapelle 152.43 2 ePKP1 PKPbc 03 59 56.8 -0.8
TCF Toulx Ste Croi 152.47 7 ePKP1 PKPbc 03 59 56.7 -1.0
comp=Z,8.3nm,0.9s
BNI Bardonecchia 154.00 1 ePKPdf PKPdf 03 59 53.5 +0.4
DBIC Dimbokro 163.10 135 PKPab PKPab 04 00 53.9 -0.8
DBIC Dimbokro 163.10 135 PKP2 PKPab 04 00 53.9 -0.8
DBIC pmax pmax
comp=Z,6.0nm,1.1s
DBIC Dimbokro 163.10 135 PKPab PKPab 04 00 53.9 -0.8
comp=Z,5.8nm,1.1s,baz=332,slow=2.5,SNR=3.4

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*ISCJB **28** 03:52:36.8±0.3, 44.15N±003×12.16E±003, h27km±4km, Error ellipse: s-maj=4.8km s-min=3.2km az=173.2*
*CSEM **28** 03:52:36.4±0.1, 44.09N×12.18E, h12km, ML2.4/7, Error ellipse: s-maj=1.4km s-min=0.8km az=24.0*
*ROM **28** 03:52:36.5±0.2, 44.09N×12.19E, h4km±3km, Md2.7/18, Ml2.1/14, Error ellipse: s-maj=3.4km s-min=1.7km az=177.0*
*LDG **28** 03:52:38.2±0.2, 44.09N×1221E, h10km, Ml2.4/6, Error ellipse: s-maj=5.0km s-min=2.8km az=42.0*

ISC 28 03:52:36.9±0.3, 4412N±002×1220E±002, h19km±3km, n50, σ0°88/76, 3C-2D, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRSN	**Barisano** 345nm,0.4s	**0.19**	**332**	Pg	**Pg**	**03 52 41.9**	**+0.1**
RSM	**Repubblica di** 28nm,0.3s	**0.26**	**136**	Pg	**Pg**	**03 52 42.9**	**0.0**
SFI	**Santa Sofia** 65nm,0.2s	**0.33**	**230**	Pg	**Pg**	**03 52 43.0**	**-1.1**
PESA	**Pesaro** 417nm,0.2s	**0.49**	**111**	Pg	**Pg**	**03 52 46.6**	**-0.4**
VMG	**Vicchio** 113nm,0.2s	**0.50**	**252**	Pg	**Pg**	**03 52 46.7**	**-0.3**
VMG				Sg	**Sg**	**03 52 55.4**	**+1.6**
CRE	**Caprese Michel** 77nm,0.2s	**0.53**	**200**	Pg	**Pg**	**03 52 47.1**	**-0.5**
CRE				Sg	**Sg**	**03 52 56.2**	**+1.5**
FSSB	**Fossombrone** 224nm,0.3s	**0.60**	**135**	Pg	**Pg**	**03 52 47.9**	**-0.9**
FSSB				Sg	**Sg**	**03 52 58.1**	**+1.3**
BADI	**Badiali** 27µm,17.0s	**0.61**	**177**	Pg	**Pg**	**03 52 48.4**	**-0.6**
SEI	**Scarperia** 367nm,0.2s	**0.61**	**264**	Pg	**Pg**	**03 52 48.7**	**-0.4**
SEI				Sg	**Sg**	**03 52 58.0**	**+0.7**
PIEI	**Pieia** 162nm,0.3s	**0.63**	**157**	Pg	**Pg**	**03 52 48.7**	**-0.7**
PIEI				Sg	**Sg**	**03 52 59.2**	**+1.4**
FNVD	**Fontana Vidola** 143nm,0.3s	**0.78**	**274**	Pg	**Pg**	**03 52 51.8**	**-0.4**
ARVD	**Arcevia** 84nm,0.6s	**0.82**	**139**	Pg	**Pg**	**03 52 52.6**	**-0.4**
CSNT	**Castellina Chi** 47nm,0.4s	**0.92**	**226**	Pg	**Pg**	**03 52 54.6**	**-0.3**
CRMI	**Carmignano** 21nm,0.4s	**0.95**	**250**	Pg	**Pg**	**03 52 54.8**	**-0.6**
PZZT	**Monte Pizzetto** 69nm,0.4s	**0.96**	**271**	Pg	**Pg**	**03 52 55.5**	**-0.2**
SNTG	**Esanatoglia** 22nm,0.2s	**1.02**	**148**	Pg	**Pg**	**03 52 56.1**	**-0.6**
CING	**Cingoli** 50nm,0.7s	**1.03**	**135**	Pg	**Pg**	**03 52 56.8**	**-0.2**
BDI	**Bagni Di Lucca** 41nm,0.6s	**1.16**	**268**	Pg	**Pg**	**03 52 59.0**	**-0.3**
AOI	**Ancona** 36nm,0.3s	**1.16**	**119**	Pg	**Pg**	**03 52 59.1**	**-0.4**
NRCA	**Norcia** 8.0nm,0.5s	**1.45**	**152**	Pg	**Pg**	**03 53 03.6**	**-1.2**
SKDS	**Skadanscina**	**1.93**	**41**	*i* Pn	**Pn**	**03 53 07.5**	**-1.1**
SKDS				*i* Sn	**Sn**	**03 53 32.0**	**-0.4**
KNDS	**Knezji Dol**	**2.10**	**47**	*i* Pn	**Pn**	**03 53 09.7**	**-1.4**
KNDS				*i* Sn	**Sn**	**03 53 37.4**	**+0.8**
JAVS	**Javornik**	**2.21**	**36**	*i* Pn	**Pn**	**03 53 12.0**	**-0.6**
JAVS				*i* Sn	**Sn**	**03 53 40.1**	**+0.6**
VOY	**Vojsko**	**2.26**	**31**	*e*Pn	**Pb**	**03 53 17.4**	**+0.3**
VOY				*e*Sn	**Sg**	**03 53 50.3**	**+0.6**
BOJS	**Bojanci**	**2.58**	**56**	*i* Pn	**Pn**	**03 53 18.0**	**+0.4**
BOJS				*i* Sn	**Sn**	**03 53 49.4**	**+1.0**
PGF	**Pioggiola**	**2.81**	**237**	*e*Pn	**Pn**	**03 53 21.4**	**+0.6**
PGF	1.7nm,0.3s			*e*Sn	**Sn**	**03 53 53.3**	**-0.9**
PGF	**Pioggiola**	**2.81**	**237**	*e*Pn	**Pn**	**03 53 21.4**	**+0.6**
PGF	0.9nm,0.3s			*e*Sn	**Sn**	**03 53 53.3**	**-0.9**
OBKA	**Obir**	**2.91**	**34**	⇑*i*Pn	**Pn**	**03 53 22.0**	**-0.2**
OBKA				⇑*i*Pg	**Pg**	**03 53 30.5**	**-2.3**
OBKA	comp=E,9.8nm,0.4s			⇓*i*Sg	**Sg**	**03 54 11.0**	**+0.6**
OBKA	**Obir**	**2.91**	**34**	⇑*i*Pg	**Pg**	**03 53 30.5**	**-2.3**
OBKA	9.8nm,0.4s			⇓*i*Sg	**Sg**	**03 54 11.0**	**+0.6**
OBKA	**Obir**	**2.91**	**34**	Pg	**Pg**	**03 53 30.5**	**-2.2**
OBKA	9.8nm,0.4s			Sg	**Sg**	**03 54 11.0**	**+0.6**
SBF	**Sospel**	**3.45**	**267**	*e*Pn	**Pn**	**03 53 30.5**	**+0.9**
SBF	3.4nm,0.3s			*e*Sn	**Sn**	**03 54 08.8**	**-1.1**
SBF	**Sospel**	**3.45**	**267**	*e*Pn	**Pn**	**03 53 30.5**	**+0.9**
SBF	1.7nm,0.3s			*e*Sn	**Sn**	**03 54 08.8**	**-1.1**
MBDF	**Montbardon**	**3.94**	**281**	*e*Pn	**Pn**	**03 53 36.8**	**+0.5**
FRF	**La Foret Royal**	**4.05**	**264**	*e*Pn	**Pn**	**03 53 39.4**	**+1.5**
FRF	1.0nm,0.3s			*e*Sn	**Sn**	**03 54 23.5**	**-1.3**
FRF	**La Foret Royal**	**4.05**	**264**	*e*Pn	**Pn**	**03 53 39.4**	**+1.5**
FRF	0.5nm,0.3s			*e*Sn	**Sn**	**03 54 23.5**	**-1.3**
LPG	**La Plagne**	**4.12**	**291**	*e*Pn	**Pn**	**03 53 39.5**	**+0.8**
LPG	1.4nm,0.4s			*e*Sn	**Sn**	**03 54 25.2**	**-1.1**
LPG	**La Plagne**	**4.12**	**291**	*e*Pn	**Pn**	**03 53 39.5**	**+0.8**
LPG	0.7nm,0.4s			*e*Sn	**Sn**	**03 54 25.2**	**-1.1**
LPL	**La Plagne**	**4.13**	**292**	*e*Pn	**Pn**	**03 53 39.7**	**+0.7**
LPL	2.2nm,0.5s			*e*Sn	**Sn**	**03 54 25.8**	**-1.0**
LPL	**La Plagne**	**4.13**	**292**	*e*Pn	**Pn**	**03 53 39.7**	**+0.7**
LPL	1.1nm,0.5s			*e*Sn	**Sn**	**03 54 25.8**	**-1.0**
LMR	**La Mourre**	**4.20**	**261**	*e*Pn	**Pn**	**03 53 40.9**	**+1.0**
ORIF	**Oris-en-Rattie**	**4.59**	**282**	*e*P	**Pn**	**03 53 49.7**	**+4.4**
SMRF	**Simiane la Rot**	**4.78**	**271**	*e*Pn	**Pn**	**03 53 48.5**	**+0.7**
CABF	**La Chapelle**	**4.98**	**302**	*e*Pn	**Pn**	**03 53 51.5**	**+0.9**
HINF	**Hinteralfeld**	**5.25**	**317**	*e*Pn	**Pn**	**03 53 54.6**	**+0.3**
HINF	1.9nm,0.3s			*e*Sn	**Sn**	**03 54 51.6**	**-2.7**

HINF	Hinteralfeld	5.25 317	*e*Pn	Pn	03 53 54.6 +0.3
HINF			*e*Sn	Sn	03 54 51.6 -2.7
0.9nm,0.3s					
VIVF	Saint-Julien-l	5.44 280	*e*Pn	Pn	03 53 57.2 +0.3
CDF	Champ du Feu	5.49 323	*e*Pn	Pn	03 53 58.4 +0.8
HAU	Haudompre	5.63 316	*e*Pn	Pn	03 54 00.3 +0.8
LOR	Lormes	6.64 301	*e*Pn	Pn	03 54 13.9 +0.5
BGF	Bois d'Agland	7.03 294	*e*Pn	Pn	03 54 19.3 +0.6

ISCJB ***28*** *05:20:30.4±0.1, 6958N±002×14506W±007, h10km, mb4.5/92, MS4.5/29, Error ellipse: s-maj=3.6km s-min=2.7km az=167.1*

PGC ***28*** *05:20:30.3±14.0, 6986N×14501W, h15km, ML5.0/1, 133km east of Prudhoe Bay, Ak Alaska*

MOS ***28*** *05:20:30.5±1.1, 6963N×14496W, h10km, mb4.7/36, MS4.2/13, Error ellipse: s-maj=17.8km s-min=4.9km az=92.2*

GCMT ***28*** *05:20:30.2±0.3, 6969N×14488W, h14km±2km, MW4.9/81, Moment Tensor Solution. s19,c21; s81,c115; Duration: 0 Moment tensor: Scale 1016Nm; M_{rr}-0.14±.12; $M_{\theta\theta}$-1.50±.12; $M_{\phi\phi}$1.64±.10; $M_{r\theta}$0.79±.28; $M_{\theta\phi}$-2.16±.09; $M_{\phi r}$-0.57±.25; Best double couple: $M_0$2.83100×1016 NP1:ϕ_s199.00000°, δ71.00000°, λ4.00000°. NP2: ϕ_s108.00000°, δ86.00000°, λ161.00000°. Principal axes: T 2.9810, Plg16.0000°, Azm62.0000°; N -0.2960, Plg71.0000°, Azm277.0000°; P -2.6810, Plg10.0000°, Azm155.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

BJI ***28*** *05:20:30.1, 6960N×14480W, h10km, mB5.0, mb4.7, Ms5.1, Msz4.7*

NEIC ***28*** *05:20:30.2, 6964N×14482W, h10km, mb4.6/59, ML5.0(AEIC), ML5.0(PGC), ML4.8(PMR), MW4.9(SLM), After AEIC.*

IDC ***28*** *05:20:31.0±0.6, 6962N×14482W, h0km, mb4.1/17, mb1 4.3/19, mb1mx4.3/22, mbtmp4.2/19, ML4.0/2, MS4.2/19, Ms1 4.2/19, ms1mx4.0/32, Error ellipse: s-maj=18.2km s-min=10.0km az=38.0*

ISC 28 05:20:32.5±0.1, 6959N±002×14496W±007, h10km, (h12km±1.5km:pP-P), n246, σ1$23/271, mb4.5/92, MS4.5/29, 2C-4D, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase Op	ISC	Time h m s	Res ISC
BM3	**Burnt Mountain**	**2.18**	**176**	P	**Pn**	**05 21 07.5**	**-1.4**
BM3				S	**Sn**	**05 21 34.9**	**-1.0**
COLD	**Coldfoot**	**3.06**	**222**	P	**Pn**	**05 21 20.2**	**-0.6**
COLD				S	**Sn**	**05 22 02.0**	**+4.5**
INK	**Inuvik**	**4.32**	**102**	*e*Pn	**Pn**	**05 21 36.2**	**-2.0**
INK				*e*Pg	**Pg**	**05 21 51.2**	**-4.0**
INK				*e*Sg	**Sg**	**05 22 47.2**	**-4.0**
INK	**Inuvik**	**4.32**	**102**	P	**Pn**	**05 21 36.1**	**-2.1**
INK						05 22 25.4	
INK				pmax	pmax		
comp=Z,3.0nm,0.3s							
INK				pmax	pmax		
comp=Z,12nm,0.3s							
INK				smax			
comp=N,32nm,0.3s							
INK				MLR	MLR		
comp=Z,2μm,19.3s							
INK	**Inuvik**	**4.32**	**102**	Pn	**Pn**	**05 21 36.1**	**-2.1**
comp=Z,3.2nm,0.3s,baz=306,slow=9.6,SNR=93							
INK				Pg	**Pg**	**05 21 49.5**	**-5.7**
comp=Z,12nm,0.3s,baz=287,slow=13,SNR=18							
INK				Sn	**Sn**	**05 22 25.4**	**-3.2**
comp=Z,32nm,0.3s,baz=256,slow=29,SNR=5.6							
INK				Lg		05 22 48.6	
comp=Z,23nm,0.3s,baz=88,slow=14,SNR=8.9							
INK				LR	LR	05 23 50.6	
comp=Z,2μm,19.3s,baz=281,slow=47							
INK	**Inuvik**	**4.32**	**102**	⇓Pn	**Pn**	**05 21 35.8**	**-2.4**
INK				⇓Sn	**Sn**	**05 22 21.8**	**-6.8**
INK	**Inuvik**	**4.32**	**102**	Pn	**Pn**	**05 21 36.1**	**-2.1**
IMA2	**Indian Mountai**	**4.84**	**227**	P	**Pn**	**05 21 43.5**	**-1.7**
COLA	**College**	**4.87**	**195**	P	**Pn**	**05 21 44.8**	**-0.8**
COLA				S	**Sn**	**05 22 41.9**	**0.0**
IL1	**Eielson Array**	**4.90**	**190**	P	**Pn**	**05 21 44.9**	**-1.2**
IM3	**Indian Mountai**	**4.92**	**227**	P	**Pn**	**05 21 44.4**	**-2.0**
EGAK	**Eagle**	**5.05**	**161**	P	**Pn**	**05 21 46.2**	**-2.0**
DAWY	**Dawson**	**5.96**	**156**	P	**Pn**	**05 21 59.0**	**-1.7**
DAWY				S	**Sn**	**05 23 06.4**	**-2.6**
DAWY	**Dawson**	**5.96**	**156**	Pn	**Pn**	**05 21 59.4**	**-1.3**
DAWY				⇓Sn	**Sn**	**05 23 05.3**	**-3.7**
DAWY	**Dawson**	**5.96**	**156**	Pn	**Pn**	**05 21 59.4**	**-1.3**
DAWY				Sn	**Sn**	**05 23 04.3**	**-4.6**
DOT	**Dot Lake**	**5.98**	**176**	P	**Pn**	**05 21 59.8**	**-1.1**
MCK	**McKinley**	**6.09**	**197**	P	**Pn**	**05 22 01.4**	**-1.0**
KTH	**Kantishna Hill**	**6.51**	**204**	P	**Pn**	**05 22 07.5**	**-0.7**
TRF	**Thorofare Moun**	**6.52**	**202**	P	**Pn**	**05 22 07.1**	**-1.2**
PAX	**Paxson**	**6.65**	**182**	P	**Pn**	**05 22 10.1**	**0.0**
BCA3	**Beaver Creek A**	**6.67**	**167**	P	**Pn**	**05 22 09.2**	**-1.2**
MENT	**Mentasta**	**6.70**	**175**	P	**Pn**	**05 22 09.7**	**-1.1**
SML	**Sawmill**	**7.94**	**192**	P	**Pn**	**05 22 29.5**	**+1.7**
TTA	**Tatalina**	**8.02**	**219**	*e*P	**Pn**	**05 22 28.6**	**-0.3**
TT01	**Tatalina**	**8.04**	**219**	P	**Pn**	**05 22 27.8**	**-1.5**
PMR	**Palmer**	**8.21**	**194**	*e*P	**Pn**	**05 22 32.1**	**+0.6**
DIV	**Divide**	**8.50**	**183**	*e*Pn	**Pn**	**05 22 37.2**	**+1.7**
comp=Z,44nm,0.7s							
DIV				*e*Sn	**Sn**	**05 24 13.9**	**+2.5**
BMRM	**Bremner River**	**8.66**	**179**	P	**Pn**	**05 22 40.8**	**+3.1**
RC01	**Rabbit Creek A**	**8.76**	**195**	P	**Pn**	**05 22 41.4**	**+2.3**
HYT	**Haines Junctio**	**9.33**	**157**	⇑Pn	**Pn**	**05 22 46.0**	**-0.9**
HYT	**Haines Junctio**	**9.33**	**157**	Pn	**Pn**	**05 22 46.7**	**-0.1**
SLKM	**Skilak Lake**	**9.38**	**196**	*e*Pn	**Pn**	**05 22 48.9**	**+1.4**
SVW2	**Sparrevohn**	**9.59**	**212**	*e*P	**Pn**	**05 22 50.1**	**-0.3**
WHY	**Whitehorse**	**9.90**	**150**	Pn	**Pn**	**05 22 53.2**	**-1.4**
WHY				⇑Sn	**Sn**	**05 24 38.6**	**-7.0**
WHY	**Whitehorse**	**9.90**	**150**	Pn	**Pn**	**05 22 53.2**	**-1.4**
SKAG	**Skagway**	**10.96**	**153**	*e*P	**Pn**	**05 23 08.5**	**-0.6**
comp=Z,63nm,1.3s							
GAMB	**Gambell**	**12.00**	**254**	*e*Pn	**Pn**	**05 23 22.1**	**-1.3**
comp=Z,24μm,1.2s							
KDAK	**Kodiak Island**	**12.31**	**199**	Pn	**Pn**	**05 23 27.2**	**-0.4**
KDAK				Sn	**Sn**	**05 25 30.1**	**-14**
KDAK				LR	LR	05 28 24.4	
KDAK	**Kodiak Island**	**12.31**	**199**	Pn	**Pn**	**05 23 27.2**	**-0.4**
comp=Z,0.1nm,0.3s,baz=13,slow=5.7,SNR=2.5							
KDAK				Sn	**Sn**	**05 25 30.1**	**-14**
comp=Z,0.1nm,0.3s,baz=170,slow=20,SNR=2.1							
KDAK				LR	LR	05 28 24.4	
comp=Z,1μm,21.9s,baz=26,slow=38							
DLBC	**Dease Lake**	**12.91**	**143**	*e*Pn	**Pn**	**05 23 34.0**	**-1.8**
DLBC	**Dease Lake**	**12.91**	**143**	Pn	**Pn**	**05 23 34.0**	**-1.8**
baz=328,slow=12							
DLBC				Sn	**Sn**	**05 25 50.1**	**-9.1**
baz=50,slow=14							
DLBC				Lg		05 27 20.4	
baz=204,slow=20							
DLBC	**Dease Lake**	**12.91**	**143**	Pn	**Pn**	**05 23 34.3**	**-1.4**
DLBC	**Dease Lake**	**12.91**	**143**	Pn	**Pn**	**05 23 34.3**	**-1.4**
YKW3	**Yellowknife Ar**	**14.04**	**105**	⇓Pn	**Pn**	**05 23 45.0**	**-6.1**
YKW3	**Yellowknife Ar**	**14.04**	**105**	Pn	**Pn**	**05 23 45.0**	**-6.1**
YKW3				Sn	**Sn**	**05 26 08.4**	**-18**
YKA	**Yellowknife Ar**	**14.09**	**105**	Pn	**Pn**	**05 23 45.4**	**-6.4**
YKA				Sn	**Sn**	**05 26 13.2**	**-15**
YKA				Lg		05 27 46.5	
YKA	**Yellowknife Ar**	**14.09**	**105**	Pn	**Pn**	**05 23 45.3**	**-6.4**
comp=Z,1.5nm,0.3s,baz=313,slow=13,SNR=100							
YKA				Sn	**Sn**	**05 26 13.2**	**-15**
comp=Z,3.5nm,0.3s,baz=20,slow=16,SNR=8.3							
YKA				Lg		05 27 46.5	
baz=311,slow=27,SNR=2.0							
FNBB	**Fort Nelson**	**14.24**	**128**	Pn	**Pn**	**05 23 51.6**	**-2.3**
FNBB				Sn	**Sn**	**05 26 26.5**	**-5.2**
RES	**Resolute Bay**	**15.72**	**49**	*e*Pn	**Pn**	**05 24 07.3**	**-6.2**
comp=Z,0.1nm,0.9s							
RES				*e*Sn	**Sn**	**05 26 50.6**	**-17**
RES	**Resolute Bay**	**15.72**	**49**	Pn	**Pn**	**05 24 07.9**	**-5.7**
RES				Sn	**Sn**	**05 26 49.2**	**-18**
BILL	**Bilibino**	**17.32**	**288**	*e*Pn	**Pn**	**05 24 33.9**	**-0.1**
comp=Z,33nm,1.1s							
BILL	**Bilibino**	**17.32**	**288**	⇑*e*P	**Pn**	**05 24 34.9**	**+0.9**
BILL				*e*S	**Sn**	**05 27 52.4**	**+6.0**
BILL				pmax	pmax		
comp=Z,9.0nm,1.2s							
BILL				MLR	MLR		
comp=Z,2μm,20.0s							
BBB	**Bella Bella**	**19.16**	**147**	LR	LR	05 32 14.0	
comp=Z,607nm,19.3s,baz=350,slow=37							
EDM	**Edmonton**	**21.89**	**122**	*e*P	**P**	**05 25 24.1**	**-1.1**
FCC	**Fort Churchill**	**23.85**	**91**	*e*P	**P**	**05 25 42.6**	**-2.9**
comp=Z,27nm,1.1s,mb4.6							
FCC	**Fort Churchill**	**23.85**	**91**	*e*P	**P**	**05 25 42.6**	**-2.9**
FCC				pmax	pmax		
comp=Z,27nm,1.1s,mb4.6							
FCC	**Fort Churchill**	**23.85**	**91**	Sn	**S**	**05 29 59.4**	**-1.5**
FFC	**Flin Flon**	**24.27**	**106**	*e*P	**P**	**05 25 48.6**	**-0.7**
comp=Z,6μm,1.8s							
FFC	**Flin Flon**	**24.27**	**106**	*e*P	**P**	**05 25 48.6**	**-0.7**
FFC				pmax	pmax		
comp=Z,6μm,1.8s							
SEY	**Seymchan**	**24.98**	**286**	⇑*e*P	**P**	**05 25 57.6**	**+1.8**
NEW	**Newport**	**25.31**	**133**	*e*P	**P**	**05 25 59.7**	**+0.8**
comp=Z,2.9nm,1.1s,mb3.7							
NEW	**Newport**	**25.31**	**133**	P	**P**	**05 25 58.6**	**-0.3**
NEW				pmax	pmax		
comp=Z,3.0nm,0.9s							
NEW				MLR	MLR		
comp=Z,1μm,19.4s							
NEW	**Newport**	**25.31**	**133**	P	**P**	**05 25 58.6**	**-0.3**
comp=Z,3.0nm,0.9s,mb3.8,baz=333,slow=9.9,SNR=3.5							
NEW				LR	LR	05 36 25.1	
comp=Z,1μm,19.4s,MS4.5,baz=338,slow=38							
TIXI	**Tiksi**	**26.41**	**315**	*e*P	**P**	**05 26 06.7**	**-1.9**
comp=Z,5.7nm,0.8s,mb4.2							
TIXI	**Tiksi**	**26.41**	**315**	*e*P	**P**	**05 26 08.0**	**-0.6**
TIXI				*e*S	**S**	**05 30 40.8**	**-0.7**
TIXI				pmax	pmax		
comp=Z,15nm,1.4s,mb4.3							
EGMT	**Eagleton**	**27.56**	**123**	*e*P	**P**	**05 26 18.4**	**-0.8**
comp=Z,40nm,0.3s,mb5.5							
CHMT	**Chamberlain Mo**	**27.58**	**129**	*e*P	**P**	**05 26 18.9**	**-0.5**
HRY	**Holter Researc**	**28.16**	**127**	*e*P	**P**	**05 26 24.4**	**-0.1**
BOZ	**Bozeman (W)**	**29.19**	**128**	*e*P	**P**	**05 26 34.7**	**+1.0**
comp=Z,1.1nm,0.8s,mb3.6							
GCMT	**Greycliff**	**29.61**	**125**	*e*P	**P**	**05 26 37.7**	**+0.3**
MCMT	**McKenzie Canyo**	**29.61**	**130**	*e*P	**P**	**05 26 38.5**	**+1.1**
LAO	**LASA Array**	**29.82**	**120**	*e*P	**P**	**05 26 39.6**	**+0.3**
comp=Z,10nm,1.0s,mb4.5							
ULM	**Lac du Bonnet**	**30.06**	**104**	P	**P**	**05 26 39.6**	**-1.8**
comp=Z,0.9nm,0.6s,mb3.7,baz=306,slow=7.6,SNR=2.7							
ULM				LR	LR	05 39 19.0	
comp=Z,550nm,18.2s,MS4.2,baz=340,slow=38							
PET	**Petropavlovsk**	**30.28**	**266**	*e*P	**P**	**05 26 45.0**	**+1.8**
PET				*e*S	**S**	**05 31 42.2**	**-0.4**
PET				*e*		05 31 42.4	
PET				MLR	MLR		
comp=Z,700nm,14.0s,MS4.5							
DAG	**Danmarks Havn**	**30.30**	**22**	*e*P	**P**	**05 26 42.0**	**-1.2**
DAG	**Danmarks Havn**	**30.30**	**22**	*i* P	**P**	**05 26 42.0**	**-1.2**
WVOR	**Wild Horse Val**	**30.42**	**140**	*e*P	**P**	**05 26 47.0**	**+2.4**
comp=Z,5.5nm,0.9s,mb4.3							
WVOR	**Wild Horse Val**	**30.42**	**140**	*e*P	**P**	**05 26 47.0**	**+2.4**
WVOR				pmax	pmax		
comp=Z,5.0nm,0.9s,mb4.2							
MOD	**Modoc**	**30.56**	**142**	*e*P	**P**	**05 26 47.1**	**+1.3**
comp=Z,8.5nm,1.0s,mb4.5							
IMW	**Indian Meadow**	**31.00**	**128**	*e*P	**P**	**05 26 50.7**	**+1.0**
comp=Z,10nm,1.0s,mb4.6							
MOOW	**Moose Ponds**	**31.18**	**128**	*e*P	**P**	**05 26 53.2**	**+1.8**
comp=Z,12nm,1.4s,mb4.5							
DCID1	**Drake Creek**	**31.21**	**129**	*e*P	**P**	**05 26 53.1**	**+1.6**
LOHW	**Long Hollow**	**31.35**	**128**	*e*P	**P**	**05 26 53.5**	**+0.7**
comp=Z,4.8nm,0.8s,mb4.4							
TPAW	**Teton Pass**	**31.37**	**129**	*e*P	**P**	**05 26 55.7**	**+2.8**
comp=Z,30nm,1.5s,mb4.9							
SNOW	**Snow King Moun**	**31.45**	**128**	*e*P	**P**	**05 26 55.0**	**+1.4**
comp=Z,8.5nm,0.8s,mb4.6							
BW06	**Boulder Array**	**32.42**	**127**	*e*P	**P**	**05 27 01.7**	**-0.5**
comp=Z,6.5nm,0.8s,mb4.5							
HWUT	**Hardware Ranch**	**32.95**	**131**	*e*P	**P**	**05 27 07.3**	**+0.4**
comp=Z,5.9nm,0.7s,mb4.6							
EYMN	**Ely**	**33.53**	**102**	*e*P	**P**	**05 27 11.2**	**-0.7**
comp=Z,12nm,1.0s,mb4.8							
DUG	**Dugway**	**33.95**	**133**	*e*P	**P**	**05 27 17.9**	**+2.3**
comp=Z,19nm,1.4s,mb4.8							
DUG	**Dugway**	**33.95**	**133**	*e*P	**P**	**05 27 17.9**	**+2.3**
DUG				pmax	pmax		
comp=Z,19nm,1.4s,mb4.8							
RWWY	**Rawlins**	**34.08**	**125**	*e*P	**P**	**05 27 18.1**	**+1.4**
comp=Z,15nm,0.9s,mb4.9							
DAU	**Daniels Canyon**	**34.15**	**131**	*e*P	**P**	**05 27 19.5**	**+2.2**
NVAR	**Mina Array Bea**	**34.32**	**141**	P	**P**	**05 27 18.5**	**-0.3**
comp=Z,1.4nm,0.5s,mb4.2,baz=322,slow=7.8,SNR=14							
SRU	**San Rafael**	**35.57**	**131**	*e*P	**P**	**05 27 31.7**	**+2.1**
comp=Z,3.7nm,0.8s,mb4.4							
SRU	**San Rafael**	**35.57**	**131**	*e*P	**P**	**05 27 31.7**	**+2.2**
SRU				pmax	pmax		
comp=Z,4.0nm,0.8s,mb4.4							
MSU	**Marysvale**	**35.70**	**133**	*e*P	**P**	**05 27 32.6**	**+1.9**
ARUT	**Antelope Range**	**36.07**	**135**	*e*P	**P**	**05 27 35.8**	**+1.9**
TPNV	**Topopah Spring**	**36.20**	**139**	*e*P	**P**	**05 27 35.2**	**+0.3**
comp=Z,6.8nm,0.7s,mb4.7							
TPNV	**Topopah Spring**	**36.20**	**139**	*e*P	**P**	**05 27 35.3**	**+0.3**
TPNV				pmax	pmax		
comp=Z,7.0nm,0.7s,mb4.7							
ISCO	**Idaho Springs**	**36.29**	**124**	*e*P	**P**	**05 27 36.8**	**+1.1**
comp=Z,5.0nm,0.9s,mb4.4							
ISCO	**Idaho Springs**	**36.29**	**124**	*e*P	**P**	**05 27 36.8**	**+1.1**
ISCO				pmax	pmax		
comp=Z,5.0nm,0.9s,mb4.4							
CCUT	**Cedar City**	**36.31**	**135**	*e*P	**P**	**05 27 36.6**	**+0.7**
SCHQ	**Schefferville**	**36.34**	**73**	*e*P	**P**	**05 27 34.6**	**-1.3**
comp=Z,9.8nm,0.8s,mb4.8							
SCHQ	**Schefferville**	**36.34**	**73**	P	**P**	**05 27 34.8**	**-1.2**
comp=Z,7.8nm,0.8s,mb4.7,baz=319,slow=8.6,SNR=16							
SMCO	**Snowmass**	**36.48**	**126**	*e*P	**P**	**05 27 37.6**	**+0.3**
comp=Z,6.8nm,0.8s,mb4.6							
PTRM	**Twissleman Ran**	**36.59**	**145**	*e*P	**P**	**05 27 40.0**	**+1.7**
PV10	**Paradox Valley**	**36.66**	**129**	*e*P	**P**	**05 27 40.8**	**+2.0**
PV01	**Paradox Valley**	**37.01**	**129**	*e*P	**P**	**05 27 43.3**	**+1.5**
SDCO	**Great Sand Dun**	**38.23**	**125**	*e*P	**P**	**05 27 53.1**	**+0.9**
comp=Z,4.2nm,0.9s,mb4.2							
JFWS	**Jewell Farm**	**38.35**	**105**	*e*P	**P**	**05 27 54.3**	**+1.1**
comp=Z,17nm,1.0s,mb4.7							
JFWS	**Jewell Farm**	**38.35**	**105**	*e*P	**P**	**05 27 54.3**	**+1.1**
JFWS				pmax	pmax		
comp=Z,17nm,1.0s,mb4.7							
WUAZ	**Wupatki**	**38.74**	**134**	*e*P	**P**	**05 27 58.7**	**+2.2**
comp=Z,8.1nm,0.8s,mb4.5							
CBKS	**Cedar Bluff**	**38.96**	**118**	*e*P	**P**	**05 27 58.7**	**+0.4**
comp=Z,5.4nm,0.2s,mb4.9							
CBKS	**Cedar Bluff**	**38.96**	**118**	*e*P	**P**	**05 27 58.7**	**+0.4**
CBKS				pmax	pmax		
comp=Z,5.0nm,0.2s,mb4.9							
ANMO	**Albuquerque**	**40.58**	**128**	*e*P	**P**	**05 28 13.0**	**+1.2**
comp=Z,7.1nm,1.0s,mb4.2							
ANMO	**Albuquerque**	**40.58**	**128**	*e*P	**P**	**05 28 13.0**	**+1.2**
ANMO				pmax	pmax		
comp=Z,7.0nm,1.0s							
HDIL	**Hopedale**	**40.78**	**106**	*e*P	**P**	**05 28 12.8**	**-0.6**
comp=Z,26nm,1.0s,mb4.8							
KEV	**Kevo**	**40.80**	**4**	*e*p	**P**	**05 28 11.2**	**-2.1**
comp=Z,3.7nm,0.5s,mb4.3							
KEV	**Kevo**	**40.80**	**4**	*e*P	**P**	**05 28 11.2**	**-2.1**
KEV				pmax	pmax		
comp=Z,4.0nm,0.5s,mb4.3							
BOD	**Bodaibo**	**40.96**	**307**	*e*P	**P**	**05 28 13.2**	**-1.5**
BOD				pmax	pmax		
comp=Z,11nm,0.9s,mb4.5							
ARCES	**ARCESS Array B**	**40.98**	**5**	P	**P**	**05 28 14.2**	**-0.6**
ARCES				pmax	pmax		
comp=Z,5.0nm,0.8s							
ARCES	**ARCESS Array B**	**40.98**	**5**	P	**P**	**05 28 14.2**	**-0.6**
comp=Z,4.6nm,0.8s,mb4.2,baz=352,slow=7.7,SNR=9.0							
TUC	**Tucson**	**41.94**	**135**	*e*P	**P**	**05 28 23.2**	**+0.2**
comp=Z,2.1nm,0.9s,mb3.8							
TUC	**Tucson**	**41.94**	**135**	*e*P	**P**	**05 28 23.2**	**+0.2**
TUC				pmax	pmax		
comp=Z,2.0nm,0.9s,mb3.8							
AMTX	**Amarillo**	**42.00**	**123**	*e*P	**P**	**05 28 24.1**	**+0.6**
comp=Z,13nm,0.9s,mb4.6							
KLR	**Kul'dur**	**42.77**	**287**	*e*P	**P**	**05 28 25.4**	**-4.2**
ALLY	**Alegheny Colle**	**42.96**	**96**	*e*P	**P**	**05 28 27.0**	**-4.2**
comp=Z,32nm,0.9s,mb5.0							
WMOK	**Wichita Mounta**	**43.01**	**119**	*e*P	**P**	**05 28 31.1**	**-0.6**
comp=Z,6.4nm,0.9s,mb4.3							
WMOK	**Wichita Mounta**	**43.01**	**119**	*e*P	**P**	**05 28 31.1**	**-0.6**
WMOK				pmax	pmax		
comp=Z,6.0nm,0.9s,mb4.3							
BINY	**Binghamton**	**43.93**	**91**	*e*P	**P**	**05 28 38.0**	**-1.0**
comp=Z,7.9nm,0.7s,mb4.5							
MNTX	**Cornudas Mount**	**43.94**	**128**	*e*P	**P**	**05 28 40.2**	**+1.0**
comp=Z,2.5nm,0.9s,mb3.9							
MIAR	**Mount Ida**	**44.82**	**114**	*e*P	**P**	**05 28 44.4**	**-1.9**
comp=Z,14nm,1.0s,mb4.8							
MIAR	**Mount Ida**	**44.82**	**114**	*e*P	**P**	**05 28 44.4**	**-1.9**
MIAR				pmax	pmax		
comp=Z,14nm,1.0s,mb4.8							
WVT	**Waverly**	**45.26**	**107**	*e*P	**P**	**05 28 48.3**	**-1.4**
comp=Z,13nm,0.8s,mb4.8							
WVT	**Waverly**	**45.26**	**107**	*e*P	**P**	**05 28 48.3**	**-1.5**
WVT				pmax	pmax		
comp=Z,13nm,0.8s,mb4.8							
PLAL	**Pickwick Lake**	**46.23**	**108**	*e*P	**P**	**05 28 58.1**	**+0.7**
comp=Z,8.2nm,0.9s,mb4.7							
TXAR	**Lajitas Array**	**46.64**	**128**	P	**P**	**05 29 01.7**	**+1.0**
TXAR				pmax	pmax		
comp=Z,1.0nm,0.6s							
TXAR				MLR	MLR		
comp=Z,621nm,18.8s							
TXAR	**Lajitas Array**	**46.64**	**128**	P	**P**	**05 29 01.7**	**+1.0**
comp=Z,1.1nm,0.6s,mb3.9,baz=352,slow=6.1,SNR=9.5							
TXAR				LR	LR	05 50 11.7	
comp=Z,621nm,18.8s,MS4.6,baz=85,slow=38							
JCT	**Junction City**	**46.67**	**123**	*e*P	**P**	**05 29 01.5**	**+0.6**
comp=Z,8.8nm,0.8s,mb4.7							
JCT	**Junction City**	**46.67**	**123**	*e*P	**P**	**05 29 01.5**	**+0.6**
JCT				pmax	pmax		
comp=Z,9.0nm,0.8s,mb4.8							
SWET	**Sewanee**	**46.73**	**105**	*e*P	**P**	**05 29 01.7**	**+0.3**
MDJ	**Mudanjiang**	**47.52**	**285**	P	**P**	**05 29 04.0**	**-3.4**
MDJ				PCP	PcP	05 30 34.5	-2.7
MDJ				S	**S**	**05 35 56.0**	**-5.7**
MDJ				SS	SS	05 39 27.0	-2.0
MDJ				AMB	AMB		
comp=Z,3.0nm,0.4s,mb4.7							
MDJ				AMB	AMB		
comp=Z,70nm,5.1s							
MDJ				LR	LR		
comp=N,484nm,17.2s,MS4.8							
MDJ				LR	LR		
comp=E,635nm,16.7s,MS4.8							
MDJ				LR	LR		
comp=Z,924nm,13.9s,MS4.9							
JOF	**Joensuu**	**47.75**	**2**	*e*p	**P**	**05 29 06.0**	**-2.9**
comp=Z,2.5nm,0.5s,mb4.5							
LRAL	**Lakeview Retre**	**48.36**	**108**	*e*P	**P**	**05 29 14.3**	**+0.2**
comp=Z,6.9nm,0.8s,mb4.7							
NB2	**NORSAR Subarra**	**48.56**	**15**	P	**P**	**05 29 14.3**	**-0.9**
comp=Z,1.3nm,0.8s,mb4.0,baz=349,slow=7.9							
NOA	**NORSAR Array B**	**48.56**	**15**	P	**P**	**05 29 15.1**	**-0.1**
NOA	**NORSAR Array B**	**48.56**	**15**	P	**P**	**05 29 15.1**	**-0.1**
NOA				pmax	pmax		
comp=Z,1.0nm,0.6s							
NOA	**NORSAR Array B**	**48.56**	**15**	P	**P**	**05 29 15.1**	**-0.1**
comp=Z,0.8nm,0.6s,mb3.9,baz=349,slow=7.8,SNR=4.1							
NAO01	**NORSAR Array S**	**48.72**	**15**	*e*P	**P**	**05 29 13.6**	**-2.8**
comp=Z,4.0nm,0.9s,mb4.5							
FINES	**FINESS Array B**	**49.10**	**6**	P	**P**	**05 29 18.5**	**-0.8**
FINES				pmax	pmax		
comp=Z,1.0nm,0.4s							
FINES	**FINESS Array B**	**49.10**	**6**	P	**P**	**05 29 18.5**	**-0.9**
comp=Z,1.1nm,0.4s,mb4.2,baz=352,slow=7.7,SNR=14							
CN2	**Changchun**	**49.63**	**288**	*e*P	**P**	**05 29 22.0**	**-1.6**
CN2				*e*AP	pP	05 29 26.5	-0.3
CN2				*e*S	**S**	**05 36 27.5**	**-4.0**
CN2				AMB	AMB		
comp=Z,10.0nm,0.5s,mb5.1							
CN2				AMB	AMB		
comp=Z,100nm,4.0s							
CN2				LR	LR		
comp=N,1μm,19.0s,MS5.0							
CN2				LR	LR		
comp=E,800nm,19.0s,MS5.0							
CN2				LR	LR		
comp=Z,600nm,17.0s,MS4.7							
ZALV	**Zalesovo Beam**	**51.58**	**325**	P	**P**	**05 29 38.0**	**-0.2**
ZALV				LR	LR	05 55 08.4	
ZALV	**Zalesovo Beam**	**51.58**	**325**	P	**P**	**05 29 38.0**	**-0.2**
comp=Z,1.9nm,0.5s,mb4.3,baz=30,slow=8.3,SNR=4.2							
ZALV				LR	LR	05 55 08.4	
comp=Z,202nm,19.2s,MS4.2,baz=29,slow=40							
ZAL	**Zalesovo**

comp=Z,216nm,19.0s,MS4.3,baz=7.5,slow=39
AKTO Aktyubinsk 59.11 343 LR LR 05 56 47.5
comp=Z,114nm,19.8s,MS4.0,baz=0.2,slow=37
FLN La Foliniere 59.12 27 *e*P **P 05 30 33.8 +1.2**
SGMF Saint Gilles 59.28 28 *e*P **P 05 30 33.7 0.0**
LDF La Druitiere 59.34 26 *e*P **P 05 30 34.7 +0.6**
GRR Gorron 59.43 27 *e*P **P 05 30 35.6 +0.9**
DPC Dobruska-Polom 59.59 14 *e*P **P 05 30 36.0 +0.2**
AKASG Malin Array Be 59.95 4 P **P 05 30 37.5 -0.7**
AKASG pmax pmax
comp=Z,5.0nm,0.7s
AKASG Malin Array Be 59.95 4 P **P 05 30 37.5 -0.7**
comp=Z,5.3nm,0.7s,mb4.7,baz=356,slow=6.9,SNR=22
AKBB Malin Array Si 59.95 4 *e*P **P 05 30 37.2 -1.1**
MORC Moravsky Berou 60.26 13 *e*P **P 05 30 37.9 -2.5**
comp=Z,2.4nm,0.9s,mb4.2
MORC Moravsky Berou 60.26 13 *e*P **P 05 30 37.9 -2.5**
MORC pmax pmax
comp=Z,2.0nm,0.9s,mb4.2
WMQ Urumqi 60.52 319 *e*P **P 05 30 43.5 +1.2**
WMQ XP sP 05 30 51.0 +4.3
WMQ *e*S **S 05 38 56.0 -1.4**
WMQ AMB AMB
comp=Z,8.0nm,0.7s,mb5.0
WMQ AMB AMB
comp=Z,156nm,5.2s
WMQ LR LR
comp=N,358nm,14.2s,MS4.8
WMQ LR LR
comp=E,452nm,15.7s,MS4.8
WMQ LR LR
comp=Z,300nm,28.3s
KHC Kasperske Hory 60.55 16 *e*P **P 05 30 43.3 +0.9**
KHC *e* 05 30 48.8
KHC Kasperske Hory 60.55 16 *e*P **P 05 30 43.3 +0.9**
KHC *e*x x 05 30 48.8
KHC *e*x x 05 30 58.0
GERES GERESS Array B 60.85 16 P **P 05 30 44.7 +0.3**
GERES pmax pmax
comp=Z,1.0nm,0.4s
GERES GERESS Array B 60.85 16 P **P 05 30 44.7 +0.3**
comp=Z,0.6nm,0.4s,mb4.0,baz=353,slow=5.4,SNR=8.1
LOR Lormes 61.23 24 *e*P **P 05 30 48.0 +1.0**
MFF Saint Martin d 61.28 27 *e*P **P 05 30 47.4 0.0**
comp=Z,18nm,1.1s,mb4.8
MFF Saint Martin d 61.28 27 *e*P **P 05 30 47.4 0.0**
comp=Z,9.2nm,1.1s,mb4.8
SSF Saint Saulge 61.38 24 *e*P **P 05 30 47.9 -0.2**
comp=Z,21nm,1.2s,mb4.8
SSF Saint Saulge 61.38 24 *e*P **P 05 30 47.9 -0.2**
comp=Z,11nm,1.2s,mb4.8
SSF Saint Saulge 61.38 24 *e*P **P 05 30 47.9 -0.2**
SSF pmax pmax
comp=Z,11nm,1.2s,mb4.9
GTA Gaotai 61.55 307 *e*P **P 05 30 50.0 +0.7**
GTA AP pP 05 30 53.3 +0.7
GTA XP sP 05 30 55.8 +2.0
GTA PP PP 05 33 09.3 +5.0
GTA PPP 05 34 39.8
GTA S **S 05 39 13.5 +2.8**
GTA XS sS 05 39 21.3 +5.3
GTA SS SS 05 43 18.0 +7.1
GTA AMB AMB
comp=Z,2.0nm,1.6s,mb4.0
GTA AMB AMB
comp=Z,44nm,6.8s
GTA LR LR
comp=N,224nm,16.7s,MS4.7
GTA LR LR
comp=E,464nm,18.6s,MS4.7
GTA LR LR
comp=Z,223nm,16.7s,MS4.4
SMF Signal de Mont 61.84 24 *e*P **P 05 30 52.0 +0.9**
TCF Toulx Ste Croi 61.95 25 *e*P **P 05 30 51.6 -0.3**
comp=Z,7.8nm,0.8s,mb4.6
TCF Toulx Ste Croi 61.95 25 *e*P **P 05 30 51.6 -0.3**
comp=Z,3.9nm,0.8s,mb4.6
TCF Toulx Ste Croi 61.95 25 *e*P **P 05 30 51.6 -0.3**
TCF pmax pmax
comp=Z,4.0nm,0.8s,mb4.6
CABF La Chapelle 62.18 22 *e*P **P 05 30 54.3 +0.9**
comp=Z,15nm,1.0s,mb4.8
CABF La Chapelle 62.18 22 *e*P **P 05 30 54.3 +0.9**
comp=Z,7.7nm,1.0s,mb4.8
CABF La Chapelle 62.18 22 *e*P **P 05 30 54.3 +0.9**
CABF pmax pmax
comp=Z,8.0nm,1.0s,mb4.8
NJ2 Nanjing 62.45 288 *e*P **P 05 30 56.3 +0.8**
NJ2 AP pP 05 31 00.8 +2.1
NJ2 XP sP 05 31 04.0 +4.1
NJ2 PP PP 05 33 16.8 +4.4
NJ2 S **S 05 39 22.0 -0.2**
NJ2 XS sS 05 39 31.0 +3.5
NJ2 AMB AMB
comp=Z,30nm,0.7s,mb5.5
NJ2 AMB AMB
comp=Z,242nm,4.8s
NJ2 LR LR
comp=N,390nm,17.6s,MS4.9
NJ2 LR LR
comp=E,440nm,13.0s,MS4.9
SSE Sheshan 62.55 285 *e*P **P 05 30 55.0 -1.1**
SSE LR LR
comp=N,167nm,20.1s,MS4.4
SSE LR LR
comp=E,230nm,20.4s,MS4.4
SSE LR LR
comp=Z,127nm,22.5s,MS4.0
RJF Les Rejaudoux 62.80 26 *e*P **P 05 30 57.4 -0.2**
LFF La Frestale 63.04 27 *e*P **P 05 30 59.3 +0.1**
CAF Calviac 63.26 26 *e*P **P 05 31 00.2 -0.4**
LZH Lanzhou 63.49 302 *e*P **P 05 31 05.5 +3.2**
LZH AP pP 05 31 09.5 +4.0
LZH XP sP 05 31 12.5 +5.8
LZH PP PP 05 33 26.5 +5.1
LZH *e*S **S 05 39 36.0 +1.0**
LZH SS SS 05 43 42.5 +1.3
LZH AMB AMB
comp=Z,26nm,1.2s,mb5.2
LZH AMB AMB
comp=Z,90nm,5.0s
LZH LR LR
comp=E,620nm,13.7s
LZH LR LR
comp=Z,963nm,14.3s,MS5.1
BNI Bardonecchia 63.79 22 *e*P **P 05 31 01.9 -2.2**
comp=Z,1.8nm,0.6s,mb4.3
BNI Bardonecchia 63.79 22 *e*P **P 05 31 01.9 -2.2**
BNI pmax pmax
comp=Z,2.0nm,0.6s,mb4.3
TKM2 Tokmak 2 63.92 328 *e*P **P 05 31 06.0 +0.9**
comp=Z,5.0nm,0.8s,mb4.6
TKM2 Tokmak 2 63.92 328 *e*P **P 05 31 06.0 +0.9**
TKM2 pmax pmax
comp=Z,5.0nm,0.8s,mb4.6
JOW Kunigami 64.02 277 LR LR 05 59 47.8
comp=Z,284nm,21.8s,MS4.4,baz=125,slow=37
AAK Ala-Archa 64.40 329 *e*P **P 05 31 08.4 +0.2**
comp=Z,9.7nm,1.3s,mb4.7
AAK Ala-Archa 64.40 329 *i*P **P 05 31 08.5 +0.3**
AAK pmax pmax
comp=Z,2.0nm,0.8s,mb4.2
AAK MLR MLR
comp=Z,200nm,19.0s,MS4.3
AAK Ala-Archa 64.40 329 LR LR 06 02 18.1
comp=Z,155nm,19.1s,MS4.2,baz=13,slow=39
EKS2 Erkin-Say 64.50 329 *e*P **P 05 31 09.8 +0.9**
comp=Z,6.5nm,0.6s,mb4.8
UCH Uchtor 64.79 329 *e*P **P 05 31 11.2 +0.4**
comp=Z,1.6nm,0.7s,mb4.2
AML Almayashu 65.03 329 *e*P **P 05 31 13.8 +1.4**
comp=Z,5.4nm,0.8s,mb4.6
KIV Kislovodsk 66.64 354 *i*P **P 05 31 21.3 -1.3**
KIV *e* 05 31 47.2
KIV pmax pmax
comp=Z,4.0nm,0.5s,mb4.7
KIV MLR MLR
comp=Z,100nm,17.0s,MS4.1
ESDC Sonseca Array 67.36 32 P **P 05 31 28.1 +0.8**
comp=Z,1.3nm,0.7s,mb4.1,baz=338,slow=4.4,SNR=6.6
GYA Guiyang 71.59 296 P **P 05 31 51.8 -1.8**
GYA AP pP 05 31 56.5 -0.4
GYA XP sP 05 31 59.0 +0.9
GYA PCP PcP 05 32 12.8 -0.1
GYA PP PP 05 34 32.5 +0.5
GYA S S 05 41 09.3 -3.2
GYA SKS 05 41 50.8
GYA SCS ScS 05 41 54.3 -4.2
GYA SS SS 05 45 45.5 -1.4
GYA AMB AMB
comp=Z,20nm,1.0s,mb5.0
GYA AMB AMB
comp=Z,110nm,6.6s
GYA LR LR
comp=N,450nm,19.7s,MS4.9
GYA LR LR
comp=E,520nm,20.8s,MS4.9
GYA LR LR
comp=Z,480nm,20.6s,MS4.8
KBL Kabul 73.23 331 *e*P **P 05 32 03.5 +0.1**
comp=Z,13nm,0.5s,mb5.1
KBL Kabul 73.23 331 *e*P **P 05 32 03.5 +0.2**
KBL pmax pmax
comp=Z,13nm,0.5s,mb5.1
KEST Kesra 73.31 22 P **P 05 32 04.3 +0.6**
comp=Z,2.1nm,0.9s,mb4.0,baz=125,slow=5.6,SNR=5.1
KMI Kunming 74.05 299 P **P 05 32 07.5 -0.8**
KMI AP pP 05 32 10.3 -1.2
KMI PP PP 05 34 55.0 +2.0
KMI PPP 05 36 35.8
KMI S S 05 41 37.0 -3.6
KMI SS SS 05 46 24.0 -0.6
KMI SSS 05 49 31.0
KMI AMB AMB
comp=Z,11nm,0.8s,mb4.8
KMI AMB AMB
comp=Z,56nm,3.3s
KMI LR LR
comp=N,485nm,16.9s,MS5.0
KMI LR LR
comp=E,496nm,16.9s,MS5.0
KMI LR LR
comp=Z,414nm,12.3s,MS4.9
GUN Gumba 76.11 315 *e*P **P 05 32 21.5 +1.4**
comp=Z,15nm,0.7s,mb5.0,SNR=2.8
DANN Dangsing 76.21 317 *e*P **P 05 32 19.2 -1.4**
comp=Z,9.2nm,0.6s,mb4.9,SNR=2.1
JIRN Jiri 76.28 315 *e*P **P 05 32 23.2 +2.2**
comp=Z,0.8nm,0.2s,mb4.3,SNR=3.4
GKN Gorkha 76.33 316 *e*P **P 05 32 21.6 +0.3**
comp=Z,8.9nm,0.6s,mb4.9,SNR=4.2
PKI Pulchoki 76.56 315 *e*P **P 05 32 25.1 +2.5**
comp=Z,5.7nm,0.6s,mb4.7,SNR=2.5
KOLN Koldanda 76.81 317 *e*P **P 05 32 24.9 +0.9**
comp=Z,9.1nm,0.8s,mb4.7,SNR=2.1
QIZ Qiongzhong 77.50 291 P **P 05 32 33.3 +5.3**
QIZ S S 05 42 17.0 -1.7
QIZ LR LR
comp=E,753nm,15.6s
QIZ LR LR
comp=Z,331nm,15.3s,MS4.8
MMAI Mount Meron Ar 77.70 360 LR LR 06 07 59.1
comp=Z,45nm,21.1s,MS3.8,baz=70,slow=37
ROSC El Rosal 78.77 107 *e*P **P 05 32 34.8 -0.3**
ROSC El Rosal 78.77 107 LR LR 06 08 24.5
comp=Z,93nm,19.6s,MS4.1,baz=192,slow=36
PPT Papeete 86.98 184 *e*LR LR 06 01 06.2
comp=Z,96nm,21.8s
PPT Papeete 86.98 184 LR LR 06 05 35.8
comp=Z,229nm,20.5s,MS4.6,baz=299,slow=31
DBIC Dimbokro 99.17 40 LR LR 06 19 21.3
comp=Z,141nm,19.4s,MS4.5,baz=334,slow=36

*NEIC **28** 05:21:54.4, 1655N×9549W, h4km, MD4.1(MEX), After MEX.*
MEX 28 05:21:54.4±1.0, 1655N×9549W, h4km±10km, MD4.1, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.79**	**47**	*i* P		Pg	05 22 08.0	-1.5
CMIG				*i* S		Sg	05 22 19.1	-0.7
HUIG	**Huatulco**	**0.98**	**217**	*i* P		Pg	05 22 10.7	-2.6
HUIG				*i* S		Sg	05 22 24.2	-1.8
OXX	**Oaxaca**	**1.29**	**294**	*i* P		Pg	05 22 17.3	-1.9
OXX				*i* S		Sg	05 22 34.3	-1.7
VHO	**Vista Hermosa**	**1.30**	**294**	*i* P		Pg	05 22 16.3	-3.0
VHO				*i* S		Sg	05 22 32.2	-3.9
PNIG	**Pinotepa**	**2.54**	**267**	*i* P		Pn	05 22 31.5	-4.9
PNIG				*i* S		Sn	05 23 01.1	-6.6
UTMO	**Huajuapan**	**2.55**	**300**	*i* P		Pn	05 22 33.2	-3.3
UTMO				*i* S		Sn	05 23 02.6	-5.5
TPIG	**Tehuac#an**	**2.58**	**316**	*e*P		Pn	05 22 33.9	-3.0
TPIG				*i* S		Sn	05 23 05.4	-3.3
CCIG	**Comitan**	**3.23**	**94**	*e*P		Pn	05 22 44.5	-1.4
CCIG				*i* S		Sn	05 23 22.8	-2.1
PPM	**Popocatepetl**	**3.90**	**310**	*i* P		Pn	05 22 55.4	+0.3
PPM				*i* S		Sn	05 23 46.0	+4.7

IDC 28 05:43:13.0±2.1, 642S×15490E, h0km, mb3.7/4, mb1 4.0/4, mb1mx3.7/14, mbtmp3.7/4, MS3.4/1, Ms1 3.3/1, ms1mx2.7/21, Error ellipse: s-maj=134.9km s-min=30.1km az=136.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.07**	**234**	P		P	05 48 30.6	+0.3
	1.3nm,0.7s,baz=58,slow=9.3,SNR=20							
ASAR	**Alice Springs**	**26.49**	**227**	P		P	05 48 51.2	-1.0
	0.2nm,0.4s,baz=56,slow=9.8,SNR=6.1							
STKA	**Stephens Creek**	**28.22**	**204**	LR		LR	05 59 32.3	
	comp=Z,74nm,19.4s,baz=205,slow=35							
FITZ	**Fitzroy Crossi**	**30.81**	**245**	P		P	05 49 31.7	+0.9
	1.4nm,0.7s,baz=87,slow=9.6,SNR=4.9							
YKA	**Yellowknife Ar**	**95.87**	**28**	P		P	05 56 41.2	-0.1
	0.2nm,0.5s,baz=266,slow=4.5,SNR=11							

*CSEM **28** 05:46:13.7±0.3, 3944N×4048E, h15km, MD3.0, Error ellipse: s-maj=9.2km s-min=5.9km az=88.0*
*ISK **28** 05:46:13.8, 3946N×4051E, h8km, MD3.0*
*ISCJB **28** 05:46:14.5±0.9, 3945N±003×4050E±008, h4km±8km, Error ellipse: s-maj=10.1km s-min=5.7km az=8.9*
*DDA **28** 05:46:14.4, 3942N×4041E, h7km±2km, Md2.9*
ISC 28 05:46:15.0±0.8, 3945N±004×4049E±007, h13km±9km, n8, σ1§00/13, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
BINT	**Bingol**	**0.57**	**180**	*e*PG		**Pg**	**05 46 25.2**	**-0.9**
BINT				*e*SG		**Sg**	**05 46 34.2**	**+0.6**
KOPT	**Kop Dagi**	**0.57**	**0**	*i* P		**Pg**	**05 46 25.8**	**-0.4**
KOPT				*i* S		**Sg**	**05 46 36.8**	**+3.1**
EZC	**Erzincan**	**0.60**	**300**	*e*PG		**Pg**	**05 46 32.1**	**+5.3**
BNGL	**BINGOL**	**0.71**	**134**	*e*P		**Pg**	**05 46 28.4**	**-0.4**
BNGL				*i* S		**Sg**	**05 46 39.5**	**+1.4**
EZM	**Erzurum**	**0.81**	**55**	*e*PG		**Pg**	**05 46 30.0**	**-0.7**
EZM				*e*SG		**Sg**	**05 46 40.7**	**-0.7**
ERZM	**Erzurum**	**0.81**	**55**	*i* P		**Pg**	**05 46 29.8**	**-1.0**
HOMI	**Horasan**	**1.24**	**61**	*i* P		**Pn**	**05 46 37.2**	**-0.9**
HOMI				*i* S		**Sb**	**05 46 55.5**	**+1.3**
GUMT	**Gumushane**	**1.28**	**323**	*e*PN		**Pn**	**05 46 38.6**	**+0.1**

*BJI **28** 05:50:44.9, 3849N×9017E, h14km, ML3.5*
*NEIC **28** 05:50:45.0±1.1, 3849N×9033E, h10km, Error ellipse: s-maj=21.9km s-min=12.9km az=194.0*
*ISCJB **28** 05:50:48.2±1.9, 387N±01×9021E±008, h49km±22km, mb3.2/2, Error ellipse: s-maj=20.6km s-min=9.1km az=16.7*
*IDC **28** 05:50:49.7±5.8, 3856N×9058E, h39km±53km, mb3.1/3, mb1 3.5/5, mb1mx3.2/22, mbtmp3.3/5, ML3.8/2, Error ellipse: s-maj=61.7km s-min=33.8km az=52.0*
ISC 28 05:50:50.8±1.4, 387N±01×9021E±008, h54km±17km, n11, σ1§10/15, mb3.2/2, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
WMQ	**Urumqi**	**5.47**	**341**	*e*P		**Pn**	**05 52 08.5**	**-1.2**
WMQ				S		**Sn**	**05 53 11.3**	**+0.1**
WMQ				Smax				
	comp=N,117nm,1.0s							
WMQ				Smax				
	comp=E,115nm,1.0s							
GTA	**Gaotai**	**7.51**	**81**	P		**Pn**	**05 52 39.5**	**+1.9**
GTA				PG		Pn	05 53 04.0	+26
GTA				S		**Sn**	**05 54 00.8**	**-0.5**
GTA				SG		Sn	05 54 39.8	+39
GTA				Smax				
	comp=N,16nm,0.9s							
GTA				Smax				
	comp=E,13nm,1.0s							
MK31	**Makanchi Array**	**9.97**	**327**	*e*Pn		**Pn**	**05 53 11.8**	**+0.5**
MKAR	**Makanchi Array**	**9.97**	**327**	Pn		**Pn**	**05 53 10.0**	**-1.3**
MKAR				Sn		**Sn**	**05 54 56.0**	**-5.7**
MKAR				Lg			05 56 12.3	
MKAR	**Makanchi Array**	**9.97**	**327**	Pn		**Pn**	**05 53 10.0**	**-1.3**
	comp=E,1.2nm,0.3s,baz=141,slow=14,SNR=17							
MKAR				Sn		**Sn**	**05 54 56.0**	**-5.7**
	comp=E,0.1nm,0.3s,baz=144,slow=15,SNR=2.5							
MKAR				Lg			05 56 12.3	
	comp=E,0.2nm,0.3s,baz=133,slow=32,SNR=3.3							
TKM2	**Tokmak 2**	**11.86**	**296**	*e*Pn		**Pn**	**05 53 38.0**	**+1.0**
	comp=E,15nm,0.9s							
UCH	**Uchtor**	**12.47**	**291**	*e*Pn		**Pn**	**05 53 44.6**	**-0.8**
SONM	**Songino Array**	**14.89**	**47**	Pn		**Pn**	**05 54 17.4**	**-0.5**
	comp=E,0.3nm,0.3s,baz=208,slow=12,SNR=3.7							
SONM				Lg			05 58 33.0	
	comp=E,0.1nm,0.3s,baz=269,slow=28,SNR=2.5							
BVAR	**Borovoye Array**	**19.81**	**323**	P		**Pn**	**05 55 20.9**	**+2.3**
	comp=E,1.3nm,0.8s,baz=134,slow=12,SNR=6.3							
WRA	**Warramunga Arr**	**71.49**	**136**	P		**P**	**06 02 04.7**	**-1.1**
	comp=E,0.3nm,0.6s,mb3.4,baz=333,slow=6.2,SNR=8.9							
YKA	**Yellowknife Ar**	**77.20**	**12**	P		**P**	**06 02 38.9**	**+0.4**
	comp=E,0.1nm,0.5s,mb3.0,baz=333,slow=6.4,SNR=4.0							

*MOS **28** 05:53:33.9±0.4, 4289N×4530E, h70km, mb3.6/1, Error ellipse: s-maj=36.3km s-min=15.7km az=18.7*
*TIF **28** 05:53:34.4, 4292N×4538E, h14km±4km*
*ISCJB **28** 05:53:36.9±0.6, 4295N±004×4532E±005, h33km, Error ellipse: s-maj=6.8km s-min=4.5km az=25.5*
ISC 28 05:53:37.2±0.6, 4296N±005×4532E±005, h35km, n12, σ1§26/23, 3D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
VLKR	**Vladikavkaz**	**0.48**	**280**	*e*P		**Pn**	**05 53 48.4**	**+0.9**
VLKR				*e*S		**Sn**	**05 53 59.1**	**+4.5**
BTKR	**Batakoyurt**	**0.70**	**306**	*e*P		**Pn**	**05 53 50.4**	**-0.1**
BTKR				*e*S		**Sn**	**05 54 02.5**	**+2.4**
LACR	**Lac**	**0.76**	**260**	⇓*i*P		**Pn**	**05 53 50.8**	**-0.6**
LACR				*i* S		**Sn**	**05 54 02.8**	**+1.1**
ARNR	**Ardon**	**0.79**	**287**	*e*P		**Pn**	**05 53 51.0**	**-0.8**
ARNR				*e*S		**Sn**	**05 54 03.3**	**+0.8**
TRKR	**Terskaya**	**0.87**	**331**	*e*P		**Pn**	**05 53 53.0**	**+0.1**
TRKR				*i* S		**Sn**	**05 54 05.9**	**+1.5**
KORR	**Kora**	**0.93**	**278**	*e*P		**Pn**	**05 53 52.3**	**-1.3**
KORR				*e*S		**Sn**	**05 54 05.5**	**-0.2**
ZEI	**Tsey**	**1.06**	**260**	⇓*i*P		**Pn**	**05 53 54.1**	**-1.4**
ZEI				*i* S		**Sn**	**05 54 08.0**	**-1.0**
UNCR	**Uncukul**	**1.11**	**102**	*i* P		**Pn**	**05 53 54.7**	**-1.5**
UNCR				*e*S		**Sn**	**05 54 10.7**	**+0.4**
UNCR				pmax		pmax		
	comp=Z,27nm,0.2s							
DIGR	**Digorskoe uzhe**	**1.28**	**268**	⇓*i*P		**Pn**	**05 53 56.5**	**-2.0**
DIGR				*i* S		**Sn**	**05 54 12.2**	**-2.2**
MTA	**Mtatsminda**	**1.33**	**197**	P		**Pn**	**05 53 59.5**	**+0.3**
ONI	**Oni**	**1.43**	**255**	P		**Pn**	**05 53 59.7**	**-0.8**
ONI				S		**Sn**	**05 54 20.1**	**+2.0**
DGRG	**David-gareji**	**1.51**	**178**	P		**Pn**	**05 54 02.6**	**+0.9**
DGRG				S		**Sn**	**05 54 22.2**	**+2.0**

*PDA **28** 05:57:24.8±1.0, 3702N×2453W, h5km, MD3.1, ML2.5, Error ellipse: s-maj=9.9km s-min=5.4km az=105.0*
*CSEM **28** 05:57:24.8±1.0, 3702N×2453W, h5km, ML2.5, Error ellipse: s-maj=9.9km s-min=5.4km az=105.0, After PDA*
SVSA 28 05:57:24.8±1.0, 3702N×2453W, h5km, MD3.1, ML2.5, Error ellipse: s-maj=9.9km s-min=5.4km az=105.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PSMN	**Pico do Norte,**	**0.43**	**267**	*e*P		Pg	05 57 32.1	-1.0
PSMN				*e*S		Sg	05 57 38.3	-0.4
CMLA	**Cha da Macela**	**1.08**	**313**	*e*P		Pg	05 57 41.7	-3.9
CMLA				*e*S		Sg	05 57 54.4	-5.2
CMLA				A			05 57 57.5	
	115nm,0.4s							
CMLA	**Cha da Macela**	**1.08**	**313**	*e*P		Pg	05 57 41.7	-3.9
CMLA				*e*S		Sg	05 57 54.4	-5.2
PDA	**Ponta Delgada**	**1.16**	**309**	*e*S		Sg	05 57 55.7	-6.3
PMAR	**Madeira**	**7.59**	**122**	*e*Pn		Pn	05 59 11.6	-4.4

*IDC **28** 06:08:58.0±1.9, 3322S×17848W, h0km, mb4.2/4, mb1 4.3/5, mb1mx4.0/16, mbtmp4.2/5, ML3.9/1, Error ellipse: s-maj=39.9km s-min=30.3km az=73.0*
*NEIC **28** 06:09:05.2±1.6, 3337S×17864W, h50km, Error ellipse: s-maj=32.9km s-min=22.1km az=79.0*
ISC 28 06:08:59.3±7.2, 333S±01×1787W±03, h1km±48km, n9, σ0§81/8, mb4.2/4, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**6.07**	**213**	Pn		**Pn**	**06 10 30.1**	**0.0**
	2.5nm,0.3s,baz=278,slow=3.6,SNR=15							
URZ				Sn		**Sn**	**06 11 40.3**	**+0.1**
	4.7nm,0.3s,baz=174,slow=21,SNR=8.9							
CTA	**Charters Tower**	**33.83**	**284**	P		**P**	**06 15 44.4**	**+1.2**
CTA	**Charters Tower**	**33.83**	**284**	P		**P**	**06 15 44.4**	**+1.2**
	2.6nm,0.5s,mb4.4,baz=132,slow=7.8,SNR=7.0							
ASAR	**Alice Springs**	**42.49**	**270**	P		**P**	**06 16 56.1**	**-0.1**
	3.4nm,0.6s,mb4.2,baz=109,slow=7.6,SNR=55							
WB2	**Warramunga Arr**	**43.72**	**275**	*e*P		**P**	**06 17 05.4**	**-0.9**
WRA	**Warramunga Arr**	**43.73**	**275**	P		**P**	**06 17 06.0**	**-0.3**
	2.7nm,0.8s,mb4.0,baz=116,slow=7.6,SNR=32							
QSPA	**South Pole Qui**	**56.87**	**180**	P		**P**	**06 18 45.1**	**+0.1**
	1.0nm,0.8s,mb3.9,baz=284,slow=1.6,SNR=4.8							
FINES	**FINESS Array B**	**147.60**	**338**	PKPbc		PKPbc	06 28 42.0	-2.5
	4.1nm,0.9s,baz=46,slow=5.5,SNR=6.6							
NB2	**NORSAR Subarra**	**151.47**	**350**	PKP		PKPab	06 29 00.4	-2.1
	comp=Z,2.0nm,0.9s,baz=20,slow=4.3							

BJI 28 06:24:35.0, 2356N×10187E, h31km, ML3.3, Msz3.7, Yunnan

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KMI	**Kunming**	**1.75**	**27**	PG		Pn	06 25 06.5	+3.3
KMI				SG		Sn	06 25 29.0	+4.6
KMI				Smax				
	comp=N,98nm,0.6s							
KMI				Smax				
	comp=E,106nm,0.7s							
GYA	**Guiyang**	**5.22**	**55**	P		Pn	06 25 52.3	+1.4
GYA				PG		Pn	06 26 09.8	+19
GYA				Smax				
	comp=N,10.0nm,1.0s							
GYA				Smax				
	comp=E,10.0nm,0.8s							

NEIC 28 06:29:46.7, 4012S×17496E, h15km, ML4.2(WEL), 5C-7D, After WEL., Cook Strait

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
WAZ	**Wanganui**	**0.36**	**3**	P		Pg	06 29 54.7	+0.6
MRZ	**Mangatainoka R**	**0.72**	**139**	⇑P		Pg	06 30 00.6	-0.1
KIW	**Kapiti Island**	**0.74**	**183**	⇓P		Pg	06 30 00.0	-1.2
TSZ	**Takapari Road**	**0.77**	**86**	P		Pg	06 30 01.4	-0.3
WNVZ	**Wahianoa**	**0.93**	**32**	⇓P		Pb	06 30 03.4	-1.1
MOVZ	**Moawhango**	**0.94**	**41**	⇓P		Pb	06 30 03.2	-1.4
RAEZ	**Rainy Point**	**0.94**	**332**	⇑P		Pb	06 30 05.2	+0.6
DRZ	**Dome Shelter**	**0.96**	**29**	⇑P		Pb	06 30 04.1	-1.0
FWVZ	**Far West T-bar**	**0.98**	**28**	⇑P		Pb	06 30 04.2	-1.1
CAW	**Cannon Point**	**0.99**	**175**	P		Pb	06 30 04.8	-0.8
TUVZ	**Tukino**	**1.00**	**32**	⇓P		Pb	06 30 04.7	-1.1
VRZ	**Vera Road**	**1.00**	**351**	P		Pb	06 30 05.3	-0.5
WPVZ	**Whakapapa**	**1.02**	**27**	P		Pb	06 30 04.9	-1.1
NGZ	**Ngauruhoe**	**1.06**	**28**	⇓P		Pb	06 30 05.7	-1.1
NEZ	**North Egmont**	**1.08**	**322**	P		Pb	06 30 07.0	0.0
TWVZ	**Taurewa**	**1.11**	**20**	P		Pb	06 30 06.1	-1.5
WTVZ	**West Tongariro**	**1.11**	**26**	⇓P		Pb	06 30 06.5	-1.1
MTW	**Mount Morrison**	**1.12**	**159**	⇑P		Pb	06 30 07.6	-0.1

MRW	Makara Radio	1.13 190	P	Pb	06 30 06.6	-1.3
BFZ	Birch Farm	1.13 120	P	Pb	06 30 07.8	-0.1
WEL	Wellington	1.17 187	P	Pn	06 30 07.8	-0.8
NWEZ	Newall Road	1.19 315	P	Pn	06 30 09.1	+0.3
SNZO	South Karori	1.21 189	P	Pn	06 30 08.1	-0.9
TCW	Tory Channel	1.21 205	⇓P	Pn	06 30 07.5	-1.6
KATZ	Kakaramea	1.28 27	P	Pn	06 30 09.1	-0.8
BHW	Baring Head	1.29 183	P	Pn	06 30 10.1	-0.1
PAWZ	Paruwai Farm	1.31 164	P	Pn	06 30 09.7	-0.7
MSWZ	Moikau Station	1.31 170	P	Pn	06 30 10.0	-0.5
RATZ	Rangitukua	1.40 27	P	Pn	06 30 11.1	-0.5
HATZ	Hinemaiaia	1.51 36	P	Pn	06 30 12.6	-0.5
BKZ	Black Stump Fm	1.52 52	P	Pn	06 30 13.0	-0.3
QRZ	Quartz Range	1.98 248	*e*P	Pn	06 30 19.6	-0.1
THZ	Tophouse	2.26 223	*e*P	Pn	06 30 23.6	+0.1
URZ	Urewera	2.50 43	P	Pn	06 30 26.2	-0.6
KHZ	Kahutara	2.53 205	P	Pn	06 30 27.0	-0.2
WVZ	Waitaha Valley	4.33 226	*e*P	Pn	06 30 51.9	0.0

*ISCJB **28** 06:36:35.4±0.4,5149N×002×682E±005,h0km,Error ellipse: s-maj=4.6km s-min=2.7km az=21.3*
*CSEM **28** 06:36:36.6±0.1,5159N×695E,h1km,ML2.7/9,Error ellipse: s-maj=2.4km s-min=1.2km az=88.0*
*LDG **28** 06:36:36.5±0.1,5159N×697E,h1km,Ml2.7/10,Error ellipse: s-maj=2.3km s-min=1.7km az=43.0,Suspected Mining induced.*
*NEIC **28** 06:36:36.5,5159N×697E,h1km,ML2.7(LDG),After LDG.*
*BUG **28** 06:36:36.6,5153N×692E,h1km,ML1.4*
*BNS **28** 06:36:37.4±0.5,5155N×688E,h1km,ML2.1*

ISC 28 06:36:36.3±0.4,5155N±002×685E±005,h0km,n45,σ1§13/77,1D,Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BZER	Hlnxe	0.08	9	Pg	Pg	06 36 37.4	-0.3
BZER				Sg	Sg	06 36 38.7	0.0
BUG	Bochum--Univer	0.28	112	⇓*i*Pg	Pg	06 36 42.1	+0.4
BUG				Sg	Sg	06 36 46.2	+0.9
WTSB	Winterswijk	0.42	356	*e*Pg	Pg	06 36 45.4	+1.1
WTSB				*e*Sg	Sg	06 36 50.2	+0.4
HOBG	Hohbusch	0.64	151	*e*Pg	Pg	06 36 49.3	+0.8
STB	Steinbach	0.95	180	*e*Pg	Pg	06 36 55.6	+1.1
STB				*e*Sg	Sg	06 37 08.9	+2.1
	36nm,0.3s						
KLL	Kalltalsperre	0.96	201	*e*Pg	Pg	06 36 55.9	+1.3
DREG	Dreilaegerbach	0.97	204	*e*Pg	Pg	06 36 55.9	+1.2
DREG				*e*Sg	Sg	06 37 09.7	+2.5
	123nm,0.3s						
HGN	Heimansgroeve	0.97	217	*e*Pn	Pn	06 36 55.9	-1.2
HGN	Heimansgroeve	0.97	217	*e*Pg	Pg	06 36 56.5	+1.6
	17nm,0.2s						
HGN				*e*Sg	Sg	06 37 09.4	+1.9
HGN	Heimansgroeve	0.97	217	*e*Pg	Pg	06 36 56.5	+1.6
	17nm,0.2s						
HGN				*e*Sg	Sg	06 37 09.4	+1.9
MEM	Membach	1.08	210	P	Pg	06 36 57.7	+0.8
BGG	Burgeitz	1.38	167	*e*Pg	Pg	06 37 02.2	-0.4
BCLA	Clavier	1.49	222	P	Pn	06 37 04.1	-0.1
GIVF	Givet	1.93	222	*e*Pg	Pg	06 37 14.4	+1.1
GIVF				*e*Sn	Sn	06 37 34.2	-1.1
GIVF				*e*Sg	Sg	06 37 40.1	+1.8
	16nm,0.2s						
GIVF	Givet	1.93	222	*e*Pn	Pn	06 37 09.8	-0.5
GIVF				*e*Pg	Pg	06 37 14.4	+1.1
GIVF				*e*Sn	Sn	06 37 34.2	-1.1
GIVF				*e*Sg	Sg	06 37 40.1	+1.8
GIVF	Givet	1.93	222	*e*Pg	Pg	06 37 14.4	+1.1
GIVF				*e*Sn	Sn	06 37 34.2	-1.1
GIVF				*e*Sg	Sg	06 37 40.1	+1.8
	8.2nm,0.2s						
WLF	Walferdange	1.94	194	*e*Sg	Sg	06 37 37.0	-1.4
	SNR=2.4						
BAIF	Baives	2.24	229	*e*P	Pn	06 37 16.5	+1.9
BAIF	Baives	2.24	229	*e*Pg	Pg	06 37 19.4	+0.2
BAIF				*e*Sn	Sn	06 37 41.6	-1.3
BAIF				*e*Sg	Sg	06 37 49.7	+1.5
	9.0nm,0.4s						
BAIF	Baives	2.24	229	*e*Pn	Pn	06 37 14.2	-0.4
BAIF				*e*P		06 37 16.5	
BAIF				*e*Pg	Pg	06 37 19.4	+0.2
BAIF				*e*Sn	Sn	06 37 41.6	-1.3
BAIF				*e*Sg	Sg	06 37 49.7	+1.5
BAIF	Baives	2.24	229	*e*P	Pn	06 37 16.5	+1.9
BAIF	Baives	2.24	229	*e*Pg	Pg	06 37 19.4	+0.2
BAIF				*e*Sn	Sn	06 37 41.6	-1.3
BAIF				*e*Sg	Sg	06 37 49.7	+1.5
	4.5nm,0.4s						
RFYF	Reffroy	3.05	197	*e*Sg	Sg	06 38 14.4	+0.2
	8.8nm,0.4s,baz=15						
RFYF	Reffroy	3.05	197	*e*Sg	Sg	06 38 14.4	+0.2
	4.4nm,0.4s						
CDF	Champ du Feu	3.15	175	*e*Pn	Pn	06 37 26.3	-0.7
CDF				*e*Sg	Sg	06 38 16.8	-0.6
	6.2nm,0.5s						
CDF	Champ du Feu	3.15	175	*e*Pn	Pn	06 37 26.3	-0.7
CDF				*e*Sg	Sg	06 38 16.8	-0.6
	3.1nm,0.5s						
MEZF	Maizieres J'vi	3.26	202	*e*Sg	Sg	06 38 21.4	+0.5
	5.5nm,0.4s,baz=22						
MEZF	Maizieres J'vi	3.26	202	*e*Sg	Sg	06 38 21.4	+0.5
	2.8nm,0.4s						
SFTF	Sexfontaines	3.54	200	*e*Pg	Pg	06 37 43.2	-0.9
SFTF				*e*Sg	Sg	06 38 30.0	0.0
	4.5nm,0.3s						
SFTF	Sexfontaines	3.54	200	*e*Pg	Pg	06 37 43.2	-0.9
SFTF				*e*Sg	Sg	06 38 30.0	0.0
	2.2nm,0.3s						
HAU	Haudompre	3.56	185	*e*Sg	Sg	06 38 29.3	-1.2
	4.0nm,0.4s						
HAU	Haudompre	3.56	185	*e*Sg	Sg	06 38 29.3	-1.2
	2.0nm,0.4s						
HINF	Hinteralfeld	3.73	180	*e*Sg	Sg	06 38 35.2	-0.9
	2.3nm,0.4s						
HINF	Hinteralfeld	3.73	180	*e*Sg	Sg	06 38 35.2	-0.9
	1.1nm,0.4s						
LOR	Lormes	4.71	206	*e*Pn	Pn	06 37 47.8	-0.6
	baz=32						
LOR				*e*Sn	Sn	06 38 40.5	-3.2
	baz=29						
LOR				*e*Sg	Sg	06 39 06.4	-0.9
	2.8nm,0.4s,baz=24						
LOR	Lormes	4.71	206	*e*Pn	Pn	06 37 47.8	-0.6
LOR				*e*Sn	Sn	06 38 40.5	-3.2
LOR				*e*Sg	Sg	06 39 06.4	-0.9
	1.4nm,0.4s						
CABF	La Chapelle	4.96	186	*e*Pn	Pn	06 37 50.8	-1.2
SSF	Saint Saulge	4.99	207	*e*Pn	Pn	06 37 51.0	-1.4
HYF	Humbligny	5.09	214	*e*P	Pn	06 37 56.9	+3.2
AVF	Avril sur Loir	5.28	207	*e*Pn	Pn	06 37 55.5	-0.9
SMF	Signal de Mont	5.29	203	*e*Pn	Pn	06 37 55.6	-0.8
LDF	La Druitiere	5.37	239	*e*Pn	Pn	06 37 56.7	-0.9
FLN	La Foliniere	5.47	242	*e*Pn	Pn	06 37 58.4	-0.6
	baz=61						
FLN				*e*Sn	Sn	06 38 58.5	-4.1
BGF	Bois d'Agland	5.64	209	*e*Pn	Pn	06 38 00.4	-0.9
BGF				*e*Sn	Sn	06 39 02.2	-4.5
GRR	Gorron	5.89	241	*e*Pn	Pn	06 38 03.8	-0.9
GRR				*e*Sn	Sn	06 39 08.7	-4.2

*BJI **28** 06:45:00.8,4.10N×12690E,h10km,mb4.4*
*NEIC **28** 06:45:02.8±0.4,4.13N×12690E,h10km,mb4.4/4,Error ellipse: s-maj=21.4km s-min=8.0km az=66.0*
*IDC **28** 06:45:02.1±0.6,395N×12633E,h0km,mb4.3/17, mb1 4.4/17,mb1mx4.4/22,mbtmp4.3/17,MS3.2/2, Ms1 3.2/2,ms1mx2.8/28,Error ellipse: s-maj=51.0km s-min=12.4km az=70.0*
*ISCJB **28** 06:45:05.6±4.0,4.1N±01×1268E±02,h41km±36km, mb4.4/22,MS3.2/2,Error ellipse: s-maj=30.9km s-min=10.2km az=151.7*
*MAN **28** 06:45:08,385N×12670E,h32km,mb4.9,ML3.8,MS3.9*

ISC 28 06:45:12.3±4.0,40N±01×1266E±02,h86km±37km,n32,σ0§79/31,mb4.3/22,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSM	Kuching	16.50	262	*e*P	Pn	06 48 59.5	+0.8
KAKA	Kakadu	17.54	161	*e*P	Pn	06 49 06.3	-5.1
	11nm,0.6s						
FITZ	Fitzroy Crossi	21.95	183	*e*P	P	06 49 58.2	-0.8
	3.6nm,0.7s,mb3.8						
FITZ	Fitzroy Crossi	21.95	183	P	P	06 49 58.1	-1.0
	2.0nm,0.5s,mb3.7,baz=358,slow=14,SNR=9.7						
WRAB	Tennant Creek	24.93	163	*e*P	P	06 50 26.5	-1.1
	17nm,1.0s,mb4.4						
WRA	Warramunga Arr	24.93	163	P	P	06 50 27.1	-0.5
	6.9nm,0.6s,mb4.3,baz=344,slow=10,SNR=45						
WB2	Warramunga Arr	24.94	163	*e*P	P	06 50 26.6	-1.1
ASAR	Alice Springs	28.36	166	P	P	06 50 58.5	0.0
	2.4nm,0.6s,mb3.9,baz=344,slow=11,SNR=40						
CTA	Charters Tower	30.70	142	P	P	06 51 20.7	+1.6
	1.6nm,0.4s,mb4.1,baz=320,slow=10,SNR=4.0						
KSRS	Korea Array	33.35	2	P	P	06 51 42.8	+0.6
	1.4nm,0.7s,mb3.9,baz=179,slow=9.0,SNR=6.2						
KSRS				PcP	PcP	06 54 24.1	+1.9
	1.6nm,0.8s,baz=186,slow=2.0,SNR=6.3						
KSRS				LR	LR	07 05 30.1	
	comp=Z,20nm,19.7s,baz=190,slow=37						
XAN	Xi'an	34.17	333	P	P	06 51 48.5	-0.8
XAN				AP	pP	06 51 54.5	-15
XAN				AMB	AMB		
	comp=Z,12nm,0.8s,mb4.8						
STKA	Stephens Creek	38.38	159	P	P	06 52 26.2	+1.0
	comp=Z,11nm,0.7s,mb4.8,baz=337,slow=7.2,SNR=9.1						
GTA	Gaotai	42.85	329	*e*P	P	06 53 02.5	+0.5
GTA				AP	pP	06 53 05.5	-17
GTA				XP	sP	06 53 07.0	-25
GTA				AMB	AMB		
	comp=Z,3.0nm,0.8s,mb4.1						
SONM	Songino Array	47.05	341	P	P	06 53 35.4	+0.3
SONM				PcP	PcP	06 55 07.5	+1.6
SONM	Songino Array	47.05	341	P	P	06 53 35.4	+0.3
	comp=Z,1.2nm,0.6s,mb3.8,baz=160,slow=9.4,SNR=4.1						
SONM				PcP	PcP	06 55 07.5	+1.6
	comp=Z,0.8nm,0.6s,baz=145,slow=5.3,SNR=3.3						
MK31	Makanchi Array	57.31	325	*e*P	P	06 54 51.2	0.0
MK31				*e*pP	pP	06 55 09.3	-3.4
MKAR	Makanchi Array	57.31	325	P	P	06 54 51.2	-0.1
MKAR				PcP	PcP	06 55 45.8	+1.3
MKAR				ScP	ScP	06 59 45.9	+9.1
MKAR				LR	LR	07 21 27.3	
MKAR	Makanchi Array	57.31	325	P	P	06 54 51.2	-0.1
	comp=Z,2.5nm,0.4s,mb4.6,baz=118,slow=7.5,SNR=54						
MKAR				PcP	PcP	06 55 45.8	+1.3
	comp=Z,1.8nm,0.7s,baz=115,slow=4.8,SNR=5.4						
MKAR				ScP	ScP	06 59 45.9	+9.1
	comp=Z,0.8nm,0.7s,baz=113,slow=4.6,SNR=6.1						
MKAR				LR	LR	07 21 27.3	
	comp=Z,39nm,20.5s,baz=355,slow=38						
ZALV	Zalesovo Beam	60.34	333	P	P	06 55 11.0	-1.1
	comp=Z,2.2nm,0.4s,mb4.6,baz=132,slow=4.4,SNR=3.9						
KURK	Kurchatov	61.49	327	*e*P	P	06 55 19.8	-0.2
	comp=Z,4.2nm,0.6s,mb4.7						
BVAR	Borovoye Array	67.08	327	P	P	06 55 56.6	+0.2
	comp=Z,1.2nm,0.4s,mb4.1,baz=123,slow=11,SNR=7.6						
AKTK	Aktyubinsk	73.42	322	P	P	06 56 34.9	-0.3
AKTO	Aktyubinsk	73.42	322	P	P	06 56 34.9	-0.3
	comp=Z,1.7nm,0.5s,mb4.1,baz=98,slow=8.9,SNR=7.8						
VNDA	Vanda	83.67	173	P	P	06 57 32.7	+1.7
VNDA	Vanda	83.67	173	P	P	06 57 32.7	+1.7
	comp=Z,1.0nm,0.9s,mb3.7,baz=311,slow=8.3,SNR=5.1						
JOF	Joensuu	88.93	333	*e*p	P	06 57 55.7	-1.3
	comp=Z,2.2nm,0.4s,mb4.5						
ARCES	ARCESS Array B	90.20	340	P	P	06 58 02.9	+0.1
	comp=Z,4.9nm,0.8s,mb4.7,baz=79,slow=6.3,SNR=6.5						
FINES	FINESS Array B	91.58	332	P	P	06 58 10.0	+0.7
	comp=Z,2.5nm,0.9s,mb4.4,baz=73,slow=6.6,SNR=7.2						
AKASG	Malin Array Be	91.66	321	P	P	06 58 09.9	0.0
	comp=Z,1.0nm,0.7s,mb4.2,baz=74,slow=4.3,SNR=5.6						
MLR	Muntele Rosu	94.67	316	P	P	06 58 24.9	+0.9
	comp=Z,2.5nm,0.8s,mb4.7,baz=239,slow=7.3,SNR=5.8						
NOA	NORSAR Array B	98.54	334	P	P	06 58 40.5	-0.6
	comp=Z,0.4nm,0.5s,mb4.2,baz=67,slow=4.5,SNR=2.8						
TXAR	Lajitas Array	121.52	52	PKP	PKPdf	07 03 58.2	+1.6
	comp=Z,0.2nm,0.6s,baz=27,slow=0.6,SNR=3.5						

IDC 28 06:51:00.3±11.0,353S×14409E,h0km,mb3.3/2, mb1 3.5/3,mb1mx3.4/13,mbtmp3.4/3,ML3.3/1,Error ellipse: s-maj=397.5km s-min=35.5km az=95.0,Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	18.88	209	P	Pn	06 55 23.1	+0.2
	0.1nm,0.3s,baz=30,slow=10,SNR=4.7						
ASAR	Alice Springs	22.30	205	P	P	06 55 59.0	-0.5
	0.4nm,0.7s,baz=30,slow=9.6,SNR=3.6						
MKAR	Makanchi Array	73.76	321	P	P	07 02 36.6	+0.2
	0.4nm,0.6s,baz=104,slow=6.1,SNR=2.8						

*PGC **28** 06:52:00.3±15.0,6972N×14445W,h1km,ML3.4/1,159km east of Prudhoe Bay, Ak Alaska*

NEIC 28 06:51:57.2,6976N×14467W,h10km,ML3.4(AEIC), ML3.4(PGC),After AEIC.,Northern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BM3	Burnt Mountain	2.35	179	P	Pn	06 52 36.2	+0.4
BM3				S	Sn	06 53 06.6	+1.9
COLD	Coldfoot	3.26	221	P	Pn	06 52 48.9	+0.7
INK	Inuvik	4.26	105	*e*Pn	Pn	06 53 05.2	+3.1
INK	Inuvik	4.26	105	Pn	Pn	06 53 05.0	+2.9
INK				Sn	Sn	06 53 51.3	-0.5
IMA2	Indian Mountai	5.03	227	*e*Pn	Pn	06 53 12.1	-0.5
IMA2				*e*Sg	Sg	06 54 38.6	+0.2
COLA	College	5.06	196	P	Pn	06 53 12.8	-0.2
COLA				S	Sn	06 54 09.1	-2.3
IL1	Eielson Array	5.08	191	P	Pn	06 53 13.3	0.0
IM3	Indian Mountai	5.11	226	P	Pn	06 53 13.5	-0.2
EGAK	Eagle	5.19	163	P	Pn	06 53 15.2	+0.4
EGAK				S	Sn	06 54 13.1	-1.4
DAWY	Dawson	6.08	158	P	Pn	06 53 27.9	+0.9
DAWY	Dawson	6.08	158	Pn	Pn	06 53 28.4	+1.4
DAWY				Sn	Sn	06 54 34.9	-1.7
DOT	Dot Lake	6.14	177	P	Pn	06 53 28.5	+0.7
MCK	McKinley	6.28	198	*e*Pn	Pn	06 53 29.9	+0.2
	6.2nm,0.4s						
KTH	Kantishna Hill	6.71	205	P	Pn	06 53 35.7	+0.1
TRF	Thorofare Moun	6.72	202	P	Pn	06 53 35.7	0.0
BCA3	Beaver Creek A	6.82	169	P	Pn	06 53 38.1	+0.9
MENT	Mentasta	6.86	176	P	Pn	06 53 38.4	+0.7
HYT	Haines Junctio	9.45	158	Pn	Pn	06 54 15.7	+2.5
YKW3	Yellowknife Ar	13.98	106	Pn	Pn	06 55 14.2	-0.9
YKW3				Sn	Sn	06 57 40.6	-9.4
RES	Resolute Bay	15.53	49	*e*Pn	Pn	06 55 36.2	+0.5
RES				*e*Sn	Sn	06 58 20.1	-7.4
RES	Resolute Bay	15.53	49	Pn	Pn	06 55 36.5	+0.7
RES				Sn	Sn	06 58 18.0	-10

*ISCJB **28** 07:18:08.5±0.3,51014N±0009×107E±001,h4km±2km, mb4.5/40,MS4.2/7,Error ellipse: s-maj=1.6km s-min=1.4km az=140.6*
*BJI **28** 07:18:08.2,51.12N×033E,h24km,mB5.0,mb4.7,Ms4.7, Msz4.3*
*CSEM **28** 07:18:09.9±0.0,5123N×117E,h8km,mb4.6/21,ML5.0/32, Error ellipse: s-maj=0.8km s-min=0.6km az=61.0*
*LDG **28** 07:18:09.8±0.1,5123N×120E,h3km,Ml4.9/43,ms2.9/7, Error ellipse: s-maj=1.7km s-min=1.5km az=28.0*
*MOS **28** 07:18:09.6±1.1,5107N×104E,h11km,mb4.5/20,Error ellipse: s-maj=4.0km s-min=2.4km az=106.9*
*IDC **28** 07:18:10.1±0.7,5109N×091E,h0km,mb4.2/9,mb1 4.3/20, mb1mx4.2/29,mbtmp4.2/20,ML4.3/8,MS3.1/9,Ms1 3.2/9, ms1mx2.8/32,Error ellipse: s-maj=15.8km s-min=10.8km az=16.0*
*UCC **28** 07:18:11.4±0.8,51.10N×119E,h9km±7km,ML4.3*
*SZGRF **28** 07:18:11.5,5123N×111E,h10km,mb5.0,United Kingdom*
*BGS **28** 07:18:11.8,5108N×117E,h6km,ML4.3*
*NEIC **28** 07:18:11.4±0.1,5109N×101E,h10km,mb4.6/18, ML5.0(SZGRF),ML4.3(BGS),ML4.9(CSEM),ML4.9(LDG), ML4.7(STR),Error ellipse: s-maj=2.0km s-min=1.7km az=56.0*
NEIC One person injured and some buildings damaged slightly in the Folkestone area. Felt [VI] at Folkestone; [V] at Dover: [IV] at Ashford, Canterbury and Hastings; [III] at Deal; [II] at London and Maidstone. Also felt at Boston, Broadstairs, Lincoln, Milton Keynes, Norwich, Ramsgate, Swindon, Tonbridge and Walsall. Felt at Outreau and Roubaix, France and at Wetteren, Belgium.
*PRU **28** 07:18:12.1,5189N×140E,h0km,M4.6,Some Damage In Folkstone, Kent*
*STR **28** 07:18:15.2±0.3,5093N×119E,h10km,Ml4.7,Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
*NAO **28** 07:18:17.8±12.0,5174N×161E,h16km±116km,ML3.7*

ISC 28 07:18:10.2±0.3,51058N±0008×107E±001,h1km±1km, n719,σ1§25/1055,mb4.6/40,MS4.2/7,36C-39D,United Kingdom

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TFO1	Folkestone	0.07	38	P	Pg	07 18 12.6	+1.0
TFO1				S	Sg	07 18 13.9	+1.4
TFO1	Folkestone	0.07	38	⇑*i*P	Pg	07 18 12.5	+0.9
TFO1				*e*P		07 18 12.6	
TFO1				*e*S	Sg	07 18 13.9	+1.4
TFO1	Folkestone	0.07	38	*e*P	Pg	07 18 12.6	+1.0
TFO1				*e*S	Sg	07 18 13.8	+1.2
MENF	Mencas	0.85	126	*e*P	Pg	07 18 27.2	+0.7
MENF				*e*S	Sg	07 18 38.7	+1.2
MENF	Mencas	0.85	126	Pg	Pg	07 18 27.1	+0.6
MENF				Sg	Sg	07 18 38.7	+1.2
APAE	Packway	1.27	11	*e*P	Pg	07 18 34.5	-0.1
APAE	Packway	1.27	11	⇑*i*P	Pg	07 18 34.2	-0.4
SKP1	Kophill	1.35	300	*e*P	Pn	07 18 37.2	+1.0
WOL	Wolverton	1.47	281	⇓*i*P	Pn	07 18 39.5	+1.8
WOL				*e*S	Sn	07 19 00.4	+2.9
WOL				AML	AML	07 19 06.3	
	comp=N,2μm,0.4s						
WOL				AML	AML	07 19 07.6	
	comp=E,3μm,0.6s						
WOL	Wolverton	1.47	281	P	Pn	07 18 39.5	+1.8
WOL				S	Sn	07 19 00.3	+2.8
AEU	East Anglia Un	1.57	4	*e*P	Pn	07 18 39.2	+0.1
AEU				*e*S	Sn	07 18 59.4	-0.7
AWI1	Witton	1.79	7	*e*P	Pn	07 18 42.0	-0.3
ABA1	Baconsthorpe	1.83	1	*e*P	Pn	07 18 42.6	-0.2
SWN1	Swindon	1.86	285	⇓*i*P	Pn	07 18 45.0	+1.9
SWN1				AML	AML	07 19 16.2	
	comp=N,2μm,0.6s						
SWN1				AML	AML	07 19 27.9	
	comp=E,2μm,0.7s						
SSW	Stow on the Wo	2.04	298	*e*P	Pn	07 18 47.0	+1.4
SSW	Stow on the Wo	2.04	298	*e*P	Pn	07 18 47.1	+1.5
UCC	Uccle	2.10	96	P	Pn	07 18 46.5	+0.1
UCC				S	Sn	07 19 12.9	-0.2
	comp=E,3μm,0.3s						
UCC	Uccle	2.10	96	P	Pn	07 18 46.4	0.0
UCC				S	Sn	07 19 12.9	-0.2
	comp=E,3μm,0.3s						
SNF	Seneffe	2.11	104	⇑P	Pn	07 18 46.4	-0.2
SNF	Seneffe	2.11	104	P	Pn	07 18 46.3	-0.3
BAIF	Baives	2.24	115	*e*P	Pn	07 18 49.1	+0.8
BAIF	Baives	2.24	115	*e*Pg	Pg	07 18 53.3	+0.2
BAIF				*e*Sn	Sn	07 19 11.8	-4.7
BAIF				*e*Sg	Sg	07 19 20.9	-1.1
	comp=E,2μm,0.4s,SNR=1.0						
BAIF	Baives	2.24	115	⇓*i*P	Pn	07 18 48.4	+0.1
BAIF	Baives	2.24	115	*e*Pn	Pn	07 18 48.4	+0.1
BAIF				*e*P		07 18 49.1	
BAIF				*e*Pg	Pg	07 18 53.3	+0.2
BAIF				*e*Sn	Sn	07 19 11.8	-4.7
BAIF				*e*Sg	Sg	07 19 20.9	-1.1
BAIF	Baives	2.24	115	*e*P	Pn	07 18 48.4	+0.1
BAIF				*e*		07 19 11.8	
BAIF	Baives	2.24	115	*e*Pg	Pg	07 18 53.3	+0.2
BAIF				*e*Sn	Sn	07 19 11.8	-4.7
BAIF				*e*Sg	Sg	07 19 20.9	-1.1
	comp=E,919nm,0.4s,SNR=1.0						
CWF	Charnwood Fore	2.24	320	*e*P	Pn	07 18 48.8	+0.5
CWF				*e*S	Sn	07 19 17.3	+0.8
CWF				AML	AML	07 19 23.9	
	comp=E,2μm,0.6s						
CWF				AML	AML	07 19 23.9	
	comp=N,2μm,0.6s						
CWF	Charnwood Fore	2.24	320	*e*P	Pn	07 18 48.8	+0.5
CWF				*e*S	Sn	07 19 17.3	+0.8
CWF				AML	AML	07 19 23.9	
	comp=E,2μm,0.6s						
CWF				AML	AML	07 19 23.9	
	comp=N,2μm,0.6s						
CWF	Charnwood Fore	2.24	320	P	Pn	07 18 48.8	+0.5
CWF				*e*P		07 18 48.9	
CWF				S	Sn	07 19 17.3	+0.8
DOU	Dourbes	2.44	112	P	Pn	07 18 51.0	-0.2
DOU				S	Sn	07 19 21.8	+0.2
	comp=N,910nm,0.5s						
HGH	Gray Hill	2.50	285	*e*P	Pn	07 18 53.5	+1.6
FLN	La Foliniere	2.51	204	*e*Pn	Pn	07 18 52.7	+0.7
	baz=20,SNR=1.0						
FLN				*e*MLR	MLR		
	comp=Z,650nm,20.0s						
FLN	La Foliniere	2.51	204	*e*P	Pn	07 18 54.6	+2.6
	baz=22						
FLN	La Foliniere	2.51	204	*e*Pg	Pg	07 19 00.0	+1.7
	baz=24,SNR=1.0						
FLN				*e*Sn	Sn	07 19 22.6	-0.6
	baz=27,SNR=1.0						
FLN				*e*Sg	Sg	07 19 34.1	+3.4
	comp=Z,2μm,0.4s,baz=23,SNR=1.0						
FLN	La Foliniere	2.51	204	⇓*i*P	Pn	07 18 52.9	+0.8
FLN	La Foliniere	2.51	204	*e*Pn	Pn	07 18 52.7	+0.7
FLN				*e*P		07 18 54.6	
FLN				*e*Pg	Pg	07 19 00.0	+1.7
FLN				*e*Sn	Sn	07 19 22.6	-0.6
FLN				*e*Sg	Sg	07 19 34.1	+3.4
FLN	La Foliniere	2.51	204	*e*P	Pn	07 18 54.6	+2.6
FLN	La Foliniere	2.51	204	*e*Pg	Pg	07 19 00.0	+1.7
	SNR=1.0						
FLN				*e*Sn	Sn	07 19 22.6	-0.6
	SNR=1.0						
FLN				*e*Sg	Sg	07 19 34.1	+3.4
	comp=Z,1μm,0.4s,SNR=1.0						
GIVF	Givet	2.58	110	*e*P	Pn	07 18 54.1	+1.

JRS	Jersey	2.76	229	⇓iP	Pn	07 18 56.4 +0.8
JSA	Saint Aubin	2.80	229	⇓iP	Pn	07 18 57.0 +0.9
HLM1	Long Mynd	2.86	302	eP	Pn	07 18 57.6 +0.7
STNC	Stoke	2.87	316	eP	Pn	07 18 58.0 +1.0
HTR	Trewern Hill	2.90	292	eP	Pn	07 18 58.4 +1.0
HTR	Trewern Hill	2.90	292	eP	Pn	07 18 58.3 +0.9
BEBN	Eben Emael	2.93	93	⇓P	Pn	07 18 56.8 -1.0
BEBN				S	Sn	07 19 26.4 -7.1
	comp=E,1µm,0.5s					
GRR	Gorron	2.95	206	ePg	Pg	07 19 07.7 +0.9
	SNR=1.0					
GRR				eSn	Sn	07 19 33.2 -0.9
GRR				eSg	Sg	07 19 47.9 +2.9
	comp=E,1µm,0.3s					
GRR	Gorron	2.95	206	⇓iP	Pn	07 18 58.6 +0.5
GRR	Gorron	2.95	206	ePn	Pn	07 18 58.6 +0.5
GRR				ePg	Pg	07 19 07.7 +0.9
GRR				eSn	Sn	07 19 33.2 -0.9
GRR				eSg	Sg	07 19 47.9 +2.9
GRR	Gorron	2.95	206	eP	Pn	07 18 58.6 +0.5
GRR				e		07 19 33.2
GRR	Gorron	2.95	206	ePg	Pg	07 19 07.7 +0.9
	SNR=1.0					
GRR				eSn	Sn	07 19 33.2 -0.9
GRR				eSg	Sg	07 19 47.9 +2.9
	comp=E,581nm,0.3s					
LHO	Holmfirth	3.07	325	⇓iP	Pn	07 18 59.8 0.0
HEX	Exmoor	3.08	272	eP	Pn	07 19 00.4 +0.5
HGN	Heimansgroeve	3.09	94	eP	Pn	07 18 59.5 -0.6
HGN				AML	AML	07 19 50.8
	comp=E,1µm,0.3s					
HGN				AML	AML	07 19 54.1
	comp=N,2µm,0.8s					
HGN	Heimansgroeve	3.09	94	ePg	Pg	07 19 06.5 -2.9
	comp=N,450nm,0.4s					
HGN				eSg	Sg	07 19 43.4 -6.0
HGN	Heimansgroeve	3.09	94	ePn	Pn	07 18 59.1 -0.9
	comp=N,44nm,0.1s,baz=287					
HGN	Heimansgroeve	3.09	94	ePg	Pg	07 19 06.5 -2.9
	comp=N,450nm,0.4s					
HGN				eSg	Sg	07 19 43.4 -6.0
MEM	Membach	3.16	96	⇓P	Pn	07 19 00.6 -0.5
MEM				S	Sn	07 19 41.5 +2.2
	comp=N,2µm,0.8s					
DYA	Yadsworthy	3.24	261	⇓eP	Pn	07 19 02.2 +0.2
DYA				AML	AML	07 20 08.1
	comp=E,417nm,0.7s					
DYA				AML	AML	07 20 17.3
	comp=N,711nm,0.4s					
SBD1	Bryn Du	3.25	306	eP	Pn	07 19 03.0 +0.7
HPK	Haverah Park	3.34	331	eP	Pn	07 19 03.2 -0.3
HPK				AML	AML	07 20 00.7
	comp=E,186nm,0.7s					
HPK				AML	AML	07 20 06.9
	comp=N,327nm,0.6s					
RENF	Rennes	3.43	212	eP	Pn	07 19 05.3 +0.6
RENF				AML	AML	07 20 06.1
	comp=N,353nm,0.4s					
RENF				AML	AML	07 20 08.8
	comp=E,718nm,0.3s					
HTL	Hartland	3.51	271	eP	Pn	07 19 06.0 +0.2
HTL				AML	AML	07 20 21.9
	comp=N,325nm,0.6s					
HTL				AML	AML	07 20 35.9
	comp=E,322nm,0.5s					
WLF	Walferdange	3.54	111	ePn	Pn	07 19 06.8 +0.6
WLF				eSn	Sn	07 19 48.4 -0.2
WLF	Walferdange	3.54	111	⇓P	Pn	07 19 06.9 +0.7
WLF				S	Sn	07 19 50.9 +2.2
	comp=E,780nm,0.5s					
WLF	Walferdange	3.54	111	ePn	Pn	07 19 07.0 +0.8
WLF	Walferdange	3.54	111	ePn	Pn	07 19 06.8 +0.6
WLF				eS	Sn	07 19 48.4 -0.2
MEZF	Maizieres J'vi	3.63	133	ePn	Pn	07 19 06.1 -1.4
	baz=316,SNR=1.0					
MEZF	Maizieres J'vi	3.63	133	eP	Pn	07 19 09.1 +1.6
	baz=320					
MEZF	Maizieres J'vi	3.63	133	ePg	Pg	07 19 18.5 -1.3
	baz=313,SNR=1.0					
MEZF				eSn	Sn	07 19 47.0 -3.9
	SNR=1.0					
MEZF				eSg	Sg	07 20 05.5 -1.4
	comp=E,1µm,0.4s,SNR=1.0					
MEZF	Maizieres J'vi	3.63	133	ePn	Pn	07 19 06.1 -1.4
MEZF				ePg	Pg	07 19 18.5 -1.3
MEZF				eSn	Sn	07 19 47.0 -3.9
MEZF	Maizieres J'vi	3.63	133	eP	Pn	07 19 09.1 +1.6
MEZF	Maizieres J'vi	3.63	133	ePg	Pg	07 19 18.5 -1.3
	SNR=1.0					
MEZF				eSn	Sn	07 19 47.0 -3.9
	SNR=1.0					
MEZF				eSg	Sg	07 20 05.5 -1.4
	comp=E,514nm,0.4s,SNR=1.0					
SGMF	Saint Gilles	3.67	221	ePg	Pg	07 19 20.6 +0.2
SGMF				eSn	Sn	07 19 50.8 -0.9
SGMF				eSg	Sg	07 20 08.6 +0.7
	comp=E,1µm,0.6s,SNR=1.0					
SGMF	Saint Gilles	3.67	221	⇓iP	Pn	07 19 08.6 +0.7
SGMF	Saint Gilles	3.67	221	ePn	Pn	07 19 08.6 +0.7
SGMF				ePg	Pg	07 19 20.6 +0.2
SGMF				eSn	Sn	07 19 50.8 -0.9
SGMF				eSg	Sg	07 20 08.6 +0.7
SGMF	Saint Gilles	3.67	221	eP	Pn	07 19 08.6 +0.7
SGMF				e		07 19 50.8
SGMF	Saint Gilles	3.67	221	ePg	Pg	07 19 20.6 +0.2
SGMF				eSn	Sn	07 19 50.8 -0.9
SGMF				eSg	Sg	07 20 08.6 +0.7
	comp=E,716nm,0.6s,SNR=1.0					
WTSB	Winterswijk	3.69	74	eP	Pn	07 19 07.2 -1.1
WTSB				AML	AML	07 20 16.2
	comp=N,906nm,0.5s					
WTSB				AML	AML	07 20 18.8
	comp=E,1µm,0.5s					
WTSB	Winterswijk	3.69	74	ePn	Pn	07 19 07.2 -1.1
	comp=E,131nm,0.6s					
WTSB				eS	Sn	07 19 51.6 -0.8
WTSB	Winterswijk	3.69	74	ePn	Pn	07 19 07.2 -1.1
	comp=E,131nm,0.6s					
RFYF	Reffroy	3.75	129	ePn	Pn	07 19 07.6 -1.4
	baz=314					
RFYF	Reffroy	3.75	129	eP	Pn	07 19 10.9 +1.9
	baz=304					
RFYF	Reffroy	3.75	129	ePg	Pg	07 19 20.3 -1.7
	baz=313					
RFYF				eSn	Sn	07 19 49.4 -4.3
RFYF				eSg	Sg	07 20 09.3 -1.2
	comp=E,1µm,0.5s					
RFYF	Reffroy	3.75	129	ePn	Pn	07 19 07.6 -1.4
RFYF				ePg	Pg	07 19 20.3 -1.7
RFYF				eSn	Sn	07 19 49.4 -4.3
RFYF	Reffroy	3.75	129	eP	Pn	07 19 10.9 +1.9
RFYF	Reffroy	3.75	129	ePg	Pg	07 19 20.3 -1.7
RFYF				eSn	Sn	07 19 49.4 -4.3
RFYF				eSg	Sg	07 20 09.3 -1.2
	comp=E,516nm,0.5s					
SFTF	Sexfontaines	3.85	136	ePn	Pn	07 19 09.0 -1.4
	baz=314					
SFTF	Sexfontaines	3.85	136	eP	Pn	07 19 12.0 +1.6
	baz=316					
SFTF	Sexfontaines	3.85	136	ePg	Pg	07 19 21.9 -2.0
	baz=314					
SFTF				eSn	Sn	07 19 52.3 -3.9
	comp=E,1µm,0.4s,baz=321					
SFTF				eSg	Sg	07 20 12.5 -1.2
	baz=319					
SFTF	Sexfontaines	3.85	136	ePn	Pn	07 19 09.0 -1.4
SFTF				eP		07 19 12.0
SFTF				ePg	Pg	07 19 21.9 -2.0
SFTF				eSn	Sn	07 19 52.3 -3.9
SFTF				eSg	Sg	07 20 12.5 -1.2
SFTF	Sexfontaines	3.85	136	eP	Pn	07 19 12.0 +1.6
SFTF	Sexfontaines	3.85	136	ePg	Pg	07 19 21.9 -2.0
SFTF				eSn	Sn	07 19 52.3 -3.9
	comp=E,505nm,0.4s					
SFTF				eSg	Sg	07 20 12.5 -1.2
CSA1	St Austell	3.86	262	eP	Pn	07 19 10.9 +0.3
BUG	Bochum--Univer	3.91	82	ePn	Pn	07 19 10.6 -0.7
ROSF	Rostrenen	3.92	228	ePg	Pg	07 19 25.5 +0.2
	SNR=1.0					
ROSF				eSn	Sn	07 19 56.5 -1.6
ROSF				eSg	Sg	07 20 17.6 +1.5
	comp=E,1µm,0.6s,SNR=1.0					
ROSF	Rostrenen	3.92	228	⇓iP	Pn	07 19 12.1 +0.6
ROSF	Rostrenen	3.92	228	ePn	Pn	07 19 12.1 +0.6
ROSF				ePg	Pg	07 19 25.5 +0.2
ROSF				eSn	Sn	07 19 56.5 -1.6
ROSF				eSg	Sg	07 20 17.6 +1.5
ROSF	Rostrenen	3.92	228	eP	Pn	07 19 12.1 +0.6
ROSF				e		07 19 56.5
ROSF	Rostrenen	3.92	228	ePg	Pg	07 19 25.5 +0.2
	SNR=1.0					
ROSF				eSn	Sn	07 19 56.5 -1.6
ROSF				eSg	Sg	07 20 17.6 +1.5
	comp=E,545nm,0.6s,SNR=1.0					
HYF	Humbligny	3.93	164	eP	Pn	07 19 12.9 +1.3
HYF				ePg	Pg	07 19 24.6 -0.9
HYF				eSn	Sn	07 19 55.9 -2.4
HYF				eSg	Sg	07 20 18.2 +1.8
RUP	Ruppelstein	4.07	107	P	Pn	07 19 14.3 +0.9
CMA1	Manaccan	4.07	259	eP	Pn	07 19 13.9 +0.4
CRQ2	Rosemanowes 2	4.07	260	eP	Pn	07 19 13.8 +0.2
CCA1	Carnmenellis	4.11	260	⇓eP	Pn	07 19 14.1 +0.1
CCA1				⇓e		07 19 14.1
QUIF	Quistinic	4.18	223	ePg	Pg	07 19 30.7 +0.3
	SNR=1.0					
QUIF				eSn	Sn	07 20 02.4 -2.2
QUIF				eSg	Sg	07 20 25.5 +0.9
	comp=E,2µm,0.9s					
QUIF	Quistinic	4.18	223	⇓iP	Pn	07 19 15.4 +0.3
QUIF	Quistinic	4.18	223	ePn	Pn	07 19 15.4 +0.3
QUIF				ePg	Pg	07 19 30.7 +0.3
QUIF				eSn	Sn	07 20 02.4 -2.2
QUIF				eSg	Sg	07 20 25.5 +0.9
QUIF	Quistinic	4.18	223	eP	Pn	07 19 15.4 +0.3
QUIF				e		07 20 02.4
QUIF	Quistinic	4.18	223	ePg	Pg	07 19 30.7 +0.3
	SNR=1.0					
QUIF				eSn	Sn	07 20 02.4 -2.2
QUIF				eSg	Sg	07 20 25.5 +0.9
	comp=E,930nm,0.9s					
LOR	Lormes	4.21	153	ePn	Pn	07 19 15.9 +0.5
	baz=336,SNR=1.0					
LOR				eMLR	MLR	
	comp=Z,166nm,20.9s					
LOR	Lormes	4.21	153	eP	Pn	07 19 18.4 +3.0
	baz=330					
LOR	Lormes	4.21	153	ePg	Pg	07 19 30.4 -0.5
	baz=343,SNR=1.0					
LOR				eSn	Sn	07 20 02.3 -2.9
LOR				eSg	Sg	07 20 26.3 +0.9
	comp=Z,806nm,0.4s,baz=333					
LOR	Lormes	4.21	153	eP	Pn	07 19 15.9 +0.5
LOR	Lormes	4.21	153	ePn	Pn	07 19 15.9 +0.5
LOR				eP		07 19 18.4
LOR				ePg	Pg	07 19 30.4 -0.5
LOR				eSn	Sn	07 20 02.3 -2.9
LOR				eSg	Sg	07 20 26.3 +0.9
LOR	Lormes	4.21	153	eP	Pn	07 19 18.4 +3.0
LOR	Lormes	4.21	153	ePg	Pg	07 19 30.4 -0.5
	SNR=1.0					
LOR				eSn	Sn	07 20 02.3 -2.9
LOR				eSg	Sg	07 20 26.3 +0.9
	comp=Z,403nm,0.4s					
THEF	They Montfort	4.27	130	Pn	Pn	07 19 16.4 +0.2
XAL	Allendale	4.30	334	eP	Pn	07 19 16.1 -0.5
ABH	Alteburg	4.30	103	Pn	Pn	07 19 17.2 +0.5
SSF	Saint Saulge	4.31	157	ePg	Pg	07 19 32.2 -0.5
	SNR=1.0					
SSF				eSn	Sn	07 20 04.9 -2.7
SSF				eSg	Sg	07 20 28.8 +0.3
	comp=Z,516nm,0.4s,SNR=1.0					
SSF	Saint Saulge	4.31	157	ePn	Pn	07 19 17.2 +0.4
SSF				ePg	Pg	07 19 32.2 -0.5
SSF				eSn	Sn	07 20 04.9 -2.7
SSF				eSg	Sg	07 20 28.8 +0.3
SSF	Saint Saulge	4.31	157	eP	Pn	07 19 17.2 +0.4
SSF				e		07 20 04.9
SSF	Saint Saulge	4.31	157	ePg	Pg	07 19 32.2 -0.5
	SNR=1.0					
SSF				eSn	Sn	07 20 04.9 -2.7
SSF				eSg	Sg	07 20 28.8 +0.3
	comp=Z,258nm,0.4s,SNR=1.0					
CPZ	Penzance	4.33	261	eP	Pn	07 19 17.3 +0.2
IBBN	Ibbenburen	4.34	71	ePn	Pn	07 19 16.4 -0.9
IBBN				eSn	Sn	07 20 05.2 -3.3
CKE	Keswick	4.35	326	eP	Pn	07 19 17.0 -0.4
BDL	Dobcross Hall	4.47	329	eP	Pn	07 19 18.8 -0.2
BBO1	Bothel	4.52	326	eP	Pn	07 19 19.5 -0.2
AVF	Avril sur Loir	4.53	160	ePg	Pg	07 19 36.2 -0.8
	SNR=1.0					
AVF				eSn	Sn	07 20 10.2 -2.8
AVF				eSg	Sg	07 20 35.6 0.0
	comp=Z,833nm,0.8s					
AVF	Avril sur Loir	4.53	160	ePn	Pn	07 19 20.0 +0.2
AVF				ePg	Pg	07 19 36.2 -0.8
AVF				eSn	Sn	07 20 10.2 -2.8
AVF				eSg	Sg	07 20 35.6 0.0
AVF	Avril sur Loir	4.53	160	eP	Pn	07 19 20.0 +0.2
AVF				e		07 20 10.2
AVF	Avril sur Loir	4.53	160	ePg	Pg	07 19 36.2 -0.8
	SNR=1.0					
AVF				eSn	Sn	07 20 10.2 -2.8
AVF				eSg	Sg	07 20 35.6 0.0
	comp=Z,416nm,0.8s					
MFF	Saint Martin d	4.53	191	ePn	Pn	07 19 19.2 -0.7
	SNR=1.0					
MFF				eSn	Sn	07 20 10.2 -2.9
MFF				eSg	Sg	07 20 36.7 +1.0
	comp=Z,582nm,0.5s,SNR=1.0					
MFF	Saint Martin d	4.53	191	eP	Pn	07 19 19.3 -0.6
MFF	Saint Martin d	4.53	191	eP	Pn	07 19 19.2 -0.7
MFF				e		07 20 10.2
MFF	Saint Martin d	4.53	191	ePn	Pn	07 19 19.2 -0.7
	SNR=1.0					
MFF				eSn	Sn	07 20 10.2 -2.9
MFF				eSg	Sg	07 20 36.7 +1.0
	comp=Z,291nm,0.5s,SNR=1.0					
HAU	Haudompre	4.60	130	ePn	Pn	07 19 20.0 -0.8
	SNR=1.0					
HAU				eMLR	MLR	
	comp=Z,298nm,16.2s					
HAU	Haudompre	4.60	130	eP	Pn	07 19 22.7 +1.9
HAU	Haudompre	4.60	130	ePg	Pg	07 19 36.1 -2.2
HAU				eSn	Sn	07 20 10.6 -4.1
HAU				eSg	Sg	07 20 36.6 -1.2
	comp=Z,692nm,0.4s,SNR=1.0					
HAU	Haudompre	4.60	130	eP	Pn	07 19 21.0 +0.2
HAU	Haudompre	4.60	130	ePn	Pn	07 19 20.0 -0.8
HAU				eP		07 19 22.7
HAU				ePg	Pg	07 19 36.1 -2.2
HAU				eSn	Sn	07 20 10.6 -4.1
HAU				eSg	Sg	07 20 36.6 -1.2
HAU	Haudompre	4.60	130	eP	Pn	07 19 22.7 +1.9
HAU	Haudompre	4.60	130	ePg	Pg	07 19 36.1 -2.2
HAU				eSn	Sn	07 20 10.6 -4.1
HAU				eSg	Sg	07 20 36.6 -1.2
	comp=Z,346nm,0.4s,SNR=1.0					
BGF	Bois d'Agland	4.65	165	ePg	Pg	07 19 38.6 -0.8
BGF				eSn	Sn	07 20 14.0 -2.1
BGF				eSg	Sg	07 20 39.8 +0.2
	comp=Z,2µm,0.5s,SNR=1.0					
BGF	Bois d'Agland	4.65	165	ePn	Pn	07 19 21.9 +0.4
BGF				ePg	Pg	07 19 38.6 -0.8
BGF				eSn	Sn	07 20 14.0 -2.1
BGF				eSg	Sg	07 20 39.8 +0.2
BGF	Bois d'Agland	4.65	165	eP	Pn	07 19 21.9 +0.4
BGF				e		07 20 14.0
BGF	Bois d'Agland	4.65	165	ePg	Pg	07 19 38.6 -0.8
BGF				eSn	Sn	07 20 14.0 -2.1
BGF				eSg	Sg	07 20 39.8 +0.2
	comp=Z,1µm,0.5s,SNR=1.0					
GIM	North Isle of	4.67	316	eP	Pn	07 19 21.6 -0.2
GIM				eS	Sn	07 20 14.0 -2.6
GIM				AML	AML	07 20 20.8
	comp=E,130nm,0.1s					
GIM				AML	AML	07 20 20.8
	comp=N,97nm,0.1s					
GIM	North Isle of	4.67	316	eP	Pn	07 19 21.6 -0.2
GIM				eS	Sn	07 20 14.0 -2.6
GIM				AML	AML	07 20 20.8
	comp=E,130nm,0.1s					
GIM				AML	AML	07 20 20.8
	comp=N,97nm,0.1s					
GIM	North Isle of	4.67	316	P	Pn	07 19 21.6 -0.2
GIM				S	Sn	07 20 14.0 -2.6
GIM	North Isle of	4.67	316	eP	Pn	07 19 21.6 -0.2
GIM				eS	Sn	07 20 14.0 -2.6
	comp=N,97nm,0.1s					
BBH	Bruntsheil	4.74	331	eP	Pn	07 19 22.5 -0.2
SMF	Signal de Mont	4.78	156	eP	Pn	07 19 26.2 +2.9
SMF	Signal de Mont	4.78	156	ePg	Pg	07 19 40.3 -1.5
	SNR=1.0					
SMF				eSn	Sn	07 20 16.5 -2.7
	SNR=1.0					
SMF				eSg	Sg	07 20 42.6 -1.1
	comp=N,1µm,0.6s,SNR=1.0					
SMF	Signal de Mont	4.78	156	ePn	Pn	07 19 23.2 -0.1
SMF				eP		07 19 26.2
SMF				ePg	Pg	07 19 40.3 -1.5
SMF				eSn	Sn	07 20 16.5 -2.7
SMF				eSg	Sg	07 20 42.6 -1.1
SMF	Signal de Mont	4.78	156	eP	Pn	07 19 23.2 -0.1
SMF				e		07 20 16.5
SMF	Signal de Mont	4.78	156	eP	Pn	07 19 26.2 +2.9
SMF	Signal de Mont	4.78	156	ePg	Pg	07 19 40.3 -1.5
	SNR=1.0					
SMF				eSn	Sn	07 20 16.5 -2.7
	SNR=1.0					
SMF				eSg	Sg	07 20 42.6 -1.1
	comp=N,612nm,0.6s,SNR=1.0					
BHH	Howats Hill	4.80	329	eP	Pn	07 19 23.3 -0.2
LANF	Langenberg	4.81	113	Pn	Pn	07 19 24.2 +0.5
LANF				Pg	Pg	07 19 41.4 -1.0
CDF	Champ du Feu	4.82	121	eP	Pn	07 19 25.2 +1.4
CDF	Champ du Feu	4.82	121	ePg	Pg	07 19 38.7 -3.8
CDF				eSg	Sg	07 20 40.3 -4.5
	comp=N,654nm,0.7s					
CDF	Champ du Feu	4.82	121	eP	Pn	07 19 22.9 -0.8
CDF	Champ du Feu	4.82	121	ePn	Pn	07 19 22.7 -1.1
CDF				eP		07 19 25.2
CDF				ePg	Pg	07 19 38.7 -3.8
CDF				eSg	Sg	07 20 40.3 -4.5
CDF	Champ du Feu	4.82	121	eP	Pn	07 19 25.2 +1.4
CDF	Champ du Feu	4.82	121	ePg	Pg	07 19 38.7 -3.8
CDF				eSg	Sg	07 20 40.3 -4.5
	comp=N,327nm,0.7s					
KTD	Kalmit	4.83	108	Pn	Pn	07 19 25.0 +1.1
KTD				Pg	Pg	07 19 43.2 +0.5
TCF	Toulx Ste Croi	4.83	171	ePg	Pg	07 19 42.1 -0.7
TCF				eSn	Sn	07 20 17.2 -3.3
TCF				eSg	Sg	07 20 45.5 +0.1
	comp=N,839nm,0.5s,SNR=1.0					
TCF	Toulx Ste Croi	4.83	171	ePn	Pn	07 19 24.2 +0.2
TCF				ePg	Pg	07 19 42.1 -0.7
TCF				eSn	Sn	07 20 17.2 -3.3
TCF				eSg	Sg	07 20 45.5 +0.1
TCF	Toulx Ste Croi	4.83	171	eP	Pn	07 19 24.2 +0.2
TCF				e		07 20 17.2
TCF	Toulx Ste Croi	4.83	171	ePg	Pg	07 19 42.1 -0.7
TCF				eSn	Sn	07 20 17.2 -3.3
TCF				eSg	Sg	07 20 45.5 +0.1
	comp=N,420nm,0.5s,SNR=1.0					
ECK	Cauldkaine Hil	4.84	330	eP	Pn	07 19 23.5 -0.6
XSO	Sourhope Farm	4.87	337	eP	Pn	07 19 23.7 -0.8
ECH	Echery	4.87	123	Pn	Pn	07 19 25.0 +0.5
HINF	Hinteralfeld	4.97	128	eP	Pn	07 19 27.9 +2.0
HINF	Hinteralfeld	4.97	128	ePg	Pg	07 19 43.0 -2.5
HINF				eSn	Sn	07 20 19.1 -4.9
HINF				eSg	Sg	07 20 46.9 -3.0
	comp=N,605nm,0.5s					
HINF	Hinteralfeld	4.97	128	eP	Pn	07 19 26.3 +0.4
HINF	Hinteralfeld	4.97	128	ePn	Pn	07 19 25.7 -0.2
HINF				eP		07 19 27.9
HINF				ePg	Pg	07 19 43.0 -2.5
HINF				eSn	Sn	07 20 19.1 -4.9
HINF				eSg	Sg	07 20 46.9 -3.0
HINF	Hinteralfeld	4.97	128	eP	Pn	07 19 25.7 -0.2
HINF				e		07 20 19.1
HINF	Hinteralfeld	4.97	128	eP	Pn	07 19 27.9 +2.0
HINF	Hinteralfeld	4.97	128	ePg	Pg	07 19 43.0 -2.5
HINF				eSn	Sn	07 20 19.1 -4.9
HINF				eSg	Sg	07 20 46.9 -3.0
	comp=N,302nm,0.5s					
EKA	Eskdalemuir Ar	4.98	331	P	Pn	07 19 25.0 -1.0
EKA						07 20 19.7
EKA				pmax	pmax	
	comp=Z,18nm,0.3s					
EKA				smax		
	comp=N,9.0nm,0.3s					
EKA	Eskdalemuir Ar	4.98	331	Pn	Pn	07 19 25.0 -1.0
	comp=N,18nm,0.3s,baz=143,slow=14,SNR=301					
EKA				Sn	Sn	07 20 19.7 -4.4
	comp=N,8.8nm,0.3s,baz=145,slow=23,SNR=5.1					
EKA				Lg		07 20 44.8
	comp=N,14nm,0.3s,baz=136,slow=16,SNR=4.2					
ESK	Eskdalemuir	4.98	331	eP	Pn	07 19 25.5 -0.5
ESK				eS	Sn	07 20 19.2 -5.0
ESK				AML	AML	07 20 53.0
	comp=E,180nm,0.5s					
ESK				AML	AML	07 20 58.0
	comp=N,134nm,0.5s					
ESK	Eskdalemuir	4.98	331	eP	Pn	07 19 25.5 -0.5
ESK				eS	Sn	07 20 19.2 -5.0
ESK	Eskdalemuir	4.98	331	ePn	Pn	07 19 25.3 -0.7
ESK				eSg	Sg	07 20 47.4 -2.7
ESK	Eskdalemuir	4.98	331	eP	Pn	07 19 25.3 -0.7
CHIF	Chize	5.03	192	eP	Pn	07 19 26.5 -0.1
CHIF				eS	Sn	07 20 23.2 -2.0
CHIF				AML	AML	07 20 59.5
	comp=E,140nm,0.7s					
CHIF				AML	AML	07 21 07.7
	comp=N,200nm,0.7s					
CHIF	Chize	5.03	192	P	Pn	07 19 26.5 -0.1
CHIF				S	Sn	07 20 23.2 -2.0
DSB	Dublin	5.08	298	eP	Pn	07 19 27.2 -0.2
DSB	Dublin	5.08	298	ePn	Pn	07 19 26.7 -0.7
	comp=N,61nm,0.6s					
DSB				eSg	Sg	07 20 53.4 0.0
DSB	Dublin	5.08	298	ePn	Pn	07 19 26.7 -0.7
	comp=N,61nm,0.6s					
MOF	Molkenrain	5.09	127	Pn	Pn	07 19 27.7 +0.2
SWS	Schriesheim-Wi	5.14	105	P	Pn	07 19 30.2 +2.0
TOD	Tromm	5.16	103	P	Pn	07 19 28.9 +0.4
GAL1	Galloway	5.17	320	eP	Pn	07 19 27.9 -0.7
GAL1				AML	AML	07 21 01.8
	comp=N,132nm,0.7s					
GAL1				AML	AML	07 21 04.5
	comp=E,114nm,0.7s					
DLF	Lyons Farm	5.19	299	eP	Pn	07 19 28.5 -0.3
DLF				eS	Sg	07 20 54.8 -1.9
HLG	Helgoland	5.20	50	ePn	Pn	07 19 27.6 -1.4
HLG				eSn	Sn	07 20 23.6 -5.9
LOMF	Lomont	5.29	132	Pn	Pn	07 19 31.2 +0.9
MATF	Mathat	5.31	190	Pn	Pn	07 19 31.1 +0.6
EBL	Broad Law	5.33	334	eP	Pn	07 19 30.2 -0.5
ESY	Stoneypath	5.34	337	eP	Pn	07 19 30.3 -0.7
ESY	Stoneypath	5.34	337	eP	Pn	07 19 30.3 -0.7
	comp=E,240nm,0.6s					
PLDF	La Plantade	5.37	161	P	Pn	07 19 31.7 +0.4
VERF	Verneugheol	5.39	169	Pn	Pn	07 19 31.9 +0.2
KIZ	Kirchzarten	5.43	122	P	Pn	07 19 32.4 +0.2
BFO	Black Forest	5.44	117	eP	Pn	07 19 31.9 -0.4
BFO				AML	AML	07 21 11.9
	comp=N,116nm,0.7s					
BFO				AML	AML	07 21 12.2
	comp=E,127nm,0.7s					
BFO	Black

comp=N,240nm,0.6s
EDI Edinburgh 5.50 334 *e*P **Pn 07 19 33.2 +0.1**
EDI *e*S **Sn 07 20 32.9 -3.9**
EDI AML AML 07 21 15.1
comp=E,240nm,0.8s
EDI AML AML 07 21 15.6
comp=N,240nm,0.6s
EDI Edinburgh 5.50 334 P **Pn 07 19 33.2 +0.1**
EDI S **Sn 07 20 32.9 -3.9**
EAU Auchinoon 5.50 332 *e*P **Pn 07 19 33.1 -0.1**
EAU Auchinoon 5.50 332 *e*P **Pn 07 19 33.1 -0.1**
comp=N,290nm,0.7s
FELD Feldberg im Sc 5.53 122 Pn **Pn 07 19 33.3 -0.2**
BBS Basel-Blauen 5.54 128 Pn **Pn 07 19 34.6 +0.9**
LBG Lerchenberg 5.54 113 P **Pn 07 19 35.3 +1.6**
CABF La Chapelle 5.55 141 *e*Pg **Pg 07 19 54.6 -1.8**
CABF *e*Sn **Sn 07 20 33.7 -4.4**
CABF *e*Sg **Sg 07 21 06.3 -2.0**
comp=N,1µm,0.9s
CABF La Chapelle 5.55 141 *e*Pn **Pn 07 19 34.1 +0.3**
CABF *e*Pg **Pg 07 19 54.6 -1.8**
CABF *e*Sn **Sn 07 20 33.7 -4.4**
CABF *e*Sg **Sg 07 21 06.3 -2.0**
CABF La Chapelle 5.55 141 *e*P **Pn 07 19 34.1 +0.3**
CABF *e* 07 20 33.7
CABF La Chapelle 5.55 141 *e*Pg **Pg 07 19 54.6 -1.8**
CABF *e*Sn **Sn 07 20 33.7 -4.4**
CABF *e*Sg **Sg 07 21 06.3 -2.0**
comp=N,537nm,0.9s
DCN Croghan 5.62 297 *e*P **Pn 07 19 34.7 -0.1**
DCN *e*S **Sg 07 21 05.7 -4.9**
PCA1 Carrot 5.64 328 *e*P **Pn 07 19 34.7 -0.3**
PCA1 Carrot 5.64 328 *e*P **Pn 07 19 34.7 -0.3**
comp=N,278nm,0.6s
DMUB Kingscourt 5.65 303 *e*P **Pn 07 19 35.0 -0.1**
DMUB *e*S **Sg 07 21 06.9 -4.5**
UBBA Unterbreizbach 5.65 89 *e*Pn **Pn 07 19 34.0 -1.2**
STU Stuttgart 5.72 110 *e*P **Pn 07 19 37.7 +1.5**
STU AML AML 07 21 18.6
comp=N,290nm,0.7s
STU AML AML 07 21 18.8
comp=E,278nm,0.6s
STU Stuttgart 5.72 110 *e*P **Pn 07 19 37.7 +1.5**
STU AML AML 07 21 18.6
comp=N,290nm,0.7s
STU AML AML 07 21 18.8
comp=E,278nm,0.6s
SIND Sindeldorf 5.74 104 P **Pn 07 19 37.7 +1.2**
FRNF Fournols 5.76 169 Pn **Pn 07 19 36.9 +0.1**
RJF Les Rejaudoux 5.77 177 *e*Pn **Pn 07 19 36.1 -0.7**
SNR=1.0
RJF *e*Sn **Sn 07 20 39.9 -3.6**
RJF *e*Sg **Sg 07 21 15.0 -0.3**
comp=E,759nm,0.6s,SNR=1.0
RJF *e*MLR MLR
comp=Z,425nm,18.0s
RJF Les Rejaudoux 5.77 177 *e*P **Pn 07 19 36.4 -0.4**
RJF Les Rejaudoux 5.77 177 *e*Pn **Pn 07 19 36.1 -0.7**
SNR=1.0
RJF *e*Sn **Sn 07 20 39.9 -3.6**
RJF *e*Sg **Sg 07 21 15.0 -0.3**
comp=Z,380nm,0.6s,SNR=1.0
PGBU Glenifferbraes 5.80 327 *e*P **Pn 07 19 37.0 -0.2**
PGBU AML AML 07 21 29.5
comp=E,84nm,0.8s
PGBU AML AML 07 21 36.3
comp=N,94nm,0.7s
SULZ Cheisacher 5.80 125 ⇓P **Pn 07 19 38.3 +1.0**
COLF Collangettes 5.81 161 Pn **Pn 07 19 37.6 +0.1**
SPAK Spaichingen-Ko 5.82 118 Pn **Pn 07 19 38.0 +0.4**
SLE Schleitheim 5.86 121 ⇑P **Pn 07 19 38.2 +0.1**
CLZ Clausthal 5.87 79 *e*Pn **Pn 07 19 36.4 -1.8**
CLZ *e*Sn **Sn 07 20 41.8 -4.2**
EBH Black Hill 5.87 334 *e*P **Pn 07 19 37.8 -0.4**
BUCH Bad Urach 5.97 113 P **Pn 07 19 40.6 +1.0**
LBL Lubilhac 6.01 165 P **Pn 07 19 40.9 +0.8**
GUT Gutenstein 6.03 117 P **Pn 07 19 40.8 +0.4**
EAB Aberfoyle 6.06 330 *e*P **Pn 07 19 40.4 -0.5**
ELO Logie Almond 6.12 334 *e*P **Pn 07 19 41.2 -0.4**
LFF La Frestale 6.13 182 *e*Pn **Pn 07 19 41.5 -0.3**
SNR=1.0
LFF *e*Sn **Sn 07 20 48.0 -4.4**
LFF *e*Sg **Sg 07 21 25.7 -1.2**
comp=N,567nm,0.5s,SNR=1.0
LFF La Frestale 6.13 182 *e*P **Pn 07 19 41.5 -0.3**
LFF *e* 07 20 48.0
LFF La Frestale 6.13 182 *e*Pn **Pn 07 19 41.5 -0.3**
SNR=1.0
LFF *e*Sn **Sn 07 20 48.0 -4.4**
LFF *e*Sg **Sg 07 21 25.7 -1.2**
comp=N,283nm,0.5s,SNR=1.0
ZUR Degenried 6.15 124 ⇑P **Pn 07 19 42.8 +0.7**
SISB Singen-Schiene 6.16 120 P **Pn 07 19 43.9 +1.7**
CAF Calviac 6.17 173 *e*P **Pn 07 19 46.4 +4.0**
CAF *e*Sn **Sn 07 20 49.7 -3.8**
CAF *e*Sg **Sg 07 21 27.3 -1.1**
comp=N,211nm,0.4s,SNR=1.0
CAF Calviac 6.17 173 *e*P **Pn 07 19 42.2 -0.2**
CAF Calviac 6.17 173 *e*Pn **Pn 07 19 42.1 -0.3**
CAF *e*P 07 19 46.4
CAF *e*Sn **Sn 07 20 49.7 -3.8**
CAF *e*Sg **Sg 07 21 27.3 -1.1**
CAF Calviac 6.17 173 *e*P **Pn 07 19 42.1 -0.3**
CAF *e* 07 20 49.7
CAF Calviac 6.17 173 *e*P **Pn 07 19 46.4 +4.0**
CAF *e*Sn **Sn 07 20 49.7 -3.8**
CAF *e*Sg **Sg 07 21 27.3 -1.1**
comp=N,105nm,0.4s,SNR=1.0
SSB Saint Sauveur 6.23 157 P **Pn 07 19 44.2 +1.0**
EMV Vieux Emosson 6.32 140 ⇑P **Pn 07 19 44.4 0.0**
BSEG Bad Segeberg 6.34 59 *e*Pn **Pn 07 19 43.6 -1.0**
LKBD Leukerbad 6.38 135 ⇑P **Pn 07 19 46.6 +1.4**
HDH Heidenheim-Cha 6.41 109 P **Pn 07 19 47.3 +1.7**
MUO Muotathal 6.44 127 ⇓P **Pn 07 19 47.5 +1.4**
DIX Grande Dixence 6.52 137 ⇑P **Pn 07 19 48.3 +1.2**
GRFO Grafenberg 6.63 98 *e*Pn **Pn 07 19 48.1 -0.6**
comp=N,38nm,0.7s
GRFO Grafenberg 6.63 98 *e*P **Pn 07 19 48.1 -0.6**
GRFO pmax pmax
comp=Z,37nm,0.7s
GRFO Grafenberg 6.63 98 *e*P **Pn 07 19 48.1 -0.6**
comp=Z,37nm,0.7s
GRA1 Grafenberg Arr 6.64 98 *e*P **Pn 07 19 49.0 +0.3**
GRF Grafenberg Arr 6.64 98 *e*Pn **Pn 07 19 49.0 +0.3**
VIVF Saint-Julien-I 6.66 157 *e*Pn **Pn 07 19 49.4 +0.3**
SNR=1.0
VIVF *e*Sn **Sn 07 21 01.1 -4.4**
VIVF *e*Sg **Sg 07 21 40.8 -3.2**
comp=Z,298nm,0.5s,SNR=1.0
VIVF Saint-Julien-I 6.66 157 *e*P **Pn 07 19 49.5 +0.5**
VIVF Saint-Julien-I 6.66 157 *e*P **Pn 07 19 49.4 +0.3**
VIVF *e* 07 21 01.1
VIVF Saint-Julien-I 6.66 157 *e*Pn **Pn 07 19 49.4 +0.3**
SNR=1.0
VIVF *e*Sn **Sn 07 21 01.1 -4.4**
VIVF *e*Sg **Sg 07 21 40.8 -3.2**
comp=Z,149nm,0.5s,SNR=1.0
MOX Moxa 6.69 89 *e*Pn **Pn 07 19 49.4 -0.1**
MOX *e*Sn **Sn 07 21 05.1 -1.2**
MOX *e*Sg **Sg 07 21 49.0 +4.1**
MOX Moxa 6.69 89 *e*PN **Pn 07 19 49.4 -0.1**
MOX *e*SN **Sn 07 21 05.1 -1.2**
MOX *e*SG **Sg 07 21 49.0 +4.1**
MOX Moxa 6.69 89 *e*P **Pn 07 19 49.4 -0.1**
MOX *e*S **Sn 07 21 05.1 -1.2**
LPL La Plagne 6.71 144 *e*P **Pn 07 19 54.3 +4.6**
LPL *e*Sn **Sn 07 21 02.6 -4.1**
comp=Z,165nm,0.6s,SNR=1.0
LPL La Plagne 6.71 144 ⇓*i*P **Pn 07 19 51.0 +1.3**
LPL La Plagne 6.71 144 *e*Pn **Pn 07 19 50.9 +1.2**
LPL *e*P 07 19 54.3
LPL *e*Sn **Sn 07 21 02.6 -4.1**
LPL La Plagne 6.71 144 *e*P **Pn 07 19 54.3 +4.6**
LPL *e*Sn **Sn 07 21 02.6 -4.1**
comp=Z,83nm,0.6s,SNR=1.0
LLS Linth-Limmern 6.71 126 ⇓P **Pn 07 19 51.2 +1.4**
LPG La Plagne 6.73 144 *e*P **Pn 07 19 54.4 +4.4**
LPG *e*Sn **Sn 07 21 02.6 -4.7**
comp=Z,191nm,0.6s
LPG La Plagne 6.73 144 *e*P **Pn 07 19 51.5 +1.4**
LPG La Plagne 6.73 144 *e*Pn **Pn 07 19 51.4 +1.4**
LPG *e*P 07 19 54.4
LPG *e*Sn **Sn 07 21 02.6 -4.7**

LPG La Plagne 6.73 144 *e*P **Pn 07 19 54.4 +4.4**
LPG *e*Sn **Sn 07 21 02.6 -4.7**
comp=Z,96nm,0.6s
MMK Mattmark 6.78 135 ⇓P **Pn 07 19 52.9 +2.1**
UBR Ueberruh 6.80 116 P **Pn 07 19 52.5 +1.5**
DAVA Damuels 6.90 120 ⇑*i*Pn **Pn 07 19 53.3 +1.0**
ORIF Oris-en-Rattie 6.94 150 *e*Pn **Pn 07 19 53.8 +0.9**
SNR=1.0
ORIF *e*Sn **Sn 07 21 07.2 -5.2**
SNR=1.0
ORIF *e*Sg **Sg 07 21 50.0 -2.9**
comp=Z,172nm,0.5s,SNR=1.0
ORIF *e*MLR MLR
comp=Z,124nm,17.9s
ORIF Oris-en-Rattie 6.94 150 *e*Pn **Pn 07 19 53.8 +0.9**
ORIF *e*Sn **Sn 07 21 07.2 -5.2**
ORIF *e*Sg **Sg 07 21 50.0 -2.9**
MCD Coleburn Disti 7.01 341 *e*P **Pn 07 19 52.2 -1.6**
BNI Bardonecchia 7.08 146 *e*Pn **Pn 07 19 55.9 +1.0**
BNI *e*Sn **Sn 07 21 14.1 -1.9**
BNI *e*Sg **Sg 07 22 05.4 +7.7**
BNI Bardonecchia 7.08 146 *e*Pn **Pn 07 19 55.9 +1.0**
BNI *e*Sn **Sn 07 21 14.1 -1.9**
TRAV 7.11 139 Pn **Pn 07 19 57.9 +2.6**
comp=Z,279nm,0.7s
ORX Oropa 7.12 137 P **Pn 07 19 58.7 +3.4**
ORO Oropa 7.12 137 P **Pn 07 19 57.6 +2.2**
ORO pmax pmax
comp=Z,124nm,0.2s
ORO Oropa 7.12 137 Pn **Pn 07 19 57.6 +2.2**
comp=Z,124nm,0.2s
VAL Valentia 7.12 282 *e*P **Pn 07 19 54.4 -1.0**
DAVOS Davos 7.13 123 P **Pn 07 19 59.0 +3.5**
DAVOS S **Sn 07 21 18.5 +1.5**
TUE Stuetta 7.14 127 Pn **Pn 07 19 58.2 +2.6**
comp=Z,52nm,0.6s
KAR1 Arisaig 7.14 328 *e*P **Pn 07 19 55.3 -0.4**
MDO Dochfour 7.14 336 *e*P **Pn 07 19 55.3 -0.3**
VDL Val di Lei 7.18 126 ⇓P **Pn 07 19 59.0 +2.8**
DAVOX Davos/Dischmat 7.21 123 Pn **Pn 07 19 59.0 +2.4**
comp=Z,7.1nm,0.3s,baz=217,slow=11,SNR=49
DAVOX Sn **Sn 07 21 18.5 -0.5**
comp=Z,8.9nm,0.3s,baz=351,slow=18,SNR=3.1
RSP Reno Superiore 7.21 143 P **Pn 07 19 58.8 +2.1**
RSP pmax pmax
comp=Z,203nm,0.7s
RSP Reno Superiore 7.21 143 Pn **Pn 07 19 58.8 +2.1**
comp=Z,202nm,0.7s
MUD Monsted U'grnd 7.23 38 *e*P **Pn 07 19 54.8 -2.1**
MUD Monsted U'grnd 7.23 38 *e*Pn **Pn 07 19 54.5 -2.3**
LASF Ste Croix 7.24 164 *e*Pn **Pn 07 19 57.8 +0.8**
SNR=1.0
LASF *e*Sn **Sn 07 21 14.3 -5.4**
LASF *e*Sg **Sg 07 21 59.7 -2.7**
comp=Z,300nm,0.8s
LASF Ste Croix 7.24 164 *e*P **Pn 07 19 57.9 +0.9**
LASF Ste Croix 7.24 164 *e*Pn **Pn 07 19 57.8 +0.8**
SNR=1.0
LASF *e*Sn **Sn 07 21 14.3 -5.4**
LASF *e*Sg **Sg 07 21 59.7 -2.7**
comp=Z,150nm,0.8s
NKC Novy Kostel 7.28 92 *e*PN **Pn 07 19 59.8 +2.2**
NKC *e*SN **Sn 07 21 19.6 -1.2**
NKC AMS AMS 07 22 40.0
comp=Z,400nm,6.9s
NKC Novy Kostel 7.28 92 P **Pn 07 19 58.2 +0.6**
NKC *e*S **Sn 07 21 19.6 -1.2**
BERN Bernov 7.32 92 ⇑P **Pn 07 20 04.5 +6.3**
MBDF Montbardon 7.40 147 *e*P **Pn 07 20 02.6 +3.4**
MBDF *e*Sn **Sn 07 21 17.7 -6.1**
SNR=1.0
MBDF *e*Sg **Sg 07 22 05.4 -2.3**
comp=Z,77nm,0.6s,SNR=1.0
MBDF Montbardon 7.40 147 *e*P **Pn 07 20 01.5 +2.3**
MBDF Montbardon 7.40 147 *e*P **Pn 07 20 02.6 +3.4**
MBDF *e* 07 21 17.7
KPL Plockton 7.42 331 *e*P **Pn 07 19 59.4 -0.2**
KPL Plockton 7.42 331 P **Pn 07 19 59.3 -0.2**
KAC Achnashellach 7.45 332 *e*P **Pn 07 19 59.3 -0.6**
CLL Collm 7.50 83 *e*Pn **Pn 07 20 00.0 -0.7**
comp=Z,21nm,0.7s
CLL *i* 07 20 14.1
CLL *e*Pg **Pg 07 20 30.0 -3.9**
CLL *e*Sn **Sn 07 21 07.0 -19**
CLL *e*Sg **Sg 07 22 11.0 0.0**
CLL Collm 7.50 83 *e*Pn **Pn 07 20 00.0 -0.7**
comp=Z,21nm,0.7s
CLL *e*x x 07 20 08.0
CLL *i* x x 07 20 14.1
CLL *e*Pg **Pg 07 20 30.0 -3.9**
CLL *e*Sn **Sn 07 21 07.0 -19**
CLL *e*x x 07 21 23.0
CLL *e*Sb **Sb 07 21 52.0 +1.1**
CLL *e*Sg **Sg 07 22 11.0 0.0**
comp=N,400nm,17.0s
CLL *e*Sg **Sg 07 22 11.0 0.0**
comp=E,100nm,22.2s
FETA Feichten 7.52 119 ⇑*i*Pn **Pn 07 20 02.4 +1.5**
MVH1 Achvaich 7.53 338 *e*P **Pn 07 19 59.8 -1.2**
MOTA Moosalm 7.55 116 ⇓*i*Pn **Pn 07 20 02.9 +1.6**
MOTA ⇑*i*Sg **Sg 07 22 10.4 -2.0**
BRMO Bormio 7.67 123 Pn **Pn 07 20 06.4 +3.5**
comp=E,19nm,0.6s
SQTA Sankt Quirin 7.68 116 ⇑*i*Pn **Pn 07 20 04.2 +1.2**
MLA1 Latheron 7.70 342 *e*P **Pn 07 20 01.6 -1.7**
PZZ Prazzo 7.71 146 Pn **Pn 07 20 06.2 +2.7**
SMRF Simiane la Rot 7.71 155 *e*P **Pn 07 20 07.5 +4.0**
SMRF *e*Sn **Sn 07 21 25.8 -5.6**
SMRF *e*Sg **Sg 07 22 15.1 -2.6**
comp=E,368nm,1.0s,SNR=1.0
SMRF Simiane la Rot 7.71 155 *e*Pn **Pn 07 20 03.9 +0.4**
SMRF *e*P 07 20 07.5
SMRF *e*Sn **Sn 07 21 25.8 -5.6**
SMRF *e*Sg **Sg 07 22 15.1 -2.6**
SMRF Simiane la Rot 7.71 155 *e*P **Pn 07 20 07.5 +4.0**
SMRF *e*Sn **Sn 07 21 25.8 -5.6**
SMRF *e*Sg **Sg 07 22 15.1 -2.6**
comp=E,184nm,1.0s,SNR=1.0
MTLF Montolieu 7.76 174 *e*Pn **Pn 07 20 03.7 -0.5**
SNR=1.0
MTLF *e*Sn **Sn 07 21 27.0 -5.6**
MTLF *e*Sg **Sg 07 22 16.9 -2.4**
comp=E,228nm,0.6s,SNR=1.0
MTLF Montolieu 7.76 174 *e*P **Pn 07 20 03.8 -0.4**
MTLF Montolieu 7.76 174 *e*P **Pn 07 20 03.7 -0.5**
MTLF *e* 07 21 27.0
MTLF Montolieu 7.76 174 *e*Pn **Pn 07 20 03.7 -0.5**
SNR=1.0
MTLF *e*Sn **Sn 07 21 27.0 -5.6**
MTLF *e*Sg **Sg 07 22 16.9 -2.4**
comp=E,114nm,0.6s,SNR=1.0
DOI San Damiano 7.76 145 Pn **Pn 07 20 06.8 +2.6**
PRAF Pradon 7.77 158 P **Pn 07 20 06.0 +1.7**
WATA Walderalm 7.82 114 ⇓*i*Pn **Pn 07 20 06.8 +1.8**
WET Wettzell 7.83 100 P **Pn 07 20 06.2 +1.1**
WTTA Wattenberg 7.90 115 ⇑*i*Pn **Pn 07 20 08.5 +2.5**
WTTA P 07 20 09.0
WTTA Wattenberg 7.90 115 Pn **Pn 07 20 08.5 +2.5**
RRR Rubha Reidh 7.90 332 *e*P **Pn 07 20 05.4 -0.7**
RRR AML AML 07 21 47.0
comp=N,55nm,0.6s
RRR AML AML 07 21 47.5
comp=E,47nm,0.5s
RRR Rubha Reidh 7.90 332 *e*P **Pn 07 20 05.4 -0.7**
RRR AML AML 07 21 47.0
comp=N,55nm,0.6s
RRR AML AML 07 21 47.5
comp=E,47nm,0.5s
RRR Rubha Reidh 7.90 332 *e*P **Pn 07 20 05.4 -0.7**
comp=E,47nm,0.5s
ORE Reay 8.01 342 *e*P **Pn 07 20 05.1 -2.4**
EALK Alkurruntz 8.04 194 P **Pn 07 20 06.9 -1.1**
EALK S **Sn 07 21 32.4 -7.0**
EPF Esparros 8.05 184 *e*Pn **Pn 07 20 06.9 -1.2**
SNR=1.0
EPF *e*Sn **Sn 07 21 31.9 -7.7**
EPF *e*Sg **Sg 07 22 27.3 -1.1**
comp=E,366nm,0.8s
EPF Esparros 8.05 184 *e*P **Pn 07 20 06.8 -1.3**
EPF Esparros 8.05 184 *e*P **Pn 07 20 06.9 -1.2**
EPF *e* 07 21 31.9
ELIZ Elizondo 8.09 194 P **Pn 07 20 07.9 -0.8**
ELIZ S **Sn 07 21 34.1 -6.7**

SJPF Ste Jean 8.10 192 *e*Pn **Pn 07 20 07.2 -1.7**
SNR=1.0
SJPF *e*Sn **Sn 07 21 32.2 -8.8**
comp=E,79nm,0.4s,SNR=1.0
SJPF Ste Jean 8.10 192 *e*P **Pn 07 20 07.3 -1.6**
SNART Snartemo 8.11 24 *e*P **Pn 07 20 05.2 -3.8**
SNART *e*S **Sn 07 21 27.2 -14**
SNART Snartemo 8.11 24 *e*P **Pn 07 20 05.0 -4.0**
SNART *e*S **Sn 07 21 32.7 -8.5**
SNART AML AML 07 21 37.8
comp=Z,57nm,0.7s
BRG Berggiesshubel 8.13 86 *i*P **Pn 07 20 09.5 +0.2**
comp=Z,19nm,0.8s
BRG *e* 07 21 52.9
BRG *e* 07 22 30.2
BRG Berggiesshubel 8.13 86 *i*P **Pn 07 20 09.5 +0.3**
BRG *e* 07 21 52.9
BRG pmax pmax
comp=Z,19nm,0.8s
BRG Berggiesshubel 8.13 86 *i*P **Pn 07 20 09.5 +0.2**
comp=Z,32nm,0.8s
BRG *e* 07 21 52.9
BRG *e* 07 22 30.2
comp=Z,87nm,1.1s
BRG
comp=Z,301nm,12.0s
BRG
comp=N,451nm,12.0s
BRG
comp=E,134nm,12.0s
RSC Scourie 8.15 336 *e*P **Pn 07 20 08.2 -1.2**
PUYF Puyloubier 8.16 156 P **Pn 07 20 11.2 +1.6**
TAVF Tavernes 8.18 154 P **Pn 07 20 11.3 +1.4**
RGN Rugen 8.20 60 *e*Pn **Pn 07 20 08.0 -2.3**
comp=E,69nm,0.6s
RGN *e*Sn **Sn 07 21 36.5 -6.9**
VIEF Viey 8.21 185 Pn **Pn 07 20 09.8 -0.5**
RRH Rhenigidale 8.22 330 *e*P **Pn 07 20 09.8 -0.7**
GELF Grande-Etoile 8.23 157 P **Pn 07 20 12.9 +2.3**
PCP Pian Castagno 8.23 139 P **Pn 07 20 13.5 +2.9**
PCP pmax pmax
comp=Z,121nm,1.3s
PCP Pian Castagno 8.23 139 P **Pn 07 20 13.5 +2.9**
comp=Z,121nm,1.3s
KHC Kasperske Hory 8.27 99 P **Pn 07 20 13.0 +1.8**
KHC Kasperske Hory 8.27 99 *e*P **Pn 07 20 12.8 +1.6**
KHC *e*SN **Sn 07 21 45.3 +0.2**
KHC MLR MLR
comp=Z,300nm,8.2s
KHC Kasperske Hory 8.27 99 *e*PN **Pn 07 20 12.8 +1.6**
KHC *e*x x 07 20 24.0
KHC *e*x x 07 20 57.0
KHC *e*SN **Sn 07 21 45.3 +0.2**
KHC *e*x x 07 22 02.5
KHC *e*x x 07 22 55.5
KHC AMS AMS 07 23 10.0
comp=Z,300nm,8.2s
KHC Kasperske Hory 8.27 99 *e*P **Pn 07 20 12.8 +1.6**
KHC *e*S **Sn 07 21 45.3 +0.2**
comp=Z,300nm,8.2s
STAV Stavanger 8.33 17 *e*P **Pn 07 20 10.2 -1.7**
STAV *e*S **Sn 07 21 34.5 -12**
STAV Stavanger 8.33 17 *e*P **Pn 07 20 10.2 -1.7**
STAV *e*S **Sn 07 21 36.7 -10**
BERF Bertagne 8.36 156 P **Pn 07 20 14.7 +2.3**
FIN Finale Ligure 8.37 142 Pn **Pn 07 20 14.3 +1.7**
CARF Carcanieres 8.38 175 Pn **Pn 07 20 12.2 -0.4**
SBF Sospel 8.39 147 *e*P **Pn 07 20 17.0 +4.2**
SBF *e*Sn **Sn 07 21 42.1 -5.9**
comp=Z,256nm,0.6s
SBF Sospel 8.39 147 *e*P **Pn 07 20 15.1 +2.3**
SBF Sospel 8.39 147 *e*Pn **Pn 07 20 14.2 +1.4**
SBF *e*P 07 20 17.0
SBF *e*Sn **Sn 07 21 42.1 -5.9**
SBF Sospel 8.39 147 *e*P **Pn 07 20 17.0 +4.2**
EBIE Bielsa 8.40 185 P **Pn 07 20 13.0 +0.1**
EBIE S **Sn 07 21 42.1 -6.2**
FRF La Foret Royal 8.40 151 *e*P **Pn 07 20 16.9 +3.9**
FRF *e*Sn **Sn 07 21 41.8 -6.5**
comp=Z,44nm,0.4s,SNR=1.0
FRF La Foret Royal 8.40 151 *e*P **Pn 07 20 13.8 +0.8**
FRF La Foret Royal 8.40 151 *e*Pn **Pn 07 20 13.6 +0.6**
FRF *e*P 07 20 16.9
FRF *e*Sn **Sn 07 21 41.8 -6.5**
FRF La Foret Royal 8.40 151 *e*P **Pn 07 20 16.9 +3.9**
ELAN Lanestosa 8.41 203 P **Pn 07 20 11.9 -1.2**
ELAN S **Sn 07 21 40.9 -7.6**
GEC2 GERESS Array S 8.44 100 *e*Pn **Pn 07 20 15.6 +2.1**
GEC2 GERESS Array S 8.44 100 *e*P **Pn 07 20 15.6 +2.1**
GERES GERESS Array B 8.44 100 P **Pn 07 20 15.6 +2.1**
GERES 07 21 48.8
GERES pmax pmax
comp=Z,5.0nm,0.3s
GERES smax
comp=N,4.0nm,0.3s
GERES MLR MLR
comp=Z,43nm,19.3s
GERES GERESS Array B 8.44 100 Pn **Pn 07 20 15.6 +2.1**
comp=Z,5.0nm,0.3s,baz=297,slow=16,SNR=160
GERES Sn **Sn 07 21 48.8 -0.5**
comp=Z,3.8nm,0.3s,baz=287,slow=23,SNR=3.8
GERES Lq 07 22 39.9
comp=Z,1.7nm,0.3s,baz=302,slow=26,SNR=3.2
GERES LR LR 07 23 55.9
comp=Z,43nm,19.2s,baz=292,slow=40
RTO Tolsta 8.45 333 *e*P **Pn 07 20 12.8 -0.8**
REVF Revere 8.47 147 P **Pn 07 20 13.8 -0.1**
IMI Imperia 8.51 145 Pn **Pn 07 20 16.5 +2.1**
KMY Karmoy 8.51 15 *e*P **Pn 07 20 11.3 -3.2**
KMY *e*S **Sn 07 21 40.7 -10**
KMY Karmoy 8.51 15 *e*P **Pn 07 20 11.3 -3.2**
KMY *e*S **Sn 07 21 40.7 -10**
KMY AML AML 07 21 48.8
comp=Z,40nm,0.5s
LMR La Mourre 8.57 152 *e*P **Pn 07 20 18.6 +3.4**
LMR *e*Sn **Sn 07 21 46.3 -6.1**
comp=Z,17nm,0.3s,SNR=1.0
LMR La Mourre 8.57 152 *e*P **Pn 07 20 17.1 +1.9**
LMR La Mourre 8.57 152 *e*Pn **Pn 07 20 15.4 +0.2**
LMR *e*P 07 20 18.6
LMR *e*Sn **Sn 07 21 46.3 -6.1**
LMR La Mourre 8.57 152 *e*P **Pn 07 20 18.6 +3.4**
PRA Prague 8.57 91 *ex* x 07 22 05.0
PVCC Panska Ves 8.57 88 P **Pn 07 20 15.2 -0.1**
PVCC Panska Ves 8.57 88 *e*PN **Pn 07 20 16.8 +1.5**
PVCC AMS AMS 07 23 30.0
comp=Z,300nm,9.3s
PVCC Panska Ves 8.57 88 *e*P **Pn 07 20 16.8 +1.5**
comp=Z,300nm,9.3s
PRU Pruhonice 8.65 92 P **Pn 07 20 19.1 +2.7**
PRU Pruhonice 8.65 92 *e*PN **Pn 07 20 17.6 +1.2**
PRU AMS AMS 07 23 40.0
comp=Z,300nm,5.4s
PRU Pruhonice 8.65 92 *e*P **Pn 07 20 17.6 +1.2**
comp=Z,300nm,5.4s
ABTA Abfaltersbach 8.68 115 ⇑*i*Pn **Pn 07 20 18.3 +1.5**
EJON La Jonquera 8.70 171 P **Pn 07 20 19.2 +2.1**
EJON La Jonquera 8.70 171 P **Pn 07 20 19.2 +2.1**
EARI Arriondas 8.86 211 P **Pn 07 20 17.7 -1.5**
EARI S **Sn 07 21 50.6 -9.0**
BLS5 Blasjo 8.93 18 *e*P **Pn 07 20 18.6 -1.5**
BLS5 *e*S **Sn 07 21 50.4 -11**
BLS5 Blasjo 8.93 18 *e*P **Pn 07 20 19.0 -1.1**
BLS5 *e*S **Sn 07 21 50.4 -11**
BLS5 Blasjo 8.93 18 *e*P **Pn 07 20 18.6 -1.5**
BLS5 *e*S **Sn 07 21 50.4 -11**
BLS5 AML AML 07 22 07.1
comp=Z,29nm,0.6s
BLS5 Blasjo 8.93 18 *e*P **Pn 07 20 19.0 -1.1**
KBA Koelnbreinsper 8.99 112 P **Pn 07 20 24.3 +3.3**
EMIR Miracle 9.15 178 P **Pn 07 20 24.2 +0.9**
EMIR S **Sn 07 22 02.4 -4.4**
MOA Molln 9.17 105 ⇓*i*Pn **Pn 07 20 23.7 +0.2**
LRW Lerwick 9.19 353 *e*P **Pn 07 20 21.3 -2.4**
LRW AML AML 07 22 17.6
comp=E,19nm,0.6s
LRW AML AML 07 22 21.7
comp=N,19nm,0.7s
BSD Bornholm Skovb 9.27 59 *i*P **Pn 07 20 21.8 -3.0**
BSD *i* 07 20 22.6
BSD *i*S **Sn 07 21 54.9 -15**
BSD *i*S **Sn 07 21 55.8 -14**
BSD Bornholm Skovb 9.27 59 *e*Pn **Pn 07 20 21.2 -3.6**

PTCC	**Patocco-Chiusa**	**9.35**	**115**	Pn		**Pn**	**07 20 29.3**	**+3.3**
	comp=N,6.2nm,0.5s							
ESAC	**San Caprasio**	**9.40**	**187**	P		**Pn**	**07 20 27.2**	**+0.6**
ESAC				S		**Sn**	**07 22 07.2**	**-5.7**
ODD1	**Odda**	**9.41**	**17**	*e*P		**Pn**	**07 20 24.5**	**-2.2**
UPC	**Upice**	**9.48**	**88**	*e*PN		**Pn**	**07 20 28.7**	**+0.9**
EGD	**Espegrend**	**9.53**	**13**	*e*P		**Pn**	**07 20 24.5**	**-3.8**
EGD				*e*S		**Sn**	**07 22 06.1**	**-10**
EGD	**Espegrend**	**9.53**	**13**	*e*P		**Pn**	**07 20 24.5**	**-3.8**
EGD				*e*S		**Sn**	**07 22 06.1**	**-10**
EGD				AML		AML	07 22 14.7	
	comp=Z,29nm,0.6s							
EPON	**Pontenova**	**9.54**	**219**	P		**Pn**	**07 20 27.4**	**-1.1**
EPON				S		**Sn**	**07 22 06.5**	**-10**
KSP	**Ksiaz**	**9.61**	**85**	*e*P		**Pn**	**07 20 31.0**	**+1.5**
KSP				*e*Sg		Sn	07 23 22.5	+64
KSP	**Ksiaz**	**9.61**	**85**	*e*Pn		**Pn**	**07 20 30.5**	**+1.0**
KSP				*e*Sn		**Sn**	**07 22 10.6**	**-7.5**
KSP				*e*Sg		Sn	07 23 07.1	+49
KSP	**Ksiaz**	**9.61**	**85**	*e*P		**Pn**	**07 20 30.5**	**+1.0**
KSP				*e*			07 22 10.6	
RUND	**Rundenannen**	**9.68**	**13**	*e*P		**Pn**	**07 20 30.9**	**+0.4**
RUND				*e*S		**Sn**	**07 22 09.9**	**-10**
RUND	**Rundenannen**	**9.68**	**13**	*e*P		**Pn**	**07 20 30.9**	**+0.4**
RUND				*e*S		**Sn**	**07 22 12.8**	**-6.9**
RUND				AML		AML	07 22 23.0	
	comp=Z,27nm,0.5s							
DPC	**Dobruska-Polom**	**9.71**	**88**	P		**Pn**	**07 20 28.6**	**-2.2**
DPC	**Dobruska-Polom**	**9.71**	**88**	*e*PN		**Pn**	**07 20 30.6**	**-0.2**
DPC				AMS		AMS	07 24 10.0	
	comp=Z,200nm,10.4s							
DPC	**Dobruska-Polom**	**9.71**	**88**	*e*P		**Pn**	**07 20 30.6**	**-0.2**
	comp=Z,200nm,10.4s							
EPOB	**Poblet**	**9.71**	**180**	P		**Pn**	**07 20 31.3**	**+0.4**
EPOB				S		**Sn**	**07 22 14.2**	**-6.2**
ASK	**Askoy**	**9.73**	**12**	*e*P		**Pn**	**07 20 27.1**	**-3.9**
ASK				*e*S		**Sn**	**07 22 08.6**	**-12**
ASK	**Askoy**	**9.73**	**12**	*e*P		**Pn**	**07 20 27.1**	**-3.9**
ASK				*e*S		**Sn**	**07 22 08.6**	**-12**
ASK				AML		AML	07 22 21.2	
	comp=Z,33nm,0.5s							
KONO	**Kongsberg**	**9.88**	**26**	*e*P		**Pn**	**07 20 32.9**	**-0.2**
VOY	**Vojsko**	**9.88**	**116**	*e*Pn		**Pn**	**07 20 35.1**	**+2.0**
VOY				*e*Sn		**Sn**	**07 22 19.7**	**-4.8**
OBKA	**Obir**	**9.99**	**112**	P		**Pn**	**07 20 36.5**	**+1.8**
KRUC	**Moravsky**	**10.06**	**96**	P		**Pn**	**07 20 38.8**	**+3.2**
PGF	**Pioggiola**	**10.09**	**144**	*e*Pn		**Pn**	**07 20 36.4**	**+0.3**
	SNR=1.0							
PGF				*e*Sn		**Sn**	**07 22 22.6**	**-7.3**
	comp=Z,2.2nm,0.2s							
VRAC	**Vranov**	**10.11**	**94**	Pn		**Pn**	**07 20 37.9**	**+1.6**
	comp=Z,1.5nm,0.3s,baz=327,slow=10.0,SNR=4.5							
VRAC				Lg			07 23 32.2	
	comp=Z,1.8nm,0.3s,baz=207,slow=21,SNR=6.8							
VRAC				LR		LR	07 24 21.7	
	comp=Z,73nm,21.8s,baz=289,slow=36							
ERTA	**Horta de San J**	**10.12**	**183**	P		**Pn**	**07 20 36.5**	**0.0**
	comp=Z,9.9nm,0.3s							
ERTA				S		**Sn**	**07 22 24.8**	**-5.7**
CONA	**Conrad Observa**	**10.12**	**102**	⇑*i*Pn		**Pn**	**07 20 37.9**	**+1.4**
GKP	**Gorka Klasztor**	**10.18**	**71**	*e*P		**Pn**	**07 20 37.7**	**+0.4**
ARSA	**Arzberg**	**10.20**	**106**	⇑*i*Pn		**Pn**	**07 20 40.2**	**+2.5**
ARSA	**Arzberg**	**10.20**	**106**	⇑*i*Pn		**Pn**	**07 20 40.1**	**+2.5**
SUE	**Sulen**	**10.23**	**10**	*e*P		**Pn**	**07 20 35.1**	**-2.9**
SUE				*e*S		**Sn**	**07 22 21.3**	**-12**
SUE	**Sulen**	**10.23**	**10**	*e*P		**Pn**	**07 20 35.1**	**-2.9**
SUE				*e*S		**Sn**	**07 22 21.3**	**-12**
SUE				AML		AML	07 22 36.6	
	comp=Z,32nm,0.6s							
ERUA	**La Rua**	**10.33**	**216**	P		**Pn**	**07 20 38.2**	**-1.3**
	comp=Z,9.0nm,0.2s							
ERUA				S		**Sn**	**07 22 26.5**	**-9.3**
ERUA	**La Rua**	**10.33**	**216**	P		**Pn**	**07 20 38.2**	**-1.2**
ERUA				pmax		pmax		
	comp=Z,9.0nm,0.2s							
ETOR	**Torete**	**10.47**	**193**	P		**Pn**	**07 20 41.4**	**+0.1**
	comp=Z,83nm,0.3s							
ETOR				S		**Sn**	**07 22 31.0**	**-8.1**
ETOR	**Torete**	**10.47**	**193**	P		**Pn**	**07 20 41.4**	**+0.1**
ETOR				pmax		pmax		
	comp=Z,83nm,0.3s							
STS	**Santiago**	**10.48**	**222**	⇑P		**Pn**	**07 20 40.8**	**-0.7**
	comp=Z,29nm,0.3s							
STS				S		**Sn**	**07 22 27.9**	**-12**
STS	**Santiago**	**10.48**	**222**	⇑P		**Pn**	**07 20 40.8**	**-0.7**
STS				pmax		pmax		
	comp=Z,29nm,0.3s							
HYA	**Hoyanger**	**10.52**	**14**	*e*P		**Pn**	**07 20 40.2**	**-1.8**
HYA				*e*Sg		**Sn**	**07 22 34.2**	**-6.1**
HYA	**Hoyanger**	**10.52**	**14**	*e*P		**Pn**	**07 20 40.2**	**-1.8**
HYA				*e*S		**Sn**	**07 22 28.7**	**-12**
HYA				AML		AML	07 22 49.4	
	comp=Z,26nm,0.7s							
ECAL	**Calabor**	**10.58**	**214**	P		**Pn**	**07 20 41.7**	**-1.1**
	comp=Z,13nm,0.5s							
ECAL				S		**Sn**	**07 22 31.0**	**-11**
MORC	**Moravsky Berou**	**10.59**	**91**	*e*Pn		**Pn**	**07 20 43.4**	**+0.5**
MORC				*e*Sn		**Sn**	**07 22 38.5**	**-3.5**
MORC	**Moravsky Berou**	**10.59**	**91**	⇓*i*P		**Pn**	**07 20 45.9**	**+3.0**
EMAZ	**Mazaricos**	**10.62**	**224**	P		**Pn**	**07 20 42.2**	**-1.1**
	comp=Z,30nm,0.3s							
EMAZ				S		**Sn**	**07 22 31.6**	**-11**
EMOS	**Mosqueruela**	**10.75**	**186**	P		**Pn**	**07 20 45.5**	**+0.3**
	comp=Z,28nm,0.7s							
EMOS				S		**Sn**	**07 22 37.9**	**-8.2**
ZST	**Bratislava**	**10.79**	**99**	*e*PN		**Pn**	**07 20 47.4**	**+1.8**
ZST				*e*SG		Sn	07 23 54.4	+68
MODS	**Modra-Piesok**	**10.83**	**98**	*e*P		**Pn**	**07 20 48.1**	**+1.9**
MODS				*e*			07 23 25.4	
MODS				*e*Sg		Sn	07 23 53.9	+66
MODS	**Modra-Piesok**	**10.83**	**98**	*e*PN		**Pn**	**07 20 48.1**	**+1.9**
MODS				*e*			07 23 25.4	
MODS	**Modra-Piesok**	**10.83**	**98**	*e*SG		Sx	07 23 53.9	
OKC	**Ostrava-Krasne**	**10.96**	**90**	AMS		AMS	07 24 50.0	
	comp=Z,200nm,7.3s							
GUD	**Guadarrama**	**11.03**	**201**	P		**Pn**	**07 20 48.4**	**-0.6**
	comp=Z,27nm,0.7s							
GUD				S		**Sn**	**07 22 43.8**	**-9.1**
GUD	**Guadarrama**	**11.03**	**201**	P		**Pn**	**07 20 48.4**	**-0.6**
GUD				pmax		pmax		
	comp=Z,27nm,0.7s							
ELOB	**Lobios**	**11.13**	**218**	P		**Pn**	**07 20 49.4**	**-1.0**
	comp=Z,6.0nm,0.3s							
ELOB				S		**Sn**	**07 22 43.4**	**-12**
PCAB	**Cabril**	**11.26**	**217**	*e*P		**Pn**	**07 20 51.4**	**-0.7**
PCAB				*e*S		**Sn**	**07 22 48.8**	**-10**
ETOS	**Mallorca**	**11.36**	**173**	P		**Pn**	**07 20 54.8**	**+1.4**
	comp=Z,2.8nm,0.3s							
MVO	**Moncorvo**	**11.37**	**213**	*e*P		**Pn**	**07 20 52.2**	**-1.5**
	comp=Z,16nm,0.7s							
MVO				*e*S		**Sn**	**07 22 51.4**	**-10**
KOLL	**Kolacno**	**11.47**	**96**	*e*PN		**Pn**	**07 20 57.1**	**+2.2**
NB2	**NORSAR Subarra**	**11.48**	**26**	P		**Pn**	**07 20 49.3**	**-5.8**
	baz=204,slow=9.3							
NOA	**NORSAR Array B**	**11.48**	**26**	P		**Pn**	**07 20 50.1**	**-5.0**
NOA							07 22 51.8	
NOA				smax				
	comp=N,1.0nm,0.3s							
NOA				MLR		MLR		
	comp=Z,78nm,19.4s							
NOA	**NORSAR Array B**	**11.48**	**26**	Pn		**Pn**	**07 20 50.0**	**-5.0**
	comp=Z,0.4nm,0.3s,baz=211,slow=12,SNR=4.5							
NOA				Sn		**Sn**	**07 22 51.8**	**-12**
	comp=Z,0.5nm,0.3s,baz=194,slow=17,SNR=2.7							
NOA				LR		LR	07 25 50.1	
	comp=Z,78nm,19.4s,baz=220,slow=40							
NOA	**NORSAR Array B**	**11.48**	**26**	Pn		**Pn**	**07 20 50.0**	**-5.1**
PVRL	**Vila Real**	**11.52**	**215**	*e*P		**Pn**	**07 20 55.7**	**+0.1**
PVRL				*e*S		**Sn**	**07 22 55.6**	**-9.2**
HFS	**Hagfors**	**11.54**	**33**	P		**Pn**	**07 20 53.1**	**-2.7**
	baz=238,slow=14							
HFS	**Hagfors**	**11.54**	**33**	Pn		**Pn**	**07 20 51.6**	**-4.2**
	comp=Z,0.6nm,0.3s,baz=216,slow=13,SNR=18							
HFS				Sn		**Sn**	**07 22 55.2**	**-10**
	comp=Z,1.7nm,0.3s,baz=219,slow=23,SNR=6.0							
HFS				LR		LR	07 25 43.9	
	comp=Z,118nm,20.1s,baz=146,slow=39							
HFS	**Hagfors**	**11.54**	**33**	P		**Pn**	**07 20 53.2**	**-2.7**
	SNR=2.7							
HFA0	**Hagfors New Ar**	**11.54**	**33**	Pn		**Pn**	**07 20 52.2**	**-3.7**
ECHE	**Chera**	**11.56**	**188**	P		**Pn**	**07 20 56.5**	**+0.3**
	comp=Z,5.3nm,0.4s							
ECHE				S		**Sn**	**07 23 00.1**	**-5.7**
ECHE	**Chera**	**11.56**	**188**	P		**Pn**	**07 20 56.5**	**+0.3**
ECHE				S		**Sn**	**07 23 00.1**	**-5.7**
ECHE				pmax		pmax		
	comp=Z,5.0nm,0.4s							
VYHS	**Vyhne**	**11.77**	**96**	*e*Pn		**Pn**	**07 21 00.8**	**+1.8**
VYHS				*e*			07 24 12.4	
VYHS	**Vyhne**	**11.77**	**96**	*e*PN		**Pn**	**07 21 00.8**	**+1.8**
VYHS				*e*			07 24 12.4	
VYHS				*e*			08 58 03.2	
DOMB	**Dombas**	**11.85**	**19**	*e*P		**Pn**	**07 20 58.5**	**-1.6**
DOMB	**Dombas**	**11.85**	**19**	*e*Pn		**Pn**	**07 20 59.6**	**-0.5**
ESBB	**Sonseca Array**	**11.92**	**199**	P		**Pn**	**07 21 00.5**	**-0.6**
	comp=Z,10nm,0.3s							
ESDC	**Sonseca Array**	**11.92**	**199**	P		**Pn**	**07 21 00.1**	**-1.0**
	comp=Z,22nm,0.4s							
ESDC	**Sonseca Array**	**11.92**	**199**	Pn		**Pn**	**07 21 00.0**	**-1.1**
	comp=Z,7.2nm,0.3s,baz=22,slow=13,SNR=43							
ESDC				Sn		**Sn**	**07 23 04.2**	**-10**
	comp=Z,5.2nm,0.3s,baz=18,slow=23,SNR=7.8							
ESDC				LR		LR	07 25 47.5	
	comp=Z,98nm,18.2s,baz=95,slow=38							
ESLA	**Sonseca Array**	**11.92**	**199**	*e*Pn		**Pn**	**07 21 00.1**	**-1.1**
PTO	**Porto**	**11.97**	**218**	A			07 21 13.8	
	comp=Z,40nm,1.8s							
EIBI	**Ibiza**	**12.03**	**179**	P		**Pn**	**07 21 02.7**	**0.0**
	comp=Z,5.4nm,0.3s							
EIBI				S		**Sn**	**07 23 10.3**	**-7.2**
PVIS	**Viseu**	**12.07**	**215**	*e*P		**Pn**	**07 21 03.4**	**+0.2**
PVIS				*e*S		**Sn**	**07 23 08.2**	**-10**
PAB	**San Pablo**	**12.12**	**200**	*e*Pn		**Pn**	**07 21 02.8**	**-1.2**
	comp=Z,5.2nm,0.3s							
PAB	**San Pablo**	**12.12**	**200**	*e*P		**Pn**	**07 21 02.8**	**-1.1**
PAB				pmax		pmax		
	comp=Z,5.0nm,0.3s							
MTE	**Manteigas**	**12.23**	**213**	*e*P		**Pn**	**07 21 05.3**	**-0.1**
MTE				*e*S		**Sn**	**07 23 14.4**	**-7.9**
MTE	**Manteigas**	**12.23**	**213**	*e*Pn		**Pn**	**07 21 04.9**	**-0.5**
MTE	**Manteigas**	**12.23**	**213**	*e*Pn		**Pn**	**07 21 04.9**	**-0.5**
MTE	**Manteigas**	**12.23**	**213**	*e*P		**Pn**	**07 21 05.3**	**-0.1**
MTE				*e*S		**Sn**	**07 23 14.4**	**-7.9**
EBEN	**Beniarda**	**12.39**	**185**	P		**Pn**	**07 21 07.8**	**+0.3**
	comp=Z,11nm,0.5s							
EBEN				S		**Sn**	**07 23 16.1**	**-10**
ETOB	**Tobarra**	**12.55**	**189**	P		**Pn**	**07 21 09.9**	**+0.1**
	comp=Z,4.3nm,0.3s							
ETOB				S		**Sn**	**07 23 19.8**	**-10**
PKSM	**Moragy**	**12.58**	**106**	⇑P		**Pn**	**07 21 13.3**	**+3.1**
PKSM	**Moragy**	**12.58**	**106**	⇑*i*P		**Pn**	**07 21 13.3**	**+3.1**
PKSM	**Moragy**	**12.58**	**106**	⇓*e*P		**Pn**	**07 21 13.2**	**+3.0**
PSZ	**Piszkesteto**	**12.63**	**97**	⇑*e*P		**Pn**	**07 21 12.3**	**+1.5**
EVIA	**Vianos**	**12.67**	**193**	P		**Pn**	**07 21 12.2**	**+0.8**
	comp=Z,5.6nm,0.3s							
EVIA				S		**Sn**	**07 23 22.9**	**-10**
EVIA	**Vianos**	**12.67**	**193**	P		**Pn**	**07 21 12.2**	**+0.8**
EVIA				pmax		pmax		
	comp=Z,6.0nm,0.3s							
PCBR	**Castelo Branco**	**12.71**	**211**	*e*P		**Pn**	**07 21 11.7**	**-0.3**
PCBR				*e*S		**Sn**	**07 23 24.2**	**-10**
KECS	**Kecovo**	**12.81**	**94**	*e*PN		**Pn**	**07 21 12.8**	**-0.5**
KECS				*e*SG			07 24 48.9	
CRVS	**Cervenica-Dubn**	**13.29**	**91**	*e*PN		**Pn**	**07 21 24.7**	**+4.8**
CRVS				*e*			08 58 06.1	
EMUR	**La Murta**	**13.32**	**188**	P		**Pn**	**07 21 20.7**	**+0.5**
	comp=Z,7.1nm,0.4s							
EBAN	**Banos Encina**	**13.34**	**197**	P		**Pn**	**07 21 19.6**	**-1.0**
	comp=Z,3.4nm,0.2s							
EBAN	**Banos Encina**	**13.34**	**197**	P		**Pn**	**07 21 19.6**	**-1.0**
EBAN				pmax		pmax		
	comp=Z,3.0nm,0.2s							
EADA	**Adamuz**	**13.50**	**199**	P		**Pn**	**07 21 22.2**	**-0.5**
	comp=Z,4.6nm,0.3s							
EADA				S		**Sn**	**07 23 42.5**	**-11**
EBAD	**Badajoz**	**13.56**	**208**	P		**Pn**	**07 21 22.0**	**-1.5**
	comp=Z,2.5nm,0.3s							
EBAD				S		**Sn**	**07 23 44.5**	**-10**
EQES	**Quesada**	**13.58**	**194**	P		**Pn**	**07 21 24.0**	**+0.3**
	comp=Z,4.8nm,0.3s							
PESTR	**Estremoz**	**13.63**	**210**	*e*P		**Pn**	**07 21 24.6**	**+0.1**
ECAB	**El Cabril**	**13.77**	**202**	P		**Pn**	**07 21 27.1**	**+0.7**
	comp=Z,3.8nm,0.4s							
ECAB				S		**Sn**	**07 23 48.4**	**-12**
KOLS	**Kolonicke sedl**	**13.80**	**91**	*e*PN		**Pn**	**07 21 29.0**	**+2.3**
KOLS				*e*SG			07 25 19.7	
KWP	**Kalwaria**	**13.88**	**87**	⇑*i*P		**Pn**	**07 21 23.3**	**-4.6**
ELUQ	**Luque**	**14.02**	**198**	P		**Pn**	**07 21 30.3**	**+0.4**
	comp=Z,2.8nm,0.3s							
ELUQ	**Luque**	**14.02**	**198**	P		**Pn**	**07 21 30.3**	**+0.5**
ELUQ				pmax		pmax		
	comp=Z,3.0nm,0.3s							
EVO	**Evora**	**14.07**	**211**	*e*Pn		**Pn**	**07 21 29.9**	**-0.6**
EVO				*e*Sn		**Sn**	**07 23 56.2**	**-11**
	comp=Z,8.5nm,0.5s							
EVO				*e*MLR		MLR		
	comp=Z,117nm,22.8s							
EVO	**Evora**	**14.07**	**211**	*e*P		**Pn**	**07 21 30.0**	**-0.5**
EVO				*e*S		**Sn**	**07 23 59.8**	**-7.5**
PBAR	**Barrancos**	**14.10**	**207**	*e*P		**Pn**	**07 21 29.9**	**-1.1**
PBAR				*e*S		**Sn**	**07 23 55.9**	**-12**
EVOP	**Sao Brissos**	**14.11**	**211**	*e*Pn		**Pn**	**07 21 29.9**	**-1.2**
EVOP				*e*Sn		**Sn**	**07 23 56.2**	**-12**
	comp=Z,4.2nm,0.5s							
ECOG	**Cogollos-Vega**	**14.17**	**195**	P		**Pn**	**07 21 32.5**	**+0.6**
	comp=Z,6.9nm,0.4s							
ECOG	**Cogollos-Vega**	**14.17**	**195**	P		**Pn**	**07 21 32.5**	**+0.6**
ECOG				pmax		pmax		
	comp=Z,7.0nm,0.4s							
EMIN	**Mina Concepcio**	**14.38**	**205**	P		**Pn**	**07 21 33.5**	**-1.3**
	comp=Z,1.4nm,0.3s							
EMIN				S		**Sn**	**07 24 03.1**	**-12**
ELOJ	**Sierra Loja**	**14.40**	**197**	P		**Pn**	**07 21 37.5**	**+2.5**
	comp=Z,6.0nm,0.3s							
ELOJ	**Sierra Loja**	**14.40**	**197**	P		**Pn**	**07 21 37.5**	**+2.5**
ELOJ				pmax		pmax		
	comp=Z,6.0nm,0.3s							
ELOJ	**Sierra Loja**	**14.40**	**197**	P		**Pn**	**07 21 37.5**	**+2.5**
	comp=Z,6.0nm,0.3s							
EBER	**Berja**	**14.44**	**193**	P		**Pn**	**07 21 36.7**	**+1.1**
	comp=Z,6.8nm,0.4s							
EBER				S		**Sn**	**07 24 07.7**	**-8.5**
EBER	**Berja**	**14.44**	**193**	P		**Pn**	**07 21 36.7**	**+1.2**
	comp=Z,6.8nm,0.4s							
ERON	**Agron**	**14.46**	**196**	P		**Pn**	**07 21 37.3**	**+1.4**
	comp=Z,4.8nm,0.3s							
PBEJ	**Beja**	**14.49**	**209**	*e*P		**Pn**	**07 21 35.2**	**-1.0**
EGUA	**Guajares**	**14.60**	**195**	P		**Pn**	**07 21 38.7**	**+1.0**
	comp=Z,1.4nm,0.2s							
EGUA	**Guajares**	**14.60**	**195**	P		**Pn**	**07 21 38.7**	**+0.9**
EGUA				pmax		pmax		
	comp=Z,1.0nm,0.2s							
EGUA	**Guajares**	**14.60**	**195**	P		**Pn**	**07 21 38.7**	**+0.9**
	comp=Z,1.4nm,0.2s							
BZS	**Buzias**	**14.69**	**104**	⇑P		**Pn**	**07 21 43.5**	**+4.6**
BZS	**Buzias**	**14.69**	**104**	⇑*i*P		**Pn**	**07 21 43.5**	**+4.6**
PVAQ	**Vaqueiros**	**15.02**	**208**	*e*P		**Pn**	**07 21 43.5**	**+0.1**
PVAQ				*e*S		**Sn**	**07 24 20.5**	**-10**
ESPR	**Espera**	**15.03**	**202**	P		**Pn**	**07 21 43.9**	**+0.3**
	comp=Z,5.7nm,0.3s							
ESPR	**Espera**	**15.03**	**202**	P		**Pn**	**07 21 43.9**	**+0.4**
	comp=Z,5.7nm,0.3s							
EMIJ	**Mijas**	**15.08**	**198**	P		**Pn**	**07 21 46.7**	**+2.4**
	comp=Z,5.9nm,0.4s							
EMIJ	**Mijas**	**15.08**	**198**	P		**Pn**	**07 21 46.7**	**+2.4**
	comp=Z,5.9nm,0.4s							
PBDV	**Barranco-do-Ve**	**15.23**	**208**	*e*P		**Pn**	**07 21 46.3**	**0.0**
EJIF	**Jimena Fronter**	**15.34**	**200**	P		**Pn**	**07 21 49.2**	**+1.5**
	comp=Z,14nm,0.7s							
EJIF	**Jimena Fronter**	**15.34**	**200**	P		**Pn**	**07 21 49.2**	**+1.5**
EJIF				pmax		pmax		
	comp=Z,14nm,0.7s							
EJIF	**Jimena Fronter**	**15.34**	**200**	P		**Pn**	**07 21 49.2**	**+1.5**
	comp=Z,14nm,0.7s							
MORF	**Marmelete**	**15.39**	**210**	*e*P		**Pn**	**07 21 47.5**	**-0.9**
	comp=Z,51nm,1.7s							
GZR	**Gura Zlata**	**15.51**	**103**	⇓P		**Pn**	**07 21 56.5**	**+6.6**
GZR	**Gura Zlata**	**15.51**	**103**	⇓*i*P		**Pn**	**07 21 56.5**	**+6.6**
BURAR	**Bucovina Array**	**16.09**	**93**	⇑*i*P		**Pn**	**07 22 03.8**	**+6.4**
VSU	**Vasula**	**16.48**	**53**	*e*P		**Pn**	**07 22 02.5**	**+0.1**
KMPD	**K-Podol'skiy**	**16.55**	**89**	P		**Pn**	**07 22 08.0**	**+4.7**
VOIR		**16.89**	**100**	⇓P		**Pn**	**07 22 14.9**	**+7.2**
VOIR		**16.89**	**100**	⇓*i*P		**Pn**	**07 22 14.9**	**+7.2**
FIA0	**FINESS Array S**	**17.23**	**43**	P		**Pn**	**07 22 08.6**	**-3.3**
	baz=228,slow=14							
FINES	**FINESS Array B**	**17.23**	**43**	Pn		**Pn**	**07 22 08.1**	**-3.7**
	comp=Z,0.6nm,0.3s,baz=242,slow=12,SNR=15							
FINES				Sn		**Sn**	**07 25 09.8**	**-14**
	comp=Z,0.3nm,0.3s,baz=233,slow=22,SNR=3.6							
FINES				LR		LR	07 29 42.3	
	comp=Z,100nm,18.6s,baz=339,slow=40							
MLR	**Muntele Rosu**	**17.43**	**99**	⇓P		**Pn**	**07 22 19.9**	**+5.5**
MLR	**Muntele Rosu**	**17.43**	**99**	Pn		**Pn**	**07 22 19.5**	**+5.1**
	comp=Z,0.3nm,0.3s,baz=276,slow=7.7,SNR=7.1							
MLR	**Muntele Rosu**	**17.43**	**99**	⇓*i*P		**Pn**	**07 22 19.9**	**+5.5**
KIEV	**Kiev**	**17.72**	**80**	P		**Pn**	**07 22 15.0**	**-3.0**
AKASG	**Malin Array Be**	**17.73**	**80**	*i*P		**Pn**	**07 22 19.0**	**+0.9**
AKASG				pmax		pmax		
	comp=Z,5.0nm,0.8s							
AKASG	**Malin Array Be**	**17.73**	**80**	Pn		**Pn**	**07 22 14.2**	**-3.8**
	comp=Z,0.5nm,0.3s,baz=278,slow=12,SNR=11							
AKASG	**Malin Array Be**	**17.73**	**80**	Pn		**Pn**	**07 22 14.2**	**-3.9**
AKASG	**Malin Array Be**	**17.73**	**80**	*i*P		**Pn**	**07 22 19.0**	**+0.9**
	comp=Z,5.0nm,0.8s							
VRI	**Vrincioaia**	**17.75**	**97**	⇑P		**Pn**	**07 22 23.2**	**+4.9**
VRI	**Vrincioaia**	**17.75**	**97**	⇑*i*P		**Pn**	**07 22 23.2**	**+4.9**
MDT	**Midelt**	**18.70**	**195**	P		**Pn**	**07 22 29.7**	**-0.4**
	comp=Z,0.2nm,0.3s,baz=6.4,slow=10,SNR=5.9							
MDT				LR		LR	07 29 31.1	
	comp=Z,48nm,18.3s,baz=134,slow=36							
TIRR	**Tirgusor**	**19.46**	**99**	⇑P		**Pn**	**07 22 38.8**	**-0.4**
TIRR	**Tirgusor**	**19.46**	**99**	⇓*i*P		**Pn**	**07 22 38.9**	**-0.3**
TIRR	**Tirgusor**	**19.46**	**99**	⇑P		**Pn**	**07 22 38.8**	**-0.4**
JOF	**Joensuu**	**20.08**	**42**	*e*p		**P**	**07 22 42.4**	**-2.3**
	comp=Z,5.8nm,0.8s							
JOF	**Joensuu**	**20.08**	**42**	*e*P		**P**	**07 22 42.4**	**-2.3**
JOF				pmax		pmax		
	comp=Z,6.0nm,0.8s							
OBN	**Obninsk**	**21.55**	**65**	⇑*e*P		**P**	**07 23 02.0**	**+1.4**
OBN				pmax		pmax		
	comp=Z,25nm,0.9s,mb4.6							
OBN				MLR		MLR		
	comp=Z,100nm,17.0s,MS3.3							
OBN	**Obninsk**	**21.55**	**65**	*e*P		**P**	**07 23 02.0**	**+1.4**
	comp=Z,100nm,17.0s							
ARE0	**ARCESS Array S**	**21.84**	**23**	*e*P		**P**	**07 23 01.4**	**-2.2**
ARE0	**ARCESS Array S**	**21.84**	**23**	*e*P		**P**	**07 23 01.4**	**-2.2**
ARA0	**ARCESS Array S**	**21.84**	**23**	P		**P**	**07 23 01.3**	**-2.3**
	baz=220,slow=8.6							
ARCES	**ARCESS Array B**	**21.84**	**23**	P		**P**	**07 23 01.6**	**-2.0**
ARCES				pmax		pmax		
	comp=Z,9.0nm,0.8s							
ARCES				MLR		MLR		
	comp=Z,67nm,19.3s							
ARCES	**ARCESS Array B**	**21.84**	**23**	P		**P**	**07 23 01.6**	**-2.0**
	comp=Z,8.7nm,0.8s,mb4.3,baz=219,slow=11,SNR=34							
ARCES				LR		LR	07 32 24.7	
	comp=Z,67nm,19.3s,baz=204,slow=39							
KEV	**Kevo**	**22.37**	**24**	*e*p		**P**	**07 23 06.3**	**-3.0**
	comp=Z,17nm,0.9s,mb4.5							
KEV	**Kevo**	**22.37**	**24**	*e*P		**P**	**07 23 06.3**	**-3.0**
KEV				pmax		pmax		
	comp=Z,17nm,0.9s,mb4.5							
APA	**Apatity**	**22.93**	**32**	⇓*e*P		**P**	**07 23 13.8**	**-1.5**
APA				pmax		pmax		
	comp=Z,47nm,1.2s,mb4.9							
APA	**Apatity**	**22.93**	**32**	*e*P		**P**	**

EGMT Eagleton 64.89 316 *e*P **P 07 28 50.9 +0.2**
comp=Z,5.5nm,0.9s,mb4.8
EGMT Eagleton 64.89 316 *e*P **P 07 28 50.9 +0.2**
comp=Z,5.5nm,0.9s,mb4.8
GTA Gaotai 65.41 57 *e*P **P 07 28 55.3 +1.1**
GTA AP 07 29 01.0
GTA XP sP 07 29 03.5 +8.7
GTA PP PP 07 31 21.8 +4.3
GTA PPP 07 32 55.8
GTA S S 07 37 38.3 -0.9
GTA SS SS 07 41 53.0 +1.5
GTA AMB AMB
comp=Z,5.0nm,1.6s,mb4.5
GTA AMB AMB
comp=Z,44nm,6.8s
GTA LR LR
comp=N,127nm,20.1s,MS4.4
GTA LR LR
comp=E,196nm,17.9s,MS4.4
GTA LR LR
comp=Z,104nm,14.1s,MS4.2
MIAR Mount Ida 66.69 296 *e*P **P 07 29 02.2 -0.3**
comp=Z,3.8nm,0.8s,mb4.7
MIAR Mount Ida 66.69 296 *e*P **P 07 29 02.3 -0.2**
MIAR pmax pmax
comp=Z,4.0nm,0.8s,mb4.7
MIAR Mount Ida 66.69 296 *e*P **P 07 29 02.3 -0.2**
comp=Z,4.0nm,0.8s,mb4.7
HRY Holter Researc 66.81 316 *e*P **P 07 29 02.8 -0.3**
BSMT Bassoo Peak 67.17 319 *e*P **P 07 29 06.7 +1.3**
BSMT Bassoo Peak 67.17 319 *e*P **P 07 29 06.7 +1.3**
HIA Hailar 67.18 39 *e*P **P 07 29 07.8 +2.4**
BOZ Bozeman (W) 67.54 316 *e*P **P 07 29 09.0 +1.2**
BOZ pmax pmax
comp=Z,4.0nm,0.9s,mb4.7
BOZ Bozeman (W) 67.54 316 *e*P **P 07 29 09.0 +1.2**
comp=Z,4.1nm,0.9s,mb4.7
LRM Limekiln Ridge 67.77 316 *e*P **P 07 29 10.1 +0.9**
LRM Limekiln Ridge 67.77 316 *e*P **P 07 29 10.1 +0.9**
NEW Newport 67.80 320 *e*P **P 07 29 09.6 +0.3**
NEW Newport 67.80 320 *e*P **P 07 29 09.6 +0.3**
PHWY Pilot Hill 67.99 309 *e*P **P 07 29 11.5 +0.8**
PHWY Pilot Hill 67.99 309 *e*P **P 07 29 11.5 +0.8**
DLMT Dillon 68.19 316 *e*P **P 07 29 13.0 +1.2**
comp=Z,7.8nm,1.0s,mb4.9
DLMT Dillon 68.19 316 *e*P **P 07 29 13.0 +1.2**
comp=Z,7.8nm,1.0s,mb4.9
BW06 Boulder Array 68.83 312 *e*P **P 07 29 15.7 -0.2**
BW06 Boulder Array 68.83 312 *e*P **P 07 29 15.7 -0.2**
TPAW Teton Pass 68.92 314 *e*P **P 07 29 17.3 +0.9**
TPAW Teton Pass 68.92 314 *e*P **P 07 29 17.3 +0.9**
ISCO Idaho Springs 69.21 308 *e*P **P 07 29 19.2 +0.9**
comp=Z,6.8nm,1.5s,mb4.7
ISCO Idaho Springs 69.21 308 *e*P **P 07 29 19.2 +0.9**
ISCO pmax pmax
comp=Z,7.0nm,1.5s,mb4.7
ISCO Idaho Springs 69.21 308 *e*P **P 07 29 19.2 +0.9**
comp=Z,6.8nm,1.5s,mb4.7
WMOK Wichita Mounta 69.45 300 *e*P **P 07 29 19.9 0.0**
comp=Z,3.0nm,0.8s,mb4.6
WMOK Wichita Mounta 69.45 300 *e*P **P 07 29 19.9 +0.1**
WMOK pmax pmax
comp=Z,3.0nm,0.8s,mb4.6
WMOK Wichita Mounta 69.45 300 *e*P **P 07 29 19.9 +0.1**
comp=Z,3.0nm,0.8s,mb4.6
LZH Lanzhou 70.01 57 *e*P **P 07 29 23.0 -0.3**
LZH AMB AMB
comp=Z,14nm,1.0s,mb5.0
LZH AMB AMB
comp=Z,80nm,4.5s
HHC Hu-ho-hao-te 70.26 49 *e*P **P 07 29 23.5 -1.2**
HHC AP 07 29 29.0
HHC XP sP 07 29 32.0 +6.7
HHC PP PP 07 31 59.0 -0.6
HHC S S 07 38 33.5 -3.7
HHC SKS 07 39 20.3
HHC SCS ScS 07 39 26.0 -2.3
HHC SS SS 07 43 02.0 -4.4
HHC AMB AMB
comp=Z,19nm,0.4s,mb5.6
HHC AMB AMB
comp=Z,117nm,6.5s
HHC LR LR
comp=N,95nm,14.5s,MS4.5
HHC LR LR
comp=E,238nm,18.8s,MS4.5
HHC LR LR
comp=Z,129nm,11.0s
SMCO Snowmass 70.36 308 *e*P **P 07 29 26.1 +0.8**
SMCO Snowmass 70.36 308 *e*P **P 07 29 26.1 +0.7**
BMO Blue Mountains 70.62 318 *e*P **P 07 29 26.5 -0.4**
DUG Dugway 72.37 313 *e*P **P 07 29 38.7 +1.2**
DUG Dugway 72.37 313 *e*P **P 07 29 38.7 +1.2**
BJI Beijing 73.05 47 P **P 07 29 40.8 -0.8**
BJI AMB AMB
comp=Z,3.0nm,0.5s,mb4.7
BJI AMB AMB
comp=Z,112nm,6.8s
JCT Junction City 73.22 298 *e*P **P 07 29 42.1 -0.6**
comp=Z,4.1nm,0.6s,mb4.7
JCT Junction City 73.22 298 *e*P **P 07 29 42.1 -0.6**
JCT pmax pmax
comp=Z,4.0nm,0.6s,mb4.7
JCT Junction City 73.22 298 *e*P **P 07 29 42.1 -0.6**
comp=Z,4.1nm,0.6s,mb4.7
ANMO Albuquerque 73.37 305 *e*P **P 07 29 44.8 +1.2**
ANMO Albuquerque 73.37 305 *e*P **P 07 29 44.8 +1.3**
CD2 Chengdu 73.90 61 *e*P **P 07 29 46.3 -0.4**
CD2 XP sP 07 29 53.8 +6.5
CD2 PP PP 07 32 32.8 +1.8
CD2 S S 07 39 16.0 -3.3
CD2 SS SS 07 44 02.0 -0.6
CD2 AMB AMB
comp=Z,10.0nm,0.9s,mb4.8
CD2 AMB AMB
comp=Z,20nm,4.6s
CD2 LR LR
comp=E,120nm,15.4s
CD2 LR LR
comp=Z,100nm,12.8s,MS4.3
CN2 Changchun 73.92 38 *e*P **P 07 29 45.5 -1.1**
CN2 *e*XP sP 07 29 52.5 +5.3
CN2 *e*S S 07 39 14.0 -5.2
CN2 AMB AMB
comp=Z,10.0nm,0.5s,mb5.1
CN2 AMB AMB
comp=Z,200nm,3.0s
GDL2 Guadalupe Moun 74.40 302 *e*P **P 07 29 46.0 -3.7**
MNTX Cornudas Mount 75.33 302 *e*P **P 07 29 55.0 0.0**
comp=Z,17nm,2.3s,mb4.7
MNTX Cornudas Mount 75.33 302 *e*P **P 07 29 55.0 0.0**
comp=Z,17nm,2.3s,mb4.7
TXAR Lajitas Array 76.24 300 P **P 07 30 00.6 +0.4**
TXAR pmax pmax
comp=Z,2.0nm,0.6s
TXAR Lajitas Array 76.24 300 P **P 07 30 00.6 +0.4**
comp=Z,2.0nm,0.6s,mb4.4,baz=64,slow=2.8,SNR=26
NVAR Mina Array Bea 76.29 315 P **P 07 30 00.8 +0.5**
comp=Z,0.4nm,0.6s,mb3.8,baz=38,slow=6.7,SNR=5.6
KMI Kunming 77.77 65 P **P 07 30 09.5 +0.6**
KMI AP 07 30 13.3
KMI AMB AMB
comp=Z,7.0nm,0.7s,mb4.9
GYA Guiyang 78.95 62 P **P 07 30 14.3 -1.1**
GYA AP 07 30 19.0
GYA XP sP 07 30 21.5 +5.5
GYA PCP PcP 07 30 24.5 +0.4
GYA PP PP 07 33 15.3 +1.7
GYA S S 07 40 11.5 -3.4
GYA SKS 07 40 25.5
GYA SCS ScS 07 40 33.8 -4.7
GYA SS SS 07 45 18.5 -0.6
GYA AMB AMB
comp=Z,10.0nm,1.0s,mb4.8
GYA AMB AMB
comp=Z,90nm,6.9s
GYA LR LR
comp=N,450nm,19.7s,MS4.9
GYA LR LR
comp=E,420nm,21.8s,MS4.9
GYA LR LR
comp=Z,420nm,22.6s,MS4.7
KSRS Korea Array 80.30 40 LR LR 08 07 18.0
comp=Z,34nm,18.5s,MS3.7,baz=294,slow=37
WRA Warramunga Arr 132.06 67 PKP PKPdf 07 37 24.6 -0.9
comp=Z,0.2nm,0.7s,baz=327,slow=1.3,SNR=6.0
ASAR Alice Springs 134.67 71 PKIKP PKPdf 07 37 30.4 +0.1
ASAR pmax pmax
comp=Z,1.0nm,1.1s
ASAR Alice Springs 134.67 71 PKP PKPdf 07 37 30.4 +0.1
comp=Z,0.7nm,1.1s,baz=349,slow=2.0,SNR=6.3
STKA Stephens Creek 145.29 72 PKPbc PKPbc 07 37 48.2 -0.8
comp=Z,3.0nm,0.6s,baz=39,slow=2.1,SNR=8.3

VIE ***28*** *07:29:35.7±0.4, 4544N×1438E, h12km±6km, mb1.7/1, ML2.5/1, Error ellipse: s-maj=2.8km s-min=1.2km az=178.0*
ISCJB ***28*** *07:29:36.2±0.7, 4546N±003×1438E±003, h13km±7km, Error ellipse: s-maj=4.8km s-min=3.7km az=30.5*
CSEM ***28*** *07:29:36.0±0.1, 4543N×1438E, h15km, ML1.9, Error ellipse: s-maj=1.6km s-min=1.3km az=16.0*
LJU ***28*** *07:29:36.7, 4547N×1439E, h9km, ML1.8*
ISC 28 07:29:37.2±0.6, 4546N±003×1439E±003, h6km±10km, n22, σ0°85/44, 2C-9D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KNDS	**Knezji Dol**	**0.07**	**354**	⇓*i*Pg	**Pg**	**07 29 38.5**	**-0.4**
KNDS				*i* Sg	**Sg**	**07 29 40.0**	**-0.1**
KNDS							
comp=Z,186nm,0.1s							
KNDS	**Knezji Dol**	**0.07**	**354**	⇓*i*Pg	**Pg**	**07 29 38.5**	**-0.4**
KNDS				*i* Sg	**Sg**	**07 29 40.0**	**-0.1**
KNDS							
comp=Z,186nm,0.1s							
SKDS	**Skadanscina**	**0.28**	**289**	⇑*i*Pg	**Pg**	**07 29 42.0**	**-0.7**
SKDS				*i* Sg	**Sg**	**07 29 47.0**	**+0.7**
CEY	**Cerknica**	**0.28**	**5**	⇓*i*Pg	**Pg**	**07 29 41.9**	**-0.8**
CEY				*i* Sg	**Sg**	**07 29 46.4**	**-0.1**
CEY							
comp=Z,86nm,0.1s							
CEY	**Cerknica**	**0.28**	**5**	⇓*i*Pg	**Pg**	**07 29 41.9**	**-0.8**
CEY				*i* Sg	**Sg**	**07 29 46.4**	**0.0**
comp=Z,86nm,0.1s							
VISS	**Visnje**	**0.47**	**42**	*i* Pg	**Pg**	**07 29 45.8**	**-0.4**
VISS				*i* Sg	**Sg**	**07 29 52.7**	**+0.4**
VISS							
comp=Z,13nm,0.1s							
VISS	**Visnje**	**0.47**	**42**	*i* Pg	**Pg**	**07 29 45.8**	**-0.4**
VISS				*i* Sg	**Sg**	**07 29 52.7**	**+0.4**
comp=Z,13nm,0.1s							
JAVS	**Javornik**	**0.49**	**332**	*i* Pg	**Pg**	**07 29 45.6**	**-1.1**
JAVS				*i* Sg	**Sg**	**07 29 53.8**	**+0.7**
JAVS							
comp=Z,125nm,0.2s							
JAVS	**Javornik**	**0.49**	**332**	*i* Pg	**Pg**	**07 29 45.6**	**-1.1**
JAVS				*i* Sg	**Sg**	**07 29 53.8**	**+0.7**
comp=Z,125nm,0.2s							
LJU	**Ljubljana**	**0.59**	**9**	*i* Pg	**Pg**	**07 29 48.2**	**-0.4**
LJU				*i* Sg	**Sg**	**07 29 57.2**	**+0.8**
LJU							
comp=Z,28nm,0.2s							
LJU	**Ljubljana**	**0.59**	**9**	*i* Pg	**Pg**	**07 29 48.2**	**-0.4**
LJU				*i* Sg	**Sg**	**07 29 57.2**	**+0.9**
comp=Z,28nm,0.2s							
BOJS	**Bojanci**	**0.61**	**85**	*i* Pg	**Pg**	**07 29 48.0**	**-0.9**
BOJS				*i* Sg	**Sg**	**07 29 57.3**	**+0.6**
BOJS							
comp=Z,15nm,0.1s							
BOJS	**Bojanci**	**0.61**	**85**	*i* Pg	**Pg**	**07 29 48.0**	**-0.8**
BOJS				*i* Sg	**Sg**	**07 29 57.3**	**+0.6**
comp=Z,15nm,0.1s							
VOY	**Vojsko**	**0.67**	**329**	*e*Pg	**Pg**	**07 29 48.4**	**-1.7**
VOY				*e*Sg	**Sg**	**07 29 59.3**	**+0.5**
PDKS	**Podkum**	**0.74**	**35**	*i* Pg	**Pg**	**07 29 51.4**	**0.0**
PDKS				*i* Sg	**Sg**	**07 30 01.9**	**+1.0**
PDKS							
comp=Z,10.0nm,0.1s							
DRE	**Drenchia**	**0.89**	**324**	⇑*i*Pg	**Pg**	**07 29 52.5**	**-1.7**
DRE				*i* Sg	**Sg**	**07 30 06.3**	**+0.6**
NVLJ	**Novalja**	**0.96**	**159**	*e*Pg	**Pg**	**07 29 55.5**	**-0.1**
NVLJ				Sg	**Sg**	**07 30 09.9**	**+2.0**
NVLJ	**Novalja**	**0.96**	**159**	*e*Pg	**Pg**	**07 29 55.4**	**-0.1**
NVLJ				Sg	**Sg**	**07 30 09.8**	**+1.9**
OBKA	**Obir**	**1.06**	**6**	⇓*i*Pg	**Pg**	**07 29 57.0**	**-0.5**
OBKA				⇓*i*Sg	**Sg**	**07 30 11.4**	**+0.2**
comp=Z,16nm,0.2s							
BAD	**Bernadia**	**1.12**	**315**	⇓*e*Pg	**Pg**	**07 29 58.6**	**-0.1**
BAD				*e*Sg	**Sg**	**07 30 14.7**	**+1.6**
MYKA	**Terra Mystica**	**1.28**	**336**	⇓*i*Pg	**Pg**	**07 30 00.7**	**-1.1**
MYKA				⇓*i*Sg	**Sg**	**07 30 19.3**	**+0.8**
comp=Z,13nm,0.3s							
CAE	**Caneva**	**1.48**	**293**	*e*Pg	**Pg**	**07 30 04.8**	**-0.6**
CAE				*e*Sg	**Sg**	**07 30 25.5**	**+0.9**

CSEM ***28*** *07:56:51.9, 12.14N×44.00E, h3km, ML3.5, After DHMR*
DHMR 28 07:56:51.9±1.2, 1214N×4400E, h3km±5km, ML3.5, 2C-3D, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRBA	**At Turbah**	**1.09**	**6**	⇓*i*P	Pg	07 57 12.6	-0.3
TRBA				*i* S	Sg	07 57 28.4	+1.3
ADEN	**Aden**	**1.15**	**57**	⇑*i*P	Pg	07 57 13.3	-0.8
ADEN				*i* S	Sg	07 57 30.1	+1.1
ADEN				AML	AML	07 57 36.1	
comp=E,1μm,0.7s							
ADEN	**Aden**	**1.15**	**57**	⇑*i*P	Pg	07 57 13.3	-0.7
ADEN				*i* S	Sg	07 57 30.1	+1.1
comp=E,712nm,0.7s							
UDYN	**Al 'Udayn**	**1.82**	**359**	*i* P	Pn	07 57 24.6	+0.5
UDYN				*i* S	Sn	07 57 50.1	+2.5
UDYN				AML	AML	07 57 56.4	
comp=N,649nm,0.6s							
UDYN	**Al 'Udayn**	**1.82**	**359**	*i* P	Pn	07 57 24.6	+0.5
UDYN				*i* S	Sn	07 57 50.1	+2.5
comp=N,324nm,0.6s							
LBOS		**2.11**	**35**	*i* P	Pn	07 57 29.3	+1.2
LBOS				*i* S	Sn	07 57 59.7	+4.8
BDHA	**Al Bayda'**	**2.38**	**40**	⇓*i*P	Pn	07 57 34.5	+2.6
BDHA				*i* S	Sn	07 58 06.2	+4.6
BDHA				AML	AML	07 58 14.4	
comp=N,266nm,0.4s							
BDHA	**Al Bayda'**	**2.38**	**40**	⇓*i*P	Pn	07 57 34.5	+2.7
BDHA				*i* S	Sn	07 58 06.2	+4.7
comp=N,133nm,0.4s							
HAJJ	**Hajjah**	**3.56**	**354**	*i* S	Sn	07 58 37.1	+6.5
HAJJ				AML	AML	07 58 52.4	
comp=E,242nm,0.4s							
HAJJ	**Hajjah**	**3.56**	**354**	*i* S	Sn	07 58 37.2	+6.5
comp=E,121nm,0.4s							

PDA ***28*** *08:00:03.0±1.2, 3706N×2455W, h0km, MD2.8, ML3.4, Error ellipse: s-maj=7.2km s-min=5.4km az=102.0*
CSEM ***28*** *08:00:03.0±1.2, 3706N×2455W, h0km, ML3.4, Error ellipse: s-maj=7.2km s-min=5.4km az=102.0, After PDA*
SVSA 28 08:00:03.0±1.2, 3706N×2455W, h0km, MD2.8, ML3.4, Error ellipse: s-maj=7.2km s-min=5.4km az=102.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSMN	**Pico do Norte,**	**0.41**	**262**	*e*P	Pg	08 00 10.2	-0.7
PSMN				*e*S	Sg	08 00 16.5	+0.2
CMLA	**Cha da Macela**	**1.04**	**313**	*e*P	Pg	08 00 19.5	-3.5
CMLA				*e*S	Sg	08 00 32.7	-3.9
CMLA				A		08 00 35.9	
420nm,0.3s							
CMLA	**Cha da Macela**	**1.04**	**313**	*e*P	Pg	08 00 19.5	-3.5
CMLA				*e*S	Sg	08 00 32.7	-3.9
PDA	**Ponta Delgada**	**1.12**	**308**	*e*S	Sg	08 00 34.0	-5.0
PSET	**Sete Cidades**	**1.20**	**310**	*e*P	Pg	08 00 22.5	-3.6
PSET				*e*S	Sg	08 00 36.5	-5.2
PSET				A		08 00 39.7	
366nm,0.2s							
PSET	**Sete Cidades**	**1.20**	**310**	*e*P	Pg	08 00 22.5	-3.6
PSET				*e*S	Sg	08 00 36.5	-5.2
PSCM	**Serra do Cume**	**2.61**	**310**	*e*P	Pn	08 00 41.9	-4.5
PSCM				*e*S	Sn	08 01 11.5	-7.3
PSCM				A		08 01 15.8	
106nm,0.2s							
PSCM	**Serra do Cume**	**2.61**	**310**	*e*P	Pn	08 00 41.9	-4.5
PSCM				*e*S	Sn	08 01 11.5	-7.3
PMAN	**Manadas**	**3.21**	**300**	*e*P	Pn	08 00 49.9	-4.8
PMAN				*e*S	Sn	08 01 25.1	-8.5
PMAN				A		08 01 27.7	
25nm,0.2s							
PMAN	**Manadas**	**3.21**	**300**	*e*P	Pn	08 00 49.9	-4.8
PMAN				*e*S	Sn	08 01 25.1	-8.5
ROSA	**Rosais**	**3.36**	**301**	*e*P	Pn	08 00 52.4	-4.3
ROSA				*e*S	Sn	08 01 28.9	-8.3
PICO	**Pico**	**3.39**	**296**	*e*P	Pn	08 00 53.2	-3.9
PICO				*e*S	Sn	08 01 30.1	-7.9
HOR	**Horta**	**3.55**	**296**	*e*P	Sn	08 01 33.8	-8.1
CALA	**Caldeira**	**3.62**	**296**	*e*P	Pn	08 00 56.1	-4.2
CALA				*e*S	Sn	08 01 35.7	-8.0
PMAR	**Madeira**	**7.62**	**122**	*e*Pn	Pn	08 01 50.3	-5.0

IDC ***28*** *08:06:59.1±2.8, 3725N×2446W, h0km, mb3.7/5, mb1 3.9/5, mb1mx3.6/23, mbtmp3.7/5, MS3.1/2, Ms1 3.2/2, ms1mx2.6/28, Error ellipse: s-maj=78.9km s-min=30.3km az=166.0*
ISCJB ***28*** *08:07:02.3±0.9, 3706N±009×24.9W±0.1, h37km±8km, mb3.7/5, MS3.0/2, Error ellipse: s-maj=18.8km s-min=8.6km az=43.4*
CSEM ***28*** *08:07:02.5±1.0, 3708N×2465W, h0km, ML3.5, Error ellipse: s-maj=6.6km s-min=4.2km az=103.0, After PDA*
PDA ***28*** *08:07:02.5±1.0, 3708N×2465W, h0km, MD3.8, ML3.5, Error ellipse: s-maj=6.6km s-min=4.2km az=103.0*
SVSA ***28*** *08:07:02.5±1.0, 3708N×2465W, h0km, MD3.8, ML3.5, Error ellipse: s-maj=6.6km s-min=4.2km az=103.0*
ISC 28 08:07:03.0±1.1, 3714N±007×2481W±009, h26km±5km, n20, σ0°83/29, mb3.7/5, MS3.0/2, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSMN	**Pico do Norte,**	**0.25**	**235**	*e*P	**Pb**	**08 07 08.6**	**-0.7**
PSMN				*e*S	**Sb**	**08 07 13.7**	**+0.1**
CMLA	**Cha da Macela**	**0.84**	**318**	*i* P	**Pb**	**08 07 18.0**	**-0.9**
CMLA				*e*S	**Sb**	**08 07 30.5**	**+0.7**
CMLA				A		08 07 34.4	
774nm,0.3s							
PDA	**Ponta Delgada**	**0.91**	**312**	*e*S	**Sb**	**08 07 32.0**	**+0.3**
PSET	**Sete Cidades**	**0.99**	**313**	*e*P	**Pn**	**08 07 20.4**	**-0.7**
PSET				*e*S	**Sb**	**08 07 34.6**	**+0.5**
PSET				A		08 07 38.3	
508nm,0.3s							
PSET	**Sete Cidades**	**0.99**	**313**	*e*P	**Pn**	**08 07 20.4**	**-0.7**
PSET				*e*S	**Sb**	**08 07 34.6**	**+0.5**
PSCM	**Serra do Cume**	**2.39**	**311**	*e*P	**Pn**	**08 07 40.5**	**0.0**
PSCM				*e*S	**Sn**	**08 08 09.2**	**+0.3**
PSCM				A		08 08 12.8	
147nm,0.2s							
PSCM	**Serra do Cume**	**2.39**	**311**	*e*P	**Pn**	**08 07 40.5**	**0.0**
PSCM				*e*S	**Sn**	**08 08 09.2**	**+0.3**
PMAN	**Manadas**	**2.99**	**301**	*e*P	**Pn**	**08 07 48.8**	**+0.2**
PMAN				*e*S	**Sn**	**08 08 22.7**	**-0.8**
PMAN				A		08 08 26.2	
32nm,0.2s							
PMAN	**Manadas**	**2.99**	**301**	*e*P	**Pn**	**08 07 48.8**	**+0.2**
PMAN				*e*S	**Sn**	**08 08 22.7**	**-0.8**
ROSA	**Rosais**	**3.13**	**301**	*e*P	**Pn**	**08 07 50.9**	**+0.3**
ROSA				*e*S	**Sn**	**08 08 26.5**	**-0.7**
PICO	**Pico**	**3.16**	**296**	*e*P	**Pn**	**08 07 51.7**	**+0.7**
PICO				*e*S	**Sn**	**08 08 27.0**	**-0.9**
CALA	**Caldeira**	**3.40**	**296**	*e*P	**Pn**	**08 07 54.5**	**+0.3**
CALA				*e*S	**Sn**	**08 08 33.1**	**-0.5**
PMAR	**Madeira**	**7.84**	**122**	*e*Pn	**Pn**	**08 08 48.4**	**-6.9**
EKA	**Eskdalemuir Ar**	**23.40**	**32**	P	**P**	**08 12 06.3**	**-3.4**
1.0nm,0.6s,mb3.4,baz=225,slow=7.8,SNR=3.5							
DAVOX	**Davos/Dischmat**	**27.34**	**58**	LR	LR	08 23 14.0	
comp=Z,37nm,18.6s,MS3.0,baz=259,slow=36							
NOA	**NORSAR Array B**	**32.89**	**32**	LR	LR	08 25 20.8	
comp=Z,30nm,18.7s,MS3.0,baz=210,slow=34							
SCHQ	**Scheefferville**	**33.50**	**315**	P	**P**	**08 13 41.4**	**+1.5**
1.6nm,0.8s,mb4.0,baz=72,slow=9.6,SNR=3.6							
YKA	**Yellowknife Ar**	**57.73**	**327**	P	**P**	**08 16 51.7**	**+0.7**
0.3nm,0.8s,mb3.4,baz=76,slow=6.4,SNR=5.6							
YKA				PcP	PcP	08 17 43.4	-0.2
0.1nm,0.6s,baz=75,slow=4.2,SNR=4.7							
TXAR	**Lajitas Array**	**64.66**	**289**	P	**P**	**08 17 40.5**	**+1.9**
1.0nm,0.7s,mb3.9,baz=75,slow=7.3,SNR=14							
MKAR	**Makanchi Array**	**74.02**	**43**	P	**P**	**08 18 35.5**	**-0.7**
0.8nm,0.6s,mb3.8,baz=319,slow=5.2,SNR=6.5							

JMA 28 08:30:06.1, 4369N×14478E, h0km, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNK	**Nakash**	**0.11**	**203**	P	Pg	08 30 08.5	+0.2
JRA	**Rausu**	**0.35**	**45**	P	Pg	08 30 13.1	+0.3

NIED ***28*** *08:30:00, 4370N×14480E, h5km, Mw3.9 Best double couple: M0 8.42000×10^14 NP1:φ=173.00000°, δ77.00000°, λ-64.00000°. NP2:φ=288.00000°, δ29.00000°, λ-152.00000°.*
MOS ***28*** *08:30:04.3±2.1, 4360N×145.17E, h10km, mb3.8/3, Error ellipse: s-maj=20.3km s-min=14.9km az=68.9*
IDC ***28*** *08:30:06.3±1.0, 4357N×14481E, h0km, mb3.6/6, mb1 3.9/7, mb1mx3.7/20, mbtmp3.6/7, ML3.6/1, MS3.0/4, Ms1 3.0/4, ms1mx2.7/44, Error ellipse: s-maj=25.5km s-min=13.2km az=11.0*
ISCJB ***28*** *08:30:06.8±0.7, 4363N±005×14483E±007, h11km±5km, mb3.5/6, Error ellipse: s-maj=10.0km s-min=6.0km az=38.3*
JMA ***28*** *08:30:07.4, 4369N×14478E, h0km, M4.0*
JMA Felt II J1.
NEIC ***28*** *08:30:07.5, 4369N×14478E, h0km, MG4.0(JMA), After JMA.*
NEIC Recorded [2 JMA] in eastern Hokkaido.
ISC 28 08:30:07.4±0.6, 4364N±004×14481E±007, h4km±5km, n25, σ0°87/25, mb3.5/6, 4C-2D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNK	**Nakash**	**0.09**	**229**	⇑P	**Pg**	**08 30 09.8**	**+0.5**
JRA	**Rausu**	**0.37**	**37**	⇑P	**Pg**	**08 30 14.5**	**-0.1**
JRA				*e*S	**Sg**	**08 30 19.6**	**+0.2**
JAK	**Akkeshi**	**0.65**	**187**	⇑P	**Pg**	**08 30 20.5**	**+0.5**
JTKR	**Abashiri--Toko**	**0.73**	**297**	⇓P	**Pg**	**08 30 20.6**	**-0.9**
NEM2	**Nemuro 2**	**0.73**	**112**	⇓P	**Pg**	**08 30 21.4**	**-0.1**
JAR	**Ashorobuto**	**0.83**	**246**	⇑P	**Pg**	**08 30 23.2**	**-0.2**
ASAJ	**Asahikawa**	**1.67**	**287**	Pg	**Pn**	**08 30 36.9**	**-0.5**
53nm,0.3s,baz=103,slow=17,SNR=152							
ASAJ				Lg		08 30 59.1	
231nm,0.3s,baz=345,slow=27,SNR=40							
ERM	**Erimo**	**2.03**	**217**	*e*Pn	**Pn**	**08 30 42.1**	**-0.3**
ERM				*e*Sn	**Sn**	**08 31 07.6**	**-0.6**
KUR	**Kuril'sk**	**2.70**	**53**	*e*PN	**Pn**	**08 30 43.0**	**-8.6**
KUR				pmax	pmax		
comp=Z,190nm,0.5s							
YSS	**Yuzh-Sakhalins**	**3.61**	**337**	*e*PN	**Pn**	**08 31 05.0**	**+0.9**
YSS				MLR	MLR		
comp=Z,500nm,12.0s							
MAT	**Matsushiro**	**8.71**	**218**	P	**Pn**	**08 32 13.5**	**-0.6**
MAT				*e*S	**Sn**	**08 33 55.4**	**+2.7**
MJAR	**Matsushiro Arr**	**8.71**	**218**	PN	**Pn**	**08 32 13.9**	**-0.2**
MJAR				pmax	pmax		
comp=Z,1.0nm,0.3s							
MJAR				MLR	MLR		
comp=Z,86nm,20.4s							
MJAR	**Matsushiro Arr**	**8.71**	**218**	Pn	**Pn**	**08 32 13.9**	**-0.2**
comp=Z,0.8nm,0.3s,baz=31,slow=12,SNR=18							
MJAR				LR	LR	08 36 04.2	
comp=Z,86nm,20.4s,baz=40,slow=41							
KSRS	**Korea Array**	**14.24**	**250**	LR	LR	08 38 22.1	
comp=Z,33nm,18.3s,baz=55,slow=35							
JNU	**Nakatsue**	**15.14**	**231**	LR	LR	08 39 18.9	
comp=Z,48nm,18.3s,baz=61,slow=37							
SONM	**Songino Array**	**26.95**	**292**	P	**P**	**08 35 51.3**	**+1.6**
SONM				pmax	pmax		
comp=Z,1.0nm,0.4s							
SONM	**Songino Array**	**26.95**	**292**	P	**P**	**08 35 51.2**	**+1.6**
comp=Z,0.6nm,0.4s,mb3.5,baz=85,slow=9.7,SNR=3.1							
ZALV	**Zalesovo Beam**	**39.71**	**307**	LR	LR	08 54 53.3	
comp=Z,37nm,19.5s,baz=56,slow=37							
MKAR	**Makanchi Array**	**43.13**	**297**	P	**P**	**08 38 08.7**	**0.0**
comp=Z,0.3nm,0.2s,mb3.6,baz=92,slow=10,SNR=2.2							
YKA	**Yellowknife Ar**	**56.82**	**33**	P	**P**	**08 39 51.9**	**-0.6**
YKA				pmax	pmax		
comp=Z,1.0nm,0.9s							
YKA	**Yellowknife Ar**	**56.82**	**33**	P	**P**	**08 39 51.9**	**-0.6**
comp=Z,0.5nm,0.8s,mb3.6,baz=306,slow=6.6,SNR=8.6							
WRA	**Warramunga Arr**	**64.00**	**191**	P	**P**	**08 40 40.3**	**-1.6**

comp=Z,0.4nm,1.1s,mb3.4,baz=7.4,slow=7.0,SNR=5.8
NVAR Mina Array Bea 69.06 57 P P 08 41 15.5 +1.2
comp=Z,0.5nm,0.7s,mb3.5,baz=303,slow=5.0,SNR=4.5
TXAR Lajitas Array 84.11 55 P P 08 42 38.9 -0.7
TXAR pmax pmax
comp=Z,1.0nm,0.8s
TXAR Lajitas Array 84.11 55 P P 08 42 38.9 -0.7
comp=Z,0.5nm,0.8s,mb3.7,baz=318,slow=5.4,SNR=4.0

*IDC **28** 08:54:59.8±0.9, 3770N×2098E, h0km, mb4.0/15, mb1 3.9/21, mb1mx3.9/31, mbtmp3.9/21, ML3.8/5, MS2.8/3, Ms1 2.8/3, ms1mx2.4/41, Error ellipse: s-maj=20.2km s-min=14.8km az=153.0*
*ISCJB **28** 08:55:00.7±0.3, 3753N±002×2078E±002, h10km, mb4.1/20, Error ellipse: s-maj=3.2km s-min=2.5km az=179.8*
*CSEM **28** 08:55:01.8±0.1, 3753N×2079E, h2km, mb4.1, Error ellipse: s-maj=1.9km s-min=1.2km az=12.0*
*ATH **28** 08:55:02.5, 3763N×2086E, h15km, MD4.0/18, ML3.9*
*THE **28** 08:55:02.9, 3761N×2085E, h3km, ML4.4*
*NEIC **28** 08:55:04.0, 3765N×2077E, h10km, ML3.6(ATH), After ATH.*
*MOS **28** 08:55:05.6±1.2, 3777N×2073E, h48km, mb4.1/11, Error ellipse: s-maj=10.7km s-min=5.7km az=74.1*
ISC 28 08:55:02.3±0.5, 3754N±002×2084E±002, h12km±3km, n125, σ1§34/149, mb4.1/20, 2C-1D, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KFL	**Anninata**	**0.57**	**356**	*e*Pg	**Pg**	**08 55 12.6**	**-0.9**
VLS	**Valsamata**	**0.67**	**343**	*e*Pg	**Pg**	**08 55 14.3**	**-1.0**
VLS				*e*Sg	**Sg**	**08 55 23.0**	**-1.1**
VLS	**Valsamata**	**0.67**	**343**	*e*PN	**Pg**	**08 55 14.2**	**-1.1**
RLS	**Riolos of Patr**	**0.72**	**43**	*e*PB	**Pb**	**08 55 14.8**	**-1.9**
RLS				*e*SN	**Sg**	**08 55 24.1**	**-1.5**
ITM	**Ithomi**	**0.94**	**112**	*e*PN	**Pn**	**08 55 20.7**	**-0.5**
ITM				*e*SN	**Sn**	**08 55 34.2**	**-0.3**
PYL	**PYLOS**	**0.96**	**131**	*e*Pg	**Pg**	**08 55 21.4**	**+0.6**
PYL				*e*Sg	**Sg**	**08 55 37.9**	**+4.5**
SELA	**Sela**	**1.11**	**48**	*e*Pg	**Pg**	**08 55 22.1**	**-1.6**
SELA				*e*Sg	**Sg**	**08 55 39.0**	**+0.9**
LKD	**Levkas**	**1.18**	**353**	*e*Pg	**Pg**	**08 55 23.1**	**-1.9**
LKD				*e*Sg	**Sg**	**08 55 40.9**	**+0.6**
VLX	**Vlachokerasia**	**1.23**	**97**	*e*Pg	**Pg**	**08 55 25.2**	**-0.9**
VLX				*e*Sg	**Sg**	**08 55 43.8**	**+1.7**
EVR	**Evrytania**	**1.57**	**29**	*e*PN	**Pn**	**08 55 30.4**	**+0.4**
EVR				*e*SN	**Sn**	**08 55 51.0**	**+0.8**
LTK	**Loutraki**	**1.75**	**73**	*e*Pb	**Pb**	**08 55 34.0**	**-0.3**
VLI	**Veliai**	**1.86**	**115**	*e*PN	**Pn**	**08 55 36.9**	**+3.0**
AGG	**Agios Georgios**	**1.89**	**38**	*e*Pb	**Pb**	**08 55 36.2**	**-0.4**
AGG				*e*Sb	**Sb**	**08 56 01.2**	**+1.0**
DID	**Didima**	**1.90**	**90**	*e*Pb	**Pb**	**08 55 36.0**	**-0.9**
DID				*e*Sb	**Sb**	**08 56 00.5**	**-0.1**
LKR	**Lokris**	**2.03**	**56**	*e*Pn	**Pn**	**08 55 37.7**	**+1.4**
LKR				*e*Sn	**Sn**	**08 56 05.1**	**+3.5**
LKR	**Lokris**	**2.03**	**56**	*e*PN	**Pn**	**08 55 37.8**	**+1.5**
NAIG	**Nisos Aigina**	**2.11**	**83**	*e*PN	**Pn**	**08 55 39.0**	**+1.6**
JAN	**Janina**	**2.12**	**0**	*e*PN	**Pn**	**08 55 38.5**	**+1.1**
KYTH	**Kithira**	**2.16**	**125**	*e*PN	**Pn**	**08 55 41.0**	**+3.0**
THL	**Klokotos Trika**	**2.22**	**24**	*e*Pn	**Pn**	**08 55 40.4**	**+1.5**
THL	**Klokotos Trika**	**2.22**	**24**	*e*PN	**Pn**	**08 55 40.4**	**+1.5**
THL				*e*SN	**Sn**	**08 56 07.4**	**+1.2**
MEV	**Metsovon**	**2.26**	**8**	*e*Pn	**Pn**	**08 55 41.6**	**+2.2**
ATH	**Athens Observa**	**2.32**	**78**	*e*PN	**Pn**	**08 55 42.0**	**+1.8**
KEK	**Kerkira**	**2.32**	**340**	*e*PN	**Pn**	**08 55 41.1**	**+0.9**
KVR	**Kavouri**	**2.34**	**82**	*e*PB	**Pb**	**08 55 42.0**	**-2.3**
PTL	**Penteli**	**2.45**	**77**	*e*PN	**Pn**	**08 55 43.0**	**+1.0**
NEO	**Neokhori**	**2.57**	**46**	*e*PB	**Pb**	**08 55 44.9**	**-3.4**
XOR	**Xorichti**	**2.59**	**45**	*e*Pn	**Pn**	**08 55 45.0**	**+1.0**
KZN	**Kozani**	**2.86**	**14**	*e*PN	**Pn**	**08 55 48.4**	**+0.8**
LIT	**Litokhoron**	**2.86**	**26**	*e*Pn	**Pn**	**08 55 48.2**	**+0.5**
AOS	**Alonnisos**	**2.89**	**55**	*e*Pn	**Pn**	**08 55 48.9**	**+0.8**
AOS	**Alonnisos**	**2.89**	**55**	*e*Pn	**Pn**	**08 55 48.8**	**+0.7**
PAIG	**Paliouri**	**3.26**	**42**	*e*Pn	**Pn**	**08 55 53.3**	**+0.2**
FNA	**Florina**	**3.27**	**7**	*e*Pn	**Pn**	**08 55 54.0**	**+0.8**
FNA				*e*Sn	**Sn**	**08 56 33.0**	**+1.0**
FNA	**Florina**	**3.27**	**7**	*e*Pn	**Pn**	**08 55 54.0**	**+0.8**
FNA				*e*Sn	**Sn**	**08 56 33.0**	**+1.0**
PLG	**Polygyros**	**3.48**	**35**	*e*Pn	**Pn**	**08 55 56.9**	**+0.7**
PLG	**Polygyros**	**3.48**	**35**	*e*PN	**Pn**	**08 55 57.0**	**+0.8**
BIA	**Bitola**	**3.50**	**6**	*e*Pn	**Pn**	**08 55 57.0**	**+0.6**
THE	**Thessaloniki**	**3.50**	**27**	*e*Pn	**Pn**	**08 55 57.0**	**+0.5**
HORT	**Hortiatis**	**3.52**	**29**	*e*Pn	**Pn**	**08 55 56.9**	**+0.1**
TIP	**Timpagrande**	**3.60**	**298**	*e*Pn	**Pn**	**08 55 58.2**	**+0.4**
TIP				Pn	**Pn**	**08 55 58.5**	**+0.6**
TIP				*e*Sn	**Sn**	**08 56 44.9**	**+4.5**
TIP	**Timpagrande**	**3.60**	**298**	*e*Pn	**Pn**	**08 55 58.2**	**+0.3**
OUR	**Ouranopolis**	**3.71**	**40**	*e*Pn	**Pn**	**08 56 00.1**	**+0.7**
GVD	**Gavdhos**	**3.76**	**135**	*e*Pn	**Pn**	**08 56 00.6**	**+0.6**
APE	**Apeiranthos**	**3.77**	**96**	P	**Pn**	**08 56 07.9**	**+7.8**
SOH	**Sokhos**	**3.82**	**30**	*e*Pn	**Pn**	**08 56 01.8**	**+1.0**
SOH				*e*Sn	**Sn**	**08 56 45.6**	**+0.1**
SOI	**Samo**	**3.83**	**279**	Pn	**Pn**	**08 56 01.6**	**+0.6**
KNT	**Kendrikon**	**3.95**	**23**	*e*Pn	**Pn**	**08 56 03.8**	**+1.1**
TA1	**Taranto**	**3.99**	**317**	*e*Pn	**Pn**	**08 56 04.3**	**+1.1**
QSH	**Qafa e Shtames**	**4.04**	**350**	*e*Pn	**Pn**	**08 56 07.0**	**+3.1**
QSH				*i* Sn	**Sn**	**08 56 44.0**	**-7.2**
LOS	**Limnos**	**4.09**	**53**	*e*Pn	**Pn**	**08 56 06.8**	**+2.3**
PHP	**Peshkopia**	**4.15**	**356**	*e*Pn	**Pn**	**08 56 08.2**	**+2.8**
PE1	**Pezze di Greco**	**4.21**	**322**	*e*Pn	**Pn**	**08 56 06.0**	**-0.2**
NVR	**Nevrokopi**	**4.47**	**31**	*e*PN	**Pn**	**08 56 11.6**	**+1.9**
AGST	**Augusta-Monte**	**4.48**	**268**	Pn	**Pn**	**08 56 09.1**	**-0.8**
HAVL	**Avola**	**4.60**	**265**	Pn	**Pn**	**08 56 11.5**	**0.0**
SSY	**Sortino**	**4.61**	**267**	Pn	**Pn**	**08 56 11.0**	**-0.8**
SG1	**Sgolgore (BA)**	**4.62**	**317**	*e*Pn	**Pn**	**08 56 11.9**	**+1.0**
MMB	**Musomiste**	**4.62**	**28**	P	**Pn**	**08 56 12.0**	**+0.2**
KKB	**Krupnik**	**4.66**	**21**	P	**Sn**	**08 57 04.2**	**-2.0**
SMG	**Samos**	**4.76**	**86**	P	**Pn**	**08 56 15.7**	**+1.9**
HMDC	**Modica**	**4.87**	**265**	Pn	**Pn**	**08 56 15.2**	**-0.1**
MGR	**Morigerati**	**4.88**	**304**	Pn	**Pn**	**08 56 16.5**	**+1.1**
HVZN	**Vizzini**	**4.89**	**268**	Pn	**Pn**	**08 56 15.2**	**-0.4**
VAE	**Valguarnera**	**5.11**	**271**	Pn	**Pn**	**08 56 20.4**	**+1.8**
	baz=100,slow=6.1,SNR=1.8						
VAE				Sn	**Sn**	**08 57 16.9**	**-0.7**
	6.8nm,0.3s,baz=284,slow=3.9,SNR=4.0						
VAE				LR	LR	08 58 33.9	
	comp=Z,78nm,21.1s,baz=321,slow=41						
VAE	**Valguarnera**	**5.11**	**271**	Pn	**Pn**	**08 56 20.4**	**+1.8**
VAE				Sn	**Sn**	**08 57 16.9**	**-0.6**
RAFF	**Raffo Rosso**	**5.17**	**268**	Pn	**Pn**	**08 56 19.5**	**+0.1**
	175nm,0.9s						
SGO	**Sicignano**	**5.26**	**307**	Pn	**Pn**	**08 56 22.4**	**+1.8**
	31nm,0.4s						
SGO	**Sicignano**	**5.26**	**307**	P	**Pn**	**08 56 22.4**	**+1.8**
SGO				pmax	pmax		
	comp=Z,31nm,0.4s						
BARS	**Barje**	**5.33**	**8⇑**	*i*Pn	**Pn**	**08 56 21.3**	**-0.3**
VTS	**Vitosha**	**5.36**	**19**	P	**Pn**	**08 56 23.0**	**+1.0**
KDZ	**Kurdzhali**	**5.42**	**39**	P	**Pn**	**08 56 22.0**	**-0.8**
RGNG	**Rignano Grg**	**5.79**	**317**	Pn	**Pn**	**08 56 28.4**	**+0.5**
GRUS	**Gruza**	**6.34**	**359**	*e*Pn	**Pn**	**08 56 34.4**	**-1.1**
DIVS	**Divibare**	**6.58**	**355⇓**	*i*Pn	**Pn**	**08 56 37.8**	**-1.0**
MLR	**Muntele Rosu**	**8.82**	**24**	Pn	**Pn**	**08 57 09.4**	**0.0**
	comp=Z,0.2nm,0.3s,baz=156,slow=19,SNR=2.3						
BOJS	**Bojanci**	**8.99**	**334**	*i* Pn	**Pn**	**08 57 12.4**	**+0.6**
BOJS				*i* Sn	**Sn**	**08 58 47.9**	**-5.1**
BOJS	**Bojanci**	**8.99**	**334**	*i* Pn	**Pn**	**08 57 12.4**	**+0.6**
BOJS				*i* Sn	**Sn**	**08 58 47.8**	**-5.2**
KEST	**Kesra**	**9.41**	**262**	Pn	**Pn**	**08 57 19.3**	**+1.6**
	comp=Z,0.2nm,0.3s,baz=200,slow=18,SNR=3.7						
JAVS	**Javornik**	**9.76**	**331**	*i* Pn	**Pn**	**08 57 21.5**	**-0.8**
JAVS				*e*Sn	**Sn**	**08 59 01.0**	**-11**
VOY	**Vojsko**	**9.94**	**331**	*e*Pn	**Pn**	**08 57 25.7**	**+0.9**
VOY				*e*Sn	**Sn**	**08 59 09.7**	**-6.6**
VRAC	**Vranov**	**12.16**	**347**	P	**Pn**	**08 57 53.1**	**-2.1**
VRAC				pmax	pmax		
	comp=Z,2.0nm,0.3s						
VRAC	**Vranov**	**12.16**	**347**	Pn	**Pn**	**08 57 53.1**	**-2.1**
	comp=Z,1.5nm,0.3s,baz=207,slow=7.9,SNR=4.3						
DAVOX	**Davos/Dischmat**	**12.29**	**322**	Sn	**Sn**	**09 00 09.7**	**-4.1**
	comp=Z,0.1nm,0.3s,baz=342,slow=19,SNR=4.7						
GERES	**GERESS Array B**	**12.44**	**338**	Pn	**Pn**	**08 57 58.3**	**-0.6**
	comp=Z,0.1nm,0.3s,baz=168,slow=12,SNR=3.0						
KHC	**Kasperske Hory**	**12.73**	**338**	*e*P	**Pn**	**08 58 11.5**	**+8.6**
KHC				*e*x	x	08 58 26.0	
MBDF	**Montbardon**	**12.80**	**309**	*e*P	**Pn**	**08 58 11.2**	**+7.3**
AKASG	**Malin Array Be**	**14.46**	**22**	Pn	**Pn**	**08 58 22.9**	**-3.6**
	comp=Z,0.3nm,0.3s,baz=211,slow=12,SNR=3.2						
CDF	**Champ du Feu**	**14.70**	**322**	*e*P	**Pn**	**08 58 36.7**	**+6.9**
	comp=Z,2.6nm,0.4s						
LOR	**Lormes**	**15.84**	**313**	*e*P	**Pn**	**08 58 48.1**	**+3.2**
SSF	**Saint Saulge**	**15.94**	**312**	*e*P	**Pn**	**08 58 49.9**	**+3.7**
	comp=Z,1.6nm,0.4s						
TCF	**Toulx Ste Croi**	**16.36**	**308**	*e*P	**Pn**	**08 58 53.4**	**+1.7**
OBN	**Obninsk**	**20.58**	**26⇑**	*e*P	**P**	**08 59 44.3**	**+3.6**
OBN				pmax	pmax		
	comp=Z,8.0nm,0.5s						
MDT	**Midelt**	**21.31**	**265**	P	**P**	**08 59 50.0**	**+1.2**
	comp=Z,1.5nm,0.8s,mb3.4,baz=40,slow=4.2,SNR=3.7						
HFS	**Hagfors**	**23.07**	**351**	P	**P**	**09 00 05.3**	**-2.0**
HFS				pmax	pmax		
	comp=Z,2.0nm,0.4s						
HFS	**Hagfors**	**23.07**	**351**	P	**P**	**09 00 05.3**	**-2.1**
	comp=Z,1.7nm,0.4s,mb3.9,baz=171,slow=10,SNR=15						
EKA	**Eskdalemuir Ar**	**24.10**	**325**	P	**P**	**09 00 16.9**	**-0.5**
EKA				pmax	pmax		
	comp=Z,4.0nm,0.7s						
EKA	**Eskdalemuir Ar**	**24.10**	**325**	P	**P**	**09 00 16.9**	**-0.6**
	comp=Z,3.5nm,0.7s,mb3.9,baz=132,slow=8.1,SNR=11						
FINES	**FINESS Array B**	**24.15**	**6**	P	**P**	**09 00 15.6**	**-2.3**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
FINES	**FINESS Array B**	**24.15**	**6**	P	**P**	**09 00 15.6**	**-2.3**
	comp=Z,1.3nm,0.6s,mb3.5,baz=173,slow=10,SNR=5.5						
NB2	**NORSAR Subarra**	**24.29**	**349**	P	**P**	**09 00 17.6**	**-1.5**
	comp=Z,1.1nm,0.7s,mb3.4,baz=158,slow=11						
NOA	**NORSAR Array B**	**24.29**	**349**	P	**P**	**09 00 16.8**	**-2.3**
NOA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
NOA				MLR	MLR		
	comp=Z,9.0nm,19.8s						
NOA	**NORSAR Array B**	**24.29**	**349**	P	**P**	**09 00 16.8**	**-2.3**
	comp=Z,1.6nm,0.7s,mb3.5,baz=155,slow=7.3,SNR=7.5						
NOA				LR	LR	09 08 53.8	
	comp=Z,8.9nm,19.8s,baz=165,slow=34						
AKTK	**Aktyubinsk**	**29.37**	**52**	P	**P**	**09 01 02.6**	**-2.3**
	comp=Z,1.0nm,0.3s,mb4.0						
AKTO	**Aktyubinsk**	**29.37**	**52**	P	**P**	**09 01 02.6**	**-2.3**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.3s,mb4.0						
AKTO	**Aktyubinsk**	**29.37**	**52**	P	**P**	**09 01 02.6**	**-2.3**
	comp=Z,1.0nm,0.3s,mb4.0,baz=265,slow=7.2,SNR=7.4						
ARCES	**ARCESS Array B**	**32.16**	**3**	P	**P**	**09 01 27.1**	**-2.2**
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.7s						
ARCES				MLR	MLR		
	comp=Z,52nm,20.1s						
ARCES	**ARCESS Array B**	**32.16**	**3**	P	**P**	**09 01 27.1**	**-2.2**
	comp=Z,1.5nm,0.7s,mb4.0,baz=191,slow=11,SNR=7.2						
ARCES				LR	LR	09 16 17.5	
	comp=Z,52nm,20.1s,baz=198,slow=40						
BVAR	**Borovoye Array**	**37.34**	**49**	P	**P**	**09 02 12.6**	**-1.6**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
BVAR	**Borovoye Array**	**37.34**	**49**	P	**P**	**09 02 12.6**	**-1.6**
	comp=Z,1.1nm,0.5s,mb3.9,baz=253,slow=7.5,SNR=4.7						
DBIC	**Dimbokro**	**38.60**	**224**	P	**P**	**09 02 26.6**	**+1.3**
	comp=Z,2.8nm,0.7s,mb4.1,baz=29,slow=13,SNR=4.9						
LIC	**Lamto**	**39.06**	**224**	*e*P	**P**	**09 02 28.6**	**-0.6**
	comp=Z,9.7nm,0.7s,mb4.3						
MKAR	**Makanchi Array**	**45.42**	**58**	P	**P**	**09 03 18.4**	**-2.3**
MKAR						09 04 59.1	
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
MKAR	**Makanchi Array**	**45.42**	**58**	P	**P**	**09 03 18.4**	**-2.3**
	comp=Z,0.9nm,0.4s,mb4.0,baz=269,slow=7.6,SNR=8.7						
MKAR				PcP	PcP	09 04 59.1	-0.6
	comp=Z,0.7nm,0.7s,baz=277,slow=3.3,SNR=3.1						
ZALV	**Zalesovo Beam**	**45.93**	**48**	P	**P**	**09 03 21.8**	**-2.8**
	comp=Z,3.4nm,0.4s,mb4.6,baz=276,slow=9.0,SNR=4.7						
DANN	**Dangsing**	**52.73**	**80**	*e*P	**P**	**09 04 15.5**	**-1.4**
	comp=Z,11nm,0.6s,mb5.0						
KOLN	**Koldanda**	**52.87**	**81**	*e*P	**P**	**09 04 15.9**	**-2.1**
	comp=Z,4.8nm,0.5s,mb4.7						
GKN	**Gorkha**	**53.58**	**80**	*e*P	**P**	**09 04 21.4**	**-1.8**
KKN	**Kakani**	**54.18**	**80**	*e*P	**P**	**09 04 25.4**	**-2.2**
GUN	**Gumba**	**54.59**	**80**	*e*P	**P**	**09 04 28.9**	**-1.7**
	comp=Z,5.5nm,0.4s,mb5.0						
SCHQ	**Schefferville**	**59.10**	**318**	P	**P**	**09 05 00.0**	**-2.1**
	comp=Z,1.3nm,0.7s,mb4.1,baz=87,slow=4.9,SNR=4.1						
BOD	**Bodaibo**	**60.72**	**38**	*e*P	**P**	**09 05 09.0**	**-4.2**
YKA	**Yellowknife Ar**	**74.08**	**340**	P	**P**	**09 06 37.2**	**-0.5**
	comp=Z,0.4nm,0.6s,mb3.5,baz=34,slow=5.3,SNR=13						
ULM	**Lac du Bonnet**	**76.36**	**324**	P	**P**	**09 06 49.9**	**-1.2**
	comp=Z,2.3nm,0.9s,mb4.1,baz=32,slow=2.7,SNR=6.0						
KSRS	**Korea Array**	**79.54**	**51**	P	**P**	**09 07 07.1**	**-1.9**
	comp=Z,1.0nm,0.7s,mb3.8,baz=312,slow=3.9,SNR=4.5						

*THR **28** 08:59:36.7±0.5, 2824N×5537E, h18km±6km, ML3.8*
*ISCJB **28** 08:59:40.7±0.5, 2817N±004×5618E±004, h10km, mb3.8/15, Error ellipse: s-maj=6.1km s-min=4.1km az=149.8*
*IDC **28** 08:59:40.3±1.0, 2817N×5632E, h0km, mb3.8/14, mb1 3.9/17, mb1mx3.8/28, mbtmp3.8/17, ML3.8/3, Error ellipse: s-maj=23.1km s-min=17.5km az=155.0*
*CSEM **28** 08:59:42.7±0.1, 2815N×5622E, h30km, ML3.8, Error ellipse: s-maj=2.8km s-min=2.1km az=155.0*
*NEIC **28** 08:59:42.0, 2815N×5606E, h18km, ML3.6(THR), After THR.*
*MOS **28** 08:59:44.4±0.9, 2829N×5622E, h33km, mb4.0/11, Error ellipse: s-maj=17.8km s-min=12.7km az=95.4*
*TEH **28** 08:59:54.3, 2816N×5615E, h19km, ML3.7*
ISC 28 08:59:42.1±0.5, 2810N±004×5629E±003, h10km, n63, σ1§14/77, mb3.8/15, 1C-1D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDS	**Bandar-Abbas**	**0.70**	**189**	*e*Pg	**Pg**	**08 59 56.0**	**+0.3**
BNDS	**Bandar-Abbas**	**0.70**	**189**	*e*Pg	**Pg**	**08 59 57.4**	**+1.7**
BNDS				AML	AML	09 00 19.4	
	comp=N,2μm,0.3s						
KRBR	**Kerman**	**1.92**	**12**	*e*Pn	**Pn**	**09 00 15.0**	**+0.2**
KRBR				*e*Sg	**Sg**	**09 00 43.0**	**-0.9**
KRBR	**Kerman**	**1.92**	**12**	*e*Pg	**Pg**	**09 00 15.4**	**-3.5**
KRBR				*e*Sg	**Sg**	**09 00 43.7**	**-0.2**
KRBR				AML	AML	09 00 53.7	
	comp=N,531nm,0.5s						
KRBR	**Kerman**	**1.92**	**12**	*e*Pg	**Pg**	**09 00 15.4**	**-3.5**
	SNR=91						
KRBR				*e*Sg	**Sg**	**09 00 43.7**	**-0.2**
	SNR=91						
ISRV	**Sarvestan**	**3.07**	**295**	*e*Pn	**Pn**	**09 00 34.0**	**+3.4**
IMOK	**Mouk**	**3.28**	**288**	*e*Pn	**Pn**	**09 00 37.0**	**+3.5**
IBAF	**Bafgh**	**3.54**	**350**	*e*Pn	**Pn**	**09 00 39.7**	**+2.7**
IBAF				*e*		09 01 50.0	
	comp=Z,1μm,0.4s						
IMEH	**Mehriz**	**3.59**	**336**	*e*Pn	**Pn**	**09 00 40.7**	**+2.9**
IMEH				*e*		09 00 52.5	
	comp=Z,946nm,0.2s						
ZHSF	**Zahedan**	**4.21**	**68**	*e*Pn	**Pn**	**09 00 50.0**	**+3.7**
ZHSF				*e*Sg	**Sg**	**09 01 57.0**	**-0.4**
ZHSF	**Zahedan**	**4.21**	**68**	*e*Pn	**Pn**	**09 00 52.0**	**+5.7**
ISAD	**Sadrabad**	**4.42**	**330**	*e*	**Pb**	**09 01 02.7**	**+2.9**
	comp=N,848nm,0.2s						
ISAD				*e*Sn	**Sn**	**09 01 40.5**	**-0.3**
ICHK	**Chekchek**	**4.44**	**339**	*e*Pn	**Pn**	**09 00 53.3**	**+3.8**
ICHK				*e*		09 01 13.6	
	comp=Z,776nm,0.2s						
IKOO	**Kooshah**	**4.91**	**28⇓**	*e*Pn	**Pn**	**09 01 00.8**	**+4.9**
IKOO				*e*Sn	**Sn**	**09 01 54.6**	**+1.8**
ITEG	**Tejag**	**5.23**	**23**	*e*Pn	**Pn**	**09 01 05.4**	**+5.1**
IGAR	**Gharneh**	**5.44**	**320**	*e*	**Pg**	**09 01 28.8**	**+2.5**
	comp=Z,362nm,0.0s						
IZEF	**Zefreh**	**5.88**	**325**	*e*	**Pn**	**09 01 15.9**	**+6.8**
	comp=Z,365nm,0.3s						
BTHS		**6.34**	**232**	P	**Pn**	**09 01 16.2**	**+0.6**
IKLH	**Kolahrood**	**6.60**	**323**	*e*Pn	**Pn**	**09 01 20.0**	**+0.9**
IKLH				*e*		09 01 37.4	
	comp=Z,440nm,0.0s						
QRN	**Al-Qurain**	**7.40**	**277**	*e*P	**Pn**	**09 01 30.7**	**+0.6**
QRN				*e*S	**Sn**	**09 02 53.2**	**-1.0**
QRN				AML	AML	09 02 54.5	
	comp=Z,49nm,0.6s						
KBD	**Kabd**	**7.63**	**280**	*e*P	**Pn**	**09 01 34.0**	**+0.7**
KBD				*e*S	**Sn**	**09 02 58.7**	**-1.1**
KBD				AML	AML	09 03 00.2	
	comp=Z,99nm,0.4s						
KBD	**Kabd**	**7.63**	**280**	*e*P	**Pn**	**09 01 34.0**	**+0.7**
KBD				*e*S	**Sn**	**09 02 58.7**	**-1.1**
	comp=Z,99nm,0.4s						
UMR	**Umm Al-Rimmam**	**7.66**	**283**	*e*P	**Pn**	**09 01 34.5**	**+0.9**
UMR				*e*S	**Sn**	**09 02 59.8**	**-0.7**
UMR				AML	AML	09 03 01.5	
	comp=Z,24nm,0.3s						
UMR	**Umm Al-Rimmam**	**7.66**	**283**	*e*P	**Pn**	**09 01 34.5**	**+0.8**
UMR				*e*S	**Sn**	**09 02 59.8**	**-0.7**
	comp=Z,24nm,0.3s						
RDF	**Al-Radifah**	**7.73**	**278**	*e*P	**Pn**	**09 01 35.3**	**+0.6**
RDF				*e*S	**Sn**	**09 03 01.4**	**-0.9**
RDF				AML	AML	09 03 03.7	
	comp=Z,15nm,0.4s						
RDF	**Al-Radifah**	**7.73**	**278**	*e*P	**Pn**	**09 01 35.3**	**+0.6**
RDF				*e*S	**Sn**	**09 03 01.4**	**-1.0**
NAY	**Al-Naaiem**	**8.03**	**280**	*e*P	**Pn**	**09 01 39.6**	**+0.9**
NAY				AML	AML	09 03 06.2	
	comp=Z,7.5nm,0.6s						
NAY				*e*S	**Sn**	**09 03 08.7**	**-0.9**
ASF	**Jabal al Asfar**	**17.26**	**288**	P	**Pn**	**09 03 43.5**	**+0.3**
	comp=Z,0.3nm,0.3s,baz=307,slow=5.1,SNR=2.9						
MMAI	**Mount Meron Ar**	**18.64**	**290**	P	**Pn**	**09 03 59.1**	**-1.1**
	comp=Z,0.4nm,0.3s,baz=102,slow=21,SNR=2.5						
EIL	**Elat**	**18.75**	**280**	P	**Pn**	**09 04 01.7**	**+0.1**
	comp=Z,0.2nm,0.3s,baz=50,slow=11,SNR=3.1						
AKTK	**Aktyubinsk**	**22.35**	**3**	P	**P**	**09 04 39.0**	**-0.9**
AKTK	**Aktyubinsk**	**22.35**	**3**	P	**P**	**09 04 39.0**	**-0.9**
AKTO	**Aktyubinsk**	**22.35**	**3**	P	**P**	**09 04 39.0**	**-0.9**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb3.5						
AKTO	**Aktyubinsk**	**22.35**	**3**	P	**P**	**09 04 39.0**	**-0.9**
	comp=Z,1.0nm,0.5s,mb3.5,baz=187,slow=9.8,SNR=3.5						
BVAR	**Borovoye Array**	**27.01**	**19**	P	**P**	**09 05 23.8**	**-0.2**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
BVAR	**Borovoye Array**	**27.01**	**19**	P	**P**	**09 05 23.8**	**-0.2**
	comp=Z,1.1nm,0.6s,mb3.5,baz=190,slow=7.5,SNR=4.2						
MKAR	**Makanchi Array**	**27.63**	**41**	P	**P**	**09 05 29.2**	**-0.5**
	comp=Z,0.4nm,0.3s,mb3.5,baz=230,slow=10,SNR=3.1						
AKASG	**Malin Array Be**	**30.47**	**325**	P	**P**	**09 05 53.8**	**-1.1**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.6s						
AKASG	**Malin Array Be**	**30.47**	**325**	P	**P**	**09 05 53.8**	**-1.1**
	comp=Z,0.9nm,0.6s,mb3.7,baz=98,slow=7.0,SNR=3.9						
KMBO	**Kilima Mbogo**	**34.33**	**215⇑**	*e*P	**P**	**09 06 33.0**	**+4.0**
GERES	**GERESS Array B**	**38.61**	**314**	P	**P**	**09 07 04.6**	**-0.6**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
GERES	**GERESS Array B**	**38.61**	**314**	P	**P**	**09 07 04.6**	**-0.6**
	comp=Z,0.5nm,0.7s,mb3.4,baz=132,slow=7.7,SNR=3.7						
FINES	**FINESS Array B**	**38.95**	**337**	P	**P**	**09 07 06.8**	**-1.1**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.8s						
FINES	**FINESS Array B**	**38.95**	**337**	P	**P**	**09 07 06.8**	**-1.1**
	comp=Z,1.2nm,0.8s,mb3.7,baz=148,slow=11,SNR=3.7						
HFS	**Hagfors**

UNV Unalaska Valle 5.53 76 P **Pn 09 02 39.5 -0.1**
UNV S **S 09 03 41.1 -3.4**
AKUT Akutan 5.99 74 *e*P **Pn 09 02 46.2 +0.8**
SMY Shemya 6.26 273 P **Pn 09 02 51.4 +2.5**
FALS False Pass 7.46 70 *e*Pn **Pn 09 03 04.0 -0.2**
FALS *e*S **S 09 04 25.1 -4.2**
GAMB Gambell 11.13 9 *e*P **Pn 09 03 55.2 +4.5**
SVW2 Sparrevohn 13.62 45 *e*Pn **Pn 09 04 23.8 +2.0**
KDAK Kodiak Island 13.95 60 P **Pn 09 04 24.0 -1.9**
8.3nm,0.3s,baz=270,slow=6.7,SNR=82
KDAK S **S 09 06 49.7 -11**
0.4nm,0.3s,baz=329,slow=23,SNR=6.6
TTA Tatalina 14.42 38 *e*Pn **Pn 09 04 33.1 +1.6**
IMA2 Indian Mountai 17.14 31 *e*Pn **Pn 09 05 03.8 -0.2**
DIV Divide 18.08 51 *e*P **P 09 05 15.7 +3.5**
13nm,0.5s
EGAK Eagle 21.12 42 *e*P **P 09 05 44.4 -0.2**
4.3nm,0.4s,mb4.3
DAWY Dawson 21.66 45 *e*P **P 09 05 49.7 -0.3**
INK Inuvik 25.09 36 P **P 09 06 20.7 -0.4**
INK Inuvik 25.09 36 P **P 09 06 20.7 -0.4**
1.0nm,0.3s,mb3.9,baz=228,slow=7.6,SNR=18
YKW3 Yellowknife Ar 32.74 48 *e*P **P 09 07 28.1 -0.6**
YKA Yellowknife Ar 32.76 49 P **P 09 07 28.3 -0.5**
YKA pP pP 09 08 17.7 +2.6
YKA PcP PcP 09 10 07.1 -0.9
YKA Yellowknife Ar 32.76 49 P **P 09 07 28.3 -0.5**
YKA *PP pP 09 08 17.7 +2.6
YKA 09 10 07.1
YKA pmax pmax
comp=Z,2.0nm,0.5s
YKA Yellowknife Ar 32.76 49 P **P 09 07 28.3 -0.5**
comp=Z,2.4nm,0.5s,mb4.0,baz=286,slow=8.6,SNR=64
YKA pP pP 09 08 17.7 +2.6
comp=Z,0.2nm,0.4s,baz=281,slow=8,0,SNR=2.5
YKA PcP PcP 09 10 07.1 -0.9
comp=Z,0.3nm,0.7s,baz=293,slow=3.3,SNR=4.2
GNW Green Mountain 33.53 77 *e*P **P 09 07 36.8 +1.1**
LON Longmire 34.53 78 *e*P **P 09 07 45.1 +0.8**
HAWA Hanford 36.06 77 *e*P **P 09 07 57.4 +0.1**
EDM Edmonton 36.36 64 *e*P **P 09 07 58.8 -1.0**
YBH Yreka Blue Hor 36.75 86 *e*P **P 09 08 04.9 +1.8**
comp=Z,12nm,1.1s,mb4.3
YBH Yreka Blue Hor 36.75 86 *e*P **P 09 08 04.9 +1.8**
YBH pmax pmax
comp=Z,12nm,1.1s
MOD Modoc 38.10 84 *e*P **P 09 08 14.9 +0.5**
comp=Z,8.6nm,0.6s,mb4.5
BMO Blue Mountains 38.21 78 *e*P **P 09 08 15.4 +0.1**
WVOR Wild Horse Val 38.79 82 *e*P **P 09 08 20.5 +0.3**
comp=Z,8.2nm,0.9s,mb4.3
WVOR Wild Horse Val 38.79 82 *e*P **P 09 08 20.5 +0.3**
WVOR pmax pmax
comp=Z,8.0nm,0.9s,mb4.2
CN2 Changchun 39.22 281 *e*P **P 09 08 23.0 -0.7**
CN2 *e*XP sP 09 09 36.0 -1.4
CN2 AMB AMB
comp=Z,10.0nm,0.5s,mb4.6
PAHR Pah Rah Range 39.98 86 *e*P **P 09 08 31.1 +1.1**
comp=Z,7.6nm,0.8s,mb4.2
HRY Holter Researc 40.40 72 *e*P **P 09 08 32.2 -1.1**
MCMT McKenzie Canyo 40.85 75 *e*P **P 09 08 36.3 -0.7**
BOZ Bozeman (W) 41.10 73 *e*P **P 09 08 38.5 -0.6**
comp=Z,3.0nm,0.6s,mb3.9
BOZ Bozeman (W) 41.10 73 *e*P **P 09 08 38.5 -0.6**
BOZ pmax pmax
comp=Z,3.0nm,0.6s,mb3.9
NVAR Mina Array Bea 41.44 87 P **P 09 08 42.3 +0.4**
comp=Z,3.5nm,0.7s,mb3.9,baz=313,slow=6.9,SNR=29
NVAR ScP ScP 09 14 02.0 -0.6
comp=Z,0.4nm,0.8s,baz=305,slow=3.2,SNR=3.5
MTUM Tungsten Hills 41.97 88 *e*P **P 09 08 41.6 -4.7**
IMW Indian Meadow 42.51 75 *e*P **P 09 08 50.5 +0.1**
FLWY Flagg Ranch 42.54 75 *e*P **P 09 08 51.1 +0.4**
comp=Z,6.0nm,0.6s,mb4.2
HVU Hansel Valley 42.68 79 *e*P **P 09 08 52.0 +0.1**
RLMT Red Lodge 42.77 73 *e*P **P 09 08 52.3 -0.2**
BGU Big Grassy Mou 43.05 80 *e*P **P 09 08 55.1 +0.2**
FCC Fort Churchill 43.49 48 *e*P **P 09 08 57.0 -1.1**
comp=Z,4.4nm,0.7s,mb4.0
FCC Fort Churchill 43.49 48 *e*P **P 09 08 57.1 -1.0**
FCC pmax pmax
comp=Z,4.0nm,0.7s,mb4.0
HWUT Hardware Ranch 43.51 78 *e*P **P 09 08 58.7 +0.2**
LAO LASA Array 43.62 69 *e*P **P 09 08 58.8 -0.5**
comp=Z,6.7nm,0.6s,mb4.2
DUG Dugway 43.63 81 *e*P **P 09 08 59.8 +0.2**
comp=Z,8.1nm,0.8s,mb4.1
DUG Dugway 43.63 81 *e*P **P 09 08 59.8 +0.3**
DUG pmax pmax
comp=Z,8.0nm,0.8s,mb4.1
TPNV Topopah Spring 43.64 87 *e*P **P 09 09 00.0 +0.4**
comp=Z,11nm,0.7s,mb4.3
TPNV Topopah Spring 43.64 87 *e*P **P 09 09 00.0 +0.4**
TPNV pmax pmax
comp=Z,11nm,0.7s,mb4.3
BW06 Boulder Array 43.99 76 *e*P **P 09 09 01.7 -0.6**
comp=Z,6.7nm,0.8s,mb4.0
JLU Jordanelle 44.20 79 *e*P **P 09 09 04.3 +0.3**
GSC Goldstone 44.39 89 *e*P **P 09 09 06.0 +0.4**
comp=Z,7.6nm,0.8s,mb4.1
GSC Goldstone 44.39 89 *e*P **P 09 09 06.0 +0.4**
GSC pmax pmax
comp=Z,8.0nm,0.8s,mb4.1
DAU Daniels Canyon 44.43 79 *e*P **P 09 09 06.2 +0.4**
ARUT Antelope Range 44.79 84 *e*P **P 09 09 08.2 -0.4**
MSU Marysvale 45.08 82 *e*P **P 09 09 11.6 +0.6**
TMUT Trail Mountain 45.16 81 *e*P **P 09 09 12.2 +0.6**
SRU San Rafael 45.69 80 *e*P **P 09 09 16.0 +0.3**
comp=Z,3.1nm,0.5s,mb3.9
SRU San Rafael 45.69 80 *e*P **P 09 09 16.0 +0.3**
SRU pmax pmax
comp=Z,3.0nm,0.5s,mb3.9
BJI Beijing 46.99 283 P **P 09 09 25.5 -0.3**
BJI S **S 09 15 59.5 +0.3**
BJI AMB AMB
comp=Z,5.0nm,0.6s,mb4.0
BJI AMB AMB
comp=Z,161nm,3.8s
BJI LR LR
comp=N,103nm,6.5s
BJI LR LR
comp=E,145nm,9.1s
BJI LR LR
comp=Z,117nm,41.5s
PV10 Paradox Valley 47.05 80 *e*P **P 09 09 26.6 +0.4**
GLA Glamis 47.12 90 *e*P **P 09 09 26.9 +0.1**
PV01 Paradox Valley 47.49 80 *e*P **P 09 09 29.4 -0.3**
WUAZ Wupatki 47.53 85 *e*P **P 09 09 30.6 +0.5**
comp=Z,11nm,1.2s,mb4.0
SONM Songino Array 47.75 297 P **P 09 09 31.3 -0.2**
comp=Z,0.4nm,0.3s,mb3.2,baz=61,slow=7.0,SNR=4.7
SMCO Snowmass 47.76 78 *e*P **P 09 09 31.5 -0.2**
comp=Z,2.8nm,0.5s,mb3.9
MVCO Mesa Verde 48.14 81 *e*P **P 09 09 34.3 -0.4**
comp=Z,3.7nm,0.4s,mb4.1
HHC Hu-ho-hao-te 49.18 287 *e*P **P 09 09 44.0 +1.5**
HHC AP pP 09 10 32.5 +0.3
HHC XP sP 09 10 59.0 +1.2
HHC PCP PcP 09 11 05.5 +3.5
HHC PP PP 09 11 39.8 +1.5
HHC SCP ScP 09 14 35.3 +0.7
HHC PCS PcS 09 14 58.8 +0.1
HHC S **S 09 16 34.0 +4.2**
HHC XS sS 09 17 58.5 +1.2
HHC SCS ScS 09 19 09.5 -0.1
HHC SS SS 09 20 01.5 -2.2
HHC AMB AMB
comp=Z,13nm,0.3s,mb4.7
HHC AMB AMB
comp=Z,127nm,5.1s
HHC LR LR
comp=N,127nm,9.6s
HHC LR LR
comp=E,194nm,11.6s
HHC LR LR
comp=Z,82nm,11.6s
SDCO Great Sand Dun 49.57 78 *e*P **P 09 09 45.5 0.0**
comp=Z,2.9nm,0.6s,mb3.8
TUC Tucson 50.09 87 *e*P **P 09 09 51.0 +1.6**
LAZ Ladron 50.84 83 *e*P **P 09 09 55.3 +0.2**
MNTX Cornudas Mount 53.78 84 *e*P **P 09 10 16.3 -0.3**
comp=Z,4.9nm,0.8s,mb4.1
TXAR Lajitas Array 56.50 85 P **P 09 10 35.5 -0.5**
TXAR pP 09 11 29.8 +2.7
TXAR pmax pmax
comp=Z,4.0nm,0.7s
TXAR Lajitas Array 56.50 85 P **P 09 10 35.5 -0.5**
comp=Z,3.5nm,0.7s,mb4.0,baz=304,slow=5.4,SNR=40
TXAR PcP PcP 09 11 29.8 -0.1
comp=Z,0.3nm,0.5s,baz=260,slow=1.5,SNR=5.0
LZH Lanzhou 56.85 287 *e*P **P 09 10 44.0 +5.5**
LZH AP pP 09 11 34.0 +4.4
LZH AMB AMB
comp=Z,10.0nm,1.0s,mb4.4
SCHQ Schefferville 57.59 40 P **P 09 10 42.5 -0.8**
comp=Z,5.3nm,0.8s,mb4.2,baz=315,slow=5.0,SNR=14
JCT Junction City 58.00 81 *e*P **P 09 10 45.7 -0.8**
comp=Z,4.6nm,0.5s,mb4.4
JCT Junction City 58.00 81 *e*P **P 09 10 45.7 -0.8**
JCT pmax pmax
comp=Z,5.0nm,0.5s,mb4.4
MIAR Mount Ida 58.77 73 *e*P **P 09 10 50.2 -1.5**
comp=Z,5.1nm,0.8s,mb4.2
MIAR Mount Ida 58.77 73 *e*P **P 09 10 50.2 -1.6**
MIAR pmax pmax
comp=Z,5.0nm,0.8s,mb4.2
CD2 Chengdu 60.59 283 *e*P **P 09 11 06.8 +2.6**
CD2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.6
CD2 AMB AMB
comp=Z,20nm,4.8s
MKAR Makanchi Array 60.64 310 P **P 09 11 03.4 -0.9**
comp=Z,0.2nm,0.2s,mb3.3,baz=52,slow=7.7,SNR=3.1
GYA Guiyang 62.12 278 P **P 09 11 15.0 +0.5**
GYA AMB AMB
comp=Z,10.0nm,0.9s,mb4.5
KMI Kunming 65.46 280 P **P 09 11 35.5 -0.8**
KMI AP pP 09 12 31.0 +2.1
KMI XP sP 09 12 56.0 +2.3
KMI AMB AMB
comp=Z,14nm,0.5s,mb4.8
NOA NORSAR Array B 66.31 356 P **P 09 11 40.8 -0.3**
NOA pmax pmax
comp=Z,1.0nm,0.6s
NOA NORSAR Array B 66.31 356 P **P 09 11 40.8 -0.3**
comp=Z,0.5nm,0.6s,mb3.3,baz=329,slow=5.3,SNR=3.5
HFS Hagfors 67.11 355 P **P 09 11 45.4 -0.7**
HFS pmax pmax
comp=Z,1.0nm,0.5s
HFS Hagfors 67.11 355 P **P 09 11 45.4 -0.7**
comp=Z,0.9nm,0.5s,mb3.7,baz=76,slow=12,SNR=4.1
WRA Warramunga Arr 84.47 226 P **P 09 13 23.2 -1.4**
WRA pmax pmax
comp=Z,1.0nm,1.1s
WRA Warramunga Arr 84.47 226 P **P 09 13 23.2 -1.4**
comp=Z,1.1nm,1.1s,mb3.5,baz=36,slow=5.8,SNR=4.6
FITZ Fitzroy Crossi 86.95 235 P **P 09 13 36.5 -0.3**
comp=Z,1.3nm,0.7s,mb3.8,baz=17,slow=9.2,SNR=3.0
ASAR Alice Springs 87.94 225 P **P 09 13 40.8 -0.6**
ASAR pmax pmax
comp=Z,2.0nm,0.7s
ASAR Alice Springs 87.94 225 P **P 09 13 40.8 -0.6**
comp=Z,2.1nm,0.7s,mb4.1,baz=23,slow=5.1,SNR=12

IDC ***28*** *09:05:09.9±5.0, 140N×128.12E, h114km±46km, mb3.8/8, mb1 3.9/9, mb1mx3.7/17, mbtmp3.8/9, Error ellipse: s-maj=34.3km s-min=13.3km az=69.0*
ISCJB ***28*** *09:05:10.1±6.6, 14N±01×1282E±02, h134km±65km, mb4.0/8, Error ellipse: s-maj=37.9km s-min=14.8km az=153.4*
NEIC ***28*** *09:05:11.8±5.5, 141N×12823E, h134km±51km, Error ellipse: s-maj=35.7km s-min=11.7km az=54.0*
ISC 28 09:05:10.4±5.6, 14N±01×1282E±02, h119km±56km, n11, σ0§47/10, mb4.1/8, Halmahera

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KSM	**Kuching**	**17.88**	**270**	*e*P		**Pn**		**09 09 12.4**	**+0.7**
FITZ	**Fitzroy Crossi**	**19.56**	**187**	P		**P**		**09 09 28.7**	**-0.3**
0.2nm,0.3s,baz=15,slow=9.3,SNR=9.5									
WRA	**Warramunga Arr**	**22.07**	**164**	P		**P**		**09 09 55.5**	**-0.3**
6.1nm,0.7s,mb4.0,baz=342,slow=10,SNR=54									
WRA				PcP		PcP		09 13 49.0	-0.3
0.3nm,0.6s,baz=354,slow=1.4,SNR=3.2									
ASAR	**Alice Springs**	**25.55**	**168**	P		**P**		**09 10 28.1**	**0.0**
1.2nm,0.5s,mb3.6,baz=351,slow=7.8,SNR=34									
ASAR				PcP		PcP		09 13 55.8	-0.9
0.4nm,0.5s,baz=339,slow=1.8,SNR=4.0									
PSI	**Prapat**	**29.28**	**273**	P		**P**		**09 11 00.9**	**-0.9**
9.6nm,0.7s,mb4.5,baz=99,slow=7.7,SNR=11									
STKA	**Stephens Creek**	**35.47**	**160**	P		**P**		**09 11 56.0**	**+0.5**
2.7nm,0.5s,mb4.4,baz=338,slow=10,SNR=8.6									
KSRS	**Korea Array**	**35.86**	**360**	P		**P**		**09 11 58.5**	**-0.2**
1.2nm,0.6s,mb4.0,baz=178,slow=9.9,SNR=6.6									
SONM	**Songino Array**	**49.94**	**341**	P		**P**		**09 13 51.7**	**-0.3**
1.0nm,0.7s,mb3.9,baz=160,slow=4.7,SNR=4.1									
MKAR	**Makanchi Array**	**60.27**	**325**	P		**P**		**09 15 06.8**	**+0.5**
1.1nm,0.5s,mb4.2,baz=117,slow=8.5,SNR=15									
VNDA	**Vanda**	**80.97**	**173**	P		**P**		**09 17 11.6**	**+0.4**
1.1nm,0.6s,mb3.9,baz=315,slow=5.0,SNR=13									
CFAA	**Coronel Fontan**	**146.20**	**154**	PKPbc		PKPbc		09 24 36.5	-1.0
0.2nm,0.6s,baz=221,slow=4.4,SNR=6.5									

ISCJB ***28*** *09:12:25.2±0.3, 1204S±005×16656E±004, h95km, mb4.6/49, Error ellipse: s-maj=7.0km s-min=6.0km az=168.4*
IDC ***28*** *09:12:26.1±0.5, 1197S×16664E, h97km±3km, mb4.3/23, mb1 4.4/24, mb1mx4.4/25, mbtmp4.3/24, MS4.1/15, Ms1 4.1/15, ms1mx3.9/28, Error ellipse: s-maj=11.8km s-min=10.0km az=121.0*
GCMT ***28*** *09:12:26.6±0.2, 1202S×16652E, h99km±1km, MW5.2/92, Moment Tensor Solution. s67,c95; s92,c154; Duration: 1s0 Moment tensor: Scale 10^16Nm; M_{rr}-4.40±.17; $M_{\theta\theta}$-0.22±.18; $M_{\phi\phi}$4.62±.19; $M_{r\theta}$0.23±.12; $M_{\theta\phi}$-2.92±.17; $M_{\phi r}$6.11±.12; Best double couple: $M_0$8.12300×10^16 NP1:ϕ_s309.00000°, δ26.00000°, λ-134.00000°. NP2: ϕ_s177.00000°, δ71.00000°, λ-71.00000°. Principal axes: T 8.4400, Plg24.0000°, Azm252.0000°; N -0.6330, Plg18.0000°, Azm350.0000°; P -7.8060, Plg59.0000°, Azm114.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***28*** *09:12:26.6±0.2, 1198S×16658E, mb4.8/20 Error ellipse: s-maj=8.6km s-min=6.1km az=148.0*
MOS ***28*** *09:12:27.9±0.9, 1198S×16648E, h122km, mb4.6/20, Error ellipse: s-maj=11.4km s-min=10.6km az=161.2*
BJI ***28*** *09:12:31.4, 1140S×16570E, h96km, mB4.9, mb4.7*
ISC 28 09:12:26.9±0.3, 1202S±005×16657E±004, h97km, h97km±1.3km:pP-P, n151, σ1§03/101, mb4.6/49, 1C, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
HNR	**Honiara**	**7.00**	**291**	*e*Pn		**Pn**		**09 14 08.5**	**+1.6**
262nm,0.6s									
HNR	**Honiara**	**7.00**	**291**	P		**Pn**		**09 14 08.0**	**+1.1**
HNR				S		**Sn**		**09 15 24.8**	**-0.2**
HNR				pmax		pmax			
comp=Z,43nm,0.3s									
HNR				smax					
comp=N,69nm,0.3s									
HNR	**Honiara**	**7.00**	**291**	P		**Pn**		**09 14 08.0**	**+1.2**
comp=N,43nm,0.3s,baz=103,slow=3.2,SNR=9.1									
HNR				S		**Sn**		**09 15 24.8**	**-0.2**
comp=N,69nm,0.3s,baz=89,slow=18,SNR=7.4									
FUNA	**Funafuti**	**12.90**	**76**	Pn		**Pn**		**09 15 26.9**	**+0.3**
EIDS	**Eidsvold**	**19.76**	**226**	*e*P		**Pn**		**09 16 50.3**	**-1.4**
comp=N,52nm,0.8s									
CTA	**Charters Tower**	**21.09**	**245**	*e*P		**P**		**09 17 04.8**	**+1.1**
comp=N,28nm,0.6s,mb4.8									
CTA				*e*S		**S**		**09 20 53.9**	**+0.7**
CTA	**Charters Tower**	**21.09**	**245**	*e*P		**P**		**09 17 04.8**	**+1.1**
CTA				*e*S		**S**		**09 20 53.9**	**+0.7**
CTA				pmax		pmax			
comp=Z,28nm,0.6s									
CTA	**Charters Tower**	**21.09**	**245**	P		**P**		**09 17 04.8**	**+1.1**
comp=Z,32nm,0.6s,mb4.8,baz=74,slow=11,SNR=81									
CTAO	**Charters Tower**	**21.09**	**245**	*e*P		**P**		**09 17 04.9**	**+1.2**
comp=Z,32nm,0.7s,mb4.8									
CTAO	**Charters Tower**	**21.09**	**245**	*e*P		**P**		**09 17 04.9**	**+1.2**
CTAO				pmax		pmax			
comp=Z,32nm,0.7s,mb4.8									
AFI	**Afiamalu**	**21.18**	**97**	*e*P		**P**		**09 17 05.7**	**+1.0**
comp=Z,44nm,0.9s,mb4.8									
AFI	**Afiamalu**	**21.18**	**97**	*e*P		**P**		**09 17 05.7**	**+1.0**
AFI				pmax		pmax			
comp=Z,44nm,0.9s,mb4.8									
RAO	**Raoul Island**	**22.42**	**142**	LR		LR		09 25 00.8	
comp=Z,346nm,19.3s,baz=331,slow=34									
COEN	**Coen**	**22.88**	**263**	*e*P		**P**		**09 17 22.2**	**-0.4**
comp=Z,4.3nm,0.8s,mb3.8									
ARMA	**Armidale**	**22.96**	**215**	*e*P		**P**		**09 17 24.7**	**+1.6**
ARMA				*e*pP				09 17 47.1	
URZ	**Urewera**	**27.77**	**162**	P		**P**		**09 18 06.4**	**-0.2**
comp=Z,6.4nm,0.6s,mb4.3,baz=307,slow=9.1,SNR=12									
URZ				LR		LR		09 27 14.6	
comp=Z,353nm,19.5s,baz=331,slow=32									
SNZO	**South Karori**	**30.04**	**168**	*e*P		**P**		**09 18 28.0**	**+1.4**
comp=Z,54nm,1.0s,mb5.1									
STKA	**Stephens Creek**	**30.32**	**225**	*e*P		**P**		**09 18 30.5**	**+1.2**
comp=Z,7.2nm,0.8s,mb4.3									
STKA	**Stephens Creek**	**30.32**	**225**	P		**P**		**09 18 30.0**	**+0.7**
comp=Z,7.6nm,0.7s,mb4.5,baz=33,slow=7.8,SNR=12									
STKA				pP		pP		09 18 51.2	0.0
comp=Z,5.2nm,0.6s,baz=28,slow=9.5,SNR=3.3									
STKA				PcP		PcP		09 21 26.5	-0.9
comp=Z,5.3nm,0.9s,baz=63,slow=6.8,SNR=3.1									
STKA				LR		LR		09 30 41.5	
comp=Z,473nm,19.2s,baz=47,slow=36									
RPZ	**Rata Peaks**	**31.82**	**174**	P		**P**		**09 18 42.0**	**-0.3**
comp=Z,24nm,0.6s,mb5.1,baz=43,slow=1.7,SNR=21									
WB2	**Warramunga Arr**	**31.92**	**252**	*e*P		**P**		**09 18 42.3**	**-1.2**
WB2				*e*pP		pP		09 19 07.1	+1.6
WRAB	**Tennant Creek**	**31.92**	**252**	*e*P		**P**		**09 18 42.8**	**-0.7**
comp=Z,11nm,0.9s,mb4.6									
WRAB				*e*pP		pP		09 19 07.2	+1.8
WRAB	**Tennant Creek**	**31.92**	**252**	*e*P		**P**		**09 18 42.8**	**-0.7**
WRAB				*e**PP		pP		09 19 07.2	+1.7
WRAB				pmax		pmax			
comp=Z,11nm,0.9s,mb4.6									
WRA	**Warramunga Arr**	**31.93**	**252**	P		**P**		**09 18 42.8**	**-0.8**
WRA				*PP		pP		09 19 06.0	+0.4
WRA								09 21 30.7	
WRA				pmax		pmax			
comp=Z,5.0nm,0.6s									
WRA				pmax		pmax			
comp=Z,10.0nm,0.8s									
WRA				pmax		pmax			
comp=Z,2.0nm,0.7s									
WRA				pmax		pmax			
comp=N,1.0nm,0.7s									
WRA				MLR		MLR			
comp=Z,243nm,19.4s									
WRA	**Warramunga Arr**	**31.93**	**252**	P		**P**		**09 18 42.8**	**-0.8**
comp=Z,4.6nm,0.6s,mb4.4,baz=84,slow=8.8,SNR=55									
WRA				pP		pP		09 19 06.0	+0.4
comp=Z,9.7nm,0.8s,baz=83,slow=9.0,SNR=13									
WRA				PcP		PcP		09 21 30.7	-1.3
comp=Z,2.2nm,0.7s,baz=83,slow=3.0,SNR=7.7									
WRA				ScP		ScP		09 25 07.5	+0.7
comp=Z,1.0nm,0.7s,baz=82,slow=3.7,SNR=7.1									
WRA				LR		LR		09 31 11.6	
comp=Z,243nm,19.4s,baz=80,slow=35									
ASAR	**Alice Springs**	**33.10**	**245**	P		**P**		**09 18 52.9**	**-0.9**
ASAR				*PP		pP		09 19 16.1	+0.3
ASAR								09 21 34.1	
ASAR				pmax		pmax			
comp=Z,20nm,0.6s									
ASAR				pmax		pmax			
comp=Z,8.0nm,0.7s									
ASAR				pmax		pmax			
comp=Z,2.0nm,0.7s									
ASAR				pmax		pmax			
comp=N,2.0nm,0.8s									
ASAR	**Alice Springs**	**33.10**	**245**	P		**P**		**09 18 52.9**	**-1.0**
comp=N,20nm,0.6s,mb5.1,baz=69,slow=9.6,SNR=324									
ASAR				pP		pP		09 19 16.1	+0.2
comp=N,7.6nm,0.7s,baz=66,slow=9.7,SNR=4.8									
ASAR				PcP		PcP		09 21 34.0	-1.1
comp=N,2.1nm,0.7s,baz=68,slow=2.3,SNR=6.5									
ASAR				ScP		ScP		09 25 11.5	+0.8
comp=N,2.2nm,0.8s,baz=88,slow=3.3,SNR=12									
GUMO	**Guam**	**33.33**	**319**	LR		LR		09 30 40.6	
comp=N,276nm,21.8s,baz=245,slow=33									
KAKA	**Kakadu**	**33.34**	**265**	*e*P		**P**		**09 18 55.6**	**-0.3**
comp=N,20nm,0.6s,mb5.1									
RAR	**Rarotonga**	**33.46**	**110**	LR		LR		09 29 06.1	
comp=N,634nm,20.6s,baz=280,slow=30									
FITZ	**Fitzroy Crossi**	**39.93**	**256**	*e*P		**P**		**09 19 51.8**	**-0.1**
comp=N,16nm,0.6s,mb5.0									
FITZ				*e*pP		pP		09 20 16.1	+1.7
FITZ	**Fitzroy Crossi**	**39.93**	**256**	P		**P**		**09 19 51.8**	**-0.1**
comp=N,8.4nm,0.7s,mb4.7,baz=105,slow=7.0,SNR=29									
FITZ				pP		pP		09 20 15.8	+1.4
comp=N,6.5nm,0.8s,baz=117,slow=7.7,SNR=5.2									
FITZ				LR		LR		09 36 23.8	
comp=N,216nm,18.3s,baz=83,slow=36									
FORT	**Forrest**	**40.16**	**236**	*e*P		**P**		**09 19 54.2**	**+0.5**
comp=N,40nm,0.6s,mb5.4									
BATI	**Kupang**	**42.12**	**268**	P		**P**		**09 20 09.8**	**-0.1**
comp=N,65nm,0.5s,mb5.6,baz=167,slow=3.6,SNR=13									
BATI				LR		LR		09 37 32.6	
comp=N,392nm,18.5s,baz=100,slow=36									
PPT	**Papeete**	**42.68**	**103**	*e*LQ				09 30 23.1	
comp=N,1μm,34.0s									
PPT				*e*LR		LR		09 32 26.5	
comp=N,2μm,31.0s									
PPT	**Papeete**	**42.68**	**103**	LR		LR		09 34 10.5	
comp=N,298nm,20.8s,baz=276,slow=31									
TBI	**Tubuai**	**43.22**	**111**	*e*LQ				09 30 44.3	
comp=N,698nm,34.0s									
TBI				*e*LR		LR		09 32 34.2	
comp=N,1μm,31.8s									
CBIJ	**Chichi jima**	**45.52**	**329**	LR		LR		09 38 23.6	
comp=N,143nm,19.4s,baz=130,slow=34									
MBWA	**Marble Bar**	**45.66**	**252**	*e*P		**P**		**09 20 38.8**	**+0.6**
comp=N,19nm,0.8s,mb4.9									
MBWA				*e*pP		pP		09 21 03.4	+2.1
KLBR	**Kellerberrin**	**48.88**	**238**	*e*P		**P**		**09 21 02.7**	**-0.4**
comp=N,6.1nm,0.5s,mb4.8									
NWAO	**Narrogin (SRO)**	**49.60**	**237**	P		**P**		**09 21 08.5**	**-0.1**
NWAO				*PP		pP		09 21 32.2	+0.3
NWAO				pmax		pmax			
comp=Z,6.0nm,0.7s									
NWAO				pmax		pmax			
comp=Z,6.0nm,0.7s									
NWAO				MLR		MLR			
comp=Z,425nm,21.1s									
NWAO	**Narrogin (SRO)**	**49.60**	**237**	P		**P**		**09 21 08.4**	**-0.1**
comp=Z,6.0nm,0.7s,mb4.6,baz=70,slow=6.3,SNR=4.8									
NWAO				pP		pP		09 21 32.1	+0.3
comp=Z,6.3nm,0.7s,baz=88,slow=12,SNR=2.7									
NWAO				LR		LR		09 42 51.7	
comp=Z,425nm,21.1s,baz=57,slow=37									
TAOE	**Nuku Hiva Isla**	**52.43**	**92**	*e*LR		LR		09 36 44.7	
comp=Z,15μm,30.1s									
MJAR	**Matsushiro Arr**	**55.20**	**332**	P		**P**		**09 21 48.3**	**-1.5**
MJAR				pP		pP		09 22 10.6	-2.9
MJAR				LR		LR		09 44 03.9	
MJAR	**Matsushiro Arr**	**55.20**	**332**	P		**P**		**09 21 48.3**	**-1.5**
comp=Z,1.2nm,0.7s,mb4.0,baz=159,slow=7.9,SNR=4.2									
MJAR				pP		pP		09 22 10.6	-2.9
comp=Z,2.0nm,0.7s,baz=159,slow=8.3,SNR=4.4									
MJAR				LR		LR		09 44 03.9	
comp=Z,98nm,19.4s,baz=190,slow=34									
RKT	**Rikitea**	**56.49**	**110**	*e*LR		LR		09 38 43.6	
comp=Z,906nm,31.5s									
ASAJ	**Asahikawa**	**59.98**	**340**	P		**P**		**09 22 22.5**	**-0.6**
ASAJ				pmax		pmax			
comp=Z,5.0nm,0.6s									
ASAJ	**Asahikawa**	**59.98**	**340**	P		**P**		**09 22 22.5**	**-0.6**
comp=Z,4.9nm,0.6s,mb4.7,baz=152,slow=15,SNR=4.4									
SSE	**Sheshan**	**61.11**	**316**	P		**P**		**09 22 28.5**	**-2.6**
SSE				S		**S**		**09 30 43.0**	**+0.1**
SSE				AMB		AMB			
comp=Z,24nm,0.6s,mb5.4									
SSE				AMB		AMB

comp=Z,1.4nm,0.8s,baz=140,slow=7.9,SNR=2.9
YSS Yuzh-Sakhalins 62.46 342 *e*P **P 09 22 39.7 -0.1**
YSS pmax pmax
comp=Z,10.0nm,1.0s,mb4.8
VNDA Vanda 65.54 181 *e*P **P 09 22 59.0 -0.5**
comp=Z,3.7nm,0.8s,mb4.3
VNDA *e*pP pP 09 23 23.3 -0.7
VNDA Vanda 65.54 181 P **P 09 22 59.1 -0.5**
VNDA pmax pmax
comp=Z,2.0nm,0.5s
VNDA Vanda 65.54 181 P **P 09 22 59.1 -0.5**
comp=Z,2.3nm,0.5s,mb4.2,baz=347,slow=6.7,SNR=17
MDJ Mudanjiang 65.58 332 P **P 09 23 02.3 +2.0**
MDJ AP pP 09 23 25.0 +0.3
MDJ XP sP 09 23 35.0 -0.4
MDJ AMB AMB
comp=Z,4.0nm,0.7s,mb4.4
MDJ AMB AMB
comp=Z,93nm,4.1s
SBA Scott Base 65.83 180 *e*P **P 09 23 02.0 +0.5**
comp=Z,16nm,1.0s,mb4.8
SBA Scott Base 65.83 180 *e*P **P 09 23 02.0 +0.5**
SBA pmax pmax
comp=Z,15nm,1.0s,mb4.8
CN2 Changchun 66.99 329 *e*P **P 09 23 12.8 +3.5**
CN2 *e*AP pP 09 23 37.5 +3.7
CN2 *e*S S 09 31 58.3 +3.2
CN2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.8
PSI Prapat 68.80 278 pP pP 09 23 43.5 -2.5
comp=Z,3.2nm,0.5s,baz=180,slow=2.9,SNR=3.4
GYA Guiyang 69.63 304 P **P 09 23 26.8 +0.6**
GYA PCP PcP 09 23 50.8 +2.2
GYA XP sP 09 24 03.5 +2.1
GYA PP PP 09 26 05.5 +4.0
GYA SCP 09 27 44.3
GYA PCS 09 27 54.8
GYA S S 09 32 28.3 +1.1
GYA AMB AMB
comp=Z,10.0nm,1.0s,mb4.6
GYA AMB AMB
comp=Z,90nm,6.6s
GYA LR LR
comp=N,450nm,20.7s
GYA LR LR
comp=E,480nm,20.8s
GYA LR LR
comp=Z,440nm,19.6s
BJI Beijing 69.75 321 P **P 09 23 28.0 +1.4**
BJI PP PP 09 25 59.5 -2.7
BJI AMB AMB
comp=Z,4.0nm,0.7s,mb4.4
BJI AMB AMB
comp=Z,112nm,5.3s
BJI LR LR
comp=N,112nm,14.8s
BJI LR LR
comp=E,135nm,10.6s
BJI LR LR
comp=Z,233nm,37.2s
KMI Kunming 72.32 301 P **P 09 23 44.0 +1.5**
KMI AP pP 09 24 07.5 +0.2
KMI XP sP 09 24 19.5 +1.7
KMI PP PP 09 26 28.5 +3.9
KMI S S 09 33 00.5 +2.2
KMI SSS 09 40 51.5
KMI AMB AMB
comp=Z,13nm,1.1s,mb4.7
KMI AMB AMB
comp=Z,42nm,3.9s
KMI LR LR
comp=N,106nm,13.3s
KMI LR LR
comp=E,127nm,16.7s
KMI LR LR
comp=Z,103nm,38.9s
HHC Hu-ho-hao-te 73.09 319 *e*P **P 09 23 49.0 +2.3**
HHC AP pP 09 24 13.8 +2.2
HHC XP sP 09 24 24.5 +2.4
HHC PP PP 09 26 35.5 +4.6
HHC S S 09 32 59.0 -7.5
HHC SKS 09 33 41.5
HHC XS sS 09 33 48.5 -0.6
HHC AMB AMB
comp=Z,19nm,0.3s,mb5.4
HHC AMB AMB
comp=Z,100nm,4.1s
HHC LR LR
comp=N,148nm,12.8s
HHC LR LR
comp=E,230nm,31.9s
HHC LR LR
comp=Z,287nm,27.5s
CM31 Chiang Mai Arr 73.24 294 *e*P **P 09 23 49.0 +0.9**
comp=Z,2.6nm,0.6s,mb4.2
CM31 *e*pP pP 09 24 12.9 0.0
CHTO Chiang Mai 73.36 294 *e*pP pP 09 24 13.2 -0.4
comp=Z,6.0nm,0.9s
HIA Hailar 73.61 330 *e*P **P 09 23 50.2 +0.6**
CD2 Chengdu 73.83 307 *e*P **P 09 23 52.8 +1.5**
CD2 AP pP 09 24 17.8 +1.6
CD2 XP sP 09 24 28.5 +1.8
CD2 PP PP 09 26 41.0 +3.6
CD2 S S 09 33 15.8 +0.5
CD2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.6
CD2 AMB AMB
comp=Z,30nm,9.2s
CD2 LR LR
comp=N,130nm,16.8s
CD2 LR LR
comp=Z,150nm,17.2s
SEY Seymchan 75.53 353 *e*P **P 09 24 00.0 -0.3**
LZH Lanzhou 76.01 312 *e*P **P 09 24 05.3 +1.6**
LZH AP pP 09 24 28.5 -0.2
LZH XP sP 09 24 40.8 +1.6
LZH AMB AMB
comp=Z,10.0nm,1.0s,mb4.5
KDAK Kodiak Island 77.19 21 P **P 09 24 10.0 +0.2**
comp=Z,3.7nm,0.8s,mb4.2,baz=143,slow=20,SNR=4.2
QSPA South Pole Qui 77.99 180 P **P 09 24 13.5 -0.6**
comp=Z,6.4nm,0.6s,mb4.5,baz=24,slow=1.2,SNR=43
ULN Ulaanbaatar 79.56 324 *e*P **P 09 24 23.0 -0.1**
ULN *e*pP pP 09 24 47.1 -1.2
BILL Bilibino 79.85 360 *e*P **P 09 24 23.0 -1.2**
BILL pmax pmax
comp=Z,8.0nm,1.9s,mb4.2
SONM Songino Array 79.93 324 P **P 09 24 24.0 -1.1**
SONM pmax pmax
comp=Z,1.0nm,0.7s
SONM Songino Array 79.93 324 P **P 09 24 24.0 -1.1**
comp=Z,1.4nm,0.7s,mb3.9,baz=138,slow=6.1,SNR=4.8
TTA Tatalina 80.12 16 *e*P **P 09 24 25.9 +0.1**
PMR Palmer 81.19 20 *e*P **P 09 24 29.3 -2.2**
comp=Z,15nm,1.4s,mb4.6
PMR Palmer 81.19 20 *e*P **P 09 24 29.3 -2.2**
PMR pmax pmax
comp=Z,15nm,1.4s,mb4.6
TLY Talaya 83.38 326 *e*P **P 09 24 43.0 -0.2**
TLY pmax pmax
comp=Z,5.0nm,0.8s,mb4.4
COLA College 83.96 18 *e*P **P 09 24 44.2 -1.6**
MAW Mawson 84.13 202 P **P 09 24 45.8 -1.0**
comp=Z,1.7nm,0.5s,mb4.1,baz=111,slow=11,SNR=5.1
MAW LR LR 09 54 59.6
comp=Z,126nm,20.5s,baz=249,slow=30
MTUM Tungsten Hills 85.49 50 *e*P **P 09 24 54.8 +0.6**
EGAK Eagle 86.01 20 *e*P **P 09 24 55.9 -0.2**
comp=Z,9.4nm,0.6s,mb4.9
NVAR Mina Array Bea 86.03 50 P **P 09 24 56.8 0.0**
comp=Z,2.2nm,0.7s,mb4.2,baz=240,slow=10,SNR=21
NVAR pP pP 09 25 22.8 +0.4
comp=Z,1.9nm,0.8s,baz=225,slow=6.3,SNR=5.1
DAWY Dawson 86.17 21 *e*P **P 09 24 57.5 +0.6**
DLBC Dease Lake 86.88 28 P **P 09 24 59.8 -0.7**
baz=169,slow=5.2
GLA Glamis 87.13 56 *e*P **P 09 25 03.5 +1.1**
GLA *e*pP pP 09 25 29.0 +1.0
TIXI Tiksi 87.20 349 *e*P **P 09 25 03.7 +1.9**
comp=Z,30nm,2.6s,mb4.8
TIXI Tiksi 87.20 349 *e*P **P 09 25 00.4 -1.4**
TIXI pmax pmax
comp=Z,2.0nm,0.8s,mb4.1
MDRS Chennai 89.16 283 *e*x x 09 25 58.5
MDRS *e*x x 09 27 23.5
MDRS *e*x x 09 36 23.5
MDRS *e*x x 09 44 58.5
MDRS *e*x x 09 46 28.5
MDRS *e*x x 09 48 03.5
MDRS *e*x x 09 52 01.5
WMQ Urumqi 90.35 315 *e*P **P 09 25 18.0 +0.7**
INK Inuvik 90.56 19 P **P 09 25 16.7 -0.9**
INK pmax pmax
comp=Z,1.0nm,0.8s
INK Inuvik 90.56 19 P **P 09 25 16.6 -1.0**
comp=Z,0.8nm,0.8s,mb3.9,baz=231,slow=9.8,SNR=3.8
MSU Marysvale 90.66 51 *e*P **P 09 25 20.1 +1.2**
MSU *e*pP pP 09 25 45.8 +1.2
HVU Hansel Valley 91.06 48 *e*P **P 09 25 21.2 +0.6**
HVU *e*pP pP 09 25 47.1 +0.7
SYO Syowa Base 91.09 197⇑ *e*X 09 25 17.3
DLMT Dillon 92.11 44 *e*P **P 09 25 26.3 +0.9**
DLMT *e*pP pP 09 25 52.3 +1.2
MK31 Makanchi Array 94.78 317 *e*P **P 09 25 37.4 -0.3**
MK31 *e*pP pP 09 26 01.3 -2.1
MKAR Makanchi Array 94.78 317 P **P 09 25 37.3 -0.3**
MKAR pmax pmax
comp=Z,3.0nm,0.5s
MKAR pmax pmax
comp=Z,4.0nm,0.7s
MKAR Makanchi Array 94.78 317 P **P 09 25 37.2 -0.4**
comp=Z,3.0nm,0.5s,mb5.0,baz=92,slow=5.9,SNR=20
MKAR pP pP 09 26 01.3 -2.1
comp=Z,3.9nm,0.7s,baz=100,slow=6.3,SNR=8.1
ZALV Zalesovo Beam 94.82 324 P **P 09 25 36.7 -0.9**
comp=Z,0.8nm,0.3s,mb4.6,baz=108,slow=41,SNR=2.2
ZAL Zalesovo 94.83 324 P **P 09 25 36.7 -1.0**
ZAL pmax pmax
comp=Z,1.0nm,0.3s
YKA Yellowknife Ar 95.46 27 P **P 09 25 38.0 -2.4**
YKA pP pP 09 26 04.5 -1.6
YKA LR LR 10 04 04.2
YKA Yellowknife Ar 95.46 27 P **P 09 25 38.0 -2.4**
comp=Z,1.9nm,0.5s,mb4.8,baz=258,slow=4.7,SNR=78
YKA pP pP 09 26 04.5 -1.6
comp=Z,0.3nm,0.6s,baz=259,slow=4.6,SNR=2.6
YKA LR LR 10 04 04.3
comp=Z,44nm,20.1s,baz=115,slow=32
TXAR Lajitas Array 95.58 61 P **P 09 25 41.7 0.0**
TXAR pP pP 09 26 06.6 -0.9
TXAR LR LR 09 59 03.2
TXAR Lajitas Array 95.58 61 P **P 09 25 41.7 0.0**
comp=Z,0.5nm,0.8s,mb4.0,baz=226,slow=5.9,SNR=6.4
TXAR pP pP 09 26 06.6 -0.9
comp=Z,0.3nm,0.7s,baz=224,slow=7.1,SNR=3.2
TXAR LR LR 09 59 03.2
comp=Z,147nm,21.2s,baz=5.0,slow=29
SNAA Sanae 96.20 183 P **P 09 25 41.6 -2.1**
SNAA pmax pmax
comp=Z,1.0nm,0.6s
SNAA Sanae 96.20 183 P **P 09 25 41.6 -2.1**
comp=Z,0.9nm,0.6s,mb4.4,baz=187,slow=4.1,SNR=12
ARCES ARCESS Array B 117.47 346 PKIKP PKPdf 09 30 59.5 -1.2
ARCES pmax pmax
comp=Z,4.0nm,0.9s
ARCES ARCESS Array B 117.47 346 PKP PKPdf 09 30 59.5 -1.2
comp=Z,4.2nm,0.9s,baz=71,slow=1.7,SNR=12
FINES FINESS Array B 122.97 339 PKP PKPdf 09 31 09.8 -1.7
FINES FINESS Array B 122.97 339 PKIKP PKPdf 09 31 09.8 -1.7
FINES pmax pmax
comp=Z,1.0nm,0.6s
FINES FINESS Array B 122.97 339 PKP PKPdf 09 31 09.8 -1.7
comp=Z,1.2nm,0.6s,baz=48,slow=2.8,SNR=7.3
BOSA Boshof 124.95 222 PKIKP PKPdf 09 31 15.6 -0.8
BOSA pmax pmax
comp=Z,4.0nm,1.0s
BOSA Boshof 124.95 222 PKP PKPdf 09 31 15.6 -0.8
comp=Z,4.4nm,1.0s,baz=107,slow=21,SNR=3.8
SIV San Ignacio 125.26 119 PKP PKPdf 09 31 15.6 -1.7
comp=Z,0.3nm,0.5s,baz=242,slow=9.9,SNR=4.2
NOA NORSAR Array B 127.85 345 PKIKP PKPdf 09 31 19.0 -1.9
NOA pmax pmax
comp=Z,1.0nm,0.7s
NOA NORSAR Array B 127.85 345 PKP PKPdf 09 31 19.0 -1.9
comp=Z,0.7nm,0.7s,baz=26,slow=1.9,SNR=3.4
GERES GERESS Array B 136.93 334 PKP PKPdf 09 31 37.6 -0.8
comp=Z,0.3nm,0.4s,baz=104,slow=0.6,SNR=3.9
GERES pPKP pPKPdf 09 32 04.9 -0.3
comp=Z,0.2nm,0.4s,baz=108,slow=3.1,SNR=2.4
BAIF Baives 139.39 343 *e*PKP1 PKPdf 09 31 41.0 -1.8
CDF Champ du Feu 139.82 339 *e*PKP1 PKPdf 09 31 41.4 -2.3
HINF Hinteralfeld 140.48 338 *e*PKP1 PKPdf 09 31 43.3 -1.6
MEZF Maizieres J'vi 140.50 341 *e*PKP1 PKPdf 09 31 42.9 -2.0
CABF La Chapelle 141.78 338 *e*PKP1 PKPdf 09 31 45.0 -2.3
LOR Lormes 141.97 341 *e*PKP1 PKPdf 09 31 45.6 -2.0
LOR *e*MLR MLR
comp=Z,36nm,19.0s
SSF Saint Saulge 142.27 341 *e*PKP1 PKPdf 09 31 45.9 -2.2
AVF Avril sur Loir 142.56 341 *e*PKP1 PKPdf 09 31 45.3 -3.3
ROSF Rostrenen 142.82 349 *e*PKP1 PKPdf 09 31 47.1 -1.9
MBDF Montbardon 143.09 336 *e*PKP1 PKPdf 09 31 48.1 -1.6
TCF Toulx Ste Croi 143.36 342 *e*PKP1 PKPdf 09 31 47.8 -2.3
SBF Sospel 143.53 334 *e*PKP1 PKPdf 09 31 48.0 -2.5
comp=Z,15nm,0.7s
MFF Saint Martin d 143.75 344 *e*PKP1 PKPdf 09 31 48.1 -2.6
comp=Z,5.8nm,0.6s
VIVF Saint-Julien-l 143.79 338 *e*PKP1 PKPdf 09 31 48.7 -2.2
PGF Pioggiola 143.87 331 *e*PKP1 PKPdf 09 31 47.9 -3.2
comp=Z,6.9nm,0.8s
FRF La Foret Royal 144.11 335 *e*PKP1 PKPdf 09 31 48.1 -3.4
comp=Z,5.6nm,0.5s
SMRF Simiane la Rot 144.20 336 *e*PKP1 PKPdf 09 31 48.9 -2.7
comp=Z,3.4nm,0.5s
LMR La Mourre 144.35 335 *e*PKP1 PKPdf 09 31 49.0 -2.9
comp=Z,13nm,0.6s
RJF Les Rejaudoux 144.46 342 *e*PKP1 PKPdf 09 31 49.4 -2.6
comp=Z,2.7nm,0.4s
RJF *e*MLR MLR
comp=Z,115nm,22.0s
CAF Calviac 144.63 341 *e*PKP1 PKPdf 09 31 49.7 -2.6
MTLF Montolieu 145.98 339 *e*PKP1 PKPbc 09 31 54.1 -1.5
comp=Z,5.5nm,0.6s
KEST Kesra 148.68 323 PKPbc PKPbc 09 32 02.7 -0.6
comp=Z,1.5nm,0.8s,baz=278,slow=4.8,SNR=4.4
KEST pPKPbc pPKPbc 09 32 28.3 -1.6
comp=Z,1.6nm,0.9s,baz=276,slow=9.9,SNR=2.8
MVO Moncorvo 150.43 350 *e*PKPbc PKPbc 09 32 09.6 +2.2
ESDC Sonseca Array 151.21 345 PKPbc PKPbc 09 32 08.4 -0.9
comp=Z,1.0nm,0.7s,baz=8.5,slow=3.8,SNR=4.5
ESDC PKPab PKPab 09 32 16.6 -0.7
comp=Z,0.5nm,0.4s,baz=10,slow=2.9,SNR=4.1
MTE Manteigas 151.26 351 *e*PKPbc PKPbc 09 32 09.9 +0.5
EVO Evora 153.16 351 *e*PKPbc PKPbc 09 32 16.7 +3.0
PTEO Sao Teotonio 154.24 351 *e*PKPbc PKPbc 09 32 15.2 -0.9
PBDV Barranco-do-Ve 154.40 350 *e*PKPab PKPab 09 32 31.4 +0.6
PFVI Vila Bisbo 154.66 351 *e*PKPbc PKPbc 09 32 17.3 +0.3
DBIC Dimbokro 170.01 239 PKP2 PKPab 09 33 39.3 -0.6
DBIC pmax pmax
comp=Z,3.0nm,0.8s
DBIC Dimbokro 170.01 239 PKPab PKPab 09 33 39.3 -0.6
comp=Z,3.1nm,0.8s,baz=138,slow=7.0,SNR=4.9

IDC 28 09:32:01.6±7.2, 580S×13020E, h0km, mb3.9/2, mb1 3.9/5, mb1mx3.7/14, mbtmp3.8/5, ML3.3/1, Error ellipse: s-maj=98.2km s-min=56.8km az=150.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**13.01**	**200**	Pn	Pn	09 35 08.5	+0.7
	0.1nm,0.3s,baz=27,slow=16,SNR=3.6						
WRA	**Warramunga Arr**	**14.62**	**164**	Pn	Pn	09 35 28.2	-1.6
	0.1nm,0.3s,baz=348,slow=13,SNR=10						
WRA				Sn	Sn	09 38 11.9	-0.8
	0.1nm,0.3s,baz=337,slow=22,SNR=4.0						
ASAR	**Alice Springs**	**18.12**	**169**	P	Pn	09 36 16.2	+1.4
	0.3nm,0.3s,baz=351,slow=10,SNR=33						
CTA	**Charters Tower**	**21.10**	**134**	P	P	09 36 47.6	-0.2
	1.1nm,0.6s,baz=320,slow=13,SNR=5.4						
STKA	**Stephens Creek**	**28.05**	**159**	P	P	09 37 54.5	-0.1
	1.4nm,0.5s,baz=331,slow=13,SNR=4.7						

*IDC **28** 09:38:07.6±1.2, 320S×14585E, h0km, mb4.3/12, mb1 4.5/13, mb1mx4.4/17, mbtmp4.3/13, ML4.2/1, MS3.8/15, Ms1 3.8/15, ms1mx3.6/25, Error ellipse: s-maj=36.5km s-min=15.0km az=93.0*
*ISCJB **28** 09:38:08.3±6.5, 328S±0.10×1459E±02, h17km±47km, mb4.3/13, MS3.8/12, Error ellipse: s-maj=27.7km s-min=16.4km az=176.0*
*BJI **28** 09:38:12.8, 330S×14580E, h35km, mb4.5, Ms4.4, Msz4.1*
*NEIC **28** 09:38:12.9±0.6, 329S×14584E, h35km, mb4.6/7, Error ellipse: s-maj=17.3km s-min=7.0km az=91.0*

ISC 28 09:38:10.9±6.5, 33S±01×1458E±02, h20km±47km, n30, σ1§04/24, mb4.3/13, MS3.8/11, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COEN	**Coen**	**10.91**	**194**	*e*Pn	**Pn**	**09 40 46.5**	**+0.5**
	5.6nm,0.6s						
HNR	**Honiara**	**15.31**	**114**	LR	LR	09 46 29.0	
	comp=Z,256nm,20.4s,baz=2.5,slow=33						
KAKA	**Kakadu**	**16.20**	**234**	*e*P	**Pn**	**09 41 58.8**	**+1.2**
	45nm,0.6s						
CTA	**Charters Tower**	**16.70**	**179**	*e*P	**Pn**	**09 42 05.0**	**+1.2**
	6.2nm,0.9s						
CTA	**Charters Tower**	**16.70**	**179**	Pn	**Pn**	**09 42 05.0**	**+1.1**
	0.5nm,0.3s,baz=1.1,slow=14,SNR=8.9						
CTA				LR	LR	09 47 35.5	
	comp=Z,142nm,20.1s,baz=5.0,slow=34						
CTAO	**Charters Tower**	**16.70**	**179**	*e*Pn	**Pn**	**09 42 05.0**	**+1.1**
	12nm,1.0s						
GUMO	**Guam**	**16.80**	**357**	LR	LR	09 46 34.0	
	comp=Z,168nm,21.6s,baz=105,slow=30						
WRAB	**Tennant Creek**	**19.96**	**213**	*e*P	**Pn**	**09 42 42.5**	**-1.2**
	44nm,0.8s						
WB2	**Warramunga Arr**	**19.97**	**213**	*e*P	**Pn**	**09 42 42.6**	**-1.3**
WRA	**Warramunga Arr**	**19.98**	**213**	P	**Pn**	**09 42 42.6**	**-1.4**
	50nm,1.0s,baz=38,slow=12,SNR=97						
WRA				LR	LR	09 50 33.9	
	comp=Z,190nm,19.1s,baz=35,slow=37						
BATI	**Kupang**	**23.03**	**252**	P	**P**	**09 43 15.1**	**0.0**
	24nm,0.5s,mb4.9,baz=102,slow=9.3,SNR=3.1						
ASAR	**Alice Springs**	**23.30**	**209**	P	**P**	**09 43 17.4**	**-0.3**
	17nm,0.9s,mb4.5,baz=45,slow=7.6,SNR=132						
FITZ	**Fitzroy Crossi**	**24.64**	**232**	*e*P	**P**	**09 43 30.7**	**+0.4**
	48nm,0.8s,mb5.1						
FITZ	**Fitzroy Crossi**	**24.64**	**232**	P	**P**	**09 43 30.7**	**+0.4**
	19nm,0.8s,mb4.7,baz=61,slow=11,SNR=45						
FITZ				LR	LR	09 53 56.6	
	comp=Z,275nm,19.9s,MS3.8,baz=54,slow=38						
STKA	**Stephens Creek**	**28.71**	**187**	*e*P	**P**	**09 44 10.8**	**+4.0**
	6.9nm,0.9s,mb4.4						
STKA	**Stephens Creek**	**28.71**	**187**	P	**P**	**09 44 08.8**	**+2.0**
	5.5nm,0.8s,mb4.3,baz=348,slow=9.3,SNR=7.8						
STKA				LR	LR	09 56 29.8	
	comp=Z,268nm,19.3s,MS3.9,baz=17,slow=38						
FORT	**Forrest**	**32.07**	**210**	*e*P	**P**	**09 44 35.6**	**-1.0**
	11nm,0.5s,mb5.0						
JOW	**Kunigami**	**34.41**	**332**	LR	LR	09 57 00.8	
	comp=Z,175nm,18.4s,MS3.8,baz=198,slow=33						
JNU	**Nakatsue**	**38.88**	**340**	LR	LR	09 58 43.6	
	comp=Z,89nm,20.3s,MS3.6,baz=160,slow=32						
NWAO	**Narrogin (SRO)**	**39.80**	**219**	LR	LR	10 02 57.8	
	comp=Z,272nm,18.1s,MS4.1,baz=132,slow=37						
MJAR	**Matsushiro Arr**	**40.26**	**351**	P	**P**	**09 45 46.3**	**-0.2**
	1.3nm,0.8s,mb3.7,baz=132,slow=7.2,SNR=3.4						
KSRS	**Korea Array**	**43.82**	**339**	P	**P**	**09 46 13.9**	**-1.6**
	0.8nm,0.6s,mb3.6,baz=149,slow=8.5,SNR=3.8						
KSRS				LR	LR	10 02 15.6	
	comp=Z,71nm,18.1s,MS3.6,baz=360,slow=33						
URZ	**Urewera**	**45.02**	**145**	LR	LR	10 02 06.2	
	comp=Z,178nm,21.2s,MS4.0,baz=353,slow=32						
PSI	**Prapat**	**47.26**	**277**	P	**P**	**09 46 44.5**	**+1.3**
	1.5nm,0.3s,mb4.4,baz=169,slow=5.3,SNR=4.0						
GTA	**Gaotai**	**59.92**	**320**	*e*P	**P**	**09 48 17.5**	**+1.8**
GTA				AMB	AMB		
	comp=Z,4.0nm,1.0s,mb4.4						
SONM	**Songino Array**	**61.48**	**331**	P	**P**	**09 48 25.7**	**-0.5**
	comp=Z,1.0nm,0.8s,mb4.0,baz=123,slow=10,SNR=4.2						
SONM				LR	LR	10 14 59.9	
	comp=Z,119nm,18.6s,MS4.1,baz=107,slow=36						
VNDA	**Vanda**	**74.67**	**176**	P	**P**	**09 49 48.4**	**-0.1**
	comp=Z,1.1nm,0.9s,mb3.8,baz=339,slow=5.3,SNR=5.1						
VNDA				LR	LR	10 20 11.1	
	comp=Z,60nm,19.5s,MS3.9,baz=162,slow=34						
MK31	**Makanchi Array**	**74.67**	**320**	*e*P	**P**	**09 49 50.2**	**+1.2**
MKAR	**Makanchi Array**	**74.67**	**320**	P	**P**	**09 49 49.1**	**0.0**
	comp=Z,1.3nm,0.8s,mb3.9,baz=108,slow=7.8,SNR=9.8						
MKAR				LR	LR	10 21 21.9	
	comp=Z,33nm,18.1s,MS3.7,baz=176,slow=35						
ZALV	**Zalesovo Beam**	**76.11**	**328**	P	**P**	**09 49 56.1**	**-1.0**
	comp=Z,0.8nm,0.3s,mb4.1,baz=125,slow=14,SNR=2.9						
ZALV				LR	LR	10 21 56.0	
	comp=Z,60nm,20.8s,MS3.9,baz=85,slow=35						

*ISCJB **28** 09:39:16.8±4.1, 166N±0.1×1473E±03, h63km±36km, mb3.6/6, Error ellipse: s-maj=47.6km s-min=21.6km az=6.1*
*IDC **28** 09:39:18.1±5.3, 1656N×14730E, h59km±47km, mb3.3/6, mb1 3.6/7, mb1mx3.4/19, mbtmp3.4/7, ML4.0/1, Error ellipse: s-maj=47.2km s-min=20.4km az=90.0*

ISC 28 09:39:17.9±3.9, 166N±01×1473E±03, h57km±35km, n7, σ1§04/8, mb3.6/6, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**3.79**	**219**	P	**Pn**	**09 40 13.4**	**-0.4**
	11nm,0.3s,baz=229,slow=22,SNR=6.7						
GUMO				S	**Sn**	**09 40 57.6**	**+0.3**
	8.9nm,0.3s,baz=194,slow=18,SNR=3.0						
MJAR	**Matsushiro Arr**	**21.50**	**340**	P	**P**	**09 44 02.6**	**+0.7**
	1.6nm,0.5s,mb3.6,baz=164,slow=9.0,SNR=6.7						
KSRS	**Korea Array**	**26.97**	**324**	P	**P**	**09 44 54.0**	**-0.1**
	0.5nm,0.4s,mb3.4,baz=150,slow=9.6,SNR=3.8						
WRA	**Warramunga Arr**	**38.45**	**200**	P	**P**	**09 46 34.2**	**0.0**
	0.4nm,0.7s,mb3.3,baz=23,slow=9.1,SNR=2.9						
SONM	**Songino Array**	**45.79**	**322**	P	**P**	**09 47 32.1**	**-1.7**
	0.5nm,0.4s,mb3.8,baz=125,slow=7.5,SNR=3.6						
MKAR	**Makanchi Array**	**61.08**	**315**	P	**P**	**09 49 26.8**	**+0.9**
	0.5nm,0.4s,mb4.0,baz=91,slow=7.6,SNR=4.1						
YKA	**Yellowknife Ar**	**79.14**	**28**	P	**P**	**09 51 16.3**	**+0.2**
	0.2nm,0.5s,mb3.3,baz=281,slow=5.5,SNR=5.9						

NEIC 28 09:49:11.9, 3791S×17676E, h5km, ML3.8(WEL), 4C-1D, After WEL., North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARZ	**Manawahe**	**0.10**	**221**	P	Pg	09 49 14.5	+0.4
MARZ				S	Sg	09 49 16.7	+1.2
EDRZ	**Edgecumbe**	**0.20**	**185**	⇑P	Pg	09 49 16.3	+0.5
LIRZ	**Lichensteins R**	**0.31**	**252**	P	Pg	09 49 18.5	+0.6
MKRZ	**Makatiti**	**0.33**	**225**	P	Pg	09 49 19.1	+0.9
TAZ	**Tarawera**	**0.38**	**212**	P	Pg	09 49 20.1	+0.9
KARZ	**Kaharoa**	**0.42**	**255**	⇓P	Pg	09 49 20.6	+0.5
TGRZ	**Tauranga**	**0.43**	**294**	⇑P	Pg	09 49 20.6	+0.3
URZ	**Urewera**	**0.45**	**142**⇑	*e*P	Pg	09 49 20.6	+0.1
WIZ	**White Island**	**0.51**	**42**	P	Pg	09 49 22.2	+0.5
UTU	**Utuhina**	**0.52**	**239**	P	Pg	09 49 22.6	+0.7
MWZ	**Matawai**	**0.74**	**125**	⇑P	Pg	09 49 26.0	-0.1
TOZ	**Tahuroa Road**	**1.01**	**280**	P	Pg	09 49 30.7	-0.6
PUZ	**Puketiti**	**1.19**	**98**	*e*P	Pg	09 49 34.4	-0.4

IDC 28 09:55:52.0±2.0, 741S×15606E, h0km, mb3.6/4, mb1 3.7/4, mb1mx3.5/14, mbtmp3.6/4, Error ellipse: s-maj=56.7km s-min=40.3km az=103.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.47**	**237**	P	P	10 01 14.0	+1.1
	0.8nm,0.5s,baz=62,slow=9.6,SNR=14						
ASAR	**Alice Springs**	**26.71**	**230**	P	P	10 01 32.5	-0.7
	0.3nm,0.7s,baz=57,slow=10,SNR=3.7						
QSPA	**South Pole Qui**	**82.57**	**180**	P	P	10 08 16.8	+0.3
	1.1nm,0.9s,baz=51,slow=6.0,SNR=5.8						
MKAR	**Makanchi Array**	**84.41**	**318**	P	P	10 08 26.5	0.0
	0.5nm,0.4s,baz=101,slow=6.4,SNR=8.7						

MAN 28 10:01:15, 1149N×12531E, h48km, mb3.5, ML2.2, MS1.7, Samar

*ISK **28** 10:25:05.9, 3946N×4046E, h5km, MD2.9*
*CSEM **28** 10:25:06.3±0.1, 3940N×4044E, h2km, MD2.9, Error ellipse: s-maj=3.4km s-min=1.7km az=125.0*
*ISCJB **28** 10:25:07.3±0.6, 3943N±003×4048E±005, h2km, Error*

ellipse: s-maj=5.8km s-min=4.1km az=26.3
*DDA **28** 10:25:08.9, 3944N×4051E, h7km±4km, Md2.8*

ISC 28 10:25:08.0±0.6, 3943N±003×4050E±005, h7km±15km, n9, σ1§00/15, 1D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BINT	**Bingol**	**0.55**	**181**	*e*PG	**Pg**	**10 25 17.7**	**-0.9**
BINT				*e*SG	**Sg**	**10 25 26.3**	**+0.6**
KOPT	**Kop Dagi**	**0.59**	**0**	*i* P	**Pg**	**10 25 19.8**	**+0.4**
KOPT				*i* S	**Sg**	**10 25 28.2**	**+1.1**
KOPT	**Kop Dagi**	**0.59**	**0**	*i* P	**Pg**	**10 25 19.8**	**+0.3**
KOPT				*i* S	**Sg**	**10 25 28.2**	**+1.0**
EZC	**Erzincan**	**0.62**	**302**	*e*PG	**Pg**	**10 25 23.4**	**+3.6**
BNGL	**BINGOL**	**0.69**	**133**	*e*P	**Pg**	**10 25 20.9**	**-0.5**
BNGL				*i* S	**Sg**	**10 25 32.3**	**+2.0**
EZM	**Erzurum**	**0.82**	**54**	*e*PG	**Pg**	**10 25 22.9**	**-1.0**
EZM				*e*SG	**Sg**	**10 25 34.0**	**-0.6**
ERZM	**Erzurum**	**0.83**	**54**	⇓*i* P	**Pg**	**10 25 23.4**	**-0.5**
PTK	**Pertek**	**1.01**	**239**	*e*PG	**Pg**	**10 25 25.8**	**-1.6**
PTK				*e*SG	**Sg**	**10 25 40.5**	**0.0**
ELZG	**Elazig**	**1.50**	**232**	*i* P	**Pn**	**10 25 35.8**	**+0.4**

*NEIC **28** 10:26:51.9, 1823N×6802W, h107km, MD3.5(RSPR), After RSPR.*

RSPR 28 10:26:51.9, 1823N×6802W, h107km, MD3.5/11, MD3.5/11, 10C-2D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IMO	**Isla Mona**	**0.15**	**138**⇓	*e*P	Pn	10 27 06.4	-0.4
IMO				*e*S	Sn	10 27 17.8	-0.2
LSP	**Las Mesas**	**0.89**	**93**⇑	*e*P	Pn	10 27 11.7	0.0
LSP				*e*S	Sn	10 27 26.5	-0.1
CRPR	**Cabo Rojo, PR**	**0.89**	**104**⇑	*e*P	Pn	10 27 11.3	-0.4
CRPR				*e*S	Sn	10 27 26.1	-0.6
AGPR	**Aguadilla, PR**	**0.89**	**74**⇑	*e*P	Pn	10 27 11.7	-0.1
AGPR				*e*S	Sn	10 27 26.5	-0.3
GBPR	**Guanica, Bosqu**	**1.11**	**103**⇑	*e*P	Pn	10 27 13.0	-1.1
GBPR	**Guanica, Bosqu**	**1.11**	**103**	*e*S	Sn	10 27 30.4	-0.4
LRS	**Lares**	**1.12**	**86**⇑	*e*P	Pn	10 27 14.1	0.0
LRS				*e*S	Sn	10 27 30.4	-0.5
AOPR	**Arecibo Observ**	**1.21**	**84**⇑	*e*P	Pn	10 27 14.7	-0.4
AOPR				*e*S	Sn	10 27 32.1	-0.6
CELP	**Cerrillos**	**1.38**	**96**⇑	*e*P	Pn	10 27 16.8	-0.2
CELP				*e*S	Sn	10 27 35.9	-0.2
ICM	**Isla Caja Muer**	**1.46**	**103**⇑	*e*P	Pn	10 27 17.5	-0.5
ICM				*e*S	Sn	10 27 37.3	-0.6
SJG	**San Juan**	**1.78**	**93**⇑	*e*P	Pn	10 27 21.7	-0.3
SJG				*e*S	Sn	10 27 44.7	-0.2
SJG	**San Juan**	**1.78**	**93**⇓	*e*P	Pn	10 27 21.6	-0.4
SJG				*e*S	Sn	10 27 44.8	-0.1
STVI	**Saint Thomas**	**2.91**	**87**⇑	*e*P	Pn	10 27 36.4	-0.3
STVI				*e*S	Sn	10 28 11.3	+0.1

*ISCJB **28** 10:31:16.8±0.6, 88S×0.1×15740E±006, h10km, mb3.7/8, Error ellipse: s-maj=17.3km s-min=8.1km az=7.3*
*IDC **28** 10:31:16.6±0.9, 881S×15745E, h0km, mb3.9/8, mb1 4.0/9, mb1mx3.9/14, mbtmp3.8/9, ML3.7/1, Error ellipse: s-maj=28.0km s-min=21.2km az=135.0*
*NEIC **28** 10:31:18.2±0.6, 887S×15750E, h10km, Error ellipse: s-maj=19.2km s-min=12.0km az=162.0*

ISC 28 10:31:18.3±0.6, 88S±01×15745E±006, h10km, n13, σ0§72/15, mb3.7/8, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.54**	**104**	Pn	**Pn**	**10 31 58.3**	**-1.3**
HNR				Sn	**Sb**	**10 32 35.8**	**+0.5**
HNR	**Honiara**	**2.54**	**104**	Pn	**Pn**	**10 31 58.3**	**-1.3**
	14nm,0.3s,baz=233,slow=4.9,SNR=7.9						
HNR				Sn	**Sb**	**10 32 35.8**	**+0.5**
	66nm,0.3s,baz=266,slow=18,SNR=6.1						
WB2	**Warramunga Arr**	**24.92**	**241**	*e*P	**P**	**10 36 42.2**	**+0.4**
WRA	**Warramunga Arr**	**24.93**	**241**	P	**P**	**10 36 42.3**	**+0.4**
	6.7nm,1.1s,mb4.1,baz=66,slow=9.5,SNR=24						
WRA				PcP	PcP	10 40 17.3	-0.3
	0.6nm,1.0s,baz=62,slow=2.9,SNR=4.8						
ASAR	**Alice Springs**	**26.93**	**234**	P	**P**	**10 36 59.8**	**-0.3**
	0.6nm,0.9s,mb3.1,baz=78,slow=12,SNR=4.3						
STKA	**Stephens Creek**	**27.27**	**210**	P	**P**	**10 37 02.7**	**-0.2**
STKA	**Stephens Creek**	**27.27**	**210**	P	**P**	**10 37 02.7**	**-0.2**
	1.5nm,0.6s,mb3.7,baz=63,slow=6.8,SNR=2.4						
KSRS	**Korea Array**	**53.69**	**331**	P	**P**	**10 40 39.8**	**-0.6**
	0.9nm,0.7s,mb3.8,baz=157,slow=7.1,SNR=5.1						
SONM	**Songino Array**	**72.18**	**327**	P	**P**	**10 42 43.4**	**+0.1**
	0.3nm,0.3s,mb3.6,baz=106,slow=5.2,SNR=3.8						
MKAR	**Makanchi Array**	**86.37**	**318**	P	**P**	**10 44 00.2**	**-0.6**
	0.6nm,0.5s,mb4.1,baz=99,slow=7.6,SNR=5.0						
NVAR	**Mina Array Bea**	**90.94**	**51**	P	**P**	**10 44 22.7**	**-0.1**
NVAR	**Mina Array Bea**	**90.94**	**51**	P	**P**	**10 44 22.7**	**-0.1**
	0.2nm,0.3s,mb3.9,baz=249,slow=7.6,SNR=3.2						
YKA	**Yellowknife Ar**	**96.80**	**28**	P	**P**	**10 44 50.8**	**+1.7**
	0.1nm,0.7s,mb3.3,baz=261,slow=5.0,SNR=2.8						

*NIED **28** 10:39:00, 2490N×12190E, h5km, Mw4.3 Best double couple: M0=2.99000×10^15 NP1:φ=268.00000°, δ63.00000°, λ-76.00000°. NP2:φ=58.00000°, δ30.00000°, λ-116.00000°.*
*ISCJB **28** 10:39:49.7±2.1, 2475N±007×1220E±01, h17km±14km, mb4.0/16, MS3.5/8, Error ellipse: s-maj=17.7km s-min=12.1km az=171.1*
*NEIC **28** 10:39:51.3±1.4, 2473N×12193E, h17km±9km, mb4.3/5, Error ellipse: s-maj=15.4km s-min=10.5km az=73.0*
*BJI **28** 10:39:55.6, 2527N×12165E, h15km, mB4.5, mb4.2, ML4.0, Ms4.0*
*IDC **28** 10:39:60.0±4.5, 2478N×12201E, h93km±43km, mb3.7/10, mb1 3.8/12, mb1mx3.7/22, mbtmp3.7/12, MS3.4/12, Ms1 3.4/12, ms1mx3.2/27, Error ellipse: s-maj=29.4km s-min=15.2km az=67.0*

ISC 28 10:39:51.5±1.5, 2475N±006×1219E±01, h17km±9km, n33, σ1§05/29, mb4.0/16, MS3.5/8, 1C-1D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TATO	**Taipei**	**0.44**	**301**	*e*P	**Pg**	**10 40 00.2**	**-0.2**
YHNB	**Yeheng**	**0.49**	**261**⇑	*i*P	**Pg**	**10 40 01.4**	**+0.1**
NACB	**Ninganchiao**	**0.64**	**206**	*e*Pn	**Pn**	**10 40 04.1**	**-1.7**
QZH	**Quanzhou**	**3.01**	**274**⇓	*i*P	**Pn**	**10 40 38.5**	**0.0**
QZH				S	**Sg**	**10 41 23.5**	**-4.9**
QZH				Smax			
	comp=N,860nm,0.8s						
QZH				Smax			
	comp=E,260nm,0.7s						
QZH				LR	LR		
	comp=N,2μm,9.0s						
QZH				LR	LR		
	comp=E,1μm,7.3s						
QZH				LR	LR		
	comp=Z,1μm,5.9s						
JOW	**Kunigami**	**6.11**	**69**	LR	LR	10 43 26.8	
	comp=Z,86nm,18.7s,baz=43,slow=34						
NJ2	**Nanjing**	**7.75**	**340**	*e*P	**Pn**	**10 41 42.3**	**-1.3**
NJ2				S	**Sn**	**10 43 09.5**	**-1.5**
NJ2				XS		10 43 14.3	
NJ2				Smax			
	comp=N,440nm,0.9s						
NJ2				Smax			
	comp=E,190nm,1.0s						
NJ2				LR	LR		
	comp=N,760nm,9.3s						
NJ2				LR	LR		
	comp=E,440nm,8.4s						
JNU	**Nakatsue**	**11.46**	**41**	P	**Pn**	**10 42 40.0**	**+5.7**
	comp=E,0.1nm,0.3s,baz=189,slow=25,SNR=3.2						
JNU				LR	LR	10 47 38.9	
	comp=E,117nm,18.3s,baz=230,slow=40						
CD2	**Chengdu**	**17.18**	**295**	P	**Pn**	**10 43 55.0**	**+4.3**
CD2				AMB	AMB		
	comp=Z,30nm,0.8s						
MJAR	**Matsushiro Arr**	**18.27**	**46**	P	**Pn**	**10 44 05.8**	**+1.6**
	comp=Z,0.1nm,0.3s,baz=270,slow=40,SNR=4.0						
MJAR				LR	LR	10 51 31.8	
	comp=Z,103nm,20.9s,baz=55,slow=38						
LZH	**Lanzhou**	**19.21**	**310**	*e*P	**Pn**	**10 44 17.0**	**+1.4**
LZH				AMB	AMB		
	comp=Z,28nm,1.5s						
LZH				AMB	AMB		
	comp=Z,100nm,5.2s						
GTA	**Gaotai**	**23.66**	**313**	*e*P	**P**	**10 45 02.3**	**+0.1**
GTA				AP		10 45 10.8	
GTA				XP	sP	10 45 15.5	+6.1
GTA				AMB	AMB		
	comp=Z,2.0nm,1.0s,mb3.5						
ULN	**Ulaanbaatar**	**25.90**	**337**	*e*P	**P**	**10 45 23.0**	**+0.5**
	comp=Z,2.8nm,0.8s,mb3.8						
SONM	**Songino Array**	**26.11**	**336**	P	**P**	**10 45 25.4**	**+1.0**
SONM				LR	LR	10 56 36.4	
SONM	**Songino Array**	**26.11**	**336**	P	**P**	**10 45 25.4**	**+1.0**
	comp=Z,8.0nm,0.8s,mb4.3,baz=141,slow=9.9,SNR=37						
SONM				LR	LR	10 56 36.4	
	comp=Z,99nm,18.6s,MS3.4,baz=264,slow=38						
MKAR	**Makanchi Array**	**38.40**	**315**	P	**P**	**10 47 12.1**	**+0.3**
	comp=Z,1.2nm,0.7s,mb3.7,baz=104,slow=10,SNR=7.0						
MKAR				LR	LR	11 04 27.8	
	comp=Z,63nm,18.2s,MS3.5,baz=355,slow=38						
ZALV	**Zalesovo Beam**	**40.13**	**326**	P	**P**	**10 47 26.0**	**-0.3**
	comp=Z,3.1nm,0.6s,mb4.2,baz=103,slow=6.5,SNR=5.8						
ZALV				LR	LR	11 05 08.0	
	comp=Z,50nm,20.4s,MS3.4,baz=68,slow=38						
TKM2	**Tokmak 2**	**41.94**	**307**	*e*P	**P**	**10 47 41.4**	**+0.1**
	comp=Z,2.9nm,0.7s,mb4.0						
UCH	**Uchtor**	**42.61**	**306**	*e*P	**P**	**10 47 49.2**	**+2.3**
	comp=Z,2.4nm,0.9s,mb3.9						
WRAB	**Tennant Creek**	**46.04**	**164**	*e*P	**P**	**10 48 07.9**	**-6.4**
	comp=Z,15nm,1.0s,mb4.9						
WRA	**Warramunga Arr**	**46.04**	**164**	P	**P**	**10 48 13.8**	**-0.6**
	comp=Z,1.7nm,0.7s,mb4.1,baz=349,slow=9.7,SNR=20						
WB2	**Warramunga Arr**	**46.05**	**164**	*e*P	**P**	**10 48 07.8**	**-6.6**
TIXI	**Tiksi**	**47.10**	**3**	*e*P	**P**	**10 48 21.1**	**-1.0**
	comp=Z,12nm,1.4s,mb4.7						
BVAR	**Borovoye Array**	**47.66**	**320**	P	**P**	**10 48 27.1**	**+0.3**
	comp=Z,1.7nm,0.7s,mb4.2,baz=96,slow=7.4,SNR=7.4						
ASAR	**Alice Springs**	**49.52**	**165**	P	**P**	**10 48 41.9**	**+0.6**
	comp=Z,0.7nm,0.7s,mb3.8,baz=342,slow=6.7,SNR=9.3						
HNR	**Honiara**	**50.30**	**128**	LR	LR	11 07 56.3	
	comp=Z,57nm,20.4s,MS3.6,baz=180,slow=33						
CTA	**Charters Tower**	**50.48**	**150**	LR	LR	11 06 49.8	
	comp=Z,81nm,20.9s,MS3.7,baz=236,slow=32						
ARCES	**ARCESS Array B**	**69.26**	**338**	LR	LR	11 23 14.7	
	comp=Z,33nm,21.3s,MS3.5,baz=187,slow=38						
FINES	**FINESS Array B**	**71.29**	**330**	LR	LR	11 25 20.7	
	comp=Z,44nm,20.8s,MS3.7,baz=127,slow=38						
INK	**Inuvik**	**72.46**	**22**	P	**P**	**10 51 16.1**	**-0.6**
	comp=Z,1.5nm,0.8s,mb4.0,baz=308,slow=3.4,SNR=6.6						
NOA	**NORSAR Array B**	**78.03**	**332**	P	**P**	**10 51 48.5**	**-0.4**
	comp=Z,0.6nm,0.8s,mb3.6,baz=53,slow=10,SNR=2.7						
NOA				LR	LR	11 29 52.2	
	comp=Z,32nm,18.8s,MS3.7,baz=75,slow=38						
YKA	**Yellowknife Ar**	**82.20**	**23**	P	**P**	**10 52 09.1**	**-2.2**
	comp=Z,0.8nm,0.9s,mb3.6,baz=316,slow=5.1,SNR=7.8						
GERES	**GERESS Array B**	**82.82**	**321**	P	**P**	**10 52 16.2**	**+1.3**
	comp=Z,0.5nm,0.8s,mb3.6,baz=37,slow=6.7,SNR=3.1						
LPM	**Los Pinos Moun**	**105.35**	**40**	*e*PKP	PKiKP	10 58 12.7	-1.1

*IDC **28** 10:42:41.4±0.8, 869S×15748E, h0km, mb4.2/10, mb1 4.2/12, mb1mx4.1/17, mbtmp4.1/12, ML3.9/1, MS3.3/3, Ms1 3.3/3, ms1mx2.9/16, Error ellipse: s-maj=26.8km s-min=18.0km az=135.0*
*BJI **28** 10:42:42.7, 8185S×15762E, h10km, mB5.2, mb4.8*
*NEIC **28** 10:42:42.9±0.5, 8735S×15754E, h10km, mb4.6/2, Error ellipse: s-maj=17.0km s-min=10.4km az=150.0*
*ISCJB **28** 10:42:44.9±0.5, 877S±009×15748E±005, h33km, mb4.2/14, MS3.2/3, Error ellipse: s-maj=13.2km s-min=7.3km az=5.2*

ISC 28 10:42:46.4±0.6, 88S±01×15759E±009, h35km, n22, σ1§06/21, mb4.2/14, MS3.2/3, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.41**	**104**	Pn	**Pn**	**10 43 23.1**	**-0.3**
	24nm,0.3s,baz=251,slow=4.4,SNR=12						
HNR				Sn	**Sn**	**10 44 01.0**	**+9.4**
	185nm,0.3s,baz=275,slow=23,SNR=3.9						
CTA	**Charters Tower**	**15.66**	**223**	Pn	**Pn**	**10 46 24.3**	**-0.2**
	baz=25,slow=17,SNR=2.0						
KAKA	**Kakadu**	**24.99**	**259**	*e*P	**P**	**10 48 07.5**	**+0.3**
	6.5nm,0.9s,mb4.2						
WRA	**Warramunga Arr**	**25.04**	**241**	P	**P**	**10 48 07.7**	**+0.2**
WRA				PcP	PcP	10 51 42.9	+0.9
WRA				LR	LR	10 56 49.6	
WRA	**Warramunga Arr**	**25.04**	**241**	P	**P**	**10 48 07.7**	**+0.2**
	20nm,1.2s,mb4.5,baz=66,slow=9.4,SNR=35						
WRA				PcP	PcP	10 51 42.9	+0.9
	1.4nm,0.9s,baz=68,slow=2.3,SNR=7.5						
WRA				LR	LR	10 56 49.6	
	comp=Z,64nm,21.1s,MS3.1,baz=155,slow=34						
GUMO	**Guam**	**25.61**	**330**	LR	LR	10 55 20.1	
	comp=Z,63nm,21.9s,MS3.1,baz=73,slow=30						
ASAR	**Alice Springs**	**27.03**	**234**	P	**P**	**10 48 25.5**	**0.0**
	1.9nm,1.0s,mb3.6,baz=62,slow=10.0,SNR=11						
STKA	**Stephens Creek**	**27.32**	**211**	*e*P	**P**	**10 48 31.9**	**+3.9**
	4.3nm,0.9s,mb4.0						
STKA	**Stephens Creek**	**27.32**	**211**	P	**P**	**10 48 28.9**	**+0.9**
	3.4nm,1.0s,mb3.8,baz=310,slow=21,SNR=2.1						
FITZ	**Fitzroy Crossi**	**32.35**	**250**	*e*P	**P**	**10 49 11.4**	**-1.4**
FITZ	**Fitzroy Crossi**	**32.35**	**250**	P	**P**	**10 49 11.2**	**-1.6**
	1.6nm,0.7s,mb3.9,baz=282,slow=22,SNR=4.0						
KSRS	**Korea Array**	**53.77**	**331**	P	**P**	**10 52 04.0**	**-1.4**
	2.0nm,1.0s,mb4.0,baz=155,slow=9.0,SNR=7.2						
KSRS				LR	LR	11 11 44.5	
	comp=Z,30nm,18.1s,MS3.4,baz=195,slow=32						
LZH	**Lanzhou**	**67.42**	**315**	*e*P	**P**	**10 53 40.0**	**+1.4**
LZH				AP	pP	10 53 46.3	-3.1
LZH				XP	sP	10 53 49.5	-4.0
LZH				AMB	AMB		
	comp=Z,29nm,1.2s,mb5.2						
LZH				AMB	AMB		
	comp=Z,140nm,5.1s						
GTA	**Gaotai**	**71.83**	**316**	*e*P	**P**	**10 54 07.0**	**+1.3**
GTA				AP	pP	10 54 12.5	-4.1
GTA				XP	sP	10 54 15.0	-5.7
GTA				AMB	AMB		
	comp=Z,4.0nm,1.5s,mb4.1						
SONM	**Songino Array**	**72.27**	**327**	P	**P**	**10 54 08.6**	**+0.4**
	comp=Z,0.6nm,0.6s,mb3.7,baz=138,slow=5.4,SNR=6.5						
MCK	**McKinley**	**82.82**	**21**	*e*P	**P**	**10 55 05.7**	**-1.1**
	comp=Z,1.1nm,1.3s,mb4.7						
MKAR	**Makanchi Array**	**86.47**	**318**	P	**P**	**10 55 25.2**	**-0.3**
	comp=Z,1.3nm,0.7s,mb4.3,baz=93,slow=6.1,SNR=5.9						
INK	**Inuvik**	**90.54**	**20**	P	**P**	**10 55 42.5**	**-1.9**
	comp=Z,1.3nm,0.5s,mb4.5,baz=298,slow=18,SNR=9.0						
NVAR	**Mina Array Bea**	**90.85**	**51**	P	**P**	**10 55 48.6**	**+2.1**
	comp=Z,0.9nm,0.9s,mb4.1,baz=269,slow=4.3,SNR=5.2						
YKA	**Yellowknife Ar**	**96.75**	**28**	P	**P**	**10 56 13.7**	**+0.6**
YKA	**Yellowknife Ar**	**96.75**	**28**	P	**P**	**10 56 13.7**	**+0.6**
	comp=Z,0.5nm,1.0s,mb3.9,baz=263,slow=4.8,SNR=5.1						
KWP	**Kalwaria**	**124.71**	**326**	*e*PKPdf	PKPdf	11 01 44.1	+1.7

NEIC 28 10:50:49.4, 3798S×17642E, h163km, MG3.8(WEL), After WEL., North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**0.61**	**117**	P	Pn	10 51 12.7	0.0
MWZ	**Matawai**	**0.94**	**112**	*e*P	Pn	10 51 15.0	+0.1
BKZ	**Black Stump Fm**	**1.19**	**177**	*e*P	Pn	10 51 17.2	+0.3
BKZ				S	Sn	10 51 38.3	+0.1
TUVZ	**Tukino**	**1.42**	**205**	P	Pn	10 51 19.6	+0.5
KNZ	**Kokohu**	**1.43**	**137**	*e*P	Pn	10 51 19.7	+0.5
FWVZ	**Far West T-bar**	**1.45**	**208**	*e*P	Pn	10 51 19.8	+0.5
WNVZ	**Wahianoa**	**1.49**	**205**	P	Pn	10 51 20.2	+0.4
MOVZ	**Moawhango**	**1.52**	**200**	P	Pn	10 51 19.9	-0.2
MXZ	**Matakaoa Point**	**1.55**	**75**	*e*P	Pn	10 51 20.3	-0.1
TSZ	**Takapari Road**	**2.11**	**190**	P	Pn	10 51 26.0	-0.5
BFZ	**Birch Farm**	**2.70**	**183**	*e*P	Pn	10 51 32.4	-1.1
MRZ	**Mangatainoka R**	**2.76**	**193**	P	Pn	10 51 32.7	-1.5
MTW	**Mount Morrison**	**3.25**	**192**	P	Pn	10 51 38.0	-2.4
CAW	**Cannon Point**	**3.29**	**198**	P	Pn	10 51 38.6	-2.3
PAWZ	**Paruwai Farm**	**3.48**	**192**	P	Pn	10 51 40.7	-2.6
MSWZ	**Moikau Station**	**3.55**	**194**	P	Pn	10 51 41.5	-2.6
SNZO	**South Karori**	**3.58**	**201**	P	Pn	10 51 41.7	-2.8
QRZ	**Quartz Range**	**4.14**	**225**	*e*P	Pn	10 51 48.1	-3.7
BSWZ	**Blackbirch Sta**	**4.21**	**207**	P	Pn	10 51 49.6	-3.0
THZ	**Tophouse**	**4.65**	**214**	*e*P	Pn	10 51 55.9	-2.4
KHZ	**Kahutara**	**4.95**	**206**	P	Pn	10 51 58.9	-3.4
LTZ	**Lake Taylor**	**5.75**	**212**	*e*P	Pn	10 52 08.4	-4.4
MQZ	**McQueen's Vall**	**6.39**	**205**	*e*P	Pn	10 52 16.1	-5.2
ODZ	**Otahua Downs**	**8.28**	**210**	*e*P	Pn	10 52 41.9	-4.4

*IDC **28** 11:04:54.9±2.9, 2912N×43.14W, h0km, mb3.5/7, mb1 3.8/7, mb1mx3.6/22, mbtmp3.5/7, MS3.2/3, Ms1 3.3/3, ms1mx2.8/22, Error ellipse: s-maj=97.4km s-min=24.0km az=179.0*
*ISCJB **28** 11:04:55.1±2.5, 292N±06×432W±02, h10km, mb3.6/7, MS3.2/3, Error ellipse: s-maj=81.0km s-min=19.2km az=179.5*
*NEIC **28** 11:04:56.5±2.3, 2914N×43.14W, h10km, Error ellipse: s-maj=73.0km s-min=19.5km az=175.0*

ISC 28 11:04:56.8±2.5, 292N±06×431W±02, h10km, n10, σ0§18/8, mb3.6/7, MS3.2/3, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJG	**San Juan**	**23.74**	**247**	LR	LR	11 16 21.8	
	comp=Z,48nm,20.4s,MS3.0,baz=92,slow=29						
ESDC	**Sonseca Array**	**33.73**	**61**	LR	LR	11 21 52.8	
	comp=Z,37nm,18.2s,MS3.1,baz=180,slow=30						
KEST	**Kesra**	**44.33**	**67**	P	**P**	**11 13 07.1**	**-0.1**
	1.0nm,0.7s,mb3.6,baz=276,slow=0.9,SNR=4.0						
ULM	**Lac du Bonnet**	**44.62**	**313**	P	**P**	**11 13 09.1**	**-0.2**
	0.8nm,0.7s,mb3.6,baz=61,slow=5.8,SNR=3.0						
GERES	**GERESS Array B**	**47.15**	**49**	P	**P**	**11 13 29.0**	**-0.2**
	0.4nm,0.7s,mb3.5,baz=266,slow=9.1,SNR=3.8						
TXAR	**Lajitas Array**	**52.26**	**286**	P	**P**	**11 14 08.6**	**+0.1**
	1.3nm,1.2s,mb3.7,baz=75,slow=3.8,SNR=3.0						
TXAR				LR	LR	11 34 23.6	
	comp=Z,37nm,20.0s,MS3.4,baz=180,slow=34						
YKA	**Yellowknife Ar**	**56.04**	**328**	P	**P**	**11 14 35.7**	**+0.2**
YKA	**Yellowknife Ar**	**56.04**	**328**	P	**P**	**11 14 35.7**	**+0.2**
	0.3nm,0.8s,mb3.4,baz=88,slow=7.2,SNR=6.4						
NVAR	**Mina Array Bea**	**61.57**	**300**	P	**P**	**11 15 14.2**	**-0.2**
	0.3nm,0.7s,mb3.5,baz=82,slow=6.6,SNR=3.4						
MKAR	**Makanchi Array**	**89.77**	**34**	P	**P**	**11 17 55.7**	**+0.3**
	0.2nm,0.2s,mb4.0,baz=335,slow=6.4,SNR=2.4						

*HLW **28** 11:12:03.2, 2991N×3697E, h20km, Mb3.0*
*GII **28** 11:12:06.9±1.2, 2994N×3629E, h0km, ML2.1/3*
*CSEM **28** 11:12:07.1±0.7, 2986N×3625E, h1km, ML2.1, Error ellipse: s-maj=14.7km s-min=7.1km az=65.0, Mining explosion.*
*SGS **28** 11:12:11.0, 2987N×3604E, h7km*

ISC 28 11:12:05.4±1.3, 2988N±004×3642E±008, h0km, n15, σ0§74/22, 3C, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HRFI	**Mount Harif**	**1.21**	**278**	Pg	**Pg**	**11 12 28.0**	**-0.7**
HRFI				Sg	**Sg**	**11 12 45.0**	**+0.6**
ZFRI	**Zfri**	**1.27**	**302**	Pg	**Pg**	**11 12 29.1**	**-0.7**
ZFRI				Sg	**Sg**	**11 12 46.0**	**-0.3**
EIL	**Elat**	**1.30**	**261**	Pg	**Pg**	**11 12 30.4**	**+0.1**
EIL				Sg	**Sg**	**11 12 48.1**	**+1.0**
PRNI	**Paran**	**1.32**	**291**	Pg	**Pg**	**11 12 30.0**	**-0.7**
PRNI				Sg	**Sg**	**11 12 47.6**	**-0.2**
HQLS		**1.32**	**244**	S	**Sg**	**11 12 44.0**	**-3.8**
HQLS		**1.32**	**244**	P	**Pg**	**11 12 29.9**	**-0.8**
JLOS		**1.40**	**216**	P	**Pn**	**11 12 32.7**	**+0.5**
JLOS		**1.40**	**216**	P	**Pn**	**11 12 32.7**	**+0.5**
JLOS				S	**Sg**	**11 12 48.9**	**-1.5**
KRMI	**Paran Flat**	**1.49**	**280**	Pn	**Pn**	**11 12 33.2**	**-0.3**
HBST	**Basata**	**1.61**	**246**⇑	*e*P	**Pn**	**11 12 35.8**	**+0.7**
HDHB	**Dhahab**	**1.95**	**234**⇑	*e*P	**Pn**	**11 12 39.7**	**-0.1**
HDHB				S	**Sn**	**11 13 06.6**	**+1.6**
KZIT	**Kziot**	**2.03**	**301**	Pn	**Pn**	**11 12 41.4**	**+0.6**
KZIT				Sn	**Sn**	**11 13 06.8**	**-0.1**
HNKL	**Nakhl**	**2.12**	**272**⇑	*e*P	**Pn**	**11 12 43.0**	**+0.8**
RSHS		**2.12**	**223**	P	**Pn**	**11 12 41.9**	**-0.3**
HKAT	**Jabal Katrina**	**2.52**	**238**	P	**Pn**	**11 12 48.0**	**+0.4**

*PDA **28** 11:35:25.3±1.0, 3731N×2476W, h0km, MD3.6, ML3.2, Error ellipse: s-maj=7.3km s-min=2.7km az=84.0*
*CSEM **28** 11:35:25.3±1.0, 3731N×2476W, h0km, ML3.2, Error ellipse: s-maj=7.3km s-min=2.7km az=84.0, After PDA*

SVSA 28 11:35:25.3±1.0, 3731N×2476W, h0km, MD3.6, ML3.2, Error ellipse: s-maj=7.3km s-min=2.7km az=84.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSMN	**Pico do Norte,**	**0.39**	**219**	*e*P	Pg	11 35 32.4	-0.3
PSMN				*e*S	Sg	11 35 38.1	+0.4
CMLA	**Cha da Macela**	**0.76**	**307**	*e*P	Pg	11 35 37.9	-2.0
CMLA				*e*S	Sg	11 35 48.4	-1.4
CMLA				A		11 35 51.6	
	221nm,0.3s						
PDA	**Ponta Delgada**	**0.84**	**302**	*e*P	Pg	11 35 39.5	-2.0
PDA				*e*S	S

PE1	**Pezze di Greco**	**3.55**	**321**	*e*Pn	**Pn**	**12 17 18.5**	**+0.5**
SG1	**Sgolgore (BA)**	**3.97**	**315**	*e*Pn	**Pn**	**12 17 24.3**	**+0.4**
ULC	**Ulcinj**	**3.98**	**348**⇑	*i*Pn	**Pn**	**12 17 24.3**	**+0.4**
ULC				*e*Sn	**Sn**	**12 18 10.4**	**+0.1**
BUM	**Brajici-Budva**	**4.37**	**346**⇑	*i*Pn	**Pn**	**12 17 29.8**	**+0.5**
BUM				*e*Sn	**Sn**	**12 18 19.1**	**-0.8**
PDG	**Podgorica**	**4.43**	**349**⇓	*i*Pn	**Pn**	**12 17 30.2**	**0.0**
PDG				*e*Sn	**Sn**	**12 18 21.0**	**-0.5**
TTG	**Podgorica**	**4.43**	**349**⇓	*i*Pn	**Pn**	**12 17 30.2**	**0.0**
TTG				*e*Sn	**Sn**	**12 18 21.0**	**-0.5**
PVY	**Plav**	**4.53**	**356**⇑	*i*Pn	**Pn**	**12 17 33.0**	**+1.5**
PVY				*e*Sn	**Sn**	**12 18 24.0**	**+0.1**
HCY	**Herceg Novi**	**4.60**	**343**⇑	*i*Pn	**Pn**	**12 17 33.5**	**+1.1**
HCY				*e*Sn	**Sn**	**12 18 24.8**	**-0.7**
BEY	**Berane**	**4.81**	**356**⇑	*i*Pn	**Pn**	**12 17 36.9**	**+1.6**
BEY				*e*Sn	**Sn**	**12 18 30.2**	**-0.6**
IVA	**Berane**	**4.81**	**356**⇑	*i*Pn	**Pn**	**12 17 36.9**	**+1.6**
IVA				*e*Sn	**Sn**	**12 18 30.2**	**-0.6**
NKY	**Niksic**	**4.85**	**348**⇓	*i*Pn	**Pn**	**12 17 37.2**	**+1.3**
NKY				*e*Sn	**Sn**	**12 18 31.0**	**-0.7**
BARS	**Barje**	**4.87**	**13**⇑	*i*Pn	**Pn**	**12 17 35.9**	**-0.3**
FGMS	**Monte Sant'Ang**	**4.96**	**318**	Pn	**Pn**	**12 17 37.7**	**+0.2**
BRY	**Bratogost**	**5.02**	**345**⇑	*i*Pn	**Pn**	**12 17 38.3**	**+0.1**
BRY				*e*Sn	**Sn**	**12 18 34.9**	**-1.0**
UPM	**Unac-Piva**	**5.24**	**348**⇑	*i*Pn	**Pn**	**12 17 41.5**	**+0.2**
UPM				*e*Sn	**Sn**	**12 18 40.0**	**-1.5**
PLE	**Pljevlja**	**5.30**	**352**⇑	*i*Pn	**Pn**	**12 17 43.6**	**+1.5**
PLE				*e*Sn	**Sn**	**12 18 42.2**	**-0.8**
MLR	**Muntele Rosu**	**8.51**	**28**	Pn	**Pn**	**12 18 28.4**	**+2.3**
	0.1nm,0.3s,baz=140,slow=3.6,SNR=4.6						
HMAT	**Matruh**	**8.90**	**139**⇑	*e*P	**Pn**	**12 18 26.6**	**-5.0**
HMAT	**Matruh**	**8.90**	**139**	P	**Pn**	**12 18 26.5**	**-5.1**
SWA2		**9.77**	**153**⇑	*e*P	**Pn**	**12 18 42.4**	**-1.1**
SWA1		**9.85**	**152**⇑	*e*P	**Pn**	**12 18 43.7**	**-0.8**
SWA1				S	**Sn**	**12 20 21.2**	**-14**
GERES	**GERESS Array B**	**11.80**	**338**	Pn	**Pn**	**12 19 08.1**	**-3.0**
	0.2nm,0.3s,baz=172,slow=16,SNR=4.4						
HFS	**Hagfors**	**22.49**	**351**	P	**P**	**12 21 21.4**	**-0.6**
	4.2nm,0.8s,mb3.9,baz=153,slow=9.7,SNR=9.1						
EKA	**Eskdalemuir Ar**	**23.44**	**325**	P	**P**	**12 21 30.1**	**-2.0**
	2.0nm,0.9s,mb3.5,baz=108,slow=14,SNR=3.8						
FINES	**FINESS Array B**	**23.67**	**7**	P	**P**	**12 21 33.1**	**-1.1**
	2.0nm,0.9s,mb3.5,baz=178,slow=9.2,SNR=4.1						
MKAR	**Makanchi Array**	**45.47**	**58**	P	**P**	**12 24 40.4**	**-1.5**
	0.4nm,0.4s,mb3.6,baz=277,slow=7.9,SNR=4.8						
ZALV	**Zalesovo Beam**	**45.86**	**48**	P	**P**	**12 24 43.5**	**-1.4**
	1.2nm,0.4s,mb4.2,baz=282,slow=8.3,SNR=7.3						

CSEM ***28*** *12:37:22.9±0.7, 3873N×2902W, h1km±9km, ML2.7, Error ellipse: s-maj=12.1km s-min=2.6km az=72.0, After PDA*
PDA ***28*** *12:37:22.9±0.7, 3873N×2902W, h1km±9km, MD3.5, ML2.7, Error ellipse: s-maj=12.1km s-min=2.6km az=72.0*
SVSA 28 12:37:22.9±0.7, 3873N×2902W, h1km±9km, MD3.5, ML2.7, Error ellipse: s-maj=12.1km s-min=2.6km az=72.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CALA	**Caldeira**	**0.28**	**120**	*e*P	Pg	12 37 28.4	0.0
CALA				*e*S	Sg	12 37 32.4	+0.3
HOR	**Horta**	**0.36**	**123**	*e*P	Pg	12 37 29.2	-0.6
HOR				*e*S	Sg	12 37 34.5	0.0
PICO	**Pico**	**0.52**	**116**	*e*P	Pg	12 37 32.1	-0.6
PICO				*e*S	Sg	12 37 39.1	-0.3
ROSA	**Rosais**	**0.61**	**90**	*i* P	Pg	12 37 33.6	-0.9
ROSA				*e*S	Sg	12 37 41.3	-1.1
ROSA	**Rosais**	**0.61**	**90**	*e*S	Sg	12 37 41.3	-1.1
PMAN	**Manadas**	**0.73**	**97**	*e*P	Pg	12 37 35.1	-1.8
PMAN				*e*S	Sg	12 37 44.8	-1.6
PMAN				A		12 37 46.6	
	319nm,0.2s						
PMAN	**Manadas**	**0.73**	**97**	*e*P	Pg	12 37 35.1	-1.8
PMAN				*e*S	Sg	12 37 44.8	-1.6
SRBC	**Serra Branca**	**0.82**	**67**	*i* P	Pg	12 37 37.0	-1.7
SRBC				*e*S	Sg	12 37 46.9	-2.4
SRBC	**Serra Branca**	**0.82**	**67**	*e*S	Sg	12 37 46.9	-2.4
PSCM	**Serra do Cume**	**1.49**	**90**	*e*P	Pn	12 37 45.5	-5.2
PSCM				*e*S	Sg	12 38 03.2	-7.5
PSCM				A		12 38 05.2	
	73nm,0.2s						
PSCM	**Serra do Cume**	**1.49**	**90**	*e*P	Pn	12 37 45.5	-5.2
PSCM				*e*S	Sg	12 38 03.2	-7.5
PSET	**Sete Cidades**	**2.75**	**108**	*e*P	Pn	12 38 03.5	-4.6

IDC 28 12:49:35.3±5.7, 3067S×7802E, h0km, mb3.8/2, mb1 4.0/2, mb1mx3.5/16, mbtmp3.8/2, Error ellipse: s-maj=326.1km s-min=46.6km az=23.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**49.78**	**96**	P	P	12 58 29.8	-0.2
	1.3nm,0.8s,baz=251,slow=6.5,SNR=11						
WRA	**Warramunga Arr**	**51.57**	**92**	P	P	12 58 43.5	+0.1
	1.0nm,1.1s,baz=247,slow=6.8,SNR=5.9						
YKA	**Yellowknife Ar**	**147.13**	**11**	PKP	PKPdf	13 09 16.5	-0.8
	0.3nm,0.6s,baz=327,slow=3.2,SNR=8.8						
YKA				PKPbc	PKPbc	13 09 19.0	-0.5
	0.3nm,0.6s,baz=326,slow=3.4,SNR=8.7						

IDC ***28*** *13:07:11.9±11.0, 2346S×17894W, h653km±261km, mb3.0/3, mb1 3.2/4, mb1mx2.8/14, mbtmp3.1/4, Error ellipse: s-maj=238.4km s-min=69.6km az=73.0*
ISC 28 13:07:13.6±4.8, 237S±03×1796W±07, h600km, n8, σ0° 63/9, mb3.9/6, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**14.79**	**190**	P	**P**	**13 10 19.8**	**+0.1**
	0.7nm,0.3s,baz=310,slow=2.6,SNR=5.5						
URZ				S	**S**	**13 12 51.2**	**-0.3**
	0.2nm,0.3s,baz=233,slow=19,SNR=3.4						
CTA	**Charters Tower**	**31.85**	**270**	*e*P	**P**	**13 12 51.0**	**-0.3**
	3.4nm,0.4s,mb4.3						
STKA	**Stephens Creek**	**35.15**	**248**	P	**P**	**13 13 19.8**	**+1.0**
	3.5nm,1.1s,mb3.9,baz=104,slow=8.3,SNR=2.8						
ASAR	**Alice Springs**	**42.44**	**260**	P	**P**	**13 14 17.8**	**+0.3**
	1.0nm,0.5s,mb3.6,baz=98,slow=6.9,SNR=20						
WB2	**Warramunga Arr**	**42.79**	**266**	*e*P	**P**	**13 14 19.6**	**-0.6**
WRA	**Warramunga Arr**	**42.80**	**266**	P	**P**	**13 14 19.8**	**-0.5**
	1.1nm,0.3s,mb3.9,baz=102,slow=8.4,SNR=169						
KAKA	**Kakadu**	**46.67**	**275**	*e*P	**P**	**13 14 49.1**	**-0.8**
	1.3nm,0.3s,mb3.9						
FITZ	**Fitzroy Crossi**	**51.22**	**265**	*e*P	**P**	**13 15 24.4**	**+1.0**
	7.2nm,1.8s,mb3.8						

ATH ***28*** *13:15:04.4, 3926N×2677E, h10km, MD3.4/3*
ISCJB ***28*** *13:15:05.5±1.1, 3903N±004×2602E±008, h4km±8km, Error ellipse: s-maj=10.8km s-min=5.3km az=162.5*
CSEM ***28*** *13:15:05.8±0.4, 3898N×2608E, h8km, MD2.9, Error ellipse: s-maj=10.4km s-min=3.9km az=79.0*
DDA ***28*** *13:15:06.2, 3905N×2611E, h7km±6km, Md2.9*
ISC 28 13:15:06.2±1.1, 3903N±004×2604E±008, h7km±8km, n9, σ0° 90/15, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRK	**Paraskevi**	**0.28**	**39**	*e*PB	**Pg**	**13 15 12.0**	**+0.1**
AYVA	**Ayvalik**	**0.58**	**61**	*i* P	**Pg**	**13 15 17.1**	**-0.3**
AYVA				*i* S	**Sg**	**13 15 25.2**	**+0.2**
URLA	**Izmir**	**0.79**	**147**	*i* P	**Pg**	**13 15 21.3**	**-0.2**
URLA				*i* S	**Sg**	**13 15 33.7**	**+1.9**
BOZC	**Bozcaada**	**0.82**	**1**	*i* P	**Pg**	**13 15 21.5**	**-0.5**
BOZC				*i* S	**Sg**	**13 15 33.0**	**+0.5**
KDAG	**Bornova**	**1.14**	**123**	*i* P	**Pg**	**13 15 26.3**	**-1.9**
KDAG				*i* S	**Sg**	**13 15 43.4**	**+0.4**
AKHS	**Akhisar**	**1.39**	**95**	*i* P	**Pn**	**13 15 32.4**	**+0.4**
AKHS				*i* S	**Sb**	**13 15 49.4**	**-1.1**
SMG	**Samos**	**1.46**	**154**	*e*PB	**Pb**	**13 15 33.5**	**-0.1**
SART	**Tekirdag**	**1.88**	**27**	*i* P	**Pn**	**13 15 38.9**	**+0.1**
SART				*i* S	**Sn**	**13 16 06.1**	**+3.4**
RDO	**Rodhopi**	**2.15**	**350**	*e*PN	**Pn**	**13 15 42.0**	**-0.5**

ISCJB ***28*** *13:24:46.0±0.8, 2343N±002×14331E±002, h10km±4km, mb5.2/178, MS5.1/74, Error ellipse: s-maj=4.0km s-min=3.8km az=174.6*

MOS ***28*** *13:24:48.1±0.9, 2328N×14327E, h30km, mb5.4/58, MS5.2/24, Error ellipse: s-maj=9.3km s-min=4.9km az=103.4*
IDC ***28*** *13:24:49.1±1.4, 2334N×14329E, h26km±7km, mb4.6/18, mb1 4.7/25, mb1mx4.7/27, mbtmp4.7/25, ML4.3/6, MS4.9/20, Ms1 4.9/20, ms1mx4.6/43, Error ellipse: s-maj=13.9km s-min=8.3km az=76.0*
JMA ***28*** *13:24:50.0±0.2, 2372N×14407E, h79km*
BJI ***28*** *13:24:50.3, 2363N×143.15E, h21km, mB5.4, mb5.1, Ms5.1, Msz5.0*
NEIC ***28*** *13:24:52.0±0.1, 2330N×14327E, mb5.2/93, Error ellipse: s-maj=4.6km s-min=4.2km az=114.0*
GCMT ***28*** *13:24:52.0±0.1, 2343N×14356E, h20km, MW5.4/102, Moment Tensor Solution. s79,c139; s102,c179; Duration: 1s3 Moment tensor: Scale 1017Nm; Mrr1.05±.03; Mθθ-0.11±.02; Mφφ-0.94±.02; Mrθ-0.02±.03; Mθφ0.59±.01; Mφr1.23±.05; Best double couple: M0 1.69200×1017 NP1:φs132.00000°, δ26.00000°, λ53.00000°. NP2:φs352.00000°, δ69.00000°, λ106.00000°. Principal axes: T 1.6710, Plg62.0000°, Azm287.0000°; N 0.0390, Plg15.0000°, Azm166.0000°; P -1.7130, Plg23.0000°, Azm69.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
SZGRF ***28*** *13:25:06.2, 2587N×14086E, h33km, mb4.8, Volcano Islands, Japan, region*
ISC 28 13:24:49.6±0.8, 2343N±002×14335E±002, h23km±5km, h34km±2.5km: pP-P, n484, σ1° 14/506, mb5.2/178, MS5.1/74, 29C-19D, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHHJ	**Haha-jima-NKT**	**3.36**	**342**	P	**Pn**	**13 25 41.6**	**+0.9**
JHHJ				S	**Sn**	**13 26 20.2**	**+0.4**
CBIJ	**Chichi jima**	**3.80**	**344**	P	**Pn**	**13 25 47.1**	**+0.4**
CBIJ				S	**Sn**	**13 26 30.9**	**+0.2**
CBIJ	**Chichi jima**	**3.80**	**344**	Pn	**Pn**	**13 25 47.1**	**+0.4**
	54nm,0.3s,baz=178,slow=10,SNR=101						
CBIJ				Sn	**Sn**	**13 26 30.6**	**-0.1**
	355nm,0.3s,baz=108,slow=23,SNR=14						
GUMO	**Guam**	**9.89**	**171**	P	**Pn**	**13 27 07.5**	**-2.9**
GUMO						13 28 58.3	
GUMO	**Guam**	**9.89**	**171**	Pn	**Pn**	**13 27 07.4**	**-3.0**
	4.2nm,0.3s,baz=57,slow=21,SNR=2.1						
GUMO				Sn	**Sn**	**13 28 58.2**	**-2.5**
	2.3nm,0.3s,baz=23,slow=22,SNR=1.6						
GUMO				LR	LR	13 30 25.9	
	comp=Z,5μm,19.5s,baz=11,slow=34						
JHJ2	**Mitsune**	**10.14**	**343**	P	**Pn**	**13 27 14.0**	**+0.3**
JHJ2				*e*S	**Sn**	**13 29 01.4**	**-5.2**
JHJ	**Hachijo jima 2**	**10.15**	**343**	Pn	**Pn**	**13 27 12.0**	**-1.9**
	5.7nm,0.3s,baz=225,slow=16,SNR=6.6						
JHJ				Sn	**Sn**	**13 28 58.5**	**-8.5**
	4.9nm,0.3s,baz=73,slow=19,SNR=2.1						
JHJ				LR	LR	13 30 37.1	
	comp=Z,2μm,21.8s,baz=166,slow=34						
BSO1	**Boso 1**	**11.38**	**350**	P	**Pn**	**13 27 30.0**	**-0.7**
BSO3	**Boso 3**	**11.60**	**348**	P	**Pn**	**13 27 32.2**	**-1.5**
JOD2	**Odawara 2**	**12.36**	**344**	P	**Pn**	**13 27 42.5**	**-1.7**
JOD2				*e*S	**Sn**	**13 29 59.0**	**-2.2**
JIE	**Ise**	**12.37**	**333**	P	**Pn**	**13 27 44.6**	**+0.3**
HMMJ	**Hamamatsu 2**	**12.40**	**338**	P	**Pn**	**13 27 44.0**	**-0.7**
JNY	**Yasuok**	**12.81**	**339**	P	**Pn**	**13 27 50.5**	**+0.2**
JHU	**Hanno**	**12.87**	**345**	P	**Pn**	**13 27 50.0**	**-1.1**
JHU				S	**Sn**	**13 30 09.2**	**-4.5**
JAO	**Obara**	**12.93**	**337**	P	**Pn**	**13 27 51.6**	**-0.3**
JYT	**Yasato**	**13.04**	**349**	P	**Pn**	**13 27 52.5**	**-1.0**
JYT				*e*S	**Sn**	**13 30 12.3**	**-5.6**
JRY	**Ryogami san**	**13.12**	**344**	P	**Pn**	**13 27 53.1**	**-1.5**
JRY				*e*S	**Sn**	**13 30 13.8**	**-6.0**
MJAR	**Matsushiro Arr**	**13.80**	**342**	Pn	**Pn**	**13 28 01.9**	**-1.9**
	2.5nm,0.3s,baz=172,slow=13,SNR=31						
MJAR				Sn	**Sn**	**13 30 29.4**	**-7.0**
	0.7nm,0.3s,baz=162,slow=17,SNR=3.4						
MJAR				LR	LR	13 32 44.4	
	comp=Z,2μm,19.3s,baz=180,slow=34						
MJAR				ScP	ScP	13 36 55.3	-3.4
	baz=145,slow=3.0,SNR=4.1						
MAJO	**Matsushiro**	**13.80**	**342**	*e*Pn	**Pn**	**13 28 01.9**	**-2.0**
	51nm,0.8s						
MAJO				*e*Sn	**Sn**	**13 30 24.2**	**-12**
MAJO	**Matsushiro**	**13.80**	**342**	*e*P	**Pn**	**13 28 01.9**	**-1.9**
MAJO				pmax	pmax		
	comp=Z,51nm,0.8s						
MAT	**Matsushiro**	**13.80**	**342**	P	**Pn**	**13 28 01.4**	**-2.4**
MAT				S	**Sn**	**13 30 31.8**	**-4.6**
JOW	**Kunigami**	**14.06**	**287**	Pn	**Pn**	**13 28 05.5**	**-2.0**
JOW				Sn	**Sn**	**13 30 52.1**	**+9.2**
JOW				LR	LR	13 33 07.5	
JOW	**Kunigami**	**14.06**	**287**	Pn	**Pn**	**13 28 05.5**	**-2.0**
	comp=Z,0.1nm,0.3s,baz=154,slow=23,SNR=1.8						
JOW				Sn	**Sn**	**13 30 52.1**	**+9.2**
	comp=Z,0.3nm,0.3s,baz=100,slow=29,SNR=1.4						
JOW				LR	LR	13 33 07.5	
	comp=Z,11μm,19.4s,baz=267,slow=36						
JNU	**Nakatsue**	**14.61**	**314**	Pn	**Pn**	**13 28 14.4**	**-0.5**
	comp=Z,0.6nm,0.3s,baz=107,slow=14,SNR=9.9						
JNU				Sn	**Sn**	**13 31 00.3**	**+4.2**
	baz=160,slow=20,SNR=2.2						
JNU				LR	LR	13 33 36.5	
	comp=Z,3μm,18.8s,baz=116,slow=36						
ERM	**Erimo**	**18.54**	**360**	*e*P	**Pn**	**13 29 05.5**	**+0.8**
KSRS	**Korea Array**	**19.26**	**320**	P	**Pn**	**13 29 13.1**	**-0.4**
	comp=Z,1.4nm,0.3s,baz=130,slow=11,SNR=54						
KSRS				S	**Sn**	**13 32 47.7**	**-1.0**
	comp=Z,0.1nm,0.3s,baz=58,slow=34,SNR=2.6						
KSRS				LR	LR	13 36 42.6	
	comp=Z,5μm,18.1s,baz=129,slow=37						
KSRS				ScP	ScP	13 37 07.7	-1.8
	comp=Z,0.1nm,0.3s,baz=114,slow=2.6,SNR=8.2						
NACB	**Ninganchiao**	**19.92**	**277**	*e*P	**Pn**	**13 29 23.2**	**+1.7**
INCN	**Inchon**	**20.05**	**318**	*e*P	**P**	**13 29 20.5**	**-0.6**
	comp=Z,59nm,1.0s						
YHNB	**Yeheng**	**20.10**	**278**	*e*P	**P**	**13 29 24.7**	**+3.0**
ASAJ	**Asahikawa**	**20.65**	**358**	P	**P**	**13 29 27.3**	**-0.2**
	comp=Z,65nm,0.9s,baz=221,slow=15,SNR=15						
ASAJ				S	**S**	**13 33 19.3**	**+2.3**
	comp=Z,20nm,1.1s,baz=327,slow=24,SNR=2.8						
ASAJ				LR	LR	13 36 20.1	
	comp=Z,4μm,21.1s,MS4.8,baz=197,slow=33						
SSE	**Sheshan**	**21.10**	**296**	P	**P**	**13 29 33.5**	**+0.9**
SSE				AP		13 29 39.8	
SSE				XP	sP	13 29 44.3	+2.2
SSE				S	**S**	**13 33 25.5**	**-0.8**
SSE				AMB	AMB		
	comp=Z,70nm,0.7s,mb5.1						
SSE				AMB	AMB		
	comp=Z,719nm,8.1s						
SSE				LR	LR		
	comp=N,2μm,19.1s,MS4.6						
SSE				LR	LR		
	comp=E,2μm,19.3s,MS4.6						
SSE				LR	LR		
	comp=Z,3μm,18.6s,MS4.7						
VLA	**Vladivostok**	**21.81**	**337**	*e*P	**P**	**13 29 41.2**	**+1.2**
VLA	**Vladivostok**	**21.81**	**337**	*e*P	**P**	**13 29 41.1**	**+1.1**
VLA				pmax	pmax		
	comp=Z,103nm,1.2s,mb5.1						
QZH	**Quanzhou**	**22.63**	**279**	P	**P**	**13 29 49.0**	**+0.1**
QZH				S	**S**	**13 33 46.3**	**-10**
QZH				AMB	AMB		
	comp=Z,110nm,1.0s,mb5.2						
QZH				LR	LR		
	comp=N,2μm,10.8s,MS5.0						
QZH				LR	LR		
	comp=E,3μm,12.4s,MS5.0						
QZH				LR	LR		
	comp=Z,7μm,19.2s						
NJ2	**Nanjing**	**23.28**	**297**	*e*P	**P**	**13 29 55.5**	**-0.2**
NJ2				PP		13 30 27.5	
NJ2				S	**S**	**13 34 00.0**	**-6.6**
NJ2				AMB	AMB		
	comp=Z,60nm,1.0s,mb5.0						
NJ2				AMB	AMB		
	comp=Z,1μm,10.0s						
NJ2				LR	LR		
	comp=N,4μm,13.3s,MS5.2						
NJ2				LR	LR		
	comp=E,5μm,13.2s,MS5.2						
NJ2				LR	LR		
	comp=Z,7μm,13.2s,MS5.3						
YSS	**Yuzh-Sakhalins**	**23.48**	**359**	*e*P	**P**	**13 29 58.8**	**+1.1**
	comp=Z,58nm,0.8s,mb5.1						
YSS	**Yuzh-Sakhalins**	**23.48**	**359**	*e*P	**P**	**13 29 58.0**	**+0.4**
YSS				*e*		13 30 10.0	
YSS				*e*S	**S**	**13 34 08.0**	**-1.5**
YSS				*e*		13 34 18.0	
YSS				pmax	pmax		
	comp=Z,90nm,1.2s,mb5.1						
YSS				pmax	pmax		
	comp=Z,1μm,6.0s						
YSS				MLR	MLR		
	comp=N,2μm,16.0s,MS4.9						
YSS				MLR	MLR		
	comp=E,2μm,16.0s,MS4.9						
YSS				MLR	MLR		
	comp=Z,2μm,16.0s,MS4.8						
MDJ	**Mudanjiang**	**23.95**	**335**	P	**P**	**13 30 03.8**	**+1.8**
MDJ				S	**S**	**13 34 19.5**	**+2.3**
MDJ				AMB	AMB		
	comp=Z,114nm,1.3s,mb5.1						
MDJ				AMB	AMB		
	comp=Z,1μm,5.5s						
MDJ				LR	LR		
	comp=N,3μm,17.6s,MS4.9						
MDJ				LR	LR		
	comp=E,2μm,17.4s,MS4.9						
MDJ				LR	LR		
	comp=Z,5μm,18.0s,MS5.0						
MDJ	**Mudanjiang**	**23.95**	**335**	*e*P	**P**	**13 30 03.0**	**+1.1**
	comp=Z,170nm,1.3s,mb5.3						
DL2	**Dalian**	**24.07**	**315**⇑	*i*P	**P**	**13 30 00.8**	**-2.3**
DL2				PP		13 30 35.3	
DL2				S	**S**	**13 34 15.5**	**-3.7**
DL2				AMB	AMB		
	comp=Z,20nm,1.0s,mb4.5						
DL2				AMB	AMB		
	comp=Z,240nm,6.0s						
DL2				LR	LR		
	comp=N,940nm,15.0s,MS4.5						
DL2				LR	LR		
	comp=E,740nm,13.7s,MS4.5						
DL2				LR	LR		
	comp=Z,1μm,15.4s,MS4.5						
SNY	**Shenyang**	**24.67**	**323**	⇑P	**P**	**13 30 08.0**	**-0.6**
SNY				AP		13 30 17.3	
SNY				XP	sP	13 30 21.3	+2.8
SNY				PP		13 30 42.3	
SNY				S	**S**	**13 34 25.5**	**-3.4**
SNY				AMB	AMB		
	comp=Z,90nm,1.2s,mb5.2						
SNY				AMB	AMB		
	comp=Z,631nm,4.6s						
SNY				LR	LR		
	comp=N,3μm,14.7s,MS5.0						
SNY				LR	LR		
	comp=E,1μm,13.7s,MS5.0						
SNY				LR	LR		
	comp=Z,2μm,23.0s						
CN2	**Changchun**	**25.10**	**328**	⇑P	**P**	**13 30 14.5**	**+2.0**
CN2				XP	sP	13 30 21.5	-0.9
CN2				PCP	PcP	13 33 45.8	-0.7
CN2				*e*S	**S**	**13 34 34.0**	**-1.7**
CN2				AMB	AMB		
	comp=Z,40nm,1.0s,mb4.9						
CN2				AMB	AMB		
	comp=Z,700nm,5.0s						
CN2				LR	LR		
	comp=N,4μm,18.0s,MS5.1						
CN2				LR	LR		
	comp=E,3μm,18.0s,MS5.1						
CN2				LR	LR		
	comp=Z,4μm,19.0s,MS5.0						
HABR	**Khabarovsk**	**25.85**	**347**⇑	*e*P	**P**	**13 30 20.7**	**+1.5**
HABR				*e*PP	pP	13 30 29.1	+2.9
HABR				*e*SP	sP	13 30 34.0	+4.9
HABR				*e*		13 30 58.7	
HABR				*e*		13 33 48.5	
HABR				*e*S	**S**	**13 34 52.0**	**+4.5**
HABR				*e*SS	sS	13 35 09.8	+11
HABR				SS		13 35 50.2	
HABR				pmax	pmax		
	comp=Z,320nm,1.6s,mb5.6						
TIA	**Tai'an**	**25.98**	**305**	P	**P**	**13 30 20.0**	**-0.6**
TIA				AMB	AMB		
	comp=Z,84nm,1.1s,mb5.2						
TIA				LR	LR		
	comp=N,801nm,15.0s,MS4.4						
TIA				LR	LR		
	comp=E,472nm,15.0s,MS4.4						
WHN	**Wuhan**	**26.74**	**292**⇑	*i*P	**P**	**13 30 28.5**	**+1.0**
WHN				S	**S**	**13 35 06.8**	**+4.8**
WHN				LR	LR		
	comp=Z,6μm,17.0s,MS5.2						
KLR	**Kul'dur**	**27.33**	**343**	*e*P	**P**	**13 30 30.0**	**-2.5**
KLR				*e*S	**S**	**13 35 06.5**	**-4.3**
KLR				pmax	pmax		
	comp=E,85nm,1.8s						
KLR				pmax	pmax		
	comp=Z,160nm,1.8s,mb5.2						
KLR				pmax	pmax		
	comp=N,700nm,11.0s						
KLR				pmax	pmax		
	comp=Z,1μm,11.0s						
KLR				smax			
	comp=N,1μm,11.0s						
KLR				MLR	MLR		
	comp=N,2μm,14.0s						
KLR				MLR	MLR		
	comp=Z,6μm,14.0s,MS5.3						
GZH	**Guangzhou**	**27.54**	**275**	P	**P**	**13 30 34.3**	**-0.5**
GZH				S	**S**	**13 35 15.8**	**+1.0**
GZH				LR	LR		
	comp=N,1μm,20.0s,MS4.6						
GZH				LR	LR		
	comp=E,942nm,19.7s,MS4.6						
GZH				LR	LR		
	comp=Z,2μm,18.2s,MS4.7						
BJT	**Baijiatuau**	**28.27**	**312**	*e*P	**P**	**13 30 40.4**	**-0.6**
	comp=Z,8.9nm,0.6s,mb4.6						
BJT	**Baijiatuau**	**28.27**	**312**	*e*P	**P**	**13 30 40.4**	**-0.7**
BJT				pmax	pmax		
	comp=Z,9.0nm,0.6s						
BJI	**Beijing**	**28.27**	**312**	P	**P**	**13 30 37.5**	**-3.6**
BJI				S	**S**	**13 35 27.0**	**+1.0**
BJI				AMB	AMB		
	comp=Z,14nm,0.8s,mb4.6						
BJI				AMB	AMB		
	comp=Z,402nm,5.0s						
BJI				LR	LR		
	comp=N,2μm,22.8s,MS4.7						
BJI				LR	LR		
	comp=E,1μm,23.6s,MS4.7						
BJI				LR	LR		
	comp=Z,2μm,24.1s,MS4.7				

PET			*e*S	S	13 36 20.2	-0.2
PET			MLR	MLR		
	comp=Z,2μm,17.0s,MS4.8					
HIA	**Hailar**	**31.78 330**	*e*P	**P**	**13 31 12.4**	**+0.4**
	comp=Z,15nm,0.9s,mb4.8					
HIA	**Hailar**	**31.78 330**	*e*P	**P**	**13 31 12.4**	**+0.4**
HIA			pmax	pmax		
	comp=Z,15nm,0.9s					
HHC	**Hu-ho-hao-te**	**31.80 311**	*e*P	**P**	**13 31 13.0**	**+0.7**
HHC			AP	pP	13 31 23.8	+4.5
HHC			PP	PP	13 32 20.8	-3.5
HHC			PCP	PcP	13 34 05.0	+1.9
HHC			S	**S**	**13 36 23.0**	**+1.8**
HHC			PCS	PcS	13 37 49.5	+1.9
HHC			SS	SS	13 38 09.5	-28
HHC			AMB	AMB		
	comp=Z,26nm,1.1s,mb5.0					
HHC			AMB	AMB		
	comp=Z,321nm,6.3s					
HHC			LR	LR		
	comp=N,2μm,17.1s,MS4.9					
HHC			LR	LR		
	comp=E,2μm,19.8s,MS4.9					
HHC			LR	LR		
	comp=Z,2μm,18.1s,MS4.9					
XAN	**Xi'an**	**31.85 297**	P	**P**	**13 31 12.5**	**-0.3**
XAN			AP	pP	13 31 22.0	+2.1
XAN			XP	sP	13 31 26.0	+3.2
XAN			PP	PP	13 32 13.5	-11
XAN			PPP		13 32 30.0	
XAN			S	**S**	**13 36 11.0**	**-11**
XAN			SCP	ScP	13 37 44.5	-1.0
XAN			PCS	PcS	13 37 51.0	+3.0
XAN			AMB	AMB		
	comp=Z,21nm,1.4s,mb4.8					
XAN			AMB	AMB		
	comp=Z,363nm,11.4s					
XAN			LR	LR		
	comp=N,751nm,19.6s,MS4.6					
XAN			LR	LR		
	comp=E,1μm,22.4s,MS4.6					
XAN			LR	LR		
	comp=Z,2μm,20.6s,MS4.7					
BTO	**Baotou**	**32.79 309**	*e*P	**P**	**13 31 19.8**	**-1.2**
GYA	**Guiyang**	**33.33 283**	P	**P**	**13 31 26.5**	**+0.6**
GYA			PP	PP	13 32 40.8	-0.6
GYA			PPP		13 32 57.5	
GYA			PCP	PcP	13 34 08.5	+0.9
GYA			S	**S**	**13 36 43.8**	**-1.6**
GYA			SCP	ScP	13 37 48.0	-2.7
GYA			PCS	PcS	13 37 53.3	-0.1
GYA			SS	SS	13 38 48.0	-21
GYA			SCS	ScS	13 41 47.3	-4.3
GYA			AMB	AMB		
	comp=Z,30nm,0.9s,mb5.2					
GYA			AMB	AMB		
	comp=Z,400nm,9.3s					
GYA			LR	LR		
	comp=N,2μm,15.1s,MS5.0					
GYA			LR	LR		
	comp=E,1μm,16.5s,MS5.0					
GYA			LR	LR		
	comp=Z,4μm,17.1s,MS5.2					
BTM	**Bintulu**	**35.50 240**	⇑P	**P**	**13 31 47.0**	**+2.2**
CD2	**Chengdu**	**35.86 291**	P	**P**	**13 31 48.8**	**+1.1**
CD2			AP	pP	13 32 01.5	+6.7
CD2			PP	PP	13 33 11.5	+2.2
CD2			PCP	PcP	13 34 14.5	-0.3
CD2			S	**S**	**13 37 22.8**	**-1.5**
CD2			AMB	AMB		
	comp=Z,60nm,1.2s,mb5.4					
CD2			AMB	AMB		
	comp=Z,480nm,7.5s					
CD2			LR	LR		
	comp=N,3μm,15.6s,MS5.3					
CD2			LR	LR		
	comp=E,3μm,16.2s,MS5.3					
CD2			LR	LR		
	comp=Z,3μm,17.4s,MS5.1					
NRGR	**Nerungri**	**35.88 342**	*e*P	**P**	**13 31 50.2**	**+2.7**
CLNS	**Chul'man**	**35.99 343**	*e*P	**P**	**13 31 49.4**	**+0.9**
CLNS			*e*		13 33 07.8	
CLNS			*e*		13 34 15.8	
CLNS			*e*S	**S**	**13 37 24.6**	**-1.0**
CLNS			*e*SS	SS	13 39 47.1	-16
CLNS			pmax	pmax		
	comp=N,27nm,0.9s					
CLNS			pmax	pmax		
	comp=Z,29nm,0.9s,mb5.2					
CLNS			pmax	pmax		
	comp=E,10.0nm,0.7s					
CLNS			pmax	pmax		
	comp=Z,16nm,1.0s,mb4.9					
CLNS			pmax	pmax		
	comp=N,30nm,1.3s					
CLNS			pmax	pmax		
	comp=E,15nm,0.8s					
CLNS			smax			
	comp=N,136nm,12.7s					
CLNS			smax			
	comp=Z,90nm,12.3s					
CLNS			smax			
	comp=E,560nm,12.4s					
CLNS			MLR	MLR		
	comp=Z,3μm,17.0s,MS5.1					
CLNS			MLR	MLR		
	comp=N,2μm,16.0s,MS5.2					
CLNS			MLR	MLR		
	comp=E,2μm,14.0s,MS5.2					
LZH	**Lanzhou**	**36.30 300**	*e*P	**P**	**13 31 53.0**	**+1.6**
LZH			PP	PP	13 33 17.0	+2.8
LZH			PCP	PcP	13 34 17.5	+1.4
LZH			S	**S**	**13 37 31.0**	**0.0**
LZH			SS	SS	13 39 55.0	-15
LZH			AMB	AMB		
	comp=Z,83nm,1.5s,mb5.4					
LZH			AMB	AMB		
	comp=Z,230nm,4.2s					
LZH			LR	LR		
	comp=E,2μm,16.7s					
LZH			LR	LR		
	comp=Z,3μm,18.2s,MS5.1					
KAPI	**Kappang**	**36.46 222**	P	**P**	**13 31 52.5**	**-0.5**
	comp=Z,276nm,0.9s,mb6.2,SNR=6.7					
MA2	**Magadan**	**36.50 6**	*e*P	**P**	**13 31 53.7**	**+0.9**
	comp=Z,11nm,0.8s,mb4.8					
MA2	**Magadan**	**36.50 6**	*e*P	**P**	**13 31 54.0**	**+1.2**
MA2			*e*		13 33 14.0	
MA2			*e*S	**S**	**13 37 33.8**	**+0.4**
MA2			*e*SS	SS	13 40 05.8	-7.3
MA2					13 42 03.2	
MA2			MLR	MLR		
	comp=Z,1μm,17.4s,MS4.7					
SBUM	**Sibu**	**36.64 240**	⇑P	**P**	**13 31 56.0**	**+1.4**
KMI	**Kunming**	**36.96 281**	P	**P**	**13 31 58.3**	**+1.1**
KMI			AP	pP	13 32 10.8	+6.5
KMI			PP	PP	13 33 24.0	+2.4
KMI			PPP		13 33 47.3	
KMI			S	**S**	**13 37 39.5**	**-1.7**
KMI			SS	SS	13 40 11.8	-12
KMI			SSS		13 40 41.5	
KMI			AMB	AMB		
	comp=Z,27nm,1.5s,mb4.9					
KMI			AMB	AMB		
	comp=Z,289nm,4.9s					
KMI			LR	LR		
	comp=N,872nm,16.3s,MS4.8					
KMI			LR	LR		
	comp=E,1μm,21.2s,MS4.8					
KMI			LR	LR		
	comp=Z,2μm,24.0s,MS4.8					
COEN	**Coen**	**37.15 180**	*e*P	**P**	**13 31 58.5**	**-0.3**
	comp=Z,11nm,0.7s,mb4.8					
KAKA	**Kakadu**	**37.47 198**	*e*P	**P**	**13 31 59.7**	**-1.8**
	comp=Z,11nm,0.6s,mb4.9					
ULN	**Ulaanbaatar**	**37.74 319**	*e*P	**P**	**13 32 03.1**	**-0.4**
ULN	**Ulaanbaatar**	**37.74 319**	⇑*e*P	**P**	**13 32 03.3**	**-0.2**
ULN	**Ulaanbaatar**	**37.74 319**	P	**P**	**13 32 03.7**	**+0.2**
	SNR=15					
ULN	**Ulaanbaatar**	**37.74 319**	P	**P**	**13 32 03.7**	**+0.2**
	SNR=15					
SONM	**Songino Array**	**38.12 319**	P	**P**	**13 32 06.6**	**-0.1**
SONM					13 34 20.7	
SONM					13 38 07.3	
SONM					13 42 13.4	
SONM	**Songino Array**	**38.12 319**	P	**P**	**13 32 06.6**	**-0.1**
	comp=Z,9.5nm,0.8s,mb4.6,baz=122,slow=8.1,SNR=21					
SONM			PcP	PcP	13 34 20.7	-0.7
	comp=Z,3.5nm,1.0s,baz=134,slow=4.2,SNR=3.2					
SONM			ScP	ScP	13 38 07.3	-0.4
	comp=Z,0.7nm,0.6s,baz=119,slow=1.8,SNR=4.0					
SONM			ScS	ScS	13 42 13.4	-3.7
	comp=Z,0.3nm,0.3s,baz=174,slow=40,SNR=3.3					
SONM			LR	LR	13 48 53.2	
	comp=Z,4μm,18.3s,MS5.3,baz=119,slow=38					
KSM	**Kuching**	**38.75 241**	*e*P	**P**	**13 32 11.2**	**-1.2**
KSM	**Kuching**	**38.75 241**	⇓P	**P**	**13 32 11.8**	**-0.6**
YAK	**Yakutsk**	**39.70 350**	*e*P	**P**	**13 32 19.9**	**+0.1**
	comp=Z,49nm,0.7s,mb5.3					
YAK	**Yakutsk**	**39.70 350**	*e*P	**P**	**13 32 19.3**	**-0.4**
YAK			*i* *PP	pP	13 32 29.3	+2.4
YAK			*e*		13 33 50.5	
YAK			*e*S	**S**	**13 38 18.9**	**-2.8**
YAK			*e*		13 42 18.8	
YAK			pmax	pmax		
	comp=Z,54nm,0.9s,mb5.3					
YAK			pmax	pmax		
	comp=N,24nm,1.2s					
YAK			pmax	pmax		
	comp=E,8.0nm,1.1s					
YAK			pmax	pmax		
	comp=Z,35nm,1.8s,mb4.8					
YAK			pmax	pmax		
	comp=N,144nm,3.1s					
YAK			pmax	pmax		
	comp=E,27nm,1.7s					
YAK			smax			
	comp=E,600nm,10.1s					
YAK			smax			
	comp=N,100nm,2.1s					
YAK			MLR	MLR		
	comp=Z,2μm,17.0s,MS5.1					
YAK			MLR	MLR		
	comp=N,2μm,18.0s,MS5.1					
YAK			MLR	MLR		
	comp=E,800nm,14.0s,MS5.1					
NANT	**Nan**	**39.94 272**	⇓P	**P**	**13 32 22.0**	**-0.4**
	comp=E,200nm,1.0s,mb5.8					
SEY	**Seymchan**	**39.96 6**	⇑*e*P	**P**	**13 32 21.7**	**-0.2**
GTA	**Gaotai**	**40.01 304**	*e*P	**P**	**13 32 23.0**	**+0.3**
GTA			PP	PP	13 34 00.8	+6.0
GTA			PPP		13 34 26.3	
GTA			S	**S**	**13 38 24.8**	**-2.3**
GTA			SCS	ScS	13 42 23.3	-5.1
GTA			AMB	AMB		
	comp=Z,20nm,2.3s,mb4.4					
GTA			AMB	AMB		
	comp=Z,334nm,7.2s					
GTA			LR	LR		
	comp=N,1μm,19.0s,MS4.9					
GTA			LR	LR		
	comp=E,1μm,17.9s,MS4.9					
GTA			LR	LR		
	comp=Z,2μm,17.5s,MS5.0					
BOD	**Bodaibo**	**40.32 336**	*e*P	**P**	**13 32 24.6**	**-0.3**
BOD			pmax	pmax		
	comp=Z,46nm,1.4s,mb5.0					
ZAK	**Zakamensk**	**41.08 321**	*e*P	**P**	**13 32 31.1**	**-0.3**
ZAK			pmax	pmax		
	comp=Z,16nm,1.1s,mb4.6					
NST	**Nakhon Sawan**	**41.32 267**	P	**P**	**13 32 32.6**	**-1.2**
IRK	**Irkutsk**	**41.39 324**	*e*P	**P**	**13 32 34.2**	**+0.4**
IRK			*e*		13 32 50.9	
IRK			*e*		13 34 18.4	
IRK			pmax	pmax		
	comp=Z,67nm,1.5s,mb5.0					
TLY	**Talaya**	**41.46 323**	P	**P**	**13 32 35.7**	**+1.2**
	comp=Z,127nm,1.5s,mb5.3,SNR=6.9					
TLY	**Talaya**	**41.46 323**	*e*P	**P**	**13 32 34.7**	**+0.2**
TLY	**Talaya**	**41.46 323**	*e*P	**P**	**13 32 35.7**	**+1.2**
TLY			*e*PPP		13 34 43.6	
TLY			*e*S	**S**	**13 38 55.7**	**+7.4**
TLY			pmax	pmax		
	comp=Z,43nm,1.3s,mb4.9					
TLY			MLR	MLR		
	comp=Z,2μm,15.0s,MS5.0					
TLY	**Talaya**	**41.46 323**	P	**P**	**13 32 35.8**	**+1.3**
	SNR=20					
TLY	**Talaya**	**41.46 323**	P	**P**	**13 32 35.8**	**+1.3**
	SNR=20					
CHG	**Chiang Mai**	**41.55 272**	⇑P	**P**	**13 32 35.9**	**+0.3**
	comp=Z,70nm,0.9s,mb5.3					
CHTO	**Chiang Mai**	**41.55 272**	*e*P	**P**	**13 32 35.9**	**+0.3**
	comp=Z,39nm,1.2s,mb4.9					
CHTO	**Chiang Mai**	**41.55 272**	*e*P	**P**	**13 32 35.9**	**+0.3**
CHTO			pmax	pmax		
	comp=Z,39nm,1.2s,mb4.9					
CHTO	**Chiang Mai**	**41.55 272**	P	**P**	**13 32 36.0**	**+0.4**
	SNR=18					
CHTO	**Chiang Mai**	**41.55 272**	P	**P**	**13 32 36.0**	**+0.4**
	SNR=18					
CM31	**Chiang Mai Arr**	**41.64 272**	*e*P	**P**	**13 32 37.8**	**+1.4**
	comp=Z,7.0nm,0.5s,mb4.5					
CM31			*e*		13 32 58.5	
KTGM	**Kuala Trenggan**	**42.70 251**	⇑P	**P**	**13 32 46.4**	**+1.4**
NNT	**Nongplab**	**42.70 263**	P	**P**	**13 32 47.0**	**+1.9**
MOY	**Mondy**	**42.94 322**	*e*P	**P**	**13 32 46.8**	**+0.3**
MOY			pmax	pmax		
	comp=Z,59nm,2.0s,mb5.0					
CTA	**Charters Tower**	**43.34 176**	*e*P	**P**	**13 32 48.6**	**-1.4**
	comp=Z,20nm,0.7s,mb5.0					
CTA	**Charters Tower**	**43.34 176**	*e*P	**P**	**13 32 48.6**	**-1.4**
CTA			pmax	pmax		
	comp=Z,20nm,0.7s					
CTAO	**Charters Tower**	**43.34 176**	*e*P	**P**	**13 32 48.5**	**-1.5**
	comp=Z,30nm,0.8s,mb5.1					
CTAO	**Charters Tower**	**43.34 176**	*e*P	**P**	**13 32 48.5**	**-1.5**
CTAO			pmax	pmax		
	comp=Z,30nm,0.8s,mb5.1					
MYKOM	**Kota Tinggi**	**43.88 246**	⇓P	**P**	**13 32 55.9**	**+1.2**
WRAB	**Tennant Creek**	**43.98 192**	P	**P**	**13 32 53.0**	**-2.2**
	comp=Z,208nm,0.6s,mb6.0,SNR=31					
WRAB	**Tennant Creek**	**43.98 192**	*e*P	**P**	**13 32 53.0**	**-2.1**
	comp=Z,19nm,0.6s,mb5.0					
WRAB	**Tennant Creek**	**43.98 192**	*e*P	**P**	**13 32 53.0**	**-2.2**
WRAB			pmax	pmax		
	comp=Z,19nm,0.6s,mb5.0					
WB2	**Warramunga Arr**	**43.99 192**	*e*P	**P**	**13 32 53.0**	**-2.2**
WB2			*e*S	**S**	**13 39 19.3**	**-6.7**
WRA	**Warramunga Arr**	**43.99 192**	P	**P**	**13 32 53.0**	**-2.3**
WRA			S	**S**	**13 39 18.1**	**-7.9**
WRA	**Warramunga Arr**	**43.99 192**	P	**P**	**13 32 53.0**	**-2.3**
	comp=Z,9.4nm,0.5s,mb4.8,baz=11,slow=7.7,SNR=187					
WRA			ScP	ScP	13 38 28.3	-2.9
	comp=Z,1.6nm,0.8s,baz=11,slow=4.3,SNR=5.6					
WRA			S	**S**	**13 39 18.1**	**-7.9**
	comp=Z,1.3nm,1.0s,baz=13,slow=14,SNR=2.7					
WRA			LR	LR	13 51 15.2	
	comp=Z,986nm,20.5s,MS4.7,baz=5.0,slow=36					
KGM	**Kluang**	**44.21 247**	⇑P	**P**	**13 32 58.3**	**+1.1**
FITZ	**Fitzroy Crossi**	**44.75 204**	⇑*e*P	**P**	**13 32 59.9**	**-1.5**
	comp=Z,32nm,0.4s,mb5.5					
KULM	**Kulim**	**44.89 253**	*e*P	**P**	**13 33 04.1**	**+1.5**
KULM			*e*		13 33 16.8	
KULM	**Kulim**	**44.89 253**	⇓P	**P**	**13 33 03.9**	**+1.2**
IPM	**Ipoh**	**44.94 252**	⇓P	**P**	**13 33 04.1**	**+0.9**
FRIM	**Kepong**	**45.03 250**	⇓P	**P**	**13 33 05.9**	**+2.1**
SHL	**Shillong**	**46.64 284**	*e*P	**P**	**13 33 17.5**	**+1.1**
SHL			*e*x	x	13 38 38.0	
LSA	**Lhasa**	**46.78 289**	P	**P**	**13 33 19.0**	**+1.5**
LSA			AP	pP	13 33 25.3	+0.6
LSA			XP	sP	13 33 34.8	+7.2
LSA			PP	PP	13 35 06.0	-1.6
LSA			LR	LR		
	comp=N,590nm,19.0s,MS4.9					
LSA			LR	LR		
	comp=E,1μm,18.2s,MS4.9					
LSA			LR	LR		
	comp=Z,2μm,18.2s,MS5.0					
LSA	**Lhasa**	**46.78 289**	*e*P	**P**	**13 33 19.9**	**+2.4**
	comp=Z,123nm,1.3s,mb5.7					
LSA	**Lhasa**	**46.78 289**	*e*P	**P**	**13 33 19.9**	**+2.4**
LSA			pmax	pmax		
	comp=Z,123nm,1.3s,mb5.7					
BILL	**Bilibino**	**46.80 12**	*e*P	**P**	**13 33 17.2**	**+0.2**
	comp=Z,32nm,1.2s,mb5.1					
BILL			*e*		13 33 31.0	
BILL	**Bilibino**	**46.80 12**	*c i*P	**P**	**13 33 17.1**	**+0.1**
BILL			*i*		13 33 30.9	
BILL			*e*		13 34 49.7	
BILL			*e*S	**S**	**13 40 02.5**	**-3.1**
BILL			*e*SS	SS	13 43 22.3	-10
BILL			pmax	pmax		
	comp=Z,26nm,1.2s,mb5.0					
BILL			MLR	MLR		
	comp=Z,900nm,20.0s,MS4.7					
ASAR	**Alice Springs**	**47.70 192**	P	**P**	**13 33 21.9**	**-2.6**
ASAR					13 34 53.3	
ASAR			S	**S**	**13 40 12.6**	**-6.7**
ASAR	**Alice Springs**	**47.70 192**	P	**P**	**13 33 21.9**	**-2.6**
	comp=Z,4.7nm,0.6s,mb4.7,baz=13,slow=12,SNR=50					
ASAR			PcP	PcP	13 34 53.2	-0.4
	comp=Z,4.2nm,0.9s,baz=9.5,slow=5.2,SNR=4.3					
ASAR			ScP	ScP	13 38 44.7	-1.9
	comp=Z,1.6nm,0.9s,baz=17,slow=4.3,SNR=5.7					
ASAR			S	**S**	**13 40 12.6**	**-6.7**
	comp=Z,0.5nm,0.7s,baz=18,slow=19,SNR=3.6					
TIXI	**Tiksi**	**48.95 354**	*e*P	**P**	**13 33 33.3**	**-0.4**
	comp=Z,34nm,1.0s,mb5.3					
TIXI	**Tiksi**	**48.95 354**	*e*P	**P**	**13 33 33.5**	**-0.1**
TIXI			*i* S	**S**	**13 40 36.5**	**+0.5**
TIXI			*e*		13 43 18.8	
TIXI			pmax	pmax		
	comp=Z,31nm,1.1s,mb5.2					
TIXI			MLR	MLR		
	comp=Z,632nm,15.0s,MS4.7					
EIDS	**Eidsvold**	**49.08 171**	*e*P	**P**	**13 33 32.9**	**-2.3**
	comp=Z,3.5nm,0.7s,mb4.5					
WMQ	**Urumqi**	**49.62 308**	P	**P**	**13 33 39.8**	**+0.7**
WMQ			AP	pP	13 33 44.0	-2.4
WMQ			XP	sP	13 33 47.0	-2.3
WMQ			PCP	PcP	13 35 01.0	+0.6
WMQ			PPP		13 36 29.0	
WMQ			S	**S**	**13 40 47.0**	**+0.9**
WMQ			XS	sS	13 40 54.0	-4.1
WMQ			SCS	ScS	13 43 28.0	-1.4
WMQ			AMB	AMB		
	comp=Z,106nm,1.4s,mb5.7					
WMQ			AMB	AMB		
	comp=Z,569nm,3.6s					
WMQ			LR	LR		
	comp=N,1μm,16.8s,MS5.1					
WMQ			LR	LR		
	comp=E,1μm,20.0s,MS5.1					
WMQ			LR	LR		
	comp=Z,1μm,23.2s,MS4.9					
MBWA	**Marble Bar**	**49.93 209**	*e*P	**P**	**13 33 40.0**	**-1.7**
	comp=Z,85nm,1.1s,mb5.7					
GAMB	**Gambell**	**49.99 24**	*e*P	**P**	**13 33 42.4**	**+0.8**
	comp=Z,16nm,1.2s,mb4.9					
JIRN	**Jiri**	**51.36 287**	*e*P	**P**	**13 33 54.1**	**+1.5**
	comp=Z,53nm,0.6s,mb5.6					
GUN	**Gumba**	**51.59 288**	*e*P	**P**	**13 33 55.7**	**+1.4**
	comp=Z,380nm,1.2s,mb6.2					
SDPT	**Sand Point**	**51.94 37**	*e*P	**P**	**13 33 54.9**	**-1.6**
	comp=Z,120nm,1.1s,mb5.7					
PKI	**Pulchoki**	**52.06 287**	*e*P	**P**	**13 33 58.4**	**+0.6**
	comp=Z,106nm,1.1s,mb5.7					
PKIN	**Phulchoki**	**52.07 287**	*e*P	**P**	**13 33 58.4**	**+0.6**
	comp=Z,26nm,0.5s,mb5.4					
PKIN	**Phulchoki**	**52.07 287**	*e*P	**P**	**13 33 59.1**	**+1.3**
PKIN	**Phulchoki**	**52.07 287**	*e*P	**P**	**13 33 59.3**	**+1.5**
KKN	**Kakani**	**52.13 288**	*e*P	**P**	**13 33 59.3**	**+0.9**
	comp=Z,166nm,1.2s,mb5.8					
DMN	**Daman**	**52.32 288**	*e*P	**P**	**13 34 00.7**	**+1.0**
	comp=Z,206nm,1.3s,mb5.9					
BOK	**Bokaro**	**52.33 283**	*e*P	**P**	**13 34 00.2**	**+0.3**
BOK			AMb	AMB	13 34 16.5	
	comp=Z,96nm,2.0s,mb5.4					
GKN	**Gorkha**	**52.66 288**	*e*P	**P**	**13 34 03.1**	**+0.8**
	comp=Z,279nm,1.2s,mb6.0					
ZAA0	**Zalesovo Array**	**52.96 321**	*e*P	**P**	**13 34 03.2**	**-0.8**
ZALV	**Zalesovo Beam**	**52.96 321**	P	**P**	**13 34 03.7**	**-0.4**
ZALV			S	**S**	**13 41 31.3**	**-0.7**
ZALV			LR	LR	13 56 44.8	
ZALV	**Zalesovo Beam**	**52.96 321**	P	**P**	**13 34 03.7**	**-0.4**
	comp=Z,16nm,0.5s,mb5.2,baz=102,slow=7.1,SNR=47					
ZALV			S	**S**	**13 41 31.3**	**-0.7**
	comp=Z,0.4nm,0.3s,baz=90,slow=4.5,SNR=2.1					
ZALV			LR	LR	13 56 44.8	
	comp=Z,1μm,21.7s,MS4.9,baz=108,slow=36					
ZAL	**Zalesovo**	**52.97 321**	P	**P**	**13 34 03.7**	**-0.4**
ZAL			S	**S**	**13 41 31.3**	**-0.8**
DANN	**Dangsing**	**53.37 289**	*e*P	**P**	**13 34 09.0**	**+1.5**
	comp=Z,305nm,0.6s					
KOLN	**Koldanda**	**53.61 288**	*e*P	**P**	**13 34 10.2**	**+1.0**
	comp=Z,68nm,0.6s,mb5.7					
MK31	**Makanchi Array**	**53.65 312**	*e*P	**P**	**13 34 09.5**	**+0.3**
MK31	**Makanchi Array**	**53.65 312**	*i* P	**P**	**13 34 09.8**	**+0.6**
MK31			pmax	pmax		
	comp=Z,163nm,1.2s,mb5.8					
MKAR	**Makanchi Array**	**53.65 312**	P	**P**	**13 34 09.7**	**+0.5**
MKAR			S	**S**	**13 41 41.9**	**+0.3**
MKAR	**Makanchi Array**	**53.65 312**	P	**P**	**13 34 09.7**	**+0.5**
	comp=Z,24nm,0.6s,mb5.3,baz=92,slow=8.5,SNR=149					
MKAR			ScP	ScP	13 39 10.9	-1.0
	comp=Z,2.1nm,1.1s,baz=86,slow=7.7,SNR=2.9					
MKAR			S	**S**	**13 41 41.9**	**+0.3**
	comp=Z,0.2nm,0.7s,baz=314,slow=34,SNR=2.2					
MKAR			LR	LR	13 58 48.7	
	comp=Z,742nm,18.0s,MS4.8,baz=95,slow=38					
NVS	**Novosibirsk**	**54.04 322**	⇑*i* P	**P**	**13 34 11.5**	**-0.4**
NVS			*e*		13 35 18.8	
NVS			*i* S	**S**	**13 41 39.5**	**-7.1**
NVS			pmax	pmax		
	comp=Z,142nm,1.8s,mb5.6					
NVS			pmax	pmax		
	comp=N,27nm,1.7s					
NVS			pmax	pmax		
	comp=E,115nm,1.8s					
NVS			smax			
	comp=N,32nm,2.7s					
NVS			smax			
	comp=E,40nm,2.4s					
ARMA	**Armidale**	**54.12 171**	*e*P	**P**	**13 34 09.1**	**-3.7**
STKA	**Stephens Creek**	**55.02 182**	*e*P	**P**	**13 34 17.1**	**-2.1**
	comp=E,14nm,0.9s,mb5.0					
STKA	**Stephens Creek**	**55.02 182**	P	**P**	**13 34 17.0**	**-2.2**
	comp=E,12nm,0.8s,mb5.0,baz=346,slow=7.6,SNR=27					
STKA			S	**S**	**13 41 57.5**	**-2.6**
	comp=E,1.7nm,0.9s,baz=177,slow=24,SNR=2.1					
STKA			LR	LR	13 58 01.9	
	comp=E,1μm,21.0s,MS5.0,baz=352,slow=36					
SVW2	**Sparrevohn**	**55.85 31**	*e*P	**P**	**13 34 25.4**	**+0.5**
FORT	**Forrest**	**55.85 196**	*e*P	**P**	**13 34 23.9**	**-1.4**
	comp=E,30nm,0.5s,mb5.6					
BLSP	**Bilaspur**	**56.07 282**	*e*P	**P**	**13 34 26.8**	**-0.3**
BLSP			AMb	AMB	13 34 45.1	
	comp=Z,68nm,2.8s,mb5.2					
TTA	**Tatalina**	**56.11 29**	*e*P	**P**	**13 34 27.2**	**+0.4**
	comp=Z,51nm,1.6s,mb5.3					
TTA			*e*		13 34 41.6	
TTA	**Tatalina**	**56.11 29**	*e*P	**P**	**13 34 27.2**	**+0.4**
TTA			*e*		13 34 41.6	
TTA			pmax	pmax		
	comp=Z,51nm,1.6s,mb5.3					
VIS	**Vishakhapatnam**	**56.14 276**	*e*P	**P**	**13 34 27.3**	**-0.4**
VIS			AMb	AMB	13 34 29.1	
	comp=Z,56nm,1.1s,mb5.5					
PTH	**Pithoragarh**	**56.24 291**	*e*P	**P**	**13 34 28.9**	**+0.6**
KURK	**Kurchatov**	**56.33 316**	P	**P**	**13 34 28.8**	**+0.3**
	comp=Z,688nm,1.1s,SNR=98					
KURK	**Kurchatov**	**56.33 316**	*e*P	**P**	**13 34 28.4**	**-0.1**
	comp=Z,195nm,1.2s,mb6.0					
KURK	**Kurchatov**	**56.33 316**	*e*P	**P**	**13 34 28.4**	**-0.1**
KURK			pmax	pmax		
	comp=Z,195nm,1.2s,mb6.0					
KDAK	**Kodiak Island**	**56.70 35**	P	**P**	**13 34 31.0**	**-0.1**
	comp=Z,117nm,2.5s,mb5.5,SNR=5.0					
KDAK	**Kodiak Island**	**56.70 35**	*e*P	**P**	**13 34 30.6**	**-0.5**
	comp=Z,19nm,0.9s,mb5.1					
KDAK	**Kodiak Island**	**56.70 35**	P	**P**	**13 34 30.6**	**-0.5**
	comp=Z,17nm,1.1s,mb5.0,baz=104,slow=4.8,SNR=9.3					
IMA2	**Indian Mountai**	**57.91 25**	*e*P	**P**	**13 34 40.3**	**+0.8**
ULHL	**Ulahol**	**57.98 306**	P	**P**	**13 34 40.8**	**+0.4**
	SNR=5.8					
KSH	**Kashi**	**58.41 303**	*e*P	**P**	**13 34 46.0**	**+2.6**
KSH

KSH LR LR
comp=N,4μm,18.6s,MS5.9
KSH LR LR
comp=E,8μm,17.8s,MS5.9
KSH LR LR
comp=Z,6μm,19.3s,MS5.7
TKM2 Tokmak 2 58.42 307 *e*P **P 13 34 44.6 +1.2**
comp=Z,79nm,1.1s,mb5.7
TKM2 *e*ScP ScP 13 39 29.2 -3.8
TKM2 Tokmak 2 58.42 307 *e*P **P 13 34 44.6 +1.2**
TKM2 pmax pmax
comp=Z,79nm,1.1s,mb5.7
TKM2 Tokmak 2 58.42 307 P **P 13 34 45.0 +1.6**
SNR=55
SMLA Simla 58.57 293 *e*P **P 13 34 45.1 +0.5**
SMLA AMb AMB 13 34 47.1
comp=Z,143nm,1.1s,mb5.9
CNB Canberra Magne 58.70 174 *e*P **P 13 34 43.6 -1.7**
comp=Z,8μm,9.5s
KZA Kyzart 58.73 306 P **P 13 34 48.1 +2.5**
SNR=64
KBK Karagaybulak 58.91 307 P **P 13 34 48.3 +1.4**
SNR=40
NDI New Delhi 58.98 290 *e*P **P 13 34 47.0 -0.6**
NDI *e*P 13 34 47.7
NDI AMb AMB 13 34 49.5
comp=Z,89nm,1.5s,mb5.6
PMR Palmer 58.99 31 *e*P **P 13 34 46.9 -0.2**
comp=Z,29nm,1.0s,mb5.3
PMR LR LR
comp=Z,900nm,21.0s,MS4.9
PMR Palmer 58.99 31 *e*P **P 13 34 46.9 -0.2**
PMR pmax pmax
comp=Z,29nm,1.0s,mb5.3
PMR MLR MLR
comp=Z,900nm,21.0s,MS4.9
CHMS Chumysh 59.03 307 P **P 13 34 48.5 +0.9**
SNR=27
NGP Nagpur 59.09 281 *e*P **P 13 34 49.5 +1.0**
NGP AMb AMB 13 35 04.2
comp=Z,65nm,1.8s,mb5.4
FRU Bishkek 59.14 307⇑ *i*P **P 13 34 49.0 +0.6**
FRU *i* pP 13 34 57.0 +1.2
FRU *e* 13 43 12.0
FRU pmax pmax
comp=Z,270nm,1.9s,mb6.0
FRU MLR MLR
comp=N,1μm,18.0s,MS5.3
FRU MLR MLR
comp=E,2μm,18.0s,MS5.3
FRU MLR MLR
comp=Z,2μm,18.0s,MS5.3
USP Ospenovka 59.19 308 P **P 13 34 49.7 +0.9**
SNR=25
AAK Ala-Archa 59.25 307 P **P 13 34 49.9 +0.7**
comp=Z,195nm,1.5s,mb5.9,SNR=10
AAK Ala-Archa 59.25 307 *e*P **P 13 34 49.0 -0.2**
comp=Z,103nm,1.5s,mb5.6
AAK Ala-Archa 59.25 307⇑ *e*P **P 13 34 49.2 0.0**
AAK pmax pmax
comp=Z,58nm,1.3s,mb5.5
AAK Ala-Archa 59.25 307 P **P 13 34 49.8 +0.6**
SNR=30
AAK Ala-Archa 59.25 307 P **P 13 34 49.8 +0.6**
SNR=30
AAK Ala-Archa 59.25 307 P **P 13 34 50.4 +1.2**
SNR=28
UCH Uchtor 59.27 306 *e*P **P 13 34 51.3 +2.0**
comp=Z,171nm,1.4s,mb5.9
UCH Uchtor 59.27 306 P **P 13 34 51.6 +2.3**
SNR=79
MCK McKinley 59.40 29 *e*P **P 13 34 49.4 -0.5**
comp=Z,34nm,0.9s,mb5.4
MCK McKinley 59.40 29 *e*P **P 13 34 49.4 -0.5**
MCK pmax pmax
comp=Z,34nm,0.9s,mb5.4
THN Thein Dam 59.56 295 *e*P **P 13 34 50.6 -0.9**
EKS2 Erkin-Say 59.77 307 *e*P **P 13 34 54.5 +1.7**
comp=Z,87nm,1.4s,mb5.6
EKS2 Erkin-Say 59.77 307 P **P 13 34 53.9 +1.1**
SNR=26
AML Almayashu 59.88 306 *e*P **P 13 34 55.4 +1.8**
comp=Z,110nm,1.1s,mb5.8
AML Almayashu 59.88 306 P **P 13 34 55.2 +1.6**
SNR=56
KLBR Kellerberrin 59.94 205 *e*P **P 13 34 52.1 -1.9**
comp=Z,30nm,0.7s,mb5.4
BHPL Bhopal 60.01 284 *e*P **P 13 34 52.6 -2.1**
BHPL AMb AMB 13 35 10.6
comp=Z,42nm,1.7s,mb5.2
COLA College 60.05 27 *e*P **P 13 34 56.0 +1.7**
comp=Z,11nm,0.8s,mb5.0
COLA College 60.05 27 *e*P **P 13 34 56.0 +1.7**
COLA pmax pmax
comp=Z,11nm,0.8s,mb4.9
HYB Hyderabad 60.59 277 *i*P **P 13 34 58.5 -0.3**
MUN Mundaring 60.90 206⇓ *i*P **P 13 34 59.7 -0.8**
AKL Akola 61.04 281 *e*P **P 13 35 02.0 +0.2**
AKL AMb AMB 13 35 04.4
comp=Z,74nm,1.1s,mb5.8
NWAO Narrogin (SRO) 61.33 205 *e*P **P 13 35 02.5 -0.9**
comp=Z,36nm,1.0s,mb5.5
NWAO *e* 13 35 15.0
NWAO Narrogin (SRO) 61.33 205 *e*P **P 13 35 02.5 -0.9**
NWAO *e* 13 35 15.0
NWAO pmax pmax
comp=Z,36nm,1.0s
BRVK Borovoye 61.53 319 P **P 13 35 04.9 +0.3**
comp=Z,546nm,0.9s,SNR=12
BRVK Borovoye 61.53 319 *e*P **P 13 35 04.5 0.0**
comp=Z,97nm,1.0s,mb5.9
BRVK Borovoye 61.53 319 *e*P **P 13 35 04.6 0.0**
BRVK pmax pmax
comp=Z,97nm,1.0s,mb5.9
AJM Ajmer 61.68 288 *i*P **P 13 35 05.0 -1.1**
PALK Pallekele 62.06 266 *e*P **P 13 35 09.0 +0.2**
comp=Z,16nm,1.0s,mb5.1
LATR Latur 62.10 279 *e*P **P 13 35 09.1 +0.1**
LATR AMb AMB 13 35 16.0
comp=Z,36nm,1.0s,mb5.5
KK31 Karatay Array 62.11 308 *i*P **P 13 35 09.5 +0.8**
KK31 pmax pmax
comp=Z,199nm,1.4s,mb6.0
ZRNK Zerenda 62.30 319 *i*P **P 13 35 09.3 -0.5**
ZRNK pmax pmax
comp=Z,1.0nm,1.0s,mb3.9
EGAK Eagle 62.89 28 *e*P **P 13 35 12.8 -0.7**
comp=Z,10nm,0.7s,mb5.1
DAWY Dawson 63.63 29 *e*P **P 13 35 18.4 0.0**
KOD Kodaikanal 63.94 270 *e*P **P 13 35 19.3 -2.0**
KOD AMb AMB 13 35 23.3
comp=Z,33nm,1.2s,mb5.2
POO Poona 64.52 280⇑ *i*P **P 13 35 23.5 -1.6**
comp=Z,30nm,1.0s,mb5.3
POO *e*P 13 35 23.9
POO AMb AMB 13 35 28.3
comp=Z,48nm,1.9s,mb5.2
KAD Karad 64.59 279 *e*P **P 13 35 24.6 -1.0**
KAD AMb AMB 13 35 27.1
comp=Z,45nm,1.1s,mb5.4
KBL Kabul 64.64 298 *e*P **P 13 35 26.0 +0.4**
comp=Z,86nm,1.1s,mb5.7
TRD Trivandrum 65.04 269 *e*x x 13 35 33.0
INK Inuvik 65.93 24 *e*P **P 13 35 32.3 -1.0**
comp=Z,1μm,1.3s
INK Inuvik 65.93 24 *e*P **P 13 35 32.3 -1.1**
INK pmax pmax
comp=Z,1μm,1.3s
INK Inuvik 65.93 24 P **P 13 35 32.8 -0.6**
comp=Z,13nm,1.0s,mb4.9,baz=270,slow=6.8,SNR=32
INK S S 13 44 19.7 +0.7
comp=Z,1.0nm,1.0s,baz=168,slow=31,SNR=4.8
SVE Sverdlovsk 66.78 324⇑ *e*P **P 13 35 39.3 +0.3**
SVE *e*S S 13 44 23.4 -6.3
SVE *e* 13 45 37.7
SVE pmax pmax
comp=Z,103nm,1.1s,mb5.8
SVE MLR MLR
comp=Z,2μm,18.0s,MS5.3
ARU Arti 67.97 323 P **P 13 35 46.2 -0.3**
comp=Z,295nm,0.9s,mb6.3,SNR=5.0
ARU Arti 67.97 323 *e*P **P 13 35 46.3 -0.2**
comp=Z,125nm,1.1s,mb5.9
ARU *e* 13 36 00.3
ARU Arti 67.97 323 *d i*P **P 13 35 46.5 0.0**
ARU *e* 13 36 11.0
ARU *e* 13 38 16.2
ARU *e*PPP 13 39 49.7
ARU *e*S S 13 44 44.5 +0.5
ARU *e*SS SS 13 48 59.4 -6.3
ARU pmax pmax
comp=Z,98nm,1.7s,mb5.6
ARU MLR MLR
comp=Z,1μm,19.0s,MS5.2
AB31 Akbulak array 68.42 316 *i*P **P 13 35 49.0 -0.5**
DLBC Dease Lake 68.61 34 *e*P **P 13 35 51.1 +0.6**
URZ Urewera 69.06 152 LR LR 14 02 46.3
comp=Z,549nm,18.7s,MS4.8,baz=144,slow=33
AKTK Aktyubinsk 69.41 317 *i*P **P 13 35 53.1 -2.5**
AKTO Aktyubinsk 69.41 317 *i*P **P 13 35 53.0 -2.6**
RAR Rarotonga 70.97 124 LR LR 14 03 10.7
comp=Z,1μm,18.5s,MS5.2,baz=261,slow=32
ABKT Ailbek 72.40 304 P **P 13 36 15.6 +1.6**
comp=Z,119nm,0.9s,mb5.8,SNR=6.8
ALE Alert 73.55 3 P **P 13 36 20.7 +0.6**
comp=Z,131nm,1.1s,mb5.8,SNR=9.4
KBS Kingsbay 74.31 351 *e*P **P 13 36 29.8 +5.2**
KBS *e*S S 13 45 48.3 -8.6
KBS AMS AMS 14 12 03.5
comp=Z,774nm,13.9s,MS5.2
YKA Yellowknife Ar 74.86 28 P **P 13 36 27.3 -0.7**
YKA S S 13 46 02.1 -1.4
YKA Yellowknife Ar 74.86 28 P **P 13 36 27.2 -0.8**
comp=Z,8.8nm,0.6s,mb4.9,baz=293,slow=5.6,SNR=90
YKA S S 13 46 02.1 -1.4
comp=Z,0.1nm,0.7s,baz=288,slow=10,SNR=2.3
YKA LR LR 14 08 36.6
comp=Z,661nm,20.8s,MS4.9,baz=235,slow=35
RES Resolute Bay 75.37 14 *e*P **P 13 36 31.0 +0.3**
comp=Z,812nm,1.0s
RES Resolute Bay 75.37 14 *e*P **P 13 36 31.0 +0.3**
RES pmax pmax
comp=Z,812nm,1.0s
TMCR Tamitsa 75.58 334 *e*P **P 13 36 39.1 +7.0**
CMW Cultus Mountai 75.73 43 P **P 13 36 34.6 +1.3**
APA Apatity 75.83 338⇑ *i*P **P 13 36 34.6 +1.1**
APA *i* 13 36 46.2
APA *e*S S 13 46 16.0 +2.0
APA *e*PS 13 47 06.0
APA pmax pmax
comp=Z,54nm,1.2s,mb5.3
APA MLR MLR
comp=Z,1μm,18.0s,MS5.2
JCW Jim Creek 75.93 43 P **P 13 36 35.3 +0.9**
FL2 Flat Top 2 76.32 45 ⇓P **P 13 36 38.2 +1.6**
TDL Tradedollar La 76.36 45 P **P 13 36 37.7 +0.8**
WBK Wadi Bani Khal 76.45 289 P **P 13 36 39.2 +1.3**
SNR=8.4
WBK Wadi Bani Khal 76.45 289 P **P 13 36 39.2 +1.3**
SNR=8.4
FMW Mount Fremont 76.51 45 P **P 13 36 38.4 +0.6**
GT2 Goat Mountain 76.72 46 P **P 13 36 40.7 +1.7**
KEV Kevo 76.78 341 *e*p **P 13 36 36.6 -2.2**
comp=Z,9.2nm,0.8s,mb4.8
KEV Kevo 76.78 341 *e*P **P 13 36 36.6 -2.2**
KEV pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
BIDO Bidbid 76.87 290 P **P 13 36 41.5 +1.3**
SNR=9.8
BIDO Bidbid 76.87 290 P **P 13 36 41.5 +1.3**
SNR=9.8
TDH Tom, Dick, Har 77.00 46 P **P 13 36 41.8 +1.3**
SMDO Samad 77.09 290 P **P 13 36 42.8 +1.3**
SNR=14
SMDO Samad 77.09 290 P **P 13 36 42.8 +1.3**
SNR=14
HUMO Hull Mountain 77.12 49 *e*P **P 13 36 42.6 +1.3**
comp=Z,20nm,1.2s,mb4.9
PPT Papeete 77.14 116 *e*S S 13 46 31.7 +1.9
comp=Z,634nm,31.5s
PPT Papeete 77.14 116 *e*LR LR 14 00 01.8
comp=Z,898nm,23.8s
ETW Entiat 77.14 44 P **P 13 36 41.6 +0.3**
JMDO Jabal Madar 77.28 289 P **P 13 36 43.2 +0.7**
SNR=6.5
JMDO Jabal Madar 77.28 289 P **P 13 36 43.2 +0.7**
SNR=6.5
ARCES ARCESS Array B 77.34 341 P **P 13 36 42.2 +0.3**
comp=Z,25nm,1.0s,mb5.1,baz=67,slow=5.1,SNR=19
ARCES LR LR 14 15 30.9
comp=Z,2μm,19.4s,MS5.5,baz=32,slow=39
HOQ Hoqain 77.55 290 P **P 13 36 44.6 +0.6**
SNR=24
HOQ Hoqain 77.55 290 P **P 13 36 44.6 +0.6**
SNR=24
YBH Yreka Blue Hor 77.59 50 *e*P **P 13 36 44.7 +0.7**
comp=Z,18nm,1.0s,mb5.0
YBH Yreka Blue Hor 77.59 50 *e*P **P 13 36 44.7 +0.8**
YBH pmax pmax
comp=Z,18nm,1.0s
BSY Bisya 77.94 290 P **P 13 36 46.8 +0.6**
SNR=19
BSY Bisya 77.94 290 P **P 13 36 46.8 +0.6**
SNR=19
GBL Gable Mountain 78.05 44 P **P 13 36 47.3 +0.9**
HAWA Hanford 78.08 45 *e*P **P 13 36 47.1 +0.6**
comp=Z,14nm,0.8s,mb4.9
HATD Hatta, Dubai 78.13 292 P **P 13 36 48.8 +1.6**
SNR=15
HATD Hatta, Dubai 78.13 292 P **P 13 36 48.8 +1.6**
SNR=15
ASHO Ashiyiah 78.25 292 P **P 13 36 49.3 +1.5**
SNR=13
ASHO Ashiyiah 78.25 292 P **P 13 36 49.3 +1.5**
SNR=13
KTK1 Kautokeino 78.30 341 *e*P **P 13 36 47.9 +0.6**
KTK1 AMb AMB 13 36 50.6
comp=Z,73nm,1.9s,mb5.3
MAK Makhachkala 78.47 312 *e*P **P 13 36 47.1 -1.7**
MAK *i* 13 39 42.3
MAK *i*S S 13 46 41.0 -2.6
MAK pmax pmax
comp=Z,101nm,1.2s,mb5.6
MAK MLR MLR
comp=Z,3μm,18.0s,MS5.6
JOF Joensuu 78.83 334 *e*p **P 13 36 49.1 -1.2**
comp=Z,13nm,0.5s,mb5.1
JOF Joensuu 78.83 334 *e*P **P 13 36 49.1 -1.2**
JOF pmax pmax
comp=Z,13nm,0.5s,mb5.1
NEW Newport 78.90 42 *e*P **P 13 36 50.8 -0.2**
comp=Z,25nm,0.9s,mb5.2
NEW Newport 78.90 42 *e*P **P 13 36 50.8 -0.3**
NEW pmax pmax
comp=Z,25nm,0.9s
EDM Edmonton 79.12 37 *e*P **P 13 36 51.2 -1.0**
TRO Tromso 79.13 343 *e*P **P 13 36 50.7 -1.2**
TRO *e*S S 13 46 40.4 -9.3
TRO AMS AMS 14 17 21.7
comp=Z,908nm,17.6s,MS5.2
MOD Modoc 79.21 49 *e*P **P 13 36 52.9 0.0**
comp=Z,14nm,1.0s,mb4.8
OHCM Honcut 79.32 52 *e*P **P 13 36 53.4 -0.2**
MOS Moscow 79.32 326 *e*P **P 13 36 51.7 -1.5**
MOS *e* 13 37 06.7
MOS MLR MLR
comp=Z,2μm,19.0s,MS5.5
DAG Danmarks Havn 79.42 356⇑ *i*P **P 13 36 54.1 +0.7**
DAG pmax pmax
comp=Z,8.0nm,0.7s,mb4.8
DAG Danmarks Havn 79.42 356⇑ *i*P **P 13 36 54.1 +0.7**
comp=Z,8.2nm,0.7s,mb4.8
BMO Blue Mountains 80.11 45 *e*P **P 13 36 57.6 -0.1**
comp=Z,25nm,1.0s,mb5.1
BMO Blue Mountains 80.11 45 *e*P **P 13 36 57.6 -0.1**
BMO pmax pmax
comp=Z,25nm,1.0s,mb5.1
TBI Tubuai 80.13 121 *e*S S 13 46 58.3 -3.4
comp=Z,627nm,29.0s
TBI Tubuai 80.13 121 *e*LR LR 14 01 33.8
comp=Z,2μm,32.8s,baz=303
OBN Obninsk 80.14 326⇓ *i*P **P 13 36 57.6 -0.1**
OBN *e* pP 13 37 04.5 -0.8
OBN *e* 13 37 10.1
OBN *e* 13 39 59.3
OBN *e*S S 13 47 03.0 +2.1
OBN pmax pmax
comp=Z,22nm,1.0s,mb5.0
OBN MLR MLR
comp=Z,3μm,22.0s,MS5.6
WVOR Wild Horse Val 80.16 48 *e*P **P 13 36 57.9 -0.1**
comp=Z,20nm,1.0s,mb5.0
WVOR Wild Horse Val 80.16 48 *e*P **P 13 36 57.9 -0.1**
WVOR pmax pmax
comp=Z,20nm,1.0s,mb5.0
VRSR Storozhevoye 80.44 322 *e*P **P 13 36 59.0 -0.4**
VRSR pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
VRSR pmax pmax
comp=N,3.0nm,1.3s
VRSR pmax pmax
comp=E,4.0nm,0.9s
VORD Divnogorie 80.49 322 *e*P **P 13 36 58.1 -1.5**
VORD pmax pmax
comp=N,10.0nm,0.8s
VORD pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
VORD pmax pmax
comp=E,10.0nm,0.7s
VORD MLR MLR
comp=Z,1μm,21.0s,MS5.2
VORD MLR MLR
comp=N,2μm,22.0s,MS5.4
VORD MLR MLR
comp=E,1μm,22.0s,MS5.4
VORD MLR MLR
comp=Z,1μm,21.0s
VORD MLR MLR
comp=N,2μm,28.0s
VORD MLR MLR
comp=E,2μm,26.0s
WALA Waterton Lakes 80.53 41 *e*P **P 13 37 00.1 +0.2**
comp=E,22nm,0.9s,mb5.1
CMB Columbia Colle 80.60 53 *e*P **P 13 37 00.5 0.0**
comp=E,18nm,0.8s,mb5.0
CMB Columbia Colle 80.60 53 *e*P **P 13 37 00.5 0.0**
CMB pmax pmax
comp=Z,18nm,0.8s,mb5.0
TAOE Nuku Hiva Isla 81.30 104 *e*LR LR 14 02 37.9
comp=Z,27μm,25.4s
KIV Kislovodsk 81.33 314 P **P 13 37 05.6 +1.3**
comp=Z,127nm,0.9s,mb5.8,SNR=6.9
KIV Kislovodsk 81.33 314 *e*P **P 13 37 04.6 +0.4**
comp=Z,31nm,0.9s,mb5.2
KIV Kislovodsk 81.33 314 *c i*P **P 13 37 04.4 +0.1**
KIV *i* 13 37 18.2
KIV *e*S S 13 47 18.7 +4.9
KIV pmax pmax
comp=Z,53nm,1.6s,mb5.2
KIV MLR MLR
comp=Z,1μm,21.0s,MS5.2
ONI Oni 81.38 313 P **P 13 37 05.1 +0.6**
PTRM Twissleman Ran 81.64 55 *e*P **P 13 37 06.9 +0.9**
FIA1 FINESS Array S 81.69 334 *e*P **P 13 37 03.7 -2.1**
FINES FINESS Array B 81.69 334 P **P 13 37 04.2 -1.6**
FINES 13 40 14.0
FINES FINESS Array B 81.69 334 P **P 13 37 04.2 -1.6**
comp=Z,3.2nm,0.4s,mb4.6,baz=66,slow=5.5,SNR=26
FINES PP PP 13 40 14.0 +1.9
comp=Z,4.6nm,1.0s,baz=38,slow=7.0,SNR=3.2
FINES LR LR 14 16 14.7
comp=Z,691nm,19.4s,MS5.0,baz=28,slow=38
CHMT Chamberlain Mo 81.84 42 *e*P **P 13 37 06.1 -0.8**
NVAR Mina Array Bea 81.96 52 P **P 13 37 08.3 +0.6**
comp=Z,5.2nm,0.8s,mb4.5,baz=280,slow=4.0,SNR=37
MTUM Tungsten Hills 82.19 53 *e*P **P 13 37 09.4 +0.5**
RBK Rabkut 82.45 286 P **P 13 37 11.4 +0.8**
SNR=5.1
RBK Rabkut 82.45 286 P **P 13 37 11.4 +0.8**
SNR=5.1
MOR8 Moi Rana 82.71 341 *e*P **P 13 37 10.4 -0.7**
MOR8 AMb AMB 13 37 18.0
comp=Z,40nm,2.0s,mb5.1
DLMT Dillon 82.93 44 *e*P **P 13 37 13.1 +0.5**
comp=Z,14nm,1.1s,mb4.9
ARTV Artvin 82.99 312 *i*P **P 13 37 13.1 +0.1**
MCMT McKenzie Canyo 83.01 44 *e*P **P 13 37 13.1 +0.1**
ABTO Aybut 83.31 286 P **P 13 37 16.3 +1.2**
SNR=8.9
ABTO Aybut 83.31 286 P **P 13 37 16.3 +1.2**
SNR=8.9
UMR Umm Al-Rimmam 83.37 299 *e*P **P 13 37 14.9 -0.3**
UMR AMb AMB 13 37 19.2
comp=Z,150nm,1.5s,mb5.8
BOZ Bozeman (W) 83.41 43 *e*P **P 13 37 15.1 0.0**
comp=Z,6.0nm,0.8s,mb4.7
BOZ Bozeman (W) 83.41 43 *e*P **P 13 37 15.1 0.0**
BOZ pmax pmax
comp=Z,6.0nm,0.8s,mb4.7
SOC Sochi 83.44 315 *e*P **P 13 37 14.6 -0.7**
SOC *e**PP pP 13 37 22.9 0.0
SOC *e**SP sP 13 37 27.4 +1.7
SOC *e* 13 40 24.5
SOC *e*PPP 13 42 19.8
SOC *e*S S 13 47 32.7 -2.6
SOC *e*SS SS 13 53 05.6 +5.2
SOC pmax pmax
comp=Z,17nm,1.1s,mb5.0
SOC MLR MLR
comp=Z,2μm,20.0s,MS5.4
EGMT Eagleton 83.47 40 *e*P **P 13 37 15.2 -0.2**
comp=Z,15nm,1.0s,mb5.0
QRN Al-Qurain 83.52 298 *e*P **P 13 37 15.1 -0.9**
QRN AMb AMB 13 37 19.1
comp=Z,135nm,1.7s,mb5.8
KBD Kabd 83.53 299 *e*P **P 13 37 15.1 -1.0**
KBD AMb AMB 13 37 19.3
comp=Z,379nm,1.5s,mb6.3
MIB Mutribah 83.57 300 *e*P **P 13 37 15.6 -0.7**
MIB AMb AMB 13 37 32.0
comp=Z,161nm,0.9s,mb6.1
RDF Al-Radifah 83.75 299 *e*P **P 13 37 16.4 -0.8**
RDF AMb AMB 13 37 20.2
comp=Z,133nm,1.4s,mb5.9
JMIC Jan Mayen 83.80 351 *e*P **P 13 37 16.6 0.0**
JMIC *e*SKS 13 47 34.9
NAY Al-Naaiem 83.87 299 *e*P **P 13 37 17.0 -0.8**
NAY AMb AMB 13 37 20.6
comp=Z,141nm,1.2s,mb6.0
QLMT Earthquake Lak 83.91 44 *e*P **P 13 37 18.1 +0.5**
ERZM Erzurum 83.92 311 *i*P **P 13 37 09.9 -7.9**
TPNV Topopah Spring 84.05 52 *e*P **P 13 37 18.4 -0.2**
comp=Z,13nm,0.9s,mb5.0
TPNV Topopah Spring 84.05 52 *e*P **P 13 37 18.4 -0.1**
TPNV pmax pmax
comp=Z,13nm,0.9s,mb5.1
YMR Madison River 84.28 44 *e*P **P 13 37 20.8 +1.3**
comp=Z,36nm,1.0s,mb5.5
FFC Flin Flon 84.29 32 P **P 13 37 19.3 -0.1**
comp=Z,253nm,1.0s,mb6.3,SNR=22
FFC Flin Flon 84.29 32 *e*P **P 13 37 19.1 -0.3**
comp=Z,42nm,0.9s,mb5.6
FFC Flin Flon 84.29 32 *e*P **P 13 37 19.1 -0.3**
FFC pmax pmax
comp=Z,42nm,0.9s,mb5.6
GSC Goldstone 84.32 54 *e*P **P 13 37 20.1 +0.1**
comp=Z,13nm,0.9s,mb5.1
GSC Goldstone 84.32 54 *e*P **P 13 37 20.1 +0.1**
GSC pmax pmax
comp=Z,13nm,0.9s,mb5.1
ANN Anapa 84.36 317 *e*P **P 13 37 22.0 +2.0**
ANN *e**PP pP 13 37 33.4 +5.8
ANN *e* 13 40 33.9
ANN *e*S S 13 47 44.8 +0.2
ANN pmax pmax
comp=Z,28nm,0.9s,mb5.4
ANN MLR MLR
comp=Z,776nm,19.0s,MS5.1
YNR Norris Junctio 84.44 44 *e*P **P 13 37 22.6 +2.2**
YFT Old Faithful 84.46 44 *e*P **P 13 37 23.1 +2.6**
KOPT Kop Dagi 84.47 311 *i*P **P 13 37 23.3 +2.7**
GCMT Greycliff 84.57 42 *e*P **P 13 37 21.5 +0.5**
DCID1 Drake Creek 84.63 45 *e*P **P 13 37 23.0 +1.6**
IMW Indian Meadow 84.65 44 *e*P **P 13 37 22.4 +1.0**
comp=Z,22nm,0.9s,mb5.3
LKWY Lake 84.68 44 *e*P **P 13 37 24.0 +2.4**
comp=Z,12nm,0.8s,mb5.1
LKWY Lake 84.68 44 *e*P **P 13 37 24.0 +2.4**
LKWY pmax pmax
comp=Z,12nm,0.8s,mb5.1
FLWY Flagg Ranch 84.72 44 *e*P **P 13 37 22.8 +1.0**
comp=Z,34nm,1.0s,mb5.4
MNK Minsk 84.82 328 *e*P **P 13 37 21.0 -1.1**
MNK MLR MLR
comp=Z,4μm,18.0s,MS5.9
TPAW Teton Pass 84.83 45 *e*P **P 13 37 23.1 +0.7**
comp=Z,16nm,1.1s,mb5.0
SPUT South Promonto 84.83 47 *e*P **P 13 37 23.0 +0.6**

MOOW Moose Ponds 84.84 44 *e*P **P 13 37 22.7 +0.3**
comp=Z,12nm,1.1s,mb4.9
SNOW Snow King Moun 84.97 45 *e*P **P 13 37 24.0 +1.0**
comp=Z,5.5nm,0.4s,mb5.0
LOHW Long Hollow 84.99 44 *e*P **P 13 37 23.9 +0.7**
comp=Z,14nm,1.1s,mb5.0
DUG Dugway 85.08 48 *e*P **P 13 37 23.4 -0.2**
comp=Z,18nm,1.0s,mb5.2
DUG Dugway 85.08 48 *e*P **P 13 37 23.4 -0.3**
DUG pmax pmax
comp=Z,18nm,1.0s,mb5.2
RLMT Red Lodge 85.13 43 *e*P **P 13 37 24.1 +0.3**
comp=Z,24nm,0.7s,mb5.4
HWUT Hardware Ranch 85.29 47 *e*P **P 13 37 24.7 0.0**
comp=Z,22nm,1.0s,mb5.2
PFO Pinyon Flat Ob 85.29 56 *e*P **P 13 37 24.2 -0.7**
comp=Z,17nm,1.0s,mb5.1
PFO Pinyon Flat Ob 85.29 56 *e*P **P 13 37 24.2 -0.7**
PFO pmax pmax
comp=Z,17nm,1.0s,mb5.1
FCC Fort Churchill 85.43 26 *e*P **P 13 37 24.0 -1.1**
comp=Z,8.0nm,0.8s,mb4.9
FCC Fort Churchill 85.43 26 *e*P **P 13 37 24.0 -1.0**
FCC pmax pmax
comp=Z,8.0nm,0.8s,mb4.9
MARD Mardin 85.45 309 *i* P **P 13 37 22.6 -3.1**
CTU Camp Tracy 85.58 47 *e*P **P 13 37 26.5 +0.3**
comp=Z,18nm,1.0s,mb5.2
NLU North Lily Min 85.69 48 *e*P **P 13 37 26.4 -0.3**
ARUT Antelope Range 85.71 51 *e*P **P 13 37 27.4 +0.5**
JLU Jordanelle 85.82 47 *e*P **P 13 37 27.4 0.0**
CCUT Cedar City 85.87 51 *e*P **P 13 37 28.1 +0.4**
MPU Maple Canyon 85.97 48 *e*P **P 13 37 28.4 +0.2**
comp=Z,14nm,0.9s,mb5.2
DAU Daniels Canyon 86.04 48 *e*P **P 13 37 28.4 0.0**
BW06 Boulder Array 86.07 45 *e*P **P 13 37 28.0 -0.5**
comp=Z,4.1nm,0.9s,mb4.7
AKASG Malin Array Be 86.19 324 P **P 13 37 27.0 -2.0**
comp=Z,2.1nm,0.6s,mb4.5,baz=48,slow=5.2,SNR=19
AKASG S S 13 47 53.8 -8.6
comp=Z,0.1nm,0.3s,baz=180,slow=5.4,SNR=2.5
AKBB Malin Array Si 86.19 324 *e*P **P 13 37 26.8 -2.2**
LAO LASA Array 86.22 40 *e*P **P 13 37 29.8 +0.6**
comp=Z,42nm,1.0s,mb5.6
MSU Marysvale 86.27 50 *e*P **P 13 37 30.0 +0.3**
SIM Simferopol' 86.36 318 *c*P **P 13 37 27.9 -2.0**
SIM S S 13 48 03.5 -0.8
SIM pmax pmax
comp=Z,110nm,13.0s
TMUT Trail Mountain 86.59 49 *e*P **P 13 37 31.5 +0.3**
MALT Malatya 86.67 310 *e*P **P 13 37 32.1 +0.5**
comp=Z,18nm,1.3s,mb5.1
MALT *e* 13 37 46.7
MALT Malatya 86.67 310 *e*P **P 13 37 32.1 +0.5**
MALT *e* 13 37 46.7
MALT pmax pmax
comp=Z,18nm,1.3s,mb5.1
MALT Malatya 86.67 310 ⇑*i*P **P 13 37 32.1 +0.5**
GLA Glamis 86.76 55 *e*P **P 13 37 32.3 +0.1**
comp=Z,25nm,1.0s,mb5.4
GLA Glamis 86.76 55 *e*P **P 13 37 32.3 +0.1**
GLA pmax pmax
comp=Z,25nm,1.0s,mb5.4
SRU San Rafael 87.14 48 *e*P **P 13 37 33.3 -0.6**
comp=Z,13nm,0.9s,mb5.2
SRU San Rafael 87.14 48 *e*P **P 13 37 33.3 -0.6**
SRU pmax pmax
comp=Z,13nm,0.9s,mb5.2
SUW Suwalki 87.32 329 *e*P **P 13 37 33.8 -0.6**
NB2 NORSAR Subarra 87.39 339 P **P 13 37 32.8 -1.9**
comp=Z,0.7nm,0.8s,mb3.9,baz=50,slow=5.3
NOA NORSAR Array B 87.39 339 P **P 13 37 32.6 -2.0**
NOA PP PP 13 40 54.9 -3.6
NOA LR LR 14 21 02.9
NOA NORSAR Array B 87.39 339 P **P 13 37 32.6 -2.0**
comp=Z,5.0nm,0.9s,mb4.8,baz=46,slow=4.5,SNR=9.9
NOA PP PP 13 40 54.9 -3.6
comp=Z,3.0nm,0.9s,baz=43,slow=8.5,SNR=4.0
NOA LR LR 14 21 02.9
comp=Z,514nm,18.6s,MS5.0,baz=45,slow=39
BOYT Boyabat 87.59 314 *i* P **P 13 37 34.7 -1.3**
RWWY Rawlins 88.11 45 *e*P **P 13 37 38.6 +0.1**
comp=Z,18nm,1.1s,mb5.2
WUAZ Wupatki 88.22 52 *e*P **P 13 37 39.7 +0.6**
comp=Z,16nm,1.1s,mb5.2
PV10 Paradox Valley 88.52 49 *e*P **P 13 37 41.0 +0.6**
BALT Daday 88.53 315 *i* P **P 13 37 37.2 -3.3**
CDAG Cicekdag 88.83 313 *i* P **P 13 37 31.1 -11**
RSSD Black Hills 88.86 42 *e*P **P 13 37 42.2 +0.3**
comp=Z,3.1nm,0.8s,mb4.7
RSSD Black Hills 88.86 42 *e*P **P 13 37 42.3 +0.3**
RSSD pmax pmax
comp=Z,3.0nm,0.8s,mb4.7
PV01 Paradox Valley 88.95 49 *e*P **P 13 37 42.6 +0.1**
KONO Kongsberg 88.97 338 *e*P **P 13 37 41.3 -0.9**
KONO AMS AMS 14 23 50.9
comp=Z,699nm,24.0s,MS5.0
SMCO Snowmass 89.53 47 *e*P **P 13 37 46.0 +0.8**
comp=Z,16nm,1.1s,mb5.2
BER Bergen 89.77 341 *e*P **P 13 37 43.8 -2.1**
BER *e* 13 48 29.9
BER AMS AMS 14 24 06.7
comp=Z,561nm,18.7s,MS5.0
ULM Lac du Bonnet 89.92 33 *e*P **P 13 37 46.4 -0.4**
comp=Z,7.9nm,1.0s,mb5.0
ULM Lac du Bonnet 89.92 33 P **P 13 37 46.0 -0.9**
comp=Z,5.1nm,1.0s,mb4.8,baz=294,slow=4.6,SNR=7.9
ULM S S 13 48 13.9 -24
comp=Z,0.4nm,0.6s,baz=334,slow=20,SNR=2.0
ULM LR LR 14 20 49.3
comp=Z,490nm,19.9s,MS4.9,baz=318,slow=37
BURAR Bucovina Array 90.11 323 ⇓*i*P **P 13 37 47.1 -0.6**
ISCO Idaho Springs 90.12 46 *e*P **P 13 37 48.8 +0.8**
comp=Z,35nm,1.9s,mb5.4
ISCO Idaho Springs 90.12 46 *e*P **P 13 37 48.8 +0.8**
ISCO pmax pmax
comp=Z,35nm,1.9s,mb5.4
KWP Kalwaria 90.23 326 *e*P **P 13 37 48.2 -0.1**
KWP Kalwaria 90.23 326 ⇓*i*P **P 13 37 47.4 -0.9**
AGMN Agassiz Refuge 91.13 35 *e*P **P 13 37 51.9 -0.6**
comp=Z,13nm,0.9s,mb5.2
SDCO Great Sand Dun 91.25 48 *e*P **P 13 37 52.8 -0.5**
comp=Z,5.5nm,0.9s,mb4.9
LAZ Ladron 91.80 51 *e*P **P 13 37 56.3 +0.4**
DRGR 91.97 324 ⇓*i*P **P 13 37 56.0 -0.4**
ANMO Albuquerque 92.01 50 *e*P **P 13 37 57.5 +0.7**
comp=Z,11nm,1.1s,mb5.1
ANMO Albuquerque 92.01 50 *e*P **P 13 37 57.5 +0.7**
ANMO pmax pmax
comp=Z,11nm,1.1s
ANMO Albuquerque 92.01 50 LR LR 14 12 27.2
comp=Z,646nm,20.2s,MS5.1,baz=94,slow=31
LPM Los Pinos Moun 92.21 51 *e*P **P 13 37 57.4 -0.3**
BNM Barren Site 92.29 51 *e*P **P 13 37 58.5 +0.4**
OKC Ostrava-Krasne 92.38 328 *e*P **P 13 37 57.6 -0.6**
OKC AMS AMS 14 22 40.0
comp=Z,1μm,17.9s,MS5.5
KSP Ksiaz 92.59 330 *e*P **P 13 37 58.5 -0.7**
KSP Ksiaz 92.59 330 *e*P **P 13 37 58.3 -0.9**
KSP *e* 13 41 39.0
KSP *e*SP SP 13 50 17.0 +4.6
KSP MLR MLR
comp=Z,1μm,23.8s,MS5.3
DPC Dobruska-Polom 92.91 329 *e*P **P 13 37 59.2 -1.5**
DPC *e*PP PP 13 41 43.9 +1.3
DPC AMS AMS 14 23 20.0
comp=Z,1μm,17.2s,MS5.4
UPC Upice 92.95 329 *e*P **P 13 38 00.0 -0.8**
UPC *e*PP PP 13 41 44.0 +1.1
ECSD EROS,Sioux Fal 93.50 39 *e*P **P 13 38 02.7 -0.8**
comp=Z,13nm,1.1s,mb5.3
AKHS Akhisar 93.55 315 *i* P pP 13 38 18.6 +7.0
PVCC Panska Ves 93.60 330 AMS AMS 14 27 00.0
comp=Z,800nm,14.1s,MS5.3
BRG Berggiesshubel 93.64 331 *e*P pP 13 38 17.6 +5.8
BRG *i* 13 41 50.1
BRG *e* 13 55 29.0
BRG pmax pmax
comp=Z,16nm,1.3s,mb5.3
BRG pmax pmax
comp=Z,3.0nm,1.7s,mb4.5
BRG MLR MLR
comp=Z,23μm,17.8s
BRG MLR MLR
comp=N,510nm,16.4s,MS5.2
BRG MLR MLR
comp=E,470nm,17.9s,MS5.2
BRG Berggiesshubel 93.64 331 *e*PP PP 13 41 48.7 +0.4
BRG Berggiesshubel 93.64 331 *e*(P) pP 13 38 17.6 +5.9
comp=E,4.7nm,1.2s
BRG *i* 13 41 50.1
comp=E,38nm,1.7s
BRG *e* 13 55 29.0
BRG
comp=Z,852nm,17.8s
BRG
comp=N,785nm,16.4s
BRG
comp=E,301nm,17.9s
CLL Collm 93.76 331 ⇓*i*P **P 13 38 03.5 -1.0**
comp=E,7.0nm,1.3s,mb4.9
CLL *i* 13 38 23.0
CLL *i* PP PP 13 41 49.4 +0.3
CLL *e*SKS 13 48 37.0
CLL *e*SKKS SKKSac 13 48 54.0 -3.8
CLL *e*S S 13 49 19.0 +6.5
CLL LR LR
comp=Z,1μm,19.6s,MS5.4
CLL Collm 93.76 331 ⇓*i*P **P 13 38 03.5 -1.0**
CLL *i* 13 41 49.4
CLL *e* 13 48 37.0
CLL pmax pmax
comp=Z,7.0nm,1.3s,mb4.9
CLL pmax pmax
comp=Z,26nm,1.5s,mb5.4
CLL MLR MLR
comp=Z,1μm,19.6s,MS5.4
CLL Collm 93.76 331 ⇓*i*P **P 13 38 03.5 -1.0**
comp=Z,7.0nm,1.3s,mb4.9
CLL *i* x x 13 38 13.5
CLL *i* sP sP 13 38 23.0 +8.0
CLL *i* x x 13 38 37.9
CLL *i* PP PP 13 41 49.4 +0.3
comp=Z,26nm,1.5s
CLL *e*SKSac SKSac 13 48 37.0 -0.8
CLL *e*SKKSac SKKSac 13 48 54.0 -3.8
CLL *e*S S 13 49 19.0 +6.5
CLL *e*PS PS 13 50 38.0 +9.4
CLL *e*x x 13 51 36.0
CLL *e*SS SS 13 55 33.0 +3.3
CLL *e*x x 13 56 35.0
CLL *e*SSS 13 59 12.0
CLL Lm 14 23 00.0
comp=N,700nm,19.9s
CLL Lm 14 23 00.0
comp=E,800nm,19.0s
CLL Lm 14 23 00.0
comp=Z,1μm,19.6s
PRU Pruhonice 93.99 330 *e*P **P 13 38 04.7 -1.0**
PRU *e*pP pP 13 38 18.7 +5.3
PRU *e*PP PP 13 41 53.6 +2.6
PRU AMS AMS 14 26 50.0
comp=Z,1μm,15.8s,MS5.5
TREC Trest 94.03 329 AMS AMS 14 24 20.0
comp=Z,1μm,18.4s,MS5.3
NKC Novy Kostel 94.77 331 AMS AMS 14 24 40.0
comp=Z,1μm,15.8s,MS5.4
MOX Moxa 94.84 332 *e*P **P 13 38 09.3 -0.2**
comp=Z,52nm,1.8s,mb5.7
MOX *e*PP PP 13 41 53.9 -3.7
MOX LR LR
comp=Z,900nm,20.0s,MS5.2
MOX Moxa 94.84 332 *e*P **P 13 38 09.3 -0.2**
MOX *e*PP PP 13 41 53.9 -3.7
comp=Z,52nm,1.8s
MOX
comp=Z,900nm,20.0s
MOX Moxa 94.84 332 *e*P **P 13 38 09.3 -0.2**
MOX *e* 13 41 53.9
MOX pmax pmax
comp=Z,52nm,1.8s,mb5.7
MOX MLR MLR
comp=Z,900nm,20.0s,MS5.2
MOX Moxa 94.84 332 *e*PP PP 13 41 56.4 -1.2
KHC Kasperske Hory 95.04 330 *e*P **P 13 38 08.6 -1.9**
KHC Kasperske Hory 95.04 330 *e*P **P 13 38 09.0 -1.5**
KHC *e*pP pP 13 38 23.8 +5.6
KHC *e*PP PP 13 42 00.7 +1.5
KHC AMS AMS 14 26 20.0
comp=Z,1μm,18.3s,MS5.3
GERES GERESS Array B 95.18 329 P **P 13 38 09.6 -1.5**
comp=Z,0.9nm,0.8s,mb4.2,baz=66,slow=3.2,SNR=7.2
GERES PP PP 13 41 58.7 -1.6
comp=Z,0.4nm,0.6s,baz=27,slow=9.0,SNR=3.9
GERES S SKSac 13 48 44.6 -1.0
comp=Z,0.3nm,0.6s,baz=207,slow=44,SNR=2.6
GRA1 Grafenberg Arr 95.71 331 *e*P **P 13 38 13.0 -0.5**
comp=Z,9.0nm,1.8s,mb4.9
GRF Grafenberg Arr 95.71 331 *e*P **P 13 38 13.0 -0.5**
GRF pmax pmax
comp=Z,9.0nm,1.8s,mb4.9
GRF Grafenberg Arr 95.71 331 *e*P **P 13 38 13.0 -0.5**
GRF pmax pmax
comp=Z,9.0nm,1.8s,mb4.9
GRF Grafenberg Arr 95.71 331 *e*P **P 13 38 13.0 -0.5**
comp=Z,16nm,1.1s
TXAR Lajitas Array 96.92 54 P **P 13 38 17.7 -1.8**
TXAR PKKP PKKPbc 13 55 00.5 +0.1
TXAR Lajitas Array 96.92 54 P **P 13 38 17.7 -1.8**
comp=Z,0.7nm,0.9s,mb4.1,baz=0.0,slow=2.6,SNR=6.1
TXAR PKKP PKKPbc 13 55 00.5 +0.1
comp=Z,0.7nm,0.8s,baz=142,slow=6.3,SNR=4.8
CDF Champ du Feu 98.39 332 *e*PP PP 13 42 19.8 -5.2
LOR Lormes 100.72 333 *e*PP PP 13 42 37.4 -5.3
LPL La Plagne 100.85 331 *e*PP PP 13 42 39.2 -4.5
comp=Z,22nm,1.3s
LPG La Plagne 100.86 331 *e*PP PP 13 42 39.4 -4.4
comp=Z,24nm,1.2s
SSF Saint Saulge 101.03 333 *e*PP PP 13 42 39.9 -5.2
comp=Z,28nm,1.2s
VNDA Vanda 101.33 176 PKiKP PKiKP 13 43 05.3 +3.1
comp=Z,9.0nm,0.9s,baz=278,slow=3.3,SNR=3.8
MBDF Montbardon 101.44 330 *e*PP PP 13 42 44.3 -3.9
ORIF Oris-en-Rattie 101.69 331 *e*PP PP 13 42 46.4 -3.7
comp=Z,16nm,1.1s
FRF La Foret Royal 102.39 329 *e*PP PP 13 42 50.4 -5.0
comp=Z,26nm,1.2s
SMRF Simiane la Rot 102.56 330 *e*PP PP 13 42 52.0 -4.7
comp=Z,61nm,1.6s
MAW Mawson 107.87 203 PP PP 13 43 36.2 -0.3
comp=Z,3.4nm,1.1s,baz=66,slow=5.4,SNR=3.8
ESDC Sonseca Array 110.20 334 PP PP 13 43 49.6 -3.2
comp=Z,0.8nm,0.7s,baz=23,slow=5.3,SNR=4.6
ESDC PKKPab PKKPab 13 54 31.1 -3.5
comp=Z,1.5nm,0.9s,baz=247,slow=2.6,SNR=5.7
SYO Syowa Base 116.58 203 ⇑*e*P PKPdf 13 43 39.6 +8.7
BOSA Boshof 124.65 251 PKP PKPdf 13 43 47.2 -0.4
comp=Z,8.1nm,1.0s,baz=67,slow=6.6,SNR=4.0
MAIT Maitri 125.10 198 *e*PKPdf PKPdf 13 43 38.3 -8.9
SDV Santo Domingo 133.79 50 *e*PKPdf PKPdf 13 44 04.8 -0.7
DBIC Dimbokro 136.87 310 PKP PKPdf 13 44 11.3 +0.1
comp=Z,1.9nm,0.6s,baz=90,slow=5.9,SNR=4.5
PLCA Paso Flores 146.76 129 *e*PKPdf PKPdf 13 44 28.9 +0.9
PLCA Paso Flores 146.76 129 PKPbc PKPbc 13 44 29.1 -0.6
comp=Z,44nm,1.1s,baz=241,slow=3.0,SNR=48
LPAZ La Paz 149.60 82 *e*PKPdf PKPdf 13 44 34.3 +0.9
LPAZ *e*PKPbc PKPbc 13 44 38.7 +0.8
LPAZ La Paz 149.60 82 PKP PKPdf 13 44 34.1 +0.7
comp=Z,18nm,1.1s,baz=6.3,slow=5.9,SNR=19
LPAZ PKPbc PKPbc 13 44 39.1 +1.1
comp=Z,18nm,1.1s,baz=2.9,slow=5.1,SNR=21

IDC ***28*** *13:52:25.8±1.1, 2333N×14355E, h0km, mb3.9/8, mb1 4.0/11, mb1mx3.9/21, mbtmp3.9/11, ML3.6/3, MS3.8/3, Ms1 3.8/3, ms1mx3.4/37, Error ellipse: s-maj=43.2km s-min=16.6km az=82.0*
ISCJB ***28*** *13:52:27.4±4.4, 2338N±007×1435E±02, h22km±30km, mb4.1/18, Error ellipse: s-maj=34.3km s-min=11.3km az=172.4*
MOS ***28*** *13:52:28.8±1.1, 2338N×14348E, h33km, mb4.3/10, Error ellipse: s-maj=30.9km s-min=10.7km az=114.0*
ISC 28 13:52:29.5±4.3, 2338N±007×**1435E**±02, **h24**km±29km, **n34,** σ0$**95**/33, **mb4.1**/18, **4C, Volcano Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**		**3.89**	**342**	Pn		**Pn**	**13 53 28.1**	**+0.4**
	9.3nm,0.3s,baz=223,slow=13,SNR=13								
CBIJ					Sn		**Sn**	**13 54 11.9**	**-0.7**
	16nm,0.3s,baz=260,slow=21,SNR=5.3								
GUMO	**Guam**		**9.82**	**172**	LR		LR	13 57 38.5	
	comp=Z,273nm,19.4s,baz=257,slow=32								
MJAR	**Matsushiro Arr**		**13.89**	**342**	Pn		**Pn**	**13 55 44.1**	**-0.8**
	0.2nm,0.3s,baz=151,slow=11,SNR=4.1								
JOW	**Kunigami**		**14.23**	**287**	LR		LR	14 00 38.7	
	comp=Z,592nm,18.3s,baz=135,slow=35								
KSRS	**Korea Array**		**19.39**	**320**	P		**Pn**	**13 56 55.4**	**+0.5**
	0.1nm,0.3s,baz=133,slow=12,SNR=9.8								
KSRS					LR		LR	14 03 34.6	
	comp=Z,288nm,18.5s,baz=160,slow=34								
KLR	**Kul'dur**		**27.42**	**343**	*e*P		**P**	**13 58 11.0**	**-2.1**
ULN	**Ulaanbaatar**		**37.88**	**319**	⇑*e*P		**P**	**13 59 37.6**	**-6.8**
SONM	**Songino Array**		**38.26**	**319**	P		**P**	**13 59 47.4**	**-0.2**
SONM					pmax		pmax		
	comp=Z,1.0nm,0.9s								
SONM	**Songino Array**		**38.26**	**319**	P		**P**	**13 59 47.4**	**-0.2**
	comp=Z,1.0nm,0.9s,mb3.6,baz=132,slow=8.4,SNR=5.1								
BOD	**Bodaibo**		**40.42**	**336**	*e*P		**P**	**14 00 05.3**	**-0.2**
BOD					pmax		pmax		
	comp=Z,3.0nm,1.3s,mb3.9								
TLY	**Talaya**		**41.59**	**323**	*e*P		**P**	**14 00 16.6**	**+1.3**
TLY					pmax		pmax		
	comp=Z,4.0nm,1.3s,mb3.9								
WRA	**Warramunga Arr**		**43.98**	**192**	P		**P**	**14 00 34.7**	**-0.2**
WRA					pmax		pmax		
	comp=Z,1.0nm,0.3s								
WRA	**Warramunga Arr**		**43.98**	**192**	P		**P**	**14 00 34.7**	**-0.2**
	comp=Z,0.8nm,0.3s,mb4.0,baz=18,slow=8.8,SNR=13								
FITZ	**Fitzroy Crossi**		**44.77**	**204**	P		**P**	**14 00 41.3**	**0.0**
	comp=Z,3.2nm,0.7s,mb4.3,baz=5.8,slow=5.3,SNR=4.3								
BILL	**Bilibino**		**46.82**	**12**	*e*P		**P**	**14 01 05.3**	**+8.4**
BILL					pmax		pmax		
	comp=Z,9.0nm,2.6s,mb4.2								
ASAR	**Alice Springs**		**47.69**	**192**	P		**P**	**14 01 03.4**	**-0.7**
	comp=Z,0.3nm,0.5s,mb3.6,baz=16,slow=7.6,SNR=5.0								
TIXI	**Tiksi**		**49.02**	**354**	⇑*e*P		**P**	**14 01 15.0**	**+1.2**
TIXI					pmax		pmax		
	comp=Z,2.0nm,1.5s,mb3.9								
ZALV	**Zalesovo Beam**		**53.10**	**321**	P		**P**	**14 01 44.8**	**+0.1**
	comp=Z,2.4nm,0.8s,mb4.2,baz=98,slow=6.4,SNR=8.6								
ZAL	**Zalesovo**		**53.11**	**321**	P		**P**	**14 01 44.8**	**0.0**
ZAL					pmax		pmax		
	comp=Z,2.0nm,0.8s								
MKAR	**Makanchi Array**		**53.80**	**312**	P		**P**	**14 01 51.3**	**+1.3**
MKAR					pmax		pmax		
	comp=Z,3.0nm,0.7s								
MKAR	**Makanchi Array**		**53.80**	**312**	P		**P**	**14 01 51.2**	**+1.2**
	comp=Z,3.0nm,0.7s,mb4.3,baz=93,slow=9.2,SNR=36								
KURK	**Kurchatov**		**56.47**	**316**	⇑*e*P		**P**	**14 02 08.9**	**-0.3**
FRU	**Bishkek**		**59.29**	**307**	*e*P		**P**	**14 02 31.0**	**+1.8**
AAK	**Ala-Archa**		**59.40**	**307**	⇑*e*P		**P**	**14 02 30.8**	**+0.8**
AAK					pmax		pmax		
	comp=Z,2.0nm,1.4s,mb4.0								
YKA	**Yellowknife Ar**		**74.83**	**28**	P		**P**	**14 04 08.4**	**+0.8**
YKA	**Yellowknife Ar**		**74.83**	**28**	P		**P**	**14 04 08.4**	**+0.9**
	comp=Z,0.3nm,0.5s,mb3.5,baz=293,slow=5.9,SNR=5.8								
JOF	**Joensuu**		**78.94**	**334**	*e*p		**P**	**14 04 30.4**	**-0.3**
	comp=Z,0.9nm,0.4s,mb4.0								
JOF	**Joensuu**		**78.94**	**334**	*e*P		**P**	**14 04 30.4**	**-0.3**
JOF					pmax		pmax		
	comp=Z,1.0nm,0.4s,mb4.1								
OBN	**Obninsk**		**80.27**	**326**	*e*P		**P**	**14 04 45.0**	**+7.0**
OBN					pmax		pmax		
	comp=Z,9.0nm,1.2s,mb4.6								
KIV	**Kislovodsk**		**81.47**	**314**	*e*P		**P**	**14 04 51.7**	**+7.0**
KIV					pmax		pmax		
	comp=Z,5.0nm,0.7s,mb4.5								
FINES	**FINESS Array B**		**81.80**	**334**	P		**P**	**14 04 46.0**	**-0.1**
	comp=Z,0.3nm,0.4s,mb3.5,baz=82,slow=5.8,SNR=4.5								
QRN	**Al-Qurain**		**83.68**	**298**	*e*P		**P**	**14 04 57.1**	**+0.5**
MIB	**Mutribah**		**83.73**	**300**	*e*P		**P**	**14 04 55.1**	**-1.6**
MIB					AMb		AMB	14 04 58.0	
	comp=Z,11nm,1.0s,mb5.0								
NAY	**Al-Naaiem**		**84.03**	**299**	*e*P		**P**	**14 04 56.2**	**-2.1**
NAY					AMb		AMB	14 05 00.5	
	comp=Z,12nm,1.3s,mb4.8								

IDC ***28*** *13:53:09.1±1.7, 447S×13364E, h0km, mb3.6/1, mb1 3.7/5, mb1mx3.5/14, mbtmp3.6/5, ML3.7/4, Error ellipse: s-maj=56.0km s-min=25.0km az=75.0*
ISCJB ***28*** *13:53:12.8±1.5, 464S±010×1339E±01, h33km, Error ellipse: s-maj=20.4km s-min=13.6km az=6.4*
ISC 28 13:53:14.4±1.3, 462S±008×**1339E**±01, **h35**km, **n8,** σ1$**07**/12, **Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**		**8.17**	**190**	*e*P		**Pn**	**13 55 16.1**	**+5.5**
	8.4nm,0.5s								
WRA	**Warramunga Arr**		**15.24**	**178**	Pn		**Pn**	**13 56 47.6**	**+0.5**
	0.2nm,0.3s,baz=357,slow=13,SNR=14								
WRA					Sn		**Sn**	**13 59 33.3**	**-1.6**
	0.1nm,0.3s,baz=5.4,slow=23,SNR=5.2								
WB2	**Warramunga Arr**		**15.24**	**178**	*e*P		**Pn**	**13 56 47.7**	**+0.6**
WB2					*e*S		**Sn**	**13 59 34.4**	**-0.5**
FITZ	**Fitzroy Crossi**		**15.65**	**210**	*e*P		**Pn**	**13 56 53.5**	**+1.1**
	3.6nm,0.5s								
FITZ					*e*S		**Sn**	**13 59 46.8**	**+2.1**
FITZ	**Fitzroy Crossi**		**15.65**	**210**	Pn		**Pn**	**13 56 53.1**	**+0.7**
	0.7nm,0.3s,baz=34,slow=11,SNR=20								
FITZ					Sn		**Sn**	**13 59 44.1**	**-0.6**
	0.1nm,0.3s,baz=259,slow=21,SNR=3.4								
ASAR	**Alice Springs**		**18.94**	**180**	P		**Pn**	**13 57 32.8**	**-0.6**
	0.2nm,0.3s,baz=6.0,slow=13,SNR=8.2								
CTA	**Charters Tower**		**19.53**	**143**	P		**Pn**	**13 57 41.8**	**+1.3**
	0.2nm,0.3s,baz=326,slow=10,SNR=6.3								
MKAR	**Makanchi Array**		**68.45**	**325**	P		**P**	**14 04 11.4**	**-1.5**
	0.5nm,0.9s,baz=124,slow=7.5,SNR=3.1								

ISCJB ***28*** *13:56:34.7±0.4, 1696N±003×9979W±002, h44km±3km, mb4.8/90, MS4.7/6, Error ellipse: s-maj=5.0km s-min=3.1km az=19.6*
BJI ***28*** *13:56:34.0, 1690N×9980W, h10km, mB5.5, Ms5.5, Msz5.0*
MEX ***28*** *13:56:36.1±2.6, 1693N×9983W, h13km±7km, MD4.8*
GCMT ***28*** *13:56:36.0±0.6, 1704N×9964W, h30km±1km, MW5.1/51, Moment Tensor Solution. s22,c26; s51,c73; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr2.90±.38; Mθθ-4.66±.25; Mφφ1.77±.25; Mrθ-3.39±.38; Mrφ0.18±.19; Mθφ2.15±.43; Best double couple: Mo5.68400×10^16 NP1:φs60.00000°, δ32.00000°, λ37.00000°. NP2: φs297.00000°, δ71.00000°, λ116.00000°. Principal axes: T 5.2940, Plg56.0000°, Azm241.0000°; N 0.7910, Plg25.0000°, Azm108.0000°; P -6.0750, Plg22.0000°, Azm8.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***28*** *13:56:36.0, 1695N×9983W, h10km, mb4.9/77, MD5.0(MEX), After MEX.*
NEIC Felt [V] at Acapulco and [II] at Mexico City. Also felt at Chilpancingo.
MOS ***28*** *13:56:38.1±1.0, 1724N×9954W, h58km, mb4.9/32, Error ellipse: s-maj=11.3km s-min=4.9km az=92.2*
IDC ***28*** *13:56:40.2±3.1, 1721N×9960W, h65km±27km, mb4.1/19, mb1 4.2/22, mb1mx4.1/27, mbtmp4.1/22, ML4.3/3, MS4.0/4, Ms1 4.0/4, ms1mx3.3/34, Error ellipse: s-maj=23.8km s-min=11.6km az=56.0*
ISC 28 13:56:34.3±0.5, 1695N±003×**9979W**±002, **h25**km±3km, **h36**km±1.3km: **pP-P, n268,** σ1$**23**/258, **mb4.8**/90, **MS4.7**/6, **1C-3D, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ACX	**Acapulco**		**0.15**	**237**	*i* P		**Pb**	**13 56 38.4**	**-0.9**
ACX					*i* S		**Sb**	**13 56 40.3**	**-2.5**
ACX	**Acapulco**		**0.15**	**237**	⇑*i*P		**Pb**	**13 56 38.5**	**-0.8**
ACX					*i* S		**Sb**	**13 56 40.3**	**-2.5**
CAIG	**El Cayaco**		**0.47**	**282**	*i* P		**Pb**	**13 56 44.3**	**+0.3**
CAIG					*i* S		**Sb**	**13 56 50.6**	**0.0**
MEIG	**Mezcala**		**0.98**	**9**	*i* P		**Pn**	**13 56 52.0**	**-0.5**
MEIG					*i* S		**Sb**	**13 57 05.1**	**-0.1**
PLIG	**Platanillo**		**1.46**	**11**	*i* P		**Pn**	**13 56 59.2**	**+0.1**
PLIG					*i* S		**Sn**	**13 57 16.9**	**-0.5**
PNIG	**Pinotepa**		**1.68**	**109**	*i* P		**Pn**	**13 57 02.7**	**+0.6**
PNIG					*i* S		**Sn**	**13 57 22.6**	**-0.3**
ZIIG	**Zihuatanejo**		**1.73**	**292**	*i* P		**Pn**	**13 57 02.0**	**-0.8**
ZIIG					*i* S		**Sn**	**13 57 22.9**	**-1.2**
YAIG	**Yautepec**		**2.02**	**20**	*e*P		**Pn**	**13 57 06.5**	**-0.3**
YAIG					*i* S		**Sn**	**13 57 32.3**	**+1.1**

UTMO Huajuapan 2.09 65 *eP* **Pn 13 57 09.2 +1.5**
UTMO *i* S **Sn 13 57 33.8 +0.9**
MZVM 2.29 13 *i* P **Pn 13 57 12.1 +1.6**
PPM Popocatepetl 2.38 27 *i* P **Pn 13 57 11.7 0.0**
PPM *i* S **Sn 13 57 40.9 +0.9**
PPM Popocatepetl 2.38 27 *eP* **Pn 13 57 09.6 -2.1**
PPM *eP* 13 57 12.2
PPM *i* S **Sn 13 57 40.6 +0.5**
PPM *i* S **Sn 13 57 40.9 +0.9**
SZVM Salazar 2.39 9 *i* P **Pn 13 57 13.1 +1.2**
SZVM *i* S **Sn 13 57 41.1 +0.6**
UNM Universidad Na 2.44 14 *eP* **Pn 13 57 12.6 +0.1**
UNM *i* S **Sn 13 57 41.3 -0.2**
PBVM Pinon 2.57 15 *i* P **Pn 13 57 16.3 +2.0**
TPIG Tehuac#an 2.73 57 *i* P **Pn 13 57 17.8 +1.2**
TPIG *i* S **Sn 13 57 50.9 +2.0**
VHO Vista Hermosa 2.92 87 *i* P **Pn 13 57 20.9 +1.7**
VHO *i* S **Sn 13 57 54.7 +1.2**
OXX Oaxaca 2.93 87 *i* P **Pn 13 57 21.8 +2.5**
OXX Oaxaca 2.93 87 *i* P **Pn 13 57 18.9 -0.4**
OXX *i* S **Sn 13 57 58.4 +4.6**
DEIG Demacu 3.41 12 *eP* **Pn 13 57 28.9 +3.0**
MMIG Aquila 3.65 292 *i* P **Pn 13 57 28.3 -0.8**
MMIG *i* S **Sn 13 58 11.4 0.0**
HUIG Huatulco 3.72 108 *i* P **Pn 13 57 32.0 +1.9**
HUIG *i* S **Sn 13 58 13.5 +0.3**
LVIG Laguna Verde 4.22 49 *eP* **Pn 13 57 38.1 +1.0**
SFJM Santa Fe 4.68 319 *i* P **Pn 13 57 47.2 +3.9**
SFJM Santa Fe 4.68 319 *eP* **Pn 13 57 46.0 +2.7**
SFJM *i* S **Sn 13 58 38.8 +1.9**
CMIG Matias Romero 4.69 88 *i* P **Pn 13 57 45.5 +1.9**
TUIG Tuzandepetl 5.23 77 *i* P **Pn 13 57 50.5 -0.5**
TUIG *i* S **Sn 13 58 51.4 +0.9**
CJM Chamela 5.60 298 *i* P **Pn 13 57 57.1 +1.0**
CJM *i* S **Sn 13 58 57.7 -1.9**
ANIG Ahuacatlan 6.06 313 *i* P **Pn 13 58 07.7 +5.4**
ANIG *i* S **Sn 13 59 18.3 +7.4**
CCIG Comitan 7.36 94 *eP* **Pn 13 58 21.4 +1.1**
HPIG 11.33 332 *i* P **Pn 13 59 17.5 +2.8**
TEIG Tepich 11.39 72 *eP*n **Pn 13 59 13.3 -2.1**
58nm,0.7s
TEIG Tepich 11.39 72 P **Pn 13 59 15.2 -0.2**
3.2nm,0.3s,baz=238,slow=6.4,SNR=9.0
TEIG S **Sn 14 01 13.6 -8.4**
1.8nm,0.3s,baz=0.0,slow=20,SNR=3.5
TGUH Tegucigalpa,Un 12.40 102 *eP*n **Pn 13 59 32.8 +3.5**
95nm,1.1s
TXAR Lajitas Array 12.83 345 P **Pn 13 59 38.3 +3.2**
TXAR Lg 14 03 18.5
TXAR LR LR 14 05 31.4
TXAR Lajitas Array 12.83 345 P **Pn 13 59 38.3 +3.2**
0.2nm,0.3s,baz=162,slow=13,SNR=15
TXAR Lg 14 03 18.5
0.1nm,0.3s,baz=120,slow=29,SNR=3.9
TXAR LR LR 14 05 31.4
comp=Z,842nm,18.5s,baz=195,slow=42
JCT Junction City 13.47 360 *eP*n **Pn 13 59 44.7 +0.8**
50nm,1.0s
JCT Junction City 13.47 360 *eP* **Pn 13 59 44.7 +0.9**
JCT pmax pmax
comp=Z,50nm,1.0s
CGIG 15.31 332 *i* P **Pn 14 00 08.0 -0.7**
NATX Nacogdoches 15.46 17 *eP*n **Pn 14 00 09.4 -1.3**
comp=Z,302nm,1.2s
MNTX Cornudas Mount 15.54 342 *eP* **Pn 14 00 12.6 +0.9**
comp=Z,16nm,0.9s
HSIG 15.80 321 *i* P **Pn 14 00 19.1 +4.0**
WMOK Wichita Mounta 17.74 3 *eP* **Pn 14 00 36.9 -2.6**
comp=Z,24nm,0.8s
WMOK Wichita Mounta 17.74 3 *eP* **Pn 14 00 36.9 -2.6**
WMOK pmax pmax
comp=Z,24nm,0.8s
AMTX Amarillo 17.94 355 *eP* **Pn 14 00 41.3 -0.8**
comp=Z,47nm,0.8s
BNM Barren Site 18.20 342 *eP* **Pn 14 00 46.8 +1.6**
TUC Tucson 18.25 329 *eP* **Pn 14 00 49.1 +3.3**
comp=Z,24nm,1.1s
TUC Tucson 18.25 329 *eP* **Pn 14 00 49.1 +3.3**
TUC pmax pmax
comp=Z,24nm,1.1s
LENM Lemitar 18.32 341 *eP* **Pn 14 00 47.4 +0.7**
LENM *e* 14 00 57.7
MIAR Mount Ida 18.39 16 *eP* **Pn 14 00 45.6 -1.8**
comp=Z,57nm,0.9s
MIAR Mount Ida 18.39 16 *eP* **Pn 14 00 45.7 -1.8**
MIAR pmax pmax
comp=Z,57nm,0.9s
ANMO Albuquerque 18.89 343 *eP* **Pn 14 00 53.8 +0.1**
comp=Z,31nm,1.2s
ANMO Albuquerque 18.89 343 P **Pn 14 00 54.2 +0.5**
comp=Z,1.7nm,0.3s,baz=149,slow=11,SNR=23
ANMO Lg 14 06 36.8
comp=Z,0.1nm,0.3s,baz=239,slow=20,SNR=3.9
UALR University of 18.96 19 *eP* **Pn 14 00 52.5 -1.9**
comp=Z,117nm,1.1s
MGV Manicaragua 19.36 71 *eP* **Pn 14 00 53.5 -5.8**
LRAL Lakeview Retre 19.74 33 *eP* **Pn 14 01 01.4 -2.4**
comp=Z,36nm,0.9s
PLAL Pickwick Lake 20.79 28 *eP* **P 14 01 11.3 -2.2**
comp=Z,39nm,0.8s
WUAZ Wupatki 21.18 333 *eP* **P 14 01 19.8 +2.0**
comp=Z,103nm,1.4s,mb5.0
CCCC Cccc 21.23 75 *eP* **P 14 01 23.3 +4.8**
SDCO Great Sand Dun 21.32 347 *eP* **P 14 01 19.4 +0.1**
comp=Z,44nm,1.2s,mb4.7
UTMT University of 21.61 25 *eP* **P 14 01 24.5 +2.1**
comp=Z,500nm,1.2s,mb5.8
CBKS Cedar Bluff 21.78 0 *eP* **P 14 01 23.2 -1.1**
comp=Z,73nm,0.9s,mb5.1
CBKS Cedar Bluff 21.78 0 *eP* **P 14 01 23.2 -1.1**
CBKS pmax pmax
comp=Z,73nm,0.9s,mb5.1
WVT Waverly 21.86 27 *eP* **P 14 01 22.8 -2.3**
comp=Z,24nm,0.6s,mb4.8
WVT Waverly 21.86 27 *eP* **P 14 01 22.8 -2.3**
WVT pmax pmax
comp=Z,24nm,0.6s,mb4.8
SWET Sewanee 22.00 32 *eP* **P 14 01 24.3 -2.3**
GOGA Godfrey 22.01 39 *eP* **P 14 01 25.6 -1.2**
comp=Z,64nm,0.8s,mb5.1
GOGA *e* 14 01 35.5
GOGA Godfrey 22.01 39 *eP* **P 14 01 25.6 -1.2**
GOGA pmax pmax
comp=Z,64nm,0.8s,mb5.1
KSU1 Kansas State U 22.24 7 *eP* **P 14 01 27.9 -1.3**
comp=Z,57nm,0.7s,mb5.1
CCM Cathedral Cave 22.33 18 *eP* **P 14 01 27.6 -2.4**
comp=Z,31nm,0.9s,mb4.7
CCM Cathedral Cave 22.33 18 *eP* **P 14 01 27.6 -2.5**
CCM pmax pmax
comp=Z,31nm,0.9s,mb4.7
PFO Pinyon Flat Ob 22.36 321 P **P 14 01 32.3 +1.8**
PFO pmax pmax
comp=Z,3.0nm,0.8s,mb3.8
PFO Pinyon Flat Ob 22.36 321 P **P 14 01 32.2 +1.8**
comp=Z,2.6nm,0.8s,mb3.7,baz=128,slow=14,SNR=8.5
PV01 Paradox Valley 22.47 342 *eP* **P 14 01 32.1 +0.5**
FVM French Village 22.51 20 *eP* **P 14 01 29.5 -2.6**
comp=Z,59nm,0.8s,mb5.1
FVM French Village 22.51 20 *eP* **P 14 01 29.5 -2.6**
FVM pmax pmax
comp=Z,59nm,0.8s,mb5.1
SIUC Southern Illin 22.68 22 *eP* **P 14 01 34.2 +0.4**
comp=Z,85nm,0.9s,mb5.2
PV10 Paradox Valley 22.84 341 *eP* **P 14 01 34.7 -0.8**
SMCO Snowmass 23.02 346 *eP* **P 14 01 37.7 +0.3**
comp=Z,29nm,1.1s,mb4.6
RCC Rio Carpintero 23.04 79 *eP* **P 14 01 37.9 0.0**
SLM Saint Louis 23.17 19 *eP* **P 14 01 36.8 -2.2**
comp=Z,103nm,1.4s,mb5.1
SLM *ep*P 14 01 45.8
SLM Saint Louis 23.17 19 *eP* **P 14 01 36.8 -2.2**
SLM *e**PP 14 01 45.8
SLM pmax pmax
comp=Z,103nm,1.4s,mb5.1
ISCO Idaho Springs 23.33 349 *eP* **P 14 01 40.0 -0.6**
comp=Z,15nm,0.6s,mb4.6
ISCO Idaho Springs 23.33 349 *eP* **P 14 01 40.0 -0.6**
ISCO pmax pmax
comp=Z,15nm,0.6s,mb4.6
TKL Tuckaleechee C 23.46 34 P **P 14 01 40.2 -1.9**
TKL pmax pmax
comp=Z,12nm,0.6s,mb4.5
TKL MLR MLR
comp=Z,171nm,20.8s
TKL Tuckaleechee C 23.46 34 P **P 14 01 40.2 -1.9**
comp=Z,12nm,0.6s,mb4.5,baz=208,slow=11,SNR=24
TKL LR LR 14 11 28.8
comp=Z,170nm,20.8s,baz=221,slow=38
USIN University of 23.49 25 *eP* **P 14 01 40.3 -2.0**
comp=Z,217nm,1.4s,mb5.4
COW Cow Castle Cre 23.73 43 *eP* **P 14 01 44.2 -0.3**
COW *ep*P 14 01 53.6
CCUT Cedar City 23.75 332 *eP* **P 14 01 46.6 +1.9**
NHSC New Hope 23.90 44 *eP* **P 14 01 46.6 +0.5**
comp=Z,465nm,1.1s,mb5.8
NHSC *e* 14 02 00.5
JSC Jenkinsville 23.95 40 *eP* **P 14 01 45.8 -0.8**
ARUT Antelope Range 23.99 333 *eP* **P 14 01 48.4 +1.6**
SRU San Rafael 23.99 339 *eP* **P 14 01 47.1 +0.2**
comp=Z,16nm,1.0s,mb4.4
SRU San Rafael 23.99 339 *eP* **P 14 01 47.1 +0.2**
SRU pmax pmax
comp=Z,16nm,1.0s,mb4.4
MSU Marysvale 24.07 336 *eP* **P 14 01 49.2 +1.6**
TZTN Tazewell 24.25 33 *eP* **P 14 01 47.7 -1.5**
comp=Z,73nm,1.1s,mb5.0
TMUT Trail Mountain 24.39 338 *eP* **P 14 01 51.6 +1.0**
TPNV Topopah Spring 24.67 327 *eP* **P 14 01 54.9 +1.8**
comp=Z,49nm,1.4s,mb4.8
TPNV Topopah Spring 24.67 327 *eP* **P 14 01 54.9 +1.8**
TPNV pmax pmax
comp=Z,49nm,1.4s,mb4.8
PHWY Pilot Hill 24.76 350 *eP* **P 14 01 53.7 -0.1**
BLO Bloomington 24.99 25 *eP* **P 14 01 54.0 -1.9**
comp=Z,17nm,0.6s,mb4.8
BLO Bloomington 24.99 25 *eP* **P 14 01 54.0 -2.0**
BLO pmax pmax
comp=Z,17nm,0.6s,mb4.8
MPU Maple Canyon 25.18 338 *eP* **P 14 01 58.4 +0.7**
comp=Z,13nm,0.8s,mb4.5
HDIL Hopedale 25.22 19 *eP* **P 14 01 56.9 -1.1**
comp=Z,74nm,0.9s,mb5.2
NLU North Lily Min 25.29 337 *eP* **P 14 02 00.1 +1.4**
DAU Daniels Canyon 25.41 339 *eP* **P 14 02 00.4 +0.6**
RWWY Rawlins 25.47 347 *eP* **P 14 02 01.2 +0.9**
comp=Z,64nm,1.0s,mb5.1
SCIA State Center 25.50 11 *eP* **P 14 01 59.9 -0.7**
comp=Z,97nm,0.8s,mb5.4
SCIA *ep*P pP 14 02 09.3 +1.3
DUG Dugway 25.77 337 *eP* **P 14 02 04.6 +1.5**
comp=Z,12nm,0.8s,mb4.5
DUG Dugway 25.77 337 *eP* **P 14 02 04.6 +1.5**
DUG pmax pmax
comp=Z,12nm,0.8s,mb4.5
CTU Camp Tracy 25.82 339 *eP* **P 14 02 04.4 +0.8**
comp=Z,15nm,1.1s,mb4.4
MTUM Tungsten Hills 26.21 325 *eP* **P 14 02 08.9 +1.7**
MTUM *ep*P pP 14 02 18.3 +3.7
ELN Prospectdale 26.27 36 *eP* **P 14 02 07.2 -0.4**
ELN *ep*P pP 14 02 17.3 +2.3
BLA Blacksburg 26.45 36 *eP* **P 14 02 08.8 -0.4**
comp=Z,121nm,1.0s,mb5.4
BLA *ep*P pP 14 02 17.7 +1.1
BLA Blacksburg 26.45 36 *eP* **P 14 02 08.8 -0.4**
BLA pmax pmax
comp=Z,121nm,1.0s,mb5.4
BGU Big Grassy Mou 26.49 337 *eP* **P 14 02 10.6 +1.0**
HWUT Hardware Ranch 26.58 340 *eP* **P 14 02 11.1 +0.8**
comp=Z,13nm,0.9s,mb4.5
SPUT South Promonto 26.61 338 *eP* **P 14 02 11.2 +0.6**
ECSD EROS,Sioux Fal 26.83 5 *eP* **P 14 02 11.5 -1.2**
comp=Z,22nm,0.9s,mb4.7
NVAR Mina Array Bea 26.86 326 P **P 14 02 15.1 +2.1**
comp=Z,15nm,1.0s,mb4.5,baz=135,slow=9.4,SNR=65
JFWS Jewell Farm 27.13 15 *eP* **P 14 02 13.4 -1.9**
comp=Z,38nm,0.8s,mb5.0
JFWS Jewell Farm 27.13 15 *eP* **P 14 02 13.4 -1.9**
JFWS pmax pmax
comp=Z,38nm,0.8s,mb5.0
HVU Hansel Valley 27.14 338 *eP* **P 14 02 16.2 +0.7**
comp=Z,19nm,1.1s,mb4.5
HVU Hansel Valley 27.14 338 *eP* **P 14 02 16.2 +0.7**
HVU pmax pmax
comp=Z,19nm,1.1s,mb4.5
RSSD Black Hills 27.32 353 *eP* **P 14 02 17.5 +0.5**
comp=Z,33nm,1.8s,mb4.6
RSSD Black Hills 27.32 353 *eP* **P 14 02 17.5 +0.5**
RSSD pmax pmax
comp=Z,33nm,1.8s,mb4.6
ACSO Alum Creek Sta 27.40 29 *eP* **P 14 02 16.7 -1.0**
comp=Z,29nm,1.1s,mb4.7
REDW Red Top Meadow 27.96 343 *eP* **P 14 02 23.6 +0.8**
comp=Z,34nm,1.3s,mb4.8
REDW *e* 14 02 33.1
SNOW Snow King Moun 28.02 343 *eP* **P 14 02 24.1 +0.8**
comp=Z,28nm,1.1s,mb4.8
TPAW Teton Pass 28.10 343 *eP* **P 14 02 24.9 +0.8**
comp=Z,36nm,1.0s,mb5.0
LOHW Long Hollow 28.12 343 *eP* **P 14 02 24.3 +0.1**
comp=Z,17nm,1.0s,mb4.6
URVA University of 28.38 39 *eP* **P 14 02 26.8 +0.1**
IMW Indian Meadow 28.48 343 *eP* **P 14 02 27.7 +0.4**
comp=Z,5.1nm,0.6s,mb4.3
FLWY Flagg Ranch 28.58 343 *eP* **P 14 02 29.2 +1.0**
comp=Z,13nm,1.0s,mb4.6
LKWY Lake 28.95 344 *eP* **P 14 02 32.0 +0.5**
comp=Z,13nm,0.3s,mb5.1
LKWY Lake 28.95 344 *eP* **P 14 02 32.1 +0.6**
LKWY pmax pmax
comp=Z,13nm,0.3s,mb5.1
OHCM Honcut 29.24 324 *eP* **P 14 02 35.4 +1.2**
QLMT Earthquake Lak 29.47 343 *eP* **P 14 02 37.8 +1.7**
SDV Santo Domingo 29.49 102 *eP* **P 14 02 40.6 +3.9**
comp=Z,4.4nm,0.8s,mb4.2
SDV *e* pP 14 02 48.0 +3.8
SDV Santo Domingo 29.49 102 P **P 14 02 38.2 +1.5**
comp=Z,3.5nm,0.7s,mb4.2,baz=311,slow=6.1,SNR=5.8
SDV LR LR 14 15 08.3
comp=Z,557nm,18.6s,MS4.2,baz=170,slow=38
MCMT McKenzie Canyo 29.89 341 *eP* **P 14 02 41.0 +1.2**
GCMT Greycliff 29.92 346 *eP* **P 14 02 40.2 0.0**
SDMD Soldier's Deli 30.00 37 *eP* **P 14 02 40.9 -0.1**
comp=Z,15nm,0.9s,mb4.7
SDMD *e* pP 14 02 49.8 +1.4
LAO LASA Array 30.13 351 *eP* **P 14 02 42.0 0.0**
comp=Z,14nm,0.9s,mb4.7
SSPA Standing Stone 30.26 34 *eP* **P 14 02 43.0 -0.2**
comp=Z,18nm,1.2s,mb4.7
SSPA *ep*P pP 14 02 53.3 +2.7
DLMT Dillon 30.29 342 *eP* **P 14 02 44.5 +1.1**
comp=Z,33nm,1.2s,mb4.9
COWI Conover 30.39 15 *eP* **P 14 02 42.5 -1.8**
comp=Z,20nm,0.8s,mb4.9
COWI *ep*P pP 14 02 51.9 +0.1
GLMI Grayling 30.58 21 *eP* **P 14 02 44.8 -1.2**
comp=Z,61nm,0.9s,mb5.4
GLMI *ep*P pP 14 02 55.9 +2.5
AGMN Agassiz Refuge 31.43 5 *eP* **P 14 02 52.2 -1.2**
comp=Z,20nm,0.9s,mb5.0
AGMN *ep*P pP 14 03 02.5 +1.6
BMO Blue Mountains 31.48 336 *eP* **P 14 02 53.5 -0.3**
comp=Z,70nm,2.0s,mb5.1
DGMT Dagmar 31.64 354 *eP* **P 14 02 55.6 +0.3**
comp=Z,25nm,0.8s,mb5.1
ATAH Atahualpa 31.84 137 P **P 14 03 02.3 +4.9**
comp=Z,5.2nm,0.7s,mb4.5,baz=40,slow=5.9,SNR=4.1
EGMT Eagleton 32.05 347 *eP* **P 14 02 58.9 0.0**
comp=Z,78nm,1.5s,mb5.3
PAL Palisades 32.74 38 *eP* **P 14 03 04.6 -0.4**
comp=Z,38nm,1.0s,mb5.3
PAL Palisades 32.74 38 *eP* **P 14 03 04.6 -0.5**
PAL pmax pmax
comp=Z,38nm,1.0s,mb5.3
ULM Lac du Bonnet 33.37 5 *eP* **P 14 03 08.3 -2.0**
comp=Z,12nm,1.0s,mb4.8
ULM Lac du Bonnet 33.37 5 P **P 14 03 08.8 -1.5**
comp=Z,6.0nm,0.8s,mb4.6,baz=192,slow=8.7,SNR=12
WALA Waterton Lakes 34.03 343 *eP* **P 14 03 15.9 -0.2**
comp=Z,16nm,0.9s,mb4.9
NEW Newport 34.31 339 *eP* **P 14 03 19.5 +0.9**
comp=Z,4.0nm,0.9s,mb4.3
NEW Newport 34.31 339 *eP* **P 14 03 19.5 +0.9**
NEW pmax pmax
comp=Z,4.0nm,0.9s
ACCN Adirondack Com 34.43 35 *eP* **P 14 03 19.3 -0.4**
comp=Z,15nm,0.9s,mb4.9
BRYW Bryant College 34.70 38 *eP* **P 14 03 21.7 -0.4**
comp=Z,104nm,1.3s,mb5.6
PCRV Puerto La Cruz 34.79 97 LR LR 14 19 22.3
comp=Z,268nm,18.4s,MS4.0,baz=69,slow=39
EDM Edmonton 37.72 347 *eP* **P 14 03 47.2 -0.5**
FFC Flin Flon 37.74 358 *eP* **P 14 03 46.9 -0.9**
comp=Z,69nm,1.0s,mb5.3
FFC Flin Flon 37.74 358 *eP* **P 14 03 46.9 -1.0**
FFC pmax pmax
comp=Z,69nm,1.0s,mb5.3
FCC Fort Churchill 41.96 4 *eP* **P 14 04 22.0 -0.9**
comp=Z,32nm,1.2s,mb4.8
FCC Fort Churchill 41.96 4 *eP* **P 14 04 22.0 -0.9**
FCC pmax pmax
comp=Z,32nm,1.2s,mb4.8
LPAZ La Paz 45.44 135 *eP* **P 14 04 53.7 +2.3**
comp=Z,5.4nm,1.0s,mb4.3
LPAZ *ep*P pP 14 05 07.0 +7.9
LPAZ La Paz 45.44 135 *eP* **P 14 04 53.7 +2.3**
LPAZ *e**PP pP 14 05 07.0 +7.9
LPAZ pmax pmax
comp=Z,5.0nm,1.0s
LPAZ La Paz 45.44 135 P **P 14 04 54.3 +2.9**
comp=Z,2.3nm,0.7s,mb4.1,baz=336,slow=9.0,SNR=9.8
SCHQ Schefferville 45.49 26 *eP* **P 14 04 50.4 -1.0**
comp=Z,22nm,0.9s,mb5.0
SCHQ Schefferville 45.49 26 P **P 14 04 50.5 -0.9**
comp=Z,9.6nm,0.4s,mb4.9,baz=227,slow=6.8,SNR=78
YKA Yellowknife Ar 46.67 351 P **P 14 04 59.6 -0.9**
YKA pmax pmax
comp=Z,11nm,0.8s
YKA Yellowknife Ar 46.67 351 P **P 14 04 59.6 -0.9**
comp=Z,11nm,0.8s,mb4.5,baz=160,slow=7.5,SNR=120
DLBC Dease Lake 47.05 339 *eP* **P 14 05 05.6 +2.0**
TAOE Nuku Hiva Isla 47.44 240 *e*LR LR 14 18 23.8
comp=Z,15µm,26.9s
TAOE Nuku Hiva Isla 47.44 240 *e*T 14 55 29.5
comp=Z,1µm,0.2s
RKT Rikitea 52.62 222 *e*LR LR 14 21 00.3
comp=Z,751nm,27.8s
RKT Rikitea 52.62 222 *e*T 15 02 09.6
comp=Z,32nm,0.2s
DAWY Dawson 54.23 340 *eP* **P 14 05 58.8 +1.1**
DAWY *ep*P pP 14 06 08.5 +3.1
EGAK Eagle 55.28 340 *eP* **P 14 06 05.4 +0.1**
comp=Z,8.9nm,0.8s,mb4.8
INK Inuvik 55.60 346 *eP* **P 14 06 07.5 0.0**
comp=Z,464nm,0.8s
INK Inuvik 55.60 346 *eP* **P 14 06 07.5 0.0**
INK pmax pmax
comp=Z,464nm,0.8s
KDAK Kodiak Island 56.31 329 P **P 14 06 13.8 +1.0**
KDAK Kodiak Island 56.31 329 P **P 14 06 13.8 +1.0**
comp=Z,5.3nm,1.0s,mb4.5,baz=129,slow=6.5,SNR=4.3
PMR Palmer 56.45 334 *eP* **P 14 06 12.7 -1.0**
comp=Z,8.3nm,0.6s,mb4.9
PMR LR LR
comp=Z,300nm,17.0s,MS4.5
PMR Palmer 56.45 334 *eP* **P 14 06 12.7 -1.0**
PMR pmax pmax
comp=Z,8.0nm,0.6s,mb4.9
PMR MLR MLR
comp=Z,300nm,17.0s,MS4.5
CFAA Coronel Fontan 56.98 148 P **P 14 06 20.2 +2.4**
comp=Z,0.1nm,0.4s,baz=333,slow=5.4,SNR=6.7
PMOR Pomariorio Ree 57.11 239 *e*T 15 08 05.4
comp=Z,27nm,0.2s
MCK McKinley 57.45 336 *eP* **P 14 06 19.0 -1.8**
comp=Z,9.1nm,0.9s,mb4.8
MCK McKinley 57.45 336 *eP* **P 14 06 19.0 -1.7**
MCK pmax pmax
comp=Z,9.0nm,0.9s,mb4.8
COLA College 57.65 338 *eP* **P 14 06 21.8 -0.3**
comp=Z,2.4nm,0.8s,mb4.3
COLA *ep*P pP 14 06 31.9 +1.9
COLA College 57.65 338 *eP* **P 14 06 21.8 -0.3**
COLA pmax pmax
comp=Z,2.0nm,0.8s,mb4.2
RES Resolute Bay 57.81 2 *eP* **P 14 06 21.6 -1.5**
comp=Z,618nm,1.3s
RES *ep*P pP 14 06 32.5 +1.6
RES Resolute Bay 57.81 2 *eP* **P 14 06 21.6 -1.5**
RES *e**PP pP 14 06 32.5 +1.6
RES pmax pmax
comp=Z,618nm,1.3s
CPUP Villa Florida 59.61 135 P **P 14 06 36.7 +0.4**
CPUP pmax pmax
comp=Z,4.0nm,0.9s
CPUP Villa Florida 59.61 135 P **P 14 06 36.6 +0.3**
comp=Z,3.6nm,0.9s,mb4.4,baz=286,slow=7.4,SNR=3.4
PAE Paea 59.89 237 *e*T 15 11 01.0
comp=Z,22nm,0.4s
TTA Tatalina 59.93 334 *eP* **P 14 06 37.3 -0.7**
comp=Z,11nm,1.1s,mb4.8
TTA *ep*P pP 14 06 48.0 +2.1
TTA Tatalina 59.93 334 *eP* **P 14 06 37.3 -0.7**
TTA *e**PP pP 14 06 48.0 +2.1
TTA pmax pmax
comp=Z,11nm,1.1s,mb4.8
BDFB Brasilia 60.46 120 P **P 14 06 43.5 +1.1**
BDFB pmax pmax
comp=Z,1.0nm,0.6s
BDFB Brasilia 60.46 120 P **P 14 06 43.5 +1.1**
comp=Z,1.1nm,0.6s,mb4.1,baz=285,slow=21,SNR=2.8
TBI Tubuai 62.93 232 *e*T 15 15 04.2
comp=Z,8.4nm,0.3s
PLCA Paso Flores 63.49 155 P **P 14 07 04.2 +2.0**
PLCA Paso Flores 63.49 155 P **P 14 07 04.2 +2.0**
PLCA pmax pmax
comp=Z,1.0nm,0.8s
PLCA Paso Flores 63.49 155 P **P 14 07 04.2 +2.0**
comp=Z,1.4nm,0.8s,mb4.2,baz=327,slow=8.7,SNR=3.9
DAG Danmarks Havn 71.58 14⇓*eP* **P 14 07 52.4 -0.5**
DAG pmax pmax
comp=Z,3.0nm,0.9s,mb4.2
DAG Danmarks Havn 71.58 14⇓*iP* **P 14 07 52.4 -0.5**
comp=Z,3.4nm,0.9s,mb4.3
BILL Bilibino 75.89 337 *eP* **P 14 08 17.7 -0.6**
BILL *e* 14 08 29.4
BILL pmax pmax
comp=Z,7.0nm,1.3s,mb4.4
EVO Evora 81.00 53 *eP* **P 14 08 46.6 -0.5**
comp=Z,32nm,1.2s,mb4.8
SEY Seymchan 82.90 334 *eP* **P 14 08 56.8 +0.2**
ESDC Sonseca Array 83.73 51 P **P 14 09 01.2 -0.1**
comp=Z,1.1nm,0.8s,mb4.0,baz=287,slow=6.0,SNR=7.4
MA2 Magadan 85.00 331 *eP* **P 14 09 08.5 +1.1**
MA2 pmax pmax
comp=Z,10.0nm,1.0s,mb4.9
NB2 NORSAR Subarra 85.06 27 P **P 14 09 08.3 +0.7**
comp=Z,3.8nm,1.1s,mb4.4,baz=296,slow=5.1
NOA NORSAR Array B 85.06 27 P **P 14 09 07.9 +0.3**
NOA pmax pmax
comp=Z,1.0nm,0.6s
NOA NORSAR Array B 85.06 27 P **P 14 09 07.9 +0.3**
comp=Z,0.6nm,0.6s,mb3.9,baz=302,slow=5.4,SNR=3.3
LFF La Frestale 85.42 44 *eP* **P 14 09 08.7 -1.1**
ARCES ARCESS Array B 85.60 17 P **P 14 09 09.8 -0.4**
ARCES pmax pmax
comp=Z,4.0nm,1.0s
ARCES ARCESS Array B 85.60 17 P **P 14 09 09.8 -0.4**
comp=Z,3.5nm,1.0s,mb4.6,baz=308,slow=6.0,SNR=5.1
TIXI Tiksi 85.73 346 *eP* **P 14 09 10.2 -0.6**
comp=Z,10nm,1.0s,mb5.0
TIXI *ep*P pP 14 09 20.8 +1.9
TIXI Tiksi 85.73 346*d iP* **P 14 09 10.0 -0.8**
TIXI pmax pmax
comp=Z,9.0nm,1.3s,mb4.8
EPF Esparros 85.78 46 *eP* **P 14 09 10.6 -1.0**
comp=Z,56nm,1.4s,mb5.3
RJF Les Rejaudoux 85.82 44 *eP* **P 14 09 10.5 -1.3**
comp=Z,49nm,1.2s,mb5.3
BAIF Baives 85.85 39 *eP* **P 14 09 10.7 -1.1**
comp=Z,26nm,1.3s,mb5.0
TCF Toulx Ste Croi 85.94 43 *eP* **P 14 09 10.8 -1.6**
comp=Z,40nm,1.3s,mb5.2
CAF Calviac 86.31 44 *eP* **P 14 09 12.8 -1.4**
AVF Avril sur Loir 86.50 42 *eP* **P 14 09 12.9 -2.2**
SSF Saint Saulge 86.50 42 *eP* **P 14 09 13.4 -1.7**
LOR Lormes 86.65 42 *eP* **P 14 09 14.3 -1.5**
MTLF Montolieu 86.97 46 *eP* **P 14 09 16.2 -1.3**
comp=Z,33nm,1.5s,mb5.1
CABF La Chapelle 88.31 42 *eP* **P 14 09 22.1 -1.8**
CDF Champ du Feu 88.34 40 *eP* **P 14 09 23.0 -0.9**
MBDF Montbardon 89.50 43 *eP* **P 14 09 28.1 -1.4**
GRA1 Grafenberg Arr 90.14 37 *eP* **P 14 09 32.2 -0.2**
comp=Z,4.0nm,1.2s,mb4.6
GRA1 LR LR
comp=Z,2µm,20.7s,MS5.4

GRF Grafenberg Arr 90.14 37 *eP* **P 14 09 32.2 -0.2**
comp=Z,4.0nm,1.2s,mb4.6
GRF LR LR
comp=Z,2μm,20.7s,MS5.4
GRF Grafenberg Arr 90.14 37 *eP* **P 14 09 32.2 -0.2**
GRF pmax pmax
comp=Z,4.0nm,1.2s,mb4.6
GRF MLR MLR
comp=Z,2μm,20.7s,MS5.4
GRF Grafenberg Arr 90.14 37 *eP* **P 14 09 32.2 -0.2**
GRF pmax pmax
comp=Z,4.0nm,1.2s,mb4.6
GRF MLR MLR
comp=Z,2μm,20.7s,MS5.4
CLL Collm 90.41 35 *e*(sP) sP 14 09 44.0 -0.7
FINES FINESS Array B 90.88 23 P **P 14 09 35.2 -0.3**
FINES pmax pmax
comp=Z,3.0nm,0.9s
FINES FINESS Array B 90.88 23 P **P 14 09 35.2 -0.4**
comp=Z,3.4nm,0.9s,mb4.7,baz=284,slow=7.7,SNR=3.7
GERES GERESS Array B 91.98 37 PP PP 14 13 18.6 -1.4
comp=Z,0.2nm,0.4s,baz=321,slow=7.6,SNR=4.0
DBIC Dimbokro 92.77 82 P **P 14 09 45.8 +0.6**
DBIC pmax pmax
comp=Z,1.0nm,0.5s
DBIC Dimbokro 92.77 82 P **P 14 09 45.8 +0.6**
comp=Z,1.3nm,0.5s,mb4.6,baz=258,slow=4.3,SNR=3.1
CN2 Changchun 106.75 328 *e*PDIF Pdif 14 10 48.5 +1.3
SNAA Sanae 108.15 161 PP PP 14 15 30.6 +7.9
comp=Z,2.4nm,0.8s,baz=319,slow=14,SNR=3.5
ZALV Zalesovo Beam 109.28 357 PP PP 14 15 35.5 +5.3
comp=Z,1.3nm,0.8s,baz=353,slow=6.0,SNR=3.6
BVAR Borovoye Array 109.80 6 PP PP 14 15 34.6 +0.5
comp=Z,0.6nm,0.7s,baz=293,slow=12,SNR=4.6
HHC Hu-ho-hao-te 115.55 334 *e*PKP PKPdf 14 15 13.8 -0.7
MKAR Makanchi Array 116.53 358 PP PP 14 16 28.7 +6.8
comp=Z,0.8nm,0.8s,baz=23,slow=4.0,SNR=4.5
NJ2 Nanjing 118.80 323 *e*PKP PKPdf 14 15 27.0 +6.0
NJ2 PKS 14 19 01.0
NJ2 PP PP
comp=Z,30nm,6.5s
WMQ Urumqi 119.14 354 *e*PKP PKPdf 14 15 22.5 +1.2
WMQ PP PP 14 16 46.0 +5.9
WMQ PKS 14 18 58.0
WMQ PP PP
comp=Z,188nm,6.4s
WMQ LR LR
comp=N,369nm,19.0s,MS5.3
WMQ LR LR
comp=E,619nm,24.0s,MS5.3
WMQ LR LR
comp=Z,458nm,26.0s,MS5.0
LZH Lanzhou 122.71 337 *e*PKP PKPdf 14 15 33.0 +4.6
CD2 Chengdu 127.31 334 *e*PKP PKPdf 14 15 38.5 +1.2
CD2 PP PP 14 17 40.5 +4.9
CD2 PKS 14 19 13.5
CD2 PP PP
comp=Z,90nm,10.8s
WB2 Warramunga Arr 128.74 258 *eP* PKPdf 14 15 40.6 +0.4
WRAB Tennant Creek 128.74 258 *e*PKPdf PKPdf 14 15 40.4 +0.2
WRA Warramunga Arr 128.75 258 PKIKP PKPdf 14 15 40.2 -0.1
WRA pmax pmax
comp=Z,7.0nm,1.3s
WRA Warramunga Arr 128.75 258 PKP PKPdf 14 15 40.2 -0.1
comp=Z,6.9nm,1.3s,baz=83,slow=2.8,SNR=32
ASAR Alice Springs 129.44 253 PKIKP PKPdf 14 15 41.8 +0.3
ASAR pmax pmax
comp=Z,2.0nm,1.0s
ASAR Alice Springs 129.44 253 PKP PKPdf 14 15 41.8 +0.3
comp=Z,1.9nm,1.0s,baz=88,slow=2.2,SNR=9.8
GYA Guiyang 129.78 329 PKP PKPdf 14 15 42.3 +0.2
GYA PP PP 14 17 56.0 +4.0
GYA PKS 14 19 17.8
GYA PP PP
comp=Z,120nm,7.8s
GYA LR LR
comp=N,350nm,24.7s,MS5.1
GYA LR LR
comp=E,280nm,23.8s,MS5.1
GYA LR LR
comp=Z,340nm,20.6s,MS5.0
KMI Kunming 132.77 332 PKP PKPdf 14 15 48.0 +0.1
KSM Kuching 145.13 299 *e*PKPdf PKPdf 14 16 10.5 -0.2
HYB Hyderabad 145.81 3 *eP* PKPdf 14 16 11.5 -0.2
HYB *e* 14 16 22.5
HYB Hyderabad 145.81 3 *i* PKP PKPbc 14 16 15.0 +2.9
HYB *ep*PKP pPKPdf 14 16 22.5 +2.4
OPO Ambohidratompo 148.53 98 PKPbc PKPbc 14 16 21.5 +1.8
comp=Z,4.4nm,1.0s,baz=312,slow=1.6,SNR=3.4
PSI Prapat 153.05 315 PKIKP PKPbc 14 16 29.8 -0.9
PSI pmax pmax
comp=Z,3.0nm,0.5s
PSI Prapat 153.05 315 PKPbc PKPbc 14 16 29.8 -0.8
comp=Z,2.8nm,0.5s,baz=170,slow=3.5,SNR=3.7

IDC 28 13:58:06.6±10.0, 2208S×17925W, h445km±84km, mb3.2/6, mb1 3.3/7, mb1mx3.1/17, mbtmp3.2/7, Error ellipse: s-maj=97.2km s-min=21.7km az=43.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**16.43**	**190**	P	P	14 01 32.9	0.0
	2.0nm,0.3s,baz=86,slow=2.6,SNR=12						
URZ				S	S	14 04 21.9	-1.4
	0.2nm,0.3s,baz=204,slow=18,SNR=3.3						
CTA	**Charters Tower**	**32.21**	**267**	P	P	14 03 57.3	+0.6
	1.4nm,0.6s,baz=84,slow=10,SNR=5.9						
STKA	**Stephens Creek**	**36.07**	**246**	P	P	14 04 29.3	+0.1
	2.7nm,0.9s,baz=92,slow=10,SNR=4.8						
ASAR	**Alice Springs**	**43.05**	**259**	P	P	14 05 26.0	+0.2
	2.9nm,0.8s,baz=92,slow=8.0,SNR=25						
WB2	**Warramunga Arr**	**43.24**	**264**	*eP*	P	14 05 27.6	+0.2
WRA	**Warramunga Arr**	**43.26**	**264**	P	P	14 05 26.7	-0.8
	1.6nm,0.8s,baz=97,slow=6.9,SNR=14						
FITZ	**Fitzroy Crossi**	**51.69**	**264**	*eP*	P	14 06 31.2	-0.1
	3.6nm,1.1s						
FITZ	**Fitzroy Crossi**	**51.69**	**264**	P	P	14 06 31.2	-0.1
	0.6nm,0.5s,baz=137,slow=9.9,SNR=5.8						
QSPA	**South Pole Qui**	**68.00**	**180**	P	P	14 08 20.1	+0.6
	1.4nm,0.6s,baz=287,slow=1.6,SNR=11						

ISCJB ***28*** *14:02:36.3±0.3, 6092S±005×204W±0.1, h10km, mb5.3/38, MS5.6/139, Error ellipse: s-maj=9.3km s-min=5.1km az=41.2*

IDC ***28*** *14:02:36.6±0.3, 6088S×2032W, h0km, mb5.1/28, mb1 5.2/29, mb1mx5.1/31, mbtmp5.1/29, ML5.3/1, MS5.5/19, Ms1 5.5/19, ms1mx5.5/21, Error ellipse: s-maj=13.2km s-min=10.8km az=19.0*

NEIC ***28*** *14:02:37.9±0.2, 6079S×2021W, h10km, mb5.6/24, MS5.6/110, MW5.9, Error ellipse: s-maj=9.5km s-min=6.9km az=211.0, Moment Tensor Solution. s8 Moment tensor: Scale 10^17 Nm; Mrr 0.49; Mθθ -4.08; Mφφ 3.58; Mrθ 1.17; Mθφ 7.78; Mφr 3.02; Best double couple: Mo 9.30000×10^17 NP1 φs 79.00000°, δ 74.00000°, λ 11.00000°. NP2 φs 345.00000°, δ 79.00000°, λ 163.00000°. Principal axes: T 9.5500, Plg 19.0000°, Azm 301.0000°; N -0.5800, Plg 70.0000°, Azm 133.0000°; P -8.9700, Plg 4.0000°, Azm 33.0000°;*

BJI ***28*** *14:02:37.9, 6080S×2020W, h10km, mB5.6, Ms5.8, Msz5.6*

GCMT ***28*** *14:02:37.9±0.1, 6104S×2012W, h17km, MW6.1/108, Moment Tensor Solution. s101, c209; s108, c370; Duration: 2s6 Moment tensor: Scale 10^18 Nm; Mrr -0.10±.01; Mθθ -0.23±.01; Mφφ 0.32±.01; Mrθ 0.18±.03; Mθφ 1.45±.01; Mφr -0.17±.03; Best double couple: Mo 1.50000×10^18 NP1 φs 264.00000°, δ 82.00000°, λ -7.00000°. NP2 φs 355.00000°, δ 83.00000°, λ -172.00000°. Principal axes: T 1.5260, Plg 1.0000°, Azm 129.0000°; N -0.0520, Plg 80.0000°, Azm 35.0000°; P -1.4730, Plg 10.0000°, Azm 220.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

MOS ***28*** *14:02:41.2±1.9, 6079S×2018W, h33km, mb5.6/16, MS5.5/7 Error ellipse: s-maj=23.4km s-min=11.6km az=102.9*

ISC 28 14:02:38.1±0.3, 6094S±005×2037W±010, h10km, (h15km±.4km:pP-P), n372, σ1°09/93, mb5.3/38, MS5.6/139, 25C-9D, East of South Sandwich Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**10.90**	**301**	Pn	**Pn**	**14 05 14.7**	**+0.9**
	3μm,0.8s,SNR=8.8						
VNA1	**Neumayer--Stat**	**10.91**	**158**	*e*Pn	**Pn**	**14 05 13.4**	**-0.6**
VNA1				*e*		14 05 16.6	
VNA1				*e*		14 05 17.8	
VNA1				*e*		14 07 06.0	
VNA1				*e*		14 07 13.5	
VNA1				*e*		14 07 19.8	
VNA1				*e*		14 08 04.6	
VNA1				*e*		14 15 00.0	
VNA1				*e*		14 16 07.3	
VNA3	**Neumayer Olymp**	**11.19**	**162**	*e*Pn	**Pn**	**14 05 17.6**	**-0.2**
VNA3				*e*		14 05 19.6	
VNA3				*e*		14 05 20.6	
VNA3				*e*		14 07 13.1	
VNA3				*e*		14 07 19.7	
VNA3				*e*		14 07 25.8	
VNA2	**Neumayer--Watz**	**11.30**	**158**	*e*Pn	**Pn**	**14 05 18.3**	**-1.0**
	baz=329,slow=16						
VNA2				*e*		14 05 21.3	
VNA2				*e*		14 05 22.2	
VNA2				*e*		14 07 14.2	
VNA2				*e*		14 07 20.2	
VNA2				*e*		14 07 27.1	
VNA2				*e*		14 08 16.7	
VNA2				*e*		14 08 53.1	
VNA2				*e*		14 14 54.4	
VNA2				*e*		14 16 01.8	
SNAA	**Sanae**	**12.79**	**155**	Pn	**Pn**	**14 05 38.3**	**-1.3**
SNAA				Sn	**Sn**	**14 07 47.3**	**-15**
SNAA				LR	LR	14 09 31.8	
SNAA	**Sanae**	**12.79**	**155**	*e*Pn	**Pn**	**14 05 37.9**	**-1.8**
SNAA				*e*		14 05 41.2	
SNAA				*e*		14 05 42.0	
SNAA				*e*		14 07 47.4	
SNAA				*e*		14 07 55.0	
SNAA				*e*		14 08 01.5	
SNAA				*e*		14 08 58.2	
SNAA				*e*		14 15 30.2	
SNAA				*e*		14 16 17.3	
SNAA	**Sanae**	**12.79**	**155**	Pn	**Pn**	**14 05 38.3**	**-1.3**
	18nm,0.3s,baz=331,slow=14,SNR=352						
SNAA				Sn	**Sn**	**14 07 47.3**	**-15**
	7.7nm,0.3s,baz=338,slow=23,SNR=3.9						
SNAA				LR	LR	14 09 31.8	
	comp=Z,20μm,19.1s,baz=323,slow=32						
SNAA				T		14 17 19.7	
	1.8nm,0.3s,baz=306,slow=15,SNR=5.1						
MAIT	**Maitri**	**16.17**	**141**	⇑*iP*	**Pn**	**14 06 20.8**	**-4.2**
MAIT				*eS*	Sn	14 09 52.8	+29
NVL	**N'lazarevskaya**	**16.20**	**141**	*c iP*	**Pn**	**14 06 24.5**	**-0.8**
NVL				pmax	pmax		
	comp=Z,1μm,2.5s						
NVL				MLR	MLR		
	comp=N,4μm,9.0s						
NVL				MLR	MLR		
	comp=E,12μm,9.0s						
NVL				MLR	MLR		
	comp=Z,12μm,9.0s						
PMSA	**Palmer Station**	**19.98**	**240**	*eP*	**Pn**	**14 07 12.9**	**+1.1**
	comp=Z,524nm,0.8s						
PMSA				LR	LR		
	comp=Z,8μm,20.0s						
PMSA	**Palmer Station**	**19.98**	**240**	P	**Pn**	**14 07 12.2**	**+0.4**
	comp=Z,106nm,1.0s,baz=92,slow=8.0,SNR=21						
PMSA				LR	LR	14 13 51.9	
	comp=Z,8μm,19.6s,baz=95,slow=34						
EFI	**East Falkland**	**22.57**	**277**	*iP*	**P**	**14 07 37.6**	**-0.4**
	comp=Z,6μm,0.8s,SNR=74						
EFI	**East Falkland**	**22.57**	**277**	⇑*iP*	**P**	**14 07 37.4**	**-0.6**
	comp=Z,1μm,1.0s,mb6.2						
EFI				*eS*	**S**	**14 11 45.2**	**-0.2**
EFI				LR	LR		
	comp=Z,11μm,21.0s,MS5.3						
SYO	**Syowa Base**	**25.56**	**134**	⇓*eP*	**P**	**14 08 04.6**	**-1.9**
SYO	**Syowa Base**	**25.56**	**134**	⇑*iP*	**P**	**14 08 06.3**	**-0.2**
SYO	**Syowa Base**	**25.56**	**134**	⇓*iP*	pP	14 08 07.7	-1.9
USHA	**Ushuaia**	**25.77**	**262**	P	**P**	**14 08 09.1**	**+0.6**
	comp=Z,102nm,0.8s,mb5.4,baz=85,slow=8.7,SNR=29						
QSPA	**South Pole Qui**	**29.30**	**180**	P	**P**	**14 08 41.8**	**+1.9**
	comp=Z,40nm,1.1s,mb5.0,baz=212,slow=6.8,SNR=32						
QSPA				LR	LR	14 19 15.1	
	comp=Z,11μm,18.9s,MS5.5,baz=196,slow=34						
MAW	**Mawson**	**34.10**	**137**	⇑*eP*	**P**	**14 09 22.4**	**+0.2**
	comp=Z,123nm,1.0s,mb5.8						
MAW				*e*PP	PP	14 10 36.6	-2.4
MAW				*eS*	**S**	**14 14 59.8**	**+12**
MAW				LR	LR		
	comp=Z,23μm,22.0s,MS5.9						
MAW	**Mawson**	**34.10**	**137**	⇑*eP*	**P**	**14 09 22.4**	**+0.3**
MAW				*e*		14 10 36.6	
MAW				pmax	pmax		
	comp=Z,120nm,1.0s						
MAW	**Mawson**	**34.10**	**137**	P	**P**	**14 09 23.5**	**+1.3**
	comp=Z,75nm,0.9s,mb5.6,baz=244,slow=9.6,SNR=43						
MAW				LR	LR	14 21 42.9	
	comp=Z,14μm,18.4s,MS5.7,baz=246,slow=34						
TRQA	**Tornquist**	**34.52**	**292**	⇑*iP*	**P**	**14 09 25.8**	**-0.4**
	comp=Z,156nm,0.9s,mb5.9						
TRQA				LR	LR		
	comp=Z,8μm,22.0s,MS5.4						
LPA	**La Plata**	**35.39**	**300**	*ceP*	**P**	**14 09 33.0**	**-0.6**
LPA				*eS*	**S**	**14 15 07.0**	**-0.9**
LPA							
	comp=Z,1μm,18.0s						
LPA	**La Plata**	**35.39**	**300**	⇑*eP*	**P**	**14 09 33.0**	**-0.6**
LPA				*eS*	**S**	**14 15 07.0**	**-0.9**
PLCA	**Paso Flores**	**36.40**	**280**	⇑*iP*	**P**	**14 09 41.1**	**-1.2**
	comp=Z,130nm,1.2s,mb5.7						
PLCA				*e*PP	PP	14 11 02.6	-2.3
PLCA				LR	LR		
	comp=Z,8μm,19.0s,MS5.5						
PLCA	**Paso Flores**	**36.40**	**280**	P	**P**	**14 09 41.4**	**-0.9**
	comp=Z,41nm,0.7s,mb5.5,baz=146,slow=8.7,SNR=110						
PLCA				LR	LR	14 23 32.5	
	comp=Z,8μm,19.5s,MS5.5,baz=135,slow=34						
SUR	**Sutherland**	**39.10**	**62**	*eP*	**P**	**14 10 04.5**	**-0.7**
	comp=Z,76nm,1.2s,mb5.3						
SUR				LR	LR		
	comp=Z,8μm,19.0s,MS5.6						
SUR	**Sutherland**	**39.10**	**62**	P	**P**	**14 10 06.5**	**+1.3**
	comp=Z,25nm,0.8s,mb5.0,baz=204,slow=7.9,SNR=7.3						
SBA	**Scott Base**	**41.39**	**182**	*eP*	**P**	**14 10 26.7**	**+3.0**
	comp=Z,170nm,1.7s,mb5.4						
SBA				*e*PP	PP	14 12 11.7	+13
SBA				LR	LR		
	comp=Z,5μm,20.0s,MS5.4						
CAM4	**Nova Friburgo**	**41.53**	**328**	⇓*iP*	**P**	**14 10 26.3**	**+1.0**
CAM4				*i*	pP	14 10 30.5	+2.0
CAM4				*i*		14 10 32.8	
CAM4				*i*		14 10 43.6	
LMEL	**Las Melosas**	**41.76**	**287**	⇑*iP*	**P**	**14 10 26.1**	**-1.0**
VNDA	**Vanda**	**41.78**	**181**	*eP*	**P**	**14 10 29.3**	**+2.5**
	comp=Z,88nm,1.6s,mb5.1						
VNDA				*e*ScP	ScP	14 16 20.5	+7.9
VNDA				LR	LR		
	comp=Z,11μm,19.0s,MS5.8						
VNDA	**Vanda**	**41.78**	**181**	P	**P**	**14 10 29.0**	**+2.1**
	comp=Z,9.1nm,0.7s,mb4.5,baz=184,slow=7.8,SNR=24						
VNDA				LR	LR	14 26 45.2	
	comp=Z,7μm,18.5s,MS5.6,baz=179,slow=35						
FCH	**Farellones**	**42.23**	**288**	⇑*iP*	**P**	**14 10 29.2**	**-1.8**
CLCH	**Cerro Calan**	**42.29**	**287**	⇑*iP*	**P**	**14 10 31.0**	**-0.5**
PEL	**Peldehue**	**42.57**	**287**	⇓*iP*	**P**	**14 10 33.6**	**-0.2**
CAM3	**Guarapari**	**42.60**	**332**	⇓*iP*	**P**	**14 10 34.9**	**+0.8**
CAM3				*i*		14 10 34.9	
CAM3				*i*	pP	14 10 38.9	+1.7
CAM3				*i*		14 10 48.3	
CAM3				*i*		14 11 11.3	
CFAA	**Coronel Fontan**	**42.73**	**291**	P	**P**	**14 10 33.9**	**-1.1**
CFAA	**Coronel Fontan**	**42.73**	**291**	P	**P**	**14 10 33.9**	**-1.1**
	comp=Z,9.8nm,0.9s,mb4.5,baz=148,slow=8.5,SNR=97						
MIR	**Mirnyy**	**43.76**	**148**	κ *iP*	**P**	**14 10 45.5**	**+2.5**
MIR				*i*		14 12 30.0	
MIR				*i* S	**S**	**14 17 16.0**	**+3.2**
MIR				pmax	pmax		
	comp=Z,400nm,2.0s,mb5.8						
MIR				MLR	MLR		
	comp=Z,23μm,13.0s,MS6.3						
BOSA	**Boshof**	**44.27**	**64**	*eP*	**P**	**14 10 47.0**	**-0.5**
	comp=Z,141nm,1.4s,mb5.5						
BOSA				LR	LR		
	comp=Z,9μm,19.0s,MS5.7						
BOSA	**Boshof**	**44.27**	**64**	P	**P**	**14 10 46.9**	**-0.7**
	comp=Z,30nm,1.0s,mb5.0,baz=214,slow=9.3,SNR=15						
BOSA				LR	LR	14 24 55.4	
	comp=Z,9μm,19.2s,MS5.7,baz=208,slow=30						
CMCH	**Combarbala**	**44.36**	**289**	⇓*iP*	**P**	**14 10 47.5**	**-0.7**
TLL	**Tololo Astrono**	**45.12**	**290**	⇑*iP*	**P**	**14 10 54.0**	**-0.2**
LCO	**Las Campanas**	**46.05**	**291**	*eP*	**P**	**14 11 01.2**	**-0.4**
	comp=Z,108nm,1.1s,mb5.7						
LCO				LR	LR		
	comp=Z,9μm,21.0s,MS5.7						
LBTB	**Lobatse**	**47.55**	**62**	*eP*	**P**	**14 11 12.4**	**-1.1**
	comp=Z,327nm,1.8s,mb6.1						
LBTB				LR	LR		
	comp=Z,8μm,20.0s,MS5.7						
LBTB	**Lobatse**	**47.55**	**62**	P	**P**	**14 11 12.9**	**-0.5**
	comp=Z,45nm,1.0s,mb5.5,baz=216,slow=7.8,SNR=20						
CASY	**Casey**	**48.03**	**156**	*eP*	**P**	**14 11 18.9**	**+2.3**
	comp=Z,96nm,1.1s,mb5.7						
CASY				LR	LR		
	comp=Z,20μm,21.0s,MS6.1						
BDFB	**Brasilia**	**49.42**	**324**	P	**P**	**14 11 28.7**	**+0.9**
BDFB				LR	LR	14 28 47.4	
BDFB	**Brasilia**	**49.42**	**324**	P	**P**	**14 11 28.7**	**+0.9**
	comp=Z,19nm,0.9s,mb5.1,baz=148,slow=12,SNR=17						
BDFB				LR	LR	14 28 47.4	
	comp=Z,4μm,20.4s,MS5.4,baz=340,slow=32						
TSUM	**Tsumeb**	**49.52**	**50**	PFAKE		14 11 40.0	+11
TSUM				LR	LR		
	comp=Z,2μm,19.0s,MS5.1						
ASCN	**Ascension**	**53.08**	**7**	PFAKE		14 12 10.0	+15
ASCN				LR	LR		
	comp=Z,3μm,21.0s,MS5.4						
SIV	**San Ignacio**	**53.49**	**309**	P	**P**	**14 11 58.1**	**-0.3**
	comp=Z,53nm,1.1s,mb5.4,baz=157,slow=7.7,SNR=70						
LPAZ	**La Paz**	**56.05**	**301**	⇑*iP*	**P**	**14 12 17.9**	**+0.9**
	comp=Z,134nm,1.1s,mb5.9						
LPAZ				*e*PP	PP	14 14 23.8	+2.0
LPAZ				LR	LR		
	comp=Z,4μm,19.0s,MS5.5						
LPAZ	**La Paz**	**56.05**	**301**	P	**P**	**14 12 18.1**	**+1.1**
	comp=Z,90nm,1.0s,mb5.8,baz=147,slow=6.0,SNR=198						
LSZ	**Lusaka**	**57.29**	**59**	*eP*	**P**	**14 12 24.4**	**-1.4**
	comp=Z,117nm,1.4s,mb5.7						
LSZ				LR	LR		
	comp=Z,8μm,22.0s,MS5.8						
LSZ	**Lusaka**	**57.29**	**59**	*eP*	**P**	**14 12 24.4**	**-1.3**
LSZ				pmax	pmax		
	comp=Z,120nm,1.3s,mb5.8						
LSZ	**Lusaka**	**57.29**	**59**	P	**P**	**14 12 25.4**	**-0.3**
	comp=Z,24nm,0.9s,mb5.2,baz=198,slow=7.7,SNR=24						
ARE	**Arequipa**	**57.33**	**297**	⇑*iP*	**P**	**14 12 26.6**	**+0.6**
ABPO	**Ambohimpanom**	**62.70**	**80**	PFAKE		14 13 10.0	+7.2
ABPO				LR	LR		
	comp=Z,7μm,19.0s,MS5.8						
OPO	**Ambohidratompo**	**63.06**	**80**	P	**P**	**14 13 06.5**	**+1.2**
	comp=Z,5.6nm,0.9s,mb4.7,baz=212,slow=6.3,SNR=7.1						
NNA	**Nana**	**63.64**	**294**	P	**P**	**14 13 10.5**	**+1.3**
	comp=Z,572nm,0.8s,SNR=7.5						
NNA	**Nana**	**63.64**	**294**	⇑*iP*	**P**	**14 13 09.4**	**+0.3**
	comp=Z,86nm,0.9s,mb5.8						
NNA				*e*	pP	14 13 13.9	+1.6
NNA				LR	LR		
	comp=Z,3μm,22.0s,MS5.4						
MSKU	**Masuku**	**64.55**	**38**	PFAKE		14 13 30.0	+15
MSKU				LR	LR		
	comp=Z,3.0nm,20.0s						
DBIC	**Dimbokro**	**68.49**	**17**	*eP*	**P**	**14 13 39.3**	**-1.0**
	comp=Z,47nm,0.9s,mb5.5						
DBIC				*e*	pP	14 13 44.0	+0.5
DBIC				LR	LR		
	comp=Z,2μm,19.0s,MS5.4						
DBIC	**Dimbokro**	**68.49**	**17**	P	**P**	**14 13 39.3**	**-1.0**
	comp=Z,43nm,0.8s,mb5.6,baz=170,slow=6.8,SNR=52						
DBIC				LR	LR	14 37 45.7	
	comp=Z,2μm,18.2s,MS5.5,baz=173,slow=31						
ATAH	**Atahualpa**	**68.76**	**295**	P	**P**	**14 13 43.7**	**+1.7**
	comp=Z,42nm,1.0s,mb5.3,baz=33,slow=0.7,SNR=20						
KMBO	**Kilima Mbogo**	**73.83**	**62**	*eP*	**P**	**14 14 14.2**	**+1.6**
	comp=Z,895nm,0.9s						
KMBO				*e*PP	PP	14 16 59.3	+1.9
KMBO				LR	LR		
	comp=Z,6μm,19.0s,MS5.9						
KMBO	**Kilima Mbogo**	**73.83**	**62**	P	**P**	**14 14 14.4**	**+1.7**
	comp=Z,3.8nm,1.0s,baz=209,slow=5.4,SNR=17						
KMBO				LR	LR	14 43 20.0	
	comp=Z,6μm,18.7s,MS5.9,baz=190,slow=33						
RPZ	**Rata Peaks**	**75.29**	**189**	P	**P**	**14 14 19.9**	**-0.9**
	comp=Z,6.8nm,0.9s,mb4.6,baz=135,slow=1.4,SNR=2.1						
RPZ				LR	LR	14 45 21.4	
	comp=Z,3μm,18.5s,MS5.6,baz=196,slow=34						
TAU	**Tasmania Unive**	**76.02**	**171**	PFAKE		14 14 40.0	+15
TAU				LR	LR		
	comp=Z,4μm,19.0s,MS5.8						
SNZO	**South Karori**	**77.37**	**192**	PFAKE		14 14 40.0	+7.4
SNZO				LR	LR		
	comp=Z,2μm,20.0s,MS5.4						
PTCN	**Pitcairn Islan**	**77.39**	**241**	PFAKE		14 14 50.0	+17
PTCN				LR	LR		
	comp=Z,4μm,19.0s,MS5.8						
ROSC	**El Rosal**	**77.71**	**304**	*eP*	**P**	**14 14 35.5**	**+0.7**
ROSC	**El Rosal**	**77.71**	**304**	P	**P**	**14 14 35.8**	**+1.0**
	comp=Z,17nm,0.7s,mb5.1,baz=269,slow=23,SNR=8.3						
ROSC				LR	LR	14 48 52.5	
	comp=Z,5μm,19.3s,MS5.8,baz=192,slow=36						
PCRV	**Puerto La Cruz**	**78.99**	**316**	P	**P**	**14 14 42.4**	**+0.6**
	comp=Z,26nm,0.8s,mb5.2,baz=286,slow=1.4,SNR=8.2						
GRGR	**Grenville**	**79.83**	**319**	PFAKE		14 15 00.0	+14
GRGR				LR	LR		
	comp=Z,2μm,21.0s,MS5.5						
SDV	**Santo Domingo**	**79.95**	**309**	⇑*eP*	**P**	**14 14 46.7**	**-0.4**
	comp=Z,72nm,1.0s,mb5.6						
SDV				*e*		14 14 59.9	
SDV				LR	LR		
	comp=Z,3μm,21.0s,MS5.6						
SDV	**Santo Domingo**	**79.95**	**309**	P	**P**	**14 14 47.3**	**+0.2**
	comp=Z,18nm,0.8s,mb5.1,baz=173,slow=5.1,SNR=27						
URZ	**Urewera**	**80.12**	**194**	P	**P**	**14 14 47.0**	**-0.9**
	comp=Z,15nm,1.1s,mb4.8,baz=297,slow=2.3,SNR=2.6						
URZ				LR	LR	14 46 28.9	
	comp=Z,4μm,20.1s,MS5.7,baz=173,slow=33						
BBGH	**Gun Hill**	**80.13**	**321**	PFAKE		14 15 00.0	+12
BBGH				LR	LR		
	comp=Z,5μm,22.0s,MS5.8						
NWAO	**Narrogin (SRO)**	**80.28**	**145**	*eP*	**P**	**14 14 48.5**	**-0.3**
	comp=Z,41nm,1.2s,mb5.2						
NWAO				LR	LR		
	comp=Z,3μm,20.0s,MS5.6						
NWAO	**Narrogin (SRO)**	**80.28**	**145**	P	**P**	**14 14 48.7**	**-0.1**
	comp=Z,16nm,0.8s,mb5.0,baz=197,slow=5.1,SNR=4.0						
MUN	**Mundaring**	**80.88**	**144**	*eP*	**P**	**14 14 52.0**	**0.0**
RKT	**Rikitea**	**81.17**	**238**	*eS*	S	14 25 02.1	-1.3
	comp=Z,3μm,32.0s						
RKT	**Rikitea**	**81.17**	**238**	*e*LQ		14 36 50.9	
	comp=Z,7μm,35.8s						
RKT				*e*LR	LR	14 40 26.6	
	comp=Z,5μm,31.0s,baz=146						
KLBR	**Kellerberrin**	**81.68**	**145**	*eP*	**P**	**14 14 56.7**	**+0.4**
	comp=Z,83nm,1.4s,mb5.5						
CNB	**Canberra Magne**	**83.72**	**172**	*eP*	**P**	**14 15 10.1**	**+3.3**
	comp=Z,70nm,1.7s,mb5.5						
BCIP	**Isla Barro Col**	**83.87**	**

SDDR Presa de Saban 89.48 313 PFAKE 14 15 50.0 +15
SDDR LR LR
comp=Z,3µm,22.0s,MS5.7
TGUH Tegucigalpa,Un 91.42 297 PFAKE 14 16 00.0 +16
TGUH LR LR
comp=Z,1µm,20.0s,MS5.4
RAR Rarotonga 91.83 217 PFAKE 14 16 00.0 +14
RAR LR LR
comp=Z,2.0nm,20.0s
RAR Rarotonga 91.83 217 LR LR 14 54 13.8
comp=Z,1µm,18.4s,MS5.3,baz=149,slow=34
PPT Papeete 91.87 228 *e*SKSac SKSac 14 26 14.9 -4.3
comp=Z,1µm,23.8s
PPT Papeete 91.87 228 *e*PS PS 14 27 58.3 +0.8
comp=Z,3µm,29.8s
PPT Papeete 91.87 228 *e*LR LR 14 45 10.8
comp=Z,8µm,33.2s,baz=158
PPT Papeete 91.87 228 LR LR 14 49 08.3
comp=Z,2µm,20.9s,MS5.5,baz=156,slow=30
COCO West Island 92.02 120 PFAKE 14 16 00.0 +13
COCO LR LR
comp=Z,2µm,20.0s,MS5.7
MBWA Marble Bar 92.09 143 *e*P **P** **14 15 44.7 -2.6**
comp=Z,22nm,1.1s,mb5.4
MBWA LR LR
comp=Z,4µm,22.0s,MS5.8
ASAR Alice Springs 93.15 157 P **P** **14 15 51.5 -0.7**
ASAR 14 19 34.2
ASAR pmax pmax
comp=Z,2.0nm,0.8s
ASAR pmax pmax
comp=Z,2.0nm,1.0s
ASAR Alice Springs 93.15 157 P **P** **14 15 51.5 -0.7**
comp=Z,2.3nm,0.8s,mb4.6,baz=192,slow=4.3,SNR=11
ASAR PP PP 14 19 34.2 -0.4
comp=Z,2.3nm,1.0s,baz=187,slow=6.1,SNR=3.3
ASAR PKKPbc PKKPbc 14 32 58.2 +0.8
comp=Z,0.3nm,0.7s,baz=347,slow=3.2,SNR=3.0
TAOE Nuku Hiva Isla 96.10 240 *e*SP SP 14 28 43.0 -0.4
comp=Z,21µm,27.7s
TAOE Nuku Hiva Isla 96.10 240 *e*LR LR 14 47 12.6
comp=Z,82µm,28.1s,baz=165
WRA Warramunga Arr 96.86 156 P **P** **14 16 08.4 -0.8**
comp=Z,2.1nm,0.9s,mb4.6,baz=201,slow=4.4,SNR=6.8
WRA LR LR 14 56 15.0
comp=Z,3µm,20.9s,MS5.7,baz=190,slow=33
WRAB Tennant Creek 96.87 156 PFAKE 14 16 20.0 +11
WRAB LR LR
comp=Z,3µm,22.0s,MS5.8
TEIG Tepich 97.32 299 P **P** **14 16 10.1 -1.0**
TEIG LR LR
comp=Z,1µm,20.0s,MS5.4
TEIG Tepich 97.32 299 P **P** **14 16 10.1 -1.0**
comp=Z,16nm,1.1s,mb5.4,baz=112,slow=5.4,SNR=2.7
PFVI Vila Bisbo 98.18 9 *e*LQ 14 43 45.3
PFVI *e*LR LR 14 49 38.2
comp=Z,2µm,22.0s
PBDV Barranco-do-Ve 98.36 10 *e*S S 14 27 41.3 -1.5
PBDV Barranco-do-Ve 98.36 10 *e*LQ 14 43 50.8
PBDV *e*LR LR 14 50 42.5
comp=Z,2µm,20.0s
MORF Marmelete 98.36 9 *e*LQ 14 43 52.8
MORF *e*LR LR 14 49 18.1
comp=Z,3µm,20.0s
PDA Ponta Delgada 98.43 356 *e*LR LR 14 47 52.0
CMLA Cha da Macela 98.44 356 *e*LR LR 14 47 44.2
CMLA Cha da Macela 98.44 356 PFAKE 14 16 30.0 +14
CMLA LR LR
comp=Z,3µm,20.0s,MS5.7
PVAQ Vaqueiros 98.54 10 *e*SS SS 14 34 36.8 +6.5
PVAQ *e*LQ 14 43 54.4
PVAQ *e*LR LR 14 50 10.7
comp=Z,2µm,20.0s
CTAO Charters Tower 98.54 167 *e*P **P** **14 16 21.4 +4.6**
comp=Z,14nm,1.5s,mb5.3
CTAO LR LR
comp=Z,5µm,19.0s,MS6.0
KEST Kesra 99.34 24 LR LR 14 58 27.6
comp=Z,804nm,18.5s,MS5.2,baz=161,slow=34
PBAR Barrancos 99.36 11 *e*SS SS 14 34 53.7 +12
PBAR *e*LQ 14 44 12.5
PBAR *e*LR LR 14 50 44.9
comp=Z,2µm,20.0s
BBSR BB Station 99.75 323 PFAKE 14 16 30.0 +7.7
BBSR LR LR
comp=Z,2µm,21.0s,MS5.5
PMAFR Mafra 99.95 9 *e*SS SS 14 34 54.8 +4.7
PMAFR *e*LQ 14 44 18.5
PMAFR *e*LR LR 14 49 03.8
comp=Z,1µm,22.0s
PESTR Estremoz 100.00 10 *e*SS SS 14 34 54.9 +4.1
PESTR *e*LQ 14 44 29.3
PESTR *e*LR LR 14 50 53.9
comp=Z,2µm,22.0s
PAB San Pablo 100.98 13 PFAKE 14 16 40.0 +12
PAB LR LR
comp=Z,2µm,20.0s,MS5.5
ESDC Sonseca Array 101.15 13 PP PP 14 20 35.7 -1.4
comp=Z,0.1nm,0.3s,baz=175,slow=7.0,SNR=4.1
MTE Manteigas 101.53 10 *e*LQ 14 44 57.1
MTE *e*LR LR 14 49 57.4
comp=Z,2µm,22.0s
DWPF Disney 101.56 308 PFAKE 14 16 40.0 +10
DWPF LR LR
comp=Z,900nm,22.0s,MS5.2
PALK Pallekele 101.70 96 PFAKE 14 16 40.0 +9.0
PALK LR LR
comp=Z,1µm,19.0s,MS5.5
AFI Afiamalu 102.00 208 PFAKE 14 16 40.0 +7.7
AFI LR LR
comp=Z,3µm,19.0s,MS5.8
MVO Moncorvo 102.33 10 *e*LQ 14 45 13.5
MVO *e*LR LR 14 50 44.8
comp=Z,2µm,20.0s
ASF Jabal al Asfar 103.80 47 PP PP 14 20 52.4 -4.7
comp=Z,0.7nm,0.3s,baz=87,slow=4.0,SNR=3.4
NHSC New Hope 105.56 311 PFAKE 14 21 10.0 +9.4
NHSC LR LR
comp=Z,1µm,20.0s,MS5.4
BRAL Brewton 106.35 305 PFAKE 14 21 10.0 +7.9
BRAL LR LR
comp=Z,1µm,20.0s,MS5.5
GOGA Godfrey 107.07 309 PFAKE 14 21 10.0 +6.6
GOGA LR LR
comp=Z,2µm,21.0s,MS5.6
KVTX Kingsville 107.93 294 PFAKE 14 21 20.0 +15
KVTX LR LR
comp=Z,2µm,21.0s,MS5.6
LRAL Lakeview Retre 108.11 306 PFAKE 14 21 20.0 +15
LRAL LR LR
comp=Z,3µm,21.0s,MS5.9
FUNA Funafuti 109.06 201 PFAKE 14 21 20.0 +12
FUNA LR LR
comp=Z,7µm,20.0s,MS6.2
HKT Hockley 109.09 297 PFAKE 14 21 20.0 +13
HKT LR LR
comp=Z,236nm,22.0s,MS4.7
CBN Corbin 109.15 316 PFAKE 14 21 20.0 +13
CBN LR LR
comp=Z,2µm,19.0s,MS5.6
TKL Tuckaleechee C 109.17 310 PP PP 14 21 28.8 -7.8
comp=Z,9.9nm,1.1s,baz=149,slow=12,SNR=4.4
ANTO Ankara 109.38 41 PFAKE 14 21 20.0 +12
ANTO LR LR
comp=Z,963nm,19.0s,MS5.4
HNR Honiara 109.86 180 PFAKE 14 21 20.0 +11
HNR LR LR
comp=Z,2µm,19.0s,MS5.6
TZTN Tazewell 109.87 310 PFAKE 14 21 20.0 +11
TZTN LR LR
comp=Z,1µm,20.0s,MS5.5
NATX Nacogdoches 110.15 299 PFAKE 14 21 20.0 +11
NATX LR LR
comp=Z,769nm,20.0s,MS5.3
PLAL Pickwick Lake 110.24 306 PFAKE 14 21 20.0 +11
PLAL LR LR
comp=Z,4µm,21.0s,MS6.0
WES Weston 110.99 322 PFAKE 14 21 20.0 +10
WES LR LR
comp=Z,2µm,22.0s,MS5.8
WVT Waverly 111.15 307 PFAKE 14 21 20.0 +9.0
WVT LR LR
comp=Z,5µm,22.0s,MS6.0
HRV Adam Dziewonsk 111.17 322 PFAKE 14 21 20.0 +9.2
HRV LR LR
comp=Z,2µm,20.0s,MS5.8

JCT Junction City 111.29 294 PFAKE 14 21 20.0 +8.6
JCT LR LR
comp=Z,834nm,21.0s,MS5.3
MCWV Mont Chateau 111.30 314 PFAKE 14 21 20.0 +8.9
MCWV LR LR
comp=Z,2µm,20.0s,MS5.6
BFO Black Forest 111.35 20 PFAKE 14 21 20.0 +9.1
BFO LR LR
comp=Z,2µm,19.0s,MS5.7
SSPA Standing Stone 111.50 316 PFAKE 14 21 20.0 +8.5
SSPA LR LR
comp=Z,572nm,22.0s,MS5.1
TXAR Lajitas Array 112.06 291 PKiKP PKiKP 14 21 15.1 +2.2
comp=Z,0.4nm,0.7s,baz=217,slow=3.9,SNR=3.3
MIAR Mount Ida 112.09 301 PFAKE 14 21 20.0 +7.2
MIAR LR LR
comp=Z,924nm,21.0s,MS5.3
BINY Binghamton 112.28 318 PFAKE 14 21 20.0 +7.1
BINY LR LR
comp=Z,2µm,20.0s,MS5.6
GERES GERESS Array B 112.83 24 *i* PKIKP PKiKP 14 21 13.0 -0.7
GERES GERESS Array B 112.83 24 PKiKP PKiKP 14 21 13.0 -0.7
comp=Z,0.2nm,0.4s,baz=151,slow=3.0,SNR=3.9
LBNH Lisbon 112.86 322 PFAKE 14 21 30.0 +16
LBNH LR LR
comp=Z,3µm,22.0s,MS5.8
ACSO Alum Creek Sta 112.92 312 PFAKE 14 21 30.0 +16
ACSO LR LR
comp=Z,1µm,19.0s,MS5.5
PKME Peaks-Kenny Pk 113.03 325 PFAKE 14 21 30.0 +16
PKME LR LR
comp=Z,1µm,22.0s,MS5.5
KHC Kasperske Hory 113.08 23 *e*PP PP 14 22 03.4 -1.1
KHC *ex* x 14 22 15.6
KHC *e*PKKP PKKPbc 14 32 23.5 +24
GRFO Grafenberg 113.17 22 PFAKE 14 21 30.0 +16
GRFO LR LR
comp=Z,1µm,21.0s,MS5.5
GRF Grafenberg Arr 113.17 22 *e*PP PP 14 21 47.0 -18
GRF *e*L 15 03 38.2
comp=Z,1µm,20.7s
NCB Newcomb 113.32 321 PFAKE 14 21 30.0 +15
NCB LR LR
comp=Z,2µm,22.0s,MS5.6
ERPA Erie 113.54 316 PFAKE 14 21 30.0 +15
ERPA LR LR
comp=Z,2µm,20.0s,MS5.7
LONY Lake Ozonia 114.02 321 PFAKE 14 21 30.0 +14
LONY LR LR
comp=Z,2µm,22.0s,MS5.7
PRU Pruhonice 114.08 24 *e*PP PP 14 22 12.9 +1.3
MOX Moxa 114.16 22 *e*PKP PP 14 22 09.9 -2.3
comp=Z,26nm,2.0s
MOX
comp=Z,1µm,19.0s
CCM Cathedral Cave 114.17 305 PFAKE 14 21 30.0 +13
CCM LR LR
comp=Z,911nm,22.0s,MS5.3
WMOK Wichita Mounta 114.47 298 PFAKE 14 21 30.0 +13
WMOK LR LR
comp=Z,877nm,21.0s,MS5.3
PVCC Panska Ves 114.60 24 *e*PP PP 14 22 17.8 +2.5
DPC Dobruska-Polom 114.79 25 *e*PP PP 14 22 19.1 +2.5
BRG Berggiesshubel 114.81 23 *e*(P) PP 14 22 14.7 -2.1
comp=Z,26nm,2.0s
BRG *e* 14 30 56.0
BRG *e* 14 32 02.0
BRG *e* 14 38 19.0
BRG
comp=Z,2µm,18.3s
BRG
comp=N,969nm,18.1s
BRG
comp=E,1µm,18.1s
MNTX Cornudas Mount 114.84 291 PFAKE 14 21 30.0 +12
MNTX LR LR
comp=Z,2µm,19.0s,MS5.7
UPC Upice 114.87 25 *e*PP PP 14 22 13.8 -3.4
AAM Ann Arbor 114.98 313 PFAKE 14 21 30.0 +12
AAM LR LR
comp=Z,2µm,20.0s,MS5.7
CLL Collm 115.05 22 *i* PP PP 14 22 18.6 +0.2
comp=Z,25nm,1.8s
CLL *ex* x 14 22 41.0
CLL *e*PS PS 14 32 01.0 +4.5
CLL *e*PPS 14 33 17.0
CLL *e*SS SS 14 38 30.0 +16
CLL *e*SSS 14 42 24.0
CLL LmV 15 08 00.0
comp=Z,1µm,18.6s
ANN Anapa 115.32 42 *i* PKIKP PKPdf 14 21 17.4 -1.2
ANN pmax pmax
comp=Z,20nm,1.0s
HDIL Hopedale 115.56 308 PFAKE 14 21 30.0 +11
HDIL LR LR
comp=Z,2µm,22.0s,MS5.6
AMTX Amarillo 115.86 295 PFAKE 14 21 30.0 +10
AMTX LR LR
comp=Z,999nm,19.0s,MS5.5
KIV Kislovodsk 116.35 46 *e*PKP PKPdf 14 21 19.1 -1.5
KIV LR LR
comp=Z,2µm,19.0s,MS5.6
KIV Kislovodsk 116.35 46 *i* PKIKP PKPdf 14 21 19.0 -1.6
KIV *e* 14 22 28.5
KIV *e*PS PS 14 32 14.5 +5.9
KIV *e*SS SS 14 38 30.6 -1.0
KIV *e*SSS 14 42 49.8
KIV pmax pmax
comp=Z,6.0nm,1.2s
KSU1 Kansas State U 117.25 302 PFAKE 14 21 30.0 +7.5
KSU1 LR LR
comp=Z,2µm,22.0s,MS5.7
GLMI Grayling 117.53 314 PFAKE 14 21 30.0 +7.1
GLMI LR LR
comp=Z,2µm,21.0s,MS5.7
TUC Tucson 117.85 287 PFAKE 14 21 40.0 +16
TUC LR LR
comp=Z,1µm,22.0s,MS5.5
LAZ Ladron 117.91 291 PKPdf PKPdf 14 21 26.5 +2.6
JFWS Jewell Farm 117.95 309 PFAKE 14 21 40.0 +16
JFWS LR LR
comp=Z,2µm,22.0s,MS5.7
ANMO Albuquerque 118.06 292 PFAKE 14 21 40.0 +16
ANMO LR LR
comp=Z,2µm,22.0s,MS5.6
ANMO Albuquerque 118.06 292 PP PP 14 22 38.2 -1.4
comp=Z,2.7nm,0.8s,baz=144,slow=8.4,SNR=5.2
AKASG Malin Array Be 118.18 33 PKIKP PKPdf 14 21 22.7 -1.2
AKASG 14 22 40.4
AKASG pmax pmax
comp=Z,2.0nm,0.7s
AKASG pmax pmax
comp=Z,1.0nm,0.5s
AKASG Malin Array Be 118.18 33 PKP PKPdf 14 21 22.6 -1.3
comp=Z,1.9nm,0.7s,baz=236,slow=2.2,SNR=8.6
AKASG PP PP 14 22 40.4 +0.1
comp=Z,0.9nm,0.5s,baz=204,slow=7.4,SNR=8.4
AKBB Malin Array Si 118.18 33 *e*PKPdf PKPdf 14 21 27.2 +3.2
SCIA State Center 118.24 306 PFAKE 14 21 40.0 +16
SCIA LR LR
comp=Z,4µm,22.0s,MS6.0
CBKS Cedar Bluff 118.32 299 PFAKE 14 21 40.0 +15
CBKS LR LR
comp=Z,2µm,21.0s,MS5.6
SDCO Great Sand Dun 119.94 294 *e*PKPdf PKPdf 14 21 27.5 -0.2
SDCO *e*PP PP 14 22 55.1 +2.4
SDCO LR LR
comp=Z,1µm,20.0s,MS5.6
COWI Conover 120.25 311 PFAKE 14 21 40.0 +12
COWI LR LR
comp=Z,2µm,22.0s,MS5.7
GLA Glamis 120.37 284 PFAKE 14 21 40.0 +11
GLA LR LR
comp=Z,1µm,20.0s,MS5.5
CHTO Chiang Mai 120.41 107 PFAKE 14 21 40.0 +11
CHTO LR LR
comp=Z,1µm,20.0s,MS5.5
DAV Davao City (W) 120.55 140 PFAKE 14 21 40.0 +10
DAV LR LR
comp=Z,697nm,19.0s,MS5.3
KOLN Koldanda 120.59 87 *e*P PKPdf 14 21 28.4 -1.0
WUAZ Wupatki 120.78 288 *e*PKPdf PKPdf 14 21 32.5 +3.0
WUAZ *e*PP PP 14 23 00.1 +1.7
WUAZ LR LR
comp=Z,966nm,19.0s,MS5.5

ECSD EROS,Sioux Fal 121.13 305 PFAKE 14 21 40.0 +10
ECSD LR LR
comp=Z,4µm,22.0s,MS6.0
SCHQ Schefferville 121.14 331 *e*PKPdf PKPdf 14 21 28.0 -1.5
SCHQ *e*PP PP 14 23 02.0 +1.4
SCHQ Schefferville 121.14 331 PKP PKPdf 14 21 28.8 -0.7
comp=Z,6.2nm,0.8s,baz=150,slow=5.1,SNR=10
DANN Dangsing 121.15 87 *e*P PKPdf 14 21 29.5 -0.9
comp=Z,32nm,1.0s
DMN Daman 121.19 89 *e*P PKPdf 14 21 29.7 -0.8
comp=Z,15nm,0.9s
GKN Gorkha 121.29 88 *e*P PKPdf 14 21 29.1 -1.6
PKIN Phulchoki 121.31 89 *e*P PKPdf 14 21 29.2 -1.5
PKIN Phulchoki 121.31 89 *e*P PKPdf 14 21 29.7 -1.0
PKI Pulchoki 121.31 89 *e*P PKPdf 14 21 28.8 -1.9
KKN Kakani 121.43 89 *e*P PKPdf 14 21 29.8 -1.2
PFO Pinyon Flat Ob 121.60 283 PFAKE 14 21 40.0 +8.9
PFO LR LR
comp=Z,1µm,21.0s,MS5.5
PV01 Paradox Valley 121.64 292 *e*PKPdf PKPdf 14 21 33.0 +2.0
ISCO Idaho Springs 121.68 296 *e*PKPdf PKPdf 14 21 32.7 +1.6
ISCO *e*PP PP 14 23 06.3 +1.8
ISCO LR LR
comp=Z,1µm,21.0s,MS5.5
ISCO Idaho Springs 121.68 296 *e*PKIKP PKPdf 14 21 32.7 +1.6
ISCO *e* 14 23 06.3
GUN Gumba 121.82 89 *e*P PKPdf 14 21 28.6 -3.1
PV10 Paradox Valley 122.05 292 *e*PKPdf PKPdf 14 21 31.7 -0.1
KONO Kongsberg 122.48 17⇑ *e*PKP PKPdf 14 21 30.4 -1.5
KONO LR LR
comp=Z,2µm,20.0s,MS5.7
KONO Kongsberg 122.48 17⇑ *i*PKIKP PKPdf 14 21 30.4 -1.5
EYMN Ely 122.67 311 PFAKE 14 21 40.0 +7.3
EYMN LR LR
comp=Z,1µm,20.0s,MS5.6
PHWY Pilot Hill 122.84 297 *e*PKPdf PKPdf 14 21 34.9 +1.6
GSC Goldstone 123.15 284 *e*PKPdf PKPdf 14 21 35.5 +1.5
SRU San Rafael 123.32 291 *e*PKPdf PKPdf 14 21 35.6 +1.4
MSU Marysvale 123.59 290 *e*PKPdf PKPdf 14 21 35.6 +0.8
TMUT Trail Mountain 123.78 291 *e*PKPdf PKPdf 14 21 37.1 +2.0
RWWY Rawlins 123.92 296 *e*PKPdf PKPdf 14 21 34.5 -0.7
NB2 NORSAR Subarra 124.05 18 PKPdf PKPdf 14 21 34.3 -0.6
comp=Z,2.4nm,0.8s,baz=198,slow=2.0
NOA NORSAR Array B 124.05 18 PKP PKPdf 14 21 34.2 -0.7
NOA NORSAR Array B 124.05 18 PKIKP PKPdf 14 21 34.2 -0.7
NOA pmax pmax
comp=Z,2.0nm,0.8s
NOA NORSAR Array B 124.05 18 PKP PKPdf 14 21 34.2 -0.7
comp=Z,2.0nm,0.8s,baz=187,slow=1.5,SNR=6.5
OBN Obninsk 124.14 36⇑ *e*PKP PKPdf 14 21 34.2 -1.0
OBN LR LR
comp=Z,800nm,17.0s,MS5.5
OBN Obninsk 124.14 36⇑ *i*PKIKP PKPdf 14 21 34.1 -1.1
OBN *e* 14 21 50.1
OBN pmax pmax
comp=Z,15nm,1.1s
OBN MLR MLR
comp=Z,900nm,18.0s,MS5.5
TPNV Topopah Spring 124.22 285 *e*PKPdf PKPdf 14 21 38.3 +2.3
TPNV LR LR
comp=Z,1µm,22.0s,MS5.5
RSSD Black Hills 124.52 300 PFAKE 14 21 50.0 +14
RSSD LR LR
comp=Z,95nm,21.0s,MS4.4
MPU Maple Canyon 124.55 291 PFAKE 14 21 50.0 +13
MPU LR LR
comp=Z,2µm,21.0s,MS5.8
AGMN Agassiz Refuge 124.61 308 *e*PKPdf PKPdf 14 21 35.1 -1.2
AGMN *e*PP PP 14 23 20.7 -3.5
AGMN LR LR
comp=Z,2µm,22.0s,MS5.7
DAU Daniels Canyon 124.70 292 *e*PKPdf PKPdf 14 21 35.7 -1.1
DAU *e*PP PP 14 23 21.1 -3.8
NLU North Lily Min 124.71 291 *e*PKPdf PKPdf 14 21 40.0 +3.1
JLU Jordanelle 124.94 292 *e*PKP PKPdf 14 21 34.5 -2.8
JLU *e*PP PP 14 23 23.8 -2.7
JLU *e* 14 23 40.3
MOS Moscow 124.98 36 *e*PKIKP pPKPdf 14 21 49.7 +9.4
MOS MLR MLR
comp=Z,1µm,19.0s,MS5.7
CTU Camp Tracy 125.15 292 *e*PKPdf PKPdf 14 21 40.9 +3.2
CTU *e*PP PP 14 23 26.6 -1.3
DUG Dugway 125.24 290 *e*PKPdf PKPdf 14 21 39.8 +1.9
DUG *e*PP PP 14 23 27.8 -0.7
DUG LR LR
comp=Z,2µm,22.0s,MS5.8
DUG Dugway 125.24 290 *e*PKIKP PKPdf 14 21 39.8 +1.9
DUG *e* 14 23 27.8
QIZ Qiongzhong 125.53 117 PKP PKPdf 14 21 36.8 -2.3
QIZ SKKS SKKSac 14 30 26.5 -1.9
QIZ SS SS 14 40 29.8 +1.0
QIZ LR LR
comp=N,1µm,24.6s,MS5.5
QIZ LR LR
comp=E,472nm,25.9s,MS5.5
MTUM Tungsten Hills 125.64 284 *e*PKPdf PKPdf 14 21 41.3 +2.5
MTUM *e*PP PP 14 23 26.4 -4.9
HWUT Hardware Ranch 125.80 292 *e*PKPdf PKPdf 14 21 39.1 +0.2
HWUT LR LR
comp=Z,1µm,19.0s,MS5.7
BW06 Boulder Array 125.83 295 PFAKE 14 21 50.0 +11
BW06 LR LR
comp=Z,2µm,20.0s,MS5.8
LSA Lhasa 125.88 93 PKP PKPdf 14 21 38.5 -0.9
BGU Big Grassy Mou 125.92 291 *e*PKPdf PKPdf 14 21 38.8 -0.3
ULM Lac du Bonnet 126.20 310 *e*PKPdf PKPdf 14 21 38.1 -1.2
ULM *e*PP PP 14 23 25.8 -9.0
ULM Lac du Bonnet 126.20 310 PKP PKPdf 14 21 38.8 -0.6
comp=Z,9.5nm,0.8s,baz=18,slow=1.1,SNR=14
ULM PP PP 14 23 26.5 -8.3
comp=Z,14nm,1.2s,baz=146,slow=5.6,SNR=3.4
NVAR Mina Array Bea 126.38 285 PKP PKPdf 14 21 42.0 +1.9
NVAR PP PP 14 23 36.5 +0.4
NVAR Mina Array Bea 126.38 285 PKP PKPdf 14 21 42.0 +1.9
comp=Z,3.9nm,0.8s,baz=147,slow=1.8,SNR=10
NVAR PP PP 14 23 36.5 +0.4
comp=Z,2.9nm,1.0s,baz=161,slow=5.7,SNR=4.4
HVU Hansel Valley 126.48 292 *e*PKPdf PKPdf 14 21 43.2 +3.0
HVU *e* 14 21 56.7
HVU *e*PP PP 14 23 33.7 -3.1
HVU Hansel Valley 126.48 292 *e*PKIKP PKPdf 14 21 43.2 +3.0
HVU *e* 14 21 56.7
AHID Auburn Hatcher 126.51 294 PFAKE 14 21 50.0 +10
AHID LR LR
comp=Z,1µm,19.0s,MS5.6
REDW Red Top Meadow 126.87 294 *e*PKPdf PKPdf 14 21 39.9 -1.0
REDW *e*PP PP 14 23 38.9 -0.5
LOHW Long Hollow 126.96 295 *e*PKPdf PKPdf 14 21 41.3 +0.3
TPAW Teton Pass 127.02 294 *e*PKPdf PKPdf 14 21 41.8 +0.6
TPAW *e*PP PP 14 23 48.1 +7.7
MOOW Moose Ponds 127.13 295 *e*PKPdf PKPdf 14 21 41.5 +0.1
MOOW *e*PP PP 14 23 43.0 +2.0
FINES FINESS Array B 127.13 26 PKP PKPdf 14 21 40.0 -0.8
FINES FINESS Array B 127.13 26 PKIKP PKPdf 14 21 40.0 -0.8
FINES pmax pmax
comp=Z,13nm,1.0s
FINES FINESS Array B 127.13 26 PKP PKPdf 14 21 40.0 -0.8
comp=Z,13nm,1.0s,baz=194,slow=3.1,SNR=18
FIA1 FINESS Array S 127.14 26 *e*PKPdf PKPdf 14 21 38.5 -2.3
IMW Indian Meadow 127.34 295 *e*PKPdf PKPdf 14 21 42.1 +0.4
FLWY Flagg Ranch 127.38 295 *e*PKPdf PKPdf 14 21 41.6 -0.3
FLWY *e*PP PP 14 23 39.7 -3.0
AKTK Aktyubinsk 127.45 52 PKP PKPdf 14 21 41.0 -0.7
AKTO Aktyubinsk 127.45 52 PKIKP PKPdf 14 21 41.0 -0.7
AKTO pmax pmax
comp=Z,11nm,1.0s
AKTO Aktyubinsk 127.45 52 PKP PKPdf 14 21 41.0 -0.7
comp=Z,11nm,1.0s,baz=183,slow=2.0,SNR=20
LAO LASA Array 127.49 300 *e*PKPdf PKPdf 14 21 42.0 +0.1
LAO LR LR
comp=Z,4µm,22.0s,MS6.0
AML Almayashu 127.52 69 *e*PKPdf PKPdf 14 21 42.6 +0.4
RLMT Red Lodge 127.57 297 PFAKE 14 21 50.0 +7.9
RLMT LR LR
comp=Z,2µm,20.0s,MS5.8
KMI Kunming 127.61 107 PKP PKPdf 14 21 43.5 +0.6
LKWY Lake 127.62 296 *e*PKPdf PKPdf 14 21 45.6 +3.3
LKWY *e*PP PP 14 23 43.1 -1.1
YFT Old Faithful 127.73 295 *e*PKPdf PKPdf 14 21 44.3 +1.9
UCH Uchtor 127.97 70 *e*PKPdf PKPdf 14 21 42.0 -1.0
EKS2 Erkin-Say 127.97 69 *e*PKPdf PKPdf 14 21 40.5 -2.6
DGMT Dagmar 128.06 303 PFAKE 14 21 50.0 +7.0
DGMT LR LR

comp=Z,4μm,22.0s,MS6.0
GCMT Greycliff 128.27 297 *e*PKPdf PKPdf 14 21 44.8 +1.4
GCMT *e*PP PP 14 23 44.2 -4.3
AAK Ala-Archa 128.28 70 *e*PKPdf PKPdf 14 21 42.1 -1.4
AAK Ala-Archa 128.28 70⇑ *i*PKIKP PKPdf 14 21 43.0 -0.6
AAK MLR MLR
comp=Z,1μm,22.0s,MS5.5
AAK Ala-Archa 128.28 70 PKP PKPdf 14 21 43.1 -0.5
comp=Z,3.1nm,0.8s,baz=234,slow=5.5,SNR=7.0
QLMT Earthquake Lak 128.29 295 *e*PKPdf PKPdf 14 21 46.0 +2.4
FRU Bishkek 128.49 69 *e*PKIKP PKPdf 14 21 46.0 +2.0
FRU *e* 14 23 55.0
OHCM Honcut 128.60 283 *e*PKP PKPdf 14 21 47.3 +2.9
MCMT McKenzie Canyo 128.91 294 *e*PKPdf PKPdf 14 21 48.2 +3.5
MCMT *e*PP PP 14 23 52.3 -0.5
TKM2 Tokmak 2 129.01 70 *e*PKPdf PKPdf 14 21 45.3 +0.3
BOZ Bozeman (W) 129.01 296 PFAKE 14 22 00.0 +15
BOZ LR LR
comp=Z,2μm,19.0s,MS5.7
DLMT Dillon 129.22 295 *e*PKPdf PKPdf 14 21 45.7 +0.4
SFJD Kangerlussuaq 129.55 345 PKP PKPdf 14 21 45.5 +0.3
baz=200,slow=12
JOF Joensuu 129.59 28 *e*pkp PKPdf 14 21 41.6 -3.8
WVOR Wild Horse Val 129.69 288 *e*PKPdf PKPdf 14 21 49.2 +2.9
WVOR *e*PP PP 14 23 55.8 -2.1
WVOR LR LR
comp=Z,1μm,20.0s,MS5.5
WVOR Wild Horse Val 129.69 288 *e*PKIKP PKPdf 14 21 49.2 +2.9
WVOR *e* 14 23 55.8
EGMT Eagleton 130.04 299 *e*PKPdf PKPdf 14 21 45.9 -0.8
EGMT LR LR
comp=Z,3μm,21.0s,MS5.9
MOD Modoc 130.06 286 *e*PKPdf PKPdf 14 21 48.7 +1.7
MOD *e*PP PP 14 23 57.0 -3.3
GYA Guiyang 130.57 110 PKP PKPdf 14 21 49.5 +1.0
GYA PP PP 14 24 08.5 +5.1
GYA PKS 14 25 24.8
GYA PPP 14 26 58.3
GYA SKS SKSdf 14 28 58.5 -1.3
GYA SKKS SKKSac 14 30 58.8 -1.0
GYA SS SS 14 41 34.3 +2.7
GYA SSS 14 46 26.3
GYA PP PP
comp=Z,390nm,8.7s
GYA LR LR
comp=N,2μm,24.7s,MS5.9
GYA LR LR
comp=E,1μm,24.8s,MS5.9
GYA LR LR
comp=Z,2μm,25.6s,MS5.8
CHMT Chamberlain Mo 130.71 295 *e*PKPdf PKPdf 14 21 49.6 +1.6
ARU Arti 132.34 48 *i*PKIKP PKPdf 14 21 51.6 +0.8
ARU 14 24 13.7
CD2 Chengdu 132.96 104 *e*PKP PKPdf 14 21 53.5 +0.6
CD2 XPKP 14 21 59.3
CD2 PP PP 14 24 23.3 +4.4
CD2 PKS 14 25 28.5
CD2 SKS SKSdf 14 28 59.5 -4.4
CD2 SKKS SKKSac 14 31 10.3 -4.0
CD2 SS SS 14 42 01.0 +0.1
CD2 PP PP
comp=Z,630nm,10.2s
CD2 LR LR
comp=N,1μm,20.4s,MS5.7
CD2 LR LR
comp=E,1μm,20.4s,MS5.7
CD2 LR LR
comp=Z,990nm,18.0s,MS5.6
SVE Sverdlovsk 133.40 48 *i*PKIKP PKPdf 14 21 52.7 -0.1
SVE *e* 14 24 26.1
SVE *e*SS SS 14 42 08.5 +2.6
SVE pmax pmax
comp=Z,16nm,1.0s
SVE MLR MLR
comp=Z,2μm,20.0s,MS5.8
APA Apatity 134.04 26⇓ *i*PKIKP PKPdf 14 21 49.0 -4.7
APA *i* 14 22 02.7
APA *e*SS SS 14 42 15.0 +1.7
APA pmax pmax
comp=Z,38nm,1.5s
APA MLR MLR
comp=Z,2μm,18.0s,MS6.0
ARCES ARCESS Array B 134.22 21 PKP PKPdf 14 21 53.7 -0.3
ARCES ARCESS Array B 134.22 21 PKIKP PKPdf 14 21 53.7 -0.3
ARCES pmax pmax
comp=Z,5.0nm,0.8s
ARCES ARCESS Array B 134.22 21 PKP PKPdf 14 21 53.7 -0.3
comp=Z,5.3nm,0.8s,baz=339,slow=3.0,SNR=5.3
BRVK Borovoye 134.36 58 *e*PKPdf PKPdf 14 21 52.4 -2.4
BVAR Borovoye Array 134.38 58 PKP PKPdf 14 21 54.8 +0.1
BVAR Borovoye Array 134.38 58 *i*PKHKP 14 21 45.5
BVAR 14 21 54.8
BVAR pmax pmax
comp=Z,1.0nm,0.8s
BVAR pmax pmax
comp=Z,5.0nm,1.0s
BVAR Borovoye Array 134.38 58 PKhKP 14 21 45.5
comp=Z,0.8nm,0.8s,baz=328,slow=5.3,SNR=3.7
BVAR PKP PKPdf 14 21 54.8 +0.1
comp=Z,5.2nm,0.9s,baz=222,slow=2.0,SNR=14
MK31 Makanchi Array 135.04 72 *e*PKPdf PKPdf 14 21 56.7 +0.5
MKAR Makanchi Array 135.04 72 PKP PKPdf 14 21 56.2 0.0
MKAR Makanchi Array 135.04 72 PKIKP PKPdf 14 21 56.2 0.0
MKAR pmax pmax
comp=Z,2.0nm,1.0s
MKAR Makanchi Array 135.04 72 PKP PKPdf 14 21 56.2 0.0
comp=Z,2.1nm,0.9s,baz=251,slow=3.7,SNR=14
WMQ Urumqi 135.38 78 *e*PKP PKPdf 14 21 54.5 -2.5
WMQ PP PP 14 24 34.0 -0.3
WMQ PKS 14 25 30.0
WMQ PP PP
comp=Z,487nm,13.0s
WMQ LR LR
comp=N,1μm,23.9s,MS5.7
WMQ LR LR
comp=E,806nm,23.8s,MS5.7
WMQ LR LR
comp=Z,1μm,22.8s,MS5.6
EDM Edmonton 135.44 301 *e*PKPpre 14 21 50.8
EDM *e*PKPdf PKPdf 14 22 00.7 +4.0
KURK Kurchatov 136.23 65 *e*PKPdf PKPdf 14 21 56.1 -2.2
LZH Lanzhou 137.24 99 *e*PKP PKPdf 14 22 00.5 -0.2
LZH XPKP 14 22 07.0
LZH PP PP 14 24 52.3 +6.4
LZH PP PP
comp=Z,210nm,5.9s
LZH LR LR
comp=E,856nm,17.7s
LZH LR LR
comp=Z,1μm,20.0s,MS5.6
DAG Danmarks Havn 137.46 1 *e*PKIKP PKPdf 14 22 00.0 +0.1
DAG pmax pmax
comp=Z,5.0nm,0.9s
DAG Danmarks Havn 137.46 1 *i*P PKPdf 14 22 00.0 +0.1
comp=Z,5.0nm,0.9s
GTA Gaotai 137.90 93 PKP PKPdf 14 22 00.0 -1.8
GTA XPKP 14 22 12.3
GTA PPP 14 27 48.5
GTA SKS SKSdf 14 29 09.5 -2.5
GTA SKKS SKKSac 14 31 38.5 -5.1
GTA PP PP
comp=Z,193nm,8.4s
GTA LR LR
comp=N,763nm,24.0s,MS5.6
GTA LR LR
comp=E,973nm,23.2s,MS5.6
GTA LR LR
comp=Z,1μm,22.0s,MS5.6
NJ2 Nanjing 140.79 119 *e*PKP PKPdf 14 22 04.3 -3.0
NJ2 PP PP 14 25 09.0 +1.2
NJ2 PKS 14 25 39.0
NJ2 PP PP
comp=Z,130nm,6.2s
NJ2 LR LR
comp=N,1μm,21.2s,MS5.9
NJ2 LR LR
comp=E,2μm,21.9s,MS5.9
NJ2 LR LR
comp=Z,8μm,21.2s,MS6.4
SSE Sheshan 140.94 122 PKP PKPdf 14 22 11.5 +3.9
SSE PP PP 14 25 12.5 +3.8
SSE PPP 14 28 23.8
SSE SS SS 14 43 33.3 -2.2
SSE PP PP
comp=Z,280nm,5.5s
SSE LR LR
comp=E,683nm,37.7s
SSE LR LR
comp=Z,1μm,42.1s,MS5.3
NVS Novosibirsk 141.10 64 *e*PKHKP 14 22 00.3
NVS pmax pmax
comp=Z,39nm,2.3s
NVS pmax pmax
comp=N,8.0nm,1.7s
NVS pmax pmax
comp=E,14nm,1.5s
ZAL Zalesovo 141.20 66 PKIKP PKPdf 14 22 07.8 +0.5
ZAA0 Zalesovo Array 141.22 66 *e*PKPdf PKPdf 14 22 07.1 -0.3
ZALV Zalesovo Beam 141.22 66 PKP PKPdf 14 22 07.8 +0.4
comp=E,2.5nm,0.6s,baz=230,slow=3.7,SNR=5.5
YKA Yellowknife Ar 142.16 311 PKP PKPdf 14 22 04.3 -4.4
YKA PKP PKPdf 14 22 08.1 -0.7
YKA PP PP 14 25 09.7 -6.3
YKA Yellowknife Ar 142.16 311 *i*PKHKP 14 22 04.3
YKA 14 22 08.0
YKA pmax pmax
comp=Z,2.0nm,0.8s
YKA pmax pmax
comp=Z,2.0nm,0.8s
YKA pmax pmax
comp=Z,3.0nm,0.9s
YKA Yellowknife Ar 142.16 311 PKhKP 14 22 04.3
comp=Z,2.2nm,0.8s,baz=122,slow=3.9,SNR=19
YKA PKP PKPdf 14 22 08.0 -0.7
comp=Z,2.2nm,0.8s,baz=123,slow=3.7,SNR=30
YKA PP PP 14 25 09.7 -6.3
comp=Z,2.8nm,0.9s,baz=125,slow=5.6,SNR=5.8
RES Resolute Bay 143.78 334 *e*PKPdf PKPdf 14 22 08.0 -3.3
HHC Hu-ho-hao-te 144.70 102 *e*PKP PKPdf 14 22 13.0 -0.9
HHC APKP 14 22 23.5
HHC PP PP 14 25 32.0 +0.5
HHC PKS 14 25 48.0
HHC SKS SKSdf 14 29 16.5 -6.3
HHC SKKS SKKSac 14 32 22.0 -1.1
HHC SS SS 14 44 20.3 +1.1
HHC PP PP
comp=Z,379nm,12.4s
HHC LR LR
comp=N,762nm,21.6s,MS5.6
HHC LR LR
comp=E,668nm,17.2s,MS5.6
HHC LR LR
comp=Z,1μm,22.0s,MS5.6
WRAK Wrangell Islan 145.80 294 *e*PKPdf PKPdf 14 22 15.5 +0.2
DLBC Dease Lake 145.96 298 *e*PKPdf PKPdf 14 22 16.1 +0.6
BJI Beijing 146.23 108 PKP PKPdf 14 22 17.0 +0.4
BJI SS SS 14 44 37.0 +0.3
BJI LR LR
comp=N,432nm,30.0s,MS5.3
BJI LR LR
comp=E,627nm,30.0s,MS5.3
BJI LR LR
comp=Z,1μm,36.7s
MOY Mondy 147.25 79 *e*PKIKP PKPdf 14 22 17.3 -0.6
MOY pmax pmax
comp=Z,149nm,2.0s
SONM Songino Array 147.33 89 PKP2 PKPab 14 22 20.1 -2.4
SONM pmax pmax
comp=Z,17nm,1.0s
SONM Songino Array 147.33 89 PKPbc PKPbc 14 22 20.1 -0.5
comp=Z,17nm,1.0s,baz=219,slow=2.6,SNR=54
ZAK Zakamensk 147.52 83 *e*PKIKP PKPdf 14 22 19.8 +1.4
ZAK pmax pmax
comp=Z,25nm,1.5s
ZAK pmax pmax
comp=Z,27nm,1.5s
ULN Ulaanbaatar 147.67 90⇑ *e*PKP PKPdf 14 22 18.1 -0.6
ULN *e*PKPbc PKPbc 14 22 21.2 -0.4
ULN Ulaanbaatar 147.67 90⇑ *e*PKIKP PKPdf 14 22 18.1 -0.6
DL2 Dalian 147.78 116 PKP PKPdf 14 22 22.3 +3.1
DL2 PP PP 14 25 58.0 +8.4
DL2 PP PP
comp=Z,220nm,9.9s
DL2 LR LR
comp=N,550nm,22.0s
DL2 LR LR
comp=E,390nm,27.2s
DL2 LR LR
comp=Z,380nm,20.8s,MS5.2
TLY Talaya 148.53 81 *e*PKPbc PKPbc 14 22 23.6 -0.1
TLY Talaya 148.53 81 *i*PKIKP PKPdf 14 22 19.5 -0.5
TLY *e* 14 50 38.9
TLY pmax pmax
comp=Z,40nm,1.8s
SKAG Skagway 148.82 297 *e*PKPdf PKPdf 14 22 20.0 -0.3
IRK Irkutsk 149.19 81 *e*PKIKP PKPdf 14 22 22.7 +1.6
IRK pmax pmax
comp=Z,124nm,2.1s
KSRS Korea Array 149.21 125 PKPbc PKPbc 14 22 25.7 -0.2
comp=Z,10nm,0.9s,baz=218,slow=3.2,SNR=15
INK Inuvik 151.82 314 *e*PKP PKPdf 14 22 26.4 +1.8
INK *e*PKPbc PKPbc 14 22 30.3 -0.8
MJAR Matsushiro Arr 152.06 141 PKIKP PKPbc 14 22 32.9 +0.2
MJAR pmax pmax
comp=Z,4.0nm,0.8s
MJAR Matsushiro Arr 152.06 141 PKPbc PKPbc 14 22 32.9 +0.2
comp=Z,4.2nm,0.8s,baz=181,slow=2.9,SNR=9.6
MAJO Matsushiro 152.06 141 *e*PKPbc PKPbc 14 22 31.1 -1.5
MAT Matsushiro 152.06 141 *e*PKP PKPdf 14 22 28.4 +2.3
DAWY Dawson 152.62 303 *e*PKPbc PKPbc 14 22 32.3 -0.7
CN2 Changchun 153.43 115 *e*PKP PKPdf 14 22 30.8 +3.0
CN2 PP PP 14 26 27.0 +4.9
CN2 PP PP
comp=Z,600nm,10.0s
CN2 LR LR
comp=N,700nm,21.0s,MS5.6
CN2 LR LR
comp=E,700nm,21.0s,MS5.6
CN2 LR LR
comp=Z,700nm,21.0s,MS5.5
EGAK Eagle 153.59 304 *e*PKPdf PKPdf 14 22 28.9 +1.5
DIV Divide 154.20 295 *e*PKPbc PKPbc 14 22 41.1 +4.6
DIV *e*PKPab PKPab 14 22 55.1 +4.5
PMR Palmer 155.87 294 *e*PKPpre 14 22 25.0
KDAK Kodiak Island 155.88 284 PKPbc pPKPdf 14 22 44.3 +10
comp=Z,7.2nm,0.8s,baz=110,slow=1.2,SNR=5.7
MDJ Mudanjiang 155.88 119 *e*PKP PKPdf 14 22 31.8 +0.6
MDJ PP PP 14 26 37.0 +1.2
MDJ PP PP
comp=Z,451nm,9.5s
MDJ LR LR
comp=N,822nm,26.8s,MS5.7
MDJ LR LR
comp=E,1μm,25.3s,MS5.7
MDJ LR LR
comp=Z,1μm,22.1s,MS5.7
SLKM Skilak Lake 155.95 291 *e*PKPdf PKPdf 14 22 29.2 -1.6
SLKM *e*PKPab PKPab 14 22 58.2 +0.1
COLA College 156.35 302 *e*PKP PKPdf 14 22 36.7 +5.6
COLA *e*PKPab PKPab 14 22 59.7 0.0
MCK McKinley 156.49 299 *e*PKPdf PKPdf 14 22 32.4 +1.0
BOD Bodaibo 156.92 77 *e*PKIKP PKPdf 14 22 28.8 -3.3
BOD *e* 14 22 58.5
BOD pmax pmax
comp=Z,5.0nm,1.4s
BOD pmax pmax
comp=Z,11nm,2.0s
IMA2 Indian Mountai 158.98 304 *e*PKPdf PKPdf 14 22 30.4 -4.0
KLR Kul'dur 160.38 114 *e*PKIKP PKPdf 14 22 39.0 +2.5
TIXI Tiksi 163.87 36 *e*PKPdf PKPdf 14 22 41.0 +1.6
TIXI *e*PKPab PKPab 14 23 31.7 -0.7
BILL Bilibino 172.32 341 *e*PKIKP PKPdf 14 22 49.8 +4.6
BILL *e* 14 24 09.6
BILL pmax pmax
comp=Z,12nm,1.7s

*IDC **28** 14:05:08.1±6.3, 1709N×9947W, h0km, mb4.0/5, mb1 4.1/7, mb1mx3.9/20, mbtmp3.9/7, ML3.5/2, Error ellipse: s-maj=110.1km s-min=40.8km az=5.0*
*ISCJB **28** 14:05:10.8±0.5, 1694N±004×9983W±003, h44km±4km, mb4.0/8, Error ellipse: s-maj=6.2km s-min=4.3km az=12.4*
*NEIC **28** 14:05:12.4, 1693N×9983W, h10km, mb4.1/4, MD4.3(MEX), After MEX.*
*MEX **28** 14:05:13.3±0.7, 1695N×9984W, h34km±7km, MD4.3*
ISC 28 14:05:11.8±0.5, 1694N±004×9985W±003, h37km±5km, n40, σ0°95/64, mb4.0/8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	**Acapulco**	**0.10**	**224**	*i* P	**Pn**	**14 05 17.8**	**-0.3**
ACX				*i* S	**Sn**	**14 05 23.0**	**+0.6**
CAIG	**El Cayaco**	**0.42**	**285**	*i* P	**Pn**	**14 05 20.9**	**-0.5**
CAIG				*i* S	**Sn**	**14 05 27.4**	**-0.6**
CAIG	**El Cayaco**	**0.42**	**285**	*i* P	**Pn**	**14 05 20.9**	**-0.5**
CAIG				*i* S	**Sn**	**14 05 27.0**	**-1.0**
CAIG				*i* S	**Sn**	**14 05 27.6**	**-0.4**
MEIG	**Mezcala**	**1.01**	**12**	*i* P	**Pn**	**14 05 28.6**	**-0.8**
MEIG				*i* S	**Sn**	**14 05 41.7**	**-0.8**
PLIG	**Platanillo**	**1.48**	**13**	*i* P	**Pn**	**14 05 35.8**	**-0.2**
PLIG				*i* S	**Sn**	**14 05 54.3**	**+0.1**
PLIG	**Platanillo**	**1.48**	**13**	*i* P	**Pn**	**14 05 35.8**	**-0.2**
PLIG				*i* S	**Sn**	**14 05 53.1**	**-1.1**
ZIIG	**Zihuatanejo**	**1.68**	**293**	*e*P	**Pn**	**14 05 38.6**	**-0.2**
ZIIG				*i* S	**Sn**	**14 05 58.6**	**-0.5**
PNIG	**Pinotepa**	**1.73**	**108**	*e*P	**Pn**	**14 05 39.6**	**+0.1**
PNIG				*i* S	**Sn**	**14 05 59.1**	**-1.3**
PNIG	**Pinotepa**	**1.73**	**108**	*e*P	**Pn**	**14 05 39.6**	**+0.1**
PNIG				*i* S	**Sn**	**14 05 59.8**	**-0.6**
YAIG	**Yautepec**	**2.05**	**21**	*i* P	**Pn**	**14 05 43.0**	**-0.8**
YAIG				*i* S	**Sn**	**14 06 09.4**	**+1.1**
YAIG	**Yautepec**	**2.05**	**21**	*i* P	**Pn**	**14 05 43.0**	**-0.8**
YAIG				*i* S	**Sn**	**14 06 07.5**	**-0.7**
SZVM	**Salazar**	**2.41**	**10**	*i* P	**Pn**	**14 05 49.3**	**+0.5**
SZVM				*i* S	**Sn**	**14 06 17.9**	**+0.7**
PPM	**Popocatepetl**	**2.41**	**29**	*i* P	**Pn**	**14 05 57.8**	**+9.0**
PPM				*i* S	**Sn**	**14 06 25.0**	**+7.9**
PPM	**Popocatepetl**	**2.41**	**29**	*e*P	**Pn**	**14 05 48.3**	**-0.5**
PPM				*i* P		14 05 57.8	
PPM				*i* S	**Sn**	**14 06 17.2**	**0.0**
UNM	**Universidad Na**	**2.46**	**15**	*i* P	**Pn**	**14 05 53.8**	**+4.3**
UNM				*i* S	**Sn**	**14 06 28.4**	**+10**
UNM	**Universidad Na**	**2.46**	**15**	*i* P	**Pn**	**14 05 50.5**	**+1.0**
UNM				*i* S	**Sn**	**14 06 17.3**	**-1.1**
TPIG	**Tehuac#an**	**2.79**	**58**	*i* P	**Pn**	**14 05 53.7**	**-0.3**
TPIG				*i* S	**Sn**	**14 06 26.4**	**0.0**
VHO	**Vista Hermosa**	**2.98**	**87**	*i* P	**Pn**	**14 05 56.9**	**+0.3**
VHO				*i* S	**Sn**	**14 06 42.5**	**+11**
VHO	**Vista Hermosa**	**2.98**	**87**	*i* P	**Pn**	**14 05 56.9**	**+0.3**
VHO				*i* S	**Sn**	**14 06 32.5**	**+1.3**
OXX	**Oaxaca**	**2.99**	**87**	*i* P	**Pn**	**14 05 58.2**	**+1.4**
DEIG	**Demacu**	**3.43**	**13**	*i* P	**Pn**	**14 06 01.7**	**-1.1**
DEIG				*e*P		14 06 04.4	
DEIG				*i* S	**Sn**	**14 06 43.1**	**+0.8**
MMIG	**Aquila**	**3.60**	**292**	*e*P	**Pn**	**14 06 05.7**	**+0.6**
MMIG				*i* S	**Sn**	**14 06 45.9**	**-0.5**
HUIG	**Huatulco**	**3.77**	**107**	*e*P	**Pn**	**14 06 13.4**	**+5.9**
HUIG				*i* S	**Sn**	**14 06 49.1**	**-1.6**
SFJM	**Santa Fe**	**4.65**	**320**	*i* P	**Pn**	**14 06 23.3**	**+3.7**
CMIG	**Matias Romero**	**4.75**	**87**	*e*P	**Pn**	**14 06 22.4**	**+1.4**
CMIG				*i* S	**Sn**	**14 07 15.5**	**+0.7**
ANIG	**Ahuacatlan**	**6.03**	**314**	*i* P	**Pn**	**14 06 43.0**	**+4.5**
LNIG	**Linares**	**7.93**	**3**	*e*P	**Pn**	**14 07 04.9**	**+0.3**
TXAR	**Lajitas Array**	**12.83**	**345**	Pn	**Pn**	**14 08 13.0**	**+1.3**
	0.1nm,0.3s,baz=148,slow=14,SNR=2.9						
ANMO	**Albuquerque**	**18.89**	**343**	P	**Pn**	**14 09 30.4**	**+0.4**
	0.1nm,0.3s,baz=162,slow=12,SNR=4.3						
PLAL	**Pickwick Lake**	**20.82**	**28**	*e*P	**P**	**14 09 48.5**	**-1.7**
	7.1nm,0.8s						
WUAZ	**Wupatki**	**21.16**	**333**	*e*P	**P**	**14 09 56.6**	**+2.8**
	6.9nm,0.9s,mb4.0						
TKL	**Tuckaleechee C**	**23.50**	**34**	P	**P**	**14 10 17.2**	**-1.3**
	2.1nm,0.6s,mb3.7,baz=209,slow=6.8,SNR=4.6						
SRU	**San Rafael**	**23.98**	**339**	*e*P	**P**	**14 10 24.1**	**+1.2**
	3.1nm,1.1s,mb3.6						
NVAR	**Mina Array Bea**	**26.84**	**327**	P	**P**	**14 10 51.9**	**+3.1**
	1.8nm,0.7s,mb3.7,baz=138,slow=10,SNR=15						
ULM	**Lac du Bonnet**	**33.38**	**5**	P	**P**	**14 11 45.7**	**-0.9**
ULM	**Lac du Bonnet**	**33.38**	**5**	P	**P**	**14 11 45.7**	**-0.9**
	0.8nm,0.6s,mb3.9,baz=190,slow=12,SNR=3.5						
FFC	**Flin Flon**	**37.75**	**358**	*e*P	**P**	**14 12 23.9**	**-0.1**
	7.0nm,0.8s,mb4.4						
SCHQ	**Schefferville**	**45.53**	**26**	P	**P**	**14 13 27.2**	**-0.4**
	1.6nm,0.5s,mb4.2,baz=223,slow=7.8,SNR=7.4						
YKA	**Yellowknife Ar**	**46.67**	**351**	P	**P**	**14 13 36.4**	**-0.1**
YKA	**Yellowknife Ar**	**46.67**	**351**	P	**P**	**14 13 36.4**	**-0.1**
	1.9nm,0.7s,mb4.1,baz=158,slow=7.3,SNR=22						

*IDC **28** 14:36:54.0±0.9, 2137S×17458W, h0km, mb4.3/10, mb1 4.5/10, mb1mx4.4/16, mbtmp4.3/10, Error ellipse: s-maj=28.6km s-min=21.0km az=130.0*
*ISCJB **28** 14:36:57.6±0.6, 2145S±01×1747W±01, h33km, mb4.6/20, Error ellipse: s-maj=19.0km s-min=13.5km az=37.7*
*BJI **28** 14:37:01.2, 2130S×17470W, h50km, mB5.1, mb4.8, Ms5.1, Msz4.9*
*NEIC **28** 14:37:01.3±0.5, 2127S×17472W, h50km, mb4.7/10, Error ellipse: s-maj=16.0km s-min=10.8km az=135.0*
ISC 28 14:36:59.6±0.6, 2135S±01×1747W±01, h35km, n38, σ1°01/28, mb4.6/20, 1D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.87**	**21**	*e*Pn	**Pn**	**14 38 44.7**	**-7.0**
AFI				*e*Sn	**Sn**	**14 40 06.5**	**-13**
CTA	**Charters Tower**	**36.50**	**265**	P	**P**	**14 44 02.4**	**+0.6**
	3.4nm,0.8s,mb4.3,baz=95,slow=12,SNR=8.6						
CTAO	**Charters Tower**	**36.50**	**265**	*e*P	**P**	**14 44 02.0**	**+0.2**
	3.7nm,0.8s,mb4.4						
STKA	**Stephens Creek**	**40.25**	**246**	*e*P	**P**	**14 44 32.9**	**-0.3**
	9.1nm,1.0s,mb4.5						
STKA	**Stephens Creek**	**40.25**	**246**	P	**P**	**14 44 33.6**	**+0.4**
	6.3nm,0.9s,mb4.3,baz=86,slow=12,SNR=5.8						
ASAR	**Alice Springs**	**47.35**	**257**	P	**P**	**14 45 30.0**	**-0.4**
	9.5nm,0.9s,mb4.7,baz=91,slow=8.2,SNR=70						
WB2	**Warramunga Arr**	**47.55**	**262**	*e*P	**P**	**14 45 31.2**	**-0.8**
WRAB	**Tennant Creek**	**47.55**	**262**	*e*P	**P**	**14 45 31.1**	**-0.9**
	11nm,1.1s,mb4.8						
WRA	**Warramunga Arr**	**47.56**	**262**	P	**P**	**14 45 31.1**	**-0.9**
	11nm,1.1s,mb4.8,baz=98,slow=7.8,SNR=45						
FITZ	**Fitzroy Crossi**	**55.99**	**262**	*e*P	**P**	**14 46 34.5**	**-0.5**
	84nm,2.3s,mb5.4						
SBA	**Scott Base**	**57.29**	**185**	*e*P	**P**	**14 46 44.0**	**+0.7**
	4.8nm,0.9s,mb4.5						
VNDA	**Vanda**	**57.40**	**186**	*e*P	**P**	**14 46 44.7**	**+0.6**
	2.0nm,0.9s,mb4.2						
VNDA	**Vanda**	**57.40**	**186**	P	**P**	**14 46 43.8**	**-0.3**
	1.7nm,0.9s,mb4.1,baz=355,slow=6.0,SNR=11						
MJAR	**Matsushiro Arr**	**72.73**	**322**	P	**P**	**14 48 24.6**	**+0.4**
	6.7nm,0.8s,mb4.6,baz=156,slow=6.3,SNR=21						
MAJO	**Matsushiro**	**72.73**	**322**	*e*P	**P**	**14 48 24.6**	**+0.4**
	16nm,1.4s,mb4.8						
MAT	**Matsushiro**	**72.73**	**322**	P	**P**	**14 48 23.9**	**-0.3**
MAT				*e*S	S	14 57 48.0	+0.7
KSM	**Kuching**	**76.59**	**277**	*e*P	**P**	**14 48 48.0**	**+0.9**
NVAR	**Mina Array Bea**	**79.53**	**42**	P	**P**	**14 49 01.8**	**-1.1**
	0.5nm,0.6s,mb3.6,baz=233,slow=9.0,SNR=5.6						
KSRS	**Korea Array**	**79.57**	**317**	P	**P**	**14 49 04.9**	**+1.8**
	5.4nm,1.0s,mb4.4,baz=138,slow=6.3,SNR=14						
MAW	**Mawson**	**81.83**	**199**	P	**P**	**14 49 15.0**	**+0.2**
	0.7nm,0.3s,mb4.0,baz=142,slow=9.2,SNR=5.0						
GAMB	**Gambell**	**84.84**	**1**	*e*P	**P**	**14 49 30.1**	**+0.1**
	7.3nm,1.1s,mb4.7						
TTA	**Tatalina**	**85.25**	**8**	*e*P	**P**	**14 49 30.6**	**-1.5**
	45nm,1.8s,mb5.3						
MCK	**McKinley**	**87.13**	**11**	*e*P	**P**	**14 49 40.6**	**-0.8**
	15nm,1.1s,mb5.1						
XAN	**Xi'an**	**91.10**	**306**	P	**P**	**14 50 03.0**	**+2.2**
XAN				AP	pP	14 50 12.0	+0.1
XAN				XP	sP	14 50 18.0	+2.1
XAN				AMB	AMB		
	comp=Z,10.0nm,1.1s,mb5.1						
HHC	**Hu-ho-hao-te**	**92.15**	**313**	*e*P	**P**	**14 50 07.5**	**+2.0**
HHC				AP	pP	14 50 20.5	+3.9
HHC				XP	sP	14 50 28.8	+8.2
HHC				PP	PP	14 53 50.8	+4.6
HHC				SKS		15 00 33.5	
HHC				S	S	15 01 05.3	-0.3
HHC				XS	sS	15 01 24.5	+0.4
HHC				SS	SS	15 07 19.0	+2.7
HHC				AMB	AMB		
	comp=Z,13nm,0.4s,mb5.6						
HHC				AMB	AMB		
	comp=Z,292nm,9.4s						
HHC				LR	LR		
	comp=N,762nm,21.4s						
HHC				LR	LR		
	comp=E,668nm,17.7s						
HHC				LR	LR		
	comp=Z,1μm,22.9s						
KMI	**Kunming**	**92.49**	**296**	P	**P**	**14 50 05.5**	**-1.9**

KMI				AMB	AMB		
	comp=Z,6.0nm,1.4s,mb4.7						
YKA	**Yellowknife Ar**	**95.98**	**24**	P	**P**	**14 50 23.0**	**+0.5**
	comp=Z,0.1nm,0.6s,mb3.5,baz=238,slow=3.5,SNR=3.3						
AKASG	**Malin Array Be**	**145.18**	**333**	PKPbc	PKPbc	14 56 32.4	-0.6
	comp=Z,4.1nm,0.8s,baz=41,slow=3.9,SNR=22						
MALT	**Malatya**	**146.88**	**308**	*e*PKPbc	PKPbc	14 56 39.9	+1.4
CLL	**Collm**	**149.47**	**350**	⇓*i*PKPbc	PKPbc	14 56 44.9	0.0
	comp=Z,13nm,1.4s						
CLL				*i* PKPab	PKPab	14 56 48.8	-0.9
CLL				*i* pPKPbc	pPKPbc	14 56 58.1	+1.8
UPC	**Upice**	**149.67**	**346**	*e*PKPbc	PKPbc	14 56 45.3	-0.1
UPC				*e*PKPab	PKPab	14 56 51.2	+0.6
BRG	**Berggiesshubel**	**149.73**	**349**	*e*P	PKPbc	14 56 45.6	+0.1
	comp=Z,7.2nm,1.2s						
DPC	**Dobruska-Polom**	**149.75**	**346**	*e*PKPbc	PKPbc	14 56 46.2	+0.6
DPC				*e*PKPab	PKPab	14 56 51.9	+1.0
PVCC	**Panska Ves**	**149.95**	**348**	*e*PKPbc	PKPbc	14 56 46.6	+0.5
PRU	**Pruhonice**	**150.47**	**348**	*e*PKPbc	PKPbc	14 56 47.3	0.0
PRU				*e*PKPab	PKPab	14 56 53.8	-0.1
PSZ	**Piszkesteto**	**150.98**	**340**	*e*PKPab	PKPab	14 56 55.8	-0.2
KHC	**Kasperske Hory**	**151.47**	**349**	*e*PKPbc	PKPbc	14 56 49.8	+0.1
KHC				*e*PKPab	PKPab	14 56 58.7	+0.6
GERES	**GERESS Array B**	**151.72**	**348**	PKPbc	PKPbc	14 56 50.4	+0.1
	comp=Z,1.5nm,0.9s,baz=46,slow=3.9,SNR=9.3						

*IDC **28** 14:54:12.6±1.1, 46.24N×155.15E, h0km, mb3.7/5, mb1 4.0/5, mb1mx3.6/19, mbtmp3.7/5, Error ellipse: s-maj=42.2km s-min=28.0km az=123.0*
*ISCJB **28** 14:54:15.9±1.0, 463N±02×1552E±03, h33km, mb3.6/6, Error ellipse: s-maj=27.3km s-min=22.8km az=41.2*
*MOS **28** 14:54:15.7±0.9, 46.28N×155.33E, h33km, mb4.0/3, Error ellipse: s-maj=70.8km s-min=32.0km az=83.6*
ISC 28 14:54:18.3±1.0, 463N±02×1552E±03, h35km, n10, σ0§86/10, mb3.6/6, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BILL	**Bilibino**	**22.49**	**11**	*e*P	**P**	**14 59 12.9**	**-1.2**
BILL				pmax	pmax		
	comp=Z,2.0nm,1.2s,mb3.4						
KURK	**Kurchatov**	**48.80**	**305**	*e*P	**P**	**15 03 00.6**	**+1.0**
YKA	**Yellowknife Ar**	**50.37**	**37**	P	**P**	**15 03 10.6**	**-0.8**
YKA	**Yellowknife Ar**	**50.37**	**37**	P	**P**	**15 03 11.4**	**0.0**
	comp=Z,0.4nm,0.6s,mb3.6,baz=294,slow=7.3,SNR=7.7						
NVAR	**Mina Array Bea**	**61.32**	**63**	P	**P**	**15 04 31.2**	**+1.1**
	comp=Z,0.9nm,1.0s,mb3.9,baz=292,slow=7.2,SNR=4.9						
FINES	**FINESS Array B**	**65.02**	**336**	P	**P**	**15 04 54.4**	**+0.1**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
FINES	**FINESS Array B**	**65.02**	**336**	P	**P**	**15 04 54.4**	**+0.1**
	comp=Z,0.6nm,0.6s,mb3.8,baz=58,slow=13,SNR=3.2						
WRA	**Warramunga Arr**	**68.63**	**201**	P	**P**	**15 05 16.7**	**-1.0**
	comp=Z,0.2nm,0.7s,mb3.1,baz=20,slow=6.7,SNR=3.4						
TXAR	**Lajitas Array**	**76.41**	**62**	P	**P**	**15 06 04.5**	**+0.4**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
TXAR	**Lajitas Array**	**76.41**	**62**	P	**P**	**15 06 04.5**	**+0.3**
	comp=Z,0.8nm,0.6s,mb3.8,baz=301,slow=4.3,SNR=8.1						

*IDC **28** 16:24:37.7±6.5, 36.37N×70.97E, h188km±53km, mb3.1/5, mb1 3.2/7, mb1mx2.9/22, mbtmp3.0/7, Error ellipse: s-maj=61.7km s-min=26.3km az=49.0*
*ISCJB **28** 16:24:41.6±0.7, 36.64N±0.10×71.1E±0.2, h228km±8km, mb3.2/4, Error ellipse: s-maj=30.8km s-min=7.4km az=27.2*
*NEIC **28** 16:24:42.6±0.8, 36.59N×71.17E, h228km±9km, mb4.0/2, Error ellipse: s-maj=25.4km s-min=11.2km az=116.0*
ISC 28 16:24:42.4±0.7, 3664N±010×712E±02, h220km±8km, n13, σ1§20/17, mb3.2/4, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**2.71**	**220**	*e*Pn	**Pn**	**16 25 30.8**	**+0.9**
KBL				*e*Sn	**S**	**16 26 06.3**	**-0.9**
AML	**Almayashu**	**5.82**	**19**	*e*Pn	**Pn**	**16 26 09.1**	**+1.5**
	5.4nm,0.3s						
AML				*e*Sn	**S**	**16 27 14.2**	**-1.1**
UCH	**Uchtor**	**6.15**	**24**	*e*Pn	**Pn**	**16 26 13.7**	**+1.9**
	6.5nm,0.5s						
UCH				*e*Sn	**S**	**16 27 21.9**	**-1.0**
AAK	**Ala-Archa**	**6.51**	**22**	P	**Pn**	**16 26 15.1**	**-1.2**
	1.0nm,0.3s,baz=192,slow=5.8,SNR=6.7						
AAK				S	**S**	**16 27 29.7**	**-1.6**
	0.4nm,0.3s,baz=306,slow=22,SNR=12						
TKM2	**Tokmak 2**	**7.14**	**27**	*e*Pn	**Pn**	**16 26 26.1**	**+1.8**
MKAR	**Makanchi Array**	**13.10**	**36**	P	**Pn**	**16 27 41.7**	**+1.5**
	0.1nm,0.3s,baz=216,slow=14,SNR=2.2						
ZALV	**Zalesovo Beam**	**19.73**	**24**	P	**P**	**16 28 56.0**	**+0.8**
	1.2nm,0.4s,baz=212,slow=12,SNR=6.2						
FINES	**FINESS Array B**	**37.44**	**326**	P	**P**	**16 31 33.7**	**-0.3**
FINES	**FINESS Array B**	**37.44**	**326**	P	**P**	**16 31 33.7**	**-0.3**
	2.0nm,0.9s,mb3.6,baz=111,slow=10,SNR=3.6						
YKA	**Yellowknife Ar**	**81.10**	**3**	P	**P**	**16 36 32.7**	**+0.2**
YKA	**Yellowknife Ar**	**81.10**	**3**	P	**P**	**16 36 32.7**	**+0.2**
	0.2nm,0.4s,mb3.1,baz=353,slow=5.3,SNR=5.2						
WRA	**Warramunga Arr**	**81.96**	**122**	P	**P**	**16 36 36.7**	**-0.9**
	0.3nm,0.8s,mb3.0,baz=318,slow=4.8,SNR=4.1						
ASAR	**Alice Springs**	**84.23**	**125**	P	**P**	**16 36 47.9**	**-1.3**
	0.1nm,0.3s,mb3.0,baz=336,slow=23,SNR=4.6						

*NIED **28** 16:46:00, 25.70N×125.10E, h5km, Mw4.2 Best double couple: M0:2.43000×10^15 NP1:φs:57.00000°, δ:53.00000°, λ:-113.00000°. NP2:φs:272.00000°, δ:43.00000°, λ:-63.00000°.*
*IDC **28** 16:46:36.9±0.7, 25.66N×125.01E, h0km, mb4.0/10, mb1 4.1/13, mb1mx4.0/23, mbtmp4.0/13, ML3.1/3, MS3.5/6, Ms1 3.5/6, ms1mx3.1/34, Error ellipse: s-maj=25.8km s-min=16.1km az=74.0*
*JMA **28** 16:46:38.6±0.2, 25.74N×125.12E, h27km, M4.6*
*ISCJB **28** 16:46:40.9±0.4, 25.62N±003×125.16E±003, h41km±5km, mb4.2/21, MS3.9/5, Error ellipse: s-maj=6.0km s-min=3.9km az=137.6*
*NEIC **28** 16:46:42.4±1.0, 25.67N×125.11E, h41km±10km, mb4.4/9, Error ellipse: s-maj=10.4km s-min=9.2km az=122.0*
*BJI **28** 16:46:43.3, 25.61N×124.98E, h39km, mB4.5, mb4.3, ML4.5, Ms4.1, Ms2.4.2*
ISC 28 16:46:42.1±0.4, 2560N±003×12514E±003, h35km±6km, n57, σ1§22/69, mb4.2/21, MS3.9/5, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMJ	**Miyako jima 2**	**0.80**	**170**	P	**Pn**	**16 46 55.6**	**-1.2**
JMJ				S	**Sn**	**16 47 07.8**	**+0.4**
JOGS	**Gusukube**	**0.87**	**164**	P	**Pn**	**16 46 57.0**	**-0.8**
JOGS				S	**Sn**	**16 47 10.1**	**+0.8**
JTJ	**Tarama**	**1.03**	**202**	P	**Pn**	**16 46 59.2**	**-0.9**
JTJ				S	**Sn**	**16 47 12.3**	**-1.0**
JIJ	**Ishigaki jima**	**1.53**	**216**	P	**Pn**	**16 47 06.1**	**-0.7**
JIJ				S	**Sn**	**16 47 25.6**	**+0.1**
JKE	**Kume jima 2**	**1.65**	**64**	P	**Pn**	**16 47 05.3**	**-3.2**
JKRS	**Kuro-shima**	**1.70**	**217**	P	**Pn**	**16 47 09.3**	**+0.1**
JKRS				*e*S	**Sn**	**16 47 29.9**	**+0.2**
IRIF	**Iriomote-Funau**	**1.79**	**226**	P	**Pn**	**16 47 10.1**	**-0.4**
IRIF				*e*S	**Sn**	**16 47 31.8**	**-0.3**
HATJ	**Hateruma jima**	**1.96**	**218**	P	**Pn**	**16 47 13.5**	**+0.8**
HATJ				*e*S	**Sn**	**16 47 35.8**	**-0.3**
JAGN	**Aguni-jima**	**2.13**	**62**	P	**Pn**	**16 47 13.1**	**-2.1**
YOJ	**Yonaguni jima**	**2.24**	**240**	P	**Pn**	**16 47 19.1**	**+2.5**
YOJ				*e*S	**Sn**	**16 47 48.8**	**+5.8**
NAH1	**Naha**	**2.38**	**75**	*e*S	**Sn**	**16 47 48.7**	**+2.2**
JJT2	**Tamagusuku 2**	**2.41**	**77**	P	**Pn**	**16 47 18.7**	**-0.3**
JJT2				*e*S	**Sn**	**16 47 49.9**	**+2.5**
JIH	**Iheya**	**2.91**	**60**	P	**Pn**	**16 47 25.0**	**-0.9**
JIH				*e*S	**Sn**	**16 48 00.0**	**+0.3**
JOW	**Kunigami**	**3.07**	**66**	P	**Pn**	**16 47 26.8**	**-1.3**
JOW	**Kunigami**	**3.07**	**66**	Pn	**Pn**	**16 47 27.4**	**-0.7**
	5.2nm,0.3s,baz=252,slow=11,SNR=14						
TATO	**Taipei**	**3.36**	**260**	*e*Pn	**Pn**	**16 47 31.1**	**-1.0**
TATO				*e*Sn	**Sn**	**16 48 07.2**	**-3.5**
NACB	**Ninganchiao**	**3.52**	**247**	*e*Pn	**Pn**	**16 47 35.2**	**+1.0**
YHNB	**Yeheng**	**3.53**	**256**	*e*Pn	**Pn**	**16 47 35.5**	**+1.1**
JTK	**Tokunoshima**	**4.05**	**57**	P	**Pn**	**16 47 41.0**	**-0.5**
NJ2	**Nanjing**	**8.46**	**321**	*e*P	**Pn**	**16 48 47.0**	**+4.9**
NJ2				S	**Sn**	**16 50 20.5**	**+4.1**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.5s						
NJ2				Smax			
	comp=N,150nm,0.9s						
NJ2				Smax			
	comp=E,70nm,0.9s						
NJ2				LR	LR		
	comp=N,720nm,8.7s						
NJ2				LR	LR		
	comp=E,820nm,9.6s						
JNU	**Nakatsue**	**9.01**	**32**	Pn	**Pn**	**16 48 49.8**	**+0.1**
	comp=E,0.2nm,0.3s,baz=94,slow=19,SNR=2.5						
JNU				LR	LR	16 52 26.3	
	comp=E,128nm,19.1s,baz=210,slow=39						
KSRS	**Korea Array**	**12.05**	**11**	Pn	**Pn**	**16 49 30.6**	**-0.7**
	comp=E,0.1nm,0.3s,baz=191,slow=13,SNR=8.4						
KSRS				LR	LR	16 54 17.5	
	comp=E,121nm,19.1s,baz=264,slow=38						
MJAR	**Matsushiro Arr**	**15.62**	**43**	LR	LR	16 56 45.9	
	comp=E,118nm,18.8s,baz=225,slow=39						
GYA	**Guiyang**	**16.63**	**277**	P	**Pn**	**16 50 38.3**	**+5.9**
GYA				AMB	AMB		
	comp=Z,10.0nm,1.1s						
GYA				AMB	AMB		
	comp=Z,200nm,5.3s						
CN2	**Changchun**	**18.16**	**1**	*e*P	**Pn**	**16 50 56.0**	**+4.7**
HHC	**Hu-ho-hao-te**	**18.94**	**327**	*e*P	**Pn**	**16 51 03.5**	**+2.7**
HHC				AP	pP	16 51 14.8	+5.6
HHC				PP		16 51 20.5	
HHC				S	**S**	**16 54 33.5**	**+0.5**
HHC				XS	sS	16 54 45.8	-2.1
HHC				SS		16 54 54.8	
HHC				PCP	PcP	16 55 28.8	+4.0
HHC				SCP	ScP	16 58 55.0	-2.9
HHC				PCS	PcS	16 59 05.5	+3.8
HHC				AMB	AMB		
	comp=Z,17nm,0.3s						
HHC				AMB	AMB		
	comp=Z,113nm,4.1s						
HHC				LR	LR		
	comp=N,125nm,9.0s						
HHC				LR	LR		
	comp=E,130nm,4.2s						
HHC				LR	LR		
	comp=Z,137nm,9.3s						
CD2	**Chengdu**	**19.55**	**291**	P	**Pn**	**16 51 08.5**	**+0.3**
CD2				AP	pP	16 51 20.5	+4.5
CD2				PP		16 51 28.0	
CD2				S	**S**	**16 54 40.8**	**-4.9**
CD2				XS	sS	16 54 59.5	-0.9
CD2				SS		16 55 10.3	
CD2				AMB	AMB		
	comp=Z,40nm,0.9s						
CD2				AMB	AMB		
	comp=Z,80nm,4.2s						
CD2				LR	LR		
	comp=N,500nm,4.2s						
CD2				LR	LR		
	comp=Z,360nm,7.8s						
KMI	**Kunming**	**20.24**	**273**	P	**P**	**16 51 16.0**	**+1.7**
KMI				AMB	AMB		
	comp=Z,7.0nm,0.9s						
LZH	**Lanzhou**	**21.02**	**305**	*e*P	**P**	**16 51 25.0**	**+2.4**
LZH				AP		16 51 38.0	
LZH				XP	sP	16 51 44.0	+7.6
LZH				AMB	AMB		
	comp=Z,28nm,1.5s,mb4.4						
LZH				AMB	AMB		
	comp=Z,140nm,5.8s						
LZH				LR	LR		
	comp=N,350nm,14.2s						
LZH				LR	LR		
	comp=Z,760nm,15.2s,MS4.2						
GTA	**Gaotai**	**25.30**	**309**	*e*P	**P**	**16 52 06.0**	**+0.7**
GTA				PP		16 52 44.5	
GTA				PPP		16 52 54.8	
GTA				S	**S**	**16 56 26.5**	**-2.4**
GTA				AMB	AMB		
	comp=Z,7.0nm,0.9s,mb4.2						
GTA				AMB	AMB		
	comp=Z,70nm,6.5s						
GTA				LR	LR		
	comp=N,226nm,14.8s,MS3.9						
GTA				LR	LR		
	comp=E,202nm,14.8s,MS3.9						
GTA				LR	LR		
	comp=Z,130nm,16.4s,MS3.5						
ULN	**Ulaanbaatar**	**26.40**	**332**	*e*P	**P**	**16 52 16.6**	**+1.5**
	comp=Z,15nm,1.3s,mb4.4						
SONM	**Songino Array**	**26.66**	**331**	P	**P**	**16 52 17.7**	**+0.2**
	comp=Z,1.9nm,0.9s,mb3.6,baz=143,slow=9.7,SNR=10						
SONM				LR	LR	17 03 44.7	
	comp=Z,88nm,19.1s,MS3.3,baz=248,slow=39						
KSM	**Kuching**	**27.92**	**213**	P	**P**	**16 52 30.9**	**+1.8**
MK31	**Makanchi Array**	**39.91**	**313**	*e*P	**P**	**16 54 11.0**	**-1.5**
MKAR	**Makanchi Array**	**39.91**	**313**	P	**P**	**16 54 11.7**	**-0.8**
	comp=Z,0.2nm,0.3s,mb3.3,baz=102,slow=10.0,SNR=8.6						
MKAR				PcP	PcP	16 56 17.3	-0.4
	comp=Z,0.2nm,0.3s,baz=90,slow=5.8,SNR=3.3						
ZAA0	**Zalesovo Array**	**41.10**	**324**	*e*P	**P**	**16 54 21.1**	**-1.1**
ZALV	**Zalesovo Beam**	**41.10**	**324**	P	**P**	**16 54 21.6**	**-0.6**
	comp=Z,2.4nm,0.5s,mb4.1,baz=111,slow=8.5,SNR=15						
KURK	**Kurchatov**	**43.39**	**318**	*e*P	**P**	**16 54 39.7**	**-1.2**
	comp=Z,5.5nm,1.1s,mb4.2						
FITZ	**Fitzroy Crossi**	**43.44**	**179**	P	**P**	**16 54 42.1**	**+0.5**
	comp=Z,2.0nm,0.7s,mb3.9,baz=39,slow=6.4,SNR=3.9						
TKM2	**Tokmak 2**	**43.78**	**306**	*e*P	**P**	**16 54 45.2**	**+1.0**
	comp=Z,4.1nm,0.9s,mb4.2						
UCH	**Uchtor**	**44.50**	**305**	*e*P	**P**	**16 54 51.9**	**+1.9**
	comp=Z,4.5nm,0.9s,mb4.3						
UCH				*e*	pP	16 55 00.4	-0.1
WRAB	**Tennant Creek**	**46.14**	**168**	P	**P**	**16 55 02.2**	**-0.9**
	comp=Z,4.6nm,0.8s,mb4.5						
WRA	**Warramunga Arr**	**46.15**	**168**	P	**P**	**16 55 03.9**	**+0.7**
	comp=Z,2.7nm,0.6s,mb4.3,baz=351,slow=8.6,SNR=9.2						
MBWA	**Marble Bar**	**46.78**	**187**	P	**P**	**16 55 07.0**	**-1.1**
	comp=Z,4.4nm,0.8s,mb4.4						
KBL	**Kabul**	**48.83**	**294**	*e*P	**P**	**16 55 22.9**	**-1.1**
BRVK	**Borovoye**	**48.98**	**319**	*e*P	**P**	**16 55 21.8**	**-3.0**
	comp=Z,4.2nm,1.0s,mb4.4						
ASAR	**Alice Springs**	**49.71**	**169**	P	**P**	**16 55 32.0**	**+1.4**
	comp=Z,1.4nm,0.5s,mb4.2,baz=355,slow=9.3,SNR=6.7						
ARU	**Arti**	**56.17**	**322**	*e*P	**P**	**16 56 14.6**	**-3.4**
	comp=Z,9.1nm,0.6s,mb5.0						
MCK	**McKinley**	**65.58**	**29**	*e*P	**P**	**16 57 22.1**	**+0.2**
	comp=Z,3.0nm,0.9s,mb4.3						
AKASG	**Malin Array Be**	**74.19**	**319**	P	**P**	**16 58 13.7**	**-1.3**
	comp=Z,1.2nm,0.8s,mb3.9,baz=57,slow=5.5,SNR=6.3						
NB2	**NORSAR Subarra**	**78.63**	**333**	P	**P**	**16 58 38.6**	**-1.4**
	comp=Z,0.6nm,0.6s,mb3.7,baz=58,slow=5.3						
NOA	**NORSAR Array B**	**78.63**	**333**	P	**P**	**16 58 38.6**	**-1.4**
	comp=Z,0.9nm,0.7s,mb3.8,baz=54,slow=5.4,SNR=3.6						
URZ	**Urewera**	**80.05**	**141**	LR	LR	17 31 37.5	
	comp=Z,87nm,20.9s,MS4.1,baz=342,slow=34						
YKA	**Yellowknife Ar**	**80.25**	**24**	P	**P**	**16 58 48.5**	**-0.3**
YKA	**Yellowknife Ar**	**80.25**	**24**	P	**P**	**16 58 48.5**	**-0.3**
	comp=Z,1.9nm,0.8s,mb4.1,baz=306,slow=5.1,SNR=29						
RPZ	**Rata Peaks**	**80.82**	**148**	LR	LR	17 33 29.5	
	comp=Z,96nm,18.1s,MS4.2,baz=79,slow=35						
NVAR	**Mina Array Bea**	**92.93**	**45**	P	**P**	**16 59 53.1**	**+1.5**
	comp=Z,0.2nm,0.5s,mb3.8,baz=310,slow=5.8,SNR=2.7						

*IDC **28** 16:48:23.3±1.1, 2.42S×139.92E, h0km, mb4.0/6, mb1 4.2/9, mb1mx4.0/16, mbtmp4.1/9, ML4.2/3, MS3.5/2, Ms1 3.5/2, ms1mx3.0/23, Error ellipse: s-maj=40.3km s-min=18.9km az=86.0*
*ISCJB **28** 16:48:24.0±2.8, 2.47S±005×139.7E±0.1, h10km±18km, mb4.2/14, Error ellipse: s-maj=23.4km s-min=8.7km az=2.7*
*NEIC **28** 16:48:29.0±0.4, 2.50S×139.74E, h35km, mb4.2/14, Error ellipse: s-maj=14.1km s-min=6.0km az=83.0*
ISC 28 16:48:30.9±1.9, 257S±007×1397E±01, h49km±18km, n32, σ0§89/33, mb4.2/14, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**12.37**	**215**	*e*P	**Pn**	**16 51 23.2**	**-1.2**
	18nm,0.5s						
KAKA				*e*S	**Sn**	**16 53 40.5**	**-0.4**
BATI	**Kupang**	**17.63**	**244**	P	**Pn**	**16 52 35.8**	**+2.7**
	0.9nm,0.3s,baz=78,slow=9.3,SNR=4.4						
WRAB	**Tennant Creek**	**18.03**	**196**	*e*Pn	**Pn**	**16 52 38.3**	**+0.4**
	7.4nm,0.8s						
WRAB				*e*Sn	**Sn**	**16 55 51.1**	**-7.2**
WB2	**Warramunga Arr**	**18.04**	**196**	*e*P	**Pn**	**16 52 38.9**	**+0.8**
WRA	**Warramunga Arr**	**18.04**	**196**	P	**Pn**	**16 52 37.8**	**-0.3**
	0.8nm,0.3s,baz=19,slow=12,SNR=72						
WRA				S	**S**	**16 56 09.2**	**+6.8**
	0.1nm,0.3s,baz=13,slow=22,SNR=4.1						
CTA	**Charters Tower**	**18.56**	**160**	*e*P	**Pn**	**16 52 42.8**	**-1.6**
	2.8nm,0.6s						
CTA	**Charters Tower**	**18.56**	**160**	P	**Pn**	**16 52 42.5**	**-1.9**
	0.3nm,0.3s,baz=345,slow=13,SNR=12						
CTA				LR	LR	17 00 02.8	
	comp=Z,129nm,18.5s,baz=212,slow=38						
CTAO	**Charters Tower**	**18.56**	**160**	*e*Pn	**Pn**	**16 52 43.6**	**-0.7**
	3.9nm,0.8s						
FITZ	**Fitzroy Crossi**	**20.69**	**221**	*e*P	**P**	**16 53 07.8**	**+0.8**
	11nm,0.9s						
FITZ				*e*S	**S**	**16 56 54.3**	**-1.3**
FITZ	**Fitzroy Crossi**	**20.69**	**221**	P	**P**	**16 53 07.6**	**+0.5**
	8.3nm,1.0s,baz=45,slow=11,SNR=16						
FITZ				S	**S**	**16 56 54.6**	**-1.0**
	3.0nm,0.9s,baz=187,slow=19,SNR=3.1						
ASAR	**Alice Springs**	**21.71**	**194**	P	**P**	**16 53 17.9**	**0.0**
	3.5nm,0.6s,mb4.0,baz=30,slow=10,SNR=26						
ASAR				S	**S**	**16 57 14.8**	**-0.7**
	0.6nm,0.8s,baz=12,slow=24,SNR=2.6						
EIDS	**Eidsvold**	**25.18**	**155**	*e*P	**P**	**16 53 53.7**	**+1.8**
	18nm,0.9s,mb4.6						
MBWA	**Marble Bar**	**26.82**	**225**	*e*P	**P**	**16 54 07.2**	**+0.5**
	4.1nm,0.7s,mb4.1						
STKA	**Stephens Creek**	**29.21**	**177**	LR	LR	17 06 53.5	
	comp=Z,112nm,19.0s,baz=190,slow=38						
CM31	**Chiang Mai Arr**	**45.22**	**299**	*e*P	**P**	**16 56 43.5**	**0.0**
	7.9nm,0.9s,mb4.5						
ULN	**Ulaanbaatar**	**57.75**	**335**	*e*P	**P**	**16 58 16.6**	**-0.1**
	1.5nm,0.8s,mb4.1						
SONM	**Songino Array**	**58.01**	**334**	P	**P**	**16 58 18.2**	**-0.4**
	0.4nm,0.8s,mb3.5,baz=134,slow=6.2,SNR=2.8						
MK31	**Makanchi Array**	**70.28**	**322**	*e*P	**P**	**16 59 39.3**	**+0.2**
MK31				*e*PcP	PcP	16 59 58.5	-2.0
MKAR	**Makanchi Array**	**70.28**	**322**	P	**P**	**16 59 39.5**	**+0.4**
	2.6nm,0.8s,mb4.2,baz=113,slow=8.1,SNR=25						
ZALV	**Zalesovo Beam**	**72.31**	**330**	P	**P**	**16 59 49.4**	**-1.8**
ZALV	**Zalesovo Beam**	**72.31**	**330**	P	**P**	**16 59 49.4**	**-1.8**
	0.8nm,0.4s,mb4.0,baz=98,slow=6.1,SNR=5.7						
TKM2	**Tokmak 2**	**73.12**	**316**	*e*P	**P**	**16 59 56.2**	**0.0**
	2.7nm,0.7s,mb4.3						
UCH	**Uchtor**	**73.64**	**315**	*e*P	**P**	**17 00 00.2**	**+0.9**
	2.2nm,0.8s,mb4.1						
AAK	**Ala-Archa**	**73.78**	**316**	P	**P**	**16 59 59.9**	**-0.3**
	2.9nm,1.2s,mb4.1						
AAK	**Ala-Archa**	**73.78**	**316**	P	**P**	**16 59 59.9**	**-0.2**
	0.5nm,0.3s,mb4.0,baz=113,slow=7.7,SNR=2.9						
KURK	**Kurchatov**	**74.16**	**325**	*e*P	**P**	**17 00 01.7**	**-0.5**
	6.9nm,1.5s,mb4.4						
EKS2	**Erkin-Say**	**74.29**	**316**	*e*P	**P**	**17 00 03.8**	**+0.6**
	1.2nm,0.6s,mb4.0						
BRVK	**Borovoye**	**79.83**	**325**	*e*P	**P**	**17 00 33.3**	**-0.7**
	2.6nm,0.7s,mb4.3						
DBIC	**Dimbokro**	**144.44**	**278**	PKP	PKPdf	17 08 01.2	-1.7
DBIC	**Dimbokro**	**144.44**	**278**	PKP	PKPdf	17 08 01.2	-1.7
	8.5nm,0.6s,baz=88,slow=2.7,SNR=17						
LPAZ	**La Paz**	**146.73**	**125**	PKPbc	PKPbc	17 08 08.8	+0.4
LPAZ	**La Paz**	**146.73**	**125**	PKPbc	PKPbc	17 08 08.8	+0.4
	0.7nm,0.6s,baz=203,slow=7.7,SNR=5.6						

*ISCJB **28** 17:06:14.5±1.1, 32.99N±003×97.86E±003, h10km±6km, mb4.8/136, MS3.9/21, Error ellipse: s-maj=4.5km s-min=3.6km az=2.0*
*IDC **28** 17:06:14.8±0.5, 33.05N×97.91E, h0km, mb4.5/20, mb1 4.6/22, mb1mx4.5/27, mbtmp4.5/22, ML3.8/2, MS3.7/10, Ms1 3.8/10, ms1mx3.5/28, Error ellipse: s-maj=20.2km s-min=11.5km az=47.0*
*BJI **28** 17:06:16.3, 33.15N×97.87E, h19km, mB4.8, mb4.7, ML4.2, Ms4.5, Msz4.2*
*NEIC **28** 17:06:18.0±1.1, 33.08N×97.98E, h20km±7km, mb4.9/87, MS3.9/2, Error ellipse: s-maj=4.0km s-min=3.5km az=55.0*
*MOS **28** 17:06:18.1±0.7, 33.06N×97.86E, h33km, mb5.0/77, Error ellipse: s-maj=8.7km s-min=3.8km az=125.1*
*SZGRF **28** 17:06:22.7, 33.81N×97.88E, h33km, mb5.1, Qinghai, China*
ISC 28 17:06:15.6±0.9, 3303N±002×9786E±002, h4km±6km, n415, σ0§89/425, mb4.8/136, MS3.9/21, 118C-10D, Qinghai

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CD2	**Chengdu**	**5.44**	**111**	PG	**Pg**	**17 07 57.8**	**-2.1**
CD2				S	**Sn**	**17 08 45.5**	**+4.9**
CD2				SG	**Sg**	**17 09 09.5**	**-1.0**
CD2				Smax			
	comp=N,1μm,1.8s						
CD2				Smax			
	comp=E,283nm,1.2s						
CD2				LR	LR		
	comp=E,7μm,5.9s						
CD2				LR	LR		
	comp=Z,6μm,7.9s						
LZH	**Lanzhou**	**5.80**	**57**	⇓P	**Pn**	**17 07 44.5**	**+2.0**
LZH				S	**Sn**	**17 08 48.0**	**-1.5**
LZH				Smax			
	comp=N,387nm,1.6s						
LZH				Smax			
	comp=E,170nm,1.2s						
LZH				LR	LR		
	comp=E,5μ

KOLN Koldanda 13.37 251 *e*P **Pn 17 09 24.3 -1.9**
comp=Z,33nm,0.5s
WMQ Urumqi 13.38 327⇓*i*P **Pn 17 09 26.0 -0.3**
WMQ AP 17 09 33.0
WMQ XP 17 09 38.0
WMQ PPP 17 09 44.0
WMQ S **Sn 17 11 53.0 -2.5**
WMQ XS 17 12 04.0
WMQ AMB AMB
comp=Z,18nm,0.9s
WMQ AMB AMB
comp=Z,123nm,5.6s
WMQ LR LR
comp=N,870nm,13.2s
WMQ LR LR
comp=E,577nm,9.3s
WMQ LR LR
comp=Z,847nm,18.9s
HHC Hu-ho-hao-te 13.44 51 *e*P **Pn 17 09 26.0 -1.1**
HHC AP 17 09 34.0
HHC PP 17 09 36.0
HHC XP 17 09 38.5
HHC S **Sn 17 11 53.8 -3.2**
HHC XS 17 12 07.0
HHC SS 17 12 09.8
HHC AMB AMB
comp=Z,33nm,0.6s
HHC AMB AMB
comp=Z,91nm,3.9s
HHC LR LR
comp=N,1μm,10.3s
HHC LR LR
comp=E,1μm,10.6s
HHC LR LR
comp=Z,1μm,11.6s
BOK Bokaro 13.98 232 *e*P **Pn 17 09 35.1 +0.6**
BOK AMb AMB 17 09 36.9
comp=Z,10nm,0.4s
CM31 Chiang Mai Arr 14.55 176 *e*Pn **Pn 17 09 43.2 +0.9**
comp=Z,17nm,1.0s
CM31 *e* 17 09 49.9
PTH Pithoragarh 15.47 262 *ex* x 17 09 33.8
SONM Songino Array 16.13 21 Pn **Pn 17 10 02.4 -0.8**
comp=Z,0.2nm,0.3s,baz=197,slow=5.9,SNR=20
SONM LR LR 17 17 07.4
comp=Z,180nm,21.6s,baz=27,slow=40
BJI Beijing 16.29 59 P **Pn 17 10 03.5 -1.6**
BJI S **Sn 17 13 02.5 -3.7**
BJI LR LR
comp=N,796nm,10.8s
BJI LR LR
comp=E,2μm,9.1s
BJI LR LR
comp=Z,642nm,18.3s
ULN Ulaanbaatar 16.36 22 *e*Pn **Pn 17 10 05.1 -1.0**
comp=Z,4.8nm,0.9s
ULN Ulaanbaatar 16.36 22 *e*P **Pn 17 10 05.1 -1.0**
ULN pmax pmax
comp=Z,5.0nm,0.9s
QIZ Qiongzhong 17.60 139 P **Pn 17 10 24.0 +2.2**
QIZ S **Sn 17 13 40.0 +1.7**
QIZ LR LR
comp=N,966nm,9.3s
QIZ LR LR
comp=E,678nm,8.8s
QIZ LR LR
comp=Z,1μm,9.6s
SMLA Simla 17.64 269 *e*P **Pn 17 10 19.4 -2.8**
SMLA AMb AMB 17 10 21.9
comp=Z,67nm,1.6s
BLSP Bilaspur 17.65 236 *e*P **Pn 17 10 22.6 +0.1**
NJ2 Nanjing 17.73 87 *e*P **Pn 17 10 23.5 +0.1**
NJ2 AP pP 17 10 31.3 +5.9
NJ2 XP sP 17 10 35.5 +10
NJ2 PP 17 10 37.8
NJ2 S **Sn 17 13 37.0 -4.4**
NJ2 XS sS 17 13 51.0 +0.5
NJ2 AMB AMB
comp=Z,10.0nm,0.7s
NJ2 AMB AMB
comp=Z,220nm,4.2s
NJ2 LR LR
comp=N,1μm,16.9s
NJ2 LR LR
comp=E,2μm,11.4s
NJ2 LR LR
comp=Z,5μm,12.2s
ZAK Zakamensk 17.79 11 *e*P **Pn 17 10 26.1 +2.1**
ZAK pmax pmax
comp=Z,2.0nm,1.4s
MK31 Makanchi Array 18.16 324 *e*Pn **Pn 17 10 29.0 +0.5**
MK31 *e* 17 10 37.7
MKAR Makanchi Array 18.16 324 P **Pn 17 10 29.1 +0.6**
comp=Z,0.8nm,0.3s,baz=133,slow=13,SNR=34
MKAR LR LR 17 18 31.6
comp=Z,367nm,19.7s,baz=135,slow=40
MKAR ScP ScP 17 18 37.3 -0.8
comp=Z,0.0nm,0.3s,baz=114,slow=1.5,SNR=5.2
NDI New Delhi 18.24 262 *e*P **Pn 17 10 26.8 -2.9**
NDI *e*S **Sn 17 13 52.0 -1.7**
THN Thein Dam 18.64 274 *ex* x 17 10 30.8
MOY Mondy 18.76 6 *e*P **Pn 17 10 38.3 +2.4**
ULHL Ulahol 19.39 305 P **Pn 17 10 44.3 +0.7**
SNR=9.7
SSE Sheshan 19.86 89 P **Pn 17 10 48.8 -0.5**
SSE S **Sn 17 14 31.5 -1.4**
SSE AMB AMB
comp=Z,50nm,0.6s
SSE AMB AMB
comp=Z,82nm,3.9s
SSE LR LR
comp=N,593nm,9.8s
SSE LR LR
comp=E,670nm,9.8s
SSE LR LR
comp=Z,964nm,10.0s
KZA Kyzart 20.02 303 P **P 17 10 52.0 +2.6**
SNR=34
TKM2 Tokmak 2 20.08 306 *e*P **P 17 10 51.0 +1.0**
comp=Z,11nm,0.9s
TKM2 Tokmak 2 20.08 306 *e*P **P 17 10 51.0 +1.0**
TKM2 pmax pmax
comp=Z,11nm,0.9s
TKM2 Tokmak 2 20.08 306 P **P 17 10 52.5 +2.4**
SNR=13
VIS Vishakhapatnam 20.08 224 *e*P **P 17 10 50.5 +0.3**
DL2 Dalian 20.09 66 P **P 17 10 51.8 +1.7**
DL2 S **S 17 14 37.0 +0.7**
DL2 AMB AMB
comp=Z,20nm,1.0s
DL2 AMB AMB
comp=Z,100nm,4.8s
DL2 LR LR
comp=N,390nm,14.1s,MS4.1
DL2 LR LR
comp=E,410nm,14.4s,MS4.1
DL2 LR LR
comp=Z,460nm,13.2s,MS4.0
KBK Karagaybulak 20.43 305 P **P 17 10 56.0 +2.2**
SNR=30
BHPL Bhopal 20.46 247 *e*P **P 17 10 53.7 -0.6**
BHPL AMb AMB 17 10 54.9
comp=Z,48nm,0.9s
NGP Nagpur 20.47 239 *e*P **P 17 10 53.9 -0.4**
NGP AMb AMB 17 10 54.6
comp=Z,41nm,1.0s
UCH Uchtor 20.59 303⇑*i*P **P 17 10 57.4 +1.8**
comp=Z,55nm,1.1s
UCH Uchtor 20.59 303 P **P 17 10 57.9 +2.3**
SNR=43
CHMS Chumysh 20.69 305 P **P 17 10 58.1 +1.5**
SNR=18
FRU Bishkek 20.72 305 *i* P **P 17 10 58.0 +1.0**
FRU *e* 17 11 30.5
FRU pmax pmax
comp=Z,140nm,1.7s
AAK Ala-Archa 20.74 304⇑*i*P **P 17 10 57.9 +0.8**
comp=Z,32nm,0.8s
AAK Ala-Archa 20.74 304 P **P 17 10 58.1 +1.0**
AAK pmax pmax
comp=Z,30nm,0.6s
AAK Ala-Archa 20.74 304 P **P 17 10 58.1 +1.0**
comp=Z,30nm,0.6s,baz=113,slow=6.8,SNR=112
AAK Ala-Archa 20.74 304 P **P 17 10 59.2 +2.1**
SNR=45
USP Ospenovka 20.95 306 P **P 17 11 01.1 +1.6**
SNR=22
AML Almayashu 21.14 302⇑*i*P **P 17 11 03.3 +1.8**
comp=Z,44nm,1.1s,mb4.7
AML Almayashu 21.14 302 P **P 17 11 03.6 +2.1**
SNR=24
AJM Ajmer 21.16 258 *i* x x 17 11 16.0
EKS2 Erkin-Say 21.24 304⇑*i*P **P 17 11 04.0 +1.4**
comp=Z,15nm,0.9s,mb4.3
EKS2 Erkin-Say 21.24 304 P **P 17 11 04.3 +1.6**
SNR=20
AKL Akola 22.23 242 *e*P **P 17 11 12.5 -0.9**
AKL AMb AMB 17 11 17.6
comp=Z,41nm,1.2s,mb4.7
KURK Kurchatov 22.63 327⇑*i*P **P 17 11 16.3 -1.1**
comp=Z,60nm,1.3s,mb4.9
KURK Kurchatov 22.63 327⇑*i*P **P 17 11 16.3 -1.1**
KURK pmax pmax
comp=Z,60nm,1.3s,mb4.9
ZAL Zalesovo 22.87 340 P **P 17 11 20.0 +0.1**
ZAA0 Zalesovo Array 22.87 340⇑*e*P **P 17 11 19.2 -0.7**
ZALV Zalesovo Beam 22.87 340 P **P 17 11 20.0 +0.1**
comp=Z,17nm,0.7s,mb4.6,baz=158,slow=9.1,SNR=71
ZALV LR LR 17 20 43.9
comp=Z,98nm,19.1s,baz=110,slow=38
HIA Hailar 22.99 39 *e*P **P 17 11 20.7 -0.6**
comp=Z,6.6nm,0.6s,mb4.2
HIA Hailar 22.99 39 *e*P **P 17 11 20.7 -0.5**
HIA pmax pmax
comp=Z,7.0nm,0.6s
HYB Hyderabad 23.32 233 *e*P **P 17 11 24.0 -0.9**
HYB Hyderabad 23.32 233 *i* P **P 17 11 24.0 -0.9**
INCN Inchon 23.87 71 *e*P **P 17 11 29.2 -1.0**
comp=Z,23nm,0.8s,mb4.7
KBL Kabul 23.96 282 *e*P **P 17 11 31.4 +0.4**
comp=Z,76nm,0.8s,mb5.2
LATR Latur 24.02 238 *e*P **P 17 11 30.5 -1.1**
LATR AMb AMB 17 11 32.2
comp=Z,48nm,1.1s,mb4.8
CN2 Changchun 24.04 55⇓P **P 17 11 31.5 -0.1**
CN2 *e*XP sP 17 11 44.8 +12
CN2 *e*S **S 17 15 43.3 -6.0**
CN2 AMB AMB
comp=Z,40nm,1.1s,mb4.8
CN2 AMB AMB
comp=Z,200nm,3.0s
CN2 LR LR
comp=N,500nm,10.0s,MS4.5
CN2 LR LR
comp=E,600nm,10.0s,MS4.5
CN2 LR LR
comp=Z,800nm,11.0s,MS4.5
NVS Novosibirsk 24.11 339 *i* P **P 17 11 30.0 -2.2**
NVS *e*S **S 17 15 44.4 -5.9**
NVS pmax pmax
comp=N,22nm,1.9s
NVS pmax pmax
comp=Z,27nm,1.9s,mb4.3
NVS pmax pmax
comp=E,18nm,2.2s
NVS smax
comp=N,13nm,2.5s
NVS smax
comp=E,10.0nm,2.0s
KSRS Korea Array 24.89 71 P **P 17 11 38.7 -0.8**
comp=E,14nm,0.8s,mb4.5,baz=264,slow=9.0,SNR=41
KSRS LR LR 17 22 23.8
comp=E,126nm,18.3s,MS3.5,baz=75,slow=39
POO Poona 25.91 242 *e*P **P 17 11 48.0 -0.9**
KAD Karad 26.45 239 *e*P **P 17 11 51.4 -2.3**
JOW Kunigami 27.02 95 LR LR 17 23 25.7
comp=E,232nm,20.8s,MS3.7,baz=112,slow=38
BOD Bodaibo 27.11 19 *e*P **P 17 11 56.6 -2.7**
JNU Nakatsue 27.61 81 LR LR 17 24 21.4
comp=E,168nm,18.1s,MS3.7,baz=76,slow=39
BVAR Borovoye Array 28.04 324 P **P 17 12 08.3 +0.6**
BVAR 17 15 21.6
BVAR pmax pmax
comp=Z,3.0nm,0.6s
BVAR pmax pmax
comp=Z,1.0nm,0.6s
BVAR MLR MLR
comp=Z,366nm,20.8s
BVAR Borovoye Array 28.04 324 P **P 17 12 08.3 +0.5**
comp=Z,3.3nm,0.6s,mb4.1,baz=128,slow=9.6,SNR=25
BVAR PcP PcP 17 15 21.6 -0.8
comp=Z,1.0nm,0.6s,baz=127,slow=3.9,SNR=5.6
BVAR LR LR 17 24 26.2
comp=Z,366nm,20.8s,MS4.0,baz=305,slow=39
BRVK Borovoye 28.11 324 *e*P **P 17 12 08.2 -0.1**
comp=Z,11nm,0.9s,mb4.5
BRVK Borovoye 28.11 324 *e*P **P 17 12 08.2 -0.2**
BRVK pmax pmax
comp=Z,11nm,0.9s,mb4.5
MJAR Matsushiro Arr 33.16 72 LR LR 17 27 21.0
comp=Z,97nm,19.1s,MS3.5,baz=275,slow=38
AKTK Aktyubinsk 33.94 313 P **P 17 13 00.6 +0.7**
AKTO Aktyubinsk 33.94 313 P **P 17 13 00.6 +0.8**
AKTO pmax pmax
comp=Z,10.0nm,0.6s,mb4.9
AKTO Aktyubinsk 33.94 313 P **P 17 13 00.6 +0.7**
comp=Z,9.5nm,0.6s,mb4.9,baz=100,slow=9.0,SNR=43
YAK Yakutsk 35.41 25⇑*e*P **P 17 13 13.0 +0.6**
YAK pmax pmax
comp=Z,4.0nm,1.0s,mb4.3
YAK MLR MLR
comp=Z,100nm,14.0s,MS3.7
ARU Arti 35.68 323*c i*P **P 17 13 14.5 -0.2**
ARU *e* 17 14 32.2
ARU *e*S **S 17 18 49.3 -2.4**
ARU *e*SS SS 17 21 09.3 -17
ARU pmax pmax
comp=Z,45nm,1.7s,mb5.1
ARU MLR MLR
comp=Z,206nm,17.0s,MS4.0
ASAJ Asahikawa 36.28 59 P **P 17 13 20.2 +0.2**
ASAJ pmax pmax
comp=Z,6.0nm,0.7s
ASAJ Asahikawa 36.28 59 P **P 17 13 20.1 +0.1**
comp=Z,6.3nm,0.7s,mb4.6,baz=235,slow=12,SNR=4.3
ERM Erimo 36.67 62 *e*P **P 17 13 26.3 +2.9**
TIXI Tiksi 42.04 14⇑*e*P **P 17 14 05.0 -2.8**
comp=Z,1.8nm,0.6s,mb3.9
TIXI Tiksi 42.04 14⇑*e*P **P 17 14 07.7 -0.1**
TIXI pmax pmax
comp=Z,1.0nm,1.0s,mb3.4
UMR Umm Al-Rimmam 42.66 279 *e*P **P 17 14 12.9 -0.6**
UMR AMb AMB 17 14 13.9
comp=Z,26nm,0.8s,mb5.0
MIB Mutribah 42.90 280 *e*P **P 17 14 14.6 -0.8**
MIB AMb AMB 17 14 16.4
comp=Z,53nm,0.7s,mb5.3
RDF Al-Radifah 43.00 278 *e*P **P 17 14 15.4 -0.8**
RDF AMb AMB 17 14 17.2
comp=Z,43nm,0.7s,mb5.3
NAY Al-Naaiem 43.15 279 *e*P **P 17 14 16.8 -0.6**
NAY AMb AMB 17 14 17.9
comp=Z,31nm,0.8s,mb5.1
RST Umm Al-Ruwaisa 43.28 279 *e*P **P 17 14 17.3 -1.2**
RST AMb AMB 17 14 18.8
comp=Z,52nm,0.8s,mb5.3
KIV Kislovodsk 43.80 301⇑*e*P **P 17 14 23.9 +1.4**
KIV *e* 17 14 38.0
KIV pmax pmax
comp=Z,22nm,1.5s,mb4.7
KIV MLR MLR
comp=Z,100nm,17.0s,MS3.8
VORD Divnogorie 45.78 311 *e*P **P 17 14 37.0 -1.2**
VORD pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
VORD pmax pmax
comp=N,10.0nm,1.0s
VORD pmax pmax
comp=E,10.0nm,0.7s
VRSR Storozhevoye 45.85 312 *e*P **P 17 14 38.5 -0.2**
VRSR pmax pmax
comp=N,2.0nm,0.9s
VRSR pmax pmax
comp=E,10.0nm,0.9s
VRSR pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
MOS Moscow 46.90 318 *e*P **P 17 14 47.0 +0.1**
MOS pmax pmax
comp=Z,84nm,0.7s,mb5.8
ANN Anapa 47.45 303 *e*P **P 17 14 51.0 -0.4**
ANN *e*S **S 17 21 44.4 -2.0**
ANN pmax pmax
comp=Z,11nm,0.6s,mb5.0
OBN Obninsk 47.47 317⇑*e*P **P 17 14 50.3 -1.1**
OBN *e*S **S 17 21 44.4 -2.0**
OBN pmax pmax
comp=Z,20nm,1.1s,mb5.0
OBN MLR MLR
comp=Z,100nm,18.0s,MS3.8
BATI Kupang 49.54 146 P **P 17 15 06.8 -1.0**
comp=Z,12nm,0.5s,mb5.2,baz=290,slow=14,SNR=11
JOF Joensuu 50.55 327 *ep* **P 17 15 14.4 -0.4**
comp=Z,9.4nm,0.5s,mb5.0
JOF Joensuu 50.55 327 *e*P **P 17 15 14.4 -0.4**
JOF pmax pmax
comp=Z,9.0nm,0.5s,mb5.0
BILL Bilibino 51.76 26 *e*P **P 17 15 26.3 +2.4**
BILL pmax pmax
comp=Z,4.0nm,1.2s,mb4.2
BILL MLR MLR
comp=Z,100nm,20.0s,MS3.8
AKASG Malin Array Be 52.17 311 P **P 17 15 26.8 -0.4**
AKASG 17 16 38.3
AKASG pmax pmax
comp=Z,15nm,0.6s
AKASG pmax pmax
comp=Z,1.0nm,0.5s
AKASG Malin Array Be 52.17 311 P **P 17 15 26.8 -0.3**
comp=Z,15nm,0.6s,mb5.1,baz=72,slow=6.7,SNR=69
AKASG PcP PcP 17 16 38.3 -0.6
comp=Z,0.8nm,0.5s,baz=68,slow=3.7,SNR=4.5
AKBB Malin Array Si 52.17 311 *e*P **P 17 15 26.5 -0.6**
KEV Kevo 52.80 336 *ep* **P 17 15 30.7 -0.9**
comp=Z,10nm,0.8s,mb4.8
KEV Kevo 52.80 336 *e*P **P 17 15 30.7 -0.9**
KEV pmax pmax
comp=Z,11nm,0.8s,mb4.8
FINES FINESS Array B 52.98 325 P **P 17 15 33.0 0.0**
FINES pmax pmax
comp=Z,6.0nm,0.6s
FINES MLR MLR
comp=Z,100nm,19.6s
FINES FINESS Array B 52.98 325 P **P 17 15 33.0 0.0**
comp=Z,6.2nm,0.6s,mb4.7,baz=84,slow=8.2,SNR=27
FINES LR LR 17 39 33.4
comp=Z,100nm,19.6s,MS3.9,baz=45,slow=38
ARCES ARCESS Array B 53.31 335 P **P 17 15 35.5 +0.2**
ARCES pmax pmax
comp=Z,2.0nm,0.5s
ARCES ARCESS Array B 53.31 335 P **P 17 15 35.5 +0.1**
comp=Z,2.3nm,0.5s,mb4.4,baz=81,slow=7.3,SNR=18
TIRR Tirgusor 53.85 304⇑P **P 17 15 39.7 0.0**
TIRR Tirgusor 53.85 304⇑*i*P **P 17 15 39.7 0.0**
HARR Harsova 54.13 304⇑*i*P **P 17 15 42.3 +0.6**
PLOR Plostina 54.75 306⇑*i*P **P 17 15 47.5 +1.3**
BURAR Bucovina Array 55.31 308⇑*i*P **P 17 15 50.3 +0.1**
MLR Muntele Rosu 55.31 306⇑P **P 17 15 51.2 +0.9**
MLR Muntele Rosu 55.31 306⇑*i*P **P 17 15 51.2 +0.9**
SUW Suwalki 55.32 316 *e*P **P 17 15 50.0 -0.2**
LVV L'vov 55.60 311 *e*P **P 17 15 52.2 -0.1**
VOIR 55.94 306⇓P **P 17 15 55.3 +0.5**
VOIR 55.94 306⇓*i*P **P 17 15 55.3 +0.5**
KWP Kalwaria 56.48 311 *e*P **P 17 15 59.3 +0.7**
KWP Kalwaria 56.48 311 *e*P **P 17 15 59.2 +0.6**
comp=Z,63nm,0.8s,mb5.7
KWP Kalwaria 56.48 311 *e*P **P 17 15 59.2 +0.6**
KWP pmax pmax
comp=Z,63nm,0.8s,mb5.7
KWP Kalwaria 56.48 311⇑*i*P **P 17 15 59.3 +0.7**
KOLS Kolonicke sedl 56.92 310 *e*P **P 17 16 01.8 +0.1**
UZH Uzhgorod 56.98 310⇑*i*P **P 17 16 02.0 -0.2**
UZH *e* 17 16 09.0
DRGR 57.17 308⇑P **P 17 16 04.1 +0.6**
DRGR 57.17 308⇑*i*P **P 17 16 04.1 +0.6**
FITZ Fitzroy Crossi 57.36 148 *e*P **P 17 16 05.3 +0.2**
comp=Z,1.7nm,0.6s,mb4.2
FITZ Fitzroy Crossi 57.36 148 P **P 17 16 06.5 +1.4**
comp=Z,1.3nm,0.7s,mb4.0,baz=329,slow=12,SNR=3.8
CRVS Cervenica-Dubn 57.45 310 *e*P **P 17 16 05.6 +0.1**
STHS Stebnicka Huta 57.46 311 *i* P **P 17 16 05.9 +0.4**
comp=Z,5.3nm,0.8s,mb4.6
STHS Stebnicka Huta 57.46 311 *i* P **P 17 16 05.9 +0.4**
STHS pmax pmax
comp=Z,5.0nm,0.8s,mb4.6
VTS Vitosha 57.99 303⇓*i*P **P 17 16 10.3 +0.9**
OJC Ojcow 58.17 312 *e*P **P 17 16 10.7 +0.2**
KECS Kecovo 58.18 310 *e*P **P 17 16 11.2 +0.6**
comp=Z,6.0nm,0.6s,mb4.8
KECS Kecovo 58.18 310 *e*P **P 17 16 11.2 +0.6**
KECS pmax pmax
comp=Z,6.0nm,0.6s,mb4.8
BZS Buzias 58.22 307⇑P **P 17 16 10.8 -0.1**
BZS Buzias 58.22 307⇑*i*P **P 17 16 10.9 0.0**
VYHS Vyhne 59.23 311 *i* P **P 17 16 18.6 +0.7**
comp=Z,9.5nm,1.4s,mb4.6
VYHS Vyhne 59.23 311 *i* P **P 17 16 18.6 +0.7**
VYHS pmax pmax
comp=Z,10.0nm,1.4s,mb4.7
OKC Ostrava-Krasne 59.29 312 *e*P **P 17 16 18.8 +0.5**
KOLL Kolacno 59.49 311 *e*P **P 17 16 20.9 +1.2**
MORC Moravsky Berou 59.69 312 *e*P **P 17 16 21.2 +0.2**
comp=Z,2.4nm,0.6s,mb4.4
MORC Moravsky Berou 59.69 312⇑*i*P **P 17 16 21.3 +0.2**
PKSM Moragy 60.03 308⇑P **P 17 16 23.3 -0.2**
PKSM Moragy 60.03 308⇑*i*P **P 17 16 23.3 -0.2**
NB2 NORSAR Subarra 60.14 326 P **P 17 16 22.9 -1.1**
comp=Z,2.5nm,0.7s,mb4.3,baz=75,slow=7.4
NOA NORSAR Array B 60.14 326 P **P 17 16 23.5 -0.5**
NOA pmax pmax
comp=Z,5.0nm,0.8s
NOA MLR MLR
comp=Z,92nm,20.5s
NOA NORSAR Array B 60.14 326 P **P 17 16 23.4 -0.5**
comp=Z,5.2nm,0.8s,mb4.6,baz=76,slow=6.9,SNR=17
NOA LR LR 17 43 45.6
comp=Z,92nm,20.4s,MS3.9,baz=255,slow=37
KSP Ksiaz 60.15 314 *e*P **P 17 16 24.5 +0.2**
KSP Ksiaz 60.15 314 *e*P **P 17 16 24.4 +0.2**
MODS Modra-Piesok 60.26 311 *e*P **P 17 16 26.5 +1.5**
comp=Z,3.6nm,1.0s,mb4.4
MODS Modra-Piesok 60.26 311 *e*P **P 17 16 26.5 +1.5**
MODS pmax pmax
comp=Z,4.0nm,1.0s,mb4.4
DPC Dobruska-Polom 60.28 313 *e*P **P 17 16 26.0 +0.9**
VRAC Vranov 60.41 312⇑P **P 17 16 26.8 +0.7**
VRAC Vranov 60.41 312⇑*i*P **P 17 16 26.8 +0.7**
UPC Upice 60.42 313 *e*P **P 17 16 26.5 +0.4**
TREC Trest 61.11 312 *e*P **P 17 16 31.7 +0.9**
KONO Kongsberg 61.29 325⇑*e*P **P 17 16 30.7 -1.1**
PVCC Panska Ves 61.29 314 *e*P **P 17 16 32.9 +0.9**
CONA Conrad Observa 61.30 311⇑*i*P **P 17 16 32.6 +0.5**
comp=Z,13nm,0.7s,mb5.2
PRU Pruhonice 61.48 313 *e*P **P 17 16 33.6 +0.3**
PRU AMS AMS 17 44 40.0
comp=Z,100nm,14.3s,MS4.1
BRG Berggiesshubel 61.56 314 *i* P **P 17 16 34.1 +0.3**
comp=Z,7.1nm,0.8s,mb4.8
BRG Berggiesshubel 61.56 314 *i* P **P 17 16 34.1 +0.3**
BRG pmax pmax
comp=Z,7.0nm,0.8s,mb4.8
BRG Berggiesshubel 61.56 314 *e*P **P 17 16 33.7 -0.1**
comp=Z,12nm,0.8s,mb5.1
ARSA Arzberg 61.74 310⇑*i*P **P 17 16 34.9 -0.2**
comp=Z,5.7nm,0.7s,mb4.8
FBE Freiberg 61.90 314 *e*P **P 17 16 36.2 +0.1**
comp=Z,15nm,1.1s,mb5.0
CLL Collm 61.99 315⇓*i*P **P 17 16 37.0 +0.3**
comp=Z,13nm,1.1s,mb5.0
CLL *e* 17 16 59.0
CLL Collm 61.99 315⇓*i*P **P 17 16 37.0 +0.3**
CLL pmax pmax
comp=Z,13nm,1.1s,mb5.0
CLL Collm 61.99 315 *e*P **P 17 16 36.4 -0.3**
comp=Z,13nm,1.1s,mb5.0
MOA Molln 62.34 311⇑*i*P **P 17 16 39.3 +0.2**
comp=Z,6.0nm,0.7s,mb4.9
KHC Kasperske Hory 62.35 312 *e*P **P 17 16 39.5 +0.4**
KHC AMS AMS 17 45 40.0
comp=Z,100nm,17.8s,MS4.0
GEC2 GERESS Array S 62.37 312 *e*P **P 17 16 39.2 -0.1**
GEC2 GERESS Array S 62.37 312 *e*P **P 17 16 39.4 +0.1**
GEC2 pmax pmax
comp=Z,8.0nm,0.8s,mb4.9
GEC2 GERESS Array S 62.37 312 *e*P **P 17 16 39.4 +0.1**
comp=Z,8.0nm,0.8s,mb4.9
GERES GERESS Array B 62.37 312 P **P 17 16 39.8 +0.5**
GERES pmax pmax

comp=Z,7.0nm,0.8s
GERES **GERESS Array B** 62.37 312 P P 17 16 39.8 +0.5
comp=Z,6.5nm,0.8s,mb4.8,baz=68,slow=5.8,SNR=59
TANN **Tannenbergstha** 62.60 314 eP P 17 16 40.8 0.0
comp=Z,9.0nm,1.0s,mb4.8
NKC **Novy Kostel** 62.67 314 eP P 17 16 41.9 +0.6
BSEG **Bad Segeberg** 62.69 318 eP P 17 16 41.1 -0.2
comp=Z,20nm,1.4s,mb5.0
WERD **Werda** 62.69 314 eP P 17 16 41.2 -0.2
comp=Z,11nm,1.1s,mb4.9
WERN **Wernitzgruen** 62.70 314 eP P 17 16 41.5 0.0
comp=Z,22nm,1.4s,mb5.1
GUNZ **Gunzen** 62.70 314 eP P 17 16 41.5 0.0
comp=Z,13nm,0.9s,mb5.1
WET **Wettzell** 62.78 313 eP P 17 16 42.1 +0.1
WET pmax pmax
comp=Z,8.0nm,0.8s,mb4.9
WET **Wettzell** 62.78 313 eP P 17 16 42.1 +0.1
comp=Z,8.0nm,0.8s,mb4.9
MANZ **Manzenberg** 62.96 314 eP P 17 16 43.4 +0.2
comp=Z,10.0nm,1.1s,mb4.9
ROTZ **Rotzenmuhle** 62.98 313 eP P 17 16 43.6 +0.3
comp=Z,18nm,0.9s,mb5.2
MOX **Moxa** 63.03 315 eP P 17 16 43.8 +0.1
comp=Z,12nm,1.3s,mb4.9
MOX **Moxa** 63.03 315 eP P 17 16 43.8 +0.1
MOX pmax pmax
comp=Z,12nm,1.3s,mb4.9
MOX **Moxa** 63.03 315 eP P 17 16 43.6 -0.1
comp=Z,10.0nm,1.2s,mb4.8
WRAB **Tennant Creek** 63.16 141 eP P 17 16 44.7 -0.1
comp=Z,9.5nm,1.0s,mb4.9
WRAB **Tennant Creek** 63.16 141 eP P 17 16 44.7 -0.1
WRAB pmax pmax
comp=Z,10.0nm,1.0s,mb4.9
WRA **Warramunga Arr** 63.16 141 P P 17 16 44.6 -0.2
WRA pmax pmax
comp=Z,3.0nm,0.6s
WRA **Warramunga Arr** 63.16 141 P P 17 16 44.6 -0.2
comp=Z,3.2nm,0.6s,mb4.6,baz=336,slow=7.2,SNR=62
WB2 **Warramunga Arr** 63.17 141 eP P 17 16 44.8 -0.1
WB2 **Warramunga Arr** 63.17 141 eP P 17 16 44.5 -0.4
CLZ **Clausthal** 63.36 316 eP P 17 16 46.0 +0.2
CLZ pmax pmax
comp=Z,18nm,1.1s,mb5.1
CLZ **Clausthal** 63.36 316 eP P 17 16 46.0 +0.2
comp=Z,18nm,1.1s,mb5.1
GRA1 **Grafenberg Arr** 63.60 314 eP P 17 16 47.8 +0.3
comp=Z,20nm,0.9s,mb5.2
GRF **Grafenberg Arr** 63.60 314 eP P 17 16 47.8 +0.3
GRF pmax pmax
comp=Z,20nm,0.9s,mb5.2
GRF **Grafenberg Arr** 63.60 314 eP P 17 16 47.8 +0.3
GRF pmax pmax
comp=Z,20nm,0.9s,mb5.2
GRF **Grafenberg Arr** 63.60 314 eP P 17 16 47.8 +0.3
comp=Z,20nm,0.9s,mb5.2
UBBA **Unterbreizbach** 63.94 315 eP P 17 16 49.4 -0.3
comp=Z,4.0nm,1.1s,mb4.4
FUR **Furstenfeldbru** 64.11 312 eP P 17 16 51.6 +0.7
FUR pmax pmax
comp=Z,42nm,0.9s,mb5.5
FUR **Furstenfeldbru** 64.11 312 eP P 17 16 51.6 +0.7
comp=Z,42nm,0.9s,mb5.5
WTTA **Wattenberg** 64.22 311⇓iP P 17 16 51.6 0.0
comp=Z,10nm,0.5s,mb5.1
WTTA **Wattenberg** 64.22 311⇓iP P 17 16 51.6 0.0
WTTA pmax pmax
comp=Z,10.0nm,0.5s,mb5.1
SQTA **Sankt Quirin** 64.50 311⇑iP P 17 16 53.4 -0.1
comp=Z,5.6nm,0.7s,mb4.7,SNR=13
SQTA **Sankt Quirin** 64.50 311⇑iP P 17 16 53.4 0.0
SQTA pmax pmax
comp=Z,6.0nm,0.7s,mb4.7
RETA **Reutte** 64.69 311⇑iP P 17 16 54.5 -0.1
comp=Z,11nm,1.0s,mb4.8
SDI **San Donato** 64.86 305 P P 17 16 55.6 -0.3
comp=Z,9.9nm,0.7s,mb5.0
SDI **San Donato** 64.86 305 P P 17 16 55.6 -0.3
SDI pmax pmax
comp=Z,10.0nm,0.7s,mb5.0
SNTG **Esanatoglia** 64.86 306 P P 17 16 56.1 +0.3
comp=Z,4.1nm,0.5s,mb4.7
FETA **Feichten** 64.88 311⇑iP P 17 16 55.8 -0.2
comp=Z,20nm,1.0s,mb5.1,SNR=10.0
NRCA **Norcia** 64.90 306 P P 17 16 56.5 +0.4
TOD **Tromm** 65.10 314 eP P 17 16 57.4 +0.1
MURB **Monte Urbino** 65.14 307 P P 17 16 59.2 +1.5
STU **Stuttgart** 65.18 313 eP P 17 16 57.6 -0.2
comp=Z,16nm,0.8s,mb5.1
SPAK **Spaichingen-Ko** 65.68 313 eP P 17 17 01.5 +0.4
ABH **Alteburg** 65.74 315 eP P 17 17 01.5 0.0
BFO **Black Forest** 65.88 313 eP P 17 17 01.9 -0.5
comp=Z,16nm,1.3s,mb4.9
BFO **Black Forest** 65.88 313 eP P 17 17 01.9 -0.4
BFO pmax pmax
comp=Z,15nm,1.3s,mb4.9
BFO **Black Forest** 65.88 313 eP P 17 17 01.9 -0.4
comp=Z,16nm,1.2s,mb4.9
LANF **Langenberg** 65.94 314 eP P 17 17 02.3 -0.5
ASAR **Alice Springs** 66.03 144 P P 17 17 03.4 -0.2
ASAR pmax pmax
comp=Z,2.0nm,0.4s
ASAR **Alice Springs** 66.03 144 P P 17 17 03.4 -0.2
comp=Z,1.5nm,0.4s,mb4.4,baz=325,slow=6.3,SNR=98
FELD **Feldberg im Sc** 66.26 313 eP P 17 17 04.3 -0.5
KMBO **Kilima Mbogo** 66.32 252 eP P 17 17 05.8 +0.1
comp=Z,7.2nm,0.9s,mb4.7
KMBO **Kilima Mbogo** 66.32 252 eP P 17 17 05.8 +0.1
KMBO pmax pmax
comp=Z,7.0nm,0.9s
KMBO **Kilima Mbogo** 66.32 252 P P 17 17 06.3 +0.7
comp=Z,5.9nm,0.8s,mb4.7,baz=45,slow=11,SNR=27
CDF **Champ du Feu** 66.49 313⇑iP P 17 17 06.2 -0.1
comp=Z,17nm,0.8s,mb4.8
CDF **Champ du Feu** 66.49 313⇑iP P 17 17 06.2 -0.1
comp=Z,8.4nm,0.8s,mb4.8
CDF **Champ du Feu** 66.49 313⇑iP P 17 17 06.2 -0.1
CDF pmax pmax
comp=Z,8.0nm,0.8s,mb4.8
VAI **Varese** 66.58 310 P P 17 17 06.1 -0.8
comp=Z,16nm,0.7s,mb5.2
VAI **Varese** 66.58 310 P P 17 17 06.1 -0.8
VAI pmax pmax
comp=Z,16nm,0.7s,mb5.2
ECH **Echery** 66.64 313 eP P 17 17 06.8 -0.4
WLF **Walferdange** 66.66 315 eP P 17 17 07.7 +0.3
comp=Z,32nm,1.1s,mb5.3
WLF **Walferdange** 66.66 315 eP P 17 17 07.7 +0.4
WLF pmax pmax
comp=Z,32nm,1.1s,mb5.3
WLF **Walferdange** 66.66 315 P P 17 17 08.2 +0.8
comp=Z,20nm,1.2s,mb5.0
WLF **Walferdange** 66.66 315 eP P 17 17 07.8 +0.5
comp=Z,30nm,1.0s,mb5.3
MOF **Molkenrain** 66.80 313 eP P 17 17 08.1 -0.2
BCLA **Clavier** 66.85 316 P P 17 17 08.9 +0.3
HINF **Hinteralfeld** 66.99 313⇑iP P 17 17 09.2 -0.3
comp=Z,20nm,1.0s,mb4.8
HINF **Hinteralfeld** 66.99 313⇑iP P 17 17 09.2 -0.3
comp=Z,10nm,1.0s,mb4.8
HINF **Hinteralfeld** 66.99 313⇑iP P 17 17 09.2 -0.3
HINF pmax pmax
comp=Z,10.0nm,1.0s,mb4.8
LOMF **Lomont** 67.20 312 eP P 17 17 10.4 -0.4
HAU **Haudompre** 67.22 313 eP P 17 17 10.7 -0.3
comp=Z,11nm,0.8s,mb4.6
HAU eMLR MLR
comp=Z,77nm,17.0s,MS3.7
HAU **Haudompre** 67.22 313 eP P 17 17 10.7 -0.3
comp=Z,5.3nm,0.8s,mb4.6
HAU LR LR
comp=Z,80nm,17.0s,MS4.0
HAU **Haudompre** 67.22 313 eP P 17 17 10.7 -0.3
HAU pmax pmax
comp=Z,5.0nm,0.8s,mb4.6
HAU MLR MLR
comp=Z,80nm,17.0s,MS4.0
IMA2 **Indian Mountai** 67.24 25 eP P 17 17 10.6 -0.1
GIVF **Givet** 67.27 316 eP P 17 17 11.3 +0.1
DOU **Dourbes** 67.40 316 P P 17 17 12.5 +0.4
FIN **Finale Ligure** 67.62 309 P P 17 17 12.6 -1.0
BAIF **Baives** 67.64 316 eP P 17 17 13.0 -0.6
PGF **Pioggiola** 67.80 307⇑iP P 17 17 14.9 +0.2
comp=Z,27nm,0.8s,mb5.0
PGF **Pioggiola** 67.80 307⇑iP P 17 17 14.9 +0.2
comp=Z,13nm,0.8s,mb5.0
PGF **Pioggiola** 67.80 307⇑iP P 17 17 14.9 +0.2
PGF pmax pmax
comp=Z,13nm,0.8s,mb5.0
MEZF **Maizieres J'vi** 67.80 314 eP P 17 17 14.7 +0.1
IMI **Imperia** 67.96 309 P P 17 17 15.7 0.0
CABF **La Chapelle** 67.97 312 eP P 17 17 15.4 -0.3
comp=Z,6.9nm,0.7s,mb4.5
CABF **La Chapelle** 67.97 312 eP P 17 17 15.4 -0.3
comp=Z,3.5nm,0.7s,mb4.5
CABF **La Chapelle** 67.97 312 eP P 17 17 15.4 -0.3
CABF pmax pmax
comp=Z,3.0nm,0.7s,mb4.4
LPG **La Plagne** 68.02 311⇑iP P 17 17 16.8 +0.8
comp=Z,55nm,0.8s,mb5.4
LPG **La Plagne** 68.02 311⇑iP P 17 17 16.8 +0.8
comp=Z,28nm,0.8s,mb5.3
LPG **La Plagne** 68.02 311⇑iP P 17 17 16.8 +0.8
LPG pmax pmax
comp=Z,28nm,0.8s,mb5.3
LPL **La Plagne** 68.02 311⇑iP P 17 17 16.7 +0.6
comp=Z,51nm,0.8s,mb5.3
LPL **La Plagne** 68.02 311⇑iP P 17 17 16.7 +0.6
comp=Z,26nm,0.8s,mb5.3
LPL **La Plagne** 68.02 311⇑iP P 17 17 16.7 +0.6
LPL pmax pmax
comp=Z,26nm,0.8s,mb5.3
SAOF **Saorge** 68.14 309 eP P 17 17 17.0 +0.2
AUTN **L'Aution** 68.22 309 eP P 17 17 17.5 +0.2
BNI **Bardonecchia** 68.26 310 eP P 17 17 17.4 -0.2
comp=Z,9.4nm,0.7s,mb4.9
BNI **Bardonecchia** 68.26 310 eP P 17 17 17.4 -0.1
BNI pmax pmax
comp=Z,9.0nm,0.7s,mb4.9
SBF **Sospel** 68.27 309⇑iP P 17 17 17.6 -0.1
comp=Z,41nm,0.8s,mb5.2
SBF **Sospel** 68.27 309⇑iP P 17 17 17.6 -0.1
comp=Z,20nm,0.8s,mb5.2
SBF **Sospel** 68.27 309⇑iP P 17 17 17.6 -0.1
SBF pmax pmax
comp=Z,21nm,0.8s,mb5.2
TOUF **Mont Tournerai** 68.33 309 eP P 17 17 18.3 +0.3
MBDF **Montbardon** 68.33 310⇑iP P 17 17 17.4 -0.6
comp=Z,18nm,0.7s,mb4.9
MBDF **Montbardon** 68.33 310⇑iP P 17 17 17.4 -0.6
comp=Z,9.0nm,0.7s,mb4.9
MBDF **Montbardon** 68.33 310⇑iP P 17 17 17.4 -0.6
MBDF pmax pmax
comp=Z,9.0nm,0.7s,mb4.9
ORIF **Oris-en-Rattie** 68.83 310⇑iP P 17 17 20.9 -0.2
comp=Z,17nm,0.7s,mb4.8
ORIF eMLR MLR
comp=Z,97nm,18.2s,MS3.8
ORIF **Oris-en-Rattie** 68.83 310⇑iP P 17 17 20.9 -0.2
comp=Z,8.6nm,0.7s,mb4.8
ORIF **Oris-en-Rattie** 68.83 310⇑iP P 17 17 20.9 -0.2
ORIF pmax pmax
comp=Z,9.0nm,0.7s,mb4.8
FRF **La Foret Royal** 68.92 309⇑iP P 17 17 21.3 -0.4
comp=Z,12nm,0.8s,mb4.6
FRF **La Foret Royal** 68.92 309⇑iP P 17 17 21.3 -0.4
comp=Z,6.0nm,0.8s,mb4.6
FRF **La Foret Royal** 68.92 309⇑iP P 17 17 21.3 -0.4
FRF pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
LOR **Lormes** 69.06 313⇑iP P 17 17 21.8 -0.7
comp=Z,17nm,1.0s,mb4.6
LOR eMLR MLR
comp=Z,62nm,18.2s,MS3.6
LOR **Lormes** 69.06 313⇑iP P 17 17 21.8 -0.7
comp=Z,8.4nm,1.0s,mb4.6
LOR LR LR
comp=Z,60nm,18.3s,MS3.9
LOR **Lormes** 69.06 313⇑iP P 17 17 21.8 -0.7
LOR pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
LOR MLR MLR
comp=Z,60nm,18.3s,MS3.9
LMR **La Mourre** 69.11 309⇑iP P 17 17 22.7 -0.2
comp=Z,8.5nm,0.7s,mb4.5
LMR **La Mourre** 69.11 309⇑iP P 17 17 22.7 -0.2
comp=Z,4.3nm,0.6s,mb4.6
LMR **La Mourre** 69.11 309⇑iP P 17 17 22.7 -0.2
LMR pmax pmax
comp=Z,4.0nm,0.6s,mb4.5
TAVF **Tavernes** 69.28 309 eP P 17 17 23.8 -0.1
SMF **Signal de Mont** 69.35 313⇑iP P 17 17 24.0 -0.3
comp=Z,44nm,0.9s,mb5.1
SMF **Signal de Mont** 69.35 313⇑iP P 17 17 24.0 -0.3
comp=Z,22nm,0.9s,mb5.1
SMF **Signal de Mont** 69.35 313⇑iP P 17 17 24.0 -0.3
SMF pmax pmax
comp=Z,22nm,0.9s,mb5.1
SSF **Saint Saulge** 69.37 313⇑iP P 17 17 24.0 -0.4
comp=Z,16nm,0.9s,mb4.6
SSF **Saint Saulge** 69.37 313⇑iP P 17 17 24.0 -0.4
comp=Z,8.1nm,0.9s,mb4.7
SSF **Saint Saulge** 69.37 313⇑iP P 17 17 24.0 -0.4
SSF pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
SMRF **Simiane la Rot** 69.44 310 eP P 17 17 25.1 +0.2
comp=Z,4.4nm,0.6s,mb4.2
SMRF **Simiane la Rot** 69.44 310 eP P 17 17 25.1 +0.2
comp=Z,4.4nm,0.6s,mb4.6
PUYF **Puyloubier** 69.55 309 eP P 17 17 25.6 0.0
AVF **Avril sur Loir** 69.58 313⇑iP P 17 17 25.5 -0.2
comp=Z,39nm,0.8s,mb5.1
AVF **Avril sur Loir** 69.58 313⇑iP P 17 17 25.5 -0.2
comp=Z,20nm,0.8s,mb5.1
AVF **Avril sur Loir** 69.58 313⇑iP P 17 17 25.5 -0.2
AVF pmax pmax
comp=Z,19nm,0.8s,mb5.1
VIVF **Saint-Julien-l** 69.62 311⇑iP P 17 17 25.9 -0.1
comp=Z,21nm,1.0s,mb4.8
VIVF **Saint-Julien-l** 69.62 311⇑iP P 17 17 25.9 -0.1
comp=Z,11nm,1.0s,mb4.7
VIVF **Saint-Julien-l** 69.62 311⇑iP P 17 17 25.9 -0.1
VIVF pmax pmax
comp=Z,11nm,1.0s,mb4.7
PRAF **Pradon** 69.77 310 eP P 17 17 27.2 +0.2
PLDF **La Plantade** 69.78 312 eP P 17 17 27.0 0.0
HYF **Humbligny** 69.80 314 eP P 17 17 27.3 +0.2
BGF **Bois d'Agland** 70.00 313⇑iP P 17 17 28.0 -0.3
comp=Z,9.0nm,0.6s,mb4.6
BGF **Bois d'Agland** 70.00 313⇑iP P 17 17 28.0 -0.3
comp=Z,4.5nm,0.6s,mb4.6
BGF **Bois d'Agland** 70.00 313⇑iP P 17 17 28.0 -0.3
BGF pmax pmax
comp=Z,5.0nm,0.6s,mb4.6
AGO **Saint Agoulin** 70.05 312 eP P 17 17 28.8 +0.1
PYM **Petit Puy Mans** 70.27 312 eP P 17 17 30.1 +0.1
LBL **Lubilhac** 70.35 312 eP P 17 17 30.7 +0.2
LASF **Ste Croix** 70.50 310⇑iP P 17 17 31.6 +0.2
comp=Z,32nm,1.0s,mb4.9
TCF **Toulx Ste Croi** 70.51 313⇑iP P 17 17 31.6 +0.1
comp=Z,46nm,0.9s,mb5.1
TCF **Toulx Ste Croi** 70.51 313⇑iP P 17 17 31.6 +0.1
comp=Z,23nm,0.9s,mb5.1
TCF **Toulx Ste Croi** 70.51 313⇑iP P 17 17 31.6 +0.1
TCF pmax pmax
comp=Z,23nm,0.9s,mb5.1
KEST **Kesra** 70.54 300 P P 17 17 30.7 -1.1
comp=Z,1.4nm,0.8s,mb4.0,baz=73,slow=11,SNR=4.1
LDF **La Druitiere** 70.83 316⇑iP P 17 17 33.0 -0.4
comp=Z,13nm,0.8s,mb4.7
LDF **La Druitiere** 70.83 316⇑iP P 17 17 33.0 -0.4
comp=Z,6.7nm,0.8s,mb4.6
LDF **La Druitiere** 70.83 316⇑iP P 17 17 33.0 -0.4
LDF pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
FLN **La Foliniere** 70.96 316 eP P 17 17 33.9 -0.3
comp=Z,4.7nm,0.5s,mb4.4
FLN eMLR MLR
comp=Z,74nm,21.5s,MS3.6
FLN **La Foliniere** 70.96 316 eP P 17 17 33.9 -0.3
comp=Z,2.3nm,0.5s,mb4.4
FLN LR LR
comp=Z,70nm,21.5s,MS3.9
FLN **La Foliniere** 70.96 316 eP P 17 17 33.9 -0.3
FLN pmax pmax
comp=Z,2.0nm,0.5s,mb4.3
FLN MLR MLR
comp=Z,70nm,21.5s,MS3.9
CAF **Calviac** 71.24 312⇑iP P 17 17 36.4 +0.5
comp=Z,19nm,0.9s,mb4.7
CAF **Calviac** 71.24 312⇑iP P 17 17 36.4 +0.5
comp=Z,9.5nm,0.9s,mb4.7
CAF **Calviac** 71.24 312⇑iP P 17 17 36.4 +0.5
CAF pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
GRR **Gorron** 71.36 316⇑iP P 17 17 36.3 -0.3
comp=Z,33nm,0.7s,mb5.1
GRR **Gorron** 71.36 316⇑iP P 17 17 36.3 -0.3
comp=Z,17nm,0.7s,mb5.1
GRR **Gorron** 71.36 316⇑iP P 17 17 36.3 -0.3
GRR pmax pmax
comp=Z,17nm,0.7s,mb5.1
RJF **Les Rejaudoux** 71.40 312⇑iP P 17 17 37.5 +0.6
comp=Z,32nm,1.0s,mb4.9
RJF eMLR MLR
comp=Z,88nm,22.8s,MS3.7
RJF **Les Rejaudoux** 71.40 312⇑iP P 17 17 37.5 +0.6
comp=Z,16nm,1.0s,mb4.9
RJF LR LR
comp=Z,90nm,22.8s,MS4.0
RJF **Les Rejaudoux** 71.40 312⇑iP P 17 17 37.5 +0.6
RJF pmax pmax
comp=Z,16nm,1.0s,mb4.9
RJF MLR MLR
comp=Z,90nm,22.8s,MS4.0
SML **Sawmill** 71.55 27 eP P 17 17 37.3 -0.2
MFF **Saint Martin d** 71.80 314 eP P 17 17 39.1 -0.2
comp=Z,39nm,1.2s,mb4.9
MFF **Saint Martin d** 71.80 314 eP P 17 17 39.1 -0.2
comp=Z,20nm,1.2s,mb4.9
MFF **Saint Martin d** 71.80 314 eP P 17 17 39.1 -0.2
MFF pmax pmax
comp=Z,19nm,1.2s,mb4.9
MTLF **Montolieu** 71.89 310⇑iP P 17 17 39.9 0.0
comp=Z,7.2nm,0.6s,mb4.5
MTLF **Montolieu** 71.89 310⇑iP P 17 17 39.9 0.0
comp=Z,3.6nm,0.6s,mb4.5
MTLF **Montolieu** 71.89 310⇑iP P 17 17 39.9 0.0
MTLF pmax pmax
comp=Z,4.0nm,0.6s,mb4.5
INK **Inuvik** 72.02 18 eP P 17 17 39.4 -0.8
comp=Z,174nm,1.0s,mb5.9
INK **Inuvik** 72.02 18 eP P 17 17 39.4 -0.8
INK pmax pmax
comp=Z,174nm,1.0s
LFF **La Frestale** 72.06 312⇑iP P 17 17 41.3 +0.4
comp=Z,20nm,0.7s,mb4.8
LFF **La Frestale** 72.06 312⇑iP P 17 17 41.3 +0.4
comp=Z,9.8nm,0.7s,mb4.8
LFF **La Frestale** 72.06 312⇑iP P 17 17 41.3 +0.4
LFF pmax pmax
comp=Z,10.0nm,0.7s,mb4.8
RES **Resolute Bay** 72.22 4 eP P 17 17 40.6 -0.8
comp=Z,78nm,0.9s,mb5.6
RES **Resolute Bay** 72.22 4 eP P 17 17 40.6 -0.7
RES pmax pmax
comp=Z,78nm,0.9s,mb5.6
SGMF **Saint Gilles** 72.42 316⇑iP P 17 17 43.1 +0.2
comp=Z,17nm,0.6s,mb4.8
SGMF **Saint Gilles** 72.42 316⇑iP P 17 17 43.1 +0.2
comp=Z,8.4nm,0.6s,mb4.8
SGMF **Saint Gilles** 72.42 316⇑iP P 17 17 43.1 +0.2
SGMF pmax pmax
comp=Z,8.0nm,0.6s,mb4.8
ROSF **Rostrenen** 72.79 317⇑iP P 17 17 45.3 +0.2
comp=Z,10.0nm,0.7s,mb4.6
ROSF **Rostrenen** 72.79 317⇑iP P 17 17 45.3 +0.2
comp=Z,5.0nm,0.7s,mb4.5
ROSF **Rostrenen** 72.79 317⇑iP P 17 17 45.3 +0.2
ROSF pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
QUIF **Quistinic** 72.94 316 eP P 17 17 45.9 -0.1
EMIR **Miracle** 73.03 309 P P 17 17 46.6 0.0
comp=Z,16nm,0.7s,mb5.0
EPF **Esparros** 73.24 311 eP P 17 17 48.9 +1.0
comp=Z,7.4nm,0.8s,mb4.4
EPF **Esparros** 73.24 311 eP P 17 17 48.9 +1.0
comp=Z,3.7nm,0.8s,mb4.4
EPF **Esparros** 73.24 311 eP P 17 17 48.9 +1.0
EPF pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
EBIE **Bielsa** 73.54 310 P P 17 17 50.4 +0.7
comp=Z,4.1nm,0.6s,mb4.5
SJPF **Ste Jean** 74.19 311⇑iP P 17 17 54.2 +0.7
comp=Z,12nm,0.8s,mb4.6
SJPF **Ste Jean** 74.19 311⇑iP P 17 17 54.2 +0.7
comp=Z,6.1nm,0.8s,mb4.6
SJPF **Ste Jean** 74.19 311⇑iP P 17 17 54.2 +0.7
SJPF pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
EMUR **La Murta** 76.92 307 P P 17 18 09.9 +0.7
comp=Z,2.2nm,0.4s,mb4.4
GUD **Guadarrama** 77.35 310 P P 17 18 12.5 +0.8
comp=Z,7.4nm,0.6s,mb4.8
GUD **Guadarrama** 77.35 310 P P 17 18 12.5 +0.9
GUD pmax pmax
comp=Z,7.0nm,0.6s,mb4.8
EPON **Pontenova** 77.75 314 P P 17 18 14.1 +0.3
comp=Z,4.2nm,0.5s,mb4.6
ESDC **Sonseca Array** 77.75 309 P P 17 18 13.7 -0.1
comp=Z,3.0nm,0.8s,mb4.3,baz=47,slow=5.8,SNR=9.7
ESLA **Sonseca Array** 77.75 309 eP P 17 18 12.9 -1.0
comp=Z,1.0nm,0.9s,mb3.8
EQES **Quesada** 78.17 307 P P 17 18 15.0 -1.3
comp=Z,6.7nm,0.8s,mb4.6
EBER **Berja** 78.53 307 P P 17 18 19.1 +0.8
comp=Z,11nm,0.9s,mb4.8
MVO **Moncorvo** 78.88 312 eP P 17 18 20.7 +0.6
comp=Z,22nm,2.3s,mb4.7
EADA **Adamuz** 78.97 308 P P 17 18 20.7 0.0
ERON **Agron** 79.08 307 P P 17 18 20.7 -0.6
comp=Z,1.5nm,0.3s,mb4.4
ELUQ **Luque** 79.10 308 P P 17 18 21.5 +0.2
comp=Z,13nm,0.7s,mb5.0
ELUQ **Luque** 79.10 308 P P 17 18 21.5 +0.1
ELUQ pmax pmax
comp=Z,13nm,0.7s,mb5.0
ECAB **El Cabril** 79.57 309 P P 17 18 24.3 +0.3
comp=Z,4.1nm,0.7s,mb4.5
MTE **Manteigas** 79.64 312 eP P 17 18 25.0 +0.7
EBAD **Badajoz** 80.23 310 P P 17 18 27.9 +0.4
comp=Z,3.6nm,0.6s,mb4.5
EMIN **Mina Concepcio** 80.57 309 P P 17 18 29.8 +0.5
comp=Z,6.6nm,0.9s,mb4.6
PBAR **Barrancos** 80.58 309 eP P 17 18 29.4 0.0
EVO **Evora** 81.00 310 eP P 17 18 32.0 +0.4
PBEJ **Beja** 81.20 310 eP P 17 18 32.9 +0.2
YKA **Yellowknife Ar** 81.29 15 P P 17 18 31.9 -0.8
YKA **Yellowknife Ar** 81.29 15 P P 17 18 31.9 -0.8
YKA pmax pmax
comp=Z,1.0nm,0.8s
YKA **Yellowknife Ar** 81.29 15 P P 17 18 31.9 -0.8
comp=Z,0.7nm,0.8s,mb3.6,baz=332,slow=5.4,SNR=9.9
PVAQ **Vaqueiros** 81.46 309 eP P 17 18 34.6 +0.5
LSZ **Lusaka** 81.97 246 eP P 17 18 37.1 +0.1
comp=Z,4.5nm,0.6s,mb4.6
LSZ **Lusaka** 81.97 246 eP P 17 18 37.1 +0.1
LSZ pmax pmax
comp=Z,4.0nm,0.6s,mb4.5
FCC **Fort Churchill** 88.01 6 eP P 17 19 04.4 -2.3
comp=Z,2.9nm,0.9s,mb4.5
FCC **Fort Churchill** 88.01 6 eP P 17 19 04.4 -2.3
FCC pmax pmax
comp=Z,3.0nm,0.9s,mb4.5
LBTB **Lobatse** 89.77 240 eP P 17 19 14.6 -0.9
comp=Z,20nm,1.2s,mb5.3
LBTB **Lobatse** 89.77 240 eP P 17 19 14.6 -0.8
LBTB pmax pmax
comp=Z,20nm,1.2s,mb5.3
SCHQ **Schefferville** 91.50 351 P P 17 19 21.8 -1.3
comp=Z,3.0nm,0.9s,mb4.6,baz=57,slow=3.7,SNR=4.4
BDFB **Brasilia** 144.62 291 PKIKP PKPdf 17 25 53.0 -1.1
BDFB pmax pmax
comp=Z,4.0nm,0.6s
BDFB **Brasilia** 144.62 291 PKP PKPdf 17 25 53.0 -1.1
comp=Z,4.0nm,0.6s,baz=87,slow=4.6,SNR=10
PLCA **Paso Flores** 167.96 227 PKP2 PKPab 17 27 30.0 -0.5
PLCA pmax pmax
comp=Z,1.0nm,0.8s
PLCA **Paso Flores** 167.96 227 PKPab PKPab 17 27 30.0 -0.6
comp=Z,1.4nm,0.8s,baz=123,slow=1.8,SNR=3.8

*ISCJB **28** 17:09:12.7±0.4,46.16N±002×073W±003,h3km±2km, Error ellipse: s-maj=3.4km s-min=2.2km az=147.1*
*CSEM **28** 17:09:16.8±0.1,46.16N×075W,h5km,ML2.8/22, Error ellipse: s-maj=1.0km s-min=0.6km az=53.0*
*LDG **28** 17:09:16.7±0.1,46.16N×076W,h3km,Md3.0/1,Ml2.8/23,*

Error ellipse: s-maj=1.6km s-min=1.1km az=58.0
*STR **28** 17:09:18.7±1.5,4624N×060W,h5km,Ml2.7,Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
*NEIC **28** 17:09:18.7,4624N×060W,h5km,ML2.8(LDG), ML2.7(STR),After STR.*
ISC 28 17:09:15.3±0.3,4616N±001×074W±002,h13km±2km,n70, σ1°06/193,France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHIF	**Chize**	**0.23**	**97**	Pg	**Pg**	**17 09 22.3**	**+2.1**
CHIF				Sg	**Sg**	**17 09 25.5**	**+1.9**
MFF	**Saint Martin d**	**0.60**	**43**	*e*Pg	**Pg**	**17 09 29.5**	**+2.5**
MFF				*e*Sg	**Sg**	**17 09 36.6**	**+1.6**
	36nm,0.2s,SNR=1.0						
MFF				*e*Sn	**Sg**	**17 09 40.3**	**+5.3**
	SNR=1.0						
MFF	**Saint Martin d**	**0.60**	**43**	*e*Pg	**Pg**	**17 09 29.5**	**+2.5**
MFF				*e*Sg	**Sg**	**17 09 36.6**	**+1.6**
	18nm,0.2s,SNR=1.0						
MFF				*e*Sn	**Sg**	**17 09 40.3**	**+5.3**
	SNR=1.0						
LFF	**La Frestale**	**1.60**	**139**	*e*Pg	**Pg**	**17 09 46.9**	**+0.9**
	SNR=1.0						
LFF				*e*Sn	**Sn**	**17 10 04.1**	**+0.3**
LFF				*e*Sg	**Sg**	**17 10 07.9**	**+1.1**
	16nm,0.2s						
LFF	**La Frestale**	**1.60**	**139**	*e*Pn	**Pn**	**17 09 44.4**	**+1.1**
LFF				*e*Pg	**Pg**	**17 09 46.9**	**+0.9**
LFF				*e*Sn	**Sn**	**17 10 04.1**	**+0.3**
LFF				*e*Sg	**Sg**	**17 10 07.9**	**+1.1**
LFF	**La Frestale**	**1.60**	**139**	*e*Pg	**Pg**	**17 09 46.9**	**+0.9**
	SNR=1.0						
LFF				*e*Sn	**Sn**	**17 10 04.1**	**+0.3**
LFF				*e*Sg	**Sg**	**17 10 07.9**	**+1.1**
	8.2nm,0.2s						
RJF	**Les Rejaudoux**	**1.79**	**118**	*e*Pg	**Pg**	**17 09 50.5**	**+0.8**
	SNR=1.0						
RJF				*e*Sn	**Sn**	**17 10 08.7**	**+0.1**
	SNR=1.0						
RJF				*e*Sg	**Sg**	**17 10 12.8**	**-0.2**
	21nm,0.2s						
RJF	**Les Rejaudoux**	**1.79**	**118**	*e*Pn	**Pn**	**17 09 47.0**	**+1.1**
RJF				*e*Pg	**Pg**	**17 09 50.5**	**+0.8**
RJF				*e*Sn	**Sn**	**17 10 08.7**	**+0.1**
RJF				*e*Sg	**Sg**	**17 10 12.8**	**-0.2**
RJF	**Les Rejaudoux**	**1.79**	**118**	*e*Pg	**Pg**	**17 09 50.5**	**+0.8**
	SNR=1.0						
RJF				*e*Sn	**Sn**	**17 10 08.7**	**+0.1**
	SNR=1.0						
RJF				*e*Sg	**Sg**	**17 10 12.8**	**-0.2**
	10nm,0.2s						
TCF	**Toulx Ste Croi**	**2.05**	**85**	*e*Pg	**Pg**	**17 09 55.1**	**+0.5**
	SNR=1.0						
TCF				*e*Sn	**Sn**	**17 10 14.9**	**0.0**
TCF				*e*Sg	**Sg**	**17 10 21.6**	**+0.4**
	13nm,0.3s,SNR=1.0						
TCF	**Toulx Ste Croi**	**2.05**	**85**	*e*Pn	**Pn**	**17 09 51.8**	**+2.4**
TCF				*e*Pg	**Pg**	**17 09 55.1**	**+0.5**
TCF				*e*Sn	**Sn**	**17 10 14.9**	**0.0**
TCF				*e*Sg	**Sg**	**17 10 21.6**	**+0.4**
TCF	**Toulx Ste Croi**	**2.05**	**85**	*e*Pg	**Pg**	**17 09 55.1**	**+0.5**
	SNR=1.0						
TCF				*e*Sn	**Sn**	**17 10 14.9**	**0.0**
TCF				*e*Sg	**Sg**	**17 10 21.6**	**+0.4**
	6.4nm,0.3s,SNR=1.0						
GRR	**Gorron**	**2.23**	**358**	*e*Pg	**Pg**	**17 09 58.3**	**+0.3**
	SNR=1.0						
GRR				*e*Sn	**Sn**	**17 10 19.0**	**-0.3**
GRR				*e*Sg	**Sg**	**17 10 27.2**	**+0.2**
	9.3nm,0.2s,SNR=1.0						
GRR	**Gorron**	**2.23**	**358**	*e*Pn	**Pn**	**17 09 52.7**	**+0.8**
GRR				*e*Pg	**Pg**	**17 09 58.3**	**+0.3**
GRR				*e*Sn	**Sn**	**17 10 19.0**	**-0.3**
GRR				*e*Sg	**Sg**	**17 10 27.2**	**+0.2**
GRR	**Gorron**	**2.23**	**358**	*e*Pg	**Pg**	**17 09 58.3**	**+0.3**
	SNR=1.0						
GRR				*e*Sn	**Sn**	**17 10 19.0**	**-0.3**
GRR				*e*Sg	**Sg**	**17 10 27.2**	**+0.2**
	4.7nm,0.2s,SNR=1.0						
CAF	**Calviac**	**2.32**	**121**	*e*Pg	**Pg**	**17 10 00.3**	**+0.5**
	SNR=1.0						
CAF				*e*Sn	**Sn**	**17 10 21.6**	**0.0**
	SNR=1.0						
CAF				*e*Sg	**Sg**	**17 10 29.7**	**-0.2**
	16nm,0.3s,SNR=1.0						
CAF	**Calviac**	**2.32**	**121**	*e*Pn	**Pn**	**17 09 55.0**	**+1.8**
CAF				*e*Pg	**Pg**	**17 10 00.3**	**+0.5**
CAF				*e*Sn	**Sn**	**17 10 21.6**	**0.0**
CAF				*e*Sg	**Sg**	**17 10 29.7**	**-0.2**
CAF	**Calviac**	**2.32**	**121**	*e*Pg	**Pg**	**17 10 00.3**	**+0.5**
	SNR=1.0						
CAF				*e*Sn	**Sn**	**17 10 21.6**	**0.0**
	SNR=1.0						
CAF				*e*Sg	**Sg**	**17 10 29.7**	**-0.2**
	8.2nm,0.3s,SNR=1.0						
QUIF	**Quistinic**	**2.42**	**317**	*e*Pg	**Pg**	**17 10 01.1**	**-0.5**
	SNR=1.0						
QUIF				*e*Sn	**Sn**	**17 10 23.4**	**-0.5**
QUIF				*e*Sg	**Sg**	**17 10 33.2**	**+0.2**
	8.5nm,0.2s,SNR=1.0						
QUIF	**Quistinic**	**2.42**	**317**	*e*Pg	**Pg**	**17 10 01.1**	**-0.5**
	SNR=1.0						
QUIF				*e*Sn	**Sn**	**17 10 23.4**	**-0.5**
QUIF				*e*Sg	**Sg**	**17 10 33.2**	**+0.2**
	4.2nm,0.2s,SNR=1.0						
SGMF	**Saint Gilles**	**2.44**	**330**	*e*Pg	**Pg**	**17 10 01.0**	**-1.0**
	SNR=1.0						
SGMF				*e*Sg	**Sg**	**17 10 32.7**	**-0.8**
	4.0nm,0.3s,SNR=1.0						
SGMF	**Saint Gilles**	**2.44**	**330**	*e*Pg	**Pg**	**17 10 01.0**	**-1.0**
	SNR=1.0						
SGMF				*e*Sg	**Sg**	**17 10 32.7**	**-0.8**
	2.0nm,0.3s,SNR=1.0						
LDF	**La Druitiere**	**2.47**	**10**	*e*Pg	**Pg**	**17 10 02.8**	**+0.2**
	SNR=1.0						
LDF				*e*Sn	**Sn**	**17 10 24.6**	**-0.6**
	SNR=1.0						
LDF				*e*Sg	**Sg**	**17 10 34.6**	**0.0**
	6.6nm,0.2s,SNR=1.0						
LDF	**La Druitiere**	**2.47**	**10**	*e*Pn	**Pn**	**17 09 55.9**	**+0.7**
LDF				*e*Pg	**Pg**	**17 10 02.8**	**+0.2**
LDF				*e*Sn	**Sn**	**17 10 24.6**	**-0.6**
LDF				*e*Sg	**Sg**	**17 10 34.6**	**0.0**
LDF	**La Druitiere**	**2.47**	**10**	*e*Pg	**Pg**	**17 10 02.8**	**+0.2**
	SNR=1.0						
LDF				*e*Sn	**Sn**	**17 10 24.6**	**-0.6**
	SNR=1.0						
LDF				*e*Sg	**Sg**	**17 10 34.6**	**0.0**
	3.3nm,0.2s,SNR=1.0						
BGF	**Bois d'Agland**	**2.51**	**80**	*e*P	**Pn**	**17 09 59.2**	**+3.4**
	SNR=1.0						
BGF	**Bois d'Agland**	**2.51**	**80**	*e*Pg	**Pg**	**17 10 03.5**	**+0.1**
	SNR=1.0						
BGF				*e*Sn	**Sn**	**17 10 26.2**	**-0.1**
BGF				*e*Sg	**Sg**	**17 10 36.1**	**+0.1**
	43nm,0.3s,SNR=1.0						
BGF	**Bois d'Agland**	**2.51**	**80**	*e*Pn	**Pn**	**17 09 57.7**	**+1.9**
BGF				*e*P		17 09 59.2	
BGF				*e*Pg	**Pg**	**17 10 03.5**	**+0.1**
BGF				*e*Sn	**Sn**	**17 10 26.2**	**-0.1**
BGF				*e*Sg	**Sg**	**17 10 36.1**	**+0.1**
BGF	**Bois d'Agland**	**2.51**	**80**	*e*P	**Pn**	**17 09 59.2**	**+3.4**
	SNR=1.0						
BGF	**Bois d'Agland**	**2.51**	**80**	*e*Pg	**Pg**	**17 10 03.5**	**+0.1**
	SNR=1.0						
BGF				*e*Sn	**Sn**	**17 10 26.2**	**-0.1**
BGF				*e*Sg	**Sg**	**17 10 36.1**	**+0.1**
	22nm,0.3s,SNR=1.0						
FLN	**La Foliniere**	**2.61**	**4**	*e*Pn	**Pn**	**17 09 57.9**	**+0.8**
	baz=192						
FLN	**La Foliniere**	**2.61**	**4**	*e*Pg	**Pg**	**17 10 04.3**	**-1.0**
	SNR=1.0						
FLN				*e*Sn	**Sn**	**17 10 28.4**	**-0.3**
	SNR=1.0						
FLN				*e*Sg	**Sg**	**17 10 38.2**	**-0.9**
	11nm,0.2s,SNR=1.0						
FLN	**La Foliniere**	**2.61**	**4**	*e*Pn	**Pn**	**17 09 57.9**	**+0.8**
FLN				*e*Pg	**Pg**	**17 10 04.3**	**-1.0**
FLN				*e*Sn	**Sn**	**17 10 28.4**	**-0.3**
FLN				*e*Sg	**Sg**	**17 10 38.2**	**-0.9**
FLN	**La Foliniere**	**2.61**	**4**	*e*Pg	**Pg**	**17 10 04.3**	**-1.0**
	SNR=1.0						
FLN				*e*Sn	**Sn**	**17 10 28.4**	**-0.3**
	SNR=1.0						
FLN				*e*Sg	**Sg**	**17 10 38.2**	**-0.9**
	5.6nm,0.2s,SNR=1.0						
PYM	**Petit Puy Mans**	**2.64**	**98**	Pn	**Pn**	**17 09 59.9**	**+2.3**
AGO	**Saint Agoulin**	**2.69**	**91**	Pn	**Pn**	**17 09 59.3**	**+1.0**
ROSF	**Rostrenen**	**2.78**	**322**	*e*Pg	**Pg**	**17 10 08.1**	**-0.4**
	SNR=1.0						
ROSF				*e*Sn	**Sn**	**17 10 31.9**	**-1.0**
ROSF				*e*Sg	**Sg**	**17 10 43.8**	**-0.7**
	4.1nm,0.3s,SNR=1.0						
ROSF	**Rostrenen**	**2.78**	**322**	*e*Pg	**Pg**	**17 10 08.1**	**-0.4**
	SNR=1.0						
ROSF				*e*Sn	**Sn**	**17 10 31.9**	**-1.0**
ROSF				*e*Sg	**Sg**	**17 10 43.8**	**-0.7**
	2.0nm,0.3s,SNR=1.0						
AVF	**Avril sur Loir**	**2.90**	**76**	*e*Pg	**Pg**	**17 10 10.6**	**-0.1**
	SNR=1.0						
AVF				*e*Sn	**Sn**	**17 10 35.1**	**-0.6**
AVF				*e*Sg	**Sg**	**17 10 48.1**	**-0.1**
	6.4nm,0.3s						
AVF	**Avril sur Loir**	**2.90**	**76**	*e*Pn	**Pn**	**17 10 02.7**	**+1.6**
AVF				*e*Pg	**Pg**	**17 10 10.6**	**-0.1**
AVF				*e*Sn	**Sn**	**17 10 35.1**	**-0.6**
AVF				*e*Sg	**Sg**	**17 10 48.1**	**-0.1**
AVF	**Avril sur Loir**	**2.90**	**76**	*e*Pg	**Pg**	**17 10 10.6**	**-0.1**
	SNR=1.0						
AVF				*e*Sn	**Sn**	**17 10 35.1**	**-0.6**
AVF				*e*Sg	**Sg**	**17 10 48.1**	**-0.1**
	3.2nm,0.3s						
LBL	**Lubilhac**	**2.94**	**107**	Pn	**Pn**	**17 10 03.9**	**+2.2**
SSF	**Saint Saulge**	**3.06**	**71**	*e*Pg	**Pg**	**17 10 13.5**	**-0.4**
	SNR=1.0						
SSF				*e*Sn	**Sn**	**17 10 38.7**	**-1.1**
	SNR=1.0						
SSF				*e*Sg	**Sg**	**17 10 52.4**	**-1.1**
	4.1nm,0.3s,SNR=1.0						
SSF	**Saint Saulge**	**3.06**	**71**	*e*Pn	**Pn**	**17 10 05.4**	**+2.1**
SSF				*e*Pg	**Pg**	**17 10 13.5**	**-0.4**
SSF				*e*Sn	**Sn**	**17 10 38.7**	**-1.1**
SSF				*e*Sg	**Sg**	**17 10 52.4**	**-1.1**
SSF	**Saint Saulge**	**3.06**	**71**	*e*Pg	**Pg**	**17 10 13.5**	**-0.4**
	SNR=1.0						
SSF				*e*Sn	**Sn**	**17 10 38.7**	**-1.1**
	SNR=1.0						
SSF				*e*Sg	**Sg**	**17 10 52.4**	**-1.1**
	2.0nm,0.3s,SNR=1.0						
SJPF	**Ste Jean**	**3.07**	**187**	*e*Pg	**Pg**	**17 10 13.8**	**-0.2**
SJPF				*e*Sn	**Sn**	**17 10 38.8**	**-1.2**
SJPF				*e*Sg	**Sg**	**17 10 52.7**	**-1.1**
	5.7nm,0.3s						
SJPF	**Ste Jean**	**3.07**	**187**	*e*Pg	**Pg**	**17 10 13.8**	**-0.2**
SJPF				*e*Sg	**Sg**	**17 10 52.7**	**-1.1**
	2.8nm,0.3s						
SMF	**Signal de Mont**	**3.20**	**80**	*e*Pg	**Pg**	**17 10 16.6**	**-0.1**
	SNR=1.0						
SMF				*e*Sn	**Sn**	**17 10 42.2**	**-1.1**
	SNR=1.0						
SMF				*e*Sg	**Sg**	**17 10 56.8**	**-1.4**
	5.3nm,0.3s,SNR=1.0						
SMF	**Signal de Mont**	**3.20**	**80**	*e*Pn	**Pn**	**17 10 06.8**	**+1.5**
SMF				*e*Pg	**Pg**	**17 10 16.6**	**-0.1**
SMF				*e*Sn	**Sn**	**17 10 42.2**	**-1.1**
SMF				*e*Sg	**Sg**	**17 10 56.8**	**-1.4**
SMF	**Signal de Mont**	**3.20**	**80**	*e*Pg	**Pg**	**17 10 16.6**	**-0.1**
	SNR=1.0						
SMF				*e*Sn	**Sn**	**17 10 42.2**	**-1.1**
	SNR=1.0						
SMF				*e*Sg	**Sg**	**17 10 56.8**	**-1.4**
	2.7nm,0.3s,SNR=1.0						
EPF	**Esparros**	**3.22**	**166**	*e*Pg	**Pg**	**17 10 16.7**	**-0.3**
	SNR=1.0						
EPF				*e*Sn	**Sn**	**17 10 41.2**	**-2.6**
	SNR=1.0						
EPF				*e*Sg	**Sg**	**17 10 58.3**	**-0.5**
	4.3nm,0.3s,SNR=1.0						
EPF	**Esparros**	**3.22**	**166**	*e*Pn	**Pn**	**17 10 06.1**	**+0.5**
EPF				*e*Pg	**Pg**	**17 10 16.7**	**-0.3**
EPF				*e*Sn	**Sn**	**17 10 41.2**	**-2.6**
EPF				*e*Sg	**Sg**	**17 10 58.3**	**-0.5**
EPF	**Esparros**	**3.22**	**166**	*e*Pg	**Pg**	**17 10 16.7**	**-0.3**
	SNR=1.0						
EPF				*e*Sg	**Sg**	**17 10 58.3**	**-0.5**
	2.2nm,0.3s,SNR=1.0						
LOR	**Lormes**	**3.35**	**69**	*e*Pn	**Pn**	**17 10 08.6**	**+1.3**
	baz=246						
LOR	**Lormes**	**3.35**	**69**	*e*Pg	**Pg**	**17 10 18.9**	**-0.5**
	baz=254,SNR=1.0						
LOR				*e*Sg	**Sg**	**17 11 01.5**	**-1.3**
	2.5nm,0.2s,baz=236,SNR=1.0						
LOR	**Lormes**	**3.35**	**69**	*e*Pn	**Pn**	**17 10 08.6**	**+1.3**
LOR				*e*Pg	**Pg**	**17 10 18.9**	**-0.5**
LOR				*e*Sg	**Sg**	**17 11 01.5**	**-1.3**
LOR	**Lormes**	**3.35**	**69**	*e*Pg	**Pg**	**17 10 18.9**	**-0.5**
	SNR=1.0						
LOR				*e*Sg	**Sg**	**17 11 01.5**	**-1.3**
	1.2nm,0.2s,SNR=1.0						
MTLF	**Montolieu**	**3.52**	**142**	*e*Pg	**Pg**	**17 10 21.7**	**-1.0**
	SNR=1.0						
MTLF				*e*Sn	**Sn**	**17 10 49.9**	**-1.2**
MTLF				*e*Sg	**Sg**	**17 11 07.1**	**-1.1**
	2.3nm,0.3s,SNR=1.0						
MTLF	**Montolieu**	**3.52**	**142**	*e*Pn	**Pn**	**17 10 09.8**	**+0.2**
MTLF				*e*Pg	**Pg**	**17 10 21.7**	**-1.0**
MTLF				*e*Sn	**Sn**	**17 10 49.9**	**-1.2**
MTLF				*e*Sg	**Sg**	**17 11 07.1**	**-1.1**
MTLF	**Montolieu**	**3.52**	**142**	*e*Pg	**Pg**	**17 10 21.7**	**-1.0**
	SNR=1.0						
MTLF				*e*Sn	**Sn**	**17 10 49.9**	**-1.2**
MTLF				*e*Sg	**Sg**	**17 11 07.1**	**-1.1**
	1.1nm,0.3s,SNR=1.0						
LASF	**Ste Croix**	**3.86**	**121**	*e*Pg	**Pg**	**17 10 28.2**	**-1.1**
	SNR=1.0						
LASF				*e*Sn	**Sn**	**17 10 58.2**	**-1.4**
	SNR=1.0						
LASF				*e*Sg	**Sg**	**17 11 18.3**	**-1.0**
	5.5nm,0.4s						
LASF	**Ste Croix**	**3.86**	**121**	*e*Pn	**Pn**	**17 10 15.1**	**+0.7**
LASF				*e*Pg	**Pg**	**17 10 28.2**	**-1.1**
LASF				*e*Sn	**Sn**	**17 10 58.2**	**-1.4**
LASF				*e*Sg	**Sg**	**17 11 18.3**	**-1.0**
LASF	**Ste Croix**	**3.86**	**121**	*e*Pg	**Pg**	**17 10 28.2**	**-1.1**
	SNR=1.0						
LASF				*e*Sn	**Sn**	**17 10 58.2**	**-1.4**
	SNR=1.0						
LASF				*e*Sg	**Sg**	**17 11 18.3**	**-1.0**
	2.8nm,0.4s						
VIVF	**Saint-Julien-l**	**4.02**	**107**	*e*Pn	**Pn**	**17 10 17.8**	**+1.3**
VIVF				*e*Sn	**Sn**	**17 11 02.2**	**-1.3**
VIVF				*e*Sg	**Sg**	**17 11 22.9**	**-1.4**
	4.2nm,0.3s						
VIVF	**Saint-Julien-l**	**4.02**	**107**	*e*Pn	**Pn**	**17 10 17.8**	**+1.3**
VIVF				*e*Sn	**Sn**	**17 11 02.2**	**-1.3**
VIVF				*e*Sg	**Sg**	**17 11 22.9**	**-1.4**
	2.1nm,0.3s						
CABF	**La Chapelle**	**4.74**	**82**	*e*Sg	**Sg**	**17 11 46.1**	**-1.4**
	4.4nm,0.6s						
CABF	**La Chapelle**	**4.74**	**82**	*e*Sg	**Sg**	**17 11 46.1**	**-1.4**
	2.2nm,0.6s						
SMRF	**Simiane la Rot**	**4.97**	**114**	*e*Pn	**Pn**	**17 10 29.6**	**-0.1**
	SNR=1.0						
HINF	**Hinteralfeld**	**5.45**	**70**	*e*Sg	**Sg**	**17 12 07.9**	**-2.3**
	0.9nm,0.3s						
HINF	**Hinteralfeld**	**5.45**	**70**	*e*Sg	**Sg**	**17 12 07.9**	**-2.3**
	0.4nm,0.3s						

IDC 28 17:10:11.9±1.4,2925S×17804W,h222km±12km,mb2.9/2, mb1 3.2/2,mb1mx3.0/12,mbtmp2.9/2,Error ellipse: s-maj=50.2km s-min=4.1km az=91.0,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.10**	**91**	P	Pn	17 10 41.9	+1.2
	229nm,0.3s,baz=270,slow=22,SNR=5.9						
RAO				S	S	17 11 03.3	+0.2
	193nm,0.3s,baz=113,slow=22,SNR=5.2						
ASAR	**Alice Springs**	**43.15**	**266**	P	P	17 17 51.2	+0.3
	0.3nm,0.3s,baz=103,slow=7.1,SNR=4.7						
WRA	**Warramunga Arr**	**44.04**	**271**	P	P	17 17 57.2	-0.8
	0.2nm,0.3s,baz=109,slow=6.2,SNR=5.9						
FINES	**FINESS Array B**	**144.06**	**340**	PKP	PKPdf	17 29 19.6	-0.6
	0.6nm,0.6s,baz=64,slow=2.3,SNR=5.8						

SKHL 28 17:21:56.3±0.0,5435N×14218E,h10km,mb4.0/3,1C, Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKH	**Okha**	**0.92**	**151**	⇑*i*Pg	Pg	17 22 13.3	-0.6
OKH				AMB	AMB	17 22 15.0	
	300nm,0.5s						
OKH				*i* Sg	Sg	17 22 25.2	-0.6
OKH				A		17 22 28.1	
	1μm,0.5s						
OKH				A		17 22 28.1	
	2μm,0.5s						
NKL	**Nikolayevsk**	**1.50**	**217**	*e*P	Pn	17 22 23.9	+0.7
NKL				*e*Pg	Pg	17 22 26.0	+1.0
NKL				AMB	AMB	17 22 27.8	
	40nm,0.4s						
NKL				*e*Sg	Sg	17 22 46.8	+2.4
NKL				A		17 22 53.0	
	120nm,0.5s						
GRNR	**Gornyy**	**5.02**	**227**	*e*Pg	Pg	17 23 35.5	+3.1
GRNR				AMB	AMB	17 23 36.1	
	6.0nm,0.5s						
GRNR				*e*Sg	Sg	17 24 44.4	+7.1
GRNR				A		17 24 45.0	
	10.0nm,0.4s						
EKMR	**Ekimchan**	**5.63**	**261**	*e*Pg	Pg	17 23 46.5	+2.5
EKMR				*e*Sg	Sg	17 25 06.0	+9.1
EKMR				A		17 25 07.5	
	8.0nm,0.6s						

*ISCJB **28** 17:29:27.8±0.9,1175N±007×8692W±009,h71km±8km, mb3.7/4,Error ellipse: s-maj=17.6km s-min=6.0km az=139.4*
*CASC **28** 17:29:28.0±2.7,1172N×8699W,h48km±35km,MD3.7, ML3.5*
*IDC **28** 17:29:29.3±3.4,1213N×8648W,h56km±39km,mb3.5/4, mb1 3.7/5,mb1mx3.4/19,mbtmp3.5/5,ML3.2/1,Error ellipse: s-maj=96.2km s-min=22.5km az=55.0*
ISC 28 17:29:28.2±0.9,1172N±007×8696W±008,h60km±10km, n33,σ0°79/36,mb3.6/4,7C-6D,Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COPN	**Copaltepe**	**0.58**	**38**	⇑*i*P	Pn	**17 29 40.7**	**-0.4**
COPN				*e*S	Sn	**17 29 51.0**	**+0.5**
CRUN	**El Crucero**	**0.69**	**68**	⇓*e*P	Pn	**17 29 42.5**	**+0.1**
CSAN		**0.70**	**48**	⇑*e*P	Pn	**17 29 42.2**	**-0.2**
CSAN				*e*S	Sn	**17 29 57.4**	**+4.5**
XAVN	**Gruta Xavier**	**0.75**	**55**	⇑*e*P	Pn	**17 29 43.1**	**0.0**
TICN	**Ticuantepe**	**0.78**	**66**	*e*P	Pn	**17 29 43.4**	**0.0**
APYN	**Apoyeque**	**0.79**	**49**	*e*P	Pn	**17 29 43.5**	**0.0**
TISN	**Laguna Tiscapa**	**0.79**	**58**	⇑*e*P	Pn	**17 29 43.5**	**-0.1**
TISN				*e*S	Sn	**17 29 56.1**	**+1.2**
MOMJ	**Momotombo**	**0.80**	**31**	⇓*e*P	Pn	**17 29 43.4**	**-0.3**
MOMJ				*e*S	Sn	**17 29 56.5**	**+1.4**
MGAN	**Managua**	**0.81**	**58**	⇓*e*P	Pn	**17 29 43.9**	**0.0**
MGAN				*e*S	Sn	**17 29 54.4**	**-1.0**
	comp=E,1μm,0.3s						
CNGN	**Cerro Negro**	**0.82**	**18**	*e*P	Pn	**17 29 44.4**	**+0.5**
CNGN				*e*S	Sn	**17 29 56.8**	**+1.4**
TEL3	**Telica 3**	**0.86**	**7**	⇓*e*P	Pn	**17 29 43.8**	**-0.7**
TEL3				*e*S	Sn	**17 29 55.6**	**-0.7**
TELN	**Telica**	**0.89**	**8**	*e*P	Pn	**17 29 43.9**	**-0.9**
TELN				*e*S	Sn	**17 29 57.2**	**+0.1**
APON	**Apoyo**	**0.89**	**77**	⇑*i*P	Pn	**17 29 44.9**	**0.0**
APON				*e*S	Sn	**17 29 55.7**	**-1.4**
HUEN		**0.98**	**51**	⇓*e*P	Pn	**17 29 46.3**	**+0.2**
SSNN	**San Juan del S**	**1.17**	**111**	*e*P	Pn	**17 29 47.6**	**-0.8**
CONN	**Concepcion**	**1.31**	**97**	⇓*e*P	Pn	**17 29 50.2**	**-0.2**
CONN				*e*S	Sn	**17 30 08.6**	**+1.6**
MADN	**Villa Maderas**	**1.43**	**102**	⇑*e*P	Pn	**17 29 51.7**	**-0.2**
MADN				*e*S	Sn	**17 30 10.5**	**+0.8**
BOAB	**BOACO BROADBAN**	**1.46**	**60**	*e*P	Pn	**17 29 52.2**	**-0.1**
BOAB				*e*S	Sn	**17 30 09.0**	**-1.4**
CNCH	**Conchagua**	**1.77**	**331**	⇑*e*P	x	17 30 26.0	
CNCH				*e*S	x	17 30 48.9	
BLLM	**Bellamira**	**2.12**	**324**	*e*P	x	17 30 30.9	
BLLM				*e*S	x	17 30 56.9	
VSM	**San Miguel**	**2.13**	**323**	*e*P	x	17 30 31.9	
VSM				*e*S	x	17 30 59.6	
CAHU	**Cacacuatique**	**2.38**	**329**	*e*P	x	17 30 35.1	
CAHU				*e*S	x	17 31 04.9	
JTS	**JuntasAbangare**	**2.42**	**126**	P	**Pn**	**17 30 05.7**	**+0.2**
	comp=E,5.1nm,0.3s,baz=310,slow=20,SNR=22						
JTS				S	**Sn**	**17 30 33.3**	**-0.7**
	comp=E,8.9nm,0.3s,baz=304,slow=20,SNR=4.9						
JTS				Lg		17 30 38.8	
	comp=E,7.6nm,0.3s,baz=327,slow=23,SNR=6.8						
SNVI	**San Vicente**	**2.63**	**316**	*e*P	x	17 30 37.8	
SNVI				*e*S	x	17 31 09.1	
LCBS	**La Ceiba**	**2.76**	**315**	*e*P	x	17 30 39.0	
LCBS				*e*S	x	17 31 10.3	
LFRS	**El Faro**	**2.79**	**313**	*e*P	x	17 30 40.1	
LFRS				*e*S	x	17 31 12.8	
BOQS	**Boqueron**	**3.03**	**312**	*e*P	x	17 30 45.3	
BOQS				*e*S	x	17 31 19.7	
CHI2		**14.84**	**117**	*e*P	Px	17 29 44.4	
TXAR	**Lajitas Array**	**23.44**	**321**	P	**P**	**17 34 33.6**	**+1.3**
	comp=E,1.6nm,0.7s,mb3.5,baz=138,slow=9.8,SNR=16						
SIV	**San Ignacio**	**37.60**	**137**	P	**P**	**17 36 38.7**	**+1.4**
	comp=E,1.2nm,0.6s,mb3.8,baz=297,slow=9.0,SNR=4.6						
ULM	**Lac du Bonnet**	**39.11**	**351**	P	**P**	**17 36 48.5**	**-1.1**
	comp=E,0.9nm,0.5s,mb3.8,baz=165,slow=12,SNR=3.9						
YKA	**Yellowknife Ar**	**54.44**	**345**	P	**P**	**17 38 48.6**	**-0.5**
	comp=E,0.3nm,0.6s,mb3.4,baz=136,slow=8

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**0.89**	**70**	*e*Pg	**Pg**	**18 04 21.9**	**+1.4**
PHWY	**Pilot Hill**	**2.52**	**185**	*e*Pn	**Pn**	**18 04 45.2**	**-0.4**
RWWY	**Rawlins**	**2.59**	**216**	*e*Pn	**Pn**	**18 04 47.0**	**+0.5**
LAO	**LASA Array**	**2.96**	**346**	*e*Pn	**Pn**	**18 04 52.7**	**+1.0**
RLMT	**Red Lodge**	**3.20**	**296**	*e*Pn	**Pn**	**18 04 55.0**	**+0.1**
BW06	**Boulder Array**	**3.35**	**253**	*e*Pn	**Pn**	**18 04 57.4**	**+0.3**
GCMT	**Greycliff**	**3.75**	**303**	*e*Pn	**Pn**	**18 05 03.1**	**+0.6**
LKWY	**Lake**	**3.82**	**283**	*e*Pn	**Pn**	**18 05 04.7**	**+1.2**
LOHW	**Long Hollow**	**3.93**	**269**	Pn	**Pn**	**18 05 04.1**	**-0.8**
FLWY	**Flagg Ranch**	**3.99**	**276**	*e*Pn	**Pn**	**18 05 05.8**	**+0.1**
MOOW	**Moose Ponds**	**4.02**	**271**	*e*Pn	**Pn**	**18 05 07.1**	**+0.9**
ISCO	**Idaho Springs**	**4.03**	**185**	*e*Pn	**Pn**	**18 05 06.1**	**-0.2**
YNR	**Norris Junctio**	**4.04**	**285**	Pn	**Pn**	**18 05 09.1**	**+2.6**
SNOW	**Snow King Moun**	**4.05**	**267**	*e*Pn	**Pn**	**18 05 07.1**	**+0.4**
YFT	**Old Faithful**	**4.11**	**281**	*e*Pn	**Pn**	**18 05 08.3**	**+0.8**
REDW	**Red Top Meadow**	**4.14**	**266**	*e*Pn	**Pn**	**18 05 12.1**	**+4.3**
IMW	**Indian Meadow**	**4.16**	**273**	*e*Pn	**Pn**	**18 05 08.5**	**+0.4**
TPAW	**Teton Pass**	**4.19**	**268**	*e*Pn	**Pn**	**18 05 08.8**	**+0.2**
AHID	**Auburn Hatcher**	**4.44**	**258**	*e*Pn	**Pn**	**18 05 11.0**	**-1.0**
DGMT	**Dagmar**	**4.71**	**8**	*e*Pn	**Pn**	**18 05 17.3**	**+1.7**
SMCO	**Snowmass**	**4.82**	**197**	*e*Pn	**Pn**	**18 05 18.9**	**+1.6**
BOZ	**Bozeman (W)**	**4.94**	**294**	*e*Pn	**Pn**	**18 05 14.2**	**-4.6**
HWUT	**Hardware Ranch** 16nm,0.4s	**5.19**	**247**	*e*Pn	**Pn**	**18 05 20.2**	**-2.1**
EGMT	**Eagleton** 35nm,0.6s	**5.28**	**325**	*e*Pn	**Pn**	**18 05 23.5**	**+0.1**
DLMT	**Dillon** 8.7nm,0.5s	**5.51**	**289**	*e*Pn	**Pn**	**18 05 27.3**	**+0.6**
DAU	**Daniels Canyon**	**5.65**	**235**	*e*Pn	**Pn**	**18 05 28.5**	**-0.1**
JLU	**Jordanelle**	**5.65**	**237**	*e*Pn	**Pn**	**18 05 28.1**	**-0.5**
CTU	**Camp Tracy** 18nm,0.5s	**5.78**	**240**	*e*Pn	**Pn**	**18 05 29.3**	**-1.1**
SPUT	**South Promonto**	**5.92**	**247**	*e*Pn	**Pn**	**18 05 31.8**	**-0.4**
HVU	**Hansel Valley** 7.4nm,0.5s	**5.94**	**253**	*e*Pn	**Pn**	**18 05 32.3**	**-0.2**
SDCO	**Great Sand Dun** 1.3nm,0.5s	**6.07**	**182**	*e*Pn	**Pn**	**18 05 35.2**	**+0.8**
MPU	**Maple Canyon** 11nm,0.5s	**6.12**	**234**	*e*Pn	**Pn**	**18 05 35.2**	**+0.1**
PV10	**Paradox Valley**	**6.16**	**209**	*e*Pn	**Pn**	**18 05 37.6**	**+2.0**
SRU	**San Rafael** 24nm,0.3s	**6.17**	**222**	*e*Pn	**Pn**	**18 05 34.5**	**-1.3**
ECSD	**EROS,Sioux Fal** 9.3nm,0.5s	**6.21**	**88**	*e*Pn	**Pn**	**18 05 37.2**	**+0.9**
PV01	**Paradox Valley**	**6.22**	**205**	*e*Pn	**Pn**	**18 05 36.9**	**+0.4**
TMUT	**Trail Mountain**	**6.38**	**227**	*e*Pn	**Pn**	**18 05 38.9**	**+0.2**
CHMT	**Chamberlain Mo**	**6.47**	**301**	*e*Pn	**Pn**	**18 05 39.9**	**+0.1**
BGU	**Big Grassy Mou**	**6.48**	**246**	*e*Pn	**Pn**	**18 05 40.2**	**+0.1**
DUG	**Dugway** 5.8nm,0.4s	**6.73**	**240**	*e*Pn	**Pn**	**18 05 42.6**	**-0.8**
MSU	**Marysvale**	**7.47**	**227**	*e*Pn	**Pn**	**18 05 53.6**	**0.0**
AGMN	**Agassiz Refuge** 18nm,0.5s	**7.89**	**52**	*e*Pn	**Pn**	**18 05 57.8**	**-1.5**
CCUT	**Cedar City**	**8.81**	**228**	*e*Pn	**Pn**	**18 06 11.0**	**-1.0**
ULM	**Lac du Bonnet** 1.4nm,0.3s,baz=230,slow=12,SNR=20	**9.05**	**41**	Pn	**Pn**	**18 06 14.8**	**-0.4**
ULM	0.7nm,0.3s,baz=150,slow=20,SNR=2.6			Lg		18 08 44.4	
AMTX	**Amarillo** 7.4nm,0.6s	**9.32**	**162**	Pn	**Pn**	**18 06 26.7**	**+7.7**
WUAZ	**Wupatki** 7.2nm,0.5s	**9.56**	**212**	*e*Pn	**Pn**	**18 06 21.4**	**-0.8**
FFC	**Flin Flon** 4.6nm,0.6s	**11.12**	**10**	*e*Pn	**Pn**	**18 06 42.4**	**-1.2**
NVAR	**Mina Array Bea** 0.2nm,0.3s,baz=52,slow=12,SNR=7.9	**11.25**	**246**	Pn	**Pn**	**18 06 45.6**	**+0.2**
TXAR	**Lajitas Array**	**14.50**	**175**	Pn	**Pn**	**18 07 36.2**	**+6.3**
TXAR				Lg		18 11 44.2	
TXAR	**Lajitas Array** 0.1nm,0.3s,baz=349,slow=8.7,SNR=3.7	**14.50**	**175**	Pn	**Pn**	**18 07 36.2**	**+6.3**
TXAR	0.0nm,0.3s,baz=2.2,slow=30,SNR=2.8			Lg		18 11 44.2	
YKA	**Yellowknife Ar** 0.1nm,0.3s,baz=161,slow=13,SNR=7.6	**19.50**	**347**	P	**Pn**	**18 08 30.9**	**-2.1**
SCHQ	**Schefferville** comp=Z,39nm,18.3s,baz=114,slow=36	**26.98**	**52**	LR	LR	18 20 12.8	
ARCES	**ARCESS Array B** 4.1nm,0.9s,mb4.5,baz=341,slow=7.1,SNR=4.9	**61.33**	**18**	P	**P**	**18 14 19.1**	**-1.2**
ZALV	**Zalesovo Beam** 0.6nm,0.6s,mb3.9,baz=22,slow=8.0,SNR=3.6	**82.24**	**354**	P	**P**	**18 16 24.1**	**-2.1**
BVAR	**Borovoye Array** 0.4nm,0.6s,mb3.8,baz=334,slow=5.0,SNR=3.1	**83.46**	**3**	P	**P**	**18 16 32.2**	**-0.3**
SONM	**Songino Array** 0.3nm,0.6s,mb3.7,baz=15,slow=3.7,SNR=2.7	**84.59**	**339**	P	**P**	**18 16 38.7**	**+0.4**
MKAR	**Makanchi Array**	**89.53**	**355**	P	**P**	**18 17 02.4**	**0.0**
MKAR	**Makanchi Array** 0.4nm,0.7s,mb3.8,baz=6.9,slow=4.6,SNR=6.7	**89.53**	**355**	P	**P**	**18 17 02.4**	**0.0**

NEIC 28 18:16:19.2, 3731S×17668E, h246km, MG4.2(WEL), After WEL., North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**1.01**	**160**	*e*P	Pn	18 16 53.6	-0.1
MWZ	**Matawai**	**1.22**	**147**	*e*P	Pn	18 16 55.5	+0.4
MXZ	**Matakaoa Point**	**1.32**	**102**	*e*P	Pn	18 16 55.9	+0.2
PUZ	**Puketiti**	**1.47**	**122**	*e*P	Pn	18 16 57.3	+0.5
BKZ	**Black Stump Fm**	**1.86**	**185**	P	Pn	18 17 00.2	+0.2
BKZ				S	S	18 17 32.2	0.0
KNZ	**Kokohu**	**1.88**	**156**	*e*P	Pn	18 17 00.9	+0.8
WTVZ	**West Tongariro**	**2.00**	**205**	P	Pn	18 17 02.2	+1.0
NGZ	**Ngauruhoe**	**2.05**	**204**	P	Pn	18 17 03.0	+1.3
TUVZ	**Tukino**	**2.12**	**202**	P	Pn	18 17 02.9	+0.6
FWVZ	**Far West T-bar**	**2.14**	**204**	*e*P	Pn	18 17 03.2	+0.7
WNVZ	**Wahianoa**	**2.19**	**203**	P	Pn	18 17 03.5	+0.5
MOVZ	**Moawhango**	**2.22**	**199**	P	Pn	18 17 03.4	+0.1
VRZ	**Vera Road**	**2.36**	**219**	*e*P	Pn	18 17 05.7	+1.0
TSZ	**Takapari Road**	**2.80**	**191**	*e*P	Pn	18 17 08.8	-0.4
BFZ	**Birch Farm**	**3.38**	**186**	*e*P	Pn	18 17 14.9	-0.7
MRZ	**Mangatainoka R**	**3.46**	**194**	*e*P	Pn	18 17 15.0	-1.4
MTW	**Mount Morrison**	**3.95**	**193**	P	Pn	18 17 20.2	-1.9
CAW	**Cannon Point**	**4.00**	**198**	P	Pn	18 17 20.9	-1.7
WEL	**Wellington**	**4.24**	**200**	P	Pn	18 17 23.7	-1.8
MSWZ	**Moikau Station**	**4.25**	**195**	P	Pn	18 17 23.5	-2.1
SNZO	**South Karori**	**4.28**	**200**	P	Pn	18 17 23.9	-2.1
NNZ	**Nelson**	**4.67**	**212**	*e*P	Pn	18 17 27.7	-3.0
QRZ	**Quartz Range**	**4.77**	**221**	*e*P	Pn	18 17 28.5	-3.4
BSWZ	**Blackbirch Sta**	**4.90**	**205**	P	Pn	18 17 31.6	-1.9
THZ	**Tophouse**	**5.32**	**212**	*e*P	Pn	18 17 36.1	-2.5
KHZ	**Kahutara**	**5.64**	**204**	P	Pn	18 17 40.4	-2.3
DSZ	**Denniston Nort**	**5.82**	**219**	*e*P	Pn	18 17 41.5	-3.3
LTZ	**Lake Taylor**	**6.43**	**210**	*e*P	Pn	18 17 48.9	-3.6
CRLZ	**Canterbury Las**	**6.98**	**205**	*e*P	Pn	18 17 56.2	-3.2
MQZ	**McQueen's Vall**	**7.09**	**204**	*e*P	Pn	18 17 56.6	-4.2
RPZ	**Rata Peaks**	**7.70**	**212**	*e*P	Pn	18 18 04.5	-4.0
ODZ	**Otahua Downs**	**8.96**	**209**	*e*P	Pn	18 18 21.3	-3.2
JCZ	**Jackson Bay**	**9.04**	**219**	*e*P	Pn	18 18 21.0	-4.6

*CSEM **28** 18:24:58.4±0.1, 3827N×2971E, h15km, MD2.5, Error ellipse: s-maj=3.5km s-min=2.9km az=28.0*

ISK 28 18:24:58.6, 3827N×2971E, h13km, MD2.5, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHL	**Karahalli**	**0.16**	**290**	*e*PG	Pg	18 25 03.0	+0.6
KHL				*e*SG	Sg	18 25 05.6	+0.6
TKTP	**Tekketepe**	**0.53**	**115**	*i* P	Pg	18 25 13.2	+4.3
TKTP				*i* S	Sg	18 25 24.4	+8.4
ALT	**Altintas**	**0.84**	**21**	*e*PG	Pg	18 25 15.5	+0.5
ALT				*e*SG	Sg	18 25 27.1	+1.1
KULA	**Kula-Manisa**	**0.86**	**287**	*e*PG	Pg	18 25 15.5	+0.2
BCK	**Bucak**	**1.06**	**139**	*e*PG	Pg	18 25 19.3	+0.2

KRSC 28 18:59:06.4±0.8, 5489N×16429E, h32km±32km, ML3.5, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**1.52**	**258**	*e*P	Pn	18 59 32.6	+1.3
MKZ				*i* S	Sn	18 59 52.1	+2.1
KBTR	**Krutoberegovo**	**1.56**	**328**	*e*P	Pn	18 59 30.5	-1.4
KBTR				*i* S	Sn	18 59 48.3	-2.7
SMKR	**Semkarok**	**2.33**	**318**	*e*P	Pn	18 59 44.2	+1.8
SMKR				*i* S	Sn	19 00 11.5	+1.6
TUMR	**Tumrok**	**2.42**	**281**	*e*P	Pn	18 59 46.6	+3.0
TUMR				*i* S	Sn	19 00 15.7	+3.7
BDR	**Baidarnaya**	**2.42**	**315**	*e*P	Pn	18 59 46.7	+3.0
BDR				*i* S	Sn	19 00 15.8	+3.6
KMNR	**Kamenistaya**	**2.47**	**292**	*e*P	Pn	18 59 47.4	+3.0
KMNR				*i* S	Sn	19 00 17.6	+4.2
SRKR	**Sorokina**	**2.50**	**316**	P	Pn	18 59 47.1	+2.4
SRKR				*i* S	Sn	19 00 16.8	+2.8
KLY	**Klyuchi**	**2.51**	**306**	P	Pn	18 59 45.7	+0.8
KOZ	**Kozyrevsk**	**2.77**	**297**	P	Pn	18 59 52.7	+4.2
KII	**Karymskiy**	**2.95**	**255**	*e*P	Pn	18 59 54.2	+3.2
KII				*i* S	Sn	19 00 28.1	+2.8
SRDR	**Sredinnyy**	**2.96**	**301**	*e*P	Pn	18 59 54.6	+3.5
SRDR				*i* S	Sn	19 00 29.7	+4.2
SPN	**Mys Shipunski**	**3.09**	**236**	*e*P	Pn	18 59 54.4	+1.5
SPN				*i* S	Sn	19 00 29.1	+0.4
AVH	**Avacha**	**3.65**	**246**	*e*P	Pn	19 00 03.7	+3.1
AVH				*i* S	Sn	19 00 46.0	+3.5
PET	**Petropavlovsk**	**3.82**	**243**	P	Pn	19 00 05.3	+2.4
PET				*i* S	Sn	19 00 48.0	+1.4
GNL	**Ganaly**	**3.91**	**255**	*e*P	Pn	19 00 07.7	+3.6
GNL				*i* S	Sn	19 00 52.0	+3.2
RUS	**Russkaya**	**4.23**	**237**	*e*P	Pn	19 00 11.0	+2.5
RUS				*i* S	Sn	19 00 57.7	+1.0

*CSEM **28** 19:02:24.7, 1208N×4392E, h6km, ML3.5, After DHMR*

DHMR 28 19:02:24.7±1.3, 1208N×4392E, h6km±8km, ML3.5, 3C-5D, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRBA	**At Turbah**	**1.16**	**9**	⇑*i*P	Pg	19 02 46.5	-0.6
TRBA				*i* S	Sg	19 03 03.3	+1.2
TRBA				AML	AML	19 03 03.6	
	comp=N,714nm,0.2s						
ADEN	**Aden**	**1.25**	**56**	⇓*i*P	Pg	19 02 47.9	-0.7
ADEN				*i* S	Sg	19 03 05.2	+0.4
ADEN				AML	AML	19 03 10.7	
	comp=E,1μm,1.0s						
ADEN	**Aden**	**1.25**	**56**	⇓*i*P	Pg	19 02 47.9	-0.8
ADEN				*i* S	Sg	19 03 05.2	+0.3
UDYN	**Al 'Udayn**	**1.88**	**1**	⇑*i*P	Pn	19 02 58.0	+0.7
UDYN				*i* S	Sn	19 03 25.1	+3.7
UDYN				AML	AML	19 03 30.7	
	comp=N,543nm,0.5s						
UDYN	**Al 'Udayn**	**1.88**	**1**	⇑*i*P	Pn	19 02 58.0	+0.6
UDYN				*i* S	Sn	19 03 25.1	+3.7
LBOS		**2.20**	**36**	⇓*i*P	Pn	19 03 03.2	+1.4
LBOS				*i* S	Sn	19 03 33.8	+4.4
BDHA	**Al Bayda'**	**2.48**	**40**	⇓*i*P	Pn	19 03 08.7	+3.1
BDHA				*i* S	Sn	19 03 42.4	+6.2
BDHA				AML	AML	19 03 54.4	
	comp=E,328nm,0.5s						
BDHA	**Al Bayda'**	**2.48**	**40**	⇓*i*P	Pn	19 03 08.7	+3.1
BDHA				*i* S	Sn	19 03 42.4	+6.3
HAJJ	**Hajjah**	**3.61**	**355**	*i* P	Pn	19 03 24.1	+2.8
HAJJ				*i* S	Sn	19 04 09.7	+5.5

*IDC **28** 19:14:25.4±0.5, 169N×99.15E, h0km, mb4.5/18, mb1 4.6/18, mb1mx4.5/21, mbtmp4.5/18, MS4.1/18, Ms1 4.1/18, ms1mx3.9/31, Error ellipse: s-maj=20.4km s-min=8.8km az=69.0*

*BJI **28** 19:14:28.8, 134N×9901E, h49km, mB5.0, mb4.7, Ms4.8, Msz4.6*

*NEIC **28** 19:14:29.3±1.8, 176N×9927E, h24km±12km, mb4.9/60, MS4.2/1, Error ellipse: s-maj=6.6km s-min=4.2km az=55.0*

NEIC Felt [IV] at Padangsidempuan and Sibolga.

*MOS **28** 19:14:29.4±1.0, 179N×9925E, h33km, mb5.0/61, MS4.1/16, Error ellipse: s-maj=10.2km s-min=5.1km az=119.1*

*GCMT **28** 19:14:29.3±0.3, 176N×99.15E, h18km±1km, MW5.0/66, Moment Tensor Solution. s21,c24; s66,c93; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.77±.17; $M_{\theta\theta}$-2.21±.10; $M_{\phi\phi}$3.98±.14; $M_{r\theta}$0.14±.28; $M_{r\phi}$0.54±.09; $M_{\theta\phi}$-0.70±.27; Best double couple: M=3.22100×10^{16} NP1:ϕ_s=229.00000°, δ70.00000°, λ-11.00000°. NP2: ϕ_s=323.00000°, δ80.00000°, λ-159.00000°. Principal axes: T 4.1060, Plg7.0000°, Azm95.0000°; N -1.7700, Plg67.0000°, Azm349.0000°; P -2.3360, Plg22.0000°, Azm187.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*ISCJB **28** 19:14:29.7±0.7, 171N×003×99.19E±004, h37km±5km, mb4.8/105, MS4.3/41 Error ellipse: s-maj=6.8km s-min=5.0km az=147.0*

*CRAAG **28** 19:14:30.9, 180N×9928E, Mb4.9*

*SZGRF **28** 19:14:37.1, 120N×9667E, h33km, mb4.7, Off west coast of northern Sumatera, Indonesia*

ISC 28 19:14:31.9±0.6, 170N±003×9919E±004, h41km±5km, h37km±4.7km: pP-P, n353, σ0.98/325, mb4.8/105, MS4.3/41, 25C-18D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**1.13**	**346**	P	**Pn**	**19 14 45.8**	**-5.4**
PSI						19 14 59.0	
PSI				pmax	pmax		
	comp=Z,297nm,0.3s						
PSI	**Prapat**	**1.13**	**346**	Pg	**Pn**	**19 14 45.8**	**-5.4**
	comp=Z,297nm,0.3s,baz=159,slow=4.5,SNR=246						
PSI				Lg		19 14 59.0	
	comp=Z,318nm,0.3s,baz=41,slow=19,SNR=22						
TSI	**Tuntungan**	**1.90**	**341**	P	**Pn**	**19 15 00.7**	**-1.0**
	comp=Z,5μm,1.0s						
PPI	**Padang Panjang**	**2.46**	**151**	P	**Pn**	**19 15 10.1**	**+0.6**
	comp=Z,2μm,0.8s						
PPI	**Padang Panjang**	**2.46**	**151**	⇑*e*P	**Pn**	**19 15 14.9**	**+5.4**
FRIM	**Kepong**	**2.87**	**58**	⇓P	**Pn**	**19 15 13.9**	**-1.3**
IPM	**Ipoh**	**3.31**	**33**	⇓P	**Pn**	**19 15 21.1**	**-0.1**
KULM	**Kulim**	**3.85**	**22**	*e*Pn	**Pn**	**19 15 27.1**	**-1.5**
KULM				*e*Sn	**Sn**	**19 16 24.9**	**+12**
KULM	**Kulim**	**3.85**	**22**	⇑P	**Pn**	**19 15 28.1**	**-0.5**
KGM	**Kluang**	**4.14**	**86**	⇓P	**Pn**	**19 15 31.7**	**-0.9**
MYKOM	**Kota Tinggi**	**4.66**	**89**	⇑P	**Pn**	**19 15 38.7**	**-1.0**
KTGM	**Kuala Trenggan**	**5.33**	**47**	⇓P	**Pn**	**19 15 48.5**	**-0.6**
BSI	**Banda Aceh**	**5.42**	**314**	P	**Pn**	**19 15 49.6**	**-0.6**
	comp=Z,508nm,1.4s						
SNG	**Songkhla**	**5.62**	**15**	P	**Pn**	**19 15 53.0**	**0.0**
	comp=Z,2μm,1.0s						
KSI	**Kapahiang**	**6.31**	**147**	P	**Pn**	**19 16 04.1**	**+1.7**
	comp=Z,275nm,1.1s						
TPI	**Tanjungpandan**	**9.55**	**118**	P	**Pn**	**19 16 50.9**	**+4.0**
	comp=Z,36nm,1.7s						
NNT	**Nongplab**	**10.83**	**3**	P	**Pn**	**19 17 07.0**	**+2.5**
KSM	**Kuching**	**11.11**	**91**	*e*Pn	**Pn**	**19 17 02.6**	**-5.7**
KSM	**Kuching**	**11.11**	**91**	⇑P	**Pn**	**19 17 13.6**	**+5.3**
SBUM	**Sibu**	**13.04**	**87**	⇓P	**Pn**	**19 17 38.3**	**+3.6**
NST	**Nakhon Sawan**	**13.91**	**4**	P	**Pn**	**19 17 43.5**	**-3.1**
COCO	**West Island**	**14.00**	**190**	*e*Pn	**Pn**	**19 17 47.6**	**-0.1**
KKTK	**Khon Kaen**	**14.98**	**14**	P	**Pn**	**19 18 04.6**	**+3.7**
	comp=Z,1μm,0.9s						
CM31	**Chiang Mai Arr**	**16.66**	**359**	*e*Pn	**Pn**	**19 18 24.9**	**+2.5**
CHG	**Chiang Mai**	**17.01**	**359**	⇓P	**Pn**	**19 18 28.8**	**+2.0**
	comp=Z,124nm,1.3s						
CHTO	**Chiang Mai**	**17.01**	**359**	*e*P	**Pn**	**19 18 28.0**	**+1.1**
	comp=Z,89nm,1.3s						
CHTO	**Chiang Mai**	**17.01**	**359**	*e*P	**Pn**	**19 18 28.0**	**+1.2**
CHTO				pmax	pmax		
	comp=Z,89nm,1.3s						
NANT	**Nan**	**17.06**	**5**	⇓P	**Pn**	**19 18 29.0**	**+1.6**
	comp=Z,162nm,1.0s						
KMMI	**Kalianget**	**17.11**	**121**	P	**Pn**	**19 18 31.1**	**+2.9**
	comp=Z,156nm,1.2s						
SDKM	**Sandakan**	**18.38**	**77**	⇑P	**Pn**	**19 18 49.6**	**+5.8**
TSM	**Tawau**	**18.83**	**82**	⇓P	**Pn**	**19 18 53.8**	**+4.6**
KHKI	**Kahang-Kahang**	**19.18**	**122**	P	**Pn**	**19 18 57.0**	**+3.6**
	comp=Z,184nm,2.2s						
PALK	**Pallekele**	**19.24**	**287**	*e*P	**Pn**	**19 18 53.9**	**-0.3**
	comp=Z,80nm,1.3s						
MYLDM	**Lahad Datu**	**19.58**	**79**	⇓P	**Pn**	**19 19 01.3**	**+3.1**
QIZ	**Qiongzhong**	**20.14**	**31**	P	**P**	**19 19 01.8**	**-0.8**
QIZ				LR	LR		
	comp=N,839nm,16.4s,MS4.5						
QIZ				LR	LR		
	comp=E,2μm,14.8s,MS4.5						
QIZ				LR	LR		
	comp=Z,1μm,15.8s,MS4.4						
QIZ	**Qiongzhong**	**20.14**	**31**	P	**P**	**19 19 03.7**	**+1.1**
	comp=Z,131nm,1.4s						
PCI	**Palu**	**20.80**	**97**	P	**P**	**19 19 15.4**	**+5.5**
	comp=Z,124nm,1.8s						
KMI	**Kunming**	**23.54**	**8**	P	**P**	**19 19 39.0**	**+0.4**
KMI				PPP		19 20 20.8	
KMI				SSS		19 24 58.8	
KMI				AMB	AMB		
	comp=Z,13nm,2.0s,mb4.0						
KMI				AMB	AMB		
	comp=Z,186nm,3.6s						
KMI				LR	LR		
	comp=N,1μm,12.0s,MS4.7						
KMI				LR	LR		
	comp=E,1μm,13.9s,MS4.7						
KMI				LR	LR		
	comp=Z,781nm,15.7s,MS4.3						
KDI	**Kendari**	**24.08**	**104**	P	**P**	**19 19 49.4**	**+5.7**
	comp=Z,23nm,0.9s,mb4.6						
SHL	**Shillong**	**24.75**	**344**	*e*P	**P**	**19 19 50.0**	**+0.3**
SHL				*e*S	**S**	**19 24 08.5**	**-0.8**
HYB	**Hyderabad**	**25.60**	**309**	*e*P	**P**	**19 19 57.5**	**0.0**
HYB	**Hyderabad**	**25.60**	**309**	⇓*i*P	**P**	**19 19 57.5**	**0.0**
GYA	**Guiyang**	**25.64**	**16**	P	**P**	**19 20 00.0**	**+2.2**
GYA				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.3						
GYA				AMB	AMB		
	comp=Z,110nm,4.9s						
GYA				LR	LR		
	comp=N,570nm,12.2s,MS4.5						
GYA				LR	LR		
	comp=E,590nm,10.2s,MS4.5						
GYA				LR	LR		
	comp=Z,700nm,11.0s,MS4.4						
BATI	**Kupang**	**27.08**	**116**	P	**P**	**19 20 10.7**	**-0.3**
	comp=Z,16nm,0.8s,mb4.6,baz=166,slow=1.9,SNR=3.1						
LSA	**Lhasa**	**28.88**	**345**	P	**P**	**19 20 28.3**	**+1.5**
LSA	**Lhasa**	**28.88**	**345**	*e*P	**P**	**19 20 27.6**	**+0.8**
	comp=Z,8.2nm,0.8s,mb4.5						
LSA	**Lhasa**	**28.88**	**345**	*e*P	**P**	**19 20 27.6**	**+0.8**
LSA				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.5						
CD2	**Chengdu**	**29.37**	**8**	P	**P**	**19 20 33.3**	**+2.1**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.8						
CD2				AMB	AMB		
	comp=Z,140nm,4.8s						
CD2				LR	LR		
	comp=N,2μm,15.6s,MS4.9						
CD2				LR	LR		
	comp=E,960nm,16.2s,MS4.9						
CD2				LR	LR		
	comp=Z,880nm,11.7s,MS4.6						
MBWA	**Marble Bar**	**30.33**	**140**	*e*P	**P**	**19 20 38.4**	**-1.4**
	comp=Z,6.3nm,0.9s,mb4.3						
YHNB	**Yeheng**	**31.32**	**41**	P	**P**	**19 20 50.2**	**+1.8**
WHN	**Wuhan**	**32.09**	**25**	*e*P	**P**	**19 21 01.0**	**+5.9**
WHN				LR	LR		
	comp=Z,2μm,12.1s,MS5.0						
XAN	**Xi'an**	**33.44**	**15**	P	**P**	**19 21 07.0**	**+0.1**
XAN				AMB	AMB		
	comp=Z,14nm,1.1s,mb4.8						
XAN				AMB	AMB		
	comp=Z,46nm,5.4s						
XAN				LR	LR		
	comp=Z,335nm,17.5s,MS4.1						
LZH	**Lanzhou**	**34.49**	**7**	*e*P	**P**	**19 21 17.5**	**+1.5**
LZH				AMB	AMB		
	comp=Z,28nm,1.5s,mb5.0						
LZH				AMB	AMB		
	comp=Z,156nm,4.9s						
LZH				LR	LR		
	comp=E,725nm,12.6s						
LZH				LR	LR		
	comp=Z,1μm,13.2s,MS4.7						
NJ2	**Nanjing**	**35.42**	**30**	*e*P	**P**	**19 21 25.0**	**+0.8**
NJ2				AMB	AMB		
	comp=Z,20nm,0.8s,mb5.1						
NJ2				AMB	AMB		
	comp=Z,110nm,6.2s						
SSE	**Sheshan**	**35.88**	**33**	P	**P**	**19 21 28.0**	**-0.1**
SSE				AMB	AMB		
	comp=Z,50nm,4.7s						
SSE				LR	LR		
	comp=N,466nm,20.2s,MS4.6						
SSE				LR	LR		
	comp=E,925nm,21.0s,MS4.6						
SSE				LR	LR		
	comp=Z,223nm,18.1s,MS4.0						
KAKA	**Kakadu**	**35.97**	**114**	*e*P	**P**	**19 21 27.9**	**-1.2**
	comp=Z,5.1nm,0.6s,mb4.6						
MUN	**Mundaring**	**37.18**	**156**	*e*P	**P**	**19 21 38.1**	**-1.0**
GTA	**Gaotai**	**37.54**	**1**	*e*P	**P**	**19 21 41.5**	**-0.6**
GTA				PPP		19 23 30.0	
GTA				AMB	AMB		
	comp=Z,11nm,1.1s,mb4.5						
GTA				AMB	AMB		
	comp=Z,85nm,7.6s						
GTA				LR	LR		
	comp=N,300nm,19.8s,MS4.7						
GTA				LR	LR		
	comp=E,885nm,14.8s,MS4.7						
GTA				LR	LR		
	comp=Z,374nm,21.3s						
HHC	**Hu-ho-hao-te**	**40.55**	**

KSRS pmax pmax
comp=Z,1.0nm,0.7s,mb3.6
KSRS MLR MLR
comp=Z,214nm,21.3s,MS4.0
KSRS Korea Array 44.33 33 P P 19 22 37.4 -0.6
comp=Z,1.0nm,0.7s,mb3.7,baz=226,slow=7.8,SNR=5.1
KSRS LR LR 19 42 25.0
comp=Z,214nm,21.3s,MS4.0,baz=217,slow=38
ULHL Ulahol 45.32 336 P P 19 22 45.8 0.0
SNR=14
KZA Kyzart 45.59 335 P P 19 22 43.8 -4.1
SNR=20
UCH Uchtor 46.03 334 *e*P **P 19 22 51.2 -0.2**
comp=Z,27nm,1.1s,mb5.1
UCH Uchtor 46.03 334 P P 19 22 51.6 +0.2
SNR=24
TKM2 Tokmak 2 46.14 336 *e*P **P 19 22 51.9 -0.5**
comp=Z,30nm,1.3s,mb5.1
TKM2 Tokmak 2 46.14 336 *e*P **P 19 22 51.9 -0.4**
TKM2 pmax pmax
comp=Z,30nm,1.3s,mb5.1
TKM2 Tokmak 2 46.14 336 P P 19 22 52.5 +0.1
SNR=18
KBK Karagaybulak 46.19 335 P P 19 22 53.3 +0.6
SNR=35
AML Almayashu 46.31 334 *e*P **P 19 22 53.7 0.0**
comp=Z,25nm,1.0s,mb5.1
AML Almayashu 46.31 334 P P 19 22 53.9 +0.2
SNR=20
AAK Ala-Archa 46.37 335 *e*P **P 19 22 52.9 -1.2**
comp=Z,20nm,1.0s,mb5.0
AAK *e*PcP PcP 19 24 29.6 +1.0
AAK Ala-Archa 46.37 335 *e*P **P 19 22 52.9 -1.2**
AAK *e* 19 24 29.6
AAK pmax pmax
comp=Z,20nm,1.0s,mb5.0
AAK Ala-Archa 46.37 335 P P 19 22 53.5 -0.6
SNR=13
SONM Songino Array 46.38 7 P P 19 22 53.6 -0.5
SONM 19 24 30.5
SONM pmax pmax
comp=Z,5.0nm,1.0s
SONM pmax pmax
comp=Z,4.0nm,1.0s
SONM pmax pmax
comp=N,2.0nm,1.3s
SONM MLR MLR
comp=Z,351nm,18.8s
SONM Songino Array 46.38 7 P P 19 22 53.6 -0.5
comp=Z,4.9nm,1.0s,mb4.4,baz=188,slow=8.7,SNR=25
SONM PcP PcP 19 24 30.5 +2.0
comp=Z,4.2nm,1.0s,baz=193,slow=4.4,SNR=5.9
SONM ScP ScP 19 28 21.8 +2.9
comp=Z,1.7nm,1.3s,baz=120,slow=2.3,SNR=4.2
SONM LR LR 19 45 21.4
comp=Z,351nm,18.8s,MS4.3,baz=14,slow=40
FRU Bishkek 46.48 335 *i* P **P 19 22 55.0 0.0**
FRU pmax pmax
comp=Z,40nm,1.8s,mb5.0
ULN Ulaanbaatar 46.49 7 *e*P **P 19 22 54.9 0.0**
comp=Z,5.5nm,1.0s,mb4.4
ULN *e*PcP PcP 19 24 28.3 -0.7
ULN Ulaanbaatar 46.49 7 *e*P **P 19 22 54.9 0.0**
ULN *e* 19 24 28.3
ULN pmax pmax
comp=Z,5.0nm,1.0s,mb4.4
CHMS Chumysh 46.56 335 P P 19 22 54.8 -0.7
SNR=8.2
GUMO Guam 46.69 73 LR LR 19 43 40.5
comp=Z,103nm,19.4s,MS3.8,baz=271,slow=38
EKS2 Erkin-Say 46.70 334 *e*P **P 19 22 56.5 -0.2**
comp=Z,12nm,0.8s,mb4.9
EKS2 *e*PcP PcP 19 24 31.1 +1.3
EKS2 Erkin-Say 46.70 334 P P 19 22 56.8 +0.1
SNR=24
USP Ospenovka 46.88 335 P P 19 22 57.6 -0.5
SNR=29
MK31 Makanchi Array 47.27 344 *e*P **P 19 22 59.5 -1.6**
MKAR Makanchi Array 47.27 344 P P 19 23 00.2 -0.9
MKAR LR LR 19 47 55.9
MKAR Makanchi Array 47.27 344 P P 19 23 00.2 -0.9
MKAR pmax pmax
comp=Z,6.0nm,0.8s
MKAR MLR MLR
comp=Z,130nm,18.4s
MKAR Makanchi Array 47.27 344 P P 19 23 00.2 -0.9
comp=Z,5.6nm,0.8s,mb4.5,baz=152,slow=7.7,SNR=35
MKAR LR LR 19 47 55.8
comp=Z,130nm,18.4s,MS3.9,baz=160,slow=42
CN2 Changchun 47.98 26 *e*P **P 19 23 07.5 +0.9**
CN2 AMB AMB
comp=Z,10.0nm,1.1s,mb4.8
CN2 AMB AMB
comp=Z,100nm,4.0s
CN2 LR LR
comp=Z,500nm,17.0s,MS4.6
ZAK Zakamensk 48.63 3 *e*P **P 19 23 07.1 -4.4**
ZAK pmax pmax
comp=Z,2.0nm,1.4s,mb4.0
TLY Talaya 49.95 4 *e*P **P 19 23 23.0 +1.5**
TLY pmax pmax
comp=Z,6.0nm,1.3s,mb4.5
MAJO Matsushiro 49.99 41 P **P 19 23 20.7 -1.5**
comp=Z,16nm,1.4s,mb4.8
MAJO Matsushiro 49.99 41 P **P 19 23 20.7 -1.5**
MAJO pmax pmax
comp=Z,15nm,1.4s,mb4.8
MAT Matsushiro 49.99 41 P **P 19 23 21.9 -0.3**
MAT *e*S **S 19 30 35.4 +5.2**
MJAR Matsushiro Arr 49.99 41 P **P 19 23 22.1 -0.1**
MJAR pmax pmax
comp=Z,3.0nm,0.9s
MJAR MLR MLR
comp=Z,119nm,19.4s
MJAR Matsushiro Arr 49.99 41 P P 19 23 22.1 -0.1
comp=Z,2.9nm,0.9s,mb4.3,baz=228,slow=7.2,SNR=8.1
MJAR LR LR 19 44 15.3
comp=Z,119nm,19.4s,MS3.9,baz=235,slow=36
MDJ Mudanjiang 50.48 28 P P 19 23 26.5 +0.8
MDJ AMB AMB
comp=Z,8.0nm,1.8s,mb4.5
MDJ AMB AMB
comp=Z,51nm,3.3s
MDJ LR LR
comp=N,476nm,17.7s,MS4.9
MDJ LR LR
comp=E,856nm,16.7s,MS4.9
MDJ LR LR
comp=Z,404nm,17.0s,MS4.5
CTA Charters Tower 50.95 118 *e*P **P 19 23 30.9 +1.2**
comp=Z,5.9nm,0.8s,mb4.6
CTA Charters Tower 50.95 118 *e*P **P 19 23 30.9 +1.2**
CTA pmax pmax
comp=Z,6.0nm,0.8s
CTA Charters Tower 50.95 118 LR LR 19 48 51.8
comp=Z,204nm,19.2s,MS4.2,baz=284,slow=40
CTAO Charters Tower 50.95 118 *e*P **P 19 23 30.7 +0.9**
comp=Z,9.0nm,0.8s,mb4.8
CTAO Charters Tower 50.95 118 *e*P **P 19 23 30.7 +1.0**
CTAO pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
KURK Kurchatov 51.85 343 *e*P **P 19 23 34.9 -1.0**
comp=Z,21nm,1.1s,mb5.0
KURK Kurchatov 51.85 343 *e*P **P 19 23 34.9 -1.0**
KURK pmax pmax
comp=Z,21nm,1.1s,mb5.0
STKA Stephens Creek 52.23 133 *e*P **P 19 23 37.7 -1.4**
comp=Z,4.2nm,0.6s,mb4.5
STKA Stephens Creek 52.23 133 P P 19 23 38.1 -1.0
comp=Z,4.9nm,0.6s,mb4.6,baz=323,slow=7.7,SNR=8.4
STKA LR LR 19 47 56.4
comp=Z,314nm,19.4s,MS4.4,baz=71,slow=38
ZAL Zalesovo 53.40 349 P P 19 23 46.6 -0.7
ZAL pmax pmax
comp=Z,8.0nm,0.6s
ZAL MLR MLR
comp=Z,125nm,18.8s
ZAA0 Zalesovo Array 53.41 349 *e*P **P 19 23 45.7 -1.6**
ZALV Zalesovo Beam 53.41 349 P P 19 23 46.5 -0.8
comp=Z,7.7nm,0.6s,mb4.8,baz=169,slow=6.2,SNR=23
ZALV LR LR 19 51 06.5
comp=Z,124nm,18.8s,MS4.0,baz=174,slow=41
NVS Novosibirsk 54.55 349 *e*P **P 19 23 53.4 -2.3**
NVS *e*S **S 19 31 33.3 +1.2**
NVS pmax pmax
comp=N,18nm,2.2s
NVS pmax pmax
comp=Z,24nm,2.2s,mb4.8
NVS pmax pmax
comp=E,10.0nm,1.9s
NVS smax
comp=N,15nm,2.3s
NVS smax
comp=E,6.0nm,2.0s
KLR Kul'dur 54.93 26 *e*P **P 19 23 58.8 +0.2**
KLR MLR MLR
comp=E,800nm,13.0s
KLR MLR MLR
comp=Z,2μm,13.0s,MS5.4
RDF Al-Radifah 56.09 304 *e*P **P 19 24 06.7 -0.6**
RDF AMb AMB 19 24 17.7
comp=Z,39nm,1.0s,mb5.4
UMR Umm Al-Rimmam 56.16 305 *e*P **P 19 24 06.3 -1.5**
UMR AMb AMB 19 24 11.5
comp=Z,25nm,0.7s,mb5.3
NAY Al-Naaiem 56.45 304 *e*P **P 19 24 08.8 -1.0**
NAY AMb AMB 19 24 19.6
comp=Z,13nm,0.6s,mb5.2
BRVK Borovoye 56.52 340 *e*P **P 19 24 08.5 -1.4**
comp=Z,10.0nm,1.0s,mb4.8
BRVK Borovoye 56.52 340 *e*P **P 19 24 08.5 -1.4**
BRVK pmax pmax
comp=Z,10.0nm,1.0s,mb4.8
MIB Mutribah 56.55 305 *e*P **P 19 24 09.5 -1.0**
MIB AMb AMB 19 24 12.4
comp=Z,85nm,1.2s,mb5.7
RST Umm Al-Ruwaisa 56.73 305 *e*P **P 19 24 10.3 -1.6**
RST AMb AMB 19 24 21.9
comp=Z,28nm,0.8s,mb5.3
ASAJ Asahikawa 57.08 36 LR LR 19 48 14.2
comp=Z,153nm,19.9s,MS4.1,baz=192,slow=36
BOD Bodaibo 57.18 9 *e*P **P 19 24 13.9 -0.5**
BOD pmax pmax
comp=Z,9.0nm,1.0s,mb4.8
YSS Yuzh-Sakhalins 58.83 33 *e*P **P 19 24 27.2 +1.0**
comp=Z,63nm,1.3s,mb5.5
YSS Yuzh-Sakhalins 58.83 33 *e*P **P 19 24 27.5 +1.3**
YSS pmax pmax
comp=Z,80nm,1.3s,mb5.6
HNR Honiara 61.51 102 P **P 19 24 40.8 -4.4**
HNR P 19 24 46.3
HNR Honiara 61.51 102 P **P 19 24 46.3 +1.1**
HNR pmax pmax
comp=Z,26nm,0.2s,mb6.0
⇑HNR Honiara 61.51 102 P **P 19 24 46.3 +1.1**
comp=Z,26nm,0.2s,mb5.9,baz=262,slow=2.4,SNR=4.6
KMBO Kilima Mbogo 62.00 268 *e*P **P 19 24 49.6 +1.1**
comp=Z,6.2nm,0.9s,mb4.7
KMBO Kilima Mbogo 62.00 268 *e*P **P 19 24 49.6 +1.1**
KMBO pmax pmax
comp=Z,6.0nm,0.9s
KMBO Kilima Mbogo 62.00 268 LR LR 19 46 34.2
comp=Z,246nm,21.9s,MS4.3,baz=94,slow=31
HAKT HAKKARI 62.10 312 *i* P **P 19 24 48.8 0.0**
DGRG David-gareji 62.42 317 P **P 19 24 50.9 0.0**
DYDN Diyadin 62.84 314 *e*P **P 19 24 54.4 +0.7**
SVE Sverdlovsk 62.98 337⇓*e*P **P 19 24 54.3 +0.1**
SVE *e*S **S 19 33 13.7 -7.7**
SVE pmax pmax
comp=Z,27nm,1.3s,mb5.2
SVE MLR MLR
comp=Z,704nm,23.0s,MS4.8
ARU Arti 63.52 336 *e*P **P 19 24 56.3 -1.5**
comp=Z,12nm,1.1s,mb4.8
ARU Arti 63.52 336*c i*P **P 19 24 56.6 -1.2**
ARU *e* 19 25 32.4
ARU *e* 19 27 14.2
ARU *e*S **S 19 33 27.4 -0.8**
ARU pmax pmax
comp=Z,15nm,1.2s,mb4.9
ARU MLR MLR
comp=Z,300nm,24.0s,MS4.4
MARD Mardin 64.20 311 *i* P **P 19 25 02.6 -0.1**
HOMI Horasan 64.31 314 *i* P **P 19 25 03.5 +0.2**
YAK Yakutsk 64.40 15 P **P 19 25 03.5 0.0**
YAK Yakutsk 64.40 15 *e*P **P 19 25 02.5 -1.0**
YAK pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
YAK pmax pmax
comp=N,5.0nm,1.3s
YAK pmax pmax
comp=E,4.0nm,1.3s
YAK MLR MLR
comp=Z,414nm,18.0s,MS4.7
YAK MLR MLR
comp=N,286nm,17.0s,MS4.8
YAK MLR MLR
comp=E,442nm,15.0s,MS4.8
ERZM Erzurum 64.64 314 *i* P **P 19 25 07.0 +1.4**
ARTV Artvin 64.70 315 *i* P **P 19 25 06.2 +0.3**
KIV Kislovodsk 65.24 318 *e*P **P 19 25 08.3 -1.0**
comp=E,17nm,0.8s,mb5.1
KIV Kislovodsk 65.24 318 *e*P **P 19 25 08.9 -0.5**
KIV *e* 19 25 39.0
KIV *e*S S 19 33 50.2 +0.2
KIV *e*SS SS 19 38 06.4 +3.0
KIV pmax pmax
comp=Z,20nm,1.0s,mb5.1
KIV Kislovodsk 65.24 318⇑*i*P **P 19 25 08.7 -0.7**
ELZG Elazig 65.92 312 *i* P **P 19 25 14.4 +0.5**
MALT Malatya 66.28 311 *e*P **P 19 25 15.6 -0.6**
comp=Z,9.2nm,1.0s,mb4.8
MALT Malatya 66.28 311 *e*P **P 19 25 15.6 -0.6**
MALT pmax pmax
comp=Z,9.0nm,1.0s,mb4.8
MALT Malatya 66.28 311⇑*i*P **P 19 25 16.3 +0.1**
KEMA Kemaliye 66.53 312 *i* P **P 19 25 18.0 +0.3**
GZT Gaziantep 66.65 310 *i* P **P 19 25 19.2 +0.7**
SOC Sochi 67.10 317 *e*P **P 19 25 19.0 -2.3**
SOC *e**PP pP 19 25 27.0 -6.4
SOC *e* 19 25 45.3
SOC *e* 19 27 53.2
SOC *e*PPP 19 29 34.1
SOC *e*S S 19 34 12.4 -0.1
SOC *e* 19 35 18.0
SOC *e*SSS 19 41 23.4
SOC pmax pmax
comp=Z,16nm,0.7s,mb5.2
ANDN Andirin 67.65 310 *i* P **P 19 25 25.2 +0.3**
VRHR Novokhopersk 68.84 325 *e*P **P 19 25 30.8 -1.3**
VRHR pmax pmax
comp=Z,10.0nm,0.6s,mb4.9
VRHR pmax pmax
comp=N,20nm,0.7s
VRHR pmax pmax
comp=E,10.0nm,0.6s
ANN Anapa 69.06 318 *e*P **P 19 25 35.4 +1.8**
ANN *e*S S 19 34 40.9 +5.0
ANN pmax pmax
comp=Z,12nm,1.4s,mb4.6
ANN MLR MLR
comp=Z,191nm,19.0s,MS4.4
AVNT Avonos 69.10 311 *i* P **P 19 25 33.8 -0.1**
CDAG Cicekdag 69.69 312 *i* P **P 19 25 34.7 -2.9**
BOYT Boyabat 69.78 314 *i* P **P 19 25 37.6 -0.5**
MA2 Magadan 70.03 25 *e*P **P 19 25 38.2 -1.0**
comp=Z,40nm,1.3s,mb5.2
MA2 Magadan 70.03 25 *e*P **P 19 25 40.0 +0.8**
MA2 *e* pP 19 25 49.8 -1.6
MA2 pmax pmax
comp=Z,40nm,1.3s,mb5.2
VRSR Storozhevoye 70.29 325 *e*P **P 19 25 39.9 -1.1**
VRSR pmax pmax
comp=N,1.0nm,1.0s
VRSR pmax pmax
comp=Z,3.0nm,1.0s,mb4.2
VRSR pmax pmax
comp=E,3.0nm,0.9s
PET Petropavlovsk 70.71 33 *e*P **P 19 25 35.9 -7.6**
PET pmax pmax
comp=Z,22nm,1.3s,mb4.9
BALT Daday 70.91 314 *i* P **P 19 25 45.3 +0.3**
SIM Simferopol' 71.35 317*de*P **P 19 25 48.2 +0.6**
SIM pmax pmax
comp=Z,14nm,0.9s,mb4.9
ESKT Eskisehir 72.30 311 *e*P **P 19 25 52.9 -0.5**
TIXI Tiksi 72.36 9 *e*P **P 19 25 52.6 -0.5**
comp=Z,72nm,1.3s,mb5.4
TIXI Tiksi 72.36 9⇑*e*P **P 19 25 53.0 -0.1**
TIXI pmax pmax
comp=Z,76nm,1.4s,mb5.4
SEY Seymchan 72.53 23⇑*e*P **P 19 25 53.6 -0.7**
MOS Moscow 72.94 329 *e*P **P 19 25 55.6 -1.2**
MOS *e* 19 26 15.5
OBN Obninsk 73.25 328 *e*P **P 19 25 58.4 -0.3**
comp=Z,29nm,1.1s,mb5.1
OBN Obninsk 73.25 328⇓*i*P **P 19 25 58.2 -0.5**
OBN *i* 19 26 14.9
OBN *e* 19 28 41.9
OBN pmax pmax
comp=Z,34nm,1.2s,mb5.2
MAW Mawson 73.66 194 *e*P **P 19 26 02.6 +1.8**
MAW Mawson 73.66 194 P **P 19 26 00.8 0.0**
MAW pmax pmax
comp=Z,1.0nm,0.5s
MAW MLR MLR
comp=Z,147nm,18.1s
MAW Mawson 73.66 194 P **P 19 26 00.8 0.0**
comp=Z,1.0nm,0.5s,mb4.0,baz=349,slow=5.2,SNR=4.8
MAW LR LR 19 53 04.2
comp=Z,146nm,18.1s,MS4.3,baz=256,slow=32
TIRR Tirgusor 75.16 316⇑P **P 19 26 09.2 -0.8**
TIRR Tirgusor 75.16 316 P **P 19 26 09.3 -0.8**
TIRR Tirgusor 75.16 316⇑*i*P **P 19 26 09.2 -0.9**
HARR Harsova 75.54 316⇑P **P 19 26 12.0 -0.2**
HARR Harsova 75.54 316 P **P 19 26 12.6 +0.3**
HARR Harsova 75.54 316⇑*i*P **P 19 26 12.0 -0.3**
LBTB Lobatse 75.89 244 P **P 19 26 15.4 +0.8**
comp=Z,27nm,1.4s,mb5.0
LBTB Lobatse 75.89 244 P **P 19 26 15.5 +0.8**
LBTB pmax pmax
comp=Z,27nm,1.4s,mb5.0
LBTB Lobatse 75.89 244 LR LR 19 52 57.6
comp=Z,187nm,20.3s,MS4.4,baz=92,slow=30
AKASG Malin Array Be 76.09 322 P **P 19 26 13.8 -1.4**
AKASG pmax pmax
comp=Z,1.0nm,0.5s
AKASG MLR MLR
comp=Z,60nm,19.9s
AKASG Malin Array Be 76.09 322 P **P 19 26 13.8 -1.4**
comp=Z,1.4nm,0.5s,mb4.2,baz=90,slow=4.6,SNR=22
AKASG LR LR 20 07 51.3
comp=Z,60nm,19.9s,MS3.9,baz=105,slow=42
VRI Vrincioaia 76.61 317⇑*i*P **P 19 26 18.6 +0.3**
PLOR Plostina 76.66 317⇓*i*P **P 19 26 19.9 +1.3**
BOSA Boshof 76.75 240 LR LR 19 55 34.7
comp=Z,116nm,18.2s,MS4.2,baz=325,slow=32
MLR Muntele Rosu 77.08 316⇑*i*P **P 19 26 21.5 +0.5**
BURAR Bucovina Array 77.97 318⇑*i*P **P 19 26 26.4 +0.5**
VTS Vitosha 78.54 313⇑P **P 19 26 29.4 +0.2**
VTS Vitosha 78.54 313⇑*i*P **P 19 26 29.4 +0.2**
JOF Joensuu 78.55 334 *ep* **P 19 26 24.5 -4.3**
comp=Z,7.0nm,0.7s,mb4.7
APA Apatity 79.37 339⇓*e*P **P 19 26 38.0 +4.8**
APA *i* 19 26 45.0
APA pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
DRGR 79.52 317⇑P **P 19 26 35.4 +0.9**
DRGR 79.52 317⇑*i*P **P 19 26 35.3 +0.9**
KWP Kalwaria 79.96 320 *e*P **P 19 26 37.0 +0.2**
BILL Bilibino 80.00 21 *e*P **P 19 26 37.4 +0.8**
BILL Bilibino 80.00 21 *e*P **P 19 26 37.4 +0.8**
BILL pmax pmax
comp=Z,9.0nm,1.6s,mb4.5
BILL MLR MLR
comp=Z,200nm,17.0s,MS4.5
BZS Buzias 80.10 316⇑P **P 19 26 37.2 -0.4**
BZS Buzias 80.10 316 P **P 19 26 37.6 0.0**
BZS Buzias 80.10 316⇑*i*P **P 19 26 37.2 -0.4**
KOLS Kolonicke sedl 80.14 319 *e*P **P 19 26 39.0 +1.3**
SUW Suwalki 80.42 324 *e*P **P 19 26 38.9 -0.3**
FINES FINESS Array B 80.48 332 *i* P **P 19 26 39.2 -0.1**
FINES pmax pmax
comp=Z,1.0nm,0.5s
FINES FINESS Array B 80.48 332 P **P 19 26 38.8 -0.6**
comp=Z,1.4nm,0.5s,mb4.2,baz=105,slow=5.0,SNR=13
CRVS Cervenica-Dubn 80.66 319 *e*P **P 19 26 41.8 +1.3**
STHS Stebnicka Huta 80.87 320 *e*P **P 19 26 42.6 +0.9**
comp=Z,5.4nm,1.2s,mb4.3
STHS *e* pP 19 26 52.5 -1.5
STHS Stebnicka Huta 80.87 320 *e*P **P 19 26 42.6 +0.9**
STHS *e* pP 19 26 52.5 -1.5
STHS pmax pmax
comp=Z,5.0nm,1.2s,mb4.3
KECS Kecovo 81.24 319 *e*P **P 19 26 43.8 +0.1**
comp=Z,2.5nm,1.1s,mb4.1
KECS Kecovo 81.24 319 *e*P **P 19 26 43.8 +0.1**
KECS pmax pmax
comp=Z,3.0nm,1.1s,mb4.1
PSZ Piszkesteto 81.57 318⇓*e*P **P 19 26 45.8 +0.4**
OJC Ojcow 81.91 320 *e*P **P 19 26 46.7 -0.4**
PKSM Moragy 82.23 316 ⇓P **P 19 26 48.5 -0.4**
PKSM Moragy 82.23 316⇓*i*P **P 19 26 48.5 -0.4**
VYHS Vyhne 82.33 319 *e*P **P 19 26 49.9 +0.5**
comp=Z,7.8nm,1.7s,mb4.4
VYHS *e* pP 19 27 02.1 +0.3
VYHS Vyhne 82.33 319 *e*P **P 19 26 49.9 +0.5**
VYHS *e* pP 19 27 02.1 +0.3
VYHS pmax pmax
comp=Z,8.0nm,1.7s,mb4.4
TSUM Tsumeb 82.63 251 *e*P **P 19 26 52.9 +1.3**
comp=Z,13nm,1.2s,mb4.8
TSUM Tsumeb 82.63 251 P **P 19 26 52.7 +1.1**
comp=Z,8.3nm,1.1s,mb4.7,baz=124,slow=7.3,SNR=3.6
ARCES ARCESS Array B 82.74 340 P **P 19 26 51.2 +0.1**
ARCES pmax pmax
comp=Z,5.0nm,1.0s
ARCES ARCESS Array B 82.74 340 P **P 19 26 51.1 0.0**
comp=Z,5.3nm,1.0s,mb4.5,baz=94,slow=5.1,SNR=11
OKC Ostrava-Krasne 82.92 320 *e*P **P 19 26 52.6 +0.1**
OKC *ex* x 19 27 07.2
TIP Timpagrande 83.06 309 *e*P **P 19 26 53.3 -0.1**
comp=Z,13nm,1.2s,mb4.8
MORC Moravsky Berou 83.31 320 *e*P **P 19 26 53.1 -1.4**
comp=Z,6.3nm,1.0s,mb4.6
MORC Moravsky Berou 83.31 320 *e*P **P 19 26 53.1 -1.3**
MORC pmax pmax
comp=Z,6.0nm,1.0s,mb4.6
MORC Moravsky Berou 83.31 320⇑*i*P **P 19 26 55.5 +1.1**
MODS Modra-Piesok 83.36 318 *e*P **P 19 26 55.6 +0.9**
comp=Z,4.8nm,1.5s,mb4.3
MODS Modra-Piesok 83.36 318 *e*P **P 19 26 55.6 +0.9**
MODS pmax pmax
comp=Z,5.0nm,1.5s,mb4.3
ZST Bratislava 83.46 318 *e*P **P 19 26 55.9 +0.7**
comp=Z,11nm,1.3s,mb4.7
ZST *e* 19 27 16.2
ZST Bratislava 83.46 318 *e*P **P 19 26 55.9 +0.7**
ZST pmax pmax
comp=Z,11nm,1.3s,mb4.7
ZST Bratislava 83.46 318 *e*P **P 19 26 55.8 +0.6**
ZST *e* 19 27 16.2
DPC Dobruska-Polom 84.14 320 *e*P **P 19 26 59.8 +1.1**
DPC *ex* x 19 27 12.6
UPC Upice 84.35 320 *e*P **P 19 26 59.4 -0.3**
PRU Pruhonice 85.26 320 *e*P **P 19 27 04.6 +0.3**
PRU *ex* x 19 27 17.8
BRG Berggiesshubel 85.69 321 *e*P **P 19 27 07.5 +1.1**
BRG pmax pmax
comp=Z,6.0nm,1.4s,mb4.6
BRG Berggiesshubel 85.69 321 *e*P **P 19 27 07.5 +1.1**
comp=Z,9.9nm,1.4s,mb4.8
AQU L'Aquila 85.75 312 *e*P **P 19 27 06.8 -0.2**
comp=Z,12nm,0.9s,mb5.1
AQU L'Aquila 85.75 312 *e*P **P 19 27 06.8 -0.1**
AQU pmax pmax
comp=Z,12nm,0.9s,mb5.1
AQU L'Aquila 85.75 312⇑*i*P **P 19 27 07.2 +0.3**
GEC2 GERESS Array S 85.75 319 *e*P **P 19 27 07.0 +0.2**
GEC2 *e* pP 19 27 21.9 +2.7
GERES GERESS Array B 85.75 319 P **P 19 27 06.8 0.0**
GERES pmax pmax
comp=Z,6.0nm,1.2s
GERES GERESS Array B 85.75 319 P **P 19 27 06.8 0.0**
comp=Z,5.5nm,1.2s,mb4.7,baz=101,slow=4.3,SNR=20
KHC Kasperske Hory 85.85 319 *e*P **P 19 27 08.5 +1.2**
VNDA Vanda 85.92 169 *e*P **P 19 27 06.9 -0.2**
comp=Z,6.1nm,1.3s,mb4.7
VNDA Vanda 85.92 169 P **P 19 27 07.1 0.0**
VNDA pmax pmax
comp=Z,2.0nm,0.9s
VNDA MLR MLR
comp=Z,89nm,20.5s
VNDA Vanda 85.92 169 P **P 19 27 07.1 0.0**
comp=Z,2.2nm,0.9s,mb4.4,baz=322,slow=9.3,SNR=8.1
VNDA LR LR 19 58 40.0

comp=Z,89nm,20.5s,MS4.2,baz=308,slow=31
CLL Collm 86.30 321 *e*P **P 19 27 10.0 +0.6**
CLL *e* 19 27 31.0
CLL Collm 86.30 321 *e*P **P 19 27 10.0 +0.6**
CLL *e*PP PP 19 30 25.0 -5.7
CLL LmV 20 09 00.0
comp=Z,100nm,20.5s
SBA Scott Base 87.02 169 *e*P **P 19 27 16.2 +3.7**
comp=Z,35nm,1.8s,mb5.3
SBA Scott Base 87.02 169 *e*P **P 19 27 16.2 +3.7**
SBA pmax pmax
comp=Z,35nm,1.8s,mb5.3
GRA1 Grafenberg Arr 87.40 319 *e*P **P 19 27 15.3 +0.4**
comp=Z,8.0nm,1.2s,mb4.8
GRF Grafenberg Arr 87.40 319 *e*P **P 19 27 15.3 +0.4**
GRF pmax pmax
comp=Z,8.0nm,1.2s,mb4.8
GRF Grafenberg Arr 87.40 319 *e*P **P 19 27 15.3 +0.4**
GRF pmax pmax
comp=Z,8.0nm,1.2s,mb4.8
GRF Grafenberg Arr 87.40 319 *e*P **P 19 27 15.3 +0.4**
comp=Z,8.0nm,1.2s,mb4.8
NB2 NORSAR Subarra 87.54 331 P **P 19 27 14.9 -0.4**
comp=Z,6.4nm,0.9s,mb4.8,baz=92,slow=5.1
NOA NORSAR Array B 87.54 331 P **P 19 27 14.3 -1.0**
NOA LR LR 20 09 21.6
NOA NORSAR Array B 87.54 331 P **P 19 27 14.3 -1.0**
NOA pmax pmax
comp=Z,6.0nm,1.0s
NOA MLR MLR
comp=Z,85nm,21.5s
NOA NORSAR Array B 87.54 331 P **P 19 27 14.3 -1.0**
comp=Z,5.8nm,1.0s,mb4.8,baz=93,slow=4.8,SNR=8.2
NOA LR LR 20 09 21.6
comp=Z,85nm,21.5s,MS4.1,baz=80,slow=38
GAMB Gambell 88.09 26 *e*P **P 19 27 16.2 -1.7**
KEST Kesra 88.89 306 P **P 19 27 22.8 +0.5**
comp=Z,3.2nm,1.0s,mb4.6,baz=36,slow=3.3,SNR=6.7
KEST LR LR 20 07 07.1
comp=Z,42nm,21.8s,MS3.8,baz=157,slow=36
BFO Black Forest 89.32 318 *e*P **P 19 27 22.7 -1.3**
comp=Z,3.6nm,0.9s,mb4.7
BFO Black Forest 89.32 318 *e*P **P 19 27 22.7 -1.3**
BFO pmax pmax
comp=Z,4.0nm,0.9s,mb4.8
CDF Champ du Feu 90.02 318 *e*P **P 19 27 26.8 -0.5**
HINF Hinteralfeld 90.33 318 *e*P **P 19 27 28.1 -0.6**
ABSA Djebel Ababsia 90.39 306 P **P 19 27 31.0 +1.7**
CMAH Djebel Manchou 90.42 306 P **P 19 27 30.5 +1.1**
LPG La Plagne 90.52 315 *e*P **P 19 27 30.0 +0.4**
comp=Z,19nm,0.8s,mb5.1
LPG La Plagne 90.52 315 *e*P **P 19 27 30.0 +0.4**
comp=Z,9.3nm,0.8s,mb5.2
LPG La Plagne 90.52 315 *e*P **P 19 27 30.0 +0.4**
LPG pmax pmax
comp=Z,9.0nm,0.8s,mb5.2
LPL La Plagne 90.53 315 *e*P **P 19 27 29.9 +0.2**
comp=Z,18nm,0.8s,mb5.1
LPL La Plagne 90.53 315 *e*P **P 19 27 29.9 +0.2**
comp=Z,9.0nm,0.8s,mb5.2
LPL La Plagne 90.53 315 *e*P **P 19 27 29.9 +0.2**
LPL pmax pmax
comp=Z,9.0nm,0.8s,mb5.2
BNI Bardonecchia 90.59 315 P **P 19 27 28.2 -1.8**
comp=Z,5.5nm,0.9s,mb4.9
BNI Bardonecchia 90.59 315 P **P 19 27 28.2 -1.8**
BNI pmax pmax
comp=Z,6.0nm,0.9s,mb4.9
HAU Haudompre 90.66 318 *e*P **P 19 27 30.0 -0.2**
comp=Z,22nm,1.0s,mb5.1
HAU *e*MLR MLR
comp=Z,75nm,17.2s,MS3.9
HAU Haudompre 90.66 318 *e*P **P 19 27 30.0 -0.2**
comp=Z,11nm,1.0s,mb5.1
HAU LR LR
comp=Z,80nm,17.3s,MS4.2
HAU Haudompre 90.66 318 *e*P **P 19 27 30.0 -0.2**
HAU pmax pmax
comp=Z,11nm,1.0s,mb5.1
HAU MLR MLR
comp=Z,80nm,17.3s,MS4.2
FRF La Foret Royal 90.69 313 *e*P **P 19 27 30.6 +0.1**
comp=Z,32nm,1.3s,mb5.2
FRF La Foret Royal 90.69 313 *e*P **P 19 27 30.6 +0.1**
comp=Z,16nm,1.3s,mb5.2
FRF La Foret Royal 90.69 313 *e*P **P 19 27 30.6 +0.1**
FRF pmax pmax
comp=Z,16nm,1.3s,mb5.2
CABF La Chapelle 90.92 316 *e*P **P 19 27 31.7 +0.2**
comp=Z,37nm,1.3s,mb5.2
CABF La Chapelle 90.92 316 *e*P **P 19 27 31.7 +0.2**
comp=Z,18nm,1.3s,mb5.2
CABF La Chapelle 90.92 316 *e*P **P 19 27 31.7 +0.2**
CABF pmax pmax
comp=Z,19nm,1.3s,mb5.3
ORIF Oris-en-Rattie 91.16 315 *e*P **P 19 27 32.9 +0.2**
comp=Z,14nm,1.0s,mb5.0
ORIF *e*MLR MLR
comp=Z,96nm,18.5s,MS4.0
ORIF Oris-en-Rattie 91.16 315 *e*P **P 19 27 32.9 +0.2**
comp=Z,7.1nm,1.0s,mb5.0
ORIF Oris-en-Rattie 91.16 315 *e*P **P 19 27 32.9 +0.2**
ORIF pmax pmax
comp=Z,7.0nm,1.0s,mb5.0
CTEI Djebel Teioual 91.27 306 P **P 19 27 35.0 +1.6**
SMRF Simiane la Rot 91.44 314 *e*P **P 19 27 34.4 +0.4**
MEZF Maizieres J'vi 91.49 318 *e*P **P 19 27 34.3 +0.2**
DFRA Djebel Bou Aff 91.67 306 P **P 19 27 37.5 +2.3**
VIVF Saint-Julien-I 92.02 315 *e*P **P 19 27 36.8 +0.1**
comp=Z,6.3nm,0.8s,mb4.7
VIVF Saint-Julien-I 92.02 315 *e*P **P 19 27 36.8 +0.1**
comp=Z,3.2nm,0.8s,mb4.7
VIVF Saint-Julien-I 92.02 315 *e*P **P 19 27 36.8 +0.1**
VIVF pmax pmax
comp=Z,3.0nm,0.8s,mb4.7
LOR Lormes 92.39 317 *e*P **P 19 27 38.2 -0.1**
comp=Z,36nm,1.3s,mb5.2
LOR *e*MLR MLR
comp=Z,88nm,21.5s,MS3.9
LOR Lormes 92.39 317 *e*P **P 19 27 38.2 -0.1**
comp=Z,18nm,1.3s,mb5.2
LOR LR LR
comp=Z,90nm,21.5s,MS4.2
LOR Lormes 92.39 317 *e*P **P 19 27 38.2 -0.1**
LOR pmax pmax
comp=Z,18nm,1.3s,mb5.2
LOR MLR MLR
comp=Z,90nm,21.5s,MS4.2
SMF Signal de Mont 92.46 317 *e*P **P 19 27 38.6 0.0**
comp=Z,16nm,0.8s,mb5.1
SMF Signal de Mont 92.46 317 *e*P **P 19 27 38.6 0.0**
comp=Z,8.1nm,0.8s,mb5.1
SMF Signal de Mont 92.46 317 *e*P **P 19 27 38.6 0.0**
SMF pmax pmax
comp=Z,8.0nm,0.8s,mb5.1
LASF Ste Croix 92.67 314 *e*P **P 19 27 40.0 +0.3**
comp=Z,11nm,1.1s,mb4.9
AVF Avril sur Loir 92.78 317 *e*P **P 19 27 40.0 -0.1**
comp=Z,26nm,1.3s,mb5.2
AVF Avril sur Loir 92.78 317 *e*P **P 19 27 40.0 -0.1**
comp=Z,13nm,1.3s,mb5.2
AVF Avril sur Loir 92.78 317 *e*P **P 19 27 40.0 -0.1**
AVF pmax pmax
comp=Z,13nm,1.3s,mb5.2
BGF Bois d'Agland 93.15 317 *e*P **P 19 27 42.2 +0.4**
comp=Z,19nm,1.1s,mb5.1
BGF Bois d'Agland 93.15 317 *e*P **P 19 27 42.2 +0.4**
comp=Z,9.3nm,1.1s,mb5.1
BGF Bois d'Agland 93.15 317 *e*P **P 19 27 42.2 +0.4**
BGF pmax pmax
comp=Z,9.0nm,1.1s,mb5.1
CAF Calviac 93.86 315 *e*P **P 19 27 45.6 +0.5**
comp=Z,17nm,1.2s,mb5.0
CAF Calviac 93.86 315 *e*P **P 19 27 45.6 +0.5**
comp=Z,8.4nm,1.2s,mb5.0
CAF Calviac 93.86 315 *e*P **P 19 27 45.6 +0.5**
CAF pmax pmax
comp=Z,8.0nm,1.2s,mb5.0
IMA2 Indian Mountai 95.34 23 *e*P **P 19 27 50.9 -0.5**
SNAA Sanae 95.39 198 *e*P **P 19 27 52.1 +0.6**
MCK McKinley 98.01 25 *e*P **P 19 28 03.3 -0.2**
comp=Z,12nm,1.1s,mb5.3
MCK McKinley 98.01 25 *e*P **P 19 28 03.3 -0.3**
MCK pmax pmax
comp=Z,12nm,1.1s,mb5.3
INK Inuvik 101.41 18 P Pdif 19 28 18.7 -0.2
INK pmax pmax
comp=Z,2.0nm,1.1s
INK Inuvik 101.41 18 P Pdif 19 28 18.7 -0.2
comp=Z,2.4nm,1.1s,baz=269,slow=3.1,SNR=4.7
SCHQ Schefferville 122.49 350 PKP PKPdf 19 33 23.1 +0.3
comp=Z,2.8nm,0.9s,baz=329,slow=6.4,SNR=7.1
WDC Whiskeytown Da 123.30 37 *e*PKPdf PKPdf 19 33 25.9 +1.1
EGMT Eagleton 124.43 23 *e*PKPdf PKPdf 19 33 26.1 -0.6
QLMT Earthquake Lak 126.25 27 PKPdf PKPdf 19 33 33.4 +3.0
ULM Lac du Bonnet 126.66 12 *e*PKPdf PKPdf 19 33 29.8 -1.2
ULM Lac du Bonnet 126.66 12 PKP PKPdf 19 33 30.4 -0.6
comp=Z,4.5nm,0.8s,baz=323,slow=2.7,SNR=7.7
NVAR Mina Array Bea 127.20 37 PKP PKPdf 19 33 33.5 +1.1
comp=Z,1.5nm,0.9s,baz=274,slow=1.5,SNR=7.6
RWWY Rawlins 130.62 26 *e*PKPdf PKPdf 19 33 39.0 +0.3
MSU Marysvale 130.64 33 *e*P PKPdf 19 33 38.0 -0.9
PV10 Paradox Valley 132.37 30 PKPdf PKPdf 19 33 41.4 -0.8
ECSD EROS,Sioux Fal 132.60 16 *e*PKPdf PKPdf 19 33 42.0 -0.4
ANMO Albuquerque 136.33 31 PKIKP PKPdf 19 33 49.3 -0.4
ANMO pmax pmax
comp=Z,1.0nm,0.9s
ANMO Albuquerque 136.33 31 PKP PKPdf 19 33 49.3 -0.4
comp=Z,1.3nm,0.9s,baz=143,slow=20,SNR=2.2
MIAR Mount Ida 142.01 17 *e*PKPdf PKPdf 19 33 54.7 -5.3
TXAR Lajitas Array 142.18 34 PKIKP PKPdf 19 33 59.9 -0.6
TXAR pmax pmax
comp=Z,2.0nm,0.9s
TXAR Lajitas Array 142.18 34 PKP PKPdf 19 33 59.9 -0.6
comp=Z,2.0nm,0.9s,baz=215,slow=7.7,SNR=7.9
TKL Tuckaleechee C 142.73 4 PKIKP PKPdf 19 33 59.6 -1.7
TKL pmax pmax
comp=Z,4.0nm,0.9s
TKL Tuckaleechee C 142.73 4 PKP PKPdf 19 33 59.6 -1.7
comp=Z,3.5nm,0.9s,baz=36,slow=19,SNR=2.0
JCT Junction City 143.23 28 *e*PKPdf PKPdf 19 33 59.9 -2.4
BDFB Brasilia 144.83 245 PKIKP PKPdf 19 34 05.0 -0.5
BDFB pmax pmax
comp=Z,4.0nm,0.7s
BDFB Brasilia 144.83 245 PKP PKPdf 19 34 05.0 -0.5
comp=Z,4.4nm,0.7s,baz=161,slow=8.8,SNR=8.9
LRAL Lakeview Retre 144.96 9 *e*PKPdf PKPdf 19 34 04.2 -1.2
GOGA Godfrey 144.99 4 *e*PKPdf PKPdf 19 34 05.1 -0.3
HKT Hockley 145.41 23 *e*PKPdf PKPdf 19 34 06.5 +0.4
LPAZ La Paz 160.87 220 PKIKP PKPdf 19 34 30.1 +1.5
LPAZ 19 35 09.2
LPAZ pmax pmax
comp=Z,1.0nm,1.0s
LPAZ La Paz 160.87 220 PKP PKPdf 19 34 30.1 +1.5
comp=Z,1.4nm,0.9s,baz=49,slow=5.3,SNR=5.8
LPAZ PKPab PKPab 19 35 09.2 -1.8
comp=Z,0.4nm,0.6s,baz=81,slow=13,SNR=2.2

ISCJB ***28*** *19:17:10.1±1.1, 181N±0.1×7662W±004, h23km±12km, Error ellipse: s-maj=21.2km s-min=6.0km az=170.7*
SSNC ***28*** *19:17:11.2, 1887N×7660W, h0km, MD3.5, ML1.8*
JSN ***28*** *19:17:11.5±0.9, 1812N×7665W, h2km±3km, MD3.3*
ISC 28 19:17:10.5±0.7, 1815N±009×7664W±004, h18km±6km, n11, σ0°91/15, 4C-4D, Jamaica region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GWJ	**Greenwich**	**0.11**	**229⇑**	*e*P	**Pg**	**19 17 13.3**	**-1.0**
STH	**Stony Hill**	**0.17**	**246⇓**	*i*P	**Pg**	**19 17 14.8**	**-0.3**
STH				*i* S	**Sg**	**19 17 17.7**	**-0.5**
HOJ	**Hope**	**0.17**	**216⇓**	*i*P	**Pg**	**19 17 14.7**	**-0.4**
CMJ	**Castle Mountai**	**0.26**	**92⇑**	*i*P	**Pg**	**19 17 17.3**	**+1.0**
CMJ				*i* S	**Sg**	**19 17 21.2**	**+0.9**
BNJ	**Bonny Gate**	**0.34**	**301⇑**	*i*P	**Pg**	**19 17 18.1**	**+0.3**
BBJ	**Bamboo Saint A**	**0.64**	**292⇓**	*e*P	**Pg**	**19 17 23.4**	**+0.2**
CVJ	**Coleyville**	**0.85**	**275⇓**	*e*P	**Pb**	**19 17 26.2**	**-0.6**
MCJ	**Malvern**	**1.02**	**258⇑**	*e*P	**Pb**	**19 17 29.2**	**-0.4**
MCJ				*e*S	**Sb**	**19 17 43.2**	**+0.5**
MBJ	**Montego Bay**	**1.19**	**283**	*e*S	**Sb**	**19 17 48.9**	**+1.3**
RCC	**Rio Carpintero**	**2.04**	**26**	*e*PG	**Pn**	**19 17 43.2**	**-0.8**
RCC	baz=217			*e*SG	**Sn**	**19 18 06.9**	**-2.2**
RCC	comp=N,13nm,0.1s			*e*			
CCCC	comp=E,15nm,0.4s **Cccc**	**3.22**	**341**	*e*P	**Pn**	**19 18 01.4**	**+1.2**

IDC ***28*** *19:27:26.7±1.2, 7.13S×15490E, h0km, mb3.9/9, mb1 4.1/9, mb1mx4.0/14, mbtmp3.9/9, Error ellipse: s-maj=42.7km s-min=21.2km az=118.0*
NEIC ***28*** *19:27:28.2±0.7, 7.17S×15491E, h10km, mb4.2/4, Error ellipse: s-maj=30.1km s-min=12.6km az=124.0*
ISCJB ***28*** *19:27:30.4±0.9, 7.1S±0.1×1548E±02, h33km, mb3.9/11, Error ellipse: s-maj=32.6km s-min=14.3km az=30.7*
ISC 28 19:27:32.2±0.9, 72S±01×1549E±02, h35km, n15, σ0°72/15, mb3.9/11, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTAO	**Charters Tower**	**15.32**	**212**	P	**Pn**	**19 31 10.8**	**+4.9**
WRAB	2.0nm,0.7s **Tennant Creek**	**23.59**	**235**	P	**P**	**19 32 39.9**	**-0.1**
WRA	3.2nm,0.8s,mb3.8 **Warramunga Arr**	**23.61**	**235**	P	**P**	**19 32 38.9**	**-1.3**
ASAR	0.7nm,0.6s,mb3.2,baz=56,slow=9.4,SNR=7.1 **Alice Springs**	**25.96**	**228**	P	**P**	**19 33 01.4**	**-0.2**
STKA	0.4nm,0.6s,mb3.1,baz=62,slow=9.5,SNR=6.2 **Stephens Creek**	**27.53**	**205**	*e*P	**P**	**19 33 16.6**	**+1.0**
STKA	8.9nm,1.1s,mb4.3 **Stephens Creek**	**27.53**	**205**	P	**P**	**19 33 17.1**	**+1.5**
KSRS	2.4nm,0.7s,mb3.9,baz=18,slow=19,SNR=3.4 **Korea Array**	**51.01**	**332**	P	**P**	**19 36 30.1**	**-0.6**
SONM	0.4nm,0.5s,mb3.6,baz=137,slow=6.0,SNR=4.4 **Songino Array**	**69.39**	**327**	P	**P**	**19 38 37.4**	**+1.0**
MK31	0.6nm,0.5s,mb3.8,baz=154,slow=5.0,SNR=11 **Makanchi Array**	**83.43**	**319**	*e*P	**P**	**19 39 56.5**	**+0.5**
MK31				*e*	pP	19 40 06.4	-0.7
MKAR	**Makanchi Array**	**83.43**	**319**	P	**P**	**19 39 56.6**	**+0.6**
MAW	0.9nm,0.7s,mb3.9,baz=100,slow=5.8,SNR=12 **Mawson**	**84.19**	**203**	P	**P**	**19 40 07.2**	**+7.6**
INK	3.6nm,0.7s,mb4.6 **Inuvik**	**89.92**	**21**	P	**P**	**19 40 27.1**	**-0.2**
NVAR	1.2nm,0.4s,mb4.5,baz=309,slow=2.7,SNR=11 **Mina Array Bea**	**91.93**	**52**	P	**P**	**19 40 36.9**	**-0.4**
YKA	0.7nm,0.9s,mb4.0,baz=240,slow=4.1,SNR=4.0 **Yellowknife Ar**	**96.54**	**28**	P	**P**	**19 40 57.4**	**-0.4**
YKA	**Yellowknife Ar**	**96.54**	**28**	P	**P**	**19 40 57.4**	**-0.4**
	0.5nm,0.5s,mb4.2,baz=266,slow=4.5,SNR=5.3						

ISCJB ***28*** *19:29:40.7±0.2, 5393N±003×13365W±005, h10km, mb4.4/78, MS3.9/3, Error ellipse: s-maj=5.0km s-min=2.6km az=135.2*
IDC ***28*** *19:29:40.7±0.7, 5389N×13353W, h0km, mb4.2/13, mb1 4.3/18, mb1mx4.2/24, mbtmp4.1/18, ML3.7/5, MS3.5/5, Ms1 3.5/5, ms1mx3.1/39, Error ellipse: s-maj=13.8km s-min=5.7km az=58.0*
BJI ***28*** *19:29:41.3, 5390N×13360W, h20km, mB5.0, mb4.7, Ms4.9, Ms24.6*
NEIC ***28*** *19:29:41.3, 5389N×13364W, h20km, mb4.4/38, ML4.7(PGC), ML4.2(AEIC), After PGC.*
NEIC Felt.
PGC ***28*** *19:29:41.3±0.8, 5389N×13364W, h20km, ML4.7/4, 98km west of Masset, Bc Queen Charlotte Islands Region*
MOS ***28*** *19:29:42.0±1.1, 5411N×13343W, h14km, mb4.6/35, Error ellipse: s-maj=13.2km s-min=6.2km az=98.1*
SZGRF ***28*** *19:30:01.4, 5724N×13779W, h33km, mb4.5, Off coast of southeastern Alaska, United States*
ISC 28 19:29:42.4±0.2, 5389N±003×13359W±005, h10km, n187, σ1°11/193, mb4.4/78, MS3.9/3, 31C, Queen Charlotte Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NDB	**Naden**	**0.39**	**79**	P	**Pg**	**19 29 49.6**	**-0.4**
NDB				S	**Sg**	**19 29 54.9**	**-0.2**
VIB	**Van Inlet**	**0.89**	**135**	Pg	**Pg**	**19 29 58.2**	**-1.2**
VIB				Lg		19 30 10.8	
VIB	**Van Inlet**	**0.89**	**135**	P	**Pg**	**19 29 58.2**	**-1.2**
VIB				S	**Sg**	**19 30 10.7**	**-0.3**
MASB	**Masset**	**0.93**	**81**	P	**Pg**	**19 29 59.2**	**-1.1**
MASB				S	**Sg**	**19 30 12.0**	**-0.5**
DIB	**Dawson Inlet,**	**0.95**	**135**	Pg	**Pg**	**19 29 59.4**	**-1.3**
DIB				Lg		19 30 11.9	
DIB	**Dawson Inlet,**	**0.95**	**135**	P	**Pg**	**19 29 59.2**	**-1.4**
DIB				S	**Sg**	**19 30 12.3**	**-0.7**
MOBC	**Moresby Island**	**1.22**	**127**	P	**Pn**	**19 30 03.4**	**-2.0**
MOBC				S	**Sb**	**19 30 19.8**	**-1.4**
CRAG	**Craig**	**1.61**	**9**	P	**Pn**	**19 30 07.3**	**-3.5**
CRAG				S	**Sn**	**19 30 27.8**	**-3.8**
WRAK	**Wrangell Islan**	**2.64**	**15**	P	**Pn**	**19 30 23.7**	**-1.2**
SIT	**Sitka**	**3.33**	**343**	P	**Pn**	**19 30 31.7**	**-2.7**
SIT				S	**Sn**	**19 31 08.8**	**-5.2**
BBB	**Bella Bella**	**3.72**	**115**	P	**Pn**	**19 30 37.5**	**-2.3**
BBB				S	**Sn**	**19 31 21.6**	**-2.0**
BBB	**Bella Bella**	**3.72**	**115**	Pn	**Pn**	**19 30 37.6**	**-2.1**
	10nm,0.3s,baz=292,slow=12,SNR=30						
BBB				Sn	**Sn**	**19 31 21.4**	**-2.2**
	46nm,0.3s,baz=144,slow=22,SNR=12						
BBB				LR	LR	19 31 24.8	
	comp=Z,394nm,20.7s,baz=216,slow=28						
BBB				Lg		19 31 34.6	
	103nm,0.3s,baz=49,slow=22,SNR=9.1						
DLBC	**Dease Lake**	**4.98**	**22**	P	**Pn**	**19 30 57.0**	**0.0**
DLBC	**Dease Lake**	**4.98**	**22**	Pn	**Pn**	**19 30 56.8**	**-0.3**
	baz=218,slow=11						
DLBC				Sn	**Sn**	**19 31 55.7**	**+1.2**
	baz=222,slow=18						
DLBC				Lg		19 32 16.2	
	baz=311,slow=20						
SKAG	**Skagway**	**5.67**	**351**	*e*P	**Pn**	**19 31 06.7**	**+0.1**
PNL	**Peninsula**	**6.62**	**334**	P	**Pn**	**19 31 17.8**	**-1.7**
WHY	**Whitehorse**	**6.83**	**355**	P	**Pn**	**19 31 21.2**	**-1.3**
DAWY	**Dawson**	**10.63**	**346**	*e*Pn	**Pn**	**19 32 13.4**	**-1.2**
DAWY				*e*Sg	Sn	19 35 11.8	+58
SML	**Sawmill**	**11.15**	**321**	*e*Pn	**Pn**	**19 32 21.6**	**0.0**
SLKM	**Skilak Lake**	**11.18**	**313**	*e*Pn	**Pn**	**19 32 18.4**	**-3.6**
KDAK	**Kodiak Island**	**11.36**	**298**	*e*Pn	**Pn**	**19 32 22.8**	**-1.7**
KDAK	**Kodiak Island**	**11.36**	**298**	Pn	**Pn**	**19 32 23.1**	**-1.5**
	0.7nm,0.3s,baz=351,slow=8.1,SNR=9.1						
EGAK	**Eagle**	**11.58**	**344**	*e*Pn	**Pn**	**19 32 27.6**	**+0.2**
	6.3nm,0.4s						
EGAK				*e*Sg	Sn	19 35 42.6	+66
NEW	**Newport**	**11.77**	**112**	Pn	**Pn**	**19 32 26.5**	**-3.7**
NEW				*e*Pn	**Pn**	**19 32 33.6**	**+3.4**
NEW				*e*Sg	Sn	19 35 46.4	+65
NEW	**Newport**	**11.77**	**112**	Pn	**Pn**	**19 32 26.5**	**-3.7**
	0.4nm,0.3s,baz=73,slow=11,SNR=3.1						
NEW				Lg		19 35 46.4	
	0.2nm,0.3s,baz=66,slow=20,SNR=3.3						
EDM	**Edmonton**	**12.05**	**85**	*e*Pn	**Pn**	**19 32 33.6**	**-0.4**
MCK	**McKinley**	**12.64**	**327**	*e*Pn	**Pn**	**19 32 40.9**	**-1.0**
	6.8nm,0.7s						
MCK	**McKinley**	**12.64**	**327**	*e*P	**Pn**	**19 32 40.9**	**-1.0**
MCK				pmax	pmax		
	comp=Z,7.0nm,0.7s						
COLA	**College**	**13.16**	**332**	*e*P	**Pn**	**19 32 50.5**	**+1.5**
YKA	**Yellowknife Ar**	**13.16**	**42**	Pn	**Pn**	**19 32 45.8**	**-3.2**
	comp=Z,0.2nm,0.3s,baz=231,slow=13,SNR=43						
YKA				Lg		19 36 32.7	
	comp=Z,0.2nm,0.3s,baz=235,slow=29,SNR=3.6						
YKA				LR	LR	19 38 25.6	
	comp=Z,125nm,19.7s,baz=115,slow=40						
MSO	**Missoula**	**14.36**	**111**	*e*Pn	**Pn**	**19 33 07.8**	**+2.3**
	comp=Z,12nm,1.3s						
INK	**Inuvik**	**14.47**	**0**	*e*Pn	**Pn**	**19 33 07.3**	**+0.4**
	comp=Z,240nm,0.9s						
INK	**Inuvik**	**14.47**	**0**	Pn	**Pn**	**19 33 04.6**	**-2.3**
	comp=Z,0.4nm,0.3s,baz=172,slow=13,SNR=10						
INK				Lg		19 37 17.6	
	comp=Z,0.0nm,0.3s,baz=79,slow=28,SNR=5.7						
INK				LR	LR	19 39 06.6	
	comp=Z,193nm,20.1s,baz=350,slow=39						
CHMT	**Chamberlain Mo**	**14.69**	**110**	*e*Pn	**Pn**	**19 33 12.6**	**+2.6**
IMA2	**Indian Mountai**	**15.72**	**329**	*e*Pn	**Pn**	**19 33 24.3**	**+0.9**
MCMT	**McKenzie Canyo**	**16.22**	**116**	*e*Pn	**Pn**	**19 33 32.5**	**+2.4**
GCMT	**Greycliff**	**17.36**	**108**	*e*Pn	**Pn**	**19 33 47.3**	**+2.8**
FLWY	**Flagg Ranch**	**17.86**	**114**	*e*P	**Pn**	**19 33 53.1**	**+2.4**
	comp=Z,11nm,1.0s						
RLMT	**Red Lodge**	**17.99**	**109**	*e*P	**Pn**	**19 33 55.1**	**+2.8**
	comp=Z,11nm,1.0s						
FFC	**Flin Flon**	**18.39**	**75**	*e*P	**Pn**	**19 33 55.0**	**-2.1**
	comp=Z,5.0nm,0.8s						
FFC	**Flin Flon**	**18.39**	**75**	*e*P	**Pn**	**19 33 55.0**	**-2.1**
FFC				pmax	pmax		
	comp=Z,5.0nm,0.8s						
NVAR	**Mina Array Bea**	**18.67**	**140**	P	**Pn**	**19 34 00.6**	**-0.1**
	comp=Z,0.1nm,0.3s,baz=324,slow=8.4,SNR=10.0						
TPNV	**Topopah Spring**	**20.76**	**138**	*e*P	**P**	**19 34 25.5**	**+2.3**
	comp=Z,7.5nm,0.9s						
TPNV	**Topopah Spring**	**20.76**	**138**	*e*P	**P**	**19 34 25.5**	**+2.4**
TPNV				pmax	pmax		
	comp=Z,8.0nm,0.9s						
MSU	**Marysvale**	**21.23**	**128**	*e*P	**P**	**19 34 31.5**	**+3.3**
RWWY	**Rawlins**	**21.37**	**114**	*e*P	**P**	**19 34 29.9**	**+0.3**
	comp=Z,17nm,1.1s,mb4.3						
SRU	**San Rafael**	**21.55**	**124**	*e*P	**P**	**19 34 34.6**	**+2.9**
	comp=Z,12nm,1.4s,mb4.1						
SRU	**San Rafael**	**21.55**	**124**	*e*P	**P**	**19 34 34.6**	**+3.0**
SRU				pmax	pmax		
	comp=Z,12nm,1.4s,mb4.1						
RSSD	**Black Hills**	**21.56**	**105**	*e*P	**P**	**19 34 31.4**	**-0.3**
	comp=Z,20nm,0.9s,mb4.5						
RSSD	**Black Hills**	**21.56**	**105**	*e*P	**P**	**19 34 31.4**	**-0.3**
RSSD				pmax	pmax		
	comp=Z,20nm,0.9s,mb4.5						
GAMB	**Gambell**	**21.73**	**312**	P	**P**	**19 34 33.8**	**+0.4**
	comp=Z,8.1nm,1.0s,mb4.1						
FCC	**Fort Churchill**	**22.20**	**61**	*e*P	**P**	**19 34 37.5**	**-0.9**
	comp=Z,16nm,1.1s,mb4.3						
FCC	**Fort Churchill**	**22.20**	**61**	*e*P	**P**	**19 34 37.5**	**-0.9**
FCC				pmax	pmax		
	comp=Z,16nm,1.1s,mb4.4						
PHWY	**Pilot Hill**	**22.59**	**112**	*e*P	**P**	**19 34 43.6**	**+0.9**
PV01	**Paradox Valley**	**23.27**	**122**	*e*P	**P**	**19 34 50.9**	**+1.0**
ULM	**Lac du Bonnet**	**23.28**	**84**	*e*P	**P**	**19 34 48.3**	**-1.7**
	comp=Z,10.0nm,1.1s,mb4.2						
ULM	**Lac du Bonnet**	**23.28**	**84**	P	**P**	**19 34 49.7**	**-0.3**
	comp=Z,8.3nm,1.0s,mb4.1,baz=291,slow=9.7,SNR=8.6						
ULM				Lg		19 41 51.0	
	comp=Z,0.5nm,0.4s,baz=200,slow=17,SNR=3.8						
ULM				LR	LR	19 44 32.0	
	comp=Z,207nm,20.6s,MS3.6,baz=228,slow=38						
SMCO	**Snowmass**	**23.30**	**118**	*e*P	**P**	**19 34 51.9**	**+1.7**
	comp=Z,6.9nm,1.2s,mb4.0						
ISCO	**Idaho Springs**	**23.56**	**115**	*e*P	**P**	**19 34 54.6**	**+1.7**
	comp=Z,1.7nm,0.8s,mb3.5						
ISCO	**Idaho Springs**	**23.56**	**115**	*e*P	**P**	**19 34 54.7**	**+1.7**
ISCO				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb3.6						
RES	**Resolute Bay**	**25.87**	**22**	P	**P**	**19 35 14.1**	**+0.4**
	comp=Z,151nm,1.3s,mb5.4						
RES	**Resolute Bay**	**25.87**	**22**	P	**P**	**19 35 14.1**	**+0.4**
RES				pmax	pmax		
	comp=Z,151nm,1.3s,mb5.4						
ECSD	**EROS,Sioux Fal**	**26.10**	**98**	*e*P	**P**	**19 35 15.9**	**-0.1**
	comp=Z,15nm,1.2s,mb4.4						
ANMO	**Albuquerque**	**26.82**	**124**	*e*P	**P**	**19 35 23.7**	**+1.1**
BILL	**Biiibino**	**30.95**	**321**	*e*P	**P**	**19 35 58.5**	**-0.5**
BILL				pmax	pmax		
	comp=Z,2.0nm,1.6s,mb3.7						
TXAR	**Lajitas Array**	**32.77**	**126**	P	**P**	**19 36 14.2**	**-1.1**
	comp=Z,0.4nm,0.5s,mb3.6,baz=340,slow=9.8,SNR=3.1						
CCM	**Cathedral Cave**	**32.84**	**101**	*e*P	**P**	**19 36 15.1**	**-0.8**
	comp=Z,6.0nm,0.9s,mb4.5						
CCM	**Cathedral Cave**	**32.84**	**101**	*e*P	**P**	**19 36 15.1**	**-0.8**
CCM				pmax	pmax		
	comp=Z,6.0

YSS pmax pmax
comp=Z,13nm,1.3s,mb4.7
KEV Kevo 55.86 8 *eP* **P 19 39 17.2 -2.2**
comp=Z,30nm,1.1s,mb5.2
KEV Kevo 55.86 8 *eP* **P 19 39 17.2 -2.1**
KEV pmax pmax
comp=Z,30nm,1.1s,mb5.2
BOD Bodaibo 55.94 323 *eP* **P 19 39 19.4 -0.7**
BOD pmax pmax
comp=Z,3.0nm,1.1s,mb4.2
ARCES ARCESS Array B 55.95 9 P **P 19 39 18.5 -1.5**
ARCES pmax pmax
comp=Z,6.0nm,1.0s
ARCES ARCESS Array B 55.95 9 P **P 19 39 18.5 -1.5**
comp=Z,5.7nm,1.0s,mb4.6,baz=27,slow=6.0,SNR=3.6
CN2 Changchun 61.68 306 *eP* **P 19 40 01.0 +0.8**
NB2 NORSAR Subarra 62.06 19 P **P 19 40 02.3 -0.1**
comp=Z,8.4nm,0.9s,mb4.9,baz=338,slow=6.9
NOA NORSAR Array B 62.06 19 P **P 19 40 02.7 +0.2**
NOA NORSAR Array B 62.06 19 P **P 19 40 02.7 +0.3**
NOA pmax pmax
comp=Z,6.0nm,0.9s
NOA NORSAR Array B 62.06 19 P **P 19 40 02.7 +0.3**
comp=Z,5.9nm,0.9s,mb4.7,baz=338,slow=6.9,SNR=15
NAO01 NORSAR Array S 62.18 19 P **P 19 39 58.4 -4.9**
JOF Joensuu 62.94 8 *ep* **P 19 40 07.1 -1.2**
comp=Z,6.6nm,0.6s,mb4.9
FINES FINESS Array B 63.89 11 P **P 19 40 14.3 -0.3**
FINES pmax pmax
comp=Z,2.0nm,0.7s
FINES FINESS Array B 63.89 11 P **P 19 40 14.2 -0.4**
comp=Z,1.9nm,0.7s,mb4.2,baz=1.4,slow=8.0,SNR=6.3
ULN Ulaanbaatar 66.40 320 *eP* **P 19 40 31.4 +0.3**
comp=Z,1.0nm,0.8s,mb3.9
ULN Ulaanbaatar 66.40 320 *eP* **P 19 40 31.4 +0.3**
ULN pmax pmax
comp=Z,1.0nm,0.8s,mb3.9
SONM Songino Array 66.67 321 P **P 19 40 33.3 +0.5**
SONM pmax pmax
comp=Z,1.0nm,1.1s
SONM Songino Array 66.67 321 P **P 19 40 33.3 +0.5**
comp=Z,1.0nm,1.1s,mb3.7,baz=52,slow=5.7,SNR=4.0
ZALV Zalesovo Beam 67.92 337 P **P 19 40 40.6 -0.1**
comp=Z,2.2nm,0.6s,mb4.3,baz=17,slow=4.9,SNR=8.9
ZAL Zalesovo 67.94 337 P **P 19 40 40.6 -0.2**
ZAL pmax pmax
comp=Z,2.0nm,0.6s
BJI Beijing 68.95 309 P **P 19 40 45.8 -1.5**
BJI AMB AMB
comp=Z,4.0nm,0.4s,mb4.7
WTSB Winterswijk 69.45 25 *eP* **P 19 40 51.0 +0.7**
comp=Z,16nm,1.2s,mb4.8
ARU Arti 69.60 353 *eiP* **P 19 40 50.0 -1.1**
ARU *e* 19 41 10.0
ARU *e* 19 43 24.4
ARU *e*S S 19 49 55.6 -3.1
ARU *e*SS SS 19 54 21.1 -4.1
ARU pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
FLN La Foliniere 70.33 31 *eP* **P 19 40 55.8 +0.1**
comp=Z,24nm,1.2s,mb4.7
HGN Heimansgroeve 70.33 26 *eP* **P 19 40 56.4 +0.8**
comp=Z,17nm,1.1s,mb4.9
HHC Hu-ho-hao-te 70.34 313 *eP* **P 19 40 55.3 -0.6**
HHC AP pP 19 41 01.0 +1.8
HHC XP sP 19 41 04.3 +3.9
HHC PP PP 19 43 31.5 +0.5
HHC S S 19 50 02.8 -5.2
HHC SCS ScS 19 50 52.8 -5.8
HHC SS SS 19 54 35.3 -2.2
HHC AMB AMB
comp=Z,15nm,0.4s,mb5.3
HHC AMB AMB
comp=Z,551nm,10.6s
HHC LR LR
comp=N,135nm,5.7s
HHC LR LR
comp=E,113nm,4.9s
HHC LR LR
comp=Z,74nm,14.2s,MS4.1
BAIF Baives 70.52 27⇑*iP* **P 19 40 57.6 +0.8**
comp=Z,18nm,1.0s,mb4.7
BAIF Baives 70.52 27⇑*iP* **P 19 40 57.6 +0.8**
comp=Z,9.2nm,1.0s,mb4.7
BAIF Baives 70.52 27⇑*iP* **P 19 40 57.6 +0.8**
BAIF pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
GIVF Givet 70.64 27 *eP* **P 19 40 58.3 +0.7**
OBN Obninsk 71.06 6 *eP* **P 19 40 59.4 -0.6**
OBN pmax pmax
comp=Z,6.0nm,1.2s,mb4.4
CLL Collm 71.51 21 *eP* **P 19 41 03.0 +0.2**
CLL pmax pmax
comp=Z,4.0nm,1.0s,mb4.3
CLL Collm 71.51 21 *e*(P) **P 19 41 03.0 +0.2**
comp=Z,4.0nm,1.0s,mb4.3
BRVK Borovoye 71.59 345 *eP* **P 19 41 02.6 -0.7**
comp=Z,3.2nm,0.8s,mb4.3
BRVK Borovoye 71.59 345 *eP* **P 19 41 02.6 -0.7**
BRVK pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
BRG Berggiesshubel 72.12 21 *eP* **P 19 41 07.2 +0.7**
BRG pmax pmax
comp=Z,7.0nm,1.4s,mb4.4
BRG Berggiesshubel 72.12 21 *eP* **P 19 41 07.2 +0.7**
comp=Z,11nm,1.4s,mb4.6
MEZF Maizieres J'vi 72.16 27⇑*iP* **P 19 41 07.3 +0.5**
comp=Z,8.9nm,0.8s,mb4.4
MEZF Maizieres J'vi 72.16 27⇑*iP* **P 19 41 07.3 +0.5**
comp=Z,8.9nm,0.8s,mb4.8
KURK Kurchatov 72.32 339 *eP* **P 19 41 07.0 -0.6**
comp=Z,4.2nm,0.8s,mb4.4
KURK Kurchatov 72.32 339 *eP* **P 19 41 07.1 -0.6**
KURK pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
MFF Saint Martin d 72.36 32 *eP* **P 19 41 07.8 -0.2**
comp=Z,13nm,1.0s,mb4.5
MFF Saint Martin d 72.36 32 *eP* **P 19 41 07.8 -0.2**
comp=Z,6.7nm,1.0s,mb4.5
MFF Saint Martin d 72.36 32 *eP* **P 19 41 07.8 -0.2**
MFF pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
GRA1 Grafenberg Arr 72.62 23 *eP* **P 19 41 10.4 +0.9**
comp=Z,4.0nm,1.0s,mb4.3
GRF Grafenberg Arr 72.62 23 *eP* **P 19 41 10.4 +0.9**
GRF pmax pmax
comp=Z,4.0nm,1.0s,mb4.3
GRF Grafenberg Arr 72.62 23 *eP* **P 19 41 10.4 +0.9**
comp=Z,4.0nm,1.0s,mb4.3
CDF Champ du Feu 72.84 26⇑*iP* **P 19 41 11.7 +0.9**
comp=Z,11nm,0.9s,mb4.5
CDF Champ du Feu 72.84 26⇑*iP* **P 19 41 11.7 +0.9**
comp=Z,5.6nm,0.9s,mb4.5
CDF Champ du Feu 72.84 26⇑*iP* **P 19 41 11.7 +0.9**
CDF pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
LOR Lormes 72.95 29⇑*iP* **P 19 41 12.1 +0.6**
comp=Z,14nm,0.8s,mb4.6
HAU Haudompre 72.97 27⇑*iP* **P 19 41 12.1 +0.5**
comp=Z,9.3nm,0.9s,mb4.4
HAU Haudompre 72.97 27⇑*iP* **P 19 41 12.1 +0.5**
comp=Z,4.7nm,0.9s,mb4.4
HAU Haudompre 72.97 27⇑*iP* **P 19 41 12.1 +0.5**
HAU pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
SSF Saint Saulge 73.04 29⇑*iP* **P 19 41 12.6 +0.6**
comp=Z,26nm,1.1s,mb4.8
AVF Avril sur Loir 73.24 29⇑*iP* **P 19 41 13.5 +0.3**
comp=Z,22nm,1.1s,mb4.7
HINF Hinteralfeld 73.28 27 *eP* **P 19 41 13.9 +0.5**
comp=Z,12nm,1.1s,mb4.4
BGF Bois d'Agland 73.30 30 *eP* **P 19 41 13.9 +0.3**
comp=Z,16nm,1.0s,mb4.6
BGF Bois d'Agland 73.30 30 *eP* **P 19 41 13.9 +0.3**
comp=Z,8.1nm,1.0s,mb4.6
BGF Bois d'Agland 73.30 30 *eP* **P 19 41 13.9 +0.3**
BGF pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
TCF Toulx Ste Croi 73.36 30⇑*iP* **P 19 41 14.3 +0.4**
comp=Z,8.6nm,1.0s,mb4.3
TCF Toulx Ste Croi 73.36 30⇑*iP* **P 19 41 14.3 +0.4**
comp=Z,4.3nm,1.0s,mb4.3
TCF Toulx Ste Croi 73.36 30⇑*iP* **P 19 41 14.3 +0.4**
TCF pmax pmax
comp=Z,4.0nm,1.0s,mb4.3
SMF Signal de Mont 73.51 29⇑*iP* **P 19 41 15.1 +0.3**
comp=Z,8.9nm,0.9s,mb4.4
KHC Kasperske Hory 73.68 22 *eP* **P 19 41 17.0 +1.2**
GERES GERESS Array B 73.98 22 P **P 19 41 18.2 +0.7**
GERES pmax pmax
comp=Z,2.0nm,0.8s
GERES GERESS Array B 73.98 22 P **P 19 41 18.2 +0.7**
comp=Z,1.6nm,0.8s,mb4.0,baz=347,slow=5.5,SNR=13
RJF Les Rejaudoux 74.04 31⇑*iP* **P 19 41 18.2 +0.3**
comp=Z,22nm,1.3s,mb4.6
LFF La Frestale 74.12 32 *eP* **P 19 41 19.1 +0.7**
CABF La Chapelle 74.18 28⇑*iP* **P 19 41 19.6 +0.9**
comp=Z,22nm,1.0s,mb4.7
CAF Calviac 74.55 31 *eP* **P 19 41 21.5 +0.6**
comp=Z,9.8nm,1.0s,mb4.4
CAF Calviac 74.55 31 *eP* **P 19 41 21.5 +0.6**
comp=Z,4.9nm,1.0s,mb4.4
CAF Calviac 74.55 31 *eP* **P 19 41 21.5 +0.6**
CAF pmax pmax
comp=Z,5.0nm,1.0s,mb4.4
AKASG Malin Array Be 74.79 11 P **P 19 41 21.4 -0.8**
comp=Z,0.2nm,0.3s,mb3.5,baz=353,slow=6.0,SNR=9.0
STHS Stebnicka Huta 74.91 17 *eP* **P 19 41 16.4 -6.5**
comp=Z,2.3nm,1.1s,mb4.0
STHS *e* 19 41 23.5
STHS Stebnicka Huta 74.91 17 *eP* **P 19 41 16.4 -6.5**
STHS *e* 19 41 23.5
STHS pmax pmax
comp=Z,2.0nm,1.1s,mb4.0
SJPF Ste Jean 75.12 34 *eP* **P 19 41 24.8 +0.5**
comp=Z,14nm,1.2s,mb4.5
MKAR Makanchi Array 75.17 335 P **P 19 41 24.6 +0.1**
MKAR pmax pmax
comp=Z,4.0nm,0.7s
MKAR Makanchi Array 75.17 335 P **P 19 41 24.6 +0.2**
comp=Z,4.0nm,0.7s,mb4.5,baz=35,slow=5.2,SNR=29
LPL La Plagne 75.36 28⇑*iP* **P 19 41 27.1 +1.5**
comp=Z,9.1nm,0.9s,mb4.4
LPG La Plagne 75.38 28⇑*iP* **P 19 41 27.4 +1.7**
comp=Z,6.5nm,1.0s,mb4.2
VIVF Saint-Julien-l 75.38 29 *eP* **P 19 41 26.3 +0.6**
comp=Z,8.2nm,1.1s,mb4.3
KECS Kecovo 75.67 17 *eP* **P 19 41 21.2 -6.1**
comp=Z,1.6nm,0.9s,mb4.0
KECS *e* 19 41 27.7
KECS Kecovo 75.67 17 *eP* **P 19 41 21.2 -6.1**
KECS *e* 19 41 27.7
KECS pmax pmax
comp=Z,2.0nm,0.9s,mb4.0
EPF Esparros 75.71 33 *eP* **P 19 41 28.1 +0.5**
comp=Z,14nm,1.3s,mb4.4
LASF Ste Croix 75.86 30⇑*iP* **P 19 41 29.3 +0.8**
comp=Z,4.0nm,0.8s,mb4.1
MTLF Montolieu 76.03 32⇑*iP* **P 19 41 30.0 +0.6**
SMRF Simiane la Rot 76.45 29⇑*iP* **P 19 41 33.2 +1.4**
comp=Z,33nm,1.3s,mb4.8
FRF La Foret Royal 77.14 28⇑*iP* **P 19 41 36.2 +0.5**
comp=Z,16nm,1.1s,mb4.5
ESDC Sonseca Array 77.23 38 P **P 19 41 36.9 +0.6**
comp=Z,2.6nm,0.8s,mb4.2,baz=324,slow=5.5,SNR=20
LMR La Mourre 77.31 29⇑*iP* **P 19 41 37.3 +0.6**
comp=Z,6.9nm,0.9s,mb4.3
AAK Ala-Archa 80.89 339 *eP* **P 19 41 55.4 -0.9**
comp=Z,3.7nm,0.9s,mb4.3
AAK Ala-Archa 80.89 339 *eP* **P 19 41 55.4 -0.9**
AAK pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
EKS2 Erkin-Say 81.01 340 *eP* **P 19 41 57.5 +0.6**
comp=Z,3.1nm,1.2s,mb4.1
AML Almayashu 81.53 340 *eP* **P 19 42 00.7 +1.0**
comp=Z,2.5nm,0.9s,mb4.1
CD2 Chengdu 82.10 313 *eP* **P 19 42 02.0 -0.9**
CD2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.9
CD2 AMB AMB
comp=Z,20nm,5.8s
KIV Kislovodsk 82.48 3 *eP* **P 19 42 04.3 -0.4**
KIV pmax pmax
comp=Z,3.0nm,1.0s,mb4.2
GYA Guiyang 84.62 309 *eP* **P 19 42 15.3 -0.7**
GYA AMB AMB
comp=Z,10.0nm,0.8s,mb5.0
KMI Kunming 87.55 311 P **P 19 42 29.3 -1.2**
KMI AP pP 19 42 36.5 +2.7
KMI AMB AMB
comp=Z,3.0nm,1.5s,mb4.3
LPAZ La Paz 89.34 119 *eP* **P 19 42 38.3 -0.6**
comp=Z,1.7nm,0.8s,mb4.4
LPAZ La Paz 89.34 119 *eP* **P 19 42 38.3 -0.5**
LPAZ pmax pmax
comp=Z,2.0nm,0.8s
LPAZ La Paz 89.34 119 P **P 19 42 38.0 -0.8**
comp=Z,1.9nm,0.8s,mb4.5,baz=14,slow=18,SNR=11
BDFB Brasilia 99.90 103 LR LR 20 29 54.4
comp=Z,55nm,20.0s,MS4.1,baz=271,slow=36
LBTB Lobatse 147.24 37 PKP2 PKPab 19 49 26.1 -1.2
LBTB pmax pmax
comp=Z,7.0nm,1.0s
LBTB Lobatse 147.24 37 PKPbc PKPbc 19 49 26.1 +0.5
comp=Z,7.2nm,1.0s,baz=210,slow=6.5,SNR=4.8
BOSA Boshof 150.39 40 PKIKP PKPbc 19 49 33.4 -0.2
BOSA pmax pmax
comp=Z,4.0nm,0.8s
BOSA Boshof 150.39 40 PKPbc PKPbc 19 49 33.4 -0.2
comp=Z,4.4nm,0.8s,baz=208,slow=13,SNR=5.0

MAN 28 19:35:07,967N×12668E,h40km,mb4.2,ML3.1,MS2.8, Mindanao

GII 28 19:37:38.0±0.8,3286N×3555E,h0km,ML0.2/4,Dead Sea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMC4	**Mount Meron ar**	**0.18**	**322**	Pg	Pg	19 37 42.8	+1.2
MMC4				Sg	Sg	19 37 46.6	+2.6
MMC4	**Mount Meron ar**	**0.18**	**322**	Pg	Pg	19 37 42.4	+0.8
MMC4				Sg	Sg	19 37 46.7	+2.8
MMC5	**Mount Meron ar**	**0.19**	**322**	Pg	Pg	19 37 42.9	+1.2
MMC5				Sg	Sg	19 37 46.7	+2.6
MMC5	**Mount Meron ar**	**0.19**	**322**	Pg	Pg	19 37 42.3	+0.7
MMC5				Sg	Sg	19 37 46.6	+2.5
MMA2	**Mount Meron ar**	**0.20**	**321**	Pg	Pg	19 37 43.6	+1.8
MMA2				Sg	Sg	19 37 46.9	+2.5
MMA2	**Mount Meron ar**	**0.20**	**321**	Pg	Pg	19 37 43.5	+1.7
MMA2				Sg	Sg	19 37 46.8	+2.5
MMB1	**Mount Meron ar**	**0.20**	**322**	Pg	Pg	19 37 43.9	+2.1
MMB1				Sg	Sg	19 37 47.1	+2.8
MMB1	**Mount Meron ar**	**0.20**	**322**	Pg	Pg	19 37 43.9	+2.1
MMB1				Sg	Sg	19 37 46.8	+2.5
MMC3	**Mount Meron ar**	**0.20**	**323**	Pg	Pg	19 37 43.2	+1.4
MMC3				Sg	Sg	19 37 46.8	+2.5
MMC3	**Mount Meron ar**	**0.20**	**323**	Pg	Pg	19 37 42.7	+0.9
MMC3				Sg	Sg	19 37 46.8	+2.4
MMA3	**Mount Meron ar**	**0.20**	**320**	Pg	Pg	19 37 43.6	+1.8
MMA3				Sg	Sg	19 37 47.5	+3.1
MMA3	**Mount Meron ar**	**0.20**	**320**	Pg	Pg	19 37 42.9	+1.1
MMA3				Sg	Sg	19 37 46.9	+2.5
MMA1	**Mount Meron ar**	**0.20**	**322**	Pg	Pg	19 37 42.8	+0.9
MMA1				Sg	Sg	19 37 47.1	+2.6
MMA1	**Mount Meron ar**	**0.20**	**322**	Pg	Pg	19 37 42.8	+1.0
MMA1				Sg	Sg	19 37 47.0	+2.5
MMB2	**Mount Meron ar**	**0.20**	**318**	Pg	Pg	19 37 42.4	+0.6
MMB2				Sg	Sg	19 37 47.2	+2.8
MMB2	**Mount Meron ar**	**0.20**	**318**	Sg	Sg	19 37 47.3	+2.8
MMA4	**Mount Meron ar**	**0.20**	**320**	Pg	Pg	19 37 43.5	+1.6
MMA4	**Mount Meron ar**	**0.20**	**320**	Pg	Pg	19 37 43.0	+1.1
MMA4				Sg	Sg	19 37 47.2	+2.7
MMC2	**Mount Meron ar**	**0.20**	**324**	Pg	Pg	19 37 43.1	+1.2
MMC2				Sg	Sg	19 37 47.7	+3.1
MMC2	**Mount Meron ar**	**0.20**	**324**	Pg	Pg	19 37 42.5	+0.6
MMC2				Sg	Sg	19 37 46.3	+1.7
MMC6	**Mount Meron ar**	**0.20**	**318**	Pg	Pg	19 37 42.8	+0.9
MMC6				Sg	Sg	19 37 47.7	+3.1
MMC6	**Mount Meron ar**	**0.20**	**318**	Pg	Pg	19 37 42.9	+1.0
MMC6				Sg	Sg	19 37 47.5	+3.0
MMB4	**Mount Meron ar**	**0.20**	**322**	Pg	Pg	19 37 43.1	+1.2
MMB4	**Mount Meron ar**	**0.20**	**322**	Pg	Pg	19 37 43.0	+1.0
MMB4				Sg	Sg	19 37 47.2	+2.6
MMB3	**Mount Meron ar**	**0.21**	**321**	Pg	Pg	19 37 44.1	+2.2
MMB3				Sg	Sg	19 37 48.1	+3.5
MMB3	**Mount Meron ar**	**0.21**	**321**	Pg	Pg	19 37 44.1	+2.1
MMC1	**Mount Meron ar**	**0.21**	**324**	Pg	Pg	19 37 43.0	+1.0
MMC1				Sg	Sg	19 37 47.8	+3.0
MMC7	**Mount Meron ar**	**0.21**	**320**	Pg	Pg	19 37 42.6	+0.6
MMC7				Sg	Sg	19 37 47.6	+2.8
MMC7	**Mount Meron ar**	**0.21**	**320**	Pg	Pg	19 37 42.9	+0.8

*ISCJB **28** 19:39:26.0±0.6,3842N±003×3932E±005,h5km±5km, Error ellipse: s-maj=6.0km s-min=4.8km az=168.8*
*CSEM **28** 19:39:25.2±0.1,3844N×3929E,h2km,MD3.0,Error ellipse: s-maj=3.3km s-min=1.9km az=98.0*
*ISK **28** 19:39:25.1,3845N×3926E,h5km,MD3.0*
*DDA **28** 19:39:26.5,3842N×3932E,h6km±1km,Md3.0*
ISC 28 19:39:26.3±0.7,3843N±003×3934E±005,h4km±6km,n11, σ0°81/19,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SVRC	**Sivrice-ELAZID**	**0.06**	**207**	PG	**Pg**	**19 39 27.0**	**-0.7**
SVRC				*e*SG	**Sg**	**19 39 28.3**	**-0.2**
ELZG	**Elazig**	**0.29**	**283**	*i* P	**Pg**	**19 39 31.3**	**-0.5**
ELZG				*i* S	**Sg**	**19 39 35.7**	**+0.1**
PTK	**Pertek**	**0.46**	**5**	*e*PG	**Pg**	**19 39 35.2**	**+0.1**
PTK				*e*SG	**Sg**	**19 39 42.7**	**+1.7**
MYA	**Malataya**	**0.73**	**262**	*e*PG	**Pg**	**19 39 38.8**	**-1.5**
MALT	**Malatya**	**0.73**	**261**	*e*PG	**Pg**	**19 39 39.0**	**-1.2**
MALT				*e*SG	**Sg**	**19 39 49.8**	**+0.1**
KEMA	**Kemaliye**	**1.06**	**322**	*e*P	**Pg**	**19 39 46.0**	**-0.7**
KEMA				*i* S	**Sg**	**19 40 00.8**	**+0.3**
URFA	**Urfa**	**1.07**	**203**	*e*PG	**Pg**	**19 39 47.0**	**+0.2**
URFA				*e*SG	**Sg**	**19 40 02.3**	**+1.6**
EZC	**Erzincan**	**1.36**	**16**	*e*PN	**Pn**	**19 39 51.8**	**-0.2**
MARD	**Mardin**	**1.59**	**134**	*i* P	**Pn**	**19 39 54.6**	**-0.6**
MARD				*i* S	**Sn**	**19 40 16.2**	**0.0**
GZT	**Gaziantep**	**1.77**	**233**	*i* P	**Pn**	**19 39 57.6**	**0.0**
GZT				*i* S	**Sg**	**19 40 24.6**	**+1.5**
SVSK	**Karacayir**	**2.35**	**310**	*e*PN	**Pn**	**19 40 05.8**	**+0.2**

MAN 28 19:41:23,636N×12576E,h156km,mb3.8,ML2.6,MS2.2, Mindanao

*NNC **28** 19:41:35.3±2.4,4329N×7816E,h0km,mb4.0,mpv3.5, Error ellipse: s-maj=41.4km s-min=6.9km az=157.0*
*ISCJB **28** 19:41:36.9±0.9,432N±0.1×7820E±009,h10km,Error ellipse: s-maj=19.2km s-min=4.7km az=153.5*
*IDC **28** 19:41:36.0±4.7,4310N×7835E,h0km,mb3.0/1,mb1 3.5/3, mb1mx3.2/22,mbtmp3.5/3,ML3.4/2,Error ellipse: s-maj=72.6km s-min=38.0km az=103.0*
*NEIC **28** 19:41:37.7±1.4,4310N×7820E,h10km,Error ellipse: s-maj=40.0km s-min=8.5km az=150.0*
ISC 28 19:41:38.6±0.9,432N±01×7812E±009,h10km,n23, σ1°26/33,7C-2D,Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KNDC	**Almaty**	**0.85**	**270**	⇓P	**Pg**	**19 41 52.1**	**-2.8**
KNDC	18nm,0.2s			⇑S	**Sg**	**19 42 04.8**	**-1.1**
ULHL	**Ulahol**	**1.70**	**235**	P	**Pn**	**19 42 03.6**	**-4.7**
	SNR=547						
TKM2	**Tokmak 2**	**1.88**	**262**	⇑P	**Pn**	**19 42 09.0**	**-1.8**
TKM2	45nm,0.7s			⇑S	**Sn**	**19 42 34.2**	**-0.3**
TKM2	**Tokmak 2**	**1.88**	**262**	*e*Pn	**Pn**	**19 42 08.6**	**-2.1**
TKM2	337nm,0.5s			*e*Sn	**Sn**	**19 42 33.7**	**-0.8**
TKM2	**Tokmak 2**	**1.88**	**262**	P	**Pn**	**19 42 09.0**	**-1.7**
	SNR=46						
KBK	**Karagaybulak**	**2.40**	**257**	P	**Pn**	**19 42 18.1**	**+0.2**
	SNR=100						
KZA	**Kyzart**	**2.41**	**243**	P	**Pn**	**19 42 16.8**	**-1.3**
	SNR=48						
CHMS	**Chumysh**	**2.48**	**266**	P	**Pn**	**19 42 19.7**	**+0.6**
	SNR=23						
USP	**Ospenovka**	**2.65**	**272**	P	**Pn**	**19 42 20.9**	**-0.4**
	SNR=14						
AAK	**Ala-Archa**	**2.73**	**259**	*e*Pn	**Pn**	**19 42 21.7**	**-0.8**
AAK				*e*Sn	**Sn**	**19 42 56.2**	**+0.7**
AAK	**Ala-Archa**	**2.73**	**259**	P	**Pn**	**19 42 23.1**	**+0.6**
	SNR=56						
UCH	**Uchtor**	**2.84**	**251**	*e*Pn	**Pn**	**19 42 24.0**	**0.0**
UCH				*e*Sn	**Sn**	**19 42 59.9**	**+1.6**
UCH	**Uchtor**	**2.84**	**251**	P	**Pn**	**19 42 24.2**	**+0.2**
	SNR=68						
EKS2	**Erkin-Say**	**3.24**	**261**	*e*Pn	**Pn**	**19 42 28.9**	**-0.6**
EKS2				*e*Sn	**Sn**	**19 43 13.4**	**+5.3**
EKS2	**Erkin-Say**	**3.24**	**261**	P	**Pn**	**19 42 29.5**	**0.0**
	SNR=22						
AML	**Almayashu**	**3.44**	**253**	*e*Pn	**Pn**	**19 42 34.5**	**+2.2**
AML				*e*Sn	**Sn**	**19 43 15.5**	**+2.4**
AML	**Almayashu**	**3.44**	**253**	P	**Pn**	**19 42 36.7**	**+4.4**
	SNR=28						
MK31	**Makanchi Array**	**4.63**	**38**	⇑Pn	**Pn**	**19 42 49.4**	**+0.8**
	5.0nm,0.4s						
MK31				⇓Sn	**Sn**	**19 43 44.7**	**+2.3**
	5.8nm,0.6s						
MK31				⇑Lg		19 44 02.2	
	17nm,0.5s						
MK31	**Makanchi Array**	**4.63**	**38**	*e*Pn	**Pn**	**19 42 49.1**	**+0.5**
MK31				*e*Sn	**Sn**	**19 43 31.3**	**-11**
MK31				*e*Sg	**Sg**	**19 44 02.3**	**-5.0**
MKAR	**Makanchi Array**	**4.63**	**38**	Pn	**Pn**	**19 42 49.1**	**+0.5**
	2.0nm,0.3s,baz=221,slow=11,SNR=59						
MKAR				Lg		19 44 03.5	
	4.9nm,0.3s,baz=218,slow=29,SNR=16						
KK31	**Karatay Array**	**5.57**	**271**	⇑Pn	**Pn**	**19 43 05.1**	**+3.6**
	1.7nm,0.5s,baz=89,slow=17,SNR=17						
KK31				⇑Lg		19 44 28.6	
	24nm,0.5s,baz=89,slow=29,SNR=21						
ZALV	**Zalesovo Beam**	**11.60**	**20**	Pn	**Pn**	**19 44 24.6**	**+0.5**
	0.2nm,0.3s,baz=214,slow=16,SNR=7.4						
ZALV				Lg		19 47 47.6	
	0.1nm,0.3s,baz=192,slow=29,SNR=6.0						
SONM	**Songino Array**	**20.28**	**67**	P	**P**	**19 46 12.5**	**-1.7**
	0.5nm,0.6s,baz=286,slow=11,SNR=7.5						

*MOS **28** 20:11:45.2±0.9,4020N×5353E,h31km,mb5.0/83,Error ellipse: s-maj=5.8km s-min=2.9km az=39.6*
*BGS **28** 20:11:45.9±1.3,3987N×5385E,h53km,mb4.7*
*SZGRF **28** 20:11:46.7,4001N×5349E,h53km,mb5.0,Turkmenistan*
*CSEM **28** 20:11:46.9±0.1,4018N×5358E,h52km,mb4.8/99,Ms4.3, Error ellipse: s-maj=1.7km s-min=1.3km az=163.0*
*ISCJB **28** 20:11:47.1±0.4,4024N±003×5353E±002,h46km±3km, mb4.7/182,MS4.0/13,Error ellipse: s-maj=4.4km s-min=2.3km az=2.6*
*SFS **28** 20:11:48.0,4022N×5357E,h54km,ML4.6*
*BJI **28** 20:11:48.6,4010N×5360E,h52km,mB4.7,mb4.7,Ms4.7, Msz4.4*
*THR **28** 20:11:48.4±0.7,3997N×5316E,h15km,ML4.7*
*NEIC **28** 20:11:48.6±0.2,4012N×5357E,mb4.8/116,Error ellipse: s-maj=5.6km s-min=2.6km az=176.0*
*IDC **28** 20:11:49.5±0.7,4019N×5339E,h51km±4km,mb4.3/23, mb1 4.4/29,mb1mx4.3/31,mbtmp4.3/29,MS3.5/12, Ms1 3.5/12,ms1mx3.3/36,Error ellipse: s-maj=15.4km s-min=9.3km az=179.0*
*NNC **28** 20:11:54.1±3.0,4077N×5470E,h0km,mb4.4,Error ellipse: s-maj=25.8km s-min=20.4km az=25.0*
ISC 28 20:11:49.3±0.3,4024N±003×5354E±002,h51km±3km, h54km±6km:pP-P,n710,σ1°01/756,mb4.7/182,MS4.0/13, 153C-37D,Turkmenistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GALA	**Gala**	**2.59**	**275**	P	**Pn**	**20 12 32.1**	**+3.4**
	SNR=4.0						
GALA				S	**Sn**	**20 13 06.2**	**+7.2**
NDR	**Nardaran**	**2.73**	**278**	P	**Pn**	**20 12 33.1**	**+2.4**
	SNR=84						
GOBA	**Gobu**	**2.91**	**274**	P	**Pn**	**20 12 35.4**	**+2.3**
	SNR=12						
MRVT	**Maraveh tapeh**	**3.25**	**141**	*e*Pn	**Pn**	**20 12 41.0**	**+3.1**
MRVT				AML	AML	20 13 21.7	
	comp=E,2μm,0.3s						
MRVT				AML	AML	20 13 24.0	
	comp=N,2μm,0.1s						
ALIB	**Ii-Bayraml**	**3.49**	**267**	P	**Pn**	**20 12 43.5**	**+2.5**
	SNR=15						

ALIB S Sn 20 13 24.6 +3.6
SIZA Siyzn 3.62 285 P Pn 20 12 44.8 +1.9
SNR=336
SIZA S Sn 20 13 27.4 +3.0
PQL Pirkuli 3.81 280 P Pn 20 12 46.6 +1.2
SNR=242
PQL S Sn 20 13 31.5 +2.6
GRMI Germi 4.59 254 *e*Pn Pn 20 12 54.3 -1.8
GRMI AML AML 20 13 47.1
comp=N,1µm,0.3s
GRMI AML AML 20 13 47.4
comp=E,813nm,0.4s
CHTH Charan 4.72 204 *e*Pn Pn 20 12 56.3 -1.7
DAMV Damavand 4.76 196 *e*Pn Pn 20 12 57.1 -1.4
DAMV AML AML 20 13 49.5
comp=E,572nm,0.3s
THKV Tehran--Karaj 4.80 207 *e*Pn Pn 20 12 57.6 -1.4
THKV AML AML 20 13 49.9
comp=N,943nm,0.6s
THKV AML AML 20 13 52.8
comp=E,1µm,0.6s
BRDA Brd 4.87 272 P Pn 20 12 59.8 -0.1
SNR=31
BRDA S Sn 20 13 53.8 -1.1
SEKA Sheki 4.91 283 P Pn 20 13 01.2 +0.6
SNR=568
SEKA S Sn 20 13 57.4 +1.3
MAK Makhachkala 5.28 303⇑ *i*P Pn 20 13 06.9 +1.4
MAK *e*S Sn 20 14 04.8 -0.2
MAK pmax pmax
comp=Z,373nm,0.5s
MAK smax
comp=N,4µm,0.7s
MAK smax
comp=E,3µm,0.6s
MAK MLR MLR
comp=Z,490nm,19.0s
MAK Makhachkala 5.28 303 *i*P Pn 20 13 06.9 +1.4
comp=Z,4µm,0.7s
MAK *e*S Sn 20 14 04.8 -0.2
comp=Z,490nm,19.0s
GANJ Ganja 5.52 277 P Pn 20 13 08.1 -0.8
SNR=31
GANJ S Sn 20 14 05.6 -5.4
NAX Nakhchivan 6.29 263 P Pn 20 13 20.0 +0.5
SNR=9.8
NAX S Sn 20 14 28.5 -1.5
DGRG David-gareji 6.31 284 P Pn 20 13 19.0 -0.7
DGRG S Sn 20 14 30.3 0.0
ASAO Ashtian 6.33 207 *e*Pn Pn 20 13 18.6 -1.4
ASAO Ashtian 6.33 207 *e*Pn Pn 20 13 18.6 -1.4
SNR=52
MTA Mtatsminda 6.78 285 P Pn 20 13 25.4 -0.7
MTA S Sn 20 14 41.3 -0.5
MAKU Maku 6.88 265 *e*Pn Pn 20 13 27.1 -0.3
MAKU Maku 6.88 265 *e*Pn Pn 20 13 27.1 -0.4
SNR=52
SNGE Sanandaj 7.10 226 *e*Pn Pn 20 13 29.5 -1.1
GOR Gori 7.33 287 P Pn 20 13 34.0 +0.3
GOR S Sn 20 14 51.3 -4.1
ONI Oni 7.93 290 P Pn 20 13 42.9 +0.9
ONI S Sn 20 15 11.8 +1.5
TVAN Van 8.03 261 *i*P Pn 20 13 45.1 +1.8
HAKT HAKKARI 8.12 254 *i*P Pn 20 13 47.0 +2.5
ARTV Artvin 8.87 280 *i*P Pn 20 13 56.5 +1.8
KIV Kislovodsk 8.88 298 *e*Pn Pn 20 13 53.1 -1.8
comp=Z,100nm,0.6s
KIV *e*Sn Sn 20 15 26.4 -7.1
KIV Kislovodsk 8.88 298 *e*P Pn 20 13 53.7 -1.2
KIV *e*S Sn 20 15 32.9 -0.5
KIV pmax pmax
comp=Z,81nm,0.7s
KIV MLR MLR
comp=Z,54nm,11.0s
KIV Kislovodsk 8.88 298 *e*Pn Pn 20 13 53.1 -1.8
comp=Z,100nm,0.6s
KIV *e*Sn Sn 20 15 26.4 -7.0
HOMI Horasan 8.91 273 *i*P Pn 20 13 58.1 +2.8
ERZM Erzurum 9.34 272 *i*P Pn 20 14 04.5 +3.3
KOPT Kop Dagi 9.99 273 *i*P Pn 20 14 14.5 +4.3
AB31 Akbulak array 10.10 25 ⇓Pn Pn 20 14 12.6 +1.1
comp=Z,2.3nm,0.3s,baz=207,slow=13,SNR=134
AB31 ⇑Sn Sn 20 15 55.9 -7.3
comp=Z,52nm,0.5s,baz=200,slow=23,SNR=13
AB31 Akbulak array 10.10 25 Sn Sn 20 15 55.9 -7.3
SNR=13
MARD Mardin 10.38 258 *i*P Pn 20 14 16.8 +1.3
AKTK Aktyubinsk 10.67 16 P Pn 20 14 19.1 -0.2
AKTK S Sn 20 16 12.5 -4.7
AKTK LR LR 20 19 52.2
AKTK Aktyubinsk 10.67 16 P Pn 20 14 19.1 -0.2
AKTO Aktyubinsk 10.67 16⇑Pn Pn 20 14 18.8 -0.6
comp=Z,0.4nm,0.6s
AKTO ⇑Sn Sn 20 16 11.3 -5.9
comp=Z,2.0nm,0.5s
AKTO Aktyubinsk 10.67 16 P Pn 20 14 19.2 -0.1
AKTO S Sn 20 16 12.5 -4.7
AKTO pmax pmax
comp=Z,3.0nm,0.3s
AKTO smax
comp=N,33nm,0.3s
AKTO MLR MLR
comp=Z,118nm,18.7s
AKTO Aktyubinsk 10.67 16 P Pn 20 14 19.1 -0.2
comp=Z,2.7nm,0.3s,baz=199,slow=13,SNR=30
AKTO S Sn 20 16 12.5 -4.7
comp=Z,33nm,0.3s,baz=43,slow=21,SNR=14
AKTO LR LR 20 19 52.2
comp=Z,118nm,18.7s,baz=195,slow=45
SOC Sochi 10.83 292 *e*P Pn 20 14 22.2 +0.7
SOC *e* 20 16 24.5
SOC pmax pmax
comp=Z,15nm,0.9s
SOC Sochi 10.83 292 *e*P Pn 20 14 22.2 +0.7
comp=Z,15nm,0.9s
SOC *e*S Sn 20 16 24.5 +3.3
MIB Mutribah 11.58 208 *e*P Pn 20 14 28.6 -3.3
MIB AMb AMB 20 14 37.5
comp=Z,22nm,0.8s
KEMA Kemaliye 11.62 270 *i*P Pn 20 14 35.8 +3.3
GRSN GIRESUNGRSN 11.63 278 *i*P Pn 20 14 33.6 +1.1
MALT Malatya 11.87 266 *e*Pn Pn 20 14 36.5 +0.7
comp=Z,7.9nm,1.0s
MALT Malatya 11.87 266 *e*P Pn 20 14 36.5 +0.7
MALT pmax pmax
comp=Z,8.0nm,1.0s
MALT Malatya 11.87 266 *e*P Pn 20 14 36.5 +0.7
comp=Z,8.0nm,1.0s
RST Umm Al-Ruwaisa 11.98 209 *e*P Pn 20 14 33.9 -3.4
RST AMb AMB 20 14 44.3
comp=Z,11nm,0.8s
NAY Al-Naaiem 12.12 207 *e*P Pn 20 14 35.7 -3.5
NAY AMb AMB 20 14 40.7
comp=Z,6.2nm,0.8s
RDF Al-Radifah 12.31 205 *e*P Pn 20 14 39.2 -2.7
RDF AMb AMB 20 14 42.0
comp=Z,19nm,0.8s
RDF Al-Radifah 12.31 205 *e*P Pn 20 14 39.2 -2.7
comp=Z,19nm,0.8s
ANN Anapa 12.72 296 *e*P Pn 20 14 49.1 +1.7
ANN *e*S Sn 20 17 12.0 +4.6
ANN pmax pmax
comp=Z,51nm,1.4s
ANN Anapa 12.72 296 *e*P Pn 20 14 49.1 +1.7
comp=Z,51nm,1.4s
KK31 Karatay Array 13.01 72 Pn Pn 20 14 49.4 -2.0
comp=Z,13nm,0.5s,baz=261,slow=15,SNR=308
KK31 ⇓Sn Sn 20 17 09.0 -5.5
comp=Z,25nm,0.5s,baz=269,slow=23,SNR=12
KBL Kabul 13.57 110 *e*Pn Pn 20 14 58.0 -1.0
comp=Z,20nm,0.9s
VRHR Novokhopersk 13.66 327 *e*P Pn 20 14 58.5 -1.7
VRHR *e*S Sn 20 17 28.6 -1.6
VRHR pmax pmax
comp=Z,50nm,1.5s
VRHR pmax pmax
comp=N,20nm,0.9s
VRHR pmax pmax
comp=E,20nm,0.8s
VRHR smax
comp=N,700nm,0.7s
VRHR smax
comp=E,410nm,0.5s
VRHR smax
comp=Z,110nm,0.5s
VRHR Novokhopersk 13.66 327 *e*P Pn 20 14 58.5 -1.7
comp=Z,20nm,0.9s
VORD Divnogorie 14.62 322 *e*P Pn 20 15 10.3 -2.6
VORD pmax pmax
comp=Z,70nm,0.6s
VORD pmax pmax
comp=N,200nm,0.8s
VORD pmax pmax
comp=E,160nm,0.8s
VRSR Storozhevoye 14.83 322 *c i*P Pn 20 15 13.5 -2.2
VRSR *e*S Sn 20 17 50.0 -8.6
VRSR pmax pmax
comp=Z,20nm,1.1s
VRSR pmax pmax
comp=N,3.0nm,0.6s
VRSR pmax pmax
comp=E,20nm,0.7s
VRSR smax
comp=N,30nm,1.2s
VRSR smax
comp=Z,10.0nm,1.4s
VRSR smax
comp=E,30nm,1.2s
VRSR MLR MLR
comp=Z,40nm,20.0s
VRSR MLR MLR
comp=N,10.0nm,18.0s
VRSR MLR MLR
comp=E,10.0nm,17.0s
VRSR Storozhevoye 14.83 322 *i*P Pn 20 15 13.5 -2.2
comp=E,3.0nm,0.6s
SIM Simferopol' 15.05 295 *de*P Pn 20 15 18.3 -0.3
SIM *e*S S 20 18 06.5 -13
SIM pmax pmax
comp=Z,31nm,0.9s
SIM MLR MLR
comp=Z,74nm,18.0s
SIM Simferopol' 15.05 295 *e*P Pn 20 15 18.3 -0.3
comp=Z,31nm,0.9s
SIM *e*S S 20 18 06.5 -13
comp=Z,74nm,18.0s
VOR Voronezh 15.18 324 *e*P Pn 20 15 18.0 -2.2
VOR pmax pmax
comp=Z,140nm,1.2s
VOR Voronezh 15.18 324 *e*P Pn 20 15 18.0 -2.2
comp=Z,140nm,1.2s
AML Almayashu 15.30 76 *e*Pn Pn 20 15 20.6 -1.2
comp=Z,47nm,0.5s
AML Almayashu 15.30 76 P Pn 20 15 20.7 -1.1
SNR=84
AML Almayashu 15.30 76 *e*Pn Pn 20 15 20.6 -1.2
comp=Z,47nm,0.5s
EKS2 Erkin-Say 15.37 74 *e*Pn Pn 20 15 21.9 -0.9
comp=Z,7.9nm,1.0s
EKS2 *e*Sn Sn 20 18 07.2 -4.7
EKS2 Erkin-Say 15.37 74 P Pn 20 15 21.9 -0.8
SNR=77
EKS2 Erkin-Say 15.37 74 *e*Pn Pn 20 15 21.9 -0.9
comp=Z,7.9nm,1.0s
ASF Jabal al Asfar 15.64 244 P Pn 20 15 24.2 -2.1
comp=Z,0.2nm,0.3s,baz=110,slow=15,SNR=2.3
ANTO Ankara 15.89 275 *e*Pn Pn 20 15 27.6 -1.9
comp=Z,44nm,1.1s
ANTO Ankara 15.89 275 *e*P Pn 20 15 27.6 -1.8
ANTO pmax pmax
comp=Z,44nm,1.1s
ANTO Ankara 15.89 275⇑ *i*P Pn 20 15 29.1 -0.3
ANTO Ankara 15.89 275 *e*P Pn 20 15 27.6 -1.8
comp=Z,44nm,1.1s
AAK Ala-Archa 15.90 75⇓ *e*Pn Pn 20 15 27.7 -1.8
comp=Z,58nm,0.9s
AAK Ala-Archa 15.90 75 P Pn 20 15 28.3 -1.2
AAK S S 20 18 22.9 -14
AAK pmax pmax
comp=Z,9.0nm,0.3s
AAK smax
comp=N,1.0nm,0.3s
AAK Ala-Archa 15.90 75 P Pn 20 15 28.3 -1.2
comp=N,9.4nm,0.3s,baz=242,slow=7.5,SNR=108
AAK S S 20 18 22.9 -14
comp=N,0.8nm,0.3s,baz=16,slow=18,SNR=2.0
AAK Ala-Archa 15.90 75 P Pn 20 15 28.5 -1.0
SNR=69
AAK Ala-Archa 15.90 75⇓ *e*Pn Pn 20 15 27.7 -1.8
comp=N,58nm,0.9s
AAK Ala-Archa 15.90 75 P Pn 20 15 28.3 -1.2
comp=N,9.0nm,0.3s
AAK S S 20 18 22.9 -14
comp=N,1.0nm,0.3s
UCH Uchtor 15.90 76⇓ *e*Pn Pn 20 15 28.5 -1.1
comp=N,28nm,0.7s
UCH *e*Sn Sn 20 18 17.8 -7.0
UCH Uchtor 15.90 76 P Pn 20 15 29.4 -0.2
SNR=52
UCH Uchtor 15.90 76⇓ *e*Pn Pn 20 15 28.5 -1.1
comp=N,28nm,0.7s
USP Ospenovka 15.93 72 P Pn 20 15 29.7 -0.2
SNR=15
FRU Bishkek 15.99 74 *e*P Pn 20 15 30.0 -0.7
FRU *e* 20 18 28.0
FRU pmax pmax
comp=Z,90nm,1.1s
FRU pmax pmax
comp=E,70nm,1.5s
FRU pmax pmax
comp=N,180nm,2.0s
FRU Bishkek 15.99 74 *e*P Pn 20 15 30.0 -0.7
comp=N,90nm,1.1s
CHMS Chumysh 16.10 73 P Pn 20 15 31.7 -0.4
SNR=62
MMAI Mount Meron Ar 16.23 249 P Pn 20 15 33.0 -0.8
comp=N,0.6nm,0.3s,baz=95,slow=19,SNR=17
MMAI LR LR 20 23 47.0
comp=N,102nm,18.8s,baz=45,slow=44
KBK Karagaybulak 16.23 74 P Pn 20 15 34.0 +0.2
SNR=127
THW Thamme Wali 16.40 111 P Pn 20 15 35.6 -0.3
KZA Kyzart 16.45 77 P Pn 20 15 36.9 +0.3
SNR=62
ZRNK Zerenda 16.53 35⇑Pn Pn 20 15 36.6 -0.8
comp=N,16nm,0.8s
ZRNK ⇑Sn Sn 20 18 28.7 -11
comp=N,57nm,0.8s
ARU Arti 16.54 10 *e*Pn Pn 20 15 34.9 -2.6
comp=N,44nm,0.7s
ARU *e*Sn Sn 20 18 23.6 -16
ARU Arti 16.54 10 *c i*P Pn 20 15 35.5 -2.0
ARU *e*S S 20 18 34.0 -15
ARU pmax pmax
comp=Z,8.0nm,0.6s
ARU Arti 16.54 10 *e*Pn Pn 20 15 34.8 -2.7
comp=Z,44nm,0.7s
ARU Arti 16.54 10 *i*P Pn 20 15 35.5 -2.0
comp=Z,8.0nm,0.6s
TKM2 Tokmak 2 16.72 74⇓ *i*P Pn 20 15 39.1 -0.7
TKM2 pmax pmax
comp=Z,36nm,0.7s
TKM2 Tokmak 2 16.72 74 P Pn 20 15 39.9 +0.1
SNR=49
TKM2 Tokmak 2 16.72 74 *i*P Pn 20 15 39.1 -0.7
comp=Z,36nm,0.7s
CHCP Chirah Chowk 17.07 106 P Pn 20 15 43.9 -0.4
BRVK Borovoye 17.16 36 *e*Pn Pn 20 15 43.7 -1.6
comp=Z,86nm,1.2s
BRVK *e*Sn Sn 20 18 40.7 -14
BRVK Borovoye 17.16 36 *e*P Pn 20 15 43.7 -1.6
BRVK pmax pmax
comp=Z,86nm,1.2s
ULHL Ulahol 17.19 76 P Pn 20 15 46.5 +0.8
SNR=29
BVA0 Borovoye Array 17.19 36⇓Pn Pn 20 15 45.1 -0.5
comp=Z,4.5nm,0.7s
BVA0 ⇓Sn Sn 20 18 44.3 -11
comp=Z,18nm,1.1s
BVAR Borovoye Array 17.19 36 P Pn 20 15 45.5 -0.1
BVAR S S 20 18 46.8 -16
BVAR pmax pmax
comp=Z,3.0nm,0.3s
BVAR smax
comp=N,8.0nm,0.3s
BVAR MLR MLR
comp=Z,172nm,19.7s
BVAR Borovoye Array 17.19 36 P Pn 20 15 45.5 -0.2
comp=Z,2.5nm,0.3s,baz=225,slow=12,SNR=27
BVAR S S 20 18 46.8 -16
comp=Z,8.3nm,0.3s,baz=223,slow=26,SNR=12
BVAR LR LR 20 23 32.4
comp=Z,172nm,19.7s,baz=223,slow=41
SVE Sverdlovsk 17.24 13 *e*P Pn 20 15 45.1 -1.1
VOSK Vostochnaya 17.27 38⇑Pn Pn 20 15 46.2 -0.4
comp=Z,16nm,0.7s
VOSK ⇓Sn Sn 20 18 42.3 -15
comp=Z,51nm,0.9s
EIL Elat 18.49 241 P Pn 20 15 58.5 -3.2
comp=Z,0.3nm,0.3s,baz=4.6,slow=6.4,SNR=5.0
EIL LR LR 20 24 43.2
comp=Z,87nm,19.1s,baz=48,slow=42
OBN Obninsk 18.68 328⇑ *i*P Pn 20 16 01.6 -2.2
comp=Z,62nm,0.7s
OBN *e*Sn Sn 20 19 22.6 -9.2
OBN Obninsk 18.68 328⇑ *e*P Pn 20 16 01.8 -2.0
OBN *e*S S 20 19 23.1 -10
OBN pmax pmax
comp=Z,55nm,0.8s
OBN MLR MLR
comp=Z,200nm,19.0s
OBN Obninsk 18.68 328⇑ *i*P Pn 20 16 01.6 -2.2
comp=Z,62nm,0.7s
MOS Moscow 18.74 331 *e*P Pn 20 16 02.7 -1.8
MOS *e*S S 20 19 26.3 -7.7
MOS pmax pmax
comp=Z,200nm,1.0s
MOS pmax pmax
comp=Z,130nm,0.8s
MOS Moscow 18.74 331 *e*P Pn 20 16 02.7 -1.8
comp=Z,130nm,0.8s
TIRR Tirgusor 19.02 291⇓P Pn 20 16 05.7 -2.2
TIRR Tirgusor 19.02 291 P Pn 20 16 06.7 -1.2
TIRR Tirgusor 19.02 291⇓ *i*P Pn 20 16 05.7 -2.2
KIS Kishinev 19.08 299 *i*PP 20 16 23.0
KIS *i*S S 20 19 36.0 -5.1
KIS Kishinev 19.08 299 *i*P Pn 20 16 06.0 -2.7
KIS *i*S S 20 19 36.0 -5.1
PSN Preselentsi 19.14 289 P Pn 20 16 08.7 -0.7
HARR Harsova 19.38 292⇓P Pn 20 16 10.2 -2.0
HARR Harsova 19.38 292 P Pn 20 16 10.6 -1.6
HARR Harsova 19.38 292⇓ *i*P Pn 20 16 10.2 -2.0
AKASG Malin Array Be 19.91 310 P Pn 20 16 15.8 -2.7
AKASG S S 20 19 55.0 -2.7
AKASG pmax pmax
comp=Z,25nm,0.3s
AKASG smax
comp=N,2.0nm,0.3s
AKASG Malin Array Be 19.91 310 P Pn 20 16 15.8 -2.7
comp=N,25nm,0.3s,baz=112,slow=10.0,SNR=102
AKASG S S 20 19 55.0 -2.6
comp=N,1.6nm,0.3s,baz=113,slow=23,SNR=5.6
AKBB Malin Array Si 19.91 310⇑ *i*P Pn 20 16 15.5 -3.0
AKBB *e*S S 20 19 51.0 -6.7
IAS Iasi 19.96 299 P Pn 20 16 16.6 -2.5
IAS Iasi 19.96 299 P Pn 20 16 16.6 -2.5
JMB Yambol 20.33 285 P P 20 16 21.9 +0.8
VRI Vrincioaia 20.33 295⇓P P 20 16 21.1 +0.1
VRI Vrincioaia 20.33 295 P P 20 16 21.7 +0.6
VRI Vrincioaia 20.33 295⇓ *i*P P 20 16 21.1 0.0
KURK Kurchatov 20.38 51⇑Pn P 20 16 23.2 +1.7
KURK ⇑Sn S 20 20 00.5 -6.3
comp=N,45nm,0.9s
KURK Kurchatov 20.38 51⇓ *e*P P 20 16 22.4 +0.9
comp=N,27nm,0.9s
KURK *e*S S 20 19 46.0 -21
KURK Kurchatov 20.38 51⇓ *e*P P 20 16 22.4 +0.9
KURK pmax pmax
comp=Z,27nm,0.9s
KURK Kurchatov 20.38 51 Pn P 20 16 23.2 +1.7
KURK Sn S 20 20 00.5 -6.3
comp=Z,45nm,0.9s
PLOR Plostina 20.39 295⇓ *i*P P 20 16 22.4 +0.7
ISR Istrita 20.39 293⇓P P 20 16 23.1 +1.3
ISR Istrita 20.39 293⇓ *i*P P 20 16 23.1 +1.4
BUC1 Bucharest 20.72 290 P P 20 16 26.2 +1.0
BUC1 Bucharest 20.72 290 P P 20 16 26.2 +0.9
SZH Strazhica 20.78 287 P P 20 16 25.9 0.0
MLR Muntele Rosu 20.84 294⇑P P 20 16 27.6 +1.0
MLR Muntele Rosu 20.84 294 P P 20 16 27.2 +0.6
MLR pmax pmax
comp=Z,36nm,0.6s
MLR MLR MLR
comp=Z,97nm,21.5s
MLR Muntele Rosu 20.84 294 P P 20 16 27.2 +0.6
comp=Z,36nm,0.6s,baz=104,slow=5.1,SNR=91
MLR LR LR 20 26 40.9
comp=Z,97nm,21.5s,baz=260,slow=43
MLR Muntele Rosu 20.84 294⇑ *i*P P 20 16 27.6 +1.0
PRK Paraskevi 20.96 276 *e*P P 20 16 28.5 +0.5
SNX Sinaia 21.13 293⇑P P 20 16 31.0 +1.3
SNX Sinaia 21.13 293⇑ *i*P P 20 16 31.0 +1.3
ZIMR 21.19 289 P P 20 16 30.6 +0.2
ZIMR 21.19 289 P P 20 16 30.6 +0.3
PVL Pavlikeni 21.22 287 P P 20 16 32.0 +1.3
RDO Rodhopi 21.22 282 *e*P P 20 16 31.0 +0.3
KDZ Kurdzhali 21.25 283 P P 20 16 31.8 +0.7
KARP Karpathos 21.30 266 *e*P P 20 16 31.0 -0.6
VOIR 21.47 293⇑P P 20 16 33.6 +0.3
VOIR 21.47 293⇑ *i*P P 20 16 33.6 +0.3
BURAR Bucovina Array 21.61 299⇑ *i*P P 20 16 34.2 -0.6
RZN Rozhen 21.77 283 P P 20 16 38.1 +1.5
MK31 Makanchi Array 21.78 63⇓Pn P 20 16 38.0 +1.4
comp=Z,11nm,0.6s,mb4.5
MK31 ⇓Sn S 20 20 35.7 +1.2
comp=Z,14nm,0.7s
MK31 Makanchi Array 21.78 63 *e*P P 20 16 37.4 +0.8
MK31 *e*S S 20 20 26.6 -7.9
MKAR Makanchi Array 21.78 63 P P 20 16 38.2 +1.6
MKAR pmax pmax
comp=Z,14nm,0.6s
MKAR MLR MLR
comp=Z,124nm,18.4s
MKAR Makanchi Array 21.78 63 P P 20 16 38.2 +1.6
comp=Z,14nm,0.6s,mb4.5,baz=253,slow=12,SNR=52
MKAR LR LR 20 26 05.7
comp=Z,124nm,18.4s,MS3.4,baz=330,slow=39
APE Apeiranthos 22.06 271⇓P P 20 16 41.4 +1.6
APE Apeiranthos 22.06 271⇓ *i*P P 20 16 41.4 +1.7
APE Apeiranthos 22.06 271 *i*P P 20 16 40.9 +1.2
PGB Panagyurishte 22.11 286 P P 20 16 40.3 +0.1
MNK Minsk 22.34 318⇓ *e*P P 20 16 40.0 -2.5
MNK *e* 20 20 46.0
NVR Nevrokopi 22.45 283 *e*P P 20 16 43.5 -0.3
MMB Musomiste 22.52 283 P P 20 16 45.2 +0.6
SOF Sofiya 22.71 286 P P 20 16 47.3 +0.7
VTS Vitosha 22.81 286⇑P P 20 16 47.6 0.0
VTS Vitosha 22.81 286⇑ *i*P P 20 16 47.6 0.0
VTS Vitosha 22.81 286 P P 20 16 47.4 -0.2
LVV L'vov 22.82 305 *e*P P 20 16 48.0 +0.4
LVV *e* 20 16 59.0
PLG Polygyros 22.90 280 *e*P P 20 16 48.5 -0.1
KKB Krupnik 22.97 284 P P 20 16 48.6 -0.7
GZR Gura Zlata 23.06 293⇑P P 20 16 49.6 -0.7
GZR Gura Zlata 23.06 293⇑ *i*P P 20 16 49.6 -0.6
PTL Penteli 23.07 274 *e*P P 20 16 50.0 -0.4
DRGR 23.20 297⇑P P 20 16 51.0 -0.6
DRGR 23.20 297⇑ *i*P P 20 16 51.0 -0.6
KVR Kavouri 23.20 274 *e*P P 20 16 52.0 +0.2
DJES Djerdap 23.23 291⇑ *i*P P 20 16 50.6 -1.4
NAIG Nisos Aigina 23.43 274 *e*P P 20 16 52.5 -1.4
KWP Kalwaria 23.61 304 *e*P P 20 16 56.1 +0.6
KWP *e*pP 20 17 03.0
KWP *e*S S 20 21 10.7 +4.7
KWP Kalwaria 23.61 304 *e*P P 20 16 55.2 -0.3
comp=Z,54nm,0.6s,mb5.2
KWP *e*S S 20 21 06.7 +0.7
KWP Kalwaria 23.61 304 *e*P P 20 16 55.2 -0.3
KWP *e*S S 20 21 06.7 +0.7
KWP pmax pmax
comp=Z,54nm,0.6s,mb5.2
KWP Kalwaria 23.61 304⇓ *i*P P 20 16 55.7 +0.2
KWP Kalwaria 23.61 304 *e*P P 20 16 55.2 -0.3
comp=Z,54nm,0.6s,mb5.2
UZH Uzhgorod 23.70 301 *e*P P 20 16 57.0 +0.7
UZH *i* 20 17 10.4
UZH *e*S S 20 21 08.0 +0.5
KOLS Kolonicke sedl 23.77 302 *e*P P 20 16 57.8 +0.9
BZS Buzias 23.89 294⇓P P 20 16 57.9 -0.1
BZS Buzias 23.89 294⇓ *i*P P 20 16 57.9 -0.1
GVD Gavdhos 23.91 266 *e*P P 20 16 56.1 -2.2
comp=Z,70nm,0.9s,mb5.1
GVD *e*pP 20 17 10.5
GVD Gavdhos 23.91 266 *e*P P 20 16 56.1 -2.2
comp=Z,70nm,0.9s,mb5.1

GVD *e*pP 20 17 10.5
THL Klokotos Trika 24.13 279 *e*P **P** **20 16 59.5 -0.8**
VLI Veliai 24.15 271 *e*P **P** **20 16 58.0 -2.5**
CRVS Cervenica-Dubn 24.29 302 *e*P **P** **20 17 02.0 +0.4**
CRVS *e*pP 20 23 43.8
PUL Pulkovo 24.36 331 *e*P **P** **20 17 02.7 +0.5**
EVR Evrytania 24.43 277 *e*P **P** **20 17 03.0 0.0**
STHS Stebnicka Huta 24.51 303 *e*P **P** **20 17 03.9 +0.2**
STHS pmax pmax
comp=Z,12nm,0.8s,mb4.5
STHS Stebnicka Huta 24.51 303 *e*P **P** **20 17 03.9 +0.2**
STHS Stebnicka Huta 24.51 303 *e*P **P** **20 17 03.9 +0.2**
comp=Z,12nm,0.8s,mb4.5
GRUS Gruza 24.55 289⇑*i*P **P** **20 17 04.0 0.0**
NVS Novosibirsk 24.56 44 *i*P pP 20 17 17.8 +0.8
NVS *i* 20 17 33.0
NVS pmax pmax
comp=Z,16nm,1.3s,mb4.4
SUW Suwalki 24.59 314 *e*P **P** **20 17 02.7 -1.7**
SUW *e*pP 20 17 11.3
ITM Ithomi 24.79 273 *e*P **P** **20 17 02.0 -4.3**
KECS Kecovo 24.87 300 *i*P **P** **20 17 07.5 +0.6**
comp=Z,8.2nm,0.8s,mb4.3
KECS Kecovo 24.87 300 *i*P **P** **20 17 07.5 +0.6**
KECS pmax pmax
comp=Z,8.0nm,0.8s,mb4.3
VSU Vasula 24.97 326*d*i*P **P** **20 17 07.6 -0.1**
VSU Vasula 24.97 326 *i*P **P** **20 17 07.6 -0.1**
DIVS Divibare 25.06 290⇑*i*P **P** **20 17 09.4 +0.7**
ZAL Zalesovo 25.07 46 P **P** **20 17 10.0 +1.3**
ZAL *PP pP 20 17 22.3 +0.7
ZAA0 Zalesovo Array 25.08 46 *e*P **P** **20 17 07.9 -0.9**
ZAA0 *e*pP pP 20 17 21.2 -0.5
ZAA0 Zalesovo Array 25.08 46 *e*P **P** **20 17 07.9 -0.9**
ZAA0 *e*pP pP 20 17 21.2 -0.6
ZALV Zalesovo Beam 25.08 46 P **P** **20 17 09.9 +1.1**
comp=Z,3.7nm,0.5s,mb4.2,baz=257,slow=11,SNR=16
ZALV pP pP 20 17 22.2 +0.5
comp=Z,17nm,0.5s,baz=258,slow=10,SNR=29
NIE Niedzica 25.11 303 *e*P **P** **20 17 10.2 +1.1**
PKSN Nyarlorinc 25.15 297⇑*e*P **P** **20 17 11.7 +2.2**
FGSL Fruska Gora 25.15 292 *e*P **P** **20 17 06.9 -2.7**
PSZ Piszkesteto 25.20 299⇑*i*P **P** **20 17 11.0 +1.0**
PSZ Piszkesteto 25.20 299⇑*e*P **P** **20 17 11.2 +1.2**
PSZ Piszkesteto 25.20 299 *e*P **P** **20 17 11.0 +1.0**
comp=Z,13nm,0.8s,mb4.5
BEY Berane 25.22 287⇓*i*P **P** **20 17 10.0 -0.1**
WMQ Urumqi 25.52 71 P **P** **20 17 16.0 +3.1**
WMQ AP pP 20 17 28.0 +2.2
WMQ XP sP 20 17 33.0 +1.0
WMQ PP 20 17 57.0
WMQ AMB AMB
comp=Z,32nm,1.0s,mb4.8
WMQ AMB AMB
comp=Z,135nm,4.9s
WMQ LR LR
comp=N,218nm,20.2s,MS3.9
WMQ LR LR
comp=E,316nm,24.0s,MS3.9
WMQ LR LR
comp=Z,368nm,19.9s,MS3.9
VLS Valsamata 25.53 276 *e*P **P** **20 17 13.0 -0.1**
OJC Ojcow 25.57 304 *e*P **P** **20 17 13.7 +0.4**
TMCR Tamitsa 25.63 344 *e*P **P** **20 17 15.2 +1.5**
TMCR pmax pmax
comp=Z,92nm,0.7s,mb5.4
TMCR Tamitsa 25.63 344 *e*P **P** **20 17 15.2 +1.5**
comp=Z,92nm,0.7s,mb5.4
PDG Podgorica 25.73 286⇓*i*P **P** **20 17 13.5 -1.3**
BUD Budapest 25.76 298⇓*e*P **P** **20 17 16.3 +1.3**
KEK Kerkira 25.77 280 *e*P **P** **20 17 14.5 -0.7**
VYHS Vyhne 25.96 300 *i*P **P** **20 17 17.6 +0.8**
comp=Z,9.8nm,0.8s,mb4.4
VYHS *e* pP 20 17 30.4 +0.6
VYHS Vyhne 25.96 300 *i*P **P** **20 17 17.6 +0.8**
VYHS *e* pP 20 17 30.4 +0.6
VYHS pmax pmax
comp=Z,10.0nm,0.8s,mb4.4
PKSM Moragy 25.97 295 ⇑*i*P **P** **20 17 17.5 +0.5**
PKSM Moragy 25.97 295⇑*i*P **P** **20 17 17.5 +0.5**
PKSG 26.18 298⇑*e*P **P** **20 17 19.3 +0.5**
RHK3 Tenkes 26.24 294⇑*e*P **P** **20 17 19.7 +0.3**
KOLL Kolacno 26.26 300 *i*P **P** **20 17 20.3 +0.8**
KOLL *e*pP pP 20 17 33.7 +1.2
JOF Joensuu 26.31 337 *e*p **P** **20 17 19.4 -0.4**
comp=Z,26nm,0.4s,mb5.1
JOF Joensuu 26.31 337 *e*P **P** **20 17 19.4 -0.4**
JOF pmax pmax
comp=Z,27nm,0.4s,mb5.1
OKC Ostrava-Krasne 26.57 303 *e*P **P** **20 17 22.9 +0.6**
MORC Moravsky Berou 26.95 303 *e*P **P** **20 17 25.6 -0.1**
comp=Z,46nm,1.0s,mb5.0
MORC *e*pP pP 20 17 40.3 +1.6
MORC Moravsky Berou 26.95 303 *e*P **P** **20 17 25.6 -0.1**
MORC *e**PP pP 20 17 40.3 +1.6
MORC pmax pmax
comp=Z,46nm,1.0s,mb5.0
MORC Moravsky Berou 26.95 303⇑*i*P **P** **20 17 26.3 +0.6**
MORC Moravsky Berou 26.95 303 *e*P **P** **20 17 25.6 -0.1**
comp=Z,46nm,1.0s,mb5.0
MODS Modra-Piesok 26.99 300 *i*P **P** **20 17 27.1 +1.0**
comp=Z,10nm,0.9s,mb4.3
MODS *e* pP 20 17 40.4 +1.3
MODS Modra-Piesok 26.99 300 *i*P **P** **20 17 27.1 +1.0**
MODS *e* pP 20 17 40.4 +1.3
MODS pmax pmax
comp=Z,10.0nm,0.9s,mb4.3
FIA1 FINESS Array S 27.04 331 *e*P **P** **20 17 26.3 -0.1**
FIA1 FINESS Array S 27.04 331 *e*P **P** **20 17 26.3 -0.1**
FINES FINESS Array B 27.04 331 P **P** **20 17 26.8 +0.4**
FINES pmax pmax
comp=Z,9.0nm,0.5s
FINES MLR MLR
comp=Z,125nm,19.4s
FINES FINESS Array B 27.04 331 P **P** **20 17 26.8 +0.3**
comp=Z,8.7nm,0.5s,mb4.5,baz=136,slow=11,SNR=95
FINES LR LR 20 29 32.5
comp=Z,125nm,19.4s,MS3.5,baz=120,slow=39
ZST Bratislava 27.09 299 *e*P **P** **20 17 28.0 +1.0**
comp=Z,22nm,0.9s,mb4.7
ZST *e* pP 20 17 40.8 +0.7
ZST Bratislava 27.09 299 *e*P **P** **20 17 28.0 +1.0**
ZST *e* pP 20 17 40.8 +0.7
ZST pmax pmax
comp=Z,22nm,0.9s,mb4.7
SOP Sopron 27.43 298⇓*e*P **P** **20 17 30.8 +0.7**
DANN Dangsing 27.51 106 *e*P **P** **20 17 32.9 +2.0**
VRAC Vranov 27.51 302 P **P** **20 17 31.5 +0.7**
VRAC pmax pmax
comp=Z,4.0nm,0.5s
VRAC MLR MLR
comp=Z,92nm,20.0s
VRAC Vranov 27.51 302 P **P** **20 17 31.5 +0.8**
comp=Z,4.0nm,0.5s,mb4.3,baz=104,slow=9.7,SNR=7.3
VRAC LR LR 20 30 07.5
comp=Z,92nm,20.0s,MS3.4,baz=66,slow=40
VRAC Vranov 27.51 302 *e*P **P** **20 17 31.4 +0.6**
KOLN Koldanda 27.71 107 *e*P **P** **20 17 33.8 +1.0**
DPC Dobruska-Polom 27.80 304 *e*P **P** **20 17 34.5 +1.2**
DPC *e*pP pP 20 17 47.5 +1.1
KSP Ksiaz 27.88 305 *e*P **P** **20 17 34.8 +0.8**
KSP *e*pP pP 20 17 41.7 -5.4
KSP Ksiaz 27.88 305⇑*e*P **P** **20 17 34.7 +0.7**
KSP *e*pP pP 20 17 47.1 0.0
UPC Upice 28.01 304 *e*P **P** **20 17 36.2 +1.0**
UPC *e*pP pP 20 17 50.1 +1.8
ARSA Arzberg 28.13 297⇑*i*P **P** **20 17 36.8 +0.5**
comp=Z,15nm,0.9s,mb4.6,SNR=8.5
TIP Timpagrande 28.19 280 *e*P **P** **20 17 35.0 -1.9**
comp=Z,9.4nm,0.9s,mb4.4
TIP Timpagrande 28.19 280 *e*P **P** **20 17 35.0 -1.9**
comp=Z,9.4nm,0.9s,mb4.4
GKN Gorkha 28.34 106 *e*P **P** **20 17 39.4 +1.0**
comp=Z,28nm,0.6s,mb5.1
PRU Pruhonice 28.90 303 *e*P **P** **20 17 43.6 +0.5**
PRU *e*pP pP 20 17 57.4 +1.2
DMN Daman 28.91 106 *e*P **P** **20 17 44.9 +1.5**
comp=Z,41nm,1.2s,mb5.0
PVCC Panska Ves 28.93 304 *e*P **P** **20 17 44.5 +1.1**
KKN Kakani 28.94 106 *e*P **P** **20 17 44.2 +0.5**
MOA Molln 28.98 298⇑*i*P **P** **20 17 44.1 +0.2**
comp=Z,6.3nm,0.7s,mb4.5
MOA Molln 28.98 298⇑*i*P **P** **20 17 44.0 +0.1**
comp=Z,6.3nm,0.6s,mb4.5

PKI Pulchoki 29.15 106 *e*P **P** **20 17 46.7 +1.1**
GUN Gumba 29.31 105 *e*P **P** **20 17 48.3 +1.3**
comp=Z,69nm,1.1s,mb5.3
BRG Berggiesshubel 29.36 305 *i*P **P** **20 17 48.2 +1.0**
BRG *i* pP 20 18 02.1 +1.8
BRG pmax pmax
comp=Z,16nm,0.7s,mb4.9
BRG Berggiesshubel 29.36 305 *e*P **P** **20 17 48.0 +0.8**
comp=Z,26nm,0.7s,mb5.1
BRG *e*pP pP 20 18 01.5 +1.2
BRG Berggiesshubel 29.36 305 *i*P **P** **20 17 48.2 +1.0**
comp=Z,26nm,0.7s,mb5.1
BRG *i* pP 20 18 02.1 +1.8
comp=Z,18nm,1.1s
GEC2 GERESS Array S 29.38 300 *e*P **P** **20 17 47.5 +0.1**
GEC2 GERESS Array S 29.38 300 *e*P **P** **20 17 47.6 +0.2**
comp=Z,9.0nm,0.6s,mb4.7
GEC2 GERESS Array S 29.38 300 *e*P **P** **20 17 47.5 +0.1**
GERES GERESS Array B 29.38 300 P **P** **20 17 47.6 +0.2**
GERES *PP pP 20 18 01.5 +1.0
GERES pmax pmax
comp=Z,7.0nm,0.6s
GERES pmax pmax
comp=Z,2.0nm,0.5s
GERES MLR MLR
comp=Z,66nm,21.4s
GERES GERESS Array B 29.38 300 P **P** **20 17 47.6 +0.2**
comp=Z,6.5nm,0.6s,mb4.5,baz=91,slow=8.8,SNR=89
GERES pP pP 20 18 01.5 +1.0
comp=Z,2.0nm,0.5s,baz=93,slow=9.1,SNR=6.5
GERES LR LR 20 30 30.8
comp=Z,66nm,21.4s,baz=114,slow=38
KHC Kasperske Hory 29.47 301 *e*P **P** **20 17 47.6 -0.6**
KHC *e*pP pP 20 18 03.4 +2.1
SGG Gregorio Mates 29.49 285 P **P** **20 17 49.8 +1.3**
MIDA Miranda 29.54 286 P **P** **20 17 49.2 +0.4**
APA Apatity 29.54 344⇑*e*P pP 20 17 59.0 -2.7
APA *e*S **S** **20 22 48.0 +8.5**
APA pmax pmax
comp=Z,10.0nm,0.8s,mb4.6
KBA Koelnbreinsper 29.62 297⇓*i*P **P** **20 17 50.3 +0.8**
comp=Z,15nm,0.6s,mb4.9
KBA Koelnbreinsper 29.62 297⇓*i*P **P** **20 17 50.3 +0.8**
KBA pmax pmax
comp=Z,15nm,0.6s,mb4.9
PTCC Patocco-Chiusa 29.64 295 P **P** **20 17 49.9 +0.2**
comp=Z,6.8nm,0.6s,mb4.5
RUE Ruedersdorf 29.66 308 *e*P **P** **20 17 50.0 +0.2**
comp=Z,40nm,1.1s,mb5.1
JIRN Jiri 29.68 105 *e*P **P** **20 17 51.7 +1.4**
comp=Z,5.7nm,0.4s,mb4.7
FBE Freiberg 29.74 305 *e*P **P** **20 17 51.5 +1.0**
comp=Z,34nm,1.6s,mb4.8
CLL Collm 29.99 305⇑*i*P **P** **20 17 53.3 +0.5**
comp=Z,11nm,0.8s,mb4.6
CLL *e* pP 20 18 07.0 +1.1
CLL *i* 20 18 13.3
CLL *e*PP PP 20 18 56.0 -5.0
CLL Collm 29.99 305⇑*i*P **P** **20 17 53.3 +0.5**
CLL *e* pP 20 18 07.0 +1.1
CLL *e* 20 18 56.0
CLL pmax pmax
comp=Z,11nm,0.8s,mb4.6
CLL Collm 29.99 305 *e*P **P** **20 17 53.3 +0.5**
comp=Z,11nm,0.7s,mb4.7
CLL Collm 29.99 305⇑*i*P **P** **20 17 53.3 +0.5**
comp=Z,11nm,0.8s,mb4.6
CLL *e*pP pP 20 18 07.0 +1.1
CLL *e*x x 20 18 10.0
CLL *i* sP sP 20 18 13.3 +1.3
CLL *e*x x 20 18 28.0
CLL *e*PP PP 20 18 56.0 -5.0
CLL *es*PP 20 19 07.0
CING Cingoli 30.03 289 P **P** **20 17 53.7 +0.5**
AQU L'Aquila 30.04 287 *e*P **P** **20 17 53.0 -0.3**
comp=Z,7.9nm,0.7s,mb4.5
AQU L'Aquila 30.04 287 *e*P **P** **20 17 53.0 -0.3**
AQU pmax pmax
comp=Z,8.0nm,0.7s,mb4.6
AQU L'Aquila 30.04 287 *e*P **P** **20 17 53.0 -0.3**
comp=Z,7.9nm,0.7s,mb4.5
NRCA Norcia 30.17 288 P **P** **20 17 54.7 +0.3**
comp=Z,6.8nm,0.6s,mb4.5
SNTG Esanatoglia 30.23 289 P **P** **20 17 55.6 +0.6**
comp=Z,12nm,0.7s,mb4.8
NKC Novy Kostel 30.26 303 *e*P **P** **20 17 55.9 +0.7**
NKC *e*pP pP 20 18 09.5 +1.2
TANN Tannenbergstha 30.26 303 *e*P **P** **20 17 56.0 +0.8**
comp=Z,13nm,0.8s,mb4.7
FSSB Fossombrone 30.29 290 P **P** **20 17 56.0 +0.5**
GUNZ Gunzen 30.34 303 *e*P **P** **20 17 56.8 +0.9**
comp=Z,12nm,0.8s,mb4.7
WERD Werda 30.36 304 *e*P **P** **20 17 56.9 +0.8**
comp=Z,17nm,0.7s,mb4.9
CERT Cerreto 30.41 287 P **P** **20 17 56.8 +0.2**
PIEI Pieia 30.48 290 P **P** **20 17 57.8 +0.6**
MURB Monte Urbino 30.53 289 P **P** **20 17 59.2 +1.6**
BADI Badiali 30.70 290 P **P** **20 18 00.7 +1.6**
WTTA Wattenberg 30.77 297⇑*i*P **P** **20 17 59.7 0.0**
comp=Z,23nm,0.7s,mb5.1,SNR=23
WTTA Wattenberg 30.77 297⇑*i*P **P** **20 17 59.7 0.0**
WTTA pmax pmax
comp=Z,23nm,0.7s,mb5.1
WATA Walderalm 30.81 297 *i*P **P** **20 17 59.7 -0.4**
comp=Z,17nm,1.3s,mb4.7,SNR=8.2
WATA Walderalm 30.81 297 *i*P **P** **20 17 59.7 -0.4**
WATA pmax pmax
comp=Z,17nm,1.3s,mb4.7
MOX Moxa 30.82 304 *e*P **P** **20 18 00.9 +0.8**
comp=Z,37nm,0.9s,mb5.2
MOX *e* pP 20 18 14.7 +1.5
MOX Moxa 30.82 304 *e*P **P** **20 18 00.9 +0.8**
MOX *e* pP 20 18 14.7 +1.5
MOX pmax pmax
comp=Z,37nm,0.9s,mb5.2
MOX Moxa 30.82 304 *e*P **P** **20 18 01.0 +0.9**
comp=Z,35nm,0.9s,mb5.2
MOX *e*pP pP 20 18 14.4 +1.2
CTI Castel Tesino 30.84 295 P **P** **20 18 00.9 +0.6**
CTI pmax pmax
comp=Z,11nm,0.6s,mb4.9
CTI Castel Tesino 30.84 295 P **P** **20 18 00.9 +0.6**
comp=Z,11nm,0.6s,mb4.9
CRE Caprese Michel 30.89 290 P **P** **20 18 02.4 +1.6**
CRE pmax pmax
comp=Z,10.0nm,0.6s,mb4.8
CRE Caprese Michel 30.89 290 P **P** **20 18 02.4 +1.6**
comp=Z,9.5nm,0.6s,mb4.8
FUR Furstenfeldbru 30.99 299 *e*P **P** **20 18 01.9 +0.3**
FUR pmax pmax
comp=Z,14nm,0.6s,mb5.0
FUR Furstenfeldbru 30.99 299 *e*P **P** **20 18 01.9 +0.3**
comp=Z,14nm,0.6s,mb5.0
GRA1 Grafenberg Arr 31.03 302 *e*P **P** **20 18 02.6 +0.6**
comp=Z,8.0nm,0.7s,mb4.7
GRF Grafenberg Arr 31.03 302 *e*P **P** **20 18 02.6 +0.6**
GRF pmax pmax
comp=Z,8.0nm,0.7s,mb4.7
GRF Grafenberg Arr 31.03 302 *e*P **P** **20 18 02.6 +0.6**
GRF pmax pmax
comp=Z,8.0nm,0.7s,mb4.7
GRF Grafenberg Arr 31.03 302 *e*P **P** **20 18 02.6 +0.6**
comp=Z,8.0nm,0.7s,mb4.7
GRFO Grafenberg 31.03 302 *e*P **P** **20 18 02.5 +0.5**
comp=Z,5.2nm,0.6s,mb4.5
GRFO Grafenberg 31.03 302 *e*P **P** **20 18 02.5 +0.5**
GRFO pmax pmax
comp=Z,5.0nm,0.6s,mb4.5
GRFO Grafenberg 31.03 302 *e*P **P** **20 18 02.5 +0.5**
comp=Z,5.2nm,0.6s,mb4.5
SQTA Sankt Quirin 31.07 297⇑*i*P **P** **20 18 01.9 -0.4**
comp=Z,6.4nm,0.8s,mb4.5,SNR=15
SQTA Sankt Quirin 31.07 297⇑*i*P **P** **20 18 01.9 -0.4**
SQTA pmax pmax
comp=Z,6.0nm,0.8s,mb4.5
MOTA Moosalm 31.13 297 *i*P **P** **20 18 02.3 -0.6**
comp=Z,10nm,1.2s,mb4.5,SNR=13
MOTA Moosalm 31.13 297 *i*P **P** **20 18 02.3 -0.6**
MOTA pmax pmax
comp=Z,10.0nm,1.2s,mb4.5
RETA Reutte 31.36 298⇑*i*P **P** **20 18 04.2 -0.7**
comp=Z,3.4nm,0.5s,mb4.4,SNR=7.5
CSNT Castellina Chi 31.39 290 P **P** **20 18 05.3 +0.1**
FETA Feichten 31.41 297⇑*i*P **P** **20 18 05.1 -0.1**
comp=Z,12nm,0.9s,mb4.7,SNR=8.6

FNVD Fontana Vidola 31.41 291 P **P** **20 18 06.7 +1.4**
ZCCA Zocca 31.49 292 P **P** **20 18 05.5 -0.5**
HFS Hagfors 31.66 322 P **P** **20 18 07.3 0.0**
HFS *PP pP 20 18 20.9 +0.4
HFS pmax pmax
comp=Z,7.0nm,0.5s
HFS pmax pmax
comp=Z,9.0nm,0.5s
HFS MLR MLR
comp=Z,117nm,21.4s
HFS Hagfors 31.66 322 P **P** **20 18 07.3 0.0**
comp=Z,6.9nm,0.5s,mb4.8,baz=113,slow=9.1,SNR=77
HFS pP pP 20 18 20.9 +0.4
comp=Z,8.8nm,0.5s,baz=117,slow=8.8,SNR=8.0
HFS LR LR 20 31 57.0
comp=Z,117nm,21.4s,MS3.5,baz=122,slow=38
CLZ Clausthal 31.68 306 *e*P **P** **20 18 08.6 +1.0**
CLZ pmax pmax
comp=Z,17nm,0.8s,mb4.9
CLZ Clausthal 31.68 306 *e*P **P** **20 18 08.6 +1.0**
comp=Z,17nm,0.8s,mb4.9
BRMO Bormio 31.69 296 P **P** **20 18 07.9 +0.1**
comp=Z,7.8nm,0.7s,mb4.7
UBBA Unterbreizbach 31.85 304 *e*P **P** **20 18 09.9 +0.8**
comp=Z,12nm,0.7s,mb4.8
MAIM 31.89 291 P **P** **20 18 09.6 0.0**
SARO Sassorosso 31.92 292 P **P** **20 18 09.9 +0.1**
BSEG Bad Segeberg 31.92 310 *e*P **P** **20 18 10.6 +0.8**
comp=Z,28nm,0.9s,mb5.1
DAVA Damuels 31.97 297 *i*P **P** **20 18 09.7 -0.6**
comp=Z,14nm,0.7s,mb4.9,SNR=11
DAVOX Davos/Dischmat 32.00 296 P **P** **20 18 10.0 -0.5**
comp=Z,10nm,0.8s,mb4.7,baz=92,slow=8.0,SNR=16
DAVOX LR LR 20 33 38.4
comp=Z,96nm,19.4s,MS3.5,baz=180,slow=41
DAVOS Davos 32.06 297 P **P** **20 18 10.0 -1.0**
VINC Vinca 32.10 291 P **P** **20 18 11.3 -0.1**
GRAM 32.12 292 P **P** **20 18 12.5 +0.9**
LSA Lhasa 32.35 97 P **P** **20 18 12.1 -1.7**
comp=Z,3.1nm,0.6s,mb4.3
LSA Lhasa 32.35 97 P **P** **20 18 12.1 -1.7**
LSA pmax pmax
comp=Z,3.0nm,0.6s,mb4.3
LSA Lhasa 32.35 97 P **P** **20 18 12.1 -1.7**
comp=Z,3.1nm,0.6s,mb4.3
STU Stuttgart 32.36 300 *e*P **P** **20 18 14.1 +0.5**
comp=Z,39nm,0.9s,mb5.2
STU *e*pP pP 20 18 27.5 +0.7
TOD Tromm 32.60 302 *e*P **P** **20 18 16.3 +0.6**
SPAK Spaichingen-Ko 32.66 299 *e*P **P** **20 18 16.0 -0.3**
KEV Kevo 32.69 343 *e*p **P** **20 18 16.4 +0.1**
comp=Z,8.3nm,0.4s,mb5.0
KEV Kevo 32.69 343 *e*P **P** **20 18 16.7 +0.4**
comp=Z,11nm,0.6s,mb5.0
KEV Kevo 32.69 343 *e*P **P** **20 18 16.4 +0.1**
KEV pmax pmax
comp=Z,8.0nm,0.4s,mb5.0
VAI Varese 32.85 295 P **P** **20 18 17.5 -0.5**
VAI pmax pmax
comp=Z,23nm,0.6s,mb5.3
VAI Varese 32.85 295 P **P** **20 18 17.5 -0.5**
comp=Z,23nm,0.6s,mb5.3
ARCES ARCESS Array B 32.86 342 P **P** **20 18 18.8 +1.0**
ARCES pmax pmax
comp=Z,3.0nm,0.7s
ARCES ARCESS Array B 32.86 342 P **P** **20 18 18.8 +1.0**
comp=Z,3.1nm,0.7s,mb4.4,baz=144,slow=9.3,SNR=28
BFO Black Forest 32.95 299 *e*P **P** **20 18 18.8 -0.1**
comp=Z,2.4nm,0.6s,mb4.3
BFO Black Forest 32.95 299 *e*P **P** **20 18 18.8 0.0**
BFO pmax pmax
comp=Z,2.0nm,0.6s,mb4.2
BFO Black Forest 32.95 299 *e*P **P** **20 18 18.8 0.0**
comp=Z,2.4nm,0.6s,mb4.3
NB2 NORSAR Subarra 33.12 323 P **P** **20 18 19.6 -0.5**
comp=Z,5.7nm,0.6s,mb4.7,baz=112,slow=9.3
NOA NORSAR Array B 33.12 323 P **P** **20 18 19.5 -0.6**
NOA *PP pP 20 18 33.5 +0.2
NOA pmax pmax
comp=Z,4.0nm,0.6s
NOA pmax pmax
comp=Z,5.0nm,0.7s
NOA MLR MLR
comp=Z,111nm,19.4s
NOA NORSAR Array B 33.12 323 P **P** **20 18 19.5 -0.6**
comp=Z,4.4nm,0.6s,mb4.6,baz=113,slow=8.5,SNR=19
NOA pP pP 20 18 33.5 +0.1
comp=Z,5.2nm,0.7s,baz=113,slow=8.4,SNR=8.7
NOA LR LR 20 33 13.6
comp=Z,110nm,19.4s,MS3.6,baz=105,slow=39
PCP Pian Castagno 33.19 293 P **P** **20 18 19.9 -1.0**
FELD Feldberg im Sc 33.20 299 *e*P **P** **20 18 20.3 -0.7**
PGF Pioggiola 33.20 289⇑*i*P **P** **20 18 20.9 -0.2**
comp=Z,14nm,0.9s,mb4.6
PGF *e*pP pP 20 18 34.4 +0.1
PGF Pioggiola 33.20 289⇑*i*P **P** **20 18 20.9 -0.2**
PGF *e**PP pP 20 18 34.4 +0.1
PGF pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
PGF Pioggiola 33.20 289⇑*i*P **P** **20 18 20.9 -0.2**
comp=Z,7.2nm,0.9s,mb4.6
PGF *e*pP pP 20 18 34.4 +0.1
NAO01 NORSAR Array S 33.20 323 *e*P **P** **20 18 19.9 -0.9**
comp=Z,3.3nm,0.5s,mb4.5
NAO01 *e*pP pP 20 18 33.8 -0.3
NAO01 NORSAR Array S 33.20 323 *e*P **P** **20 18 19.9 -1.0**
comp=Z,3.2nm,0.5s,mb4.5
NAO01 *e*pP pP 20 18 33.8 -0.3
IBBN Ibbenburen 33.31 307 *e*P **P** **20 18 22.7 +0.8**
comp=Z,28nm,0.7s,mb5.3
ABH Alteburg 33.41 302 *e*P **P** **20 18 23.8 +1.0**
FIN Finale Ligure 33.48 292 P **P** **20 18 22.5 -0.9**
BUG Bochum--Univer 33.59 305 *e*P **P** **20 18 25.1 +0.8**
comp=Z,13nm,0.7s,mb5.0
RORO 33.59 292 P **P** **20 18 24.2 -0.3**
TRAV 33.61 294 P **P** **20 18 23.1 -1.5**
VSL Villasalto 33.64 283 *e*P **P** **20 18 23.7 -1.2**
VSL Villasalto 33.64 283 *e*P **P** **20 18 23.7 -1.2**
CDF Champ du Feu 33.65 300⇑*i*P **P** **20 18 24.5 -0.4**
comp=Z,18nm,0.7s,mb4.8
CDF *e*pP pP 20 18 38.0 -0.1
CDF Champ du Feu 33.65 300⇑*i*P **P** **20 18 24.5 -0.4**
CDF *e**PP pP 20 18 38.0 -0.1
CDF pmax pmax
comp=Z,9.0nm,0.7s,mb4.8
CDF Champ du Feu 33.65 300⇑*i*P **P** **20 18 24.5 -0.4**
comp=Z,8.8nm,0.7s,mb4.8
CDF *e*pP pP 20 18 38.0 -0.1
RUP Ruppelstein 33.73 302 *e*P **P** **20 18 26.7 +1.1**
IMI Imperia 33.75 292 P **P** **20 18 26.0 +0.2**
MONE Monesi 33.82 292 P **P** **20 18 26.0 -0.4**
HINF Hinteralfeld 33.98 299⇑*i*P **P** **20 18 26.9 -0.8**
comp=Z,7.4nm,0.7s,mb4.4
HINF Hinteralfeld 33.98 299⇑*i*P **P** **20 18 26.9 -0.8**
HINF pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
HINF Hinteralfeld 33.98 299⇑*i*P **P** **20 18 26.9 -0.8**
comp=Z,3.7nm,0.7s,mb4.4
RSP Reno Superiore 34.00 294 P **P** **20 18 26.4 -1.6**
LSD Ceresole Reale 34.03 294 P **P** **20 18 28.4 +0.2**
ENR Entracque 34.03 292 P **P** **20 18 27.8 -0.5**
SBF Sospel 34.08 292⇑*i*P **P** **20 18 28.8 +0.1**
comp=Z,33nm,0.9s,mb5.0
SBF Sospel 34.08 292⇑*i*P **P** **20 18 28.8 +0.1**
SBF pmax pmax
comp=Z,16nm,0.9s,mb5.0
SBF Sospel 34.08 292⇑*i*P **P** **20 18 28.8 +0.1**
comp=Z,16nm,0.9s,mb5.0
STV Sta Anna Valdi 34.10 292 P **P** **20 18 28.3 -0.5**
DOI San Damiano 34.11 293 P **P** **20 18 27.6 -1.3**
DOI pmax pmax
comp=Z,13nm,0.6s,mb5.0
DOI San Damiano 34.11 293 P **P** **20 18 27.6 -1.3**
comp=Z,13nm,0.6s,mb5.0
PZZ Prazzo 34.21 293 P **P** **20 18 28.2 -1.6**
HAU Haudompre 34.30 299⇑*i*P **P** **20 18 30.1 -0.4**
comp=Z,69nm,0.8s,mb5.3
HAU *e*pP pP 20 18 43.7 -0.1
HAU Haudompre 34.30 299⇑*i*P **P** **20 18 30.1 -0.4**
HAU *e**PP pP 20 18 43.7 -0.1
HAU pmax pmax
comp=Z,35nm,0.8s,mb5.3
HAU Haudompre 34.30 299⇑*i*P **P** **20 18 30.1 -0.4**
comp=Z,34nm,0.8s,mb5.3
HAU *e*pP pP 20 18 43.7 -0.1

LPG La Plagne 34.30 295⇑iP P 20 18 30.6 0.0
LPL La Plagne 34.31 295⇑iP P 20 18 30.6 -0.1
comp=Z,12nm,0.5s,mb4.8
LPL La Plagne 34.31 295⇑iP P 20 18 30.6 -0.1
LPL pmax pmax
comp=Z,6.0nm,0.5s,mb4.8
LPL La Plagne 34.31 295⇑iP P 20 18 30.6 -0.1
comp=Z,6.2nm,0.5s,mb4.8
WLF Walferdange 34.32 302 eP P 20 18 31.8 +1.0
comp=Z,18nm,0.8s,mb5.1
WLF Walferdange 34.32 302 eP P 20 18 31.8 +1.1
WLF pmax pmax
comp=Z,18nm,0.8s,mb5.0
WLF Walferdange 34.32 302 P P 20 18 32.0 +1.2
comp=Z,12nm,1.0s,mb4.8
WLF Walferdange 34.32 302 eP P 20 18 31.6 +0.9
comp=Z,22nm,0.9s,mb5.1
WLF Walferdange 34.32 302 eP P 20 18 31.8 +1.1
comp=Z,18nm,0.8s,mb5.1
RRL Cesana Torines 34.37 294 P P 20 18 31.1 -0.1
MEM Membach 34.39 304 P P 20 18 32.5 +1.2
comp=Z,6.6nm,1.1s,mb4.5
MEM Membach 34.39 304 P P 20 18 32.4 +1.1
comp=Z,6.6nm,1.1s,mb4.5
MBDF Montbardon 34.41 293⇑iP P 20 18 31.4 -0.1
comp=Z,33nm,0.7s,mb5.1
MBDF epP pP 20 18 45.1 +0.3
MBDF Montbardon 34.41 293⇑iP P 20 18 31.4 -0.1
MBDF e*PP pP 20 18 45.1 +0.3
MBDF pmax pmax
comp=Z,16nm,0.7s,mb5.1
MBDF Montbardon 34.41 293⇑iP P 20 18 31.4 -0.1
comp=Z,16nm,0.7s,mb5.1
MBDF epP pP 20 18 45.1 +0.3
BNI Bardonecchia 34.42 294 eP P 20 18 31.5 -0.1
comp=Z,12nm,0.6s,mb5.0
BNI epP pP 20 18 44.6 -0.2
BNI Bardonecchia 34.42 294 eP P 20 18 31.5 -0.1
BNI e*PP pP 20 18 44.7 -0.2
BNI pmax pmax
comp=Z,12nm,0.6s,mb5.0
BNI Bardonecchia 34.42 294 eP P 20 18 31.5 -0.1
comp=Z,12nm,0.6s,mb5.0
BNI epP pP 20 18 44.7 -0.2
CABF La Chapelle 34.62 297⇑iP P 20 18 33.2 -0.1
comp=Z,47nm,0.7s,mb5.2
CABF epP pP 20 18 46.7 +0.2
CABF La Chapelle 34.62 297⇑iP P 20 18 33.2 -0.1
CABF e*PP pP 20 18 46.7 +0.2
CABF pmax pmax
comp=Z,23nm,0.7s,mb5.2
CABF La Chapelle 34.62 297⇑iP P 20 18 33.2 -0.1
comp=Z,23nm,0.7s,mb5.2
CABF epP pP 20 18 46.7 +0.2
FRF La Foret Royal 34.70 291⇑iP P 20 18 33.8 -0.3
comp=Z,43nm,0.6s,mb5.2
FRF epP pP 20 18 47.5 +0.2
FRF La Foret Royal 34.70 291⇑iP P 20 18 33.8 -0.3
FRF e*PP pP 20 18 47.5 +0.2
FRF pmax pmax
comp=Z,21nm,0.6s,mb5.2
FRF La Foret Royal 34.70 291⇑iP P 20 18 33.8 -0.3
comp=Z,21nm,0.6s,mb5.2
FRF epP pP 20 18 47.5 +0.2
LMR La Mourre 34.84 291 eP P 20 18 34.7 -0.6
KEST Kesra 34.85 277 P P 20 18 34.8 -0.6
comp=Z,3.1nm,0.6s,mb4.4,baz=329,slow=2.1,SNR=30
ORIF Oris-en-Rattie 35.00 294 eP P 20 18 35.9 -0.7
MEZF Maizieres J'vi 35.12 300⇑iP P 20 18 37.8 +0.2
comp=Z,23nm,0.6s,mb5.0
MEZF Maizieres J'vi 35.12 300⇑iP P 20 18 37.8 +0.2
comp=Z,11nm,0.6s,mb5.0
GIVF Givet 35.16 303⇑iP P 20 18 39.1 +1.1
comp=Z,26nm,0.7s,mb4.9
GIVF epP pP 20 18 52.8 +1.6
GIVF Givet 35.16 303⇑iP P 20 18 39.1 +1.1
comp=Z,13nm,0.7s,mb5.0
GIVF epP pP 20 18 52.8 +1.6
GIVF Givet 35.16 303⇑iP P 20 18 39.1 +1.1
GIVF e*PP pP 20 18 52.8 +1.6
GIVF pmax pmax
comp=Z,13nm,0.7s,mb5.0
GTA Gaotai 35.24 76 eP P 20 18 40.5 +1.7
GTA AMB AMB
comp=Z,3.0nm,0.6s,mb4.4
GTA AMB AMB
comp=Z,58nm,6.1s
GTA LR LR
comp=N,690nm,19.0s,MS4.7
GTA LR LR
comp=E,1μm,17.9s,MS4.7
GTA LR LR
comp=Z,1μm,17.9s,MS4.8
DOU Dourbes 35.31 303 P P 20 18 40.4 +1.2
comp=Z,10nm,1.3s,mb4.6
SMRF Simiane la Rot 35.38 292 eP P 20 18 39.8 -0.1
comp=Z,6.6nm,0.7s,mb4.4
SMRF Simiane la Rot 35.38 292 eP P 20 18 39.8 -0.1
comp=Z,3.3nm,0.7s,mb4.4
UCC Uccle 35.43 304 P P 20 18 40.0 -0.3
UCC Uccle 35.43 304 P P 20 18 39.9 -0.3
BAIF Baives 35.56 303⇑iP P 20 18 42.7 +1.3
comp=Z,43nm,0.9s,mb5.1
BAIF Baives 35.56 303⇑iP P 20 18 42.7 +1.3
BAIF pmax pmax
comp=Z,22nm,0.9s,mb5.1
BAIF Baives 35.56 303⇑iP P 20 18 42.7 +1.3
comp=Z,22nm,0.9s,mb5.1
VIVF Saint-Julien-I 35.86 294⇑iP P 20 18 43.5 -0.5
comp=Z,4.3nm,0.6s,mb4.2
VIVF epP pP 20 18 57.2 -0.1
VIVF Saint-Julien-I 35.86 294⇑iP P 20 18 43.5 -0.5
VIVF e*PP pP 20 18 57.2 -0.1
VIVF pmax pmax
comp=Z,2.0nm,0.6s,mb4.2
VIVF Saint-Julien-I 35.86 294⇑iP P 20 18 43.5 -0.5
comp=Z,2.2nm,0.6s,mb4.3
VIVF epP pP 20 18 57.2 -0.1
CMAH Djebel Manchou 35.99 279 P P 20 18 45.0 -0.3
LOR Lormes 36.05 298⇑iP P 20 18 45.1 -0.5
comp=Z,19nm,0.7s,mb4.8
LOR Lormes 36.05 298⇑iP P 20 18 45.1 -0.5
LOR pmax pmax
comp=Z,9.0nm,0.7s,mb4.8
LOR Lormes 36.05 298⇑iP P 20 18 45.1 -0.5
comp=Z,9.3nm,0.7s,mb4.8
ABSA Djebel Ababsia 36.07 279 P P 20 18 47.0 +1.1
SMF Signal de Mont 36.15 297⇑iP P 20 18 46.2 -0.2
comp=Z,29nm,0.8s,mb5.0
SMF epP pP 20 18 59.9 +0.2
SMF Signal de Mont 36.15 297⇑iP P 20 18 46.2 -0.2
SMF e*PP pP 20 18 59.9 +0.2
SMF pmax pmax
comp=Z,15nm,0.8s,mb5.0
SMF Signal de Mont 36.15 297⇑iP P 20 18 46.2 -0.2
comp=Z,15nm,0.8s,mb5.0
SMF epP pP 20 18 59.9 +0.2
SSF Saint Saulge 36.32 298⇑iP P 20 18 47.4 -0.5
comp=Z,8.9nm,0.6s,mb4.5
SSF Saint Saulge 36.32 298⇑iP P 20 18 47.4 -0.5
SSF pmax pmax
comp=Z,4.0nm,0.6s,mb4.5
SSF Saint Saulge 36.32 298⇑iP P 20 18 47.4 -0.5
comp=Z,4.4nm,0.6s,mb4.5
AVF Avril sur Loir 36.46 297⇑iP P 20 18 49.0 -0.1
comp=Z,63nm,0.8s,mb5.3
AVF Avril sur Loir 36.46 297⇑iP P 20 18 49.0 -0.1
AVF pmax pmax
comp=Z,31nm,0.8s,mb5.3
AVF Avril sur Loir 36.46 297⇑iP P 20 18 49.0 -0.1
comp=Z,32nm,0.8s,mb5.3
LASF Ste Croix 36.58 293⇑iP P 20 18 50.0 -0.2
comp=Z,9.7nm,0.7s,mb4.4
LASF epP pP 20 19 03.7 +0.2
LASF Ste Croix 36.58 293⇑iP P 20 18 50.0 -0.2
comp=Z,4.8nm,0.7s,mb4.4
LASF epP pP 20 19 03.7 +0.2
BGF Bois d'Agland 36.84 297⇑iP P 20 18 52.1 -0.2
comp=Z,8.2nm,0.6s,mb4.5
BGF Bois d'Agland 36.84 297⇑iP P 20 18 52.1 -0.2
BGF pmax pmax
comp=Z,4.0nm,0.6s,mb4.4
BGF Bois d'Agland 36.84 297⇑iP P 20 18 52.1 -0.2
comp=Z,4.1nm,0.6s,mb4.5
HYF Humbligny 36.87 298 eP P 20 18 53.1 +0.5
TCF Toulx Ste Croi 37.32 297⇑iP P 20 18 56.8 +0.4
comp=Z,26nm,0.7s,mb4.9
TCF epP pP 20 19 10.5 +0.8
TCF Toulx Ste Croi 37.32 297⇑iP P 20 18 56.8 +0.4
TCF e*PP pP 20 19 10.5 +0.8
TCF pmax pmax
comp=Z,13nm,0.7s,mb4.9
TCF Toulx Ste Croi 37.32 297⇑iP P 20 18 56.8 +0.4
comp=Z,13nm,0.7s,mb4.9
TCF epP pP 20 19 10.5 +0.8
CAF Calviac 37.67 295⇑iP P 20 18 59.7 +0.3
comp=Z,16nm,0.8s,mb4.5
CAF epP pP 20 19 13.4 +0.7
CAF Calviac 37.67 295⇑iP P 20 18 59.7 +0.3
CAF e*PP pP 20 19 13.4 +0.7
CAF pmax pmax
comp=Z,8.0nm,0.8s,mb4.5
CAF Calviac 37.67 295⇑iP P 20 18 59.7 +0.3
comp=Z,8.1nm,0.8s,mb4.5
CAF epP pP 20 19 13.4 +0.7
MTLF Montolieu 37.90 292⇑iP P 20 19 01.2 -0.2
MTLF epP pP 20 19 14.9 +0.2
RJF Les Rejaudoux 37.97 295⇑iP P 20 19 02.6 +0.7
comp=Z,35nm,1.1s,mb4.7
RJF Les Rejaudoux 37.97 295⇑iP P 20 19 02.6 +0.7
RJF pmax pmax
comp=Z,18nm,1.1s,mb4.7
RJF Les Rejaudoux 37.97 295⇑iP P 20 19 02.6 +0.7
comp=Z,18nm,1.1s,mb4.7
SONM Songino Array 38.11 60 P P 20 19 04.8 +1.8
SONM pmax pmax
comp=Z,1.0nm,0.8s
SONM Songino Array 38.11 60 P P 20 19 04.8 +1.8
comp=Z,0.9nm,0.8s,mb3.6,baz=272,slow=7.5,SNR=6.2
LDF La Druitiere 38.52 301⇑iP P 20 19 06.2 -0.3
comp=Z,18nm,0.6s,mb4.7
LDF La Druitiere 38.52 301⇑iP P 20 19 06.2 -0.3
LDF pmax pmax
comp=Z,9.0nm,0.6s,mb4.7
LDF La Druitiere 38.52 301⇑iP P 20 19 06.2 -0.3
comp=Z,9.2nm,0.6s,mb4.7
LFF La Frestale 38.58 295⇑iP P 20 19 07.4 +0.3
comp=Z,38nm,0.7s,mb5.0
LFF epP pP 20 19 21.2 +0.7
LFF La Frestale 38.58 295⇑iP P 20 19 07.4 +0.3
LFF e*PP pP 20 19 21.2 +0.7
LFF pmax pmax
comp=Z,19nm,0.7s,mb4.9
LFF La Frestale 38.58 295⇑iP P 20 19 07.4 +0.3
comp=Z,19nm,0.7s,mb5.0
LFF epP pP 20 19 21.2 +0.7
SKP1 Kophill 38.62 306 eP P 20 19 07.2 -0.1
SKP1 Kophill 38.62 306 eP P 20 19 07.2 -0.1
comp=Z,38nm,1.2s,mb5.0
FLN La Foliniere 38.74 301⇑iP P 20 19 08.1 -0.2
comp=Z,39nm,0.7s,mb5.0
FLN La Foliniere 38.74 301⇑iP P 20 19 08.1 -0.2
FLN pmax pmax
comp=Z,20nm,0.7s,mb5.0
FLN La Foliniere 38.74 301⇑iP P 20 19 08.1 -0.2
comp=Z,20nm,0.7s,mb5.0
EMIR Miracle 38.75 290 P P 20 19 08.9 +0.4
comp=Z,21nm,0.6s,mb5.0
EMIR Miracle 38.75 290 P P 20 19 08.9 +0.4
comp=Z,21nm,0.6s,mb5.0
CWF Charnwood Fore 38.85 308 eP P 20 19 08.7 -0.5
CWF AMb AMB 20 19 10.8
comp=Z,30nm,1.8s,mb4.7
MFF Saint Martin d 38.87 298⇑iP P 20 19 09.0 -0.4
comp=Z,28nm,0.7s,mb4.8
MFF epP pP 20 19 22.7 -0.1
MFF Saint Martin d 38.87 298⇑iP P 20 19 09.0 -0.4
MFF e*PP pP 20 19 22.7 -0.1
MFF pmax pmax
comp=Z,14nm,0.7s,mb4.8
MFF Saint Martin d 38.87 298⇑iP P 20 19 09.0 -0.4
comp=Z,14nm,0.7s,mb4.8
MFF epP pP 20 19 22.7 -0.1
LRW Lerwick 38.89 319 eP P 20 19 09.0 -0.5
LRW AMb AMB 20 19 10.4
comp=Z,38nm,1.2s,mb5.0
WOL Wolverton 38.91 305 eP P 20 19 10.0 +0.3
GRR Gorron 39.04 301⇑iP P 20 19 10.4 -0.5
comp=Z,21nm,0.7s,mb4.7
GRR Gorron 39.04 301⇑iP P 20 19 10.4 -0.5
GRR pmax pmax
comp=Z,11nm,0.7s,mb4.7
GRR Gorron 39.04 301⇑iP P 20 19 10.4 -0.5
comp=Z,11nm,0.7s,mb4.7
LHO Holmfirth 39.13 309 eP P 20 19 11.9 +0.4
EPOB Poblet 39.23 289 P P 20 19 12.0 -0.5
comp=Z,15nm,0.8s,mb4.8
EPOB Poblet 39.23 289 P P 20 19 12.0 -0.5
comp=Z,15nm,0.8s,mb4.8
XAL Allendale 39.28 311 eP P 20 19 12.4 -0.4
XSO Sourhope Farm 39.28 312 eP P 20 19 12.6 -0.2
EPF Esparros 39.31 292 eP P 20 19 12.4 -0.8
comp=Z,7.2nm,0.8s,mb4.1
EPF Esparros 39.31 292 eP P 20 19 12.4 -0.8
EPF pmax pmax
comp=Z,4.0nm,0.8s,mb4.2
EPF Esparros 39.31 292 eP P 20 19 12.4 -0.8
comp=Z,3.6nm,0.8s,mb4.1
LZH Lanzhou 39.35 79 eP P 20 19 12.0 -1.6
LZH AMB AMB
comp=Z,13nm,1.0s,mb4.6
LZH AMB AMB
comp=Z,53nm,4.2s
ESY Stoneypath 39.48 313 eP P 20 19 14.5 +0.1
EBIE Bielsa 39.54 292 P P 20 19 15.6 +0.5
comp=Z,3.4nm,0.6s,mb4.2
EBIE Bielsa 39.54 292 P P 20 19 15.6 +0.5
comp=Z,3.4nm,0.6s,mb4.2
HAE Alders End 39.66 307 eP P 20 19 15.5 -0.5
EBL Broad Law 39.73 312⇑eP P 20 19 16.5 0.0
ECK Cauldkaine Hil 39.79 312⇑eP P 20 19 16.8 -0.2
ECK Cauldkaine Hil 39.79 312⇑eP P 20 19 16.8 -0.2
comp=Z,26nm,2.1s,mb4.6
EKA Eskdalemuir Ar 39.81 312 P P 20 19 17.2 +0.1
EKA *PP pP 20 19 31.1 +0.5
EKA 20 21 22.4
EKA pmax pmax
comp=Z,16nm,0.6s
EKA pmax pmax
comp=Z,11nm,0.5s
EKA pmax pmax
comp=Z,1.0nm,0.6s
EKA Eskdalemuir Ar 39.81 312 P P 20 19 17.2 +0.1
comp=Z,16nm,0.6s,mb4.9,baz=101,slow=8.9,SNR=71
EKA pP pP 20 19 31.1 +0.5
comp=Z,11nm,0.5s,baz=97,slow=8.7,SNR=12
EKA PcP PcP 20 21 22.4 +0.1
comp=Z,1.3nm,0.6s,baz=76,slow=3.5,SNR=3.6
EKA Eskdalemuir Ar 39.81 312 PcP PcP 20 21 22.4 +0.1
comp=Z,1.0nm,0.6s
MCD Coleburn Disti 39.83 315 eP P 20 19 17.4 +0.1
ESK Eskdalemuir 39.83 312 eP P 20 19 17.1 -0.3
ESK AMb AMB 20 19 18.8
comp=Z,26nm,2.1s,mb4.6
MLA1 Latheron 39.90 316 eP P 20 19 17.9 +0.1
MLA1 Latheron 39.90 316 eP P 20 19 17.9 0.0
comp=Z,36nm,1.6s,mb4.9
MCH1 Michaelchurch 39.94 307 AMb AMB 20 19 18.0
comp=Z,36nm,1.6s,mb4.9
MCH1 Michaelchurch 39.94 307 AMb AMB 20 19 18.0
comp=Z,36nm,1.6s,mb4.9
MCH1 eP 20 19 18.0
MCH1 eP 20 19 18.0
MCH1 eP 20 19 18.0
MCH1 AMb AMB 20 19 19.1
comp=Z,30nm,1.7s,mb4.7
MCH1 Michaelchurch 39.94 307 eP P 20 19 18.0 -0.3
EBH Black Hill 39.98 313⇑eP P 20 19 18.5 0.0
SBD1 Bryn Du 40.01 308 eP P 20 19 19.4 +0.5
HTR Trewern Hill 40.10 307 eP P 20 19 18.4 -1.2
ORE Reay 40.12 317 eP P 20 19 19.4 -0.3
SGMF Saint Gilles 40.18 301⇑iP P 20 19 20.5 +0.2
comp=Z,78nm,0.7s,mb5.3
SGMF epP pP 20 19 34.3 +0.5
SGMF Saint Gilles 40.18 301⇑iP P 20 19 20.5 +0.2
SGMF e*PP pP 20 19 34.3 +0.5
SGMF pmax pmax
comp=Z,39nm,0.7s,mb5.2
SGMF Saint Gilles 40.18 301⇑iP P 20 19 20.5 +0.2
comp=Z,39nm,0.7s,mb5.3
SGMF epP pP 20 19 34.3 +0.5
ESAC San Caprasio 40.24 290 P **P 20 19 19.8 -1.1**
comp=Z,20nm,0.7s,mb5.0
ESAC San Caprasio 40.24 290 P **P 20 19 19.8 -1.1**
comp=Z,20nm,0.7s,mb5.0
MVH1 Achvaich 40.33 316 eP P 20 19 20.8 -0.7
SJPF Ste Jean 40.39 293 eP P 20 19 21.9 -0.3
SJPF epP pP 20 19 35.7 +0.1
MDO Dochfour 40.43 315⇑eP P 20 19 22.6 +0.3
EAB Aberfoyle 40.44 313⇑eP P 20 19 22.4 0.0
HEX Exmoor 40.55 305 eP P 20 19 22.8 -0.6
comp=Z,36nm,2.1s,mb4.6
ROSF Rostrenen 40.64 301⇑iP P 20 19 24.2 +0.1
comp=Z,45nm,0.7s,mb4.9
ROSF Rostrenen 40.64 301⇑iP P 20 19 24.2 +0.1
ROSF pmax pmax
comp=Z,22nm,0.7s,mb4.9
ROSF Rostrenen 40.64 301⇑iP P 20 19 24.2 +0.1
comp=Z,22nm,0.7s,mb4.9
QUIF Quistinic 40.64 300⇑iP P 20 19 24.1 -0.1
comp=Z,46nm,0.7s,mb4.9
QUIF Quistinic 40.64 300⇑iP P 20 19 24.1 -0.1
QUIF pmax pmax
comp=Z,23nm,0.7s,mb4.9
QUIF Quistinic 40.64 300⇑iP P 20 19 24.1 -0.1
comp=Z,23nm,0.7s,mb4.9
DYA Yadsworthy 40.72 304 eP P 20 19 23.7 -1.1
DYA AMb AMB 20 19 24.9
comp=Z,36nm,2.1s,mb4.6
GAL1 Galloway 40.72 311 eP P 20 19 24.6 -0.2
GAL1 eP 20 19 24.6
GAL1 AMb AMB 20 19 30.4
comp=Z,63nm,1.4s,mb5.1
GAL1 Galloway 40.72 311 eP P 20 19 24.5 -0.2
comp=Z,63nm,1.4s,mb5.1
RSC Scourie 40.85 316 eP P 20 19 25.9 +0.2
REB Eisghbrachaidh 40.91 316 eP P 20 19 26.4 +0.1
KAC Achnashellach 40.93 315 eP P 20 19 26.2 -0.2
KAC Achnashellach 40.93 315 eP P 20 19 26.2 -0.2
comp=Z,48nm,1.9s,mb4.8
KPL Plockton 41.13 315 eP P 20 19 27.9 -0.2
KPL AMb AMB 20 19 28.2
comp=Z,48nm,1.9s,mb4.8
RRR Rubha Reidh 41.20 316 eP P 20 19 28.4 -0.2
KAR1 Arisaig 41.24 314 eP P 20 19 28.4 -0.6
ECHE Chera 41.25 287 P P 20 19 29.7 +0.5
comp=Z,11nm,0.9s,mb4.5
ECHE Chera 41.25 287 P P 20 19 29.7 +0.5
ECHE pmax pmax
comp=Z,11nm,0.9s,mb4.5
ECHE Chera 41.25 287 P P 20 19 29.7 +0.5
comp=Z,11nm,0.9s,mb4.5
CD2 Chengdu 41.42 87 eP P 20 19 32.0 +1.2
CD2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.6
CD2 AMB AMB
comp=Z,20nm,5.2s
CD2 LR LR
comp=N,100nm,8.4s
CD2 LR LR
comp=Z,120nm,10.2s,MS4.1
GCL Cushendall 41.52 312 eP P 20 19 30.9 -0.4
CMA1 Manaccan 41.53 304 eP P 20 19 31.3 -0.2
CRQ2 Rosemanowes 2 41.54 304 eP P 20 19 31.2 -0.3
CCA1 Carnmenellis 41.58 304 eP P 20 19 31.8 -0.1
ETOR Torete 41.65 290 P P 20 19 31.6 -0.8
comp=Z,5.7nm,0.4s,mb4.5
ETOR Torete 41.65 290 P P 20 19 31.7 -0.8
ETOR pmax pmax
comp=Z,6.0nm,0.4s,mb4.6
ETOR Torete 41.65 290 P P 20 19 31.6 -0.9
comp=Z,5.7nm,0.4s,mb4.5
RRH Rhenigidale 41.67 316 eP P 20 19 32.4 0.0
CPZ Penzance 41.81 304 eP P 20 19 33.4 -0.3
ELAN Lanestosa 41.92 293 P P 20 19 34.1 -0.6
comp=Z,11nm,0.8s,mb4.5
ELAN Lanestosa 41.92 293 P P 20 19 34.1 -0.6
comp=Z,11nm,0.8s,mb4.5
ETOB Tobarra 41.99 286 P P 20 19 36.0 +0.6
comp=Z,8.9nm,0.8s,mb4.5
ETOB Tobarra 41.99 286 P P 20 19 36.0 +0.7
comp=Z,8.9nm,0.8s,mb4.5
EMUR La Murta 42.05 285 P P 20 19 34.9 -0.9
comp=Z,6.8nm,0.9s,mb4.3
EMUR La Murta 42.05 285 P P 20 19 34.9 -0.9
comp=Z,6.8nm,0.9s,mb4.3
EVIA Vianos 42.69 287 P P 20 19 41.4 +0.4
comp=Z,14nm,0.8s,mb4.7
EVIA Vianos 42.69 287 P P 20 19 41.4 +0.4
EVIA pmax pmax
comp=Z,14nm,0.8s,mb4.7
EVIA Vianos 42.69 287 P P 20 19 41.4 +0.4
comp=Z,14nm,0.8s,mb4.7
EARI Arriondas 43.14 294 P P 20 19 44.0 -0.6
comp=Z,9.7nm,0.8s,mb4.6
EARI Arriondas 43.14 294 P P 20 19 44.0 -0.6
comp=Z,9.7nm,0.8s,mb4.6
GUD Guadarrama 43.21 290 P P 20 19 44.8 -0.5
comp=Z,5.1nm,0.5s,mb4.5
GUD Guadarrama 43.21 290 P P 20 19 44.8 -0.4
GUD pmax pmax
comp=Z,5.0nm,0.5s,mb4.5
GUD Guadarrama 43.21 290 P P 20 19 44.8 -0.4
comp=Z,5.1nm,0.5s,mb4.5
ESDC Sonseca Array 43.40 289 P P 20 19 46.1 -0.6
comp=Z,10nm,0.7s,mb4.7,baz=65,slow=8.2,SNR=76
ESDC pP pP 20 19 59.8 -0.5
comp=Z,3.5nm,0.5s,baz=67,slow=8.7,SNR=12
ESLA Sonseca Array 43.40 289 eP P 20 19 45.9 -0.8
comp=Z,1.8nm,0.8s,mb3.9
ESLA epP pP 20 19 59.2 -1.1
EQES Quesada 43.41 286 P P 20 19 46.8 -0.1
comp=Z,17nm,0.9s,mb4.8
EQES Quesada 43.41 286 P P 20 19 46.8 -0.1
comp=Z,17nm,0.9s,mb4.8
KMI Kunming 43.53 95 P P 20 19 49.0 +1.1
KMI AMB AMB
comp=Z,9.0nm,0.8s,mb4.5
KMI AMB AMB
comp=Z,110nm,4.7s
KMI LR LR
comp=N,580nm,17.0s,MS4.6
KMI LR LR
comp=E,376nm,19.1s,MS4.6
KMI LR LR
comp=Z,412nm,18.4s,MS4.4
EBER Berja 43.61 284 P P 20 19 48.9 +0.4
comp=Z,12nm,0.6s,mb4.8
EBER Berja 43.61 284 P P 20 19 48.9 +0.4
comp=Z,12nm,0.6s,mb4.8
EBAN Banos Encina 43.80 287 P P 20 19 58.0 +8.0
ECOG Cogollos-Vega 43.97 285 P P 20 19 50.2 -1.2
ECOG Cogollos-Vega 43.97 285 P P 20 19 50.2 -1.2
XAN Xi'an 43.98 80 P P 20 19 53.5 +2.0
XAN AP pP 20 20 02.0 -3.1
XAN XP sP 20 20 08.8 -2.2
XAN PP PP 20 21 23.5 -11
XAN PPP 20 22 02.8
XAN PCP PcP 20 22 09.5 +33
XAN SCP ScP 20 25 50.3 +26
XAN SCS ScS 20 29 56.5 +11
XAN AMB AMB
comp=Z,65nm,7.6s
XAN LR LR
comp=N,299nm,16.1s,MS4.5
XAN LR LR
comp=E,462nm,16.6s,MS4.5
XAN LR LR
comp=Z,772nm,16.3s,MS4.7
ERON Agron 44.25 285 P P 20 19 52.9 -0.7
comp=Z,3.4nm,0.4s,mb4.4
ERON Agron 44.25 285 P P 20 19 52.9 -0.7
comp=Z,3.4nm,0.4s,mb4.4
CHTO Chiang Mai 44.33 105 eP P 20 19 54.3 -0.2
comp=Z,2.6nm,0.6s,mb4.1
CHTO epP pP 20 20 07.7 -0.3
CHTO Chiang Mai 44.33 105 eP P 20 19 54.3 -0.1
CHTO e*PP pP 20 20 07.7 -0.3
CHTO pmax pmax
comp=Z,3.0nm,0.6s,mb4.2
CHTO Chiang Mai 44.33 105 eP P 20 19 54.3 -0.1
comp=Z,2.6nm,0.6s,mb4.1
ELUQ Luque 44.38 286 P P 20 19 53.5 -1.2
comp=Z,16nm,0.8s,mb4.8
ELUQ Luque 44.38 286 P P 20 19 53.5 -1.1
ELUQ pmax pmax
comp=Z,16nm,0.8s,mb4.8

ELUQ Luque 44.38 286 P **P** **20 19 53.5 -1.1**
comp=Z,16nm,0.8s,mb4.8
EADA Adamuz 44.38 287 P **P** **20 19 54.2 -0.4**
comp=Z,12nm,0.7s,mb4.8
EADA Adamuz 44.38 287 P **P** **20 19 54.2 -0.5**
comp=Z,12nm,0.7s,mb4.8
EPON Pontenova 44.49 295 P **P** **20 19 55.8 +0.4**
comp=Z,14nm,0.8s,mb4.7
EPON Pontenova 44.49 295 P **P** **20 19 55.8 +0.4**
comp=Z,14nm,0.8s,mb4.7
ERUA La Rua 44.77 293 P **P** **20 19 57.5 -0.2**
ERUA La Rua 44.77 293 P **P** **20 19 57.5 -0.2**
ECAB El Cabril 45.03 287 P **P** **20 19 59.8 -0.1**
comp=Z,21nm,0.7s,mb5.1
ECAB El Cabril 45.03 287 P **P** **20 19 59.8 0.0**
comp=Z,21nm,0.7s,mb5.1
MVO Moncorvo 45.09 292 A 21 13 25.2
comp=Z,148nm,18.0s
MVO Moncorvo 45.09 292 *e*P **P** **20 20 00.0 -0.3**
MVO *e*pP pP 20 20 14.2 +0.3
comp=Z,148nm,18.0s
EMIJ Mijas 45.14 285 P **P** **20 19 59.1 -1.6**
comp=Z,15nm,0.8s,mb4.9
EMIJ Mijas 45.14 285 P **P** **20 19 59.1 -1.6**
comp=Z,15nm,0.8s,mb4.9
LIJA Lijar 45.47 286 *i* P **P** **20 20 02.0 -1.3**
PVRL Vila Real 45.55 292 *e*P **P** **20 20 03.9 +0.1**
comp=Z,24nm,1.7s,mb4.8
ELOB Lobios 45.59 293 P **P** **20 20 04.8 +0.6**
comp=Z,9.7nm,0.7s,mb4.8
MTE Manteigas 45.73 291 *e*P **P** **20 20 05.5 +0.2**
comp=Z,25nm,1.6s,mb4.9
MTE *e*pP pP 20 20 19.7 +0.8
ESPR Espera 45.82 286 P **P** **20 20 04.9 -1.1**
comp=Z,18nm,0.7s,mb5.1
ESPR Espera 45.82 286 P **P** **20 20 04.9 -1.2**
comp=Z,18nm,0.7s,mb5.1
GYA Guiyang 45.82 91 P **P** **20 20 05.3 -0.9**
GYA AMB AMB
comp=Z,10.0nm,0.6s,mb4.9
GYA AMB AMB
comp=Z,70nm,6.2s
GYA LR LR
comp=N,470nm,19.2s,MS4.6
GYA LR LR
comp=E,490nm,18.2s,MS4.6
GYA LR LR
comp=Z,400nm,18.0s,MS4.4
PVIS Viseu 45.87 292 *e*P **P** **20 20 06.4 0.0**
comp=Z,20nm,1.0s,mb5.0
PVIS *e*pP pP 20 20 20.5 +0.5
PCBR Castelo Branco 45.88 290 *e*P **P** **20 20 06.2 -0.3**
comp=Z,15nm,1.6s,mb4.7
PCBR *e*pP pP 20 20 21.3 +1.2
EBAD Badajoz 45.94 289 P **P** **20 20 05.8 -1.1**
comp=Z,13nm,0.7s,mb5.0
EBAD Badajoz 45.94 289 P **P** **20 20 05.8 -1.2**
comp=Z,13nm,0.7s,mb5.0
PBAR Barrancos 46.18 288 A 21 14 54.4
PBAR Barrancos 46.18 288 *e*P **P** **20 20 08.0 -0.9**
PBAR *e*pP pP 20 20 22.4 -0.1
comp=Z,219nm,18.0s
PESTR Estremoz 46.32 289 A 21 15 14.6
comp=Z,206nm,18.0s
PESTR Estremoz 46.32 289 *e*P **P** **20 20 09.9 -0.1**
comp=Z,30nm,1.0s,mb5.2
PESTR *e*pP pP 20 20 23.6 0.0
comp=Z,206nm,18.0s
HIA Hailar 46.49 56 *i* P **P** **20 20 11.8 +0.6**
PTOM Tomar 46.63 290 *e*P **P** **20 20 12.6 +0.2**
comp=Z,29nm,1.3s,mb5.0
EVO Evora 46.75 289 *e*P **P** **20 20 12.6 -0.7**
comp=Z,11nm,0.9s,mb4.5
EVOP Sao Brissos 46.83 289 *e*P **P** **20 20 12.6 -1.4**
comp=Z,5.5nm,0.9s,mb4.5
PBEJ Beja 46.84 288 *e*P **P** **20 20 14.1 +0.1**
PBEJ *e*pP pP 20 20 26.7 -1.0
PVAQ Vaqueiros 46.97 287 *e*P **P** **20 20 14.5 -0.6**
comp=Z,28nm,1.5s,mb5.0
PVAQ Vaqueiros 46.97 287 A 21 14 00.9
comp=Z,200nm,18.0s
PBDV Barranco-do-Ve 47.19 287 *e*P **P** **20 20 16.5 -0.3**
PBDV Barranco-do-Ve 47.19 287 A 21 12 37.9
comp=Z,214nm,20.0s
PTEO Sao Teotonio 47.65 288 *e*P **P** **20 20 20.5 +0.1**
comp=Z,46nm,1.5s,mb5.3
TIXI Tiksi 47.80 24 *e*P **P** **20 20 22.4 +1.3**
TIXI pmax pmax
comp=Z,23nm,2.5s,mb4.8
TIXI Tiksi 47.80 24 *e*P **P** **20 20 22.4 +1.3**
comp=Z,23nm,2.5s,mb4.8
YAK Yakutsk 49.17 37 *e*P **P** **20 20 31.8 +0.1**
YAK pmax pmax
comp=Z,7.0nm,1.0s,mb4.7
YAK Yakutsk 49.17 37 *e*P **P** **20 20 31.8 +0.1**
comp=Z,7.0nm,1.0s,mb4.7
CN2 Changchun 51.98 61 *e*P **P** **20 20 52.8 -0.4**
CN2 *e*AP pP 20 21 07.0 -0.1
CN2 *e*S **S** **20 28 11.8 -0.9**
CN2 LR LR
comp=Z,200nm,14.0s,MS4.3
KSRS Korea Array 56.39 67 P **P** **20 21 26.6 +1.2**
comp=Z,0.9nm,0.5s,mb4.1,baz=297,slow=6.1,SNR=4.3
KSRS pP pP 20 21 39.4 0.0
comp=Z,4.1nm,0.8s,baz=285,slow=7.0,SNR=8.4
SEY Seymchan 58.78 32⇑ *e*P **P** **20 21 43.2 +1.5**
MA2 Magadan 59.68 36 *e*P **P** **20 21 49.8 +1.8**
MA2 *e* pP 20 22 05.0 +2.9
MA2 pmax pmax
comp=Z,10.0nm,1.0s,mb4.8
MA2 Magadan 59.68 36 *e*P **P** **20 21 49.8 +1.8**
comp=Z,10.0nm,1.0s,mb4.8
BILL Bilibino 60.99 23 *e*P **P** **20 21 58.7 +1.8**
BILL pmax pmax
comp=Z,9.0nm,1.0s,mb4.8
BILL Bilibino 60.99 23 *e*P **P** **20 21 58.7 +1.8**
comp=Z,9.0nm,1.0s,mb4.8
YSS Yuzh-Sakhalins 61.58 51 *e*P **P** **20 21 59.4 -1.8**
YSS pmax pmax
comp=Z,12nm,1.3s,mb4.9
YSS Yuzh-Sakhalins 61.58 51 *e*P **P** **20 21 59.4 -1.8**
comp=Z,12nm,1.3s,mb4.9
DBIC Dimbokro 61.79 254 P **P** **20 22 01.7 -1.3**
DBIC Dimbokro 61.79 254 P **P** **20 22 01.7 -1.3**
DBIC pmax pmax
comp=Z,6.0nm,0.8s
DBIC Dimbokro 61.79 254 P **P** **20 22 01.7 -1.3**
comp=Z,5.8nm,0.8s,mb4.8,baz=32,slow=8.8,SNR=8.9
LIC Lamto 62.21 254⇑ *i*P **P** **20 22 04.6 -1.2**
comp=Z,16nm,0.6s,mb5.0
LIC *e*pP pP 20 22 19.8 -0.2
LIC Lamto 62.21 254⇑ *i*P **P** **20 22 04.6 -1.2**
comp=Z,8.2nm,0.6s,mb5.0
LIC *e*pP pP 20 22 19.8 -0.2
MJAR Matsushiro Arr 63.98 63 P **P** **20 22 19.4 +2.1**
MJAR *PP pP 20 22 32.0 +0.4
MJAR pmax pmax
comp=Z,1.0nm,1.1s
MJAR pmax pmax
comp=Z,2.0nm,0.9s
MJAR Matsushiro Arr 63.98 63 P **P** **20 22 19.4 +2.1**
comp=Z,1.1nm,1.1s,mb3.8,baz=278,slow=37,SNR=2.6
MJAR pP pP 20 22 32.0 +0.4
comp=Z,2.4nm,0.9s,baz=305,slow=7.8,SNR=6.3
PET Petropavlovsk 66.91 39 *e*P **P** **20 22 33.9 -2.0**
TSUM Tsumeb 67.96 217 *e*P **P** **20 22 42.1 -0.7**
comp=Z,7.2nm,0.9s,mb4.7
TSUM Tsumeb 67.96 217 *e*P **P** **20 22 42.2 -0.7**
comp=Z,7.2nm,0.9s,mb4.7
LBTB Lobatse 69.94 207 *e*P **P** **20 22 54.6 -0.4**
comp=Z,17nm,0.8s,mb5.0
LBTB Lobatse 69.94 207 *e*P **P** **20 22 54.7 -0.4**
LBTB pmax pmax
comp=Z,17nm,0.8s,mb5.0
LBTB Lobatse 69.94 207 *e*P **P** **20 22 54.7 -0.4**
comp=Z,17nm,0.8s,mb5.0
INK Inuvik 71.65 3 *e*P **P** **20 23 03.8 -1.1**
comp=Z,83nm,0.8s,mb5.7
INK Inuvik 71.65 3 P **P** **20 23 05.1 +0.1**
INK pmax pmax
comp=Z,2.0nm,0.7s
INK Inuvik 71.65 3 P **P** **20 23 05.1 +0.1**
comp=Z,1.6nm,0.7s,mb4.0,baz=53,slow=1.7,SNR=2.8
INK Inuvik 71.65 3 *e*P **P** **20 23 03.8 -1.2**
comp=Z,83nm,0.8s,mb5.7
SCHQ Schefferville 72.49 328 *e*P **P** **20 23 10.1 -0.1**
comp=Z,4.5nm,0.6s,mb4.6
SCHQ Schefferville 72.49 328 P **P** **20 23 10.4 +0.2**
comp=Z,7.7nm,0.7s,mb4.8,baz=39,slow=5.7,SNR=21
SCHQ Schefferville 72.49 328 *e*P **P** **20 23 10.1 -0.1**
comp=Z,4.5nm,0.6s,mb4.6
BOSA Boshof 73.37 206 *e*P **P** **20 23 14.6 -1.0**
comp=Z,13nm,1.1s,mb4.8
BOSA Boshof 73.37 206 P **P** **20 23 15.0 -0.6**
BOSA pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
BOSA Boshof 73.37 206 P **P** **20 23 15.0 -0.6**
comp=Z,4.2nm,0.7s,mb4.5,baz=86,slow=19,SNR=8.2
BOSA Boshof 73.37 206 *e*P **P** **20 23 14.6 -1.0**
comp=Z,13nm,1.1s,mb4.8
COLA College 73.89 9 *e*P **P** **20 23 19.0 +0.7**
comp=Z,6.0nm,1.1s,mb4.4
COLA *e*pP pP 20 23 33.2 +0.4
COLA College 73.89 9 *e*P **P** **20 23 19.0 +0.7**
COLA *e*PP pP 20 23 33.2 +0.4
COLA pmax pmax
comp=Z,6.0nm,1.1s,mb4.4
COLA College 73.89 9 *e*P **P** **20 23 19.0 +0.7**
comp=Z,6.0nm,1.1s,mb4.4
COLA *e*pP pP 20 23 33.2 +0.4
COLA College 73.89 9 *e*PcP PcP 20 23 33.2 -0.3
YKA Yellowknife Ar 77.17 354 P **P** **20 23 37.1 0.0**
YKA pmax pmax
comp=Z,2.0nm,0.7s
YKA Yellowknife Ar 77.17 354 P **P** **20 23 37.1 0.0**
comp=Z,1.5nm,0.7s,mb4.0,baz=1.4,slow=6.2,SNR=6.4
YKA Yellowknife Ar 77.17 354 P **P** **20 23 37.1 0.0**
comp=Z,2.0nm,0.7s,mb4.2
FCC Fort Churchill 77.75 343 *e*P **P** **20 23 38.9 -1.5**
comp=Z,8.8nm,0.8s,mb4.7
FCC Fort Churchill 77.75 343 *e*P **P** **20 23 38.9 -1.5**
FCC pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
FCC Fort Churchill 77.75 343 *e*P **P** **20 23 38.9 -1.5**
comp=Z,8.8nm,0.8s,mb4.7
KDAK Kodiak Island 79.92 14 P **P** **20 23 53.5 +1.2**
comp=Z,3.7nm,0.6s,mb4.5,baz=303,slow=4.2,SNR=7.2
FFC Flin Flon 83.11 346 *e*P **P** **20 24 08.9 -0.4**
comp=Z,4.1nm,0.6s,mb4.6
FFC Flin Flon 83.11 346 *e*P **P** **20 24 08.9 -0.3**
FFC pmax pmax
comp=Z,4.0nm,0.6s,mb4.6
FFC Flin Flon 83.11 346 *e*P **P** **20 24 08.9 -0.3**
comp=Z,4.1nm,0.6s,mb4.6
NEW Newport 91.49 354 P **P** **20 24 51.1 +1.1**
NEW pmax pmax
comp=Z,2.0nm,0.6s
NEW Newport 91.49 354 P **P** **20 24 51.1 +1.1**
comp=Z,2.4nm,0.6s,mb4.7,baz=66,slow=20,SNR=3.2
WRA Warramunga Arr 95.92 111 PKKPbc PKKPbc 20 41 59.2 +1.2
comp=Z,0.3nm,0.7s,baz=137,slow=2.2,SNR=5.6
ASAR Alice Springs 98.01 114 PKKPbc PKKPbc 20 41 52.8 +0.4
comp=Z,0.4nm,0.7s,baz=119,slow=3.4,SNR=7.1
FORT Forrest 98.73 123 *e*P **P** **20 25 17.7 -5.4**
comp=Z,35nm,0.7s,mb6.0

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*IDC **28** 20:11:53.5±0.6, 48.14N×154.94E, h0km, mb4.2/25, mb1 4.3/26, mb1mx4.3/31, mbtmp4.2/26, ML3.6/1, MS4.0/1, Ms1 4.0/1, ms1mx3.2/19, Error ellipse: s-maj=18.7km s-min=13.9km az=150.0*
*BJI **28** 20:11:53.5, 47.98N×155.35E, h30km, mB4.8, mb4.6, Ms4.7, Msz4.6*
*NEIC **28** 20:11:55.0±0.3, 48.14N×154.95E, h10km, mb4.7/38, Error ellipse: s-maj=7.5km s-min=4.6km az=138.0*
*SKHL **28** 20:11:55.7±5.1, 48.00N×155.30E, h70km±42km, mb5.2/6, mbh6.4/1, mbv5.5/1, ms4.4/1, msh4.9/2*
*ISCJB **28** 20:11:56.8±0.3, 48.07N±0.05×154.98E±0.07, h33km, mb4.5/76, MS4.5/7, Error ellipse: s-maj=8.5km s-min=4.4km az=137.2*
*MOS **28** 20:11:57.3±1.1, 48.20N×155.04E, h34km, mb4.8/43, Error ellipse: s-maj=10.4km s-min=5.1km az=99.4*
*SZGRF **28** 20:12:03.4, 49.13N×154.52E, h27km, mb4.9, Kuril Islands, Russia*

ISC 28 20:11:53.9±2.1, 48.08N±0.05×155.01E±0.07, h4km±12km, n249, c0.88/88/247, mb4.5/76, MS4.5/7, 15C-18D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.71**	**15**	*e*PN		**Pn**		**20 12 39.0**	**+0.9**
SKR				*e*S		**Sn**		**20 13 11.5**	**+0.2**
SKR				pmax		pmax			
	comp=N,260nm,0.5s								
SKR				pmax		pmax			
	comp=E,140nm,0.5s								
SKR				pmax		pmax			
	comp=Z,370nm,0.5s								
SKR				smax					
	comp=N,1μm,0.7s								
SKR				smax					
	comp=E,1μm,0.5s								
SKR				smax					
	comp=N,5μm,6.0s								
SKR				smax					
	comp=E,6μm,6.0s								
SKR				MLR		MLR			
	comp=Z,7μm,12.0s								
SKR	**Severo-Kuril's**	**2.71**	**15**	*e*P		**Pn**		**20 12 39.0**	**+0.9**
SKR				AMB		AMB		20 12 45.3	
	comp=Z,260nm,0.5s								
SKR				AMB		AMB		20 12 45.3	
	comp=Z,140nm,0.5s								
SKR				AMB		AMB		20 12 45.3	
	comp=Z,370nm,0.5s								
SKR				*e*S		**Sn**		**20 13 11.5**	**+0.2**
SKR				A				20 13 25.6	
	comp=Z,1μm,0.5s								
SKR				A				20 13 25.6	
	comp=Z,460nm,0.5s								
SKR				A				20 13 25.6	
	comp=Z,1μm,0.7s								
SKR				A				20 13 33.0	
	comp=Z,5μm,6.0s								
SKR				A				20 13 33.0	
	comp=Z,6μm,6.0s								
SKR				A				20 13 33.0	
	comp=Z,5μm,6.0s								
SKR				A				20 13 33.0	
	comp=Z,6μm,6.0s								
SKR				AMS		AMS		20 13 58.0	
	comp=Z,11μm,14.0s								
SKR				AMS		AMS		20 13 58.0	
	comp=Z,7μm,12.0s								
SKR				AMS		AMS		20 13 58.0	
	comp=Z,8μm,12.0s								
SKR				AMS		AMS		20 13 58.0	
	comp=Z,10μm,14.0s								
PET	**Petropavlovsk**	**5.47**	**24**	*e*Pn		**Pn**		**20 13 16.1**	**+0.1**
	comp=Z,132nm,0.6s								
PET	**Petropavlovsk**	**5.47**	**24**	*e*PN		**Pn**		**20 13 13.8**	**-2.3**
PET				pmax		pmax			
	comp=Z,61nm,0.5s								
PET				MLR		MLR			
	comp=Z,700nm,19.0s								
KUR	**Kuril'sk**	**5.68**	**243⇑**	*i*PN		**Pn**		**20 13 19.8**	**+0.9**
KUR	**Kuril'sk**	**5.68**	**243⇓**	*i*P		**Pn**		**20 13 19.3**	**+0.4**
KUR				AMB		AMB		20 13 25.0	
	comp=Z,70nm,0.6s								
KUR				AMB		AMB		20 13 25.0	
	comp=Z,140nm,0.6s								
KUR				AMB		AMB		20 13 25.0	
	comp=Z,240nm,0.6s								
YSS	**Yuzh-Sakhalins**	**8.37**	**267**	*e*Pn		**Pn**		**20 14 01.2**	**+5.3**
	comp=Z,80nm,0.4s								
YSS	**Yuzh-Sakhalins**	**8.37**	**267⇑**	*i*P		**Pn**		**20 14 01.8**	**+5.9**
YSS				AMB		AMB		20 14 03.0	
	comp=Z,50nm,0.8s								
UGL	**Uglegorsk**	**8.64**	**281**	*e*P		**Pn**		**20 14 06.0**	**+6.4**
UGL				AMB		AMB		20 14 07.5	
	comp=Z,46nm,0.7s								
ASAJ	**Asahikawa**	**9.48**	**250**	PN		**Pn**		**20 14 16.1**	**+4.9**
ASAJ				pmax		pmax			
	comp=Z,2.0nm,0.3s								
ASAJ	**Asahikawa**	**9.48**	**250**	Pn		**Pn**		**20 14 16.1**	**+4.9**
	comp=Z,2.0nm,0.3s,baz=80,slow=13,SNR=29								
ERM	**Erimo**	**10.34**	**238**	*e*Pn		**Pn**		**20 14 23.8**	**+0.9**
ERM	**Erimo**	**10.34**	**238**	*e*PN		**Pn**		**20 14 24.7**	**+1.8**
NKL	**Nikolayevsk**	**10.42**	**305**	*e*P		**Pn**		**20 14 25.8**	**+1.9**
NKL				AMB		AMB		20 14 27.8	
	comp=Z,90nm,1.5s								
NKL				AMB		AMB		20 14 27.8	
	comp=Z,30nm,1.3s								
MA2	**Magadan**	**11.79**	**349**	*e*Pn		**Pn**		**20 14 42.8**	**+0.2**
	comp=Z,12nm,0.8s								
MA2	**Magadan**	**11.79**	**349**	*e*PN		**Pn**		**20 14 43.7**	**+1.1**
MA2				*e*				20 17 02.7	
MA2				pmax		pmax			
	comp=Z,10.0nm,0.7s								
MA2				MLR		MLR			
	comp=Z,2μm,16.0s								
SEY	**Seymchan**	**14.96**	**355**	*e*P		**Pn**		**20 15 25.8**	**-0.1**
KLR	**Kul'dur**	**15.40**	**283**	*e*P		**Pn**		**20 15 33.2**	**+1.4**
MAJO	**Matsushiro**	**16.91**	**233**	*e*Pn		**Pn**		**20 15 50.1**	**-1.1**
	comp=Z,65nm,1.1s								
MAJO	**Matsushiro**	**16.91**	**233**	*e*P		**Pn**		**20 15 50.1**	**-1.1**
MAJO				pmax		pmax			
	comp=Z,65nm,1.1s								
MAT	**Matsushiro**	**16.91**	**233**	P		**Pn**		**20 15 49.1**	**-2.1**
MJAR	**Matsushiro Arr**	**16.91**	**233**	Pn		**Pn**		**20 15 49.9**	**-1.3**
	comp=Z,0.2nm,0.3s,baz=29,slow=13,SNR=22								
ZEA	**Zeya**	**18.33**	**298**	*e*P		**Pn**		**20 16 07.6**	**-1.2**
ZEA				AMB		AMB		20 16 12.4	
	comp=Z,12nm,1.0s								
YAK	**Yakutsk**	**19.95**	**324**	Pn		**Pn**		**20 16 25.2**	**-3.0**
	comp=Z,34nm,1.0s								
YAK	**Yakutsk**	**19.95**	**324**	*e*P		**Pn**		**20 16 26.1**	**-2.2**
YAK				pmax		pmax			
	comp=Z,6.0nm,0.7s								
NRGR	**Nerungri**	**20.24**	**306**	*e*P		**P**		**20 16 21.2**	**-8.6**
BILL	**Bilibino**	**20.82**	**12**	*e*P		**P**		**20 16 33.6**	**-2.3**
	comp=Z,8.2nm,0.6s								
BILL	**Bilibino**	**20.82**	**12⇓**	*e*P		**P**		**20 16 34.5**	**-1.5**
BILL				*e*				20 16 44.1	
BILL				pmax		pmax			
	comp=Z,12nm,1.0s								
CN2	**Changchun**	**20.93**	**269**	*e*P		**P**		**20 16 35.5**	**-1.9**
CN2				*e*XP		sP		20 16 46.0	+7.1
CN2				AMB		AMB			
	comp=Z,10.0nm,0.8s								
CN2				AMB		AMB			
	comp=Z,100nm,4.0s								
CN2				LR		LR			
	comp=N,800nm,17.0s,MS4.4								
CN2				LR		LR			
	comp=E,1μm,17.0s,MS4.4								
CN2				LR		LR			
	comp=Z,1μm,17.0s,MS4.3								
KSRS	**Korea Array**	**22.43**	**252**	P		**P**		**20 16 54.8**	**+1.3**
	comp=Z,9.2nm,0.7s,mb4.3,baz=51,slow=10,SNR=29								
HIA	**Hailar**	**23.19**	**286**	P		**P**		**20 17 03.4**	**+1.9**
JNU	**Nakatsue**	**23.50**	**239**	P		**P**		**20 17 05.5**	**+0.6**
	comp=Z,11nm,1.1s,mb4.2,baz=34,slow=17,SNR=2.7								
BOD	**Bodaibo**	**26.17**	**307**	*e*P		**P**		**20 17 27.6**	**-1.4**
BOD				*e*				20 18 15.9	
BOD				pmax		pmax			
	comp=Z,4.0nm,1.3s,mb3.8								
BOD				pmax		pmax			
	comp=Z,11nm,1.3s,mb4.2								
TIXI	**Tiksi**	**26.58**	**342**	*e*P		**P**		**20 17 30.9**	**-1.7**
	comp=Z,24nm,1.0s,mb4.7								
TIXI	**Tiksi**	**26.58**	**342**	*e*P		**P**		**20 17 32.0**	**-0.6**
TIXI				pmax		pmax			
	comp=Z,6.0nm,1.2s,mb4.0								
BJI	**Beijing**	**28.79**	**268**	P		**P**		**20 17 52.0**	**-0.7**
BJI				AMB		AMB			
	comp=Z,5.0nm,0.6s,mb4.4								
SSE	**Sheshan**	**30.78**	**249**	P		**P**		**20 18 08.0**	**-2.3**
SSE				S		**S**		**20 23 12.8**	**-1.3**
SSE				AMB		AMB			
	comp=Z,70nm,0.7s,mb5.6								
SSE				AMB		AMB			
	comp=Z,46nm,3.7s								
SSE				LR		LR			
	comp=N,413nm,15.4s,MS4.3								
SSE				LR		LR			
	comp=E,334nm,15.4s,MS4.3								
SSE				LR		LR			
	comp=Z,586nm,17.2s,MS4.3								
ULN	**Ulaanbaatar**	**31.70**	**288**	*e*P		**P**		**20 18 17.5**	**-0.8**
	comp=Z,1.5nm,0.6s,mb4.0								
ULN	**Ulaanbaatar**	**31.70**	**288**	*e*P		**P**		**20 18 17.5**	**-0.8**
ULN				pmax		pmax			
	comp=Z,1.0nm,0.6s,mb3.8								
IMA2	**Indian Mountai**	**31.97**	**37**	*e*P		**P**		**20 18 21.2**	**+0.7**
SONM	**Songino Array**	**32.12**	**288**	P		**P**		**20 18 21.9**	**-0.2**
SONM				pmax		pmax			
	comp=Z,1.0nm,0.8s								
SONM	**Songino Array**	**32.12**	**288**	P		**P**		**20 18 21.9**	**-0.1**
	comp=Z,1.1nm,0.8s,mb3.8,baz=64,slow=8.7,SNR=11								
KDAK	**Kodiak Island**	**32.27**	**53**	P		**P**		**20 18 24.3**	**+1.1**
	comp=Z,3.5nm,0.9s,mb4.2,baz=259,slow=10,SNR=3.1								
TLY	**Talaya**	**32.73**	**296**	*e*P		**P**		**20 18 27.6**	**+0.2**
	comp=Z,4.9nm,0.8s,mb4.5								
TLY	**Talaya**	**32.73**	**296**	*e*P		**P**		**20 18 26.9**	**-0.5**
TLY				pmax		pmax			
	comp=Z,5.0nm,1.0s,mb4.4								
MCK	**McKinley**	**33.81**	**42**	*e*P		**P**		**20 18 34.9**	**-1.6**
SML	**Sawmill**	**34.12**	**45**	*e*P		**P**		**20 18 38.4**	**-0.9**
COLA	**College**	**34.30**	**40**	P		**P**		**20 18 40.9**	**+0.1**
	comp=Z,5.7nm,0.8s,mb4.5								
COLA	**College**	**34.30**	**40**	P		**P**		**20 18 40.9**	**+0.1**
COLA				pmax		pmax			
	comp=Z,6.0nm,0.8s,mb4.6								
LZH	**Lanzhou**	**39.13**	**271**	*e*P		**P**		**20 19 23.0**	**+0.6**
LZH				AMB		AMB			
	comp=Z,36nm,1.5s,mb4.9								
LZH				AMB		AMB			
	comp=Z,110nm,4.0s								
LZH				LR		LR			
	comp=E,795nm,14.5s								
LZH				LR		LR			
	comp=Z,1μm,15.3s,MS4.8								
INK	**Inuvik**	**39.84**	**33**	P		**P**		**20 19 27.9**	**+0.1**
INK				pmax		pmax			
	comp=Z,2.0nm,0.9s								
INK	**Inuvik**	**39.84**	**33**	P		**P**		**20 19 27.9**	**+0.1**
	comp=Z,1.9nm,0.9s,mb3.8,baz=298,slow=7.8,SNR=4.7								
GTA	**Gaotai**	**40.04**	**279**	*e*P		**P**		**20 19 30.5**	**+0.7**
GTA				AMB		AMB			
	comp=Z,4.0nm,1.2s,mb4.0								
GTA				AMB		AMB			
	comp=Z,80nm,4.9s								
GTA				LR		LR			
	comp=N,690nm,17.5s,MS4.8								
GTA				LR		LR			
	comp=E,1μm,15.2s,MS4.8								
GTA				LR		LR			
	comp=Z,1μm,19.0s,MS4.8								
CD2	**Chengdu**	**42.27**	**265**	P		**P**		**20 19 48.5**	**+0.2**
CD2				AMB		AMB			
	comp=Z,30nm,0.7s,mb5.0								
CD2				AMB		AMB			
	comp=Z,40nm,5.2s								
CD2				LR		LR			
	comp=E,150nm,8.4s								
CD2				LR		LR			
	comp=Z,110nm,7.4s								
ZALV	**Zalesovo Beam**	**42.89**	**305**	P		**P**		**20 19 51.9**	**-1.1**
	comp=Z,1.7nm,0.6s,mb4.0,baz=82,slow=6.2,SNR=2.6								
ZAL	**Zalesovo**	**42.90**	**305**	P		**P**		**20 19 51.9**	**-1.3**
GYA	**Guiyang**	**43.25**	**258**	P		**P**		**20 19 55.3**	**-1.0**
GYA				AMB		AMB			
	comp=Z,10.0nm,0.6s,mb4.7								
GYA				AMB		AMB			
	comp=Z,70nm,6.2s								
GYA				LR		LR			
	comp=N,450nm,19.7s,MS4.5								
GYA				LR		LR			
	comp=E,460nm,18.8s,MS4.5								
GYA				LR		LR			
	comp=Z,450nm,18.6s,MS4.4								
WMQ	**Urumqi**	**45.65**	**291**	*e*P		**P**		**20 20 15.5**	**+0.2**
WMQ				AMB		AMB			
	comp=Z,7.0nm,1.0s,mb4.5								
WMQ				AMB		AMB			
	comp=Z,106nm,4.2s								
KMI	**Kunming**	**46.74**	**260**	P		**P**		**20 20 24.8**	**+0.7**
KMI				AMB		AMB			
	comp=Z,6.0nm,1.3s,mb4.4								
KMI				AMB		AMB			
	comp=Z,100nm,3.8s								
KMI				LR		LR			
	comp=N,303nm,15.5s,MS4.5								
KMI				LR		LR			
	comp=E,309nm,16.2s,MS4.5								

KMI LR LR
comp=Z,183nm,17.7s,MS4.1
MKAR Makanchi Array 47.48 297 P **P 20 20 29.2 -0.4**
MKAR pmax pmax
comp=Z,6.0nm,0.7s
MKAR Makanchi Array 47.48 297 P **P 20 20 29.2 -0.4**
comp=Z,5.7nm,0.7s,mb4.6,baz=67,slow=8.6,SNR=9.8
YKA Yellowknife Ar 49.09 38 P **P 20 20 41.4 -0.4**
YKA Yellowknife Ar 49.09 38 *i* P **P 20 20 41.7 -0.1**
YKA pmax pmax
comp=Z,2.0nm,0.9s
YKA Yellowknife Ar 49.09 38 P **P 20 20 41.4 -0.4**
comp=Z,2.3nm,0.9s,mb4.2,baz=297,slow=7.5,SNR=19
RES Resolute Bay 49.16 19 *e*P **P 20 20 41.8 -0.4**
comp=Z,644nm,1.1s
RES Resolute Bay 49.16 19 *e*P **P 20 20 41.8 -0.5**
RES pmax pmax
comp=Z,644nm,1.1s
BVAR Borovoye Array 51.01 309 P **P 20 20 55.6 -0.9**
BVAR pmax pmax
comp=Z,5.0nm,0.6s
BVAR Borovoye Array 51.01 309 P **P 20 20 55.6 -1.0**
comp=Z,4.8nm,0.6s,mb4.6,baz=54,slow=7.6,SNR=2.3
CHG Chiang Mai 53.67 257 ⇑P **P 20 21 18.3 +1.6**
comp=Z,62nm,0.8s,mb5.6
CHTO Chiang Mai 53.67 257 *e*P **P 20 21 17.7 +1.0**
comp=Z,10nm,1.1s,mb4.7
CHTO Chiang Mai 53.67 257 *e*P **P 20 21 17.7 +1.0**
CHTO pmax pmax
comp=Z,10.0nm,1.1s,mb4.7
CM31 Chiang Mai Arr 53.93 257 *e*P **P 20 21 14.6 -3.9**
AAK Ala-Archa 54.40 296 *e*P **P 20 21 23.1 +1.4**
AAK pmax pmax
comp=Z,5.0nm,1.3s,mb4.3
FFC Flin Flon 58.90 41 *e*P **P 20 21 53.8 +0.2**
comp=Z,4.0nm,1.0s,mb4.4
FFC Flin Flon 58.90 41 *e*P **P 20 21 53.8 +0.3**
FFC pmax pmax
comp=Z,4.0nm,1.0s,mb4.4
NVAR Mina Array Bea 60.69 64 P **P 20 22 07.5 +1.4**
comp=Z,0.4nm,0.6s,mb3.7,baz=285,slow=10,SNR=4.3
JOF Joensuu 60.71 334 *e*p **P 20 22 14.0 +8.1**
comp=Z,7.0nm,0.6s,mb5.0
JOF Joensuu 60.71 334 *e*P **P 20 22 14.0 +8.1**
JOF pmax pmax
comp=Z,7.0nm,0.6s,mb5.0
REDW Red Top Meadow 61.83 56 *e*P **P 20 22 13.7 -0.1**
comp=Z,20nm,1.5s,mb5.0
FIA1 FINESS Array S 63.38 335 *e*P **P 20 22 27.4 +3.5**
FINES FINESS Array B 63.38 335 P **P 20 22 23.5 -0.3**
FINES pmax pmax
comp=Z,2.0nm,0.7s
FINES FINESS Array B 63.38 335 P **P 20 22 23.5 -0.4**
comp=Z,2.0nm,0.7s,mb4.4,baz=27,slow=9.6,SNR=4.3
ULM Lac du Bonnet 64.68 42 P **P 20 22 31.9 -0.6**
comp=Z,1.7nm,0.7s,mb4.2,baz=356,slow=4.1,SNR=4.3
NB2 NORSAR Subarra 67.38 342 P **P 20 22 49.0 -0.7**
comp=Z,3.1nm,0.8s,mb4.4,baz=27,slow=6.5
NOA NORSAR Array B 67.38 342 P **P 20 22 49.6 -0.1**
NOA pmax pmax
comp=Z,2.0nm,0.6s
NOA NORSAR Array B 67.38 342 P **P 20 22 49.5 -0.2**
comp=Z,1.8nm,0.6s,mb4.3,baz=26,slow=6.4,SNR=3.7
HFS Hagfors 67.65 340 P **P 20 22 51.3 -0.2**
HFS pmax pmax
comp=Z,2.0nm,0.4s
HFS Hagfors 67.65 340 P **P 20 22 51.3 -0.2**
comp=Z,2.4nm,0.4s,mb4.5,baz=33,slow=3.6,SNR=8.7
ECSD EROS,Sioux Fal 69.04 47 P **P 20 22 57.0 -3.5**
comp=Z,6.1nm,0.7s,mb4.6
ANMO Albuquerque 70.05 60 *e*P **P 20 23 07.2 +0.4**
WRAB Tennant Creek 70.19 201 *e*P **P 20 23 03.7 -3.9**
comp=Z,5.8nm,1.0s,mb4.5
WRAB Tennant Creek 70.19 201 *e*P **P 20 23 03.7 -3.9**
WRAB pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
WRA Warramunga Arr 70.20 201 P **P 20 23 08.0 +0.3**
WRA pmax pmax
comp=Z,1.0nm,1.0s
WRA Warramunga Arr 70.20 201 P **P 20 23 08.0 +0.3**
comp=Z,1.3nm,0.9s,mb3.8,baz=17,slow=6.4,SNR=6.6
FITZ Fitzroy Crossi 70.92 210 *e*P **P 20 23 13.2 +1.0**
comp=Z,5.3nm,0.9s,mb4.5
AKASG Malin Array Be 71.15 327 P **P 20 23 12.6 -0.7**
AKASG pmax pmax
comp=Z,2.0nm,0.5s
AKASG Malin Array Be 71.15 327 P **P 20 23 12.6 -0.6**
comp=Z,1.7nm,0.5s,mb4.2,baz=28,slow=6.2,SNR=4.1
ASAR Alice Springs 73.89 200 P **P 20 23 29.8 +0.1**
ASAR pmax pmax
comp=Z,1.0nm,0.8s
ASAR Alice Springs 73.89 200 P **P 20 23 29.8 +0.1**
comp=Z,0.8nm,0.8s,mb3.7,baz=13,slow=5.5,SNR=5.1
STHS Stebnicka Huta 75.00 331 *e*P **P 20 23 29.6 -6.5**
comp=Z,9.3nm,0.8s,mb4.8
STHS *e* 20 23 37.4
STHS Stebnicka Huta 75.00 331 *e*P **P 20 23 29.6 -6.5**
STHS *e* 20 23 37.4
STHS pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
STHS Stebnicka Huta 75.00 331 *e*P **P 20 23 37.4 +1.3**
STHS Stebnicka Huta 75.00 331 *e* **P 20 23 29.6 -6.5**
KOLS Kolonicke sedl 75.08 330 *e*P **P 20 23 34.6 -1.9**
KOLS *e*pP pP 20 23 42.9 +5.2
BURAR Bucovina Array 75.18 327⇓*i*P **P 20 23 36.9 -0.2**
KSP Ksiaz 75.28 334 *e*P **P 20 23 37.5 -0.1**
EKA Eskdalemuir Ar 75.34 347 P **P 20 23 37.9 0.0**
EKA pmax pmax
comp=Z,4.0nm,0.6s
EKA Eskdalemuir Ar 75.34 347 P **P 20 23 37.9 -0.1**
comp=Z,3.6nm,0.6s,mb4.5,baz=21,slow=5.0,SNR=14
UPC Upice 75.66 334 *e*P **P 20 23 40.6 +0.8**
DPC Dobruska-Polom 75.71 334 *e*P **P 20 23 41.2 +1.1**
TXAR Lajitas Array 75.73 62 P **P 20 23 41.3 +0.7**
TXAR pmax pmax
comp=Z,1.0nm,0.6s
TXAR MLR MLR
comp=Z,97nm,19.8s
TXAR Lajitas Array 75.73 62 P **P 20 23 41.3 +0.7**
comp=Z,1.4nm,0.6s,mb4.1,baz=306,slow=4.7,SNR=12
TXAR LR LR 20 52 47.7
comp=Z,97nm,19.8s,MS4.1,baz=0.0,slow=32
CLL Collm 75.78 337 *i* P **P 20 23 40.4 -0.1**
CLL *e* 20 23 49.0
CLL pmax pmax
comp=Z,16nm,0.9s,mb5.0
CLL Collm 75.78 337 *e*P **P 20 23 40.4 -0.1**
comp=Z,16nm,0.9s,mb5.0
CLL Collm 75.78 337 *i* P **P 20 23 40.4 -0.1**
comp=Z,16nm,0.9s,mb5.0
CLL *e*x x 20 23 49.0
CLL Collm 75.78 337 *e*S S 20 33 11.0 -12
MORC Moravsky Berou 75.85 333 ⇑P **P 20 23 41.6 +0.7**
MORC Moravsky Berou 75.85 333⇑*i*P **P 20 23 41.6 +0.6**
BRG Berggiesshubel 75.91 336 *e*P **P 20 23 43.2 +1.9**
comp=Z,4.8nm,1.2s,mb4.3
BRG Berggiesshubel 75.91 336 *e*P **P 20 23 43.2 +1.9**
BRG pmax pmax
comp=Z,5.0nm,1.2s,mb4.3
CLZ Clausthal 75.97 338 *e*P **P 20 23 42.5 +0.9**
CLZ pmax pmax
comp=Z,27nm,1.3s,mb5.0
CLZ Clausthal 75.97 338 *e*P **P 20 23 42.5 +0.9**
comp=Z,27nm,1.3s,mb5.0
FBE Freiberg 76.03 336 *e*P **P 20 23 42.4 +0.4**
comp=Z,12nm,1.0s,mb4.8
PVCC Panska Ves 76.05 335 *e*P **P 20 23 42.6 +0.5**
KECS Kecovo 76.06 331 *e*P **P 20 23 42.5 +0.3**
comp=Z,3.3nm,0.9s,mb4.3
KECS Kecovo 76.06 331 *e*P **P 20 23 42.5 +0.3**
KECS pmax pmax
comp=Z,3.0nm,0.9s,mb4.2
PRU Pruhonice 76.54 335 *e*P **P 20 23 45.2 +0.3**
VRAC Vranov 76.55 333 P **P 20 23 45.3 +0.3**
VRAC pmax pmax
comp=Z,6.0nm,0.6s
VRAC Vranov 76.55 333 P **P 20 23 45.3 +0.3**
comp=Z,6.1nm,0.6s,mb4.7,baz=44,slow=7.6,SNR=8.9
VYHS Vyhne 76.58 332 *e*P **P 20 23 45.6 +0.5**
comp=Z,5.7nm,1.3s,mb4.3
VYHS Vyhne 76.58 332 *e*P **P 20 23 45.6 +0.5**
VYHS pmax pmax
comp=Z,6.0nm,1.3s,mb4.4
HARR Harsova 76.61 324 ⇓P **P 20 23 45.5 +0.1**
HARR Harsova 76.61 324⇓*i*P **P 20 23 45.5 +0.1**
TIRR Tirgusor 76.62 324 ⇑P **P 20 23 45.5 +0.1**
TIRR Tirgusor 76.62 324⇑*i*P **P 20 23 45.5 +0.1**
MLR Muntele Rosu 76.70 326 ⇑P **P 20 23 46.8 +0.9**
MLR Muntele Rosu 76.70 326 P **P 20 23 46.4 +0.5**
MLR pmax pmax
comp=Z,9.0nm,0.7s
MLR Muntele Rosu 76.70 326 P **P 20 23 46.4 +0.5**
comp=Z,9.2nm,0.7s,mb4.8,baz=131,slow=3.1,SNR=11
MLR Muntele Rosu 76.70 326⇑*i*P **P 20 23 46.8 +0.9**
TANN Tannenbergstha 76.73 336 *e*P **P 20 23 46.5 +0.6**
WERD Werda 76.74 337 *e*P **P 20 23 46.4 +0.4**
comp=Z,8.0nm,1.3s,mb4.5
MOX Moxa 76.75 337 *e*P **P 20 23 46.5 +0.5**
comp=Z,30nm,2.0s,mb4.9
MOX Moxa 76.75 337 *e*P **P 20 23 46.5 +0.5**
MOX pmax pmax
comp=Z,30nm,2.0s,mb4.9
MOX Moxa 76.75 337 *e*P **P 20 23 46.4 +0.4**
comp=Z,16nm,1.3s,mb4.8
PSZ Piszkesteto 76.75 331 ⇓P **P 20 23 47.4 +1.3**
PSZ Piszkesteto 76.75 331⇓*i*P **P 20 23 47.3 +1.2**
DRGR 76.77 329 ⇑P **P 20 23 46.0 -0.2**
DRGR 76.77 329⇑*i*P **P 20 23 46.0 -0.2**
GUNZ Gunzen 76.81 336 *e*P **P 20 23 46.7 +0.3**
comp=Z,10.0nm,1.0s,mb4.7
WERN Wernitzgruen 76.87 336 *e*P **P 20 23 47.5 +0.8**
SNX Sinaia 76.98 326 ⇓P **P 20 23 46.6 -0.8**
SNX Sinaia 76.98 326⇓*i*P **P 20 23 46.7 -0.7**
UBBA Unterbreizbach 77.00 338 *e*P **P 20 23 47.8 +0.3**
comp=Z,4.0nm,0.8s,mb4.4
VOIR 77.08 326 ⇑P **P 20 23 48.8 +0.8**
VOIR 77.08 326⇑*i*P **P 20 23 48.8 +0.8**
MODS Modra-Piesok 77.18 333 *e*P **P 20 23 47.9 -0.6**
comp=Z,3.4nm,1.1s,mb4.2
MODS Modra-Piesok 77.18 333 *e*P **P 20 23 47.9 -0.6**
MODS pmax pmax
comp=Z,3.0nm,1.1s,mb4.1
MALT Malatya 77.18 314 ⇓P **P 20 23 50.1 +1.4**
MALT Malatya 77.18 314⇓*i*P **P 20 23 50.1 +1.4**
MANZ Manzenberg 77.22 336 *e*P **P 20 23 49.1 +0.4**
ZST Bratislava 77.39 333 *e*P **P 20 23 50.7 +1.0**
comp=Z,14nm,1.6s,mb4.7
ZST Bratislava 77.39 333 *e*P **P 20 23 50.7 +1.0**
ZST pmax pmax
comp=Z,14nm,1.6s,mb4.6
ROTZ Rotzenmuhle 77.39 336 *e*P **P 20 23 50.1 +0.4**
comp=Z,9.0nm,1.0s,mb4.7
KHC Kasperske Hory 77.59 335 *e*P **P 20 23 51.3 +0.5**
GRA1 Grafenberg Arr 77.72 337 *e*P **P 20 23 52.4 +0.9**
comp=Z,22nm,1.1s,mb5.0
GRF Grafenberg Arr 77.72 337 *e*P **P 20 23 52.4 +0.9**
GRF pmax pmax
comp=Z,22nm,1.1s,mb5.0
GRF Grafenberg Arr 77.72 337 *e*P **P 20 23 52.4 +0.9**
GRF pmax pmax
comp=Z,22nm,1.1s,mb5.0
GRF Grafenberg Arr 77.72 337 *e*P **P 20 23 52.4 +0.9**
comp=Z,22nm,1.1s,mb5.0
WET Wettzell 77.77 336 *e*P **P 20 23 52.8 +1.0**
GERES GERESS Array B 77.81 335 P **P 20 23 52.3 +0.3**
GERES pmax pmax
comp=Z,3.0nm,0.6s
GERES GERESS Array B 77.81 335 P **P 20 23 52.3 +0.2**
comp=Z,2.6nm,0.6s,mb4.3,baz=33,slow=5.2,SNR=24
GZR Gura Zlata 77.95 328⇓*i*P **P 20 23 53.3 +0.4**
HGN Heimansgroeve 78.02 341 *e*PP PP 20 26 41.6 -6.8
BZS Buzias 78.17 329 ⇓P **P 20 23 54.3 +0.3**
BZS Buzias 78.17 329⇓*i*P **P 20 23 54.3 +0.2**
ANTO Ankara 78.55 318 ⇓P **P 20 23 57.3 +1.0**
ANTO Ankara 78.55 318⇓*i*P **P 20 23 57.3 +1.0**
PKSM Moragy 78.65 331 ⇓P **P 20 23 56.8 0.0**
PKSM Moragy 78.65 331⇓*i*P **P 20 23 56.8 0.0**
GIVF Givet 78.88 341 *e*P **P 20 23 57.3 -0.6**
BAIF Baives 79.06 341 *e*P **P 20 23 58.6 -0.3**
comp=Z,16nm,1.2s,mb4.5
BAIF Baives 79.06 341 *e*P **P 20 23 58.6 -0.3**
comp=Z,8.3nm,1.2s,mb4.5
BAIF Baives 79.06 341 *e*P **P 20 23 58.6 -0.3**
BAIF pmax pmax
comp=Z,8.0nm,1.2s,mb4.5
BFO Black Forest 79.72 338 *e*P **P 20 24 03.0 +0.5**
BFO pmax pmax
comp=Z,8.0nm,1.2s,mb4.5
BFO Black Forest 79.72 338 *e*P **P 20 24 03.0 +0.5**
comp=Z,8.0nm,1.2s,mb4.5
CDF Champ du Feu 79.90 339 *e*P **P 20 24 03.2 -0.3**
comp=Z,29nm,1.3s,mb4.7
CDF Champ du Feu 79.90 339 *e*P **P 20 24 03.2 -0.3**
comp=Z,14nm,1.3s,mb4.7
CDF Champ du Feu 79.90 339 *e*P **P 20 24 03.2 -0.3**
CDF pmax pmax
comp=Z,14nm,1.3s,mb4.7
VTS Vitosha 80.20 326 ⇑P **P 20 24 06.4 +1.1**
VTS Vitosha 80.20 326⇑*i*P **P 20 24 06.4 +1.1**
MEZF Maizieres J'vi 80.34 340 *e*P **P 20 24 05.7 -0.2**
HAU Haudompre 80.50 339 *e*P **P 20 24 06.2 -0.6**
HINF Hinteralfeld 80.56 339 *e*P **P 20 24 06.3 -0.8**
DAVOS Davos 80.72 337 P **P 20 24 07.1 -0.9**
DAVOX Davos/Dischmat 80.75 337 P **P 20 24 07.1 -1.1**
comp=Z,1.1nm,0.5s,mb4.1,baz=344,slow=8.3,SNR=4.9
FLN La Foliniere 81.23 344 *e*P **P 20 24 10.3 -0.4**
comp=Z,30nm,1.3s,mb4.8
FLN La Foliniere 81.23 344 *e*P **P 20 24 10.3 -0.4**
comp=Z,15nm,1.3s,mb4.8
FLN La Foliniere 81.23 344 *e*P **P 20 24 10.3 -0.4**
FLN pmax pmax
comp=Z,15nm,1.3s,mb4.8
LDF La Druitiere 81.33 344 *e*P **P 20 24 10.8 -0.4**
GRR Gorron 81.66 344 *e*P **P 20 24 12.5 -0.4**
LOR Lormes 81.77 341 *e*P **P 20 24 12.7 -0.8**
comp=Z,6.0nm,0.9s,mb4.2
LOR Lormes 81.77 341 *e*P **P 20 24 12.7 -0.8**
comp=Z,3.0nm,0.9s,mb4.2
LOR Lormes 81.77 341 *e*P **P 20 24 12.7 -0.8**
LOR pmax pmax
comp=Z,3.0nm,0.9s,mb4.2
CABF La Chapelle 81.87 339 *e*P **P 20 24 14.0 -0.1**
SSF Saint Saulge 82.04 341 *e*P **P 20 24 14.3 -0.7**
SGMF Saint Gilles 82.09 345 *e*P **P 20 24 14.6 -0.6**
AVF Avril sur Loir 82.33 341 *e*P **P 20 24 15.8 -0.7**
SMF Signal de Mont 82.36 340 *e*P **P 20 24 16.3 -0.4**
BGF Bois d'Agland 82.67 341 *e*P **P 20 24 17.9 -0.3**
comp=Z,6.5nm,0.7s,mb4.5
BGF Bois d'Agland 82.67 341 *e*P **P 20 24 17.9 -0.3**
comp=Z,3.3nm,0.7s,mb4.5
BGF Bois d'Agland 82.67 341 *e*P **P 20 24 17.9 -0.3**
BGF pmax pmax
comp=Z,3.0nm,0.7s,mb4.4
LPL La Plagne 82.74 338 *e*P **P 20 24 19.3 +0.7**
comp=Z,27nm,1.3s,mb4.8
LPL La Plagne 82.74 338 *e*P **P 20 24 19.3 +0.7**
comp=Z,13nm,1.3s,mb4.8
LPL La Plagne 82.74 338 *e*P **P 20 24 19.3 +0.7**
LPL pmax pmax
comp=Z,13nm,1.3s,mb4.8
LPG La Plagne 82.75 338 *e*P **P 20 24 19.5 +0.8**
comp=Z,18nm,1.1s,mb4.7
LPG La Plagne 82.75 338 *e*P **P 20 24 19.5 +0.8**
comp=Z,9.0nm,1.1s,mb4.7
LPG La Plagne 82.75 338 *e*P **P 20 24 19.5 +0.8**
LPG pmax pmax
comp=Z,9.0nm,1.1s,mb4.7
ASF Jabal al Asfar 82.81 311 P **P 20 24 20.6 +1.3**
ASF pmax pmax
comp=Z,1.0nm,0.6s
ASF Jabal al Asfar 82.81 311 P **P 20 24 20.6 +1.4**
comp=Z,1.1nm,0.6s,mb4.0,baz=17,slow=6.3,SNR=8.3
MMAI Mount Meron Ar 82.88 313 P **P 20 24 20.1 +0.4**
comp=Z,1.8nm,0.5s,mb4.4,baz=31,slow=3.4,SNR=8.3
TCF Toulx Ste Croi 83.06 341 *e*P **P 20 24 19.9 -0.4**
comp=Z,4.6nm,0.9s,mb4.2
TCF Toulx Ste Croi 83.06 341 *e*P **P 20 24 19.9 -0.4**
comp=Z,2.3nm,0.9s,mb4.2
TCF Toulx Ste Croi 83.06 341 *e*P **P 20 24 19.9 -0.4**
TCF pmax pmax
comp=Z,2.0nm,0.9s,mb4.2
MFF Saint Martin d 83.24 343 *e*P **P 20 24 20.7 -0.5**
comp=Z,5.8nm,0.9s,mb4.3
MFF Saint Martin d 83.24 343 *e*P **P 20 24 20.7 -0.5**
comp=Z,2.9nm,0.9s,mb4.3
MFF Saint Martin d 83.24 343 *e*P **P 20 24 20.7 -0.5**
MFF pmax pmax
comp=Z,3.0nm,0.9s,mb4.3
MBDF Montbardon 83.47 338 *e*P **P 20 24 22.4 0.0**
ORIF Oris-en-Rattie 83.51 338 *e*P **P 20 24 22.8 +0.2**
comp=Z,8.0nm,0.9s,mb4.5
ORIF Oris-en-Rattie 83.51 338 *e*P **P 20 24 22.8 +0.2**
comp=Z,4.0nm,0.9s,mb4.5
ORIF Oris-en-Rattie 83.51 338 *e*P **P 20 24 22.8 +0.2**
ORIF pmax pmax
comp=Z,4.0nm,0.9s,mb4.5
VIVF Saint-Julien-l 83.86 339 *e*P **P 20 24 24.6 +0.2**
comp=Z,24nm,1.4s,mb4.8
VIVF Saint-Julien-l 83.86 339 *e*P **P 20 24 24.6 +0.2**
comp=Z,12nm,1.4s,mb4.8
VIVF Saint-Julien-l 83.86 339 *e*P **P 20 24 24.6 +0.2**
VIVF pmax pmax
comp=Z,12nm,1.4s,mb4.8
SBF Sospel 84.10 337 *e*P **P 20 24 25.0 -0.7**
RJF Les Rejaudoux 84.14 342 *e*P **P 20 24 25.7 -0.2**
SMRF Simiane la Rot 84.47 338 *e*P **P 20 24 27.7 +0.1**
FRF La Foret Royal 84.59 337 *e*P **P 20 24 27.5 -0.7**
LFF La Frestale 84.66 342 *e*P **P 20 24 27.9 -0.6**
LMR La Mourre 84.83 337 *e*P **P 20 24 29.0 -0.4**
comp=Z,37nm,1.4s,mb5.0
LMR La Mourre 84.83 337 *e*P **P 20 24 29.0 -0.4**
comp=Z,19nm,1.4s,mb5.0
LMR La Mourre 84.83 337 *e*P **P 20 24 29.0 -0.4**
LMR pmax pmax
comp=Z,19nm,1.4s,mb5.0
PGF Pioggiola 84.90 335 *e*P **P 20 24 29.2 -0.6**
comp=Z,33nm,1.5s,mb4.9
PGF Pioggiola 84.90 335 *e*P **P 20 24 29.2 -0.6**
comp=Z,16nm,1.5s,mb4.9
PGF Pioggiola 84.90 335 *e*P **P 20 24 29.2 -0.6**
PGF pmax pmax
comp=Z,16nm,1.5s,mb4.9
MTLF Montolieu 85.86 340 *e*P **P 20 24 33.6 -0.9**
ESDC Sonseca Array 90.65 344 P **P 20 24 56.6 -0.9**
comp=Z,0.2nm,0.6s,mb3.6,baz=14,slow=2.2,SNR=2.9
VNDA Vanda 125.39 178 PKP PKPdf 20 30 54.5 +0.1
comp=Z,0.6nm,0.8s,baz=0.0,slow=3.0,SNR=3.0
PLCA Paso Flores 147.04 94 PKP2 PKPbc 20 31 37.4 +0.1
PLCA pmax pmax
comp=Z,1.0nm,0.9s
PLCA Paso Flores 147.04 94 PKPbc PKPbc 20 31 37.4 0.0
comp=Z,1.3nm,0.9s,baz=292,slow=5.4,SNR=3.0

SKHL ***28*** *20:12:42.6±3.1, 47.80N×155.50E, h46km±27km, mb5.7/3, mbv6.1/2, ms4.9/3, msh5.3/2*
IDC ***28*** *20:12:43.2±0.5, 48.17N×154.92E, h0km, mb4.8/34, mb1 4.9/35, mb1mx4.9/37, mbtmp4.8/35, ML4.1/1, MS4.0/3, Ms1 4.0/3, ms1mx3.5/18, Error ellipse: s-maj=15.4km s-min=11.8km az=149.0*
ISCJB ***28*** *20:12:46.5±0.2, 48.06N±004×155.06E±004, h33km, mb5.1/214, MS4.7/44, Error ellipse: s-maj=5.7km s-min=3.1km az=155.3*
BJI ***28*** *20:12:46.6, 48.40N×155.10E, h50km, mB4.9, mb5.0, Ms4.8, Msz4.7*
MOS ***28*** *20:12:46.9±0.9, 48.17N×155.00E, h32km, mb5.3/85, MS4.8/27, Error ellipse: s-maj=8.6km s-min=4.2km az=102.9*
SZGRF ***28*** *20:12:49.6, 48.50N×155.50E, h49km, mb5.5, Kuril Islands, Russia*
GCMT ***28*** *20:12:49.4±0.3, 48.12N×155.30E, h26km, MW5.0/65, Moment Tensor Solution. s41,c67; s65,c113; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_n3.18±.15; $M_{\theta\theta}$-0.91±.10; $M_{\phi\phi}$-2.27±.10; M_{rr}1.05±.20; $M_{\theta\phi}$-1.70±.06; $M_{r\theta}$1.73±.17; Best double couple: $M_0$3.87100×10^{16} NP1:ϕ_s216.00000°, δ29.00000°, λ93.00000°. NP2: ϕ_s33.00000°, δ61.00000°, λ88.00000°. Principal axes: T 3.7520, Plg74.0000°, Azm298.0000°; N 0.2410, Plg1.0000°, Azm33.0000°; P -3.9900, Plg16.0000°, Azm124.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***28*** *20:12:49.4±0.2, 48.10N×154.98E, mb5.1/120, MS4.7/4 Error ellipse: s-maj=5.3km s-min=3.7km az=150.0*
BGS ***28*** *20:12:57.9±1.6, 49.90N×155.89E, h33km, mb5.3*
ISC 28 20:12:44.3±1.5,**4812N**±004×**15501E**±004,**h7**km±9km, **h46**km±1.4km:**pP-P,n622,**σ0.**82**/609,**mb5.1**/214,**MS4.7**/44, **121C-17D, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PET	**Petropavlovsk**	**5.43**	**24**	*e*Pn	**Pn**	**20 14 07.4**	**+1.8**
PET	**Petropavlovsk**	**5.43**	**24**	*e*PN	**Pn**	**20 14 04.7**	**-0.9**
PET	comp=Z,4μm,17.0s			MLR	MLR		
PET	comp=Z,3μm,14.0s			MLR	MLR		
KUR	**Kuril'sk**	**5.70**	**242**	⇑*i*PN	**Pn**	**20 14 09.3**	**0.0**
KUR				*e*S	**Sn**	**20 15 20.0**	**+5.1**
KUR				pmax	pmax		
KUR	comp=N,2μm,2.0s			pmax	pmax		
KUR	comp=E,3μm,2.0s			pmax	pmax		
KUR	comp=Z,4μm,2.0s			pmax	pmax		
KUR	comp=N,430nm,0.7s			pmax	pmax		
KUR	comp=E,210nm,0.7s			pmax	pmax		
KUR	comp=Z,1μm,0.7s			smax			
KUR	comp=N,10μm,4.0s			smax			
KUR	comp=E,6μm,4.0s			smax			
KUR	comp=N,2μm,1.0s			smax			
KUR	comp=E,940nm,1.0s			MLR	MLR		
KUR	comp=N,10μm,14.0s			MLR	MLR		
KUR	comp=E,9μm,14.0s			MLR	MLR		
KUR	comp=Z,8μm,14.0s						
KUR	**Kuril'sk**	**5.70**	**242**	⇑*i*P	**Pn**	**20 14 09.3**	**0.0**
KUR				AMB	AMB	20 14 11.6	
KUR	comp=Z,4μm,2.0s			AMB	AMB	20 14 11.6	
KUR	comp=Z,2μm,2.0s			AMB	AMB	20 14 11.6	
KUR	comp=Z,3μm,2.0s			AMB	AMB	20 14 21.5	
KUR	comp=Z,430nm,0.7s			AMB	AMB	20 14 21.5	
KUR	comp=Z,206nm,0.7s			AMB	AMB	20 14 21.5	
KUR	comp=Z,1μm,0.7s						
KUR				*e*S	**Sn**	**20 15 20.0**	**+5.1**
KUR				A		20 15 35.6	
KUR	comp=Z,10μm,4.0s			A		20 15 35.6	
KUR	comp=Z,6μm,4.0s			A		20 15 37.1	
KUR	comp=Z,2μm,1.0s			A		20 15 37.1	
KUR	comp=Z,943nm,1.0s			AMS	AMS	20 16 28.0	
KUR	comp=Z,9μm,14.0s			AMS	AMS	20 16 28.0	
KUR	comp=Z,9μm,14.0s			AMS	AMS	20 16 28.0	
KUR	comp=Z,8μm,14.0s						
YSS	**Yuzh-Sakhalins**	**8.37**	**267**	*e*Pn	**Pn**	**20 14 51.1**	**+5.0**
YSS				*e*Sn	**Sn**	**20 16 20.6**	**-0.1**
YSS	**Yuzh-Sakhalins**	**8.37**	**267**	⇑*i*PN	**Pn**	**20 14 51.0**	**+5.0**
YSS				pmax	pmax		
YSS	comp=Z,130nm,0.8s			MLR	MLR		
YSS	comp=E,2μm,18.0s			MLR	MLR		
YSS	comp=Z,3μm,18.0s						
YSS	**Yuzh-Sakhalins**	**8.37**	**267**	⇑*i*P	**Pn**	**20 14 51.0**	**+5.0**
YSS				*e*S	**Sn**	**20 16 25.0**	**+4.2**
YSS				A		20 16 32.0	
YSS	comp=Z,90nm,1.0s			*e*LQ		20 16 36.0	
YSS				*e*LR	LR	20 17 06.0	
YSS				AMS	AMS	20 17 38.0	
YSS	comp=Z,2μm,18.0s			AMS	AMS	20 17 38.0	
YSS	comp=Z,3μm,18.0s						
OKH	**Okha**	**9.37**	**310**	*e*PN	**Pn**	**20 15 06.0**	**+6.3**
OKH				*e*S	**Sn**	**20 16 55.9**	**+11**

OKH pmax pmax
comp=Z,600nm,4.4s
OKH Okha 9.37 310 *e*P **Pn** **20 15 06.0 +6.3**
OKH *e*P 20 15 06.1
OKH AMB AMB 20 15 06.3
comp=Z,200nm,0.3s
OKH AMB AMB 20 15 13.0
comp=Z,600nm,4.4s
OKH *e*S **Sn** **20 16 55.9 +11**
OKH *e*LQ 20 17 44.0
OKH AMS AMS 20 19 56.4
comp=Z,5μm,13.0s
OKH AMS AMS 20 19 56.4
comp=Z,6μm,13.0s
OKH AMS AMS 20 19 56.4
comp=Z,2μm,12.0s
ASAJ Asahikawa 9.50 250 PN **Pn** **20 15 06.2 +4.7**
ASAJ pmax pmax
comp=Z,9.0nm,0.3s
ASAJ Asahikawa 9.50 250 Pn **Pn** **20 15 06.2 +4.7**
comp=Z,9.1nm,0.3s,baz=82,slow=14,SNR=14
ASAJ Sn Sn 20 17 09.7 +21
baz=342,slow=20,SNR=2.4
ERM Erimo 10.36 238 *e*Pn **Pn** **20 15 13.9 +0.6**
comp=Z,93nm,0.6s
ERM *e*Sn **Sn** **20 16 58.2 -11**
ERM Erimo 10.36 238 *e*PN **Pn** **20 15 13.9 +0.6**
ERM pmax pmax
comp=Z,93nm,0.7s
NKL Nikolayevsk 10.40 304⇓ *i*P **Pn** **20 15 16.2 +2.5**
NKL AMB AMB 20 15 17.7
comp=Z,70nm,1.2s
NKL AMB AMB 20 15 17.7
comp=Z,140nm,1.2s
NKL *e*L 20 17 58.0
NKL AMS AMS 20 20 32.0
comp=Z,3μm,14.0s
NKL AMS AMS 20 20 32.0
comp=Z,2μm,14.0s
NKL AMS AMS 20 20 32.0
comp=Z,4μm,14.0s
MA2 Magadan 11.74 349 *e*Pn **Pn** **20 15 34.0 +1.9**
comp=Z,22nm,0.8s
MA2 Magadan 11.74 349 *e*PN **Pn** **20 15 31.3 -0.8**
MA2 pmax pmax
comp=Z,40nm,0.9s
HABR Khabarovsk 13.29 279 *e*PN **Pn** **20 15 58.6 +5.3**
HABR *e*S **Sn** **20 18 28.8 +7.5**
HABR pmax pmax
comp=Z,94nm,1.6s
SEY Seymchan 14.92 355 *e*P **Pn** **20 16 15.6 +0.2**
KLR Kul'dur 15.39 283 *e*P **Pn** **20 16 22.4 +0.6**
KLR *e*S **Sn** **20 19 17.0 +4.5**
KLR pmax pmax
comp=E,180nm,1.6s
KLR pmax pmax
comp=Z,130nm,1.6s
KLR MLR MLR
comp=Z,18μm,13.0s
VLA Vladivostok 16.90 261 *e*P **Pn** **20 16 39.6 -1.6**
VLA pmax pmax
comp=Z,23nm,1.0s
MAJO Matsushiro 16.93 233 *e*Pn **Pn** **20 16 38.5 -3.1**
MJAR Matsushiro Arr 16.93 233 P **Pn** **20 16 39.3 -2.3**
MJAR pmax pmax
comp=Z,1.0nm,0.3s
MJAR Matsushiro Arr 16.93 233 Pn **Pn** **20 16 39.3 -2.3**
comp=Z,0.7nm,0.3s,baz=29,slow=13,SNR=12
MDJ Mudanjiang 17.86 268 P **Pn** **20 16 52.5 -0.6**
MDJ AMB AMB
comp=Z,21nm,1.1s
MDJ AMB AMB
comp=Z,239nm,7.0s
MDJ LR LR
comp=N,778nm,15.9s
MDJ LR LR
comp=E,836nm,16.5s
MDJ LR LR
comp=Z,2μm,14.2s
MDJ Mudanjiang 17.86 268 *e*Pn **Pn** **20 16 52.1 -1.0**
comp=Z,16nm,0.8s
ZEA Zeya 18.31 298 *e*P **Pn** **20 16 57.5 -1.1**
ZEA AMB AMB 20 17 03.6
comp=Z,50nm,1.2s
ZEA A 20 20 39.0
comp=Z,300nm,11.0s
JHJ Hachijo jima 2 18.87 223 LR LR 20 22 55.4
comp=Z,261nm,21.0s,baz=33,slow=32
YAK Yakutsk 19.92 324 *e*P **Pn** **20 17 14.8 -3.1**
comp=Z,92nm,0.9s
YAK *e* 20 17 26.9
YAK Yakutsk 19.92 324 *e*P **Pn** **20 17 13.4 -4.5**
YAK pmax pmax
comp=Z,119nm,1.5s
YAK pmax pmax
comp=N,30nm,2.1s
YAK pmax pmax
comp=E,73nm,1.4s
YAK MLR MLR
comp=Z,875nm,15.0s
YAK MLR MLR
comp=N,673nm,16.0s
YAK MLR MLR
comp=E,817nm,16.0s
CLNS Chul'man 20.17 307 *e*P **P** **20 17 22.4 +3.4**
CLNS *e* 20 17 36.1
CLNS *e*S **S** **20 21 07.2 +1.8**
CLNS *e* 20 21 31.3
CLNS *e*SS 20 21 37.9
CLNS pmax pmax
comp=Z,148nm,1.0s
CLNS pmax pmax
comp=N,78nm,1.2s
CLNS pmax pmax
comp=E,93nm,1.1s
CLNS pmax pmax
comp=E,60nm,0.9s
CLNS pmax pmax
comp=Z,69nm,0.9s
CLNS pmax pmax
comp=N,44nm,1.0s
CLNS smax
comp=N,66nm,11.2s
CLNS smax
comp=Z,230nm,14.2s
CLNS smax
comp=E,248nm,14.1s
CLNS MLR MLR
comp=Z,2μm,17.0s,MS4.6
CLNS MLR MLR
comp=N,900nm,13.0s,MS4.6
CLNS MLR MLR
comp=E,2μm,16.0s,MS4.6
NRGR Nerungri 20.22 306 *i*P **P** **20 17 22.8 +3.2**
BILL Bilibino 20.78 12 *e*P **P** **20 17 23.6 -2.0**
comp=E,29nm,0.8s
BILL Bilibino 20.78 12 *d i*P **P** **20 17 23.6 -1.9**
BILL *i* 20 17 33.5
BILL *i* 20 17 42.8
BILL *e*S **S** **20 21 17.3 -0.1**
BILL *i* 20 21 28.1
BILL pmax pmax
comp=Z,27nm,1.0s
BILL MLR MLR
comp=Z,1μm,16.0s,MS4.4
CN2 Changchun 20.93 269⇓P **P** **20 17 25.8 -1.6**
CN2 AMB AMB
comp=Z,60nm,1.0s
CN2 AMB AMB
comp=Z,200nm,3.0s
CN2 LR LR
comp=N,1μm,14.0s,MS4.7
CN2 LR LR
comp=E,2μm,14.0s,MS4.7
CN2 LR LR
comp=Z,2μm,14.0s,MS4.7
KSRS Korea Array 22.44 252 P **P** **20 17 44.6 +0.9**
comp=Z,50nm,1.0s,mb4.9,baz=52,slow=10.0,SNR=21
SNY Shenyang 23.00 266⇓P **P** **20 17 48.5 -1.0**
SNY S **S** **20 21 58.0 -2.3**
SNY AMB AMB
comp=Z,20nm,1.0s,mb4.5
SNY AMB AMB
comp=Z,181nm,12.0s
SNY LR LR
comp=N,951nm,14.2s,MS4.6
SNY LR LR
comp=E,1μm,16.7s,MS4.6
SNY LR LR
comp=Z,1μm,17.1s,MS4.5
HIA Hailar 23.18 286 *e*P **P** **20 17 49.7 -1.7**
comp=Z,22nm,1.1s,mb4.5
HIA Hailar 23.18 286 *e*P **P** **20 17 49.7 -1.7**
HIA pmax pmax
comp=Z,22nm,1.1s
INCN Inchon 23.25 253 *e*P **P** **20 17 53.2 +1.0**
comp=Z,48nm,0.9s,mb4.9
INCN Inchon 23.25 253 P **P** **20 17 53.5 +1.3**
SNR=5.3
INCN Inchon 23.25 253 P **P** **20 17 53.5 +1.3**
SNR=5.3
JNU Nakatsue 23.53 239 P **P** **20 17 56.0 +0.9**
comp=Z,22nm,0.8s,mb4.6,baz=14,slow=11,SNR=6.9
JNU LR LR 20 26 26.4
comp=Z,500nm,21.3s,MS4.0,baz=37,slow=35
GAMB Gambell 23.96 37 *e*P **P** **20 17 58.9 +0.1**
comp=Z,76nm,1.3s,mb5.0
DL2 Dalian 25.73 261 P **P** **20 18 15.5 +0.3**
DL2 *e*S **S** **20 22 41.5 -2.7**
DL2 AMB AMB
comp=Z,30nm,1.1s,mb4.7
DL2 LR LR
comp=N,430nm,15.1s,MS4.2
DL2 LR LR
comp=E,370nm,14.4s,MS4.2
DL2 LR LR
comp=Z,430nm,13.1s,MS4.2
TNA Tin City 26.18 35 *e*P **P** **20 18 19.9 +0.9**
comp=Z,76nm,0.9s,mb5.2
TIXI Tiksi 26.54 342 *e*P **P** **20 18 20.0 -2.2**
comp=Z,37nm,1.2s,mb4.8
TIXI Tiksi 26.54 342 *e*P **P** **20 18 20.6 -1.6**
TIXI pmax pmax
comp=Z,29nm,1.3s,mb4.7
BJI Beijing 28.79 268 P **P** **20 18 42.3 -0.4**
BJI AMB AMB
comp=Z,6.0nm,1.1s,mb4.2
BJI AMB AMB
comp=Z,73nm,4.3s
BJI LR LR
comp=N,915nm,17.5s,MS4.5
BJI LR LR
comp=E,681nm,20.3s,MS4.5
BJI LR LR
comp=Z,563nm,26.4s
TTA Tatalina 30.54 43 *e*P **P** **20 19 04.5 +6.5**
comp=Z,13nm,1.0s,mb4.7
TTA Tatalina 30.54 43 *e*P **P** **20 19 04.5 +6.6**
TTA pmax pmax
comp=Z,13nm,1.0s,mb4.7
HHC Hu-ho-hao-te 31.49 273 *e*P **P** **20 19 06.5 -0.1**
HHC AMB AMB
comp=Z,35nm,0.7s,mb5.3
HHC AMB AMB
comp=Z,108nm,5.3s
HHC LR LR
comp=N,874nm,14.3s,MS4.8
HHC LR LR
comp=E,1μm,13.3s,MS4.8
HHC LR LR
comp=Z,2μm,13.9s,MS4.9
NJ2 Nanjing 31.63 253 *e*P **P** **20 19 11.5 +3.7**
NJ2 PP PP 20 20 16.8 -2.3
NJ2 S **S** **20 24 15.0 -2.1**
NJ2 AMB AMB
comp=Z,30nm,1.0s,mb5.1
NJ2 AMB AMB
comp=Z,330nm,4.6s
NJ2 LR LR
comp=N,3μm,15.7s,MS5.1
NJ2 LR LR
comp=E,2μm,17.0s,MS5.1
ULN Ulaanbaatar 31.68 288 *e*P **P** **20 19 06.9 -1.2**
comp=E,12nm,0.9s,mb4.7
ULN *e* 20 19 21.5
ULN Ulaanbaatar 31.68 288 P **P** **20 19 07.7 -0.5**
ULN pmax pmax
comp=Z,12nm,0.9s,mb4.7
IMA2 Indian Mountai 31.94 37 *e*P **P** **20 19 09.4 -0.8**
IMA2 *e*P 20 19 16.4
IMA2 *e* 20 19 17.6
SONM Songino Array 32.11 288 P **P** **20 19 11.3 -0.6**
SONM PcP PcP 20 21 59.7 -1.3
SONM ScP ScP 20 25 41.9 -2.9
SONM Songino Array 32.11 288 P **P** **20 19 11.3 -0.6**
SONM 20 21 59.7
SONM pmax pmax
comp=Z,6.0nm,0.9s
SONM Songino Array 32.11 288 P **P** **20 19 11.3 -0.6**
comp=Z,5.9nm,0.9s,mb4.4,baz=70,slow=9.1,SNR=22
SONM PcP PcP 20 21 59.7 -1.3
comp=Z,2.1nm,0.9s,baz=85,slow=2.5,SNR=4.0
SONM ScP ScP 20 25 41.9 -2.9
comp=Z,1.2nm,0.9s,baz=75,slow=1.7,SNR=5.6
KDAK Kodiak Island 32.25 53 *e*P **P** **20 19 11.1 -1.9**
comp=Z,25nm,0.9s,mb5.0
KDAK Kodiak Island 32.25 53 P **P** **20 19 12.9 -0.1**
comp=Z,11nm,0.7s,mb4.8,baz=268,slow=5.4,SNR=11
TLY Talaya 32.72 296 P **P** **20 19 17.3 +0.1**
comp=Z,135nm,1.0s,mb5.8,SNR=5.8
TLY Talaya 32.72 296 *e*P **P** **20 19 17.3 +0.1**
comp=Z,20nm,1.1s,mb5.0
TLY Talaya 32.72 296 *e*P **P** **20 19 16.6 -0.6**
TLY *e*SS SS 20 26 27.7 -26
TLY pmax pmax
comp=Z,24nm,0.9s,mb5.1
TLY MLR MLR
comp=Z,1μm,16.0s,MS4.8
TLY Talaya 32.72 296 P **P** **20 19 17.6 +0.4**
SNR=7.4
TLY Talaya 32.72 296 P **P** **20 19 17.6 +0.4**
SNR=7.4
MCK McKinley 33.77 42 *e*P **P** **20 19 25.7 -0.6**
comp=Z,18μm,1.2s
SML Sawmill 34.09 45 *e*P **P** **20 19 28.2 -0.9**
COLA College 34.26 40 *e*P **P** **20 19 30.5 0.0**
comp=Z,54nm,1.3s,mb5.3
COLA College 34.26 40 *e*P **P** **20 19 30.5 0.0**
COLA pmax pmax
comp=Z,54nm,1.3s,mb5.3
MOY Mondy 34.31 297 *e*P **P** **20 19 30.8 -0.3**
WHN Wuhan 35.52 255⇑P **P** **20 19 41.8 +0.1**
WHN S **S** **20 25 20.3 +2.8**
WHN LR LR
comp=Z,1μm,14.6s,MS4.7
EGAK Eagle 37.13 40 *e*P **P** **20 19 53.9 -1.1**
comp=Z,10nm,0.8s,mb4.7
LZH Lanzhou 39.13 271 *e*P **P** **20 20 13.3 +1.0**
LZH AMB AMB
comp=Z,78nm,1.2s,mb5.3
LZH AMB AMB
comp=Z,230nm,4.0s
LZH LR LR
comp=E,795nm,14.5s
LZH LR LR
comp=Z,1μm,15.3s,MS4.8
INK Inuvik 39.80 33 *e*P **P** **20 20 17.4 -0.1**
comp=Z,1μm,1.4s,mb6.4
INK Inuvik 39.80 33 P **P** **20 20 17.4 -0.2**
comp=Z,9.1nm,0.9s,mb4.5,baz=269,slow=6.5,SNR=8.5
GTA Gaotai 40.03 279 *e*P **P** **20 20 20.0 +0.2**
GTA PCP PcP 20 22 25.0 +0.4
GTA AMB AMB
comp=Z,15nm,1.2s,mb4.6
GTA AMB AMB
comp=Z,84nm,6.1s
GTA LR LR
comp=N,630nm,17.1s,MS4.8
GTA LR LR
comp=E,1μm,18.2s,MS4.8
GTA LR LR
comp=Z,1μm,18.6s,MS4.8
CD2 Chengdu 42.28 265 P **P** **20 20 37.5 -0.8**
CD2 PCP PcP 20 22 32.0 -0.1
CD2 PCS PcS 20 26 25.0 +1.0
CD2 AMB AMB
comp=Z,70nm,0.9s,mb5.3
CD2 AMB AMB
comp=Z,120nm,4.2s
CD2 LR LR
comp=N,640nm,18.0s
CD2 LR LR
comp=Z,610nm,16.8s,MS4.6
ZAA0 Zalesovo Array 42.86 305 *e*P **P** **20 20 39.7 -3.1**
ZALV Zalesovo Beam 42.86 305 P **P** **20 20 41.3 -1.5**
comp=Z,2.8nm,0.4s,mb4.3,baz=58,slow=7.2,SNR=6.4
ZALV PcP PcP 20 22 32.7 -0.9
comp=Z,9.0nm,0.8s,baz=153,slow=1.3,SNR=6.9
ZAL Zalesovo 42.88 305 P **P** **20 20 41.3 -1.7**
ZAL 20 22 32.7
GYA Guiyang 43.26 258⇑ *i*P **P** **20 20 46.5 +0.1**
GYA AMB AMB
comp=Z,40nm,1.0s,mb5.1
GYA AMB AMB
comp=Z,130nm,6.2s
GYA LR LR
comp=N,450nm,19.5s,MS4.4
GYA LR LR
comp=E,210nm,18.0s,MS4.4
GYA LR LR
comp=Z,600nm,16.8s,MS4.6
NVS Novosibirsk 43.39 307 *i*P **P** **20 20 45.3 -1.7**
NVS pmax pmax
comp=N,13nm,1.8s
NVS pmax pmax
comp=E,11nm,1.8s
NVS pmax pmax
comp=Z,23nm,1.8s,mb4.6
DLBC Dease Lake 43.72 47 *e*P **P** **20 20 52.4 +2.8**
WMQ Urumqi 45.63 291 P **P** **20 21 05.3 +0.1**
WMQ AP pP 20 21 15.0 +7.8
WMQ XP sP 20 21 19.0 +11
WMQ PCP PcP 20 22 45.0 +1.7
WMQ S **S** **20 27 44.0 -3.9**
WMQ XS sS 20 28 00.0 +8.7
WMQ SS SS 20 30 58.0 -14
WMQ AMB AMB
comp=Z,17nm,1.0s,mb4.9
WMQ AMB AMB
comp=Z,232nm,4.2s
WMQ LR LR
comp=N,1μm,15.0s,MS5.1
WMQ LR LR
comp=E,1μm,15.0s,MS5.1
WMQ LR LR
comp=Z,748nm,15.5s,MS4.7
QIZ Qiongzhong 46.56 247 P **P** **20 21 11.8 -0.9**
QIZ S **S** **20 28 00.5 -1.3**
QIZ LR LR
comp=N,240nm,16.8s
QIZ LR LR
comp=E,449nm,22.7s
QIZ LR LR
comp=Z,609nm,17.0s,MS4.6
KMI Kunming 46.75 260 P **P** **20 21 14.8 +0.6**
KMI PPP 20 23 52.5
KMI SSS 20 32 27.5
KMI AMB AMB
comp=Z,20nm,1.5s,mb4.8
KMI AMB AMB
comp=Z,58nm,3.1s
KMI LR LR
comp=N,580nm,16.5s,MS4.7
KMI LR LR
comp=E,376nm,18.4s,MS4.7
KMI LR LR
comp=Z,412nm,20.4s,MS4.4
MKAR Makanchi Array 47.46 297 P **P** **20 21 18.5 -0.9**
MKAR pmax pmax
comp=Z,20nm,0.7s
MKAR Makanchi Array 47.46 297 P **P** **20 21 18.5 -1.0**
comp=Z,20nm,0.7s,mb5.1,baz=67,slow=9.3,SNR=20
KURK Kurchatov 47.68 303⇑ *e*P **P** **20 21 20.0 -1.1**
ALE Alert 48.25 6 P **P** **20 21 25.0 -0.1**
comp=Z,227nm,0.7s,mb6.3,SNR=8.9
YKA Yellowknife Ar 49.06 38 P **P** **20 21 31.6 +0.1**
YKA pmax pmax
comp=Z,8.0nm,0.9s
YKA Yellowknife Ar 49.06 38 P **P** **20 21 31.6 +0.1**
comp=Z,7.8nm,0.9s,mb4.8,baz=297,slow=7.5,SNR=16
RES Resolute Bay 49.12 19 *e*P **P** **20 21 31.2 -0.7**
comp=Z,922nm,1.2s
BVAR Borovoye Array 50.98 309 P **P** **20 21 45.4 -0.9**
BVAR pmax pmax
comp=Z,9.0nm,0.5s
BVAR Borovoye Array 50.98 309 P **P** **20 21 45.4 -0.9**
comp=Z,9.2nm,0.5s,mb5.0,baz=63,slow=6.5,SNR=5.4
BRVK Borovoye 51.02 309 *e*P **P** **20 21 45.4 -1.2**
LSA Lhasa 51.48 273 *e*P **P** **20 21 51.9 +1.5**
comp=Z,8.0nm,0.6s,mb4.8
LSA Lhasa 51.48 273 *e*P **P** **20 21 51.9 +1.5**
LSA pmax pmax
comp=Z,8.0nm,0.6s,mb4.8
NANT Nan 52.55 256 P **P** **20 21 57.0 -1.4**
CHTO Chiang Mai 53.68 257 *e*P **P** **20 22 07.4 +0.6**
comp=Z,35nm,1.1s,mb5.2
CHTO Chiang Mai 53.68 257 *e*P **P** **20 22 07.4 +0.7**
CHTO pmax pmax
comp=Z,35nm,1.1s,mb5.2
CHTO Chiang Mai 53.68 257 P **P** **20 22 08.2 +1.5**
SNR=6.6
CHTO Chiang Mai 53.68 257 P **P** **20 22 08.2 +1.5**
SNR=6.6
CM31 Chiang Mai Arr 53.94 257 *e*P **P** **20 22 09.2 +0.5**
AAK Ala-Archa 54.38 296 *e*P **P** **20 22 09.3 -2.2**
comp=Z,22nm,0.8s,mb5.1
AAK Ala-Archa 54.38 296 P **P** **20 22 10.5 -1.1**
AAK pmax pmax
comp=Z,17nm,0.7s,mb5.1
AAK Ala-Archa 54.38 296 P **P** **20 22 10.5 -1.0**
comp=Z,17nm,0.7s,mb5.1,baz=78,slow=5.9,SNR=4.2
EDM Edmonton 54.44 48 *e*P **P** **20 22 13.3 +1.4**
EKS2 Erkin-Say 54.79 297 *e*P **P** **20 22 09.4 -5.1**
ARU Arti 54.87 318 *e*P **P** **20 22 11.5 -3.4**
comp=Z,32nm,1.1s,mb5.3
ARU Arti 54.87 318 *e*P **P** **20 22 11.5 -3.4**
ARU pmax pmax
comp=Z,32nm,1.1s,mb5.3
DAG Danmarks Havn 55.32 358⇑ *i*P **P** **20 22 16.7 -1.2**
DAG pmax pmax
comp=Z,4.0nm,0.5s,mb4.7
DAG Danmarks Havn 55.32 358⇑ *i*P **P** **20 22 16.7 -1.2**
comp=Z,3.5nm,0.5s,mb4.7
JIRN Jiri 56.11 275 *e*P **P** **20 22 25.2 +0.9**
comp=Z,28nm,0.4s,mb5.6
GUN Gumba 56.16 275 *e*P **P** **20 22 24.9 +0.3**
comp=Z,27nm,0.4s,mb5.6
WALA Waterton Lakes 56.58 52 *e*P **P** **20 22 31.1 +3.8**
comp=Z,9.6nm,0.8s,mb4.9
KKN Kakani 56.64 276 *e*P **P** **20 22 28.5 +0.5**
comp=Z,95nm,1.1s,mb5.7
PKI Pulchoki 56.69 275 *e*P **P** **20 22 28.9 +0.5**
PKIN Phulchoki 56.70 275 *e*P **P** **20 22 29.3 +0.8**
DMN Daman 56.87 276 *e*P **P** **20 22 30.4 +0.7**
GKN Gorkha 56.92 276 *e*P **P** **20 22 30.4 +0.3**
ARCES ARCESS Array B 56.98 341 P **P** **20 22 28.1 -1.7**
ARCES pmax pmax
comp=Z,4.0nm,0.7s
ARCES ARCESS Array B 56.98 341 P **P** **20 22 28.1 -1.7**
comp=Z,3.5nm,0.7s,mb4.5,baz=81,slow=5.8,SNR=4.7
BMO Blue Mountains 57.25 58 *e*P **P** **20 22 32.0 -0.1**
comp=Z,4.1nm,0.8s,mb4.5
DANN Dangsing 57.28 277 *e*P **P** **20 22 33.6 +1.0**
comp=Z,73nm,0.5s,mb6.0
MOD Modoc 57.30 62 *e*P **P** **20 22 33.6 +1.1**
comp=Z,5.1nm,0.7s,mb4.7
KOLN Koldanda 57.77 277 *e*P **P** **20 22 36.8 +0.8**
WVOR Wild Horse Val 57.96 61 *e*P **P** **20 22 40.1 +3.0**
comp=Z,7.1nm,0.9s,mb4.7
WVOR Wild Horse Val 57.96 61 *e*P **P** **20 22 40.1 +2.9**
WVOR pmax pmax
comp=Z,7.0nm,0.9s,mb4.7
CHMT Chamberlain Mo 58.23 54 *e*P **P** **20 22 38.8 -0.2**
AKTK Aktyubinsk 58.77 312 P **P** **20 22 41.2 -1.4**
AKTO Aktyubinsk 58.77 312 P **P** **20 22 41.3 -1.4**
AKTO pmax pmax
comp=Z,4.0nm,0.7s,mb4.6
AKTO Aktyubinsk 58.77 312 P **P** **20 22 41.2 -1.4**
comp=Z,3.7nm,0.7s,mb4.5,baz=75,slow=9.9,SNR=3.4
FFC Flin Flon 58.86 41 P **P** **20 22 43.6 +0.3**
comp=Z,70nm,0.8s,mb5.7,SNR=6.2
FFC Flin Flon 58.86 41 *e*P **P** **20 22 43.0 -0.2**
comp=Z,11nm,0.8s,mb4.9
FFC Flin Flon 58.86 41 *e*P **P** **20 22 43.0 -0.3**
FFC pmax pmax
comp=Z,11nm,0.8s,mb4.9
BOK Bokaro 58.90 272 *e*P **P** **20 22 44.5 +0.5**
BOK AMb AMB 20 22 48.3
comp=Z,48nm,1.3s,mb5.4

FCC Fort Churchill 59.41 34 eP P 20 22 46.6 -0.4
comp=Z,14nm,0.8s,mb5.1
FCC Fort Churchill 59.41 34 eP P 20 22 46.6 -0.4
FCC pmax pmax
comp=Z,14nm,0.8s,mb5.0
CMB Columbia Colle 59.66 66 eP P 20 22 52.6 +3.5
comp=Z,5.1nm,0.9s,mb4.5
CMB Columbia Colle 59.66 66 eP P 20 22 52.6 +3.6
CMB pmax pmax
comp=Z,5.0nm,0.9s,mb4.5
SMLA Simla 59.81 284 eP P 20 22 49.7 -0.5
SMLA AMb AMB 20 22 50.6
comp=Z,56nm,0.8s,mb5.7
BOZ Bozeman (W) 59.90 54 eP P 20 22 51.7 +1.0
comp=Z,6.3nm,0.8s,mb4.7
BOZ Bozeman (W) 59.90 54 eP P 20 22 51.7 +1.1
BOZ pmax pmax
comp=Z,6.0nm,0.8s,mb4.7
KSM Kuching 60.32 234 eP P 20 22 55.0 +1.2
QLMT Earthquake Lak 60.53 55 eP P 20 22 55.6 +0.7
NVAR Mina Array Bea 60.67 64 P P 20 22 57.6 +1.7
comp=Z,2.7nm,0.7s,mb4.5,baz=304,slow=5.8,SNR=11
YFT Old Faithful 61.10 55 eP P 20 23 01.1 +2.3
NDI New Delhi 61.38 282 eP P 20 23 00.4 -0.5
NDI AMb AMB 20 23 01.2
comp=Z,23nm,0.5s,mb5.6
MOOW Moose Ponds 61.61 55 eP P 20 23 02.3 0.0
comp=Z,16nm,1.4s,mb5.0
TPAW Teton Pass 61.66 56 eP P 20 23 03.3 +0.7
comp=Z,30nm,1.4s,mb5.2
SNOW Snow King Moun 61.79 55 eP P 20 23 04.6 +1.2
comp=Z,14nm,0.9s,mb5.1
REDW Red Top Meadow 61.80 56 eP P 20 23 04.6 +1.1
comp=Z,30nm,1.2s,mb5.3
LAO LASA Array 62.09 50 eP P 20 23 11.7 +6.2
comp=Z,34nm,0.9s,mb5.5
BLSP Bilaspur 62.55 273 eP P 20 23 08.8 -0.1
BLSP AMb AMB 20 23 10.2
comp=Z,55nm,0.7s,mb5.8
KBL Kabul 62.75 292 eP P 20 23 08.3 -1.8
comp=Z,19nm,1.1s,mb5.1
KULM Kulim 62.82 245 eP P 20 23 11.1 +0.3
TPNV Topopah Spring 62.87 64 eP P 20 23 12.8 +2.0
comp=Z,6.3nm,0.9s,mb4.8
TPNV Topopah Spring 62.87 64 eP P 20 23 12.9 +2.1
TPNV pmax pmax
comp=Z,6.0nm,0.9s,mb4.7
FINES FINESS Array B 63.34 335 P P 20 23 13.1 -0.5
FINES FINESS Array B 63.34 335 i P P 20 23 13.1 -0.5
FINES pmax pmax
comp=Z,11nm,0.8s
FINES FINESS Array B 63.34 335 P P 20 23 13.1 -0.5
comp=Z,11nm,0.8s,mb5.0,baz=42,slow=6.5,SNR=7.3
KAKA Kakadu 63.80 205 eP P 20 23 16.7 -0.4
comp=Z,8.0nm,0.6s,mb4.9
MSU Marysvale 64.25 60 eP P 20 23 19.1 -0.8
ULM Lac du Bonnet 64.64 42 eP P 20 23 20.3 -2.0
comp=Z,9.2nm,0.8s,mb4.9
ULM Lac du Bonnet 64.64 42 P P 20 23 22.1 -0.2
comp=Z,7.9nm,0.9s,mb4.7,baz=309,slow=6.6,SNR=9.1
SRU San Rafael 64.80 59 eP P 20 23 22.5 -1.1
comp=Z,6.1nm,0.8s,mb4.7
SRU San Rafael 64.80 59 eP P 20 23 22.5 -1.0
SRU pmax pmax
comp=Z,6.0nm,0.8s,mb4.7
OBN Obninsk 64.90 326⇓ eP P 20 23 23.2 -0.7
OBN e 20 23 34.1
OBN pmax pmax
comp=Z,22nm,1.0s,mb5.1
OBN MLR MLR
comp=Z,400nm,19.0s,MS4.6
BHPL Bhopal 64.93 277 eP P 20 23 24.8 +0.3
BHPL AMb AMB 20 23 26.4
comp=Z,104nm,1.1s,mb5.8
NGP Nagpur 65.29 275 eP P 20 23 26.8 -0.1
NGP AMb AMB 20 23 27.7
comp=Z,99nm,1.2s,mb5.7
PSI Prapat 65.83 245 P P 20 23 31.7 +1.3
PSI pmax pmax
comp=Z,8.0nm,0.8s,mb4.8
PSI Prapat 65.83 245 P P 20 23 31.6 +1.2
comp=Z,8.2nm,0.8s,mb4.8,baz=213,slow=1.1,SNR=5.1
AGMN Agassiz Refuge 66.05 44 eP P 20 23 30.2 -1.3
comp=Z,11nm,0.8s,mb5.0
PV10 Paradox Valley 66.15 59 eP P 20 23 30.9 -1.4
PV01 Paradox Valley 66.59 59 eP P 20 23 35.3 +0.3
SMCO Snowmass 66.77 57 eP P 20 23 36.8 +0.5
comp=Z,9.2nm,1.0s,mb4.8
AKL Akola 66.96 276 eP P 20 23 38.0 +0.3
NB2 NORSAR Subarra 67.34 342 P P 20 23 38.4 -1.0
comp=Z,71nm,1.4s,mb5.5,baz=26,slow=6.5
NOA NORSAR Array B 67.34 342 P P 20 23 38.7 -0.8
NOA NORSAR Array B 67.34 342 P P 20 23 38.7 -0.7
NOA pmax pmax
comp=Z,21nm,1.0s
NOA NORSAR Array B 67.34 342 P P 20 23 38.7 -0.8
comp=Z,21nm,1.0s,mb5.1,baz=26,slow=6.4,SNR=9.6
BORG Borgarnes 67.44 358 P P 20 23 40.5 +0.5
comp=Z,45nm,0.9s,mb5.5,baz=166,slow=0.6,SNR=5.1
HFS Hagfors 67.61 340 P P 20 23 40.5 -0.7
HFS pmax pmax
comp=Z,9.0nm,0.4s
HFS Hagfors 67.61 340 P P 20 23 40.5 -0.7
comp=Z,9.3nm,0.4s,mb5.2,baz=45,slow=3.2,SNR=21
HYB Hyderabad 68.24 272 eP P 20 23 46.0 +0.2
HYB Hyderabad 68.24 272 i P P 20 23 46.0 +0.2
CTAO Charters Tower 68.34 189 P P 20 23 45.5 -0.7
LATR Latur 68.87 274 eP P 20 23 50.0 +0.3
LATR AMb AMB 20 23 53.1
comp=Z,26nm,1.2s,mb5.0
ECSD EROS,Sioux Fal 69.01 47 eP P 20 23 49.3 -0.9
comp=Z,18nm,0.7s,mb5.1
ECSD e 20 24 00.6
LAZ Ladron 70.02 61 eP P 20 23 54.9 -1.7
ANMO Albuquerque 70.02 60⇑ eP P 20 23 57.8 +1.2
BHJ Bhuj 70.04 283 eP P 20 23 58.1 +1.2
WRAB Tennant Creek 70.22 201 eP P 20 23 56.8 -1.0
comp=Z,22nm,1.0s,mb5.0
WRAB Tennant Creek 70.22 201 eP P 20 23 56.8 -1.0
WRAB pmax pmax
comp=Z,22nm,1.0s,mb5.0
WB2 Warramunga Arr 70.23 201 eP P 20 23 57.0 -0.9
WRA Warramunga Arr 70.24 201 P P 20 23 57.5 -0.4
WRA pmax pmax
comp=Z,3.0nm,1.0s
WRA Warramunga Arr 70.24 201 P P 20 23 57.5 -0.4
comp=Z,2.7nm,0.9s,mb4.2,baz=16,slow=6.5,SNR=5.7
LRW Lerwick 70.38 348 eP P 20 23 58.0 -0.4
LRW AMb AMB 20 23 59.9
comp=Z,40nm,1.3s,mb5.2
SUW Suwalki 70.40 332 eP P 20 23 58.1 -0.5
BNM Barren Site 70.49 61 eP P 20 23 58.2 -1.3
POO Poona 70.60 276 eP P 20 24 01.6 +1.3
COWI Conover 70.74 42 eP P 20 23 59.3 -1.5
comp=Z,8.2nm,0.9s,mb4.7
KIV Kislovodsk 70.75 315 eP P 20 24 01.2 +0.2
KIV e 20 24 22.4
KIV eS S 20 33 16.2 +0.5
KIV pmax pmax
comp=Z,12nm,1.1s,mb4.7
KIV MLR MLR
comp=Z,433nm,18.0s,MS4.8
FITZ Fitzroy Crossi 70.96 210 eP P 20 24 02.9 +0.5
comp=Z,18nm,0.8s,mb5.0
AKASG Malin Array Be 71.11 327 i P P 20 24 02.0 -1.0
AKASG pmax pmax
comp=Z,10.0nm,0.7s
AKASG Malin Array Be 71.11 327 P P 20 24 02.0 -1.0
comp=Z,10nm,0.7s,mb4.8,baz=32,slow=5.9,SNR=16
KAD Karad 71.24 275 eP P 20 24 04.6 +0.3
KAD AMb AMB 20 24 08.3
comp=Z,59nm,1.7s,mb5.2
OWE Westray 71.42 348 eP P 20 24 03.9 -0.8
SCHQ Schefferville 71.54 24 eP P 20 24 04.7 -0.8
comp=Z,13nm,1.0s,mb4.8
SCHQ Schefferville 71.54 24 P P 20 24 05.5 0.0
comp=Z,4.1nm,0.5s,mb4.6,baz=315,slow=4.6,SNR=6.5
SCHQ LR LR 20 55 49.2
comp=Z,165nm,21.9s,MS4.2,baz=92,slow=36
SCIA State Center 72.04 47 eP P 20 24 08.1 -0.6
comp=Z,60nm,0.7s,mb5.6
SCIA e 20 24 19.6
SOC Sochi 72.43 316 eP P 20 24 10.3 -0.7
SOC e 20 26 56.3
SOC eS S 20 33 31.4 -3.6
SOC pmax pmax
comp=Z,16nm,1.1s,mb4.9
SOC MLR MLR
comp=Z,553nm,14.0s,MS5.0
ANN Anapa 72.52 319 eP P 20 24 09.5 -2.1
ANN eS S 20 33 32.2 -3.8
ANN pmax pmax
comp=Z,26nm,1.5s,mb4.9
ANN MLR MLR
comp=Z,375nm,15.0s,MS4.8
GKP Gorka Klasztor 72.81 335 eP P 20 24 13.0 -0.2
MVH1 Achvaich 72.93 349 eP P 20 24 13.3 -0.5
MCD Coleburn Disti 73.13 348⇑ eP P 20 24 14.6 -0.4
MDO Dochfour 73.42 349⇑ eP P 20 24 16.2 -0.5
KAC Achnashellach 73.49 349⇑ eP P 20 24 16.5 -0.6
LVV L'vov 73.69 329 eP P 20 24 17.2 -1.2
LVV e 20 24 25.2
KPL Plockton 73.69 349 eP P 20 24 17.6 -0.7
KPL AMb AMB 20 24 19.4
comp=Z,54nm,1.2s,mb5.4
KSB Sheil Bridge 73.79 349⇑ eP P 20 24 18.5 -0.3
SIM Simferopol' 73.84 321 ceP P 20 24 20.1 +0.7
SIM pmax pmax
comp=Z,20nm,0.9s,mb5.0
SIM MLR MLR
comp=Z,380nm,15.0s,MS4.8
ASAR Alice Springs 73.92 200 P P 20 24 20.5 +0.6
ASAR pmax pmax
comp=Z,2.0nm,0.7s
ASAR Alice Springs 73.92 200 P P 20 24 20.5 +0.6
comp=Z,2.0nm,0.7s,mb4.1,baz=15,slow=5.4,SNR=9.6
BSEG Bad Segeberg 74.02 339 eP P 20 24 20.7 +0.4
comp=Z,48nm,1.0s,mb5.4
HOMI Horasan 74.11 313 i P P 20 24 22.4 +1.4
KAR1 Arisaig 74.12 349⇑ eP P 20 24 20.6 -0.2
PALK Pallekele 74.15 263 eP P 20 24 21.3 -0.3
comp=Z,23nm,1.3s,mb5.0
ELO Logie Almond 74.28 348⇑ eP P 20 24 21.8 0.0
KWP Kalwaria 74.29 330 eP P 20 24 21.7 -0.3
KWP Kalwaria 74.29 330 eP P 20 24 21.7 -0.2
KWP Kalwaria 74.29 330 P P 20 24 21.8 -0.1
KWP pmax pmax
comp=Z,150nm,1.1s,mb5.8
KIS Kishinev 74.31 325α i P P 20 24 21.0 -1.1
KIS i 20 24 36.0
KIS pmax pmax
comp=Z,105nm,1.3s,mb5.6
KIS MLR MLR
comp=N,300nm,16.0s
KIS MLR MLR
comp=Z,500nm,16.0s,MS4.9
KIS MLR MLR
comp=Z,500nm,16.0s
KIS Kishinev 74.31 325⇑ i P P 20 24 21.0 -1.1
comp=Z,100nm,1.3s,mb5.6
KIS LRM 21 00 34.0
comp=Z,500nm,16.0s
EBH Black Hill 74.46 348⇑ eP P 20 24 22.0 -0.8
RUE Ruedersdorf 74.47 337 eP P 20 24 22.6 -0.3
comp=Z,61nm,1.2s,mb5.4
RUE Ruedersdorf 74.47 337 eP P 20 24 22.7 -0.2
comp=Z,81nm,1.1s,mb5.6
ERZM Erzurum 74.48 313 i P P 20 24 25.4 +2.2
IAS Iasi 74.63 326 P P 20 24 23.8 -0.1
EAB Aberfoyle 74.64 348 eP P 20 24 23.6 -0.2
OJC Ojcow 74.73 332 eP P 20 24 24.4 -0.1
KOPT Kop Dagi 74.81 314 i P P 20 24 27.0 +1.9
EAU Auchinoon 74.84 348⇑ eP P 20 24 24.6 -0.4
EBL Broad Law 74.86 347 eP P 20 24 25.4 +0.3
STHS Stebnicka Huta 74.96 331 i P P 20 24 26.5 +0.7
comp=Z,29nm,0.9s,mb5.2
STHS Stebnicka Huta 74.96 331 i P P 20 24 26.5 +0.7
STHS pmax pmax
comp=Z,29nm,0.9s,mb5.2
HDIL Hopedale 74.97 45 eP P 20 24 25.1 -0.9
comp=Z,14nm,0.7s,mb5.0
PGBU Glenifferbraes 75.02 348 eP P 20 24 25.9 -0.1
PGBU AMb AMB 20 24 28.1
comp=Z,129nm,1.2s,mb5.7
KOLS Kolonicke sedl 75.04 330 eP P 20 24 26.3 0.0
HAKT HAKKARI 75.10 310 i P P 20 24 27.9 +1.1
GRSN GIRESUNGRSN 75.17 316 i P P 20 24 27.3 +0.1
KSP Ksiaz 75.24 334 eP P 20 24 27.5 +0.1
KSP Ksiaz 75.24 334⇑ eP P 20 24 27.2 -0.2
KSP e 20 24 39.7
KSP MLR MLR
comp=Z,1μm,17.5s,MS5.2
NIE Niedzica 75.26 331 eP P 20 24 28.3 +0.7
UZH Uzhgorod 75.29 330 eP P 20 24 27.4 -0.3
UZH i 20 24 41.0
UZH eS S 20 34 06.0 -1.1
UZH MLR MLR
comp=Z,600nm,15.0s,MS5.0
EKA Eskdalemuir Ar 75.30 347 P P 20 24 27.5 -0.2
EKA pmax pmax
comp=Z,8.0nm,0.6s
EKA Eskdalemuir Ar 75.30 347 P P 20 24 27.4 -0.2
comp=Z,8.1nm,0.6s,mb4.8,baz=17,slow=4.8,SNR=18
ESK Eskdalemuir 75.32 347 eP P 20 24 27.9 +0.1
ESK AMb AMB 20 24 30.7
comp=Z,40nm,1.8s,mb5.0
CRVS Cervenica-Dubn 75.34 330 eP P 20 24 28.0 0.0
RAC Raciborz 75.34 333 eP P 20 24 27.6 -0.4
RAC LR LR
comp=Z,600nm,18.6s,MS4.9
ECK Cauldkaine Hil 75.44 347 eP P 20 24 28.9 +0.4
OKC Ostrava-Krasne 75.58 333 eP P 20 24 29.5 +0.2
OKC AMS AMS 21 02 40.0
comp=Z,500nm,16.6s,MS4.9
UPC Upice 75.62 334 eP P 20 24 29.2 -0.4
DPC Dobruska-Polom 75.67 334 eP P 20 24 30.3 +0.4
DPC epP pP 20 24 44.4 +12
DPC AMS AMS 21 00 50.0
comp=Z,400nm,15.8s,MS4.8
TXAR Lajitas Array 75.71 62 P P 20 24 30.6 +0.1
TXAR pmax pmax
comp=Z,7.0nm,0.8s
TXAR Lajitas Array 75.71 62 P P 20 24 30.6 +0.1
comp=Z,7.2nm,0.8s,mb4.6,baz=299,slow=4.7,SNR=13
CLL Collm 75.74 337⇑ i P P 20 24 29.7 -0.5
comp=Z,82nm,1.1s,mb5.6
CLL i 20 24 37.5
CLL i 20 24 44.1
CLL LR LR
comp=Z,600nm,17.1s,MS5.0
CLL Collm 75.74 337 eP P 20 24 29.4 -0.8
comp=Z,82nm,1.1s,mb5.6
CLL epP pP 20 24 43.8 +11
CLL Collm 75.74 337⇑ i P P 20 24 29.7 -0.5
comp=Z,82nm,1.1s,mb5.6
CLL i x x 20 24 37.5
CLL i pP pP 20 24 44.1 +12
CLL LmH 21 00 00.0
comp=N,300nm,20.3s
CLL LmH 21 00 00.0
comp=E,200nm,21.1s
MORC Moravsky Berou 75.81 333 eP P 20 24 30.9 +0.2
comp=E,64nm,1.0s,mb5.5
MORC Moravsky Berou 75.81 333 eP P 20 24 30.9 +0.2
MORC pmax pmax
comp=Z,64nm,1.0s,mb5.5
MBWA Marble Bar 75.86 214 eP P 20 24 29.8 -1.4
BRG Berggiesshubel 75.88 336 i P P 20 24 30.7 -0.3
comp=Z,25nm,1.2s,mb5.0
BRG e 20 24 54.4
BRG LR LR
comp=Z,340nm,16.3s,MS4.7
BRG Berggiesshubel 75.88 336 eP P 20 24 30.6 -0.4
comp=Z,42nm,1.2s,mb5.2
BRG Berggiesshubel 75.88 336 i P P 20 24 30.7 -0.3
comp=Z,42nm,1.2s,mb5.2
BRG e 20 24 54.4
comp=Z,6.7nm,0.9s
BRG
comp=Z,568nm,16.3s
BRG
comp=N,468nm,19.0s
BRG
comp=E,184nm,19.0s
CLZ Clausthal 75.93 338 eP P 20 24 31.3 0.0
CLZ pmax pmax
comp=Z,89nm,1.2s,mb5.6
CLZ Clausthal 75.93 338 eP P 20 24 31.3 0.0
comp=Z,89nm,1.2s,mb5.6
LIKS Likavka 75.97 332 eP P 20 24 30.9 -0.7
comp=Z,27nm,0.7s,mb5.3
LIKS Likavka 75.97 332 eP P 20 24 30.9 -0.7
LIKS pmax pmax
comp=Z,27nm,0.7s,mb5.3
FBE Freiberg 75.99 336 eP P 20 24 31.5 -0.2
comp=Z,62nm,1.0s,mb5.5
FBE epP pP 20 24 45.8 +12
SLM Saint Louis 76.01 47 eP P 20 24 31.8 -0.2
comp=Z,30nm,0.9s,mb5.2
SLM Saint Louis 76.01 47 eP P 20 24 31.8 -0.2
SLM pmax pmax
comp=Z,31nm,0.9s,mb5.2
PVCC Panska Ves 76.01 335 eP P 20 24 32.2 +0.4
PVCC AMS AMS 21 01 00.0
comp=Z,600nm,19.7s,MS4.9
CKE Keswick 76.01 347 eP P 20 24 32.5 +0.7
KECS Kecovo 76.02 331 eP P 20 24 31.9 0.0
comp=Z,14nm,1.0s,mb4.9
KECS Kecovo 76.02 331 eP P 20 24 31.9 0.0
KECS pmax pmax
comp=Z,15nm,1.0s,mb4.9
IBBN Ibbenburen 76.12 340 eP P 20 24 32.1 -0.3
comp=Z,62nm,1.2s,mb5.4
BOYT Boyabat 76.32 318 i P P 20 24 35.1 +1.4
KEMA Kemaliye 76.36 314 i P P 20 24 35.1 +1.0
HPK Haverah Park 76.39 346 eP P 20 24 33.6 -0.3
HPK AMb AMB 20 24 35.5
comp=Z,79nm,1.2s,mb5.5
FVM French Village 76.42 48 eP P 20 24 32.2 -2.2
comp=Z,5.8nm,0.8s,mb4.6
FVM French Village 76.42 48 P P 20 24 33.9 -0.5
FVM e 20 24 44.5
FVM pmax pmax
comp=Z,12nm,0.8s,mb4.9
PRU Pruhonice 76.50 335 eP P 20 24 35.1 +0.5
PRU epP pP 20 24 49.1 +12
PRU AMS AMS 21 01 10.0
comp=Z,600nm,20.6s,MS4.9
VRAC Vranov 76.52 333 P P 20 24 35.4 +0.7
VRAC Vranov 76.52 333 P P 20 24 35.6 +0.9
VRAC pmax pmax
comp=Z,43nm,1.0s
VRAC Vranov 76.52 333 P P 20 24 35.6 +0.8
comp=Z,42nm,1.0s,mb5.3,baz=29,slow=5.9,SNR=28
VRAC Vranov 76.52 333 ‖ i P P 20 24 35.4 +0.7
VYHS Vyhne 76.55 332 eP P 20 24 35.1 +0.2
comp=Z,21nm,1.2s,mb5.0
VYHS Vyhne 76.55 332 eP P 20 24 35.1 +0.2
VYHS pmax pmax
comp=Z,21nm,1.2s,mb4.9
HARR Harsova 76.58 324 P P 20 24 35.6 +0.5
TIRR Tirgusor 76.58 324 P P 20 24 35.6 +0.4
KOLL Kolacno 76.61 332 eP P 20 24 35.6 +0.4
WTSB Winterswijk 76.66 340 eP P 20 24 35.3 -0.2
comp=Z,45nm,1.1s,mb5.3
MLR Muntele Rosu 76.67 326 P P 20 24 36.1 +0.4
MLR Muntele Rosu 76.67 326 P P 20 24 36.1 +0.5
comp=Z,29nm,0.8s,mb5.3,baz=338,slow=3.2,SNR=19
TANN Tannenbergstha 76.69 336 eP P 20 24 35.7 0.0
comp=Z,16nm,1.0s,mb4.9
WERD Werda 76.70 337 eP P 20 24 35.7 -0.1
comp=Z,43nm,1.2s,mb5.2
WERD epP pP 20 24 50.1 +12
MOX Moxa 76.71 337 eP P 20 24 36.1 +0.3
comp=Z,52nm,1.3s,mb5.3
MOX
comp=Z,400nm,17.0s
MOX Moxa 76.71 337 eP P 20 24 36.1 +0.3
MOX pmax pmax
comp=Z,52nm,1.3s,mb5.3
MOX MLR MLR
comp=Z,400nm,17.0s,MS4.8
MOX Moxa 76.71 337 eP P 20 24 35.4 -0.4
comp=Z,47nm,1.2s,mb5.3
PSZ Piszkesteto 76.71 331 eP P 20 24 35.9 0.0
PSZ Piszkesteto 76.71 331⇑ eP P 20 24 36.0 +0.2
DRGR 76.73 329 P P 20 24 36.2 +0.2
ELZG Elazig 76.73 314 i P P 20 24 38.2 +2.0
MARD Mardin 76.77 312 i P P 20 24 37.7 +1.3
GUNZ Gunzen 76.77 336 eP P 20 24 36.1 0.0
comp=Z,38nm,1.1s,mb5.2
LHO Holmfirth 76.83 346 eP P 20 24 36.6 +0.2
WERN Wernitzgruen 76.83 336 eP P 20 24 36.6 +0.1
comp=Z,43nm,1.0s,mb5.3
WERN epP pP 20 24 51.0 +12
TREC Trest 76.86 334 eP P 20 24 36.8 +0.2
TREC AMS AMS 21 03 50.0
comp=Z,500nm,18.1s,MS4.9
NKC Novy Kostel 76.86 336 eP P 20 24 36.8 +0.2
NKC AMS AMS 21 03 50.0
comp=Z,500nm,17.7s,MS4.9
BALT Daday 76.91 319 i P P 20 24 38.4 +1.4
UBBA Unterbreizbach 76.96 338 eP P 20 24 36.6 -0.6
comp=Z,63nm,1.6s,mb5.3
CTKT Corum 77.01 318 i P P 20 24 38.9 +1.2
BUG Bochum--Univer 77.04 340 eP P 20 24 37.3 -0.3
comp=Z,46nm,1.1s,mb5.3
BUG epP pP 20 24 51.7 +12
VOIR 77.05 326 P P 20 24 38.5 +0.7
KBI1 Birley Grange 77.05 346 eP P 20 24 37.8 +0.1
JCT Junction City 77.11 59 eP P 20 24 38.0 -0.4
comp=Z,26nm,1.3s,mb5.0
JCT Junction City 77.11 59 eP P 20 24 38.0 -0.4
JCT pmax pmax
comp=Z,26nm,1.3s,mb5.0
MODS Modra-Piesok 77.14 333 eP P 20 24 39.0 +0.8
comp=Z,19nm,1.1s,mb4.9
MODS Modra-Piesok 77.14 333 eP P 20 24 39.0 +0.8
MODS pmax pmax
comp=Z,19nm,1.1s,mb4.9
MALT Malatya 77.15 314 eP P 20 24 39.7 +1.2
comp=Z,18nm,0.9s,mb5.0
MALT e 20 24 50.1
MALT Malatya 77.15 314 eP P 20 24 39.7 +1.2
MALT e 20 24 50.1
MALT pmax pmax
comp=Z,17nm,0.9s,mb5.0
MANZ Manzenberg 77.18 336 eP P 20 24 38.3 -0.1
comp=Z,34nm,1.1s,mb5.2
DMUB Kingscourt 77.21 349 eP P 20 24 39.0 +0.5
ROTZ Rotzenmuhle 77.35 336 eP P 20 24 39.5 +0.1
comp=Z,50nm,1.1s,mb5.4
ZST Bratislava 77.35 333 eP P 20 24 39.9 +0.5
comp=Z,33nm,1.1s,mb5.2
ZST LR LR
comp=Z,300nm,18.0s,MS4.7
BUD Budapest 77.37 331⇑ eP P 20 24 39.9 +0.3
MIAR Mount Ida 77.47 52 eP P 20 24 39.3 -1.0
comp=Z,5.1nm,1.0s,mb4.4
MIAR Mount Ida 77.47 52 eP P 20 24 40.2 -0.1
MIAR pmax pmax
comp=Z,5.0nm,1.0s,mb4.4
HATD Hatta, Dubai 77.53 293 P P 20 24 41.3 +0.5
SNR=9.5
HATD Hatta, Dubai 77.53 293 P P 20 24 41.3 +0.5
SNR=9.5
KHC Kasperske Hory 77.55 335 eP P 20 24 41.0 +0.5
KHC epP pP 20 24 55.1 +12
KHC AMS AMS 21 01 40.0
comp=Z,700nm,18.5s,MS5.0
KHC Kasperske Hory 77.55 335 ex P 20 24 41.0 +0.5
BUC1 Bucharest 77.60 325 P P 20 24 41.3 +0.4
ASHO Ashiyiah 77.68 293 P P 20 24 42.5 +0.8
SNR=7.6
ASHO Ashiyiah 77.68 293 P P 20 24 42.5 +0.8
SNR=7.6
GRA1 Grafenberg Arr 77.68 337 eP P 20 24 41.4 +0.1
comp=Z,100nm,1.1s,mb5.7
GRA1 epP pP 20 24 54.6 +11
GRF Grafenberg Arr 77.68 337 eP P 20 24 41.4 +0.1
GRF e*PP pP 20 24 54.6 +11
GRF pmax pmax
comp=Z,100nm,1.1s,mb5.7
GRF Grafenberg Arr 77.68 337 eP P 20 24 41.4 +0.1
GRF e*PP pP 20 24 54.6 +11
GRF pmax pmax
comp=Z,100nm,1.1s,mb5.7
GRF Grafenberg Arr 77.68 337 eP P 20 24 41.4 +0.1
comp=Z,100nm,1.1s,mb5.7
GRF epP pP 20 24 54.6 +11
GRFO Grafenberg 77.68 337 eP P 20 24 41.6 +0.3
comp=Z,93nm,1.2s,mb5.6
GRFO e 20 24 55.7
GRFO Grafenberg 77.68 337 eP P 20 24 41.6 +0.3
GRFO e 20 24 55.7

GRFO pmax pmax
comp=Z,93nm,1.2s,mb5.6
HOQ Hoqain 77.70 291 ⇓P **P 20 24 41.9 0.0**
SNR=7.6
HOQ Hoqain 77.70 291 ⇓P **P 20 24 41.9 0.0**
SNR=7.6
ELDT Eldivan 77.73 318 *i* P **P 20 24 43.0 +1.3**
WET Wettzell 77.73 336 *eP* **P 20 24 41.9 +0.3**
WET pmax pmax
comp=Z,68nm,1.1s,mb5.5
WET Wettzell 77.73 336 *eP* **P 20 24 41.9 +0.3**
comp=Z,68nm,1.1s,mb5.5
DLF Lyons Farm 77.75 349 *eP* **P 20 24 42.0 +0.4**
GEC2 GERESS Array S 77.77 335 *eP* **P 20 24 41.5 -0.3**
GEC2 pmax pmax
comp=Z,35nm,1.2s,mb5.2
GEC2 GERESS Array S 77.77 335 *eP* **P 20 24 41.5 -0.3**
comp=Z,35nm,1.2s,mb5.2
GERES GERESS Array B 77.77 335 P **P 20 24 42.2 +0.4**
GERES pmax pmax
comp=Z,9.0nm,0.7s
GERES GERESS Array B 77.77 335 P **P 20 24 42.2 +0.4**
comp=Z,9.1nm,0.7s,mb4.8,baz=33,slow=5.0,SNR=35
GZR Gura Zlata 77.92 328 P **P 20 24 42.9 +0.3**
CONA Conrad Observa 77.97 333 ⇓*iP* **P 20 24 43.4 +0.5**
comp=Z,52nm,1.2s,mb5.3,SNR=20
SOP Sopron 77.97 333⇑*eP* **P 20 24 43.5 +0.6**
HGN Heimansgroeve 77.97 341 *eP* **P 20 24 42.7 -0.2**
comp=Z,53nm,1.4s,mb5.3
BEBN Eben Emael 78.00 341 P **P 20 24 42.9 -0.1**
comp=Z,19nm,1.3s,mb4.9
CDAG Cicekdag 78.01 317 *i* P **P 20 24 41.3 -2.0**
JMDO Jabal Madar 78.09 290 ⇓P **P 20 24 44.3 +0.3**
SNR=6.1
JMDO Jabal Madar 78.09 290 ⇓P **P 20 24 44.3 +0.3**
SNR=6.1
MEM Membach 78.10 340 P **P 20 24 43.6 0.0**
comp=Z,38nm,1.3s,mb5.2
BZS Buzias 78.13 329 P **P 20 24 43.7 -0.1**
GZT Gaziantep 78.32 314 *i* P **P 20 24 46.6 +1.6**
TOD Tromm 78.38 338 *eP* **P 20 24 45.1 0.0**
BSY Bisya 78.39 291 ⇑P **P 20 24 45.9 +0.3**
SNR=8.6
BSY Bisya 78.39 291 ⇑P **P 20 24 45.9 +0.3**
SNR=8.6
ABH Alteburg 78.43 339 *eP* **P 20 24 45.2 -0.2**
BCLA Clavier 78.44 341 P **P 20 24 45.2 -0.2**
comp=Z,23nm,1.4s,mb4.9
ZIMR 78.44 325 P **P 20 24 45.5 -0.1**
AVNT Avonos 78.47 316 *i* P **P 20 24 46.3 +0.5**
MOA Molln 78.51 334 ⇓*iP* **P 20 24 46.0 +0.1**
comp=Z,24nm,0.9s,mb5.1,SNR=18
ANTO Ankara 78.52 318 *eP* **P 20 24 46.4 +0.3**
comp=Z,48nm,1.3s,mb5.3
ANTO Ankara 78.52 318 *eP* **P 20 24 46.4 +0.3**
ANTO pmax pmax
comp=Z,48nm,1.3s,mb5.3
ANTO Ankara 78.52 318 ⇑P **P 20 24 46.7 +0.6**
SNR=7.1
ANTO Ankara 78.52 318 ⇑P **P 20 24 46.7 +0.6**
SNR=7.1
PKSM Moragy 78.62 331 P **P 20 24 46.0 -0.5**
ARSA Arzberg 78.68 333 ⇓*iP* **P 20 24 47.1 +0.3**
comp=Z,28nm,1.2s,mb5.1,SNR=8.7
ARSA Arzberg 78.68 333 ⇓*iP* **P 20 24 47.1 +0.3**
comp=Z,28nm,1.2s,mb5.1
RUP Ruppelstein 78.71 339 *eP* **P 20 24 47.0 0.0**
ANDN Andirin 78.73 315 *i* P **P 20 24 48.4 +1.1**
GIVF Givet 78.84 341⇑*iP* **P 20 24 47.5 -0.2**
comp=Z,105nm,1.4s,mb5.3
GIVF Givet 78.84 341⇑*iP* **P 20 24 47.5 -0.2**
comp=Z,53nm,1.4s,mb5.3
GIVF Givet 78.84 341⇑*iP* **P 20 24 47.5 -0.2**
GIVF pmax pmax
comp=Z,53nm,1.4s,mb5.3
DOU Dourbes 78.90 341 P **P 20 24 47.9 0.0**
comp=Z,13nm,1.6s,mb4.6
WLF Walferdange 78.95 340 *eP* **P 20 24 48.7 +0.4**
comp=Z,14nm,0.8s,mb5.0
WLF Walferdange 78.95 340 *eP* **P 20 24 48.7 +0.4**
WLF pmax pmax
comp=Z,14nm,0.8s,mb4.9
WLF Walferdange 78.95 340 P **P 20 24 48.4 +0.1**
comp=Z,19nm,1.6s,mb4.8
UMR Umm Al-Rimmam 79.01 302 *eP* **P 20 24 48.7 -0.3**
UMR AMb AMB 20 24 50.6
comp=Z,107nm,1.2s,mb5.7
BAIF Baives 79.02 341⇑*iP* **P 20 24 48.6 0.0**
comp=Z,88nm,1.4s,mb5.2
BAIF Baives 79.02 341⇑*iP* **P 20 24 48.6 0.0**
comp=Z,44nm,1.4s,mb5.2
BAIF Baives 79.02 341⇑*iP* **P 20 24 48.6 0.0**
BAIF pmax pmax
comp=Z,44nm,1.4s,mb5.2
MIB Mutribah 79.03 302 *eP* **P 20 24 49.0 -0.1**
MIB AMb AMB 20 24 50.2
comp=Z,145nm,0.9s,mb5.9
STU Stuttgart 79.05 338 *eP* **P 20 24 48.5 -0.3**
comp=Z,51nm,1.3s,mb5.3
FUR Furstenfeldbru 79.06 336 *eP* **P 20 24 49.2 +0.3**
FUR pmax pmax
comp=Z,85nm,1.2s,mb5.5
FUR Furstenfeldbru 79.06 336 *eP* **P 20 24 49.2 +0.3**
comp=Z,85nm,1.2s,mb5.5
WVT Waverly 79.16 47 P **P 20 24 49.5 -0.2**
WVT pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
LANF Langenberg 79.20 339 *eP* **P 20 24 49.6 -0.1**
KBD Kabd 79.30 302 *eP* **P 20 24 50.3 -0.3**
KBD AMb AMB 20 24 51.9
comp=Z,310nm,1.1s,mb6.1
ELBA Catalca 79.34 322 *i* P **P 20 24 51.0 +0.4**
PERS Pernice 79.35 333 *i* P **P 20 24 50.4 -0.1**
RST Umm Al-Ruwaisa 79.45 303 *eP* **P 20 24 50.9 -0.4**
RST AMb AMB 20 24 52.2
comp=Z,156nm,1.1s,mb5.9
KBA Koelnbreinsper 79.48 334⇑*iP* **P 20 24 51.9 +0.7**
comp=Z,111nm,1.5s,mb5.6,SNR=11
KBA Koelnbreinsper 79.48 334⇑*iP* **P 20 24 51.9 +0.7**
KBA pmax pmax
comp=Z,111nm,1.5s,mb5.6
QRN Al-Qurain 79.50 301 *eP* **P 20 24 51.3 -0.3**
QRN AMb AMB 20 24 53.4
comp=Z,112nm,1.1s,mb5.7
NAY Al-Naaiem 79.50 302 *eP* **P 20 24 51.3 -0.3**
NAY AMb AMB 20 24 53.3
comp=Z,79nm,1.1s,mb5.6
RDF Al-Radifah 79.57 302 *eP* **P 20 24 52.1 0.0**
RDF AMb AMB 20 24 54.6
comp=Z,224nm,1.1s,mb6.0
OBKA Obir 79.64 333⇑*iP* **P 20 24 52.0 -0.1**
comp=Z,22nm,1.6s,mb4.8,SNR=7.3
ESKT Eskisehir 79.66 319 *i* P **P 20 24 52.7 +0.3**
BFO Black Forest 79.68 338 P **P 20 24 52.9 +0.6**
comp=Z,123nm,1.2s,mb5.7,SNR=8.8
BFO Black Forest 79.68 338 *eP* **P 20 24 52.2 -0.1**
BFO *e* 20 25 07.1
BFO pmax pmax
comp=Z,37nm,1.2s,mb5.2
BFO Black Forest 79.68 338 *eP* **P 20 24 52.0 -0.3**
comp=Z,39nm,1.2s,mb5.2
WATA Walderalm 79.74 336⇑*iP* **P 20 24 53.1 +0.5**
comp=Z,57nm,1.2s,mb5.4,SNR=19
WATA Walderalm 79.74 336⇑*iP* **P 20 24 53.1 +0.5**
WATA pmax pmax
comp=Z,57nm,1.2s,mb5.4
SPAK Spaichingen-Ko 79.77 338 *eP* **P 20 24 53.1 +0.3**
WTTA Wattenberg 79.79 336⇑*iP* **P 20 24 53.6 +0.7**
comp=Z,96nm,1.1s,mb5.7,SNR=29
WTTA Wattenberg 79.79 336⇑*iP* **P 20 24 53.6 +0.7**
WTTA pmax pmax
comp=Z,96nm,1.1s,mb5.6
RETA Reutte 79.82 336⇑*iP* **P 20 24 53.0 -0.1**
comp=Z,34nm,1.1s,mb5.2,SNR=16
PGB Panagyurishte 79.84 325 *eP* **P 20 24 53.0 -0.3**
CDF Champ du Feu 79.86 339⇑*iP* **P 20 24 53.3 0.0**
comp=Z,136nm,1.5s,mb5.4
CDF Champ du Feu 79.86 339⇑*iP* **P 20 24 53.3 0.0**
comp=Z,68nm,1.5s,mb5.4
CDF Champ du Feu 79.86 339⇑*iP* **P 20 24 53.3 0.0**
CDF pmax pmax
comp=Z,68nm,1.5s,mb5.4
MOTA Moosalm 79.86 336⇑*iP* **P 20 24 53.4 +0.1**
comp=Z,77nm,1.1s,mb5.5,SNR=28
MOTA Moosalm 79.86 336⇑*iP* **P 20 24 53.4 +0.1**
MOTA pmax pmax
comp=Z,77nm,1.1s,mb5.5
KDHN Kadinhani 79.92 318 *i* P **P 20 24 53.8 0.0**
SQTA Sankt Quirin 79.95 336⇑*iP* **P 20 24 54.3 +0.5**
comp=Z,66nm,1.2s,mb5.5,SNR=28
SQTA Sankt Quirin 79.95 336⇑*iP* **P 20 24 54.3 +0.5**
SQTA pmax pmax
comp=Z,67nm,1.2s,mb5.5
SOF Sofiya 80.04 326 P **P 20 24 54.7 +0.3**
LJU Ljubljana 80.06 333 *i* P **P 20 24 54.3 -0.1**
ECH Echery 80.07 339 *eP* **P 20 24 54.3 -0.1**
PTCC Patocco-Chiusa 80.08 334 P **P 20 24 53.5 -1.0**
comp=Z,24nm,1.2s,mb5.0
VTS Vitosha 80.17 326 P **P 20 24 55.0 -0.1**
VTS Vitosha 80.17 326 P **P 20 24 54.8 -0.3**
FELD Feldberg im Sc 80.18 338 *eP* **P 20 24 54.8 -0.2**
GMNA Gemona 80.24 334 P **P 20 24 54.9 -0.4**
comp=Z,273nm,1.5s,mb6.0
DAVA Damuels 80.24 337 ⇓*iP* **P 20 24 55.7 +0.3**
comp=Z,34nm,1.0s,mb5.2,SNR=13
DAVA Damuels 80.24 337 ⇓*iP* **P 20 24 55.7 +0.3**
comp=Z,34nm,1.0s,mb5.2
FETA Feichten 80.26 336⇑*iP* **P 20 24 55.9 +0.4**
comp=Z,38nm,1.1s,mb5.2,SNR=14
MEZF Maizieres J'vi 80.30 340⇑*iP* **P 20 24 55.8 +0.2**
comp=Z,109nm,1.5s,mb5.3
MEZF Maizieres J'vi 80.30 340⇑*iP* **P 20 24 55.8 +0.2**
comp=Z,109nm,1.5s,mb5.6
BOJS Bojanci 80.33 333 *i* P **P 20 24 55.2 -0.7**
TAOE Nuku Hiva Isla 80.33 115 *e*LR LR 20 49 57.9
comp=Z,11µm,23.7s
JAVS Javornik 80.34 333 *eP* **P 20 24 53.9 -1.9**
THEF They Montfort 80.34 340 *eP* **P 20 24 55.9 0.0**
RZN Rozhen 80.37 325 P **P 20 24 56.0 -0.1**
MOF Molkenrain 80.42 339 *eP* **P 20 24 56.2 -0.1**
HAU Haudompre 80.46 339⇑*iP* **P 20 24 56.3 -0.2**
comp=Z,56nm,1.3s,mb5.0
HAU *e*MLR MLR
comp=Z,377nm,19.8s,MS4.4
HAU Haudompre 80.46 339⇑*iP* **P 20 24 56.3 -0.2**
comp=Z,28nm,1.3s,mb5.0
HAU LR LR
comp=Z,380nm,19.8s,MS4.8
HAU Haudompre 80.46 339⇑*iP* **P 20 24 56.3 -0.2**
HAU pmax pmax
comp=Z,28nm,1.3s,mb5.0
HAU MLR MLR
comp=Z,380nm,19.8s,MS4.8
HINF Hinteralfeld 80.52 339⇑*iP* **P 20 24 56.4 -0.4**
comp=Z,53nm,1.5s,mb5.0
HINF Hinteralfeld 80.52 339⇑*iP* **P 20 24 56.4 -0.4**
comp=Z,27nm,1.5s,mb5.0
HINF Hinteralfeld 80.52 339⇑*iP* **P 20 24 56.4 -0.4**
HINF pmax pmax
comp=Z,27nm,1.5s,mb5.0
GDZ Gediz 80.61 320 *i* P **P 20 24 57.4 -0.1**
BTOK Tokmak 80.67 321 *i* P **P 20 24 58.5 +0.7**
DAVOS Davos 80.68 337 P **P 20 24 58.9 +1.2**
BBS Basel-Blauen 80.69 338 *eP* **P 20 24 57.7 0.0**
DAVOX Davos/Dischmat 80.71 337 P **P 20 24 58.9 +1.0**
comp=Z,17nm,1.0s,mb4.9,baz=348,slow=3.4,SNR=15
SWET Sewanee 80.81 46 *eP* **P 20 24 57.5 -1.2**
SWET *e* 20 25 09.1
MMB Musomiste 80.84 325 P **P 20 24 58.8 +0.2**
KKB Krupnik 80.84 326 P **P 20 24 58.4 -0.3**
BRMO Bormio 80.86 336 P **P 20 24 59.1 +0.4**
CTI Castel Tesino 80.90 335 P **P 20 24 57.3 -1.6**
LOMF Lomont 80.96 339 *eP* **P 20 24 59.6 +0.4**
TUE Stuetta 81.14 337 P **P 20 25 00.8 +0.6**
FLN La Foliniere 81.19 344⇑*iP* **P 20 25 00.0 -0.4**
FLN *e*MLR MLR
comp=Z,319nm,19.8s,MS4.4
FLN La Foliniere 81.19 344⇑*iP* **P 20 25 00.0 -0.4**
FLN MLR MLR
comp=Z,320nm,19.8s,MS4.7
MABI Malga Bissina 81.21 336 P **P 20 25 00.2 -0.3**
LDF La Druitiere 81.29 344 *eP* **P 20 25 00.8 -0.1**
GRR Gorron 81.62 344 *eP* **P 20 25 02.7 0.0**
comp=Z,75nm,1.5s,mb5.1
GRR Gorron 81.62 344 *eP* **P 20 25 02.7 0.0**
comp=Z,38nm,1.5s,mb5.1
GRR Gorron 81.62 344 *eP* **P 20 25 02.7 0.0**
GRR pmax pmax
comp=Z,38nm,1.5s,mb5.1
LOR Lormes 81.73 341⇑*iP* **P 20 25 03.0 -0.3**
comp=Z,17nm,0.9s,mb4.7
LOR *e*MLR MLR
comp=Z,527nm,17.2s,MS4.7
LOR Lormes 81.73 341⇑*iP* **P 20 25 03.0 -0.3**
comp=Z,8.4nm,0.9s,mb4.7
LOR LR LR
comp=Z,530nm,17.3s,MS5.0
LOR Lormes 81.73 341⇑*iP* **P 20 25 03.0 -0.3**
LOR pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
LOR MLR MLR
comp=Z,530nm,17.3s,MS5.0
CABF La Chapelle 81.83 339⇑*iP* **P 20 25 04.1 +0.3**
comp=Z,86nm,1.7s,mb5.1
CABF La Chapelle 81.83 339⇑*iP* **P 20 25 04.1 +0.3**
comp=Z,43nm,1.7s,mb5.1
CABF La Chapelle 81.83 339⇑*iP* **P 20 25 04.1 +0.3**
CABF pmax pmax
comp=Z,43nm,1.7s,mb5.1
VAI Varese 81.85 337 P **P 20 25 03.7 -0.2**
comp=Z,161nm,1.9s,mb5.6
VAI Varese 81.85 337 P **P 20 25 03.7 -0.2**
VAI pmax pmax
comp=Z,161nm,1.9s,mb5.6
PPT Papeete 81.94 128 *e*LR LR 20 50 35.1
comp=Z,386nm,23.5s,baz=324
HYF Humbligny 82.00 341 *eP* **P 20 25 04.7 0.0**
SSF Saint Saulge 82.00 341⇑*iP* **P 20 25 04.6 -0.1**
comp=Z,12nm,0.9s,mb4.5
SSF Saint Saulge 82.00 341⇑*iP* **P 20 25 04.6 -0.1**
comp=Z,5.8nm,0.9s,mb4.5
SSF Saint Saulge 82.00 341⇑*iP* **P 20 25 04.6 -0.1**
SSF pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
SGMF Saint Gilles 82.05 345⇑*iP* **P 20 25 04.9 -0.1**
comp=Z,42nm,1.3s,mb4.9
SGMF Saint Gilles 82.05 345⇑*iP* **P 20 25 04.9 -0.1**
comp=Z,21nm,1.3s,mb4.9
SGMF Saint Gilles 82.05 345⇑*iP* **P 20 25 04.9 -0.1**
SGMF pmax pmax
comp=Z,21nm,1.3s,mb4.9
ROSF Rostrenen 82.10 346⇑*iP* **P 20 25 05.2 0.0**
comp=Z,56nm,1.2s,mb5.1
ROSF Rostrenen 82.10 346⇑*iP* **P 20 25 05.2 0.0**
comp=Z,28nm,1.2s,mb5.1
ROSF Rostrenen 82.10 346⇑*iP* **P 20 25 05.2 0.0**
ROSF pmax pmax
comp=Z,28nm,1.2s,mb5.1
GOLH Golhisar 82.12 319 *i* P **P 20 25 05.6 +0.1**
AVF Avril sur Loir 82.29 341⇑*iP* **P 20 25 06.1 -0.2**
comp=Z,25nm,0.9s,mb4.8
AVF Avril sur Loir 82.29 341⇑*iP* **P 20 25 06.1 -0.2**
comp=Z,12nm,0.9s,mb4.8
AVF Avril sur Loir 82.29 341⇑*iP* **P 20 25 06.1 -0.2**
AVF pmax pmax
comp=Z,12nm,0.9s,mb4.8
SMF Signal de Mont 82.32 340⇑*iP* **P 20 25 06.4 0.0**
comp=Z,122nm,1.5s,mb5.3
SMF Signal de Mont 82.32 340⇑*iP* **P 20 25 06.4 0.0**
comp=Z,61nm,1.5s,mb5.3
SMF Signal de Mont 82.32 340⇑*iP* **P 20 25 06.4 0.0**
SMF pmax pmax
comp=Z,61nm,1.5s,mb5.3
QUIF Quistinic 82.48 345 *eP* **P 20 25 07.0 -0.2**
comp=Z,32nm,1.3s,mb4.8
QUIF Quistinic 82.48 345 *eP* **P 20 25 07.0 -0.2**
comp=Z,16nm,1.3s,mb4.8
QUIF Quistinic 82.48 345 *eP* **P 20 25 07.0 -0.2**
QUIF pmax pmax
comp=Z,16nm,1.3s,mb4.8
BGF Bois d'Agland 82.62 341 *eP* **P 20 25 08.1 +0.1**
comp=Z,18nm,0.8s,mb4.8
BGF Bois d'Agland 82.62 341 *eP* **P 20 25 08.1 +0.1**
comp=Z,9.2nm,0.8s,mb4.9
BGF Bois d'Agland 82.62 341 *eP* **P 20 25 08.1 +0.1**
BGF pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
LPL La Plagne 82.70 338⇑*iP* **P 20 25 09.3 +0.9**
comp=Z,32nm,0.9s,mb5.0
LPL La Plagne 82.70 338⇑*iP* **P 20 25 09.3 +0.9**
comp=Z,16nm,0.9s,mb5.0
LPL La Plagne 82.70 338⇑*iP* **P 20 25 09.3 +0.9**
LPL pmax pmax
comp=Z,16nm,0.9s,mb5.0
LPG La Plagne 82.71 338⇑*iP* **P 20 25 09.5 +1.0**
comp=Z,62nm,1.1s,mb5.3
LPG La Plagne 82.71 338⇑*iP* **P 20 25 09.5 +1.0**
comp=Z,31nm,1.1s,mb5.2
LPG La Plagne 82.71 338⇑*iP* **P 20 25 09.5 +1.0**
LPG pmax pmax
comp=Z,31nm,1.1s,mb5.2
FSSB Fossombrone 82.72 333 P **P 20 25 08.5 0.0**
ERBM Eremo 82.74 335 P **P 20 25 10.2 +1.6**
comp=Z,50nm,1.4s,mb5.3
GSCL Gusciola 82.75 335 P **P 20 25 09.3 +0.6**
comp=Z,13nm,0.9s,mb5.0
ASF Jabal al Asfar 82.78 311 P **P 20 25 09.7 +0.6**
ASF pmax pmax
comp=Z,8.0nm,1.1s
ASF Jabal al Asfar 82.78 311 P **P 20 25 09.7 +0.6**
comp=Z,8.3nm,1.1s,mb4.7,baz=244,slow=2.3,SNR=18
SEI Scarperia 82.81 334 P **P 20 25 10.5 +1.5**
comp=Z,126nm,1.3s,mb5.8
MMAI Mount Meron Ar 82.85 313 P **P 20 25 09.9 +0.5**
comp=Z,3.8nm,0.4s,mb4.8,baz=40,slow=5.4,SNR=16
PLDF La Plantade 83.01 340 *eP* **P 20 25 10.2 +0.2**
TCF Toulx Ste Croi 83.02 341⇑*iP* **P 20 25 10.0 0.0**
comp=Z,36nm,1.2s,mb5.0
TCF Toulx Ste Croi 83.02 341⇑*iP* **P 20 25 10.0 0.0**
comp=Z,18nm,1.2s,mb5.0
TCF Toulx Ste Croi 83.02 341⇑*iP* **P 20 25 10.0 0.0**
TCF pmax pmax
comp=Z,18nm,1.2s,mb5.0
AGO Saint Agoulin 83.04 341 *eP* **P 20 25 10.6 +0.4**
BADI Badiali 83.05 334 P **P 20 25 11.2 +1.0**
SNTG Esanatoglia 83.07 333 P **P 20 25 11.1 +0.8**
comp=Z,31nm,1.4s,mb5.2
GDM Grand'Maison 83.14 338 *eP* **P 20 25 11.6 +0.9**
BNI Bardonecchia 83.15 338 *eP* **P 20 25 10.8 +0.1**
comp=Z,36nm,1.4s,mb5.2
BNI Bardonecchia 83.15 338 *eP* **P 20 25 10.8 +0.1**
BNI pmax pmax
comp=Z,36nm,1.4s,mb5.2
MURB Monte Urbino 83.19 333 P **P 20 25 11.4 +0.4**
GRN Grenoble 83.20 339 *eP* **P 20 25 11.8 +0.8**
MFF Saint Martin d 83.20 343⇑*iP* **P 20 25 10.9 -0.1**
comp=Z,9.3nm,0.8s,mb4.6
MFF Saint Martin d 83.20 343⇑*iP* **P 20 25 10.9 -0.1**
comp=Z,4.7nm,0.8s,mb4.6
MFF Saint Martin d 83.20 343⇑*iP* **P 20 25 10.9 -0.1**
MFF pmax pmax
comp=Z,5.0nm,0.8s,mb4.6
PYM Petit Puy Mans 83.36 341 *eP* **P 20 25 11.9 +0.1**
MBDF Montbardon 83.43 338 *eP* **P 20 25 12.6 +0.4**
ORIF Oris-en-Rattie 83.47 338⇑*iP* **P 20 25 13.0 +0.6**
comp=Z,70nm,1.4s,mb5.2
ORIF *e*MLR MLR
comp=Z,244nm,21.5s,MS4.2
ORIF Oris-en-Rattie 83.47 338⇑*iP* **P 20 25 13.0 +0.6**
comp=Z,35nm,1.4s,mb5.2
ORIF Oris-en-Rattie 83.47 338⇑*iP* **P 20 25 13.0 +0.6**
ORIF pmax pmax
comp=Z,35nm,1.4s,mb5.2
DOI San Damiano 83.51 337 P **P 20 25 11.4 -1.2**
comp=Z,8.6nm,0.8s,mb4.9
DOI San Damiano 83.51 337 P **P 20 25 11.4 -1.2**
DOI pmax pmax
comp=Z,9.0nm,0.8s,mb5.0
SURF Saint Ours 83.65 338 *eP* **P 20 25 14.1 +0.8**
VIVF Saint-Julien-l 83.82 339⇑*iP* **P 20 25 14.5 +0.3**
comp=Z,30nm,1.1s,mb5.0
VIVF Saint-Julien-l 83.82 339⇑*iP* **P 20 25 14.5 +0.3**
comp=Z,15nm,1.1s,mb5.0
VIVF Saint-Julien-l 83.82 339⇑*iP* **P 20 25 14.5 +0.3**
VIVF pmax pmax
comp=Z,15nm,1.1s,mb5.0
IMI Imperia 83.90 337 P **P 20 25 14.7 +0.1**
SAOF Saorge 83.92 337 *eP* **P 20 25 14.3 -0.4**
TOUF Mont Tournerai 83.97 337 *eP* **P 20 25 14.7 -0.3**
LUCF Luceram 84.06 337 *eP* **P 20 25 15.2 -0.2**
SBF Sospel 84.06 337⇑*iP* **P 20 25 15.1 -0.3**
comp=Z,30nm,0.9s,mb5.1
SBF Sospel 84.06 337⇑*iP* **P 20 25 15.1 -0.3**
comp=Z,15nm,0.9s,mb5.1
SBF Sospel 84.06 337⇑*iP* **P 20 25 15.1 -0.3**
SBF pmax pmax
comp=Z,15nm,0.9s,mb5.1
RJF Les Rejaudoux 84.10 342 *eP* **P 20 25 15.6 0.0**
RJF *e*MLR MLR
comp=Z,329nm,22.8s,MS4.3
RJF Les Rejaudoux 84.10 342 *eP* **P 20 25 15.6 0.0**
RJF MLR MLR
comp=Z,330nm,22.8s,MS4.7
MVIF Mont Vial 84.11 337 *eP* **P 20 25 15.2 -0.5**
WHFO Wadi Hawf 84.11 290 P **P 20 25 16.1 0.0**
SNR=7.6
WHFO Wadi Hawf 84.11 290 P **P 20 25 16.1 0.0**
SNR=7.6
REVF Revere 84.19 337 *eP* **P 20 25 15.9 -0.2**
CALN Calern 84.31 337 *eP* **P 20 25 16.4 -0.3**
CAF Calviac 84.35 341 *eP* **P 20 25 17.2 +0.3**
SMRF Simiane la Rot 84.43 338 *eP* **P 20 25 17.9 +0.6**
comp=Z,60nm,1.5s,mb5.2
SMRF Simiane la Rot 84.43 338 *eP* **P 20 25 17.9 +0.6**
comp=Z,60nm,1.5s,mb5.5
VILF Villemus 84.51 338 *eP* **P 20 25 18.4 +0.7**
FRF La Foret Royal 84.55 337⇑*iP* **P 20 25 17.6 -0.3**
comp=Z,68nm,1.7s,mb5.2
FRF La Foret Royal 84.55 337⇑*iP* **P 20 25 17.6 -0.3**
comp=Z,34nm,1.7s,mb5.2
FRF La Foret Royal 84.55 337⇑*iP* **P 20 25 17.6 -0.3**
FRF pmax pmax
comp=Z,34nm,1.7s,mb5.2
LFF La Frestale 84.61 342 *eP* **P 20 25 17.9 -0.3**
LASF Ste Croix 84.75 340⇑*iP* **P 20 25 19.5 +0.6**
comp=Z,17nm,1.2s,mb4.7
LMR La Mourre 84.80 337⇑*iP* **P 20 25 19.0 -0.2**
comp=Z,47nm,1.2s,mb5.2
LMR La Mourre 84.80 337⇑*iP* **P 20 25 19.0 -0.2**
comp=Z,24nm,1.2s,mb5.2
LMR La Mourre 84.80 337⇑*iP* **P 20 25 19.0 -0.2**
LMR pmax pmax
comp=Z,23nm,1.2s,mb5.2
PUYF Puyloubier 84.81 338 *eP* **P 20 25 19.6 +0.3**
PGF Pioggiola 84.86 335⇑*iP* **P 20 25 19.2 -0.3**
comp=Z,42nm,1.2s,mb5.1
PGF Pioggiola 84.86 335⇑*iP* **P 20 25 19.2 -0.3**
comp=Z,21nm,1.3s,mb5.1
PGF Pioggiola 84.86 335⇑*iP* **P 20 25 19.2 -0.3**
PGF pmax pmax
comp=Z,21nm,1.3s,mb5.1
GELF Grande-Etoile 85.02 338 *eP* **P 20 25 20.1 -0.2**
EIL Elat 85.79 311 P **P 20 25 24.7 +0.3**
comp=Z,15nm,1.0s,mb5.2,baz=360,slow=6.3,SNR=8.5
MTLF Montolieu 85.82 340⇑*iP* **P 20 25 23.8 -0.5**
comp=Z,15nm,1.2s,mb4.8
MTLF Montolieu 85.82 340⇑*iP* **P 20 25 23.8 -0.5**
comp=Z,7.4nm,1.2s,mb4.8
MTLF Montolieu 85.82 340⇑*iP* **P 20 25 23.8 -0.5**
MTLF pmax pmax
comp=Z,7.0nm,1.2s,mb4.8
KLBR Kellerberrin 86.09 211 *eP* **P 20 25 25.4 -0.1**
comp=Z,22nm,0.8s,mb5.4
EPF Esparros 86.53 342 *eP* **P 20 25 27.3 -0.5**
SJPF Ste Jean 86.77 343 *eP* **P 20 25 28.1 -0.9**
TBI Tubuai 86.79 131 *e*LR LR 20 52 54.2
comp=Z,560nm,24.5s,baz=324
NWAO Narrogin (SRO) 87.48 211 *eP* **P 20 25 31.7 -0.6**
comp=Z,24nm,0.8s,mb5.5
NWAO *e* 20 25 42.9
NWAO Narrogin (SRO) 87.48 211 *eP* **P 20 25 31.7 -0.6**
NWAO *e* 20 25 42.9
NWAO pmax pmax
comp=Z,24nm,0.8s
ERC Erice 87.93 331 P **P 20 25 34.9 +0.2**
comp=Z,199nm,1.1s,mb6.3
ESDC Sonseca Array 90.61 344 P **P 20 25 45.8 -1.4**
comp=Z,1.5nm,0.8s,mb4.4,baz=0.6,slow=4.2,SNR=7.1
KEST Kesra 91.07 333 P **P 20 25 48.6 -0.8**
comp=Z,3.2nm,1.1s,mb4.6,baz=349,slow=1.2,SNR=4.2
VNDA Vanda 125.44 178 PKIKP PKPdf 20 31 43.1 -1.3
VNDA pmax pmax
comp=Z,1.0nm,0.9s
VNDA Vanda 125.44 178 PKP PKPdf 20 31 43.0 -1.4
comp=Z,0.9nm,0.9s,baz=304,slow=6.9,SNR=4.6
LPAZ La Paz 132.57 63 PKP PKPdf 20 32 00.3 +0.6
LPAZ La Paz 132.57 63 PKIKP PKPdf 20 32 00.3 +0.5
LPAZ pmax pmax

comp=Z,1.0nm,0.8s
LPAZ La Paz 132.57 63 PKP PKPdf 20 32 00.3 +0.6
comp=Z,0.7nm,0.8s,baz=34,slow=7.3,SNR=3.3
MAW Mawson 134.04 212 PKIKP PKPdf 20 32 01.6 +0.7
MAW pmax pmax
comp=Z,3.0nm,1.0s
MAW Mawson 134.04 212 PKP PKPdf 20 32 01.6 +0.7
comp=Z,2.8nm,1.0s,baz=53,slow=9.9,SNR=3.7
BOSA Boshof 136.92 278 PKP PKPdf 20 32 07.7 +0.2
BOSA Boshof 136.92 278 PKIKP PKPdf 20 32 07.7 +0.1
BOSA pmax pmax
comp=Z,4.0nm,0.9s
BOSA Boshof 136.92 278 PKP PKPdf 20 32 07.7 +0.2
comp=Z,3.5nm,0.9s,baz=105,slow=16,SNR=3.6
QSPA South Pole Qui 137.86 180 PKP PKPdf 20 32 07.9 +0.1
comp=Z,2.7nm,0.8s,baz=268,slow=0.8,SNR=5.4
SYO Syowa Base 142.75 213⇓ *e*X 20 32 11.0
SYO Syowa Base 142.75 213⇓ *e*pPKPdf pPKPdf 20 32 25.0 +5.9
SYO Syowa Base 142.75 213⇓ *e*X 20 32 25.0
CFAA Coronel Fontan 143.47 79 PKP PKPdf 20 32 17.0 -2.3
comp=Z,0.2nm,0.5s,baz=219,slow=6.5,SNR=3.5
PLCA Paso Flores 147.04 94 *e*PKPdf PKPdf 20 32 26.6 +1.4
PLCA Paso Flores 147.04 94 PKP2 PKPab 20 32 27.1 -1.7
PLCA pmax pmax
comp=Z,5.0nm,0.9s
PLCA Paso Flores 147.04 94 PKPbc PKPbc 20 32 27.1 -0.2
comp=Z,5.2nm,0.9s,baz=223,slow=8.1,SNR=5.5
NVL N'lazarevskaya 151.41 205 *e*PKIKP PKPdf 20 32 37.1 +5.8
NVL pmax pmax
comp=Z,19nm,0.9s
MAIT Maitri 151.44 204 *e*PKPdf PKPdf 20 32 33.9 +2.6
SNAA Sanae 154.23 196 *e*PKPdf PKPab 20 32 59.6 +2.0
SNAA *e* 20 33 09.3
SNAA Sanae 154.23 196 PKIKP PKPbc 20 32 42.5 -1.1
SNAA pmax pmax
comp=Z,1.0nm,0.8s
SNAA Sanae 154.23 196 PKPbc PKPbc 20 32 42.5 -1.1
comp=Z,1.1nm,0.8s,baz=194,slow=3.4,SNR=3.7
VNA2 Neumayer--Watz 155.65 194 *e*PKPdf PKPab 20 33 04.8 +1.2
VNA2 *e* 20 33 15.9
VNA3 Neumayer Olymp 155.71 192 *e*PKPdf PKPab 20 33 05.3 +1.4
VNA3 *e* 20 33 15.6
VNA1 Neumayer--Stat 156.03 194 *e*PKPdf PKPab 20 33 07.5 +2.2
VNA1 *e* 20 33 18.5

IDC 28 20:13:45.4±25.0, 1630S×17465W, h0km, mb4.3/4, mb1 4.5/4, mb1mx4.0/15, mbtmp4.3/4, Error ellipse: s-maj=464.3km s-min=148.7km az=72.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**37.28**	**258**	*e*P	P	20 20 59.6	+0.3
	1.6nm,0.6s						
CTA	**Charters Tower**	**37.28**	**258**	P	P	20 20 59.8	+0.4
	1.1nm,0.7s,baz=91,slow=11,SNR=5.5						
STKA	**Stephens Creek**	**42.55**	**240**	*e*P	P	20 21 43.5	+0.4
	5.5nm,1.6s						
STKA	**Stephens Creek**	**42.55**	**240**	P	P	20 21 43.4	+0.4
	2.1nm,0.5s,baz=78,slow=7.4,SNR=7.8						
WB2	**Warramunga Arr**	**48.46**	**258**	*e*P	P	20 22 29.4	-0.7
WRA	**Warramunga Arr**	**48.48**	**258**	P	P	20 22 29.5	-0.7
	0.9nm,0.4s,baz=95,slow=7.7,SNR=36						
ASAR	**Alice Springs**	**48.70**	**253**	P	P	20 22 31.7	-0.2
	12nm,0.7s,baz=88,slow=8.1,SNR=185						

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*ISCJB **28** 20:40:47.5±2.0, 12S±01×999E±01, h71km±14km, mb4.1/13, Error ellipse: s-maj=30.4km s-min=13.6km az=137.9*
*IDC **28** 20:40:47.4±4.8, 133S×9987E, h54km±39km, mb3.8/8, mb1 3.9/9, mb1mx3.6/19, mbtmp3.8/9, ML3.2/1, MS3.1/1, Ms1 3.1/1, ms1mx2.8/30, Error ellipse: s-maj=62.0km s-min=16.5km az=55.0*
*NEIC **28** 20:40:48.5±1.6, 1.19S×10000E, h65km±12km, mb4.3/6, Error ellipse: s-maj=21.5km s-min=9.2km az=49.0*

ISC 28 20:40:48.4±1.9, 12S±01×999E±01, h63km±13km, n22, σ0°82/21, mb4.2/13, 1C, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPI	**Padang Panjang**	**0.91**	**32**⇑	*e*P	**Pn**	**20 41 06.7**	**+1.3**
PSI	**Prapat**	**4.12**	**346**	P	**Pn**	**20 41 47.6**	**-1.3**
	1.3nm,0.3s,baz=150,slow=16,SNR=4.6						
PSI				LR	LR	20 43 13.9	
	comp=Z,236nm,20.6s,baz=47,slow=36						
KULM	**Kulim**	**6.52**	**6**	*e*Pn	**Pn**	**20 42 20.9**	**-0.8**
PALK	**Pallekele**	**20.95**	**294**	P	**P**	**20 45 27.5**	**+1.3**
	12nm,1.1s						
LSA	**Lhasa**	**31.87**	**345**	P	**P**	**20 47 07.4**	**-0.2**
	4.3nm,1.0s,mb4.2						
WRA	**Warramunga Arr**	**38.46**	**121**	P	**P**	**20 48 03.8**	**-0.6**
	1.0nm,0.4s,mb3.9,baz=302,slow=9.3,SNR=19						
WB2	**Warramunga Arr**	**38.47**	**121**	*e*P	**P**	**20 48 03.6**	**-0.8**
ASAR	**Alice Springs**	**39.77**	**127**	P	**P**	**20 48 15.6**	**+0.3**
	0.7nm,0.9s,mb3.6,baz=303,slow=7.8,SNR=24						
KSRS	**Korea Array**	**46.41**	**31**	P	**P**	**20 49 09.2**	**+0.6**
	1.0nm,0.6s,mb4.0,baz=224,slow=8.1,SNR=5.3						
TKM2	**Tokmak 2**	**49.10**	**336**	*e*P	**P**	**20 49 28.7**	**-0.7**
	3.4nm,0.8s,mb4.4						
SONM	**Songino Array**	**49.19**	**6**	P	**P**	**20 49 31.0**	**+1.0**
	1.8nm,0.7s,mb4.2,baz=187,slow=9.4,SNR=17						
ULN	**Ulaanbaatar**	**49.29**	**6**	*e*P	**P**	**20 49 30.8**	**+0.1**
	2.1nm,0.8s,mb4.2						
EKS2	**Erkin-Say**	**49.63**	**335**	P	**P**	**20 49 31.8**	**-1.6**
MK31	**Makanchi Array**	**50.27**	**344**	*e*P	**P**	**20 49 38.6**	**+0.4**
MKAR	**Makanchi Array**	**50.27**	**344**	P	**P**	**20 49 39.1**	**+0.9**
	2.1nm,0.4s,mb4.5,baz=150,slow=8.0,SNR=40						
KURK	**Kurchatov**	**54.85**	**344**	*e*P	**P**	**20 50 11.7**	**-0.3**
	1.8nm,0.7s,mb4.2						
ZAA0	**Zalesovo Array**	**56.40**	**349**	*e*P	**P**	**20 50 23.1**	**+0.1**
ZAA0				*e*	pP	20 50 38.2	-1.5
ZALV	**Zalesovo Beam**	**56.40**	**349**	P	**P**	**20 50 23.3**	**+0.3**
	5.0nm,0.7s,mb4.7,baz=178,slow=5.9,SNR=26						
BRVK	**Borovoye**	**59.50**	**340**	*e*P	**P**	**20 50 43.6**	**-1.2**
	3.7nm,0.9s,mb4.4						
FINES	**FINESS Array B**	**83.39**	**332**	P	**P**	**20 53 08.9**	**+0.4**
	1.6nm,0.9s,mb4.0,baz=103,slow=8.6,SNR=3.4						
ARCES	**ARCESS Array B**	**85.72**	**340**	P	**P**	**20 53 20.7**	**+0.7**
	2.4nm,0.9s,mb4.4,baz=102,slow=5.6,SNR=9.4						
TXAR	**Lajitas Array**	**144.14**	**37**	PKP	PKPdf	21 00 17.3	-0.4
	0.3nm,0.4s,baz=178,slow=1.5,SNR=3.9						

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*ISCJB **28** 20:46:18.4±0.8, 2810N±006×5603E±007, h10km, Error ellipse: s-maj=9.6km s-min=7.0km az=38.8*
*THR **28** 20:46:18.7±0.5, 2822N×5614E, h14km±6km, ML3.3*
*CSEM **28** 20:46:19.1±0.2, 2816N×5609E, h20km, ML3.3, Error ellipse: s-maj=4.8km s-min=4.2km az=33.0*

ISC 28 20:46:21.3±1.5, 2808N±006×5617E±009, h25km±18km, n14, σ0°48/15, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDS	**Bandar-Abbas**	**0.68**	**180**	*e*Pg	**Pb**	**20 46 34.2**	**-0.4**
BNDS				AML	AML	20 46 54.2	
	comp=N,827nm,0.5s						
KRBR	**Kerman**	**1.96**	**15**	*e*Pg	**Pn**	**20 46 52.3**	**-0.8**
KRBR				AML	AML	20 47 24.1	
	comp=N,424nm,0.6s						
ZHSF	**Zahedan**	**4.32**	**68**	*e*Pn	**Pn**	**20 47 26.0**	**+0.5**
NASN	**Na'in**	**5.52**	**329**	*e*Pn	**Pn**	**20 47 41.4**	**-0.6**
BTHS		**6.25**	**231**	P	**Pn**	**20 47 52.4**	**+0.4**
BTHS		**6.25**	**231**	P	**Pn**	**20 47 52.4**	**+0.4**
BTHS				S	**Sn**	**20 49 02.4**	**-0.2**
QRN	**Al-Qurain**	**7.29**	**277**	*e*P	**Pn**	**20 48 06.9**	**+0.5**
QRN				AML	AML	20 49 30.7	
	comp=Z,14nm,0.3s						
UMR	**Umm Al-Rimmam**	**7.56**	**283**	*e*P	**Pn**	**20 48 09.9**	**0.0**
UMR				AML	AML	20 49 39.3	
	comp=Z,11nm,0.3s						
RDF	**Al-Radifah**	**7.63**	**278**	*e*P	**Pn**	**20 48 11.0**	**+0.1**
RDF				AML	AML	20 49 39.1	
	comp=Z,6.7nm,0.4s						
MIB	**Mutribah**	**7.92**	**285**	*e*P	**Pn**	**20 48 15.2**	**+0.2**
MIB				AML	AML	20 49 44.4	
	comp=Z,5.7nm,0.6s						
NAY	**Al-Naaiem**	**7.93**	**281**	*e*P	**Pn**	**20 48 15.4**	**+0.4**
NAY				AML	AML	20 49 43.6	
	comp=Z,2.4nm,0.5s						
HRDDS		**7.94**	**231**	S	**Sn**	**20 49 43.4**	**-0.8**
HRDDS		**7.94**	**231**	P	**Pn**	**20 48 15.9**	**+0.7**
RST	**Umm Al-Ruwaisa**	**8.17**	**282**	*e*P	**Pn**	**20 48 18.1**	**-0.2**
RST				AML	AML	20 49 51.6	

comp=Z,9.5nm,0.5s

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*TEH **28** 21:08:44.6, 2814N×5641E, h26km, ML3.8*
*ISCJB **28** 21:08:58.9±0.3, 2825N±003×5631E±004, h10km, mb3.9/24, Error ellipse: s-maj=5.3km s-min=3.7km az=174.6*
*IDC **28** 21:08:58.7±0.9, 2827N×5633E, h0km, mb3.7/16, mb1 3.9/19, mb1mx3.8/29, mbtmp3.8/19, ML3.6/3, Error ellipse: s-maj=21.7km s-min=16.1km az=173.0*
*THR **28** 21:09:00.8±0.7, 2823N×5613E, h14km±8km, ML3.6*
*MOS **28** 21:09:01.7±0.7, 2827N×5626E, h33km, mb4.1/13, Error ellipse: s-maj=13.3km s-min=9.3km az=121.6*
*CSEM **28** 21:09:01.1±0.1, 2821N×5617E, h30km, mb4.3/11, Error ellipse: s-maj=2.9km s-min=2.1km az=76.0*
*NEIC **28** 21:09:03.0, 2814N×5641E, h26km, mb3.8/11, ML3.6(THR), MN3.8(TEH), After TEH.*

ISC 28 21:09:00.5±0.3, 2822N±003×5634E±004, h10km, n138, σ1°44/145, mb3.9/24, 1D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBND	**Bandar-abas**	**0.79**	**167**	*e*Pg	**Pg**	**21 09 16.7**	**+0.9**
BNDS	**Bandar-Abbas**	**0.84**	**191**	Pg	**Pg**	**21 09 16.0**	**-0.6**
BNDS	**Bandar-Abbas**	**0.84**	**191**	*e*Pg	**Pg**	**21 09 16.5**	**-0.1**
BNDS				AML	AML	21 09 39.0	
	comp=N,2μm,0.6s						
KRBR	**Kerman**	**1.79**	**12**	Pg	**Pg**	**21 09 34.0**	**-0.9**
KRBR	**Kerman**	**1.79**	**12**	*e*Pg	**Pg**	**21 09 34.2**	**-0.7**
KRBR				AML	AML	21 10 12.2	
	comp=N,625nm,0.9s						
BANOM	**Banah**	**2.29**	**181**	Pn	**Pn**	**21 09 39.4**	**+1.0**
	SNR=41						
BANOM	**Banah**	**2.29**	**181**	P	**Pn**	**21 09 39.4**	**+1.0**
	SNR=41						
BANOM	**Banah**	**2.29**	**181**	Pn	**Pn**	**21 09 39.4**	**+1.0**
	SNR=41						
BANOM				Sn	**Sn**	**21 10 07.9**	**+1.2**
ISRV	**Sarvestan**	**3.06**	**293**	*e*Pn	**Pn**	**21 09 51.7**	**+2.7**
ISRV				*e*		21 10 55.0	
	comp=Z,4μm,0.4s						
NAZ	**Nazwa, Dubai**	**3.28**	**191**	Pn	**Pn**	**21 09 53.3**	**+1.3**
IMOK	**Mouk**	**3.29**	**285**	*e*Pn	**Pn**	**21 09 54.8**	**+2.6**
IMOK				*e*Sn	**Sn**	**21 10 32.3**	**+0.9**
IMOK				*e*		21 11 04.8	
	comp=Z,4μm,0.4s						
IMOK	**Mouk**	**3.29**	**285**	Pn	**Pn**	**21 09 54.7**	**+2.5**
IMOK				*e*Sn	**Sn**	**21 10 32.3**	**+0.9**
IPAR	**Pars**	**3.31**	**300**	*e*Pn	**Pn**	**21 09 55.0**	**+2.7**
IPAR				*e*		21 11 16.0	
	comp=Z,4μm,0.5s						
IPAR	**Pars**	**3.31**	**300**	Pn	**Pn**	**21 09 54.9**	**+2.6**
HATD	**Hatta, Dubai**	**3.39**	**183**	⇓P	**Pn**	**21 09 53.7**	**+0.2**
HATD	**Hatta, Dubai**	**3.39**	**183**	Pn	**Pn**	**21 09 54.8**	**+1.3**
	SNR=14						
IBAF	**Bafgh**	**3.42**	**349**	*e*Pn	**Pn**	**21 09 56.4**	**+2.5**
IBAF				*e*Sn	**Sn**	**21 10 35.4**	**+0.9**
IBAF				*e*		21 11 00.8	
	comp=Z,2μm,0.4s						
IBAF	**Bafgh**	**3.42**	**349**	Pn	**Pn**	**21 09 56.3**	**+2.4**
IBAF				*e*Sn	**Sn**	**21 10 35.4**	**+0.9**
IMEH	**Mehriz**	**3.50**	**335**	*e*Pn	**Pn**	**21 09 57.5**	**+2.6**
IMEH				*e*		21 11 11.5	
	comp=Z,2μm,0.4s						
ASHO	**Ashiyiah**	**3.54**	**184**	Pn	**Pn**	**21 09 56.9**	**+1.4**
	SNR=56						
ASHO	**Ashiyiah**	**3.54**	**184**	P	**Pn**	**21 09 56.9**	**+1.4**
	SNR=56						
ASHO	**Ashiyiah**	**3.54**	**184**	Pn	**Pn**	**21 09 56.2**	**+0.7**
	SNR=56						
ASUD	**Al Ashush, Dub**	**3.70**	**194**	Pn	**Pn**	**21 09 59.2**	**+1.5**
	SNR=23						
ZHSF	**Zahedan**	**4.12**	**69**	*e*Pn	**Pn**	**21 10 08.3**	**+4.8**
ZHSF	**Zahedan**	**4.12**	**69**	Pn	**Pn**	**21 10 08.0**	**+4.4**
ICHK	**Chekchek**	**4.34**	**338**	Pn	**Pn**	**21 10 08.8**	**+2.2**
ICHK	**Chekchek**	**4.34**	**338**	*e*Pn	**Pn**	**21 10 08.9**	**+2.3**
ICHK				*e*		21 10 27.8	
	comp=Z,730nm,0.3s						
ITEG	**Tejag**	**5.10**	**23**	*e*Pn	**Pn**	**21 10 19.1**	**+2.1**
IGAR	**Gharneh**	**5.38**	**319**	*e*Pn	**Pn**	**21 10 25.9**	**+5.1**
IGAR				*e*		21 10 34.9	
	comp=Z,703nm,0.2s						
NASN	**Na'in**	**5.49**	**327**	Pn	**Pn**	**21 10 23.0**	**+0.7**
NASN	**Na'in**	**5.49**	**327**	*e*Pn	**Pn**	**21 10 23.5**	**+1.2**
IZEF	**Zefreh**	**5.80**	**324**	*e*Pn	**Pn**	**21 10 29.4**	**+2.8**
IZEF				*e*		21 10 36.0	
	comp=Z,172nm,0.1s						
BTHS		**6.46**	**231**	S	**Sn**	**21 11 43.3**	**-6.2**
IPIR	**Pirpir**	**6.47**	**315**	*e*Pn	**Pn**	**21 10 38.0**	**+2.1**
IPIR				*e*		21 10 42.9	
	comp=Z,316nm,0.1s						
IKLH	**Kolahrood**	**6.53**	**322**	*e*Pn	**Pn**	**21 10 38.6**	**+2.0**
BOQSS		**6.64**	**251**	P	**Pn**	**21 10 37.0**	**-1.2**
BOQSS		**6.64**	**251**	P	**Pn**	**21 10 37.0**	**-1.2**
BOQSS				S	**Sn**	**21 11 47.2**	**-6.8**
ISFB	**Sefidab**	**7.05**	**331**	Pn	**Pn**	**21 10 45.6**	**+1.8**
ISFB	**Sefidab**	**7.05**	**331**	*e*Pn	**Pn**	**21 10 45.7**	**+1.9**
ISFB				*e*		21 11 31.6	
	comp=Z,109nm,0.4s						
IFIR	**Firoozkooh**	**8.00**	**338**	Pn	**Pn**	**21 10 58.8**	**+2.0**
IFIR	**Firoozkooh**	**8.00**	**338**	*e*Pn	**Pn**	**21 10 58.9**	**+2.1**
HRDDS		**8.15**	**231**	P	**Pn**	**21 10 58.2**	**-0.7**
IGLO	**Ghaloghah**	**8.41**	**344**	Pn	**Pn**	**21 11 05.6**	**+3.1**
IGLO	**Ghaloghah**	**8.41**	**344**	*e*Pn	**Pn**	**21 11 05.7**	**+3.2**
IGLO				*e*		21 11 20.4	
	comp=Z,158nm,0.3s						
IKOM	**Komasi**	**9.61**	**310**	Pn	**Pn**	**21 11 20.5**	**+1.6**
IKOM	**Komasi**	**9.61**	**310**	*e*Pn	**Pn**	**21 11 20.6**	**+1.7**
IKOM				*e*		21 11 37.4	
	comp=Z,325nm,0.3s						
MARD	**Mardin**	**15.91**	**309**	*i* P	**Pn**	**21 12 42.5**	**-1.9**
ASF	**Jabal al Asfar**	**17.26**	**288**	P	**Pn**	**21 13 01.2**	**-0.5**
	comp=Z,0.3nm,0.3s,baz=31,slow=5.3,SNR=3.2						
ASF				S	**Sn**	**21 16 05.3**	**-8.5**
	comp=Z,0.1nm,0.3s,baz=288,slow=20,SNR=3.0						
MALT	**Malatya**	**18.02**	**309**	*e*Pn	**Pn**	**21 13 06.3**	**-4.7**
	comp=Z,2.0nm,0.8s						
MALT	**Malatya**	**18.02**	**309**	*e*P	**Pn**	**21 13 06.3**	**-4.7**
MALT				pmax	pmax		
	comp=Z,2.0nm,0.8s						
GZT	**Gaziantep**	**18.20**	**305**	*i* P	**Pn**	**21 13 14.3**	**+1.0**
MMAI	**Mount Meron Ar**	**18.64**	**290**	P	**Pn**	**21 13 17.5**	**-1.2**
	comp=Z,0.2nm,0.3s,baz=101,slow=17,SNR=6.7						
EIL	**Elat**	**18.78**	**280**	P	**Pn**	**21 13 20.2**	**-0.2**
	comp=Z,0.1nm,0.3s,baz=356,slow=11,SNR=4.4						
KIV	**Kislovodsk**	**19.15**	**329**	P	**Pn**	**21 13 27.2**	**+2.5**
	comp=Z,5.6nm,1.0s						
KIV	**Kislovodsk**	**19.15**	**329**	*e*P	**Pn**	**21 13 32.5**	**+7.8**
KIV				pmax	pmax		
	comp=Z,8.0nm,1.2s						
ANDN	**Andirin**	**19.18**	**304**	*i* P	**Pn**	**21 13 26.9**	**+1.7**
AML	**Almayashu**	**19.79**	**41**	*e*P	**Pn**	**21 13 32.1**	**-0.3**
	comp=Z,2.9nm,0.8s						
EKS2	**Erkin-Say**	**20.17**	**40**	P	**P**	**21 13 38.1**	**+3.1**
	comp=Z,5.1nm,0.9s						
EKS2	**Erkin-Say**	**20.17**	**40**	P	**P**	**21 13 38.1**	**+3.0**
	comp=Z,5.1nm,0.9s						
UCH	**Uchtor**	**20.32**	**42**	P	**P**	**21 13 40.2**	**+3.5**
	comp=Z,1.5nm,0.7s						
UCH	**Uchtor**	**20.32**	**42**	P	**P**	**21 13 40.2**	**+3.5**
	comp=Z,1.5nm,0.7s						
AAK	**Ala-Archa**	**20.56**	**41**	*e*P	**P**	**21 13 39.8**	**+0.5**
	comp=Z,1.7nm,0.8s						
AAK	**Ala-Archa**	**20.56**	**41**	P	**P**	**21 13 40.0**	**+0.7**
AAK				pmax	pmax		
	comp=Z,1.0nm,0.4s						
AAK	**Ala-Archa**	**20.56**	**41**	P	**P**	**21 13 40.0**	**+0.6**
	comp=Z,0.7nm,0.4s,baz=227,slow=7.5,SNR=4.1						
AAK	**Ala-Archa**	**20.56**	**41**	*e*P	**P**	**21 13 39.8**	**+0.5**
	comp=Z,1.7nm,0.8s						
AVNT	**Avonos**	**20.73**	**306**	*i* P	**P**	**21 13 43.3**	**+2.1**
ATD	**Arta Tunnel**	**20.87**	**220**	P	**P**	**21 13 44.3**	**+1.5**
	comp=Z,6.2nm,0.8s,baz=90,slow=1.0,SNR=3.5						
CDAG	**Cicekdag**	**21.43**	**308**	*i* P	**P**	**21 13 47.1**	**-1.6**
BOYT	**Boyabat**	**21.91**	**313**	*i* P	**P**	**21 13 48.7**	**-5.1**
AKTK	**Aktyubinsk**	**22.22**	**3**	P	**P**	**21 13 57.4**	**+0.3**
AKTK	**Aktyubinsk**	**22.22**	**3**	P	**P**	**21 13 57.3**	**+0.3**
AKTO	**Aktyubinsk**	**22.22**	**3**	P	**P**	**21 13 57.4**	**+0.4**
AKTO				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb3.7						
AKTO	**Aktyubinsk**	**22.22**	**3**	P	**P**	**21 13 57.4**	**+0.3**
	comp=Z,1.9nm,0.6s,mb3.7,baz=174,slow=10,SNR=5.8						
GOLH	**Golhisar**	**24.19**	**299**	*i* P	**P**	**21 14 15.2**	**-2.0**
GDZ	**Gediz**	**24.76**	**303**	*i* P	**P**	**21 14 18.6**	**-3.8**
GDZ	**Gediz**	**24.76**	**303**	*i* P	**P**	**21 14 18.5**	**-3.8**
BVAR	**Borovoye Array**	**26.87**	**19**	P	**P**	**21 14 40.9**	**-0.3**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
BVAR	**Borovoye Array**	**26.87**	**19**	P	**P**	**21 14 40.9**	**-0.4**
	comp=Z,1.1nm,0.8s,mb3.5,baz=204,slow=6.5,SNR=7.8						
MK31	**Makanchi Array**	**27.50**	**41**	*e*P	**P**	**21 14 44.2**	**-2.8**
MK31	**Makanchi Array**	**27.50**	**41**	*e*P	**P**	**21 14 44.2**	**-2.8**
MKAR	**Makanchi Array**	**27.50**	**41**	P	**P**	**21 14 47.1**	**+0.1**
	comp=Z,0.3nm,0.2s,mb3.5,baz=225,slow=8.0,SNR=7.0						
MLR	**Muntele Rosu**	**29.57**	**314**	P	**P**	**21 15 06.4**	**+1.0**
MLR				pmax	pmax		
	comp=Z,2.0nm,0.9s						
MLR	**Muntele Rosu**	**29.57**	**314**	P	**P**	**21 15 06.4**	**+1.0**
	comp=Z,1.5nm,0.9s,mb3.7,baz=114,slow=6.6,SNR=3.4						
AKASG	**Malin Array Be**	**30.40**	**325**	P	**P**	**21 15 11.5**	**-1.2**
	comp=Z,0.2nm,0.2s,mb3.4,baz=128,slow=7.9,SNR=9.5						
ZAL	**Zalesovo**	**33.06**	**31**	P	**P**	**21 15 34.9**	**-1.1**
ZALV	**Zalesovo Beam**	**33.07**	**31**	P	**P**	**21 15 34.9**	**-1.3**
	comp=Z,0.8nm,0.5s,mb3.9,baz=230,slow=13,SNR=4.8						
GERES	**GERESS Array B**	**38.56**	**314**	P	**P**	**21 16 22.5**	**-0.8**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
GERES	**GERESS Array B**	**38.56**	**314**	P	**P**	**21 16 22.5**	**-0.8**
	comp=Z,0.6nm,0.6s,mb3.5,baz=108,slow=8.6,SNR=8.5						
KHC	**Kasperske Hory**	**38.72**	**315**	*e*P	**P**	**21 16 24.0**	**-0.6**
FINES	**FINESS Array B**	**38.85**	**337**	P	**P**	**21 16 23.8**	**-1.7**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.8s						
FINES	**FINESS Array B**	**38.85**	**337**	P	**P**	**21 16 23.8**	**-1.8**
	comp=Z,0.7nm,0.8s,mb3.5,baz=113,slow=15,SNR=3.5						
SBF	**Sospel**	**41.90**	**305**	*e*P	**P**	**21 16 49.7**	**-1.3**
	comp=Z,12nm,1.1s,mb4.1						
SBF	**Sospel**	**41.90**	**305**	*e*P	**P**	**21 16 49.7**	**-1.3**
	comp=Z,6.1nm,1.1s,mb4.1						
LPG	**La Plagne**	**42.55**	**308**	*e*P	**P**	**21 16 54.9**	**-1.4**
	comp=Z,4.6nm,0.9s,mb3.9						
LPG	**La Plagne**	**42.55**	**308**	*e*P	**P**	**21 16 54.9**	**-1.4**
LPG				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb3.9						
LPG	**La Plagne**	**42.55**	**308**	*e*P	**P**	**21 16 54.9**	**-1.4**
	comp=Z,2.3nm,0.9s,mb3.9						
LPL	**La Plagne**	**42.56**	**308**	*e*P	**P**	**21 16 54.8**	**-1.6**
CDF	**Champ du Feu**	**42.61**	**312**	*e*P	**P**	**21 16 55.6**	**-1.2**
CABF	**La Chapelle**	**43.14**	**309**	*e*P	**P**	**21 17 00.0**	**-1.1**
	comp=Z,3.4nm,0.7s,mb3.9						
CABF	**La Chapelle**	**43.14**	**309**	*e*P	**P**	**21 17 00.0**	**-1.1**
CABF				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.0						
CABF	**La Chapelle**	**43.14**	**309**	*e*P	**P**	**21 17 00.0**	**-1.1**
	comp=Z,1.7nm,0.7s,mb3.9						
SONM	**Songino Array**	**43.16**	**49**	P	**P**	**21 17 01.4**	**+0.1**
SONM				pmax	pmax		
	comp=Z,2.0nm,0.9s						
SONM	**Songino Array**	**43.16**	**49**	P	**P**	**21 17 01.4**	**+0.2**
	comp=Z,1.8nm,0.9s,mb3.8,baz=269,slow=8.9,SNR=16						
ULN	**Ulaanbaatar**	**43.61**	**49**	*e*P	**P**	**21 17 04.7**	**-0.2**
	comp=Z,1.7nm,0.8s,mb3.8						
ULN	**Ulaanbaatar**	**43.61**	**49**	*e*P	**P**	**21 17 04.7**	**-0.2**
ULN				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb3.9						
ULN	**Ulaanbaatar**	**43.61**	**49**	*e*P	**P**	**21 17 04.7**	**-0.2**
	comp=Z,1.7nm,0.8s,mb3.8						
VIVF	**Saint-Julien-l**	**43.95**	**306**	*e*P	**P**	**21 17 05.8**	**-1.9**
MEZF	**Maizieres J'vi**	**44.08**	**312**	*e*P	**P**	**21 17 07.5**	**-1.2**
NOA	**NORSAR Array B**	**44.44**	**330**	P	**P**	**21 17 10.5**	**-0.8**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.9s						
NOA	**NORSAR Array B**	**44.44**	**330**	P	**P**	**21 17 10.5**	**-0.8**
	comp=Z,0.9nm,0.9s,mb3.5,baz=112,slow=7.2,SNR=2.9						
NOA	**NORSAR Array B**	**44.44**	**330**	P	**P**	**21 17 10.5**	**-0.8**
	comp=Z,1.0nm,0.9s,mb3.5						
NAO01	**NORSAR Array S**	**44.50**	**330**	P	**P**	**21 17 14.9**	**+3.1**
	comp=Z,5.1nm,0.9s,mb4.2						
SMF	**Signal de Mont**	**44.68**	**309**	*e*P	**P**	**21 17 12.0**	**-1.5**
LOR	**Lormes**	**44.73**	**310**	*e*P	**P**	**21 17 12.2**	**-1.7**
BAIF	**Baives**	**44.86**	**314**	*e*P	**P**	**21 17 14.8**	**-0.1**
SSF	**Saint Saulge**	**44.95**	**310**	*e*P	**P**	**21 17 14.4**	**-1.2**
	comp=Z,6.1nm,1.0s,mb4.1						
SSF	**Saint Saulge**	**44.95**	**310**	*e*P	**P**	**21 17 14.4**	**-1.2**
SSF				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.1	

Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDS	**Bandar-Abbas**	**0.73**	**186**	Pg	**Pn**	**21 23 11.0**	**-3.3**
BNDS	**Bandar-Abbas**	**0.73**	**186**	*e*Pg	**Pn**	**21 23 10.7**	**-3.6**
BNDS				AML	AML	21 23 34.2	
	comp=N,5μm,0.4s						
KRBR	**Kerman**	**1.90**	**13**	*e*Pg	**Pn**	**21 23 28.7**	**-1.4**
KRBR				*e*Sg	**Sn**	**21 23 55.5**	**+2.6**
KRBR				AML	AML	21 24 00.0	
	comp=N,2μm,0.4s						
KRBR	**Kerman**	**1.90**	**13**	Pg	**Pn**	**21 23 29.0**	**-1.1**
KRBR				*e*Sg	**Sn**	**21 23 55.5**	**+2.6**
	SNR=90						
BANOM	**Banah**	**2.19**	**179**	⇓P	**Pn**	**21 23 34.9**	**+0.8**
	SNR=39						
BANOM	**Banah**	**2.19**	**179**	⇓Pn	**Pn**	**21 23 34.9**	**+0.8**
	SNR=39						
BANOM	**Banah**	**2.19**	**179**	Pn	**Pn**	**21 23 34.5**	**+0.4**
	SNR=63						
BANOM				Sn	**Sn**	**21 24 00.6**	**+0.5**
ISRV	**Sarvestan**	**3.03**	**295**	*e*Pn	**Pn**	**21 23 47.1**	**+1.5**
ISRV				*e*		21 25 04.3	
	comp=Z,11μm,0.5s						
ISRV	**Sarvestan**	**3.03**	**295**	Pn	**Pn**	**21 23 47.0**	**+1.4**
NAZ	**Nazwa, Dubai**	**3.17**	**190**	Pn	**Pn**	**21 23 48.4**	**+0.9**
	SNR=23						
IMOK	**Mouk**	**3.25**	**287**	*e*Pn	**Pn**	**21 23 49.2**	**+0.6**
IMOK				*e*		21 25 00.9	
	comp=Z,7μm,0.3s						
IMOK	**Mouk**	**3.25**	**287**	Pn	**Pn**	**21 23 49.1**	**+0.5**
HATD	**Hatta, Dubai**	**3.29**	**182**	P	**Pn**	**21 23 49.6**	**+0.5**
	SNR=28						
HATD	**Hatta, Dubai**	**3.29**	**182**	Pn	**Pn**	**21 23 48.7**	**-0.4**
HATD	**Hatta, Dubai**	**3.29**	**182**	P	**Pn**	**21 23 49.6**	**+0.5**
	SNR=28						
ASHO	**Ashiyiah**	**3.43**	**183**	⇑P	**Pn**	**21 23 51.4**	**+0.4**
	SNR=45						
ASHO	**Ashiyiah**	**3.43**	**183**	⇑Pn	**Pn**	**21 23 51.4**	**+0.4**
	SNR=45						
ASHO	**Ashiyiah**	**3.43**	**183**	Pn	**Pn**	**21 23 51.3**	**+0.2**
	SNR=126						
IBAF	**Bafgh**	**3.50**	**350**	*e*Pn	**Pn**	**21 23 52.4**	**+0.3**
IBAF				*e*Sn	**Sn**	**21 24 32.2**	**-0.1**
IBAF				*e*		21 24 51.6	
	comp=Z,5μm,0.6s						
IBAF	**Bafgh**	**3.50**	**350**	Pn	**Pn**	**21 23 52.3**	**+0.2**
IBAF				*e*Sn	**Sn**	**21 24 32.2**	**-0.1**
IMEH	**Mehriz**	**3.56**	**337**	*e*Pn	**Pn**	**21 23 53.2**	**+0.5**
IMEH				*e*		21 24 59.8	
	comp=Z,6μm,0.5s						
ASUD	**Al Ashush, Dub**	**3.58**	**194**	Pn	**Pn**	**21 23 54.4**	**+1.2**
	SNR=74						
SHI	**Shiraz**	**3.62**	**296**	*e*Pn	**Pn**	**21 23 53.6**	**0.0**
SHI				*e*		21 25 21.7	
	comp=Z,4μm,0.3s						
ZHSF	**Zahedan**	**4.23**	**68**	Pn	**Pn**	**21 24 01.0**	**-0.9**
ZHSF	**Zahedan**	**4.23**	**68**	*e*Pn	**Pn**	**21 24 02.8**	**+0.9**
ZHSF				*e*Sg	**Sn**	**21 25 09.7**	**+20**
ICHK	**Chekchek**	**4.41**	**339**	*e*Pn	**Pn**	**21 24 05.2**	**+0.8**
ICHK				*e*		21 25 28.7	
	comp=Z,2μm,0.4s						
ICHK	**Chekchek**	**4.41**	**339**	Pn	**Pn**	**21 24 05.1**	**+0.7**
IKOO	**Kooshah**	**4.90**	**28**	*e*Pn	**Pn**	**21 24 11.8**	**+0.7**
ITEG	**Tejag**	**5.22**	**24**	*e*Pn	**Pn**	**21 24 16.3**	**+0.8**
SMDO	**Samad**	**5.30**	**162**	⇓P	**Pn**	**21 24 18.5**	**+1.9**
	SNR=8.6						
IGAR	**Gharneh**	**5.41**	**320**	*e*Pn	**Pn**	**21 24 21.8**	**+3.7**
IGAR				*e*		21 24 29.9	
	comp=Z,2μm,0.2s						
BSY	**Bisya**	**5.42**	**171**	⇑P	**Pn**	**21 24 18.4**	**0.0**
	SNR=8.0						
BSY	**Bisya**	**5.42**	**171**	⇑Pn	**Pn**	**21 24 18.4**	**0.0**
	SNR=8.0						
BSYO	**Bisya**	**5.44**	**170**	Pn	**Pn**	**21 24 18.4**	**-0.3**
	SNR=8.0						
NASN	**Na'in**	**5.53**	**328**	Pn	**Pn**	**21 24 19.0**	**-0.8**
NASN	**Na'in**	**5.53**	**328**	*e*Pn	**Pn**	**21 24 20.1**	**+0.3**
IDAH	**Dahanechah**	**5.55**	**33**	*e*Pn	**Pn**	**21 24 20.5**	**+0.4**
IDAH				*e*Sn	**Sn**	**21 25 21.9**	**-0.7**
IMON	**Monand**	**5.84**	**29**	*e*Pn	**Pn**	**21 24 24.7**	**+0.6**
IZEF	**Zefreh**	**5.84**	**325**	*e*Pn	**Pn**	**21 24 24.2**	**+0.1**
IZEF				*e*		21 24 32.6	
	comp=Z,396nm,0.2s						
BTHS		**6.34**	**231**	P	**Pn**	**21 24 30.1**	**-0.9**
IPIR	**Pirpir**	**6.49**	**316**	*e*Pn	**Pn**	**21 24 32.9**	**-0.1**
IPIR				*e*		21 25 50.0	
	comp=Z,711nm,0.3s						
IPIR	**Pirpir**	**6.49**	**316**	Pn	**Pn**	**21 24 32.8**	**-0.2**
BOQSS		**6.54**	**251**	P	**Pn**	**21 24 32.7**	**-1.0**
IKLH	**Kolahrood**	**6.56**	**323**	*e*Pn	**Pn**	**21 24 33.7**	**-0.2**
IKLH	**Kolahrood**	**6.56**	**323**	Pn	**Pn**	**21 24 33.6**	**-0.3**
ISFB	**Sefidab**	**7.10**	**332**	*e*Pn	**Pn**	**21 24 41.4**	**+0.1**
ISFB				*e*		21 25 45.1	
	comp=Z,376nm,0.4s						
ISFB	**Sefidab**	**7.10**	**332**	Pn	**Pn**	**21 24 41.3**	**0.0**
KFJS		**7.34**	**272**	P	**Pn**	**21 24 44.3**	**-0.4**
QRN	**Al-Qurain**	**7.37**	**277**	*e*P	**Pn**	**21 24 44.3**	**-0.8**
QRN				AML	AML	21 26 08.3	
	comp=Z,104nm,0.5s						
SHGR	**Shooshtar-Gavs**	**7.58**	**303**	*e*Pn	**Pn**	**21 24 47.3**	**-0.7**
KBD	**Kabd**	**7.60**	**280**	*e*P	**Pn**	**21 24 47.7**	**-0.5**
KBD				AML	AML	21 26 13.6	
	comp=Z,187nm,0.4s						
GHVR	**GHOM**	**7.63**	**327**	*e*Pn	**Pn**	**21 24 48.6**	**+0.1**
UMR	**Umm Al-Rimmam**	**7.63**	**283**	*e*P	**Pn**	**21 24 47.8**	**-0.8**
UMR				AML	AML	21 26 14.2	
	comp=Z,72nm,0.4s						
RDF	**Al-Radifah**	**7.71**	**278**	*e*P	**Pn**	**21 24 49.0**	**-0.7**
RDF				AML	AML	21 26 18.1	
	comp=Z,80nm,0.5s						
MIB	**Mutribah**	**7.99**	**284**	*e*P	**Pn**	**21 24 52.5**	**-1.1**
MIB				AML	AML	21 26 24.7	
	comp=Z,77nm,0.6s						
NAY	**Al-Naaiem**	**8.00**	**280**	*e*P	**Pn**	**21 24 52.8**	**-0.9**
NAY				AML	AML	21 26 23.6	
	comp=Z,32nm,0.6s						
IFIR	**Firoozkooh**	**8.06**	**339**	Pn	**Pn**	**21 24 54.5**	**0.0**
IFIR	**Firoozkooh**	**8.06**	**339**	*e*Pn	**Pn**	**21 24 54.6**	**+0.1**
IFIR				*e*		21 25 03.4	
	comp=Z,93nm,0.2s						
RST	**Umm Al-Ruwaisa**	**8.24**	**282**	*e*P	**Pn**	**21 24 55.6**	**-1.4**
RST				AML	AML	21 26 28.8	
	comp=Z,56nm,0.6s						
DAMV	**Damavand**	**8.32**	**335**	*e*Pn	**Pn**	**21 24 58.2**	**+0.2**
ASAO	**Ashtian**	**8.33**	**322**	*e*Pn	**Pn**	**21 24 57.7**	**-0.5**
ASAO	**Ashtian**	**8.33**	**322**	Pn	**Pn**	**21 24 58.0**	**-0.2**
IGLO	**Ghaloghah**	**8.49**	**345**	Pn	**Pn**	**21 25 01.9**	**+1.6**
IGLO	**Ghaloghah**	**8.49**	**345**	*e*Pn	**Pn**	**21 25 02.0**	**+1.7**
IGLO				*e*		21 25 15.7	
	comp=Z,412nm,0.4s						
IPAY	**Payeh**	**8.62**	**15**	*e*Pn	**Pn**	**21 25 02.5**	**+0.4**
IPAY				*e*		21 27 59.8	
	comp=Z,293nm,0.5s						
IPAY	**Payeh**	**8.62**	**15**	Pn	**Pn**	**21 25 02.4**	**+0.3**
IMYA	**Miami**	**8.81**	**21**	*e*Pn	**Pn**	**21 25 05.0**	**+0.2**
IMYA				*e*		21 28 19.3	
	comp=Z,225nm,0.6s						
CHTH	**Charan**	**8.90**	**332**	*e*Pn	**Pn**	**21 25 05.8**	**-0.2**
THKV	**Tehran--Karaj**	**9.01**	**331**	*e*Pn	**Pn**	**21 25 07.0**	**-0.5**
IRAZ	**Razeghan**	**9.04**	**325**	Pn	**Pn**	**21 25 07.6**	**-0.2**
IRAZ	**Razeghan**	**9.04**	**325**	*e*Pn	**Pn**	**21 25 07.7**	**-0.1**
IRAZ				*e*		21 25 28.3	
	comp=Z,219nm,0.3s						
ISHV	**Shirvan**	**9.46**	**7**	Pn	**Pn**	**21 25 13.6**	**0.0**
ISHV	**Shirvan**	**9.46**	**7**	*e*Pn	**Pn**	**21 25 13.7**	**+0.1**
ISHV				*e*		21 26 04.3	
	comp=Z,518nm,0.5s						
IKOM	**Komasi**	**9.62**	**311**	*e*Pn	**Pn**	**21 25 14.1**	**-1.7**
IKOM				*e*		21 25 26.2	
	comp=Z,683nm,0.3s						
IKOM				*e*Sn	**Sn**	**21 26 56.1**	**-6.3**
SNGE	**Sanandaj**	**10.29**	**315**	*e*Pn	**Pn**	**21 25 23.9**	**-1.1**
WHFO	**Wadi Hawf**	**10.41**	**193**	⇓P	**Pn**	**21 25 24.9**	**-1.8**
	SNR=11						
ABTO	**Aybut**	**11.06**	**195**	⇑P	**Pn**	**21 25 33.8**	**-1.9**
	SNR=9.7						
KBL	**Kabul**	**12.65**	**56**	*e*P	**Pn**	**21 25 59.5**	**+2.3**
	comp=Z,4.4nm,1.0s						
KBL	**Kabul**	**12.65**	**56**	*e*P	**Pn**	**21 25 59.5**	**+2.2**
	comp=Z,4.4nm,1.0s						
HOMI	**Horasan**	**16.79**	**319**	*i*P	**Pn**	**21 26 57.9**	**+6.4**
ASF	**Jabal al Asfar**	**17.23**	**288**	P	**Pn**	**21 26 54.7**	**-2.3**
	comp=Z,0.4nm,0.3s,baz=312,slow=4.2,SNR=7.3						
ASF				S	**S**	**21 29 58.2**	**-16**
	comp=Z,0.1nm,0.3s,baz=164,slow=19,SNR=4.3						
ASF	**Jabal al Asfar**	**17.23**	**288**	*e*P	**Pn**	**21 26 58.4**	**+1.5**
	SNR=40						
ARTV	**Artvin**	**17.54**	**322**	*i*P	**Pn**	**21 27 03.0**	**+2.2**
ONI	**Oni**	**17.78**	**328**	P	**Pn**	**21 27 06.9**	**+3.2**
MALT	**Malatya**	**18.02**	**309**	*e*Pn	**Pn**	**21 27 02.8**	**-3.9**
	comp=Z,9.5nm,1.0s						
MALT				⇑P		21 27 07.6	
MALT	**Malatya**	**18.02**	**309**	*e*P	**Pn**	**21 27 02.8**	**-3.9**
MALT				pmax	pmax		
	comp=Z,9.0nm,1.0s						
MALT	**Malatya**	**18.02**	**309**	⇑*i*P	**Pn**	**21 27 07.6**	**+0.9**
GZT	**Gaziantep**	**18.20**	**305**	*i*P	**Pn**	**21 27 09.2**	**+0.4**
KEMA	**Kemaliye**	**18.46**	**312**	*i*P	**Pn**	**21 27 13.0**	**+1.0**
BHL	**Bhannes**	**18.57**	**293**	*e*P	**Pn**	**21 27 14.2**	**+0.8**
BHL	**Bhannes**	**18.57**	**293**	*e*P	**Pn**	**21 27 14.1**	**+0.8**
MMAI	**Mount Meron Ar**	**18.60**	**290**	P	**Pn**	**21 27 13.5**	**-0.3**
	comp=Z,0.4nm,0.3s,baz=99,slow=15,SNR=14						
MMAI				S	**S**	**21 30 33.1**	**-8.9**
	comp=Z,0.4nm,0.3s,baz=107,slow=29,SNR=4.0						
MMAI				LR	LR	21 36 11.8	
	comp=Z,102nm,18.1s,baz=55,slow=43						
EIL	**Elat**	**18.72**	**280**	P	**Pn**	**21 27 13.9**	**-1.3**
	comp=Z,0.4nm,0.3s,baz=74,slow=4.7,SNR=8.6						
EIL	**Elat**	**18.72**	**280**	P	**Pn**	**21 27 13.9**	**-1.3**
ANDN	**Andirin**	**19.17**	**305**	*i*P	**Pn**	**21 27 22.1**	**+1.5**
ANDN	**Andirin**	**19.17**	**305**	*i*P	**Pn**	**21 27 22.0**	**+1.4**
KIV	**Kislovodsk**	**19.19**	**329**	*e*P	**Pn**	**21 27 21.0**	**+0.3**
	comp=Z,22nm,1.3s						
KIV	**Kislovodsk**	**19.19**	**329**	*e*P	**Pn**	**21 27 21.3**	**+0.6**
KIV				pmax	pmax		
	comp=Z,17nm,1.2s						
KIV	**Kislovodsk**	**19.19**	**329**	⇑*i*P	**Pn**	**21 27 23.6**	**+2.9**
KIV	**Kislovodsk**	**19.19**	**329**	*e*P	**Pn**	**21 27 21.0**	**+0.3**
	comp=Z,22nm,1.3s						
AML	**Almayashu**	**19.91**	**41**	*e*P	**Pn**	**21 27 26.9**	**-2.4**
	comp=Z,6.5nm,0.8s						
AML	**Almayashu**	**19.91**	**41**	*e*P	**Pn**	**21 27 26.9**	**-2.3**
	comp=Z,6.4nm,0.8s						
GOF	**Gofitskoye**	**19.91**	**332**	*e*P	**Pn**	**21 27 21.0**	**-8.2**
GOF				pmax	pmax		
	comp=Z,40nm,1.3s						
EKS2	**Erkin-Say**	**20.30**	**40**	*e*P	**P**	**21 27 30.7**	**-0.6**
	comp=Z,10nm,1.1s						
EKS2	**Erkin-Say**	**20.30**	**40**	*e*P	**P**	**21 27 30.7**	**-0.7**
	comp=Z,10nm,1.1s						
SOC	**Sochi**	**20.38**	**324**	*e*P	**P**	**21 27 31.3**	**-1.0**
SOC				*e**PP		21 27 50.4	
SOC				*e**SP	sP	21 28 03.2	+12
SOC				*e*S	**S**	**21 31 11.5**	**-6.1**
SOC				pmax	pmax		
	comp=Z,11nm,0.9s						
SOC				MLR	MLR		
	comp=Z,84nm,10.0s,MS3.4						
SOC	**Sochi**	**20.38**	**324**	*e*P	**P**	**21 27 31.3**	**-1.0**
	comp=Z,11nm,0.9s						
UCH	**Uchtor**	**20.45**	**42**	*e*P	**P**	**21 27 32.9**	**-0.1**
	comp=Z,14nm,1.4s						
UCH	**Uchtor**	**20.45**	**42**	*e*P	**P**	**21 27 32.9**	**-0.1**
	comp=Z,14nm,1.4s						
AAK	**Ala-Archa**	**20.69**	**41**	*e*P	**P**	**21 27 33.7**	**-1.9**
	comp=Z,7.6nm,1.2s						
AAK	**Ala-Archa**	**20.69**	**41**	⇑*e*P	**P**	**21 27 34.5**	**-1.1**
AAK				pmax	pmax		
	comp=Z,8.0nm,1.4s						
AAK	**Ala-Archa**	**20.69**	**41**	P	**P**	**21 27 34.4**	**-1.2**
	comp=Z,0.8nm,0.3s,baz=208,slow=9.7,SNR=8.1						
AAK	**Ala-Archa**	**20.69**	**41**	*e*P	**P**	**21 27 34.5**	**-1.1**
	comp=Z,8.0nm,1.4s						
AVNT	**Avonos**	**20.73**	**306**	*i*P	**P**	**21 27 38.6**	**+2.4**
ATD	**Arta Tunnel**	**20.75**	**220**	P	**P**	**21 27 35.3**	**-1.2**
	comp=Z,9.0nm,0.9s,baz=120,slow=20,SNR=1.7						
FRU	**Bishkek**	**20.88**	**41**	*e*P	**P**	**21 27 46.0**	**+8.3**
FRU				*e*		21 27 52.0	
CDAG	**Cicekdag**	**21.43**	**308**	*i*P	**P**	**21 27 42.4**	**-1.2**
TKM2	**Tokmak 2**	**21.50**	**42**	*e*P	**P**	**21 27 43.5**	**-0.9**
	comp=Z,3.6nm,0.9s,mb3.8						
TKM2	**Tokmak 2**	**21.50**	**42**	*e*P	**P**	**21 27 43.5**	**-0.9**
TKM2				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb3.9						
TKM2	**Tokmak 2**	**21.50**	**42**	*e*P	**P**	**21 27 43.5**	**-0.9**
	comp=Z,3.6nm,0.9s,mb3.8						
BOYT	**Boyabat**	**21.92**	**313**	*i*P	**P**	**21 27 50.5**	**+1.6**
AKTK	**Aktyubinsk**	**22.32**	**3**	P	**P**	**21 27 52.8**	**-0.2**
AKTK				LR	LR	21 38 02.5	
AKTK	**Aktyubinsk**	**22.32**	**3**	P	**P**	**21 27 52.8**	**-0.2**
AKTO	**Aktyubinsk**	**22.32**	**3**	P	**P**	**21 27 52.8**	**-0.2**
AKTO				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.0						
AKTO				MLR	MLR		
	comp=Z,153nm,19.2s,MS3.4						
AKTO	**Aktyubinsk**	**22.32**	**3**	P	**P**	**21 27 52.8**	**-0.2**
	comp=Z,4.3nm,0.7s,mb4.0,baz=188,slow=11,SNR=14						
AKTO				LR	LR	21 38 02.5	
	comp=Z,153nm,19.2s,MS3.4,baz=199,slow=41						
ANN	**Anapa**	**22.41**	**323**	*e*P	**P**	**21 27 51.9**	**-2.1**
ANN				*e**PP		21 28 09.2	
ANN				*e*		21 28 23.4	
ANN				*e*S	**S**	**21 31 50.2**	**-6.9**
ANN				pmax	pmax		
	comp=Z,13nm,1.2s,mb4.2						
ANN	**Anapa**	**22.41**	**323**	*e*P	**P**	**21 27 51.9**	**-2.1**
	comp=Z,13nm,1.2s,mb4.2						
ELDT	**Eldivan**	**22.46**	**309**	*i*P	**P**	**21 27 56.5**	**+1.9**
KDHN	**Kadinhani**	**22.62**	**303**	*i*P	**P**	**21 27 57.9**	**+1.6**
ANTO	**Ankara**	**22.64**	**307**	*e*P	**P**	**21 27 54.6**	**-1.9**
	comp=Z,17nm,1.0s,mb4.4						
ANTO	**Ankara**	**22.64**	**307**	*e*P	**P**	**21 27 54.7**	**-1.8**
ANTO				pmax	pmax		
	comp=Z,17nm,1.0s,mb4.4						
ANTO	**Ankara**	**22.64**	**307**	*e*P	**P**	**21 27 54.7**	**-1.8**
BALT	**Daday**	**22.97**	**312**	*i*P	**P**	**21 28 01.4**	**+1.5**
ESKT	**Eskisehir**	**23.89**	**305**	*i*P	**P**	**21 28 10.4**	**+1.6**
SEYT	**Eskypehyr**	**23.89**	**305**	*i*P	**P**	**21 28 10.4**	**+1.6**
GOLH	**Golhisar**	**24.18**	**299**	*i*P	**P**	**21 28 13.4**	**+2.0**
BORA	**Eskisehir**	**24.31**	**306**	*i*P	**P**	**21 28 13.7**	**+1.1**
SIM	**Simferopol'**	**24.34**	**320**	P	**P**	**21 28 13.9**	**+1.1**
SIM				pmax	pmax		
	comp=Z,13nm,1.4s,mb4.2						
HENT	**Hendek**	**24.35**	**308**	*i*P	**P**	**21 28 14.2**	**+1.3**
GDZ	**Gediz**	**24.75**	**303**	*i*P	**P**	**21 28 17.9**	**+1.3**
BRVK	**Borovoye**	**26.99**	**19**	*e*P	**P**	**21 28 33.9**	**-2.8**
	comp=Z,3.7nm,0.9s,mb3.9						
BRVK	**Borovoye**	**26.99**	**19**	*e*P	**P**	**21 28 33.9**	**-2.8**
BRVK				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.0						
BVAR	**Borovoye Array**	**26.99**	**19**	P	**P**	**21 28 36.5**	**-0.2**
BVAR						21 31 58.2	
BVAR				pmax	pmax		
	comp=Z,3.0nm,0.9s						
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
BVAR				MLR	MLR		
	comp=Z,122nm,19.2s						
BVAR	**Borovoye Array**	**26.99**	**19**	P	**P**	**21 28 36.5**	**-0.2**
	comp=Z,2.7nm,0.9s,mb3.8,baz=206,slow=9.9,SNR=12						
BVAR				PcP	PcP	21 31 58.2	+1.2
	comp=Z,0.6nm,0.5s,baz=191,slow=1.5,SNR=5.0						
BVAR				LR	LR	21 40 43.2	
	comp=Z,122nm,19.2s,MS3.5,baz=45,slow=40						
MK31	**Makanchi Array**	**27.62**	**41**	*e*P	**P**	**21 28 41.5**	**-1.0**
MKAR	**Makanchi Array**	**27.62**	**41**	⇑*e*P	**P**	**21 28 42.4**	**0.0**
MKAR	**Makanchi Array**	**27.62**	**41**	P	**P**	**21 28 42.4**	**0.0**
	comp=Z,0.8nm,0.4s,mb3.7,baz=227,slow=8.1,SNR=13						
KURK	**Kurchatov**	**28.21**	**31**	*e*P	**P**	**21 28 47.7**	**+0.1**
	comp=Z,7.0nm,1.4s,mb4.1						
KURK	**Kurchatov**	**28.21**	**31**	*e*P	**P**	**21 28 47.7**	**+0.1**
KURK				pmax	pmax		
	comp=Z,7.0nm,1.4s,mb4.1						
ARU	**Arti**	**28.34**	**3**	*e*P	**P**	**21 28 48.2**	**-0.4**
ARU				*e*		21 29 38.7	
ARU				*e*S	**S**	**21 33 27.3**	**-4.0**
ARU				*e*SS	SS	21 34 52.3	-40
MLR	**Muntele Rosu**	**29.58**	**314**	⇑P	**P**	**21 29 02.0**	**+2.2**
MLR	**Muntele Rosu**	**29.58**	**314**	P	**P**	**21 29 01.5**	**+1.6**
MLR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
MLR				MLR	MLR		
	comp=Z,48nm,18.6s						
MLR	**Muntele Rosu**	**29.58**	**314**	P	**P**	**21 29 01.5**	**+1.6**
	comp=Z,2.4nm,0.8s,mb4.0,baz=50,slow=2.9,SNR=6.6						
MLR				LR	LR	21 43 31.8	
	comp=Z,48nm,18.6s,MS3.1,baz=312,slow=42						
MLR	**Muntele Rosu**	**29.58**	**314**	⇑*i*P	**P**	**21 29 02.0**	**+2.1**
AKASG	**Malin Array Be**	**30.44**	**325**	P	**P**	**21 29 07.0**	**-0.3**
AKASG				PcP	PcP	21 32 05.1	-0.6
AKASG	**Malin Array Be**	**30.44**	**325**	*i*P	**P**	**21 29 07.8**	**+0.4**
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.7s						
AKASG	**Malin Array Be**	**30.44**	**325**	P	**P**	**21 29 07.0**	**-0.3**
	comp=Z,1.8nm,0.7s,mb3.9,baz=132,slow=7.6,SNR=22						
AKASG				PcP	PcP	21 32 05.1	-0.6
	comp=Z,1.2nm,0.8s,baz=100,slow=2.2,SNR=6.9						
AKBB	**Malin Array Si**	**30.44**	**325**	*e*P	**P**	**21 29 07.3**	**-0.1**
OBN	**Obninsk**	**30.50**	**338**	*e*P	**P**	**21 29 07.9**	**0.0**
OBN				pmax	pmax		
	comp=Z,12nm,1.2s,mb4.6						
BURAR	**Bucovina Array**	**30.99**	**317**	⇑*i*P	**P**	**21 29 13.2**	**+1.0**
DRGR		**32.17**	**315**	⇓P	**P**	**21 29 23.9**	**+1.2**
DRGR		**32.17**	**315**	⇓*i*P	**P**	**21 29 23.9**	**+1.2**
BZS	**Buzias**	**32.43**	**312**	⇓P	**P**	**21 29 25.8**	**+0.8**
BZS	**Buzias**	**32.43**	**312**	⇓*i*P	**P**	**21 29 25.8**	**+0.8**
NVS	**Novosibirsk**	**33.09**	**29**	*i*P	**P**	**21 29 29.8**	**-0.8**
NVS				pmax	pmax		
	comp=Z,13nm,2.0s,mb4.5						
NVS				pmax	pmax		
	comp=N,12nm,2.2s						
ZAL	**Zalesovo**	**33.18**	**31**	P	**P**	**21 29 30.0**	**-1.4**
ZAL						21 32 13.3	
ZAA0	**Zalesovo Array**	**33.20**	**31**	*e*P	**P**	**21 29 30.5**	**-1.1**
ZALV	**Zalesovo Beam**	**33.20**	**31**	P	**P**	**21 29 30.0**	**-1.6**
ZALV				PcP	PcP	21 32 13.3	+0.2
ZALV				LR	LR	21 42 35.1	
ZALV	**Zalesovo Beam**	**33.20**	**31**	P	**P**	**21 29 30.0**	**-1.6**
	comp=N,1.3nm,0.3s,mb4.3,baz=238,slow=8.5,SNR=8.6						
ZALV				PcP	PcP	21 32 13.3	+0.2
	comp=N,0.4nm,0.3s,baz=224,slow=4.0,SNR=4.0						
ZALV				LR	LR	21 42 35.1	
	comp=N,29nm,20.0s,MS3.0,baz=129,slow=36						
KOLS	**Kolonicke sedl**	**33.34**	**318**	*e*P	**P**	**21 29 34.0**	**+1.2**
KWP	**Kalwaria**	**33.40**	**319**	*e*P	**P**	**21 29 33.2**	**-0.2**
	comp=N,22nm,1.5s,mb4.9						
KWP	**Kalwaria**	**33.40**	**319**	*e*P	**P**	**21 29 33.2**	**-0.1**
KWP				pmax	pmax		
	comp=Z,22nm,1.5s,mb4.9						
CRVS	**Cervenica-Dubn**	**33.81**	**317**	*e*P	**P**	**21 29 37.0**	**+0.1**
KECS	**Kecovo**	**34.22**	**316**	*e*P	**P**	**21 29 45.2**	**+4.7**
	comp=Z,1.5nm,0.8s,mb4.0						
KECS	**Kecovo**	**34.22**	**316**	*e*P	**P**	**21 29 45.2**	**+4.7**
KECS				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.1						
KMBO	**Kilima Mbogo**	**34.34**	**215**	⇑*e*P	**P**	**21 29 45.5**	**+3.7**
PSZ	**Piszkesteto**	**34.37**	**315**	P	**P**	**21 29 35.5**	**-6.3**
TIP	**Timpagrande**	**34.44**	**299**	*e*P	**P**	**21 29 41.1**	**-1.4**
	comp=Z,10nm,1.1s,mb4.7						
PKSM	**Moragy**	**34.59**	**312**	⇑P	**P**	**21 29 43.9**	**+0.2**
PKSM	**Moragy**	**34.59**	**312**	⇑*i*P	**P**	**21 29 43.9**	**+0.2**
VYHS	**Vyhne**	**35.24**	**316**	*e*P	**P**	**21 29 49.8**	**+0.5**
OJC	**Ojcow**	**35.34**	**319**	*e*P	**P**	**21 29 50.1**	**-0.1**
MODS	**Modra-Piesok**	**36.17**	**315**	*e*P	**P**	**21 29 57.0**	**-0.3**
MODS	**Modra-Piesok**	**36.17**	**315**	*e*P	**P**	**21 29 57.1**	**-0.2**
ZST	**Bratislava**	**36.22**	**314**	*e*P	**P**	**21 29 58.0**	**+0.3**
ZST				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.3						
ZST	**Bratislava**	**36.22**	**314**	*e*P	**P**	**21 29 58.0**	**+0.3**
	comp=Z,3.5nm,0.9s,mb4.3						
MORC	**Moravsky Berou**	**36.51**	**317**	*e*P	**P**	**21 29 59.7**	**-0.4**
	comp=Z,4.2nm,1.0s,mb4.2						
MORC	**Moravsky Berou**	**36.51**	**317**	*e*P	**P**	**21 29 59.7**	**-0.4**
MORC				pmax	pmax		
	comp=Z

SBF Sospel 41.89 305 *e*P **P 21 30 44.8 -0.4**
comp=Z,11nm,1.1s,mb4.4
MBDF Montbardon 42.45 307 *e*P **P 21 30 49.1 -0.6**
LMR La Mourre 42.52 305 *e*P **P 21 30 49.5 -0.8**
LPG La Plagne 42.55 308 *e*P **P 21 30 50.2 -0.3**
comp=Z,5.0nm,0.6s,mb4.1
LPG La Plagne 42.55 308 *e*P **P 21 30 50.2 -0.3**
LPG pmax pmax
comp=Z,3.0nm,0.6s,mb4.2
LPG La Plagne 42.55 308 *e*P **P 21 30 50.2 -0.3**
comp=Z,2.5nm,0.6s,mb4.1
BNI Bardonecchia 42.55 307 *e*P **P 21 30 49.1 -1.3**
comp=Z,14nm,1.4s,mb4.5
BNI Bardonecchia 42.55 307 *e*P **P 21 30 49.1 -1.4**
BNI pmax pmax
comp=Z,14nm,1.4s,mb4.5
LPL La Plagne 42.56 308 *e*P **P 21 30 50.1 -0.5**
comp=Z,6.3nm,0.7s,mb4.2
LPL La Plagne 42.56 308 *e*P **P 21 30 50.1 -0.5**
LPL pmax pmax
comp=Z,3.0nm,0.7s,mb4.1
LPL La Plagne 42.56 308 *e*P **P 21 30 50.1 -0.5**
comp=Z,3.2nm,0.7s,mb4.2
ORIF Oris-en-Rattie 43.10 307 *e*P **P 21 30 54.6 -0.3**
CABF La Chapelle 43.14 309 *e*P **P 21 30 55.2 -0.1**
HAU Haudompre 43.16 311 *e*P **P 21 30 54.4 -1.0**
SONM Songino Array 43.28 49 P **P 21 30 55.8 -0.6**
SONM pmax pmax
comp=Z,5.0nm,0.9s
SONM MLR MLR
comp=Z,61nm,20.6s
SONM Songino Array 43.28 49 P **P 21 30 55.8 -0.6**
comp=Z,4.7nm,0.9s,mb4.2,baz=262,slow=8.3,SNR=34
SONM LR LR 21 50 44.5
comp=Z,61nm,20.6s,MS3.5,baz=259,slow=39
WLF Walferdange 43.57 314 P **P 21 30 58.6 -0.1**
comp=Z,14nm,3.0s
WLF Walferdange 43.57 314 P **P 21 30 58.5 -0.2**
comp=Z,14nm,3.0s
ULN Ulaanbaatar 43.73 49 *e*P **P 21 30 59.7 -0.3**
comp=Z,8.7nm,1.0s,mb4.4
ULN Ulaanbaatar 43.73 49 *e*P **P 21 30 59.7 -0.2**
ULN pmax pmax
comp=Z,9.0nm,1.0s,mb4.5
MEM Membach 43.84 315 P **P 21 30 59.8 -1.0**
comp=Z,7.5nm,2.1s,mb4.0
VIVF Saint-Julien-l 43.95 307 *e*P **P 21 31 00.9 -0.9**
MEZF Maizieres J'vi 44.09 312 *e*P **P 21 31 02.7 -0.2**
comp=Z,57nm,1.5s,mb4.8
MEZF Maizieres J'vi 44.09 312 *e*P **P 21 31 02.7 -0.2**
comp=Z,28nm,1.5s,mb4.8
LASF Ste Croix 44.48 305 *e*P **P 21 31 05.8 -0.3**
NB2 NORSAR Subarra 44.49 331 P **P 21 31 05.7 -0.1**
comp=Z,2.3nm,1.0s,mb3.9,baz=114,slow=7.9
NOA NORSAR Array B 44.49 331 P **P 21 31 05.8 -0.1**
NOA pmax pmax
comp=Z,4.0nm,0.9s
NOA MLR MLR
comp=Z,26nm,19.9s
NOA NORSAR Array B 44.49 331 P **P 21 31 05.8 -0.1**
comp=Z,3.7nm,0.9s,mb4.1,baz=116,slow=7.9,SNR=8.6
NOA LR LR 21 51 25.4
comp=Z,26nm,19.9s,MS3.2,baz=95,slow=38
NAO01 NORSAR Array S 44.55 330 *e*P **P 21 31 06.3 0.0**
comp=Z,4.8nm,0.8s,mb4.4
SMF Signal de Mont 44.68 309 *e*P **P 21 31 07.2 -0.4**
comp=Z,33nm,1.2s,mb4.7
SMF Signal de Mont 44.68 309 *e*P **P 21 31 07.2 -0.4**
SMF pmax pmax
comp=Z,16nm,1.2s,mb4.7
SMF Signal de Mont 44.68 309 *e*P **P 21 31 07.2 -0.4**
comp=Z,16nm,1.2s,mb4.7
LOR Lormes 44.73 310 *e*P **P 21 31 07.4 -0.6**
comp=Z,26nm,1.3s,mb4.6
LOR Lormes 44.73 310 *e*P **P 21 31 07.4 -0.6**
LOR pmax pmax
comp=Z,13nm,1.3s,mb4.6
LOR Lormes 44.73 310 *e*P **P 21 31 07.4 -0.6**
comp=Z,13nm,1.3s,mb4.6
BAIF Baives 44.88 314 *e*P **P 21 31 10.0 +0.9**
comp=Z,50nm,1.3s,mb4.9
BAIF Baives 44.88 314 *e*P **P 21 31 10.0 +0.9**
BAIF pmax pmax
comp=Z,25nm,1.3s,mb4.9
BAIF Baives 44.88 314 *e*P **P 21 31 10.0 +0.9**
comp=Z,25nm,1.3s,mb4.9
SSF Saint Saulge 44.95 310 *e*P **P 21 31 09.5 -0.3**
comp=Z,23nm,1.1s,mb4.6
SSF Saint Saulge 44.95 310 *e*P **P 21 31 09.5 -0.3**
SSF pmax pmax
comp=Z,12nm,1.1s,mb4.6
SSF Saint Saulge 44.95 310 *e*P **P 21 31 09.5 -0.3**
comp=Z,12nm,1.1s,mb4.6
AVF Avril sur Loir 45.03 309 *e*P **P 21 31 10.0 -0.4**
comp=Z,23nm,1.4s,mb4.5
AVF Avril sur Loir 45.03 309 *e*P **P 21 31 10.0 -0.4**
AVF pmax pmax
comp=Z,12nm,1.4s,mb4.5
AVF Avril sur Loir 45.03 309 *e*P **P 21 31 10.0 -0.4**
comp=Z,12nm,1.4s,mb4.5
ARCES ARCESS Array B 45.10 345 P **P 21 31 11.8 +1.2**
ARCES ARCESS Array B 45.10 345 P **P 21 31 11.8 +1.2**
ARCES pmax pmax
comp=Z,8.0nm,1.2s
ARCES ARCESS Array B 45.10 345 P **P 21 31 11.8 +1.2**
comp=Z,8.0nm,1.2s,mb4.4,baz=134,slow=6.9,SNR=24
BGF Bois d'Agland 45.36 309 *e*P **P 21 31 12.6 -0.4**
comp=Z,20nm,1.2s,mb4.5
BGF Bois d'Agland 45.36 309 *e*P **P 21 31 12.6 -0.4**
BGF pmax pmax
comp=Z,10.0nm,1.2s,mb4.5
BGF Bois d'Agland 45.36 309 *e*P **P 21 31 12.6 -0.4**
comp=Z,9.9nm,1.2s,mb4.5
MTLF Montolieu 45.65 304 *e*P **P 21 31 15.5 +0.2**
comp=Z,11nm,1.2s,mb4.4
MTLF Montolieu 45.65 304 *e*P **P 21 31 15.5 +0.2**
MTLF pmax pmax
comp=Z,6.0nm,1.2s,mb4.4
MTLF Montolieu 45.65 304 *e*P **P 21 31 15.5 +0.2**
comp=Z,5.7nm,1.2s,mb4.4
TCF Toulx Ste Croi 45.78 308 *e*P **P 21 31 16.2 -0.1**
comp=Z,20nm,1.2s,mb4.6
TCF Toulx Ste Croi 45.78 308 *e*P **P 21 31 16.2 -0.1**
TCF pmax pmax
comp=Z,10.0nm,1.2s,mb4.6
TCF Toulx Ste Croi 45.78 308 *e*P **P 21 31 16.2 -0.1**
comp=Z,9.8nm,1.2s,mb4.6
CAF Calviac 45.81 307 *e*P **P 21 31 16.5 0.0**
comp=Z,4.3nm,0.8s,mb4.1
CAF Calviac 45.81 307 *e*P **P 21 31 16.5 0.0**
CAF pmax pmax
comp=Z,2.0nm,0.8s,mb4.1
CAF Calviac 45.81 307 *e*P **P 21 31 16.5 0.0**
comp=Z,2.2nm,0.8s,mb4.1
RJF Les Rejaudoux 46.21 307 *e*P **P 21 31 19.1 -0.6**
HHC Hu-ho-hao-te 46.61 59 *e*P **P 21 31 24.0 +1.1**
HHC AP pP 21 31 29.5 -7.5
HHC XP sP 21 31 31.5 -12
HHC PP PP 21 33 10.0 -3.1
HHC PCS PcS 21 36 51.5 +0.6
HHC S **S 21 38 08.5 +0.3**
HHC XS sS 21 38 19.0 -13
HHC SCS ScS 21 41 17.0 +3.9
HHC SS SS 21 41 29.0 -5.6
HHC AMB AMB
comp=Z,12nm,0.3s,mb5.3
HHC AMB AMB
comp=Z,92nm,4.5s
HHC LR LR
comp=N,105nm,11.1s
HHC LR LR
comp=E,69nm,5.6s
HHC LR LR
comp=Z,64nm,6.2s
LFF La Frestale 46.75 306 *e*P **P 21 31 24.1 +0.2**
comp=Z,16nm,1.1s,mb4.6
LFF La Frestale 46.75 306 *e*P **P 21 31 24.1 +0.2**
LFF pmax pmax
comp=Z,8.0nm,1.1s,mb4.6
LFF La Frestale 46.75 306 *e*P **P 21 31 24.1 +0.2**
comp=Z,8.2nm,1.1s,mb4.6
MFF Saint Martin d 47.42 309 *e*P **P 21 31 28.6 -0.6**
LDF La Druitiere 47.52 311 *e*P **P 21 31 29.2 -0.7**
comp=Z,3.7nm,0.5s,mb4.4
LDF La Druitiere 47.52 311 *e*P **P 21 31 29.2 -0.7**
LDF pmax pmax
comp=Z,2.0nm,0.5s,mb4.4
LDF La Druitiere 47.52 311 *e*P **P 21 31 29.2 -0.7**
comp=Z,1.9nm,0.5s,mb4.4
SGMF Saint Gilles 49.12 311 *e*P **P 21 31 42.0 -0.2**
QUIF Quistinic 49.52 310 *e*P **P 21 31 44.7 -0.6**
comp=Z,15nm,1.0s,mb4.7
QUIF Quistinic 49.52 310 *e*P **P 21 31 44.7 -0.6**
QUIF pmax pmax
comp=Z,8.0nm,1.0s,mb4.7
QUIF Quistinic 49.52 310 *e*P **P 21 31 44.7 -0.6**
comp=Z,7.5nm,1.0s,mb4.7
BOD Bodaibo 49.58 36⇑ *i*P **P 21 31 44.8 -0.8**
BOD pmax pmax
comp=Z,9.0nm,1.1s,mb4.7
ROSF Rostrenen 49.60 311 *e*P **P 21 31 45.5 -0.4**
comp=Z,62nm,1.6s,mb5.1
ROSF Rostrenen 49.60 311 *e*P **P 21 31 45.5 -0.4**
ROSF pmax pmax
comp=Z,31nm,1.6s,mb5.1
ROSF Rostrenen 49.60 311 *e*P **P 21 31 45.5 -0.4**
comp=Z,31nm,1.6s,mb5.1
ESDC Sonseca Array 50.45 300 P **P 21 31 52.9 +0.4**
comp=Z,0.6nm,0.6s,mb3.8,baz=79,slow=7.8,SNR=9.1
ESDC PcP PcP 21 33 11.3 +1.2
comp=Z,1.2nm,0.9s,baz=56,slow=4.2,SNR=4.4
TIXI Tiksi 58.10 21⇑ *e*P **P 21 32 45.7 -1.9**
TIXI pmax pmax
comp=Z,1.0nm,1.4s,mb3.6
KSRS Korea Array 59.66 61 P **P 21 32 58.1 -0.8**
comp=Z,2.3nm,0.8s,mb4.3,baz=278,slow=6.4,SNR=9.3
KSRS LR LR 22 00 12.0
comp=Z,20nm,19.0s,MS3.3,baz=240,slow=38
TSUM Tsumeb 60.11 223 P **P 21 33 02.0 -0.2**
comp=Z,6.6nm,1.0s,mb4.6
LBTB Lobatse 60.52 212 *e*P **P 21 33 06.5 +1.7**
comp=Z,28nm,1.3s,mb5.2
LBTB Lobatse 60.52 212 *e*P **P 21 33 06.5 +1.7**
LBTB pmax pmax
comp=Z,28nm,1.3s,mb5.2
DBIC Dimbokro 61.45 262 *e*P **P 21 33 11.4 -0.1**
comp=Z,21nm,1.4s,mb5.1
DBIC Dimbokro 61.45 262 P **P 21 33 11.5 0.0**
DBIC pmax pmax
comp=Z,3.0nm,0.9s
DBIC Dimbokro 61.45 262 P **P 21 33 11.5 0.0**
comp=Z,3.4nm,0.9s,mb4.5,baz=32,slow=9.1,SNR=3.2
BOSA Boshof 63.76 210 *e*P **P 21 33 27.1 +0.6**
comp=Z,15nm,1.0s,mb5.0
BOSA Boshof 63.76 210 P **P 21 33 27.9 +1.5**
BOSA pmax pmax
comp=Z,6.0nm,0.7s,mb4.7
BOSA Boshof 63.76 210 P **P 21 33 27.9 +1.4**
comp=Z,6.2nm,0.7s,mb4.8,baz=41,slow=10,SNR=14
SEY Seymchan 68.04 29⇑ *e*P **P 21 33 53.2 -0.4**
SUR Sutherland 68.97 212 P **P 21 34 01.1 +1.4**
comp=Z,38nm,1.2s,mb5.2
BILL Bilibino 71.29 22 *e*P **P 21 34 12.8 -0.7**
BILL pmax pmax
comp=Z,4.0nm,1.2s,mb4.2
IMA2 Indian Mountai 83.34 12 *e*P **P 21 35 20.5 -0.4**
INK Inuvik 83.59 4 *e*P **P 21 35 22.3 +0.1**
comp=Z,77nm,1.0s,mb5.8
INK Inuvik 83.59 4 *e*P **P 21 35 22.3 +0.1**
INK pmax pmax
comp=Z,77nm,1.0s
SCHQ Schefferville 84.06 331 P **P 21 35 25.4 +0.6**
comp=Z,6.2nm,0.9s,mb4.7,baz=42,slow=5.7,SNR=6.3
WRA Warramunga Arr 89.28 113 P **P 21 35 51.8 +1.0**
WRA pmax pmax
comp=Z,2.0nm,1.0s
WRA Warramunga Arr 89.28 113 P **P 21 35 51.8 +1.0**
comp=Z,1.5nm,1.0s,mb4.3,baz=314,slow=4.3,SNR=8.8
WRAB Tennant Creek 89.28 113 *e*P **P 21 35 51.4 +0.6**
comp=Z,4.9nm,1.0s,mb4.8
WRAB Tennant Creek 89.28 113 *e*P **P 21 35 51.4 +0.6**
WRAB pmax pmax
comp=Z,5.0nm,1.0s,mb4.8
YKA Yellowknife Ar 89.40 356 P **P 21 35 51.2 +0.5**
YKA Yellowknife Ar 89.40 356 P **P 21 35 51.2 +0.5**
YKA pmax pmax
comp=Z,1.0nm,0.7s
YKA Yellowknife Ar 89.40 356 P **P 21 35 51.2 +0.5**
comp=Z,0.5nm,0.7s,mb3.9,baz=3.1,slow=5.1,SNR=9.3
ASAR Alice Springs 90.79 116 P **P 21 35 59.1 +1.3**
ASAR pmax pmax
comp=Z,1.0nm,0.7s
ASAR Alice Springs 90.79 116 P **P 21 35 59.0 +1.2**
comp=Z,0.8nm,0.7s,mb4.1,baz=304,slow=5.4,SNR=11
FFC Flin Flon 95.39 348 *e*P **P 21 36 16.9 -1.6**
comp=Z,3.8nm,1.1s,mb4.7
FFC Flin Flon 95.39 348 *e*P **P 21 36 16.9 -1.6**
FFC pmax pmax
comp=Z,4.0nm,1.1s,mb4.8

NEIC ***28*** *21:26:05.9, 3833N×2055E, h17km, MD3.5(ATH), After ATH.*
CSEM ***28*** *21:26:06.9±0.4, 3820N×2055E, h25km, MD3.5, Error ellipse: s-maj=11.0km s-min=3.7km az=45.0*

ATH 28 21:26:05.9, 3833N×2055E, h17km±1km, MD3.5/8, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.16**	**168**	*e*PB	Pg	21 26 09.9	-0.2
VLS				*e*SB	Sg	21 26 14.1	+1.2
RLS	**Riolos of Patr**	**0.77**	**110**	*e*PN	Pn	21 26 21.1	-0.9
RLS				*e*SN	Sn	21 26 32.0	-1.2
EVR	**Evrytania**	**1.15**	**59**	*e*PN	Pn	21 26 27.1	-0.1
JAN	**Janina**	**1.34**	**10**	*e*PN	Pn	21 26 30.9	+1.0
KEK	**Kerkira**	**1.50**	**337**	*e*PN	Pn	21 26 34.2	+2.2
ITM	**Ithomi**	**1.58**	**136**	*e*PN	Pn	21 26 35.3	+2.1
SRN	**Sarande**	**1.61**	**345**	*i* Sg	Sg	21 27 07.3	+10
THL	**Klokotos Trika**	**1.68**	**42**	*e*PN	Pn	21 26 36.1	+1.6
NEO	**Neokhori**	**2.31**	**64**	*e*PN	Pn	21 26 45.5	+2.4

MAN 28 21:41:10, 1266N×12339E, h70km, mb3.6, ML2.4, MS1.9, Luzon

IDC 28 21:44:30.9±1.9, 064N×12532E, h0km, mb3.5/3, mb1 3.8/3, mb1mx3.5/16, mbtmp3.6/3, Error ellipse: s-maj=185.5km s-min=24.3km az=64.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.29**	**157**	P	P	21 49 29.6	-0.3
0.8nm,0.3s,baz=335,slow=11,SNR=49							
WB2	**Warramunga Arr**	**22.29**	**157**	*e*P	P	21 49 29.5	-0.5
ASAR	**Alice Springs**	**25.56**	**162**	P	P	21 50 02.0	+0.3
0.4nm,0.3s,baz=344,slow=9.6,SNR=16							
MKAR	**Makanchi Array**	**59.32**	**327**	P	P	21 54 34.7	0.0
0.1nm,0.3s,baz=122,slow=7.3,SNR=2.6							

BJI ***28*** *22:19:07.2, 1200S×12480E, h35km, mb4.9*
IDC ***28*** *22:19:08.2±0.7, 1179S×12454E, h0km, mb4.1/8, mb1 4.2/9, mb1mx4.1/15, mbtmp4.2/9, ML4.4/1, MS3.9/8, Ms1 3.9/8, ms1mx3.6/22, Error ellipse: s-maj=37.6km s-min=16.0km az=68.0*
ISCJB ***28*** *22:19:09.8±1.1, 12.1S±005×12477E±008, h39km±12km, mb4.3/11, MS3.8/7, Error ellipse: s-maj=12.8km s-min=7.4km az=161.7*
NEIC ***28*** *22:19:12.2±0.5, 1196S×12477E, h35km, mb4.5/6, Error ellipse: s-maj=14.3km s-min=7.9km az=52.0*

ISC 28 22:19:10.4±2.8, 1202S±005×12476E±008, h21km±22km, n40, σ1°22/47, mb4.3/11, MS3.8/7, South of Timor

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Kupang**	**2.10**	**329**	Pn	**Pn**	**22 19 44.0**	**-0.3**
BATI				LR	LR	22 20 26.4	
comp=Z,3μm,19.8s,baz=58,slow=44							
FITZ	**Fitzroy Crossi**	**6.11**	**172**	*e*P	**Pn**	**22 20 39.9**	**+0.4**
310nm,0.9s							
FITZ				*e*S	**Sn**	**22 21 47.0**	**-1.7**
FITZ	**Fitzroy Crossi**	**6.11**	**172**	*e*Pn	**Pn**	**22 20 40.9**	**+1.4**
FITZ				*e*Sn	**Sn**	**22 21 47.2**	**-1.6**
FITZ	**Fitzroy Crossi**	**6.11**	**172**	Pn	**Pn**	**22 20 41.3**	**+1.9**
6.7nm,0.3s,baz=359,slow=9.5,SNR=316							
FITZ				Sn	**Sn**	**22 21 46.8**	**-1.9**
54nm,0.3s,baz=280,slow=22,SNR=24							
FITZ				Lg		22 22 33.6	
34nm,0.3s,baz=259,slow=22,SNR=8.3							
FITZ				LR	LR	22 23 18.7	
comp=Z,859nm,19.6s,baz=344,slow=39							
KAKA	**Kakadu**	**7.54**	**96**	*e*P	**Pn**	**22 21 01.0**	**+1.9**
24nm,0.2s							
KAKA				*e*S	**Sn**	**22 22 11.4**	**-13**
MBWA	**Marble Bar**	**10.29**	**207**	*e*Pn	**Pn**	**22 21 36.7**	**-0.1**
13nm,0.5s							
MBWA				*e*Sn	**Sn**	**22 23 23.1**	**-8.4**
WRA	**Warramunga Arr**	**12.12**	**132**	Pn	**Pn**	**22 22 00.7**	**-1.2**
4.3nm,0.3s,baz=303,slow=13,SNR=198							
WRA				Sn	**Sn**	**22 24 09.7**	**-6.7**
18nm,0.3s,baz=305,slow=24,SNR=14							
WRA				Lg		22 25 40.5	
baz=312,slow=30,SNR=5.0							
WRAB	**Tennant Creek**	**12.12**	**132**	*e*Pn	**Pn**	**22 22 01.2**	**-0.7**
38nm,0.6s							
WRAB				*e*Sn	**Sn**	**22 24 07.7**	**-8.8**
WB2	**Warramunga Arr**	**12.13**	**132**	*e*P	**Pn**	**22 22 00.6**	**-1.4**
WB2				*e*S	**Sn**	**22 24 02.1**	**-15**
WB2	**Warramunga Arr**	**12.13**	**132**	*e*Pn	**Pn**	**22 22 01.0**	**-1.0**
WB2				*e*Sn	**Sn**	**22 24 09.2**	**-7.5**
ASAR	**Alice Springs**	**14.48**	**144**	Pn	**Pn**	**22 22 33.6**	**-0.5**
5.6nm,0.3s,baz=316,slow=12,SNR=255							
ASAR				Sn	**Sn**	**22 25 08.3**	**-5.9**
8.0nm,0.3s,baz=312,slow=24,SNR=15							
COEN	**Coen**	**18.05**	**98**	*e*P	**Pn**	**22 23 20.0**	**-0.1**
4.3nm,0.5s							
FORT	**Forrest**	**18.92**	**171**	*e*P	**Pn**	**22 23 32.3**	**+1.8**
92nm,0.6s							
FORT				*e*S	**Sn**	**22 26 49.3**	**-12**
KSM	**Kuching**	**19.64**	**312**	*e*P	**Pn**	**22 23 35.7**	**-3.6**
KKM	**Kota Kinabalu**	**19.85**	**334**	*e*P	**Pn**	**22 23 38.5**	**-3.3**
MUN	**Mundaring**	**21.37**	**200**	*e*P	**P**	**22 24 06.0**	**+10**
MUN				*e*S	**S**	**22 27 42.4**	**-10**
NWAO	**Narrogin (SRO)**	**21.93**	**197**	*e*P	**P**	**22 24 03.5**	**+1.1**
21nm,0.8s,mb4.6							
NWAO	**Narrogin (SRO)**	**21.93**	**197**	P	**P**	**22 24 05.7**	**+3.3**
32nm,1.2s,mb4.6,baz=350,slow=17,SNR=6.8							
NWAO				S	**S**	**22 27 56.1**	**-7.6**
17nm,0.7s,baz=271,slow=12,SNR=5.4							
NWAO				LR	LR	22 33 25.4	
comp=Z,368nm,18.4s,MS3.8,baz=283,slow=39							
CTA	**Charters Tower**	**22.14**	**114**	P	**P**	**22 24 09.0**	**+4.1**
3.6nm,0.5s,mb4.1,baz=284,slow=11,SNR=6.9							
CTA				LR	LR	22 33 25.4	
comp=Z,387nm,19.8s,MS3.8,baz=30,slow=38							
CTAO	**Charters Tower**	**22.14**	**114**	*e*P	**P**	**22 24 06.5**	**+1.6**
18nm,1.1s,mb4.4							
STKA	**Stephens Creek**	**25.12**	**145**	*e*P	**P**	**22 24 37.6**	**+3.7**
25nm,0.6s,mb4.9							
STKA	**Stephens Creek**	**25.12**	**145**	*e*P	**P**	**22 24 36.9**	**+3.0**
STKA	**Stephens Creek**	**25.12**	**145**	P	**P**	**22 24 37.8**	**+3.9**
3.8nm,0.6s,mb4.1,baz=311,slow=14,SNR=8.8							
STKA				LR	LR	22 35 17.8	
comp=Z,858nm,18.1s,MS4.3,baz=233,slow=38							
KULM	**Kulim**	**29.50**	**304**	*e*P	**P**	**22 25 14.3**	**+0.8**
PSI	**Prapat**	**29.60**	**298**	LR	LR	22 37 59.0	
comp=Z,120nm,18.1s,MS3.6,baz=88,slow=39							
HNR	**Honiara**	**34.66**	**89**	LR	LR	22 39 54.2	
comp=Z,115nm,18.8s,MS3.6,baz=176,slow=36							
CBIJ	**Chichi jima**	**42.40**	**23**	LR	LR	22 44 14.8	
comp=Z,34nm,18.6s,MS3.3,baz=102,slow=36							
LZH	**Lanzhou**	**51.76**	**338**	*e*P	**P**	**22 28 17.0**	**+0.6**
LZH				AP	pP	22 28 23.5	+0.3
LZH				XP	sP	22 28 26.5	+0.8
LZH				AMB	AMB		
comp=Z,22nm,1.5s,mb4.9							
LSA	**Lhasa**	**52.63**	**323**	P	**P**	**22 28 21.3**	**-1.7**
LSA	**Lhasa**	**52.63**	**323**	*e*P	**P**	**22 28 22.9**	**-0.1**
comp=Z,4.2nm,0.6s,mb4.5							
SONM	**Songino Array**	**61.79**	**346**	P	**P**	**22 29 26.7**	**-0.7**
comp=Z,0.2nm,0.5s,mb3.5,baz=173,slow=8.3,SNR=3.6							
VNDA	**Vanda**	**68.18**	**172**	P	**P**	**22 30 11.4**	**+2.8**
comp=Z,1.1nm,0.6s,mb4.1,baz=324,slow=6.7,SNR=14							
VNDA				LR	LR	22 58 29.8	
comp=Z,242nm,18.8s,MS4.5,baz=319,slow=34							
MK31	**Makanchi Array**	**69.78**	**330**	*e*P	**P**	**22 30 18.8**	**-0.2**
MKAR	**Makanchi Array**	**69.78**	**330**	P	**P**	**22 30 18.8**	**-0.2**
comp=Z,0.6nm,0.5s,mb3.8,baz=132,slow=7.2,SNR=12							
AAK	**Ala-Archa**	**71.22**	**323**	P	**P**	**22 30 27.7**	**-0.2**
comp=Z,0.8nm,0.4s,mb4.0,baz=336,slow=1.7,SNR=2.5							
ZALV	**Zalesovo Beam**	**73.95**	**337**	P	**P**	**22 30 43.0**	**-0.8**
comp=Z,2.5nm,0.4s,mb4.5,baz=133,slow=5.2,SNR=11							
KURK	**Kurchatov**	**74.26**	**332**	*e*P	**P**	**22 30 46.5**	**+0.7**
comp=Z,3.0nm,0.8s,mb4.3							
TKL	**Tuckaleechee C**	**145.09**	**43**	PKPbc	PKPbc	22 38 47.0	+0.8
comp=Z,1.2nm,0.5s,baz=160,slow=2.7,SNR=7.1							
LPAZ	**La Paz**	**149.12**	**155**	*e*PKPbc	PKPbc	22 39 00.1	+2.1
LPAZ	**La Paz**	**149.12**	**155**	PKPbc	PKPbc	22 39 01.0	+2.9
comp=Z,1.8nm,0.6s,baz=265,slow=0.5,SNR=11							

NIED ***28*** *22:32:00, 3560N×140.10E, h77km, Mw3.9 Best double couple: M0 7.69000×10^14 NP1:ϕs357.00000°, δ71.00000°, λ88.00000°. NP2:ϕs182.00000°, δ19.00000°, λ95.00000°.*
IDC ***28*** *22:32:51.9±3.4, 3558N×140.35E, h59km±25km, mb3.7/9, mb1 3.8/12, mb1mx3.6/23, mbtmp3.8/12, ML3.8/3, MS2.8/2, Ms1 2.8/2, ms1mx2.5/31, Error ellipse: s-maj=49.9km s-min=10.7km az=73.0*
ISCJB ***28*** *22:32:52.3±0.4, 3556N±003×140.10E±005, h77km±3km, mb4.0/13, Error ellipse: s-maj=8.1km s-min=4.5km az=148.9*
NEIC ***28*** *22:32:53.0, 3565N×140.12E, h68km, mb4.4/4, After JMA.*
JMA ***28*** *22:32:53.0±0.2, 3565N×140.12E, h69km±2km, M4.0 Broadband fault plane solution: P waves. NP1: ϕs171.00000°, δ21.00000°, λ88.00000°. NP2: ϕs354.00000°, δ69.00000°, λ91.00000°. Principal axes: T Plg66.0000°, Azm265.0000°; N Plg1.0000°, Azm173.0000°; P Plg24.0000°, Azm83.0000°;*
JMA Felt I J1.

ISC 28 22:32:53.4±0.4, 3557N±003×14010E±005, h70km±3km, n34, σ0°78/48, mb4.0/13, 2C-6D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCN	**Nagara**	**0.17**	**151**	⇑P	**Pn**	**22 33 04.3**	**+0.5**
JCN				*e*S	**Sn**	**22 33 12.7**	**+1.3**
TOK	**Tokyo**	**0.30**	**293**	P	**Pn**	**22 33 04.7**	**+0.2**
TOK				S	**Sn**	**22 33 13.5**	**+0.8**
BSO3	**Boso 3**	**0.84**	**156**	⇑P	**Pn**	**22 33 09.8**	**-0.1**
BSO3				S	**Sn**	**22 33 23.2**	**+1.2**
JOD2	**Odawara 2**	**0.88**	**250**	⇓P	**Pn**	**22 33 10.3**	**-0.1**
JOD2				S	**Sn**	**22 33 22.6**	**-0.3**
JAG	**Ashikaga**	**1.00**	**329**	⇓P	**Pn**	**22 33 11.1**	**-0.8**
JAG				*e*S	**Sn**	**22 33 24.2**	**-1.4**
JIM2	**Oshima 3**	**1.01**	**213**	P	**Pn**	**22 33 11.5**	**-0.5**
JIM2				S	**Sn**	**22 33 25.5**	**-0.3**
JRY	**Ryogami san**	**1.07**	**295**	⇓P	**Pn**	**22 33 12.9**	**+0.2**
JRY				*e*S	**Sn**	**22 33 27.3**	**+0.2**
BSO1	**Boso 1**	**1.16**	**141**	P	**Pn**	**22 33 13.3**	**-0.6**
BSO1				S	**Sn**	**22 33 29.5**	**+0.2**
JYN	**Shimob**	**1.27**	**267**	⇓P	**Pn**	**22 33 15.4**	**+0.1**
JYN				S	**Sn**	**22 33 32.0**	**+0.3**
JIZS	**Izushimoda**	**1.31**	**230**	⇓P	**Pn**	**22 33 16.0**	**+0.2**
JIZS				S	**Sn**	**22 33 32.6**	**-0.1**
JKT	**Katashina**	**1.38**	**330**	P	**Pn**	**22 33 16.0**	**-0.7**
JKT				S	**Sn**	**22 33 32.9**	**-1.3**
MJAR	**Matsushiro Arr**	**1.81**	**303**	P	**Pn**	**22 33 22.3**	**-0.1**
25nm,0.3s,baz=132,slow=14,SNR=243							
MAJO	**Matsushiro**	**1.81**	**303**	*i* Pn	**Pn**	**22 33 22.8**	**+0.3**
MAT	**Matsushiro**	**1.81**	**303**	P	**Pn**	**22 33 22.8**	**+0.3**
MAT				S	**Sn**	**22 33 44.6**	**0.0**
JHJ	**Hachijo jima 2**	**2.46**	**186**	P	**Pn**	**22 33 29.8**	**-1.4**
29nm,0.3s,baz=55,slow=9.9,SNR=27							
JHJ				S	**Sn**	**22 34 00.1**	**-0.1**
95nm,0.3s,baz=253,slow=21,SNR=11							
CBIJ	**Chichi jima**	**8.63**	**168**	P	**Pn**	**22 34 53.5**	**-2.1**
7.4nm,0.3s,baz=319,slow=14,SNR=12							
CBIJ				S	**Sn**	**22 36 24.6**	**-6.8**
1.8nm,0.3s,baz=258,slow=20,SNR=3.5							
KSRS	**Korea Array**	**9.98**	**284**	P	**Pn**	**22 35 17.1**	**+3.3**
0.2nm,0.3s,baz=100,slow=14,SNR=7.4							
KSRS				LR	LR	22 38 58.0	
comp=Z,29nm,21.0s,baz=220,slow=36							
SONM	**Songino Array**	**27.76**	**307**	P	**P**	**22 38 35.2**	**-0.1**
0.5nm,0.6s,mb3.2,baz=108,slow=9.1,SNR=4.4							
ZALV	**Zalesovo Beam**	**42.13**	**314**	P	**P**	**22 40 39.8**	**+1.3**
1.0nm,0.7s,mb3.7,baz=92,slow=5.2,SNR=4.5							
ZALV				PcP	PcP	22 42 32.0	+0.2
0.6n

MKAR Makanchi Array 44.01 303 P **P 22 40 54.5 +0.6**
1.0nm,0.4s,mb3.9,baz=86,slow=9.6,SNR=13
MKAR LR LR 23 02 01.3
comp=Z,24nm,19.4s,baz=359,slow=40
KURK Kurchatov 46.01 309 *e*P **P 22 41 09.5 -0.1**
1.5nm,0.6s,mb3.9
AML Almayashu 50.97 299 *e*P **P 22 41 49.5 +1.7**
3.9nm,0.9s,mb4.4
FITZ Fitzroy Crossi 55.11 197 *e*P **P 22 42 18.8 +0.4**
2.4nm,0.6s,mb4.4
FITZ Fitzroy Crossi 55.11 197 P **P 22 42 18.8 +0.5**
1.5nm,0.5s,mb4.2,baz=18,slow=12,SNR=8.1
WRAB Tennant Creek 55.47 187 *e*P **P 22 42 20.3 -0.6**
2.2nm,0.5s,mb4.4
WB2 Warramunga Arr 55.48 187 *e*P **P 22 42 20.6 -0.4**
WB2 Warramunga Arr 55.48 187 *e*P **P 22 42 20.4 -0.6**
WRA Warramunga Arr 55.48 187 P **P 22 42 20.9 -0.1**
2.3nm,0.5s,mb4.5,baz=1.4,slow=7.5,SNR=77
ASAR Alice Springs 59.20 187 P **P 22 42 46.8 -0.3**
0.3nm,0.5s,mb3.6,baz=8.9,slow=8.9,SNR=8.6
JOF Joensuu 66.75 332 *e*p **P 22 43 35.6 -1.2**
1.6nm,0.4s,mb4.2
FINES FINESS Array B 69.61 332 P **P 22 43 55.2 +0.5**
1.9nm,0.7s,mb4.1,baz=74,slow=6.3,SNR=13
AKASG Malin Array Be 74.80 322 P **P 22 44 25.9 +0.1**
0.7nm,0.3s,mb3.8,baz=48,slow=6.0,SNR=12
NOA NORSAR Array B 75.12 337 P **P 22 44 28.2 +0.7**
0.3nm,0.4s,mb3.4,baz=42,slow=5.9,SNR=2.4

*ISCJB **28** 22:56:27.8±0.8, 1039N±004×6233W±003, h4km±6km, Error ellipse: s-maj=7.3km s-min=4.1km az=165.1*
*TRN **28** 22:56:29.2, 1105N×6213W, h8km, MD3.1*
*NEIC **28** 22:56:29.2, 1105N×6213W, h8km, MD3.1(TRN), After TRN.*
*FUNV **28** 22:56:29.1, 1041N×6228W, h5km, MW3.2*
ISC 28 22:56:28.8±0.6, 1043N±004×6232W±002, h8km±5km, n15, σ0°98/29, 1C-1D, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIV	**Guiria**	**0.24**	**23**	*e*P	**Pg**	22 56 33.6	+0.1
GUIV				*e*S	**Sg**	22 56 37.6	+0.8
TCE	**Chacachacare**	**0.62**	**64⇓**	*e*P	**Pg**	22 56 39.9	-0.8
TCE				*e*S	**Sg**	22 56 47.1	-1.6
GUNV	**Guanoco**	**0.67**	**247⇑**	*i*P	**Pg**	22 56 41.4	-0.3
GUNV				*e*S	**Sg**	22 56 53.1	+2.7
TPP	**Pointe-a-Pierr**	**0.86**	**97**	*e*P	**Pg**	22 56 48.3	+3.0
TPP				*e*S	**Sg**	22 57 02.1	+5.6
TRN	**Trinidad (W)**	**0.93**	**76**	*e*P	**Pg**	22 56 44.7	-1.9
CRUV	**Carupano**	**0.94**	**285**	*e*P	**Pg**	22 56 45.9	-0.9
CRUV				*e*S	**Sg**	22 56 58.9	-0.2
ITEV	**Isla Los Testi**	**1.22**	**319**	*e*P	**Pb**	22 56 52.1	0.0
ITEV				*e*S	**Sg**	22 57 09.1	+0.9
TBH	**Brigand Hill**	**1.23**	**87**	*e*P	**Pb**	22 56 52.5	+0.3
TBH				*e*S	**Sg**	22 57 09.4	+1.0
TPR	**Prospect**	**1.69**	**63**	*e*P	**Pn**	22 56 58.8	+0.3
TPR				*e*S	**Sn**	22 57 21.1	+0.7
ORIV	**Oritupano**	**1.72**	**219**	*e*P	**Pn**	22 56 59.3	+0.3
ORIV				*e*S	**Sn**	22 57 22.4	+1.2
PCRV	**Puerto La Cruz**	**2.30**	**264**	*e*P	**Pn**	22 57 07.4	+0.5
PCRV				*e*S	**Sn**	22 57 35.2	-0.1
PRGV	**PARIAGUAN**	**2.83**	**234**	*e*P	**Pn**	22 57 14.3	0.0
PRGV				*e*S	**Sn**	22 57 47.8	-0.7
CUPV	**Cœpira**	**3.44**	**264**	*e*P	**Pn**	22 57 22.9	+0.3
CUPV				*e*S	**Sn**	22 58 02.9	-0.6
CAOV	**Caicara del Or**	**5.01**	**232**	*e*P	**Pn**	22 57 43.4	-0.9
CAOV				*e*S	**Sn**	22 58 38.7	-3.7
BAUV	**El Baul**	**5.83**	**256**	*e*P	**Pn**	22 57 54.9	-0.7
BAUV				*e*S	**Sn**	22 58 58.1	-4.5

*IDC **28** 23:04:18.6±1.6, 1840S×17305E, h0km, mb3.9/6, mb1 4.2/6, mb1mx4.0/14, mbtmp3.9/6, MS3.4/8, Ms1 3.5/8, ms1mx3.3/17, Error ellipse: s-maj=96.2km s-min=24.8km az=157.0*
NEIC 28 23:04:24.4±1.3, 1822S×17298E, h35km, mb3.7/1, Error ellipse: s-maj=70.4km s-min=15.1km az=157.0, Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**13.78**	**144**	LR	LR	23 11 38.6	
	comp=Z,427nm,20.3s,baz=185,slow=32						
HNR	**Honiara**	**15.37**	**303**	LR	LR	23 12 04.2	
	comp=Z,30nm,19.7s,baz=179,slow=30						
URZ	**Urewera**	**20.29**	**171**	LR	LR	23 15 12.7	
	comp=Z,146nm,21.1s,baz=287,slow=32						
CTA	**Charters Tower**	**25.30**	**261**	P	P	23 09 49.1	+1.2
	1.6nm,0.5s,baz=82,slow=13,SNR=2.7						
STKA	**Stephens Creek**	**31.39**	**238**	LR	LR	23 21 22.8	
	comp=Z,82nm,21.1s,baz=205,slow=33						
WRAB	**Tennant Creek**	**36.49**	**261**	*e*P	P	23 11 27.4	+0.8
	0.6nm,0.6s						
WRA	**Warramunga Arr**	**36.50**	**261**	P	P	23 11 25.5	-1.2
	0.6nm,0.5s,baz=89,slow=8.4,SNR=9.7						
WRA				PcP	PcP	23 13 49.6	-0.5
	0.7nm,1.1s,baz=48,slow=1.4,SNR=4.6						
ASAR	**Alice Springs**	**36.81**	**255**	P	P	23 11 28.8	-0.5
	1.9nm,0.8s,baz=83,slow=9.0,SNR=26						
ASAR				PcP	PcP	23 13 50.0	-1.0
	1.0nm,0.9s,baz=89,slow=3.4,SNR=6.8						
GUMO	**Guam**	**42.04**	**317**	LR	LR	23 27 45.3	
	comp=Z,18nm,20.1s,baz=355,slow=33						
VNDA	**Vanda**	**59.59**	**183**	LR	LR	23 36 26.7	
	comp=Z,84nm,21.0s,baz=333,slow=32						
MJAR	**Matsushiro Arr**	**63.61**	**329**	LR	LR	23 38 08.1	
	comp=Z,53nm,21.6s,baz=25,slow=32						
NVAR	**Mina Array Bea**	**85.50**	**47**	P	P	23 16 59.0	+0.1
	0.6nm,0.8s,baz=232,slow=10,SNR=4.1						
SONM	**Songino Array**	**88.58**	**322**	P	P	23 17 13.9	+0.4
	0.3nm,0.7s,baz=124,slow=7.5,SNR=4.0						
TXAR	**Lajitas Array**	**93.18**	**60**	P	P	23 17 36.0	+0.6
	0.6nm,0.5s,baz=216,slow=7.8,SNR=3.5						
YKA	**Yellowknife Ar**	**98.16**	**27**	LR	LR	23 53 50.3	
	comp=Z,29nm,20.1s,baz=90,slow=30						
GERES	**GERESS Array B**	**145.15**	**336**	PKPbc	PKPbc	23 23 57.6	-0.1
	1.2nm,0.7s,baz=30,slow=3.5,SNR=14						
GRA1	**Grafenberg Arr**	**145.34**	**339**	*e*PKP	PKPdf	23 23 58.3	-0.2
CDF	**Champ du Feu**	**147.72**	**342**	*e*PKP1	PKPbc	23 24 05.5	+0.2
	8.6nm,1.1s						
MEZF	**Maizieres J'vi**	**148.24**	**345**	*e*PKP1	PKPbc	23 24 06.1	-0.6
LOR	**Lormes**	**149.68**	**345**	*e*PKP1	PKPbc	23 24 09.4	-1.0
CABF	**La Chapelle**	**149.69**	**342**	*e*PKP1	PKPbc	23 24 09.9	-0.6
	12nm,1.1s						
SSF	**Saint Saulge**	**149.96**	**346**	*e*PKP1	PKPbc	23 24 10.7	-0.4
	12nm,1.2s						
SMF	**Signal de Mont**	**150.27**	**345**	*e*PKP1	PKPbc	23 24 11.0	-0.9
LPG	**La Plagne**	**150.49**	**340**	*e*PKP1	PKPbc	23 24 12.5	+0.1
	8.5nm,1.1s						
ORIF	**Oris-en-Rattie**	**151.28**	**341**	*e*PKP1	PKPbc	23 24 14.0	-0.3
	4.9nm,0.8s						

*ISCJB **28** 23:09:40.0±3.6, 179S±04×1786W±03, h628km±49km, mb4.2/11, Error ellipse: s-maj=63.5km s-min=22.9km az=148.8*
*NEIC **28** 23:09:39.1±1.5, 1784S×17858W, h600km, mb4.3/8, Error ellipse: s-maj=62.6km s-min=21.0km az=148.0*
*IDC **28** 23:09:40.9±2.3, 1780S×17856W, h619km±25km, mb3.5/6, mb1 3.7/6, mb1mx3.3/15, mbtmp3.5/6, Error ellipse: s-maj=47.8km s-min=16.0km az=149.0*
ISC 28 23:09:40.9±3.6, 179S±04×1786W±03, h621km±47km, n17, σ0°65/17, mb4.2/11, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**33.32**	**260**	*e*P	**P**	23 15 26.0	-3.8
	5.6nm,0.7s,mb4.3						
CTA	**Charters Tower**	**33.32**	**260**	P	**P**	23 15 30.4	+0.6
	7.3nm,0.6s,mb4.5,baz=92,slow=10,SNR=16						
CTAO	**Charters Tower**	**33.32**	**260**	*e*P	**P**	23 15 27.1	-2.6
	7.6nm,0.7s,mb4.4						
CTAO				*e*		23 17 34.3	
COEN	**Coen**	**36.97**	**270**	*e*P	**P**	23 16 01.1	+1.2
	14nm,0.9s,mb4.5						
STKA	**Stephens Creek**	**38.53**	**241**	*e*P	**P**	23 16 12.8	+0.5
	5.5nm,0.6s,mb4.3						
STKA	**Stephens Creek**	**38.53**	**241**	P	**P**	23 16 13.1	+0.8
	7.1nm,0.5s,mb4.5,baz=91,slow=9.8,SNR=21						
WB2	**Warramunga Arr**	**44.49**	**260**	*e*P	**P**	23 16 58.9	-0.4
WB2	**Warramunga Arr**	**44.49**	**260**	*e*P	**P**	23 16 58.9	-0.4
WRAB	**Tennant Creek**	**44.50**	**260**	*e*P	**P**	23 16 58.6	-0.7
	5.0nm,0.4s,mb4.4						
WRA	**Warramunga Arr**	**44.51**	**260**	P	**P**	23 16 59.4	0.0
	5.6nm,0.5s,mb4.4,baz=94,slow=7.4,SNR=112						
WRA				PcP	PcP	23 18 28.4	-0.4
	0.4nm,0.4s,baz=91,slow=4.0,SNR=3.7						
ASAR	**Alice Springs**	**44.67**	**254**	P	**P**	23 17 00.8	+0.3
	20nm,0.6s,mb4.8,baz=87,slow=8.7,SNR=344						
ASAR				PcP	PcP	23 18 28.9	-0.4
	1.0nm,0.4s,baz=105,slow=4.0,SNR=5.7						
ASAR				ScP	ScP	23 21 25.6	+2.3
	0.4nm,0.6s,baz=93,slow=4.7,SNR=4.8						
ASAR				S	**S**	23 22 53.9	+0.3
	1.1nm,1.0s,baz=88,slow=15,SNR=7.8						
KAKA	**Kakadu**	**47.45**	**269**	*e*P	**P**	23 17 21.3	-0.4
	11nm,0.4s,mb4.8						
FITZ	**Fitzroy Crossi**	**52.90**	**261**	*e*P	**P**	23 18 01.3	+0.1
	1.5nm,0.3s,mb3.8						
MBWA	**Marble Bar**	**57.95**	**256**	*e*P	**P**	23 18 35.5	-0.5
	7.9nm,0.6s,mb4.0						
MJAR	**Matsushiro Arr**	**67.81**	**323**	P	**P**	23 19 38.7	0.0
	1.0nm,0.5s,mb3.5,baz=156,slow=6.4,SNR=4.7						
NVAR	**Mina Array Bea**	**79.50**	**44**	P	**P**	23 20 44.8	+0.1
	0.4nm,0.5s,mb3.0,baz=212,slow=6.7,SNR=7.8						
GERES	**GERESS Array B**	**147.55**	**345**	PKPbc	PKPbc	23 28 16.4	-0.1
	0.3nm,0.6s,baz=20,slow=3.1,SNR=4.1						

*IDC **28** 23:32:01.7±0.8, 3737S×17701E, h304km±9km, mb3.5/2, mb1 3.7/3, mb1mx3.2/13, mbtmp3.5/3, Error ellipse: s-maj=38.6km s-min=22.0km az=143.0*
*ISCJB **28** 23:32:02.2±0.7, 3730S±008×1770E±0.1, h315km±6km, mb3.7/3, Error ellipse: s-maj=18.6km s-min=10.0km az=32.5*
*NEIC **28** 23:32:03.6, 3706S×17694E, h284km, mb3.7/1, After WEL.*
ISC 28 23:32:02.8±0.7, 3727S±009×1770E±01, h309km±6km, n65, σ0°84/65, mb3.7/3, 3C, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARZ	**Manawahe**	**0.76**	**198**	P	**Pn**	23 32 42.0	-1.1
EDRZ	**Edgecumbe**	**0.86**	**192**	P	**Pn**	23 32 43.4	0.0
URZ	**Urewera**	**1.00**	**174**	P	**Pn**	23 32 42.7	-1.3
URZ	**Urewera**	**1.00**	**174**	P	**Pn**	23 32 43.1	-0.9
	45nm,0.3s,baz=267,slow=2.7,SNR=163						
URZ				S	**S**	23 33 14.2	-2.6
	71nm,0.3s,baz=326,slow=7.0,SNR=30						
TAZ	**Tarawera**	**1.03**	**201**	P	**Pn**	23 32 44.2	0.0
MXZ	**Matakaoa Point**	**1.10**	**106**	⇑P	**Pn**	23 32 43.5	-1.0
MXZ				S	**S**	23 33 14.5	-3.3
MWZ	**Matawai**	**1.16**	**158**	P	**Pn**	23 32 44.4	-0.4
PUZ	**Puketiti**	**1.30**	**129**	⇑P	**Pn**	23 32 45.7	+0.1
WHTZ	**Whakaora**	**1.61**	**209**	P	**Pn**	23 32 48.1	+0.7
WATZ	**Wairara**	**1.74**	**214**	P	**Pn**	23 32 48.4	+0.1
HATZ	**Hinemaiaia**	**1.77**	**203**	P	**Pn**	23 32 48.8	+0.3
KNZ	**Kokohu**	**1.84**	**163**	⇑P	**Pn**	23 32 50.0	+1.0
RATZ	**Rangitukua**	**1.86**	**210**	P	**Pn**	23 32 49.3	+0.1
RITZ	**Rihia Road**	**1.92**	**207**	P	**Pn**	23 32 50.3	+0.7
BKZ	**Black Stump Fm**	**1.94**	**191**	P	**Pn**	23 32 50.0	+0.3
KATZ	**Kakaramea**	**1.98**	**210**	P	**Pn**	23 32 50.2	+0.1
WTVZ	**West Tongariro**	**2.14**	**210**	P	**Pn**	23 32 51.4	0.0
TWVZ	**Taurewa**	**2.17**	**213**	P	**Pn**	23 32 51.8	+0.2
NGZ	**Ngauruhoe**	**2.19**	**209**	P	**Pn**	23 32 52.4	+0.6
WPVZ	**Whakapapa**	**2.24**	**210**	P	**Pn**	23 32 52.5	+0.4
TUVZ	**Tukino**	**2.25**	**207**	P	**Pn**	23 32 52.7	+0.4
FWVZ	**Far West T-bar**	**2.28**	**209**	P	**Pn**	23 32 52.6	+0.1
DRZ	**Dome Shelter**	**2.29**	**208**	P	**Pn**	23 32 53.2	+0.6
WNVZ	**Wahianoa**	**2.33**	**207**	P	**Pn**	23 32 53.1	+0.2
MOVZ	**Moawhango**	**2.34**	**204**	P	**Pn**	23 32 53.0	0.0
VRZ	**Vera Road**	**2.55**	**223**	P	**Pn**	23 32 55.5	+0.7
RAEZ	**Rainy Point**	**2.86**	**224**	P	**Pn**	23 32 59.2	+1.5
TSZ	**Takapari Road**	**2.90**	**196**	P	**Pn**	23 32 58.6	+0.5
WAZ	**Wanganui**	**2.93**	**211**	*e*P	**Pn**	23 32 59.0	+0.6
NEZ	**North Egmont**	**3.02**	**228**	P	**Pn**	23 33 00.7	+1.4
PKE	**Pukeiti**	**3.04**	**230**	P	**Pn**	23 33 00.7	+1.3
NWEZ	**Newall Road**	**3.16**	**230**	P	**Pn**	23 33 01.9	+1.3
BFZ	**Birch Farm**	**3.46**	**189**	P	**Pn**	23 33 04.4	+0.8
MRZ	**Mangatainoka R**	**3.56**	**197**	P	**Pn**	23 33 04.9	+0.2
KIW	**Kapiti Island**	**3.93**	**203**	P	**Pn**	23 33 08.6	0.0
MTW	**Mount Morrison**	**4.05**	**196**	P	**Pn**	23 33 10.1	+0.2
CAW	**Cannon Point**	**4.11**	**200**	P	**Pn**	23 33 10.5	-0.1
PAWZ	**Paruwai Farm**	**4.28**	**196**	P	**Pn**	23 33 12.7	+0.3
MRW	**Makara Radio**	**4.33**	**203**	P	**Pn**	23 33 13.1	+0.1
MSWZ	**Moikau Station**	**4.35**	**197**	P	**Pn**	23 33 13.2	0.0
WEL	**Wellington**	**4.36**	**202**	P	**Pn**	23 33 13.4	+0.1
SNZO	**South Karori**	**4.40**	**203**	P	**Pn**	23 33 13.6	-0.2
TCW	**Tory Channel**	**4.46**	**207**	P	**Pn**	23 33 14.3	-0.1
NNZ	**Nelson**	**4.83**	**214**	P	**Pn**	23 33 17.6	-1.0
QRZ	**Quartz Range**	**4.96**	**223**	*e*P	**Pn**	23 33 18.3	-1.8
BSWZ	**Blackbirch Sta**	**5.05**	**207**	P	**Pn**	23 33 21.1	+0.1
THZ	**Tophouse**	**5.48**	**214**	*e*P	**Pn**	23 33 24.8	-1.3
KHZ	**Kahutara**	**5.78**	**206**	P	**Pn**	23 33 29.7	+0.1
DSZ	**Denniston Nort**	**6.00**	**220**	*e*P	**Pn**	23 33 30.8	-1.4
LTZ	**Lake Taylor**	**6.58**	**212**	*e*P	**Pn**	23 33 38.7	-0.5
MQZ	**McQueen's Vall**	**7.23**	**206**	P	**Pn**	23 33 46.2	-0.7
RPZ	**Rata Peaks**	**7.86**	**213**	*e*P	**Pn**	23 33 53.4	-1.2
RPZ	**Rata Peaks**	**7.86**	**213**	P	**Pn**	23 33 53.6	-1.0
	1.7nm,0.3s,baz=17,slow=20,SNR=10						
RPZ				S	**S**	23 35 20.9	-4.4
	5.7nm,0.3s,baz=12,slow=19,SNR=21						
LBZ	**Lake Benmore**	**8.78**	**214**	*e*P	**Pn**	23 34 05.0	-0.7
ODZ	**Otahua Downs**	**9.12**	**210**	*e*P	**Pn**	23 34 11.0	+1.1
JCZ	**Jackson Bay**	**9.22**	**220**	*e*P	**Pn**	23 34 09.8	-1.4
TUZ	**Tuapeka**	**10.27**	**210**	*e*P	**Pn**	23 34 27.9	+4.0
ASAR	**Alice Springs**	**39.19**	**278**	P	**P**	23 39 01.9	+0.1
	1.8nm,0.5s,mb3.8,baz=120,slow=8.0,SNR=60						
WB2	**Warramunga Arr**	**40.82**	**283**	*e*P	**P**	23 39 14.6	-0.5
WRAB	**Tennant Creek**	**40.83**	**283**	*e*P	**P**	23 39 14.1	-1.1
	2.0nm,0.5s,mb3.6						
WRA	**Warramunga Arr**	**40.83**	**283**	P	**P**	23 39 14.7	-0.5
	1.6nm,0.4s,mb3.6,baz=121,slow=7.8,SNR=23						
OHCM	**Honcut**	**94.92**	**43**	*e*P	**P**	23 44 51.8	+1.9
ARCES	**ARCESS Array B**	**144.19**	**343**	PKP	PKPdf	23 50 59.3	-1.4
	6.0nm,1.1s,baz=26,slow=3.1,SNR=11						
JOF	**Joensuu**	**146.88**	**332**	*e*p	PKPdf	23 51 05.7	+0.2
	2.3nm,0.6s						
FINES	**FINESS Array B**	**149.74**	**332**	PKPbc	PKPbc	23 51 14.7	-0.6
	1.5nm,0.8s,baz=39,slow=3.9,SNR=12						
FINES				PKPab	PKPab	23 51 20.6	-1.2
	1.0nm,0.5s,baz=65,slow=4.6,SNR=12						

*ISCJB **28** 23:55:48.0±0.7, 3746S±006×1768E±0.1, h256km±5km, mb3.4/4, Error ellipse: s-maj=15.7km s-min=8.8km az=13.6*
*IDC **28** 23:55:48.3±0.9, 3766S×17696E, h243km±9km, mb3.3/3, mb1 3.6/4, mb1mx3.4/14, mbtmp3.5/4, Error ellipse: s-maj=40.1km s-min=21.5km az=136.0*
*NEIC **28** 23:55:49.4, 3722S×17689E, h229km, mb3.6/2, After WEL.*
ISC 28 23:55:48.7±0.7, 3749S±006×1769E±01, h253km±5km, n77, σ0°95/77, mb3.5/4, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARZ	**Manawahe**	**0.54**	**202**	P	**Pn**	23 56 21.2	-0.8
TGRZ	**Tauranga**	**0.59**	**245**	P	**Pn**	23 56 20.3	-1.8
EDRZ	**Edgecumbe**	**0.64**	**194**	P	**Pn**	23 56 21.8	-0.5
KARZ	**Kaharoa**	**0.76**	**225**	P	**Pn**	23 56 21.9	-0.9
URZ	**Urewera**	**0.79**	**170**	P	**Pn**	23 56 22.1	-0.8
URZ	**Urewera**	**0.79**	**170**	P	**Pn**	23 56 22.1	-0.8
	170nm,0.3s,baz=281,slow=2.5,SNR=1278						
URZ				S	**S**	23 56 46.9	-3.0
	244nm,0.3s,baz=2.6,slow=22,SNR=33						
TAZ	**Tarawera**	**0.82**	**204**	P	**Pn**	23 56 23.4	+0.4
MWZ	**Matawai**	**0.97**	**151**	P	**Pn**	23 56 23.5	-0.3
MXZ	**Matakaoa Point**	**1.10**	**95**	P	**Pn**	23 56 23.5	-1.0
PUZ	**Puketiti**	**1.20**	**120**	P	**Pn**	23 56 25.2	0.0
KUZ	**Kuaotunu**	**1.22**	**307**	P	**Pn**	23 56 21.1	-4.2
WHTZ	**Whakaora**	**1.41**	**213**	P	**Pn**	23 56 27.0	+0.5
WATZ	**Wairara**	**1.54**	**217**	P	**Pn**	23 56 28.1	+0.6
HATZ	**Hinemaiaia**	**1.55**	**205**	P	**Pn**	23 56 27.9	+0.3
KNZ	**Kokohu**	**1.64**	**159**	P	**Pn**	23 56 29.5	+1.2
RATZ	**Rangitukua**	**1.66**	**213**	P	**Pn**	23 56 28.9	+0.5
RITZ	**Rihia Road**	**1.71**	**209**	P	**Pn**	23 56 28.9	0.0
BKZ	**Black Stump Fm**	**1.71**	**191**	*e*P	**Pn**	23 56 29.4	+0.5
KATZ	**Kakaramea**	**1.78**	**213**	P	**Pn**	23 56 29.9	+0.5
WTVZ	**West Tongariro**	**1.94**	**212**	P	**Pn**	23 56 31.4	+0.6
TWVZ	**Taurewa**	**1.97**	**216**	P	**Pn**	23 56 31.6	+0.5
NGZ	**Ngauruhoe**	**1.99**	**211**	P	**Pn**	23 56 32.0	+0.8
WPVZ	**Whakapapa**	**2.03**	**212**	P	**Pn**	23 56 32.3	+0.7
TUVZ	**Tukino**	**2.04**	**209**	P	**Pn**	23 56 32.5	+0.8
FWVZ	**Far West T-bar**	**2.07**	**211**	P	**Pn**	23 56 32.5	+0.5
DRZ	**Dome Shelter**	**2.09**	**211**	P	**Pn**	23 56 33.2	+1.1
WNVZ	**Wahianoa**	**2.12**	**209**	P	**Pn**	23 56 33.1	+0.7
MOVZ	**Moawhango**	**2.13**	**205**	P	**Pn**	23 56 32.8	+0.3
VRZ	**Vera Road**	**2.37**	**226**	P	**Pn**	23 56 35.8	+1.0
WCZ	**Waipu Caves**	**2.59**	**306**	P	**Pn**	23 56 32.7	-4.3
TSZ	**Takapari Road**	**2.68**	**196**	P	**Pn**	23 56 38.7	+0.8
RAEZ	**Rainy Point**	**2.69**	**227**	P	**Pn**	23 56 39.8	+1.8
WAZ	**Wanganui**	**2.73**	**213**	*e*P	**Pn**	23 56 39.3	+0.9
NEZ	**North Egmont**	**2.85**	**230**	P	**Pn**	23 56 41.5	+1.8
PKE	**Pukeiti**	**2.88**	**233**	P	**Pn**	23 56 41.5	+1.5
NWEZ	**Newall Road**	**3.00**	**232**	P	**Pn**	23 56 43.0	+1.7
BFZ	**Birch Farm**	**3.24**	**189**	P	**Pn**	23 56 44.7	+0.9
MRZ	**Mangatainoka R**	**3.34**	**198**	P	**Pn**	23 56 45.3	+0.3
OUZ	**Omahuta**	**3.51**	**309**	*e*P	**Pn**	23 56 42.6	-4.5
KIW	**Kapiti Island**	**3.72**	**204**	P	**Pn**	23 56 49.3	0.0
MTW	**Mount Morrison**	**3.83**	**196**	P	**Pn**	23 56 50.8	+0.2
PAWZ	**Paruwai Farm**	**4.06**	**196**	P	**Pn**	23 56 53.6	+0.4
MRW	**Makara Radio**	**4.12**	**204**	P	**Pn**	23 56 53.7	-0.2
MSWZ	**Moikau Station**	**4.13**	**198**	P	**Pn**	23 56 54.3	+0.2
WEL	**Wellington**	**4.15**	**203**	P	**Pn**	23 56 54.4	+0.1
SNZO	**South Karori**	**4.19**	**204**	P	**Pn**	23 56 54.5	-0.3
BHW	**Baring Head**	**4.23**	**201**	P	**Pn**	23 56 55.2	0.0
TCW	**Tory Channel**	**4.25**	**208**	P	**Pn**	23 56 55.4	-0.1
NNZ	**Nelson**	**4.63**	**215**	P	**Pn**	23 56 59.2	-0.8
CMWZ	**Cape Campbell**	**4.75**	**205**	P	**Pn**	23 57 02.1	+0.7
QRZ	**Quartz Range**	**4.78**	**224**	P	**Pn**	23 57 00.5	-1.3
BSWZ	**Blackbirch Sta**	**4.84**	**208**	P	**Pn**	23 57 02.5	0.0
THZ	**Tophouse**	**5.28**	**215**	*e*P	**Pn**	23 57 07.2	-0.7
DSZ	**Denniston Nort**	**5.81**	**221**	*e*P	**Pn**	23 57 12.9	-1.5
LTZ	**Lake Taylor**	**6.38**	**213**	*e*P	**Pn**	23 57 20.3	-1.2
CRLZ	**Canterbury Las**	**6.91**	**207**	P	**Pn**	23 57 27.5	-0.7
MQZ	**McQueen's Vall**	**7.02**	**206**	P	**Pn**	23 57 28.4	-1.1
WVZ	**Waitaha Valley**	**7.32**	**218**	*e*P	**Pn**	23 57 32.3	-1.0
RPZ	**Rata Peaks**	**7.66**	**214**	*e*P	**Pn**	23 57 36.6	-1.0
RPZ	**Rata Peaks**	**7.66**	**214**	P	**Pn**	23 57 36.6	-1.0
	8.8nm,0.3s,baz=302,slow=1.6,SNR=43						
RPZ				S	**S**	23 59 01.0	-4.2
	14nm,0.3s,baz=323,slow=21,SNR=14						
FOZ	**Fox Glacier**	**8.20**	**220**	P	**Pn**	23 57 41.8	-2.6
LBZ	**Lake Benmore**	**8.58**	**214**	*e*P	**Pn**	23 57 48.2	-0.9
ODZ	**Otahua Downs**	**8.91**	**210**	*e*P	**Pn**	23 57 53.9	+0.6
JCZ	**Jackson Bay**	**9.04**	**221**	*e*P	**Pn**	23 57 53.0	-2.0
WKZ	**Wanaka**	**9.45**	**217**	*e*P	**Pn**	23 57 58.7	-1.5
EAZ	**Earnscleugh**	**9.63**	**214**	*e*P	**Pn**	23 58 01.1	-1.3
TUZ	**Tuapeka**	**10.06**	**210**	*e*P	**Pn**	23 58 09.2	+1.3
MLZ	**Mavora Lakes**	**10.24**	**217**	*e*P	**Pn**	23 58 10.2	+0.1
WHZ	**Wether Hill Ro**	**10.75**	**216**	*e*P	**Pn**	23 58 15.6	-0.9
ASAR	**Alice Springs**	**39.19**	**278**	P	**P**	00 02 53.5	+1.0
	1.5nm,0.6s,mb3.7,baz=119,slow=8.0,SNR=34						
WB2	**Warramunga Arr**	**40.84**	**283**	*e*P	**P**	00 03 06.6	+0.4
WRAB	**Tennant Creek**	**40.85**	**283**	*e*P	**P**	00 03 06.6	+0.4
	1.7nm,0.8s,mb3.5						
WRA	**Warramunga Arr**

HOOD Mount Hood Mea 4.21 62 *e*Pn **Pn 00 50 10.8 0.0**
WDC Whiskeytown Da 4.36 130 *e*Pn **Pn 00 50 11.2 -1.5**
KIPM Iron Peak 4.48 144 *e*Pn **Pn 00 50 12.3 -2.0**
NLWA Neilton Lookou 4.48 28 *e*Pn **Pn 00 50 13.8 -0.6**
NLWA *e*Sn **Sn 00 51 06.6 0.0**
LON Longmire 4.89 46 *e*Pn **Pn 00 50 20.4 +0.4**
GNW Green Mountain 5.01 34 *e*Pn **Pn 00 50 21.1 -0.6**
MOD Modoc 5.13 105 *e*Pn **Pn 00 50 21.0 -2.4**
HOPS Hopland 5.33 146 *e*Pn **Pn 00 50 25.6 -0.5**
PGC Sidney 5.72 24 *e*Pn **Pn 00 50 31.1 -0.3**
OHCM Honcut 5.81 133 *e*Pn **Pn 00 50 32.8 0.0**
HAWA Hanford 6.01 58⇑ *e*Pn **Pn 00 50 35.0 -0.4**
90nm,0.5s
WVOR Wild Horse Val 6.17 97 *e*Pn **Pn 00 50 35.0 -2.6**
23nm,0.4s
WVOR *e*Sg **Sg 00 52 23.5 -0.9**
WVOR Wild Horse Val 6.17 97 *e*P **Pn 00 50 35.0 -2.7**
WVOR pmax pmax
comp=Z,23nm,0.4s
PAHR Pah Rah Range 6.79 121 *e*Pn **Pn 00 50 48.0 +1.8**
BMO Blue Mountains 7.06 75 *e*Pn **Pn 00 50 48.4 -1.4**
CMB Columbia Colle 7.36 135 *e*Pn **Pn 00 50 54.9 +1.0**
comp=Z,139nm,1.5s
CMB Columbia Colle 7.36 135 *e*P **Pn 00 50 54.9 +1.0**
CMB pmax pmax
comp=Z,139nm,1.5s
WAKR Walker 7.53 129 *e*Pn **Pn 00 50 56.9 +0.6**
SAO San Andreas Ge 7.90 146 *e*Pn **Pn 00 50 59.0 -2.4**
comp=Z,28nm,1.0s
SAO San Andreas Ge 7.90 146 *e*P **Pn 00 50 59.0 -2.4**
SAO pmax pmax
comp=Z,28nm,1.0s
NVAR Mina Array Bea 8.24 125 Pn **Pn 00 51 06.5 +0.5**
comp=Z,0.8nm,0.3s,baz=304,slow=13,SNR=25
NEW Newport 8.36 52 *e*Pn **Pn 00 51 07.3 -0.3**
NEW Newport 8.36 52 P **Pn 00 51 07.3 -0.3**
NEW pmax pmax
comp=Z,6.0nm,0.3s
NEW MLR MLR
comp=Z,2μm,20.9s
NEW Newport 8.36 52 Pn **Pn 00 51 07.2 -0.3**
comp=Z,6.2nm,0.3s,baz=232,slow=11,SNR=49
NEW LR LR 00 54 25.6
comp=Z,2μm,20.9s,baz=233,slow=38
BBB Bella Bella 8.76 355 Pn **Pn 00 51 14.5 +1.4**
BBB LR LR 00 54 01.5
BBB Bella Bella 8.76 355 Pn **Pn 00 51 14.5 +1.4**
comp=Z,3.2nm,0.3s,baz=182,slow=10,SNR=11
BBB LR LR 00 54 01.5
comp=Z,811nm,21.0s,baz=82,slow=34
MTUM Tungsten Hills 8.83 131 *e*Pn **Pn 00 51 15.2 +1.1**
MSO Missoula 9.77 65 *e*Pn **Pn 00 51 26.6 -0.4**
MCMT McKenzie Canyo 10.22 77 *e*Pn **Pn 00 51 33.3 +0.2**
CHMT Chamberlain Mo 10.25 66 *e*Pn **Pn 00 51 32.9 -0.7**
DLMT Dillon 10.43 75 *e*Pn **Pn 00 51 36.3 +0.3**
TPNV Topopah Spring 10.44 125 *e*Pn **Pn 00 51 27.4 -8.8**
HVU Hansel Valley 10.57 94 *e*Pn **Pn 00 51 36.6 -1.3**
LRM Limekiln Ridge 10.59 72 *e*Pn **Pn 00 51 37.8 -0.4**
WALA Waterton Lakes 10.60 54 *e*Pn **Pn 00 51 38.6 +0.2**
BGU Big Grassy Mou 10.62 99 *e*Pn **Pn 00 51 38.7 0.0**
SPUT South Promonto 10.93 96 *e*Pn **Pn 00 51 42.5 -0.3**
DUG Dugway 11.03 102 *e*Pn **Pn 00 51 44.0 -0.3**
BOZ Bozeman (W) 11.14 73 *e*Pn **Pn 00 51 45.0 -0.7**
HRY Holter Researc 11.16 68 *e*Pn **Pn 00 51 47.1 +1.2**
QLMT Earthquake Lak 11.22 78 *e*Pn **Pn 00 51 48.8 +1.9**
GSC Goldstone 11.30 133 *e*Pn **Pn 00 51 49.2 +1.3**
DCID1 Drake Creek 11.44 84 *e*Pn **Pn 00 51 50.7 +0.9**
HWUT Hardware Ranch 11.49 94 *e*Pn **Pn 00 51 50.8 +0.3**
MWC Mount Wilson 11.53 140 *e*Pn **Pn 00 51 52.6 +1.5**
IMW Indian Meadow 11.59 82 *e*Pn **Pn 00 51 54.0 +2.1**
AHID Auburn Hatcher 11.60 88 *e*Pn **Pn 00 51 51.9 0.0**
comp=Z,18nm,0.8s
TPAW Teton Pass 11.62 84 *e*Pn **Pn 00 51 54.0 +1.8**
NLU North Lily Min 11.65 102 Pn **Pn 00 51 50.8 -1.9**
YFT Old Faithful 11.65 80 *e*Pn **Pn 00 51 55.1 +2.5**
REDW Red Top Meadow 11.70 85 *e*Pn **Pn 00 51 54.7 +1.3**
ARUT Antelope Range 11.71 114 *e*Pn **Pn 00 51 54.7 +1.1**
FLWY Flagg Ranch 11.76 81 *e*Pn **Pn 00 51 56.8 +2.6**
YNR Norris Junctio 11.76 78 *e*Pn **Pn 00 51 55.4 +1.2**
LOHW Long Hollow 11.86 84 *e*Pn **Pn 00 51 57.1 +1.6**
JLU Jordanelle 11.87 99 *e*Pn **Pn 00 51 54.7 -0.9**
MPU Maple Canyon 11.94 102 *e*Pn **Pn 00 51 56.8 +0.1**
LKWY Lake 11.96 79 *e*Pn **Pn 00 51 58.9 +2.0**
DAU Daniels Canyon 12.07 99 *e*Pn **Pn 00 51 58.7 +0.2**
MSU Marysvale 12.20 109 *e*Pn **Pn 00 51 60.0 -0.2**
LDFC Landfair 12.40 129 *e*Pn **Pn 00 52 05.0 +1.9**
GCMT Greycliff 12.52 73 *e*Pn **Pn 00 52 05.1 +0.6**
BW06 Boulder Array 12.72 87 *e*Pn **Pn 00 52 08.1 +0.7**
RLMT Red Lodge 12.77 76 *e*Pn **Pn 00 52 08.6 +0.6**
PFO Pinyon Flat Ob 12.80 137 Pn **Pn 00 52 09.6 +1.1**
comp=Z,0.1nm,0.3s,baz=299,slow=6.7,SNR=4.1
PFO LR LR 00 56 54.9
comp=Z,753nm,20.3s,baz=157,slow=37
EGMT Eagleton 12.83 63 *e*Pn **Pn 00 52 08.1 -0.7**
SRU San Rafael 13.08 104 *e*Pn **Pn 00 52 12.7 +0.4**
EDM Edmonton 13.28 38 *e*Pn **Pn 00 52 13.8 -1.0**
GLA Glamis 14.07 134 *e*Pn **Pn 00 52 27.0 +1.1**
RWWY Rawlins 14.64 90 *e*Pn **Pn 00 52 31.4 -2.1**
PV01 Paradox Valley 14.88 105 *e*Pn **Pn 00 52 36.0 -0.8**
LAO LASA Array 14.97 70 *e*Pn **Pn 00 52 36.0 -2.1**
DLBC Dease Lake 15.11 354 *e*P **Pn 00 52 46.4 +6.5**
DLBC Dease Lake 15.11 354 Pn **Pn 00 52 46.0 +6.1**
baz=166,slow=12
SMCO Snowmass 15.59 99 *e*Pn **Pn 00 52 45.7 -0.5**
comp=Z,3.2nm,0.7s
PHWY Pilot Hill 16.01 90 *e*Pn **Pn 00 52 49.0 -2.7**
ISCO Idaho Springs 16.35 96 *e*Pn **Pn 00 52 54.1 -2.0**
comp=Z,155nm,2.5s
ISCO Idaho Springs 16.35 96 *e*P **Pn 00 52 54.1 -1.9**
ISCO pmax pmax
comp=Z,155nm,2.5s
RSSD Black Hills 16.54 80 *e*P **Pn 00 52 57.7 -0.7**
comp=Z,18nm,1.3s
RSSD Black Hills 16.54 80 *e*P **Pn 00 52 57.7 -0.7**
RSSD pmax pmax
comp=Z,18nm,1.3s
DGMT Dagmar 16.56 65 *e*Pn **Pn 00 52 57.8 -0.9**
comp=Z,79nm,0.9s
SKAG Skagway 16.82 345 *e*P **Pn 00 53 04.3 +2.4**
comp=Z,68nm,1.4s
SDCO Great Sand Dun 17.23 102 *e*Pn **Pn 00 53 06.6 -0.6**
comp=Z,135nm,1.9s
LAZ Ladron 17.83 114 *e*Pn **Pn 00 53 15.3 +0.6**
ANMO Albuquerque 17.97 111 *e*Pn **Pn 00 53 16.5 +0.1**
ANMO Albuquerque 17.97 111 *e*P **Pn 00 53 14.0 -2.3**
ANMO Albuquerque 17.97 111 P **Pn 00 53 16.1 -0.2**
comp=Z,0.1nm,0.3s,baz=304,slow=13,SNR=20
ANMO LR LR 01 00 31.6
comp=Z,340nm,18.8s,baz=118,slow=38
LENM Lemitar 18.08 114 *e*P **Pn 00 53 19.0 +1.3**
LPM Los Pinos Moun 18.22 113 *e*P **Pn 00 53 20.5 +1.1**
BNM Barren Site 18.32 114 *e*Pn **Pn 00 53 21.2 +0.5**
FFC Flin Flon 19.73 46 *e*P **Pn 00 53 36.2 -1.3**
comp=Z,95nm,1.5s
FFC Flin Flon 19.73 46 *e*P **Pn 00 53 36.2 -1.3**
FFC pmax pmax
comp=Z,95nm,1.5s
YKA Yellowknife Ar 20.38 17 P **P 00 53 43.6 +0.5**
YKA pmax pmax
comp=Z,9.0nm,0.7s
YKA MLR MLR
comp=Z,39nm,19.2s
YKA Yellowknife Ar 20.38 17 P **P 00 53 43.6 +0.5**
comp=Z,9.2nm,0.7s,baz=207,slow=10,SNR=65
YKA LR LR 01 00 41.5
comp=Z,39nm,19.2s,MS2.8,baz=155,slow=34
YKW3 Yellowknife Ar 20.44 16 *e*P **P 00 53 43.7 0.0**
MNTX Cornudas Mount 20.66 117 *e*Pn **P 00 53 47.6 +1.2**
CBKS Cedar Bluff 20.96 94 *e*P **P 00 53 49.9 +0.3**
comp=Z,49nm,1.2s
CBKS Cedar Bluff 20.96 94 *e*P **P 00 53 49.9 +0.3**
CBKS pmax pmax
comp=Z,49nm,1.2s
DIV Divide 20.97 334 *e*Pn **P 00 53 49.8 +0.3**
GDL2 Guadalupe Moun 21.01 115 *e*P **P 00 53 51.5 +1.4**
AMTX Amarillo 21.31 105 *e*P **P 00 53 53.9 +0.6**
KDAK Kodiak Island 21.50 321 P **P 00 53 55.4 +0.2**
comp=Z,12nm,0.8s,mb4.3,baz=133,slow=7.2,SNR=7.6
KDAK LR LR 01 00 05.7
comp=Z,589nm,21.6s,MS4.0,baz=111,slow=31
MENT Mentasta 21.81 339 *e*P **P 00 54 00.2 +1.7**
DAWY Dawson 21.83 345 *e*P **P 00 53 59.6 +0.9**
ECSD EROS,Sioux Fal 21.90 79 *e*P **P 00 53 59.4 -0.3**

AGMN Agassiz Refuge 22.07 66 *e*P **P 00 54 01.4 -0.1**
SLKM Skilak Lake 22.09 329 *e*Pn **P 00 54 01.5 0.0**
ULM Lac du Bonnet 22.18 61 P **P 00 54 02.3 -0.3**
comp=Z,30nm,0.8s,mb4.8,baz=271,slow=10.0,SNR=64
ULM LR LR 01 03 07.6
comp=Z,852nm,18.2s,MS4.2,baz=105,slow=38
SML Sawmill 22.30 333 *e*P **P 00 54 04.7 +0.9**
PMR Palmer 22.42 332 *e*P **P 00 54 05.1 +0.1**
comp=Z,88nm,1.9s,mb4.9
PMR Palmer 22.42 332 *e*P **P 00 54 05.1 +0.1**
PMR pmax pmax
comp=Z,88nm,1.9s,mb4.9
EGAK Eagle 22.81 344 *e*P **P 00 54 10.1 +0.9**
KSU1 Kansas State U 23.13 90 *e*P **P 00 54 12.7 -0.1**
comp=Z,26nm,0.8s,mb4.7
TXAR Lajitas Array 23.34 119 P **P 00 54 15.1 0.0**
TXAR LR LR 01 03 02.5
TXAR Lajitas Array 23.34 119 P **P 00 54 15.1 0.0**
TXAR pmax pmax
comp=Z,2.0nm,0.7s
TXAR MLR MLR
comp=Z,117nm,21.1s
TXAR Lajitas Array 23.34 119 P **P 00 54 15.1 0.0**
comp=Z,1.9nm,0.7s,mb3.6,baz=311,slow=9.6,SNR=7.4
TXAR LR LR 01 03 02.5
comp=Z,117nm,21.1s,MS3.3,baz=190,slow=36
WMOK Wichita Mounta 23.43 102 *e*P **P 00 54 15.5 -0.5**
comp=Z,14nm,0.5s,mb4.6
WMOK Wichita Mounta 23.43 102 *e*P **P 00 54 15.5 -0.5**
WMOK pmax pmax
comp=Z,14nm,0.5s,mb4.7
LPIG La Paz 23.67 139 LR LR 01 02 46.6
comp=Z,329nm,20.1s,MS3.8,baz=17,slow=35
MCK McKinley 23.90 336 *e*P **P 00 54 20.6 +0.4**
COLA College 24.46 338 *e*P **P 00 54 25.0 -0.2**
comp=Z,9.6nm,0.8s,mb4.3
COLA College 24.46 338 *e*P **P 00 54 25.0 -0.2**
COLA pmax pmax
comp=Z,10.0nm,0.8s,mb4.3
SVW2 Sparrevohn 24.55 326 *e*P **P 00 54 25.9 -0.2**
SCIA State Center 24.74 82 *e*P **P 00 54 29.1 +1.1**
EYMN Ely 25.00 67 *e*P **P 00 54 30.9 +0.5**
JCT Junction City 25.13 112 *e*P **P 00 54 30.5 -1.1**
comp=Z,9.2nm,1.1s,mb4.2
JCT Junction City 25.13 112 *e*P **P 00 54 30.5 -1.1**
JCT pmax pmax
comp=Z,9.0nm,1.1s,mb4.2
INK Inuvik 25.14 354 *e*P **P 00 54 31.3 -0.1**
INK Inuvik 25.14 354 P **P 00 54 30.9 -0.5**
INK pmax pmax
comp=Z,7.0nm,0.9s
INK MLR MLR
comp=Z,612nm,18.2s
INK Inuvik 25.14 354 P **P 00 54 30.9 -0.5**
comp=Z,7.0nm,0.9s,mb4.2,baz=168,slow=11,SNR=25
INK LR LR 01 04 07.1
comp=Z,612nm,18.2s,MS4.2,baz=345,slow=36
TTA Tatalina 25.75 329 *e*P **P 00 54 37.3 +0.3**
COWI Conover 26.79 71 *e*P **P 00 54 46.5 0.0**
comp=Z,14nm,0.8s,mb4.5
IMA2 Indian Mountai 26.99 336 *e*P **P 00 54 48.6 +0.5**
MIAR Mount Ida 27.26 98 P **P 00 54 50.6 -0.3**
comp=Z,71nm,2.0s,mb4.8
MIAR Mount Ida 27.26 98 P **P 00 54 50.6 -0.3**
MIAR pmax pmax
comp=Z,71nm,2.0s,mb4.8
CCM Cathedral Cave 27.42 89 *e*P **P 00 54 51.3 -1.1**
comp=Z,5.6nm,0.8s,mb4.2
CCM Cathedral Cave 27.42 89 *e*P **P 00 54 51.3 -1.0**
CCM pmax pmax
comp=Z,6.0nm,0.8s,mb4.2
FVM French Village 28.05 89 *e*P **P 00 55 02.0 +4.1**
USIN University of 30.06 87 *e*P **P 00 55 19.3 +3.5**
comp=Z,17nm,1.0s,mb4.7
HKL Haleakala 33.36 236 *e*P **P 00 55 39.7 -5.3**
CPCT Cooper Cave 33.41 89 *e*P **P 00 55 47.1 +1.8**
RES Resolute Bay 34.42 14 *e*P **P 00 55 51.4 -2.2**
GOGA Godfrey 35.15 92 *e*P **P 00 56 05.1 +4.8**
comp=Z,8.5nm,0.8s,mb4.7
GOGA Godfrey 35.15 92 *e*P **P 00 56 05.1 +4.8**
GOGA pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
JSC Jenkinsville 36.33 89 *e*P **P 00 56 15.7 +5.2**
SCHQ Schefferville 39.73 52 P **P 00 56 40.6 +1.8**
comp=Z,3.9nm,0.9s,mb4.1,baz=260,slow=6.0,SNR=4.3
SCHQ LR LR 01 13 15.0
comp=Z,577nm,18.3s,MS4.5,baz=98,slow=36
BILL Bilibino 42.01 329 *e*P **P 00 56 55.4 -2.1**
BILL *e* 00 58 35.0
BILL pmax pmax
comp=Z,2.0nm,0.8s,mb3.8
BILL MLR MLR
comp=Z,200nm,16.0s,MS4.1
SEY Seymchan 48.44 323 *e*P **P 00 57 45.8 -2.8**
DAG Danmarks Havn 52.09 16⇑ *e*P **P 00 58 16.4 +0.3**
DAG pmax pmax
comp=Z,2.0nm,0.8s,mb4.1
DAG Danmarks Havn 52.09 16⇑ *i*P **P 00 58 16.4 +0.3**
comp=Z,2.2nm,0.8s,mb4.1
TAOE Nuku Hiva Isla 53.44 196 *e*T 01 55 41.1
comp=Z,1μm,0.2s
TIXI Tiksi 53.59 338 *e*P **P 00 58 25.5 -1.7**
comp=Z,5.8nm,0.9s,mb4.5
TIXI Tiksi 53.59 338 *e*P **P 00 58 24.7 -2.5**
TIXI pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
YAK Yakutsk 58.33 327 *e*P **P 00 58 58.6 -2.7**
YAK pmax pmax
comp=Z,5.0nm,0.8s,mb4.6
ROSC El Rosal 60.11 114 LR LR 01 25 35.4
comp=Z,50nm,21.8s,MS3.6,baz=41,slow=36
PMOR Pomariorio Ree 61.27 203 *e*T 02 05 26.2
comp=Z,16nm,0.3s
PPT Papeete 64.19 204 *e*LR LR 01 18 16.6
comp=Z,53nm,24.0s
PPT Papeete 64.19 204 LR LR 01 23 41.4
comp=Z,262nm,18.4s,MS4.5,baz=323,slow=32
ARCES ARCESS Array B 65.50 10 P **P 00 59 50.3 +0.9**
ARCES pmax pmax
comp=Z,5.0nm,0.9s
ARCES ARCESS Array B 65.50 10 P **P 00 59 50.3 +0.9**
comp=Z,4.7nm,0.9s,mb4.5,baz=342,slow=6.5,SNR=3.9
RKT Rikitea 66.67 188 *e*T 02 12 11.0
comp=Z,5.3nm,0.3s
BOD Bodaibo 67.06 329 *e*P **P 00 59 57.3 -2.3**
BOD pmax pmax
comp=Z,5.0nm,1.0s,mb4.5
NB2 NORSAR Subarra 70.44 20 P **P 01 00 21.4 +0.9**
comp=Z,0.9nm,0.6s,mb3.9,baz=328,slow=6.2
NOA NORSAR Array B 70.44 20 P **P 01 00 20.9 +0.3**
comp=Z,1.6nm,0.8s,mb4.0,baz=330,slow=6.1,SNR=6.4
NOA LR LR 01 29 39.4
comp=Z,27nm,20.4s,MS3.5,baz=285,slow=35
JOF Joensuu 72.54 10 *e*p **P 01 00 33.1 -0.1**
comp=Z,3.5nm,0.7s,mb4.4
FINES FINESS Array B 73.18 13 P **P 01 00 37.2 +0.2**
FINES FINESS Array B 73.18 13 P **P 01 00 37.2 +0.2**
FINES pmax pmax
comp=Z,2.0nm,0.8s
FINES FINESS Array B 73.18 13 P **P 01 00 37.2 +0.2**
comp=Z,1.9nm,0.8s,mb4.1,baz=3.4,slow=9.5,SNR=6.2
KSRS Korea Array 74.71 307 P **P 01 00 45.7 -0.7**
KSRS pmax pmax
comp=Z,2.0nm,0.7s,mb4.2
KSRS Korea Array 74.71 307 P **P 01 00 45.7 -0.7**
comp=Z,1.6nm,0.7s,mb4.0,baz=46,slow=5.3,SNR=5.9
ULN Ulanbaatar 77.38 326 *e*P **P 01 01 00.2 -1.2**
BAIF Baives 77.56 30 *e*P **P 01 01 02.2 -0.2**
comp=Z,62nm,1.7s,mb5.0
BAIF Baives 77.56 30 *e*P **P 01 01 02.2 -0.2**
comp=Z,31nm,1.7s,mb5.0
BAIF Baives 77.56 30 *e*P **P 01 01 02.2 -0.2**
BAIF pmax pmax
comp=Z,31nm,1.7s,mb5.0
SONM Songino Array 77.67 326 P **P 01 01 03.3 +0.2**
SONM pmax pmax
comp=Z,1.0nm,0.9s
SONM MLR MLR
comp=Z,86nm,18.6s
SONM Songino Array 77.67 326 P **P 01 01 03.3 +0.2**
comp=Z,1.4nm,0.9s,mb3.9,baz=20,slow=4.7,SNR=6.0
SONM LR LR 01 35 25.4
comp=Z,86nm,18.6s,MS4.1,baz=348,slow=36
MFF Saint Martin d 78.70 34 *e*P **P 01 01 09.7 +0.9**
NVS Novosibirsk 78.75 343 *i*P **P 01 01 07.2 -1.7**
NVS pmax pmax
comp=Z,11nm,1.0s,mb4.7
NVS pmax pmax
comp=N,4.0nm,1.2s
NVS pmax pmax
comp=E,7.0nm,1.3s
ZALV Zalesovo Beam 79.22 342 P **P 01 01 10.9 -0.6**
comp=E,0.8nm,0.5s,mb3.9,baz=15,slow=6.2,SNR=3.9
ZALV LR LR 01 36 15.6
comp=E,53nm,21.5s,MS3.9,baz=33,slow=36
ZAL Zalesovo 79.24 342 P **P 01 01 11.0 -0.6**
ZAL pmax pmax
comp=Z,1.0nm,0.5s
ZAL MLR MLR
comp=Z,53nm,21.5s
CLL Collm 79.41 24 *e*(P) **P 01 01 16.0 +3.4**
GUMO Guam 79.50 279 LR LR 01 28 29.2
comp=Z,60nm,21.5s,MS3.9,baz=94,slow=30
LOR Lormes 79.75 32 *e*P **P 01 01 13.7 -0.8**
LOR *e*MLR MLR
comp=Z,150nm,18.8s,MS4.1
LOR Lormes 79.75 32 *e*P **P 01 01 13.7 -0.8**
LOR MLR MLR
comp=Z,150nm,18.8s,MS4.4
TCF Toulx Ste Croi 79.91 33 *e*P **P 01 01 16.0 +0.6**
comp=Z,7.1nm,1.0s,mb4.3
TCF Toulx Ste Croi 79.91 33 *e*P **P 01 01 16.0 +0.6**
comp=Z,3.5nm,1.0s,mb4.2
TCF Toulx Ste Croi 79.91 33 *e*P **P 01 01 16.0 +0.6**
TCF pmax pmax
comp=Z,4.0nm,1.0s,mb4.3
BGF Bois d'Agland 79.94 33 *e*P **P 01 01 16.0 +0.4**
comp=Z,7.0nm,0.8s,mb4.3
BGF Bois d'Agland 79.94 33 *e*P **P 01 01 16.0 +0.4**
comp=Z,3.5nm,0.8s,mb4.3
BGF Bois d'Agland 79.94 33 *e*P **P 01 01 16.0 +0.4**
BGF pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
AVF Avril sur Loir 79.95 32 *e*P **P 01 01 15.9 +0.3**
CDF Champ du Feu 80.04 29 *e*P **P 01 01 16.2 +0.1**
HAU Haudompre 80.05 30 *e*P **P 01 01 15.9 -0.3**
HAU *e*MLR MLR
comp=Z,115nm,17.5s,MS4.0
HAU Haudompre 80.05 30 *e*P **P 01 01 15.9 -0.3**
HAU MLR MLR
comp=Z,120nm,17.5s,MS4.3
BRG Berggiesshubel 80.07 24 *e*P **P 01 01 17.4 +1.2**
BRG *e* 01 01 23.6
BRG pmax pmax
comp=Z,1.0nm,0.8s,mb3.8
BRG Berggiesshubel 80.07 24 *e*P **P 01 01 17.4 +1.2**
comp=Z,2.3nm,0.8s,mb4.2
BRG *e* 01 01 23.6
comp=Z,3.8nm,0.9s
LPAZ La Paz 80.15 124 P **P 01 01 16.0 -1.0**
LPAZ La Paz 80.15 124 P **P 01 01 16.0 -1.0**
LPAZ pmax pmax
comp=Z,1.0nm,0.6s
LPAZ La Paz 80.15 124 P **P 01 01 16.0 -1.0**
comp=Z,0.9nm,0.6s,mb3.9,baz=343,slow=7.2,SNR=6.4
SMF Signal de Mont 80.25 32 *e*P **P 01 01 17.5 +0.2**
LFF La Frestale 80.41 35 *e*P **P 01 01 18.9 +0.7**
comp=Z,30nm,1.4s,mb4.7
LFF La Frestale 80.41 35 *e*P **P 01 01 18.9 +0.7**
comp=Z,15nm,1.4s,mb4.7
LFF La Frestale 80.41 35 *e*P **P 01 01 18.9 +0.7**
LFF pmax pmax
comp=Z,15nm,1.4s,mb4.7
RJF Les Rejaudoux 80.44 34 *e*P **P 01 01 18.4 +0.1**
comp=Z,8.6nm,1.0s,mb4.3
RJF *e*MLR MLR
comp=Z,148nm,18.5s,MS4.1
RJF Les Rejaudoux 80.44 34 *e*P **P 01 01 18.4 +0.1**
comp=Z,4.3nm,1.0s,mb4.3
RJF LR LR
comp=Z,150nm,18.5s,MS4.4
RJF Les Rejaudoux 80.44 34 *e*P **P 01 01 18.4 +0.1**
RJF pmax pmax
comp=Z,4.0nm,1.0s,mb4.3
RJF MLR MLR
comp=Z,150nm,18.5s,MS4.4
OBN Obninsk 80.80 10 *e*P **P 01 01 18.0 -2.0**
OBN pmax pmax
comp=Z,4.0nm,1.0s,mb4.3
HHC Hu-ho-hao-te 80.91 319 *e*P **P 01 01 22.0 +1.1**
HHC PP PP 01 04 24.5 -0.1
HHC S S 01 11 31.5 +1.8
HHC SKS 01 11 39.3
HHC SS SS 01 16 47.5 +5.2
HHC AMB AMB
comp=Z,14nm,0.4s,mb5.2
HHC AMB AMB
comp=Z,97nm,5.9s
HHC LR LR
comp=N,86nm,12.2s,MS4.4
HHC LR LR
comp=E,89nm,16.1s,MS4.4
HHC LR LR
comp=Z,65nm,14.7s,MS4.1
CAF Calviac 80.97 34 *e*P **P 01 01 21.4 +0.3**
comp=Z,12nm,1.2s,mb4.4
CAF Calviac 80.97 34 *e*P **P 01 01 21.4 +0.3**
comp=Z,6.1nm,1.2s,mb4.4
CAF Calviac 80.97 34 *e*P **P 01 01 21.4 +0.3**
CAF pmax pmax
comp=Z,6.0nm,1.2s,mb4.4
SJPF Ste Jean 81.05 37 *e*P **P 01 01 21.9 +0.3**
GERES GERESS Array B 81.79 25 P **P 01 01 25.6 +0.2**
GERES pmax pmax
comp=Z,1.0nm,0.7s
GERES MLR MLR
comp=Z,74nm,18.8s
GERES GERESS Array B 81.79 25 P **P 01 01 25.6 +0.2**
comp=Z,0.5nm,0.7s,mb3.6,baz=345,slow=4.6,SNR=5.9
GERES LR LR 01 36 41.2
comp=Z,74nm,18.8s,MS4.1,baz=96,slow=35
LPG La Plagne 82.32 31 *e*P **P 01 01 28.3 0.0**
MTLF Montolieu 82.33 35 *e*P **P 01 01 27.6 -0.8**
LASF Ste Croix 82.39 33 *e*P **P 01 01 28.3 -0.4**
comp=Z,8.7nm,1.1s,mb4.3
ESDC Sonseca Array 82.53 41 P **P 01 01 29.5 0.0**
comp=Z,0.5nm,0.6s,mb3.7,baz=327,slow=5.5,SNR=5.4
ESDC LR LR 01 37 43.4
comp=Z,75nm,20.7s,MS4.0,baz=300,slow=35
BRVK Borovoye 82.72 350 *e*P **P 01 01 29.2 -0.9**
comp=Z,5.2nm,0.8s,mb4.6
BRVK Borovoye 82.72 350 *e*P **P 01 01 29.2 -1.0**
BRVK pmax pmax
comp=Z,5.0nm,0.8s,mb4.6
BVAR Borovoye Array 82.74 350 LR LR 01 43 24.1
comp=Z,65nm,18.1s,MS4.0,baz=204,slow=39
SMRF Simiane la Rot 83.16 32 *e*P **P 01 01 32.3 -0.3**
KURK Kurchatov 83.59 344 *e*P **P 01 01 36.1 +1.4**
comp=Z,5.1nm,1.1s,mb4.6
KURK Kurchatov 83.59 344 *e*P **P 01 01 36.1 +1.3**
KURK pmax pmax
comp=Z,5.0nm,1.1s,mb4.6
FRF La Foret Royal 83.92 32 *e*P **P 01 01 35.6 -1.0**
comp=Z,17nm,1.1s,mb4.8
FRF La Foret Royal 83.92 32 *e*P **P 01 01 35.6 -1.0**
comp=Z,8.6nm,1.1s,mb4.8
FRF La Foret Royal 83.92 32 *e*P **P 01 01 35.6 -1.0**
FRF pmax pmax
comp=Z,9.0nm,1.1s,mb4.8
AKASG Malin Array Be 83.94 15 P **P 01 01 36.7 +0.2**
comp=Z,0.2nm,0.3s,mb3.8,baz=338,slow=4.2,SNR=4.4
AKASG LR LR 01 40 04.9
comp=Z,58nm,19.2s,MS4.0,baz=335,slow=36
SBF Sospel 83.97 31 *e*P **P 01 01 36.6 -0.2**
LMR La Mourre 84.06 32 *e*P **P 01 01 36.8 -0.5**
comp=Z,13nm,1.0s,mb4.7
LMR La Mourre 84.06 32 *e*P **P 01 01 36.8 -0.5**
comp=Z,6.4nm,1.0s,mb4.7
LMR La Mourre 84.06 32 *e*P **P 01 01 36.8 -0.5**
LMR pmax pmax
comp=Z,6.0nm,1.0s,mb4.7
PGF Pioggiola 85.68 31 *e*P **P 01 01 46.5 +1.0**
comp=Z,26nm,1.3s,mb5.0
PGF Pioggiola 85.68 31 *e*P **P 01 01 46.5 +1.0**
comp=Z,13nm,1.3s,mb5.0
PGF Pioggiola 85.68 31 *e*P **P 01 01 46.5 +1.0**
PGF pmax pmax
comp=Z,13nm,1.3s,mb5.0
MKAR Makanchi Array 86.47 340 P **P 01 01 47.4 -1.9**
comp=Z,0.2nm,0.5s,mb3.6,baz=355,slow=3.0,SNR=3.9
MKAR LR LR 01 40 01.1
comp=Z,66nm,21.6s,MS4.0,baz=359,slow=35

WMQ	**Urumqi**	**87.75**	**336**	*e*P	**P**	**01 01 58.0**	**+2.5**
WMQ				AMB	AMB		
	comp=Z,6.0nm,0.8s,mb4.9						
WMQ				AMB	AMB		
	comp=Z,94nm,3.6s						
WMQ				LR	LR		
	comp=Z,154nm,18.5s,MS4.5						
MLR	**Muntele Rosu**	**88.20**	**19**	LR	LR	01 41 30.2	
	comp=Z,79nm,18.5s,MS4.2,baz=180,slow=36						
LZH	**Lanzhou**	**88.33**	**321**	*e*P	**P**	**01 01 58.8**	**+0.3**
LZH				AP	pP	01 02 01.5	+0.4
LZH				PP	PP	01 05 28.0	+2.8
LZH				AMB	AMB		
	comp=Z,11nm,1.0s,mb5.0						
LZH				AMB	AMB		
	comp=Z,63nm,4.3s						
LZH				LR	LR		
	comp=E,256nm,17.2s						
LZH				LR	LR		
	comp=Z,386nm,18.5s,MS4.8						
KEST	**Kesra**	**91.69**	**34**	LR	LR	01 41 38.9	
	comp=Z,31nm,20.0s,MS3.8,baz=312,slow=34						
CD2	**Chengdu**	**92.64**	**318**	*e*P	**P**	**01 02 19.0**	**+0.4**
CD2				PP	PP	01 06 03.3	+3.9
CD2				SKS		01 12 50.5	
CD2				S	S	01 13 19.8	-3.8
CD2				SS	SS	01 19 34.5	+0.2
CD2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb5.2						
CD2				AMB	AMB		
	comp=Z,20nm,8.4s						
CD2				LR	LR		
	comp=N,130nm,15.6s						
CD2				LR	LR		
	comp=Z,210nm,19.2s,MS4.6						
BDFB	**Brasilia**	**92.80**	**109**	LR	LR	01 47 41.0	
	comp=Z,52nm,18.1s,MS4.0,baz=351,slow=38						
GYA	**Guiyang**	**94.79**	**314**	P	**P**	**01 02 27.5**	**-1.1**
GYA				PP	PP	01 06 19.0	+2.6
GYA				SKS		01 13 03.5	
GYA				S	S	01 13 39.0	-3.7
GYA				SS	SS	01 20 05.5	+0.2
GYA				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb5.2						
GYA				AMB	AMB		
	comp=Z,120nm,7.2s						
GYA				LR	LR		
	comp=N,450nm,22.5s,MS5.0						
GYA				LR	LR		
	comp=E,410nm,23.0s,MS5.0						
GYA				LR	LR		
	comp=Z,400nm,22.8s,MS4.8						
KMI	**Kunming**	**97.91**	**316**	P	**P**	**01 02 44.5**	**+1.7**
KMI				AMB	AMB		
	comp=Z,4.0nm,1.2s,mb4.8						
LSZ	**Lusaka**	**144.78**	**45**	*e*PKPdf	PKPdf	01 08 42.3	-1.6

MOS ***29*** *01:01:11.8±1.3,5456N×16372E,h39km,mb4.0/1,Error ellipse: s-maj=19.7km s-min=16.0km az=67.6*

KRSC 29 01:01:11.8±1.0,5456N×16372E,h39km±39km,ML4.0,Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**1.16**	**271**	*i* P	Pn	01 01 33.3	+1.8
MKZ				*i* S	Sn	01 01 49.4	+3.3
KBTR	**Krutoberegovo**	**1.73**	**343**	*e*P	Pn	01 01 38.4	-0.9
KBTR				*i* S	Sn	01 01 58.0	-2.1
TUMR	**Tumrok**	**2.19**	**291**	*e*P	Pn	01 01 48.8	+3.2
TUMR				*i* S	Sn	01 02 15.5	+4.1
KMNR	**Kamenistaya**	**2.33**	**302**	*e*P	Pn	01 01 50.3	+2.7
KMNR				*e*S	Sn	01 02 18.2	+3.3
KLY	**Klyuchi**	**2.48**	**316**	P	Pn	01 01 50.1	+0.5
KLY				*i* S	Sn	01 02 18.5	-0.1
SRKR	**Sorokina**	**2.55**	**326**	*e*P	Pn	01 01 51.4	+0.8
KII	**Karymskiy**	**2.56**	**260**	*e*P	Pn	01 01 53.2	+2.5
KII				*i* S	Sn	01 02 23.8	+3.3
SPN	**Mys Shipunski**	**2.64**	**238**	*e*P	Pn	01 01 52.7	+1.0
SPN				*i* S	Sn	01 02 22.3	-0.1
KOZR	**Kozyr**	**2.66**	**306**	PN	Pn	01 01 55.2	+3.2
KOZR				S	Sn	01 02 26.3	+3.4
KOZ	**Kozyrevsk**	**2.66**	**306**	P	Pn	01 01 55.2	+3.1
KOZ				*i* S	Sn	01 02 26.3	+3.2
SRDR	**Sredinnyy**	**2.88**	**309**	*e*P	Pn	01 01 57.8	+2.7
SRDR				*i* S	Sn	01 02 30.9	+2.4
NLC	**Nalytchevo**	**2.94**	**244**	*e*P	Pn	01 01 57.1	+1.2
NLC				*i* S	Sn	01 02 30.3	+0.3
AVH	**Avacha**	**3.22**	**248**	*e*P	Pn	01 02 02.5	+2.7
AVH				*i* S	Sn	01 02 39.0	+2.2
PET	**Petropavlovsk**	**3.38**	**245**	*e*PN	Pn	01 02 05.7	+3.8
PET				*e*S	Sn	01 02 42.9	+2.2
PET				pmax	pmax		
	comp=Z,9.0nm,0.5s						
PET				smax			
	comp=E,87nm,0.4s						
PET				smax			
	comp=N,116nm,0.7s						
PET				MLR	MLR		
	comp=Z,100nm,17.0s						
PET	**Petropavlovsk**	**3.38**	**245**	P	Pn	01 02 03.8	+1.9
PET				*i* S	Sn	01 02 41.7	+1.0
GNL	**Ganaly**	**3.51**	**258**	*i* P	Pn	01 02 07.4	+3.7
GNL				*i* S	Sn	01 02 47.1	+3.2
RUS	**Russkaya**	**3.77**	**238**	P	Pn	01 02 09.4	+2.1
MIPR	**Malaya Ipel'ka**	**4.75**	**244**	P	Pn	01 02 24.7	+3.9

IDC 29 01:01:32.5±1.1,988N×12630E,h0km,mb3.6/6,mb1 3.8/6,mb1mx3.6/19,mbtmp3.6/6,Error ellipse: s-maj=73.1km s-min=20.6km az=75.0,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**27.81**	**181**	P	P	01 07 23.7	+0.2
	1.4nm,0.9s,baz=22,slow=5.4,SNR=3.4						
WRA	**Warramunga Arr**	**30.68**	**165**	P	P	01 07 49.3	+0.3
	0.3nm,0.7s,baz=344,slow=9.1,SNR=4.6						
ASAR	**Alice Springs**	**34.16**	**168**	P	P	01 08 19.2	-0.3
	0.2nm,0.4s,baz=350,slow=7.4,SNR=5.4						
MKAR	**Makanchi Array**	**52.35**	**323**	P	P	01 10 47.3	+1.1
	0.2nm,0.4s,baz=121,slow=7.5,SNR=2.5						
FINES	**FINESS Array B**	**86.24**	**332**	P	P	01 14 14.0	-1.8
	1.0nm,0.9s,baz=90,slow=9.5,SNR=5.6						
YKA	**Yellowknife Ar**	**94.10**	**24**	P	P	01 14 53.0	+0.4
	0.3nm,0.7s,baz=302,slow=4.4,SNR=8.3						

ISCJB ***29*** *01:08:02.0±0.7,3904N±002×2597E±003,h3km±4km, Error ellipse: s-maj=4.6km s-min=2.8km az=151.3*
CSEM ***29*** *01:08:02.0±0.1,3907N×2603E,h2km,MD3.7,Error ellipse: s-maj=1.7km s-min=1.3km az=41.0*
ISK ***29*** *01:08:02.8,3907N×2610E,h2km,MD3.3,ML3.2*
NEIC ***29*** *01:08:02.0,3907N×2609E,h5km,ML3.3(ISK),After ISK.*
ATH ***29*** *01:08:02.1,3903N×2601E,h20km±1km,MD3.7/10*
DDA ***29*** *01:08:03.5,3903N×2604E,h6km±1km,Md3.1*

ISC 29 01:08:02.6±0.7,3903N±002×2598E±003,h1km±4km,n69,σ0§87/86,4C-10D,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRK	**Paraskevi**	**0.32**	**46**	*e*PB	**Pg**	**01 08 08.7**	**0.0**
AYVA	**Ayvalik**	**0.62**	**63**	*i* P	**Pg**	**01 08 14.1**	**-0.4**
AYVA				*i* S	**Sg**	**01 08 22.1**	**-0.5**
AYVA	**Ayvalik**	**0.62**	**63**	*i* P	**Pg**	**01 08 14.1**	**-0.4**
AYVA				*i* S	**Sg**	**01 08 22.0**	**-0.5**
BOZC	**Bozcaada**	**0.82**	**4**	*i* P	**Pg**	**01 08 18.6**	**+0.3**
BOZC				*i* S	**Sg**	**01 08 29.9**	**+1.1**
URLA	**Izmir**	**0.82**	**144**	*i* P	**Pg**	**01 08 18.2**	**-0.1**
URLA				*i* S	**Sg**	**01 08 29.5**	**+0.5**
EZN	**Ezine**	**0.84**	**18**	PG	**Pg**	**01 08 18.3**	**-0.4**
EZN				*e*SG	**Sg**	**01 08 30.6**	**+0.9**
BLCB	**Balcova**	**1.05**	**127**	*e*PG	**Pg**	**01 08 22.8**	**+0.1**
BLCB				*e*SG	**Sg**	**01 08 37.1**	**+0.8**
LIA	**Limnos Island**	**1.07**	**325**	*e*PN	**Pn**	**01 08 22.5**	**-2.1**
LIA				*e*SN	**Sn**	**01 08 37.5**	**-2.6**
GADA	**Gvkgeada**	**1.16**	**357**	*e*PN	**Pn**	**01 08 25.1**	**-0.9**
GADA				*e*SN	**Sn**	**01 08 41.5**	**-1.0**
KDAG	**Bornova**	**1.18**	**121**	*i* P	**Pg**	**01 08 24.3**	**-1.0**
KDAG				*i* S	**Sg**	**01 08 38.9**	**-1.7**
AKS	**Akhisar**	**1.44**	**95**	*e*PN	**Pn**	**01 08 29.6**	**-0.1**
AKHS	**Akhisar**	**1.44**	**95**	*i* P	**Pn**	**01 08 29.4**	**-0.3**
AKHS				*i* S	**Sg**	**01 08 47.2**	**-1.6**
SMG	**Samos**	**1.48**	**153**	*e*PN	**Pn**	**01 08 29.6**	**-0.7**
SMG				*e*SN	**Sn**	**01 08 49.3**	**-0.9**
BALB	**Balikesir**	**1.60**	**67**	*e*PN	**Pn**	**01 08 31.6**	**-0.3**
ENEZ	**Enez**	**1.71**	**4**	*e*PN	**Pn**	**01 08 34.3**	**+0.8**
RKY	**Sarkoy-Tekirda**	**1.90**	**29**	*e*PN	**Pn**	**01 08 35.7**	**-0.4**
SART	**Tekirdag**	**1.90**	**29**	*i* P	**Pn**	**01 08 35.4**	**-0.7**
SART				*i* S	**Sg**	**01 09 02.8**	**-0.9**
EDC	**Edincik**	**1.96**	**47**	*e*PN	**Pn**	**01 08 36.4**	**-0.6**
APE	**Apeiranthos**	**1.99**	**190**	⇓P	**Pn**	**01 08 35.9**	**-1.4**
APE				S	**Sn**	**01 08 59.6**	**-3.1**
APE	**Apeiranthos**	**1.99**	**190**	⇓*i*P	**Pn**	**01 08 35.9**	**-1.4**
APE				S	**Sn**	**01 08 59.6**	**-3.2**
BNT	**Bandirma**	**2.00**	**48**	*e*PN	**Pn**	**01 08 37.1**	**-0.4**
AYDN	**Tasoluk**	**2.02**	**132**	*i* P	**Pb**	**01 08 40.0**	**-0.1**
AYDN				*i* S	**Sb**	**01 09 06.6**	**+0.9**
AYDN	**Tasoluk**	**2.02**	**132**	*i* P	**Pb**	**01 08 40.0**	**-0.1**
AYDN				*i* S	**Sb**	**01 09 06.6**	**+0.8**
MFT	**Murefte**	**2.02**	**29**	*e*PN	**Pn**	**01 08 38.3**	**+0.5**
DST	**Dursunbey**	**2.13**	**73**	*e*PN	**Pn**	**01 08 39.5**	**+0.2**
RDO	**Rodhopi**	**2.14**	**351**	*e*PN	**Pn**	**01 08 39.4**	**-0.1**
KULA	**Kula-Manisa**	**2.16**	**103**	*e*PN	**Pn**	**01 08 39.8**	**+0.2**
NEO	**Neokhori**	**2.16**	**278**	*e*PN	**Pn**	**01 08 39.6**	**-0.1**
KCT	**Karacabey**	**2.21**	**55**	*e*PN	**Pn**	**01 08 40.0**	**-0.4**
MLSB	**Milas**	**2.23**	**140**	*e*PN	**Pn**	**01 08 41.9**	**+1.2**
LKR	**Lokris**	**2.36**	**262**	*e*PN	**Pn**	**01 08 42.4**	**0.0**
PLG	**Polygyros**	**2.37**	**305**	*e*PN	**Pn**	**01 08 42.3**	**-0.3**
DAT	**Datca**	**2.62**	**151**	*e*PN	**Pn**	**01 08 47.7**	**+1.7**
YER	**Yerkesik**	**2.62**	**135**	*e*PN	**Pn**	**01 08 48.1**	**+2.0**
KDZ	**Kurdzhali**	**2.66**	**351**	P	**Pn**	**01 08 46.1**	**-0.4**
GDZ	**Gediz**	**2.73**	**88**	*i* P	**Pb**	**01 08 52.8**	**+0.6**
GDZ				*i* S	**Sg**	**01 09 29.2**	**-1.0**
RZN	**Rozhen**	**2.83**	**340**	P	**Pn**	**01 08 49.2**	**+0.3**
CTT	**Catala**	**2.83**	**41**	*e*PN	**Pn**	**01 08 48.8**	**-0.2**
NVR	**Nevrokopi**	**2.83**	**326**	*e*PN	**Pn**	**01 08 49.0**	**+0.1**
KHL	**Karahalli**	**2.86**	**103**	*e*PN	**Pn**	**01 08 50.1**	**+0.8**
EDRB	**Edirne**	**2.88**	**11**	*e*PN	**Pn**	**01 08 50.8**	**+1.3**
IZI	**Iznik**	**3.00**	**63**	*e*PN	**Pn**	**01 08 51.5**	**+0.3**
YLV	**Yalova**	**3.03**	**58**	*e*PN	**Pn**	**01 08 52.6**	**+0.9**
MMB	**Musomiste**	**3.08**	**327**	P	**Pn**	**01 08 52.5**	**+0.1**
THL	**Klokotos Trika**	**3.12**	**281**	*e*PN	**Pn**	**01 08 53.3**	**+0.4**
ALT	**Altintas**	**3.22**	**88**	*e*PN	**Pn**	**01 08 54.2**	**0.0**
ADVT	**Abdulvahap**	**3.22**	**63**	*e*PN	**Pn**	**01 08 54.9**	**+0.7**
KLYT	**Kilyos**	**3.23**	**46**	*e*PN	**Pn**	**01 08 55.3**	**+0.8**
VLI	**Veliai**	**3.33**	**227**	*e*PN	**Pn**	**01 08 55.4**	**-0.4**
JMB	**Yambol**	**3.47**	**7**	P	**Pn**	**01 08 57.3**	**-0.3**
GPA	**Golpazari**	**3.57**	**68**	*e*PN	**Pn**	**01 08 59.0**	**0.0**
KKB	**Krupnik**	**3.60**	**323**	P	**Pn**	**01 09 00.3**	**+0.9**
SHUT	**Suhut-Afyon**	**3.60**	**96**	*e*PN	**Pn**	**01 09 00.4**	**+0.9**
GULT	**Gulveren**	**3.77**	**67**	*e*PN	**Pn**	**01 09 02.5**	**+0.7**
SZH	**Strazhica**	**4.24**	**360**	P	**Pn**	**01 09 08.1**	**-0.1**
MDU	**Mudurnu**	**4.28**	**69**	*e*PN	**Pn**	**01 09 09.7**	**+0.8**
TIRR	**Tirgusor**	**5.72**	**18**	⇓P	**Pn**	**01 09 28.1**	**-0.6**
TIRR	**Tirgusor**	**5.72**	**18**	⇓*i*P	**Pn**	**01 09 28.0**	**-0.6**
TIRR	**Tirgusor**	**5.72**	**18**	S	**Sn**	**01 10 32.0**	**-2.9**
HARR	**Harsova**	**5.84**	**14**	⇑P	**Pn**	**01 09 29.9**	**-0.4**
HARR	**Harsova**	**5.84**	**14**	⇑*i*P	**Pn**	**01 09 29.9**	**-0.4**
MLR	**Muntele Rosu**	**6.46**	**360**	⇓P	**Pn**	**01 09 39.9**	**+1.1**
MLR	**Muntele Rosu**	**6.46**	**360**	⇓*i*P	**Pn**	**01 09 39.9**	**+1.2**
PLOR	**Plostina**	**6.84**	**4**	⇓*i*P	**Pn**	**01 09 45.0**	**+1.1**
VRI	**Vrincioaia**	**6.86**	**4**	⇑P	**Pn**	**01 09 45.4**	**+1.2**
VRI	**Vrincioaia**	**6.86**	**4**	⇑*i*P	**Pn**	**01 09 45.3**	**+1.1**
BZS	**Buzias**	**7.33**	**335**	⇓P	**Pn**	**01 09 51.0**	**+0.3**
BZS	**Buzias**	**7.33**	**335**	⇓*i*P	**Pn**	**01 09 51.0**	**+0.3**
BURAR	**Bucovina Array**	**8.60**	**357**	⇓*i*P	**Pn**	**01 10 08.0**	**-0.1**

KRSC 29 01:14:52.6±1.2,5623N×16082E,h170km±30km,ML3.6,Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KLY	**Klyuchi**	**0.12**	**312**	P	Pn	01 15 16.2	+1.1
SRKR	**Sorokina**	**0.47**	**24**	P	Pn	01 15 17.3	+1.3
KOZ	**Kozyrevsk**	**0.56**	**252**	P	Pn	01 15 17.7	+1.3
KMNR	**Kamenistaya**	**0.58**	**215**	P	Pn	01 15 17.0	+0.5
TUMR	**Tumrok**	**1.02**	**202**	P	Pn	01 15 20.3	+0.9
KBTR	**Krutoberegovo**	**1.12**	**90**	*i* P	Pn	01 15 21.1	+0.9
KBTR				*e*S	Sn	01 15 41.8	+0.5
MKZ	**Mys Kozlova**	**1.76**	**162**	*i* P	Pn	01 15 27.5	+1.2
MKZ				*e*S	Sn	01 15 53.0	+0.8
GNL	**Ganaly**	**3.03**	**214**	P	Pn	01 15 42.5	+1.4
SDLR	**Sedlovina**	**3.16**	**202**	P	Pn	01 15 45.3	+2.5
SPN	**Mys Shipunski**	**3.17**	**189**	S	Sn	01 16 22.4	+0.5

IDC ***29*** *01:41:12.6±12.0,5416N×16181E,h0km,mb3.8/3, mb1 3.9/3,mb1mx3.5/21,mbtmp3.8/3,Error ellipse: s-maj=298.7km s-min=43.8km az=0.0*
ISCJB ***29*** *01:41:21.0±0.8,5481N±003×16239E±009,h42km±9km, mb3.8/3,Error ellipse: s-maj=9.0km s-min=4.3km az=16.0*
MOS ***29*** *01:41:20.7±1.0,5480N×16236E,h42km,mb4.1/2,Error ellipse: s-maj=23.3km s-min=10.9km az=73.2*
KRSC ***29*** *01:41:21.0±0.2,5483N×16224E,h32km±32km,ML4.2*

ISC 29 01:41:21.1±1.0,5483N±003×16238E±009,h25km±7km,n23,σ1§00/39,mb3.8/3,Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**0.47**	**234**	*i* P	**Pb**	**01 41 30.7**	**0.0**
MKZ				*i* S	**Sb**	**01 41 36.9**	**-0.4**
TUMR	**Tumrok**	**1.36**	**290**	*e*P	**Pn**	**01 41 44.2**	**-0.2**
TUMR				*i* S	**Sn**	**01 42 00.3**	**-1.3**
KBTR	**Krutoberegovo**	**1.40**	**10**	*e*P	**Pn**	**01 41 44.8**	**-0.2**
KBTR				*i* S	**Sn**	**01 42 02.2**	**-0.4**
KMNR	**Kamenistaya**	**1.53**	**308**	*i* P	**Pn**	**01 41 46.9**	**+0.1**
KMNR				*i* S	**Sn**	**01 42 05.4**	**-0.5**
KLY	**Klyuchi**	**1.78**	**327**	*e*P	**Pn**	**01 41 49.0**	**-1.2**
KLY				*i* S	**Sn**	**01 42 08.9**	**-3.0**
KOZR	**Kozyr**	**1.88**	**312**	PN	**Pn**	**01 41 52.4**	**+0.9**
KOZR				S	**Sn**	**01 42 14.8**	**+0.5**
KOZ	**Kozyrevsk**	**1.88**	**312**	*e*P	**Pn**	**01 41 52.4**	**+0.8**
KOZ				*i* S	**Sn**	**01 42 14.8**	**+0.3**
KII	**Karymskiy**	**1.89**	**246**	*e*P	**Pn**	**01 41 51.8**	**+0.1**
KII				*i* S	**Sn**	**01 42 14.0**	**-0.6**
SRKR	**Sorokina**	**1.95**	**340**	*e*P	**Pn**	**01 41 53.2**	**+0.7**
SRKR				*i* S	**Sn**	**01 42 15.9**	**-0.2**
SRDR	**Sredinnyy**	**2.12**	**316**	*e*P	**Pn**	**01 41 56.1**	**+1.2**
SRDR				*i* S	**Sn**	**01 42 21.4**	**+1.8**
SPN	**Mys Shipunski**	**2.23**	**220**	*e*P	**Pn**	**01 41 54.9**	**-1.4**
SPN				*i* S	**Sn**	**01 42 19.2**	**-3.8**
NLC	**Nalytchevo**	**2.44**	**228**	*e*P	**Pn**	**01 41 58.7**	**-0.6**
NLC				*i* S	**Sn**	**01 42 27.2**	**-1.1**
AVH	**Avacha**	**2.66**	**235**	*i* P	**Pn**	**01 42 03.5**	**+1.2**
AVH				*i* S	**Sn**	**01 42 35.1**	**+1.5**
GNL	**Ganaly**	**2.84**	**248**	*i* P	**Pn**	**01 42 05.7**	**+0.9**
GNL				*i* S	**Sn**	**01 42 37.8**	**-0.3**
PET	**Petropavlovsk**	**2.85**	**232**	*e*P	**Pn**	**01 42 05.5**	**+0.6**
PET				*i* S	**Sn**	**01 42 38.1**	**-0.3**
RUS	**Russkaya**	**3.33**	**225**	P	**Pn**	**01 42 12.2**	**+0.7**
RUS				*i* S	**Sn**	**01 42 50.8**	**+0.7**
MIPR	**Malaya Ipel'ka**	**4.22**	**235**	P	**Pn**	**01 42 25.5**	**+1.8**
SKR	**Severo-Kuril's**	**5.63**	**225**	*e*PN	**Pb**	**01 42 57.2**	**-1.4**
SKR				*e*		01 43 47.9	
YKA	**Yellowknife Ar**	**40.97**	**45**	P	**P**	**01 49 02.2**	**+1.0**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
YKA	**Yellowknife Ar**	**40.97**	**45**	P	**P**	**01 49 02.2**	**+1.0**
	comp=Z,0.5nm,0.5s,mb3.4,baz=299,slow=7.9,SNR=12						
FINES	**FINESS Array B**	**59.05**	**337**	P	**P**	**01 51 17.0**	**-1.3**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
FINES	**FINESS Array B**	**59.05**	**337**	P	**P**	**01 51 17.0**	**-1.3**
	comp=Z,0.6nm,0.4s,mb3.9,baz=45,slow=8.5,SNR=14						
AKASG	**Malin Array Be**	**67.80**	**330**	P	**P**	**01 52 14.6**	**-1.7**
	comp=Z,0.4nm,0.3s,mb3.9,baz=25,slow=6.8,SNR=3.4						

HLW ***29*** *01:43:42.7,3461N×2388E,h26km,Mb3.6*
ISCJB ***29*** *01:43:44.9±0.6,3425N±003×2384E±008,h33km,Error ellipse: s-maj=10.2km s-min=4.1km az=169.3*
ATH ***29*** *01:43:44.4,3430N×2378E,h28km±3km,MD3.8/9*
NEIC ***29*** *01:43:54.1,3518N×2421E,h69km,MG3.3(ATH),After ATH.*

ISC 29 01:43:46.8±0.6,3428N±003×2385E±009,h35km,n22,σ1§01/26,4C-6D,Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVD	**Gavdhos**	**0.59**	**19**	⇓*i*P	**Pn**	**01 43 55.8**	**-2.9**
GVD	**Gavdhos**	**0.59**	**19**	⇓*i*PN	**Pn**	**01 43 56.7**	**-2.1**
VAM	**Vamos**	**1.16**	**14**	*e*PB	**Pn**	**01 44 05.1**	**-1.5**
VAM				*e*SN	**Sn**	**01 44 22.8**	**+1.5**
IDI	**Anoyia**	**1.32**	**40**	P	**Pn**	**01 44 08.7**	**-0.1**
XRY	**Khrisi**	**1.64**	**68**	*e*P	**Pn**	**01 44 17.0**	**+3.9**
XRY	**Khrisi**	**1.64**	**68**	*e*PN	**Pn**	**01 44 14.5**	**+1.4**
NPS	**Neapolis**	**1.75**	**55**	⇓*i*PB	**Pn**	**01 44 15.5**	**+0.8**
VLI	**Veliai**	**2.55**	**343**	*e*PN	**Pn**	**01 44 25.8**	**+0.2**
KARP	**Karpathos**	**3.00**	**64**	*e*PN	**Pn**	**01 44 32.8**	**+0.9**
SLUM		**3.00**	**157**	⇑*e*P	**Pn**	**01 44 32.2**	**+0.3**
SLUM				S	**Sn**	**01 45 07.9**	**+1.2**
ITM	**Ithomi**	**3.29**	**332**	*e*PN	**Pn**	**01 44 36.3**	**+0.4**
ARG	**Arkhangelos**	**4.00**	**60**	*e*P	**Pn**	**01 44 45.3**	**-0.3**
ARG	**Arkhangelos**	**4.00**	**60**	*e*PN	**Pn**	**01 44 46.3**	**+0.7**
HMAT	**Matruh**	**4.19**	**138**	⇑*e*P	**Pn**	**01 44 47.8**	**-0.5**
HMAT				S	**Sn**	**01 45 35.1**	**-0.8**
RLS	**Riolos of Patr**	**4.24**	**334**	*e*PN	**Pn**	**01 44 49.4**	**+0.6**
LKR	**Lokris**	**4.42**	**351**	*e*P	**Pn**	**01 44 49.7**	**-1.6**
SWA2		**5.20**	**164**	⇓*e*P	**Pn**	**01 45 02.6**	**+0.5**
SWA1		**5.24**	**162**	⇑*e*P	**Pn**	**01 45 03.3**	**+0.5**
SWA1				S	**Sn**	**01 46 01.4**	**-0.5**
AWBH		**7.34**	**143**	⇓*e*P	**Pn**	**01 45 31.6**	**0.0**
AWBH		**7.34**	**143**	P	**Pn**	**01 45 31.5**	**-0.1**
HFRF	**Wahat Farafira**	**8.07**	**150**	⇑*e*P	**Pn**	**01 45 42.0**	**+0.4**
AMAG	**Maghara**	**8.70**	**112**	⇓P	**Pn**	**01 45 48.1**	**-2.0**

MAN 29 02:01:06,1261N×12341E,h35km,mb4.2,ML3.1,MS2.8, Luzon

IDC 29 02:04:37.2±1.8,053S×12756E,h0km,mb3.8/4,mb1 4.0/4,mb1mx3.7/15,mbtmp3.8/4,Error ellipse: s-maj=137.9km s-min=24.0km az=66.0,Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**20.40**	**161**	P	P	02 09 15.6	-0.4
	1.4nm,0.6s,baz=341,slow=12,SNR=18						
WB2	**Warramunga Arr**	**20.41**	**161**	*e*P	P	02 09 15.2	-0.8
ASAR	**Alice Springs**	**23.81**	**165**	P	P	02 09 51.1	-0.9
	1.6nm,0.8s,baz=342,slow=7.2,SNR=20						
STKA	**Stephens Creek**	**33.88**	**158**	P	P	02 11 22.6	+0.8
	1.7nm,0.5s,baz=340,slow=10,SNR=4.3						
MKAR	**Makanchi Array**	**61.52**	**326**	P	P	02 14 56.4	+0.4
	0.2nm,0.3s,baz=146,slow=6.9,SNR=5.7						

IDC 29 02:05:15.8±2.8,751S×11245E,h0km,mb3.7/4,mb1 3.8/4,mb1mx3.6/16,mbtmp3.7/4,Error ellipse: s-maj=164.6km s-min=22.4km az=51.0,Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.56**	**122**	P	P	02 10 37.9	+0.4
	1.0nm,0.6s,baz=297,slow=11,SNR=9.7						
ASAR	**Alice Springs**	**26.11**	**130**	P	P	02 10 51.4	-0.2
	0.8nm,0.5s,baz=304,slow=7.9,SNR=11						
MKAR	**Makanchi Array**	**60.35**	**337**	P	P	02 15 27.8	+1.3
	0.5nm,0.6s,baz=148,slow=6.5,SNR=3.8						
ZALV	**Zalesovo Beam**	**65.51**	**342**	P	P	02 15 59.9	-0.8
	0.5nm,0.3s,baz=126,slow=7.3,SNR=2.2						

IDC 29 02:10:06.2±11.0,1409S×17463W,h0km,mb4.5/5,mb1 4.6/5,mb1mx4.0/16,mbtmp4.5/5,Error ellipse: s-maj=238.8km s-min=50.5km az=58.0,Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**25.17**	**195**	P	P	02 15 33.4	+0.1
	6.8nm,0.8s,baz=194,slow=8.3,SNR=4.5						
STKA	**Stephens Creek**	**43.69**	**238**	P	P	02 18 12.6	-0.5
	0.9nm,0.3s,baz=82,slow=7.3,SNR=3.9						
WB2	**Warramunga Arr**	**48.99**	**256**	*e*P	P	02 18 55.1	+0.1
WRA	**Warramunga Arr**	**49.00**	**256**	P	P	02 18 55.5	+0.4
	0.6nm,0.3s,baz=88,slow=7.0,SNR=31						
ASAR	**Alice Springs**	**49.40**	**251**	P	P	02 18 58.1	0.0
	18nm,0.6s,baz=86,slow=7.9,SNR=336						
BATI	**Kupang**	**60.31**	**266**	P	P	02 20 17.0	-0.4
	5.3nm,0.3s,baz=103,slow=7.1,SNR=3.0						

NEIC ***29*** *02:25:52.9±0.4,4610N×14977E,h10km,mb4.4/15,Error ellipse: s-maj=11.5km s-min=8.7km

comp=Z,0.1nm,0.5s,baz=305,slow=3.7,SNR=5.1
FINES FINESS Array B 63.63 333 P **P 02 36 22.5 -1.6**
FINES pmax pmax
comp=Z,1.0nm,0.6s
FINES FINESS Array B 63.63 333 P **P 02 36 22.5 -1.6**
comp=Z,0.7nm,0.6s,mb3.7,baz=66,slow=4.6,SNR=4.4
NVAR Mina Array Bea 64.89 60 P **P 02 36 32.3 -0.3**
comp=Z,0.6nm,0.7s,mb3.5,baz=288,slow=8.7,SNR=3.9
WRA Warramunga Arr 67.12 196 P **P 02 36 46.7 -0.3**
comp=Z,0.4nm,0.6s,mb3.4,baz=16,slow=6.2,SNR=2.5
NB2 NORSAR Subarra 68.09 340 P **P 02 36 51.5 -1.1**
comp=Z,1.5nm,0.8s,mb3.8,baz=30,slow=6.5
NOA NORSAR Array B 68.09 340 P **P 02 36 51.6 -1.0**
NOA pmax pmax
comp=Z,1.0nm,0.5s
NOA NORSAR Array B 68.09 340 P **P 02 36 51.6 -1.0**
comp=Z,0.5nm,0.5s,mb3.5,baz=27,slow=6.3,SNR=4.7
HFS Hagfors 68.25 338 P **P 02 36 52.2 -1.4**
HFS pmax pmax
comp=Z,1.0nm,0.6s
HFS Hagfors 68.25 338 P **P 02 36 52.2 -1.4**
comp=Z,1.3nm,0.6s,mb3.8,baz=50,slow=4.6,SNR=6.6
ULM Lac du Bonnet 68.61 39 P **P 02 36 54.5 -1.5**
comp=Z,0.6nm,0.4s,mb3.7,baz=315,slow=6.3,SNR=3.0
AKASG Malin Array Be 70.77 324 P **P 02 37 07.9 -1.3**
comp=Z,0.3nm,0.3s,mb3.5,baz=37,slow=5.9,SNR=3.3
ASAR Alice Springs 70.83 195 P **P 02 37 10.7 +0.9**
comp=Z,0.2nm,0.5s,mb3.1,baz=7.5,slow=6.6,SNR=2.5
BURAR Bucovina Array 74.82 325⇓*iP* **P 02 37 33.6 +0.5**
SCHQ Schefferville 74.87 21 P **P 02 37 32.7 -0.6**
SCHQ Schefferville 74.87 21 P **P 02 37 32.7 -0.6**
comp=Z,2.1nm,1.0s,mb3.7,baz=36,slow=14,SNR=3.6
CLL Collm 76.08 334 *eP* **P 02 37 40.0 -0.3**
MLR Muntele Rosu 76.22 323 P **P 02 37 41.9 +0.7**
MLR pmax pmax
comp=Z,1.0nm,0.5s
MLR Muntele Rosu 76.22 323 P **P 02 37 41.9 +0.7**
comp=Z,0.9nm,0.5s,mb3.6,baz=108,slow=19,SNR=6.1
EKA Eskdalemuir Ar 76.42 344 P **P 02 37 42.0 -0.1**
EKA pmax pmax
comp=Z,1.0nm,0.5s
EKA Eskdalemuir Ar 76.42 344 P **P 02 37 42.0 -0.1**
comp=Z,0.5nm,0.5s,mb3.4,baz=19,slow=12,SNR=4.8
ANTO Ankara 77.53 315⇑*iP* **P 02 37 48.1 -0.5**
GERES GERESS Array B 78.00 332 P **P 02 37 50.6 -0.4**
GERES pmax pmax
comp=Z,1.0nm,0.5s
GERES GERESS Array B 78.00 332 P **P 02 37 50.6 -0.4**
comp=Z,0.7nm,0.5s,mb3.5,baz=37,slow=5.9,SNR=11
GIVF Givet 79.50 338 *eP* **P 02 37 59.1 -0.1**
BAIF Baives 79.70 338 *eP* **P 02 37 59.9 -0.4**
TXAR Lajitas Array 79.92 58 P **P 02 38 01.7 -0.2**
TXAR pmax pmax
comp=Z,1.0nm,0.4s
TXAR Lajitas Array 79.92 58 P **P 02 38 01.7 -0.2**
comp=Z,1.0nm,0.4s,mb3.8,baz=301,slow=4.9,SNR=9.4
CDF Champ du Feu 80.36 336 *eP* **P 02 38 03.9 0.0**
comp=Z,2.7nm,0.5s,mb3.8
CDF Champ du Feu 80.36 336 *eP* **P 02 38 03.9 0.0**
comp=Z,1.4nm,0.5s,mb3.9
CDF Champ du Feu 80.36 336 *eP* **P 02 38 03.9 0.0**
CDF pmax pmax
comp=Z,1.0nm,0.5s,mb3.7
MEZF Maizieres J'vi 80.90 337 *eP* **P 02 38 07.0 +0.3**
HAU Haudompre 80.99 336 *eP* **P 02 38 07.3 +0.1**
MMAI Mount Meron Ar 81.44 309 P **P 02 38 10.9 +1.0**
comp=Z,1.0nm,0.6s,mb3.7,baz=27,slow=3.9,SNR=4.6
FLN La Foliniere 82.05 341 *eP* **P 02 38 12.7 -0.1**
LDF La Druitiere 82.13 340 *eP* **P 02 38 12.9 -0.3**
LOR Lormes 82.35 337 *eP* **P 02 38 14.3 -0.1**
comp=Z,3.3nm,0.5s,mb3.9
LOR Lormes 82.35 337 *eP* **P 02 38 14.3 -0.1**
comp=Z,1.6nm,0.5s,mb3.9
LOR Lormes 82.35 337 *eP* **P 02 38 14.3 -0.1**
LOR pmax pmax
comp=Z,2.0nm,0.5s,mb4.0
GRR Gorron 82.49 341 *eP* **P 02 38 15.2 +0.1**
comp=Z,10nm,0.7s,mb4.2
GRR Gorron 82.49 341 *eP* **P 02 38 15.2 +0.1**
comp=Z,5.1nm,0.7s,mb4.3
GRR Gorron 82.49 341 *eP* **P 02 38 15.2 +0.1**
GRR pmax pmax
comp=Z,5.0nm,0.7s,mb4.2
SSF Saint Saulge 82.64 337 *eP* **P 02 38 15.9 0.0**
HYF Humbligny 82.68 338 *eP* **P 02 38 16.5 +0.5**
AVF Avril sur Loir 82.93 337 *eP* **P 02 38 17.5 +0.1**
comp=Z,1.8nm,0.5s,mb3.8
AVF Avril sur Loir 82.93 337 *eP* **P 02 38 17.5 +0.1**
comp=Z,0.9nm,0.5s,mb3.8
AVF Avril sur Loir 82.93 337 *eP* **P 02 38 17.5 +0.1**
AVF pmax pmax
comp=Z,1.0nm,0.5s,mb3.8
SMF Signal de Mont 82.93 337 *eP* **P 02 38 17.5 +0.1**
comp=Z,8.2nm,0.9s,mb4.2
SMF Signal de Mont 82.93 337 *eP* **P 02 38 17.5 +0.1**
comp=Z,4.1nm,0.9s,mb4.2
SMF Signal de Mont 82.93 337 *eP* **P 02 38 17.5 +0.1**
SMF pmax pmax
comp=Z,4.0nm,0.9s,mb4.2
SGMF Saint Gilles 83.00 342 *eP* **P 02 38 17.7 0.0**
comp=Z,8.9nm,0.6s,mb4.3
SGMF Saint Gilles 83.00 342 *eP* **P 02 38 17.7 0.0**
comp=Z,4.4nm,0.6s,mb4.4
SGMF Saint Gilles 83.00 342 *eP* **P 02 38 17.7 0.0**
SGMF pmax pmax
comp=Z,4.0nm,0.6s,mb4.3
ROSF Rostrenen 83.08 342 *eP* **P 02 38 18.4 +0.3**
LPL La Plagne 83.14 335 *eP* **P 02 38 19.3 +0.8**
LPG La Plagne 83.15 335 *eP* **P 02 38 19.5 +1.0**
comp=Z,1.5nm,0.4s,mb3.8
LPG La Plagne 83.15 335 *eP* **P 02 38 19.5 +1.0**
comp=Z,0.8nm,0.4s,mb3.8
LPG La Plagne 83.15 335 *eP* **P 02 38 19.5 +1.0**
LPG pmax pmax
comp=Z,1.0nm,0.4s,mb3.9
BGF Bois d'Agland 83.28 338 *eP* **P 02 38 19.9 +0.7**
comp=Z,2.7nm,0.5s,mb3.9
BGF Bois d'Agland 83.28 338 *eP* **P 02 38 19.9 +0.7**
comp=Z,1.4nm,0.5s,mb4.0
BGF Bois d'Agland 83.28 338 *eP* **P 02 38 19.9 +0.7**
BGF pmax pmax
comp=Z,1.0nm,0.5s,mb3.8
TCF Toulx Ste Croi 83.69 338 *eP* **P 02 38 21.7 +0.4**
comp=Z,4.8nm,0.8s,mb4.0
TCF Toulx Ste Croi 83.69 338 *eP* **P 02 38 21.7 +0.4**
comp=Z,2.4nm,0.8s,mb4.0
TCF Toulx Ste Croi 83.69 338 *eP* **P 02 38 21.7 +0.4**
TCF pmax pmax
comp=Z,2.0nm,0.8s,mb3.9
AQU L'Aquila 83.76 329 *eP* **P 02 38 21.6 -0.1**
AQU pmax pmax
comp=Z,11nm,0.7s,mb4.7
ORIF Oris-en-Rattie 83.93 335 *eP* **P 02 38 23.2 +0.7**
comp=Z,4.5nm,0.7s,mb4.0
ORIF Oris-en-Rattie 83.93 335 *eP* **P 02 38 23.2 +0.7**
comp=Z,2.3nm,0.7s,mb4.0
ORIF Oris-en-Rattie 83.93 335 *eP* **P 02 38 23.2 +0.7**
ORIF pmax pmax
comp=Z,2.0nm,0.7s,mb4.0
MFF Saint Martin d 84.00 340 *eP* **P 02 38 23.3 +0.5**
comp=Z,4.9nm,0.7s,mb4.1
MFF Saint Martin d 84.00 340 *eP* **P 02 38 23.3 +0.5**
comp=Z,2.5nm,0.7s,mb4.0
MFF Saint Martin d 84.00 340 *eP* **P 02 38 23.3 +0.5**
MFF pmax pmax
comp=Z,2.0nm,0.7s,mb4.0
RJF Les Rejaudoux 84.79 338 *eP* **P 02 38 27.4 +0.6**
FRF La Foret Royal 84.94 334 *eP* **P 02 38 28.8 +1.2**
CAF Calviac 85.00 338 *eP* **P 02 38 28.9 +1.0**
comp=Z,6.4nm,0.8s,mb4.1
CAF Calviac 85.00 338 *eP* **P 02 38 28.9 +1.0**
comp=Z,3.2nm,0.8s,mb4.1
CAF Calviac 85.00 338 *eP* **P 02 38 28.9 +1.0**
CAF pmax pmax
comp=Z,3.0nm,0.8s,mb4.1
LFF La Frestale 85.33 338 *eP* **P 02 38 30.3 +0.8**
comp=Z,5.3nm,0.6s,mb4.1
LFF La Frestale 85.33 338 *eP* **P 02 38 30.3 +0.8**
comp=Z,2.7nm,0.6s,mb4.2
LFF La Frestale 85.33 338 *eP* **P 02 38 30.3 +0.8**
LFF pmax pmax
comp=Z,3.0nm,0.6s,mb4.2
BDFB Brasilia 146.28 32 PKIKP PKPdf 02 45 31.2 -0.1
BDFB pmax pmax
comp=Z,1.0nm,0.5s
BDFB Brasilia 146.28 32 PKPbc PKPbc 02 45 31.2 -1.5
comp=Z,0.9nm,0.5s,baz=171,slow=19,SNR=3.7
PLCA Paso Flores 150.54 94 PKIKP PKPbc 02 45 42.8 -0.3
PLCA pmax pmax
comp=Z,1.0nm,0.5s
PLCA Paso Flores 150.54 94 PKPbc PKPbc 02 45 42.8 -0.3
comp=Z,0.5nm,0.5s,baz=260,slow=0.6,SNR=4.1

IDC ***29*** *02:35:45.0±3.6, 1994S×16923E, h0km, mb4.2/4, mb1 4.4/4, mb1mx4.0/13, mbtmp4.2/4, MS3.2/1, Ms1 3.2/1, ms1mx2.4/27, Error ellipse: s-maj=102.6km s-min=50.6km az=144.0*
NEIC ***29*** *02:35:50.3±2.1, 1984S×169.19E, h35km, mb4.2/3, Error ellipse: s-maj=63.2km s-min=25.0km az=143.0*
ISC 29 02:35:51.4±4.8, 199S±04×1691E±04, h36km±40km, n9, σ0°82/9, mb4.2/6, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.24**	**228**	*eP*	**Pn**	**02 36 39.7**	**0.0**
DZM				*eS*	**Sn**	**02 37 16.8**	**-0.4**
CTA	**Charters Tower**	**21.42**	**266**	P	**P**	**02 40 37.9**	**+1.5**
CTA				LR	LR	02 48 25.2	
CTAO	**Charters Tower**	**21.42**	**266**	*eP*	**P**	**02 40 37.5**	**+1.2**
STKA	**Stephens Creek**	**27.34**	**239**	P	**P**	**02 41 34.3**	**+1.3**
WRA	**Warramunga Arr**	**32.60**	**264**	P	**P**	**02 42 18.4**	**-1.3**
ASAR	**Alice Springs**	**32.80**	**257**	P	**P**	**02 42 21.1**	**-0.3**
MBWA	**Marble Bar**	**46.05**	**259**	*eP*	**P**	**02 44 11.8**	**-0.1**
ULN	**Ulaanbaatar**	**87.30**	**323**	*eP*	**P**	**02 48 33.9**	**-0.4**
GERES	**GERESS Array B**	**145.00**	**331**	PKPbc	PKPbc	02 55 23.4	-0.6

comp=Z,4.5nm,0.7s,mb4.0
comp=Z,3.0nm,0.3s,baz=97,slow=9.2,SNR=107
MAJO Matsushiro 2.49 295 *eP*n **Pn 02 55 21.5 +1.8**
MAT Matsushiro 2.49 295 P **Pn 02 55 21.3 +1.6**
MAT *eS* **Sn 02 55 46.9 -2.1**
JHJ Hachijo jima 2 2.62 203 Pn **Pn 02 55 21.6 +0.1**
comp=Z,41nm,0.3s,baz=74,slow=21,SNR=21
JHJ Sn **Sn 02 55 53.8 +1.6**
comp=Z,91nm,0.3s,baz=78,slow=23,SNR=9.2
ERM Erimo 6.68 14 *eP* **Pn 02 56 16.5 -0.8**
CBIJ Chichi jima 8.47 173 Pn **Pn 02 56 40.4 -1.6**
comp=Z,13nm,0.3s,baz=258,slow=21,SNR=8.0
CBIJ Sn **Sn 02 58 08.3 -8.1**
comp=Z,8.9nm,0.3s,baz=294,slow=20,SNR=4.0
ASAJ Asahikawa 8.65 8 P **Pn 02 56 43.3 -1.0**
ASAJ pmax pmax
comp=Z,1.0nm,0.3s
ASAJ Asahikawa 8.65 8 Pn **Pn 02 56 43.3 -1.0**
comp=Z,1.2nm,0.3s,baz=197,slow=15,SNR=4.0
JNU Nakatsue 8.73 257 Pn **Pn 02 56 50.4 +5.0**
comp=Z,0.3nm,0.3s,baz=31,slow=15,SNR=3.0
KSRS Korea Array 10.72 284 Pn **Pn 02 57 16.8 +4.1**
comp=Z,0.2nm,0.3s,baz=102,slow=13,SNR=9.2
KSRS Sn **Sn 02 59 12.3 +0.9**
comp=Z,0.7nm,0.3s,baz=98,slow=24,SNR=5.0
KSRS LR LR 03 01 22.7
comp=Z,335nm,20.5s,baz=150,slow=38
YSS Yuzh-Sakhalins 11.48 6 *eP*n **Pn 02 57 21.1 -1.9**
YSS Yuzh-Sakhalins 11.48 6‖*eP* **Pn 02 57 21.1 -1.9**
YSS pmax pmax
comp=Z,12nm,1.2s
JOW Kunigami 13.93 235 LR LR 03 03 00.4
comp=Z,105nm,21.0s,baz=146,slow=36
PET Petropavlovsk 21.46 30 *eP* **P 02 59 26.7 -0.2**
comp=Z,15nm,0.7s,mb4.4

BEO ***29*** *02:35:55.5, 3543N×2071E*
ATH ***29*** *02:36:40.7, 3891N×2119E, h21km±1km, MD3.9/17, ML3.7*
IDC ***29*** *02:36:40.9±1.6, 3922N×2142E, h0km, mb3.7/8, mb1 3.7/12, mb1mx3.6/26, mbtmp3.6/12, ML3.4/4, Error ellipse: s-maj=27.3km s-min=19.1km az=25.0*
CSEM ***29*** *02:36:40.9±0.1, 3893N×2124E, h5km, ML3.7, Error ellipse: s-maj=1.9km s-min=1.6km az=171.0*
NEIC ***29*** *02:36:40.7, 3891N×2119E, h21km, ML3.7(ATH), ML3.6(PDG), After ATH.*
ISCJB ***29*** *02:36:42.2±0.6, 3890N±002×2112E±003, h29km±6km, mb3.7/8, Error ellipse: s-maj=4.0km s-min=3.3km az=23.0*
PDG ***29*** *02:36:42.1±0.9, 3897N×2111E, h14km±2km, ML3.6/10, Error ellipse: s-maj=1.8km s-min=1.6km az=90.0*
SKO ***29*** *02:36:43.9, 3905N×2130E, h3km*
NAO ***29*** *02:36:55.6, 3992N×1982E, h33km, mb3.2*
ISC 29 02:36:42.4±0.5, 3888N±002×2116E±002, h16km±3km, n119, σ1°15/151, mb3.7/8, 16C-14D, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EVR	**Evrytania**	**0.51**	**86**	*e*PB	**Pg**	**02 36 51.2**	**-1.3**
EVR				*e*SB	**Sg**	**02 36 57.7**	**-1.7**
JAN	**Janina**	**0.81**	**343**	*e*PN	**Pg**	**02 36 55.7**	**-2.5**
VLS	**Valsamata**	**0.83**	**213**	*e*PN	**Pg**	**02 36 57.7**	**-0.8**
RLS	**Riolos of Patr**	**0.85**	**163**	*e*PN	**Pg**	**02 36 58.9**	**-0.1**
THL	**Klokotos Trika**	**0.95**	**44**	‖*e*PB	**Pg**	**02 36 57.7**	**-3.2**
SRN	**Sarande**	**1.34**	**318**	*e*PN	**Pn**	**02 37 06.7**	**+0.3**
SRN				*i* SN	**Sg**	**02 37 27.5**	**+1.7**
KEK	**Kerkira**	**1.34**	**309**	*e*PN	**Pn**	**02 37 06.6**	**+0.1**
KEK				*e*SN	**Sn**	**02 37 25.0**	**+1.0**
LKR	**Lokris**	**1.46**	**98**	*e*PN	**Pn**	**02 37 07.9**	**-0.1**
KZN	**Kozani**	**1.50**	**18**	*e*PN	**Pn**	**02 37 07.7**	**-0.9**
KZN				*e*SN	**Sn**	**02 37 27.9**	**0.0**
NEO	**Neokhori**	**1.66**	**74**	*e*PN	**Pn**	**02 37 10.8**	**0.0**
KBN	**Korca**	**1.77**	**351**	*e*Pn	**Pg**	**02 37 14.6**	**-1.7**
KBN				*i* Sn	**Sg**	**02 37 39.3**	**0.0**
ITM	**Ithomi**	**1.80**	**160**	*e*Pn	**Pn**	**02 37 13.4**	**+0.7**
ITM				P		02 37 18.4	
BIA	**Bitola**	**2.14**	**3**	*e*Pn	**Pn**	**02 37 18.6**	**+1.1**
BIA				*e*Sg	**Sn**	**02 37 46.2**	**+2.6**
BIA	**Bitola**	**2.14**	**3**	*e*Pn	**Pn**	**02 37 18.5**	**+1.1**
BIA				*e*Sg	**Sn**	**02 37 46.2**	**+2.6**
NAIG	**Nisos Aigina**	**2.15**	**121**	*e*PN	**Pn**	**02 37 18.5**	**+1.0**
ATH	**Athens Observa**	**2.20**	**113**	*e*Pb	**Pn**	**02 37 18.4**	**+0.1**
ATH				P		02 37 21.5	
ATH				*e*Sn	**Sn**	**02 37 45.2**	**0.0**
OHR	**Ohrid**	**2.25**	**353**	*e*Pn	**Pn**	**02 37 19.8**	**+0.9**
OHR	**Ohrid**	**2.25**	**353**	*e*Pn	**Pn**	**02 37 19.7**	**+0.8**
PTL	**Penteli**	**2.28**	**110**	*e*PB	**Pn**	**02 37 19.5**	**+0.2**
PLG	**Polygyros**	**2.31**	**49**	*e*PN	**Pn**	**02 37 18.5**	**-1.3**
VLI	**Velíai**	**2.58**	**146**	*e*PB	**Pn**	**02 37 25.2**	**+1.8**
TIR	**Tirane**	**2.66**	**339**	*e*PN	**Pn**	**02 37 25.7**	**+1.2**
TIR				*i* SN	**Sg**	**02 38 09.8**	**+2.0**
VAY	**Valandovo**	**2.67**	**23**	*e*Pn	**Pn**	**02 37 25.3**	**+0.6**
VAY	**Valandovo**	**2.67**	**23**	*e*Pn	**Pn**	**02 37 25.2**	**+0.5**
LCI	**Lecce**	**2.77**	**303**	Pn	**Pn**	**02 37 25.4**	**-0.6**
QSH	**Qafa e Shtames**	**2.81**	**340**	*e*PN	**Pn**	**02 37 28.6**	**+2.0**
STIP	**Stip**	**2.92**	**15**	*e*Pn	**Pn**	**02 37 28.7**	**+0.6**
SKO	**Skopje**	**3.10**	**4**	*e*Pn	**Pn**	**02 37 31.1**	**+0.5**
NVR	**Nevrokopi**	**3.22**	**39**	*e*PN	**Pn**	**02 37 31.9**	**-0.4**
LIA	**Limnos Island**	**3.28**	**71**	P	**Pb**	**02 37 41.6**	**+1.4**
PUK	**Puka**	**3.30**	**343**	*e*PN	**Pn**	**02 37 34.1**	**+0.7**
PUK				*i* SN	**Sn**	**02 38 09.8**	**-2.5**
TA1	**Taranto**	**3.36**	**298**	*e*Pn	**Pn**	**02 37 35.0**	**+0.8**
ULC	**Ulcinj**	**3.41**	**335**	‖*e*Pn	**Pn**	**02 37 34.3**	**-0.5**
ULC				*e*Sn	**Sn**	**02 38 14.8**	**-0.1**
TIP	**Timpagrande**	**3.44**	**276**	*e*Pn	**Pn**	**02 37 33.6**	**-1.7**
TIP				*e*Sn	**Sn**	**02 38 14.8**	**-0.8**
TIP	**Timpagrande**	**3.44**	**276**	*e*Pn	**Pn**	**02 37 33.6**	**-1.7**
TIP				*e*Sn	**Sn**	**02 38 14.9**	**-0.8**
PE1	**Pezze di Greco**	**3.46**	**305**	*e*Pn	**Pn**	**02 37 35.1**	**-0.4**
PVY	**Plav**	**3.82**	**347**	‖*e*Pn	**Pn**	**02 37 41.4**	**+0.9**
PVY				*e*Sn	**Sn**	**02 38 25.1**	**+0.1**
BUM	**Brajici-Budva**	**3.83**	**334**	⇑‖*e*Pn	**Pn**	**02 37 39.8**	**-0.8**
BUM				*e*Sn	**Sn**	**02 38 24.6**	**-0.6**
PDG	**Podgorica**	**3.83**	**338**	‖*e*Pn	**Pn**	**02 37 40.3**	**-0.3**
PDG				*e*Sn	**Sn**	**02 38 24.6**	**-0.7**
TTG	**Podgorica**	**3.83**	**338**	‖*e*Pn	**Pn**	**02 37 40.3**	**-0.3**
TTG				*e*Sn	**Sn**	**02 38 24.6**	**-0.7**
APE	**Apeiranthos**	**3.90**	**116**	⇑P	**Pn**	**02 37 41.3**	**-0.3**
APE				P		02 37 45.2	
APE	**Apeiranthos**	**3.90**	**116**	⇑‖*e*P	**Pn**	**02 37 41.3**	**-0.3**
SG1	**Sgolgore (BA)**	**3.96**	**301**	*e*Pn	**Pn**	**02 37 41.8**	**-0.7**
BARS	**Barje**	**3.96**	**7**	⇑‖*e*Pn	**Pn**	**02 37 42.9**	**+0.4**
BAI	**Bari**	**3.97**	**305**	*e*Pn	**Pn**	**02 37 42.5**	**0.0**
VTS	**Vitosha**	**4.02**	**22**	‖P	**Pn**	**02 37 44.1**	**+0.8**
VTS	**Vitosha**	**4.02**	**22**	‖‖*e*P	**Pn**	**02 37 44.1**	**+0.8**
VTS	**Vitosha**	**4.02**	**22**	*e*Pn	**Pn**	**02 37 44.1**	**+0.8**
RDO	**Rodhopi**	**4.05**	**55**	*e*PN	**Pn**	**02 37 44.1**	**+0.4**
SOI	**Samo**	**4.08**	**260**	Pn	**Pn**	**02 37 44.8**	**+0.7**
HCY	**Herceg Novi**	**4.10**	**331**	‖*e*Pn	**Pn**	**02 37 44.4**	**+0.1**
HCY				*e*Sn	**Sn**	**02 38 30.8**	**-1.1**
BEY	**Berane**	**4.10**	**347**	⇑‖*e*Pn	**Pn**	**02 37 45.1**	**+0.7**
BEY				*e*Sn	**Sn**	**02 38 31.9**	**-0.1**
IVA	**Berane**	**4.10**	**347**	⇑‖*e*Pn	**Pn**	**02 37 45.1**	**+0.7**
IVA				*e*Sn	**Sn**	**02 38 31.9**	**-0.1**
NKY	**Niksic**	**4.26**	**338**	⇑‖*e*Pn	**Pn**	**02 37 47.0**	**+0.5**
NKY				*e*Sn	**Sn**	**02 38 35.5**	**-0.3**
PTRP	**Pietrapertosa**	**4.26**	**294**	Pn	**Pn**	**02 37 47.9**	**+1.4**
BRY	**Bratogost**	**4.48**	**335**	⇑‖*e*Pn	**Pn**	**02 37 48.8**	**-0.7**
BRY				*e*Sn	**Sn**	**02 38 40.0**	**-1.3**
MGR	**Morigerati**	**4.51**	**288**	Pn	**Pn**	**02 37 50.6**	**+0.6**
PLE	**Pljevlja**	**4.64**	**344**	⇑‖*e*Pn	**Pn**	**02 37 52.7**	**+0.9**
PLE				*e*Sn	**Sn**	**02 38 44.5**	**-0.8**
UPM	**Unac-Piva**	**4.64**	**339**	⇑‖*e*Pn	**Pn**	**02 37 52.2**	**+0.4**
UPM				*e*Sn	**Sn**	**02 38 44.8**	**-0.5**
STON	**Ston**	**4.77**	**328**	*e*Pn	**Pn**	**02 37 51.3**	**-2.3**
STON				Sn	**Sn**	**02 38 43.3**	**-5.2**
SGO	**Sicignano**	**4.81**	**292**	Pn	**Pn**	**02 37 54.9**	**+0.8**
FGMS	**Monte Sant'Ang**	**4.88**	**307**	Pn	**Pn**	**02 37 54.4**	**-0.7**
MS1	**Monte Sant'Ang**	**4.89**	**307**	*e*Pn	**Pn**	**02 37 54.3**	**-0.8**
RGNG	**Rignano Grg**	**5.09**	**305**	Pn	**Pn**	**02 37 57.2**	**-0.8**
FG5	**Orsara di Pugl** 34nm,0.2s	**5.12**	**300**	Pn	**Pn**	**02 37 59.1**	**+0.8**
MRB1	**Monte Rocchett** 70nm,0.6s	**5.25**	**297**	Pn	**Pn**	**02 38 01.1**	**+0.9**
DIVS	**Divibare**	**5.29**	**351**	*e*Pn	**Pn**	**02 38 00.1**	**-0.5**
SVIS	**Svilajnac**	**5.38**	**0**	*e*Pn	**Pn**	**02 38 04.3**	**+2.4**
FG2	**Serracapriola** 56nm,0.2s	**5.43**	**304**	Pn	**Pn**	**02 38 02.3**	**-0.4**
VAE	**Valguarnera** 1.2nm,0.3s,baz=113,slow=15,SNR=2.2	**5.50**	**257**	Sn	**Sn**	**02 39 04.3**	**-2.1**
CIGN	**Sant'Elia a Pi** 22nm,0.5s	**5.53**	**302**	Pn	**Pn**	**02 38 04.2**	**+0.3**
SGG	**Gregorio Mates** 28nm,0.5s	**5.77**	**298**	Pn	**Pn**	**02 38 09.4**	**+2.2**
MIDA	**Miranda** 24nm,0.5s	**5.96**	**300**	Pn	**Pn**	**02 38 11.1**	**+1.2**
SDI	**San Donato** 4.4nm,0.6s	**6.29**	**299**	Pn	**Pn**	**02 38 15.8**	**+1.4**
FGSL	**Fruska Gora**	**6.35**	**351**	*e*Pn	**Pn**	**02 38 16.2**	**+0.9**
INTR	**Introdacqua** 32nm,0.5s	**6.36**	**302**	Pn	**Pn**	**02 38 14.9**	**-0.4**
VVLD	**Villa Vallelon** 25nm,0.6s	**6.48**	**300**	Pn	**Pn**	**02 38 18.2**	**+1.1**
BZS	**Buzias**	**6.74**	**3**	⇑P	**Pn**	**02 38 21.1**	**+0.5**
BZS	**Buzias**	**6.74**	**3**	⇑*i*P	**Pn**	**02 38 21.1**	**+0.5**
AQU	**L'Aquila**	**6.84**	**303**	*e*Sn	**Sn**	**02 39 39.5**	**-0.1**
AQU	**L'Aquila**	**6.84**	**303**	‖*i*P	**Pn**	**02 38 23.9**	**+1.9**
AQU				*e*Sn	**Sn**	**02 39 39.5**	**-0.1**
VOIR		**7.16**	**23**	‖P	**Pn**	**02 38 26.2**	**-0.1**
VOIR		**7.16**	**23**	‖*i*P	**Pn**	**02 38 26.2**	**-0.2**
NRCA	**Norcia**	**7.26**	**306**	Pn	**Pn**	**02 38 28.0**	**+0.2**
NVLJ	**Novalja**	**7.37**	**322**	*e*Pn	**Pn**	**02 38 28.7**	**-0.6**
NVLJ				Sn	**Sn**	**02 39 47.0**	**-5.5**
MLR	**Muntele Rosu**	**7.50**	**27**	⇑P	**Pn**	**02 38 31.9**	**+0.9**
MLR	**Muntele Rosu** 1.2nm,0.3s,baz=174,slow=6.3,SNR=24	**7.50**	**27**	Pn	**Pn**	**02 38 32.3**	**+1.3**
MLR	**Muntele Rosu**	**7.50**	**27**	⇑‖P	**Pn**	**02 38 32.0**	**+1.0**
PKSM	**Moragy**	**7.56**	**347**	*e*Pn	**Pn**	**02 38 30.4**	**-1.4**
PKSM	**Moragy**	**7.56**	**347**	⇑‖*i*P	**Pn**	**02 38 29.1**	**-2.7**
FSSB	**Fossombrone**	**7.93**	**310**	Pn	**Pn**	**02 38 35.5**	**-1.4**
PLOR	**Plostina**	**8.06**	**28**	‖*i*P	**Pn**	**02 38 40.3**	**+1.5**
VRI	**Vrincioaia**	**8.11**	**29**	‖P	**Pn**	**02 38 41.6**	**+2.3**
VRI	**Vrincioaia**	**8.11**	**29**	‖*i*P	**Pn**	**02 38 41.6**	**+2.3**
VOY	**Vojsko**	**8.94**	**325**	*e*Pn	**Pn**	**02 38 49.3**	**-1.4**
VOY				*e*		02 38 50.7	
VOY				*e*Sn	**Sn**	**02 40 25.8**	**-5.1**
PSZ	**Piszkesteto**	**9.08**	**355**	⇑*i*P	**Pn**	**02 38 45.4**	**-7.3**
KECS	**Kecovo**	**9.61**	**357**	*e*PN	**Pn**	**02 39 02.7**	**+2.7**
KEST	**Kesra** 0.1nm,0.3s,baz=74,slow=22,SNR=4.2	**9.92**	**255**	Pn	**Pn**	**02 39 08.0**	**+3.7**
KEST	0.0nm,0.3s,baz=274,slow=19,SNR=2.1			Sn	**Sn**	**02 40 54.3**	**-0.9**
GERES	**GERESS Array B**	**11.32**	**334**	Pn	**Pn**	**02 39 22.2**	**-1.1**
GERES				Sn	**Sn**	**02 41 24.5**	**-4.8**
GERES	**GERESS Array B** 0.2nm,0.3s,baz=161,slow=14,SNR=9.6	**11.32**	**334**	Pn	**Pn**	**02 39 22.2**	**-1.1**
GERES				Sn	**Sn**	**02 41 24.5**	**-4.8**
DAVOX	**Davos/Dischmat** 0.2nm,0.3s,baz=143,slow=20,SNR=3.5	**11.43**	**317**	Pn	**Pn**	**02 39 25.1**	**+0.3**
DAVOX				Sn	**Sn**	**02 41 27.2**	**-5.0**
LPG	**La Plagne** 1.5nm,0.3s	**12.56**	**306**	*e*P	**Pn**	**02 39 41.0**	**+0.8**
LPL	**La Plagne** 1.2nm,0.4s	**12.58**	**306**	*e*P	**Pn**	**02 39 41.0**	**+0.5**
ORIF	**Oris-en-Rattie**	**12.88**	**303**	*e*P	**Pn**	**02 39 42.0**	**-2.6**
CDF	**Champ du Feu**	**13.83**	**318**	*e*P	**Pn**	**02 39 50.8**	**-6.8**
BGF	**Bois d'Agland** 0.7nm,0.4s	**15.47**	**306**	*e*P	**Pn**	**02 40 12.8**	**-6.9**
BGF	**Bois d'Agland** 0.3nm,0.4s	**15.47**	**306**	*e*P	**Pn**	**02 40 12.8**	**-6.9**
ESDC	**Sonseca Array** 0.0nm,0.3s,baz=72,slow=11,SNR=4.7	**19.45**	**280**	P	**Pn**	**02 41 11.0**	**+1.6**
HFS	**Hagfors** 1.1nm,0.6s,mb3.5,baz=147,slow=17,SNR=4.2	**21.79**	**350**	P	**P**	**02 41 30.8**	**-2.5**
FINES	**FINESS Array B**	**22.80**	**6**	P	**P**	**02 41 40.5**	**-3.4**
FINES	**FINESS Array B** 1.5nm,0.9s,mb3.4,baz=167,slow=13,SNR=4.8	**22.80**	**6**	P	**P**	**02 41 40.5**	**-3.4**
NB2	**NORSAR Subarra** comp=Z,0.8nm,0.6s,mb3.3,baz=162,slow=11	**23.04**	**348**	P	**P**	**02 41 44.4**	**-2.1**
NOA	**NORSAR Array B** comp=Z,0.7nm,0.8s,

PET	**Petropavlovsk**	**21.46**	**30**	*e*P	**P**	**02 59 26.7**	**-0.2**
PET				pmax	pmax		
comp=Z,15nm,0.7s,mb4.4							
MA2	**Magadan**	**24.88**	**12**	*e*P	**P**	**03 00 02.9**	**+2.0**
comp=Z,8.1nm,0.7s,mb4.4							
MA2	**Magadan**	**24.88**	**12**	*e*P	**P**	**03 00 01.6**	**+0.7**
MA2				S	**S**	**03 04 14.9**	**-6.8**
MA2				pmax	pmax		
comp=Z,10.0nm,0.7s,mb4.5							
SEY	**Seymchan**	**28.32**	**11**	*e*P	**P**	**03 00 33.3**	**+1.5**
SONM	**Songino Array**	**28.39**	**306**	LR	LR	03 12 07.4	
comp=Z,93nm,20.7s,MS3.4,baz=16,slow=37							
BILL	**Bilibino**	**35.55**	**16**	*e*P	**P**	**03 01 40.2**	**+5.1**
BILL				pmax	pmax		
comp=Z,2.0nm,1.2s,mb3.9							
TIXI	**Tiksi**	**36.74**	**354⇑**	*e*P	**P**	**03 01 44.7**	**-0.6**
TIXI				pmax	pmax		
comp=Z,1.0nm,0.9s,mb3.6							
ZAA0	**Zalesovo Array**	**42.70**	**314**	*e*P	**P**	**03 02 34.9**	**-0.2**
ZALV	**Zalesovo Beam**	**42.70**	**314**	P	**P**	**03 02 34.6**	**-0.5**
comp=Z,1.9nm,0.5s,mb4.1,baz=96,slow=12,SNR=4.0							
ZALV				LR	LR	03 23 35.7	
comp=Z,31nm,18.1s,MS3.2,baz=62,slow=41							
ZAL	**Zalesovo**	**42.71**	**314**	P	**P**	**03 02 34.6**	**-0.6**
MK31	**Makanchi Array**	**44.66**	**303**	*e*P	**P**	**03 02 50.6**	**-0.3**
MKAR	**Makanchi Array**	**44.66**	**303**	P	**P**	**03 02 51.1**	**+0.2**
MKAR				pmax	pmax		
comp=Z,1.0nm,0.3s							
MKAR				MLR	MLR		
comp=Z,64nm,20.8s							
MKAR	**Makanchi Array**	**44.66**	**303**	P	**P**	**03 02 51.1**	**+0.2**
comp=Z,0.6nm,0.3s,mb3.9,baz=90,slow=9.9,SNR=16							
MKAR				LR	LR	03 21 50.3	
comp=Z,64nm,20.8s,MS3.5,baz=175,slow=37							
KURK	**Kurchatov**	**46.62**	**309**	*e*P	**P**	**03 03 05.5**	**-0.8**
comp=Z,6.5nm,0.8s,mb4.6							
KURK	**Kurchatov**	**46.62**	**309**	*e*P	**P**	**03 03 05.5**	**-0.8**
KURK				pmax	pmax		
comp=Z,7.0nm,0.8s,mb4.6							
TKM2	**Tokmak 2**	**50.07**	**299**	*e*P	**P**	**03 03 33.2**	**+0.1**
comp=Z,2.1nm,0.6s,mb4.3							
TKM2	**Tokmak 2**	**50.07**	**299**	*e*P	**P**	**03 03 33.2**	**+0.1**
TKM2				pmax	pmax		
comp=Z,2.0nm,0.6s,mb4.3							
AAK	**Ala-Archa**	**50.93**	**299**	*e*P	**P**	**03 03 39.1**	**-0.5**
comp=Z,0.8nm,0.4s,mb4.0							
AAK	**Ala-Archa**	**50.93**	**299**	*e*P	**P**	**03 03 39.1**	**-0.5**
AAK				pmax	pmax		
comp=Z,1.0nm,0.4s,mb4.1							
UCH	**Uchtor**	**51.03**	**299**	*e*P	**P**	**03 03 40.7**	**+0.4**
comp=Z,1.3nm,0.8s,mb3.9							
BVAR	**Borovoye Array**	**51.35**	**313**	P	**P**	**03 03 42.4**	**-0.2**
BVAR				pmax	pmax		
comp=Z,1.0nm,0.5s							
BVAR	**Borovoye Array**	**51.35**	**313**	P	**P**	**03 03 42.4**	**-0.2**
comp=Z,0.8nm,0.5s,mb3.9,baz=87,slow=7.8,SNR=3.3							
AML	**Almayashu**	**51.64**	**299**	*e*P	**P**	**03 03 45.1**	**+0.2**
comp=Z,3.4nm,0.6s,mb4.5							
INK	**Inuvik**	**55.86**	**27**	*e*P	**P**	**03 04 16.5**	**+1.1**
INK	**Inuvik**	**55.86**	**27**	P	**P**	**03 04 16.8**	**+1.4**
INK				pmax	pmax		
comp=Z,1.0nm,0.6s							
INK	**Inuvik**	**55.86**	**27**	P	**P**	**03 04 16.8**	**+1.4**
comp=Z,0.9nm,0.6s,mb4.0,baz=286,slow=9.6,SNR=10							
AKTK	**Aktyubinsk**	**59.44**	**313**	P	**P**	**03 04 40.4**	**-0.4**
AKTO	**Aktyubinsk**	**59.44**	**313**	P	**P**	**03 04 40.4**	**-0.4**
AKTO				pmax	pmax		
comp=Z,1.0nm,0.7s,mb4.0							
AKTO	**Aktyubinsk**	**59.44**	**313**	P	**P**	**03 04 40.4**	**-0.4**
comp=Z,1.3nm,0.7s,mb4.1,baz=76,slow=10,SNR=5.8							
RES	**Resolute Bay**	**64.13**	**14**	*e*P	**P**	**03 05 12.1**	**+0.1**
comp=Z,59nm,0.6s							
YKA	**Yellowknife Ar**	**65.26**	**30**	P	**P**	**03 05 19.2**	**-0.3**
YKA	**Yellowknife Ar**	**65.26**	**30**	P	**P**	**03 05 19.2**	**-0.3**
comp=Z,0.3nm,0.7s,mb3.4,baz=304,slow=6.6,SNR=6.3							
ARCES	**ARCESS Array B**	**65.28**	**340**	LR	LR	03 36 48.1	
comp=Z,65nm,19.5s,MS3.8,baz=13,slow=39							
FINES	**FINESS Array B**	**69.99**	**332**	P	**P**	**03 05 49.4**	**0.0**
FINES				pmax	pmax		
comp=Z,2.0nm,0.7s							
FINES	**FINESS Array B**	**69.99**	**332**	P	**P**	**03 05 49.4**	**0.0**
comp=Z,1.6nm,0.7s,mb4.1,baz=59,slow=7.1,SNR=12							
KIV	**Kislovodsk**	**71.65**	**311**	*e*P	**P**	**03 05 59.9**	**+0.1**
KIV				pmax	pmax		
comp=Z,5.0nm,1.2s,mb4.3							
AKASG	**Malin Array Be**	**75.29**	**322**	P	**P**	**03 06 19.8**	**-1.3**
AKASG	**Malin Array Be**	**75.29**	**322**	P	**P**	**03 06 19.8**	**-1.3**
AKASG				pmax	pmax		
comp=Z,2.0nm,0.6s							
AKASG	**Malin Array Be**	**75.29**	**322**	P	**P**	**03 06 19.8**	**-1.3**
comp=Z,1.8nm,0.6s,mb4.2,baz=47,slow=6.1,SNR=14							
AKBB	**Malin Array Si**	**75.29**	**322**	*e*P	**P**	**03 06 20.4**	**-0.6**
HFS	**Hagfors**	**75.32**	**336**	P	**P**	**03 06 21.4**	**+0.3**
HFS				pmax	pmax		
comp=Z,1.0nm,0.6s							
HFS	**Hagfors**	**75.32**	**336**	P	**P**	**03 06 21.4**	**+0.3**
comp=Z,1.3nm,0.6s,mb4.0,baz=75,slow=7.8,SNR=7.6							
NB2	**NORSAR Subarra**	**75.44**	**337**	P	**P**	**03 06 21.6**	**-0.2**
comp=Z,2.2nm,0.7s,mb4.2,baz=40,slow=5.9							
NOA	**NORSAR Array B**	**75.44**	**337**	P	**P**	**03 06 22.2**	**+0.4**
NOA				pmax	pmax		
comp=Z,2.0nm,0.7s							
NOA	**NORSAR Array B**	**75.44**	**337**	P	**P**	**03 06 22.1**	**+0.4**
comp=Z,2.1nm,0.7s,mb4.2,baz=39,slow=5.8,SNR=12							
NVAR	**Mina Array Bea**	**76.14**	**53**	P	**P**	**03 06 27.6**	**+1.4**
comp=Z,0.1nm,0.5s,baz=273,slow=3.5,SNR=2.5							
CLL	**Collm**	**82.23**	**330⇑**	*i*P	**P**	**03 06 59.7**	**+0.5**
comp=Z,4.0nm,0.9s,mb4.3							
CLL				*e*pP	pP	03 07 08.0	-1.5
CLL	**Collm**	**82.23**	**330⇑**	*i*P	**P**	**03 06 59.7**	**+0.5**
CLL				pmax	pmax		
comp=Z,4.0nm,0.9s,mb4.3							
CLL	**Collm**	**82.23**	**330⇑**	*i*P	**P**	**03 06 59.7**	**+0.5**
comp=Z,4.0nm,0.9s,mb4.3							
KHC	**Kasperske Hory**	**83.65**	**328⇑**	*e*P	**P**	**03 07 07.6**	**+1.0**
GERES	**GERESS Array B**	**83.81**	**328**	P	**P**	**03 07 07.6**	**+0.1**
comp=Z,0.4nm,0.7s,mb3.6,baz=38,slow=5.2,SNR=5.0							
MEM	**Membach**	**85.50**	**333**	P	**P**	**03 07 15.2**	**-0.7**
comp=Z,3.9nm,1.4s,mb4.4							
ANMO	**Albuquerque**	**85.79**	**50**	P	**P**	**03 07 20.7**	**+3.0**
comp=Z,0.3nm,0.3s,mb3.9,baz=310,slow=7.9,SNR=2.8							
LPAZ	**La Paz**	**147.71**	**61**	PKIKP	PKPbc	03 14 24.2	+1.0
LPAZ				pmax	pmax		
comp=Z,1.0nm,0.8s							
LPAZ	**La Paz**	**147.71**	**61**	PKPbc	PKPbc	03 14 24.2	+1.0
comp=Z,1.0nm,0.8s,baz=314,slow=4.5,SNR=4.9							

MOS ***29*** *02:57:35.7±0.8, 460S×153.16E, h33km, mb4.8/27, Error ellipse: s-maj=12.9km s-min=8.2km az=100.6*
ISCJB ***29*** *02:57:36.6±1.4, 468S±005×15329E±005, h49km±12km, mb4.7/49, MS4.0/16, Error ellipse: s-maj=9.4km s-min=8.2km az=26.9*
IDC ***29*** *02:57:38.0±1.7, 470S×15324E, h48km±16km, mb4.3/21, mb1 4.4/23, mb1mx4.4/24, mbtmp4.3/23, ML4.7/2, MS3.8/11, Ms1 3.8/11, ms1mx3.6/22, Error ellipse: s-maj=14.8km s-min=10.6km az=88.0*
BJI ***29*** *02:57:38.9, 474S×15388E, h95km, mB5.1, mb4.8*
NEIC ***29*** *02:57:39.8±1.0, 472S×15324E, h65km±8km, mb4.7/21, Error ellipse: s-maj=6.8km s-min=6.1km az=106.0*
ISC 29 02:57:40.2±1.2, 473S±005×15326E±006, h68km±12km, h75km±4.3km: pP-P, n203, σ1º14/117, mb4.6/49, 6C-4D, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**8.11**	**125**	P	**Pn**	**02 59 35.6**	**+0.2**
HNR				S	**Sn**	**03 01 06.7**	**+1.1**
HNR				pmax	pmax		
comp=Z,70nm,0.3s							
HNR				smax			
comp=N,10.0nm,0.3s							
HNR	**Honiara**	**8.11**	**125**	P	**Pn**	**02 59 35.6**	**+0.3**
comp=N,70nm,0.3s,baz=232,slow=4.1,SNR=12							
HNR				S	**Sn**	**03 01 06.7**	**+1.1**
comp=N,9.9nm,0.3s,baz=108,slow=20,SNR=3.2							
COEN	**Coen**	**13.52**	**227**	*e*Pn	**Pn**	**03 00 49.6**	**+0.5**
comp=N,13nm,1.4s							
CTA	**Charters Tower**	**16.72**	**203**	*e*P	**Pn**	**03 01 30.5**	**+0.4**
comp=N,3.8nm,0.7s							
CTA	**Charters Tower**	**16.72**	**203**	*e*P	**Pn**	**03 01 30.5**	**+0.4**
CTA				pmax	pmax		
comp=Z,4.0nm,0.7s							
CTA	**Charters Tower**	**16.72**	**203**	P	**Pn**	**03 01 30.2**	**+0.1**
comp=Z,0.4nm,0.3s,baz=32,slow=12,SNR=9.0							
CTAO	**Charters Tower**	**16.72**	**203**	*e*P	**Pn**	**03 01 30.5**	**+0.4**
comp=Z,11nm,1.1s							
CTAO	**Charters Tower**	**16.72**	**203**	*e*P	**Pn**	**03 01 30.5**	**+0.4**
CTAO				pmax	pmax		
comp=Z,11nm,1.1s							
GUMO	**Guam**	**20.02**	**336**	LR	LR	03 09 18.8	
comp=Z,106nm,18.8s,baz=115,slow=35							
EIDS	**Eidsvold**	**20.62**	**186**	*e*P	**P**	**03 02 16.9**	**+2.8**
comp=Z,4.5nm,0.6s							
KAKA	**Kakadu**	**22.04**	**248**	*e*P	**P**	**03 02 27.4**	**-2.0**
comp=Z,81nm,0.5s,mb5.3							
KAKA				*e*S	**S**	**03 06 25.5**	**-3.3**
WRAB	**Tennant Creek**	**23.82**	**229**	*e*P	**P**	**03 02 46.6**	**-0.5**
comp=Z,20nm,0.6s,mb4.6							
WRAB	**Tennant Creek**	**23.82**	**229**	*e*P	**P**	**03 02 46.7**	**-0.4**
WRAB				pmax	pmax		
comp=Z,20nm,0.6s,mb4.6							
WB2	**Warramunga Arr**	**23.82**	**229**	*e*P	**P**	**03 02 46.5**	**-0.7**
WB2				*e*S	**S**	**03 07 02.7**	**+4.4**
WRA	**Warramunga Arr**	**23.83**	**229**	P	**P**	**03 02 46.6**	**-0.6**
WRA				PcP	PcP	03 06 29.5	+0.4
WRA				S	**S**	**03 07 01.2**	**+2.8**
WRA				ScP	ScP	03 10 04.2	+2.4
WRA				LR	LR	03 12 09.8	
WRA	**Warramunga Arr**	**23.83**	**229**	P	**P**	**03 02 46.6**	**-0.7**
WRA						03 06 29.5	
WRA				S	**S**	**03 07 01.3**	**+2.8**
WRA				pmax	pmax		
comp=Z,9.0nm,0.6s							
WRA				pmax	pmax		
comp=Z,2.0nm,0.7s							
WRA				smax			
comp=N,3.0nm,0.8s							
WRA				pmax	pmax		
comp=N,3.0nm,1.0s							
WRA				MLR	MLR		
comp=Z,174nm,21.7s							
WRA	**Warramunga Arr**	**23.83**	**229**	P	**P**	**03 02 46.6**	**-0.6**
comp=Z,9.3nm,0.6s,mb4.3,baz=52,slow=9.8,SNR=212							
WRA				PcP	PcP	03 06 29.5	+0.4
comp=Z,1.9nm,0.7s,baz=49,slow=2.4,SNR=5.5							
WRA				S	**S**	**03 07 01.3**	**+2.8**
comp=Z,2.8nm,0.8s,baz=50,slow=17,SNR=4.4							
WRA				ScP	ScP	03 10 04.2	+2.4
comp=Z,2.6nm,1.0s,baz=46,slow=2.9,SNR=5.4							
WRA				LR	LR	03 12 09.8	
comp=Z,174nm,21.7s,baz=55,slow=37							
ARMA	**Armidale**	**25.59**	**183**	*e*P	**P**	**03 03 03.8**	**+0.6**
ASAR	**Alice Springs**	**26.51**	**223**	P	**P**	**03 03 10.8**	**-0.7**
ASAR						03 06 35.9	
ASAR				pmax	pmax		
comp=Z,2.0nm,0.5s							
ASAR				pmax	pmax		
comp=Z,2.0nm,0.8s							
ASAR	**Alice Springs**	**26.51**	**223**	P	**P**	**03 03 10.8**	**-0.7**
comp=Z,1.8nm,0.5s,mb3.9,baz=56,slow=8.9,SNR=28							
ASAR				PcP	PcP	03 06 35.9	+0.9
comp=Z,2.1nm,0.8s,baz=60,slow=2.8,SNR=5.3							
ASAR				ScP	ScP	03 10 12.9	+3.6
comp=Z,0.4nm,0.6s,baz=46,slow=2.9,SNR=4.1							
STKA	**Stephens Creek**	**29.14**	**201**	*e*P	**P**	**03 03 33.2**	**-1.7**
comp=Z,6.0nm,1.2s,mb4.1							
STKA	**Stephens Creek**	**29.14**	**201**	P	**P**	**03 03 33.7**	**-1.2**
comp=Z,5.1nm,0.9s,mb4.1,baz=60,slow=9.0,SNR=4.9							
STKA				PcP	PcP	03 06 43.2	+1.9
comp=Z,9.1nm,1.2s,baz=29,slow=4.9,SNR=3.9							
STKA				LR	LR	03 14 41.7	
comp=Z,224nm,21.6s,baz=24,slow=35							
FITZ	**Fitzroy Crossi**	**30.09**	**242**	*e*P	**P**	**03 03 42.5**	**-1.0**
comp=Z,8.5nm,0.3s,mb4.8							
FITZ	**Fitzroy Crossi**	**30.09**	**242**	P	**P**	**03 03 42.6**	**-1.0**
comp=Z,4.9nm,0.3s,mb4.6,baz=84,slow=7.2,SNR=37							
CBIJ	**Chichi jima**	**33.40**	**342**	LR	LR	03 15 36.3	
comp=Z,170nm,20.0s,baz=113,slow=32							
FORT	**Forrest**	**35.13**	**220**	*e*P	**P**	**03 04 26.4**	**-1.0**
comp=Z,18nm,0.6s,mb5.1							
MBWA	**Marble Bar**	**36.40**	**240**	*e*P	**P**	**03 04 38.0**	**-0.4**
comp=Z,7.4nm,0.6s,mb4.8							
JOW	**Kunigami**	**39.61**	**324**	P	**P**	**03 05 05.8**	**+0.5**
comp=Z,18nm,0.7s,mb5.0,baz=119,slow=19,SNR=4.3							
JHJ	**Hachijo jima 2**	**39.75**	**342**	LR	LR	03 19 24.2	
comp=Z,114nm,18.4s,baz=59,slow=33							
URZ	**Urewera**	**39.81**	**150**	P	**P**	**03 05 07.5**	**+0.6**
comp=Z,6.8nm,0.7s,mb4.6,baz=281,slow=1.9,SNR=4.8							
RPZ	**Rata Peaks**	**41.88**	**161**	P	**P**	**03 05 23.6**	**-0.2**
comp=Z,40nm,0.9s,mb5.2,baz=16,slow=6.7,SNR=13							
JNU	**Nakatsue**	**43.21**	**332**	P	**P**	**03 05 34.6**	**-0.1**
comp=Z,10nm,1.1s,mb4.5,baz=127,slow=3.2,SNR=4.5							
JNU				LR	LR	03 19 27.3	
comp=Z,131nm,21.2s,baz=103,slow=30							
MJAR	**Matsushiro Arr**	**43.41**	**342**	P	**P**	**03 05 35.0**	**-1.2**
comp=Z,0.8nm,0.5s,mb3.7,baz=153,slow=7.8,SNR=4.2							
MJAR				LR	LR	03 21 17.0	
comp=Z,182nm,21.8s,baz=185,slow=33							
KSRS	**Korea Array**	**48.15**	**333**	P	**P**	**03 06 13.7**	**+0.1**
KSRS				pmax	pmax		
comp=Z,3.0nm,0.9s,mb4.1							
KSRS				MLR	MLR		
comp=Z,61nm,18.1s							
KSRS	**Korea Array**	**48.15**	**333**	P	**P**	**03 06 13.7**	**+0.1**
comp=Z,2.7nm,0.9s,mb4.1,baz=148,slow=7.9,SNR=7.6							
KSRS				LR	LR	03 26 04.2	
comp=Z,61nm,18.1s,baz=335,slow=36							
ASAJ	**Asahikawa**	**49.56**	**350**	LR	LR	03 24 44.0	
comp=Z,69nm,21.0s,baz=80,slow=33							
YSS	**Yuzh-Sakhalins**	**52.30**	**351**	*e*P	**P**	**03 06 43.9**	**-0.9**
YSS				pmax	pmax		
comp=Z,43nm,2.5s,mb5.0							
KULM	**Kulim**	**53.48**	**280**	*e*P	**P**	**03 06 54.0**	**-0.2**
CN2	**Changchun**	**54.42**	**335**	*e*P	**P**	**03 07 03.0**	**+2.5**
CN2				*e*S	**S**	**03 14 35.3**	**+1.3**
CN2				AMB	AMB		
comp=Z,10.0nm,0.6s,mb5.0							
CN2				AMB	AMB		
comp=Z,200nm,3.0s							
GYA	**Guiyang**	**54.72**	**307**	P	**P**	**03 07 04.3**	**+1.4**
GYA				AP	pP	03 07 24.5	+4.1
GYA				PCP	PcP	03 08 06.5	+1.6
GYA				PP	PP	03 09 10.5	+4.2
GYA				SCP	ScP	03 11 57.0	-0.7
GYA				PCS	PcS	03 12 05.0	+0.2
GYA				S	**S**	**03 14 39.5**	**+0.9**
GYA				SCS	ScS	03 16 44.8	-1.6
GYA				AMB	AMB		
comp=Z,10.0nm,0.8s,mb4.9							
GYA				AMB	AMB		
comp=Z,80nm,6.2s							
GYA				LR	LR		
comp=N,450nm,20.5s							
GYA				LR	LR		
comp=E,480nm,21.0s							
GYA				LR	LR		
comp=Z,460nm,20.8s							
BJI	**Beijing**	**56.09**	**326**	P	**P**	**03 07 12.8**	**+0.3**
BJI				PP	PP	03 09 19.5	+1.2
BJI				AMB	AMB		
comp=Z,5.0nm,0.7s,mb4.7							
BJI				LR	LR		
comp=N,114nm,22.1s							
BJI				LR	LR		
comp=E,155nm,21.6s							
BJI				LR	LR		
comp=Z,222nm,26.2s							
PPT	**Papeete**	**57.31**	**108**	*e*LR	LR	03 24 05.0	
comp=Z,162nm,30.2s							
KMI	**Kunming**	**57.33**	**304**	P	**P**	**03 07 25.0**	**+3.4**
KMI				S	**S**	**03 15 14.8**	**+1.5**
KMI				AMB	AMB		
comp=Z,7.0nm,0.7s,mb4.8							
KMI				LR	LR		
comp=N,143nm,17.9s							
KMI				LR	LR		
comp=E,165nm,19.3s							
KMI				LR	LR		
comp=Z,238nm,19.3s							
TBI	**Tubuai**	**58.17**	**114**	*e*LR	LR	03 24 26.1	
comp=Z,375nm,30.2s							
CD2	**Chengdu**	**59.04**	**310**	*e*P	**P**	**03 07 34.3**	**+0.8**
CD2				PP	PP	03 09 47.5	+2.8
CD2				S	**S**	**03 15 34.3**	**-1.1**
CD2				SS	SS	03 19 34.0	+3.4
CD2				AMB	AMB		
comp=Z,10.0nm,0.8s,mb4.9							
CD2				AMB	AMB		
comp=Z,20nm,5.8s							
CD2				LR	LR		
comp=N,220nm,22.8s							
CD2				LR	LR		
comp=Z,320nm,16.8s							
HHC	**Hu-ho-hao-te**	**59.26**	**324**	*e*P	**P**	**03 07 36.5**	**+1.7**
HHC				AP	pP	03 07 55.0	+2.6
HHC				PP	PP	03 09 49.5	+3.0
HHC				PCS	PcS	03 12 22.0	-2.3
HHC				S	**S**	**03 15 40.3**	**+2.4**
HHC				SCS	ScS	03 17 16.0	-2.9
HHC				SS	SS	03 19 34.5	+0.9
HHC				AMB	AMB		
comp=Z,16nm,0.4s,mb5.4							
HHC				AMB	AMB		
comp=Z,113nm,4.1s							
HHC				LR	LR		
comp=N,134nm,14.5s							
HHC				LR	LR		
comp=E,179nm,17.1s							
HHC				LR	LR		
comp=Z,197nm,22.6s							
HIA	**Hailar**	**61.16**	**336**	*e*P	**P**	**03 07 47.4**	**-0.2**
LZH	**Lanzhou**	**61.50**	**316**	*e*P	**P**	**03 07 49.0**	**-1.2**
LZH				*e*S	**S**	**03 16 04.0**	**-2.7**
LZH				AMB	AMB		
comp=Z,20nm,1.0s,mb5.1							
MA2	**Magadan**	**64.14**	**359**	*e*P	**P**	**03 08 06.8**	**-0.4**
MA2				*e*	pP	03 08 19.6	-5.5
MA2				pmax	pmax		
comp=Z,9.0nm,0.7s,mb4.7							
GTA	**Gaotai**	**65.92**	**317**	*e*P	**P**	**03 08 20.8**	**+1.6**
GTA				AP	pP	03 08 39.8	+2.7
GTA				PP	PP	03 10 49.8	+4.7
GTA				PPP		03 12 27.5	
GTA				S	S	03 17 02.8	+1.3
GTA				AMB	AMB		
comp=Z,5.0nm,0.6s,mb4.5							
GTA				AMB	AMB		
comp=Z,89nm,7.6s							
GTA				LR	LR		
comp=N,81nm,18.6s							
GTA				LR	LR		
comp=E,81nm,18.6s							
GTA				LR	LR		
comp=Z,85nm,17.5s							
ULN	**Ulaanbaatar**	**66.18**	**328**	*e*P	**P**	**03 08 21.9**	**+1.2**
comp=Z,1.6nm,0.6s,mb4.0							
ULN				*e*PcP	PcP	03 08 51.0	+0.6
ULN	**Ulaanbaatar**	**66.18**	**328**	*e*P	**P**	**03 08 21.9**	**+1.2**
ULN				*e*		03 08 51.0	
ULN				pmax	pmax		
comp=Z,2.0nm,0.6s,mb4.1							
SONM	**Songino Array**	**66.51**	**328**	P	**P**	**03 08 24.4**	**+1.6**
comp=Z,1.2nm,0.4s,mb4.0,baz=98,slow=8.9,SNR=2.8							
SONM				LR	LR	03 35 27.8	
comp=Z,118nm,19.7s,baz=56,slow=34							
SEY	**Seymchan**	**67.48**	**360⇑**	*e*P	**P**	**03 08 26.3**	**-2.3**
ZAK	**Zakamensk**	**69.67**	**328⇑**	*i*P	**P**	**03 08 42.8**	**+0.2**
ZAK				pmax	pmax		
comp=Z,2.0nm,1.1s,mb3.9							
RKT	**Rikitea**	**71.39**	**113**	*e*LR	LR	03 30 32.8	
comp=Z,379nm,29.2s							
VNDA	**Vanda**	**72.88**	**178**	*e*P	**P**	**03 09 01.6**	**+0.1**
comp=Z,7.7nm,0.9s,mb4.5							
VNDA	**Vanda**	**72.88**	**178**	P	**P**	**03 09 01.9**	**+0.4**
VNDA				pmax	pmax		
comp=Z,7.0nm,0.8s							
VNDA	**Vanda**	**72.88**	**178**	P	**P**	**03 09 01.9**	**+0.3**
comp=Z,6.9nm,0.8s,mb4.5,baz=330,slow=6.6,SNR=70							
BILL	**Bilibino**	**73.18**	**5**	*e*P	**P**	**03 09 03.1**	**-0.3**
comp=Z,5.3nm,0.8s,mb4.4							
BILL	**Bilibino**	**73.18**	**5**	*e*P	**P**	**03 09 03.2**	**-0.1**
BILL				pmax	pmax		
comp=Z,6.0nm,0.7s,mb4.5							
WMQ	**Urumqi**	**76.00**	**317**	*e*P	**P**	**03 09 19.3**	**-0.9**
WMQ				AMB	AMB		
comp=Z,14nm,0.7s,mb4.8							
WMQ				AMB	AMB		
comp=Z,95nm,4.9s							
WMQ				LR	LR		
comp=Z,100nm,27.0s							
TIXI	**Tiksi**	**77.89**	**352⇑**	*e*P	**P**	**03 09 29.3**	**-0.9**
TIXI				pmax	pmax		
comp=Z,5.0nm,1.4s,mb4.0							
SLKM	**Skilak Lake**	**78.42**	**25**	*e*P	**P**	**03 09 32.7**	**-0.6**
MK31	**Makanchi Array**	**80.58**	**319**	*e*P	**P**	**03 09 45.6**	**+0.2**
MKAR	**Makanchi Array**	**80.58**	**319**	P	**P**	**03 09 45.9**	**+0.5**
MKAR				pmax	pmax		
comp=Z,3.0nm,0.5s							
MKAR	**Makanchi Array**	**80.58**	**319**	P	**P**	**03 09 45.9**	**+0.5**
comp=Z,3.4nm,0.5s,mb4.5,baz=95,slow=7.4,SNR=43							
MCK	**McKinley**	**80.63**	**22**	*e*P	**P**	**03 09 43.1**	**-2.1**
comp=Z,13nm,1.2s,mb4.7							
MCK	**McKinley**	**80.63**	**22**	*e*P	**P**	**03 09 43.2**	**-2.1**
MCK				pmax	pmax		
comp=Z,13nm,1.2s,mb4.6							
ZAA0	**Zalesovo Array**	**81.35**	**326**	*e*P	**P**	**03 09 48.2**	**-1.1**
ZALV	**Zalesovo Beam**	**81.35**	**326**	P	**P**	**03 09 48.6**	**-0.7**
comp=Z,4.1nm,0.5s,mb4.5,baz=115,slow=6.0,SNR=12							
ZAL	**Zalesovo**	**81.36**	**326**	P	**P**	**03 09 48.6**	**-0.8**
ZAL				pmax	pmax		
comp=Z,4.0nm,0.5s							
COLA	**College**	**81.62**	**22**	*e*P	**P**	**03 09 48.2**	**-2.3**
comp=Z,2.2nm,0.6s,mb4.2							
COLA	**College**	**81.62**	**22**	*e*P	**P**	**03 09 48.3**	**-2.2**
COLA				pmax	pmax		
comp=Z,2.0nm,0.6s,mb4.1							
NVS	**Novosibirsk**	**82.52**	**327**	*i* P	**P**	**03 09 55.0**	**-0.5**
NVS				pmax	pmax		
comp=Z,13nm,1.6s,mb4.5							
NVS				pmax	pmax		
comp=N,6.0nm

comp=Z,1.0nm,0.5s
INK Inuvik 88.23 21 P **P 03 10 23.1 -0.5**
comp=Z,0.9nm,0.5s,mb4.0,baz=258,slow=8.7,SNR=12
BVAR Borovoye Array 89.46 323 P **P 03 10 29.2 -0.5**
BVAR pmax pmax
comp=Z,11nm,0.7s
BVAR Borovoye Array 89.46 323 P **P 03 10 29.2 -0.5**
comp=Z,11nm,0.7s,mb5.0,baz=101,slow=6.2,SNR=68
BRVK Borovoye 89.53 323 *e*P **P 03 10 29.5 -0.6**
comp=Z,33nm,1.5s,mb5.2
BRVK Borovoye 89.53 323 *e*P **P 03 10 29.5 -0.5**
BRVK pmax pmax
comp=Z,33nm,1.5s,mb5.2
NVAR Mina Array Bea 91.68 52 P **P 03 10 40.2 -0.2**
comp=Z,0.2nm,0.5s,mb3.6,baz=276,slow=4.6,SNR=3.9
YKA Yellowknife Ar 95.15 28 P **P 03 10 54.8 -1.0**
YKA PKKPbc PKKPbc 03 27 49.7 -2.7
YKA Yellowknife Ar 95.15 28⇑ *e*P **P 03 10 57.9 +2.1**
YKA Yellowknife Ar 95.15 28 P **P 03 10 54.8 -1.0**
comp=Z,0.4nm,0.8s,mb3.9,baz=271,slow=4.8,SNR=9.9
YKA PKKPbc PKKPbc 03 27 49.7 -2.7
comp=Z,0.2nm,0.6s,baz=86,slow=2.9,SNR=6.1
AKTK Aktyubinsk 96.96 320 P **P 03 11 02.9 -1.4**
AKTO Aktyubinsk 96.96 320 P **P 03 11 02.9 -1.4**
AKTO pmax pmax
comp=Z,2.0nm,0.9s,mb4.5
AKTO Aktyubinsk 96.96 320 P **P 03 11 02.9 -1.4**
comp=Z,1.9nm,0.9s,mb4.5,baz=96,slow=5.4,SNR=6.0
LPIG La Paz 97.78 66 LR LR 03 46 40.3
comp=Z,82nm,19.7s,baz=206,slow=30
FINES FINESS Array B 111.18 336 *i* PKIKP PKiKP 03 16 05.5 -0.4
FINES pmax pmax
comp=Z,1.0nm,0.9s
FINES FINESS Array B 111.18 336 PKiKP PKiKP 03 16 05.5 -0.4
comp=Z,1.4nm,0.9s,baz=77,slow=3.0,SNR=3.9
AKASG Malin Array Be 114.71 325 PKIKP PKiKP 03 16 12.2 -0.8
AKASG pmax pmax
comp=Z,2.0nm,0.6s
AKASG Malin Array Be 114.71 325 PKP PKiKP 03 16 12.2 -0.8
comp=Z,2.1nm,0.6s,baz=61,slow=2.1,SNR=13
HFS Hagfors 116.78 339 PKIKP PKPdf 03 16 14.9 -1.8
HFS pmax pmax
comp=Z,1.0nm,0.5s
HFS Hagfors 116.78 339 PKP PKPdf 03 16 14.9 -1.8
comp=Z,0.6nm,0.5s,baz=104,slow=6.3,SNR=5.2
NOA NORSAR Array B 117.00 340 PKP PKPdf 03 16 16.0 -1.1
NOA NORSAR Array B 117.00 340 PKIKP PKPdf 03 16 16.0 -1.1
NOA pmax pmax
comp=Z,1.0nm,0.6s
NOA NORSAR Array B 117.00 340 PKP PKPdf 03 16 16.0 -1.0
comp=Z,0.6nm,0.6s,baz=44,slow=1.9,SNR=3.3
NAO01 NORSAR Array S 117.26 340 *e*P Pdif 03 12 28.8 -5.8
MLR Muntele Rosu 118.89 320 PKIKP PKPdf 03 16 21.2 0.0
MLR pmax pmax
comp=Z,1.0nm,0.4s
MLR Muntele Rosu 118.89 320 PKP PKPdf 03 16 21.2 0.0
comp=Z,0.7nm,0.4s,baz=284,slow=4.2,SNR=3.9
KOLS Kolonicke sedl 119.52 325 *e*PKP PKPdf 03 16 22.6 +0.3
PLCA Paso Flores 119.56 143 PKIKP PKPdf 03 16 21.1 -1.6
PLCA pmax pmax
comp=Z,1.0nm,0.7s
PLCA Paso Flores 119.56 143 PKP PKPdf 03 16 21.1 -1.5
comp=Z,0.8nm,0.7s,baz=255,slow=5.2,SNR=2.9
STHS Stebnicka Huta 119.85 326 *e*PKP PKPdf 03 16 23.4 +0.5
CRVS Cervenica-Dubn 119.99 325 *e*PKP PKPdf 03 16 23.5 +0.3
BOSA Boshof 120.03 233 PKIKP PKPdf 03 16 23.7 -0.2
BOSA pmax pmax
comp=Z,2.0nm,0.8s
BOSA Boshof 120.03 233 PKP PKPdf 03 16 23.7 -0.2
comp=Z,2.2nm,0.8s,baz=338,slow=11,SNR=4.1
VYHS Vyhne 121.68 326 *e*PKP PKPdf 03 16 26.0 -0.5
DPC Dobruska-Polom 121.97 329 *e*PKPdf PKPdf 03 16 26.9 0.0
UPC Upice 122.03 329 *e*PKPdf PKPdf 03 16 26.6 -0.5
MODS Modra-Piesok 122.61 327 *e*PKP PKPdf 03 16 29.2 +1.0
PVCC Panska Ves 122.74 330 *e*PKPdf PKPdf 03 16 28.5 +0.1
ZST Bratislava 122.81 327 *e*PKP PKPdf 03 16 29.1 +0.5
BRG Berggiesshubel 122.84 331 *i* PKP PKPdf 03 16 28.6 0.0
comp=Z,4.2nm,0.8s
CLL Collm 123.01 331⇓ *i* PKP PKPdf 03 16 29.1 +0.2
CLL Collm 123.01 331⇓ *i* PKPdf PKPdf 03 16 29.1 +0.2
comp=Z,5.0nm,0.7s
TREC Trest 123.03 328 *e*PKPdf PKPdf 03 16 29.5 +0.5
PRU Pruhonice 123.09 329 *e*PKPdf PKPdf 03 16 29.3 +0.2
KHC Kasperske Hory 124.12 329 *e*PKPdf PKPdf 03 16 31.4 +0.3
GEC2 GERESS Array S 124.23 329 *e*PKPdf PKPdf 03 16 31.4 +0.1
GERES GERESS Array B 124.23 329 PKIKP PKPdf 03 16 31.5 +0.2
GERES pmax pmax
comp=Z,3.0nm,0.7s
GERES GERESS Array B 124.23 329 PKP PKPdf 03 16 31.5 +0.1
comp=Z,3.1nm,0.7s,baz=72,slow=1.7,SNR=34
GRA1 Grafenberg Arr 124.93 331 *e*PKP PKPdf 03 16 32.3 -0.4
GRF Grafenberg Arr 124.93 331 *e*PKPdf PKPdf 03 16 32.3 -0.4
CRES Cresnjev 125.09 325 *e*PKPdf PKPdf 03 16 32.6 -0.4
BOJS Bojanci 125.39 325 *e*PKPdf PKPdf 03 16 33.6 0.0
LJU Ljubljana 125.49 326 *e*PKPdf PKPdf 03 16 33.7 -0.1
EKA Eskdalemuir Ar 126.10 344 PKIKP PKPdf 03 16 33.8 -0.9
EKA pmax pmax
comp=Z,1.0nm,0.6s
EKA Eskdalemuir Ar 126.10 344 PKP PKPdf 03 16 33.8 -0.9
comp=Z,0.8nm,0.6s,baz=25,slow=2.1,SNR=3.7
ABTA Abfaltersbach 126.17 327⇑ *i* PKiKP PKiKP 03 16 35.0 -0.6
comp=Z,8.0nm,1.4s
WTTA Wattenberg 126.31 328⇓ *i* P PKPdf 03 16 35.7 +0.4
comp=Z,11nm,0.9s
MOTA Moosalm 126.53 329⇓ *i* P PKPdf 03 16 35.6 -0.2
comp=Z,6.8nm,1.1s
FETA Feichten 126.94 329⇑ *i* PKiKP PKiKP 03 16 37.3 +0.2
comp=Z,7.2nm,0.9s
DAVOX Davos/Dischmat 127.54 329 PKP PKPdf 03 16 38.7 +0.9
DAVOX Davos/Dischmat 127.54 329 PKP PKPdf 03 16 38.7 +0.9
comp=Z,4.9nm,0.8s,baz=14,slow=3.5,SNR=9.6
GIVF Givet 127.56 335 *e*PKIKP PKPdf 03 16 37.9 +0.2
CDF Champ du Feu 127.70 332 *e*PKIKP PKPdf 03 16 37.8 -0.2
BAIF Baives 127.85 335 *e*PKIKP PKPdf 03 16 38.3 +0.1
HINF Hinteralfeld 128.32 332 *e*PKIKP PKPdf 03 16 39.0 -0.2
comp=Z,9.5nm,0.9s
HAU Haudompre 128.42 332 *e*PKIKP PKPdf 03 16 39.4 0.0
comp=Z,6.5nm,0.6s
MEZF Maizieres J'vi 128.65 333 *e*PKIKP PKPdf 03 16 40.3 +0.5
CABF La Chapelle 129.55 331 *e*PKIKP PKPdf 03 16 42.2 +0.6
LPL La Plagne 130.00 330 *e*PKIKP PKPdf 03 16 43.1 +0.6
LPG La Plagne 130.00 330 *e*PKIKP PKPdf 03 16 43.3 +0.8
comp=Z,2.5nm,0.5s
LOR Lormes 130.11 333 *e*PKIKP PKPdf 03 16 43.0 +0.4
comp=Z,2.9nm,0.5s
BNI Bardonecchia 130.35 329 *e*PKPdf PKPdf 03 16 42.6 -0.5
SSF Saint Saulge 130.42 333 *e*PKIKP PKPdf 03 16 43.7 +0.5
MBDF Montbardon 130.53 329 *e*PKIKP PKPdf 03 16 45.0 +1.5
comp=Z,3.7nm,0.6s
SMF Signal de Mont 130.58 333 *e*PKIKP PKPdf 03 16 43.7 +0.2
comp=Z,2.3nm,0.5s
AVF Avril sur Loir 130.69 333 *e*PKIKP PKPdf 03 16 43.8 +0.1
comp=Z,1.1nm,0.5s
LDF La Druitiere 130.75 337 *e*PKIKP PKPdf 03 16 43.8 0.0
FLN La Foliniere 130.76 337 *e*PKIKP PKPdf 03 16 43.9 +0.1
SBF Sospel 130.77 328 *e*PKIKP PKPdf 03 16 44.0 0.0
PGF Pioggiola 130.77 325 *e*PKIKP PKPdf 03 16 44.3 +0.3
comp=Z,8.1nm,0.6s
ORIF Oris-en-Rattie 130.85 330 *e*PKIKP PKPdf 03 16 44.5 +0.4
comp=Z,6.2nm,0.7s
BGF Bois d'Agland 131.10 333 *e*PKIKP PKPdf 03 16 44.4 -0.1
comp=Z,5.5nm,0.6s
GRR Gorron 131.21 337 *e*PKIKP PKPdf 03 16 44.9 +0.2
FRF La Foret Royal 131.39 328 *e*PKIKP PKPdf 03 16 45.3 +0.1
comp=Z,7.2nm,0.9s
VIVF Saint-Julien-l 131.50 330 *e*PKIKP PKPdf 03 16 45.9 +0.6
TCF Toulx Ste Croi 131.59 333 *e*PKIKP PKPdf 03 16 45.9 +0.4
comp=Z,5.7nm,0.7s
LMR La Mourre 131.62 328 *e*PKIKP PKPdf 03 16 45.8 +0.2
SMRF Simiane la Rot 131.67 329 *e*PKIKP PKPdf 03 16 46.6 +0.9
comp=Z,8.8nm,0.8s
SGMF Saint Gilles 131.96 338 *e*PKIKP PKPdf 03 16 46.3 +0.2
comp=Z,2.6nm,0.4s
MFF Saint Martin d 132.36 335 *e*PKIKP PKPdf 03 16 47.3 +0.4
LASF Ste Croix 132.46 330 *e*PKIKP PKPdf 03 16 47.9 +0.7
comp=Z,6.6nm,0.8s
QUIF Quistinic 132.46 339 *e*PKIKP PKPdf 03 16 47.2 +0.2
CAF Calviac 132.69 332 *e*PKIKP PKPdf 03 16 48.1 +0.5
MTLF Montolieu 133.81 331 *e*PKIKP PKPdf 03 16 50.4 +0.7
LPAZ La Paz 134.05 118 PKIKP PKPdf 03 16 51.6 +0.7
LPAZ pmax pmax
comp=Z,1.0nm,0.5s
LPAZ La Paz 134.05 118 PKP PKPdf 03 16 51.6 +0.7
comp=Z,0.5nm,0.5s,baz=243,slow=2.3,SNR=5.0
KEST Kesra 134.66 318 PKP PKPdf 03 16 52.7 +1.1
comp=Z,0.8nm,0.6s,baz=182,slow=3.9,SNR=6.7
EPF Esparros 134.94 332 *e*PKIKP PKPdf 03 16 52.9 +1.0
SJPF Ste Jean 135.60 333 *e*PKIKP PKPdf 03 16 53.0 -0.1
comp=Z,2.8nm,0.6s
ESDC Sonseca Array 139.58 333 PKP PKPdf 03 17 02.0 +1.5
comp=Z,0.2nm,0.5s,baz=360,slow=3.2,SNR=4.0
SIV San Ignacio 140.28 122 PKP PKPdf 03 17 04.2 +1.8
comp=Z,0.7nm,0.5s,baz=285,slow=5.6,SNR=6.0
BDFB Brasilia 150.79 134 PKIKP PKPbc 03 17 24.6 -1.4
BDFB pmax pmax
comp=Z,3.0nm,0.5s
BDFB Brasilia 150.79 134 PKPbc PKPbc 03 17 24.6 -1.3
comp=Z,2.5nm,0.5s,baz=196,slow=11,SNR=12
DBIC Dimbokro 158.14 276 PKP2 PKPab 03 18 03.0 -1.6
DBIC pmax pmax
comp=Z,2.0nm,0.7s
DBIC Dimbokro 158.14 276 PKPab PKPab 03 18 03.0 -1.6
comp=Z,2.4nm,0.7s,baz=87,slow=4.4,SNR=3.4

*ISCJB **29** 03:08:20.1±0.6,2697S±007×2662E±005,h2km,Error ellipse: s-maj=10.2km s-min=4.5km az=155.5*
*PRE **29** 03:08:20.8±0.4,2690S×2669E,h2km,ML2.5*
ISC 29 03:08:21.4±0.9,2696S±006×2666E±004,h4km±7km,n8,σ1§07/15,South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRYS	**Parys**	**0.63**	**87**	*e*P	**Pg**	**03 08 32.3**	**-1.2**
PRYS				*e*S	**Sg**	**03 08 41.2**	**-0.4**
PRYS				AML	AML	03 08 48.4	
comp=Z,117nm,0.7s							
SWZ	**Schweizer**	**1.20**	**259**	*e*P	**Pg**	**03 08 44.5**	**+0.1**
SWZ				*e*S	**Sg**	**03 09 02.0**	**+2.0**
SWZ				AML	AML	03 09 06.0	
comp=Z,213nm,0.2s							
ERPM	**east rand prop**	**1.59**	**64**	*e*P	**Pn**	**03 08 50.0**	**-0.3**
ERPM				*e*S	**Sn**	**03 09 10.9**	**-0.4**
ERPM				AML	AML	03 09 14.3	
comp=Z,49nm,0.2s							
SEK	**Senekal**	**1.60**	**148**	*e*P	**Pn**	**03 08 51.2**	**+0.6**
SEK				*e*S	**Sn**	**03 09 13.7**	**+1.9**
SEK				AML	AML	03 09 16.1	
comp=Z,75nm,0.3s							
SLR	**Silverton**	**1.90**	**50**	*e*P	**Pn**	**03 08 55.1**	**+0.4**
SLR				*e*S	**Sn**	**03 09 20.2**	**+1.1**
SLR				AML	AML	03 09 23.6	
comp=Z,133nm,0.3s							
PKA	**Prieska**	**4.37**	**231**	*e*P	**Pn**	**03 09 27.9**	**-0.7**
PKA				*e*S	**Sn**	**03 10 17.6**	**-2.4**
PKA				AML	AML	03 10 40.8	
comp=Z,9.4nm,0.7s							
UPI	**Upington**	**4.99**	**253**	*e*P	**Pn**	**03 09 36.6**	**-0.5**
SUR	**Sutherland**	**7.42**	**222**	*e*P	**Pn**	**03 10 10.3**	**-0.1**
SUR				*e*S	**Sn**	**03 11 30.7**	**-4.4**

*IDC **29** 03:36:01.4±0.8,2634S×17700W,h0km,mb4.3/8, mb1 4.5/10,mb1mx4.3/15,mbtmp4.3/10,ML4.1/2,MS5.2/1, Ms1 5.2/1,ms1mx3.2/19,Error ellipse: s-maj=25.7km s-min=20.2km az=109.0*
*ISCJB **29** 03:36:06.0±1.0,2656S±0.10×1772W±0.2,h33km,mb4.4/13, Error ellipse: s-maj=21.1km s-min=13.7km az=170.6*
*NEIC **29** 03:36:08.4±2.5,2675S×17681W,h66km±22km,mb4.5/8, Error ellipse: s-maj=25.9km s-min=13.3km az=184.0*
ISC 29 03:36:07.8±1.0,2657S±010×1772W±02,h35km,n38,σ0§93/24,mb4.4/13,1C,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.75**	**193**	Pn	**Pn**	**03 36 49.3**	**-0.2**
107nm,0.3s,baz=90,slow=20,SNR=4.6							
RAO				Sn	**Sn**	**03 37 35.9**	**+14**
545nm,0.3s,baz=122,slow=23,SNR=16							
URZ	**Urewera**	**12.61**	**201**	Pn	**Pn**	**03 39 04.0**	**-0.6**
0.3nm,0.3s,baz=158,slow=16,SNR=4.4							
URZ				Sn	**Sn**	**03 41 19.5**	**-4.3**
4.9nm,0.3s,baz=295,slow=24,SNR=12							
CTA	**Charters Tower**	**34.10**	**273**	*e*P	**P**	**03 42 51.1**	**+1.8**
3.1nm,0.4s,mb4.6							
CTA	**Charters Tower**	**34.10**	**273**	*e*P	**P**	**03 42 50.7**	**+1.4**
3.1nm,0.4s,mb4.6,baz=94,slow=11,SNR=13							
CTAO	**Charters Tower**	**34.10**	**273**	*e*P	**P**	**03 42 50.9**	**+1.7**
3.5nm,0.5s,mb4.5							
STKA	**Stephens Creek**	**36.20**	**252**	P	**P**	**03 43 08.2**	**+0.9**
2.0nm,0.8s,mb4.1,baz=86,slow=15,SNR=2.9							
COEN	**Coen**	**39.08**	**281**	*e*P	**P**	**03 43 33.5**	**+1.7**
2.9nm,0.5s,mb4.3							
ASAR	**Alice Springs**	**44.17**	**263**	P	**P**	**03 44 13.8**	**+0.4**
3.0nm,0.4s,mb4.4,baz=95,slow=6.9,SNR=121							
WB2	**Warramunga Arr**	**44.80**	**268⇑**	*i*P	**P**	**03 44 18.0**	**-0.5**
WB2	**Warramunga Arr**	**44.80**	**268**	*e*P	**P**	**03 44 17.7**	**-0.8**
WRAB	**Tennant Creek**	**44.80**	**268**	*e*P	**P**	**03 44 18.4**	**-0.1**
2.6nm,0.6s,mb4.2							
WRA	**Warramunga Arr**	**44.81**	**268**	P	**P**	**03 44 18.2**	**-0.4**
3.7nm,0.5s,mb4.5,baz=105,slow=7.8,SNR=48							
FORT	**Forrest**	**47.83**	**252**	*e*P	**P**	**03 44 41.2**	**-1.0**
15nm,0.5s,mb5.3							
FORT	**Forrest**	**47.83**	**252**	*e*P	**P**	**03 44 41.2**	**-1.0**
2.1nm,0.6s,mb4.3							
KAKA	**Kakadu**	**49.10**	**276**	*e*P	**P**	**03 44 51.4**	**-0.8**
8.8nm,0.3s,mb5.3							
VNDA	**Vanda**	**51.97**	**186**	*e*P	**P**	**03 45 17.1**	**+4.2**
1.2nm,0.6s,mb4.0							
VNDA	**Vanda**	**51.97**	**186**	P	**P**	**03 45 14.8**	**+1.9**
1.5nm,0.6s,mb4.1,baz=2.1,slow=7.6,SNR=20							
FITZ	**Fitzroy Crossi**	**53.19**	**267**	*e*P	**P**	**03 45 22.3**	**-0.5**
4.1nm,0.4s,mb4.7							
BATI	**Kupang**	**57.96**	**275**	LR	LR	04 06 36.2	
comp=Z,2μm,18.7s,baz=346,slow=32							
KSM	**Kuching**	**75.06**	**279**	*e*P	**P**	**03 47 45.0**	**-1.5**
MJAR	**Matsushiro Arr**	**75.53**	**324**	P	**P**	**03 47 48.5**	**-0.1**
0.7nm,0.7s,mb3.7,baz=168,slow=5.5,SNR=3.8							
MAW	**Mawson**	**76.14**	**200**	P	**P**	**03 47 52.7**	**+0.9**
4.6nm,0.5s,mb4.6,baz=142,slow=6.5,SNR=16							
NVAR	**Mina Array Bea**	**84.94**	**42**	P	**P**	**03 48 39.0**	**-0.3**
1.3nm,0.8s,mb4.1,baz=223,slow=8.5,SNR=7.7							
ZALV	**Zalesovo Beam**	**115.62**	**320**	PKP	PKPdf	03 54 43.2	-2.6
0.9nm,0.4s,baz=96,slow=1.8,SNR=3.9							
MK31	**Makanchi Array**	**115.82**	**311**	*e*PKPdf	PKPdf	03 54 43.8	-2.6
MKAR	**Makanchi Array**	**115.82**	**311**	PKP	PKPdf	03 54 43.5	-2.9
0.5nm,0.4s,baz=92,slow=0.3,SNR=5.2							
KURK	**Kurchatov**	**118.88**	**315**	*e*PKPdf	PKPdf	03 54 49.2	-2.9
BOSA	**Boshof**	**121.06**	**203**	PKP	PKPdf	03 54 56.1	-1.1
2.7nm,0.9s,baz=187,slow=8.1,SNR=3.9							
ARCES	**ARCESS Array B**	**134.99**	**349**	PKP	PKPdf	03 55 19.7	-2.7
ARCES	**ARCESS Array B**	**134.99**	**349**	PKP	PKPdf	03 55 19.7	-2.7
2.9nm,0.7s,baz=18,slow=4.2,SNR=8.1							
FINES	**FINESS Array B**	**141.76**	**342**	PKhKP		03 55 27.0	
0.5nm,0.3s,baz=106,slow=4.2,SNR=6.3							
FINES				PKP	PKPdf	03 55 32.6	-2.4
1.6nm,0.9s,baz=61,slow=3.4,SNR=6.1							
NB2	**NORSAR Subarra**	**145.06**	**353**	PKP	PKPdf	03 55 38.0	-2.8
comp=Z,1.9nm,0.6s,baz=10,slow=3.2							
NOA	**NORSAR Array B**	**145.06**	**353**	PKP	PKPdf	03 55 37.7	-3.1
comp=Z,5.0nm,0.8s,baz=12,slow=2.4,SNR=19							
NAO01	**NORSAR Array S**	**145.29**	**353**	*e*PKPbc	PKPbc	03 55 39.4	-1.7
MALT	**Malatya**	**147.93**	**300**	*e*PKPbc	PKPbc	03 55 47.3	-2.1
AKASG	**Malin Array Be**	**148.58**	**327**	PKPbc	PKPbc	03 55 48.5	-2.2
comp=Z,4.5nm,0.6s,baz=44,slow=3.7,SNR=34							
AKBB	**Malin Array Si**	**148.58**	**327**	*e*PKPbc	PKPbc	03 55 47.9	-2.8
GERES	**GERESS Array B**	**156.19**	**342**	PKPab	PKPab	03 56 24.4	-1.8
comp=Z,0.2nm,0.7s,baz=11,slow=6.0,SNR=4.7							

*SKO **29** 03:42:12.2,3844N×2058E,h0km*
*TIR **29** 03:42:12.5±4.3,3856N×2063E,h34km±64km*
*ATH **29** 03:42:17.9,3882N×2065E,h16km±2km,MD3.7/12*
*NEIC **29** 03:42:17.9,3882N×2065E,h16km,MD3.7(ATH),After ATH.*
*ISCJB **29** 03:42:18.1±0.8,3878N±003×2059E±005,h21km±9km, Error ellipse: s-maj=6.6km s-min=5.0km az=152.2*
*CSEM **29** 03:42:18.3±0.2,3883N×2060E,h12km,MD3.7,Error ellipse: s-maj=4.3km s-min=2.9km az=78.0*
*BEO **29** 03:42:36.8±1.1,4048N×2028E,ML2.3/2*
ISC 29 03:42:18.6±0.7,3882N±003×2062E±005,h15km±5km,n30,σ1§08/40,Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.64**	**182**	*e*PB	**Pb**	**03 42 30.0**	**-1.4**
VLS				*e*SN	**Sg**	**03 42 40.5**	**+0.8**
JAN	**Janina**	**0.85**	**12**	*e*PB	**Pb**	**03 42 33.6**	**-1.5**
JAN				*e*SN	**Sn**	**03 42 46.4**	**-1.8**
EVR	**Evrytania**	**0.93**	**84**	*e*PN	**Pn**	**03 42 35.5**	**-1.5**
RLS	**Riolos of Patr**	**1.01**	**139**	*e*PN	**Pn**	**03 42 36.5**	**-1.6**
KEK	**Kerkira**	**1.10**	**325**	*e*PN	**Pn**	**03 42 38.4**	**-1.0**
KEK				*e*SN	**Sn**	**03 42 54.7**	**+0.5**
SRN	**Sarande**	**1.16**	**336**	*e*PG	**Pg**	**03 42 40.3**	**-0.7**
SRN				*i* SG	**Sg**	**03 42 57.5**	**+1.3**
THL	**Klokotos Trika**	**1.31**	**55**	*e*PN	**Pn**	**03 42 42.2**	**-0.1**
KZN	**Kozani**	**1.73**	**30**	*e*PN	**Pn**	**03 42 49.3**	**+1.3**
KBN	**Korca**	**1.81**	**4**	*e*PG	**Pg**	**03 42 52.4**	**-0.9**
KBN				*i* SG	**Sg**	**03 43 16.8**	**+0.1**
LKR	**Lokris**	**1.87**	**94**	*e*PN	**Pn**	**03 42 51.1**	**+1.2**
ITM	**Ithomi**	**1.93**	**147**	*e*PN	**Pn**	**03 42 52.5**	**+1.6**
NEO	**Neokhori**	**2.08**	**76**	*e*PN	**Pn**	**03 42 54.3**	**+1.4**
BIA	**Bitola**	**2.26**	**14**	*e*Pn	**Pn**	**03 42 56.4**	**+1.1**
LCI	**Lecce**	**2.46**	**309**	Pn	**Pb**	**03 43 02.3**	**-0.2**
TIR	**Tirane**	**2.59**	**347**	*i* PG	**Pn**	**03 43 00.4**	**+0.5**
TIR				*i* SG	**Sg**	**03 43 42.1**	**+0.3**
PLG	**Polygyros**	**2.68**	**54**	*e*PN	**Pn**	**03 43 01.8**	**+0.7**
QSH	**Qafa e Shtames**	**2.75**	**349**	*e*PN	**Pn**	**03 43 02.0**	**-0.1**
VLI	**Veliai**	**2.79**	**138**	*e*PB	**Pb**	**03 43 04.5**	**-3.5**
VAY	**Valandovo**	**2.91**	**30**	*e*Pn	**Pn**	**03 43 04.2**	**0.0**
STIP	**Stip**	**3.11**	**22**	*e*Pn	**Pn**	**03 43 07.3**	**+0.3**
PE1	**Pezze di Greco**	**3.16**	**310**	*e*Pn	**Pn**	**03 43 08.1**	**+0.4**
SG1	**Sgolgore (BA)**	**3.65**	**305**	*e*Pn	**Pn**	**03 43 14.7**	**+0.3**
BARS	**Barje**	**4.10**	**12**	*e*Pn	**Pn**	**03 43 19.4**	**-1.2**
BARS				*e*Sg	**Sn**	**03 44 00.4**	**-7.8**
MGR	**Morigerati**	**4.14**	**290**	Pn	**Pn**	**03 43 22.4**	**+1.3**
VTS	**Vitosha**	**4.25**	**27**	*e*Pn	**Pn**	**03 43 26.2**	**+3.5**
VTS				*e*Sg	**Sn**	**03 44 13.4**	**+1.5**
FGMS	**Monte Sant'Ang**	**4.59**	**310**	Pn	**Pn**	**03 43 27.0**	**-0.4**
MS1	**Monte Sant'Ang**	**4.60**	**310**	*e*Pn	**Pn**	**03 43 27.1**	**-0.3**
RGNG	**Rignano Grg**	**4.79**	**308**	Pn	**Pn**	**03 43 29.5**	**-0.6**
DIVS	**Divibare**	**5.29**	**355**	*e*Pn	**Pn**	**03 43 34.8**	**-2.2**
DIVS				*e*Sg	**Sn**	**03 44 31.5**	**-6.2**
DIVS				*e*Sg	**Sn**	**03 44 31.7**	**-6.0**
NRCA	**Norcia**	**6.96**	**308**	Pn	**Pn**	**03 44 00.7**	**+0.8**
4.6nm,0.6s							

*ISCJB **29** 03:44:27.3±0.9,830S±003×157.17E±003,h1km±5km, mb5.5/121,MS5.0/175,Error ellipse: s-maj=5.4km s-min=5.0km az=163.4*
*IDC **29** 03:44:28.4±0.4,831S×15720E,h0km,mb5.0/15, mb1 5.1/17,mb1mx5.0/18,mbtmp5.0/17,ML4.3/2,MS4.7/19, Ms1 4.7/19,ms1mx4.6/21,Error ellipse: s-maj=14.5km s-min=12.8km az=104.0*
*CRAAG **29** 03:44:29.2,829S×157.12E,Mb5.4*
*BJI **29** 03:44:31.4,836S×15759E,h39km,mB5.2,mb5.2,Ms5.1, Msz4.9*
*GCMT **29** 03:44:32.6±0.1,838S×157.18E,h25km,MW5.5/94, Moment Tensor Solution. s90,c167; s94,c170; Duration: 1§3 Moment tensor: Scale 10^{17}Nm; M_{rr}1.33±.02; $M_{\theta\theta}$0.45±.02; $M_{\phi\phi}$-1.78±.02; $M_{r\theta}$-0.28±.05; $M_{\theta\phi}$0.34±.02; $M_{\phi r}$-0.94±.04; Best double couple: $M_0$1.87900×10^{17} NP1ϕ_s331.00000°,δ34.00000°, λ58.00000°. NP2ϕ_s188.00000°,δ62.00000°,λ110.00000°. Principal axes: T 1.6930, Plg67.0000°, Azm135.0000°; N 0.3700, Plg17.0000°, Azm359.0000°; P -2.0650, Plg15.0000°, Azm264.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*MOS **29** 03:44:32.9±1.1,821S×157.18E,h33km,mb5.5/40, MS4.9/42 Error ellipse: s-maj=8.5km s-min=6.7km az=87.4*
*NEIC **29** 03:44:32.6±2.3,831S×157.17E,h26km±15km,mb5.4/69, MS5.0/131,Error ellipse: s-maj=6.1km s-min=5.2km az=159.0*
NEIC Some houses damaged on Mono.
ISC 29 03:44:31.9±1.1,831S±003×15720E±003,h19km±6km, h22km±1.2km:pP-P,n524,σ1§02/290,mb5.4/121,MS5.0/175, 22C-12D,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.94**	**113**	*e*Pn	**Pn**	**03 45 15.1**	**-2.5**
HNR				*e*Sn	**Sn**	**03 45 53.4**	**+1.0**
HNR	**Honiara**	**2.94**	**113**	Pn	**Pn**	**03 45 16.1**	**-1.5**
158nm,0.3s,baz=265,slow=5.5,SNR=32							
HNR				Sn	**Sn**	**03 45 57.1**	**+4.7**
1μm,0.3s,baz=276,slow=18,SNR=11							
COEN	**Coen**	**14.85**	**247**	*e*Pn	**Pn**	**03 48 04.0**	**+3.0**
61nm,1.3s							
CTA	**Charters Tower**	**15.79**	**221**	*e*P	**Pn**	**03 48 15.7**	**+2.4**
64nm,1.4s							
CTA				*e*S	**Sn**	**03 51 09.7**	**+1.8**
CTA	**Charters Tower**	**15.79**	**221**	*e*P	**Pn**	**03 48 15.7**	**+2.4**
CTA				*e*S	**Sn**	**03 51 09.7**	**+1.8**
CTA				pmax	pmax		
comp=Z,64nm,1.4s							
CTA	**Charters Tower**	**15.79**	**221**	Pn	**Pn**	**03 48 12.8**	**-0.5**
comp=Z,0.4nm,0.3s,baz=39,slow=14,SNR=5.3							
CTA				LR	LR	03 53 30.6	
comp=Z,2μm,18.9s,baz=40,slow=34							
CTAO	**Charters Tower**	**15.79**	**221**	*e*Pn	**Pn**	**03 48 15.6**	**+2.3**
comp=Z,152nm,1.3s							
CTAO	**Charters Tower**	**15.79**	**221**	*e*P	**Pn**	**03 48 15.6**	**+2.3**
CTAO				pmax	pmax		
comp=Z,152nm,1.3s							
EIDS	**Eidsvold**	**17.94**	**198**	*e*P	**Pn**	**03 48 40.2**	**-0.2**
comp=Z,25nm,1.0s							
ARMA	**Armidale**	**22.61**	**193**	*e*P	**P**	**03 49 32.2**	**+0.7**
KAKA	**Kakadu**	**24.72**	**258**	*e*P	**P**	**03 49 52.0**	**-0.3**
comp=Z,51nm,0.6s,mb5.2							
WRAB	**Tenn

TAU	**Tasmania Unive**	**35.54 193**	*e*P	**P**	**03 51 28.4 +0.7**	
	comp=Z,34nm,0.9s,mb5.3					
TAU			LR	LR		
	comp=Z,969nm,19.0s,MS4.6					
TAU	**Tasmania Unive**	**35.54 193**	*e*P	**P**	**03 51 28.4 +0.7**	
TAU			pmax	pmax		
	comp=Z,34nm,0.9s,mb5.3					
TAU			MLR	MLR		
	comp=Z,969nm,19.0s,MS4.6					
SNZO	**South Karori**	**36.35 158**	PFAKE		03 51 50.0 +15	
SNZO			LR	LR		
	comp=Z,1μm,20.0s,MS4.7					
RPZ	**Rata Peaks**	**37.29 163**	P	**P**	**03 51 42.3 -0.4**	
	comp=Z,23nm,0.9s,mb5.0,baz=50,slow=4.9,SNR=6.3					
RPZ			LR	LR	04 05 16.0	
	comp=Z,2μm,20.1s,MS4.9,baz=326,slow=34					
MBWA	**Marble Bar**	**38.31 246**	*e*P	**P**	**03 51 50.3 -1.3**	
	comp=Z,93nm,1.2s,mb5.4					
MBWA			LR	LR		
	comp=Z,2μm,21.0s,MS4.9					
MBWA	**Marble Bar**	**38.31 246**	P	**P**	**03 51 56.9 +5.3**	
	SNR=6.4					
MBWA	**Marble Bar**	**38.31 246**	P	**P**	**03 51 56.9 +5.3**	
	SNR=6.4					
KKM	**Kota Kinabalu**	**43.28 288**	*e*P	**P**	**03 52 32.2 -0.5**	
KLBR	**Kellerberrin**	**43.36 232**	*e*P	**P**	**03 52 28.5 -4.7**	
	comp=Z,84nm,1.0s,mb5.4					
RAR	**Rarotonga**	**43.40 112**	P	**P**	**03 52 32.4 -1.2**	
	comp=Z,48nm,0.9s,mb5.2,baz=260,slow=8.1,SNR=4.6					
RAR			LR	LR	04 07 27.5	
	comp=Z,1μm,19.2s,MS4.8,baz=284,slow=32					
MIDW	**Midway**	**43.85 33**	PFAKE		03 52 50.0 +13	
MIDW			LR	LR		
	comp=Z,1μm,19.0s,MS4.9					
NWAO	**Narrogin (SRO)**	**44.31 231**	*e*P	**P**	**03 52 40.6 -0.2**	
	comp=Z,110nm,1.1s,mb5.5					
NWAO	**Narrogin (SRO)**	**44.31 231**	*e*P	**P**	**03 52 40.6 -0.2**	
NWAO			pmax	pmax		
	comp=Z,110nm,1.1s					
MUN	**Mundaring**	**44.72 232**	*e*P	**P**	**03 52 45.5 +1.4**	
KSM	**Kuching**	**47.74 280**	*e*P	**P**	**03 53 08.3 +0.2**	
YHNB	**Yeheng**	**47.89 314**	*e*P	**P**	**03 53 10.9 +1.8**	
TATO	**Taipei**	**48.01 315**	PFAKE		03 53 20.0 +10	
TATO			LR	LR		
	comp=Z,2μm,20.0s,MS5.0					
MJAR	**Matsushiro Arr**	**48.04 339**	P	**P**	**03 53 09.7 -0.3**	
	comp=Z,5.3nm,0.8s,mb4.6,baz=170,slow=7.2,SNR=8.9					
MJAR			LR	LR	04 11 07.1	
	comp=Z,412nm,19.9s,MS4.4,baz=125,slow=33					
MAJO	**Matsushiro**	**48.05 339**	*e*P	**P**	**03 53 10.6 +0.6**	
	comp=Z,14nm,0.9s,mb5.0					
MAJO			LR	LR		
	comp=Z,552nm,20.0s,MS4.5					
MAJO	**Matsushiro**	**48.05 339**	*e*P	**P**	**03 53 10.6 +0.6**	
MAJO			pmax	pmax		
	comp=Z,14nm,0.9s,mb5.0					
MAJO			MLR	MLR		
	comp=Z,552nm,20.0s,MS4.5					
MAT	**Matsushiro**	**48.05 339**	P	**P**	**03 53 09.3 -0.7**	
MAT			S	**S**	**04 00 04.0 -3.5**	
QZH	**Quanzhou**	**50.07 312**	P	**P**	**03 53 28.5 +2.8**	
QZH			S	**S**	**04 00 37.5 +1.2**	
QZH			LR	LR		
	comp=N,730nm,12.1s					
QZH			LR	LR		
	comp=E,2μm,19.3s					
QZH			LR	LR		
	comp=Z,1μm,16.8s,MS4.9					
ERM	**Erimo**	**51.70 347**	PFAKE		03 53 50.0 +12	
ERM			LR	LR		
	comp=Z,2μm,19.0s,MS5.1					
SSE	**Sheshan**	**52.19 320**	P	**P**	**03 53 41.5 -0.1**	
SSE			S	**S**	**04 01 03.3 -2.2**	
SSE			SS	SS	04 04 40.3 -3.1	
SSE			AMB	AMB		
	comp=Z,32nm,0.7s,mb5.4					
SSE			AMB	AMB		
	comp=Z,85nm,5.0s					
SSE			LR	LR		
	comp=N,273nm,16.8s,MS4.5					
SSE			LR	LR		
	comp=E,221nm,16.9s,MS4.5					
SSE			LR	LR		
	comp=Z,479nm,20.6s,MS4.5					
PPT	**Papeete**	**52.54 106**	*e*S	**S**	**04 01 13.0 +2.2**	
	comp=Z,867nm,29.0s					
PPT			*e*LR	LR	04 09 06.6	
	comp=Z,3μm,30.5s,baz=273					
PPT	**Papeete**	**52.54 106**	LR	LR	04 10 14.2	
	comp=Z,601nm,21.7s,MS4.6,baz=287,slow=29					
PAE	**Paea**	**52.54 106**	*e*P	**P**	**03 53 45.2 +0.7**	
	comp=Z,109nm,1.0s,mb5.7					
PAE	**Paea**	**52.54 106**	*e*P	**P**	**03 53 45.2 +0.7**	
PAE			pmax	pmax		
	comp=Z,109nm,1.0s,mb5.7					
TVO	**Taravao**	**52.86 106**	*e*P	**P**	**03 53 47.8 +0.9**	
	comp=Z,190nm,1.0s,mb6.0					
TVO	**Taravao**	**52.86 106**	*e*P	**P**	**03 53 47.8 +0.9**	
TVO			pmax	pmax		
	comp=Z,190nm,1.0s,mb6.0					
KSRS	**Korea Array**	**53.12 331**	P	**P**	**03 53 48.5 +0.2**	
	comp=Z,4.3nm,0.8s,mb4.5,baz=144,slow=7.3,SNR=16					
KSRS			LR	LR	04 11 05.0	
	comp=Z,622nm,21.7s,MS4.6,baz=135,slow=30					
TBI	**Tubuai**	**53.16 113**	*e*P	**P**	**03 53 49.7 +0.7**	
	comp=Z,312nm,1.2s,mb6.1					
TBI			*e*S	**S**	**04 01 21.6 +2.5**	
	comp=Z,459nm,34.5s					
TBI			*e*LQ		04 07 10.7	
	comp=Z,4μm,32.2s					
TBI			*e*LR	LR	04 09 29.0	
	comp=Z,2μm,32.2s					
TBI	**Tubuai**	**53.16 113**	*e*P	**P**	**03 53 49.7 +0.7**	
	comp=Z,312nm,1.2s,mb6.1					
TBI			*e*S	**S**	**04 01 21.6 +2.5**	
TBI			*e*LQ		04 07 10.7	
INCN	**Inchon**	**53.78 330**	*e*P	**P**	**03 53 52.5 -0.7**	
	comp=Z,65nm,1.0s,mb5.5					
INCN			LR	LR		
	comp=Z,887nm,21.0s,MS4.8					
INCN	**Inchon**	**53.78 330**	P	**P**	**03 53 52.9 -0.3**	
	SNR=6.4					
INCN	**Inchon**	**53.78 330**	P	**P**	**03 53 52.9 -0.3**	
	SNR=6.4					
KHU	**Kahuku**	**53.96 59**	*e*P	**P**	**03 53 55.5 +0.6**	
QIZ	**Qiongzhong**	**54.00 301**	P	**P**	**03 53 57.0 +1.8**	
QIZ			S	**S**	**04 01 29.5 -1.0**	
QIZ			SS	SS	04 05 13.3 +1.0	
QIZ			AMB	AMB		
	comp=Z,28nm,1.7s,mb4.9					
QIZ			LR	LR		
	comp=E,795nm,21.4s					
QIZ			LR	LR		
	comp=Z,1μm,23.3s,MS4.9					
PMOR	**Pomariorio Ree**	**54.08 102**	*e*P	**P**	**03 53 56.9 +1.1**	
	comp=Z,224nm,1.1s,mb6.0					
NJ2	**Nanjing**	**54.31 320**	*e*P	**P**	**03 53 59.0 +1.8**	
NJ2			PP	PP	03 56 02.5 +3.1	
NJ2			S	**S**	**04 01 35.0 +0.6**	
NJ2			AMB	AMB		
	comp=Z,20nm,0.5s,mb5.3					
NJ2			AMB	AMB		
	comp=Z,400nm,5.2s					
NJ2			LR	LR		
	comp=N,1μm,17.1s,MS5.3					
NJ2			LR	LR		
	comp=E,2μm,18.7s,MS5.3					
VAH	**Vaihoa**	**54.34 103**	*e*P	**P**	**03 53 58.5 +0.8**	
	comp=E,84nm,1.0s,mb5.6					
WHN	**Wuhan**	**56.40 315**	⇑P	**P**	**03 54 13.0 +0.7**	
WHN			S	**S**	**04 02 03.3 +1.0**	
WHN			AMB	AMB		
	comp=Z,54nm,0.8s,mb5.6					
WHN			LR	LR		
	comp=N,5μm,18.7s,MS5.7					
WHN			LR	LR		
	comp=E,2μm,15.5s,MS5.7					
WHN			LR	LR		
	comp=Z,4μm,19.0s,MS5.5					
YSS	**Yuzh-Sakhalins**	**56.50 348**	*e*P	**P**	**03 54 12.6 0.0**	
	comp=Z,49nm,1.1s,mb5.5					
YSS			LR	LR		
	comp=Z,1μm,19.0s,MS5.0					
YSS	**Yuzh-Sakhalins**	**56.50 348**	*e*P	**P**	**03 54 13.7 +1.1**	
YSS			*e*		04 01 53.0	
YSS			MLR	MLR		
	comp=Z,1μm,19.0s,MS5.0					
YSS			MLR	MLR		
	comp=N,1μm,17.0s					
DL2	**Dalian**	**57.43 327**	*i* P	**P**	**03 54 24.8 +5.4**	
DL2			AMB	AMB		
	comp=Z,30nm,0.9s,mb5.3					
DL2			AMB	AMB		
	comp=Z,100nm,6.5s					
DL2			LR	LR		
	comp=N,230nm,21.2s,MS4.5					
DL2			LR	LR		
	comp=E,280nm,20.7s,MS4.5					
DL2			LR	LR		
	comp=Z,380nm,22.4s,MS4.5					
KULM	**Kulim**	**57.98 282**	*e*P	**P**	**03 54 23.3 -0.5**	
MDJ	**Mudanjiang**	**58.27 337**	P	**P**	**03 54 25.8 +0.6**	
MDJ			PCP	PcP	03 55 15.0 -1.3	
MDJ			PP	PP	03 56 33.8 -0.7	
MDJ			SCP	ScP	03 59 15.0 -0.8	
MDJ			S	**S**	**04 02 29.8 +3.4**	
MDJ			AMB	AMB		
	comp=Z,15nm,1.4s,mb4.8					
MDJ			AMB	AMB		
	comp=Z,135nm,6.1s					
MDJ			LR	LR		
	comp=N,239nm,14.3s,MS4.8					
MDJ			LR	LR		
	comp=E,487nm,18.4s,MS4.8					
MDJ			LR	LR		
	comp=Z,555nm,16.4s,MS4.8					
MDJ	**Mudanjiang**	**58.27 337**	*e*P	**P**	**03 54 25.6 +0.4**	
	comp=Z,102nm,1.7s,mb5.6					
MDJ			LR	LR		
	comp=Z,593nm,21.0s,MS4.7					
SNG	**Songkhla**	**58.46 284**	P	**P**	**03 54 28.0 +0.8**	
SNY	**Shenyang**	**58.63 331**	⇓P	**P**	**03 54 32.8 +5.0**	
SNY			S	**S**	**04 02 31.3 +0.1**	
SNY			AMB	AMB		
	comp=Z,21nm,1.6s,mb4.9					
SNY			AMB	AMB		
	comp=Z,128nm,11.8s					
SNY			LR	LR		
	comp=N,524nm,25.8s,MS4.6					
SNY			LR	LR		
	comp=E,269nm,22.2s,MS4.6					
SNY			LR	LR		
	comp=Z,589nm,23.4s,MS4.6					
CN2	**Changchun**	**59.31 334**	*e*P	**P**	**03 54 32.5 0.0**	
CN2			*e*S	**S**	**04 02 40.5 +0.5**	
CN2			AMB	AMB		
	comp=Z,20nm,1.1s,mb5.1					
CN2			AMB	AMB		
	comp=Z,100nm,3.0s					
CN2			LR	LR		
	comp=N,600nm,17.0s,MS4.9					
CN2			LR	LR		
	comp=E,600nm,17.0s,MS4.9					
CN2			LR	LR		
	comp=Z,500nm,17.0s,MS4.7					
COCO	**West Island**	**59.43 261**	PFAKE		03 54 50.0 +16	
COCO			LR	LR		
	comp=Z,513nm,20.0s,MS4.7					
HABR	**Khabarovsk**	**59.81 343**	*e*P	**P**	**03 54 34.3 -1.5**	
HABR			*e**PP	pP	03 54 42.6 +0.7	
HABR			*e*		03 55 21.2	
HABR			*e*S	**S**	**04 02 43.7 -2.5**	
HABR			*e*		04 04 21.1	
GYA	**Guiyang**	**59.98 307**	P	**P**	**03 54 37.3 -0.1**	
GYA			PCP	PcP	03 55 25.5 +2.0	
GYA			PP	PP	03 56 54.3 +4.3	
GYA			PPP		03 58 20.3	
GYA			S	**S**	**04 02 51.0 +1.8**	
GYA			SS	SS	04 06 49.0 +2.8	
GYA			AMB	AMB		
	comp=Z,30nm,1.1s,mb5.2					
GYA			AMB	AMB		
	comp=Z,130nm,6.3s					
GYA			LR	LR		
	comp=N,820nm,19.8s,MS4.9					
GYA			LR	LR		
	comp=E,500nm,19.8s,MS4.9					
GYA			LR	LR		
	comp=Z,990nm,19.8s,MS5.0					
PET	**Petropavlovsk**	**61.10 1**	*e*P	**P**	**03 54 44.4 -0.2**	
	comp=Z,41nm,1.0s,mb5.5					
PET			LR	LR		
	comp=Z,1μm,21.0s,MS5.0					
PET	**Petropavlovsk**	**61.10 1**	*e*P	**P**	**03 54 44.0 -0.5**	
PET			*e*S	**S**	**04 03 02.7 +0.1**	
PET			*e*SS	SS	04 07 01.1 -1.8	
PET			pmax	pmax		
	comp=Z,27nm,0.8s,mb5.4					
PET			MLR	MLR		
	comp=Z,700nm,17.0s,MS4.9					
NST	**Nakhon Sawan**	**61.33 293**	P	**P**	**03 54 46.0 -0.8**	
KLR	**Kul'dur**	**61.48 341**	*e*P	**P**	**03 54 43.8 -3.4**	
KLR			*e*S	**S**	**04 03 05.0 -2.6**	
KLR			MLR	MLR		
	comp=E,500nm,13.0s					
KLR			MLR	MLR		
	comp=Z,1μm,13.0s,MS5.2					
NANT	**Nan**	**61.87 296**	P	**P**	**03 54 51.0 +0.6**	
	comp=Z,78nm,1.0s,mb5.8					
TIY	**Taiyuan**	**61.97 321**	*e*P	**P**	**03 54 57.0 +6.2**	
TIY			S	**S**	**04 03 13.5 -0.8**	
TIY			LR	LR		
	comp=N,1μm,19.4s,MS5.1					
TIY			LR	LR		
	comp=E,649nm,17.3s,MS5.1					
TIY			LR	LR		
	comp=Z,1μm,21.5s,MS5.0					
XAN	**Xi'an**	**62.16 316**	P	**P**	**03 54 57.0 +4.9**	
XAN			S	**S**	**04 03 10.5 -6.3**	
XAN			SS	SS	04 07 25.8 +5.6	
XAN			AMB	AMB		
	comp=Z,49nm,0.9s,mb5.6					
XAN			AMB	AMB		
	comp=Z,109nm,7.9s					
XAN			LR	LR		
	comp=N,212nm,24.1s,MS4.7					
XAN			LR	LR		
	comp=E,474nm,20.1s,MS4.7					
XAN			LR	LR		
	comp=Z,889nm,21.1s,MS4.9					
KMI	**Kunming**	**62.55 304**	P	**P**	**03 54 57.0 +2.1**	
KMI			PCP	PcP	03 55 35.5 +1.5	
KMI			PP	PP	03 57 16.8 +4.0	
KMI			PPP		03 58 46.8	
KMI			PCS	PcS	03 59 37.5 +0.1	
KMI			S	**S**	**04 03 23.5 +1.4**	
KMI			SKS		04 04 45.8	
KMI			SS	SS	04 07 29.5 +2.8	
KMI			SSS		04 10 12.0	
KMI			AMB	AMB		
	comp=Z,16nm,0.5s,mb5.4					
KMI			AMB	AMB		
	comp=Z,170nm,3.2s					
KMI			LR	LR		
	comp=N,450nm,21.4s,MS4.9					
KMI			LR	LR		
	comp=E,686nm,20.5s,MS4.9					
KMI			LR	LR		
	comp=Z,1μm,19.8s,MS5.0					
CHRT	**Chiangrai**	**63.05 297**	⇑P	**P**	**03 55 00.0 +1.7**	
	comp=Z,197nm,0.7s,mb6.3					
CM31	**Chiang Mai Arr**	**63.31 295**	PFAKE		03 55 10.0 +10	
CM31			LR	LR		
	comp=Z,369nm,20.0s,MS4.6					
CHTO	**Chiang Mai**	**63.43 296**	*e*P	**P**	**03 55 00.8 -0.1**	
	comp=Z,40nm,1.4s,mb5.3					
CHTO			LR	LR		
	comp=Z,383nm,20.0s,MS4.6					
CHTO	**Chiang Mai**	**63.43 296**	*e*P	**P**	**03 55 00.8 -0.1**	
CHTO			pmax	pmax		
	comp=Z,40nm,1.4s,mb5.4					
CHTO			MLR	MLR		
	comp=Z,383nm,20.0s,MS4.6					
CHTO	**Chiang Mai**	**63.43 296**	P	**P**	**03 55 01.9 +1.1**	
	SNR=15					
CHTO	**Chiang Mai**	**63.43 296**	P	**P**	**03 55 01.9 +1.1**	
	SNR=15					
ADK	**Adak**	**64.02 18**	*e*P	**P**	**03 55 00.5 -3.5**	
	comp=Z,54nm,0.9s,mb5.6					
ADK	**Adak**	**64.02 18**	*e*P	**P**	**03 55 00.5 -3.5**	
ADK			pmax	pmax		
	comp=Z,54nm,0.9s,mb5.6					
CD2	**Chengdu**	**64.32 310**	*e*P	**P**	**03 55 07.0 +0.5**	
CD2			PP	PP	03 57 30.5 +2.3	
CD2			PCS		03 59 43.8	
CD2			S	**S**	**04 03 43.5 -0.4**	
CD2			SCS	ScS	04 04 57.0 -3.1	
CD2			SS	SS	04 07 54.8 +0.7	
CD2			AMB	AMB		
	comp=Z,60nm,0.7s,mb5.7					
CD2			AMB	AMB		
	comp=Z,130nm,6.4s					
CD2			LR	LR		
	comp=N,710nm,19.2s,MS5.1					
CD2			LR	LR		
	comp=E,1μm,21.6s,MS5.1					
CD2			LR	LR		
	comp=Z,820nm,25.2s,MS4.8					
HHC	**Hu-ho-hao-te**	**64.44 323**	*e*P	**P**	**03 55 12.3 +5.2**	
HHC			AP	pP	03 55 17.5 +4.3	
HHC			PP	PP	03 57 35.0 +5.9	
HHC			S	**S**	**04 03 47.5 +2.5**	
HHC			SS	SS	04 08 01.0 +5.4	
HHC			AMB	AMB		
	comp=Z,70nm,1.0s,mb5.7					
HHC			AMB	AMB		
	comp=Z,184nm,4.1s					
HHC			LR	LR		
	comp=N,427nm,18.8s					
HHC			LR	LR		
	comp=E,585nm,24.1s					
HHC			LR	LR		
	comp=Z,432nm,22.0s,MS4.6					
HIA	**Hailar**	**66.03 334**	*e*P	**P**	**03 55 16.5 -0.7**	
HIA			LR	LR		
	comp=Z,432nm,20.0s,MS4.7					
CASY	**Casey**	**66.04 199**	*e*P	**P**	**03 55 16.1 -0.9**	
	comp=Z,25nm,1.0s,mb5.2					
CASY			LR	LR		
	comp=Z,919nm,20.0s,MS5.0					
RKT	**Rikitea**	**66.43 112**	*e*P	**P**	**03 55 20.4 0.0**	
	comp=Z,47nm,1.0s,mb5.5					
RKT			*e*S	S	04 04 11.6 +1.4	
	comp=Z,432nm,33.2s					
RKT			*e*LQ		04 12 49.3	
	comp=Z,992nm,32.8s					
RKT			*e*LR	LR	04 15 33.9	
	comp=Z,1μm,33.8s,baz=277					
RKT	**Rikitea**	**66.43 112**	*e*P	**P**	**03 55 20.4 0.0**	
	comp=Z,47nm,1.0s,mb5.5					
RKT			*e*S	S	04 04 11.6 +1.4	
RKT			*e*LQ		04 12 49.3	
RKT	**Rikitea**	**66.43 112**	*e*P	**P**	**03 55 20.4 0.0**	
RKT			*e*S	S	04 04 11.6 +1.4	
RKT			pmax	pmax		
	comp=Z,47nm,1.0s,mb5.5					
LZH	**Lanzhou**	**66.78 315**	*e*P	**P**	**03 55 23.3 +1.0**	
LZH			PP	PP	03 57 52.3 +2.7	
LZH			*e*S	S	04 04 14.5 +0.7	
LZH			SS	SS	04 08 33.0 +0.9	
LZH			AMB	AMB		
	comp=Z,138nm,1.0s,mb5.9					
LZH			AMB	AMB		
	comp=Z,350nm,4.0s					
LZH			LR	LR		
	comp=E,440nm,15.1s					
LZH			LR	LR		
	comp=Z,720nm,16.5s,MS5.0					
MA2	**Magadan**	**67.85 356**	*e*P	**P**	**03 55 27.9 -0.6**	
	comp=Z,24nm,0.9s,mb5.2					
MA2			LR	LR		
	comp=Z,527nm,20.0s,MS4.8					
MA2	**Magadan**	**67.85 356**	*e*P	**P**	**03 55 28.0 -0.6**	
MA2			*i*	pP	03 55 34.0 -0.7	
MA2			*e*		03 55 49.4	
MA2			*e*S	S	04 04 22.1 -3.7	
MA2			*e*		04 05 25.7	
MA2			*e*SS	SS	04 08 49.4 +1.5	
MA2			*e*SSS		04 11 46.2	
MA2			pmax	pmax		
	comp=Z,30nm,0.9s,mb5.3					
MA2			MLR	MLR		
	comp=Z,400nm,17.0s,MS4.7					
UNV	**Unalaska Valle**	**69.09 22**	PFAKE		03 55 50.0 +14	
UNV			LR	LR		
	comp=Z,2μm,19.0s,MS5.5					
VNDA	**Vanda**	**69.23 179**	*e*P	**P**	**03 55 36.4 -0.6**	
	comp=Z,44nm,1.1s,mb5.3					
VNDA			LR	LR		
	comp=Z,835nm,20.0s,MS5.0					
VNDA	**Vanda**	**69.23 179**	*e*P	**P**	**03 55 36.4 -0.6**	
VNDA			pmax	pmax		
	comp=Z,44nm,1.1s					
VNDA			MLR	MLR		
	comp=Z,835nm,20.0s					
VNDA	**Vanda**	**69.23 179**	P	**P**	**03 55 36.6 -0.4**	
	comp=Z,24nm,0.9s,mb5.1,baz=340,slow=6.6,SNR=77					
VNDA			LR	LR	04 20 54.6	
	comp=Z,752nm,19.9s,MS4.9,baz=4.2,slow=32					
SBA	**Scott Base**	**69.70 178**	*e*P	**P**	**03 55 39.9 0.0**	
	comp=Z,71nm,1.3s,mb5.4					
SBA			LR	LR		
	comp=Z,732nm,19.0s,MS5.0					
SBA	**Scott Base**	**69.70 178**	*e*P	**P**	**03 55 39.9 0.0**	
SBA			pmax	pmax		
	comp=Z,71nm,1.3s,mb5.4					
SBA			MLR	MLR		
	comp=Z,732nm,19.0s,MS5.0					
NRGR	**Nerungri**	**70.04 342**	*e*P	**P**	**03 55 44.0 +1.8**	
NRGR			S		04 05 31.8	
CLNS	**Chul'man**	**70.13 342**	*e*P	**P**	**03 55 43.3 +0.5**	
CLNS			*e*		03 55 51.7	
CLNS			*e*		03 58 21.3	
CLNS			*e*S	S	04 04 42.7 -10	
CLNS			*e*		04 05 25.1	
CLNS			pmax	pmax		
	comp=Z,32nm,0.8s,mb5.3					
CLNS			pmax	pmax		
	comp=N,17nm,1.0s					
CLNS			pmax	pmax		
	comp=E,7.0nm,0.7s					
CLNS			pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.8					
CLNS			pmax	pmax		
	comp=N,4.0nm,0.6s					
CLNS			pmax	pmax		
	comp=E,10.0nm,0.7s					
CLNS			smax			
	comp=E,131nm,13.3s					
CLNS			smax			
	comp=N,138nm,12.4s					
SEY	**Seymchan**	**71.12 358**	⇓*i*P	**P**	**03 55 48.8 +0.1**	
GTA	**Gaotai**	**71.18 316**	*e*P	**P**	**03 55 50.8 +1.2**	
GTA			PP	PP	03 58 31.0 +3.3	
GTA			PPP		04 00 12.3	
GTA			S	S	04 05 07.0 +1.1	
GTA			SKS		04 05 48.8	
GTA			SS	SS	04 09 46.8 +6.7	
GTA			AMB	AMB		
	comp=Z,13nm,1.6s,mb4.6					
GTA			AMB	AMB		
	comp=Z,259nm,7.2s					
GTA			LR	LR		
	comp=N,291nm,17.9s,MS4.8					
GTA			LR	LR		
	comp=E,405nm,21.3s,MS4.8					
GTA			LR	LR		
	comp=Z,542nm,22.4s,MS4.8					
ULN	**Ulaanbaatar**	**71.28 327**	*e*P	**P**	**03 55 50.9 +0.9**	
	comp=Z,43nm,1.0s,mb5.3					
ULN			LR	LR		
	comp=Z,691nm,19.0s,MS4.9					
ULN	**Ulaanbaatar**	**71.28 327**	*e*P	**P**	**03 55 50.9 +0.9**	
ULN			pmax	pmax		
	comp=Z,43nm,1.0s,mb5.3					
ULN			MLR	MLR		
	comp=Z,691nm,19.0s,MS4.9					
ULN	**Ulaanbaatar**	**71.28 327**	P	**P**	**03 55 52.0 +2.0**	
	SNR=20					
ULN	**Ulaanbaatar**	**71.28 327**	P	**P**	**03 55 52.0 +2.0**	
	SNR=20					
SONM	**Songino Array**	**71.62 327**	P	**P**	**03 55 53.0 +1.0**	
	comp=Z,11nm,0.8s,mb4.8,baz=130,slow=5.7,SNR=40					
SONM			LR	LR	04 28 20.3	
	comp=Z,618nm,19.1s,MS4.9,baz=314,slow=37					
SHL	**Shillong**	**71.83 300**	*e*P	**P**	**03 55 54.0 +0.2**	
MIR	**Mirnyy**	**72.30 202**	⇓*i*P	**P**	**03 55 57.0 +1.1**	
MIR			*i*	pP	03 56 04.0 +2.0	
MIR			*i*		03 56 10.0	

MIR pmax pmax
comp=Z,200nm,1.5s,mb5.8
YAK Yakutsk 73.31 347 *e*P **P 03 56 00.5 -1.3**
comp=Z,61nm,1.0s,mb5.5
YAK LR LR
comp=Z,426nm,20.0s,MS4.7
YAK Yakutsk 73.31 347 *e*P **P 03 56 01.3 -0.5**
YAK *e* 03 56 17.7
YAK *e* 03 58 44.2
YAK *e*PPP 04 00 31.6
YAK *e*S S 04 05 30.6 +1.3
YAK *e* 04 06 07.4
YAK *e*SS SS 04 10 14.3 +2.6
YAK pmax pmax
comp=Z,60nm,0.9s,mb5.5
YAK pmax pmax
comp=N,13nm,1.2s
YAK pmax pmax
comp=E,10.0nm,1.3s
YAK pmax pmax
comp=Z,130nm,4.8s
YAK pmax pmax
comp=N,81nm,3.7s
YAK pmax pmax
comp=E,113nm,4.3s
YAK smax
comp=N,69nm,1.9s
YAK smax
comp=E,84nm,2.9s
LSA Lhasa 73.81 304 P **P 03 56 07.3 +1.8**
LSA Lhasa 73.81 304 *e*P **P 03 56 07.5 +2.0**
comp=E,90nm,1.2s,mb5.6
LSA Lhasa 73.81 304 *e*P **P 03 56 07.5 +2.0**
LSA pmax pmax
comp=Z,89nm,1.2s,mb5.6
BOD Bodaibo 74.64 338 *e*P **P 03 56 08.8 -0.9**
BOD pmax pmax
comp=Z,25nm,1.6s,mb4.9
ZAK Zakamensk 74.76 328⇓ *e*P **P 03 56 10.8 +0.3**
ZAK pmax pmax
comp=Z,19nm,1.1s,mb4.9
TLY Talaya 75.30 329 *e*P **P 03 56 13.1 -0.5**
comp=Z,27nm,0.8s,mb5.2
TLY LR LR
comp=Z,403nm,19.0s,MS4.7
TLY Talaya 75.30 329 *e*P **P 03 56 13.9 +0.3**
TLY *e*S S 04 05 55.4 +3.3
TLY *e*PS 04 06 35.4
TLY *e*SS SS 04 10 48.5 +6.1
TLY pmax pmax
comp=Z,33nm,0.9s,mb5.3
TLY MLR MLR
comp=Z,387nm,20.0s,MS4.7
TLY Talaya 75.30 329 P **P 03 56 14.9 +1.2**
SNR=13
TLY Talaya 75.30 329 P **P 03 56 14.9 +1.2**
SNR=13
IRK Irkutsk 75.31 330 *e*P **P 03 56 13.3 -0.4**
IRK pmax pmax
comp=Z,49nm,1.3s,mb5.3
GAMB Gambell 75.65 14 *e*P **P 03 56 14.9 -0.4**
comp=Z,32nm,1.4s,mb5.1
GAMB *e* pP 03 56 22.1 +0.5
BILL Bilibino 76.43 4 *e*P **P 03 56 19.4 -0.3**
comp=Z,62nm,1.0s,mb5.5
BILL *e* pP 03 56 25.9 0.0
BILL LR LR
comp=Z,538nm,19.0s,MS4.9
BILL Bilibino 76.43 4 *c i*P **P 03 56 19.9 +0.1**
BILL *i* pP 03 56 26.0 0.0
BILL *i* 03 56 31.3
BILL *e*S S 04 06 10.0 +6.1
BILL pmax pmax
comp=Z,49nm,1.0s,mb5.4
BILL MLR MLR
comp=Z,500nm,19.0s,MS4.8
BOK Bokaro 76.53 297 *e*P **P 03 56 23.5 +2.2**
BOK AMb AMB 03 56 29.8
comp=Z,51nm,1.0s,mb5.4
MOY Mondy 76.67 328 *e*P **P 03 56 22.3 +0.8**
MOY pmax pmax
comp=Z,58nm,3.0s
KDAK Kodiak Island 77.41 25 PFAKE 03 56 40.0 +15
KDAK LR LR
comp=Z,100nm,20.0s
GUN Gumba 77.66 301 *e*P **P 03 56 28.2 +0.6**
comp=Z,46nm,0.8s,mb5.4
PALK Pallekele 77.80 279 *e*P **P 03 56 29.6 +0.9**
comp=Z,80nm,1.2s,mb5.5
PALK LR LR
comp=Z,371nm,21.0s,MS4.7
PALK Pallekele 77.80 279 P **P 03 56 37.0 +8.3**
SNR=6.4
PALK Pallekele 77.80 279 P **P 03 56 37.0 +8.3**
SNR=6.4
PKI Pulchoki 77.96 300 *e*P **P 03 56 30.0 +0.7**
comp=Z,142nm,1.3s,mb5.7
PKIN Phulchoki 77.98 300 *e*P **P 03 56 30.0 +0.7**
comp=Z,59nm,1.0s,mb5.5
TNA Tin City 78.04 14 PFAKE 03 56 40.0 +11
TNA LR LR
comp=Z,346nm,20.0s,MS4.7
KKN Kakani 78.13 301 *e*P **P 03 56 30.5 +0.3**
comp=Z,93nm,1.0s,mb5.7
DMN Daman 78.23 300 *e*P **P 03 56 31.4 +0.6**
comp=Z,226nm,1.3s,mb6.0
SVW2 Sparrevohn 78.40 21 *e*P **P 03 56 31.5 +0.6**
GKN Gorkha 78.74 301 *e*P **P 03 56 33.7 +0.1**
comp=Z,294nm,1.3s,mb6.0
BLSP Bilaspur 79.47 294 *e*P **P 03 56 37.5 -0.1**
BLSP AMb AMB 03 56 45.3
comp=Z,88nm,1.5s,mb5.5
TTA Tatalina 79.49 20 *e*P **P 03 56 37.1 +0.2**
KOLN Koldanda 79.56 300 *e*P **P 03 56 37.8 -0.3**
comp=Z,91nm,1.0s,mb5.7
DANN Dangsing 79.58 301 *e*P **P 03 56 37.7 -0.4**
comp=Z,229nm,1.2s,mb6.0
SLKM Skilak Lake 80.05 24 *e*P **P 03 56 38.7 -1.3**
PMR Palmer 81.12 23 *e*P **P 03 56 44.9 -0.8**
comp=Z,41nm,1.0s,mb5.3
PMR LR LR
comp=Z,500nm,21.0s,MS4.8
PMR Palmer 81.12 23 *e*P **P 03 56 44.9 -0.8**
PMR pmax pmax
comp=Z,41nm,1.0s,mb5.3
PMR MLR MLR
comp=Z,500nm,21.0s,MS4.8
WMQ Urumqi 81.27 317⇓ *i*P **P 03 56 47.5 +0.6**
WMQ PP PP 03 59 56.0 +3.3
WMQ S S 04 06 56.0 -0.5
WMQ SS SS 04 12 14.0 +1.4
WMQ AMB AMB
comp=Z,45nm,1.4s,mb5.2
WMQ AMB AMB
comp=Z,145nm,4.2s
WMQ LR LR
comp=N,323nm,20.0s,MS4.8
WMQ LR LR
comp=E,400nm,22.8s,MS4.8
WMQ LR LR
comp=Z,418nm,23.0s,MS4.7
KOD Kodaikanal 81.47 282 *e*P **P 03 56 48.6 0.0**
KOD AMb AMB 03 56 57.6
comp=Z,76nm,1.1s,mb5.5
SML Sawmill 81.56 23 *e*P **P 03 56 47.5 -0.5**
SML *e* pP 03 56 53.9 -0.4
TRD Trivandrum 81.67 280 *e*P **P 03 56 50.1 +0.5**
TRD AMb AMB 03 56 58.6
comp=Z,60nm,1.3s,mb5.4
HYB Hyderabad 81.76 289 *e*P **P 03 56 50.0 0.0**
HYB *e* 03 57 56.5
HYB Hyderabad 81.76 289 *i* P **P 03 56 50.0 0.0**
HYB *e*PcP PcP 03 56 56.5 +0.7
TIXI Tiksi 81.96 351 *e*P **P 03 56 48.9 -1.1**
comp=Z,71nm,1.7s,mb5.3
TIXI LR LR
comp=Z,361nm,21.0s,MS4.7
TIXI Tiksi 81.96 351 *e*P **P 03 56 48.8 -1.2**
TIXI *e*S S 04 07 01.0 -1.7
TIXI pmax pmax
comp=Z,29nm,1.7s,mb4.9
NGP Nagpur 82.05 293 *e*P **P 03 56 51.2 -0.3**
NGP AMb AMB 03 57 00.5
comp=Z,119nm,1.7s,mb5.5
DIV Divide 82.19 24 *e*P **P 03 56 50.7 -0.7**
comp=Z,42nm,1.3s,mb5.2
IMA2 Indian Mountai 82.35 18 *e*P **P 03 56 51.9 -0.2**
MCK McKinley 82.47 21 *e*P **P 03 56 51.3 -1.4**
comp=Z,96nm,1.0s,mb5.7
MCK LR LR
comp=Z,309nm,21.0s,MS4.7
MCK McKinley 82.47 21 *e*P **P 03 56 51.3 -1.4**
MCK pmax pmax
comp=Z,96nm,1.0s,mb5.7
MCK MLR MLR
comp=Z,309nm,21.0s,MS4.7
LGTI Lohaghat 82.83 301 *e*P **P 03 56 56.0 +0.6**
PTH Pithoragarh 82.88 301 *e*P **P 03 56 56.2 +0.5**
COLA College 83.52 21 *e*P **P 03 56 56.7 -1.5**
COLA LR LR
comp=Z,403nm,19.0s,MS4.8
COLA College 83.52 21⇑ *i*P **P 03 56 56.8 -1.4**
LATR Latur 83.81 290 *e*P **P 03 57 00.9 +0.2**
LATR AMb AMB 03 57 09.9
comp=Z,108nm,1.3s,mb5.8
AKL Akola 83.82 292 *e*P **P 03 57 00.5 -0.2**
AKL AMb AMB 03 57 09.5
comp=Z,146nm,1.4s,mb5.9
BHPL Bhopal 83.95 294 *e*P **P 03 57 00.8 -0.5**
BHPL AMb AMB 03 57 08.1
comp=Z,70nm,0.9s,mb5.8
MENT Mentasta 83.98 23 *e*P **P 03 57 00.5 0.0**
MAW Mawson 84.03 203 *e*P **P 03 57 00.5 -0.4**
comp=Z,24nm,1.0s,mb5.3
MAW Mawson 84.03 203 *e*P **P 03 57 00.5 -0.4**
MAW pmax pmax
comp=Z,24nm,1.0s
MAW Mawson 84.03 203 P **P 03 57 00.9 +0.1**
comp=Z,28nm,1.0s,mb5.3,baz=83,slow=6.0,SNR=24
MAW LR LR 04 27 24.5
comp=Z,350nm,21.8s,MS4.7,baz=83,slow=31
NDI New Delhi 85.25 300 *e*P **P 03 57 06.0 -1.8**
NDI *e*P 03 57 07.1
SMLA Simla 85.81 302 *e*P **P 03 57 09.8 -0.7**
SMLA AMb AMB 03 57 17.8
comp=Z,131nm,1.2s,mb6.0
MK31 Makanchi Array 85.83 318 *e*P **P 03 57 09.6 -0.6**
MK31 Makanchi Array 85.83 318 *i* P **P 03 57 09.5 -0.7**
MK31 pmax pmax
comp=Z,71nm,1.0s,mb5.8
MKAR Makanchi Array 85.83 318⇑ *e*P **P 03 57 10.0 -0.2**
MKAR Makanchi Array 85.83 318 P **P 03 57 09.9 -0.3**
comp=Z,12nm,0.8s,mb5.2,baz=102,slow=5.8,SNR=86
MKAR PKKPbc PKKPbc 04 15 11.4 -2.1
comp=Z,0.2nm,0.2s,baz=339,slow=1.7,SNR=4.1
MKAR LR LR 04 37 35.5
comp=Z,261nm,19.6s,MS4.6,baz=272,slow=37
KAD Karad 85.84 288 *e*P **P 03 57 10.2 -0.7**
EGAK Eagle 85.89 22 *e*P **P 03 57 10.1 0.0**
EGAK LR LR
comp=Z,433nm,19.0s,MS4.9
SKAG Skagway 85.97 28 *e*P **P 03 57 11.1 +0.5**
comp=Z,74nm,1.4s,mb5.7
DAWY Dawson 86.22 23 *e*P **P 03 57 11.4 -0.4**
POO Poona 86.36 289⇑ *i*P **P 03 57 12.0 -1.5**
comp=Z,30nm,1.0s,mb5.5
ZAA0 Zalesovo Array 86.48 326 *e*P **P 03 57 11.8 -1.4**
ZALV Zalesovo Beam 86.48 326 P **P 03 57 12.1 -1.2**
comp=Z,8.4nm,0.9s,mb5.0,baz=98,slow=4.7,SNR=15
ZALV LR LR 04 39 01.1
comp=Z,181nm,18.4s,MS4.5,baz=76,slow=38
ZAL Zalesovo 86.49 326 P **P 03 57 12.1 -1.2**
AJM Ajmer 87.06 297 *e*P **P 03 57 16.0 -0.8**
MCCM Marconi Confer 87.24 51 PFAKE 03 57 30.0 +13
MCCM LR LR
comp=Z,467nm,19.0s,MS4.9
THN Thein Dam 87.28 303 *e*P **P 03 57 15.8 -1.9**
NVS Novosibirsk 87.64 326⇑ *i*P **P 03 57 17.3 -1.6**
NVS *e*S S 04 07 54.3 -5.4
NVS pmax pmax
comp=Z,36nm,1.7s,mb5.3
NVS pmax pmax
comp=N,9.0nm,1.4s
NVS pmax pmax
comp=E,23nm,1.6s
NVS smax
comp=N,21nm,2.5s
NVS smax
comp=E,18nm,2.0s
WDC Whiskeytown Da 88.03 49 PFAKE 03 57 30.0 +8.9
WDC LR LR
comp=Z,461nm,20.0s,MS4.9
SAO San Andreas Ge 88.06 53 PFAKE 03 57 30.0 +8.7
SAO LR LR
comp=Z,738nm,19.0s,MS5.1
YBH Yreka Blue Hor 88.15 48 *e*P **P 03 57 21.9 +0.2**
comp=Z,7.4nm,0.9s,mb4.9
YBH LR LR
comp=Z,509nm,20.0s,MS4.9
YBH Yreka Blue Hor 88.15 48 *e*P **P 03 57 21.9 +0.2**
YBH pmax pmax
comp=Z,7.0nm,0.9s
YBH MLR MLR
comp=Z,509nm,20.0s
HUMO Hull Mountain 88.17 47 *e*P **P 03 57 21.3 -0.4**
comp=Z,10nm,0.8s,mb5.1
HUMO LR LR
comp=Z,938nm,20.0s,MS5.2
COR Corvallis 88.37 45 PFAKE 03 57 30.0 +7.4
COR LR LR
comp=Z,209nm,19.0s,MS4.6
KSH Kashi 88.52 310 *e*P **P 03 57 24.8 +1.4**
KSH *e*PP PP 04 00 56.3 +4.5
KSH *e*PPP 04 02 55.3
KSH SKS 04 07 51.3
KSH S S 04 08 10.0 +1.3
KSH SS SS 04 14 04.3 +4.6
KSH AMB AMB
comp=Z,189nm,1.0s,mb6.4
KSH LR LR
comp=N,360nm,3.5s
KSH LR LR
comp=E,491nm,5.5s
KSH LR LR
comp=Z,505nm,7.3s
OHCM Honcut 88.56 50 *e*P **P 03 57 24.1 +0.5**
NLWA Neilton Lookou 88.64 42 PFAKE 03 57 30.0 +6.2
NLWA LR LR
comp=Z,410nm,20.0s,MS4.8
ULHL Ulahol 88.89 313 P **P 03 57 25.5 +0.4**
SNR=23
SNCC San Nicolas Is 88.93 56 PFAKE 03 57 40.0 +14
SNCC LR LR
comp=Z,747nm,20.0s,MS5.1
CMB Columbia Colle 89.14 52 PFAKE 03 57 40.0 +14
CMB LR LR
comp=Z,546nm,20.0s,MS5.0
KURK Kurchatov 89.21 321 P **P 03 57 25.2 -1.2**
comp=Z,99nm,1.1s,mb6.1,SNR=5.2
KURK Kurchatov 89.21 321 *e*P **P 03 57 25.2 -1.2**
comp=Z,27nm,1.2s,mb5.5
KURK LR LR
comp=Z,577nm,19.0s,MS5.0
TKM2 Tokmak 2 89.49 313 *e*P **P 03 57 27.0 -0.9**
comp=Z,11nm,0.9s,mb5.2
TKM2 Tokmak 2 89.49 313 *e*P **P 03 57 27.0 -0.9**
TKM2 pmax pmax
comp=Z,11nm,0.9s,mb5.2
TKM2 Tokmak 2 89.49 313 P **P 03 57 27.6 -0.3**
SNR=9.1
KZA Kyzart 89.58 313 P **P 03 57 29.4 +1.0**
SNR=24
MOD Modoc 89.95 48 PFAKE 03 57 40.0 +10
MOD LR LR
comp=Z,570nm,19.0s,MS5.0
UCH Uchtor 90.14 313 *e*P **P 03 57 31.9 +1.0**
comp=Z,72nm,1.7s,mb5.7
UCH LR LR
comp=Z,379nm,19.0s,MS4.8
UCH Uchtor 90.14 313 P **P 03 57 31.9 +0.9**
SNR=14
INK Inuvik 90.18 20 *e*P **P 03 57 28.7 -1.8**
comp=Z,837nm,1.5s
INK Inuvik 90.18 20 *e*P **P 03 57 28.7 -1.9**
INK pmax pmax
comp=Z,837nm,1.5s
INK Inuvik 90.18 20 PKKP PKKPbc 04 14 59.6 -4.0
comp=Z,2.2nm,0.9s,baz=58,slow=3.2,SNR=8.3
FRU Bishkek 90.18 313 *e*P **P 03 57 31.5 +0.3**
PAHR Pah Rah Range 90.22 50 *e*P **P 03 57 31.9 +0.5**
comp=Z,60nm,1.7s,mb5.6
AAK Ala-Archa 90.23 313 P **P 03 57 30.9 -0.5**
comp=Z,72nm,0.9s,mb6.0,SNR=7.2
AAK Ala-Archa 90.23 313 *e*P **P 03 57 30.2 -1.2**
comp=Z,21nm,1.2s,mb5.3
AAK LR LR
comp=Z,350nm,20.0s,MS4.8
AAK Ala-Archa 90.23 313⇑ *e*P **P 03 57 30.4 -1.0**
AAK pmax pmax
comp=Z,30nm,1.9s,mb5.3
AAK Ala-Archa 90.23 313 P **P 03 57 31.2 -0.2**
SNR=10
AAK Ala-Archa 90.23 313 P **P 03 57 31.2 -0.2**
SNR=10
AAK Ala-Archa 90.23 313 LR LR 04 40 16.3
comp=Z,315nm,21.8s,MS4.7,baz=88,slow=37
AAK Ala-Archa 90.23 313 P **P 03 57 31.0 -0.4**
SNR=8.2
USP Ospenovka 90.35 314 P **P 03 57 32.3 +0.4**
SNR=7.7
MTUM Tungsten Hills 90.44 52 *e*P **P 03 57 33.2 +0.8**
AML Almayashu 90.72 312 *e*P **P 03 57 34.2 +0.5**
comp=Z,18nm,0.8s,mb5.5
AML LR LR
comp=Z,367nm,20.0s,MS4.8
AML Almayashu 90.72 312 P **P 03 57 34.4 +0.7**
SNR=19
EKS2 Erkin-Say 90.76 313 *e*P **P 03 57 33.4 -0.5**
comp=Z,12nm,0.9s,mb5.2
EKS2 LR LR
comp=Z,363nm,20.0s,MS4.8
EKS2 Erkin-Say 90.76 313 P **P 03 57 33.9 0.0**
SNR=8.2
NVAR Mina Array Bea 90.82 51 P **P 03 57 33.8 -0.5**
comp=Z,14nm,1.1s,mb5.2,baz=240,slow=3.8,SNR=44
WVOR Wild Horse Val 91.26 47 *e*P **P 03 57 36.9 +0.7**
comp=Z,17nm,0.9s,mb5.4
WVOR LR LR
comp=Z,521nm,20.0s,MS5.0
WVOR Wild Horse Val 91.26 47 *e*P **P 03 57 36.9 +0.7**
WVOR pmax pmax
comp=Z,17nm,0.9s,mb5.4
WVOR MLR MLR
comp=Z,521nm,20.0s,MS5.0
HAWA Hanford 91.34 43 PFAKE 03 57 50.0 +14
HAWA LR LR
comp=Z,663nm,20.0s,MS5.1
GSC Goldstone 91.50 55 *e*P **P 03 57 38.1 +0.6**
comp=Z,16nm,1.0s,mb5.3
GSC LR LR
comp=Z,1μm,19.0s,MS5.3
GSC Goldstone 91.50 55 *e*P **P 03 57 38.1 +0.6**
GSC pmax pmax
comp=Z,16nm,1.0s,mb5.3
GSC MLR MLR
comp=Z,1μm,19.0s,MS5.3
PFO Pinyon Flat Ob 91.52 56 PFAKE 03 57 50.0 +12
PFO LR LR
comp=Z,981nm,20.0s,MS5.2
SYO Syowa Base 91.80 199⇓ *e*P **P 03 57 35.6 -2.6**
TPNV Topopah Spring 92.19 53 *e*P **P 03 57 41.2 +0.6**
comp=Z,29nm,1.0s,mb5.6
TPNV LR LR
comp=Z,620nm,20.0s,MS5.0
TPNV Topopah Spring 92.19 53 *e*P **P 03 57 41.3 +0.6**
TPNV pmax pmax
comp=Z,29nm,1.0s,mb5.6
TPNV MLR MLR
comp=Z,620nm,20.0s,MS5.0
BMO Blue Mountains 92.62 45 *e*P **P 03 57 41.4 -1.0**
comp=Z,18nm,1.4s,mb5.3
BMO LR LR
comp=Z,739nm,20.0s,MS5.1
BMO Blue Mountains 92.62 45 *e*P **P 03 57 41.4 -1.0**
BMO pmax pmax
comp=Z,18nm,1.4s,mb5.3
BMO MLR MLR
comp=Z,739nm,20.0s,MS5.1
GLA Glamis 92.78 57 *e*P **P 03 57 45.1 +1.6**
comp=Z,28nm,1.5s,mb5.5
GLA LR LR
comp=Z,1μm,19.0s,MS5.3
GLA Glamis 92.78 57 *e*P **P 03 57 45.1 +1.6**
GLA pmax pmax
comp=Z,28nm,1.5s,mb5.5
GLA MLR MLR
comp=Z,1μm,19.0s,MS5.3
KBL Kabul 93.13 304 *e*P **P 03 57 44.0 -1.1**
comp=Z,14nm,0.9s,mb5.4
KK31 Karatay Array 93.20 313 *i* P **P 03 57 44.2 -0.9**
KK31 pmax pmax
comp=Z,14nm,1.0s,mb5.3
NEW Newport 93.27 42 *e*P **P 03 57 44.5 -0.8**
comp=Z,5.0nm,0.9s,mb4.9
NEW LR LR
comp=Z,716nm,19.0s,MS5.2
NEW Newport 93.27 42 *e*P **P 03 57 44.5 -0.8**
NEW pmax pmax
comp=Z,5.0nm,0.9s
NEW MLR MLR
comp=Z,716nm,19.0s
ARUT Antelope Range 94.53 53 *e*P **P 03 57 49.9 -1.5**
CCUT Cedar City 94.56 53 *e*P **P 03 57 52.8 +1.2**
BVAR Borovoye Array 94.65 323 P **P 03 57 50.0 -1.5**
baz=107,slow=4.3
BVAR LR LR 04 43 51.3
comp=Z,418nm,18.0s,MS5.0,baz=91,slow=38
BRVK Borovoye 94.72 323 *e*P **P 03 57 50.1 -1.7**
comp=Z,23nm,0.9s,mb5.6
BRVK LR LR
comp=Z,473nm,19.0s,MS5.0
BRVK Borovoye 94.72 323 *e*P **P 03 57 50.1 -1.8**
BRVK pmax pmax
comp=Z,23nm,0.9s,mb5.6
BRVK MLR MLR
comp=Z,473nm,19.0s,MS5.0
BGU Big Grassy Mou 95.20 50 *e*P **P 03 57 54.9 +0.5**
MSO Missoula 95.21 44 PFAKE 03 58 10.0 +16
MSO LR LR
comp=Z,453nm,19.0s,MS5.0
DUG Dugway 95.29 50 *e*P **P 03 57 55.5 +0.6**
comp=Z,7.0nm,1.3s,mb4.9
DUG LR LR
comp=Z,404nm,19.0s,MS4.9
DUG Dugway 95.29 50 *e*P **P 03 57 55.5 +0.7**
DUG pmax pmax
comp=Z,7.0nm,1.3s,mb4.9
DUG MLR MLR
comp=Z,404nm,19.0s,MS4.9
MSU Marysvale 95.60 52 *e*P **P 03 57 57.5 +1.2**
SPUT South Promonto 95.68 49 *e*P **P 03 57 56.5 0.0**
MCMT McKenzie Canyo 95.76 46 *e*P **P 03 57 56.7 -0.2**
WUAZ Wupatki 95.92 55 PFAKE 03 58 10.0 +12
WUAZ LR LR
comp=Z,558nm,19.0s,MS5.1
TUC Tucson 96.08 58 PFAKE 03 58 10.0 +11
TUC LR LR
comp=Z,907nm,20.0s,MS5.2
EDM Edmonton 96.26 37 *e*P **P 03 57 57.7 -1.2**
JLU Jordanelle 96.37 50 *e*P **P 03 58 00.8 +1.1**
HWUT Hardware Ranch 96.37 49 *e*P **P 03 58 00.2 +0.5**
comp=Z,3.0nm,0.7s,mb4.8
HWUT LR LR
comp=Z,348nm,19.0s,MS4.9
YKA Yellowknife Ar 96.47 28 P **P 03 57 59.7 +0.1**
YKA PP PP 04 01 53.8 0.0
YKA PKKPbc PKKPbc 04 14 43.4 -3.5
YKA LR LR 04 43 23.5
YKA Yellowknife Ar 96.47 28 P **P 03 57 59.7 0.0**
YKA 04 01 53.8
YKA Yellowknife Ar 96.47 28 P **P 03 57 59.7 +0.1**
comp=Z,8.6nm,0.9s,mb5.2,baz=263,slow=4.7,SNR=100
YKA PP PP 04 01 53.7 0.0
comp=Z,1.1nm,1.0s,baz=267,slow=7.4,SNR=3.9
YKA PKKPbc PKKPbc 04 14 43.3 -3.5
comp=Z,1.6nm,0.8s,baz=78,slow=2.8,SNR=23
YKA LR LR 04 43 23.5
comp=Z,185nm,18.1s,MS4.6,baz=0.0,slow=37
BOZ Bozeman (W) 96.69 45 *e*P **P 03 58 01.1 0.0**
comp=Z,2.8nm,0.8s,mb4.7
BOZ LR LR
comp=Z,431nm,19.0s,MS5.0
BOZ Bozeman (W) 96.69 45 *e*P **P 03 58 01.1 0.0**
BOZ pmax pmax
comp=Z,3.0nm,0.8s,mb4.8
BOZ MLR MLR
comp=Z,431nm,19.0s,MS5.0
AHID Auburn Hatcher 96.82 48 PFAKE 03 58 10.0 +8.3
AHID LR LR

comp=Z,421nm,21.0s,MS4.9
TPAW Teton Pass 96.99 47 *e*P **P 03 58 02.2 -0.2**
comp=Z,4.5nm,1.0s,mb4.8
IMW Indian Meadow 97.03 47 *e*P **P 03 58 03.5 +0.8**
comp=Z,3.4nm,0.8s,mb4.8
SNOW Snow King Moun 97.13 47 *e*P **P 03 58 03.5 +0.3**
comp=Z,2.4nm,0.5s,mb4.9
MOOW Moose Ponds 97.16 47 *e*P **P 03 58 03.4 +0.1**
comp=Z,4.1nm,1.2s,mb4.7
LOHW Long Hollow 97.25 47 *e*P **P 03 58 03.6 0.0**
BW06 Boulder Array 97.95 48 *e*P **P 03 58 06.2 -0.6**
comp=Z,3.6nm,0.9s,mb4.9
BW06 LR LR
comp=Z,549nm,19.0s,MS5.1
EGMT Eagleton 98.15 43 PFAKE 03 58 20.0 +12
EGMT LR LR
comp=Z,506nm,20.0s,MS5.0
RLMT Red Lodge 98.31 46 PFAKE 03 58 20.0 +12
RLMT LR LR
comp=Z,436nm,20.0s,MS5.0
MVCO Mesa Verde 98.38 54 PFAKE 03 58 20.0 +11
MVCO LR LR
comp=Z,946nm,20.0s,MS5.3
PV01 Paradox Valley 98.39 53 *e*P **P 03 58 09.9 +1.0**
SNAA Sanae 99.10 186⇑ *e*P **P 03 58 09.0 -2.4**
ANMO Albuquerque 99.89 56 PFAKE 03 58 30.0 +15
ANMO LR LR
comp=Z,420nm,21.0s,MS4.9
LAO LASA Array 100.50 44 *e*Pdif Pdif 03 58 18.4 +0.5
comp=Z,3.9nm,0.9s
LAO LR LR
comp=Z,414nm,19.0s,MS5.0
ISCO Idaho Springs 100.78 51 PFAKE 03 58 30.0 +11
ISCO LR LR
comp=Z,602nm,20.0s,MS5.1
SDCO Great Sand Dun 100.79 53 PFAKE 03 58 30.0 +11
SDCO LR LR
comp=Z,405nm,19.0s,MS5.0
PMSA Palmer Station 100.91 163 PFAKE 03 58 30.0 +10
PMSA LR LR
comp=Z,771nm,19.0s,MS5.2
ARU Arti 101.65 326 PFAKE 03 58 30.0 +7.0
ARU LR LR
comp=Z,529nm,22.0s,MS5.0
DGMT Dagmar 101.87 42 PFAKE 03 58 40.0 +16
DGMT LR LR
comp=Z,356nm,19.0s,MS4.9
TXAR Lajitas Array 101.96 62 P Pdif 03 58 23.2 -1.2
comp=Z,0.5nm,0.8s,baz=294,slow=6.8,SNR=2.9
TXAR PP PP 04 02 30.6 -5.9
comp=Z,0.7nm,1.0s,baz=204,slow=11,SNR=3.8
TXAR PKKPbc PKKPbc 04 14 30.6 +0.4
comp=Z,0.9nm,0.9s,baz=118,slow=5.0,SNR=6.8
RSSD Black Hills 102.02 47 *e*Pdif Pdif 03 58 24.7 0.0
comp=Z,3.6nm,1.1s
RSSD Black Hills 102.02 47 *e*P Pdif 03 58 24.7 0.0
RSSD pmax pmax
comp=Z,4.0nm,1.1s
RES Resolute Bay 102.66 15 *e*Pdif Pdif 03 58 25.4 -2.1
FFC Flin Flon 102.99 36 PFAKE 03 58 40.0 +11
FFC LR LR
comp=Z,626nm,19.0s,MS5.2
AMTX Amarillo 103.81 56 PFAKE 03 58 40.0 +7.3
AMTX LR LR
comp=Z,642nm,20.0s,MS5.2
CBKS Cedar Bluff 105.33 52 PFAKE 04 03 10.0 +16
CBKS LR LR
comp=Z,737nm,19.0s,MS5.2
JCT Junction City 105.35 61 PFAKE 04 03 10.0 +16
JCT LR LR
comp=Z,966nm,20.0s,MS5.3
ABPO Ambohimpanom 105.86 248 PFAKE 04 03 10.0 +15
ABPO LR LR
comp=Z,204nm,19.0s,MS4.7
WMOK Wichita Mounta 106.20 56 PFAKE 04 03 10.0 +14
WMOK LR LR
comp=Z,668nm,19.0s,MS5.2
KVTX Kingsville 106.99 64 PFAKE 04 03 10.0 +13
KVTX LR LR
comp=Z,572nm,20.0s,MS5.1
ULM Lac du Bonnet 107.16 40 *e*PKP PKiKP 04 02 55.2 -1.6
ULM LR LR
comp=Z,518nm,19.0s,MS5.1
KBS Kingsbay 107.34 353 PFAKE 04 03 10.0 +14
KBS LR LR
comp=Z,298nm,19.0s,MS4.9
ECSD EROS,Sioux Fal 107.39 47 PFAKE 04 03 10.0 +13
ECSD LR LR
comp=Z,396nm,20.0s,MS5.0
AGMN Agassiz Refuge 107.42 42 PFAKE 04 03 10.0 +13
AGMN LR LR
comp=Z,465nm,20.0s,MS5.0
KSU1 Kansas State U 107.75 52 PFAKE 04 03 10.0 +12
KSU1 LR LR
comp=Z,784nm,20.0s,MS5.3
HKT Hockley 108.78 61 PFAKE 04 03 10.0 +10
HKT LR LR
comp=Z,157nm,20.0s,MS4.6
NATX Nacogdoches 109.74 59 *e*PKP PKiKP 04 03 01.7 -0.5
NATX LR LR
comp=Z,1μm,20.0s,MS5.4
SCIA State Center 110.07 48 PFAKE 04 03 10.0 +7.5
SCIA LR LR
comp=Z,481nm,20.0s,MS5.1
EYMN Ely 110.37 42 PFAKE 04 03 10.0 +7.1
EYMN LR LR
comp=Z,351nm,19.0s,MS5.0
MIAR Mount Ida 110.49 56 PFAKE 04 03 10.0 +6.4
MIAR LR LR
comp=Z,708nm,20.0s,MS5.2
CCM Cathedral Cave 112.04 52 PFAKE 04 03 20.0 +14
CCM LR LR
comp=Z,96nm,19.0s,MS4.4
JFWS Jewell Farm 112.10 47 PFAKE 04 03 20.0 +14
JFWS LR LR
comp=Z,455nm,20.0s,MS5.1
COWI Conover 112.30 44 PFAKE 04 03 20.0 +13
COWI LR LR
comp=Z,322nm,19.0s,MS4.9
HDIL Hopedale 113.19 49 PFAKE 04 03 20.0 +12
HDIL LR LR
comp=Z,566nm,21.0s,MS5.1
KIV Kislovodsk 113.31 314 PFAKE 04 03 20.0 +11
KIV LR LR
comp=Z,275nm,20.0s,MS4.8
KIV Kislovodsk 113.31 314 *i* PKIKP PKiKP 04 03 05.8 -2.8
KIV *e* 04 03 57.5
KIV *e* 04 09 47.3
KIV *e*PS PS 04 13 32.7 -2.6
KIV *e*SS SS 04 19 41.8 -2.2
KIV pmax pmax
comp=Z,3.0nm,0.7s
PLCA Paso Flores 114.36 142 PKiKP PKiKP 04 03 10.7 -0.1
comp=Z,0.6nm,0.8s,baz=256,slow=4.2,SNR=3.1
PLCA PP PP 04 04 05.0 -1.1
comp=Z,2.2nm,1.0s,baz=208,slow=9.6,SNR=3.3
PLCA PKKPbc PKKPbc 04 13 50.9 -0.6
comp=Z,1.4nm,0.9s,baz=313,slow=2.7,SNR=3.3
PLAL Pickwick Lake 114.95 55 PFAKE 04 03 20.0 +8.0
PLAL LR LR
comp=Z,601nm,20.0s,MS5.2
WVT Waverly 115.00 54 PFAKE 04 03 20.0 +7.9
WVT LR LR
comp=Z,247nm,20.0s,MS4.8
SOC Sochi 115.50 314 *e*PKIKP PKPdf 04 03 15.5 +2.7
SOC *e*PS PS 04 13 52.9 -2.4
SOC *e*SS SS 04 20 22.0 +9.2
SOC MLR MLR
comp=Z,359nm,22.0s,MS4.9
GLMI Grayling 115.69 44 PFAKE 04 03 20.0 +6.9
GLMI LR LR
comp=Z,398nm,20.0s,MS5.0
TEIG Tepich 115.80 72 PFAKE 04 03 30.0 +16
TEIG LR LR
comp=Z,585nm,19.0s,MS5.2
FINES FINESS Array B 116.01 336 PKP PKPdf 04 03 11.6 -1.6
comp=Z,2.1nm,0.8s,baz=71,slow=6.5,SNR=6.6
LRAL Lakeview Retre 116.09 57 PFAKE 04 03 30.0 +16
LRAL LR LR
comp=Z,736nm,19.0s,MS5.3
BRAL Brewton 116.28 60 PFAKE 04 03 30.0 +15
BRAL LR LR
comp=Z,531nm,21.0s,MS5.1
TGUH Tegucigalpa,Un 116.65 78 PFAKE 04 03 30.0 +14
TGUH LR LR
comp=Z,252nm,19.0s,MS4.8

MALT Malatya 117.60 309 *e*PKPdf PKPdf 04 03 16.8 -0.2
ACSO Alum Creek Sta 117.98 49 PFAKE 04 03 30.0 +12
ACSO LR LR
comp=Z,400nm,20.0s,MS5.0
TZTN Tazewell 118.33 53 PFAKE 04 03 30.0 +11
TZTN LR LR
comp=Z,395nm,20.0s,MS5.0
SFJD Kangerlussuaq 118.42 12 PFAKE 04 03 30.0 +12
SFJD LR LR
comp=Z,526nm,19.0s,MS5.2
GOGA Godfrey 118.96 56 PFAKE 04 03 30.0 +10
GOGA LR LR
comp=Z,647nm,21.0s,MS5.2
KMBO Kilima Mbogo 119.41 264 PFAKE 04 03 30.0 +8.7
KMBO LR LR
comp=Z,218nm,20.0s,MS4.8
ERPA Erie 119.67 46 PFAKE 04 03 30.0 +9.1
ERPA LR LR
comp=Z,636nm,20.0s,MS5.2
AKASG Malin Array Be 119.87 325 PKIKP PKPdf 04 03 19.7 -1.3
AKASG 04 04 44.8
AKASG Malin Array Be 119.87 325 PKP PKPdf 04 03 19.6 -1.3
comp=Z,2.8nm,0.8s,baz=64,slow=2.2,SNR=16
AKASG PP PP 04 04 44.8 +0.3
comp=Z,0.2nm,0.4s,baz=54,slow=6.3,SNR=3.5
AKASG PKKPbc PKKPbc 04 13 30.0 -2.1
comp=Z,0.1nm,0.2s,baz=247,slow=4.6,SNR=4.9
AKBB Malin Array Si 119.87 325 *e*PKPdf PKPdf 04 03 20.2 -0.8
MCWV Mont Chateau 120.46 49 PFAKE 04 03 30.0 +7.5
MCWV LR LR
comp=Z,653nm,19.0s,MS5.3
BLA Blacksburg 120.64 52 PFAKE 04 03 30.0 +7.1
BLA LR LR
comp=Z,425nm,21.0s,MS5.1
LCO Las Campanas 120.79 131 PFAKE 04 03 40.0 +16
LCO LR LR
comp=Z,291nm,22.0s,MS4.9
TRQA Tornquist 121.17 144 *e*PKPdf PKPdf 04 03 22.4 -1.6
TRQA LR LR
comp=Z,303nm,19.0s,MS5.0
ANTO Ankara 121.46 312 *e*PKPdf PKPdf 04 03 23.1 -1.4
ANTO *e* 04 03 30.9
ANTO LR LR
comp=Z,166nm,19.0s,MS4.7
DWPF Disney 121.49 62 PFAKE 04 03 40.0 +15
DWPF LR LR
comp=Z,120nm,19.0s,MS4.6
HFS Hagfors 121.50 340 PKP PKPdf 04 03 22.8 -1.0
comp=Z,1.3nm,0.8s,baz=31,slow=1.2,SNR=2.7
SSPA Standing Stone 121.61 47 PFAKE 04 03 40.0 +15
SSPA LR LR
comp=Z,77nm,20.0s,MS4.3
NB2 NORSAR Subarra121.64 341 PKPdf PKPdf 04 03 22.6 -1.5
comp=Z,5.7nm,0.9s,baz=41,slow=2.0
NB2 NORSAR Subarra121.64 341 PKPdf PKPdf 04 03 22.6 -1.5
baz=41,slow=2.0
NOA NORSAR Array B 121.64 341 PKP PKPdf 04 03 22.9 -1.1
comp=Z,3.0nm,0.8s,baz=41,slow=1.8,SNR=12
NHSC New Hope 121.73 56 PFAKE 04 03 40.0 +15
NHSC LR LR
comp=Z,581nm,20.0s,MS5.2
NAO01 NORSAR Array S 121.89 341 *e*PKPdf PKPdf 04 03 23.2 -1.4
SCHQ Schefferville 121.92 28 PKP PKPdf 04 03 23.5 -1.3
SCHQ LR LR
comp=Z,467nm,19.0s,MS5.2
SCHQ Schefferville 121.92 28 PKP PKPdf 04 03 23.5 -1.3
comp=Z,2.4nm,0.9s,baz=330,slow=5.9,SNR=3.7
BINY Binghamton 122.46 45 PFAKE 04 03 40.0 +14
BINY LR LR
comp=Z,701nm,20.0s,MS5.3
LONY Lake Ozonia 122.53 42 PFAKE 04 03 40.0 +14
LONY LR LR
comp=Z,405nm,20.0s,MS5.1
CBN Corbin 122.71 50 PFAKE 04 03 40.0 +13
CBN LR LR
comp=Z,576nm,19.0s,MS5.2
NCB Newcomb 123.02 42 PFAKE 04 03 40.0 +13
NCB LR LR
comp=Z,461nm,20.0s,MS5.1
BURAR Bucovina Array 123.61 323⇓ *i*P PKPdf 04 03 28.3 0.0
KWP Kalwaria 124.05 326⇑ P PKPdf 04 03 28.4 -0.6
KWP Kalwaria 124.05 326⇑ *i*P PKPdf 04 03 28.5 -0.6
MLR Muntele Rosu 124.13 320⇑ P 04 03 15.8
MLR Muntele Rosu 124.13 320⇑ *i*P 04 03 15.8
LSZ Lusaka 124.30 245 *e*PKPdf PKPdf 04 03 31.6 +1.0
LBNH Lisbon 124.42 41 PFAKE 04 03 40.0 +10
LBNH LR LR
comp=Z,560nm,19.0s,MS5.2
KOLS Kolonicke sedl 124.66 325 *e*PKP PKPdf 04 03 30.6 +0.3
UZH Uzhgorod 124.81 325 *e*PKIKP PKPdf 04 03 21.8 -8.8
UZH *e* 04 03 30.2
STHS Stebnicka Huta 124.98 326 *e*PKP PKPdf 04 03 31.7 +0.8
CRVS Cervenica-Dubn 125.13 326 *e*PKP PKPdf 04 03 31.0 -0.2
WES Weston 125.60 43 PFAKE 04 03 40.0 +7.7
WES LR LR
comp=Z,848nm,22.0s,MS5.4
OKC Ostrava-Krasne 126.39 328 *e*PKPdf PKPdf 04 03 33.8 +0.2
OKC *e*pPKP pPKPdf 04 03 40.5 +0.5
OKC AMS AMS 05 01 40.0
comp=Z,400nm,18.0s,MS5.1
PSZ Piszkesteto 126.54 325 *e*PKPdf PKPdf 04 03 34.3 +0.4
PSZ Piszkesteto 126.54 325⇑ *i*P PKPdf 04 03 32.3 -1.6
PSZ Piszkesteto 126.54 325⇑ *e*PKP PKPdf 04 03 34.9 +1.0
MORC Moravsky Berou 126.75 328 *e*PKPdf PKPdf 04 03 34.1 -0.1
MORC Moravsky Berou 126.75 328⇑ *i*P PKPdf 04 03 34.4 +0.2
BZS Buzias 126.75 322⇑ P 04 03 16.1
BZS Buzias 126.75 322⇑ *i*P 04 03 16.1
VYHS Vyhne 126.81 326 *e*PKP PKPdf 04 03 31.7 -2.7
VYHS Vyhne 126.81 326 *e*PKP PKPdf 04 03 31.6 -2.8
DPC Dobruska-Polom 127.02 330 *e*PKPdf PKPdf 04 03 35.3 +0.6
DPC *e*pPKP pPKPdf 04 03 41.2 0.0
DPC AMS AMS 05 02 20.0
comp=Z,500nm,18.2s,MS5.2
UPC Upice 127.07 330 *e*PKPdf PKPdf 04 03 35.0 +0.2
BUD Budapest 127.28 325⇓ *e*PKP PKPdf 04 03 35.7 +0.4
PVCC Panska Ves 127.77 331 *e*PKPdf PKPdf 04 03 36.1 -0.1
PVCC *e*pPKP pPKPdf 04 03 43.0 +0.4
PVCC AMS AMS 05 03 10.0
comp=Z,600nm,19.2s,MS5.3
BRG Berggiesshubel 127.84 331 *i* PKP PKPdf 04 03 36.7 +0.4
BRG *e* 04 03 42.9
BRG LR LR
comp=Z,280nm,17.7s,MS5.0
BRG Berggiesshubel 127.84 331 *i* PKP PKPdf 04 03 36.7 +0.4
comp=Z,18nm,1.3s
BRG *e* 04 03 42.9
comp=Z,12nm,1.4s
BRG
comp=Z,468nm,17.7s
BRG
comp=N,317nm,18.7s
BRG
comp=E,184nm,18.7s
CLL Collm 127.99 332⇓ *i*PKP PKPdf 04 03 36.7 +0.1
CLL *i* pPKP pPKPdf 04 03 42.2 -0.8
CLL *e*PKS 04 06 55.0
CLL LR LR
comp=Z,300nm,22.7s,MS4.9
CLL Collm 127.99 332⇓ *i*PKIKP PKPdf 04 03 36.7 +0.1
CLL *i* 04 03 42.2
CLL pmax pmax
comp=Z,12nm,1.1s
CLL MLR MLR
comp=Z,300nm,22.7s,MS4.9
CLL Collm 127.99 332⇓ *i*PKPdf PKPdf 04 03 36.7 +0.1
comp=Z,12nm,1.1s
CLL *i* pPKPdf pPKPdf 04 03 42.2 -0.8
CLL Lm 05 00 00.0
comp=N,300nm,21.5s
CLL Lm 05 00 00.0
comp=E,200nm,21.7s
TREC Trest 128.10 329 *e*PKPdf PKPdf 04 03 37.1 +0.3
TREC AMS AMS 05 00 00.0
comp=Z,400nm,20.6s,MS5.1
PRU Pruhonice 128.13 330 *e*PKPdf PKPdf 04 03 36.9 0.0
PRU AMS AMS 05 03 10.0
comp=Z,700nm,19.4s,MS5.4
PKSM Moragy 128.20 324⇑ P PKPdf 04 03 37.0 -0.1
PKSM Moragy 128.20 324⇑ *i*P PKPdf 04 03 37.0 -0.1
SOP Sopron 128.52 327⇓ *e*PKP PKPdf 04 03 38.0 +0.3
CONA Conrad Observa 128.75 327⇑ *i*PKiKP PKiKP 04 03 38.8 0.0
comp=Z,11nm,1.5s
LPAZ La Paz 128.92 119 *e*PKPdf PKPdf 04 03 40.2 +0.9
LPAZ La Paz 128.92 119 PKP PKPdf 04 03 40.6 +1.2

comp=Z,8.9nm,1.0s,baz=250,slow=0.2,SNR=25
NKC Novy Kostel 128.98 332 *e*PKPdf PKPdf 04 03 38.6 +0.1
NKC *e*pPKP pPKPdf 04 03 45.3 +0.3
NKC AMS AMS 05 05 10.0
comp=Z,500nm,19.1s,MS5.2
KHC Kasperske Hory 129.16 330 *e*PKPdf PKPdf 04 03 39.2 +0.3
KHC *e*pPKP pPKPdf 04 03 46.0 +0.7
KHC AMS AMS 05 04 00.0
comp=Z,700nm,21.2s,MS5.3
GEC2 GERESS Array S 129.29 329 *e*PKPdf PKPdf 04 03 38.8 -0.3
GERES GERESS Array B 129.29 329 PKP PKPdf 04 03 39.0 -0.1
comp=Z,2.3nm,1.0s,baz=103,slow=1.8,SNR=19
KOGS Kog 129.43 326 *e*PKPdf PKPdf 04 03 39.5 +0.1
GRA1 Grafenberg Arr 129.93 332 *e*PKP PKPdf 04 03 40.2 -0.1
GRA1 LR LR
comp=Z,400nm,19.5s,MS5.1
GRF Grafenberg Arr 129.93 332 *e*PKPdf PKPdf 04 03 40.2 -0.1
GRF *e*L 05 04 59.5
comp=Z,363nm,19.5s
PERS Pernice 129.94 326 *e*PKPdf PKPdf 04 03 40.3 -0.1
BOJS Bojanci 130.54 325 *e*PKPdf PKPdf 04 03 42.3 +0.7
LJU Ljubljana 130.62 326 *e*PKPdf PKPdf 04 03 42.3 +0.6
WTTA Wattenberg 131.37 329⇑ *i*P PKPdf 04 03 42.7 -0.5
comp=Z,12nm,1.1s
CPUP Villa Florida 131.94 137 PKP PKPdf 04 03 45.2 +0.3
comp=Z,9.6nm,1.0s,baz=274,slow=2.8,SNR=7.9
CDF Champ du Feu 132.66 333 *e*PKIKP PKPdf 04 03 43.9 -1.6
BAIF Baives 132.69 337 *e*PKIKP PKPdf 04 03 44.6 -0.9
comp=Z,18nm,1.2s
SDV Santo Domingo 132.73 86 *e*PKPdf PKPdf 04 03 45.9 -0.8
TIP Timpagrande 133.10 317 *e*PKPdf PKPdf 04 03 46.6 0.0
HINF Hinteralfeld 133.29 333 *e*PKIKP PKPdf 04 03 45.4 -1.3
comp=Z,37nm,1.5s
HAU Haudompre 133.37 333 *e*PKIKP PKPdf 04 03 45.6 -1.3
HAU *e*MLR MLR
comp=Z,449nm,20.2s,MS4.9
HAU Haudompre 133.37 333 *e*PKIKP PKPdf 04 03 45.6 -1.3
HAU MLR MLR
comp=Z,450nm,20.3s,MS5.2
MEZF Maizieres J'vi 133.56 335 *e*PKIKP PKPdf 04 03 46.0 -1.2
CABF La Chapelle 134.53 332 *e*PKIKP PKPdf 04 03 48.9 -0.2
comp=Z,26nm,1.2s
LOR Lormes 135.02 334 *e*PKIKP PKPdf 04 03 49.3 -0.7
comp=Z,19nm,1.3s
LOR *e*MLR MLR
comp=Z,369nm,22.5s,MS4.8
LOR Lormes 135.02 334 *e*PKIKP PKPdf 04 03 49.3 -0.7
LOR MLR MLR
comp=Z,370nm,22.5s,MS5.0
LPL La Plagne 135.03 331 *e*PKIKP PKPdf 04 03 48.7 -1.4
comp=Z,18nm,1.3s
LPG La Plagne 135.03 331 *e*PKIKP PKPdf 04 03 48.8 -1.3
comp=Z,8.7nm,1.0s
SSF Saint Saulge 135.34 334 *e*PKIKP PKPdf 04 03 50.0 -0.6
comp=Z,19nm,1.2s
BNI Bardonecchia 135.39 330 *e*PKPdf PKPdf 04 03 48.5 -2.3
FLN La Foliniere 135.51 339 *e*PKIKP PKPdf 04 03 49.8 -1.1
comp=Z,43nm,1.4s
FLN *e*MLR MLR
comp=Z,480nm,21.0s,MS4.9
FLN La Foliniere 135.51 339 *e*PKIKP PKPdf 04 03 49.8 -1.1
FLN MLR MLR
comp=Z,480nm,21.0s,MS5.2
SMF Signal de Mont 135.51 334 *e*PKIKP PKPdf 04 03 50.2 -0.7
comp=Z,19nm,1.3s
LDF La Druitiere 135.52 339 *e*PKIKP PKPdf 04 03 50.1 -0.8
MBDF Montbardon 135.58 330 *e*PKIKP PKPdf 04 03 50.1 -1.0
AVF Avril sur Loir 135.61 334 *e*PKIKP PKPdf 04 03 49.9 -1.2
SBF Sospel 135.85 328 *e*PKIKP PKPdf 04 03 50.5 -1.1
ORIF Oris-en-Rattie 135.88 331 *e*PKIKP PKPdf 04 03 50.8 -0.9
comp=Z,8.3nm,0.8s
ORIF *e*MLR MLR
comp=Z,582nm,21.8s,MS5.0
PGF Pioggiola 135.91 326 *e*PKIKP PKPdf 04 03 50.9 -0.9
comp=Z,15nm,1.0s
GRR Gorron 135.96 339 *e*PKIKP PKPdf 04 03 50.9 -0.8
BGF Bois d'Agland 136.01 335 *e*PKIKP PKPdf 04 03 51.2 -0.7
comp=Z,11nm,1.1s
FRF La Foret Royal 136.47 329 *e*PKIKP PKPdf 04 03 50.9 -1.9
TCF Toulx Ste Croi 136.50 335 *e*PKIKP PKPdf 04 03 52.1 -0.7
comp=Z,15nm,1.1s
VIVF Saint-Julien-l 136.50 332 *e*PKIKP PKPdf 04 03 51.2 -1.6
comp=Z,19nm,1.3s
LMR La Mourre 136.70 329 *e*PKIKP PKPdf 04 03 51.5 -1.7
comp=Z,9.0nm,1.0s
SMRF Simiane la Rot 136.71 330 *e*PKIKP PKPdf 04 03 52.0 -1.2
comp=Z,22nm,1.2s
LASF Ste Croix 137.47 331 *e*PKIKP PKPdf 04 03 53.0 -1.6
comp=Z,25nm,1.2s
RJF Les Rejaudoux 137.57 334 *e*PKIKP PKPdf 04 03 53.2 -1.6
comp=Z,10nm,1.1s
RJF *e*MLR MLR
comp=Z,310nm,19.5s,MS4.8
RJF Les Rejaudoux 137.57 334 *e*PKIKP PKPdf 04 03 53.2 -1.6
RJF MLR MLR
comp=Z,310nm,19.5s,MS5.0
CAF Calviac 137.63 334 *e*PKIKP PKPdf 04 03 53.7 -1.2
comp=Z,17nm,1.5s
LFF La Frestale 138.19 335 *e*PKIKP PKPdf 04 03 54.4 -1.5
MTLF Montolieu 138.80 332 *e*PKIKP PKPdf 04 03 55.4 -1.7
comp=Z,7.3nm,1.0s
EJON La Jonquera 139.16 331 PKP PKPdf 04 04 01.8 +4.0
EPF Esparros 139.90 333 *e*PKIKP PKPdf 04 03 57.8 -1.3
comp=Z,23nm,1.3s
KEST Kesra 139.92 318 PKP PKPdf 04 03 58.7 -0.7
comp=Z,2.0nm,1.0s,baz=346,slow=4.2,SNR=5.1
EBIE Bielsa 140.26 333 PKP PKPdf 04 03 56.8 -3.0
ELAN Lanestosa 141.29 337 PKP PKPdf 04 04 00.3 -1.4
EARI Arriondas 141.89 339 PKP PKPdf 04 03 57.0 -5.7
EMOS Mosqueruela 142.38 332 PKP PKPdf 04 04 03.6 -0.1
ETOR Torete 142.73 334 PKP PKPdf 04 04 04.0 -0.2
ECHE Chera 143.22 331 PKP PKPdf 04 04 04.6 -0.6
ECAL Calabor 143.62 340 PKP PKPdf 04 04 02.7 -3.1
EMHD Djebel Mahouad 143.64 324 P PKPdf 04 04 10.0 +4.0
GUD Guadarrama 143.77 336 PKP PKPdf 04 04 07.5 +1.4
ELOB Lobios 144.12 341 PKP PKPdf 04 04 08.8 +2.1
ETOB Tobarra 144.24 331 PKP PKPdf 04 04 09.7 +2.7
EBNR Beni Rached 144.40 325 P PKPdf 04 04 09.0 +1.6
MVO Moncorvo 144.41 339 *e*PKP PKPdf 04 04 05.5 -1.7
MVO Moncorvo 144.41 339 *e*LR LR 05 04 31.7
comp=Z,280nm,20.0s
ESDC Sonseca Array 144.50 335 PKP PKPdf 04 04 05.7 -1.8
ESDC Sonseca Array 144.50 335 PKP PKPdf 04 04 06.0 -1.4
comp=Z,1.9nm,0.8s,baz=19,slow=2.9,SNR=13
ESDC PP PP 04 07 24.8 +2.4
comp=Z,1.9nm,0.9s,baz=16,slow=7.6,SNR=5.0
ESLA Sonseca Array 144.50 335 *e*PKPdf PKPdf 04 04 06.0 -1.5
PVRL Vila Real 144.54 340 *e*PKP PKPdf 04 04 07.1 -0.4
EVIA Vianos 144.70 332 PKP PKPdf 04 04 06.4 -1.4
EMUR La Murta 144.72 330 PKP PKPdf 04 04 09.2 +1.4
EANR 'Ain N'Sour 144.89 325 P PKPdf 04 04 07.5 -0.7
PVIS Viseu 145.10 340 *e*PKP PKPdf 04 04 07.5 -0.9
ETRT Tiaret 145.17 324 P PKPbc 04 04 08.9 +0.6
MTE Manteigas 145.26 339 *e*PKP PKPdf 04 04 08.1 -0.6
MTE Manteigas 145.26 339 *e*LR LR 04 58 12.2
comp=Z,311nm,20.0s
MTE Manteigas 145.26 339 *e*PKPbc PKPbc 04 04 08.6 +0.2
BDFB Brasilia 145.51 134 PKPbc PKPbc 04 04 09.4 -0.4
comp=Z,51nm,0.9s,baz=198,slow=4.3,SNR=96
EQES Quesada 145.64 332 PKP PKPdf 04 04 10.2 +0.7
EBAN Banos Encina 145.67 333 PKP PKPdf 04 04 10.9 +1.4
PCBR Castelo Branco 145.74 339 *e*PKP PKPdf 04 04 09.9 +0.3
ENIJ Nijar 145.88 330 PKP PKPdf 04 04 10.7 +0.8
EADA Adamuz 146.02 334 PKP PKPdf 04 04 11.7 +1.6
PTOM Tomar 146.26 340 *e*PKP PKPdf 04 04 11.3 +0.8
EBER Berja 146.27 331 PKP PKPdf 04 04 12.2 +1.6
ECOG Cogollos-Vega 146.29 332 PKP PKPdf 04 04 11.1 +0.5
ELUQ Luque 146.38 333 PKP PKPdf 04 04 12.0 +1.3
ECAB El Cabril 146.46 335 PKP PKPbc 04 04 12.9 +0.7
EBAD Badajoz 146.52 337 PKP PKPdf 04 04 11.8 +0.8
ERON Agron 146.62 332 PKP PKPdf 04 04 12.1 +1.0
PESTR Estremoz 146.64 338 *e*PKP PKPdf 04 04 12.1 +1.0
PESTR Estremoz 146.64 338 *e*LR LR 05 00 37.3
comp=Z,166nm,24.0s
EGUA Guajares 146.65 331 PKP PKPdf 04 04 12.2 +1.0
ELOJ Sierra Loja 146.67 332 PKP PKPbc 04 04 13.3 +0.5
PBAR Barrancos 147.03 337 *e*PKP PKPdf 04 04 13.4 +1.6
PBAR Barrancos 147.03 337 *e*LR LR 05 01 20.4
comp=Z,358nm,20.0s
EVO Evora 147.09 338 *e*PKIKP PKPdf 04 04 11.5 -0.4
comp=Z,80nm,1.6s
EVO *e*MLR MLR
comp=Z,282nm,21.8s,MS4.7
EVO Evora 147.09 338 *e*PKP PKPbc 04 04 14.2 +0.2

EALB	**Alboran**	**147.10**	**330**	PKP	PKPdf	04 04 13.0	+1.0
PMAFR	**Mafra**	**147.15**	**340**	*e*LR	LR	05 02 29.4	
	comp=Z,278nm,20.0s						
MOE	**Montemor**	**147.22**	**339**	*e*PKP	PKPdf	04 04 10.6	-1.5
EMIN	**Mina Concepcio**	**147.24**	**336**	PKP	PKPdf	04 04 13.2	+1.0
EMIJ	**Mijas**	**147.43**	**332**	PKP	PKPdf	04 04 14.0	+1.5
PBEJ	**Beja**	**147.48**	**338**	*e*PKP	PKPbc	04 04 15.2	+0.1
ESPR	**Espera**	**147.66**	**334**	PKP	PKPdf	04 04 14.0	+1.1
EGRO	**El Granado**	**147.76**	**337**	PKP	PKPdf	04 04 13.9	+0.8
EJIF	**Jimena Fronter**	**147.84**	**333**	PKP	PKPdf	04 04 14.0	+0.8
PVAQ	**Vaqueiros**	**147.97**	**337**	*e*PKP	PKPbc	04 04 15.7	-0.7
PVAQ	**Vaqueiros**	**147.97**	**337**	*e*LR	LR	05 00 13.7	
	comp=Z,299nm,20.0s						
PBDV	**Barranco-do-Ve**	**148.19**	**337**	*e*PKP	PKPbc	04 04 16.5	-0.5
PBDV	**Barranco-do-Ve**	**148.19**	**337**	*e*LR	LR	05 07 29.0	
	comp=Z,382nm,18.0s						
PTEO	**Sao Teotonio**	**148.22**	**338**	*e*PKP	PKPdf	04 04 11.9	-1.9
PFVI	**Vila Bisbo**	**148.62**	**338**	*e*PKP	PKPdf	04 04 14.9	+0.4
PFVI	**Vila Bisbo**	**148.62**	**338**	*e*LR	LR	05 05 59.7	
	comp=Z,324nm,22.0s						
MDT	**Midelt**	**150.35**	**328**	PKPbc	PKPbc	04 04 23.2	+0.6
	comp=Z,15nm,1.1s,baz=18,slow=2.5,SNR=15						
MDT				PKPab	PKPab	04 04 29.6	+0.8
	comp=Z,23nm,0.9s,baz=23,slow=1.9,SNR=9.3						
DBIC	**Dimbokro**	**162.13**	**266**	*e*PKPab	PKPab	04 05 20.4	+0.5
DBIC	**Dimbokro**	**162.13**	**266**	PKPab	PKPab	04 05 20.0	0.0
	comp=Z,6.2nm,1.0s,baz=87,slow=2.8,SNR=4.1						

*ISCJB **29** 04:18:21.0±1.4, 3621N±007×2892E±007, h9km±9km, Error ellipse: s-maj=11.7km s-min=9.8km az=164.1*
*CSEM **29** 04:18:20.1±0.3, 3619N×2898E, h15km, MD3.2, Error ellipse: s-maj=5.6km s-min=3.5km az=10.0*
*ISK **29** 04:18:20.1, 3625N×2915E, h29km, MD3.2*
*DDA **29** 04:18:22.1, 3607N×2901E, h42km±7km, Md2.8*

ISC 29 04:18:21.0±1.4, 3620N±007×2899E±008, h16km±9km, n9, σ1°20/16, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FETY	**Fethiye**	**0.44**	**10**	PG	**Pg**	**04 18 29.3**	**-0.7**
FETY				*e*SG	**Sg**	**04 18 36.2**	**+0.2**
AKAS	**Kas**	**0.50**	**86**	*i* P	**Pg**	**04 18 31.6**	**+0.5**
AKAS				*i* S	**Sg**	**04 18 42.2**	**+4.4**
YER	**Yerkesik**	**1.09**	**329**	*e*PN	**Pn**	**04 18 40.1**	**-1.6**
YER				*e*SN	**Sn**	**04 18 54.9**	**-1.6**
GOLH	**Golhisar**	**1.14**	**24**	*i* P	**Pb**	**04 18 42.1**	**-0.3**
GOLH				*i* S	**Sb**	**04 18 58.6**	**+1.8**
DAT	**Datca**	**1.25**	**295**	*e*PN	**Pn**	**04 18 43.6**	**-0.3**
DAT				*e*SN	**Sn**	**04 19 00.8**	**+0.3**
BDRM	**Kayabasi**	**1.51**	**305**	*i* P	**Pn**	**04 18 48.8**	**+1.3**
BDRM				*i* S	**Sn**	**04 19 07.9**	**+1.0**
AYDN	**Tasoluk**	**1.71**	**329**	*i* P	**Pn**	**04 18 51.4**	**+1.2**
AYDN				*i* S	**Sn**	**04 19 11.9**	**+0.2**
BCK	**Bucak**	**1.80**	**45**	*e*PN	**Pn**	**04 18 48.1**	**-3.4**
KHL	**Karahalli**	**2.16**	**11**	*e*PN	**Pn**	**04 18 53.9**	**-2.5**

*IDC **29** 05:37:53.3±2.2, 3706N×69.11E, h0km, mb3.7/5, mb1 4.0/9, mb1mx3.7/24, mbtmp4.0/9, ML3.9/4, MS3.7/14, Ms1 3.7/14, ms1mx3.5/27, Error ellipse: s-maj=35.1km s-min=20.2km az=165.0*
*NNC **29** 05:37:55.2±7.1, 3729N×6892E, h16km±38km, mb4.2, mpv4.6, Error ellipse: s-maj=41.0km s-min=23.3km az=31.0*
*BJI **29** 05:37:58.2, 3763N×6902E, h20km, mB4.7, mb4.4, ML4.3, Ms4.4, Msz4.0*
*ISCJB **29** 05:38:00.1±0.8, 3753N±003×6894E±007, h47km±9km, mb4.1/12, MS3.7/17, Error ellipse: s-maj=9.5km s-min=4.7km az=158.7*
*NEIC **29** 05:38:01.6±0.9, 3750N×6893E, h42km±12km, mb4.2/2, Error ellipse: s-maj=15.0km s-min=9.0km az=113.0*
*MOS **29** 05:38:22.2±1.2, 3896N×6974E, h131km, mb4.3/8, Error ellipse: s-maj=14.9km s-min=7.1km az=74.8*

ISC 29 05:38:00.9±0.7, 3747N±003×6884E±007, h39km±8km, n102, σ1°37/99, mb4.1/12, MS3.7/17, 12C-8D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**2.93**	**177**	*e*Pn	**Pn**	**05 38 45.9**	**+0.9**
KBL				*e*Sn	**Sn**	**05 39 24.2**	**+5.3**
THW	**Thamme Wali**	**5.24**	**152**	P	**Pn**	**05 39 19.4**	**+2.7**
THW				S	Sn	05 40 44.0	+28
CHCP	**Chirah Chowk**	**5.25**	**135**	P	**Pn**	**05 39 27.9**	**+11**
KK31	**Karatay Array**	**5.77**	**12**	⇑Pn	**Pn**	**05 39 26.4**	**+2.5**
	49nm,0.8s,baz=201,slow=13,SNR=54						
KK31				⇓Lg		05 41 02.2	
	330nm,0.7s,baz=194,slow=28,SNR=4.0						
KK31	**Karatay Array**	**5.77**	**12**	*e*PN	**Pn**	**05 39 25.4**	**+1.5**
KK31				pmax	pmax		
	comp=Z,7.0nm,0.6s						
AML	**Almayashu**	**5.97**	**37**	*e*Pn	**Pn**	**05 39 27.5**	**+0.8**
	comp=Z,78nm,0.6s						
AML	**Almayashu**	**5.97**	**37**	P	**Pn**	**05 39 28.1**	**+1.5**
	SNR=20						
EKS2	**Erkin-Say**	**6.42**	**35**	*e*Pn	**Pn**	**05 39 33.9**	**+1.1**
	comp=Z,33nm,0.8s						
EKS2	**Erkin-Say**	**6.42**	**35**	P	**Pn**	**05 39 34.1**	**+1.3**
	SNR=8.1						
UCH	**Uchtor**	**6.45**	**41**	*e*Pn	**Pn**	**05 39 34.4**	**+1.1**
	comp=Z,56nm,0.8s						
UCH	**Uchtor**	**6.45**	**41**	P	**Pn**	**05 39 34.2**	**+1.0**
	SNR=72						
AAK	**Ala-Archa**	**6.74**	**38**	*e*Pn	**Pn**	**05 39 37.8**	**+0.6**
	comp=Z,39nm,0.4s						
AAK	**Ala-Archa**	**6.74**	**38**	*e*PN	**Pn**	**05 39 37.8**	**+0.6**
AAK				pmax	pmax		
	comp=Z,39nm,0.4s						
AAK	**Ala-Archa**	**6.74**	**38**	Pn	**Pn**	**05 39 37.6**	**+0.5**
	comp=Z,6.4nm,0.3s,baz=201,slow=6.1,SNR=66						
AAK				Lg		05 41 21.0	
	comp=Z,5.5nm,0.3s,baz=338,slow=20,SNR=2.6						
AAK	**Ala-Archa**	**6.74**	**38**	P	**Pn**	**05 39 38.7**	**+1.6**
	SNR=34						
KZA	**Kyzart**	**6.75**	**45**	P	**Pn**	**05 39 38.4**	**+1.1**
	SNR=38						
FRU	**Bishkek**	**6.95**	**38**	*e*PN	**Pn**	**05 39 41.0**	**+1.0**
FRU				pmax	pmax		
	comp=Z,130nm,1.9s						
KBK	**Karagaybulak**	**6.98**	**40**	P	**Pn**	**05 39 42.4**	**+1.8**
	SNR=40						
CHMS	**Chumysh**	**7.13**	**38**	P	**Pn**	**05 39 43.8**	**+1.2**
	SNR=9.9						
USP	**Ospenovka**	**7.22**	**35**	P	**Pn**	**05 39 44.1**	**+0.2**
	SNR=14						
ULHL	**Ulahol**	**7.42**	**48**	P	**Pn**	**05 39 47.2**	**+0.6**
	SNR=13						
TKM2	**Tokmak 2**	**7.51**	**41**	⇓Pn	**Pn**	**05 39 48.1**	**+0.3**
	comp=Z,21nm,0.6s						
TKM2				⇓Lg		05 41 55.8	
	comp=Z,110nm,0.9s						
TKM2	**Tokmak 2**	**7.51**	**41**	*e*Pn	**Pn**	**05 39 48.1**	**+0.4**
	comp=Z,30nm,0.7s						
TKM2	**Tokmak 2**	**7.51**	**41**	*e*PN	**Pn**	**05 39 48.2**	**+0.5**
TKM2				pmax	pmax		
	comp=Z,30nm,0.7s						
TKM2	**Tokmak 2**	**7.51**	**41**	P	**Pn**	**05 39 48.4**	**+0.7**
	SNR=22						
THN	**Thein Dam**	**7.56**	**130**	*ex*	x	05 40 07.8	
DLH	**Dalhousie**	**7.64**	**128**	*e*P	**Pn**	**05 39 50.0**	**+0.3**
SDNR	**Sundarnagar**	**8.97**	**129**	*e*P	**Pn**	**05 40 08.0**	**+0.1**
SDNR				*ex*	x	05 42 11.6	
KLP	**Kalpa**	**9.77**	**125**	*e*P	**Pn**	**05 40 17.2**	**-1.6**
KLP				AMb	AMB	05 40 21.2	
	comp=Z,4.4nm,0.6s						
KLP				*e*S	**Sn**	**05 42 00.5**	**-6.6**
KHET	**Khetri**	**11.05**	**146**	*e*P	**Pn**	**05 40 34.3**	**-2.1**
KHET				AMb	AMB	05 40 37.7	
	comp=Z,3.9nm,0.4s						
KHET				*e*S	**Sn**	**05 42 25.9**	**-13**
NDI	**New Delhi**	**11.23**	**139**	*e*P	**Pn**	**05 40 35.0**	**-3.8**
NDI				*ex*	x	05 42 45.0	
JOSI	**Joshimath**	**11.25**	**125**	*e*P	**Pn**	**05 40 36.1**	**-3.0**
JOSI				*e*S	**Sn**	**05 42 31.4**	**-12**
SONA	**Sohna**	**11.51**	**141**	*e*P	**Pn**	**05 40 39.0**	**-3.7**
SONA				AMb	AMB	05 40 46.3	
	comp=Z,12nm,1.1s						
SONA				*e*S	**Sn**	**05 42 38.2**	**-12**
AB31	**Akbulak array**	**13.42**	**334**	⇑Pn	**Pn**	**05 41 06.9**	**-1.7**
	comp=Z,2.9nm,0.4s,baz=156,slow=13,SNR=84						
AB31				⇑Sn	**Sn**	**05 43 34.4**	**-1.9**
	comp=Z,5.5nm,0.5s,baz=158,slow=22,SNR=5.8						
MK31	**Makanchi Array**	**13.63**	**43**	⇑Pn	**Pn**	**05 41 09.8**	**-1.8**
	comp=Z,6.8nm,0.8s,baz=231,slow=12,SNR=42						
MK31				Lg		05 45 07.4	
MK31	**Makanchi Array**	**13.63**	**43**	*e*P	**Pn**	**05 41 10.4**	**-1.2**
MKAR	**Makanchi Array**	**13.63**	**43**	Pn	**Pn**	**05 41 10.1**	**-1.5**
	comp=Z,0.3nm,0.3s,baz=228,slow=13,SNR=14						
KURBB	**Kurchatov Arra**	**14.86**	**25**	⇑Pn	**Pn**	**05 41 25.0**	**-3.0**
	comp=Z,1.0nm,0.8s						
KURBB				⇑Lg		05 45 50.0	
	comp=Z,17nm,1.1s						
KURK	**Kurchatov**	**14.97**	**25**	Pn	**Pn**	**05 41 29.1**	**-0.4**
KURK				Lg		05 45 55.8	
KURK	**Kurchatov**	**14.97**	**25**	*e*P	**Pn**	**05 41 29.6**	**+0.1**
	comp=Z,4.1nm,0.9s						
KURK	**Kurchatov**	**14.97**	**25**	*e*P	**Pn**	**05 41 29.6**	**+0.1**
KURK				pmax	pmax		
	comp=Z,4.0nm,0.9s						
AKTK	**Aktyubinsk**	**15.10**	**333**	Pn	**Pn**	**05 41 31.1**	**-0.1**
AKTK				Sn	**Sn**	**05 44 16.2**	**-0.8**
AKTK				LR	LR	05 47 22.9	
AKTO	**Aktyubinsk**	**15.10**	**333**	⇑Pn	**Pn**	**05 41 31.3**	**+0.2**
	comp=Z,0.5nm,1.0s						
AKTO				⇑Sn	**Sn**	**05 44 22.4**	**+5.3**
	comp=Z,1.1nm,1.2s						
AKTO	**Aktyubinsk**	**15.10**	**333**	P	**Pn**	**05 41 31.1**	**-0.1**
AKTO						05 44 16.2	
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.3s						
AKTO				smax			
	comp=N,1.0nm,0.3s						
AKTO				MLR	MLR		
	comp=Z,242nm,21.8s						
AKTO	**Aktyubinsk**	**15.10**	**333**	Pn	**Pn**	**05 41 31.1**	**-0.1**
	comp=Z,0.7nm,0.3s,baz=142,slow=17,SNR=23						
AKTO				Sn	**Sn**	**05 44 16.2**	**-0.9**
	comp=Z,0.8nm,0.3s,baz=358,slow=20,SNR=5.4						
AKTO				LR	LR	05 47 22.9	
	comp=Z,242nm,21.8s,baz=154,slow=37						
VOSK	**Vostochnaya**	**15.32**	**5**	⇓Pn	**Pn**	**05 41 31.1**	**-3.0**
	comp=Z,6.0nm,0.9s						
VOSK				⇑Sn	**Sn**	**05 44 27.9**	**+5.4**
	comp=Z,25nm,1.5s						
VOSK				⇑Lg		05 46 09.8	
	comp=Z,176nm,2.6s						
VOSK	**Vostochnaya**	**15.32**	**5**	*e*P	**Pn**	**05 41 31.1**	**-3.0**
VOSK				pmax	pmax		
	comp=Z,6.0nm,0.9s						
DANN	**Dangsing**	**15.47**	**122**	*e*P	**Pn**	**05 41 34.6**	**-1.7**
ZRNK	**Zerenda**	**15.48**	**0**	⇓Pn	**Pn**	**05 41 34.5**	**-1.6**
	comp=Z,17nm,1.2s						
ZRNK				⇓Sn	**Sn**	**05 44 27.8**	**+1.5**
	comp=Z,8.8nm,0.8s						
ZRNK				⇑Lg		05 46 11.2	
	comp=Z,126nm,1.9s						
ZRNK	**Zerenda**	**15.48**	**0**	*e*P	**Pn**	**05 41 34.4**	**-1.7**
ZRNK				pmax	pmax		
	comp=Z,9.0nm,0.6s						
BVA0	**Borovoye Array**	**15.59**	**3**	⇓Pn	**Pn**	**05 41 36.9**	**-0.7**
	comp=Z,1.4nm,0.8s,baz=171,slow=14,SNR=33						
BVA0				⇑Lg		05 46 11.2	
	comp=Z,20nm,2.4s						
BVAR	**Borovoye Array**	**15.59**	**3**	P	**Pn**	**05 41 36.4**	**-1.2**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
BVAR				MLR	MLR		
	comp=Z,279nm,19.6s						
BVAR	**Borovoye Array**	**15.59**	**3**	Pn	**Pn**	**05 41 36.4**	**-1.1**
	comp=Z,0.8nm,0.3s,baz=170,slow=11,SNR=12						
BVAR				LR	LR	05 48 22.5	
	comp=Z,279nm,19.6s,baz=22,slow=39						
BRVK	**Borovoye**	**15.62**	**3**	*e*Pn	**Pn**	**05 41 39.4**	**+1.5**
	comp=Z,12nm,0.8s						
BRVK	**Borovoye**	**15.62**	**3**	*e*P	**Pn**	**05 41 39.4**	**+1.4**
BRVK				pmax	pmax		
	comp=Z,12nm,0.8s						
WMQ	**Urumqi**	**15.64**	**60**	P	**Pn**	**05 41 40.8**	**+2.5**
WMQ				AP	pP	05 41 47.0	-4.7
WMQ				XP	sP	05 41 51.0	-5.7
WMQ				AMB	AMB		
	comp=Z,15nm,0.9s						
WMQ				AMB	AMB		
	comp=Z,73nm,5.2s						
WMQ				LR	LR		
	comp=N,755nm,5.8s						
WMQ				LR	LR		
	comp=E,741nm,8.6s						
WMQ				LR	LR		
	comp=Z,399nm,10.4s						
KOLN	**Koldanda**	**15.74**	**124**	*e*P	**Pn**	**05 41 39.5**	**-0.3**
GKN	**Gorkha**	**16.29**	**121**	*e*P	**Pn**	**05 41 47.5**	**+0.8**
	comp=Z,113nm,0.9s						
GKN				*e*S	S	05 44 28.1	-30
DMN	**Daman**	**16.86**	**121**	*e*P	**Pn**	**05 41 53.9**	**0.0**
	comp=Z,17nm,0.6s						
KKN	**Kakani**	**16.86**	**120**	*e*P	**Pn**	**05 41 54.9**	**+0.9**
	comp=Z,41nm,0.6s						
PKIN	**Phulchoki**	**17.08**	**121**	*e*P	**Pn**	**05 41 57.2**	**+0.5**
PKI	**Pulchoki**	**17.09**	**121**	*e*P	**Pn**	**05 41 57.4**	**+0.6**
	comp=Z,54nm,0.7s						
GUN	**Gumba**	**17.20**	**119**	*e*P	**Pn**	**05 41 58.9**	**+0.7**
	comp=Z,46nm,0.9s						
ZAL	**Zalesovo**	**19.80**	**29**	P	**Pn**	**05 42 27.1**	**-2.4**
ZAA0	**Zalesovo Array**	**19.82**	**29**	*e*P	**Pn**	**05 42 26.8**	**-3.0**
ZALV	**Zalesovo Beam**	**19.82**	**29**	P	**Pn**	**05 42 27.1**	**-2.7**
	comp=Z,4.9nm,0.6s,baz=218,slow=11,SNR=15						
ZALV				LR	LR	05 50 59.3	
	comp=Z,63nm,20.5s,baz=106,slow=39						
NVS	**Novosibirsk**	**19.96**	**25**	*i* P	**Pn**	**05 42 28.8**	**-2.6**
NVS				pmax	pmax		
	comp=Z,20nm,2.2s						
NVS				pmax	pmax		
	comp=N,11nm,1.6s						
NVS				pmax	pmax		
	comp=E,12nm,1.8s						
ONI	**Oni**	**20.07**	**293**	P	**P**	**05 42 35.9**	**+5.2**
LSA	**Lhasa**	**20.11**	**106**	P	**P**	**05 42 30.5**	**-0.8**
ARU	**Arti**	**20.18**	**343**	*d* iP	**P**	**05 42 34.3**	**+2.5**
ARU				*e*S	**S**	**05 46 00.8**	**-15**
ARU				pmax	pmax		
	comp=Z,20nm,1.7s						
KIV	**Kislovodsk**	**20.80**	**296**	*e*P	sP	05 42 54.4	+0.9
KIV				pmax	pmax		
	comp=Z,13nm,1.4s						
KIV				MLR	MLR		
	comp=Z,300nm,17.0s,MS3.7						
SOC	**Sochi**	**22.89**	**295**	*e**PP	Px	05 43 38.2	
SOC				*e*S	**S**	**05 47 10.0**	**+2.0**
SOC				pmax	pmax		
	comp=Z,2.0nm,0.2s,mb4.2						
SOC	**Sochi**	**22.89**	**295**	*e*P	sP	05 43 15.3	-0.6
SHL	**Shillong**	**22.89**	**115**	*e*P	**P**	**05 42 59.0**	**-2.1**
SHL				*ex*	x	05 47 12.0	
GTA	**Gaotai**	**24.29**	**76**	*e*P	**P**	**05 43 14.5**	**+0.1**
GTA				AP		05 43 23.5	
GTA				XP	sP	05 43 27.3	-2.5
GTA				PPP		05 44 49.5	
GTA				AMB	AMB		
	comp=Z,10.0nm,1.7s,mb4.0						
GTA				AMB	AMB		
	comp=Z,113nm,3.4s						
GTA				LR	LR		
	comp=N,271nm,14.5s,MS4.1						
GTA				LR	LR		
	comp=E,264nm,11.4s,MS4.1						
GTA				LR	LR		
	comp=Z,230nm,9.9s						
ANN	**Anapa**	**24.65**	**297**	*e*P	sP	05 43 34.4	+1.3
ANN				*e*S	**S**	**05 47 48.6**	**+12**
ANN				MLR	MLR		
	comp=Z,280nm,17.0s,MS3.8						
ASF	**Jabal al Asfar**	**26.67**	**268**	LR	LR	05 56 50.2	
	comp=Z,120nm,18.2s,MS3.5,baz=119,slow=42						
SIM	**Simferopol'**	**27.01**	**297**	*e*P	sP	05 43 53.3	-1.2
SIM				pmax	pmax		
	comp=Z,12nm,0.7s,mb4.5						
MMAI	**Mount Meron Ar**	**27.58**	**271**	LR	LR	05 58 15.7	
	comp=Z,75nm,18.6s,MS3.3,baz=15,slow=44						
OBN	**Obninsk**	**28.07**	**319**	*e*P	pP	05 43 57.2	-2.0
OBN				*e*		05 44 56.0	
OBN				pmax	pmax		
	comp=Z,14nm,1.3s,mb4.4						
OBN				MLR	MLR		
	comp=Z,200nm,17.0s,MS3.8						
TLY	**Talaya**	**28.26**	**49**	*e*P	pP	05 43 59.8	-1.1
TLY				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.1						
TLY				MLR	MLR		
	comp=Z,74nm,11.0s,MS3.5						
EIL	**Elat**	**29.17**	**265**	LR	LR	05 58 22.9	
	comp=Z,181nm,18.1s,MS3.6,baz=282,slow=42						
SONM	**Songino Array**	**29.24**	**57**	LR	LR	05 56 18.5	
	comp=Z,132nm,19.0s,MS3.6,baz=50,slow=38						
FINES	**FINESS Array B**	**35.71**	**326**	P	**P**	**05 44 56.2**	**+0.9**
FINES				LR	LR	06 00 51.3	
FINES	**FINESS Array B**	**35.71**	**326**	P	**P**	**05 44 56.2**	**+0.9**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.9s						
FINES				MLR	MLR		
	comp=Z,224nm,19.0s						
FINES	**FINESS Array B**	**35.71**	**326**	P	**P**	**05 44 56.2**	**+0.9**
	comp=Z,1.0nm,0.9s,mb3.8,baz=334,slow=34,SNR=3.7						
FINES				LR	LR	06 00 51.3	
	comp=Z,224nm,19.0s,MS4.0,baz=169,slow=38						
BOD	**Bodaibo**	**35.71**	**41**	*e*P	**P**	**05 44 55.0**	**-0.3**
BOD				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.4						
ARCES	**ARCESS Array B**	**39.59**	**338**	LR	LR	06 01 51.9	
	comp=Z,105nm,21.6s,MS3.6,baz=262,slow=36						
GERES	**GERESS Array B**	**40.95**	**304**	LR	LR	06 04 01.9	
	comp=Z,51nm,20.0s,MS3.4,baz=239,slow=38						
NB2	**NORSAR Subarra**	**42.56**	**323**	P	**P**	**05 45 53.2**	**+0.7**
	comp=Z,2.3nm,1.0s,mb3.9,baz=99,slow=7.9						
NOA	**NORSAR Array B**	**42.56**	**323**	P	**P**	**05 45 53.2**	**+0.7**
NOA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
NOA				MLR	MLR		
	comp=Z,80nm,18.8s						
NOA	**NORSAR Array B**	**42.56**	**323**	P	**P**	**05 45 53.2**	**+0.7**
	comp=Z,1.6nm,0.9s,mb3.8,baz=99,slow=8.1,SNR=4.4						
NOA				LR	LR	06 06 38.7	
	comp=Z,80nm,18.8s,MS3.6,baz=90,slow=40						
YAK	**Yakutsk**	**44.19**	**36**	*e*P	**P**	**05 46 05.9**	**+0.3**
YAK				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.3						
TIXI	**Tiksi**	**45.53**	**23**	*e*P	**P**	**05 46 16.2**	**+0.1**
	comp=Z,3.7nm,0.8s,mb4.4						
TIXI	**Tiksi**	**45.53**	**23**	*e*P	**P**	**05 46 16.6**	**+0.4**
TIXI				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.3						
TIXI				MLR	MLR		
	comp=Z,100nm,17.0s,MS3.8						
ESDC	**Sonseca Array**	**55.47**	**297**	P	**P**	**05 47 33.1**	**+1.5**
	comp=Z,0.5nm,0.7s,mb3.7,baz=54,slow=7.6,SNR=4.6						
BOSA	**Boshof**	**77.40**	**218**	LR	LR	06 26 10.1	
	comp=Z,61nm,19.1s,MS3.9,baz=346,slow=38						
YKA	**Yellowknife Ar**	**80.34**	**2**	P	**P**	**05 50 08.4**	**+0.9**
YKA	**Yellowknife Ar**	**80.34**	**2**	P	**P**	**05 50 08.4**	**+0.9**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
YKA	**Yellowknife Ar**	**80.34**	**2**	P	**P**	**05 50 08.4**	**+0.9**
	comp=Z,0.6nm,0.7s,mb3.6,baz=352,slow=5.5,SNR=10						
SCHQ	**Schefferville**	**80.51**	**336**	LR	LR	06 25 02.0	
	comp=Z,70nm,19.3s,MS4.0,baz=55,slow=35						
ULM	**Lac du Bonnet**	**91.62**	**350**	LR	LR	06 33 06.4	
	comp=Z,60nm,19.8s,MS4.0,baz=230,slow=36						

IDC 29 05:47:07.9±2.8, 2144S×17979E, h0km, mb3.8/3, mb1 4.2/3, mb1mx3.8/13, mbtmp3.8/3, Error ellipse: s-maj=279.6km s-min=33.7km az=163.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**31.35**	**266**	*e*P	P	05 53 36.9	+6.5
	2.3nm,0.3s						
ASAR	**Alice Springs**	**42.30**	**258**	P	P	05 55 02.7	-0.9
	0.4nm,0.5s,baz=94,slow=7.6,SNR=8.5						
WB2	**Warramunga Arr**	**42.42**	**264**	*e*P	P	05 55 05.0	+0.4
WRA	**Warramunga Arr**	**42.43**	**264**	P	P	05 55 05.4	+0.7
	1.4nm,0.4s,baz=98,slow=8.4,SNR=52						
TXAR	**Lajitas Array**	**89.30**	**58**	P	P	06 00 06.5	+0.1
	0.3nm,0.7s,baz=218,slow=5.7,SNR=5.1						

*CSEM **29** 06:05:01.8±0.8, 3705N×2456W, h0km, ML3.1, Error ellipse: s-maj=5.4km s-min=3.9km az=104.0, After PDA*
*PDA **29** 06:05:01.8±0.8, 3705N×2456W, h0km, MD3.9, ML3.1, Error ellipse: s-maj=5.4km s-min=3.9km az=104.0*

SVSA 29 06:05:01.8±0.8, 3705N×2456W, h0km, MD3.9, ML3.1, Error ellipse: s-maj=5.4km s-min=3.9km az=104.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSMN	**Pico do Norte,**	**0.40**	**263**	*e*P	Pg	06 05 09.0	-0.5
PSMN				*e*S	Sg	06 05 15.1	+0.3
CMLA	**Cha da Macela**	**1.04**	**313**	*e*P	Pg	06 05 18.6	-3.2
CMLA				*e*S	Sg	06 05 31.6	-3.8
CMLA				A		06 05 34.7	
	198nm,0.3s						
CMLA	**Cha da Macela**	**1.04**	**313**	*e*P	Pg	06 05 18.6	-3.2
CMLA				*e*S	Sg	06 05 31.6	-3.8
PDA	**Ponta Delgada**	**1.12**	**309**	*e*S	Sg	06 05 33.1	-4.6
PSET	**Sete Cidades**	**1.20**	**310**	*e*P	Pg	06 05 21.1	-3.7
PSET				*e*S	Sg	06 05 35.5	-4.9
PSET				A		06 05 38.4	
	199nm,0.2s						
PSET	**Sete Cidades**	**1.20**	**310**	*e*P	Pg	06 05 21.1	-3.7
PSET				*e*S	Sg	06 05 35.5	-4.9
PMAN	**Manadas**	**3.21**	**301**	*e*P	Pn	06 05 49.1	-4.3
PMAN				*e*S	Sn	06 06 24.4	-7.9
PMAN				A		06 06 26.9	
	33nm,0.3s						
PMAN	**Manadas**	**3.21**	**301**	*e*P	Pn	06 05 49.1	-4.3
PMAN				*e*S	Sn	06 06 24.4	-7.9
ROSA	**Rosais**	**3.35**	**301**	*e*P	Pn	06 05 51.3	-4.1
ROSA				*e

s-maj=20.3km s-min=9.8km az=105.0

ISC 29 06:30:23.0±0.6, 4924S±008×1240E±02, h10km, n22, σ0°79/13, mb4.0/11, MS3.8/8, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NWAO	**Narrogin (SRO)**	**17.07**	**340**	P		**06 34 20.9**	**-0.8**
	2.5nm,0.3s,baz=170,slow=12,SNR=16						
NWAO				LR	LR	06 39 07.3	
	comp=Z,674nm,20.5s,baz=189,slow=31						
STKA	**Stephens Creek**	**21.80**	**44**	P		**06 35 16.0**	**+0.9**
	1.7nm,0.6s,mb3.6,baz=174,slow=10,SNR=5.4						
STKA				LR	LR	06 42 37.5	
	comp=Z,208nm,18.9s,MS3.6,baz=206,slow=34						
ASAR	**Alice Springs**	**26.69**	**21**	P		**06 36 01.7**	**-0.5**
	5.7nm,1.1s,mb4.0,baz=193,slow=9.6,SNR=12						
WRA	**Warramunga Arr**	**30.38**	**19**	P		**06 36 34.2**	**-0.9**
	0.8nm,0.9s,mb3.4,baz=197,slow=8.6,SNR=4.8						
WRA				LR	LR	06 48 09.0	
	comp=Z,126nm,20.2s,MS3.5,baz=220,slow=35						
VNDA	**Vanda**	**31.81**	**165**	P		**06 36 46.2**	**-1.0**
	1.2nm,0.9s,mb3.7,baz=308,slow=9.7,SNR=4.3						
VNDA				LR	LR	06 48 37.7	
	comp=Z,310nm,19.6s,MS4.0,baz=320,slow=34						
RPZ	**Rata Peaks**	**32.44**	**98**	LR		06 46 50.3	
	comp=Z,174nm,19.7s,MS3.8,baz=186,slow=30						
CTA	**Charters Tower**	**34.10**	**39**	P		**06 37 07.9**	**+0.2**
	1.3nm,0.5s,mb4.1,baz=225,slow=6.3,SNR=3.7						
MAW	**Mawson**	**35.03**	**216**	P		**06 37 15.7**	**+0.3**
	3.1nm,1.0s,mb4.2,baz=67,slow=13,SNR=2.1						
MAW				LR	LR	06 49 40.5	
	comp=Z,93nm,18.4s,MS3.6,baz=252,slow=33						
BATI	**Kupang**	**38.91**	**359**	LR		06 53 28.3	
	comp=Z,445nm,18.2s,MS4.3,baz=221,slow=36						
QSPA	**South Pole Qui**	**40.88**	**180**	P		**06 38 04.8**	**+0.3**
	4.5nm,1.0s,mb4.0,baz=344,slow=0.8,SNR=7.2						
HNR	**Honiara**	**49.72**	**49**	LR		06 57 19.9	
	comp=Z,62nm,19.7s,MS3.6,baz=182,slow=33						
SNAA	**Sanae**	**53.70**	**198**	P		**06 39 43.3**	**-1.0**
	0.9nm,0.7s,mb3.8,baz=160,slow=8.3,SNR=11						
BOSA	**Boshof**	**74.21**	**245**	P		**06 42 01.3**	**+1.3**
	5.7nm,1.0s,mb4.5,baz=216,slow=3.6,SNR=4.1						
MJAR	**Matsushiro Arr**	**86.33**	**11**	P		**06 43 05.7**	**+1.0**
MJAR				LR	LR	07 16 21.5	
MJAR	**Matsushiro Arr**	**86.33**	**11**	P		**06 43 05.7**	**+1.0**
	0.4nm,0.4s,mb4.0,baz=185,slow=5.3,SNR=4.5						
MJAR				LR	LR	07 16 21.5	
	comp=Z,104nm,20.0s,MS4.2,baz=280,slow=32						
PLCA	**Paso Flores**	**89.49**	**169**	P		**06 43 20.4**	**+0.2**
	0.9nm,0.8s,mb4.2,baz=226,slow=15,SNR=2.9						
NVAR	**Mina Array Bea**	**134.96**	**79**	PKP	PKPdf	06 49 44.2	+2.5
	0.5nm,0.7s,baz=228,slow=5.4,SNR=3.6						
TXAR	**Lajitas Array**	**138.89**	**101**	PKP	PKPdf	06 49 47.9	-1.4
	0.3nm,0.8s,baz=205,slow=5.5,SNR=3.7						
WMOK	**Wichita Mounta**	**145.54**	**99**	*e*PKPdf	PKPdf	06 50 01.9	+1.0
YKA	**Yellowknife Ar**	**145.83**	**45**	PKPbc	PKPbc	06 50 01.0	-0.1
	1.9nm,0.7s,baz=268,slow=3.3,SNR=33						
KSU1	**Kansas State U**	**149.48**	**94**	*e*PKPab	PKPab	06 50 15.6	-1.3
PLAL	**Pickwick Lake**	**152.50**	**109**	*e*PKPbc	PKPbc	06 50 19.3	+0.2
PLAL				*e*PKPab	PKPab	06 50 27.1	-2.4

SZGRF ***29*** *06:32:25.9, 2072S×17909W, h33km, Fiji Islands region*
BJI ***29*** *06:33:02.0, 2070S×17737W, h376km, mB4.8, mb4.7*
ISCJB ***29*** *06:33:06.7±1.3, 2000S±006×17799W±006, h376km±12km, mb4.3/40, Error ellipse: s-maj=11.2km s-min=6.5km az=43.2*
NEIC ***29*** *06:33:07.9±1.0, 1996S×17795W, h376km±10km, mb4.4/28, Error ellipse: s-maj=10.1km s-min=4.9km az=142.0*
IDC ***29*** *06:33:10.8±1.8, 2010S×17792W, h408km±17km, mb3.9/12, mb1 4.1/13, mb1mx4.0/17, mbtmp3.9/13, Error ellipse: s-maj=12.2km s-min=9.8km az=127.0*

ISC 29 06:33:08.3±1.3, 2008S±006×17792W±006, h382km±13km, n146, σ0°86/83, mb4.3/40, 19C-4D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**8.49**	**45**	*e*Pn	**Pn**	**06 35 07.5**	**-1.2**
URZ	**Urewera**	**18.62**	**192**	P	**P**	**06 36 59.4**	**-0.7**
	2.2nm,0.3s,baz=349,slow=9.6,SNR=15						
URZ				S	**S**	**06 40 10.0**	**-1.9**
	1.6nm,0.3s,baz=341,slow=22,SNR=6.2						
RPZ	**Rata Peaks**	**25.31**	**199**	P	**P**	**06 38 02.6**	**+0.8**
	14nm,0.6s,mb4.6,baz=45,slow=2.9,SNR=11						
ARMA	**Armidale**	**29.32**	**243**	*e*P	**P**	**06 38 39.4**	**+1.9**
CNB	**Canberra Magne**	**32.53**	**235**	*e*P	**P**	**06 39 06.5**	**+1.3**
	33nm,0.7s,mb4.8						
CTA	**Charters Tower**	**33.61**	**264**	*e*P	**P**	**06 39 15.9**	**+1.2**
	6.2nm,0.6s,mb4.1						
CTA	**Charters Tower**	**33.61**	**264**	P	**P**	**06 39 15.9**	**+1.2**
	7.2nm,0.5s,mb4.3,baz=95,slow=10.0,SNR=22						
CTAO	**Charters Tower**	**33.61**	**264**	*e*P	**P**	**06 39 14.9**	**+0.1**
	9.3nm,0.9s,mb4.1						
STKA	**Stephens Creek**	**38.04**	**244**	*e*P	**P**	**06 39 52.7**	**+0.9**
	12nm,0.6s,mb4.4						
STKA	**Stephens Creek**	**38.04**	**244**	P	**P**	**06 39 52.8**	**+1.0**
	15nm,0.6s,mb4.5,baz=86,slow=9.3,SNR=34						
ASAR	**Alice Springs**	**44.69**	**256**	P	**P**	**06 40 45.6**	**+0.3**
	17nm,0.6s,mb4.5,baz=97,slow=8.3,SNR=300						
ASAR				ScP	ScP	06 45 34.3	-1.2
	1.4nm,1.0s,baz=103,slow=4.2,SNR=5.3						
ASAR				S	**S**	**06 46 50.0**	**-2.7**
	2.1nm,0.7s,baz=92,slow=16,SNR=13						
WB2	**Warramunga Arr**	**44.73**	**262**	*e*P	**P**	**06 40 45.2**	**-0.4**
WRAB	**Tennant Creek**	**44.73**	**262**	*e*P	**P**	**06 40 45.2**	**-0.4**
	5.5nm,0.6s,mb4.1						
WRA	**Warramunga Arr**	**44.74**	**262**	P	**P**	**06 40 45.6**	**-0.1**
	5.6nm,0.6s,mb4.1,baz=98,slow=8.6,SNR=82						
WRA				S	**S**	**06 46 54.1**	**+0.7**
	1.9nm,0.9s,baz=93,slow=14,SNR=7.5						
HKL	**Haleakala**	**45.74**	**29**	*e*P	**P**	**06 40 49.0**	**-4.3**
KAKA	**Kakadu**	**48.05**	**271**	*e*P	**P**	**06 41 11.3**	**+0.2**
	5.1nm,0.7s,mb4.0						
FORT	**Forrest**	**49.53**	**246**	*e*P	**P**	**06 41 21.7**	**-0.4**
	26nm,0.5s,mb4.8						
FITZ	**Fitzroy Crossi**	**53.16**	**262**	*e*P	**P**	**06 41 49.2**	**+0.3**
	3.5nm,0.6s,mb3.8						
MBWA	**Marble Bar**	**58.02**	**257**	*e*P	**P**	**06 42 22.8**	**-0.2**
	6.9nm,0.6s,mb4.2						
SBA	**Scott Base**	**58.29**	**184**	*e*P	**P**	**06 42 26.6**	**+2.7**
KLBR	**Kellerberrin**	**58.31**	**245**	*e*P	**P**	**06 42 23.7**	**-1.1**
	27nm,0.9s,mb4.6						
VNDA	**Vanda**	**58.33**	**185**	*e*P	**P**	**06 42 25.4**	**+1.2**
	24nm,1.3s,mb4.4						
VNDA	**Vanda**	**58.33**	**185**	P	**P**	**06 42 25.6**	**+1.4**
	7.6nm,0.8s,mb4.1,baz=356,slow=7.6,SNR=44						
MJAR	**Matsushiro Arr**	**69.92**	**324**	P	**P**	**06 43 38.9**	**-0.3**
MJAR	**Matsushiro Arr**	**69.92**	**324**	P	**P**	**06 43 38.9**	**-0.3**
	7.5nm,0.6s,mb4.4,baz=157,slow=6.2,SNR=22						
MAJO	**Matsushiro**	**69.92**	**324**	*e*P	**P**	**06 43 38.3**	**-1.0**
	7.7nm,0.6s,mb4.4						
MAT	**Matsushiro**	**69.92**	**324**	P	**P**	**06 43 38.5**	**-0.8**
QSPA	**South Pole Qui**	**69.99**	**180**	P	**P**	**06 43 40.1**	**+1.1**
	65nm,0.7s,baz=18,slow=1.1,SNR=298						
CMB	**Columbia Colle**	**79.10**	**43**	*e*P	**P**	**06 44 31.2**	**-0.3**
	7.9nm,1.3s,mb4.2						
KDAK	**Kodiak Island**	**80.39**	**13**	*e*P	**P**	**06 44 38.4**	**+0.6**
NVAR	**Mina Array Bea**	**80.67**	**43**	P	**P**	**06 44 40.1**	**+0.4**
	2.4nm,0.7s,mb4.0,baz=216,slow=6.3,SNR=16						
MOD	**Modoc**	**81.44**	**40**	*e*P	**P**	**06 44 43.6**	**-0.1**
	4.9nm,0.7s,mb4.3						
COCO	**West Island**	**81.51**	**260**	*e*P	**P**	**06 44 45.4**	**+0.6**
	79nm,0.5s						
MAW	**Mawson**	**81.98**	**200**	P	**P**	**06 44 46.0**	**-0.2**
	2.4nm,0.5s,mb4.2,baz=149,slow=17,SNR=11						
CN2	**Changchun**	**82.02**	**322**	*e*P	**P**	**06 44 47.5**	**+0.9**
TUC	**Tucson**	**82.66**	**52**	*e*P	**P**	**06 44 52.6**	**+2.4**
SVW2	**Sparrevohn**	**82.87**	**11**	*e*P	**P**	**06 44 50.0**	**-0.6**
GNW	**Green Mountain**	**83.50**	**34**	*e*P	**P**	**06 44 54.0**	**-0.1**
GAMB	**Gambell**	**83.72**	**3**	*e*P	**P**	**06 44 55.1**	**+0.3**
TTA	**Tatalina**	**84.52**	**10**	*e*P	**P**	**06 44 58.7**	**-0.1**
PMR	**Palmer**	**84.59**	**13**	*e*P	**P**	**06 44 58.8**	**-0.5**
MSU	**Marysvale**	**84.76**	**46**	*e*P	**P**	**06 45 00.4**	**-0.2**
BMO	**Blue Mountains**	**84.94**	**38**	*e*P	**P**	**06 45 01.1**	**-0.2**
DIV	**Divide**	**84.96**	**15**	*e*P	**P**	**06 45 00.4**	**-0.6**
	16nm,0.3s,mb5.2						
SRU	**San Rafael**	**86.17**	**46**	*e*P	**P**	**06 45 07.1**	**-0.4**
MNTX	**Cornudas Mount**	**86.44**	**55**	*e*P	**P**	**06 45 09.2**	**+0.2**
GYA	**Guiyang**	**86.51**	**300**	P	**P**	**06 45 08.3**	**-1.1**
GYA				AP	pP	06 46 37.8	+0.4
GYA				XP	sP	06 47 16.3	-0.7
GYA				PP	PP	06 48 39.5	+1.8
GYA				SKS		06 54 57.3	
GYA				S	S	06 55 12.0	-1.1
GYA				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.5						
MCK	**McKinley**	**86.55**	**12**	*e*P	**P**	**06 45 07.3**	**-1.4**
	comp=Z,6.3nm,0.8s,mb4.4						
TXAR	**Lajitas Array**	**86.76**	**57**	P	**P**	**06 45 11.2**	**+0.6**
	comp=Z,2.0nm,0.8s,mb3.9,baz=216,slow=6.4,SNR=20						
PV10	**Paradox Valley**	**86.83**	**47**	*e*P	**P**	**06 45 10.6**	**0.0**
NEW	**Newport**	**86.99**	**36**	*e*P	**P**	**06 45 10.4**	**-0.7**
	comp=Z,1.4nm,0.7s,mb3.8						
ANMO	**Albuquerque**	**87.08**	**51**	*e*P	**P**	**06 45 11.8**	**-0.1**
	comp=Z,1.1nm,0.8s,mb3.6						
SYO	**Syowa Base**	**87.15**	**193**	⇑*e*X	**P**	**06 45 09.0**	**-2.7**
SYO	**Syowa Base**	**87.15**	**193**	⇓*e*PcP	PcP	06 45 13.0	-0.4
DLMT	**Dillon**	**88.01**	**40**	*e*P	**P**	**06 45 16.4**	**+0.4**
	comp=Z,6.3nm,1.0s,mb4.3						
BSMT	**Bassoo Peak**	**88.06**	**37**	*e*P	**P**	**06 45 15.9**	**-0.3**
SNOW	**Snow King Moun**	**88.18**	**42**	*e*P	**P**	**06 45 17.3**	**+0.4**
	comp=Z,6.3nm,1.0s,mb4.3						
IMW	**Indian Meadow**	**88.28**	**42**	*e*P	**P**	**06 45 18.0**	**+0.6**
	comp=Z,7.8nm,1.3s,mb4.3						
LRM	**Limekiln Ridge**	**88.34**	**40**	*e*P	**P**	**06 45 18.2**	**+0.6**
LOHW	**Long Hollow**	**88.35**	**42**	*e*P	**P**	**06 45 17.9**	**+0.2**
	comp=Z,5.4nm,1.3s,mb4.1						
SNAA	**Sanae**	**88.43**	**178**	*e*P	**P**	**06 45 16.1**	**-1.5**
SNAA				*e*		06 45 20.5	
SNAA				*e*		06 45 22.8	
SNAA	**Sanae**	**88.43**	**178**	P	**P**	**06 45 16.5**	**-1.2**
	comp=Z,1.7nm,0.7s,mb3.9,baz=238,slow=3.8,SNR=30						
QLMT	**Earthquake Lak**	**88.45**	**41**	*e*P	**P**	**06 45 18.7**	**+0.6**
FLWY	**Flagg Ranch**	**88.53**	**42**	*e*P	**P**	**06 45 19.3**	**+0.8**
	comp=Z,7.6nm,1.0s,mb4.4						
VNA3	**Neumayer Olymp**	**88.55**	**176**	*e*P	**P**	**06 45 17.3**	**-0.9**
VNA3				*e*		06 45 22.6	
VNA3				*e*		06 45 25.4	
BW06	**Boulder Array**	**88.60**	**43**	*e*P	**P**	**06 45 18.5**	**-0.4**
	comp=Z,33nm,2.7s,mb4.6						
BOZ	**Bozeman (W)**	**88.74**	**40**	*e*P	**P**	**06 45 19.6**	**+0.2**
LKWY	**Lake**	**88.95**	**41**	*e*P	**P**	**06 45 22.2**	**+1.8**
	comp=Z,4.2nm,1.0s,mb4.1						
VNA2	**Neumayer--Watz**	**89.00**	**177**	*e*P	**P**	**06 45 19.6**	**-0.7**
	baz=203,slow=3.4						
VNA2				*e*		06 45 24.4	
VNA2				*e*		06 45 26.9	
SDCO	**Great Sand Dun**	**89.02**	**49**	*e*P	**P**	**06 45 20.9**	**-0.1**
	comp=Z,0.5nm,0.7s,mb3.4						
HHC	**Hu-ho-hao-te**	**89.12**	**314**	*e*P	**P**	**06 45 21.0**	**-0.3**
HHC				AP	pP	06 46 49.5	-0.3
HHC				XP	sP	06 47 27.0	-2.3
HHC				PP	PP	06 48 56.0	-2.1
HHC				SKS		06 55 15.0	
HHC				S	S	06 55 32.3	-4.6
HHC				XS	sS	06 58 16.5	+2.3
HHC				SS	SS	07 01 45.5	+4.0
HHC				AMB	AMB		
	comp=Z,14nm,0.4s,mb5.0						
HHC				AMB	AMB		
	comp=Z,87nm,3.9s						
HHC				LR	LR		
	comp=N,149nm,12.9s						
HHC				LR	LR		
	comp=E,161nm,9.6s						
HHC				LR	LR		
	comp=Z,113nm,16.2s						
HRY	**Holter Researc**	**89.17**	**39**	*e*P	**P**	**06 45 21.8**	**+0.5**
EGAK	**Eagle**	**89.18**	**15**	*e*P	**P**	**06 45 21.3**	**+0.2**
WALA	**Waterton Lakes**	**89.20**	**36**	*e*P	**P**	**06 45 21.2**	**-0.3**
	comp=Z,1.9nm,0.7s,mb3.9						
VNA1	**Neumayer--Stat**	**89.22**	**177**	*e*P	**P**	**06 45 21.4**	**0.0**
VNA1				*e*		06 45 25.8	
VNA1				*e*		06 45 28.4	
RLMT	**Red Lodge**	**89.93**	**41**	*e*P	**P**	**06 45 25.9**	**+0.9**
CD2	**Chengdu**	**90.63**	**303**	*e*P	**P**	**06 45 28.5**	**-0.1**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.8						
CD2				AMB	AMB		
	comp=Z,20nm,5.8s						
EDM	**Edmonton**	**91.72**	**33**	*e*P	**P**	**06 45 32.0**	**-1.0**
LZH	**Lanzhou**	**92.58**	**307**	*e*P	**P**	**06 45 38.3**	**+0.8**
LZH				AP	pP	06 46 59.8	-6.4
LZH				XP	sP	06 47 41.5	-4.1
LZH				AMB	AMB		
	comp=Z,20nm,1.0s,mb5.0						
YKA	**Yellowknife Ar**	**96.10**	**25**	P	**P**	**06 45 52.2**	**-0.7**
	comp=Z,0.5nm,0.8s,mb3.7,baz=248,slow=4.5,SNR=9.6						
TIXI	**Tiksi**	**98.36**	**345**	*e*P	**P**	**06 46 01.9**	**-0.9**
	comp=Z,2.0nm,0.6s,mb4.5						
BVAR	**Borovoye Array**	**118.81**	**320**	PKP	PKPdf	06 51 10.2	-1.3
	comp=Z,1.2nm,0.6s,baz=315,slow=0.6,SNR=6.1						
ARCES	**ARCESS Array B**	**128.52**	**350**	PKP	PKPdf	06 51 28.8	-0.8
	comp=Z,9.1nm,1.2s,baz=270,slow=0.6,SNR=8.7						
FINES	**FINESS Array B**	**135.39**	**344**	PKhKP		06 51 38.3	
	comp=Z,1.4nm,0.9s,baz=114,slow=4.6,SNR=4.6						
FINES				PKP	PKPdf	06 51 42.8	0.0
	comp=Z,0.9nm,0.6s,baz=46,slow=4.2,SNR=5.0						
NB2	**NORSAR Subarra**	**138.58**	**353**	PKPdf		06 51 41.4	
	comp=Z,0.5nm,0.7s,baz=13,slow=1.9						
NOA	**NORSAR Array B**	**138.58**	**353**	PKhKP		06 51 41.6	
	comp=Z,0.5nm,0.6s,baz=17,slow=5.1,SNR=3.7						
NOA				PKP	PKPdf	06 51 49.8	+1.1
	comp=Z,0.2nm,0.6s,baz=14,slow=4.0,SNR=3.9						
AKASG	**Malin Array Be**	**142.69**	**331**	PKhKP		06 51 51.6	
	comp=Z,1.6nm,0.4s,baz=42,slow=4.0,SNR=20						
MALT	**Malatya**	**143.74**	**308**	*e*PKPdf	PKPdf	06 51 57.6	-1.1
BURAR	**Bucovina Array**	**146.74**	**331**	⇑*i*P	PKPbc	06 52 07.3	+1.4
STHS	**Stebnicka Huta**	**146.96**	**337**	*e*PKP	PKPbc	06 52 06.7	+0.3
KOLS	**Kolonicke sedl**	**146.97**	**335**	*e*PKP	PKPbc	06 52 06.1	-0.3
CLL	**Collm**	**147.67**	**347**	*e*PKPbc	PKPbc	06 52 07.7	-0.5
CLL				*e*PKPab	PKPab	06 52 10.5	-1.2
CLL	**Collm**	**147.67**	**347**	⇓*i*PKPbc	PKPbc	06 52 07.3	-0.9
	comp=Z,10.0nm,0.7s						
CLL				*e*PKPab	PKPab	06 52 11.0	-0.7
	comp=Z,8.0nm,1.0s						
UPC	**Upice**	**147.69**	**343**	*e*PKPbc	PKPbc	06 52 07.8	-0.5
UPC				*e*PKPab	PKPab	06 52 12.3	+0.5
DPC	**Dobruska-Polom**	**147.75**	**343**	*e*PKPbc	PKPbc	06 52 08.0	-0.5
BRG	**Berggiesshubel**	**147.88**	**346**	*e*PKPbc	PKPbc	06 52 08.0	-0.8
BRG	**Berggiesshubel**	**147.88**	**346**	*i* P	PKPbc	06 52 07.9	-0.9
	comp=Z,5.3nm,0.7s						
BRG				*i*		06 52 12.2	
	comp=Z,4.0nm,0.6s						
BRG							
	comp=Z,301nm,13.7s						
BRG							
	comp=N,184nm,19.6s						
BRG							
	comp=E,200nm,19.6s						
MLR	**Muntele Rosu**	**147.91**	**328**	⇑*i*P	PKPbc	06 52 08.0	-1.1
KECS	**Kecovo**	**148.02**	**337**	*e*PKP	PKPbc	06 52 07.6	-1.6
PVCC	**Panska Ves**	**148.05**	**345**	*e*PKPbc	PKPbc	06 52 09.2	0.0
PVCC				*e*PKPab	PKPab	06 52 13.5	+0.3
DRGR		**148.48**	**332**	⇓*i*P	PKPbc	06 52 10.5	+0.1
PRU	**Pruhonice**	**148.55**	**345**	*e*PKPbc	PKPbc	06 52 09.5	-1.0
VYHS	**Vyhne**	**148.60**	**338**	*e*PKP	PKPdf	06 52 09.8	+3.3
VRAC	**Vranov**	**148.61**	**342**	⇓*i*P	PKPab	06 52 15.6	+0.1
TANN	**Tannenbergstha**	**148.63**	**347**	*e*PKPbc	PKPbc	06 52 10.7	0.0
WERD	**Werda**	**148.63**	**347**	*e*PKPbc	PKPbc	06 52 10.5	-0.2
GUNZ	**Gunzen**	**148.71**	**347**	*e*PKPbc	PKPbc	06 52 10.2	-0.7
GUNZ				*e*PKPab	PKPab	06 52 15.1	-0.8
WERN	**Wernitzgruen**	**148.77**	**347**	*e*PKPab	PKPab	06 52 15.6	-0.6
NKC	**Novy Kostel**	**148.81**	**347**	*e*PKPbc	PKPbc	06 52 11.0	-0.1
NKC				*e*PKPab	PKPab	06 52 15.8	-0.5
TREC	**Trest**	**148.94**	**343**	*e*PKPbc	PKPbc	06 52 11.2	-0.3
MANZ	**Manzenberg**	**149.11**	**347**	*e*PKPbc	PKPbc	06 52 11.3	-0.6
MODS	**Modra-Piesok**	**149.22**	**340**	*e*PKP	PKPbc	06 52 12.2	0.0
MEM	**Membach**	**149.38**	**355**	PKPbc	PKPbc	06 52 12.2	-0.3
GRA1	**Grafenberg Arr**	**149.57**	**348**	*e*PKPbc	PKPbc	06 52 12.5	-0.5
GRF	**Grafenberg Arr**	**149.57**	**348**	*e*PKPbc	PKPbc	06 52 12.5	-0.5
KHC	**Kasperske Hory**	**149.58**	**345**	*e*PKPbc	PKPbc	06 52 12.1	-1.0
BCLA	**Clavier**	**149.62**	**356**	PKPab	PKPab	06 52 19.4	-0.3
GEC2	**GERESS Array S**	**149.82**	**345**	*e*PKPbc	PKPbc	06 52 13.0	-0.7
GERES	**GERESS Array B**	**149.82**	**345**	PKPbc	PKPbc	06 52 13.4	-0.3
	comp=E,3.4nm,0.6s,baz=29,slow=2.9,SNR=26						
BZS	**Buzias**	**149.87**	**332**	⇑*i*P	PKPbc	06 52 12.6	-1.3
GIVF	**Givet**	**149.97**	**356**	⇑*i*PKP1	PKPbc	06 52 13.8	-0.2
	comp=E,15nm,0.6s						
DOU	**Dourbes**	**149.98**	**357**	PKPbc	PKPbc	06 52 13.8	-0.2
DOU				PKPab	PKPab	06 52 20.9	-0.3
BAIF	**Baives**	**150.04**	**357**	⇑*i*PKP1	PKPbc	06 52 14.0	-0.1
	comp=E,16nm,0.7s						
WLF	**Walferdange**	**150.30**	**355**	PKPbc	PKPbc	06 52 15.3	+0.5
WLF				PKPab	PKPab	06 52 22.4	-0.1
WLF	**Walferdange**	**150.30**	**355**	*e*PKPbc	PKPbc	06 52 15.2	+0.4
WLF				*e*PKPab	PKPab	06 52 22.0	-0.5
PKSM	**Moragy**	**150.60**	**336**	⇑P	PKPbc	06 52 15.0	-0.6
PKSM	**Moragy**	**150.60**	**336**	⇑*i*P	PKPbc	06 52 15.0	-0.6
FLN	**La Foliniere**	**151.31**	**4**	⇑*i*PKP1	PKPbc	06 52 16.4	-0.7
	comp=E,12nm,0.6s						
CDF	**Champ du Feu**	**151.43**	**353**	⇑*i*PKP1	PKPbc	06 52 17.1	-0.3
	comp=E,8.0nm,0.6s						
ROSF	**Rostrenen**	**151.48**	**7**	⇑*i*PKP1	PKPbc	06 52 16.4	-1.1
LDF	**La Druitiere**	**151.50**	**3**	⇑*i*PKP1	PKPbc	06 52 16.7	-0.9
	comp=E,23nm,1.0s						
MEZF	**Maizieres J'vi**	**151.54**	**356**	⇑*i*PKP1	PKPbc	06 52 17.6	-0.1
	comp=E,16nm,0.8s						
SGMF	**Saint Gilles**	**151.64**	**7**	⇑*i*PKP1	PKPbc	06 52 16.9	-1.0
	comp=E,15nm,0.7s						
GRR	**Gorron**	**151.66**	**4**	⇑*i*PKP1	PKPbc	06 52 17.2	-0.7
	comp=E,21nm,0.8s						
QUIF	**Quistinic**	**151.91**	**8**	*e*PKP1	PKPbc	06 52 17.5	-1.0
	comp=E,7.1nm,0.8s						
HAU	**Haudompre**	**151.93**	**354**	⇑*i*PKP1	PKPbc	06 52 18.1	-0.4
CRES	**Cresnjev**	**152.06**	**340**	*e*PKP	PKPbc	06 52 18.3	-0.6
HINF	**Hinterlalfeld**	**152.06**	**353**	⇑*i*PKP1	PKPbc	06 52 18.9	+0.1
	comp=E,4.5nm,0.6s						
LJU	**Ljubljana**	**152.16**	**341**	*i* PKP	PKPbc	06 52 18.7	-0.5
CEY	**Cerknica**	**152.46**	**341**	*e*PKP	PKPbc	06 52 19.1	-0.7
LOR	**Lormes**	**152.84**	**357**	⇑*i*PKP1	PKPbc	06 52 20.2	-0.4
	comp=E,5.8nm,0.7s						
SSF	**Saint Saulge**	**153.06**	**358**	*e*PKP1	PKPbc	06 52 20.8	-0.3
CABF	**La Chapelle**	**153.34**	**354**	*e*PKP1	PKPbc	06 52 21.8	+0.1
	comp=E,4.4nm,0.7s						
MFF	**Saint Martin d**	**153.48**	**3**	⇑*i*PKP1	PKPbc	06 52 21.2	-0.8
	comp=E,7.8nm,0.8s						
TCF	**Toulx Ste Croi**	**153.86**	**360**	*e*PKP1	PKPbc	06 52 22.0	-0.8
ESDC	**Sonseca Array**	**159.79**	**14**	PKPab	PKPab	06 53 02.5	-0.9
	comp=E,0.1nm,0.3s,baz=3.5,slow=2.8,SNR=5.0						

IDC ***29*** *06:33:50.3±0.6, 2527N×6222E, h0km, mb4.4/23, mb1 4.5/23, mb1mx4.5/28, mbtmp4.5/23, MS4.2/15, Ms1 4.2/15, ms1mx4.1/26, Error ellipse: s-maj=15.0km s-min=12.9km az=145.0*
ISCJB ***29*** *06:33:51.9±0.2, 2518N±003×6216E±002, h29km, mb4.8/147, MS4.2/50, Error ellipse: s-maj=4.8km s-min=2.6km az=179.3*
CSEM ***29*** *06:33:52.7±0.1, 2521N×6199E, h31km, mb4.9/51, Ms3.9, Error ellipse: s-maj=3.6km s-min=2.3km az=133.0*
BJI ***29*** *06:33:53.1, 2520N×6207E, h39km, mB5.0, mb4.9, Ms4.4, Msz4.3*
MOS ***29*** *06:33:53.1±0.9, 2528N×6209E, h33km, mb5.1/75, MS4.1/27, Error ellipse: s-maj=7.5km s-min=3.7km az=125.3*
NEIC ***29*** *06:33:54.4±0.3, 2532N×6215E, mb5.0/80, Error ellipse: s-maj=6.5km s-min=4.3km az=177.0*
NEIC Felt at Gwadar.
THR ***29*** *06:33:56.6±0.3, 2557N×6179E, h15km, ML3.9*
*SZGR

SNR=6.1
DANN Dangsing 19.54 76 eP Pn 06 38 20.1 -0.5
comp=Z,120nm,0.8s
MSL Mosul 19.75 309 ex x 06 38 22.0
MSL ex x 06 41 55.5
MSL ex x 06 44 42.5
NAX Nakhchivan 19.80 319 P **Pn 06 38 24.6 +0.9**
SNR=14
UCH Uchtor 19.83 28 eP **Pn 06 38 19.9 -4.1**
comp=Z,81nm,1.0s
UCH Uchtor 19.83 28 P **Pn 06 38 24.7 +0.7**
SNR=48
EKS2 Erkin-Say 19.89 26 eP **Pn 06 38 23.0 -1.7**
comp=Z,58nm,0.8s
EKS2 Erkin-Say 19.89 26 P **Pn 06 38 23.1 -1.6**
SNR=75
EKS2 Erkin-Say 19.89 26 eP **Pn 06 38 23.0 -1.7**
comp=Z,58nm,0.8s
KZA Kyzart 20.03 29 P **P 06 38 25.6 +1.2**
SNR=167
AAK Ala-Archa 20.16 27 ePn **P 06 38 25.1 -0.7**
comp=Z,27nm,0.9s
AAK Ala-Archa 20.16 27⇑ iP **P 06 38 25.7 -0.1**
AAK pmax pmax
comp=Z,74nm,1.9s
AAK MLR MLR
comp=Z,1μm,19.0s,MS4.2
AAK Ala-Archa 20.16 27 P **P 06 38 24.8 -1.1**
comp=Z,11nm,0.6s,baz=203,slow=9.3,SNR=33
AAK LR LR 06 47 54.1
comp=Z,1μm,21.5s,MS4.2,baz=206,slow=42
AAK Ala-Archa 20.16 27 P **P 06 38 25.9 +0.1**
SNR=20
AAK Ala-Archa 20.16 27 ePn **P 06 38 25.1 -0.7**
AAK Ala-Archa 20.16 27 iP **P 06 38 25.7 -0.1**
comp=Z,1μm,19.0s
SEKA Sheki 20.26 326 P **P 06 38 28.2 +1.2**
SNR=21
GKN Gorkha 20.29 77 eP **P 06 38 28.3 +0.9**
comp=Z,46nm,0.9s
GANJ Ganja 20.32 323 P **P 06 38 29.1 +1.5**
SNR=8.8
KBK Karagaybulak 20.37 28 P **P 06 38 29.4 +1.3**
SNR=42
FRU Bishkek 20.37 27⇑ eP **P 06 38 29.0 +0.8**
FRU e 06 38 47.0
FRU pmax pmax
comp=Z,180nm,1.7s
FRU MLR MLR
comp=Z,1μm,16.0s,MS4.3
FRU Bishkek 20.37 27 eP **P 06 38 29.0 +0.8**
comp=Z,180nm,1.7s
CHMS Chumysh 20.57 27 P **P 06 38 30.8 +0.5**
SNR=42
ULHL Ulahol 20.61 31 P **P 06 38 32.0 +1.2**
SNR=161
USP Ospenovka 20.69 26 P **P 06 38 31.4 -0.2**
SNR=153
DMN Daman 20.69 78 eP **P 06 38 32.9 +1.1**
comp=Z,64nm,0.9s
VANB Van 20.76 315 eP **P 06 38 28.0 -4.4**
KOD Kodaikanal 20.78 133 eP **P 06 38 37.4 +4.6**
KOD AMb AMB 06 38 48.5
comp=Z,56nm,1.3s
KKN Kakani 20.85 78 eP **P 06 38 35.0 +1.5**
comp=Z,104nm,0.9s
TKM2 Tokmak 2 20.86 29 eP **P 06 38 33.4 0.0**
comp=Z,47nm,0.9s
TKM2 Tokmak 2 20.86 29 eP **P 06 38 33.4 0.0**
TKM2 pmax pmax
comp=Z,47nm,0.9s
TKM2 Tokmak 2 20.86 29 P **P 06 38 33.7 +0.2**
SNR=48
TKM2 Tokmak 2 20.86 29 eP **P 06 38 33.4 0.0**
comp=Z,47nm,0.9s
PKI Pulchoki 20.96 78 eP **P 06 38 35.3 +0.6**
comp=Z,66nm,0.9s
GUN Gumba 21.38 77 eP **P 06 38 40.7 +1.5**
comp=Z,178nm,1.0s,mb5.4
DGRG David-gareji 21.39 323 P **P 06 38 40.3 +1.1**
AGRB Hanur-Agry 21.58 316 eP **P 06 38 42.3 +1.1**
BOK Bokaro 21.63 89 eP **P 06 38 43.1 +1.2**
BOK AMb AMB 06 38 47.9
comp=Z,39nm,0.9s,mb4.9
MTA Mtatsminda 21.88 323 P **P 06 38 47.5 +3.1**
GOR Gori 22.45 323 P **P 06 38 51.5 +1.1**
ATD Arta Tunnel 22.77 237 P **P 06 38 56.6 +2.6**
comp=Z,6.1nm,0.4s,mb4.4,baz=291,slow=23,SNR=9.6
ATD LR LR 06 47 46.2
comp=Z,438nm,21.8s,MS3.9,baz=208,slow=37
EZM Erzurum 22.80 315 eP **P 06 38 56.4 +2.2**
ASF Jabal al Asfar 23.21 293 P **P 06 38 59.4 +0.8**
ASF pmax pmax
comp=Z,8.0nm,1.1s
ASF MLR MLR
comp=Z,367nm,20.0s
ASF Jabal al Asfar 23.21 293 P **P 06 38 59.4 +0.8**
comp=Z,8.4nm,1.1s,mb4.1,baz=16,slow=4.7,SNR=7.2
ASF LR LR 06 50 21.2
comp=Z,366nm,19.9s,MS3.8,baz=337,slow=43
ONI Oni 23.21 323 P **P 06 38 59.5 +1.0**
URFA Urfa 23.32 307 eP **P 06 38 59.5 -0.3**
SVRC Sivrice-ELAZID 23.39 310 eP **P 06 39 02.3 +1.8**
BCA Borcka 23.53 319 eP **P 06 39 01.7 0.0**
PTK Pertek 23.58 311 eP **P 06 39 03.3 +1.1**
EZC Erzincan 23.72 313 eP **P 06 39 06.6 +3.1**
MALT Malatya 23.98 309 eP **P 06 39 08.8 +2.9**
MALT Malatya 23.98 309 eP **P 06 39 07.1 +1.2**
comp=Z,67nm,1.1s,mb5.0
MALT Malatya 23.98 309 eP **P 06 39 07.1 +1.2**
MALT pmax pmax
comp=Z,67nm,1.1s,mb5.0
MYA Malataya 23.99 309 eP **P 06 39 02.3 -3.7**
GUMT Gumushane 24.31 314 eP **P 06 39 10.2 +1.3**
GAZ Gaziantep 24.39 305 eP **P 06 39 11.5 +1.8**
KTUT Trabzon 24.41 316 eP **P 06 39 11.6 +1.8**
EIL Elat 24.54 287 P **P 06 39 13.4 +2.3**
comp=Z,4.4nm,0.7s,mb4.1,baz=62,slow=8.5,SNR=3.9
KIV Kislovodsk 24.55 325 eP **P 06 39 13.3 +2.2**
comp=Z,82nm,0.7s,mb5.4
KIV epP 06 39 21.8
KIV Kislovodsk 24.55 325 eP **P 06 39 11.0 -0.1**
KIV eS **S 06 43 30.9 +1.0**
KIV pmax pmax
comp=Z,205nm,1.1s,mb5.6
KIV Kislovodsk 24.55 325 eP **P 06 39 11.0 -0.1**
comp=Z,205nm,1.1s,mb5.6
MMAI Mount Meron Ar 24.61 295 P **P 06 39 13.9 +2.2**
comp=Z,0.4nm,0.3s,mb3.4,baz=125,slow=11,SNR=2.5
ESPY Espiye-Giresun 25.04 315 eP **P 06 39 16.6 +1.1**
AKTK Aktyubinsk 25.42 354 P **P 06 39 18.9 0.0**
AKTK LR LR 06 51 19.8
AKTK Aktyubinsk 25.42 354 P **P 06 39 18.9 0.0**
AKTO Aktyubinsk 25.42 354 P **P 06 39 18.9 0.0**
AKTO pmax pmax
comp=Z,29nm,1.0s,mb4.8
AKTO MLR MLR
comp=Z,615nm,18.4s,MS4.2
AKTO Aktyubinsk 25.42 354 P **P 06 39 18.9 0.0**
comp=Z,29nm,1.0s,mb4.8,baz=169,slow=10,SNR=42
AKTO LR LR 06 51 19.8
comp=Z,615nm,18.4s,MS4.2,baz=171,slow=41
KOZT Kozan 25.53 305 eP **P 06 39 26.6 +6.6**
SVSK Karacayir 25.70 311 eP **P 06 39 20.9 -0.6**
SOC Sochi 25.95 321 eP **P 06 39 22.8 -0.9**
SOC e*PP pP 06 39 31.7 -0.8
SOC e*SP sP 06 39 35.7 -0.5
SOC ePPP 06 40 07.3
SOC eS **S 06 43 51.0 -1.1**
SOC pmax pmax
comp=Z,27nm,1.1s,mb4.7
SOC MLR MLR
comp=Z,432nm,17.0s,MS4.0
SOC Sochi 25.95 321 eP **P 06 39 22.8 -0.9**
comp=Z,27nm,1.1s,mb4.7
BNN Bunyan 26.04 308 eP **P 06 39 21.9 -2.8**
SHL Shillong 26.83 83 eP **P 06 39 32.0 +0.1**
SHL ex x 06 44 47.0
KVT Kavak 26.88 313 eP **P 06 39 33.8 +1.6**
MK31 Makanchi Array 26.88 32 eP **P 06 39 32.4 +0.2**
MKAR Makanchi Array 26.88 32 P **P 06 39 32.7 +0.6**
MKAR pmax pmax
comp=Z,26nm,0.8s
MKAR Makanchi Array 26.88 32 P **P 06 39 32.6 +0.5**
comp=Z,26nm,0.8s,mb4.8,baz=214,slow=9.0,SNR=95
WMQ Urumqi 27.91 42 P **P 06 39 42.8 +1.5**
WMQ S **S 06 44 21.0 -2.0**
WMQ AMB AMB
comp=Z,29nm,1.0s,mb4.9
WMQ AMB AMB
comp=Z,186nm,5.1s
WMQ LR LR
comp=N,850nm,16.2s,MS4.6
WMQ LR LR
comp=E,1μm,19.8s,MS4.6
WMQ LR LR
comp=Z,736nm,20.1s,MS4.3
ANN Anapa 27.99 321 eP **P 06 39 41.1 -1.0**
ANN eS **S 06 44 23.6 -0.8**
ANN pmax pmax
comp=Z,14nm,1.0s,mb4.5
ANN MLR MLR
comp=N,200nm,17.0s,MS4.0
ANN MLR MLR
comp=E,230nm,17.0s,MS4.0
ANN MLR MLR
comp=Z,207nm,17.0s,MS3.8
KURK Kurchatov 28.48 22 eP **P 06 39 46.4 +0.1**
comp=Z,11nm,0.7s,mb4.6
KURK epP pP 06 39 54.8 -0.4
KURK Kurchatov 28.48 22 eP **P 06 39 46.4 +0.1**
KURK e*PP pP 06 39 54.8 -0.4
KURK pmax pmax
comp=Z,11nm,0.7s,mb4.6
BVAR Borovoye Array 28.50 10 P **P 06 39 47.2 +0.7**
BVAR pmax pmax
comp=Z,7.0nm,0.8s
BVAR Borovoye Array 28.50 10 P **P 06 39 47.2 +0.7**
comp=Z,7.4nm,0.8s,mb4.4,baz=199,slow=11,SNR=20
BRVK Borovoye 28.51 10 eP **P 06 39 46.3 -0.3**
comp=Z,9.5nm,0.8s,mb4.6
BRVK Borovoye 28.51 10 eP **P 06 39 46.3 -0.3**
BRVK pmax pmax
comp=Z,9.0nm,0.8s,mb4.5
ANTO Ankara 28.62 308 eP **P 06 39 48.5 +0.7**
comp=Z,11nm,0.8s,mb4.6
ANTO epP pP 06 39 57.0 +0.5
ANTO Ankara 28.62 308 eP **P 06 39 48.5 +0.8**
ANTO e*PP pP 06 39 57.0 +0.4
ANTO pmax pmax
comp=Z,11nm,0.8s,mb4.6
SIM Simferopol' 30.03 318 eP **P 06 40 01.7 +1.5**
SIM pmax pmax
comp=Z,20nm,0.9s,mb4.8
SIM MLR MLR
comp=Z,400nm,29.4s,MS3.9
IZI Iznik 31.17 307 ePN **P 06 40 12.6 +2.3**
VORD Divnogorie 31.17 332 eP **P 06 40 10.1 -0.1**
VORD e*PP pP 06 40 17.2 -1.8
VORD ePPP 06 41 17.6
VORD pmax pmax
comp=Z,10.0nm,0.9s,mb4.7
VORD pmax pmax
comp=N,30nm,0.8s
VORD pmax pmax
comp=E,20nm,0.9s
ARU Arti 31.33 356 c iP **P 06 40 11.1 -0.4**
ARU e 06 41 10.3
ARU e 06 43 01.7
ARU eS **S 06 45 16.0 -0.5**
ARU eSS SS 06 46 55.8 -35
ARU pmax pmax
comp=Z,19nm,2.5s,mb4.5
ARU MLR MLR
comp=Z,763nm,18.0s,MS4.4
VRSR Storozhevoye 31.39 332 eP **P 06 40 12.0 -0.2**
VRSR pmax pmax
comp=Z,3.0nm,0.9s,mb4.1
VRSR pmax pmax
comp=N,3.0nm,1.3s
VRSR pmax pmax
comp=E,6.0nm,0.9s
GEMT Gemlik 31.40 307 ePN **P 06 40 11.9 -0.5**
MLSB Milas 31.62 301 ePN **P 06 40 11.9 -2.4**
ZAL Zalesovo 33.31 24 P **P 06 40 29.1 +0.2**
ZALV Zalesovo Beam 33.33 24 P **P 06 40 29.1 0.0**
comp=E,9.1nm,0.5s,mb5.0,baz=226,slow=9.5,SNR=45
ZALV LR LR 06 55 47.8
comp=E,773nm,18.5s,MS4.5,baz=237,slow=40
NVS Novosibirsk 33.47 22⇑ iP **P 06 40 30.5 +0.2**
NVS i pP 06 40 38.0 -1.2
NVS i SS SS 06 48 12.0 -2.8
NVS pmax pmax
comp=Z,52nm,1.6s,mb5.2
NVS pmax pmax
comp=N,54nm,1.7s
NVS pmax pmax
comp=E,29nm,1.7s
KIS Kishinev 34.26 318 eP **P 06 40 44.0 +6.8**
KIS MLR MLR
comp=E,400nm,16.0s
KIS MLR MLR
comp=Z,500nm,16.0s,MS4.3
KIS MLR MLR
comp=Z,500nm,16.0s
KIS Kishinev 34.26 318 eP **P 06 40 44.0 +6.8**
KIS eL 06 54 26.0
KIS LRM 06 58 40.0
comp=Z,500nm,16.0s
GTA Gaotai 34.58 56 eP **P 06 40 42.3 +2.1**
GTA AP pP 06 40 52.5 +3.4
GTA PP PP 06 41 59.0 +0.2
GTA PPP 06 42 16.8
GTA S **S 06 46 08.0 +0.5**
GTA AMB AMB
comp=Z,23nm,0.8s,mb5.2
GTA AMB AMB
comp=Z,93nm,5.7s
GTA LR LR
comp=N,674nm,22.0s,MS4.4
GTA LR LR
comp=E,291nm,18.2s,MS4.4
GTA LR LR
comp=Z,247nm,21.3s,MS3.9
CHTO Chiang Mai 34.61 93 eP **P 06 40 41.4 +0.8**
comp=Z,4.6nm,0.8s,mb4.5
CHTO Chiang Mai 34.61 93 eP **P 06 40 41.4 +0.8**
CHTO pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
VRI Vrincioaia 35.07 315⇑ P **P 06 40 52.4 +8.2**
VRI Vrincioaia 35.07 315⇑ iP **P 06 40 52.3 +8.1**
OBN Obninsk 35.34 335 eP **P 06 40 46.9 +0.5**
comp=Z,15nm,0.4s,mb5.3
OBN e pP 06 40 55.4 0.0
OBN Obninsk 35.34 335⇓ iP **P 06 40 46.6 +0.2**
OBN i pP 06 40 55.5 +0.1
OBN e 06 42 06.7
OBN pmax pmax
comp=Z,75nm,1.5s,mb5.4
OBN MLR MLR
comp=Z,200nm,15.0s,MS4.0
MOS Moscow 35.41 336 eP **P 06 40 47.0 0.0**
MOS e pP 06 40 54.9 -1.0
MOS pmax pmax
comp=Z,63nm,1.4s,mb5.3
MLR Muntele Rosu 35.42 314⇑ iP **P 06 40 49.4 +2.1**
KMBO Kilima Mbogo 35.57 226 eP **P 06 40 51.4 +2.5**
KMBO epP pP 06 41 00.1 +2.3
KMBO Kilima Mbogo 35.57 226 i P **P 06 40 52.2 +3.3**
KMBO pmax pmax
comp=Z,1.0nm,0.3s
KMBO Kilima Mbogo 35.57 226 LR LR 06 55 08.3
comp=Z,303nm,20.5s,MS4.0,baz=89,slow=36
AKASG Malin Array Be 35.90 324 P **P 06 40 51.0 -0.3**
AKASG Malin Array Be 35.90 324 P **P 06 40 51.0 -0.3**
AKASG pmax pmax
comp=Z,26nm,0.8s
AKASG Malin Array Be 35.90 324 P **P 06 40 51.0 -0.3**
comp=Z,26nm,0.8s,mb5.2,baz=125,slow=7.6,SNR=132
AKBB Malin Array Si 35.90 324 eP **P 06 40 51.1 -0.2**
AKBB epP pP 06 40 59.6 -0.7
AKBB esP sP 06 41 03.6 -0.4
VOIR 35.99 314⇑ iP **P 06 41 01.3 +9.1**
KMI Kunming 36.63 81 P **P 06 40 59.0 +1.1**
KMI S **S 06 46 38.8 -0.4**
KMI AMB AMB
comp=Z,15nm,0.8s,mb4.9
KMI LR LR
comp=N,219nm,15.7s,MS4.2
KMI LR LR
comp=E,246nm,13.8s,MS4.2
KMI LR LR
comp=Z,205nm,16.2s,MS4.0
BURAR Bucovina Array 36.73 317⇑ iP **P 06 40 58.3 -0.2**
CD2 Chengdu 37.00 71 eP **P 06 41 00.3 -0.7**
CD2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.7
CD2 AMB AMB
comp=Z,20nm,5.2s
CD2 LR LR
comp=N,380nm,20.8s
CD2 LR LR
comp=Z,180nm,18.0s,MS3.9
LZH Lanzhou 37.23 63 eP **P 06 41 02.3 -0.6**
LZH AMB AMB
comp=Z,20nm,1.2s,mb4.8
DRGR 37.99 315⇑ P **P 06 41 09.9 +0.8**
DRGR 37.99 315⇑ iP **P 06 41 09.9 +0.7**
BZS Buzias 38.32 313⇑ iP **P 06 41 20.1 +8.2**
KOLS Kolonicke sedl 39.06 318 eP **P 06 41 18.8 +0.7**
CRVS Cervenica-Dubn 39.54 317 eP **P 06 41 24.9 +2.7**
MOY Mondy 39.59 38 eP **P 06 41 24.5 +2.0**
GYA Guiyang 39.93 78 P **P 06 41 24.8 -0.9**
GYA PP PP 06 43 02.8 +5.1
GYA PCP PcP 06 43 33.5 +2.6
GYA AMB AMB
comp=Z,20nm,1.0s,mb4.8
GYA AMB AMB
comp=Z,130nm,6.2s
GYA LR LR
comp=N,450nm,19.2s,MS4.5
GYA LR LR
comp=E,410nm,18.6s,MS4.5
GYA LR LR
comp=Z,580nm,18.8s,MS4.5
KECS Kecovo 39.99 316 eP **P 06 41 25.9 0.0**
comp=Z,4.3nm,1.0s,mb4.1
KECS e pP 06 41 35.4 +0.5
KECS Kecovo 39.99 316 eP **P 06 41 25.9 0.0**
KECS e pP 06 41 35.4 +0.5
KECS pmax pmax
comp=Z,4.0nm,1.0s,mb4.1
KECS Kecovo 39.99 316 eP **P 06 41 25.9 0.0**
KECS epP pP 06 41 35.4 +0.5
PSZ Piszkesteto 40.18 315⇑ iP **P 06 41 33.4 +6.0**
ZAK Zakamensk 40.36 41 eP **P 06 41 29.9 +1.0**
ZAK pmax pmax
comp=Z,3.0nm,1.0s,mb4.0
ZAK pmax pmax
comp=Z,3.0nm,0.9s,mb4.0
TIP Timpagrande 40.48 302 eP **P 06 41 31.3 +1.2**
comp=Z,18nm,1.0s,mb4.8
TIP epP pP 06 41 39.6 +0.5
VYHS Vyhne 41.03 316 eP **P 06 41 33.8 -0.7**
comp=Z,4.1nm,1.1s,mb4.0
VYHS e pP 06 41 42.7 -0.8
VYHS Vyhne 41.03 316 eP **P 06 41 33.8 -0.7**
VYHS e pP 06 41 42.7 -0.8
VYHS pmax pmax
comp=Z,4.0nm,1.1s,mb4.0
VYHS Vyhne 41.03 316 eP **P 06 41 33.8 -0.7**
VYHS epP pP 06 41 42.7 -0.8
VYHS Vyhne 41.03 316 eP **P 06 41 33.8 -0.7**
comp=Z,4.1nm,1.1s,mb4.0
OJC Ojcow 41.04 319 eP **P 06 41 34.4 -0.1**
TLY Talaya 41.09 39 eP **P 06 41 36.9 +2.0**
TLY eSS SS 06 51 16.9 +28
TLY pmax pmax
comp=Z,7.0nm,0.8s,mb4.3
TLY MLR MLR
comp=Z,317nm,19.0s,MS4.2
XAN Xi'an 41.31 66 P **P 06 41 37.5 +0.5**
XAN AMB AMB
comp=Z,15nm,0.8s,mb4.7
XAN AMB AMB
comp=Z,45nm,6.2s
XAN LR LR
comp=N,146nm,17.6s,MS4.3
XAN LR LR
comp=E,313nm,18.6s,MS4.3
XAN LR LR
comp=Z,368nm,19.2s,MS4.3
SONM Songino Array 41.41 45 P **P 06 41 39.5 +1.9**
SONM 06 43 15.5
SONM pmax pmax
comp=Z,11nm,0.8s
SONM pmax pmax
comp=Z,3.0nm,0.8s
SONM MLR MLR
comp=Z,680nm,20.3s
SONM Songino Array 41.41 45 P **P 06 41 39.5 +2.0**
comp=Z,11nm,0.8s,mb4.5,baz=251,slow=8.8,SNR=23
SONM PP PP 06 43 15.5 +2.1
comp=Z,3.3nm,0.8s,baz=256,slow=12,SNR=3.8
SONM LR LR 07 02 05.2
comp=Z,680nm,20.3s,MS4.5,baz=49,slow=41
OKC Ostrava-Krasne 41.90 318 AMS AMS 07 03 30.0
comp=Z,200nm,17.1s,MS4.1
MODS Modra-Piesok 41.98 315 eP **P 06 41 41.7 -0.6**
comp=Z,6.4nm,1.6s,mb4.0
MODS Modra-Piesok 41.98 315 eP **P 06 41 41.7 -0.6**
MODS pmax pmax
comp=Z,6.0nm,1.6s,mb4.0
MORC Moravsky Berou 42.25 317 eP **P 06 41 44.4 -0.1**
comp=Z,3.0nm,1.0s,mb3.9
MORC Moravsky Berou 42.25 317 eP **P 06 41 44.4 -0.1**
MORC pmax pmax
comp=Z,3.0nm,1.0s,mb3.9
MORC Moravsky Berou 42.25 317⇑ iP **P 06 41 45.1 +0.6**
CRES Cresnjev 42.53 311 eP **P 06 41 46.6 -0.2**
BOJS Bojanci 42.60 311 eP **P 06 41 47.4 0.0**
JOF Joensuu 42.93 340 ep **P 06 41 48.3 -1.5**
comp=Z,14nm,0.8s,mb4.8
JOF Joensuu 42.93 340 eP **P 06 41 48.3 -1.5**
JOF pmax pmax
comp=Z,14nm,0.8s,mb4.7
INTR Introdacqua 42.98 305 P **P 06 41 50.7 +0.2**
comp=Z,55nm,1.1s,mb5.2
VVLD Villa Vallelon 43.17 305 P **P 06 41 52.3 +0.3**
comp=Z,70nm,2.2s,mb5.0
DPC Dobruska-Polom 43.18 318 eP **P 06 41 51.6 -0.4**
DPC epP pP 06 42 00.7 -0.3
DPC AMS AMS 07 03 40.0
comp=Z,200nm,20.4s,MS4.0
CEY Cerknica 43.22 311 eP **P 06 41 52.2 -0.2**
TERO Teramo 43.28 306 P **P 06 41 53.4 +0.5**
comp=Z,22nm,1.0s,mb4.8
KSP Ksiaz 43.35 318 eP **P 06 41 54.1 +0.7**
KSP epP pP 06 42 02.3 -0.1
TREC Trest 43.38 316 AMS AMS 07 04 10.0
comp=Z,300nm,15.9s,MS4.3
AQU L'Aquila 43.39 306 eP **P 06 41 54.7 +0.9**
comp=Z,35nm,1.0s,mb5.0
AQU epP pP 06 42 03.3 +0.5
AQU L'Aquila 43.39 306 eP **P 06 41 54.7 +0.9**
AQU e*PP pP 06 42 03.3 +0.4
AQU pmax pmax
comp=Z,35nm,1.0s,mb5.0
UPC Upice 43.42 318 eP **P 06 41 54.1 +0.2**
UPC epP pP 06 42 03.1 +0.1
FIAM Fiamignano 43.59 306 P **P 06 41 56.2 +0.8**
comp=Z,32nm,1.0s,mb5.0
NRCA Norcia 43.66 306 P **P 06 41 56.5 +0.5**
comp=Z,3.3nm,0.9s,mb4.1
HHC Hu-ho-hao-te 43.70 56 eP **P 06 41 57.5 +1.2**
HHC PP PP 06 43 42.0 +3.8
HHC PCP PcP 06 43 46.8 +3.8
HHC AMB AMB
comp=Z,28nm,0.4s,mb5.3
HHC AMB AMB
comp=Z,97nm,4.6s
HHC LR LR
comp=N,288nm,22.1s,MS4.5
HHC LR LR
comp=E,468nm,18.1s,MS4.5
HHC LR LR
comp=Z,282nm,23.5s
FINES FINESS Array B 43.71 336 P **P 06 41 55.4 -0.7**
FINES PP PP 06 43 42.5 +4.5
FINES LR LR 07 03 45.1
FINES FINESS Array B 43.71 336 P **P 06 41 55.4 -0.7**
FINES 06 43 42.5
FINES pmax pmax
comp=Z,1.0nm,0.5s
FINES pmax pmax
comp=Z,4.0nm,0.8s

FINES MLR MLR
comp=Z,228nm,19.0s
FINES FINESS Array B 43.71 336 P **P** **06 41 55.4 -0.7**
comp=Z,1.3nm,0.5s,mb3.9,baz=131,slow=8.9,SNR=13
FINES PP PP 06 43 42.5 +4.5
comp=Z,3.7nm,0.8s,baz=136,slow=12,SNR=4.3
FINES LR LR 07 03 45.1
comp=Z,228nm,19.0s,MS4.1,baz=133,slow=41
PTCC Patocco-Chiusa 44.08 312 P **P** **06 41 58.7 -0.6**
comp=Z,4.2nm,1.1s,mb4.1
MURB Monte Urbino 44.15 307 P **P** **06 42 01.6 +1.7**
comp=Z,39nm,1.6s,mb4.9
PRU Pruhonice 44.17 317 *eP* **P** **06 41 59.8 -0.1**
PRU *epP* pP 06 42 08.1 -0.9
PRU AMS AMS 07 04 50.0
comp=Z,200nm,14.3s,MS4.2
KBA Koelnbreinsper 44.23 312⇑ *iP* **P** **06 42 00.0 -0.5**
comp=Z,8.3nm,1.3s,mb4.3
KBA Koelnbreinsper 44.23 312⇑ *iP* **P** **06 42 00.0 -0.5**
KBA pmax pmax
comp=Z,8.0nm,1.3s,mb4.3
PVCC Panska Ves 44.30 318 *eP* **P** **06 42 00.9 -0.1**
PVCC *epP* pP 06 42 09.5 -0.6
BADI Badiali 44.38 307 P **P** **06 42 03.9 +2.1**
comp=Z,108nm,2.3s,mb5.2
GEC2 GERESS Array S 44.40 315 *eP* **P** **06 42 01.5 -0.3**
GEC2 *e*PP* pP 06 42 10.1 -0.8
GEC2 pmax pmax
comp=Z,16nm,1.3s,mb4.6
GEC2 GERESS Array S 44.40 315 *eP* **P** **06 42 01.5 -0.3**
comp=Z,16nm,1.3s,mb4.6
GEC2 *epP* pP 06 42 10.1 -0.8
GERES GERESS Array B 44.40 315 P **P** **06 42 02.0 +0.2**
GERES pmax pmax
comp=Z,5.0nm,1.0s
GERES MLR MLR
comp=Z,202nm,18.3s
GERES GERESS Array B 44.40 315 P **P** **06 42 02.0 +0.2**
comp=Z,4.9nm,1.0s,mb4.2,baz=107,slow=8.5,SNR=32
GERES LR LR 07 05 23.7
comp=Z,202nm,18.3s,MS4.1,baz=287,slow=43
QIZ Qiongzhong 44.42 88 P **P** **06 42 01.8 -0.6**
QIZ S **S** **06 48 37.3 +1.9**
QIZ AMB AMB
comp=Z,22nm,1.4s,mb4.7
QIZ LR LR
comp=N,327nm,19.5s,MS4.3
QIZ LR LR
comp=E,191nm,22.7s,MS4.3
QIZ LR LR
comp=Z,250nm,20.4s,MS4.1
KHC Kasperske Hory 44.55 315 *eP* **P** **06 42 02.9 -0.1**
KHC *epP* pP 06 42 11.2 -0.9
KHC AMS AMS 07 05 10.0
comp=Z,300nm,15.3s,MS4.3
ABTA Abfaltersbach 44.72 312⇓ *iP* **P** **06 42 04.8 +0.3**
comp=Z,11nm,1.2s,mb4.6
SFI Santa Sofia 44.72 308 P **P** **06 42 06.2 +1.7**
comp=Z,30nm,1.0s,mb5.1
SFI Santa Sofia 44.72 308 P **P** **06 42 06.2 +1.7**
SFI pmax pmax
comp=Z,30nm,1.0s,mb5.1
BRG Berggiesshubel 44.78 318 *eP* pP 06 42 13.6 -0.3
BRG pmax pmax
comp=Z,4.0nm,1.1s,mb4.2
BRG Berggiesshubel 44.78 318 *eP* **P** **06 42 04.9 +0.1**
comp=Z,4.0nm,1.3s,mb4.1
BRG Berggiesshubel 44.78 318 *eP* pP 06 42 13.7 -0.3
comp=Z,7.2nm,1.2s
BRG *e* 06 42 17.7
comp=Z,6.7nm,1.1s
WET Wettzell 44.99 315 *eP* **P** **06 42 05.9 -0.7**
WET pmax pmax
comp=Z,7.0nm,1.3s,mb4.3
WET Wettzell 44.99 315 *eP* **P** **06 42 05.9 -0.7**
comp=Z,7.0nm,1.3s,mb4.3
FNVD Fontana Vidola 45.27 308 P **P** **06 42 10.1 +1.3**
RUE Ruedersdorf 45.35 320 *eP* **P** **06 42 09.3 0.0**
comp=Z,19nm,1.3s,mb4.8
WTTA Wattenberg 45.41 312⇑ *iP* **P** **06 42 09.5 -0.4**
comp=Z,22nm,1.2s,mb4.9
WTTA Wattenberg 45.41 312⇑ *iP* **P** **06 42 09.5 -0.4**
WTTA pmax pmax
comp=Z,23nm,1.2s,mb4.9
CLL Collm 45.47 318⇑ *iP* **P** **06 42 10.8 +0.5**
comp=Z,33nm,1.1s,mb5.1
CLL *i* pP pP 06 42 19.2 -0.2
CLL *i* sP sP 06 42 23.5 +0.4
CLL *eS* **S** **06 49 01.0 +11**
CLL LR LR
comp=Z,300nm,18.9s,MS4.2
CLL Collm 45.47 318⇑ *iP* **P** **06 42 10.8 +0.5**
CLL *i* *PP pP 06 42 19.2 -0.2
CLL *i* *SP sP 06 42 23.5 +0.4
CLL *eS* **S** **06 49 01.0 +11**
CLL pmax pmax
comp=Z,33nm,1.1s,mb5.1
CLL MLR MLR
comp=Z,300nm,18.9s,MS4.2
CLL Collm 45.47 318 *eP* **P** **06 42 10.7 +0.4**
comp=Z,33nm,1.1s,mb5.1
CLL *epP* pP 06 42 18.9 -0.5
CLL Collm 45.47 318⇑ *iP* **P** **06 42 10.8 +0.5**
comp=Z,33nm,1.1s,mb5.1
CLL *i* pP pP 06 42 19.2 -0.2
comp=Z,41nm,1.1s
CLL *i* sP sP 06 42 23.5 +0.4
CLL *eS* **S** **06 49 01.0 +11**
CLL *ex* x 06 49 48.0
CLL *e*SS SS 06 52 12.0 -1.8
CLL *ex* x 06 52 46.0
CLL Lm 07 05 00.0
comp=N,200nm,21.5s
CLL Lm 07 05 00.0
comp=E,300nm,20.2s
CLL Lm 07 05 00.0
comp=Z,300nm,18.9s
NKC Novy Kostel 45.53 317 *eP* **P** **06 42 05.7 -5.1**
NKC *ex* x 06 42 11.2
ROTZ Rotzenmuhle 45.57 316 *eP* **P** **06 42 11.1 0.0**
comp=Z,12nm,1.1s,mb4.7
WERN Wernitzgruen 45.59 317 *eP* **P** **06 42 11.5 +0.3**
comp=Z,4.0nm,0.9s,mb4.3
MANZ Manzenberg 45.68 316 *eP* **P** **06 42 12.2 +0.2**
comp=Z,3.0nm,1.2s,mb4.1
MOTA Moosalm 45.78 312⇑ *iP* **P** **06 42 11.7 -1.1**
comp=Z,12nm,1.1s,mb4.7
MOTA Moosalm 45.78 312⇑ *iP* **P** **06 42 11.7 -1.1**
MOTA pmax pmax
comp=Z,12nm,1.1s,mb4.7
FUR Furstenfeldbru 45.82 314 *eP* **P** **06 42 12.1 -1.0**
FUR pmax pmax
comp=Z,17nm,1.3s,mb4.8
FUR Furstenfeldbru 45.82 314 *eP* **P** **06 42 12.1 -1.0**
comp=Z,17nm,1.3s,mb4.8
OPO Ambohidratompo 45.86 200 P **P** **06 42 15.6 +1.9**
comp=Z,5.6nm,0.7s,mb4.6,baz=11,slow=7.3,SNR=8.4
APA Apatity 45.93 345⇑ *iP* **P** **06 42 13.8 +0.1**
APA *i* pP 06 42 22.4 -0.4
APA pmax pmax
comp=Z,14nm,0.8s,mb4.9
APA MLR MLR
comp=Z,2μm,14.0s,MS5.2
FETA Feichten 45.97 312⇑ *iP* **P** **06 42 14.0 -0.4**
comp=Z,25nm,1.3s,mb5.0
RETA Reutte 46.03 313⇑ *iP* **P** **06 42 14.0 -0.8**
comp=Z,17nm,1.1s,mb4.9
WHN Wuhan 46.12 71 ⇓P **P** **06 42 15.8 +0.1**
MOX Moxa 46.15 317 *eP* **P** **06 42 15.5 -0.2**
MOX *e* 06 42 22.0
MOX Moxa 46.15 317 *eP* **P** **06 42 15.8 +0.1**
comp=Z,9.0nm,1.1s,mb4.6
GRA1 Grafenberg Arr 46.17 316 *eP* **P** **06 42 16.1 +0.2**
comp=Z,43nm,1.4s,mb5.2
GRA1 *epP* pP 06 42 24.5 -0.5
GRF Grafenberg Arr 46.17 316 *eP* **P** **06 42 16.1 +0.2**
GRF *e*PP* pP 06 42 24.5 -0.5
GRF pmax pmax
comp=Z,43nm,1.4s,mb5.2
GRF Grafenberg Arr 46.17 316 *eP* **P** **06 42 16.1 +0.2**
GRF *e*PP* pP 06 42 24.5 -0.5
GRF pmax pmax
comp=Z,43nm,1.4s,mb5.2
GRF Grafenberg Arr 46.17 316 *eP* **P** **06 42 16.1 +0.2**
comp=Z,43nm,1.4s,mb5.2
GRF *epP* pP 06 42 24.5 -0.5
GRFO Grafenberg 46.17 316 *eP* **P** **06 42 16.3 +0.4**
comp=Z,32nm,1.3s,mb5.1
GRFO *epP* pP 06 42 24.9 -0.1
GRFO Grafenberg 46.17 316 *eP* **P** **06 42 16.3 +0.4**
GRFO *e*PP* pP 06 42 24.9 -0.1
GRFO pmax pmax
comp=Z,32nm,1.3s,mb5.1
KEST Kesra 46.25 296 P **P** **06 42 17.8 +1.1**
comp=Z,1.7nm,1.0s,mb3.9,baz=46,slow=8.6,SNR=4.3
KEST LR LR 07 07 59.6
comp=Z,39nm,18.2s,MS3.4,baz=335,slow=44
DAVA Damuels 46.59 312⇑ *iP* **P** **06 42 18.8 -0.4**
comp=Z,31nm,1.0s,mb5.2
PGF Pioggiola 46.65 306⇑ *iP* **P** **06 42 18.9 -0.8**
comp=Z,18nm,1.1s,mb4.6
PGF Pioggiola 46.65 306⇑ *iP* **P** **06 42 18.9 -0.8**
PGF pmax pmax
comp=Z,9.0nm,1.1s,mb4.6
PGF Pioggiola 46.65 306⇑ *iP* **P** **06 42 18.9 -0.8**
comp=Z,8.9nm,1.1s,mb4.6
BJI Beijing 47.17 58 P **P** **06 42 25.5 +1.7**
BJI AMB AMB
comp=Z,19nm,0.8s,mb5.1
BJI AMB AMB
comp=Z,700nm,3.7s
UBBA Unterbreizbach 47.19 317 *eP* **P** **06 42 24.2 +0.4**
comp=Z,8.0nm,1.4s,mb4.5
CLZ Clausthal 47.20 318 *eP* **P** **06 42 24.5 +0.7**
CLZ *e*PP* pP 06 42 32.6 -0.4
CLZ pmax pmax
comp=Z,25nm,1.1s,mb5.1
CLZ Clausthal 47.20 318 *eP* **P** **06 42 24.5 +0.7**
comp=Z,25nm,1.1s,mb5.1
CLZ *epP* pP 06 42 32.6 -0.4
STU Stuttgart 47.29 314 *eP* **P** **06 42 23.4 -1.2**
comp=Z,10.0nm,1.0s,mb4.7
BSEG Bad Segeberg 47.77 321 *eP* **P** **06 42 28.6 +0.4**
comp=Z,31nm,1.8s,mb5.0
BSEG *epP* pP 06 42 37.0 -0.4
SAOF Saorge 47.81 307 *eP* **P** **06 42 27.8 -1.0**
SBF Sospel 47.89 307⇑ *iP* **P** **06 42 28.7 -0.7**
comp=Z,72nm,1.1s,mb5.3
SBF Sospel 47.89 307⇑ *iP* **P** **06 42 28.7 -0.7**
SBF pmax pmax
comp=Z,36nm,1.1s,mb5.3
SBF Sospel 47.89 307⇑ *iP* **P** **06 42 28.7 -0.7**
comp=Z,36nm,1.1s,mb5.3
FELD Feldberg im Sc 47.93 313 *eP* **P** **06 42 28.6 -1.0**
LUCF Luceram 47.95 307 *eP* **P** **06 42 29.6 -0.3**
TOUF Mont Tournerai 48.03 307 *eP* **P** **06 42 30.3 -0.2**
MVIF Mont Vial 48.09 307 *eP* **P** **06 42 30.6 -0.3**
KTD Kalmit 48.11 315 *eP* **P** **06 42 30.9 -0.1**
LANF Langenberg 48.23 314 *eP* **P** **06 42 30.7 -1.2**
MBDF Montbardon 48.43 308⇑ *iP* **P** **06 42 32.6 -0.9**
comp=Z,43nm,1.0s,mb5.2
MBDF Montbardon 48.43 308⇑ *iP* **P** **06 42 32.6 -0.9**
MBDF pmax pmax
comp=Z,21nm,1.0s,mb5.1
MBDF Montbardon 48.43 308⇑ *iP* **P** **06 42 32.6 -0.9**
comp=Z,21nm,1.0s,mb5.2
FRF La Foret Royal 48.44 307⇑ *iP* **P** **06 42 32.7 -0.9**
comp=Z,30nm,1.2s,mb4.9
FRF La Foret Royal 48.44 307⇑ *iP* **P** **06 42 32.7 -0.9**
FRF pmax pmax
comp=Z,15nm,1.2s,mb4.9
FRF La Foret Royal 48.44 307⇑ *iP* **P** **06 42 32.7 -0.9**
comp=Z,15nm,1.2s,mb4.9
CDF Champ du Feu 48.49 313 *eP* **P** **06 42 32.8 -1.1**
comp=Z,19nm,1.1s,mb4.7
CDF Champ du Feu 48.49 313 *eP* **P** **06 42 32.8 -1.1**
CDF pmax pmax
comp=Z,10.0nm,1.1s,mb4.8
CDF Champ du Feu 48.49 313 *eP* **P** **06 42 32.8 -1.1**
comp=Z,9.6nm,1.1s,mb4.7
LPG La Plagne 48.51 309⇑ *iP* **P** **06 42 33.4 -0.7**
comp=Z,33nm,0.9s,mb5.0
LPG La Plagne 48.51 309⇑ *iP* **P** **06 42 33.4 -0.7**
LPG pmax pmax
comp=Z,16nm,0.9s,mb5.0
LPG La Plagne 48.51 309⇑ *iP* **P** **06 42 33.4 -0.7**
comp=Z,16nm,0.9s,mb5.0
MOF Molkenrain 48.51 313 *eP* **P** **06 42 33.3 -0.8**
BNI Bardonecchia 48.52 309 *eP* **P** **06 42 33.6 -0.6**
comp=Z,18nm,0.9s,mb5.1
BNI *epP* pP 06 42 42.9 -0.5
BNI Bardonecchia 48.52 309 *eP* **P** **06 42 33.6 -0.6**
BNI *e*PP* pP 06 42 42.9 -0.5
BNI pmax pmax
comp=Z,18nm,0.9s,mb5.1
LMR La Mourre 48.52 306 *eP* **P** **06 42 33.3 -1.0**
LPL La Plagne 48.52 309⇑ *iP* **P** **06 42 33.5 -0.7**
comp=Z,40nm,1.0s,mb5.1
LPL La Plagne 48.52 309⇑ *iP* **P** **06 42 33.5 -0.7**
LPL pmax pmax
comp=Z,20nm,1.0s,mb5.1
LPL La Plagne 48.52 309⇑ *iP* **P** **06 42 33.5 -0.7**
comp=Z,20nm,1.0s,mb5.1
ECH Echery 48.54 313 *eP* **P** **06 42 33.6 -0.7**
LOMF Lomont 48.65 312 *eP* **P** **06 42 34.7 -0.5**
HINF Hinteralfeld 48.69 312⇑ *iP* **P** **06 42 34.4 -1.1**
comp=Z,20nm,1.1s,mb4.8
HINF Hinteralfeld 48.69 312⇑ *iP* **P** **06 42 34.4 -1.1**
HINF pmax pmax
comp=Z,10nm,1.1s,mb4.8
HINF Hinteralfeld 48.69 312⇑ *iP* **P** **06 42 34.4 -1.1**
comp=Z,10nm,1.1s,mb4.8
IBBN Ibbenburen 48.87 318 *eP* **P** **06 42 37.3 +0.5**
comp=Z,22nm,1.2s,mb5.1
BOD Bodaibo 48.93 34 *eP* **P** **06 42 36.7 -0.4**
BOD pmax pmax
comp=Z,13nm,1.2s,mb4.8
HAU Haudompre 49.05 313 *eP* **P** **06 42 37.1 -1.2**
comp=Z,15nm,1.1s,mb4.6
HAU *e*MLR MLR
comp=Z,187nm,20.5s,MS3.8
HAU Haudompre 49.05 313 *eP* **P** **06 42 37.1 -1.2**
comp=Z,7.4nm,1.1s,mb4.6
HAU LR LR
comp=Z,190nm,20.5s,MS4.1
HAU Haudompre 49.05 313 *eP* **P** **06 42 37.1 -1.2**
HAU pmax pmax
comp=Z,7.0nm,1.1s,mb4.6
HAU MLR MLR
comp=Z,190nm,20.5s,MS4.1
CABF La Chapelle 49.08 311⇑ *iP* **P** **06 42 38.3 -0.1**
comp=Z,70nm,1.1s,mb5.3
CABF La Chapelle 49.08 311⇑ *iP* **P** **06 42 38.3 -0.1**
CABF pmax pmax
comp=Z,35nm,1.1s,mb5.3
CABF La Chapelle 49.08 311⇑ *iP* **P** **06 42 38.3 -0.1**
comp=Z,35nm,1.1s,mb5.3
ORIF Oris-en-Rattie 49.08 309 *eP* **P** **06 42 36.6 -1.9**
comp=Z,7.3nm,0.9s,mb4.4
ORIF *e*MLR MLR
comp=Z,241nm,19.8s,MS3.9
ORIF Oris-en-Rattie 49.08 309 *eP* **P** **06 42 36.6 -1.9**
ORIF pmax pmax
comp=Z,4.0nm,0.9s,mb4.5
ORIF Oris-en-Rattie 49.08 309 *eP* **P** **06 42 36.6 -1.9**
comp=Z,3.7nm,0.9s,mb4.4
PUYF Puyloubier 49.12 307 *eP* **P** **06 42 39.4 +0.5**
VILF Villemus 49.13 307 *eP* **P** **06 42 38.7 -0.2**
SMRF Simiane la Rot 49.24 307 *eP* **P** **06 42 39.1 -0.6**
comp=Z,32nm,1.1s,mb5.0
SMRF Simiane la Rot 49.24 307 *eP* **P** **06 42 39.1 -0.6**
comp=Z,16nm,1.1s,mb5.0
THEF They Montfort 49.32 313 *eP* **P** **06 42 39.2 -1.1**
ARCES ARCESS Array B 49.33 344 P **P** **06 42 39.7 -0.4**
ARCES LR LR 07 07 03.8
ARCES ARCESS Array B 49.33 344 P **P** **06 42 39.7 -0.4**
ARCES pmax pmax
comp=Z,8.0nm,0.8s
ARCES MLR MLR
comp=Z,849nm,18.3s
ARCES ARCESS Array B 49.33 344 P **P** **06 42 39.7 -0.4**
comp=Z,7.8nm,0.8s,mb4.8,baz=144,slow=8.6,SNR=15
ARCES LR LR 07 07 03.8
comp=Z,849nm,18.3s,MS4.8,baz=17,slow=40
WLF Walferdange 49.41 315 *eP* **P** **06 42 41.6 +0.7**
comp=Z,21nm,1.2s,mb5.0
WLF *epP* pP 06 42 49.9 -0.2
WLF Walferdange 49.41 315 *eP* **P** **06 42 41.6 +0.7**
WLF *e*PP* pP 06 42 49.9 -0.2
WLF pmax pmax
comp=Z,21nm,1.2s,mb5.0
WLF Walferdange 49.41 315 *eP* **P** **06 42 41.0 +0.1**
comp=Z,12nm,1.1s,mb4.8
PRAF Pradon 49.52 307 *eP* **P** **06 42 41.4 -0.5**
NB2 NORSAR Subarra 49.65 330 P **P** **06 42 41.4 -1.2**
comp=Z,9.4nm,1.1s,mb4.7,baz=110,slow=7.9
NOA NORSAR Array B 49.65 330 P **P** **06 42 41.7 -0.9**
NOA 06 44 38.7
NOA pmax pmax
comp=Z,4.0nm,0.8s
NOA pmax pmax
comp=Z,1.0nm,0.8s
NOA MLR MLR
comp=Z,226nm,18.2s
NOA NORSAR Array B 49.65 330 P **P** **06 42 41.6 -1.0**
comp=Z,3.7nm,0.8s,mb4.5,baz=110,slow=7.7,SNR=11
NOA PP PP 06 44 38.6 +1.6
comp=Z,1.4nm,0.8s,baz=117,slow=9.7,SNR=3.7
NOA LR LR 07 07 13.2
comp=Z,226nm,18.2s,MS4.2,baz=110,slow=40
NJ2 Nanjing 49.76 68 *eP* **P** **06 42 46.8 +2.9**
NJ2 AMB AMB
comp=Z,20nm,0.5s,mb5.4
VIVF Saint-Julien-l 49.93 308⇑ *iP* **P** **06 42 44.1 -0.9**
comp=Z,45nm,1.1s,mb5.1
VIVF Saint-Julien-l 49.93 308⇑ *iP* **P** **06 42 44.1 -0.9**
VIVF pmax pmax
comp=Z,22nm,1.1s,mb5.1
VIVF Saint-Julien-l 49.93 308⇑ *iP* **P** **06 42 44.1 -0.9**
comp=Z,22nm,1.1s,mb5.1
MEZF Maizieres J'vi 49.97 313 *eP* **P** **06 42 45.0 -0.3**
comp=Z,50nm,1.3s,mb5.1
MEZF Maizieres J'vi 49.97 313 *eP* **P** **06 42 45.0 -0.3**
comp=Z,25nm,1.3s,mb5.1
GIVF Givet 50.32 315⇑ *iP* **P** **06 42 48.4 +0.6**
comp=Z,88nm,1.2s,mb5.4
GIVF Givet 50.32 315⇑ *iP* **P** **06 42 48.4 +0.6**
GIVF pmax pmax
comp=Z,44nm,1.2s,mb5.4
GIVF Givet 50.32 315⇑ *iP* **P** **06 42 48.4 +0.6**
comp=Z,44nm,1.2s,mb5.4
LASF Ste Croix 50.48 307⇑ *iP* **P** **06 42 48.7 -0.5**
comp=Z,43nm,1.2s,mb5.1
LASF Ste Croix 50.48 307⇑ *iP* **P** **06 42 48.7 -0.5**
comp=Z,22nm,1.2s,mb5.1
SMF Signal de Mont 50.62 311⇑ *iP* **P** **06 42 49.5 -0.7**
comp=Z,60nm,1.1s,mb5.2
SMF Signal de Mont 50.62 311⇑ *iP* **P** **06 42 49.5 -0.7**
SMF pmax pmax
comp=Z,30nm,1.1s,mb5.1
SMF Signal de Mont 50.62 311⇑ *iP* **P** **06 42 49.5 -0.7**
comp=Z,30nm,1.1s,mb5.2
LOR Lormes 50.66 311⇑ *iP* **P** **06 42 49.5 -0.9**
comp=Z,27nm,1.2s,mb4.7
LOR *e*MLR MLR
comp=Z,218nm,23.0s,MS3.8
LOR Lormes 50.66 311⇑ *iP* **P** **06 42 49.5 -0.9**
comp=Z,13nm,1.2s,mb4.8
LOR LR LR
comp=Z,220nm,23.0s,MS4.1
LOR Lormes 50.66 311⇑ *iP* **P** **06 42 49.5 -0.9**
LOR pmax pmax
comp=Z,13nm,1.2s,mb4.7
LOR MLR MLR
comp=Z,220nm,23.0s,MS4.1
BAIF Baives 50.70 315⇑ *iP* **P** **06 42 50.2 -0.6**
comp=Z,64nm,1.5s,mb5.0
BAIF Baives 50.70 315⇑ *iP* **P** **06 42 50.2 -0.6**
BAIF pmax pmax
comp=Z,32nm,1.5s,mb5.0
BAIF Baives 50.70 315⇑ *iP* **P** **06 42 50.2 -0.6**
comp=Z,32nm,1.5s,mb5.0
PLDF La Plantade 50.73 310 *eP* **P** **06 42 50.7 -0.3**
SSF Saint Saulge 50.88 311⇑ *iP* **P** **06 42 51.4 -0.7**
comp=Z,25nm,1.0s,mb4.8
SSF Saint Saulge 50.88 311⇑ *iP* **P** **06 42 51.4 -0.7**
SSF pmax pmax
comp=Z,12nm,1.0s,mb4.8
SSF Saint Saulge 50.88 311⇑ *iP* **P** **06 42 51.4 -0.7**
comp=Z,12nm,1.0s,mb4.8
LBL Lubilhac 50.96 309 *eP* **P** **06 42 52.6 -0.2**
AVF Avril sur Loir 50.97 311⇑ *iP* **P** **06 42 51.9 -0.9**
comp=Z,18nm,1.1s,mb4.6
AVF Avril sur Loir 50.97 311⇑ *iP* **P** **06 42 51.9 -0.9**
AVF pmax pmax
comp=Z,9.0nm,1.1s,mb4.6
AVF Avril sur Loir 50.97 311⇑ *iP* **P** **06 42 51.9 -0.9**
comp=Z,8.9nm,1.1s,mb4.6
AGO Saint Agoulin 51.08 310 *eP* **P** **06 42 53.4 -0.2**
PYM Petit Puy Mans 51.15 309 *eP* **P** **06 42 53.3 -0.9**
BGF Bois d'Agland 51.30 310 *eP* **P** **06 42 54.6 -0.7**
MTLF Montolieu 51.66 306⇑ *iP* **P** **06 42 57.9 -0.1**
comp=Z,47nm,1.2s,mb5.0
MTLF Montolieu 51.66 306⇑ *iP* **P** **06 42 57.9 -0.1**
MTLF pmax pmax
comp=Z,23nm,1.2s,mb5.0
MTLF Montolieu 51.66 306⇑ *iP* **P** **06 42 57.9 -0.1**
comp=Z,23nm,1.2s,mb5.0
TCF Toulx Ste Croi 51.73 310⇑ *iP* **P** **06 42 57.9 -0.6**
comp=Z,22nm,1.1s,mb4.7
TCF Toulx Ste Croi 51.73 310⇑ *iP* **P** **06 42 57.9 -0.6**
TCF pmax pmax
comp=Z,11nm,1.1s,mb4.7
TCF Toulx Ste Croi 51.73 310⇑ *iP* **P** **06 42 57.9 -0.6**
comp=Z,11nm,1.1s,mb4.7
CAF Calviac 51.78 308⇑ *iP* **P** **06 42 58.8 -0.2**
comp=Z,48nm,1.2s,mb5.0
CAF Calviac 51.78 308⇑ *iP* **P** **06 42 58.8 -0.2**
CAF pmax pmax
comp=Z,24nm,1.2s,mb5.0
CAF Calviac 51.78 308⇑ *iP* **P** **06 42 58.8 -0.2**
comp=Z,24nm,1.2s,mb5.0
RJF Les Rejaudoux 52.18 309 *eP* **P** **06 43 01.8 -0.1**
comp=Z,69nm,1.3s,mb5.1
RJF *e*MLR MLR
comp=Z,144nm,20.8s,MS3.7
RJF Les Rejaudoux 52.18 309 *eP* **P** **06 43 01.8 -0.1**
comp=Z,34nm,1.3s,mb5.1
RJF LR LR
comp=Z,140nm,20.8s,MS4.0
RJF Les Rejaudoux 52.18 309 *eP* **P** **06 43 01.8 -0.1**
RJF pmax pmax
comp=Z,34nm,1.3s,mb5.1
RJF MLR MLR
comp=Z,140nm,20.8s,MS4.0
LFF La Frestale 52.73 308⇑ *iP* **P** **06 43 05.8 -0.1**
comp=Z,42nm,1.0s,mb5.0
LFF La Frestale 52.73 308⇑ *iP* **P** **06 43 05.8 -0.1**
LFF pmax pmax
comp=Z,21nm,1.0s,mb5.0
LFF La Frestale 52.73 308⇑ *iP* **P** **06 43 05.8 -0.1**
comp=Z,21nm,1.0s,mb5.0
EPF Esparros 53.03 306 *eP* **P** **06 43 08.2 0.0**
MFF Saint Martin d 53.36 310⇑ *iP* **P** **06 43 09.7 -0.9**
comp=Z,31nm,1.2s,mb4.8
MFF Saint Martin d 53.36 310⇑ *iP* **P** **06 43 09.7 -0.9**
MFF pmax pmax
comp=Z,15nm,1.2s,mb4.8
MFF Saint Martin d 53.36 310⇑ *iP* **P** **06 43 09.7 -0.9**
comp=Z,15nm,1.2s,mb4.8
LDF La Druitiere 53.41 313⇑ *iP* **P** **06 43 09.8 -1.1**
comp=Z,88nm,1.6s,mb5.1
LDF La Druitiere 53.41 313⇑ *iP* **P** **06 43 09.8 -1.1**
LDF pmax pmax
comp=Z,44nm,1.6s,mb5.1
LDF La Druitiere 53.41 313⇑ *iP* **P** **06 43 09.8 -1.1**
comp=Z,44nm,1.6s,mb5.1
FLN La Foliniere 53.65 313 *eP* **P** **06 43 11.8 -0.9**
comp=Z,24nm,1.0s,mb4.8
FLN *e*MLR MLR
comp=Z,306nm,18.0s,MS4.1
FLN La Foliniere 53.65 313 *eP* **P** **06 43 11.8 -0.9**
comp=Z,12nm,1.0s,mb4.8
FLN LR LR
comp=Z,310nm,18.0s,MS4.4
FLN La Foliniere 53.65 313 *eP* **P** **06 43 11.8 -0.9**
FLN pmax pmax
comp=Z,12nm,1.0s,mb4.8
FLN MLR MLR
comp=Z,310nm,18.0s,MS4.4
ESAC San Caprasio 53.68 304 P **P** **06 43 12.7 -0.4**
comp=Z,115nm,1.5s,mb5.6
EMOS Mosqueruela 53.76 303 P **P** **06 43 18.6 +4.9**
comp=Z,104nm,1.7s,mb5.5
CN2 Changchun 54.07 53 *eP* **P** **06 43 16.0 +0.1**
CN2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.9
CN2 AMB AMB
comp=Z,200nm,5.0s

CN2 LR LR
comp=N,700nm,21.0s,MS4.8
CN2 LR LR
comp=E,600nm,21.0s,MS4.8
CN2 LR LR
comp=Z,400nm,19.0s,MS4.5
SJPF Ste Jean 54.17 306 *e*P **P 06 43 16.5 -0.1**
comp=Z,33nm,1.0s,mb4.9
SJPF Ste Jean 54.17 306 *e*P **P 06 43 16.5 -0.1**
SJPF pmax pmax
comp=Z,16nm,1.0s,mb4.9
SJPF Ste Jean 54.17 306 *e*P **P 06 43 16.5 -0.1**
comp=Z,16nm,1.0s,mb4.9
EALK Alkurruntz 54.38 306 P **P 06 43 17.5 -0.6**
comp=Z,19nm,1.0s,mb5.0
SGMF Saint Gilles 55.02 312⇑ *i*P **P 06 43 22.0 -0.7**
comp=Z,43nm,1.3s,mb5.0
SGMF Saint Gilles 55.02 312⇑ *i*P **P 06 43 22.0 -0.7**
SGMF pmax pmax
comp=Z,21nm,1.3s,mb5.0
SGMF Saint Gilles 55.02 312⇑ *i*P **P 06 43 22.0 -0.7**
comp=Z,21nm,1.3s,mb5.0
QUIF Quistinic 55.43 312 *e*P **P 06 43 24.4 -1.2**
comp=Z,61nm,1.4s,mb5.2
QUIF Quistinic 55.43 312 *e*P **P 06 43 24.4 -1.2**
QUIF pmax pmax
comp=Z,30nm,1.4s,mb5.1
QUIF Quistinic 55.43 312 *e*P **P 06 43 24.4 -1.2**
comp=Z,30nm,1.4s,mb5.2
ROSF Rostrenen 55.50 313 *e*P **P 06 43 25.1 -1.0**
comp=Z,78nm,1.5s,mb5.2
ROSF Rostrenen 55.50 313 *e*P **P 06 43 25.1 -1.0**
ROSF pmax pmax
comp=Z,39nm,1.5s,mb5.2
ROSF Rostrenen 55.50 313 *e*P **P 06 43 25.1 -1.0**
comp=Z,39nm,1.5s,mb5.2
KS15 Wonju Array Si 56.45 61 *e*P **P 06 43 33.3 +0.2**
KSRS Korea Array 56.48 61 P **P 06 43 33.2 -0.1**
comp=Z,7.4nm,0.8s,mb4.7,baz=272,slow=7.2,SNR=32
KSRS LR LR 07 11 47.7
comp=Z,354nm,18.5s,MS4.5,baz=84,slow=40
ESDC Sonseca Array 56.49 302 P **P 06 43 32.8 -0.6**
comp=Z,0.2nm,0.3s,mb3.6,baz=67,slow=6.4,SNR=5.2
PAB San Pablo 56.80 302 *e*P **P 06 43 35.4 -0.2**
comp=Z,13nm,1.1s,mb4.9
PAB *e*pP pP 06 43 44.5 -0.5
PAB San Pablo 56.80 302 *e*P **P 06 43 35.4 -0.2**
PAB *e**PP pP 06 43 44.5 -0.4
PAB pmax pmax
comp=Z,13nm,1.1s,mb4.9
YAK Yakutsk 57.56 31*c* *i*P **P 06 43 40.0 -0.5**
YAK pmax pmax
comp=Z,39nm,0.9s,mb5.4
YAK MLR MLR
comp=Z,300nm,16.0s,MS4.5
KLR Kul'dur 58.22 46 *e*P **P 06 43 42.0 -3.4**
TIXI Tiksi 59.02 20 *e*P **P 06 43 50.4 -0.2**
comp=Z,34nm,1.6s,mb5.1
TIXI *e*pP pP 06 43 59.4 -0.5
TIXI Tiksi 59.02 20*c* *i*P **P 06 43 49.4 -1.2**
TIXI pmax pmax
comp=Z,23nm,1.8s,mb4.9
TIXI MLR MLR
comp=Z,400nm,20.0s,MS4.5
EVO Evora 59.77 301 *e*P **P 06 43 58.0 +1.6**
comp=Z,22nm,1.1s,mb4.8
EVO *e*MLR MLR
comp=Z,139nm,19.8s,MS3.8
EVOP Sao Brissos 59.86 301 *e*P **P 06 43 58.0 +1.1**
comp=Z,11nm,1.1s,mb4.8
DAG Danmarks Havn 63.58 345⇑ *i*P **P 06 44 20.9 -0.5**
DAG pmax pmax
comp=Z,6.0nm,0.9s,mb4.6
DAG Danmarks Havn 63.58 345⇑ *i*P **P 06 44 20.9 -0.5**
comp=Z,5.9nm,0.9s,mb4.6
BOSA Boshof 64.19 216 P **P 06 44 27.5 +1.5**
BOSA pmax pmax
comp=Z,7.0nm,0.5s,mb5.0
BOSA Boshof 64.19 216 P **P 06 44 27.5 +1.5**
comp=Z,6.6nm,0.5s,mb4.9,baz=29,slow=6.2,SNR=34
MJAR Matsushiro Arr 64.74 60 P **P 06 44 29.1 -0.6**
MJAR pmax pmax
comp=Z,2.0nm,0.9s
MJAR Matsushiro Arr 64.74 60 P **P 06 44 29.1 -0.6**
comp=Z,2.4nm,0.9s,mb4.2,baz=274,slow=6.1,SNR=6.2
MJAR Matsushiro Arr 64.74 60 P **P 06 44 29.0 -0.7**
LIC Lamto 66.75 266 *e*P **P 06 44 47.7 +4.7**
comp=Z,60nm,1.3s,mb5.2
LIC *e*MLR MLR
comp=Z,256nm,21.2s,MS4.1
LIC Lamto 66.75 266 *e*P **P 06 44 47.7 +4.7**
comp=Z,30nm,1.3s,mb5.2
LIC LR LR
comp=Z,130nm,21.3s,MS4.1
LIC Lamto 66.75 266 *e*P **P 06 44 47.7 +4.7**
comp=Z,30nm,1.3s,mb5.2
MA2 Magadan 67.95 33⇓ *e*P **P 06 44 46.5 -3.3**
MA2 pmax pmax
comp=Z,10.0nm,1.2s,mb4.7
MA2 MLR MLR
comp=Z,100nm,16.0s,MS4.1
SEY Seymchan 68.00 30⇑ *e*P **P 06 44 50.9 +0.9**
ALE Alert 69.39 353 P **P 06 44 59.0 +0.5**
comp=Z,106nm,1.2s,mb5.6,SNR=7.9
BILL Bilibino 72.01 23 *e*P **P 06 45 15.4 +0.8**
BILL Bilibino 72.01 23⇓ *i*P **P 06 45 15.3 +0.7**
BILL pmax pmax
comp=Z,17nm,1.9s,mb4.7
BILL MLR MLR
comp=Z,300nm,17.0s,MS4.6
BILL Bilibino 72.01 23 *e*P **P 06 45 15.4 +0.8**
WRA Warramunga Arr 83.25 116 P **P 06 46 18.4 +0.4**
WRA pmax pmax
comp=Z,1.0nm,0.8s
WRA Warramunga Arr 83.25 116 P **P 06 46 18.4 +0.4**
comp=Z,1.1nm,0.8s,mb3.9,baz=308,slow=4.6,SNR=6.5
WRAB Tennant Creek 83.26 116 *i*P **P 06 46 18.0 -0.1**
ASAR Alice Springs 84.75 119 P **P 06 46 26.7 +1.1**
ASAR pmax pmax
comp=Z,1.0nm,0.8s
ASAR Alice Springs 84.75 119 P **P 06 46 26.7 +1.1**
comp=Z,0.5nm,0.8s,mb3.7,baz=316,slow=5.2,SNR=5.1
IMA2 Indian Mountai 85.03 14 *e*P **P 06 46 26.6 +0.3**
IMA2 Indian Mountai 85.03 14 *e*P **P 06 46 26.6 +0.3**
INK Inuvik 86.08 6 *e*P **P 06 46 32.2 +0.6**
comp=Z,146nm,0.7s,mb6.3
INK Inuvik 86.08 6 *e*P **P 06 46 32.2 +0.7**
INK pmax pmax
comp=Z,146nm,0.7s
INK Inuvik 86.08 6 *e*P **P 06 46 32.2 +0.7**
comp=Z,146nm,0.7s,mb6.3
MCK McKinley 88.07 13 *e*P **P 06 46 41.9 +0.6**
MCK pmax pmax
comp=Z,18nm,1.0s,mb5.3
MCK McKinley 88.07 13 *e*P **P 06 46 41.9 +0.6**
comp=Z,18nm,1.0s,mb5.3
EGAK Eagle 88.53 10 *e*P **P 06 46 42.5 -0.8**
EGAK Eagle 88.53 10 *e*P **P 06 46 42.5 -0.9**
SCHQ Schefferville 89.13 333 LR LR 07 30 22.2
comp=Z,96nm,18.5s,MS4.2,baz=246,slow=38
DAWY Dawson 89.46 9 *e*P **P 06 46 48.7 +0.9**
DAWY Dawson 89.46 9 *e*P **P 06 46 48.7 +0.9**
PMR Palmer 89.93 14 *e*P **P 06 46 50.3 +0.3**
comp=Z,5.6nm,0.9s,mb4.9
PMR *e*pP pP 06 47 00.1 +0.3
PMR Palmer 89.93 14 *e*P **P 06 46 50.3 +0.3**
PMR *e**PP pP 06 47 00.1 +0.3
PMR pmax pmax
comp=Z,6.0nm,0.9s,mb4.9
PMR Palmer 89.93 14 *e*P **P 06 46 50.3 +0.3**
comp=Z,5.6nm,0.9s,mb4.9
PMR *e*pP pP 06 47 00.1 +0.3
YKA Yellowknife Ar 92.60 358 P **P 06 47 02.9 +0.5**
YKA Yellowknife Ar 92.60 358 P **P 06 47 02.9 +0.5**
YKA pmax pmax
comp=Z,2.0nm,0.8s
YKA Yellowknife Ar 92.60 358 P **P 06 47 02.9 +0.5**
comp=Z,2.2nm,0.8s,mb4.6,baz=351,slow=5.0,SNR=45
FCC Fort Churchill 94.08 348 *e*P **P 06 47 09.8 +0.5**
comp=Z,6.6nm,1.1s,mb5.0
FCC *e*pP pP 06 47 18.9 -0.1
FCC Fort Churchill 94.08 348 *e*P **P 06 47 09.9 +0.6**
FCC *e**PP pP 06 47 18.9 -0.2
FCC pmax pmax
comp=Z,7.0nm,1.1s,mb5.0
FCC Fort Churchill 94.08 348 *e*P **P 06 47 09.9 +0.6**
comp=Z,6.6nm,1.1s,mb5.0
FCC *e*pP pP 06 47 18.9 -0.2
STKA Stephens Creek 94.64 123 LR LR 07 28 01.1
comp=Z,201nm,20.1s,MS4.6,baz=338,slow=34
NVAR Mina Array Bea 116.73 0 PKP PKPdf 06 52 37.7 +2.1
comp=Z,0.7nm,0.8s,baz=262,slow=4.1,SNR=5.0
LPM Los Pinos Moun 119.89 349 *e*PKPdf PKPdf 06 52 39.6 -2.3
LPM Los Pinos Moun 119.89 349 *e*PKIKP PKPdf 06 52 39.6 -2.2
TXAR Lajitas Array 124.12 345 PKIKP PKPdf 06 52 50.6 +0.5
TXAR pmax pmax
comp=Z,1.0nm,0.8s
TXAR Lajitas Array 124.12 345 PKP PKPdf 06 52 50.6 +0.5
comp=Z,0.6nm,0.8s,baz=10,slow=1.4,SNR=6.1

ATH ***29*** *06:39:33.9, 3903N±2825E, h10km, MD3.5/3*
CSEM ***29*** *06:39:38.4±0.1, 3906N×2771E, h2km, MD3.0, Error ellipse: s-maj=1.5km s-min=1.1km az=119.0*
ISK ***29*** *06:39:38.4, 3907N×2771E, h5km, MD3.2*
ISCJB ***29*** *06:39:39.3±0.5, 3904N±002×2779E±003, h3km±5km, Error ellipse: s-maj=4.2km s-min=3.2km az=33.0*
DDA ***29*** *06:39:39.7, 3900N×2781E, h6km±1km, Md3.0*
ISC 29 06:39:39.8±0.4, 3903N±002×2779E±003, h4km±4km, n35, σ1§11/46, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKHS	**Akhisar**	**0.16**	**173**	*i* P	**Pg**	**06 39 41.9**	**-1.0**
AKHS				*i* S	**Sg**	**06 39 44.1**	**-0.8**
AKS	**Akhisar**	**0.16**	**173**	*e*PG	**Pg**	**06 39 43.7**	**+0.8**
BALB	**Balikesir**	**0.61**	**7**	*e*PG	**Pg**	**06 39 51.1**	**-0.4**
BALB				*e*SG	**Sg**	**06 40 00.1**	**+0.6**
BTOK	**Tokmak**	**0.75**	**14**	*i* P	**Pg**	**06 39 54.0**	**-0.2**
BTOK				*i* S	**Sg**	**06 40 04.1**	**+0.1**
BTOK	**Tokmak**	**0.75**	**14**	*i* P	**Pg**	**06 39 54.0**	**-0.2**
KDAG	**Bornova**	**0.75**	**213**	*i* P	**Pg**	**06 39 52.7**	**-1.5**
KDAG				*i* S	**Sg**	**06 40 04.8**	**+0.9**
DST	**Dursunbey**	**0.87**	**48**	*e*PG	**Pg**	**06 39 56.1**	**-0.4**
DST				*e*SG	**Sg**	**06 40 09.6**	**+1.9**
BLCB	**Balcova**	**0.87**	**222**	*e*PG	**Pg**	**06 39 55.9**	**-0.6**
BLCB				*e*SG	**Sg**	**06 40 08.8**	**+1.0**
AYVA	**Ayvalik**	**0.90**	**288**	*i* P	**Pg**	**06 39 57.5**	**+0.5**
AYVA				*i* S	**Sg**	**06 40 11.2**	**+2.5**
AYVA	**Ayvalik**	**0.90**	**288**	*i* P	**Pg**	**06 39 57.5**	**+0.5**
AYVA				*i* S	**Sg**	**06 40 11.2**	**+2.5**
URLA	**Izmir**	**1.15**	**235**	*i* P	**Pg**	**06 40 00.8**	**-1.1**
URLA				*i* S	**Sg**	**06 40 18.5**	**+1.7**
PRK	**Paraskevi**	**1.20**	**281**	*e*PB	**Pb**	**06 40 03.0**	**-0.1**
EDC	**Edincik**	**1.31**	**2**	*e*PN	**Pn**	**06 40 03.5**	**-1.5**
GDZ	**Gediz**	**1.32**	**87**	*i* P	**Pn**	**06 40 03.1**	**-1.9**
GDZ				*i* S	**Sg**	**06 40 20.5**	**-1.7**
BNT	**Bandirma**	**1.32**	**4**	*e*PN	**Pn**	**06 40 04.5**	**-0.6**
EZN	**Ezine**	**1.38**	**305**	*e*PN	**Pn**	**06 40 04.3**	**-1.6**
SMG	**Samos**	**1.52**	**210**	*e*PN	**Pn**	**06 40 06.0**	**-1.8**
BOZC	**Bozcaada**	**1.57**	**302**	*i* P	**Pn**	**06 40 07.1**	**-1.3**
BOZC				*i* S	**Sn**	**06 40 31.2**	**+2.0**
RKY	**Sarkoy-Tekirda**	**1.72**	**344**	*e*PN	**Pn**	**06 40 09.1**	**-1.4**
ALT	**Altintas**	**1.81**	**89**	*e*PN	**Pn**	**06 40 12.5**	**+0.8**
GADA	**Gvkgeada**	**1.86**	**309**	*e*PN	**Pn**	**06 40 11.8**	**-0.6**
YER	**Yerkesik**	**1.94**	**168**	*e*PN	**Pn**	**06 40 14.8**	**+1.3**
YLV	**Yalova**	**1.96**	**38**	*e*PN	**Pn**	**06 40 14.4**	**+0.6**
ADVT	**Abdulvahap**	**2.05**	**46**	*e*PN	**Pn**	**06 40 15.3**	**+0.2**
ENEZ	**Enez**	**2.12**	**324**	*e*PN	**Pn**	**06 40 15.1**	**-0.9**
CTT	**Catalca**	**2.17**	**13**	*e*PN	**Pn**	**06 40 16.5**	**-0.2**
SHUT	**Suhut-Afyon**	**2.21**	**102**	*e*PN	**Pn**	**06 40 18.1**	**+0.8**
HRT	**Hereke**	**2.30**	**38**	*e*PN	**Pn**	**06 40 19.6**	**+1.1**
DAT	**Datca**	**2.31**	**184**	*e*PN	**Pn**	**06 40 19.1**	**+0.5**
GPA	**Golpazari**	**2.31**	**56**	*e*PN	**Pn**	**06 40 19.4**	**+0.7**
KLYT	**Kilyos**	**2.42**	**23**	*e*PN	**Pn**	**06 40 20.2**	**+0.1**
ESKT	**Eskisehir**	**2.42**	**77**	*e*PN	**Pn**	**06 40 21.5**	**+1.3**
GULT	**Gulveren**	**2.52**	**56**	*e*PN	**Pn**	**06 40 22.5**	**+0.9**
BCK	**Bucak**	**2.71**	**125**	*e*PN	**Pn**	**06 40 25.6**	**+1.5**
RDO	**Rodhopi**	**2.73**	**321**	*e*PN	**Pn**	**06 40 23.5**	**-0.9**

ISCJB ***29*** *06:50:03.6±0.2, 4615N±001×659E±002, h0km±2km, Error ellipse: s-maj=1.8km s-min=1.7km az=159.1*
CSEM ***29*** *06:50:05.6±0.0, 4612N×672E, h8km, ML2.7/24, Error ellipse: s-maj=0.9km s-min=0.7km az=86.0*
LDG ***29*** *06:50:05.7±0.0, 4613N×673E, h3km, Md2.9/3, Ml2.7/26, Error ellipse: s-maj=1.0km s-min=0.9km az=92.0*
NEIC ***29*** *06:50:05.7, 4613N×673E, h3km, ML2.7(LDG), ML2.6(STR), After LDG.*
ZUR ***29*** *06:50:05.3, 4614N×672E, h-3km±3km, ML2.0/16*
STR ***29*** *06:50:07.6±0.2, 4626N×646E, h5km, Ml2.6, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
GEN ***29*** *06:50:08.4, 4603N×689E, h0km, ML2.0*
ISC 29 06:50:05.0±0.2, 4613⁷N±0009×665E±002, h7km±2km, n134, σ0§93/284, 9C-4D, Switzerland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMV	**Vieux Emosson** 2μm,0.3s	**0.19**	**113**	*i* Sg	**Pg**	**06 50 08.7**	**-0.1**
EMV	**Vieux Emosson** 2μm,0.3s	**0.19**	**113⇓**	*i*Pg	**Sg**	**06 50 11.1**	**-0.3**
EMV	**Vieux Emosson** 2μm,0.3s	**0.19**	**113⇓**	*i*Pg	**Sg**	**06 50 11.1**	**-0.3**
SALAN	**Lac Salanfe** 745nm,0.3s	**0.23**	**88⇑**	*i*Pg	**Pg**	**06 50 09.3**	**-0.2**
SALAN				*e*Sg	**Sg**	**06 50 12.2**	**-0.3**
AIGLE	**Aigle** 428nm,0.3s	**0.29**	**46⇑**	*i*Pg	**Pg**	**06 50 10.9**	**+0.1**
AIGLE				*e*Sg	**Sg**	**06 50 15.1**	**+0.4**
GRYON	**Gryon** 375nm,0.2s	**0.34**	**70**	*i* Sg	**Pg**	**06 50 11.5**	**-0.1**
GRYON	**Gryon** 375nm,0.2s	**0.34**	**70⇑**	*i*Pg	**Sg**	**06 50 15.9**	**-0.2**
GIMEL	**St. Georges /** 250nm,0.5s	**0.48**	**327**	*e*P	**Pg**	**06 50 15.6**	**+1.4**
SENIN	**Lac Senin/Sane** 522nm,0.3s	**0.51**	**63**	*i* Sg	**Pg**	**06 50 14.7**	**0.0**
SENIN	**Lac Senin/Sane** 522nm,0.3s	**0.51**	**63**	*i* Pg	**Sg**	**06 50 21.4**	**+0.1**
DIX	**Grande Dixence** 518nm,0.3s	**0.53**	**96⇓**	*i*Pg	**Pg**	**06 50 15.2**	**0.0**
DIX				*i* Sg	**Sg**	**06 50 21.8**	**-0.4**
CABF	**La Chapelle**	**0.61**	**321**	*e*Pn	**Pg**	**06 50 20.3**	**+3.5**
CABF				*e*Sg	**Sg**	**06 50 26.7**	**+1.9**
CABF				*e*Sn	**Sg**	**06 50 30.5**	**+5.7**
CABF	**La Chapelle** 98nm,0.6s,SNR=1.0	**0.61**	**321**	*e*Pg	**Pg**	**06 50 18.1**	**+1.3**
CABF				*e*Pn	**Pg**	**06 50 20.3**	**+3.5**
CABF				*e*Sg	**Sg**	**06 50 26.7**	**+1.9**
CABF				*e*Sn	**Sg**	**06 50 30.5**	**+5.7**
CABF	**La Chapelle** 49nm,0.6s,SNR=1.0	**0.61**	**321**	*e*Pn	**Pg**	**06 50 20.3**	**+3.5**
CABF				*e*Sg	**Sg**	**06 50 26.7**	**+1.9**
CABF				*e*Sn	**Sg**	**06 50 30.5**	**+5.7**
LPL	**La Plagne** SNR=1.0	**0.62**	**175**	*e*Pg	**Pg**	**06 50 17.3**	**+0.3**
LPL				*e*Sg	**Sg**	**06 50 25.4**	**+0.4**
LPL	**La Plagne** 37nm,0.2s,SNR=1.0 SNR=1.0	**0.62**	**175**	*e*Pg	**Pg**	**06 50 17.3**	**+0.3**
LPL				*e*Sg	**Sg**	**06 50 25.4**	**+0.4**
LPG	**La Plagne** 19nm,0.2s,SNR=1.0 SNR=1.0	**0.64**	**173**	*e*Pg	**Pg**	**06 50 17.7**	**+0.4**
LPG				*e*Sg	**Sg**	**06 50 26.4**	**+0.7**
LPG	**La Plagne** 44nm,0.3s SNR=1.0	**0.64**	**173**	*e*Pg	**Pg**	**06 50 17.7**	**+0.4**
LPG				*e*Sg	**Sg**	**06 50 26.4**	**+0.7**
TORNY	**Torny/Romont** 22nm,0.3s 201nm,0.5s	**0.67**	**19⇓**	*i*P	**Pg**	**06 50 18.7**	**+0.8**
LKBD	**Leukerbad** 58nm,0.4s	**0.72**	**69**	*e*P	**Pg**	**06 50 18.8**	**-0.1**
LKBD				*e*S	**Sg**	**06 50 28.0**	**-0.3**
LKBD2	**Leukerbad 2** 58nm,0.4s 55nm,0.0s	**0.73**	**71**	*e*P	**Pg**	**06 50 19.0**	**0.0**
LSD	**Ceresole Reale**	**0.77**	**152**	P	**Pg**	**06 50 19.5**	**-0.2**
BRANT	**Les Verrieres** 112nm,2.0s	**0.81**	**352**	*e*P	**Pg**	**06 50 21.4**	**+0.8**
WIMIS	**Wimmis** 76nm,2.0s	**0.86**	**52⇑**	*e*P	**Pg**	**06 50 21.6**	**+0.1**
MMK	**Mattmark**	**0.92**	**95**	*e*P	**Pg**	**06 50 21.9**	**-0.7**
ORO	**Oropa** 54nm,2.0s	**1.06**	**118**	Pg	**Pg**	**06 50 24.9**	**-0.4**
RSP	**Reno Superiore**	**1.07**	**156**	Pg	**Pg**	**06 50 25.4**	**-0.2**
RSP				S	**Sg**	**06 50 38.2**	**-1.3**
BNI	**Bardonecchia**	**1.08**	**179**	*e*Pg	**Pg**	**06 50 25.9**	**+0.2**
BNI				*e*Sg	**Sg**	**06 50 40.5**	**+0.6**
BNI	**Bardonecchia**	**1.08**	**179**	*e*Pg	**Pg**	**06 50 25.9**	**+0.1**
BNI				*e*Sg	**Sg**	**06 50 40.5**	**+0.7**
HASLI	**Hasliberg/Brie** 1.2nm,0.0s	**1.21**	**59⇑**	*e*P	**Pb**	**06 50 28.0**	**-0.2**
RRL	**Cesana Torines**	**1.22**	**175**	P	**Pb**	**06 50 28.4**	**+0.1**
RRL				S	**Sg**	**06 50 44.1**	**-0.1**
LOMF	**Lomont**	**1.22**	**6**	Pn	**Pn**	**06 50 29.3**	**+0.9**
ORIF	**Oris-en-Rattie**	**1.33**	**204**	*e*Pg	**Pg**	**06 50 31.0**	**+0.5**
ORIF				*e*Sg	**Sg**	**06 50 48.4**	**+0.6**
ORIF	**Oris-en-Rattie** 22nm,0.2s,SNR=1.0	**1.33**	**204**	*e*Pn	**Pn**	**06 50 30.2**	**+0.2**
ORIF				*e*Pg	**Pg**	**06 50 31.0**	**+0.5**
ORIF				*e*Sg	**Sg**	**06 50 48.4**	**+0.6**
ORIF	**Oris-en-Rattie** 11nm,0.2s,SNR=1.0	**1.33**	**204**	*e*Pg	**Pg**	**06 50 31.0**	**+0.5**
ORIF				*e*Sg	**Sg**	**06 50 48.4**	**+0.6**
MBDF	**Montbardon** SNR=1.0	**1.41**	**176**	*e*Pg	**Pg**	**06 50 31.8**	**-0.2**
MBDF				*e*Sn	**Sn**	**06 50 48.1**	**-1.8**
MBDF				*e*Sg	**Sg**	**06 50 49.9**	**-0.4**
MBDF	**Montbardon** 19nm,0.4s,SNR=1.0	**1.41**	**176**	*e*Pn	**Pn**	**06 50 30.3**	**-0.8**
MBDF				*e*Pg	**Pg**	**06 50 31.8**	**-0.2**
MBDF				*e*Sn	**Sn**	**06 50 48.1**	**-1.8**
MBDF				*e*Sg	**Sg**	**06 50 49.9**	**-0.4**
MBDF	**Montbardon** SNR=1.0	**1.41**	**176**	*e*Pg	**Pg**	**06 50 31.8**	**-0.2**
MBDF				*e*Sn	**Sn**	**06 50 48.1**	**-1.8**
MBDF				*e*Sg	**Sg**	**06 50 49.9**	**-0.4**
BNALP	**Bannalp** 9.4nm,0.4s,SNR=1.0 45nm,0.2s	**1.43**	**58**	*e*P	**Pn**	**06 50 32.1**	**+0.8**
FUSIO	**Fusio** 45nm,0.7s	**1.43**	**76**	*e*P	**Pn**	**06 50 31.5**	**+0.1**
BBS	**Basel-Blauen**	**1.45**	**24**	Pn	**Pn**	**06 50 33.1**	**+1.4**
VAI	**Varese**	**1.50**	**100**	Pg	**Pg**	**06 50 32.8**	**-1.0**
PZZ	**Prazzo**	**1.66**	**169**	Pg	**Pg**	**06 50 36.5**	**-0.3**
PZZ				S	**Sn**	**06 50 57.7**	**+1.6**
HINF	**Hinteralfeld** SNR=1.0	**1.69**	**5**	*e*Pg	**Pg**	**06 50 37.2**	**-0.1**
HINF				*e*Sn	**Sn**	**06 50 54.9**	**-1.8**
HINF				*e*Sg	**Sg**	**06 50 58.9**	**-0.3**
HINF	**Hinteralfeld** 9.9nm,0.2s,SNR=1.0	**1.69**	**5**	*e*Pn	**Pn**	**06 50 34.6**	**-0.2**
HINF				*e*Pg	**Pg**	**06 50 37.2**	**-0.1**
HINF				*e*Sn	**Sn**	**06 50 54.9**	**-1.8**
HINF				*e*Sg	**Sg**	**06 50 58.9**	**-0.3**
HINF	**Hinteralfeld** SNR=1.0	**1.69**	**5**	*e*Pg	**Pg**	**06 50 37.2**	**-0.1**
HINF				*e*Sn	**Sn**	**06 50 54.9**	**-1.8**
HINF				*e*Sg	**Sg**	**06 50 58.9**	**-0.3**
MOF	**Molkenrain** 4.9nm,0.2s,SNR=1.0	**1.75**	**11**	Pn	**Pn**	**06 50 37.0**	**+1.3**
HAU	**Haudompre**	**1.88**	**354**	*e*Pg	**Pg**	**06 50 41.0**	**0.0**
HAU				*e*Sn	**Sn**	**06 51 00.0**	**-1.5**
HAU				*e*Sg	**Sg**	**06 51 05.4**	**0.0**
HAU	**Haudompre** SNR=1.0 18nm,0.3s,SNR=1.0	**1.88**	**354**	*e*Pn	**Pn**	**06 50 37.6**	**+0.1**
HAU				*e*Pg	**Pg**	**06 50 41.0**	**0.0**
HAU				*e*Sn	**Sn**	**06 51 00.0**	**-1.5**
HAU				*e*Sg	**Sg**	**06 51 05.4**	**0.0**
HAU	**Haudompre** SNR=1.0 9.2nm,0.3s,SNR=1.0	**1.88**	**354**	*e*Pg	**Pg**	**06 50 41.0**	**0.0**
HAU				*e*Sn	**Sn**	**06 51 00.0**	**-1.5**
HAU				*e*Sg	**Sg**	**06 51 05.4**	**0.0**
VIVF	**Saint-Julien-I** 18nm,0.2s,SNR=1.0	**1.89**	**228**	*e*Pg	**Pg**	**06 50 41.4**	**+0.2**
VIVF				*e*Sg	**Sg**	**06 51 06.2**	**+0.6**
VIVF	**Saint-Julien-I** 9.1nm,0.2s,SNR=1.0	**1.89**	**228**	*e*Pn	**Pn**	**06 50 38.3**	**+0.7**
VIVF				*e*Pg	**Pg**	**06 50 41.4**	**+0.2**
VIVF				*e*Sg	**Sg**	**06 51 06.2**	**+0.6**
VIVF	**Saint-Julien-I**	**1.89**	**228**	*e*Pg	**Pg**	**06 50 41.4**	**+0.2**
VIVF				*e*Sg	**Sg**	**06 51 06.2**	**+0.6**
ENR	**Entracque**	**1.99**	**164**	P	**Pn**	**06 50 40.4**	**+1.4**
SMF	**Signal de Mont** SNR=1.0	**2.01**	**286**	*e*Pn	**Pn**	**06 50 39.2**	**-0.1**
SMF	**Signal de Mont**	**2.01**	**286**	*e*P	**Pn**	**06 50 41.6**	**+2.3**
SMF	**Signal de Mont**	**2.01**	**286**	*e*Pg	**Pg**	**06 50 43.8**	**+0.4**
SMF				*e*Sg	**Sg**	**06 51 10.2**	**+0.7**
SMF	**Signal de Mont** 12nm,0.2s,SNR=1.0	**2.01**	**286**	*e*P	**Pn**	**06 50 41.6**	**+2.3**
SMF				*e*Pg	**Pg**	**06 50 43.8**	**+0.4**
SMF				*e*Sg	**Sg**	**06 51 10.2**	**+0.7**
SMF	**Signal de Mont**	**2.01**	**286**	*e*P	**Pn**	**06 50 41.6**	**+2.3**
SMF	**Signal de Mont**	**2.01**	**286**	*e*Pg	**Pg**	**06 50 43.8**	**+0.4**
SMF				*e*Sg	**Sg**	**06 51 10.2**	**+0.7**
PCP	**Pian Castagno** 5.9nm,0.2s,SNR=1.0	**2.08**	**139**	P	**Pn**	**06 50 42.3**	**+2.0**
ECH	**Echery**	**2.11**	**9**	Pn	**Pn**	**06 50 40.7**	**+0.1**
ECH				Sg	**Sg**	**06 51 12.3**	**-0.4**
PLDF	**La Plantade**	**2.11**	**267**	Pn	**Pn**	**06 50 41.1**	**+0.4**
COLF	**Collangettes**	**2.16**	**254**	Pn	**Pn**	**06 50 41.7**	**+0.4**
TOUF	**Mont Tournerai**	**2.17**	**168**	Pn	**Pn**	**06 50 44.3**	**+2.9**
MONE	**Monesi**	**2.20**	**159**	P	**Pn**	**06 50 44.3**	**+2.4**
FIN	**Finale Ligure**	**2.22**	**150**	P	**Pn**	**06 50 44.5**	**+2.3**
LOR	**Lormes** baz=124,SNR=1.0	**2.23**	**302**	*e*Pn	**Pn**	**06 50 42.9**	**+0.6**
LOR	**Lormes** baz=118	**2.23**	**302**	*e*Pg	**Pg**	**06 50 48.1**	**+0.4**
LOR				*e*Sn	**Sn**	**06 51 09.3**	**-0.7**
LOR				*e*Sg	**Sg**	**06 51 17.0**	**+0.5**
LOR	**Lormes** 8.8nm,0.2s,SNR=1.0	**2.23**	**302**	*e*Pn	**Pn**	**06 50 42.9**	**+0.6**
LOR				*e*Pg	**Pg**	**06 50 48.1**	**+0.4**
LOR				*e*Sn	**Sn**	**06 51 09.3**	**-0.7**
LOR				*e*Sg	**Sg**	**06 51 17.0**	**+0.5**
LOR	**Lormes**	**2.23**	**302**	*e*Pg	**Pg**	**06 50 48.1**	**+0.4**
LOR				*e*Sn	**Sn**	**06 51 09.3**	**-0.7**
LOR				*e*Sg	**Sg**	**06 51 17.0**	**+0.5**
SMRF	**Simiane la Rot** 4.4nm,0.2s,SNR=1.0 SNR=1.0	**2.29**	**200**	*e*Pg	**Pg**	**06 50 48.9**	**+0.1**
SMRF				*e*Sn	**Sn**	**06 51 09.9**	**-1.7**
SMRF	**Simiane la Rot** 2.1nm,0.2s	**2.29**	**200**	*e*Pn	**Pn**	**06 50 44.3**	**+1.2**
SMRF				*e*Pg	**Pg**	**06 50 48.9**	**+0.1**
SMRF				*e*Sn	**Sn**	**06 51 09.9**	**-1.7**
SMRF	**Simiane la Rot** SNR=1.0	**2.29**	**200**	*e*Pg	**Pg**	**06 50 48.9**	**+0.1**
SMRF				*e*Sn	**Sn**	**06 51 09.9**	**-1.7**
LUCF	**Luceram** 1.0nm,0.2s	**2.30**	**167**	Pn	**Pn**	**06 50 46.4**	**+3.2**
CDF	**Champ du Feu** SNR=1.0	**2.32**	**10**	*e*Pg	**Pg**	**06 50 48.6**	**-0.7**
CDF				*e*Sn	**Sn**	**06 51 10.2**	**-2.0**
CDF				*e*Sg	**Sg**	**06 51 18.5**	**-0.9**
CDF	**Champ du Feu** 5.1nm,0.3s,SNR=1.0	**2.32**	**10**	*e*Pn	**Pn**	**06 50 42.9

SFTF			*e*Sn	**Sn**	**06 51 11.5**	**-1.4**
SFTF			*e*Sg	**Sg**	**06 51 20.1**	**-0.1**
	7.4nm,0.3s,baz=150					
SFTF	**Sexfontaines**	**2.34 333**	*e*Pn	**Pn**	**06 50 44.5**	**+0.6**
SFTF			*e*Pg	**Pg**	**06 50 49.5**	**-0.3**
SFTF			*e*Sn	**Sn**	**06 51 11.5**	**-1.4**
SFTF			*e*Sg	**Sg**	**06 51 20.1**	**-0.1**
SFTF	**Sexfontaines**	**2.34 333**	*e*Pg	**Pg**	**06 50 49.5**	**-0.3**
SFTF			*e*Sn	**Sn**	**06 51 11.5**	**-1.4**
SFTF			*e*Sg	**Sg**	**06 51 20.1**	**-0.1**
	3.7nm,0.3s					
SSF	**Saint Saulge**	**2.35 294**	*e*Pg	**Pg**	**06 50 50.6**	**+0.5**
	SNR=1.0					
SSF			*e*Sn	**Sn**	**06 51 12.0**	**-1.2**
	SNR=1.0					
SSF			*e*Sg	**Sg**	**06 51 21.2**	**+0.6**
	5.9nm,0.3s,SNR=1.0					
SSF	**Saint Saulge**	**2.35 294**	*e*Pn	**Pn**	**06 50 44.3**	**+0.3**
SSF			*e*Pg	**Pg**	**06 50 50.6**	**+0.5**
SSF			*e*Sn	**Sn**	**06 51 12.0**	**-1.2**
SSF			*e*Sg	**Sg**	**06 51 21.2**	**+0.6**
SSF	**Saint Saulge**	**2.35 294**	*e*Pg	**Pg**	**06 50 50.6**	**+0.5**
	SNR=1.0					
SSF			*e*Sn	**Sn**	**06 51 12.0**	**-1.2**
	SNR=1.0					
SSF			*e*Sg	**Sg**	**06 51 21.2**	**+0.6**
	3.0nm,0.3s,SNR=1.0					
AVF	**Avril sur Loir**	**2.37 287**	*e*Pg	**Pg**	**06 50 50.5**	**+0.1**
AVF			*e*Sg	**Sg**	**06 51 21.6**	**+0.5**
	6.0nm,0.3s,SNR=1.0					
AVF	**Avril sur Loir**	**2.37 287**	*e*Pn	**Pn**	**06 50 45.1**	**+0.9**
AVF			*e*Pg	**Pg**	**06 50 50.5**	**+0.1**
AVF			*e*Sg	**Sg**	**06 51 21.6**	**+0.5**
AVF	**Avril sur Loir**	**2.37 287**	*e*Pg	**Pg**	**06 50 50.5**	**+0.1**
AVF			*e*Sg	**Sg**	**06 51 21.6**	**+0.5**
	3.0nm,0.3s,SNR=1.0					
IMI	**Imperia**	**2.39 158**	Pg	**Pn**	**06 50 46.7**	**+2.1**
IMI	**Imperia**	**2.39 158**	P	**Pn**	**06 50 47.1**	**+2.5**
NEGI	**Negi**	**2.41 161**	P	**Pn**	**06 50 46.9**	**+2.1**
DAVA	**Damuels**	**2.50 61**	⇑*i*Pg	**Pg**	**06 50 52.6**	**-0.3**
DAVA			⇑*i*Sg	**Sg**	**06 51 27.2**	**+1.9**
DAVA			⇑*i*Sn	**Sg**	**06 51 27.2**	**+1.9**
DAVA	**Damuels**	**2.50 61**	⇑*i*Pn	**Pg**	**06 50 52.6**	**-0.3**
LBL	**Lubilhac**	**2.55 250**	Pn	**Pn**	**06 50 47.3**	**+0.6**
PYM	**Petit Puy Mans**	**2.57 263**	Pn	**Pn**	**06 50 47.2**	**+0.2**
PYM			Sg	**Sg**	**06 51 27.4**	**0.0**
FRF	**La Foret Royal**	**2.58 180**	*e*Pg	**Pg**	**06 50 53.3**	**-1.0**
	SNR=1.0					
FRF			*e*Sn	**Sn**	**06 51 16.2**	**-2.4**
	SNR=1.0					
FRF			*e*Sg	**Sg**	**06 51 26.1**	**-1.6**
	6.0nm,0.3s,SNR=1.0					
FRF	**La Foret Royal**	**2.58 180**	*e*Pn	**Pn**	**06 50 47.6**	**+0.5**
FRF			*e*Pg	**Pg**	**06 50 53.3**	**-1.0**
FRF			*e*Sn	**Sn**	**06 51 16.2**	**-2.4**
FRF			*e*Sg	**Sg**	**06 51 26.1**	**-1.6**
FRF	**La Foret Royal**	**2.58 180**	*e*Pg	**Pg**	**06 50 53.3**	**-1.0**
	SNR=1.0					
FRF			*e*Sn	**Sn**	**06 51 16.2**	**-2.4**
	SNR=1.0					
FRF			*e*Sg	**Sg**	**06 51 26.1**	**-1.6**
	3.0nm,0.3s,SNR=1.0					
MEZF	**Maizieres J'vi**	**2.60 336**	*e*Pg	**Pg**	**06 50 54.4**	**-0.4**
	baz=151,SNR=1.0					
MEZF			*e*Sn	**Sn**	**06 51 17.6**	**-1.7**
MEZF			*e*Sg	**Sg**	**06 51 28.5**	**-0.1**
	9.0nm,0.4s,SNR=1.0					
MEZF	**Maizieres J'vi**	**2.60 336**	*e*Pn	**Pn**	**06 50 47.2**	**-0.2**
MEZF			*e*Pg	**Pg**	**06 50 54.4**	**-0.4**
MEZF			*e*Sn	**Sn**	**06 51 17.6**	**-1.7**
MEZF			*e*Sg	**Sg**	**06 51 28.5**	**-0.1**
MEZF	**Maizieres J'vi**	**2.60 336**	*e*Pg	**Pg**	**06 50 54.4**	**-0.4**
	SNR=1.0					
MEZF			*e*Sn	**Sn**	**06 51 17.6**	**-1.7**
MEZF			*e*Sg	**Sg**	**06 51 28.5**	**-0.1**
	4.5nm,0.4s,SNR=1.0					
RFYF	**Reffroy**	**2.62 343**	*e*Pg	**Pg**	**06 50 54.4**	**-0.7**
RFYF			*e*Sn	**Sn**	**06 51 18.4**	**-1.2**
RFYF			*e*Sg	**Sg**	**06 51 29.0**	**0.0**
	10.0nm,0.2s,baz=158					
RFYF	**Reffroy**	**2.62 343**	*e*Pn	**Pn**	**06 50 47.2**	**-0.4**
RFYF			*e*Pg	**Pg**	**06 50 54.4**	**-0.7**
RFYF			*e*Sn	**Sn**	**06 51 18.4**	**-1.2**
RFYF			*e*Sg	**Sg**	**06 51 29.0**	**0.0**
RFYF	**Reffroy**	**2.62 343**	*e*Pg	**Pg**	**06 50 54.4**	**-0.7**
RFYF			*e*Sn	**Sn**	**06 51 18.4**	**-1.2**
RFYF			*e*Sg	**Sg**	**06 51 29.0**	**0.0**
	5.0nm,0.2s					
BGF	**Bois d'Agland**	**2.67 280**	*e*Pg	**Pg**	**06 50 56.1**	**+0.1**
	SNR=1.0					
BGF			*e*Sg	**Sg**	**06 51 31.1**	**+0.5**
	11nm,0.3s,SNR=1.0					
BGF	**Bois d'Agland**	**2.67 280**	*e*Pn	**Pn**	**06 50 49.1**	**+0.8**
BGF			*e*Pg	**Pg**	**06 50 56.1**	**+0.1**
BGF			*e*Sg	**Sg**	**06 51 31.1**	**+0.5**
BGF	**Bois d'Agland**	**2.67 280**	*e*Pg	**Pg**	**06 50 56.1**	**+0.1**
	SNR=1.0					
BGF			*e*Sg	**Sg**	**06 51 31.1**	**+0.5**
	5.6nm,0.3s,SNR=1.0					
LMR	**La Mourre**	**2.80 182**	*e*Pg	**Pg**	**06 50 58.3**	**-0.4**
	SNR=1.0					
LMR			*e*Sn	**Sn**	**06 51 20.5**	**-3.7**
	SNR=1.0					
LMR			*e*Sg	**Sg**	**06 51 32.6**	**-2.4**
	1.7nm,0.2s,SNR=1.0					
LMR	**La Mourre**	**2.80 182**	*e*Pn	**Pn**	**06 50 50.2**	**0.0**
LMR			*e*Pg	**Pg**	**06 50 58.3**	**-0.4**
LMR			*e*Sn	**Sn**	**06 51 20.5**	**-3.7**
LMR			*e*Sg	**Sg**	**06 51 32.6**	**-2.4**
LMR	**La Mourre**	**2.80 182**	*e*Pg	**Pg**	**06 50 58.3**	**-0.4**
	SNR=1.0					
LMR			*e*Sn	**Sn**	**06 51 20.5**	**-3.7**
	SNR=1.0					
LMR			*e*Sg	**Sg**	**06 51 32.6**	**-2.4**
	0.9nm,0.2s,SNR=1.0					
LASF	**Ste Croix**	**2.85 225**	*e*Pg	**Pg**	**06 50 58.9**	**-0.8**
	SNR=1.0					
LASF			*e*Sn	**Sn**	**06 51 24.1**	**-1.4**
	SNR=1.0					
LASF			*e*Sg	**Sg**	**06 51 35.8**	**-0.8**
	3.8nm,0.3s,SNR=1.0					
LASF	**Ste Croix**	**2.85 225**	*e*Pn	**Pn**	**06 50 51.4**	**+0.5**
LASF			*e*Pg	**Pg**	**06 50 58.9**	**-0.8**
LASF			*e*Sn	**Sn**	**06 51 24.1**	**-1.4**
LASF			*e*Sg	**Sg**	**06 51 35.8**	**-0.8**
LASF	**Ste Croix**	**2.85 225**	*e*Pg	**Pg**	**06 50 58.9**	**-0.8**
	SNR=1.0					
LASF			*e*Sn	**Sn**	**06 51 24.1**	**-1.4**
	SNR=1.0					
LASF			*e*Sg	**Sg**	**06 51 35.8**	**-0.8**
	1.9nm,0.3s,SNR=1.0					
HYF	**Humbligny**	**2.98 294**	*e*Pn	**Pn**	**06 50 52.9**	**+0.3**
HYF			*e*Sg	**Sg**	**06 51 40.4**	**-0.3**
TCF	**Toulx Ste Croi**	**3.08 274**	*e*Pg	**Pg**	**06 51 04.1**	**0.0**
	SNR=1.0					
TCF			*e*Sn	**Sn**	**06 51 29.7**	**-1.5**
	SNR=1.0					
TCF			*e*Sg	**Sg**	**06 51 43.9**	**-0.1**
	4.4nm,0.3s,SNR=1.0					
TCF	**Toulx Ste Croi**	**3.08 274**	*e*Pn	**Pn**	**06 50 55.0**	**+0.9**
TCF			*e*Pg	**Pg**	**06 51 04.1**	**0.0**
TCF			*e*Sn	**Sn**	**06 51 29.7**	**-1.5**
TCF			*e*Sg	**Sg**	**06 51 43.9**	**-0.1**
TCF	**Toulx Ste Croi**	**3.08 274**	*e*Pg	**Pg**	**06 51 04.1**	**0.0**
	SNR=1.0					
TCF			*e*Sn	**Sn**	**06 51 29.7**	**-1.5**
	SNR=1.0					
TCF			*e*Sg	**Sg**	**06 51 43.9**	**-0.1**
	2.2nm,0.3s,SNR=1.0					
CAF	**Calviac**	**3.44 251**	*e*Pn	**Pn**	**06 50 59.3**	**+0.4**
CAF			*e*Sg	**Sg**	**06 51 54.9**	**-0.5**
	3.8nm,0.3s,SNR=1.0					
CAF	**Calviac**	**3.44 251**	*e*Pn	**Pn**	**06 50 59.3**	**+0.4**
CAF			*e*Sg	**Sg**	**06 51 54.9**	**-0.5**
	1.9nm,0.3s,SNR=1.0					
RJF	**Les Rejaudoux**	**3.69 259**	*e*Sg	**Sg**	**06 52 03.3**	**-0.1**
	3.2nm,0.2s,SNR=1.0					
RJF	**Les Rejaudoux**	**3.69 259**	*e*Sg	**Sg**	**06 52 03.3**	**-0.1**
	1.6nm,0.2s,SNR=1.0					
MTLF	**Montolieu**	**4.22 230**	*e*Pn	**Pn**	**06 51 09.9**	**+0.3**
MTLF			*e*Sg	**Sg**	**06 52 18.9**	**-1.4**
	0.9nm,0.2s					
MTLF	**Montolieu**	**4.22 230**	*e*Pn	**Pn**	**06 51 09.9**	**+0.3**
MTLF			*e*Sg	**Sg**	**06 52 18.9**	**-1.4**
	0.4nm,0.2s					
BAIF	**Baives**	**4.25 338**	*e*Pn	**Pn**	**06 51 10.5**	**+0.4**
	SNR=1.0					
BAIF			*e*Sg	**Sg**	**06 52 19.4**	**-2.0**
	3.5nm,0.5s,SNR=1.0					
BAIF	**Baives**	**4.25 338**	*e*Pn	**Pn**	**06 51 10.5**	**+0.4**
	SNR=1.0					
BAIF			*e*Sg	**Sg**	**06 52 19.4**	**-2.0**
	1.8nm,0.5s,SNR=1.0					
LFF	**La Frestale**	**4.32 256**	*e*Sg	**Sg**	**06 52 22.5**	**-1.1**
	2.4nm,0.3s					
LFF	**La Frestale**	**4.32 256**	*e*Sg	**Sg**	**06 52 22.5**	**-1.1**
	1.2nm,0.3s					
MFF	**Saint Martin d**	**4.73 278**	*e*Pn	**Pn**	**06 51 17.8**	**+1.2**
FLN	**La Foliniere**	**5.50 301**	*e*Pn	**Pn**	**06 51 27.6**	**+0.3**
SGMF	**Saint Gilles**	**6.62 292**	*e*Pn	**Pn**	**06 51 42.2**	**-0.4**
	SNR=1.0					
QUIF	**Quistinic**	**6.94 288**	*e*Pn	**Pn**	**06 51 47.0**	**0.0**

*CSEM **29** 07:06:11.5±1.1, 3700N×2454W, h5km, ML3.1, Error ellipse: s-maj=7.5km s-min=6.2km az=80.0, After PDA*
*PDA **29** 07:06:11.5±1.1, 3700N×2454W, h5km, MD3.7, ML3.1, Error ellipse: s-maj=7.5km s-min=6.2km az=80.0*

SVSA 29 07:06:11.5±1.1, 3700N×2454W, h5km, MD3.7, ML3.1, Error ellipse: s-maj=7.5km s-min=6.2km az=80.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSMN	**Pico do Norte,**	**0.42**	**271**	*e*P	Pg	07 06 18.5	-1.0
PSMN				*e*S	Sg	07 06 24.7	-0.3
CMLA	**Cha da Macela**	**1.09**	**315**	*e*P	Pg	07 06 28.1	-4.4
CMLA				*e*S	Sg	07 06 41.2	-5.5
CMLA				A		07 06 41.7	
	142nm,0.3s						
CMLA	**Cha da Macela**	**1.09**	**315**	*e*P	Pg	07 06 28.1	-4.4
CMLA				*e*S	Sg	07 06 41.2	-5.5
PDA	**Ponta Delgada**	**1.16**	**310**	*e*S	Sg	07 06 42.3	-6.6
PSET	**Sete Cidades**	**1.25**	**312**	*e*P	Pg	07 06 30.8	-4.6
PSET				*e*S	Sg	07 06 45.4	-6.2
PSET				A		07 06 48.0	
	139nm,0.3s						
PSET	**Sete Cidades**	**1.25**	**312**	*e*P	Pg	07 06 30.8	-4.6
PSET				*e*S	Sg	07 06 45.4	-6.2
PSCM	**Serra do Cume**	**2.65**	**311**	*e*P	Pn	07 06 50.6	-4.3
PSCM				*e*S	Sn	07 07 19.6	-7.8
PSCM				A		07 07 22.7	
	39nm,0.2s						
PSCM	**Serra do Cume**	**2.65**	**311**	*e*P	Pn	07 06 50.6	-4.3
PSCM				*e*S	Sn	07 07 19.6	-7.8
PMAN	**Manadas**	**3.25**	**301**	*e*P	Pn	07 06 59.1	-4.0
PMAN				*e*S	Sn	07 07 34.1	-8.0
PMAN				A		07 07 37.3	
	17nm,0.2s						
PMAN	**Manadas**	**3.25**	**301**	*e*P	Pn	07 06 59.1	-4.0
PMAN				*e*S	Sn	07 07 34.1	-8.0
ROSA	**Rosais**	**3.39**	**302**	*e*P	Pn	07 07 00.9	-4.2
ROSA				*e*S	Sn	07 07 37.4	-8.3
PICO	**Pico**	**3.42**	**297**	*e*P	Pn	07 07 01.9	-3.6
PICO				*e*S	Sn	07 07 37.9	-8.5
HOR	**Horta**	**3.58**	**296**	*e*P	Pn	07 07 05.0	-2.6
CALA	**Caldeira**	**3.65**	**297**	*e*P	Pn	07 07 04.1	-4.6
CALA				*e*S	Sn	07 07 43.7	-8.4

IDC 29 07:10:15.8±3.2, 2910N×4311W, h0km, mb3.6/4, mb1 4.0/4, mb1mx3.5/23, mbtmp3.6/4, MS3.8/5, Ms1 3.7/5, ms1mx3.1/26, Error ellipse: s-maj=103.9km s-min=34.6km az=74.0, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBTS	**Babate**	**28.45**	**115**	LR	LR	07 24 59.5	
	comp=Z,210nm,20.6s,baz=69,slow=31						
DBIC	**Dimbokro**	**42.39**	**114**	LR	LR	07 33 04.4	
	comp=Z,142nm,18.3s,baz=326,slow=32						
KEST	**Kesra**	**44.34**	**67**	LR	LR	07 32 43.8	
	comp=Z,23nm,20.9s,baz=233,slow=30						
ULM	**Lac du Bonnet**	**44.70**	**313**	LR	LR	07 37 38.6	
	comp=Z,135nm,19.6s,baz=36,slow=37						
TXAR	**Lajitas Array**	**52.31**	**286**	P	P	07 19 29.7	+0.3
	0.6nm,0.8s,baz=100,slow=8.5,SNR=7.4						
YKA	**Yellowknife Ar**	**56.12**	**328**	P	P	07 19 56.7	+0.1
	0.1nm,0.8s,baz=87,slow=7.4,SNR=6.3						
NVAR	**Mina Array Bea**	**61.64**	**300**	P	P	07 20 35.2	-0.2
	0.2nm,0.5s,baz=76,slow=6.4,SNR=4.5						
PLCA	**Paso Flores**	**73.99**	**201**	P	P	07 21 53.2	+0.3
	0.9nm,0.8s,baz=8.1,slow=7.1,SNR=2.6						
KMBO	**Kilima Mbogo**	**82.12**	**96**	LR	LR	07 57 41.7	
	comp=Z,96nm,18.1s,baz=106,slow=35						

*ISCJB **29** 07:20:11.4±0.5, 3275N±004×11601W±003, h15km±8km, Error ellipse: s-maj=6.5km s-min=4.9km az=6.0*
*NEIC **29** 07:20:12.4, 3268N×11606W, h13km, ML3.3(ECX), ML3.0(PAS), After PAS.*
*ECX **29** 07:20:12.8±0.7, 3270N×11603W, h5km±2km, MD3.2, ML3.3*

ISC 29 07:20:11.6±0.4, 3269N±002×11601W±003, h16km±4km, n20, σ0°45/34, 5C-8D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DVTC	**Desert V Tower**	**0.08**	**246**	⇑*e*P	**Pg**	**07 20 14.7**	**-0.1**
YUH	**Yuha Desert**	**0.09**	**121**	⇑*e*P	**Pg**	**07 20 14.9**	**+0.1**
RMX	**La Rumorosa**	**0.11**	**212**	⇑*i*P	**Pg**	**07 20 15.1**	**+0.1**
RMX				*e*S	**Sg**	**07 20 16.9**	**-0.3**
CRR	**Carrizo Plain**	**0.20**	**10**	⇓*e*P	**Pg**	**07 20 16.5**	**+0.3**
WESC	**Westside Schoo**	**0.24**	**74**	⇓*e*P	**Pg**	**07 20 18.1**	**+1.1**
CBKC	**Canebrake**	**0.29**	**316**	⇓*e*P	**Pg**	**07 20 18.1**	**+0.3**
SWSC	**Sam W. Stewart**	**0.31**	**36**	⇓*e*P	**Pg**	**07 20 18.7**	**+0.6**
CPBX	**Cerro Prieto**	**0.66**	**114**	*e*P	**Pg**	**07 20 24.3**	**-0.2**
CPBX				*e*S	**Sg**	**07 20 33.6**	**+0.4**
CBX	**Cerro Bola**	**0.67**	**236**	⇓*e*P	**Pg**	**07 20 24.5**	**-0.1**
CBX				*e*S	**Sg**	**07 20 33.2**	**-0.3**
RDX	**Rancho Dowling**	**0.76**	**176**	⇓*e*P	**Pg**	**07 20 26.4**	**0.0**
RDX				*e*S	**Sg**	**07 20 36.3**	**-0.1**
RDX				⇑*e*		07 20 37.8	
	comp=E,1μm,0.2s						
RDX				⇓*e*		07 20 39.3	
	comp=N,658nm,0.6s						
RDX	**Rancho Dowling**	**0.76**	**176**	⇓*e*P	**Pg**	**07 20 26.4**	**0.0**
RDX				*e*S	**Sg**	**07 20 36.3**	**-0.1**
ENX	**Ensenada**	**0.98**	**215**	*e*P	**Pb**	**07 20 30.0**	**-0.2**
ENX				*e*S	**Sb**	**07 20 42.7**	**-0.1**
ENX				⇓*e*		07 20 47.0	
	comp=E,920nm,0.6s						
ENX	**Ensenada**	**0.98**	**215**	*e*P	**Pb**	**07 20 30.0**	**-0.2**
ENX				*e*S	**Sb**	**07 20 42.7**	**-0.1**
PFO	**Pinyon Flat Ob**	**0.99**	**338**	*e*Pg	**Pg**	**07 20 30.5**	**-0.2**
PFO				*e*Sg	**Sg**	**07 20 43.5**	**-0.1**
CCX	**Cicese**	**0.99**	**214**	*e*P	**Pb**	**07 20 30.3**	**0.0**
CCX				*e*S	**Sb**	**07 20 43.4**	**+0.2**
GLA	**Glamis**	**1.06**	**70**	*e*Pg	**Pg**	**07 20 31.1**	**-1.0**
GLA				*e*Sg	**Sg**	**07 20 45.2**	**-0.8**
PBX	**Punta Banda**	**1.12**	**213**	*e*P	**Pb**	**07 20 32.2**	**-0.4**
PBX				*e*S	**Sb**	**07 20 47.3**	**+0.3**
ECNX	**Esteban Cantu**	**1.15**	**206**	*e*P	**Pn**	**07 20 33.0**	**0.0**
ECNX				*e*P		07 20 30.3	
ECNX				*e*S	**Sb**	**07 20 43.4**	**-4.2**
ECNX				*e*S	**Sb**	**07 20 48.3**	**+0.7**
GSC	**Goldstone**	**2.69**	**346**	*e*Pg	**Pg**	**07 21 04.1**	**+1.0**
GSC				*e*Sg	**Sg**	**07 21 37.7**	**-0.2**
TPNV	**Topopah Spring**	**4.25**	**357**	*e*Pg	**Pg**	**07 21 32.6**	**-0.5**

*ISCJB **29** 07:20:59.0±1.1, 6976N±008×1446W±02, h10km, Error ellipse: s-maj=12.4km s-min=6.3km az=150.4*
*NEIC **29** 07:21:00.1, 6970N×14479W, h0km, ML3.5(AEIC), ML3.5(PGC), After AEIC.*
*PGC **29** 07:21:03.8±21.0, 6969N×14427W, h1km, ML3.5/1, 167km east of Prudhoe Bay, Ak Alaska*

ISC 29 07:21:00.4±2.3, 6979N±009×1446W±02, h7km±19km, n19, σ0°87/26, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BM3	**Burnt Mountain**	**2.38**	**180**	P	**Pn**	**07 21 39.2**	**-0.6**
BM3				S	**Sn**	**07 22 10.1**	**+1.0**
COLD	**Coldfoot**	**3.28**	**221**	P	**Pn**	**07 21 51.8**	**-0.4**
COLD				S	**Sn**	**07 22 32.0**	**+0.6**
INK	**Inuvik**	**4.26**	**105**	*e*Pn	**Pn**	**07 22 07.6**	**+2.0**
INK	**Inuvik**	**4.26**	**105**	Pn	**Pn**	**07 22 07.4**	**+1.8**
INK				Sn	**Sn**	**07 22 55.0**	**-0.5**
COLA	**College**	**5.09**	**196**	P	**Pn**	**07 22 17.0**	**0.0**
COLA				S	**Sn**	**07 23 15.4**	**-0.5**
IL1	**Eielson Array**	**5.11**	**191**	P	**Pn**	**07 22 16.9**	**-0.3**
IM3	**Indian Mountai**	**5.14**	**226**	P	**Pn**	**07 22 16.5**	**-1.1**
EGAK	**Eagle**	**5.21**	**163**	P	**Pn**	**07 22 18.5**	**-0.1**
DAWY	**Dawson**	**6.10**	**158**	P	**Pn**	**07 22 30.9**	**0.0**
DAWY	**Dawson**	**6.10**	**158**	Pn	**Pn**	**07 22 31.1**	**+0.2**
DAWY				Sn	**Sn**	**07 23 37.3**	**-3.5**
DOT	**Dot Lake**	**6.17**	**178**	P	**Pn**	**07 22 31.8**	**0.0**
MCK	**McKinley**	**6.31**	**198**	*e*Pn	**Pn**	**07 22 28.0**	**-5.7**
KTH	**Kantishna Hill**	**6.73**	**205**	P	**Pn**	**07 22 39.4**	**-0.2**
TRF	**Thorofare Moun**	**6.74**	**202**	P	**Pn**	**07 22 40.1**	**+0.4**
BCA3	**Beaver Creek A**	**6.84**	**169**	P	**Pn**	**07 22 41.5**	**+0.4**
MENT	**Mentasta**	**6.89**	**176**	P	**Pn**	**07 22 41.9**	**+0.3**
HYT	**Haines Junctio**	**9.47**	**158**	Pn	**Pn**	**07 23 18.1**	**+1.1**
YKW3	**Yellowknife Ar**	**13.98**	**106**	Pn	**Pn**	**07 24 15.9**	**-2.7**
YKW3				Sn	**Sn**	**07 26 40.8**	**-13**
RES	**Resolute Bay**	**15.50**	**49**	Pn	**Pn**	**07 24 39.7**	**+0.6**
RES				Sn	**Sn**	**07 27 24.2**	**-6.5**

*NEIC **29** 07:26:36.9, 3837S×7371W, h88km, MG3.3(GUC), After GUC.*

GUC 29 07:26:36.9±0.6, 3837S×7371W, h88km±11km, MD3.7, ML3.3, 2C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TMU	**Temuco**	**0.94**	**113**	*e*P	Pn	07 26 56.2	+0.4
TMU				*e*S	Sn	07 27 10.2	+0.3
COCH	**Cobquecura**	**2.35**	**18**	*i*P	Pn	07 27 13.9	+0.2
COCH				*i*S	Sn	07 27 42.2	+0.4
COCH	**Cobquecura**	**2.35**	**18**	*i*P	Pn	07 27 13.9	+0.2
COCH				*i*S	Sn	07 27 42.2	+0.4
COCH				AML	AML	07 27 53.6	
	comp=E,184nm,0.3s						
PLCA	**Paso Flores**	**3.40**	**135**	*e*Pn	Pn	07 27 32.4	+4.7
SFDO	**San Fernando**	**4.33**	**31**	⇑*i*P	Pn	07 27 40.8	+0.4
SFDO				*i*S	Sn	07 28 29.9	+0.2
LNV	**Longovilo**	**4.78**	**24**	*e*P	Pn	07 27 47.0	+0.5
CHCH	**Chadas Angostu**	**5.07**	**30**	⇑*i*P	Pn	07 27 51.2	+0.8
CHCH				*e*S	Sn	07 28 48.1	+0.4
LMEL	**Las Melosas**	**5.33**	**33**	*e*P	Pn	07 27 55.1	+1.1
LMEL				*i*S	Sn	07 28 54.3	+0.3
FCH	**Farellones**	**5.75**	**30**	*e*P	Pn	07 27 59.8	+0.1
FCH				*i*S	Sn	07 29 03.5	-0.7

*CSEM **29** 07:28:16.5±1.0, 3702N×2453W, h0km, MD3.7, ML3.3, Error ellipse: s-maj=5.8km s-min=4.9km az=94.0, After PDA*
*PDA **29** 07:28:16.5±1.0, 3702N×2453W, h0km, MD3.7, ML3.3, Error ellipse: s-maj=5.8km s-min=4.9km az=94.0*

SVSA 29 07:28:16.5±1.0, 3702N×2453W, h0km, MD3.7, ML3.3, Error ellipse: s-maj=5.8km s-min=4.9km az=94.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSMN	**Pico do Norte,**	**0.43**	**268**	*e*P	Pg	07 28 24.2	-0.6
PSMN				*e*S	Sg	07 28 30.4	0.0
CMLA	**Cha da Macela**	**1.09**	**313**	*e*P	Pg	07 28 33.7	-3.7
CMLA				*e*S	Sg	07 28 47.0	-4.5
CMLA				A		07 28 50.1	
	282nm,0.3s						
CMLA	**Cha da Macela**	**1.09**	**313**	*e*P	Pg	07 28 33.7	-3.7
CMLA				*e*S	Sg	07 28 47.0	-4.5
PDA	**Ponta Delgada**	**1.16**	**309**	*e*S	Sg	07 28 49.0	-4.8
PSET	**Sete Cidades**	**1.25**	**311**	*e*P	Pg	07 28 36.0	-4.4
PSET				*e*S	Sg	07 28 50.8	-5.7
PSET				A		07 28 53.8	
	217nm,0.3s						
PSET	**Sete Cidades**	**1.25**	**311**	*e*P	Pg	07 28 36.0	-4.4
PSET				*e*S	Sg	07 28 50.8	-5.7
PSCM	**Serra do Cume**	**2.65**	**310**	*e*P	Pn	07 28 56.0	-4.5
PSCM				*e*S	Sn	07 29 25.6	-7.7
PSCM				A		07 29 28.4	
	80nm,0.2s						
PSCM	**Serra do Cume**	**2.65**	**310**	*e*P	Pn	07 28 56.0	-4.5
PSCM				*e*S	Sn	07 29 25.6	-7.7
PMAN	**Manadas**	**3.25**	**301**	*e*P	Pn	07 29 04.1	-4.6
PMAN				*e*S	Sn	07 29 39.8	-8.3
PMAN				A		07 29 41.6	
	26nm,0.3s						
PMAN	**Manadas**	**3.25**	**301**	*e*P	Pn	07 29 04.1	-4.6
PMAN				*e*S	Sn	07 29 39.8	-8.3
ROSA	**Rosais**	**3.40**	**301**	*e*P	Pn	07 29 06.6	-4.1
ROSA				*e*S	Sn	07 29 44.0	-7.7
PICO	**Pico**	**3.43**	**297**	*e*P	Pn	07 29 07.3	-3.8
PICO				*e*S	Sn	07 29 44.2	-8.2
HOR	**Horta**	**3.58**	**296**	*e*P	Pn	07 29 09.2	-4.1
HOR				*e*S	Sn	07 29 47.8	-8.5
CALA	**Caldeira**	**3.66**	**297**	*e*P	Pn	07 29 10.1	-4.2
CALA				*e*S	Sn	07 29 50.3	-7.8

*IDC **29** 07:52:02.3±9.6, 6.12S×14940E, h0km, mb3.9/4,

PMAN				*e*S	Sn	08 10 52.5	-8.0
ROSA	**Rosais**	**3.34**	**300**	*e*P	Pn	08 10 19.8	-4.0
ROSA				*e*S	Sn	08 10 56.4	-7.7
PICO	**Pico**	**3.37**	**296**	*e*P	Pn	08 10 20.6	-3.7
PICO				*e*S	Sn	08 10 56.7	-8.3
CALA	**Caldeira**	**3.60**	**296**	*e*P	Pn	08 10 23.1	-4.4
CALA				*e*S	Sn	08 11 02.3	-8.4

*ISCJB **29** 08:38:56.8±2.2, 289N±05×43.1W±0.1, h10km, mb4.0/14, MS3.4/10, Error ellipse: s-maj=65.8km s-min=14.0km az=174.0*
*IDC **29** 08:38:56.6±2.9, 2895N×4322W, h0km, mb3.6/8, mb1 3.9/8, mb1mx3.7/23, mbtmp3.6/8, MS3.5/10, Ms1 3.5/10, ms1mx3.2/25, Error ellipse: s-maj=89.2km s-min=22.7km az=174.0*
*NEIC **29** 08:38:58.4±2.0, 2888N×4308W, h10km, mb4.4/6, Error ellipse: s-maj=61.1km s-min=13.2km az=174.0*

ISC 29 08:38:58.7±2.2, 289N±05×431W±01, h10km, n24, σ0°97/18, mb4.0/14, MS3.4/10, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJG	**San Juan**	**23.69**	**248**	LR	LR	08 51 06.7	
	comp=Z,76nm,20.0s,MS3.2,baz=91,slow=31						
BBTS	**Babate**	**28.34**	**114**	LR	LR	08 54 02.0	
	comp=Z,214nm,19.6s,MS3.8,baz=36,slow=32						
SCHQ	**Schefferville**	**31.07**	**333**	LR	LR	08 57 18.8	
	comp=Z,80nm,18.4s,MS3.4,baz=233,slow=36						
ESDC	**Sonseca Array**	**33.81**	**61**	P	**P**	**08 45 41.6**	**+0.6**
	0.1nm,0.2s,mb3.3,baz=260,slow=7.7,SNR=4.0						
DBIC	**Dimbokro**	**42.29**	**114**	LR	LR	09 02 26.8	
	comp=Z,160nm,18.9s,MS3.9,baz=311,slow=33						
BDFB	**Brasilia**	**44.55**	**187**	LR	LR	09 02 56.5	
	comp=Z,39nm,19.2s,MS3.4,baz=7.2,slow=32						
AGMN	**Agassiz Refuge**	**44.60**	**311**	*e*P	**P**	**08 47 11.7**	**+0.8**
	4.2nm,0.9s,mb4.3						
ULM	**Lac du Bonnet**	**44.84**	**314**	P	**P**	**08 47 12.9**	**0.0**
	1.1nm,0.5s,mb4.0,baz=120,slow=8.8,SNR=4.7						
ULM				LR	LR	09 06 08.1	
	comp=Z,83nm,18.5s,MS3.7,baz=22,slow=36						
GERES	**GERESS Array B**	**47.28**	**49**	P	**P**	**08 47 31.2**	**-0.9**
	0.6nm,0.8s,mb3.6,baz=264,slow=7.9,SNR=4.4						
GERES				LR	LR	09 05 54.3	
	comp=Z,18nm,19.1s,MS3.1,baz=59,slow=34						
NOA	**NORSAR Array B**	**47.99**	**32**	P	**P**	**08 47 37.1**	**-0.3**
	0.5nm,0.7s,mb3.7,baz=255,slow=7.9,SNR=2.5						
NOA				LR	LR	09 04 47.8	
	comp=Z,6.8nm,18.1s,MS2.7,baz=135,slow=32						
JCT	**Junction City**	**48.85**	**287**	*e*P	**P**	**08 47 44.2**	**-0.3**
	4.9nm,0.9s,mb4.5						
TXAR	**Lajitas Array**	**52.39**	**286**	P	**P**	**08 48 09.6**	**-1.7**
TXAR	**Lajitas Array**	**52.39**	**286**	P	**P**	**08 48 09.6**	**-1.7**
	1.0nm,0.7s,mb3.9,baz=99,slow=8.2,SNR=4.4						
SMCO	**Snowmass**	**52.96**	**299**	*e*P	**P**	**08 48 16.1**	**+0.7**
	1.7nm,0.6s,mb4.2						
GCMT	**Greycliff**	**54.03**	**308**	*e*P	**P**	**08 48 23.9**	**+0.7**
IMW	**Indian Meadow**	**55.17**	**305**	*e*P	**P**	**08 48 32.2**	**+0.7**
	5.3nm,1.0s,mb4.5						
AHID	**Auburn Hatcher**	**55.46**	**304**	*e*P	**P**	**08 48 33.4**	**-0.1**
	1.5nm,0.8s,mb4.1						
HWUT	**Hardware Ranch**	**56.00**	**303**	*e*P	**P**	**08 48 39.0**	**+1.6**
	3.6nm,0.8s,mb4.5						
JLU	**Jordanelle**	**56.10**	**301**	*e*P	**P**	**08 48 38.5**	**+0.4**
YKA	**Yellowknife Ar**	**56.29**	**328**	P	**P**	**08 48 37.4**	**-1.8**
YKA				PcP	PcP	08 49 35.5	-1.0
YKA				LR	LR	09 12 09.5	
YKA	**Yellowknife Ar**	**56.29**	**328**	P	**P**	**08 48 37.3**	**-1.8**
	0.5nm,0.8s,mb3.6,baz=89,slow=7.3,SNR=8.9						
YKA				PcP	PcP	08 49 35.5	-1.0
	0.2nm,0.7s,baz=91,slow=5.0,SNR=6.2						
YKA				LR	LR	09 12 09.5	
	comp=Z,90nm,18.8s,MS3.9,baz=190,slow=36						
CPUP	**Villa Florida**	**56.60**	**195**	LR	LR	09 12 16.3	
	comp=Z,40nm,19.3s,MS3.5,baz=187,slow=35						
NVAR	**Mina Array Bea**	**61.75**	**300**	P	**P**	**08 49 16.0**	**-1.5**
	0.7nm,0.7s,mb3.9,baz=79,slow=7.6,SNR=5.9						
MKAR	**Makanchi Array**	**89.95**	**34**	P	**P**	**08 51 59.1**	**+0.9**
	0.2nm,0.5s,mb3.8,baz=356,slow=8.7,SNR=3.0						

*NEIC **29** 08:39:20.0±0.6, 4749N×11598W, h5km, MD2.5(SEA), ML2.9(PGC), ML2.4(BUT), Error ellipse: s-maj=10.8km s-min=6.8km az=50.0*
*PGC **29** 08:39:23.7±12.0, 4761N×11581W, h8km±1km, ML2.9/4, 116km east of Spokane, Wa Montana*

ISC 29 08:39:18.5±0.4, 4742N±003×11612W±005, h10km, n14, σ1°53/34, Western Idaho

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEW	**Newport**	**1.08**	**322**	*e*P	**Pb**	**08 39 40.0**	**+0.7**
NEW				*e*Sg	**Sg**	**08 39 57.8**	**+4.5**
CHMT	**Chamberlain Mo**	**2.02**	**104**	*e*Pn	**Pn**	**08 39 53.5**	**+0.9**
CHMT				*i* Pg	**Pg**	**08 39 55.1**	**-2.1**
CHMT				*e*Sn	**Sn**	**08 40 20.0**	**+2.1**
WALA	**Waterton Lakes**	**2.20**	**41**	*e*Pn	**Pn**	**08 39 56.6**	**+1.5**
WALA				*e*Sn	**Sn**	**08 40 22.8**	**+0.4**
WALA	**Waterton Lakes**	**2.20**	**41**	Pn	**Pn**	**08 39 56.6**	**+1.5**
WALA				Sg	**Sn**	**08 40 23.6**	**+1.3**
BMO	**Blue Mountains**	**2.70**	**198**	*e*Pn	**Pn**	**08 40 06.1**	**+4.2**
BMO				*e*Pg	**Pg**	**08 40 10.8**	**+0.5**
BMO				*e*Sg	**Sg**	**08 40 45.2**	**0.0**
PNT	**Penticton**	**3.00**	**310**	Pn	**Pb**	**08 40 13.6**	**+1.6**
PNT				Sg	**Sg**	**08 40 53.8**	**-1.2**
HRY	**Holter Researc**	**3.02**	**102**	*e*Pg	**Pg**	**08 40 12.1**	**-4.2**
DLMT	**Dillon**	**3.19**	**129**	*e*Pn	**Pn**	**08 40 10.6**	**+1.9**
DLMT				*e*Pg	**Pg**	**08 40 18.8**	**-0.9**
DLMT				*e*Sn	**Sn**	**08 40 51.6**	**+4.9**
DLMT				*e*Sg	**Sg**	**08 41 01.1**	**+0.1**
MCMT	**McKenzie Canyo**	**3.45**	**138**	*e*Pn	**Pn**	**08 40 14.4**	**+2.1**
MCMT				*e*Pg	**Pg**	**08 40 22.2**	**-2.4**
MCMT				*e*Sg	**Sg**	**08 41 06.9**	**-2.4**
BOZ	**Bozeman (W)**	**3.57**	**118**	Pn	**Pn**	**08 40 14.7**	**+0.8**
BOZ				*e*Pg	**Pg**	**08 40 25.6**	**-1.3**
BOZ				*e*Sg	**Sg**	**08 41 13.4**	**+0.3**
SLEB	**Sale Mountain**	**3.97**	**341**	Pn	**Pn**	**08 40 22.1**	**+2.7**
SLEB				Pg	**Pg**	**08 40 31.8**	**-2.7**
SLEB				Sg	**Sg**	**08 41 25.5**	**-0.5**
EGMT	**Eagleton**	**4.34**	**80**	Pn	**Pn**	**08 40 25.2**	**+0.7**
EGMT				*e*Pg	**Pg**	**08 40 38.5**	**-3.1**
EGMT				*e*Sg	**Sg**	**08 41 29.3**	**-8.4**
DOWB	**Downie Slide**	**4.39**	**340**	Pg	**Pg**	**08 40 39.8**	**-2.7**
DOWB				Sg	**Sg**	**08 41 39.8**	**+0.5**
MNB	**Mounoet Dainar**	**5.00**	**344**	Pg	**Pg**	**08 40 52.5**	**-1.7**

*IDC **29** 08:52:32.2±1.8, 6495×10499E, h0km, mb4.0/4, mb1 4.2/6, mb1mx3.9/20, mbtmp4.2/6, ML5.0/1, Error ellipse: s-maj=93.7km s-min=20.1km az=48.0*
*ISCJB **29** 08:52:34.6±1.5, 62S±03×1051E±03, h33km, mb4.0/4, Error ellipse: s-maj=68.0km s-min=13.5km az=44.3*
*NEIC **29** 08:52:34.5±2.1, 6185×10530E, h10km, Error ellipse: s-maj=135.0km s-min=11.9km az=47.0*

ISC 29 08:52:37.3±1.5, 62S±03×1051E±03, h35km, n7, σ1°00/7, mb4.0/4, Sunda Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**10.90**	**325**	Pn	**Pn**	**08 55 09.7**	**-1.2**
	baz=159,slow=20,SNR=9.7						
BATI	**Kupang**	**18.75**	**103**	P	**Pn**	**08 56 54.0**	**0.0**
	5.0nm,0.3s,baz=280,slow=3.0,SNR=4.7						
WRA	**Warramunga Arr**	**31.46**	**118**	P	**P**	**08 58 55.0**	**-0.8**
	0.8nm,0.6s,mb3.8,baz=293,slow=10.0,SNR=17						
WRA				PcP	PcP	09 01 48.0	-0.6
	0.6nm,0.7s,baz=314,slow=2.1,SNR=12						
WB2	**Warramunga Arr**	**31.47**	**118**	*e*P	**P**	**08 58 55.3**	**-0.6**
ASAR	**Alice Springs**	**32.64**	**125**	P	**P**	**08 59 06.5**	**+0.4**
	0.9nm,0.5s,mb4.0,baz=296,slow=7.6,SNR=30						
STKA	**Stephens Creek**	**42.53**	**132**	P	**P**	**09 00 30.1**	**+0.5**
	3.0nm,0.7s,mb4.1,baz=296,slow=9.2,SNR=5.2						
MKAR	**Makanchi Array**	**56.55**	**341**	P	**P**	**09 02 18.4**	**+2.2**
	1.1nm,0.5s,mb4.2,baz=158,slow=7.0,SNR=14						

CASC 29 08:54:17.0±2.7, 1120N×8600W, h119km±9km, MD3.6, ML2.5, 2C-2D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SSNN	**San Juan del S**	**0.17**	**61**	*e*P	Pn	08 54 34.2	+0.8
SSNN				*e*S	Sn	08 54 46.6	+0.8
MADN	**Villa Maderas**	**0.50**	**66**	↓*e*P	Pn	08 54 35.2	+0.3
MADN				*e*S	Sn	08 54 47.7	-0.6
CONN	**Concepcion**	**0.52**	**46**	↑*e*P	Pn	08 54 34.6	-0.3
CONN				*e*S	Sn	08 54 51.7	+3.3
APON	**Apoyo**	**0.71**	**355**	↓*i*P	Pn	08 54 36.8	+0.4
TICN	**Ticuantepe**	**0.85**	**345**	*e*P	Pn	08 54 38.3	+0.7
TICN				*e*S	Sn	08 54 51.5	-1.6
MGAN	**Managua**	**0.97**	**346**	↑*e*P	Pn	08 54 38.8	+0.1
MGAN				*e*S	Sn	08 54 55.1	+0.1
MGAN				*i*		08 54 56.2	
	comp=E,65nm,0.4s						
MGAN				*e*S	Sn	08 54 57.8	+2.8
XAVN	**Gruta Xavier**	**0.99**	**341**	*e*P	Pn	08 54 39.1	+0.2
COPN	**Copaltepe**	**1.13**	**329**	*e*P	Pn	08 54 40.9	+0.7
COPN				*e*S	Sn	08 54 56.7	-1.2
VCR	**Vista de Mar**	**1.13**	**161**	*e*P	Pn	08 54 41.0	+0.7
VCR				*e*S	Sn	08 54 59.8	+1.8
HUEN		**1.14**	**352**	*e*P	Pn	08 54 40.2	-0.2
HUEN				*e*S	Sn	08 55 00.2	+2.1
JCR	**Jicaral**	**1.61**	**147**	*e*P	Pn	08 54 46.5	+0.9
JCR				*e*S	Sn	08 55 09.2	+1.8
CGA2	**Cerro Gallo 2**	**1.92**	**128**	*e*P	Pn	08 54 50.2	+0.8
CGA2				*e*S	Sn	08 55 15.0	+0.9
PRS1	**Puriscal**	**2.06**	**126**	*e*P	Pn	08 54 52.3	+1.2
PRS1				*e*S	Sn	08 55 18.6	+1.4
LAJ	**Bijagual**	**2.28**	**126**	*e*P	Pn	08 54 51.8	-2.2
LAJ				*e*S	Sn	08 55 17.8	-4.5
LCR2	**La Lucha 2**	**2.44**	**126**	*e*P	Pn	08 54 56.2	+0.2
LCR2				*e*S	Sn	08 55 26.6	+0.5
QCR	**Quepos**	**2.53**	**134**	*e*P	Pn	08 54 59.1	+2.0
QCR				*e*S	Sn	08 55 28.7	+0.7
URSC	**Urasca**	**2.58**	**122**	*e*P	Pn	08 54 58.3	+0.6
BAR1		**3.29**	**126**	*e*P	Pn	08 55 07.3	+0.2
LAPE	**La Pedrera**	**14.69**	**103**	*i* P		08 54 35.9	
LAPE				*i* S		08 54 51.1	

*CSEM **29** 09:01:25.2±0.0, 3789N×3099E, h2km, MD2.8, Error ellipse: s-maj=1.1km s-min=0.8km az=149.0*
*ISK **29** 09:01:26.2, 3789N×3096E, h13km, MD2.8*
*ISCJB **29** 09:01:27.0±0.6, 3790N±004×3095E±004, h8km, Error ellipse: s-maj=5.9km s-min=4.4km az=159.9*
*DDA **29** 09:01:28.6, 3804N×3092E, h8km±5km, Md2.8*

ISC 29 09:01:27.0±0.8, 3789N±004×3097E±005, h6km±7km, n13, σ0°92/21, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ISP	**Isparta**	**0.37**	**263**	*e*PG	**Pg**	**09 01 33.7**	**-0.4**
ISP				*e*SG	**Sg**	**09 01 39.7**	**+0.7**
BCK	**Bucak**	**0.52**	**216**	*e*PG	**Pg**	**09 01 36.7**	**-0.3**
TKTP	**Tekketepe**	**0.54**	**287**	*i* P	**Pg**	**09 01 36.3**	**-1.0**
TKTP				*i* S	**Sg**	**09 01 44.8**	**+0.5**
SHUT	**Suhut-Afyon**	**0.74**	**334**	*e*PG	**Pg**	**09 01 40.8**	**-0.4**
SHUT				*e*SG	**Sg**	**09 01 51.7**	**+0.8**
KONT	**Konya--Tatoy**	**1.10**	**87**	*e*PN	**Pn**	**09 01 48.1**	**-0.8**
KDHN	**Kadinhani**	**1.10**	**55**	*i* P	**Pg**	**09 01 47.5**	**-0.6**
KDHN				*i* S	**Sg**	**09 02 03.5**	**+1.1**
KIZT	**Kizilcal**	**1.22**	**35**	*e*PN	**Pn**	**09 01 49.9**	**-0.7**
GOLH	**Golhisar**	**1.29**	**240**	*i* P	**Pn**	**09 01 52.3**	**+0.8**
GOLH				*i* S	**Sg**	**09 02 13.4**	**+4.8**
ALT	**Altintas**	**1.35**	**330**	*e*PN	**Pn**	**09 01 51.0**	**-1.2**
ESKT	**Eskisehir**	**1.63**	**357**	*i* P	**Pn**	**09 01 55.4**	**-0.8**
ESKT				*i* S	**Sn**	**09 02 18.5**	**+0.9**
ESKT	**Eskisehir**	**1.63**	**357**	*e*Pn	**Pn**	**09 01 55.2**	**-1.0**
SEYT	**Eskypehyr**	**1.63**	**357**	*i* P	**Pn**	**09 01 55.4**	**-0.8**
SEYT				*i* S	**Sn**	**09 02 18.5**	**+1.0**
ERMK	**Ermenek**	**1.99**	**128**	*i* P	**Pn**	**09 02 04.2**	**+3.1**
ERMK				*i* S	**Sn**	**09 02 33.4**	**+7.2**

IDC 29 09:21:53.9±1.6, 7185×15465E, h0km, mb3.8/5, mb1 3.9/5, mb1mx3.7/13, mbtmp3.7/5, MS3.4/1, Ms1 3.3/1, ms1mx2.7/21, Error ellipse: s-maj=65.6km s-min=26.7km az=122.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**15.20**	**212**	Pn	Pn	09 25 36.7	+6.7
	0.1nm,0.3s,baz=38,slow=13,SNR=3.9						
WRA	**Warramunga Arr**	**23.43**	**235**	P	P	09 27 04.2	-0.9
	1.3nm,0.9s,baz=60,slow=10.0,SNR=7.5						
ASAR	**Alice Springs**	**25.80**	**228**	P	P	09 27 26.4	-0.4
	0.4nm,0.7s,baz=62,slow=9.2,SNR=9.0						
STKA	**Stephens Creek**	**27.42**	**205**	P	P	09 27 42.5	+1.0
	2.3nm,0.9s,baz=14,slow=13,SNR=4.3						
STKA				LR	LR	09 39 20.1	
	comp=Z,67nm,18.6s,baz=224,slow=38						
MKAR	**Makanchi Array**	**83.32**	**319**	P	P	09 34 23.8	+1.1
	0.2nm,0.2s,baz=89,slow=6.2,SNR=3.5						
YKA	**Yellowknife Ar**	**96.66**	**28**	P	P	09 35 25.1	-0.6
	0.4nm,0.8s,baz=265,slow=4.5,SNR=10						

IDC 29 09:36:53.6±5.0, 2219N×14396E, h88km±49km, mb3.3/4, mb1 3.5/5, mb1mx3.3/19, mbtmp3.4/5, ML3.9/1, MS2.8/1, Ms1 2.8/1, ms1mx2.3/15, Error ellipse: s-maj=59.7km s-min=18.6km az=99.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**5.14**	**342**	P	Pn	09 38 09.7	+1.6
	10.0nm,0.3s,baz=251,slow=18,SNR=15						
CBIJ				LR	LR	09 39 05.8	
	comp=Z,97nm,21.7s,baz=117,slow=26						
CBIJ				S	Sn	09 39 06.0	-0.2
	16nm,0.3s,baz=280,slow=23,SNR=12						
KSRS	**Korea Array**	**20.57**	**321**	P	P	09 41 25.9	+0.7
	0.8nm,0.4s,baz=147,slow=8.9,SNR=6.3						
WRA	**Warramunga Arr**	**42.92**	**193**	P	P	09 44 43.7	0.0
	0.8nm,0.3s,baz=16,slow=9.0,SNR=64						
ASAR	**Alice Springs**	**46.62**	**193**	P	P	09 45 12.4	-0.6
	0.2nm,0.3s,baz=13,slow=6.4,SNR=8.2						
YKA	**Yellowknife Ar**	**75.69**	**28**	P	P	09 48 29.0	-0.1
	0.5nm,0.5s,baz=293,slow=5.8,SNR=18						
PLCA	**Paso Flores**	**145.54**	**130**	PKPbc	PKPbc	09 56 21.9	0.0
	0.7nm,0.6s,baz=244,slow=6.2,SNR=3.9						

IDC 29 09:53:59.1±1.6, 8885×10810E, h0km, mb3.8/6, mb1 3.9/7, mb1mx3.7/17, mbtmp3.8/7, ML2.8/1, Error ellipse: s-maj=64.5km s-min=18.6km az=56.0, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**19.35**	**120**	P	Pn	09 58 24.9	-2.5
	0.0nm,0.3s,baz=333,slow=15,SNR=3.1						
WRA	**Warramunga Arr**	**27.65**	**116**	P	P	09 59 49.4	+0.6
	0.4nm,0.5s,baz=290,slow=11,SNR=10						
WRA				PcP	PcP	10 03 05.9	-0.5
	0.1nm,0.6s,baz=287,slow=2.2,SNR=5.6						
ASAR	**Alice Springs**	**28.73**	**124**	P	P	09 59 58.2	-0.2
	0.5nm,0.6s,baz=300,slow=8.0,SNR=9.7						
ASAR				PcP	PcP	10 03 08.9	-0.1
	0.3nm,0.7s,baz=321,slow=1.5,SNR=5.4						
STKA	**Stephens Creek**	**38.59**	**131**	P	P	10 01 24.4	+0.5
	2.1nm,0.6s,baz=342,slow=6.4,SNR=5.3						
MJAR	**Matsushiro Arr**	**53.31**	**30**	P	P	10 03 19.7	-0.4
	0.2nm,0.3s,baz=238,slow=11,SNR=3.1						
SONM	**Songino Array**	**56.49**	**359**	P	P	10 03 44.1	+1.3
	0.6nm,0.6s,baz=181,slow=8.5,SNR=3.0						
MKAR	**Makanchi Array**	**60.01**	**340**	P	P	10 04 07.0	-0.6
	1.8nm,0.5s,baz=144,slow=7.9,SNR=23						

*ISCJB **29** 10:29:19.1±0.6, 3982N±005×2071E±005, h10km, Error ellipse: s-maj=6.8km s-min=5.3km az=20.4*
*CSEM **29** 10:29:19.5±0.1, 3982N×2068E, h12km, MD3.5, Error ellipse: s-maj=3.2km s-min=2.6km az=17.0*
*NEIC **29** 10:29:19.1, 3978N×2063E, h17km, MD3.5(ATH), After ATH.*
*ATH **29** 10:29:19.1, 3978N×2063E, h17km, MD3.5/7*
*SKO **29** 10:29:22.6, 3987N×2087E, h10km*

ISC 29 10:29:19.7±0.6, 3983N±005×2071E±006, h11km±7km, n12, σ0°94/14, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAN	**Janina**	**0.20**	**148**	*e*PB	**Pg**	**10 29 24.0**	**-0.1**
JAN				*e*SB	**Sg**	**10 29 27.7**	**+0.7**
SRN	**Sarande**	**0.55**	**275**	*e*Pg	**Pg**	**10 29 29.6**	**-0.8**
SRN				*i* Sg	**Sg**	**10 29 38.9**	**+1.3**
KEK	**Kerkira**	**0.71**	**261**	*e*PN	**Pg**	**10 29 31.7**	**-1.8**
KZN	**Kozani**	**0.94**	**59**	*e*PN	**Pn**	**10 29 38.7**	**-0.1**
THL	**Klokotos Trika**	**1.04**	**104**	*e*PN	**Pn**	**10 29 39.8**	**-0.3**
EVR	**Evrytania**	**1.25**	**137**	*e*PN	**Pn**	**10 29 42.9**	**-0.1**
BIA	**Bitola**	**1.28**	**21**	*e*Pg	**Pg**	**10 29 44.0**	**-0.3**
BIA	**Bitola**	**1.28**	**21**	*e*Pg	**Pg**	**10 29 43.9**	**-0.3**
OHR	**Ohrid**	**1.28**	**3**	*e*Pg	**Pg**	**10 29 44.8**	**+0.5**
VLS	**Valsamata**	**1.65**	**183**	*e*PN	**Pn**	**10 29 49.1**	**+0.5**
VAY	**Valandovo**	**2.06**	**43**	*e*Pn	**Pn**	**10 29 56.0**	**+1.9**
PLG	**Polygyros**	**2.17**	**75**	*e*PB	**Pb**	**10 29 57.5**	**-1.4**

IDC 29 10:31:50.7±8.4, 7555S×12762E, h166km±90km, mb3.0/1, mb1 3.2/4, mb1mx3.0/13, mbtmp3.0/4, Error ellipse: s-maj=87.2km s-min=26.3km az=37.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Kupang**	**4.72**	**236**	P	Pn	10 33 01.9	+1.1
	1.9nm,0.3s,baz=70,slow=18,SNR=3.1						
BATI				S	Sn	10 33 55.6	+0.1
	4.7nm,0.3s,baz=208,slow=22,SNR=8.7						
WRA	**Warramunga Arr**	**13.94**	**153**	P	Pn	10 34 59.4	-1.8
	0.2nm,0.3s,baz=328,slow=12,SNR=23						
WRA				S	Sn	10 37 25.2	-11
	0.5nm,0.3s,baz=332,slow=22,SNR=13						
ASAR	**Alice Springs**	**17.12**	**160**	P	Pn	10 35 40.9	+0.6
	0.3nm,0.3s,baz=339,slow=12,SNR=29						
ASAR				S	S	10 38 43.7	-5.5
	0.2nm,0.3s,baz=345,slow=26,SNR=5.9						
MKAR	**Makanchi Array**	**67.41**	**328**	P	P	10 42 28.3	0.0
	0.3nm,0.6s,baz=129,slow=6.5,SNR=3.4						

*CSEM **29** 10:51:41.2±0.1, 3887N×4033E, h2km, MD2.9, Error ellipse: s-maj=3.8km s-min=1.6km az=167.0*
*ISK **29** 10:51:41.8, 3888N×4034E, h6km, MD2.9*
*ISCJB **29** 10:51:42.5±0.5, 3887N±004×4032E±003, h5km, Error ellipse: s-maj=5.9km s-min=3.5km az=171.9*
*DDA **29** 10:51:43.4, 3887N×4033E, h5km±3km, Md2.9*

ISC 29 10:51:42.9±0.6, 3887N±004×4033E±004, h5km±6km, n14, σ0°78/21, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BINT	**Bingol**	**0.13**	**86**	PG	**Pg**	**10 51 44.5**	**-1.0**
BINT				*e*SG	**Sg**	**10 51 47.2**	**0.0**
BNGL	**BINGOL**	**0.65**	**82**	*i* P	**Pg**	**10 51 54.7**	**-0.6**
BNGL				*i* S	**Sg**	**10 52 04.5**	**+0.8**
PTK	**Pertek**	**0.73**	**272**	*e*PG	**Pg**	**10 51 56.3**	**-0.6**
PTK				*e*SG	**Sg**	**10 52 07.3**	**+0.9**
SVRC	**Sivrice-ELAZID**	**0.94**	**239**	*e*PG	**Pg**	**10 52 00.3**	**-0.5**
ELZG	**Elazig**	**1.11**	**251**	*i* S	**Sg**	**10 52 24.4**	**+5.8**
KOPT	**Kop Dagi**	**1.16**	**6**	*i* P	**Pg**	**10 52 08.1**	**+3.1**
KOPT				*i* S	**Sg**	**10 52 26.8**	**+6.7**
EZM	**Erzurum**	**1.31**	**37**	*e*PN	**Pn**	**10 52 07.2**	**-0.6**
ERZM	**Erzurum**	**1.31**	**38**	*i* P	**Pn**	**10 52 07.0**	**-0.8**
ERZM				*i* S	**Sg**	**10 52 25.8**	**+0.7**
KEMA	**Kemaliye**	**1.48**	**286**	*i* P	**Pn**	**10 52 09.6**	**-0.6**
KEMA				*i* S	**Sn**	**10 52 30.5**	**+0.6**
MALT	**Malatya**	**1.59**	**250**	*e*PN	**Pn**	**10 52 11.2**	**-0.3**
MARD	**Mardin**	**1.59**	**167**	*i* P	**Pn**	**10 52 11.6**	**-0.1**
MARD				*i* S	**Sn**	**10 52 33.8**	**+1.2**
GUMT	**Gumushane**	**1.72**	**338**	*e*PN	**Pn**	**10 52 12.8**	**-0.6**
URFA	**Urfa**	**1.85**	**220**	*e*PN	**Pn**	**10 52 15.4**	**+0.2**
SVSK	**Karacayir**	**2.78**	**293**	*e*PN	**Pn**	**10 52 28.0**	**-0.1**

*BJI **29** 10:58:50.7, 1336N×4987E, h23km, mb4.5*
*CSEM **29** 10:58:51.6±0.1, 1328N×5021E, h10km, mb4.5/17, Error ellipse: s-maj=3.0km s-min=2.9km az=23.0*
*IDC **29** 10:58:51.5±0.6, 1325N×5029E, h0km, mb4.2/19, mb1 4.3/20, mb1mx4.3/24, mbtmp4.2/20, ML4.5/1, MS3.5/13, Ms1 3.5/13, ms1mx3.3/27, Error ellipse: s-maj=17.6km s-min=15.9km az=129.0*
*ISCJB **29** 10:58:51.3±0.3, 1324N±005×5013E±003, h10km, mb4.3/40, MS3.4/13, Error ellipse: s-maj=7.2km s-min=4.9km az=178.1*
*MOS **29** 10:58:52.7±0.9, 1324N×5020E, h20km, mb4.6/31, Error ellipse: s-maj=11.5km s-min=7.5km az=91.0*
*NEIC **29** 10:58:53.2±0.4, 1325N×5024E, h10km, mb4.4/14, Error ellipse: s-maj=9.3km s-min=6.0km az=140.0*
*DHMR **29** 10:58:54.8±1.3, 1330N×4972E, h2km±37km, ML3.3*

ISC 29 10:58:52.9±0.4, 1318N±005×5015E±004, h10km, n126, σ1°07/124, mb4.3/40, MS3.4/13, 7C-2D, Eastern Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MUKL	**Al Mukalla**	**1.68**	**320**	↓*i*P	**Pn**	**10 59 19.0**	**-3.4**
MUKL				*i* S	**Sn**	**10 59 39.6**	**-4.4**
BDHA	**Al Bayda'**	**4.52**	**281**	↑*i*P	**Pn**	**11 00 01.7**	**+0.2**
BDHA				AML	AML	11 00 05.5	
	comp=Z,95nm,0.3s						
BDHA				*i* S	**Sn

KIV	**Kislovodsk**	**31.33 350**	*i* P		**P**	**11 05 14.7 +1.3**
KIV			*e*			11 06 16.5
KIV			*e*			11 08 06.4
KIV			pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.5					
KIV			MLR	MLR		
	comp=Z,100nm,16.0s,MS3.6					
KIV	**Kislovodsk**	**31.33 350**	*i* P		**P**	**11 05 14.7 +1.3**
	comp=Z,5.0nm,0.7s,mb4.5					
KIV	**Kislovodsk**	**31.33 350**	*e*PcP		PcP	11 08 06.4 -1.0
ANN	**Anapa**	**33.33 343**	*e*P		**P**	**11 05 29.8 -1.2**
ANN			pmax	pmax		
	comp=Z,19nm,1.0s,mb5.0					
ANN	**Anapa**	**33.33 343**	*e*P		**P**	**11 05 29.8 -1.2**
	comp=Z,19nm,1.0s,mb5.0					
UCH	**Uchtor**	**35.84 32**	*e*P		**P**	**11 05 53.8 +1.1**
	comp=Z,3.4nm,1.0s,mb4.2					
UCH	**Uchtor**	**35.84 32**	*e*P		**P**	**11 05 53.8 +1.1**
	comp=Z,3.3nm,1.0s,mb4.2					
AAK	**Ala-Archa**	**36.12 31**	*e*P		**P**	**11 05 55.5 +0.4**
	comp=Z,8.6nm,1.4s,mb4.5					
AAK	**Ala-Archa**	**36.12 31**	*e*P		**P**	**11 05 55.1 0.0**
AAK			pmax	pmax		
	comp=Z,3.0nm,1.1s,mb4.1					
AAK	**Ala-Archa**	**36.12 31**	P		**P**	**11 05 55.7 +0.6**
	comp=Z,1.3nm,0.5s,mb4.1,baz=152,slow=20,SNR=5.1					
AAK	**Ala-Archa**	**36.12 31**	*e*P		**P**	**11 05 55.1 0.0**
	comp=Z,3.0nm,1.1s,mb4.1					
AKASG	**Malin Array Be**	**41.11 340**	P		**P**	**11 06 37.1 +0.1**
AKASG						11 08 36.3
AKASG			pmax	pmax		
	comp=Z,4.0nm,0.8s					
AKASG			pmax	pmax		
	comp=Z,2.0nm,0.8s					
AKASG	**Malin Array Be**	**41.11 340**	P		**P**	**11 06 37.1 +0.2**
	comp=Z,4.1nm,0.8s,mb4.1,baz=151,slow=7.2,SNR=18					
AKASG			PcP		PcP	11 08 36.2 -0.1
	comp=Z,1.6nm,0.8s,baz=141,slow=2.2,SNR=7.5					
AKBB	**Malin Array Si**	**41.11 340**	*e*P		**P**	**11 06 36.6 -0.4**
AKBB	**Malin Array Si**	**41.11 340**	*e*P		**P**	**11 06 36.6 -0.4**
BVAR	**Borovoye Array**	**42.90 18**	P		**P**	**11 06 50.2 -1.3**
BVAR			LR		LR	11 27 19.8
BVAR	**Borovoye Array**	**42.90 18**	P		**P**	**11 06 50.2 -1.3**
BVAR			pmax	pmax		
	comp=Z,2.0nm,0.8s					
BVAR			MLR	MLR		
	comp=Z,64nm,19.3s					
BVAR	**Borovoye Array**	**42.90 18**	P		**P**	**11 06 50.2 -1.3**
	comp=Z,2.1nm,0.8s,mb3.9,baz=227,slow=15,SNR=6.4					
BVAR			LR		LR	11 27 19.8
	comp=Z,64nm,19.3s,MS3.5,baz=62,slow=40					
MK31	**Makanchi Array**	**43.01 32**	*e*P		**P**	**11 06 52.0 -0.4**
MK31	**Makanchi Array**	**43.01 32**	*e*P		**P**	**11 06 52.0 -0.5**
MKAR	**Makanchi Array**	**43.01 32**	P		**P**	**11 06 52.1 -0.4**
MKAR			pmax	pmax		
	comp=Z,4.0nm,0.9s					
MKAR			MLR	MLR		
	comp=Z,22nm,20.3s					
MKAR	**Makanchi Array**	**43.01 32**	P		**P**	**11 06 52.1 -0.4**
	comp=Z,3.6nm,0.9s,mb4.1,baz=214,slow=8.0,SNR=16					
MKAR			LR		LR	11 27 43.8
	comp=Z,22nm,20.3s,MS3.1,baz=182,slow=40					
OBN	**Obninsk**	**43.16 349**	*e*P		**P**	**11 06 53.5 -0.1**
OBN			*e*			11 08 40.6
OBN			pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.5					
OBN	**Obninsk**	**43.16 349**	*e*P		**P**	**11 06 53.5 -0.1**
	comp=Z,8.0nm,0.9s,mb4.5					
KURK	**Kurchatov**	**44.01 26**	*e*P		**P**	**11 07 00.0 -0.5**
KURK			pmax	pmax		
	comp=Z,6.0nm,1.5s,mb4.1					
KURK	**Kurchatov**	**44.01 26**	*e*P		**P**	**11 07 00.0 -0.5**
	comp=Z,5.6nm,1.5s,mb4.1					
LBTB	**Lobatse**	**44.89 212**	P		**P**	**11 07 09.2 +1.4**
LBTB			pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.5					
LBTB	**Lobatse**	**44.89 212**	P		**P**	**11 07 09.2 +1.4**
	comp=Z,6.5nm,1.0s,mb4.4,baz=26,slow=11,SNR=4.1					
PGF	**Pioggiola**	**46.00 317**	*e*P		**P**	**11 07 16.9 +0.4**
DPC	**Dobruska-Polom**	**46.19 330**	*e*pP		pP	11 07 23.8 +2.8
GERES	**GERESS Array B**	**46.55 327**	P		**P**	**11 07 21.2 +0.5**
GERES						11 08 54.6
GERES			pmax	pmax		
	comp=Z,1.0nm,0.8s					
GERES			MLR	MLR		
	comp=Z,27nm,18.6s					
GERES	**GERESS Array B**	**46.55 327**	P		**P**	**11 07 21.2 +0.4**
	comp=Z,0.4nm,0.8s,mb3.4,baz=134,slow=8.4,SNR=2.8					
GERES			PcP		PcP	11 08 54.6 -0.3
	comp=Z,1.0nm,0.8s,baz=115,slow=6.0,SNR=5.0					
GERES			LR		LR	11 29 25.9
	comp=Z,27nm,18.6s,MS3.2,baz=96,slow=39					
PRU	**Pruhonice**	**46.83 329**	*e*P		**P**	**11 07 25.3 +2.4**
FRF	**La Foret Royal**	**48.00 318**	*e*P		**P**	**11 07 31.8 -0.3**
	comp=Z,19nm,1.0s,mb4.8					
FRF	**La Foret Royal**	**48.00 318**	*e*P		**P**	**11 07 31.8 -0.3**
FRF			pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.8					
FRF	**La Foret Royal**	**48.00 318**	*e*P		**P**	**11 07 31.8 -0.3**
	comp=Z,9.3nm,1.0s,mb4.8					
BOSA	**Boshof**	**48.02 210**	P		**P**	**11 07 33.9 +1.5**
BOSA			pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.5					
BOSA			MLR	MLR		
	comp=Z,98nm,18.5s,MS3.8					
BOSA	**Boshof**	**48.02 210**	P		**P**	**11 07 33.9 +1.5**
	comp=Z,3.6nm,0.9s,mb4.4,baz=126,slow=3.2,SNR=3.7					
BOSA			LR		LR	11 28 43.7
	comp=Z,98nm,18.5s,MS3.8,baz=30,slow=37					
MBDF	**Montbardon**	**48.43 319**	*e*P		**P**	**11 07 36.4 +1.0**
	comp=Z,5.8nm,0.7s,mb4.4					
MBDF	**Montbardon**	**48.43 319**	*e*P		**P**	**11 07 36.4 +1.0**
MBDF			pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.4					
MBDF	**Montbardon**	**48.43 319**	*e*P		**P**	**11 07 36.4 +1.0**
	comp=Z,2.9nm,0.7s,mb4.4					
SMRF	**Simiane la Rot**	**48.88 318**	*e*P		**P**	**11 07 39.9 +1.0**
	comp=Z,5.6nm,0.8s,mb4.3					
SMRF	**Simiane la Rot**	**48.88 318**	*e*P		**P**	**11 07 39.9 +1.0**
	comp=Z,5.6nm,0.8s,mb4.7					
ZAL	**Zalesovo**	**48.97 26**	P		**P**	**11 07 37.8 -1.6**
ZAL			pmax	pmax		
	comp=Z,3.0nm,0.7s					
ZAL			MLR	MLR		
	comp=Z,29nm,19.8s					
ZAL	**Zalesovo**	**48.97 26**	P		**P**	**11 07 37.8 -1.6**
	comp=Z,29nm,19.8s					
ZAA0	**Zalesovo Array**	**48.98 26**	*e*P		**P**	**11 07 37.5 -2.0**
ZAA0	**Zalesovo Array**	**48.98 26**	*e*P		**P**	**11 07 37.5 -2.0**
ZALV	**Zalesovo Beam**	**48.98 26**	P		**P**	**11 07 37.8 -1.8**
	comp=Z,2.6nm,0.7s,mb4.4,baz=228,slow=8.1,SNR=12					
ZALV			LR		LR	11 30 16.3
	comp=Z,29nm,19.8s,MS3.3,baz=2.4,slow=39					
ORIF	**Oris-en-Rattie**	**49.08 319**	*e*P		**P**	**11 07 40.7 +0.3**
LASF	**Ste Croix**	**50.05 317**	*e*P		**P**	**11 07 48.1 +0.3**
MEZF	**Maizieres J'vi**	**51.21 323**	*e*P		**P**	**11 07 56.8 +0.3**
FINES	**FINESS Array B**	**51.24 345**	P		**P**	**11 07 56.2 -0.3**
FINES			pmax	pmax		
	comp=Z,5.0nm,0.8s					
FINES			MLR	MLR		
	comp=Z,38nm,19.9s					
FINES	**FINESS Array B**	**51.24 345**	P		**P**	**11 07 56.2 -0.3**
	comp=Z,4.9nm,0.8s,mb4.5,baz=130,slow=6.0,SNR=12					
FINES			LR		LR	11 30 38.2
	comp=Z,38nm,19.9s,MS3.4,baz=332,slow=37					
LOR	**Lormes**	**51.37 321**	*e*P		**P**	**11 07 57.6 -0.1**
SSF	**Saint Saulge**	**51.50 321**	*e*P		**P**	**11 07 58.4 -0.3**
	comp=Z,4.2nm,0.8s,mb4.1					
SSF	**Saint Saulge**	**51.50 321**	*e*P		**P**	**11 07 58.4 -0.3**
SSF			pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.1					
SSF	**Saint Saulge**	**51.50 321**	*e*P		**P**	**11 07 58.4 -0.3**
	comp=Z,2.1nm,0.8s,mb4.1					
BGF	**Bois d'Agland**	**51.70 320**	*e*P		**P**	**11 08 00.5 +0.3**
SJPF	**Ste Jean**	**53.16 314**	*e*P		**P**	**11 08 12.1 +1.0**
	comp=Z,12nm,1.0s,mb4.5					
SJPF	**Ste Jean**	**53.16 314**	*e*P		**P**	**11 08 12.1 +1.0**
SJPF			pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.5					
SJPF	**Ste Jean**	**53.16 314**	*e*P		**P**	**11 08 12.1 +1.0**
	comp=Z,6.2nm,1.0s,mb4.5					
ESDC	**Sonseca Array**	**54.22 310**	P		**P**	**11 08 19.1 +0.1**
	comp=Z,0.7nm,0.6s,mb3.8,baz=83,slow=6.5,SNR=8.4					
DBIC	**Dimbokro**	**54.48 269**	P		**P**	**11 08 22.6 +1.4**
DBIC			pmax	pmax		
	comp=Z,2.0nm,0.7s					
DBIC	**Dimbokro**	**54.48 269**	P		**P**	**11 08 22.6 +1.4**
	comp=Z,1.7nm,0.7s,mb4.1,baz=56,slow=9.6,SNR=4.2					
LIC	**Lamto**	**54.73 268**	*e*P		**P**	**11 08 24.2 +1.1**
	comp=Z,21nm,1.0s,mb4.8					
LIC	**Lamto**	**54.73 268**	*e*P		**P**	**11 08 24.2 +1.1**
	comp=Z,10nm,1.0s,mb4.8					
NB2	**NORSAR Subarra**	**55.48 338**	P		**P**	**11 08 26.7 -1.0**
	comp=Z,0.9nm,0.8s,mb3.9,baz=130,slow=7.4					
NOA	**NORSAR Array B**	**55.48 338**	P		**P**	**11 08 27.0 -0.7**
NOA			PcP		PcP	11 09 27.7 0.0
NOA			LR		LR	11 35 36.1
NOA	**NORSAR Array B**	**55.48 338**	P		**P**	**11 08 27.0 -0.7**
NOA						11 09 27.7
NOA			pmax	pmax		
	comp=Z,2.0nm,0.9s					
NOA			pmax	pmax		
	comp=Z,1.0nm,0.7s					
NOA			MLR	MLR		
	comp=Z,32nm,19.6s					
NOA	**NORSAR Array B**	**55.48 338**	P		**P**	**11 08 27.0 -0.7**
	comp=Z,1.8nm,0.9s,mb4.1,baz=126,slow=7.6,SNR=5.5					
NOA			PcP		PcP	11 09 27.7 0.0
	comp=Z,0.8nm,0.7s,baz=172,slow=2.0,SNR=4.9					
NOA			LR		LR	11 35 36.1
	comp=Z,32nm,19.6s,MS3.4,baz=235,slow=40					
NOA	**NORSAR Array B**	**55.48 338**	PcP		PcP	11 09 27.7 0.0
ZAK	**Zakamensk**	**56.76 38**	*e*P		**P**	**11 08 30.5 -6.5**
ZAK			*e*		pP	11 08 35.3 -4.9
ZAK			pmax	pmax		
	comp=Z,1.0nm,1.0s,mb3.8					
SONM	**Songino Array**	**57.86 41**	P		**P**	**11 08 45.3 +0.5**
SONM			LR		LR	11 36 54.9
SONM	**Songino Array**	**57.86 41**	P		**P**	**11 08 45.3 +0.5**
SONM			pmax	pmax		
	comp=Z,2.0nm,0.7s					
SONM			MLR	MLR		
	comp=Z,44nm,19.3s					
SONM	**Songino Array**	**57.86 41**	P		**P**	**11 08 45.3 +0.5**
	comp=Z,2.2nm,0.7s,mb4.3,baz=250,slow=6.9,SNR=11					
SONM			LR		LR	11 36 54.9
	comp=Z,44nm,19.3s,MS3.6,baz=254,slow=40					
ULN	**Ulaanbaatar**	**58.29 42**	*e*P		**P**	**11 08 48.3 +0.4**
	comp=Z,6.8nm,0.6s,mb4.8					
ULN	**Ulaanbaatar**	**58.29 42**	*e*P		**P**	**11 08 48.3 +0.4**
ULN			pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.9					
ULN	**Ulaanbaatar**	**58.29 42**	*e*P		**P**	**11 08 48.3 +0.4**
	comp=Z,6.8nm,0.6s,mb4.8					
ARCES	**ARCESS Array B**	**58.44 350**	P		**P**	**11 08 48.7 +0.2**
ARCES			pmax	pmax		
	comp=Z,7.0nm,0.9s					
ARCES			MLR	MLR		
	comp=Z,51nm,20.8s					
ARCES	**ARCESS Array B**	**58.44 350**	P		**P**	**11 08 48.7 +0.2**
	comp=Z,7.3nm,0.9s,mb4.7,baz=139,slow=5.8,SNR=8.5					
ARCES			LR		LR	11 36 46.1
	comp=Z,51nm,20.8s,MS3.6,baz=332,slow=39					
WHN	**Wuhan**	**61.30 62**	*e*P		**P**	**11 09 08.5 -0.4**
HIA	**Hailar**	**66.82 42**	*e*P		**P**	**11 09 44.9 +0.1**
KSRS	**Korea Array**	**72.46 55**	P		**P**	**11 10 18.3 -1.6**
KSRS			pmax	pmax		
	comp=Z,1.0nm,0.8s,mb3.8					
KSRS	**Korea Array**	**72.46 55**	P		**P**	**11 10 18.3 -1.6**
	comp=Z,1.2nm,0.8s,mb3.9,baz=277,slow=7.8,SNR=5.8					
YAK	**Yakutsk**	**73.55 29**	*e*P		**P**	**11 10 25.1 -0.7**
YAK			pmax	pmax		
	comp=Z,8.0nm,0.7s,mb4.8					
TIXI	**Tiksi**	**74.02 19**	*c i*P		**P**	**11 10 27.3 -1.2**
TIXI			pmax	pmax		
	comp=Z,4.0nm,1.7s,mb4.1					
FITZ	**Fitzroy Crossi**	**80.67 111**	P		**P**	**11 11 05.9 -0.8**
	comp=Z,1.1nm,0.9s,mb3.8,baz=274,slow=12,SNR=3.9					
MJAR	**Matsushiro Arr**	**80.74 55**	P		**P**	**11 11 06.9 +0.1**
MJAR			pmax	pmax		
	comp=Z,1.0nm,0.9s					
MJAR	**Matsushiro Arr**	**80.74 55**	P		**P**	**11 11 06.9 0.0**
	comp=Z,0.7nm,0.9s,mb3.6,baz=248,slow=3.3,SNR=4.3					
SEY	**Seymchan**	**83.85 27**	*i*P		**P**	**11 11 21.8 -0.8**
WRA	**Warramunga Arr**	**89.09 111**	P		**P**	**11 11 48.7 -0.3**
WRA			pmax	pmax		
	comp=Z,3.0nm,0.7s					
WRA	**Warramunga Arr**	**89.09 111**	P		**P**	**11 11 48.7 -0.4**
	comp=Z,2.7nm,0.7s,mb4.7,baz=300,slow=3.7,SNR=40					
WRAB	**Tennant Creek**	**89.09 111**	*e*P		**P**	**11 11 48.3 -0.8**
	comp=Z,8.6nm,1.4s,mb4.9					
WRAB	**Tennant Creek**	**89.09 111**	*e*P		**P**	**11 11 48.3 -0.8**
WRAB			pmax	pmax		
	comp=Z,9.0nm,1.4s,mb4.9					
WRAB	**Tennant Creek**	**89.09 111**	*e*P		**P**	**11 11 48.3 -0.8**
	comp=Z,8.6nm,1.4s,mb4.9					
WB2	**Warramunga Arr**	**89.10 111**	*e*P		**P**	**11 11 48.5 -0.6**
ASAR	**Alice Springs**	**89.62 114**	P		**P**	**11 11 51.2 -0.2**
ASAR			pmax	pmax		
	comp=Z,2.0nm,0.7s					
ASAR	**Alice Springs**	**89.62 114**	P		**P**	**11 11 51.1 -0.3**
	comp=Z,1.7nm,0.7s,mb4.5,baz=286,slow=4.7,SNR=36					
NVAR	**Mina Array Bea**	**127.53 349**	PKP		PKPdf	11 17 59.2 +0.5
	comp=Z,1.7nm,0.9s,baz=40,slow=2.5,SNR=11					
TXAR	**Lajitas Array**	**130.75 329**	PKIKP		PKPdf	11 18 06.2 +1.1
TXAR			pmax	pmax		
	comp=Z,1.0nm,0.8s					
TXAR	**Lajitas Array**	**130.75 329**	PKP		PKPdf	11 18 06.2 +1.1
	comp=Z,0.5nm,0.8s,baz=90,slow=1.3,SNR=3.9					

NNC 29 11:06:37.9±3.6, 3758N×6868E, h34km±27km, mb3.7, mpv3.2, 5C-3D, Error ellipse: s-maj=34.2km s-min=30.5km az=173.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**5.69**	**14**	⇑Pn	Pn	11 08 03.0	+3.1
	0.3nm,0.2s,baz=199,slow=15						
KK31				⇑Pg	Pn	11 08 21.6	+22
	1.7nm,0.5s,baz=193,slow=17						
KK31				⇑Sn	Sn	11 09 09.9	+5.9
	0.9nm,0.3s,baz=192,slow=27						
KK31				⇓Lg		11 09 39.1	
	13nm,0.7s,baz=192,slow=27						
TKM2	**Tokmak 2**	**7.51**	**43**	⇑Pn	Pn	11 08 24.6	-0.2
	2.8nm,0.7s						
TKM2				⇑Lg		11 10 33.5	
	2.7nm,0.8s						
AB31	**Akbulak array**	**13.27**	**334**	⇓Pn	Pn	11 09 42.2	-1.5
	0.8nm,0.6s,baz=151,slow=15,SNR=13						
AB31				⇓Sn	Sn	11 12 07.0	-2.9
	0.8nm,0.6s,baz=161,slow=22,SNR=3.0						

IDC 29 11:07:19.3±1.1, 686S×15520E, h0km, mb3.9/7, mb1 4.0/8, mb1mx3.8/15, mbtmp3.9/8, ML4.1/1, MS3.4/1, Ms1 3.4/1, ms1mx2.6/27, Error ellipse: s-maj=27.5km s-min=21.4km az=93.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.35**	**119**	Pn	Pn	11 08 39.0	-1.5
	6.2nm,0.3s,baz=253,slow=2.5,SNR=3.0						
HNR				Sn	Sn	11 09 44.8	+2.0
	5.6nm,0.3s,baz=112,slow=8.8,SNR=3.5						
HNR				LR	LR	11 10 27.0	
	comp=Z,325nm,18.2s,baz=355,slow=35						
WRA	**Warramunga Arr**	**24.06**	**235**	P	P	11 12 36.1	-0.3
	2.1nm,0.9s,baz=60,slow=9.3,SNR=10						
ASAR	**Alice Springs**	**26.41**	**228**	P	P	11 12 57.6	-0.2
	0.1nm,0.3s,baz=58,slow=9.5,SNR=4.4						
STKA	**Stephens Creek**	**27.94**	**205**	P	P	11 13 12.9	+1.5
	1.5nm,0.7s,baz=38,slow=12,SNR=2.3						
FITZ	**Fitzroy Crossi**	**30.89**	**246**	*e*P	P	11 13 37.5	-0.3
	3.3nm,0.9s						
FITZ	**Fitzroy Crossi**	**30.89**	**246**	P	P	11 13 36.9	-1.0
	1.6nm,0.7s,baz=71,slow=12,SNR=5.4						
MJAR	**Matsushiro Arr**	**46.02**	**341**	P	P	11 15 44.5	-0.1
	0.6nm,0.7s,baz=159,slow=8.6,SNR=3.4						
SONM	**Songino Array**	**69.33**	**327**	P	P	11 18 29.4	+0.7
	1.1nm,0.8s,baz=130,slow=5.5,SNR=6.7						
MKAR	**Makanchi Array**	**83.44**	**319**	P	P	11 19 48.6	-0.1
	2.2nm,0.7s,baz=103,slow=5.6,SNR=19						

IDC 29 11:12:03.9±1.1, 1956N×14566E, h0km, mb3.6/7, mb1 3.7/7, mb1mx3.6/18, mbtmp3.6/7, Error ellipse: s-maj=41.2km s-min=23.2km az=89.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**40.80**	**196**	P	P	11 19 46.6	-0.5
	0.1nm,0.3s,baz=12,slow=8.3,SNR=6.2						
SONM	**Songino Array**	**42.45**	**321**	P	P	11 20 02.2	+1.7
	0.6nm,0.5s,baz=136,slow=8.4,SNR=5.0						
ASAR	**Alice Springs**	**44.47**	**195**	P	P	11 20 17.8	+0.8
	0.1nm,0.5s,baz=15,slow=12,SNR=2.9						
ZALV	**Zalesovo Beam**	**57.31**	**322**	P	P	11 21 53.4	0.0
	0.8nm,0.4s,baz=110,slow=8.0,SNR=3.6						
MKAR	**Makanchi Array**	**57.84**	**313**	P	P	11 21 56.0	-1.4
	0.7nm,0.4s,baz=86,slow=8.1,SNR=6.1						
YKA	**Yellowknife Ar**	**77.25**	**28**	P	P	11 23 59.6	-0.1
	0.1nm,0.4s,baz=288,slow=5.0,SNR=7.0						
ULM	**Lac du Bonnet**	**91.91**	**34**	P	P	11 25 14.4	+0.1
	1.3nm,0.6s,baz=308,slow=2.9,SNR=3.4						

IDC 29 11:19:50.2±2.6, 2083S×17763W, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.6/13, mbtmp3.6/4, Error ellipse: s-maj=178.7km s-min=28.0km az=152.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**37.96**	**245**	P	P	11 27 08.0	-1.7
	1.0nm,0.4s,baz=103,slow=8.6,SNR=4.0						
ASAR	**Alice Springs**	**44.78**	**257**	P	P	11 28 06.2	+0.2
	0.5nm,0.7s,baz=101,slow=6.9,SNR=10						
WRA	**Warramunga Arr**	**44.90**	**262**	P	P	11 28 07.7	+0.8
	0.2nm,0.3s,baz=91,slow=8.3,SNR=23						
NVAR	**Mina Array Bea**	**81.03**	**43**	P	P	11 32 07.4	+0.4
	0.3nm,0.6s,baz=219,slow=7.0,SNR=2.4						

*NNC **29** 11:25:31.7±4.6, 3940N×7124E, h0km, mb3.7, mpv3.5, Error ellipse: s-maj=44.2km s-min=30.3km az=52.0*

ISC 29 11:25:28.1±2.7, 387N±02×710E±02, h35km, n12, σ0°70/14, 4C-3D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**3.96**	**30**	P	**Pn**	**11 26 26.5**	**+0.1**
	SNR=40						
KK31	**Karatay Array**	**4.38**	**355**	⇓Pn	**Pn**	**11 26 33.8**	**+1.6**
	1.8nm,0.2s,baz=167,slow=12,SNR=99						
KK31				⇓Sn	**Sn**	**11 27 21.7**	**-0.2**
	4.2nm,0.3s,baz=30,slow=29,SNR=5.4						
KK31				⇓Lg		11 27 34.4	
	10nm,0.5s,baz=168,slow=31,SNR=7.6						
UCH	**Uchtor**	**4.39**	**36**	P	**Pn**	**11 26 32.3**	**0.0**
	SNR=64						
EKS2	**Erkin-Say**	**4.45**	**27**	P	**Pn**	**11 26 33.8**	**+0.7**
	SNR=8.5						
KZA	**Kyzart**	**4.65**	**43**	P	**Pn**	**11 26 35.3**	**-0.5**
	SNR=41						
AAK	**Ala-Archa**	**4.71**	**33**	P	**Pn**	**11 26 36.6**	**0.0**
	SNR=26						
KBK	**Karagaybulak**	**4.93**	**36**	P	**Pn**	**11 26 40.5**	**+0.9**
	SNR=10						
CHMS	**Chumysh**	**5.12**	**32**	P	**Pn**	**11 26 41.9**	**-0.3**
	SNR=14						
USP	**Ospenovka**	**5.24**	**29**	P	**Pn**	**11 26 43.3**	**-0.6**
	SNR=12						
TKM2	**Tokmak 2**	**5.44**	**38**	⇑Pn	**Pn**	**11 26 46.1**	**-0.5**
	5.7nm,0.5s						
TKM2				⇑Lg		11 27 59.4	
	13nm,1.2s						
TKM2	**Tokmak 2**	**5.44**	**38**	P	**Pn**	**11 26 45.3**	**-1.3**
	SNR=15						
AB31	**Akbulak array**	**13.19**	**327**	⇑Pn	**Pn**	**11 28 32.1**	**-0.6**
	0.3nm,0.4s,baz=132,slow=13,SNR=11						
AB31				⇑Sn	**Sn**	**11 30 53.3**	**-4.7**
	1.0nm,0.6s,baz=160,slow=23,SNR=8.4						

IDC 29 11:34:44.8±14.0, 1838S×17885W, h687km±169km, mb2.9/5, mb1 3.0/5, mb1mx2.7/16, mbtmp2.9/5, Error ellipse: s-maj=209.7km s-min=59.9km az=50.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**20.12**	**189**	P	P	11 38 36.3	+0.1
	18nm,1.1s,baz=293,slow=12,SNR=3.0						
CTA	**Charters Tower**	**32.96**	**261**	P	P	11 40 27.4	-0.1
	0.4nm,0.3s,baz=104,slow=11,SNR=5.5						
STKA	**Stephens Creek**	**38.04**	**242**	P	P	11 41 09.1	+0.3
	2.0nm,1.0s,baz=90,slow=11,SNR=2.8						
WRA	**Warramunga Arr**	**44.14**	**260**	P	P	11 41 56.3	-0.3
	0.7nm,0.4s,baz=98,slow=6.8,SNR=47						
ASAR	**Alice Springs**	**44.26**	**255**	P	P	11 41 57.9	+0.3
	2.1nm,0.6s,baz=91,slow=8.0,SNR=60						

IDC 29 12:05:17.2±4.6, 2168S×17404W, h0km, mb3.5/3, mb1 3.8/3, mb1mx3.5/15, mbtmp3.5/3, Error ellipse: s-maj=273.8km s-min=29.5km az=153.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**47.86**	**257**	P	P	12 13 57.5	+0.3
	0.7nm,0.8s,baz=96,slow=7.1,SNR=13						
WRA	**Warramunga Arr**	**48.10**	**262**	P	P	12 13 58.4	-0.8
	0.3nm,0.6s,baz=100,slow=6.1,SNR=7.3						
NVAR	**Mina Array Bea**	**79.40**	**41**	P	P	12 17 25.5	+0.3
	0.2nm,0.5s,baz=230,slow=5.6,SNR=2.3						
AKASG	**Malin Array Be**	**145.77**	**333**	PKPbc	PKPbc	12 24 57.8	-0.3
	0.6nm,0.5s,baz=41,slow=4.3,SNR=6.5						

IDC 29 12:17:29.6±0.8, 610N×12659E, h0km, mb3.7/8, mb1 3.8/8, mb1mx3.7/17, mbtmp3.7/8, Error ellipse: s-maj=70.9km s-min=14.8km az=72.0, Mindanao

| Code | Station Name | Δ° | AZ° | Phase ID Op | ISC | Time h

WRA Warramunga Arr 24.71 240 P **P 12 27 03.8 -0.5**
3.3nm,0.8s,mb3.9,baz=66,slow=9.5,SNR=14
WRA PcP PcP 12 30 43.9 +2.6
1.6nm,0.9s,baz=64,slow=2.3,SNR=11
ASAR Alice Springs 26.78 233 P **P 12 27 22.6 -0.5**
1.2nm,0.9s,mb3.4,baz=63,slow=9.1,SNR=10
STKA Stephens Creek 27.34 209 *eP* **P 12 27 28.8 +0.8**
5.0nm,1.5s,mb3.8
STKA Stephens Creek 27.34 209 P **P 12 27 28.5 +0.5**
2.5nm,0.6s,mb4.0,baz=42,slow=11,SNR=7.4
BATI Kupang 32.93 264 LR LR 12 43 56.6
comp=Z,279nm,18.4s,MS4.0,baz=295,slow=41
URZ Urewera 34.76 152 LR LR 12 39 40.4
comp=Z,135nm,18.4s,MS3.7,baz=190,slow=31
KSRS Korea Array 53.17 331 P **P 12 31 00.5 -0.5**
1.2nm,0.9s,mb3.8,baz=144,slow=8.4,SNR=4.9
VNDA Vanda 69.06 179 P **P 12 32 49.3 +1.0**
0.8nm,0.8s,mb3.7,baz=339,slow=8.6,SNR=3.4
SONM Songino Array 71.65 327 P **P 12 33 05.2 +0.7**
1.7nm,0.9s,mb4.0,baz=137,slow=4.7,SNR=6.2
MKAR Makanchi Array 85.82 318 P **P 12 34 22.3 -0.1**
3.3nm,0.8s,mb4.6,baz=101,slow=6.3,SNR=11
NVAR Mina Array Bea 91.08 51 P **P 12 34 50.2 +2.5**
0.8nm,1.1s,mb4.0,baz=236,slow=3.9,SNR=4.3
YKA Yellowknife Ar 96.71 28 P **P 12 35 11.5 -1.4**
0.9nm,1.0s,mb4.2,baz=265,slow=5.0,SNR=5.4

NEIC ***29*** *12:22:49.7±4.2, 18.19N×69.58W, h159km±67km, MD3.9(RSPR), Error ellipse: s-maj=121.0km s-min=15.0km az=191.0*
ISCJB ***29*** *12:22:51.1±1.3, 183N±05×69.49W±009, h129km±21km, Error ellipse: s-maj=77.4km s-min=6.7km az=9.8*
RSPR ***29*** *12:22:52.7, 18.91N×69.24W, h158km±20km, MD3.9/9, MD3.9/9*
ISC 29 12:22:51.8±1.5, 183N±05×6950W±010, h127km±27km, n11, σ0=81/20, 7C-2D, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDDR	**Presa de Saban**	**1.82**	**292**	*e*Pn	**Pn**	**12 23 23.1**	**-0.3**
SDDR				*e*Sn	**Sn**	**12 23 47.6**	**0.0**
AGPR	**Aguadilla, PR**	**2.27**	**86**	⇓*e*P	**Pn**	**12 23 29.4**	**+0.4**
AGPR				*e*S	**Sn**	**12 23 57.1**	**-0.4**
CRPR	**Cabo Rojo, PR**	**2.29**	**97**	⇑*e*P	**Pn**	**12 23 29.1**	**-0.1**
CRPR				*e*S	**Sn**	**12 23 57.7**	**-0.3**
LSP	**Las Mesas**	**2.30**	**93**	⇑*e*P	**Pn**	**12 23 29.8**	**+0.5**
LSP				*e*S	**Sn**	**12 23 58.1**	**0.0**
LRS	**Lares**	**2.52**	**90**	⇑*e*P	**Pn**	**12 23 32.2**	**+0.1**
LRS				*e*S	**Sn**	**12 24 05.7**	**+2.5**
AOPR	**Arecibo Observ**	**2.61**	**89**	⇑*e*P	**Pn**	**12 23 33.8**	**+0.5**
AOPR				*e*S	**Sn**	**12 24 04.6**	**-0.6**
CELP	**Cerrillos**	**2.79**	**95**	⇓*e*P	**Pn**	**12 23 36.8**	**+1.2**
CELP				*e*S	**Sn**	**12 24 09.5**	**+0.3**
SJG	**San Juan**	**3.19**	**93**	⇑*e*P	**Pn**	**12 23 39.9**	**-0.9**
SJG	**San Juan**	**3.19**	**93**	⇑*e*P	**Pn**	**12 23 40.5**	**-0.4**
SJG				*e*S	**Sn**	**12 24 16.6**	**-2.0**
CPD	**Cerro la Pandu**	**3.42**	**94**	*e*Pn	**Pn**	**12 23 42.8**	**-1.0**
CPD				*e*Sn	**Sn**	**12 24 24.4**	**+0.3**
HUMP	**Col San Antoni**	**3.47**	**92**	⇑*e*P	**Pn**	**12 23 44.8**	**+0.2**

IDC 29 12:23:31.9±2.8, 1373N×12226E, h0km, mb3.5/3, mb1 3.6/3, mb1mx3.3/18, mbtmp3.5/3, Error ellipse: s-maj=273.4km s-min=30.7km az=63.0, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**35.51**	**160**	P	P	12 30 28.8	-1.9
	0.5nm,0.5s,baz=338,slow=11,SNR=9.3						
ASAR	**Alice Springs**	**38.88**	**163**	P	P	12 31 00.8	+1.6
	0.3nm,0.3s,baz=347,slow=12,SNR=17						
AKASG	**Malin Array Be**	**81.41**	**320**	P	P	12 35 50.7	0.0
	0.2nm,0.3s,baz=88,slow=5.0,SNR=4.3						

IDC 29 12:26:12.2±46.0, 2450N×10380E, h0km, mb3.6/4, mb1 3.6/4, mb1mx3.3/21, mbtmp3.6/4, MS3.8/1, Ms1 3.8/1, ms1mx2.4/43, Error ellipse: s-maj=772.4km s-min=81.5km az=153.0, Yunnan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**23.38**	**4**	P	P	12 31 23.1	+0.7
	0.5nm,0.8s,baz=178,slow=8.7,SNR=4.4						
JNU	**Nakatsue**	**25.18**	**64**	LR	LR	12 41 56.7	
	comp=Z,229nm,21.4s,baz=244,slow=38						
MKAR	**Makanchi Array**	**28.12**	**328**	P	P	12 32 06.0	+0.3
	0.6nm,0.7s,baz=122,slow=7.9,SNR=6.6						
ZALV	**Zalesovo Beam**	**32.66**	**339**	P	P	12 32 44.6	-1.2
	1.9nm,0.7s,baz=134,slow=8.6,SNR=8.4						
BVAR	**Borovoye Array**	**38.00**	**327**	P	P	12 33 32.3	+0.5
	0.6nm,0.7s,baz=152,slow=6.5,SNR=3.2						

BJI ***29*** *12:41:55.1, 52.05N×179.70W, h129km, mB6.6, mb6.5*
ISCJB ***29*** *12:41:56.9±0.1, 51.97N±002×179.94W±002, h125km, mb6.1/472, Error ellipse: s-maj=3.0km s-min=1.7km az=0.7*
CRAAG ***29*** *12:41:56.9, 52.04N×179.92W, Mw6.5*
MOS ***29*** *12:41:56.6±1.0, 51.99N×179.95W, h122km, mb6.4/112, MS5.4/38, Error ellipse: s-maj=5.9km s-min=3.6km az=92.9*
NEIC ***29*** *12:41:57.4±0.1, 52.01N×179.97W, h117km, mb6.2/270, ME6.3, MW6.2, Error ellipse: s-maj=2.6km s-min=1.7km az=5.0 Broadband fault plane solution: P waves. NP1: ϕ_s=330.00000°, δ=75.00000°, λ=-90.00000°. NP2: ϕ_s=150.00000°, δ=15.00000°, λ=-90.00000°. Principal axes: T Plg=30.0000°, Azm=60.0000°; N Plg=0.0000°, Azm=0.0000°; P Plg=60.0000°, Azm=240.0000°; Moment Tensor Solution. s93 Moment tensor: Scale 10^{18} Nm; M_{rr}=1.10; $M_{\theta\theta}$=0.83; $M_{\phi\phi}$=1.93; $M_{r\theta}$=0.87; $M_{\theta\phi}$=-0.73; $M_{\phi r}$=-1.87; Best double couple: M_0=2.60000×10^{18} NP1:ϕ_s=193.00000°, δ=23.00000°, λ=-51.00000°. NP2:ϕ_s=332.00000°, δ=72.00000°, λ=-105.00000°. Principal axes: T 3.1000, Plg=26.0000°, Azm=73.0000°; N -0.9100, Plg=14.0000°, Azm=336.0000°; P -2.1900, Plg=60.0000°, Azm=220.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*
IGIL ***29*** *12:41:57.4, 52.08N×179.98W, h123km, mb5.8*
GCMT ***29*** *12:41:57.4±0.1, 51.89N×179.81W, h122km, MW6.2/115, Moment Tensor Solution. s115,c292; s115,c444; Duration: 3s2 Moment tensor: Scale 10^{18}Nm; M_{rr}=1.17±.02; $M_{\theta\theta}$=0.21±.02; $M_{\phi\phi}$=1.38±.02; $M_{r\theta}$=1.24±.01; $M_{\theta\phi}$=0.68±.02; $M_{\phi r}$=2.13±.01; Best double couple: M_0=2.84100×10^{18} NP1:ϕ_s=175.00000°, δ=16.00000°, λ=-65.00000°. NP2:ϕ_s=330.00000°, δ=75.00000°, λ=-97.00000°. Principal axes: T 3.0470, Plg=30.0000°, Azm=66.0000°; N -0.4080, Plg=7.0000°, Azm=332.0000°; P -2.6340, Plg=59.0000°, Azm=231.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
IDC ***29*** *12:41:58.6±0.4, 52.02N×179.98W, h129km±3km, mb5.9/38, mb1 5.9/38, mb1mx5.9/38, mbtmp5.9/38, MS5.3/20, Ms1 5.3/20, ms1mx4.9/38 Error ellipse: s-maj=7.7km s-min=6.5km az=158.0*
BGS ***29*** *12:42:01.1±1.3, 52.66N×179.65E, h110km, mb5.7*
ISC 29 12:41:58.6±0.1, 5201N±002×17996W±002, h127km, h127km±.5km:pP-P, n1444, σ0=85/1431, mb6.1/471, 148C-333D, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMKA	**Amchitka**	**0.78**	**216**	P	**Pn**	**12 42 17.5**	**-1.9**
AMKA				S	**Sn**	**12 42 32.0**	**-3.0**
ADK	**Adak**	**2.03**	**92**	P	**Pn**	**12 42 31.0**	**-1.8**
ADK				S	**Sn**	**12 42 57.4**	**-1.5**
SMY	**Shemya**	**3.71**	**283**	P	**Pn**	**12 42 53.8**	**-0.6**
SMY				S	**Sn**	**12 43 37.2**	**-0.4**
NIKO	**Nikolski**	**6.85**	**78**	P	**Pn**	**12 43 35.2**	**-1.3**
SPIA	**Saint Paul Isl**	**7.65**	**44**	P	**Pn**	**12 43 49.3**	**+2.0**
UNV	**Unalaska Valle**	**8.34**	**72**	P	**Pn**	**12 43 56.3**	**-0.3**
AKGG	**Akutan Green G**	**8.69**	**70**	P	**Pn**	**12 44 01.5**	**+0.3**
AKLV	**Akutan Long Va**	**8.70**	**70**	P	**Pn**	**12 44 01.4**	**0.0**
AKUT	**Akutan**	**8.80**	**70**	P	**Pn**	**12 44 02.8**	**0.0**
FALS	**False Pass**	**10.27**	**67**	⇑*e*Pn	**Pn**	**12 44 21.6**	**-0.9**
FALS				*e*Sn	**Sn**	**12 46 28.3**	**+13**
SDPT	**Sand Point**	**12.02**	**66**	*e*P	**Pn**	**12 44 44.1**	**-1.5**
	2μm,0.3s						
GAMB	**Gambell**	**12.57**	**17**	⇑*i*Pn	**Pn**	**12 44 55.1**	**+2.4**
PET	**Petropavlovsk**	**13.06**	**283**	*e*Pn	**Pn**	**12 44 59.1**	**0.0**
PET				*e*P		12 45 06.5	
PET				*e*ScP	ScP	12 53 40.0	-1.9
PET	**Petropavlovsk**	**13.06**	**283**	*κ i*P	**Pn**	**12 44 59.3**	**+0.2**
PET				*e*S	**Sn**	**12 47 21.4**	**-1.5**
PET				pmax	pmax		
	comp=Z,6μm,6.2s						
PET				pmax	pmax		
	comp=Z,1μm,1.1s						
PET				pmax	pmax		
	comp=Z,3μm,16.8s						
PET				pmax	pmax		
	comp=Z,510nm,1.1s						
PET				smax			
	comp=N,16μm,14.9s						
PET				smax			
	comp=N,15μm,13.6s						
PET				smax			
	comp=E,1μm,1.8s						
PET				MLR	MLR		
	comp=Z,4μm,21.0s						
PET				MLR	MLR		
	comp=Z,4μm,17.0s						
PET				pmax	pmax		
	comp=Z,239nm,1.2s						
PET				pmax	pmax		
	comp=N,373nm,1.6s						
PET				pmax	pmax		
	comp=E,248nm,1.8s						
PET				pmax	pmax		
	comp=N,6μm,12.0s						
CHGN	**Chignik**	**13.32**	**63**	*e*P	**Pn**	**12 45 00.7**	**-1.7**
TNA	**Tin City**	**14.90**	**20**	*e*Pn	**Pn**	**12 45 25.7**	**+3.2**
SKR	**Severo-Kuril's**	**14.99**	**274**	*e*P	**Pn**	**12 45 22.6**	**-1.2**
SKR				*e*S	**Sn**	**12 48 02.5**	**-7.1**
SKR				pmax	pmax		
	comp=Z,2μm,1.0s						
SKR				pmax	pmax		
	comp=N,3μm,1.5s						
SKR				pmax	pmax		
	comp=E,2μm,1.5s						
SKR				pmax	pmax		
	comp=N,2μm,2.0s						
SKR				pmax	pmax		
	comp=E,6μm,2.0s						
SKR				pmax	pmax		
	comp=Z,8μm,2.0s						
SKR				smax			
	comp=N,5μm,1.5s						
SKR				smax			
	comp=E,4μm,1.5s						
SKR				smax			
	comp=N,29μm,12.0s						
SKR				smax			
	comp=E,32μm,14.0s						
SKR				MLR	MLR		
	comp=N,5μm,10.0s						
SKR				MLR	MLR		
	comp=E,5μm,10.0s						
SKR				MLR	MLR		
	comp=Z,5μm,10.0s						
SVW2	**Sparrevohn**	**16.13**	**46**	*e*P	**Pn**	**12 45 39.0**	**+1.2**
KDAK	**Kodiak Island**	**16.70**	**59**	Pn	**Pn**	**12 45 41.0**	**-3.7**
	comp=Z,13μm,0.5s						
KDAK	**Kodiak Island**	**16.70**	**59**	*i* P	**Pn**	**12 45 41.8**	**-2.9**
KDAK				*e*S	**S**	**12 48 57.4**	**+6.8**
KDAK				*e*ScP	ScP	12 53 47.1	-1.2
KDAK	**Kodiak Island**	**16.70**	**59**	P	**Pn**	**12 45 41.8**	**-3.0**
	comp=Z,318nm,0.3s,baz=263,slow=5.9,SNR=545						
KDAK				S	**S**	**12 48 40.0**	**-11**
	comp=Z,6.5nm,0.3s,baz=172,slow=22,SNR=6.5						
TTA	**Tatalina**	**16.77**	**40**	*e*P	**Pn**	**12 45 47.6**	**+2.0**
BILL	**Bilibino**	**17.41**	**343**	⇓*i*P	**Pn**	**12 45 55.3**	**+2.1**
	comp=Z,2μm,1.4s						
BILL				*e*S	**S**	**12 49 12.3**	**+5.7**
BILL				*e*ScP	ScP	12 53 46.6	-3.0
BILL	**Bilibino**	**17.41**	**343**	⇓*i*P	**Pn**	**12 45 55.1**	**+1.9**
BILL				pmax	pmax		
	comp=Z,2μm,1.5s						
BILL				MLR	MLR		
	comp=Z,8μm,17.0s						
MA2	**Magadan**	**17.99**	**306**	⇓*i*P	**Pn**	**12 46 00.7**	**+0.4**
MA2				*e*S	**S**	**12 49 20.9**	**+2.3**
MA2				*e*ScP	ScP	12 53 48.5	-2.5
MA2	**Magadan**	**17.99**	**306**	*d i*P	**Pn**	**12 46 00.8**	**+0.5**
MA2				*e*S	**S**	**12 49 16.1**	**-2.5**
MA2				pmax	pmax		
	comp=E,300nm,1.3s						
MA2				pmax	pmax		
	comp=Z,600nm,1.3s						
SEY	**Seymchan**	**18.29**	**317**	⇑*e*P	**P**	**12 46 03.8**	**+1.5**
SLKM	**Skilak Lake**	**18.43**	**51**	*e*P	**P**	**12 46 02.7**	**-1.2**
SLKM				*e*S	**S**	**12 49 25.4**	**-2.1**
SLKM				*e*ScP	ScP	12 53 50.1	-1.8
SLKM	**Skilak Lake**	**18.43**	**51**	*e*P	**P**	**12 46 02.7**	**-1.2**
SLKM				*e*S	**S**	**12 49 25.4**	**-2.0**
PMR	**Palmer**	**19.23**	**48**	*e*P	**P**	**12 46 12.4**	**-0.1**
	comp=Z,2μm,1.4s						
PMR	**Palmer**	**19.23**	**48**	*e*P	**P**	**12 46 11.0**	**-1.5**
PMR				pmax	pmax		
	comp=Z,2μm,1.3s						
IMA2	**Indian Mountai**	**19.30**	**33**	*e*P	**P**	**12 46 14.8**	**+1.6**
SML	**Sawmill**	**19.65**	**48**	*e*P	**P**	**12 46 16.7**	**-0.4**
SML				*e*S	**S**	**12 50 03.6**	**+12**
MCK	**McKinley**	**20.00**	**42**	*e*P	**P**	**12 46 21.0**	**+0.1**
	comp=Z,4μm,1.1s						
MCK	**McKinley**	**20.00**	**42**	*e*P	**P**	**12 46 21.0**	**+0.2**
MCK				pmax	pmax		
	comp=Z,4μm,1.1s						
MID	**Middleton Isla**	**20.16**	**55**	*e*P	**P**	**12 46 20.7**	**-1.9**
DIV	**Divide**	**20.70**	**51**	*e*P	**P**	**12 46 27.8**	**-0.6**
	comp=Z,6μm,1.3s						
DIV				*e*S	**S**	**12 50 07.9**	**-4.2**
COLA	**College**	**20.87**	**40**	⇑*e*P	**P**	**12 46 29.7**	**-0.4**
	comp=Z,2μm,0.9s						
COLA				*e*ScP	ScP	12 53 54.6	-2.9
COLA	**College**	**20.87**	**40**	P	**P**	**12 46 29.7**	**-0.4**
COLA				pmax	pmax		
	comp=Z,2μm,0.9s						
MENT	**Mentasta**	**22.02**	**46**	*e*P	**P**	**12 46 42.2**	**-0.1**
EGAK	**Eagle**	**23.55**	**42**	*e*P	**P**	**12 46 56.9**	**-0.1**
	comp=Z,29μm,1.8s,mb7.3						
EGAK				*e*		12 47 27.6	
EGAK				*e*ScP	ScP	12 54 02.8	-1.6
MIDW	**Midway**	**23.85**	**174**	*e*P	**P**	**12 46 59.6**	**-0.4**
	comp=Z,619nm,1.0s,mb5.9						
YUK	**Yuzh-Kuril'sk**	**24.03**	**264**	⇓*i*P	**P**	**12 47 01.8**	**+0.2**
YUK				pmax	pmax		
	comp=Z,3μm,0.5s,mb6.9						
YUK				pmax	pmax		
	comp=N,420nm,0.6s						
YUK				pmax	pmax		
	comp=E,1μm,0.5s						
YUK				pmax	pmax		
	comp=N,15μm,1.0s						
YUK				pmax	pmax		
	comp=Z,47μm,1.0s						
YUK				pmax	pmax		
	comp=E,45μm,2.0s						
DAWY	**Dawson**	**24.15**	**44**	⇑*i*P	**P**	**12 47 02.9**	**+0.5**
DAWY				*e*		12 47 34.4	
YSS	**Yuzh-Sakhalins**	**24.55**	**273**	*κ i*P	**P**	**12 47 07.4**	**+1.1**
YSS				*i* *PP		12 47 34.0	
YSS				*i* *SP	sP	12 47 47.0	-0.9
YSS				*e*S	**S**	**12 51 19.0**	**+1.4**
YSS				*e**SS	sS	12 52 08.0	+3.2
YSS				*e*SS		12 52 29.0	
YSS				*i*		12 57 53.4	
YSS				pmax	pmax		
	comp=Z,4μm,1.0s,mb6.7						
YSS				pmax	pmax		
	comp=Z,11μm,5.0s						
YSS				pmax	pmax		
	comp=N,5μm,4.0s						
YSS				pmax	pmax		
	comp=E,10μm,4.0s						
YSS				MLR	MLR		
	comp=Z,5μm,14.0s						
YSS				MLR	MLR		
	comp=N,3μm,15.0s						
YSS				MLR	MLR		
	comp=E,3μm,11.0s						
SKAG	**Skagway**	**25.77**	**56**	*e*P	**P**	**12 47 16.9**	**-0.3**
	comp=E,929nm,1.2s,mb6.1						
ASAJ	**Asahikawa**	**26.00**	**267**	P	**P**	**12 47 20.4**	**+1.0**
	comp=E,2μm,1.0s,mb6.5,baz=42,slow=3.5,SNR=253						
SIT	**Sitka**	**26.01**	**61**	*e*P	**P**	**12 47 19.4**	**+0.1**
	comp=E,651nm,1.4s,mb5.9						
SIT	**Sitka**	**26.01**	**61**	*e*P	**P**	**12 47 19.4**	**+0.1**
SIT				pmax	pmax		
	comp=Z,651nm,1.4s,mb5.9						
ERM	**Erimo**	**26.80**	**263**	P	**P**	**12 47 27.0**	**+0.4**
	comp=Z,5μm,0.9s,mb7.1,SNR=38						
ERM	**Erimo**	**26.80**	**263**	⇑*e*P	**P**	**12 47 27.1**	**+0.5**
	comp=Z,2μm,1.4s,mb6.5						
ERM				*e*PcP	PcP	12 50 47.5	+1.5
ERM				*e*ScP	ScP	12 54 14.6	+0.6
ERM	**Erimo**	**26.80**	**263**	⇑*e*P	**P**	**12 47 27.1**	**+0.5**
ERM				*e*		12 50 47.5	
ERM				pmax	pmax		
	comp=Z,2μm,1.4s,mb6.5						
INK	**Inuvik**	**27.36**	**36**	*e*P	**P**	**12 47 32.1**	**+0.7**
	comp=Z,72μm,1.2s						
INK	**Inuvik**	**27.36**	**36**	P	**P**	**12 47 32.2**	**+0.9**
INK				pmax	pmax		
	comp=Z,739nm,1.0s						
INK				pmax	pmax		
	comp=N,102nm,1.0s						
INK				pmax	pmax		
	comp=N,8.0nm,1.2s						
INK				pmax	pmax		
	comp=Z,18nm,1.1s						
INK				pmax	pmax		
	comp=Z,10.0nm,1.2s						
INK	**Inuvik**	**27.36**	**36**	P	**P**	**12 47 32.2**	**+0.9**
	comp=Z,739nm,1.0s,mb6.2,baz=249,slow=7.9,SNR=690						
INK				ScP	ScP	12 54 13.9	-1.4
	comp=Z,102nm,1.0s,baz=218,slow=4.9,SNR=8.9						
INK				SKiKP		13 01 38.8	
	comp=Z,8.1nm,1.2s,baz=194,slow=4.2,SNR=6.4						
INK				P3KPbc		13 20 00.1	
	comp=Z,18nm,1.1s,baz=58,slow=3.4,SNR=24						
INK				PKP2ab		13 23 55.6	
	comp=Z,9.7nm,1.2s,baz=65,slow=5.6,SNR=8.8						
CRAG	**Craig**	**27.50**	**64**	*e*P	**P**	**12 47 33.2**	**+0.5**
	comp=Z,1μm,1.7s,mb6.2						
WRAK	**Wrangell Islan**	**27.74**	**62**	*e*P	**P**	**12 47 35.3**	**+0.5**
	comp=Z,361nm,1.1s,mb5.8						
WRAK				*e*ScP	ScP	12 54 14.0	-2.6
YAK	**Yakutsk**	**28.45**	**310**	*e*P	**P**	**12 47 40.5**	**-0.6**
	comp=Z,258nm,1.1s,mb5.7						
YAK				*e*PcP	PcP	12 50 48.4	-1.2
YAK				*e*ScP	ScP	12 54 16.1	-2.7
YAK	**Yakutsk**	**28.45**	**310**	*d i*P	**P**	**12 47 40.2**	**-0.9**
YAK				*e**PP	pP	12 48 08.2	-0.2
YAK				*e*		12 48 37.3	
YAK				*e*		12 50 47.0	
YAK				*e*S	**S**	**12 52 19.5**	**+0.7**
YAK				*e*		12 58 07.3	
YAK				pmax	pmax		
	comp=Z,230nm,1.4s,mb5.5						
YAK				pmax	pmax		
	comp=N,12nm,1.1s						
YAK				pmax	pmax		
	comp=E,149nm,1.4s						
YAK				pmax	pmax		
	comp=Z,1μm,3.3s						
YAK				pmax	pmax		
	comp=N,294nm,2.1s						
YAK				pmax	pmax		
	comp=E,810nm,1.5s						
YAK				smax			
	comp=E,2μm,2.8s						
YAK				smax			
	comp=Z,432nm,2.2s						
YAK				smax			
	comp=N,2μm,3.0s						
DLBC	**Dease Lake**	**28.62**	**57**	*e*P	**P**	**12 47 43.4**	**+0.8**
DLBC	**Dease Lake**	**28.62**	**57**	P	**P**	**12 47 43.5**	**+1.0**
	baz=286,slow=8.5						
HABR	**Khabarovsk**	**28.64**	**281**	⇓*i*P	**P**	**12 47 43.6**	**+0.7**
HABR				*e**PP	pP	12 48 08.7	-1.5
HABR				*e**SP	sP	12 48 23.8	-1.0
HABR				*e*		12 48 41.3	
HABR				*e*		12 50 49.7	
HABR				*e*S	**S**	**12 52 24.1**	**+2.2**
HABR				*e**SS	sS	12 53 10.1	+0.4
HABR				*e*SS	SS	12 54 05.7	-22
HABR				*e*		12 58 13.4	
HABR				pmax	pmax		
	comp=Z,2μm,1.9s,mb6.3						
TIXI	**Tiksi**	**29.73**	**330**	*e*P	**P**	**12 47 51.8**	**-0.5**
	comp=Z,23nm,0.7s,mb4.9						
TIXI				*e*PcP	PcP	12 50 51.4	-1.3
TIXI				*e*ScP	ScP	12 54 19.1	-3.5
TIXI	**Tiksi**	**29.73**	**330**	*d i*P	**P**	**12 47 51.9**	**-0.4**
TIXI				*i* *PP	pP	12 48 19.7	+0.1
TIXI				*e*S	**S**	**12 52 37.2**	**-1.4**
TIXI				pmax	pmax		
	comp=Z,146nm,1.9s,mb5.3						
KLR	**Kul'dur**	**30.32**	**284**	*α i*P	**P**	**12 47 54.3**	**-3.4**
KLR				*e*S	**S**	**12 52 49.5**	**+1.3**
KLR				pmax	pmax		
	comp=N,2μm,9.0s						
KLR				pmax	pmax		
	comp=E,3μm,9.0s						
KLR				pmax	pmax		
	comp=Z,7μm,9.0s						
CLNS	**Chul'man**	**31.69**	**301**	*d i*P	**P**	**12 48 09.4**	**-0.3**
CLNS				*e**PP	pP	12 48 35.4	-1.8
CLNS				*e*		12 48 54.4	
CLNS				*e*		12 50 54.1	
CLNS				*e*S	**S**	**12 53 03.2**	**-6.3**
CLNS				*e*SS	SS	12 55 13.2	-17
CLNS				pmax	pmax		
	comp=Z,519nm,1.5s,mb6.0						
CLNS				pmax	pmax		
	comp=N,130nm,1.2s						
CLNS				pmax	pmax		
	comp=E,333nm,1.4s						
CLNS				pmax	pmax		
	comp=Z,151nm,1.3s,mb5.6						
CLNS				pmax	pmax		
	comp=N,149nm,1.1s						
CLNS				pmax	pmax		
	comp=E,127nm,1.2s						
CLNS				smax			
	comp=E,232nm,1.2s						
CLNS				smax			
	comp=Z,79nm,1.3s						
CLNS				smax			
	comp=N,354nm,1.4s						
NRGR	**Nerungri**	**31.83**	**301**	*i* P	**P**	**12 48 10.9**	**0.0**
NRGR				S	SS	12 55 45.2	+12
NRGR				smax			
	comp=N,348nm,1.2s						
VLA	**Vladivostok**	**33.14**	**274**	⇓*i*P	**P**	**12 48 22.6**	**+0.1**
VLA	**Vladivostok**	**33.14**	**274**	*d i*P	**P**	**12 48 22.5**	**0.0**
VLA				pmax	pmax		
	comp=Z,3μm,1.7s,mb6.9						
MAJO	**Matsushiro**	**33.18**	**259**	*e*P	**P**	**12 48 23.6**	**+0.6**
	comp=Z,2μm,1.1s,mb6.9						
MAJO				*e*PcP	PcP	12 51 02.6	0.0
MAJO				*e*ScP	ScP	12 54 35.5	+0.6
MAJO	**Matsushiro**	**33.18**	**259**	*e*P	**P**	**12 48 23.6**	**+0.7**
MAJO				pmax	pmax		
	comp=Z,2μm,1.1s,mb6.9						
MAJO	**Matsushiro**	**33.18**	**259**	P	**P**	**12 48 23.8**	**+0.8**
MAJO				PcP	PcP	12 51 02.9	+0.3
MAJO				S	**S**	**12 53 35.0**	**+1.9**
MAJO				ScP	ScP	12 54 35.6	+0.7
MAJO				ScS	ScS	12 58 35.7	0.0
MAT	**Matsushiro**	**33.18**	**259**	P	**P**	**12 48 23.6**	**+0.7**
MAT				S	**S**	**12 53 31.0**	**-2.1**
MJAR	**Matsushiro Arr**	**33.18**	**259**	P	**P**	**12 48 23.7**	**+0.7**
MJAR				PcP	PcP	12 51 03.0	+0.4
MJAR				*e*		13 19 37.4	
MJAR	**Matsushiro Arr**	**33.18**	**259**	P	**P**	**12 48 23.7**	**+0.8**
MJAR						12 51 03.0	
MJAR				pmax	pmax		
	comp=Z,437nm,0.9s						
MJAR				pmax	pmax		
	comp=Z,47nm,0.4s						
MJAR				pmax	pmax		
	comp=Z,4.0nm,1.1s						
MJAR	**Matsushiro Arr**	**33.18**	**259**	P

MJAR P3KPbc 13 19 37.4
comp=Z,3.9nm,1.1s,baz=216,slow=4.4,SNR=8.1
MDJ Mudanjiang 33.76 278 P **P** **12 48 26.8 -1.1**
MDJ AP pP 12 48 51.5 -4.0
MDJ PP PP 12 49 45.5 -1.1
MDJ PCP PcP 12 51 05.5 +1.4
MDJ S **S** **12 53 41.0 -0.9**
MDJ SCP ScP 12 54 38.5 +1.7
MDJ PCS PcS 12 54 50.5 +0.4
MDJ SCS ScS 12 58 40.0 +1.5
MDJ AMB AMB
comp=Z,285nm,1.0s,mb6.0
MDJ AMB AMB
comp=Z,2μm,8.9s
MDJ LR LR
comp=N,9μm,24.5s
MDJ LR LR
comp=E,9μm,32.2s
MDJ LR LR
comp=Z,13μm,32.2s
MDJ Mudanjiang 33.76 278⇓ *e*P **P** **12 48 26.9 -0.9**
comp=Z,385nm,1.2s,mb6.1
MDJ *e*PP PP 12 49 49.7 +3.1
MDJ *e*PcP PcP 12 51 03.9 -0.2
MDJ *e*ScP ScP 12 54 36.4 -0.4
MDJ Mudanjiang 33.76 278 P **P** **12 48 27.1 -0.7**
MDJ pP pP 12 48 55.1 -0.4
MDJ PP PP 12 49 50.3 +3.7
MDJ ScP ScP 12 54 36.7 -0.1
MDJ ScS ScS 12 58 38.1 -0.4
JHJ Hachijo jima 2 34.58 253 P **P** **12 48 35.4 +0.3**
comp=Z,705nm,0.5s,mb6.8,baz=123,slow=2.2,SNR=74
KIP Kipapa 34.96 143 *e*P **P** **12 48 39.8 +1.4**
comp=Z,246nm,0.8s,mb6.1
HON Honolulu 35.05 143 *e*P **P** **12 48 40.9 +1.7**
YKW3 Yellowknife Ar 35.30 47 *e*P **P** **12 48 41.4 +0.6**
YKA Yellowknife Ar 35.32 47 P **P** **12 48 41.2 +0.2**
YKA PP PP 12 50 03.6 +0.1
YKA PcP PcP 12 51 08.9 +0.6
YKA S **S** **12 54 09.7 +4.3**
YKA LR LR 13 04 37.6
YKA *e* 13 19 25.1
YKA PKKKP 13 21 00.2
YKA Yellowknife Ar 35.32 47 P **P** **12 48 41.2 +0.1**
YKA 12 50 03.6
YKA 12 51 08.9
YKA S **S** **12 54 09.7 +4.3**
YKA pmax pmax
comp=Z,831nm,0.8s
YKA pmax pmax
comp=Z,221nm,1.0s
YKA pmax pmax
comp=Z,28nm,0.8s
YKA smax
comp=N,21nm,1.1s
YKA pmax pmax
comp=N,2.0nm,0.9s
YKA MLR MLR
comp=Z,9μm,18.4s
YKA pmax pmax
comp=Z,3.0nm,0.7s
YKA pmax pmax
comp=Z,1.0nm,1.1s
YKA Yellowknife Ar 35.32 47 P **P** **12 48 41.2 +0.2**
comp=Z,831nm,0.8s,mb6.6,baz=282,slow=7.9,SNR=2900
YKA PP PP 12 50 03.6 +0.1
comp=Z,221nm,1.0s,baz=280,slow=10,SNR=5.4
YKA PcP PcP 12 51 08.9 +0.6
comp=Z,28nm,0.8s,baz=293,slow=2.7,SNR=4.3
YKA S **S** **12 54 09.7 +4.3**
comp=Z,21nm,1.1s,baz=287,slow=16,SNR=4.3
YKA SKiKP 13 01 46.2
comp=Z,2.4nm,0.9s,baz=334,slow=1.0,SNR=4.6
YKA LR LR 13 04 37.7
comp=Z,9μm,18.4s,baz=230,slow=38
YKA P3KPbc 13 19 25.1
comp=Z,2.5nm,0.7s,baz=97,slow=5.2,SNR=37
YKA P3KP 13 21 00.2
comp=Z,1.1nm,1.1s,baz=189,slow=1.1,SNR=4.6
PGC Sidney 35.46 72 *e*P **P** **12 48 42.5 +0.1**
comp=Z,760nm,1.3s,mb6.4
PGC *e*ScP ScP 12 54 42.4 -0.4
NLWA Neilton Lookou 35.80 75 *e*P **P** **12 48 46.3 +1.0**
comp=Z,689nm,1.1s,mb6.5
NLWA *e*ScP ScP 12 54 42.2 -1.9
HKL Haleakala 36.28 141 *e*P **P** **12 48 50.6 +1.0**
GNW Green Mountain 36.34 74 *e*P **P** **12 48 50.5 +0.6**
CN2 Changchun 36.73 279⇓P **P** **12 48 52.5 -0.7**
CN2 *e*XP sP 12 49 35.3 -0.4
CN2 PP PP 12 50 22.5 +3.3
CN2 PPP 12 50 48.0
CN2 *e*S **S** **12 54 24.0 -3.2**
CN2 SCP ScP 12 54 47.5 0.0
CN2 PCS PcS 12 54 59.8 -1.1
CN2 SS SS 12 57 01.5 -11
CN2 SCS ScS 12 58 52.3 -2.3
CN2 AMB AMB
comp=Z,410nm,1.2s,mb6.2
CN2 AMB AMB
comp=Z,5μm,4.0s
CN2 LR LR
comp=N,11μm,19.0s
CN2 LR LR
comp=E,6μm,19.0s
CN2 LR LR
comp=Z,8μm,19.0s
BOD Bodaibo 37.02 306⇑ *i*P **P** **12 48 54.7 -0.8**
BOD *e* 12 54 28.1
BOD pmax pmax
comp=Z,526nm,1.4s,mb6.3
LON Longmire 37.34 74 *e*P **P** **12 48 58.6 +0.2**
HIA Hailar 37.38 290⇓ *i*P **P** **12 48 58.8 +0.1**
comp=Z,2μm,1.4s,mb6.8
HIA *e*pP pP 12 49 23.1 -3.6
HIA *e*sP sP 12 49 41.7 +0.5
HIA *e*PcP PcP 12 51 14.8 +0.1
HIA *e*ScP ScP 12 54 49.4 -0.5
HIA Hailar 37.38 290⇓ *i*P **P** **12 48 58.8 +0.1**
HIA *e**PP pP 12 49 23.2 -3.5
HIA *e**SP sP 12 49 41.7 +0.5
HIA *e* 12 51 14.8
HIA pmax pmax
comp=Z,2μm,1.4s
HIA Hailar 37.38 290 P **P** **12 48 58.7 0.0**
HIA PcP PcP 12 51 15.0 +0.3
HIA ScP ScP 12 54 49.8 -0.1
HIA ScS ScS 12 58 56.6 -1.6
POHA Pohakuloa 37.42 140 *e*P **P** **12 49 00.2 +0.9**
comp=Z,245nm,0.8s,mb6.2
COR Corvallis 37.56 78 *e*P **P** **12 49 01.8 +1.5**
comp=Z,2μm,0.9s,mb6.9
COR *e*ScP ScP 12 54 50.6 -0.1
COR Corvallis 37.56 78 P **P** **12 49 01.9 +1.6**
COR S **S** **12 54 43.6 +3.8**
COR ScP ScP 12 54 50.0 -0.7
COR ScS ScS 12 59 00.5 +1.2
CBIJ Chichi jima 37.70 243 P **P** **12 49 02.0 +0.4**
comp=Z,976nm,0.6s,mb6.8,baz=9.0,slow=6.1,SNR=109
CBIJ ScP ScP 12 54 51.3 -0.2
comp=Z,226nm,1.2s,baz=205,slow=3.2,SNR=4.8
KHU Kahuku 37.85 141 *e*P **P** **12 49 02.5 -0.4**
KHU Kahuku 37.85 141 P **P** **12 49 05.2 +2.3**
KEBM Edson Butte 37.87 81 *e*P **P** **12 49 04.7 +1.8**
KEBM *e*ScP ScP 12 54 50.8 -1.0
HOOD Mount Hood Mea 38.17 76 *e*P **P** **12 49 06.3 +0.9**
KBO Bosley Butte 38.30 82 *e*P **P** **12 49 08.5 +1.9**
HUMO Hull Mountain 38.86 81⇑ *e*P **P** **12 49 12.9 +1.7**
comp=Z,4μm,1.5s,mb7.0
HUMO *e*ScP ScP 12 54 54.8 -0.9
HAWA Hanford 38.88 74 *e*P **P** **12 49 11.5 +0.3**
comp=Z,1μm,1.1s,mb6.7
HAWA *e*pP pP 12 49 38.1 -1.3
HAWA *e*PP PP 12 50 40.3 -2.3
HAWA *e*ScP ScP 12 54 54.7 -1.0
KRMB Red Mountain 38.89 83⇑ *e*P **P** **12 49 13.2 +1.8**
KRMB *e*pP pP 12 49 39.1 -0.5
KRMB *e*PP PP 12 50 44.0 +1.1
KRMB *e*ScP ScP 12 54 53.7 -2.1
KSRS Korea Array 38.91 269 P **P** **12 49 12.9 +1.2**
comp=Z,683nm,0.9s,mb6.5,baz=59,slow=8.0,SNR=710
KSRS PcP PcP 12 51 20.5 +0.7
comp=Z,66nm,0.9s,baz=56,slow=2.4,SNR=13
KSRS ScP ScP 12 54 56.9 +0.9
comp=Z,4.3nm,0.5s,baz=53,slow=4.1,SNR=9.5
KS15 Wonju Array Si 38.95 269 *e*P **P** **12 49 13.0 +1.1**
SNY Shenyang 38.97 278⇓P **P** **12 49 12.8 +0.7**
SNY AP pP 12 49 39.8 -0.5
SNY PP PP 12 50 43.5 -0.2
SNY PCP PcP 12 51 20.5 +0.7
SNY SCP ScP 12 54 56.3 +0.2
SNY S **S** **12 55 01.5 +0.4**
SNY SCS ScS 12 59 07.8 +0.3
SNY AMB AMB
comp=Z,1μm,1.3s,mb6.6
SNY AMB AMB
comp=Z,6μm,5.3s
SNY LR LR
comp=N,5μm,22.8s
SNY LR LR
comp=E,5μm,18.0s
SNY LR LR
comp=Z,10μm,32.4s
EDM Edmonton 39.13 61⇑ *i*P **P** **12 49 12.9 -0.5**
EDM Edmonton 39.13 61 *e*P **P** **12 49 12.9 -0.4**
NEW Newport 39.34 70⇑ *e*P **P** **12 49 14.5 -0.6**
comp=Z,791nm,1.0s,mb6.5
NEW *e*ScP ScP 12 54 55.4 -2.0
KHMM Horse Mountain 39.38 84 *e*P **P** **12 49 17.7 +2.2**
RES Resolute Bay 39.47 25 *e*P **P** **12 49 17.2 +1.4**
comp=Z,52μm,1.4s
RES *e*pP pP 12 49 48.2 +4.1
RES *e*ScP ScP 12 54 56.0 -1.5
RES Resolute Bay 39.47 25 *e*P **P** **12 49 17.2 +1.4**
RES *e**PP pP 12 49 48.2 +4.1
RES pmax pmax
comp=Z,10μm,1.4s,mb7.5
YBH Yreka Blue Hor 39.51 82⇑ *e*P **P** **12 49 18.5 +1.9**
comp=Z,2μm,1.1s,mb6.9
YBH *e*PP PP 12 50 50.4 +0.9
YBH Yreka Blue Hor 39.51 82⇑ *e*P **P** **12 49 18.5 +2.0**
YBH *e* 12 50 50.4
YBH pmax pmax
comp=Z,2μm,1.1s
INCN Inchon 39.69 270⇓ *i*P **P** **12 49 19.1 +0.9**
comp=Z,3μm,1.2s,mb7.0
INCN *e*pP pP 12 49 47.6 +1.2
INCN *e*ScP ScP 12 54 58.6 -0.4
INCN Inchon 39.69 270 P **P** **12 49 19.4 +1.2**
SNR=134
INCN Inchon 39.69 270 P **P** **12 49 19.4 +1.2**
SNR=134
JNU Nakatsue 39.94 261 P **P** **12 49 21.3 +1.1**
comp=Z,2μm,1.1s,mb6.9,baz=46,slow=7.1,SNR=375
JNU LR LR 13 02 49.9
comp=Z,5μm,20.9s,baz=42,slow=31
KIPM Iron Peak 40.16 85 *e*P **P** **12 49 23.6 +1.5**
KIPM *e*PP PP 12 50 57.5 +0.8
KIPM *e*ScP ScP 12 55 00.1 -0.7
KCPM Cahto Peak 40.17 85⇑ *e*P **P** **12 49 23.8 +1.6**
KCPM *e*ScP ScP 12 54 59.9 -1.0
WDC Whiskeytown Da 40.28 83 *e*P **P** **12 49 24.5 +1.5**
comp=Z,3μm,1.3s,mb6.9
WDC *e*ScP ScP 12 54 59.6 -1.6
WDC Whiskeytown Da 40.28 83 *e*P **P** **12 49 24.5 +1.5**
WDC pmax pmax
comp=Z,3μm,1.3s,mb6.9
WALA Waterton Lakes 40.79 67⇑ *i*P **P** **12 49 26.2 -0.8**
comp=Z,2μm,1.2s,mb6.8
WALA *e* 12 50 23.6
WALA *e*PcP PcP 12 51 27.0 +1.5
WALA *e*ScP ScP 12 55 01.8 -1.2
MOD Modoc 40.88 80⇓ *i*P **P** **12 49 29.0 +1.1**
comp=Z,1μm,0.6s,mb7.0
MOD *e*ScP ScP 12 55 01.7 -1.8
HOPS Hopland 40.91 85⇑ *e*P **P** **12 49 29.3 +1.1**
comp=Z,2μm,1.3s,mb6.8
HOPS *e*ScP ScP 12 55 02.5 -1.3
BMO Blue Mountains 41.02 74⇑ *e*P **P** **12 49 28.9 -0.1**
comp=Z,5μm,2.3s,mb6.9
BMO *e*ScP ScP 12 55 02.1 -1.9
NSHM Saint Helena R 41.49 86⇑ *e*P **P** **12 49 33.8 +0.9**
NSHM *e*ScP ScP 12 55 04.5 -1.5
MCCM Marconi Confer 41.55 86 *e*P **P** **12 49 33.7 +0.3**
comp=Z,959nm,1.1s,mb6.4
MCCM *e*ScP ScP 12 55 05.0 -1.3
WVOR Wild Horse Val 41.58 78⇑ *e*P **P** **12 49 34.4 +0.8**
comp=Z,3μm,1.2s,mb6.8
WVOR *e*PP PP 12 51 13.7 +1.8
WVOR *e*ScP ScP 12 55 05.3 -1.1
WVOR Wild Horse Val 41.58 78⇑ *e*P **P** **12 49 34.4 +0.8**
WVOR *e* 12 51 13.7
WVOR pmax pmax
comp=Z,3μm,1.2s,mb6.8
OHCM Honcut 41.68 84 *e*P **P** **12 49 34.9 +0.5**
OHCM *e*ScP ScP 12 55 04.3 -2.4
DL2 Dalian 41.90 276 *i*P **P** **12 49 36.5 +0.3**
DL2 AP pP 12 50 04.3 -0.4
DL2 XP sP 12 50 17.5 -1.6
DL2 PP PP 12 51 16.0 +0.5
DL2 PCP PcP 12 51 30.3 +0.9
DL2 PPP 12 51 39.8
DL2 SCP ScP 12 55 07.3 -0.4
DL2 PCS PcS 12 55 19.0 -2.1
DL2 S **S** **12 55 45.0 +0.3**
DL2 XS sS 12 56 35.0 +0.9
DL2 SCS ScS 12 59 22.8 -2.4
DL2 AMB AMB
comp=Z,520nm,0.9s,mb6.3
DL2 AMB AMB
comp=Z,2μm,6.0s
MSO Missoula 41.93 70⇑ *e*P **P** **12 49 35.6 -0.7**
comp=Z,700nm,1.0s,mb6.3
MSO *e*ScP ScP 12 55 06.3 -1.3
ALE Alert 42.12 10 P **P** **12 49 39.0 +1.5**
comp=Z,2μm,0.8s,mb7.0
SAC San Andreas 42.19 87 *e*P **P** **12 49 39.0 +0.5**
CHMT Chamberlain Mo 42.28 69 *e*P **P** **12 49 38.4 -0.8**
CHMT *e*ScP ScP 12 55 07.5 -1.5
PAHR Pah Rah Range 42.74 82⇑ *i*P **P** **12 49 44.0 +1.0**
comp=Z,4μm,1.2s,mb7.0
PAHR *e*PP PP 12 51 24.1 -0.3
PAHR *e*ScP ScP 12 55 09.6 -1.4
PAHR *e*S **S** **12 56 00.8 +3.8**
CMB Columbia Colle 43.16 85⇑ *e*P **P** **12 49 47.3 +0.9**
comp=Z,2μm,1.0s,mb6.8
CMB *e*PP PP 12 51 26.0 -2.9
CMB *e*ScP ScP 12 55 11.0 -1.7
CMB *e*S **S** **12 56 08.5 +5.4**
CMB Columbia Colle 43.16 85 P **P** **12 49 47.3 +0.9**
CMB pmax pmax
comp=Z,2μm,1.5s,mb6.7
HRY Holter Researc 43.21 69 *e*P **P** **12 49 46.2 -0.5**
HRY *e*ScP ScP 12 55 11.3 -1.5
SAO San Andreas Ge 43.31 87 *e*P **P** **12 49 48.1 +0.5**
comp=Z,887nm,1.3s,mb6.3
SAO *e*ScP ScP 12 55 11.5 -1.9
SAO *e*S **S** **12 56 02.9 -2.4**
SAO San Andreas Ge 43.31 87 *e*P **P** **12 49 48.1 +0.5**
SAO *e*S **S** **12 56 02.9 -2.4**
SAO pmax pmax
comp=Z,887nm,1.3s,mb6.3
LRM Limekiln Ridge 43.34 70 *e*P **P** **12 49 47.1 -0.7**
WAKR Walker 43.45 83 *e*P **P** **12 49 50.2 +1.5**
DLMT Dillon 43.51 71 *e*P **P** **12 49 48.4 -0.8**
comp=Z,679nm,1.3s,mb6.2
DLMT *e* 12 51 35.6
DLMT *e*ScP ScP 12 55 12.8 -1.3
MCMT McKenzie Canyo 43.67 72 *e*P **P** **12 49 50.0 -0.4**
MCMT *e*ScP ScP 12 55 14.0 -0.7
EGMT Eagleton 43.68 66 *e*P **P** **12 49 49.5 -1.0**
comp=Z,1μm,1.1s,mb6.5
EGMT *e*pP pP 12 50 18.0 -1.2
EGMT *e*ScP ScP 12 55 12.7 -2.0
BOZ Bozeman (W) 43.92 70⇑ *e*P **P** **12 49 52.0 -0.4**
comp=Z,357nm,0.5s,mb6.3
BOZ *e*ScP ScP 12 55 14.0 -1.7
BOZ Bozeman (W) 43.92 70⇑ *e*P **P** **12 49 52.0 -0.4**
BOZ pmax pmax
comp=Z,357nm,0.5s,mb6.3
NVAR Mina Array Bea 44.19 83 P **P** **12 49 55.7 +1.1**
NVAR PcP PcP 12 51 39.0 +1.9
NVAR ScP ScP 12 55 16.0 -1.0
NVAR ScS ScS 12 59 37.9 -1.6
NVAR Mina Array Bea 44.19 83 P **P** **12 49 55.7 +1.1**
comp=Z,887nm,1.0s,mb6.5,baz=305,slow=6.1,SNR=1452
NVAR PcP PcP 12 51 39.0 +1.9
comp=Z,72nm,1.0s,baz=294,slow=4.6,SNR=2.8
NVAR ScP ScP 12 55 16.0 -1.0
comp=Z,37nm,0.8s,baz=282,slow=6.6,SNR=14
NVAR ScS ScS 12 59 37.9 -1.6
comp=Z,4.1nm,1.1s,baz=266,slow=5.4,SNR=2.9
FFC Flin Flon 44.36 54 P **P** **12 49 54.5 -1.3**
comp=Z,3μm,1.2s,mb6.8
FFC Flin Flon 44.36 54⇑ *e*P **P** **12 49 54.8 -1.0**
comp=Z,660nm,1.2s,mb6.2
FFC *e*PcP PcP 12 51 36.4 -1.0
FFC *e*ScP ScP 12 55 14.6 -2.7
FFC Flin Flon 44.36 54⇑ *e*P **P** **12 49 54.8 -1.0**
FFC *e* 12 51 36.4
FFC pmax pmax
comp=Z,660nm,1.2s,mb6.2
IRK Irkutsk 44.49 302⇓ *i*P **P** **12 49 56.4 -0.4**
IRK *e* 12 50 20.0
IRK *e* 12 51 38.1
IRK *e* 12 59 39.4
IRK pmax pmax
comp=Z,900nm,2.1s,mb6.1
QLMT Earthquake Lak 44.49 71 *e*P **P** **12 49 56.7 -0.3**
QLMT *e*ScP ScP 12 55 17.2 -0.9
MTUM Tungsten Hills 44.71 84 *e*P **P** **12 50 00.2 +1.4**
MTUM *e*pP pP 12 50 27.6 0.0
MTUM *e*PP PP 12 51 46.1 +0.7
MTUM *e*ScP ScP 12 55 17.7 -1.4
PTRM Twissleman Ran 44.78 87 *e*P **P** **12 50 00.6 +1.2**
PTRM *e*PcP PcP 12 51 39.3 +0.1
PTRM *e*ScP ScP 12 55 18.2 -1.2
YMR Madison River 44.86 71⇑ *e*P **P** **12 49 59.9 0.0**
comp=Z,2μm,1.2s,mb6.8
YMR *e*ScP ScP 12 55 19.0 -0.5
GCMT Greycliff 44.97 69⇑ *e*P **P** **12 50 00.4 -0.3**
GCMT *e*ScP ScP 12 55 18.8 -1.2
YNR Norris Junctio 45.00 71⇑ *e*P **P** **12 50 01.3 +0.3**
YNR *e*ScP ScP 12 55 20.2 0.0
YFT Old Faithful 45.06 71⇑ *e*P **P** **12 50 02.4 +0.9**
YFT *e*ScP ScP 12 55 20.7 +0.3
TLY Talaya 45.11 301 P **P** **12 50 02.4 +0.6**
comp=Z,2μm,1.1s,mb6.7,SNR=90
TLY Talaya 45.11 301⇓ *e*P **P** **12 50 02.3 +0.5**
comp=Z,915nm,1.6s,mb6.3
TLY *e*pP pP 12 50 30.5 -0.2
TLY *e*ScP ScP 12 55 20.1 -0.4
TLY Talaya 45.11 301 *d*/*i*P **P** **12 50 02.3 +0.5**
TLY *e* pP 12 50 30.0 -0.7
TLY *e* 12 50 40.8
TLY *e* 12 51 41.1
TLY *e*S **S** **12 56 29.3 -1.8**
TLY *e* 12 59 44.6
TLY pmax pmax
comp=Z,696nm,1.8s,mb6.1
TLY Talaya 45.11 301 P **P** **12 50 02.6 +0.8**
SNR=271
TLY Talaya 45.11 301 P **P** **12 50 02.6 +0.8**
SNR=271
LKWY Lake 45.25 71⇑ *e*P **P** **12 50 03.9 +0.9**
comp=Z,316nm,0.6s,mb6.2
LKWY *e*PcP PcP 12 51 41.5 +0.8
LKWY *e*ScP ScP 12 55 21.9 +0.7
IMW Indian Meadow 45.32 72⇑ *e*P **P** **12 50 03.6 0.0**
comp=Z,1μm,1.2s,mb6.5
IMW *e*PP PP 12 51 57.6 +5.8
IMW *e*ScP ScP 12 55 20.9 -0.6
ULN Ulaanbaatar 45.33 295⇓ *e*P **P** **12 50 04.5 +0.9**
ULN *e*ScP ScP 12 55 20.9 -0.6
FLWY Flagg Ranch 45.35 71⇑ *e*P **P** **12 50 04.2 +0.4**
comp=Z,998nm,0.8s,mb6.6
FLWY *e*ScP ScP 12 55 21.5 -0.2
DCID1 Drake Creek 45.35 72⇑ *e*P **P** **12 50 03.9 0.0**
DCID1 *e*ScP ScP 12 55 20.9 -0.7
HVU Hansel Valley 45.49 75⇑ *e*P **P** **12 50 05.3 +0.4**
comp=Z,563nm,0.6s,mb6.5
HVU *e*ScP ScP 12 55 20.5 -1.7
HVU Hansel Valley 45.49 75⇑ *e*P **P** **12 50 05.3 +0.4**
HVU pmax pmax
comp=Z,563nm,0.6s,mb6.5
MOOW Moose Ponds 45.52 72⇑ *e*P **P** **12 50 05.0 -0.2**
comp=Z,319nm,1.0s,mb6.0
MOOW *e*PP PP 12 52 00.2 +6.3
MOOW *e*ScP ScP 12 55 22.8 +0.4
TPAW Teton Pass 45.55 72 *e*P **P** **12 50 05.6 +0.2**
comp=Z,36nm,0.4s,mb5.5
TPAW *e*PP PP 12 51 52.4 -1.8
TPAW *e*ScP ScP 12 55 20.9 -1.5
RLMT Red Lodge 45.59 69 *e*P **P** **12 50 05.5 -0.1**
comp=Z,2μm,1.0s,mb6.7
RLMT *e*ScP ScP 12 55 20.8 -1.8
SNOW Snow King Moun 45.69 72⇑ *e*P **P** **12 50 06.5 +0.1**
comp=Z,1μm,1.5s,mb6.3
SNOW *e*ScP ScP 12 55 22.6 -0.4
LOHW Long Hollow 45.69 72⇑ *e*P **P** **12 50 06.5 +0.1**
comp=Z,404nm,1.0s,mb6.1
LOHW *e*ScP ScP 12 55 22.0 -1.0
REDW Red Top Meadow 45.69 72⇑ *e*P **P** **12 50 06.6 +0.1**
comp=Z,390nm,1.0s,mb6.1
REDW *e*ScP ScP 12 55 23.8 +0.8
SONM Songino Array 45.72 295 P **P** **12 50 07.8 +1.2**
SONM 12 51 42.8
SONM pmax pmax
comp=Z,371nm,0.6s
SONM pmax pmax
comp=Z,83nm,0.7s
SONM pmax pmax
comp=N,101nm,0.9s
SONM MLR MLR
comp=Z,4μm,18.9s
SONM Songino Array 45.72 295 P **P** **12 50 07.8 +1.2**
comp=Z,371nm,0.6s,mb6.3,baz=60,slow=8.5,SNR=1510
SONM PcP PcP 12 51 42.8 +0.6
comp=Z,83nm,0.7s,baz=90,slow=2.2,SNR=7.7
SONM ScP ScP 12 55 22.4 -0.7
comp=Z,101nm,0.9s,baz=49,slow=2.3,SNR=28
SONM LR LR 13 10 13.2
comp=Z,4μm,18.9s,baz=60,slow=37
BGU Big Grassy Mou 45.85 76⇑ *e*P **P** **12 50 08.1 +0.4**
BGU *e*ScP ScP 12 55 24.5 +0.8
AHID Auburn Hatcher 45.90 73 *e*P **P** **12 50 08.2 +0.1**
comp=Z,678nm,1.0s,mb6.3
AHID *e*ScP ScP 12 55 21.9 -2.0
SPUT South Promonto 45.97 76⇑ *e*P **P** **12 50 09.0 +0.3**
SPUT *e*ScP ScP 12 55 24.4 +0.1
JOW Kunigami 45.99 257 P **P** **12 50 09.2 +0.2**
comp=Z,925nm,1.0s,mb6.5,baz=53,slow=7.7,SNR=96
JOW PcP PcP 12 51 44.2 +0.7
comp=Z,69nm,0.5s,baz=79,slow=5.3,SNR=7.6
ZAK Zakamensk 46.01 300⇑ *e*P **P** **12 50 09.5 +0.7**
ZAK *e* 12 51 43.7
ZAK *e* 12 59 50.8
ZAK pmax pmax
comp=Z,336nm,1.4s,mb5.9
ZAK pmax pmax
comp=Z,103nm,1.2s,mb5.4
ZAK pmax pmax
comp=Z,93nm,1.8s,mb5.2
ZAK pmax pmax
comp=Z,22nm,1.5s,mb4.7
FCC Fort Churchill 46.04 46 *e*P **P** **12 50 08.7 -0.3**
comp=Z,3μm,1.4s,mb6.8
FCC *e*pP pP 12 50 35.6 -2.3
FCC *e*PP PP 12 51 57.6 -1.4
FCC *e*ScP ScP 12 55 21.5 -2.7
HWUT Hardware Ranch 46.31 75⇑ *e*P **P** **12 50 11.6 +0.2**
comp=Z,919nm,1.2s,mb6.4
HWUT *e*PP PP 12 52 00.7 -1.2
HWUT *e*ScP ScP 12 55 23.7 -1.9
TIA Tai'an 46.37 276⇓P **P** **12 50 12.0 +0.1**
TIA S **S** **12 56 51.0 +1.4**
TIA XS sS 12 57 39.0 -0.7
TIA AMB AMB
comp=Z,1μm,1.5s,mb6.4
TIA AMB AMB
comp=Z,4μm,4.0s
TIA LR LR
comp=N,1μm,14.0s
TIA LR LR
comp=E,1μm,12.0s
TPNV Topopah Spring 46.39 83⇑ *e*P **P** **12 50 12.8 +0.9**
comp=E,6μm,1.5s,mb7.1
TPNV *e*pP pP 12 50 39.3 -1.7
TPNV *e*ScP ScP 12 55 25.2 -0.8
TPNV *e*S **S** **12 56 52.2 +2.4**
TPNV Topopah Spring 46.39 83⇑ *e*P **P** **12 50 12.9 +0.9**
TPNV *e**PP pP 12 50 39.3 -1.7

TPNV				*e*S	S	12 56 52.2	+2.4
TPNV				pmax	pmax		
	comp=Z,6μm,1.5s,mb7.1						
LAO	**LASA Array**	**46.42**	**66**	*e*P	**P**	**12 50 11.9**	**-0.2**
	comp=Z,507nm,0.6s,mb6.4						
LAO				*e*PcP	PcP	12 51 42.2	-2.5
LAO				*e*PP	PP	12 52 09.3	+6.5
LAO				*e*ScP	ScP	12 55 24.4	-1.6
DUG	**Dugway**	**46.43**	**77**	*e*P	**P**	**12 50 12.9**	**+0.6**
	comp=Z,5μm,1.3s,mb7.1						
DUG				*e*PP	PP	12 52 03.0	0.0
DUG				*e*ScP	ScP	12 55 27.1	+0.9
DUG	**Dugway**	**46.43**	**77**	*e*P	**P**	**12 50 12.9**	**+0.6**
DUG				*e*		12 52 03.0	
DUG				pmax	pmax		
	comp=Z,5μm,1.3s,mb7.1						
MOY	**Mondy**	**46.51**	**303**	*e*P	**P**	**12 50 12.4**	**-0.4**
MOY				pmax	pmax		
	comp=Z,880nm,3.7s						
DGMT	**Dagmar**	**46.54**	**63**	*e*P	**P**	**12 50 12.1**	**-0.9**
	comp=Z,973nm,1.0s,mb6.5						
DGMT				*e*PcP	PcP	12 51 44.9	-0.2
DGMT				*e*ScP	ScP	12 55 24.6	-1.9
NOQ	**North Oquirrh**	**46.57**	**76**	*e*P	**P**	**12 50 13.8**	**+0.4**
	comp=Z,2μm,1.0s,mb6.8						
NOQ				*e*ScP	ScP	12 55 27.2	+0.4
CTU	**Camp Tracy**	**46.76**	**76⇑**	*e*P	**P**	**12 50 15.0**	**+0.2**
	comp=Z,1μm,1.2s,mb6.6						
CTU				*e*ScP	ScP	12 55 28.0	+0.4
BW06	**Boulder Array**	**46.80**	**72⇑**	*e*P	**P**	**12 50 14.9**	**-0.2**
	comp=Z,463nm,0.5s,mb6.5						
BW06				*e*pP	pP	12 50 46.4	+2.2
BW06				*e*ScP	ScP	12 55 25.1	-2.7
BW06				*e*S	**S**	**12 56 56.8**	**+1.3**
SNCC	**San Nicolas Is**	**46.80**	**89⇑**	*e*P	**P**	**12 50 15.7**	**+0.4**
	comp=Z,2μm,1.3s,mb6.8						
SNCC				*e*ScP	ScP	12 55 26.5	-1.4
HHC	**Hu-ho-hao-te**	**46.82**	**285⇓**	*i*P	**P**	**12 50 16.5**	**+1.2**
HHC				AP	pP	12 50 43.3	-1.1
HHC				XP	sP	12 50 57.0	-1.6
HHC				PCP	PcP	12 51 47.5	+1.2
HHC				PP	PP	12 52 10.5	+3.9
HHC				SCP	ScP	12 55 27.0	-0.8
HHC				PCS	PcS	12 55 43.3	+2.0
HHC				S	**S**	**12 56 59.0**	**+3.1**
HHC				SCS	ScS	12 59 56.8	+0.3
HHC				SS	SS	13 00 17.0	-6.5
HHC				AMB	AMB		
	comp=Z,1μm,1.3s,mb6.4						
HHC				AMB	AMB		
	comp=Z,5μm,5.5s						
HHC				LR	LR		
	comp=N,5μm,18.4s						
HHC				LR	LR		
	comp=E,4μm,15.9s						
HHC				LR	LR		
	comp=Z,3μm,18.1s						
JLU	**Jordanelle**	**47.00**	**76⇑**	*e*P	**P**	**12 50 17.0**	**+0.3**
JLU				*e*PP	PP	12 52 07.5	-0.7
JLU				*e*ScP	ScP	12 55 27.5	-1.0
NLU	**North Lily Min**	**47.02**	**77⇑**	*e*P	**P**	**12 50 17.4**	**+0.4**
NLU				*e*PP	PP	12 52 07.6	-0.8
NLU				*e*ScP	ScP	12 55 29.5	+0.8
MWC	**Mount Wilson**	**47.06**	**87**	*e*P	**P**	**12 50 17.9**	**+0.7**
GSC	**Goldstone**	**47.12**	**85**	*e*P	**P**	**12 50 18.4**	**+0.8**
	comp=Z,551nm,0.6s,mb6.5						
GSC				*e*ScP	ScP	12 55 27.8	-1.4
GSC				*e*S	**S**	**12 56 59.1**	**-1.0**
DAU	**Daniels Canyon**	**47.23**	**76**	*e*P	**P**	**12 50 19.4**	**+0.9**
DAU				*e*ScP	ScP	12 55 29.8	+0.3
MPU	**Maple Canyon**	**47.25**	**76⇑**	*e*P	**P**	**12 50 19.1**	**+0.5**
	comp=Z,900nm,1.0s,mb6.5						
MPU				*e*ScP	ScP	12 55 27.6	-2.0
SSE	**Sheshan**	**47.29**	**268**	P	**P**	**12 50 20.0**	**+0.9**
SSE				AP	pP	12 50 48.8	+0.6
SSE				XP	sP	12 51 03.5	+1.1
SSE				PCP	PcP	12 51 48.5	+0.4
SSE				S	**S**	**12 57 02.5**	**-0.3**
SSE				XS	sS	12 57 54.5	+1.4
SSE				AMB	AMB		
	comp=Z,966nm,1.1s,mb6.4						
SSE				AMB	AMB		
	comp=Z,4μm,6.1s						
SSE				LR	LR		
	comp=N,3μm,24.7s						
SSE				LR	LR		
	comp=E,5μm,24.7s						
SSE				LR	LR		
	comp=Z,6μm,21.0s						
GUMO	**Guam**	**47.56**	**229**	*e*P	**P**	**12 50 19.2**	**-2.0**
	comp=Z,517nm,0.6s,mb6.5						
GUMO				*e*pP	pP	12 50 46.1	-4.3
GUMO	**Guam**	**47.56**	**229**	LR	LR	13 07 09.4	
	comp=Z,2μm,19.9s,baz=29,slow=32						
ARUT	**Antelope Range**	**47.56**	**80**	*e*P	**P**	**12 50 21.8**	**+0.7**
CCUT	**Cedar City**	**47.76**	**80⇑**	*e*P	**P**	**12 50 23.6**	**+0.9**
MSU	**Marysvale**	**47.87**	**78**	*e*P	**P**	**12 50 24.6**	**+1.1**
MSU				*e*ScP	ScP	12 55 33.4	+1.1
BTO	**Baotou**	**47.90**	**285**	*e*P	**P**	**12 50 25.5**	**+1.9**
BTO				AMB	AMB		
	comp=Z,493nm,1.7s,mb6.1						
TMUT	**Trail Mountain**	**47.96**	**77⇑**	*e*P	**P**	**12 50 24.8**	**+0.6**
NJ2	**Nanjing**	**48.08**	**270**	*e*P	**P**	**12 50 24.0**	**-1.1**
NJ2				AP	pP	12 50 52.0	-2.3
NJ2				PP	PP	12 52 17.0	-1.2
NJ2				S	**S**	**12 57 12.0**	**-1.8**
NJ2				XS	sS	12 58 05.0	+0.8
NJ2				AMB	AMB		
	comp=Z,1μm,1.3s,mb6.6						
NJ2				AMB	AMB		
	comp=Z,6μm,4.8s						
NJ2				LR	LR		
	comp=N,11μm,19.8s						
NJ2				LR	LR		
	comp=E,7μm,18.8s						
NJ2				LR	LR		
	comp=Z,48μm,17.0s						
TIY	**Taiyuan**	**48.27**	**281**	P	**P**	**12 50 28.0**	**+1.4**
TIY				AP	pP	12 50 54.3	-1.5
TIY				XP	sP	12 51 11.5	+1.6
TIY				PCP	PcP	12 51 48.0	-3.5
TIY				PP	PP	12 52 21.5	+1.6
TIY				S	**S**	**12 57 14.8**	**-1.6**
TIY				XS	sS	12 58 08.0	+1.1
TIY				AMB	AMB		
	comp=Z,1μm,1.1s,mb6.7						
TIY				AMB	AMB		
	comp=Z,9μm,3.4s						
LDFC	**Landfair**	**48.30**	**84**	*e*P	**P**	**12 50 27.0**	**+0.2**
PFO	**Pinyon Flat Ob**	**48.46**	**86**	P	**P**	**12 50 28.0**	**0.0**
	comp=Z,3μm,0.7s,mb7.2						
PFO	**Pinyon Flat Ob**	**48.46**	**86**	*e*P	**P**	**12 50 28.2**	**+0.2**
	comp=Z,1μm,1.4s,mb6.6						
PFO				*e*PcP	PcP	12 51 52.9	+0.6
PFO				*e*ScP	ScP	12 55 33.3	-1.6
PFO	**Pinyon Flat Ob**	**48.46**	**86**	*e*P	**P**	**12 50 28.3**	**+0.3**
PFO				*e*		12 51 52.9	
PFO				pmax	pmax		
	comp=Z,1μm,1.4s,mb6.6						
PFO	**Pinyon Flat Ob**	**48.46**	**86**	P	**P**	**12 50 28.2**	**+0.2**
	comp=Z,176nm,0.5s,mb6.2,baz=326,slow=6.8,SNR=416						
PFO				ScP	ScP	12 55 33.6	-1.2
	comp=Z,226nm,1.2s,baz=322,slow=4.0,SNR=21						
SRU	**San Rafael**	**48.49**	**77⇑**	*e*P	**P**	**12 50 28.5**	**+0.3**
	comp=Z,3μm,1.3s,mb7.0						
SRU				*e*PP	PP	12 52 24.0	+2.2
SRU				*e*ScP	ScP	12 55 35.2	+0.3
SRU				*e*S	**S**	**12 57 20.2**	**+0.8**
SRU	**San Rafael**	**48.49**	**77⇑**	*e*P	**P**	**12 50 28.5**	**+0.3**
SRU				*e*		12 52 24.0	
SRU				*e*S	**S**	**12 57 20.2**	**+0.8**
SRU				pmax	pmax		
	comp=Z,3μm,1.3s,mb7.0						
RWWY	**Rawlins**	**48.84**	**72**	*e*P	**P**	**12 50 30.2**	**-0.6**
	comp=Z,1μm,1.2s,mb6.7						
RWWY				*e*ScP	ScP	12 55 34.5	-1.9
BAR	**Barrett**	**48.95**	**87**	*e*P	**P**	**12 50 32.1**	**+0.3**
KBS	**Kingsbay**	**49.13**	**357**	*e*P	**P**	**12 50 33.7**	**+1.1**
	comp=Z,208nm,1.1s,mb6.0						
KBS				*e*pP	pP	12 51 04.3	+2.5
KBS				*e*ScP	ScP	12 55 35.1	-1.9
KBS				*e*S	**S**	**12 57 29.5**	**+2.1**
KBS	**Kingsbay**	**49.13**	**357**	*e*P	**P**	**12 50 33.9**	**+1.4**
KBS				*e*pP	pP	12 51 01.4	-0.4
KBS				*e*S	**S**	**12 57 30.1**	**+2.7**
KBS	**Kingsbay**	**49.13**	**357**	*e*P	**P**	**12 50 33.7**	**+1.1**
KBS				*e**PP	pP	12 51 04.3	+2.4
KBS				*e*S	**S**	**12 57 29.5**	**+2.0**
KBS				pmax	pmax		
	comp=Z,208nm,1.1s,mb6.0						
RSSD	**Black Hills**	**49.18**	**67⇑**	*e*P	**P**	**12 50 32.5**	**-0.9**
	comp=Z,643nm,1.4s,mb6.4						
RSSD				*e*PcP	PcP	12 51 55.4	+0.7
RSSD				*e*PP	PP	12 52 30.4	+2.4
RSSD				*e*ScP	ScP	12 55 35.7	-2.1
RSSD	**Black Hills**	**49.18**	**67**	P	**P**	**12 50 32.5**	**-0.9**
RSSD				pmax	pmax		
	comp=Z,640nm,1.3s,mb6.4						
RSSD	**Black Hills**	**49.18**	**67**	P	**P**	**12 50 32.5**	**-0.9**
RSSD				PcP	PcP	12 51 55.0	+0.3
RSSD				ScP	ScP	12 55 35.7	-2.1
RSSD				S	**S**	**12 57 25.1**	**-4.0**
RSSD				ScS	ScS	13 00 09.1	-3.0
SPB4	**Spitsbergen Ar**	**49.69**	**356⇓**	*e*P	**P**	**12 50 37.0**	**+0.2**
SPB4				*e*pP	pP	12 51 07.8	+1.6
SPB4				*e*ScP	ScP	12 55 37.6	-1.8
GLA	**Glamis**	**49.84**	**86⇑**	*e*P	**P**	**12 50 38.8**	**+0.2**
	comp=Z,797nm,0.6s,mb6.8						
GLA				*e*PP	PP	12 52 41.2	+7.0
GLA				*e*ScP	ScP	12 55 39.5	-1.2
GLA	**Glamis**	**49.84**	**86⇑**	*e*P	**P**	**12 50 38.8**	**+0.3**
GLA				*e*		12 52 41.2	
GLA				pmax	pmax		
	comp=Z,797nm,0.6s,mb6.8						
PV10	**Paradox Valley**	**49.85**	**76**	*e*P	**P**	**12 50 38.9**	**+0.4**
PV10				*e*ScP	ScP	12 55 40.2	-0.5
ULM	**Lac du Bonnet**	**49.94**	**57⇑**	*e*P	**P**	**12 50 37.9**	**-1.2**
	comp=Z,84nm,1.2s,mb5.5						
ULM				*e*pP	pP	12 51 06.0	-2.5
ULM				*e*ScP	ScP	12 55 38.2	-2.7
ULM	**Lac du Bonnet**	**49.94**	**57**	P	**P**	**12 50 38.0**	**-1.1**
	comp=Z,192nm,0.5s,mb6.3,baz=306,slow=8.2,SNR=367						
ULM				ScP	ScP	12 55 39.1	-1.8
	comp=Z,27nm,0.8s,baz=245,slow=3.1,SNR=5.2						
ULM				LR	LR	13 09 38.6	
	comp=Z,7μm,20.8s,baz=316,slow=33						
ULM				PKP2ab		13 22 20.9	
	comp=Z,4.3nm,0.9s,baz=113,slow=3.2,SNR=4.1						
PHWY	**Pilot Hill**	**50.11**	**71⇑**	*e*P	**P**	**12 50 39.5**	**-1.0**
PHWY				*e*ScP	ScP	12 55 41.6	-0.1
PV01	**Paradox Valley**	**50.29**	**76**	*e*P	**P**	**12 50 41.7**	**-0.1**
PV01				*e*ScP	ScP	12 55 41.7	-0.9
WUAZ	**Wupatki**	**50.30**	**81⇑**	*e*P	**P**	**12 50 42.9**	**+0.9**
	comp=Z,726nm,0.8s,mb6.7						
WUAZ				*e*pP	pP	12 51 11.2	-0.2
WUAZ				*e*ScP	ScP	12 55 42.2	-0.5
SMCO	**Snowmass**	**50.57**	**74⇑**	*e*P	**P**	**12 50 43.8**	**-0.1**
	comp=Z,86nm,1.2s,mb5.7						
SMCO				*e*ScP	ScP	12 55 44.6	+0.9
SMCO				*e*S	**S**	**12 57 50.8**	**+2.4**
MVCO	**Mesa Verde**	**50.93**	**77**	*e*P	**P**	**12 50 46.7**	**0.0**
	comp=Z,2μm,1.3s,mb7.0						
MVCO				*e*ScP	ScP	12 55 44.1	-1.3
DAG	**Danmarks Havn**	**50.94**	**5⇑**	*i*P	**P**	**12 50 46.4**	**+0.2**
DAG				pmax	pmax		
	comp=Z,390nm,1.6s,mb6.2						
DAG	**Danmarks Havn**	**50.94**	**5⇑**	*i*P	**P**	**12 50 46.4**	**+0.2**
	comp=Z,386nm,1.6s,mb6.2						
ISCO	**Idaho Springs**	**50.98**	**73**	*e*P	**P**	**12 50 47.1**	**+0.1**
	comp=Z,62nm,1.7s,mb5.4						
ISCO				*e*ScP	ScP	12 55 45.6	+0.1
ISCO	**Idaho Springs**	**50.98**	**73**	*e*P	**P**	**12 50 47.1**	**+0.1**
ISCO				pmax	pmax		
	comp=Z,62nm,1.7s,mb5.4						
AGMN	**Agassiz Refuge**	**51.13**	**59⇑**	*e*P	**P**	**12 50 46.5**	**-1.5**
	comp=Z,13μm,0.6s						
YHNB	**Yeheng**	**51.78**	**262**	*e*P	**P**	**12 50 52.8**	**-0.4**
WHN	**Wuhan**	**51.90**	**272⇓**	*i*P	**P**	**12 50 53.0**	**-1.0**
WHN				AP	pP	12 51 22.8	-0.8
WHN				XP	sP	12 51 38.0	+0.4
WHN				PCP	PcP	12 52 03.5	-1.5
WHN				PP	PP	12 52 57.5	+4.6
WHN				SCP	ScP	12 55 48.5	-1.2
WHN				S	**S**	**12 58 05.5**	**-1.4**
WHN				XS	sS	12 58 57.5	-0.4
WHN				SCS	ScS	13 00 28.3	-2.9
WHN				AMB	AMB		
	comp=Z,4μm,1.1s,mb7.4						
WHN				AMB	AMB		
	comp=Z,24μm,6.3s						
WHN				LR	LR		
	comp=N,9μm,12.4s						
WHN				LR	LR		
	comp=E,7μm,11.6s						
WHN				LR	LR		
	comp=Z,15μm,15.2s						
NACB	**Ninganchiao**	**52.01**	**261**	*e*P	**P**	**12 50 53.1**	**-1.8**
NACB				*e*PcP	PcP	12 52 08.1	+2.7
NACB				*e*ScP	ScP	12 55 50.9	+0.7
SDCO	**Great Sand Dun**	**52.38**	**75⇑**	*e*P	**P**	**12 50 58.0**	**+0.5**
	comp=Z,4μm,1.4s,mb7.3						
SDCO				*e*ScP	ScP	12 55 52.1	+0.5
TUC	**Tucson**	**52.83**	**83⇑**	*e*P	**P**	**12 51 02.9**	**+2.1**
	comp=Z,3μm,1.7s,mb7.0						
TUC				*e*pP	pP	12 51 30.0	-0.5
TUC				*e*ScP	ScP	12 55 57.3	+3.6
TUC	**Tucson**	**52.83**	**83⇑**	*e*P	**P**	**12 51 02.9**	**+2.1**
TUC				*e**PP	pP	12 51 30.0	-0.5
TUC				pmax	pmax		
	comp=Z,3μm,1.7s,mb7.0						
TUC	**Tucson**	**52.83**	**83**	P	**P**	**12 51 03.0**	**+2.1**
TUC				ScP	ScP	12 55 53.8	+0.1
TUC				S	**S**	**12 58 23.3**	**+3.8**
TUC				ScS	ScS	13 00 39.8	+2.2
XAN	**Xi'an**	**52.84**	**280**	P	**P**	**12 51 01.0**	**+0.1**
XAN				AP	pP	12 51 29.0	-1.5
XAN				XP	sP	12 51 44.0	-0.6
XAN				PP	PP	12 53 02.8	+1.5
XAN				S	**S**	**12 58 19.3**	**-0.3**
XAN				AMB	AMB		
	comp=Z,664nm,1.3s,mb6.5						
XAN				AMB	AMB		
	comp=Z,3μm,7.3s						
XAN				LR	LR		
	comp=N,2μm,21.2s						
XAN				LR	LR		
	comp=E,2μm,19.4s						
XAN				LR	LR		
	comp=Z,6μm,19.5s						
ZAA0	**Zalesovo Array**	**53.07**	**313⇓**	*e*P	**P**	**12 51 00.6**	**-1.7**
ZALV	**Zalesovo Beam**	**53.07**	**313**	P	**P**	**12 51 01.4**	**-0.9**
	comp=Z,10nm,0.5s,mb5.1,baz=50,slow=6.9,SNR=45						
ZALV				pP	pP	12 51 31.3	-0.7
	comp=Z,7.0nm,0.6s,baz=73,slow=2.0,SNR=2.8						
ZALV				ScP	ScP	12 55 52.2	-2.2
	comp=Z,16nm,0.8s,baz=43,slow=4.8,SNR=5.4						
ZALV				LR	LR	13 15 23.0	
	comp=Z,3μm,18.2s,baz=153,slow=38						
ZALV				PKPPKP		13 21 15.0	
	comp=Z,5.1nm,1.2s,baz=254,slow=2.7,SNR=6.6						
ZAL	**Zalesovo**	**53.09**	**313**	P	**P**	**12 51 01.4**	**-1.0**
ZAL				*PP	pP	12 51 31.3	-0.8
BJO	**Bjornoya**	**53.11**	**354**	*e*P	**P**	**12 51 02.6**	**+0.3**
BJO				*e*pP	pP	12 51 29.6	-2.4
BJO				*e*S	**S**	**12 58 24.9**	**+2.6**
NVS	**Novosibirsk**	**53.21**	**314⇓**	*i*P	**P**	**12 51 02.0**	**-1.3**
NVS				*i **PP	pP	12 51 32.9	-0.1
NVS				*e*PPP		12 54 20.2	
NVS				*i*		13 00 36.8	
NVS				pmax	pmax		
	comp=N,85nm,2.0s						
NVS				pmax	pmax		
	comp=E,113nm,2.0s						
NVS				pmax	pmax		
	comp=Z,194nm,2.0s,mb5.8						
QZH	**Quanzhou**	**53.28**	**264⇓**	*i*P	**P**	**12 51 04.8**	**+0.6**
QZH				AP	pP	12 51 33.8	-0.2
QZH				S	**S**	**12 58 28.0**	**+2.2**
QZH				XS	sS	12 59 19.3	+2.2
QZH				SCS	ScS	13 00 38.3	-2.7
QZH				AMB	AMB		
	comp=Z,5μm,1.3s,mb7.3						
ECSD	**EROS,Sioux Fal**	**53.60**	**63⇑**	*e*P	**P**	**12 51 04.5**	**-1.8**
	comp=Z,595nm,1.2s,mb6.5						
ECSD				*e*ScP	ScP	12 55 55.7	-1.2
EYMN	**Ely**	**53.62**	**57⇑**	*e*P	**P**	**12 51 05.5**	**-0.9**
	comp=Z,2μm,1.2s,mb6.9						
LAZ	**Ladron**	**53.63**	**79**	*e*P	**P**	**12 51 07.9**	**+1.3**
LAZ				*e*ScP	ScP	12 55 56.5	-0.6
ANMO	**Albuquerque**	**53.67**	**78**	*e*P	**P**	**12 51 07.2**	**+0.3**
	comp=Z,7μm,1.4s,mb7.5						
ANMO				*e*ScP	ScP	12 55 56.1	-1.2
ANMO				*e*S	**S**	**12 58 33.2**	**+2.4**
ANMO	**Albuquerque**	**53.67**	**78**	*e*P	**P**	**12 51 07.2**	**+0.3**
ANMO				*e*S	**S**	**12 58 33.2**	**+2.4**
ANMO				pmax	pmax		
	comp=Z,7μm,1.4s						
LENM	**Lemitar**	**53.89**	**79**	*e*P	**P**	**12 51 09.4**	**+0.9**
LPM	**Los Pinos Moun**	**53.99**	**79**	*e*P	**P**	**12 51 10.1**	**+0.8**
LPM				*e*ScP	ScP	12 55 58.9	+0.1
BNM	**Barren Site**	**54.11**	**79**	*e*P	**P**	**12 51 10.9**	**+0.7**
BNM				*e*ScP	ScP	12 55 58.2	-1.0
LZH	**Lanzhou**	**54.52**	**285⇓**	*i*P	**P**	**12 51 14.5**	**+1.4**
LZH				AP	pP	12 51 42.8	-0.1
LZH				XP	sP	12 51 58.0	+1.1
LZH				PCP	PcP	12 52 16.5	+1.7
LZH				PP	PP	12 53 19.5	+3.2
LZH				SCP	ScP	12 56 01.8	+0.8
LZH				PCS	PcS	12 56 15.8	+1.2
LZH				S	**S**	**12 58 42.0**	**-0.2**
LZH				SCS	ScS	13 00 47.5	-2.0
LZH				SS	SS	13 02 24.0	-1.9
LZH				AMB	AMB		
	comp=Z,2μm,1.4s,mb7.0						
LZH				AMB	AMB		
	comp=Z,9μm,4.0s						
GTA	**Gaotai**	**54.66**	**291⇓**	*i*P	**P**	**12 51 15.3**	**+1.2**
GTA				AP	pP	12 51 46.0	+2.1
GTA				XP	sP	12 51 59.5	+1.6
GTA				PCP	PcP	12 52 15.5	+0.2
GTA				PP	PP	12 53 20.3	+2.8
GTA				PPP		12 54 36.8	
GTA				SCP	ScP	12 56 01.0	-0.6
GTA				PCS	PcS	12 56 13.3	-1.8
GTA				S	**S**	**12 58 46.3**	**+2.3**
GTA				XS	sS	12 59 37.5	+2.0
GTA				SCS	ScS	13 00 48.3	-2.1
GTA				SS	SS	13 02 31.0	+2.9
GTA				AMB	AMB		
	comp=Z,2μm,0.9s,mb7.2						
GTA				AMB	AMB		
	comp=Z,8μm,5.7s						
GTA				LR	LR		
	comp=N,5μm,16.3s						
GTA				LR	LR		
	comp=E,5μm,17.9s						
GTA				LR	LR		
	comp=Z,5μm,26.2s						
CBKS	**Cedar Bluff**	**55.06**	**70⇑**	*i*P	**P**	**12 51 16.6**	**-0.4**
	comp=Z,2μm,1.1s,mb7.0						
CBKS				*e*ScP	ScP	12 55 59.8	-3.5
CBKS	**Cedar Bluff**	**55.06**	**70⇑**	*i*P	**P**	**12 51 16.6**	**-0.4**
CBKS				pmax	pmax		
	comp=Z,2μm,1.1s,mb7.0						
SFJD	**Kangerlussuaq**	**55.33**	**22⇑**	*e*P	**P**	**12 51 18.3**	**-0.1**
	comp=Z,556nm,1.4s,mb6.4						
SFJD				*e*pP	pP	12 51 49.1	+0.8
SFJD				*e*PP	PP	12 53 23.9	+1.0
SFJD				*e*ScP	ScP	12 56 01.3	-2.7
SFJD	**Kangerlussuaq**	**55.33**	**22**	P	**P**	**12 51 18.3**	**-0.1**
SFJD				pmax	pmax		
	comp=Z,560nm,1.4s,mb6.4						
SFJD	**Kangerlussuaq**	**55.33**	**22**	P	**P**	**12 51 18.5**	**+0.1**
SFJD				pP	pP	12 51 49.4	+1.0
SFJD				ScP	ScP	12 56 02.1	-1.9
SFJD				S	**S**	**12 58 49.6**	**-2.6**
SFJD				ScS	ScS	13 00 49.6	-4.7
COWI	**Conover**	**56.05**	**57**	*e*P	**P**	**12 51 22.9**	**-1.0**
	comp=Z,804nm,1.2s,mb6.6						
COWI				*e*pP	pP	12 51 43.1	-11
MNTX	**Cornudas Mount**	**56.55**	**80⇑**	*e*P	**P**	**12 51 28.4**	**+0.6**
	comp=Z,7μm,1.1s						
MNTX				*e*pP	pP	12 51 56.9	-0.8
MNTX				*e*ScP	ScP	12 56 09.7	-0.3
AMTX	**Amarillo**	**56.58**	**75**	*e*P	**P**	**12 51 28.0**	**+0.2**
	comp=Z,311nm,0.5s,mb6.6						
AMTX				*e*PcP	PcP	12 52 24.7	+1.8
AMTX				*e*ScP	ScP	12 56 07.7	-2.4
KSU1	**Kansas State U**	**56.67**	**68⇑**	*e*P	**P**	**12 51 27.1**	**-1.3**
	comp=Z,1μm,1.0s,mb6.8						
KSU1				*e*PcP	PcP	12 52 23.2	+0.1
KSU1				*e*ScP	ScP	12 56 08.1	-2.4
SCIA	**State Center**	**56.68**	**63**	*e*P	**P**	**12 51 27.6**	**-0.9**
	comp=Z,3μm,1.4s,mb7.1						
SCIA				*e*ScP	ScP	12 56 09.5	-1.0
KEV	**Kevo**	**56.96**	**349**	*e*p	**P**	**12 51 29.5**	**-0.5**
JMIC	**Jan Mayen**	**57.15**	**3**	*e*P	**P**	**12 51 33.6**	**+2.3**
JMIC				*e*pP	pP	12 52 02.5	+1.0
JMIC				*e*S	**S**	**12 59 21.1**	**+4.9**
ARCES	**ARCESS Array B**	**57.34**	**350**	P	**P**	**12 51 31.8**	**-0.9**
ARCES				pP	pP	12 52 03.0	+0.2
ARCES				ScP	ScP	12 56 10.8	-2.0
ARCES				LR	LR	13 17 14.5	
ARCES				P'P'		13 21 09.4	
ARCES	**ARCESS Array B**	**57.34**	**350**	P	**P**	**12 51 31.8**	**-0.9**
ARCES				*PP	pP	12 52 03.0	+0.2
ARCES				pmax	pmax		
	comp=Z,25nm,0.5s						
ARCES				pmax	pmax		
	comp=Z,24nm,0.6s						
ARCES				pmax	pmax		
	comp=N,59nm,1.2s						
ARCES				MLR	MLR		
	comp=Z,2μm,21.3s						
ARCES	**ARCESS Array B**	**57.34**	**350**	P	**P**	**12 51 31.8**	**-0.9**
	comp=Z,25nm,0.5s,mb5.5,baz=28,slow=8.6,SNR=92						
ARCES				pP	pP	12 52 03.0	+0.2
	comp=Z,24nm,0.6s,baz=19,slow=7.7,SNR=4.4						
ARCES				ScP	ScP	12 56 10.8	-2.0
	comp=Z,58nm,1.2s,baz=48,slow=3.6,SNR=8.5						
ARCES				LR	LR	13 17 14.5	
	comp=Z,2μm,21.2s,baz=23,slow=37						
ARCES				PKPPKP		13 21 09.4	
	comp=Z,3.1nm,0.9s,baz=199,slow=4.8,SNR=2.9						
ARE0	**ARCESS Array S**	**57.34**	**350**	*e*P	**P**	**12 51 32.2**	**-0.5**
ARE0				*e*pP	pP	12 52 03.7	+0.9
ARE0				*e*ScP	ScP	12 56 10.9	-2.0
JFWS	**Jewell Farm**	**57.61**	**60**	*e*P	**P**	**12 51 33.5**	**-1.5**
	comp=Z,1μm,1.0s,mb6.9					

CD2	**Chengdu**	**58.14**	**281**⇑	*i*P	**P**	**12 51 39.3**	**+0.5**
CD2				AP	pP	12 52 07.5	-1.5
CD2				XP	sP	12 52 23.3	+0.4
CD2				PP	PP	12 53 51.0	+2.3
CD2				PCS	PcS	12 56 29.5	-1.2
CD2				S	**S**	**12 59 28.0**	**-2.1**
CD2				XS	sS	13 00 20.0	-2.1
CD2				SCS	ScS	13 01 12.5	-3.4
CD2				SS	SS	13 03 22.5	-0.6
CD2				AMB	AMB		
	comp=Z,1μm,1.1s,mb6.9						
CD2				AMB	AMB		
	comp=Z,5μm,4.6s						
CD2				LR	LR		
	comp=N,4μm,19.2s						
CD2				LR	LR		
	comp=E,3μm,22.8s						
CD2				LR	LR		
	comp=Z,4μm,26.4s						
WMQ	**Urumqi**	**58.39**	**302**⇓	*i*P	**P**	**12 51 41.0**	**+0.6**
WMQ				AP	pP	12 52 10.0	-0.6
WMQ				XP	sP	12 52 24.0	-0.5
WMQ				PCP	PcP	12 52 31.0	+1.2
WMQ				PP	PP	12 53 53.0	+2.5
WMQ				PPP		12 55 18.0	
WMQ				SCP	ScP	12 56 17.0	-1.0
WMQ				S	**S**	**12 59 31.5**	**-1.5**
WMQ				XS	sS	13 00 23.0	-2.0
WMQ				SCS	ScS	13 01 14.0	-3.3
WMQ				AMB	AMB		
	comp=Z,336nm,0.9s,mb6.4						
WMQ				AMB	AMB		
	comp=Z,3μm,4.8s						
WMQ				LR	LR		
	comp=N,5μm,19.9s						
WMQ				LR	LR		
	comp=E,4μm,17.5s						
WMQ				LR	LR		
	comp=Z,5μm,32.8s						
WMOK	**Wichita Mounta**	**58.40**	**73**⇑	*e*P	**P**	**12 51 40.2**	**-0.4**
	comp=Z,850nm,0.8s,mb6.8						
WMOK				*e*PcP	PcP	12 52 29.2	-0.8
WMOK				*e*ScP	ScP	12 56 17.8	-0.4
WMOK				*e*S	**S**	**12 59 35.1**	**+1.7**
WMOK	**Wichita Mounta**	**58.40**	**73**⇑	*e*P	**P**	**12 51 40.2**	**-0.4**
WMOK				*e*		12 52 29.2	
WMOK				*e*S	**S**	**12 59 35.1**	**+1.7**
WMOK				pmax	pmax		
	comp=Z,850nm,0.8s,mb6.8						
LPIG	**La Paz**	**58.96**	**90**	*i* P	**P**	**12 51 44.2**	**-0.4**
LPIG	**La Paz**	**58.96**	**90**	P	**P**	**12 51 44.7**	**+0.1**
	comp=Z,886nm,1.1s,mb6.7,baz=343,slow=1.5,SNR=107						
LPIG				ScP	ScP	12 56 20.2	-0.6
	comp=Z,93nm,1.0s,baz=357,slow=0.7,SNR=6.4						
MK31	**Makanchi Array**	**59.07**	**307**	*e*P	**P**	**12 51 43.8**	**-1.2**
MK31				*e*pP	pP	12 52 14.9	-0.5
MK31				*e*PP	PP	12 53 55.5	-1.0
MK31				*e*ScP	ScP	12 56 16.8	-4.2
MK31				*e*S	**S**	**12 59 41.4**	**-0.4**
MK31	**Makanchi Array**	**59.07**	**307**	*i* P	**P**	**12 51 43.8**	**-1.3**
MK31				pmax	pmax		
	comp=Z,44nm,0.4s,mb5.8						
MKAR	**Makanchi Array**	**59.07**	**307**	P	**P**	**12 51 44.0**	**-1.1**
MKAR				pP	pP	12 52 14.4	-0.9
MKAR				ScP	ScP	12 56 17.7	-3.2
MKAR				S	**S**	**12 59 39.9**	**-1.9**
MKAR				LR	LR	13 15 53.8	
MKAR				P'P'		13 21 09.1	
MKAR	**Makanchi Array**	**59.07**	**307**	P	**P**	**12 51 44.0**	**-1.1**
MKAR				*PP	pP	12 52 14.5	-0.8
MKAR				S	**S**	**12 59 39.9**	**-1.8**
MKAR				pmax	pmax		
	comp=Z,43nm,0.5s						
MKAR				pmax	pmax		
	comp=Z,28nm,0.7s						
MKAR				pmax	pmax		
	comp=N,16nm,1.0s						
MKAR				smax			
	comp=N,3.0nm,0.9s						
MKAR				pmax	pmax		
	comp=Z,3.0nm,1.1s						
MKAR	**Makanchi Array**	**59.07**	**307**	P	**P**	**12 51 44.0**	**-1.1**
	comp=Z,43nm,0.5s,mb5.8,baz=49,slow=5.9,SNR=342						
MKAR				pP	pP	12 52 14.4	-0.9
	comp=Z,28nm,0.7s,baz=35,slow=6.5,SNR=4.0						
MKAR				ScP	ScP	12 56 17.7	-3.2
	comp=Z,16nm,0.9s,baz=45,slow=3.2,SNR=4.8						
MKAR				S	**S**	**12 59 39.9**	**-1.9**
	comp=Z,3.4nm,0.9s,baz=61,slow=13,SNR=3.7						
MKAR				LR	LR	13 15 53.8	
	comp=Z,2μm,21.3s,baz=39,slow=34						
MKAR				PKPPKP		13 21 09.1	
	comp=Z,3.2nm,1.1s,baz=173,slow=3.2,SNR=7.4						
GLMI	**Grayling**	**59.25**	**56**⇑	*e*P	**P**	**12 51 46.1**	**-0.2**
	comp=Z,2μm,1.0s,mb7.0						
TXAR	**Lajitas Array**	**59.27**	**81**	P	**P**	**12 51 46.9**	**+0.2**
TXAR						12 53 57.5	
TXAR				pmax	pmax		
	comp=Z,383nm,0.7s						
TXAR				pmax	pmax		
	comp=Z,39nm,1.0s						
TXAR				pmax	pmax		
	comp=N,42nm,1.1s						
TXAR				pmax	pmax		
	comp=Z,4.0nm,1.1s						
TXAR	**Lajitas Array**	**59.27**	**81**	P	**P**	**12 51 46.9**	**+0.2**
	comp=Z,383nm,0.7s,mb6.6,baz=306,slow=4.7,SNR=1868						
TXAR				PP	PP	12 53 57.5	-1.2
	comp=Z,39nm,1.0s,baz=290,slow=5.7,SNR=3.4						
TXAR				ScP	ScP	12 56 20.4	-1.7
	comp=Z,42nm,1.1s,baz=291,slow=3.5,SNR=6.7						
TXAR				PKPPKP		13 21 06.9	
	comp=Z,4.0nm,1.1s,baz=168,slow=4.6,SNR=7.0						
GYA	**Guiyang**	**59.54**	**275**⇓	*i*P	**P**	**12 51 48.5**	**-0.1**
GYA				AP	pP	12 52 19.5	+0.6
GYA				XP	sP	12 52 33.3	+0.5
GYA				PCP	PcP	12 52 35.5	+0.8
GYA				PP	PP	12 54 00.8	-0.4
GYA				PPP		12 55 30.8	
GYA				SCP	ScP	12 56 23.5	+0.2
GYA				PCS	PcS	12 56 36.5	-0.5
GYA				S	**S**	**12 59 44.5**	**-3.8**
GYA				XS	sS	13 00 40.0	-0.5
GYA				SCS	ScS	13 01 23.8	-2.6
GYA				SS	SS	13 03 45.5	+0.2
GYA				AMB	AMB		
	comp=Z,600nm,1.1s,mb6.5						
GYA				AMB	AMB		
	comp=Z,8μm,6.2s						
GYA				LR	LR		
	comp=N,2μm,18.8s						
GYA				LR	LR		
	comp=E,660nm,17.8s						
GYA				LR	LR		
	comp=Z,3μm,18.6s						
LOF	**Lofoten**	**59.75**	**354**	*e*P	**P**	**12 51 51.8**	**+2.4**
LOF				AMb	AMB	12 51 54.9	
	comp=Z,161nm,2.1s,mb5.7						
LOF				*i*	pP	12 52 22.1	+2.4
HDIL	**Hopedale**	**59.76**	**62**	*e*P	**P**	**12 51 49.0**	**-0.8**
	comp=Z,4μm,1.4s,mb7.3						
BVAR	**Borovoye Array**	**59.94**	**319**	P	**P**	**12 51 50.5**	**-0.4**
BVAR				*PP	pP	12 52 21.7	+0.5
BVAR						13 01 24.7	
BVAR				pmax	pmax		
	comp=Z,50nm,0.5s						
BVAR				pmax	pmax		
	comp=Z,34nm,0.6s						
BVAR				pmax	pmax		
	comp=N,32nm,0.7s						
BVAR				pmax	pmax		
	comp=N,6.0nm,1.1s						
BVAR				MLR	MLR		
	comp=Z,6μm,18.3s						
BVAR				pmax	pmax		
	comp=Z,3.0nm,0.9s						
BVAR	**Borovoye Array**	**59.94**	**319**	P	**P**	**12 51 50.5**	**-0.4**
	comp=Z,50nm,0.5s,mb5.8,baz=49,slow=6.8,SNR=175						
BVAR				pP	pP	12 52 21.7	+0.5
	comp=Z,34nm,0.6s,baz=54,slow=7.5,SNR=4.8						
BVAR				ScP	ScP	12 56 22.5	-2.1
	comp=Z,32nm,0.7s,baz=59,slow=3.9,SNR=10						
BVAR				ScS	ScS	13 01 24.7	-3.8
	comp=Z,5.9nm,1.1s,baz=270,slow=4.4,SNR=3.7						
BVAR				LR	LR	13 19 47.8	
	comp=Z,6μm,18.2s,baz=276,slow=38						
BVAR				PKPPKP		13 21 05.5	
	comp=Z,2.9nm,0.9s,baz=182,slow=4.5,SNR=5.8						
SCHQ	**Schefferville**	**59.95**	**38**	*e*P	**P**	**12 51 50.7**	**-0.3**
	comp=Z,165nm,1.3s,mb5.9						
SCHQ				*e*pP	pP	12 52 20.7	-0.6
SCHQ	**Schefferville**	**59.95**	**38**	P	**P**	**12 51 50.7**	**-0.3**
	comp=Z,720nm,1.1s,mb6.6,baz=326,slow=6.6,SNR=335						
BRVK	**Borovoye**	**59.95**	**319**	P	**P**	**12 51 50.7**	**-0.3**
	comp=Z,588nm,0.7s,mb6.7,SNR=46						
BRVK	**Borovoye**	**59.95**	**319**⇓	*e*P	**P**	**12 51 50.5**	**-0.5**
	comp=Z,1μm,1.9s,mb6.7						
BRVK				*e*pP	pP	12 52 22.1	+0.7
BRVK				*e*ScP	ScP	12 56 24.4	-0.3
BRVK	**Borovoye**	**59.95**	**319**⇓	*e*P	**P**	**12 51 50.5**	**-0.5**
BRVK				*e**PP	pP	12 52 22.1	+0.8
BRVK				pmax	pmax		
	comp=Z,1μm,1.9s,mb6.7						
FUNA	**Funafuti**	**60.30**	**181**	*e*P	**P**	**12 51 53.4**	**-0.3**
	comp=Z,2μm,1.8s,mb6.8						
CCM	**Cathedral Cave**	**60.43**	**65**	*e*P	**P**	**12 51 52.7**	**-1.8**
	comp=Z,1μm,1.5s,mb6.7						
CCM	**Cathedral Cave**	**60.43**	**65**	P	**P**	**12 51 52.7**	**-1.8**
CCM				pmax	pmax		
	comp=Z,1μm,1.5s,mb6.7						
TMCR	**Tamitsa**	**60.45**	**342**⇓	*i*P	**P**	**12 51 53.9**	**-0.3**
TMCR				*e**PP	pP	12 52 24.1	-0.4
TMCR				*e*S	**S**	**12 59 57.7**	**-1.1**
TMCR				pmax	pmax		
	comp=Z,542nm,1.3s,mb6.4						
SLM	**Saint Louis**	**60.59**	**64**	*e*P	**P**	**12 51 54.3**	**-1.2**
	comp=Z,1μm,1.3s,mb6.8						
SLM	**Saint Louis**	**60.59**	**64**	*e*P	**P**	**12 51 54.3**	**-1.2**
SLM				pmax	pmax		
	comp=Z,1μm,1.3s,mb6.8						
SVE	**Sverdlovsk**	**60.67**	**327**⇑	*e*P	**P**	**12 51 56.2**	**+0.4**
SVE				*e*S	**S**	**13 00 03.2**	**+1.3**
SVE				pmax	pmax		
	comp=Z,151nm,1.4s,mb5.8						
JCT	**Junction City**	**60.80**	**77**⇑	*e*P	**P**	**12 51 56.4**	**-0.7**
	comp=Z,1μm,1.2s,mb6.8						
JCT				*e*pP	pP	12 52 24.4	-3.1
JCT				*e*ScP	ScP	12 56 26.6	-2.3
JCT	**Junction City**	**60.80**	**77**⇑	*e*P	**P**	**12 51 56.4**	**-0.7**
JCT				*e**PP	pP	12 52 24.4	-3.1
JCT				pmax	pmax		
	comp=Z,1μm,1.2s,mb6.8						
FVM	**French Village**	**60.94**	**65**⇑	*e*P	**P**	**12 51 56.6**	**-1.3**
	comp=Z,739nm,1.0s,mb6.7						
FVM				*e*pP	pP	12 52 29.7	+1.3
FVM				*e*S	**S**	**12 59 59.5**	**-6.4**
FVM	**French Village**	**60.94**	**65**⇑	*e*P	**P**	**12 51 56.6**	**-1.3**
FVM				*e**PP	pP	12 52 29.7	+1.3
FVM				*e*S	**S**	**12 59 59.5**	**-6.4**
FVM				pmax	pmax		
	comp=Z,739nm,1.0s,mb6.7						
AAM	**Ann Arbor**	**61.52**	**57**	*e*P	**P**	**12 52 01.4**	**-0.4**
	comp=Z,255nm,0.5s,mb6.5						
AAM	**Ann Arbor**	**61.52**	**57**	P	**P**	**12 52 01.0**	**-0.8**
AAM				pmax	pmax		
	comp=Z,250nm,0.5s,mb6.5						
STOK	**Stokkvaagen**	**61.57**	**354**⇓	*i*P	**P**	**12 52 01.9**	**+0.2**
STOK				AMb	AMB	12 52 05.4	
	comp=Z,338nm,1.4s,mb6.2						
STOK				*e*pP	pP	12 52 32.9	+0.7
MIAR	**Mount Ida**	**61.58**	**70**⇑	*e*P	**P**	**12 52 01.8**	**-0.5**
	comp=Z,55nm,1.2s,mb5.5						
MIAR	**Mount Ida**	**61.58**	**70**⇑	*e*P	**P**	**12 52 01.8**	**-0.5**
MIAR				pmax	pmax		
	comp=Z,55nm,1.2s,mb5.5						
MOR8	**Moi Rana**	**61.63**	**353**⇓	*i*P	**P**	**12 52 00.9**	**-1.2**
MOR8				AMb	AMB	12 52 04.5	
	comp=Z,128nm,1.4s,mb5.8						
MOR8				*e*pP	pP	12 52 30.4	-2.2
ARU	**Arti**	**61.68**	**327**	P	**P**	**12 52 02.9**	**+0.3**
	comp=Z,935nm,0.6s,mb7.0,SNR=28						
ARU	**Arti**	**61.68**	**327**	*e*P	**P**	**12 52 02.4**	**-0.3**
	comp=Z,731nm,1.6s,mb6.5						
ARU				*e*pP	pP	12 52 35.4	+2.3
ARU	**Arti**	**61.68**	**327**⇓	*i*P	**P**	**12 52 02.5**	**-0.1**
ARU				pmax	pmax		
	comp=Z,172nm,1.3s,mb5.9						
SIUC	**Southern Illin**	**61.80**	**64**	*e*P	**P**	**12 52 02.5**	**-1.3**
	comp=Z,731nm,1.2s,mb6.6						
MAIG	**Mazatlaan**	**62.03**	**88**	*i* P	**P**	**12 52 05.7**	**+0.2**
UALR	**University of**	**62.13**	**68**⇑	*e*P	**P**	**12 52 04.7**	**-1.2**
	comp=Z,595nm,1.2s,mb6.5						
BLO	**Bloomington**	**62.24**	**61**⇑	*e*P	**P**	**12 52 05.5**	**-1.2**
	comp=Z,292nm,0.6s,mb6.5						
BLO	**Bloomington**	**62.24**	**61**⇑	*e*P	**P**	**12 52 05.5**	**-1.2**
BLO				pmax	pmax		
	comp=Z,292nm,0.6s,mb6.5						
PARMO	**Parma**	**62.25**	**65**⇑	*e*P	**P**	**12 52 05.6**	**-1.1**
BORG	**Borgarnes**	**62.40**	**10**	LR	LR	13 20 23.0	
	comp=Z,2μm,18.4s,baz=346,slow=37						
PVMO	**Portageville**	**62.46**	**65**⇑	*e*P	**P**	**12 52 07.1**	**-1.1**
	comp=Z,1μm,0.9s,mb6.9						
USIN	**University of**	**62.48**	**63**⇑	*e*P	**P**	**12 52 07.3**	**-1.0**
	comp=Z,4μm,1.4s,mb7.2						
HBAR	**Harrisburg**	**62.53**	**67**⇑	*e*P	**P**	**12 52 07.7**	**-1.0**
GNAR	**Gosnell**	**62.60**	**66**	*e*P	**P**	**12 52 08.2**	**-0.9**
	comp=Z,17μm,1.4s						
JOF	**Joensuu**	**62.79**	**345**	*e*p	**P**	**12 52 08.6**	**-1.3**
	comp=Z,218nm,0.6s,mb6.3						
JOF	**Joensuu**	**62.79**	**345**	*e*P	**P**	**12 52 08.6**	**-1.3**
JOF				pmax	pmax		
	comp=Z,218nm,0.6s,mb6.3						
GLAT	**Glass**	**62.80**	**65**	*e*P	**P**	**12 52 10.0**	**-0.4**
KMI	**Kunming**	**62.93**	**277**	⇓P	**P**	**12 52 12.0**	**+0.6**
KMI				AP	pP	12 52 42.5	+0.5
KMI				PCP	PcP	12 52 49.0	+0.6
KMI				XP	sP	12 52 56.5	+0.7
KMI				PP	PP	12 54 33.8	+2.8
KMI				PPP		12 56 05.3	
KMI				SCP	ScP	12 56 38.5	+0.1
KMI				PCS	PcS	12 56 51.5	-0.6
KMI				S	**S**	**13 00 29.5**	**-1.7**
KMI				XS	sS	13 01 22.5	-1.4
KMI				SKS		13 01 48.8	
KMI				SS	SS	13 04 38.0	-0.3
KMI				SSS		13 07 24.8	
KMI				AMB	AMB		
	comp=Z,456nm,1.1s,mb6.3						
KMI				AMB	AMB		
	comp=Z,5μm,3.2s						
KMI				LR	LR		
	comp=N,2μm,28.6s						
KMI				LR	LR		
	comp=E,3μm,27.0s						
KMI				LR	LR		
	comp=Z,7μm,47.1s						
NATX	**Nacogdoches**	**62.94**	**72**	*e*P	**P**	**12 52 11.2**	**-0.2**
	comp=Z,1μm,1.3s,mb6.7						
NATX				*e*pP	pP	12 52 41.9	-0.1
UTMT	**University of**	**62.98**	**65**⇑	*e*P	**P**	**12 52 11.1**	**-0.5**
	comp=Z,2μm,0.9s,mb7.0						
HALT	**Halls**	**63.02**	**66**	*e*P	**P**	**12 52 11.2**	**-0.7**
QIZ	**Qiongzhong**	**63.07**	**267**	P	**P**	**12 52 13.5**	**+1.1**
QIZ				AP	pP	12 52 42.0	-1.0
QIZ				XP	sP	12 52 54.8	-2.0
QIZ				PP	PP	12 54 32.0	-0.4
QIZ				AMB	AMB		
	comp=Z,605nm,1.8s,mb6.2						
QIZ				AMB	AMB		
	comp=Z,4μm,8.1s						
QIZ	**Qiongzhong**	**63.07**	**267**⇓	*e*P	**P**	**12 52 13.3**	**+0.9**
	comp=Z,1μm,1.4s,mb6.6						
QIZ				*e*pP	pP	12 52 42.3	-0.7
DAV	**Davao City (W)**	**63.08**	**245**	*e*P	**P**	**12 52 12.4**	**-0.1**
	comp=Z,2μm,1.4s,mb6.9						
DAV				*e*pP	pP	12 52 41.8	-1.4
DAV				*e*PcP	PcP	12 52 49.0	-0.1
DAV				*e*ScP	ScP	12 56 40.0	+0.8
DAV	**Davao City (W)**	**63.08**	**245**	P	**P**	**12 52 12.6**	**+0.1**
	SNR=82						
DAV	**Davao City (W)**	**63.08**	**245**	P	**P**	**12 52 12.6**	**+0.1**
	SNR=82						
MET	**Memphis--Engin**	**63.26**	**67**	*e*P	**P**	**12 52 12.9**	**-0.5**
ACSO	**Alum Creek Sta**	**63.37**	**58**	*e*P	**P**	**12 52 13.2**	**-0.9**
	comp=Z,733nm,1.2s,mb6.5						
ACSO				*e*PcP	PcP	12 52 49.7	-0.2
ERPA	**Erie**	**63.54**	**55**⇑	*e*P	**P**	**12 52 14.8**	**-0.4**
	comp=Z,2μm,1.4s,mb6.7						
HKT	**Hockley**	**63.55**	**75**	*e*P	**P**	**12 52 15.7**	**+0.2**
	comp=Z,2μm,1.6s,mb6.6						
HKT				*e*pP	pP	12 52 41.6	-4.5
HKT				*e*S	**S**	**13 00 35.2**	**-3.6**
HKT	**Hockley**	**63.55**	**75**	P	**P**	**12 52 15.7**	**+0.2**
HKT				pmax	pmax		
	comp=Z,2μm,1.6s,mb6.6						
HNR	**Honiara**	**63.59**	**202**⇓	*e*P	**P**	**12 52 14.8**	**-1.0**
	comp=Z,1μm,1.4s,mb6.6						
HNR	**Honiara**	**63.59**	**202**	P	**P**	**12 52 14.7**	**-1.1**
HNR				pmax	pmax		
	comp=Z,1μm,1.3s,mb6.6						
HNR	**Honiara**	**63.59**	**202**	P	**P**	**12 52 15.4**	**-0.4**
	comp=Z,323nm,1.1s,mb6.1,baz=229,slow=1.4,SNR=40						
WVT	**Waverly**	**63.71**	**64**⇑	*e*P	**P**	**12 52 15.4**	**-1.0**
	comp=Z,466nm,1.1s,mb6.2						
WVT	**Waverly**	**63.71**	**64**	P	**P**	**12 52 15.3**	**-1.1**
WVT				pmax	pmax		
	comp=Z,470nm,1.1s,mb6.2						
ALLY	**Alegheny Colle**	**63.80**	**55**	*e*P	**P**	**12 52 16.9**	**0.0**
	comp=Z,2.8nm,2.0s						
MSNY	**Massena**	**63.91**	**50**	*e*P	**P**	**12 52 15.7**	**-1.9**
KVTX	**Kingsville**	**64.06**	**78**	*e*P	**P**	**12 52 20.4**	**+1.6**
	comp=Z,2μm,1.1s,mb6.8						
AAA	**Alma-Ata**	**64.23**	**308**	*i* P	**P**	**12 52 20.1**	**+0.4**
AAA				*i* S	**S**	**13 00 46.9**	**0.0**
AAA				pmax	pmax		
	comp=Z,3μm,4.7s						
AAA				smax			
	comp=N,2μm,11.1s						
LONY	**Lake Ozonia**	**64.33**	**50**⇑	*e*P	**P**	**12 52 18.3**	**-2.0**
	comp=N,424nm,1.3s,mb6.1						
PLAL	**Pickwick Lake**	**64.41**	**66**	*e*P	**P**	**12 52 20.1**	**-0.9**
	comp=N,982nm,1.2s,mb6.5						
FRNY	**Flat Rock**	**64.63**	**49**	*e*P	**P**	**12 52 20.2**	**-2.0**
	comp=N,676nm,1.6s,mb6.2						
NCB	**Newcomb**	**64.98**	**50**⇓	*e*P	**P**	**12 52 23.3**	**-1.2**
	comp=N,786nm,1.5s,mb6.3						
FIA1	**FINESS Array S**	**65.00**	**347**	*e*P	**P**	**12 52 23.9**	**-0.4**
FIA1				*e*pP	pP	12 52 54.9	-0.2
FINES	**FINESS Array B**	**65.00**	**347**	P	**P**	**12 52 23.9**	**-0.5**
FINES				*PP	pP	12 52 55.4	+0.3
FINES				S	S	13 00 54.7	-1.0
FINES				pmax	pmax		
	comp=Z,76nm,0.7s						
FINES				pmax	pmax		
	comp=Z,23nm,0.6s						
FINES				smax			
	comp=N,10.0nm,1.1s						
FINES				pmax	pmax		
	comp=Z,3.0nm,0.8s						
FINES				MLR	MLR		
	comp=Z,2μm,19.2s						
FINES	**FINESS Array B**	**65.00**	**347**	P	**P**	**12 52 23.9**	**-0.5**
	comp=Z,76nm,0.7s,mb5.6,baz=29,slow=8.6,SNR=143						
FINES				pP	pP	12 52 55.4	+0.3
	comp=Z,23nm,0.6s,baz=28,slow=8.6,SNR=3.8						
FINES				S	S	13 00 54.6	-1.1
	comp=Z,9.5nm,1.1s,baz=356,slow=17,SNR=3.9						
FINES				PKPPKP		13 20 53.8	
	comp=Z,2.7nm,0.8s,baz=134,slow=5.5,SNR=7.2						
FINES				LR	LR	13 24 40.3	
	comp=Z,2μm,19.2s,baz=24,slow=39						
TKM2	**Tokmak 2**	**65.15**	**308**	*e*P	**P**	**12 52 25.8**	**+0.1**
	comp=Z,153nm,1.0s,mb5.8						
TKM2				*e*pP	pP	12 52 57.7	+1.2
TKM2	**Tokmak 2**	**65.15**	**308**	P	**P**	**12 52 25.8**	**+0.1**
TKM2				pmax	pmax		
	comp=Z,150nm,1.0s,mb5.8						
TKM2	**Tokmak 2**	**65.15**	**308**	P	**P**	**12 52 25.9**	**+0.2**
	SNR=114						
ULHL	**Ulahol**	**65.35**	**307**	P	**P**	**12 52 27.4**	**+0.4**
	SNR=121						
USP	**Ospenovka**	**65.42**	**309**	P	**P**	**12 52 27.7**	**+0.3**
	SNR=174						
MCWV	**Mont Chateau**	**65.42**	**57**⇑	*e*P	**P**	**12 52 26.6**	**-0.8**
	comp=Z,306nm,0.9s,mb6.1						
MCWV				*e*pP	pP	12 52 58.9	+0.6
SWET	**Sewanee**	**65.44**	**64**⇑	*e*P	**P**	**12 52 26.3**	**-1.3**
BINY	**Binghamton**	**65.47**	**52**⇑	*e*P	**P**	**12 52 27.2**	**-0.5**
	comp=Z,2μm,1.3s,mb6.8						
CHMS	**Chumysh**	**65.50**	**309**	P	**P**	**12 52 27.8**	**-0.1**
	SNR=61						
MOL	**Molde**	**65.61**	**356**	*i* P	**P**	**12 52 28.6**	**+0.3**
CJM	**Chamela**	**65.64**	**89**	*i* P	**P**	**12 52 28.5**	**-0.6**
KBK	**Karagaybulak**	**65.67**	**309**	P	**P**	**12 52 29.5**	**+0.5**
	SNR=39						
ACCN	**Adirondack Com**	**65.69**	**50**⇑	*e*P	**P**	**12 52 28.0**	**-1.2**
	comp=Z,1μm,1.4s,mb6.5						
SSPA	**Standing Stone**	**65.69**	**55**	*e*P	**P**	**12 52 28.6**	**-0.6**
	comp=Z,413nm,0.9s,mb6.3						
TZTN	**Tazewell**	**65.77**	**61**	*e*P	**P**	**12 52 29.4**	**-0.4**
	comp=Z,713nm,1.3s,mb6.3						
LBNH	**Lisbon**	**65.86**	**49**	*e*P	**P**	**12 52 28.8**	**-1.4**
	comp=Z,518nm,1.2s,mb6.2						
LBNH	**Lisbon**	**65.86**	**49**	*e*P	**P**	**12 52 28.8**	**-1.4**
LBNH				pmax	pmax		
	comp=Z,518nm,1.2s,mb6.2						
AAK	**Ala-Archa**	**65.90**	**309**	P	**P**	**12 52 29.5**	**-1.0**
	comp=Z,910nm,1.1s,mb6.5						
AAK	**Ala-Archa**	**65.90**	**309**⇓	*e*P	**P**	**12 52 29.6**	**-0.9**
	comp=Z,173nm,1.0s,mb5.8						
AAK	**Ala-Archa**	**65.90**	**309**⇑	*e*P	**P**	**12 52 29.6**	**-0.9**
AAK				pmax	pmax		
	comp=Z,248nm,1.5s,mb5.8						
AAK	**Ala-Archa**	**65.90**	**309**	P	**P**	**12 52 30.0**	**-0.5**
	SNR=110						
AAK	**Ala-Archa**	**65.90**	**309**	P	**P**	**12 52 30.0**	**-0.5**
	SNR=110						
AAK	**Ala-Archa**	**65.90**	**309**	LR	LR	13 22 44.2	
	comp=Z,2μm,20.3s,baz=31,slow=37						
AAK	**Ala-Archa**	**65.90**	**309**	P	**P**	**12 52 30.9**	**+0.4**
	SNR=143						
PUL	**Pulkovo**	**65.92**	**344**⇓	*i*P	**P**	**12 52 30.1**	**-0.2**
KZA	**Kyzart**	**65.96**	**308**	P	**P**	**12 52 31.6**	**+0.7**
	SNR=118						
AFI	**Afiamalu**	**66.03**	**171**	*e*P	**P**	**12 52 31.0**	**-0.4**
	comp=Z,504nm,1.5s,mb6.1						
AFI	**Afiamalu**	**66.03**	**171**	*e*P	**P**	**12 52 31.0**	**-0.5**
AFI				pmax	pmax		
	comp=Z,504nm,1.5s,mb6.1						
CPCT	**Cooper Cave**	**66.04**	**63**	*e*P	**P**	**12 52 30.4**	**-1.1**
DOMB	**Dombas**	**66.07**	**355**⇓	*i*P	**P**	**12 52 31.

AKTO pmax pmax
comp=Z,58nm,0.7s,mb5.5
AKTO pmax pmax
comp=Z,89nm,1.1s,mb5.5
AKTO Aktyubinsk 66.75 324 P **P 12 52 35.5 -0.3**
comp=Z,58nm,0.7s,mb5.5,baz=56,slow=9.3,SNR=102
AKTO pP pP 12 53 06.1 -0.5
comp=Z,89nm,1.1s,baz=38,slow=6.7,SNR=4.8
ELN Prospectdale 66.76 59 *eP* **P 12 52 35.0 -1.1**
NB2 NORSAR Subarra 66.94 354 P **P 12 52 36.8 0.0**
comp=Z,98nm,0.8s,mb5.7,baz=8.1,slow=6.2
NOA NORSAR Array B 66.94 354 P **P 12 52 36.9 +0.1**
NOA *PP pP 12 53 08.5 +0.8
NOA pmax pmax
comp=Z,41nm,0.6s
NOA pmax pmax
comp=Z,84nm,1.0s
NOA pmax pmax
comp=Z,17nm,1.1s
NOA NORSAR Array B 66.94 354 P **P 12 52 36.9 +0.1**
comp=Z,41nm,0.6s,mb5.5,baz=7.7,slow=6.2,SNR=181
NOA pP pP 12 53 08.5 +0.7
comp=Z,84nm,1.0s,baz=7.5,slow=6.3,SNR=4.4
NOA PKPPKP 13 20 56.7
comp=Z,17nm,1.1s,baz=176,slow=3.4,SNR=12
BLA Blacksburg 66.95 59 *eP* **P 12 52 36.8 -0.5**
comp=Z,1μm,1.6s,mb6.5
BLA Blacksburg 66.95 59 P **P 12 52 36.6 -0.6**
BLA pmax pmax
comp=Z,1μm,1.5s,mb6.6
MVL Millersville 66.95 54 *eP* **P 12 52 36.4 -0.8**
comp=Z,248nm,0.8s,mb6.1
AB31 Akbulak array 66.99 322⇑*eP* **P 12 52 36.7 -0.6**
HYA Hoyanger 67.06 357⇓*iP* **P 12 52 38.8 +1.2**
HYA AMb AMB 12 52 42.4
comp=Z,203nm,1.5s,mb5.7
HYA *ep*P pP 12 53 10.2 +1.7
SDMD Soldier's Deli 67.15 55 *eP* **P 12 52 37.6 -0.8**
comp=Z,437nm,1.1s,mb6.2
NAO01 NORSAR Array S 67.16 354⇓*eP* **P 12 52 38.0 -0.1**
comp=Z,724nm,1.9s,mb6.2
NAO01 *ep*P pP 12 53 08.9 -0.2
QUA2 Belchertown 67.16 50 *eP* **P 12 52 37.1 -1.4**
comp=Z,2μm,1.5s,mb6.7
BRNJ Basking Ridge 67.31 53⇑*eP* **P 12 52 38.8 -0.7**
comp=Z,2μm,1.4s,mb6.6
PAL Palisades 67.39 52 *eP* **P 12 52 39.1 -0.8**
comp=Z,1μm,1.4s,mb6.5
PAL Palisades 67.39 52 *eP* **P 12 52 39.1 -0.9**
PAL pmax pmax
comp=Z,1μm,1.4s,mb6.5
KK31 Karatay Array 67.42 312 *iP* **P 12 52 39.6 -0.5**
KK31 Karatay Array 67.42 312 *iP* **P 12 52 39.5 -0.6**
KK31 pmax pmax
comp=Z,48nm,0.5s,mb5.6
CPNY Central Park 67.53 52⇑*eP* **P 12 52 40.2 -0.7**
comp=Z,1μm,1.3s,mb6.5
WES Weston 67.56 49 *eP* **P 12 52 40.0 -1.0**
comp=Z,3μm,1.5s,mb6.8
WES Weston 67.56 49 P **P 12 52 39.9 -1.1**
WES pmax pmax
comp=Z,3μm,1.4s,mb6.9
HFS Hagfors 67.67 353 S S 13 01 27.4 -0.6
comp=Z,10nm,1.1s,baz=54,slow=11,SNR=4.2
HFS PKPPKP 13 20 54.2
comp=Z,20nm,1.2s,baz=105,slow=1.7,SNR=8.5
HFS LR LR 13 22 56.7
comp=Z,695nm,18.3s,baz=8.0,slow=36
CBN Corbin 67.79 56 *eP* **P 12 52 41.7 -0.8**
comp=Z,362nm,0.9s,mb6.2
BRYW Bryant College 67.82 50 *eP* **P 12 52 41.6 -1.1**
comp=Z,3μm,1.4s,mb6.9
RUND Rundenannen 67.84 357 *eP* **P 12 52 45.2 +2.7**
RUND AMb AMB 12 52 48.7
comp=Z,85nm,1.1s,mb5.5
RUND *ep*P pP 12 53 15.7 +2.2
BER Bergen 67.88 357 *eP* **P 12 52 44.6 +1.9**
BER *ep*P pP 12 53 12.7 -0.9
BER *eS* S 13 01 31.1 +0.7
BRAL Brewton 67.91 68⇑*eP* **P 12 52 42.3 -1.1**
comp=Z,902nm,1.1s,mb6.5
GOGA Godfrey 68.14 64⇑*eP* **P 12 52 43.7 -1.0**
comp=Z,156nm,0.5s,mb6.1
GOGA Godfrey 68.14 64 P **P 12 52 43.6 -1.2**
GOGA pmax pmax
comp=Z,160nm,0.5s,mb6.1
URVA University of 68.18 57 *eP* **P 12 52 44.0 -1.0**
LRW Lerwick 68.20 1 *eP* **P 12 52 45.0 +0.3**
LRW *eP* 12 52 45.0
LRW AMb AMB 12 52 48.8
comp=Z,216nm,1.2s,mb5.8
MOS Moscow 68.20 338⇑*iP* **P 12 52 45.3 +0.5**
MOS Moscow 68.20 338K *iP* **P 12 52 45.3 +0.5**
MOS *i* *PP pP 12 53 16.8 +1.0
MOS *i* *SP sP 12 53 27.6 -2.0
MOS *i* S S 13 01 35.0 +0.6
MOS *i* *SS sS 13 02 27.8 -0.1
MOS pmax pmax
comp=Z,2μm,1.9s,mb6.5
MOS pmax pmax
comp=Z,778nm,1.2s,mb6.4
MOS smax
comp=E,2μm,3.6s
MOS smax
comp=N,3μm,4.0s
MOS MLR MLR
comp=N,3μm,18.0s
MOS MLR MLR
comp=Z,4μm,18.0s
MOS MLR MLR
comp=E,1μm,17.5s
KDM Kudat 68.24 253⇓*P* **P 12 52 46.9 +1.3**
IMP Imphal 68.54 283 *iP* **P 12 52 47.0 -0.4**
CHRT Chiangrai 68.65 275⇓*P* **P 12 52 48.5 +0.4**
comp=E,3μm,1.0s,mb7.1
MYLDM Lahad Datu 68.66 250⇓*P* **P 12 52 51.6 +3.4**
JSC Jenkinsville 68.69 61 *eP* **P 12 52 47.5 -0.7**
LHS Liberty Hill 68.79 61 *eP* **P 12 52 48.1 -0.7**
BLS5 Blasjo 68.80 356 *eP* **P 12 52 49.5 +1.1**
BLS5 AMb AMB 12 52 52.9
comp=Z,49nm,1.2s,mb5.2
NANT Nan 68.89 274⇓*P* **P 12 52 49.0 -0.6**
comp=Z,2μm,0.8s,mb6.9
UBT Ubonrachathani 68.92 268⇓*P* **P 12 52 50.0 +0.2**
comp=Z,347nm,1.0s,mb6.1
OBN Obninsk 69.02 339 P **P 12 52 49.1 -0.8**
comp=Z,2μm,1.2s,mb6.9,SNR=18
OBN Obninsk 69.02 339⇓*eP* **P 12 52 49.4 -0.5**
comp=Z,776nm,1.3s,mb6.4
OBN *ep*P pP 12 53 20.9 0.0
OBN Obninsk 69.02 339*d iP* **P 12 52 49.3 -0.6**
OBN *e* 12 53 12.7
OBN *i* *PP pP 12 53 21.7 +0.8
OBN *i* S S 13 01 44.0 -0.1
OBN pmax pmax
comp=Z,611nm,1.0s,mb6.4
OBN MLR MLR
comp=Z,3μm,19.0s
SDKM Sandakan 69.05 251⇑*P* **P 12 52 49.8 -0.8**
SHL Shillong 69.18 285⇓*iP* **P 12 52 52.0 +0.6**
SHL *eS* S 13 01 48.0 +1.1
PTVM Pico Tres Padr 69.22 85 *iP* **P 12 52 51.9 +0.2**
ZIIG Zihuatanejo 69.28 88 *iP* **P 12 52 51.9 -0.1**
KKM Kota Kinabalu 69.31 253⇓*eP* **P 12 52 52.2 0.0**
KKM *ep*P pP 12 53 22.0 -1.3
KKM Kota Kinabalu 69.31 253⇑*P* **P 12 52 53.2 +1.0**
STAV Stavanger 69.31 357 *eP* **P 12 52 52.3 +0.7**
STAV AMb AMB 12 52 55.6
comp=Z,111nm,1.3s,mb5.5
STAV *ep*P pP 12 53 23.1 +0.4
PBVM Pinon 69.36 85 *iP* **P 12 52 52.5 +0.1**
UNM Universidad Na 69.38 85 *iP* **P 12 52 53.0 +0.3**
IIO Organos 69.47 84 *iP* **P 12 52 53.9 +0.8**
TAOE Nuku Hiva Isla 69.58 138 *eS* S 13 01 45.4 -6.2
comp=Z,67μm,22.5s
COW Cow Castle Cre 69.68 62 *eP* **P 12 52 53.9 -0.4**
TSM Tawau 69.74 250⇓*P* **P 12 52 55.5 +0.6**
ORE Reay 69.75 2⇓*eP* **P 12 52 54.8 +0.5**
GTK Gangtok 69.79 289 *ex* x 12 53 45.0
YAIG Yautepec 69.80 85 *iP* **P 12 52 54.5 -0.8**
RTO Tolsta 69.85 4 *eP* **P 12 52 55.0 +0.1**
SNART Snartemo 69.85 356 *eP* **P 12 52 55.5 +0.5**
SNART AMb AMB 12 52 58.9
comp=Z,90nm,1.1s,mb5.5
SNART *ep*P pP 12 53 26.5 +0.4

PLIG Platanillo 69.89 86 *iP* **P 12 52 55.2 -0.6**
PPM Popocatepetl 69.92 85 *iP* **P 12 52 56.7 +0.8**
CHTO Chiang Mai 69.96 275⇓*eP* **P 12 52 56.1 -0.1**
comp=Z,856nm,1.3s,mb6.4
CHTO Chiang Mai 69.96 275 P **P 12 52 56.0 -0.2**
CHTO pmax pmax
comp=Z,860nm,1.3s,mb6.4
CHTO Chiang Mai 69.96 275 P **P 12 52 56.3 +0.1**
SNR=276
CHTO Chiang Mai 69.96 275 P **P 12 52 56.3 +0.1**
SNR=276
MLA1 Latheron 70.01 2 *eP* **P 12 52 57.1 +1.2**
REB Eisghbrachaidh 70.14 3 *eP* **P 12 52 57.6 +0.9**
NHSC New Hope 70.17 62⇑*eP* **P 12 52 57.1 -0.3**
comp=Z,705nm,0.9s,mb6.5
CM31 Chiang Mai Arr 70.23 275⇓*eP* **P 12 52 58.3 +0.4**
comp=Z,235nm,0.8s,mb6.1
RRH Rhenigidale 70.29 4 *eP* **P 12 52 57.3 -0.3**
MVH1 Achvaich 70.37 2⇓*eP* **P 12 52 58.5 +0.4**
RRR Rubha Reidh 70.39 3⇓*eP* **P 12 52 58.6 +0.4**
CAIG El Cayaco 70.44 87 *iP* **P 12 52 59.1 0.0**
MCD Coleburn Disti 70.73 2⇓*eP* **P 12 53 00.8 +0.5**
KSK Scoval 70.74 4 *eP* **P 12 53 01.4 +1.0**
LVIG Laguna Verde 70.78 82 *iP* **P 12 53 00.7 -0.5**
ACX Acapulco 70.79 87 *iP* **P 12 53 00.2 -1.0**
MDO Dochfour 70.85 3⇓*eP* **P 12 53 01.4 +0.4**
KPL Plockton 70.91 3 *eP* **P 12 53 02.1 +0.7**
KPL AMb AMB 12 53 07.2
comp=Z,183nm,1.2s,mb5.8
GUN Gumba 70.95 291 *eP* **P 12 53 03.5 +1.4**
JIRN Jiri 70.96 291 *eP* **P 12 53 03.8 +1.6**
MME1 Meikle Cairn 71.01 2⇓*eP* **P 12 53 01.9 -0.1**
KSB Sheil Bridge 71.05 3⇓*eP* **P 12 53 02.6 +0.4**
KAR1 Arisaig 71.33 3⇓*eP* **P 12 53 04.1 +0.2**
MNK Minsk 71.36 343*d iP* **P 12 53 03.0 -1.1**
MNK *e*PP pP 12 53 34.0 -1.4
MNK *eS* S 13 02 08.0 -3.4
MNK *e*SS sS 13 02 54.0 -11
MNK *e*SSS 13 10 04.0
MNK pmax pmax
comp=Z,740nm,1.5s,mb6.3
MNK pmax pmax
comp=N,920nm,1.6s
MNK pmax pmax
comp=E,200nm,1.6s
MNK MLR MLR
comp=E,6μm,18.0s
MNK MLR MLR
comp=Z,6μm,18.0s
KKN Kakani 71.39 291 *eP* **P 12 53 05.8 +1.0**
comp=Z,2μm,1.0s,mb7.0
VRHR Novokhopersk 71.42 334 *eP* **P 12 53 04.2 -0.4**
VRHR pmax pmax
comp=Z,180nm,1.1s,mb5.8
VRHR pmax pmax
comp=N,120nm,1.6s
VRHR pmax pmax
comp=E,60nm,0.9s
PKI Pulchoki 71.48 291 *eP* **P 12 53 06.3 +1.0**
PKIN Phulchoki 71.48 291 *eP* **P 12 53 06.2 +0.9**
VOR Voronezh 71.48 336⇓*iP* **P 12 53 04.0 -0.9**
VOR pmax pmax
comp=Z,300nm,2.0s,mb5.8
GKN Gorkha 71.59 292 *eP* **P 12 53 06.8 +0.8**
NST Nakhon Sawan 71.61 272⇑*P* **P 12 53 06.4 +0.2**
comp=Z,298nm,1.1s,mb6.0
DMN Daman 71.62 291 *eP* **P 12 53 07.3 +1.1**
comp=Z,3μm,1.2s,mb7.1
MUD Monsted U'grnd 71.63 355⇓*iP* **P 12 53 06.3 +0.6**
MUD *i* pP 12 53 37.6 +0.6
MUD *i* S S 13 02 17.9 +3.4
MUD pmax pmax
comp=Z,120nm,1.2s,mb5.6
MUD MLR MLR
comp=Z,1μm,19.0s
MUD Monsted U'grnd 71.63 355⇓*iP* **P 12 53 06.3 +0.6**
comp=Z,115nm,1.2s,mb5.6
MUD *i* pP 12 53 37.6 +0.6
MUD *i* S S 13 02 17.9 +3.4
MUD *i* 13 03 18.5
MUD
comp=Z,1μm,19.0s
DANN Dangsing 71.83 293 *eP* **P 12 53 08.5 +1.1**
ELO Logie Almond 71.84 2⇓*eP* **P 12 53 07.1 +0.2**
SHBG Sahibganj 71.95 288 *eP* **P 12 53 07.2 -0.9**
VRSR Storozhevoye 71.96 335*d iP* **P 12 53 07.2 -0.6**
VRSR *e*PP pP 12 53 38.9 -0.2
VRSR *eS* S 13 02 17.5 -0.8
VRSR pmax pmax
comp=Z,60nm,1.7s,mb5.2
VRSR pmax pmax
comp=N,40nm,1.3s
VRSR pmax pmax
comp=E,20nm,1.4s
VRSR smax
comp=N,20nm,1.4s
VRSR smax
comp=Z,4.0nm,1.4s
EBH Black Hill 72.06 2⇓*eP* **P 12 53 08.7 +0.4**
EAB Aberfoyle 72.10 3⇓*eP* **P 12 53 09.1 +0.5**
VORD Divnogorie 72.16 335 *eP* **P 12 53 08.3 -0.7**
VORD *e* pP 12 53 38.6 -1.7
VORD *eS* S 13 02 18.0 -2.6
VORD pmax pmax
comp=N,160nm,1.0s
VORD pmax pmax
comp=Z,180nm,1.0s,mb5.9
VORD pmax pmax
comp=E,2μm,10.8s
VORD pmax pmax
comp=Z,170nm,1.3s,mb5.7
VORD pmax pmax
comp=N,220nm,0.9s
VORD pmax pmax
comp=E,80nm,0.9s
VORD MLR MLR
comp=Z,2μm,21.0s
VORD MLR MLR
comp=N,2μm,17.0s
VORD MLR MLR
comp=E,900nm,17.0s
COP Copenhagen 72.18 353⇓*iP* **P 12 53 09.3 +0.3**
COP *i* pP 12 53 41.5 +1.2
COP *i* S S 13 02 23.6 +2.9
COP pmax pmax
comp=Z,210nm,1.6s,mb5.7
COP MLR MLR
comp=Z,730nm,19.0s
COP Copenhagen 72.18 353⇓*iP* **P 12 53 09.3 +0.3**
comp=Z,214nm,1.6s,mb5.7
COP *i* pP 12 53 41.5 +1.2
COP *i* S S 13 02 23.6 +2.9
COP *i* 13 03 18.7
COP
comp=Z,730nm,19.0s
PNIG Pinotepa 72.26 86 *iP* **P 12 53 10.8 +0.7**
PMOR Pomariorio Ree 72.31 147⇓*iP* **P 12 53 10.6 +0.4**
comp=Z,724nm,1.4s,mb6.3
KOLN Koldanda 72.37 292 *eP* **P 12 53 11.1 +0.5**
comp=Z,2μm,1.2s,mb6.8
ESY Stoneypath 72.41 2⇓*eP* **P 12 53 10.7 +0.3**
EAU Auchinoon 72.47 2⇓*eP* **P 12 53 11.4 +0.6**
PGBU Glenifferbraes 72.48 3 *eP* **P 12 53 11.2 +0.5**
PGBU AMb AMB 12 53 16.0
comp=Z,196nm,1.2s,mb5.8
BSD Bornholm Skovb 72.53 351⇓*iP* **P 12 53 10.6 -0.5**
BSD *i* pP 12 53 42.9 +0.4
BSD *i* S S 13 02 24.4 -0.3
BSD *i* 13 03 20.3
BSD pmax pmax
comp=Z,55nm,1.1s,mb5.3
BSD MLR MLR
comp=Z,1μm,20.0s
BSD Bornholm Skovb 72.53 351⇓*iP* **P 12 53 10.6 -0.5**
comp=Z,55nm,1.1s,mb5.3
BSD *i* pP 12 53 42.9 +0.4
BSD *i* S S 13 02 24.4 -0.3
BSD *i* 13 03 20.3
BSD
comp=Z,1μm,20.0s
SUW Suwalki 72.59 346 *iP* **P 12 53 10.7 -0.7**
comp=Z,500nm,1.1s,mb6.3
SUW *e*PcP PcP 12 53 28.1 -0.2
SUW *ep*P pP 12 53 42.4 -0.4
SUW *eS* S 13 02 22.6 -2.9
SUW *ep*S 13 03 02.4
SUW *es*S sS 13 03 21.3 +1.8
SUW LMZ 13 29 00.1
comp=Z,2μm,19.1s
SUW Suwalki 72.59 346⇓*iP* **P 12 53 10.7 -0.8**
SUW *e*PcP PcP 12 53 28.1 -0.2
SUW *ep*P pP 12 53 42.4 -0.4
SUW *eS* S 13 02 22.6 -2.9
SUW *ep*S 13 03 02.4
SUW *es*S sS 13 03 21.3 +1.8
SUW Suwalki 72.59 346⇓*iP* **P 12 53 10.7 -0.8**
SUW *e* 12 53 28.1
SUW *e*PP pP 12 53 42.4 -0.4
SUW *eS* S 13 02 22.6 -2.9
SUW *e* 13 03 02.4
SUW *e*SS sS 13 03 21.3 +1.8
SUW pmax pmax
comp=Z,500nm,1.1s,mb6.3
SUW MLR MLR
comp=Z,2μm,19.1s
OXX Oaxaca 72.60 84 *iP* **P 12 53 12.5 +0.4**
VHO Vista Hermosa 72.60 84 *iP* **P 12 53 13.5 +1.4**
VAH Vaihoa 72.62 147⇓*iP* **P 12 53 12.2 +0.2**
comp=Z,571nm,1.3s,mb6.3
XSO Sourhope Farm 72.84 1⇓*eP* **P 12 53 13.3 +0.3**
DLH Dalhousie 72.91 301 *eP* **P 12 53 12.0 -1.7**
GMK Mull of Kintyr 72.91 3 *eP* **P 12 53 13.8 +0.5**
PTH Pithoragarh 72.91 296 *ex* x 12 53 33.8
PTH *ex* x 12 55 55.2
ESK Eskdalemuir 73.00 2 P **P 12 53 14.2 +0.3**
comp=Z,346nm,1.1s,mb6.1,SNR=14
ESK Eskdalemuir 73.00 2⇓*eP* **P 12 53 14.2 +0.3**
ESK AMb AMB 12 53 20.1
comp=Z,196nm,1.4s,mb5.8
ESK *eS* S 13 02 28.9 -1.2
ESK Eskdalemuir 73.00 2 *eP* **P 12 53 14.5 +0.6**
comp=Z,352nm,1.6s,mb5.9
ESK *ep*P pP 12 53 46.5 +1.2
ESK *e*PP PP 12 55 50.5 -6.8
ESK Eskdalemuir 73.00 2 P **P 12 53 14.5 +0.6**
ESK pmax pmax
comp=Z,350nm,1.6s,mb5.9
COEN Coen 73.04 218⇓*eP* **P 12 53 14.0 -0.6**
comp=Z,358nm,1.3s,mb6.0
COEN *e*PP PP 12 55 47.9 -11
THN Thein Dam 73.12 301 *eP* **P 12 53 14.0 -1.0**
THN *ex* x 13 02 38.2
ECK Cauldkaine Hil 73.14 2⇓*eP* **P 12 53 15.0 +0.3**
GCL Cushendall 73.16 4⇓*eP* **P 12 53 15.3 +0.5**
SDNR Sundarnagar 73.18 300 *eP* **P 12 53 15.0 -0.3**
SDNR *eS* S 13 02 36.0 +3.1
RGN Rugen 73.23 352⇓*eP* **P 12 53 15.9 +0.7**
comp=Z,379nm,1.3s,mb6.1
RGN Rugen 73.23 352 *eP* **P 12 53 15.6 +0.3**
comp=Z,502nm,1.2s,mb6.2
TUIG Tuzandepetl 73.28 82 *iP* **P 12 53 17.2 +1.1**
DWPF Disney 73.29 66⇑*eP* **P 12 53 16.1 0.0**
comp=Z,378nm,0.8s,mb6.3
GAL1 Galloway 73.42 3⇓*eP* **P 12 53 16.5 +0.2**
GAL1 ⇓*eP* 12 53 16.5
BTM Bintulu 73.43 253⇑*P* **P 12 53 17.0 0.0**
XAL Allendale 73.48 1⇓*eP* **P 12 53 16.5 -0.2**
DDI Dehra Dun 73.50 298 *iP* **P 12 53 17.6 +0.3**
GMIG Matias Romero 73.72 83 *iP* **P 12 53 19.1 +0.4**
CKE Keswick 73.74 2 *eP* **P 12 53 18.7 +0.5**
HLG Helgoland 73.97 355 *eP* **P 12 53 20.1 +0.5**
comp=Z,595nm,1.5s,mb6.1
HUIG Huatulco 73.98 85 *iP* **P 12 53 20.9 +0.7**
GMM Mts of Mourne 74.00 4⇓*eP* **P 12 53 19.9 +0.1**
BSEG Bad Segeberg 74.07 354 *eP* **P 12 53 20.6 +0.4**
comp=Z,487nm,1.6s,mb6.0
BSEG *ep*P pP 12 53 53.0 +1.3
BOK Bokaro 74.07 288 *eP* **P 12 53 19.9 -0.8**
BOK AMb AMB 12 53 24.0
comp=Z,2μm,1.8s,mb6.5
BOK *i* x x 13 03 21.5
GKP Gorka Klasztor 74.10 349 *eP* **P 12 53 20.2 -0.1**
comp=Z,500nm,1.5s,mb6.0
GKP *ep*P pP 12 53 51.9 0.0
GKP *eS* S 13 02 41.1 -1.4
GKP *es*S sS 13 03 40.2 +3.4
GKP LMZ 13 26 42.1
comp=Z,3μm,23.0s
GKP Gorka Klasztor 74.10 349⇓*eP* **P 12 53 20.2 -0.2**
comp=Z,0.5nm,1.5s
GKP *ep*P pP 12 53 51.8 0.0
GKP *eS* S 13 02 41.1 -1.4
GKP *e*SS sS 13 03 40.2 +3.5
GKP LR LR
comp=Z,3μm,23.0s
GKP Gorka Klasztor 74.10 349⇓*eP* **P 12 53 20.2 -0.2**
GKP *e*PP pP 12 53 51.8 0.0
GKP *eS* S 13 02 41.1 -1.4
GKP *e*SS sS 13 03 40.2 +3.5
GKP pmax pmax
comp=Z,500nm,1.5s,mb6.0
GKP MLR MLR
comp=Z,3μm,23.0s
PPT Papeete 74.17 150 *eP* **P 12 53 21.5 +0.4**
comp=Z,215nm,1.4s,mb5.7
PPT *eS* S 13 02 36.6 -7.4
comp=Z,4μm,24.2s
PPT *e*SS SS 13 07 18.4 -14
comp=Z,2μm,25.0s
PPT Papeete 74.17 150 *eP* **P 12 53 21.4 +0.3**
PPT Papeete 74.17 150 P **P 12 53 21.4 +0.3**
comp=Z,74nm,0.9s,mb5.4,baz=345,slow=7.9,SNR=7.3
PPT LR LR 13 22 12.4
comp=Z,612nm,19.8s,baz=143,slow=32
PAE Paea 74.26 150 *eP* **P 12 53 21.7 +0.1**
comp=Z,284nm,1.0s,mb6.0
PAE Paea 74.26 150 *eP* **P 12 53 21.7 +0.1**
PAE pmax pmax
comp=Z,284nm,1.0s,mb6.0
DMUB Kingscourt 74.30 4⇓*iP* **P 12 53 22.3 +0.8**
DMUB Kingscourt 74.30 4 *eP* pP 12 53 52.7 -0.3
HPK Haverah Park 74.39 1 *eP* **P 12 53 22.7 +0.7**
HPK AMb AMB 12 53 28.2
comp=Z,180nm,1.5s,mb5.6
HPK *eS* S 13 02 43.9 -1.8
TVO Taravao 74.47 150 *eP* **P 12 53 23.3 +0.5**
comp=Z,186nm,0.9s,mb5.8
TVO Taravao 74.47 150 *eP* **P 12 53 23.3 +0.5**
TVO pmax pmax
comp=Z,186nm,0.9s,mb5.8
SBUM Sibu 74.54 254⇑*P* **P 12 53 26.0 +2.5**
WAR Warsaw 74.63 347 *eP* **P 12 53 23.5 +0.1**
WAR *ep*P pP 12 53 56.4 +1.5
WAR *eS* S 13 02 47.6 -0.7
WAR LMZ 13 27 16.2
comp=Z,2μm,22.8s
AKASG Malin Array Be 74.72 341 P **P 12 53 23.6 -0.3**
AKASG pP pP 12 53 55.7 +0.2
AKASG S S 13 02 47.6 -1.8
AKASG P'P' 13 20 39.2
AKASG LR LR 13 30 41.5
AKASG Malin Array Be 74.72 341 P **P 12 53 23.6 -0.4**
AKASG *PP pP 12 53 55.7 +0.2
AKASG S S 13 02 47.6 -1.8
AKASG pmax pmax
comp=Z,59nm,0.4s
AKASG pmax pmax
comp=Z,21nm,0.5s
AKASG smax
comp=N,4.0nm,0.9s
AKASG pmax pmax
comp=Z,1.0nm,0.3s
AKASG MLR MLR
comp=Z,2μm,19.2s
AKASG Malin Array Be 74.72 341 P **P 12 53 23.6 -0.3**
comp=Z,59nm,0.4s,mb5.7,baz=20,slow=5.8,SNR=368
AKASG pP pP 12 53 55.7 +0.2
comp=Z,21nm,0.5s,baz=18,slow=5.6,SNR=3.4
AKASG S S 13 02 47.6 -1.8
comp=Z,4.4nm,0.9s,baz=16,slow=10,SNR=6.3
AKASG PKPPKP 13 20 39.2
comp=Z,0.5nm,0.3s,baz=212,slow=1.5,SNR=5.5
AKASG LR LR 13 30 41.5
comp=Z,2μm,19.2s,baz=10.0,slow=39
AKBB Malin Array Si 74.72 341⇓*eP* **P 12 53 23.6 -0.4**
LHO Holmfirth 74.80 1 *eP* **P 12 53 24.2 -0.2**
DCN Croghan 74.84 5⇓*iP* **P 12 53 25.2 +0.6**
DCN Croghan 74.84 5 *eP* pP 12 53 55.7 -0.4
KBL Kabul 74.88 307 *eP* **P 12 53 24.0 -1.2**

comp=Z,193nm,0.8s,mb5.9
KBL *e*pP pP 12 53 57.1 +0.3
DLF Lyons Farm 74.92 4⇓*i*P P 12 53 25.9 +0.8
DLF Lyons Farm 74.92 4 *e*P pP 12 53 56.3 -0.3
DSB Dublin 74.98 4 *e*P **P 12 53 26.0 +0.6**
comp=Z,43nm,0.6s,mb5.3
DSB *e*pP pP 12 53 58.0 +1.0
RAR Rarotonga 75.02 161 P **P 12 53 24.3 -1.6**
RAR pmax pmax
comp=Z,35nm,0.6s
RAR Rarotonga 75.02 161 P **P 12 53 24.3 -1.6**
comp=Z,35nm,0.6s,mb5.3,baz=283,slow=7.9,SNR=7.4
KBI1 Birley Grange 75.10 1 *e*P **P 12 53 25.2 -0.8**
RUE Ruedersdorf 75.24 351⇓*e*P P 12 53 27.1 +0.2
comp=Z,239nm,1.4s,mb5.7
RUE *e*pP pP 12 53 59.5 +1.0
RUE Ruedersdorf 75.24 351 *e*P **P 12 53 26.8 -0.1**
comp=Z,316nm,1.5s,mb5.8
RUE *e*pP pP 12 53 59.2 +0.7
ALBI Allahabad 75.28 292 *e*P **P 12 53 25.0 -2.6**
KWE Weaver Farm 75.33 1 *e*P **P 12 53 27.9 +0.5**
TEIG Tepich 75.34 76⇑*e*P P 12 53 27.9 -0.1
comp=Z,405nm,1.1s,mb6.1
SCX San Cristobal 75.37 82 *i*P **P 12 53 28.5 +0.3**
SBD1 Bryn Du 75.42 2⇓*e*P P 12 53 28.6 +0.7
SBD1 ⇓*e*P 12 53 28.6
CWF Charnwood Fore 75.62 1⇓*e*P P 12 53 29.2 +0.2
CWF AMb AMB 12 53 32.0
comp=Z,218nm,1.5s,mb5.7
HLM1 Long Mynd 75.81 2 *e*P **P 12 53 29.9 -0.3**
HLM1 ⇓*e*P 12 53 29.9
IBBN Ibbenburen 75.85 355 *e*P **P 12 53 30.7 +0.3**
comp=Z,681nm,1.5s,mb6.2
IBBN *e*pP pP 12 54 02.0 0.0
CCIG Comitan 76.02 81 *i*P **P 12 53 33.4 +1.5**
VAL Valentia 76.06 7 *e*P **P 12 53 32.1 +0.5**
CLZ Clausthal 76.15 353 *e*P **P 12 53 32.6 +0.5**
comp=Z,394nm,1.4s,mb6.0
WTSB Winterswijk 76.24 356⇓*i*P P 12 53 32.8 +0.2
comp=Z,172nm,1.3s,mb5.6
HTR Trewern Hill 76.25 2⇓*e*P P 12 53 33.1 +0.4
KAPI Kappang 76.29 243 P **P 12 53 32.0 -1.4**
comp=Z,3μm,1.3s,mb6.8,SNR=94
HAE Alders End 76.30 2⇓*e*P P 12 53 33.5 +0.6
MCH1 Michaelchurch 76.33 2 *e*P **P 12 53 33.3 +0.2**
MCH1 ⇓*e*P 12 53 33.3
MCH1 AMb AMB 12 53 38.6
comp=Z,221nm,1.2s,mb5.8
SSW Stow on the Wo 76.38 1⇓*e*P P 12 53 34.0 +0.6
KAKA Kakadu 76.42 228 *e*P **P 12 53 33.3 -0.7**
comp=Z,3μm,1.3s,mb6.8
KSM Kuching 76.46 255⇓*e*P P 12 53 34.5 +0.1
KSM *e*pP pP 12 54 04.3 -1.8
KSM Kuching 76.46 255 ⇑P **P 12 53 34.5 +0.1**
CLL Collm 76.47 352⇓*i*P P 12 53 33.6 -0.3
comp=Z,278nm,1.7s,mb5.7
CLL *i*pP pP 12 54 05.8 +0.2
CLL *e*S S 13 03 09.0 +0.3
CLL *i*SKS 13 03 29.0
CLL *e*sS sS 13 04 03.0 -0.3
CLL *e*P'P' 13 20 40.0
CLL Collm 76.47 352⇓*i*P P 12 53 33.6 -0.3
CLL *i**PP pP 12 54 05.8 +0.2
CLL *e*S S 13 03 09.0 +0.3
CLL *i* 13 03 29.0
CLL *e**SS sS 13 04 03.0 -0.3
CLL pmax pmax
comp=Z,278nm,1.7s,mb5.7
CLL pmax pmax
comp=Z,7.0nm,1.1s
CLL Collm 76.47 352 *e*P **P 12 53 33.5 -0.4**
comp=Z,284nm,1.7s,mb5.7
CLL *e*pP pP 12 54 05.6 0.0
CLL *e*PP PP 12 56 32.1 +5.5
CLL *e*pPP 12 56 49.8
CLL *e*pPPP 12 58 44.9
CLL *e*S S 13 03 06.2 -2.5
CLL *e*SKSac SKSac 13 03 36.3 +3.0
CLL *e*sS sS 13 04 00.6 -2.7
CLL *e*SS SS 13 08 06.2 +1.7
CLL *e*sSS 13 08 55.6
CLL *e*SSS 13 11 30.8
CLL *e*PKPPKPdf 13 20 43.3
CLL *e*SKPPKPdf 13 24 10.9
CLL Collm 76.47 352⇓*i*P P 12 53 33.6 -0.3
comp=Z,278nm,1.7s,mb5.7
CLL *i*pP pP 12 54 05.8 +0.2
comp=Z,778nm,2.0s
CLL *e*sPcP 12 54 28.0
CLL *e*PP PP 12 56 24.0 -2.6
CLL *e*pPP 12 56 54.0
CLL *e*x x 12 58 48.0
CLL *i*Sk 13 03 07.3
CLL *e*S S 13 03 09.0 +0.3
comp=N,1μm,20.0s
CLL *e*S S 13 03 09.0 +0.3
comp=E,2μm,21.5s
CLL *i*x x 13 03 23.5
CLL *i*SKSac SKSac 13 03 29.0 -4.3
CLL *i*ScS ScS 13 03 36.2 -1.5
CLL *e*sS sS 13 04 03.0 -0.3
CLL *e*SS SS 13 08 11.0 +6.5
CLL *e*sSS 13 09 03.0
CLL *e*SSS 13 11 36.0
CLL *e*x x 13 20 17.0
comp=Z,19nm,1.8s
CLL *e*PKPPKPdf 13 20 40.0
comp=Z,7.0nm,1.1s
CLL *e*SKPPKPdf 13 24 08.0
CLL LmV 13 29 00.0
comp=Z,2μm,21.0s
LVV L'vov 76.52 344 *i*P **P 12 53 33.9 -0.3**
LVV *i* pP 12 54 06.5 +0.6
LVV *e*S S 13 03 05.3 -4.0
LVV *i* 13 03 28.3
LVV *e* 13 04 07.3
KSP Ksiaz 76.60 349 *i*P **P 12 53 34.8 +0.1**
comp=Z,700nm,2.3s,mb6.0
KSP *e*pP pP 12 54 06.5 +0.2
KSP *e*S S 13 03 08.8 -1.4
KSP *e*sS sS 13 04 05.5 +0.8
KSP LMZ 13 28 07.1
comp=Z,3μm,24.7s
KSP Ksiaz 76.60 349⇓*e*P P 12 53 34.4 -0.3
KSP *e*pP pP 12 54 05.1 -1.2
KSP *e* 12 56 48.8
KSP *e*S S 13 03 08.3 -1.8
KSP *e* 13 03 25.7
KSP *e*SS sS 13 04 04.8 +0.1
KSP *e*SS SS 13 07 49.0 -17
KSP Ksiaz 76.60 349⇓*e*P P 12 53 34.4 -0.3
KSP *e**PP pP 12 54 05.1 -1.2
KSP *e*S S 13 03 08.3 -1.8
KSP *e* 13 03 25.7
KSP *e**SS sS 13 04 04.8 +0.1
HGH Gray Hill 76.70 2⇓*e*P P 12 53 35.4 +0.2
OJC Ojcow 76.77 347 *i*P **P 12 53 35.6 0.0**
OJC *e* pP 12 54 07.8 +0.5
OJC *e* 13 03 09.5
OJC *e*S S 13 03 25.0 +13
OJC L 13 29 02.0
comp=Z,1.6nm,22.9s
BWNR Bhubaneshwar 76.81 286 *ex* x 12 53 19.0
BRG Berggiesshubel 76.81 351⇓*i*P P 12 53 35.8 -0.1
comp=Z,115nm,1.5s,mb5.4
BRG *e* 12 53 45.5
BRG *i*pP pP 12 54 08.2 +0.6
BRG *e* 12 54 29.9
BRG S S 13 03 12.0 -0.5
BRG *e*S S 13 03 08.8 -1.4
BRG *e*sS sS 13 04 05.5 +0.8
BRG LMZ 13 28 07.1
comp=Z,3μm,24.7s
BRG Berggiesshubel 76.81 351⇓*i*P P 12 53 35.8 -0.1
BRG *e* 12 53 45.5
BRG *i**PP pP 12 54 08.2 +0.6
BRG S S 13 03 12.0 -0.5
BRG *e*S S 13 03 08.8 -1.4
BRG *e*sS sS 13 04 05.5 +0.8
BRG LMZ 13 28 07.1
comp=Z,3μm,24.7s
BRG Berggiesshubel 76.81 351⇓*i*P P 12 53 35.8 -0.1
comp=Z,115nm,1.5s,mb5.4
BRG *e* 12 53 45.5
BRG *i*pP pP 12 54 08.2 +0.6
BRG *e* 12 54 29.9
BRG S S 13 03 12.0 -0.5
BRG sS sS 13 04 07.0 -0.1
BRG SS SS 13 08 16.0 +6.3
BRG *e* 13 12 23.0
BRG PKKP PKKPbc 13 12 42.6 +0.8
BRG P'P' 13 20 47.0
BRG LR LR
comp=Z,1μm,19.6s
BRG Berggiesshubel 76.81 351⇓*i*P P 12 53 35.8 -0.1
BRG *e* 12 53 45.5
BRG *i**PP pP 12 54 08.2 +0.6
BRG S S 13 03 12.0 -0.5
BRG *e*S S 13 03 08.8 -1.4
BRG *e*sS sS 13 04 05.5 +0.8
BRG LMZ 13 28 07.1
comp=Z,3μm,24.7s
BRG Berggiesshubel 76.81 351⇓*i*P P 12 53 35.8 -0.1
comp=Z,115nm,1.5s,mb5.4

GRFO Grafenberg 78.23 353⇓ eP P 12 53 44.2 +0.5
GRFO e*PP pP 12 54 16.0 +0.5
GRFO pmax pmax
comp=Z,296nm,1.3s,mb5.9
ABH Alteburg 78.28 355 eP **P 12 53 44.1 +0.1**
ANN Anapa 78.32 334 eP **P 12 53 42.3 -2.0**
ANN Anapa 78.32 334 eP **P 12 53 42.1 -2.2**
ANN e*PP pP 12 54 14.2 -1.9
ANN eS S 13 03 26.9 -2.0
ANN e*SS sS 13 04 20.2 -3.5
ANN eSS SS 13 08 35.9 +3.3
ANN pmax pmax
comp=Z,132nm,1.6s,mb5.4
ANN MLR MLR
comp=Z,2µm,19.0s
KIS Kishinev 78.33 340κ i P **P 12 53 43.0 -1.3**
KIS i *PP pP 12 54 14.0 -2.1
KIS i S S 13 03 27.0 -1.9
KIS i 13 03 44.0
KIS i 13 03 51.0
KIS e*SS sS 13 04 12.0 -12
KIS i PS 13 04 25.0
KIS pmax pmax
comp=N,570nm,2.0s
KIS pmax pmax
comp=Z,900nm,2.0s,mb6.2
KIS pmax pmax
comp=Z,2µm,4.0s
KIS pmax pmax
comp=N,1µm,3.0s
KIS MLR MLR
comp=N,3µm,18.0s
KIS MLR MLR
comp=E,3µm,18.0s
KIS MLR MLR
comp=Z,4µm,18.0s
KIS MLR MLR
comp=Z,4µm,18.0s
KIS Kishinev 78.33 340 i P **P 12 53 43.0 -1.3**
comp=Z,900nm,2.0s,mb6.2
KIS i pP pP 12 54 14.0 -2.1
KIS Kishinev 78.33 340 ePP PP 12 56 35.0 -7.2
KIS eS S 13 03 27.0 -1.9
KIS i SKS 13 03 44.0
KIS i ScS ScS 13 03 51.0 -1.9
KIS eSS sS 13 04 12.0 -12
AJM Ajmer 78.37 298 eP **P 12 53 45.0 +0.1**
KECS Kecovo 78.37 346 eP **P 12 53 44.9 +0.3**
comp=Z,82nm,1.2s,mb5.3
KECS e pP pP 12 54 17.6 +1.3
KECS eS S 13 03 26.8 -2.5
KECS Kecovo 78.37 346 eP **P 12 53 44.9 +0.3**
KECS e pP 12 54 17.6 +1.3
KECS eS S 13 03 26.8 -2.5
KECS pmax pmax
comp=Z,82nm,1.2s,mb5.3
IAS Iasi 78.39 341 P **P 12 53 45.7 +1.0**
IAS Iasi 78.39 341⇑ i P pP 12 54 17.2 +0.7
BURAR Bucovina Array 78.44 343 P **P 12 53 45.7 +0.8**
BURAR Bucovina Array 78.44 343⇓ i P **P 12 53 45.7 +0.8**
TOD Tromm 78.48 354 eP **P 12 53 45.1 -0.1**
RUP Ruppelstein 78.49 355 eP **P 12 53 45.1 -0.1**
BATI Kupang 78.55 237 LR LR 13 27 10.3
comp=Z,1µm,21.3s,baz=250,slow=34
ONI Oni 78.56 329 P **P 12 53 45.7 0.0**
ONI S S 13 03 32.2 +0.7
WLF Walferdange 78.57 356 eP **P 12 53 46.4 +0.8**
comp=Z,489nm,1.8s,mb6.0
WLF epP pP 12 54 18.4 +1.0
WLF Walferdange 78.57 356 P **P 12 53 46.4 +0.8**
WLF pmax pmax
comp=Z,490nm,1.8s,mb6.0
WLF Walferdange 78.57 356 P **P 12 53 46.3 +0.7**
comp=Z,227nm,2.6s,mb5.5
WLF AP pP 12 54 18.6 +1.2
WLF Walferdange 78.57 356 eP **P 12 53 46.2 +0.6**
comp=Z,219nm,1.5s,mb5.8
WLF epP pP 12 54 18.7 +1.3
KOLL Kolacno 78.57 348 eP **P 12 53 46.1 +0.5**
KOLL epP pP 12 54 18.7 +1.3
KHC Kasperske Hory 78.58 351⇓ i P **P 12 53 46.1 +0.4**
KHC Kasperske Hory 78.58 351⇓ i P **P 12 53 46.0 +0.3**
KHC e*PP pP 12 54 18.4 +0.9
KHC eS S 13 03 30.6 -0.9
KHC e 13 03 43.6
KHC MLR MLR
comp=Z,2µm,17.9s
KHC Kasperske Hory 78.58 351⇓ i P **P 12 53 46.0 +0.3**
KHC epP pP 12 54 18.4 +0.9
KHC eS S 13 03 30.6 -0.9
KHC ex x 13 03 43.6
KHC ePKKP PKKPbc 13 12 37.7 -0.3
KHC ePKPPKP 13 20 36.6
KHC ex x 13 24 01.5
KHC AMS AMS 13 31 50.0
comp=Z,2µm,17.9s
VYHS Vyhne 78.59 347 i P **P 12 53 46.2 +0.4**
comp=Z,113nm,1.4s,mb5.5
VYHS e pP 12 54 17.9 +0.3
VYHS eS S 13 03 31.0 -0.7
VYHS eSS SS 13 08 35.7 -0.8
VYHS Vyhne 78.59 347 i P **P 12 53 46.2 +0.4**
VYHS e pP 12 54 17.9 +0.3
VYHS eS S 13 03 31.0 -0.7
VYHS eSS SS 13 08 35.7 -0.8
VYHS pmax pmax
comp=Z,113nm,1.4s,mb5.5
WET Wettzell 78.63 351 eP **P 12 53 46.2 +0.2**
WET pmax pmax
comp=Z,186nm,1.6s,mb5.7
WET Wettzell 78.63 351 eP **P 12 53 46.2 +0.2**
comp=Z,186nm,1.6s,mb5.7
BBSR BB Station 78.72 51 eP **P 12 53 46.1 -0.7**
comp=Z,132nm,0.8s,mb5.8
MGV Manicaragua 78.77 69 eP **P 12 53 48.1 +1.0**
SOC Sochi 78.79 332 i P **P 12 53 47.0 0.0**
SOC Sochi 78.79 332 d i P **P 12 53 46.7 -0.3**
SOC e*PP pP 12 54 16.9 -1.9
SOC eS S 13 03 26.4 -7.6
SOC pmax pmax
comp=Z,113nm,1.3s,mb5.5
SOC pmax pmax
comp=Z,775nm,2.7s,mb6.1
SOC MLR MLR
comp=Z,3µm,18.0s
KTD Kalmit 78.81 355 eP **P 12 53 47.1 +0.1**
GEC2 GERESS Array S 78.85 351 eP **P 12 53 47.2 +0.1**
GEC2 pmax pmax
comp=Z,206nm,1.6s,mb5.7
GEC2 GERESS Array S 78.85 351 eP **P 12 53 47.2 +0.1**
comp=Z,206nm,1.6s,mb5.7
GERES GERESS Array B 78.85 351 P **P 12 53 47.3 +0.1**
GERES *PP pP 12 54 19.3 +0.3
GERES 13 03 47.8
GERES pmax pmax
comp=Z,13nm,0.6s
GERES pmax pmax
comp=Z,9.0nm,0.7s
GERES pmax pmax
comp=N,7.0nm,1.3s
GERES pmax pmax
comp=Z,2.0nm,1.0s
GERES pmax pmax
comp=Z,4.0nm,1.1s
GERES GERESS Array B 78.85 351 P **P 12 53 47.3 +0.1**
comp=Z,13nm,0.6s,mb5.0,baz=25,slow=4.4,SNR=90
GERES pP pP 12 54 19.3 +0.3
comp=Z,8.8nm,0.7s,baz=25,slow=4.7,SNR=4.3
GERES ScS ScS 13 03 47.8 -9.3
comp=Z,7.3nm,1.2s,baz=10,slow=9.5,SNR=7.0
GERES PKKPbc PKKPbc 13 12 37.2 -0.3
comp=Z,2.0nm,1.0s,baz=207,slow=2.7,SNR=7.0
GERES PKPPKP 13 20 35.4
comp=Z,3.5nm,1.1s,baz=192,slow=2.6,SNR=8.0
GERES LR LR 13 33 59.2
comp=Z,2µm,19.6s,baz=6.7,slow=40
MODS Modra-Piesok 78.91 348 i P **P 12 53 48.5 +1.0**
MODS epP pP 12 54 20.7 +1.3
MODS ePP PP 12 56 49.6 +2.6
MODS eS S 13 03 34.3 -0.8
MODS eSS SS 13 08 42.2 +0.9
MTA Mtatsminda 78.92 327 P **P 12 53 47.9 +0.3**
MTA S S 13 03 36.9 +1.5
DGRG David-gareji 78.94 327 P **P 12 53 48.2 +0.4**
DGRG S S 13 03 34.0 -1.6
PSZ Piszkesteto 79.01 347 eP **P 12 53 48.9 +0.9**
comp=Z,285nm,1.3s,mb5.9
PSZ epP pP 12 54 20.6 +0.7
PSZ Piszkesteto 79.01 347 P **P 12 53 48.5 +0.4**
PSZ pmax pmax
comp=Z,290nm,1.3s,mb6.0
PSZ Piszkesteto 79.01 347⇓ i P **P 12 53 48.9 +0.8**
PSZ Piszkesteto 79.01 347⇓ eP **P 12 53 49.1 +1.0**
PSZ epP pP 12 54 21.6 +1.7
SIM Simferopol' 79.05 336 d i P **P 12 53 49.0 +0.7**
SIM i *PP pP 12 54 22.0 +1.8
SIM i S S 13 03 36.9 +0.3
SIM *SS sS 13 04 36.0 +4.5
SIM pmax pmax
comp=Z,43nm,0.9s,mb5.3
SIM MLR MLR
comp=Z,3µm,17.2s
ZST Bratislava 79.11 348 eP **P 12 53 49.6 +1.0**
comp=Z,228nm,1.3s,mb5.8
ZST e pP 12 54 21.7 +1.3
ZST eS S 13 03 36.6 -0.6
ZST LR LR
comp=Z,2µm,17.2s
ZST Bratislava 79.11 348 eP **P 12 53 49.5 +0.9**
ZST epP pP 12 54 21.7 +1.3
ZST eS S 13 03 36.6 -0.6
LANF Langenberg 79.17 355 eP **P 12 53 48.8 -0.1**
PBA Port Blair 79.26 275 ex x 12 54 02.1
STU Stuttgart 79.29 354 eP **P 12 53 49.5 -0.1**
comp=Z,172nm,1.3s,mb5.7
KULM Kulim 79.32 265 eP **P 12 53 49.7 -0.5**
KULM epP pP 12 54 21.7 -0.4
KULM Kulim 79.32 265⇓ P **P 12 53 52.2 +1.9**
BHPL Bhopal 79.38 294 eP **P 12 53 49.2 -1.3**
BHPL AMb AMB 12 53 52.5
comp=Z,1µm,1.7s,mb6.4
CONA Conrad Observa 79.52 349 i P **P 12 53 51.6 +0.7**
comp=Z,479nm,1.7s,mb6.0,SNR=57
BUD Budapest 79.56 347⇓ eP **P 12 53 52.1 +1.1**
BUD epP pP 12 54 23.6 +0.7
STR Strasbourg 79.56 355 eP **P 12 53 52.1 +1.0**
FLN La Foliniere 79.60 0⇓ i P **P 12 53 51.2 -0.1**
comp=Z,126nm,0.8s,mb5.5
FLN epP pP 12 54 22.3 -0.8
FLN eMLR MLR
comp=Z,2µm,20.2s
FLN La Foliniere 79.60 0⇓ i P **P 12 53 51.2 -0.1**
comp=Z,63nm,0.8s,mb5.5
FLN epP pP 12 54 22.3 -0.8
FLN LR LR
comp=Z,2µm,20.3s
FLN La Foliniere 79.60 0⇓ i P **P 12 53 51.2 -0.1**
FLN e*PP pP 12 54 22.3 -0.8
FLN pmax pmax
comp=Z,63nm,0.8s,mb5.5
FLN MLR MLR
comp=Z,2µm,20.3s
TBI Tubuai 79.65 152 eP **P 12 53 52.0 +0.3**
comp=Z,696nm,1.4s,mb6.3
TBI eS S 13 03 40.5 -2.7
comp=Z,4µm,27.8s
TBI eSS SS 13 08 45.3 -10
comp=Z,2µm,29.2s
DRGR 79.67 344 P **P 12 53 52.1 +0.4**
DRGR 79.67 344⇑ i P **P 12 53 52.0 +0.3**
SOP Sopron 79.68 349⇓ eP **P 12 53 52.6 +0.9**
SOP epP pP 12 54 25.1 +1.5
IPM Ipoh 79.72 264⇓ P **P 12 53 53.3 +0.8**
FUR Furstenfeldbru 79.74 352 eP **P 12 53 52.1 +0.1**
FUR pmax pmax
comp=Z,349nm,1.5s,mb6.0
FUR Furstenfeldbru 79.74 352 eP **P 12 53 52.1 +0.1**
comp=Z,349nm,1.5s,mb6.0
CDF Champ du Feu 79.76 355⇓ i P **P 12 53 52.2 +0.1**
comp=Z,340nm,1.5s,mb5.7
CDF epP pP 12 54 23.6 -0.4
CDF Champ du Feu 79.76 355⇓ i P **P 12 53 52.2 +0.1**
comp=Z,170nm,1.5s,mb5.7
CDF epP pP 12 54 23.6 -0.4
CDF Champ du Feu 79.76 355⇓ i P **P 12 53 52.2 +0.1**
CDF e*PP pP 12 54 23.6 -0.4
CDF pmax pmax
comp=Z,170nm,1.5s,mb5.7
LDF La Druitiere 79.77 0⇓ i P **P 12 53 52.0 -0.2**
comp=Z,97nm,0.4s,mb5.7
MEZF Maizieres J'vi 79.77 357⇓ i P **P 12 53 52.6 +0.4**
comp=Z,393nm,1.3s,mb5.8
MEZF Maizieres J'vi 79.77 357⇓ i P **P 12 53 52.6 +0.4**
comp=Z,393nm,1.3s,mb6.1
MOA Molln 79.77 350 i P **P 12 53 52.4 +0.2**
comp=Z,512nm,3.1s,SNR=37
BFO Black Forest 79.78 354 P **P 12 53 52.6 +0.3**
comp=Z,343nm,1.3s,mb6.0,SNR=35
BFO Black Forest 79.78 354 eP **P 12 53 52.2 -0.1**
BFO pmax pmax
comp=Z,191nm,1.5s,mb5.7
BFO Black Forest 79.78 354 eP **P 12 53 52.2 -0.1**
comp=Z,191nm,1.5s,mb5.7
VRI Vrincioaia 79.83 341 P **P 12 53 53.0 +0.5**
VRI Vrincioaia 79.83 341⇓ i P **P 12 53 52.8 +0.2**
PLOR Plostina 79.86 341 i P **P 12 53 53.3 +0.6**
ECH Echery 79.96 355 eP **P 12 53 53.4 +0.2**
GRR Gorron 79.97 1⇓ i P **P 12 53 53.4 +0.1**
comp=Z,153nm,0.7s,mb5.7
GRR Gorron 79.97 1⇓ i P **P 12 53 53.4 +0.1**
comp=Z,77nm,0.6s,mb5.7
GRR Gorron 79.97 1⇓ i P **P 12 53 53.4 +0.1**
GRR pmax pmax
comp=Z,77nm,0.6s,mb5.7
SPAK Spaichingen-Ko 79.98 354 eP **P 12 53 53.6 +0.3**
ROSF Rostrenen 79.99 2⇓ i P **P 12 53 53.6 +0.2**
comp=Z,107nm,0.8s,mb5.4
ROSF epP pP 12 54 24.9 -0.4
ROSF Rostrenen 79.99 2⇓ i P **P 12 53 53.6 +0.2**
comp=Z,54nm,0.8s,mb5.4
ROSF epP pP 12 54 24.9 -0.4
ROSF Rostrenen 79.99 2⇓ i P **P 12 53 53.6 +0.2**
ROSF e*PP pP 12 54 24.9 -0.4
ROSF pmax pmax
comp=Z,54nm,0.8s,mb5.4
THEF They Montfort 80.01 356 eP **P 12 53 53.6 +0.1**
SGMF Saint Gilles 80.09 2⇓ i P **P 12 53 54.1 +0.2**
comp=Z,248nm,0.8s,mb5.8
SGMF Saint Gilles 80.09 2⇓ i P **P 12 53 54.1 +0.2**
comp=Z,124nm,0.8s,mb5.8
SGMF Saint Gilles 80.09 2⇓ i P **P 12 53 54.1 +0.2**
SGMF pmax pmax
comp=Z,124nm,0.8s,mb5.8
NGP Nagpur 80.09 292⇓ i P **P 12 53 54.0 -0.4**
NGP ex x 13 03 45.9
MYKOM Kota Tinggi 80.10 260⇓ P **P 12 53 56.0 +1.5**
BCA Borcka 80.16 330 eP **P 12 53 53.5 -0.9**
HAU Haudompre 80.21 356⇓ i P **P 12 53 54.6 0.0**
comp=Z,37nm,0.6s,mb5.1
HAU eMLR MLR
comp=Z,2µm,21.2s
HAU Haudompre 80.21 356⇓ i P **P 12 53 54.6 0.0**
comp=Z,18nm,0.6s,mb5.1
HAU LR LR
comp=Z,2µm,21.3s
HAU Haudompre 80.21 356⇓ i P **P 12 53 54.6 0.0**
HAU pmax pmax
comp=Z,18nm,0.6s,mb5.1
HAU MLR MLR
comp=Z,2µm,21.3s
ARSA Arzberg 80.23 349 i P **P 12 53 55.4 +0.7**
comp=Z,460nm,1.9s,mb6.0,SNR=104
KGM Kluang 80.25 261⇑ P **P 12 53 56.4 +1.2**
FELD Feldberg im Sc 80.26 355 eP **P 12 53 54.7 -0.1**
VIS Vishakhapatnam 80.27 286 eP **P 12 53 54.6 -0.7**
VIS AMb AMB 12 53 58.0
comp=Z,2µm,1.2s,mb6.7
VIS i S S 13 03 51.3 +1.1
ARTV Artvin 80.30 329 i P **P 12 53 55.2 0.0**
FRIM Kepong 80.33 263⇑ P **P 12 53 55.8 +0.1**
MOF Molkenrain 80.33 355 eP **P 12 53 55.1 -0.1**
MLR Muntele Rosu 80.34 342 P **P 12 53 56.1 +0.8**
MLR Muntele Rosu 80.34 342⇓ i P **P 12 53 56.0 +0.7**
HINF Hinteralfeld 80.38 355⇓ i P **P 12 53 55.3 -0.1**
comp=Z,263nm,1.6s,mb5.5
HINF epP pP 12 54 26.7 -0.7
HINF Hinteralfeld 80.38 355⇓ i P **P 12 53 55.3 -0.1**
comp=Z,132nm,1.6s,mb5.5
HINF epP pP 12 54 26.7 -0.7
HINF Hinteralfeld 80.38 355⇓ i P **P 12 53 55.3 -0.1**
HINF e*PP pP 12 54 26.7 -0.7
HINF pmax pmax
comp=Z,132nm,1.6s,mb5.5
QUIF Quistinic 80.41 2⇓ i P **P 12 53 55.7 +0.1**
comp=Z,49nm,0.6s,mb5.2
QUIF Quistinic 80.41 2⇓ i P **P 12 53 55.7 +0.1**
comp=Z,24nm,0.6s,mb5.2
QUIF Quistinic 80.41 2⇓ i P **P 12 53 55.7 +0.1**
QUIF pmax pmax
comp=Z,24nm,0.6s,mb5.2
KARS Kars 80.45 328 eP **P 12 53 56.6 +0.6**
RETA Reutte 80.45 353 i P **P 12 53 56.1 +0.3**
comp=Z,514nm,3.0s,SNR=23
WATA Walderalm 80.54 352⇓ i P **P 12 53 56.9 +0.6**
comp=Z,242nm,1.3s,mb5.9,SNR=46
WATA Walderalm 80.54 352⇓ i P **P 12 53 56.9 +0.6**
WATA pmax pmax
comp=Z,242nm,1.3s,mb5.9
VOIR 80.57 342 P **P 12 53 57.3 +0.8**
VOIR 80.57 342⇓ i P **P 12 53 57.5 +1.0**
MOTA Moosalm 80.57 352⇓ i P **P 12 53 56.6 +0.1**
comp=Z,255nm,1.4s,mb5.9,SNR=45
MOTA Moosalm 80.57 352⇓ i P **P 12 53 56.6 +0.1**
MOTA pmax pmax
comp=Z,255nm,1.4s,mb5.9
WTTA Wattenberg 80.60 352 i P **P 12 53 57.4 +0.7**
comp=Z,571nm,1.6s,mb6.2,SNR=98
WTTA Wattenberg 80.60 352 i P **P 12 53 57.4 +0.7**
WTTA pmax pmax
comp=Z,571nm,1.6s,mb6.2
KBA Koelnbreinsper 80.63 351 i P **P 12 53 57.9 +1.1**
comp=Z,683nm,1.4s,mb6.3,SNR=213
KBA Koelnbreinsper 80.63 351 i P **P 12 53 57.9 +1.1**
KBA pmax pmax
comp=Z,683nm,1.4s,mb6.3
SQTA Sankt Quirin 80.68 352 i P **P 12 53 57.8 +0.7**
comp=Z,246nm,1.4s,mb5.9,SNR=32
SQTA Sankt Quirin 80.68 352 i P **P 12 53 57.8 +0.7**
SQTA pmax pmax
comp=Z,246nm,1.4s,mb5.8
BBS Basel-Blauen 80.69 355 eP **P 12 53 57.2 +0.1**
TGUH Tegucigalpa,Un 80.70 79⇑ eP **P 12 53 58.9 +1.2**
comp=Z,2µm,1.3s,mb6.9
HARR Harsova 80.72 340 P **P 12 53 57.6 +0.3**
HARR Harsova 80.72 340⇓ i P **P 12 53 57.2 -0.1**
DAVA Damuels 80.72 353 i P **P 12 53 57.6 +0.3**
comp=Z,235nm,1.7s,mb5.8,SNR=20
CCCC Cccc 80.75 68 eP **P 12 53 53.1 -4.8**
TIRR Tirgusor 80.83 340 P **P 12 53 58.1 +0.2**
TIRR Tirgusor 80.83 340⇑ i P **P 12 53 57.5 -0.4**
LOMF Lomont 80.84 355 eP **P 12 53 58.3 +0.4**
PKSM Moragy 80.86 347 P **P 12 53 58.1 +0.1**
PKSM Moragy 80.86 347⇑ i P **P 12 53 57.6 -0.4**
PKSM Moragy 80.86 347⇑ i P **P 12 53 57.5 -0.5**
PERS Pernice 80.88 350 eP **P 12 53 58.7 +0.5**
PERS epP pP 12 54 30.2 0.0
PERS e 12 55 08.2
PERS eS S 13 03 54.0 -1.8
PERS e 13 04 40.2
PERS e 13 04 51.7
PERS e 13 12 34.1
PERS e 13 20 29.7
PERS e 13 21 06.0
FETA Feichten 80.92 353 i P **P 12 53 58.9 +0.6**
comp=Z,266nm,1.5s,mb5.8,SNR=76
KOGS Kog 80.93 349 i P **P 12 53 58.6 +0.2**
KOGS epP pP 12 54 30.1 -0.4
KOGS eS S 13 03 55.0 -1.4
KOGS e 13 04 38.1
RAO Raoul Island 80.93 178 P **P 12 53 58.2 -0.2**
RAO pmax pmax
comp=Z,172nm,0.3s,mb6.4
RAO Raoul Island 80.93 178 P **P 12 53 58.2 -0.2**
comp=Z,172nm,0.3s,mb6.3,baz=66,slow=21,SNR=4.9
GROS Grobnik 81.01 349 i P **P 12 53 59.1 +0.3**
GZR Gura Zlata 81.02 344 P **P 12 53 59.3 +0.5**
GZR Gura Zlata 81.02 344⇓ i P **P 12 53 59.4 +0.5**
ABTA Abfaltersbach 81.04 351 i P **P 12 53 59.2 +0.2**
comp=Z,366nm,1.5s,mb6.0,SNR=76
LOR Lormes 81.04 357⇓ i P **P 12 53 59.1 +0.1**
comp=Z,64nm,0.6s,mb5.3
LOR epP pP 12 54 30.5 -0.5
LOR eMLR MLR
comp=Z,2µm,20.2s
LOR Lormes 81.04 357⇓ i P **P 12 53 59.1 +0.1**
comp=Z,32nm,0.6s,mb5.3
LOR epP pP 12 54 30.5 -0.5
LOR LR LR
comp=Z,2µm,20.3s
LOR Lormes 81.04 357⇓ i P **P 12 53 59.1 +0.1**
LOR e*PP pP 12 54 30.5 -0.5
LOR pmax pmax
comp=Z,32nm,0.6s,mb5.3
LOR MLR MLR
comp=Z,2µm,20.3s
MYKA Terra Mystica 81.04 351⇓ i P **P 12 53 58.8 -0.2**
comp=Z,1µm,1.8s,mb6.5
OBKA Obir 81.07 350 i P **P 12 53 59.6 +0.4**
comp=Z,487nm,1.6s,mb6.1,SNR=59
HYF Humbligny 81.07 358 eP **P 12 53 59.6 +0.4**
ZAVS Zavodnje 81.09 350 i P **P 12 53 59.4 +0.1**
ZAVS epP pP 12 54 30.9 -0.3
EIDS Eidsvold 81.13 206⇓ eP **P 12 53 59.9 +0.3**
comp=Z,317nm,1.4s,mb6.0
KTUT Trabzon 81.15 331 eP **P 12 53 59.2 -0.5**
DYDN Diyadin 81.22 327 i P **P 12 54 01.0 +0.9**
SSF Saint Saulge 81.26 358⇓ i P **P 12 54 00.2 +0.1**
comp=Z,59nm,0.6s,mb5.3
SSF Saint Saulge 81.26 358⇓ i P **P 12 54 00.2 +0.1**
comp=Z,30nm,0.6s,mb5.3
SSF Saint Saulge 81.26 358⇓ i P **P 12 54 00.2 +0.1**
SSF pmax pmax
comp=Z,30nm,0.6s,mb5.3
PTCC Patocco-Chiusa 81.30 351 P **P 12 54 00.1 -0.2**
comp=Z,193nm,1.2s,mb5.8
DOBS Dobrina 81.32 349 i P **P 12 54 00.3 -0.1**
HOMI Horasan 81.35 329 i P **P 12 54 01.2 +0.5**
AGRB Hanur-Agry 81.42 328 eP **P 12 54 01.8 +0.7**
APPI Appiano 81.42 352 P **P 12 54 00.7 -0.3**
GMNA Gemona 81.44 351 P **P 12 54 00.7 -0.4**
comp=Z,668nm,1.0s,mb6.4
GOLS Golise 81.44 349 i P **P 12 54 01.2 +0.1**
GOLS epP pP 12 54 32.7 -0.4
ROBS Robic 81.44 351 i P **P 12 54 00.5 -0.6**
VNDS Vrh nad Dolski 81.45 350 i P **P 12 54 00.9 -0.3**
PDKS Podkum 81.46 350 eP **P 12 54 00.9 -0.3**
PDKS epP pP 12 54 31.2 -2.0
ESPY Espiye-Giresun 81.53 331 eP **P 12 53 59.7 -1.9**
LJU Ljubljana 81.53 350 eP **P 12 54 01.4 -0.2**
LJU e*PP pP 12 54 33.1 -0.5
LJU eS S 13 04 00.2 -2.3
LJU e 13 04 49.0
LJU Ljubljana 81.53 350 eP **P 12 54 01.4 -0.2**
LJU epP pP 12 54 33.1 -0.5
LJU eS S 13 04 00.2 -2.3
LJU e 13 04 49.0
LJU e 13 04 57.8
LJU e 13 12 32.4
LJU e 13 16 05.8
LJU e 13 23 48.5
LJU e 13 24 47.5
AVF Avril sur Loir 81.53 358⇓ i P **P 12 54 01.7 +0.1**
comp=Z,378nm,1.4s,mb5.7
AVF epP pP 12 54 33.0 -0.6
AVF Avril sur Loir 81.53 358⇓ i P **P 12 54 01.7 +0.1**
comp=Z,189nm,1.4s,mb5.7
AVF epP pP 12 54 33.0 -0.6
AVF Avril sur Loir 81.53 358⇓ i P **P 12 54 01.7 +0.1**
AVF e*PP pP 12 54 33.0 -0.6
AVF pmax pmax
comp=Z,189nm,1.4s,mb5.7
LEGS Legarje 81.54 349 eP **P 12 54 01.4 -0.2**
LEGS epP pP 12 54 32.5 -1.2
TUE Stuetta 81.57 354 P **P 12 54 02.7 +0.9**
VOY Vojsko 81.61 350 eP **P 12 54 00.8 -1.2**
VOY e pP 12 54 34.9 +0.9
VOY e 12 54 58.3
VOY e 13 04 03.2
VOY e 13 04 07.2
VOY e 13 04 12.8
VOY e 13 04 21.7
AKL Akola 81.61 293 i P **P 12 54 02.4 0.0**

AKL ex x 12 54 05.3
comp=Z,1µm,1.5s
AKL i S S 13 04 03.9 -0.3
CABF La Chapelle 81.62 356⇓iP P 12 54 02.5 +0.5
comp=Z,362nm,1.3s,mb5.7
CABF La Chapelle 81.62 356⇓iP P 12 54 02.5 +0.5
comp=Z,181nm,1.3s,mb5.7
CABF La Chapelle 81.62 356⇓iP P 12 54 02.5 +0.5
CABF pmax pmax
comp=Z,181nm,1.3s,mb5.7
PSN Preselentsi 81.62 340 P **P 12 54 02.5 +0.4**
CRES Cresnjev 81.64 349 iP **P 12 54 02.0 -0.2**
ERZM Erzurum 81.64 329⇓iP P 12 54 03.5 +1.2
EZM Erzurum 81.65 329 eP **P 12 54 03.5 +1.2**
SMF Signal de Mont 81.67 357⇓iP P 12 54 02.5 +0.2
comp=Z,428nm,1.2s,mb5.8
SMF Signal de Mont 81.67 357⇓iP P 12 54 02.5 +0.2
comp=Z,214nm,1.2s,mb5.8
SMF Signal de Mont 81.67 357⇓iP P 12 54 02.5 +0.2
SMF pmax pmax
comp=Z,214nm,1.2s,mb5.8
GUMT Gumushane 81.72 331 eP **P 12 54 02.9 +0.1**
JAVS Javornik 81.73 350 iP **P 12 54 02.1 -0.5**
VISS Visnje 81.73 350 iP **P 12 54 02.4 -0.3**
VISS epP pP 12 54 33.5 -1.1
MFF Saint Martin d 81.76 0⇓iP P 12 54 03.0 +0.2
comp=Z,60nm,0.6s,mb5.3
MFF epP pP 12 54 34.5 -0.3
MFF Saint Martin d 81.76 0⇓iP P 12 54 03.0 +0.2
comp=Z,30nm,0.6s,mb5.3
MFF epP pP 12 54 34.5 -0.3
MFF Saint Martin d 81.76 0⇓iP P 12 54 03.0 +0.2
MFF e*PP pP 12 54 34.5 -0.3
MFF pmax pmax
comp=Z,30nm,0.6s,mb5.3
BGF Bois d'Agland 81.78 358⇓iP P 12 54 03.0 +0.1
comp=Z,62nm,0.7s,mb5.3
BGF Bois d'Agland 81.78 358⇓iP P 12 54 03.0 +0.1
comp=Z,31nm,0.7s,mb5.2
BGF Bois d'Agland 81.78 358⇓iP P 12 54 03.0 +0.1
BGF pmax pmax
comp=Z,31nm,0.7s,mb5.2
CTI Castel Tesino 81.81 352 P **P 12 54 02.8 -0.3**
KOPT Kop Dagi 81.81 330 iP **P 12 54 04.3 +1.1**
DIKM Dikmen 81.83 334 eP **P 12 54 03.6 +0.3**
CRAR CRAIOVA 81.87 343⇑iP P 12 54 03.1 -0.3
CRAR CRAIOVA 81.87 343⇑iP P 12 54 03.0 -0.4
BZK Bozkurt 81.87 335 eP **P 12 54 01.1 -2.3**
SISC Sisak 81.88 348 P **P 12 54 03.5 0.0**
MABI Malga Bissina 81.90 353 P **P 12 54 03.6 +0.1**
WRAB Tennant Creek 81.97 223 P **P 12 54 03.0 -1.1**
comp=Z,5µm,1.3s,mb7.2
WRAB Tennant Creek 81.97 223⇓eP P 12 54 03.3 -0.7
comp=Z,2µm,1.3s,mb6.7
WRAB epP pP 12 54 39.5 +3.4
WRAB ePP PP 12 57 06.4 -7.3
WRAB Tennant Creek 81.97 223⇓eP P 12 54 03.3 -0.8
WRAB e*PP pP 12 54 39.5 +3.4
WRAB pmax pmax
comp=Z,2µm,1.3s,mb6.7
WB2 Warramunga Arr 81.97 223⇓iP P 12 54 03.3 -0.8
WB2 e 12 57 06.8
WB2 eS S 13 03 47.7 -20
WRA Warramunga Arr 81.98 223 P **P 12 54 03.4 -0.7**
WRA PP PP 12 57 06.6 -7.3
WRA Warramunga Arr 81.98 223 P **P 12 54 03.4 -0.7**
WRA pmax pmax
comp=Z,400nm,0.9s
WRA pmax pmax
comp=Z,70nm,1.2s
WRA pmax pmax
comp=Z,2.0nm,0.8s
WRA pmax pmax
comp=Z,1.0nm,0.7s
WRA pmax pmax
comp=N,1.0nm,0.6s
WRA pmax pmax
comp=Z,2.0nm,1.1s
WRA MLR MLR
comp=Z,862nm,20.2s
WRA Warramunga Arr 81.98 223 P **P 12 54 03.4 -0.7**
comp=Z,400nm,0.9s,mb6.3,baz=36,slow=5.8,SNR=448
WRA PP PP 12 57 06.6 -7.3
comp=Z,70nm,1.2s,baz=28,slow=9.2,SNR=7.9
WRA PKiKP PKiKP 12 59 24.8 -1.2
comp=Z,2.3nm,0.8s,baz=353,slow=1.4,SNR=8.1
WRA PKKP PKKPbc 13 12 12.8 -19
comp=Z,0.7nm,0.7s,baz=181,slow=2.1,SNR=4.9
WRA SKKPbc 13 15 56.3
comp=Z,0.8nm,0.6s,baz=230,slow=2.2,SNR=8.8
WRA PKPPKP 13 20 31.3
comp=Z,2.1nm,1.1s,baz=221,slow=1.7,SNR=6.3
WRA LR LR 13 30 51.2
comp=Z,862nm,20.2s,baz=5.0,slow=36
BOJS Bojanci 81.98 349 eP **P 12 54 03.4 -0.6**
BOJS epP pP 12 54 35.4 -0.6
KNDS Knezji Dol 82.06 350 eP **P 12 54 04.3 0.0**
KNDS eS S 13 04 06.9 -1.0
KNDS e 13 04 15.1
TCF Toulx Ste Croi 82.06 358⇓iP P 12 54 04.5 +0.1
comp=Z,69nm,0.7s,mb5.3
TCF epP pP 12 54 36.0 -0.4
TCF Toulx Ste Croi 82.06 358⇓iP P 12 54 04.5 +0.1
comp=Z,34nm,0.7s,mb5.3
TCF epP pP 12 54 36.0 -0.4
TCF Toulx Ste Croi 82.06 358⇓iP P 12 54 04.5 +0.1
TCF e*PP pP 12 54 36.0 -0.4
TCF pmax pmax
comp=Z,34nm,0.7s,mb5.3
SKDS Skadanscina 82.08 350 iP **P 12 54 04.0 -0.5**
SKDS epP pP 12 54 35.4 -1.2
BYBT Boyabat 82.13 334 eP **P 12 54 05.5 +0.7**
BOYT Boyabat 82.14 334⇑iP P 12 54 05.4 +0.6
KVT Kavak 82.15 333 eP **P 12 54 05.6 +0.7**
VANB Van 82.17 327 eP **P 12 54 05.8 +0.7**
ZIMR 82.22 342 P **P 12 54 06.1 +0.9**
PRD Provadia 82.25 340 P **P 12 54 05.8 +0.4**
EZC Erzincan 82.27 330 eP **P 12 54 06.5 +0.9**
AGO Saint Agoulin 82.28 358 eP **P 12 54 06.2 +0.7**
PSI Prapat 82.33 265 P **P 12 54 05.5 -0.7**
PSI pmax pmax
comp=Z,595nm,1.0s,mb6.4
PSI Prapat 82.33 265 P **P 12 54 05.5 -0.7**
comp=Z,595nm,1.0s,mb6.4,baz=10,slow=3.1,SNR=222
PLDF La Plantade 82.35 357 eP **P 12 54 06.7 +0.8**
BALT Daday 82.43 335⇓iP P 12 54 06.8 +0.4
SZH Strazhica 82.49 341 P **P 12 54 06.3 -0.3**
MATF Mathat 82.54 0 eP **P 12 54 07.3 +0.5**
BNGL BINGOL 82.58 329 iP **P 12 54 08.3 +1.1**
PYM Petit Puy Mans 82.58 358 eP **P 12 54 07.6 +0.5**
VERF Verneugheol 82.59 358 eP **P 12 54 07.2 0.0**
PVL Pavlikeni 82.65 342 P **P 12 54 07.9 +0.4**
LPL La Plagne 82.68 355⇓iP P 12 54 08.7 +1.1
comp=Z,29nm,0.6s,mb5.0
LPL La Plagne 82.68 355⇓iP P 12 54 08.7 +1.1
comp=Z,15nm,0.6s,mb5.0
LPL La Plagne 82.68 355⇓iP P 12 54 08.7 +1.1
LPL pmax pmax
comp=Z,15nm,0.6s,mb5.0
LPG La Plagne 82.70 355⇓iP P 12 54 09.0 +1.3
comp=Z,309nm,1.4s,mb5.6
LPG epP pP 12 54 40.5 +0.7
LPG La Plagne 82.70 355⇓iP P 12 54 09.0 +1.3
comp=Z,154nm,1.4s,mb5.6
LPG epP pP 12 54 40.5 +0.7
LPG La Plagne 82.70 355⇓iP P 12 54 09.0 +1.3
LPG e*PP pP 12 54 40.5 +0.7
LPG pmax pmax
comp=Z,154nm,1.4s,mb5.6
TOKT Tokat 82.71 333 eP **P 12 54 08.8 +1.0**
TOS Tosya 82.73 335 eP **P 12 54 08.8 +0.8**
MOAC Moa 82.77 66 eP **P 12 54 09.9 +1.5**
COLF Collangettes 82.80 357 eP **P 12 54 08.6 +0.4**
RCC Rio Carpintero 82.88 67 eP **P 12 54 06.4 -2.7**
SAFT Safranbolu 82.89 336 eP **P 12 54 08.9 +0.1**
CTKT Corum 82.92 334⇓iP P 12 54 09.4 +0.5
NVLJ Novalja 82.95 349 P **P 12 54 08.2 -0.9**
FRNF Fournols 82.96 358 eP **P 12 54 09.6 +0.6**
SVSK Karacayir 82.96 332 eP **P 12 54 09.6 +0.4**
HKR Hakkari 82.97 326 eP **P 12 54 09.5 +0.3**
HAKT HAKKARI 83.00 326 iP **P 12 54 09.6 +0.2**
RJF Les Rejaudoux 83.05 359⇓iP P 12 54 09.5 0.0
comp=Z,497nm,1.5s,mb5.8
RJF eMLR MLR
comp=Z,2µm,21.0s
RJF Les Rejaudoux 83.05 359⇓iP P 12 54 09.5 0.0
comp=Z,249nm,1.5s,mb5.8
RJF LR LR
comp=Z,2µm,21.0s
RJF Les Rejaudoux 83.05 359⇓iP P 12 54 09.5 0.0
RJF pmax pmax
comp=Z,249nm,1.5s,mb5.8
RJF MLR MLR
comp=Z,2µm,21.0s
LBL Lubilhac 83.09 358 eP **P 12 54 10.6 +0.9**
KEMA Kemaliye 83.11 331 iP **P 12 54 10.2 +0.3**
BNI Bardonecchia 83.14 355 eP **P 12 54 11.4 +1.4**
comp=Z,183nm,1.3s,mb5.8
BNI epP pP 12 54 43.2 +1.1
BNI Bardonecchia 83.14 355 eP **P 12 54 11.4 +1.4**
BNI e*PP pP 12 54 43.2 +1.1
BNI pmax pmax
comp=Z,183nm,1.3s,mb5.8
BTMT Batman 83.16 328 eP **P 12 54 11.5 +1.3**
PTK Pertek 83.19 330 eP **P 12 54 11.4 +1.1**
CVJ Coleyville 83.22 69⇓iP P 12 54 11.5 +0.6
CANT Cankiri 83.24 335 eP **P 12 54 11.4 +0.8**
BBJ Bamboo Saint A 83.25 69⇓eP P 12 54 10.2 -0.8
BOB Bobbio (Coli) 83.26 353 P **P 12 54 11.6 +1.0**
CUKT Cukurca 83.31 326 eP **P 12 54 11.1 0.0**
HYB Hyderabad 83.32 290 eP **P 12 54 11.0 -0.3**
comp=Z,365nm,1.0s,mb6.2
HYB eS S 13 04 18.0 -3.5
HYB Hyderabad 83.32 290 eP **P 12 54 11.0 -0.3**
HYB eS S 13 04 18.0 -3.5
HYB pmax pmax
comp=Z,365nm,1.0s,mb6.2
HYB Hyderabad 83.32 290 iP **P 12 54 11.0 -0.3**
comp=Z,365nm,1.0s,mb6.2
HYB ePcP PcP 12 54 15.5 0.0
HYB epP pP 12 54 41.5 -1.9
HYB eS S 13 04 20.0 -1.5
ORIF Oris-en-Rattie 83.32 356⇓iP P 12 54 11.8 +0.9
comp=Z,51nm,0.6s,mb5.2
ORIF eMLR MLR
comp=Z,2µm,21.0s
ORIF Oris-en-Rattie 83.32 356⇓iP P 12 54 11.8 +0.9
comp=Z,26nm,0.6s,mb5.2
ORIF Oris-en-Rattie 83.32 356⇓iP P 12 54 11.8 +0.9
ORIF pmax pmax
comp=Z,26nm,0.6s,mb5.2
CORM Corum 83.38 334 eP **P 12 54 12.2 +0.9**
ELDT Eldivan 83.40 335 iP **P 12 54 12.1 +0.7**
CAF Calviac 83.42 359⇓iP P 12 54 11.9 +0.5
comp=Z,537nm,1.5s,mb5.9
CAF epP pP 12 54 43.6 0.0
CAF Calviac 83.42 359⇓iP P 12 54 11.9 +0.5
comp=Z,268nm,1.5s,mb5.8
CAF epP pP 12 54 43.6 0.0
CAF Calviac 83.42 359⇓iP P 12 54 11.9 +0.5
CAF e*PP pP 12 54 43.6 0.0
CAF pmax pmax
comp=Z,269nm,1.5s,mb5.8
LFF La Frestale 83.42 359⇓iP P 12 54 11.6 +0.2
comp=Z,774nm,1.3s,mb6.1
LFF La Frestale 83.42 359⇓iP P 12 54 11.6 +0.2
comp=Z,387nm,1.3s,mb6.1
LFF La Frestale 83.42 359⇓iP P 12 54 11.6 +0.2
LFF pmax pmax
comp=Z,387nm,1.3s,mb6.1
VIVF Saint-Julien-l 83.43 357⇓iP P 12 54 11.9 +0.4
comp=Z,346nm,1.4s,mb5.7
VIVF epP pP 12 54 43.4 -0.2
VIVF Saint-Julien-l 83.43 357⇓iP P 12 54 11.9 +0.4
comp=Z,173nm,1.4s,mb5.7
VIVF epP pP 12 54 43.4 -0.2
VIVF Saint-Julien-l 83.43 357⇓iP P 12 54 11.9 +0.4
VIVF e*PP pP 12 54 43.4 -0.2
VIVF pmax pmax
comp=Z,173nm,1.4s,mb5.7
MBDF Montbardon 83.47 355⇓iP P 12 54 12.5 +0.8
comp=Z,89nm,0.6s,mb5.5
MBDF Montbardon 83.47 355⇓iP P 12 54 12.5 +0.8
comp=Z,44nm,0.6s,mb5.5
MBDF Montbardon 83.47 355⇓iP P 12 54 12.5 +0.8
MBDF pmax pmax
comp=Z,44nm,0.6s,mb5.5
SIRT Sirnak 83.48 327 eP **P 12 54 11.1 -0.8**
BHV Bhavnagar 83.51 297 eP **P 12 54 12.5 +0.3**
MASC Masc 83.56 65 eP **P 12 54 12.9 +0.3**
PLE Pljevlja 83.57 346⇓iP P 12 54 13.3 +1.1
BHJ Bhuj 83.65 300 eP **P 12 54 11.4 -1.6**
BHJ AMb AMB 12 54 17.3
comp=Z,280nm,1.4s,mb5.9
VTS Vitosha 83.66 343 P **P 12 54 12.7 +0.1**
VTS Vitosha 83.66 343⇑iP P 12 54 12.5 -0.2
ELZG Elazig 83.67 330⇓iP P 12 54 13.8 +1.0
LATR Latur 83.68 292 eP **P 12 54 13.4 +0.3**
OCF Saint Nazaire 83.68 356 eP **P 12 54 13.7 +0.9**
OG26 St.-Nazaire-De 83.68 356 eP **P 12 54 13.7 +0.9**
SVRC Sivrice-ELAZID 83.69 330 eP **P 12 54 13.9 +1.0**
FNVD Fontana Vidola 83.72 352 P **P 12 54 14.3 +1.3**
HENT Hendek 83.72 337 iP **P 12 54 12.6 -0.5**
DIM Dimitrovgrad 83.74 341 P **P 12 54 13.8 +0.7**
KLYT Kilyos 83.75 338 eP **P 12 54 12.0 -1.2**
STH Stony Hill 83.76 69⇓iP P 12 54 13.9 +0.3
UPM Unac-Piva 83.77 346⇓iP P 12 54 13.0 -0.2
QLNO Quiliano 83.77 354 P **P 12 54 12.7 -0.5**
VLC Villacollemand 83.79 353⇓eP P 12 54 13.3 0.0
comp=Z,179nm,1.0s,mb5.8
PLD Plovdiv 83.85 342 P **P 12 54 13.2 -0.5**
IVA Berane 83.94 345⇓iP P 12 54 14.4 +0.3
CDAG Cicekdag 83.96 334 iP **P 12 54 11.9 -2.4**
CMJ Castle Mountai 83.97 68⇑iP P 12 54 15.1 +0.5
CTT Catalca 83.99 339 eP **P 12 54 14.0 -0.4**
ELBA Catalca 83.99 339 iP **P 12 54 14.1 -0.3**
MYA Malataya 84.00 331 eP **P 12 54 14.8 +0.3**
MALT Malatya 84.02 331 eP **P 12 54 15.3 +0.7**
MALT Malatya 84.02 331⇓eP P 12 54 15.1 +0.5
comp=Z,209nm,1.4s,mb5.8
MALT Malatya 84.02 331 P **P 12 54 15.2 +0.6**
MALT pmax pmax
comp=Z,210nm,1.4s,mb5.8
MALT Malatya 84.02 331⇓iP P 12 54 15.1 +0.5
HRT Hereke 84.02 338 eP **P 12 54 14.4 -0.1**
BRY Bratogost 84.11 346⇓iP P 12 54 14.4 -0.6
NKY Niksic 84.13 346⇓iP P 12 54 14.6 -0.5
LOD Lodumlu 84.14 335 eP **P 12 54 15.1 -0.1**
KDZ Kurdzhali 84.15 341 P **P 12 54 15.5 +0.3**
TOUF Mont Tournerai 84.15 355 eP **P 12 54 15.9 +0.8**
ANTO Ankara 84.15 335 eP **P 12 54 15.1 -0.1**
ANTO Ankara 84.15 335 eP **P 12 54 15.8 +0.5**
comp=Z,444nm,1.8s,mb6.0
ANTO Ankara 84.15 335 P **P 12 54 15.7 +0.5**
ANTO pmax pmax
comp=Z,440nm,1.8s,mb6.0
ANTO Ankara 84.15 335 P **P 12 54 15.6 +0.3**
SNR=57
ANTO Ankara 84.15 335 P **P 12 54 15.6 +0.3**
SNR=57
ANTO Ankara 84.15 335⇓iP P 12 54 15.4 +0.2
AUTN L'Aution 84.16 355 eP **P 12 54 15.4 +0.2**
SAOF Saorge 84.16 355 eP **P 12 54 15.2 0.0**
MARD Mardin 84.19 328 iP **P 12 54 16.0 +0.5**
PVY Plav 84.20 345⇓iP P 12 54 14.8 -0.6
LASF Ste Croix 84.23 357⇓iP P 12 54 16.0 +0.4
comp=Z,118nm,1.1s,mb5.3
STOF St-Etienne Org 84.23 356 eP **P 12 54 16.1 +0.5**
STON Ston 84.26 347 P **P 12 54 14.6 -1.1**
LUCF Luceram 84.27 355 eP **P 12 54 16.1 +0.4**
SMRF Simiane la Rot 84.27 356⇓iP P 12 54 16.8 +1.0
comp=Z,463nm,1.2s,mb5.9
SMRF Simiane la Rot 84.27 356⇓iP P 12 54 16.8 +1.0
comp=Z,463nm,1.2s,mb6.2
MVIF Mont Vial 84.27 355 eP **P 12 54 16.4 +0.6**
BNN Bunyan 84.27 333 eP **P 12 54 16.1 +0.3**
SBF Sospel 84.29 355⇓iP P 12 54 15.9 0.0
comp=Z,674nm,1.3s,mb6.0
SBF Sospel 84.29 355⇓iP P 12 54 15.9 0.0
comp=Z,337nm,1.3s,mb6.0
SBF Sospel 84.29 355⇓iP P 12 54 15.9 0.0
SBF pmax pmax
comp=Z,337nm,1.3s,mb6.0
FITZ Fitzroy Crossi 84.29 231⇓iP P 12 54 15.6 -0.5
comp=Z,1µm,1.2s,mb6.6
FITZ epP pP 12 54 46.6 -1.7
FITZ e 12 57 35.0
FITZ eS S 13 04 21.9 -9.1
CING Cingoli 84.31 350 P **P 12 54 16.7 +0.7**
YLV Yalova 84.33 338 eP **P 12 54 15.7 -0.5**
ADVT Abdulvahap 84.37 338 eP **P 12 54 16.2 -0.2**
KAMT Kaman 84.38 334 eP **P 12 54 16.2 -0.2**
KKB Krupnik 84.38 343 P **P 12 54 15.8 -0.6**
VILF Villemus 84.39 356 eP **P 12 54 17.4 +1.0**
CSNT Castellina Chi 84.40 352 P **P 12 54 16.0 -0.4**
REVF Revere 84.42 355 eP **P 12 54 16.5 0.0**
CALN Calern 84.43 355 eP **P 12 54 16.9 +0.3**
PRAF Pradon 84.46 356 eP **P 12 54 17.8 +1.1**
TTG Podgorica 84.47 346⇓iP P 12 54 16.3 -0.5
MURB Monte Urbino 84.49 351 P **P 12 54 17.6 +0.7**
GEMT Gemlik 84.50 338 eP **P 12 54 16.6 -0.4**
RKT Rikitea 84.52 139 eS S 13 04 27.8 -5.2
comp=Z,3µm,29.2s
RKT eSS SS 13 10 01.8 -5.5
comp=Z,2µm,27.8s
IZI Iznik 84.53 338 eP **P 12 54 17.7 +0.5**
MMB Musomiste 84.53 342 P **P 12 54 17.6 +0.5**
HCY Herceg Novi 84.56 346⇓iP P 12 54 16.8 -0.5
SKO Skopje 84.57 344 eP **P 12 54 16.5 -0.8**
comp=Z,448nm,1.5s,mb6.2
SKO epP pP 12 54 47.9 -1.6
MFT Murefte 84.59 340 eP **P 12 54 17.4 -0.1**
RDO Rodhopi 84.61 341 eP **P 12 54 17.5 0.0**
TAVF Tavernes 84.61 356 eP **P 12 54 18.0 +0.5**
AVNT Avonos 84.62 333 iP **P 12 54 17.3 -0.3**
TREF Trevaresse 84.63 356 eP **P 12 54 18.7 +1.1**
FRF La Foret Royal 84.63 355⇓iP P 12 54 17.6 0.0
comp=Z,134nm,0.7s,mb5.7
FRF La Foret Royal 84.63 355⇓iP P 12 54 17.6 0.0
comp=Z,67nm,0.7s,mb5.7
FRF La Foret Royal 84.63 355⇓iP P 12 54 17.6 0.0
FRF pmax pmax
comp=Z,67nm,0.7s,mb5.7
BUM Brajici-Budva 84.65 346⇓iP P 12 54 16.8 -0.9
URFA Urfa 84.70 330 eP **P 12 54 18.6 +0.5**
SART Tekirdag 84.70 340 iP **P 12 54 17.9 -0.1**
RKY Sarkoy-Tekirda 84.70 340 eP **P 12 54 18.0 0.0**
PUYF Puyloubier 84.71 356 eP **P 12 54 19.1 +1.1**
STIP Stip 84.71 344 eP **P 12 54 14.1 -3.9**
BORA Eskisehir 84.73 337 iP **P 12 54 18.0 -0.1**
PUK Puka 84.75 345 ePN **P 12 54 18.0 -0.2**
ATAB Bozova 84.83 330 iP **P 12 54 19.4 +0.7**
BNT Bandirma 84.86 339 eP **P 12 54 15.8 -3.0**
LMR La Mourre 84.87 355⇓iP P 12 54 18.9 +0.1
comp=Z,138nm,0.7s,mb5.7
LMR epP pP 12 54 50.9 -0.1
LMR La Mourre 84.87 355⇓iP P 12 54 18.9 +0.1
comp=Z,69nm,0.7s,mb5.7
LMR epP pP 12 54 50.9 -0.1
LMR La Mourre 84.87 355⇓iP P 12 54 18.9 +0.1
LMR e*PP pP 12 54 50.9 -0.1
LMR pmax pmax
comp=Z,69nm,0.7s,mb5.7
GELF Grande-Etoile 84.87 356 eP **P 12 54 19.6 +0.8**
ENEZ Enez 84.88 340 eP **P 12 54 18.3 -0.6**
BERF Bertagne 84.93 356 eP **P 12 54 19.8 +0.7**
ULC Ulcinj 84.93 346⇓iP P 12 54 18.9 -0.2
EARI Arriondas 84.96 4 P **P 12 54 19.3 +0.1**
comp=Z,16nm,0.5s,mb5.2
ESKT Eskisehir 84.97 337 eP **P 12 54 19.0 -0.3**
ESKT Eskisehir 84.97 337 iP **P 12 54 19.0 -0.4**
VAY Valandovo 85.00 343 eP **P 12 54 16.1 -3.4**
comp=Z,394nm,1.8s,mb6.0
MTLF Montolieu 85.01 358⇓iP P 12 54 19.7 +0.2
comp=Z,307nm,1.4s,mb5.7
MTLF Montolieu 85.01 358⇓iP P 12 54 19.7 +0.2
comp=Z,154nm,1.4s,mb5.7
MTLF Montolieu 85.01 358⇓iP P 12 54 19.7 +0.2
MTLF pmax pmax
comp=Z,154nm,1.4s,mb5.7
PHP Peshkopia 85.01 345 ePN **P 12 54 20.0 +0.5**
JTS JuntasAbangare 85.04 80 P **P 12 54 17.2 -2.9**
comp=Z,454nm,0.5s,mb6.7,SNR=9.2
JTS JuntasAbangare 85.04 80 eP **P 12 54 17.8 -2.2**
comp=Z,65nm,0.9s,mb5.6
JTS JuntasAbangare 85.04 80 P **P 12 54 17.8 -2.3**
JTS pmax pmax
comp=Z,65nm,0.9s
ELAN Lanestosa 85.09 3 P **P 12 54 19.9 0.0**
comp=Z,150nm,0.7s,mb6.0
EMAZ Mazaricos 85.09 7 P **P 12 54 19.7 -0.2**
comp=Z,20nm,0.6s,mb5.2
OSSF Osses 85.10 1 eP **P 12 54 19.3 -0.6**
POO Poona 85.13 294 eP **P 12 54 19.1 -1.4**
POO AMb AMB 12 54 22.5
comp=Z,1µm,2.3s,mb6.3
EALK Alkurruntz 85.14 1 P **P 12 54 20.1 0.0**
comp=Z,295nm,1.6s,mb6.0
ORDF Ordiarp 85.15 1 eP **P 12 54 19.5 -0.7**
GZT Gaziantep 85.16 331⇓iP P 12 54 20.8 +0.4
STS Santiago 85.19 6 P **P 12 54 20.5 +0.2**
comp=Z,18nm,0.5s,mb5.3
STS Santiago 85.19 6 P **P 12 54 20.5 +0.1**
STS pmax pmax
comp=Z,18nm,0.5s,mb5.3
ELIZ Elizondo 85.19 1 P **P 12 54 20.8 +0.4**
comp=Z,13nm,0.6s,mb5.0
ELIZ Elizondo 85.19 1 P **P 12 54 20.8 +0.4**
ELIZ pmax pmax
comp=Z,13nm,0.6s,mb5.0
SJPF Ste Jean 85.25 1⇓iP P 12 54 20.3 -0.4
comp=Z,55nm,0.7s,mb5.3
SJPF epP pP 12 54 52.6 -0.3
SJPF Ste Jean 85.25 1⇓iP P 12 54 20.3 -0.4
comp=Z,28nm,0.7s,mb5.3
SJPF epP pP 12 54 52.6 -0.3
SJPF Ste Jean 85.25 1⇓iP P 12 54 20.3 -0.4
SJPF e*PP pP 12 54 52.6 -0.3
SJPF pmax pmax
comp=Z,28nm,0.7s,mb5.3
QSH Qafa e Shtames 85.26 345 ePN **P 12 54 21.5 +0.8**
ATE Arette 85.28 1 eP **P 12 54 19.8 -1.0**
REYF Montagne du Re 85.30 0 eP **P 12 54 20.2 -0.7**
AQU L'Aquila 85.30 350⇓eP P 12 54 21.2 +0.3
comp=Z,378nm,1.1s,mb6.2
AQU eS S 13 04 42.2 +1.6
AQU L'Aquila 85.30 350⇓eP P 12 54 21.2 +0.3
AQU eS S 13 04 42.2 +1.6
AQU pmax pmax
comp=Z,379nm,1.1s,mb6.2
AQU L'Aquila 85.30 350⇑iP P 12 54 21.5 +0.6
ANDN Andirin 85.31 332 iP **P 12 54 20.7 -0.4**
KIZT Kizilcal 85.32 336 eP **P 12 54 20.4 -0.7**
EPF Esparros 85.33 360⇓iP P 12 54 20.5 -0.6
comp=Z,33nm,0.5s,mb5.2
EPF Esparros 85.33 360⇓iP P 12 54 20.5 -0.6
comp=Z,16nm,0.5s,mb5.2
EPF Esparros 85.33 360⇓iP P 12 54 20.5 -0.6
EPF pmax pmax
comp=Z,17nm,0.5s,mb5.2
LRDF Laroque-de-Fa 85.40 358 eP **P 12 54 21.8 +0.4**
MLS Moulis 85.40 359 eP **P 12 54 21.3 -0.1**
TIR Tirane 85.43 345 ePN **P 12 54 22.0 +0.4**
GAZ Gaziantep 85.44 331 eP **P 12 54 22.0 +0.3**
MAON Monte Argentar 85.45 352 P **P 12 54 21.5 -0.2**
GADA Gvkgeada 85.45 340 eP **P 12 54 19.9 -1.8**
ASAR Alice Springs 85.47 222 P **P 12 54 21.9 0.0**
ASAR PP PP 12 57 36.4 -6.0
ASAR Alice Springs 85.47 222 P **P 12 54 21.9 +0.1**
ASAR 12 57 36.4
ASAR pmax pmax
comp=Z,304nm,1.0s
ASAR pmax pmax
comp=Z,15nm,1.1s
ASAR pmax pmax
comp=Z,4.0nm,1.0s
ASAR pmax pmax
comp=Z,1.0nm,0.9s
ASAR pmax pmax
comp=Z,1.0nm,0.4s
ASAR pmax pmax
comp=N,1.0nm,0.7s
ASAR pmax pmax
comp=Z,2.0nm,1.0s
ASAR Alice Springs 85.47 222 P **P 12 54 21.9 0.0**
comp=Z,304nm,1.0s,mb6.2,baz=31,slow=4.3,SNR=694
ASAR PP PP 12 57 36.4 -6.0
comp=Z,15nm,1.1s,baz=32,slow=5.5,SNR=3.4
ASAR PKiKP PKiKP 12 59 30.9 -0.5
comp=Z,4.0nm,1.0s,baz=27,slow=1.5,SNR=4.9
ASAR PKKP PKKPbc 13 12 04.3 -19
comp=Z,1.3nm,0.9s,baz=114,slow=2.0,SNR=4.6

ASAR PKKPbc PKKPbc 13 12 24.4 +0.6
comp=Z,0.8nm,0.4s,baz=203,slow=1.9,SNR=15
ASAR SKKPbc 13 15 49.1
comp=Z,1.3nm,0.7s,baz=199,slow=1.8,SNR=13
ASAR PKPPKP 13 20 22.9
comp=Z,1.5nm,1.0s,baz=175,slow=2.0,SNR=5.4
VIEF Viey 85.48 0 *e*P **P 12 54 22.5 +0.7**
PGF Pioggiola 85.50 353⇓*i*P **P 12 54 22.0 +0.1**
comp=Z,392nm,0.7s,mb6.1
PGF Pioggiola 85.50 353⇓*i*P **P 12 54 22.0 +0.1**
comp=Z,196nm,0.7s,mb6.2
PGF Pioggiola 85.50 353⇓*i*P **P 12 54 22.0 +0.1**
PGF pmax pmax
comp=Z,196nm,0.7s,mb6.2
OHR Ohrid 85.51 344 *e*P **P 12 54 18.9 -3.2**
comp=Z,234nm,1.5s,mb5.9
OHR *e*pP pP 12 54 52.5 -1.8
BALB Balikesir 85.55 339 *e*P **P 12 54 21.4 -0.8**
KOZT Kozan 85.56 332 *e*P **P 12 54 25.1 +2.8**
ALT Altintas 85.59 337 *e*P **P 12 54 21.7 -0.7**
KDHN Kadinhani 85.59 335 *i* P **P 12 54 21.8 -0.7**
SALF Salau 85.60 359 *e*P **P 12 54 21.8 -0.6**
CARF Carcanieres 85.63 358 *e*P **P 12 54 22.5 -0.1**
FGMS Monte Sant'Ang 85.64 348 P **P 12 54 22.5 -0.1**
comp=Z,659nm,1.3s,mb6.4
EBIE Bielsa 85.68 360 P **P 12 54 23.4 +0.6**
comp=Z,183nm,1.4s,mb5.8
GDZ Gediz 85.71 337 *i* P **P 12 54 22.4 -0.7**
TOLF Tolfa 85.73 351 P **P 12 54 22.9 -0.2**
CORF Corte 85.73 353 *e*P **P 12 54 23.1 0.0**
CERT Cerreto 85.74 350 P **P 12 54 22.8 -0.3**
MDRS Chennai 85.75 286 *e*P **P 12 54 22.5 -1.1**
BOZC Bozcaada 85.76 340 *i* P **P 12 54 22.0 -1.3**
PLG Polygyros 85.76 342 *e*P **P 12 54 22.0 -1.3**
ERUA La Rua 85.77 5 P **P 12 54 23.3 0.0**
comp=Z,15nm,0.6s,mb5.1
ERUA La Rua 85.77 5 P **P 12 54 23.3 0.0**
ERUA pmax pmax
comp=Z,15nm,0.6s,mb5.1
FILF Fillols 85.78 358 *e*P **P 12 54 22.4 -0.9**
ARMA Armidale 85.78 204⇓*i*P **P 12 54 24.5 +1.3**
ARMA *e*pP pP 12 54 54.8 -0.7
SJAF Saint Jean de 85.85 358 *e*P **P 12 54 23.5 -0.2**
MIDA Miranda 85.91 349 P **P 12 54 24.3 +0.3**
KAD Karad 85.92 293 *e*P **P 12 54 23.9 -0.5**
KAD AMb AMB 12 54 26.0
comp=Z,968nm,2.2s,mb6.3
SHUT Suhut-Afyon 85.96 336 *e*P **P 12 54 23.9 -0.4**
KARA Karaisali 85.98 333 *e*P **P 12 54 23.8 -0.6**
KBN Korca 85.99 344 *e*PN **P 12 54 24.3 -0.1**
CEYT Ceyhan 86.02 332 *e*P **P 12 54 24.6 0.0**
KONT Konya--Tatoy 86.08 335 *e*P **P 12 54 24.1 -0.8**
SDDR Presa de Saban 86.16 64 *e*P **P 12 54 25.5 -0.1**
comp=Z,97nm,0.8s,mb5.8
SDDR *e*PP PP 12 57 47.4 +0.1
ELOB Lobios 86.23 6 P **P 12 54 25.4 -0.2**
comp=Z,5.1nm,0.6s
RFI Roccamonfina 86.28 350 P **P 12 54 25.6 -0.2**
comp=Z,81nm,1.4s,mb5.5
PRK Paraskevi 86.28 340 *e*P **P 12 54 26.0 +0.2**
PCAB Cabril 86.39 6 *e*P **P 12 54 26.0 -0.3**
comp=Z,125nm,1.8s,mb5.5
PCAB *e*pP pP 12 54 59.4 +0.7
PCAB *e*S S 13 04 52.7 +1.5
EMIR Miracle 86.44 359 P **P 12 54 27.5 +0.9**
comp=Z,9.6nm,0.5s,mb5.0
KULA Kula-Manisa 86.45 338 *e*P **P 12 54 25.2 -1.5**
MERS Mersin 86.50 333 *e*P **P 12 54 25.2 -1.8**
TKTP Tekketepe 86.50 336 *i* P **P 12 54 26.0 -0.9**
ESAC San Caprasio 86.64 0 P **P 12 54 28.2 +0.6**
comp=Z,55nm,0.9s,mb5.5
ISP Isparta 86.64 336 *e*P **P 12 54 26.6 -1.0**
ISP Isparta 86.64 336⇓*e*P **P 12 54 26.5 -1.2**
comp=Z,419nm,2.0s,mb6.0
ISP *e*pP pP 12 54 59.7 -0.3
ISP Isparta 86.64 336⇓*e*P **P 12 54 26.5 -1.1**
ISP *e**PP pP 12 54 59.7 -0.3
ISP pmax pmax
comp=Z,419nm,2.0s,mb6.0
ISP Isparta 86.64 336⇓*i*P **P 12 54 26.6 -1.0**
LCI Lecce 86.69 346 P **P 12 54 27.5 -0.3**
comp=Z,36nm,0.5s,mb5.6
LCI Lecce 86.69 346 P **P 12 54 27.5 -0.3**
LCI pmax pmax
comp=Z,36nm,0.5s,mb5.6
NEO Neokhori 86.84 342 *e*P **P 12 54 27.5 -1.0**
PVRL Vila Real 86.84 6 *e*P **P 12 54 28.4 -0.2**
comp=Z,142nm,1.7s,mb5.6
PVRL *e*pP pP 12 55 01.4 +0.5
PVRL *e*SKSac SKSac 13 04 40.9 -2.6
PVRL *e*S S 13 04 56.5 +0.9
SRN Sarande 86.84 345 *e*PN **P 12 54 27.8 -0.8**
JAN Janina 86.92 344 *e*P **P 12 54 28.5 -0.5**
BLCB Balcova 86.94 339 *e*P **P 12 54 27.1 -2.0**
MVO Moncorvo 87.00 5 *e*P **P 12 54 29.1 -0.2**
comp=Z,93nm,2.0s,mb5.4
MVO *e*pP pP 12 55 02.4 +0.7
MVO Moncorvo 87.00 5 *e*PP PP 12 57 53.9 +0.8
MVO *e*SKSac SKSac 13 04 42.4 -2.0
MVO *e*S S 13 04 56.5 -0.6
MVO *e*P 13 05 53.9
MVO *e*SS SS 13 10 47.1 +6.2
MVO *e*LQ 13 17 40.8
MVO *e*LR LR 13 22 41.5
comp=Z,1μm,18.0s
EPOB Poblet 87.01 359 P **P 12 54 29.0 -0.3**
comp=Z,64nm,1.1s,mb5.5
KEK Kerkira 87.04 345 *e*P **P 12 54 29.5 0.0**
URLA Izmir 87.06 339 *i* P **P 12 54 28.5 -1.2**
MGR Morigerati 87.24 348 P **P 12 54 29.5 -1.0**
IKL Isikli 87.32 333 *e*P **P 12 54 29.0 -2.0**
PVIS Viseu 87.39 6 *e*P **P 12 54 30.9 -0.3**
comp=Z,82nm,1.1s,mb5.6
PVIS *e*pP pP 12 55 04.0 +0.4
PVIS *e*SKSac SKSac 13 04 44.0 -2.8
PVIS *e*S S 13 05 02.6 +1.7
EVR Evrytania 87.47 343 *e*P **P 12 54 30.5 -1.1**
ETOR Torete 87.53 2 P **P 12 54 31.2 -0.6**
comp=Z,22nm,0.6s,mb5.4
ETOR Torete 87.53 2 P **P 12 54 31.2 -0.6**
ETOR pmax pmax
comp=Z,22nm,0.6s,mb5.4
GUD Guadarrama 87.65 3 P **P 12 54 31.9 -0.5**
comp=Z,29nm,1.0s,mb5.3
GUD Guadarrama 87.65 3 P **P 12 54 31.9 -0.5**
GUD pmax pmax
comp=Z,29nm,1.0s,mb5.3
DGI Dorgali Grotta 87.67 353 P **P 12 54 33.0 +0.5**
MTE Manteigas 87.73 6 *i* P **P 12 54 32.5 -0.3**
comp=Z,63nm,1.0s,mb5.6
MTE *e*pP pP 12 55 05.7 +0.5
MTE *e*SKS 13 04 45.8
MTE *e*S S 13 05 03.5 -0.6
MTE *e*P 13 06 01.6
MTE *e*SS SS 13 10 58.2 +6.6
MTE *e*LQ 13 19 48.5
MTE *e*LR LR 13 23 27.8
comp=Z,1μm,19.5s
MTE Manteigas 87.73 6⇓*e*P **P 12 54 32.1 -0.7**
comp=Z,36nm,0.8s,mb5.5
PDA Ponta Delgada 87.84 20 *e*S S 13 05 10.0 +4.8
PDA *e*P 13 06 11.0
PDA *e*SS SS 13 11 07.0 +14
PDA Ponta Delgada 87.84 20 *e*LR LR 13 24 00.0
CMLA Cha da Macela 87.85 20 *e*S S 13 04 49.7 -16
CMLA *e*SS SS 13 11 06.3 +13
EREN Erenkoy 87.85 333 *e*P **P 12 54 31.8 -1.7**
EMOS Mosqueruela 88.00 0 P **P 12 54 34.5 +0.4**
comp=Z,30nm,1.2s,mb5.2
TIP Timpagrande 88.02 347⇓*e*P **P 12 54 33.5 -0.7**
comp=Z,161nm,1.3s,mb5.9
TIP *e*pP pP 12 55 05.9 -0.7
TIP *e*PP PP 12 58 02.0 +0.6
TIP *e*S S 13 05 01.9 -5.0
LFK Lefkose 88.26 333 *e*P **P 12 54 33.2 -2.2**
PCBR Castelo Branco 88.29 6 *i* P **P 12 54 34.7 -0.8**
comp=Z,64nm,1.2s,mb5.5
PCBR *e*pP pP 12 55 07.8 -0.1
PCBR *e*SKSac SKSac 13 04 49.2 -3.1
PCBR *e*S S 13 05 07.2 -2.2
VLS Valsamata 88.41 344 *e*P **P 12 54 35.0 -1.1**
PTOM Tomar 88.45 7 *e*P **P 12 54 35.3 -0.9**
comp=Z,92nm,2.1s,mb5.4
PTOM Tomar 88.45 7 *e*SKSac SKSac 13 04 49.7 -3.5
PTOM *e*S S 13 05 09.4 -1.5
VSL Villasalto 88.50 353 P **P 12 54 36.2 -0.3**
ETOS Mallorca 88.56 358 P **P 12 54 36.1 -0.7**
comp=Z,18nm,1.1s,mb5.0
MIB Mutribah 88.60 320 *e*P **P 12 54 35.8 -1.3**
MIB AMb AMB 12 54 45.0
comp=Z,99nm,0.9s,mb5.8
ESDC Sonseca Array 88.62 3 P **P 12 54 36.4 -0.6**
comp=Z,5.4nm,0.5s,mb4.9,baz=347,slow=4.1,SNR=86
ESDC pP pP 12 55 08.3 -1.2
comp=Z,17nm,0.9s,baz=351,slow=4.4,SNR=5.0
ESDC PP PP 12 58 02.5 -3.7
comp=Z,6.2nm,1.0s,baz=346,slow=6.7,SNR=4.4
ESDC PKKPbc PKKPbc 13 12 14.7 -0.3
comp=Z,1.8nm,0.6s,baz=197,slow=2.4,SNR=13
ESDC PKPPKP 13 20 14.3
comp=Z,0.5nm,0.5s,baz=133,slow=1.6,SNR=5.8
ESLA Sonseca Array 88.62 3 *e*P **P 12 54 36.2 -0.9**
comp=Z,31nm,1.4s,mb5.2
ESLA *e*pP pP 12 55 08.3 -1.3
UMR Umm Al-Rimmam 88.67 320 *e*P **P 12 54 35.7 -1.8**
PAB San Pablo 88.74 3 *e*P **P 12 54 36.6 -0.9**
comp=Z,54nm,1.4s,mb5.4
PAB San Pablo 88.74 3 *e*P **P 12 54 36.6 -1.0**
PAB pmax pmax
comp=Z,54nm,1.4s,mb5.4
ECHE Chera 88.77 1 P **P 12 54 38.0 +0.3**
comp=Z,23nm,1.1s,mb5.1
ECHE Chera 88.77 1 P **P 12 54 38.0 +0.3**
ECHE pmax pmax
comp=Z,23nm,1.1s,mb5.1
USI Ustica 88.93 350 P **P 12 54 38.0 -0.5**
KBD Kabd 89.02 320 *e*P **P 12 54 37.2 -1.8**
KBD AMb AMB 12 54 41.8
comp=Z,117nm,0.6s,mb6.1
BCIP Isla Barro Col 89.02 76⇑*e*P **P 12 54 38.8 -0.5**
comp=Z,551nm,1.8s,mb6.3
MNGI Mangalore 89.04 290 *i* P **P 12 54 38.8 -0.6**
MNGI *e*x x 12 54 41.0
comp=Z,662nm,1.6s
PMAFR Mafra 89.04 7 *i* P **P 12 54 38.5 -0.5**
comp=Z,117nm,1.5s,mb5.7
PMAFR *e*pP pP 12 55 11.5 0.0
PMAFR *e*SKSac SKSac 13 04 54.5 -2.3
PMAFR *e*S S 13 05 14.4 -2.1
PMAFR Mafra 89.04 7 *e*LQ 13 18 07.0
PMAFR *e*LR LR 13 24 32.5
comp=Z,1μm,20.0s
NAY Al-Naaiem 89.13 320 *e*P **P 12 54 38.6 -1.0**
NAY AMb AMB 12 54 41.9
comp=Z,50nm,1.2s,mb5.4
ITM Ithomi 89.14 343 *e*P **P 12 54 38.0 -1.5**
HATD Hatta, Dubai 89.14 311 P **P 12 54 38.9 -0.8**
SNR=7.4
HATD Hatta, Dubai 89.14 311 P **P 12 54 38.9 -0.8**
SNR=7.4
RIV Riverview 89.15 204 *e*P **P 12 54 40.4 +1.2**
SOI Samo 89.20 347 P **P 12 54 38.3 -1.5**
PESTR Estremoz 89.25 6 *i* P **P 12 54 39.2 -0.8**
comp=Z,81nm,1.1s,mb5.7
PESTR *e*pP pP 12 55 12.4 -0.1
PESTR *e*SKSac SKSac 13 04 55.5 -2.5
PESTR *e*S S 13 05 16.3 -2.2
PESTR *e*P 13 06 15.7
PESTR *e*SS SS 13 11 14.8 +1.1
PESTR *e*LQ 13 18 00.8
PESTR *e*LR LR 13 24 30.7
comp=Z,714nm,18.0s
LIS Lisbon 89.29 7 *e*P **P 12 54 40.8 +0.6**
LIS *e*S SKSac 13 04 55.0 -3.2
LIS *e*S SKSac 13 04 55.0 -3.2
LIS AMb AMB 13 04 58.8
comp=E,170nm,0.6s
LIS Lisbon 89.29 7 *e*S SKSac 13 04 55.0 -3.2
RDF Al-Radifah 89.29 320 *e*P **P 12 54 39.1 -1.3**
RDF AMb AMB 12 54 42.1
comp=Z,131nm,1.0s,mb5.9
ASHO Ashiyiah 89.30 311 P **P 12 54 39.7 -0.7**
SNR=6.6
ASHO Ashiyiah 89.30 311 P **P 12 54 39.7 -0.7**
SNR=6.6
QRN Al-Qurain 89.31 319 *e*P **P 12 54 39.3 -1.2**
QRN AMb AMB 12 54 41.7
comp=Z,59nm,0.8s,mb5.7
EIBI Ibiza 89.33 359 P **P 12 54 39.8 -0.6**
comp=Z,15nm,0.6s,mb5.2
EBAD Badajoz 89.40 6 P **P 12 54 39.8 -0.9**
comp=Z,36nm,0.9s,mb5.4
VLI Velíai 89.40 342 *e*P **P 12 54 38.0 -2.7**
EVO Evora 89.56 6⇓*i*P **P 12 54 40.3 -1.1**
comp=Z,75nm,1.3s,mb5.3
EVO *e*MLR MLR
comp=Z,3μm,21.2s
EVO Evora 89.56 6 *e*P **P 12 54 40.4 -1.0**
EVO *e*pP pP 12 55 13.2 -0.8
EVO *e*SKSac SKSac 13 04 57.7 -2.1
EVO *e*S S 13 05 20.3 -1.0
KOD Kodaikanal 89.64 286 *e*P **P 12 54 41.0 -1.2**
EBEN Beniarda 89.66 0 P **P 12 54 41.8 -0.1**
comp=Z,189nm,1.9s,mb5.9
WBK Wadi Bani Khal 89.67 308 P **P 12 54 42.4 +0.2**
SNR=6.1
WBK Wadi Bani Khal 89.67 308 P **P 12 54 42.4 +0.2**
SNR=6.1
SJG San Juan 89.68 60⇑*e*P **P 12 54 41.7 -0.6**
comp=Z,261nm,1.0s,mb6.3
SJG San Juan 89.68 60 P **P 12 54 41.8 -0.5**
SJG pmax pmax
comp=Z,165nm,0.9s
SJG San Juan 89.68 60 P **P 12 54 41.8 -0.5**
comp=Z,164nm,0.8s,mb6.2,baz=254,slow=1.2
EVIA Vianos 89.70 2 P **P 12 54 41.8 -0.3**
comp=Z,12nm,0.8s,mb5.1
EVIA Vianos 89.70 2 P **P 12 54 41.8 -0.3**
EVIA pmax pmax
comp=Z,12nm,0.8s,mb5.1
SMDO Samad 89.74 309 P **P 12 54 41.9 -0.6**
SNR=7.8
SMDO Samad 89.74 309 P **P 12 54 41.9 -0.6**
SNR=7.8
MBWA Marble Bar 89.79 234⇓*e*P **P 12 54 41.7 -0.9**
comp=Z,384nm,1.0s,mb6.5
MBWA Marble Bar 89.79 234 P **P 12 54 42.0 -0.5**
SNR=33
MBWA Marble Bar 89.79 234 P **P 12 54 42.0 -0.5**
SNR=33
CPD Cerro la Pandu 89.87 60⇑*e*P **P 12 54 40.7 -2.5**
comp=Z,661nm,1.0s,mb6.7
CPD Cerro la Pandu 89.87 60⇑*e*P **P 12 54 40.7 -2.5**
CPD pmax pmax
comp=Z,661nm,1.0s,mb6.7
URZ Urewera 89.94 182 P **P 12 54 41.2 -1.6**
comp=Z,71nm,0.9s,mb5.8,baz=321,slow=4.6,SNR=26
PBAR Barrancos 89.97 6 *i* P **P 12 54 42.8 -0.6**
comp=Z,123nm,1.1s,mb6.0
PBAR *e*pP pP 12 55 16.0 +0.1
PBAR Barrancos 89.97 6 *e*PP PP 12 58 19.0 +2.1
PBAR *e*SKSac SKSac 13 04 58.9 -3.3
PBAR *e*S S 13 05 23.6 -1.6
PBAR *e*P 13 06 25.9
PBAR *e*SS SS 13 11 28.4 +4.2
PBAR *e*LQ 13 18 24.0
PBAR *e*LR LR 13 24 31.0
comp=Z,1μm,18.0s
PALK Pallekele 90.03 282 P **P 12 54 44.1 +0.1**
comp=Z,2μm,1.2s,mb7.1,SNR=48
PALK Pallekele 90.03 282⇓*e*P **P 12 54 44.1 +0.1**
comp=Z,631nm,1.3s,mb6.6
PALK Pallekele 90.03 282 P **P 12 54 44.6 +0.6**
SNR=55
PALK Pallekele 90.03 282 P **P 12 54 44.6 +0.6**
SNR=55
PBEJ Beja 90.07 6 *e*P **P 12 54 43.3 -0.5**
comp=Z,48nm,1.5s,mb5.4
PBEJ Beja 90.07 6 *e*PP PP 12 58 20.3 +2.6
PBEJ *e*SKSac SKSac 13 05 00.8 -2.0
PBEJ *e*S S 13 05 25.4 -0.7
STKA Stephens Creek 90.08 212⇓*i*P **P 12 54 44.1 +0.5**
comp=Z,878nm,1.4s,mb6.7
STKA *e*pP pP 12 55 15.2 -1.0
STKA *e* 12 58 16.5
STKA *e*S SKSac 13 04 56.9 -5.4
STKA Stephens Creek 90.08 212 P **P 12 54 44.3 +0.7**
comp=Z,708nm,1.1s,mb6.7,baz=0.9,slow=5.5,SNR=314
STKA PKKPbc PKKPbc 13 12 12.2 -0.7
comp=Z,1.9nm,0.8s,baz=113,slow=3.7,SNR=5.2
STKA LR LR 13 31 18.4
comp=Z,2μm,19.7s,baz=12,slow=33
EADA Adamuz 90.10 4 P **P 12 54 43.5 -0.4**
comp=Z,167nm,1.8s,mb5.9
EBAN Banos Encina 90.14 3 P **P 12 54 43.8 -0.3**
comp=Z,6.1nm,0.7s,mb4.8
EBAN Banos Encina 90.14 3 P **P 12 54 43.8 -0.3**
EBAN pmax pmax
comp=Z,6.0nm,0.7s,mb4.8
ECAB El Cabril 90.16 4 P **P 12 54 44.1 -0.1**
comp=Z,21nm,1.1s,mb5.2
NPS Neapolis 90.25 339 *e*P **P 12 54 42.5 -2.2**
JMDO Jabal Madar 90.29 308 P **P 12 54 43.8 -1.3**
SNR=10
JMDO Jabal Madar 90.29 308 P **P 12 54 43.8 -1.3**
SNR=10
EMIN Mina Concepcio 90.40 5 P **P 12 54 44.8 -0.5**
comp=Z,100nm,1.4s,mb5.8
BSY Bisya 90.41 309 P **P 12 54 44.6 -1.1**
SNR=11
BSY Bisya 90.41 309 P **P 12 54 44.6 -1.1**
SNR=11
VAM Vamos 90.41 340 *e*P **P 12 54 43.5 -2.0**
PTEO Sao Teotonio 90.49 7 *e*P **P 12 54 45.0 -0.8**
comp=Z,65nm,1.9s,mb5.4
PTEO Sao Teotonio 90.49 7 *e*SKSac SKSac 13 05 02.2 -3.0
PTEO *e*S S 13 05 29.0 -0.9
EMUR La Murta 90.51 1 P **P 12 54 45.0 -0.9**
comp=Z,24nm,0.9s,mb5.3
EGRO El Granado 90.58 6 P **P 12 54 45.6 -0.6**
comp=Z,111nm,1.4s,mb5.8
PVAQ Vaqueiros 90.70 6 *e*P **P 12 54 46.4 -0.4**
comp=Z,75nm,1.2s,mb5.7
PVAQ *e*pP pP 12 55 19.0 -0.3
PVAQ Vaqueiros 90.70 6 *e*PP PP 12 58 25.0 +2.3
PVAQ *e*SKSac SKSac 13 05 03.3 -3.1
PVAQ *e*S S 13 05 29.7 -2.2
PVAQ *e*SS SS 13 11 40.4 +5.8
PVAQ *e*LQ 13 18 22.7
PVAQ *e*LR LR 13 24 53.2
comp=Z,1μm,20.0s
ELUQ Luque 90.72 3 P **P 12 54 46.5 -0.4**
comp=Z,1.6nm,0.9s
ELUQ Luque 90.72 3 P **P 12 54 46.5 -0.4**
ELUQ pmax pmax
comp=Z,2.0nm,0.9s
MORF Marmelete 90.73 7 *e*P **P 12 54 46.2 -0.7**
comp=Z,82nm,1.4s,mb5.7
MORF *e*pP pP 12 55 19.5 0.0
MORF *e*SKSac SKSac 13 05 04.2 -2.4
MORF *e*S S 13 05 30.0 -2.2
MORF *e*SS SS 13 11 32.8 -2.3
MORF *e*LQ 13 20 55.4
MORF *e*LR LR 13 25 45.5
comp=Z,1μm,22.6s
PBDV Barranco-do-Ve 90.84 6 *e*P **P 12 54 47.2 -0.2**
comp=Z,84nm,1.9s,mb5.5
PBDV *e*pP pP 12 55 19.7 -0.3
PBDV *e*SKSac SKSac 13 05 05.0 -2.3
PBDV *e*S S 13 05 31.7 -1.5
PBDV *e*P 13 06 33.6
PBDV *e*SS SS 13 11 36.9 +0.2
PBDV *e*LQ 13 18 50.4
PBDV *e*LR LR 13 25 34.2
comp=Z,1μm,18.0s
PFVI Vila Bisbo 90.89 7 *e*P **P 12 54 47.1 -0.6**
comp=Z,89nm,1.1s,mb5.8
PFVI *e*pP pP 12 55 20.2 0.0
PFVI *e*SKSac SKSac 13 05 04.9 -2.6
PFVI *e*S S 13 05 31.7 -1.9
PFVI *e*SS SS 13 11 39.6 +2.2
PFVI *e*LQ 13 18 06.1
PFVI *e*LR LR 13 25 36.4
comp=Z,1μm,22.0s
GVD Gavdhos 90.98 340 *e*P **P 12 54 46.1 -2.0**
comp=Z,64nm,0.8s,mb5.8
GVD Gavdhos 90.98 340 *e*P **P 12 54 47.0 -1.1**
CNB Canberra Magne 91.01 205 *e*P **P 12 54 48.7 +0.8**
comp=Z,389nm,1.5s,mb6.3
CNB *e*pP pP 12 55 16.1 -4.4
ECOG Cogollos-Vega 91.03 3 P **P 12 54 48.0 -0.3**
comp=Z,11nm,0.7s,mb5.1
ECOG Cogollos-Vega 91.03 3 P **P 12 54 48.0 -0.3**
ECOG pmax pmax
comp=Z,11nm,0.7s,mb5.1
ELOJ Sierra Loja 91.14 3 P **P 12 54 49.0 +0.1**
comp=Z,21nm,0.8s,mb5.3
ELOJ Sierra Loja 91.14 3 P **P 12 54 49.0 +0.2**
ELOJ pmax pmax
comp=Z,21nm,0.8s,mb5.3
TRD Trivandrum 91.31 285 *e*P **P 12 54 48.5 -1.4**
TRD AMb AMB 12 54 52.1
comp=Z,396nm,1.1s,mb6.4
ESPR Espera 91.34 5 P **P 12 54 49.7 -0.1**
comp=Z,28nm,0.9s,mb5.4
CAEH 'Ain El Ouahch 91.38 355 P **P 12 54 53.5 +3.6**
EBER Berja 91.42 2 P **P 12 54 50.3 +0.2**
comp=Z,14nm,0.9s,mb5.1
CMAH Djebel Manchou 91.50 354 P **P 12 54 50.0 -0.5**
DFRA Djebel Bou Aff 91.67 355 P **P 12 54 54.0 +2.7**
EMIJ Mijas 91.69 4 P **P 12 54 50.6 -0.7**
comp=Z,122nm,1.6s,mb5.9
CKFL Kef-Lekhel 91.76 355 P **P 12 54 52.0 +0.3**
EJIF Jimena Fronter 91.78 4 P **P 12 54 52.1 +0.3**
comp=Z,21nm,0.7s,mb5.5
EJIF Jimena Fronter 91.78 4 P **P 12 54 52.1 +0.3**
EJIF pmax pmax
comp=Z,21nm,0.7s,mb5.5
ABSA Djebel Ababsia 91.84 354 P **P 12 54 51.0 -1.1**
CASM Ain Smara 91.92 355 P **P 12 54 53.0 +0.6**
SET Setif 92.03 356 P **P 12 54 54.0 +1.0**
CTEI Djebel Teioual 92.12 355 P **P 12 54 53.5 +0.1**
CKHR Kef el Ahmar 92.21 356 P **P 12 54 54.5 +0.7**
KEST Kesra 92.25 352 P **P 12 54 53.6 -0.4**
comp=Z,8.9nm,0.5s,mb5.3,baz=311,slow=1.8,SNR=43
KEST PP PP 12 58 30.4 -4.5
comp=Z,8.7nm,1.2s,baz=96,slow=9.2,SNR=3.6
KEST LR LR 13 40 54.6
comp=Z,510nm,20.6s,baz=181,slow=38
SNZO South Karori 93.06 184 *e*P **P 12 54 55.0 -2.2**
comp=Z,113nm,1.3s,mb6.0
ADE Adelaide 93.86 213 *e*P **P 12 55 01.1 0.0**
PMPS Porto Santo 94.08 14 *e*SKSac SKSac 13 05 25.2 -0.2
FORT Forrest 94.17 223 *e*P **P 12 55 02.3 -0.3**
comp=Z,235nm,0.7s,mb6.6
PMAR Madeira 94.32 14 *e*SKSac SKSac 13 05 28.8 +2.1
SDV Santo Domingo 94.67 69⇑*e*P **P 12 55 04.9 -0.5**
comp=Z,41nm,0.8s,mb5.9
SDV *e*PP PP 12 58 46.9 -8.0
COCO West Island 95.36 257 *e*P **P 12 55 08.4 -0.1**
comp=Z,394nm,0.5s,mb7.1
RPZ Rata Peaks 95.67 187 P **P 12 55 07.5 -1.5**
comp=Z,38nm,1.1s,mb5.8,baz=72,slow=2.8,SNR=9.1
ROSC El Rosal 95.73 75 *e*P **P 12 55 10.7 +0.5**
ROSC *e*PP PP 12 59 04.3 +1.1
ROSC El Rosal 95.73 75 P **P 12 55 11.5 +1.3**
comp=Z,14nm,0.8s,mb5.4,baz=102,slow=6.5,SNR=9.1
ROSC PP PP 12 58 59.3 -3.9
comp=Z,5.3nm,0.4s,baz=262,slow=14,SNR=3.1
PCRV Puerto La Cruz 97.02 64 P **P 12 55 16.1 0.0**
comp=Z,7.1nm,0.6s,mb5.3,baz=181,slow=0.9,SNR=6.6
PCRV PP PP 12 59 02.6 -10
comp=Z,20nm,1.0s,baz=346,slow=8.3,SNR=3.6
TAU Tasmania Unive 98.70 204 *e*P **P 12 55 24.5 +1.7**
comp=Z,145nm,1.6s,mb6.3
TAU Tasmania Unive 98.70 204 *e*P **P 12 55 24.5 +1.7**
TAU pmax pmax
comp=Z,145nm,1.6s,mb6.3
KLBR Kellerberrin 99.47 230 *e*P Pdif 12 55 25.0 -1.9
comp=Z,118nm,1.3s
NWAO Narrogin (SRO) 100.82 230 *e*Pdif Pdif 12 55 32.0 -1.0
NWAO Narrogin (SRO) 100.82 230 P Pdif 12 55 32.1 -0.9
NWAO pmax pmax
comp=Z,86nm,1.1s
NWAO Narrogin (SRO) 100.82 230 P Pdif 12 55 32.1 -0.9
comp=Z,86nm,1.1s,baz=322,slow=2.8,SNR=6.5
ATAH Atahualpa 102.60 85 P Pdif 12 55 42.8 +1.9
comp=Z,8.6nm,1.1s,baz=288,slow=5.8,SNR=4.9
ATAH PP PP 12 59 51.9 -3.7
comp=Z,8.1nm,0.9s,baz=339,slow=15,SNR=3.2
NNA Nana 107.43 87 PKKPbc PKKPbc 13 11 25.7 +2.5
comp=Z,3.5nm,0.4s,baz=163,slow=5.3,SNR=4.3
BBTS Babate 112.06 17 Pdiff Pdif 12 56 23.9 +1.0

baz=243,slow=2.3
LPAZ La Paz 116.09 83 *e*PKPdf PKPdf 13 00 27.2 +0.6
LPAZ La Paz 116.09 83 PKIKP PKPdf 13 00 26.9 +0.3
LPAZ 13 01 32.9
LPAZ 13 10 58.7
LPAZ pmax pmax
comp=Z,3.0nm,0.8s
LPAZ pmax pmax
comp=Z,4.0nm,0.8s
LPAZ pmax pmax
comp=Z,8.0nm,1.0s
LPAZ La Paz 116.09 83 PKP PKPdf 13 00 26.9 +0.3
comp=Z,2.9nm,0.8s,baz=29,slow=3.4,SNR=8.9
LPAZ PP PP 13 01 32.9 -0.4
comp=Z,3.6nm,0.8s,baz=307,slow=5.7,SNR=5.4
LPAZ PKKPab PKKPab 13 10 58.7 -2.9
comp=Z,8.3nm,1.0s,baz=86,slow=3.8,SNR=12
SIV San Ignacio 120.16 77 PKP PKPdf 13 00 33.4 -1.0
comp=Z,4.0nm,0.5s,baz=350,slow=1.4,SNR=15
SIV PP PP 13 01 59.9 -1.4
comp=Z,61nm,1.1s,baz=324,slow=7.6,SNR=20
SIV SKP 13 03 56.7
comp=Z,19nm,0.9s,baz=288,slow=1.5,SNR=8.3
SIV PKKPab PKKPab 13 10 42.4 -1.8
comp=Z,11nm,1.0s,baz=154,slow=4.5,SNR=13
SIV SKKP 13 14 36.4
comp=Z,3.5nm,1.0s,baz=213,slow=2.2,SNR=3.3
KMBO Kilima Mbogo 120.50 315 *e*PKPdf PKPdf 13 00 35.3 0.0
KMBO *ep*PKPdf pPKPdf 13 01 08.1 -1.2
KMBO Kilima Mbogo 120.50 315 P PKPdf 13 00 35.8 +0.6
SNR=16
KMBO Kilima Mbogo 120.50 315 PKPdf PKPdf 13 00 35.8 +0.6
SNR=16
DBIC Dimbokro 121.40 6 *e*PKPdf PKPdf 13 00 35.6 -1.4
DBIC Dimbokro 121.40 6 PKIKP PKPdf 13 00 35.8 -1.2
DBIC pmax pmax
comp=Z,15nm,0.4s
DBIC pmax pmax
comp=Z,18nm,0.6s
DBIC pmax pmax
comp=N,29nm,1.1s
DBIC Dimbokro 121.40 6 PKP PKPdf 13 00 35.8 -1.2
comp=N,15nm,0.4s,baz=357,slow=2.1,SNR=66
DBIC PKKPbc PKKPbc 13 10 36.7 +0.8
comp=N,18nm,0.6s,baz=169,slow=5.3,SNR=37
DBIC SKKP 13 14 28.6
comp=N,29nm,1.1s,baz=172,slow=3.4,SNR=3.4
LIC Lamto 121.83 6 ⇓*i*PKIKP PKPdf 13 00 36.4 -1.4
comp=N,23nm,0.4s
LIC *e*MLR MLR
comp=Z,1μm,19.2s
DRV Dumont d'Urvil 122.18 198 PP PP 13 02 13.0 -1.6
DRV SP SP 13 11 58.0 +3.6
DRV SS SS 13 18 53.0 +10
DRV L 13 35 00.0
TLL Tololo Astrono 124.66 96 ⇓*i*P PKPdf 13 00 42.5 -0.1
FCH Farellones 127.16 98 ⇑*i*P PKPdf 13 00 47.7 +0.4
CFAA Coronel Fontan 127.24 95 PKP PKPdf 13 00 45.5 -2.0
comp=Z,2.1nm,0.7s,baz=293,slow=1.8,SNR=28
CFAA PP PP 13 02 48.2 -0.7
comp=Z,3.1nm,1.2s,baz=313,slow=4.0,SNR=7.5
CFAA SKPab 13 03 51.4
comp=Z,15nm,1.0s,baz=310,slow=4.1,SNR=27
CFAA PKKP 13 10 59.4
comp=Z,0.5nm,0.8s,baz=28,slow=1.9,SNR=3.5
CFAA SKKPbc 13 13 55.1
comp=Z,2.4nm,0.9s,baz=174,slow=2.8,SNR=12
BDFB Brasilia 127.49 65 PKIKP PKPdf 13 00 48.3 -0.2
BDFB pmax pmax
comp=Z,7.0nm,0.9s
BDFB pmax pmax
comp=N,11nm,0.6s
BDFB Brasilia 127.49 65 PKP PKPdf 13 00 48.3 -0.2
comp=N,7.2nm,0.9s,baz=9.9,slow=8.1,SNR=11
BDFB SKPab 13 03 52.6
comp=N,11nm,0.6s,baz=254,slow=4.2,SNR=10
VNDA Vanda 129.76 185 *e*PKPdf PKPdf 13 00 50.4 -0.6
VNDA Vanda 129.76 185 PKIKP PKPdf 13 00 50.5 -0.5
VNDA pmax pmax
comp=Z,7.0nm,0.9s
VNDA pmax pmax
comp=N,51nm,1.0s
VNDA Vanda 129.76 185 PKP PKPdf 13 00 50.5 -0.5
comp=N,6.9nm,0.9s,baz=344,slow=3.9,SNR=22
VNDA SKPbc 13 04 01.4
comp=N,51nm,1.0s,baz=353,slow=4.4,SNR=23
SBA Scott Base 129.86 184 *e*PKPdf PKPdf 13 00 51.0 -0.1
OPO Ambohidratompo130.36 294 PKP PKPdf 13 00 54.2 +0.3
comp=N,27nm,0.9s,baz=44,slow=2.3,SNR=28
OPO PP PP 13 03 07.1 -1.9
comp=N,11nm,1.1s,baz=43,slow=5.7,SNR=3.3
OPO SKPbc SKPbc 13 04 05.3 0.0
comp=N,68nm,0.8s,baz=38,slow=3.9,SNR=42
ABPO Ambohimpanom 130.69 294 *e*PKPdf PKPdf 13 00 54.3 -0.2
PLCA Paso Flores 131.84 106 *e*PKPdf PKPdf 13 00 56.0 0.0
PLCA Paso Flores 131.84 106 PKhKP 13 00 46.9
comp=N,2.1nm,0.9s,baz=322,slow=4.5,SNR=4.6
PLCA PKP PKPdf 13 00 56.3 +0.3
comp=N,18nm,0.6s,baz=304,slow=2.9,SNR=52
PLCA SKPbc SKPbc 13 04 09.0 -1.0
comp=N,105nm,0.8s,baz=311,slow=4.4,SNR=51
PLCA PKKP 13 10 54.1
comp=N,1.5nm,0.8s,baz=155,slow=8.1,SNR=3.1
PLCA SKKPbc 13 13 38.2
comp=N,9.9nm,1.0s,baz=186,slow=3.0,SNR=11
MIR Mirnyy 135.04 214 *e*PKIKP PKPdf 13 00 57.0 -4.2
MIR pmax pmax
comp=Z,200nm,1.5s
TRQA Tornquist 135.36 97 *e*PKPdf PKPdf 13 01 02.1 -0.6
TRQA *ep*PKPdf pPKPdf 13 01 35.2 -1.6
LSZ Lusaka 137.03 318 *e*PKPdf PKPdf 13 01 06.3 -0.1
LSZ Lusaka 137.03 318 PKIKP PKPdf 13 01 06.7 +0.2
LSZ pmax pmax
comp=Z,17nm,1.1s
LSZ pmax pmax
comp=N,22nm,0.8s
LSZ Lusaka 137.03 318 P PKPdf 13 01 07.3 +0.9
SNR=5.9
LSZ Lusaka 137.03 318 PKPdf PKPdf 13 01 07.3 +0.9
SNR=5.9
LSZ Lusaka 137.03 318 PKP PKPdf 13 01 06.7 +0.3
comp=N,16nm,1.1s,baz=47,slow=3.4,SNR=6.9
LSZ SKPbc SKPbc 13 04 25.0 -2.6
comp=N,22nm,0.8s,baz=41,slow=3.3,SNR=8.4
USHA Ushuaia 140.57 122 PKP PKPdf 13 01 11.9 +0.2
USHA SKP 13 04 33.5
USHA Ushuaia 140.57 122 PKhKP 13 01 04.2
comp=N,10nm,0.8s,baz=306,slow=5.5,SNR=6.0
USHA PKP PKPdf 13 01 11.9 +0.2
comp=N,11nm,0.7s,baz=251,slow=6.8,SNR=4.0
USHA SKP 13 04 33.5
comp=N,61nm,1.0s,baz=307,slow=1.7,SNR=9.3
QSPA South Pole Qui 141.77 180 PKP PKPdf 13 01 12.5 -0.7
QSPA PP PP 13 04 21.7 +1.8
QSPA SKPbc SKPbc 13 04 37.4 -1.1
QSPA SKKPbc 13 12 57.6
QSPA South Pole Qui 141.77 180 PKhKP 13 01 07.6
comp=N,150nm,1.1s,baz=15,slow=1.2,SNR=92
QSPA PKP PKPdf 13 01 12.5 -0.7
comp=N,82nm,0.8s,baz=328,slow=1.1,SNR=51
QSPA PP PP 13 04 21.7 +1.8
comp=N,12nm,0.8s,baz=117,slow=4.5,SNR=3.1
QSPA SKPbc SKPbc 13 04 37.4 -1.1
comp=N,141nm,1.1s,baz=349,slow=1.7,SNR=8.5
QSPA SKKPbc 13 12 57.6
comp=N,47nm,1.1s,baz=217,slow=1.5,SNR=12
TSUM Tsumeb 144.48 331 *e*PKPdf PKPdf 13 01 18.2 -1.6
EFI East Falkland 144.93 113 *e*PKPdf PKPdf 13 01 17.9 -1.6
EFI *e*SKKPbc SKPbc 13 04 45.5 -1.4
PMSA Palmer Station 145.69 137 *e*PKPdf PKPdf 13 01 20.2 -0.2
PMSA *ep*PKPdf pPKPdf 13 01 52.9 -1.6
PMSA *e*SKPdf SKPdf 13 04 45.0 +2.4
PMSA Palmer Station 145.69 137 PKPbc PKPbc 13 01 19.8 -1.2
comp=N,27nm,0.5s,baz=285,slow=2.3,SNR=26
PMSA pPKPbc pPKPbc 13 01 52.7 -2.0
comp=N,88nm,0.8s,baz=312,slow=3.5,SNR=7.0
PMSA SKPbc SKPbc 13 04 45.2 -3.0
comp=N,44nm,0.9s,baz=237,slow=1.2,SNR=6.6
MAW Mawson 146.54 218 *e*P PKPdf 13 01 21.2 -0.6
comp=N,563nm,1.3s
MAW Mawson 146.54 218 PKIKP PKPdf 13 01 21.6 -0.2
MAW 13 04 47.5
MAW pmax pmax
comp=Z,580nm,1.1s
MAW pmax pmax
comp=N,43nm,1.1s

MAW Mawson 146.54 218 PKPbc PKPbc 13 01 21.6 -1.9
comp=N,580nm,1.1s,baz=78,slow=3.1,SNR=134
MAW SKPbc SKPbc 13 04 47.5 -2.5
comp=N,43nm,1.1s,baz=78,slow=2.9,SNR=4.7
LBTB Lobatse 146.77 314 *e*PKPdf PKPdf 13 01 23.8 +0.2
LBTB *e*PKPbc PKPbc 13 01 26.0 +0.5
LBTB Lobatse 146.77 314 PKP2 PKPab 13 01 24.0 -3.0
LBTB pmax pmax
comp=Z,135nm,0.5s
LBTB Lobatse 146.77 314 PKPbc PKPbc 13 01 24.0 -1.5
comp=Z,135nm,0.5s,baz=46,slow=1.4,SNR=264
LBTB Lobatse 146.77 314 PKPdf PKPdf 13 01 23.1 -0.4
LBTB PKPdf PKPdf 13 01 25.8 +2.3
BOSA Boshof 150.01 311 *e*PKPdf PKPdf 13 01 28.4 -0.4
BOSA *e*PKPbc PKPbc 13 01 34.2 +0.4
BOSA Boshof 150.01 311 PKIKP PKPdf 13 01 28.1 -0.6
BOSA pmax pmax
comp=Z,16nm,1.1s
BOSA pmax pmax
comp=Z,103nm,0.6s
BOSA Boshof 150.01 311 PKP PKPdf 13 01 28.1 -0.7
comp=Z,16nm,1.1s,baz=33,slow=3.4,SNR=16
BOSA PKPbc PKPbc 13 01 33.7 -0.1
comp=Z,102nm,0.6s,baz=27,slow=3.6,SNR=188
BOSA Boshof 150.01 311 PKPdf PKPdf 13 01 27.9 -0.8
BOSA PKPdf PKPbc 13 01 33.8 0.0
SYO Syowa Base 154.83 213 ⇑*e*P PKPdf 13 01 31.0 -3.5
SYO Syowa Base 154.83 213 ⇑*i*P PKPbc 13 01 40.5 -2.8
SYO Syowa Base 154.83 213 ⇓*i*P PKPab 13 01 57.3 -1.8
SUR Sutherland 155.22 314 PKP PKPdf 13 01 34.9 -1.3
comp=Z,20nm,1.1s,baz=180,slow=7.1,SNR=2.9
SUR PKPab PKPab 13 02 00.8 -1.0
comp=Z,12nm,0.7s,baz=31,slow=8.6,SNR=5.2
VNA3 Neumayer Olymp160.21 171 *e*PKPdf PKPab 13 02 27.7 +5.3
SNAA Sanae 160.23 177 *e*PKPdf PKPdf 13 01 39.2 -2.0
SNAA *e* 13 02 05.2
SNAA *e* 13 02 13.3
SNAA *e* 13 02 21.4
SNAA *e* 13 02 25.0
SNAA *e* 13 02 54.7
SNAA *e* 13 06 02.3
SNAA *e* 13 06 13.5
SNAA Sanae 160.23 177 PKIKP PKPdf 13 01 38.8 -2.4
SNAA 13 02 21.6
SNAA 13 06 02.0
SNAA pmax pmax
comp=Z,5.0nm,1.2s
SNAA pmax pmax
comp=Z,37nm,1.1s
SNAA pmax pmax
comp=Z,7.0nm,1.2s
SNAA Sanae 160.23 177 PKP PKPdf 13 01 38.8 -2.4
comp=Z,4.9nm,1.2s,baz=232,slow=0.4,SNR=13
SNAA PKPab PKPab 13 02 21.6 -0.9
comp=Z,37nm,1.1s,baz=204,slow=4.7,SNR=21
SNAA PP PP 13 06 02.0 -3.4
comp=Z,7.0nm,1.2s,baz=188,slow=6.1,SNR=3.8
MAIT Maitri 160.43 192 *e*PKPdf PKPab 13 02 19.9 -3.4
VNA2 Neumayer--Watz 160.72 173 *e*PKPdf PKPdf 13 01 40.8 -0.9
VNA2 *e* 13 02 04.4
VNA2 *e* 13 02 13.9
VNA2 *e* 13 02 24.6
VNA2 *e* 13 02 27.6
VNA2 *e* 13 02 58.9
VNA2 *e* 13 06 05.8
VNA2 *e* 13 06 17.8
VNA1 Neumayer--Stat 160.91 172 *e*PKPdf PKPab 13 02 25.6 +0.2
VNA1 *e* 13 02 28.5
VNA1 *e* 13 02 58.2
VNA1 *e* 13 06 07.5
VNA1 *e* 13 06 17.5

*CSEM **29** 13:01:47.2±0.7, 3865N×29.13W, h4km±4km, ML2.9, Error ellipse: s-maj=6.7km s-min=4.8km az=37.0, After PDA*
*PDA **29** 13:01:47.2±0.7, 3865N×29.13W, h4km±4km, MD3.5, ML2.9, Error ellipse: s-maj=6.7km s-min=4.8km az=37.0*
SVSA 29 13:01:47.2±0.7, 3865N×2913W, h4km±4km, MD3.5, ML2.9, Error ellipse: s-maj=6.7km s-min=4.8km az=37.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CALA	**Caldeira**	**0.34**	**101**	*i* P	Pg	13 01 53.5	-0.3
CALA				*i* S	Sg	13 01 58.1	-0.1
CALA	**Caldeira**	**0.34**	**101**	*i* S	Sg	13 01 58.1	-0.1
HOR	**Horta**	**0.41**	**107**	*i* P	Pg	13 01 54.5	-0.6
HOR				*i* S	Sg	13 01 59.9	-0.5
HOR	**Horta**	**0.41**	**107**	*i* S	Sg	13 01 59.9	-0.5
PICO	**Pico**	**0.57**	**104**	*e*P	Pg	13 01 57.4	-0.8
PICO				*e*S	Sg	13 02 04.9	-0.7
ROSA	**Rosais**	**0.70**	**84**	*i* P	Pg	13 01 58.9	-1.7
ROSA				*e*S	Sg	13 02 07.5	-2.2
ROSA	**Rosais**	**0.70**	**84**	*e*S	Sg	13 02 07.5	-2.2
PMAN	**Manadas**	**0.81**	**91**	*e*P	Pg	13 02 00.6	-2.2
PMAN				*e*S	Sg	13 02 10.4	-3.0
PMAN				A		13 02 15.6	
352nm,0.3s							
PMAN	**Manadas**	**0.81**	**91**	*e*P	Pg	13 02 00.6	-2.2
PMAN				*e*S	Sg	13 02 10.4	-3.0
SRBC	**Serra Branca**	**0.94**	**65**	*e*S	Sg	13 02 13.7	-3.6
PSCM	**Serra do Cume**	**1.58**	**87**	*e*P	Pn	13 02 10.8	-5.1
PSCM				*e*S	Sn	13 02 28.8	-7.9
PSCM				A		13 02 30.5	
74nm,0.2s							
PSCM	**Serra do Cume**	**1.58**	**87**	*e*P	Pn	13 02 10.8	-5.1
PSCM				*e*S	Sn	13 02 28.8	-7.9

NEIC 29 13:09:40.3, 3651S×17733E, h277km, MG3.9(WEL), After WEL., Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.31**	**144**	P	Pn	13 10 20.1	+0.2
MXZ				S	S	13 10 49.6	-1.6
PUZ	**Puketiti**	**1.73**	**155**	*e*P	Pn	13 10 23.0	+0.3
URZ	**Urewera**	**1.76**	**186**	P	Pn	13 10 23.3	+0.3
MWZ	**Matawai**	**1.83**	**175**	P	Pn	13 10 24.2	+0.7
MWZ				S	S	13 10 58.1	+0.2
KNZ	**Kokohu**	**2.52**	**174**	*e*P	Pn	13 10 29.8	+0.2
BKZ	**Black Stump Fm**	**2.73**	**194**	*e*P	Pn	13 10 31.7	0.0
WPVZ	**Whakapapa**	**3.04**	**207**	*e*P	Pn	13 10 35.5	+0.7
TUVZ	**Tukino**	**3.06**	**205**	P	Pn	13 10 35.7	+0.7
FWVZ	**Far West T-bar**	**3.08**	**207**	*e*P	Pn	13 10 36.2	+1.0
WNVZ	**Wahianoa**	**3.13**	**205**	P	Pn	13 10 36.1	+0.4
MOVZ	**Moawhango**	**3.15**	**203**	P	Pn	13 10 36.0	+0.1
TSZ	**Takapari Road**	**3.71**	**196**	*e*P	Pn	13 10 40.9	-1.0
WAZ	**Wanganui**	**3.73**	**209**	*e*P	Pn	13 10 42.1	-0.1
BFZ	**Birch Farm**	**4.25**	**191**	*e*P	Pn	13 10 47.4	-0.7
MRZ	**Mangatainoka R**	**4.37**	**198**	*e*P	Pn	13 10 48.3	-1.1
KIW	**Kapiti Island**	**4.74**	**203**	P	Pn	13 10 52.0	-1.8
MTW	**Mount Morrison**	**4.86**	**197**	P	Pn	13 10 54.0	-1.1
CAW	**Cannon Point**	**4.92**	**200**	P	Pn	13 10 54.0	-1.9
MRW	**Makara Radio**	**5.14**	**203**	P	Pn	13 10 57.2	-1.3
MSWZ	**Moikau Station**	**5.16**	**198**	P	Pn	13 10 57.6	-1.1
WEL	**Wellington**	**5.17**	**202**	P	Pn	13 10 57.5	-1.4
SNZO	**South Karori**	**5.21**	**202**	P	Pn	13 10 58.0	-1.4
TCW	**Tory Channel**	**5.27**	**206**	P	Pn	13 10 58.6	-1.4
NNZ	**Nelson**	**5.62**	**212**	*e*P	Pn	13 11 02.6	-1.7
QRZ	**Quartz Range**	**5.72**	**220**	*e*P	Pn	13 11 03.3	-2.1
THZ	**Tophouse**	**6.27**	**212**	*e*P	Pn	13 11 10.5	-1.7
KHZ	**Kahutara**	**6.59**	**205**	*e*P	Pn	13 11 14.8	-1.3
LTZ	**Lake Taylor**	**7.38**	**210**	*e*P	Pn	13 11 24.1	-1.7

*ISCJB **29** 13:28:50.6±0.6, 3681N±005×3505E±005, h29km±7km, Error ellipse: s-maj=7.6km s-min=6.3km az=177.3*
*CSEM **29** 13:28:50.2±0.2, 3686N×3503E, h30km, MD2.9, Error ellipse: s-maj=5.6km s-min=4.9km az=53.0*
*ISK **29** 13:28:50.0, 3683N×3506E, h21km, MD2.9*
*NSSC **29** 13:28:53.7, 3682N×3556E, h15km±4km*
ISC 29 13:28:50.8±0.6, 3681N±005×3505E±005, h26km±8km, n17, σ0°99/28, 5D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MERS	**Mersin**	**0.43**	**278**	*e*PG	**Pb**	**13 28 59.5**	**-0.4**
MERS				*e*SG	**Sb**	**13 29 06.3**	**+0.4**
KARA	**Karaisali**	**0.45**	**0**	PG	**Pb**	**13 28 58.8**	**-1.4**
KARA				*e*SG	**Sb**	**13 29 05.9**	**-0.7**
CEYT	**Ceyhan**	**0.59**	**70**	*e*PG	**Pb**	**13 29 02.1**	**-0.4**
CEYT				*e*SG	**Sb**	**13 29 11.0**	**+0.5**
KOZT	**Kozan**	**0.91**	**43**	*e*PG	**Pn**	**13 29 08.2**	**+0.3**
KOZT				*e*SG	**Sb**	**13 29 21.6**	**+2.0**
HTY	**Hatay**	**1.11**	**128**	*e*PN	**Pn**	**13 29 10.5**	**-0.2**
ARNB	**Al Arnab**	**1.21**	**142**	⇑P	**Pn**	**13 29 12.8**	**+0.9**
ARNB				⇓S	**Sn**	**13 29 27.5**	**+0.1**
IKL	**Isikli**	**1.24**	**243**	*e*PN	**Pn**	**13 29 12.6**	**+0.3**
DRWC	**Darouich**	**1.31**	**98**	⇑P	**Pn**	**13 29 10.9**	**-2.5**
DRWC	**Darouich**	**1.31**	**98**	⇑*i*P	**Pn**	**13 29 10.9**	**-2.5**
NIG	**Nigde**	**1.34**	**345**	*e*PN	**Pn**	**13 29 13.7**	**-0.1**
BTCH	**Batrach**	**1.37**	**124**	⇑P	**Pn**	**13 29 13.2**	**-1.0**
BTCH				⇑S	**Sn**	**13 29 29.4**	**-2.1**
BTCH	**Batrach**	**1.37**	**124**	⇑*i*P	**Pn**	**13 29 13.2**	**-1.0**
BTCH				⇑*i*S	**Sn**	**13 29 29.4**	**-2.1**
SLNF	**Slenfeh**	**1.54**	**142**	⇑P	**Pn**	**13 29 17.6**	**+1.2**
SLNF				⇓S	**Sn**	**13 29 36.2**	**+0.5**
SLNF	**Slenfeh**	**1.54**	**142**	⇑*i*P	**Pn**	**13 29 17.6**	**+1.1**
SLNF				⇓*i*S	**Sn**	**13 29 36.2**	**+0.6**
WRDH	**Warideh**	**1.70**	**139**	⇓P	**Pn**	**13 29 20.1**	**+1.3**
WRDH				⇑S	**Sn**	**13 29 39.5**	**-0.2**
WRDH	**Warideh**	**1.70**	**139**	⇓*i*P	**Pn**	**13 29 20.1**	**+1.3**
WRDH				⇑*i*S	**Sn**	**13 29 39.5**	**-0.2**
BNN	**Bunyan**	**2.13**	**17**	*e*PN	**Pn**	**13 29 25.3**	**+0.7**

IDC 29 13:31:56.0±51.0, 2194S×17521W, h0km, mb4.1/3, mb1 4.2/3, mb1mx3.8/14, mbtmp4.1/3, 1D, Error ellipse: s-maj=958.9km s-min=157.0km az=86.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**35.96**	**266**	⇓*i*P	P	13 39 01.9	+3.2
3.3nm,0.4s							
STKA	**Stephens Creek**	**39.55**	**246**	*e*P	P	13 39 27.2	-1.8
2.3nm,0.7s							
STKA	**Stephens Creek**	**39.55**	**246**	P	P	13 39 27.4	-1.6
1.1nm,0.4s,baz=86,slow=11,SNR=8.0							
ASAR	**Alice Springs**	**46.74**	**258**	P	P	13 40 27.4	+0.1
0.7nm,0.5s,baz=90,slow=6.5,SNR=31							
WB2	**Warramunga Arr**	**46.98**	**263**	*e*P	P	13 40 30.1	+0.9
WRA	**Warramunga Arr**	**47.00**	**263**	P	P	13 40 30.4	+1.1
2.0nm,0.3s,baz=98,slow=8.3,SNR=43							
FITZ	**Fitzroy Crossi**	**55.43**	**263**	*e*P	P	13 41 34.9	+2.2
3.0nm,0.7s							

*SZGRF **29** 13:39:47.2, 4596N×138.12E, h33km, mb4.9, Eastern Sea of Japan*
*SKHL **29** 13:40:15.4±1.1, 4502N×13745E, h323km, mb4.7/10, msh5.0/3*
*JMA **29** 13:40:15.0±0.3, 4495N×13740E, h346km, M4.0*
*MOS **29** 13:40:15.0±1.0, 4511N×13737E, h322km, mb4.3/61, Error ellipse: s-maj=9.4km s-min=5.0km az=109.0*
*BJI **29** 13:40:15.2, 4511N×13744E, h333km, mB4.6, mb4.5*
*ISCJB **29** 13:40:15.5±0.2, 4503N±002×13737E±003, h328km±2km, mb4.3/130, Error ellipse: s-maj=3.9km s-min=3.3km az=4.4*
*NEIC **29** 13:40:16.1±0.2, 4510N×13737E, mb4.3/74, Error ellipse: s-maj=4.8km s-min=4.5km az=123.0*
*IDC **29** 13:40:16.3±0.7, 4512N×13736E, h323km±6km, mb3.9/19, mb1 4.0/26, mb1mx4.0/28, mbtmp4.0/26, Error ellipse: s-maj=10.2km s-min=7.9km az=90.0*
ISC 29 13:40:16.2±0.2, 4506N±003×13736E±003, h320km±2km, h323km±3.3km: pP-P, n364, σ0s97/380, mb4.3/130, 17C-24D, Primorye

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TEY	**Ternei**	**0.54**	**268**	⇓*i*P	**Pn**	**13 40 58.0**	**+0.9**
TEY				AMB	AMB	13 40 58.6	
470nm,0.5s							
TEY				*i* S	**S**	**13 41 30.4**	**+0.6**
TEY				A		13 41 31.0	
870nm,1.0s							
JRR	**Rishiri**	**2.80**	**87**	P	**Pn**	**13 41 12.4**	**+1.1**
JRR				*e*S	**S**	**13 41 57.2**	**+1.6**
JSK	**Shakotan**	**2.82**	**126**	P	**Pn**	**13 41 11.8**	**+0.2**
JYG	**Yagishiri**	**2.96**	**101**	P	**Pn**	**13 41 13.1**	**+0.2**
JSH	**Shimam**	**3.10**	**140**	P	**Pn**	**13 41 14.2**	**-0.1**
JWK2	**Keihoku**	**3.22**	**84**	P	**Pn**	**13 41 16.7**	**+1.4**
JWK2				*e*S	**S**	**13 42 04.0**	**+1.2**
JOSM	**Okushiri--Mats**	**3.35**	**152**	P	**Pn**	**13 41 16.9**	**+0.1**
JHR	**Hokuryu**	**3.39**	**111**	P	**Pn**	**13 41 17.6**	**+0.5**
JEW	**Eniwo**	**3.69**	**126**	P	**Pn**	**13 41 20.5**	**+0.3**
JSE	**Soyaes**	**3.70**	**90**	P	**Pn**	**13 41 20.9**	**+0.6**
JSE				*e*S	**S**	**13 42 12.2**	**+0.5**
HABR	**Khabarovsk**	**3.76**	**336**	⇑*i*P	**Pn**	**13 41 22.3**	**+1.5**
HABR				*e*S	**S**	**13 42 15.8**	**+3.1**
HABR				smax			
comp=E,421nm,1.8s							
HABR	**Khabarovsk**	**3.76**	**336**	⇑*i*P	**Pn**	**13 41 21.8**	**+1.0**
HABR				*e*S	**S**	**13 42 15.5**	**+2.8**
ASAJ	**Asahikawa**	**3.86**	**102**	P	**Pn**	**13 41 22.2**	**+0.3**
ASAJ				pmax	pmax		
comp=Z,25nm,0.3s							
ASAJ	**Asahikawa**	**3.86**	**102**	P	**Pn**	**13 41 22.2**	**+0.3**
comp=Z,25nm,0.3s,baz=281,slow=6.2,SNR=161							
JKK2	**Kamakawa 2**	**4.03**	**105**	P	**Pn**	**13 41 24.0**	**+0.2**
JKK2				*e*S	**S**	**13 42 19.1**	**+1.0**
JKB	**Kayabe**	**4.15**	**139**	P	**Pn**	**13 41 24.0**	**-1.0**
YSS	**Yuzh-Sakhalins**	**4.21**	**61**	⇑*i*P	**Pn**	**13 41 26.0**	**+0.5**
YSS				*i* S	**S**	**13 42 21.9**	**+0.6**
YSS				pmax	pmax		
comp=Z,50nm,0.7s							
YSS				pmax	pmax		
comp=Z,50nm,0.5s							
YSS				smax			
comp=E,180nm,1.1s							
YSS	**Yuzh-Sakhalins**	**4.21**	**61**	⇑*i*P	**Pn**	**13 41 26.0**	**+0.5**
YSS				AMB	AMB	13 41 27.0	
comp=E,50nm,0.7s							
YSS				*i* S	**S**	**13 42 21.9**	**+0.6**
YSS				A		13 42 23.4	
comp=E,180nm,1.1s							
JFR	**Furan**	**4.22**	**115**	P	**Pn**	**13 41 25.5**	**-0.3**
JFR				*e*S	**S**	**13 42 20.7**	**-1.0**
VLA	**Vladivostok**	**4.39**	**246**	*i* P	**Pn**	**13 41 28.2**	**+0.5**
VLA				pmax	pmax		
comp=Z,159nm,0.7s							
JOT	**Ohata**	**4.56**	**143**	P	**Pn**	**13 41 29.6**	**+0.1**
JNBK	**Urakawa-nobuka**	**4.80**	**124**	P	**Pn**	**13 41 31.4**	**-0.8**
JNBK				*e*S	**S**	**13 42 33.0**	**-0.4**
JTKR	**Abashiri--Toko**	**4.81**	**101**	P	**Pn**	**13 41 32.0**	**-0.2**
JAR	**Ashorobuto**	**4.93**	**109**	P	**Pn**	**13 41 33.3**	**-0.4**
JAR				*e*S	**S**	**13 42 35.2**	**-0.9**
JCH	**Churui**	**4.98**	**117**	P	**Pn**	**13 41 32.5**	**-1.7**
JCH				*e*S	**S**	**13 42 31.4**	**-5.8**
UGL	**Uglegorsk**	**5.14**	**37**	*e*P	**Pn**	**13 41 37.0**	**+1.1**
UGL				AMB	AMB	13 41 38.5	
comp=Z,220nm,1.0s							
ERM	**Erimo**	**5.20**	**124**	*e*Pn	**Pn**	**13 41 36.0**	**-0.8**
comp=Z,79nm,0.6s							
ERM				*e*S	**S**	**13 42 33.7**	**-7.9**
MDJ	**Mudanjiang**	**5.54**	**268**	P	**Pn**	**13 41 39.5**	**-1.1**
MDJ				S	**S**	**13 42 47.0**	**-1.8**
MDJ				PCP	PcP	13 48 08.8	+0.1
MDJ				SCP	ScP	13 51 10.5	+1.6
MDJ				PCS	PcS	13 51 41.3	+0.2
MDJ				SCS	ScS	13 54 41.8	+0.2
MDJ				AMB	AMB		
comp=Z,123nm,0.8s							
MDJ				AMB	AMB		
comp=Z,152nm,4.8s							
KLR	**Kul'dur**	**5.66**	**319**	⇓*i*P	**Pn**	**13 41 39.2**	**-2.7**
KLR				*e*S	**S**	**13 42 51.0**	**-0.1**
KLR				pmax	pmax		
comp=E,48nm,1.0s							
KLR				pmax	pmax		
comp=Z,44nm,1.0s							
KLR				smax			
comp=N,70nm,1.8s							
KLR				smax			
comp=E,170nm,1.8s							
KLR	**Kul'dur**	**5.66**	**319**	⇓*i*P	**Pn**	**13 41 39.2**	**-2.7**
KLR				AMB	AMB	13 41 39.7	
comp=E,48nm,1.0s							
KLR				AMB	AMB	13 41 39.7	
comp=E,44nm,1.0s							
KLR				*e*S	**S**	**13 42 51.0**	**-0.1**
KLR				A		13 42 53.3	
comp=E,70nm,1.8s							

KLR A 13 42 53.3
comp=E,170nm,1.8s
GRNR Gornyy 5.75 354⇑ *i*P Pn 13 41 43.9 +1.1
GRNR AMB AMB 13 41 44.4
comp=E,150nm,0.5s
GRNR *e*S **S 13 42 49.1 -3.8**
NEM2 Nemuro 2 6.26 103 P **Pn 13 41 46.5 -2.5**
NEM2 *e*S **S 13 42 56.6 -7.5**
JMK Ichinoseki 6.75 153 P **Pn 13 41 52.8 -2.1**
JMK *e*S **S 13 43 08.7 -6.1**
TYV Tymovskoe 6.80 30 *i* P **Pn 13 41 57.1 +1.8**
KUR Kuril'sk 7.43 85 *e*P **Pn 13 42 00.5 -2.4**
NKL Nikolayevsk 8.38 14⇑ *i*P **Pn 13 42 10.8 -3.5**
NKL AMB AMB 13 42 11.3
comp=E,37nm,0.7s
EKMR Ekimchan 8.52 342 *e*P **Pn 13 42 11.8 -4.2**
EKMR AMB AMB 13 42 25.0
comp=E,15nm,0.5s
MAJO Matsushiro 8.53 175 *e*Pn **Pn 13 42 15.5 -0.9**
comp=E,13nm,0.3s
MAJO Matsushiro 8.53 175 *e*P **Pn 13 42 15.5 -0.9**
MAJO pmax pmax
comp=Z,13nm,0.3s
MAT Matsushiro 8.53 175 P **Pn 13 42 15.4 -1.0**
MAT *e*S **S 13 43 47.7 -6.6**
MAT Matsushiro 8.53 175 P **Pn 13 42 15.6 -0.8**
MJAR Matsushiro Arr 8.54 175 P **Pn 13 42 16.3 -0.1**
MJAR pmax pmax
comp=Z,5.0nm,0.3s
MJAR Matsushiro Arr 8.54 175 P **Pn 13 42 16.3 -0.1**
comp=Z,5.2nm,0.3s,baz=358,slow=11,SNR=86
CN2 Changchun 8.62 266 *e*P **Pn 13 42 18.5 +1.2**
CN2 *e*XP 13 43 23.8
CN2 *e*S **S 13 43 54.5 -1.6**
CN2 PCS PcS 13 51 46.0 +2.1
CN2 AMB AMB
comp=Z,20nm,1.3s
CN2 AMB AMB
comp=Z,200nm,4.0s
JRY Ryogami san 9.11 172 P **Pn 13 42 21.1 -2.3**
JRY *e*S **S 13 44 01.7 -5.5**
OKH Okha 9.24 21 *e*P **Pn 13 42 27.9 +3.2**
OKH AMB AMB 13 42 28.2
comp=Z,100nm,1.0s
JOD2 Odawara 2 9.88 172 P **Pn 13 42 29.5 -3.2**
JOD2 *e*S **S 13 44 14.3 -10**
YASR Yasnyy 10.27 327 *e*P **Pn 13 42 33.9 -3.2**
YASR AMB AMB 13 42 38.5
comp=Z,11nm,0.6s
KSRS Korea Array 10.40 226 P **Pn 13 42 40.3 +1.3**
comp=Z,0.9nm,0.3s,baz=40,slow=11,SNR=25
SNY Shenyang 10.53 257 ⇓P **Pn 13 42 42.0 +1.5**
SNY AMB AMB
comp=Z,22nm,0.9s
BSO1 Boso 1 10.76 164 *e*S **S 13 44 33.9 -10**
ZEA Zeya 10.89 326 *e*P **Pn 13 42 41.8 -2.9**
ZEA AMB AMB 13 42 44.3
comp=Z,29nm,1.0s
INCN Inchon 11.06 231 *e*Pn **Pn 13 42 49.0 +2.0**
comp=Z,31nm,1.0s
BMKR Bomnak 11.10 333⇑ *i*P **Pn 13 42 44.0 -3.2**
BMKR AMB AMB 13 42 44.5
comp=Z,19nm,0.5s
KROS Kirovskiy 11.53 328 *e*P **Pn 13 42 48.6 -3.7**
KROS AMB AMB 13 42 50.4
comp=Z,4.0nm,0.6s
JHJ Hachijo jima 2 12.07 170 P **Pn 13 43 01.1 +1.9**
comp=Z,85nm,0.3s,baz=233,slow=1.3,SNR=33
JNU Nakatsue 12.94 205 P **Pn 13 43 09.4 -0.1**
comp=Z,0.8nm,0.3s,baz=22,slow=24,SNR=12
SKR Severo-Kuril's 13.77 59 *e*P **Pn 13 43 16.5 -2.7**
SKR pmax pmax
comp=Z,60nm,0.5s
NRGR Nerungri 14.06 330 S **S 13 45 59.2 +3.9**
NRGR smax
comp=E,32nm,0.5s
CLNS Chul'man 14.14 331 *e*P **P 13 43 20.9 -1.5**
CLNS pmax pmax
comp=N,13nm,0.8s
CLNS pmax pmax
comp=Z,26nm,0.8s
CLNS pmax pmax
comp=E,6.0nm,0.7s
PET Petropavlovsk 16.03 53 *e*P **P 13 43 43.8 +0.7**
comp=E,4.6nm,0.3s
PET Petropavlovsk 16.03 53 *e*P **P 13 43 43.8 +0.7**
PET pmax pmax
comp=Z,5.0nm,0.3s
MA2 Magadan 16.63 24 *e*P **P 13 43 49.4 -0.2**
comp=Z,15nm,0.8s
MA2 Magadan 16.63 24 *e*P **P 13 43 49.7 +0.1**
MA2 pmax pmax
comp=Z,30nm,0.8s
MA2 Magadan 16.63 24 *e*P **P 13 43 49.7 +0.1**
YAK Yakutsk 17.58 348 *e*P **P 13 43 58.3 -1.5**
comp=Z,78nm,0.8s
YAK Yakutsk 17.58 348 *d i*P **P 13 43 58.4 -1.4**
YAK *e*S **S 13 47 00.7 -4.6**
YAK pmax pmax
comp=N,27nm,1.0s
YAK pmax pmax
comp=Z,69nm,1.0s
YAK pmax pmax
comp=E,9.0nm,1.1s
YAK smax
comp=N,162nm,1.7s
YAK smax
comp=Z,224nm,3.2s
YAK smax
comp=E,102nm,1.4s
YAK Yakutsk 17.58 348 ⇓ *i*P **P 13 43 58.4 -1.4**
CBIJ Chichi jima 18.34 166 P **P 13 44 07.5 -0.9**
comp=E,29nm,0.3s,baz=339,slow=6.0,SNR=27
BOD Bodaibo 19.24 320 *e*P **P 13 44 14.7 -2.8**
BOD pmax pmax
comp=Z,3.0nm,0.8s
HHC Hu-ho-hao-te 19.32 267 *e*P **P 13 44 16.3 -2.2**
HHC XP sP 13 45 46.0 -1.3
HHC S **S 13 47 31.5 -7.9**
HHC PCS PcS 13 51 59.0 -3.4
HHC AMB AMB
comp=Z,12nm,0.4s
HHC AMB AMB
comp=Z,364nm,8.2s
HHC LR LR
comp=N,335nm,16.7s
HHC LR LR
comp=E,394nm,12.8s
HHC LR LR
comp=Z,252nm,12.9s
JOW Kunigami 19.60 205 P **P 13 44 22.2 +0.6**
comp=Z,2.8nm,0.3s,baz=119,slow=16,SNR=8.7
SEY Seymchan 19.87 20⇑ *e*P **P 13 44 22.5 -1.5**
ULN Ulaanbaatar 21.00 289 *e*P **P 13 44 33.7 -1.5**
comp=Z,7.8nm,0.6s,mb4.1
ULN Ulaanbaatar 21.00 289 *e*P **P 13 44 33.7 -1.5**
ULN pmax pmax
comp=Z,8.0nm,0.6s,mb4.1
SONM Songino Array 21.45 289 P **P 13 44 39.0 -0.3**
SONM pmax pmax
comp=Z,10.0nm,0.7s
SONM Songino Array 21.45 289 P **P 13 44 39.0 -0.3**
comp=Z,10nm,0.7s,mb4.2,baz=78,slow=9.0,SNR=56
WHN Wuhan 23.14 239 ⇓P **P 13 44 56.3 +1.4**
TLY Talaya 23.21 299 *e*P **P 13 44 54.6 -0.7**
comp=Z,13nm,0.7s,mb4.3
TLY Talaya 23.21 299 *e*P **P 13 44 54.9 -0.3**
TLY pmax pmax
comp=Z,12nm,0.7s,mb4.2
ZAK Zakamensk 23.40 295 ⇓ *i*P **P 13 44 56.6 -0.4**
ZAK pmax pmax
comp=Z,6.0nm,0.8s,mb3.9
MOY Mondy 24.86 299 *e*P **P 13 45 09.0 -1.1**
LZH Lanzhou 26.84 262 *e*P **P 13 45 28.0 +0.1**
LZH AP 13 46 29.0
LZH XP sP 13 47 04.0 -1.4
LZH AMB AMB
comp=Z,13nm,1.0s,mb4.1
TIXI Tiksi 26.98 354 *e*P **P 13 45 26.0 -2.7**
comp=Z,2.1nm,0.4s,mb3.7
TIXI Tiksi 26.98 354⇑ *e*P **P 13 45 26.5 -2.2**
TIXI pmax pmax
comp=Z,5.0nm,1.6s,mb3.5
BILL Bilibino 27.50 23 *e*P **P 13 45 31.4 -1.9**
comp=Z,6.5nm,0.9s,mb3.9
BILL Bilibino 27.50 23 *d i*P **P 13 45 31.4 -2.0**
BILL pmax pmax
comp=Z,5.0nm,0.8s,mb3.8
GTA Gaotai 28.19 272 *e*P **P 13 45 40.5 +0.7**
GTA AP 13 46 42.3
GTA XP sP 13 47 17.5 -0.1
GTA AMB AMB
comp=Z,4.0nm,0.7s,mb3.8
CD2 Chengdu 29.78 253 *e*P **P 13 45 54.8 +0.9**
CD2 XP sP 13 47 32.0 +0.1
CD2 XS sS 13 52 15.5 -1.6
CD2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.2
CD2 AMB AMB
comp=Z,20nm,5.8s
GYA Guiyang 30.80 243 P **P 13 46 03.8 +0.9**
GYA AP pP 13 47 04.5 +0.6
GYA PP PP 13 47 21.5 +1.4
GYA XP sP 13 47 40.8 -0.2
GYA PCP PcP 13 48 53.3 +2.0
GYA S **S 13 50 43.8 +1.5**
GYA SCP ScP 13 52 04.3 +1.5
GYA PCS PcS 13 52 36.5 +0.7
GYA SCS ScS 13 56 01.0 +0.6
GYA AMB AMB
comp=Z,10.0nm,0.8s,mb4.1
ZAA0 Zalesovo Array 34.53 304 *e*P **P 13 46 33.7 -1.1**
ZAA0 *e*PcP PcP 13 49 01.5 +0.2
ZALV Zalesovo Beam 34.53 304 P **P 13 46 34.1 -0.6**
comp=Z,6.8nm,0.3s,mb4.3,baz=87,slow=8.3,SNR=52
ZALV PcP PcP 13 49 01.4 +0.2
comp=Z,4.3nm,0.5s,baz=87,slow=2.7,SNR=14
ZALV ScP ScP 13 52 15.5 +0.2
comp=Z,2.3nm,0.7s,baz=75,slow=2.5,SNR=8.2
ZAL Zalesovo 34.55 304 P **P 13 46 34.2 -0.6**
ZAL 13 49 01.5
WMQ Urumqi 35.04 286 *e*P **P 13 46 40.3 +1.1**
WMQ AMB AMB
comp=Z,7.0nm,0.8s,mb3.9
MK31 Makanchi Array 37.69 293 *e*P **P 13 47 01.1 -0.2**
MK31 Makanchi Array 37.69 293 *i* P **P 13 47 01.1 -0.2**
MK31 pmax pmax
comp=Z,2.0nm,0.3s,mb3.8
MKAR Makanchi Array 37.69 293 P **P 13 47 01.2 -0.1**
MKAR 13 52 27.1
MKAR pmax pmax
comp=Z,5.0nm,0.6s
MKAR pmax pmax
comp=N,1.0nm,0.6s
MKAR Makanchi Array 37.69 293 P **P 13 47 01.2 -0.1**
comp=N,4.9nm,0.6s,mb3.9,baz=82,slow=10,SNR=43
MKAR ScP ScP 13 52 27.1 0.0
comp=N,0.7nm,0.6s,baz=48,slow=5.8,SNR=6.4
KURK Kurchatov 38.89 300 *e*P **P 13 47 10.2 -1.1**
comp=N,14nm,0.5s,mb4.5
KURK *e*PcP PcP 13 49 14.6 0.0
KURK Kurchatov 38.89 300 *e*P **P 13 47 10.2 -1.0**
KURK *e* 13 49 14.6
KURK pmax pmax
comp=Z,14nm,0.5s,mb4.5
CM31 Chiang Mai Arr 41.49 243 *e*P **P 13 47 35.2 +2.4**
comp=Z,3.9nm,0.6s,mb3.8
IMA2 Indian Mountai 41.59 35 *e*P **P 13 47 30.9 -2.1**
BRVK Borovoye 43.19 306 *e*P **P 13 47 45.9 -0.1**
comp=Z,15nm,1.1s,mb4.0
BRVK Borovoye 43.19 306 *e*P **P 13 47 45.9 0.0**
BRVK pmax pmax
comp=Z,15nm,1.1s,mb4.0
ULHL Ulahol 43.39 289 P **P 13 47 48.2 +0.5**
SNR=7.0
KDAK Kodiak Island 43.51 47 P **P 13 47 47.0 -1.4**
comp=Z,5.1nm,0.8s,mb3.7,baz=288,slow=15,SNR=8.1
TKM2 Tokmak 2 43.53 290 *e*P **P 13 47 49.6 +0.8**
comp=Z,18nm,0.6s,mb4.4
TKM2 Tokmak 2 43.53 290 *e*P **P 13 47 49.6 +0.8**
TKM2 pmax pmax
comp=Z,18nm,0.6s,mb4.4
TKM2 Tokmak 2 43.53 290 P **P 13 47 50.0 +1.2**
SNR=32
JIRN Jiri 43.95 265 *e*P **P 13 47 53.3 +1.0**
comp=Z,37nm,0.5s,mb4.8
ZRNK Zerenda 43.96 306 *i* P **P 13 47 52.0 0.0**
ZRNK pmax pmax
comp=Z,11nm,0.7s,mb4.1
GUN Gumba 44.02 265 *e*P **P 13 47 53.3 +0.4**
comp=Z,36nm,0.4s,mb4.8
KBK Karagaybulak 44.08 290 P **P 13 47 54.1 +1.0**
SNR=24
USP Ospenovka 44.12 291 P **P 13 47 54.0 +0.6**
SNR=11
KZA Kyzart 44.13 289 P **P 13 47 55.5 +2.0**
SNR=14
COLA College 44.16 36 *e*P **P 13 47 51.9 -1.6**
comp=Z,6.1nm,0.8s,mb3.8
COLA College 44.16 36 *e*P **P 13 47 51.9 -1.6**
COLA pmax pmax
comp=Z,6.0nm,0.8s,mb3.8
AAK Ala-Archa 44.39 290 *e*P **P 13 47 54.6 -1.0**
comp=Z,5.7nm,0.6s,mb3.9
AAK Ala-Archa 44.39 290 ⇓ *i*P **P 13 47 54.7 -0.9**
AAK pmax pmax
comp=Z,9.0nm,1.2s,mb3.8
AAK Ala-Archa 44.39 290 P **P 13 47 56.3 +0.7**
SNR=10
KKN Kakani 44.52 265 *e*P **P 13 47 57.3 +0.5**
comp=Z,51nm,0.5s,mb4.9
UCH Uchtor 44.55 290 *e*P **P 13 47 56.4 -0.5**
comp=Z,1.6nm,0.6s,mb3.3
PKI Pulchoki 44.56 265 *e*P **P 13 47 57.7 +0.6**
DMN Daman 44.75 265 *e*P **P 13 47 59.3 +0.7**
GKN Gorkha 44.84 266 *e*P **P 13 47 59.7 +0.4**
comp=Z,57nm,0.4s,mb5.0
EKS2 Erkin-Say 44.85 291 *e*P **P 13 47 59.7 +0.5**
comp=Z,6.3nm,0.6s,mb3.9
EKS2 Erkin-Say 44.85 291 P **P 13 47 59.9 +0.7**
SNR=7.1
AML Almayashu 45.14 290 *e*P **P 13 48 02.7 +1.2**
comp=Z,4.3nm,0.4s,mb3.9
AML Almayashu 45.14 290 P **P 13 48 02.9 +1.4**
SNR=10
DANN Dangsing 45.26 267 *e*P **P 13 48 03.9 +1.4**
comp=Z,117nm,0.4s,mb5.4
KOLN Koldanda 45.72 267 *e*P **P 13 48 07.1 +1.0**
KK31 Karatay Array 46.81 293 *i* P **P 13 48 14.3 -0.1**
KK31 pmax pmax
comp=Z,5.0nm,0.4s,mb4.1
EGAK Eagle 46.97 35 *e*P **P 13 48 13.6 -1.6**
comp=Z,14nm,0.6s,mb4.4
ARU Arti 48.47 313 *e*P **P 13 48 26.3 -0.4**
comp=Z,7.3nm,0.3s,mb4.4
ARU Arti 48.47 313 ⇓ *i*P **P 13 48 26.5 -0.2**
ARU pmax pmax
comp=Z,17nm,1.3s,mb4.1
INK Inuvik 48.78 30 *e*P **P 13 48 27.7 -1.2**
comp=Z,236nm,0.6s
INK Inuvik 48.78 30 P **P 13 48 28.0 -0.9**
INK pmax pmax
comp=Z,5.0nm,0.3s
INK Inuvik 48.78 30 P **P 13 48 27.9 -1.0**
comp=Z,5.4nm,0.3s,mb4.2,baz=305,slow=6.8,SNR=48
KBL Kabul 52.10 284 *e*P **P 13 48 53.8 -0.3**
comp=Z,4.3nm,0.4s,mb4.1
KEV Kevo 54.86 336 *ep* **P 13 49 10.5 -3.0**
ARCES ARCESS Array B 55.42 337 P **P 13 49 16.6 -0.8**
ARCES pmax pmax
comp=Z,3.0nm,0.5s
ARCES ARCESS Array B 55.42 337 P **P 13 49 16.6 -0.8**
comp=Z,2.5nm,0.5s,mb3.8,baz=44,slow=7.1,SNR=21
RES Resolute Bay 55.61 15 *e*P **P 13 49 16.9 -1.8**
comp=Z,120nm,0.8s,mb5.3
RES Resolute Bay 55.61 15 *e*P **P 13 49 16.9 -1.8**
RES pmax pmax
comp=Z,120nm,0.8s,mb5.3
JOF Joensuu 57.48 329 *ep* **P 13 49 30.3 -1.6**
comp=Z,7.4nm,0.4s,mb4.4
JOF Joensuu 57.48 329 *e*P **P 13 49 30.3 -1.6**
JOF pmax pmax
comp=Z,7.0nm,0.4s,mb4.3
KAKA Kakadu 57.67 186 *e*P **P 13 49 33.4 -0.4**
comp=Z,5.6nm,0.6s,mb4.1
YKA Yellowknife Ar 58.47 31 P **P 13 49 37.5 -1.2**
YKA pP pP 13 50 47.1 -0.6
YKA Yellowknife Ar 58.47 31 P **P 13 49 37.5 -1.2**
YKA *PP pP 13 50 47.1 -0.6
YKA pmax pmax
comp=Z,1.0nm,0.5s
YKA pmax pmax
comp=Z,1.0nm,0.7s
YKA Yellowknife Ar 58.47 31 P **P 13 49 37.5 -1.2**
comp=Z,0.9nm,0.5s,mb3.4,baz=308,slow=6.5,SNR=27
YKA pP pP 13 50 47.1 -0.6
comp=Z,0.5nm,0.7s,baz=306,slow=7.2,SNR=2.9
COEN Coen 58.97 173 *e*P **P 13 49 43.0 +0.2**
comp=Z,2.4nm,0.8s,mb3.7
OBN Obninsk 59.92 319 *e*P **P 13 49 47.9 -0.8**
OBN *i* *PP pP 13 50 56.6 -1.5
OBN pmax pmax
comp=Z,20nm,1.6s,mb4.3
FINES FINESS Array B 60.33 329 P **P 13 49 50.7 -0.7**
FINES FINESS Array B 60.33 329 P **P 13 49 50.7 -0.6**
FINES pmax pmax
comp=Z,8.0nm,0.5s
FINES FINESS Array B 60.33 329 P **P 13 49 50.7 -0.7**
comp=Z,8.4nm,0.5s,mb4.4,baz=57,slow=7.8,SNR=69
KIV Kislovodsk 63.50 306 *e*P **P 13 50 13.9 +1.3**
comp=Z,12nm,0.6s,mb4.6
KIV Kislovodsk 63.50 306 *c i*P **P 13 50 13.3 +0.7**
KIV *e* 13 50 42.9
KIV *i* *PP pP 13 51 22.1 -0.7
KIV pmax pmax
comp=Z,39nm,1.2s,mb4.8
FITZ Fitzroy Crossi 63.76 192 *e*P **P 13 50 14.4 -0.1**
comp=Z,9.8nm,0.8s,mb4.5
WRAB Tennant Creek 64.74 183 *e*P **P 13 50 19.9 -0.8**
comp=Z,9.8nm,1.1s,mb4.3
WRAB Tennant Creek 64.74 183 *e*P **P 13 50 20.0 -0.7**
WRAB pmax pmax
comp=Z,10.0nm,1.1s,mb4.4
WB2 Warramunga Arr 64.75 183⇑ *i*P **P 13 50 20.1 -0.7**
WRA Warramunga Arr 64.75 183 P **P 13 50 20.2 -0.6**
WRA *PP pP 13 51 34.2 +2.8
WRA pmax pmax
comp=Z,3.0nm,0.3s
WRA pmax pmax
comp=Z,1.0nm,1.0s
WRA Warramunga Arr 64.75 183 P **P 13 50 20.2 -0.6**
comp=Z,2.8nm,0.3s,mb4.4,baz=0.1,slow=6.8,SNR=187
WRA pP pP 13 51 34.2 +2.8
comp=Z,1.3nm,1.0s,baz=358,slow=7.1,SNR=2.5
CTA Charters Tower 65.34 171 *e*P **P 13 50 23.8 -0.8**
comp=Z,2.1nm,1.0s,mb3.7
CTAO Charters Tower 65.34 171 *e*P **P 13 50 23.8 -0.8**
comp=Z,2.7nm,0.9s,mb3.9
CTAO Charters Tower 65.34 171 *e*P **P 13 50 23.8 -0.8**
CTAO pmax pmax
comp=Z,3.0nm,0.9s,mb3.9
NB2 NORSAR Subarra 65.62 334 P **P 13 50 25.0 -0.9**
comp=Z,5.5nm,0.7s,mb4.4,baz=37,slow=6.5
NOA NORSAR Array B 65.62 334 P **P 13 50 25.0 -0.9**
NOA *PP pP 13 51 38.0 +1.4
NOA pmax pmax
comp=Z,5.0nm,0.7s
NOA pmax pmax
comp=Z,1.0nm,0.7s
NOA NORSAR Array B 65.62 334 P **P 13 50 25.0 -0.9**
comp=Z,5.2nm,0.7s,mb4.4,baz=39,slow=6.3,SNR=25
NOA pP pP 13 51 38.0 +1.4
comp=Z,1.1nm,0.7s,baz=38,slow=6.4,SNR=3.0
AKASG Malin Array Be 66.16 319 P **P 13 50 29.1 -0.4**
AKASG pmax pmax
comp=Z,15nm,0.7s
AKASG Malin Array Be 66.16 319 P **P 13 50 29.1 -0.4**
comp=Z,15nm,0.7s,mb4.8,baz=44,slow=6.4,SNR=69
NEW Newport 66.53 45 *e*P **P 13 50 32.1 +0.1**
comp=Z,1.6nm,0.6s,mb3.9
NEW Newport 66.53 45 *e*P **P 13 50 32.1 +0.2**
NEW pmax pmax
comp=Z,2.0nm,0.6s
WALA Waterton Lakes 67.56 42 *e*P **P 13 50 38.6 +0.3**
comp=Z,9.3nm,1.0s,mb4.5
MBWA Marble Bar 67.83 198 *e*P **P 13 50 39.7 -0.5**
comp=Z,8.1nm,0.6s,mb4.6
FCC Fort Churchill 68.17 26 *e*P **P 13 50 41.1 -0.8**
comp=Z,9.5nm,1.1s,mb4.4
FCC Fort Churchill 68.17 26 *e*P **P 13 50 41.1 -0.8**
FCC pmax pmax
comp=Z,10.0nm,1.1s,mb4.5
ASAR Alice Springs 68.47 183 P **P 13 50 44.5 +0.4**
ASAR pmax pmax
comp=Z,9.0nm,0.7s
ASAR Alice Springs 68.47 183 P **P 13 50 44.5 +0.4**
comp=Z,9.3nm,0.7s,mb4.7,baz=358,slow=5.4,SNR=258
UMR Umm Al-Rimmam 69.51 292 *e*P **P 13 50 49.5 -1.2**
UMR AMb AMB 13 50 50.8
comp=Z,24nm,0.5s,mb5.2
MALT Malatya 69.58 304 *e*P **P 13 50 52.5 +1.6**
comp=Z,5.5nm,1.0s,mb4.2
MALT Malatya 69.58 304 *e*P **P 13 50 52.5 +1.6**
MALT pmax pmax
comp=Z,6.0nm,1.0s,mb4.3
MALT Malatya 69.58 304⇑ *i*P **P 13 50 52.4 +1.5**
MIB Mutribah 69.60 292 *e*P **P 13 50 49.8 -1.4**
MIB AMb AMB 13 50 51.9
comp=Z,17nm,0.8s,mb4.8
NAY Al-Naaiem 70.02 292 *e*P **P 13 50 51.7 -2.1**
NAY AMb AMB 13 50 54.1
comp=Z,5.8nm,0.5s,mb4.6
RDF Al-Radifah 70.03 291 *e*P **P 13 50 52.4 -1.4**
RDF AMb AMB 13 50 56.6
comp=Z,20nm,0.9s,mb4.9
BURAR Bucovina Array 70.20 318 ⇓ *i*P **P 13 50 54.9 +0.4**
HRY Holter Researc 70.20 43 *e*P **P 13 50 55.5 +0.9**
KOLS Kolonicke sedl 70.60 321 *e*P **P 13 50 56.9 0.0**
STHS Stebnicka Huta 70.70 322 *e*P **P 13 50 57.9 +0.4**
STHS pmax pmax
comp=Z,4.0nm,0.7s,mb4.3
OJC Ojcow 70.73 323 *e*P **P 13 50 57.9 +0.3**
DLMT Dillon 70.79 45 *e*P **P 13 50 59.0 +0.9**
comp=Z,8.9nm,0.6s,mb4.7
CRVS Cervenica-Dubn 70.99 321 *e*P **P 13 50 59.4 +0.2**
MCMT McKenzie Canyo 71.04 45 *e*P **P 13 50 59.0 -0.5**
BOZ Bozeman (W) 71.06 44 *e*P **P 13 51 00.4 +0.7**
comp=Z,1.9nm,0.6s,mb4.0
BOZ Bozeman (W) 71.06 44 *e*P **P 13 51 00.4 +0.7**
BOZ pmax pmax
comp=Z,2.0nm,0.6s,mb4.0
CMB Columbia Colle 71.69 54 *e*P **P 13 51 03.9 +0.4**
comp=Z,6.4nm,1.1s,mb4.3
CMB Columbia Colle 71.69 54 *e*P **P 13 51 03.9 +0.3**
CMB pmax pmax
comp=Z,6.0nm,1.1s,mb4.2
KSP Ksiaz 71.72 325 *e*P **P 13 51 03.7 +0.2**
KECS Kecovo 71.73 321 *e*P **P 13 51 01.3 -2.3**
KECS pmax pmax
comp=Z,2.0nm,1.2s,mb3.7
KECS Kecovo 71.73 321 *e*P **P 13 51 01.3 -2.3**
KECS *e* 13 51 12.5
GCMT Greycliff 71.91 43 *e*P **P 13 51 05.8 +1.1**
DRGR 71.97 319 ⇑P **P 13 51 05.5 +0.5**
DRGR 71.97 319 ⇑ *i*P **P 13 51 05.6 +0.5**
MORC Moravsky Berou 72.02 324 *e*P **P 13 51 05.7 +0.4**
comp=Z,14nm,1.0s,mb4.6
MORC Moravsky Berou 72.02 324 *e*P **P 13 51 05.7 +0.4**
MORC pmax pmax
comp=Z,14nm,1.0s,mb4.7
MORC Moravsky Berou 72.02 324 ⇓ *i*P **P 13 51 05.8 +0.5**
DPC Dobruska-Polom 72.09 325 ⇓ *i*P **P 13 51 05.8 +0.1**
UPC Upice 72.09 325 ⇓ *e*P **P 13 51 06.0 +0.3**
PSZ Piszkesteto 72.42 321 *e*P **P 13 51 08.1 +0.5**
comp=Z,3.0nm,0.8s,mb4.1
PSZ Piszkesteto 72.42 321 *e*P **P 13 51 08.1 +0.5**
PSZ pmax pmax
comp=Z,3.0nm,0.8s,mb4.1
PSZ Piszkesteto 72.42 321 ⇓ *i*P **P 13 51 08.4 +0.8**
VYHS Vyhne 72.45 322 *e*P **P 13 51 08.4 +0.6**
comp=Z,2.2nm,0.9s,mb3.9
VYHS Vyhne 72.45 322 *e*P **P 13 51 08.4 +0.6**
VYHS pmax pmax
comp=Z,2.0nm,0.9s,mb3.9
NVAR Mina Array Bea 72.61 53 P **P 13 51 10.0 +1.0**
comp=Z,5.9nm,0.7s,mb4.4,baz=315,slow=4.5,SNR=57
NVAR pP pP 13 52 25.9 +4.7
comp=Z,0.6nm,0.7s,baz=309,slow=5.7,SNR=2.3
BRG Berggiesshubel 72.63 326 *i* P **P 13 51 08.7 -0.2**
comp=Z,3.3nm,0.6s,mb4.2
BRG *i* 13 51 10.9
comp=Z,2.8nm,0.9s
CLL Collm 72.66 327 ⇓ *i*P **P 13 51 08.7 -0.3**
CLL *i* *PP pP 13 52 21.9 +0.6
CLL pmax pmax
comp=Z,15nm,1.0s,mb4.7
CLL Collm 72.66 327 *e*P **P 13 51 08.4 -0.6**

comp=Z,15nm,1.0s,mb4.7
CLL Collm 72.66 327 *i*P **P 13 51 08.7 -0.3**
comp=Z,15nm,1.0s,mb4.7
CLL *ex* x 13 51 20.0
CLL *i* pP pP 13 52 21.9 +0.6
PVCC Panska Ves 72.66 326⇓*e*P **P 13 51 09.6 +0.6**
VRAC Vranov 72.78 324 ⇓P **P 13 51 09.8 +0.1**
VRAC Vranov 72.78 324⇓*i*P **P 13 51 09.8 +0.1**
FBE Freiberg 72.83 327 *e*P **P 13 51 10.0 0.0**
comp=Z,11nm,0.9s,mb4.6
PRU Pruhonice 73.09 325⇓*e*P **P 13 51 12.0 +0.5**
MODS Modra-Piesok 73.21 323 *e*P **P 13 51 13.0 +0.7**
CLZ Clausthal 73.22 329 *e*P **P 13 51 12.5 +0.3**
CLZ pmax pmax
comp=Z,10.0nm,0.6s,mb4.7
CLZ Clausthal 73.22 329 *e*P **P 13 51 12.5 +0.3**
comp=Z,10.0nm,0.6s,mb4.7
TREC Trest 73.25 325⇓*i*P **P 13 51 13.1 +0.6**
WERD Werda 73.61 327 *e*P **P 13 51 14.4 -0.1**
comp=Z,6.0nm,0.7s,mb4.4
GUNZ Gunzen 73.67 327 *e*P **P 13 51 15.2 +0.3**
comp=Z,6.0nm,0.7s,mb4.4
WERN Wernitzgruen 73.71 327 *e*P **P 13 51 15.2 +0.1**
comp=Z,7.0nm,0.6s,mb4.6
MOX Moxa 73.72 327 *e*P **P 13 51 15.1 0.0**
comp=Z,4.0nm,0.7s,mb4.3
NKC Novy Kostel 73.72 327 *e*P **P 13 51 15.2 0.0**
NKC smax
comp=N,7.0nm,0.4s
HWUT Hardware Ranch 74.00 47 *e*P **P 13 51 18.0 +1.0**
comp=N,4.8nm,0.8s,mb4.3
MANZ Manzenberg 74.05 327 *e*P **P 13 51 17.1 0.0**
comp=Z,5.0nm,1.0s,mb4.2
KHC Kasperske Hory 74.15 325*c i*P **P 13 51 17.8 +0.1**
KHC Kasperske Hory 74.15 325⇓*i*P **P 13 51 18.2 +0.5**
BW06 Boulder Array 74.17 45 *e*P **P 13 51 18.2 +0.3**
comp=Z,4.9nm,0.8s,mb4.3
BW06 *e*pP pP 13 52 31.8 +1.2
ROTZ Rotzenmuhle 74.19 327 *e*P **P 13 51 18.2 +0.3**
comp=Z,6.0nm,0.9s,mb4.3
GEC2 GERESS Array S 74.33 325 *e*P **P 13 51 18.9 +0.2**
GEC2 pmax pmax
comp=Z,3.0nm,0.7s,mb4.1
GEC2 GERESS Array S 74.33 325 *e*P **P 13 51 18.9 +0.2**
comp=Z,3.0nm,0.7s,mb4.1
GERES GERESS Array B 74.33 325 P **P 13 51 18.9 +0.2**
GERES pmax pmax
comp=Z,3.0nm,0.7s
GERES GERESS Array B 74.33 325 P **P 13 51 18.9 +0.2**
comp=Z,2.9nm,0.7s,mb4.1,baz=36,slow=5.3,SNR=17
DUG Dugway 74.37 48 *e*P **P 13 51 19.2 +0.1**
comp=Z,12nm,1.4s,mb4.4
DUG Dugway 74.37 48 *e*P **P 13 51 19.3 +0.2**
DUG pmax pmax
comp=Z,12nm,1.4s,mb4.4
ULM Lac du Bonnet 74.42 32 P **P 13 51 18.7 -0.5**
comp=Z,7.6nm,0.6s,mb4.6,baz=326,slow=6.4,SNR=14
WET Wettzell 74.42 326 *e*P **P 13 51 19.7 +0.5**
WET pmax pmax
comp=Z,7.0nm,0.8s,mb4.4
WET Wettzell 74.42 326 *e*P **P 13 51 19.7 +0.5**
comp=Z,7.0nm,0.8s,mb4.4
GRA1 Grafenberg Arr 74.63 327 *e*P **P 13 51 21.2 +0.8**
comp=Z,20nm,0.8s,mb4.9
GRF Grafenberg Arr 74.63 327 *e*P **P 13 51 21.2 +0.8**
GRF pmax pmax
comp=Z,20nm,0.8s,mb4.9
GRF Grafenberg Arr 74.63 327 *e*P **P 13 51 21.2 +0.8**
comp=Z,20nm,0.8s,mb4.9
GRFO Grafenberg 74.63 327 *e*P **P 13 51 20.9 +0.5**
comp=Z,6.4nm,0.7s,mb4.5
GRFO Grafenberg 74.63 327 *e*P **P 13 51 21.0 +0.6**
GRFO pmax pmax
comp=Z,6.0nm,0.7s,mb4.4
TPNV Topopah Spring 74.81 53 *e*P **P 13 51 22.6 +0.9**
comp=Z,9.6nm,0.9s,mb4.5
TPNV Topopah Spring 74.81 53 *e*P **P 13 51 22.6 +0.9**
TPNV pmax pmax
comp=Z,10.0nm,0.9s,mb4.5
VTS Vitosha 74.84 316 ⇑P **P 13 51 22.6 +0.9**
VTS Vitosha 74.84 316⇑*i*P **P 13 51 22.5 +0.8**
GROS Grobnik 75.45 323 *i* P **P 13 51 25.4 +0.3**
MEM Membach 75.80 330 P **P 13 51 27.1 +0.1**
RSSD Black Hills 75.81 41 *e*P **P 13 51 26.6 -0.6**
comp=Z,3.3nm,0.6s,mb4.2
RSSD Black Hills 75.81 41 *e*P **P 13 51 26.6 -0.6**
RSSD pmax pmax
comp=Z,3.0nm,0.6s,mb4.2
FUR Furstenfeldbru 75.84 326 *e*P **P 13 51 27.9 +0.6**
FUR pmax pmax
comp=Z,18nm,1.0s,mb4.8
FUR Furstenfeldbru 75.84 326 *e*P **P 13 51 27.9 +0.6**
comp=Z,18nm,1.0s,mb4.8
MSU Marysvale 75.93 49 *e*P **P 13 51 29.5 +1.5**
FORT Forrest 75.95 188 *e*P **P 13 51 27.8 -0.1**
comp=Z,10nm,0.5s,mb4.8
PDKS Podkum 75.98 323 *i* P **P 13 51 28.4 +0.2**
STU Stuttgart 76.16 328 *e*P **P 13 51 29.2 +0.2**
comp=Z,10.0nm,0.8s,mb4.6
BCLA Clavier 76.20 331 P **P 13 51 29.2 0.0**
comp=Z,9.9nm,2.6s,mb4.1
BOJS Bojanci 76.31 322 *i* P **P 13 51 30.0 0.0**
SRU San Rafael 76.37 48 *e*P **P 13 51 31.2 +0.8**
comp=Z,4.5nm,0.9s,mb4.2
SRU San Rafael 76.37 48 *e*P **P 13 51 31.2 +0.8**
SRU pmax pmax
comp=Z,4.0nm,0.9s,mb4.2
GIVF Givet 76.64 331 *e*P **P 13 51 31.2 -0.5**
STKA Stephens Creek 76.67 176 *e*P **P 13 51 32.8 +0.9**
comp=Z,4.5nm,0.5s,mb4.5
STKA Stephens Creek 76.67 176 P **P 13 51 32.9 +1.0**
comp=Z,6.0nm,0.5s,mb4.6,baz=331,slow=7.1,SNR=21
BFO Black Forest 76.85 328 *e*P **P 13 51 32.9 0.0**
BFO pmax pmax
comp=Z,10.0nm,0.9s,mb4.5
BFO Black Forest 76.85 328 *e*P **P 13 51 32.9 0.0**
comp=Z,10.0nm,0.9s,mb4.5
CDF Champ du Feu 77.17 328 *e*P **P 13 51 34.6 -0.1**
comp=Z,9.7nm,0.8s,mb4.3
PV10 Paradox Valley 77.69 47 *e*P **P 13 51 39.0 +1.3**
HINF Hinteralfeld 77.83 328 *e*P **P 13 51 37.8 -0.5**
comp=Z,1.9nm,0.4s,mb3.9
HINF Hinteralfeld 77.83 328 *e*P **P 13 51 37.8 -0.5**
comp=Z,0.9nm,0.4s,mb3.9
HINF Hinteralfeld 77.83 328 *e*P **P 13 51 37.8 -0.5**
HINF pmax pmax
comp=Z,1.0nm,0.4s,mb3.9
MEZF Maizieres J'vi 77.91 330 *e*P **P 13 51 38.7 0.0**
PV01 Paradox Valley 78.12 47 *e*P **P 13 51 40.9 +0.8**
SMCO Snowmass 78.15 46 *e*P **P 13 51 41.5 +1.2**
comp=Z,9.6nm,1.1s,mb4.4
ISCO Idaho Springs 78.36 44 *e*P **P 13 51 42.6 +1.3**
comp=Z,3.9nm,1.0s,mb4.1
ISCO Idaho Springs 78.36 44 *e*P **P 13 51 42.7 +1.3**
ISCO pmax pmax
comp=Z,4.0nm,1.0s,mb4.1
SCHQ Schefferville 78.38 14 *e*P **P 13 51 40.5 -0.7**
comp=Z,3.6nm,0.9s,mb4.1
SCHQ Schefferville 78.38 14 P **P 13 51 41.0 -0.2**
comp=Z,2.7nm,0.6s,mb4.1,baz=357,slow=6.6,SNR=8.4
MVCO Mesa Verde 78.85 48 *e*P **P 13 51 44.6 +0.5**
comp=Z,7.7nm,0.8s,mb4.5
CABF La Chapelle 79.12 328 *e*P **P 13 51 45.1 -0.3**
comp=Z,3.1nm,0.6s,mb4.0
CABF La Chapelle 79.12 328 *e*P **P 13 51 45.1 -0.3**
comp=Z,1.5nm,0.6s,mb3.9
CABF La Chapelle 79.12 328 *e*P **P 13 51 45.1 -0.3**
CABF pmax pmax
comp=Z,2.0nm,0.6s,mb4.0
LOR Lormes 79.38 330 *e*P **P 13 51 46.3 -0.4**
comp=Z,16nm,0.8s,mb4.5
LOR Lormes 79.38 330 *e*P **P 13 51 46.3 -0.4**
comp=Z,8.1nm,0.8s,mb4.5
LOR Lormes 79.38 330 *e*P **P 13 51 46.3 -0.4**
LOR pmax pmax
comp=Z,8.0nm,0.8s,mb4.5
FLN La Foliniere 79.56 333 *e*P **P 13 51 47.0 -0.6**
comp=Z,9.7nm,0.5s,mb4.5
LDF La Druitiere 79.59 333 *e*P **P 13 51 47.2 -0.6**
comp=Z,6.3nm,0.6s,mb4.2
SSF Saint Saulge 79.68 330 *e*P **P 13 51 48.0 -0.3**
comp=Z,8.5nm,0.8s,mb4.2
SSF Saint Saulge 79.68 330 *e*P **P 13 51 48.0 -0.3**
comp=Z,4.3nm,0.8s,mb4.2
SSF Saint Saulge 79.68 330 *e*P **P 13 51 48.0 -0.3**
SSF pmax pmax
comp=Z,4.0nm,0.8s,mb4.2
LPL La Plagne 79.80 327 *e*P **P 13 51 49.4 +0.4**
comp=Z,12nm,0.6s,mb4.5
LPG La Plagne 79.80 327 *e*P **P 13 51 49.6 +0.6**
comp=Z,15nm,0.5s,mb4.7
SMF Signal de Mont 79.92 330 *e*P **P 13 51 49.2 -0.4**
comp=Z,9.9nm,0.6s,mb4.4
SMF Signal de Mont 79.92 330 *e*P **P 13 51 49.2 -0.4**
comp=Z,4.9nm,0.6s,mb4.4
SMF Signal de Mont 79.92 330 *e*P **P 13 51 49.2 -0.4**
SMF pmax pmax
comp=Z,5.0nm,0.6s,mb4.4
AVF Avril sur Loir 79.97 330 *e*P **P 13 51 49.7 -0.2**
comp=Z,15nm,0.5s,mb4.7
AVF Avril sur Loir 79.97 330 *e*P **P 13 51 49.7 -0.2**
comp=Z,7.7nm,0.5s,mb4.7
AVF Avril sur Loir 79.97 330 *e*P **P 13 51 49.7 -0.2**
AVF pmax pmax
comp=Z,8.0nm,0.5s,mb4.7
SDCO Great Sand Dun 79.99 46 *e*P **P 13 51 50.3 +0.1**
comp=Z,1.8nm,0.8s,mb3.9
GRR Gorron 80.00 333 *e*P **P 13 51 49.6 -0.4**
comp=Z,7.8nm,0.4s,mb4.5
BNI Bardonecchia 80.20 327 *e*P **P 13 51 51.2 +0.1**
comp=Z,3.4nm,0.7s,mb4.2
BNI Bardonecchia 80.20 327 *e*P **P 13 51 51.3 +0.1**
BNI pmax pmax
comp=Z,3.0nm,0.7s,mb4.1
BGF Bois d'Agland 80.35 330 *e*P **P 13 51 51.6 -0.3**
MBDF Montbardon 80.44 327 *e*P **P 13 51 52.1 -0.3**
comp=Z,8.6nm,0.5s,mb4.4
MBDF Montbardon 80.44 327 *e*P **P 13 51 52.1 -0.3**
comp=Z,4.3nm,0.5s,mb4.4
MBDF Montbardon 80.44 327 *e*P **P 13 51 52.1 -0.3**
MBDF pmax pmax
comp=Z,4.0nm,0.5s,mb4.4
ORIF Oris-en-Rattie 80.62 327 *e*P **P 13 51 53.5 +0.1**
comp=Z,7.9nm,0.8s,mb4.2
ORIF Oris-en-Rattie 80.62 327 *e*P **P 13 51 53.5 +0.1**
comp=Z,4.0nm,0.8s,mb4.2
ORIF Oris-en-Rattie 80.62 327 *e*P **P 13 51 53.5 +0.1**
ORIF pmax pmax
comp=Z,4.0nm,0.8s,mb4.2
SGMF Saint Gilles 80.66 334 *e*P **P 13 51 53.3 -0.2**
comp=Z,8.2nm,0.8s,mb4.2
ROSF Rostrenen 80.80 335 *e*P **P 13 51 54.2 -0.1**
comp=Z,7.9nm,0.7s,mb4.3
TCF Toulx Ste Croi 80.80 330 *e*P **P 13 51 54.2 -0.1**
comp=Z,3.1nm,0.6s,mb3.9
SBF Sospel 80.90 326 *e*P **P 13 51 56.7 +1.8**
comp=Z,10nm,0.5s,mb4.5
SBF Sospel 80.90 326 *e*P **P 13 51 56.7 +1.8**
comp=Z,5.1nm,0.5s,mb4.5
SBF Sospel 80.90 326 *e*P **P 13 51 56.7 +1.8**
SBF pmax pmax
comp=Z,5.0nm,0.5s,mb4.5
VIVF Saint-Julien-l 81.14 328 *e*P **P 13 51 56.1 0.0**
comp=Z,5.1nm,0.7s,mb4.1
VIVF Saint-Julien-l 81.14 328 *e*P **P 13 51 56.1 0.0**
comp=Z,2.5nm,0.7s,mb4.0
VIVF Saint-Julien-l 81.14 328 *e*P **P 13 51 56.1 0.0**
VIVF pmax pmax
comp=Z,3.0nm,0.7s,mb4.1
QUIF Quistinic 81.14 334 *e*P **P 13 51 55.8 -0.3**
comp=Z,9.6nm,0.7s,mb4.3
MFF Saint Martin d 81.34 332 *e*P **P 13 51 57.1 0.0**
comp=Z,6.6nm,0.5s,mb4.3
PGF Pioggiola 81.36 324 *e*P **P 13 51 56.8 -0.5**
FRF La Foret Royal 81.47 326 *e*P **P 13 51 58.2 +0.4**
SMRF Simiane la Rot 81.54 327 *e*P **P 13 51 58.2 0.0**
ANMO Albuquerque 81.64 48 *e*P **P 13 52 00.0 +1.2**
comp=Z,7.4nm,1.6s,mb4.3
ANMO Albuquerque 81.64 48 *e*P **P 13 52 00.0 +1.1**
ANMO pmax pmax
comp=Z,7.0nm,1.6s
LAZ Ladron 81.69 49 *e*P **P 13 52 00.5 +1.3**
LMR La Mourre 81.71 326 *e*P **P 13 51 58.6 -0.5**
comp=Z,7.8nm,0.6s,mb4.4
LMR La Mourre 81.71 326 *e*P **P 13 51 58.6 -0.5**
comp=Z,3.9nm,0.6s,mb4.4
LMR La Mourre 81.71 326 *e*P **P 13 51 58.6 -0.5**
LMR pmax pmax
comp=Z,4.0nm,0.6s,mb4.4
RJF Les Rejaudoux 81.90 330 *e*P **P 13 52 00.0 0.0**
CAF Calviac 82.03 330 *e*P **P 13 52 01.3 +0.6**
comp=Z,5.5nm,0.7s,mb4.2
CAF Calviac 82.03 330 *e*P **P 13 52 01.3 +0.6**
comp=Z,2.8nm,0.7s,mb4.2
CAF Calviac 82.03 330 *e*P **P 13 52 01.3 +0.6**
CAF pmax pmax
comp=Z,3.0nm,0.7s,mb4.2
LASF Ste Croix 82.11 328 *e*P **P 13 52 01.4 +0.3**
LFF La Frestale 82.49 331 *e*P **P 13 52 03.1 0.0**
MTLF Montolieu 83.34 329 *e*P **P 13 52 07.7 +0.2**
comp=Z,3.1nm,0.6s,mb4.0
EPF Esparros 84.29 330 *e*P **P 13 52 12.1 -0.1**
SJPF Ste Jean 84.77 331 *e*P **P 13 52 15.5 +0.9**
WMOK Wichita Mounta 85.70 43 *e*P **P 13 52 19.3 0.0**
comp=Z,5.4nm,1.3s,mb4.2
WMOK Wichita Mounta 85.70 43 *e*P **P 13 52 19.3 0.0**
WMOK pmax pmax
comp=Z,5.0nm,1.3s,mb4.2
TXAR Lajitas Array 87.47 50 P **P 13 52 28.7 +0.8**
TXAR pmax pmax
comp=Z,1.0nm,0.5s
TXAR Lajitas Array 87.47 50 P **P 13 52 28.7 +0.8**
comp=Z,0.5nm,0.5s,mb3.6,baz=271,slow=2.1,SNR=10
ESDC Sonseca Array 88.77 331 P **P 13 52 33.8 0.0**
comp=Z,0.7nm,0.7s,mb3.6,baz=23,slow=4.7,SNR=8.1
VNDA Vanda 123.25 174 PKIKP PKPdf 13 58 33.5 +0.1
VNDA pmax pmax
comp=Z,1.0nm,0.5s
VNDA Vanda 123.25 174 PKP PKPdf 13 58 33.5 0.0
comp=Z,0.8nm,0.5s,baz=0.0,slow=3.0,SNR=8.1
LPAZ La Paz 144.19 45 *e*PKPdf PKPdf 13 59 14.1 -0.1
LPAZ La Paz 144.19 45 PKIKP PKPdf 13 59 14.0 -0.2
LPAZ pmax pmax
comp=Z,1.0nm,0.6s
LPAZ La Paz 144.19 45 PKP PKPdf 13 59 13.9 -0.2
comp=Z,0.6nm,0.6s,baz=234,slow=3.2,SNR=4.5
SIV San Ignacio 147.12 34 PKPbc PKPbc 13 59 21.9 +0.1
comp=Z,4.8nm,0.5s,baz=259,slow=1.1,SNR=16
SNAA Sanae 147.30 202 *e*PKPdf PKPdf 13 59 20.5 +2.7
SNAA *e* 13 59 22.2
SNAA *e* 13 59 23.8
VNA2 Neumayer--Watz 148.93 202 *e*PKPdf PKPbc 13 59 25.3 +0.4
baz=110,slow=2.0
VNA2 *e* 13 59 26.9
VNA2 *e* 13 59 31.5
VNA3 Neumayer Olymp 149.31 200 *e*PKPdf PKPbc 13 59 25.4 -0.4
VNA3 *e* 13 59 27.0
VNA3 *e* 13 59 31.8
BDFB Brasilia 150.32 11 PKIKP PKPbc 13 59 30.3 +0.4
BDFB pmax pmax
comp=Z,3.0nm,0.8s
BDFB Brasilia 150.32 11 PKPbc PKPbc 13 59 30.3 +0.4
comp=Z,2.8nm,0.8s,baz=208,slow=26,SNR=6.0

CASC 29 13:42:33.6±2.6, 1067N×8661W, h36km±13km, MD3.8, 4C-1D, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SSNN	**San Juan del S**	**0.96**	**50**⇑	*e*P	Pn	13 42 50.8	+0.2
SSNN				*e*S	Sn	13 43 02.0	-1.1
MADN	**Villa Maderas**	**1.28**	**55**⇑	*e*P	Pn	13 42 55.7	+0.6
CONN	**Concepcion**	**1.31**	**47**	*e*P	Pn	13 42 55.7	+0.3
APON	**Apoyo**	**1.35**	**23**	*e*P	Pn	13 42 58.4	+2.4
TICN	**Ticuantepe**	**1.41**	**15**	*e*P	Pn	13 42 57.4	+0.6
TISN	**Laguna Tiscapa**	**1.50**	**13**	*e*P	Pn	13 42 58.1	0.0
COPN	**Copaltepe**	**1.50**	**0**⇓	*e*P	Pn	13 42 58.0	-0.1
MGAN	**Managua**	**1.51**	**13**	*e*P	Pn	13 42 57.1	-1.1
APYN	**Apoyeque**	**1.58**	**9**⇑	*i*P	Pn	13 42 59.3	+0.2
JCR	**Jicaral**	**1.68**	**119**	*e*P	Pn	13 42 59.4	-1.1
JCR				*e*S	Sn	13 43 19.8	-1.0
HUEN		**1.71**	**14**	*e*P	Pn	13 43 00.8	-0.2
TEL3	**Telica 3**	**1.91**	**353**	*e*P	Pn	13 43 01.7	-1.9
CGA2	**Cerro Gallo 2**	**2.20**	**107**	*e*P	Pn	13 43 08.2	+0.5
CGA2				*e*S	Sn	13 43 34.9	+1.2
PRS1	**Puriscal**	**2.36**	**107**	*e*P	Pn	13 43 12.1	+2.3
PRS1				*e*S	Sn	13 43 38.4	+0.8
LCR2	**La Lucha 2**	**2.72**	**110**	*e*P	Pn	13 43 16.8	+1.9
URSC	**Urasca**	**2.90**	**106**	*e*P	Pn	13 43 18.7	+1.4
URSC				*e*S	Sn	13 43 52.5	+1.5
BAR1		**3.54**	**113**	*e*P	Pn	13 43 26.8	+0.7
LAPE	**La Pedrera**	**15.16**	**101**⇑	*i*P		13 42 52.5	
LAPE				*e*S		13 43 08.0	

ISCJB ***29*** *13:58:00.3±0.9, 274S±01×634W±02, h582km±18km, mb3.6/3, Error ellipse: s-maj=27.9km s-min=16.4km az=19.5*
IDC ***29*** *13:58:00.5±1.2, 2731S×6336W, h557km±15km, mb3.1/3, mb1 3.1/8, mb1mx2.9/19, mbtmp3.0/8, Error ellipse: s-maj=25.1km s-min=17.3km az=110.0*
ISC 29 13:58:00.6±0.9, 274S±01×633W±02, h569km±18km, n12, σ0.75/9, mb3.6/3, Santiago del Estero Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**5.98**	**224**	P	**P**	**13 59 40.8**	**+1.0**
2.2nm,0.3s,baz=52,slow=9.8,SNR=175							
CFAA				S	**S**	**14 01 01.0**	**-0.2**
0.2nm,0.3s,baz=181,slow=19,SNR=14							
SIV	**San Ignacio**	**11.54**	**11**	P	**P**	**14 00 34.3**	**-0.3**
0.5nm,0.3s,baz=198,slow=7.8,SNR=11							
LPAZ	**La Paz**	**11.91**	**337**	P	**P**	**14 00 38.5**	**+0.1**
0.2nm,0.3s,baz=166,slow=8.3,SNR=6.7							
PLCA	**Paso Flores**	**14.58**	**202**	P	**P**	**14 01 04.4**	**-0.9**
0.1nm,0.3s,baz=29,slow=12,SNR=3.3							
BDFB	**Brasilia**	**18.42**	**54**	P	**P**	**14 01 42.0**	**+0.4**
0.5nm,0.3s,baz=222,slow=15,SNR=9.2							
SDV	**Santo Domingo**	**36.75**	**348**	P	**P**	**14 04 19.5**	**-1.3**
1.5nm,0.3s,mb4.0,baz=149,slow=18,SNR=4.5							
DBIC	**Dimbokro**	**65.87**	**68**	P	**P**	**14 07 51.0**	**0.0**
2.5nm,0.6s,mb3.9,baz=226,slow=10,SNR=3.6							
TXAR	**Lajitas Array**	**68.35**	**323**	P	**P**	**14 08 07.0**	**+1.2**
0.2nm,0.4s,mb3.0,baz=133,slow=5.3,SNR=2.6							
ASAR	**Alice Springs**	**126.58**	**200**	PKP	PKPdf	14 16 00.4	+0.2
0.2nm,0.6s,baz=161,slow=1.2,SNR=6.4							
WRA	**Warramunga Arr**	**129.93**	**202**	PKP	PKPdf	14 16 07.4	+0.7
0.1nm,0.4s,baz=159,slow=1.8,SNR=10							
ZALV	**Zalesovo Beam**	**144.65**	**33**	PKP	PKPdf	14 16 34.0	+1.5
1.7nm,0.4s,baz=303,slow=3.1,SNR=10							
MKAR	**Makanchi Array**	**146.80**	**45**	PKPbc	PKPbc	14 16 40.2	+1.0
1.3nm,0.6s,baz=283,slow=4.3,SNR=10.0							

NEIC ***29*** *14:07:19.3, 3268N×11606W, h12km, ML2.9(ECX), ML2.8(PAS), After PAS.*
ECX 29 14:07:19.7±0.8, 3270N×11604W, h5km±1km, MD2.8, ML2.9, 9C-6D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DVTC	**Desert V Tower**	**0.06**	**231**	*e*P	Pg	14 07 21.2	+0.1
RMX	**La Rumorosa**	**0.10**	**197**⇑	*i*P	Pg	14 07 22.0	+0.2
RMX				*e*S	Sg	14 07 23.9	+0.7
YUH	**Yuha Desert**	**0.11**	**117**⇑	*e*P	Pg	14 07 21.8	-0.3
CRR	**Carrizo Plain**	**0.20**	**18**⇓	*e*P	Pg	14 07 23.4	-0.2
WESC	**Westside Schoo**	**0.27**	**77**⇑	*e*P	Pg	14 07 24.9	0.0
SGL	**Mount Signal**	**0.27**	**100**⇑	*e*P	Pg	14 07 24.7	-0.3
BAR	**Barrett**	**0.53**	**268**⇑	*e*P	Pg	14 07 29.2	-0.7
CBX	**Cerro Bola**	**0.65**	**234**⇓	*e*P	Pg	14 07 31.1	-1.1
CBX				*e*S	Sg	14 07 40.0	-0.6
CPBX	**Cerro Prieto**	**0.68**	**114**⇓	*e*P	Pg	14 07 32.3	-0.6
RDX	**Rancho Dowling**	**0.77**	**174**⇓	*e*P	Pg	14 07 33.2	-1.3
RDX				*e*S	Sg	14 07 43.2	-1.2
RDX				⇑*e*		14 07 44.5	
comp=E,496nm,0.2s							
RDX	**Rancho Dowling**	**0.77**	**174**	*e*P	Pg	14 07 33.2	-1.3
RDX				*e*S	Sg	14 07 43.2	-1.2
ENX	**Ensenada**	**0.97**	**213**⇓	*e*P	Pg	14 07 36.8	-1.5
ENX				*e*S	Sg	14 07 49.7	-1.2
ENX				⇑*e*		14 07 51.0	
comp=E,390nm,0.5s							
ENX	**Ensenada**	**0.97**	**213**	*e*P	Pg	14 07 36.8	-1.5
ENX				*e*S	Sg	14 07 49.7	-1.2
PFO	**Pinyon Flat Ob**	**0.97**	**339**	*e*P	Pg	14 07 36.6	-1.8
PFO				*e*Sg	Sg	14 07 48.8	-2.1
GLA	**Glamis**	**1.08**	**71**	*e*P	Pg	14 07 37.9	-2.5
GLA				*e*S	Sg	14 07 49.8	-4.7
PBX	**Punta Banda**	**1.12**	**211**⇑	*e*P	Pg	14 07 39.4	-1.7
PBX				*e*S	Sg	14 07 54.3	-1.2
PBX				⇑*e*		14 07 55.6	
comp=N,166nm,0.5s							
ECNX	**Esteban Cantu**	**1.14**	**204**⇓	*e*P	Pg	14 07 39.8	-1.8
ECNX				*e*P		14 07 37.0	
ECNX				*e*S	Sg	14 07 50.2	-6.1
ECNX				*e*S	Sg	14 07 55.2	-1.2
GSC	**Goldstone**	**2.67**	**346**	*e*Pg	Pg	14 08 08.2	-2.8
GSC				*e*Sg	Sg	14 08 42.5	-3.1
TPNV	**Topopah Spring**	**4.24**	**358**	*e*Pn	Pn	14 08 24.5	-0.6
TPNV				*e*Pg	Pg	14 08 37.8	-3.2
TPNV				*e*Sg	Sg	14 09 30.9	-5.1

NEIC ***29*** *14:31:54.5±4.3, 609S×14690E, h100km, mb4.2/5, Error ellipse: s-maj=60.3km s-min=24.1km az=221.0*
IDC ***29*** *14:32:02.9±16.0, 650S×14708E, h175km±124km, mb3.7/3, mb1 3.8/5, mb1mx3.3/15, mbtmp3.6/5, Error ellipse: s-maj=108.3km s-min=43.7km az=21.0*
ISC 29 14:32:00.1±4.9, 65S±03×1468E±02, h120km±36km, n15, σ0.72/16, mb3.9/3, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COEN	**Coen**	**8.22**	**205**	*e*Pn	**Pn**	**14 33 55.9**	**-0.8**
4.4nm,0.4s							
COEN				*e*Sn	**Sn**	**14 35 27.8**	**-0.1**
CTA	**Charters Tower**	**13.53**	**182**	*e*P	**Pn**	**14 35 08.6**	**+1.5**
1.0nm,0.4s							
CTA	**Charters Tower**	**13.53**	**182**	P	**Pn**	**14 35 08.3**	**+1.1**
0.4nm,0.3s,baz=0.0,slow=14,SNR=9.2							
CTAO	**Charters Tower**	**13.53**	**182**	*e*Pn	**Pn**	**14 35 08.3**	**+1.1**
KAKA	**Kakadu**	**15.43**	**245**	*e*P	**Pn**	**14 35 24.6**	**-6.7**
7.6nm,1.0s							
WRAB	**Tennant Creek**	**18.01**	**221**	*e*P	**P**	**14 36 01.5**	**-0.2**
7.9nm,0.6s							
WB2	**Warramunga Arr**	**18.01**	**221**	*e*P	**P**	**14 36 01.6**	**-0.1**
WB2	**Warramunga Arr**	**18.01**	**221**	*e*P	**P**	**14 36 01.7**	**0.0**
WRA	**Warramunga Arr**	**18.02**	**221**	P	**P**	**14 36 02.3**	**+0.5**
1.2nm,0.3s,baz=39,slow=11,SNR=106							
WRA				PcP	PcP	14 40 27.6	-3.7
0.1nm,0.3s,baz=26,slow=1.8,SNR=8.7							
ASAR	**Alice Springs**	**21.09**	**215**	P	**P**	**14 36 35.5**	**+0.5**
3.2nm,0.5s,mb3.9,baz=50,slow=9.1,SNR=140							
ASAR				PcP	PcP	14 40 32.8	-4.1
0.2nm,0.4s,baz=23,slow=1.7,SNR=4.1							
FITZ	**Fitzroy Crossi**	**23.63**	**239**	*e*P	**P**	**14 37 00.5**	**+0.1**
7.3nm,0.4s,mb4.4							
FITZ	**Fitzroy Crossi**	**23.63**	**239**	P	**P**	**14 37 00.8**	**+0.4**
4.8nm,0.5s,mb4.1,baz=55,slow=9.3,SNR=41							
STKA	**Stephens Creek**	**25.72**	**190**	*e*P	**P**	**14 37 18.0**	**-1.2**
3.8nm,1.6s,mb3.6							
STKA	**Stephens Creek**	**25.72**	**190**	*e*P	**P**	**14 37 17.7**	**-1.5**
STKA	**Stephens Creek**	**25.72**	**190**	P	**P**	**14 37 17.6**	**-1.6**
1.2nm,0.4s,mb3.6,baz=16,slow=9.9,SNR=6.4							

CSEM ***29*** *15:08:46.5, 3789N×2043E, h10km, MD3.4/3, After ATH*
ATH 29 15:08:46.5, 3789N×2043E, h10km, MD3.5/3, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.31**	**24**	*e*PB	Pg	15 08 53.0	+0.2
ITM	**Ithomi**	**1.39**	**120**	*e*PB	Pb	15 09 12.5	0.0
EVR	**Evrytania**	**1.49**	**46**	*e*PB	Pb	15 09 14.5	+0.2

IDC ***29*** *15:29:48.0±2.8, 3855N×2180E, h0km, mb3.6/8, mb1 3.8/8, mb1mx3.6/21, mbtmp3.7/8, Error ellipse: s-maj=52.4km s-min=26.5km az=9.0*
ISCJB ***29*** *15:29:48.2±0.4, 3838N±002×2184E±003, h11km±3km, mb3.7/7, Error ellipse: s-maj=4.1km s-min=3.5km az=165.8*
NEIC ***29*** *15:29:48.6, 3840N×2187E, h14km, ML4.1(THE), ML3.5(ATH), After ATH.*
ATH ***29*** *15:29:48.6, 3840N×2187E, h14km±2km, MD3.7/19, ML3.5*
THE ***29*** *15:29:49.1, 3842N×2187E, h3km, ML4.1*
CSEM ***29*** *15:29:49.5±0.1, 3839N×

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SELA	**Sela**	**0.12**	**165**	*e*Pg	**Pg**	**15 29 52.0**	**+0.2**
SELA				*e*Sg	**Sg**	**15 29 54.6**	**+0.8**
RLS	**Riolos of Patr**	**0.45**	**222**	||*i*PB	**Pg**	**15 29 57.6**	**-0.1**
RLS				*e*SB	**Sg**	**15 30 05.1**	**+1.4**
EVR	**Evrytania**	**0.53**	**356**	||*i*PB	**Pg**	**15 29 58.1**	**-1.1**
EVR				*e*SB	**Sg**	**15 30 06.8**	**+0.7**
AGG	**Agios Georgios**	**0.73**	**31**	*e*Pg	**Pg**	**15 30 01.8**	**-1.3**
AGG				*e*Sg	**Sg**	**15 30 13.8**	**+1.1**
KFL	**Anninata**	**0.88**	**252**	*e*Pg	**Pg**	**15 30 05.2**	**-0.8**
KFL				*e*Sg	**Sg**	**15 30 20.3**	**+2.9**
LKR	**Lokris**	**0.94**	**74**	*e*Pg	**Pg**	**15 30 06.3**	**-0.7**
LKR				*e*Sg	**Sg**	**15 30 20.6**	**+1.4**
LKR	**Lokris**	**0.94**	**74**	||*i*PB	**Pg**	**15 30 06.3**	**-0.6**
LKR	**Lokris**	**0.94**	**74**	*e*Pg	**Pg**	**15 30 06.3**	**-0.6**
LKR				*e*Sg	**Sg**	**15 30 20.5**	**+1.4**
LTK	**Loutraki**	**0.95**	**112**	*e*Pg	**Pg**	**15 30 07.4**	**+0.2**
LTK				*e*Sg	**Sg**	**15 30 20.7**	**+1.0**
LKD	**Levkas**	**0.99**	**289**	*e*Pg	**Pg**	**15 30 06.6**	**-1.4**
LKD				*e*Sg	**Sg**	**15 30 22.7**	**+1.8**
VLS	**Valsamata**	**1.02**	**258**	||*i*PB	**Pb**	**15 30 07.1**	**-1.5**
THL	**Klokotos Trika**	**1.18**	**6**	||*i*PB	**Pb**	**15 30 10.6**	**-0.8**
THL				*e*SB	**Sb**	**15 30 27.1**	**+0.4**
ITM	**Ithomi**	**1.21**	**177**	||*e*PG	**Pg**	**15 30 11.4**	**-0.8**
NEO	**Neokhori**	**1.41**	**49**	||*i*PB	**Pb**	**15 30 14.7**	**-0.6**
NAIG	**Nisos Aigina**	**1.44**	**116**	*e*PG	**Pg**	**15 30 15.0**	**-1.5**
JAN	**Janina**	**1.48**	**329**	||*e*PB	**Pb**	**15 30 17.0**	**+0.4**
ATH	**Athens Observa**	**1.53**	**105**	||*i*PB	**Pb**	**15 30 17.2**	**-0.1**
KVR	**Kavouri**	**1.61**	**110**	*e*PG	**Pg**	**15 30 18.3**	**-1.6**
PTL	**Penteli**	**1.62**	**102**	*e*PB	**Pb**	**15 30 18.0**	**-0.9**
VLI	**Veliai**	**1.88**	**152**	||*i*PG	**Pg**	**15 30 23.0**	**-2.0**
KZN	**Kozani**	**1.91**	**358**	||*e*PG	**Pg**	**15 30 23.6**	**-2.0**
KEK	**Kerkira**	**2.07**	**310**	||*i*PN	**Pn**	**15 30 25.1**	**+1.3**
KYTH	**Kithira**	**2.31**	**156**	*e*PN	**Pn**	**15 30 29.0**	**+2.0**
PLG	**Polygyros**	**2.33**	**31**	||*e*PN	**Pn**	**15 30 28.4**	**+1.0**
BIA	**Bitola**	**2.66**	**351**	*e*Pn	**Pn**	**15 30 31.9**	**+0.1**
VAY	**Valandovo**	**2.98**	**10**	*e*Pn	**Pn**	**15 30 36.2**	**0.0**
APE	**Apeiranthos**	**3.20**	**113**	||*i*PN	**Pn**	**15 30 40.4**	**+1.1**
NVR	**Nevrokopi**	**3.33**	**27**	||*i*PN	**Pn**	**15 30 42.8**	**+1.7**
MMB	**Musomiste**	**3.50**	**24**	P	**Pn**	**15 30 44.2**	**+0.8**
MMB				Pg	**Pb**	**15 30 47.8**	**-3.2**
RZN	**Rozhen**	**3.96**	**33**	P	**Pn**	**15 30 51.1**	**+1.4**
RZN				Pg	**Pb**	**15 30 54.0**	**-4.8**
SMG	**Samos**	**3.99**	**98**	P	**Pn**	**15 30 51.6**	**+1.4**
TIP	**Timpagrande**	**4.06**	**283**	*e*Pn	**Pn**	**15 30 51.0**	**0.0**
TIP				*e*Sn	**Sn**	**15 31 37.9**	**-0.8**
TIP	**Timpagrande**	**4.06**	**283**	*e*Pn	**Pn**	**15 30 51.0**	**-0.1**
TIP				*e*Sn	**Sn**	**15 31 37.9**	**-0.7**
VTS	**Vitosha**	**4.32**	**13**	P	**Pn**	**15 30 58.0**	**+3.3**
BARS	**Barje**	**4.42**	**360**	*e*Pn	**Pn**	**15 31 00.0**	**+3.9**
SG1	**Sgolgore (BA)**	**4.68**	**303**	*e*Pn	**Pn**	**15 31 00.1**	**+0.4**
DIVS	**Divibare**	**5.87**	**347**	*e*Pn	**Pn**	**15 31 17.2**	**+1.2**
MLR	**Muntele Rosu**	**7.72**	**22**	Pn	**Pn**	**15 31 45.6**	**+4.2**
	0.4nm,0.3s,baz=307,slow=20,SNR=2.7						
ESDC	**Sonseca Array**	**20.08**	**282**	P	**P**	**15 34 22.4**	**0.0**
	0.3nm,0.5s,baz=76,slow=11,SNR=4.2						
HFS	**Hagfors**	**22.37**	**349**	P	**P**	**15 34 46.0**	**-0.9**
	0.9nm,0.5s,mb3.5,baz=166,slow=15,SNR=6.3						
FINES	**FINESS Array B**	**23.23**	**5**	P	**P**	**15 34 54.8**	**-1.2**
FINES	**FINESS Array B**	**23.23**	**5**	P	**P**	**15 34 54.8**	**-1.2**
	1.7nm,0.9s,mb3.5,baz=188,slow=8.4,SNR=2.5						
NB2	**NORSAR Subarra**	**23.63**	**347**	P	**P**	**15 34 58.4**	**-1.7**
	comp=Z,0.5nm,0.6s,mb3.1,baz=151,slow=10						
NOA	**NORSAR Array B**	**23.63**	**347**	P	**P**	**15 34 58.7**	**-1.4**
	comp=Z,0.7nm,0.8s,mb3.1,baz=166,slow=11,SNR=4.0						
EKA	**Eskdalemuir Ar**	**23.87**	**323**	P	**P**	**15 35 01.1**	**-1.3**
	comp=Z,2.2nm,0.9s,mb3.6,baz=118,slow=10,SNR=5.4						
ARCES	**ARCESS Array B**	**31.27**	**2**	P	**P**	**15 36 07.9**	**-0.6**
ARCES	**ARCESS Array B**	**31.27**	**2**	P	**P**	**15 36 07.9**	**-0.6**
	comp=Z,4.6nm,1.0s,mb4.2,baz=196,slow=9.4,SNR=3.0						
MKAR	**Makanchi Array**	**44.30**	**59**	P	**P**	**15 37 59.0**	**+0.3**
	comp=Z,1.4nm,0.5s,mb4.0,baz=277,slow=7.4,SNR=36						
ZALV	**Zalesovo Beam**	**44.77**	**48**	P	**P**	**15 38 02.0**	**-0.4**
	comp=Z,0.9nm,0.4s,mb3.9,baz=274,slow=7.8,SNR=3.9						

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*ISCJB **29** 15:45:24.7±0.7,2558S±005×17928E±006,h506km±9km, mb4.4/33, Error ellipse: s-maj=9.2km s-min=7.3km az=39.1*
*MOS **29** 15:45:25.9±2.1,2540S×17929E,h511km,mb4.6/16, Error ellipse: s-maj=13.7km s-min=12.6km az=140.6*
*BJI **29** 15:45:26.3,2570S×17930E,h519km,mB4.8,mb4.7*
*BGS **29** 15:45:26.3±2.8,2567S×17933E,h520km,mb4.4(NEIC)*
*IDC **29** 15:45:26.2±0.8,2548S×17933E,h512km±8km,mb3.8/17, mb1 3.9/19,mb1mx3.9/21,mbtmp3.8/19, Error ellipse: s-maj=10.9km s-min=9.3km az=18.0*
*NEIC **29** 15:45:26.4±0.9,2567S×17933E,h519km±10km,mb4.4/15, Error ellipse: s-maj=10.2km s-min=8.8km az=161.0*
ISC 29 15:45:25.0±0.7,2560S±006×17933E±006,h498km±8km, n214,σ1§01/117,mb4.4/32,9C-15D,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**4.39**	**147**	*e*P	**P**	**15 46 50.9**	**+4.5**
RAO				*e*S	**S**	**15 47 53.2**	**+0.4**
RAO	**Raoul Island**	**4.39**	**147**	P	**P**	**15 46 51.1**	**+4.7**
RAO				S	**S**	**15 47 54.7**	**+1.8**
RAO				pmax	pmax		
	comp=Z,317nm,0.3s						
RAO				smax			
	comp=N,126nm,0.3s						
RAO	**Raoul Island**	**4.39**	**147**	P	**P**	**15 46 51.1**	**+4.8**
	comp=N,316nm,0.3s,baz=78,slow=23,SNR=20						
RAO				S	**S**	**15 47 54.7**	**+1.8**
	comp=N,126nm,0.3s,baz=24,slow=20,SNR=2.6						
WCZ	**Waipu Caves**	**11.16**	**201**	*e*P	**P**	**15 48 00.2**	**+5.7**
KUZ	**Kuaotunu**	**11.54**	**195**	*e*P	**P**	**15 48 02.7**	**+4.3**
MXZ	**Matakaoa Point**	**11.96**	**184**	P	**P**	**15 48 04.6**	**+1.6**
PUZ	**Puketiti**	**12.47**	**184**	*e*P	**P**	**15 48 08.1**	**-0.3**
URZ	**Urewera**	**12.77**	**188**	*e*P	**P**	**15 48 10.6**	**-0.9**
URZ	**Urewera**	**12.77**	**188**	P	**P**	**15 48 12.4**	**+0.9**
	comp=N,27nm,0.3s,baz=335,slow=1.8,SNR=44						
URZ				S	**S**	**15 50 25.7**	**-3.0**
	comp=N,1.9nm,0.3s,baz=126,slow=19,SNR=5.8						
MWZ	**Matawai**	**12.79**	**186**	P	**P**	**15 48 13.0**	**+1.2**
BKZ	**Black Stump Fm**	**13.74**	**189**	*e*P	**P**	**15 48 21.6**	**-0.2**
FWVZ	**Far West T-bar**	**13.99**	**192**	*e*P	**P**	**15 48 25.3**	**+0.9**
WNVZ	**Wahianoa**	**14.05**	**192**	P	**P**	**15 48 25.5**	**+0.5**
AFI	**Afiamalu**	**14.32**	**37**	*e*P	**P**	**15 48 26.3**	**-1.9**
AFI				*e*S	**S**	**15 50 50.6**	**-8.7**
WAZ	**Wanganui**	**14.58**	**193**	*e*P	**P**	**15 48 30.2**	**-0.4**
TSZ	**Takapari Road**	**14.70**	**190**	*e*P	**P**	**15 48 31.0**	**-0.8**
BFZ	**Birch Farm**	**15.26**	**189**	*e*P	**P**	**15 48 36.0**	**-1.7**
MRZ	**Mangatainoka R**	**15.35**	**191**	*e*P	**P**	**15 48 36.7**	**-1.9**
KIW	**Kapiti Island**	**15.66**	**192**	P	**P**	**15 48 40.7**	**-1.2**
CAW	**Cannon Point**	**15.87**	**192**	P	**P**	**15 48 43.7**	**-0.4**
MRW	**Makara Radio**	**16.06**	**193**	P	**P**	**15 48 45.3**	**-0.7**
TCW	**Tory Channel**	**16.13**	**194**	P	**P**	**15 48 46.9**	**+0.1**
SNZO	**South Karori**	**16.14**	**193**	P	**P**	**15 48 46.0**	**-0.8**
NNZ	**Nelson**	**16.35**	**196**	*e*P	**P**	**15 48 48.9**	**-0.1**
KHZ	**Kahutara**	**17.44**	**194**	*e*P	**P**	**15 48 58.1**	**-2.0**
LTZ	**Lake Taylor**	**18.10**	**197**	*e*P	**P**	**15 49 05.8**	**-0.3**
WVZ	**Waitaha Valley**	**18.81**	**200**	*e*P	**P**	**15 49 13.3**	**+0.7**
RPZ	**Rata Peaks**	**19.30**	**198**	*e*P	**P**	**15 49 17.5**	**+0.4**
RPZ	**Rata Peaks**	**19.30**	**198**	P	**P**	**15 49 17.6**	**+0.6**
	comp=N,5.3nm,0.3s,baz=27,slow=1.7,SNR=26						
FOZ	**Fox Glacier**	**19.58**	**201**	*e*P	**P**	**15 49 19.1**	**-0.5**
JCZ	**Jackson Bay**	**20.34**	**202**	*e*P	**P**	**15 49 25.8**	**-0.8**
HNR	**Honiara**	**24.44**	**308**	P	**P**	**15 50 03.1**	**-0.6**
HNR				pmax	pmax		
	comp=Z,28nm,0.7s,mb4.8						
HNR	**Honiara**	**24.44**	**308**	P	**P**	**15 50 03.1**	**-0.6**
	comp=Z,28nm,0.7s,mb4.8,baz=95,slow=2.4,SNR=5.5						
EIDS	**Eidsvold**	**25.48**	**264**	*e*P	**P**	**15 50 14.7**	**+1.8**
CTA	**Charters Tower**	**30.92**	**273**	*e*P	**P**	**15 51 02.3**	**+1.8**
	comp=Z,6.5nm,0.6s,mb4.2						
CTA	**Charters Tower**	**30.92**	**273**	*e*P	**P**	**15 51 02.3**	**+1.8**
CTA				pmax	pmax		
	comp=Z,7.0nm,0.6s						
CTA	**Charters Tower**	**30.92**	**273**	P	**P**	**15 51 02.5**	**+2.1**
	baz=92,slow=14						
CTA				ScP	ScP	15 56 37.2	-0.1
	comp=Z,1.1nm,0.3s,baz=180,slow=4.0,SNR=4.3						
CTAO	**Charters Tower**	**30.92**	**273**	*e*P	**P**	**15 51 01.8**	**+1.4**
	comp=Z,10.0nm,0.8s,mb4.3						
CTAO	**Charters Tower**	**30.92**	**273**	*e*P	**P**	**15 51 01.8**	**+1.3**
CTAO				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.3						
STKA	**Stephens Creek**	**33.55**	**250**	*e*P	**P**	**15 51 24.2**	**+1.4**
	comp=Z,3.0nm,0.7s,mb3.8						
STKA	**Stephens Creek**	**33.55**	**250**	P	**P**	**15 51 24.6**	**+1.8**
	comp=Z,2.7nm,0.5s,mb3.9,baz=83,slow=11,SNR=18						
STKA				PcP	PcP	15 53 49.6	+0.4
	comp=Z,3.3nm,0.6s,baz=64,slow=5.4,SNR=6.4						
STKA				ScP	ScP	15 56 45.4	-0.9
	comp=Z,3.0nm,0.9s,baz=74,slow=7.4,SNR=4.0						
STKA				PKiKP	PKiKP	16 01 10.8	-2.2
	comp=Z,1.6nm,0.8s,baz=5.5,slow=15,SNR=3.6						
ASAR	**Alice Springs**	**41.18**	**263**	P	**P**	**15 52 26.5**	**+0.9**
ASAR				PcP	PcP	15 54 05.0	
ASAR						15 54 12.9	
ASAR				S	**S**	**15 58 01.3**	**-1.4**
ASAR						16 01 17.4	
ASAR				pmax	pmax		
	comp=Z,7.0nm,0.6s						
ASAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
ASAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
ASAR				pmax	pmax		
	comp=N,1.0nm,0.8s						
ASAR				smax			
	comp=N,1.0nm,0.8s						
ASAR	**Alice Springs**	**41.18**	**263**	P	**P**	**15 52 26.5**	**+0.9**
	comp=N,6.5nm,0.6s,mb4.3,baz=92,slow=7.0,SNR=171						
ASAR				PP	PP	15 54 05.0	-9.5
	comp=N,1.5nm,0.7s,baz=96,slow=9.0,SNR=4.5						
ASAR				PcP	PcP	15 54 12.9	-0.2
	comp=N,1.7nm,0.8s,baz=114,slow=4.5,SNR=6.6						
ASAR				ScP	ScP	15 57 14.2	-1.2
	comp=N,1.4nm,0.8s,baz=114,slow=4.1,SNR=7.4						
ASAR				S	**S**	**15 58 01.2**	**-1.5**
	comp=N,0.7nm,0.8s,baz=99,slow=17,SNR=6.6						
ASAR				PKiKP	PKiKP	16 01 17.4	-2.0
	comp=N,0.2nm,0.5s,baz=110,slow=1.3,SNR=6.3						
WB2	**Warramunga Arr**	**41.70**	**268**	*e*P	**P**	**15 52 29.9**	**+0.2**
WRAB	**Tennant Creek**	**41.70**	**268**	*e*P	**P**	**15 52 30.0**	**+0.3**
	comp=N,7.8nm,0.9s,mb4.1						
WRAB	**Tennant Creek**	**41.70**	**268**	*e*P	**P**	**15 52 30.0**	**+0.2**
WRAB				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.2						
WRA	**Warramunga Arr**	**41.71**	**268**	P	**P**	**15 52 30.1**	**+0.3**
WRA				PcP	PcP	15 54 14.6	-0.4
WRA				ScP	ScP	15 57 17.7	+0.1
WRA				S	**S**	**15 58 07.0**	**-3.4**
WRA	**Warramunga Arr**	**41.71**	**268**	P	**P**	**15 52 30.1**	**+0.3**
WRA						15 54 14.6	
WRA				S	**S**	**15 58 07.0**	**-3.4**
WRA				pmax	pmax		
	comp=Z,8.0nm,0.8s						
WRA				pmax	pmax		
	comp=Z,2.0nm,0.6s						
WRA				pmax	pmax		
	comp=N,2.0nm,0.6s						
WRA				smax			
	comp=N,3.0nm,1.1s						
WRA	**Warramunga Arr**	**41.71**	**268**	P	**P**	**15 52 30.1**	**+0.3**
	comp=N,8.4nm,0.8s,mb4.2,baz=101,slow=7.6,SNR=100						
WRA				PcP	PcP	15 54 14.6	-0.4
	comp=N,1.7nm,0.6s,baz=101,slow=3.1,SNR=5.7						
WRA				ScP	ScP	15 57 17.7	+0.1
	comp=N,1.7nm,0.6s,baz=100,slow=3.7,SNR=15						
WRA				S	**S**	**15 58 07.0**	**-3.4**
	comp=N,2.5nm,1.1s,baz=100,slow=14,SNR=8.7						
WRA				PKiKP	PKiKP	16 01 17.7	-2.2
	comp=N,0.1nm,0.5s,baz=87,slow=0.5,SNR=11						
KAKA	**Kakadu**	**45.88**	**277**	*e*P	**P**	**15 53 01.9**	**-0.4**
	comp=N,3.3nm,0.3s,mb4.2						
FITZ	**Fitzroy Crossi**	**50.11**	**267**	*e*P	**P**	**15 53 34.5**	**+0.5**
	comp=N,7.4nm,0.5s,mb4.3						
VNDA	**Vanda**	**52.65**	**185**	P	**P**	**15 53 53.5**	**+2.0**
VNDA						15 54 53.7	
VNDA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
VNDA	**Vanda**	**52.65**	**185**	P	**P**	**15 53 53.5**	**+2.0**
	comp=Z,0.3nm,0.5s,baz=7.9,slow=6.1,SNR=6.3						
VNDA				PcP	PcP	15 54 53.7	+0.4
	comp=Z,1.5nm,0.8s,baz=358,slow=6.0,SNR=6.7						
BATI	**Kupang**	**54.76**	**276**	P	**P**	**15 54 09.0**	**+1.5**
	comp=Z,7.8nm,0.6s,mb4.2,baz=171,slow=4.7,SNR=5.4						
QSPA	**South Pole Qui**	**64.50**	**180**	P	**P**	**15 55 13.4**	**+2.0**
	comp=Z,8.4nm,0.6s,mb4.5,baz=14,slow=0.8,SNR=77						
MJAR	**Matsushiro Arr**	**72.95**	**326**	P	**P**	**15 56 02.7**	**-0.5**
MJAR	**Matsushiro Arr**	**72.95**	**326**	P	**P**	**15 56 02.7**	**-0.5**
MJAR				pmax	pmax		
	comp=Z,3.0nm,0.7s						
MJAR	**Matsushiro Arr**	**72.95**	**326**	P	**P**	**15 56 02.7**	**-0.5**
	comp=Z,2.5nm,0.7s,mb3.9,baz=156,slow=4.5,SNR=14						
MAW	**Mawson**	**75.95**	**201**	*e*P	**P**	**15 56 20.5**	**+0.8**
	comp=Z,4.8nm,0.6s,mb4.2						
MAW	**Mawson**	**75.95**	**201**	P	**P**	**15 56 20.6**	**+0.9**
MAW				pmax	pmax		
	comp=Z,4.0nm,0.8s						
MAW	**Mawson**	**75.95**	**201**	P	**P**	**15 56 20.6**	**+0.9**
	comp=Z,4.0nm,0.8s,mb4.0,baz=147,slow=8.3,SNR=12						
ASAJ	**Asahikawa**	**77.10**	**334**	P	**P**	**15 56 27.3**	**+1.0**
ASAJ				pmax	pmax		
	comp=Z,4.0nm,0.7s						
ASAJ	**Asahikawa**	**77.10**	**334**	P	**P**	**15 56 27.3**	**+1.0**
	comp=Z,3.6nm,0.7s,mb4.0,baz=212,slow=9.5,SNR=4.7						
PMSA	**Palmer Station**	**77.60**	**157**	P	**P**	**15 56 29.4**	**+0.6**
	comp=Z,6.4nm,0.7s,mb4.1,baz=256,slow=4.2,SNR=2.6						
KSRS	**Korea Array**	**79.16**	**321**	P	**P**	**15 56 37.2**	**-0.3**
KSRS				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb3.8						
KSRS	**Korea Array**	**79.16**	**321**	P	**P**	**15 56 37.1**	**-0.4**
	comp=Z,1.6nm,0.7s,mb3.7,baz=138,slow=5.8,SNR=7.9						
SYO	**Syowa Base**	**81.23**	**194**	||*e*P	**P**	**15 56 46.2**	**-1.7**
SNAA	**Sanae**	**82.99**	**179**	*e*P	**P**	**15 56 56.4**	**-0.5**
SNAA				*e*		15 56 58.9	
SNAA	**Sanae**	**82.99**	**179**	||*e*P	**P**	**15 56 55.8**	**-1.1**
VNA3	**Neumayer Olymp**	**83.22**	**177**	*e*P	**P**	**15 56 58.5**	**+0.5**
VNA3				*e*		15 57 01.4	
VNA2	**Neumayer--Watz**	**83.63**	**178**	*e*P	**P**	**15 57 00.6**	**+0.5**
VNA2				*e*		15 57 02.8	
HABR	**Khabarovsk**	**83.71**	**332**	*e*P	**P**	**15 56 59.7**	**-1.0**
HABR				*e**PP	pP	15 58 49.5	-0.5
HABR				*e**SP	sP	15 59 40.7	-0.3
HABR						16 00 21.5	
HABR				*e*S	S	16 06 33.8	-7.6
HABR				*e*SS	SS	16 12 23.7	+0.3
CMB	**Columbia Colle**	**84.85**	**44**	*e*P	**P**	**15 57 05.9**	**-0.6**
	comp=Z,13nm,1.3s,mb4.4						
CMB	**Columbia Colle**	**84.85**	**44**	*e*P	**P**	**15 57 05.9**	**-0.6**
CMB				pmax	pmax		
	comp=Z,13nm,1.3s,mb4.4						
OHCM	**Honcut**	**84.98**	**42**	*e*P	**P**	**15 57 06.5**	**-0.6**
GLA	**Glamis**	**85.58**	**50**	*e*P	**P**	**15 57 10.7**	**+0.5**
	comp=Z,13nm,0.9s,mb4.6						
GLA	**Glamis**	**85.58**	**50**	*e*P	**P**	**15 57 10.7**	**+0.5**
GLA				pmax	pmax		
	comp=Z,13nm,0.9s,mb4.6						
NVAR	**Mina Array Bea**	**86.39**	**44**	P	**P**	**15 57 14.0**	**0.0**
	comp=Z,6.5nm,0.8s,mb4.3,baz=232,slow=9.3,SNR=43						
TPNV	**Topopah Spring**	**86.84**	**46**	*e*P	**P**	**15 57 16.0**	**-0.2**
	comp=Z,10nm,0.9s,mb4.5						
TPNV	**Topopah Spring**	**86.84**	**46**	*e*P	**P**	**15 57 16.0**	**-0.1**
TPNV				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.5						
GYA	**Guiyang**	**87.08**	**301**	P	**P**	**15 57 16.3**	**-1.2**
GYA				AP	pP	15 59 11.8	+3.8
GYA				XP	sP	16 00 02.8	+4.1
GYA				PP	PP	16 00 52.3	+1.9
GYA				SKS		16 06 54.8	
GYA				S	S	16 07 12.3	-2.5
GYA				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.5						
PLCA	**Paso Flores**	**87.53**	**134**	P	**P**	**15 57 20.2**	**+0.7**
PLCA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
PLCA	**Paso Flores**	**87.53**	**134**	P	**P**	**15 57 20.2**	**+0.8**
	comp=Z,2.5nm,0.8s,mb4.0,baz=212,slow=4.7,SNR=10						
TUC	**Tucson**	**88.03**	**53**	*e*P	**P**	**15 57 23.7**	**+1.9**
	comp=Z,26nm,1.4s,mb4.8						
TUC	**Tucson**	**88.03**	**53**	*e*P	**P**	**15 57 23.7**	**+1.9**
TUC				pmax	pmax		
	comp=Z,26nm,1.4s,mb4.8						
WVOR	**Wild Horse Val**	**88.59**	**41**	*e*P	**P**	**15 57 24.1**	**0.0**
	comp=Z,16nm,1.1s,mb4.8						
WVOR	**Wild Horse Val**	**88.59**	**41**	*e*P	**P**	**15 57 24.1**	**-0.1**
WVOR				pmax	pmax		
	comp=Z,16nm,1.1s,mb4.8						
ARUT	**Antelope Range**	**89.16**	**47**	*e*P	**P**	**15 57 27.6**	**+0.7**
WUAZ	**Wupatki**	**89.32**	**50**	*e*P	**P**	**15 57 27.3**	**-0.5**
	comp=Z,7.8nm,1.0s,mb4.5						
SLKM	**Skilak Lake**	**89.32**	**15**	*e*P	**P**	**15 57 25.7**	**-1.4**
KMI	**Kunming**	**89.51**	**298**	P	**P**	**15 57 28.0**	**-0.9**
KMI				AMB	AMB		
	comp=Z,6.0nm,0.5s,mb4.7						
MSU	**Marysvale**	**90.39**	**47**	*e*P	**P**	**15 57 33.3**	**+0.6**
HHC	**Hu-ho-hao-te**	**91.18**	**315**	*e*P	**P**	**15 57 36.0**	**-0.2**
HHC				XP	sP	16 00 22.8	+4.9
HHC				PP	PP	16 01 25.5	+3.2
HHC				SKS		16 07 18.5	
HHC				S	S	16 07 47.0	-4.5
HHC				XS	sS	16 11 12.5	+1.9
HHC				SS	SS	16 14 08.0	-3.6
HHC				AMB	AMB		
	comp=Z,16nm,0.5s,mb5.2						
HHC				AMB	AMB		
	comp=Z,92nm,4.2s						
TMUT	**Trail Mountain**	**91.45**	**47**	*e*P	**P**	**15 57 38.4**	**+0.9**
CD2	**Chengdu**	**91.50**	**304**	*e*P	**P**	**15 57 38.3**	**+0.3**
CD2				XP	sP	16 00 22.5	+2.9
CD2				PP	PP	16 01 27.8	+2.8
CD2				SKS		16 07 21.5	
CD2				S	S	16 07 52.5	-2.3
CD2				SS	SS	16 14 18.0	+1.6
CD2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.8						
CD2				AMB	AMB		
	comp=Z,20nm,9.2s						
SRU	**San Rafael**	**91.80**	**47**	*e*P	**P**	**15 57 38.9**	**-0.2**
	comp=Z,7.1nm,0.9s,mb4.6						
SRU	**San Rafael**	**91.80**	**47**	*e*P	**P**	**15 57 38.9**	**-0.2**
SRU				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.6						
CTU	**Camp Tracy**	**91.84**	**45**	*e*P	**P**	**15 57 39.1**	**-0.1**
TXAR	**Lajitas Array**	**91.84**	**58**	P	**P**	**15 57 40.1**	**+0.5**
TXAR				pmax	pmax		
	comp=Z,4.0nm,0.8s						
TXAR	**Lajitas Array**	**91.84**	**58**	P	**P**	**15 57 40.1**	**+0.5**
	comp=Z,4.2nm,0.8s,mb4.4,baz=212,slow=6.3,SNR=44						
JLU	**Jordanelle**	**91.98**	**45**	*e*P	**P**	**15 57 39.5**	**-0.4**
DAU	**Daniels Canyon**	**92.01**	**46**	*e*P	**P**	**15 57 40.6**	**+0.5**
HWUT	**Hardware Ranch**	**92.45**	**45**	*e*P	**P**	**15 57 41.5**	**-0.5**
	comp=Z,1.4nm,0.6s,mb4.1						
ANMO	**Albuquerque**	**92.48**	**52**	P	**P**	**15 57 42.7**	**+0.3**
ANMO				pmax	pmax		
	comp=Z,2.0nm,0.9s						
ANMO	**Albuquerque**	**92.48**	**52**	P	**P**	**15 57 42.7**	**+0.3**
	comp=Z,2.1nm,0.8s,mb4.1,baz=215,slow=4.4,SNR=7.9						
PV01	**Paradox Valley**	**92.60**	**49**	*e*P	**P**	**15 57 42.4**	**-0.4**
LZH	**Lanzhou**	**93.93**	**308**	*e*P	**P**	**15 57 45.8**	**-3.2**
LZH				AMB	AMB		
	comp=Z,15nm,1.0s,mb5.0						
LZH				AMB	AMB		
	comp=Z,61nm,4.0s						
INK	**Inuvik**	**99.82**	**16**	P	Pdif	15 58 13.3	-2.0
INK	**Inuvik**	**99.82**	**16**	P	Pdif	15 58 13.3	-2.0
INK				pmax	pmax		
	comp=Z,1.0nm,0.9s						
INK	**Inuvik**	**99.82**	**16**	P	Pdif	15 58 13.3	-2.0
	comp=Z,1.4nm,0.8s,baz=276,slow=1.5,SNR=4.8						
YKA	**Yellowknife Ar**	**102.15**	**26**	PKiKP	PKiKP	16 02 41.8	-2.3
	comp=Z,0.2nm,0.4s,baz=250,slow=1.4,SNR=5.0						
YKA				PKKPbc	PKKPbc	16 14 24.7	-3.3
	comp=Z,0.3nm,0.5s,baz=38,slow=2.6,SNR=7.4						
**MK

KPL	Plockton	148.08	5	eP	PKPbc	16 04 12.3	-1.3
MME1	Meikle Cairn	148.26	2	eP	PKPbc	16 04 12.0	-2.1
KAR1	Arisaig	148.48	5	eP	PKPbc	16 04 13.3	-1.3
ANTO	Ankara	148.66 305	⇓	iP	PKPbc	16 04 15.2	-0.5
ANTO	Ankara	148.66 305	⇓	iP	PKPbc	16 04 15.1	-0.5
ELO	Logie Almond	149.07	3	eP	PKPbc	16 04 14.9	-1.2
EBH	Black Hill	149.31	3	eP	PKPbc	16 04 15.3	-1.3
EAB	Aberfoyle	149.32	4	eP	PKPbc	16 04 15.3	-1.4
ESY	Stoneypath	149.67	2	eP	PKPbc	16 04 16.2	-1.3
EAU	Auchinoon	149.71	3	eP	PKPbc	16 04 16.4	-1.2
EBL	Broad Law	149.80	3	eP	PKPbc	16 04 16.7	-1.2
TIRR	Tirgusor	149.88 316	⇓	iP	PKPbc	16 04 18.0	-0.4
TIRR	Tirgusor	149.88 316	⇓	iP	PKPbc	16 04 18.0	-0.4
KWP	Kalwaria	149.92 329	⇑	iP	PKPbc	16 04 17.6	-0.7
KWP	Kalwaria	149.92 329	⇑	iP	PKPbc	16 04 17.6	-0.7
BURAR	Bucovina Array	150.00 324	⇓	iP	PKPbc	16 04 18.9	+0.3
XSO	Sourhope Farm	150.11	2	eP	PKPbc	16 04 17.4	-1.2
VRI	Vrincioaia	150.17 320	⇓	iP	PKPbc	16 04 18.4	-0.7
VRI	Vrincioaia	150.17 320	⇓	iP	PKPbc	16 04 18.4	-0.6
ESK	Eskdalemuir	150.25	3	eP	PKPbc	16 04 17.2	-1.7
ECK	Cauldkaine Hil	150.39	3	eP	PKPbc	16 04 17.2	-2.0
GAL1	Galloway	150.61	5	eP	PKPbc	16 04 17.7	-2.1
GAL1				eP		16 04 17.7	
KOLS	Kolonicke sedl	150.62 328		ePKP	PKPbc	16 04 19.9	-0.1
XAL	Allendale	150.74	2	eP	PKPbc	16 04 18.6	-1.5
STHS	Stebnicka Huta	150.75 330		iP	PKPbc	16 04 20.0	-0.3
OJC	Ojcow	150.78 333		ePKP	PKPbc	16 04 19.6	-0.7
MLR	Muntele Rosu	150.84 320		PKIKP	PKPbc	16 04 19.7	-0.9
MLR				pmax	pmax		
	comp=Z,5.0nm,0.6s						
MLR	Muntele Rosu	150.84 320		PKPbc	PKPbc	16 04 19.7	-0.9
	comp=Z,4.8nm,0.6s,baz=353,slow=8.1,SNR=7.6						
MLR	Muntele Rosu	150.84 320	⇓	iP	PKPbc	16 04 19.7	-0.9
CKE	Keswick	150.98	3	eP	PKPbc	16 04 19.2	-1.4
CRVS	Cervenica-Dubn	151.02 329		ePKP	PKPbc	16 04 20.4	-0.5
NIE	Niedzica	151.16 331		ePKP	PKPbc	16 04 21.3	+0.1
KSP	Ksiaz	151.62 337	⇑	iPKPdf	PKPbc	16 04 21.9	-0.3
HPK	Haverah Park	151.66	1	eP	PKPbc	16 04 20.9	-1.3
KECS	Kecovo	151.77 329		ePKP	PKPbc	16 04 22.7	+0.1
DRGR		151.84 325	⇑	iP	PKPbc	16 04 22.0	-0.8
UPC	Upice	152.00 337		ePKPbc	PKPbc	16 04 22.6	-0.4
DPC	Dobruska-Polom	152.02 336		ePKPbc	PKPbc	16 04 22.8	-0.3
MORC	Moravsky Berou	152.03 334	⇓	iP	PKPbc	16 04 22.3	-0.8
MORC	Moravsky Berou	152.03 334	⇓	iP	PKPbc	16 04 22.3	-0.8
LHO	Holmfirth	152.07	2	eP	PKPbc	16 04 21.1	-2.0
CLL	Collm	152.28 341	⇓	iPKP	PKPbc	16 04 23.0	-0.6
CLL				iPKP	PKPab	16 04 35.2	-0.7
CLL				ePKP	pPKPab	16 06 30.0	+1.2
CLL	Collm	152.28 341	⇓	iPKIKP	PKPbc	16 04 23.0	-0.6
CLL				i		16 04 35.2	
CLL	Collm	152.28 341	⇓	iPKPbc	PKPbc	16 04 23.0	-0.6
	comp=Z,15nm,0.8s						
CLL				iPKPab	PKPab	16 04 35.2	-0.7
CLL				ePKPab	pPKPab	16 06 30.0	+1.2
BRG	Berggiesshubel	152.38 340		iPKP	PKPbc	16 04 23.2	-0.7
	comp=Z,9.0nm,0.5s						
BRG				i		16 04 36.0	
	comp=Z,4.8nm,0.8s						
PSZ	Piszkesteto	152.45 329	⇓	iP	PKPbc	16 04 23.7	-0.4
PVCC	Panska Ves	152.47 339		ePKPbc	PKPbc	16 04 23.6	-0.5
VYHS	Vyhne	152.50 331		ePKP	PKPbc	16 04 23.6	-0.6
KWE	Weaver Farm	152.60	2	eP	PKPbc	16 04 22.8	-1.5
PRU	Pruhonice	152.95 338		ePKPbc	PKPbc	16 04 24.1	-1.0
KHC	Kasperske Hory	154.01 338	⇑	iPKIKP	PKPbc	16 04 26.3	-1.1
KHC	Kasperske Hory	154.01 338		ePKPbc	PKPbc	16 04 26.9	-0.5
GERES	GERESS Array B	154.21 338		PKIKP	PKPbc	16 04 26.6	-1.3
GERES				pmax	pmax		
	comp=Z,1.0nm,0.8s						
GERES	GERESS Array B	154.21 338		PKPbc	PKPbc	16 04 26.6	-1.3
	comp=Z,1.1nm,0.8s,baz=232,slow=3.2,SNR=5.0						
CDF	Champ du Feu	156.38 347		ePKP2	PKPab	16 04 52.3	-1.3
MEZF	Maizieres J'vi	156.70 350		ePKP2	PKPab	16 04 53.8	-1.1
HAU	Haudompre	156.96 348		ePKP2	PKPab	16 04 54.7	-1.4
GRR	Gorron	157.25	0	ePKP2	PKPab	16 04 55.4	-1.9
LOR	Lormes	158.07 352		ePKP2	PKPab	16 04 59.5	-1.4
	comp=Z,2.1nm,0.5s						
SSF	Saint Saulge	158.32 352		ePKP2	PKPab	16 05 00.8	-1.2
	comp=Z,15nm,0.7s						
CABF	La Chapelle	158.34 347		ePKP2	PKPab	16 05 01.6	-0.5
	comp=Z,2.1nm,0.6s						
AVF	Avril sur Loir	158.60 352	⇑	iPKP2	PKPab	16 05 01.9	-1.4
	comp=Z,6.9nm,0.8s						
SMF	Signal de Mont	158.69 351	⇑	iPKP2	PKPab	16 05 02.4	-1.2
	comp=Z,13nm,0.7s						
TCF	Toulx Ste Croi	159.22 354		ePKP2	PKPab	16 05 04.6	-1.4
LPL	La Plagne	159.25 345		ePKP2	PKPab	16 05 05.9	-0.2
LPG	La Plagne	159.26 345		ePKP2	PKPab	16 05 05.5	-0.7
MBDF	Montbardon	159.98 344		ePKP2	PKPab	16 05 08.6	-0.7
DBIC	Dimbokro	160.76 167		PKIKP	PKPdf	16 04 26.9	-1.4
DBIC						16 05 13.4	
DBIC				pmax	pmax		
	comp=Z,2.0nm,1.0s						
DBIC				pmax	pmax		
	comp=Z,3.0nm,0.7s						
DBIC	Dimbokro	160.76 167		PKP	PKPdf	16 04 26.9	-1.5
	comp=Z,2.2nm,1.0s,baz=274,slow=5.2,SNR=3.1						
DBIC				PKPab	PKPab	16 05 13.3	-0.1
	comp=Z,3.2nm,0.7s,baz=133,slow=5.0,SNR=4.5						
ESDC	Sonseca Array	165.69	10	PKPab	PKPab	16 05 33.6	-1.0
	comp=Z,1.1nm,0.5s,baz=343,slow=3.5,SNR=11						

*NEIC **29** 15:54:07.4, 3149S×6966W, h162km, MD3.6(GUC), After GUC.*

GUC 29 15:54:07.4±0.5, 3149S×6966W, h162km±5km, MD3.6, ML3.8, 9C-7D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMCH	Combarbala	1.19 285		⇓ iP	Pn	15 54 35.5	+0.6
CMCH				i S	Sn	15 54 57.1	+1.1
CMCH	Combarbala	1.19 285		⇓ iP	Pn	15 54 35.5	+0.6
CMCH				i S	Sn	15 54 57.1	+1.1
CMCH				AML	AML	15 54 59.1	
	comp=N,6μm,0.7s						
JACH	Jahuel	1.43 213		⇑ iP	Pn	15 54 37.8	+0.6
JACH				i S	Sn	15 55 00.9	+0.8
OVCH	Ovalle	1.59 303		⇑ iP	Pn	15 54 40.0	+1.2
OVCH				i S	Sn	15 55 04.0	+1.1
OVCH	Ovalle	1.59 303		⇑ iP	Pn	15 54 40.0	+1.2
OVCH				i S	Sn	15 55 04.0	+1.1
OVCH				AML	AML	15 55 05.8	
	comp=N,858nm,0.5s						
TLL	Tololo Astrono	1.65 323		⇑ iP	Pn	15 54 40.5	+1.1
TLL				i S	Sn	15 55 05.0	+1.0
TLL	Tololo Astrono	1.65 323		⇑ iP	Pn	15 54 40.5	+1.1
TLL				i S	Sn	15 55 05.0	+1.0
TLL				AML	AML	15 55 08.0	
	comp=N,482nm,0.7s						
PEL	Peldehue	1.86 207		⇓ iP	Pn	15 54 42.3	+0.6
PEL				i S	Sn	15 55 08.9	+0.7
PEL				AML	AML	15 55 13.8	
	comp=E,692nm,0.4s						
ROCH	El Roble	1.87 217		⇑ iP	Pn	15 54 42.7	+0.9
ROCH				i S	Sn	15 55 09.4	+1.1
FCH	Farellones	1.91 196		AML	AML	15 55 16.2	
	comp=N,364nm,0.3s						
CLCH	Cerro Calan	2.04 201		⇑ iP	Pn	15 54 44.3	+0.6
CLCH				i S	Sn	15 55 12.4	+0.6
CLCH				AML	AML	15 55 14.2	
	comp=E,509nm,0.7s						
LSCH	La Serena	2.08 319		AML	AML	15 55 13.6	
	comp=N,254nm,0.3s						
RCDM	Rinconada Maip	2.22 206		⇓ iP	Pn	15 54 46.6	+0.9
RCDM				i S	Sn	15 55 16.1	+0.7
RCDM	Rinconada Maip	2.22 206		⇓ iP	Pn	15 54 46.6	+0.9
RCDM				i S	Sn	15 55 16.1	+0.7
RCDM				AML	AML	15 55 18.1	
	comp=E,661nm,0.1s						
ANTU	Antumapu	2.23 201		i P	Pn	15 54 46.6	+0.7
ANTU				i S	Sn	15 55 16.3	+0.6
ANTU	Antumapu	2.23 201		i P	Pn	15 54 46.6	+0.7
ANTU				i S	Sn	15 55 16.3	+0.6
ANTU				AML	AML	15 55 19.2	
	comp=N,310nm,0.1s						
PCH	Pirque	2.24 198		i P	Pn	15 54 46.8	+0.8
PCH				i S	Sn	15 55 16.8	+0.8
LMEL	Las Melosas	2.40 191		⇓ iP	Pn	15 54 48.8	+1.0
LMEL				i S	Sn	15 55 20.2	+1.0
LMEL	Las Melosas	2.40 191		⇓ iP	Pn	15 54 48.8	+1.0
LMEL				i S	Sn	15 55 20.2	+1.0
LMEL				AML	AML	15 55 29.1	
	comp=N,257nm,0.2s						
TACH	Talagante	2.41 206		⇑ iP	Pn	15 54 48.6	+0.6
TACH				i S	Sn	15 55 19.9	+0.4
LCCH	Las Cruces	2.55 219		i P	Pn	15 54 50.4	+0.7
LCCH				i S	Sn	15 55 22.9	+0.3
LCO	Las Campanas	2.63 340		ePn	Pn	15 54 51.2	+0.5
LCO				eSn	Sn	15 55 19.2	-5.0
VACH	Vallenar	3.06 342		AML	AML	15 55 34.5	
	comp=E,598nm,0.0s						
SFDO	San Fernando	3.32 200		⇑ iP	Pn	15 54 60.0	+0.8
SFDO				i S	Sn	15 55 39.9	+0.4
TRQA	Tornquist	9.10 138		eP	Pn	15 56 11.6	-3.6
	comp=E,18nm,0.9s						

IDC 29 15:54:49.5±12.0, 1995S×16971E, h0km, mb4.1/5, mb1 4.3/5, mb1mx3.9/14, mbtmp4.1/5, Error ellipse: s-maj=215.4km s-min=106.2km az=68.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	Charters Tower	22.04 266		P	P	15 59 46.1	+0.2
	3.2nm,0.8s						
STKA	Stephens Creek	27.85 239		P	P	16 00 40.2	-0.6
	1.1nm,0.6s,baz=79,slow=10,SNR=3.0						
WRA	Warramunga Arr	33.21 264		P	P	16 01 27.8	-0.6
	1.0nm,0.7s,baz=91,slow=8.4,SNR=18						
ASAR	Alice Springs	33.40 257		P	P	16 01 29.1	-0.8
	5.6nm,0.8s,baz=96,slow=10,SNR=81						
FITZ	Fitzroy Crossi	41.62 265		P	P	16 02 41.2	+1.5
	4.5nm,1.0s,baz=131,slow=9.3,SNR=9.0						

*IDC **29** 15:58:25.7±1.0, 4682N×15573E, h0km, mb3.6/5, mb1 3.8/6, mb1mx3.5/22, mbtmp3.7/6, ML3.1/1, MS3.3/1, Ms1 3.3/1, ms1mx2.6/31, Error ellipse: s-maj=41.9km s-min=23.6km az=122.0*
*ISCJB **29** 15:58:28.8±0.9, 469N±02×1554E±02, h33km, mb3.5/5, Error ellipse: s-maj=29.8km s-min=16.6km az=143.6*
*MOS **29** 15:58:29.1±2.6, 47.18N×15550E, h33km, mb4.2/2, Error ellipse: s-maj=39.4km s-min=19.0km az=66.8*

ISC 29 15:58:31.0±0.9, 469N±02×1555E±02, h35km, n11, σ0§65/10, mb3.5/5, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	3.82	6	ePN	Pn	15 59 20.8	-6.4
SKR				e		16 00 03.2	
ASAJ	Asahikawa	9.49 258		Pn	Pn	16 00 44.5	-0.6
	0.2nm,0.3s,baz=64,slow=15,SNR=2.7						
MJAR	Matsushiro Arr	16.52 237		Pn	Pn	16 02 25.3	+5.4
	0.1nm,0.3s,baz=30,slow=10,SNR=5.4						
INK	Inuvik	40.64	33	P	P	16 06 06.6	-0.5
INK				pmax	pmax		
	comp=Z,2.0nm,0.7s						
INK	Inuvik	40.64	33	P	P	16 06 06.6	-0.5
	comp=Z,2.0nm,0.7s,mb3.9,baz=309,slow=6.5,SNR=4.3						
MKAR	Makanchi Array	48.34 298		LR	LR	16 30 56.7	
	comp=Z,33nm,18.6s,baz=246,slow=40						
FINES	FINESS Array B	64.61 336		P	P	16 09 05.4	+1.1
FINES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
FINES	FINESS Array B	64.61 336		P	P	16 09 05.3	+1.0
	comp=Z,0.5nm,0.6s,mb3.7,baz=60,slow=5.6,SNR=4.1						
WRA	Warramunga Arr	69.21 201		P	P	16 09 33.8	-0.2
	comp=Z,0.3nm,0.8s,mb3.3,baz=22,slow=7.0,SNR=3.9						
ASAR	Alice Springs	72.89 201		P	P	16 09 57.0	+0.7
	comp=Z,0.2nm,0.6s,mb3.2,baz=14,slow=5.2,SNR=6.2						
TXAR	Lajitas Array	75.97	62	P	P	16 10 13.9	-0.4
	comp=Z,0.3nm,0.6s,mb3.4,baz=289,slow=3.6,SNR=4.1						

*ISCJB **29** 16:22:39.4±0.5, 3824N±003×2187E±004, h13km±3km, Error ellipse: s-maj=5.3km s-min=4.8km az=178.9*
*NEIC **29** 16:22:39.8, 3822N×2183E, h23km±3km, MD3.1(ATH), After ATH.*
*ATH **29** 16:22:39.8, 3822N×2183E, h23km±3km, MD3.1/6*
*CSEM **29** 16:22:40.1±0.2, 3822N×2184E, h15km, ML2.8, Error ellipse: s-maj=5.5km s-min=5.0km az=109.0*
*THE **29** 16:22:40.5, 3823N×2187E, h6km, ML2.8*

ISC 29 16:22:40.0±0.5, 3823N±003×2186E±004, h15km±4km, n13, σ1§18/22, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SELA	Sela	0.06	32	ePg	Pg	16 22 42.0	-0.8
SELA				eSg	Sg	16 22 43.5	-1.3
RLS	Riolos of Patr	0.35 241		ePB	Pg	16 22 47.0	-0.1
RLS				eSB	Sg	16 22 52.5	+0.5
EVR	Evrytania	0.69 357		ePN	Pn	16 22 53.6	-1.6
EVR				eSN	Sg	16 23 04.1	+1.6
KFL	Anninata	0.85 262		ePg	Pg	16 22 56.6	+0.1
KFL				eSg	Sg	16 23 10.3	+2.7
AGG	Agios Georgios	0.88	25	ePg	Pg	16 22 56.2	-0.7
AGG				eSg	Sg	16 23 10.1	+1.7
AGG	Agios Georgios	0.88	25	ePg	Pg	16 22 56.2	-0.7
AGG				eSg	Sg	16 23 10.1	+1.7
VLX	Vlachokerasia	0.95 154		ePg	Pg	16 22 57.6	-0.8
VLX				eSg	Sg	16 23 12.5	+1.7
LKR	Lokris	0.99	65	ePN	Pn	16 22 59.0	-0.3
VLS	Valsamata	1.00 267		ePg	Pg	16 22 57.9	-1.4
VLS	Valsamata	1.00 267		ePn	Pn	16 22 58.4	-1.0
ITM	Ithomi	1.05 177		ePN	Pn	16 22 59.5	-0.6
ITM				eSN	Sn	16 23 15.0	+0.5
DID	Didima	1.31 123		ePg	Pg	16 23 03.8	-1.4
DID				eSg	Sg	16 23 23.4	+1.2
THL	Klokotos Trika	1.34	5	ePN	Pn	16 23 05.4	+1.3

*ISCJB **29** 16:28:46.7±0.5, 3912N±002×4106E±004, h2km±5km, Error ellipse: s-maj=5.0km s-min=3.7km az=24.0*
*CSEM **29** 16:28:46.4±0.1, 3911N×4108E, h10km, MD3.2, Error ellipse: s-maj=2.2km s-min=1.9km az=133.0*
*ISK **29** 16:28:46.3, 3912N×4108E, h9km, MD3.2*
*DDA **29** 16:28:48.0, 3910N×4122E, h5km±3km, Md3.2*

ISC 29 16:28:47.5±0.5, 3911N±002×4109E±004, h6km±4km, n21, σ0§88/31, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNGL	BINGOL	0.16 163		i P	Pg	16 28 50.8	+0.1
BNGL				i S	Sg	16 28 54.1	+1.2
BINT	Bingol	0.52 244		PG	Pg	16 28 56.6	-0.8
BINT				eSG	Sg	16 29 05.2	+0.9
EZM	Erzurum	0.82	15	PG	Pg	16 29 02.5	-0.8
ERZM	Erzurum	0.83	15	i P	Pg	16 29 02.4	-0.9
ERZM				i S	Sg	16 29 14.0	-0.1
BTMT	Batman	0.97 161		PG	Pg	16 29 06.3	+0.3
HOMI	Horasan	1.13	34	i P	Pg	16 29 07.7	-1.5
HOMI				i S	Sg	16 29 24.5	+0.7
EZC	Erzincan	1.18 303		ePN	Pn	16 29 13.1	+2.7
PTK	Pertek	1.34 261		ePN	Pn	16 29 10.8	-1.8
PTK				eSN	Sn	16 29 30.6	0.0
DIY	Diyarbakir	1.39 209		ePN	Pn	16 29 12.5	-0.8
AGRB	Hanur-Agry	1.55	72	ePN	Pn	16 29 15.0	-0.5
SVRC	Sivrice-ELAZID	1.57 243		ePN	Pn	16 29 14.9	-0.9
ELZG	Elazig	1.75 250		i P	Pn	16 29 18.7	+0.4
ELZG				i S	Sg	16 29 47.9	+4.2
MARD	Mardin	1.81 188		i P	Pn	16 29 18.9	-0.2
MARD				i S	Sg	16 29 45.5	0.0
GUMT	Gumushane	1.83 318		ePN	Pn	16 29 19.3	-0.2
SIRT	Sirnak	1.92 146		ePN	Pn	16 29 20.4	-0.3
KEMA	Kemaliye	2.02 275		i P	Pn	16 29 22.3	+0.3
KEMA				i S	Sg	16 29 52.4	0.0
MACK	Trabzon	2.10 332		i P	Pn	16 29 26.2	+3.2
MACK				i S	Sg	16 29 54.7	-0.1
ARTV	Artvin	2.17	17	i P	Pn	16 29 25.0	+0.9
ARTV				i S	Sb	16 29 55.6	+1.3
MALT	Malatya	2.23 250		ePN	Pn	16 29 24.7	-0.1
URFA	Urfa	2.44 228		ePN	Pn	16 29 27.6	-0.1
SVSK	Karacayir	3.27 286		ePN	Pn	16 29 39.2	+0.1

*BJI **29** 16:53:32.9, 1176S×12201E, h33km, mB5.1, mb4.7, Ms4.7, Msz4.0*
*IDC **29** 16:53:33.4±0.6, 1143S×12159E, h0km, mb4.4/11, mb1 4.5/13, mb1mx4.4/16, mbtmp4.4/13, ML4.7/2, MS3.8/4, Ms1 3.8/4, ms1mx3.2/31, Error ellipse: s-maj=20.8km s-min=13.7km az=69.0*
*NEIC **29** 16:53:34.8±0.3, 1143S×12172E, h10km, mb4.6/11, Error ellipse: s-maj=13.6km s-min=6.8km az=63.0*
*ISCJB **29** 16:53:37.7±0.8, 1180S±003×12188E±005, h74km±8km, mb4.6/31, Error ellipse: s-maj=9.0km s-min=4.7km az=156.2*

ISC 29 16:53:39.0±0.7, 1178S±004×12186E±005, h65km±8km, h28km±7.0km: pP-P, n77, σ1§09/84, mb4.6/31, 5C-7D, South of Timor

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	Kupang	2.36	49	Pn	Pn	16 54 15.7	+0.2
	202nm,0.3s,baz=270,slow=4.7,SNR=291						
BATI				Sn	Sn	16 54 43.6	+0.3
	132nm,0.3s,baz=157,slow=5.1,SNR=24						
FITZ	Fitzroy Crossi	7.27 150		eP	Pn	16 55 24.1	+1.6
	58nm,0.5s						
FITZ				eS	Sn	16 56 42.8	-0.8
FITZ	Fitzroy Crossi	7.27 150		Pn	Pn	16 55 24.8	+2.2
	9.4nm,0.3s,baz=348,slow=9.2,SNR=242						
FITZ				Sn	Sn	16 56 43.8	+0.1
	24nm,0.3s,baz=198,slow=19,SNR=21						
FITZ				LR	LR	16 59 05.5	
	comp=Z,278nm,18.5s,baz=323,slow=43						
MBWA	Marble Bar	9.55 192		ePn	Pn	16 55 53.0	-0.7
	24nm,0.5s						
MBWA				eSn	Sn	16 57 34.1	-5.4
KAKA	Kakadu	10.38	96	eP	Pn	16 56 05.9	+0.8
	21nm,0.5s						
KAKA				eS	Sn	16 57 58.7	-1.2
WRA	Warramunga Arr	14.48 126		Pn	Pn	16 56 59.7	-0.9
	2.4nm,0.3s,baz=306,slow=14,SNR=162						
WRA				Sn	Sn	16 59 34.4	-5.5
	2.3nm,0.3s,baz=297,slow=20,SNR=9.2						
WRAB	Tennant Creek	14.48 126		eP	Pn	16 56 59.9	-0.8
	21nm,0.8s						
WRAB				eS	Sn	16 59 30.0	-10
WB2	Warramunga Arr	14.49 126		eP	Pn	16 56 59.8	-0.9
WB2				eS	Sn	16 59 33.7	-6.4
TSM	Tawau	16.45 346		⇓ P	Pn	16 57 26.6	+0.8
ASAR	Alice Springs	16.46 138		Pn	Pn	16 57 27.4	+1.6
	3.0nm,0.3s,baz=315,slow=12,SNR=390						
ASAR				Sn	Sn	17 00 23.4	-4.4
	1.3nm,0.3s,baz=312,slow=22,SNR=22						
SBUM	Sibu	17.08 325		⇑ P	Pn	16 57 34.3	+0.7
MYLDM	Lahad Datu	17.18 349		⇓ P	Pn	16 57 34.4	-0.4
BTM	Bintulu	17.25 329		⇓ P	Pn	16 57 36.3	+0.6
KSM	Kuching	17.47 318		eP	Pn	16 57 37.4	-1.0
KSM	Kuching	17.47 318		⇓ P	Pn	16 57 38.1	-0.3
SDKM	Sandakan	17.92 345		⇑ P	Pn	16 57 43.7	-0.1
MORW	Morawa	18.04 197		⇓ iP	Pn	16 57 45.6	+0.4
	48nm,0.9s						
MORW				eS	S	17 00 50.3	-17
KKM	Kota Kinabalu	18.58 342		eP	Pn	16 57 47.6	-4.2
KKM	Kota Kinabalu	18.58 342		⇓ P	Pn	16 57 49.4	-2.4
FORT	Forrest	19.76 164		eP	Pn	16 58 08.7	+2.9
	36nm,0.6s						
FORT				eS	S	17 01 38.4	-4.6
MUN	Mundaring	20.77 194		eP	P	16 58 21.0	+6.4
MUN				eS	S	17 01 55.4	-7.5
NWAO	Narrogin (SRO)	21.47 191		eP	P	16 58 24.8	+2.6
NWAO				eS	S	17 02 13.4	-3.3
NWAO	Narrogin (SRO)	21.47 191		P	P	16 58 26.2	+4.0
	20nm,0.8s,mb4.5,baz=359,slow=11,SNR=8.1						
NWAO				S	S	17 02 11.3	-5.4
	24nm,0.6s,baz=99,slow=23,SNR=3.6						
NWAO				LR	LR	17 07 36.7	
	comp=Z,218nm,19.3s,baz=15,slow=39						
CTA	Charters Tower	24.84 112		eP	P	16 59 02.1	+6.6
	3.6nm,0.9s,mb3.8						
CTA	Charters Tower	24.84 112		P	P	16 59 01.1	+5.6
	0.4nm,0.3s,mb3.3,baz=285,slow=16,SNR=4.4						
KTGM	Kuala Trenggan	25.22 311		⇑ P	P	16 59 00.1	+1.1
IPM	Ipoh	26.28 307		⇑ P	P	16 59 09.7	+1.2
PSI	Prapat	27.02 301		P	P	16 59 14.0	-1.3
	9.5nm,0.8s,mb4.4,baz=178,slow=6.6,SNR=6.6						
STKA	Stephens Creek	27.03 141		eP	P	16 59 20.7	+5.5
	6.6nm,0.8s,mb4.2						
STKA	Stephens Creek	27.03 141		P	P	16 59 20.3	+5.1
	6.8nm,0.7s,mb4.3,baz=313,slow=9.0,SNR=21						
STKA				LR	LR	17 11 16.2	
	comp=Z,204nm,21.2s,baz=204,slow=39						
KULM	Kulim	27.07 308		eP	P	16 59 15.7	0.0
KMI	Kunming	41.15 333		P	P	17 01 16.0	-1.0
KMI				AMB	AMB		
	comp=Z,7.0nm,0.9s,mb4.5						
CD2	Chengdu	45.87 338		eP	P	17 01 53.8	-1.2
CD2				PP	PP	17 03 41.0	-2.7
CD2				S	S	17 08 35.0	+0.4
CD2				SS	SS	17 11 50.5	-10
CD2				AMB	AMB		
	comp=Z,20nm,0.8s,mb4.9						
CD2				AMB	AMB		
	comp=Z,30nm,5.8s						
CD2				LR	LR		
	comp=N,150nm,12.4s						
CD2				LR	LR		
	comp=Z,120nm,13.2s						
XAN	Xi'an	47.20 345		P	P	17 02 03.8	-1.5
XAN				AP	pP	17 02 13.5	-8.3
XAN				XP	sP	17 02 20.3	-8.9
XAN				AMB	AMB		
	comp=Z,7.0nm,0.7s,mb4.5						
KSRS	Korea Array	49.30	6	P	P	17 02 21.4	0.0
	comp=Z,3.7nm,0.9s,mb4.3,baz=186,slow=8.5,SNR=15						
MJAR	Matsushiro Arr	50.47	17	P	P	17 02 30.3	-0.1
	comp=Z,2.4nm,0.8s,mb4.2,baz=191,slow=8.3,SNR=11						
LSA	Lhasa	50.77 325		P	P	17 02 33.0	+0.

SBA	Scott Base	69.81 171	eP	P	17 04 48.4	+6.3
ZAA0	Zalesovo Array	72.64 338	eP	P	17 04 59.1	-0.2
ZALV	Zalesovo Beam	72.64 338	P	P	17 04 59.2	-0.2
ZALV	Zalesovo Beam	72.64 338	P	P	17 04 59.2	-0.2
	comp=Z,3.6nm,0.6s,mb4.3,baz=135,slow=5.0,SNR=16					
KURK	Kurchatov	72.73 333	P	P	17 05 00.8	+0.8
	comp=Z,5.6nm,0.9s,mb4.4					
RAR	Rarotonga	75.09 109	LR	LR	17 31 52.2	
	comp=Z,208nm,20.4s,baz=240,slow=30					
SYO	Syowa Base	76.31 202	eP	P	17 05 23.4	+2.8
SYO	Syowa Base	76.31 202⇑	esP	sP	17 05 30.6	-15
QRN	Al-Qurain	81.91 302	eP	P	17 05 49.8	-2.1
QRN			AMb	AMB	17 05 56.0	
	comp=Z,16nm,0.7s,mb5.0					
RDF	Al-Radifah	82.27 302	eP	P	17 05 50.8	-3.0
RDF			AMb	AMB	17 06 06.8	
	comp=Z,13nm,0.6s,mb4.9					
NAY	Al-Naaiem	82.63 302	eP	P	17 05 53.6	-2.0
NAY			AMb	AMB	17 06 08.9	
	comp=Z,9.2nm,0.7s,mb4.7					
MIB	Mutribah	82.72 302	eP	P	17 05 58.1	+2.0
MIB			AMb	AMB	17 06 09.1	
	comp=Z,12nm,0.6s,mb4.9					
TIXI	Tiksi	83.37 2	P	P	17 05 58.9	+0.4
	comp=Z,2.4nm,0.6s,mb4.2					
YKA	Yellowknife Ar	115.52 25	PKP	PKPdf	17 12 16.8	+3.7
YKA	Yellowknife Ar	115.52 25	PKP	PKPdf	17 12 16.8	+3.7
	comp=Z,0.3nm,0.7s,baz=312,slow=2.0,SNR=4.7					
TXAR	Lajitas Array	134.25 60	PKP	PKPdf	17 12 55.7	+5.6
TXAR	Lajitas Array	134.25 60	PKP	PKPdf	17 12 55.7	+5.6
	comp=Z,0.2nm,0.6s,baz=332,slow=3.6,SNR=3.6					
LPAZ	La Paz	150.41 160	ePKPbc	PKPbc	17 13 30.4	+6.2
LPAZ	La Paz	150.41 160	PKPbc	PKPbc	17 13 30.7	+6.6
	comp=Z,8.3nm,0.7s,baz=172,slow=0.7,SNR=44					
BDFB	Brasilia	150.97 200	PKPbc	PKPbc	17 13 30.3	+4.8
	comp=Z,1.4nm,0.6s,baz=143,slow=9.8,SNR=5.0					

*BJI **29** 17:08:50.2, 675S×15590E, h4km, mB5.0, mb4.8, Ms4.9, Msz4.6*
*NEIC **29** 17:08:51.6±0.2, 689S×15599E, h10km, mb5.0/27, MS4.5/4, Error ellipse: s-maj=8.3km s-min=5.1km az=108.0*
*MOS **29** 17:08:55.0±0.9, 684S×15578E, h33km, mb5.1/22, MS4.4/4, Error ellipse: s-maj=10.3km s-min=7.6km az=101.1*
*ISCJB **29** 17:08:57.7±1.7, 700S±005×15589E±006, h66km±16km, mb4.8/72, Error ellipse: s-maj=11.0km s-min=8.2km az=21.3*
*IDC **29** 17:08:58.4±1.9, 704S×15589E, h58km±15km, mb4.6/18, mb1 4.7/19, mb1mx4.7/20, mbtmp4.7/19, MS3.7/8, Ms1 3.7/8, ms1mx3.5/23, Error ellipse: s-maj=15.9km s-min=11.4km az=79.0*

ISC 29 17:08:59.8±1.5, 703S±005×15591E±007, h71km±14km, h9km±4.6km: pP-P, n262, σ0 91/142, mb4.8/72, 8C-11D, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	4.66	121	eP	Pn	17 10 07.2	-0.5
HNR	Honiara	4.66	121	P	Pn	17 10 08.2	+0.6
	23nm,0.3s,baz=287,slow=1.4,SNR=32						
HNR				LR	LR	17 11 05.4	
	comp=Z,184nm,21.7s,baz=4.7,slow=27						
CTA	Charters Tower	16.00	215	eP	Pn	17 12 42.0	+1.4
	12nm,1.1s						
CTA	Charters Tower	16.00	215	eP	Pn	17 12 42.0	+1.4
CTA				pmax	pmax		
	comp=Z,12nm,1.1s						
CTA	Charters Tower	16.00	215	P	Pn	17 12 42.4	+1.8
	comp=Z,0.7nm,0.3s,baz=32,slow=12,SNR=25						
CTAO	Charters Tower	16.00	215	eP	Pn	17 12 42.0	+1.3
	comp=Z,13nm,0.8s						
CTAO	Charters Tower	16.00	215	eP	Pn	17 12 42.0	+1.4
CTAO				pmax	pmax		
	comp=Z,13nm,0.8s						
EIDS	Eidsvold	18.81	194	eP	Pn	17 13 15.1	+0.1
	comp=Z,2.7nm,0.6s						
GUMO	Guam	23.23	332	LR	LR	17 21 17.0	
	comp=Z,145nm,20.0s,baz=123,slow=32						
ARMA	Armidale	23.61	189	eP	P	17 14 05.1	+0.8
KAKA	Kakadu	23.79	254	eP	P	17 14 05.6	-0.6
	comp=Z,67nm,0.6s,mb5.2						
KAKA				e		17 17 48.3	
WRAB	Tennant Creek	24.53	236	eP	P	17 14 12.8	-0.1
	comp=Z,22nm,0.6s,mb4.8						
WRAB	Tennant Creek	24.53	236	eP	P	17 14 12.8	-0.1
WRAB				pmax	pmax		
	comp=Z,22nm,0.6s,mb4.8						
WB2	Warramunga Arr	24.54	236⇑	iP	P	17 14 13.1	+0.2
WB2				e		17 14 22.2	
WB2				e		17 17 49.9	
WB2				e		17 21 29.2	
WRA	Warramunga Arr	24.55	236	P	P	17 14 13.1	+0.1
WRA				PcP	PcP	17 17 50.2	+0.5
WRA				ScP	ScP	17 21 24.1	+1.7
WRA				LR	LR	17 23 43.9	
WRA	Warramunga Arr	24.55	236	P	P	17 14 13.1	+0.1
WRA						17 17 50.2	
WRA	Warramunga Arr	24.55	236	P	P	17 14 13.1	+0.1
	comp=Z,22nm,0.6s,mb4.8,baz=64,slow=9.7,SNR=223						
WRA				PcP	PcP	17 17 50.2	+0.5
	comp=Z,5.6nm,0.8s,baz=59,slow=2.1,SNR=12						
WRA				ScP	ScP	17 21 24.1	+1.7
	comp=Z,1.1nm,0.7s,baz=70,slow=3.4,SNR=7.2						
WRA				LR	LR	17 23 43.9	
	comp=Z,190nm,19.5s,baz=60,slow=36						
WRA				PKiKP	PKiKP	17 25 30.2	-1.8
	comp=Z,0.2nm,0.4s,baz=319,slow=1.1,SNR=13						
ASAR	Alice Springs	26.83	230	P	P	17 14 33.1	-0.5
ASAR				PcP	PcP	17 17 55.2	+0.3
ASAR				ScP	ScP	17 21 31.8	+2.7
ASAR	Alice Springs	26.83	230	P	P	17 14 33.2	-0.5
ASAR						17 17 55.3	
ASAR	Alice Springs	26.83	230	P	P	17 14 33.1	-0.5
	comp=Z,7.4nm,0.5s,mb4.5,baz=59,slow=9.9,SNR=332						
ASAR				PcP	PcP	17 17 55.2	+0.3
	comp=Z,3.6nm,0.4s,baz=65,slow=2.5,SNR=15						
ASAR				ScP	ScP	17 21 31.8	+2.7
	comp=Z,1.2nm,0.8s,baz=48,slow=3.1,SNR=6.9						
ASAR				PKiKP	PKiKP	17 25 31.8	-1.4
	comp=Z,0.2nm,0.6s,baz=35,slow=1.1,SNR=4.6						
STKA	Stephens Creek	28.10	207	eP	P	17 14 39.2	-5.7
	comp=Z,4.4nm,0.5s,mb4.2						
STKA	Stephens Creek	28.10	207	eP	P	17 14 44.8	0.0
	comp=Z,1.4nm,0.5s,mb3.8						
STKA	Stephens Creek	28.10	207	P	P	17 14 44.2	-0.7
	comp=Z,7.4nm,0.7s,mb4.3,baz=38,slow=8.8,SNR=16						
STKA				PcP	PcP	17 17 58.5	+0.7
	comp=Z,1.8nm,0.5s,baz=30,slow=3.6,SNR=3.6						
STKA				ScP	ScP	17 21 34.3	+1.6
	comp=Z,1.6nm,0.7s,baz=41,slow=7.0,SNR=3.6						
STKA				LR	LR	17 25 18.3	
	comp=Z,326nm,20.3s,baz=131,slow=35						
FITZ	Fitzroy Crossi	31.47	247⇑	iP	P	17 15 14.3	-0.6
	comp=Z,27nm,0.7s,mb5.1						
FITZ				e		17 18 06.8	
FITZ	Fitzroy Crossi	31.47	247	P	P	17 15 14.3	-0.6
	comp=Z,16nm,0.7s,mb4.9,baz=85,slow=9.1,SNR=52						
FITZ				PcP	PcP	17 18 07.0	+0.2
	comp=Z,3.8nm,0.8s,baz=120,slow=3.2,SNR=3.8						
FITZ				LR	LR	17 28 04.8	
	comp=Z,165nm,20.7s,baz=79,slow=36						
BATI	Kupang	32.03	262	P	P	17 15 20.7	+0.8
	comp=Z,9.1nm,0.5s,mb4.8,baz=117,slow=3.4,SNR=4.5						
BATI				LR	LR	17 29 07.1	
	comp=Z,252nm,19.1s,baz=324,slow=38						
FORT	Forrest	35.19	224	eP	P	17 15 46.6	-0.5
	comp=Z,31nm,0.5s,mb5.4						
URZ	Urewera	36.54	151	P	P	17 15 57.9	-0.7
	comp=Z,4.3nm,0.3s,mb4.8,baz=214,slow=1.9,SNR=8.1						
MBWA	Marble Bar	37.67	244	eP	P	17 16 07.3	-1.1
	comp=Z,16nm,0.6s,mb5.0						
RPZ	Rata Peaks	38.88	162	P	P	17 16 18.5	+0.2
	comp=Z,50nm,0.8s,mb5.4,baz=193,slow=0.3,SNR=26						
KKM	Kota Kinabalu	41.68	287	eP	P	17 16 41.9	0.0
JHJ	Hachijo jima 2	42.77	340	LR	LR	17 32 29.9	
	comp=Z,79nm,19.0s,baz=241,slow=33						
KLBR	Kellerberrin	43.16	230	eP	P	17 16 52.5	-1.1
	comp=Z,26nm,0.5s,mb5.2						
NWAO	Narrogin (SRO)	44.15	229	P	P	17 17 01.6	0.0
	comp=Z,18nm,0.7s,mb4.9,baz=53,slow=10,SNR=9.5						
MUN	Mundaring	44.51	231	eP	P	17 17 04.3	-0.1
KSM	Kuching	46.28	279	eP	P	17 17 18.5	-0.2
MJAR	Matsushiro Arr	46.41	340	P	P	17 17 18.7	-0.6
	comp=Z,3.2nm,0.6s,mb4.2,baz=170,slow=7.8,SNR=20						
MJAR				PcP	PcP	17 18 52.9	-0.2
	comp=Z,3.0nm,0.7s,baz=158,slow=4.7,SNR=8.9						
MAJO	Matsushiro	46.41	340	eP	P	17 17 18.6	-0.7
	comp=Z,5.2nm,0.4s,mb4.6						
MAJO	Matsushiro	46.41	340	eP	P	17 17 18.6	-0.7
MAJO				pmax	pmax		
	comp=Z,5.0nm,0.4s,mb4.6						
MAT	Matsushiro	46.41	340	P	P	17 17 18.1	-1.2
JNU	Nakatsue	46.48	331	P	P	17 17 20.5	+0.6
	comp=Z,15nm,0.8s,mb4.8,baz=112,slow=8.7,SNR=13						
KSRS	Korea Array	51.40	331	P	P	17 17 58.0	+0.5
	comp=Z,6.7nm,0.8s,mb4.8,baz=151,slow=8.0,SNR=27						
YSS	Yuzh-Sakhalins	55.00	349	eP	P	17 18 24.0	+0.3
YSS				pmax	pmax		
	comp=Z,20nm,1.0s,mb5.1						
CN2	Changchun	57.61	334	eP	P	17 18 43.8	+1.4
CN2				eXP	sP	17 18 50.8	-18
CN2				eS	S	17 26 39.5	+4.3
CN2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb5.0						
CN2				AMB	AMB		
	comp=Z,200nm,3.0s						
CN2				LR	LR		
	comp=N,600nm,16.0s						
CN2				LR	LR		
	comp=E,500nm,16.0s						
CN2				LR	LR		
	comp=Z,400nm,15.0s						
GYA	Guiyang	58.20	307	P	P	17 18 47.5	+0.7
GYA				PCP	PcP	17 19 39.5	+1.9
GYA				PP	PP	17 20 58.5	+2.0
GYA				SCP	ScP	17 23 38.3	+6.5
GYA				S	S	17 26 47.3	+3.9
GYA				AMB	AMB		
	comp=Z,20nm,1.0s,mb5.1						
GYA				AMB	AMB		
	comp=Z,120nm,6.8s						
GYA				LR	LR		
	comp=N,520nm,18.9s						
GYA				LR	LR		
	comp=E,660nm,17.6s						
GYA				LR	LR		
	comp=Z,450nm,18.4s						
KLR	Kul'dur	59.88	342	eP	P	17 18 54.8	-3.2
XAN	Xi'an	60.36	316	P	P	17 19 01.0	-0.6
XAN				AMB	AMB		
	comp=Z,8.0nm,0.6s,mb4.9						
KMI	Kunming	60.79	304	P	P	17 19 06.0	+1.3
KMI				AMB	AMB		
	comp=Z,6.0nm,1.0s,mb4.6						
CHTO	Chiang Mai	61.73	296	eP	P	17 19 11.4	+0.2
	comp=Z,10nm,0.9s,mb4.9						
CHTO	Chiang Mai	61.73	296	eP	P	17 19 11.4	+0.2
CHTO				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.8						
CD2	Chengdu	62.53	310	eP	P	17 19 16.5	+0.2
CD2				AP	pP	17 19 21.0	-14
CD2				XP	sP	17 19 24.3	-19
CD2				PP	PP	17 21 35.8	+1.0
CD2				S	S	17 27 41.0	+2.3
CD2				XS	sS	17 27 50.0	-20
CD2				AMB	AMB		
	comp=Z,20nm,0.6s,mb5.2						
CD2				AMB	AMB		
	comp=Z,30nm,5.8s						
CD2				LR	LR		
	comp=E,130nm,12.6s						
CD2				LR	LR		
	comp=Z,120nm,12.8s						
HHC	Hu-ho-hao-te	62.66	323	eP	P	17 19 19.0	+2.0
HHC				AP	pP	17 19 24.0	-12
HHC				XP	sP	17 19 26.0	-18
HHC				PP	PP	17 21 37.5	+1.8
HHC				SCP	ScP	17 23 56.0	+4.8
HHC				PCS	PcS	17 24 00.8	+2.3
HHC				S	S	17 27 49.5	+10
HHC				XS	sS	17 27 54.5	-17
HHC				SCS	ScS	17 29 07.5	+4.4
HHC				AMB	AMB		
	comp=Z,24nm,0.3s,mb5.6						
HHC				AMB	AMB		
	comp=Z,113nm,4.9s						
HHC				LR	LR		
	comp=Z,917nm,16.2s						
HIA	Hailar	64.34	335	eP	P	17 19 27.9	+0.1
	comp=Z,9.0nm,0.8s,mb4.7						
HIA	Hailar	64.34	335	eP	P	17 19 27.9	0.0
HIA				pmax	pmax		
	comp=Z,9.0nm,0.8s						
LZH	Lanzhou	64.98	315	eP	P	17 19 34.0	+1.7
LZH				AP	pP	17 19 37.5	-14
LZH				XP	sP	17 19 39.5	-19
LZH				PP	PP	17 21 58.8	+2.6
LZH				eS	S	17 28 13.5	+4.6
LZH				XS	sS	17 28 18.5	-22
LZH				AMB	AMB		
	comp=Z,19nm,1.5s,mb4.7						
LZH				AMB	AMB		
	comp=Z,70nm,4.0s						
LZH				LR	LR		
	comp=N,462nm,15.1s						
LZH				LR	LR		
	comp=Z,685nm,16.0s						
GTA	Gaotai	69.39	317	eP	P	17 20 01.0	+0.8
GTA				AP	pP	17 20 06.3	-13
GTA				XP	sP	17 20 08.8	-18
GTA				PP	PP	17 22 39.5	+5.0
GTA				PPP		17 24 19.5	
GTA				S	S	17 29 10.5	+8.7
GTA				AMB	AMB		
	comp=Z,5.0nm,1.3s,mb4.2						
GTA				AMB	AMB		
	comp=Z,60nm,5.0s						
GTA				LR	LR		
	comp=N,129nm,16.0s						
GTA				LR	LR		
	comp=E,98nm,12.2s						
GTA				LR	LR		
	comp=Z,197nm,16.8s						
ULN	Ulaanbaatar	69.52	327	eP	P	17 20 01.9	+1.0
	comp=Z,18nm,0.8s,mb5.0						
SEY	Seymchan	69.81	358⇑	eP	P	17 20 02.2	-0.1
SONM	Songino Array	69.86	327	P	P	17 20 03.9	+1.1
	comp=Z,22nm,0.6s,mb5.2,baz=138,slow=6.5,SNR=69						
VNDA	Vanda	70.52	179	P	P	17 20 06.8	+0.3
	comp=Z,3.7nm,0.9s,mb4.2,baz=331,slow=7.8,SNR=11						
SBA	Scott Base	71.01	178	eP	P	17 20 10.8	+1.3
	comp=Z,6.1nm,1.0s,mb4.4						
SBA	Scott Base	71.01	178	eP	P	17 20 10.8	+1.3
SBA				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.4						
YAK	Yakutsk	71.79	347⇑	eP	P	17 20 15.4	+1.1
YAK				pmax	pmax		
	comp=Z,12nm,0.8s,mb4.8						
LSA	Lhasa	72.04	304	eP	P	17 20 17.8	+1.2
	comp=Z,5.9nm,0.9s,mb4.4						
LSA	Lhasa	72.04	304	eP	P	17 20 17.8	+1.3
LSA				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.4						
BOD	Bodaibo	72.98	338	eP	P	17 20 21.3	-0.2
BOD				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.3						
ZAK	Zakamensk	73.00	328 ‖	iP	P	17 20 21.9	+0.1
ZAK				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.5						
TLY	Talaya	73.56	329	eP	P	17 20 24.7	-0.3
	comp=Z,8.8nm,0.9s,mb4.5						
TLY	Talaya	73.56	329	eP	P	17 20 25.5	+0.5
TLY				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.6						
IRK	Irkutsk	73.57	330	eP	P	17 20 24.0	-1.0
IRK				pmax	pmax		
	comp=Z,17nm,0.7s,mb4.9						
BOK	Bokaro	74.82	297	eP	P	17 20 32.5	-0.5
BOK				AMb	AMB	17 20 35.8	
	comp=Z,13nm,0.8s,mb4.7						
MOY	Mondy	74.92	328	eP	P	17 20 33.7	+0.8
BILL	Bilibino	75.25	4	eP	P	17 20 34.4	-0.1
	comp=Z,15nm,1.0s,mb4.7						
BILL	Bilibino	75.25	4d	iP	P	17 20 34.3	-0.2
BILL				i	pP	17 20 49.1	-4.5
BILL				pmax	pmax		
	comp=Z,15nm,1.1s,mb4.6						
JIRN	Jiri	75.58	301	eP	P	17 20 38.2	+0.9
	comp=Z,29nm,0.6s,mb5.2						
JIRN	Jiri	75.58	301	ePg	P	17 20 38.3	+1.0
GUN	Gumba	75.91	301	eP	P	17 20 40.0	+0.8
	comp=Z,54nm,0.7s,mb5.4						
PKI	Pulchoki	76.22	301	eP	P	17 20 41.0	+0.1
	comp=Z,20nm,0.5s,mb5.1						
PKIN	Phulchoki	76.23	301	eP	P	17 20 41.4	+0.4
	comp=Z,13nm,0.4s,mb5.0						
KKN	Kakani	76.39	301	eP	P	17 20 42.4	+0.5
	comp=Z,26nm,0.5s,mb5.2						
DMN	Daman	76.49	300	eP	P	17 20 43.2	+0.7
	comp=Z,34nm,0.5s,mb5.3						
GKN	Gorkha	77.00	301	eP	P	17 20 45.6	+0.3
	comp=Z,35nm,0.4s,mb5.5						
BLSP	Bilaspur	77.78	294	eP	P	17 20 48.4	-1.4
BLSP				AMb	AMB	17 20 50.4	
	comp=Z,23nm,0.8s,mb4.9						
KOLN	Koldanda	77.82	300	eP	P	17 20 50.2	+0.3
	comp=Z,28nm,0.5s,mb5.3						
DANN	Dangsing	77.83	301	eP	P	17 20 50.0	0.0
	comp=Z,32nm,0.5s,mb5.3						
SLKM	Skilak Lake	79.40	24	P	P	17 20 59.4	+1.6
WMQ	Urumqi	79.47	317	eP	P	17 20 58.0	-0.6
WMQ				LR	LR		
	comp=Z,204nm,24.8s						
KOD	Kodaikanal	79.96	282	eP	P	17 21 02.7	+0.8
KOD				AMb	AMB	17 21 05.2	
	comp=Z,26nm,1.7s,mb4.8						
HYB	Hyderabad	80.14	289	eP	P	17 21 02.0	-0.8
HYB	Hyderabad	80.14	289	i P	P	17 21 02.5	-0.3
TRD	Trivandrum	80.19	280	eP	P	17 21 03.5	+0.3
TRD				AMb	AMB	17 21 08.0	
	comp=Z,24nm,1.6s,mb4.8						
NGP	Nagpur	80.38	293	eP	P	17 21 02.9	-1.1
NGP				AMb	AMB	17 21 04.2	
	comp=Z,32nm,1.6s,mb4.9						
TIXI	Tiksi	80.52	352	eP	P	17 21 02.6	-1.1
	comp=Z,2.5nm,0.5s,mb4.3						
TIXI	Tiksi	80.52	352⇑	eP	P	17 21 03.2	-0.5
TIXI				pmax	pmax		
	comp=Z,8.0nm,1.8s,mb4.2						
IMA2	Indian Mountai	81.54	19	eP	P	17 21 09.2	0.0
MCK	McKinley	81.75	22	eP	P	17 21 08.5	-1.9
	comp=Z,7.3nm,0.9s,mb4.5						
MCK	McKinley	81.75	22	eP	P	17 21 08.5	-1.9
MCK				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.5						
AKL	Akola	82.17	292	eP	P	17 21 13.0	-0.5
BHPL	Bhopal	82.27	295	eP	P	17 21 12.1	-1.9
COLA	College	82.79	21	eP	P	17 21 14.9	-0.9
QSPA	South Pole Qui	82.94	180	P	P	17 21 17.0	+0.6
QSPA	South Pole Qui	82.94	180	P	P	17 21 17.0	+0.6
	comp=Z,17nm,0.7s,mb5.0,baz=342,slow=1.2,SNR=88						
NDI	New Delhi	83.51	300	eP	P	17 21 19.8	-0.5
NDI				AMb	AMB	17 21 20.3	
	comp=Z,22nm,0.7s,mb5.1						
MK31	Makanchi Array	84.03	318	eP	P	17 21 22.6	+0.1
MK31	Makanchi Array	84.03	318	i P	P	17 21 22.6	+0.1
MK31				pmax	pmax		
	comp=Z,7.0nm,0.3s,mb5.0						
MKAR	Makanchi Array	84.03	318	P	P	17 21 22.9	+0.4
	comp=Z,24nm,0.8s,mb5.1,baz=100,slow=5.9,SNR=178						
SMLA	Simla	84.05	302	eP	P	17 21 22.7	-0.3
KAD	Karad	84.23	288	eP	P	17 21 22.3	-1.9
KAD				eP		17 21 23.6	
MAW	Mawson	84.71	203	eP	P	17 21 25.6	0.0
	comp=Z,11nm,0.6s,mb5.0						
MAW	Mawson	84.71	203	eP	P	17 21 25.6	0.0
MAW				pmax	pmax		
	comp=Z,11nm,0.6s						
MAW	Mawson	84.71	203	P	P	17 21 25.7	+0.1
	comp=Z,14nm,0.7s,mb5.0,baz=100,slow=5.2,SNR=14						
ZAA0	Zalesovo Array	84.72	326	eP	P	17 21 24.7	-1.1
ZALV	Zalesovo Beam	84.72	326	P	P	17 21 25.0	-0.9
	comp=Z,13nm,0.7s,mb5.0,baz=113,slow=5.9,SNR=51						
ZALV				LR	LR	17 58 12.3	
	comp=Z,130nm,20.0s,baz=174,slow=35						
ZAL	Zalesovo	84.72	326	P	P	17 21 25.0	-0.9
POO	Poona	84.74	289	eP	P	17 21 25.0	-1.7
NVS	Novosibirsk	85.88	326	i P	P	17 21 30.4	-1.2
ULHL	Ulahol	87.09	313	P	P	17 21 38.9	+1.0
	SNR=7.4						
KURK	Kurchatov	87.42	322	eP	P	17 21 37.8	-1.4
	comp=Z,4.0nm,0.3s,mb4.8						
KURK	Kurchatov	87.42	322⇑	eP	P	17 21 38.1	-1.1
TKM2	Tokmak 2	87.69	314	eP	P	17 21 41.0	+0.3
	comp=Z,7.6nm,0.6s,mb4.9						
TKM2	Tokmak 2	87.69	314	eP	P	17 21 41.0	+0.3
TKM2				pmax	pmax		
	comp=Z,8.0nm,0.6s,mb4.9						
TKM2	Tokmak 2	87.69	314	P	P	17 21 41.3	+0.5
	SNR=12						
KZA	Kyzart	87.78	313	P	P	17 21 42.6	+1.4
	SNR=12						
UCH	Uchtor	88.34	313	eP	P	17 21 44.4	+0.5
	comp=Z,3.2nm,0.8s,mb4.4						
UCH	Uchtor	88.34	313	P	P	17 21 44.8	+0.9
	SNR=7.5						
AAK	Ala-Archa	88.44	313	eP	P	17 21 42.8	-1.5
	comp=Z,5.8nm,0.8s,mb4.7						
AAK	Ala-Archa	88.44	313⇑	iP	P	17 21 42.8	-1.5
AAK				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.7						
AAK	Ala-Archa	88.44	313	P	P	17 21 44.4	+0.1
	SNR=8.1						
AML	Almayashu	88.92	313	eP	P	17 21 47.3	+0.8
	comp=Z,9.6nm,0.7s,mb4.9						
AML	Almayashu	88.92	313	P	P	17 21 47.5	+0.9
	SNR=13						
EKS2	Erkin-Say	88.96	313	eP	P	17 21 46.8	+0.1
	comp=Z,4.5nm,0.7s,mb4.6						
EKS2	Erkin-Say	88.96	313	P	P	17 21 47.2	+0.5
	SNR=9.7						
NVAR	Mina Array Bea	91.03	52	P	P	17 21 58.0	+1.5
	comp=Z,0.3nm,0.5s,mb3.7,baz=250,slow=4.5,SNR=3.7						
KBL	Kabul	91.36	304	eP	P	17 21 56.8	-1.4
	comp=Z,6.2nm,0.6s,mb4.9						
KK31	Karatay Array	91.40	313	i P	P	17 21 57.3	-0.8
KK31				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.2						
SYO	Syowa Base	92.59	199⇑	eX		17 22 01.3	
BRVK	Borovoye	92.94	323	eP	P	17 22 03.3	-1.6
	comp=Z,8.7nm,0.9s,mb5.1						
BRVK	Borovoye	92.94	323	eP	P	17 22 03.3	-1.7
BRVK				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb5.1						
YKA	Yellowknife Ar	95.94	28	P	P	17 22 18.3	-0.2
YKA	Yellowknife Ar	95.94	28	P	P	17 22 18.3	-0.2
	comp=Z,0.6nm,0.6s,mb4.2,baz=265,slow=4.7,SNR=14						
SNAA	S

DPC	Dobruska-Polom	125.28	329	*e*PKPdf	PKPdf	17 27 52.7	+0.3
UPC	Upice	125.33	330	*e*PKPdf	PKPdf	17 27 53.0	+0.5
BSEG	Bad Segeberg	125.61	336	*e*PKPdf	PKPdf	17 27 53.1	+0.2
MODS	Modra-Piesok	125.97	327	*e*PKP	PKPdf	17 27 54.0	+0.2
PVCC	Panska Ves	126.04	330	*e*PKPdf	PKPdf	17 27 54.4	+0.6
BRG	Berggiesshubel	126.11	331	*e*PKPdf	PKPdf	17 27 53.8	-0.2
BRG	Berggiesshubel	126.11	331	*i* PKP	PKPdf	17 27 53.6	-0.4
	comp=Z,6.5nm,0.6s						
CLL	Collm	126.27	332	⇓*i*PKP	PKPdf	17 27 54.3	0.0
CLL				*i*		17 27 57.3	
CLL	Collm	126.27	332	⇓*i*PKIKP	PKPdf	17 27 54.3	0.0
CLL				pmax	pmax		
	comp=Z,8.0nm,0.8s						
CLL	Collm	126.27	332	*e*PKPdf	PKPdf	17 27 54.1	-0.2
CLL	Collm	126.27	332	⇓*i*PKPdf	PKPdf	17 27 54.3	0.0
	comp=Z,8.0nm,0.8s						
CLL				*i* pPKPdf	pPKPdf	17 27 57.3	-17
CLL				*e*PP	PP	17 29 51.0	+1.8
TREC	Trest	126.35	329	*e*PKPdf	PKPdf	17 27 54.8	+0.3
FBE	Freiberg	126.36	331	*e*PKPdf	PKPdf	17 27 54.2	-0.2
PRU	Pruhonice	126.39	330	*e*PKPdf	PKPdf	17 27 54.6	+0.1
PKSM	Moragy	126.42	324	⇓*i*P	PKPdf	17 27 54.7	0.0
CLZ	Clausthal	127.09	334	*e*PKPdf	PKPdf	17 27 56.2	+0.4
WERD	Werda	127.18	332	*e*PKPdf	PKPdf	17 27 55.7	-0.3
GUNZ	Gunzen	127.22	331	*e*PKPdf	PKPdf	17 27 56.2	+0.1
NKC	Novy Kostel	127.25	331	*e*PKPdf	PKPdf	17 27 56.8	+0.6
KHC	Kasperske Hory	127.43	330	*e*PKPdf	PKPdf	17 27 56.9	+0.4
GEC2	GERESS Array S	127.55	329	*e*PKPdf	PKPdf	17 27 56.8	0.0
GERES	GERESS Array B	127.55	329	PKP	PKPdf	17 27 57.3	+0.5
	comp=Z,4.4nm,0.6s,baz=69,slow=1.9,SNR=34						
MANZ	Manzenberg	127.58	331	*e*PKPdf	PKPdf	17 27 56.6	-0.2
ROTZ	Rotzenmuhle	127.68	331	*e*PKPdf	PKPdf	17 27 56.9	-0.1
WET	Wettzell	127.77	330	*e*PKPdf	PKPdf	17 27 57.4	+0.2
IBBN	Ibbenburen	127.86	336	*e*PKPdf	PKPdf	17 27 57.8	+0.6
PERS	Pernice	128.18	326	*e*PKPdf	PKPdf	17 27 58.3	+0.2
GRA1	Grafenberg Arr	128.20	331	*e*PKP	PKPdf	17 27 58.0	0.0
GRF	Grafenberg Arr	128.20	331	*e*PKPdf	PKPdf	17 27 58.0	0.0
CRES	Cresnjev	128.47	325	*i* PKPdf	PKPdf	17 27 58.7	+0.1
CEY	Cerknica	129.10	326	*i* PKPdf	PKPdf	17 27 59.6	-0.2
GIVF	Givet	130.73	336	*e*PKIKP	PKPdf	17 28 03.4	+0.6
CDF	Champ du Feu	130.94	333	*e*PKIKP	PKPdf	17 28 03.3	0.0
	comp=Z,2.5nm,0.5s						
HINF	Hinteralfeld	131.57	332	*e*PKIKP	PKPdf	17 28 04.1	-0.4
	comp=Z,6.6nm,0.7s						
HAU	Haudompre	131.66	333	*e*PKIKP	PKPdf	17 28 05.0	+0.4
	comp=Z,10nm,0.6s						
HAU				*e*MLR	MLR		
	comp=Z,68nm,22.0s						
HAU	Haudompre	131.66	333	*e*PKIKP	PKPdf	17 28 05.0	+0.4
HAU				MLR	MLR		
	comp=Z,70nm,22.0s						
MEZF	Maizieres J'vi	131.87	334	*e*PKIKP	PKPdf	17 28 05.9	+0.9
	comp=Z,15nm,0.7s						
CABF	La Chapelle	132.81	332	*e*PKIKP	PKPdf	17 28 08.0	+1.2
	comp=Z,9.7nm,0.6s						
LPL	La Plagne	133.30	330	*e*PKIKP	PKPdf	17 28 08.0	+0.2
	comp=Z,7.4nm,0.5s						
LPG	La Plagne	133.30	330	*e*PKIKP	PKPdf	17 28 08.1	+0.3
	comp=Z,7.9nm,0.5s						
LOR	Lormes	133.33	334	*e*PKIKP	PKPdf	17 28 08.4	+0.6
	comp=Z,3.4nm,0.4s						
LOR				*e*MLR	MLR		
	comp=Z,79nm,19.8s						
LOR	Lormes	133.33	334	*e*PKIKP	PKPdf	17 28 08.4	+0.6
LOR				MLR	MLR		
	comp=Z,80nm,19.8s						
SSF	Saint Saulge	133.64	334	*e*PKIKP	PKPdf	17 28 09.2	+0.8
	comp=Z,7.0nm,0.7s						
SMF	Signal de Mont	133.81	333	*e*PKIKP	PKPdf	17 28 09.3	+0.6
	comp=Z,4.2nm,0.6s						
MBDF	Montbardon	133.84	330	*e*PKIKP	PKPdf	17 28 09.5	+0.7
FLN	La Foliniere	133.87	338	*e*PKIKP	PKPdf	17 28 09.4	+0.6
	comp=Z,8.7nm,0.7s						
FLN				*e*MLR	MLR		
	comp=Z,124nm,20.0s						
FLN	La Foliniere	133.87	338	*e*PKIKP	PKPdf	17 28 09.4	+0.6
FLN				MLR	MLR		
	comp=Z,120nm,20.0s						
LDF	La Druitiere	133.87	338	*e*PKIKP	PKPdf	17 28 09.2	+0.4
	comp=Z,1.1nm,0.3s						
AVF	Avril sur Loir	133.92	334	*e*PKIKP	PKPdf	17 28 09.3	+0.4
	comp=Z,4.1nm,0.8s						
SBF	Sospel	134.10	328	*e*PKIKP	PKPdf	17 28 09.2	-0.2
	comp=Z,7.9nm,0.6s						
PGF	Pioggiola	134.14	326	*e*PKIKP	PKPdf	17 28 10.2	+0.7
	comp=Z,16nm,0.6s						
ORIF	Oris-en-Rattie	134.15	330	*e*PKIKP	PKPdf	17 28 09.2	-0.2
	comp=Z,6.4nm,0.6s						
ORIF				*e*MLR	MLR		
	comp=Z,88nm,22.5s						
GRR	Gorron	134.32	338	*e*PKIKP	PKPdf	17 28 10.4	+0.8
	comp=Z,8.1nm,0.7s						
BGF	Bois d'Agland	134.32	334	*e*PKIKP	PKPdf	17 28 10.7	+1.0
	comp=Z,6.8nm,0.5s						
FRF	La Foret Royal	134.72	328	*e*PKIKP	PKPdf	17 28 10.0	-0.5
	comp=Z,5.5nm,0.5s						
VIVF	Saint-Julien-l	134.78	331	*e*PKIKP	PKPdf	17 28 10.4	-0.2
	comp=Z,5.3nm,0.8s						
TCF	Toulx Ste Croi	134.80	334	*e*PKIKP	PKPdf	17 28 11.6	+1.0
	comp=Z,16nm,0.9s						
LMR	La Mourre	134.95	328	*e*PKIKP	PKPdf	17 28 10.4	-0.6
	comp=Z,6.9nm,0.6s						
SMRF	Simiane la Rot	134.98	330	*e*PKIKP	PKPdf	17 28 11.2	+0.2
	comp=Z,4.5nm,0.6s						
SGMF	Saint Gilles	135.03	340	*e*PKIKP	PKPdf	17 28 11.8	+0.8
MFF	Saint Martin d	135.52	336	*e*PKIKP	PKPdf	17 28 12.9	+1.0
	comp=Z,7.6nm,0.8s						
LASF	Ste Croix	135.75	331	*e*PKIKP	PKPdf	17 28 12.4	0.0
	comp=Z,6.5nm,0.7s						
RJF	Les Rejaudoux	135.88	334	*e*PKIKP	PKPdf	17 28 13.9	+1.3
RJF				*e*MLR	MLR		
	comp=Z,98nm,19.8s						
RJF	Les Rejaudoux	135.88	334	*e*PKIKP	PKPdf	17 28 13.9	+1.3
RJF				MLR	MLR		
	comp=Z,100nm,19.8s						
CAF	Calviac	135.93	333	*e*PKIKP	PKPdf	17 28 13.7	+1.0
SIV	San Ignacio	136.83	122	PKP	PKPdf	17 28 14.7	-0.5
	comp=Z,0.9nm,0.5s,baz=280,slow=4.6,SNR=6.9						
MTLF	Montolieu	137.08	332	*e*PKIKP	PKPdf	17 28 16.1	+1.2
	comp=Z,6.9nm,0.8s						
KEST	Kesra	138.12	318	PKP	PKPdf	17 28 15.5	-1.6
	comp=Z,0.8nm,0.7s,baz=322,slow=12,SNR=2.5						
ETOR	Torete	141.03	333	P	PKPdf	17 28 14.8	-7.4
GUD	Guadarrama	142.09	335	P	PKPdf	17 28 20.2	-3.9
MVO	Moncorvo	142.76	339	*e*PKP	PKPdf	17 28 23.5	-1.8
ESDC	Sonseca Array	142.81	334	P	PKPdf	17 28 21.8	-3.6
ESDC	Sonseca Array	142.81	334	PKP	PKPdf	17 28 22.8	-2.6
	comp=Z,1.2nm,0.7s,baz=24,slow=2.8,SNR=10						
PVRL	Vila Real	142.91	339	*e*PKP	PKPdf	17 28 23.9	-1.7
PVIS	Viseu	143.47	339	*e*PKP	PKPdf	17 28 24.1	-2.5
MTE	Manteigas	143.62	338	*e*PKP	PKPdf	17 28 24.9	-1.9
EQES	Quesada	143.91	331	P	PKPdf	17 28 25.2	-2.2
EBAN	Banos Encina	143.96	332	P	PKPdf	17 28 25.7	-1.8
EADA	Adamuz	144.32	333	P	PKPdf	17 28 26.6	-1.5
PTOM	Tomar	144.62	339	*e*PKP	PKPdf	17 28 28.2	-0.4
ECAB	El Cabril	144.76	334	P	PKPdf	17 28 28.7	-0.2
EBAD	Badajoz	144.85	336	P	PKPdf	17 28 27.9	-1.2
ELOJ	Sierra Loja	144.95	332	P	PKPdf	17 28 27.9	-1.3
PESTR	Estremoz	144.98	337	*e*PKP	PKPdf	17 28 28.4	-0.9
PBAR	Barrancos	145.36	336	*e*PKP	PKPdf	17 28 30.0	+0.1
EVO	Evora	145.43	337	*e*PKIKP	PKPdf	17 28 29.3	-0.7
	comp=Z,12nm,0.6s						
EVO				*e*MLR	MLR		
	comp=Z,95nm,22.0s						
EVO	Evora	145.43	337	*e*PKP	PKPdf	17 28 30.2	+0.2
PMAFR	Mafra	145.52	339	*e*PKP	PKPdf	17 28 31.1	+0.9
EMIN	Mina Concepcio	145.56	335	P	PKPdf	17 28 30.9	+0.6
PBEJ	Beja	145.82	337	*e*PKP	PKPdf	17 28 32.4	+1.7
ESPR	Espera	145.96	333	P	PKPdf	17 28 32.4	+1.3
PVAQ	Vaqueiros	146.30	336	*e*PKP	PKPdf	17 28 33.2	+1.6
PBDV	Barranco-do-Ve	146.52	336	*e*PKP	PKPbc	17 28 36.3	+2.9
PTEO	Sao Teotonio	146.57	338	*e*PKP	PKPbc	17 28 34.6	+1.0
MORF	Marmelete	146.75	337	*e*PKP	PKPbc	17 28 37.9	+3.8
PFVI	Vila Bisbo	146.97	337	*e*PKP	PKPbc	17 28 36.8	+2.1
BDFB	Brasilia	147.31	134	PKPbc	PKPbc	17 28 35.9	-0.4
	comp=Z,12nm,0.8s,baz=237,slow=6.9,SNR=22						
DBIC	Dimbokro	160.90	270	PKPab	PKPab	17 29 35.8	+0.1
	comp=Z,19nm,0.6s,baz=79,slow=4.1,SNR=32						
LIC	Lamto	161.04	269	*e*PKP2	PKPab	17 29 36.1	-0.3
	comp=Z,29nm,0.6s						

IDC 29 17:13:23.1±1.6, 4871S×12407E, h0km, mb4.0/4, mb1 4.2/4, mb1mx3.9/13, mbtmp4.0/4, Error ellipse:
s-maj=104.2km s-min=22.2km az=101.0, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**26.18**	**21**	P	P	17 18 58.7	-0.5
	2.9nm,0.8s,baz=191,slow=9.4,SNR=13						
VNDA	**Vanda**	**32.32**	**166**	P	P	17 19 53.7	+0.4
	2.4nm,0.9s,baz=302,slow=8.2,SNR=11						
QSPA	**South Pole Qui**	**41.41**	**180**	P	P	17 21 09.8	-0.8
	4.2nm,1.0s,baz=323,slow=4.1,SNR=7.0						
SNAA	**Sanae**	**54.21**	**198**	P	P	17 22 50.3	+0.5
	1.0nm,1.1s,baz=170,slow=10,SNR=3.9						
YKA	**Yellowknife Ar**	**145.43**	**44**	PKPbc	PKPbc	17 33 01.8	+0.1
	1.8nm,0.8s,baz=269,slow=3.5,SNR=33						

*IDC **29** 17:22:47.4±0.7, 276N×9573E, h0km, mb4.7/16, mb1 4.7/17, mb1mx4.6/21, mbtmp4.6/17, ML4.0/1, MS4.2/23, Ms1 4.2/23, ms1mx4.1/32, Error ellipse: s-maj=24.9km s-min=13.5km az=47.0*

*ISCJB **29** 17:22:51.0±0.2, 275N±003×9576E±003, h38km, mb5.0/102, MS4.5/46, Error ellipse: s-maj=5.2km s-min=3.5km az=25.2*

*MOS **29** 17:22:51.9±0.8, 288N×9585E, h42km, mb5.1/48, MS4.3/12, Error ellipse: s-maj=9.9km s-min=5.3km az=115.8*

*BJI **29** 17:22:51.2, 281N×9571E, h42km, mB5.1, mb5.2, Ms4.7, Msz4.6*

*NEIC **29** 17:22:53.3±0.8, 278N×9580E, h43km±7km, mb4.8/44, Error ellipse: s-maj=7.1km s-min=4.0km az=216.0*

ISC 29 17:22:53.2±0.2, 276N±003×9576E±003, h40km, h40km±2.0km: pP-P, n281, σ0°82/280, mb5.0/102, MS4.5/46, 32C-12D, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSI	**Banda Aceh**	**2.76**	**350**	P	**Pn**	**17 23 32.0**	**-2.9**
	2μm,1.3s						
PSI	**Prapat**	**3.16**	**89**	P	**Pn**	**17 23 40.9**	**+0.5**
PSI				pmax	pmax		
	comp=Z,18nm,0.3s						
PSI				MLR	MLR		
	comp=Z,2μm,21.6s						
PSI	**Prapat**	**3.16**	**89**	Pn	**Pn**	**17 23 40.9**	**+0.5**
	comp=Z,18nm,0.3s,baz=283,slow=6.8,SNR=43						
PSI				LR	LR	17 24 34.5	
	comp=Z,2μm,21.6s,baz=269,slow=34						
KULM	**Kulim**	**5.49**	**63**	*e*Pn	**Pn**	**17 24 12.8**	**+0.4**
KULM	**Kulim**	**5.49**	**63**	⇓P	**Pn**	**17 24 12.8**	**+0.4**
IPM	**Ipoh**	**5.52**	**72**	⇑P	**Pn**	**17 24 12.1**	**-0.8**
PPI	**Padang Panjang**	**5.63**	**125**	P	**Pn**	**17 24 14.3**	**-0.1**
	comp=Z,206nm,1.2s						
FRIM	**Kepong**	**5.87**	**85**	⇓P	**Pn**	**17 24 18.6**	**+0.9**
SNG	**Songkhla**	**6.53**	**48**	P	**Pn**	**17 24 27.0**	**+0.2**
	comp=Z,1μm,1.0s						
KGM	**Kluang**	**7.58**	**95**	⇓P	**Pn**	**17 24 42.0**	**+0.7**
KTGM	**Kuala Trenggan**	**7.78**	**71**	⇑P	**Pn**	**17 24 45.5**	**+1.5**
MYKOM	**Kota Tinggi**	**8.14**	**97**	⇑P	**Pn**	**17 24 50.1**	**+1.3**
KSI	**Kapahiang**	**9.34**	**133**	P	**Pn**	**17 25 05.4**	**+0.1**
	comp=Z,286nm,0.3s						
NNT	**Nongplab**	**10.53**	**22**	P	**Pn**	**17 25 30.5**	**+8.9**
NST	**Nakhon Sawan**	**13.54**	**18**	P	**Pn**	**17 26 04.5**	**+1.8**
CBJI	**Citeko**	**14.34**	**130**	P	**Pn**	**17 26 13.4**	**-0.3**
	comp=Z,91nm,0.9s						
KSM	**Kuching**	**14.59**	**95**	*e*P	**Pn**	**17 26 16.8**	**-0.4**
KSM	**Kuching**	**14.59**	**95**	⇓P	**Pn**	**17 26 25.2**	**+8.0**
PALK	**Pallekele**	**15.66**	**287**	*e*Pn	**Pn**	**17 26 30.6**	**-0.5**
	comp=Z,23nm,1.0s						
CHTO	**Chiang Mai**	**16.26**	**11**	*e*P	**Pn**	**17 26 36.6**	**-2.1**
	comp=Z,48nm,1.0s						
CHTO	**Chiang Mai**	**16.26**	**11**	*e*P	**Pn**	**17 26 36.6**	**-2.1**
CHTO				pmax	pmax		
	comp=Z,48nm,1.0s						
SBUM	**Sibu**	**16.44**	**91**	⇑P	**Pn**	**17 26 41.5**	**+0.3**
NANT	**Nan**	**16.66**	**17**	⇓P	**Pn**	**17 26 43.7**	**-0.1**
	comp=Z,262nm,1.0s						
BTM	**Bintulu**	**17.30**	**88**	⇓P	**Pn**	**17 26 55.2**	**+3.3**
CHRT	**Chiangrai**	**17.45**	**13**	⇑P	**Pn**	**17 26 53.0**	**-0.7**
	comp=Z,105nm,1.0s						
TRD	**Trivandrum**	**19.56**	**288**	*e*S	**S**	**17 30 59.0**	**+2.3**
KKM	**Kota Kinabalu**	**20.65**	**80**	*e*P	**P**	**17 27 29.8**	**+0.2**
KKM	**Kota Kinabalu**	**20.65**	**80**	⇓P	**P**	**17 27 30.6**	**+1.0**
QIZ	**Qiongzhong**	**21.24**	**39**	P	**P**	**17 27 36.3**	**+0.3**
QIZ				AP		17 27 46.5	
QIZ				XP	sP	17 27 51.8	+0.8
QIZ				S	**S**	**17 31 31.5**	**+1.4**
QIZ				LR	LR		
	comp=N,1μm,16.8s,MS4.6						
QIZ				LR	LR		
	comp=E,1μm,15.8s,MS4.6						
QIZ				LR	LR		
	comp=Z,1μm,12.9s,MS4.5						
QIZ	**Qiongzhong**	**21.24**	**39**	P	**P**	**17 27 35.4**	**-0.6**
	comp=Z,83nm,1.3s,mb4.9						
KDM	**Kudat**	**21.39**	**78**	⇑P	**P**	**17 27 38.3**	**+0.6**
SDKM	**Sandakan**	**21.56**	**82**	⇓P	**P**	**17 27 40.6**	**+1.1**
TARAI	**Tarakan**	**21.78**	**88**	P	**P**	**17 27 46.5**	**+4.6**
	comp=Z,538nm,0.5s,mb6.2						
TSM	**Tawau**	**22.12**	**85**	⇑P	**P**	**17 27 45.4**	**0.0**
HYB	**Hyderabad**	**22.31**	**312**	*e*P	**P**	**17 27 48.0**	**+0.6**
HYB				*e*S	**S**	**17 31 46.0**	**-4.8**
HYB	**Hyderabad**	**22.31**	**312**	*i* P	**P**	**17 27 48.5**	**+1.1**
HYB				*e*S	**S**	**17 31 46.0**	**-4.8**
MYLDM	**Lahad Datu**	**22.81**	**83**	⇑P	**P**	**17 27 54.0**	**+1.2**
SHL	**Shillong**	**22.98**	**351**	*e*P	**P**	**17 27 54.0**	**-0.5**
SHL				*ex*	x	17 30 02.0	
BOK	**Bokaro**	**22.99**	**336**	*i* P	**P**	**17 27 51.5**	**-3.1**
BOK				*i* S	**S**	**17 31 58.5**	**-3.8**
KMI	**Kunming**	**23.23**	**16**	P	**P**	**17 27 57.3**	**+0.2**
KMI				AP		17 28 10.0	
KMI				XP	sP	17 28 15.0	+2.8
KMI				PP		17 28 31.0	
KMI				PPP		17 28 42.0	
KMI				PCP	PcP	17 31 46.0	+1.9
KMI				S	**S**	**17 32 04.8**	**-1.4**
KMI				XS	sS	17 32 24.3	+0.1
KMI				SSS		17 33 09.5	
KMI				PCS	PcS	17 35 24.0	+0.6
KMI				AMB	AMB		
	comp=Z,96nm,1.0s,mb5.2						
KMI				AMB	AMB		
	comp=Z,252nm,3.1s						
KMI				LR	LR		
	comp=N,2μm,11.7s,MS4.8						
KMI				LR	LR		
	comp=E,1μm,12.9s,MS4.8						
KMI				LR	LR		
	comp=Z,2μm,11.7s,MS4.8						
PCI	**Palu**	**24.34**	**98**	P	**P**	**17 28 07.7**	**+0.2**
	comp=Z,131nm,1.8s,mb5.1						
KAPI	**Kappang**	**25.18**	**108**	P	**P**	**17 28 15.9**	**+0.7**
	comp=Z,393nm,1.1s,mb5.8,SNR=8.0						
GYA	**Guiyang**	**25.78**	**23**	⇑*i*P	**P**	**17 28 21.5**	**+1.0**
GYA				XP	sP	17 28 39.5	+3.4
GYA				PP		17 29 05.0	
GYA				PCP	PcP	17 31 51.5	+1.8
GYA				S	**S**	**17 32 47.5**	**+0.3**
GYA				XS	sS	17 33 07.3	+1.9
GYA				SCP	ScP	17 35 26.0	-0.3
GYA				AMB	AMB		
	comp=Z,30nm,0.7s,mb4.9						
GYA				AMB	AMB		
	comp=Z,160nm,4.9s						
GYA				LR	LR		
	comp=N,820nm,16.9s,MS4.4						
GYA				LR	LR		
	comp=E,660nm,17.6s,MS4.4						
GYA				LR	LR		
	comp=Z,750nm,17.4s,MS4.3						
JIRN	**Jiri**	**26.40**	**341**	*e*P	**P**	**17 28 27.1**	**+1.1**
	comp=Z,349nm,0.7s,mb6.0						
POO	**Poona**	**26.58**	**308**	*e*P	**P**	**17 28 29.0**	**+1.2**
PKI	**Pulchoki**	**26.59**	**339**	*e*P	**P**	**17 28 28.1**	**+0.4**
	comp=Z,62nm,0.8s,mb5.2						
PKIN	**Phulchoki**	**26.59**	**339**	*e*P	**P**	**17 28 27.9**	**+0.1**
	comp=Z,65nm,0.8s,mb5.2						
DMN	**Daman**	**26.73**	**339**	*e*P	**P**	**17 28 29.6**	**+0.6**
	comp=Z,81nm,0.8s,mb5.3						
GUN	**Gumba**	**26.73**	**340**	*e*P	**P**	**17 28 30.0**	**+0.9**
	comp=Z,276nm,0.7s,mb5.9						
KKN	**Kakani**	**26.83**	**339**	*e*P	**P**	**17 28 30.4**	**+0.5**
	comp=Z,163nm,0.9s,mb5.6						
LSA	**Lhasa**	**27.15**	**351**	P	**P**	**17 28 29.5**	**-3.3**
LSA				AP	pP	17 28 41.3	-2.4
LSA				LR	LR		
	comp=N,320nm,24.1s,MS4.0						
LSA				LR	LR		
	comp=E,440nm,22.7s,MS4.0						
LSA				LR	LR		
	comp=Z,540nm,24.9s,MS4.0						
LSA	**Lhasa**	**27.15**	**351**	*e*P	**P**	**17 28 33.2**	**+0.4**
	comp=Z,52nm,0.8s,mb5.1						
LSA	**Lhasa**	**27.15**	**351**	*e*P	**P**	**17 28 33.2**	**+0.4**
LSA				pmax	pmax		
	comp=Z,52nm,0.8s,mb5.1						
GKN	**Gorkha**	**27.26**	**338**	*e*P	**P**	**17 28 34.2**	**+0.4**
	comp=Z,170nm,0.9s,mb5.6						
KOLN	**Koldanda**	**27.45**	**336**	*e*P	**P**	**17 28 36.0**	**+0.5**
	comp=Z,148nm,0.9s,mb5.5						
DANN	**Dangsing**	**27.91**	**337**	*e*P	**P**	**17 28 40.0**	**+0.4**
	comp=Z,130nm,0.7s,mb5.7						
CD2	**Chengdu**	**29.00**	**14**	*e*P	**P**	**17 28 48.3**	**-1.0**
CD2				AP	pP	17 28 58.8	-1.5
CD2				XP	sP	17 29 02.0	-3.0
CD2				PP	PP	17 29 42.5	-13
CD2				S	**S**	**17 33 35.8**	**-2.0**
CD2				XS	sS	17 33 51.5	-4.6
CD2				SS	SS	17 35 05.8	-36
CD2				AMB	AMB		
	comp=Z,120nm,0.7s,mb5.7						
CD2				AMB	AMB		
	comp=Z,210nm,5.8s						
CD2				LR	LR		
	comp=N,750nm,18.0s,MS4.7						
CD2				LR	LR		
	comp=E,1μm,14.4s,MS4.7						
CD2				LR	LR		
	comp=Z,900nm,13.2s,MS4.6						
PTH	**Pithoragarh**	**30.46**	**333**	*e*P	**P**	**17 29 02.8**	**+0.5**
NDI	**New Delhi**	**31.25**	**327**	*e*P	**P**	**17 29 08.0**	**-1.3**
WHN	**Wuhan**	**32.76**	**31**	P	**P**	**17 29 22.5**	**+0.1**
WHN				AP	pP	17 29 30.0	-3.4
WHN				S	**S**	**17 34 37.8**	**+1.1**
WHN				AMB	AMB		
	comp=Z,194nm,1.0s,mb6.0						
WHN				AMB	AMB		
	comp=Z,1μm,3.8s						
WHN				LR	LR		
	comp=N,2μm,10.5s,MS5.3						
WHN				LR	LR		
	comp=E,3μm,11.2s,MS5.3						
WHN				LR	LR		
	comp=Z,4μm,13.7s,MS5.3						
XAN	**Xi'an**	**33.46**	**20**	P	**P**	**17 29 27.3**	**-1.2**
XAN				S	**S**	**17 34 52.0**	**+4.6**
XAN				AMB	AMB		
	comp=Z,82nm,1.1s,mb5.6						
XAN				LR	LR		
	comp=N,411nm,13.0s,MS4.5						
XAN				LR	LR		
	comp=E,450nm,13.0s,MS4.5						
XAN				LR	LR		
	comp=Z,837nm,13.0s,MS4.6						
LZH	**Lanzhou**	**33.99**	**12**	⇑P	**P**	**17 29 32.5**	**-0.7**
LZH				AP	pP	17 29 43.5	-0.7
LZH				XP	sP	17 29 47.8	-1.1
LZH				PP	PP	17 30 48.0	-2.7
LZH				PCP	PcP	17 32 07.0	-3.6
LZH				*e*S	**S**	**17 34 58.0**	**+2.3**
LZH				XS	sS	17 35 17.3	+3.2
LZH				SS	SS	17 37 03.5	-20
LZH				AMB	AMB		
	comp=Z,153nm,1.5s,mb5.7						
LZH				AMB	AMB		
	comp=Z,390nm,4.0s						
LZH				LR	LR		
	comp=E,563nm,12.2s						
LZH				LR	LR		
	comp=Z,682nm,14.0s,MS4.5						
THN	**Thein Dam**	**35.01**	**330**	*e*P	**P**	**17 29 40.8**	**-1.2**
FITZ	**Fitzroy Crossi**	**36.00**	**126**	⇑*i*P	**P**	**17 29 49.2**	**-1.5**
	comp=Z,8.1nm,0.9s,mb4.7						
FITZ	**Fitzroy Crossi**	**36.00**	**126**	P	**P**	**17 29 49.8**	**-0.9**
	comp=Z,4.7nm,0.9s,mb4.4,baz=317,slow=2.9,SNR=10						
FITZ				LR	LR	17 47 38.9	
	comp=Z,275nm,18.5s,MS4.0,baz=312,slow=41						
NJ2	**Nanjing**	**36.34**	**34**	*e*P	**P**	**17 29 53.3**	**-0.1**
NJ2				AP	pP	17 30 06.0	+1.5
NJ2				XP	sP	17 30 11.5	+2.2
NJ2				PP	PP	17 31 18.0	+1.3
NJ2				S	**S**	**17 35 32.0**	**+0.1**
NJ2				XS	sS	17 35 52.0	+1.6
NJ2				AMB	AMB		
	comp=Z,40nm,0.8s,mb5.4						
NJ2				AMB	AMB		
	comp=Z,1μm,4.2s						
NJ2				LR	LR		
	comp=N,1μm,13.0s,MS5.0						
NJ2				LR	LR		
	comp=E,1μm,15.3s,MS5.0						
GTA	**Gaotai**	**36.67**	**5**	⇑*i*P	**P**	**17 29 55.8**	**-0.3**
GT

comp=Z,324nm,19.5s,MS4.2,baz=237,slow=37
WMQ Urumqi 41.51 351 P P 17 30 36.8 +0.3
WMQ AP pP 17 30 48.0 +0.3
WMQ XP sP 17 30 54.0 +1.6
WMQ PP PP 17 32 16.0 +3.0
WMQ SCP ScP 17 36 20.0 -0.7
WMQ *e*S **S 17 36 49.0 -0.4**
WMQ XS sS 17 37 10.0 +2.0
WMQ AMB AMB
comp=Z,33nm,0.8s,mb5.0
WMQ AMB AMB
comp=Z,200nm,3.6s
WMQ LR LR
comp=N,562nm,17.7s,MS4.7
WMQ LR LR
comp=E,870nm,20.2s,MS4.7
WMQ LR LR
comp=Z,509nm,22.6s,MS4.3
DL2 Dalian 43.02 30 ⇑P **P 17 30 49.0 +0.1**
DL2 AP pP 17 30 58.5 -1.6
DL2 S **S 17 37 12.5 +0.7**
DL2 AMB AMB
comp=Z,60nm,0.9s,mb5.3
DL2 AMB AMB
comp=Z,120nm,3.6s
DL2 LR LR
comp=N,290nm,17.0s,MS4.4
DL2 LR LR
comp=E,290nm,15.5s,MS4.4
DL2 LR LR
comp=Z,220nm,15.0s,MS4.2
ULHL Ulahol 43.02 339 P **P 17 30 49.5 +0.7**
SNR=29
KZA Kyzart 43.25 338 P **P 17 30 51.9 +1.3**
SNR=18
UCH Uchtor 43.66 337 *e*P **P 17 30 54.9 +0.9**
comp=Z,28nm,0.8s,mb5.0
UCH Uchtor 43.66 337 P **P 17 30 55.4 +1.4**
SNR=49
TKM2 Tokmak 2 43.85 339 *e*P **P 17 30 56.1 +0.7**
comp=Z,40nm,1.2s,mb5.0
TKM2 Tokmak 2 43.85 339 *e*P **P 17 30 56.2 +0.7**
TKM2 pmax pmax
comp=Z,40nm,1.2s,mb5.0
TKM2 Tokmak 2 43.85 339 P **P 17 30 56.4 +1.0**
SNR=22
KBK Karagaybulak 43.86 338 P **P 17 30 57.0 +1.4**
SNR=35
AML Almayashu 43.90 336 *e*P **P 17 30 56.9 +1.0**
comp=Z,43nm,0.9s,mb5.2
AML Almayashu 43.90 336 P **P 17 30 57.3 +1.3**
SNR=42
AAK Ala-Archa 44.01 337 P **P 17 30 57.8 +1.0**
comp=Z,94nm,0.8s,mb5.6,SNR=13
AAK Ala-Archa 44.01 337 *e*P **P 17 30 56.6 -0.3**
comp=Z,17nm,0.9s,mb4.8
AAK Ala-Archa 44.01 337 *e*P **P 17 30 56.6 -0.2**
AAK pmax pmax
comp=Z,17nm,0.9s,mb4.8
AAK Ala-Archa 44.01 337 P **P 17 30 58.0 +1.2**
SNR=14
WRA Warramunga Arr 44.08 123 P **P 17 30 57.2 -0.5**
WRA pmax pmax
comp=Z,14nm,0.9s
WRA MLR MLR
comp=Z,409nm,20.3s
WRA Warramunga Arr 44.08 123 P **P 17 30 57.2 -0.5**
comp=Z,14nm,0.9s,mb4.7,baz=302,slow=8.9,SNR=82
WRA LR LR 17 50 11.3
comp=Z,409nm,20.3s,MS4.3,baz=325,slow=37
WRAB Tennant Creek 44.08 122 P **P 17 30 57.2 -0.5**
comp=Z,110nm,0.9s,mb5.6,SNR=7.9
WRAB Tennant Creek 44.08 122 *e*P **P 17 30 57.1 -0.6**
comp=Z,19nm,1.0s,mb4.8
WRAB Tennant Creek 44.08 122 *e*P **P 17 30 57.1 -0.6**
WRAB pmax pmax
comp=Z,19nm,1.0s,mb4.8
WB2 Warramunga Arr 44.09 122⇑*i*P **P 17 30 56.9 -0.9**
FRU Bishkek 44.14 338 *e*P **P 17 30 59.0 +1.2**
CHMS Chumysh 44.23 338 P **P 17 30 59.3 +0.7**
SNR=7.6
EKS2 Erkin-Say 44.32 337 *e*P **P 17 31 00.2 +1.0**
comp=Z,18nm,0.7s,mb4.9
EKS2 Erkin-Say 44.32 337 P **P 17 31 00.5 +1.3**
SNR=46
USP Ospenovka 44.55 338 P **P 17 31 01.8 +0.7**
SNR=23
JNU Nakatsue 44.63 43 P **P 17 31 02.1 +0.2**
comp=Z,6.1nm,0.8s,mb4.5,baz=286,slow=6.3,SNR=4.9
MK31 Makanchi Array 45.40 347 *e*P **P 17 31 07.8 0.0**
MK31 Makanchi Array 45.40 347 *i*P **P 17 31 07.5 -0.3**
MK31 pmax pmax
comp=Z,50nm,0.7s,mb5.5
MKAR Makanchi Array 45.40 347 P **P 17 31 08.0 +0.2**
MKAR pmax pmax
comp=Z,48nm,0.8s
MKAR MLR MLR
comp=Z,244nm,21.8s
MKAR Makanchi Array 45.40 347 P **P 17 31 08.0 +0.1**
comp=Z,48nm,0.8s,mb5.4,baz=162,slow=8.1,SNR=355
MKAR LR LR 17 52 56.7
comp=Z,244nm,21.8s,MS4.1,baz=160,slow=40
KSRS Korea Array 45.42 36 P **P 17 31 08.0 -0.2**
KSRS pmax pmax
comp=Z,13nm,0.8s,mb4.8
KSRS MLR MLR
comp=Z,658nm,18.2s,MS4.6
KSRS Korea Array 45.42 36 P **P 17 31 08.0 -0.2**
comp=Z,13nm,0.8s,mb4.8,baz=228,slow=9.1,SNR=50
KSRS LR LR 17 52 47.4
comp=Z,658nm,18.2s,MS4.6,baz=238,slow=40
ASAR Alice Springs 45.48 127 P **P 17 31 08.5 -0.3**
ASAR pmax pmax
comp=Z,5.0nm,0.9s
ASAR Alice Springs 45.48 127 P **P 17 31 08.4 -0.3**
comp=Z,4.5nm,0.9s,mb4.3,baz=304,slow=7.4,SNR=39
SONM Songino Array 45.83 10 P **P 17 31 11.3 +0.1**
SONM 17 32 49.2
SONM pmax pmax
comp=Z,22nm,0.8s
SONM pmax pmax
comp=Z,9.0nm,0.9s
SONM MLR MLR
comp=Z,528nm,21.7s
SONM Songino Array 45.83 10 P **P 17 31 11.3 +0.1**
comp=Z,22nm,0.8s,mb5.2,baz=192,slow=8.6,SNR=58
SONM PcP PcP 17 32 49.2 +1.1
comp=Z,9.3nm,0.9s,baz=194,slow=3.1,SNR=5.7
SONM LR LR 17 51 46.2
comp=Z,528nm,21.7s,MS4.4,baz=21,slow=38
ULN Ulaanbaatar 45.98 11 *e*P **P 17 31 11.8 -0.5**
comp=Z,25nm,1.1s,mb5.0
ULN Ulaanbaatar 45.98 11 *e*P **P 17 31 11.8 -0.6**
ULN pmax pmax
comp=Z,25nm,1.1s,mb5.1
KK31 Karatay Array 46.03 334 *i*P **P 17 31 12.8 -0.1**
KK31 pmax pmax
comp=Z,22nm,0.7s,mb5.2
SNY Shenyang 46.21 29 ⇑P **P 17 31 13.8 -0.5**
SNY AMB AMB
comp=Z,43nm,1.2s,mb5.2
SNY AMB AMB
comp=Z,128nm,4.6s
SNY LR LR
comp=N,531nm,18.0s,MS4.6
SNY LR LR
comp=E,317nm,15.0s,MS4.6
SNY LR LR
comp=Z,610nm,15.0s,MS4.7
ZAK Zakamensk 47.88 6⇓*i*P **P 17 31 26.7 -0.4**
ZAK pmax pmax
comp=Z,10.0nm,1.4s,mb4.7
MOY Mondy 48.94 4 *e*P **P 17 31 35.3 0.0**
MOY pmax pmax
comp=Z,31nm,2.7s,mb4.9
TLY Talaya 49.20 6 P **P 17 31 37.6 +0.3**
comp=Z,96nm,0.7s,mb5.9,SNR=6.2
TLY Talaya 49.20 6 *e*P **P 17 31 37.8 +0.5**
comp=Z,9.3nm,0.6s,mb5.0
TLY Talaya 49.20 6 *i*P **P 17 31 37.0 -0.3**
TLY pmax pmax
comp=Z,6.0nm,1.7s,mb4.3
GUMO Guam 49.68 75 LR LR 17 51 29.7
comp=Z,122nm,21.5s,MS3.9,baz=255,slow=35
IRK Irkutsk 49.82 7⇑*i*P **P 17 31 41.9 -0.1**
IRK *e* 17 33 00.2
IRK *e* 17 38 53.3
IRK pmax pmax
comp=Z,58nm,2.0s,mb5.3
KURK Kurchatov 49.93 346 P **P 17 31 43.4 +0.5**
comp=Z,185nm,1.0s,mb6.1,SNR=33
KURK Kurchatov 49.93 346 *e*P **P 17 31 42.4 -0.5**
comp=Z,30nm,0.9s,mb5.3
KURK Kurchatov 49.93 346 *e*P **P 17 31 42.4 -0.5**
KURK pmax pmax
comp=Z,30nm,0.9s,mb5.3
HIA Hailar 50.66 20 *e*P **P 17 31 48.7 +0.3**
comp=Z,22nm,1.0s,mb5.0
HIA Hailar 50.66 20 *e*P **P 17 31 48.7 +0.3**
HIA pmax pmax
comp=Z,22nm,1.0s
MDJ Mudanjiang 51.24 31 P **P 17 31 52.5 -0.4**
MDJ AP pP 17 32 03.0 -1.4
MDJ XP sP 17 32 10.0 +1.0
MDJ PCP PcP 17 33 07.3 -0.4
MDJ PP PP 17 33 52.3 +2.2
MDJ SCP ScP 17 37 00.3 -1.0
MDJ PCS PcS 17 37 04.5 -0.8
MDJ S **S 17 39 08.5 -0.3**
MDJ SCS ScS 17 41 35.8 -4.4
MDJ AMB AMB
comp=Z,23nm,1.7s,mb4.8
MDJ LR LR
comp=N,131nm,20.8s,MS4.3
MDJ LR LR
comp=E,290nm,20.8s,MS4.3
MDJ LR LR
comp=Z,234nm,20.8s,MS4.2
MDJ Mudanjiang 51.24 31 *e*P **P 17 31 53.0 +0.1**
comp=Z,9.7nm,0.8s,mb4.8
MAT Matsushiro 51.54 44 P **P 17 31 53.8 -1.5**
MJAR Matsushiro Arr 51.54 44 P **P 17 31 54.8 -0.5**
MJAR 17 33 09.9
MJAR pmax pmax
comp=Z,3.0nm,1.2s
MJAR pmax pmax
comp=Z,5.0nm,1.0s
MJAR MLR MLR
comp=Z,239nm,18.1s
MJAR Matsushiro Arr 51.54 44 P **P 17 31 54.8 -0.5**
comp=Z,3.4nm,1.2s,mb4.2,baz=224,slow=6.9,SNR=8.2
MJAR PcP PcP 17 33 09.9 +0.9
comp=Z,5.1nm,1.0s,baz=240,slow=3.8,SNR=9.3
MJAR LR LR 17 56 35.4
comp=Z,239nm,18.1s,MS4.3,baz=265,slow=39
ZAL Zalesovo 51.80 352 P **P 17 31 56.9 0.0**
ZAL pmax pmax
comp=Z,43nm,0.7s
ZAA0 Zalesovo Array 51.81 352 *e*P **P 17 31 56.7 -0.3**
ZALV Zalesovo Beam 51.81 352 P **P 17 31 56.9 -0.1**
comp=Z,43nm,0.7s,mb5.5,baz=181,slow=6.8,SNR=222
RDF Al-Radifah 52.66 305 *e*P **P 17 32 03.9 0.0**
RDF AMb AMB 17 32 05.5
comp=Z,26nm,0.7s,mb5.3
UMR Umm Al-Rimmam 52.75 306 *e*P **P 17 32 04.4 0.0**
UMR AMb AMB 17 32 06.0
comp=Z,29nm,0.8s,mb5.3
NVS Novosibirsk 52.91 351⇑*i*P **P 17 32 04.5 -0.6**
NVS *i* S **S 17 39 31.5 +0.1**
NVS *i* PS 17 39 41.8
NVS *i* 17 39 53.3
NVS pmax pmax
comp=Z,64nm,1.7s,mb5.3
NVS pmax pmax
comp=N,46nm,1.6s
NVS pmax pmax
comp=E,23nm,1.4s
NVS smax
comp=N,21nm,2.0s
NVS smax
comp=E,30nm,1.9s
NAY Al-Naaiem 53.03 305 *e*P **P 17 32 06.1 -0.4**
NAY AMb AMB 17 32 08.4
comp=Z,13nm,0.8s,mb4.9
MIB Mutribah 53.15 306 *e*P **P 17 32 07.3 -0.1**
MIB AMb AMB 17 32 09.0
comp=Z,64nm,0.7s,mb5.6
BRVK Borovoye 54.38 341 P **P 17 32 15.7 -0.2**
comp=Z,222nm,0.7s,mb6.2,SNR=13
BRVK Borovoye 54.38 341 *e*P **P 17 32 15.3 -0.6**
comp=Z,17nm,0.6s,mb5.2
BRVK Borovoye 54.38 341 *e*P **P 17 32 15.3 -0.6**
BRVK pmax pmax
comp=Z,17nm,0.6s,mb5.2
CTA Charters Tower 54.48 117⇑*i*P **P 17 32 17.3 +0.1**
comp=Z,13nm,0.9s,mb4.8
CTA Charters Tower 54.48 117⇑*i*P **P 17 32 17.3 +0.1**
CTA pmax pmax
comp=Z,13nm,0.9s
CTA Charters Tower 54.48 117 LR LR 17 56 59.7
comp=Z,309nm,21.8s,MS4.3,baz=279,slow=38
CTAO Charters Tower 54.48 117 *e*P **P 17 32 17.3 +0.1**
comp=Z,23nm,1.1s,mb5.0
CTAO Charters Tower 54.48 117 *e*P **P 17 32 17.3 +0.1**
CTAO pmax pmax
comp=Z,23nm,1.1s,mb5.0
STKA Stephens Creek 55.46 132⇑*i*P **P 17 32 24.0 -0.1**
comp=Z,7.7nm,1.0s,mb4.7
STKA Stephens Creek 55.46 132 P **P 17 32 24.6 +0.5**
comp=Z,12nm,1.1s,mb4.8,baz=289,slow=4.9,SNR=9.6
STKA LR LR 17 57 46.3
comp=Z,156nm,20.4s,MS4.1,baz=279,slow=38
KLR Kul'dur 55.53 28 *e*P **P 17 32 20.9 -3.4**
KLR pmax pmax
comp=Z,90nm,2.0s,mb5.5
KLR MLR MLR
comp=N,500nm,13.0s,MS5.0
KLR MLR MLR
comp=E,700nm,13.0s,MS5.0
KLR MLR MLR
comp=Z,2μm,13.0s,MS5.4
HABR Khabarovsk 56.62 30 *e*P **P 17 32 30.7 -1.4**
HABR *e**SP sP 17 32 43.7 -4.7
HABR *e* 17 33 25.1
HABR *e*S **S 17 40 21.0 -0.4**
HABR *e**SS sS 17 40 37.0 -3.7
HABR *e* 17 42 14.7
HABR *e*SS SS 17 44 08.1 -1.5
HABR pmax pmax
comp=Z,66nm,1.9s,mb5.3
BOD Bodaibo 56.76 12 *e*P **P 17 32 32.1 -0.9**
BOD pmax pmax
comp=Z,26nm,0.9s,mb5.3
AKTO Aktyubinsk 57.19 332 *i*P **P 17 32 35.5 -0.6**
AKTO pmax pmax
comp=Z,1.0nm,0.9s,mb3.9
KMBO Kilima Mbogo 58.62 267 *e*P **P 17 32 47.0 +0.1**
comp=Z,5.0nm,0.9s,mb4.5
KMBO Kilima Mbogo 58.62 267 *e*P **P 17 32 47.0 +0.1**
KMBO pmax pmax
comp=Z,5.0nm,0.9s
CLNS Chul'man 58.70 18 *e*P **P 17 32 43.9 -2.7**
CLNS pmax pmax
comp=Z,14nm,0.6s,mb5.2
CLNS pmax pmax
comp=N,11nm,0.9s
CLNS pmax pmax
comp=E,14nm,0.9s
CLNS MLR MLR
comp=Z,1μm,16.0s,MS5.1
CLNS MLR MLR
comp=N,600nm,14.0s
CLNS MLR MLR
comp=E,900nm,22.0s
YSS Yuzh-Sakhalins 59.90 35⇓*i*P **P 17 32 55.0 0.0**
YSS pmax pmax
comp=Z,30nm,1.0s,mb5.3
YSS MLR MLR
comp=Z,400nm,18.0s,MS4.6
SVE Sverdlovsk 60.72 339⇓*e*P **P 17 33 00.3 -0.2**
SVE *e* 17 35 13.5
SVE pmax pmax
comp=Z,57nm,0.9s,mb5.7
ARU Arti 61.20 337 *e*P **P 17 33 01.9 -1.9**
comp=Z,42nm,1.3s,mb5.4
ARU Arti 61.20 337⇑*i*P **P 17 33 02.7 -1.0**
ARU pmax pmax
comp=Z,35nm,1.1s,mb5.4
KIV Kislovodsk 62.20 319 *e*P **P 17 33 10.0 -0.7**
comp=Z,18nm,1.0s,mb5.2
KIV Kislovodsk 62.20 319 *e*P **P 17 33 09.9 -0.8**
KIV *i* pP 17 33 22.7 +0.2
KIV *e* 17 33 51.7
KIV *e*S **S 17 41 36.7 +3.1**
KIV *e*SS SS 17 45 36.4 -0.9
KIV pmax pmax
comp=Z,14nm,0.9s,mb5.1
KIV MLR MLR
comp=Z,100nm,17.0s,MS4.0
ASF Jabal al Asfar 62.40 305 LR LR 18 02 30.0
comp=Z,122nm,18.5s,MS4.1,baz=180,slow=38
MALT Malatya 63.02 312 *e*P **P 17 33 16.4 0.0**
comp=Z,13nm,1.3s,mb4.9
MALT Malatya 63.02 312 *e*P **P 17 33 16.4 0.0**
MALT pmax pmax
comp=Z,13nm,1.3s,mb4.9
EIL Elat 63.42 302 LR LR 18 01 56.3
comp=Z,314nm,18.1s,MS4.5,baz=280,slow=37
MMAI Mount Meron Ar 63.84 306 LR LR 18 03 05.5
comp=Z,118nm,19.0s,MS4.1,baz=125,slow=38
SOC Sochi 64.01 318 *i*P **P 17 33 23.0 +0.3**
YAK Yakutsk 64.34 17 *e*P **P 17 33 23.6 -1.0**
comp=Z,92nm,0.9s,mb5.8
YAK Yakutsk 64.34 17*c i*P **P 17 33 23.8 -0.8**
YAK *e* 17 33 57.4
YAK *e* 17 35 44.9
YAK *e*PPP 17 37 17.3
YAK *e*S **S 17 41 59.6 -0.2**
YAK *e* 17 43 15.2
YAK *e*SS SS 17 46 06.1 -4.0
YAK pmax pmax
comp=Z,76nm,0.9s,mb5.7
YAK pmax pmax
comp=N,25nm,1.3s
YAK pmax pmax
comp=E,25nm,1.3s
YAK pmax pmax
comp=Z,72nm,6.1s
YAK pmax pmax
comp=N,56nm,2.8s
YAK pmax pmax
comp=E,62nm,3.6s
YAK smax
comp=N,143nm,5.6s
YAK smax
comp=E,73nm,3.1s
YAK MLR MLR
comp=Z,712nm,18.0s,MS4.9
YAK MLR MLR
comp=N,412nm,16.0s,MS4.8
YAK MLR MLR
comp=E,275nm,17.0s,MS4.8
SIM Simferopol' 68.25 318 *e*P **P 17 33 50.5 +0.5**
SIM *e*S S 17 42 51.1 +3.2
SIM pmax pmax
comp=Z,13nm,0.8s,mb5.0
MOS Moscow 70.27 329 *e*P **P 17 34 00.4 -1.8**
MOS *e* pP 17 34 11.8 -2.3
MOS *e* 17 34 27.4
OBN Obninsk 70.55 328 *e*P **P 17 34 03.4 -0.5**
OBN *i* 17 34 10.9
OBN *e* 17 34 27.5
OBN *e* 17 36 42.5
OBN *i* S S 17 43 13.6 -0.9
OBN *e*SS SS 17 47 50.7 +4.3
OBN pmax pmax
comp=Z,30nm,1.3s,mb5.1
OBN MLR MLR
comp=Z,100nm,17.0s,MS4.1
MA2 Magadan 70.57 26 P **P 17 34 02.7 -1.2**
comp=Z,13nm,0.8s,mb4.9
MA2 Magadan 70.57 26 *e*P **P 17 34 04.2 +0.2**
MA2 pmax pmax
comp=Z,20nm,0.8s,mb5.1
TIXI Tiksi 71.92 10 *e*P **P 17 34 10.5 -1.4**
comp=Z,46nm,1.3s,mb5.2
TIXI Tiksi 71.92 10*c i*P **P 17 34 10.8 -1.1**
TIXI pmax pmax
comp=Z,37nm,1.2s,mb5.2
TIXI MLR MLR
comp=Z,269nm,15.0s,MS4.6
SEY Seymchan 72.91 24⇑*i*P **P 17 34 17.1 -0.9**
AKASG Malin Array Be 73.16 322 P **P 17 34 18.8 -0.9**
AKASG pmax pmax
comp=Z,5.0nm,0.9s
AKASG Malin Array Be 73.16 322 P **P 17 34 18.8 -0.9**
comp=Z,5.4nm,0.8s,mb4.5,baz=93,slow=4.6,SNR=27
AKBB Malin Array Si 73.16 322 *e*P **P 17 34 18.6 -1.1**
VRI Vrincioaia 73.51 317⇑P **P 17 34 22.3 +0.4**
VRI Vrincioaia 73.51 317⇑*i*P **P 17 34 22.3 +0.4**
MAW Mawson 73.90 193 LR LR 18 03 36.0
comp=Z,170nm,18.1s,MS4.4,baz=139,slow=33
MLR Muntele Rosu 73.96 317⇓*i*P **P 17 34 24.9 +0.4**
BOSA Boshof 74.32 239 LR LR 18 04 30.4
comp=Z,306nm,18.1s,MS4.6,baz=64,slow=34
BURAR Bucovina Array 74.91 319⇑*i*P **P 17 34 30.3 +0.3**
JOF Joensuu 76.13 335 *e*p **P 17 34 35.8 -0.9**
comp=Z,8.8nm,0.8s,mb4.7
LVV L'vov 76.16 321 *e*P **P 17 34 27.5 -10**
KOLS Kolonicke sedl 77.11 320 *e*P **P 17 34 43.3 +0.8**
KOLS *e*pP pP 17 34 58.3 +3.8
APA Apatity 77.17 340⇑*i*P **P 17 34 50.0 +7.5**
APA pmax pmax
comp=Z,47nm,1.3s,mb5.3
CRVS Cervenica-Dubn 77.63 319 *e*P **P 17 34 45.6 +0.2**
STHS Stebnicka Huta 77.86 320 *e*P **P 17 34 46.6 -0.1**
comp=Z,9.9nm,1.1s,mb4.7
STHS Stebnicka Huta 77.86 320 *e*P **P 17 34 46.6 -0.1**
STHS pmax pmax
comp=Z,10.0nm,1.1s,mb4.7
FINES FINESS Array B 77.96 333 P **P 17 34 46.8 -0.2**
FINES pmax pmax
comp=Z,7.0nm,0.8s
FINES MLR MLR
comp=Z,141nm,19.0s
FINES FINESS Array B 77.96 333 P **P 17 34 46.8 -0.2**
comp=Z,6.8nm,0.8s,mb4.7,baz=103,slow=6.7,SNR=16
FINES LR LR 18 14 17.3
comp=Z,141nm,19.0s,MS4.3,baz=76,slow=40
KECS Kecovo 78.19 319 *e*P **P 17 34 48.4 -0.2**
comp=Z,7.1nm,1.5s,mb4.4
KECS Kecovo 78.19 319 *e*P **P 17 34 48.4 -0.2**
KECS pmax pmax
comp=Z,7.0nm,1.5s,mb4.4
PSZ Piszkesteto 78.50 318 *e*P **P 17 34 50.3 0.0**
comp=Z,5.1nm,0.8s,mb4.5
PSZ Piszkesteto 78.50 318 *e*P **P 17 34 50.3 0.0**
PSZ pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
OJC Ojcow 78.92 321 *e*P **P 17 34 52.4 -0.1**
PKSM Moragy 79.11 316⇑P **P 17 34 53.2 -0.4**
PKSM Moragy 79.11 316⇑*i*P **P 17 34 53.2 -0.4**
VYHS Vyhne 79.28 319 *e*P **P 17 34 54.5 0.0**
comp=Z,7.8nm,1.7s,mb4.4
VYHS Vyhne 79.28 319 *e*P **P 17 34 54.5 0.0**
VYHS pmax pmax
comp=Z,8.0nm,1.7s,mb4.4
OKC Ostrava-Krasne 79.91 320 *e*P **P 17 34 57.5 -0.4**
BILL Bilibino 80.23 21 *e*P **P 17 34 58.9 -0.4**
comp=Z,13nm,1.4s,mb4.7
BILL Bilibino 80.23 21 *e*P **P 17 34 58.6 -0.7**
BILL pmax pmax
comp=Z,12nm,1.7s,mb4.5
MORC Moravsky Berou 80.29 320 *e*P **P 17 35 00.1 +0.1**
comp=Z,13nm,1.4s,mb4.7
MORC Moravsky Berou 80.29 320 *e*P **P 17 35 00.1 +0.1**
MORC pmax pmax
comp=Z,13nm,1.4s,mb4.7
MODS Modra-Piesok 80.30 318 *e*P **P 17 35 00.2 +0.2**
ZST Bratislava 80.39 318 *e*P **P 17 35 00.9 +0.3**
comp=Z,5.3nm,0.7s,mb4.6
ZST Bratislava 80.39 318 *e*P **P 17 35 00.9 +0.3**
ZST pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
ARCES ARCESS Array B 80.59 340 P **P 17 35 01.6 +0.4**
ARCES pmax pmax
comp=Z,9.0nm,0.9s
ARCES MLR MLR
comp=Z,209nm,19.0s
ARCES ARCESS Array B 80.59 340 P **P 17 35 01.6 +0.4**
comp=Z,9.4nm,0.8s,mb4.7,baz=87,slow=5.0,SNR=17
ARCES LR LR 18 16 58.2
comp=Z,209nm,19.0s,MS4.5,baz=44,slow=40
DPC Dobruska-Polom 81.14 320 *e*P **P 17 35 04.9 +0.4**
DPC *e*PCP PcP 17 35 11.7 +0.9
GCIS Gornji Cirnik 81.16 316 *e*P **P 17 35 04.3 -0.4**
KSP Ksiaz 81.22 321 *e*P **P 17 35 05.3 +0.4**
DOBS Dobrina 81.29 316 *e*P **P 17 35 06.2 +0.7**

DOBS			*e*			17 35 14.7
RPZ	**Rata Peaks**	**81.32 135**	LR	LR		18 10 47.7
comp=Z,252nm,20.1s,MS4.6,baz=209,slow=35						
UPC	**Upice**	**81.36 321**	*e*P	**P**	**17 35 05.8**	**+0.1**
UPC			*ep*P	pP	17 35 15.7	-2.1
PERS	**Pernice**	**81.58 317**	*e*P	**P**	**17 35 06.9**	**0.0**
LJU	**Ljubljana**	**81.93 316**	*e*P	**P**	**17 35 08.9**	**+0.1**
PRU	**Pruhonice**	**82.25 320**	*e*P	**P**	**17 35 05.9**	**-4.5**
PRU			*e*PCP	PcP	17 35 15.7	+0.1
PVCC	**Panska Ves**	**82.28 320**	*e*P	**P**	**17 35 11.0**	**+0.5**
BRG	**Berggiesshubel**	**82.70 321**	*e*P	**P**	**17 35 12.8**	**+0.1**
BRG			pmax	pmax		
comp=Z,10.0nm,2.1s,mb4.5						
BRG	**Berggiesshubel**	**82.70 321**	*e*P	**P**	**17 35 12.8**	**+0.1**
comp=Z,17nm,2.1s,mb4.7						
GEC2	**GERESS Array S**	**82.70 319**	*e*P	**P**	**17 35 12.1**	**-0.6**
GERES	**GERESS Array B**	**82.70 319**	P	**P**	**17 35 13.2**	**+0.4**
GERES			pmax	pmax		
comp=Z,3.0nm,0.8s						
GERES	**GERESS Array B**	**82.70 319**	P	**P**	**17 35 13.2**	**+0.4**
comp=Z,2.6nm,0.8s,mb4.3,baz=89,slow=7.1,SNR=19						
KHC	**Kasperske Hory**	**82.80 319**	*e*P	**P**	**17 35 12.8**	**-0.5**
KHC			*ep*P	pP	17 35 23.2	-2.2
CLL	**Collm**	**83.33 321**	*ep*P	pP	17 35 30.0	+1.9
CLL			Lm		17 19 00.0	
comp=N,100nm,19.9s						
CLL			Lm		17 19 00.0	
comp=E,100nm,19.3s						
CLL			Lm		17 19 00.0	
comp=Z,100nm,19.9s						
MOX	**Moxa**	**84.16 320**	*e*(P)	**P**	**17 35 20.3**	**+0.1**
GRA1	**Grafenberg Arr**	**84.37 319**	*e*P	**P**	**17 35 20.8**	**-0.5**
comp=Z,6.0nm,1.3s,mb4.6						
GRF	**Grafenberg Arr**	**84.37 319**	*e*P	**P**	**17 35 20.8**	**-0.5**
GRF			pmax	pmax		
comp=Z,6.0nm,1.3s,mb4.6						
GRF	**Grafenberg Arr**	**84.37 319**	*e*P	**P**	**17 35 20.8**	**-0.5**
GRF			pmax	pmax		
comp=Z,6.0nm,1.3s,mb4.6						
GRF	**Grafenberg Arr**	**84.37 319**	*e*P	**P**	**17 35 20.8**	**-0.5**
comp=Z,6.0nm,1.3s,mb4.6						
NB2	**NORSAR Subarra**	**84.95 331**	P	**P**	**17 35 23.5**	**-0.5**
comp=Z,3.5nm,0.8s,mb4.5,baz=92,slow=5.3						
NOA	**NORSAR Array B**	**84.95 331**	P	**P**	**17 35 24.2**	**+0.2**
NOA			pmax	pmax		
comp=Z,2.0nm,0.8s						
NOA			MLR	MLR		
comp=Z,75nm,21.6s						
NOA	**NORSAR Array B**	**84.95 331**	P	**P**	**17 35 24.2**	**+0.2**
comp=Z,1.7nm,0.8s,mb4.2,baz=98,slow=5.2,SNR=5.5						
NOA			LR	LR	18 17 04.9	
comp=Z,75nm,21.6s,MS4.0,baz=40,slow=38						
KEST	**Kesra**	**85.49 305**	P	**P**	**17 35 27.7**	**+0.4**
comp=Z,1.0nm,0.7s,mb4.1,baz=28,slow=10,SNR=4.1						
KEST			LR	LR	18 15 32.0	
comp=Z,59nm,18.9s,MS4.0,baz=294,slow=37						
PGF	**Pioggiola**	**85.76 312**	*e*P	**P**	**17 35 30.3**	**+1.8**
comp=Z,16nm,1.1s,mb4.8						
PGF	**Pioggiola**	**85.76 312**	*e*P	**P**	**17 35 30.3**	**+1.8**
comp=Z,7.8nm,1.1s,mb4.8						
PGF	**Pioggiola**	**85.76 312**	*e*P	**P**	**17 35 30.3**	**+1.8**
PGF			pmax	pmax		
comp=Z,8.0nm,1.1s,mb4.9						
SBF	**Sospel**	**86.90 314**	*e*P	**P**	**17 35 33.7**	**-0.3**
LPG	**La Plagne**	**87.36 315**	*e*P	**P**	**17 35 36.2**	**0.0**
comp=Z,8.2nm,0.8s,mb4.7						
LPG	**La Plagne**	**87.36 315**	*e*P	**P**	**17 35 36.2**	**0.0**
comp=Z,4.1nm,0.8s,mb4.7						
LPG	**La Plagne**	**87.36 315**	*e*P	**P**	**17 35 36.2**	**0.0**
LPG			pmax	pmax		
comp=Z,4.0nm,0.8s,mb4.7						
LPL	**La Plagne**	**87.37 315**	*e*P	**P**	**17 35 36.1**	**-0.2**
comp=Z,9.3nm,0.9s,mb4.7						
LPL	**La Plagne**	**87.37 315**	*e*P	**P**	**17 35 36.1**	**-0.2**
comp=Z,4.7nm,0.9s,mb4.7						
LPL	**La Plagne**	**87.37 315**	*e*P	**P**	**17 35 36.1**	**-0.2**
LPL			pmax	pmax		
comp=Z,5.0nm,0.9s,mb4.7						
FRF	**La Foret Royal**	**87.48 313**	*e*P	**P**	**17 35 36.6**	**-0.2**
VNDA	**Vanda**	**87.63 169**	LR	LR	18 10 20.7	
comp=Z,130nm,18.6s,MS4.4,baz=296,slow=33						
CABF	**La Chapelle**	**87.79 316**	*e*P	**P**	**17 35 38.2**	**-0.1**
comp=Z,20nm,1.2s,mb4.9						
CABF	**La Chapelle**	**87.79 316**	*e*P	**P**	**17 35 38.2**	**-0.1**
comp=Z,9.9nm,1.2s,mb4.9						
CABF	**La Chapelle**	**87.79 316**	*e*P	**P**	**17 35 38.2**	**-0.1**
CABF			pmax	pmax		
comp=Z,10.0nm,1.2s,mb4.9						
SMRF	**Simiane la Rot**	**88.24 314**	*e*P	**P**	**17 35 41.5**	**+1.0**
TCF	**Toulx Ste Croi**	**90.49 316**	*e*P	**P**	**17 35 52.8**	**+1.9**
MTLF	**Montolieu**	**90.71 313**	*e*P	**P**	**17 35 52.3**	**+0.3**
LDF	**La Druitiere**	**91.85 319**	*e*P	**P**	**17 35 56.6**	**-0.6**
FLN	**La Foliniere**	**92.07 319**	*e*P	**P**	**17 35 57.3**	**-0.9**
comp=Z,23nm,1.1s,mb5.1						
FLN	**La Foliniere**	**92.07 319**	*e*P	**P**	**17 35 57.3**	**-0.9**
comp=Z,12nm,1.1s,mb5.1						
FLN	**La Foliniere**	**92.07 319**	*e*P	**P**	**17 35 57.3**	**-0.9**
FLN			pmax	pmax		
comp=Z,12nm,1.1s,mb5.1						
IMA2	**Indian Mountai**	**95.70 23**	*e*P	**P**	**17 36 14.3**	**-0.2**
VNA2	**Neumayer--Watz**	**96.89 199**	*e*P	**P**	**17 36 19.1**	**-0.7**
MDT	**Midelt**	**97.22 303**	LR	LR	18 26 05.9	
comp=Z,95nm,18.4s,MS4.3,baz=337,slow=39						
NVAR	**Mina Array Bea**	**128.34 34**	PKP	PKPdf	17 41 57.3	+1.3
comp=Z,0.8nm,0.8s,baz=322,slow=1.2,SNR=6.0						
ANMO	**Albuquerque**	**137.08 27⇑**	*i*PKIKP	PKPdf	17 42 16.3	+3.8
MIAR	**Mount Ida**	**141.87 13**	*e*PKPpre		17 42 15.9	
TXAR	**Lajitas Array**	**143.06 29**	PKIKP	PKPdf	17 42 20.1	-3.4
TXAR			pmax	pmax		
comp=Z,1.0nm,0.9s						
TXAR			pmax	pmax		
comp=Z,1.0nm,0.9s						
TXAR	**Lajitas Array**	**143.06 29**	PKhKP		17 42 20.1	
comp=Z,1.0nm,0.8s,baz=271,slow=2.1,SNR=9.2						
TXAR			PKP	PKPdf	17 42 25.7	+2.1
comp=Z,1.4nm,0.9s,baz=97,slow=1.4,SNR=8.8						
JCT	**Junction City**	**143.76 23**	*e*PKPpre		17 42 23.0	
LRAL	**Lakeview Retre**	**144.31 4**	*e*P	PKPdf	17 42 23.6	-2.0
CPUP	**Villa Florida**	**145.13 225**	PKIKP	PKPdf	17 42 28.1	+0.9
CPUP			pmax	pmax		
comp=Z,5.0nm,0.8s						
CPUP	**Villa Florida**	**145.13 225**	PKPbc	PKPbc	17 42 28.1	+1.4
comp=Z,4.5nm,0.8s,baz=103,slow=8.9,SNR=3.0						
HKT	**Hockley**	**145.64 18**	*e*P	PKPdf	17 42 28.0	0.0
BRAL	**Brewton**	**146.31 4**	*e*PKPbc	PKPbc	17 42 30.2	-0.1

*ISCJB **29** 17:35:09.2±0.8, 6967N±006×1445W±0.1, h10km, Error ellipse: s-maj=9.1km s-min=5.8km az=149.4*
*NEIC **29** 17:35:11.1, 6958N×14459W, h5km, mb4.0/1, ML4.3(PMR), ML3.8(AEIC), ML3.7(PGC), After AEIC.*
*PGC **29** 17:35:13.5±12.0, 6966N×14427W, h1km, ML3.7/1, 168km east of Prudhoe Bay, Ak Alaska*

ISC 29 17:35:11.3±2.0, 6970N±007×1445W±02, h12km±17km, n26, σ0°98/34, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BM3	**Burnt Mountain**	**2.29**	**181**	P	**Pn**	**17 35 48.3**	**-0.6**
BM3				S	**Sn**	**17 36 16.7**	**-0.3**
COLD	**Coldfoot**	**3.25**	**223**	P	**Pn**	**17 36 00.9**	**-1.1**
COLD				S	**Sn**	**17 36 42.4**	**+1.8**
INK	**Inuvik**	**4.20**	**104**	*e*Pn	**Pn**	**17 36 16.4**	**+1.4**
INK	**Inuvik**	**4.20**	**104**	Pn	**Pn**	**17 36 17.1**	**+2.0**
INK				Sn	**Sn**	**17 37 03.6**	**-0.4**
COLA	**College**	**5.02**	**196**	P	**Pn**	**17 36 26.1**	**-0.2**
COLA				S	**Sn**	**17 37 22.8**	**-1.3**
IMA2	**Indian Mountai**	**5.03**	**228**	*e*P	**Pn**	**17 36 25.4**	**-1.0**
IL1	**Eielson Array**	**5.04**	**192**	P	**Pn**	**17 36 25.9**	**-0.6**
EGAK	**Eagle**	**5.12**	**164**	P	**Pn**	**17 36 27.6**	**-0.1**
EGAK				S	**Sn**	**17 37 28.6**	**+2.1**
DAWY	**Dawson**	**6.01**	**158**	P	**Pn**	**17 36 39.9**	**0.0**
DAWY	**Dawson**	**6.01**	**158**	Pn	**Pn**	**17 36 40.2**	**+0.3**
DAWY				Sn	**Sn**	**17 37 46.7**	**-1.8**
DOT	**Dot Lake**	**6.08**	**178**	P	**Pn**	**17 36 40.5**	**-0.4**
MCK	**McKinley**	**6.25**	**198**	P	**Pn**	**17 36 42.6**	**-0.6**
KTH	**Kantishna Hill**	**6.68**	**205**	P	**Pn**	**17 36 48.3**	**-0.7**
TRF	**Thorofare Moun**	**6.68**	**203**	P	**Pn**	**17 36 49.6**	**+0.5**
BCA3	**Beaver Creek A**	**6.76**	**169**	P	**Pn**	**17 36 50.2**	**+0.1**
PAX	**Paxson**	**6.77**	**184**	P	**Pn**	**17 36 50.7**	**+0.3**
MENT	**Mentasta**	**6.80**	**177**	P	**Pn**	**17 36 51.2**	**+0.5**
SML	**Sawmill**	**8.08**	**193**	*e*Pn	**Pn**	**17 37 09.4**	**+1.2**
PMR	**Palmer**	**8.36**	**195**	*e*P	**Pn**	**17 37 12.6**	**+0.5**
HYT	**Haines Junctio**	**9.38**	**158**	Pn	**Pn**	**17 37 27.5**	**+1.4**
SVW2	**Sparrevohn**	**9.77**	**213**	*e*P	**Pn**	**17 37 31.9**	**+0.5**
WHY	**Whitehorse**	**9.93**	**151**	Pn	**Pn**	**17 37 33.5**	**0.0**
YKW3	**Yellowknife Ar**	**13.92**	**106**	Pn	**Pn**	**17 38 25.1**	**-2.9**
YKW3				Sn	**Sn**	**17 40 51.2**	**-11**
RES	**Resolute Bay**	**15.52**	**49**	*e*Pn	**Pn**	**17 38 49.0**	**-0.6**
128nm,0.6s							
RES	**Resolute Bay**	**15.52**	**49**	Pn	**Pn**	**17 38 49.6**	**+0.1**
RES				Sn	**Sn**	**17 41 31.9**	**-9.3**
FCC	**Fort Churchill**	**23.70**	**92**	*e*P	**P**	**17 40 23.1**	**+0.5**
5.2nm,1.2s							

IDC 29 17:49:38.6±7.1, 4841S×12340E, h0km, mb3.5/2, mb1 3.8/2, mb1mx3.5/11, mbtmp3.5/2, Error ellipse: s-maj=500.5km s-min=71.0km az=100.0, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**26.07**	**22**	P	P	17 55 13.7	+0.1
0.6nm,0.8s,baz=192,slow=8.5,SNR=4.8							
WRA	**Warramunga Arr**	**29.75**	**21**	P	P	17 55 46.7	+0.1
0.3nm,0.9s,baz=196,slow=11,SNR=2.8							
YKA	**Yellowknife Ar**	**145.53**	**44**	PKPbc	PKPbc	18 09 16.7	-0.8
0.4nm,0.7s,baz=266,slow=3.2,SNR=9.1							

*NEIC **29** 17:52:57.1, 3151S×7170W, h24km, ML3.7(GUC), After GUC.*

GUC 29 17:52:57.1±0.7, 3151S×7170W, h24km±3km, MD4.0, ML3.7, 6C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMCH	**Combarbala**	**0.68**	**61⇑**	*i*P	Pb	17 53 09.9	-0.5
CMCH				*i*S	Sb	17 53 19.5	+0.1
CMCH	**Combarbala**	**0.68**	**61⇑**	*i*P	Pb	17 53 09.9	-0.5
CMCH				*i*S	Sb	17 53 19.5	+0.1
CMCH				AML	AML	17 53 25.6	
comp=E,8μm,0.6s							
OVCH	**Ovalle**	**0.99**	**26**	*i*P	Pn	17 53 15.0	-0.5
OVCH				*i*S	Sb	17 53 28.4	+0.2
JACH	**Jahuel**	**1.50**	**142⇑**	*i*P	Pn	17 53 23.3	+0.7
JACH				*i*S	Sn	17 53 43.0	+1.6
TLL	**Tololo Astrono**	**1.54**	**30⇑**	*i*P	Pn	17 53 24.0	+1.0
TLL				*i*S	Sn	17 53 44.5	+2.2
ROCH	**El Roble**	**1.57**	**158⇑**	*i*P	Pn	17 53 24.2	+0.6
ROCH				*i*S	Sn	17 53 45.5	+2.3
PEL	**Peldehue**	**1.85**	**153⇓**	*i*P	Pn	17 53 28.3	+1.0
PEL				*i*S	Sn	17 53 52.0	+2.1
PEL				AML	AML	17 53 54.3	
comp=E,1μm,0.4s							
LCCH	**Las Cruces**	**1.97**	**177**	*i*P	Pn	17 53 30.1	+1.1
LCCH				*i*S	Sn	17 53 55.5	+2.7
RCDM	**Rinconada Maip**	**2.12**	**159**	*i*P	Pn	17 53 31.2	+0.2
RCDM				*i*S	Sn	17 53 58.0	+1.4
CLCH	**Cerro Calan**	**2.13**	**153**	AML	AML	17 54 08.8	
comp=N,641nm,0.4s							
CLCH				AML	AML	17 54 09.4	
comp=N,782nm,0.4s							
ANTU	**Antumapu**	**2.25**	**157**	AML	AML	17 54 10.3	
comp=N,551nm,0.5s							
PCH	**Pirque**	**2.33**	**155**	*i*P	Pn	17 53 35.1	+1.1
PCH				*i*S	Sn	17 54 04.7	+2.7
CHCH	**Chadas Angostu**	**2.58**	**160⇑**	*i*P	Pn	17 53 38.7	+1.3
CHCH				*i*S	Sn	17 54 10.5	+2.6
LMEL	**Las Melosas**	**2.66**	**152**	AML	AML	17 54 24.7	
comp=N,428nm,0.2s							
SFDO	**San Fernando**	**3.15**	**170**	*i*P	Pn	17 53 46.1	+0.9
SFDO				*i*S	Sn	17 54 24.6	+2.4

*ISCJB **29** 18:22:20.4±1.5, 205S±0.1×1678E±02, h10km, mb4.0/5, Error ellipse: s-maj=34.6km s-min=12.8km az=31.6*
*IDC **29** 18:22:20.9±1.8, 2000S×16767E, h0km, mb4.0/6, mb1 4.3/6, mb1mx4.0/14, mbtmp4.1/6, MS3.2/1, Ms1 3.2/1, ms1mx2.6/24, Error ellipse: s-maj=97.2km s-min=27.1km az=158.0*

ISC 29 18:22:21.8±1.5, 206S±02×1679E±02, h10km, n10, σ1°27/10, mb4.0/5, Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**1.97**	**221**	*e*P	**Pn**	**18 22 52.7**	**-2.5**
DZM				*e*S	**Sn**	**18 23 20.5**	**+0.6**
CTA	**Charters Tower**	**20.25**	**268**	*e*P	**P**	**18 27 04.2**	**+6.8**
3.5nm,0.8s							
CTA	**Charters Tower**	**20.25**	**268**	P	**P**	**18 26 57.9**	**+0.5**
1.8nm,0.8s,baz=93,slow=13,SNR=3.0							
CTA				LR	LR	18 33 54.2	
comp=Z,68nm,21.3s,baz=55,slow=34							
STKA	**Stephens Creek**	**26.02**	**239**	P	**P**	**18 27 57.6**	**+2.5**
1.7nm,1.1s,mb3.5,baz=32,slow=9.5,SNR=3.2							
WRA	**Warramunga Arr**	**31.41**	**265**	P	**P**	**18 28 42.2**	**-1.1**
1.6nm,0.8s,mb3.9,baz=91,slow=8.4,SNR=20							
ASAR	**Alice Springs**	**31.55**	**258**	P	**P**	**18 28 43.7**	**-0.7**
6.3nm,0.8s,mb4.5,baz=92,slow=8.8,SNR=77							
FITZ	**Fitzroy Crossi**	**39.82**	**266**	*e*P	**P**	**18 29 56.0**	**+0.5**
7.2nm,0.9s,mb4.4							
FITZ	**Fitzroy Crossi**	**39.82**	**266**	P	**P**	**18 29 56.3**	**+0.7**
4.1nm,0.8s,mb4.2,baz=119,slow=11,SNR=10							
NVAR	**Mina Array Bea**	**90.67**	**49**	P	**P**	**18 35 25.0**	**+0.2**
0.5nm,0.7s,mb3.9,baz=243,slow=7.9,SNR=2.9							
GERES	**GERESS Array B**	**145.03**	**330**	PKP	PKPdf	18 41 58.1	-1.1
1.2nm,0.8s,baz=48,slow=2.0,SNR=7.5							

*IDC **29** 18:40:05.1±0.6, 1636N×9402E, h0km, mb4.2/17, mb1 4.3/17, mb1mx4.3/20, mbtmp4.2/17, MS3.6/6, Ms1 3.6/6, ms1mx3.3/29, Error ellipse: s-maj=22.9km s-min=14.0km az=57.0*
*ISCJB **29** 18:40:05.1±0.3, 1640N±004×9402E±003, h10km, mb4.5/68, MS3.8/14, Error ellipse: s-maj=6.4km s-min=4.1km az=180.0*
*MOS **29** 18:40:07.8±0.7, 1648N×9409E, h27km, mb4.7/42, Error ellipse: s-maj=10.6km s-min=5.6km az=115.3*
*BJI **29** 18:40:08.0, 1643N×9406E, h30km, mB4.8, mb4.6, Ms4.3, Msz4.0*
*NEIC **29** 18:40:10.2±1.7, 1644N×9406E, h32km±12km, mb4.5/34, Error ellipse: s-maj=6.3km s-min=5.0km az=61.0*
*DMN **29** 18:42:07.7±18.0, 2346N×8800E, h235km±38km, Mb4.9/3, Error ellipse: s-maj=482.8km s-min=57.2km az=150.0*

ISC 29 18:40:07.4±1.4, 1640N±004×9402E±003, h12km±8km, h18km±7km:pP-P, n207, σ0°88/214, mb4.5/68, MS3.8/14, 29C-4D, Near south coast of Myanmar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	**5.12**	**66**	*e*P	**Pn**	**18 41 24.2**	**+0.2**
CHTO	**Chiang Mai**	**5.27**	**62**	*e*P	**Pn**	**18 41 26.4**	**+0.4**
65nm,0.8s							
CHTO	**Chiang Mai**	**5.27**	**62**	*e*P	**Pn**	**18 41 26.4**	**+0.4**
CHTO				pmax	pmax		
comp=Z,65nm,0.8s							
NST	**Nakhon Sawan**	**5.92**	**96**	P	**Pn**	**18 41 36.1**	**+1.2**
CHRT	**Chiangrai**	**6.47**	**57**	⇑P	**Pn**	**18 41 43.0**	**+0.5**
comp=Z,447nm,0.8s							
NANT	**Nan**	**6.80**	**68**	P	**Pn**	**18 41 47.9**	**+0.9**
comp=Z,350nm,1.0s							
SHL	**Shillong**	**9.34**	**348**	*e*P	**Pn**	**18 42 20.0**	**-1.8**
SHL				*ex*	x	18 44 03.0	
VIS	**Vishakhapatnam**	**10.31**	**279**	*i*P	**Pn**	**18 42 34.9**	**-0.3**
VIS				*i*S	**Sn**	**18 44 21.7**	**-9.1**
VIS				*ex*	x	18 44 44.0	
comp=N,57nm,0.8s							
VIS				*ex*	x	18 44 47.2	
comp=N,56nm,0.7s							
KMI	**Kunming**	**11.90**	**42**	P	**Pn**	**18 43 00.0**	**+3.1**
KMI				S	**Sn**	**18 45 15.0**	**+5.3**
KMI				AMB	AMB		
comp=Z,4.0nm,0.5s							
KMI				LR	LR		
comp=N,437nm,11.5s							
KMI				LR	LR		
comp=E,494nm,11.5s							
KMI				LR	LR		
comp=Z,567nm,12.2s							
JIRN	**Jiri**	**13.35**	**328**	*e*P	**Pn**	**18 43 17.6**	**+0.9**
comp=Z,82nm,0.6s							
LSA	**Lhasa**	**13.50**	**349**	P	**Pn**	**18 43 16.5**	**-2.2**
LSA				LR	LR		
comp=E,240nm,28.4s							
LSA				LR	LR		
comp=Z,360nm,19.0s							
LSA	**Lhasa**	**13.50**	**349**	*e*P	**Pn**	**18 43 17.6**	**-1.1**
comp=Z,10nm,0.6s							
LSA	**Lhasa**	**13.50**	**349**	*e*P	**Pn**	**18 43 17.7**	**-1.0**
LSA				pmax	pmax		
comp=Z,10.0nm,0.6s							
PKI	**Pulchoki**	**13.68**	**326**	*e*P	**Pn**	**18 43 20.4**	**-0.8**
comp=Z,77nm,0.6s							
PKIN	**Phulchoki**	**13.69**	**326**	*e*P	**Pn**	**18 43 21.0**	**-0.4**
comp=Z,37nm,0.2s							
GUN	**Gumba**	**13.71**	**328**	*e*P	**Pn**	**18 43 22.3**	**+0.7**
DMN	**Daman**	**13.88**	**325**	*e*P	**Pn**	**18 43 23.5**	**-0.4**
comp=Z,132nm,0.7s							
KKN	**Kakani**	**13.92**	**326**	*e*P	**Pn**	**18 43 23.0**	**-1.6**
PSI	**Prapat**	**14.35**	**160**	P	**Pn**	**18 43 35.3**	**+4.8**
PSI				pmax	pmax		
comp=Z,1.0nm,0.3s							
PSI				MLR	MLR		
comp=Z,183nm,21.1s							
PSI	**Prapat**	**14.35**	**160**	Pn	**Pn**	**18 43 35.2**	**+4.8**
comp=Z,1.0nm,0.3s,baz=338,slow=11,SNR=6.6							
PSI				LR	LR	18 48 37.0	
comp=Z,183nm,21.1s,baz=41,slow=36							
GKN	**Gorkha**	**14.44**	**325**	*e*P	**Pn**	**18 43 29.5**	**-2.1**
comp=Z,65nm,0.2s							
KOLN	**Koldanda**	**14.87**	**321**	*e*P	**Pn**	**18 43 34.6**	**-2.8**
comp=Z,144nm,0.6s							
DANN	**Dangsing**	**15.20**	**323**	*e*P	**Pn**	**18 43 38.8**	**-3.1**
comp=Z,105nm,0.8s							
QIZ	**Qiongzhong**	**15.30**	**78**	P	**Pn**	**18 43 42.5**	**-0.7**
QIZ				S	**Sn**	**18 46 33.0**	**+0.3**
QIZ				LR	LR		
comp=N,377nm,15.5s							
QIZ				LR	LR		
comp=E,458nm,14.2s							
QIZ				LR	LR		
comp=Z,350nm,13.7s							
PALK	**Pallekele**	**15.87**	**237**	*e*Pn	**Pn**	**18 43 50.0**	**-0.7**
CD2	**Chengdu**	**16.96**	**30⇑**	*i*P	**Pn**	**18 44 05.3**	**+0.8**
CD2				AP	pP	18 44 08.8	-1.1
CD2				XP	sP	18 44 13.3	+1.8
CD2				PP		18 44 20.3	
CD2				XS	sS	18 47 19.0	-10
CD2				SS		18 47 34.0	
CD2				AMB	AMB		
comp=Z,40nm,0.7s							
CD2				AMB	AMB		
comp=Z,120nm,3.8s							
CD2				LR	LR		
comp=N,390nm,15.6s							
CD2				LR	LR		
comp=E,810nm,14.4s							
CD2				LR	LR		
comp=Z,480nm,9.6s							
LZH	**Lanzhou**	**21.47**	**22⇑**	P	**P**	**18 44 56.0**	**+0.3**
LZH				PP		18 45 20.3	
LZH				*e*S	**S**	**18 48 45.0**	**-8.6**
LZH				SS		18 49 22.0	
LZH				AMB	AMB		
comp=Z,69nm,1.5s,mb4.8							
LZH				AMB	AMB		
comp=Z,170nm,4.0s							
LZH				LR	LR		
comp=N,630nm,12.8s							
LZH				LR	LR		
comp=Z,910nm,13.8s,MS4.3							
XAN	**Xi'an**	**22.09**	**35**	P	**P**	**18 45 00.8**	**-1.6**
XAN				AMB	AMB		
comp=Z,19nm,1.0s,mb4.5							
XAN				AMB	AMB		
comp=Z,39nm,8.5s							
XAN				LR	LR		
comp=N,136nm,10.8s,MS3.9							
XAN				LR	LR		
comp=E,234nm,13.6s,MS3.9							
XAN				LR	LR		
comp=Z,322nm,16.4s,MS3.8							
GTA	**Gaotai**	**23.48**	**11**	*e*P	**P**	**18 45 16.8**	**-0.2**
GTA				AP		18 45 21.0	
GTA				PP		18 45 51.0	
GTA				PPP		18 45 59.8	
GTA				S	**S**	**18 49 29.8**	**-0.3**
GTA				AMB	AMB		
comp=Z,13nm,1.0s,mb4.3							
GTA				AMB	AMB		
comp=Z,113nm,4.6s							
GTA				LR	LR		
comp=N,192nm,15.6s,MS3.7							
GTA				LR	LR		
comp=E,116nm,16.4s,MS3.7							
GTA				LR	LR		
comp=Z,169nm,17.9s,MS3.5							
NJ2	**Nanjing**	**27.39**	**51**	*e*P	**P**	**18 45 49.5**	**-3.2**
NJ2				PP		18 46 37.0	
NJ2				S	**S**	**18 50 26.0**	**-6.7**
NJ2				XS	sS	18 50 39.0	+0.1
NJ2				AMB	AMB		
comp=Z,30nm,1.2s,mb4.7							
NJ2				AMB	AMB		
comp=Z,220nm,3.8s							
NJ2				LR	LR		
comp=N,590nm,11.1s,MS4.5							
NJ2				LR	LR		
comp=E,470nm,11.7s,MS4.5							
BTO	**Baotou**	**27.82**	**27**	*e*P	**P**	**18 45 55.0**	**-1.5**
WMQ	**Urumqi**	**27.85**	**350**	P	**P**	**18 45 58.3**	**+1.6**
WMQ				AP	pP	18 46 03.0	+2.5
WMQ				XP	sP	18 46 05.5	+3.4
WMQ				*e*S	**S**	**18 50 39.0**	**-0.7**
WMQ				XS	sS	18 50 47.0	+1.1
WMQ				AMB	AMB		
comp=Z,9.0nm,1.1s,mb4.3							
WMQ				AMB	AMB		
comp=Z,105nm,5.5s							
WMQ				LR	LR		
comp=N,188nm,18.2s							
WMQ				LR	LR		
comp=E,285nm,24.6s							
WMQ				LR	LR		
comp=Z,217nm,21.4s,MS3.7							
TIA	**Tai'an**	**28.47**	**42**	*e*P	**P**	**18 46 01.5**	**-0.9**
HHC	**Hu-ho-hao-te**	**28.70**	**28**	*e*P	**P**	**18 46 05.0**	**+0.6**
HHC				AP	pP	18 46 09.5	+1.4
HHC				XP	sP	18 46 12.3	+2.6
HHC				PP	PP	18 46 57.3

CHMS Chumysh 31.20 332 P **P 18 46 27.5 +1.1**
SNR=6.2
EKS2 Erkin-Say 31.38 331 *e*P **P 18 46 29.2 +1.2**
comp=Z,3.1nm,0.7s,mb4.2
EKS2 Erkin-Say 31.38 331 P **P 18 46 29.5 +1.5**
SNR=6.0
USP Ospenovka 31.52 332 P **P 18 46 30.6 +1.3**
SNR=7.3
MK31 Makanchi Array 31.83 345 *e*P **P 18 46 32.2 +0.2**
MKAR Makanchi Array 31.83 345 P **P 18 46 32.6 +0.7**
MKAR pmax pmax
comp=Z,5.0nm,0.7s
MKAR Makanchi Array 31.83 345 P **P 18 46 32.6 +0.6**
comp=Z,5.1nm,0.7s,mb4.5,baz=157,slow=9.8,SNR=46
SONM Songino Array 32.96 15 P **P 18 46 42.3 +0.5**
SONM pmax pmax
comp=Z,4.0nm,0.9s
SONM Songino Array 32.96 15 P **P 18 46 42.3 +0.5**
comp=Z,4.3nm,0.9s,mb4.4,baz=196,slow=11,SNR=8.1
ULN Ulaanbaatar 33.16 16 *e*P **P 18 46 43.6 0.0**
comp=Z,5.4nm,0.9s,mb4.5
ULN Ulaanbaatar 33.16 16 *e*P **P 18 46 43.6 0.0**
ULN pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
ZAK Zakamensk 34.71 10⇑ *i*P **P 18 46 57.6 +0.6**
ZAK pmax pmax
comp=Z,2.0nm,0.9s,mb4.0
TLY Talaya 36.02 10 *e*P **P 18 47 09.6 +1.3**
TLY *e*S **S 18 52 53.7 +6.9**
TLY pmax pmax
comp=Z,5.0nm,1.0s,mb4.4
TLY MLR MLR
comp=Z,132nm,17.0s,MS3.8
KURK Kurchatov 36.40 343 *e*P **P 18 47 11.8 +0.2**
comp=Z,24nm,1.1s,mb5.0
KURK Kurchatov 36.40 343 *e*P **P 18 47 11.8 +0.3**
KURK pmax pmax
comp=Z,24nm,1.1s,mb5.0
KSRS Korea Array 36.49 48 P **P 18 47 11.6 -0.9**
KSRS pmax pmax
comp=Z,2.0nm,1.0s,mb4.0
KSRS MLR MLR
comp=Z,119nm,18.7s,MS3.7
KSRS Korea Array 36.49 48 P **P 18 47 11.6 -1.0**
comp=Z,1.8nm,1.0s,mb3.9,baz=79,slow=21,SNR=4.4
KSRS LR LR 19 05 18.6
comp=Z,119nm,18.7s,MS3.7,baz=46,slow=42
CN2 Changchun 38.13 38 *e*P **P 18 47 28.0 +1.7**
ZAL Zalesovo 38.14 351 P **P 18 47 26.6 +0.4**
ZAL pmax pmax
comp=Z,11nm,0.6s
ZAA0 Zalesovo Array 38.15 351 *e*P **P 18 47 26.2 -0.2**
ZALV Zalesovo Beam 38.15 351 P **P 18 47 26.6 +0.2**
comp=Z,11nm,0.6s,mb4.8,baz=174,slow=8.9,SNR=56
HIA Hailar 38.88 27 *e*P **P 18 47 31.9 -0.6**
comp=Z,10nm,1.0s,mb4.5
HIA Hailar 38.88 27 *e*P **P 18 47 31.9 -0.6**
HIA pmax pmax
comp=Z,10.0nm,1.0s
NVS Novosibirsk 39.26 350 *i*P **P 18 47 34.5 -1.1**
NVS pmax pmax
comp=N,13nm,1.5s
NVS pmax pmax
comp=Z,16nm,1.5s,mb4.5
NVS pmax pmax
comp=E,6.0nm,1.3s
BRVK Borovoye 41.06 338 *e*P **P 18 47 50.5 -0.1**
comp=E,11nm,1.2s,mb4.3
BRVK Borovoye 41.06 338 *e*P **P 18 47 50.5 -0.1**
BRVK pmax pmax
comp=Z,11nm,1.2s,mb4.4
MAT Matsushiro 43.89 54 P **P 18 48 13.2 -0.7**
MAT *e*S **S 18 54 39.0 -6.1**
MJAR Matsushiro Arr 43.89 54 P **P 18 48 14.1 +0.2**
MJAR LR LR 19 06 00.2
MJAR Matsushiro Arr 43.89 54 P **P 18 48 14.1 +0.2**
MJAR pmax pmax
comp=Z,2.0nm,1.0s
MJAR MLR MLR
comp=Z,75nm,20.2s
MJAR Matsushiro Arr 43.89 54 P **P 18 48 14.1 +0.2**
comp=Z,2.3nm,1.0s,mb3.9,baz=265,slow=9.7,SNR=8.0
MJAR LR LR 19 06 00.2
comp=Z,75nm,20.2s,MS3.6,baz=65,slow=35
KBD Kabd 44.30 295 *e*P **P 18 48 17.5 +0.2**
KBD AMb AMB 18 48 18.8
comp=Z,101nm,0.4s,mb5.9
RDF Al-Radifah 44.40 295 *e*P **P 18 48 18.9 +0.8**
RDF AMb AMB 18 48 20.1
comp=Z,64nm,0.6s,mb5.5
MIB Mutribah 44.68 296 *e*P **P 18 48 20.5 +0.2**
MIB AMb AMB 18 48 22.4
comp=Z,47nm,0.7s,mb5.4
NAY Al-Naaiem 44.70 295 *e*P **P 18 48 21.1 +0.6**
NAY AMb AMB 18 48 22.4
comp=Z,31nm,0.6s,mb5.3
FITZ Fitzroy Crossi 46.31 136 P **P 18 48 34.9 +1.6**
FITZ Fitzroy Crossi 46.31 136 P **P 18 48 33.8 +0.5**
comp=Z,1.0nm,0.8s,mb3.8,baz=342,slow=9.6,SNR=3.1
CLNS Chul'man 46.59 23 *e*P **P 18 48 27.6 -7.4**
CLNS pmax pmax
comp=N,11nm,0.6s
CLNS pmax pmax
comp=Z,16nm,0.6s,mb5.1
CLNS pmax pmax
comp=E,15nm,1.0s
SVE Sverdlovsk 47.55 336 *e*P **P 18 48 43.1 +0.6**
ARU Arti 48.11 334 *e*P **P 18 48 46.2 -0.6**
comp=E,1.8nm,0.5s,mb4.4
ARU Arti 48.11 334⇓ *i*P **P 18 48 46.5 -0.4**
ARU pmax pmax
comp=Z,10.0nm,1.3s,mb4.7
YSS Yuzh-Sakhalins 50.35 42 *e* **P 18 49 05.0 +0.9**
YSS MLR MLR
comp=Z,200nm,14.0s,MS4.3
KIV Kislovodsk 51.16 314 *e*P **P 18 49 10.4 +0.1**
comp=Z,42nm,1.0s,mb5.3
KIV Kislovodsk 51.16 314 *c i*P **P 18 49 11.3 +1.0**
KIV *e* 18 51 09.3
KIV *e*S **S 18 56 28.6 +0.4**
KIV pmax pmax
comp=Z,40nm,1.0s,mb5.3
KIV MLR MLR
comp=Z,30nm,18.0s,MS3.4
KIV Kislovodsk 51.16 314⇑ *i*P **P 18 49 11.5 +1.2**
YAK Yakutsk 52.04 20 *e*P **P 18 49 15.4 -1.2**
comp=Z,18nm,0.8s,mb5.1
YAK Yakutsk 52.04 20⇑ *e*P **P 18 49 15.9 -0.7**
YAK pmax pmax
comp=Z,9.0nm,0.6s,mb4.9
MALT Malatya 53.14 306 P **P 18 49 26.0 +0.8**
comp=Z,7.6nm,1.3s,mb4.5
MALT Malatya 53.14 306 P **P 18 49 26.0 +0.9**
MALT pmax pmax
comp=Z,8.0nm,1.3s,mb4.5
MALT Malatya 53.14 306⇑ *i*P **P 18 49 26.5 +1.4**
WRA Warramunga Arr 53.60 131 P **P 18 49 27.6 -1.1**
WRA pmax pmax
comp=Z,1.0nm,0.4s
WRA Warramunga Arr 53.60 131 P **P 18 49 27.6 -1.2**
comp=Z,1.4nm,0.4s,mb4.2,baz=311,slow=7.5,SNR=24
WB2 Warramunga Arr 53.61 131 *e*P **P 18 49 27.2 -1.6**
MMAI Mount Meron Ar 55.10 299 LR LR 19 19 07.2
comp=Z,41nm,18.0s,MS3.5,baz=85,slow=42
ASAR Alice Springs 55.71 135 P **P 18 49 43.2 -0.8**
ASAR pmax pmax
comp=Z,1.0nm,0.5s
ASAR Alice Springs 55.71 135 P **P 18 49 43.1 -0.9**
comp=Z,0.5nm,0.5s,mb3.9,baz=313,slow=6.7,SNR=12
OBN Obninsk 58.24 325 *e*P **P 18 50 01.6 +0.1**
OBN pmax pmax
comp=Z,29nm,1.5s,mb5.1
TIXI Tiksi 58.96 12 *e*P **P 18 50 04.6 -1.6**
comp=Z,12nm,0.9s,mb4.9
TIXI Tiksi 58.96 12 *e*P **P 18 50 04.9 -1.3**
TIXI *e* pP 18 50 10.5 +0.3
TIXI pmax pmax
comp=Z,13nm,1.4s,mb4.8
AKASG Malin Array Be 61.55 319 P **P 18 50 23.3 -1.0**
AKASG pmax pmax
comp=Z,2.0nm,0.7s
AKASG Malin Array Be 61.55 319 P **P 18 50 23.3 -1.0**
comp=Z,1.7nm,0.7s,mb4.3,baz=84,slow=5.0,SNR=14
VRI Vrincioaia 62.64 313 ⇓P **P 18 50 32.8 +1.0**
VRI Vrincioaia 62.64 313⇓ *i*P **P 18 50 32.8 +1.1**
PLOR Plostina 62.69 313⇑ *i*P **P 18 50 33.0 +0.9**

MLR Muntele Rosu 63.16 313⇑ P **P 18 50 36.0 +0.8**
MLR Muntele Rosu 63.16 313⇑ *i*P **P 18 50 36.0 +0.8**
JOF Joensuu 63.20 333 *ep* **P 18 50 31.4 -3.7**
comp=Z,2.0nm,0.5s,mb4.5
BURAR Bucovina Array 63.81 315⇓ *i*P **P 18 50 39.6 +0.2**
FINES FINESS Array B 65.21 331 P **P 18 50 48.3 -0.1**
FINES pmax pmax
comp=Z,1.0nm,0.6s
FINES MLR MLR
comp=Z,49nm,20.7s
FINES FINESS Array B 65.21 331 P **P 18 50 48.3 -0.1**
comp=Z,1.2nm,0.6s,mb4.1,baz=107,slow=6.4,SNR=6.6
FINES LR LR 19 22 27.5
comp=Z,49nm,20.7s,MS3.7,baz=180,slow=39
STKA Stephens Creek 66.21 137 P **P 18 50 54.8 -0.5**
comp=Z,3.0nm,0.6s,mb4.5,baz=324,slow=7.3,SNR=2.8
CRVS Cervenica-Dubn 66.38 317 *e*P **P 18 50 57.7 +1.6**
STHS Stebnicka Huta 66.54 317 *e*P **P 18 50 56.6 -0.6**
comp=Z,1.9nm,0.8s,mb4.2
STHS Stebnicka Huta 66.54 317 *e*P **P 18 50 56.6 -0.6**
STHS pmax pmax
comp=Z,2.0nm,0.8s,mb4.2
KECS Kecovo 67.02 316 *e*P **P 18 51 00.4 +0.2**
comp=Z,1.6nm,1.1s,mb4.0
KECS Kecovo 67.02 316 *e*P **P 18 51 00.4 +0.2**
KECS pmax pmax
comp=Z,2.0nm,1.1s,mb4.1
ARCES ARCESS Array B 67.27 339 P **P 18 51 01.9 +0.4**
ARCES pmax pmax
comp=Z,6.0nm,0.8s
ARCES ARCESS Array B 67.27 339 P **P 18 51 01.9 +0.4**
comp=Z,6.1nm,0.8s,mb4.7,baz=84,slow=5.5,SNR=14
VYHS Vyhne 68.11 316 *e*P **P 18 51 06.9 -0.2**
comp=Z,2.1nm,1.1s,mb4.1
VYHS Vyhne 68.11 316 *e*P **P 18 51 06.9 -0.2**
VYHS pmax pmax
comp=Z,2.0nm,1.1s,mb4.1
BILL Bilibino 68.28 23 *e*P **P 18 51 07.0 -0.8**
BILL pmax pmax
comp=Z,5.0nm,1.1s,mb4.5
CRES Cresnjev 70.51 313 *e*P **P 18 51 22.2 +0.2**
BOJS Bojanci 70.67 313 *e*P **P 18 51 23.1 0.0**
PERS Pernice 70.69 314 *e*P **P 18 51 23.2 +0.1**
LJU Ljubljana 71.14 314 *e*P **P 18 51 26.2 +0.3**
BRG Berggiesshubel 71.22 319 *i*P **P 18 51 26.5 +0.2**
BRG pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
BRG Berggiesshubel 71.22 319 *i*P **P 18 51 26.5 +0.2**
comp=Z,4.5nm,0.8s,mb4.5
GERES GERESS Array B 71.50 317 P **P 18 51 28.4 +0.4**
GERES pmax pmax
comp=Z,3.0nm,0.7s
GERES GERESS Array B 71.50 317 P **P 18 51 28.4 +0.4**
comp=Z,3.4nm,0.7s,mb4.4,baz=86,slow=5.5,SNR=18
SPB4 Spitsbergen Ar 71.53 348 *e*P **P 18 51 27.9 +0.2**
CLL Collm 71.79 319 *e*P **P 18 51 27.0 -2.7**
CLL Collm 71.79 319 *e*P **P 18 51 29.0 -0.7**
ROBS Robic 71.83 314 *e*P **P 18 51 29.5 -0.6**
LSZ Lusaka 72.20 248 *e*P **P 18 51 32.9 +0.2**
comp=Z,10nm,0.8s,mb4.8
LSZ Lusaka 72.20 248 *e*P **P 18 51 32.9 +0.2**
LSZ pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
NB2 NORSAR Subarra 72.32 330 P **P 18 51 31.8 -0.9**
comp=Z,0.7nm,0.5s,mb3.9,baz=88,slow=6.2
NOA NORSAR Array B 72.32 330 P **P 18 51 32.1 -0.6**
NOA pmax pmax
comp=Z,2.0nm,0.8s
NOA MLR MLR
comp=Z,43nm,18.1s
NOA NORSAR Array B 72.32 330 P **P 18 51 32.0 -0.7**
comp=Z,1.6nm,0.8s,mb4.0,baz=89,slow=6.0,SNR=8.1
NOA LR LR 19 29 18.9
comp=Z,43nm,18.1s,MS3.8,baz=305,slow=41
GRA1 Grafenberg Arr 73.05 318 *e*P **P 18 51 37.7 +0.4**
comp=Z,4.0nm,0.9s,mb4.3
GRF Grafenberg Arr 73.05 318 *e*P **P 18 51 37.7 +0.4**
GRF pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
GRF Grafenberg Arr 73.05 318 *e*P **P 18 51 37.7 +0.4**
GRF pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
GRF Grafenberg Arr 73.05 318 *e*P **P 18 51 37.7 +0.4**
comp=Z,4.0nm,0.9s,mb4.3
CDF Champ du Feu 75.78 317 *e*P **P 18 51 52.7 -0.5**
HAU Haudompre 76.46 316 *e*P **P 18 51 56.7 -0.4**
LPG La Plagne 76.61 314 *e*P **P 18 51 58.2 +0.3**
comp=Z,10nm,0.8s,mb4.5
LPG La Plagne 76.61 314 *e*P **P 18 51 58.2 +0.3**
comp=Z,5.1nm,0.8s,mb4.5
LPG La Plagne 76.61 314 *e*P **P 18 51 58.2 +0.3**
LPG pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
LPL La Plagne 76.62 314 *e*P **P 18 51 58.2 +0.2**
comp=Z,10nm,0.8s,mb4.5
LPL La Plagne 76.62 314 *e*P **P 18 51 58.2 +0.2**
comp=Z,5.1nm,0.8s,mb4.5
LPL La Plagne 76.62 314 *e*P **P 18 51 58.2 +0.2**
LPL pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
MBDF Montbardon 76.72 313⇑ *i*P **P 18 51 59.6 +1.0**
comp=Z,5.9nm,0.8s,mb4.3
MBDF Montbardon 76.72 313⇑ *i*P **P 18 51 59.6 +1.0**
comp=Z,3.0nm,0.8s,mb4.3
MBDF Montbardon 76.72 313⇑ *i*P **P 18 51 59.6 +1.0**
MBDF pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
CABF La Chapelle 76.87 315 *e*P **P 18 51 58.6 -0.8**
comp=Z,5.5nm,0.8s,mb4.2
CABF La Chapelle 76.87 315 *e*P **P 18 51 58.6 -0.8**
comp=Z,2.8nm,0.8s,mb4.2
CABF La Chapelle 76.87 315 *e*P **P 18 51 58.6 -0.8**
CABF pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
FRF La Foret Royal 77.02 312⇑ *i*P **P 18 52 00.1 -0.2**
comp=Z,16nm,0.8s,mb4.7
FRF La Foret Royal 77.02 312⇑ *i*P **P 18 52 00.1 -0.2**
comp=Z,8.1nm,0.8s,mb4.7
FRF La Foret Royal 77.02 312⇑ *i*P **P 18 52 00.1 -0.2**
FRF pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
LMR La Mourre 77.16 312⇑ *i*P **P 18 52 00.8 -0.3**
comp=Z,17nm,1.1s,mb4.6
LMR La Mourre 77.16 312⇑ *i*P **P 18 52 00.8 -0.3**
comp=Z,8.6nm,1.1s,mb4.6
LMR La Mourre 77.16 312⇑ *i*P **P 18 52 00.8 -0.3**
LMR pmax pmax
comp=Z,9.0nm,1.1s,mb4.6
ORIF Oris-en-Rattie 77.32 313 *e*P **P 18 52 01.9 0.0**
BAIF Baives 77.49 319 *e*P **P 18 52 03.0 +0.2**
comp=Z,11nm,0.9s,mb4.5
BAIF Baives 77.49 319 *e*P **P 18 52 03.0 +0.2**
comp=Z,5.3nm,0.9s,mb4.5
BAIF Baives 77.49 319 *e*P **P 18 52 03.0 +0.2**
BAIF pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
SMRF Simiane la Rot 77.70 312 *e*P **P 18 52 04.3 +0.2**
comp=Z,3.8nm,0.7s,mb4.2
SMRF Simiane la Rot 77.70 312 *e*P **P 18 52 04.3 +0.2**
comp=Z,3.8nm,0.7s,mb4.4
VIVF Saint-Julien-l 78.17 313⇑ *i*P **P 18 52 06.2 -0.5**
comp=Z,7.7nm,1.1s,mb4.3
VIVF Saint-Julien-l 78.17 313⇑ *i*P **P 18 52 06.2 -0.5**
comp=Z,3.8nm,1.1s,mb4.2
VIVF Saint-Julien-l 78.17 313⇑ *i*P **P 18 52 06.2 -0.5**
VIVF pmax pmax
comp=Z,4.0nm,1.1s,mb4.3
LOR Lormes 78.25 316 *e*P **P 18 52 06.5 -0.6**
SMF Signal de Mont 78.39 315 *e*P **P 18 52 07.3 -0.6**
SSF Saint Saulge 78.53 316 *e*P **P 18 52 08.3 -0.3**
LASF Ste Croix 78.90 313 *e*P **P 18 52 10.8 +0.1**
comp=Z,14nm,1.1s,mb4.5
TCF Toulx Ste Croi 79.56 315 *e*P **P 18 52 14.4 +0.1**
comp=Z,6.0nm,0.9s,mb4.2
TCF Toulx Ste Croi 79.56 315 *e*P **P 18 52 14.4 +0.1**
comp=Z,3.0nm,0.9s,mb4.2
TCF Toulx Ste Croi 79.56 315 *e*P **P 18 52 14.4 +0.1**
TCF pmax pmax
comp=Z,3.0nm,0.9s,mb4.2
CAF Calviac 79.97 314 *e*P **P 18 52 16.6 0.0**
BOSA Boshof 80.10 236 P **P 18 52 17.7 +0.2**
BOSA Boshof 80.10 236 P **P 18 52 17.7 +0.2**
BOSA pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
BOSA Boshof 80.10 236 P **P 18 52 17.7 +0.2**
comp=Z,5.2nm,0.7s,mb4.6,baz=27,slow=3.1,SNR=4.6

MTLF Montolieu 80.22 312 *e*P **P 18 52 17.8 -0.2**
RJF Les Rejaudoux 80.26 314⇑ *i*P **P 18 52 18.2 +0.1**
comp=Z,6.4nm,0.8s,mb4.3
RJF Les Rejaudoux 80.26 314⇑ *i*P **P 18 52 18.2 +0.1**
comp=Z,3.2nm,0.8s,mb4.3
RJF Les Rejaudoux 80.26 314⇑ *i*P **P 18 52 18.2 +0.1**
RJF pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
LDF La Druitiere 80.57 318⇑ *i*P **P 18 52 19.4 -0.3**
comp=Z,4.2nm,0.7s,mb4.2
LDF La Druitiere 80.57 318⇑ *i*P **P 18 52 19.4 -0.3**
comp=Z,2.1nm,0.7s,mb4.2
LDF La Druitiere 80.57 318⇑ *i*P **P 18 52 19.4 -0.3**
LDF pmax pmax
comp=Z,2.0nm,0.7s,mb4.2
FLN La Foliniere 80.76 318 *e*P **P 18 52 20.5 -0.2**
LFF La Frestale 80.88 314 *e*P **P 18 52 21.5 0.0**
MFF Saint Martin d 81.08 316 *e*P **P 18 52 22.2 -0.3**
SGMF Saint Gilles 82.23 318 *e*P **P 18 52 28.4 -0.1**
SJPF Ste Jean 82.72 313 *e*P **P 18 52 31.5 +0.3**
comp=Z,13nm,1.1s,mb4.6
SJPF Ste Jean 82.72 313 *e*P **P 18 52 31.5 +0.3**
comp=Z,6.7nm,1.1s,mb4.6
SJPF Ste Jean 82.72 313 *e*P **P 18 52 31.5 +0.3**
SJPF pmax pmax
comp=Z,7.0nm,1.1s,mb4.6
ESDC Sonseca Array 85.67 310 P **P 18 52 45.8 -0.5**
comp=Z,1.1nm,0.7s,mb4.2,baz=62,slow=5.1,SNR=6.2
MCK McKinley 86.72 23 *e*P **P 18 52 50.0 -1.0**
YKA Yellowknife Ar 98.20 13 P **P 18 53 43.4 -0.7**
YKA Yellowknife Ar 98.20 13 P **P 18 53 43.4 -0.7**
comp=Z,0.4nm,0.8s,mb4.0,baz=328,slow=4.0,SNR=7.2
CPUP Villa Florida 151.61 245 PKPbc PKPbc 19 00 01.5 -0.8
baz=63,slow=9.0
PLCA Paso Flores 152.32 206 PKIKP PKPbc 19 00 04.4 +1.0
PLCA pmax pmax
comp=Z,1.0nm,0.7s
PLCA Paso Flores 152.32 206 PKPbc PKPbc 19 00 04.4 +1.0
comp=Z,0.7nm,0.7s,baz=0.0,slow=0.0,SNR=2.3

NEIC ***29*** *18:44:10.4±0.5, 172N×97.71E, h30km, mb4.3/4, Error ellipse: s-maj=13.4km s-min=8.4km az=48.0*
ISCJB ***29*** *18:44:15.7±2.7, 20N±02×98.1E±02, h84km±20km, mb4.0/14, Error ellipse: s-maj=39.6km s-min=13.1km az=144.0*
IDC ***29*** *18:44:15.2±4.2, 189N×97.97E, h67km±32km, mb3.8/10, mb1 3.8/10, mb1mx3.7/18, mbtmp3.8/10, Error ellipse: s-maj=53.0km s-min=17.9km az=55.0*
ISC 29 18:44:16.2±2.9, 20N±02×981E±02, h73km±22km, n25, σ0°59/25, mb4.0/14, 1D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
PSI	**Prapat**	**1.20**	**45**	P		**Pn**	**18 44 36.6**	**-0.8**
	27nm,0.3s,baz=227,slow=5.3,SNR=46							
KULM	**Kulim**	**4.19**	**38**	*e*P		**Pn**	**18 45 18.6**	**+0.8**
WRA	**Warramunga Arr**	**41.70**	**123**	P		**P**	**18 51 58.6**	**+0.5**
	0.9nm,0.5s,mb3.7,baz=302,slow=9.1,SNR=7.2							
WRAB	**Tennant Creek**	**41.71**	**123**	*e*P		**P**	**18 51 58.4**	**+0.2**
	2.6nm,0.8s,mb4.0							
WB2	**Warramunga Arr**	**41.71**	**123**	*e*P		**P**	**18 51 58.5**	**+0.2**
ASAR	**Alice Springs**	**43.16**	**128**	P		**P**	**18 52 09.6**	**-0.4**
	0.2nm,0.4s,mb3.2,baz=294,slow=7.1,SNR=5.6							
KSRS	**Korea Array**	**44.74**	**34**	P		**P**	**18 52 22.0**	**-0.4**
	0.9nm,0.6s,mb3.7,baz=229,slow=9.5,SNR=5.0							
AML	**Almayashu**	**45.59**	**335**	*e*P		**P**	**18 52 30.2**	**+1.1**
	2.1nm,0.4s,mb4.2							
AAK	**Ala-Archa**	**45.67**	**336**	*e*P		**P**	**18 52 30.2**	**+0.6**
SONM	**Songino Array**	**46.27**	**8**	P		**P**	**18 52 34.3**	**+0.1**
	1.4nm,0.6s,mb3.9,baz=187,slow=8.4,SNR=5.1							
ULN	**Ulaanbaatar**	**46.39**	**8**	*e*P		**P**	**18 52 35.8**	**+0.6**
MK31	**Makanchi Array**	**46.73**	**345**	*e*P		**P**	**18 52 37.7**	**-0.3**
MKAR	**Makanchi Array**	**46.73**	**345**	P		**P**	**18 52 38.2**	**+0.2**
MKAR	**Makanchi Array**	**46.73**	**345**	P		**P**	**18 52 38.2**	**+0.3**
	7.5nm,0.8s,mb4.5,baz=155,slow=9.0,SNR=52							
KURK	**Kurchatov**	**51.30**	**344**	*e*P		**P**	**18 53 12.8**	**0.0**
	4.9nm,0.6s,mb4.7							
ZAA0	**Zalesovo Array**	**52.96**	**350**	*e*P		**P**	**18 53 24.5**	**-0.6**
ZALV	**Zalesovo Beam**	**52.96**	**350**	P		**P**	**18 53 25.2**	**+0.2**
	5.6nm,0.4s,mb5.0,baz=172,slow=6.9,SNR=52							
BRVK	**Borovoye**	**55.90**	**340**	*e*P		**P**	**18 53 46.0**	**-0.4**
TIXI	**Tiksi**	**72.30**	**10**	*e*P		**P**	**18 55 32.4**	**-1.1**
	1.7nm,0.5s,mb4.1							
AKASG	**Malin Array Be**	**75.20**	**322**	P		**P**	**18 55 49.5**	**-1.4**
	1.0nm,0.5s,mb3.8,baz=89,slow=5.3,SNR=5.4							
BURAR	**Bucovina Array**	**77.04**	**318⇓**	*i*P		**P**	**18 56 01.9**	**+0.5**
FINES	**FINESS Array B**	**79.74**	**332**	P		**P**	**18 56 16.0**	**0.0**
	1.2nm,0.5s,mb4.0,baz=100,slow=7.3,SNR=10							
ARCES	**ARCESS Array B**	**82.12**	**340**	P		**P**	**18 56 28.9**	**+0.3**
	3.2nm,0.9s,mb4.2,baz=69,slow=6.6,SNR=5.0							
NB2	**NORSAR Subarra**	**86.78**	**331**	P		**P**	**18 56 52.0**	**-0.2**
	comp=Z,0.5nm,0.6s,mb3.6,baz=95,slow=4.8							
NOA	**NORSAR Array B**	**86.78**	**331**	P		**P**	**18 56 52.1**	**-0.1**
	comp=Z,0.6nm,0.7s,mb3.7,baz=131,slow=2.1,SNR=4.6							

CSEM ***29*** *18:52:15.7±0.2, 40.36N×30.49E, h2km, MD2.8, Error ellipse: s-maj=4.4km s-min=2.8km az=39.0*
ISCJB ***29*** *18:52:17.4±0.6, 40.33N±003×30.44E±004, h4km±7km, Error ellipse: s-maj=5.7km s-min=5.2km az=165.5*
ISK ***29*** *18:52:17.4, 40.33N×30.42E, h10km, MD2.8*
DDA ***29*** *18:52:18.7, 40.29N×30.52E, h5km±3km, Md2.7*
ISC 29 18:52:18.0±0.6, 4033N±003×3044E±005, h7km±6km, n13, σ0°71/20, Turkey

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
GPA	**Golpazari**	**0.10**	**248**	*e*PG		**Pg**	**18 52 19.9**	**-0.4**
GPA				*e*SG		**Sg**	**18 52 22.0**	**+0.1**
BORA	**Eskisehir**	**0.45**	**178**	*i* P		**Pg**	**18 52 25.9**	**-0.7**
BORA				*i* S		**Sg**	**18 52 31.7**	**-0.7**
HENT	**Hendek**	**0.61**	**35**	*i* P		**Pg**	**18 52 29.4**	**-0.3**
HENT				*i* S		**Sg**	**18 52 38.6**	**+1.0**
IZI	**Iznik**	**0.74**	**271**	*e*PG		**Pg**	**18 52 31.6**	**-0.5**
YLV	**Yalova**	**0.85**	**287**	*e*PG		**Pg**	**18 52 33.9**	**-0.3**
ESKT	**Eskisehir**	**0.87**	**158**	*i* P		**Pg**	**18 52 34.4**	**-0.2**
ESKT				*i* S		**Sg**	**18 52 46.7**	**+0.9**
ESKT	**Eskisehir**	**0.87**	**158**	*e*Pg		**Pg**	**18 52 35.0**	**+0.4**
SEYT	**Eskypehyr**	**0.87**	**158**	*i* P		**Pg**	**18 52 34.4**	**-0.2**
SEYT				*i* S		**Sg**	**18 52 46.7**	**+0.9**
GEMT	**Gemlik**	**0.96**	**277**	*e*PG		**Pg**	**18 52 36.1**	**-0.3**
GEMT				*e*SG		**Sg**	**18 52 50.1**	**+1.3**
ALT	**Altintas**	**1.29**	**191**	*e*PN		**Pn**	**18 52 41.5**	**-0.9**
KLYT	**Kilyos**	**1.41**	**312**	*e*PN		**Pn**	**18 52 43.3**	**-0.7**
GDZ	**Gediz**	**1.44**	**211**	*i* P		**Pn**	**18 52 45.1**	**+0.7**
GDZ				*i* S		**Sb**	**18 53 04.8**	**+1.2**
KCT	**Karacabey**	**1.59**	**268**	*e*PN		**Pn**	**18 52 46.0**	**-0.5**

ISCJB ***29*** *19:02:49.9±0.4, 3823N±002×27.35E±003, h5km, Error ellipse: s-maj=4.0km s-min=2.8km az=150.6*
CSEM ***29*** *19:02:49.0±0.1, 3824N×2734E, h5km, MD2.8, Error ellipse: s-maj=2.1km s-min=1.5km az=61.0*
ISK ***29*** *19:02:49.2, 3824N×2733E, h7km, MD3.1*
DDA ***29*** *19:02:50.5, 3822N×2732E, h5km±1km, Md2.8*
ISC 29 19:02:50.3±0.4, 3823N±002×2734E±003, h2km±6km, n16, σ0°80/27, Turkey

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
KDAG	**Bornova**	**0.18**	**341**	*i* P		**Pg**	**19 02 53.5**	**-0.4**
KDAG				*i* S		**Sg**	**19 02 56.2**	**0.0**
BLCB	**Balcova**	**0.28**	**304**	PG		**Pg**	**19 02 55.1**	**-0.6**
BLCB				*e*SG		**Sg**	**19 02 59.1**	**-0.3**
URLA	**Izmir**	**0.60**	**283**	*i* P		**Pg**	**19 03 01.1**	**-0.7**
URLA				*i* S		**Sg**	**19 03 09.9**	**+0.3**
AYDN	**Tasoluk**	**0.71**	**143**	*i* P		**Pg**	**19 03 04.1**	**+0.2**
AYDN				*i* S		**Sg**	**19 03 13.6**	**+0.6**
AKHS	**Akhisar**	**0.75**	**30**	*i* P		**Pg**	**19 03 04.1**	**-0.6**
AKHS				*i* S		**Sg**	**19 03 15.8**	**+1.4**
AKS	**Akhisar**	**0.75**	**30**	PG		**Pg**	**19 03 04.3**	**-0.3**
AKS				*e*SG		**Sg**	**19 03 14.5**	**+0.2**
MLSB	**Milas**	**0.99**	**160**	*e*PG		**Pg**	**19 03 08.7**	**-0.6**
MLSB				*e*SG		**Sg**	**19 03 23.6**	**+1.4**
KULA	**Kula-Manisa**	**1.07**	**74**	*e*PG		**Pg**	**19 03 10.4**	**-0.5**
KULA				*e*SG		**Sg**	**19 03 25.2**	**+0.4**
BDRM	**Kayabasi**	**1.17**	**176**	*i* P		**Pg**	**19 03 13.2**	**+0.6**
BDRM				*i* S		**Sg**	**19 03 27.5**	**-0.2**
AYVA	**Ayvalik**	**1.19**	**335**	*i* P		**Pg**	**19 03 12.7**	**-0.4**
AYVA				*i* S		**Sg**	**19 03 29.1**	**+0.5**
YER	**Yerkesik**	**1.32**	**145**	*e*PN		**Pn**	**19 03 15.0**	**-0.7**

DENT Denizli 1.42 109 *e*PN **Pn 19 03 16.6 -0.4**
BALB Balikesir 1.47 16 *e*PN **Pn 19 03 16.4 -1.4**
DST Dursunbey 1.70 36 *e*PN **Pn 19 03 20.1 -0.8**
KHL Karahalli 1.72 86 *e*PN **Pn 19 03 20.4 -0.8**
BOZC Bozcaada 1.90 328 *i* P **Pn 19 03 25.2 +1.6**
BOZC *i* S **Sn 19 03 50.1 +2.0**

IDC ***29*** *19:11:12.7±1.0, 4156N×7159E, h0km, mb3.9/8, mb1 4.0/12, mb1mx3.9/23, mbtmp3.9/12, ML3.6/4, MS3.2/1, Ms1 3.2/1, ms1mx2.5/32, Error ellipse: s-maj=20.1km s-min=10.4km az=5.0*
ISCJB ***29*** *19:11:12.9±1.5, 4156N×005×7130E±005, h13km±10km, mb3.8/11, Error ellipse: s-maj=8.7km s-min=5.5km az=19.8*
BJI ***29*** *19:11:15.7, 4115N×7131E, h68km, ML3.7*
MOS ***29*** *19:11:16.1±1.1, 4166N×7137E, h33km, mb4.2/7, Error ellipse: s-maj=12.3km s-min=8.2km az=86.1*
NNC ***29*** *19:11:17.3±4.5, 4157N×7114E, h0km, mb4.1, mpv4.1, Error ellipse: s-maj=40.7km s-min=18.2km az=14.0*
NEIC ***29*** *19:11:18.9±1.5, 4167N×7151E, h42km±12km, mb4.2/1, Error ellipse: s-maj=17.3km s-min=7.5km az=206.0*

ISC 29 19:11:13.8±1.3, 4143N±005×7136E±004, h13km±8km, n67, σ1°13/82, mb3.8/11, 17C-9D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**1.79**	**340**	⇓Pn	**Pg**	**19 11 49.1**	**+1.1**
	17nm,0.3s,baz=153,slow=14,SNR=1511						
KK31				⇑Sn	**Sg**	**19 12 17.1**	**+5.9**
	415nm,0.3s,baz=152,slow=26,SNR=24						
KK31	**Karatay Array**	**1.79**	**340**	*i* PN	**Pg**	**19 11 48.8**	**+0.7**
KK31				pmax	pmax		
	comp=Z,55nm,0.2s						
AML	**Almayashu**	**1.88**	**67**	*e*Pn	**Pn**	**19 11 45.5**	**-0.2**
AML				*e*Sn	**Sn**	**19 12 10.4**	**+1.1**
AML	**Almayashu**	**1.88**	**67**	P	**Pn**	**19 11 45.7**	**0.0**
	SNR=413						
EKS2	**Erkin-Say**	**2.18**	**55**	*e*Pn	**Pn**	**19 11 50.8**	**+1.0**
EKS2				*e*Sn	**Sb**	**19 12 21.8**	**+1.7**
EKS2	**Erkin-Say**	**2.18**	**55**	P	**Pn**	**19 11 50.8**	**+1.0**
	SNR=141						
UCH	**Uchtor**	**2.49**	**70**	P	**Pn**	**19 11 53.9**	**-0.1**
	SNR=70						
AAK	**Ala-Archa**	**2.63**	**62**	*e*Pn	**Pn**	**19 11 55.3**	**-0.7**
AAK	**Ala-Archa**	**2.63**	**62**	Pn	**Pn**	**19 11 55.7**	**-0.2**
	comp=Z,11nm,0.3s,baz=209,slow=5.2,SNR=54						
AAK				Lg		19 12 31.4	
	comp=Z,42nm,0.3s,baz=266,slow=6.9,SNR=5.9						
AAK	**Ala-Archa**	**2.63**	**62**	P	**Pn**	**19 11 56.8**	**+0.9**
	SNR=63						
KBK	**Karagaybulak**	**2.94**	**64**	P	**Pn**	**19 12 01.1**	**+0.8**
	SNR=19						
USP	**Ospenovka**	**2.96**	**51**	P	**Pn**	**19 12 01.4**	**+0.9**
	SNR=15						
CHMS	**Chumysh**	**2.97**	**57**	P	**Pn**	**19 12 01.3**	**+0.7**
	SNR=15						
KZA	**Kyzart**	**2.98**	**76**	P	**Pn**	**19 12 00.7**	**-0.1**
	SNR=22						
TKM2	**Tokmak 2**	**3.48**	**63**	⇓Pn	**Pn**	**19 12 07.8**	**0.0**
	comp=Z,20nm,0.4s						
TKM2				⇑Sn	**Sg**	**19 12 60.0**	**-5.7**
	comp=Z,140nm,0.6s						
TKM2	**Tokmak 2**	**3.48**	**63**	*e*Pn	**Pn**	**19 12 07.7**	**0.0**
TKM2	**Tokmak 2**	**3.48**	**63**	*i* PN	**Pn**	**19 12 07.7**	**0.0**
TKM2				pmax	pmax		
	comp=Z,20nm,0.4s						
TKM2	**Tokmak 2**	**3.48**	**63**	P	**Pn**	**19 12 08.0**	**+0.3**
	SNR=16						
ULHL	**Ulahol**	**3.74**	**76**	P	**Pn**	**19 12 10.7**	**-0.5**
	SNR=6.8						
KSH	**Kashi**	**4.00**	**117**	*e*P	**Pn**	**19 12 12.8**	**-2.1**
KSH				Smax			
	comp=N,661nm,0.8s						
KSH				Smax			
	comp=E,804nm,0.7s						
KNDC	**Almaty**	**4.52**	**65**	⇑Pn	**Pb**	**19 12 30.6**	**-2.5**
	comp=E,58nm,0.6s						
KNDC				⇑Sn	**Sg**	**19 13 32.5**	**-6.5**
	comp=E,158nm,0.8s						
MK31	**Makanchi Array**	**9.51**	**52**	⇑Pn	**Pn**	**19 13 37.7**	**+7.3**
	comp=E,1.2nm,0.4s,baz=234,slow=15,SNR=4.0						
MK31				⇓Lg		19 16 21.5	
	comp=E,12nm,0.8s,baz=233,slow=30,SNR=3.5						
MK31	**Makanchi Array**	**9.51**	**52**	P	**Pn**	**19 13 31.0**	**+0.6**
MKAR	**Makanchi Array**	**9.51**	**52**	*i* P	**Pn**	**19 13 30.8**	**+0.4**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
MKAR	**Makanchi Array**	**9.51**	**52**	Pn	**Pn**	**19 13 29.8**	**-0.6**
	comp=Z,0.2nm,0.3s,baz=235,slow=15,SNR=6.4						
MKAR				Lg		19 16 13.4	
	comp=Z,0.9nm,0.3s,baz=241,slow=28,SNR=4.3						
KURBB	**Kurchatov Arra**	**10.45**	**26**	⇓Lg		19 16 43.0	
	comp=Z,14nm,0.7s						
KURK	**Kurchatov**	**10.56**	**26**	⇑Pn	**Pn**	**19 13 44.0**	**-0.8**
KURK				⇑Sn	**Sn**	**19 15 51.1**	**+8.3**
	comp=Z,4.9nm,1.2s						
KURK				⇓Lg		19 16 44.2	
	comp=Z,38nm,0.8s						
KURK	**Kurchatov**	**10.56**	**26**	Pn	**Pn**	**19 13 44.6**	**-0.1**
KURK	**Kurchatov**	**10.56**	**26**	*i* P	**Pn**	**19 13 44.8**	**0.0**
AB31	**Akbulak array**	**11.20**	**318**	⇑Pn	**Pn**	**19 13 54.4**	**+0.8**
	comp=Z,2.2nm,0.3s,baz=128,slow=13,SNR=107						
AB31				⇓Sn	**Sn**	**19 15 54.6**	**-4.1**
	comp=Z,9.7nm,0.7s						
AB31	**Akbulak array**	**11.20**	**318**	*i* P	**Pn**	**19 13 54.4**	**+0.8**
AB31				pmax	pmax		
	comp=Z,4.0nm,0.3s						
VOSK	**Vostochnaya**	**11.30**	**359**	⇓Pn	**Pn**	**19 13 54.4**	**-0.5**
	comp=Z,2.1nm,0.8s						
VOSK				⇑Sn	**Sn**	**19 16 05.0**	**+4.1**
	comp=Z,11nm,1.1s						
VOSK				⇑Lg		19 17 11.0	
	comp=Z,43nm,1.0s						
BVA0	**Borovoye Array**	**11.62**	**357**	⇑Pn	**Pn**	**19 13 59.3**	**+0.1**
	comp=Z,0.6nm,0.6s,baz=169,slow=12,SNR=15						
BVA0				⇑Sn	**Sn**	**19 16 08.5**	**-0.2**
	comp=Z,1.0nm,0.6s,baz=167,slow=22,SNR=4.8						
BVA0				Lg		19 17 27.2	
	comp=Z,2.7nm,0.8s,baz=154,slow=28,SNR=4.2						
BVAR	**Borovoye Array**	**11.62**	**357**	P	**Pn**	**19 14 00.1**	**+0.9**
BVAR						19 16 07.8	
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
BVAR				smax			
	comp=N,1.0nm,0.3s						
BVAR	**Borovoye Array**	**11.62**	**357**	Pn	**Pn**	**19 14 00.1**	**+0.8**
	comp=N,0.7nm,0.3s,baz=165,slow=12,SNR=12						
BVAR				Sn	**Sn**	**19 16 07.8**	**-0.9**
	comp=N,1.4nm,0.3s,baz=166,slow=21,SNR=6.6						
BVAR				Lg		19 17 22.7	
	comp=N,0.6nm,0.3s,baz=146,slow=32,SNR=3.5						
ZRNK	**Zerenda**	**11.63**	**353**	⇑Pn	**Pn**	**19 13 59.2**	**-0.2**
	comp=N,1.8nm,0.5s						
ZRNK				⇑Sn	**Sn**	**19 16 12.4**	**+3.2**
	comp=N,5.9nm,0.6s						
ZRNK				⇓Lg		19 17 26.6	
	comp=N,58nm,1.3s						
BRVK	**Borovoye**	**11.66**	**357**	Pn	**Pn**	**19 13 59.7**	**-0.1**
AKTK	**Aktyubinsk**	**12.92**	**319**	Pn	**Pn**	**19 14 18.1**	**+1.1**
AKTK				Sn	**Sn**	**19 16 39.1**	**-1.4**
AKTK				LR	LR	19 19 42.7	
AKTO	**Aktyubinsk**	**12.92**	**319**	⇑Pn	**Pn**	**19 14 17.3**	**+0.3**
AKTO				⇓Sn	**Sn**	**19 16 38.9**	**-1.6**
	comp=N,0.1nm,0.6s						
AKTO	**Aktyubinsk**	**12.92**	**319**	P	**Pn**	**19 14 18.1**	**+1.1**
AKTO						19 16 39.1	
AKTO				pmax	pmax		
	comp=Z,2.0nm,0.3s						
AKTO				MLR	MLR		
	comp=Z,93nm,18.4s						
AKTO	**Aktyubinsk**	**12.92**	**319**	Pn	**Pn**	**19 14 18.1**	**+1.1**
	comp=Z,2.4nm,0.3s,baz=120,slow=14,SNR=31						
AKTO				Sn	**Sn**	**19 16 39.1**	**-1.4**
	comp=Z,0.3nm,0.3s,baz=168,slow=21,SNR=4.6						
AKTO				LR	LR	19 19 42.7	
	comp=Z,93nm,18.4s,baz=148,slow=39						
ZAL	**Zalesovo**	**15.40**	**31**	P	**Pn**	**19 14 49.2**	**-1.5**
ZAL						19 17 46.9	
ZAA0	**Zalesovo Array**	**15.42**	**31**	Pn	**Pn**	**19 14 48.7**	**-2.2**
ZALV	**Zalesovo Beam**	**15.42**	**31**	Pn	**Pn**	**19 14 49.2**	**-1.7**
ZALV				Sn	**Sn**	**19 17 46.9**	**+5.4**
ZALV	**Zalesovo Beam**	**15.42**	**31**	Pn	**Pn**	**19 14 49.2**	**-1.7**
	comp=Z,0.4nm,0.3s,baz=229,slow=12,SNR=12						
ZALV				Sn	**Sn**	**19 17 46.9**	**+5.4**
	comp=Z,0.2nm,0.3s,baz=230,slow=20,SNR=2.9						
NVS	**Novosibirsk**	**15.55**	**26**	*i* P	**Pn**	**19 14 56.8**	**+4.2**
ARU	**Arti**	**17.16**	**335**	⇑*e*P	**Pn**	**19 15 13.2**	**+0.1**
ARU				pmax	pmax		
	comp=Z,3.0nm,0.8s						
KIV	**Kislovodsk**	**21.18**	**286**	*e*P	**P**	**19 15 58.5**	**-0.3**
KIV				*e*		19 16 25.4	
KIV				pmax	pmax		
	comp=Z,7.0nm,1.3s,mb3.8						
GTA	**Gaotai**	**21.72**	**86**	*e*P	**P**	**19 16 04.3**	**-0.4**
AKASG	**Malin Array Be**	**30.30**	**302**	P	**P**	**19 17 24.4**	**-0.3**
	comp=Z,0.4nm,0.5s,mb3.4,baz=83,slow=7.5,SNR=6.4						
BOD	**Bodaibo**	**31.47**	**44**	*e*P	**P**	**19 17 32.5**	**-2.4**
BOD				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.1						
FINES	**FINESS Array B**	**33.66**	**322**	P	**P**	**19 17 54.7**	**+0.7**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
FINES	**FINESS Array B**	**33.66**	**322**	P	**P**	**19 17 54.6**	**+0.7**
	comp=Z,1.0nm,0.4s,mb4.1,baz=113,slow=10,SNR=13						
WHN	**Wuhan**	**36.11**	**93**	*e*P	**P**	**19 18 14.3**	**-1.2**
ARCES	**ARCESS Array B**	**36.75**	**335**	P	**P**	**19 18 21.5**	**+1.0**
ARCES				pmax	pmax		
	comp=Z,3.0nm,0.9s						
ARCES	**ARCESS Array B**	**36.75**	**335**	P	**P**	**19 18 21.4**	**+1.0**
	comp=Z,3.3nm,0.9s,mb4.2,baz=95,slow=8.6,SNR=4.4						
GERES	**GERESS Array B**	**40.48**	**301**	P	**P**	**19 18 53.1**	**+1.0**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
GERES	**GERESS Array B**	**40.48**	**301**	P	**P**	**19 18 53.1**	**+1.0**
	comp=Z,1.2nm,0.6s,mb3.8,baz=60,slow=8.0,SNR=8.2						
NB2	**NORSAR Subarra**	**40.71**	**320**	P	**P**	**19 18 53.6**	**-0.2**
	comp=Z,0.9nm,0.5s,mb3.7,baz=91,slow=8.6						
NOA	**NORSAR Array B**	**40.71**	**320**	P	**P**	**19 18 53.6**	**-0.2**
NOA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
NOA	**NORSAR Array B**	**40.71**	**320**	P	**P**	**19 18 53.6**	**-0.1**
	comp=Z,1.5nm,0.7s,mb3.8,baz=91,slow=8.2,SNR=8.5						
TIXI	**Tiksi**	**41.13**	**24**	*e*P	**P**	**19 18 55.9**	**-1.2**
	comp=Z,2.5nm,0.5s,mb4.1						
TIXI	**Tiksi**	**41.13**	**24**	⇑*e*P	**P**	**19 18 55.4**	**-1.7**
TIXI				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.0						
YKA	**Yellowknife Ar**	**76.31**	**3**	P	**P**	**19 23 01.0**	**-1.0**
	comp=Z,0.4nm,0.6s,mb3.5,baz=350,slow=6.0,SNR=10						
WRA	**Warramunga Arr**	**84.38**	**123**	P	**P**	**19 23 48.1**	**+2.2**
	comp=Z,0.3nm,0.5s,mb3.7,baz=324,slow=4.9,SNR=10.0						
WB2	**Warramunga Arr**	**84.39**	**123**	*e*P	**P**	**19 23 47.5**	**+1.5**
ASAR	**Alice Springs**	**86.86**	**125**	P	**P**	**19 23 59.9**	**+1.7**
	comp=Z,0.4nm,0.6s,mb3.8,baz=314,slow=5.0,SNR=9.8						

ISCJB ***29*** *19:16:28.3±5.9, 2193N±009×1432E±03, h8km±38km, mb3.6/6, Error ellipse: s-maj=52.0km s-min=15.4km az=176.5*
IDC ***29*** *19:16:28.9±1.4, 2199N×14328E, h0km, mb3.6/6, mb1 3.7/7, mb1mx3.5/21, mbtmp3.7/7, ML3.3/1, MS4.0/1, Ms1 4.0/1, ms1mx2.5/30, Error ellipse: s-maj=47.5km s-min=24.8km az=82.0*

ISC 29 19:16:29.2±7.2, 2191N±009×1432E±03, h2km±46km, n8, σ0°75/8, mb3.6/6, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**5.25**	**350**	Pn	**Pn**	**19 17 48.9**	**+0.2**
	2.7nm,0.3s,baz=299,slow=18,SNR=2.7						
CBIJ				Sn	**Sn**	**19 18 50.2**	**+0.6**
	1.9nm,0.3s,baz=272,slow=22,SNR=4.0						
BATI	**Kupang**	**37.25**	**213**	LR	LR	19 35 25.5	
	comp=Z,265nm,21.8s,baz=108,slow=30						
SONM	**Songino Array**	**39.20**	**320**	P	**P**	**19 23 58.5**	**-0.1**
	0.4nm,0.6s,mb3.4,baz=116,slow=6.7,SNR=2.5						
WRA	**Warramunga Arr**	**42.50**	**192**	P	**P**	**19 24 27.0**	**+0.9**
	0.6nm,1.1s,mb3.1,baz=16,slow=8.6,SNR=4.7						
ZALV	**Zalesovo Beam**	**54.07**	**322**	P	**P**	**19 25 54.3**	**-0.8**
	0.5nm,0.5s,mb3.7,baz=110,slow=11,SNR=3.7						
MKAR	**Makanchi Array**	**54.58**	**313**	P	**P**	**19 25 59.0**	**0.0**
	0.2nm,0.2s,mb3.7,baz=82,slow=11,SNR=2.8						
BVAR	**Borovoye Array**	**62.53**	**319**	P	**P**	**19 26 53.8**	**-0.5**
	1.1nm,0.6s,mb4.2,baz=93,slow=8.9,SNR=6.3						
YKA	**Yellowknife Ar**	**76.25**	**28**	P	**P**	**19 28 18.5**	**-0.4**
	0.3nm,0.4s,mb3.5,baz=292,slow=5.5,SNR=5.7						

IDC 29 19:20:25.7±4.9, 2014S×16784E, h0km, mb4.1/2, mb1 4.4/2, mb1mx3.8/12, mbtmp4.1/2, MS3.3/3, Ms1 3.2/3, ms1mx2.9/21, Error ellipse: s-maj=253.5km s-min=69.9km az=159.0, Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**20.27**	**266**	LR	LR	19 30 34.3	
	comp=Z,32nm,21.7s,baz=232,slow=30						
STKA	**Stephens Creek**	**26.25**	**238**	LR	LR	19 35 12.1	
	comp=Z,102nm,21.0s,baz=230,slow=34						
WRA	**Warramunga Arr**	**31.45**	**264**	P	P	19 26 48.8	-0.2
	1.4nm,0.9s,baz=95,slow=9.1,SNR=7.9						
ASAR	**Alice Springs**	**31.64**	**257**	P	P	19 26 51.0	+0.3
	4.5nm,0.8s,baz=86,slow=9.2,SNR=61						
FITZ	**Fitzroy Crossi**	**39.85**	**266**	LR	LR	19 44 43.5	
	comp=Z,69nm,21.5s,baz=346,slow=37						
GERES	**GERESS Array B**	**144.64**	**330**	PKP	PKPdf	19 40 03.8	-0.4
	0.7nm,0.8s,baz=27,slow=2.4,SNR=4.2						

MEX 29 19:41:56.2±0.6, 1705N×9960W, h16km±10km, MD3.6, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	**Acapulco**	**0.36**	**239**	*i* P	Pg	19 42 01.2	-2.4
ACX				*i* S	Sg	19 42 06.8	-1.8
CAIG	**El Cayaco**	**0.64**	**270**	*i* P	Pg	19 42 06.8	-2.0
CAIG				*i* S	Sg	19 42 14.3	-3.1
MEIG	**Mezcala**	**0.87**	**358**	*i* P	Pb	19 42 10.0	-2.9
MEIG				*i* S	Sb	19 42 20.5	-3.8
UTMO	**Huajuapan**	**1.88**	**65**	*e*P	Pn	19 42 23.9	-3.8
UTMO				*i* S	Sn	19 42 46.5	-4.5
PPM	**Popocatepetl**	**2.21**	**25**	*i* P	Pn	19 42 29.5	-2.6
PPM				*i* S	Sn	19 42 55.4	-3.8

SZGRF ***29*** *19:43:34.4, 330S×2765E, h33km, mb4.6, Zaire*
ISCJB ***29*** *19:44:02.5±0.4, 187N×006×3070E±005, h10km, mb4.4/36, MS3.7/16, Error ellipse: s-maj=8.2km s-min=6.6km az=20.8*
MOS ***29*** *19:44:02.9±1.0, 193N×3064E, h10km, mb4.6/30, Error ellipse: s-maj=16.0km s-min=5.1km az=97.9*
NEIC ***29*** *19:44:04.4±0.4, 188N×3079E, h10km, mb4.5/18, MS3.6/2, Error ellipse: s-maj=11.4km s-min=8.2km az=76.0*
NEIC Felt at Arua and Pakwach, Uganda.
IDC ***29*** *19:44:06.8±0.9, 195N×3071E, h25km±5km, mb4.0/13, mb1 4.1/14, mb1mx4.0/23, mbtmp4.0/14, ML3.5/1, MS3.7/15, Ms1 3.7/15, ms1mx3.6/28, Error ellipse: s-maj=25.1km s-min=15.6km az=110.0*

ISC 29 19:44:04.5±0.4, 185N±006×3064E±005, h10km, (h29km±9km:pP-P), n139, σ0°98/136, mb4.4/36, MS3.7/16, 8C-12D, Uganda

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMBO	**Kilima Mbogo**	**7.24**	**114**	*e*Pn	**Pn**	**19 45 46.6**	**-3.9**
	80nm,1.0s						
KMBO				Sn	**Sn**	**19 47 12.3**	**-0.6**
KMBO	**Kilima Mbogo**	**7.24**	**114**	*e*P	**Pn**	**19 45 46.6**	**-3.9**
KMBO						19 47 12.3	
KMBO				pmax	pmax		
	comp=Z,80nm,1.0s						
FURI	**Furi**	**10.63**	**49**	*e*PN	**Pn**	**19 46 38.4**	**+1.5**
FURI				*e*S	**Sn**	**19 48 37.9**	**+1.7**
ATD	**Arta Tunnel**	**15.46**	**51**	LR	LR	19 54 21.8	
	comp=Z,176nm,19.7s,baz=234,slow=40						
LSZ	**Lusaka**	**17.19**	**188**	*e*Pn	**Pn**	**19 48 07.3**	**+2.4**
LSZ				LR	LR	19 54 36.0	
LSZ	**Lusaka**	**17.19**	**188**	P	**Pn**	**19 48 07.2**	**+2.3**
	comp=Z,0.2nm,0.3s,baz=14,slow=17,SNR=3.8						
LSZ				LR	LR	19 54 36.0	
	comp=Z,252nm,20.6s,baz=185,slow=36						
TSUM	**Tsumeb**	**24.54**	**211**	*e*P	**P**	**19 49 26.0**	**+1.5**
TSUM				LR	LR	19 59 40.1	
TSUM	**Tsumeb**	**24.54**	**211**	P	**P**	**19 49 25.7**	**+1.1**
	comp=Z,2.6nm,0.9s,mb3.7,baz=3.6,slow=12,SNR=2.5						
TSUM				LR	LR	19 59 40.1	
	comp=Z,238nm,19.6s,MS3.7,baz=231,slow=38						
LBTB	**Lobatse**	**27.15**	**190**	P	**P**	**19 49 50.1**	**+2.0**
LBTB				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb3.8						
LBTB				MLR	MLR		
	comp=Z,222nm,19.2s,MS3.7						
LBTB	**Lobatse**	**27.15**	**190**	P	**P**	**19 49 50.1**	**+2.0**
	comp=Z,2.9nm,0.9s,mb3.8,baz=29,slow=14,SNR=2.3						
LBTB				LR	LR	20 00 33.3	
	comp=Z,222nm,19.2s,MS3.7,baz=236,slow=36						
EIL	**Elat**	**27.97**	**8**	LR	LR	20 02 04.3	
	comp=Z,83nm,18.2s,MS3.4,baz=117,slow=39						
BOSA	**Boshof**	**30.73**	**189**	LR	LR	20 02 51.4	
	comp=Z,267nm,18.2s,MS3.9,baz=14,slow=36						
DBIC	**Dimbokro**	**35.71**	**279**	*e*P	**P**	**19 51 01.8**	**-1.9**
DBIC				LR	LR	20 05 29.1	
DBIC	**Dimbokro**	**35.71**	**279**	P	**P**	**19 51 02.6**	**-1.1**
DBIC				pmax	pmax		
	comp=Z,2.0nm,0.6s						
DBIC				MLR	MLR		
	comp=Z,74nm,19.5s						
DBIC	**Dimbokro**	**35.71**	**279**	P	**P**	**19 51 02.6**	**-1.1**
	comp=Z,2.1nm,0.6s,mb4.2,baz=91,slow=11,SNR=5.4						
DBIC				LR	LR	20 05 29.1	
	comp=Z,74nm,19.5s,MS3.5,baz=127,slow=36						
ISP	**Isparta**	**35.82**	**360**	⇓P	**P**	**19 51 05.7**	**+1.5**
ISP	**Isparta**	**35.82**	**360**	⇓*i* P	**P**	**19 51 05.7**	**+1.5**
MALT	**Malatya**	**36.98**	**10**	⇓*i* P	**P**	**19 51 15.7**	**+1.5**
SIM	**Simferopol'**	**43.03**	**4**	*e*P	**P**	**19 52 06.2**	**+1.9**
SIM				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.5						
KIV	**Kislovodsk**	**43.27**	**13**	*e*P	**P**	**19 52 06.2**	**-0.1**
KIV				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.2						
MLR	**Muntele Rosu**	**43.66**	**355**	⇑P	**P**	**19 52 10.7**	**+1.3**
MLR	**Muntele Rosu**	**43.66**	**355**	⇑*i* P	**P**	**19 52 10.7**	**+1.3**
PLOR	**Plostina**	**43.96**	**356**	⇓*i* P	**P**	**19 52 12.7**	**+0.9**
VRI	**Vrincioaia**	**43.97**	**356**	⇓P	**P**	**19 52 12.5**	**+0.7**
VRI	**Vrincioaia**	**43.97**	**356**	⇓*i* P	**P**	**19 52 12.5**	**+0.6**
PGF	**Pioggiola**	**44.92**	**337**	*e*P	**P**	**19 52 18.2**	**-1.3**
	comp=Z,17nm,1.3s,mb4.4						
PGF	**Pioggiola**	**44.92**	**337**	*e*P	**P**	**19 52 18.2**	**-1.3**
	comp=Z,8.6nm,1.3s,mb4.4						
PGF	**Pioggiola**	**44.92**	**337**	*e*P	**P**	**19 52 18.2**	**-1.3**
PGF				pmax	pmax		
	comp=Z,9.0nm,1.3s,mb4.4						
PKSM	**Moragy**	**45.41**	**348**	⇓P	**P**	**19 52 24.1**	**+0.7**
PKSM	**Moragy**	**45.41**	**348**	⇓*i* P	**P**	**19 52 24.1**	**+0.7**
GCIS	**Gornji Cirnik**	**45.77**	**345**	*e*P	**P**	**19 52 27.1**	**+0.8**
BURAR	**Bucovina Array**	**45.83**	**355**	⇓*i* P	**P**	**19 52 27.9**	**+1.3**
KOGS	**Kog**	**46.17**	**346**	*e*P	**P**	**19 52 31.5**	**+2.2**
JAVS	**Javornik**	**46.21**	**344**	*e*P	**P**	**19 52 30.3**	**+0.6**
FRF	**La Foret Royal**	**46.70**	**336**	*e*P	**P**	**19 52 32.4**	**-1.2**
	comp=Z,7.3nm,0.9s,mb4.3						
FRF	**La Foret Royal**	**46.70**	**336**	*e*P	**P**	**19 52 32.4**	**-1.2**
	comp=Z,3.7nm,0.9s,mb4.3						
FRF	**La Foret Royal**	**46.70**	**336**	*e*P	**P**	**19 52 32.4**	**-1.2**
FRF				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.3						
PSZ	**Piszkesteto**	**46.82**	**350**	⇓*i* P	**P**	**19 52 35.1**	**+0.6**
UZH	**Uzhgorod**	**47.15**	**352**	⇑*i* P	**P**	**19 52 38.2**	**+1.2**
KECS	**Kecovo**	**47.27**	**351**	*e*P	**P**	**19 52 39.1**	**+1.1**
	comp=Z,9.8nm,0.9s,mb4.7						
KECS	**Kecovo**	**47.27**	**351**	*e*P	**P**	**19 52 39.1**	**+1.1**
KECS				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.8						
KOLS	**Kolonicke sedl**	**47.45**	**353**	*e*P	**P**	**19 52 40.6**	**+1.2**
CRVS	**Cervenica-Dubn**	**47.53**	**352**	*e*P	**P**	**19 52 41.2**	**+1.2**
VYHS	**Vyhne**	**47.57**	**349**	*i* P	**P**	**19 52 41.1**	**+0.8**
MBDF	**Montbardon**	**47.62**	**337**	*e*P	**P**	**19 52 41.1**	**+0.3**
	comp=Z,7.6nm,0.7s,mb4.5						
MBDF	**Montbardon**	**47.62**	**337**	*e*P	**P**	**19 52 41.1**	**+0.3**
	comp=Z,3.8nm,0.7s,mb4.5						
MBDF	**Montbardon**	**47.62**	**337**	*e*P	**P**	**19 52 41.1**	**+0.3**
MBDF				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.6						
KOLL	**Kolacno**	**47.73**	**349**	*i* P	**P**	**19 52 42.3**	**+0.8**
STHS	**Stebnicka Huta**	**48.07**	**352**	*i* P	**P**	**19 52 45.1**	**+1.0**
	comp=Z,4.9nm,0.7s,mb4.7						
STHS	**Stebnicka Huta**	**48.07**	**352**	*i* P	**P**	**19 52 45.1**	**+1.0**
STHS				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.7						
LPG	**La Plagne**	**48.28**	**338**	*e*P	**P**	**19 52 45.4**	**-0.4**
	comp=Z,4.7nm,0.8s,mb4.3						
LPG	**La Plagne**	**48.28**	**338**	*e*P	**P**	**19 52 45.4**	**-0.4**
	comp=Z,2.3nm,0.8s,mb4.3						
LPG	**La Plagne**	**48.28**	**338**	*e*P	**P**	**19 52 45.4**	**-0.4**
LPG				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.2						
LPL	**La Plagne**	**48.30**	**338**

TCF	**Toulx Ste Croi**	**50.76**	**335**	*e*P	**P**	**19 53 05.0**	**+0.3**
	comp=Z,8.1nm,1.0s,mb4.6						
TCF	**Toulx Ste Croi**	**50.76**	**335**	*e*P	**P**	**19 53 05.0**	**+0.3**
TCF				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.6						
SSF	**Saint Saulge**	**50.84**	**336**	*e*P	**P**	**19 53 04.5**	**-0.8**
LOR	**Lormes**	**50.87**	**337**	*e*P	**P**	**19 53 04.8**	**-0.8**
	comp=Z,5.0nm,0.8s,mb4.2						
LOR				*e*MLR	MLR		
	comp=Z,46nm,19.8s,MS3.2						
LOR	**Lormes**	**50.87**	**337**	*e*P	**P**	**19 53 04.8**	**-0.8**
	comp=Z,2.5nm,0.8s,mb4.2						
LOR				LR	LR		
	comp=Z,50nm,19.8s,MS3.5						
LOR	**Lormes**	**50.87**	**337**	*e*P	**P**	**19 53 04.8**	**-0.8**
LOR				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3						
LOR				MLR	MLR		
	comp=Z,50nm,19.8s,MS3.5						
MEZF	**Maizieres J'vi**	**51.43**	**338**	*e*P	**P**	**19 53 09.6**	**-0.1**
CLL	**Collm**	**51.48**	**346**	*e*P	**P**	**19 53 09.0**	**-1.0**
GIVF	**Givet**	**52.85**	**339**	*e*P	**P**	**19 53 19.5**	**-0.8**
BAIF	**Baives**	**53.03**	**339**	*e*P	**P**	**19 53 20.7**	**-0.9**
	comp=Z,21nm,1.2s,mb4.6						
BAIF	**Baives**	**53.03**	**339**	*e*P	**P**	**19 53 20.7**	**-0.9**
	comp=Z,10nm,1.2s,mb4.6						
BAIF	**Baives**	**53.03**	**339**	*e*P	**P**	**19 53 20.7**	**-0.9**
BAIF				pmax	pmax		
	comp=Z,10.0nm,1.2s,mb4.6						
OBN	**Obninsk**	**53.31**	**4**	*e*P	**P**	**19 53 22.9**	**-0.7**
OBN				pmax	pmax		
	comp=Z,13nm,0.7s,mb5.0						
AML	**Almayashu**	**55.62**	**38**	*e*P	**P**	**19 53 40.5**	**-0.2**
	comp=Z,6.1nm,1.0s,mb4.6						
AML	**Almayashu**	**55.62**	**38**	P	**P**	**19 53 40.7**	**0.0**
	SNR=6.9						
UCH	**Uchtor**	**56.17**	**38**	*e*P	**P**	**19 53 44.7**	**+0.1**
	comp=Z,16nm,1.3s,mb4.9						
UCH	**Uchtor**	**56.17**	**38**	P	**P**	**19 53 44.8**	**+0.1**
	SNR=9.7						
AAK	**Ala-Archa**	**56.39**	**38**	P	**P**	**19 53 45.5**	**-0.7**
AAK	**Ala-Archa**	**56.39**	**38**	P	**P**	**19 53 45.5**	**-0.7**
AAK				pmax	pmax		
	comp=Z,1.0nm,0.3s,mb4.3						
AAK	**Ala-Archa**	**56.39**	**38**	P	**P**	**19 53 45.5**	**-0.6**
	comp=Z,1.0nm,0.3s,mb4.3,baz=235,slow=11,SNR=7.7						
KZA	**Kyzart**	**56.55**	**39**	P	**P**	**19 53 47.7**	**+0.4**
	SNR=6.0						
KBK	**Karagaybulak**	**56.68**	**38**	P	**P**	**19 53 48.5**	**+0.2**
	SNR=7.1						
ULHL	**Ulahol**	**57.27**	**39**	P	**P**	**19 53 52.7**	**+0.3**
	SNR=7.7						
ARU	**Arti**	**58.85**	**18**	*e*P	**P**	**19 54 02.0**	**-1.2**
	comp=Z,8.7nm,0.7s,mb4.9						
ARU	**Arti**	**58.85**	**18**	*c i*P	**P**	**19 54 02.2**	**-1.0**
ARU				*e*S	**S**	**20 02 02.5**	**-6.2**
ARU				pmax	pmax		
	comp=Z,11nm,0.7s,mb5.0						
FINES	**FINESS Array B**	**59.54**	**357**	P	**P**	**19 54 07.6**	**-0.3**
FINES				pmax	pmax		
	comp=Z,5.0nm,1.0s						
FINES	**FINESS Array B**	**59.54**	**357**	P	**P**	**19 54 07.6**	**-0.3**
	comp=Z,5.2nm,1.0s,mb4.5,baz=308,slow=6.3,SNR=5.6						
NB2	**NORSAR Subarra**	**60.87**	**349**	P	**P**	**19 54 16.3**	**-0.7**
	comp=Z,6.3nm,0.9s,mb4.8,baz=160,slow=6.9						
NOA	**NORSAR Array B**	**60.87**	**349**	P	**P**	**19 54 15.9**	**-1.1**
NOA				*PP	pP	19 54 24.2	+3.9
NOA				pmax	pmax		
	comp=Z,4.0nm,0.8s						
NOA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
NOA				MLR	MLR		
	comp=Z,21nm,19.6s						
NOA	**NORSAR Array B**	**60.87**	**349**	P	**P**	**19 54 15.9**	**-1.1**
	comp=Z,4.1nm,0.8s,mb4.6,baz=159,slow=6.7,SNR=16						
NOA				pP	pP	19 54 24.2	+4.0
	comp=Z,1.4nm,0.8s,baz=159,slow=6.8,SNR=4.1						
NOA				LR	LR	20 21 43.3	
	comp=Z,21nm,19.6s,MS3.3,baz=0.0,slow=37						
KURK	**Kurchatov**	**63.25**	**32**⇑	*e*P	**P**	**19 54 32.6**	**-0.6**
MK31	**Makanchi Array**	**63.29**	**37**	*e*P	**P**	**19 54 31.2**	**-2.4**
MKAR	**Makanchi Array**	**63.29**	**37**	P	**P**	**19 54 32.3**	**-1.3**
MKAR				*PP	pP	19 54 41.4	+4.6
MKAR				pmax	pmax		
	comp=Z,2.0nm,1.0s						
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
MKAR				MLR	MLR		
	comp=Z,62nm,19.3s						
MKAR	**Makanchi Array**	**63.29**	**37**	P	**P**	**19 54 32.3**	**-1.3**
	comp=Z,1.5nm,0.9s,mb4.1,baz=234,slow=4.2,SNR=8.7						
MKAR				pP	pP	19 54 41.4	+4.6
	comp=Z,0.9nm,0.5s,baz=239,slow=5.8,SNR=4.9						
MKAR				LR	LR	20 24 49.3	
	comp=Z,62nm,19.3s,MS3.8,baz=339,slow=39						
ARCES	**ARCESS Array B**	**67.66**	**358**	P	**P**	**19 55 01.3**	**-0.1**
ARCES				LR	LR	20 29 06.8	
ARCES	**ARCESS Array B**	**67.66**	**358**	P	**P**	**19 55 01.3**	**-0.1**
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.7s						
ARCES				MLR	MLR		
	comp=Z,46nm,18.1s						
ARCES	**ARCESS Array B**	**67.66**	**358**	P	**P**	**19 55 01.3**	**-0.1**
	comp=Z,2.1nm,0.7s,mb4.3,baz=141,slow=7.8,SNR=3.9						
ARCES				LR	LR	20 29 06.8	
	comp=Z,46nm,18.1s,MS3.7,baz=240,slow=40						
NVS	**Novosibirsk**	**67.83**	**30**	*i* P	**P**	**19 55 01.3**	**-1.5**
NVS				pmax	pmax		
	comp=Z,14nm,1.5s,mb4.8						
NVS				pmax	pmax		
	comp=N,11nm,1.6s						
NVS				pmax	pmax		
	comp=E,4.0nm,1.6s						
ZAL	**Zalesovo**	**68.17**	**31**	P	**P**	**19 55 03.6**	**-1.3**
ZAL				*PP	pP	19 55 11.8	+3.6
ZAL				pmax	pmax		
	comp=Z,4.0nm,0.7s						
ZAL				pmax	pmax		
	comp=Z,3.0nm,0.9s						
ZAL				MLR	MLR		
	comp=Z,42nm,18.3s						
ZAA0	**Zalesovo Array**	**68.18**	**31**	*e*P	**P**	**19 55 03.1**	**-1.8**
ZALV	**Zalesovo Beam**	**68.18**	**31**	P	**P**	**19 55 03.6**	**-1.4**
	comp=Z,3.5nm,0.7s,mb4.5,baz=254,slow=5.5,SNR=19						
ZALV				pP	pP	19 55 11.8	+3.5
	comp=Z,3.4nm,0.9s,baz=243,slow=5.4,SNR=3.6						
ZALV				LR	LR	20 27 28.7	
	comp=Z,42nm,18.3s,MS3.7,baz=206,slow=38						
TLY	**Talaya**	**78.05**	**37**	*e*P	**P**	**19 56 03.3**	**-0.1**
TLY				pmax	pmax		
	comp=Z,4.0nm,1.4s,mb4.2						
TLY				MLR	MLR		
	comp=Z,40nm,17.0s,MS3.8						
SONM	**Songino Array**	**79.08**	**42**	P	**P**	**19 56 09.0**	**-0.2**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.9s						
SONM	**Songino Array**	**79.08**	**42**	P	**P**	**19 56 09.0**	**-0.2**
	comp=Z,0.9nm,0.9s,mb3.7,baz=232,slow=3.6,SNR=6.7						
ULN	**Ulaanbaatar**	**79.52**	**42**⇑	*e*P	**P**	**19 56 11.6**	**0.0**
BDFB	**Brasilia**	**79.58**	**254**	LR	LR	20 30 58.0	
	comp=Z,35nm,19.2s,MS3.7,baz=313,slow=35						
BOD	**Bodaibo**	**84.90**	**32**	*e*P	**P**	**19 56 37.8**	**-1.8**
BOD				pmax	pmax		
	comp=Z,5.0nm,1.2s,mb4.5						
SCHQ	**Schefferville**	**92.81**	**325**	LR	LR	20 38 08.8	
	comp=Z,45nm,18.2s,MS4.0,baz=61,slow=35						
LPAZ	**La Paz**	**98.94**	**254**	LR	LR	20 39 42.3	
	comp=Z,41nm,21.1s,MS3.9,baz=301,slow=34						

*NEIC **29** 19:48:57.9,3029S×6938W,h133km,MD3.4(GUC),After GUC.*

GUC 29 19:48:57.9±0.5,3029S×6938W,h133km±42km,MD3.4, ML3.5,5C-3D,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TLL	**Tololo Astrono**	**1.24**	**275**⇑	*i*P	Pn	19 49 24.5	+1.1
TLL				*i* S	Sn	19 49 44.4	+1.6
CMCH	**Combarbala**	**1.65**	**237**⇑	*i*P	Pn	19 49 27.1	-0.8
CMCH				*i* S	Sn	19 49 50.3	-0.6
CMCH	**Combarbala**	**1.65**	**237**⇑	*i*P	Pn	19 49 27.1	-0.8
CMCH				*i* S	Sn	19 49 50.3	-0.6
CMCH				AML	AML	19 49 51.5	
	comp=N,935nm,0.5s						
VACH	**Vallenar**	**2.09**	**324**	*i* P	Pn	19 49 33.6	+0.5
VACH				*i* S	Sn	19 50 00.5	+0.3
VACH	**Vallenar**	**2.09**	**324**	*i* P	Pn	19 49 33.6	+0.5
VACH				*i* S	Sn	19 50 00.5	+0.3
VACH				AML	AML	19 50 01.8	
	comp=E,641nm,0.1s						
FCH	**Farellones**	**3.13**	**194**⇓	*i*P	Pn	19 49 46.4	+0.1
FCH				*i* S	Sn	19 50 24.2	+0.6
RCDM	**Rinconada Maip**	**3.41**	**201**⇓	*i*P	Pn	19 49 48.7	-1.3
RCDM				*i* S	Sn	19 50 28.7	-1.6
RCDM	**Rinconada Maip**	**3.41**	**201**⇓	*i*P	Pn	19 49 48.7	-1.3
RCDM				*i* S	Sn	19 50 28.7	-1.6
RCDM				AML	AML	19 50 29.9	
	comp=E,58nm,0.3s						
LMEL	**Las Melosas**	**3.62**	**191**⇑	*i*P	Pn	19 49 53.5	+0.9
LMEL				*i* S	Sn	19 50 36.1	+1.0
LMEL	**Las Melosas**	**3.62**	**191**⇑	*i*P	Pn	19 49 53.5	+0.9
LMEL				*i* S	Sn	19 50 36.1	+1.0
LMEL				AML	AML	19 50 43.1	
	comp=E,17nm,0.1s						

*IDC **29** 20:03:35.5±5.0, 1309N×8797W, h0km, mb3.2/2, mb1 3.7/2, mb1mx3.4/18, mbtmp3.2/2, Error ellipse: s-maj=141.4km s-min=88.1km az=51.0*

*ISCJB **29** 20:03:50.0±1.4, 132N±0.1×886W±02, h117km±18km, mb3.2/2, Error ellipse: s-maj=37.3km s-min=12.5km az=144.1*

*CASC **29** 20:03:50.4±2.7, 1292N×8879W, h36km±750km, MD4.0, ML3.6*

ISC 29 20:03:50.8±1.2,132N±01×886W±02,h105km±20km,n33, σ0§76/28,mb3.2/2,7C-6D,El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VSM	**San Miguel**	**0.37**	**54**⇓	*e*P	x	20 04 43.7	
VSM				*e*S	x	20 04 56.7	
BLLM	**Bellamira**	**0.40**	**56**⇓	*e*P	x	20 04 43.7	
BLLM				*e*S	x	20 04 54.4	
SNVI	**San Vicente**	**0.47**	**328**	*e*P	x	20 04 43.5	
SNVI				*e*S	x	20 04 53.9	
LCBS	**La Ceiba**	**0.58**	**319**⇑	*i*P	x	20 04 44.2	
LCBS				*e*S	x	20 04 54.5	
LFRS	**El Faro**	**0.62**	**311**⇑	*e*P	x	20 04 44.2	
LFRS				*e*S	x	20 04 54.5	
CAHU	**Cacacuatique**	**0.66**	**33**⇓	*e*P	x	20 04 46.5	
CAHU				*e*S	x	20 04 59.7	
LBRS	**Las Brisas**	**0.69**	**319**⇑	*e*P	x	20 04 45.3	
LBRS				*e*S	x	20 04 57.0	
CNCH	**Conchagua**	**0.73**	**85**⇓	*e*P	x	20 04 47.0	
CNCH				*e*S	x	20 05 01.1	
SNET	**Serv Nac Est T**	**0.79**	**307**	*e*P	x	20 04 04.7	
BOQS	**Boqueron**	**0.86**	**307**⇓	*e*P	x	20 04 47.2	
BOQS				*e*S	x	20 05 00.9	
SBLS	**San Blas**	**1.19**	**302**⇑	*e*P	x	20 04 50.8	
SBLS				*e*S	x	20 05 08.0	
SNJE	**San Jose**	**1.19**	**303**⇑	*e*P	x	20 04 50.7	
SNJE				*e*S	x	20 05 08.2	
RTR	**El Retiro**	**1.24**	**303**	*e*P	x	20 04 51.8	
RTR				*e*S	x	20 05 09.2	
RBDL	**Robledal**	**1.40**	**310**⇓	*e*P	x	20 04 53.9	
RBDL				*e*S	x	20 05 13.8	
TEL3	**Telica 3**	**1.81**	**110**⇑	*e*P	**Pn**	**20 04 20.4**	**-0.8**
TEL3				*e*S	**Sn**	**20 04 44.5**	**+0.1**
TELN	**Telica**	**1.81**	**109**	*e*P	**Pn**	**20 04 20.6**	**-0.6**
TELN				*e*S	**Sn**	**20 04 43.8**	**-0.6**
MOMJ	**Momotombo**	**2.15**	**112**⇑	*e*P	**Pn**	**20 04 25.3**	**-0.2**
MOMJ				*e*S	**Sn**	**20 04 51.9**	**-0.1**
COPN	**Copaltepe**	**2.20**	**118**	*e*P	**Pn**	**20 04 25.6**	**-0.6**
COPN				*e*S	**Sn**	**20 04 51.8**	**-1.4**
CSAN		**2.34**	**116**	*e*P	**Pn**	**20 04 28.3**	**+0.3**
CSAN				*e*S	**Sn**	**20 04 56.8**	**+0.2**
APYN	**Apoyeque**	**2.38**	**114**	*e*P	**Pn**	**20 04 28.8**	**+0.2**
APYN				*e*S	**Sn**	**20 04 59.1**	**+1.5**
XAVN	**Gruta Xavier**	**2.44**	**115**	*e*P	**Pn**	**20 04 29.4**	**+0.1**
XAVN				*e*S	**Sn**	**20 04 59.3**	**+0.4**
HUEN		**2.50**	**110**	*e*P	**Pn**	**20 04 30.8**	**+0.6**
MGAN	**Managua**	**2.51**	**115**	*i* P	**Pn**	**20 04 30.4**	**+0.1**
MGAN				*e*S	**Sn**	**20 05 00.1**	**-0.4**
MGAN				*i*		20 05 02.7	
	comp=N,386nm,0.2s						
TICN	**Ticuantepe**	**2.58**	**117**	*e*P	**Pn**	**20 04 31.4**	**+0.3**
TICN				*e*S	**Sn**	**20 05 02.1**	**0.0**
APON	**Apoyo**	**2.77**	**117**	*e*P	**Pn**	**20 04 34.4**	**+0.6**
VCR	**Vista de Mar**	**4.21**	**136**	*e*P	**Pn**	**20 04 52.4**	**-0.6**
JCR	**Jicaral**	**4.77**	**134**	*e*P	**Pn**	**20 04 59.8**	**-0.7**
JCR				*e*S	**Sn**	**20 05 53.9**	**-0.7**
PRS1	**Puriscal**	**5.27**	**127**	*e*P	**Pn**	**20 05 08.8**	**+1.4**
PRS1				*e*S	**Sn**	**20 06 06.8**	**-0.1**
LCR2	**La Lucha 2**	**5.66**	**127**	*e*P	**Pn**	**20 05 15.2**	**+2.6**
CHI2		**16.94**	**119**	*e*P	Px	20 04 17.7	
CHI2				*e*S	Sx	20 04 38.1	
TXAR	**Lajitas Array**	**21.29**	**321**	P	**P**	**20 08 29.4**	**+0.4**
	comp=N,0.2nm,0.5s,mb2.7,baz=151,slow=11,SNR=5.2						
YKA	**Yellowknife Ar**	**52.59**	**345**	P	**P**	**20 12 52.5**	**-0.9**
	comp=N,0.3nm,0.3s,mb3.8,baz=147,slow=6.4,SNR=6.3						
WRA	**Warramunga Arr**	**138.41**	**255**	PKP	PKPdf	20 23 05.0	+0.2
	comp=N,0.4nm,0.6s,baz=88,slow=2.4,SNR=9.7						

*NIED **29** 20:41:00,2870N×129.40E,h20km,Mw4.5 Best double couple: M0:6.22000×10^15 NP1:φs=293.00000°,δ=61.00000°, λ=-105.00000°. NP2:φs=141.00000°,δ=32.00000°, λ=-66.00000°.*

*MOS **29** 20:41:26.8±1.1,2863N×12948E,h33km,mb4.8/43, MS3.9/15,Error ellipse: s-maj=10.8km s-min=5.7km az=107.7*

*JMA **29** 20:41:26.5±0.2,2865N×12939E,h13km±3km,M4.9 JMA Felt IV J1.*

*ISCJB **29** 20:41:27.3±0.3,2860N±002×12954E±003,h38km±3km, mb4.6/75,MS4.1/28,Error ellipse: s-maj=4.4km s-min=3.0km az=37.7*

*SZGRF **29** 20:41:28.5,2919N×13092E,h33km,mb4.8,Ryukyu Islands, Japan*

*IDC **29** 20:41:29.4±1.1,2861N×12942E,h43km±10km,mb4.3/18, mb1 4.4/25,mb1mx4.4/27,mbtmp4.3/25,ML4.4/7,MS3.7/15, Ms1 3.7/15,ms1mx3.6/24,Error ellipse: s-maj=14.4km s-min=7.3km az=106.0*

*BJI **29** 20:41:30.4,2846N×12952E,h72km,mB4.6,mb4.5,Ms4.2, Msz4.0*

*NEIC **29** 20:41:30.8±0.7,2860N×12946E,h55km±6km,mb4.7/42, MS4.2/1,MW4.5(NIED),Error ellipse: s-maj=7.2km s-min=5.6km az=113.0*

NEIC Recorded [4 JMA] on Amami-oshima and [2 JMA] on Tokuno-shima and Nakano-shima.

ISC 29 20:41:29.1±0.3,2857N±002×12957E±003,h41km±3km, n248,σ1§17/265,mb4.6/75,MS4.1/28,9C-9D,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAM	**Amami Oshima**	**0.16**	**170**	P	**Pn**	**20 41 32.7**	**-3.4**
JAM				S	**Sn**	**20 41 36.2**	**-4.8**
JZK	**Kikaishima**	**0.44**	**126**	P	**Pn**	**20 41 38.3**	**-0.7**
JZK				S	**Sn**	**20 41 46.7**	**+0.7**
JTK	**Tokunoshima**	**0.96**	**215**	P	**Pn**	**20 41 44.1**	**-1.9**
JTK				*e*S	**Sn**	**20 41 55.8**	**-2.7**
JNN	**Nakanoshima**	**1.29**	**12**	P	**Pn**	**20 41 48.6**	**-2.0**
JNN				S	**Sn**	**20 42 04.5**	**-2.2**
JKC	**Kuchinoerabu**	**1.96**	**16**	P	**Pn**	**20 41 58.2**	**-1.6**
JKC				S	**Sn**	**20 42 20.9**	**-2.2**
JOW	**Kunigami**	**2.08**	**214**	P	**Pn**	**20 42 00.9**	**-0.6**
JOW	**Kunigami**	**2.08**	**214**	P	**Pn**	**20 42 01.0**	**-0.5**
	462nm,0.3s,baz=75,slow=15,SNR=300						
JOW				S	**Sn**	**20 42 26.0**	**-0.2**
	511nm,0.3s,baz=102,slow=27,SNR=4.6						
JIH	**Iheya**	**2.09**	**223**	P	**Pn**	**20 42 00.5**	**-1.1**
JIH				S	**Sn**	**20 42 24.9**	**-1.5**
JTN	**Tanegashima 3**	**2.41**	**30**	P	**Pn**	**20 42 04.7**	**-1.3**
JAGN	**Aguni-jima**	**2.86**	**227**	P	**Pn**	**20 42 11.5**	**-0.7**
JAGN				S	**Sn**	**20 42 43.8**	**-1.6**
NAH1	**Naha**	**2.89**	**216**	*e*S	**Sn**	**20 42 47.6**	**+1.4**
JJT2	**Tamagusuku 2**	**2.92**	**214**	P	**Pn**	**20 42 13.8**	**+0.8**
JJT2				S	**Sn**	**20 42 48.3**	**+1.5**
JKE	**Kume jima 2**	**3.34**	**229**	P	**Pn**	**20 42 18.1**	**-0.6**
JKE				*e*S	**Sn**	**20 42 57.1**	**-0.1**
JNU	**Nakatsue**	**4.67**	**14**	P	**Pn**	**20 42 37.9**	**+0.8**
	17nm,0.3s,baz=277,slow=9.1,SNR=149						
JNU				S	**Sn**	**20 43 32.6**	**+2.7**
	baz=299,slow=28,SNR=2.3						
JNU				LR	LR	20 44 36.2	
	comp=Z,549nm,18.1s,baz=201,slow=40						
SSE	**Sheshan**	**7.71**	**291**	P	**Pn**	**20 43 19.0**	**+0.3**
SSE				S	**Sn**	**20 44 46.0**	**+1.3**
SSE				AMB	AMB		
	comp=Z,45nm,0.7s						
SSE				AMB	AMB		
	comp=Z,49nm,3.4s						
SSE				LR	LR		
	comp=N,154nm,12.9s						
SSE				LR	LR		
	comp=E,205nm,12.9s						
SSE				LR	LR		
	comp=Z,278nm,11.1s						
TATO	**Taipei**	**8.06**	**245**	*e*Pn	**Pn**	**20 43 26.8**	**+3.1**
	comp=Z,40nm,0.5s						
YHNB	**Yeheng**	**8.30**	**244**	*e*Pn	**Pn**	**20 43 28.4**	**+1.5**
NACB	**Ninganchiao**	**8.39**	**240**	*e*Pn	**Pn**	**20 43 26.0**	**-2.1**
KS15	**Wonju Array Si**	**8.96**	**351**	*e*Pn	**Pn**	**20 43 40.2**	**+4.4**
KSRS	**Korea Array**	**8.96**	**352**	P	**Pn**	**20 43 35.4**	**-0.5**
	comp=Z,0.5nm,0.3s,baz=176,slow=14,SNR=7.1						
KSRS				LR	LR	20 47 09.4	
	comp=Z,449nm,20.2s,baz=166,slow=38						
INCN	**Inchon**	**9.22**	**345**	*e*Pn	**Pn**	**20 43 40.8**	**+1.4**
JHJ	**Hachijo jima 2**	**9.88**	**60**	P	**Pn**	**20 43 49.2**	**+0.8**
	comp=Z,25nm,0.3s,baz=217,slow=22,SNR=10						
JHJ				LR	LR	20 47 33.0	
	comp=Z,394nm,20.4s,baz=241,slow=36						
NJ2	**Nanjing**	**9.89**	**293**	*e*P	**Pn**	**20 43 50.8**	**+2.2**
NJ2				S	**Sn**	**20 45 39.8**	**+1.5**
NJ2				AMB	AMB		
	comp=Z,30nm,0.8s						
NJ2				LR	LR		
	comp=N,1μm,11.1s						
NJ2				LR	LR		
	comp=E,1μm,12.8s						
NJ2				LR	LR		
	comp=Z,2μm,12.8s						
QZH	**Quanzhou**	**10.46**	**252**	P	**Pn**	**20 44 03.0**	**+6.6**
QZH				S	**Sn**	**20 45 58.5**	**+6.2**
QZH				LR	LR		
	comp=N,730nm,10.8s						
QZH				LR	LR		
	comp=E,1μm,12.2s						
QZH				LR	LR		
	comp=Z,1μm,11.2s						
MAJO	**Matsushiro**	**10.78**	**40**	*e*Pn	**Pn**	**20 44 02.3**	**+1.6**
MAT	**Matsushiro**	**10.78**	**40**	P	**Pn**	**20 44 01.9**	**+1.2**
MJAR	**Matsushiro Arr**	**10.78**	**40**	P	**Pn**	**20 44 00.8**	**+0.1**
MJAR				pmax	pmax		
	comp=Z,3.0nm,0.3s						
MJAR				MLR	MLR		
	comp=Z,49nm,20.5s						
MJAR	**Matsushiro Arr**	**10.78**	**40**	P	**Pn**	**20 44 00.8**	**+0.1**
	comp=Z,2.5nm,0.3s,baz=247,slow=14,SNR=42						
MJAR				LR	LR	20 47 35.1	
	comp=Z,49nm,20.5s,baz=230,slow=34						
CBIJ	**Chichi jima**	**11.26**	**95**	P	**Pn**	**20 44 08.8**	**+1.4**
	comp=Z,20nm,0.3s,baz=274,slow=2.6,SNR=28						
CBIJ				S	**Sn**	**20 46 10.1**	**-1.9**
	comp=Z,1.5nm,0.3s,baz=250,slow=18,SNR=2.0						
CBIJ				LR	LR	20 48 01.2	
	comp=Z,428nm,18.4s,baz=307,slow=34						
WHN	**Wuhan**	**13.40**	**282**	⇑P	**Pn**	**20 44 39.0**	**+2.4**
WHN				S	**Sn**	**20 47 07.8**	**+3.7**
WHN				LR	LR		
	comp=N,691nm,5.8s						
WHN				LR	LR		
	comp=E,2μm,9.6s						
WHN				LR	LR		
	comp=Z,2μm,12.1s						
SNY	**Shenyang**	**14.10**	**341**	⇑P	**Pn**	**20 44 54.0**	**+8.0**
SNY				AMB	AMB		
	comp=Z,14nm,2.5s						
SNY				AMB	AMB		
	comp=Z,84nm,5.4s						
SNY				LR	LR		
	comp=N,327nm,15.6s						
SNY				LR	LR		
	comp=E,670nm,14.7s						
SNY				LR	LR		
	comp=Z,511nm,11.4s						
CN2	**Changchun**	**15.55**	**349**	*e*P	**Pn**	**20 45 09.5**	**+4.2**
CN2				*e*AP	pP	20 45 20.0	+1.0
CN2				*e*XP	sP	20 45 28.5	+4.2
CN2				*e*S	**S**	**20 48 00.5**	**-10**
CN2				AMB	AMB		
	comp=Z,30nm,0.9s						
CN2				AMB	AMB		
	comp=Z,200nm,3.0s						
CN2				LR	LR		
	comp=N,600nm,13.0s						
CN2				LR	LR		
	comp=E,500nm,13.0s						
CN2				LR	LR		
	comp=Z,500nm,13.0s						
XAN	**Xi'an**	**18.46**	**292**	P	**Pn**	**20 45 41.5**	**-0.2**
XAN				AMB	AMB		
	comp=Z,37nm,1.7s						
XAN				AMB	AMB		
	comp=Z,137nm,12.4s						
XAN				LR	LR		
	comp=N,62nm,6.9s						
XAN				LR	LR		
	comp=E,226nm,13.2s						
XAN				LR	LR		
	comp=Z,251nm,12.1s						
ASAJ	**Asahikawa**	**18.69**	**30**	P	**Pn**	**20 45 42.5**	**-1.9**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,337nm,18.2s						
ASAJ	**Asahikawa**	**18.69**	**30**	P	**Pn**	**20 45 42.5**	**-1.9**
	comp=Z,0.9nm,0.3s,baz=226,slow=8.6,SNR=12						
ASAJ				LR	LR	20 53 48.8	
	comp=Z,337nm,18.2s,baz=194,slow=40						
HHC	**Hu-ho-hao-te**	**19.17**	**314**	*e*P	**Pn**	**20 45 51.0**	**+0.8**
HHC				AP	pP	20 46 03.0	+3.9
HHC				PP		20 46 09.5	
HHC				XP	sP	20 46 11.8	+7.5
HHC				S	**S**	**20 49 17.5**	**-6.6**
HHC				SS		20 49 46.0	
HHC				PCP	PcP	20 50 16.5	+4.9
HHC				PCS	PcS	20 53 47.5	-1.0
HHC				SCS	ScS	20 57 24.0	-1.8
HHC				AMB	AMB		
	comp=Z,14nm,0.5s						
HHC				AMB	AMB		
	comp=Z,116nm,4.9s						
HHC				LR	LR		
	comp=N,221nm,24.1s						
HHC				LR	LR		
	comp=E,289nm,14.9s						
HHC				LR	LR		
	comp=Z,111nm,8.8s						
QIZ

comp=E,500nm,12.0s
KLR MLR MLR
YSS Yuzh-Sakhalins 21.05 26 *e*P **P 20 46 14.0 +4.6**
YSS MLR MLR
comp=Z,200nm,19.0s,MS3.5
CD2 Chengdu 22.52 282 *e*P **P 20 46 25.0 -0.3**
CD2 AP 20 46 39.3
CD2 XP sP 20 46 46.5 +5.8
CD2 PP 20 46 54.8
CD2 S **S 20 50 22.3 -7.9**
CD2 SS 20 51 06.8
CD2 AMB AMB
comp=Z,30nm,0.8s,mb4.8
CD2 AMB AMB
comp=Z,60nm,5.2s
CD2 LR LR
comp=N,520nm,14.4s,MS4.4
CD2 LR LR
comp=E,790nm,14.4s,MS4.4
CD2 LR LR
comp=Z,430nm,10.8s,MS4.2
LZH Lanzhou 22.95 296 *e*P **P 20 46 29.5 -0.3**
LZH AP 20 46 46.0
LZH XP sP 20 46 53.0 +7.8
LZH PP 20 47 00.3
LZH *e*S **S 20 50 29.0 -8.1**
LZH SS 20 51 17.0
LZH AMB AMB
comp=Z,28nm,1.5s,mb4.5
LZH AMB AMB
comp=Z,110nm,4.0s
LZH LR LR
comp=E,399nm,12.7s
LZH LR LR
comp=Z,435nm,11.5s,MS4.1
KMI Kunming 24.17 268 P **P 20 46 42.3 +0.7**
KMI AP 20 46 57.0
KMI XP sP 20 47 04.5 +7.0
KMI PP 20 47 18.3
KMI PPP 20 47 29.3
KMI S **S 20 50 52.3 -4.7**
KMI XS sS 20 51 17.8 +2.4
KMI SS 20 51 47.5
KMI SSS 20 52 05.0
KMI PCS PcS 20 54 02.5 +0.9
KMI AMB AMB
comp=Z,9.0nm,0.7s,mb4.3
KMI AMB AMB
comp=Z,75nm,4.2s
KMI LR LR
comp=N,338nm,14.6s,MS4.1
KMI LR LR
comp=E,279nm,13.1s,MS4.1
KMI LR LR
comp=Z,327nm,12.3s,MS4.0
ULN Ulaanbaatar 25.99 324 *e*P **P 20 46 57.9 +0.1**
comp=Z,6.4nm,0.9s,mb4.2
ULN Ulaanbaatar 25.99 324 *e*P **P 20 46 57.9 0.0**
ULN pmax pmax
comp=Z,6.0nm,0.9s,mb4.1
SONM Songino Array 26.32 323 P **P 20 47 00.7 -0.1**
SONM PcP PcP 20 50 25.7 -0.4
SONM LR LR 20 58 07.6
SONM Songino Array 26.32 323 P **P 20 47 00.7 -0.1**
SONM 20 50 25.7
SONM pmax pmax
comp=Z,2.0nm,0.5s
SONM MLR MLR
comp=Z,141nm,19.4s
SONM Songino Array 26.32 323 P **P 20 47 00.7 -0.1**
comp=Z,2.3nm,0.5s,mb4.0,baz=136,slow=10,SNR=9.7
SONM PcP PcP 20 50 25.7 -0.4
comp=Z,0.4nm,0.3s,baz=129,slow=3.9,SNR=2.8
SONM LR LR 20 58 07.6
comp=Z,141nm,19.4s,MS3.5,baz=286,slow=38
GTA Gaotai 26.82 302 *e*P **P 20 47 05.8 +0.3**
GTA AP pP 20 47 20.3 +3.7
GTA PPP 20 48 20.0
GTA S **S 20 51 37.3 -1.7**
GTA AMB AMB
comp=Z,15nm,0.9s,mb4.5
GTA AMB AMB
comp=Z,50nm,6.1s
GTA LR LR
comp=N,247nm,13.7s,MS4.1
GTA LR LR
comp=E,337nm,16.0s,MS4.1
GTA LR LR
comp=Z,422nm,13.7s,MS4.2
ZAK Zakamensk 29.50 325 *e*P **P 20 47 26.8 -2.4**
ZAK pmax pmax
comp=Z,1.0nm,1.3s,mb3.4
CHTO Chiang Mai 29.61 258 *e*P **P 20 47 30.3 -0.3**
comp=Z,2.3nm,0.4s,mb4.3
CHTO Chiang Mai 29.61 258 *e*P **P 20 47 30.3 -0.2**
CHTO pmax pmax
comp=Z,2.0nm,0.4s,mb4.2
TLY Talaya 30.14 327 *e*P **P 20 47 34.9 0.0**
comp=Z,6.6nm,1.4s,mb4.2
TLY Talaya 30.14 327 *e*P **P 20 47 35.8 +1.0**
TLY pmax pmax
comp=Z,3.0nm,1.2s,mb3.9
TLY MLR MLR
comp=Z,187nm,14.0s,MS3.9
KSM Kuching 32.63 218 *e*P **P 20 47 58.0 +0.9**
WMQ Urumqi 36.65 306 *e*P **P 20 48 31.8 +0.2**
WMQ AMB AMB
comp=Z,6.0nm,0.8s,mb4.5
SEY Seymchan 37.44 17 *i*P **P 20 48 37.8 -0.3**
GUN Gumba 38.34 280 *e*P **P 20 48 47.3 +1.2**
comp=Z,23nm,0.4s,mb5.3
DMN Daman 39.07 280 *e*P **P 20 48 52.6 +0.3**
comp=Z,7.6nm,0.6s,mb4.6
GKN Gorkha 39.40 280 *e*P **P 20 48 55.1 +0.1**
DANN Dangsing 40.08 281 *e*P **P 20 49 01.0 +0.3**
comp=Z,24nm,0.7s,mb5.0
MK31 Makanchi Array 40.92 310 *e*P **P 20 49 07.6 +0.3**
MKAR Makanchi Array 40.92 310 P **P 20 49 07.6 +0.3**
MKAR PcP PcP 20 51 06.8 -0.4
MKAR LR LR 21 07 33.3
MKAR Makanchi Array 40.92 310 P **P 20 49 07.6 +0.3**
MKAR 20 51 06.8
MKAR pmax pmax
comp=Z,2.0nm,0.4s
MKAR pmax pmax
comp=Z,3.0nm,0.8s
MKAR MLR MLR
comp=Z,67nm,19.2s
MKAR Makanchi Array 40.92 310 P **P 20 49 07.6 +0.3**
comp=Z,2.1nm,0.4s,mb4.1,baz=95,slow=10,SNR=25
MKAR PcP PcP 20 51 06.8 -0.4
comp=Z,2.5nm,0.8s,baz=89,slow=3.2,SNR=5.9
MKAR LR LR 21 07 33.3
comp=Z,66nm,19.2s,MS3.5,baz=129,slow=38
KAKA Kakadu 41.13 176 *e*P **P 20 49 09.0 -0.4**
comp=Z,3.1nm,0.4s,mb4.3
ZAA0 Zalesovo Array 41.15 321 *e*P **P 20 49 08.7 -0.5**
ZAA0 *e*PcP PcP 20 51 07.1 -0.7
ZALV Zalesovo Beam 41.15 321 P **P 20 49 08.8 -0.3**
comp=Z,2.4nm,0.4s,mb4.2,baz=104,slow=9.2,SNR=12
ZALV PcP PcP 20 51 07.0 -0.8
comp=Z,1.8nm,0.7s,baz=101,slow=1.5,SNR=6.4
ZALV ScP ScP 20 54 55.3 +0.8
comp=Z,0.6nm,0.6s,baz=114,slow=3.6,SNR=4.1
ZALV LR LR 21 05 30.9
comp=Z,30nm,19.8s,baz=94,slow=35
ZAL Zalesovo 41.16 321 P **P 20 49 08.9 -0.3**
ZAL 20 51 07.0
TIXI Tiksi 43.12 360 *i*P **P 20 49 26.0 +1.0**
TIXI MLR MLR
comp=Z,100nm,15.0s,MS3.8
KURK Kurchatov 43.98 315 *e*P **P 20 49 31.8 -0.4**
comp=Z,4.0nm,0.7s,mb4.3
KURK Kurchatov 43.98 315 *e*P **P 20 49 31.8 -0.4**
KURK pmax pmax
comp=Z,4.0nm,0.7s,mb4.3
COEN Coen 44.28 161 *e*P **P 20 49 36.1 +1.2**
comp=Z,4.3nm,0.7s,mb4.3
BILL Bilibino 45.08 19 *e*P **P 20 49 42.8 +2.1**
BILL *e* 20 51 20.0
BILL pmax pmax
comp=Z,5.0nm,1.4s,mb4.2
BILL MLR MLR
comp=Z,100nm,14.0s,MS3.9

TKM2 Tokmak 2 45.34 303 *e*P **P 20 49 43.8 +0.7**
comp=Z,14nm,1.0s,mb4.8
TKM2 Tokmak 2 45.34 303 *e*P **P 20 49 43.8 +0.6**
TKM2 pmax pmax
comp=Z,14nm,1.0s,mb4.8
TKM2 Tokmak 2 45.34 303 P **P 20 49 44.2 +1.0**
SNR=12
KZA Kyzart 45.61 302 P **P 20 49 47.3 +2.1**
SNR=6.6
CHMS Chumysh 45.97 303 P **P 20 49 48.8 +0.7**
SNR=6.7
USP Ospenovka 46.15 304 P **P 20 49 50.0 +0.5**
SNR=6.6
UCH Uchtor 46.15 302 *e*P **P 20 49 50.9 +1.3**
comp=Z,15nm,0.8s,mb5.0
UCH Uchtor 46.15 302 P **P 20 49 51.4 +1.8**
SNR=24
AAK Ala-Archa 46.16 303 *e*P **P 20 49 49.2 -0.4**
comp=Z,2.6nm,0.6s,mb4.3
AAK Ala-Archa 46.16 303 *e*P **P 20 49 49.2 -0.4**
AAK pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
FITZ Fitzroy Crossi 46.56 185 ⇓*i*P **P 20 49 53.6 +0.8**
comp=Z,10nm,0.6s,mb4.9
EKS2 Erkin-Say 46.69 303 *e*P **P 20 49 53.8 0.0**
comp=Z,2.4nm,0.9s,mb4.1
AML Almayashu 46.76 302 *e*P **P 20 49 55.3 +1.0**
comp=Z,1.8nm,0.7s,mb4.1
WRA Warramunga Arr 48.45 174 P **P 20 50 08.0 +0.5**
WRA pmax pmax
comp=Z,9.0nm,0.9s
WRA Warramunga Arr 48.45 174 P **P 20 50 08.0 +0.5**
comp=Z,9.1nm,0.8s,mb4.8,baz=353,slow=8.3,SNR=75
WB2 Warramunga Arr 48.45 174 *e*P **P 20 50 08.1 +0.6**
BRVK Borovoye 49.42 317 *e*P **P 20 50 14.9 +0.2**
comp=Z,5.5nm,0.6s,mb4.8
BRVK Borovoye 49.42 317 *e*P **P 20 50 14.9 +0.2**
BRVK pmax pmax
comp=Z,5.0nm,0.6s,mb4.7
CTA Charters Tower 50.99 160 *e*P **P 20 50 28.3 +1.4**
comp=Z,4.6nm,0.6s,mb4.6
CTA Charters Tower 50.99 160 *e*P **P 20 50 28.3 +1.4**
CTA pmax pmax
comp=Z,5.0nm,0.6s
CTA Charters Tower 50.99 160 P **P 20 50 27.1 +0.3**
comp=Z,6.2nm,0.7s,mb4.7,baz=343,slow=8.2,SNR=17
CTAO Charters Tower 50.99 160 *e*P **P 20 50 28.2 +1.3**
comp=Z,5.1nm,0.5s,mb4.7
CTAO Charters Tower 50.99 160 *e*P **P 20 50 28.2 +1.3**
CTAO pmax pmax
comp=Z,5.0nm,0.5s,mb4.7
KBL Kabul 51.26 293 *e*P **P 20 50 29.5 +0.6**
comp=Z,7.8nm,0.6s,mb4.8
ASAR Alice Springs 52.10 175 P **P 20 50 36.1 +1.0**
ASAR pmax pmax
comp=Z,6.0nm,0.5s
ASAR Alice Springs 52.10 175 P **P 20 50 36.1 +0.9**
comp=Z,5.9nm,0.5s,mb4.7,baz=7.7,slow=14,SNR=98
ARU Arti 56.31 321 *e*P **P 20 51 05.6 +0.1**
comp=Z,6.9nm,1.0s,mb4.6
ARU Arti 56.31 321 *d*i P **P 20 51 05.7 +0.2**
ARU *e* 20 53 08.6
ARU *e*PPP 20 54 25.6
ARU *e*S **S 20 58 54.7 +2.1**
ARU *e*SS SS 21 02 40.9 +1.5
ARU pmax pmax
comp=Z,12nm,1.7s,mb4.7
ARU MLR MLR
comp=Z,204nm,17.0s,MS4.3
IMA2 Indian Mountai 58.89 28 *e*P **P 20 51 24.4 +0.9**
KDAK Kodiak Island 59.94 37 P **P 20 51 31.5 +0.7**
comp=Z,7.6nm,0.4s,mb5.0,baz=256,slow=5.7,SNR=18
MCK McKinley 61.05 30 *e*P **P 20 51 39.3 +1.0**
comp=Z,6.5nm,0.7s,mb4.9
MCK McKinley 61.05 30 *e*P **P 20 51 39.3 +1.0**
MCK pmax pmax
comp=Z,7.0nm,0.7s,mb4.9
STKA Stephens Creek 61.19 168 *e*P **P 20 51 40.3 +0.7**
comp=Z,3.8nm,0.9s,mb4.5
STKA Stephens Creek 61.19 168 P **P 20 51 40.7 +1.1**
comp=Z,3.3nm,0.5s,mb4.8,baz=352,slow=6.2,SNR=17
COLA College 61.40 29 *e*P **P 20 51 42.0 +1.4**
comp=Z,3.3nm,0.5s,mb4.7
COLA College 61.40 29 *e*P **P 20 51 42.0 +1.4**
COLA pmax pmax
comp=Z,3.0nm,0.5s,mb4.7
EGAK Eagle 64.23 28 *e*P **P 20 52 00.1 +0.6**
comp=Z,5.1nm,0.8s,mb4.6
DAWY Dawson 65.14 29 *e*P **P 20 52 06.4 +1.0**
INK Inuvik 66.27 24 *e*P **P 20 52 13.0 +0.4**
comp=Z,141nm,0.6s
INK Inuvik 66.27 24 *e*P **P 20 52 13.0 +0.3**
INK pmax pmax
comp=Z,141nm,0.6s
ARCES ARCESS Array B 68.27 338 P **P 20 52 23.1 -2.2**
ARCES pmax pmax
comp=Z,4.0nm,0.9s
ARCES MLR MLR
comp=Z,96nm,20.7s
ARCES ARCESS Array B 68.27 338 P **P 20 52 23.1 -2.2**
comp=Z,3.6nm,0.9s,mb4.4,baz=61,slow=8.0,SNR=6.7
ARCES LR LR 21 27 40.1
comp=Z,96nm,20.7s,MS4.0,baz=20,slow=41
JOF Joensuu 68.58 331 *e*p **P 20 52 21.7 -5.6**
comp=Z,3.9nm,0.4s,mb4.7
JOF Joensuu 68.58 331 *e*P **P 20 52 21.7 -5.6**
JOF pmax pmax
comp=Z,4.0nm,0.4s,mb4.7
KIV Kislovodsk 68.68 309 *e*P **P 20 52 28.8 +0.5**
comp=Z,7.3nm,0.9s,mb4.6
KIV Kislovodsk 68.68 309 *e*P **P 20 52 28.2 -0.1**
KIV *e* pP 20 52 38.3 -2.1
KIV *e* 20 52 52.3
KIV pmax pmax
comp=Z,11nm,1.1s,mb4.7
KIV Kislovodsk 68.68 309 ⇑*i*P **P 20 52 28.1 -0.2**
OBN Obninsk 68.72 322 *e*P **P 20 52 28.0 -0.3**
OBN pmax pmax
comp=Z,8.0nm,1.1s,mb4.6
OBN MLR MLR
comp=Z,100nm,17.0s,MS4.1
MIB Mutribah 70.21 294 *e*P **P 20 52 36.9 -1.1**
MIB AMb AMB 20 52 38.4
comp=Z,18nm,0.6s,mb5.2
RDF Al-Radifah 70.37 293 *e*P **P 20 52 37.0 -2.0**
RDF AMb AMB 20 52 39.3
comp=Z,26nm,0.7s,mb5.3
NAY Al-Naaiem 70.50 293 *e*P **P 20 52 38.6 -1.2**
NAY AMb AMB 20 52 40.1
comp=Z,12nm,0.7s,mb5.0
RST Umm Al-Ruwaisa 70.60 294 *e*P **P 20 52 38.8 -1.6**
RST AMb AMB 20 52 40.3
comp=Z,14nm,0.6s,mb5.1
FINES FINESS Array B 71.42 330 P **P 20 52 43.2 -1.5**
FINES LR LR 21 27 28.8
FINES FINESS Array B 71.42 330 *i*P **P 20 52 43.7 -1.1**
FINES pmax pmax
comp=Z,2.0nm,0.4s
FINES FINESS Array B 71.42 330 P **P 20 52 43.2 -1.5**
comp=Z,2.3nm,0.4s,mb4.5,baz=69,slow=6.0,SNR=42
FINES LR LR 21 27 28.8
comp=Z,82nm,18.9s,MS4.0,baz=182,slow=39
RES Resolute Bay 73.03 11 *e*P **P 20 52 54.7 +0.5**
comp=Z,109nm,0.6s
RES Resolute Bay 73.03 11 *e*P **P 20 52 54.7 +0.5**
RES pmax pmax
comp=Z,109nm,0.6s
MALT Malatya 73.74 305 *e*P **P 20 52 59.8 +0.8**
comp=Z,14nm,1.6s,mb4.6
MALT Malatya 73.74 305 *e*P **P 20 52 59.8 +0.8**
MALT pmax pmax
comp=Z,14nm,1.6s,mb4.6
MALT Malatya 73.74 305 ⇓*i*P **P 20 53 00.3 +1.3**
SIM Simferopol' 74.00 313 *e*P **P 20 53 00.7 +0.3**
SIM pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
AKASG Malin Array Be 74.53 320 *i*P **P 20 53 02.5 -0.9**
AKASG pmax pmax
comp=Z,1.0nm,0.4s
AKASG Malin Array Be 74.53 320 P **P 20 53 02.3 -1.1**
comp=Z,1.1nm,0.4s,mb4.2,baz=54,slow=6.4,SNR=10.0
YKW3 Yellowknife Ar 75.86 25 *e*P **P 20 53 10.3 -0.5**
YKA Yellowknife Ar 75.91 26 P **P 20 53 11.9 +0.8**
YKA pmax pmax
comp=Z,2.0nm,0.5s
YKA Yellowknife Ar 75.91 26 P **P 20 53 11.9 +0.8**

comp=Z,1.6nm,0.5s,mb4.2,baz=303,slow=5.5,SNR=32
NB2 NORSAR Subarra 77.74 334 P **P 20 53 19.8 -1.6**
comp=Z,4.0nm,0.8s,mb4.4,baz=51,slow=5.3
NOA NORSAR Array B 77.74 334 P **P 20 53 20.2 -1.2**
NOA pmax pmax
comp=Z,4.0nm,0.7s
NOA MLR MLR
comp=Z,34nm,18.4s
NOA NORSAR Array B 77.74 334 P **P 20 53 20.2 -1.2**
comp=Z,3.5nm,0.7s,mb4.4,baz=50,slow=5.4,SNR=20
NOA LR LR 21 30 59.8
comp=Z,34nm,18.4s,MS3.7,baz=0.0,slow=38
VRI Vrincioaia 78.24 316 ⇑P **P 20 53 25.7 +1.2**
VRI Vrincioaia 78.24 316 ⇑*i*P **P 20 53 25.7 +1.2**
BURAR Bucovina Array 78.30 318 ⇓*i*P **P 20 53 24.6 -0.2**
KWP Kalwaria 78.72 321 *e*P **P 20 53 27.0 -0.1**
comp=Z,11nm,0.8s,mb4.8
KWP Kalwaria 78.72 321 *e*P **P 20 53 27.0 -0.1**
KWP pmax pmax
comp=Z,11nm,0.8s,mb4.8
KWP Kalwaria 78.72 321 ⇓*i*P **P 20 53 27.6 +0.5**
MLR Muntele Rosu 78.91 316 ⇓P **P 20 53 28.0 -0.2**
MLR Muntele Rosu 78.91 316 ⇓*i*P **P 20 53 28.0 -0.2**
KOLS Kolonicke sedl 79.33 320 *e*P **P 20 53 31.6 +1.2**
STHS Stebnicka Huta 79.65 321 *e*P **P 20 53 33.1 +1.0**
comp=Z,2.0nm,1.1s,mb4.0
STHS Stebnicka Huta 79.65 321 *e*P **P 20 53 33.1 +1.0**
STHS pmax pmax
comp=Z,2.0nm,1.1s,mb4.0
CRVS Cervenica-Dubn 79.80 320 *e*P **P 20 53 35.9 +2.9**
OJC Ojcow 80.01 322 *e*P **P 20 53 33.8 -0.3**
DRGR 80.19 318 ⇑P **P 20 53 35.2 +0.1**
DRGR 80.19 318 ⇑*i*P **P 20 53 35.2 +0.1**
KECS Kecovo 80.57 320 *e*P **P 20 53 33.8 -3.3**
comp=Z,2.2nm,1.2s,mb4.0
KECS Kecovo 80.57 320 *e*P **P 20 53 33.8 -3.3**
KECS pmax pmax
comp=Z,2.0nm,1.2s,mb3.9
OKC Ostrava-Krasne 81.11 322 AMS AMS 21 33 40.0
VYHS Vyhne 81.48 321 *i*P **P 20 53 42.5 +0.5**
comp=Z,10nm,1.7s,mb4.5
VYHS Vyhne 81.48 321 *i*P **P 20 53 42.5 +0.5**
VYHS pmax pmax
comp=Z,10.0nm,1.7s,mb4.5
KOLL Kolacno 81.67 321 *e*P **P 20 53 45.0 +2.0**
DPC Dobruska-Polom 81.78 324 AMS AMS 21 37 00.0
comp=Z,100nm,14.2s,MS4.3
VRAC Vranov 82.24 323 ⇑P **P 20 53 46.1 +0.1**
VRAC Vranov 82.24 323 ⇑*i*P **P 20 53 46.1 +0.1**
MODS Modra-Piesok 82.41 322 *e*P **P 20 53 47.9 +1.0**
PVCC Panska Ves 82.59 324 AMS AMS 21 33 40.0
comp=Z,100nm,11.8s,MS4.4
TREC Trest 82.84 323 AMS AMS 21 35 20.0
comp=Z,100nm,14.0s,MS4.3
PKSM Moragy 82.87 319 ⇓P **P 20 53 49.2 -0.1**
PKSM Moragy 82.87 319 ⇓*i*P **P 20 53 49.2 -0.1**
CLL Collm 82.91 326 *i*P **P 20 53 49.0 -0.4**
CLL *i* 20 53 55.6
CLL pmax pmax
comp=Z,11nm,1.0s,mb4.8
CLL Collm 82.91 326 *i*P **P 20 53 49.0 -0.4**
comp=Z,11nm,1.0s,mb4.8
CLL *i*PcP PcP 20 53 53.3 -0.8
CLL *i*x x 20 53 55.6
PRU Pruhonice 82.92 324 *e*P **P 20 53 50.2 +0.7**
PRU AMS AMS 21 34 00.0
comp=Z,100nm,12.7s,MS4.4
NEW Newport 83.02 38 *e*P **P 20 53 51.4 +1.3**
comp=Z,1.4nm,0.6s,mb4.2
NEW Newport 83.02 38 *e*P **P 20 53 51.4 +1.3**
NEW pmax pmax
comp=Z,1.0nm,0.6s
NKC Novy Kostel 83.85 325 *e*P **P 20 53 53.7 -0.6**
NKC AMS AMS 21 35 30.0
comp=Z,200nm,15.3s,MS4.6
KHC Kasperske Hory 83.94 324 *e*P **P 20 53 55.0 +0.2**
KHC AMS AMS 21 34 10.0
comp=Z,200nm,11.8s,MS4.7
GEC2 GERESS Array S 84.05 323 *e*P **P 20 53 55.0 -0.3**
GERES GERESS Array B 84.05 323 P **P 20 53 55.5 +0.2**
GERES pmax pmax
comp=Z,3.0nm,0.7s
GERES MLR MLR
comp=Z,78nm,18.4s
GERES GERESS Array B 84.05 323 P **P 20 53 55.5 +0.2**
comp=Z,3.3nm,0.7s,mb4.6,baz=55,slow=5.1,SNR=27
GERES LR LR 21 38 37.6
comp=Z,78nm,18.4s,MS4.1,baz=79,slow=41
GRA1 Grafenberg Arr 84.80 325 *e*P **P 20 53 59.5 +0.4**
comp=Z,7.0nm,1.0s,mb4.8
GRF Grafenberg Arr 84.80 325 *e*P **P 20 53 59.5 +0.4**
GRF pmax pmax
comp=Z,7.0nm,1.0s,mb4.8
GRF Grafenberg Arr 84.80 325 *e*P **P 20 53 59.5 +0.4**
GRF pmax pmax
comp=Z,7.0nm,1.0s,mb4.8
GRF Grafenberg Arr 84.80 325 *e*P **P 20 53 59.5 +0.4**
comp=Z,7.0nm,1.0s,mb4.8
PDKS Podkum 85.02 321 *e*P **P 20 54 00.4 +0.1**
BOJS Bojanci 85.21 320 *e*P **P 20 54 00.2 -1.1**
VISS Visnje 85.26 320 *e*P **P 20 54 01.6 +0.1**
JAVS Javornik 85.64 321 *e*P **P 20 54 03.2 -0.2**
FCC Fort Churchill 85.73 21 *e*P **P 20 54 03.8 +0.2**
comp=Z,5.3nm,0.7s,mb4.9
FCC Fort Churchill 85.73 21 *e*P **P 20 54 03.8 +0.2**
FCC pmax pmax
comp=Z,5.0nm,0.7s,mb4.8
CHMT Chamberlain Mo 85.93 38 *e*P **P 20 54 05.9 +1.1**
FFC Flin Flon 85.97 27 *e*P **P 20 54 05.4 +0.6**
comp=Z,4.7nm,0.6s,mb4.9
FFC Flin Flon 85.97 27 *e*P **P 20 54 05.4 +0.6**
FFC pmax pmax
comp=Z,5.0nm,0.6s,mb4.9
MEM Membach 86.74 328 P **P 20 54 08.7 0.0**
HRY Holter Researc 86.82 37 *e*P **P 20 54 10.6 +1.4**
WLF Walferdange 87.31 327 P **P 20 54 11.5 0.0**
comp=Z,4.3nm,1.2s,mb4.5
CDF Champ du Feu 87.61 326 *e*P **P 20 54 11.6 -1.4**
GIVF Givet 87.64 328 *e*P **P 20 54 11.7 -1.4**
BAIF Baives 87.96 328 *e*P **P 20 54 13.2 -1.4**
NVAR Mina Array Bea 88.03 47 P **P 20 54 17.1 +1.9**
NVAR Mina Array Bea 88.03 47 P **P 20 54 17.1 +1.9**
comp=Z,0.7nm,0.5s,mb4.2,baz=292,slow=5.7,SNR=5.2
HINF Hinteralfeld 88.22 325 *e*P **P 20 54 13.8 -2.1**
HAU Haudompre 88.34 326 *e*P **P 20 54 15.4 -1.0**
HAU *e*MLR MLR
comp=Z,99nm,17.5s,MS4.0
HAU Haudompre 88.34 326 *e*P **P 20 54 15.4 -1.0**
HAU MLR MLR
comp=Z,100nm,17.5s,MS4.3
MEZF Maizieres J'vi 88.64 327 *e*P **P 20 54 16.5 -1.3**
CABF La Chapelle 89.42 325 *e*P **P 20 54 19.9 -1.6**
comp=Z,4.2nm,0.8s,mb4.5
CABF La Chapelle 89.42 325 *e*P **P 20 54 19.9 -1.6**
comp=Z,2.1nm,0.8s,mb4.5
CABF La Chapelle 89.42 325 *e*P **P 20 54 19.9 -1.6**
CABF pmax pmax
comp=Z,2.0nm,0.8s,mb4.5
LPG La Plagne 89.83 324 *e*P **P 20 54 22.1 -1.4**
SSF Saint Saulge 90.39 326 *e*P **P 20 54 25.1 -1.0**
comp=Z,9.0nm,1.2s,mb4.7
SSF Saint Saulge 90.39 326 *e*P **P 20 54 25.1 -1.0**
comp=Z,4.5nm,1.2s,mb4.7
SSF Saint Saulge 90.39 326 *e*P **P 20 54 25.1 -1.0**
SSF pmax pmax
comp=Z,5.0nm,1.2s,mb4.7
SMF Signal de Mont 90.52 326 *e*P **P 20 54 24.6 -2.1**
SBF Sospel 90.57 322 *e*P **P 20 54 25.6 -1.4**
BW06 Boulder Array 90.60 39 *e*P **P 20 54 28.2 +1.1**
comp=Z,2.8nm,0.9s,mb4.6
AVF Avril sur Loir 90.65 326 *e*P **P 20 54 26.6 -0.7**
LDF La Druitiere 90.98 329 *e*P **P 20 54 27.2 -1.6**
comp=Z,7.3nm,0.8s,mb4.8
LDF La Druitiere 90.98 329 *e*P **P 20 54 27.2 -1.6**
comp=Z,3.7nm,0.8s,mb4.8
LDF La Druitiere 90.98 329 *e*P **P 20 54 27.2 -1.6**
LDF pmax pmax
comp=Z,4.0nm,0.8s,mb4.8
FLN La Foliniere 91.02 330 *e*P **P 20 54 27.2 -1.7**
comp=Z,12nm,0.9s,mb4.9
FLN *e*MLR MLR
comp=Z,99nm,21.8s,MS3.9
FLN La Foliniere 91.02 330 *e*P **P 20 54 27.2 -1.7**
comp=Z,6.1nm,0.9s,mb4.9
FLN LR LR

comp=Z,100nm,21.8s,MS4.2
FLN La Foliniere 91.02 330 *e*P **P 20 54 27.2 -1.7**
FLN pmax pmax
comp=Z,6.0nm,0.9s,mb4.9
FLN MLR MLR
comp=Z,100nm,21.8s,MS4.2
FRF La Foret Royal 91.19 322 *e*P **P 20 54 27.5 -2.4**
comp=Z,21nm,1.5s,mb5.0
FRF La Foret Royal 91.19 322 *e*P **P 20 54 27.5 -2.4**
comp=Z,11nm,1.5s,mb5.0
FRF La Foret Royal 91.19 322 *e*P **P 20 54 27.5 -2.4**
FRF pmax pmax
comp=Z,11nm,1.5s,mb5.0
VIVF Saint-Julien-l 91.34 324 *e*P **P 20 54 28.5 -2.0**
LMR La Mourre 91.42 322 *e*P **P 20 54 28.8 -2.1**
comp=Z,22nm,1.5s,mb5.0
LMR La Mourre 91.42 322 *e*P **P 20 54 28.8 -2.1**
comp=Z,11nm,1.5s,mb5.0
LMR La Mourre 91.42 322 *e*P **P 20 54 28.8 -2.1**
LMR pmax pmax
comp=Z,11nm,1.5s,mb5.0
GRR Gorron 91.46 329 *e*P **P 20 54 29.5 -1.5**
comp=Z,11nm,0.8s,mb4.9
GRR Gorron 91.46 329 *e*P **P 20 54 29.5 -1.5**
comp=Z,5.5nm,0.8s,mb4.9
GRR Gorron 91.46 329 *e*P **P 20 54 29.5 -1.5**
GRR pmax pmax
comp=Z,6.0nm,0.8s,mb5.0
ULM Lac du Bonnet 91.80 27 P **P 20 54 32.9 +0.4**
ULM Lac du Bonnet 91.80 27 P **P 20 54 32.9 +0.4**
comp=Z,6.5nm,0.7s,mb5.1,baz=333,slow=6.0,SNR=7.0
ROSF Rostrenen 92.56 331 *e*P **P 20 54 34.8 -1.3**
comp=Z,15nm,0.8s,mb5.2
ROSF Rostrenen 92.56 331 *e*P **P 20 54 34.8 -1.3**
comp=Z,7.4nm,0.8s,mb5.2
ROSF Rostrenen 92.56 331 *e*P **P 20 54 34.8 -1.3**
ROSF pmax pmax
comp=Z,7.0nm,0.8s,mb5.1
LFF La Frestale 93.25 326 *e*P **P 20 54 36.7 -2.7**
GLA Glamis 93.49 49 *e*P **P 20 54 42.4 +1.6**
comp=Z,3.2nm,0.8s,mb4.8
GLA Glamis 93.49 49 *e*P **P 20 54 42.4 +1.7**
GLA pmax pmax
comp=Z,3.0nm,0.8s,mb4.8
SCHQ Schefferville 95.74 9 P **P 20 54 50.3 -0.3**
comp=Z,1.3nm,0.7s,mb4.5,baz=330,slow=8.1,SNR=3.2
SCHQ LR LR 21 41 06.3
comp=Z,77nm,18.3s,MS4.2,baz=66,slow=37
ESDC Sonseca Array 99.50 325 P **P 20 55 06.8 -1.0**
comp=Z,0.3nm,0.6s,mb4.0,baz=53,slow=5.0,SNR=3.6
DBIC Dimbokro 123.83 301 PKIKP PKPdf 21 00 23.4 0.0
DBIC pmax pmax
comp=Z,2.0nm,0.7s
DBIC Dimbokro 123.83 301 PKP PKPdf 21 00 23.4 0.0
comp=Z,2.3nm,0.7s,baz=76,slow=2.2,SNR=6.3
LPAZ La Paz 159.60 57 *e*PKPdf PKPdf 21 01 27.2 +3.2

IDC 29 21:18:01.1±20.0, 1236S×16640E, h293km±172km, mb3.1/6, mb1 3.2/6, mb1mx3.0/15, mbtmp3.1/6, 6C, Error ellipse: s-maj=127.0km s-min=32.2km az=99.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**20.80**	**246**	P	P	21 22 20.6	-0.1
	2.5nm,0.6s,baz=75,slow=12,SNR=6.2						
STKA	**Stephens Creek**	**29.96**	**226**	P	P	21 23 43.2	+0.4
	0.9nm,0.6s,baz=42,slow=12,SNR=3.2						
WRA	**Warramunga Arr**	**31.66**	**252**	P	P	21 23 57.2	-0.7
	0.2nm,0.5s,baz=86,slow=9.0,SNR=6.2						
ASAR	**Alice Springs**	**32.80**	**245**	P	P	21 24 08.2	+0.4
	0.4nm,0.7s,baz=68,slow=9.6,SNR=4.9						
MJAR	**Matsushiro Arr**	**55.43**	**332**	P	P	21 27 05.5	-0.2
	0.6nm,0.6s,baz=167,slow=8.8,SNR=3.3						
MKAR	**Makanchi Array**	**94.92**	**317**	P	P	21 30 51.0	+0.7
	0.6nm,0.8s,baz=93,slow=4.8,SNR=5.7						
ARCES	**ARCESS Array B**	**117.76**	**345**	PKP	PKPdf	21 36 11.3	-0.7
	1.6nm,0.7s,baz=48,slow=2.7,SNR=11						
LPL	**La Plagne**	**142.70**	**336**	*e*PKP1	PKPdf	21 36 58.3	-1.3
LPG	**La Plagne**	**142.71**	**336**	*e*PKP1	PKPdf	21 36 57.8	-1.8
ORIF	**Oris-en-Rattie**	**143.53**	**337**	⇑*i*PKP1	PKPdf	21 36 59.8	-1.3
	6.3nm,0.7s						
TCF	**Toulx Ste Croi**	**143.63**	**341**	*e*PKP1	PKPdf	21 36 59.6	-1.6
	2.8nm,0.7s						
SBF	**Sospel**	**143.76**	**334**	⇑*i*PKP1	PKPdf	21 36 59.8	-1.7
	13nm,0.7s						
MFF	**Saint Martin d**	**144.03**	**344**	⇑*i*PKP1	PKPdf	21 37 00.7	-1.2
	7.9nm,0.6s						
VIVF	**Saint-Julien-l**	**144.04**	**338**	*e*PKP1	PKPdf	21 37 01.4	-0.6
PGF	**Pioggiola**	**144.09**	**331**	*e*PKP1	PKPdf	21 37 00.7	-1.5
	12nm,1.0s						
FRF	**La Foret Royal**	**144.34**	**334**	⇑*i*PKP1	PKPdf	21 37 01.8	-0.8
	7.7nm,0.7s						
SMRF	**Simiane la Rot**	**144.44**	**336**	*e*PKP1	PKPdf	21 37 02.4	-0.3
	3.9nm,0.8s						
LMR	**La Mourre**	**144.59**	**334**	⇑*i*PKP1	PKPdf	21 37 02.7	-0.3
RJF	**Les Rejaudoux**	**144.73**	**341**	*e*PKP1	PKPdf	21 37 03.5	+0.3
LASF	**Ste Croix**	**145.01**	**338**	*e*PKP1	PKPbc	21 37 04.4	+0.7
	3.5nm,0.7s						
LFF	**La Frestale**	**145.30**	**342**	*e*PKP1	PKPbc	21 37 04.5	-0.1
	5.5nm,0.7s						
MTLF	**Montolieu**	**146.24**	**339**	⇑*i*PKP1	PKPbc	21 37 08.0	+0.6
	3.0nm,0.6s						

*NIED **29** 21:32:00, 2380N×12350E, h11km, Mw4.0 Best double couple: M0:1.16000×10^15 NP1:φs=194.00000°, δ88.00000°, λ-38.00000°. NP2:φs=286.00000°, δ52.00000°, λ-177.00000°.*
*IDC **29** 21:32:13.8±0.8, 2386N×12331E, h0km, mb3.9/11, mb1 4.0/14, mb1mx3.9/20, mbtmp3.8/14, ML3.3/3, MS3.0/4, Ms1 3.0/4, ms1mx2.8/30, Error ellipse: s-maj=28.9km s-min=18.9km az=68.0*
*JMA **29** 21:32:16.1±0.1, 2382N×12353E, h17km±2km, M4.3*
JMA Felt I J1.
*ISCJB **29** 21:32:17.2±0.7, 2390N±006×12352E±004, h33km±6km, mb4.2/30, MS3.0/2, Error ellipse: s-maj=10.9km s-min=5.5km az=174.3*
*BJI **29** 21:32:19.2, 2390N×12350E, h30km, mB4.5, mb4.0, ML3.7, Ms3.9, Msz3.7*
*NEIC **29** 21:32:19.2±1.1, 2390N×12349E, h38km±9km, mb4.2/7, Error ellipse: s-maj=13.1km s-min=9.3km az=183.0*
ISC 29 21:32:16.2±1.0, 2385N±006×12349E±003, h14km±5km, n56, σ0s97/62, mb4.2/30, MS3.0/2, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATJ	**Hateruma jima**	**0.35**	**55**	P	**Pg**	**21 32 23.3**	**-0.2**
HATJ				S	**Sg**	**21 32 28.4**	**+0.1**
IRIF	**Iriomote-Funau**	**0.53**	**25**	P	**Pg**	**21 32 27.0**	**+0.3**
IRIF				S	**Sg**	**21 32 34.1**	**+0.3**
JKRS	**Kuro-shima**	**0.61**	**51**	P	**Pg**	**21 32 27.8**	**-0.4**
JKRS				S	**Sg**	**21 32 36.4**	**0.0**
YOJ	**Yonaguni jima**	**0.75**	**324**	P	**Pg**	**21 32 31.2**	**+0.4**
YOJ				S	**Sg**	**21 32 41.3**	**+0.7**
JIJ	**Ishigaki jima**	**0.79**	**50**	P	**Pg**	**21 32 30.6**	**-0.9**
JIJ				S	**Sg**	**21 32 40.5**	**-1.4**
JTJ	**Tarama**	**1.36**	**54**	P	**Pn**	**21 32 40.6**	**-0.2**
JTJ				S	**Sn**	**21 32 58.0**	**-0.6**
NACB	**Ninganchiao**	**1.76**	**281**	*e*Pn	**Pn**	**21 32 46.0**	**-0.3**
JMJ	**Miyako jima 2**	**1.91**	**59**	P	**Pn**	**21 32 48.4**	**+0.1**
JMJ				*e*S	**Sn**	**21 33 13.4**	**+1.3**
JOGS	**Gusukube**	**1.97**	**62**	P	**Pn**	**21 32 51.4**	**+2.2**
JOGS				S	**Sn**	**21 33 16.7**	**+3.0**
YHNB	**Yeheng**	**2.09**	**293**	*e*Pn	**Pn**	**21 32 52.1**	**+1.2**
TATO	**Taipei**	**2.14**	**302**	*e*Pn	**Pn**	**21 32 52.6**	**+1.1**
JKE	**Kume jima 2**	**3.87**	**50**	P	**Pn**	**21 33 16.1**	**+0.7**
JAGN	**Aguni-jima**	**4.36**	**51**	P	**Pn**	**21 33 23.4**	**+1.4**
QZH	**Quanzhou**	**4.59**	**285**	P	**Pn**	**21 33 25.5**	**+0.2**
QZH				Smax			
	comp=N,120nm,0.7s						
QZH				Smax			
	comp=E,90nm,0.6s						
QZH				LR	LR		
	comp=N,930nm,10.6s						
QZH				LR	LR		
	comp=E,1μm,12.4s						
QZH				LR	LR		
	comp=Z,690nm,8.9s						
JOW	**Kunigami**	**5.25**	**55**	Pn	**Pn**	**21 33 35.4**	**+1.0**
	comp=Z,1.7nm,0.3s,baz=133,slow=19,SNR=6.6						
JNU	**Nakatsue**	**11.29**	**33**	LR	LR	21 40 14.4	
	comp=Z,51nm,19.1s,baz=51,slow=42						
KSRS	**Korea Array**	**14.08**	**15**	Pn	**Pn**	**21 35 33.3**	**-2.0**
	comp=Z,0.2nm,0.3s,baz=195,slow=14,SNR=3.1						
MJAR	**Matsushiro Arr**	**17.91**	**42**	P	**Pn**	**21 36 25.2**	**+0.2**
	comp=Z,0.1nm,0.3s,baz=227,slow=9.2,SNR=4.3						
MJAR				LR	LR	21 43 29.7	
	comp=Z,41nm,18.4s,baz=275,slow=38						
GTA	**Gaotai**	**25.32**	**313**	*e*P	**P**	**21 37 42.3**	**-0.3**
GTA				AMB	AMB		
	comp=Z,2.0nm,1.3s,mb3.5						
ASAJ	**Asahikawa**	**25.57**	**33**	LR	LR	21 47 42.0	
	comp=Z,29nm,20.0s,MS2.8,baz=18,slow=36						
ULN	**Ulaanbaatar**	**27.30**	**335**	*e*P	**P**	**21 37 60.0**	**-0.3**
	comp=Z,0.7nm,0.5s,mb3.5						
SONM	**Songino Array**	**27.53**	**335**	P	**P**	**21 38 00.6**	**-1.7**
	comp=Z,1.5nm,0.7s,mb3.7,baz=152,slow=9.9,SNR=7.0						
SONM				LR	LR	21 49 50.1	
	comp=Z,49nm,18.2s,MS3.1,baz=81,slow=38						
JIRN	**Jiri**	**33.72**	**285**	*e*P	**P**	**21 38 58.7**	**+1.4**
	comp=Z,5.8nm,0.6s,mb4.7						
GUN	**Gumba**	**33.99**	**285**	*e*P	**P**	**21 39 00.9**	**+1.3**
	comp=Z,2.7nm,0.3s,mb4.6						
KKN	**Kakani**	**34.52**	**285**	*e*P	**P**	**21 39 04.8**	**+0.5**
	comp=Z,3.9nm,0.6s,mb4.5						
DMN	**Daman**	**34.69**	**284**	*e*P	**P**	**21 39 06.5**	**+0.8**
GKN	**Gorkha**	**35.08**	**285**	*e*P	**P**	**21 39 09.4**	**+0.3**
DANN	**Dangsing**	**35.84**	**286**	*e*P	**P**	**21 39 16.5**	**+0.8**
	comp=Z,5.8nm,0.6s,mb4.7						
MK31	**Makanchi Array**	**40.05**	**315**	*e*P	**P**	**21 39 50.1**	**-0.7**
MKAR	**Makanchi Array**	**40.05**	**315**	P	**P**	**21 39 50.5**	**-0.4**
	comp=Z,0.8nm,0.5s,mb3.7,baz=101,slow=9.9,SNR=21						
ZALV	**Zalesovo Beam**	**41.68**	**326**	P	**P**	**21 40 02.5**	**-1.7**
	comp=Z,1.7nm,0.4s,mb4.0,baz=118,slow=9.0,SNR=10						
TKM2	**Tokmak 2**	**43.63**	**308**	*e*P	**P**	**21 40 21.1**	**+0.9**
	comp=Z,1.7nm,0.5s,mb4.0						
KURK	**Kurchatov**	**43.70**	**320**	*e*P	**P**	**21 40 19.8**	**-0.9**
	comp=Z,1.6nm,0.7s,mb3.9						
WRA	**Warramunga Arr**	**44.80**	**165**	P	**P**	**21 40 29.1**	**-0.6**
	comp=Z,0.6nm,0.8s,mb3.5,baz=351,slow=8.9,SNR=5.7						
KBL	**Kabul**	**48.20**	**296**	*e*P	**P**	**21 40 57.7**	**+1.2**
	comp=Z,2.3nm,0.7s,mb4.3						
ASAR	**Alice Springs**	**48.30**	**167**	P	**P**	**21 40 57.4**	**+0.2**
	comp=Z,0.3nm,0.6s,mb3.5,baz=348,slow=6.7,SNR=4.5						
BRVK	**Borovoye**	**49.34**	**320**	*e*P	**P**	**21 41 03.7**	**-1.2**
	comp=Z,1.6nm,0.5s,mb4.3						
MIB	**Mutribah**	**67.08**	**294**	*e*P	**P**	**21 43 08.1**	**-1.4**
MIB				AMb	AMB	21 43 09.9	
	comp=Z,10.0nm,0.7s,mb5.0						
RDF	**Al-Radifah**	**67.14**	**293**	*e*P	**P**	**21 43 09.3**	**-0.5**
RDF				AMb	AMB	21 43 12.9	
	comp=Z,11nm,0.8s,mb5.0						
NAY	**Al-Naaiem**	**67.31**	**293**	*e*P	**P**	**21 43 09.9**	**-1.0**
NAY				AMb	AMB	21 43 11.6	
	comp=Z,5.7nm,0.7s,mb4.7						
KIV	**Kislovodsk**	**67.43**	**309**	*e*P	**P**	**21 43 12.2**	**+0.7**
	comp=Z,4.7nm,0.8s,mb4.6						
RST	**Umm Al-Ruwaisa**	**67.45**	**293**	*e*P	**P**	**21 43 09.5**	**-2.3**
RST				AMb	AMB	21 43 12.7	
	comp=Z,7.6nm,1.1s,mb4.6						
JOF	**Joensuu**	**70.03**	**331**	*e*p	**P**	**21 43 21.0**	**-6.3**
ARCES	**ARCESS Array B**	**70.63**	**338**	P	**P**	**21 43 30.9**	**0.0**
	comp=Z,3.8nm,1.0s,mb4.3,baz=67,slow=6.9,SNR=2.9						
MALT	**Malatya**	**71.92**	**304**	*e*P	**P**	**21 43 40.5**	**+1.2**
	comp=Z,4.7nm,0.8s,mb4.5						
INK	**Inuvik**	**72.74**	**22**	*e*P	**P**	**21 43 42.0**	**-1.6**
	comp=Z,41nm,0.7s,mb5.5						
FINES	**FINESS Array B**	**72.79**	**330**	P	**P**	**21 43 43.5**	**-0.5**
	comp=Z,0.9nm,0.6s,mb3.9,baz=67,slow=6.1,SNR=7.7						
AKASG	**Malin Array Be**	**74.51**	**319**	P	**P**	**21 43 53.4**	**-0.9**
	comp=Z,0.5nm,0.5s,mb3.8,baz=58,slow=6.3,SNR=7.0						
NB2	**NORSAR Subarra**	**79.49**	**333**	P	**P**	**21 44 21.2**	**-0.9**
	comp=Z,1.0nm,0.5s,mb4.0,baz=55,slow=5.6						
NOA	**NORSAR Array B**	**79.49**	**333**	P	**P**	**21 44 21.6**	**-0.6**
	comp=Z,1.3nm,0.6s,mb4.0,baz=56,slow=5.7,SNR=9.1						
YKA	**Yellowknife Ar**	**82.45**	**23**	P	**P**	**21 44 39.0**	**+1.2**
	comp=Z,0.8nm,0.8s,mb3.7,baz=310,slow=4.9,SNR=14						
GERES	**GERESS Array B**	**84.43**	**321**	P	**P**	**21 44 47.7**	**-0.6**
	comp=Z,0.4nm,0.5s,mb3.8,baz=23,slow=4.4,SNR=5.1						
CABF	**La Chapelle**	**89.95**	**322**	*e*P	**P**	**21 45 15.3**	**+0.1**
	comp=Z,17nm,1.1s,mb5.0						
LPG	**La Plagne**	**90.22**	**321**	*e*P	**P**	**21 45 16.7**	**+0.2**
	comp=Z,4.0nm,0.9s,mb4.5						
LPL	**La Plagne**	**90.22**	**321**	*e*P	**P**	**21 45 16.5**	**0.0**
ORIF	**Oris-en-Rattie**	**91.06**	**321**	*e*P	**P**	**21 45 20.2**	**-0.2**

*MOS **29** 21:37:13.7±1.3, 5498N×11173E, h4km, mb4.0/1, Error ellipse: s-maj=51.5km s-min=21.5km az=60.4*
BYKL 29 21:37:14.1±0.2, 5506N×11169E, h8km±4km, 11C-3D, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YLYR	**Ulyunkhan**	**0.36**	**239**	⇓*i*Pg	Pg	21 37 20.9	-0.1
	106nm,0.2s						
YLYR				⇓*i*Pg	Pg	21 37 20.9	-0.1
	112nm,0.2s						
YLYR				⇑*i*Pg	Pg	21 37 20.9	-0.1
	140nm,0.2s						
YLYR				*e*Sg	Sg	21 37 26.1	+0.4
YLYR				Pmax			
	84nm,0.2s						
YLYR				Smax			
	743nm,0.2s						
KMO	**Kumora**	**0.87**	**342**	⇑*i*Pg	Pg	21 37 29.9	-1.0
KMO				*e*Sg	Sg	21 37 41.7	-0.6
KMO				Pmax			
	89nm,0.4s						
KMO				Smax			
	272nm,1.3s						
YOA	**Uoyan**	**1.08**	**1**	⇑*i*PG	Pg	21 37 34.1	-0.6
YOA				*i*		21 37 49.3	
YOA				pmax	pmax		
	comp=Z,60nm,0.2s						
YOA				smax			
	comp=E,574nm,0.5s						
YOA	**Uoyan**	**1.08**	**1**	⇑*i*Pg	Pg	21 37 34.0	-0.7
YOA				*e*Sg	Sg	21 37 49.3	+0.6
YOA				*e*		21 37 54.6	
YOA				Pmax			
	comp=E,60nm,0.2s						
YOA				max			
	comp=E,564nm,0.7s						
UKT	**Uakit**	**1.19**	**68**	⇑*i*PG	Pg	21 37 35.1	-1.8
UKT				*e*		21 37 50.9	
UKT				pmax	pmax		
	comp=Z,60nm,0.3s						
UKT				smax			
	comp=N,318nm,0.4s						
UKT	**Uakit**	**1.19**	**68**	⇑*i*Pg	Pg	21 37 35.1	-1.8
	comp=N,6.0nm,0.5s						
UKT				⇑*i*Pg	Pg	21 37 35.1	-1.8
	comp=N,42nm,0.5s						
UKT				⇑*i*Pg	Pg	21 37 35.1	-1.8
	comp=N,32nm,0.5s						
UKT				*e*		21 37 37.7	
UKT				*e*Sg	Sg	21 37 51.2	-1.1
UKT				*e*		21 37 56.1	
UKT				max			
	comp=N,59nm,0.4s						
UKT				Smax			
	comp=N,319nm,0.4s						
NIZ	**Nizh Angarsk**	**1.42**	**301**	⇑*i*Pg	Pg	21 37 39.7	-1.6
NIZ				*e*		21 37 41.5	
NIZ				*e*Sg	Sg	21 37 59.3	-0.4
NIZ				*e*		21 38 02.8	
NIZ				max			
	comp=N,63nm,0.3s						
NIZ				max			
	comp=N,155nm,0.5s						
SVKR	**Severomuysk**	**1.50**	**44**	*e*Pg	Pg	21 37 42.5	-0.3
SVKR				*e*Sg	Sg	21 38 02.8	+0.5
SVKR				Pmax			
	comp=N,138nm,0.3s						
SVKR				Smax			
	comp=N,561nm,0.9s						
SVK	**Severo-Muysk**	**1.53**	**42**	*e*PG	Pg	21 37 42.4	-1.0
SVK				*e*		21 38 02.1	
SVK				pmax	pmax		
	comp=Z,137nm,0.4s						
SVK				smax			
	comp=E,574nm,1.4s						
SYVR	**Suvo**	**1.72**	**216**	*e*Pg	Pg	21 37 44.6	-2.4
SYVR				*e*		21 37 49.5	
SYVR				*e*Sg	Sg	21 38 08.4	-0.9
SYVR				max			
	comp=E,32nm,0.7s						
SYVR				Smax			
	comp=E,99nm,0.4s						
MXMB	**Maximikha**	**2.50**	**225**	*e*Pn	Pn	21 37 55.8	+0.8
MXMB				*e*Pg	Pg	21 37 59.0	-2.9
MXMB				*e*Sg	Sg	21 38 32.6	-1.7
MXMB				Pmax			
	comp=E,11nm,0.4s						
MXMB				Smax			
	comp=E,192nm,0.7s						
NLYR	**Nelyaty**	**2.68**	**56**	*e*Pn	Pn	21 37 57.8	+0.3
NLYR				*e*Pg	Pg	21 38 01.4	-4.1
NLYR				*e*Sg	Sg	21 38 37.6	-2.6
NLYR				Pmax			
	comp=E,19nm,0.7s						
NLYR				Smax			
	comp=E,91nm,1.0s						
OGRR	**Ongureny**	**2.79**	**241**	⇑*i*Pn	Pn	21 37 59.8	+0.9
OGRR				⇑*i*Pg	Pg	21 38 03.4	-4.0
OGRR				*e*Sn	Sn	21 38 33.1	+0.4
OGRR				*e*Sg	Sg	21 38 40.4	-3.1
OGRR				Pmax			
	comp=E,9.0nm,0.3s						
OGRR				Smax			
	comp=E,58nm,0.4s						
BOD	**Bodaibo**	**3.05**	**24**	*e*Pn	Pn	21 38 02.7	+0.2
BOD				*e*Pg	Pg	21 38 08.1	-4.4
BOD				*e*Sn	Sn	21 38 39.8	+0.6
BOD				*e*Sg	Sg	21 38 47.4	-4.6
BOD				Pmax			
	comp=E,6.0nm,0.5s						
BOD				Smax			
	comp=E,44nm,1.0s						
ZRHB	**Zarechye**	**3.68**	**229**	*e*Sg	Sg	21 39 09.3	-2.9
ZRHB				Smax			
	comp=E,71nm,0.9s						
TRTB	**Turuntaevo**	**3.73**	**222**	*e*Pn	Pn	21 38 12.7	+0.9
TRTB				*e*Pg	Pg	21 38 21.7	-3.7
TRTB				*e*Sg	Sg	21 39 10.1	-3.5
TRTB				Pmax			
	comp=E,4.0nm,0.4s						
TRTB				Smax			
	comp=E,36nm,1.0s						
TRG	**Tyrgan**	**3.91**	**236**	*e*Pn	Pn	21 38 15.6	+1.2
TRG				*e*Pg	Pg	21 38 24.2	-4.7
TRG				*e*		21 38 28.9	
TRG				*e*Sn	Sn	21 38 59.9	-0.5
TRG				*e*Sg	Sg	21 39 14.0	-5.5
TRG				max			
	comp=E,3.0nm,0.5s						
TRG				Smax			
	comp=E,29nm,0.4s						
UUDB	**Ulan-Yde**	**4.00**	**219**	*e*Sg	Sg	21 39 19.2	-3.3
UUDB				Smax			
	comp=E,37nm,1.2s						
CRS	**Chara**	**4.13**	**61**	*e*PN	Pn	21 38 19.3	+1.9
CRS				*e*		21 38 29.5	
CRS				*e*		21 39 21.7	
CRS				pmax	pmax		
	comp=Z,13nm,1.1s						
CRS				smax			
	comp=E,68nm,1.4s						
CRS	**Chara**	**4.13**	**61**	*e*Pn	Pn	21 38 18.2	+0.8
CRS				*e*Pg	Pg	21 38 28.7	-4.4
CRS				*e*Sg	Sg	21 39 21.7	-4.9
CRS				Pmax			
	comp=E,12nm,1.0s						
CRS				Smax			
	comp=E,68nm,1.6s						
TUP	**Tupik**	**4.83**	**94**	⇓*i*Pn	Pn	21 38 27.0	0.0
TUP				*e*Pg	Pg	21 38 39.7	-6.9
TUP				*e*Sg	Sg	21 39 42.9	-6.2
TUP				Pmax			
	comp=E,4.0nm,0.4s						
TUP				Smax			
	comp=E,66nm,0.9s						
KHNR	**Khani**	**5.01**	**65**	*e*Sg	Sg	21 39 48.8	-6.1
KPC	**Khapcheranga**	**5.38**	**175**	*e*Pn	Pn	21 38 34.7	+0.1
KPC				*e*Pg	Pg	21 38 50.9	-6.2
KPC				*e*Sn	Sn	21 39 33.3	-3.4
KPC				*e*Sg	Sg	21 40 00.3	-6.5
KPC				Pmax			
	comp=E,1.0nm,0.2s						
KPC				Smax			
	comp=E,40nm,1.1s						
TLY	**Talaya**	**5.89**	**238**	*e*Sg	Sg	21 40 15.1	-7.8
TLY				Smax			
	comp=E,11nm,0.9s						
ARS	**Arshan**	**6.36**	**244**	*e*PN	Pg	21 39 07.5	-8.3
ARS				*e*		21 40 28.8	
ARS				pmax	pmax		
	comp=Z,2.0nm,0.1s						
ARS				smax			
	comp=E,59nm,0.7s						
ARS	**Arshan**	**6.36**	**244**	*e*Pg	Pg	21 39 07.1	-8.7
ARS				*e*Sg	Sg	21 40 28.8	-9.3
ARS				Pmax			
	comp=E,6.0nm,0.5s						
ARS				Smax			
	comp=E,59nm,0.9s						
ZAK	**Zakamensk**	**6.93**	**231**	*e*Pg	Pg	21 39 17.7	-9.0
ZAK				*e*Sg	Sg	21 40 46.6	-10
ZAK				Pmax			
	comp=E,1.0nm,0.2s						
ZAK				Smax			
	comp=E,4.0nm,0.8s						
MOY	**Mondy**	**7.25**	**246**	*e*Pn	Pn	21 39 02.1	+1.9
MOY				*e*Sg	Sg	21 40 58.9	-7.6
MOY				max			
	comp=E,1.0nm,0.3s						
MOY				Smax			
	comp=E,32nm,2.0s						
ORL	**Orlik**	**7.47**	**255**	*e*PN	Pn	21 39 04.7	+1.4
ORL				*e*		21 39 28.9	
ORL				*e*		21 41 04.6	
ORL				pmax	pmax		
	comp=Z,2.0nm,0.7s						
ORL				smax			
	comp=N,24nm,1.4s						
ORL	**Orlik**	**7.47**	**255**	*i* Pn	Pn	21 39 04.2	+0.9
ORL				*e*Sn	Sn	21 40 26.7	-1.4
ORL				*e*Sg	Sg	21 41 04.3	-10
ORL				max			
	comp=N,1.0nm,0.6s						
ORL				Smax			
	comp=N,34nm,1.8s						
TNDR	**Tynda**	**7.48**	**84**	*e*Sg	Sg	21 41 06.1	-7.8

*MOS **29** 21:48:41.8±1.0, 5568N×11068E, h12km, mb4.4/1, Error ellipse: s-maj=16.7km s-min=9.5km az=57.5*
BYKL 29 21:48:42.8±0.2, 5564N×11072E, h6km±4km, 19C-9D, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMO	**Kumora**	**0.37**	**47**	*e*PG	Pg	21 48 49.3	-0.6
KMO				*e*		21 48 53.5	
KMO				pmax	pmax		
	comp=Z,540nm,0.4s						
KMO				smax			
	comp=N,2μm,0.8s						
KMO	**Kumora**	**0.37**	**47**	⇓*i*Pg	Pg	21 48 49.3	-0.6
KMO				*i*		21 48 51.6	
KMO				*e*Sg	Sg	21 48 54.1	-0.6
KMO				max			
	comp=N,679nm,0.6s						
KMO				Smax			
	comp=N,2μm,1.1s						
NIZ	**Nizh Angarsk**	**0.68**	**282**	⇑*i*PG	Pg	21 48 55.6	-0.3
NIZ

YOA				*i*		21 49 07.6	
YOA				pmax	pmax		
	comp=Z,249nm,0.2s						
YOA				smax			
	comp=N,2μm,0.4s						
YOA	**Uoyan**	**0.75**	**48**	⇓*i*Pg	Pg	21 48 56.7	-0.5
YOA				*e*Sg	Sg	21 49 07.6	+0.6
YOA				Pmax			
	comp=N,246nm,0.2s						
YOA				Smax			
	comp=N,2μm,0.6s						
YLYR	**Ulyunkhan**	**0.81**	**162**	*e*PG	Pg	21 48 57.4	-0.8
YLYR				*e*		21 49 07.9	
YLYR				pmax	pmax		
	comp=Z,218nm,0.4s						
YLYR				smax			
	comp=E,664nm,0.6s						
YLYR	**Ulyunkhan**	**0.81**	**162**	⇓*i*Pg	Pg	21 48 57.2	-1.0
	comp=E,185nm,0.6s						
YLYR				⇑*i*Pg	Pg	21 48 57.2	-1.0
	comp=E,66nm,0.6s						
YLYR				⇑*i*Pg	Pg	21 48 57.2	-1.0
	comp=E,178nm,0.6s						
YLYR				*e*Sg	Sg	21 49 08.0	-0.7
YLYR				Pmax			
	comp=E,232nm,0.5s						
YLYR				Smax			
	comp=E,663nm,0.9s						
UKT	**Uakit**	**1.66**	**94**	*e*PN	Pn	21 49 12.5	+0.1
UKT				*e*		21 49 34.4	
UKT				pmax	pmax		
	comp=Z,184nm,0.3s						
UKT				smax			
	comp=N,577nm,0.4s						
UKT	**Uakit**	**1.66**	**94**	⇓*i*Pg	Pg	21 49 12.4	-2.1
	comp=N,35nm,0.8s						
UKT				⇑*i*Pg	Pg	21 49 12.4	-2.1
	comp=N,120nm,0.8s						
UKT				⇑*i*Pg	Pg	21 49 12.4	-2.1
	comp=N,137nm,0.8s						
UKT				*e*Sg	Sg	21 49 34.4	-1.6
UKT				Pmax			
	comp=N,182nm,0.7s						
UKT				Smax			
	comp=N,575nm,0.8s						
SVK	**Severo-Muysk**	**1.67**	**70**	*e*PN	Pn	21 49 13.1	+0.6
SVK				*e*		21 49 35.9	
SVK				pmax	pmax		
	comp=Z,192nm,0.7s						
SVK				smax			
	comp=N,1μm,1.3s						
SVKR	**Severomuysk**	**1.67**	**72**	⇑*i*Pg	Pg	21 49 13.2	-1.6
SVKR				*e*Sg	Sg	21 49 36.5	+0.1
SVKR				Pmax			
	comp=N,158nm,0.5s						
SVKR				Smax			
	comp=N,1μm,0.7s						
SYVR	**Suvo**	**2.03**	**192**	*e*PN	Pn	21 49 19.2	+1.7
SYVR				*e*		21 49 47.1	
SYVR				pmax	pmax		
	comp=Z,116nm,0.6s						
SYVR				smax			
	comp=E,493nm,0.8s						
SYVR	**Suvo**	**2.03**	**192**	*e*Pn	Pn	21 49 17.5	0.0
SYVR				⇓*i*Pg	Pg	21 49 19.2	-2.5
SYVR				*e*Sg	Sg	21 49 47.0	-0.9
SYVR				Pmax			
	comp=E,112nm,0.7s						
SYVR				Smax			
	comp=E,478nm,1.1s						
MXMB	**Maximikha**	**2.65**	**207**	*e*Pn	Pn	21 49 26.8	+0.9
MXMB				⇑*i*Pg	Pg	21 49 29.9	-3.6
MXMB				*e*		21 49 35.3	
MXMB				*i*Sg	Sg	21 50 06.7	-1.0
MXMB				max			
	comp=E,40nm,0.5s						
MXMB				Smax			
	comp=E,670nm,0.9s						
OGRR	**Ongureny**	**2.70**	**224**	*e*PN	Pn	21 49 27.3	+0.6
OGRR				*e*		21 49 31.9	
OGRR				*e*		21 50 06.3	
OGRR				pmax	pmax		
	comp=Z,29nm,0.6s						
OGRR				smax			
	comp=E,160nm,1.2s						
OGRR	**Ongureny**	**2.70**	**224**	*e*Pn	Pn	21 49 27.5	+0.8
OGRR				⇓*i*Pg	Pg	21 49 31.5	-3.0
OGRR				*e*Sn	Sn	21 49 59.9	+0.2
OGRR				*e*Sg	Sg	21 50 06.4	-3.1
OGRR				Pmax			
	comp=E,30nm,0.5s						
OGRR				Smax			
	comp=E,165nm,1.1s						
BOD	**Bodaibo**	**2.84**	**38**	*e*Pn	Pn	21 49 28.9	+0.4
BOD				⇑*i*Pg	Pg	21 49 33.2	-3.9
BOD				*e*Sn	Sn	21 50 02.1	-0.9
BOD				*e*Sg	Sg	21 50 10.2	-3.6
BOD				Pmax			
	comp=E,18nm,0.5s						
BOD				Smax			
	comp=E,98nm,0.4s						
NLYR	**Nelyaty**	**2.92**	**71**	⇑*i*Pn	Pn	21 49 30.3	+0.6
NLYR				⇑*i*Pg	Pg	21 49 33.8	-4.9
NLYR				*e*		21 49 39.2	
NLYR				*e*Sg	Sg	21 50 13.9	-2.6
NLYR				max			
	comp=E,50nm,0.8s						
NLYR				Smax			
	comp=E,218nm,1.0s						
ZRHB	**Zarechye**	**3.74**	**216**	⇓*i*Pg	Pg	21 49 49.3	-5.1
ZRHB				*e*Sg	Sg	21 50 38.7	-4.0
ZRHB				Pmax			
	comp=E,43nm,0.8s						
ZRHB				Smax			
	comp=E,260nm,1.0s						
TRG	**Tyrgan**	**3.86**	**223**	⇑*i*Pn	Pn	21 49 43.4	+0.8
TRG				*e*Pg	Pg	21 49 51.4	-5.3
TRG				*e*		21 49 54.9	
TRG				*e*Sg	Sg	21 50 41.9	-4.8
TRG				max			
	comp=E,14nm,0.7s						
TRG				Smax			
	comp=E,56nm,0.6s						
TRTB	**Turuntaevo**	**3.87**	**209**	⇓*i*Pn	Pn	21 49 43.5	+0.7
TRTB				*e*		21 49 46.3	
TRTB				⇑*i*Pg	Pg	21 49 51.4	-5.6
TRTB				*e*Sg	Sg	21 50 41.5	-5.6
TRTB				Pmax			
	comp=E,18nm,0.6s						
TRTB				Smax			
	comp=E,56nm,0.9s						
UUDB	**Ulan-Yde**	**4.19**	**207**	*e*Pg	Pg	21 49 57.8	-5.3
UUDB				*e*Sg	Sg	21 50 52.6	-4.7
UUDB				Pmax			
	comp=E,23nm,1.0s						
UUDB				Smax			
	comp=E,99nm,1.4s						
STDB	**Stepnoy Dvoret**	**4.33**	**218**	*e*Sg	Sg	21 50 57.6	-4.0
STDB				Smax			
	comp=E,257nm,0.9s						
CRS	**Chara**	**4.39**	**70**	*e*PN	Pn	21 49 50.3	+0.4
CRS				*e*		21 50 01.9	
CRS				*e*		21 50 58.6	
CRS				pmax	pmax		
	comp=Z,34nm,1.1s						
CRS				smax			
	comp=N,100nm,1.6s						
CRS	**Chara**	**4.39**	**70**	⇑*i*Pn	Pn	21 49 50.5	+0.6
CRS				⇑*i*Pg	Pg	21 50 02.4	-4.5
CRS				*e*Sg	Sg	21 50 59.4	-4.4
CRS				Pmax			
	comp=N,34nm,1.1s						
CRS				Smax			
	comp=N,95nm,1.2s						
IRK	**Irkutsk**	**5.11**	**231**	*e*PN	Pn	21 50 15.2	+15
IRK				*e*		21 51 20.4	
IRK				pmax	pmax		
	comp=Z,60nm,0.1s						
IRK				smax			
	comp=N,249nm,0.6s						
IRK	**Irkutsk**	**5.11**	**231**	*e*Sg	Sg	21 51 20.6	-6.1
IRK				Smax			
	comp=N,251nm,0.8s						
KHNR	**Khani**	**5.32**	**72**	*e*Sg	Sg	21 51 27.7	-5.7
TUP	**Tupik**	**5.45**	**99**	*e*PN	Pn	21 50 04.3	-0.1
TUP				*e*		21 50 20.7	
TUP				*e*		21 51 31.8	
TUP				pmax	pmax		
	comp=Z,13nm,0.5s						
TUP				smax			
	comp=N,104nm,1.1s						
TUP	**Tupik**	**5.45**	**99**	⇑*i*Pn	Pn	21 50 04.1	-0.3
TUP				⇑*i*Pg	Pg	21 50 19.6	-7.5
TUP				*e*Sn	Sn	21 51 03.9	-3.5
TUP				*e*Sg	Sg	21 51 31.8	-5.8
TUP				Pmax			
	comp=N,10.0nm,0.8s						
TUP				Smax			
	comp=N,104nm,1.1s						
TLY	**Talaya**	**5.78**	**230**	*e*Pg	Pg	21 50 26.1	-7.3
TLY				*e*Sn	Sn	21 51 14.0	-1.5
TLY				*e*Sg	Sg	21 51 40.4	-7.8
TLY				Pmax			
	comp=N,15nm,1.2s						
TLY				Smax			
	comp=N,64nm,1.8s						
KPC	**Khapcheranga**	**6.03**	**170**	*e*Pn	Pn	21 50 12.9	+0.5
KPC				*e*		21 50 23.8	
KPC				*e*Pg	Pg	21 50 30.9	-7.3
KPC				*e*Sn	Sn	21 51 18.6	-3.1
KPC				*e*Sg	Sg	21 51 49.3	-7.0
KPC				Pmax			
	comp=N,2.0nm,0.7s						
KPC				Smax			
	comp=N,64nm,1.0s						
ARS	**Arshan**	**6.17**	**236**	*e*PN	Pn	21 50 14.0	-0.3
ARS				*e*		21 50 34.2	
ARS				*e*		21 51 53.8	
ARS				pmax	pmax		
	comp=Z,15nm,0.3s						
ARS				smax			
	comp=E,263nm,0.8s						
ARS	**Arshan**	**6.17**	**236**	*e*Pn	Pn	21 50 13.9	-0.4
ARS				*e*Sn	Sn	21 51 24.6	-0.5
ARS				*e*Sg	Sg	21 51 53.0	-7.7
ARS				max			
	comp=E,17nm,0.6s						
ARS				Smax			
	comp=E,261nm,0.9s						
ZAK	**Zakamensk**	**6.92**	**223**	*e*PN	Pn	21 50 24.9	+0.3
ZAK				*e*		21 50 45.7	
ZAK	**Zakamensk**	**6.92**	**223**	*e*Pn	Pn	21 50 25.3	+0.7
ZAK				*e*Pg	Pg	21 50 48.5	-6.7
ZAK				*e*Sg	Sg	21 52 17.3	-7.4
ZAK				Pmax			
	comp=E,2.0nm,0.6s						
ZAK				Smax			
	comp=E,32nm,1.8s						
MOY	**Mondy**	**7.02**	**239**	*e*PN	Pn	21 50 26.9	+1.0
MOY				*e*		21 50 49.8	
MOY				*e*S	Sn	21 51 44.3	-1.7
MOY	**Mondy**	**7.02**	**239**	⇑*i*Pn	Pn	21 50 27.4	+1.5
MOY				*e*Sn	Sn	21 51 44.5	-1.5
MOY				*e*Sg	Sg	21 52 21.8	-6.1
MOY				max			
	comp=E,13nm,0.9s						
MOY				Smax			
	comp=E,58nm,1.6s						
ORL	**Orlik**	**7.13**	**249**	*e*PN	Pn	21 50 28.9	+1.4
ORL				*e*		21 50 50.0	
ORL				*e*S	Sn	21 51 47.3	-1.4
ORL				*e*		21 52 23.9	
ORL				pmax	pmax		
	comp=Z,13nm,0.9s						
ORL				smax			
	comp=N,151nm,1.2s						
ORL	**Orlik**	**7.13**	**249**	⇑*i*Pn	Pn	21 50 29.1	+1.6
ORL				*e*Sn	Sn	21 51 47.5	-1.2
ORL				*e*Sg	Sg	21 52 24.1	-7.3
ORL				max			
	comp=N,5.0nm,0.6s						
ORL				Smax			
	comp=N,152nm,1.0s						
NRGR	**Nerungri**	**7.89**	**77**	*e*PN	Pn	21 50 21.8	-16
ULN	**Ulaanbaatar**	**8.11**	**198**	*e*Sg	Sg	21 52 53.3	-10

*IDC **29** 22:24:41.4±4.8, 1836N×9429E, h0km, mb3.5/3, mb1 3.6/3, mb1mx3.3/19, mbtmp3.5/3, Error ellipse: s-maj=322.9km s-min=26.7km az=63.0*
*ISCJB **29** 22:24:45.1±2.0, 185N±0.1×9426E±008, h38km±16km, mb4.2/10, Error ellipse: s-maj=25.5km s-min=8.7km az=23.8*
*NEIC **29** 22:24:48.8±2.8, 1845N×9431E, h57km±26km, mb4.3/5, Error ellipse: s-maj=29.5km s-min=14.3km az=48.0*
ISC 29 22:24:47.7±1.4,**185N**±01×**9428E**±008,**h41**km±11km,**n24**, σ0°**75**/26,**mb4.2**/10,**Myanmar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHTO	**Chiang Mai**	**4.43**	**85**	*e*Pn	**Pn**	**22 25 53.2**	**+0.8**
CHTO				*e*Sn	**Sn**	**22 26 42.2**	**-0.5**
SHL	**Shillong**	**7.36**	**343**	*e*PN	**Pn**	**22 26 34.0**	**+1.3**
SHL				*e*SN	**Sn**	**22 27 54.0**	**-1.0**
JIRN	**Jiri**	**11.76**	**322**	*e*P	**Pn**	**22 27 32.8**	**-0.1**
5.6nm,0.3s							
GUN	**Gumba**	**12.12**	**322**	*e*P	**Pn**	**22 27 38.1**	**+0.2**
6.4nm,0.3s							
DMN	**Daman**	**12.38**	**319**	*e*P	**Pn**	**22 27 42.1**	**+0.8**
GKN	**Gorkha**	**12.95**	**319**	*e*P	**Pn**	**22 27 48.7**	**-0.5**
7.5nm,0.3s							
DANN	**Dangsing**	**13.74**	**317**	*e*P	**Pn**	**22 27 58.6**	**-1.4**
5.4nm,0.4s							
AAK	**Ala-Archa**	**29.32**	**329**	*e*P	**P**	**22 30 45.7**	**-0.8**
5.2nm,1.8s,mb4.0							
MKAR	**Makanchi Array**	**29.88**	**343**	P	**P**	**22 30 52.5**	**+1.1**
MKAR	**Makanchi Array**	**29.88**	**343**	P	**P**	**22 30 52.5**	**+1.1**
0.1nm,0.3s,baz=152,slow=8.2,SNR=3.7							
KURK	**Kurchatov**	**34.47**	**342**	*e*P	**P**	**22 31 32.5**	**+1.0**
8.5nm,2.0s,mb4.3							
ZALV	**Zalesovo Beam**	**36.11**	**351**	P	**P**	**22 31 46.0**	**+0.4**
0.3nm,0.4s,mb3.6,baz=177,slow=9.5,SNR=5.4							
BRVK	**Borovoye**	**39.21**	**337**	P	**P**	**22 32 11.7**	**-0.1**
RDF	**Al-Radifah**	**43.78**	**293**	*e*P	**P**	**22 32 42.3**	**-7.3**
RDF				AMb	AMB	22 32 52.5	
comp=Z,12nm,0.8s,mb4.7							
MIB	**Mutribah**	**44.02**	**294**	*e*P	**P**	**22 32 47.1**	**-4.4**
MIB				AMb	AMB	22 32 53.7	
comp=Z,10nm,0.6s,mb4.7							
NAY	**Al-Naaiem**	**44.07**	**293**	*e*P	**P**	**22 32 45.3**	**-6.6**
NAY				AMb	AMB	22 32 53.1	
comp=Z,5.1nm,1.1s,mb4.2							
RST	**Umm Al-Ruwaisa**	**44.30**	**293**	*e*P	**P**	**22 32 46.1**	**-7.7**
RST				AMb	AMB	22 32 55.1	
comp=Z,7.8nm,0.6s,mb4.6							
KIV	**Kislovodsk**	**49.91**	**312**	*e*P	**P**	**22 33 37.1**	**-0.2**
comp=Z,4.2nm,0.8s,mb4.5							
YAK	**Yakutsk**	**49.98**	**21**	*e*P	**P**	**22 33 37.0**	**-0.5**
comp=Z,12nm,0.4s							
MALT	**Malatya**	**52.13**	**304**	P	**P**	**22 33 54.8**	**+0.6**
WRA	**Warramunga Arr**	**54.81**	**132**	P	**P**	**22 34 13.0**	**-0.9**
WRA				PcP	PcP	22 35 15.0	-0.9
WRA	**Warramunga Arr**	**54.81**	**132**	P	**P**	**22 34 13.0**	**-0.9**
comp=Z,0.3nm,1.0s,mb3.3,baz=316,slow=7.3,SNR=5.1							
WRA				PcP	PcP	22 35 15.0	-0.9
comp=Z,0.2nm,0.6s,baz=324,slow=3.3,SNR=6.3							
OBN	**Obninsk**	**56.66**	**324**	P	**P**	**22 34 26.6**	**-0.1**
PSZ	**Piszkesteto**	**66.09**	**315**	*e*P	**P**	**22 35 30.4**	**-0.1**
comp=Z,1.3nm,0.6s,mb4.1							

*ISK **29** 22:45:55.3, 3856N×4382E, h2km, MD2.7*
*CSEM **29** 22:45:56.8±0.1, 3852N×4375E, h5km, MD3.1, Error ellipse: s-maj=2.4km s-min=1.4km az=88.0*
*DDA **29** 22:45:57.5, 3856N×4299E, h7km±3km, Md3.1*
*ISCJB **29** 22:45:59.1±1.1, 3854N±004×4376E±010, h18km±9km, Error ellipse: s-maj=13.0km s-min=6.5km az=178.2*
ISC 29 22:45:57.7±1.3,**3856N**±004×**4383E**±009,**h10**km±7km,**n10**, σ1°**21**/17,**Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TVAN	**Van**	**0.33**	**264**	*i*P	**Pg**	**22 46 02.3**	**-2.0**
TVAN				*i*S	**Sg**	**22 46 09.1**	**+0.3**
VANB	**Van**	**0.35**	**275**	*e*PG	**Pg**	**22 46 02.3**	**-2.2**
VANT	**Van**	**0.36**	**251**	*e*PG	**Pg**	**22 46 05.3**	**+0.4**
VANT				*e*SG	**Sg**	**22 46 12.7**	**+2.9**
DYDN	**Diyadin**	**0.98**	**354**	*i*P	**Pg**	**22 46 18.0**	**+1.3**
DYDN				*i*S	**Sg**	**22 46 33.3**	**+3.8**
HAKT	**HAKKARI**	**1.01**	**185**	*i*P	**Pg**	**22 46 17.1**	**0.0**
HAKT				*i*S	**Sg**	**22 46 34.5**	**+4.3**
AGRB	**Hanur-Agry**	**1.20**	**327**	*e*PN	**Pn**	**22 46 19.5**	**-1.1**
AGRB				*e*SN	**Sn**	**22 46 36.8**	**-0.2**
CUKT	**Cukurca**	**1.33**	**188**	*e*PN	**Pn**	**22 46 21.8**	**-0.5**
CUKT				*e*SN	**Sn**	**22 46 40.2**	**+0.2**
SIRT	**Sirnak**	**1.53**	**226**	*e*PN	**Pn**	**22 46 24.3**	**-0.7**
BTMT	**Batman**	**1.88**	**259**	*e*PN	**Pn**	**22 46 31.8**	**+2.0**
ERZM	**Erzurum**	**2.33**	**306**	*i*P	**Pn**	**22 46 36.6**	**+0.5**
ERZM				*i*S	**Sg**	**22 47 12.3**	**-0.4**

*MOS **29** 22:55:45.2±1.0, 5068N×157.19E, h78km, mb4.7/52, Error ellipse: s-maj=10.1km s-min=5.1km az=93.6*
MOS Felt (II) at Severo-Kuril'sk.
*ISCJB **29** 22:55:46.8±0.5, 5071N±004×15735E±007, h92km±3km, mb4.5/90, Error ellipse: s-maj=9.2km s-min=3.8km az=43.8*
*KRSC **29** 22:55:46.9±0.8, 5072N×15782E, h32km±31km, ML4.9*
*BJI **29** 22:55:47.0, 5099N×15756E, h111km, mB4.8, mb4.7*
*IDC **29** 22:55:47.5±0.7, 5084N×15721E, h83km±5km, mb4.0/22, mb1 4.1/23, mb1mx4.1/26, mbtmp4.0/23, MS3.5/4, Ms1 3.5/4, ms1mx2.9/38, Error ellipse: s-maj=15.3km s-min=11.1km az=150.0*
*SZGRF **29** 22:55:48.3, 52.12N×159.09E, h33km, mb4.7, Off east coast of Kamchatka Peninsula, Russia*
*NEIC **29** 22:55:49.1±0.8, 5077N×15728E, h97km±7km, mb4.4/48, Error ellipse: s-maj=7.7km s-min=4.8km az=126.0*
NEIC Felt [II] at Severo-Kuril'sk.
ISC 29 22:55:47.8±0.5,**5070N**±004×**15737E**±006,**h87**km±3km, **h84**km±3.0km:**pP-P**,**n256**, σ0°**99**/273,**mb4.5**/90,**48C-2D, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**0.80**	**269**	⇓*i*PN	**Pn**	**22 56 03.9**	**-1.0**
SKR				*i*S	**Sn**	**22 56 17.1**	**-0.7**
SKR				pmax	pmax		
	comp=N,1μm,0.3s						
SKR				pmax	pmax		
	comp=E,2μm,0.3s						
SKR				pmax	pmax		
	comp=Z,3μm,0.3s						
SKR				smax			
	comp=N,42μm,1.0s						
SKR				smax			
	comp=E,38μm,1.0s						
ALID	**Alaid**	**1.17**	**279**	*i*P	**Pn**	**22 56 10.1**	**+0.9**
ALID				*i*S	**Sn**	**22 56 27.1**	**+1.8**
MIPR	**Malaya Ipel'ka**	**1.62**	**347**	*i*P	**Pn**	**22 56 16.2**	**+1.3**
MIPR				*i*S	**Sn**	**22 56 37.3**	**+1.8**
RUS	**Russkaya**	**1.88**	**22**	*i*P	**Pn**	**22 56 17.2**	**-1.0**
RUS				*i*S	**Sn**	**22 56 39.4**	**-2.0**
GRL	**Gorelyy**	**1.91**	**13**	*i*P	**Pn**	**22 56 18.9**	**+0.3**
GRL				*i*S	**Sn**	**22 56 42.4**	**+0.4**
PET	**Petropavlovsk**	**2.46**	**18**	*e*Pn	**Pn**	**22 56 25.6**	**-0.2**
PET				*e*Sn	**Sn**	**22 56 52.9**	**-2.2**
PET	**Petropavlovsk**	**2.46**	**18**	⇓*i*PN	**Pn**	**22 56 25.7**	**-0.2**
PET				*e*S	**Sn**	**22 56 55.0**	**-0.1**
PET				pmax	pmax		
	comp=Z,900nm,0.6s						
PET				pmax	pmax		
	comp=Z,732nm,0.5s						
PET				smax			
	comp=E,2μm,0.6s						
PET				smax			
	comp=E,2μm,0.5s						
PET				smax			
	comp=N,3μm,0.6s						
PET				smax			
	comp=N,4μm,0.5s						
PET				MLR	MLR		
	comp=Z,200nm,19.0s						
PET	**Petropavlovsk**	**2.46**	**18**	*i*P	**Pn**	**22 56 25.6**	**-0.3**
PET				*i*S	**Sn**	**22 56 54.0**	**-1.1**
INSR	**Institute**	**2.49**	**17**	P	**Pn**	**22 56 26.2**	**-0.1**
INSR				*i*S	**Sn**	**22 56 55.5**	**-0.4**
SDLR	**Sedlovina**	**2.75**	**19**	*i*P	**Pn**	**22 56 29.6**	**-0.1**
SDLR				*i*S	**Sn**	**22 57 00.1**	**-1.9**
NLC	**Nalytchevo**	**2.76**	**26**	*i*P	**Pn**	**22 56 28.1**	**-1.8**
NLC				*i*S	**Sn**	**22 56 58.1**	**-4.3**
SPN	**Mys Shipunski**	**2.91**	**33**	*i*P	**Pn**	**22 56 30.8**	**-1.1**
SPN				*i*S	**Sn**	**22 57 02.4**	**-3.6**
GNL	**Ganaly**	**3.02**	**7**	*i*P	**Pn**	**22 56 34.7**	**+1.3**
GNL				*i*S	**Sn**	**22 57 10.2**	**+1.6**
KII	**Karymskiy**	**3.58**	**20**	*e*P	**Pn**	**22 56 42.0**	**+1.1**
KII				*i*S	**Sn**	**22 57 23.1**	**+1.1**
TUMR	**Tumrok**	**4.89**	**19**	*e*P	**Pn**	**22 56 59.8**	**+1.1**
TUMR				*e*S	**Sn**	**22 57 52.6**	**-1.3**
KMNR	**Kamenistaya**	**5.35**	**18**	P	**Pn**	**22 57 06.4**	**+1.4**
SRDR	**Sredinnyy**	**5.80**	**13**	P	**Pn**	**22 57 12.9**	**+1.8**
MA2	**Magadan**	**9.66**	**340**	*e*Pn	**Pn**	**22 58 05.2**	**+1.6**
MA2	**Magadan**	**9.66**	**340**	*e*PN	**Pn**	**22 58 05.3**	**+1.7**
MA2				pmax	pmax		
	comp=Z,20nm,0.7s						
YSS	**Yuzh-Sakhalins**	**10.34**	**254**	*e*Pn	**Pn**	**22 58 17.1**	**+4.2**
YSS	**Yuzh-Sakhalins**	**10.34**	**254**	*e*PN	**Pn**	**22 58 14.8**	**+1.9**
YSS				pmax	pmax		
	comp=Z,30nm,0.6s						
ASAJ	**Asahikawa**	**11.97**	**242**	PN	**Pn**	**22 58 39.2**	**+4.1**
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ASAJ	**Asahikawa**	**11.97**	**242**	P	**Pn**	**22 58 39.2**	**+4.1**
comp=Z,1.6nm,0.3s,baz=99,slow=12,SNR=4.1							
ERM	**Erimo**	**13.09**	**234**	*i*PN	**Pn**	**22 58 47.6**	**-2.4**
HABR	**Khabarovsk**	**14.64**	**270**	*e*P	**Pn**	**22 59 06.3**	**-3.9**
HABR				*e*		23 01 46.7	
KLR	**Kul'dur**	**16.53**	**275**	*e*P	**Pn**	**22 59 34.7**	**+0.8**
BILL	**Bilibino**	**17.94**	**11**	*e*Pn	**Pn**	**22 59 50.0**	**-1.0**
comp=Z,11nm,0.9s							
BILL	**Bilibino**	**17.94**	**11**	*e*P	**Pn**	**22 59 52.2**	**+1.2**
BILL				pmax	pmax		
	comp=Z,8.0nm,0.8s						
YAK	**Yakutsk**	**18.90**	**317**	*e*P	**Pn**	**23 00 00.1**	**-2.4**
comp=Z,72nm,0.6s							
YAK	**Yakutsk**	**18.90**	**317**	*c*iP	**Pn**	**22 59 59.0**	**-3.6**
YAK				*e*S	**S**	**23 03 31.3**	**+0.4**
YAK				pmax	pmax		
	comp=Z,45nm,0.8s						
YAK				pmax	pmax		
	comp=N,12nm,1.3s						
YAK				pmax	pmax		
	comp=E,20nm,1.1s						
YAK				smax			
	comp=N,84nm,7.0s						
YAK				smax			
	comp=E,80nm,4.2s						
MDJ	**Mudanjiang**	**19.60**	**263**	*e*P	**Pn**	**23 00 07.6**	**-3.4**
comp=E,21nm,0.9s							
MAJO	**Matsushiro**	**19.73**	**232**	*e*P	**Pn**	**23 00 10.7**	**-1.8**
comp=E,5.5nm,0.3s							
MAJO	**Matsushiro**	**19.73**	**232**	*e*P	**Pn**	**23 00 10.7**	**-1.9**
MAJO				pmax	pmax		
	comp=Z,6.0nm,0.3s						
MAT	**Matsushiro**	**19.73**	**232**	P	**Pn**	**23 00 10.6**	**-2.0**
MAT				*e*S	**S**	**23 03 51.0**	**+3.1**
MJAR	**Matsushiro Arr**	**19.73**	**232**	P	**Pn**	**23 00 10.7**	**-1.9**
MJAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MJAR	**Matsushiro Arr**	**19.73**	**232**	P	**Pn**	**23 00 10.7**	**-1.8**
comp=Z,0.9nm,0.3s,baz=30,slow=10,SNR=16							
CN2	**Changchun**	**22.61**	**265**	*e*P	**P**	**23 00 41.0**	**0.0**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.3						
CN2				AMB	AMB		
	comp=Z,200nm,3.0s						
HIA	**Hailar**	**24.07**	**281**	*e*P	**P**	**23 00 53.3**	**-1.3**
comp=Z,13nm,0.6s,mb4.5							
HIA	**Hailar**	**24.07**	**281**	*e*P	**P**	**23 00 53.3**	**-1.3**
HIA				pmax	pmax		
	comp=Z,13nm,0.6s						
TIXI	**Tiksi**	**24.63**	**339**	*e*P	**P**	**23 00 57.7**	**-1.9**
comp=Z,7.3nm,0.6s,mb4.3							
TIXI	**Tiksi**	**24.63**	**339**	*c*iP	**P**	**23 00 58.1**	**-1.4**
TIXI				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.0						
KSRS	**Korea Array**	**24.76**	**249**	P	**P**	**23 01 02.6**	**+1.5**
comp=Z,6.6nm,0.6s,mb

comp=Z,2.0nm,0.7s,mb3.7
JNU Nakatsue 26.19 238 P **P 23 01 15.7 +1.7**
comp=Z,10nm,0.7s,mb4.4,baz=150,slow=27,SNR=4.3
SML Sawmill 31.20 48 *eP* **P 23 01 58.1 -0.1**
COLA College 31.30 42 *eP* **P 23 01 59.0 -0.1**
comp=Z,3.0nm,0.6s,mb4.2
COLA College 31.30 42 *eP* **P 23 01 59.0 -0.1**
COLA pmax pmax
comp=Z,3.0nm,0.6s,mb4.2
ULN Ulaanbaatar 32.43 285 *eP* **P 23 02 09.2 0.0**
comp=Z,4.3nm,0.7s,mb4.3
ULN Ulaanbaatar 32.43 285 *eP* **P 23 02 09.2 0.0**
ULN pmax pmax
comp=Z,4.0nm,0.7s,mb4.3
SONM Songino Array 32.85 285 P **P 23 02 12.7 -0.1**
SONM pmax pmax
comp=Z,2.0nm,0.4s
SONM MLR MLR
comp=Z,41nm,20.0s
SONM Songino Array 32.85 285 P **P 23 02 12.7 -0.1**
comp=Z,1.7nm,0.4s,mb4.2,baz=67,slow=8.1,SNR=20
SONM LR LR 23 16 35.0
comp=Z,41nm,20.0s,baz=201,slow=38
TLY Talaya 33.05 293 *eP* **P 23 02 14.5 0.0**
TLY Talaya 33.05 293 *eP* **P 23 02 14.6 +0.1**
TLY pmax pmax
comp=Z,7.0nm,0.9s,mb4.5
ZAK Zakamensk 33.73 291⇑ *iP* **P 23 02 20.7 +0.3**
ZAK pmax pmax
comp=Z,4.0nm,1.0s,mb4.2
INK Inuvik 36.80 35 *eP* **P 23 02 47.1 +0.5**
comp=Z,142nm,0.7s
INK Inuvik 36.80 35 P **P 23 02 47.1 +0.5**
INK *PP pP 23 03 05.5 -1.4
INK pmax pmax
comp=Z,4.0nm,0.5s
INK pmax pmax
comp=Z,3.0nm,0.8s
INK Inuvik 36.80 35 P **P 23 02 47.1 +0.5**
comp=Z,4.0nm,0.5s,mb4.6,baz=297,slow=6.7,SNR=48
INK pP pP 23 03 05.5 -1.4
comp=Z,2.7nm,0.8s,baz=281,slow=3.9,SNR=5.3
NACB Ninganchiao 38.23 240 P **P 23 03 00.2 +1.1**
GUMO Guam 38.38 200 P **P 23 03 03.2 +2.8**
GTA Gaotai 41.21 277 *eP* **P 23 03 24.0 +0.4**
GTA AP pP 23 03 49.0 +4.7
GTA XP sP 23 04 01.3 +7.1
GTA AMB AMB
comp=Z,5.0nm,0.8s,mb4.4
GTA LR LR
comp=N,72nm,15.6s
GTA LR LR
comp=E,57nm,14.5s
GTA LR LR
comp=Z,65nm,14.5s
ZAA0 Zalesovo Array 42.67 304 *eP* **P 23 03 34.1 -1.3**
ZALV Zalesovo Beam 42.67 304 P **P 23 03 34.4 -1.0**
ZALV pP pP 23 03 54.0 -2.1
ZALV PcP PcP 23 05 23.6 -2.0
ZALV Zalesovo Beam 42.67 304 P **P 23 03 34.4 -1.0**
comp=Z,3.1nm,0.4s,mb4.4,baz=62,slow=6.9,SNR=19
ZALV pP pP 23 03 54.0 -2.1
comp=Z,1.2nm,0.7s,baz=57,slow=11,SNR=3.0
ZALV PcP PcP 23 05 23.6 -2.0
comp=Z,0.9nm,0.4s,baz=63,slow=4.0,SNR=4.4
ZAL Zalesovo 42.69 304 P **P 23 03 34.4 -1.1**
ZAL *PP pP 23 03 54.0 -2.2
ZAL 23 05 23.6
NVS Novosibirsk 43.10 305 *i* P **P 23 03 38.2 -0.6**
NVS pmax pmax
comp=N,5.0nm,0.9s
NVS pmax pmax
comp=E,11nm,0.9s
NVS pmax pmax
comp=Z,17nm,0.9s,mb4.8
GYA Guiyang 45.33 257 P **P 23 03 57.5 +0.6**
GYA PCP PcP 23 05 37.0 +1.9
GYA AMB AMB
comp=Z,10.0nm,1.0s,mb4.5
GYA AMB AMB
comp=Z,80nm,6.8s
YKA Yellowknife Ar 46.08 40 P **P 23 04 02.6 +0.2**
YKA *PP pP 23 04 22.0 -1.3
YKA pmax pmax
comp=Z,1.0nm,0.6s
YKA pmax pmax
comp=Z,1.0nm,0.5s
YKA Yellowknife Ar 46.08 40 P **P 23 04 02.6 +0.2**
comp=Z,0.8nm,0.6s,mb3.6,baz=296,slow=7.9,SNR=8.6
YKA pP pP 23 04 22.0 -1.3
comp=Z,0.5nm,0.5s,baz=294,slow=7.9,SNR=4.9
RES Resolute Bay 46.17 21 *eP* **P 23 04 03.8 +0.8**
comp=Z,56nm,0.7s,mb5.4
RES Resolute Bay 46.17 21 *eP* **P 23 04 03.8 +0.8**
RES pmax pmax
comp=Z,56nm,0.7s,mb5.4
WMQ Urumqi 46.18 290 P **P 23 04 04.0 +0.6**
WMQ AMB AMB
comp=Z,9.0nm,1.4s,mb4.3
WMQ AMB AMB
comp=Z,93nm,5.6s
KURK Kurchatov 47.58 302 *eP* **P 23 04 13.4 -0.8**
comp=Z,14nm,0.7s,mb4.9
KURK Kurchatov 47.58 302 *eP* **P 23 04 13.4 -0.8**
KURK pmax pmax
comp=Z,14nm,0.7s,mb4.9
MK31 Makanchi Array 47.68 296 *eP* **P 23 04 14.2 -0.9**
MKAR Makanchi Array 47.68 296 P **P 23 04 14.1 -1.0**
MKAR pmax pmax
comp=Z,3.0nm,0.3s
MKAR MLR MLR
comp=Z,31nm,20.1s
MKAR Makanchi Array 47.68 296 P **P 23 04 14.1 -1.0**
comp=Z,2.7nm,0.3s,mb4.5,baz=57,slow=6.5,SNR=33
MKAR LR LR 23 23 42.7
comp=Z,31nm,20.1s,baz=212,slow=35
KMI Kunming 48.73 260 P **P 23 04 24.0 +0.6**
KMI AP pP 23 04 47.5 +2.9
KMI S **S 23 11 23.8 +4.3**
KMI AMB AMB
comp=Z,11nm,0.8s,mb4.8
KMI LR LR
comp=Z,31nm,20.9s
SPB4 Spitsbergen Ar 49.22 350 *eP* **P 23 04 26.7 +0.2**
BVAR Borovoye Array 50.56 309 P **P 23 04 35.7 -1.2**
BVAR 23 05 53.3
BVAR pmax pmax
comp=Z,4.0nm,0.4s
BVAR pmax pmax
comp=Z,1.0nm,0.5s
BVAR Borovoye Array 50.56 309 P **P 23 04 35.7 -1.3**
comp=Z,4.2nm,0.4s,mb4.8,baz=50,slow=7.2,SNR=53
BVAR PcP PcP 23 05 53.3 -0.1
comp=Z,0.9nm,0.5s,baz=47,slow=3.7,SNR=2.8
BRVK Borovoye 50.59 309 *eP* **P 23 04 36.0 -1.2**
ZRNK Zerenda 51.29 309 *i* P **P 23 04 40.8 -1.6**
ZRNK pmax pmax
comp=Z,2.0nm,0.4s,mb4.5
LSA Lhasa 52.88 273 *eP* **P 23 04 55.0 +0.6**
comp=Z,17nm,0.8s,mb5.1
LSA Lhasa 52.88 273 *eP* **P 23 04 55.1 +0.6**
LSA pmax pmax
comp=Z,17nm,0.8s,mb5.1
TKM2 Tokmak 2 53.81 296 *eP* **P 23 05 00.7 -0.4**
comp=Z,1.3nm,0.4s,mb4.3
TKM2 Tokmak 2 53.81 296 *eP* **P 23 05 00.7 -0.4**
TKM2 pmax pmax
comp=Z,1.0nm,0.4s,mb4.2
ARU Arti 54.01 317 *eP* **P 23 05 00.8 -1.7**
ARU Arti 54.01 317⇑ *iP* **P 23 05 00.7 -1.7**
ARU pmax pmax
comp=Z,14nm,1.2s,mb4.9
AAK Ala-Archa 54.62 296 P **P 23 05 05.5 -1.5**
AAK pmax pmax
comp=Z,3.0nm,0.3s,mb4.8
AAK Ala-Archa 54.62 296 P **P 23 05 05.5 -1.5**
comp=Z,3.1nm,0.3s,mb4.8,baz=92,slow=3.7,SNR=12
EKS2 Erkin-Say 55.01 297 *eP* **P 23 05 09.5 -0.3**
comp=Z,3.4nm,0.4s,mb4.7
ARCES ARCESS Array B 55.03 341 P **P 23 05 07.6 -2.0**
ARCES pmax pmax
comp=Z,4.0nm,0.9s
ARCES MLR MLR
comp=Z,37nm,20.0s
ARCES ARCESS Array B 55.03 341 P **P 23 05 07.5 -2.0**
comp=Z,3.5nm,0.9s,mb4.4,baz=41,slow=7.5,SNR=15
ARCES LR LR 23 35 37.4
comp=Z,37nm,20.0s,baz=325,slow=44
CHTO Chiang Mai 55.75 257 *eP* **P 23 05 16.5 +1.1**
comp=Z,6.0nm,0.8s,mb4.7
CHTO Chiang Mai 55.75 257 *eP* **P 23 05 16.5 +1.1**
CHTO pmax pmax
comp=Z,6.0nm,0.8s,mb4.7
CM31 Chiang Mai Arr 56.02 257 *eP* **P 23 05 19.0 +1.6**
FCC Fort Churchill 56.41 36 *eP* **P 23 05 19.5 -0.1**
comp=Z,1.5nm,0.5s,mb4.3
FCC Fort Churchill 56.41 36 *eP* **P 23 05 19.5 -0.1**
FCC pmax pmax
comp=Z,2.0nm,0.5s,mb4.4
JIRN Jiri 57.43 275 *eP* **P 23 05 27.9 +0.7**
comp=Z,21nm,0.4s,mb5.5
GUN Gumba 57.45 275 *eP* **P 23 05 27.3 -0.1**
comp=Z,30nm,0.4s,mb5.7
KKN Kakani 57.91 276 *eP* **P 23 05 31.3 +0.7**
comp=Z,34nm,0.4s,mb5.7
PKI Pulchoki 57.98 275 *eP* **P 23 05 31.9 +0.8**
DMN Daman 58.15 276 *eP* **P 23 05 32.7 +0.4**
comp=Z,29nm,0.5s,mb5.5
GKN Gorkha 58.17 276 *eP* **P 23 05 32.9 +0.5**
comp=Z,33nm,0.4s,mb5.7
AKTO Aktyubinsk 58.18 312 *i* P **P 23 05 30.4 -1.8**
NVAR Mina Array Bea 58.20 67 P **P 23 05 33.9 +1.4**
comp=Z,0.2nm,0.2s,mb3.7,baz=302,slow=5.2,SNR=2.0
NVAR pP pP 23 05 54.4 +0.2
comp=Z,0.9nm,0.5s,baz=285,slow=8.0,SNR=4.5
DANN Dangsing 58.48 277 *eP* **P 23 05 35.4 +0.8**
comp=Z,32nm,0.5s,mb5.7
JOF Joensuu 59.01 334 *ep* **P 23 05 29.2 -8.6**
comp=Z,1.8nm,0.4s,mb4.5
JOF Joensuu 59.01 334 *eP* **P 23 05 29.2 -8.6**
JOF pmax pmax
comp=Z,2.0nm,0.4s,mb4.5
FINES FINESS Array B 61.63 336 P **P 23 05 54.0 -1.6**
FINES pmax pmax
comp=Z,2.0nm,0.5s
FINES FINESS Array B 61.63 336 P **P 23 05 54.0 -1.6**
comp=Z,2.0nm,0.5s,mb4.5,baz=40,slow=7.5,SNR=19
NB2 NORSAR Subarra 65.35 343 P **P 23 06 19.0 -1.1**
comp=Z,3.7nm,0.5s,mb4.5,baz=25,slow=6.9
NOA NORSAR Array B 65.35 343 P **P 23 06 19.3 -0.8**
NOA pmax pmax
comp=Z,3.0nm,0.5s
NOA NORSAR Array B 65.35 343 P **P 23 06 19.3 -0.8**
comp=Z,3.3nm,0.5s,mb4.4,baz=24,slow=6.5,SNR=24
BATI Kupang 67.36 216 LR LR 23 37 01.9
comp=Z,181nm,19.4s,baz=194,slow=37
SCHQ Schefferville 68.55 26 P **P 23 06 40.3 -0.2**
SCHQ pP pP 23 07 00.8 -2.0
SCHQ Schefferville 68.55 26 P **P 23 06 40.3 -0.2**
comp=Z,2.3nm,0.5s,mb4.3,baz=343,slow=6.4,SNR=24
SCHQ pP pP 23 07 00.8 -2.0
comp=Z,1.0nm,0.4s,baz=318,slow=7.8,SNR=2.2
AKASG Malin Array Be 69.77 328 P **P 23 06 46.2 -1.9**
AKASG Malin Array Be 69.77 328 P **P 23 06 46.2 -1.9**
AKASG pmax pmax
comp=Z,1.0nm,0.3s
AKASG Malin Array Be 69.77 328 P **P 23 06 46.2 -1.9**
comp=Z,0.7nm,0.3s,mb4.0,baz=31,slow=6.7,SNR=10.0
KIV Kislovodsk 70.00 316 *eP* **P 23 06 50.1 +0.5**
comp=Z,2.7nm,0.6s,mb4.2
KIV Kislovodsk 70.00 316 *eP* **P 23 06 50.1 +0.5**
KIV pmax pmax
comp=Z,3.0nm,0.6s,mb4.3
CTA Charters Tower 71.15 191 P **P 23 06 56.1 -0.6**
CTA pmax pmax
comp=Z,2.0nm,0.6s
CTA Charters Tower 71.15 191 P **P 23 06 56.1 -0.6**
comp=Z,2.3nm,0.6s,mb4.2,baz=36,slow=7.7,SNR=4.0
CTAO Charters Tower 71.15 191 *eP* **P 23 06 55.6 -1.1**
comp=Z,2.1nm,0.6s,mb4.1
CTAO Charters Tower 71.15 191 *eP* **P 23 06 55.6 -1.1**
CTAO pmax pmax
comp=Z,2.0nm,0.6s,mb4.1
TXAR Lajitas Array 73.17 64 P **P 23 07 09.3 +0.4**
TXAR *PP pP 23 07 31.0 -0.4
TXAR pmax pmax
comp=Z,1.0nm,0.6s
TXAR pmax pmax
comp=Z,5.0nm,0.6s
TXAR Lajitas Array 73.17 64 P **P 23 07 09.3 +0.4**
comp=Z,0.6nm,0.6s,mb3.6,baz=295,slow=5.0,SNR=10
TXAR pP pP 23 07 31.0 -0.4
comp=Z,5.0nm,0.6s,baz=298,slow=4.7,SNR=37
WRAB Tennant Creek 73.19 203 P **P 23 07 09.2 +0.2**
WB2 Warramunga Arr 73.20 203 P **P 23 07 07.7 -1.3**
WRA Warramunga Arr 73.20 203 P **P 23 07 08.4 -0.6**
WRA pmax pmax
comp=Z,1.0nm,0.7s
WRA Warramunga Arr 73.20 203 P **P 23 07 08.4 -0.6**
comp=Z,0.8nm,0.7s,mb3.7,baz=21,slow=6.4,SNR=3.7
STHS Stebnicka Huta 73.44 332 *eP* **P 23 07 10.9 +0.8**
comp=Z,2.1nm,0.8s,mb4.0
STHS Stebnicka Huta 73.44 332 *eP* **P 23 07 10.9 +0.8**
STHS pmax pmax
comp=Z,2.0nm,0.8s,mb4.0
CLL Collm 73.96 338⇑ *iP* **P 23 07 12.5 -0.6**
comp=Z,6.0nm,0.8s,mb4.4
CLL Collm 73.96 338⇑ *iP* **P 23 07 12.5 -0.6**
CLL pmax pmax
comp=Z,6.0nm,0.8s,mb4.4
CLL Collm 73.96 338⇑ *iP* **P 23 07 12.5 -0.6**
comp=Z,6.0nm,0.8s,mb4.4
DPC Dobruska-Polom 73.99 335 *eP* **P 23 07 13.8 +0.4**
BRG Berggiesshubel 74.13 337 *i* P **P 23 07 13.5 -0.6**
BRG pmax pmax
comp=Z,3.0nm,1.3s,mb3.9
BRG Berggiesshubel 74.13 337 *i* P **P 23 07 13.4 -0.7**
comp=Z,4.3nm,1.3s,mb4.0
PRU Pruhonice 74.79 336 *eP* **P 23 07 18.2 +0.2**
MOX Moxa 74.91 338 *eP* **P 23 07 18.6 0.0**
VYHS Vyhne 74.97 333 *eP* **P 23 07 18.9 -0.2**
comp=Z,1.5nm,0.8s,mb3.8
VYHS Vyhne 74.97 333 *eP* **P 23 07 18.9 -0.2**
VYHS pmax pmax
comp=Z,2.0nm,0.8s,mb3.9
KOLL Kolacno 75.02 333 *eP* **P 23 07 19.6 +0.3**
NKC Novy Kostel 75.09 338 *eP* **P 23 07 19.5 -0.2**
TREC Trest 75.18 335 *eP* **P 23 07 16.0 -4.2**
KHC Kasperske Hory 75.83 336 *eP* **P 23 07 24.0 +0.1**
GRA1 Grafenberg Arr 75.89 338 *eP* **P 23 07 24.6 +0.3**
comp=Z,8.0nm,1.0s,mb4.4
GRF Grafenberg Arr 75.89 338 *eP* **P 23 07 24.6 +0.3**
GRF pmax pmax
comp=Z,8.0nm,1.0s,mb4.4
GRF Grafenberg Arr 75.89 338 *eP* **P 23 07 24.6 +0.3**
GRF pmax pmax
comp=Z,8.0nm,1.0s,mb4.4
GRF Grafenberg Arr 75.89 338 *eP* **P 23 07 24.6 +0.3**
comp=Z,8.0nm,1.0s,mb4.4
PALK Pallekele 75.96 264 P **P 23 07 24.4 -0.8**
HGN Heimansgroeve 76.03 342 *eP* **P 23 07 24.8 -0.3**
comp=Z,14nm,1.2s,mb4.6
GERES GERESS Array B 76.06 336 P **P 23 07 25.4 +0.1**
GERES pmax pmax
comp=Z,2.0nm,0.4s
GERES GERESS Array B 76.06 336 P **P 23 07 25.4 +0.2**
comp=Z,2.0nm,0.4s,mb4.2,baz=36,slow=5.5,SNR=32
MEM Membach 76.16 342 P **P 23 07 26.0 +0.2**
comp=Z,10nm,1.2s,mb4.4
BCLA Clavier 76.48 342 P **P 23 07 27.7 +0.1**
GIVF Givet 76.88 342 *eP* **P 23 07 31.2 +1.3**
ASAR Alice Springs 76.89 202 P **P 23 07 30.9 +0.8**
ASAR pmax pmax
comp=Z,1.0nm,0.6s
ASAR Alice Springs 76.89 202 P **P 23 07 30.9 +0.8**
comp=Z,0.8nm,0.6s,mb3.6,baz=13,slow=5.9,SNR=4.5
DOU Dourbes 76.93 342 P **P 23 07 30.1 -0.1**
comp=Z,9.2nm,2.4s,mb4.1
BAIF Baives 77.04 343 *eP* **P 23 07 30.9 +0.1**
comp=Z,11nm,0.7s,mb4.4
BAIF Baives 77.04 343 *eP* **P 23 07 30.9 +0.1**
comp=Z,5.4nm,0.7s,mb4.4
BAIF Baives 77.04 343 *eP* **P 23 07 30.9 +0.1**
BAIF pmax pmax
comp=Z,5.0nm,0.7s,mb4.3
PERS Pernice 77.72 334 *eP* **P 23 07 34.9 +0.3**
CDF Champ du Feu 77.98 340⇑ *iP* **P 23 07 36.1 +0.1**
comp=Z,16nm,0.9s,mb4.5
CDF Champ du Feu 77.98 340⇑ *iP* **P 23 07 36.1 +0.1**
comp=Z,7.8nm,0.9s,mb4.4
CDF Champ du Feu 77.98 340⇑ *iP* **P 23 07 36.1 +0.1**
CDF pmax pmax
comp=Z,8.0nm,0.9s,mb4.5
GCIS Gornji Cirnik 78.28 334 *i* P **P 23 07 37.6 -0.1**
MEZF Maizieres J'vi 78.36 342⇑ *iP* **P 23 07 38.4 +0.3**
comp=Z,18nm,0.8s,mb4.5
MEZF Maizieres J'vi 78.36 342⇑ *iP* **P 23 07 38.4 +0.3**
comp=Z,18nm,0.8s,mb4.8
CRES Cresnjev 78.36 334 *i* P **P 23 07 38.0 -0.2**
VISS Visnje 78.56 334 *i* P **P 23 07 38.9 -0.3**
HAU Haudompre 78.57 341⇑ *iP* **P 23 07 39.2 -0.1**
comp=Z,5.6nm,0.6s,mb4.3
HAU *e*MLR MLR
comp=Z,35nm,18.2s
HAU Haudompre 78.57 341⇑ *iP* **P 23 07 39.2 -0.1**
comp=Z,2.8nm,0.6s,mb4.3
HAU LR LR
comp=Z,40nm,18.3s
HAU Haudompre 78.57 341⇑ *iP* **P 23 07 39.2 -0.1**
HAU pmax pmax
comp=Z,3.0nm,0.6s,mb4.3
HAU MLR MLR
comp=Z,40nm,18.3s
BOJS Bojanci 78.72 334 *i* P **P 23 07 40.0 -0.2**
UMR Umm Al-Rimmam 78.91 303 *eP* **P 23 07 40.6 -0.8**
UMR AMb AMB 23 07 41.8
comp=Z,44nm,0.5s,mb5.5
MIB Mutribah 78.91 304 *eP* **P 23 07 40.8 -0.7**
MIB AMb AMB 23 07 41.8
comp=Z,78nm,0.5s
FLN La Foliniere 79.11 345⇑ *iP* **P 23 07 42.1 -0.1**
comp=Z,7.3nm,0.5s,mb4.5
FLN *e*MLR MLR
comp=Z,36nm,21.5s
FLN La Foliniere 79.11 345⇑ *iP* **P 23 07 42.1 -0.1**
comp=Z,3.7nm,0.5s,mb4.5
FLN LR LR
comp=Z,40nm,21.5s
FLN La Foliniere 79.11 345⇑ *iP* **P 23 07 42.1 -0.1**
FLN pmax pmax
comp=Z,4.0nm,0.5s,mb4.5
FLN MLR MLR
comp=Z,40nm,21.5s
LDF La Druitiere 79.22 345⇑ *iP* **P 23 07 42.6 -0.2**
KBD Kabd 79.22 303 *eP* **P 23 07 42.8 -0.3**
KBD AMb AMB 23 07 43.6
comp=Z,100nm,0.5s
RST Umm Al-Ruwaisa 79.33 304 *eP* **P 23 07 42.8 -1.0**
RST AMb AMB 23 07 43.8
comp=Z,76nm,0.5s
NAY Al-Naaiem 79.40 303 *eP* **P 23 07 43.3 -0.9**
NAY AMb AMB 23 07 44.8
comp=Z,23nm,0.7s,mb5.1
RDF Al-Radifah 79.49 303 *eP* **P 23 07 44.1 -0.5**
RDF AMb AMB 23 07 45.8
comp=Z,64nm,0.9s,mb5.4
GRR Gorron 79.54 345⇑ *iP* **P 23 07 44.8 +0.2**
LOR Lormes 79.78 342⇑ *iP* **P 23 07 45.9 0.0**
comp=Z,7.4nm,0.7s,mb4.3
LOR *e*MLR MLR
comp=Z,36nm,17.8s
LOR Lormes 79.78 342⇑ *iP* **P 23 07 45.9 0.0**
comp=Z,3.7nm,0.7s,mb4.3
LOR LR LR
comp=Z,40nm,17.8s
LOR Lormes 79.78 342⇑ *iP* **P 23 07 45.9 0.0**
LOR pmax pmax
comp=Z,4.0nm,0.7s,mb4.4
LOR MLR MLR
comp=Z,40nm,17.8s
SGMF Saint Gilles 79.93 347⇑ *iP* **P 23 07 46.9 +0.2**
CABF La Chapelle 79.95 340 *eP* **P 23 07 47.0 +0.2**
ROSF Rostrenen 79.95 347⇑ *iP* **P 23 07 47.0 +0.2**
comp=Z,5.5nm,0.6s,mb4.3
ROSF Rostrenen 79.95 347⇑ *iP* **P 23 07 47.0 +0.2**
comp=Z,2.8nm,0.6s,mb4.3
ROSF Rostrenen 79.95 347⇑ *iP* **P 23 07 47.0 +0.2**
ROSF pmax pmax
comp=Z,3.0nm,0.6s,mb4.3
STIP Stip 80.00 328 *eP* **P 23 07 46.0 -1.2**
SSF Saint Saulge 80.04 342⇑ *iP* **P 23 07 47.3 0.0**
comp=Z,5.2nm,0.8s,mb4.1
SSF Saint Saulge 80.04 342⇑ *iP* **P 23 07 47.3 0.0**
comp=Z,2.6nm,0.8s,mb4.1
SSF Saint Saulge 80.04 342⇑ *iP* **P 23 07 47.3 0.0**
SSF pmax pmax
comp=Z,3.0nm,0.8s,mb4.2
AVF Avril sur Loir 80.33 342⇑ *iP* **P 23 07 49.1 +0.2**
comp=Z,9.6nm,0.8s,mb4.4
AVF Avril sur Loir 80.33 342⇑ *iP* **P 23 07 49.1 +0.2**
comp=Z,4.8nm,0.8s,mb4.4
AVF Avril sur Loir 80.33 342⇑ *iP* **P 23 07 49.1 +0.2**
AVF pmax pmax
comp=Z,5.0nm,0.8s,mb4.4
SMF Signal de Mont 80.38 342 *eP* **P 23 07 49.3 +0.2**
BGF Bois d'Agland 80.66 342 *eP* **P 23 07 50.7 +0.1**
LPL La Plagne 80.85 340⇑ *iP* **P 23 07 52.7 +1.0**
comp=Z,10nm,0.7s,mb4.4
LPL La Plagne 80.85 340⇑ *iP* **P 23 07 52.7 +1.0**
comp=Z,5.1nm,0.7s,mb4.5
LPL La Plagne 80.85 340⇑ *iP* **P 23 07 52.7 +1.0**
LPL pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
LPG La Plagne 80.86 340⇑ *iP* **P 23 07 52.9 +1.2**
comp=Z,12nm,0.8s,mb4.5
LPG La Plagne 80.86 340⇑ *iP* **P 23 07 52.9 +1.2**
comp=Z,6.2nm,0.8s,mb4.5
LPG La Plagne 80.86 340⇑ *iP* **P 23 07 52.9 +1.2**
LPG pmax pmax
comp=Z,6.0nm,0.8s,mb4.5
TCF Toulx Ste Croi 81.03 343⇑ *iP* **P 23 07 53.0 +0.4**
comp=Z,8.1nm,0.9s,mb4.3
TCF Toulx Ste Croi 81.03 343⇑ *iP* **P 23 07 53.0 +0.4**
comp=Z,4.1nm,0.9s,mb4.3
TCF Toulx Ste Croi 81.03 343⇑ *iP* **P 23 07 53.0 +0.4**
TCF pmax pmax
comp=Z,4.0nm,0.9s,mb4.2
FSSB Fossombrone 81.07 335 P **P 23 07 53.4 +0.5**
SEI Scarperia 81.11 336 P **P 23 07 54.8 +1.7**
comp=Z,64nm,0.6s,mb5.6
VMG Vicchio 81.15 336 P **P 23 07 55.0 +1.7**
comp=Z,14nm,0.5s,mb5.1
MFF Saint Martin d 81.15 345 *eP* **P 23 07 53.7 +0.4**
comp=Z,6.3nm,0.6s,mb4.3
MFF Saint Martin d 81.15 345 *eP* **P 23 07 53.7 +0.4**
comp=Z,3.2nm,0.6s,mb4.3
MFF Saint Martin d 81.15 345 *eP* **P 23 07 53.7 +0.4**
MFF pmax pmax
comp=Z,3.0nm,0.6s,mb4.3
PIEI Pieia 81.28 335 P **P 23 07 54.5 +0.5**
comp=Z,35nm,1.7s,mb4.9
BDI Bagni Di Lucca 81.30 336 P **P 23 07 55.3 +1.2**
comp=Z,12nm,0.6s,mb4.9
BDI Bagni Di Lucca 81.30 336 P **P 23 07 55.3 +1.2**
BDI pmax pmax
comp=Z,12nm,0.6s,mb4.9
SNTG Esanatoglia 81.43 335 P **P 23 07 55.5 +0.7**
comp=Z,6.0nm,0.4s,mb4.8
MURB Monte Urbino 81.53 335 P **P 23 07 56.9 +1.6**
NRCA Norcia 81.77 334 P **P 23 07 57.4 +0.8**
comp=Z,15nm,0.8s,mb4.9
VIVF Saint-Julien-I 81.92 341 *eP* **P 23 07 57.4 +0.1**
comp=Z,11nm,1.0s,mb4.3
VIVF Saint-Julien-I 81.92 341 *eP* **P 23 07 57.4 +0.1**
comp=Z,5.4nm,1.0s,mb4.3
VIVF Saint-Julien-I 81.92 341 *eP* **P 23 07 57.4 +0.1**
VIVF pmax pmax
comp=Z,5.0nm,1.0s,mb4.3
RJF Les Rejaudoux 82.11 343 *eP* **P 23 07 58.8 +0.5**
comp=Z,3.4nm,0.7s,mb4.0
RJF *e*MLR MLR
comp=Z,60nm,19.5s
RJF Les Rejaudoux 82.11 343 *eP* **P 23 07 58.8 +0.5**
comp=Z,1.7nm,0.7s,mb4.0
RJF LR LR
comp=Z,60nm,19.5s
RJF Les Rejaudoux 82.11 343 *eP* **P 23 07 58.8 +0.5**
RJF pmax pmax
comp=Z,2.0nm,0.7s,mb4.1
RJF MLR MLR
comp=Z,60nm,19.5s
SBF Sospel 82.25 339 *eP* **P 23 08 00.1 +1.0**
CAF Calviac 82.37 343⇑ *iP* **P 23 08 00.4 +0.7**
comp=Z,6.5nm,0.8s,mb4.2
CAF Calviac 82.37 343⇑ *iP* **P 23 08 00.4 +0.7**
comp=Z,3.3nm,0.8s,mb4.2
CAF Calviac 82.37 343⇑ *iP* **P 23 08 00.4 +0.7**
CAF pmax pmax
comp=Z,3.0nm,0.8s,mb4.2

SMRF Simiane la Rot 82.57 340 *eP* **P 23 08 01.7 +1.0**
comp=Z,10nm,1.1s,mb4.3
SMRF Simiane la Rot 82.57 340 *eP* **P 23 08 01.7 +1.0**
comp=Z,10nm,1.1s,mb4.6
LFF La Frestale 82.61 343 *eP* **P 23 08 01.4 +0.5**
FRF La Foret Royal 82.72 339 *eP* **P 23 08 01.6 +0.1**
comp=Z,6.3nm,0.8s,mb4.2
FRF La Foret Royal 82.72 339 *eP* **P 23 08 01.6 +0.1**
comp=Z,3.2nm,0.8s,mb4.2
FRF La Foret Royal 82.72 339 *eP* **P 23 08 01.6 +0.1**
FRF pmax pmax
comp=Z,3.0nm,0.8s,mb4.2
LMR La Mourre 82.97 339⇑*iP* **P 23 08 02.8 0.0**
comp=Z,4.5nm,0.5s,mb4.2
LMR La Mourre 82.97 339⇑*iP* **P 23 08 02.8 0.0**
comp=Z,2.3nm,0.5s,mb4.3
LMR La Mourre 82.97 339⇑*iP* **P 23 08 02.8 0.0**
LMR pmax pmax
comp=Z,2.0nm,0.5s,mb4.2
PGF Pioggiola 83.12 337 *eP* **P 23 08 03.5 -0.1**
comp=Z,6.0nm,0.7s,mb4.2
PGF Pioggiola 83.12 337 *eP* **P 23 08 03.5 -0.1**
comp=Z,3.0nm,0.7s,mb4.2
PGF Pioggiola 83.12 337 *eP* **P 23 08 03.5 -0.1**
PGF pmax pmax
comp=Z,3.0nm,0.7s,mb4.2
STKA Stephens Creek 83.39 193 P **P 23 08 04.8 0.0**
MTLF Montolieu 83.87 342 *eP* **P 23 08 07.9 +0.5**
comp=Z,2.0nm,0.7s,mb3.8
MTLF Montolieu 83.87 342 *eP* **P 23 08 07.9 +0.5**
comp=Z,1.0nm,0.7s,mb3.8
MTLF Montolieu 83.87 342 *eP* **P 23 08 07.9 +0.5**
MTLF pmax pmax
comp=Z,1.0nm,0.7s,mb3.8
ESDC Sonseca Array 88.53 346 P **P 23 08 29.5 -0.8**
comp=Z,0.5nm,0.5s,mb3.8,baz=3.9,slow=3.5,SNR=6.5
KEST Kesra 89.44 334 P **P 23 08 34.9 +0.2**
comp=Z,0.8nm,0.6s,mb3.9,baz=175,slow=0.4,SNR=5.6

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*BJI **29** 22:56:14.4, 1298N×14431E, h198km, mB4.8, mb4.6*
*ISCJB **29** 22:56:19.7±0.5, 1349N±004×14392E±007, h204km±5km, mb4.5/52, Error ellipse: s-maj=11.6km s-min=6.0km az=170.6*
*NEIC **29** 22:56:20.9±0.5, 1352N×14388E, h199km±5km, mb4.6/22, Error ellipse: s-maj=6.4km s-min=3.5km az=82.0*
*IDC **29** 22:56:20.7±0.4, 1356N×14393E, h197km±4km, mb4.2/23, mb1 4.3/25, mb1mx4.2/30, mbtmp4.2/25, MS3.1/1, Ms1 3.1/1, ms1mx2.6/34, Error ellipse: s-maj=14.2km s-min=7.4km az=78.0*
ISC 29 22:56:20.9±0.5, 1351N±004×14393E±007, h199km±5km, n93, σ0∣75/91, mb4.5/52, 5D, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**0.92**	**85**	*e*Pn	**Pn**	**22 56 50.2**	**+0.1**
GUMO	**Guam**	**0.92**	**85**	P	**Pn**	**22 56 50.2**	**+0.2**
GUMO	1μm,0.3s,baz=314,slow=2.1,SNR=308			S	**Sn**	**22 57 12.2**	**-0.4**
CBIJ	2μm,0.3s,baz=33,slow=22,SNR=100 **Chichi jima**	**13.61**	**353**	P	**Pn**	**22 59 26.6**	**+0.5**
DAV	3.1nm,0.3s,baz=301,slow=11,SNR=3.3 **Davao City (W)**	**19.14**	**252**	P	**P**	**23 00 28.2**	**-1.1**
JOW	**Kunigami**	**19.76**	**315**	P	**P**	**23 00 36.8**	**+1.0**
JNU	15nm,0.3s,baz=141,slow=12,SNR=32 **Nakatsue**	**22.86**	**331**	P	**P**	**23 01 07.2**	**+0.2**
JNU	**Nakatsue**	**22.86**	**331**	P	**P**	**23 01 07.2**	**+0.2**
MJAR	37nm,0.9s,mb4.9,baz=124,slow=6.1,SNR=31 **Matsushiro Arr**	**23.50**	**348**	P	**P**	**23 01 11.5**	**-1.4**
MJAR	2.7nm,0.5s,mb4.1,baz=173,slow=9.7,SNR=10			pP		23 01 50.5	
MAJO	7.7nm,0.9s,baz=175,slow=7.9,SNR=5.5 **Matsushiro**	**23.50**	**348**	*e*P	**P**	**23 01 11.6**	**-1.2**
MAT	6.6nm,0.5s,mb4.5 **Matsushiro**	**23.50**	**348**	P	**P**	**23 01 11.5**	**-1.3**
MAT				*e*S	**S**	**23 05 18.0**	**+6.4**
NACB	**Ninganchiao**	**23.61**	**300**	*e*P	**P**	**23 01 13.3**	**-0.7**
YHNB	**Yeheng**	**23.99**	**301**	*e*P	**P**	**23 01 17.7**	**+0.3**
COEN	**Coen**	**27.30**	**182**	*e*P	**P**	**23 01 47.5**	**+0.3**
KSRS	6.2nm,0.6s,mb4.4 **Korea Array**	**27.79**	**332**	P	**P**	**23 01 50.0**	**-1.4**
KSRS	7.1nm,0.7s,mb4.4,baz=140,slow=9.5,SNR=22			pP	pP	23 02 30.8	-1.0
HNR	1.6nm,0.6s,baz=144,slow=9.7,SNR=1.8 **Honiara**	**27.79**	**144**	LR	LR	23 10 45.3	
KAKA	comp=Z,38nm,18.8s,baz=177,slow=31 **Kakadu**	**28.43**	**204**⇓	*i*P	**P**	**23 01 56.7**	**-0.6**
BATI	12nm,0.4s,mb4.9 **Kupang**	**30.98**	**221**	P	**P**	**23 02 18.8**	**-1.0**
WHN	22nm,0.5s,mb5.1,baz=117,slow=7.6,SNR=4.3 **Wuhan**	**32.09**	**307**⇓	P	**P**	**23 02 30.3**	**+0.9**
MDJ	**Mudanjiang**	**33.33**	**341**	P	**P**	**23 02 39.7**	**-0.2**
YSS	**Yuzh-Sakhalins**	**33.35**	**359**	*e*P	**P**	**23 02 40.2**	**+0.1**
CTA	6.2nm,0.4s,mb4.5 **Charters Tower**	**33.47**	**176**	*e*P	**P**	**23 02 42.2**	**+0.9**
CTA	14nm,1.5s,mb4.3 **Charters Tower**	**33.47**	**176**	P	**P**	**23 02 42.6**	**+1.3**
CTA	13nm,0.7s,mb4.6,baz=354,slow=9.0,SNR=34			ScP	ScP	23 08 43.3	-0.2
CTAO	1.2nm,0.4s,baz=231,slow=3.3,SNR=3.6 **Charters Tower**	**33.47**	**176**	*e*P	**P**	**23 02 41.8**	**+0.5**
CN2	127nm,1.8s,mb5.2 **Changchun**	**34.10**	**336**	*e*P	**P**	**23 02 50.0**	**+3.5**
WRAB	**Tennant Creek**	**34.54**	**196**	*e*P	**P**	**23 02 50.9**	**+0.3**
WB2	52nm,0.7s,mb5.2 **Warramunga Arr**	**34.55**	**196**⇓	*i*P	**P**	**23 02 50.7**	**0.0**
WB2	**Warramunga Arr**	**34.55**	**196**	*e*P	**P**	**23 02 50.6**	**-0.1**
WRA	**Warramunga Arr**	**34.55**	**196**	P	**P**	**23 02 50.9**	**+0.2**
WRA	42nm,0.6s,mb5.1,baz=11,slow=9.4,SNR=290			PcP	PcP	23 05 21.6	+0.6
WRA	1.6nm,0.4s,baz=11,slow=2.9,SNR=4.0			ScP	ScP	23 08 45.8	-1.5
KSM	1.6nm,0.5s,baz=14,slow=3.9,SNR=10.0 **Kuching**	**35.35**	**253**	*e*P	**P**	**23 02 57.1**	**-0.5**
FITZ	**Fitzroy Crossi**	**36.22**	**210**⇓	*i*P	**P**	**23 03 04.9**	**-0.1**
FITZ	12nm,0.4s,mb4.8 **Fitzroy Crossi**	**36.22**	**210**	P	**P**	**23 03 05.2**	**+0.2**
FITZ	7.1nm,0.5s,mb4.5,baz=34,slow=11,SNR=71			PcP	PcP	23 05 26.6	+0.7
GYA	3.1nm,0.6s,baz=28,slow=4.9,SNR=3.5 **Guiyang**	**37.17**	**296**	P	**P**	**23 03 12.8**	**-0.2**
GYA	comp=Z,10.0nm,1.0s,mb4.3			AMB	AMB		
GYA	comp=Z,80nm,6.4s			AMB	AMB		
XAN	**Xi'an**	**37.73**	**309**	P	**P**	**23 03 17.3**	**-0.2**
XAN	comp=Z,9.0nm,0.6s,mb4.5			AMB	AMB		
ASAR	**Alice Springs**	**38.23**	**195**	P	**P**	**23 03 21.7**	**0.0**
ASAR	comp=Z,9.2nm,0.5s,mb4.6,baz=15,slow=10,SNR=152			PP	PP	23 04 50.5	-3.2
ASAR	comp=Z,1.2nm,0.6s,baz=20,slow=11,SNR=3.4			PcP	PcP	23 05 32.4	+0.5
ASAR	comp=Z,1.0nm,0.5s,baz=5.7,slow=1.9,SNR=4.2			ScP	ScP	23 08 59.9	-1.0
HHC	comp=Z,1.4nm,0.7s,baz=14,slow=3.2,SNR=7.8 **Hu-ho-hao-te**	**39.24**	**320**	*e*P	**P**	**23 03 32.5**	**+2.5**
HHC				S	**S**	**23 09 14.0**	**-1.4**
HHC				AMB	AMB		
HHC	comp=Z,12nm,0.4s,mb4.8			AMB	AMB		
HHC	comp=Z,95nm,5.5s			LR	LR		
HHC	comp=N,192nm,9.2s			LR	LR		
HHC	comp=E,200nm,8.6s			LR	LR		
EIDS	comp=Z,118nm,5.1s **Eidsvold**	**39.27**	**170**	*e*P	**P**	**23 03 30.6**	**+0.2**
KMI	comp=Z,2.8nm,0.6s,mb4.0 **Kunming**	**40.40**	**293**	P	**P**	**23 03 41.0**	**+1.2**
KMI				AMB	AMB		
CD2	comp=Z,9.0nm,1.2s,mb4.1 **Chengdu**	**40.76**	**302**	*e*P	**P**	**23 03 42.8**	**+0.1**
CD2				AP	pP	23 04 20.8	-4.2
CD2				PP	PP	23 05 22.0	+1.1
CD2				S	**S**	**23 09 37.5**	**-0.8**
CD2	comp=Z,40nm,0.5s,mb5.1			AMB	AMB		
CD2	comp=Z,120nm,7.2s			AMB	AMB		
HIA	**Hailar**	**40.83**	**336**	*e*P	**P**	**23 03 42.5**	**-0.4**
MBWA	**Marble Bar**	**41.85**	**215**	*e*P	**P**	**23 03 51.6**	**0.0**
	comp=Z,22nm,0.6s,mb4.8						
LZH	**Lanzhou**	**42.36**	**309**	*e*P	**P**	**23 03 56.5**	**+0.9**
LZH	comp=Z,27nm,1.4s,mb4.5			AMB	AMB		
LZH	comp=Z,90nm,4.0s			AMB	AMB		
CHTO	**Chiang Mai**	**43.44**	**283**	*e*P	**P**	**23 04 04.5**	**0.0**
CM31	**Chiang Mai Arr**	**43.44**	**283**	*e*P	**P**	**23 04 04.6**	**+0.1**
ARMA	**Armidale**	**44.30**	**170**	*e*P	**P**	**23 04 11.9**	**+0.8**
STKA	**Stephens Creek**	**45.18**	**183**⇓	*i*P	**P**	**23 04 17.7**	**-0.3**
STKA	comp=Z,33nm,0.9s,mb4.7 **Stephens Creek**	**45.18**	**183**	P	**P**	**23 04 17.8**	**-0.2**
PSI	comp=Z,17nm,0.4s,mb4.8,baz=1.6,slow=7.7,SNR=71 **Prapat**	**45.72**	**261**	P	**P**	**23 04 22.8**	**+0.2**
PSI	**Prapat**	**45.72**	**261**	P	**P**	**23 04 22.8**	**+0.2**
ULN	comp=Z,6.1nm,0.4s,mb4.2,baz=78,slow=6.7,SNR=7.0 **Ulaanbaatar**	**45.93**	**326**	*e*P	**P**	**23 04 24.5**	**+0.8**
MA2	comp=Z,6.1nm,0.7s,mb4.0 **Magadan**	**46.26**	**5**	*e*P	**P**	**23 04 26.1**	**0.0**
SONM	comp=Z,23nm,1.2s,mb4.4 **Songino Array**	**46.27**	**325**	P	**P**	**23 04 27.1**	**+0.7**
GTA	comp=Z,4.8nm,0.6s,mb4.0,baz=141,slow=7.3,SNR=38 **Gaotai**	**46.54**	**312**	*e*P	**P**	**23 04 29.3**	**+0.7**
GTA				AMB	AMB		
FORT	comp=Z,11nm,0.9s,mb4.2 **Forrest**	**46.60**	**199**	*e*P	**P**	**23 04 29.1**	**0.0**
TLY	comp=Z,17nm,0.4s,mb4.7 **Talaya**	**49.93**	**328**	*e*P	**P**	**23 04 54.7**	**+0.4**
LSA	comp=Z,7.1nm,1.1s,mb3.9 **Lhasa**	**51.22**	**297**	*e*P	**P**	**23 05 05.4**	**+1.1**
KLBR	comp=Z,13nm,0.6s,mb4.5 **Kellerberrin**	**51.40**	**209**	*e*P	**P**	**23 05 04.7**	**-0.8**
MUN	comp=Z,100nm,1.8s,mb5.0 **Mundaring**	**52.45**	**210**	*e*P	**P**	**23 05 12.2**	**-1.1**
BILL	**Bilibino**	**56.39**	**10**	*e*P	**P**	**23 05 41.0**	**-0.1**
WMQ	comp=Z,3.4nm,0.6s,mb4.0 **Urumqi**	**56.53**	**314**	P	**P**	**23 05 43.5**	**+1.0**
WMQ				AMB	AMB		
WMQ	comp=Z,11nm,0.8s,mb4.5			AMB	AMB		
URZ	comp=Z,141nm,4.8s **Urewera**	**60.15**	**150**	P	**P**	**23 06 07.7**	**+0.1**
MK31	comp=Z,8.9nm,0.6s,mb4.6,baz=346,slow=20,SNR=6.0 **Makanchi Array**	**60.91**	**316**	*e*P	**P**	**23 06 13.2**	**+0.5**
MKAR	**Makanchi Array**	**60.91**	**316**	P	**P**	**23 06 13.1**	**+0.4**
MKAR	**Makanchi Array**	**60.91**	**316**	P	**P**	**23 06 13.1**	**+0.4**
ZAA0	comp=Z,4.0nm,0.5s,mb4.3,baz=91,slow=8.7,SNR=24 **Zalesovo Array**	**61.15**	**325**	*e*P	**P**	**23 06 13.5**	**-0.6**
ZALV	**Zalesovo Beam**	**61.15**	**325**	P	**P**	**23 06 13.6**	**-0.6**
ZALV	**Zalesovo Beam**	**61.15**	**325**	P	**P**	**23 06 13.6**	**-0.6**
RPZ	comp=Z,3.0nm,0.4s,mb4.2,baz=107,slow=7.2,SNR=12 **Rata Peaks**	**62.11**	**158**	P	**P**	**23 06 20.7**	**+0.1**
KURK	comp=Z,11nm,0.5s,mb4.8,baz=349,slow=6.9,SNR=3.8 **Kurchatov**	**64.05**	**320**	*e*P	**P**	**23 06 33.1**	**-0.3**
UCH	**Uchtor**	**65.83**	**310**	*e*P	**P**	**23 06 45.1**	**+0.1**
AAK	comp=Z,2.5nm,0.8s,mb3.9 **Ala-Archa**	**65.87**	**311**	P	**P**	**23 06 44.3**	**-1.0**
AML	comp=Z,1.3nm,0.4s,mb3.9,baz=90,slow=4.0,SNR=3.0 **Almayashu**	**66.43**	**310**	*e*P	**P**	**23 06 49.3**	**+0.5**
IMA2	comp=Z,2.8nm,0.8s,mb3.9 **Indian Mountai**	**66.68**	**23**	*e*P	**P**	**23 06 46.5**	**-3.5**
BVAR	**Borovoye Array**	**69.42**	**322**	P	**P**	**23 07 07.1**	**-0.2**
BRVK	comp=Z,4.1nm,0.4s,mb4.4,baz=100,slow=8.1,SNR=25 **Borovoye**	**69.49**	**322**	*e*P	**P**	**23 07 07.5**	**-0.2**
KBL	**Kabul**	**70.10**	**302**	*e*P	**P**	**23 07 11.8**	**0.0**
INK	**Inuvik**	**74.79**	**22**	*e*P	**P**	**23 07 38.3**	**-0.5**
INK	comp=Z,64nm,0.8s,mb5.3 **Inuvik**	**74.79**	**22**	P	**P**	**23 07 37.9**	**-0.9**
YKA	comp=Z,1.3nm,0.7s,mb3.7,baz=251,slow=4.6,SNR=6.1 **Yellowknife Ar**	**83.35**	**27**	P	**P**	**23 08 24.4**	**-0.9**
RES	comp=Z,0.5nm,0.5s,mb3.5,baz=286,slow=5.0,SNR=10 **Resolute Bay**	**84.84**	**13**	*e*P	**P**	**23 08 34.4**	**+1.7**
ARCES	comp=Z,72nm,0.7s,mb5.5 **ARCESS Array B**	**86.88**	**342**	P	**P**	**23 08 43.0**	**+0.3**
NVAR	comp=Z,3.3nm,1.0s,mb4.0,baz=78,slow=6.3,SNR=4.8 **Mina Array Bea**	**87.69**	**51**	P	**P**	**23 08 48.2**	**+1.0**
UMR	comp=Z,0.7nm,0.5s,mb3.8,baz=275,slow=3.6,SNR=4.0 **Umm Al-Rimmam**	**88.72**	**300**	*e*P	**P**	**23 08 51.8**	**-0.5**
UMR	comp=Z,13nm,0.6s,mb5.0			AMb	AMB	23 08 56.8	
MIB	comp=Z,8.8nm,0.4s,mb5.0 **Mutribah**	**88.98**	**300**	*e*P	**P**	**23 08 53.9**	**+0.4**
MIB				AMb	AMB	23 08 54.6	
NAY	comp=Z,8.5nm,0.5s,mb4.8 **Al-Naaiem**	**89.20**	**300**	*e*P	**P**	**23 08 54.8**	**+0.3**
NAY				AMb	AMB	23 09 00.4	
RST	comp=Z,8.5nm,0.5s,mb4.8 **Umm Al-Ruwaisa**	**89.34**	**300**	*e*P	**P**	**23 08 55.1**	**-0.1**
RST				AMb	AMB	23 08 56.0	
FINES	comp=Z,4.6nm,0.4s,mb4.7 **FINESS Array B**	**90.84**	**335**	P	**P**	**23 09 00.3**	**-1.1**
VNDA	comp=Z,5.2nm,1.1s,mb4.4,baz=83,slow=6.0,SNR=5.2 **Vanda**	**91.45**	**176**	P	**P**	**23 09 04.3**	**+0.5**
VNDA	**Vanda**	**91.45**	**176**	P	**P**	**23 09 04.3**	**+0.5**
DBIC	comp=Z,1.9nm,0.7s,mb4.2,baz=329,slow=5.3,SNR=18 **Dimbokro**	**143.08**	**301**	PKP	PKPdf	23 15 27.8	-4.3
DBIC				PKP	PKPdf	23 15 30.9	-1.3
DBIC	**Dimbokro**	**143.08**	**301**	PKhKP		23 15 27.8	
DBIC	comp=Z,1.6nm,0.4s,baz=320,slow=3.9,SNR=8.8			PKP	PKPdf	23 15 30.8	-1.3
CFAA	comp=Z,1.4nm,0.6s,baz=25,slow=4.0,SNR=4.2 **Coronel Fontan**	**145.45**	**127**	PKPbc	PKPbc	23 15 35.5	-0.6
LPAZ	comp=Z,0.5nm,0.7s,baz=253,slow=3.1,SNR=9.9 **La Paz**	**148.92**	**99**	PKPbc	PKPbc	23 15 47.4	+1.4
LPAZ	**La Paz**	**148.92**	**99**	PKPbc	PKPbc	23 15 47.4	+1.4
	comp=Z,1.7nm,0.5s,baz=19,slow=3.1,SNR=12						

IDC 29 23:09:43.1±1.7, 828S×15696E, h0km, mb3.7/3, mb1 3.9/4, mb1mx3.6/14, mbtmp3.8/4, ML4.2/1, Error ellipse: s-maj=41.9km s-min=26.9km az=10.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**3.17**	**111**	Pn	Pn	23 10 33.8	-0.4
HNR	28nm,0.3s,baz=282,slow=2.9,SNR=7.2			Sn	Sn	23 11 13.5	+0.7
WRA	12nm,0.3s,baz=101,slow=23,SNR=2.8 **Warramunga Arr**	**24.77**	**240**	P	P	23 15 06.0	-0.7
STKA	1.0nm,0.8s,baz=65,slow=9.3,SNR=7.6 **Stephens Creek**	**27.48**	**209**	P	P	23 15 31.9	+0.8
MKAR	1.7nm,0.8s,baz=51,slow=14,SNR=3.6 **Makanchi Array**	**85.65**	**318**	P	P	23 22 24.1	+0.4
	0.2nm,0.3s,baz=103,slow=5.4,SNR=5.5						

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*IDC **29** 23:29:36.7±2.0, 520S×150.11E, h0km, mb4.0/4, mb1 4.2/4, mb1mx3.7/14, mbtmp4.0/4, MS3.1/1, Ms1 3.1/1, ms1mx2.6/19, Error ellipse: s-maj=98.2km s-min=31.5km az=130.0*
*NEIC **29** 23:29:38.1±0.9, 523S×150.11E, h10km, mb4.2/2, Error ellipse: s-maj=37.5km s-min=15.8km az=130.0*
*ISCJB **29** 23:29:40.0±0.9, 53S±02×150.1E±02, h33km, mb4.1/7, Error ellipse: s-maj=39.1km s-min=16.6km az=39.1*
ISC 29 23:29:41.9±0.9, 52S±02×1501E±02, h35km, n11, σ1908/10, mb4.1/7, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRAB	**Tennant Creek**	**21.15**	**225**	*e*P	**P**	**23 34 23.1**	**-1.0**
WB2	4.2nm,0.6s,mb4.0 **Warramunga Arr**	**21.16**	**225**	*e*P	**P**	**23 34 22.9**	**-1.2**
WRA	**Warramunga Arr**	**21.16**	**225**	P	**P**	**23 34 23.4**	**-0.8**
ASAR	3.6nm,0.4s,mb4.0,baz=51,slow=11,SNR=60 **Alice Springs**	**24.05**	**219**	P	**P**	**23 34 54.5**	**+0.6**
FITZ	1.6nm,0.5s,mb3.7,baz=52,slow=9.7,SNR=30 **Fitzroy Crossi**	**27.08**	**240**	P	**P**	**23 35 22.8**	**+1.3**
TAU	0.8nm,0.3s,mb3.7,baz=60,slow=14,SNR=7.3 **Tasmania Unive**	**37.59**	**183**	P	**P**	**23 36 52.1**	**-1.0**
NWAO	**Narrogin (SRO)**	**41.16**	**224**	P	**P**	**23 37 24.8**	**+1.7**
MJAR	58nm,1.4s,mb5.0 **Matsushiro Arr**	**43.02**	**346**	LR	LR	23 52 39.7	
SBA	comp=Z,21nm,19.6s,baz=80,slow=32 **Scott Base**	**73.09**	**176**	P	**P**	**23 41 09.6**	**+1.5**
PMR	**Palmer**	**81.22**	**25**	*e*P	**P**	**23 41 53.8**	**-0.1**
YKA	2.1nm,0.7s,mb4.2 **Yellowknife Ar**	**97.08**	**28**	P	**P**	**23 43 09.3**	**-0.7**
	0.3nm,0.5s,mb4.0,baz=289,slow=5.7,SNR=5.0						

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*SZGRF **29** 23:28:45.1, 2132S×177.12W, h33km, Fiji Islands region*
*ISCJB **29** 23:29:45.3±0.7, 1991S±005×17791W±005, h531km±8km, mb4.3/47, Error ellipse: s-maj=9.2km s-min=4.9km az=136.9*
*BGS **29** 23:29:46.2±3.9, 1991S×17778W, h530km, mb4.4(NEIC)*
*BJI **29** 23:29:46.2, 1990S×17780W, h532km, mB4.7, mb4.5*
*NEIC **29** 23:29:46.2±0.9, 1991S×17778W, h532km±10km, mb4.4/23, Error ellipse: s-maj=10.5km s-min=6.2km az=137.0*
*MOS **29** 23:29:46.6±2.1, 1983S×17774W, h531km, mb4.5/24, Error ellipse: s-maj=11.4km s-min=9.3km az=50.8*
*IDC **29** 23:29:49.3±1.3, 1983S×17784W, h567km±15km, mb3.8/20, mb1 3.9/20, mb1mx3.9/21, mbtmp3.8/20, Error ellipse: s-maj=14.3km s-min=8.0km az=156.0*
ISC 29 23:29:46.0±0.7, 1989S±005×17786W±005, h526km±8km, n507, σ0∣65/335, mb4.3/47, 63C-92D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**8.32**	**45**	*e*P	**P**	**23 31 46.4**	**0.0**
AFI				*e*S	**S**	**23 33 24.1**	**-1.0**
RAO	**Raoul Island**	**9.32**	**180**	*e*P	**P**	**23 31 57.0**	**+0.6**
RAO				*e*S	**S**	**23 33 44.1**	**+0.6**
RAO	**Raoul Island**	**9.32**	**180**	P	**P**	**23 31 56.7**	**+0.3**
RAO	231nm,0.3s,baz=88,slow=22,SNR=7.5			S	**S**	**23 33 43.8**	**+0.2**
RAR	85nm,0.3s,baz=111,slow=22,SNR=4.0 **Rarotonga**	**16.99**	**98**	P	**P**	**23 33 14.3**	**-1.5**
RAR	comp=Z,1.0nm,0.3s			pmax	pmax		
RAR	**Rarotonga**	**16.99**	**98**	P	**P**	**23 33 14.3**	**-1.5**
OUZ	comp=Z,1.2nm,0.3s,baz=246,slow=7.0,SNR=10 **Omahuta**	**17.03**	**205**	*e*P	**P**	**23 33 17.9**	**+1.9**
MWZ	**Matawai**	**18.81**	**191**	*e*P	**P**	**23 33 31.1**	**-1.1**
URZ	**Urewera**	**18.82**	**192**	P	**P**	**23 33 30.2**	**-2.1**
URZ	**Urewera**	**18.82**	**192**	P	**P**	**23 33 30.1**	**-2.2**
URZ	comp=Z,28nm,0.3s,baz=303,slow=2.6,SNR=91			S	**S**	**23 36 29.5**	**-6.9**
MRZ	comp=Z,0.8nm,0.3s,baz=314,slow=17,SNR=6.5 **Mangatainoka R**	**21.45**	**194**	*e*P	**P**	**23 33 54.3**	**-1.8**
SNZO	**South Karori**	**22.27**	**195**	*e*P	**P**	**23 34 03.2**	**-0.3**
QRZ	comp=Z,104nm,1.1s,mb5.4 **Quartz Range**	**22.43**	**199**	P	**P**	**23 34 05.5**	**+0.6**
NNZ	**Nelson**	**22.53**	**197**	P	**P**	**23 34 05.1**	**-0.8**
THZ	**Tophouse**	**23.17**	**198**	P	**P**	**23 34 11.1**	**-0.5**
KHZ	**Kahutara**	**23.60**	**196**	*e*P	**P**	**23 34 14.7**	**-0.7**
LTZ	**Lake Taylor**	**24.29**	**198**	P	**P**	**23 34 18.2**	**-3.3**
WVZ	**Waitaha Valley**	**25.03**	**200**	P	**P**	**23 34 27.9**	**-0.1**
RPZ	**Rata Peaks**	**25.50**	**199**	P	**P**	**23 34 33.4**	**+1.2**
FOZ	comp=Z,17nm,0.4s,mb5.1,baz=291,slow=2.7,SNR=13 **Fox Glacier**	**25.81**	**201**	*e*P	**P**	**23 34 33.4**	**-1.5**
PPT	**Papeete**	**26.87**	**90**	P	**P**	**23 34 43.9**	**-0.8**
PPT	comp=Z,57nm,0.8s			pmax	pmax		
PPT	**Papeete**	**26.87**	**90**	P	**P**	**23 34 43.9**	**-0.7**
WHZ	comp=Z,57nm,0.8s,mb5.3,baz=240,slow=23,SNR=2.8 **Wether Hill Ro**	**28.45**	**201**	*e*P	**P**	**23 34 56.8**	**-1.3**
ARMA	**Armidale**	**29.45**	**243**⇑	*i*P	**P**	**23 35 09.6**	**+2.5**
CTA	**Charters Tower**	**33.69**	**263**	*e*P	**P**	**23 35 45.2**	**+1.8**
CTA	comp=Z,5.8nm,0.3s,mb4.6 **Charters Tower**	**33.69**	**263**	*e*P	**P**	**23 35 45.2**	**+1.8**
CTA				pmax	pmax		
CTA	comp=Z,6.0nm,0.3s **Charters Tower**	**33.69**	**263**	P	**P**	**23 35 45.1**	**+1.7**
CTAO	comp=Z,7.8nm,0.3s,mb4.7,baz=90,slow=11,SNR=14 **Charters Tower**	**33.69**	**263**	*e*P	**P**	**23 35 45.1**	**+1.7**
CTAO	comp=Z,10nm,0.4s,mb4.7 **Charters Tower**	**33.69**	**263**	*e*P	**P**	**23 35 45.1**	**+1.7**
CTAO				pmax	pmax		
TAU	comp=Z,10.0nm,0.4s,mb4.7 **Tasmania Unive**	**37.15**	**224**	*e*P	**P**	**23 36 12.9**	**+1.0**
STKA	**Stephens Creek**	**38.17**	**243**⇑	*i*P	**P**	**23 36 22.2**	**+1.8**
STKA	comp=Z,14nm,0.6s,mb4.7 **Stephens Creek**	**38.17**	**243**	*e*P	**P**	**23 36 22.1**	**+1.7**
STKA	**Stephens Creek**	**38.17**	**243**	P	**P**	**23 36 22.1**	**+1.7**
ASAR	comp=Z,24nm,0.8s,mb4.8,baz=91,slow=9.6,SNR=42 **Alice Springs**	**44.79**	**256**	P	**P**	**23 37 14.1**	**+1.2**
ASAR						23 38 43.3	
ASAR				S	**S**	**23 43 09.8**	**-2.0**
ASAR				pmax	pmax		
ASAR	comp=Z,13nm,0.6s			pmax	pmax		
ASAR	comp=Z,4.0nm,0.6s			pmax	pmax		
ASAR	comp=N,2.0nm,0.9s			smax			
ASAR	comp=N,6.0nm,0.8s **Alice Springs**	**44.79**	**256**	P	**P**	**23 37 14.1**	**+1.1**
ASAR	comp=N,13nm,0.6s,mb4.7,baz=91,slow=7.6,SNR=125			PcP	PcP	23 38 43.2	-0.5
ASAR	comp=N,3.5nm,0.6s,baz=101,slow=4.7,SNR=10.0			ScP	ScP	23 41 44.0	-2.0
ASAR	comp=N,2.2nm,0.9s,baz=101,slow=4.1,SNR=10.0			S	**S**	**23 43 09.8**	**-2.1**
WB2	comp=N,6.0nm,0.8s,baz=92,slow=16,SNR=32 **Warramunga Arr**	**44.81**	**261**	*e*P	**P**	**23 37 13.5**	**+0.4**
WRAB	**Tennant Creek**	**44.81**	**261**	*e*P	**P**	**23 37 13.6**	**+0.5**
WRA	**Warramunga Arr**	**44.82**	**261**	P	**P**	**23 37 13.5**	**+0.3**
WRA						23 38 43.4	
WRA				S	**S**	**23 43 09.0**	**-3.3**
WRA				pmax	pmax		
WRA	comp=Z,4.0nm,0.3s			pmax	pmax		
WRA	comp=Z,2.0nm,0.7s			pmax	pmax		
WRA	comp=N,2.0nm,1.1s			smax			
WRA	comp=N,2.0nm,0.8s **Warramunga Arr**	**44.82**	**261**	P	**P**	**23 37 13.5**	**+0.3**
WRA	comp=N,4.0nm,0.3s,mb4.5,baz=98,slow=7.1,SNR=181			PcP	PcP	23 38 43.4	-0.5
WRA	comp=N,2.1nm,0.7s,baz=89,slow=4.2,SNR=7.2			ScP	ScP	23 41 42.9	-3.3
WRA	comp=N,1.7nm,1.1s,baz=93,slow=3.6,SNR=4.4			S	**S**	**23 43 09.0**	**-3.3**
FITZ	comp=N,2.2nm,0.8s,baz=96,slow=14,SNR=11 **Fitzroy Crossi**	**53.24**	**262**	P	**P**	**23 38 15.7**	**+0.1**
FITZ				*e*PcP	PcP	23 39 15.4	+0.4
FITZ	**Fitzroy Crossi**	**53.24**	**262**	P	**P**	**23 38 15.7**	**+0.1**
MBWA	comp=N,1.4nm,0.4s,mb3.6,baz=73,slow=3.2,SNR=11 **Marble Bar**	**58.12**	**257

S05C	Merced	78.56	43	⇓P	P	23 40 52.9	-0.1
	baz=79						
BFSC	Mount Baldy St	78.58	47	P	P	23 40 52.9	-0.3
	baz=79,SNR=5.4						
EDW2	Edwards Air Fo	78.71	46	P	P	23 40 54.1	+0.3
	baz=79,SNR=12						
MONP	Monument Peak	78.71	49	P	P	23 40 54.2	+0.3
	baz=79,SNR=12						
T06C	Milleton Lake	78.77	44	P	P	23 40 54.1	0.0
	baz=79,SNR=6.8						
DVTC	Desert V Tower	78.81	49	⇓P	P	23 40 54.9	+0.5
	baz=79,SNR=7.9						
CMB	Columbia Colle	78.93	43	eP	P	23 40 54.1	-0.8
	comp=Z,8.3nm,0.9s,mb4.1						
CMB	Columbia Colle	78.93	43	eP	P	23 40 54.1	-0.8
CMB				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.0						
CMB	Columbia Colle	78.93	43	P	P	23 40 54.7	-0.2
	baz=79,SNR=10						
HELL	Mitchell Peak	79.03	44	⇑P	P	23 40 55.1	-0.3
	baz=79,SNR=6.8						
PFO	Pinyon Flat Ob	79.07	48	P	P	23 40 55.8	0.0
PFO				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb3.8						
PFO	Pinyon Flat Ob	79.07	48	P	P	23 40 55.8	0.0
	comp=Z,4.7nm,0.9s,mb3.8,baz=281,slow=2.7,SNR=6.2						
PFO	Pinyon Flat Ob	79.07	48	⇓P	P	23 40 55.8	0.0
	baz=79						
O03C	Acorn Hollow,	79.08	40	⇑P	P	23 40 55.7	+0.1
	baz=79						
WDC	Whiskeytown Da	79.12	40	⇑P	P	23 40 55.8	-0.1
	baz=79						
LAVA	Lava Cap Winer	79.13	42	⇑P	P	23 40 55.8	-0.1
	baz=79						
ORV	Oroville	79.13	41	P	P	23 40 55.8	-0.1
	baz=79,SNR=7.5						
SWSC	Sam W. Stewart	79.18	49	⇓P	P	23 40 56.2	-0.1
	baz=79						
KCC	Kaiser Creek	79.20	44	⇓P	P	23 40 56.6	+0.2
	baz=79						
M02C	Callahan	79.44	39	⇓P	P	23 40 57.6	+0.1
	baz=80						
R05C	Kirkwood Meado	79.52	42	P	P	23 40 58.1	+0.1
	baz=80,SNR=7.0						
P05C	Yuba Gap, Truc	79.54	42	⇑P	P	23 40 57.8	-0.3
	baz=80						
BELC	Belle Mtn.	79.60	48	P	P	23 40 58.9	+0.3
	baz=80,SNR=8.6						
MPMC	Manual Prospec	79.70	46	⇑P	P	23 40 59.3	+0.3
	baz=80,SNR=5.7						
MTUM	Tungsten Hills	79.71	44	eP	P	23 40 59.7	+0.7
YBH	Yreka Blue Hor	79.73	39	eP	P	23 40 59.8	+0.7
	comp=Z,8.1nm,0.8s,mb4.1						
YBH	Yreka Blue Hor	79.73	39	eP	P	23 40 59.8	+0.7
YBH				pmax	pmax		
	comp=Z,8.0nm,0.8s						
YBH	Yreka Blue Hor	79.73	39	P	P	23 40 59.5	+0.5
	baz=80,SNR=5.8						
O05C	Quincy	79.74	41	⇑P	P	23 40 59.4	+0.2
	baz=80,SNR=5.5						
GSC	Goldstone	79.75	47	eP	P	23 40 59.1	-0.2
M03C	McCloud	79.80	39	P	P	23 40 59.7	+0.3
	baz=80,SNR=5.2						
WAKR	Walker	79.81	43	eP	P	23 41 00.2	+0.7
R06C	Coleville	79.81	43	⇑P	P	23 41 00.1	+0.5
	baz=80,SNR=5.5						
HEC	Hector,Ludlow	79.82	47	⇑P	P	23 40 59.9	+0.2
	baz=80						
GLA	Glamis	79.93	49	eP	P	23 41 01.1	+0.8
GLA	Glamis	79.93	49	⇓P	P	23 41 00.6	+0.3
	baz=80,SNR=6.3						
BEKR	Beckwourth	80.03	41	⇓P	P	23 41 00.8	+0.1
	baz=80						
S08C	White Mtn Res	80.05	44	P	P	23 41 01.8	+0.9
	baz=80,SNR=15						
WCN	Washoe City	80.07	42	⇑P	P	23 41 01.5	+0.6
	baz=80						
MDJ	Mudanjiang	80.10	325	eP	P	23 41 01.8	+0.9
HUMO	Hull Mountain	80.13	38	⇓P	P	23 41 01.7	+0.6
	baz=80						
GMRC	Granite Mounta	80.26	48	⇓P	P	23 41 01.9	-0.1
	baz=80						
IRM	Iron Mountain	80.28	48	⇓P	P	23 41 02.6	+0.4
	baz=80,SNR=9.6						
FURC	Furnace Creek,	80.35	46	⇑P	P	23 41 02.4	0.0
	baz=80						
TUQ	Turquoise Mtn.	80.43	47	⇓P	P	23 41 03.0	+0.2
	baz=80						
M05C	Lookout	80.44	40	⇑P	P	23 41 03.0	+0.2
	baz=81						
NVAR	Mina Array Bea	80.49	43	P	P	23 41 03.2	+0.1
	comp=Z,5.8nm,0.8s,mb3.9,baz=216,slow=6.3,SNR=26						
Y12C	Blythe	80.51	49	P	P	23 41 03.6	+0.3
	baz=81,SNR=5.9						
O06A	Flanigan	80.53	41	⇑P	P	23 41 03.2	-0.1
	baz=81,SNR=6.7						
PAHR	Pah Rah Range	80.54	42	eP	P	23 41 03.7	+0.4
	comp=Z,12nm,1.0s,mb4.3						
M06C	Likely Place G	80.75	40	⇓P	P	23 41 04.8	+0.4
	baz=81						
S09A	Goldfield	80.80	44	⇑P	P	23 41 04.6	-0.2
	baz=81						
Q08A	Gabbs	80.98	43	P	P	23 41 05.3	-0.4
	baz=81,SNR=12						
TPNV	Topopah Spring	81.02	46	eP	P	23 41 06.2	+0.3
	comp=Z,11nm,1.1s,mb4.2						
TPNV	Topopah Spring	81.02	46	eP	P	23 41 06.2	+0.3
TPNV				pmax	pmax		
	comp=Z,11nm,1.1s,mb4.2						
TPNV	Topopah Spring	81.02	46	⇓P	P	23 41 06.1	+0.2
	baz=81,SNR=5.2						
L05A	Lakeview	81.04	39	⇓P	P	23 41 06.6	+0.8
	baz=81,SNR=5.7						
Y13A	Salome	81.04	49	⇓P	P	23 41 06.8	+0.7
	baz=81,SNR=7.8						
PDMCI	Parker Dam,Lak	81.07	49	⇓P	P	23 41 06.3	+0.1
	baz=81						
I04A	Tendick Farm,	81.18	37	⇓P	P	23 41 06.5	-0.1
	baz=81						
R09A	Tonopah	81.19	44	⇓P	P	23 41 06.8	+0.1
	baz=81						
MOD	Modoc	81.27	40	⇑P	P	23 41 07.3	+0.2
	baz=81						
S10A	Tonopah Range,	81.33	45	⇓P	P	23 41 07.6	+0.2
	baz=81,SNR=25						
K05A	Summer Lake	81.41	39	⇓P	P	23 41 08.2	+0.5
	baz=82,SNR=8.3						
N07B	Gerlach	81.42	41	⇓P	P	23 41 07.4	-0.4
	baz=82,SNR=6.0						
X13A	Yucca	81.44	49	⇑P	P	23 41 08.4	+0.3
	baz=82,SNR=7.4						
Z14A	Wintersburg	81.44	50	P	P	23 41 08.7	+0.6
	baz=82,SNR=8.0						
J05A	Fort Rock	81.55	38	⇑P	P	23 41 08.6	+0.2
	baz=82,SNR=15						
115A	Sonoran Desert	81.63	51	⇓P	P	23 41 09.5	+0.3
	baz=82,SNR=6.8						
M07A	Soldier Meadow	81.65	41	⇑P	P	23 41 09.2	+0.1
	baz=82,SNR=6.2						
W13A	Hualapai Mount	81.66	48	P	P	23 41 09.9	+0.6
	baz=82,SNR=5.2						
Y14A	Wickenburg	81.69	50	P	P	23 41 09.5	+0.1
	baz=82,SNR=12						
R10A	Warm Springs	81.72	44	P	P	23 41 09.9	+0.4
	baz=82,SNR=15						
S11A	Rachel	81.74	45	P	P	23 41 09.8	+0.2
	baz=82,SNR=6.1						
PMSA	Palmer Station	81.79	157	P	P	23 41 08.6	-0.9
216A	Three Points,	81.85	52	⇓P	P	23 41 11.2	+0.9
	baz=82						
H04A	Detroit Lake	81.86	37	⇑P	P	23 41 09.5	-0.5
	baz=82						
T11A	Corn Creek, Al	81.87	46	P	P	23 41 10.6	+0.3
	baz=82,SNR=11						
U12A	Valley of Fire	81.91	47	⇓P	P	23 41 10.8	+0.3
	baz=82						
N08A	GE Springer Mi	81.94	41	P	P	23 41 10.6	+0.1
	baz=82,SNR=16						
T12A	Moapa	81.94	46	⇑P	P	23 41 10.8	+0.2
	baz=82						
116A	Eloy	81.95	51	P	P	23 41 11.6	+0.8
	baz=82,SNR=12						
Q10A	Clear Creek Ra	81.95	44	P	P	23 41 10.6	0.0
	baz=82,SNR=6.8						
Z15A	Gila River Ind	81.98	50	⇑P	P	23 41 11.2	+0.4
	baz=82						
V13A	Grand Canyon W	81.99	47	⇓P	P	23 41 10.9	+0.1
	baz=82,SNR=8.2						
X14A	Yava	82.04	49	P	P	23 41 11.7	+0.4
	baz=82,SNR=15						
J06A	Christmas Vall	82.16	39	P	P	23 41 11.3	-0.3
	baz=82,SNR=6.5						
M08A	Happy Creek Ra	82.17	41	P	P	23 41 12.3	+0.6
	baz=82,SNR=5.8						
Y15A	Casa Rosa Ranc	82.18	50	P	P	23 41 12.4	+0.5
	baz=82,SNR=5.8						
O09A	Fish Creek Ran	82.19	42	P	P	23 41 11.8	0.0
	baz=82,SNR=5.9						
WHN	Wuhan	82.19	306	eP	P	23 41 10.8	-1.3
217A	Green Valley	82.22	52	P	P	23 41 12.8	+0.7
	baz=82,SNR=16						
R11A	Troy Canyon, C	82.22	45	P	P	23 41 11.7	-0.4
	baz=82,SNR=6.9						
W14A	Seligman	82.28	48	P	P	23 41 12.8	+0.4
	baz=82,SNR=10.0						
U13A	Pakoon Wash	82.29	47	P	P	23 41 12.8	+0.4
	baz=82,SNR=24						
S12A	Delamar Landin	82.32	46	P	P	23 41 13.1	+0.6
	baz=82,SNR=10						
P10A	Eureka	82.35	43	⇓P	P	23 41 12.7	+0.1
	baz=82						
N09A	Rock Creek Ran	82.36	42	⇓P	P	23 41 13.1	+0.5
	baz=82						
K07A	Rock Creek Ran	82.36	39	⇑P	P	23 41 12.9	+0.3
	baz=82,SNR=12						
Q11A	Duckwater	82.45	44	P	P	23 41 13.1	-0.1
	baz=83,SNR=9.8						
V14A	Boquillas Ranc	82.48	48	P	P	23 41 13.9	+0.5
	baz=83,SNR=19						
TUC	Tucson	82.50	52	eP	P	23 41 14.3	+0.7
F04A	Amboy	82.51	35	⇓P	P	23 41 12.8	-0.5
	baz=83						
X15A	Humboldt	82.52	49	⇑P	P	23 41 14.2	+0.5
	baz=83,SNR=16						
Z16A	Peralta Trail,	82.53	51	P	P	23 41 14.3	+0.6
	baz=83,SNR=7.0						
I06A	Prineville	82.54	38	⇓P	P	23 41 13.8	+0.4
	baz=83,SNR=14						
WVOR	Wild Horse Val	82.58	40	eP	P	23 41 13.2	-0.5
	comp=Z,12nm,1.0s,mb4.4						
WVOR	Wild Horse Val	82.58	40	eP	P	23 41 13.2	-0.5
WVOR				pmax	pmax		
	comp=Z,12nm,1.0s,mb4.4						
L08A	Fields	82.62	40	P	P	23 41 14.1	+0.2
	baz=83,SNR=9.7						
T13A	Saint George	82.65	46	P	P	23 41 14.4	+0.2
	baz=83,SNR=11						
117A	Oracle	82.66	52	P	P	23 41 15.1	+0.7
	baz=83,SNR=13						
318A	Bisbee	82.67	53	P	P	23 41 15.2	+0.7
	baz=83,SNR=18						
J07A	Hines	82.73	39	⇑P	P	23 41 14.8	+0.3
	baz=83,SNR=5.6						
Y16A	Circle Bar Ran	82.76	50	⇑P	P	23 41 15.2	+0.3
	baz=83,SNR=13						
P11A	Circle Ranch,	82.77	44	⇓P	P	23 41 14.6	-0.2
	baz=83						
U14A	Mt Trumbull	82.83	47	P	P	23 41 15.7	+0.5
	baz=83,SNR=28						
K08A	Mann Creek Ran	82.84	40	⇑P	P	23 41 15.1	+0.1
	baz=83,SNR=8.1						
R12A	Pony Springs,	82.86	45	⇑P	P	23 41 15.5	+0.2
	baz=83						
218A	Dragoon	82.89	52	⇓P	P	23 41 16.5	+1.0
	baz=83,SNR=6.2						
N10A	Dunphy	82.93	42	⇓P	P	23 41 15.9	+0.4
	baz=83						
L09A	Wilkinson Ranc	82.93	41	P	P	23 41 15.7	+0.2
	baz=83,SNR=5.4						
H06A	Lindquist Farm	82.94	37	P	P	23 41 15.4	0.0
	baz=83,SNR=13						
S13A	Holt Ranch, En	82.97	46	⇑P	P	23 41 15.9	0.0
	baz=83,SNR=6.4						
I07A	Izee	83.03	38	⇓P	P	23 41 15.8	-0.1
	baz=83,SNR=13						
X16A	Lo Mia Camp, P	83.05	50	P	P	23 41 16.9	+0.6
	baz=83,SNR=17						
G06A	Carlson Farm,	83.07	37	⇓P	P	23 41 15.6	-0.5
	baz=83						
Q12A	Willow Creek R	83.09	44	⇓P	P	23 41 16.5	+0.2
	baz=83						
Y17A	Roosevelt	83.13	51	⇓P	P	23 41 17.0	+0.3
	baz=83						
O11A	Cowboy Ranch,	83.15	43	⇓P	P	23 41 16.6	-0.1
	baz=83,SNR=12						
319A	Douglas	83.18	53	⇓P	P	23 41 18.0	+1.0
	baz=83,SNR=9.0						
J08A	Circle Bar Ran	83.21	39	P	P	23 41 17.0	+0.1
	baz=83,SNR=7.2						
T14A	Hurricane	83.23	47	P	P	23 41 17.5	+0.3
	baz=83,SNR=6.4						
118A	Homack Ranch,	83.26	52	P	P	23 41 18.1	+0.7
	baz=83,SNR=12						
P12A	McGill	83.28	44	⇓P	P	23 41 17.1	-0.1
	baz=83						
K09A	Rome	83.28	40	⇑P	P	23 41 17.1	-0.2
	baz=83,SNR=10						
H07A	Lands Inn, Kim	83.30	38	⇓P	P	23 41 17.3	+0.1
	baz=83						
M10A	I.L. Ranch, Tu	83.35	42	⇑P	P	23 41 18.0	+0.4
	baz=84,SNR=12						
Z18A	Geronimo	83.43	51	⇑P	P	23 41 18.8	+0.6
	baz=84						
X17A	Forest Lakes	83.47	50	⇑P	P	23 41 19.0	+0.6
	baz=84,SNR=5.1						
I08A	Drewsey	83.48	39	⇓P	P	23 41 18.4	+0.2
	baz=84,SNR=5.3						
219A	White Tail Can	83.49	53	⇓P	P	23 41 19.1	+0.6
	baz=84,SNR=15						
GAMB	Gambell	83.53	3	eP	P	23 41 17.5	-0.4
S14A	Cedar City	83.53	46	⇑P	P	23 41 18.9	+0.3
	baz=84						
Q13A	Wheeler Ranch,	83.58	45	⇓P	P	23 41 18.9	0.0
	baz=84						
G07A	Ruggs Ranch, H	83.64	37	⇓P	P	23 41 18.9	-0.1
	baz=84,SNR=5.3						
J09A	Fry Pan Ranch,	83.64	40	⇑P	P	23 41 19.1	+0.1
	baz=84,SNR=8.7						
WUAZ	Wupatki	83.64	49	eP	P	23 41 19.7	+0.5
	comp=Z,13nm,1.2s,mb4.3						
WUAZ	Wupatki	83.64	49	P	P	23 41 19.8	+0.6
	baz=84,SNR=6.0						
E06A	Yakima	83.67	36	⇑P	P	23 41 18.7	-0.4
	baz=84						
T15A	Red Dirt Ranch	83.69	47	P	P	23 41 19.7	+0.3
	baz=84,SNR=9.8						
L10A	Juniper Basin	83.70	41	P	P	23 41 19.3	0.0
	baz=84,SNR=8.3						
Y18A	Canyon Day Jun	83.76	51	P	P	23 41 20.5	+0.7
	baz=84,SNR=12						
M11A	Holland Ranch,	83.77	42	⇑P	P	23 41 20.1	+0.4
	baz=84						
H08A	Prairie City	83.77	38	⇓P	P	23 41 19.0	-0.6
	baz=84						
BBB	Bella Bella	83.81	28	P	P	23 41 19.2	-0.4
	comp=Z,8.9nm,0.7s,mb4.4,baz=267,slow=2.6,SNR=3.3						
O12A	Currie	83.81	43	⇑P	P	23 41 19.6	-0.4
	baz=84						
119A	Ashpeak Ranch,	83.82	52	P	P	23 41 20.8	+0.6
	baz=84,SNR=7.5						
K10A	MacKenzie Ranc	83.85	40	P	P	23 41 20.1	0.0
	baz=84,SNR=5.7						
P13A	Bates Ranch, G	83.85	44	⇑P	P	23 41 20.3	+0.2
	baz=84,SNR=9.7						
N12A	Clover Valley,	83.93	43	⇓P	P	23 41 20.6	+0.1
	baz=84						
G08A	Pilot Rock	84.06	37	P	P	23 41 21.0	0.0
	baz=84,SNR=10.0						
B05A	Bryant	84.14	34	⇑P	P	23 41 20.8	-0.5
	baz=84						
L11A	Cat Creek Ranc	84.20	41	P	P	23 41 21.8	0.0
	baz=84,SNR=7.2						
M12A	Wells	84.31	42	P	P	23 41 22.2	-0.1
	baz=84,SNR=5.4						
TTA	Tatalina	84.33	10	eP	P	23 41 21.8	-0.1
	comp=Z,3.5nm,0.8s,mb3.9						
TTA	Tatalina	84.33	10	eP	P	23 41 21.8	-0.1
TTA				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.0						
Y19A	Nutrioso	84.42	51	⇑P	P	23 41 23.8	+0.8
	baz=84,SNR=12						
MSU	Marysvale	84.59	46	eP	P	23 41 24.5	+0.7
G09A	Cove	84.73	38	⇑P	P	23 41 24.1	-0.2
	baz=85						
BMO	Blue Mountains	84.76	38	eP	P	23 41 24.3	-0.2
M13A	Montello	84.76	43	⇓P	P	23 41 24.6	+0.1
	baz=85						
MFID	Camas Ranch	84.84	40	P	P	23 41 25.0	+0.1
	baz=85,SNR=5.5						
H10A	Noah's Angus R	84.94	39	⇑P	P	23 41 25.0	-0.4
	baz=85,SNR=9.9						
I11A	Placerville	85.03	40	⇓P	P	23 41 25.8	0.0
	baz=85						
D08A	Wollman Farm,	85.11	36	⇑P	P	23 41 25.4	-0.8
	baz=85						
G10A	Bishop Farm, J	85.12	38	⇑P	P	23 41 25.6	-0.6
	baz=85,SNR=7.0						
J12A	Stokes Ranch,	85.19	41	P	P	23 41 26.6	0.0
	baz=85,SNR=5.4						
B07A	Winthrop	85.30	34	⇓P	P	23 41 26.8	-0.2
	baz=85						
M14A	Sheep Mountain	85.36	43	⇑P	P	23 41 27.3	-0.1
	baz=86						
H11A	Donnelly	85.44	39	⇓P	P	23 41 27.5	-0.3
	baz=86,SNR=14						
F10A	Beach Ranch, E	85.44	38	P	P	23 41 27.2	-0.6
	baz=86,SNR=23						
D09A	Jones Farm, Ri	85.46	36	⇓P	P	23 41 27.4	-0.4
	baz=86						
B08A	Colville Reser	85.66	35	P	P	23 41 27.9	-0.8
	baz=86,SNR=6.3						
G11A	Walters Elk Ra	85.67	38	⇑P	P	23 41 28.2	-0.7
	baz=86,SNR=24						
HLID	Hailey	85.78	41	P	P	23 41 29.6	+0.1
	baz=86,SNR=9.6						
SEY	Seymchan	85.81	347	⇑eP	P	23 41 28.7	-0.4
J13A	Cove Ranch, Pi	85.84	41	P	P	23 41 30.0	+0.2
	baz=86,SNR=10						
C09A	Chrisman Ranch	85.91	36	⇓P	P	23 41 29.6	-0.3
	baz=86						
M15A	Larsen Ranch,	85.92	43	⇓P	P	23 41 29.5	-0.6
	baz=86						
SRU	San Rafael	86.01	46	eP	P	23 41 30.6	0.0
F11A	Grangeville	86.01	38	⇓P	P	23 41 29.0	-1.5
	baz=86,SNR=8.4						
A08A	Turner Farm, O	86.04	34	P	P	23 41 30.1	-0.4
	baz=86,SNR=6.6						
H12A	Diamond D Ranc	86.05	40	⇑P	P	23 41 30.4	-0.2
	baz=86						
I13A	Wildhorse Cree	86.15	41	P	P	23 41 31.6	+0.3
	baz=86,SNR=7.1						
LAZ	Ladron	86.17	51	eP	P	23 41 31.9	+0.3
E11A	Bogner Ranch,	86.24	38	⇓P	P	23 41 30.2	-1.3
	baz=86						
B09A	Rice	86.33	35	⇓P	P	23 41 31.5	-0.4
	baz=86						
MCK	McKinley	86.35	12	eP	P	23 41 30.1	-1.6
	comp=Z,10nm,0.8s,mb4.5						
MCK	McKinley	86.35	12	eP	P	23 41 30.1	-1.6
MCK				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.5						
H13A	Challis	86.42	40	⇑P	P	23 41 32.0	-0.4
	baz=86,SNR=7.8						
A09A	Danville	86.42	35	⇑P	P	23 41 31.9	-0.5
	baz=87						
BNM	Barren Site	86.44	52	eP	P	23 41 32.6	-0.2
F12A	Elk City	86.47	39	P	P	23 41 32.2	-0.4
	baz=87,SNR=35						
GYA	Guiyang	86.47	300	P	P	23 41 33.3	+0.2
GYA				AP	pP	23 43 32.5	+4.1
GYA				XP	sP	23 44 24.8	+3.0
GYA				PP	PP	23 45 08.5	+3.9
GYA				SKS		23 51 09.3	
GYA				S	S	23 51 26.0	+0.5
GYA				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.5						
D11A	Klaveano Farm,	86.56	37	P	P	23 41 32.1	-0.9
	baz=87,SNR=5.5						
TXAR	Lajitas Array	86.62	57	P	P	23 41 33.9	+0.1
TXAR				pmax	pmax		
	comp=Z,6.0nm,0.6s						
TXAR	Lajitas Array	86.62	57	P	P	23 41 33.9	+0.1
	comp=Z,5.7nm,0.6s,mb4.4,baz=218,slow=6.7,SNR=62						
G13A	Cobalt	86.71	39	P	P	23 41 33.6	-0.2
	baz=87,SNR=8.3						
NEW	Newport	86.80	36	P	P	23 41 33.4	-0.8
NEW	Newport	86.80	36	P	P	23 41 33.4	-0.8
NEW				pmax	pmax		
	comp=Z,1.0nm,0.2s						
NEW	Newport	86.80	36	P	P	23 41 33.4	-0.8
	comp=Z,0.9nm,0.2s,mb4.0,baz=198,slow=6.4,SNR=6.5						
PV01	Paradox Valley	86.88	48	eP	P	23 41 34.4	-0.4
ANMO	Albuquerque	86.92	51	eP	P	23 41 34.8	-0.3
ANMO	Albuquerque	86.92	51	P	P	23 41 34.8	-0.3
ANMO				pmax	pmax		
	comp=Z,4.0nm,0.8s						
ANMO	Albuquerque	86.92	51	P	P	23 41 34.8	-0.3
	comp=Z,3.8nm,0.8s,mb4.1,baz=232,slow=5.0,SNR=15						
F13A	Darby	87.03	39	⇑P	P	23 41 34.7	-0.6
	baz=87						
D12A	Red Ives Fores	87.12	37	⇓P	P	23 41 34.9	-0.8
	baz=87						
GDL2	Guadalupe Moun	87.29	54	eP	P	23 41 37.3	+0.5
SYO	Syowa Base	87.35	193	⇓ePcP	PcP	23 41 34.0	-3.9
DLBC	Dease Lake	87.44	23	P	P	23 41 36.8	-0.1
COLA	College	87.59	12	eP	P	23 41 35.5	-1.9
	comp=Z,12nm,0.7s,mb4.8						
COLA	College	87.59	12	eP	P	23 41 35.6	-1.9
COLA				pmax	pmax		
	comp=Z,12nm,0.7s,mb4.7						
D13A	Huson	87.65	38	⇓P	P	23 41 37.3	-0.9
	baz=88,SNR=6.2						
G15A	Dillon	87.80	40	⇑P	P	23 41 38.7	-0.2
	baz=88,SNR=16						
E14A	Clinton	87.85	39	⇓P	P	23 41 38.9	-0.2
	baz=88,SNR=6.7						
XAN	Xi'an	87.87	307	P	P	23 41 40.0	+0.5
XAN				AMB	AMB		
	comp=Z,12nm,0.9s,mb4.6						
BSMT	Bassoo Peak	87.88	37	eP	P	23 41 38.7	-0.5
REDW	Red Top Meadow	87.90	42	eP	P	23 41 39.7	+0.2
	comp=Z,13nm,1.1s,mb4.6						
TPAW	Teton Pass	87.90	42	eP	P	23 41 39.8	+0.4
	comp=Z,6.0nm,0.8s,mb4.4						
SNOW	Snow King Moun	88.01	42	eP	P	23 41 40.4	+0.4
IMW	Indian Meadow	88.11	42	eP	P	23 41 41.0	+0.6
F15A	Butte	88.15	39	⇓P	P	23 41 40.4	-0.1
	baz=88,SNR=7.8						
MOOW	Moose Ponds	88.16	42	eP	P	23 41 40.7	+0.1
LRM	Limekiln Ridge	88.16	40	eP	P	23 41 40.6	0.0
CHMT	Chamberlain Mo	88.26	38	eP	P	23 41 40.7	-0.3
HIA	Hailar	88.28	324	P	P	23 41 39.9	-1.2
FLWY	Flagg Ranch	88.35	42	eP	P	23 41 42.3	+0.7
BILL	Bilibino	88.45	354	⇓eP	P	23 41 40.4	-1.0
BILL				pmax	pmax		
	comp=Z,4.

JCT				pmax	pmax			
	comp=Z,6.0nm,0.8s,mb4.5							
PHWY	**Pilot Hill**	**90.46**	**46**	*eP*	**P**	**23 41 51.2**	**-0.2**	
CD2	**Chengdu**	**90.57**	**303**	*eP*	**P**	**23 41 51.8**	**-0.4**	
CD2				XP	sP	23 44 44.5	+3.0	
CD2				PP	PP	23 45 39.5	+2.7	
CD2				SKS		23 51 31.5		
CD2				S	S	23 52 00.5	-2.6	
CD2				SS	SS	23 58 23.5	+2.7	
CD2				AMB	AMB			
	comp=Z,10.0nm,0.6s,mb4.9							
CD2				AMB	AMB			
	comp=Z,20nm,8.4s							
EFI	**East Falkland**	**91.52**	**147**	*eP*	**P**	**23 41 55.9**	**-0.3**	
RSSD	**Black Hills**	**92.63**	**44**	*eP*	**P**	**23 42 00.2**	**-1.1**	
	comp=Z,4.6nm,0.9s,mb4.5							
RSSD	**Black Hills**	**92.63**	**44**	*eP*	**P**	**23 42 00.3**	**-1.0**	
RSSD				pmax	pmax			
	comp=Z,5.0nm,0.9s,mb4.5							
INK	**Inuvik**	**93.66**	**15**	*eP*	**P**	**23 42 03.9**	**-1.6**	
	comp=Z,311nm,1.3s							
INK	**Inuvik**	**93.66**	**15**	P	**P**	**23 42 03.8**	**-1.6**	
INK				pmax	pmax			
	comp=Z,3.0nm,0.9s							
INK	**Inuvik**	**93.66**	**15**	P	**P**	**23 42 03.8**	**-1.7**	
	comp=Z,3.2nm,0.9s,mb4.5,baz=249,slow=5.4,SNR=16							
SONM	**Songino Array**	**95.38**	**319**	P	**P**	**23 42 12.4**	**-1.3**	
	comp=Z,0.2nm,0.4s,mb3.6,baz=108,slow=4.7,SNR=2.9							
YKA	**Yellowknife Ar**	**95.91**	**25**	P	**P**	**23 42 14.2**	**-1.6**	
YKA	**Yellowknife Ar**	**95.91**	**25**	P	**P**	**23 42 14.2**	**-1.6**	
	comp=Z,0.6nm,0.7s,mb3.9,baz=243,slow=4.5,SNR=13							
YKA				PKiKP	PKiKP	23 46 49.3	-1.9	
	comp=Z,0.1nm,0.6s,baz=261,slow=1.4,SNR=4.9							
LSA	**Lhasa**	**100.42**	**298**	Pdif	Pdif	23 42 35.2	-1.2	
LPAZ	**La Paz**	**102.17**	**112**	*e*Pdif	Pdif	23 42 44.7	+0.6	
RES	**Resolute Bay**	**107.18**	**16**	PKiKP	PKiKP	23 47 09.9	-1.5	
ZALV	**Zalesovo Beam**	**110.10**	**321**	PKPdf	PKiKP	23 47 15.3	-2.1	
ZALV	**Zalesovo Beam**	**110.10**	**321**	PKiKP	PKiKP	23 47 15.3	-2.1	
	comp=Z,1.3nm,0.6s,baz=125,slow=1.8,SNR=8.0							
ZAL	**Zalesovo**	**110.11**	**321**	*i* PKIKP	PKiKP	23 47 15.3	-2.1	
ZAL				pmax	pmax			
	comp=Z,1.0nm,0.6s							
MK31	**Makanchi Array**	**110.88**	**314**	*e*PKiKP	PKiKP	23 47 17.3	-1.8	
MKAR	**Makanchi Array**	**110.88**	**314**	*i* PKIKP	PKiKP	23 47 16.8	-2.3	
MKAR				pmax	pmax			
	comp=Z,2.0nm,0.6s							
MKAR	**Makanchi Array**	**110.88**	**314**	PKiKP	PKiKP	23 47 16.8	-2.3	
	comp=Z,1.5nm,0.6s,baz=207,slow=0.4,SNR=16							
KURK	**Kurchatov**	**113.64**	**318**	*e*PKiKP	PKiKP	23 47 21.9	-2.3	
BRVK	**Borovoye**	**118.76**	**320**	*e*PKPdf	PKPdf	23 47 31.9	-2.1	
KBL	**Kabul**	**119.71**	**299**	*e*PKPdf	PKPdf	23 47 35.7	-0.8	
SVE	**Sverdlovsk**	**123.56**	**326**	⇓*i*PKIKP	PKPdf	23 47 42.0	-1.2	
SVE				*e*		23 50 33.3		
SVE				*e*PPS		00 06 08.8		
SVE				pmax	pmax			
	comp=Z,10.0nm,1.0s							
ARU	**Arti**	**124.78**	**326**	*e*PKPdf	PKPdf	23 47 44.0	-1.5	
ARU	**Arti**	**124.78**	**326**	*i* PKIKP	PKPdf	23 47 44.1	-1.4	
ARU						23 49 40.2		
BOSA	**Boshof**	**126.86**	**206**	PKIKP	PKPdf	23 47 50.0	-0.5	
BOSA				pmax	pmax			
	comp=Z,4.0nm,0.9s							
BOSA	**Boshof**	**126.86**	**206**	PKP	PKPdf	23 47 50.0	-0.5	
	comp=Z,4.4nm,0.9s,baz=351,slow=8.9,SNR=5.2							
ARCES	**ARCESS Array B**	**128.35**	**350**	PKIKP	PKPdf	23 47 50.7	-1.3	
ARCES				pmax	pmax			
	comp=Z,4.0nm,0.6s							
ARCES	**ARCESS Array B**	**128.35**	**350**	PKP	PKPdf	23 47 50.6	-1.3	
	comp=Z,3.7nm,0.6s,baz=50,slow=0.7,SNR=20							
JOF	**Joensuu**	**132.60**	**342**	*ep*	PKPdf	23 47 54.1	-6.1	
	comp=Z,4.8nm,0.5s							
FINES	**FINESS Array B**	**135.23**	**344**	PKP	PKPdf	23 47 56.9	-8.2	
FINES				PKP	PKPdf	23 48 03.8	-1.4	
FINES	**FINESS Array B**	**135.23**	**344**	PKHKP		23 47 56.9		
FINES						23 48 03.8		
FINES				pmax	pmax			
	comp=Z,1.0nm,0.7s							
FINES				pmax	pmax			
	comp=Z,1.0nm,0.6s							
FINES	**FINESS Array B**	**135.23**	**344**	PKhKP		23 47 56.9		
	comp=Z,1.1nm,0.7s,baz=54,slow=2.4,SNR=5.1							
FINES				PKP	PKPdf	23 48 03.8	-1.4	
	comp=Z,1.3nm,0.6s,baz=7.6,slow=5.8,SNR=7.2							
NB2	**NORSAR Subarra**	**138.40**	**353**	PKPdf	PKPdf	23 48 11.4	+0.4	
	comp=Z,0.9nm,0.6s,baz=13,slow=1.9							
NOA	**NORSAR Array B**	**138.40**	**353**	PKHKP		23 48 00.2		
NOA						23 48 10.1		
NOA				pmax	pmax			
	comp=Z,2.0nm,0.7s							
NOA				pmax	pmax			
	comp=Z,1.0nm,0.6s							
NOA	**NORSAR Array B**	**138.40**	**353**	PKhKP		23 48 00.2		
	comp=Z,1.5nm,0.7s,baz=16,slow=5.0,SNR=6.6							
NOA				PKP	PKPdf	23 48 10.1	-0.9	
	comp=Z,1.3nm,0.6s,baz=14,slow=4.0,SNR=7.2							
KIV	**Kislovodsk**	**138.63**	**315**	*e*PKPdf	PKPdf	23 48 11.2	-0.7	
KIV	**Kislovodsk**	**138.63**	**315**	*e*PKIKP	PKPdf	23 48 11.2	-0.8	
AKASG	**Malin Array Be**	**142.55**	**332**	PKP	PKPdf	23 48 13.8	-5.0	
AKASG	**Malin Array Be**	**142.55**	**332**	PKHKP		23 48 13.8		
AKASG				pmax	pmax			
	comp=Z,7.0nm,0.5s							
AKASG	**Malin Array Be**	**142.55**	**332**	PKhKP		23 48 13.8		
	comp=Z,7.2nm,0.5s,baz=43,slow=4.4,SNR=74							
AKBB	**Malin Array Si**	**142.55**	**332**	*e*PKPdf	PKPdf	23 48 13.9	-4.9	
ELO	**Logie Almond**	**143.22**	**5**	*eP*	PKPdf	23 48 16.0	-3.7	
EAB	**Aberfoyle**	**143.44**	**6**	*eP*	PKPdf	23 48 16.6	-3.6	
EBH	**Black Hill**	**143.45**	**5**	*eP*	PKPdf	23 48 16.8	-3.4	
SIM	**Simferopol'**	**143.61**	**321**	*d* PKIKP	PKPdf	23 48 19.8	-1.0	
SIM				pmax	pmax			
	comp=Z,27nm,0.8s							
MALT	**Malatya**	**143.66**	**308**	*e*PKPdf	PKPdf	23 48 19.7	-1.4	
MALT	**Malatya**	**143.66**	**308**	⇑*i*P	PKPdf	23 48 20.0	-1.1	
ESY	**Stoneypath**	**143.85**	**5**	*eP*	PKPdf	23 48 18.0	-2.9	
EAU	**Auchinoon**	**143.86**	**5**	*eP*	PKPdf	23 48 18.5	-2.4	
EBL	**Broad Law**	**143.96**	**5**	*eP*	PKPdf	23 48 18.4	-2.7	
GMK	**Mull of Kintyr**	**144.12**	**8**	*eP*	PKPdf	23 48 19.1	-2.3	
XSO	**Sourhope Farm**	**144.30**	**4**	*eP*	PKPdf	23 48 20.0	-1.7	
GAL1	**Galloway**	**144.70**	**7**	*eP*	PKPdf	23 48 20.7	-1.7	
XAL	**Allendale**	**144.93**	**4**	*eP*	PKPdf	23 48 22.0	-0.8	
LVV	**L'vov**	**145.42**	**335**	*e*PKIKP	PKPdf	23 48 23.9	+0.1	
BSEG	**Bad Segeberg**	**145.44**	**351**	*e*PKPbc	PKPbc	23 48 23.8	-1.1	
KWP	**Kalwaria**	**146.09**	**336**	⇓P	PKPdf	23 48 26.0	+1.1	
KWP	**Kalwaria**	**146.09**	**336**	⇓*i*P	PKPdf	23 48 26.0	+1.1	
LHO	**Holmfirth**	**146.27**	**4**	*eP*	PKPdf	23 48 25.8	+0.7	
KBI1	**Birley Grange**	**146.58**	**4**	*eP*	PKPdf	23 48 25.9	+0.3	
BURAR	**Bucovina Array**	**146.60**	**331**	⇓*i*P	PKPdf	23 48 27.5	+1.7	
OJC	**Ojcow**	**146.64**	**339**	*e*PKP	PKPdf	23 48 27.4	+1.6	
SBD1	**Bryn Du**	**146.78**	**6**	*eP*	PKPdf	23 48 27.3	+1.3	
KWE	**Weaver Farm**	**146.79**	**4**	*eP*	PKPdf	23 48 27.5	+1.5	
STHS	**Stebnicka Huta**	**146.81**	**337**	*e*PKP	PKPdf	23 48 28.3	+2.2	
STHS				*e*		23 48 40.8		
KOLS	**Kolonicke sedl**	**146.82**	**335**	*e*PKP	PKPbc	23 48 28.6	-0.3	
ANTO	**Ankara**	**147.04**	**314**	*e*PKP	PKPdf	23 48 26.4	-0.5	
ANTO	**Ankara**	**147.04**	**314**	PKIKP	PKPbc	23 48 29.6	-0.2	
ANTO	**Ankara**	**147.04**	**314**	⇓*i*P	PKPbc	23 48 29.3	-0.5	
UZH	**Uzhgorod**	**147.05**	**335**	⇓*i*PKIKP	PKPdf	23 48 28.6	+2.0	
CWF	**Charnwood Fore**	**147.11**	**4**	*eP*	PKPdf	23 48 27.3	+0.8	
VRI	**Vrincioaia**	**147.13**	**328**	⇓P	PKPdf	23 48 28.7	+1.9	
VRI	**Vrincioaia**	**147.13**	**328**	⇓*i*P	PKPdf	23 48 28.7	+1.9	
NIE	**Niedzica**	**147.15**	**338**	*e*PKP	PKPbc	23 48 29.4	-0.4	
KSP	**Ksiaz**	**147.15**	**343**	⇓*i*PKP	PKPbc	23 48 29.2	-0.5	
KSP				*ep*PKP	pPKPdf	23 50 40.1	+9.3	
CRVS	**Cervenica-Dubn**	**147.16**	**336**	*e*PKP	PKPbc	23 48 29.1	-0.7	
IBBN	**Ibbenburen**	**147.35**	**354**	*e*PKPab	PKPab	23 48 32.4	-1.4	
CLZ	**Clausthal**	**147.47**	**350**	*e*PKIKP	PKPdf	23 48 29.5	+2.4	
CLZ	**Clausthal**	**147.47**	**350**	*e*PKPdf	PKPdf	23 48 26.2	-0.9	
CLZ				*e*PKPbc	PKPbc	23 48 29.5	-1.0	
CLL	**Collm**	**147.50**	**347**	⇓*i*PKP	PKPbc	23 48 29.8	-0.8	
CLL				*i* PKP	PKPab	23 48 33.4	-1.1	
CLL				*i* pPKP	pPKPdf	23 50 42.9	+12	
CLL	**Collm**	**147.50**	**347**	*e*PKPbc	PKPbc	23 48 29.5	-1.1	
CLL	**Collm**	**147.50**	**347**	⇓*i*PKPbc	PKPbc	23 48 29.8	-0.8	
	comp=Z,34nm,0.9s							
CLL				*i* PKPab	PKPab	23 48 33.4	-1.1	
	comp=Z,8.0nm,0.9s							
OKC	**Ostrava-Krasne**	**147.51**	**341**	*e*PKP	PKPbc	23 48 30.1	-0.6	
OKC				*ep*PKP	PKPab	23 48 34.3	-0.3	
UPC	**Upice**	**147.53**	**343**	*e*PKP	PKPbc	23 48 30.3	-0.4	
UPC				*ep*PKP	PKPab	23 48 34.8	+0.2	
DPC	**Dobruska-Polom**	**147.59**	**343**	*e*PKP	PKPbc	23 48 30.5	-0.4	
DPC				*ep*PKP	PKPab	23 48 35.1	+0.2	
HTR	**Trewern Hill**	**147.60**	**6**	*eP*	PKPdf	23 48 29.3	+1.9	
BRG	**Berggiesshubel**	**147.71**	**346**	*i* PKP	PKPdf	23 48 30.4	+2.8	
BRG				P		23 48 33.4		
BRG				pPKP	pPKPdf	23 50 40.2	+8.5	
BRG	**Berggiesshubel**	**147.71**	**346**	*i* PKHKP		23 48 30.4		
BRG						23 48 33.4		
BRG	**Berggiesshubel**	**147.71**	**346**	*e*PKPdf	PKPdf	23 48 26.8	-0.8	
BRG				*e*PKPbc	PKPbc	23 48 30.1	-1.1	
BRG	**Berggiesshubel**	**147.71**	**346**	*i* PKP	PKPdf	23 48 30.4	+2.8	
	comp=Z,15nm,0.7s							
BRG	**Berggiesshubel**	**147.71**	**346**	*e*(P)	PKPdf	23 48 33.4	+5.8	
	comp=Z,6.8nm,0.7s							
BRG				pPKP	pPKPdf	23 50 40.2	+8.5	
	comp=Z,5.8nm,1.4s							
MCH1	**Michaelchurch**	**147.71**	**6**	*eP*	PKPdf	23 48 29.3	+1.7	
MCH1				*eP*		23 48 29.3		
MORC	**Moravsky Berou**	**147.75**	**341**	P	PKPbc	23 48 30.6	-0.7	
MORC	**Moravsky Berou**	**147.75**	**341**	⇓*i*P	PKPbc	23 48 30.7	-0.6	
WTSB	**Winterswijk**	**147.78**	**355**	⇓*e*PKiKP	PKiKP	23 48 30.2	-2.6	
	comp=Z,33nm,0.7s							
MLR	**Muntele Rosu**	**147.79**	**328**	⇓P	PKPdf	23 48 30.2	+2.3	
MLR	**Muntele Rosu**	**147.79**	**328**	⇓*i*P	PKPdf	23 48 30.2	+2.3	
FBE	**Freiberg**	**147.79**	**347**	*e*PKPbc	PKPbc	23 48 30.4	-1.0	
FBE				*e*PKPab	PKPab	23 48 34.9	-0.8	
SSW	**Stow on the Wo**	**147.84**	**5**	*eP*	PKPbc	23 48 30.4	-1.1	
KECS	**Kecovo**	**147.87**	**337**	*e*PKP	PKPbc	23 48 31.0	-0.7	
PVCC	**Panska Ves**	**147.88**	**345**	*e*PKP	PKPbc	23 48 31.2	-0.4	
PVCC				*ep*PKP	PKPab	23 48 36.0	0.0	
SKP1	**Kophill**	**148.15**	**3**	*eP*	PKPdf	23 48 29.9	+1.7	
VOIR		**148.27**	**329**	⇓P	PKPdf	23 48 31.0	+2.4	
VOIR		**148.27**	**329**	⇓*i*P	PKPdf	23 48 31.0	+2.3	
DRGR		**148.34**	**333**	P	PKPbc	23 48 31.9	-1.0	
DRGR		**148.34**	**333**	⇓*i*P	PKPbc	23 48 31.5	-1.4	
PRU	**Pruhonice**	**148.39**	**345**	*e*PKP	PKPbc	23 48 32.1	-0.8	
PRU				*ep*PKP	PKPab	23 48 37.6	-0.5	
MOX	**Moxa**	**148.41**	**348**	*e*PKP	PKPbc	23 48 31.9	-1.1	
VYHS	**Vyhne**	**148.45**	**339**	*i* PKP	PKPbc	23 48 32.3	-0.8	
VRAC	**Vranov**	**148.45**	**342**	P	PKPbc	23 48 32.5	-0.5	
VRAC	**Vranov**	**148.45**	**342**	⇓*i*P	PKPbc	23 48 32.3	-0.8	
TANN	**Tannenbergstha**	**148.46**	**347**	*e*PKPdf	PKPdf	23 48 27.8	-1.0	
TANN				*e*PKPbc	PKPbc	23 48 32.2	-0.9	
WERD	**Werda**	**148.46**	**348**	*e*PKPbc	PKPbc	23 48 32.1	-1.0	
KOLL	**Kolacno**	**148.52**	**339**	*i* PKP	PKPbc	23 48 32.9	-0.4	
GUNZ	**Gunzen**	**148.54**	**347**	*e*PKPbc	PKPbc	23 48 32.4	-0.9	
GUNZ				*e*PKPab	PKPab	23 48 37.8	-0.9	
PSZ	**Piszkesteto**	**148.56**	**337**	P	PKPbc	23 48 32.5	-0.9	
PSZ	**Piszkesteto**	**148.56**	**337**	⇑*i*P	PKPbc	23 48 32.4	-1.0	
NKC	**Novy Kostel**	**148.64**	**347**	*e*PKP	PKPdf	23 48 28.9	-0.2	
NKC				*ex*	x	23 48 33.0		
NKC				*ep*PKP	PKPab	23 48 38.6	-0.5	
CSS	**Prodhromos**	**148.67**	**305**	*e*PKPbc	PKPbc	23 48 32.7	-1.4	
TREC	**Trest**	**148.78**	**343**	*e*PKIKP	PKPdf	23 48 29.5	+0.2	
TREC				*e*		23 48 33.1		
TREC				*e*		23 48 38.6		
TREC	**Trest**	**148.78**	**343**	*ep*PKP	PKPdf	23 48 29.5	+0.2	
TREC				*ep*PKP	PKPbc	23 48 33.1	-0.8	
TREC				*ex*	x	23 48 38.6		
MANZ	**Manzenberg**	**148.94**	**347**	*e*PKPbc	PKPbc	23 48 33.3	-1.0	
HGN	**Heimansgroeve**	**149.05**	**355**	*e*PKiKP	PKiKP	23 48 33.5	-2.0	
MODS	**Modra-Piesok**	**149.07**	**340**	*e*PKP	PKPbc	23 48 34.1	-0.5	
UCC	**Uccle**	**149.11**	**357**	PKP	PKPdf	23 48 32.9	+3.1	
ROTZ	**Rotzenmuhle**	**149.13**	**347**	*e*PKPbc	PKPbc	23 48 33.6	-1.1	
MEM	**Membach**	**149.20**	**355**	PKP	PKPdf	23 48 33.8	+3.8	
GZR	**Gura Zlata**	**149.38**	**331**	PKIKP	PKPbc	23 48 34.1	-1.4	
GRA1	**Grafenberg Arr**	**149.40**	**348**	*e*PKPbc	PKPbc	23 48 34.5	-0.9	
GRF	**Grafenberg Arr**	**149.40**	**348**	*e*PKPbc	PKPbc	23 48 34.5	-0.9	
GRFO	**Grafenberg**	**149.40**	**348**	*e*PKPbc	PKPbc	23 48 34.4	-1.0	
KHC	**Kasperske Hory**	**149.42**	**345**	*e*PKP	PKPdf	23 48 29.4	-1.0	
KHC				*ex*	x	23 48 34.8		
KHC				*ep*PKP	PKPab	23 48 42.4	0.0	
ISP	**Isparta**	**149.56**	**312**	⇑P	PKPbc	23 48 34.2	-2.0	
ISP	**Isparta**	**149.56**	**312**	⇑*i*P	PKPbc	23 48 34.2	-2.0	
GEC2	**GERESS Array S**	**149.65**	**345**	*e*PKPdf	PKPdf	23 48 29.5	-1.3	
GEC2				*e*PKPbc	PKPbc	23 48 34.7	-1.3	
GERES	**GERESS Array B**	**149.65**	**345**	PKIKP	PKPdf	23 48 28.2	-2.6	
GERES						23 48 35.2		
GERES				pmax	pmax			
	comp=Z,1.0nm,1.0s							
GERES				pmax	pmax			
	comp=Z,11nm,0.8s							
GERES	**GERESS Array B**	**149.65**	**345**	PKP	PKPdf	23 48 28.2	-2.5	
	comp=Z,1.1nm,1.0s,baz=90,slow=1.3,SNR=7.3							
GERES				PKPbc	PKPbc	23 48 35.2	-0.8	
	comp=Z,11nm,0.8s,baz=346,slow=2.8,SNR=62							
GIVF	**Givet**	**149.78**	**357**	*e*PKP1	PKPbc	23 48 35.2	-1.1	
	comp=Z,67nm,0.8s							
DOU	**Dourbes**	**149.80**	**357**	PKP	PKPdf	23 48 35.4	+4.4	
BAIF	**Baives**	**149.85**	**357**	*e*PKP1	PKPbc	23 48 35.5	-1.0	
	comp=Z,47nm,0.8s							
CONA	**Conrad Observa**	**149.90**	**341**	⇓*i*PKPbc	PKPbc	23 48 35.9	-0.7	
	comp=Z,14nm,0.6s							
WLF	**Walferdange**	**150.12**	**355**	*e*PKPdf	PKPdf	23 48 32.0	+0.6	
WLF				*e*PKPbc	PKPbc	23 48 37.3	+0.2	
WLF	**Walferdange**	**150.12**	**355**	PKP	PKPbc	23 48 36.5	-0.6	
MOA	**Molln**	**150.43**	**343**	⇓*i*P	PKPbc	23 48 36.6	-1.3	
	comp=Z,3.8nm,0.5s							
PKSM	**Moragy**	**150.46**	**336**	P	PKPbc	23 48 36.2	-1.8	
PKSM	**Moragy**	**150.46**	**336**	⇓PKIKP	PKPbc	23 48 36.6	-1.4	
PKSM	**Moragy**	**150.46**	**336**	⇑*i*P	PKPdf	23 48 35.5	+3.4	
STU	**Stuttgart**	**150.63**	**350**	*e*PKPdf	PKPdf	23 48 31.1	-1.2	
STU				*e*PKPbc	PKPbc	23 48 37.2	-1.1	
FUR	**Furstenfeldbru**	**150.84**	**347**	*e*PKPab	PKPab	23 48 47.8	-0.6	
FLN	**La Foliniere**	**151.12**	**4**	*e*PKP1	PKPbc	23 48 37.9	-1.5	
	comp=Z,28nm,0.6s							
BFO	**Black Forest**	**151.19**	**351**	PKPdf	PKPdf	23 48 32.0	-1.1	
BFO				*e*PKPbc	PKPbc	23 48 38.3	-1.3	
BFO				*e*PKPbc	PKPbc	23 48 38.4	-1.2	
BFO	**Black Forest**	**151.19**	**351**	PKIKP	PKPdf	23 48 32.0	-1.1	
BFO				*e*		23 48 38.3		
BFO	**Black Forest**	**151.19**	**351**	*e*PKPbc	PKPbc	23 48 38.4	-1.2	
CDF	**Champ du Feu**	**151.25**	**353**	*e*PKP1	PKPbc	23 48 38.6	-1.1	
	comp=Z,21nm,0.7s							
PERS	**Pernice**	**151.28**	**341**	*i* PKPbc	PKPbc	23 48 38.2	-1.7	
ROSF	**Rostrenen**	**151.29**	**8**	*e*PKP1	PKPbc	23 48 38.0	-1.8	
	comp=Z,23nm,0.8s							
LDF	**La Druitiere**	**151.31**	**3**	*e*PKP1	PKPbc	23 48 38.2	-1.7	
	comp=Z,17nm,0.5s							
MEZF	**Maizieres J'vi**	**151.36**	**356**	*e*PKP1	PKPbc	23 48 39.0	-1.0	
	comp=Z,34nm,0.9s							
SGMF	**Saint Gilles**	**151.45**	**7**	*e*PKP1	PKPbc	23 48 38.4	-1.8	
	comp=Z,29nm,0.6s							
GRR	**Gorron**	**151.47**	**4**	*e*PKP1	PKPbc	23 48 38.8	-1.4	
	comp=Z,29nm,0.6s							
WTTA	**Wattenberg**	**151.62**	**346**	⇓*i*P	PKPbc	23 48 39.3	-1.3	
	comp=Z,15nm,0.9s							
QUIF	**Quistinic**	**151.72**	**8**	*e*PKP1	PKPbc	23 48 38.9	-1.9	
	comp=Z,18nm,0.9s							
HAU	**Haudompre**	**151.75**	**354**	*e*PKP1	PKPbc	23 48 39.5	-1.4	
	comp=Z,17nm,0.8s							
HINF	**Hinteralfeld**	**151.88**	**353**	*e*PKP1	PKPbc	23 48 39.6	-1.6	
	comp=Z,12nm,0.8s							
ABTA	**Abfaltersbach**	**151.90**	**345**	⇓*i*PKPbc	PKPbc	23 48 39.4	-1.9	
	comp=Z,28nm,0.6s							
CRES	**Cresnjev**	**151.90**	**340**	*i* PKPbc	PKPbc	23 48 39.9	-1.4	
LJU	**Ljubljana**	**152.00**	**341**	*i* PKPbc	PKPbc	23 48 40.2	-1.3	
BOJS	**Bojanci**	**152.25**	**340**	*i* PKPbc	PKPbc	23 48 41.0	-1.1	
LOR	**Lormes**	**152.66**	**357**	*e*PKP1	PKPbc	23 48 41.6	-1.3	
	comp=Z,12nm,0.7s							
HYF	**Humbligny**	**152.69**	**359**	*e*PKP1	PKPbc	23 48 42.1	-0.9	
SSF	**Saint Saulge**	**152.88**	**358**	*e*PKP1	PKPbc	23 48 42.1	-1.3	
	comp=Z,15nm,1.0s							
AVF	**Avril sur Loir**	**153.15**	**358**	*e*PKP1	PKPbc	23 48 43.7	-0.3	
	comp=Z,2.3nm,0.6s							
CABF	**La Chapelle**	**153.16**	**354**	*e*PKP1	PKPbc	23 48 43.2	-0.8	
	comp=Z,12nm,0.9s							
SMF	**Signal de Mont**	**153.28**	**357**	*e*PKP1	PKPbc	23 48 43.5	-0.8	
	comp=Z,3.7nm,0.6s							
MFF	**Saint Martin d**	**153.29**	**4**	*e*PKP1	PKPbc	23 48 42.7	-1.6	
	comp=Z,14nm,0.7s							
BGF	**Bois d'Agland**	**153.40**	**359**	*e*PKP1	PKPbc	23 48 43.2	-1.3	
	comp=Z,3.6nm,0.5s							
TCF	**Toulx Ste Croi**	**153.67**	**360**	*e*PKP1	PKPbc	23 48 43.5	-1.6	
	comp=Z,3.4nm,0.6s							
LPL	**La Plagne**	**154.16**	**353**	*e*PKP1	PKPbc	23 48 45.6	-0.6	
	comp=Z,5.4nm,0.8s							
LPG	**La Plagne**	**154.18**	**353**	*e*PKP1	PKPbc	23 48 45.6	-0.6	
BNI	**Bardonecchia**	**154.63**	**352**	*e*PKP	PKPab	23 49 04.0	-0.6	
RJF	**Les Rejaudoux**	**154.65**	**1**	*e*PKP1	PKPbc	23 48 47.0	-0.2	
ORIF	**Oris-en-Rattie**	**154.85**	**354**	*e*PKP1	PKPdf	23 48 47.1	+8.6	
MBDF	**Montbardon**	**154.94**	**352**	*e*PKP1	PKPdf	23 48 46.8	+8.2	
	comp=Z,4.0nm,0.6s							
CAF	**Calviac**	**155.04**	**0**	*e*PKP1	PKPdf	23 48 47.4	+8.7	
	comp=Z,1.1nm,0.4s							
ESDC	**Sonseca Array**	**159.60**	**14**	PKP	PKPdf	23 48 43.7	-0.8	
	comp=Z,0.4nm,0.7s,baz=344,slow=2.1,SNR=3.9							
ESDC				PKPab	PKPab	23 49 25.1	-1.2	
	comp=Z,0.3nm,0.5s,baz=343,slow=4.7,SNR=5.3							
LIC	**Lamto**	**164.73**	**152**	*e*PKIKP	PKPdf	23 48 47.4	-3.0	
	comp=Z,12nm,0.9s							
DBIC	**Dimbokro**	**165.20**	**152**	PKIKP	PKPdf	23 48 47.5	-3.3	
DBIC						23 49 51.5		
DBIC				pmax	pmax			
	comp=Z,7.0nm,1.2s							
DBIC				pmax	pmax			
	comp=Z,4.0nm,0.8s							
DBIC	**Dimbokro**	**165.20**	**152**	PKP	PKPdf	23 48 47.5	-3.4	
	comp=Z,7.2nm,1.2s,baz=223,slow=1.8,SNR=4.9							
DBIC				PKPab	PKPab	23 49 51.5	0.0	
	comp=Z,3.9nm,0.8s,baz=237,slow=5.9,SNR=4.6							

IDC ***30*** *00:26:15.9±0.7, 1489S×16729E, h137km±5km, mb4.6/19, mb1 4.8/20, mb1mx4.8/21, mbtmp4.7/20, MS3.8/7, Ms1 3.8/7, ms1mx3.4/22, Error ellipse: s-maj=10.4km s-min=9.9km az=158.0*

ISCJB ***30*** *00:26:16.1±1.2, 1488S±004×16735E±005, h155km±10km, mb4.8/51, Error ellipse: s-maj=8.1km s-min=7.1km az=163.7*

MOS ***30*** *00:26:16.7±1.1, 1481S×16727E, h156km, mb5.0/13, Error ellipse: s-maj=10.3km s-min=9.6km az=162.1*

BJI ***30*** *00:26:17.3, 1434S×16741E, h151km, mB4.9, mb4.8*

NEIC ***30*** *00:26:18.4±1.3, 1477S×16730

MBWA Marble Bar 45.62 255 *e*P **P 00 34 22.7 0.0**
KLBR Kellerberrin 48.13 241 *e*P **P 00 34 41.1 -1.0**
comp=Z,28nm,0.7s,mb5.0
MUN Mundaring 49.49 241 *e*P **P 00 34 52.1 -0.4**
KKM Kota Kinabalu 54.81 289 *e*P **P 00 35 32.1 +0.1**
MJAR Matsushiro Arr 58.08 332 P **P 00 35 53.9 -0.8**
comp=Z,4.1nm,0.5s,mb4.5,baz=169,slow=8.5,SNR=19
MJAR pP pP 00 36 26.4 -4.1
comp=Z,5.4nm,1.0s,baz=162,slow=7.7,SNR=4.1
MAJO Matsushiro 58.08 332 *e*P **P 00 35 53.9 -0.7**
comp=Z,8.8nm,0.5s,mb4.8
MAJO Matsushiro 58.08 332 *e*P **P 00 35 53.9 -0.8**
MAJO pmax pmax
comp=Z,9.0nm,0.5s,mb4.9
MAT Matsushiro 58.08 332 P **P 00 35 53.7 -1.0**
KSM Kuching 58.75 281 *e*P **P 00 35 59.4 -0.4**
JNU Nakatsue 59.10 324 P **P 00 36 01.6 -0.2**
comp=Z,11nm,0.8s,mb4.8,baz=92,slow=1.9,SNR=7.9
VNDA Vanda 62.72 181 P **P 00 36 25.9 +0.3**
comp=Z,3.5nm,0.8s,mb4.2,baz=357,slow=7.7,SNR=26
SBA Scott Base 63.00 180 *e*P **P 00 36 28.6 +1.2**
KSRS Korea Array 63.92 326 P **P 00 36 33.6 -0.4**
comp=Z,2.5nm,0.8s,mb4.1,baz=144,slow=6.6,SNR=8.5
KSRS pP pP 00 37 07.7 -2.8
comp=Z,1.8nm,0.6s,baz=143,slow=5.2,SNR=2.5
YSS Yuzh-Sakhalins 65.40 342⇑*e*P **P 00 36 44.8 +1.4**
YSS pmax pmax
comp=Z,14nm,0.9s,mb4.8
MDJ Mudanjiang 68.46 332 P **P 00 37 03.0 +0.2**
MDJ AMB AMB
comp=Z,19nm,1.1s,mb4.7
MDJ AMB AMB
comp=Z,88nm,4.0s
CN2 Changchun 69.83 329 *e*P **P 00 37 11.8 +0.6**
CN2 *e*S S 00 46 05.3 -3.0
CN2 AMB AMB
comp=Z,20nm,1.0s,mb4.8
CN2 AMB AMB
comp=Z,200nm,4.0s
KLR Kul'dur 71.18 336 *e*P **P 00 37 16.0 -3.3**
GYA Guiyang 71.89 305 P **P 00 37 24.3 +0.2**
GYA PCP PcP 00 37 43.5 +1.5
GYA PP PP 00 40 09.8 +3.8
GYA S S 00 46 28.5 -4.3
GYA SKS 00 47 05.5
GYA SCS ScS 00 47 08.5 -7.4
GYA AMB AMB
comp=Z,10.0nm,1.0s,mb4.5
GYA AMB AMB
comp=Z,90nm,6.9s
XAN Xi'an 73.87 313 P **P 00 37 36.0 +0.4**
XAN AMB AMB
comp=Z,14nm,1.0s,mb4.7
KMI Kunming 74.48 302 P **P 00 37 41.0 +1.7**
KMI PCP PcP 00 37 54.5 +1.4
KMI PP PP 00 40 30.8 +2.7
KMI S S 00 46 55.0 -7.1
KMI SKS 00 47 24.5
KMI SS SS 00 51 50.0 -2.3
KMI AMB AMB
comp=Z,22nm,0.9s,mb4.9
KMI AMB AMB
comp=Z,57nm,3.1s
KMI LR LR
comp=N,125nm,11.9s
KMI LR LR
comp=E,104nm,11.9s
KMI LR LR
comp=Z,148nm,13.3s
CHTO Chiang Mai 75.24 294 *e*P **P 00 37 43.8 0.0**
HHC Hu-ho-hao-te 75.77 320 *e*P **P 00 37 46.3 0.0**
HHC PP PP 00 40 39.3 +0.7
HHC S S 00 47 10.5 -5.2
HHC SKS 00 47 32.8
HHC SCS ScS 00 47 39.0 -7.3
HHC SS SS 00 52 10.0 -1.3
HHC AMB AMB
comp=Z,16nm,0.5s,mb4.9
HHC AMB AMB
comp=Z,104nm,4.3s
HHC LR LR
comp=N,233nm,19.0s
HHC LR LR
comp=E,359nm,18.0s
HHC LR LR
comp=Z,57nm,20.6s
CD2 Chengdu 76.19 308 *e*P **P 00 37 49.8 +0.8**
CD2 PP PP 00 40 44.5 +2.1
CD2 S S 00 47 15.5 -5.2
CD2 SS SS 00 52 15.5 -2.5
CD2 AMB AMB
comp=Z,10.0nm,1.0s,mb4.4
CD2 AMB AMB
comp=Z,30nm,8.2s
SEY Seymchan 78.44 353⇑*e*P **P 00 38 00.5 -0.2**
LZH Lanzhou 78.50 312 *e*P **P 00 38 03.3 +1.6**
LZH PCP PcP 00 38 12.5 +2.2
LZH AMB AMB
comp=Z,30nm,1.4s,mb4.7
LZH AMB AMB
comp=Z,150nm,6.2s
GAMB Gambell 80.05 9 *e*P **P 00 38 08.8 -0.7**
MAW Mawson 81.80 202 P **P 00 38 19.1 +0.2**
comp=Z,5.4nm,0.5s,mb4.5,baz=138,slow=3.5,SNR=18
YAK Yakutsk 82.20 343⇑*e*P **P 00 38 21.4 +0.5**
YAK pmax pmax
comp=Z,47nm,1.0s,mb5.1
ULN Ulaanbaatar 82.32 324⇑*e*P **P 00 38 22.7 +0.9**
TTA Tatalina 82.62 16 *e*P **P 00 38 23.4 +0.4**
SONM Songino Array 82.68 324 P **P 00 38 24.3 +0.6**
comp=Z,5.2nm,0.6s,mb4.4,baz=138,slow=5.4,SNR=42
BILL Bilibino 82.68 360 *e*P **P 00 38 22.8 -0.5**
comp=Z,9.6nm,1.0s,mb4.5
BILL Bilibino 82.68 360⇓*e*P **P 00 38 23.2 -0.1**
BILL *e**PP pP 00 39 02.6 +1.2
BILL 00 48 27.4
BILL pmax pmax
comp=Z,12nm,1.3s,mb4.5
GTA Gaotai 82.85 314 *e*P **P 00 38 25.8 +1.0**
GTA PP PP 00 41 41.3 +3.8
GTA PPP 00 43 35.0
GTA S S 00 48 26.8 -3.7
GTA SS SS 00 53 59.0 +1.7
GTA AMB AMB
comp=Z,11nm,1.2s,mb4.5
GTA AMB AMB
comp=Z,84nm,6.9s
GTA LR LR
comp=N,39nm,24.8s
GTA LR LR
comp=E,85nm,21.7s
GTA LR LR
comp=Z,99nm,14.9s
BOD Bodaibo 84.65 334 *e*P **P 00 38 32.2 -1.3**
BOD pmax pmax
comp=Z,6.0nm,1.2s,mb4.2
MCK McKinley 85.25 18 *e*P **P 00 38 36.5 +0.2**
comp=Z,28nm,1.4s,mb4.8
MCK McKinley 85.25 18 *e*P **P 00 38 36.5 +0.2**
MCK pmax pmax
comp=Z,28nm,1.4s,mb4.8
ZAK Zakamensk 85.73 325⇓*i*P **P 00 38 38.8 -0.2**
ZAK pmax pmax
comp=Z,8.0nm,1.0s,mb4.4
ZAK pmax pmax
comp=Z,3.0nm,1.7s,mb3.8
IMA2 Indian Mountai 85.75 15 *e*P **P 00 38 38.9 +0.1**
TLY Talaya 86.17 326 *e*P **P 00 38 41.6 +0.5**
TLY Talaya 86.17 326 *i*P **P 00 38 41.6 +0.4**
COLA College 86.42 18 *e*P **P 00 38 40.2 -1.8**
comp=Z,7.6nm,0.8s,mb4.5
COLA College 86.42 18 *e*P **P 00 38 40.2 -1.9**
COLA pmax pmax
comp=Z,8.0nm,0.8s,mb4.5
NVAR Mina Array Bea 87.28 49 P **P 00 38 46.8 0.0**
comp=Z,1.6nm,0.8s,mb3.9,baz=220,slow=5.3,SNR=7.8
GLA Glamis 88.09 55 *e*P **P 00 38 51.9 +1.0**
TPNV Topopah Spring 88.28 51 *e*P **P 00 38 52.2 +0.5**
EGAK Eagle 88.41 20 *e*P **P 00 38 50.5 -1.1**
SYO Syowa Base 88.60 197⇑*e*X **P 00 38 49.8 -2.8**
JIRN Jiri 89.23 299 *e*P **P 00 38 56.7 +0.4**
comp=Z,14nm,0.5s,mb5.1
GUN Gumba 89.56 299 *e*P **P 00 38 58.2 +0.3**
comp=Z,18nm,0.8s,mb5.0
KKN Kakani 90.04 299 *e*P **P 00 39 00.1 0.0**
comp=Z,5.0nm,0.3s,mb5.0
TIXI Tiksi 90.13 349 *e*P **P 00 38 58.9 -0.6**
comp=Z,5.8nm,1.2s,mb4.4
TIXI Tiksi 90.13 349 *e*P **P 00 38 58.9 -0.6**
TIXI pmax pmax
comp=Z,6.0nm,1.2s,mb4.4
DMN Daman 90.13 298 *e*P **P 00 39 00.5 -0.1**
comp=Z,37nm,1.1s,mb5.2
BMO Blue Mountains 90.28 43 *e*P **P 00 39 00.8 0.0**
comp=Z,49nm,2.8s,mb4.9
BMO Blue Mountains 90.28 43 *e*P **P 00 39 00.8 0.0**
BMO pmax pmax
comp=Z,49nm,2.8s,mb4.9
GKN Gorkha 90.64 299 *e*P **P 00 39 02.4 -0.5**
comp=Z,20nm,0.8s,mb5.2
TUC Tucson 91.10 57 *e*P **P 00 39 07.4 +2.4**
DANN Dangsing 91.48 299 *e*P **P 00 39 05.9 -0.9**
WUAZ Wupatki 91.57 54 *e*P **P 00 39 08.4 +1.4**
comp=Z,4.7nm,0.8s,mb4.6
WMQ Urumqi 92.91 315 *e*P **P 00 39 12.5 -0.5**
WMQ AMB AMB
comp=Z,9.0nm,0.6s,mb5.1
WMQ AMB AMB
comp=Z,117nm,5.0s
MAIT Maitri 92.93 188 *e*P **P 00 39 09.3 -3.4**
SNAA Sanae 93.42 183 *e*P **P 00 39 14.5 -0.4**
SNAA *e* 00 39 17.2
SNAA *e* 00 39 21.7
SNAA Sanae 93.42 183⇑*e*P **P 00 39 13.3 -1.6**
VNA3 Neumayer Olymp 94.08 181 *e*P **P 00 39 16.9 -1.1**
VNA3 *e* 00 39 19.6
VNA3 *e* 00 39 24.2
BOZ Bozeman (W) 94.33 44 *e*P **P 00 39 18.1 -1.4**
VNA2 Neumayer--Watz 94.34 182 *e*P **P 00 39 19.3 +0.1**
VNA2 *e* 00 39 21.7
VNA2 *e* 00 39 25.3
HRY Holter Researc 94.50 43 *e*P **P 00 39 26.8 +6.5**
VNA1 Neumayer--Stat 94.64 181 *e*P **P 00 39 19.3 -1.3**
VNA1 *e* 00 39 21.6
VNA1 *e* 00 39 26.0
ANMO Albuquerque 95.29 55⇑*e*P **P 00 39 24.3 +0.1**
TXAR Lajitas Array 96.24 61 P **P 00 39 28.9 +0.3**
comp=Z,0.5nm,0.7s,mb4.0,baz=215,slow=5.4,SNR=7.8
TXAR LR LR 01 15 26.2
comp=Z,53nm,19.6s,baz=175,slow=31
MK31 Makanchi Array 97.38 316 *e*P **P 00 39 34.1 +0.8**
MKAR Makanchi Array 97.38 316 P **P 00 39 33.9 +0.5**
comp=Z,3.0nm,0.6s,mb4.8,baz=91,slow=6.3,SNR=32
ZAA0 Zalesovo Array 97.57 324 *e*P **P 00 39 32.7 -1.3**
ZALV Zalesovo Beam 97.57 324 P **P 00 39 33.1 -0.9**
comp=Z,4.7nm,0.8s,mb5.0,baz=115,slow=4.8,SNR=24
ZAL Zalesovo 97.58 324 P **P 00 39 33.2 -0.9**
YKA Yellowknife Ar 97.62 27 P **P 00 39 32.8 -1.2**
YKA PKKP PKKPbc 00 56 10.2 -2.3
YKA LR LR 01 21 13.2
YKA Yellowknife Ar 97.62 27 P **P 00 39 32.8 -1.2**
comp=Z,1.2nm,0.8s,mb4.3,baz=255,slow=4.5,SNR=16
YKA PKKP PKKPbc 00 56 10.2 -2.3
comp=Z,0.4nm,0.6s,baz=74,slow=2.6,SNR=12
YKA LR LR 01 21 13.2
comp=Z,32nm,18.7s,baz=80,slow=34
KEV Kevo 119.89 345 *e*p PKPdf 00 44 47.7 -1.2
comp=Z,2.7nm,0.6s
ARCES ARCESS Array B 120.42 345 PKP PKPdf 00 44 49.5 -0.4
comp=Z,8.0nm,0.5s,baz=76,slow=1.6,SNR=85
ARCES PKKPbc PKKPbc 00 54 56.1 -3.3
comp=Z,0.9nm,0.4s,baz=236,slow=2.1,SNR=9.5
SCHQ Schefferville 122.35 34 PKKPbc PKKPbc 00 54 52.0 +0.4
comp=Z,3.9nm,0.6s,baz=103,slow=3.5,SNR=22
JOF Joensuu 123.06 338 *e*p PKPdf 00 44 53.9 -1.3
comp=Z,7.3nm,0.5s
BOSA Boshof 123.34 220 PKP PKPdf 00 44 57.2 +0.3
BOSA Boshof 123.34 220 PKP PKPdf 00 44 57.2 +0.3
comp=Z,2.5nm,0.5s,baz=320,slow=3.2,SNR=9.9
OBN Obninsk 124.88 328 PKIKP PKPdf 00 44 59.0 +0.1
OBN pmax pmax
comp=Z,6.0nm,0.9s
FINES FINESS Array B 125.90 338 PKP PKPdf 00 45 00.8 +0.1
FINES FINESS Array B 125.90 338 PKP PKPdf 00 45 00.8 +0.1
comp=Z,2.4nm,0.6s,baz=36,slow=2.3,SNR=27
NB2 NORSAR Subarra130.79 345 PKPdf PKPdf 00 45 10.8 +0.8
comp=Z,0.6nm,0.4s,baz=31,slow=1.9
NOA NORSAR Array B130.79 345 PKP PKPdf 00 45 10.1 +0.1
comp=Z,1.4nm,0.6s,baz=31,slow=2.0,SNR=8.2
NOA SKPbc SKPbc 00 48 22.5 +2.5
comp=Z,13nm,0.9s,baz=31,slow=3.1,SNR=27
AKASG Malin Array Be 130.92 326 PKP PKPdf 00 45 10.5 -0.1
comp=Z,0.4nm,0.3s,baz=47,slow=2.4,SNR=6.9
AKASG SKPbc SKPbc 00 48 22.5 +1.7
comp=Z,8.8nm,0.7s,baz=48,slow=4.4,SNR=50
BDFB Brasilia 133.71 129 PKP PKPdf 00 45 18.3 +1.4
comp=Z,0.7nm,0.7s,baz=29,slow=27,SNR=3.3
BDFB SKPbc SKPbc 00 48 30.8 -0.8
comp=Z,1.8nm,0.9s,baz=309,slow=26,SNR=4.9
BURAR Bucovina Array 134.79 324⇑*i*P PKPdf 00 45 20.2 +2.2
KOLS Kolonicke sedl 135.62 327 *e*PKP PKPdf 00 45 20.1 +0.5
STHS Stebnicka Huta 135.85 329 *e*PKP PKPdf 00 45 20.2 +0.3
CRVS Cervenica-Dubn 136.06 328 *e*PKP PKPdf 00 45 19.8 -0.5
DPC Dobruska-Polom 137.56 333 *e*SKP 00 48 47.2
UPC Upice 137.58 333 *e*PKPdf PKPdf 00 45 20.6 -2.4
UPC *e*SKP 00 48 44.7
VYHS Vyhne 137.66 329 *e*PKP PKPdf 00 45 24.2 +0.9
CLL Collm 138.23 336 *e*PKHKP 00 45 16.0
CLL Collm 138.23 336 *e*PKPdf PKPdf 00 45 25.0 +0.8
CLL *e*SKPdf SKPdf 00 48 46.0 +1.1
PRU Pruhonice 138.60 334 *e*PKPpre 00 45 19.2
PRU *e*SKP 00 48 47.7
TREC Trest 138.69 332 *e*SKP 00 48 48.2
PKSM Moragy 139.25 327⇑*i*P PKPdf 00 45 29.0 +2.8
NKC Novy Kostel 139.29 335 *e*PKPpre 00 45 21.1
KHC Kasperske Hory 139.66 333 *e*PKHKP 00 45 20.7
KHC *e* 00 45 27.3
KHC Kasperske Hory 139.66 333 *e*PKPpre 00 45 20.7
KHC *e*PKPdf PKPdf 00 45 27.3 +0.4
KHC *e*SKP 00 48 50.6
GERES GERESS Array B 139.82 333 PKhKP 00 45 20.1
comp=Z,1.0nm,0.6s,baz=38,slow=3.3,SNR=10.0
GERES PKP PKPdf 00 45 29.5 +2.3
comp=Z,1.8nm,0.6s,baz=72,slow=1.7,SNR=11
GERES SKPbc SKPbc 00 48 51.0 +2.2
comp=Z,2.0nm,0.9s,baz=38,slow=2.4,SNR=9.2
GRA1 Grafenberg Arr 140.21 336 *e*PKPdf PKPdf 00 45 23.3 -4.6
GRA1 *e*SKPdf SKPdf 00 48 51.9 +3.5
GRF Grafenberg Arr 140.21 336 *e*PKPdf PKPdf 00 45 23.3 -4.6
GRF *e*SKPdf SKPdf 00 48 51.9 +3.5
WTTA Wattenberg 141.92 333⇓*i*P PKPdf 00 45 28.8 -2.2
comp=Z,5.6nm,0.4s,SNR=9.6
MOTA Mosalm 142.09 334⇑*i*P PKPdf 00 45 27.3 -4.0
comp=Z,6.7nm,1.0s,SNR=9.0
GIVF Givet 142.11 342 *e*PKP1 PKPdf 00 45 31.3 0.0
SQTA Sankt Quirin 142.14 333⇑*i*P PKPdf 00 45 27.7 -3.8
comp=Z,9.1nm,1.3s,SNR=6.9
FETA Feichten 142.51 334 *i* PKPdf PKPdf 00 45 29.1 -3.0
comp=Z,18nm,1.3s,SNR=13
DAVA Damuels 142.66 335⇑*i*P PKPdf 00 45 29.6 -2.7
comp=Z,13nm,1.1s,SNR=6.0
CDF Champ du Feu 142.75 338 *e*PKP1 PKPdf 00 45 28.6 -3.9
comp=Z,11nm,0.6s
THEF They Montfort 143.36 339 PKP PKPdf 00 45 30.8 -2.8
HINF Hinteralfeld 143.40 338 *e*PKP1 PKPdf 00 45 30.5 -3.1
comp=Z,11nm,0.6s
HAU Haudompre 143.43 339 *e*PKP1 PKPdf 00 45 30.8 -2.9
comp=Z,19nm,0.8s
MEZF Maizieres J'vi 143.44 340 *e*PKP1 PKPdf 00 45 31.2 -2.5
comp=Z,13nm,0.7s
LOMF Lomont 143.80 337 PKP PKPdf 00 45 33.1 -1.3
AQU L'Aquila 144.62 326⇓*i*P PKPdf 00 45 36.7 +0.8
CABF La Chapelle 144.70 338 *e*PKP1 PKPdf 00 45 36.0 +0.1
comp=Z,113nm,1.0s
FLN La Foliniere 144.76 346 *e*PKP1 PKPdf 00 45 35.0 -1.0
comp=Z,62nm,0.5s
LDF La Druitiere 144.83 346 *e*PKP1 PKPdf 00 45 35.2 -0.9
comp=Z,33nm,0.6s
LOR Lormes 144.91 340 *e*PKP1 PKPdf 00 45 36.1 -0.2
comp=Z,80nm,1.0s
GRR Gorron 145.20 346 *e*PKP1 PKPbc 00 45 36.8 +0.1
comp=Z,134nm,0.8s
SSF Saint Saulge 145.21 341 *e*PKP1 PKPbc 00 45 37.3 +0.6
comp=Z,153nm,0.7s
HYF Humbligny 145.29 342 *e*PKP1 PKPbc 00 45 37.8 +0.8
LPL La Plagne 145.37 336 *e*PKP1 PKPbc 00 45 38.5 +1.2
comp=Z,112nm,0.7s
LPG La Plagne 145.38 336 *e*PKP1 PKPbc 00 45 38.5 +1.2
comp=Z,136nm,0.7s
SMF Signal de Mont 145.46 340 *e*PKP1 PKPbc 00 45 37.9 +0.3
comp=Z,103nm,1.0s
AVF Avril sur Loir 145.49 341 *e*PKP1 PKPbc 00 45 37.8 +0.1
comp=Z,63nm,1.0s
SGMF Saint Gilles 145.69 348 *e*PKP1 PKPbc 00 45 38.2 0.0
comp=Z,208nm,1.2s
ROSF Rostrenen 145.75 349 *e*PKP1 PKPbc 00 45 38.4 0.0
comp=Z,98nm,1.1s
BGF Bois d'Agland 145.86 341 *e*PKP1 PKPbc 00 45 39.2 +0.4
comp=Z,75nm,0.6s
GRN Grenoble 145.98 337 PKP PKPbc 00 45 40.7 +1.5
MBDF Montbardon 146.00 335 *e*PKP1 PKPbc 00 45 39.6 +0.3
comp=Z,53nm,0.6s
PLDF La Plantade 146.13 340 PKP PKPbc 00 45 40.5 +0.9
QUIF Quistinic 146.13 349 *e*PKP1 PKPbc 00 45 39.3 -0.2
SURF Saint Ours 146.19 335 PKP PKPbc 00 45 41.1 +1.3
ORIF Oris-en-Rattie 146.20 336 *e*PKP1 PKPbc 00 45 40.5 +0.7
comp=Z,121nm,0.7s
AGO Saint Agoulin 146.22 340 PKP PKPbc 00 45 40.3 +0.4
SAOF Saorge 146.27 333 PKP PKPbc 00 45 40.6 +0.5
TCF Toulx Ste Croi 146.30 341 *e*PKP1 PKPbc 00 45 40.5 +0.4
comp=Z,64nm,0.9s
AUTN L'Aution 146.32 334 PKP PKPbc 00 45 41.1 +0.9
TOUF Mont Tournerai 146.38 334 PKP PKPbc 00 45 40.5 +0.1
SBF Sospel 146.42 333 *e*PKP1 PKPbc 00 45 40.5 0.0
comp=Z,108nm,0.6s
LUCF Luceram 146.44 333 PKP PKPbc 00 45 41.0 +0.4
COLF Collangettes 146.50 339 PKP PKPbc 00 45 41.3 +0.6
MVIF Mont Vial 146.52 334 PKP PKPbc 00 45 41.1 +0.3
PYM Petit Puy Mans 146.52 340 PKP PKPbc 00 45 41.2 +0.4
REVF Revere 146.55 333 PKP PKPbc 00 45 41.1 +0.2
MFF Saint Martin d 146.69 344 *e*PKP1 PKPbc 00 45 41.4 +0.2
comp=Z,110nm,0.9s
VERF Verneugheol 146.69 341 PKP PKPbc 00 45 43.0 +1.8
OG26 St.-Nazaire-De 146.71 336 PKP PKPbc 00 45 42.3 +1.0
VIVF Saint-Julien-l 146.71 337 *e*PKP1 PKPbc 00 45 41.9 +0.6
comp=Z,32nm,0.8s
PGF Pioggiola 146.73 330 *e*PKP1 PKPbc 00 45 41.7 +0.2
comp=Z,94nm,0.9s
CALN Calern 146.75 334 PKP PKPbc 00 45 41.9 +0.4
CORF Corte 146.85 330 PKP PKPbc 00 45 42.2 +0.4
LBL Lubilhac 146.90 339 PKP PKPbc 00 45 43.1 +1.3
FRNF Fournols 146.99 340 PKP PKPbc 00 45 43.0 +0.9
FRF La Foret Royal 147.00 334 *e*PKP1 PKPbc 00 45 42.3 +0.1
comp=Z,66nm,0.8s
SMRF Simiane la Rot 147.11 335 *e*PKP1 PKPbc 00 45 43.2 +0.7
comp=Z,55nm,0.8s
LMR La Mourre 147.25 334 *e*PKP1 PKPbc 00 45 43.0 +0.1
comp=Z,74nm,0.9s
RJF Les Rejaudoux 147.40 341 *e*PKP1 PKPbc 00 45 43.7 +0.5
comp=Z,64nm,0.8s
MATF Mathat 147.44 344 PKP PKPbc 00 45 43.2 -0.1
CAF Calviac 147.56 340 *e*PKP1 PKPbc 00 45 44.3 +0.6
comp=Z,46nm,1.0s
LASF Ste Croix 147.68 338 *e*PKP1 PKPbc 00 45 44.7 +0.7
comp=Z,71nm,0.8s
LFF La Frestale 147.96 342 *e*PKP1 PKPbc 00 45 45.1 +0.4
comp=Z,76nm,0.6s
MTLF Montolieu 148.91 339 *e*PKP1 PKPbc 00 45 47.8 +0.6
comp=Z,74nm,0.8s
LRDF Laroque-de-Fa 149.15 338 PKP PKPbc 00 45 48.0 +0.2
FILF Fillols 149.47 338 PKP PKPbc 00 45 49.0 +0.4
MLS Moulis 149.63 340 PKP PKPbc 00 45 49.3 +0.3
EPF Esparros 149.81 341 *e*PKP1 PKPbc 00 45 49.7 +0.2
comp=Z,23nm,0.8s
LABF Labassere 149.88 341 PKP PKPbc 00 45 50.7 +1.1
VIEF Viey 150.05 341 PKP PKPbc 00 45 51.1 +1.1
ATE Arette 150.08 342 PKP PKPbc 00 45 50.3 +0.2
SJPF Ste Jean 150.21 343 *e*PKP1 PKPbc 00 45 50.9 +0.5
KEST Kesra 151.39 321 PKPbc PKPbc 00 45 54.1 +0.6
comp=Z,3.9nm,0.6s,baz=123,slow=0.5,SNR=48
KEST PKPab PKPab 00 46 04.2 +2.0
comp=Z,5.3nm,0.9s,baz=339,slow=5.3,SNR=7.6
PVRL Vila Real 153.35 352 *e*PKPbc PKPbc 00 45 58.1 +0.5
MVO Moncorvo 153.36 351 *e*PKPbc PKPbc 00 45 58.8 +1.2
MVO *ep*PKPdf pPKPdf 00 46 39.9 +9.3
ESDC Sonseca Array 154.15 345 PKPbc PKPbc 00 46 00.2 +0.8
comp=Z,0.6nm,0.5s,baz=18,slow=4.1,SNR=8.4
ESDC PKPab PKPab 00 46 13.8 +0.3
comp=Z,2.3nm,0.8s,baz=11,slow=4.8,SNR=6.4
MTE Manteigas 154.18 351 *e*PKPab PKPab 00 46 13.7 0.0
PESTR Estremoz 155.69 350 *e*PKPab PKPab 00 46 22.2 +2.1
PMAFR Mafra 155.83 354 *e*PKPdf PKPdf 00 45 51.9 -1.6
EVO Evora 156.08 351 *e*PKPab PKPab 00 46 22.7 +0.9
PBAR Barrancos 156.27 349 *e*PKPab PKPab 00 46 23.2 +0.6
PBEJ Beja 156.56 351 *e*PKPab PKPab 00 46 24.5 +0.6
PVAQ Vaqueiros 157.14 350 *e*PKPab PKPab 00 46 27.5 +1.1
LIC Lamto 168.63 222⇑*i*PKIKP PKPdf 00 46 03.8 -3.2
comp=Z,30nm,1.3s
DBIC Dimbokro 168.85 224 PKP PKPdf 00 46 06.8 -0.3
comp=Z,2.4nm,0.8s,baz=285,slow=6.7,SNR=4.0
DBIC PKPab PKPab 00 47 19.1 +0.7
comp=Z,2.2nm,0.6s,baz=74,slow=9.2,SNR=7.1

ISCJB ***30*** *01:11:13.1±0.5,3786N±003×2306E±006, h12km±6km,*
Error ellipse: s-maj=7.7km s-min=4.8km az=177.2
THE ***30*** *01:11:14.0,3785N×2305E, h3km, ML2.2*
NEIC ***30*** *01:11:13.8,3786N×2305E, h23km, MD2.9(ATH), After ATH.*
ATH ***30*** *01:11:13.8,3786N×2305E, h23km±1km, MD2.9/6*
CSEM ***30*** *01:11:14.0±0.1,3784N×2302E, h10km, ML2.2, Error ellipse: s-maj=2.0km s-min=1.6km az=93.0*

ISC 30 01:11:13.8±0.5,3786N±003×2306E±005,h13km±5km,n15,
σ0§87/19,Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LTK	**Loutraki**	**0.18**	**335**	*e*Pg	**Pg**	**01 11 17.5**	**-0.5**
LTK				*e*Sg	**Sg**	**01 11 21.1**	**+0.2**
NAIG	**Nisos Aigina**	**0.35**	**106**	*e*PB	**Pg**	**01 11 21.5**	**+0.6**
DID	**Didima**	**0.38**	**158**	*e*Pg	**Pg**	**01 11 21.1**	**-0.3**
DID				*e*Sg	**Sg**	**01 11 27.0**	**+0.6**
ATH	**Athens Observa**	**0.53**	**77**	*e*PN	**Pg**	**01 11 24.6**	**+0.4**
PTL	**Penteli**	**0.66**	**73**	*e*PN	**Pn**	**01 11 27.0**	**-1.8**
VLX	**Vlachokerasia**	**0.73**	**228**	*e*Pg	**Pg**	**01 11 27.0**	**-0.9**
LKR	**Lokris**	**0.80**	**356**	*e*Pg	**Pg**	**01 11 29.1**	**-0.1**
LKR	**Lokris**	**0.80**	**356**	*e*Pg	**Pg**	**01 11 29.1**	**-0.1**
ITM	**Ithomi**	**1.13**	**234**	*e*PN	**Pn**	**01 11 35.2**	**0.0**
VLI	**Veliai**	**1.14**	**185**	*e*PN	**Pn**	**01 11 35.5**	**+0.1**
AGG	**Agios Georgios**	**1.30**	**334**	*e*Pg	**Pg**	**01 11 38.7**	**-0.1**
AGG				*e*Sg	**Sg**	**01 11 57.3**	**+1.6**
PYL	**PYLOS**	**1.42**	**228**	*e*Pg	**Pg**	**01 11 39.9**	**-1.2**
PYL				*e*Sg	**Sg**	**01 12 00.4**	**+0.7**
NEO	**Neokhori**	**1.45**	**5**	*e*PN	**Pn**	**01 11 40.8**	**+1.1**
XOR	**Xorichti**	**1.51**	**4**	*e*Pg	**Pg**	**01 11 41.4**	**-1.5**
KARN	**Karanos**	**2.54**	**164**	*e*Pn	**Pn**	**01 11 55.7**	**+1.0**

ISCJB ***30*** *01:23:12.8±0.7, 4016N±005×2078E±007, h10km, Error ellipse: s-maj=9.2km s-min=5.8km az=135.1*
CSEM ***30*** *01:23:12.7±0.2, 4030N×2066E, h8km±1km, MD3.2, Error ellipse: s-maj=5.9km s-min=3.5km az=142.0*
NEIC ***30*** *01:23:13.3, 4026N×2068E, h15km, MD3.2(ATH), After ATH.*
ATH ***30*** *01:23:13.3, 4026N×2068E, h15km, MD3.2/5*

ISC 30 01:23:13.7±1.6,4025N±008×2070E±009,h14km±15km,n8,
σ1§08/12,Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAN	**Janina**	**0.61**	**169**	*e*PN	**Pg**	**01 23 25.1**	**-0.4**
JAN				*e*SN	**Sg**	**01 23 33.5**	**0.0**
SRN	**Sarande**	**0.65**	**235**	*e*Pg	**Pg**	**01 23 25.5**	**-0.9**
SRN				*i* Sg	**Sg**	**01 23 36.5**	**+1.5**
KZN	**Kozani**	**0.82**	**86**	*e*PN	**Pn**	**01 23 29.5**	**-1.3**
KEK	**Kerkira**	**0.88**	**232**	*e*PN	**Pn**	**01 23 29.7**	**-1.8**
BIA	**Bitola**	**0.90**	**32**	*e*Pn	**Pn**	**01 23 32.0**	**+0.1**
BIA				*e*Sn	**Sn**	**01 23 45.6**	**+0.8**
BIA	**Bitola**	**0.90**	**32**	*e*Pn	**Pn**	**01 23 32.0**	**+0.1**
BIA				*e*Sn	**Sn**	**01 23 45.5**	**+0.7**
THL	**Klokotos Trika**	**1.22**	**124**	*e*PN	**Pn**	**01 23 36.6**	**+0.3**
EVR	**Evrytania**	**1.59**	**147**	*e*PN	**Pn**	**01 23 43.1**	**+1.8**

JMA 30 01:23:20.3±0.2,3038N×13131E,h24km±1km,M2.8,
Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTN	**Tanegashima 3**	**0.40**	**314**	P	Pb	01 23 28.5	-0.2
JTN				S	Sb	01 23 34.5	0.0
JTSR	**Tashiro 2**	**0.85**	**337**	P	Pb	01 23 36.1	-0.3

JTSR S Sb 01 23 47.7 +0.3
JKC Kuchinoerabu 0.97 275 P Pn 01 23 38.2 -0.1
JKC eS Sb 01 23 50.6 -0.1
JSU Suzuyama 1.34 327 P Pn 01 23 43.1 -0.4
JTZ Takazaki 1.53 353 P Pn 01 23 46.5 +0.4
JSJ Shimokoshiki 1.88 314 P Pn 01 23 50.2 -0.8

*NIED **30** 01:23:00,3040N×13130E,h17km,Mw4.1 Best double couple: M0=1.76000×10^15 NP1:φ=25.00000°,δ=86.00000°,λ=106.00000°. NP2:φ=129.00000°,δ=17.00000°,λ=14.00000°.*
*ISCJB **30** 01:23:38.1±0.9,3037N±004×13134E±005,h32km±6km, mb3.9/10,MS3.7/7, Error ellipse: s-maj=7.6km s-min=5.9km az=23.6*
*NEIC **30** 01:23:38.8,3038N×13130E,h25km,mb4.7/2, MW4.1(NIED),After JMA.*
*JMA **30** 01:23:38.7±0.1,3038N×13130E,h25km±1km,M4.0*
JMA Felt I J1.
*IDC **30** 01:23:42.7±1.8,3051N×131.13E,h57km±17km,mb3.6/9, mb1 3.8/13,mb1mx3.7/22,mbtmp3.6/13,ML3.4/4,MS3.6/8, Ms1 3.6/8,ms1mx3.2/39,Error ellipse: s-maj=28.8km s-min=12.5km az=83.0*

ISC 30 01:23:39.5±0.9,3038N±004×13123E±005,h29km±5km, n35,σ0§90/42,mb3.9/10,MS3.7/7,1C-1D,Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTN	**Tanegashima 3**	**0.35**	**321**	⇓P	**Pb**	**01 23 47.0**	**-0.6**
JTN				S	**Sb**	**01 23 53.0**	**-0.1**
JTSR	**Tashiro 2**	**0.82**	**341**	P	**Pn**	**01 23 54.7**	**-0.5**
JTSR				S	**Sb**	**01 24 05.9**	**-0.2**
JKC	**Kuchinoerabu**	**0.90**	**275**	P	**Pn**	**01 23 56.4**	**+0.2**
JKC				eS	**Sn**	**01 24 08.8**	**+0.6**
JNAR	**Kushima--Naru**	**1.14**	**2**	P	**Pn**	**01 23 59.8**	**+0.3**
JNN	**Nakanoshima**	**1.29**	**246**	P	**Pn**	**01 24 02.6**	**+1.0**
JNN				eS	**Sn**	**01 24 19.2**	**+1.3**
JSU	**Suzuyama**	**1.30**	**329**	P	**Pn**	**01 24 01.5**	**-0.2**
JSU				eS	**Sn**	**01 24 18.6**	**+0.4**
JTZ	**Takazaki**	**1.52**	**355**	P	**Pn**	**01 24 04.8**	**+0.1**
JSJ	**Shimokoshiki**	**1.83**	**315**	⇑P	**Pn**	**01 24 08.5**	**-0.5**
JZO	**Okuchi**	**1.83**	**343**	P	**Pn**	**01 24 08.8**	**-0.2**
JZO				eS	**Sn**	**01 24 32.0**	**+0.8**
JTSN	**Tsuno**	**1.87**	**7**	P	**Pn**	**01 24 09.2**	**-0.3**
JTSN				eS	**Sn**	**01 24 32.3**	**+0.1**
JNU	**Nakatsue**	**2.75**	**354**	P	**Pn**	**01 24 22.9**	**+1.4**
	11nm,0.3s,baz=304,slow=2.3,SNR=28						
JNU				S	**Sn**	**01 24 53.2**	**-0.5**
	16nm,0.3s,baz=65,slow=14,SNR=4.4						
JOW	**Kunigami**	**4.39**	**217**	P	**Pn**	**01 24 48.5**	**+4.2**
	3.4nm,0.3s,baz=94,slow=20,SNR=4.9						
JOW				S	**Sn**	**01 25 32.3**	**-2.1**
	5.0nm,0.3s,baz=198,slow=25,SNR=4.5						
KSRS	**Korea Array**	**7.57**	**340**	P	**Pn**	**01 25 29.8**	**+1.9**
	0.6nm,0.3s,baz=163,slow=13,SNR=6.9						
KSRS				LR	LR	01 28 37.8	
	comp=Z,262nm,19.1s,baz=162,slow=40						
MAJO	**Matsushiro**	**8.46**	**42**	ePn	**Pn**	**01 25 39.6**	**-0.5**
	6.5nm,0.3s						
MAT	**Matsushiro**	**8.46**	**42**	P	**Pn**	**01 25 40.2**	**+0.1**
MAT				eS	**Sn**	**01 27 25.3**	**+11**
MJAR	**Matsushiro Arr**	**8.46**	**42**	P	**Pn**	**01 25 41.2**	**+1.1**
MJAR	**Matsushiro Arr**	**8.46**	**42**	P	**Pn**	**01 25 41.2**	**+1.1**
	1.2nm,0.3s,baz=215,slow=12,SNR=7.7						
SONM	**Songino Array**	**25.81**	**319**	P	**P**	**01 29 06.7**	**-1.3**
	0.4nm,0.4s,mb3.3,baz=135,slow=8.2,SNR=5.7						
SONM				LR	LR	01 40 23.7	
	comp=Z,108nm,18.3s,MS3.4,baz=95,slow=39						
ZALV	**Zalesovo Beam**	**40.70**	**319**	LR	LR	01 49 27.8	
	comp=Z,54nm,18.7s,MS3.4,baz=125,slow=38						
MKAR	**Makanchi Array**	**40.92**	**308**	P	**P**	**01 31 17.4**	**-1.7**
MKAR				LR	LR	01 49 57.8	
MKAR	**Makanchi Array**	**40.92**	**308**	P	**P**	**01 31 17.4**	**-1.7**
	0.3nm,0.5s,mb3.2,baz=93,slow=10,SNR=4.1						
MKAR				LR	LR	01 49 57.7	
	comp=Z,63nm,18.9s,MS3.5,baz=39,slow=39						
WRA	**Warramunga Arr**	**50.12**	**176**	P	**P**	**01 32 32.5**	**+0.4**
	2.7nm,0.9s,mb4.3,baz=24,slow=11,SNR=2.6						
ASAR	**Alice Springs**	**53.80**	**177**	P	**P**	**01 33 01.3**	**+1.8**
	1.9nm,0.6s,mb4.2,baz=8.9,slow=13,SNR=6.9						
STKA	**Stephens Creek**	**62.70**	**170**	eP	**P**	**01 34 01.9**	**+0.4**
	2.1nm,0.6s,mb4.4						
STKA	**Stephens Creek**	**62.70**	**170**	P	**P**	**01 34 01.8**	**+0.2**
	2.6nm,0.6s,mb4.5,baz=51,slow=7.7,SNR=7.6						
ARCES	**ARCESS Array B**	**67.12**	**338**	LR	LR	02 08 39.5	
	comp=Z,71nm,19.7s,MS3.9,baz=87,slow=40						
JOF	**Joensuu**	**67.71**	**331**	ep	**P**	**01 34 32.5**	**-1.2**
	1.8nm,0.4s,mb4.5						
FINES	**FINESS Array B**	**70.56**	**331**	P	**P**	**01 34 50.7**	**-0.7**
FINES				LR	LR	02 09 07.3	
FINES	**FINESS Array B**	**70.56**	**331**	P	**P**	**01 34 50.7**	**-0.7**
	2.5nm,0.5s,mb4.4,baz=69,slow=5.8,SNR=19						
FINES				LR	LR	02 09 07.3	
	comp=Z,49nm,20.0s,MS3.8,baz=196,slow=39						
YKA	**Yellowknife Ar**	**73.65**	**26**	P	**P**	**01 35 10.4**	**+0.5**
YKA	**Yellowknife Ar**	**73.65**	**26**	P	**P**	**01 35 10.4**	**+0.5**
	0.2nm,0.6s,mb3.2,baz=304,slow=5.3,SNR=5.0						
AKASG	**Malin Array Be**	**74.09**	**320**	P	**P**	**01 35 11.4**	**-1.3**
	0.5nm,0.3s,mb3.9,baz=53,slow=5.3,SNR=5.6						
NOA	**NORSAR Array B**	**76.75**	**334**	P	**P**	**01 35 27.0**	**-0.8**
	0.4nm,0.6s,mb3.5,baz=47,slow=5.2,SNR=2.5						
NOA				LR	LR	02 15 07.2	
	comp=Z,32nm,19.8s,MS3.6,baz=325,slow=40						
CLL	**Collm**	**82.23**	**326**	eP	**P**	**01 35 58.0**	**+0.2**
SCHQ	**Schefferville**	**93.72**	**10**	LR	LR	02 19 07.7	
	comp=Z,50nm,20.5s,MS4.0,baz=69,slow=36						

*IDC **30** 01:27:03.4±1.6,146S×14398E,h0km,mb3.9/7,mb1 4.1/7, mb1mx3.9/15,mbtmp3.9/7,MS3.3/2,Ms1 3.3/2, ms1mx2.8/25,Error ellipse: s-maj=58.4km s-min=20.7km az=101.0*
*ISCJB **30** 01:27:08.1±1.3,14S±0.1×1436E±04,h33km,mb3.7/6, MS3.2/2,Error ellipse: s-maj=51.7km s-min=14.8km az=11.6*

ISC 30 01:27:09.8±1.3,14S±01×1437E±04,h35km,n11,σ0§86/10, mb3.7/6,MS3.2/2,Ninigo Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**15.83**	**224**	eP	**Pn**	**01 30 42.8**	**-7.4**
	7.3nm,0.6s						
WB2	**Warramunga Arr**	**20.57**	**206**	eP	**P**	**01 31 46.5**	**+0.8**
WRA	**Warramunga Arr**	**20.58**	**206**	P	**P**	**01 31 46.1**	**+0.3**
	4.2nm,0.5s,baz=31,slow=11,SNR=77						
ASAR	**Alice Springs**	**24.00**	**202**	P	**P**	**01 32 22.6**	**+0.4**
	4.9nm,0.7s,mb4.0,baz=33,slow=12,SNR=49						
FITZ	**Fitzroy Crossi**	**24.29**	**226**	eP	**P**	**01 32 21.5**	**-2.5**
	11nm,0.6s,mb4.5						
FITZ	**Fitzroy Crossi**	**24.29**	**226**	P	**P**	**01 32 22.2**	**-1.9**
	6.6nm,0.6s,mb4.2,baz=41,slow=11,SNR=28						
FITZ				LR	LR	01 42 20.5	
	comp=Z,99nm,21.8s,MS3.3,baz=45,slow=38						
KSRS	**Korea Array**	**41.33**	**341**	LR	LR	01 51 18.7	
	comp=Z,31nm,19.9s,MS3.2,baz=88,slow=35						
SONM	**Songino Array**	**58.81**	**331**	P	**P**	**01 37 05.0**	**+0.4**
	0.3nm,0.8s,mb3.4,baz=145,slow=5.3,SNR=2.5						
MKAR	**Makanchi Array**	**71.87**	**321**	P	**P**	**01 38 29.3**	**0.0**
	0.5nm,0.8s,mb3.5,baz=119,slow=7.1,SNR=4.5						
BVAR	**Borovoye Array**	**81.13**	**324**	P	**P**	**01 39 22.2**	**+0.7**
	0.4nm,0.5s,mb3.6,baz=101,slow=7.5,SNR=3.6						
YKA	**Yellowknife Ar**	**96.64**	**27**	P	**P**	**01 40 35.2**	**-0.8**
	0.2nm,0.9s,mb3.5,baz=260,slow=6.8,SNR=3.6						

*ISCJB **30** 01:36:07.8±3.1,2184N±009×143.1E±02,h36km±29km, mb4.2/17,Error ellipse: s-maj=27.0km s-min=13.8km az=162.1*
*BJI **30** 01:36:08.5,2190N×143.10E,h35km,mB5.0,mb4.5*
*NEIC **30** 01:36:09.5±0.3,2188N×143.10E,h35km,mb4.0/1,Error ellipse: s-maj=16.8km s-min=7.5km az=76.0*
*IDC **30** 01:36:19.9±7.1,2182N×142.95E,h128km±64km,mb3.8/16, mb1 3.9/16,mb1mx3.8/24,mbtmp3.8/16,MS2.8/2, Ms1 2.8/2,ms1mx2.6/31,Error ellipse: s-maj=25.7km s-min=13.3km az=72.0*

ISC 30 01:36:11.1±2.5,2183N±010×1431E±02,h50km±24km,n29, σ0§95/25,mb4.2/17,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**8.37**	**168**	Pn	**Pn**	**01 38 09.0**	**-0.8**
	247nm,1.2s						
MJAR	**Matsushiro Arr**	**15.27**	**345**	LR	LR	01 44 58.7	
	comp=Z,85nm,21.1s,baz=160,slow=34						
JNU	**Nakatsue**	**15.62**	**319**	LR	LR	01 44 22.4	
	comp=Z,20nm,21.2s,baz=196,slow=31						
KSRS	**Korea Array**	**20.37**	**323**	P	**P**	**01 40 46.5**	**+3.0**
	4.8nm,0.7s,baz=143,slow=9.0,SNR=19						
SONM	**Songino Array**	**39.19**	**320**	P	**P**	**01 43 34.8**	**+0.6**
	2.3nm,0.5s,mb4.2,baz=129,slow=7.0,SNR=23						
CTA	**Charters Tower**	**41.78**	**176**	P	**P**	**01 43 57.1**	**+1.3**
	1.0nm,0.2s,mb4.0,baz=332,slow=5.9,SNR=3.9						
WRAB	**Tennant Creek**	**42.38**	**192**	P	**P**	**01 44 00.8**	**+0.1**
	2.3nm,0.8s,mb3.9						
WRA	**Warramunga Arr**	**42.40**	**192**	P	**P**	**01 44 01.0**	**+0.2**
	1.7nm,0.7s,mb3.8,baz=12,slow=8.7,SNR=5.0						
ASAR	**Alice Springs**	**46.10**	**192**	P	**P**	**01 44 30.5**	**+0.1**
	1.4nm,0.7s,mb4.0,baz=15,slow=9.9,SNR=7.5						
WMQ	**Urumqi**	**50.45**	**309**	eP	**P**	**01 45 05.5**	**+1.7**
WMQ				AMB	AMB		
	comp=Z,7.0nm,1.0s,mb4.7						
WMQ				AMB	AMB		
	comp=Z,150nm,5.5s						
ZAA0	**Zalesovo Array**	**54.06**	**322**	eP	**P**	**01 45 29.5**	**-1.0**
ZALV	**Zalesovo Beam**	**54.06**	**322**	P	**P**	**01 45 30.3**	**-0.1**
	comp=Z,3.3nm,0.6s,mb4.4,baz=101,slow=6.8,SNR=12						
MK31	**Makanchi Array**	**54.56**	**313**	eP	**P**	**01 45 34.6**	**+0.4**
MKAR	**Makanchi Array**	**54.56**	**313**	P	**P**	**01 45 35.0**	**+0.8**
MKAR	**Makanchi Array**	**54.56**	**313**	P	**P**	**01 45 35.0**	**+0.8**
	comp=Z,1.3nm,0.6s,mb4.2,baz=93,slow=9.1,SNR=13						
AAK	**Ala-Archa**	**60.03**	**308**	P	**P**	**01 46 11.8**	**-1.1**
	comp=Z,1.8nm,0.5s,mb4.3,baz=193,slow=14,SNR=4.2						
BVAR	**Borovoye Array**	**62.53**	**319**	P	**P**	**01 46 30.0**	**+0.5**
	comp=Z,6.8nm,0.7s,mb4.9,baz=90,slow=7.5,SNR=30						
INK	**Inuvik**	**67.47**	**24**	P	**P**	**01 47 01.5**	**+0.1**
	comp=Z,1.9nm,0.9s,mb4.1,baz=250,slow=6.7,SNR=6.4						
AKTK	**Aktyubinsk**	**70.43**	**317**	P	**P**	**01 47 18.9**	**-1.1**
AKTO	**Aktyubinsk**	**70.43**	**317**	P	**P**	**01 47 18.9**	**-1.1**
	comp=Z,1.4nm,0.7s,mb4.0,baz=70,slow=5.5,SNR=5.5						
YKA	**Yellowknife Ar**	**76.36**	**28**	P	**P**	**01 47 54.8**	**+0.1**
	comp=Z,1.2nm,0.5s,mb4.1,baz=293,slow=5.8,SNR=45						
ARCES	**ARCESS Array B**	**78.77**	**341**	P	**P**	**01 48 08.2**	**+0.1**
	comp=Z,1.7nm,0.8s,mb4.0,baz=61,slow=7.3,SNR=3.5						
FINES	**FINESS Array B**	**83.03**	**334**	P	**P**	**01 48 30.0**	**-0.9**
FINES	**FINESS Array B**	**83.03**	**334**	P	**P**	**01 48 30.0**	**-0.9**
	comp=Z,1.8nm,0.8s,mb4.2,baz=90,slow=3.8,SNR=4.3						
NVAR	**Mina Array Bea**	**83.11**	**51**	P	**P**	**01 48 32.6**	**+0.8**
	comp=Z,1.1nm,0.7s,mb4.0,baz=265,slow=3.6,SNR=7.0						
AKASG	**Malin Array Be**	**87.36**	**324**	P	**P**	**01 48 51.0**	**-1.8**
AKASG	**Malin Array Be**	**87.36**	**324**	P	**P**	**01 48 51.0**	**-1.8**
	comp=Z,0.9nm,0.7s,mb4.1,baz=53,slow=5.4,SNR=7.5						
PLCA	**Paso Flores**	**145.89**	**131**	PKPbc	PKPbc	01 55 44.9	-0.3
	comp=Z,0.8nm,0.8s,baz=40,slow=21,SNR=3.0						
LPAZ	**La Paz**	**149.99**	**85**	PKPbc	PKPbc	01 55 58.1	+1.2
	comp=Z,1.7nm,0.8s,baz=4.6,slow=4.6,SNR=3.8						
LPAZ				PKPab	PKPab	01 56 04.4	+1.7
	comp=Z,1.7nm,0.8s,baz=333,slow=4.5,SNR=6.4						

*IDC **30** 01:37:14.8±4.8,263N×12843E,h153km±46km,mb3.8/11, mb1 3.9/11,mb1mx3.8/17,mbtmp3.8/11,Error ellipse: s-maj=41.4km s-min=11.2km az=78.0*
*ISCJB **30** 01:37:15.6±3.0,260N±008×1283E±02,h179km±30km, mb4.1/13,Error ellipse: s-maj=26.4km s-min=9.9km az=161.0*
*NEIC **30** 01:37:15.2±2.2,260N×12832E,h160km±21km,mb4.1/4, Error ellipse: s-maj=17.4km s-min=6.1km az=70.0*

ISC 30 01:37:15.4±3.3,260N±008×1283E±02,h162km±33km,n23, σ0§54/22,mb4.1/13,Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKM	**Kota Kinabalu**	**12.54**	**286**	ePn	**Pn**	**01 40 08.6**	**+0.2**
FITZ	**Fitzroy Crossi**	**20.74**	**187**	eP	**P**	**01 41 43.3**	**-0.3**
	4.4nm,0.8s						
FITZ	**Fitzroy Crossi**	**20.74**	**187**	P	**P**	**01 41 43.9**	**+0.3**
	1.6nm,0.5s,baz=29,slow=9.9,SNR=10						
NACB	**Ninganchiao**	**22.41**	**344**	P	**P**	**01 42 00.4**	**-0.3**
WRAB	**Tennant Creek**	**23.17**	**165**	eP	**P**	**01 42 07.9**	**+0.1**
	14nm,0.6s,mb4.6						
WRA	**Warramunga Arr**	**23.17**	**165**	P	**P**	**01 42 08.1**	**+0.2**
	13nm,0.5s,mb4.6,baz=344,slow=10,SNR=161						
WB2	**Warramunga Arr**	**23.18**	**165**	eP	**P**	**01 42 07.9**	**+0.1**
WB2	**Warramunga Arr**	**23.18**	**165**	eP	**P**	**01 42 07.5**	**-0.4**
QIZ	**Qiongzhong**	**24.36**	**313**	eP	**P**	**01 42 18.1**	**-0.5**
	187nm,1.9s,mb5.3						
MBWA	**Marble Bar**	**25.07**	**199**	eP	**P**	**01 42 24.3**	**-0.7**
	1.2nm,0.5s,mb3.7						
ASAR	**Alice Springs**	**26.67**	**169**	P	**P**	**01 42 39.8**	**+0.3**
	1.9nm,0.6s,mb3.9,baz=355,slow=8.1,SNR=35						
ASAR				PcP	PcP	01 45 59.7	+0.6
	1.1nm,0.5s,baz=352,slow=2.3,SNR=12						
KULM	**Kulim**	**27.73**	**276**	eP	**P**	**01 42 48.9**	**-0.2**
KSRS	**Korea Array**	**34.68**	**359**	P	**P**	**01 43 49.4**	**-0.2**
	1.2nm,0.3s,mb3.9,baz=176,slow=10.0,SNR=4.3						
MJAR	**Matsushiro Arr**	**34.98**	**14**	P	**P**	**01 43 51.6**	**-0.6**
	3.0nm,0.8s,mb4.0,baz=187,slow=9.7,SNR=8.1						
STKA	**Stephens Creek**	**36.54**	**161**	eP	**P**	**01 44 06.0**	**+0.5**
	3.5nm,0.6s,mb4.2						
STKA	**Stephens Creek**	**36.54**	**161**	P	**P**	**01 44 05.8**	**+0.3**
	5.1nm,0.7s,mb4.3,baz=336,slow=9.4,SNR=9.1						
SONM	**Songino Array**	**48.87**	**340**	P	**P**	**01 45 45.9**	**+1.3**
	1.1nm,0.5s,mb3.7,baz=150,slow=8.1,SNR=7.5						
MKAR	**Makanchi Array**	**59.38**	**325**	P	**P**	**01 47 01.0**	**+0.3**
	1.0nm,0.4s,mb4.0,baz=114,slow=7.8,SNR=13						
BVAR	**Borovoye Array**	**69.12**	**327**	P	**P**	**01 48 05.0**	**+1.0**
	0.7nm,0.6s,mb3.6,baz=121,slow=7.4,SNR=2.3						
VNDA	**Vanda**	**82.12**	**173**	P	**P**	**01 49 17.1**	**-0.3**
	1.6nm,0.8s,mb3.7,baz=319,slow=4.9,SNR=8.9						
ARCES	**ARCESS Array B**	**92.04**	**340**	P	**P**	**01 50 05.0**	**-0.7**
ARCES	**ARCESS Array B**	**92.04**	**340**	P	**P**	**01 50 05.0**	**-0.7**
	2.3nm,0.8s,mb4.2,baz=72,slow=7.8,SNR=3.9						
CFAA	**Coronel Fontan**	**147.20**	**153**	PKPbc	PKPbc	01 56 40.5	+0.2
	0.5nm,0.6s,baz=252,slow=3.0,SNR=7.7						

*TEH **30** 01:37:54.7,2838N×5531E,h3km,ML3.8*
*IDC **30** 01:38:14.5±0.8,2833N×5526E,h0km,mb4.1/18, mb1 4.2/18,mb1mx4.1/25,mbtmp4.1/18,MS3.1/4, Ms1 3.1/4,ms1mx2.7/34,Error ellipse: s-maj=19.2km s-min=17.9km az=28.0*
*CSEM **30** 01:38:15.0±0.1,2835N×55.11E,h12km,mb4.1/24,Error ellipse: s-maj=2.6km s-min=1.9km az=153.0*
*THR **30** 01:38:16.7±1.0,2839N×55.19E,h14km±13km,ML3.9*
*MOS **30** 01:38:17.8±1.0,2836N×5524E,h33km,mb4.4/19,Error ellipse: s-maj=12.1km s-min=6.0km az=122.5*
*BJI **30** 01:38:18.0,2840N×5520E,h34km,mb4.3*
*NEIC **30** 01:38:18.0,2835N×5523E,h34km,mb4.1/19, ML3.9(THR),MN3.8(TEH),After THR.*
*ISCJB **30** 01:38:20.3±0.4,2844N±003×5528E±003,h55km±4km, mb4.1/38,MS3.2/2,Error ellipse: s-maj=5.8km s-min=4.7km az=21.6*

ISC 30 01:38:21.6±0.4,2838N±003×5527E±003,h52km±4km, n145,σ1§03/155,mb4.1/38,MS3.2/2,16C-2D,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDS	**Bandar-Abbas**	**1.26**	**141**	ePg	**Pn**	**01 38 41.2**	**-1.5**
BNDS				eS	**Sn**	**01 38 58.4**	**-0.2**
BNDS	**Bandar-Abbas**	**1.26**	**141**	ePg	**Pn**	**01 38 41.2**	**-1.5**
BNDS				AML	AML	01 39 03.4	
	comp=N,2μm,0.6s						
BNDS	**Bandar-Abbas**	**1.26**	**141**	ePg	**Pn**	**01 38 41.2**	**-1.6**
	SNR=90						
BNDS				eS	**Sn**	**01 38 58.4**	**-0.2**
IBND	**Bandar-abas**	**1.45**	**129**	ePn	**Pn**	**01 38 45.2**	**-0.2**
IBND				eSn	**Sn**	**01 39 05.7**	**+2.3**
KRBR	**Kerman**	**2.06**	**39**	ePn	**Pn**	**01 38 53.2**	**-0.5**
KRBR				eSg	**Sn**	**01 39 23.3**	**+5.1**
KRBR	**Kerman**	**2.06**	**39**	ePg	**Pn**	**01 38 54.4**	**+0.6**
KRBR				eSg	**Sn**	**01 39 23.3**	**+5.1**
KRBR				AML	AML	01 39 34.2	
	comp=N,778nm,0.6s						
KRBR	**Kerman**	**2.06**	**39**	ePn	**Pn**	**01 38 53.2**	**-0.6**
KRBR	**Kerman**	**2.06**	**39**	ePg	**Pn**	**01 38 54.3**	**+0.5**
	SNR=90						
KRBR				eSg	**Sn**	**01 39 23.3**	**+5.0**
	SNR=90						
ISRV	**Sarvestan**	**2.14**	**298**	ePn	**Pn**	**01 38 56.5**	**+1.6**
ISRV				eSn	**Sn**	**01 39 23.9**	**+3.6**
ISRV				e		01 40 02.5	
	comp=Z,11μm,0.8s						
ISRV	**Sarvestan**	**2.14**	**298**	ePn	**Pn**	**01 38 56.5**	**+1.6**
ISRV				Sn	**Sn**	**01 39 23.8**	**+3.5**
IMOK	**Mouk**	**2.34**	**287**	Pn	**Pn**	**01 38 58.5**	**+0.9**
IMOK				Sn	**Sn**	**01 39 27.9**	**+2.7**
IMOK	**Mouk**	**2.34**	**287**	ePn	**Pn**	**01 38 58.5**	**+0.9**
IMOK				eSn	**Sn**	**01 39 27.9**	**+2.7**
IMOK				e		01 40 01.4	
	comp=Z,6μm,0.4s						
IPAR	**Pars**	**2.43**	**307**	ePn	**Pn**	**01 39 00.2**	**+1.4**
IPAR				eLg		01 39 36.0	
IPAR				e		01 40 06.5	
	comp=Z,4μm,0.4s						
SHI	**Shiraz**	**2.73**	**298**	ePn	**Pn**	**01 39 04.6**	**+1.7**
SHI				e		01 40 13.0	
	comp=Z,1μm,0.3s						
IMEH	**Mehriz**	**3.06**	**349**	Pn	**Pn**	**01 39 08.2**	**+0.8**
IMEH	**Mehriz**	**3.06**	**349**	ePn	**Pn**	**01 39 08.3**	**+0.9**
IMEH				e		01 39 59.4	
	comp=Z,2μm,0.3s						
IBAF	**Bafgh**	**3.21**	**4**	ePn	**Pn**	**01 39 09.3**	**-0.2**
IBAF				e		01 39 24.3	
	comp=Z,2μm,0.2s						
ICHK	**Chekchek**	**3.93**	**349**	ePn	**Pn**	**01 39 19.8**	**+0.5**
ICHK				e		01 40 50.1	
	comp=Z,1μm,0.6s						
IGAR	**Gharneh**	**4.68**	**326**	ePn	**Pn**	**01 39 32.2**	**+2.5**
IGAR				e		01 41 45.2	
	comp=Z,712nm,0.1s						
NASN	**Na'in**	**4.89**	**335**	ePn	**Pn**	**01 39 31.8**	**-0.7**
ZHSF	**Zahedan**	**4.97**	**74**	ePn	**Pn**	**01 39 33.3**	**-0.4**
ZHSF	**Zahedan**	**4.97**	**74**	ePn	**Pn**	**01 39 34.2**	**+0.5**
IKOO	**Kooshah**	**5.16**	**38**	ePn	**Pn**	**01 39 35.5**	**-0.8**
IZEF	**Zefreh**	**5.17**	**331**	ePn	**Pn**	**01 39 34.3**	**-2.0**
IZEF				e		01 40 08.7	
	comp=Z,205nm,0.4s						
ITEG	**Tejag**	**5.41**	**33**	ePn	**Pn**	**01 39 40.1**	**+0.5**
ITEG				eSn	**Sn**	**01 40 39.5**	**-1.1**
IPIR	**Pirpir**	**5.72**	**320**	ePn	**Pn**	**01 39 42.5**	**-1.4**
IPIR				e		01 40 59.1	
	comp=Z,251nm,0.2s						
IKLH	**Kolahrood**	**5.86**	**328**	ePn	**Pn**	**01 39 44.3**	**-1.5**
IKLH				e		01 41 07.3	
	comp=N,254nm,0.3s						
BTHS		**5.87**	**224**	P	**Pn**	**01 39 45.2**	**-0.7**
IDAH	**Dahanechah**	**5.88**	**41**	ePn	**Pn**	**01 39 46.7**	**+0.6**
IDAH				eSn	**Sn**	**01 40 51.0**	**-1.2**
IMON	**Monand**	**6.11**	**37**	ePn	**Pn**	**01 39 49.0**	**-0.2**
KFJS		**6.47**	**270**	P	**Pn**	**01 39 53.7**	**-0.5**
ISFB	**Sefidab**	**6.50**	**337**	ePn	**Pn**	**01 39 54.7**	**+0.1**
ISFB				e		01 40 38.9	
	comp=Z,141nm,0.5s						
HRDDS		**7.54**	**225**	S	**Sn**	**01 41 30.9**	**-2.2**
IFIR	**Firoozkooh**	**7.55**	**344**	ePn	**Pn**	**01 40 08.1**	**-0.9**
IFIR				e		01 41 11.4	
	comp=Z,56nm,0.2s						
ASAO	**Ashtian**	**7.61**	**325**	ePn	**Pn**	**01 40 09.2**	**-0.6**
MALT	**Malatya**	**17.19**	**310**	eP	**Pn**	**01 42 16.7**	**-1.3**
MALT				pmax	pmax		
	comp=Z,2.0nm,0.7s						
MALT	**Malatya**	**17.19**	**310**	eP	**Pn**	**01 42 16.7**	**-1.3**
	comp=Z,2.0nm,0.7s						
MMAI	**Mount Meron Ar**	**17.70**	**290**	LR	LR	01 49 09.9	
	comp=Z,23nm,18.4s,baz=350,slow=37						
EIL	**Elat**	**17.82**	**279**	LR	LR	01 50 44.4	
	comp=Z,43nm,18.1s,baz=62,slow=42						
KIV	**Kislovodsk**	**18.54**	**330**	eP	**Pn**	**01 42 35.0**	**+0.6**
	comp=Z,9.9nm,1.0s						
KIV	**Kislovodsk**	**18.54**	**330**	⇑eP	**Pn**	**01 42 35.4**	**+1.0**
KIV				pmax	pmax		
	comp=Z,4.0nm,0.8s						
KIV	**Kislovodsk**	**18.54**	**330**	eP	**Pn**	**01 42 35.4**	**+1.0**
	comp=Z,4.0nm,0.8s						
UCH	**Uchtor**	**20.85**	**43**	eP	**P**	**01 43 00.5**	**+1.5**
	comp=Z,5.4nm,1.1s						
UCH	**Uchtor**	**20.85**	**43**	eP	**P**	**01 43 00.5**	**+1.6**
	comp=Z,5.4nm,1.1s						
AAK	**Ala-Archa**	**21.08**	**42**	P	**P**	**01 43 02.2**	**+0.8**
AAK				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb3.9						
AAK	**Ala-Archa**	**21.08**	**42**	P	**P**	**01 43 02.2**	**+0.8**
	comp=Z,3.6nm,0.7s,mb3.8,baz=215,slow=8.9,SNR=10						
ANN	**Anapa**	**21.69**	**324**	eP	**P**	**01 43 07.5**	**-0.4**
ANN				pmax	pmax		
	comp=Z,21nm,0.9s,mb4.6						
ANN	**Anapa**	**

GRF pmax pmax
comp=Z,5.0nm,0.6s,mb4.4
GRF Grafenberg Arr 39.57 315 *eP* **P 01 45 48.6 +1.1**
GRF pmax pmax
comp=Z,5.0nm,0.6s,mb4.4
GRF Grafenberg Arr 39.57 315 *eP* **P 01 45 48.6 +1.1**
comp=Z,5.0nm,0.6s,mb4.4
PGF Pioggiola 39.77 303 *eP* **P 01 45 48.8 -0.5**
comp=Z,20nm,1.2s,mb4.4
PGF Pioggiola 39.77 303 *eP* **P 01 45 48.8 -0.5**
PGF pmax pmax
comp=Z,10.0nm,1.3s,mb4.4
PGF Pioggiola 39.77 303 *eP* **P 01 45 48.8 -0.5**
comp=Z,9.8nm,1.2s,mb4.4
DAVA Damuels 39.86 311 ⇑*iP* **P 01 45 49.7 -0.3**
comp=Z,4.6nm,0.4s,mb4.6
MBDF Montbardon 41.60 306 *eP* **P 01 46 03.7 -0.6**
LPG La Plagne 41.71 308 *eP* **P 01 46 04.4 -0.8**
comp=Z,3.7nm,0.7s,mb3.8
LPG La Plagne 41.71 308 *eP* **P 01 46 04.4 -0.8**
LPG pmax pmax
comp=Z,2.0nm,0.7s,mb3.9
LPG La Plagne 41.71 308 *eP* **P 01 46 04.4 -0.8**
comp=Z,1.9nm,0.7s,mb3.8
LPL La Plagne 41.72 308 *eP* **P 01 46 03.9 -1.4**
comp=Z,6.9nm,0.8s,mb4.0
LPL La Plagne 41.72 308 *eP* **P 01 46 03.9 -1.4**
LPL pmax pmax
comp=Z,3.0nm,0.8s,mb4.0
LPL La Plagne 41.72 308 *eP* **P 01 46 03.9 -1.4**
comp=Z,3.5nm,0.8s,mb4.0
CABF La Chapelle 42.31 309 *eP* **P 01 46 09.5 -0.6**
comp=Z,5.8nm,0.8s,mb3.9
CABF La Chapelle 42.31 309 *eP* **P 01 46 09.5 -0.6**
CABF pmax pmax
comp=Z,3.0nm,0.8s,mb4.0
CABF La Chapelle 42.31 309 *eP* **P 01 46 09.5 -0.6**
comp=Z,2.9nm,0.8s,mb3.9
MEZF Maizieres J'vi 43.28 312 *eP* **P 01 46 16.8 -1.1**
comp=Z,6.6nm,0.6s,mb4.2
MEZF Maizieres J'vi 43.28 312 *eP* **P 01 46 16.8 -1.1**
comp=Z,3.3nm,0.6s,mb4.2
SONM Songino Array 43.78 49 P **P 01 46 22.6 +0.7**
comp=Z,1.2nm,1.0s,mb3.6,baz=256,slow=6.0,SNR=6.4
NB2 NORSAR Subarra 43.85 331 P **P 01 46 22.5 +0.2**
comp=Z,0.7nm,0.5s,mb3.6,baz=118,slow=8.6
NOA NORSAR Array B 43.85 331 P **P 01 46 22.2 -0.1**
NOA NORSAR Array B 43.85 331 P **P 01 46 22.2 -0.1**
comp=Z,3.1nm,0.7s,mb4.1,baz=117,slow=7.9,SNR=15
SMF Signal de Mont 43.85 309 *eP* **P 01 46 22.0 -0.5**
comp=Z,3.2nm,0.7s,mb3.9
SMF Signal de Mont 43.85 309 *eP* **P 01 46 22.0 -0.5**
SMF pmax pmax
comp=Z,2.0nm,0.6s,mb4.0
SMF Signal de Mont 43.85 309 *eP* **P 01 46 22.0 -0.5**
comp=Z,1.6nm,0.7s,mb3.9
LOR Lormes 43.91 310 *eP* **P 01 46 22.5 -0.5**
comp=Z,2.2nm,0.7s,mb3.7
LOR Lormes 43.91 310 *eP* **P 01 46 22.5 -0.5**
LOR pmax pmax
comp=Z,1.0nm,0.6s,mb3.7
LOR Lormes 43.91 310 *eP* **P 01 46 22.5 -0.5**
comp=Z,1.1nm,0.7s,mb3.7
BAIF Baives 44.08 314 *eP* **P 01 46 23.5 -0.8**
SSF Saint Saulge 44.12 310 *eP* **P 01 46 24.6 -0.1**
comp=Z,5.0nm,0.9s,mb4.0
SSF Saint Saulge 44.12 310 *eP* **P 01 46 24.6 -0.1**
SSF pmax pmax
comp=Z,3.0nm,0.9s,mb4.0
SSF Saint Saulge 44.12 310 *eP* **P 01 46 24.6 -0.1**
comp=Z,2.5nm,0.9s,mb4.0
AVF Avril sur Loir 44.20 309 *eP* **P 01 46 24.8 -0.5**
KEV Kevo 44.49 346 *ep* **P 01 46 26.3 -1.0**
comp=Z,4.5nm,0.7s,mb4.3
KEV Kevo 44.49 346 *eP* **P 01 46 26.3 -1.0**
KEV pmax pmax
comp=Z,5.0nm,0.7s,mb4.3
ARCES ARCESS Array B 44.63 346 P **P 01 46 28.9 +0.5**
ARCES ARCESS Array B 44.63 346 P **P 01 46 28.9 +0.5**
comp=Z,1.2nm,0.6s,mb3.9,baz=133,slow=8.5,SNR=8.2
TCF Toulx Ste Croi 44.94 308 *eP* **P 01 46 30.8 -0.4**
LDF La Druitiere 46.70 311 *eP* **P 01 46 44.3 -0.8**
SJPF Ste Jean 47.30 304 *eP* **P 01 46 50.1 +0.2**
BOD Bodaibo 49.90 37 *eP* **P 01 47 09.4 -0.1**
BOD pmax pmax
comp=Z,3.0nm,1.1s,mb4.2
BOD Bodaibo 49.90 37 *eP* **P 01 47 09.4 -0.1**
comp=Z,3.0nm,1.1s,mb4.2
KSRS Korea Array 60.30 61 P **P 01 48 24.7 -0.2**
comp=Z,1.1nm,0.5s,mb4.2,baz=281,slow=7.5,SNR=5.2
BOSA Boshof 63.54 209 P **P 01 48 47.1 +0.5**
comp=Z,8.1nm,1.3s,mb4.6,baz=18,slow=7.9,SNR=8.7
BILL Bilibino 71.38 22 P **P 01 49 40.0 +4.4**
INK Inuvik 83.39 3 P **P 01 50 43.4 +0.7**
comp=Z,0.6nm,0.8s,mb3.7,baz=50,slow=9.9,SNR=3.6
YKA Yellowknife Ar 89.09 355 P **P 01 51 11.8 +1.0**
YKA pmax pmax
comp=Z,1.0nm,0.7s
YKA Yellowknife Ar 89.09 355 P **P 01 51 11.8 +1.1**
comp=Z,0.7nm,0.7s,mb4.1,baz=4.1,slow=5.0,SNR=19
YKA Yellowknife Ar 89.09 355 P **P 01 51 11.8 +1.0**
comp=Z,1.0nm,0.7s,mb4.2
WRA Warramunga Arr 90.17 113 P **P 01 51 17.3 +0.7**
comp=Z,0.5nm,0.9s,mb3.8,baz=311,slow=4.1,SNR=3.5
ASAR Alice Springs 91.69 116 P **P 01 51 23.4 -0.1**
comp=Z,0.3nm,0.6s,mb3.8,baz=311,slow=5.1,SNR=4.9

*JMA **30** 01:49:47.9±0.3, 4023N×13784E, h314km, M3.4*
*ISCJB **30** 01:49:49.4±0.8, 4020N±007×1382E±02, h309km±11km, mb2.8/2, Error ellipse: s-maj=20.2km s-min=7.2km az=24.2*
*IDC **30** 01:49:49.8±1.4, 4029N×13769E, h283km±19km, mb2.4/2, mb1 2.8/5, mb1mx2.6/22, mbtmp2.7/5, Error ellipse: s-maj=28.0km s-min=22.8km az=81.0*
ISC 30 01:49:49.9±0.7, 4023N±007×1380E±02, h294km±12km, n17, σ1§17/19, mb2.8/2, Eastern Sea of Japan

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JAW	**Awa shima**	**2.02**	**151**	P		**Pn**	**01 50 36.8**	**+0.5**
JOSM	**Okushiri--Mats**	**2.15**	**30**	P		**Pn**	**01 50 37.3**	**0.0**
JOT	**Ohata**	**2.58**	**63**	P		**Pn**	**01 50 42.3**	**+1.3**
JMK	**Ichinoseki**	**2.79**	**116**	P		**Pn**	**01 50 44.5**	**+1.3**
JKB	**Kayabe**	**2.82**	**53**	P		**Pn**	**01 50 44.3**	**+1.0**
MAT	**Matsushiro**	**3.69**	**178**	P		**Pn**	**01 50 52.5**	**+0.1**
MJAR	**Matsushiro Arr**	**3.69**	**177**	P		**Pn**	**01 50 53.7**	**+1.3**
	0.9nm,0.3s,baz=359,slow=10,SNR=9.8							
JRY	**Ryogami san**	**4.27**	**170**	P		**Pn**	**01 50 58.8**	**0.0**
JCH	**Churui**	**4.67**	**58**	P		**Pn**	**01 51 04.1**	**+0.8**
JCH				*eS*		**S**	**01 52 00.3**	**-1.9**
JOD2	**Odawara 2**	**5.04**	**170**	*eS*		**S**	**01 52 07.2**	**-2.9**
ASAJ	**Asahikawa**	**5.17**	**40**	P		**Pn**	**01 51 09.4**	**+0.5**
	7.9nm,0.3s,baz=230,slow=7.0,SNR=14							
JTKR	**Abashiri--Toko**	**5.76**	**48**	P		**Pn**	**01 51 16.2**	**+0.2**
JTKR				*eS*		**S**	**01 52 23.6**	**-1.8**
BSO1	**Boso 1**	**6.05**	**156**	P		**Pn**	**01 51 18.2**	**-1.5**
NEM2	**Nemuro 2**	**6.57**	**59**	*eS*		**S**	**01 52 39.2**	**-4.0**
KSRS	**Korea Array**	**8.34**	**254**	P		**Pn**	**01 51 43.8**	**-3.8**
	0.2nm,0.3s,baz=72,slow=12,SNR=4.8							
SONM	**Songino Array**	**23.84**	**299**	P		**P**	**01 54 36.2**	**-0.6**
	0.2nm,0.5s,mb2.7,baz=90,slow=10,SNR=3.8							
WRA	**Warramunga Arr**	**59.96**	**184**	P		**P**	**01 59 26.8**	**+1.1**
	0.2nm,0.5s,mb2.9,baz=1.0,slow=7.5,SNR=7.0							

IDC 30 02:02:53.0±1.3, 2262N×14335E, h0km, mb3.5/4, mb1 3.8/4, mb1mx3.5/18, mbtmp3.5/4, Error ellipse: s-maj=49.4km s-min=27.4km az=86.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**38.74**	**320**	P		P	02 10 19.6	+0.7
	0.2nm,0.4s,baz=118,slow=5.8,SNR=2.8							
WRA	**Warramunga Arr**	**43.21**	**192**	P		P	02 10 56.0	0.0
	0.6nm,0.6s,baz=14,slow=8.9,SNR=13							
BVAR	**Borovoye Array**	**62.08**	**319**	P		P	02 13 14.5	-0.9
	0.8nm,0.6s,baz=98,slow=11,SNR=4.3							
YKA	**Yellowknife Ar**	**75.57**	**28**	P		P	02 14 39.5	+0.2
	0.2nm,0.5s,baz=291,slow=5.9,SNR=7.7							

*NEIC **30** 02:09:01.4±0.9, 3682N×2473W, h10km, mb4.0/4, Error ellipse: s-maj=15.8km s-min=7.4km az=67.0*
*ISCJB **30** 02:09:01.3±0.7, 3696N±009×2460W±006, h10km, mb3.8/6, MS3.1/6, Error ellipse: s-maj=13.9km s-min=4.0km az=23.6*
*IDC **30** 02:09:02.4±2.3, 3692N×2433W, h0km, mb3.7/4, mb1 3.9/5, mb1mx3.5/23, mbtmp3.7/5, ML3.5/1, MS3.1/7, Ms1 3.2/7, ms1mx2.9/26, Error ellipse: s-maj=64.7km s-min=31.9km az=166.0*
*CSEM **30** 02:09:04.2±0.2, 3704N×2462W, h30km, ML3.9, Error ellipse: s-maj=6.5km s-min=2.1km az=3.0*
*PDA **30** 02:09:07.0±1.2, 3703N×2459W, h5km, MD4.1, ML3.9, Error ellipse: s-maj=7.0km s-min=5.2km az=71.0*
*SVSA **30** 02:09:07.0±1.2, 3703N×2459W, h5km, MD4.1, ML3.9, Error ellipse: s-maj=7.0km s-min=5.2km az=71.0*
ISC 30 02:09:06.5±0.7, 3714N±009×2471W±004, h28km±7km, n42, σ0§72/56, mb3.8/6, MS3.1/6, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PSMN	**Pico do Norte,**	**0.32**	**244**	*eP*		**Pb**	**02 09 13.5**	**-0.5**
PSMN				*eS*		**Sb**	**02 09 18.8**	**-0.3**
CMLA	**Cha da Macela**	**0.90**	**314**	*eP*		**Pn**	**02 09 23.0**	**-0.3**
CMLA				*eS*		**Sb**	**02 09 35.5**	**+0.4**
CMLA				A			02 09 37.4	
	1μm,0.4s							
CMLA	**Cha da Macela**	**0.90**	**314**	*eP*		**Pn**	**02 09 22.7**	**-0.6**
CMLA				*eS*		**Sb**	**02 09 35.2**	**+0.1**
CMLA	**Cha da Macela**	**0.90**	**314**	*eP*		**Pn**	**02 09 22.7**	**-0.6**
CMLA				*eS*		**Sb**	**02 09 35.5**	**+0.4**
PDA	**Ponta Delgada**	**0.97**	**309**	*eP*		**Pn**	**02 09 24.1**	**-0.2**
PDA				*eS*		**Sn**	**02 09 37.0**	**-0.1**
PSET	**Sete Cidades**	**1.06**	**310**	*eP*		**Pn**	**02 09 26.1**	**+0.7**
PSET				*eS*		**Sn**	**02 09 39.5**	**+0.3**
PSET				A			02 09 45.0	
	627nm,0.3s							
PSET	**Sete Cidades**	**1.06**	**310**	*eP*		**Pn**	**02 09 26.1**	**+0.7**
PSET				*eS*		**Sn**	**02 09 39.5**	**+0.3**
PSCM	**Serra do Cume**	**2.46**	**310**	*eP*		**Pn**	**02 09 45.2**	**+0.5**
PSCM				*eS*		**Sn**	**02 10 14.1**	**+0.2**
PSCM				A			02 10 17.2	
	202nm,0.3s							
PSCM	**Serra do Cume**	**2.46**	**310**	*eP*		**Pn**	**02 09 45.2**	**+0.5**
PSCM				*eS*		**Sn**	**02 10 14.1**	**+0.2**
ADH	**Angra Heroismo**	**2.51**	**308**	*eP*		**Pn**	**02 09 46.3**	**+0.9**
ADH				*eS*		**Sn**	**02 10 15.2**	**+0.2**
PMAN	**Manadas**	**3.06**	**300**	*eP*		**Pn**	**02 09 53.7**	**+0.7**
PMAN				*eS*		**Sn**	**02 10 28.3**	**-0.4**
PMAN				A			02 10 32.5	
	70nm,0.2s							
PMAN	**Manadas**	**3.06**	**300**	*eP*		**Pn**	**02 09 53.7**	**+0.7**
PMAN				*eS*		**Sn**	**02 10 28.3**	**-0.4**
PGRA	**Graciosa**	**3.20**	**307**	*eP*		**Pn**	**02 09 55.1**	**+0.2**
PGRA				*eS*		**Sn**	**02 10 31.2**	**-0.9**
PGRA				A			02 10 35.2	
	56nm,0.4s							
ROSA	**Rosais**	**3.21**	**300**	*eP*		**Pn**	**02 09 55.7**	**+0.7**
ROSA				*eS*		**Sn**	**02 10 32.2**	**-0.1**
PICO	**Pico**	**3.24**	**296**	*eP*		**Pn**	**02 09 56.2**	**+0.7**
PICO				*eS*		**Sn**	**02 10 32.7**	**-0.5**
HOR	**Horta**	**3.40**	**295**	*eP*		**Pn**	**02 09 57.8**	**+0.2**
HOR				*eS*		**Sn**	**02 10 35.7**	**-1.3**
CALA	**Caldeira**	**3.48**	**296**	*eP*		**Pn**	**02 09 59.2**	**+0.5**
CALA				*eS*		**Sn**	**02 10 37.9**	**-1.0**
PMAR	**Madeira**	**7.77**	**122**	*ePn*		**Pn**	**02 10 52.8**	**-4.8**
PMAR				*eSn*		**Sn**	**02 12 13.6**	**-11**
PMAR				A			02 12 24.4	
	20nm,0.6s							
PMPS	**Porto Santo**	**7.98**	**118**	*ePn*		**Pn**	**02 10 55.0**	**-5.5**
PMPS				*eSn*		**Sn**	**02 12 19.4**	**-10**
EVO	**Evora**	**13.27**	**79**	*eSn*		Sx	02 14 17.1	
MDT	**Midelt**	**17.02**	**99**	Pn		**Pn**	**02 12 57.1**	**-5.3**
	0.2nm,0.3s,baz=274,slow=16,SNR=4.9							
MDT				LR		LR	02 18 14.4	
	comp=Z,50nm,18.3s,baz=144,slow=33							
SJPF	**Ste Jean**	**18.89**	**64**	*eP*		**Pn**	**02 13 23.2**	**-2.2**
MFF	**Saint Martin d**	**20.52**	**55**	*eP*		**P**	**02 13 42.4**	**+0.1**
LFF	**La Frestale**	**20.66**	**60**	*eP*		**P**	**02 13 44.0**	**+0.2**
	7.5nm,0.7s							
LFF	**La Frestale**	**20.66**	**60**	*eP*		**P**	**02 13 44.0**	**+0.2**
	3.8nm,0.7s							
GRR	**Gorron**	**20.72**	**50**	*eP*		**P**	**02 13 44.5**	**0.0**
	24nm,1.1s							
GRR	**Gorron**	**20.72**	**50**	*eP*		**P**	**02 13 44.5**	**0.0**
	12nm,1.1s							
LDF	**La Druitiere**	**21.25**	**50**	*eP*		**P**	**02 13 50.2**	**0.0**
	28nm,1.3s,mb4.2							
LDF	**La Druitiere**	**21.25**	**50**	*eP*		**P**	**02 13 50.2**	**0.0**
	14nm,1.3s,mb4.1							
CAF	**Calviac**	**21.57**	**60**	*eP*		**P**	**02 13 53.3**	**-0.4**
	10.0nm,1.1s,mb3.9							
CAF	**Calviac**	**21.57**	**60**	*eP*		**P**	**02 13 53.3**	**-0.4**
	5.0nm,1.1s,mb3.9							
TCF	**Toulx Ste Croi**	**21.98**	**57**	*eP*		**P**	**02 13 58.1**	**0.0**
SMF	**Signal de Mont**	**23.17**	**57**	*eP*		**P**	**02 14 09.9**	**-0.7**
EKA	**Eskdalemuir Ar**	**23.35**	**32**	P		**P**	**02 14 13.3**	**+0.8**
	0.9nm,0.6s,mb3.4,baz=231,slow=9.2,SNR=3.9							
DAVOX	**Davos/Dischmat**	**27.27**	**58**	LR		LR	02 23 49.8	
	comp=Z,31nm,20.1s,MS2.9,baz=271,slow=33							
VRAC	**Vranov**	**32.06**	**54**	LR		LR	02 26 47.9	
	comp=Z,13nm,18.6s,MS2.6,baz=134,slow=33							
NOA	**NORSAR Array B**	**32.84**	**32**	LR		LR	02 27 05.9	
	comp=Z,42nm,21.1s,MS3.1,baz=245,slow=33							
HFS	**Hagfors**	**33.50**	**34**	LR		LR	02 28 15.8	
	comp=Z,41nm,19.1s,MS3.2,baz=320,slow=34							
ARCES	**ARCESS Array B**	**42.04**	**24**	P		**P**	**02 16 54.7**	**-0.4**
ARCES				LR		LR	02 32 52.6	
ARCES	**ARCESS Array B**	**42.04**	**24**	P		**P**	**02 16 54.7**	**-0.4**
	2.4nm,0.9s,mb3.8,baz=270,slow=6.3,SNR=4.7							
ARCES				LR		LR	02 32 52.6	
	comp=Z,37nm,18.8s,MS3.3,baz=175,slow=34							
TXAR	**Lajitas Array**	**64.75**	**289**	P		**P**	**02 19 45.2**	**+2.8**
	1.0nm,0.7s,mb4.0,baz=67,slow=6.9,SNR=5.3							
MKAR	**Makanchi Array**	**73.96**	**43**	P		**P**	**02 20 39.7**	**+0.6**
	0.4nm,0.5s,mb3.6,baz=321,slow=6.0,SNR=5.0							
MKAR				LR		LR	02 53 00.5	
	comp=Z,32nm,19.6s,MS3.6,baz=117,slow=36							

*ISCJB **30** 02:09:50.2±0.5, 2834N±004×140.1E±0.1, h387km±5km, mb3.6/15, Error ellipse: s-maj=19.8km s-min=5.8km az=168.5*
*JMA **30** 02:09:50.8±0.1, 2837N×14038E, h393km, M3.7*
*IDC **30** 02:09:50.5±0.7, 2834N×13993E, h370km±9km, mb3.3/13, mb1 3.4/16, mb1mx3.4/23, mbtmp3.3/16, Error ellipse: s-maj=24.6km s-min=11.6km az=77.0*
*NEIC **30** 02:09:51.9±1.7, 2849N×14030E, h399km±23km, MG3.7(JMA), Error ellipse: s-maj=46.1km s-min=16.7km az=66.0*
ISC 30 02:09:51.3±0.4, 2842N±005×1403E±01, h385km±5km, n35, σ1§09/48, mb3.6/15, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**2.12**	**128**	P		**Pn**	**02 10 46.5**	**-0.2**
CBIJ				*eS*		**S**	**02 11 29.8**	**-1.5**
CBIJ	**Chichi jima**	**2.12**	**128**	P		**Pn**	**02 10 46.7**	**0.0**
	150nm,0.3s,baz=320,slow=19,SNR=97							
CBIJ				S		**S**	**02 11 30.8**	**-0.5**
	78nm,0.3s,baz=262,slow=22,SNR=9.1							
JHHJ	**Haha-jima-NKT**	**2.44**	**136**	P		**Pn**	**02 10 48.7**	**-0.2**
JHHJ				*eS*		**S**	**02 11 34.3**	**-1.0**
JHJ2	**Mitsune**	**4.70**	**355**	P		**Pn**	**02 11 11.1**	**+1.8**
JHJ2				*eS*		**S**	**02 12 12.9**	**+0.3**
JHJ	**Hachijo jima 2**	**4.71**	**355**	P		**Pn**	**02 11 09.8**	**+0.5**
	43nm,0.3s,baz=230,slow=16,SNR=8.2							
BSO1	**Boso 1**	**6.25**	**5**	P		**Pn**	**02 11 27.6**	**+1.7**
BSO1				*eS*		**S**	**02 12 42.5**	**-0.5**
BSO3	**Boso 3**	**6.37**	**2**	P		**Pn**	**02 11 28.9**	**+1.6**
BSO3				*eS*		**S**	**02 12 44.9**	**-0.6**
BSO4	**Boso 4**	**6.55**	**0**	P		**Pn**	**02 11 30.3**	**+0.9**
BSO4				*eS*		**S**	**02 12 48.6**	**-0.7**
HMMJ	**Hamamatsu 2**	**6.79**	**342**	P		**Pn**	**02 11 32.5**	**+0.5**
JOD2	**Odawara 2**	**6.91**	**352**	P		**Pn**	**02 11 35.1**	**+1.8**
JOD2				*eS*		**S**	**02 12 54.8**	**-1.8**
JNY	**Yasuok**	**7.23**	**344**	P		**Pn**	**02 11 38.0**	**+1.0**
JHU	**Hanno**	**7.46**	**354**	P		**Pn**	**02 11 39.1**	**-0.6**
JHU				*eS*		**S**	**02 13 03.4**	**-4.9**
JRY	**Ryogami san**	**7.67**	**351**	P		**Pn**	**02 11 42.8**	**+0.7**
JRY				*eS*		**S**	**02 13 09.1**	**-3.5**
JAG	**Ashikaga**	**8.02**	**355**	P		**Pn**	**02 11 45.6**	**-0.5**
JAG				*eS*		**S**	**02 13 14.6**	**-5.4**
JHO	**Hitachi**	**8.18**	**1**	P		**Pn**	**02 11 48.8**	**+0.9**
JHO				*eS*		**S**	**02 13 20.8**	**-2.5**
MJAR	**Matsushiro Arr**	**8.29**	**348**	P		**Pn**	**02 11 49.2**	**0.0**
	0.9nm,0.3s,baz=75,slow=25,SNR=4.7							
JFK	**Kawauchi**	**8.94**	**3**	P		**Pn**	**02 11 58.5**	**+1.8**
JFK				*eS*		**S**	**02 13 38.5**	**-1.1**
JNU	**Nakatsue**	**9.37**	**302**	P		**Pn**	**02 12 02.0**	**+0.3**
	0.7nm,0.3s,baz=84,slow=13,SNR=8.1							
JMK	**Ichinoseki**	**10.54**	**4**	P		**Pn**	**02 12 18.6**	**+3.2**
SONM	**Songino Array**	**32.61**	**316**	P		**P**	**02 15 48.2**	**-0.4**
	1.2nm,0.6s,mb3.4,baz=128,slow=8.3,SNR=6.8							
SONM				ScP		ScP	02 21 30.8	0.0
	0.6nm,0.6s,baz=125,slow=3.3,SNR=5.0							
MKAR	**Makanchi Array**	**48.35**	**309**	P		**P**	**02 17 53.9**	**-1.8**
	0.5nm,0.4s,mb3.2,baz=88,slow=9.8,SNR=8.0							
WRA	**Warramunga Arr**	**48.42**	**188**	P		**P**	**02 17 56.2**	**-0.2**
	0.8nm,0.3s,mb3.5,baz=6.3,slow=7.7,SNR=53							
ASAR	**Alice Springs**	**52.15**	**187**	P		**P**	**02 18 24.1**	**+0.2**
	0.3nm,0.3s,mb3.0,baz=1.8,slow=5.2,SNR=8.8							
BVAR	**Borovoye Array**	**55.95**	**317**	P		**P**	**02 18 50.1**	**-0.6**
	1.0nm,0.4s,mb3.5,baz=84,slow=7.5,SNR=7.0							
KEV	**Kevo**	**71.19**	**340**	*ep*		**P**	**02 20 29.1**	**+0.1**
	1.3nm,0.4s,mb3.8							
ARCES	**ARCESS Array B**	**71.75**	**340**	P		**P**	**02 20 33.1**	**+0.8**
	2.8nm,0.6s,mb4.0,baz=74,slow=9.1,SNR=19							
YKA	**Yellowknife Ar**	**71.77**	**28**	P		**P**	**02 20 35.2**	**+2.6**
	0.5nm,0.6s,mb3.2,baz=297,slow=6.0,SNR=15							
JOF	**Joensuu**	**73.16**	**333**	*ep*		**P**	**02 20 40.0**	**-0.7**
	2.7nm,0.4s,mb4.1							
FINES	**FINESS Array B**	**76.03**	**333**	P		**P**	**02 20 57.1**	**+0.2**
	1.6nm,0.4s,mb4.0,baz=76,slow=5.4,SNR=18							
AKASG	**Malin Array Be**	**80.57**	**323**	P		**P**	**02 21 21.3**	**-0.5**
	0.3nm,0.5s,mb3.3,baz=48,slow=5.3,SNR=5.1							
HFS	**Hagfors**	**81.55**	**336**	P		**P**	**02 21 27.0**	**+0.3**
	1.2nm,0.3s,mb4.0,baz=101,slow=2.5,SNR=22							
NB2	**NORSAR Subarra**	**81.77**	**338**	P		**P**	**02 21 27.6**	**-0.2**
	comp=Z,1.2nm,0.6s,mb3.8,baz=46,slow=5.1							
NOA	**NORSAR Array B**	**81.77**	**338**	P		**P**	**02 21 27.8**	**0.0**
	comp=Z,1.1nm,0.6s,mb3.8,baz=46,slow=4.8,SNR=6.4							
GERES	**GERESS Array B**	**89.52**	**328**	P		**P**	**02 22 04.3**	**-1.5**
	comp=Z,0.3nm,0.5s,mb3.4,baz=15,slow=5.5,SNR=3.8							
EKA	**Eskdalemuir Ar**	**90.91**	**340**	P		**P**	**02 22 11.2**	**-1.0**
	comp=Z,0.3nm,0.3s,mb3.6,baz=51,slow=4.0,SNR=5.4							

MDD 30 02:11:12.5±0.6, 2990N×1697W, h0km, mb3.8/9, Error ellipse: s-maj=10.5km s-min=3.3km az=105.0, PRXIMO TT-MODEL: CANARY, Canary Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
EBAJ	**Bajamar**	**1.47**	**158**	P		Pn	02 11 36.0	-4.2
	18nm,0.8s,SNR=7.9							
EBAJ				T			02 22 38.5	
	SNR=6.9							
CICO	**Icod de los Vi**	**1.56**	**172**	P		Pn	02 11 37.2	-4.4
	1.3nm,0.9s,SNR=6.6							
CICO				T			02 22 24.3	
	SNR=7.9							
CHIO	**Chio**	**1.66**	**175**	P		Pn	02 11 38.6	-4.3
	10nm,0.4s,SNR=5.8							
CHIO				T			02 22 32.9	
	SNR=7.9							
CRAJ	**Montana Rajada**	**1.67**	**168**	P		Pn	02 11 38.9	-4.0
	16nm,0.5s,SNR=7.9							
CRAJ				T			02 22 42.1	
	SNR=7.9							
CCAN	**Las Canadas**	**1.71**	**169**	P		Pn	02 11 40.4	-3.1
	10nm,0.6s,SNR=18							
CCAN				T			02 22 35.0	
	SNR=7.9							
EGOM	**La Gomera**	**1.75**	**187**	P		Pn	02 11 35.7	-8.4
	2.8nm,0.3s,SNR=38							
EGOM				T			02 22 18.7	
	SNR=7.9							
EOSO	**Osorio**	**2.21**	**145**	P		Pn	02 11 47.6	-2.8
	19nm,1.0s,SNR=7.9							
EOSO				T			02 23 33.5	
	SNR=7.9							
CFUE	**Fuerteventura**	**2.93**	**115**	P		Pn	02 11 56.0	-4.4
	9.5nm,0.3s,SNR=7.9							
CFUE				T			02 24 08.6	
	SNR=7.9							
EFAM	**Famara**	**3.10**	**104**	P		Pn	02 12 00.4	-2.3
	11nm,0.7s,SNR=7.9							
EFAM				T			02 24 11.2	
	SNR=7.9							
EBAD	**Badajoz**	**12.06**	**40**	P		Pn	02 14 01.9	-3.8
	2.4nm,1.1s,SNR=7.9							
EBAD				T			02 24 34.5	
	SNR=7.9							
ELOB	**Lobios**	**13.94**	**29**	P		Pn	02 14 29.3	-2.0
	4.6nm,1.0s,SNR=4.9							
ELOB				T			02 25 01.7	
	SNR=8.0							
EMAZ	**Mazaricos**	**14.51**	**24**	P		Pn	02 14 36.4	-2.7
	3.8nm,0.9s,SNR=7.9							
EMAZ				T			02 25 05.1	
	SNR=7.9							
ECAL	**Calabor**	**14.58**	**32**	T			02 25 18.6	
	SNR=7.9							

*SSNC **30** 02:20:25.3, 19.14N×7850W, h34km, MD3.6, ML1.7*
*ISCJB **30** 02:20:26.9±1.0, 1933N±005×7832W±008, h33km, Error ellipse: s-maj=10.8km s-min=6.0km az=156.7*
*JSN **30** 02:20:27.5±0.8, 1934N×7831W, h22km±10km, MD3.7*
ISC 30 02:20:27.5±1.0, 1926N±005×7839W±008, h35km, n10, σ0§72/18, 4C, Cuba region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MBJ	**Montego Bay**	**0.99**	**150**⇑	*eP*		**Pn**	**

*CSEM **30** 02:45:27.6±0.2,3871N×3319E,h15km,MD2.7,Error ellipse: s-maj=5.4km s-min=2.4km az=127.0*
*ISK **30** 02:45:27.6,3872N×3319E,h10km,MD2.7*

ISC 30 02:45:28.3±0.8,3869N±005×3324E±006,h13km±6km,n10, σ0°81/18,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAMT	**Kaman**	**0.77**	**29**	*e*PG	**Pg**	**02 45 42.9**	**-0.4**
KAMT				*e*SG	**Sg**	**02 45 53.8**	**+0.4**
KDHN	**Kadinhani**	**0.90**	**259**	*i* P	**Pg**	**02 45 44.6**	**-1.1**
KDHN				*i* S	**Sg**	**02 45 57.8**	**+0.5**
KONT	**Konya--Tatoy**	**1.02**	**223**	*e*PG	**Pg**	**02 45 47.5**	**-0.4**
KONT				*e*SG	**Sg**	**02 46 02.0**	**+0.8**
ANTO	**Ankara**	**1.22**	**344**	*e*PN	**Pn**	**02 45 50.8**	**-0.2**
ANTO				*e*SN	**Sn**	**02 46 07.6**	**+0.2**
LOD	**Lodumlu**	**1.25**	**343**	*e*PN	**Pn**	**02 45 51.2**	**-0.3**
LOD				*e*SN	**Sn**	**02 46 08.3**	**+0.2**
CDAG	**Cicekdag**	**1.28**	**43**	*i* P	**Pn**	**02 45 50.7**	**-1.2**
CDAG				*i* S	**Sb**	**02 46 07.4**	**-1.2**
ELDT	**Eldivan**	**1.80**	**5**	*i* P	**Pg**	**02 46 01.8**	**-1.0**
ELDT				*i* S	**Sg**	**02 46 26.4**	**+0.1**
CORM	**Corum**	**1.83**	**36**	*e*PN	**Pn**	**02 46 00.9**	**+1.4**
YOZ	**Yozgat**	**1.88**	**59**	*e*PN	**Pn**	**02 46 01.0**	**+1.0**
CTKT	**Corum**	**2.27**	**31**	*i* P	**Pg**	**02 46 11.4**	**-0.4**
CTKT				*i* S	**Sg**	**02 46 42.8**	**+1.5**

*IDC **30** 03:06:38.2±1.3,870N×12685E,h0km,mb3.8/8,mb1 3.9/8, mb1mx3.7/18,mbtmp3.8/8,Error ellipse: s-maj=119.7km s-min=16.6km az=71.0*
*ISCJB **30** 03:06:39.6±6.8,866N±009×1269E±0.1,h21km±48km, mb3.8/9,Error ellipse: s-maj=20.6km s-min=14.8km az=1.9*
*NEIC **30** 03:06:43.6±0.5,861N×12676E,h35km,mb3.5/1,Error ellipse: s-maj=21.1km s-min=8.7km az=77.0*
*MAN **30** 03:06:47,866N×12657E,h14km,mb4.5,ML3.3,MS3.2*

ISC 30 03:06:40.7±6.9,865N±007×1268E±01,h15km±43km,n12, σ0°48/13,mb3.8/9,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**2.00**	**218**	P	**Pn**	**03 07 13.9**	**-0.1**
DAV				*e*S	**Sn**	**03 07 38.7**	**0.0**
FITZ	**Fitzroy Crossi**	**26.61**	**183**	P	**P**	**03 12 18.7**	**0.0**
	1.4nm,0.6s,mb3.6,baz=29,slow=12,SNR=6.0						
WRAB	**Tennant Creek**	**29.35**	**165**	*e*P	**P**	**03 12 43.0**	**-0.3**
	0.9nm,0.9s,mb3.5						
WRA	**Warramunga Arr**	**29.36**	**165**	P	**P**	**03 12 43.3**	**-0.1**
	0.2nm,0.5s,mb3.1,baz=350,slow=9.3,SNR=6.0						
ASAR	**Alice Springs**	**32.85**	**168**	P	**P**	**03 13 14.0**	**-0.1**
	0.2nm,0.3s,mb3.5,baz=341,slow=7.3,SNR=6.6						
STKA	**Stephens Creek**	**42.70**	**161**	P	**P**	**03 14 37.9**	**+0.7**
STKA	**Stephens Creek**	**42.70**	**161**	P	**P**	**03 14 37.9**	**+0.7**
	0.6nm,0.3s,mb3.8,baz=332,slow=15,SNR=2.2						
MK31	**Makanchi Array**	**53.64**	**323**	*e*P	**P**	**03 16 02.5**	**+0.9**
MKAR	**Makanchi Array**	**53.64**	**323**	P	**P**	**03 16 02.1**	**+0.5**
	0.7nm,0.5s,mb3.9,baz=117,slow=7.7,SNR=10						
ZALV	**Zalesovo Beam**	**56.30**	**332**	P	**P**	**03 16 19.8**	**-1.0**
	0.3nm,0.4s,mb3.7,baz=120,slow=8.0,SNR=2.9						
ARCES	**ARCESS Array B**	**85.89**	**340**	P	**P**	**03 19 19.6**	**-0.1**
	0.8nm,0.5s,mb4.2,baz=70,slow=5.5,SNR=7.9						
FINES	**FINESS Array B**	**87.57**	**332**	P	**P**	**03 19 27.6**	**-0.4**
	3.3nm,0.8s,mb4.6,baz=64,slow=3.2,SNR=8.8						

*CSEM **30** 03:09:19.8±0.3,3861N×4369E,h7km±2km,MD3.4,Error ellipse: s-maj=5.9km s-min=3.1km az=80.0*
*ISCJB **30** 03:09:20.7±1.2,3859N±003×4376E±007,h3km±7km, Error ellipse: s-maj=9.6km s-min=4.4km az=160.0*
*ISK **30** 03:09:20.1,3861N×4372E,h8km,MD3.0*
*DDA **30** 03:09:22.2,3857N×4365E,h5km±6km,Md3.4*

ISC 30 03:09:21.0±1.1,3859N±003×4384E±007,h10km±7km,n16, σ1°32/26,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TVAN	**Van**	**0.35**	**260**	*i* P	**Pg**	**03 09 25.3**	**-2.6**
TVAN				*i* S	**Sg**	**03 09 28.6**	**-4.0**
VANB	**Van**	**0.36**	**271**	*e*PG	**Pg**	**03 09 25.4**	**-2.7**
VANT	**Van**	**0.39**	**248**	*e*PG	**Pg**	**03 09 28.4**	**-0.1**
VANT				*e*SG	**Sg**	**03 09 34.9**	**+1.1**
DYDN	**Diyadin**	**0.96**	**353**	*i* P	**Pb**	**03 09 39.8**	**+0.1**
DYDN				*i* S	**Sb**	**03 09 54.5**	**+2.0**
HKR	**Hakkari**	**1.01**	**185**	*e*PG	**Pg**	**03 09 39.9**	**-0.6**
HKR				*e*SG	**Sg**	**03 09 55.6**	**+1.9**
HAKT	**HAKKARI**	**1.04**	**186**	*i* P	**Pb**	**03 09 38.9**	**-2.2**
HAKT				*i* S	**Sb**	**03 09 55.9**	**+1.2**
AGRB	**Hanur-Agry**	**1.19**	**326**	*e*PN	**Pn**	**03 09 42.1**	**-1.6**
AGRB				*e*SN	**Sn**	**03 09 58.3**	**-1.5**
CUKT	**Cukurca**	**1.35**	**188**	*e*PN	**Pn**	**03 09 45.9**	**-0.1**
SIRT	**Sirnak**	**1.55**	**226**	*e*PN	**Pn**	**03 09 48.4**	**-0.3**
BTMT	**Batman**	**1.89**	**259**	*e*PN	**Pn**	**03 09 54.0**	**+0.6**
KARS	**Kars**	**2.10**	**344**	*e*PN	**Pn**	**03 09 56.0**	**-0.2**
BNGL	**BINGOL**	**2.14**	**281**	*i* P	**Pn**	**03 09 58.8**	**+2.1**
BNGL				*i* S	**Sg**	**03 10 30.3**	**+0.6**
ERZM	**Erzurum**	**2.33**	**305**	*i* P	**Pb**	**03 10 02.7**	**-0.3**
ERZM				*i* S	**Sg**	**03 10 39.3**	**+3.5**
EZM	**Erzurum**	**2.33**	**305**	*e*PN	**Pn**	**03 09 58.6**	**-0.7**
MARD	**Mardin**	**2.74**	**243**	*i* P	**Pn**	**03 10 05.7**	**+0.7**
MARD				*i* S	**Sg**	**03 10 46.9**	**-2.0**
KOPT	**Kop Dagi**	**2.96**	**300**	*i* P	**Pb**	**03 10 14.2**	**+0.4**
KOPT				*i* S	**Sg**	**03 10 56.8**	**+0.7**

IDC 30 03:13:23.4±5.1,664S×15493E,h0km,mb3.7/3,mb1 3.8/3, mb1mx3.5/13,mbtmp3.7/3,Error ellipse: s-maj=155.7km s-min=38.7km az=119.0,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.97**	**235**	P	P	03 18 40.2	+0.5
	0.2nm,0.6s,baz=62,slow=9.9,SNR=3.4						
MKAR	**Makanchi Array**	**83.10**	**319**	P	P	03 25 51.8	+0.6
	1.5nm,0.6s,baz=107,slow=5.7,SNR=17						
ZALV	**Zalesovo Beam**	**83.86**	**326**	P	P	03 25 54.0	-0.8
	0.4nm,0.4s,baz=97,slow=3.6,SNR=2.6						

*IDC **30** 03:20:52.3±1.9,471S×13689E,h0km,mb3.8/1,mb1 3.9/5, mb1mx3.7/13,mbtmp3.8/5,ML3.6/4,Error ellipse: s-maj=42.6km s-min=16.0km az=93.0*
*ISCJB **30** 03:20:53.1±5.5,47S±01×1370E±02,h20km±43km,Error ellipse: s-maj=31.5km s-min=18.9km az=29.8*
*NEIC **30** 03:20:56.5±1.2,471S×13703E,h30km,mb4.0/1,Error ellipse: s-maj=24.4km s-min=15.8km az=78.0*

ISC 30 03:20:54.4±4.6,47S±01×1369E±02,h14km±32km,n8, σ0°79/10,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRAB	**Tennant Creek**	**15.37**	**189**	*e*Pn	**Pn**	**03 24 31.8**	**+0.8**
	5.8nm,0.6s						
WB2	**Warramunga Arr**	**15.38**	**189**	*e*P	**Pn**	**03 24 31.5**	**+0.4**
WRA	**Warramunga Arr**	**15.38**	**189**	Pn	**Pn**	**03 24 29.7**	**-1.4**
	0.3nm,0.3s,baz=12,slow=13,SNR=20						
FITZ	**Fitzroy Crossi**	**17.32**	**219**	P	**Pn**	**03 24 57.0**	**+1.1**
	0.1nm,0.3s,baz=69,slow=8.6,SNR=2.1						
FITZ				S	**Sn**	**03 28 07.5**	**-1.0**
	0.5nm,0.3s,baz=187,slow=15,SNR=5.2						
CTA	**Charters Tower**	**17.81**	**150**	P	**Pn**	**03 25 01.2**	**-0.7**
	0.2nm,0.3s,baz=342,slow=12,SNR=5.1						
ASAR	**Alice Springs**	**19.10**	**188**	P	**Pn**	**03 25 17.4**	**-0.3**
	0.6nm,0.3s,baz=8.7,slow=12,SNR=36						
ASAR				S	**Sn**	**03 28 52.5**	**+0.9**
	0.1nm,0.3s,baz=15,slow=26,SNR=6.0						
STKA	**Stephens Creek**	**27.41**	**171**	*e*P	**P**	**03 26 39.8**	**+0.2**
MKAR	**Makanchi Array**	**70.28**	**323**	P	**P**	**03 32 07.4**	**+0.1**
	0.6nm,0.7s,baz=135,slow=7.3,SNR=5.9						

*ISCJB **30** 03:36:19.2±0.9,06S±0.1×197W±0.1,h10km,mb3.9/4, MS3.6/8,Error ellipse: s-maj=20.2km s-min=14.7km az=0.1*
*IDC **30** 03:36:20.7±1.1,039S×1990W,h0km,mb3.8/4,mb1 4.2/6, mb1mx3.8/23,mbtmp4.1/6,ML4.6/2,MS3.6/9,Ms1 3.6/9, ms1mx3.3/40,Error ellipse: s-maj=47.2km s-min=25.5km az=124.0*
*NEIC **30** 03:36:21.6±0.8,064S×1973W,h10km,Error ellipse: s-maj=19.0km s-min=15.6km az=102.0*

ISC 30 03:36:21.4±0.9,06S±01×197W±01,h10km,n17,σ0°96/9, mb3.9/4,MS3.6/8,Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASCN	**Ascension**	**9.04**	**144**	Pn	**Pn**	**03 38 31.3**	**-0.8**
	43nm,0.5s						
BBTS	**Babate**	**15.47**	**12**	Pn	**Pn**	**03 39 58.0**	**-1.8**
	2.4nm,0.3s,baz=351,slow=7.2,SNR=18						
BBTS				Sn	**Sn**	**03 42 34.0**	**-17**
	3.6nm,0.3s,baz=312,slow=19,SNR=8.5						
DBIC	**Dimbokro**	**16.48**	**64**	Pn	**Pn**	**03 40 13.8**	**+0.9**
DBIC				LR	LR	03 45 14.2	
DBIC	**Dimbokro**	**16.48**	**64**	Pn	**Pn**	**03 40 13.8**	**+0.9**
	2.4nm,0.3s,baz=236,slow=15,SNR=38						
DBIC				LR	LR	03 45 14.1	
	comp=Z,250nm,19.7s,baz=226,slow=32						
BDFB	**Brasilia**	**31.69**	**240**	LR	LR	03 53 52.8	
	comp=Z,79nm,19.5s,MS3.4,baz=246,slow=33						
ESDC	**Sonseca Array**	**42.58**	**18**	P	**P**	**03 44 18.9**	**+1.3**
	1.3nm,0.8s,mb3.7,baz=199,slow=8.7,SNR=7.2						
KEST	**Kesra**	**45.15**	**34**	LR	LR	04 04 53.2	
	comp=Z,85nm,19.4s,MS3.7,baz=224,slow=38						
LPAZ	**La Paz**	**50.20**	**249**	P	**P**	**03 45 18.2**	**+0.4**
	1.4nm,0.8s,mb4.0,baz=79,slow=6.2,SNR=4.3						
LPAZ				LR	LR	04 06 30.0	
	comp=Z,49nm,19.7s,MS3.5,baz=127,slow=36						
BOSA	**Boshof**	**51.18**	**127**	LR	LR	04 02 22.1	
	comp=Z,101nm,18.7s,MS3.9,baz=62,slow=30						
GERES	**GERESS Array B**	**57.05**	**26**	P	**P**	**03 46 07.7**	**+0.1**
	0.6nm,0.7s,mb3.7,baz=216,slow=6.6,SNR=6.3						
MLR	**Muntele Rosu**	**61.02**	**35**	LR	LR	04 12 43.8	
	comp=Z,44nm,19.7s,MS3.6,baz=288,slow=36						
AKASG	**Malin Array Be**	**65.80**	**32**	P	**P**	**03 47 06.5**	**-0.2**
	1.4nm,0.7s,mb4.1,baz=233,slow=7.0,SNR=7.4						
HFS	**Hagfors**	**65.85**	**18**	LR	LR	04 15 04.0	
	comp=Z,33nm,19.6s,MS3.5,baz=218,slow=35						
NOA	**NORSAR Array B**	**65.88**	**16**	LR	LR	04 17 53.4	
	comp=Z,21nm,19.8s,MS3.3,baz=120,slow=38						
AKTO	**Aktyubinsk**	**82.64**	**39**	LR	LR	04 32 58.8	
	comp=Z,40nm,19.0s,MS3.8,baz=124,slow=41						
ASAR	**Alice Springs**	**144.81**	**135**	PKPbc	PKPdf	03 55 59.4	-0.2
	1.2nm,0.8s,baz=222,slow=3.0,SNR=12						
WRA	**Warramunga Arr**	**147.40**	**130**	PKPbc	PKPbc	03 56 08.6	+2.1
	0.3nm,1.0s,baz=229,slow=2.3,SNR=3.3						

*IDC **30** 03:40:50.6±0.6,951N×119.10E,h0km,mb4.2/15, mb1 4.3/15,mb1mx4.2/21,mbtmp4.1/15,MS3.3/4, Ms1 3.3/4,ms1mx2.9/37,Error ellipse: s-maj=38.0km s-min=13.1km az=65.0*
*BJI **30** 03:40:52.9,889N×11899E,h62km,mb4.2*
*MOS **30** 03:40:53.6±1.4,947N×11907E,h33km,mb4.4/18,Error ellipse: s-maj=21.7km s-min=9.6km az=119.2*
*ISCJB **30** 03:40:54.2±1.9,944N±007×11908E±009,h39km±17km, mb4.3/26,MS3.2/4,Error ellipse: s-maj=16.3km s-min=9.4km az=146.5*
*NEIC **30** 03:40:55.6±0.4,941N×11896E,h35km,mb4.3/7,Error ellipse: s-maj=13.2km s-min=7.1km az=66.0*

ISC 30 03:40:55.9±1.7,947N±007×11910E±009,h37km±16km, n72,σ0°93/66,mb4.3/26,MS3.2/4,6C-7D,Sulu Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDM	**Kudat**	**3.39**	**222**	⇑P	**Pn**	**03 41 48.1**	**+1.8**
SDKM	**Sandakan**	**4.25**	**207**	⇓P	**Pn**	**03 41 57.4**	**-0.7**
MYLDM	**Lahad Datu**	**4.30**	**188**	⇓P	**Pn**	**03 41 59.8**	**+0.9**
KKM	**Kota Kinabalu**	**4.44**	**220**	*e*Pn	**Pn**	**03 41 58.8**	**-2.1**
KKM				*e*Sn	**Sn**	**03 42 50.6**	**-0.7**
KKM	**Kota Kinabalu**	**4.44**	**220**	⇑P	**Pn**	**03 42 02.9**	**+2.0**
TSM	**Tawau**	**5.29**	**193**	⇑P	**Pn**	**03 42 12.1**	**-0.3**
SBUM	**Sibu**	**9.77**	**225**	⇑P	**Pn**	**03 43 14.1**	**+0.2**
PSI	**Prapat**	**21.11**	**253**	P	**P**	**03 45 37.3**	**-0.4**
PSI				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb3.9						
PSI				MLR	MLR		
	comp=Z,116nm,18.5s,MS3.3						
PSI	**Prapat**	**21.11**	**253**	P	**P**	**03 45 37.3**	**-0.4**
	comp=Z,4.8nm,0.8s,mb3.9,baz=358,slow=11,SNR=4.1						
PSI				LR	LR	03 54 41.8	
	comp=Z,116nm,18.5s,MS3.3,baz=106,slow=39						
CHTO	**Chiang Mai**	**21.62**	**298**	*e*P	**P**	**03 45 40.6**	**-2.5**
	comp=Z,11nm,1.0s,mb4.2						
CHTO	**Chiang Mai**	**21.62**	**298**	*e*P	**P**	**03 45 40.6**	**-2.4**
CHTO				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.2						
GUMO	**Guam**	**25.57**	**78**	LR	LR	03 56 52.8	
	comp=Z,51nm,18.4s,MS3.1,baz=66,slow=38						
FITZ	**Fitzroy Crossi**	**28.15**	**167**	*e*P	**P**	**03 46 43.2**	**-1.6**
	comp=Z,5.8nm,0.8s,mb4.3						
FITZ	**Fitzroy Crossi**	**28.15**	**167**	P	**P**	**03 46 44.1**	**-0.7**
	comp=Z,2.4nm,0.9s,mb3.8,baz=315,slow=4.3,SNR=3.0						
KSRS	**Korea Array**	**28.98**	**15**	LR	LR	03 58 02.1	
	comp=Z,33nm,19.7s,MS3.0,baz=220,slow=36						
WRAB	**Tennant Creek**	**32.85**	**153**	*e*P	**P**	**03 47 25.9**	**-0.4**
	comp=Z,1.6nm,0.6s,mb4.1						
WRAB	**Tennant Creek**	**32.85**	**153**	*e*P	**P**	**03 47 26.0**	**-0.4**
WRAB				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
WRA	**Warramunga Arr**	**32.85**	**153**	P	**P**	**03 47 26.0**	**-0.4**
WRA						03 50 11.1	
WRA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
WRA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
WRA	**Warramunga Arr**	**32.85**	**153**	P	**P**	**03 47 26.0**	**-0.4**
	comp=Z,1.4nm,0.5s,mb4.1,baz=335,slow=9.5,SNR=37						
WRA				PcP	PcP	03 50 11.1	+0.3
	comp=Z,0.8nm,0.6s,baz=329,slow=3.0,SNR=14						
WB2	**Warramunga Arr**	**32.86**	**153**	*e*P	**P**	**03 47 26.1**	**-0.4**
GTA	**Gaotai**	**34.44**	**333**	*e*P	**P**	**03 47 41.3**	**+1.3**
GTA				AMB	AMB		
	comp=Z,5.0nm,0.9s,mb4.4						
JIRN	**Jiri**	**35.89**	**305**	*e*P	**P**	**03 47 52.8**	**+0.1**
ASAR	**Alice Springs**	**35.97**	**156**	P	**P**	**03 47 54.1**	**+0.7**
ASAR						03 50 20.2	
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ASAR	**Alice Springs**	**35.97**	**156**	P	**P**	**03 47 54.1**	**+0.7**
	comp=Z,0.9nm,0.5s,mb4.0,baz=331,slow=6.9,SNR=22						
ASAR				PcP	PcP	03 50 20.1	+0.5
	comp=Z,1.4nm,0.5s,baz=343,slow=2.8,SNR=18						
GUN	**Gumba**	**36.24**	**305**	*e*P	**P**	**03 47 55.9**	**+0.2**
	comp=Z,23nm,0.8s,mb5.2						
KKN	**Kakani**	**36.68**	**304**	*e*P	**P**	**03 47 58.8**	**-0.7**
GKN	**Gorkha**	**37.29**	**304**	*e*P	**P**	**03 48 04.7**	**+0.1**
KOLN	**Koldanda**	**38.05**	**303**	*e*P	**P**	**03 48 10.2**	**-0.9**
	comp=Z,6.2nm,0.7s,mb4.5						
DANN	**Dangsing**	**38.14**	**304**	*e*P	**P**	**03 48 11.5**	**-0.3**
	comp=Z,5.1nm,0.6s,mb4.4						
ULN	**Ulaanbaatar**	**39.60**	**347**	*d* iP	**P**	**03 48 24.1**	**+0.4**
SONM	**Songino Array**	**39.72**	**347**	P	**P**	**03 48 25.3**	**+0.6**
SONM				pmax	pmax		
	comp=Z,2.0nm,0.6s						
SONM	**Songino Array**	**39.72**	**347**	P	**P**	**03 48 25.3**	**+0.6**
	comp=Z,1.5nm,0.6s,mb3.9,baz=161,slow=9.6,SNR=10						
KLR	**Kul'dur**	**41.02**	**13**	*e*P	**P**	**03 48 33.2**	**-2.3**
HNR	**Honiara**	**44.79**	**114**	LR	LR	04 06 27.1	
	comp=Z,54nm,18.9s,MS3.5,baz=356,slow=34						
STKA	**Stephens Creek**	**46.40**	**153**	*e*P	**P**	**03 49 20.5**	**+1.5**
	comp=Z,5.1nm,0.9s,mb4.5						
STKA	**Stephens Creek**	**46.40**	**153**	P	**P**	**03 49 19.6**	**+0.7**
	comp=Z,2.3nm,0.5s,mb4.4,baz=319,slow=10,SNR=7.0						
MK31	**Makanchi Array**	**48.59**	**327**	*e*P	**P**	**03 49 35.9**	**+0.1**
MKAR	**Makanchi Array**	**48.59**	**327**	P	**P**	**03 49 36.3**	**+0.5**
MKAR				PcP	PcP	03 51 01.9	+0.8
MKAR	**Makanchi Array**	**48.59**	**327**	P	**P**	**03 49 36.3**	**+0.5**
MKAR						03 51 01.9	
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.5s						
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.7s						
MKAR	**Makanchi Array**	**48.59**	**327**	P	**P**	**03 49 36.3**	**+0.5**
	comp=Z,1.7nm,0.5s,mb4.4,baz=129,slow=8.6,SNR=26						
MKAR				PcP	PcP	03 51 01.9	+0.8
	comp=Z,3.1nm,0.7s,baz=108,slow=4.0,SNR=19						
UCH	**Uchtor**	**50.85**	**318**	*e*P	**P**	**03 49 53.8**	**+0.7**
	comp=Z,3.0nm,1.1s,mb4.1						
AAK	**Ala-Archa**	**51.05**	**318**	P	**P**	**03 49 54.2**	**-0.4**
AAK				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.1						
AAK	**Ala-Archa**	**51.05**	**318**	P	**P**	**03 49 54.2**	**-0.4**
	comp=Z,1.2nm,0.4s,mb4.2,baz=256,slow=2.9,SNR=4.5						
ZAL	**Zalesovo**	**52.14**	**335**	P	**P**	**03 50 02.3**	**-0.3**
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ZALV	**Zalesovo Beam**	**52.14**	**335**	P	**P**	**03 50 02.3**	**-0.2**
	comp=Z,1.1nm,0.6s,mb4.0,baz=122,slow=6.8,SNR=4.7						
KURK	**Kurchatov**	**52.90**	**329**	*e*P	**P**	**03 50 07.8**	**-0.4**
	comp=Z,6.0nm,1.1s,mb4.4						
KURK	**Kurchatov**	**52.90**	**329**	*e*P	**P**	**03 50 07.8**	**-0.4**
KURK				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.4						
TIXI	**Tiksi**	**62.42**	**3**	*e*P	**P**	**03 51 14.9**	**+0.1**
	comp=Z,9.0nm,0.9s,mb4.9						
TIXI	**Tiksi**	**62.42**	**3**	⇓*e*P	**P**	**03 51 14.8**	**0.0**
TIXI				pmax	pmax		
	comp=Z,10.0nm,1.2s,mb4.8						
KIV	**Kislovodsk**	**73.71**	**313**	P	**P**	**03 52 27.0**	**+0.8**
KIV				*e*	pP	03 52 35.3	-2.2
KIV				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
OBN	**Obninsk**	**78.03**	**324**	⇓*e*P	**P**	**03 52 51.0**	**+0.4**
OBN				*e*	pP	03 52 58.9	-3.0
OBN				pmax	pmax		
	comp=Z,16nm,1.2s,mb4.8						
ARCES	**ARCESS Array B**	**82.46**	**339**	P	**P**	**03 53 14.5**	**+0.3**
ARCES				pmax	pmax		
	comp=Z,4.0nm,0.9s						
ARCES	**ARCESS Array B**	**82.46**	**339**	P	**P**	**03 53 14.5**	**+0.3**
	comp=Z,4.3nm,0.9s,mb4.4,baz=90,slow=6.8,SNR=7.9						
AKASG	**Malin Array Be**	**82.67**	**320**	P	**P**	**03 53 15.5**	**-0.2**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.5s						
AKASG	**Malin Array Be**	**82.67**	**320**	P	**P**	**03 53 15.5**	**-0.2**
	comp=Z,0.9nm,0.5s,mb4.0,baz=72,slow=4.7,SNR=10						
FINES	**FINESS Array B**	**83.20**	**331**	P	**P**	**03 53 17.9**	**-0.3**
FINES				pmax	pmax		
	comp=Z,3.0nm,0.9s						
FINES	**FINESS Array B**	**83.20**	**331**	P	**P**	**03 53 17.9**	**-0.3**
	comp=Z,3.0nm,0.9s,mb4.3,baz=96,slow=7.7,SNR=4.8						
VRI	**Vrincioaia**	**84.93**	**316**	⇓*i*P	**P**	**03 53 29.0**	**+1.7**
MLR	**Muntele Rosu**	**85.53**	**315**	⇑*i*P	**P**	**03 53 31.8**	**+1.5**
KWP	**Kalwaria**	**86.97**	**320**	⇓*i*P	**P**	**03 53 38.4**	**+1.0**
NB2	**NORSAR Subarra**	**90.27**	**332**	P	**P**	**03 53 51.9**	**-0.8**
	comp=Z,2.6nm,0.9s,mb4.6,baz=69,slow=4.6						
NOA	**NORSAR Array B**	**90.27**	**332**	P	**P**	**03 53 52.3**	**-0.4**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
NOA	**NORSAR Array B**	**90.27**	**332**	P	**P**	**03 53 52.3**	**-0.4**
	comp=Z,1.4nm,0.8s,mb4.3,baz=70,slow=4.7,SNR=5.3						
KHC	**Kasperske Hory**	**92.88**	**321**	⇑*e*P	**P**	**03 54 01.5**	**-3.6**
GERES	**GERESS Array B**	**92.89**	**320**	P	**P**	**03 54 05.7**	**+0.6**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.8s						
GERES	**GERESS Array B**	**92.89**	**320**	P	**P**	**03 54 05.7**	**+0.6**
	comp=Z,0.6nm,0.8s,mb4.1,baz=92,slow=3.2,SNR=6.0						
YKA	**Yellowknife Ar**	**97.26**	**22**	P	**P**	**03 54 23.0**	**-1.8**
YKA	**Yellowknife Ar**	**97.26**	**22**	P	**P**	**03 54 23.0**	**-1.7**
	comp=Z,0.1nm,0.4s,mb3.6,baz=293,slow=6.0,SNR=6.1						
TXAR	**Lajitas Array**	**123.56**	**45**	PKIKP	PKPdf	03 59 50.7	+0.5
TXAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
TXAR	**Lajitas Array**	**123.56**	**45**	PKP	PKPdf	03 59 50.7	+0.5
	comp=Z,1.5nm,0.8s,baz=323,slow=1.9,SNR=7.2						
PLCA	**Paso Flores**	**147.71**	**166**	PKP2	PKPab	04 00 38.6	-0.7
PLCA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
PLCA	**Paso Flores**	**147.71**	**166**	PKPbc	PKPbc	04 00 38.6	+1.6
	comp=Z,3.1nm,0.8s,baz=62,slow=2.2,SNR=7.5						

*SZGRF **30** 04:04:29.4,1846S×17800W,h562km,Fiji Islands region*
*MOS **30** 04:04:30.7±1.6,1768S×17856W,h554km,mb4.5/20, Error ellipse: s-maj=16.0km s-min=10.5km az=51.7*
*BJI **30** 04:04:31.8,1832S×178.17W,h613km,mB4.8,mb4.5*
*BGS **30** 04:04:34.0±2.3,1764S×17869W,h580km,mb4.5(NEIC)*
*NEIC **30** 04:04:34.0±2.2,1764S×17869W,h586km±27km,mb4.5/26, Error ellipse: s-maj=23.2km s-min=8.3km az=157.0*
*ISCJB **30** 04:04:35.6±2.2,178S±01×17873W±006,h625km±27km, mb4.4/46,Error ellipse: s-maj=16.4km s-min=7.3km az=158.9*
*IDC **30** 04:04:35.2±2.0,1799S×17858W,h610km±23km,mb3.7/13, mb1 3.9/13,mb1mx3.8/17,mbtmp3.7/13,Error ellipse: s-maj=15.3km s-min=10.4km az=148.0*

ISC 30 04:04:37.6±2.3,178S±01×17870W±006,h633km±27km, n580,σ0°57/408,mb4.4/46,132C-87D,Fiji Islands region

| Code | Station Name | Δ° | AZ° | Phase

comp=Z,3.3nm,0.8s,mb3.9,baz=25,slow=2.5,SNR=8.0
YSS **Yuzh-Sakhalins** **73.24 334** *i* P **P** **04 15 06.9 +0.9**
KSRS **Korea Array** **74.47 318** P **P** **04 15 14.0 +0.8**
KSRS pmax pmax
comp=Z,2.0nm,0.7s,mb3.8
KSRS **Korea Array** **74.47 318** P **P** **04 15 13.9 +0.8**
comp=Z,1.5nm,0.7s,mb3.6,baz=134,slow=6.3,SNR=5.8
HAST **Hastings Reser** **76.29 44** P **P** **04 15 23.5 +0.3**
baz=76,SNR=5.9
V04C **Ramage Ranch,** **76.32 45** ⇑P **P** **04 15 24.1 +0.7**
baz=76
SMMC **Simmler** **76.73 46** ⇓P **P** **04 15 26.3 +0.6**
baz=77
U04C **Hernandez Rese** **76.78 45** ⇓P **P** **04 15 26.7 +0.8**
baz=77,SNR=5.1
PACP **Pacheco Peak** **76.81 44** ⇑P **P** **04 15 26.4 +0.3**
baz=77
S04C **Ingram Canyon,** **77.07 43** ⇓P **P** **04 15 27.3 -0.1**
baz=77
MNRC **McLaughlin Nat** **77.14 42** ⇑P **P** **04 15 28.7 +0.9**
baz=77
GASB **Alder Springs** **77.42 41** ⇑P **P** **04 15 30.1 +0.8**
baz=77
ARVC **Arvin** **77.44 47** ⇑P **P** **04 15 29.0 -0.5**
baz=77
109C **Camp Elliot, M** **77.49 49** ⇓P **P** **04 15 29.4 -0.4**
baz=77
MWC **Mount Wilson** **77.50 48** *e*P **P** **04 15 29.6 -0.3**
S05C **Merced** **77.63 44** P **P** **04 15 30.4 0.0**
baz=78,SNR=5.6
VES **Vestal, Richgr** **77.65 46** P **P** **04 15 30.1 -0.5**
baz=78,SNR=6.5
O02C **Red Bluff** **77.68 41** ⇑P **P** **04 15 31.3 +0.6**
baz=78,SNR=5.5
BAR **Barrett** **77.69 50** *e*P **P** **04 15 29.9 -1.1**
N02C **Big Bar** **77.75 40** ⇓P **P** **04 15 31.4 +0.4**
baz=78
MURC **Murrieta** **77.78 49** ⇑P **P** **04 15 31.0 -0.4**
baz=78
BFSC **Mount Baldy St** **77.79 48** P **P** **04 15 31.0 -0.4**
baz=78,SNR=7.5
Q04C **Lincoln** **77.79 42** ⇓P **P** **04 15 30.9 -0.4**
baz=78
T06C **Millerton Lake** **77.86 45** P **P** **04 15 31.2 -0.5**
baz=78,SNR=9.9
EDW2 **Edwards Air Fo** **77.89 47** ⇓P **P** **04 15 31.4 -0.5**
baz=78,SNR=17
MDJ **Mudanjiang** **77.98 325** P **P** **04 15 33.5 +1.4**
MDJ AMB AMB
comp=Z,15nm,1.1s,mb4.3
MDJ AMB AMB
comp=Z,19nm,3.2s
CMB **Columbia Colle** **77.98 43** *e*P **P** **04 15 31.3 -1.1**
comp=Z,11nm,0.9s,mb4.3
CMB **Columbia Colle** **77.98 43** *e*P **P** **04 15 31.3 -1.0**
CMB pmax pmax
comp=Z,11nm,0.9s,mb4.3
CMB **Columbia Colle** **77.98 43** P **P** **04 15 31.8 -0.5**
baz=78,SNR=14
MONP **Monument Peak** **77.98 50** P **P** **04 15 32.7 +0.2**
baz=78,SNR=18
OHCM **Honcut** **78.01 42** *e*P **P** **04 15 31.5 -0.9**
WDC **Whiskeytown Da** **78.07 40** ⇑P **P** **04 15 32.4 -0.3**
baz=78
DVTC **Desert V Tower** **78.10 50** ⇓P **P** **04 15 33.2 +0.1**
baz=78,SNR=8.2
ORV **Oroville** **78.12 42** P **P** **04 15 32.8 -0.3**
baz=78,SNR=8.7
HELL **Mitchell Peak** **78.14 45** P **P** **04 15 32.6 -0.6**
baz=78,SNR=11
LAVA **Lava Cap Winer** **78.16 43** ⇑P **P** **04 15 32.8 -0.5**
baz=78,SNR=5.0
KCC **Kaiser Creek** **78.29 44** P **P** **04 15 34.2 +0.2**
baz=78,SNR=6.6
M02C **Callahan** **78.36 39** ⇑P **P** **04 15 34.6 +0.3**
baz=78
L02A **Cave Junction** **78.37 39** ⇓P **P** **04 15 34.3 0.0**
baz=78
LRMC **Laurel Mountai** **78.42 47** ⇑P **P** **04 15 34.9 +0.2**
baz=78
SWSC **Sam W. Stewart** **78.46 50** ⇑P **P** **04 15 34.7 -0.3**
baz=78
P05C **Yuba Gap, Truc** **78.55 42** ⇑P **P** **04 15 35.4 0.0**
baz=78
R05C **Kirkwood Meado** **78.56 43** ⇑P **P** **04 15 35.2 -0.2**
baz=78
YBH **Yreka Blue Hor** **78.65 39** *e*P **P** **04 15 35.6 -0.2**
comp=Z,11nm,0.8s,mb4.2
YBH **Yreka Blue Hor** **78.65 39** *e*P **P** **04 15 35.6 -0.2**
YBH pmax pmax
comp=Z,11nm,0.8s
YBH **Yreka Blue Hor** **78.65 39** ⇑P **P** **04 15 35.7 -0.1**
baz=79,SNR=8.4
O05C **Quincy** **78.73 42** ⇑P **P** **04 15 36.0 -0.3**
baz=79,SNR=5.7
M03C **McCloud** **78.74 40** ⇓P **P** **04 15 35.9 -0.3**
baz=79,SNR=7.8
MTUM **Tungsten Hills** **78.81 45** *e*P **P** **04 15 37.0 +0.3**
O04C **Chester** **78.83 41** P **P** **04 15 37.2 +0.4**
baz=79,SNR=5.5
BELC **Belle Mtn.** **78.85 49** ⇓P **P** **04 15 37.2 +0.2**
baz=79
MPMC **Manual Prospec** **78.86 46** P **P** **04 15 37.0 0.0**
baz=79,SNR=11
WAKR **Walker** **78.86 43** *e*P **P** **04 15 37.2 +0.2**
R06C **Coleville** **78.86 43** P **P** **04 15 37.4 +0.4**
baz=79,SNR=9.2
HATC **Hat Creek Radi** **78.88 41** ⇓P **P** **04 15 37.1 +0.1**
baz=79
TIN **Tinemaha** **78.88 45** ⇓P **P** **04 15 37.6 +0.4**
baz=79
GSC **Goldstone** **78.94 47** *e*P **P** **04 15 36.6 -0.8**
GSC **Goldstone** **78.94 47** ⇓P **P** **04 15 37.5 0.0**
baz=79
HUMO **Hull Mountain** **79.02 38** *e*P **P** **04 15 37.9 +0.2**
comp=Z,9.5nm,0.8s,mb4.2
HUMO *e*pP pP 04 17 31.9 -17
HUMO **Hull Mountain** **79.02 38** P **P** **04 15 38.4 +0.7**
baz=79,SNR=6.3
BEKR **Beckwourth** **79.03 42** P **P** **04 15 37.9 0.0**
baz=79,SNR=9.8
HEC **Hector,Ludlow** **79.03 48** ⇑P **P** **04 15 37.6 -0.4**
baz=79
LTIM **Timbered Crate** **79.07 40** P **P** **04 15 38.2 +0.1**
WCN **Washoe City** **79.10 43** P **P** **04 15 38.5 +0.3**
baz=79,SNR=7.7
J02A **Umpqua** **79.11 38** ⇑P **P** **04 15 38.6 +0.4**
baz=79
S08C **White Mtn Res** **79.16 45** P **P** **04 15 39.1 +0.6**
baz=79,SNR=17
M04C **Macdoel** **79.20 40** ⇓P **P** **04 15 38.8 +0.1**
baz=79
P06A **Stead Airport,** **79.22 42** ⇑P **P** **04 15 39.4 +0.6**
baz=79
GLA **Glamis** **79.22 50** *e*P **P** **04 15 39.7 +0.6**
GLA **Glamis** **79.22 50** P **P** **04 15 39.7 +0.7**
baz=79,SNR=6.3
BUOR **Burton Butte** **79.25 39** P **P** **04 15 39.4 +0.4**
LASM **Arnica Sink** **79.26 40** P **P** **04 15 39.5 +0.5**
I02A **Mapleton** **79.36 37** ⇓P **P** **04 15 39.3 -0.2**
baz=79
M05C **Lookout** **79.38 40** ⇓P **P** **04 15 39.8 +0.1**
baz=79,SNR=13
L04A **Klamath Falls** **79.40 39** ⇓P **P** **04 15 39.9 +0.1**
baz=79,SNR=7.4
GRAC **Grapevine Rang** **79.43 46** ⇓P **P** **04 15 40.3 +0.2**
baz=79
J03A **Ideyld Park** **79.47 38** ⇓P **P** **04 15 39.9 -0.2**
baz=79
GMRC **Granite Mounta** **79.48 48** ⇓P **P** **04 15 40.1 -0.3**
baz=79
FURC **Furnace Creek,** **79.51 46** ⇑P **P** **04 15 40.5 +0.1**
baz=79
O06A **Flanigan** **79.53 42** ⇑P **P** **04 15 40.4 -0.1**
baz=79,SNR=11
IRM **Iron Mountain** **79.54 49** ⇑P **P** **04 15 40.8 +0.1**
baz=80
PAHR **Pah Rah Range** **79.56 42** *e*P **P** **04 15 40.7 +0.1**
comp=Z,24nm,1.3s,mb4.4
NVAR **Mina Array Bea** **79.57 44** P **P** **04 15 40.6 -0.1**
comp=Z,8.5nm,0.7s,mb4.2,baz=219,slow=7.0,SNR=58
SHOC **Shoshone** **79.61 47** ⇓P **P** **04 15 41.0 0.0**
baz=80
TUQ **Turquoise Mtn.** **79.63 48** ⇓P **P** **04 15 41.2 +0.1**
baz=80
I03A **Eugene** **79.65 37** ⇓P **P** **04 15 40.9 -0.1**
baz=80
R08A **Mina** **79.66 44** P **P** **04 15 41.6 +0.4**
baz=80,SNR=5.7
M06C **Likely Place G** **79.71 41** P **P** **04 15 41.6 +0.2**
baz=80,SNR=15
Y12C **Blythe** **79.79 50** ⇑P **P** **04 15 41.9 -0.1**
baz=80
CN2 **Changchun** **79.80 322** *e*P **P** **04 15 44.5 +2.7**
N06A **Buffalo Meadow** **79.85 41** P **P** **04 15 42.2 0.0**
baz=80,SNR=12
S09A **Goldfield** **79.91 45** ⇑P **P** **04 15 42.4 -0.1**
baz=80
L05A **Lakeview** **79.97 40** ⇓P **P** **04 15 43.3 +0.6**
baz=80,SNR=6.2
LDFC **Landfair** **80.02 48** *e*P **P** **04 15 43.6 +0.5**
Q08A **Gabbs** **80.05 44** ⇑P **P** **04 15 42.9 -0.3**
baz=80,SNR=11
I04A **Tendick Farm,** **80.05 38** ⇑P **P** **04 15 42.7 -0.4**
baz=80
TPNV **Topopah Spring** **80.17 46** *e*P **P** **04 15 44.2 +0.3**
TPNV **Topopah Spring** **80.17 46** ⇓P **P** **04 15 43.8 -0.1**
baz=80,SNR=9.4
V11A **Goodsprings** **80.18 47** ⇓P **P** **04 15 43.6 -0.3**
baz=80
MOD **Modoc** **80.21 40** *e*P **P** **04 15 44.0 0.0**
comp=Z,19nm,0.7s,mb4.5
MOD **Modoc** **80.21 40** P **P** **04 15 44.1 +0.2**
baz=80,SNR=10
IRO **Indian Ridge** **80.27 38** P **P** **04 15 43.9 -0.3**
R09A **Tonopah** **80.29 45** P **P** **04 15 44.2 -0.2**
baz=80,SNR=7.1
Y13A **Salome** **80.32 50** P **P** **04 15 45.0 +0.2**
baz=80,SNR=14
K05A **Summer Lake** **80.32 39** ⇓P **P** **04 15 44.8 +0.3**
baz=80,SNR=12
PDMCI **Parker Dam,Lak** **80.33 49** ⇑P **P** **04 15 45.1 +0.3**
baz=80
N07B **Gerlach** **80.42 42** ⇓P **P** **04 15 45.1 0.0**
baz=80
J05A **Fort Rock** **80.44 39** P **P** **04 15 45.6 +0.5**
baz=80,SNR=21
S10A **Tonopah Range,** **80.44 45** P **P** **04 15 45.3 0.0**
baz=80,SNR=20
V12A **Nelson** **80.53 48** P **P** **04 15 46.0 +0.3**
baz=80,SNR=5.5
M07A **Soldier Meadow** **80.63 41** ⇓P **P** **04 15 46.3 +0.2**
baz=80,SNR=18
X13A **Yucca** **80.70 49** ⇓P **P** **04 15 46.8 +0.1**
baz=81,SNR=7.9
H04A **Detroit Lake** **80.71 37** ⇑P **P** **04 15 45.9 -0.5**
baz=81,SNR=9.7
Z14A **Wintersburg** **80.75 51** ⇓P **P** **04 15 47.2 +0.2**
baz=81,SNR=5.2
R10A **Warm Springs** **80.83 45** ⇑P **P** **04 15 47.7 +0.4**
baz=81,SNR=27
L07A **Adell** **80.87 40** P **P** **04 15 47.8 +0.4**
baz=81,SNR=23
S11A **Rachel** **80.87 46** ⇑P **P** **04 15 47.7 +0.2**
baz=81,SNR=6.8
W13A **Hualapai Mount** **80.91 49** P **P** **04 15 47.9 +0.2**
baz=81,SNR=7.6
N08A **GE Springer Mi** **80.95 42** P **P** **04 15 47.9 +0.1**
baz=81,SNR=16
Y14A **Wickenburg** **80.98 50** ⇓P **P** **04 15 47.9 -0.2**
baz=81,SNR=8.9
T11A **Corn Creek, Al** **81.03 46** P **P** **04 15 48.5 +0.2**
baz=81,SNR=27
Q10A **Clear Creek Ra** **81.04 44** ⇑P **P** **04 15 48.2 -0.1**
baz=81,SNR=5.4
E03A **Lebam** **81.06 35** ⇑P **P** **04 15 48.3 +0.1**
baz=81
J06A **Christmas Vall** **81.07 39** ⇓P **P** **04 15 47.8 -0.5**
baz=81,SNR=13
U12A **Valley of Fire** **81.10 47** ⇑P **P** **04 15 49.2 +0.5**
baz=81
M08A **Happy Creek Ra** **81.16 41** P **P** **04 15 49.3 +0.4**
baz=81,SNR=9.9
V13A **Grand Canyon W** **81.20 48** P **P** **04 15 49.2 0.0**
baz=81,SNR=8.4
O09A **Fish Creek Ran** **81.23 43** P **P** **04 15 49.4 +0.1**
baz=81,SNR=7.5
216A **Three Points,** **81.23 52** ⇓P **P** **04 15 50.0 +0.6**
baz=81,SNR=10
H05A **Madras** **81.24 38** ⇑P **P** **04 15 49.2 0.0**
baz=81
TDH **Tom, Dick, Har** **81.29 37** P **P** **04 15 49.3 -0.1**
D03A **Wishkah Elem.** **81.30 34** ⇑P **P** **04 15 49.8 +0.4**
baz=81
Z15A **Gila River Ind** **81.30 51** ⇓P **P** **04 15 49.9 +0.1**
baz=81
116A **Eloy** **81.30 52** ⇓P **P** **04 15 50.2 +0.5**
baz=81,SNR=5.4
K07A **Rock Creek Ran** **81.30 40** ⇑P **P** **04 15 49.7 +0.2**
baz=81,SNR=23
F04A **Amboy** **81.32 36** ⇑P **P** **04 15 49.1 -0.4**
baz=81
X14A **Yava** **81.32 50** P **P** **04 15 50.2 +0.4**
baz=81,SNR=15
R11A **Troy Canyon, C** **81.34 45** P **P** **04 15 49.6 -0.3**
baz=81,SNR=11
N09A **Rock Creek Ran** **81.38 42** P **P** **04 15 49.4 -0.6**
baz=81,SNR=9.0
LVP **Lakeview Peak** **81.41 36** P **P** **04 15 49.9 -0.1**
NLWA **Neilton Lookou** **81.41 34** ⇓P **P** **04 15 50.0 0.0**
baz=81
P10A **Eureka** **81.41 44** ⇑P **P** **04 15 50.2 0.0**
baz=81,SNR=6.8
I06A **Prineville** **81.43 39** P **P** **04 15 50.6 +0.5**
baz=81,SNR=20
OOW **Octopus West** **81.45 34** ⇑P **P** **04 15 50.9 +0.7**
S12A **Delamar Landin** **81.47 46** P **P** **04 15 51.4 +0.8**
baz=81,SNR=15
Y15A **Casa Rosa Ranc** **81.48 50** P **P** **04 15 51.0 +0.3**
baz=81,SNR=18
U13A **Pakoon Wash** **81.49 48** P **P** **04 15 51.0 +0.4**
baz=81,SNR=29
FL2 **Flat Top 2** **81.52 36** P **P** **04 15 51.1 +0.6**
W14A **Seligman** **81.53 49** P **P** **04 15 51.5 +0.6**
baz=82,SNR=14
WVOR **Wild Horse Val** **81.54 40** ⇑*e*P **P** **04 15 50.7 0.0**
comp=Z,17nm,0.9s,mb4.6
WVOR **Wild Horse Val** **81.54 40** ⇑*e*P **P** **04 15 50.7 0.0**
WVOR pmax pmax
comp=Z,17nm,0.9s,mb4.6
GAMB **Gambell** **81.54 3** *e*P **P** **04 15 50.3 +0.1**
Q11A **Duckwater** **81.55 45** ⇓P **P** **04 15 50.8 -0.1**
baz=82,SNR=19
L08A **Fields** **81.58 41** ⇓P **P** **04 15 51.2 +0.2**
baz=82,SNR=27
217A **Green Valley** **81.61 53** ⇓P **P** **04 15 51.8 +0.5**
baz=82,SNR=7.1
J07A **Hines** **81.65 39** ⇑P **P** **04 15 51.4 +0.1**
baz=82,SNR=12
TDL **Tradedollar La** **81.68 36** P **P** **04 15 51.9 +0.5**
V14A **Boquillas Ranc** **81.72 49** ⇓P **P** **04 15 52.2 +0.4**
baz=82,SNR=21
O10A **Cortez Mining,** **81.74 43** P **P** **04 15 52.0 +0.1**
baz=82,SNR=5.1
OSD **Olympics--Snow** **81.77 34** P **P** **04 15 52.2 +0.4**
K08A **Mann Creek Ran** **81.79 40** ⇓P **P** **04 15 52.1 +0.1**
baz=82,SNR=25
X15A **Humboldt** **81.80 50** ⇑P **P** **04 15 52.8 +0.5**
baz=82,SNR=16
H06A **Lindquist Farm** **81.81 38** P **P** **04 15 52.0 0.0**
baz=82,SNR=13
T13A **Saint George** **81.83 47** ⇑P **P** **04 15 52.4 +0.1**
baz=82,SNR=14
F05A **White Salmon** **81.83 36** ⇑P **P** **04 15 51.7 -0.5**
baz=82
TUC **Tucson** **81.88 52** *e*P **P** **04 15 54.6 +1.9**
comp=Z,8.9nm,1.0s,mb4.2
TUC **Tucson** **81.88 52** *e*P **P** **04 15 54.6 +1.9**
TUC pmax pmax
comp=Z,9.0nm,1.0s,mb4.2
L09A **Wilkinson Ranc** **81.91 41** ⇓P **P** **04 15 52.8 +0.1**
baz=82,SNR=12
G06A **Carlson Farm,** **81.92 37** ⇑P **P** **04 15 52.5 -0.2**
baz=82
I07A **Izee** **81.93 39** P **P** **04 15 53.0 +0.3**
baz=82,SNR=20
VTHM **Trough** **81.93 37** P **P** **04 15 52.7 0.0**
N10A **Dunphy** **81.96 43** ⇑P **P** **04 15 53.4 +0.5**
baz=82
R12A **Pony Springs,** **82.00 46** P **P** **04 15 53.3 +0.2**
baz=82,SNR=8.9
HDW **Hoodsport** **82.01 34** ⇓P **P** **04 15 53.5 +0.5**
117A **Oracle** **82.03 52** ⇑P **P** **04 15 53.6 +0.1**
baz=82,SNR=13
U14A **Mt Trumbull** **82.05 48** P **P** **04 15 54.0 +0.5**
baz=82,SNR=37
E05A **Randle** **82.06 36** ⇓P **P** **04 15 52.3 -1.0**
baz=82,SNR=6.6
Y16A **Circle Bar Ran** **82.08 51** P **P** **04 15 54.1 +0.4**
baz=82,SNR=19
GNW **Green Mountain** **82.08 34** *e*P **P** **04 15 53.5 +0.1**
C04A **Brinnon** **82.09 34** ⇑P **P** **04 15 53.5 +0.1**
baz=82
318A **Bisbee** **82.09 54** ⇑P **P** **04 15 54.3 +0.5**
baz=82,SNR=13
S13A **Holt Ranch, En** **82.14 47** ⇑P **P** **04 15 54.0 +0.1**
baz=82,SNR=17
J08A **Circle Bar Ran** **82.14 40** ⇑P **P** **04 15 53.9 +0.1**
baz=82,SNR=25
LON **Longmire** **82.14 36** *e*P **P** **04 15 53.0 -0.8**
H07A **Lands Inn, Kim** **82.18 38** ⇓P **P** **04 15 53.8 -0.1**
baz=82
Q12A **Willow Creek R** **82.20 45** P **P** **04 15 54.3 +0.1**
baz=82,SNR=9.1
O11A **Cowboy Ranch,** **82.21 44** P **P** **04 15 54.5 +0.2**
baz=82,SNR=17
K09A **Rome** **82.25 41** P **P** **04 15 54.5 +0.2**
baz=82,SNR=35
BLN **Blyn Mountain** **82.27 34** P **P** **04 15 55.0 +0.8**
218A **Dragoon** **82.29 53** P **P** **04 15 55.5 +0.7**
baz=82,SNR=14
D05A **Enumclaw** **82.31 35** ⇑P **P** **04 15 54.8 +0.3**
baz=82
X16A **Lo Mia Camp, P** **82.35 50** P **P** **04 15 55.6 +0.5**
baz=82,SNR=23
M10A **I.L. Ranch, Tu** **82.36 42** P **P** **04 15 55.4 +0.5**
baz=82,SNR=18
P12A **McGill** **82.37 44** ⇑P **P** **04 15 54.9 -0.1**
baz=82,SNR=8.6
I08A **Drewsey** **82.39 39** ⇑P **P** **04 15 55.1 +0.1**
baz=82,SNR=12
T14A **Hurricane** **82.42 47** P **P** **04 15 55.6 +0.2**
baz=82,SNR=16
Y17A **Roosevelt** **82.46 51** ⇑P **P** **04 15 55.7 +0.1**
baz=82,SNR=6.2
CCUT **Cedar City** **82.47 47** *e*P **P** **04 15 55.9 +0.3**
V15A **Kaibab Nationa** **82.48 49** ⇑P **P** **04 15 56.6 +1.0**
baz=82
E06A **Yakima** **82.49 36** ⇑P **P** **04 15 55.1 -0.3**
baz=82
G07A **Ruggs Ranch, H** **82.50 38** ⇓P **P** **04 15 55.2 -0.3**
baz=82,SNR=7.5
N11A **Elko Archery C** **82.51 43** ⇓P **P** **04 15 56.0 +0.3**
baz=82
ARUT **Antelope Range** **82.53 47** *e*P **P** **04 15 53.1 -2.8**
RMW **Rattlesnake Mo** **82.57 35** P **P** **04 15 56.0 +0.1**
J09A **Fry Pan Ranch,** **82.58 40** P **P** **04 15 56.1 +0.1**
baz=82,SNR=19
PMR **Palmer** **82.61 14** *e*P **P** **04 15 54.0 -1.7**
comp=Z,11nm,0.6s,mb4.5
PMR **Palmer** **82.61 14** *e*P **P** **04 15 54.0 -1.7**
PMR pmax pmax
comp=Z,11nm,0.6s,mb4.6
319A **Douglas** **82.61 54** P **P** **04 15 57.4 +0.9**
baz=82,SNR=12
118A **Homack Ranch,** **82.64 52** ⇑P **P** **04 15 57.0 +0.5**
baz=83,SNR=7.5
H08A **Prairie City** **82.67 39** P **P** **04 15 56.3 -0.1**
baz=83,SNR=6.3
L10A **Juniper Basin** **82.70 42** P **P** **04 15 56.8 +0.2**
baz=83,SNR=20
S14A **Cedar City** **82.70 47** P **P** **04 15 57.4 +0.6**
baz=83,SNR=5.2
Q13A **Wheeler Ranch,** **82.71 45** P **P** **04 15 56.6 -0.1**
baz=83,SNR=15
F07A **Phinny Hill Vi** **82.71 37** ⇓P **P** **04 15 56.1 -0.4**
baz=83
C05A **Tolt Reservoir** **82.77 35** ⇑P **P** **04 15 56.3 -0.6**
baz=83,SNR=7.1
X17A **Forest Lakes** **82.78 51** P **P** **04 15 57.9 +0.7**
baz=83,SNR=12
M11A **Holland Ranch,** **82.79 42** ⇑P **P** **04 15 57.5 +0.4**
baz=83,SNR=10
K10A **MacKenzie Ranc** **82.82 41** P **P** **04 15 57.3 +0.1**
baz=83,SNR=16
O12A **Currie** **82.88 44** P **P** **04 15 57.5 0.0**
baz=83,SNR=11
B05A **Bryant** **82.89 34** P **P** **04 15 57.4 -0.1**
baz=83,SNR=6.0
T15A **Red Dirt Ranch** **82.90 48** P **P** **04 15 58.1 +0.4**
baz=83,SNR=19
219A **White Tail Can** **82.90 53** P **P** **04 15 58.4 +0.6**
baz=83,SNR=8.5
WUAZ **Wupatki** **82.91 49** *e*P **P** **04 15 58.0 +0.2**
comp=Z,14nm,1.0s,mb4.4
WUAZ **Wupatki** **82.91 49** P **P** **04 15 58.2 +0.4**
baz=83,SNR=9.1
I09A **Lost Marbles R** **82.93 39** ⇓P **P** **04 15 57.3 -0.4**
baz=83,SNR=5.7
G08A **Pilot Rock** **82.93 38** ⇓P **P** **04 15 57.4 -0.3**
baz=83,SNR=15
D06A **Cle Elum** **82.94 36** ⇓P **P** **04 15 56.8 -0.9**
baz=83
P13A **Bates Ranch, G** **82.96 45** ⇑P **P** **04 15 57.9 -0.1**
baz=83,SNR=17
CMW **Cultus Mountai** **82.97 34** P **P** **04 15 58.1 +0.3**
N12A **Clover Valley,** **82.98 43** ⇓P **P** **04 15 57.8 -0.2**
baz=83,SNR=6.6
DIV **Divide** **83.01 15** *e*P **P** **04 15 56.4 -1.2**
PRW **Prosser** **83.03 37** P **P** **04 15 58.7 +0.6**
R14A **James Farms, M** **83.07 46** ⇓P **P** **04 15 58.8 +0.2**
baz=83
Y18A **Canyon Day Jun** **83.10 51** P **P** **04 15 59.4 +0.6**
baz=83,SNR=10
RSW **Rattlesnake Hi** **83.19 37** P **P** **04 15 59.2 +0.3**
L11A **Cat Creek Ranc** **83.20 42** P **P** **04 15 59.4 +0.3**
baz=83,SNR=15
119A **Ashpeak Ranch,** **83.20 53** ⇑P **P** **04 15 59.6 +0.3**
baz=83
J10A **Berg Farm, Mel** **83.23 40** ⇑P **P** **04 15 59.3 +0.1**
baz=83
H2OWA **Water** **83.28 37** P **P** **04 15 59.5 +0.1**
F08A **Pendleton** **83.32 38** ⇓P **P** **04 15 59.5 -0.1**
baz=83
K11A **Parker Ranch,** **83.34 41** P **P** **04 16 00.0 +0.2**
baz=83,SNR=10
H09A **Durkee** **83.35 39** ⇓P **P** **04 15 59.8 0.0**
baz=83
M12A **Wells** **83.35 43** P **P** **04 16 00.1 +0.2**
baz=83,SNR=12
B06A **Marblemount** **83.37 34** ⇑P **P** **04 15 59.4 -0.4**
baz=83
D07A **Quincy** **83.43 36** ⇑P **P** **04 15 59.7 -0.4**
baz=83
Z19A **T-Link Ranch,** **83.46 52** ⇑P **P** **04 16 00.9 +0.3**
baz=83
T16A **Glen Canyon Da** **83.50 48** P **P** **04 16 01.2 +0.5**
baz=83,SNR=5.1
N13A **Wendover, West** **83.53 44** ⇑P **P** **04 16 00.4 -0.3**
baz=83
E08A **Dider Farm, El** **83.54 37** ⇓P **P** **04 16 00.4 -0.3**
baz=83
I10A **Payette** **83.56 40** ⇓P **P** **04 16 01.2 +0.4**
baz=84
L12A **House Creek Ra** **83.66 42** ⇑P **P** **04 16 01.5 +0.1**
baz=84,SNR=8.4
C07A **Waterville** **83.66 35** ⇑P **P** **04 16 00.6 -0.7**
baz=84,SNR=8.0
BMO **Blue Mountains** **83.67 39** *e*P **P** **04 16 00.8 -0.5**
WTV **Waterville** **83.73 36** P **P** **04 16 02.0 +0.5**
MSU **Marysvale** **83.75 46** *e*P **P** **04 16 02.4 +0.5**
Y19A **Nutrioso** **83.76 52** P **P** **04 16 03.0 +0.9**
baz=84,SNR=9.3
MFID **Camas Ranch** **83.80 41** ⇓P **P** **04 16 02.1 +0.1**
baz=84,SNR=5.5
M13A **Montello** **83.81 43** P **P** **04 16 02.2 +0.1**
baz=84,SNR=15
MAW **Mawson** **83.83 200** P **P** **04 16 01.6 -0.2**
MAW pmax pmax
comp=Z,2.0nm,0.4s
MAW **Mawson** **83.83 200** P **P** **04 16 01.6 -0.2**
comp=Z,2.0nm,0.4s,mb4.0,baz=90,slow=6.1,SNR=3.4
H10A **Noah's Angus R** **83.86 39** ⇓P **P** **04 16 01.8 -0.5**
baz=84,SNR=18
D08A **Wollman Farm,** **83.94 36** P **P** **04 16 02.6 0.0**
baz=84,SNR=7.0
X19A **St. Johns** **83.94 51** ⇓P **P** **04 16 03.8 +0.9**
baz=84,SNR=6.3
K12A **Draper Farm, C** **83.98 42** ⇑P **P** **04 16 03.2 +0.3**
baz=84,SNR=7.4
I11A **Placerville** **83.98 40** P **P** **04 16 02.9 0.0**
baz=84,SNR=14
G10A **Bishop Farm, J** **84.01 39** P **P** **04 16 02.7 -0.3**
baz=84,SNR=13

B07A **Winthrop** 84.07 35 P P 04 16 02.9 -0.3
baz=84,SNR=11
DUG **Dugway** 84.13 45 eP P 04 16 03.2 -0.5
comp=Z,24nm,2.3s,mb4.3
DUG **Dugway** 84.13 45 eP P 04 16 03.2 -0.5
DUG pmax pmax
comp=Z,24nm,2.3s,mb4.3
DUG **Dugway** 84.13 45 ⇑P P 04 16 03.2 -0.5
baz=84
J12A **Stokes Ranch,** 84.17 41 ⇓P P 04 16 04.0 +0.1
baz=84,SNR=9.1
N14A **Grayback Hills** 84.20 44 ⇓P P 04 16 03.8 -0.3
baz=84
OD2 **Odessa Site #2** 84.25 36 P P 04 16 04.0 -0.1
A07A **Ashnola River,** 84.27 34 P P 04 16 03.9 -0.3
baz=84,SNR=5.8
C08A **Higginbotham F** 84.28 36 ⇓P P 04 16 03.7 -0.6
baz=84
D09A **Jones Farm, Ri** 84.29 37 ⇑P P 04 16 04.0 -0.3
baz=84,SNR=9.2
F10A **Beach Ranch, E** 84.32 38 P P 04 16 03.9 -0.6
baz=84,SNR=25
H11A **Donnelly** 84.36 40 ⇓P P 04 16 04.4 -0.3
baz=84,SNR=14
M14A **Sheep Mountain** 84.41 43 P P 04 16 05.1 0.0
baz=84,SNR=8.6
B08A **Colville Reser** 84.44 35 P P 04 16 04.1 -0.9
baz=84,SNR=12
MCK **McKinley** 84.54 13 eP P 04 16 04.3 -0.8
comp=Z,22nm,1.1s,mb4.7
MCK **McKinley** 84.54 13 eP P 04 16 04.3 -0.8
MCK pmax pmax
comp=Z,22nm,1.1s,mb4.7
G11A **Walters Elk Ra** 84.58 39 P P 04 16 05.4 -0.4
baz=84,SNR=27
N15A **Stansbury Isla** 84.66 44 P P 04 16 06.2 -0.1
baz=85,SNR=5.4
E10A **Myers Farm, Un** 84.66 38 ⇓P P 04 16 06.3 +0.2
baz=85
C09A **Chrisman Ranch** 84.72 36 ⇑P P 04 16 05.9 -0.5
baz=85,SNR=5.0
HLID **Hailey** 84.76 41 P P 04 16 07.1 +0.4
baz=85,SNR=20
GYA **Guiyang** 84.77 300 P P 04 16 06.0 -1.1
GYA AP pP 04 18 19.8 -0.8
GYA PP PP 04 19 36.0 0.0
GYA SKS 04 25 35.5
GYA S S 04 25 48.5 +4.3
GYA AMB AMB
comp=Z,10.0nm,0.9s,mb4.5
A08A **Turner Farm, O** 84.82 35 P P 04 16 06.7 -0.2
baz=85,SNR=16
J13A **Cove Ranch, Pi** 84.83 41 P P 04 16 07.5 +0.5
baz=85,SNR=18
MPU **Maple Canyon** 84.84 45 eP P 04 16 07.1 -0.1
F11A **Grangeville** 84.91 38 ⇑P P 04 16 05.5 -1.9
baz=85,SNR=6.4
SPUT **South Promonto** 84.91 44 eP P 04 16 07.9 +0.4
M15A **Larsen Ranch,** 84.98 44 ⇓P P 04 16 07.4 -0.4
baz=85,SNR=6.7
H12A **Diamond D Ranc** 84.99 40 ⇑P P 04 16 07.3 -0.4
baz=85
K14A **Jones Ranch, D** 85.04 42 ⇑P P 04 16 08.2 +0.1
baz=85,SNR=10
E11A **Bogner Ranch,** 85.12 38 ⇑P P 04 16 07.0 -1.4
baz=85,SNR=9.1
I13A **Wildhorse Cree** 85.12 41 ⇑P P 04 16 08.6 +0.1
baz=85,SNR=6.7
B09A **Rice** 85.14 36 P P 04 16 07.9 -0.5
baz=85,SNR=13
SRU **San Rafael** 85.17 46 eP P 04 16 08.7 -0.1
A09A **Danville** 85.20 35 ⇓P P 04 16 08.4 -0.3
baz=85,SNR=11
JLU **Jordanelle** 85.24 45 eP P 04 16 09.3 +0.2
H13A **Challis** 85.37 40 ⇓P P 04 16 09.6 0.0
baz=85,SNR=10
F12A **Elk City** 85.37 39 P P 04 16 09.1 -0.5
baz=85,SNR=36
D11A **Klaveano Farm,** 85.42 37 P P 04 16 08.9 -0.9
baz=85,SNR=11
NEW **Newport** 85.62 36 eP P 04 16 10.0 -0.7
HWUT **Hardware Ranch** 85.64 44 eP P 04 16 09.7 -1.2
G13A **Cobalt** 85.65 40 P P 04 16 10.8 -0.1
baz=86,SNR=9.5
IMA2 **Indian Mountai** 85.75 10 eP P 04 16 09.8 -1.1
MNTX **Cornudas Mount** 85.77 55 eP P 04 16 11.5 -0.3
comp=Z,5.5nm,1.0s,mb4.1
A10A **Northport** 85.77 35 P P 04 16 11.2 -0.2
baz=86,SNR=6.1
COLA **College** 85.77 13 eP P 04 16 09.4 -1.6
comp=Z,4.8nm,0.5s,mb4.4
COLA **College** 85.77 13 eP P 04 16 09.4 -1.6
COLA pmax pmax
comp=Z,5.0nm,0.5s,mb4.4
BNM **Barren Site** 85.81 52 eP P 04 16 11.1 -0.8
PV10 **Paradox Valley** 85.87 48 eP P 04 16 11.7 -0.5
D12A **Red Ives Fores** 85.99 38 ⇓P P 04 16 11.8 -0.6
baz=86
XAN **Xi'an** 86.00 307 P P 04 16 14.5 +1.6
XAN AMB AMB
comp=Z,9.0nm,1.0s,mb4.3
PV01 **Paradox Valley** 86.10 48 eP P 04 16 12.3 -0.9
B11A **Sandpoint** 86.14 36 ⇑P P 04 16 12.7 -0.4
baz=86
TXAR **Lajitas Array** 86.19 58 P P 04 16 14.6 +0.7
TXAR pmax pmax
comp=Z,12nm,0.8s
TXAR **Lajitas Array** 86.19 58 P P 04 16 14.6 +0.7
comp=Z,12nm,0.8s,mb4.6,baz=219,slow=6.3,SNR=57
G14A **Jackson** 86.20 40 ⇓P P 04 16 13.7 +0.2
baz=86
ANMO **Albuquerque** 86.27 52 eP P 04 16 13.9 -0.2
BILL **Bilibino** 86.34 354 eP P 04 16 14.0 +0.4
BILL pmax pmax
comp=Z,4.0nm,0.6s,mb4.2
E13A **Victor** 86.36 39 ⇓P P 04 16 13.3 -0.9
baz=86
MCMT **McKenzie Canyo** 86.37 41 P P 04 16 16.0 +1.7
A11A **Hall Mountain,** 86.42 36 ⇓P P 04 16 14.5 0.0
baz=86,SNR=6.4
D13A **Huson** 86.53 38 P P 04 16 14.2 -0.9
baz=86,SNR=7.5
B12A **Libby** 86.59 36 ⇑P P 04 16 15.2 -0.1
baz=86
MSO **Missoula** 86.70 38 eP P 04 16 15.6 -0.2
BSMT **Bassoo Peak** 86.73 37 eP P 04 16 15.3 -0.6
G15A **Dillon** 86.76 40 ⇑P P 04 16 16.0 -0.1
baz=87,SNR=19
E14A **Clinton** 86.76 39 P P 04 16 15.8 -0.4
baz=87,SNR=12
C13A **Hot Springs** 86.77 38 P P 04 16 15.6 -0.6
baz=87,SNR=5.4
DLMT **Dillon** 86.79 40 eP P 04 16 16.4 +0.1
comp=Z,11nm,0.8s,mb4.6
DCID1 **Drake Creek** 86.82 42 eP P 04 16 16.7 +0.2
TPAW **Teton Pass** 86.92 42 eP P 04 16 17.1 +0.2
comp=Z,14nm,1.0s,mb4.6
REDW **Red Top Meadow** 86.93 43 eP P 04 16 17.2 +0.2
SNOW **Snow King Moun** 87.04 43 eP P 04 16 17.8 +0.3
F15A **Butte** 87.08 40 ⇓P P 04 16 17.4 -0.3
baz=87,SNR=5.8
D14A **Greenough** 87.09 38 ⇑P P 04 16 16.6 -1.1
baz=87,SNR=7.0
LRM **Limekiln Ridge** 87.10 40 eP P 04 16 17.5 -0.2
DAWY **Dawson** 87.10 16 eP P 04 16 16.9 -0.4
IMW **Indian Meadow** 87.12 42 eP P 04 16 18.3 +0.4
CHMT **Chamberlain Mo** 87.16 39 eP P 04 16 17.6 -0.3
MOOW **Moose Ponds** 87.18 42 eP P 04 16 18.2 +0.1
B13A **Whitefish** 87.18 37 ⇑P P 04 16 17.1 -0.9
baz=87,SNR=6.7
LOHW **Long Hollow** 87.20 42 eP P 04 16 18.4 +0.1
comp=Z,7.2nm,0.6s,mb4.6
EGAK **Eagle** 87.22 15 eP P 04 16 17.1 -0.7
QLMT **Earthquake Lak** 87.25 41 eP P 04 16 19.6 +1.1
E15A **Deer Lodge** 87.28 39 ⇓P P 04 16 18.2 -0.3
baz=87
C14A **Swan Lake** 87.29 38 ⇓P P 04 16 18.1 -0.5
baz=87
FLWY **Flagg Ranch** 87.36 42 eP P 04 16 19.6 +0.7
YFT **Old Faithful** 87.45 42 eP P 04 16 20.5 +1.1
BW06 **Boulder Array** 87.49 44 eP P 04 16 19.2 -0.4
comp=Z,8.0nm,0.7s,mb4.6
A13A **Flathead Natio** 87.50 36 ⇓P P 04 16 19.4 -0.1
baz=87
BOZ **Bozeman (W)** 87.52 40 P P 04 16 19.7 0.0
baz=87,SNR=9.5

KMI **Kunming** 87.56 297 P P 04 16 19.3 -1.1
KMI AMB AMB
comp=Z,7.0nm,0.5s,mb4.7
D15A **Lincoln** 87.66 39 ⇑P P 04 16 20.0 -0.3
baz=88,SNR=7.9
SMCO **Snowmass** 87.68 48 eP P 04 16 20.6 +0.1
comp=Z,17nm,1.5s,mb4.5
LKWY **Lake** 87.78 42 eP P 04 16 22.9 +2.0
comp=Z,8.0nm,0.9s,mb4.5
LKWY **Lake** 87.78 42 eP P 04 16 22.9 +2.0
LKWY pmax pmax
comp=Z,8.0nm,0.9s,mb4.5
WALA **Waterton Lakes** 87.85 37 eP P 04 16 20.6 -0.5
comp=Z,8.0nm,0.8s,mb4.5
SDCO **Great Sand Dun** 88.13 49 eP P 04 16 22.1 -0.7
comp=Z,35nm,2.7s,mb4.6
RWWY **Rawlins** 88.58 45 eP P 04 16 24.3 -0.4
RLMT **Red Lodge** 88.75 42 eP P 04 16 25.7 +0.3
CD2 **Chengdu** 88.80 303 eP P 04 16 28.3 +2.3
CD2 PP PP 04 20 09.5 +1.8
CD2 S S 04 26 28.5 +6.9
CD2 SS SS 04 32 40.5 +6.0
CD2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.7
CD2 AMB AMB
comp=Z,20nm,5.8s
SYO **Syowa Base** 89.16 193 ⇓eX 04 16 24.8
PHWY **Pilot Hill** 89.62 46 eP P 04 16 29.2 -0.3
JCT **Junction City** 89.73 58 eP P 04 16 29.9 -0.5
comp=Z,6.8nm,0.8s,mb4.5
JCT **Junction City** 89.73 58 eP P 04 16 29.9 -0.5
JCT pmax pmax
comp=Z,7.0nm,0.8s,mb4.5
AMTX **Amarillo** 89.86 53 eP P 04 16 30.1 -0.7
LZH **Lanzhou** 90.63 308 eP P 04 16 37.5 +3.1
LZH AMB AMB
comp=Z,13nm,1.2s,mb4.7
LZH AMB AMB
comp=Z,50nm,4.1s
SNAA **Sanae** 90.67 179 P P 04 16 32.7 -1.2
SNAA pmax pmax
comp=Z,1.0nm,0.6s
SNAA **Sanae** 90.67 179 P P 04 16 32.7 -1.2
comp=Z,0.9nm,0.6s,mb3.9,baz=224,slow=8.1,SNR=14
LAO **LASA Array** 91.34 41 eP P 04 16 37.8 +0.4
RSSD **Black Hills** 91.71 44 eP P 04 16 38.2 -0.9
INK **Inuvik** 91.90 15 eP P 04 16 37.9 -1.6
SONM **Songino Array** 93.32 319 P P 04 16 47.4 +1.0
SONM pmax pmax
comp=Z,1.0nm,0.6s
SONM **Songino Array** 93.32 319 P P 04 16 47.4 +1.0
comp=Z,0.5nm,0.6s,mb3.7,baz=130,slow=5.1,SNR=4.5
YKA **Yellowknife Ar** 94.39 25 P P 04 16 49.8 -1.1
YKA pmax pmax
comp=Z,2.0nm,0.6s
YKA **Yellowknife Ar** 94.39 25 P P 04 16 49.8 -1.1
comp=Z,1.9nm,0.6s,mb4.4,baz=238,slow=4.5,SNR=70
YKA PKiKP PKiKP 04 21 28.5 -1.1
comp=Z,0.1nm,0.6s,baz=261,slow=1.7,SNR=5.7
TIXI **Tiksi** 96.02 345 iP P 04 16 56.8 -1.3
TIXI pmax pmax
comp=Z,4.0nm,1.7s,mb4.4
ZALV **Zalesovo Beam** 108.01 322 PKiKP PKiKP 04 21 52.9 -1.7
comp=Z,1.1nm,0.5s,baz=39,slow=0.9,SNR=5.7
MKAR **Makanchi Array** 108.89 314 PKiKP PKiKP 04 21 55.5 -0.9
comp=Z,1.5nm,0.5s,baz=66,slow=3.5,SNR=27
BVAR **Borovoye Array** 116.62 321 PKIKP PKPdf 04 22 10.5 -0.5
BVAR pmax pmax
comp=Z,4.0nm,0.4s
BVAR **Borovoye Array** 116.62 321 PKP PKPdf 04 22 10.5 -0.5
comp=Z,3.5nm,0.4s,baz=131,slow=1.8,SNR=12
SCHQ **Schefferville** 116.98 37 PKP PKPdf 04 22 11.4 -0.2
comp=Z,0.5nm,0.5s,baz=237,slow=19,SNR=3.5
ARU **Arti** 122.64 326 ePKPdf PKPdf 04 22 21.5 -1.0
ARU **Arti** 122.64 326 iPKIKP PKPdf 04 22 21.9 -0.6
ARU 04 24 08.9
AKTO **Aktyubinsk** 124.64 319 PKIKP PKPdf 04 22 26.4 -0.1
AKTO pmax pmax
comp=Z,2.0nm,0.7s
AKTO **Aktyubinsk** 124.64 319 PKP PKPdf 04 22 26.4 -0.1
comp=Z,2.2nm,0.7s,baz=48,slow=1.9,SNR=12
ARCES **ARCESS Array B** 126.20 350 PKIKP PKPdf 04 22 28.2 -0.7
ARCES pmax pmax
comp=Z,4.0nm,0.7s
ARCES **ARCESS Array B** 126.20 350 PKP PKPdf 04 22 28.2 -0.7
comp=Z,3.5nm,0.7s,baz=23,slow=1.7,SNR=15
BOSA **Boshof** 128.33 207 PKIKP PKPdf 04 22 33.9 -0.4
BOSA pmax pmax
comp=Z,2.0nm,0.8s
BOSA **Boshof** 128.33 207 PKP PKPdf 04 22 33.9 -0.5
comp=Z,2.4nm,0.8s,baz=115,slow=18,SNR=3.4
JOF **Joensuu** 130.41 343 ep PKPdf 04 22 33.9 -3.2
comp=Z,4.5nm,0.5s
JOF **Joensuu** 130.41 343 ePKIKP PKPdf 04 22 33.9 -3.2
JOF pmax pmax
comp=Z,5.0nm,0.5s
FINES **FINESS Array B** 133.05 344 PKIKP PKPdf 04 22 40.6 -1.5
FINES pmax pmax
comp=Z,3.0nm,0.9s
FINES **FINESS Array B** 133.05 344 PKP PKPdf 04 22 40.6 -1.5
comp=Z,2.9nm,0.9s,baz=95,slow=3.5,SNR=8.0
OBN **Obninsk** 134.12 332 PKIKP PKPdf 04 22 43.0 -1.3
NB2 **NORSAR Subarra** 136.28 353 PKPdf PKPdf 04 22 49.3 +1.1
comp=Z,0.9nm,0.5s,baz=14,slow=1.9
NOA **NORSAR Array B** 136.28 353 PKIKP PKPdf 04 22 49.5 +1.3
NOA pmax pmax
comp=Z,2.0nm,0.7s
NOA **NORSAR Array B** 136.28 353 PKP PKPdf 04 22 49.5 +1.3
comp=Z,1.6nm,0.7s,baz=13,slow=4.0,SNR=6.1
AKASG **Malin Array Be** 140.38 332 PKHKP 04 22 48.9
AKASG 04 22 58.0
AKASG pmax pmax
comp=Z,1.0nm,0.3s
AKASG pmax pmax
comp=Z,2.0nm,0.4s
AKASG **Malin Array Be** 140.38 332 PKhKP 04 22 48.9
comp=Z,0.7nm,0.3s,baz=43,slow=4.0,SNR=12
AKASG PKP PKPdf 04 22 58.0 +2.0
comp=Z,1.6nm,0.4s,baz=46,slow=2.4,SNR=6.9
MALT **Malatya** 141.76 310 ⇑iP PKPdf 04 22 55.5 -3.4
EKA **Eskdalemuir Ar** 142.43 4 PKHKP 04 22 55.7
EKA 04 23 00.4
EKA pmax pmax
comp=Z,2.0nm,0.8s
EKA pmax pmax
comp=Z,1.0nm,0.4s
EKA **Eskdalemuir Ar** 142.43 4 PKhKP 04 22 55.6
comp=Z,2.4nm,0.8s,baz=306,slow=3.6,SNR=9.8
EKA PKP PKPdf 04 23 00.4 +0.9
comp=Z,0.8nm,0.4s,baz=47,slow=1.3,SNR=12
LVV **L'vov** 143.24 335 ePKHKP 04 22 59.3
GMM **Mts of Mourne** 143.25 7 eP PKPdf 04 22 59.0 -1.9
BSEG **Bad Segeberg** 143.31 351 ePKPbc PKPdf 04 22 59.5 -1.6
DMUB **Kingscourt** 143.46 8 ⇑iP PKPdf 04 22 59.6 -1.7
HPK **Haverah Park** 143.89 3 eP PKPdf 04 23 00.8 -1.2
KWP **Kalwaria** 143.90 336 ePKP PKPdf 04 23 02.1 -0.1
KWP **Kalwaria** 143.90 336 ePKIKP PKPdf 04 23 02.1 -0.1
KWP **Kalwaria** 143.90 336 ⇓iP PKPdf 04 23 02.1 -0.1
DCN **Croghan** 143.95 9 ⇑iP PKPdf 04 23 01.2 -1.0
DLF **Lyons Farm** 144.10 8 eP PKPdf 04 23 01.6 -0.8
LHO **Holmfirth** 144.29 3 eP PKPdf 04 23 01.9 -0.8
BURAR **Bucovina Array** 144.43 332 ⇑iP PKPdf 04 23 04.1 +0.9
OJC **Ojcow** 144.46 339 ePKP PKPdf 04 23 03.6 +0.4
KBI1 **Birley Grange** 144.59 3 eP PKPdf 04 23 03.1 -0.2
STHS **Stebnicka Huta** 144.63 337 ePKP PKPdf 04 23 04.3 +0.8
KOLS **Kolonicke sedl** 144.63 336 ePKP PKPdf 04 23 04.6 +1.1
KWE **Weaver Farm** 144.81 3 eP PKPdf 04 23 04.1 +0.4
SBD1 **Bryn Du** 144.83 5 eP PKPdf 04 23 04.0 +0.3
UZH **Uzhgorod** 144.87 336 ⇑iPKIKP PKPdf 04 23 05.5 +1.6
ASF **Jabal al Asfar** 144.91 301 PKIKP PKPdf 04 23 06.4 +1.9
ASF pmax pmax
comp=Z,6.0nm,1.2s
ASF **Jabal al Asfar** 144.91 301 PKPbc PKPdf 04 23 06.4 +1.9
comp=Z,5.8nm,1.2s,baz=334,slow=2.4,SNR=3.7
NIE **Niedzica** 144.96 338 ePKPc PKPdf 04 23 05.8 +1.7
CRVS **Cervenica-Dubn** 144.97 337 ePKP PKPdf 04 23 05.3 +1.2
KSP **Ksiaz** 144.97 343 ePKP PKPdf 04 23 05.7 +1.7
KSP **Ksiaz** 144.97 343 ePKIKP PKPdf 04 23 05.4 +1.4
VRI **Vrincioaia** 144.98 328 ⇑iP PKPdf 04 23 05.4 +1.2
ANTO **Ankara** 145.04 315 ⇑P PKPbc 04 23 06.1 +0.5
ANTO **Ankara** 145.04 315 ⇑iP PKPbc 04 23 06.1 +0.5
TIRR **Tirgusor** 145.06 325 ⇓iP PKPbc 04 23 06.1 +0.6
CWF **Charnwood Fore** 145.12 3 eP PKPdf 04 23 04.6 +0.4
HARR **Harsova** 145.16 326 ⇑iP PKPbc 04 23 06.7 +0.9
IBBN **Ibbenburen** 145.24 353 ePKPbc PKPbc 04 23 05.6 -0.1

HLM1 **Long Mynd** 145.24 4 eP PKPdf 04 23 05.2 +0.7
OKC **Ostrava-Krasne** 145.32 341 ePKP PKPbc 04 23 06.5 +0.5
CLZ **Clausthal** 145.33 350 ePKPbc PKPbc 04 23 06.2 +0.2
CLL **Collm** 145.34 347 ⇑iPKIKP PKPbc 04 23 06.0 0.0
CLL pmax pmax
comp=Z,33nm,0.9s
CLL **Collm** 145.34 347 ePKPbc PKPbc 04 23 06.0 0.0
CLL **Collm** 145.34 347 ⇑iPKPbc PKPbc 04 23 06.0 0.0
comp=Z,33nm,0.9s
UPC **Upice** 145.35 343 ePKP PKPbc 04 23 06.6 +0.5
DPC **Dobruska-Polom** 145.41 343 ePKP PKPbc 04 23 07.0 +0.7
BRG **Berggiesshubel** 145.54 346 ePKPbc PKPbc 04 23 06.8 +0.2
MORC **Moravsky Berou** 145.56 341 PKIKP PKPbc 04 23 07.2 +0.5
MORC **Moravsky Berou** 145.56 341 ⇑iP PKPbc 04 23 07.0 +0.3
MLR **Muntele Rosu** 145.64 329 PKIKP PKPbc 04 23 07.3 +0.2
MLR pmax pmax
comp=Z,7.0nm,0.6s
MLR **Muntele Rosu** 145.64 329 PKPbc PKPbc 04 23 07.3 +0.3
comp=Z,7.2nm,0.6s,baz=334,slow=7.0,SNR=16
MLR **Muntele Rosu** 145.64 329 ⇓iP PKPbc 04 23 08.2 +1.1
HTR **Trewern Hill** 145.65 5 eP PKPdf 04 23 06.1 +1.0
WTSB **Winterswijk** 145.68 354 ePKiKP PKiKP 04 23 06.3 -3.3
comp=Z,35nm,1.2s
KECS **Kecovo** 145.68 337 iPKP PKPbc 04 23 07.5 +0.4
PVCC **Panska Ves** 145.71 345 ePKP PKPbc 04 23 07.6 +0.5
HAE **Alders End** 145.75 4 eP PKPdf 04 23 06.3 +1.0
MCH1 **Michaelchurch** 145.75 5 eP PKPdf 04 23 06.3 +1.0
MCH1 eP 04 23 06.3
SSW **Stow on the Wo** 145.86 3 eP PKPbc 04 23 07.4 -0.1
MMAI **Mount Meron Ar** 145.88 303 PKPbc PKPbc 04 23 09.0 +0.8
comp=Z,7.5nm,0.5s,baz=64,slow=5.8,SNR=9.6
HGH **Gray Hill** 146.12 5 eP PKPdf 04 23 07.4 +1.4
SKP1 **Kophill** 146.16 2 eP PKPdf 04 23 07.5 +1.5
DRGR 146.16 333 PKIKP PKPbc 04 23 09.1 +0.6
DRGR 146.16 333 ⇑iP PKPbc 04 23 08.6 +0.1
PRU **Pruhonice** 146.21 345 ePKP PKPbc 04 23 08.7 +0.2
MOX **Moxa** 146.25 348 ePKP PKPdf 04 23 03.8 -2.4
comp=Z,15nm,1.3s
MOX **Moxa** 146.25 348 ePKHKP 04 23 03.8
MOX pmax pmax
comp=Z,15nm,1.3s
MOX **Moxa** 146.25 348 ePKPbc PKPbc 04 23 08.7 +0.1
VYHS **Vyhne** 146.26 339 iPKP PKPbc 04 23 09.2 +0.5
TANN **Tannenbergstha** 146.30 347 ePKPbc PKPbc 04 23 08.9 +0.2
KOLL **Kolacno** 146.34 339 iPKP PKPbc 04 23 09.5 +0.6
PSZ **Piszkesteto** 146.37 337 ⇑P PKPbc 04 23 09.2 +0.1
PSZ **Piszkesteto** 146.37 337 PKIKP PKPbc 04 23 09.6 +0.6
PSZ **Piszkesteto** 146.37 337 ⇑iP PKPbc 04 23 09.2 +0.2
UBBA **Unterbreizbach** 146.38 350 ePKPbc PKPbc 04 23 08.5 -0.4
NKC **Novy Kostel** 146.47 347 ePKP PKPbc 04 23 09.4 +0.2
TREC **Trest** 146.59 343 ePKP PKPbc 04 23 09.5 -0.1
MANZ **Manzenberg** 146.78 347 ePKPbc PKPbc 04 23 10.2 +0.2
MODS **Modra-Piesok** 146.88 340 ePKP PKPbc 04 23 11.2 +0.8
BEBN **Eben Emael** 146.94 355 PKP PKPbc 04 23 10.1 -0.3
HGN **Heimansgroeve** 146.95 355 ePKiKP PKiKP 04 23 10.2 -2.0
comp=Z,8.7nm,0.7s
ROTZ **Rotzenmuhle** 146.97 347 ePKPbc PKPbc 04 23 10.7 +0.2
ZST **Bratislava** 147.09 340 ePKP PKPbc 04 23 11.8 +0.9
MEM **Membach** 147.10 354 PKP PKPbc 04 23 10.8 0.0
CSA1 **St Austell** 147.19 7 eP PKPdf 04 23 10.3 +2.6
GZR **Gura Zlata** 147.21 332 PKHKP PKPbc 04 23 11.3 0.0
GZR **Gura Zlata** 147.21 332 ⇓iP PKPbc 04 23 11.1 -0.2
GRF **Grafenberg Arr** 147.24 348 ePKPbc PKPbc 04 23 11.2 -0.1
KHC **Kasperske Hory** 147.25 345 ePKP PKPbc 04 23 11.6 +0.3
WET **Wettzell** 147.40 346 ePKPbc PKPbc 04 23 11.9 +0.2
GEC2 **GERESS Array S** 147.48 345 ePKPbc PKPbc 04 23 12.1 +0.2
GERES **GERESS Array B** 147.48 345 PKIKP PKPbc 04 23 12.2 +0.3
GERES pmax pmax
comp=Z,12nm,0.6s
GERES **GERESS Array B** 147.48 345 PKPbc PKPbc 04 23 12.2 +0.3
comp=Z,12nm,0.6s,baz=104,slow=2.8,SNR=9.3
GIVF **Givet** 147.70 356 ⇑iPKP1 PKPbc 04 23 12.5 +0.1
comp=Z,28nm,0.6s
CONA **Conrad Observa** 147.72 342 ⇑iPKPbc PKPbc 04 23 13.1 +0.6
comp=Z,12nm,0.7s,SNR=11
DOU **Dourbes** 147.72 356 PKP PKPbc 04 23 12.5 +0.1
BAIF **Baives** 147.78 356 ⇑iPKP1 PKPbc 04 23 12.8 +0.2
comp=Z,22nm,0.6s
WLF **Walferdange** 148.02 354 ePKPbc PKPbc 04 23 13.5 +0.3
WLF **Walferdange** 148.02 354 PKP PKPbc 04 23 13.9 +0.7
WLF **Walferdange** 148.02 354 ePKPbc PKPbc 04 23 13.9 +0.7
MOA **Molln** 148.25 343 ⇑iP PKPbc 04 23 13.9 +0.1
comp=Z,6.1nm,0.8s
PKSM **Moragy** 148.27 337 PKHKP PKPbc 04 23 14.1 +0.1
PKSM **Moragy** 148.27 337 ⇑iP PKPbc 04 23 13.0 -1.0
STU **Stuttgart** 148.49 350 ePKPbc PKPbc 04 23 14.6 +0.2
FUR **Furstenfeldbru** 148.68 347 ePKPbc PKPbc 04 23 15.2 +0.3
BFO **Black Forest** 149.06 351 ePKPbc PKPbc 04 23 15.3 -0.5
VTS **Vitosha** 149.09 328 PKHKP PKPbc 04 23 16.5 +0.4
VTS **Vitosha** 149.09 328 ⇑iP PKPbc 04 23 16.4 +0.3
CDF **Champ du Feu** 149.12 352 ⇑iPKP1 PKPbc 04 23 16.1 +0.1
comp=Z,31nm,0.9s
FLN **La Foliniere** 149.13 2 ⇑iPKP1 PKPbc 04 23 15.6 -0.4
comp=Z,24nm,0.6s
MEZF **Maizieres J'vi** 149.27 355 ⇑iPKP1 PKPbc 04 23 16.6 +0.3
comp=Z,10nm,0.4s
LDF **La Druitiere** 149.31 2 ⇑iPKP1 PKPbc 04 23 16.0 -0.4
comp=Z,16nm,0.5s
ROSF **Rostrenen** 149.36 6 ⇑iPKP1 PKPbc 04 23 15.9 -0.6
comp=Z,16nm,0.9s
WATA **Walderalm** 149.40 346 ⇑iP PKPbc 04 23 16.5 -0.1
comp=Z,12nm,1.1s,SNR=5.8
WTTA **Wattenberg** 149.45 346 ⇑iP PKPbc 04 23 16.9 +0.1
comp=Z,23nm,0.6s
GRR **Gorron** 149.49 3 ⇑iPKP1 PKPbc 04 23 16.6 -0.2
comp=Z,24nm,0.5s
SGMF **Saint Gilles** 149.51 5 ⇑iPKP1 PKPbc 04 23 16.4 -0.5
comp=Z,39nm,0.9s
SQTA **Sankt Quirin** 149.59 347 ⇑iP PKPbc 04 23 17.2 +0.1
comp=Z,9.1nm,0.9s
HAU **Haudompre** 149.64 353 ⇑iPKP1 PKPbc 04 23 17.2 0.0
comp=Z,13nm,0.5s
VNDS **Vrh nad Dolski** 149.71 341 iPKPbc PKPbc 04 23 17.2 -0.3
ABTA **Abfaltersbach** 149.73 345 ⇑iPKPbc PKPbc 04 23 16.9 -0.6
comp=Z,19nm,0.7s,SNR=10
HINF **Hinteralfeld** 149.76 353 ⇑iPKP1 PKPbc 04 23 17.4 -0.1
comp=Z,14nm,0.7s
QUIF **Quistinic** 149.78 6 ePKP1 PKPbc 04 23 16.8 -0.8
comp=Z,6.7nm,0.7s
DAVA **Damuels** 149.80 348 ⇑iP PKPbc 04 23 17.6 0.0
comp=Z,17nm,0.9s
FETA **Feichten** 149.88 347 ⇓iPKPbc PKPbc 04 23 17.9 +0.1
comp=Z,20nm,1.1s,SNR=7.3
VOY **Vojsko** 150.01 342 ePKPbc PKPbc 04 23 17.2 -0.9
VOY e 04 23 25.9
DAVOX **Davos/Dischmat** 150.29 348 PKP PKPdf 04 23 13.1 +0.3
comp=Z,2.5nm,0.8s,baz=314,slow=23,SNR=4.0
DAVOX PKPbc PKPbc 04 23 19.2 +0.4
comp=Z,27nm,0.7s,baz=270,slow=1.4,SNR=42
LOR **Lormes** 150.58 356 ⇑iPKP1 PKPbc 04 23 19.5 +0.1
comp=Z,22nm,0.5s
HYF **Humbligny** 150.64 358 ePKP1 PKPbc 04 23 19.9 +0.4
SSF **Saint Saulge** 150.81 357 ⇑iPKP1 PKPbc 04 23 20.0 +0.1
comp=Z,22nm,0.6s
CABF **La Chapelle** 151.04 353 ⇑iPKP1 PKPbc 04 23 21.1 +0.6
comp=Z,46nm,1.0s
AVF **Avril sur Loir** 151.09 357 ⇑iPKP1 PKPbc 04 23 20.2 -0.4
comp=Z,8.4nm,0.8s
SMF **Signal de Mont** 151.20 356 ePKP1 PKPbc 04 23 20.8 -0.1
MFF **Saint Martin d** 151.30 2 ⇑iPKP1 PKPbc 04 23 20.8 -0.3
comp=Z,32nm,0.8s
BGF **Bois d'Agland** 151.34 358 ⇑iPKP1 PKPbc 04 23 21.1 -0.1
comp=Z,25nm,0.8s
APE **Apeiranthos** 151.35 317 ⇓PKIKP PKPdf 04 23 18.6 +3.8
APE **Apeiranthos** 151.35 317 ⇓iP PKPdf 04 23 18.5 +3.7
TCF **Toulx Ste Croi** 151.63 359 ⇑iPKP1 PKPbc 04 23 21.6 -0.2
comp=Z,19nm,0.9s
LPL **La Plagne** 152.04 352 ePKP1 PKPbc 04 23 23.6 +0.9
comp=Z,11nm,0.9s
LPG **La Plagne** 152.06 352 ⇑iPKP1 PKPbc 04 23 23.6 +0.8
comp=Z,5.3nm,0.6s
RJF **Les Rejaudoux** 152.62 360 ePKP1 PKPbc 04 23 23.8 -0.2
comp=Z,11nm,0.8s
ORIF **Oris-en-Rattie** 152.74 353 ⇑iPKP1 PKPbc 04 23 24.5 +0.2
comp=Z,6.5nm,0.7s
MBDF **Montbardon** 152.81 351 ⇑iPKP1 PKPbc 04 23 24.7 +0.3
comp=Z,12nm,0.7s
VIVF **Saint-Julien-l** 152.92 355 ⇑iPKP1 PKPbc 04 23 24.9 +0.2
comp=Z,4.1nm,0.6s
LFF **La Frestale** 152.98 1 ePKP1 PKPbc 04 23 24.6 -0.2
CAF **Calviac** 152.99 359 ⇑iPKP1 PKPbc 04 23 24.9 +0.1
comp=Z,6.2nm,0.8s
LASF **Ste Croix** 153.76 356 ePKP1 PKPbc 04 23 26.8 +0.3
comp=Z,9.9nm,1.0s

MVO	Moncorvo	155.68	15	*e*PKPab	PKPab	04 23 50.9	-0.2
PVIS	Viseu	155.87	17	*e*PKPab	PKPab	04 23 51.5	-0.4
MTE	Manteigas	156.26	17	*e*PKPab	PKPab	04 23 54.1	+0.5
PTOM	Tomar	156.72	19	*e*PKPab	PKPab	04 23 55.0	-0.7
PCBR	Castelo Branco	156.80	17	*e*PKPab	PKPab	04 23 55.9	-0.1
ESDC	Sonseca Array	157.77	11	PKPab	PKPab	04 23 59.1	-1.2
	comp=Z,1.2nm,0.6s,baz=332,slow=2.9,SNR=7.8						
KEST	Kesra	160.81	340	PKPab	PKPab	04 24 14.0	+0.4
	comp=Z,1.0nm,0.7s,baz=250,slow=12,SNR=4.5						
MDT	Midelt	164.17	19	PKP	PKPdf	04 23 29.8	-0.5
	comp=Z,1.5nm,0.7s,baz=356,slow=6.9,SNR=4.9						
MDT				PKPab	PKPab	04 24 28.3	-0.2
	comp=Z,5.1nm,0.9s,baz=307,slow=2.3,SNR=8.4						
DBIC	Dimbokro	167.37	151	PKIKP	PKPdf	04 23 31.9	-1.5
DBIC				pmax	pmax		
	comp=Z,4.0nm,1.0s						
DBIC	Dimbokro	167.37	151	PKP	PKPdf	04 23 31.9	-1.5
	comp=Z,3.5nm,1.0s,baz=149,slow=0.6,SNR=3.9						

*IDC **30** 04:11:08.2±1.5,5734S×14751E,h0km,mb4.1/6, mb1 4.3/6,mb1mx4.2/12,mbtmp4.2/6,MS3.7/8,Ms1 3.7/8, ms1mx3.5/21,Error ellipse: s-maj=95.2km s-min=23.8km az=80.0*

NEIC 30 04:11:10.6±1.7,5737S×14713E,h10km,mb4.2/4,Error ellipse: s-maj=65.5km s-min=32.3km az=78.0,West of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPZ	Rata Peaks	20.29	58	LR	LR	04 22 18.1	
	comp=Z,143nm,19.1s,baz=40,slow=33						
VNDA	Vanda	20.88	171	P	P	04 15 50.6	-1.7
	2.9nm,1.1s,baz=337,slow=11,SNR=5.4						
VNDA				LR	LR	04 24 08.5	
	comp=Z,62nm,18.1s,baz=342,slow=37						
STKA	Stephens Creek	25.77	349	*e*P	P	04 16 44.0	+2.7
	4.6nm,0.9s						
STKA	Stephens Creek	25.77	349	P	P	04 16 41.2	-0.1
	7.5nm,1.0s,baz=156,slow=10,SNR=2.8						
URZ	Urewera	27.40	59	LR	LR	04 26 07.4	
	comp=Z,162nm,19.6s,baz=227,slow=33						
NWAO	Narrogin (SRO)	31.82	307	LR	LR	04 27 17.3	
	comp=Z,275nm,21.4s,baz=198,slow=30						
ASAR	Alice Springs	35.01	339	P	P	04 18 01.8	-1.1
	1.5nm,0.8s,baz=167,slow=10,SNR=9.5						
MAW	Mawson	37.15	219	LR	LR	04 32 35.6	
	comp=Z,193nm,21.9s,baz=283,slow=34						
CTA	Charters Tower	37.23	359	P	P	04 18 21.1	-1.0
	1.6nm,0.3s,baz=178,slow=9.9,SNR=6.9						
CTA				LR	LR	04 32 18.7	
	comp=Z,196nm,18.3s,baz=40,slow=34						
CTAO	Charters Tower	37.23	359	*e*P	P	04 18 22.1	0.0
	2.8nm,0.8s						
DZM	Mont Dzumac	37.97	30	*e*P	P	04 18 33.6	+5.3
WB2	Warramunga Arr	38.55	340	*e*P	P	04 18 34.1	+0.9
WRA	Warramunga Arr	38.55	340	P	P	04 18 31.9	-1.3
	4.6nm,0.8s,baz=167,slow=7.6,SNR=25						
WRAB	Tennant Creek	38.56	340	*e*P	P	04 18 32.3	-0.9
	17nm,1.4s						
FITZ	Fitzroy Crossi	42.35	329	*e*P	P	04 19 05.5	+0.9
	5.0nm,0.9s						
FITZ	Fitzroy Crossi	42.35	329	P	P	04 19 05.1	+0.5
	4.1nm,1.1s,baz=180,slow=10,SNR=5.0						
FITZ				LR	LR	04 33 49.8	
	comp=Z,72nm,18.4s,baz=337,slow=32						
BOSA	Boshof	81.44	229	LR	LR	04 56 51.1	
	comp=Z,46nm,19.2s,baz=343,slow=34						
YKA	Yellowknife Ar	141.31	47	PKP	PKPdf	04 30 40.0	+0.2
YKA	Yellowknife Ar	141.31	47	PKP	PKPdf	04 30 40.0	+0.2
	0.1nm,0.6s,baz=248,slow=1.7,SNR=3.2						
GERES	GERESS Array B	151.29	273	PKPbc	PKPbc	04 31 03.3	+0.2
	0.2nm,0.4s,baz=85,slow=2.5,SNR=3.2						

*CSEM **30** 04:14:55.4±1.1,3701N×2452W,h0km,ML2.9,Error ellipse: s-maj=8.7km s-min=5.9km az=110.0,After PDA*
*PDA **30** 04:14:55.4±1.1,3701N×2452W,h0km,MD3.2,ML2.9, Error ellipse: s-maj=8.7km s-min=5.9km az=110.0*

SVSA 30 04:14:55.4±1.1,3701N×2452W,h0km,MD3.2,ML2.9, Error ellipse: s-maj=8.7km s-min=5.9km az=110.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSMN	Pico do Norte,	0.44	269	*e*P	Pg	04 15 03.4	-0.4
PSMN				*e*S	Sg	04 15 09.6	+0.2
CMLA	Cha da Macela	1.10	313	*e*P	Pg	04 15 12.9	-3.5
CMLA				*e*S	Sg	04 15 26.1	-4.5
CMLA				A		04 15 27.7	
	78nm,0.3s						
CMLA	Cha da Macela	1.10	313	*e*P	Pg	04 15 12.9	-3.5
CMLA				*e*S	Sg	04 15 26.1	-4.5
PDA	Ponta Delgada	1.17	309	*e*S	Sg	04 15 28.2	-4.8
PSET	Sete Cidades	1.25	311	*e*P	Pg	04 15 15.4	-4.0
PSET				*e*S	Sg	04 15 30.9	-4.8
PSET				A		04 15 32.8	
	72nm,0.3s						
PSET	Sete Cidades	1.25	311	*e*P	Pg	04 15 15.4	-4.0
PSET				*e*S	Sg	04 15 30.9	-4.8
PSCM	Serra do Cume	2.66	310	*e*P	Pn	04 15 35.0	-4.5
PSCM				*e*S	Sn	04 16 04.0	-8.4
PSCM				A		04 16 07.7	
	14nm,0.2s						
PSCM	Serra do Cume	2.66	310	*e*P	Pn	04 15 35.0	-4.5
PSCM				*e*S	Sn	04 16 04.0	-8.4
PMAR	Madeira	7.57	122	*e*Pn	Pn	04 16 44.6	-2.4
PMPS	Porto Santo	7.79	118	*e*Pn	Pn	04 16 48.2	-1.8

IDC 30 04:18:09.6±11.0,1646S×16845E,h276km±107km, mb3.4/7,mb1 3.6/7,mb1mx3.5/15,mbtmp3.4/7,Error ellipse: s-maj=60.2km s-min=39.4km az=151.0,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	28.80	233	*e*P	P	04 23 43.0	+0.6
	3.1nm,0.8s						
STKA	Stephens Creek	28.80	233	P	P	04 23 43.0	+0.6
	6.5nm,1.1s,baz=66,slow=7.5,SNR=6.8						
WRA	Warramunga Arr	32.55	259	P	P	04 24 14.7	-0.7
	0.2nm,0.3s,baz=79,slow=6.0,SNR=9.3						
ASAR	Alice Springs	33.17	252	P	P	04 24 20.4	-0.3
	4.3nm,0.5s,baz=77,slow=9.3,SNR=77						
ASAR				PcP	PcP	04 26 56.5	-0.2
	0.5nm,0.6s,baz=80,slow=3.3,SNR=5.4						
FITZ	Fitzroy Crossi	40.84	261	P	P	04 25 25.5	+0.4
	1.4nm,0.7s,baz=93,slow=9.8,SNR=5.2						
SONM	Songino Array	84.56	323	P	P	04 30 12.5	+0.8
	0.7nm,0.5s,baz=123,slow=5.3,SNR=4.6						
NVAR	Mina Array Bea	87.54	49	P	P	04 30 26.5	0.0
	1.1nm,0.7s,baz=214,slow=6.2,SNR=10.0						
YKA	Yellowknife Ar	98.56	27	P	P	04 31 17.2	+0.7
	0.2nm,1.0s,baz=262,slow=4.2,SNR=2.4						
ARCES	ARCESS Array B	122.20	345	PKP	PKPdf	04 36 30.1	-0.8
	3.4nm,0.9s,baz=35,slow=3.7,SNR=5.5						

*IDC **30** 04:21:02.2±1.9,520N×12739E,h0km,mb3.7/5,mb1 3.9/5, mb1mx3.7/17,mbtmp3.8/5,Error ellipse: s-maj=98.1km s-min=25.9km az=68.0*
*ISCJB **30** 04:21:05.0±1.7,52N±03×1274E±06,h33km,mb3.7/6, Error ellipse: s-maj=97.4km s-min=20.2km az=157.6*
*NEIC **30** 04:21:07.7±1.2,51.11N×127.18E,h35km,mb3.9/1,Error ellipse: s-maj=69.3km s-min=16.0km az=68.0*

ISC 30 04:21:07.8±1.5,51N±03×1272E±06,h35km,n8,σ§46/8, mb3.7/6,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	23.10	184	P	P	04 26 10.9	+0.1
	1.4nm,0.9s,mb3.4,baz=354,slow=13,SNR=2.5						
WRAB	Tennant Creek	25.86	164	*e*P	P	04 26 36.1	-0.2
	2.6nm,0.8s,mb3.8						
WRA	Warramunga Arr	25.86	164	P	P	04 26 35.4	-0.9
	2.3nm,0.5s,mb4.0,baz=346,slow=10,SNR=27						
WB2	Warramunga Arr	25.87	164	*e*P	P	04 26 37.0	+0.6
ASAR	Alice Springs	29.34	167	P	P	04 27 07.4	0.0
	0.2nm,0.4s,mb3.2,baz=351,slow=7.2,SNR=4.4						
STKA	Stephens Creek	39.25	160	P	P	04 28 33.5	+0.4
STKA	Stephens Creek	39.25	160	P	P	04 28 33.5	+0.4
	3.0nm,0.8s,mb4.1,baz=348,slow=8.2,SNR=4.2						
MKAR	Makanchi Array	56.70	325	P	P	04 30 47.8	0.0
	0.3nm,0.5s,mb3.5,baz=111,slow=7.9,SNR=3.8						

*NIED **30** 04:36:00,4290N×14640E,h29km,Mw4.3 Best double couple: M≥2.89000×10^15 NP1:φ=272.00000°,δ55.00000°, λ94.00000°. NP2:φ=85.00000°,δ35.00000°,λ85.00000°.*
*BJI **30** 04:36:24.6,4305N×14652E,h46km,mB5.0,mb4.6,Ms4.2, Msz3.7*
*ISCJB **30** 04:36:25.7±0.7,4289N±004×14633E±005,h40km±5km, mb4.5/37,MS4.0/6,Error ellipse: s-maj=7.4km s-min=5.1km az=153.8*
*MOS **30** 04:36:25.8±1.1,4289N×14628E,h43km,mb4.8/12,Error ellipse: s-maj=10.1km s-min=7.3km az=96.4*
*NEIC **30** 04:36:25.1,4290N×14643E,h39km,mb4.5/9, MW4.2(NIED),After JMA.*
NEIC Recorded [2 JMA] in eastern Hokkaido.
*JMA **30** 04:36:25.0±0.1,4290N×14643E,h39km±2km,M4.2*
JMA Felt II J1.
*IDC **30** 04:36:28.4±2.4,4291N×14624E,h47km±21km,mb4.1/17, mb1 4.2/20,mb1mx4.1/26,mbtmp4.0/20,ML3.9/3,MS3.4/5, Ms1 3.4/5,ms1mx3.1/28,Error ellipse: s-maj=16.8km s-min=14.1km az=90.0*

ISC 30 04:36:26.1±1.0,4292N±004×14634E±004,h27km±6km, h31km±3.0km:pP-P,n103,σ0§94/111,mb4.5/37,MS4.0/6, 2C-4D,Off southeast coast of Hokkaido

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	Nemuro 2	0.63	316	P	Pb	04 36 38.2	-0.2
NEM2				*e*S	Sb	04 36 47.4	+0.6
YUK	Yuzh-Kuril'sk	1.17	343	||*i*PN	Pn	04 36 45.5	-1.2
YUK				*i* S	Sn	04 36 58.5	-3.3
YUK				pmax	pmax		
	comp=Z,3μm,0.3s						
YUK				pmax	pmax		
	comp=N,4μm,1.0s						
YUK				pmax	pmax		
	comp=E,4μm,1.0s						
YUK				pmax	pmax		
	comp=Z,5μm,1.0s						
YUK				smax			
	comp=N,6μm,0.5s						
YUK				smax			
	comp=E,5μm,0.5s						
YUK				smax			
	comp=N,22μm,1.5s						
YUK				smax			
	comp=E,12μm,1.5s						
JAK	Akkeshi	1.21	274	P	Pn	04 36 46.6	-0.6
JAK				*e*S	Sn	04 37 02.8	+0.1
JRA	Rausu	1.35	319	P	Pn	04 36 49.0	-0.2
JRA				*e*S	Sn	04 37 06.2	-0.1
JNK	Nakash	1.36	300	P	Pn	04 36 48.7	-0.6
JNK				*e*S	Sn	04 37 05.9	-0.5
JOB	Onbets	1.84	270	P	Pn	04 36 55.7	-0.2
JAR	Ashorobuto	1.92	282	P	Pn	04 36 57.0	0.0
JAR				*e*S	Sn	04 37 21.1	+0.8
JTKR	Abashiri--Toko	2.06	302	P	Pn	04 36 59.6	+0.7
JTKR				*e*S	Sn	04 37 25.0	+1.3
JCH	Churui	2.21	263	P	Pn	04 37 01.1	+0.1
JCH				*e*S	Sn	04 37 27.3	-0.2
JMP	Maruseppu	2.43	298	P	Pn	04 37 05.0	+1.0
ERM	Erimo	2.52	250	*e*Pn	Pn	04 37 06.3	+1.0
ERM	Erimo	2.52	250	*i* PN	Pn	04 37 06.8	+1.5
KUR	Kuril'sk	2.56	25	*e*PN	Pn	04 37 03.2	-2.6
KUR				*e*S	Sn	04 37 34.4	-1.7
KUR				pmax	pmax		
	comp=N,130nm,0.8s						
KUR				pmax	pmax		
	comp=E,110nm,0.8s						
KUR				pmax	pmax		
	comp=Z,430nm,0.8s						
KUR				smax			
	comp=N,570nm,0.8s						
KUR				smax			
	comp=E,430nm,0.8s						
ASAJ	Asahikawa	2.98	295	PN	Pn	04 37 13.2	+1.7
ASAJ				S	Sn	04 37 46.9	+0.6
ASAJ				pmax	pmax		
	comp=Z,20nm,0.3s						
ASAJ				smax			
	comp=N,15nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,698nm,18.6s						
ASAJ	Asahikawa	2.98	295	P	Pn	04 37 13.2	+1.7
	comp=Z,20nm,0.3s,baz=114,slow=12,SNR=66						
ASAJ				S	Sn	04 37 46.9	+0.6
	comp=Z,15nm,0.3s,baz=101,slow=13,SNR=5.3						
ASAJ				LR	LR	04 38 31.3	
	comp=Z,698nm,18.6s,baz=295,slow=42						
YSS	Yuzh-Sakhalins	4.77	329	*e*Pn	Pn	04 37 37.1	+0.9
YSS	Yuzh-Sakhalins	4.77	329	||*e*PN	Pn	04 37 37.0	+0.8
YSS				pmax	pmax		
	comp=Z,30nm,0.8s						
YSS				MLR	MLR		
	comp=N,600nm,14.0s						
YSS				MLR	MLR		
	comp=Z,800nm,14.0s						
MAJO	Matsushiro	8.93	227	*e*Pn	Pn	04 38 32.5	-0.8
MAT	Matsushiro	8.93	227	P	Pn	04 38 32.2	-1.1
MAT				*e*S	Sn	04 40 07.5	-5.4
MJAR	Matsushiro Arr	8.93	227	P	Pn	04 38 32.5	-0.8
	comp=Z,0.5nm,0.3s,baz=28,slow=13,SNR=11						
MJAR				LR	LR	04 42 32.9	
	comp=Z,152nm,19.4s,baz=20,slow=41						
HABR	Khabarovsk	9.65	309	PN	Pn	04 38 46.1	+3.0
HABR						04 40 35.3	
SKR	Severo-Kuril's	10.25	37	*e*PN	Pn	04 38 50.1	-1.2
KLR	Kul'dur	11.93	307	*e*PN	Pn	04 39 20.0	+5.7
KLR				MLR	MLR		
	comp=E,600nm,12.0s						
KLR				MLR	MLR		
	comp=Z,1μm,12.0s						
MDJ	Mudanjiang	12.23	284	P	Pn	04 39 19.0	+0.6
MDJ				S	Sn	04 41 33.8	0.0
MDJ				SCP	ScP	04 48 31.0	-0.1
MDJ				PCS	PcS	04 48 34.8	+0.7
MDJ				AMB	AMB		
	comp=Z,4.0nm,1.2s						
MDJ				AMB	AMB		
	comp=Z,43nm,4.0s						
MDJ				LR	LR		
	comp=N,109nm,3.8s						
MDJ				LR	LR		
	comp=E,52nm,4.7s						
MDJ				LR	LR		
	comp=Z,118nm,7.0s						
KSRS	Korea Array	15.09	255	P	Pn	04 39 56.6	-0.7
	comp=Z,0.4nm,0.3s,baz=50,slow=15,SNR=3.4						
KSRS				LR	LR	04 46 15.3	
	comp=Z,88nm,20.0s,baz=162,slow=39						
CN2	Changchun	15.22	280	*e*P	Pn	04 39 59.0	-0.1
JNU	Nakatsue	15.60	236	LR	LR	04 46 37.9	
	comp=Z,141nm,18.4s,baz=234,slow=39						
SEY	Seymchan	20.36	8	||*e*P	P	04 41 02.0	+1.8
HHC	Hu-ho-hao-te	25.87	277	*e*P	P	04 41 55.0	-0.4
HHC				AP	pP	04 42 04.5	+1.3
HHC				XP	sP	04 42 09.5	+3.1
HHC				PP		04 42 35.8	
HHC				S	S	04 46 18.0	-5.5
HHC				XS	sS	04 46 35.3	-1.1
HHC				SS		04 47 32.0	
HHC				SCS	ScS	04 52 45.8	-5.1
HHC				AMB	AMB		
	comp=Z,14nm,0.5s,mb4.8						
HHC				AMB	AMB		
	comp=Z,80nm,4.7s						
HHC				LR	LR		
	comp=N,383nm,19.0s,MS4.4						
HHC				LR	LR		
	comp=E,914nm,16.5s,MS4.4						
HHC				LR	LR		
	comp=Z,115nm,11.0s						
ULN	Ulaanbaatar	27.81	294	*e*P	P	04 42 12.9	+0.1
SONM	Songino Array	28.26	294	P	P	04 42 16.9	+0.1
	comp=Z,5.1nm,0.7s,mb4.2,baz=89,slow=8.3,SNR=30						
XAN	Xi'an	30.40	266	P	P	04 42 41.3	+5.4
XAN				AP	pP	04 42 46.0	+2.2
XAN				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.5						
LZH	Lanzhou	33.22	273	*e*P	P	04 42 57.5	-3.2
LZH				AMB	AMB		
	comp=Z,18nm,1.0s,mb5.0						
LZH				AMB	AMB		
	comp=Z,102nm,4.0s						
LZH				LR	LR		
	comp=E,272nm,15.6s						
LZH				LR	LR		
	comp=Z,359nm,17.0s,MS4.2						
GTA	Gaotai	34.86	280	*e*P	P	04 43 15.0	+0.1
GTA				AP	pP	04 43 25.0	+2.2
GTA				XP	sP	04 43 29.0	+3.0
GTA				PP	PP	04 44 33.3	-0.7
GTA				PPP		04 44 51.5	
GTA				S	S	04 48 43.5	-0.7
GTA				XS	sS	04 49 00.0	+2.8
GTA				SS	SS	04 50 57.8	-18
GTA				AMB	AMB		
	comp=Z,4.0nm,1.1s,mb4.3						
GTA				AMB	AMB		
	comp=Z,44nm,7.2s						
GTA				LR	LR		
	comp=N,68nm,12.6s,MS3.7						
GTA				LR	LR		
	comp=E,85nm,16.0s,MS3.7						
GTA				LR	LR		
	comp=Z,73nm,16.8s,MS3.5						
GYA	Guiyang	36.15	256	P	P	04 43 26.0	-0.1
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.8						
IMA2	Indian Mountai	39.70	34	*e*P	P	04 43 54.6	-0.9
KMI	Kunming	39.76	258	P	P	04 44 00.0	+3.4
KMI				AMB	AMB		
	comp=Z,8.0nm,0.7s,mb4.6						
ZALV	Zalesovo Beam	41.03	308	P	P	04 44 06.6	-0.1
	comp=Z,0.3nm,0.3s,mb3.4,baz=94,slow=12,SNR=2.7						
ZALV				PcP	PcP	04 46 05.9	-0.3
	comp=Z,2.7nm,0.6s,baz=79,slow=2.5,SNR=10						
ZALV				LR	LR	05 02 21.1	
	comp=Z,59nm,19.1s,MS3.5,baz=328,slow=38						
ZAL	Zalesovo	41.05	308	P	P	04 44 06.6	-0.3
ZAL						04 46 05.9	
MK31	Makanchi Array	44.45	298	*e*P	P	04 44 34.3	-0.2
MKAR	Makanchi Array	44.45	298	P	P	04 44 34.2	-0.3
	comp=Z,5.2nm,0.7s,mb4.4,baz=80,slow=8.9,SNR=48						
MKAR				PcP	PcP	04 46 16.9	-0.8
	comp=Z,0.7nm,0.8s,baz=64,slow=5.0,SNR=2.6						
KURK	Kurchatov	45.51	304	*e*P	P	04 44 42.5	-0.5
	comp=Z,6.7nm,1.1s,mb4.5						
KURK	Kurchatov	45.51	304	*e*P	P	04 44 42.5	-0.4
KURK				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.5						
INK	Inuvik	47.42	30	*e*P	P	04 44 57.7	0.0
INK	Inuvik	47.42	30	P	P	04 44 57.8	+0.1
INK				pmax	pmax		
	comp=Z,4.0nm,0.8s						
INK	Inuvik	47.42	30	P	P	04 44 57.8	+0.1
	comp=Z,4.3nm,0.8s,mb4.4,baz=289,slow=7.4,SNR=19						
BVAR	Borovoye Array	49.58	310	P	P	04 45 14.0	-0.5
	comp=Z,2.0nm,0.5s,mb4.5,baz=81,slow=9.1,SNR=12						
TKM2	Tokmak 2	50.33	296	*e*P	P	04 45 20.5	+0.2
	comp=Z,4.1nm,0.7s,mb4.6						
TKM2	Tokmak 2	50.33	296	*e*P	P	04 45 20.5	+0.1
TKM2				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.6						
AAK	Ala-Archa	51.19	296	||*i*P	P	04 45 25.3	-1.5
AAK				pmax	pmax		
	comp=Z,4.0nm,1.2s,mb4.2						
AAK	Ala-Archa	51.19	296	P	P	04 45 25.9	-1.0
	comp=Z,2.8nm,0.5s,mb4.4,baz=113,slow=7.2,SNR=5.3						
RES	Resolute Bay	55.93	16	*e*P	P	04 46 00.6	-0.6
YKA	Yellowknife Ar	56.82	33	P	P	04 46 07.1	-0.5
YKA	Yellowknife Ar	56.82	33	*i* P	P	04 46 07.4	-0.2
YKA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
YKA	Yellowknife Ar	56.82	33	P	P	04 46 07.1	-0.5
	comp=Z,0.8nm,0.8s,mb3.8,baz=299,slow=6.9,SNR=11						
ARCES	ARCESS Array B	59.82	340	P	P	04 46 28.2	-0.3
	comp=Z,4.2nm,1.0s,mb4.4,baz=59,slow=6.3,SNR=9.5						
JOF	Joensuu	62.55	332	*e*p	P	04 46 45.6	-1.4
	comp=Z,6.9nm,0.5s,mb5.0						
NEW	Newport	63.33	48	*e*P	P	04 46 52.6	+0.1
	comp=Z,2.9nm,0.9s,mb4.4						
NEW	Newport	63.33	48	*e*P	P	04 46 52.6	+0.2
NEW				pmax	pmax		
	comp=Z,3.0nm,0.9s						
WRA	Warramunga Arr	63.52	193	P	P	04 46 52.9	-1.0
	comp=Z,1.3nm,0.8s,mb4.0,baz=11,slow=6.6,SNR=5.3						
FINES	FINESS Array B	65.35	333	*i* P	P	04 47 04.6	-0.8
FINES				pmax	pmax		
	comp=Z,8.0nm,0.5s						
FINES	FINESS Array B	65.35	333	P	P	04 47 04.3	-1.1
	comp=Z,7.8nm,0.5s,mb5.0,baz=46,slow=7.8,SNR=49						
OBN	Obninsk	65.64	324	||*e*P	P	04 47 06.7	-0.7
OBN				pmax	pmax		
	comp=Z,15nm,1.0s,mb5.0						
OBN				MLR	MLR		
	comp=Z,100nm,14.0s,MS4.2						
MSO	Missoula	65.91	48	*e*P	P	04 47 09.8	+0.5
OHCM	Honcut	66.00	58	*e*P	P	04 47 09.0	-1.0
ASAR	Alice Springs	67.23	192	P	P	04 47 17.2	-0.6
	comp=Z,1.4nm,0.8s,mb4.1,baz=19,slow=7.1,SNR=9.3						
LRM	Limekiln Ridge	67.35	48	*e*P	P	04 47 19.5	+1.0
DLMT	Dillon	67.56	48	*e*P	P	04 47 21.1	+1.3
	comp=Z,5.2nm,0.9s,mb4.6						
BOZ	Bozeman (W)	67.91	48	*e*P	P	04 47 22.9	+0.8
	comp=Z,3.2nm,0.9s,mb4.3						
BOZ	Bozeman (W)	67.91	48	*e*P	P	04 47 22.9	+0.9
BOZ				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.3						
NVAR	Mina Array Bea	68.52	57	P	P	04 47 27.0	+0.9
	comp=Z,2.2nm,0.8s,mb4.2,baz=298,slow=5.3,SNR=14						
YMR	Madison River	68.89	48	*e*P	P	04 47 27.0	-1.2
	comp=Z,21nm,0.8s,mb5.1						
IMW	Indian Meadow	69.40	49	*e*P	P	04 47 33.2	+1.8
	comp=Z,4.7nm,0.9s,mb4.4						
MOOW	Moose Ponds	69.60	49	*e*P	P	04 47 34.3	+1.6
	comp=Z,4.7nm,1.0s,mb4.4						
TPAW	Teton Pass	69.66	49	*e*P	P	04 47 34.7	+1.7
	comp=Z,5.3nm,0.9s,mb4.5						
KIV	Kislovodsk	69.88	312	P	P	04 47 33.0	-1.3
KIV				*e*	pP	04 47 41.5	-1.2
KIV				*e*		04 47 51.3	
KIV				pmax	pmax		
	comp=Z,16nm,1.1s,mb4.9						
KIV				MLR	MLR		
	comp=Z,100nm,17.0s,MS4.1						
NB2	NORSAR Subarra	70.17	339	P	P	04 47 35.0	-0.8
	comp=Z,13nm,1.1s,mb4.8,baz=32,slow=6.5						
NOA	NORSAR Array B	70.17	339	P	P	04 47 35.2	-0.6
NOA	NORSAR Array B	70.17	339	P	P	04 47 35.2	-0.6
	comp=Z,2.9nm,0.5s,mb4.5,baz=33,slow=6.2,SNR=16						
DUG	Dugway	70.72	53	*e*P	P	04 47 40.5	+0.9
TPNV	Topopah Spring	70.72	57	*e*P	P	04 47 40.6	+1.0
AKASG	Malin Array Be	71.90	323	P	P	04 47 45.7	-0.8
AKASG	Malin Array Be	71.90	323	P	P	04 47 45.7	-0.8
	comp=Z,2.5nm,0.5s,mb4.4,baz=40,slow=6.1,SNR=32						
ANN	Anapa	72.12	315	*e*P	P	04 47 42.8	-5.1
ANN				pmax	pmax		
	comp=Z,19nm,1.1s,mb4.9					

BDFB pmax pmax
comp=Z,1.0nm,0.7s
BDFB Brasilia 150.16 29 PKPbc PKPbc 04 56 14.8 +0.1
comp=Z,0.8nm,0.7s,baz=119,slow=26,SNR=3.4
PLCA Paso Flores 152.56 98 PKIKP PKPbc 04 56 19.4 -0.2
PLCA pmax pmax
comp=Z,2.0nm,0.9s
PLCA Paso Flores 152.56 98 PKPbc PKPbc 04 56 19.4 -0.2
comp=Z,1.9nm,0.9s,baz=208,slow=3.6,SNR=5.4

IDC 30 05:00:31.3±2.0, 311N×12929E, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.7/16, mbtmp3.8/4, MS3.2/1, Ms1 3.2/1, ms1mx2.6/23, Error ellipse: s-maj=106.2km s-min=21.6km az=73.0, North of Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**21.38**	**190**	P	P	05 05 19.2	-1.4
	0.6nm,0.5s,baz=4.3,slow=10,SNR=10						
WRA	**Warramunga Arr**	**23.43**	**168**	P	P	05 05 42.7	+0.2
	1.8nm,0.5s,baz=349,slow=9.7,SNR=57						
JOW	**Kunigami**	**23.61**	**358**	LR	LR	05 14 23.4	
	comp=Z,58nm,21.4s,baz=162,slow=35						
ASAR	**Alice Springs**	**26.99**	**171**	P	P	05 06 14.4	-0.5
	0.6nm,0.4s,baz=356,slow=7.8,SNR=15						
MKAR	**Makanchi Array**	**59.54**	**324**	P	P	05 10 37.5	+0.9
	0.8nm,0.4s,baz=116,slow=7.8,SNR=14						

*IDC **30** 05:13:34.7±0.9, 4596N×15439E, h0km, mb3.5/6, mb1 3.7/6, mb1mx3.5/21, mbtmp3.5/6, MS3.3/1, Ms1 3.3/1, ms1mx2.4/18, Error ellipse: s-maj=39.1km s-min=22.6km az=113.0*
*ISCJB **30** 05:13:38.0±0.9, 459N±02×1545E±03, h33km, mb3.4/6, MS3.3/1, Error ellipse: s-maj=33.7km s-min=20.7km az=27.0*
*MOS **30** 05:13:38.0±2.0, 4577N×15425E, h33km, mb4.0/1, Error ellipse: s-maj=65.0km s-min=22.3km az=80.0*

ISC 30 05:13:40.2±0.9, 460N±02×1544E±03, h35km, n8, σ0§60/8, mb3.4/6, MS3.3/1, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**4.85**	**13**	*e*P	**Pn**	**05 14 56.7**	**+6.1**
INK	**Inuvik**	**41.83**	**32**	P	**P**	**05 21 26.1**	**0.0**
	0.4nm,0.6s,mb3.2,baz=290,slow=7.6,SNR=7.3						
MKAR	**Makanchi Array**	**48.12**	**299**	P	**P**	**05 22 17.1**	**+0.8**
	0.3nm,0.6s,mb3.5,baz=68,slow=6.7,SNR=3.7						
MKAR				LR	LR	05 43 15.9	
	comp=Z,29nm,18.9s,MS3.3,baz=267,slow=37						
YKA	**Yellowknife Ar**	**51.00**	**37**	P	**P**	**05 22 38.4**	**+0.3**
	0.3nm,0.8s,mb3.3,baz=299,slow=7.4,SNR=4.3						
YKA				PcP	PcP	05 23 53.2	-0.5
	0.2nm,0.5s,baz=302,slow=3.8,SNR=8.2						
WRA	**Warramunga Arr**	**68.08**	**200**	P	**P**	**05 24 36.3**	**+0.1**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
WRA	**Warramunga Arr**	**68.08**	**200**	P	**P**	**05 24 36.3**	**+0.1**
	comp=Z,0.5nm,0.6s,mb3.7,baz=20,slow=7.1,SNR=6.0						
ASAR	**Alice Springs**	**71.77**	**200**	P	**P**	**05 24 58.5**	**-0.2**
	comp=Z,0.4nm,0.9s,mb3.3,baz=22,slow=5.5,SNR=2.6						
AKASG	**Malin Array Be**	**72.70**	**327**	P	**P**	**05 25 03.0**	**-1.2**
	comp=Z,0.3nm,0.5s,mb3.5,baz=33,slow=6.1,SNR=3.3						

*ATH **30** 05:56:27.6, 3745N×2759E, h10km, MD2.8/3*
*ISCJB **30** 05:56:43.8±1.1, 3646N±005×2799E±008, h47km±13km, Error ellipse: s-maj=10.4km s-min=7.8km az=17.2*
*CSEM **30** 05:56:43.5±0.3, 3649N×2798E, h45km±3km, MD2.7, Error ellipse: s-maj=4.5km s-min=4.0km az=77.0*
*DDA **30** 05:56:45.1, 3659N×2809E, h7km±4km, Md2.7*

ISC 30 05:56:44.3±1.0, 3646N±005×2798E±008, h44km±15km, n8, σ0§47/14, 1C, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARG	**Arkhangelos**	**0.27**	**153**	*e*PB	**Pn**	**05 56 52.2**	**-0.4**
ARG	**Arkhangelos**	**0.27**	**153**	⇑*i*Pb	**Pn**	**05 56 52.2**	**-0.4**
ARG				*e*Sb	**Sn**	**05 56 58.5**	**+0.1**
BDRM	**Kayabasi**	**0.74**	**325**	*i* P	**Pn**	**05 56 58.8**	**+0.4**
BDRM				*i* S	**Sn**	**05 57 08.9**	**+0.4**
BDRM	**Kayabasi**	**0.74**	**325**	*i* P	**Pn**	**05 56 58.8**	**+0.4**
BDRM				*i* S	**Sn**	**05 57 08.9**	**+0.3**
KARP	**Karpathos**	**1.12**	**216**	*e*Pn	**Pn**	**05 57 03.4**	**-0.2**
KARP				*e*Sn	**Sn**	**05 57 18.2**	**+0.3**
AYDN	**Tasoluk**	**1.20**	**356**	*i* P	**Pn**	**05 57 04.4**	**-0.2**
AYDN				*i* S	**Sn**	**05 57 19.2**	**-0.6**
GOLH	**Golhisar**	**1.49**	**58**	*e*P	**Pn**	**05 57 08.1**	**-0.5**
GOLH				*i* S	**Sn**	**05 57 27.7**	**+0.9**
XRY	**Khrisi**	**2.44**	**230**	*e*PN	**Pn**	**05 57 17.0**	**-4.6**

*ISCJB **30** 06:06:08.0±0.8, 3713N±007×2439W±006, h10km, Error ellipse: s-maj=11.3km s-min=5.8km az=28.0*
*SVSA **30** 06:06:13.6±0.8, 3705N×2460W, h0km, MD3.3, ML2.8, Error ellipse: s-maj=5.9km s-min=3.8km az=105.0*
*CSEM **30** 06:06:13.6±0.8, 3705N×2460W, h0km, ML2.8, Error ellipse: s-maj=5.9km s-min=3.8km az=105.0, After PDA*
*PDA **30** 06:06:13.6±0.8, 3705N×2460W, h0km, MD3.3, ML2.8, Error ellipse: s-maj=5.9km s-min=3.8km az=105.0*

ISC 30 06:06:09.5±0.8, 3719N±006×2446W±006, h10km, n10, σ0§81/18, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSMN	**Pico do Norte,**	**0.52**	**249**	*e*P	**Pg**	**06 06 20.5**	**+0.9**
PSMN				*e*S	**Sg**	**06 06 25.9**	**-0.5**
CMLA	**Cha da Macela**	**1.02**	**304**	*e*P	**Pg**	**06 06 30.1**	**+1.0**
CMLA				*e*S	**Sg**	**06 06 42.5**	**+0.1**
CMLA				A		06 06 46.9	
	116nm,0.3s						
CMLA	**Cha da Macela**	**1.02**	**304**	*e*P	**Pg**	**06 06 30.1**	**+1.0**
CMLA				*e*S	**Sg**	**06 06 42.5**	**+0.1**
PDA	**Ponta Delgada**	**1.10**	**300**	*e*P	**Pb**	**06 06 31.1**	**+0.4**
PDA				*e*S	**Sg**	**06 06 44.3**	**-0.8**
PSET	**Sete Cidades**	**1.18**	**303**	*e*P	**Pb**	**06 06 32.7**	**+0.7**
PSET				*e*S	**Sb**	**06 06 46.9**	**-0.5**
PSET				A		06 06 49.7	
	59nm,0.2s						
PSET	**Sete Cidades**	**1.18**	**303**	*e*P	**Pb**	**06 06 32.7**	**+0.7**
PSET				*e*S	**Sb**	**06 06 46.9**	**-0.5**
PSCM	**Serra do Cume**	**2.58**	**306**	*e*P	**Pn**	**06 06 52.7**	**+1.3**
PSCM				*e*S	**Sn**	**06 07 21.5**	**-1.3**
PSCM				A		06 07 24.3	
	23nm,0.2s						
PSCM	**Serra do Cume**	**2.58**	**306**	*e*P	**Pn**	**06 06 52.7**	**+1.3**
PSCM				*e*S	**Sn**	**06 07 21.5**	**-1.3**
PMAR	**Madeira**	**7.63**	**124**	*e*Pn	**Pn**	**06 08 00.6**	**-0.1**
PMPS	**Porto Santo**	**7.83**	**119**	*e*Pn	**Pn**	**06 08 02.5**	**-1.0**

*IDC **30** 06:11:29.9±3.3, 2890N×4311W, h0km, mb3.7/8, mb1 4.0/8, mb1mx3.7/21, mbtmp3.7/8, MS3.6/8, Ms1 3.6/8, ms1mx3.2/29, Error ellipse: s-maj=103.7km s-min=23.0km az=176.0*
*ISCJB **30** 06:11:30.8±2.5, 291N±05×4311W±01, h10km, mb4.0/15, MS3.6/8, Error ellipse: s-maj=77.5km s-min=13.2km az=174.5*
*NEIC **30** 06:11:32.2±1.8, 2902N×4306W, h10km, mb4.5/7, Error ellipse: s-maj=59.1km s-min=11.3km az=175.0*

ISC 30 06:11:32.4±2.5, 290N±06×431W±01, h10km, n24, σ0§67/19, mb4.0/15, MS3.6/8, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBTS	**Babate**	**28.37**	**115**	LR	LR	06 26 14.8	
	comp=Z,143nm,18.7s,MS3.6,baz=264,slow=31						
SCHQ	**Schefferville**	**31.00**	**333**	LR	LR	06 28 17.3	
	comp=Z,68nm,19.4s,MS3.3,baz=43,slow=32						
DBIC	**Dimbokro**	**42.31**	**114**	LR	LR	06 34 39.6	
	comp=Z,107nm,20.2s,MS3.7,baz=305,slow=33						
BDFB	**Brasilia**	**44.63**	**187**	LR	LR	06 35 57.9	
	comp=Z,50nm,18.8s,MS3.5,baz=180,slow=33						
ULM	**Lac du Bonnet**	**44.80**	**313**	P	**P**	**06 19 44.5**	**-1.7**
ULM				LR	LR	06 35 35.2	
ULM	**Lac du Bonnet**	**44.80**	**313**	P	**P**	**06 19 44.5**	**-1.7**
	1.1nm,0.6s,mb3.9,baz=5.6,slow=5.1,SNR=4.7						
ULM				LR	LR	06 35 35.2	
	comp=Z,54nm,20.0s,MS3.5,baz=252,slow=32						
CLL	**Collm**	**46.97**	**45**	*i* P	**P**	**06 20 04.3**	**+1.0**
GERES	**GERESS Array B**	**47.22**	**49**	P	**P**	**06 20 05.8**	**+0.5**
	0.2nm,0.4s,mb3.4,baz=263,slow=8.0,SNR=2.6						
TXAR	**Lajitas Array**	**52.38**	**286**	P	**P**	**06 20 43.9**	**-1.0**
	1.1nm,0.9s,mb3.8,baz=88,slow=7.1,SNR=6.2						
TXAR				LR	LR	06 39 00.4	
	comp=Z,61nm,21.7s,MS3.6,baz=60,slow=32						
BNM	**Barren Site**	**53.64**	**293**	*e*P	**P**	**06 20 54.9**	**+0.8**
SNOW	**Snow King Moun**	**55.07**	**305**	*e*P	**P**	**06 21 04.5**	**+0.2**
	4.7nm,0.9s,mb4.5						
IMW	**Indian Meadow**	**55.13**	**305**	*e*P	**P**	**06 21 05.3**	**+0.5**
	7.5nm,1.1s,mb4.6						
TPAW	**Teton Pass**	**55.20**	**305**	*e*P	**P**	**06 21 05.8**	**+0.5**
	5.0nm,0.9s,mb4.5						
SRU	**San Rafael**	**55.66**	**300**	*e*P	**P**	**06 21 09.0**	**+0.3**
	1.7nm,0.9s,mb4.1						
HWUT	**Hardware Ranch**	**55.97**	**303**	*e*P	**P**	**06 21 11.1**	**+0.2**
	3.8nm,0.9s,mb4.4						
YKA	**Yellowknife Ar**	**56.23**	**328**	P	**P**	**06 21 12.5**	**+0.1**
	0.5nm,0.8s,mb3.6,baz=88,slow=7.4,SNR=9.7						
YKA				LR	LR	06 43 47.8	
	comp=Z,55nm,19.7s,MS3.6,baz=130,slow=34						
DUG	**Dugway**	**57.17**	**301**	*e*P	**P**	**06 21 19.4**	**0.0**
	4.4nm,1.0s,mb4.4						
AKASG	**Malin Array Be**	**57.20**	**46**	P	**P**	**06 21 18.3**	**-1.2**
	0.2nm,0.3s,mb3.6,baz=279,slow=6.2,SNR=2.6						
NEW	**Newport**	**58.70**	**311**	*e*P	**P**	**06 21 30.4**	**+0.4**
	5.5nm,0.9s,mb4.6						
NVAR	**Mina Array Bea**	**61.72**	**300**	P	**P**	**06 21 50.6**	**-0.3**
	0.5nm,0.6s,mb3.8,baz=85,slow=7.2,SNR=5.5						
AKTK	**Aktyubinsk**	**74.75**	**41**	P	**P**	**06 23 12.0**	**-0.4**
AKTO	**Aktyubinsk**	**74.75**	**41**	P	**P**	**06 23 12.0**	**-0.4**
	0.3nm,0.3s,mb3.7,baz=297,slow=6.6,SNR=4.1						
KDAK	**Kodiak Island**	**75.50**	**329**	LR	LR	06 57 23.8	
	comp=Z,138nm,19.7s,MS4.3,baz=91,slow=36						
MKAR	**Makanchi Array**	**89.88**	**34**	P	**P**	**06 24 31.7**	**+0.2**
	0.2nm,0.8s,mb3.5,baz=320,slow=6.0,SNR=2.8						

IDC 30 06:18:16.4±5.7, 301S×13190E, h0km, mb3.6/2, mb1 3.8/3, mb1mx3.6/11, mbtmp3.7/3, ML3.4/1, Error ellipse: s-maj=387.3km s-min=27.2km az=73.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**16.99**	**172**	Pn	Pn	06 22 13.6	-2.1
	0.2nm,0.3s,baz=352,slow=13,SNR=11						
ASAR	**Alice Springs**	**20.62**	**175**	P	P	06 22 58.5	+1.0
	0.7nm,0.4s,baz=350,slow=11,SNR=19						
MKAR	**Makanchi Array**	**66.00**	**325**	P	P	06 29 04.9	+0.1
	0.7nm,0.5s,baz=124,slow=7.8,SNR=14						

*CSEM **30** 06:25:07.0±0.1, 3648N×2996E, h60km, MD2.7, Error ellipse: s-maj=2.3km s-min=1.9km az=95.0*
*ISCJB **30** 06:25:07.1±0.4, 3649N±003×2995E±004, h84km±6km, Error ellipse: s-maj=5.8km s-min=5.3km az=179.3*
*DDA **30** 06:25:08.1, 3651N×2886E, h24km±5km, Md3.1*
*HLW **30** 06:25:08.6, 3644N×3004E, h33km, Mb3.7*
*ISK **30** 06:25:11.3, 3688N×2979E, h28km, MD2.7*
*ATH **30** 06:25:14.0, 3640N×2936E, h14km, MD3.1/3*

ISC 30 06:25:08.4±0.5, 3652N±003×2992E±004, h77km±7km, n26, σ0§77/40, 3C-1D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKAS	**Kas**	**0.38**	**221**	*i* P	**Pn**	**06 25 20.5**	**-0.3**
AKAS				*i* S	**Sn**	**06 25 30.0**	**0.0**
KSL	**Kastellorizon**	**0.46**	**216**	*e*PB	**Pn**	**06 25 20.5**	**-1.0**
FETY	**Fethiye**	**0.68**	**280**	*e*PG	**Pn**	**06 25 23.6**	**+0.1**
FETY				*e*SG	**Sn**	**06 25 34.7**	**-0.1**
ANTB	**Antalya**	**0.70**	**57**	*e*PG	**Pn**	**06 25 25.7**	**+1.9**
ANTB				*e*SG	**Sn**	**06 25 35.9**	**+0.6**
GOLH	**Golhisar**	**0.77**	**338**	*i* P	**Pn**	**06 25 24.6**	**0.0**
GOLH				*i* S	**Sn**	**06 25 36.1**	**-0.4**
BCK	**Bucak**	**1.08**	**30**	*e*PG	**Pn**	**06 25 28.3**	**0.0**
ISP	**Isparta**	**1.40**	**20**	*e*PN	**Pn**	**06 25 31.9**	**-0.4**
YER	**Yerkesik**	**1.45**	**296**	*e*PN	**Pn**	**06 25 33.3**	**+0.4**
YER				*e*SN	**Sn**	**06 25 49.2**	**-2.1**
ARG	**Arkhangelos**	**1.48**	**259**	*e*PN	**Pn**	**06 25 33.8**	**+0.5**
DAT	**Datca**	**1.89**	**277**	*e*PN	**Pn**	**06 25 40.1**	**+1.4**
DAT				*e*SN	**Sn**	**06 26 02.2**	**+0.4**
AYDN	**Tasoluk**	**1.99**	**306**	*i* P	**Pn**	**06 25 40.1**	**+0.1**
AYDN				*i* S	**Sn**	**06 26 03.8**	**-0.2**
BDRM	**Kayabasi**	**2.06**	**286**	*i* P	**Pn**	**06 25 41.0**	**0.0**
BDRM				*i* S	**Sn**	**06 26 06.4**	**+0.7**
KULA	**Kula-Manisa**	**2.23**	**334**	*e*PN	**Pn**	**06 25 41.4**	**-1.8**
KARP	**Karpathos**	**2.44**	**247**	*e*PN	**Pn**	**06 25 47.3**	**+1.3**
KARP				*e*SN	**Sn**	**06 26 15.3**	**+0.4**
KDHN	**Kadinhani**	**2.66**	**41**	*i* P	**Pn**	**06 25 49.0**	**0.0**
KDHN				*i* S	**Sn**	**06 26 20.1**	**-0.1**
HMAT	**Matruh**	**5.90**	**204**	⇓P	**Pn**	**06 26 33.4**	**+0.2**
HMAT				S	**Sn**	**06 27 36.1**	**-3.3**
AMAG	**Maghara**	**6.47**	**154**	⇑P	**Pn**	**06 26 40.3**	**-0.7**
KOT	**Kottamia**	**6.77**	**166**	P	**Pn**	**06 26 45.5**	**+0.4**
KOT				S	**Sn**	**06 27 54.8**	**-5.9**
HNAT	**Natroun**	**6.89**	**175**	P	**Pn**	**06 26 47.2**	**+0.4**
HSAF	**As Saff**	**7.02**	**168**	⇑P	**Pn**	**06 26 48.1**	**-0.4**
GLL	**Jalalah**	**7.09**	**167**	P	**Pn**	**06 26 49.6**	**+0.2**
SUZ		**7.10**	**159**	⇑P	**Pn**	**06 26 49.1**	**-0.5**
HNKL	**Nakhl**	**7.40**	**151**	P	**Pn**	**06 26 53.2**	**-0.5**
HNKL				S	**Sn**	**06 28 09.7**	**-6.5**
SWA1		**8.05**	**207**	P	**Pn**	**06 27 02.8**	**+0.1**
SWA1				S	**Sn**	**06 28 27.9**	**-4.2**
AWBH		**8.22**	**186**	P	**Pn**	**06 27 05.1**	**+0.1**
HFRF	**Wahat Farafira**	**9.44**	**189**	P	**Pn**	**06 27 21.9**	**+0.2**

IDC 30 06:33:46.4±1.8, 082N×12573E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.6/16, mbtmp3.7/3, Error ellipse: s-maj=176.2km s-min=23.4km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.29**	**158**	P	P	06 38 44.1	-1.4
	1.9nm,0.7s,baz=336,slow=11,SNR=21						
ASAR	**Alice Springs**	**25.60**	**162**	P	P	06 39 18.8	+1.2
	1.0nm,0.4s,baz=345,slow=11,SNR=20						
MKAR	**Makanchi Array**	**59.39**	**327**	P	P	06 43 50.7	0.0
	0.3nm,0.3s,baz=119,slow=7.7,SNR=12						

*NIED **30** 06:43:00, 38.10N×142.80E, h26km, Mw4.3 Best double couple: M0=3.25000×10^15 NP1:φ=16.00000°, δ=72.00000°, λ=89.00000°. NP2:φ=198.00000°, δ=18.00000°, λ=92.00000°.*
*BJI **30** 06:43:20.9, 3809N×14296E, h41km, mB5.0, mb4.6, Ms4.1, Msz3.9*
*ISCJB **30** 06:43:21.0±1.2, 3807N±003×14283E±004, h28km±8km, mb4.6/44, MS3.8/15, Error ellipse: s-maj=6.0km s-min=4.5km az=42.7*
*NEIC **30** 06:43:21.7, 3809N×14277E, h32km, mb4.6/11, MW4.3(NIED), After JMA.*
NEIC Recorded [1 JMA] in Iwate and Miyagi Prefectures.
*JMA **30** 06:43:21.7±0.1, 3808N×14277E, h32km±3km, M4.8*
JMA Felt I J1.
*MOS **30** 06:43:22.4±1.0, 38.12N×142.79E, h38km, mb4.8/20, Error ellipse: s-maj=10.6km s-min=5.9km az=106.7*
*IDC **30** 06:43:25.5±2.1, 3801N×14271E, h50km±19km, mb4.0/16, mb1 4.1/22, mb1mx4.0/29, mbtmp4.1/22, ML4.0/6, MS3.7/13, Ms1 3.7/13, ms1mx3.5/32, Error ellipse: s-maj=18.2km s-min=12.9km az=89.0*

ISC 30 06:43:23.5±1.2, 3808N±003×14276E±004, h31km±8km, n127, σ0§88/143, mb4.6/44, MS3.8/15, 3C-1D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**1.17**	**289**	P	**Pn**	**06 43 42.3**	**-1.4**
JIO				S	**Sn**	**06 43 57.6**	**-1.0**
OFUJ	**Ofunato**	**1.31**	**320**	P	**Pn**	**06 43 44.4**	**-1.3**
OFUJ				S	**Sn**	**06 44 01.0**	**-1.2**
JMK	**Ichinoseki**	**1.49**	**306**	P	**Pn**	**06 43 47.2**	**-0.9**
JMM	**Marumori**	**1.57**	**263**	P	**Pn**	**06 43 47.9**	**-1.3**
JMM				S	**Sn**	**06 44 06.9**	**-1.5**
JFK	**Kawauchi**	**1.65**	**245**	P	**Pn**	**06 43 48.9**	**-1.5**
JFK				S	**Sn**	**06 44 09.2**	**-1.4**
JOU	**Okura**	**1.67**	**280**	P	**Pn**	**06 43 50.2**	**-0.5**
JOM	**Ohasama**	**1.80**	**321**	P	**Pn**	**06 43 52.0**	**-0.4**
JFT	**Otama**	**2.00**	**254**	P	**Pn**	**06 43 55.0**	**-0.1**
JFT				S	**Sn**	**06 44 19.6**	**+0.6**
JYK	**Kaneyama**	**2.06**	**295**	P	**Pn**	**06 43 55.9**	**-0.1**
JYK				S	**Sn**	**06 44 20.9**	**+0.3**
JYS	**Shiratake**	**2.13**	**275**	P	**Pn**	**06 43 57.0**	**+0.1**
JYS				S	**Sn**	**06 44 23.1**	**+0.9**
MJAR	**Matsushiro Arr**	**3.94**	**248**	P	**Pn**	**06 44 22.9**	**+1.2**
MJAR				S	**Sn**	**06 45 13.1**	**+6.2**
MJAR				LR	LR	06 46 04.5	
MJAR	**Matsushiro Arr**	**3.94**	**248**	P	**Pn**	**06 44 23.0**	**+1.2**
MJAR				S	**Sn**	**06 45 13.1**	**+6.2**
MJAR	**Matsushiro Arr**	**3.94**	**248**	P	**Pn**	**06 44 22.9**	**+1.2**
	9.3nm,0.3s,baz=62,slow=11,SNR=99						
MJAR				S	**Sn**	**06 45 13.1**	**+6.2**
	10nm,0.3s,baz=6.1,slow=28,SNR=6.6						
MJAR				LR	LR	06 46 04.5	
	comp=Z,717nm,20.8s,baz=65,slow=41						
MAJO	**Matsushiro**	**3.94**	**248**	*e*Pn	**Pn**	**06 44 22.6**	**+0.8**
MAT	**Matsushiro**	**3.94**	**248**	P	**Pn**	**06 44 22.8**	**+1.0**
MAT				*e*S	**Sn**	**06 45 08.2**	**+1.3**
ERM	**Erimo**	**3.94**	**4**	*e*Pn	**Pn**	**06 44 21.9**	**0.0**
ERM	**Erimo**	**3.94**	**4**	*e*P	**Pn**	**06 44 20.5**	**-1.4**
JHJ	**Hachijo jima 2**	**5.51**	**207**	P	**Pn**	**06 44 43.6**	**+0.2**
	49nm,0.3s,baz=86,slow=21,SNR=10						
JHJ				S	**Sn**	**06 45 39.3**	**-6.4**
	48nm,0.3s,baz=49,slow=19,SNR=3.7						
JHJ				LR	LR	06 47 10.6	
	comp=Z,179nm,18.2s,baz=82,slow=42						
ASAJ	**Asahikawa**	**6.03**	**359**	P	**Pn**	**06 44 51.5**	**+0.9**
ASAJ				S	**Sn**	**06 45 58.7**	**+0.2**
ASAJ				pmax	pmax		
	comp=Z,5.0nm,0.3s						
ASAJ				smax			
	comp=N,9.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,592nm,19.5s						
ASAJ	**Asahikawa**	**6.03**	**359**	P	**Pn**	**06 44 51.5**	**+0.9**
	comp=Z,5.3nm,0.3s,baz=216,slow=11,SNR=11						
ASAJ				S	**Sn**	**06 45 58.6**	**+0.1**
	comp=Z,9.3nm,0.3s,baz=63,slow=31,SNR=9.9						
ASAJ				LR	LR	06 47 53.5	
	comp=Z,592nm,19.5s,baz=158,slow=44						
YUK	**Yuzh-Kuril'sk**	**6.39**	**21**	*e*P	**Pn**	**06 44 53.5**	**-2.0**
YUK				*e*S	**Sn**	**06 46 00.5**	**-6.9**
YUK				smax			
	comp=N,800nm,0.5s						
YUK				smax			
	comp=E,300nm,0.5s						
YUK				smax			
	comp=N,1μm,0.5s						
YSS	**Yuzh-Sakhalins**	**8.87**	**360**	*e*Pn	**Pn**	**06 45 30.6**	**+1.1**
	comp=N,15nm,0.6s						
YSS	**Yuzh-Sakhalins**	**8.87**	**360**	⇑*i*P	**Pn**	**06 45 30.0**	**+0.5**
YSS				*e*S	**Sn**	**06 47 08.8**	**+0.5**
YSS				pmax	pmax		
	comp=Z,20nm,0.7s						
YSS				MLR	MLR		
	comp=Z,400nm,15.0s						
YSS				MLR	MLR		
	comp=E,300nm,16.0s						
JNU	**Nakatsue**	**10.86**	**246**	P	**Pn**	**06 45 57.8**	**+1.0**
	comp=E,0.6nm,0.3s,baz=89,slow=15,SNR=6.1						
JNU				LR	LR	06 50 32.6	
	comp=E,359nm,19.0s,baz=63,slow=40						
CBIJ	**Chichi jima**	**10.96**	**183**	P	**Pn**	**06 45 56.9**	**-1.3**
	comp=E,8.2nm,0.3s,baz=278,slow=22,SNR=5.5						
CBIJ				S	**Sn**	**06 47 48.0**	**-12**
	comp=E,6.2nm,0.3s,baz=270,slow=20,SNR=3.5						
KSRS	**Korea Array**	**11.76**	**272**	P	**Pn**	**06 46 12.3**	**+3.3**
	comp=E,0.2nm,0.3s,baz=93,slow=13,SNR=15						
KSRS				LR	LR	06 50 26.1	
	comp=E,340nm,18.6s,baz=258,slow=36						
HABR	**Khabarovsk**	**11.80**	**334**	*e*P	**Pn**	**06 46 09.5**	**-0.1**
HABR				*e*		06 48 27.6	
KLR	**Kul'dur**	**13.68**	**328**	*e*P	**Pn**	**06 46 30.1**	**-5.2**
KLR				MLR	MLR		
	comp=E,500nm,13.0s						
KLR				MLR	MLR		
	comp=Z,1μm,13.0s						
SNY	**Shenyang**	**15.18**	**290**	⇑P	**Pn**	**06 46 57.0**	**+1.5**
SNY				AMB	AMB		
	comp=Z,13nm,0.8s						
SNY				AMB	AMB		
	comp=Z,127nm,4.1s						
SNY				LR	LR		
	comp=E,545nm,15.4s						
SNY				LR	LR		
	comp=Z,575nm,16.5s						
DL2	**Dalian**	**16.56**	**279**	P	**Pn**	**06 47 15.0**	**+1.6**
DL2				AMB	AMB		
	comp=Z,20nm,1.0s						
DL2				LR	LR		
	comp=N,100nm,14.6s						
DL2				LR	LR		
	comp=E,130nm,17.0s						
DL2				LR	LR		
	comp=Z,170nm,17.7s						
PET	**Petropavlovsk**	**18.57**	**31**	*e*P	**Pn**	**06 47 31.1**	**-7.0**
PET				pmax	pmax		
	comp=Z,28nm,1.0s						
HIA	**Hailar**	**19.97**	**311**	*e*P	**Pn**	**06 47 57.5**	**+2.6**
	comp=Z,9.2nm,0.7s						
HIA	**Hailar**	**19.97**	**311**	*e*P	**Pn**	**06 47 57.6**	**+2.7**
HIA				pmax	pmax		
	comp=Z,9.0nm,0.7s						
CLNS	**Chul'man**	**22.19**	**333**	*e*P	**P**	**06 48 15.7**	**-1.2**
CLNS				*e**PP		06 48 22.2	
CLNS				*e*PPP		06 48 46.1	
CLNS				*e*		06 52 11.3	
CLNS				*e*S	**S**	**06 52 18.4**	**-1.1**
CLNS				*e*SS		06 53 09.8	
CLNS				pmax	pmax		
	comp=N,15nm,0.8s						
CLNS				pmax	pmax		
	comp=Z,22nm,0.8s,mb4.6						
CLNS				pmax	pmax		
	comp=E,7.0nm,0.7s						
CLNS				pmax	pmax		
	comp=N,11nm,0.8s						
CLNS				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.2						
CLNS				pmax	pmax		
	comp=E,9.0nm,0.7s						
CLNS				smax			
	comp=E,23nm,8.9s						
CLNS				smax

GTA XP sP 06 50 15.0 +4.1
GTA AMB AMB
comp=Z,13nm,0.9s,mb4.9
TIXI Tiksi 34.39 352 *e*P **P 06 50 05.7 -1.7**
TIXI pmax pmax
comp=Z,3.0nm,2.0s,mb3.9
WMQ Urumqi 41.33 296 P **P 06 51 07.5 +1.2**
WMQ AMB AMB
comp=Z,24nm,0.7s,mb4.9
WMQ AMB AMB
comp=Z,156nm,4.3s
WMQ LR LR
comp=Z,125nm,28.8s,MS3.6
ZAA0 Zalesovo Array 42.01 312 *e*P **P 06 51 11.7 0.0**
ZALV Zalesovo Beam 42.01 312 P **P 06 51 11.9 +0.2**
comp=Z,8.7nm,0.5s,mb4.7,baz=84,slow=8.3,SNR=15
ZALV PcP PcP 06 53 05.9 -0.4
comp=Z,1.4nm,0.4s,baz=101,slow=4.6,SNR=4.5
ZALV LR LR 07 09 20.5
comp=Z,105nm,19.2s,MS3.7,baz=16,slow=37
ZAL Zalesovo 42.02 312 P **P 06 51 11.9 +0.1**
ZAL 06 53 05.9
NVS Novosibirsk 42.90 313 *e*P **P 06 51 18.2 -0.7**
NVS pmax pmax
comp=Z,19nm,1.9s,mb4.5
MK31 Makanchi Array 44.48 301 *e*P **P 06 51 31.9 +0.2**
MK31 Makanchi Array 44.48 301 *i*P **P 06 51 31.6 -0.1**
MK31 pmax pmax
comp=Z,13nm,0.8s,mb4.7
MKAR Makanchi Array 44.48 301 P **P 06 51 31.6 -0.1**
comp=Z,7.1nm,0.8s,mb4.5,baz=86,slow=10,SNR=40
MKAR LR LR 07 10 42.1
comp=Z,60nm,18.4s,MS3.5,baz=259,slow=37
KDAK Kodiak Island 45.61 43 P **P 06 51 41.4 +0.9**
KDAK Kodiak Island 45.61 43 P **P 06 51 41.4 +0.9**
comp=Z,6.3nm,0.6s,mb4.7,baz=115,slow=12,SNR=5.3
KURK Kurchatov 46.14 307 *e*P **P 06 51 44.4 -0.4**
comp=Z,23nm,0.6s,mb5.3
KURK Kurchatov 46.14 307 *e*P **P 06 51 44.4 -0.4**
KURK pmax pmax
comp=Z,23nm,0.6s,mb5.3
JIRN Jiri 47.99 275 *e*P **P 06 52 00.1 +0.5**
GUN Gumba 48.12 275 *e*P **P 06 52 01.0 +0.4**
comp=Z,20nm,0.4s,mb5.5
KKN Kakani 48.64 276 *e*P **P 06 52 05.1 +0.5**
comp=Z,24nm,0.6s,mb5.4
DMN Daman 48.86 275 *e*P **P 06 52 06.5 +0.2**
GKN Gorkha 49.05 276 *e*P **P 06 52 07.8 0.0**
comp=Z,14nm,0.5s,mb5.2
DANN Dangsing 49.58 277 *e*P **P 06 52 12.2 +0.4**
comp=Z,52nm,0.5s
HNR Honiara 49.92 158 LR LR 07 11 40.7
comp=Z,62nm,20.0s,MS3.6,baz=358,slow=34
KOLN Koldanda 49.97 277 *e*P **P 06 52 14.8 0.0**
BVAR Borovoye Array 50.66 312 P **P 06 52 19.6 0.0**
comp=Z,3.1nm,0.5s,mb4.5,baz=71,slow=7.7,SNR=16
BRVK Borovoye 50.72 312 *e*P **P 06 52 20.2 +0.1**
comp=Z,7.7nm,0.9s,mb4.6
BRVK Borovoye 50.72 312 *e*P **P 06 52 20.2 +0.1**
BRVK pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
AAK Ala-Archa 50.94 298 *e*P **P 06 52 21.4 -0.5**
AAK Ala-Archa 50.94 298 *i*P **P 06 52 21.0 -0.9**
AAK pmax pmax
comp=Z,4.0nm,1.0s,mb4.3
AAK Ala-Archa 50.94 298 P **P 06 52 21.5 -0.4**
comp=Z,2.5nm,0.6s,mb4.3,baz=123,slow=3.2,SNR=5.5
INK Inuvik 52.97 28 P **P 06 52 37.9 +1.2**
comp=Z,0.4nm,0.5s,mb3.6,baz=311,slow=3.4,SNR=5.1
KK31 Karatay Array 53.53 300 *i*P **P 06 52 40.7 -0.4**
SVE Sverdlovsk 55.07 318⇑*e*P **P 06 52 52.8 +0.7**
SVE *e*S **S 07 00 30.0 -2.4**
SVE pmax pmax
comp=Z,14nm,0.7s,mb5.1
SVE MLR MLR
comp=Z,345nm,17.0s,MS4.5
ARU Arti 56.29 318 *e*P **P 06 53 00.6 -0.3**
comp=Z,5.4nm,0.8s,mb4.6
ARU Arti 56.29 318 *i*P **P 06 53 00.5 -0.3**
ARU pmax pmax
comp=Z,12nm,1.2s,mb4.8
FITZ Fitzroy Crossi 58.15 199 P **P 06 53 13.2 -1.1**
baz=18,slow=6.4
WRAB Tennant Creek 58.24 189 *e*P **P 06 53 14.2 -0.7**
comp=Z,3.7nm,0.7s,mb4.5
WRAB Tennant Creek 58.24 189 *e*P **P 06 53 14.2 -0.7**
WRAB pmax pmax
comp=Z,4.0nm,0.7s,mb4.6
WB2 Warramunga Arr 58.25 189 *e*P **P 06 53 13.6 -1.4**
WRA Warramunga Arr 58.25 189 P **P 06 53 14.2 -0.8**
comp=Z,2.9nm,0.8s,mb4.4,baz=8.1,slow=7.0,SNR=28
AKTO Aktyubinsk 58.77 312 *i*P **P 06 53 17.3 -1.1**
RES Resolute Bay 61.32 15 *e*P **P 06 53 35.5 0.0**
comp=Z,141nm,1.0s
ASAR Alice Springs 61.98 189 P **P 06 53 40.2 -0.3**
comp=Z,0.9nm,0.7s,mb4.0,baz=12,slow=7.6,SNR=9.1
YKA Yellowknife Ar 62.37 31 P **P 06 53 42.7 0.0**
comp=Z,0.3nm,0.7s,mb3.6,baz=299,slow=5.8,SNR=11
ARCES ARCESS Array B 63.40 340 P **P 06 53 49.6 +0.2**
comp=Z,2.3nm,0.8s,mb4.3,baz=54,slow=9.2,SNR=5.8
EIDS Eidsvold 63.59 172 *e*P **P 06 53 41.4 -10**
comp=Z,10nm,0.4s,mb5.2
JOF Joensuu 65.54 332 *e*p **P 06 54 02.8 -0.8**
comp=Z,0.7nm,0.3s,mb4.2
FINES FINESS Array B 68.39 332 *i*P **P 06 54 21.8 +0.1**
FINES pmax pmax
comp=Z,6.0nm,0.9s
FINES FINESS Array B 68.39 332 P **P 06 54 21.6 -0.1**
comp=Z,5.5nm,0.9s,mb4.6,baz=38,slow=9.6,SNR=5.8
FINES LR LR 07 26 22.5
comp=Z,61nm,18.7s,MS3.9,baz=179,slow=38
KIV Kislovodsk 71.03 311*de*P **P 06 54 39.6 +1.3**
KIV *e* pP 06 54 50.5 +2.6
KIV 06 54 54.0
KIV pmax pmax
comp=Z,18nm,1.1s,mb4.9
ANN Anapa 73.57 314 *e*P **P 06 54 44.2 -9.3**
ANN pmax pmax
comp=Z,35nm,1.7s,mb5.0
NB2 NORSAR Subarra 73.63 338 P **P 06 54 53.5 0.0**
comp=Z,7.4nm,1.0s,mb4.6,baz=36,slow=6.2
NOA NORSAR Array B 73.63 338 P **P 06 54 53.5 0.0**
comp=Z,3.4nm,0.7s,mb4.4,baz=39,slow=5.9,SNR=12
NOA LR LR 07 30 07.8
comp=Z,52nm,18.5s,MS3.9,baz=90,slow=38
AKASG Malin Array Be 74.12 323 *i*P **P 06 54 53.2 -3.4**
AKASG pmax pmax
comp=Z,2.0nm,0.6s
AKASG Malin Array Be 74.12 323 P **P 06 54 56.2 -0.3**
comp=Z,2.1nm,0.6s,mb4.3,baz=44,slow=5.6,SNR=4.0
MALT Malatya 76.97 309 *e*P **P 06 55 14.7 +1.6**
comp=Z,2.2nm,0.8s,mb4.1
MALT Malatya 76.97 309 *e*P **P 06 55 14.7 +1.6**
MALT pmax pmax
comp=Z,2.0nm,0.8s,mb4.1
MORC Moravsky Berou 80.06 327 *e*P **P 06 55 31.1 +1.2**
DPC Dobruska-Polom 80.14 328 *e*P **P 06 55 31.3 +1.0**
PSZ Piszkesteto 80.42 325 *e*P **P 06 55 32.7 +0.8**
CLL Collm 80.72 331 *e*P **P 06 55 33.0 -0.4**
KHC Kasperske Hory 82.20 329 *e*P **P 06 55 41.5 +0.1**
GERES GERESS Array B 82.38 329 P **P 06 55 40.4 -1.8**
comp=Z,1.8nm,0.9s,mb4.0,baz=47,slow=14,SNR=5.3
CDF Champ du Feu 85.23 332 *e*P **P 06 55 57.0 +0.1**
HAU Haudompre 85.92 332 *e*P **P 06 56 00.0 -0.3**
HAU *e*MLR MLR
comp=Z,46nm,22.5s,MS3.5
HAU Haudompre 85.92 332 *e*P **P 06 56 00.0 -0.3**
HAU MLR MLR
comp=Z,50nm,22.5s,MS3.9
LOR Lormes 87.44 333 *e*P **P 06 56 07.7 0.0**
comp=Z,22nm,1.3s,mb4.9
LOR *e*MLR MLR
comp=Z,50nm,20.5s,MS3.6
LOR Lormes 87.44 333 *e*P **P 06 56 07.7 0.0**
comp=Z,11nm,1.3s,mb4.9
LOR LR LR
comp=Z,50nm,20.5s,MS3.9
LOR Lormes 87.44 333 *e*P **P 06 56 07.7 0.0**
LOR pmax pmax
comp=Z,11nm,1.3s,mb4.9
LOR MLR MLR
comp=Z,50nm,20.5s,MS3.9
LDF La Druitiere 87.62 336 *e*P **P 06 56 09.0 +0.4**
SSF Saint Saulge 87.74 333 *e*P **P 06 56 09.1 -0.1**
comp=Z,8.8nm,1.1s,mb4.6
SSF Saint Saulge 87.74 333 *e*P **P 06 56 09.1 -0.1**
comp=Z,4.4nm,1.1s,mb4.6
SSF Saint Saulge 87.74 333 *e*P **P 06 56 09.1 -0.1**
SSF pmax pmax
comp=Z,4.0nm,1.1s,mb4.6
LPG La Plagne 87.86 331 *e*P **P 06 56 10.4 +0.6**
comp=Z,5.0nm,0.8s,mb4.5
LPG La Plagne 87.86 331 *e*P **P 06 56 10.4 +0.6**
comp=Z,2.5nm,0.8s,mb4.5
LPG La Plagne 87.86 331 *e*P **P 06 56 10.4 +0.6**
LPG pmax pmax
comp=Z,3.0nm,0.8s,mb4.6
AVF Avril sur Loir 88.02 333 *e*P **P 06 56 10.7 +0.1**
comp=Z,8.8nm,0.8s,mb4.7
GRR Gorron 88.03 337 *e*P **P 06 56 10.7 +0.1**
MBDF Montbardon 88.50 330 *e*P **P 06 56 12.0 -0.8**
TXAR Lajitas Array 88.64 53 P **P 06 56 14.4 +0.6**
comp=Z,0.1nm,0.5s,baz=298,slow=3.6,SNR=3.5
RJF Les Rejaudoux 89.95 334 *e*P **P 06 56 20.0 +0.4**
RJF *e*MLR MLR
comp=Z,56nm,20.0s,MS3.7
CAF Calviac 90.09 333 *e*P **P 06 56 20.9 +0.6**
comp=Z,4.4nm,0.7s,mb4.6
LFF La Frestale 90.54 334 *e*P **P 06 56 22.9 +0.5**
KEST Kesra 94.83 324 LR LR 07 44 31.2
comp=Z,47nm,18.8s,MS4.0,baz=270,slow=39
ESDC Sonseca Array 96.81 335 LR LR 07 45 18.1
comp=Z,45nm,20.7s,MS3.9,baz=85,slow=38

CASC 30 06:59:08.0±2.5, 711N×8235W, h25km±999km, MD4.2, 1C-4D, South of Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AZU	**Azuero**	**2.16**	**72**	⇓*i*P	Pn	06 59 41.4	-1.0
AZU				*e*S	Sn	07 00 08.2	-0.3
CNI	**Changuinola**	**2.30**	**356**	⇑*i*P	Pn	06 59 46.2	+1.8
CNI				*e*S	Sn	07 00 14.4	+2.6
BAR1		**2.32**	**336**	⇓*e*P	Pn	06 59 45.1	+0.4
BAR1				*e*S	Sn	07 00 13.4	+0.9
QCR	**Quepos**	**2.92**	**322**	*e*P	Pn	06 59 52.6	-0.3
QCR				*e*S	Sn	07 00 26.3	-0.9
URSC	**Urasca**	**3.05**	**332**	*e*P	Pn	06 59 56.1	+1.3
URSC				*e*S	Sn	07 00 32.3	+1.8
LCR2	**La Lucha 2**	**3.08**	**328**	⇓*e*P	Pn	06 59 56.3	+1.1
LCR2				*e*S	Sn	07 00 33.1	+1.8
LAJ	**Bijagual**	**3.25**	**327**	*e*P	Pn	06 59 59.2	+1.8
LAJ				*e*S	Sn	07 00 38.7	+3.3
PRS1	**Puriscal**	**3.45**	**326**	⇓*e*P	Pn	07 00 00.1	-0.2
PRS1				*e*S	Sn	07 00 39.4	-0.9
CGA2	**Cerro Gallo 2**	**3.57**	**324**	*e*P	Pn	07 00 03.0	+1.2
JCR	**Jicaral**	**3.86**	**315**	*e*P	Pn	07 00 06.9	+1.1
PTP	**Ponta Puerca**	**19.69**	**54**	*e*S		06 59 44.7	

MOS ***30*** *07:02:20.7±0.5, 5448N×16166E, h31km, mb4.2/1, Error ellipse: s-maj=30.0km s-min=11.4km az=73.8*
KRSC 30 07:02:21.4±0.2, 5452N×16146E, h33km±27km, ML4.0, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**0.16**	**77**	*i*P	Pb	07 02 27.2	-0.4
MKZ				*i*S	Sb	07 02 31.9	+0.1
TUMR	**Tumrok**	**1.08**	**316**	*i*P	Pn	07 02 40.6	+0.5
TUMR				*i*S	Sn	07 02 54.5	+0.6
KII	**Karymskiy**	**1.27**	**248**	*e*P	Pn	07 02 43.9	+1.1
KII				*i*S	Sn	07 03 01.0	+2.2
KMNR	**Kamenistaya**	**1.42**	**331**	*i*P	Pn	07 02 46.0	+1.1
KMNR				*i*S	Sn	07 03 04.3	+1.8
SPN	**Mys Shipunski**	**1.66**	**211**	*e*P	Pn	07 02 47.6	-0.5
SPN				*i*S	Sn	07 03 06.5	-1.8
KOZ	**Kozyrevsk**	**1.79**	**330**	*e*P	Pn	07 02 51.3	+1.4
KOZ				*i*S	Sn	07 03 13.7	+2.3
KOZR	**Kozyr**	**1.79**	**331**	PN	Pn	07 02 51.3	+1.4
KOZR				S	Sn	07 03 13.7	+2.2
NLC	**Nalytchevo**	**1.84**	**224**	*e*P	Pn	07 02 51.2	+0.6
NLC				*i*S	Sn	07 03 13.4	+0.6
KLY	**Klyuchi**	**1.85**	**346**	P	Pn	07 02 51.0	+0.2
KLY				*i*S	Sn	07 03 11.8	-1.3
KBTR	**Krutoberegovo**	**1.86**	**24**	*e*P	Pn	07 02 51.1	+0.2
KBTR				*i*S	Sn	07 03 12.7	-0.5
AVH	**Avacha**	**2.04**	**233**	*i*P	Pn	07 02 55.3	+1.9
AVH				*i*S	Sn	07 03 20.7	+3.0
SRDR	**Sredinnyy**	**2.06**	**332**	*e*P	Pn	07 02 54.4	+0.8
SRDR				*e*S	Sn	07 03 18.9	+0.8
SRKR	**Sorokina**	**2.15**	**356**	*e*P	Pn	07 02 57.2	+2.4
GNL	**Ganaly**	**2.23**	**250**	*i*P	Pn	07 02 57.8	+1.8
GNL				*e*S	Sn	07 03 24.7	+2.4
PET	**Petropavlovsk**	**2.24**	**229**	*e*P	Pn	07 02 57.8	+1.7
PET				*i*S	Sn	07 03 24.4	+1.8
RUS	**Russkaya**	**2.73**	**221**	*e*P	Pn	07 03 04.3	+1.4
RUS				*i*S	Sn	07 03 35.0	+0.3
GRL	**Gorelyy**	**2.82**	**227**	*e*P	Pn	07 03 05.3	+1.2
GRL				*i*S	Sn	07 03 36.7	-0.2
MIPR	**Malaya Ipel'ka**	**3.60**	**233**	*e*P	Pn	07 03 16.7	+1.9

NIED ***30*** *07:21:00, 4170N×14390E, h29km, Mw4.0 Best double couple: M0 1.32000×10^15 NP1:φ=14.00000°, δ71.00000°, λ77.00000°. NP2:φ=229.00000°, δ23.00000°, λ123.00000°.*
MOS ***30*** *07:21:22.7±1.1, 4163N×14383E, h33km, mb4.5/4, Error ellipse: s-maj=15.5km s-min=10.6km az=109.3*
ISCJB ***30*** *07:21:23.7±0.9, 4162N±005×14390E±008, h41km±6km, mb3.8/12, Error ellipse: s-maj=11.2km s-min=6.7km az=34.2*
JMA ***30*** *07:21:24.8±0.3, 4170N×14386E, h47km±4km, M3.7*
NEIC ***30*** *07:21:24.9, 4170N×14386E, h46km, mb4.2/2, After JMA.*
IDC ***30*** *07:21:27.7±2.8, 4157N×14364E, h68km±25km, mb3.3/8, mb1 3.4/10, mb1mx3.3/22, mbtmp3.3/10, MS3.1/5, Ms1 3.1/5, ms1mx2.8/22, Error ellipse: s-maj=25.7km s-min=21.1km az=126.0*
ISC 30 07:21:24.6±1.4, 4167N±004×14389E±008, h30km±9km, n44, σ0§96/47, mb3.8/12, 3C-2D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERM	**Erimo**	**0.65**	**303**	*e*Pn	**Pn**	**07 21 36.9**	**-0.7**
ERM				*e*Sn	**Sn**	**07 21 46.4**	**-0.5**
JEM	**Erimo**	**0.65**	**303**	⇓P	**Pb**	**07 21 36.7**	**-0.7**
JEM				*e*S	**Sb**	**07 21 46.6**	**+0.5**
JCH	**Churui**	**1.02**	**338**	⇑P	**Pn**	**07 21 42.4**	**-0.5**
JNBK	**Urakawa-nobuka**	**1.04**	**306**	⇑P	**Pn**	**07 21 43.7**	**+0.6**
JOB	**Onbets**	**1.24**	**358**	P	**Pn**	**07 21 45.8**	**0.0**
JAK	**Akkeshi**	**1.46**	**24**	P	**Pn**	**07 21 48.6**	**-0.2**
JAK				*e*S	**Sn**	**07 22 07.0**	**+0.1**
JBT2	**Biratori 2**	**1.59**	**315**	P	**Pn**	**07 21 50.9**	**+0.3**
JAR	**Ashorobuto**	**1.63**	**357**	⇑P	**Pn**	**07 21 50.8**	**-0.4**
JAR				*e*S	**Sn**	**07 22 11.9**	**+0.7**
ASAJ	**Asahikawa**	**2.63**	**339**	P	**Pn**	**07 22 08.2**	**+3.4**
	4.9nm,0.3s,baz=200,slow=10,SNR=9.6						
ASAJ				S	**Sn**	**07 22 48.1**	**+12**
	4.3nm,0.3s,baz=30,slow=31,SNR=3.5						
ASAJ				LR	LR	07 23 34.4	
	comp=Z,416nm,19.1s,baz=139,slow=48						
YSS	**Yuzh-Sakhalins**	**5.35**	**352**	*e*P	**Pn**	**07 22 42.8**	**+0.5**
MJAR	**Matsushiro Arr**	**6.76**	**223**	P	**Pn**	**07 23 01.0**	**-0.7**
	0.5nm,0.3s,baz=33,slow=13,SNR=15						
MAJO	**Matsushiro**	**6.76**	**223**	*e*P	**Pn**	**07 23 02.5**	**+0.9**
	5.4nm,0.6s						
MAJO	**Matsushiro**	**6.76**	**223**	*e*P	**Pn**	**07 23 02.5**	**+0.9**
MAJO				pmax	pmax		
	comp=Z,5.0nm,0.6s						
MAT	**Matsushiro**	**6.76**	**223**	P	**Pn**	**07 23 02.1**	**+0.5**
MAT				S	**Sn**	**07 24 21.9**	**+4.3**
JHJ	**Hachijo jima 2**	**9.13**	**202**	LR	LR	07 26 46.0	
	comp=Z,75nm,21.6s,baz=87,slow=36						
HABR	**Khabarovsk**	**9.24**	**320**	*e*P	**Pn**	**07 23 26.5**	**-9.1**
KLR	**Kul'dur**	**11.39**	**316**	*e*P	**Pn**	**07 24 05.0**	**0.0**
KSRS	**Korea Array**	**13.01**	**256**	LR	LR	07 29 06.3	
	comp=Z,70nm,20.2s,baz=65,slow=36						
JNU	**Nakatsue**	**13.39**	**235**	LR	LR	07 30 06.5	
	comp=Z,77nm,18.8s,baz=72,slow=39						
SEY	**Seymchan**	**21.89**	**10**	*e*P	**P**	**07 26 20.8**	**+6.1**
ULN	**Ulaanbaatar**	**26.69**	**296**	*e*P	**P**	**07 26 58.8**	**-2.0**
SONM	**Songino Array**	**27.13**	**296**	P	**P**	**07 27 04.0**	**-0.8**
	comp=Z,1.1nm,0.8s,mb3.4,baz=79,slow=8.9,SNR=8.7						
SONM				LR	LR	07 38 48.8	
	comp=Z,73nm,18.8s,baz=148,slow=38						
ZAK	**Zakamensk**	**29.20**	**301**	*e*P	**P**	**07 27 23.4**	**+0.2**
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.2s,mb3.7						
ZALV	**Zalesovo Beam**	**40.37**	**308**	P	**P**	**07 28 57.8**	**-1.6**
	comp=Z,1.2nm,0.5s,mb3.9,baz=85,slow=7.9,SNR=5.8						
ZAL	**Zalesovo**	**40.39**	**308**	P	**P**	**07 28 57.8**	**-1.7**
MK31	**Makanchi Array**	**43.44**	**298**	*e*P	**P**	**07 29 24.5**	**-0.1**
MKAR	**Makanchi Array**	**43.44**	**298**	*e*P	**P**	**07 29 24.5**	**0.0**
MKAR	**Makanchi Array**	**43.44**	**298**	P	**P**	**07 29 23.4**	**-1.1**
	comp=Z,1.3nm,0.7s,mb3.8,baz=81,slow=9.1,SNR=16						
KURK	**Kurchatov**	**44.72**	**305**	*e*P	**P**	**07 29 34.1**	**-0.6**
	comp=Z,3.5nm,0.8s,mb4.2						
KURK	**Kurchatov**	**44.72**	**305**	*e*P	**P**	**07 29 34.1**	**-0.6**
KURK				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.2						
GUN	**Gumba**	**48.72**	**273**	*e*P	**P**	**07 30 07.4**	**+1.0**
	comp=Z,21nm,0.7s						
TKM2	**Tokmak 2**	**49.23**	**296**	*e*P	**P**	**07 30 11.0**	**+0.9**
	comp=Z,2.3nm,0.8s,mb4.3						
TKM2	**Tokmak 2**	**49.23**	**296**	*e*P	**P**	**07 30 11.0**	**+0.9**
TKM2				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.2						
KKN	**Kakani**	**49.24**	**273**	*e*P	**P**	**07 30 11.6**	**+1.3**
INK	**Inuvik**	**49.41**	**29**	P	**P**	**07 30 11.9**	**+0.9**
	comp=Z,0.7nm,0.5s,mb3.9,baz=279,slow=3.8,SNR=9.1						
DMN	**Daman**	**49.46**	**273**	*e*P	**P**	**07 30 13.0**	**+1.0**
DANN	**Dangsing**	**50.08**	**275**	*e*P	**P**	**07 30 17.7**	**+1.0**
	comp=Z,26nm,0.7s						
KOLN	**Koldanda**	**50.50**	**274**	*e*P	**P**	**07 30 20.9**	**+1.0**
YKA	**Yellowknife Ar**	**58.86**	**32**	P	**P**	**07 31 19.5**	**-0.5**
	comp=Z,0.1nm,0.6s,mb3.0,baz=296,slow=5.1,SNR=3.5						
WRA	**Warramunga Arr**	**61.93**	**190**	P	**P**	**07 31 39.5**	**-1.9**
	comp=Z,0.5nm,1.0s,mb3.6,baz=7.9,slow=6.8,SNR=2.7						
KIV	**Kislovodsk**	**69.33**	**311**	⇓*e*P	**P**	**07 32 30.4**	**+1.4**
KIV				*e*		07 32 41.7	
KIV				SS	SS	07 46 01.0	+1.1
KIV				pmax	pmax		
	comp=Z,13nm,1.5s,mb4.6						
AKASG	**Malin Array Be**	**71.80**	**323**	*e*P	**P**	**07 32 41.6**	**-2.3**
AKASG	**Malin Array Be**	**71.80**	**323**	P	**P**	**07 32 40.6**	**-3.4**
	comp=Z,0.8nm,0.5s,mb3.9,baz=40,slow=5.8,SNR=5.4						
TXAR	**Lajitas Array**	**85.81**	**54**	P	**P**	**07 34 01.6**	**+0.4**
	comp=Z,0.1nm,0.5s,mb3.3,baz=300,slow=7.2,SNR=2.7						

CASC 30 07:24:03.0±2.3, 838N×8283W, h2km±12km, MD4.0, 2C-1D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DVD	**David**	**0.38**	**81**	*e*S	Sg	07 24 16.9	+1.7
BAR1		**0.98**	**331**	*e*P	Pg	07 24 21.5	-0.4
BAR1				*e*S	Sg	07 24 34.1	-0.5
CNI	**Changuinola**	**1.08**	**17**	*e*P	Pg	07 24 23.8	+0.1
CNI				*e*S	Sg	07 24 39.7	+2.0
QCR	**Quepos**	**1.68**	**308**	⇓*e*P	Pn	07 24 32.3	-1.1
QCR				*e*S	Sn	07 24 54.9	-0.6
URSC	**Urasca**	**1.73**	**327**	⇑*i*P	Pn	07 24 33.5	-0.5
URSC				*e*S	Sn	07 24 58.1	+1.5
LCR2	**La Lucha 2**	**1.78**	**320**	*e*P	Pn	07 24 35.0	+0.2
LCR2				*e*S	Sn	07 24 59.9	+1.8
LAJ	**Bijagual**	**1.95**	**319**	*e*P	Pn	07 24 38.8	+1.7
LAJ				*e*S	Sn	07 25 09.9	+7.7
PRS1	**Puriscal**	**2.17**	**318**	*e*P	Pn	07 24 40.3	+0.2
PRS1				*e*S	Sn	07 25 08.6	+1.2
CGA2	**Cerro Gallo 2**	**2.29**	**315**	*e*P	Pn	07 24 43.1	+1.3
CGA2				*e*S	Sn	07 25 12.7	+2.1
PTP	**Ponta Puerca**	**19.39**	**58**	⇑*i*P		07 24 07.3	

JMA 30 07:29:17.4, 3731N×13676E, h10km±1km, M2.5, Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JJH	**Hakui**	**0.39**	**177**	P	Pg	07 29 25.1	+0.1
JJH				S	Sg	07 29 30.8	+0.7
JSZ	**Suzu**	**0.50**	**74**	P	Pg	07 29 26.9	-0.2
JSZ				S	Sg	07 29 33.8	+0.1
MAT	**Matsushiro**	**1.39**	**123**	P	Pn	07 29 42.2	-0.6
MAT				S	Sb	07 30 01.2	0.0

ISCJB ***30*** *07:49:48.3±1.6, 206S±02×1684E±02, h37km, mb3.7/3, MS3.4/4, Error ellipse: s-maj=46.8km s-min=12.8km az=137.1*
IDC ***30*** *07:49:50.5±2.2, 2027S×16828E, h35km±8km, mb3.5/4, mb1 3.8/4, mb1mx3.6/13, mbtmp3.6/4, MS3.5/4, Ms1 3.5/4, ms1mx3.0/17, Error ellipse: s-maj=151.6km s-min=22.7km az=161.0*
ISC 30 07:49:49.7±1.7, 209S±03×1685E±03, h39km, h39km±1.2km: pP-P, n10, σ0§94/6, mb3.7/3, MS3.4/4, Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**2.29**	**238**	*e*P	**Pn**	**07 50 24.2**	**-0.7**
DZM				*e*S	**Sn**	**07 50 52.5**	**+0.6**
CTA	**Charters Tower**	**20.89**	**268**	P	**P**	**07 54 29.5**	**+0.8**
	4.5nm,1.0s,baz=96,slow=10,SNR=4.8						
CTA				LR	LR	08 01 47.0	
	comp=Z,90nm,20.0s,MS3.1,baz=228,slow=35						
WB2	**Warramunga Arr**	**32.02**	**266**	*e*P	pP	07 56 22.4	-1.1
WRA	**Warramunga Arr**	**32.03**	**266**	P	**P**	**07 56 11.9**	**-0.9**
	0.4nm,1.0s,mb3.2,baz=97,slow=8.5,SNR=3.2						
WRA				pP	pP	07 56 21.8	-1.8
	2.1nm,0.9s,baz=93,slow=9.4,SNR=16						
WRA				LR	LR	08 08 33.4	
	comp=Z,48nm,21.3s,MS3.1,baz=270,slow=35						
ASAR	**Alice Springs**	**32.13**	**258**	P	**P**	**07 56 13.3**	**-0.3**
	1.2nm,0.8s,mb3.8,baz=86,slow=9.2,SNR=11						
ASAR				pP	pP	07 56 24.3	-0.1
	9.8nm,0.8s,baz=82,slow=9.1,SNR=48						
PPT	**Papeete**	**39.61**	**93**	*e*LR	LR	08 08 27.8	
	73nm,23.5s						
FITZ	**Fitzroy Crossi**	**40.45**	**266**	*e*P	pP	07 57 35.8	+0.1
	8.4nm,0.9s						
FITZ	**Fitzroy Crossi**	**40.45**	**266**	LR	LR	08 11 55.7	
	comp=Z,51nm,19.9s,MS3.4,baz=17,slow=33						
NWAO	**Narrogin (SRO)**	**46.90**	**244**	LR	LR	08 17 12.3	
	comp=Z,143nm,20.0s,MS3.9,baz=16,slow=35						
NVAR	**Mina Array Bea**	**90.37**	**49**	P	**P**	**08 02 47.4**	**+0.5**
	0.5nm,0.6s,mb4.0,baz=222,slow=5.2,SNR=4.6						
NVAR				pP	pP	08 02 58.8	-0.1
	0.9nm,0.7s,baz=211,slow=6.6,SNR=5.7						

IDC ***30*** *08:10:29.5±19.0, 2013S×178.14W, h550km±236km, mb3.4/6, mb1 3.6/6, mb1mx3.3/14, mbtmp3.4/6, Error ellipse: s-maj=94.6km s-min=61.6km az=140.0*
ISCJB ***30*** *08:10:32.3±1.5, 202S±08×178.3W±04, h600km, mb3.9/7, Error ellipse: s-maj=107.5km s-min=17.7km az=157.2*
ISC 30 08:10:33.5±1.5, 202S±08×178.3W±04, h600km, n10, σ0§22/10, mb3.9/7, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**33.28**	**264**	*e*P	**P**	**08 16 23.3**	**+0.1**
	5.0nm,0.4s,mb4.5						
CTA	**Charters Tower**	**33.28**	**264**	P	**P**	**08 16 23.4**	**+0.3**
	5.9nm,0.4s,mb4.6,baz=88,slow=11,SNR=19						
STKA	**Stephens Creek**	**37.70**	**244**	*e*P	**P**	**08 16 59.5

σ0°76′/19, **mb3.3**/4, **Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**1.22**	**41**	*e*P	**Pn**	**09 05 29.2**	**+1.0**
CAPV				*e*S	**Sn**	**09 05 50.1**	**+0.7**
ROSC	**El Rosal**	**2.39**	**210**	P	**Pn**	**09 05 41.4**	**+0.4**
	29nm,0.3s,baz=294,slow=3.0,SNR=100						
ROSC				S	**Sn**	**09 06 11.6**	**-0.6**
	34nm,0.3s,baz=105,slow=20,SNR=5.8						
VIGV	**El Vigia**	**2.57**	**42**	*e*P	**Pn**	**09 05 42.9**	**-0.1**
VIGV				*e*S	**Sn**	**09 06 15.6**	**-0.2**
SOCV	**Socops**	**2.61**	**59**	*e*P	**Pn**	**09 05 43.7**	**+0.1**
SOCV				*e*S	**Sn**	**09 06 17.5**	**+0.8**
SDV	**Santo Domingo**	**3.13**	**52**	P	**Pn**	**09 05 50.6**	**+0.6**
	3.2nm,0.3s,baz=235,slow=2.4,SNR=22						
SDV				S	**Sn**	**09 06 28.9**	**+0.6**
	5.3nm,0.3s,baz=296,slow=19,SNR=14						
ELOV	**Elorza**	**3.60**	**89**	*e*P	**Pn**	**09 05 54.5**	**-1.5**
VIRV	**Villa del Rosa**	**3.61**	**11**	*e*P	**Pn**	**09 05 56.0**	**-0.2**
VIRV				*e*S	**Sn**	**09 06 37.8**	**-1.6**
SANV	**Sanarito**	**4.36**	**54**	*e*P	**Pn**	**09 06 04.5**	**-1.4**
CURV	**Curarigua**	**4.37**	**45**	*e*P	**Pn**	**09 06 05.7**	**-0.2**
TXAR	**Lajitas Array**	**36.39**	**312**	P	**P**	**09 11 50.6**	**+1.0**
	0.2nm,0.6s,mb3.0,baz=122,slow=9.7,SNR=3.8						
ULM	**Lac du Bonnet**	**47.18**	**340**	P	**P**	**09 13 16.6**	**-0.3**
	0.5nm,0.4s,mb3.5,baz=162,slow=9.6,SNR=2.9						
SCHQ	**Schefferville**	**48.03**	**5**	P	**P**	**09 13 23.8**	**+0.5**
	0.4nm,0.5s,mb3.3,baz=190,slow=12,SNR=3.8						
YKA	**Yellowknife Ar**	**63.16**	**340**	P	**P**	**09 15 11.2**	**+0.1**
	0.4nm,0.6s,mb3.5,baz=133,slow=6.6,SNR=21						
WRA	**Warramunga Arr**	**150.40**	**241**	PKPbc	PKPbc	09 24 33.1	-0.8
	0.1nm,0.4s,baz=104,slow=3.1,SNR=4.8						

*IDC **30** 09:07:55.9±1.1, 2007S×17601W, h0km, mb4.1/8, mb1 4.4/9, mb1mx4.2/16, mbtmp4.2/9, ML4.8/1, MS4.0/14, Ms1 4.0/14, ms1mx3.8/26, Error ellipse: s-maj=56.6km s-min=18.7km az=157.0*

*ISCJB **30** 09:07:58.7±0.7, 203S±02×1760W±01, h33km, mb4.2/10, MS4.0/13, Error ellipse: s-maj=32.4km s-min=12.6km az=170.2*

*NEIC **30** 09:08:01.1±5.0, 2033S×17592W, h43km±54km, mb4.8/4, Error ellipse: s-maj=66.4km s-min=12.9km az=164.0*

ISC 30 09:08:00.7±0.7, **203S**±02×**17594W**±010, **h35**km, **n35**, σ1°**06**/17, **mb4.2**/10, **MS4.0**/13, **Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAR	**Rarotonga**	**15.16**	**96**	Pn	**Pn**	**09 11 31.8**	**-0.4**
	4.2nm,0.3s,baz=27,slow=2.0,SNR=4.6						
URZ	**Urewera**	**18.93**	**197**	LR	LR	09 18 24.6	
	comp=Z,443nm,21.9s,baz=220,slow=33						
TBI	**Tubuai**	**24.77**	**102**	*e*LQ		09 18 23.5	
	978nm,26.5s						
TBI				*e*LR	LR	09 19 17.0	
	839nm,27.8s,baz=278						
PPT	**Papeete**	**25.08**	**88**	*e*LR	LR	09 19 30.8	
	2μm,27.0s,baz=255						
PPT	**Papeete**	**25.08**	**88**	LR	LR	09 21 06.8	
	comp=Z,374nm,21.3s,MS3.9,baz=263,slow=32						
HNR	**Honiara**	**25.63**	**291**	LR	LR	09 21 39.4	
	comp=Z,273nm,20.4s,MS3.8,baz=175,slow=32						
CTA	**Charters Tower**	**35.44**	**264**	P	**P**	**09 14 53.6**	**-0.2**
	7.4nm,0.8s,mb4.6,baz=95,slow=9.7,SNR=11						
CTA				LR	LR	09 27 42.8	
	comp=Z,601nm,19.8s,MS4.3,baz=80,slow=34						
CTAO	**Charters Tower**	**35.44**	**264**	*e*P	**P**	**09 14 54.0**	**+0.2**
	16nm,1.1s,mb4.9						
TAOE	**Nuku Hiva Isla**	**36.37**	**77**	*e*LR	LR	09 24 34.7	
	15μm,28.5s,baz=254						
RKT	**Rikitea**	**38.09**	**102**	*e*LR	LR	09 25 28.3	
	608nm,28.8s,baz=266						
STKA	**Stephens Creek**	**39.63**	**244**	*e*P	**P**	**09 15 34.2**	**+5.0**
	4.7nm,1.1s,mb4.1						
STKA	**Stephens Creek**	**39.63**	**244**	P	**P**	**09 15 31.4**	**+2.2**
	3.0nm,0.8s,mb4.1,baz=85,slow=16,SNR=5.8						
STKA				LR	LR	09 28 51.5	
	comp=Z,288nm,20.0s,MS4.1,baz=29,slow=32						
ASAR	**Alice Springs**	**46.45**	**256**	P	**P**	**09 16 24.2**	**-0.3**
	6.1nm,0.8s,mb4.6,baz=91,slow=8.9,SNR=37						
WB2	**Warramunga Arr**	**46.54**	**261**	*e*P	**P**	**09 16 25.1**	**-0.1**
WRA	**Warramunga Arr**	**46.55**	**261**	P	**P**	**09 16 24.3**	**-1.0**
	2.8nm,1.0s,mb4.1,baz=95,slow=7.5,SNR=16						
WRA				LR	LR	09 35 16.2	
	comp=Z,418nm,18.4s,MS4.4,baz=115,slow=35						
FITZ	**Fitzroy Crossi**	**54.97**	**262**	LR	LR	09 39 08.8	
	comp=Z,201nm,20.4s,MS4.2,baz=99,slow=34						
BATI	**Kupang**	**58.86**	**270**	LR	LR	09 43 34.8	
	comp=Z,296nm,18.8s,MS4.4,baz=142,slow=36						
MJAR	**Matsushiro Arr**	**71.18**	**322**	P	**P**	**09 19 16.9**	**+1.0**
MJAR	**Matsushiro Arr**	**71.18**	**322**	P	**P**	**09 19 16.9**	**+1.0**
	1.2nm,0.8s,mb3.9,baz=162,slow=5.7,SNR=4.3						
KSRS	**Korea Array**	**78.00**	**318**	LR	LR	09 47 04.4	
	comp=Z,39nm,20.4s,MS3.7,baz=130,slow=30						
NVAR	**Mina Array Bea**	**79.53**	**42**	P	**P**	**09 20 04.7**	**+0.8**
NVAR	**Mina Array Bea**	**79.53**	**42**	P	**P**	**09 20 04.7**	**+0.8**
	1.2nm,0.8s,mb3.9,baz=235,slow=12,SNR=8.3						
TXAR	**Lajitas Array**	**85.30**	**57**	P	**P**	**09 20 36.1**	**+1.9**
	1.4nm,1.0s,mb4.0,baz=221,slow=2.4,SNR=8.6						
TXAR				LR	LR	09 48 06.4	
	comp=Z,82nm,21.6s,MS4.1,baz=185,slow=28						
MCK	**McKinley**	**86.33**	**12**	*e*P	**P**	**09 20 37.4**	**-1.2**
	6.7nm,1.0s,mb4.8						
COLA	**College**	**87.57**	**12**	*e*P	**P**	**09 20 51.5**	**+6.9**
	6.0nm,1.1s,mb4.7						
CFAA	**Coronel Fontan**	**93.68**	**125**	LR	LR	09 54 29.5	
	comp=Z,6.5nm,18.3s,MS3.1,baz=66,slow=30						
NNA	**Nana**	**94.26**	**104**	LR	LR	09 52 23.8	
	comp=Z,74nm,21.8s,MS4.1,baz=325,slow=28						
ATAH	**Atahualpa**	**94.63**	**99**	LR	LR	09 55 51.9	
	comp=Z,71nm,19.4s,MS4.1,baz=313,slow=30						
YKA	**Yellowknife Ar**	**95.49**	**24**	P	**P**	**09 21 19.8**	**-1.6**
YKA				LR	LR	10 00 47.5	
YKA	**Yellowknife Ar**	**95.49**	**24**	P	**P**	**09 21 19.8**	**-1.6**
	0.2nm,0.9s,mb3.6,baz=246,slow=4.2,SNR=5.3						
YKA				LR	LR	10 00 47.5	
	comp=Z,32nm,18.1s,MS3.8,baz=200,slow=33						
CLL	**Collm**	**148.22**	**349**	P	pPKPdf	09 27 52.0	+1.1
CLL	**Collm**	**148.22**	**349**	*e*PKiKP	PKiKP	09 27 44.0	-0.5
CLL				*ep*PKPdf	pPKPdf	09 27 52.0	+1.1
	comp=Z,10.0nm,1.1s						
DPC	**Dobruska-Polom**	**148.43**	**345**	*e*PKPab	PKPab	09 27 44.9	-1.8
KHC	**Kasperske Hory**	**150.20**	**347**	*e*PKPab	PKPab	09 27 53.7	-0.2
GERES	**GERESS Array B**	**150.44**	**347**	PKPbc	PKPbc	09 27 47.0	-1.4
	comp=Z,1.3nm,0.9s,baz=264,slow=1.3,SNR=5.4						

IDC 30 09:46:31.4±4.2, **186N**×**9935E**, **h21**km±30km, **mb3.3**/3, **mb1 3.4**/3, **mb1mx3.2**/19, **mbtmp3.3**/3, **Error ellipse: s-maj=72.1km s-min=19.7km az=57.0, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**1.02**	**336**	Pg	Pb	09 46 49.0	-1.4
	25nm,0.3s,baz=153,slow=16,SNR=38						
PSI				Lg		09 47 01.0	
	46nm,0.3s,baz=39,slow=17,SNR=26						
WRA	**Warramunga Arr**	**40.59**	**124**	P	P	09 54 09.4	-0.4
	0.8nm,0.9s,baz=301,slow=9.1,SNR=9.9						
ASAR	**Alice Springs**	**42.11**	**129**	P	P	09 54 22.4	+0.1
	0.3nm,0.8s,baz=294,slow=6.7,SNR=3.5						
MKAR	**Makanchi Array**	**47.16**	**344**	P	P	09 55 02.5	+0.3
	0.5nm,0.7s,baz=152,slow=8.1,SNR=6.9						

*ISCJB **30** 09:49:30.6±1.3, 1096N±003×8801W±002, h20km±10km, mb4.1/15, MS3.4/2, Error ellipse: s-maj=5.3km s-min=3.1km az=7.2*

*CASC **30** 09:49:31.4±2.8, 1100N×8811W, h36km±999km, MD4.2, mb4.4(NEIC)*

*NEIC **30** 09:49:33.9±1.9, 1102N×8788W, h43km±17km, mb4.4/8, Error ellipse: s-maj=22.2km s-min=8.9km az=58.0*

*IDC **30** 09:49:34.8±2.9, 1109N×8782W, h48km±29km, mb3.8/8, mb1 4.0/11, mb1mx3.9/21, mbtmp3.8/11, ML3.7/3, MS3.4/2, Ms1 3.3/2, ms1mx2.7/27, Error ellipse: s-maj=32.1km s-min=13.6km az=56.0*

ISC 30 09:49:30.5±1.3, **1102N**±003×**8796W**±002, **h5**km±8km, **n146**, σ1°**05**/157, **mb4.1**/15, **MS3.4**/2, **43C-42D, Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COPN	**Copaltepe**	**1.77**	**49**	*e*P	**Pn**	**09 50 01.1**	**-0.6**
COPN				*e*S	**Sn**	**09 50 24.8**	**+0.2**
CRUN	**El Crucero**	**1.89**	**59**	*e*P	**Pn**	**09 50 03.3**	**-0.1**
CRUN				*e*S	**Sn**	**09 50 30.1**	**+2.5**
TEL3	**Telica 3**	**1.89**	**35**	⇓*e*P	**Pn**	**09 50 02.4**	**-1.0**
CSAN	**Telica 1**	**1.90**	**52**	*e*P	**Pn**	**09 50 03.5**	**-0.1**
TELN	**Telica**	**1.92**	**35**	⇓*e*P	**Pn**	**09 50 02.5**	**-1.4**
TELN				*e*S	**Sn**	**09 50 28.2**	**-0.2**
XAVN	**Gruta Xavier**	**1.96**	**55**	*e*P	**Pn**	**09 50 04.0**	**-0.3**
XAVN				*e*S	**Sn**	**09 50 30.7**	**+1.4**
MOMJ	**Momotombo**	**1.96**	**45**	*e*P	**Pn**	**09 50 03.7**	**-0.7**
MOMJ				*e*S	**Sn**	**09 50 30.7**	**+1.3**
TICN	**Ticuantepe**	**1.97**	**59**	⇓*e*P	**Pn**	**09 50 04.6**	**+0.1**
TICN				*e*S	**Sn**	**09 50 31.5**	**+1.9**
APYN	**Apoyeque**	**1.99**	**52**	*e*P	**Pn**	**09 50 04.3**	**-0.4**
APYN				*e*S	**Sn**	**09 50 31.0**	**+1.0**
TISN	**Laguna Tiscapa**	**2.00**	**56**	⇑*i*P	**Pn**	**09 50 04.7**	**-0.2**
TISN				*e*S	**Sn**	**09 50 31.3**	**+1.0**
MGAN	**Managua**	**2.02**	**56**	⇑*e*P	**Pn**	**09 50 04.8**	**-0.4**
MGAN				*e*S	**Sn**	**09 50 30.3**	**-0.5**
APON	**Apoyo**	**2.06**	**64**	⇑*e*P	**Pn**	**09 50 05.3**	**-0.4**
APON				*e*S	**Sn**	**09 50 32.4**	**+0.6**
SSNN	**San Juan del S**	**2.09**	**83**	⇓*e*P	**Pn**	**09 50 06.4**	**+0.2**
SSNN				*e*S	**Sn**	**09 50 32.9**	**+0.3**
HUEN		**2.19**	**53**	*e*P	**Pn**	**09 50 06.9**	**-0.6**
HUEN				*e*S	**Sn**	**09 50 35.0**	**+0.1**
CNCH	**Conchagua**	**2.25**	**3**	⇓*e*P	x	09 50 52.6	
CNCH				*e*S	x	09 51 18.7	
CONN	**Concepcion**	**2.35**	**77**	⇓*e*P	**Pn**	**09 50 09.7**	**-0.1**
VSM	**San Miguel**	**2.41**	**353**	*e*P	x	09 50 54.9	
VSM				*e*S	x	09 51 22.2	
MADN	**Villa Maderas**	**2.41**	**81**	*e*P	**Pn**	**09 50 11.5**	**+0.9**
BLLM	**Bellamira**	**2.42**	**354**	⇑*e*P	x	09 50 54.4	
BLLM				*e*S	x	09 51 21.6	
BOAB	**BOACO BROADBAN**	**2.66**	**58**	*e*P	**Pn**	**09 50 12.1**	**-1.9**
BOAB				*e*S	**Sn**	**09 50 45.9**	**-0.7**
SNVI	**San Vicente**	**2.71**	**342**	*e*P	x	09 50 59.0	
SNVI				*e*S	x	09 51 28.5	
CUI		**2.76**	**97**	⇓*i*P	**Pn**	**09 50 15.8**	**+0.4**
CUI				*e*S	**Sn**	**09 50 48.7**	**-0.4**
JCR	**Jicaral**	**3.04**	**112**	*e*P	**Pn**	**09 50 19.4**	**+0.2**
JCR				*e*S	**Sn**	**09 50 54.2**	**-1.7**
JTS	**JuntasAbangare**	**3.05**	**104**	P	**Pn**	**09 50 18.4**	**-0.9**
	35nm,0.3s,baz=318,slow=17,SNR=130						
JTS				S	**Sn**	**09 50 53.5**	**-2.6**
	36nm,0.3s,baz=270,slow=19,SNR=11						
TGUH	**Tegucigalpa,Un**	**3.09**	**12**	*e*Pn	**Pn**	**09 50 18.0**	**-2.0**
SNJE	**San Jose**	**3.25**	**331**	*e*P	x	09 51 06.5	
SNJE				*e*S	x	09 51 41.7	
CGA2	**Cerro Gallo 2**	**3.58**	**106**	*e*P	**Pn**	**09 50 28.1**	**+1.4**
CGA2				*e*S	**Sn**	**09 51 08.7**	**-0.7**
PRS1	**Puriscal**	**3.73**	**106**	*e*P	**Pn**	**09 50 29.7**	**+0.9**
PRS1				*e*S	**Sn**	**09 51 12.2**	**-1.0**
LAJ	**Bijagual**	**3.95**	**107**	*e*P	**Pn**	**09 50 27.6**	**-4.2**
QCR	**Quepos**	**4.06**	**113**	*e*P	**Pn**	**09 50 33.9**	**+0.6**
LCR2	**La Lucha 2**	**4.10**	**106**	⇓*e*P	**Pn**	**09 50 35.1**	**+1.3**
LCR2				*e*S	**Sn**	**09 51 21.8**	**-0.4**
URSC	**Urasca**	**4.28**	**106**	⇓*e*P	**Pn**	**09 50 38.3**	**+2.0**
URSC				*e*S	**Sn**	**09 51 28.0**	**+1.3**
BUS	**Buena Vista**	**4.39**	**109**	*e*P	**Pn**	**09 50 39.5**	**+1.7**
BAR1		**4.91**	**111**	⇑*i*P	**Pn**	**09 50 46.5**	**+1.5**
TEIG	**Tepich**	**9.16**	**358**	P	**Pn**	**09 51 44.1**	**+0.8**
	0.7nm,0.3s,baz=180,slow=19,SNR=5.2						
CHI2		**15.44**	**113**	*e*P	Px	09 50 01.3	
CHI2				*e*S	Sx	09 50 23.8	
SDV	**Santo Domingo**	**17.20**	**96**	P	**Pn**	**09 53 31.6**	**-0.1**
SDV	**Santo Domingo**	**17.20**	**96**	P	**Pn**	**09 53 31.6**	**-0.1**
	0.1nm,0.3s,baz=218,slow=2.3,SNR=4.1						
LRAL	**Lakeview Retre**	**21.93**	**2**	*e*P	**P**	**09 54 26.5**	**+1.7**
	5.3nm,0.9s,mb4.0						
GOGA	**Godfrey**	**22.66**	**10**	*e*P	**P**	**09 54 31.4**	**-1.2**
TXAR	**Lajitas Array**	**23.39**	**323**	P	**P**	**09 54 38.7**	**-1.7**
TXAR	**Lajitas Array**	**23.39**	**323**	P	**P**	**09 54 38.7**	**-1.6**
	3.2nm,0.9s,mb3.8,baz=141,slow=9.1,SNR=30						
MIAR	**Mount Ida**	**23.97**	**349**	*e*P	**P**	**09 54 44.7**	**-1.2**
	12nm,0.9s,mb4.3						
LHS	**Liberty Hill**	**24.25**	**15**	*e*P	**P**	**09 54 56.8**	**+8.4**
CPCT	**Cooper Cave**	**24.52**	**7**	*e*P	**P**	**09 54 50.7**	**-0.2**
TKL	**Tuckaleechee C**	**24.82**	**8**	P	**P**	**09 54 52.8**	**-0.8**
	2.3nm,0.7s,mb3.8,baz=180,slow=13,SNR=5.4						
MNTX	**Cornudas Mount**	**26.13**	**325**	*e*P	**P**	**09 55 04.2**	**-1.4**
	23nm,2.3s,mb4.3						
AMTX	**Amarillo**	**26.84**	**334**	*e*P	**P**	**09 55 11.8**	**-0.2**
319A	**Douglas**	**28.27**	**319**	⇑P	**P**	**09 55 25.2**	**+0.4**
	baz=28						
219A	**White Tail Can**	**28.67**	**320**	⇓P	**P**	**09 55 27.9**	**-0.5**
	baz=28						
318A	**Bisbee**	**28.78**	**318**	⇓P	**P**	**09 55 29.5**	**+0.2**
	baz=29						
218A	**Dragoon**	**29.16**	**319**	⇓P	**P**	**09 55 33.3**	**+0.6**
	baz=29						
119A	**Ashpeak Ranch,**	**29.22**	**321**	⇓P	**P**	**09 55 33.6**	**+0.4**
	baz=29						
Z17A	**San Carlos Hig**	**30.30**	**321**	⇑P	**P**	**09 55 43.6**	**+0.8**
	baz=30						
Y18A	**Canyon Day Jun**	**30.35**	**322**	⇑P	**P**	**09 55 44.0**	**+0.8**
	baz=30,SNR=5.7						
X17A	**Forest Lakes**	**31.20**	**322**	⇓P	**P**	**09 55 51.7**	**+1.0**
	baz=31						
Y16A	**Circle Bar Ran**	**31.31**	**320**	⇓P	**P**	**09 55 52.6**	**+0.8**
	baz=31						
X16A	**Lo Mia Camp, P**	**31.64**	**321**	P	**P**	**09 55 55.4**	**+0.7**
	baz=32,SNR=7.3						
X15A	**Humboldt**	**32.18**	**320**	⇓P	**P**	**09 55 59.7**	**+0.3**
	baz=32						
Y14A	**Wickenburg**	**32.32**	**319**	⇑P	**P**	**09 56 00.4**	**-0.2**
	baz=32						
WUAZ	**Wupatki**	**32.34**	**323**	⇑P	**P**	**09 56 01.1**	**+0.3**
	baz=32						
X14A	**Yava**	**32.59**	**320**	⇑P	**P**	**09 56 02.9**	**-0.1**
	baz=32						
Y13A	**Salome**	**32.78**	**318**	⇓P	**P**	**09 56 05.0**	**+0.3**
	baz=33						
GLA	**Glamis**	**33.00**	**316**	⇓P	**P**	**09 56 07.1**	**+0.6**
	baz=33						
X13A	**Yucca**	**33.26**	**319**	⇑P	**P**	**09 56 08.9**	**0.0**
	baz=33						
PDMCI	**Parker Dam,Lak**	**33.28**	**318**	⇓P	**P**	**09 56 09.2**	**+0.1**
	baz=33						
ECSD	**EROS,Sioux Fal**	**33.44**	**349**	*e*P	**P**	**09 56 06.7**	**-3.6**
V14A	**Boquillas Ranc**	**33.47**	**321**	⇓P	**P**	**09 56 11.5**	**+0.9**
	baz=33,SNR=5.5						
LPAZ	**La Paz**	**33.48**	**144**	P	**P**	**09 56 09.8**	**-1.2**
	0.9nm,0.9s,mb3.7,baz=288,slow=8.7,SNR=3.6						
W13A	**Hualapai Mount**	**33.62**	**320**	⇑P	**P**	**09 56 12.2**	**+0.3**
	baz=34						
DVTC	**Desert V Tower**	**33.66**	**314**	⇑P	**P**	**09 56 13.7**	**+1.4**
	baz=34						
T15A	**Red Dirt Ranch**	**33.97**	**324**	⇓P	**P**	**09 56 14.2**	**-0.8**
	baz=34						
MONP	**Monument Peak**	**34.02**	**314**	⇓P	**P**	**09 56 17.9**	**+2.5**
	baz=34						
U14A	**Mt Trumbull**	**34.03**	**322**	⇑P	**P**	**09 56 15.6**	**+0.1**
	baz=34						
V13A	**Grand Canyon W**	**34.16**	**321**	⇑P	**P**	**09 56 17.2**	**+0.5**
	baz=34						
T14A	**Hurricane**	**34.41**	**323**	⇑P	**P**	**09 56 19.5**	**+0.8**
	baz=34						
PFO	**Pinyon Flat Ob**	**34.44**	**315**	⇑P	**P**	**09 56 21.4**	**+2.4**
	baz=34						
U13A	**Pakson Wash**	**34.51**	**321**	⇓P	**P**	**09 56 19.9**	**+0.2**
	baz=34						
GMRC	**Granite Mounta**	**34.57**	**318**	⇓P	**P**	**09 56 21.8**	**+1.6**
	baz=34						
V12A	**Nelson**	**34.62**	**320**	⇓P	**P**	**09 56 21.4**	**+0.7**
	baz=34						
T13A	**Saint George**	**34.87**	**322**	⇑P	**P**	**09 56 23.3**	**+0.5**
	baz=35						
S13A	**Holt Ranch, En**	**35.21**	**323**	⇑P	**P**	**09 56 26.6**	**+0.9**
	baz=35,SNR=6.5						
T11A	**Corn Creek, Al**	**35.81**	**321**	⇑P	**P**	**09 56 31.1**	**+0.2**
	baz=36						
S12A	**Delamar Landin**	**35.82**	**322**	⇓P	**P**	**09 56 31.6**	**+0.7**
	baz=36						
R12A	**Pony Springs,**	**36.15**	**323**	⇓P	**P**	**09 56 34.3**	**+0.6**
	baz=36,SNR=6.2						
Q13A	**Wheeler Ranch,**	**36.23**	**325**	⇑P	**P**	**09 56 35.4**	**+0.9**
	baz=36						
TPNV	**Topopah Spring**	**36.27**	**320**	*e*P	**P**	**09 56 36.3**	**+1.5**
	6.8nm,1.2s,mb4.5						
TPNV	**Topopah Spring**	**36.27**	**320**	⇓P	**P**	**09 56 36.2**	**+1.4**
	baz=36						
S11A	**Rachel**	**36.39**	**321**	⇑P	**P**	**09 56 36.7**	**+0.9**
	baz=36						
P13A	**Bates Ranch, G**	**36.57**	**325**	⇓P	**P**	**09 56 37.1**	**-0.2**
	baz=36						
R11A	**Troy Canyon, C**	**36.74**	**322**	⇓P	**P**	**09 56 39.4**	**+0.6**
	baz=36,SNR=6.0						
HWUT	**Hardware Ranch**	**36.84**	**330**	*e*P	**P**	**09 56 37.0**	**-2.6**
GRAC	**Grapevine Rang**	**37.01**	**319**	⇑P	**P**	**09 56 41.9**	**+0.8**
	baz=37						
S10A	**Tonopah Range,**	**37.09**	**321**	⇑P	**P**	**09 56 42.3**	**+0.6**
	baz=37,SNR=6.6						
Q11A	**Duckwater**	**37.11**	**323**	⇓P	**P**	**09 56 42.3**	**+0.4**
	baz=37						
R10A	**Warm Springs**	**37.14**	**322**	⇑P	**P**	**09 56 43.3**	**+1.1**
	baz=37						
S09A	**Goldfield**	**37.35**	**320**	⇓P	**P**	**09 56 44.1**	**+0.1**
	baz=37						
VES	**Vestal, Richgr**	**37.47**	**316**	⇓P	**P**	**09 56 46.1**	**+1.0**
	baz=37						
Q10A	**Clear Creek Ra**	**37.54**	**322**	⇑P	**P**	**09 56 46.4**	**+0.8**
	baz=37,SNR=5.8						
R09A	**Tonopah**	**37.58**	**321**	⇓P	**P**	**09 56 46.4**	**+0.5**
	baz=37,SNR=5.5						
AGMN	**Agassiz Refuge**	**37.74**	**351**	*e*P	**P**	**09 56 44.3**	**-2.9**
S08C	**White Mtn Res**	**37.82**	**319**	⇑P	**P**	**09 56 49.1**	**+1.1**
	baz=38						
SNOW	**Snow King Moun**	**37.88**	**333**	*e*P	**P**	**09 56 47.6**	**-0.8**
	7.3nm,1.1s,mb4.3						
HELL	**Mitchell Peak**	**37.90**	**318**	⇓P	**P**	**09 56 49.0**	**+0.3**
	baz=38						
LOHW	**Long Hollow**	**37.94**	**333**	*e*P	**P**	**09 56 48.4**	**-0.5**
TPAW	**Teton Pass**	**38.00**	**333**	*e*P	**P**	**09 56 50.5**	**+1.1**
	12nm,1.6s,mb4.4						
R08A	**Mina**	**38.29**	**320**	⇑P	**P**	**09 56 53.1**	**+1.2**
	baz=38						
K14A	**Jones Ranch, D**	**38.34**	**329**	⇑P	**P**	**09 56 50.8**	**-1.4**
	baz=38,SNR=5.5						
NVAR	**Mina Array Bea**	**38.46**	**320**	P	**P**	**09 56 53.5**	**+0.1**
	3.3nm,0.8s,mb4.1,baz=124,slow=8.7,SNR=25						
NVAR				PcP	PcP	09 59 05.8	-0.8
	0.5nm,0.7s,baz=133,slow=4.3,SNR=4.2						
Q08A	**Gabbs**	**38.49**	**321**	⇑P	**P**	**09 56 53.9**	**+0.3**
	baz=38,SNR=5.7						
RLMT	**Red Lodge**	**38.58**	**336**	*e*P	**P**	**09 56 53.0**	**-1.3**
O09A	**Fish Creek Ran**	**38.87**	**323**	⇓P	**P**	**09 56 57.3**	**+0.5**
	baz=39						
P08A	**Dixie Valley**	**39.10**	**322**	⇑P	**P**	**09 56 59.3**	**+0.6**
	baz=39						
R06C	**Coleville**	**39.24**	**320**	⇓P	**P**	**09 57 00.5**	**+0.6**
	baz=39						
N09A	**Rock Creek Ran**	**39.51**	**324**	⇓P	**P**	**09 57 02.1**	**-0.1**
	baz=39						
ULM	**Lac du Bonnet**	**39.65**	**352**	P	**P**	**09 57 00.8**	**-2.4**
	1.3nm,0.7s,mb3.8,baz=178,slow=7.5,SNR=4.2						
ULM				LR	LR	10 17 15.5	
	comp=Z,42nm,18.3s,MS3.3,baz=239,slow=42						
BOZ	**Bozeman (W)**	**39.99**	**334**	*e*P	**P**	**09 57 04.8**	**-1.3**
BOZ	**Bozeman (W)**	**39.99**	**334**	⇓P	**P**	**09 57 05.1**	**-1.0**
	baz=40						
L09A	**Wilkinson Ranc**	**40.35**	**325**	⇓P	**P**	**09 57 09.5**	**+0.4**
	baz=40						
O06A	**Flanigan**	**40.45**	**321**	⇑P	**P**	**09 57 10.1**	**+0.1**
	baz=40,SNR=7.4						
N06A	**Buffalo Meadow**	**40.80**	**322**	⇑P	**P**	**09 57 12.6**	**-0.3**
	baz=41						
M07A	**Soldier Meadow**	**40.80**	**323**	⇑P	**P**	**09 57 12.1**	**-0.8**
	baz=41						
K09A	**Rome**	**40.83**	**326**	⇓P	**P**	**09 57 12.9**	**-0.2**
	baz=40,SNR=6.5						
E15A	**Deer Lodge**	**41.04**	**334**	⇑P	**P**	**09 57 13.0**	**-1.7**
	baz=41						
ORV	**Oroville**	**41.14**	**320**	⇑P	**P**	**09 57 16.4**	**+0.7**
	baz=41						
EGMT	**Eagleton**	**41.17**	**338**	*e*P	**P**	**09 57 14.3**	**-1.4**
	8.6nm,1.1s,mb4.3						
K08A	**Mann Creek Ran**	**41.27**	**325**	P	**P**	**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DST	Dursunbey	1.59	61	*e*PN	Pn	09 56 55.8	-0.5
LOS	Limnos	1.73	309	*e*Pb	Pb	09 56 59.2	-0.8
KCT	Karacabey	1.84	40	*e*PN	Pn	09 56 59.8	+0.1
RKY	Sarkoy-Tekirda	1.85	8	*e*PN	Pn	09 56 59.7	-0.1
SART	Tekirdag	1.85	8	*i* P	Pn	09 56 59.6	-0.3
ENEZ	Enez	1.95	345	*e*PN	Pn	09 57 01.9	+0.8
APE	Apeiranthos	2.05	210	*e*Pn	Pn	09 57 01.2	-1.4
APE				*e*Sn	Sn	09 57 25.9	-2.1
APE	Apeiranthos	2.05	210	*e*PN	Pn	09 57 02.8	+0.2
APE	Apeiranthos	2.05	210	*e*Pn	Pn	09 57 01.2	-1.4
APE				*e*Sn	Sn	09 57 25.9	-2.1
YER	Yerkesik	2.07	146	*e*PN	Pn	09 57 03.2	+0.4
GDZ	Gediz	2.09	83	*i* P	Pn	09 57 06.9	+3.8
GDZ				*i* S	Sn	09 57 32.4	+3.6
ALN	Alexandroupoli	2.13	344	*e*Pn	Pn	09 57 03.8	+0.2
ALN				*e*Sn	Sn	09 57 30.8	+1.0
DAT	Datca	2.21	164	*e*PN	Pn	09 57 06.0	+1.3
RDO	Rodhopi	2.49	337	*e*PN	Pn	09 57 09.5	+0.9
IZI	Iznik	2.53	53	*e*PN	Pn	09 57 09.5	+0.3
YLV	Yalova	2.61	48	*e*PN	Pn	09 57 10.6	+0.4
GOLH	Golhisar	2.70	126	*i* P	Pn	09 57 12.4	+1.0
ARG	Arkhangelos	2.83	158	*e*PN	Pn	09 57 13.0	-0.3
TKTP	Tekketepe	2.87	105	*i* P	Pn	09 57 14.2	+0.5
TKTP				*i* P		09 57 14.2	
EDRB	Edirne	2.99	359	*e*PN	Pn	09 57 16.6	+1.1

*ISCJB **30** 10:12:01.5±1.5, 155S±06×1767W±03, h340km±21km, mb3.7/8, Error ellipse: s-maj=104.3km s-min=14.7km az=154.3*
*NEIC **30** 10:12:02.6±0.9, 1563S×17654W, h343km±13km, mb4.1/2, Error ellipse: s-maj=61.7km s-min=8.8km az=154.0*
*IDC **30** 10:12:03.8±11.0, 1561S×17661W, h351km±116km, mb3.4/7, mb1 3.7/7, mb1mx3.4/15, mbtmp3.4/7, Error ellipse: s-maj=107.2km s-min=23.8km az=156.0*

ISC 30 10:12:02.6±1.5, 156S±06×1766W±03, h338km±21km, n15, σ0$40/13, mb3.7/8, 1D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	4.95	70	*e*Pn	Pn	10 13 21.1	0.0
STKA	Stephens Creek	41.28	239	P	P	10 19 16.2	+0.1
	1.3nm,0.4s,mb3.5,baz=114,slow=12,SNR=4.6						
WB2	Warramunga Arr	46.80	257	⇓*i*P	P	10 19 59.1	-0.5
WRA	Warramunga Arr	46.81	257	P	P	10 19 59.4	-0.4
	3.0nm,0.6s,mb3.7,baz=90,slow=6.9,SNR=68						
ASAR	Alice Springs	47.13	252	P	P	10 20 01.9	-0.2
	10nm,0.5s,mb4.3,baz=89,slow=7.8,SNR=377						
KAKA	Kakadu	49.43	267	*e*P	P	10 20 20.5	+0.9
	3.5nm,0.3s,mb4.1						
FITZ	Fitzroy Crossi	55.16	259	*e*P	P	10 21 01.9	+0.5
	2.5nm,0.4s,mb3.9						
FITZ	Fitzroy Crossi	55.16	259	P	P	10 21 01.4	0.0
	1.8nm,0.6s,mb3.6,baz=99,slow=8.6,SNR=3.7						
NVAR	Mina Array Bea	76.57	43	P	P	10 23 16.8	+0.4
	1.6nm,0.7s,mb3.9,baz=231,slow=9.9,SNR=15						
PV10	Paradox Valley	82.88	47	*e*P	P	10 23 50.0	0.0
PV01	Paradox Valley	83.11	47	*e*P	P	10 23 51.0	-0.2
TXAR	Lajitas Array	83.29	57	P	P	10 23 52.5	+0.2
	0.5nm,0.8s,mb3.4,baz=206,slow=4.8,SNR=7.4						
YKA	Yellowknife Ar	91.53	24	P	P	10 24 30.3	-0.6
	0.2nm,0.6s,mb3.2,baz=239,slow=4.6,SNR=5.4						
ARCES	ARCESS Array B	124.37	351	PKP	PKPdf	10 30 19.9	-1.0
	0.9nm,0.5s,baz=329,slow=2.1,SNR=9.2						
GERES	GERESS Array B	145.81	348	PKPbc	PKPbc	10 31 02.0	-0.3
	0.6nm,0.5s,baz=45,slow=4.4,SNR=3.7						

NNC 30 10:22:43.6±2.2, 4995N×8751E, h0km, mb3.8, mpv3.4, 8C-1D, Error ellipse: s-maj=19.9km s-min=10.8km az=51.0, Kazakhstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MK31	Makanchi Array	4.70	230	⇑Pn	Pn	10 23 55.5	-0.1
	2.2nm,0.4s,baz=54,slow=9.8,SNR=120						
MK31				⇑Pg	Pg	10 24 10.4	-3.1
	3.9nm,0.5s,baz=53,slow=16,SNR=5.1						
MK31				⇑Lg		10 25 11.5	
	4.5nm,0.3s						
KURK	Kurchatov	5.75	281	⇑Pn	Pn	10 24 10.0	0.0
KURK				⇑Sn	Sn	10 25 17.8	+1.2
	13nm,0.6s						
KURK				⇑Lg		10 25 47.2	
	10nm,0.5s						
KURBB	Kurchatov Arra	5.80	280	⇑Pn	Pn	10 24 10.7	-0.1
	1.2nm,0.4s						
KURBB				⇑Sn	Sn	10 25 19.0	+1.1
	4.3nm,0.6s						
KURBB				⇓Lg		10 25 47.1	
	4.2nm,0.6s						

*IDC **30** 10:28:26.8±0.9, 148N×12645E, h0km, mb3.8/6, mb1 3.9/7, mb1mx3.8/17, mbtmp3.8/7, ML3.5/1, Error ellipse: s-maj=54.7km s-min=17.0km az=75.0*
*NEIC **30** 10:28:28.2±0.5, 149N×12639E, h10km, mb4.3/3, Error ellipse: s-maj=34.0km s-min=8.5km az=74.0*
*ISCJB **30** 10:28:29.9±0.6, 15N±01×1263E±03, h33km, mb3.9/8, Error ellipse: s-maj=41.9km s-min=10.7km az=163.4*

ISC 30 10:28:32.0±0.6, 14N±01×1264E±03, h35km, n13, σ0$57/12, mb3.9/8, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	19.41	182	*e*P	Pn	10 32 55.9	-0.6
	3.5nm,0.9s						
FITZ	Fitzroy Crossi	19.41	182	P	Pn	10 32 55.6	-1.0
	0.1nm,0.3s,baz=29,slow=10,SNR=5.1						
WRAB	Tennant Creek	22.61	160	*e*P	P	10 33 29.9	+0.1
	10.0nm,0.8s,mb4.3						
WRA	Warramunga Arr	22.62	160	P	P	10 33 29.8	0.0
	9.7nm,0.7s,mb4.3,baz=340,slow=11,SNR=88						
WB2	Warramunga Arr	22.62	160	*e*P	P	10 33 30.5	+0.6
ASAR	Alice Springs	25.99	164	P	P	10 34 01.6	+0.1
	1.1nm,0.6s,mb3.6,baz=344,slow=7.9,SNR=27						
MJAR	Matsushiro Arr	36.63	16	P	P	10 35 34.5	-0.6
	0.2nm,0.3s,mb3.4,baz=187,slow=9.6,SNR=4.9						
SONM	Songino Array	49.37	342	P	P	10 37 18.3	+0.4
	0.4nm,0.6s,mb3.6,baz=134,slow=6.4,SNR=5.1						
MKAR	Makanchi Array	59.25	326	P	P	10 38 29.2	-0.7
	0.6nm,0.6s,mb3.8,baz=121,slow=9.1,SNR=9.2						
KURK	Kurchatov	63.49	328	*e*P	P	10 38 58.0	-0.6
	3.0nm,0.6s,mb4.6						
AKTK	Aktyubinsk	75.24	322	P	P	10 40 11.9	+0.8
AKTO	Aktyubinsk	75.24	322	P	P	10 40 11.9	+0.8
	0.8nm,0.6s,mb3.8,baz=114,slow=12,SNR=3.2						
BFO	Black Forest	107.18	322	*e*PKP	PKiKP	10 46 53.3	-1.3

IDC 30 10:46:08.3±9.7, 2182N×14300E, h170km±92km, mb3.1/10, mb1 3.3/10, mb1mx3.2/21, mbtmp3.1/10, Error ellipse: s-maj=32.7km s-min=15.4km az=82.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSRS	Korea Array	20.32	323	P	P	10 50 32.3	+1.2
	1.0nm,0.7s,baz=146,slow=8.8,SNR=4.7						
SONM	Songino Array	39.14	320	P	P	10 53 18.1	-1.1
	0.3nm,0.5s,baz=130,slow=7.3,SNR=3.9						
WRA	Warramunga Arr	42.36	192	P	P	10 53 44.9	-1.0
	0.3nm,0.7s,baz=20,slow=8.8,SNR=2.4						
ASAR	Alice Springs	46.07	192	P	P	10 54 16.1	+0.8
	0.2nm,0.6s,baz=18,slow=7.1,SNR=3.1						
ZALV	Zalesovo Beam	54.01	322	P	P	10 55 13.6	-1.1
	1.1nm,0.7s,baz=111,slow=8.1,SNR=4.2						
MKAR	Makanchi Array	54.49	313	P	P	10 55 19.1	+0.8
	0.4nm,0.7s,baz=90,slow=7.2,SNR=3.1						
BVAR	Borovoye Array	62.47	319	P	P	10 56 13.9	+0.5
	0.8nm,0.5s,baz=99,slow=9.2,SNR=6.7						
INK	Inuvik	67.52	24	P	P	10 56 45.3	-0.5
	0.8nm,0.9s,baz=200,slow=0.7,SNR=4.4						
YKA	Yellowknife Ar	76.42	28	P	P	10 57 38.6	-0.1
	0.5nm,0.4s,baz=292,slow=5.9,SNR=18						
NVAR	Mina Array Bea	83.20	51	P	P	10 58 17.0	+1.3
	0.5nm,0.7s,baz=276,slow=5.8,SNR=5.0						

IDC 30 11:09:46.9±1.5, 150N×12853E, h0km, mb3.4/4, mb1 3.6/4, mb1mx3.5/15, mbtmp3.4/4, MS4.2/1, Ms1 4.2/1, ms1mx2.9/16, Error ellipse: s-maj=122.4km s-min=21.3km az=71.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	22.06	165	P	P	11 14 42.1	-1.4
	1.4nm,0.8s,baz=344,slow=11,SNR=11						
ASAR	Alice Springs	25.56	169	P	P	11 15 18.8	+1.1
	0.4nm,0.5s,baz=344,slow=9.1,SNR=12						
SONM	Songino Array	49.97	341	P	P	11 18 41.9	-0.9
	0.1nm,0.3s,baz=157,slow=4.7,SNR=3.0						
RPZ	Rata Peaks	58.92	145	LR	LR	11 46 35.6	
	comp=Z,215nm,20.0s,baz=219,slow=38						
MKAR	Makanchi Array	60.40	325	P	P	11 19 59.1	+1.1
	0.2nm,0.3s,baz=119,slow=6.5,SNR=4.5						

*MOS **30** 11:19:20.6±1.0, 49.11N×156.18E, h5km, mb4.2/1, Error ellipse: s-maj=99.9km s-min=19.0km az=76.7*

KRSC 30 11:19:20.6±2.4, 4911N×15618E, h5km±5km, ML4.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	1.57	359	*e*PN	Pn	11 19 49.0	-0.2
SKR				*e*S	Sn	11 20 06.5	-3.4
SKR				pmax	pmax		
	comp=Z,60nm,0.5s						
SKR				smax			
	comp=N,160nm,0.3s						
SKR				smax			
	comp=E,310nm,0.3s						
SKR				smax			
	comp=Z,80nm,0.5s						
MIPR	Malaya Ipel'ka	3.19	6	P	Pn	11 20 11.6	+0.2
RUS	Russkaya	3.64	23	P	Pn	11 20 18.8	+1.2
RUS				*e*S	Sn	11 21 01.2	+0.3
PET	Petropavlovsk	4.22	21	S	Sn	11 21 15.9	+0.9
SDLR	Sedlovina	4.51	21	*e*P	Pn	11 20 31.0	+1.6
NLC	Nalytchevo	4.53	25	*e*S	Sn	11 21 21.5	-1.2
SPN	Mys Shipunski	4.67	30	P	Pn	11 20 33.3	+1.6
SPN				*e*S	Sn	11 21 26.6	+0.4
GNL	Ganaly	4.72	13	P	Pn	11 20 34.5	+2.1
MKZ	Mys Kozlova	6.45	30	P	Pn	11 20 56.5	+0.5
KBTR	Krutoberegovo	8.17	27	P	Pn	11 21 21.7	+2.0

*NEIC **30** 11:33:57.4±4.3, 3103S×17787W, h25km±28km, mb4.9/7, Error ellipse: s-maj=16.8km s-min=11.6km az=130.0*
*ISCJB **30** 11:33:58.1±0.6, 3136S±007×1783W±01, h33km, mb4.6/13, MS3.9/9, Error ellipse: s-maj=13.3km s-min=10.4km az=12.7*
*IDC **30** 11:34:03.1±1.8, 3102S×178.17W, h65km±15km, mb4.1/9, mb1 4.2/9, mb1mx4.1/15, mbtmp4.1/9, MS3.8/10, Ms1 3.8/10, ms1mx3.5/26, Error ellipse: s-maj=16.9km s-min=13.8km az=105.0*

ISC 30 11:34:00.2±0.6, 3154S±007×1782W±01, h35km, n63, σ1$37/43, mb4.6/13, MS3.9/9, 3C, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	2.29	7	*e*Pn	Pn	11 34 26.1	-9.5
RAO				S	Sn	11 34 53.2	-9.4
RAO				LR	LR	11 35 12.5	
RAO	Raoul Island	2.29	7	P	Pn	11 34 31.1	-4.5
	303nm,0.3s,baz=74,slow=21,SNR=16						
RAO				S	Sn	11 34 53.2	-9.4
	591nm,0.3s,baz=95,slow=20,SNR=9.1						
RAO				LR	LR	11 35 12.5	
	comp=Z,614nm,20.7s,baz=334,slow=39						
MWZ	Matawai	7.63	206	*e*P	Pn	11 35 46.6	-2.2
URZ	Urewera	7.72	208	P	Pn	11 35 48.4	-1.8
	1.4nm,0.3s,baz=104,slow=12,SNR=15						
URZ				S	Sn	11 37 18.2	+1.8
	8.0nm,0.3s,baz=214,slow=22,SNR=11						
OUZ	Omahuta	7.77	240	P	Pn	11 35 57.9	+7.1
BKZ	Black Stump Fm	8.75	208	*e*P	Pn	11 36 02.2	-2.0
BFZ	Birch Farm	10.16	205	*e*P	Pn	11 36 18.2	-5.3
CAW	Cannon Point	10.97	208	P	Pn	11 36 29.4	-5.3
NNZ	Nelson	11.79	213	*e*P	Pn	11 36 40.0	-5.8
KHZ	Kahutara	12.69	209	*e*P	Pn	11 36 52.5	-5.6
LTZ	Lake Taylor	13.53	211	*e*P	Pn	11 37 03.8	-5.8
RPZ	Rata Peaks	14.81	212	P	Pn	11 37 26.2	-0.9
	0.8nm,0.3s,baz=32,slow=2.0,SNR=4.8						
RPZ				S	Sx	11 39 57.3	
	1.4nm,0.3s,baz=106,slow=12,SNR=6.0						
RAR	Rarotonga	19.44	63	LR	LR	11 44 47.9	
	comp=Z,43nm,18.8s,baz=278,slow=34						
ARMA	Armidale	25.84	265	*e*P	P	11 39 32.2	+3.8
TBI	Tubuai	26.74	79	*e*LR	LR	11 46 16.5	
	244nm,27.2s						
PPT	Papeete	29.43	69	*e*LR	LR	11 47 28.5	
	184nm,26.0s						
HNR	Honiara	29.91	313	LR	LR	11 50 34.9	
	comp=Z,98nm,19.0s,MS3.5,baz=180,slow=34						
CTA	Charters Tower	33.81	281	⇑*i*P	P	11 40 40.9	+1.7
	17nm,0.6s,mb5.2						
CTA	Charters Tower	33.81	281	P	P	11 40 40.4	+1.3
	21nm,0.6s,mb5.2,baz=107,slow=10,SNR=48						
CTA				LR	LR	11 52 32.4	
	comp=Z,134nm,20.4s,MS3.7,baz=302,slow=33						
CTAO	Charters Tower	33.81	281	*e*P	P	11 40 40.8	+1.6
	21nm,0.8s,mb5.1						
STKA	Stephens Creek	34.05	259	*e*P	P	11 40 43.3	+2.1
	7.2nm,0.8s,mb4.7						
STKA	Stephens Creek	34.05	259	P	P	11 40 43.3	+2.1
	6.9nm,0.6s,mb4.8,baz=92,slow=8.9,SNR=19						
STKA				LR	LR	11 52 05.4	
	comp=Z,172nm,19.3s,MS3.8,baz=24,slow=32						
RKT	Rikitea	39.12	89	*e*LR	LR	11 51 49.4	
	212nm,30.5s						
ASAR	Alice Springs	42.87	268	P	P	11 41 56.0	+0.6
	20nm,0.7s,mb5.0,baz=105,slow=7.7,SNR=389						
WB2	Warramunga Arr	43.95	273	*e*P	P	11 42 04.3	+0.2
WRAB	Tennant Creek	43.96	273	*e*P	P	11 42 04.4	+0.3
	29nm,0.7s,mb5.1						
WRA	Warramunga Arr	43.96	273	P	P	11 42 04.2	0.0
	41nm,0.8s,mb5.2,baz=111,slow=8.1,SNR=559						
WRA				S	S	11 48 30.4	-3.4
	0.3nm,0.8s,baz=113,slow=14,SNR=2.5						
WRA				LR	LR	11 59 49.3	
	comp=Z,125nm,19.3s,MS3.8,baz=160,slow=35						
FORT	Forrest	45.58	256	*e*P	P	11 42 17.1	+0.1
	7.1nm,0.6s,mb4.8						
VNDA	Vanda	46.95	186	P	P	11 42 29.8	+2.7
	0.4nm,0.2s,mb3.9,baz=36,slow=4.0,SNR=10.0						
KAKA	Kakadu	48.95	281	*e*P	P	11 42 42.4	-1.0
	3.9nm,0.3s,mb4.9						
FITZ	Fitzroy Crossi	52.18	271	*e*P	P	11 43 08.0	+0.3
	7.3nm,1.0s,mb4.6						
FITZ	Fitzroy Crossi	52.18	271	P	P	11 43 07.6	-0.1
	4.7nm,1.0s,mb4.4,baz=154,slow=6.4,SNR=12						
QSPA	South Pole Qui	58.58	180	P	P	11 43 55.8	+2.9
QSPA	South Pole Qui	58.58	180	P	P	11 43 55.8	+2.9
	5.0nm,0.6s,mb4.7,baz=29,slow=1.6,SNR=47						
SYO	Syowa Base	75.97	193	⇑*e*P	P	11 45 42.3	-0.8
SYO	Syowa Base	75.97	193	⇑*e*P	P	11 45 50.4	+7.3
SNAA	Sanae	77.03	179	*e* P	P	11 45 49.6	+0.5
SNAA				*e*		11 45 56.9	
SNAA				*e*		11 46 09.6	
SNAA				*e*		11 46 21.0	
VNA3	Neumayer Olymp	77.19	176	*e* P	P	11 45 50.5	+0.5
VNA3				*e* pP		11 45 58.3	-2.6
VNA3				*e*		11 46 11.2	
VNA2	Neumayer--Watz	77.62	177	*e* P	P	11 45 52.2	-0.2
VNA2				*e* pP		11 46 00.8	-2.5
VNA2				*e*		11 46 13.7	
VNA2				*e*		11 46 23.4	
VNA1	Neumayer--Stat	77.85	177	*e* P	P	11 46 01.2	+7.5
VNA1				*e*		11 46 15.2	
MJAR	Matsushiro Arr	79.07	326	P	P	11 45 58.5	-2.3
	0.4nm,0.5s,mb3.6,baz=158,slow=4.6,SNR=3.2						
JNU	Nakatsue	80.28	319	LR	LR	12 16 48.2	
	comp=Z,45nm,20.1s,MS3.8,baz=245,slow=32						
PLCA	Paso Flores	81.87	133	LR	LR	12 16 11.0	
	comp=Z,51nm,20.5s,MS3.9,baz=298,slow=31						
KSRS	Korea Array	85.09	320	P	P	11 46 28.4	-4.0
	0.3nm,0.3s,mb3.8,baz=136,slow=5.2,SNR=2.8						
LPIG	La Paz	85.29	58	LR	LR	12 17 05.3	
	comp=Z,103nm,20.1s,MS4.2,baz=64,slow=30						
PFO	Pinyon Flat Ob	87.11	47	LR	LR	12 19 42.7	
	comp=Z,100nm,19.0s,MS4.2,baz=79,slow=32						
NVAR	Mina Array Bea	89.20	43	P	P	11 46 51.6	-0.6
	1.2nm,0.9s,mb4.2,baz=210,slow=5.4,SNR=6.6						
ARUT	Antelope Range	91.68	46	*e*P	P	11 47 04.6	+0.8
TXAR	Lajitas Array	93.16	57	LR	LR	12 25 33.6	
	comp=Z,60nm,18.7s,MS4.1,baz=180,slow=33						
ELN	Prospectdale	113.71	60	*e*PKP	PKiKP	11 52 26.4	-8.5
MKAR	Makanchi Array	118.35	310	PKP	PKPdf	11 52 41.7	-1.9
	1.0nm,0.5s,baz=227,slow=1.7,SNR=17						
ZALV	Zalesovo Beam	118.75	318	PKP	PKPdf	11 52 41.8	-2.3
ZALV	Zalesovo Beam	118.75	318	PKP	PKPdf	11 52 41.8	-2.3
	0.7nm,0.3s,baz=318,slow=1.9,SNR=3.5						
KURK	Kurchatov	121.69	313	*e*PKPdf	PKPdf	11 52 47.8	-2.0
ARCES	ARCESS Array B	139.66	347	PKhKP		11 53 15.2	
	1.8nm,0.7s,baz=74,slow=2.7,SNR=18						
ARCES				PKP	PKPdf	11 53 21.7	-1.5
	6.3nm,1.1s,baz=29,slow=2.8,SNR=6.8						
JOF	Joensuu	143.40	338	*e*p	PKPdf	11 53 23.0	-7.1
	1.1nm,0.4s						
FIA1	FINESS Array S	146.14	339	*e*PKPdf	PKPdf	11 53 33.3	-1.6
FINES	FINESS Array B	146.14	339	PKPbc	PKPbc	11 53 34.0	-1.9
	17nm,0.6s,baz=54,slow=3.9,SNR=64						
NB2	NORSAR Subarra	149.84	351	PKP	PKPdf	11 53 43.8	+2.8
	comp=Z,6.2nm,0.7s,baz=16,slow=2.5						
NOA	NORSAR Array B	149.84	351	PKPbc	PKPbc	11 53 44.1	-1.7
	comp=Z,6.7nm,0.8s,baz=15,slow=4.2,SNR=19						
HFS	Hagfors	150.32	348	PKPbc	PKPbc	11 53 45.0	-2.0
	comp=Z,8.1nm,0.7s,baz=108,slow=3.3,SNR=11						
HFS				PKPab	PKPab	11 53 50.4	-2.9
	comp=Z,4.5nm,0.7s,baz=67,slow=5.0,SNR=14						
AKASG	Malin Array Be	152.08	321	PKPbc	PKPbc	11 53 49.6	-1.8
	comp=Z,3.9nm,0.4s,baz=48,slow=2.9,SNR=23						
AKASG				PKPab	PKPab	11 53 56.6	-4.3
	comp=Z,2.6nm,0.7s,baz=57,slow=2.7,SNR=6.9						
AKBB	Malin Array Si	152.08	321	*e*PKPbc	PKPbc	11 53 49.9	-1.4

IDC 30 11:36:16.1±2.0, 2197N×14320E, h0km, mb3.6/7, mb1 3.8/8, mb1mx3.7/20, mbtmp3.7/8, ML3.6/1, MS2.9/3, Ms1 2.9/3, ms1mx2.7/27, Error ellipse: s-maj=51.4km s-min=30.3km az=25.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	Chichi jima	5.19	350	Pn	Pn	11 37 36.1	+1.0
	5.4nm,0.3s,baz=286,slow=19,SNR=7.5						
CBIJ				Sn	Sn	11 38 37.3	+1.7
	3.4nm,0.3s,baz=306,slow=24,SNR=3.0						
GUMO	Guam	8.48	169	LR	LR	11 41 20.9	
	comp=Z,48nm,18.8s,baz=209,slow=36						
JOW	Kunigami	14.43	293	LR	LR	11 44 47.5	
	comp=Z,130nm,19.5s,baz=108,slow=36						
KSRS	Korea Array	20.31	323	P	P	11 40 54.2	+0.5
	0.5nm,0.5s,baz=144,slow=9.4,SNR=3.1						
ASAJ	Asahikawa	22.10	359	LR	LR	11 49 27.1	
	comp=Z,18nm,21.7s,baz=42,slow=36						
SONM	Songino Array	39.14	320	P	P	11 43 45.0	-0.4
	0.4nm,0.3s,baz=128,slow=5.8,SNR=4.8						
ZALV	Zalesovo Beam	54.01	322	P	P	11 45 41.2	-0.8
	0.4nm,0.3s,baz=106,slow=9.1,SNR=2.6						
MKAR	Makanchi Array	54.53	313	P	P	11 45 45.6	-0.3
	0.3nm,0.6s,baz=86,slow=9.3,SNR=4.2						
YKA	Yellowknife Ar	76.21	28	P	P	11 48 05.5	-0.5
	0.6nm,0.7s,baz=293,slow=5.8,SNR=9.4						
NVAR	Mina Array Bea	82.97	52	P	P	11 48 44.0	+0.7
	0.3nm,0.6s,baz=289,slow=5.6,SNR=3.0						
AKASG	Malin Array Be	87.30	324	P	P	11 49 06.5	+1.8
	0.1nm,0.4s,baz=56,slow=4.1,SNR=4.2						

*ISCJB **30** 11:53:41.8±5.5, 2192N±008×1430E±02, h30km±39km, mb3.4/7, Error ellipse: s-maj=36.0km s-min=13.4km az=176.4*
*IDC **30** 11:53:43.9±7.7, 2192N×143.13E, h33km±59km, mb3.2/8, mb1 3.5/10, mb1mx3.5/21, mbtmp3.4/10, ML3.4/2, Error ellipse: s-maj=33.8km s-min=18.8km az=88.0*

ISC 30 11:53:43.1±5.6, 2190N±008×1431E±02, h26km±40km, n10, σ0$69/11, mb3.4/7, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	Chichi jima	5.24	351	Pn	Pn	11 54 59.7	0.0
	3.2nm,0.3s,baz=149,slow=16,SNR=7.5						
CBIJ				Sn	Sn	11 55 59.4	+0.1
	1.5nm,0.3s,baz=285,slow=22,SNR=2.4						
MJAR	Matsushiro Arr	15.20	345	Pn	Pn	11 57 15.4	-0.5
	0.1nm,0.3s,baz=170,slow=14,SNR=3.7						
KSRS	Korea Array	20.32	323	P	P	11 58 18.3	+1.2
	1.0nm,0.7s,baz=142,slow=11,SNR=2.7						
SONM	Songino Array	39.15	320	P	P	12 01 07.6	-0.8
	0.4nm,0.8s,mb3.2,baz=121,slow=7.0,SNR=4.7						
WRA	Warramunga Arr	42.47	192	P	P	12 01 36.8	+0.8
	0.3nm,0.5s,mb3.2,baz=17,slow=9.0,SNR=5.8						
ASAR	Alice Springs	46.17	192	P	P	12 02 04.8	-0.9
	0.3nm,0.6s,mb3.4,baz=8.8,slow=8.4,SNR=7.4						
ZALV	Zalesovo Beam	54.02	322	P	P	12 03 04.2	-0.6
	0.4nm,0.3s,mb3.8,baz=122,slow=5.4,SNR=3.3						
MKAR	Makanchi Array	54.52	313	P	P	12 03 09.0	+0.4
	0.1nm,0.5s,mb3.1,baz=96,slow=9.3,SNR=2.5						
YKA	Yellowknife Ar	76.30	28	P	P	12 05 28.7	-0.6
	0.3nm,0.4s,mb3.5,baz=293,slow=5.8,SNR=8.3						
NVAR	Mina Array Bea	83.06	51	P	P	12 06 07.3	+0.8
	0.3nm,0.6s,mb3.5,baz=274,slow=7

MJAR Matsushiro Arr 72.38 325 P **P** **12 42 12.4 -1.2**
1.8nm,0.8s,mb3.6,baz=177,slow=5.5,SNR=7.3
KSRS Korea Array 78.75 320 P **P** **12 42 49.9 +0.7**
1.3nm,0.7s,mb3.7,baz=144,slow=5.0,SNR=4.5
NVAR Mina Array Bea 84.66 44 P **P** **12 43 19.4 -0.1**
0.2nm,0.5s,mb3.1,baz=214,slow=5.7,SNR=4.4
PLCA Paso Flores 87.75 134 P **P** **12 43 34.8 +0.2**
1.5nm,0.7s,mb3.8,baz=294,slow=3.0,SNR=2.9
TXAR Lajitas Array 90.21 58 P **P** **12 43 46.5 +0.4**
TXAR Lajitas Array 90.21 58 P **P** **12 43 46.5 +0.4**
1.3nm,0.8s,mb3.8,baz=215,slow=6.3,SNR=18
JCT Junction City 93.72 58 *eP* **P** **12 44 02.3 +0.1**
7.3nm,0.3s,mb5.2
MKAR Makanchi Array 112.67 313 PKiKP PKiKP 12 49 16.4 -2.4
0.5nm,0.4s,baz=228,slow=1.7,SNR=14
BVAR Borovoye Array 120.94 319 PKP PKPdf 12 49 32.6 -1.9
2.2nm,0.3s,baz=118,slow=2.1,SNR=15
KEV Kevo 131.79 348 *ep* PKPdf 12 49 51.2 -3.5
ARCES ARCESS Array B 132.25 348 PKP PKPdf 12 49 52.9 -2.6
ARCES SKPbc SKPbc 12 52 37.0 -3.1
ARCES ARCESS Array B 132.25 348 PKP PKPdf 12 49 52.9 -2.6
1.5nm,0.5s,baz=46,slow=2.3,SNR=23
ARCES SKPbc SKPbc 12 52 37.0 -3.1
2.9nm,0.9s,baz=42,slow=3.8,SNR=6.1
JOF Joensuu 136.15 340 *ep* PKPdf 12 49 58.5 -4.5
0.6nm,0.3s
FINES FINESS Array B 138.86 342 PKP PKPdf 12 50 05.7 -2.4
FINES SKPbc SKPbc 12 52 57.0 -3.6
FINES FINESS Array B 138.86 342 PKhKP 12 49 58.1
0.6nm,0.3s,baz=61,slow=4.3,SNR=7.1
FINES PKP PKPdf 12 50 05.7 -2.4
1.2nm,0.6s,baz=113,slow=2.4,SNR=5.7
FINES SKPbc SKPbc 12 52 57.0 -3.6
1.0nm,0.6s,baz=47,slow=3.4,SNR=5.6
NB2 NORSAR Subarra142.43 351 PKP PKPdf 12 50 09.0 -5.5
comp=Z,4.7nm,0.9s,baz=17,slow=3.6
NOA NORSAR Array B 142.43 351 PKhKP 12 50 08.9
comp=Z,2.3nm,0.8s,baz=17,slow=2.4,SNR=8.1
AKASG Malin Array Be 145.45 327 PKPbc PKPbc 12 50 19.1 -2.0
comp=Z,1.6nm,0.3s,baz=41,slow=3.5,SNR=14
KOLS Kolonicke sedl 149.94 331 *e*PKP PKPbc 12 50 32.5 -0.3
OJC Ojcow 149.98 335 *e*PX PKPbc 12 50 31.7 -1.2
UPC Upice 151.09 339 *e*PKPbc PKPbc 12 50 34.5 -1.0
DPC Dobruska-Polom 151.12 339 *e*PKPbc PKPbc 12 50 34.6 -0.9
CLL Collm 151.25 344⇓ *i*P PKPbc PKPbc 12 50 34.5 -1.3
CLL *e* 12 50 44.0
CLL Collm 151.25 344⇓ *i*PKPbc PKPbc 12 50 34.5 -1.3
comp=Z,13nm,0.8s
CLL *e*PKPab PKPab 12 50 44.0 -1.7
PVCC Panska Ves 151.52 341 *e*PKPbc PKPbc 12 50 35.9 -0.5
KHC Kasperske Hory 153.06 341 *e*PKPbc PKPbc 12 50 39.2 -0.7
GERES GERESS Array B 153.27 340 PKPbc PKPbc 12 50 38.6 -1.8
comp=Z,0.3nm,0.4s,baz=204,slow=2.2,SNR=3.4

MOS ***30*** *12:37:55.4±0.8, 720S×15625E, h41km, mb5.1/18, Error ellipse: s-maj=10.7km s-min=8.4km az=87.4*
BJI ***30*** *12:37:56.5, 726S×156.17E, h49km, mB5.0, mb4.9, Ms5.0, Msz4.4*
ISCJB ***30*** *12:37:57.6±1.4, 732S±005×15627E±005, h62km±13km, mb5.1/75, Error ellipse: s-maj=8.6km s-min=7.5km az=137.8*
IDC ***30*** *12:37:57.6±1.7, 729S×15625E, h48km±16km, mb4.6/19, mb1 4.7/20, mb1mx4.7/21, mbtmp4.6/20, ML4.8/1, MS3.9/13, Ms1 3.9/13, ms1mx3.7/20, Error ellipse: s-maj=14.6km s-min=11.2km az=66.0*
NEIC ***30*** *12:37:58.1±0.2, 727S×15631E, mb5.0/27, Error ellipse: s-maj=7.2km s-min=5.1km az=110.0*
ISC 30 12:37:59.9±1.3, 735S±005×15630E±005, h69km±12km, h61km±2.9km: pP-P, n201, σ0°86/152, mb5.0/75, 4C-1D, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.16**	**120**	*e*Pn	**Pn**	**12 38 59.2**	**-1.7**
HNR	**Honiara**	**4.16**	**120**	P	**Pn**	**12 38 59.4**	**-1.6**
	53nm,0.3s,baz=253,slow=3.7,SNR=33						
HNR				S	**Sn**	**12 39 49.8**	**+1.4**
	111nm,0.3s,baz=268,slow=21,SNR=13						
HNR				LR	LR	12 40 36.1	
	comp=Z,1μm,21.6s,baz=354,slow=37						
COEN	**Coen**	**14.47**	**242**	*e*Pn	**Pn**	**12 41 22.3**	**+1.1**
CTA	**Charters Tower**	**15.98**	**217**	*e*P	**Pn**	**12 41 41.1**	**+0.6**
	3.5nm,0.7s						
CTA				*e*pP	pP	12 41 44.9	-12
CTA				*e*S	S	12 45 15.0	+28
CTA				*e*PCP	PcP	12 46 35.3	+1.0
CTA				*e*SCP	ScP	12 50 57.5	+55
CTA	**Charters Tower**	**15.98**	**217**	*e*P	**Pn**	**12 41 41.1**	**+0.6**
CTA				pmax	pmax		
	comp=Z,4.0nm,0.7s						
CTA	**Charters Tower**	**15.98**	**217**	P	**Pn**	**12 41 43.0**	**+2.6**
	comp=Z,0.7nm,0.3s,baz=39,slow=12,SNR=16						
CTA				LR	LR	12 47 11.7	
	comp=Z,521nm,18.6s,baz=40,slow=35						
CTAO	**Charters Tower**	**15.98**	**217**	*e*Pn	**Pn**	**12 41 40.3**	**-0.1**
	comp=Z,16nm,0.7s						
CTAO	**Charters Tower**	**15.98**	**217**	*e*P	**Pn**	**12 41 40.3**	**-0.2**
CTAO				pmax	pmax		
	comp=Z,16nm,0.7s						
EIDS	**Eidsvold**	**18.60**	**195**	*e*P	**Pn**	**12 42 12.1**	**-0.6**
	comp=Z,115nm,1.0s						
ARMA	**Armidale**	**23.37**	**190**	*e*P	**P**	**12 43 02.7**	**+0.3**
ARMA				*e*PCP	PcP	12 46 48.2	+0.8
KAKA	**Kakadu**	**24.08**	**255**	*e*P	**P**	**12 43 08.8**	**-0.3**
	comp=Z,257nm,0.6s,mb5.7						
WRAB	**Tennant Creek**	**24.68**	**237**	P	**P**	**12 43 15.0**	**+0.4**
	comp=Z,475nm,0.9s,mb5.9,SNR=28						
WRAB	**Tennant Creek**	**24.68**	**237**	*e*P	**P**	**12 43 14.5**	**-0.1**
	comp=Z,46nm,0.7s,mb5.0						
WRAB	**Tennant Creek**	**24.68**	**237**	*e*P	**P**	**12 43 14.5**	**-0.1**
WRAB				pmax	pmax		
	comp=Z,46nm,0.7s,mb5.0						
WB2	**Warramunga Arr**	**24.69**	**237**	*e*P	**P**	**12 43 14.9**	**+0.3**
WB2				*e*PCP	PcP	12 46 50.9	+0.5
WB2				*e*SCP	ScP	12 50 27.9	+4.4
WRA	**Warramunga Arr**	**24.70**	**237**	P	**P**	**12 43 15.1**	**+0.4**
WRA						12 46 50.7	
WRA	**Warramunga Arr**	**24.70**	**237**	P	**P**	**12 43 15.1**	**+0.4**
	comp=Z,60nm,0.7s,mb5.1,baz=63,slow=9.5,SNR=156						
WRA				PcP	PcP	12 46 50.7	+0.3
	comp=Z,3.4nm,0.6s,baz=66,slow=2.8,SNR=8.5						
WRA				ScP	ScP	12 50 27.4	+3.9
	comp=Z,1.4nm,0.8s,baz=60,slow=3.2,SNR=6.3						
WRA				LR	LR	12 52 49.8	
	comp=Z,464nm,18.0s,baz=60,slow=36						
ASAR	**Alice Springs**	**26.93**	**230**	P	**P**	**12 43 34.3**	**-0.5**
ASAR						12 46 55.3	
ASAR	**Alice Springs**	**26.93**	**230**	P	**P**	**12 43 34.3**	**-0.5**
	comp=Z,7.5nm,0.5s,mb4.5,baz=57,slow=9.8,SNR=63						
ASAR				PcP	PcP	12 46 55.3	-0.2
	comp=Z,3.4nm,0.8s,baz=54,slow=2.8,SNR=7.0						
ASAR				ScP	ScP	12 50 35.5	+5.6
	comp=Z,1.3nm,0.9s,baz=73,slow=2.5,SNR=5.9						
STKA	**Stephens Creek**	**27.99**	**207**	*e*P	**P**	**12 43 43.8**	**-0.5**
	comp=Z,7.6nm,0.7s,mb4.3						
STKA				*e*PCP	PcP	12 46 57.9	0.0
STKA				*e*SCP	ScP	12 50 37.6	+4.6
STKA	**Stephens Creek**	**27.99**	**207**	P	**P**	**12 43 44.2**	**-0.1**
	comp=Z,10nm,0.5s,mb4.6,baz=35,slow=12,SNR=17						
STKA				PcP	PcP	12 46 57.9	0.0
	comp=Z,11nm,0.7s,baz=41,slow=2.8,SNR=9.3						
STKA				ScP	ScP	12 50 36.7	+3.7
	comp=Z,2.7nm,0.7s,baz=278,slow=2.6,SNR=4.0						
STKA				LR	LR	12 54 39.3	
	comp=Z,466nm,20.2s,baz=23,slow=36						
CNB	**Canberra Magne**	**28.55**	**192**	*e*P	**P**	**12 43 49.3**	**+0.1**
	comp=Z,29nm,0.7s,mb5.0						
FITZ	**Fitzroy Crossi**	**31.70**	**247**	*e*P	**P**	**12 44 16.7**	**-0.6**
	comp=Z,44nm,0.8s,mb5.2						
FITZ	**Fitzroy Crossi**	**31.70**	**247**	LR	LR	12 56 52.9	
	comp=Z,187nm,21.3s,baz=72,slow=36						
FORT	**Forrest**	**35.24**	**225**	*e*P	**P**	**12 44 47.4**	**-0.5**
	comp=Z,60nm,0.7s,mb5.5						
URZ	**Urewera**	**36.08**	**152**	P	**P**	**12 44 54.4**	**-0.5**
	comp=Z,9.0nm,0.7s,mb4.8,baz=252,slow=6.4,SNR=4.4						
TAU	**Tasmania Unive**	**36.29**	**191**	*e*P	**P**	**12 44 57.4**	**+0.7**
	comp=Z,21nm,0.7s,mb5.2						
TAU	**Tasmania Unive**	**36.29**	**191**	*e*P	**P**	**12 44 57.4**	**+0.7**
TAU				pmax	pmax		
	comp=Z,21nm,0.7s,mb5.2						
MBWA	**Marble Bar**	**37.89**	**245**	*e*P	**P**	**12 45 10.2**	**-0.4**
	comp=Z,29nm,0.9s,mb5.1						
RPZ	**Rata Peaks**	**38.47**	**163**	P	**P**	**12 45 15.1**	**+0.1**
	comp=Z,47nm,0.8s,mb5.4,baz=336,slow=2.9,SNR=21						
KKM	**Kota Kinabalu**	**42.14**	**287**	*e*P	**P**	**12 45 45.6**	**-0.3**
KLBR	**Kellerberrin**	**43.26**	**231**	*e*P	**P**	**12 45 54.1**	**-0.6**
	comp=Z,65nm,0.5s,mb5.6						
JOW	**Kunigami**	**43.50**	**322**	LR	LR	13 00 39.1	
	comp=Z,180nm,19.6s,baz=114,slow=31						
NWAO	**Narrogin (SRO)**	**44.24**	**229**	*e*P	**P**	**12 46 02.7**	**+0.1**
	comp=Z,27nm,0.8s,mb5.0						
NWAO	**Narrogin (SRO)**	**44.24**	**229**	*e*P	**P**	**12 46 02.7**	**+0.1**
NWAO				pmax	pmax		
	comp=Z,27nm,0.8s						
NWAO	**Narrogin (SRO)**	**44.24**	**229**	P	**P**	**12 46 02.1**	**-0.4**
	comp=Z,32nm,0.7s,mb5.2,baz=51,slow=7.3,SNR=15						
MUN	**Mundaring**	**44.61**	**231**	*e*P	**P**	**12 46 04.9**	**-0.7**
KSM	**Kuching**	**46.71**	**279**	*e*P	**P**	**12 46 21.9**	**-0.5**
MJAR	**Matsushiro Arr**	**46.84**	**340**	P	**P**	**12 46 21.8**	**-1.2**
	comp=Z,1.9nm,0.7s,mb4.0,baz=165,slow=8.5,SNR=9.1						
MJAR				PcP	PcP	12 47 55.0	0.0
	comp=Z,1.8nm,0.7s,baz=158,slow=4.3,SNR=3.2						
MAJO	**Matsushiro**	**46.84**	**340**	*e*P	**P**	**12 46 20.3**	**-2.6**
MAT	**Matsushiro**	**46.84**	**340**	P	**P**	**12 46 21.9**	**-1.1**
JNU	**Nakatsue**	**46.94**	**330**	P	**P**	**12 46 23.5**	**-0.3**
	comp=Z,12nm,0.8s,mb4.7,baz=78,slow=11,SNR=8.5						
KSRS	**Korea Array**	**51.86**	**331**	P	**P**	**12 47 01.2**	**0.0**
	comp=Z,3.8nm,0.5s,mb4.7,baz=146,slow=7.2,SNR=16						
KSRS				PcP	PcP	12 48 14.0	+0.7
	comp=Z,1.8nm,0.7s,baz=166,slow=3.1,SNR=4.5						
KSRS				LR	LR	13 08 21.9	
	comp=Z,48nm,18.7s,baz=308,slow=35						
ASAJ	**Asahikawa**	**52.70**	**348**	P	**P**	**12 47 08.9**	**+1.6**
	comp=Z,2.5nm,0.5s,mb4.5,baz=216,slow=8.3,SNR=6.0						
NJ2	**Nanjing**	**53.01**	**320**	*e*P	**P**	**12 47 10.0**	**+0.1**
NJ2				AMB	AMB		
	comp=Z,40nm,1.0s,mb5.4						
PPT	**Papeete**	**53.66**	**106**	*e*LR	LR	13 03 06.1	
	comp=Z,120nm,24.0s						
PPT	**Papeete**	**53.66**	**106**	LR	LR	13 06 01.2	
	comp=Z,259nm,19.1s,baz=266,slow=31						
TBI	**Tubuai**	**54.35**	**113**	*e*LR	LR	13 03 21.8	
	comp=Z,221nm,30.5s						
YSS	**Yuzh-Sakhalins**	**55.38**	**349**	*e*P	**P**	**12 47 29.7**	**+2.9**
YSS				*e*	pP	12 47 49.4	+4.8
KULM	**Kulim**	**56.92**	**281**	*e*P	**P**	**12 47 37.7**	**-0.8**
MDJ	**Mudanjiang**	**57.05**	**338**	P	**P**	**12 47 38.3**	**-0.4**
MDJ				PP	PP	12 49 44.3	-2.0
MDJ				PCS	PcS	12 52 34.3	+0.5
MDJ				S	**S**	**12 55 33.0**	**+4.8**
MDJ				AMB	AMB		
	comp=Z,5.0nm,2.2s,mb4.2						
MDJ				AMB	AMB		
	comp=Z,18nm,3.5s						
CN2	**Changchun**	**58.06**	**334**	*e*P	**P**	**12 47 46.8**	**+0.9**
GYA	**Guiyang**	**58.69**	**307**⇑ *i*P		**P**	**12 47 51.5**	**+0.9**
GYA				PCP	PcP	12 48 42.5	+2.5
GYA				PP	PP	12 50 04.8	+3.6
GYA				S	**S**	**12 55 55.5**	**+5.1**
GYA				AMB	AMB		
	comp=Z,20nm,1.0s,mb5.1						
GYA				AMB	AMB		
	comp=Z,120nm,6.7s						
GYA				LR	LR		
	comp=N,520nm,19.9s						
GYA				LR	LR		
	comp=E,560nm,20.6s						
GYA				LR	LR		
	comp=Z,490nm,20.4s						
NST	**Nakhon Sawan**	**60.14**	**293**	P	**P**	**12 48 02.0**	**+1.3**
KLR	**Kul'dur**	**60.29**	**342**	*e*P	**P**	**12 48 06.8**	**+5.6**
NANT	**Nan**	**60.65**	**296**	⇑P	**P**	**12 48 04.3**	**+0.1**
	comp=Z,125nm,1.0s,mb5.9						
XAN	**Xi'an**	**60.85**	**316**	P	**P**	**12 48 05.0**	**-0.3**
XAN				AMB	AMB		
	comp=Z,6.0nm,0.5s,mb4.9						
KMI	**Kunming**	**61.28**	**304**	P	**P**	**12 48 09.8**	**+1.4**
KMI				PP	PP	12 50 26.5	+2.3
KMI				S	**S**	**12 56 28.5**	**+4.8**
KMI				SS	SS	13 00 28.8	+3.4
KMI				AMB	AMB		
	comp=Z,14nm,1.2s,mb4.9						
KMI				LR	LR		
	comp=Z,53nm,20.8s						
CHTO	**Chiang Mai**	**62.22**	**296**	*e*P	**P**	**12 48 15.1**	**+0.3**
CD2	**Chengdu**	**63.02**	**310**	*e*P	**P**	**12 48 21.0**	**+1.0**
CD2				PP	PP	12 50 41.0	+1.6
CD2				S	**S**	**12 56 49.3**	**+3.8**
CD2				AMB	AMB		
	comp=Z,40nm,0.8s,mb5.4						
CD2				AMB	AMB		
	comp=Z,80nm,5.8s						
CD2				LR	LR		
	comp=N,320nm,16.8s						
CD2				LR	LR		
	comp=Z,130nm,13.2s						
HHC	**Hu-ho-hao-te**	**63.14**	**323**	*e*P	**P**	**12 48 22.3**	**+1.8**
HHC				PP	PP	12 50 44.5	+4.2
HHC				PCS	PcS	12 53 02.5	+1.5
HHC				S	**S**	**12 56 50.8**	**+4.3**
HHC				SCS	ScS	12 58 09.8	+2.4
HHC				SS	SS	13 00 57.0	+3.1
HHC				AMB	AMB		
	comp=Z,14nm,0.5s,mb5.2						
HHC				AMB	AMB		
	comp=Z,88nm,4.5s						
HHC				LR	LR		
	comp=N,84nm,4.9s						
HHC				LR	LR		
	comp=E,114nm,4.3s						
HHC				LR	LR		
	comp=Z,88nm,9.8s						
LZH	**Lanzhou**	**65.47**	**315**	*e*P	**P**	**12 48 37.5**	**+1.6**
LZH				PP	PP	12 51 03.5	+2.7
LZH				*e*S	S	12 57 18.3	+2.8
LZH				AMB	AMB		
	comp=Z,26nm,1.2s,mb4.9						
LZH				AMB	AMB		
	comp=Z,90nm,4.0s						
LZH				LR	LR		
	comp=E,470nm,15.8s						
LZH				LR	LR		
	comp=Z,640nm,16.8s						
RKT	**Rikitea**	**67.61**	**112**	*e*LR	LR	13 09 27.2	
	comp=Z,283nm,30.2s						
IMP	**Imphal**	**68.58**	**300**	*e*P	**P**	**12 48 55.0**	**-0.8**
GTA	**Gaotai**	**69.88**	**317**	*e*P	**P**	**12 49 05.0**	**+1.4**
GTA				PP	PP	12 51 42.5	+3.4
GTA				PPP		12 53 23.0	
GTA				AMB	AMB		
	comp=Z,11nm,0.7s,mb4.8						
GTA				AMB	AMB		
	comp=Z,86nm,8.4s						
GTA				LR	LR		
	comp=N,62nm,15.2s						
GTA				LR	LR		
	comp=E,88nm,17.5s						
GTA				LR	LR		
	comp=Z,52nm,13.7s						
ULN	**Ulaanbaatar**	**69.99**	**327**	*e*P	**P**	**12 49 04.8**	**+0.8**
	comp=Z,11nm,1.0s,mb4.6						
ULN				*e*pP	pP	12 49 20.6	-1.8
ULN	**Ulaanbaatar**	**69.99**	**327**	*e*P	**P**	**12 49 04.8**	**+0.7**
ULN				*e*PP	pP	12 49 20.6	-1.9
ULN				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.6						
SEY	**Seymchan**	**70.14**	**358**	*e*P	**P**	**12 49 03.5**	**-1.1**
VNDA	**Vanda**	**70.20**	**179**	P	**P**	**12 49 05.9**	**+1.0**
	comp=Z,9.5nm,0.8s,mb4.7,baz=336,slow=6.2,SNR=49						
SONM	**Songino Array**	**70.33**	**327**	P	**P**	**12 49 06.9**	**+0.7**
	comp=Z,2.6nm,0.4s,mb4.4,baz=144,slow=8.4,SNR=30						
SONM				PKPPKP		13 17 07.0	
	comp=Z,0.6nm,0.9s,baz=318,slow=1.9,SNR=4.1						
SONM				LR	LR	13 17 22.8	
	comp=Z,59nm,20.6s,baz=100,slow=34						
SHL	**Shillong**	**70.58**	**300**	*e*P	**P**	**12 49 08.5**	**+0.3**
SBA	**Scott Base**	**70.69**	**178**	*e*P	**P**	**12 49 09.4**	**+1.5**
	comp=Z,12nm,0.9s,mb4.7						
SBA	**Scott Base**	**70.69**	**178**	*e*P	**P**	**12 49 09.4**	**+1.5**
SBA				pmax	pmax		
	comp=Z,12nm,0.9s,mb4.7						
YAK	**Yakutsk**	**72.18**	**347**	*e*P	**P**	**12 49 16.4**	**-0.5**
	comp=Z,8.6nm,0.6s,mb4.8						
YAK	**Yakutsk**	**72.18**	**347**	*e*P	**P**	**12 49 16.5**	**-0.5**
YAK				pmax	pmax		
	comp=Z,13nm,1.2s,mb4.6						
LSA	**Lhasa**	**72.54**	**304**	P	**P**	**12 49 21.0**	**+1.2**
LSA	**Lhasa**	**72.54**	**304**	*e*P	**P**	**12 49 21.0**	**+1.2**
	comp=Z,20nm,0.8s,mb5.0						
LSA	**Lhasa**	**72.54**	**304**	*e*P	**P**	**12 49 21.0**	**+1.2**
LSA				pmax	pmax		
	comp=Z,20nm,0.8s,mb5.0						
BOD	**Bodaibo**	**73.42**	**338**	*e*P	**P**	**12 49 23.8**	**-0.6**
BOD				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.5						
ZAK	**Zakamensk**	**73.47**	**328**	*e*P	**P**	**12 49 24.9**	**0.0**
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.4s,mb4.1						
TLY	**Talaya**	**74.02**	**329**	*e*P	**P**	**12 49 28.3**	**+0.2**
TLY				*e*S	S	12 58 58.6	+3.4
TLY				*e*		12 59 50.8	
TLY				*e*SS	SS	13 03 43.4	+2.0
TLY				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.2						
TLY				MLR	MLR		
	comp=Z,36nm,17.0s						
BOK	**Bokaro**	**75.31**	**297**	*e*P	**P**	**12 49 35.5**	**-0.6**
BOK				AMb	AMB	12 49 37.8	
	comp=Z,20nm,0.8s,mb4.9						
MOY	**Mondy**	**75.39**	**328**	*e*P	**P**	**12 49 36.6**	**+0.6**
BILL	**Bilibino**	**75.54**	**4**⇓ *e*P		**P**	**12 49 36.7**	**+0.2**
BILL				*e*		12 49 47.5	
BILL				*e*	pP	12 49 53.8	-1.3
BILL				pmax	pmax		
	comp=Z,5.0nm,1.2s,mb4.1						
JIRN	**Jiri**	**76.07**	**301**	*e*P	**P**	**12 49 41.0**	**+0.6**
	comp=Z,24nm,0.4s,mb5.3						
VIS	**Vishakhapatnam**	**76.20**	**290**	*e*P	**P**	**12 49 40.8**	**-0.5**
VIS				AMb	AMB	12 49 47.6	
	comp=Z,55nm,1.5s,mb5.1						
GUN	**Gumba**	**76.40**	**301**	*e*P	**P**	**12 49 43.0**	**+0.7**
	comp=Z,56nm,0.5s,mb5.6						
PKIN	**Phulchoki**	**76.72**	**300**	*e*P	**P**	**12 49 44.2**	**+0.1**
	comp=Z,22nm,0.5s,mb5.1						
KKN	**Kakani**	**76.88**	**301**	*e*P	**P**	**12 49 45.2**	**+0.2**
	comp=Z,41nm,0.5s,mb5.4						
DMN	**Daman**	**76.98**	**300**	*e*P	**P**	**12 49 46.1**	**+0.5**
	comp=Z,42nm,0.5s,mb5.5						
GKN	**Gorkha**	**77.49**	**301**	*e*P	**P**	**12 49 48.4**	**0.0**
	comp=Z,71nm,0.6s,mb5.6						
KOLN	**Koldanda**	**78.31**	**300**	*e*P	**P**	**12 49 52.9**	**-0.1**
	comp=Z,68nm,0.8s,mb5.4						
DANN	**Dangsing**	**78.33**	**301**	*e*P	**P**	**12 49 52.9**	**-0.1**
	comp=Z,46nm,0.6s,mb5.4						
WMQ	**Urumqi**	**79.96**	**317**	P	**P**	**12 50 02.5**	**+0.9**
WMQ				*e*S	S	13 00 04.0	+3.9
WMQ				AMB	AMB		
	comp=Z,11nm,0.8s,mb4.7						
WMQ				AMB	AMB		
	comp=Z,108nm,4.8s						
WMQ				LR	LR		
	comp=N,144nm,21.0s						
WMQ				LR	LR		
	comp=E,168nm,23.6s						
WMQ				LR	LR		
	comp=Z,156nm,19.2s						
KOD	**Kodaikanal**	**80.40**	**282**	*e*P	**P**	**12 50 04.9**	**+0.3**
KOD				AMb	AMB	12 50 10.5	
	comp=Z,20nm,1.8s,mb4.6						
PMR	**Palmer**	**80.59**	**23**	*e*P	**P**	**12 50 04.8**	**+0.1**
	comp=Z,3.9nm,0.8s,mb4.3						
PMR	**Palmer**	**80.59**	**23**	*e*P	**P**	**12 50 04.8**	**+0.2**
PMR				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.3						
HYB	**Hyderabad**	**80.60**	**289**	*i* P	**P**	**12 50 06.0**	**+0.4**
TRD	**Trivandrum**	**80.63**	**280**	*e*P	**P**	**12 50 05.5**	**-0.3**
TRD				AMb	AMB	12 50 06.8	
	comp=Z,24nm,0.5s,mb5.3						
TIXI	**Tiksi**	**80.89**	**352**	*e*P	**P**	**12 50 06.5**	**+0.5**
	comp=Z,14nm,1.5s,mb4.6						
TIXI	**Tiksi**	**80.89**	**352**	*e*P	**P**	**12 50 05.0**	**-1.0**
TIXI				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.1						
MCK	**McKinley**	**81.90**	**22**	*e*P	**P**	**12 50 11.3**	**-0.2**
	comp=Z,9.5nm,0.8s,mb4.7						
MCK	**McKinley**	**81.90**	**22**	*e*P	**P**	**12 50 11.3**	**-0.2**
MCK				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.7						
AKL	**Akola**	**82.64**	**292**	*e*P	**P**	**12 50 15.7**	**-0.6**
AKL				AMb	AMB	12 50 16.5	
	comp=Z,28nm,0.7s,mb5.2						
BHPL	**Bhopal**	**82.75**	**295**	*e*P	**P**	**12 50 15.6**	**-1.2**
BHPL				AMb	AMB	12 50 16.8	
	comp=Z,20nm,0.5s,mb5.2						
COLA	**College**	**82.94**	**21**	*e*P	**P**	**12 50 16.3**	**-0.6**
	comp=Z,3.3nm,0.8s,mb4.2						
COLA	**College**	**82.94**	**21**	*e*P	**P**	**12 50 16.3**	**-0.6**
COLA				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.2						
NDI	**New Delhi**	**84.00**	**300**	*e*P	**P**	**12 50 21.8**	**-1.4**
NDI				AMb	AMB	12 50 22.8	
	comp=Z,21nm,1.0s,mb4.9						
MK31	**Makanchi Array**	**84.52**	**318**	*e*P	**P**	**12 50 25.6**	**+0.2**
MK31				*e*pP	pP	12 50 41.6	-2.7
MK31	**Makanchi Array**	**84.52**	**318**	*i* P	**P**	**12 50 25.2**	**-0.2**
MK31				pmax	pmax		
	comp=Z,63nm,0.7s,mb5.7						
MKAR	**Makanchi Array**	**84.52**	**318**	P	**P**	**12 50 25.6**	**+0.2**
	comp=Z,54nm,0.7s,mb5.6,baz=103,slow=5.8,SNR=359						
MKAR				LR	LR	13 29 40.2	
	comp=Z,34nm,19.5s,baz=287,slow=37						
SMLA	**Simla**	**84.54**	**302**	*e*P	**P**	**12 50 24.8**	**-1.0**
SMLA				AMb	AMB	12 50 25.9	
	comp=Z,50nm,0.1s						
MAW	**Mawson**	**84.57**	**203**	*e*P	**P**	**12 50 25.7**	**+0.4**
	comp=Z,21nm,1.7s,mb4.8						
MAW	**Mawson**	**84.57**	**203**	*e*P	**P**	**12 50 25.7**	**+0.4**
MAW				pmax	pmax		
	comp=Z,21nm,1.7s						
MAW	**Mawson**	**84.57**	**203**	P	**P**	**12 50 25.7**	**+0.4**
	comp=Z,14nm,0.8s,mb4.9,baz=59,slow=8.8,SNR=8.5						
KAD	**Karad**	**84.69**	**288**	*e*P	**P**	**12 50 26.0**	**-0.9**
KAD				AMb	AMB

AAK Ala-Archa 88.93 313 P **P 12 50 47.3 +0.3**
SNR=10
USP Ospenovka 89.05 314 P **P 12 50 47.0 -0.4**
SNR=12
AML Almayashu 89.42 312 *e*P **P 12 50 49.1 -0.2**
comp=Z,8.3nm,0.8s,mb4.8
AML Almayashu 89.42 312 P **P 12 50 50.1 +0.8**
SNR=11
EKS2 Erkin-Say 89.46 313 *e*P **P 12 50 49.8 +0.4**
comp=Z,7.6nm,0.8s,mb4.8
EKS2 Erkin-Say 89.46 313 P **P 12 50 49.9 +0.5**
SNR=6.7
INK Inuvik 89.59 20 P **P 12 50 49.4 -0.1**
comp=Z,1.3nm,0.8s,mb4.1,baz=259,slow=7.6,SNR=2.9
NVAR Mina Array Bea 90.92 52 P **P 12 50 57.6 +1.3**
comp=Z,0.5nm,0.9s,baz=260,slow=5.4,SNR=3.1
SYO Syowa Base 92.42 199‖ *e*X **P 12 51 01.0 -1.7**
BVAR Borovoye Array 93.35 323 P **P 12 51 06.2 -1.0**
comp=Z,7.6nm,0.6s,mb5.2,baz=106,slow=5.2,SNR=29
ARUT Antelope Range 94.65 53 *e*P **P 12 51 14.4 +0.8**
YKA Yellowknife Ar 96.04 28 P **P 12 51 18.4 -0.9**
YKA PKKPbc PKKPbc 13 08 05.7 -3.9
YKA LR LR 13 32 36.4
YKA Yellowknife Ar 96.04 28 P **P 12 51 18.4 -0.9**
comp=Z,0.9nm,0.6s,mb4.4,baz=264,slow=4.9,SNR=23
YKA PKKPbc PKKPbc 13 08 05.7 -3.9
comp=Z,1.1nm,0.6s,baz=77,slow=2.8,SNR=24
YKA LR LR 13 32 36.4
comp=Z,26nm,18.3s,baz=65,slow=34
LPIG La Paz 96.04 67 LR LR 13 24 35.1
comp=Z,128nm,20.7s,baz=91,slow=29
PV10 Paradox Valley 98.16 52 *e*P **P 12 51 27.3 -2.2**
PV01 Paradox Valley 98.52 53 *e*P **P 12 51 32.2 +1.1**
AKTK Aktyubinsk 100.89 320 P Pdif 12 51 38.9 -2.5
AKTO Aktyubinsk 100.89 320 P Pdif 12 51 38.9 -2.5
comp=Z,1.2nm,0.7s,baz=83,slow=8.1,SNR=2.9
ARCES ARCESS Array B 110.29 344 PKPdf PKiKP 12 56 21.9 -1.6
ARCES ARCESS Array B 110.29 344 PKiKP PKiKP 12 56 21.9 -1.6
comp=Z,5.2nm,1.0s,baz=26,slow=2.4,SNR=8.9
KIV Kislovodsk 112.01 314 PKIKP PKiKP 12 56 25.0 -2.5
KIV pmax pmax
comp=Z,4.0nm,0.5s
FINES FINESS Array B 114.78 336 PKP PKiKP 12 56 31.1 -1.1
comp=Z,3.4nm,0.9s,baz=270,slow=34,SNR=3.0
PLCA Paso Flores 115.66 142 PKP PKPdf 12 56 34.7 0.0
PLCA Paso Flores 115.66 142 PKP PKPdf 12 56 34.7 +0.1
comp=Z,2.0nm,0.7s,baz=170,slow=3.4,SNR=5.9
AKASG Malin Array Be 118.57 325 PKP PKPdf 12 56 39.2 -0.6
AKASG Malin Array Be 118.57 325 PKP PKPdf 12 56 39.2 -0.6
comp=Z,2.0nm,0.5s,baz=66,slow=2.1,SNR=13
KMBO Kilima Mbogo 118.62 265 PKP PKPdf 12 56 41.0 -0.1
KMBO Kilima Mbogo 118.62 265 PKP PKPdf 12 56 41.0 -0.1
comp=Z,0.9nm,0.5s,baz=68,slow=5.4,SNR=5.5
NOA NORSAR Array B 120.45 341 PKP PKPdf 12 56 42.6 -0.6
comp=Z,0.3nm,0.4s,baz=75,slow=1.8,SNR=2.7
UPC Upice 125.80 330 *e*PKPdf PKPdf 12 56 55.0 +1.3
BRG Berggiesshubel 126.58 331 *e*PKPdf PKPdf 12 56 55.5 +0.3
CLL Collm 126.73 332 *e*PKPdf PKPdf 12 56 55.9 +0.4
CLL Collm 126.73 332 *e*PKPdf PKPdf 12 56 56.0 +0.5
TANN Tannenbergstha 127.58 332 *e*PKPdf PKPdf 12 56 55.8 -1.4
MOX Moxa 127.82 332 *e*PKPdf PKPdf 12 56 56.2 -1.4
KHC Kasperske Hory 127.89 330 *e*PKPdf PKPdf 12 56 58.0 +0.2
GEC2 GERESS Array S 128.01 329 *e*PKPdf PKPdf 12 56 55.9 -2.1
GERES GERESS Array B 128.01 329 PKP PKPdf 12 56 58.2 +0.2
comp=Z,2.1nm,0.7s,baz=90,slow=1.3,SNR=13
LPAZ La Paz 130.16 118 PKP PKPdf 12 57 04.0 +0.9
LPAZ La Paz 130.16 118 PKP PKPdf 12 57 04.0 +0.9
comp=Z,3.4nm,0.8s,baz=306,slow=4.1,SNR=13
CPUP Villa Florida 133.25 137 PKP PKPdf 12 57 08.2 -0.5
comp=Z,2.7nm,0.6s,baz=332,slow=1.5,SNR=7.8
ESDC Sonseca Array 143.26 334 P PKPdf 12 57 24.0 -2.6
ESDC Sonseca Array 143.26 334 PKhKP 12 57 23.3
comp=Z,0.9nm,0.5s,baz=38,slow=2.8,SNR=7.3
EVIA Vianos 143.44 332 P PKPdf 12 57 24.7 -2.2
PVIS Viseu 143.90 339 *e*PKP PKPdf 12 57 26.1 -1.6
EQES Quesada 144.37 331 P PKPdf 12 57 27.3 -1.3
EBAN Banos Encina 144.42 333 P PKPdf 12 57 27.7 -1.0
PCBR Castelo Branco 144.52 338 *e*PKP PKPdf 12 57 27.6 -1.2
ENIJ Nijar 144.61 330 P PKPdf 12 57 27.9 -1.2
EADA Adamuz 144.77 333 P PKPdf 12 57 28.7 -0.6
ECOG Cogollos-Vega 145.03 331 P PKPbc 12 57 28.7 -0.6
ELUQ Luque 145.13 332 P PKPbc 12 57 30.0 +0.5
ECAB El Cabril 145.22 334 P PKPbc 12 57 30.6 +0.8
ERON Agron 145.35 331 P PKPbc 12 57 29.5 -0.8
EGUA Guajares 145.38 331 P PKPbc 12 57 29.9 -0.5
ELOJ Sierra Loja 145.41 332 P PKPbc 12 57 30.1 -0.3
PBAR Barrancos 145.80 336 *e*PKP PKPdf 12 57 31.8 +0.7
EMIN Mina Concepcio 146.00 335 P PKPdf 12 57 32.7 +1.2
PBEJ Beja 146.26 337 *e*PKP PKPdf 12 57 33.5 +1.7
ESPR Espera 146.41 334 P PKPdf 12 57 34.0 +1.9
EJIF Jimena Fronter 146.59 333 P PKPbc 12 57 34.6 +0.6
BDFB Brasilia 146.81 134 PKPbc PKPbc 12 57 33.8 -1.4
comp=Z,0.5nm,0.3s,baz=205,slow=5.2,SNR=18
DBIC Dimbokro 161.28 269 PKP PKPdf 12 57 53.2 -0.4
DBIC PKPab PKPab 12 58 37.7 -0.1
DBIC Dimbokro 161.28 269 PKP PKPdf 12 57 53.2 -0.4
comp=Z,4.0nm,1.0s,baz=268,slow=5.0,SNR=3.8
DBIC PKPab PKPab 12 58 37.7 -0.1
comp=Z,12nm,0.5s,baz=83,slow=4.3,SNR=35

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*TEH **30** 12:43:57.3, 3302N×6032E, h3km, ML3.8*
*CSEM **30** 12:43:57.3, 3302N×6032E, h3km, ML3.8, After TEH*
*ISCJB **30** 12:44:52.5±0.7, 3303N±005×6024E±005, h10km, mb3.5/5, Error ellipse: s-maj=8.1km s-min=4.9km az=145.2*
*IDC **30** 12:44:54.2±2.2, 3319N×6054E, h0km, mb3.5/5, mb1 3.7/6, mb1mx3.5/22, mbtmp3.5/6, ML3.4/1, MS2.9/1, Ms1 2.9/1, ms1mx2.4/24, Error ellipse: s-maj=68.8km s-min=31.9km az=80.0*
ISC 30 12:44:54.0±0.7, 3303N±005×6021E±005, h10km, n19, σ1§07/21, mb3.5/5, 1C, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
IDAH	**Dahanechah**	**0.41**	**225**	*e*Sg		**Sg**	**12 45 07.3**	**-0.2**
IMON	**Monand**	**0.48**	**290**	*e*Pg		**Pg**	**12 45 02.6**	**-0.9**
IMON				*e*Sg		**Sg**	**12 45 10.2**	**+0.3**
IKOO	**Kooshah**	**1.18**	**240**↑	*e*Pg		**Pg**	**12 45 15.8**	**-0.9**
ITEG	**Tejag**	**1.24**	**264**	*e*Pg		**Pg**	**12 45 16.3**	**-1.5**
ITEG				*e*Sg		**Sg**	**12 45 34.9**	**+1.1**
IMOG	**Moghan**	**3.15**	**347**	*e*Pn		**Pn**	**12 45 43.8**	**+0.1**
IMOG				*e*			12 46 42.6	
comp=Z,2μm,0.3s
IMYA	**Miami**	**3.31**	**358**	*e*Pn		**Pn**	**12 45 45.1**	**-0.7**
IMYA				*e*			12 46 38.0	
comp=Z,4μm,0.3s
IPAY	**Payeh**	**3.56**	**344**	*e*Pn		**Pn**	**12 45 48.7**	**-0.5**
IPAY				*e*			12 45 52.7	
comp=Z,1μm,0.2s
IAKL	**Akhelmad**	**3.75**	**341**	*e*Pn		**Pn**	**12 45 53.2**	**+1.3**
IAKL				*e*			12 45 53.6	
comp=Z,4μm,0.2s
IKRD	**Kardeh**	**3.98**	**340**	*e*Pn		**Pn**	**12 45 52.0**	**-3.1**
IKRD				*e*			12 47 01.9	
comp=Z,1μm,0.3s
IBAF	**Bafgh**	**4.19**	**251**	*e*Pn		**Pn**	**12 45 58.2**	**+0.3**
IBAF				*e*			12 47 11.4	
comp=Z,1μm,0.5s
ISFR	**Sfrayin**	**4.40**	**336**	*e*Pn		**Pn**	**12 46 01.9**	**+1.1**
ISFR				*e*			12 46 27.2	
comp=Z,906nm,0.2s
IEMG	**Emamgholi**	**4.55**	**344**	*e*Pn		**Pn**	**12 46 04.2**	**+1.3**
IEMG				*e*			12 46 04.8	
comp=Z,606nm,0.2s
IMEH	**Mehriz**	**5.02**	**252**	*e*Pn		**Pn**	**12 46 17.7**	**+8.4**
IMEH				*e*			12 47 38.1	
comp=Z,586nm,0.5s
AKTO	**Aktyubinsk**	**17.47**	**355**	P		**Pn**	**12 48 56.5**	**-1.0**
comp=Z,0.1nm,0.3s,baz=180,slow=16,SNR=3.8
BVAR	**Borovoye Array**	**21.28**	**17**	P		**P**	**12 49 39.9**	**-0.6**
comp=Z,0.9nm,0.5s,mb3.4,baz=195,slow=10,SNR=6.2
BVAR LR LR 12 58 54.5
comp=Z,31nm,20.8s,baz=156,slow=40
MKAR	**Makanchi Array**	**21.72**	**44**	P		**P**	**12 49 43.8**	**-1.4**
comp=Z,0.5nm,0.6s,mb3.1,baz=231,slow=8.8,SNR=6.2
YKA	**Yellowknife Ar**	**84.72**	**359**	P		**P**	**12 57 29.1**	**+1.3**
comp=Z,0.1nm,0.7s,mb3.1,baz=356,slow=5.5,SNR=4.2
WRA	**Warramunga Arr**	**88.15**	**115**	P		**P**	**12 57 45.5**	**+0.2**
comp=Z,0.4nm,0.6s,mb3.8,baz=316,slow=4.2,SNR=4.6
ASAR	**Alice Springs**	**90.02**	**118**	P		**P**	**12 57 55.9**	**+1.9**
comp=Z,0.4nm,0.7s,mb3.9,baz=306,slow=5.7,SNR=4.7

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*IDC **30** 12:48:35.0±0.8, 099N×127.17E, h0km, mb3.9/8, mb1 4.0/9, mb1mx4.0/16, mbtmp3.9/9, ML3.2/1, Error ellipse: s-maj=49.6km s-min=15.8km az=78.0*
*ISCJB **30** 12:48:37.8±0.6, 097N×0.10×127.3E±03, h33km, mb4.0/10, Error ellipse: s-maj=38.3km s-min=9.8km az=164.7*
*NEIC **30** 12:48:37.7±0.5, 098N×12727E, h20km, mb4.0/3, Error ellipse: s-maj=36.8km s-min=8.9km az=74.0*
ISC 30 12:48:39.9±0.6, 095N×009×1273E±03, h35km, n19, σ0§95/18, mb4.0/10, Halmahera

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**14.51**	**159**	*e*P		**Pn**	**12 52 10.2**	**+7.4**
9.5nm,0.9s
FITZ	**Fitzroy Crossi**	**19.00**	**185**	*e*P		**Pn**	**12 52 57.1**	**-2.5**
9.9nm,2.0s
FITZ	**Fitzroy Crossi**	**19.00**	**185**	P		**Pn**	**12 52 57.7**	**-1.9**
0.1nm,0.3s,baz=184,slow=22,SNR=2.9
WRAB	**Tennant Creek**	**21.88**	**162**	*e*P		**P**	**12 53 29.9**	**-0.1**
14nm,1.0s,mb4.4
WRA	**Warramunga Arr**	**21.88**	**162**	P		**P**	**12 53 30.2**	**+0.3**
1.5nm,0.5s,mb3.7,baz=339,slow=11,SNR=21
WB2	**Warramunga Arr**	**21.89**	**162**	*e*P		**P**	**12 53 29.9**	**-0.1**
ASAR	**Alice Springs**	**25.30**	**166**	P		**P**	**12 54 04.6**	**+1.3**
3.3nm,0.7s,mb4.0,baz=346,slow=12,SNR=39
STKA	**Stephens Creek**	**35.35**	**159**	*e*P		**P**	**12 55 39.3**	**+7.1**
2.3nm,1.0s,mb4.1
STKA	**Stephens Creek**	**35.35**	**159**	P		**P**	**12 55 38.2**	**+6.1**
2.1nm,0.8s,mb4.1,baz=324,slow=15,SNR=3.1
KSRS	**Korea Array**	**36.33**	**1**	P		**P**	**12 55 41.0**	**+0.5**
1.4nm,0.7s,mb4.0,baz=180,slow=8.6,SNR=6.5
MJAR	**Matsushiro Arr**	**36.84**	**15**	P		**P**	**12 55 43.7**	**-1.1**
1.3nm,0.7s,mb3.9,baz=179,slow=10,SNR=6.3
SONM	**Songino Array**	**50.09**	**342**	P		**P**	**12 57 30.5**	**-0.9**
1.2nm,0.7s,mb4.0,baz=154,slow=9.2,SNR=8.5
MK31	**Makanchi Array**	**60.14**	**326**	*e*P		**P**	**12 58 43.2**	**-0.8**
MKAR	**Makanchi Array**	**60.14**	**326**	P		**P**	**12 58 43.1**	**-0.8**
1.3nm,0.4s,mb4.3,baz=119,slow=8.4,SNR=23
ZALV	**Zalesovo Beam**	**63.30**	**333**	P		**P**	**12 59 05.3**	**+0.2**
0.4nm,0.4s,mb3.9,baz=120,slow=5.2,SNR=3.3
AKTK	**Aktyubinsk**	**76.17**	**322**	P		**P**	**13 00 25.4**	**+1.0**
AKTO	**Aktyubinsk**	**76.17**	**322**	P		**P**	**13 00 25.4**	**+1.0**
0.5nm,0.3s,mb4.0,baz=72,slow=13,SNR=3.1
KWP	**Kalwaria**	**98.69**	**320**	*e*P		**P**	**13 02 17.0**	**+1.3**
54nm,0.6s
YKA	**Yellowknife Ar**	**101.79**	**25**	P		Pdif	13 02 30.6	+1.3
0.2nm,0.9s,baz=304,slow=4.4,SNR=3.2

CASC 30 13:10:41.1±2.2, 1319N×8927W, h53km±23km, MD3.9, ML2.9, 3C-8D, El Salvador

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
LFRS	**El Faro**	**0.48**	**25**	‖*i*P		x	13 10 52.5	
SNET	**Serv Nac Est T**	**0.50**	**4**	‖*e*P		x	13 10 52.3	
SNET				*e*S		x	13 11 01.3	
LCBS	**La Ceiba**	**0.54**	**31**	‖*i*P		x	13 10 53.2	
BOQS	**Boqueron**	**0.54**	**359**↑	*i*P		x	13 10 53.6	
BOQS				*e*S		x	13 11 03.8	
LFU	**La Fuente**	**0.58**	**15**↑	*e*P		x	13 10 54.1	
LFU				*e*S		x	13 11 04.9	
LBRS	**Las Brisas**	**0.59**	**22**	*e*P		x	13 10 53.8	
LBRS				‖*i*P		x	13 10 54.3	
SNVI	**San Vicente**	**0.59**	**45**	‖*i*P		x	13 10 53.8	
SNVI				*e*S		x	13 11 03.2	
SBLS	**San Blas**	**0.73**	**332**	‖*e*P		x	13 10 55.6	
SBLS				*e*S		x	13 11 09.9	
SNJE	**San Jose**	**0.75**	**334**	*e*P		x	13 10 56.0	
SNJE				*e*S		x	13 11 07.4	
VSM	**San Miguel**	**0.99**	**76**	*e*P		x	13 10 59.5	
VSM				*e*S		x	13 11 12.9	
RBDL	**Robledal**	**1.01**	**336**	‖*i*P		x	13 10 59.5	
RBDL				*e*S		x	13 11 13.8	
BLLM	**Bellamira**	**1.03**	**76**↑	*e*P		x	13 10 59.7	
BLLM				*e*S		x	13 11 14.2	
CAHU	**Cacacuatique**	**1.18**	**60**	‖*e*P		x	13 11 01.5	
CAHU				*e*P		x	13 11 01.6	
MTO2	**Montecristo 2**	**1.21**	**356**	*e*P		x	13 11 01.9	
CNCH	**Conchagua**	**1.40**	**86**	*e*P		x	13 11 04.4	
CNCH				*e*S		x	13 11 22.6	
TEL3	**Telica 3**	**2.44**	**104**	*e*P		Pn	13 11 19.0	+0.5
TEL3				*e*S		Sn	13 11 46.1	-1.0
TEL3				*i*			13 11 52.5	
comp=Z,87nm,0.4s
TELN	**Telica**	**2.44**	**103**	*e*P		Pn	13 11 18.0	-0.5
TELN				*e*S		Sn	13 11 47.8	+0.5
MOMJ	**Momotombo**	**2.77**	**106**	*e*P		Pn	13 11 24.1	+1.1
COPN	**Copaltepe**	**2.80**	**111**	*e*P		Pn	13 11 23.5	+0.1
COPN				*e*S		Sn	13 11 54.9	-1.0
CSAN		**2.95**	**109**	*e*P		Pn	13 11 26.5	+1.0
CRUN	**El Crucero**	**3.13**	**112**	*e*P		Pn	13 11 30.3	+2.3
TICN	**Ticuantepe**	**3.18**	**111**	*e*P		Pn	13 11 30.6	+1.9
CHI2		**17.52**	**118**	*e*P			13 11 16.9	

IDC 30 13:15:39.0±2.9, 2149N×14406E, h0km, mb3.3/3, mb1 3.6/3, mb1mx3.3/19, mbtmp3.3/3, Error ellipse: s-maj=424.8km s-min=31.6km az=109.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**42.26**	**194**	P		P	13 23 34.0	-0.2
0.6nm,1.0s,baz=16,slow=8.8,SNR=3.5
ASAR	**Alice Springs**	**45.96**	**193**	P		P	13 24 04.0	+0.1
0.2nm,0.7s,baz=13,slow=8.5,SNR=6.3
YKA	**Yellowknife Ar**	**76.25**	**28**	P		P	13 27 29.3	+0.1
0.2nm,0.4s,baz=292,slow=5.8,SNR=4.0

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*MOS **30** 13:30:26.8±1.1, 4.13N×12642E, h33km, mb4.7/29, Error ellipse: s-maj=23.0km s-min=7.7km az=111.7*
*MAN **30** 13:30:30, 396N×12670E, h70km, mb5.6, ML4.6, MS5.0*
*IDC **30** 13:30:31.6±3.1, 405N×126.19E, h60km±29km, mb4.2/20, mb1 4.2/20, mb1mx4.2/23, mbtmp4.2/20, MS3.0/3, Ms1 3.0/3, ms1mx2.8/30, Error ellipse: s-maj=34.7km s-min=10.7km az=75.0*
*BJI **30** 13:30:34.9, 442N×12622E, h80km, mB5.2, mb4.9, Ms4.8, Msz4.6*
*ISCJB **30** 13:30:34.2±1.0, 4.19N±004×12665E±006, h103km±9km, mb4.5/53, Error ellipse: s-maj=9.7km s-min=6.2km az=161.1*
*NEIC **30** 13:30:36.1±1.1, 4.12N×12657E, h107km±10km, mb4.6/18, Error ellipse: s-maj=12.5km s-min=6.0km az=72.0*
NEIC Felt [II] at Tahuna.
ISC 30 13:30:36.0±0.8, 414N±004×12660E±006, h104km±7km, n119, σ1§07/120, mb4.5/53, 5C-12D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**3.09**	**341**	*e*Pg		**Pn**	**13 31 24.0**	**+0.9**
AAI	**Ambon**	**7.93**	**168**	P		**Pn**	**13 32 27.3**	**-1.3**
125nm,0.6s
MYLDM	**Lahad Datu**	**8.14**	**278**	‖P		**Pn**	**13 32 31.5**	**-0.1**
TSM	**Tawau**	**8.71**	**271**	‖P		**Pn**	**13 32 38.2**	**-1.0**
KDI	**Kendari**	**8.97**	**206**	P		**Pn**	**13 32 38.3**	**-4.5**
52nm,0.8s
SDKM	**Sandakan**	**9.49**	**279**	‖P		**Pn**	**13 32 48.4**	**-1.5**
KDM	**Kudat**	**10.11**	**286**	‖P		**Pn**	**13 32 59.5**	**+1.3**
KKM	**Kota Kinabalu**	**10.52**	**281**	*e*Pn		**Pn**	**13 33 03.6**	**-0.2**
KKM	**Kota Kinabalu**	**10.52**	**281**	↑P		**Pn**	**13 33 04.4**	**+0.6**
TLE	**Tual**	**11.48**	**148**	P		**Pn**	**13 33 07.9**	**-8.8**
8μm,1.3s
BTM	**Bintulu**	**13.53**	**267**	‖P		**Pn**	**13 33 43.2**	**-0.5**
SBUM	**Sibu**	**14.46**	**264**	‖P		**Pn**	**13 33 56.3**	**+0.5**
BATI	**Kupang**	**14.54**	**192**	P		**Pn**	**13 33 58.8**	**+2.0**
5.5nm,0.3s,baz=276,slow=0.4,SNR=7.9
KSM	**Kuching**	**16.49**	**261**	*e*Pn		**Pn**	**13 34 21.6**	**+0.3**
KSM	**Kuching**	**16.49**	**261**	↑P		**Pn**	**13 34 22.1**	**+0.9**
KAKA	**Kakadu**	**17.71**	**161**	*e*P		**Pn**	**13 34 31.5**	**-4.6**
20nm,0.5s
TPI	**Tanjungpandan**	**20.14**	**250**	P		**P**	**13 35 06.6**	**+4.5**
32nm,0.9s
GUMO	**Guam**	**20.33**	**61**	LR		LR	13 41 41.4	
comp=Z,17nm,19.0s,baz=39,slow=32
BJII	**Banjamegara**	**20.35**	**236**	P		**P**	**13 35 05.2**	**+0.9**
43nm,1.6s
YHNB	**Yeheng**	**21.03**	**347**	*e*P		**P**	**13 35 10.1**	**-1.4**
FITZ	**Fitzroy Crossi**	**22.12**	**182**	*e*P		**P**	**13 35 21.2**	**-1.9**
20nm,0.6s,mb4.6
FITZ *e*S **S 13 39 17.7 -2.5**
FITZ	**Fitzroy Crossi**	**22.12**	**182**	P		**P**	**13 35 21.2**	**-1.9**
13nm,0.6s,mb4.4,baz=14,slow=9.2,SNR=36
JOW	**Kunigami**	**22.63**	**4**	P		**P**	**13 35 27.9**	**-0.6**
20nm,0.8s,mb4.5,baz=296,slow=25,SNR=5.9
JOW LR LR 13 44 37.4
comp=Z,34nm,18.5s,baz=7.4,slow=37
MYKOM	**Kota Tinggi**	**22.84**	**265**	↑P		**P**	**13 35 30.5**	**-0.2**
KGM	**Kluang**	**23.34**	**266**	↑P		**P**	**13 35 35.6**	**+0.3**
KTGM	**Kuala Trenggan**	**23.42**	**274**	‖P		**P**	**13 35 37.3**	**+1.3**
FRIM	**Kepong**	**24.94**	**269**	‖P		**P**	**13 35 52.2**	**+2.3**
WRAB	**Tennant Creek**	**25.10**	**163**	*e*P		**P**	**13 35 50.3**	**-0.9**
17nm,0.6s,mb4.7
WRAB	**Tennant Creek**	**25.10**	**163**	*e*P		**P**	**13 35 50.3**	**-0.9**
WRAB pmax pmax
comp=Z,17nm,0.6s,mb4.7
WRA	**Warramunga Arr**	**25.11**	**163**	P		**P**	**13 35 50.7**	**-0.5**
WRA pmax pmax
comp=Z,13nm,0.6s
WRA	**Warramunga Arr**	**25.11**	**163**	P		**P**	**13 35 50.7**	**-0.5**
comp=Z,13nm,0.6s,mb4.5,baz=340,slow=10,SNR=50
WB2	**Warramunga Arr**	**25.11**	**163**	*e*P		**P**	**13 35 48.2**	**-3.1**
WB2 *e*S **S 13 40 12.7 +4.2**
IPM	**Ipoh**	**25.51**	**272**	‖P		**P**	**13 35 57.3**	**+2.3**
KULM	**Kulim**	**25.89**	**274**	‖P		**P**	**13 36 01.6**	**+3.1**
ASAR	**Alice Springs**	**28.53**	**166**	P		**P**	**13 36 21.8**	**-0.2**
ASAR pmax pmax
comp=Z,2.0nm,0.4s
ASAR	**Alice Springs**	**28.53**	**166**	P		**P**	**13 36 21.8**	**-0.2**
comp=Z,1.8nm,0.4s,mb4.0,baz=347,slow=7.0,SNR=60
CHTO	**Chiang Mai**	**30.71**	**301**	*e*P		**P**	**13 36 40.8**	**-0.5**
comp=Z,7.9nm,0.8s,mb4.5
CHTO	**Chiang Mai**	**30.71**	**301**	*e*P		**P**	**13 36 40.8**	**-0.5**
CHTO pmax pmax
comp=Z,8.0nm,0.8s,mb4.5
CTA	**Charters Tower**	**30.86**	**142**	*e*P		**P**	**13 36 44.3**	**+1.7**
comp=Z,3.1nm,1.1s,mb4.0
CTA	**Charters Tower**	**30.86**	**142**	P		**P**	**13 36 44.3**	**+1.7**
CTA pmax pmax
comp=Z,2.0nm,0.6s
CTA	**Charters Tower**	**30.86**	**142**	P		**P**	**13 36 44.2**	**+1.7**
comp=Z,2.3nm,0.6s,mb4.1,baz=332,slow=9.1,SNR=5.8
KSRS	**Korea Array**	**33.18**	**2**	P		**P**	**13 37 03.6**	**+0.9**
KSRS pmax pmax
comp=Z,4.0nm,0.6s,mb4.4
KSRS MLR MLR
comp=Z,44nm,18.4s
KSRS	**Korea Array**	**33.18**	**2**	P		**P**	**13 37 03.6**	**+0.9**
comp=Z,3.5nm,0.6s,mb4.4,baz=181,slow=10.0,SNR=16
KSRS LR LR 13 49 39.3
comp=Z,44nm,18.4s,baz=319,slow=34
MJAR	**Matsushiro Arr**	**33.97**	**17**	P		**P**	**13 37 08.1**	**-1.5**
MJAR pmax pmax
comp=Z,1.0nm,0.4s
MJAR	**Matsushiro Arr**	**33.97**	**17**	P		**P**	**13 37 08.1**	**-1.5**
comp=Z,0.5nm,0.4s,mb3.7,baz=182,slow=8.6,SNR=4.4
XAN	**Xi'an**	**34.00**	**333**	P		**P**	**13 37 08.8**	**-1.1**
XAN AMB AMB
comp=Z,12nm,0.7s,mb4.8
FORT	**Forrest**	**34.74**	**178**	*e*P		**P**	**13 37 15.8**	**-0.5**
comp=Z,7.9nm,0.5s,mb4.8
BJT	**Baijiatuau**	**36.95**	**347**	*e*P		**P**	**13 37 35.8**	**+0.7**
comp=Z,10.0nm,0.8s,mb4.8
BJT	**Baijiatuau**	**36.95**	**347**	*e*P		**P**	**13 37 35.8**	**+0.8**
BJT pmax pmax
comp=Z,10.0nm,0.8s
SNY	**Shenyang**	**37.63**	**356**	‖P		**P**	**13 37 42.0**	**+1.3**
SNY AMB AMB
comp=Z,17nm,0.7s,mb5.0
STKA	**Stephens Creek**	**38.55**	**159**	*e*P		**P**	**13 37 49.1**	**+0.5**
comp=Z,7.1nm,0.7s,mb4.6
STKA	**Stephens Creek**	**38.55**	**159**	P		**P**	**13 37 49.4**	**+0.8**
comp=Z,9.6nm,0.8s,mb4.7,baz=332,slow=9.0,SNR=18
SHL	**Shillong**	**39.54**	**306**	*e*P		**P**	**13 37 56.0**	**-1.0**
MDJ	**Mudanjiang**	**40.40**	**3**	*e*P		**P**	**13 38 04.9**	**+1.1**
comp=Z,10nm,0.8s,mb4.7
ARMA	**Armidale**	**41.87**	**147**	*e*P		**P**	**13 38 18.0**	**+1.9**
LSA	**Lhasa**	**42.08**	**311**	P		**P**	**13 38 18.8**	**+1.0**
LSA	**Lhasa**	**42.08**	**311**	*e*P		**P**	**13 38 18.8**	**+1.0**
comp=Z,12nm,0.6s,mb4.8
LSA	**Lhasa**	**42.08**	**311**	*e*P		**P**	**13 38 18.8**	**+1.0**
LSA pmax pmax
comp=Z,12nm,0.6s,mb4.8
ASAJ	**Asahikawa**	**42.24**	**17**	P		**P**	**13 38 20.6**	**+1.7**
ASAJ pmax pmax
comp=Z,4.0nm,0.7s
ASAJ	**Asahikawa**	**42.24**	**17**	P		**P**	**13 38 20.6**	**+1.7**
comp=Z,4.3nm,0.7s,mb4.3,baz=238,slow=9.5,SNR=6.2
GTA	**Gaotai**	**42.69**	**329**	*e*P		**P**	**13 38 22.3**	**-0.3**
GTA PCP PcP 13 40 16.3 +3.7
GTA AMB AMB
comp=Z,5.0nm,0.8s,mb4.3
JIRN	**Jiri**	**45.03**	**306**	*e*P		**P**	**13 38 40.9**	**-0.7**
comp=Z,15nm,0.7s,mb4.8
KLR	**Kul'dur**	**45.15**	**5**	*e*P		**P**	**13 38 39.0**	**-3.0**
GUN	**Gumba**	**45.39**	**306**	*e*P		**P**	**13 38 43.7**	**-0.7**
comp=Z,20nm,0.7s,mb5.0
KKN	**Kakani**	**45.83**	**305**	*e*P		**P**	**13 38 46.9**	**-0.9**
comp=Z,7.7nm,0.5s,mb4.7
DMN	**Daman**	**45.90**	**305**	*e*P		**P**	**13 38 47.6**	**-0.8**
comp=Z,14nm,0.7s,mb4.8
GKN	**Gorkha**	**46.43**	**305**	*e*P		**P**	**13 38 51.5**	**-1.1**
comp=Z,6.8nm,0.5s,mb4.6
ULN	**Ulaanbaatar**	**46.70**	**342**	*e*P		**P**	**13 38 54.5**	**+0.3**
comp=Z,2.2nm,0.6s,mb4.1
ULN	**Ulaanbaatar**	**46.70**	**342**	*e*P		**P**	**13 38 54.5**	**+0.2**
ULN pmax pmax
comp=Z,2.0nm,0.6s,mb4.0
SONM	**Songino Array**	**46.88**	**341**	P		**P**	**13 38 55.8**	**+0.1**
SONM 13 40 28.7
SONM pmax pmax
comp=Z,2.0nm,0.6s
SONM pmax pmax
comp=Z,1.0nm,0.9s
SONM	**Songino Array**	**46.88**	**341**	P		**P**	**13 38 55.8**	**+0.1**
comp=Z,1.8nm,0.6s,mb4.0,baz=156,slow=8.9,SNR=19
SONM PcP PcP 13 40 28.7 +1.9
comp=Z,1.4nm,0.8s,baz=158,slow=3.6,SNR=3.5
KOLN	**Koldanda**	**47.19**	**305**	*e*P		**P**	**13 38 57.9**	**-0.6**
comp=Z,41nm,0.7s,mb5.3
DANN	**Dangsing**	**47.28**	**305**	*e*P		**P**	**13 38 58.7**	**-0.5**
comp=Z,41nm,0.6s,mb5.3
**

KURK Kurchatov 61.33 327 *eP* **P 13 40 39.9 -0.7**
comp=Z,6.8nm,0.6s,mb4.8
KURK Kurchatov 61.33 327 *eP* **P 13 40 39.9 -0.7**
KURK pmax pmax
comp=Z,7.0nm,0.6s,mb4.9
NVS Novosibirsk 61.45 333 *eP* **P 13 40 40.2 -1.2**
NVS pmax pmax
comp=Z,5.0nm,0.6s,mb4.7
NVS pmax pmax
comp=N,2.0nm,0.5s
NVS pmax pmax
comp=E,6.0nm,0.7s
BVAR Borovoye Array 66.91 327 P **P 13 41 16.6 -0.5**
BVAR pmax pmax
comp=Z,3.0nm,0.6s
BVAR Borovoye Array 66.91 327 P **P 13 41 16.6 -0.5**
comp=Z,2.5nm,0.6s,mb4.2,baz=134,slow=4.2,SNR=12
TIXI Tiksi 67.44 1 *eP* **P 13 41 20.2 +0.2**
comp=Z,3.3nm,0.6s,mb4.3
TIXI Tiksi 67.44 1 *i* P **P 13 41 20.1 0.0**
TIXI pmax pmax
comp=Z,3.0nm,0.9s,mb4.1
AKTK Aktyubinsk 73.27 322 P **P 13 41 55.1 -0.8**
AKTO Aktyubinsk 73.27 322 P **P 13 41 55.2 -0.7**
AKTO pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
AKTO Aktyubinsk 73.27 322 P **P 13 41 55.1 -0.8**
comp=Z,4.6nm,0.7s,mb4.4,baz=98,slow=11,SNR=16
ARU Arti 74.53 328 *eP* **P 13 42 02.7 -0.5**
comp=Z,3.7nm,0.6s,mb4.3
ARU Arti 74.53 328 *d iP* **P 13 42 04.0 +0.8**
ARU *e* 13 42 16.9
ARU *e* 13 44 50.6
ARU *e*PPP 13 46 31.0
ARU *e*S S 13 51 38.2 +8.2
ARU *e*SS SS 13 56 23.4 +4.7
ARU pmax pmax
comp=Z,6.0nm,1.0s,mb4.3
ARU MLR MLR
comp=Z,280nm,18.0s
VNDA Vanda 83.84 173 P **P 13 42 54.4 +0.9**
VNDA pmax pmax
comp=Z,1.0nm,0.6s
VNDA Vanda 83.84 173 P **P 13 42 54.4 +0.9**
comp=Z,0.6nm,0.6s,mb3.6,baz=304,slow=7.3,SNR=2.6
OBN Obninsk 86.66 325⇑ *eP* **P 13 43 08.9 +1.0**
OBN *e* 13 53 30.8
OBN pmax pmax
comp=Z,6.0nm,0.5s,mb4.8
JOF Joensuu 88.76 333 *ep* **P 13 43 15.8 -2.0**
comp=Z,7.8nm,0.6s,mb4.9
KMBO Kilima Mbogo 89.43 269 *eP* **P 13 43 22.5 +0.4**
comp=Z,4.2nm,0.3s,mb5.0
KMBO Kilima Mbogo 89.43 269 *i* P **P 13 43 25.3 +3.3**
KMBO pmax pmax
comp=Z,5.0nm,0.3s
ARCES ARCESS Array B 90.03 340 P **P 13 43 23.4 -0.2**
ARCES pmax pmax
comp=Z,2.0nm,0.6s
ARCES ARCESS Array B 90.03 340 P **P 13 43 23.4 -0.2**
comp=Z,1.8nm,0.6s,mb4.4,baz=81,slow=7.5,SNR=7.0
FINES FINESS Array B 91.42 332 P **P 13 43 30.2 0.0**
FINES FINESS Array B 91.42 332 P **P 13 43 30.2 0.0**
FINES pmax pmax
comp=Z,2.0nm,0.7s
FINES FINESS Array B 91.42 332 P **P 13 43 30.2 0.0**
comp=Z,2.2nm,0.7s,mb4.4,baz=33,slow=4.5,SNR=5.6
AKASG Malin Array Be 91.50 321 P **P 13 43 30.3 -0.5**
AKASG pmax pmax
comp=Z,1.0nm,0.5s
AKASG Malin Array Be 91.50 321 P **P 13 43 30.3 -0.5**
comp=Z,0.7nm,0.5s,mb4.2,baz=74,slow=3.9,SNR=9.3
MLR Muntele Rosu 94.52 316 P **P 13 43 45.5 +0.6**
MLR pmax pmax
comp=Z,3.0nm,0.8s
MLR Muntele Rosu 94.52 316 P **P 13 43 45.5 +0.6**
comp=Z,2.5nm,0.8s,mb4.7,baz=159,slow=6.0,SNR=4.6
NB2 NORSAR Subarra 98.37 334 Pdif **P 13 44 01.4 -0.6**
comp=Z,0.9nm,0.7s,mb4.4,baz=65,slow=4.4
NOA NORSAR Array B 98.37 334 P **P 13 44 01.6 -0.4**
NOA pmax pmax
comp=Z,1.0nm,0.6s
NOA NORSAR Array B 98.37 334 P **P 13 44 01.6 -0.4**
comp=Z,0.7nm,0.6s,mb4.4,baz=67,slow=4.6,SNR=4.0
YKA Yellowknife Ar 99.18 24 P **P 13 44 07.5 +1.9**
comp=Z,0.1nm,0.4s,mb3.7,baz=284,slow=5.0,SNR=2.9

ISCJB ***30*** *13:32:10.2±0.9, 1056N±006×6264W±003, h98km±8km, Error ellipse: s-maj=9.9km s-min=5.6km az=4.8*
FUNV ***30*** *13:32:11.5, 1066N×6256W, h99km, MW2.8*
TRN ***30*** *13:32:15.7, 1092N×6221W, h96km, MD2.8*
NEIC ***30*** *13:32:15.7, 1092N×6221W, h96km, MD2.8(TRN), After TRN.*

ISC 30 13:32:10.9±0.9, 1058N±006×6263W±003, h97km±8km, n15, σ1°17/27, 2C, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIV	**Guiria**	**0.40**	**81**	⇑ *iP*	**Pn**	**13 32 26.1**	**+0.4**
GUIV				*eS*	**Sn**	**13 32 35.8**	**-1.0**
GUNV	**Guanoco**	**0.52**	**216**	*eS*	**Sn**	**13 32 40.5**	**+2.3**
CRUV	**Carupano**	**0.60**	**279**	*eP*	**Pn**	**13 32 27.4**	**+0.2**
CRUV				*eS*	**Sn**	**13 32 40.4**	**+1.0**
TCE	**Chacachacare**	**0.87**	**82**	*eP*	**Pn**	**13 32 31.1**	**+1.4**
TCE				*eS*	**Sn**	**13 32 42.5**	**-1.4**
ITEV	**Isla Los Testi**	**0.91**	**327**	⇑ *iP*	**Pn**	**13 32 30.8**	**+0.7**
ITEV				*eS*	**Sn**	**13 32 44.0**	**-0.6**
TPP	**Pointe-a-Pierr**	**1.19**	**103**	*eP*	**Pn**	**13 32 36.6**	**+3.4**
TPP				*eS*	**Sn**	**13 32 49.4**	**-0.7**
TRN	**Trinidad (W)**	**1.21**	**87**	*eP*	**Pn**	**13 32 33.8**	**+0.4**
TRN				*eS*	**Sn**	**13 32 48.4**	**-2.0**
TBH	**Brigand Hill**	**1.54**	**93**	*eP*	**Pn**	**13 32 37.8**	**+0.4**
TBH				*eS*	**Sn**	**13 32 52.8**	**-4.8**
PCRV	**Puerto La Cruz**	**2.02**	**259**	*eP*	**Pn**	**13 32 44.8**	**+1.3**
GURV	**El Guri**	**2.84**	**189**	*eP*	**Pn**	**13 32 55.9**	**+1.5**
GURV				*eS*	**Sn**	**13 33 27.6**	**-0.3**
CUPV	**Cœpira**	**3.15**	**261**	*eP*	**Pn**	**13 32 59.1**	**+0.6**
CUPV				*eS*	**Sn**	**13 33 34.6**	**-0.8**
BIRV	**Birongo**	**3.58**	**269**	*eP*	**Pn**	**13 33 04.8**	**+0.5**
BIRV				*eS*	**Sn**	**13 33 44.6**	**-1.1**
MERV	**Las Mercedes**	**3.85**	**250**	*eS*	**Sn**	**13 33 50.7**	**-1.5**
CAOV	**Caicara del Or**	**4.88**	**229**	*eP*	**Pn**	**13 33 22.7**	**+0.8**
CAOV				*eS*	**Sn**	**13 34 15.1**	**-2.1**
BAUV	**El Baul**	**5.58**	**253**	*eP*	**Pn**	**13 33 31.5**	**+0.1**
BAUV				*eS*	**Sn**	**13 34 30.7**	**-3.6**

MOS ***30*** *13:44:38.3±0.8, 674S×15555E, h33km, mb5.0/36, Error ellipse: s-maj=11.2km s-min=8.2km az=97.8*
BJI ***30*** *13:44:40.6, 644S×15560E, h42km, mB5.3, mb5.0, Msz4.9*
ISCJB ***30*** *13:44:40.9±0.3, 695S±004×15569E±006, h67km, mb4.8/60, Error ellipse: s-maj=8.1km s-min=5.9km az=10.5*
IDC ***30*** *13:44:41.5±2.1, 694S×15569E, h56km±17km, mb4.6/18, mb1 4.7/19, mb1mx4.7/20, mbtmp4.7/19, ML4.5/1, MS4.1/9, Ms1 4.1/9, ms1mx3.7/23, Error ellipse: s-maj=17.3km s-min=12.1km az=88.0*
NEIC ***30*** *13:44:42.5±0.1, 692S×15565E, mb4.9/21, Error ellipse: s-maj=5.4km s-min=3.8km az=109.0*
GCMT ***30*** *13:44:42.5±0.4, 703S×15568E, h80km±3km, MW5.0/46, Moment Tensor Solution. s36,c43; s46,c59; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr3.00±.20; Mθθ-3.94±.17; Mφφ0.94±.17; Mrθ0.24±.22; Mθφ1.78±.14; Mφr0.56±.15; Best double couple: M0 3.87100×10^16 NP1:φs307.00000°, δ48.00000°, λ117.00000°. NP2: φs89.00000°, δ49.00000°, λ63.00000°. Principal axes: T 3.2220, Plg70.0000°, Azm289.0000°; N 1.3070, Plg20.0000°, Azm108.0000°; P -4.5200, Plg0.0000°, Azm198.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 30 13:44:42.8±0.3, 696S±004×15570E±006, h69km, h69km±1.9km: pP-P, n201, σ0°82/130, mb4.8/60, 11C-8D, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.87**	**121**	*ePn*	**Pn**	**13 45 54.8**	**+1.3**
CTA	**Charters Tower**	**15.94**	**214**	*eP*	**Pn**	**13 48 24.0**	**+1.0**
43nm,1.0s							
CTA	**Charters Tower**	**15.94**	**214**	P	**Pn**	**13 48 24.2**	**+1.2**
CTA				pmax	pmax		
comp=Z,1.0nm,0.3s							
CTA				MLR	MLR		
comp=Z,728nm,21.9s							
CTA	**Charters Tower**	**15.94**	**214**	P	**Pn**	**13 48 24.2**	**+1.2**
comp=Z,1.2nm,0.3s,baz=40,slow=13,SNR=39							
CTA				LR	LR	13 53 38.8	
comp=Z,728nm,21.9s,baz=42,slow=34							
CTAO	**Charters Tower**	**15.94**	**214**	*ePn*	**Pn**	**13 48 24.4**	**+1.4**
comp=Z,66nm,1.0s							
CTAO	**Charters Tower**	**15.94**	**214**	*eP*	**Pn**	**13 48 24.4**	**+1.4**
CTAO				pmax	pmax		
comp=Z,66nm,1.0s							
EIDS	**Eidsvold**	**18.83**	**193**	*eP*	**Pn**	**13 48 58.0**	**-0.4**
comp=Z,34nm,1.1s							
GUMO	**Guam**	**23.08**	**332**	LR	LR	13 56 45.6	
comp=Z,262nm,21.1s,baz=127,slow=31							
KAKA	**Kakadu**	**23.61**	**254**	*eP*	**P**	**13 49 47.2**	**-0.5**
comp=Z,44nm,0.6s,mb5.0							
ARMA	**Armidale**	**23.64**	**189**	*eP*	**P**	**13 49 47.9**	**0.0**
WRAB	**Tennant Creek**	**24.40**	**236**	*eP*	**P**	**13 49 54.7**	**-0.1**
comp=Z,79nm,1.1s,mb5.0							
WRAB	**Tennant Creek**	**24.40**	**236**	*eP*	**P**	**13 49 54.7**	**-0.2**
WRAB				pmax	pmax		
comp=Z,79nm,1.1s,mb5.0							
WB2	**Warramunga Arr**	**24.40**	**236**	*eP*	**P**	**13 49 55.0**	**+0.1**
WB2				*e*PCP	PcP	13 53 33.0	+0.3
WRA	**Warramunga Arr**	**24.41**	**236**	P	**P**	**13 49 55.1**	**+0.1**
WRA						13 53 33.0	
WRA				pmax	pmax		
comp=Z,34nm,0.7s							
WRA				pmax	pmax		
comp=Z,3.0nm,0.9s							
WRA				pmax	pmax		
comp=N,2.0nm,0.8s							
WRA				MLR	MLR		
comp=Z,377nm,18.4s							
WRA	**Warramunga Arr**	**24.41**	**236**	P	**P**	**13 49 55.1**	**+0.1**
comp=Z,34nm,0.7s,mb4.8,baz=62,slow=10,SNR=140							
WRA				PcP	PcP	13 53 33.0	+0.3
comp=Z,3.3nm,0.9s,baz=63,slow=2.5,SNR=4.8							
WRA				ScP	ScP	13 57 07.3	+1.7
comp=Z,1.8nm,0.8s,baz=61,slow=3.2,SNR=6.9							
WRA				LR	LR	13 59 31.2	
comp=Z,377nm,18.4s,baz=60,slow=36							
ASAR	**Alice Springs**	**26.72**	**229**	P	**P**	**13 50 15.3**	**-0.6**
ASAR						13 53 38.0	
ASAR				pmax	pmax		
comp=Z,15nm,0.8s							
ASAR				pmax	pmax		
comp=Z,3.0nm,0.6s							
ASAR				pmax	pmax		
comp=N,2.0nm,0.8s							
ASAR	**Alice Springs**	**26.72**	**229**	P	**P**	**13 50 15.3**	**-0.6**
comp=N,15nm,0.8s,mb4.5,baz=60,slow=9.2,SNR=206							
ASAR				PcP	PcP	13 53 38.0	+0.1
comp=N,2.8nm,0.6s,baz=68,slow=2.5,SNR=7.1							
ASAR				ScP	ScP	13 57 15.2	+3.0
comp=N,2.0nm,0.8s,baz=65,slow=3.0,SNR=9.7							
STKA	**Stephens Creek**	**28.07**	**206**	*eP*	**P**	**13 50 27.2**	**-0.6**
comp=N,19nm,0.6s,mb4.8							
STKA				*e*PCP	PcP	13 53 40.9	-0.1
STKA	**Stephens Creek**	**28.07**	**206**	P	**P**	**13 50 27.4**	**-0.4**
comp=N,25nm,0.8s,mb4.8,baz=22,slow=12,SNR=26							
STKA				PcP	PcP	13 53 41.2	+0.2
comp=N,2.4nm,0.6s,baz=239,slow=0.7,SNR=3.9							
STKA				ScP	ScP	13 57 15.4	-0.6
comp=N,2.1nm,0.7s,baz=31,slow=1.9,SNR=3.6							
STKA				LR	LR	14 01 39.9	
comp=N,575nm,18.7s,baz=22,slow=36							
CNB	**Canberra Magne**	**28.81**	**191**	*eP*	**P**	**13 50 34.8**	**+0.4**
comp=N,14nm,0.6s,mb4.8							
FITZ	**Fitzroy Crossi**	**31.31**	**246**	*eP*	**P**	**13 50 56.2**	**-0.5**
comp=N,128nm,0.6s,mb5.8							
FITZ				*e*	pP	13 51 14.8	+1.5
FITZ	**Fitzroy Crossi**	**31.31**	**246**	P	**P**	**13 50 56.2**	**-0.5**
comp=N,66nm,0.6s,mb5.5,baz=79,slow=8.6,SNR=290							
FITZ				LR	LR	14 03 31.9	
comp=N,256nm,19.9s,baz=254,slow=36							
BATI	**Kupang**	**31.83**	**262**	P	**P**	**13 51 02.0**	**+0.6**
comp=N,27nm,0.9s,mb5.0,baz=75,slow=8.9,SNR=5.1							
BATI				LR	LR	14 05 26.6	
comp=N,427nm,18.9s,baz=272,slow=39							
FORT	**Forrest**	**35.09**	**224**	*eP*	**P**	**13 51 28.8**	**-0.7**
comp=N,91nm,0.6s,mb5.8							
MBWA	**Marble Bar**	**37.52**	**244**	*eP*	**P**	**13 51 49.9**	**-0.4**
comp=N,46nm,0.7s,mb5.4							
MBWA				*ep*P	pP	13 52 07.6	+0.4
RPZ	**Rata Peaks**	**39.01**	**162**	P	**P**	**13 52 03.0**	**+0.5**
comp=N,40nm,0.7s,mb5.3,baz=322,slow=8.1,SNR=19							
MYLDM	**Lahad Datu**	**39.04**	**287**	⇓P	**P**	**13 52 04.7**	**+1.5**
TSM	**Tawau**	**39.38**	**285**	⇓P	**P**	**13 52 06.3**	**+0.3**
SDKM	**Sandakan**	**40.41**	**287**	⇓P	**P**	**13 52 14.5**	**-0.2**
KKM	**Kota Kinabalu**	**41.46**	**287**	*eP*	**P**	**13 52 23.3**	**0.0**
KKM				*e*	pP	13 52 40.5	+0.1
KKM	**Kota Kinabalu**	**41.46**	**287**	⇑P	**P**	**13 52 23.4**	**+0.1**
KLBR	**Kellerberrin**	**43.04**	**230**	*eP*	**P**	**13 52 35.0**	**-0.9**
comp=N,52nm,0.8s,mb5.3							
BTM	**Bintulu**	**43.72**	**282**	⇓P	**P**	**13 52 42.6**	**+1.1**
NWAO	**Narrogin (SRO)**	**44.04**	**229**	P	**P**	**13 52 43.4**	**-0.5**
NWAO				pmax	pmax		
comp=Z,15nm,0.7s							
NWAO				MLR	MLR		
comp=Z,310nm,19.3s							
NWAO	**Narrogin (SRO)**	**44.04**	**229**	P	**P**	**13 52 43.4**	**-0.5**
comp=Z,15nm,0.7s,mb4.8,baz=31,slow=5.7,SNR=6.5							
NWAO				LR	LR	14 11 07.3	
comp=Z,310nm,19.3s,baz=205,slow=36							
SBUM	**Sibu**	**44.39**	**281**	⇓P	**P**	**13 52 48.2**	**+1.2**
MUN	**Mundaring**	**44.40**	**231**	*eP*	**P**	**13 52 44.9**	**-1.8**
KSM	**Kuching**	**46.06**	**279**	*eP*	**P**	**13 52 59.9**	**-0.4**
KSM				*ep*P	pP	13 53 17.8	+0.2
KSM	**Kuching**	**46.06**	**279**	⇑P	**P**	**13 53 00.4**	**+0.1**
MJAR	**Matsushiro Arr**	**46.28**	**340**	P	**P**	**13 53 00.8**	**-0.7**
MJAR	**Matsushiro Arr**	**46.28**	**340**	P	**P**	**13 53 00.8**	**-0.7**
MJAR				pmax	pmax		
comp=Z,3.0nm,0.8s							
MJAR	**Matsushiro Arr**	**46.28**	**340**	P	**P**	**13 53 00.8**	**-0.7**
comp=Z,2.5nm,0.8s,mb4.0,baz=161,slow=6.9,SNR=11							
MAJO	**Matsushiro**	**46.28**	**340**	*eP*	**P**	**13 53 01.1**	**-0.4**
comp=Z,4.8nm,0.6s,mb4.4							
MAJO				*ep*P	pP	13 53 17.6	-1.3
MAJO	**Matsushiro**	**46.28**	**340**	*eP*	**P**	**13 53 01.1**	**-0.4**
MAJO				*e*PP	pP	13 53 17.6	-1.3
MAJO				pmax	pmax		
comp=Z,5.0nm,0.6s,mb4.4							
MAT	**Matsushiro**	**46.28**	**340**	P	**P**	**13 53 00.7**	**-0.8**
JNU	**Nakatsue**	**46.32**	**331**	P	**P**	**13 53 02.2**	**+0.4**
comp=Z,9.6nm,1.1s,mb4.5,baz=142,slow=8.9,SNR=2.3							
KSRS	**Korea Array**	**51.24**	**332**	P	**P**	**13 53 39.3**	**-0.2**
KSRS						13 54 54.7	
KSRS				pmax	pmax		
comp=Z,3.0nm,0.7s,mb4.4							
KSRS				pmax	pmax		
comp=Z,2.0nm,0.7s,mb4.3							
KSRS	**Korea Array**	**51.24**	**332**	P	**P**	**13 53 39.3**	**-0.2**
comp=Z,2.9nm,0.7s,mb4.4,baz=148,slow=7.3,SNR=9.8							
KSRS				PcP	PcP	13 54 54.6	+0.8
comp=Z,2.0nm,0.7s,baz=135,slow=4.6,SNR=5.2							
MYKOM	**Kota Tinggi**	**52.47**	**278**	⇑P	**P**	**13 53 49.0**	**-0.2**
KGM	**Kluang**	**53.03**	**278**	⇑P	**P**	**13 53 53.6**	**+0.3**
KTGM	**Kuala Trenggan**	**53.86**	**282**	⇑P	**P**	**13 53 59.7**	**+0.3**
PPT	**Papeete**	**54.34**	**107**	*eS*	**S**	**14 01 43.8**	**+7.8**
comp=Z,64nm,22.5s							
PPT				*e*LR	LR	14 09 53.3	
comp=Z,123nm,22.2s							
PPT	**Papeete**	**54.34**	**107**	P	**P**	**13 54 02.8**	**0.0**
comp=Z,47nm,0.7s,mb5.6,baz=280,slow=7.6,SNR=3.2							
PPT				LR	LR	14 14 43.6	
comp=Z,275nm,18.2s,baz=283,slow=33							
WHN	**Wuhan**	**54.41**	**315**	*eP*	**P**	**13 54 04.0**	**+1.0**
YSS	**Yuzh-Sakhalins**	**54.90**	**349**	*eP*	**P**	**13 54 06.6**	**+0.3**
comp=Z,13nm,0.8s,mb5.0							
YSS				*ep*P	pP	13 54 23.7	-0.3
YSS	**Yuzh-Sakhalins**	**54.90**	**349**	*eP*	**P**	**13 54 06.1**	**-0.1**
YSS				pmax	pmax		
comp=Z,17nm,1.0s,mb5.0							
FRIM	**Kepong**	**54.91**	**279**	⇑P	**P**	**13 54 06.4**	**-0.7**
TBI	**Tubuai**	**55.05**	**114**	*e*LR	LR	14 10 06.0	
comp=Z,271nm,36.0s							
IPM	**Ipoh**	**55.74**	**280**	⇓P	**P**	**13 54 12.5**	**-0.5**
KULM	**Kulim**	**56.27**	**281**	*eP*	**P**	**13 54 16.1**	**-0.6**
KULM	**Kulim**	**56.27**	**281**	⇑P	**P**	**13 54 16.1**	**-0.6**
HABR	**Khabarovsk**	**58.11**	**344**	*eP*	**P**	**13 54 29.6**	**+0.6**
HABR				*e*SP	sP	13 54 38.3	-16
HABR				*e*		13 55 17.9	
HABR				*e*		13 56 32.9	
HABR				*e*S	**S**	**14 02 29.7**	**+4.8**
HABR				*e*SS	sS	14 02 42.3	-13
HABR				*e*		14 04 14.4	
HABR				*e*SS	SS	14 06 14.2	-3.4
HABR				pmax	pmax		
comp=Z,40nm,1.8s,mb5.2							
NST	**Nakhon Sawan**	**59.44**	**293**	⇑P	**P**	**13 54 39.9**	**+1.0**
comp=Z,67nm,0.5s,mb5.9							
KLR	**Kul'dur**	**59.75**	**342**	*eP*	**P**	**13 54 37.3**	**-3.1**
KLR				pmax	pmax		
comp=Z,24nm,1.4s,mb5.0							
PET	**Petropavlovsk**	**59.81**	**2**	*eP*	**P**	**13 54 43.9**	**+3.2**
PET				*eS*	**S**	**14 02 46.9**	**+0.2**
NANT	**Nan**	**59.95**	**296**	⇑P	**P**	**13 54 43.0**	**+0.7**
comp=Z,118nm,1.0s,mb5.9							
XAN	**Xi'an**	**60.17**	**316**	P	**P**	**13 54 44.5**	**+0.9**
XAN				AMB	AMB		
comp=Z,3.0nm,0.5s,mb4.6							
KMI	**Kunming**	**60.58**	**304**	P	**P**	**13 54 48.3**	**+1.8**
KMI				AMB	AMB		
comp=Z,8.0nm,0.7s,mb4.9							
CHTO	**Chiang Mai**	**61.52**	**296**	*eP*	**P**	**13 54 53.4**	**+0.4**
comp=Z,35nm,1.2s,mb5.3							
CHTO				*e*		13 55 05.8	
CHTO	**Chiang Mai**	**61.52**	**296**	*eP*	**P**	**13 54 53.4**	**+0.4**
CHTO				*e*		13 55 05.8	
CHTO				pmax	pmax		
comp=Z,35nm,1.2s,mb5.3							
LZH	**Lanzhou**	**64.78**	**315**	*eP*	**P**	**13 55 15.5**	**+1.2**
LZH				AMB	AMB		
comp=Z,33nm,1.5s,mb4.9							
LZH				AMB	AMB		
comp=Z,140nm,5.7s							
RKT	**Rikitea**	**68.31**	**112**	*e*LR	LR	14 16 23.2	
comp=Z,245nm,29.0s							
GTA	**Gaotai**	**69.19**	**317**	*eP*	**P**	**13 55 43.0**	**+0.7**
GTA				AMB	AMB		
comp=Z,6.0nm,1.3s,mb4.3							
ULN	**Ulaanbaatar**	**69.35**	**327**	*eP*	**P**	**13 55 43.5**	**+0.5**
comp=Z,7.3nm,0.8s,mb4.6							
ULN	**Ulaanbaatar**	**69.35**	**327**	*eP*	**P**	**13 55 43.5**	**+0.5**
ULN				pmax	pmax		
comp=Z,7.0nm,0.8s,mb4.5							
SONM	**Songino Array**	**69.69**	**327**	P	**P**	**13 55 46.1**	**+1.0**
SONM				⇑ *e*		14 23 50.3	
SONM				LR	LR	14 26 19.2	
SONM	**Songino Array**	**69.69**	**327**	P	**P**	**13 55 46.1**	**+1.0**
comp=Z,9.1nm,1.0s,mb4.6,baz=129,slow=5.5,SNR=43							
SONM				PKP2bc		14 23 50.3	
comp=Z,0.4nm,0.9s,baz=259,slow=2.2,SNR=3.9							
SONM				LR	LR	14 26 19.2	
comp=Z,75nm,18.3s,baz=123,slow=36							
SEY	**Seymchan**	**69.74**	**358**	*eP*	**P**	**13 55 44.0**	**-1.1**
VNDA	**Vanda**	**70.59**	**179**	P	**P**	**13 55 51.1**	**+0.9**
VNDA				pmax	pmax		
comp=Z,5.0nm,0.9s							
VNDA	**Vanda**	**70.59**	**179**	P	**P**	**13 55 51.0**	**+0.8**
comp=Z,4.8nm,0.9s,mb4.3,baz=336,slow=7.7,SNR=15							
YAK	**Yakutsk**	**71.68**	**347**	*eP*	**P**	**13 55 55.2**	**-1.7**
comp=Z,10nm,0.5s,mb4.9							
YAK	**Yakutsk**	**71.68**	**347**	*eP*	**P**	**13 55 55.7**	**-1.2**
YAK				pmax	pmax		
comp=Z,8.0nm,0.9s,mb4.5							
LSA	**Lhasa**	**71.83**	**304**	P	**P**	**13 56 01.0**	**+2.5**
ZAK	**Zakamensk**	**72.84**	**328**	*eP*	**P**	**13 56 04.6**	**+0.6**
ZAK				pmax	pmax		
comp=Z,7.0nm,1.2s,mb4.4							
BOD	**Bodaibo**	**72.84**	**338**	*eP*	**P**	**13 56 02.7**	**-1.2**
BOD				pmax	pmax		
comp=Z,7.0nm,1.1s,mb4.4							
TLY	**Talaya**	**73.39**	**329**	*eP*	**P**	**13 56 07.6**	**+0.3**
TLY				pmax	pmax		
comp=Z,10.0nm,1.1s,mb4.6							
BOK	**Bokaro**	**74.61**	**297**	*eP*	**P**	**13 56 14.7**	**-0.3**
BOK				AMb	AMB	13 56 17.6	
comp=Z,25nm,1.1s,mb4.9							
MOY	**Mondy**	**74.75**	**328**	*eP*	**P**	**13 56 15.0**	**-0.2**
BILL	**Bilibino**	**75.20**	**4**	*eP*	**P**	**13 56 17.9**	**+0.4**
comp=Z,18nm,1.1s,mb4.7							
BILL				*ep*P	pP	13 56 34.4	-1.7
BILL	**Bilibino**	**75.20**	**4**	*eP*	**P**	**13 56 18.2**	**+0.7**
BILL				pmax	pmax		
comp=Z,15nm,1.1s,mb4.6							
JIRN	**Jiri**	**75.37**	**301**	*eP*	**P**	**13 56 19.9**	**+0.6**
comp=Z,10nm,0.5s,mb4.8							
VIS	**Vishakhapatnam**	**75.52**	**290**	*eP*	**P**	**13 56 20.0**	**-0.3**
VIS				AMb	AMB	13 56 24.5	
comp=Z,59nm,1.2s,mb5.2							
GUN	**Gumba**	**75.70**	**301**	*eP*	**P**	**13 56 21.8**	**+0.6**
comp=Z,21nm,0.7s,mb5.0							
PKIN	**Phulchoki**	**76.02**	**301**	*eP*	**P**	**13 56 23.6**	**+0.5**
KKN	**Kakani**	**76.18**	**301**	*eP*	**P**	**13 56 24.3**	**+0.3**
DMN	**Daman**	**76.28**	**301**	*eP*	**P**	**13 56 25.1**	**+0.6**
comp=Z,23nm,0.7s,mb5.0							
GKN	**Gorkha**	**76.78**	**301**	*eP*	**P**	**13 56 27.4**	**0.0**
comp=Z,34nm,0.9s,mb5.1							
BLSP	**Bilaspur**	**77.57**	**294**	*eP*	**P**	**13 56 31.5**	**-0.4**
BLSP				AMb	AMB	13 56 32.5	
comp=Z,30nm,0.7s,mb5.1							
KOLN	**Koldanda**	**77.61**	**300**	*eP*	**P**	**13 56 31.9**	**-0.1**
comp=Z,12nm,0.6s,mb4.8							
DANN	**Dangsing**	**77.62**	**301**	*eP*	**P**	**13 56 31.8**	**-0.3**
comp=Z,29nm,0.8s,mb5.0							
TTA	**Tatalina**	**78.75**	**20**	*eP*	**P**	**13 56 37.2**	**-0.3**
HYB	**Hyderabad**	**79.92**	**289**	*eP*	**P**	**13 56 44.5**	**-0.4**
comp=Z,30nm,1.0s,mb5.1							
HYB				*e*		13 56 56.0	
HYB	**Hyderabad**	**79.92**	**289**	*eP*	**P**	**13 56 44.5**	**-0.4**
HYB				*e*		13 56 56.0	
HYB				pmax	pmax		
comp=Z,30nm,1.0s,mb5.1							
HYB	**Hyderabad**	**79.92**	**289**	⇑ *iP*	**P**	**13 56 45.0**	**+0.1**
comp=Z,30nm,1.0s,mb5.1							
HYB				*e*		13 56 56.0	
HYB				*ep*P	pP	13 57 03.0	-0.7
TRD	**Trivandrum**	**79.98**	**280**	*eP*	**P**	**13 56 44.8**	**-0.5**
TRD				AMb	AMB	13 56 49.2	
comp=Z,43nm,1.4s,mb5.1							
**TI

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NVS                                     pmax    pmax
     comp=E,25nm,1.9s
KURK Kurchatov      87.24 322 eP            P       13 57 20.9 -0.8
     comp=E,3.2nm,1.0s,mb4.2
KURK Kurchatov      87.24 322 eP            P       13 57 20.9 -0.7
KURK                                    pmax    pmax
     comp=Z,3.0nm,1.0s,mb4.2
AAK  Ala-Archa      88.24 313 eP            P       13 57 26.9 +0.3
AAK                                     pmax    pmax
     comp=Z,4.0nm,0.7s,mb4.6
BHJ  Bhuj           89.10 293 eP            P       13 57 28.8 -2.4
BVAR Borovoye Array 92.69 323 P             P       13 57 46.3 -0.8
BVAR                                    pmax    pmax
     comp=Z,4.0nm,0.8s
BVAR Borovoye Array 92.69 323 P             P       13 57 46.3 -0.8
     comp=Z,4.4nm,0.8s,mb4.8,baz=107,slow=5.1,SNR=22
YKA  Yellowknife Ar 95.98  28 P             P       13 58 01.9 -0.1
YKA                                     PKKPbc  PKKPbc  14 14 49.0 -3.7
YKA  Yellowknife Ar 95.98  28 P             P       13 58 01.9 -0.1
     comp=Z,1.4nm,0.7s,mb4.5,baz=267,slow=4.5,SNR=24
YKA                                     PKKPbc  PKKPbc  14 14 49.0 -3.7
     comp=Z,0.4nm,0.6s,baz=89,slow=2.8,SNR=9.5
ARCES ARCESS Array B 109.76 343 PKiKP   PKiKP   14 03 05.2 -0.1
     comp=Z,3.5nm,0.7s,baz=79,slow=2.1,SNR=15
FINES FINESS Array B 114.19 336 PKIKP   PKiKP   14 03 13.3 -0.7
FINES                                   pmax    pmax
     comp=Z,5.0nm,0.9s
FINES FINESS Array B 114.19 336 PKP     PKiKP   14 03 13.3 -0.7
     comp=Z,4.5nm,0.9s,baz=101,slow=2.8,SNR=5.7
PLCA Paso Flores    116.32 142 PKP      PKPdf   14 03 18.5 -0.3
PLCA Paso Flores    116.32 142 PKIKP    PKPdf   14 03 18.5 -0.3
PLCA                                    pmax    pmax
     comp=Z,1.0nm,0.4s
PLCA Paso Flores    116.32 142 PKP      PKPdf   14 03 18.5 -0.3
     comp=Z,0.5nm,0.4s,baz=247,slow=1.7,SNR=3.2
AKASG Malin Array Be 117.92 325 PKP     PKPdf   14 03 19.5 -2.0
AKASG Malin Array Be 117.92 325 PKIKP   PKPdf   14 03 19.5 -2.0
AKASG                                   pmax    pmax
     comp=Z,3.0nm,0.7s
AKASG Malin Array Be 117.92 325 PKP     PKPdf   14 03 19.5 -2.0
     comp=Z,3.1nm,0.7s,baz=64,slow=2.1,SNR=9.5
NB2  NORSAR Subarra119.90 341 PKPdf     PKPdf   14 03 24.5 -0.5
     comp=Z,2.1nm,0.6s,baz=42,slow=2.0
NOA  NORSAR Array B 119.90 341 PKIKP    PKPdf   14 03 24.6 -0.4
NOA                                     pmax    pmax
     comp=Z,3.0nm,0.6s
NOA  NORSAR Array B 119.90 341 PKP      PKPdf   14 03 24.6 -0.5
     comp=Z,2.5nm,0.6s,baz=44,slow=2.0,SNR=16
BOSA Boshof         120.59 231 PKIKP    PKPdf   14 03 27.9 +0.5
BOSA                                    pmax    pmax
     comp=Z,3.0nm,0.6s
BOSA Boshof         120.59 231 PKP      PKPdf   14 03 27.9 +0.5
     comp=Z,3.3nm,0.6s,baz=180,slow=1.2,SNR=8.2
LBTB Lobatse        121.97 235 PKIKP    PKPdf   14 03 30.2 +0.1
LBTB                                    pmax    pmax
     comp=Z,4.0nm,0.7s
LBTB Lobatse        121.97 235 PKP      PKPdf   14 03 30.2 +0.1
     comp=Z,4.3nm,0.7s,baz=158,slow=1.8,SNR=7.6
MLR  Muntele Rosu   122.15 320 PKIKP    PKPdf   14 03 28.9 -0.9
MLR                                     pmax    pmax
     comp=Z,3.0nm,0.8s
MLR  Muntele Rosu   122.15 320 PKP      PKPdf   14 03 28.9 -1.0
     comp=Z,2.6nm,0.8s,baz=4.1,slow=3.8,SNR=3.9
KOLS Kolonicke sedl 122.72 325 ePKP     PKPdf   14 03 31.7 +0.9
LSZ  Lusaka         123.50 247 PKIKP    PKPdf   14 03 33.9 +0.7
LSZ                                     pmax    pmax
     comp=Z,3.0nm,0.8s
LSZ  Lusaka         123.50 247 PKP      PKPdf   14 03 33.9 +0.7
     comp=Z,2.8nm,0.8s,baz=72,slow=3.2,SNR=4.4
KECS Kecovo         123.97 326 ePKP     PKPdf   14 03 33.6 +0.4
OKC  Ostrava-Krasne 124.48 328 ePKPdf   PKPdf   14 03 34.4 +0.3
DPC  Dobruska-Polom 125.11 329 ePKPdf   PKPdf   14 03 36.0 +0.7
UPC  Upice          125.17 330 ePKPdf   PKPdf   14 03 36.2 +0.7
MODS Modra-Piesok   125.80 327 ePKP     PKPdf   14 03 37.9 +1.2
CLL  Collm          126.12 332 ⇓iPKP    PKPdf   14 03 37.4 +0.2
CLL                                     i       14 03 50.8
CLL  Collm          126.12 332 ⇓iPKPdf  PKPdf   14 03 37.4 +0.2
     comp=Z,9.0nm,0.8s
CLL                                     i pPKPdf pPKPdf 14 03 50.8 -6.3
PRU  Pruhonice      126.23 330 ePKPdf   PKPdf   14 03 37.7 +0.2
PRU                                     ex      x       14 03 50.8
KHC  Kasperske Hory 127.27 330 ePKPdf   PKPdf   14 03 40.1 +0.6
KHC                                     epPKP   pPKPdf  14 03 53.5 -5.9
GEC2 GERESS Array S 127.39 329 ePKPdf   PKPdf   14 03 40.1 +0.4
GERES GERESS Array B 127.39 329 PKIKP   PKPdf   14 03 40.3 +0.6
GERES                                   pmax    pmax
     comp=Z,4.0nm,0.8s
GERES GERESS Array B 127.39 329 PKP     PKPdf   14 03 40.3 +0.6
     comp=Z,4.0nm,0.8s,baz=59,slow=0.8,SNR=22
GRA1 Grafenberg Arr 128.05 331 ePKP     PKPdf   14 03 41.1 +0.1
GRF  Grafenberg Arr 128.05 331 ePKP     PKPdf   14 03 41.1 +0.1
DAVOX Davos/Dischmat 130.68 329 PKP     PKPdf   14 03 46.9 +0.8
     comp=Z,3.5nm,0.5s,baz=85,slow=1.2,SNR=4.5
CDF  Champ du Feu   130.79 333 ePKP1    PKPdf   14 03 46.0 -0.2
LPAZ La Paz         130.86 118 PKIKP    PKPdf   14 03 48.1 +0.8
LPAZ                                    pmax    pmax
     comp=Z,1.0nm,0.7s
LPAZ La Paz         130.86 118 PKP      PKPdf   14 03 48.1 +0.8
     comp=Z,0.7nm,0.7s,baz=224,slow=2.9,SNR=3.3
HINF Hinteralfeld   131.42 332 ePKP1    PKPdf   14 03 46.9 -0.6
HAU  Haudompre      131.51 333 ePKP1    PKPdf   14 03 47.2 -0.4
     comp=Z,1.0nm,0.7s
CABF La Chapelle    132.66 332 ePKP1    PKPdf   14 03 50.2 +0.4
     comp=Z,1.1nm,0.7s
LPL  La Plagne      133.13 330 ePKP1    PKPdf   14 03 51.1 +0.3
     comp=Z,5.6nm,0.7s
LPG  La Plagne      133.14 330 ePKP1    PKPdf   14 03 51.2 +0.4
     comp=Z,1.5nm,1.0s
LOR  Lormes         133.18 334 ePKP1    PKPdf   14 03 50.8  0.0
SSF  Saint Saulge   133.49 334 ePKP1    PKPdf   14 03 51.4  0.0
     comp=Z,9.0nm,0.7s
SMF  Signal de Mont 133.66 333 ePKP1    PKPdf   14 03 51.5 -0.2
FLN  La Foliniere   133.73 338 ePKP1    PKPdf   14 03 52.3 +0.5
     comp=Z,45nm,1.1s
AVF  Avril sur Loir 133.76 334 ePKP1    PKPdf   14 03 51.5 -0.4
     comp=Z,3.5nm,0.6s
PGF  Pioggiola      133.97 326 ePKP1    PKPdf   14 03 52.3 -0.1
     comp=Z,18nm,0.8s
ORIF Oris-en-Rattie 133.98 330 ePKP1    PKPdf   14 03 53.0 +0.6
     comp=Z,13nm,0.8s
GRR  Gorron         134.18 338 ePKP1    PKPdf   14 03 52.6  0.0
TCF  Toulx Ste Croi 134.65 334 ePKP1    PKPdf   14 03 53.8 +0.2
     comp=Z,16nm,1.0s
SMRF Simiane la Rot 134.81 330 ePKP1    PKPdf   14 03 54.1 +0.1
MFF  Saint Martin d 135.38 336 ePKP1    PKPdf   14 03 55.1 +0.2
     comp=Z,14nm,0.9s
MTLF Montolieu      136.92 332 ePKP1    PKPdf   14 03 58.4 +0.5
     comp=Z,4.0nm,0.7s
KEST Kesra          137.94 318 PKP      PKPdf   14 04 00.6 +0.6
     comp=Z,1.1nm,0.7s,baz=98,slow=1.6,SNR=2.9
ESDC Sonseca Array  142.66 334 PKhKP            14 04 05.4
     comp=Z,0.2nm,0.3s,baz=27,slow=2.0,SNR=4.0
ESDC                                    PKP     PKPdf   14 04 09.6 +1.1
     comp=Z,0.3nm,0.4s,baz=24,slow=2.2,SNR=3.2
PESTR Estremoz      144.84 337 epPKP    pPKPdf  14 04 24.9 -7.3
PBAR Barrancos      145.22 336 ePKP     PKPdf   14 04 13.2 +0.2
PBAR                                    epPKP   pPKPdf  14 04 25.9 -6.9
EVO  Evora          145.29 337 ePKIKP   PKPdf   14 04 13.3 +0.2
     comp=Z,4.4nm,0.5s
EVO  Evora          145.29 337 epPKP    pPKPdf  14 04 26.3 -6.7
PBEJ Beja           145.67 337 ePKP     PKPdf   14 04 15.1 +1.3
PBEJ                                    epPKP   pPKPdf  14 04 28.3 -5.3
PVAQ Vaqueiros      146.15 336 ePKP     PKPdf   14 04 16.3 +1.7
PVAQ                                    epPKP   pPKPdf  14 04 29.2 -5.3
BDFB Brasilia       147.50 134 PKIKP    PKPdf   14 04 19.8 +2.4
BDFB                                    pmax    pmax
     comp=Z,3.0nm,0.8s
BDFB Brasilia       147.50 134 PKPbc    PKPbc   14 04 19.8 -0.3
     comp=Z,3.0nm,0.8s,baz=230,slow=3.9,SNR=7.6
MDT  Midelt         148.43 327 PKPbc    PKPbc   14 04 23.2 +1.1
     comp=Z,9.1nm,0.8s,baz=43,slow=2.1,SNR=4.8
DBIC Dimbokro       160.69 270 PKP      PKPdf   14 04 35.5 -0.5
DBIC                                    PKPab   PKPab   14 05 18.1  0.0
DBIC Dimbokro       160.69 270 PKIKP    PKPdf   14 04 35.5 -0.5
DBIC                                            14 05 18.2
DBIC                                    pmax    pmax
     comp=Z,3.0nm,0.9s
DBIC                                    pmax    pmax
     comp=Z,8.0nm,0.6s
DBIC Dimbokro       160.69 270 PKP      PKPdf   14 04 35.5 -0.5
     comp=Z,2.6nm,0.8s,baz=69,slow=0.9,SNR=3.7
DBIC                                    PKPab   PKPab   14 05 18.1  0.0
     comp=Z,8.1nm,0.6s,baz=74,slow=3.7,SNR=18
```

*CSEM **30** 13:58:41.6±1.1, 37.34N×2458W, h5km, ML3.6, Error ellipse: s-maj=7.2km s-min=3.6km az=78.0, After PDA*
*PDA **30** 13:58:41.6±1.1, 37.34N×2458W, h5km, MD3.9, ML3.6, Error ellipse: s-maj=7.2km s-min=3.6km az=78.0*

SVSA 30 13:58:41.6±1.1, 3734N×2458W, h5km, MD3.9, ML3.6, Error ellipse: s-maj=7.2km s-min=3.6km az=78.0, Azores Islands region

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Code Station Name      Δ°   AZ°   Phase ID        Time      Res
                                  Op    ISC       h  m  s   ISC
PSMN Pico do Norte,    0.51 229   eP    Pg        13 58 50.6 -0.9
PSMN                              eS    Sg        13 58 57.2 -1.0
CMLA Cha da Macela     0.86 300   i P   Pg        13 58 55.2 -2.9
CMLA                              i S   Sg        13 59 05.9 -3.4
CMLA                              A               13 59 10.1
     553nm,0.4s
PDA  Ponta Delgada     0.95 295   eP    Pg        13 58 56.4 -3.5
PDA                               eS    Sg        13 59 08.7 -3.5
PSET Sete Cidades      1.03 298   eP    Pg        13 58 57.9 -3.4
PSET                              eS    Sg        13 59 10.2 -4.4
PSET                              A               13 59 12.7
     1μm,0.3s
PSET Sete Cidades      1.03 298   eP    Pg        13 58 57.9 -3.4
PSET                              eS    Sg        13 59 10.2 -4.4
PSCM Serra do Cume     2.42 305   eP    Pn        13 59 17.3 -4.5
PSCM                              eS    Sn        13 59 43.7 -8.1
PSCM                              A               13 59 49.8
     189nm,0.4s
PSCM Serra do Cume     2.42 305   eP    Pn        13 59 17.3 -4.5
PSCM                              eS    Sn        13 59 43.7 -8.1
ADH  Angra Heroismo    2.47 303   eP    Pn        13 59 17.2 -5.3
ADH                               eS    Sn        13 59 45.3 -7.8
PMAN Manadas           3.06 296   eP    Pn        13 59 26.4 -4.2
PMAN                              eS    Sn        13 59 59.0 -8.5
PMAN                              A               14 00 01.9
     50nm,0.3s
PMAN Manadas           3.06 296   eP    Pn        13 59 26.4 -4.2
PMAN                              eS    Sn        13 59 59.0 -8.5
ROSA Rosais            3.20 297   eP    Pn        13 59 28.8 -3.8
ROSA                              eS    Sn        14 00 02.8 -8.3
PICO Pico              3.25 292   eP    Pn        13 59 29.3 -4.0
PICO                              eS    Sn        14 00 03.9 -8.5
HOR  Horta             3.42 292   eP    Pn        13 59 30.7 -4.8
HOR                               eS    Sn        14 00 08.0 -8.3
CALA Caldeira          3.49 292   eP    Pn        13 59 32.0 -4.5
CALA                              eS    Sn        14 00 09.7 -8.4
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*IDC **30** 13:59:39.7±0.4, 3834N×9780E, h0km, mb4.3/27, mb1 4.4/30, mb1mx4.4/32, mbtmp4.3/30, ML4.0/3, MS4.0/16, Ms1 4.0/16, ms1mx3.8/33, Error ellipse: s-maj=16.2km s-min=10.6km az=41.0*
*ISCJB **30** 13:59:39.9±0.8, 3842N±002×9774E±002, h6km±5km, mb4.8/89, MS4.3/38, Error ellipse: s-maj=3.9km s-min=3.1km az=9.9*
*NEIC **30** 13:59:42.0±0.2, 3841N×9783E, h10km, mb5.2/40, MS4.3/3, Error ellipse: s-maj=5.4km s-min=4.4km az=217.0*
*BJI **30** 13:59:41.1, 3851N×9776E, h17km, mB4.8, mb4.6, ML4.8, Ms4.8, Msz4.7*
*MOS **30** 13:59:43.5±1.0, 3839N×9785E, h35km, mb5.2/33, MS4.4/20, Error ellipse: s-maj=7.1km s-min=4.3km az=115.5*
*SZGRF **30** 13:59:45.4, 3879N×9747E, h33km, mb5.2, Qinghai, China*

ISC 30 13:59:42.6±0.8, 3839N±002×9778E±002, h12km±5km, h14km±3.8km: pP-P, n291, σ1§07/315, mb4.8/89, MS4.3/38, 8C-7D, Qinghai

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Code Station Name      Δ°   AZ°   Phase ID        Time      Res
                                  Op    ISC       h  m  s   ISC
GTA  Gaotai            1.89  57   P     Pn        14 00 14.5 -0.2
GTA                               PG    Pg        14 00 17.0 -1.9
GTA                               S     Sn        14 00 40.3 +1.8
GTA                               SG    Sg        14 00 44.5 +1.1
GTA                               Smax
     comp=N,6μm,1.5s
GTA                               Smax
     comp=E,4μm,1.0s
LZH  Lanzhou           5.36 114   P     Pn        14 01 04.3 +2.0
LZH                               PG    Pg        14 01 18.0 -7.2
LZH                               S     Sn        14 02 07.5 +3.5
LZH                               SG    Sg        14 02 28.5 -6.1
LZH                               Smax
     comp=N,2μm,1.5s
LZH                               Smax
     comp=E,2μm,1.6s
LZH                               LR    LR
     comp=E,9μm,7.6s
LZH                               LR    LR
     comp=Z,7μm,6.8s
CD2  Chengdu           8.94 145   P     Pn        14 01 57.5 +6.0
CD2                               AP              14 02 00.8
CD2                               XP              14 02 04.0
CD2                               S     Sn        14 03 39.8 +7.7
CD2                               XS              14 03 45.0
CD2                               AMB   AMB
     comp=Z,20nm,1.2s
CD2                               AMB   AMB
     comp=Z,100nm,3.6s
CD2                               LR    LR
     comp=N,3μm,10.8s
CD2                               LR    LR
     comp=E,4μm,9.6s
CD2                               LR    LR
     comp=Z,3μm,9.6s
WMQ  Urumqi            9.34 309   eP    Pn        14 01 58.8 +1.8
WMQ                               AP              14 02 01.8
WMQ                               XP              14 02 05.0
WMQ                               eS    Sn        14 03 43.3 +1.3
WMQ                               XS              14 03 49.0
WMQ                               AMB   AMB
     comp=Z,198nm,3.5s
WMQ                               LR    LR
     comp=N,5μm,10.3s
WMQ                               LR    LR
     comp=E,4μm,9.9s
WMQ                               LR    LR
     comp=Z,4μm,15.4s
BTO  Baotou            9.72  73   eP    Pn        14 02 01.8 -0.4
BTO                               LG              14 05 19.0
BTO                               LR    LR
     comp=N,53nm,1.7s
BTO                               LR    LR
     comp=E,29nm,1.5s
XAN  Xi'an             9.99 112   P     Pn        14 02 06.5 +0.5
XAN                               LR    LR
     comp=N,2μm,9.0s
XAN                               LR    LR
     comp=E,944nm,6.6s
XAN                               LR    LR
     comp=Z,2μm,7.0s
LSA  Lhasa            10.26 214   P     Pn        14 02 12.8 +3.2
LSA                               LR    LR
     comp=N,3μm,10.0s
LSA                               LR    LR
     comp=E,4μm,10.4s
LSA                               LR    LR
     comp=Z,7μm,9.7s
LSA  Lhasa            10.26 214   ePn   Pn        14 02 12.8 +3.2
     comp=Z,63nm,1.3s
LSA  Lhasa            10.26 214   eP    Pn        14 02 12.8 +3.2
LSA                               pmax  pmax
     comp=Z,63nm,1.3s
HHC  Hu-ho-hao-te     10.92  73   eP    Pn        14 02 19.0 +0.4
HHC                               AP              14 02 23.0
HHC                               XP              14 02 25.5
HHC                               PP              14 02 28.3
HHC                               S     Sn        14 04 19.0 -1.6
HHC                               SS              14 04 37.0
HHC                               LG1             14 05 41.3
HHC                               LG2             14 06 02.0
HHC                               AMB   AMB
     comp=Z,12nm,0.4s
HHC                               AMB   AMB
     comp=Z,87nm,4.7s
HHC                               LR    LR
     comp=N,2μm,7.6s
HHC                               LR    LR
     comp=E,2μm,7.0s
HHC                               LR    LR
     comp=Z,1μm,6.1s
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SONM Songino Array    11.34  31   Pn    Pn        14 02 24.4  0.0
     comp=Z,3.8nm,0.3s,baz=215,slow=15,SNR=92
SONM                              Lg              14 05 33.1
     comp=Z,2.1nm,0.3s,baz=218,slow=28,SNR=8.0
SONM                              LR    LR        14 07 01.5
     comp=Z,3μm,19.4s,baz=214,slow=39
TIY  Taiyuan          11.58  89   P     Pn        14 02 30.3 +2.6
TIY                               S     Sn        14 04 34.8 -2.1
TIY                               LR    LR
     comp=N,3μm,6.6s
TIY                               LR    LR
     comp=E,9μm,8.1s
TIY                               LR    LR
     comp=Z,11μm,10.9s
ULN  Ulaanbaatar      11.64  33   ePn   Pn        14 02 27.7 -0.7
ULN  Ulaanbaatar      11.64  33   i P   Pn        14 02 28.5 +0.1
ZAK  Zakamensk        12.62  16   eP    Pn        14 02 41.9 +0.1
ZAK                               pmax  pmax
     comp=Z,9.0nm,1.6s
MOY  Mondy            13.47   9   eP    Pn        14 02 55.0 +1.6
MOY                               pmax  pmax
     comp=Z,43nm,1.8s
KMI  Kunming          13.88 161   P     Pn        14 03 03.0 +3.9
KMI                               XP              14 03 06.5
KMI                               PP              14 03 13.5
KMI                               PPP             14 03 21.0
KMI                               S     Sn        14 05 38.8 +5.7
KMI                               XS              14 05 42.3
KMI                               SS              14 05 55.0
KMI                               SSS             14 06 06.3
KMI                               AMB   AMB
     comp=Z,9.0nm,1.0s
KMI                               AMB   AMB
     comp=Z,62nm,3.1s
KMI                               LR    LR
     comp=N,744nm,7.8s
KMI                               LR    LR
     comp=E,2μm,11.2s
KMI                               LR    LR
     comp=Z,462nm,9.5s
TLY  Talaya           13.92  15   ePn   Pn        14 03 00.9 +1.4
TLY  Talaya           13.92  15   eP    Pn        14 03 01.1 +1.6
TLY                               pmax  pmax
     comp=Z,12nm,1.6s
TLY                               MLR   MLR
     comp=Z,1μm,10.0s
GYA  Guiyang          14.05 145   ⇑iP   Pn        14 03 01.0 -0.5
GYA                               PP              14 03 16.0
GYA                               PPP             14 03 23.8
GYA                               PCP   PcP       14 08 25.0 +3.3
GYA                               AMB   AMB
     comp=Z,40nm,0.8s
GYA                               AMB   AMB
     comp=Z,180nm,4.6s
GYA                               LR    LR
     comp=N,910nm,8.0s
GYA                               LR    LR
     comp=E,1μm,9.8s
GYA                               LR    LR
     comp=Z,2μm,10.8s
MK31 Makanchi Array   14.15 311   ePn   Pn        14 03 00.6 -2.1
MK31 Makanchi Array   14.15 311   i P   Pn        14 02 59.8 -2.9
MK31                              pmax  pmax
     comp=Z,4.0nm,0.5s
MKAR Makanchi Array   14.15 311   Pn    Pn        14 03 00.1 -2.5
     comp=Z,0.8nm,0.3s,baz=126,slow=14,SNR=21
MKAR                              LR    LR        14 09 08.3
     comp=Z,566nm,20.1s,baz=110,slow=40
GUN  Gumba            14.42 227   eP    Pn        14 03 07.6 +1.1
JIRN Jiri             14.44 226   eP    Pn        14 03 06.5 -0.2
IRK  Irkutsk          14.58  16   ⇑iP   Pn        14 03 10.1 +1.6
IRK                               pmax  pmax
     comp=Z,234nm,0.1s
KKN  Kakani           14.86 228   eP    Pn        14 03 11.7 -0.8
     comp=Z,327nm,1.2s
PKIN Phulchoki        14.95 228   eP    Pn        14 03 13.3 -0.5
GKN  Gorkha           15.09 231   eP    Pn        14 03 13.9 -1.7
DMN  Daman            15.10 228   eP    Pn        14 03 15.1 -0.6
DANN Dangsing         15.39 234   eP    Pn        14 03 18.3 -1.2
     comp=Z,184nm,1.1s
WHN  Wuhan            15.74 115   P     Pn        14 03 29.5 +5.5
WHN                               LR    LR
     comp=Z,4μm,7.7s
KOLN Koldanda         15.89 232   eP    Pn        14 03 23.3 -2.8
     comp=Z,170nm,1.1s
KSH  Kashi            17.00 281   eP    Pn        14 03 41.5 +1.4
KSH                               eAP   pP        14 03 45.8 +0.5
KSH                               eXP   sP        14 03 49.5 +2.7
KSH                               ePP             14 03 56.8
KSH                               ePPP            14 04 04.5
KSH                               S     Sn        14 06 49.0 +0.1
KSH                               XS    sS        14 06 55.3 -8.8
KSH                               SS              14 07 11.0
KSH                               ePCP  PcP       14 08 28.3 +2.6
KSH                               AMB   AMB
     comp=Z,1μm,3.9s
KSH                               LR    LR
     comp=Z,3μm,9.6s
PTH  Pithoragarh      17.00 244   eP    Pn        14 03 40.3 +0.1
LGTI Lohaghat         17.04 244   eP    Pn        14 03 43.0 +2.3
TKM2 Tokmak 2         17.41 292   ePn   Pn        14 03 43.7 -1.6
     comp=Z,75nm,1.1s
TKM2 Tokmak 2         17.41 292   eP    Pn        14 03 43.7 -1.6
TKM2                              pmax  pmax
     comp=Z,75nm,1.1s
ZAL  Zalesovo         17.92 334   P     Pn        14 03 50.3 -1.1
ZAA0 Zalesovo Array   17.92 334   ePn   Pn        14 03 51.5 +0.1
ZALV Zalesovo Beam    17.92 334   P     Pn        14 03 50.3 -1.1
     comp=Z,0.9nm,0.3s,baz=151,slow=10,SNR=30
ZALV                              Lg              14 09 06.2
     comp=Z,0.0nm,0.3s,baz=153,slow=23,SNR=3.9
ZALV                              LR    LR        14 10 57.0
     comp=Z,714nm,20.3s,baz=150,slow=38
FRU  Bishkek          18.12 292   eP    Pn        14 03 57.0 +3.0
FRU                               pmax  pmax
     comp=Z,60nm,2.0s
DDI  Dehra Dun        18.14 250   eP    Pn        14 03 55.4 +1.1
DDI                               eS    Sn        14 07 23.0 +6.4
UCH  Uchtor           18.14 290   ePn   Pn        14 03 55.1 +0.8
     comp=Z,16nm,1.0s
AAK  Ala-Archa        18.19 291   Pn    Pn        14 03 54.3 -0.5
     comp=Z,76nm,1.4s,SNR=6.4
AAK  Ala-Archa        18.19 291   ePn   Pn        14 03 54.2 -0.6
     comp=Z,24nm,1.3s
AAK  Ala-Archa        18.19 291   eP    Pn        14 03 54.4 -0.4
AAK                               pmax  pmax
     comp=Z,16nm,1.2s
AAK  Ala-Archa        18.19 291   P     Pn        14 03 55.3 +0.5
     comp=Z,0.2nm,0.3s,baz=129,slow=10,SNR=21
KURK Kurchatov        18.33 318   P     Pn        14 03 56.7 +0.2
     comp=Z,274nm,1.1s,SNR=13
KURK Kurchatov        18.33 318   ePn   Pn        14 03 56.3 -0.1
     comp=Z,75nm,1.1s
KURK Kurchatov        18.33 318   eP    Pn        14 03 56.3 -0.2
KURK                              pmax  pmax
     comp=Z,75nm,1.1s
NJ2  Nanjing          18.33 104   eP    Pn        14 03 57.8 +1.2
NJ2                               AP    pP        14 04 02.0 +2.0
NJ2                               XP    sP        14 04 05.0 +3.5
NJ2                               PP              14 04 15.5
NJ2                               S     Sn        14 07 22.0 +0.8
NJ2                               XS    sS        14 07 28.0 -3.3
NJ2                               AMB   AMB
     comp=Z,20nm,0.8s
NJ2                               AMB   AMB
     comp=Z,240nm,4.2s
DL2  Dalian           18.63  81   ⇑P    Pn        14 04 04.5 +4.2
DL2                               S     Sn        14 07 33.5 +5.0
DL2                               AMB   AMB
     comp=Z,130nm,7.7s
DL2                               LR    LR
     comp=N,420nm,11.1s
DL2                               LR    LR
     comp=E,370nm,11.5s
DL2                               LR    LR
     comp=Z,650nm,11.5s
EKS2 Erkin-Say        18.72 291   eP    Pn        14 04 00.8 -0.5
     comp=Z,94nm,1.4s
AML  Almayashu        18.74 289   eP    Pn        14 04 02.1 +0.5
     comp=Z,15nm,0.9s
THN  Thein Dam        18.92 258   eP    Pn        14 04 00.0 -3.8
HIA  Hailar           19.15  48   eP    Pn        14 04 04.3 -2.1
     comp=Z,9.4nm,0.8s
HIA  Hailar           19.15  48   eP    Pn        14 04 04.4 -2.1
HIA                               pmax  pmax
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comp=Z,9.0nm,0.8s
NVS Novosibirsk 19.19 334 *e*P **Pn 14 04 05.7 -1.1**
NVS *e*S **Sn 14 07 42.1 +0.5**
NVS pmax pmax
comp=Z,81nm,2.4s
NVS pmax pmax
comp=N,101nm,2.5s
NVS pmax pmax
comp=E,58nm,2.6s
NVS smax
comp=N,37nm,2.1s
NVS smax
comp=E,41nm,2.5s
CHTO Chiang Mai 19.53 177 *e*P **Pn 14 04 10.6 -0.5**
NDI New Delhi 19.64 247 *e*P **Pn 14 04 09.0 -3.6**
NANT Nan 19.68 172 ⇓P **Pn 14 04 13.2 +0.2**
comp=E,186nm,0.9s
GZH Guangzhou 20.24 134 P **P 14 04 15.8 -1.9**
GZH S **S 14 08 00.0 -4.6**
GZH LR LR
comp=N,1μm,12.6s,MS4.7
GZH LR LR
comp=E,2μm,12.7s,MS4.7
GZH LR LR
comp=Z,964nm,10.5s,MS4.4
SSE Sheshan 20.54 104 P **P 14 04 22.5 +1.7**
SSE S **S 14 08 07.0 -3.4**
SSE XS sS 14 08 12.5 -3.2
SSE AMB AMB
comp=Z,38nm,0.9s
SSE AMB AMB
comp=Z,104nm,4.2s
SSE LR LR
comp=N,1μm,13.0s,MS4.5
SSE LR LR
comp=E,602nm,13.0s,MS4.5
SSE LR LR
comp=Z,1μm,15.0s,MS4.4
KK31 Karatay Array 21.14 292 *i* P **P 14 04 27.4 +0.1**
KK31 pmax pmax
comp=Z,15nm,0.9s,mb4.3
CN2 Changchun 21.49 67 *e*P **P 14 04 31.0 -0.1**
CN2 *e*XP sP 14 04 37.5 +1.5
CN2 *e*S **S 14 08 23.3 -5.8**
CN2 AMB AMB
comp=Z,200nm,3.0s
CN2 LR LR
comp=N,1μm,11.0s,MS4.8
CN2 LR LR
comp=E,2μm,11.0s,MS4.8
CN2 LR LR
comp=Z,2μm,12.0s,MS4.8
QIZ Qiongzhong 21.96 148 P **P 14 04 37.5 +1.3**
QIZ S **S 14 08 40.3 +1.8**
QIZ AMB AMB
comp=Z,36nm,1.4s,mb4.6
QIZ LR LR
comp=N,972nm,9.3s
QIZ LR LR
comp=Z,1μm,11.5s,MS4.5
QZH Quanzhou 22.15 121 P **P 14 04 38.5 +0.2**
QZH S **S 14 08 41.3 -0.9**
QZH LR LR
comp=Z,780nm,9.6s
BOD Bodaibo 22.15 23 *e*P **P 14 04 36.8 -1.2**
BOD pmax pmax
comp=Z,22nm,1.4s,mb4.4
NST Nakhon Sawan 22.72 174 P **P 14 04 46.1 +1.8**
AJM Ajmer 22.78 245 *i* x x 14 04 54.0
BHPL Bhopal 23.02 235 *i* x x 14 04 51.2
KBL Kabul 23.38 269 *e*P **P 14 04 53.0 +1.8**
VOSK Vostochnaya 23.43 316 *i* P **P 14 04 50.9 -0.7**
VOSK pmax pmax
comp=Z,108nm,2.3s,mb4.9
NGP Nagpur 23.57 229 *e*P **P 14 04 53.9 +0.6**
NGP *e*x x 14 04 58.6
comp=Z,72nm,1.2s
NGP *e*S **S 14 09 10.9 +3.9**
KS15 Wonju Array Si 23.73 83 *e*P **P 14 04 54.6 0.0**
KSRS Korea Array 23.76 83 P **P 14 04 54.6 -0.2**
comp=Z,16nm,0.8s,mb4.5,baz=284,slow=9.0,SNR=47
BVAR Borovoye Array 23.89 317 P **P 14 04 56.7 +0.8**
comp=Z,3.5nm,0.6s,mb4.0,baz=94,slow=10,SNR=15
BVAR LR LR 14 13 44.5
comp=Z,217nm,21.9s,baz=299,slow=35
BRVK Borovoye 23.96 317 P **P 14 04 57.9 +1.3**
comp=Z,95nm,1.1s,mb5.1,SNR=8.0
BRVK Borovoye 23.96 317 *e*P **P 14 04 57.8 +1.2**
MDJ Mudanjiang 24.53 65 P **P 14 05 02.0 +0.2**
MDJ AP 14 05 04.8
MDJ XP sP 14 05 06.0 -0.9
MDJ S **S 14 09 23.3 +1.2**
MDJ SCP ScP 14 12 19.0 +0.6
MDJ SCS ScS 14 16 06.8 +0.9
MDJ LR LR
comp=N,695nm,9.2s
MDJ LR LR
comp=E,857nm,11.9s
MDJ LR LR
comp=Z,2μm,10.4s,MS4.8
ZRNK Zerenda 24.61 316 *i* P **P 14 05 02.2 -0.3**
ZRNK pmax pmax
comp=Z,18nm,1.4s,mb4.4
AKL Akola 25.14 231 *e*P **P 14 05 07.1 -0.4**
CLNS Chul'man 25.70 35 *e*P **P 14 05 13.6 +1.2**
CLNS *e**PP pP 14 05 20.6 +4.7
CLNS *e*PPP 14 05 49.9
CLNS *e* 14 08 41.9
CLNS *e*S **S 14 09 37.9 -2.7**
CLNS *e*SS 14 10 45.5
CLNS *e* 14 15 58.2
CLNS pmax pmax
comp=Z,21nm,0.9s,mb4.7
CLNS pmax pmax
comp=N,22nm,1.3s
CLNS pmax pmax
comp=E,21nm,1.1s
CLNS pmax pmax
comp=Z,9.0nm,1.0s,mb4.2
CLNS pmax pmax
comp=N,8.0nm,0.8s
CLNS pmax pmax
comp=E,8.0nm,0.9s
CLNS smax
comp=E,156nm,11.4s
CLNS smax
comp=Z,123nm,11.9s
CLNS smax
comp=N,64nm,12.7s
CLNS MLR MLR
comp=Z,2μm,10.0s,MS4.9
CLNS MLR MLR
comp=N,300nm,9.0s
CLNS MLR MLR
comp=E,1μm,10.0s
KLR Kul'dur 26.59 55 *e*P **P 14 05 15.2 -5.3**
KLR MLR MLR
comp=N,1μm,12.0s
KLR MLR MLR
comp=Z,3μm,12.0s,MS5.1
HYB Hyderabad 26.82 224 *e*P **P 14 05 22.0 -0.8**
HYB Hyderabad 26.82 224 *i* P **P 14 05 24.0 +1.2**
JNU Nakatsue 27.28 91 LR LR 14 16 45.4
comp=Z,329nm,19.9s,MS3.9,baz=152,slow=38
JOW Kunigami 28.03 105 LR LR 14 15 57.2
comp=Z,298nm,21.6s,MS3.8,baz=85,slow=35
HABR Khabarovsk 28.63 57 P **P 14 05 38.6 -0.2**
HABR *e**SP sP 14 05 49.2 +5.4
HABR *e* 14 06 28.3
HABR *e*PPP 14 06 39.1
HABR *e*S **S 14 10 27.5 +0.5**
HABR *e*SS SS 14 11 47.6 -40
HABR *e*SSS 14 12 03.1
HABR *e* 14 16 22.7
AKTK Aktyubinsk 30.49 306 P **P 14 05 55.3 +0.2**
AKTK LR LR 14 20 09.1
AKTO Aktyubinsk 30.49 306 P **P 14 05 55.3 +0.1**
comp=Z,2.3nm,1.0s,mb3.9,baz=100,slow=8.7,SNR=7.6
AKTO LR LR 14 20 09.1
comp=Z,82nm,18.4s,baz=277,slow=40
SVE Sverdlovsk 30.57 319⇑*e*P **P 14 05 59.2 +3.3**
SVE pmax pmax
comp=Z,19nm,1.1s,mb4.8
SVE MLR MLR
comp=Z,388nm,11.0s,MS4.3

YAK Yakutsk 30.70 29 *e*P **P 14 05 58.2 +1.3**
YAK pmax pmax
comp=Z,8.0nm,1.2s,mb4.4
YAK pmax pmax
comp=N,6.0nm,1.3s
YAK pmax pmax
comp=E,7.0nm,1.3s
YAK MLR MLR
comp=Z,2μm,16.0s,MS4.8
YAK MLR MLR
comp=N,1μm,17.0s,MS4.8
YAK MLR MLR
comp=E,1μm,14.0s,MS4.8
ARU Arti 31.52 318 *e*P **P 14 06 04.0 -0.2**
comp=E,32nm,1.4s,mb5.0
ARU Arti 31.52 318 *c i*P **P 14 06 04.2 0.0**
ARU *e* 14 07 09.5
ARU *e*S **S 14 11 14.0 +1.9**
ARU *e*SS SS 14 12 59.2 -28
ARU pmax pmax
comp=Z,23nm,1.7s,mb4.7
ARU MLR MLR
comp=Z,299nm,19.0s,MS4.0
MJAR Matsushiro Arr 31.97 81 P **P 14 06 06.8 -1.7**
comp=Z,0.6nm,0.6s,baz=289,slow=9.2,SNR=3.6
MJAR LR LR 14 19 25.4
comp=Z,189nm,20.6s,MS3.8,baz=320,slow=37
KULM Kulim 33.05 175 ⇓P **P 14 06 20.1 +2.1**
YSS Yuzh-Sakhalins 33.77 61 *e*P **P 14 06 25.5 +1.5**
YSS MLR MLR
comp=E,1μm,14.0s
YSS MLR MLR
comp=Z,1μm,14.0s,MS4.7
ASAJ Asahikawa 33.85 66 P **P 14 06 24.3 -0.5**
ASAJ pmax pmax
comp=Z,4.0nm,0.7s
ASAJ MLR MLR
comp=Z,404nm,21.9s
ASAJ Asahikawa 33.85 66 P **P 14 06 24.3 -0.5**
comp=Z,3.6nm,0.7s,mb4.4,baz=249,slow=9.7,SNR=4.7
ASAJ LR LR 14 21 17.5
comp=Z,404nm,21.9s,MS4.1,baz=197,slow=38
JHJ Hachijo jima 2 34.28 86 LR LR 14 21 34.7
comp=Z,201nm,18.9s,MS3.9,baz=101,slow=38
FRIM Kepong 35.16 173 ⇑P **P 14 06 42.3 +6.0**
KKM Kota Kinabalu 36.28 148 ⇓P **P 14 06 47.3 +1.4**
MYKOM Kota Tinggi 36.84 170 ⇑P **P 14 06 50.0 -0.7**
TIXI Tiksi 36.90 16 *e*P **P 14 06 48.8 -1.8**
KSM Kuching 38.49 160 *e*P **P 14 07 05.4 +0.7**
KIV Kislovodsk 41.19 296 *e*P **P 14 07 30.5 +3.6**
comp=Z,22nm,1.2s,mb4.7
KIV Kislovodsk 41.19 296 *κe*P **P 14 07 28.2 +1.3**
KIV *e* 14 17 14.7
KIV pmax pmax
comp=Z,11nm,1.0s,mb4.4
KIV MLR MLR
comp=Z,100nm,14.0s,MS3.8
KBD Kabd 42.19 273 *e*P **P 14 07 30.8 -4.5**
KBD AMb AMB 14 07 41.5
comp=Z,219nm,1.5s,mb5.6
MIB Mutribah 42.20 274 *e*P **P 14 07 31.1 -4.2**
MIB AMb AMB 14 07 39.2
comp=Z,34nm,0.8s,mb5.0
VRSR Storozhevoye 42.41 307 *e*P **P 14 07 36.6 -0.1**
VRSR pmax pmax
comp=Z,3.0nm,1.5s,mb3.7
VRSR pmax pmax
comp=N,5.0nm,2.8s
VRSR pmax pmax
comp=E,5.0nm,0.9s
RDF Al-Radifah 42.41 273 *e*P **P 14 07 32.5 -4.6**
RDF AMb AMB 14 07 37.0
comp=Z,36nm,1.1s,mb4.9
NAY Al-Naaiem 42.51 273 *e*P **P 14 07 32.9 -5.0**
NAY AMb AMB 14 07 43.2
comp=Z,40nm,1.4s,mb5.0
OBN Obninsk 43.65 313⇑*e*P **P 14 07 48.2 +1.5**
OBN *e* 14 09 36.1
OBN pmax pmax
comp=Z,28nm,1.8s,mb4.7
OBN MLR MLR
comp=Z,200nm,17.0s,MS4.1
ANN Anapa 44.68 298 *e*P **P 14 07 53.1 -2.0**
ANN *e*S **S 14 14 30.6 -0.6**
ANN pmax pmax
comp=Z,65nm,1.7s,mb5.2
ANN MLR MLR
comp=N,386nm,17.0s,MS4.5
ANN MLR MLR
comp=E,327nm,17.0s,MS4.5
ANN MLR MLR
comp=Z,240nm,17.0s,MS4.2
JOF Joensuu 46.10 324 *e*p **P 14 08 02.4 -3.7**
comp=Z,1.7nm,0.5s,mb4.2
BILL Bilibino 47.05 29 P **P 14 08 13.0 -0.6**
BILL *e* 14 08 20.7
BILL S **S 14 14 51.0 -14**
BILL pmax pmax
comp=Z,10.0nm,1.1s,mb4.7
BILL MLR MLR
comp=Z,200nm,13.0s,MS4.3
ARCES ARCESS Array B 48.47 333 P **P 14 08 23.5 -1.0**
ARCES PcP PcP 14 09 49.7 -0.8
ARCES LR LR 14 30 46.6
ARCES ARCESS Array B 48.47 333 P **P 14 08 23.5 -1.0**
ARCES 14 09 49.7
ARCES ARCESS Array B 48.47 333 P **P 14 08 23.5 -1.0**
comp=Z,4.3nm,0.9s,mb4.5,baz=89,slow=8.3,SNR=16
ARCES PcP PcP 14 09 49.7 -0.8
comp=Z,4.0nm,0.8s,baz=87,slow=3.6,SNR=6.0
ARCES LR LR 14 30 46.6
comp=Z,237nm,18.5s,MS4.2,baz=97,slow=38
FINES FINESS Array B 48.63 323 P **P 14 08 25.1 -0.8**
FINES 14 09 51.6
FINES FINESS Array B 48.63 323 P **P 14 08 25.1 -0.8**
comp=Z,3.1nm,0.8s,mb4.4,baz=110,slow=7.8,SNR=7.9
FINES PcP PcP 14 09 51.6 +0.5
comp=Z,3.8nm,0.9s,baz=94,slow=5.7,SNR=2.9
FINES LR LR 14 29 43.7
comp=Z,141nm,18.2s,MS4.0,baz=193,slow=37
AKASG Malin Array Be 48.70 308 P **P 14 08 25.9 -0.6**
comp=Z,3.6nm,0.7s,mb4.5,baz=66,slow=7.3,SNR=14
AKBB Malin Array Si 48.70 308 *e*P **P 14 08 26.3 -0.3**
KIS Kishinev 49.91 303 *e*P **P 14 08 34.0 -1.9**
LVV L'vov 52.15 308 *e*P **P 14 08 53.1 +0.4**
KWP Kalwaria 53.02 308 *e*P **P 14 08 59.7 +0.6**
KOLS Kolonicke sedl 53.52 307 *e*P **P 14 09 05.5 +2.7**
UZH Uzhgorod 53.60 307 *i* P **P 14 09 07.0 +3.6**
UZH *e* 14 10 59.0
UZH *e*S **S 14 16 43.0 +6.5**
UZH MLR MLR
comp=Z,300nm,12.0s,MS4.6
STHS Stebnicka Huta 54.00 308 *e*P **P 14 09 05.6 -0.7**
CRVS Cervenica-Dubn 54.03 308 *e*P **P 14 09 09.0 +2.4**
OJC Ojcow 54.62 310 *e*P **P 14 09 10.7 -0.1**
KECS Kecovo 54.78 307 *e*P **P 14 09 13.4 +1.4**
comp=Z,3.1nm,1.2s,mb4.2
KECS Kecovo 54.78 307 *e*P **P 14 09 13.4 +1.4**
KECS pmax pmax
comp=Z,3.0nm,1.2s,mb4.2
PSZ Piszkesteto 55.35 307 *e*P **P 14 09 16.5 +0.4**
comp=Z,113nm,2.4s,mb5.5
PSZ Piszkesteto 55.35 307 *e*P **P 14 09 16.5 +0.4**
PSZ pmax pmax
comp=Z,113nm,2.4s,mb5.5
NB2 NORSAR Subarra 55.73 324 P **P 14 09 17.5 -1.1**
comp=Z,11nm,1.2s,mb4.8,baz=71,slow=7.4
NOA NORSAR Array B 55.73 324 P **P 14 09 17.4 -1.2**
comp=Z,3.3nm,1.0s,mb4.3,baz=75,slow=6.9,SNR=3.5
NOA LR LR 14 32 17.6
comp=Z,74nm,19.3s,MS3.8,baz=50,slow=35
OKC Ostrava-Krasne 55.75 310 *e*P **P 14 09 22.4 +3.4**
VYHS Vyhne 55.80 308 *e*P **P 14 09 19.4 0.0**
comp=Z,17nm,1.4s,mb4.9
VYHS Vyhne 55.80 308 *e*P **P 14 09 19.4 0.0**
VYHS pmax pmax
comp=Z,17nm,1.4s,mb4.9
MORC Moravsky Berou 56.13 310 *e*P **P 14 09 22.3 +0.6**
comp=Z,47nm,1.7s,mb5.2
MORC Moravsky Berou 56.13 310 *e*P **P 14 09 22.3 +0.6**
MORC pmax pmax
comp=Z,47nm,1.7s,mb5.2
KSP Ksiaz 56.49 311 *e*P **P 14 09 24.6 +0.3**
KSP Ksiaz 56.49 311⇑*e*P **P 14 09 23.9 -0.4**
KSP *e*pP pP 14 09 27.3 -0.8

DPC Dobruska-Polom 56.66 311 *e*P **P 14 09 26.4 +0.9**
DPC AMS AMS 14 34 10.0
comp=Z,300nm,13.7s,MS4.5
UPC Upice 56.78 311 *e*P **P 14 09 24.9 -1.4**
MODS Modra-Piesok 56.81 308 *e*P **P 14 09 27.5 +0.9**
ZST Bratislava 56.99 308 *e*P **P 14 09 30.0 +2.2**
comp=Z,68nm,2.3s,mb5.3
ZST Bratislava 56.99 308 *e*P **P 14 09 30.0 +2.2**
ZST pmax pmax
comp=Z,68nm,2.3s,mb5.3
TREC Trest 57.56 310 *e*P **P 14 09 33.1 +1.3**
TREC AMS AMS 14 34 30.0
comp=Z,300nm,10.1s,MS4.7
PVCC Panska Ves 57.63 311 *e*P **P 14 09 33.3 +1.0**
PVCC AMS AMS 14 34 40.0
comp=Z,300nm,17.0s,MS4.5
PRU Pruhonice 57.85 311 *e*P **P 14 09 33.8 -0.1**
PRU *e* 14 11 52.0
PRU LR LR
comp=Z,300nm,12.5s,MS4.6
BRG Berggiesshubel 57.87 312 *e*P **P 14 09 33.8 -0.2**
comp=Z,20nm,1.3s,mb5.0
FBE Freiberg 58.19 312 *e*P **P 14 09 36.2 -0.1**
comp=Z,93nm,2.3s,mb5.4
CLL Collm 58.24 313⇓*i*P **P 14 09 36.9 +0.3**
CLL *i* pP pP 14 09 39.1 -1.3
CLL Collm 58.24 313 *e*P **P 14 09 36.0 -0.6**
comp=Z,16nm,1.5s,mb4.8
CLL Collm 58.24 313⇓*i*P **P 14 09 36.9 +0.3**
CLL *i* pP pP 14 09 39.1 -1.3
comp=Z,16nm,1.5s
CLL *e*PcP PcP 14 10 28.0 +0.2
CLL LmV 14 35 00.0
comp=Z,100nm,19.8s
BSEG Bad Segeberg 58.72 316 *e*P **P 14 09 40.1 +0.2**
comp=Z,18nm,1.4s,mb4.9
KHC Kasperske Hory 58.77 310 *e*P **P 14 09 39.2 -1.1**
KHC *e* pP 14 09 43.3 -0.8
KHC LR LR
comp=Z,300nm,12.8s,MS4.6
KHC Kasperske Hory 58.77 310 *e*P **P 14 09 39.2 -1.1**
KHC *e*pP pP 14 09 43.3 -0.8
KHC AMS AMS 14 35 20.0
comp=Z,300nm,12.8s,MS4.6
GEC2 GERESS Array S 58.81 310 *e*P **P 14 09 40.7 +0.1**
GEC2 pmax pmax
comp=Z,36nm,1.9s,mb5.1
GEC2 GERESS Array S 58.81 310 *e*P **P 14 09 40.7 +0.1**
comp=Z,36nm,1.9s,mb5.1
GERES GERESS Array B 58.81 310 P **P 14 09 39.1 -1.5**
comp=Z,2.6nm,1.0s,mb4.2,baz=52,slow=7.6,SNR=12
GERES LR LR 14 36 26.1
comp=Z,168nm,20.1s,MS4.2,baz=79,slow=38
PERS Pernice 58.85 307 *e*P **P 14 09 37.5 -3.4**
TANN Tannenbergstha 58.91 312 *e*P **P 14 09 41.3 0.0**
comp=Z,69nm,2.3s,mb5.3
WERD Werda 58.99 312 *e*P **P 14 09 41.7 -0.1**
comp=Z,103nm,2.8s,mb5.4
NKC Novy Kostel 58.99 312 *e*P **P 14 09 42.5 +0.6**
GUNZ Gunzen 59.01 312 *e*P **P 14 09 42.0 0.0**
comp=Z,72nm,2.3s,mb5.3
WERN Wernitzgruen 59.02 312 *e*P **P 14 09 42.0 0.0**
comp=Z,18nm,1.5s,mb4.9
WET Wettzell 59.19 310 *e*P **P 14 09 43.4 +0.2**
WET pmax pmax
comp=Z,71nm,2.2s,mb5.3
WET Wettzell 59.19 310 *e*P **P 14 09 43.4 +0.2**
comp=Z,71nm,2.2s,mb5.3
BOJS Bojanci 59.23 306 *e*P **P 14 09 43.8 +0.2**
MANZ Manzenberg 59.30 312 *e*P **P 14 09 44.1 +0.1**
comp=Z,53nm,2.2s,mb5.2
MOX Moxa 59.31 312 *e*P **P 14 09 46.7 +2.6**
comp=Z,32nm,1.9s,mb5.0
MOX
comp=Z,100nm,14.0s
MOX Moxa 59.31 312 *e*P **P 14 09 46.7 +2.6**
MOX pmax pmax
comp=Z,32nm,1.9s,mb5.0
MOX MLR MLR
comp=Z,100nm,14.0s,MS4.1
MOX Moxa 59.31 312 *e*P **P 14 09 44.0 -0.1**
comp=Z,63nm,2.3s,mb5.2
ROTZ Rotzenmuhle 59.33 311 *e*P **P 14 09 44.4 +0.2**
comp=Z,27nm,1.4s,mb5.1
LJU Ljubljana 59.47 307 *i* P **P 14 09 47.3 +2.1**
CLZ Clausthal 59.53 314 *e*P **P 14 09 45.6 0.0**
CLZ pmax pmax
comp=Z,34nm,1.7s,mb5.1
CLZ Clausthal 59.53 314 *e*P **P 14 09 45.6 0.0**
comp=Z,34nm,1.7s,mb5.1
JAVS Javornik 59.82 307 *i* P **P 14 09 49.9 +2.2**
GRA1 Grafenberg Arr 59.94 311 *e*P **P 14 09 48.8 +0.4**
comp=Z,202nm,2.4s,mb5.7
GRF Grafenberg Arr 59.94 311 *e*P **P 14 09 48.8 +0.4**
GRF pmax pmax
comp=Z,202nm,2.4s,mb5.7
GRF Grafenberg Arr 59.94 311 *e*P **P 14 09 48.8 +0.4**
GRF pmax pmax
comp=Z,202nm,2.4s,mb5.7
GRF Grafenberg Arr 59.94 311 *e*P **P 14 09 48.8 +0.4**
comp=Z,202nm,2.4s,mb5.7
GRFO Grafenberg 59.94 311 *e*P **P 14 09 51.8 +3.4**
comp=Z,135nm,2.0s,mb5.6
GRFO Grafenberg 59.94 311 *e*P **P 14 09 51.8 +3.4**
GRFO pmax pmax
comp=Z,135nm,2.0s,mb5.6
UBBA Unterbreizbach 60.17 313 *e*P **P 14 09 49.7 -0.3**
comp=Z,31nm,1.9s,mb5.0
FUR Furstenfeldbru 60.56 310 *e*P **P 14 09 53.1 +0.4**
FUR pmax pmax
comp=Z,33nm,0.9s,mb5.5
FUR Furstenfeldbru 60.56 310 *e*P **P 14 09 53.1 +0.4**
comp=Z,33nm,0.9s,mb5.5
IBBN Ibbenburen 60.80 315 *e*P **P 14 09 54.1 -0.1**
comp=Z,36nm,1.5s,mb5.3
TIP Timpagrande 61.02 299 *e*P **P 14 09 56.0 0.0**
STU Stuttgart 61.54 311 *e*P **P 14 09 59.1 -0.2**
comp=Z,17nm,1.1s,mb5.1
FITZ Fitzroy Crossi 61.98 150 *e*P **P 14 10 02.2 -0.3**
comp=Z,7.3nm,1.5s,mb4.6
FITZ Fitzroy Crossi 61.98 150 P **P 14 10 01.5 -1.0**
comp=Z,2.9nm,1.0s,mb4.4,baz=345,slow=12,SNR=5.0
BFO Black Forest 62.25 311 *e*P **P 14 10 03.7 -0.4**
BFO pmax pmax
comp=Z,22nm,1.5s,mb5.1
BFO Black Forest 62.25 311 *e*P **P 14 10 03.7 -0.4**
comp=Z,22nm,1.5s,mb5.1
IMA2 Indian Mountai 62.44 26 *e*P **P 14 10 04.1 -1.0**
MEM Membach 62.54 314 P **P 14 10 05.8 -0.2**
CDF Champ du Feu 62.83 312 *e*P **P 14 10 07.8 -0.2**
WLF Walferdange 62.90 313 *e*P **P 14 10 08.1 -0.3**
comp=Z,19nm,0.7s,mb5.3
WLF Walferdange 62.90 313 *e*P **P 14 10 08.1 -0.3**
WLF pmax pmax
comp=Z,19nm,0.7s,mb5.3
WLF Walferdange 62.90 313 P **P 14 10 08.2 -0.2**
comp=Z,11nm,0.9s,mb5.0
WLF Walferdange 62.90 313 *e*P **P 14 10 07.1 -1.3**
comp=Z,21nm,0.8s,mb5.3
HINF Hinteralfeld 63.37 311 *e*P **P 14 10 11.2 -0.3**
HAU Haudompre 63.57 311 *e*P **P 14 10 12.6 -0.3**
HAU *e*MLR MLR
comp=Z,232nm,19.0s,MS4.1
HAU Haudompre 63.57 311 *e*P **P 14 10 12.6 -0.3**
HAU MLR MLR
comp=Z,230nm,19.0s,MS4.4
BAIF Baives 63.81 314 *e*P **P 14 10 14.5 0.0**
comp=Z,49nm,1.5s,mb5.0
BAIF Baives 63.81 314 *e*P **P 14 10 14.5 0.0**
comp=Z,25nm,1.5s,mb5.0
BAIF Baives 63.81 314 *e*P **P 14 10 14.5 0.0**
BAIF pmax pmax
comp=Z,25nm,1.5s,mb5.0
CABF La Chapelle 64.41 310 *e*P **P 14 10 17.9 -0.5**
LPG La Plagne 64.55 309 *e*P **P 14 10 19.0 -0.4**
comp=Z,40nm,1.1s,mb5.1
LPG La Plagne 64.55 309 *e*P **P 14 10 19.0 -0.4**
comp=Z,20nm,1.1s,mb5.1
LPG La Plagne 64.55 309 *e*P **P 14 10 19.0 -0.4**
LPG pmax pmax
comp=Z,20nm,1.1s,mb5.1
LPL La Plagne 64.55 309 *e*P **P 14 10 20.0 +0.6**
comp=Z,33nm,1.1s,mb5.0
LPL La Plagne 64.55 309 *e*P **P 14 10 20.0 +0.6**
comp=Z,16nm,1.1s,mb5.0
LPL La Plagne 64.55 309 *e*P **P 14 10 20.0 +0.6**

LPL pmax pmax
comp=Z,16nm,1.1s,mb5.0
PGF Pioggiola 64.59 305 *eP* **P 14 10 19.9 +0.2**
BNI Bardonecchia 64.82 308 *eP* **P 14 10 20.8 -0.4**
comp=Z,39nm,1.5s,mb5.2
BNI Bardonecchia 64.82 308 *eP* **P 14 10 20.8 -0.3**
BNI pmax pmax
comp=Z,39nm,1.5s,mb5.2
MBDF Montbardon 64.92 308 *eP* **P 14 10 22.3 +0.5**
SBF Sospel 64.94 307 *eP* **P 14 10 21.6 -0.3**
comp=Z,50nm,1.0s,mb5.2
SBF Sospel 64.94 307 *eP* **P 14 10 21.6 -0.3**
comp=Z,25nm,1.0s,mb5.2
SBF Sospel 64.94 307 *eP* **P 14 10 21.6 -0.3**
SBF pmax pmax
comp=Z,25nm,1.0s,mb5.2
COLA College 65.12 25 *eP* **P 14 10 22.1 -0.7**
comp=Z,13nm,1.3s,mb4.8
COLA College 65.12 25 *eP* **P 14 10 22.1 -0.7**
COLA pmax pmax
comp=Z,13nm,1.3s,mb4.8
ORIF Oris-en-Rattie 65.38 309 *eP* **P 14 10 24.6 -0.1**
ORIF *e*MLR MLR
comp=Z,331nm,18.2s,MS4.3
LOR Lormes 65.40 312 *eP* **P 14 10 23.9 -1.0**
LOR *e*MLR MLR
comp=Z,204nm,18.8s,MS4.0
LOR Lormes 65.40 312 *eP* **P 14 10 23.9 -1.0**
LOR MLR MLR
comp=Z,200nm,18.8s,MS4.3
MCK McKinley 65.45 27 *eP* **P 14 10 23.8 -1.1**
SSF Saint Saulge 65.72 312 *eP* **P 14 10 26.2 -0.7**
SMF Signal de Mont 65.73 311 *eP* **P 14 10 26.4 -0.6**
comp=Z,87nm,1.5s,mb5.2
SMF Signal de Mont 65.73 311 *eP* **P 14 10 26.4 -0.6**
comp=Z,44nm,1.5s,mb5.3
SMF Signal de Mont 65.73 311 *eP* **P 14 10 26.4 -0.6**
SMF pmax pmax
comp=Z,44nm,1.5s,mb5.3
LMR La Mourre 65.78 307 *eP* **P 14 10 27.0 -0.4**
AVF Avril sur Loir 65.94 311 *eP* **P 14 10 27.7 -0.7**
comp=Z,53nm,1.5s,mb5.1
AVF Avril sur Loir 65.94 311 *eP* **P 14 10 27.7 -0.7**
comp=Z,27nm,1.5s,mb5.0
AVF Avril sur Loir 65.94 311 *eP* **P 14 10 27.7 -0.7**
AVF pmax pmax
comp=Z,27nm,1.5s,mb5.1
SMRF Simiane la Rot 66.04 308 *eP* **P 14 10 29.0 -0.1**
comp=Z,66nm,1.7s,mb5.1
SMRF Simiane la Rot 66.04 308 *eP* **P 14 10 29.0 -0.1**
comp=Z,66nm,1.7s,mb5.4
VIVF Saint-Julien-l 66.14 309 *eP* **P 14 10 29.4 -0.3**
SML Sawmill 66.86 28 *eP* **P 14 10 34.2 +0.2**
TCF Toulx Ste Croi 66.88 311 *eP* **P 14 10 34.3 -0.1**
comp=Z,74nm,1.5s,mb5.2
TCF Toulx Ste Croi 66.88 311 *eP* **P 14 10 34.3 -0.1**
comp=Z,37nm,1.5s,mb5.2
TCF Toulx Ste Croi 66.88 311 *eP* **P 14 10 34.3 -0.1**
TCF pmax pmax
comp=Z,37nm,1.5s,mb5.2
RES Resolute Bay 66.90 4 *eP* **P 14 10 34.6 +0.6**
INK Inuvik 66.96 18 *eP* **P 14 10 34.3 -0.3**
LASF Ste Croix 67.05 309 *eP* **P 14 10 35.5 0.0**
comp=Z,32nm,1.3s,mb4.9
WRAB Tennant Creek 67.41 143 *eP* **P 14 10 37.8 -0.2**
comp=Z,94nm,2.3s,mb5.4
WRAB Tennant Creek 67.41 143 *eP* **P 14 10 37.8 -0.1**
WRAB pmax pmax
comp=Z,94nm,2.3s,mb5.4
WRA Warramunga Arr 67.41 143 P **P 14 10 37.4 -0.5**
comp=Z,3.5nm,0.7s,mb4.5,baz=340,slow=6.2,SNR=52
WB2 Warramunga Arr 67.41 143 *eP* **P 14 10 37.2 -0.8**
KDAK Kodiak Island 67.63 33 P **P 14 10 37.5 -1.4**
comp=Z,8.4nm,0.7s,mb4.9,baz=288,slow=6.4,SNR=4.4
CAF Calviac 67.69 310 *eP* **P 14 10 39.7 +0.2**
comp=Z,34nm,1.2s,mb4.9
CAF Calviac 67.69 310 *eP* **P 14 10 39.7 +0.2**
comp=Z,17nm,1.2s,mb5.0
CAF Calviac 67.69 310 *eP* **P 14 10 39.7 +0.2**
CAF pmax pmax
comp=Z,17nm,1.2s,mb5.0
RJF Les Rejaudoux 67.81 311 *eP* **P 14 10 40.4 +0.1**
comp=Z,66nm,1.4s,mb5.2
RJF *e*MLR MLR
comp=Z,142nm,19.0s,MS3.9
RJF Les Rejaudoux 67.81 311 *eP* **P 14 10 40.4 +0.1**
comp=Z,33nm,1.4s,mb5.2
RJF LR LR
comp=Z,140nm,19.0s,MS4.2
RJF Les Rejaudoux 67.81 311 *eP* **P 14 10 40.4 +0.1**
RJF pmax pmax
comp=Z,33nm,1.4s,mb5.2
RJF MLR MLR
comp=Z,140nm,19.0s,MS4.2
KEST Kesra 67.85 299 P **P 14 10 40.1 -0.6**
comp=Z,0.9nm,0.5s,mb4.0,baz=296,slow=11,SNR=3.3
KMBO Kilima Mbogo 68.00 250 *eP* **P 14 10 42.1 +0.2**
comp=Z,22nm,1.5s,mb5.0
KMBO Kilima Mbogo 68.00 250 P **P 14 10 41.5 -0.4**
KMBO pmax pmax
comp=Z,5.0nm,1.0s
KMBO Kilima Mbogo 68.00 250 P **P 14 10 41.5 -0.4**
comp=Z,5.3nm,1.0s,mb4.5,baz=39,slow=9.7,SNR=8.6
MFF Saint Martin d 68.09 313 *eP* **P 14 10 41.7 -0.3**
comp=Z,44nm,1.3s,mb5.0
MFF Saint Martin d 68.09 313 *eP* **P 14 10 41.7 -0.3**
comp=Z,22nm,1.3s,mb5.0
MFF Saint Martin d 68.09 313 *eP* **P 14 10 41.7 -0.3**
MFF pmax pmax
comp=Z,22nm,1.3s,mb5.0
MTLF Montolieu 68.45 309 *eP* **P 14 10 44.2 -0.1**
comp=Z,82nm,1.8s,mb5.2
MTLF Montolieu 68.45 309 *eP* **P 14 10 44.2 -0.1**
comp=Z,41nm,1.8s,mb5.2
MTLF Montolieu 68.45 309 *eP* **P 14 10 44.2 -0.1**
MTLF pmax pmax
comp=Z,41nm,1.8s,mb5.2
EPF Esparros 69.77 309 *eP* **P 14 10 51.8 -0.7**
ASAR Alice Springs 70.42 145 P **P 14 10 55.2 -1.3**
comp=Z,3.1nm,0.8s,mb4.3,baz=336,slow=6.3,SNR=66
SJPF Ste Jean 70.67 310 *eP* **P 14 10 58.3 +0.3**
NWAO Narrogin (SRO) 73.22 163 P **P 14 11 12.0 -1.2**
NWAO LR LR 14 42 15.2
NWAO Narrogin (SRO) 73.22 163 P **P 14 11 12.0 -1.2**
comp=Z,21nm,1.1s,mb5.0,baz=180,slow=4.2,SNR=2.6
NWAO LR LR 14 42 15.2
comp=Z,171nm,19.6s,MS4.3,baz=192,slow=35
CTA Charters Tower 73.83 133 P **P 14 11 16.3 -0.8**
comp=Z,2.4nm,0.8s,mb4.2,baz=337,slow=6.0,SNR=4.1
OPO Ambohidratompo 73.89 230 P **P 14 11 16.6 -0.9**
comp=Z,2.6nm,0.8s,mb4.2,baz=36,slow=5.0,SNR=3.6
ESDC Sonseca Array 74.35 308 P **P 14 11 20.1 0.0**
comp=Z,4.6nm,0.8s,mb4.5,baz=54,slow=5.9,SNR=14
YKA Yellowknife Ar 76.14 15 P **P 14 11 28.6 -1.4**
YKA Yellowknife Ar 76.14 15 P **P 14 11 28.6 -1.4**
comp=Z,1.1nm,0.9s,mb3.8,baz=335,slow=5.5,SNR=13
EVO Evora 77.53 309 *eP* **P 14 11 38.5 +0.3**
comp=Z,70nm,1.4s,mb5.1
EVO *e*MLR MLR
comp=Z,112nm,18.5s,MS3.9
MDT Midelt 78.96 303 P **P 14 11 44.7 -1.6**
comp=Z,2.4nm,1.0s,mb4.1,baz=303,slow=5.7,SNR=2.6
STKA Stephens Creek 80.94 143 *eP* **P 14 11 54.4 -2.3**
comp=Z,4.8nm,0.8s,mb4.5
STKA Stephens Creek 80.94 143 P **P 14 11 54.1 -2.6**
comp=Z,5.6nm,0.7s,mb4.6,baz=314,slow=5.1,SNR=10
LSZ Lusaka 84.11 245 P **P 14 12 13.0 -0.6**
LSZ pmax pmax
comp=Z,2.0nm,0.6s,mb4.4
LSZ Lusaka 84.11 245 P **P 14 12 13.0 -0.6**
comp=Z,1.9nm,0.6s,mb4.4,baz=338,slow=6.7,SNR=3.6
ARMA Armidale 84.90 136 *eP* **P 14 12 18.7 +1.4**
SCHQ Schefferville 86.22 351 P **P 14 12 24.1 +0.5**
comp=Z,2.9nm,0.8s,mb4.6,baz=69,slow=6.2,SNR=5.1
SCHQ LR LR 14 50 57.8
comp=Z,152nm,20.5s,MS4.4,baz=263,slow=36
DBIC Dimbokro 95.70 283 P **P 14 13 08.1 -0.6**
comp=Z,2.5nm,0.8s,mb4.7,baz=39,slow=6.5,SNR=3.2
NVAR Mina Array Bea 96.67 28 P **P 14 13 12.4 -0.3**
comp=Z,0.2nm,0.5s,mb3.8,baz=282,slow=1.3,SNR=3.2

ISCJB ***30*** *14:17:53.9±0.8, 3909N±004×14226E±009, h53km±5km, mb3.9/15, Error ellipse: s-maj=13.3km s-min=5.2km az=24.2*
MOS ***30*** *14:17:54.4±0.7, 3910N×14232E, h64km, mb4.3/4, Error ellipse: s-maj=15.4km s-min=9.1km az=90.2*
NEIC ***30*** *14:17:55.1, 3911N×14220E, h43km, mb4.3/3, After JMA.*
NEIC Recorded [1 JMA] in Iwate and Miyagi Prefectures.
JMA ***30*** *14:17:55.1±0.1, 3911N×14220E, h43km±1km, M3.8*
JMA Felt I J1.
IDC ***30*** *14:17:56.7±2.1, 3908N×14229E, h66km±17km, mb3.6/11, mb1 3.7/15, mb1mx3.5/25, mbtmp3.6/15, Error ellipse: s-maj=28.9km s-min=12.3km az=93.0*
ISC 30 14:17:55.6±0.7, 3910N±004×14215E±010, h48km±5km, n41, σ0°93/50, mb3.9/15, 8D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**0.38**	**267**	⇓P	**Pn**	**14 18 04.9**	**-0.4**
OFUJ				S	**Sn**	**14 18 11.7**	**-0.5**
MIYJ	**Miyakonagasawa**	**0.54**	**332**	⇓P	**Pn**	**14 18 06.6**	**-0.6**
MIYJ				S	**Sn**	**14 18 14.4**	**-1.1**
JMK	**Ichinoseki**	**0.74**	**259**	⇓P	**Pn**	**14 18 09.7**	**-0.1**
JMK				S	**Sn**	**14 18 19.8**	**-0.3**
JOM	**Ohasama**	**0.76**	**299**	P	**Pn**	**14 18 10.1**	**0.0**
JTH	**Tanohata**	**0.86**	**345**	P	**Pn**	**14 18 10.6**	**-0.8**
JIO	**Ouri**	**0.90**	**224**	⇓P	**Pn**	**14 18 11.3**	**-0.6**
JIO				S	**Sn**	**14 18 22.5**	**-1.4**
JKZ	**Kuzumaki**	**1.08**	**324**	⇓P	**Pn**	**14 18 14.8**	**+0.4**
JANG	**Nango**	**1.36**	**339**	⇓P	**Pn**	**14 18 17.9**	**-0.3**
JOU	**Okura**	**1.38**	**238**	P	**Pn**	**14 18 18.8**	**+0.4**
JYK	**Kaneyama**	**1.41**	**263**	⇓P	**Pn**	**14 18 19.2**	**+0.4**
ERM	**Erimo**	**3.01**	**14**	*e*Pn	**Pn**	**14 18 41.3**	**+0.6**
MJAR	**Matsushiro Arr**	**4.03**	**232**	P	**Pn**	**14 18 56.9**	**+2.1**
3.2nm,0.3s,baz=38,slow=12,SNR=68							
MAJO	**Matsushiro**	**4.04**	**232**	*e*Pn	**Pn**	**14 18 56.4**	**+1.5**
MAT	**Matsushiro**	**4.04**	**232**	P	**Pn**	**14 18 56.9**	**+2.1**
MAT				*e*S	**Sn**	**14 19 44.5**	**+3.7**
ASAJ	**Asahikawa**	**5.02**	**4**	P	**Pn**	**14 19 09.5**	**+1.2**
ASAJ				S	**Sn**	**14 20 07.6**	**+2.6**
ASAJ				pmax	pmax		
comp=Z,1.0nm,0.3s							
ASAJ				smax			
comp=N,1.0nm,0.3s							
ASAJ	**Asahikawa**	**5.02**	**4**	P	**Pn**	**14 19 09.4**	**+1.1**
comp=N,1.4nm,0.3s,baz=230,slow=11,SNR=13							
ASAJ				S	**Sn**	**14 20 07.5**	**+2.5**
comp=N,1.0nm,0.3s,baz=150,slow=20,SNR=3.0							
YUK	**Yuzh-Kuril'sk**	**5.66**	**28**	⇓P	**Pn**	**14 19 16.0**	**-1.1**
YUK				*e*S	**Sn**	**14 20 15.5**	**-5.2**
YUK				smax			
comp=N,300nm,0.5s							
YUK				smax			
comp=E,200nm,0.5s							
JHJ	**Hachijo jima 2**	**6.27**	**199**	P	**Pn**	**14 19 25.4**	**-0.1**
comp=E,2.8nm,0.3s,baz=19,slow=16,SNR=7.8							
JHJ				S	**Sn**	**14 20 32.1**	**-3.7**
comp=E,9.8nm,0.3s,baz=273,slow=23,SNR=7.2							
YSS	**Yuzh-Sakhalins**	**7.86**	**3**	*e*P	**Pn**	**14 19 48.1**	**+0.9**
KSRS	**Korea Array**	**11.31**	**266**	P	**Pn**	**14 20 38.6**	**+4.2**
comp=E,0.1nm,0.3s,baz=78,slow=14,SNR=3.3							
BOD	**Bodaibo**	**26.13**	**325**	*e*P	**P**	**14 23 20.8**	**-4.1**
SONM	**Songino Array**	**27.18**	**300**	P	**P**	**14 23 34.9**	**+0.5**
comp=E,0.3nm,0.6s,mb3.0,baz=86,slow=9.4,SNR=3.2							
ZAK	**Zakamensk**	**29.50**	**305**	*e*P	**P**	**14 23 54.3**	**-0.7**
ZAK				pmax	pmax		
comp=Z,1.0nm,0.9s,mb3.5							
ZALV	**Zalesovo Beam**	**40.98**	**311**	P	**P**	**14 25 32.3**	**-1.2**
comp=Z,1.0nm,0.5s,mb3.7,baz=98,slow=9.8,SNR=5.0							
ZAL	**Zalesovo**	**40.99**	**311**	P	**P**	**14 25 32.3**	**-1.3**
MKAR	**Makanchi Array**	**43.54**	**300**	P	**P**	**14 25 54.9**	**+0.4**
comp=Z,1.7nm,0.7s,mb3.9,baz=84,slow=9.9,SNR=25							
KURK	**Kurchatov**	**45.14**	**307**	*e*P	**P**	**14 26 07.1**	**-0.1**
comp=Z,4.1nm,0.8s,mb4.3							
KURK	**Kurchatov**	**45.14**	**307**	*e*P	**P**	**14 26 07.1**	**-0.1**
KURK				pmax	pmax		
comp=Z,4.0nm,0.8s,mb4.3							
TKM2	**Tokmak 2**	**49.18**	**297**	*e*P	**P**	**14 26 39.8**	**+1.0**
comp=Z,2.8nm,0.8s,mb4.3							
TKM2	**Tokmak 2**	**49.18**	**297**	*e*P	**P**	**14 26 39.8**	**+1.0**
TKM2				pmax	pmax		
comp=Z,3.0nm,0.8s,mb4.4							
BVAR	**Borovoye Array**	**49.63**	**311**	P	**P**	**14 26 42.3**	**+0.3**
comp=Z,1.4nm,0.5s,mb4.2,baz=65,slow=6.8,SNR=13							
BRVK	**Borovoye**	**49.69**	**311**	*e*P	**P**	**14 26 42.7**	**+0.3**
comp=Z,1.2nm,0.5s,mb4.2							
BRVK	**Borovoye**	**49.69**	**311**	*e*P	**P**	**14 26 42.7**	**+0.3**
BRVK				pmax	pmax		
comp=Z,1.0nm,0.5s,mb4.1							
AKTK	**Aktyubinsk**	**57.74**	**311**	P	**P**	**14 27 41.4**	**0.0**
AKTO	**Aktyubinsk**	**57.74**	**311**	P	**P**	**14 27 41.4**	**0.0**
comp=Z,1.3nm,0.7s,mb4.1,baz=69,slow=12,SNR=7.2							
WRA	**Warramunga Arr**	**59.19**	**189**	P	**P**	**14 27 50.7**	**-0.9**
comp=Z,0.4nm,0.4s,mb3.8,baz=6.5,slow=7.0,SNR=13							
ARCES	**ARCESS Array B**	**62.27**	**339**	P	**P**	**14 28 11.9**	**-0.2**
comp=Z,3.0nm,0.9s,mb4.4,baz=70,slow=11,SNR=3.4							
ASAR	**Alice Springs**	**62.91**	**188**	P	**P**	**14 28 16.6**	**-0.2**
comp=Z,0.3nm,0.7s,mb3.5,baz=12,slow=8.1,SNR=5.0							
FINES	**FINESS Array B**	**67.26**	**332**	P	**P**	**14 28 45.0**	**+0.3**
comp=Z,1.3nm,0.7s,mb4.1,baz=46,slow=6.4,SNR=4.1							
NOA	**NORSAR Array B**	**72.51**	**337**	P	**P**	**14 29 16.4**	**-0.6**
comp=Z,0.6nm,0.8s,mb3.6,baz=38,slow=6.3,SNR=3.2							
AKASG	**Malin Array Be**	**73.02**	**322**	P	**P**	**14 29 19.1**	**-1.0**
comp=Z,0.2nm,0.3s,mb3.5,baz=45,slow=5.8,SNR=4.6							

IDC ***30*** *14:43:21.5±13.0, 5638S×2721W, h170km±120km, mb3.6/4, mb1 3.8/4, mb1mx3.5/14, mbtmp3.6/4, Error ellipse: s-maj=70.4km s-min=20.5km az=66.0*
NEIC 30 14:43:19.0±0.8, 5642S×2718W, h150km, mb3.9/1, Error ellipse: s-maj=43.7km s-min=18.3km az=58.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPUP	**Villa Florida**	**37.06**	**312**	P	P	14 50 13.4	-0.9
0.4nm,0.4s,baz=140,slow=7.9,SNR=2.8							
VNDA	**Vanda**	**46.20**	**183**	*e*P	P	14 51 29.0	+1.0
2.5nm,0.7s							
VNDA	**Vanda**	**46.20**	**183**	P	P	14 51 29.3	+1.3
2.4nm,0.7s,baz=181,slow=5.6,SNR=10							
LPAZ	**La Paz**	**50.60**	**305**	P	P	14 52 04.2	+1.9
2.3nm,0.6s,baz=121,slow=5.9,SNR=13							
PPT	**Papeete**	**91.98**	**234**	P	P	14 56 09.6	-1.0
39nm,0.5s,baz=201,slow=8.6,SNR=4.1							
ASAR	**Alice Springs**	**98.64**	**162**	P	P	14 56 39.7	-1.1
0.2nm,0.5s,baz=179,slow=4.0,SNR=9.5							
WRA	**Warramunga Arr**	**102.35**	**162**	P	Pdif	14 56 57.7	+0.3
0.4nm,1.1s,baz=192,slow=4.7,SNR=3.3							
YKA	**Yellowknife Ar**	**136.45**	**318**	PKP	PKPdf	15 02 21.5	+0.2
0.3nm,0.6s,baz=127,slow=2.4,SNR=7.1							
SONM	**Songino Array**	**150.74**	**87**	PKPbc	PKPbc	15 02 52.5	+0.3
0.8nm,0.5s,baz=220,slow=2.6,SNR=7.5							
MCK	**McKinley**	**151.01**	**309**	*e*PKPbc	PKPbc	15 02 53.0	+0.7

IDC 30 14:58:04.6±37.0, 1763S×17318E, h0km, mb4.1/4, mb1 4.3/4, mb1mx3.9/14, mbtmp4.1/4, Error ellipse: s-maj=628.1km s-min=119.2km az=71.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**25.59**	**260**	P	P	15 03 35.9	+0.1
0.8nm,0.3s,baz=122,slow=12,SNR=3.7							
STKA	**Stephens Creek**	**31.86**	**238**	P	P	15 04 32.8	+1.2
1.4nm,0.6s,baz=76,slow=12,SNR=5.1							
WB2	**Warramunga Arr**	**36.78**	**260**	*e*P	P	15 05 13.7	-0.7
WRA	**Warramunga Arr**	**36.79**	**260**	P	P	15 05 13.8	-0.7
0.6nm,0.3s,baz=98,slow=8.4,SNR=39							
ASAR	**Alice Springs**	**37.16**	**254**	P	P	15 05 17.4	-0.2
5.7nm,0.4s,baz=80,slow=8.8,SNR=62							
FITZ	**Fitzroy Crossi**	**45.15**	**262**	*e*P	P	15 06 25.7	+2.3
2.0nm,0.5s							

IDC ***30*** *15:32:11.1±1.2, 2.17N×127.11E, h0km, mb3.5/6, mb1 3.7/6, mb1mx3.6/16, mbtmp3.6/6, Error ellipse: s-maj=93.5km s-min=18.6km az=71.0*
ISCJB ***30*** *15:32:14.4±1.0, 2.1N±0.02×1268E±0.5, h33km, mb3.6/6, Error ellipse: s-maj=73.8km s-min=14.0km az=161.1*
NEIC ***30*** *15:32:16.2±0.7, 2.15N×127.19E, h35km, mb3.9/1, Error ellipse: s-maj=54.3km s-min=10.3km az=71.0*
ISC 30 15:32:16.4±1.0, 21N±02×1272E±05, h35km, n12, σ0°37/13, mb3.6/6, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**20.18**	**184**	P	**P**	**15 36 48.3**	**+0.3**
FITZ				*e*Pn	**P**	**15 36 48.4**	**+0.4**
FITZ	**Fitzroy Crossi**	**20.18**	**184**	P	**P**	**15 36 48.3**	**+0.3**
1.2nm,0.7s,baz=38,slow=14,SNR=4.2							
WRAB	**Tennant Creek**	**23.05**	**163**	*e*P	**P**	**15 37 18.4**	**-0.3**
2.3nm,0.6s,mb3.8							
WRA	**Warramunga Arr**	**23.05**	**163**	P	**P**	**15 37 18.6**	**-0.2**
1.4nm,0.3s,mb3.8,baz=342,slow=10,SNR=36							
WB2	**Warramunga Arr**	**23.05**	**163**	*e*P	**P**	**15 37 19.3**	**+0.5**
WB2	**Warramunga Arr**	**23.05**	**163**	*e*P	**P**	**15 37 18.9**	**0.0**
ASAR	**Alice Springs**	**26.48**	**166**	P	**P**	**15 37 50.1**	**-0.4**
0.4nm,0.4s,mb3.3,baz=343,slow=7.2,SNR=13							
ASAR				PcP	PcP	15 41 15.1	-0.1
0.2nm,0.6s,baz=337,slow=2.4,SNR=4.5							
STKA	**Stephens Creek**	**36.50**	**159**	*e*P	**P**	**15 39 18.8**	**+0.4**
3.0nm,1.8s,mb3.8							
STKA	**Stephens Creek**	**36.50**	**159**	*e*P	**P**	**15 39 18.8**	**+0.3**
STKA	**Stephens Creek**	**36.50**	**159**	P	**P**	**15 39 18.9**	**+0.5**
1.2nm,0.6s,mb3.9,baz=317,slow=11,SNR=4.6							
SONM	**Songino Array**	**48.93**	**342**	P	**P**	**15 40 59.4**	**+0.4**
0.5nm,0.8s,mb3.6,baz=159,slow=7.3,SNR=3.6							
MKAR	**Makanchi Array**	**59.10**	**326**	P	**P**	**15 42 12.8**	**-0.5**
0.1nm,0.3s,mb3.4,baz=138,slow=6.7,SNR=2.5							

FUNV ***30*** *15:32:48.8, 1076N×6239W, h73km, MW2.4*
ISCJB ***30*** *15:32:49.3±1.0, 1077N±008×6249W±004, h68km±10km, Error ellipse: s-maj=13.2km s-min=5.7km az=4.3*
TRN ***30*** *15:32:52.4, 1133N×6199W, h17km, MD2.5*
NEIC ***30*** *15:32:52.4, 1133N×6199W, h17km, MD2.5(TRN), After TRN.*
ISC 30 15:32:50.0±0.9, 1077N±008×6249W±003, h65km±10km, n11, σ0°80/19, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIV	**Guiria**	**0.29**	**115**	*e*P	**Pn**	**15 32 59.9**	**-0.7**
GUIV				*e*S	**Sn**	**15 33 07.7**	**-0.5**
TCE	**Chacachacare**	**0.73**	**96**	*e*P	**Pn**	**15 33 05.1**	**+0.2**
TCE				*e*S	**Sn**	**15 33 15.9**	**+0.1**
CRUV	**Carupano**	**0.74**	**263**	*e*P	**Pn**	**15 33 04.7**	**-0.3**
CRUV				*e*S	**Sn**	**15 33 16.1**	**0.0**
GUNV	**Guanoco**	**0.75**	**217**	*e*P	**Pn**	**15 33 05.1**	**0.0**
GUNV				*e*S	**Sn**	**15 33 17.3**	**+1.0**
ITEV	**Isla Los Testi**	**0.86**	**313**	*e*P	**Pn**	**15 33 06.4**	**0.0**
ITEV				*e*S	**Sn**	**15 33 19.3**	**+0.6**
TRN	**Trinidad (W)**	**1.07**	**96**	*e*P	**Pn**	**15 33 10.0**	**+0.8**
TRN				*e*S	**Sn**	**15 33 21.7**	**-1.8**
TPP	**Pointe-a-Pierr**	**1.11**	**114**	*e*P	**Pn**	**15 33 14.6**	**+4.9**
TPP				*e*S	**Sn**	**15 33 28.6**	**+4.2**
TBH	**Brigand Hill**	**1.43**	**101**	*e*P	**Pn**	**15 33 14.5**	**+0.6**
TBH				*e*S	**Sn**	**15 33 32.9**	**+1.1**
CUPV	**Cœpira**	**3.32**	**258**	*e*P	**Pn**	**15 33 39.4**	**-0.2**
BIRV	**Birongo**	**3.73**	**266**	*e*P	**Pn**	**15 33 44.3**	**-0.8**
LUEV	**Luepa**	**5.00**	**168**	*e*P	**Pn**	**15 33 59.0**	**-3.5**

IDC 30 15:34:01.8±53.0, 1594S×17479W, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.7/14, mbtmp4.0/3, Error ellipse: s-maj=1002.0km s-min=165.1km az=78.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**42.61**	**240**	P	P	15 42 00.7	+0.7
0.6nm,0.3s,baz=61,slow=8.7,SNR=8.0							
WRA	**Warramunga Arr**	**48.42**	**257**	P	P	15 42 45.5	-0.7
0.4nm,0.4s,baz=97,slow=7.2,SNR=19							
ASAR	**Alice Springs**	**48.68**	**252**	P	P	15 42 48.0	-0.1
3.9nm,0.5s,baz=89,slow=7.9,SNR=43							

ISCJB ***30*** *15:38:50.6±0.4, 5403S±006×59E±0.1, h10km, mb4.6/19, MS5.1/42, Error ellipse: s-maj=12.8km s-min=7.3km az=20.0*
IDC ***30*** *15:38:50.9±0.6, 5398S×596E, h0km, mb4.4/13, mb1 4.5/14, mb1mx4.4/18, mbtmp4.4/14, ML3.4/1, MS5.0/18, Ms1 5.0/18, ms1mx4.9/22, Error ellipse: s-maj=19.5km s-min=16.4km az=69.0*
NEIC ***30*** *15:38:52.5±0.4, 5400S×608E, h10km, mb5.1/11, MS5.1/15, Error ellipse: s-maj=16.0km s-min=12.0km az=116.0*
BJI ***30*** *15:38:52.5, 5400S×610E, h10km, mB5.5, Ms5.3, Msz4.9*
GCMT ***30*** *15:38:52.5±0.1, 5400S×682E, h15km, MW5.6/108, Moment Tensor Solution. s88,c152; s108,c261; Duration: 19s6 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.46±.03; $M_{\theta\theta}$3.44±.04; $M_{\phi\phi}$-2.98±.04; $M_{r\theta}$0.17±.07; $M_{\theta\phi}$0.29±.03; $M_{\phi r}$0.12±.07; Best double couple: $M_0$3.22900×10^{17} NP1:ϕ_s132.00000°, δ86.00000°, λ0.00000°. NP2:ϕ_s42.00000°, δ90.00000°, λ176.00000°. Principal axes: T 3.4610, Plg3.0000°, Azm357.0000°; N -0.4630, Plg86.0000°, Azm221.0000°; P -2.9970, Plg2.0000°, Azm88.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
MOS ***30*** *15:38:55.8±1.6, 5364S×591E, h33km, mb5.3/5, MS5.1/4 Error ellipse: s-maj=28.9km s-min=16.7km az=83.2*
ISC 30 15:38:52.4±0.4, 5404S±006×61E±01, h10km, n103, σ1°41/48, mb4.6/19, MS5.1/42, 1C-1D, Bouvet Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAIT	**Maitri**	**16.98**	**174**	*e*P	**Pn**	**15 42 44.3**	**-5.3**
VNA1	**Neumayer--Stat**	**17.86**	**196**	*e*	**Pn**	**15 43 01.1**	**+0.6**
VNA1				*e*		15 43 14.0	
VNA1				*e*		15 43 39.0	
VNA1				*e*		15 46 08.2	
VNA1				*e*		15 46 13.7	
VNA2	**Neumayer--Watz**	**17.97**	**194**	*e*	**Pn**	**15 43 00.9**	**-1.0**
baz=12,slow=16							
VNA2				*e*		15 43 08.1	
VNA2				*e*		15 43 14.0	
VNA2				*e*		15 43 36.3	
VNA2				*e*		15 46 08.0	
VNA2				*e*		15 46 14.2	
SNAA	**Sanae**	**18.12**	**189**	*e*	**Pn**	**15 43 01.9**	**-1.8**
SNAA				*e*		15 43 12.1	
SNAA				*e*		15 43 16.1	
SNAA				*e*		15 46 11.2	
SNAA				*e*		15 46 16.1	
SNAA	**Sanae**	**18.12**	**189**	P	**Pn**	**15 43 02.4**	**-1.3**
0.1nm,0.3s,baz=26,slow=16,SNR=28							
SNAA				S	**Sn**	**15 46 08.2**	**-17**
0.2nm,0.3s,baz=198,slow=20,SNR=6.8							
SNAA				LR	LR	15 48 35.9	
comp=Z,2μm,20.3s,baz=23,slow=32							
VNA3	**Neumayer Olymp**	**18.61**	**196**	*e*	**Pn**	**15 43 07.8**	**-1.9**
VNA3				*e*		15 43 15.7	
VNA

LBTB	**Lobatse**	**32.43**	**34**	*e*P	**P**	**15 45 21.8**	**-0.6**
LBTB				LR	LR		
comp=Z,4μm,21.0s,MS5.1							
TSUM	**Tsumeb**	**35.88**	**19**	*e*P	**P**	**15 45 50.7**	**-1.7**
comp=Z,29nm,1.0s,mb5.2							
QSPA	**South Pole Qui**	**36.20**	**180**	P	**P**	**15 45 53.5**	**-1.0**
comp=Z,4.9nm,0.5s,mb4.7,baz=239,slow=3.9,SNR=32							
QSPA				LR	LR	15 59 51.5	
comp=Z,4μm,21.4s,MS5.1,baz=266,slow=35							
LSZ	**Lusaka**	**42.36**	**33**	*e*P	**P**	**15 46 44.4**	**-2.1**
comp=Z,5.5nm,1.0s,mb4.1							
LSZ	**Lusaka**	**42.36**	**33**	*e*P	**P**	**15 46 44.4**	**-2.1**
LSZ				pmax	pmax		
comp=Z,6.0nm,1.0s,mb4.2							
ABPO	**Ambohimpanom**	**47.00**	**58**	*e*P	**P**	**15 47 25.1**	**+1.5**
SBA	**Scott Base**	**47.83**	**175**	P	**P**	**15 47 30.2**	**+0.8**
comp=Z,24nm,1.1s,mb5.1							
SBA				LR	LR		
comp=Z,2μm,22.0s,MS5.0							
SBA	**Scott Base**	**47.83**	**175**	P	**P**	**15 47 35.4**	**+6.0**
SBA				pmax	pmax		
comp=Z,24nm,1.1s,mb5.1							
VNDA	**Vanda**	**47.84**	**173**	*e*P	**P**	**15 47 27.8**	**-1.7**
comp=Z,30nm,1.3s,mb5.2							
VNDA				LR	LR	16 07 04.2	
VNDA	**Vanda**	**47.84**	**173**	*e*P	**P**	**15 47 27.8**	**-1.6**
VNDA				pmax	pmax		
comp=Z,30nm,1.3s							
VNDA	**Vanda**	**47.84**	**173**	P	**P**	**15 47 30.8**	**+1.4**
comp=Z,12nm,1.1s,mb4.8,baz=226,slow=6.8,SNR=8.3							
VNDA				LR	LR	16 07 04.2	
comp=Z,3μm,19.8s,MS5.3,baz=197,slow=35							
TRQA	**Tornquist**	**47.98**	**260**	*e*P	**P**	**15 47 33.8**	**+2.8**
comp=Z,19nm,1.1s,mb5.0							
PLCA	**Paso Flores**	**51.08**	**252**	P	**P**	**15 47 56.7**	**+2.1**
comp=Z,2.0nm,0.9s,mb4.0,baz=131,slow=14,SNR=3.0							
PLCA				LR	LR	16 05 17.8	
comp=Z,923nm,22.0s,MS4.8,baz=131,slow=31							
CPUP	**Villa Florida**	**53.64**	**275**	*e*P	**P**	**15 48 12.3**	**-1.5**
comp=Z,48nm,0.9s,mb5.4							
CPUP				LR	LR		
comp=Z,181nm,19.0s,MS4.2							
CPUP	**Villa Florida**	**53.64**	**275**	*e*P	**P**	**15 48 12.4**	**-1.4**
CPUP				pmax	pmax		
comp=Z,48nm,0.9s							
CPUP				MLR	MLR		
comp=Z,181nm,19.0s							
CPUP	**Villa Florida**	**53.64**	**275**	P	**P**	**15 48 13.1**	**-0.8**
comp=Z,11nm,1.0s,mb4.7,baz=106,slow=9.4,SNR=4.3							
DRV	**Dumont d'Urvil**	**54.70**	**159**	P	**P**	**15 48 30.0**	**+9.0**
DRV	**Dumont d'Urvil**	**54.70**	**159**	PP	PP	15 50 32.0	+8.9
DRV				S	**S**	**15 56 08.0**	**+7.3**
DRV				SS	SS	15 59 01.0	-42
DRV				R		16 04 00.0	
CFAA	**Coronel Fontan**	**56.16**	**262**	P	**P**	**15 48 31.3**	**-0.7**
comp=Z,0.8nm,0.9s,mb3.7,baz=126,slow=6.8,SNR=4.3							
BDFB	**Brasilia**	**56.68**	**291**	P	**P**	**15 48 36.8**	**+0.9**
comp=Z,1.1nm,0.5s,mb4.1,baz=158,slow=19							
BDFB				LR	LR	16 08 19.0	
comp=Z,591nm,18.5s,MS4.7,baz=312,slow=31							
KMBO	**Kilima Mbogo**	**58.63**	**37**	*e*P	**P**	**15 48 52.0**	**+2.5**
comp=Z,2.5nm,1.0s,mb4.2							
KMBO				LR	LR		
comp=Z,3μm,19.0s,MS5.4							
KMBO	**Kilima Mbogo**	**58.63**	**37**	*e*P	**P**	**15 48 52.0**	**+2.4**
KMBO				pmax	pmax		
comp=Z,2.0nm,1.0s							
KMBO				MLR	MLR		
comp=Z,3μm,19.0s							
KMBO	**Kilima Mbogo**	**58.63**	**37**	LR	LR	16 12 45.9	
comp=Z,3μm,18.1s,MS5.5,baz=28,slow=35							
DBIC	**Dimbokro**	**61.19**	**348**	*e*P	**P**	**15 49 06.9**	**-0.1**
comp=Z,52nm,1.5s,mb5.4							
DBIC	**Dimbokro**	**61.19**	**348**	*e*P	**P**	**15 49 06.9**	**-0.2**
DBIC				pmax	pmax		
comp=Z,52nm,1.5s							
DBIC	**Dimbokro**	**61.19**	**348**	P	**P**	**15 49 07.2**	**+0.1**
comp=Z,9.3nm,1.0s,mb4.9,baz=144,slow=8.4,SNR=6.2							
DBIC				LR	LR	16 11 27.4	
comp=Z,1μm,18.2s,MS5.1,baz=108,slow=32							
LPAZ	**La Paz**	**67.74**	**273**	*e*P	**P**	**15 49 50.5**	**+0.4**
comp=Z,18nm,0.8s,mb5.1							
LPAZ				LR	LR		
comp=Z,810nm,22.0s,MS4.9							
LPAZ	**La Paz**	**67.74**	**273**	*e*P	**P**	**15 49 50.5**	**+0.5**
LPAZ				pmax	pmax		
comp=Z,18nm,0.8s							
LPAZ				MLR	MLR		
comp=Z,810nm,22.0s							
LPAZ	**La Paz**	**67.74**	**273**	P	**P**	**15 49 50.6**	**+0.6**
comp=Z,13nm,1.1s,mb4.9,baz=121,slow=6.5,SNR=14							
LPAZ				LR	LR	16 17 07.5	
comp=Z,691nm,22.0s,MS4.8,baz=281,slow=34							
RPZ	**Rata Peaks**	**81.77**	**169**	LR	LR	16 25 06.9	
comp=Z,2μm,20.6s,MS5.4,baz=202,slow=34							
STKA	**Stephens Creek**	**86.18**	**143**	P	**P**	**15 51 34.5**	**+0.8**
STKA	**Stephens Creek**	**86.18**	**143**	P	**P**	**15 51 34.5**	**+0.8**
comp=Z,4.3nm,0.8s,mb4.7,baz=224,slow=4.7,SNR=11							
URZ	**Urewera**	**87.74**	**173**	LR	LR	16 31 38.4	
comp=Z,902nm,18.2s,MS5.2,baz=194,slow=36							
ROSC	**El Rosal**	**88.31**	**281**	LR	LR	16 27 39.8	
comp=Z,1μm,21.9s,MS5.2,baz=185,slow=33							
KEST	**Kesra**	**89.45**	**3**	LR	LR	16 30 21.2	
comp=Z,399nm,18.0s,MS4.9,baz=6.2,slow=35							
ASAR	**Alice Springs**	**90.52**	**134**	P	**P**	**15 51 55.1**	**+0.7**
comp=Z,2.2nm,1.0s,mb4.5,baz=199,slow=4.1,SNR=12							
ESDC	**Sonseca Array**	**93.75**	**352**	LR	LR	16 31 55.1	
comp=Z,381nm,19.0s,MS4.9,baz=160,slow=34							
WRA	**Warramunga Arr**	**93.98**	**132**	P	**P**	**15 52 12.4**	**+1.9**
comp=Z,0.3nm,0.8s,mb3.8,baz=204,slow=4.3,SNR=2.9							
WRA				LR	LR	16 28 22.2	
comp=Z,501nm,19.5s,MS5.0,baz=190,slow=32							
RKT	**Rikitea**	**96.16**	**216**	*e*SS	SS	16 10 10.9	+1.3
comp=Z,453nm,28.8s							
RKT	**Rikitea**	**96.16**	**216**	*e*LR	LR	16 23 30.5	
comp=Z,506nm,37.5s							
RAO	**Raoul Island**	**96.98**	**176**	LR	LR	16 35 46.2	
comp=Z,919nm,19.5s,MS5.3,baz=177,slow=35							
TBI	**Tubuai**	**100.10**	**203**	*e*SS	SS	16 11 10.3	+5.5
comp=Z,325nm,31.5s							
TBI				*e*LQ		16 21 01.7	
comp=Z,658nm,34.2s							
TBI				*e*LR	LR	16 25 29.1	
comp=Z,976nm,38.2s							
KHC	**Kasperske Hory**	**102.99**	**5**	*e*SP	SP	16 06 06.3	-5.0
KHC				AMS	AMS	16 35 00.0	
comp=Z,500nm,27.2s,MS4.9							
TREC	**Trest**	**103.26**	**6**	AMS	AMS	16 46 00.0	
comp=Z,600nm,16.2s,MS5.2							
PRU	**Pruhonice**	**103.90**	**6**	*e*SP	SP	16 06 15.3	-5.6
PRU				*e*SS	SS	16 11 52.0	-7.0
PRU				AMS	AMS	16 34 30.0	
comp=Z,400nm,23.4s,MS4.9							
OKC	**Ostrava-Krasne**	**104.00**	**8**	*e*SP	SP	16 05 58.6	-23
OKC				AMS	AMS	16 47 00.0	
comp=Z,600nm,19.2s,MS5.1							
NKC	**Novy Kostel**	**104.04**	**4**	AMS	AMS	16 43 00.0	
comp=Z,500nm,15.9s,MS5.2							
DPC	**Dobruska-Polom**	**104.37**	**7**	*e*SP	SP	16 06 20.8	-5.0
DPC				*e*SS	SS	16 12 01.4	-4.1
DPC				AMS	AMS	16 38 50.0	
comp=Z,300nm,20.0s,MS4.8							
PVCC	**Panska Ves**	**104.44**	**6**	AMS	AMS	16 40 10.0	
comp=Z,500nm,19.3s,MS5.1							
CLL	**Collm**	**105.14**	**4**	*e*PP	PP	15 57 24.0	+2.8
CLL				*e*PPP		15 59 42.0	
CLL				*e*PS	PS	16 06 38.0	+3.0
CLL				*e*PPS		16 07 31.0	
CLL				*ex*	x	16 10 12.0	
CLL				*e*SS	SS	16 12 15.0	-0.9
CLL				*e*SSS		16 16 28.0	
CLL				*e*SSSS		16 20 12.0	
PPT	**Papeete**	**105.69**	**204**	*e*SS	SS	16 12 33.5	+11
comp=Z,491nm,27.2s							
PPT	**Papeete**	**105.69**	**204**	*e*LQ		16 23 07.2	
comp=Z,2μm,32.5s							
PPT				*e*LR	LR	16 28 01.2	
comp=Z,545nm,22.8s							
KMI	**Kunming**	**113.74**	**80**	PKP	PKiKP	15 57 31.8	+1.0
KMI				PP	PP	15 58 26.5	+2.6
KMI				PPP		16 00 50.5	
KMI				SKKS	SKKSac	16 05 23.0	-2.4
KMI				SS	SS	16 14 16.3	+4.1
KMI				SSS		16 18 13.5	
KMI				LR	LR		
comp=N,132nm,16.4s,MS4.8							
KMI				LR	LR		
comp=E,150nm,12.9s,MS4.8							
KMI				LR	LR		
comp=Z,215nm,17.1s,MS4.8							
CD2	**Chengdu**	**118.69**	**76**	*e*PKP	PKPdf	15 57 42.8	+2.7
CD2				XPKP		15 57 50.3	
CD2				PP	PP	15 59 07.3	+8.7
CD2				PKS		16 01 18.0	
CD2				SKS	SKSdf	16 04 49.8	-2.2
CD2				SKKS	SKKSac	16 05 55.3	-3.0
CD2				SS	SS	16 15 21.3	+4.3
CD2				LR	LR		
comp=N,260nm,20.4s							
CD2				LR	LR		
comp=Z,220nm,22.8s,MS4.7							
BRVK	**Borovoye**	**119.25**	**39**	PFAKE		15 57 50.0	+10
BRVK				LR	LR		
comp=Z,579nm,20.0s,MS5.2							
MKAR	**Makanchi Array**	**119.33**	**50**	PKP	PKPdf	15 57 42.1	+1.3
comp=Z,0.2nm,0.3s,baz=264,slow=1.2,SNR=6.1							
WMQ	**Urumqi**	**119.65**	**55**	*e*PKP	PKPdf	15 57 45.8	+4.3
WMQ				PP	PP	15 59 12.0	+7.0
WMQ				PKS		16 01 21.0	
WMQ				SKS	SKSdf	16 04 57.0	+3.9
WMQ				SS	SS	16 15 31.0	+2.0
WMQ				LR	LR		
comp=N,692nm,19.7s,MS5.5							
WMQ				LR	LR		
comp=E,726nm,19.2s,MS5.5							
WMQ				LR	LR		
comp=Z,698nm,20.5s,MS5.3							
KURK	**Kurchatov**	**120.70**	**45**	PFAKE		15 58 00.0	+17
KURK				LR	LR		
comp=Z,660nm,20.0s,MS5.3							
LZH	**Lanzhou**	**122.53**	**72**	*e*PKP	PKPdf	15 57 45.0	-2.3
LZH				XPKP		15 57 50.0	
LZH				PP	PP	15 59 28.0	+3.2
LZH				SKKS	SKKSac	16 06 15.0	-8.1
LZH				SS	SS	16 16 06.0	-0.1
LZH				PP	PP		
comp=Z,86nm,5.9s							
LZH				LR	LR		
comp=E,210nm,18.8s							
LZH				LR	LR		
comp=Z,310nm,19.9s,MS5.0							
GTA	**Gaotai**	**122.69**	**67**	*e*PKP	PKPdf	15 57 51.3	+3.8
XAN	**Xi'an**	**123.95**	**77**	PKP	PKPdf	15 57 52.5	+2.4
TXAR	**Lajitas Array**	**124.61**	**273**	PKP	PKPdf	15 57 51.5	0.0
comp=Z,0.2nm,0.6s,baz=116,slow=4.1,SNR=2.7							
WMOK	**Wichita Mounta**	**125.66**	**282**	PFAKE		15 58 10.0	+17
WMOK				LR	LR		
comp=Z,414nm,21.0s,MS5.1							
MNTX	**Cornudas Mount**	**127.34**	**274**	PFAKE		15 58 10.0	+13
MNTX				LR	LR		
comp=Z,349nm,21.0s,MS5.0							
NJ2	**Nanjing**	**128.32**	**87**	*e*PKP	PKPdf	15 57 56.3	-2.2
NJ2				PP	PP	16 00 06.0	+2.6
NJ2				PKS		16 01 31.0	
NJ2				SKKS	SKKSac	16 06 55.0	-5.2
NJ2				PP	PP		
comp=Z,130nm,6.4s							
NJ2				LR	LR		
comp=N,870nm,20.2s,MS5.7							
NJ2				LR	LR		
comp=E,1μm,17.9s,MS5.7							
SSE	**Sheshan**	**129.00**	**89**	PKP	PKPdf	15 58 02.0	+2.1
SSE				PP	PP	16 00 15.5	+7.6
SSE				SS	SS	16 17 32.8	+5.5
SSE				LR	LR		
comp=N,248nm,17.3s,MS5.0							
SSE				LR	LR		
comp=E,108nm,17.4s,MS5.0							
SSE				LR	LR		
comp=Z,221nm,16.6s,MS4.9							
HHC	**Hu-ho-hao-te**	**130.19**	**73**	*e*PKP	PKPdf	15 58 05.3	+3.5
HHC				PP	PP	16 00 25.0	+9.4
HHC				PKS		16 01 41.0	
HHC				SKS	SKSdf	16 05 11.0	-2.0
HHC				SKKS	SKKSac	16 07 12.8	+1.4
HHC				LR	LR		
comp=N,258nm,21.6s							
HHC				LR	LR		
comp=E,205nm,13.7s							
HHC				LR	LR		
comp=Z,216nm,40.2s							
ANMO	**Albuquerque**	**130.28**	**276**	PFAKE		15 58 10.0	+7.8
ANMO				LR	LR		
comp=Z,539nm,21.0s,MS5.2							
ZAK	**Zakamensk**	**131.87**	**59**	*e*PKIKP	PKPdf	15 58 07.1	+2.4
ZAK				pmax	pmax		
comp=Z,1.0nm,1.6s							
SONM	**Songino Array**	**131.88**	**63**	PKP	PKPdf	15 58 05.6	+0.9
comp=Z,1.1nm,0.8s,baz=232,slow=1.3,SNR=8.8							
KBS	**Kingsbay**	**132.76**	**2**	*e*SS	SS	16 18 13.3	+1.4
ULM	**Lac du Bonnet**	**134.26**	**299**	PFAKE		15 58 20.0	+11
ULM				LR	LR		
comp=Z,444nm,20.0s,MS5.2							
BW06	**Boulder Array**	**137.27**	**282**	PFAKE		15 58 30.0	+15
BW06				LR	LR		
comp=Z,375nm,20.0s,MS5.1							
NVAR	**Mina Array Bea**	**139.62**	**271**	PKP	PKPdf	15 58 21.8	+2.3
comp=Z,0.4nm,0.8s,baz=83,slow=3.9,SNR=3.6							
HIA	**Hailar**	**139.90**	**69**	PFAKE		15 58 30.0	+10
HIA				LR	LR		
comp=Z,593nm,21.0s,MS5.3							
CMB	**Columbia Colle**	**140.58**	**268**	PFAKE		15 58 30.0	+8.7
CMB				LR	LR		
comp=Z,232nm,21.0s,MS4.9							
BOD	**Bodaibo**	**141.18**	**54**	*e*PKHKP		15 58 15.6	
MJAR	**Matsushiro Arr**	**142.85**	**98**	PKP	PKPdf	15 58 26.7	+1.3
comp=Z,1.0nm,0.7s,baz=202,slow=3.7,SNR=5.6							
MDJ	**Mudanjiang**	**142.90**	**81**	PKP	PKPdf	15 58 27.0	+1.8
MDJ				PP	PP		
comp=Z,64nm,4.0s							
RES	**Resolute Bay**	**143.95**	**334**	*e*PKPpre		15 58 25.4	
HAWA	**Hanford**	**145.16**	**280**	*e*PKP	PKPdf	15 58 32.5	+3.5
CLNS	**Chul'man**	**146.17**	**60**	*e*PKIKP	PKPdf	15 58 30.1	-0.3
CLNS				pmax	pmax		
comp=Z,15nm,0.7s							
CLNS				pmax	pmax		
comp=N,8.0nm,0.9s							
CLNS				pmax	pmax		
comp=E,9.0nm,1.0s							
NLWA	**Neilton Lookou**	**148.22**	**279**	*e*PKPab	PKPab	15 58 41.8	+1.2
YKA	**Yellowknife Ar**	**148.78**	**310**	PKPbc	PKPbc	15 58 35.8	-2.6
comp=E,5.5nm,1.0s,baz=98,slow=2.5,SNR=22							
YAK	**Yakutsk**	**149.98**	**52**	*e*PKP2	PKPab	15 58 50.8	+3.4
YAK				pmax	pmax		
comp=Z,17nm,1.5s							
YAK				pmax	pmax		
comp=N,2.0nm,1.1s							
YAK				pmax	pmax		
comp=E,8.0nm,1.3s							
TIXI	**Tiksi**	**150.11**	**32**	*e*PKPbc	PKPbc	15 58 41.8	+0.2
TIXI	**Tiksi**	**150.11**	**32**	*e*PKIKP		15 58 24.5	
TIXI				*e*		15 58 40.9	
TIXI				pmax	pmax		
comp=Z,6.0nm,2.2s							
YSS	**Yuzh-Sakhalins**	**151.89**	**87**	*e*PKPbc	PKPbc	15 58 49.5	+3.1
YSS				*e*PKPab	PKPab	15 58 59.0	+3.3
YSS	**Yuzh-Sakhalins**	**151.89**	**87**	*e*PKIKP	PKPbc	15 58 49.8	+3.4
YSS				pmax	pmax		
comp=Z,20nm,1.0s							
LEF	**Lefka**	**1.33**	**116**	*e*PN	**Pn**	**15 39 53.8**	**-0.9**
LEF				*e*SN	**Sn**	**15 40 11.3**	**-0.8**
ANTB	**Antalya**	**1.35**	**332**	*e*PN	**Pn**	**15 39 54.4**	**-0.6**
SZAC	**Sounî-Zanaja**	**1.52**	**128**	P	**Pg**	**15 40 00.6**	**+0.8**
MAMC	**Mammari**	**1.55**	**110**	P	**Pn**	**15 39 57.4**	**-0.4**
AKAS	**Kas**	**1.57**	**290**	*e*P	**Pg**	**15 40 02.0**	**+1.2**
AKAS				*e*S	**Sg**	**15 40 29.3**	**+8.0**
AKAS	**Kas**	**1.57**	**290**	*e*P	**Pg**	**15 40 02.0**	**+1.1**
ELL	**Elmali**	**1.61**	**311**	*e*PN	**Pn**	**15 39 57.8**	**-0.8**
CSS	**Prodhromos**	**1.72**	**115**	P	**Pn**	**15 39 59.6**	**-0.5**
2.3nm,0.3s							
CSS				S	**Sn**	**15 40 20.5**	**-1.3**
LFK	**Lefkose**	**1.77**	**103**	*e*PN	**Pn**	**15 40 00.3**	**-0.4**
BCK	**Bucak**	**1.88**	**339**	*e*PN	**Pn**	**15 40 01.8**	**-0.5**
IKL	**Isikli**	**1.90**	**73**	*e*PN	**Pn**	**15 40 02.5**	**-0.1**
IKL				*e*SN	**Sn**	**15 40 25.7**	**-0.6**
FETY	**Fethiye**	**2.11**	**297**	*e*PN	**Pn**	**15 40 05.0**	**-0.5**
GOLH	**Golhisar**	**2.15**	**316**	*e*P	**Pg**	**15 40 10.4**	**-1.5**
GOLH				*e*S	**Sg**	**15 40 39.0**	**-0.7**
EREN	**Erenkoy**	**2.24**	**94**	*e*PN	**Pn**	**15 40 07.3**	**+0.2**
EREN	**Erenkoy**	**2.24**	**94**	*e*Pn	**Pn**	**15 40 07.3**	**+0.1**
ISP	**Isparta**	**2.26**	**341**	*e*PN	**Pn**	**15 40 06.9**	**-0.6**
KONT	**Konya--Tatoy**	**2.36**	**18**	*e*PN	**Pn**	**15 40 07.9**	**-0.9**
TKTP	**Tekketepe**	**2.49**	**339**	*e*P	**Pn**	**15 40 12.2**	**+1.5**
TKTP				*e*S	**Sn**	**15 40 43.0**	**+2.1**
MERS	**Mersin**	**2.75**	**64**	*e*PN	**Pn**	**15 40 14.7**	**+0.5**
KDHN	**Kadinhani**	**2.86**	**11**	*e*P	**Pn**	**15 40 14.6**	**-1.2**
KDHN				*e*S	**Sn**	**15 40 51.6**	**+1.6**
YER	**Yerkesik**	**2.91**	**300**	*e*PN	**Pn**	**15 40 16.2**	**-0.3**
KHL	**Karahalli**	**3.03**	**330**	*e*PN	**Pn**	**15 40 18.1**	**+0.1**
KARA	**Karaisali**	**3.31**	**61**	*e*PN	**Pn**	**15 40 22.0**	**+0.2**
NIG	**Nigde**	**3.50**	**46**	*e*PN	**Pn**	**15 40 25.4**	**+0.8**
KOZT	**Kozan**	**3.96**	**62**	*e*PN	**Pn**	**15 40 31.9**	**+1.1**
HHAG	**Hagoal**	**5.76**	**174**⇓	*e*P	**Pn**	**15 40 56.3**	**+0.6**
KOT	**Kottamia**	**5.77**	**177**⇓	*e*P	**Pn**	**15 40 56.6**	**+0.8**
HMAT	**Matruh**	**5.86**	**219**⇑	*e*P	**Pn**	**15 40 56.5**	**-0.4**
HMAT				S	**Sn**	**15 41 57.2**	**-6.6**
SUZ		**5.97**	**168**⇓	*e*P	**Pn**	**15 40 59.2**	**+0.7**
HSAF	**As Saff**	**6.07**	**179**⇑	*e*P	**Pn**	**15 41 00.7**	**+0.8**
HNAT	**Natroun**	**6.09**	**187**⇓	*e*P	**Pn**	**15 41 00.6**	**+0.4**
GLL	**Jalalah**	**6.12**	**178**⇑	*e*P	**Pn**	**15 41 01.1**	**+0.6**
AWBH		**7.67**	**197**⇓	*e*P	**Pn**	**15 41 22.1**	**+0.3**
SWA1		**8.04**	**219**	P	**Pn**	**15 41 26.0**	**-0.9**
SWA1				S	**Sn**	**15 42 49.5**	**-8.0**
SWA2		**8.18**	**220**⇑	*e*P	**Pn**	**15 41 28.2**	**-0.7**
SWA2		**8.18**	**220**	P	**Pn**	**15 41 28.2**	**-0.7**
HFRF	**Wahat Farafira**	**8.94**	**198**⇑	*e*P	**Pn**	**15 41 39.2**	**-0.1**

IDC 30 15:44:17.5±1.0, 2195N×14345E, h0km, mb3.6/7, mb1 3.8/7, mb1mx3.7/18, mbtmp3.6/7, Error ellipse: s-maj=35.0km s-min=22.3km az=86.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSRS	**Korea Array**	**20.46**	**322**	P	P	15 49 02.7	+6.0
1.2nm,0.9s,baz=141,slow=8.3,SNR=4.8							
SONM	**Songino Array**	**39.30**	**320**	P	P	15 51 48.2	+0.1
0.5nm,0.5s,baz=126,slow=7.6,SNR=5.3							
WRA	**Warramunga Arr**	**42.58**	**193**	P	P	15 52 15.5	+0.2
0.5nm,0.6s,baz=15,slow=8.8,SNR=6.4							
ASAR	**Alice Springs**	**46.29**	**192**	P	P	15 52 45.0	0.0
0.4nm,0.7s,baz=12,slow=8.5,SNR=5.7							
ZALV	**Zalesovo Beam**	**54.17**	**321**	P	P	15 53 43.7	-0.7
0.6nm,0.2s,baz=110,slow=8.1,SNR=4.1							
MKAR	**Makanchi Array**	**54.71**	**312**	P	P	15 53 48.6	0.0
0.2nm,0.2s,baz=94,slow=8.5,SNR=3.2							
YKA	**Yellowknife Ar**	**76.11**	**28**	P	P	15 56 08.7	+1.8
0.3nm,0.4s,baz=294,slow=5.6,SNR=6.0							
NVAR	**Mina Array Bea**	**82.79**	**52**	P	P	15 56 42.5	-1.2
0.2nm,0.4s,baz=317,slow=5.2,SNR=2.7							

*IDC **30** 15:50:21.1±4.5, 162N×99.12E, h0km, mb3.7/4, mb1 3.8/4, mb1mx3.5/19, mbtmp3.7/4, Error ellipse: s-maj=231.6km s-min=27.8km az=58.0*

*ISCJB **30** 15:50:24.0±1.4, 157N±009×99.1E±01, h33km, mb3.6/4, Error ellipse: s-maj=19.1km s-min=13.1km az=172.7*

ISC 30 15:50:26.6±1.4, 159N±009×992E±01, h35km, n15, σ0$54/15, mb3.6/4, 6C-5D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FRIM	**Kepong**	**2.94**	**56**	⇓P	**Pn**	**15 51 10.4**	**-0.4**
IPM	**Ipoh**	**3.41**	**33**	⇑P	**Pn**	**15 51 17.8**	**+0.5**
KULM	**Kulim**	**3.96**	**22**	⇓P	**Pn**	**15 51 25.0**	**+0.2**
KGM	**Kluang**	**4.16**	**84**	⇓P	**Pn**	**15 51 27.7**	**+0.1**
MYKOM	**Kota Tinggi**	**4.67**	**88**	⇑P	**Pn**	**15 51 35.7**	**+1.0**
KTGM	**Kuala Trenggan**	**5.42**	**47**	⇑P	**Pn**	**15 51 45.2**	**+0.2**
KSM	**Kuching**	**11.13**	**90**	⇓P	**Pn**	**15 53 02.4**	**-0.9**
SBUM	**Sibu**	**13.06**	**86**	⇑P	**Pn**	**15 53 34.3**	**+4.5**
BTM	**Bintulu**	**13.98**	**83**	⇑P	**Pn**	**15 53 50.1**	**+7.7**
TSM	**Tawau**	**18.86**	**81**	⇑P	**Pn**	**15 54 50.5**	**+5.8**
MYLDM	**Lahad Datu**	**19.61**	**79**	⇓P	**Pn**	**15 54 52.9**	**-0.8**
WRA	**Warramunga Arr**	**40.59**	**124**	P	**P**	**15 58 03.4**	**+0.3**
0.8nm,0.8s,mb3.4,baz=302,slow=9.1,SNR=8.5							
ASAR	**Alice Springs**	**42.08**	**129**	P	**P**	**15 58 15.2**	**-0.1**
0.4nm,0.9s,mb3.1,baz=296,slow=6.9,SNR=3.9							
STKA	**Stephens Creek**	**52.17**	**133**	P	**P**	**15 59 34.4**	**+0.4**
1.8nm,1.0s,mb4.0,baz=310,slow=9.3,SNR=2.5							
ZALV	**Zalesovo Beam**	**53.51**	**349**	P	**P**	**15 59 43.0**	**-0.5**
0.7nm,0.4s,mb4.0,baz=153,slow=6.4,SNR=5.2							

IDC 30 15:52:48.5±2.1, 420N×12668E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.3/17, mbtmp3.4/3, MS3.3/1, Ms1 3.3/1, ms1mx2.7/17, Error ellipse: s-maj=162.6km s-min=25.4km az=66.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**25.15**	**163**	P	P	15 58 16.1	+0.5
1.2nm,0.8s,baz=343,slow=11,SNR=9.5							
CBIJ	**Chichi jima**	**27.16**	**31**	LR	LR	16 08 42.6	
comp=Z,56nm,18.3s,baz=102,slow=35							
**

VLS				*e*SB	**Sg**	**16 55 28.9**	**+1.5**
VLS	**Valsamata**	**0.38**	**70**	*e*Pg	**Pg**	**16 55 22.5**	**+0.2**
VLS				*e*Sg	**Sg**	**16 55 26.5**	**-0.9**
KFL	**Anninata**	**0.52**	**83**	*e*Pg	**Pg**	**16 55 24.4**	**-0.5**
LKD	**Levkas**	**0.78**	**31**	*e*Pg	**Pg**	**16 55 30.6**	**+0.8**
LKD				*e*Sg	**Sg**	**16 55 40.5**	**+0.6**
RLS	**Riolos of Patr**	**1.05**	**89**	*e*PB	**Pb**	**16 55 31.5**	**-3.9**
SELA	**Sela**	**1.40**	**80**	*e*Pg	**Pg**	**16 55 41.5**	**-0.4**
SELA				*e*Sg	**Sg**	**16 56 00.3**	**+0.2**
IGT	**Igoumenitsa**	**1.49**	**6**	*e*Pg	**Pg**	**16 55 43.5**	**0.0**
IGT	**Igoumenitsa**	**1.49**	**6**	*e*Pg	**Pg**	**16 55 43.5**	**-0.1**
EVR	**Evrytania**	**1.58**	**56**	*e*PN	**Pn**	**16 55 42.0**	**-1.3**
EVR	**Evrytania**	**1.58**	**56**	*e*Pn	**Pn**	**16 55 42.5**	**-0.8**
ITM	**Ithomi**	**1.66**	**121**	*e*PN	**Pn**	**16 55 42.5**	**-2.0**
KEK	**Kerkira**	**1.69**	**351**	*e*PN	**Pn**	**16 55 45.9**	**+1.1**
PYL	**PYLOS**	**1.72**	**131**	*e*Pb	**Pb**	**16 55 46.3**	**-0.5**
PYL				*e*Sb	**Sb**	**16 56 09.6**	**+1.0**
AGG	**Agios Georgios**	**1.98**	**60**	*e*Pb	**Pb**	**16 55 49.9**	**-1.4**
AGG				*e*Sb	**Sb**	**16 56 15.1**	**-1.0**
DID	**Didima**	**2.52**	**101**	*e*Pn	**Pn**	**16 55 57.5**	**+1.4**
DID				*e*Sn	**Sn**	**16 56 28.4**	**+1.3**
DID	**Didima**	**2.52**	**101**	*e*Pn	**Pn**	**16 55 57.5**	**+1.3**
DID				*e*Sn	**Sn**	**16 56 28.4**	**+1.3**

NIED ***30*** *16:55:00,3220N×13770E,h460km,Mw5.0 Best double couple: M0 3.80000×10^16 NP1:φ0=295.00000°,δ68.00000°, λ-30.00000°. NP2:φ0=37.00000°,δ62.00000°, λ-155.00000°.*

SZGRF ***30*** *16:55:04.9,3159N×13353E,h33km,mb4.8,Southeast of Shikoku, Japan*

BJI ***30*** *16:55:37.6,3216N×13740E,h409km,mB4.9,mb5.0*

JMA ***30*** *16:55:37.6±0.4,3222N×13768E,h452km±4km,M5.4*

JMA Felt II J1.

MOS ***30*** *16:55:38.4±0.8,3217N×13740E,h416km,mb4.5/36, MS4.3/6,Error ellipse: s-maj=9.3km s-min=4.9km az=105.2*

NEIC ***30*** *16:55:39.6±0.1,3215N×13739E,mb4.5/47,MW5.0(NIED), Error ellipse: s-maj=4.1km s-min=3.4km az=129.0*

IDC ***30*** *16:55:40.0±0.4,3215N×13742E,h421km±4km,mb3.9/21, mb1 4.1/28,mb1mx4.1/31,mbtmp4.0/28,Error ellipse: s-maj=8.6km s-min=7.6km az=63.0*

ISCJB ***30*** *16:55:40.0±0.2,3224N±003×13733E±002,h425km±1km, mb4.5/115,Error ellipse: s-maj=4.1km s-min=2.8km az=161.5*

ISC 30 16:55:41.0±0.2,3225N±003×13736E±002,h423km±1km, h424km±3.4km:pP-P,n498,σ0=92/542,mb4.5/115, 124C-91D,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TK01	**Tokai 1**	**1.52**	**7**	P	**P**	**16 56 36.8**	**+0.4**
TK01				S	**S**	**16 57 23.1**	**+1.7**
TK02	**Tokai 2**	**1.72**	**11**	⇓P	**P**	**16 56 38.0**	**+0.6**
TK02				S	**S**	**16 57 25.5**	**+2.3**
JWZ	**Kozaga**	**1.88**	**313**	P	**P**	**16 56 38.6**	**+0.3**
JWZ				S	**S**	**16 57 25.2**	**+0.5**
TK03	**Tokai 3**	**1.97**	**15**	S	**S**	**16 57 27.9**	**+2.2**
JKN2	**Miekihoku**	**2.18**	**336**	⇓P	**P**	**16 56 40.3**	**+0.3**
JIE	**Ise**	**2.20**	**346**	P	**P**	**16 56 40.5**	**+0.3**
JIE				S	**S**	**16 57 28.9**	**+0.7**
JHJ	**Hachijo jima 2**	**2.22**	**66**	P	**P**	**16 56 38.8**	**-1.5**
	145nm,0.3s,baz=194,slow=7.5,SNR=203						
JHJ				S	**S**	**16 57 26.7**	**-1.7**
	589nm,0.3s,baz=64,slow=21,SNR=9.2						
JHJ2	**Mitsune**	**2.25**	**67**	⇓P	**P**	**16 56 38.7**	**-1.8**
JHJ2				S	**S**	**16 57 27.3**	**-1.4**
JWM	**Minabe**	**2.32**	**314**	P	**P**	**16 56 41.7**	**+0.8**
JKO	**Kozu shima**	**2.44**	**37**	P	**P**	**16 56 41.2**	**-0.5**
JWY	**Kouya**	**2.46**	**323**	⇑P	**P**	**16 56 42.8**	**+1.0**
JWY				S	**S**	**16 57 32.5**	**+1.3**
JSG	**Sagara**	**2.51**	**16**	⇓P	**P**	**16 56 42.7**	**+0.5**
HMMJ	**Hamamatsu 2**	**2.61**	**7**	⇓P	**P**	**16 56 43.1**	**+0.2**
JIZS	**Izushimoda**	**2.77**	**27**	⇓P	**P**	**16 56 43.6**	**-0.5**
JHE	**Heguri**	**2.77**	**330**	⇑P	**P**	**16 56 44.9**	**+0.8**
JAI	**Aioi**	**2.88**	**303**	⇑P	**P**	**16 56 45.9**	**+0.9**
JAI				S	**S**	**16 57 37.9**	**+1.0**
SHZ3	**Shizuoka 3**	**2.90**	**14**	P	**P**	**16 56 45.1**	**+0.1**
JEG	**Eigenji**	**2.99**	**345**	P	**P**	**16 56 46.9**	**+1.2**
JAJ2	**Tsuna**	**2.99**	**317**	⇑P	**P**	**16 56 46.7**	**+0.9**
JAO	**Obara**	**3.01**	**358**	P	**P**	**16 56 46.3**	**+0.4**
JNY	**Yasuok**	**3.13**	**8**	⇓P	**P**	**16 56 47.2**	**+0.4**
AJI	**Ajiro2**	**3.14**	**27**	P	**P**	**16 56 45.8**	**-1.1**
JMIK	**Miki**	**3.19**	**324**	⇑P	**P**	**16 56 48.3**	**+0.9**
JMN	**Monobe**	**3.27**	**298**	⇑P	**P**	**16 56 49.4**	**+1.3**
JMN				*e*S	**S**	**16 57 44.9**	**+2.4**
JOD2	**Odawara 2**	**3.33**	**25**	⇓P	**P**	**16 56 47.3**	**-1.2**
JOD2				S	**S**	**16 57 40.8**	**-2.6**
JYN	**Shimob**	**3.38**	**17**	P	**P**	**16 56 48.8**	**-0.1**
JWT	**Wachi**	**3.43**	**332**	⇑P	**P**	**16 56 50.2**	**+0.8**
JWT				S	**S**	**16 57 45.2**	**+0.3**
JKS	**Kasai**	**3.44**	**323**	⇑P	**P**	**16 56 50.1**	**+0.7**
JFM	**Mihama**	**3.46**	**341**	⇑P	**P**	**16 56 50.6**	**+1.0**
JGM	**Miyama**	**3.48**	**351**	⇑P	**P**	**16 56 50.6**	**+0.9**
JGM				S	**S**	**16 57 46.2**	**+0.6**
JAD	**Aida**	**3.78**	**316**	⇑P	**P**	**16 56 53.6**	**+1.2**
JKY	**Yasaka**	**3.85**	**332**	⇑P	**P**	**16 56 53.8**	**+0.8**
BSO1	**Boso 1**	**3.86**	**51**	P	**P**	**16 56 49.1**	**-4.0**
BSO1				*e*S	**S**	**16 57 44.7**	**-7.0**
JTO	**Tosashimizu**	**3.89**	**280**	⇑P	**P**	**16 56 54.8**	**+1.3**
JTO				S	**S**	**16 57 53.7**	**+1.4**
JGN	**Niukaw**	**3.96**	**360**	⇑P	**P**	**16 56 54.1**	**+0.1**
JRY	**Ryogami san**	**3.97**	**18**	⇓P	**P**	**16 56 53.3**	**-0.7**
JRY				*e*S	**S**	**16 57 51.0**	**-2.5**
JKSM	**Kasumi**	**4.01**	**327**	⇑P	**P**	**16 56 55.3**	**+0.9**
JKG	**Kaga**	**4.10**	**348**	P	**P**	**16 56 55.6**	**+0.3**
JKG				S	**S**	**16 57 55.5**	**-0.2**
JNG	**Nsakai**	**4.19**	**8**	⇑P	**P**	**16 56 55.9**	**-0.2**
JJG	**Jouge**	**4.24**	**305**	⇑P	**P**	**16 56 57.9**	**+1.3**
JKR	**Kurayoshi**	**4.29**	**318**	⇑P	**P**	**16 56 58.3**	**+1.3**
MJAR	**Matsuhiro Arr**	**4.34**	**9**	P	**P**	**16 56 56.0**	**-1.5**
	95nm,0.3s,baz=179,slow=9.6,SNR=1011						
MJAR				S	**S**	**16 57 57.3**	**-2.4**
	29nm,0.3s,baz=187,slow=16,SNR=14						
MAJO	**Matsushiro**	**4.34**	**9**	*e*Pn	**P**	**16 56 57.0**	**-0.5**
MAJO				*e*S	**S**	**16 57 57.2**	**-2.5**
MAT	**Matsushiro**	**4.34**	**9**	P	**P**	**16 56 56.7**	**-0.8**
MAT				S	**S**	**16 57 57.6**	**-2.1**
MAT	**Matsushiro**	**4.34**	**9**	P	**P**	**16 56 56.8**	**-0.7**
MAT				S	**S**	**16 57 57.5**	**-2.2**
JTT	**Ttatey**	**4.34**	**360**	P	**P**	**16 56 58.0**	**+0.5**
JHM	**Kurahashi**	**4.46**	**296**	⇑P	**P**	**16 57 00.1**	**+1.4**
JAG	**Ashikaga**	**4.51**	**22**	⇓P	**P**	**16 56 56.3**	**-2.8**
JAG				S	**S**	**16 57 56.4**	**-6.4**
JJH	**Hakui**	**4.69**	**354**	⇑P	**P**	**16 57 01.5**	**+0.7**
JJH				S	**S**	**16 58 06.3**	**+0.4**
JHT	**Toyohira**	**4.77**	**302**	⇑P	**P**	**16 57 02.7**	**+0.9**
JUS	**Usuki**	**4.80**	**281**	P	**P**	**16 57 03.9**	**+1.9**
JJN	**Nakama**	**4.88**	**8**	P	**P**	**16 57 02.6**	**-0.2**
JJN				S	**S**	**16 58 07.1**	**-2.3**
JKD	**Kudamatsu**	**4.94**	**293**	⇑P	**P**	**16 57 05.0**	**+1.6**
JSZ	**Suzu**	**5.18**	**0**	⇑P	**P**	**16 57 05.3**	**-0.5**
JIZZ	**Izumozaki**	**5.38**	**12**	⇓P	**P**	**16 57 06.9**	**-0.9**
JFY	**Yanaizu**	**5.49**	**20**	P	**P**	**16 57 07.0**	**-1.9**
JNU	**Nakatsue**	**5.53**	**281**	P	**P**	**16 57 11.0**	**+1.6**
	4.4nm,0.3s,baz=86,slow=12,SNR=53						
JNU				S	**S**	**16 58 23.8**	**+2.2**
	0.9nm,0.3s,baz=198,slow=20,SNR=10						
JHG	**Hegura jima**	**5.59**	**356**	P	**P**	**16 57 09.6**	**-0.4**
ONAJ	**Iwakimizuishiy**	**5.61**	**29**	⇓P	**P**	**16 57 07.7**	**-2.4**
JFT	**Otama**	**5.80**	**24**	⇓P	**P**	**16 57 10.2**	**-1.9**
JSD	**Sado**	**5.82**	**7**	⇑P	**P**	**16 57 10.5**	**-1.8**
JMM	**Marumori**	**6.27**	**26**	⇑P	**P**	**16 57 14.8**	**-2.3**
JYA	**Atsumi**	**6.61**	**16**	⇑P	**P**	**16 57 19.1**	**-1.7**
CBIJ	**Chichi jima**	**6.64**	**140**	P	**P**	**16 57 15.6**	**-5.7**
	27nm,0.3s,baz=326,slow=5.3,SNR=31						
CBIJ				S	**S**	**16 58 30.6**	**-13**
	302nm,0.3s,baz=110,slow=23,SNR=38						
JTB	**Tobi-shima**	**7.16**	**14**	S	**S**	**16 58 48.6**	**-4.6**
JMK	**Ichinoseki**	**7.39**	**24**	⇑P	**P**	**16 57 27.1**	**-2.1**
JRG	**Rokugo**	**7.61**	**20**	⇑P	**P**	**16 57 30.1**	**-1.5**
JOM	**Ohasama**	**7.88**	**23**	⇑P	**P**	**16 57 33.0**	**-1.6**
MIYJ	**Miyakonagasawa**	**8.15**	**25**	P	**P**	**16 57 36.0**	**-1.6**
JAH	**Hinai**	**8.35**	**18**	P	**P**	**16 57 38.9**	**-0.9**
JKZ	**Kuzumaki**	**8.36**	**21**	P	**P**	**16 57 38.7**	**-1.2**
JTH	**Tanohata**	**8.49**	**24**	P	**P**	**16 57 39.8**	**-1.6**
JIW	**Iwasaki**	**8.59**	**14**	P	**P**	**16 57 42.5**	**0.0**
JANG	**Nango**	**8.77**	**21**	P	**P**	**16 57 43.1**	**-1.3**
KSRS	**Korea Array**	**9.33**	**306**	P	**P**	**16 57 52.0**	**+1.4**
	5.7nm,0.3s,baz=120,slow=11,SNR=138						
KSRS				S	**S**	**16 59 43.1**	**+5.9**
	baz=130,slow=16,SNR=7.8						
JOW	**Kunigami**	**9.57**	**238**	P	**P**	**16 57 53.7**	**+0.1**
	2.6nm,0.3s,baz=64,slow=7.7,SNR=14						
JOT	**Ohata**	**9.58**	**17**	P	**P**	**16 57 52.7**	**-0.7**
JKB	**Kayabe**	**10.05**	**16**	P	**P**	**16 57 58.0**	**-0.6**
JYM2	**Yakumo 2**	**10.13**	**13**	P	**P**	**16 57 59.3**	**-0.2**
ERM	**Erimo**	**10.78**	**24**	*e*Pn	**P**	**16 58 06.2**	**-0.4**
	335nm,0.8s						
ERM				*e*S	**S**	**16 59 56.9**	**-10**
ERM	**Erimo**	**10.78**	**24**	*e*P	**P**	**16 58 06.2**	**-0.4**
ERM				*e*S	**S**	**16 59 56.9**	**-10**
ERM				pmax	pmax		
	comp=Z,335nm,0.8s						
JBT2	**Biratori 2**	**11.23**	**19**	P	**P**	**16 58 11.3**	**-0.2**
VLA	**Vladivostok**	**11.68**	**340**	*i* P	**P**	**16 58 16.5**	**+0.1**
ASAJ	**Asahikawa**	**12.54**	**18**	P	**P**	**16 58 25.8**	**0.0**
ASAJ				S	**S**	**17 00 39.1**	**-2.9**
ASAJ				pmax	pmax		
	comp=Z,14nm,0.3s						
ASAJ				smax			
	comp=N,3.0nm,0.3s						
ASAJ	**Asahikawa**	**12.54**	**18**	P	**P**	**16 58 25.8**	**-0.1**
	comp=N,14nm,0.3s,baz=229,slow=13,SNR=92						
ASAJ				S	**S**	**17 00 39.0**	**-3.0**
	comp=N,2.8nm,0.3s,baz=42,slow=27,SNR=7.1						
YUK	**Yuzh-Kuril'sk**	**13.52**	**27**	*i* P	**P**	**16 58 37.3**	**+0.7**
YUK				*e*S	**S**	**17 01 09.0**	**+7.3**
YUK				pmax	pmax		
	comp=Z,1.0nm,0.5s						
YUK				pmax	pmax		
	comp=Z,3μm,1.0s						
YUK				pmax	pmax		
	comp=N,1μm,0.8s						
YUK				smax			
	comp=N,4μm,1.5s						
YUK				smax			
	comp=E,2μm,1.0s						
YUK				smax			
	comp=N,2μm,0.5s						
YUK				smax			
	comp=E,300nm,0.5s						
MDJ	**Mudanjiang**	**13.75**	**336**	P	**P**	**16 58 39.5**	**+0.4**
MDJ				S	**S**	**17 01 04.0**	**-2.3**
MDJ				SCP	ScP	17 06 23.8	+1.0
MDJ				PCS	PcS	17 07 06.3	+1.6
MDJ				SCS	ScS	17 10 02.0	+2.1
MDJ				AMB	AMB		
	comp=Z,80nm,1.1s						
MDJ				AMB	AMB		
	comp=Z,204nm,5.6s						
MDJ	**Mudanjiang**	**13.75**	**336**	*e*P	**P**	**16 58 39.2**	**+0.2**
	comp=Z,80nm,1.0s						
DL2	**Dalian**	**14.41**	**302**	P	**P**	**16 58 47.0**	**+0.7**
DL2				S	**S**	**17 01 20.0**	**+0.5**
DL2				AMB	AMB		
	comp=Z,20nm,0.6s						
DL2				AMB	AMB		
	comp=Z,110nm,3.7s						
SNY	**Shenyang**	**14.56**	**315**	⇑P	**P**	**16 58 48.5**	**+0.7**
SNY				XP		17 00 23.0	
SNY				S	**S**	**17 01 22.0**	**-0.3**
SNY				AMB	AMB		
	comp=Z,54nm,1.7s						
SNY				AMB	AMB		
	comp=Z,211nm,3.5s						
CN2	**Changchun**	**14.85**	**324**	*e*P	**P**	**16 58 51.5**	**+0.6**
CN2				*e*XP		17 00 28.0	
CN2				*e*S	**S**	**17 01 27.5**	**-0.5**
CN2				AMB	AMB		
	comp=Z,40nm,1.0s						
CN2				AMB	AMB		
	comp=Z,600nm,4.0s						
YSS	**Yuzh-Sakhalins**	**15.25**	**14**	*e*P	**P**	**16 58 55.6**	**+0.4**
	comp=Z,512nm,0.8s						
YSS	**Yuzh-Sakhalins**	**15.25**	**14α**	*i* P	**P**	**16 58 55.9**	**+0.6**
YSS				*e*S	**S**	**17 01 36.0**	**+0.1**
YSS				pmax	pmax		
	comp=N,430nm,1.0s						
YSS				pmax	pmax		
	comp=E,200nm,1.0s						
YSS				pmax	pmax		
	comp=Z,620nm,1.0s						
YSS				pmax	pmax		
	comp=Z,300nm,2.0s						
YSS				smax			
	comp=N,90nm,1.0s						
YSS				smax			
	comp=E,90nm,1.0s						
KUR	**Kuril'sk**	**15.32**	**29**	*e*P	**P**	**16 58 52.7**	**-3.3**
KUR				pmax	pmax		
	comp=Z,380nm,1.0s						
YHNB	**Yeheng**	**15.95**	**246**	*e*P	**P**	**16 59 00.7**	**-2.3**
HABR	**Khabarovsk**	**16.30**	**355**	⇑*i* P	**P**	**16 59 06.2**	**-0.2**
HABR				*e*S	**S**	**17 02 00.6**	**+4.4**
HABR				pmax	pmax		
	comp=Z,272nm,1.1s						
TIA	**Tai'an**	**17.19**	**289**	⇑P	**P**	**16 59 15.5**	**-0.5**
TIA				AMB	AMB		
	comp=Z,83nm,1.1s						
KLR	**Kul'dur**	**17.48**	**348**	⇓*i* P	**P**	**16 59 14.4**	**-4.4**
KLR				*e*S	**S**	**17 02 18.5**	**-0.4**
KLR				pmax	pmax		
	comp=E,90nm,1.6s						
KLR				pmax	pmax		
	comp=Z,170nm,1.6s						
KLR				smax			
	comp=N,900nm,7.5s						
KLR				smax			
	comp=E,700nm,7.5s						
KLR				MLR	MLR		
	comp=Z,900nm,12.0s						
QZH	**Quanzhou**	**18.00**	**251**	P	**P**	**16 59 22.8**	**-1.9**
BJT	**Baijiatuau**	**18.76**	**300**	*e*P	**P**	**16 59 31.2**	**-1.3**
	comp=Z,36nm,0.6s						
BJT	**Baijiatuau**	**18.76**	**300**	*e*P	**P**	**16 59 31.2**	**-1.2**
BJT				pmax	pmax		
	comp=Z,35nm,0.6s						
WHN	**Wuhan**	**19.71**	**271**	⇓P	**P**	**16 59 40.8**	**-0.6**
GUMO	**Guam**	**19.81**	**158**	P	**P**	**16 59 39.8**	**-2.6**
	comp=Z,11nm,0.3s,baz=345,slow=14,SNR=4.3						
TIY	**Taiyuan**	**21.11**	**292**	*i* P	**P**	**16 59 54.5**	**+0.5**
TIY				S	**S**	**17 03 13.5**	**-6.5**
TIY				AMB	AMB		
	comp=Z,483nm,3.9s						
HIA	**Hailar**	**21.52**	**327**	*e*P	**P**	**16 59 57.9**	**+0.3**
	comp=Z,94nm,1.0s,mb5.2						
HIA	**Hailar**	**21.52**	**327**	*e*P	**P**	**16 59 57.9**	**+0.3**
HIA				pmax	pmax		
	comp=Z,94nm,1.0s						
HHC	**Hu-ho-hao-te**	**22.37**	**300**	P	**P**	**17 00 06.0**	**+0.6**
HHC				XP	sP	17 02 05.5	+1.4
HHC				S	**S**	**17 03 40.8**	**+0.8**
HHC				PCP	PcP	17 03 50.8	+6.0
HHC				SCP	ScP	17 06 46.5	+4.9
HHC				PCS	PcS	17 07 24.5	+0.7
HHC				SCS	ScS	17 10 28.3	+1.1
HHC				AMB	AMB		
	comp=Z,28nm,0.6s,mb4.9						
HHC				AMB	AMB		
	comp=Z,113nm,2.9s,mb4.8						
SKR	**Severo-Kuril's**	**23.05**	**32**	*e*P	**P**	**17 00 09.1**	**-2.3**
SKR				pmax	pmax		
	comp=Z,160nm,0.9s,mb5.5						
SKR				pmax	pmax		
	comp=N,180nm,1.0s						
SKR				pmax	pmax		
	comp=E,180nm,1.0s						
BTO	**Baotou**	**23.45**	**299**	*e*P	**P**	**17 00 15.0**	**-0.2**
XAN	**Xi'an**	**23.85**	**282**	P	**P**	**17 00 18.5**	**-0.3**
XAN				AMB	AMB		
	comp=Z,154nm,1.0s,mb5.4						
PET	**Petropavlovsk**	**25.83**	**30**	*e*P	**P**	**17 00 35.8**	**-0.3**
	comp=Z,18nm,0.6s,mb4.7						
PET	**Petropavlovsk**	**25.83**	**30**	*i* P	**P**	**17 00 35.9**	**-0.2**
PET				pmax	pmax		
	comp=Z,61nm,1.5s,mb4.8						
NRGR	**Nerungri**	**25.93**	**344**	*e*P	**P**	**17 00 38.6**	**+1.6**
NRGR				S	**S**	**17 04 33.0**	**-2.6**
NRGR				smax			
	comp=E,79nm,0.5s						
CLNS	**Chul'man**	**26.05**	**344**	*e*P	**P**	**17 00 38.4**	**+0.3**
CLNS				*e*S	**S**	**17 04 44.8**	**+7.2**
CLNS				*e*		17 10 49.2	
CLNS				pmax	pmax		
	comp=Z,24nm,1.0s,mb4.6						
CLNS				pmax	pmax		
	comp=N,27nm,1.2s						
CLNS				pmax	pmax		
	comp=E,11nm,0.8s						
CLNS				smax			
	comp=N,34nm,1.5s						
CLNS				smax			
	comp=Z,5.0nm,0.8s						
CLNS				smax			
	comp=E,14nm,1.0s						
GYA	**Guiyang**	**27.31**	**266**	P	**P**	**17 00 49.0**	**-0.7**
GYA				AP		17 02 03.8	
GYA				XP	sP	17 02 52.3	-1.8
GYA				PCP	PcP	17 03 58.0	+1.7
GYA				S	**S**	**17 04 59.3**	**+1.1**
GYA				SCP	ScP	17 06 57.8	+1.9
GYA				PCS	PcS	17 07 38.8	+0.2
GYA				SCS	ScS	17 10 48.3	-0.1
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.3						
ULN	**Ulaanbaatar**	**27.72**	**313**	*i* P	**P**	**17 00 54.0**	**+1.0**
LZH	**Lanzhou**	**27.91**	**287**	*e*P	**P**	**17 00 54.5**	**-0.3**
LZH				AP		17 02 05.5	
LZH				XP	sP	17 02 54.8	-4.7
LZH				PCP	PcP	17 03 58.5	+0.9
LZH				*e*S	**S**	**17 05 06.5**	**-0.8**
LZH				AMB	AMB		
	comp=Z,87nm,1.4s,mb4.9						
LZH				AMB	AMB		
	comp=Z,250nm,4.0s						
SONM	**Songino Array**	**28.12**	**313**	P	**P**	**17 00 57.4**	**+0.9**
SONM						17 03 58.0	
SONM	**Songino Array**	**28.12**	**313**	P	**P**	**17 00 57.4**	**+0.9**
	comp=Z,8.6nm,0.7s,mb4.2,baz=113,slow=7.8,SNR=59						
SONM				pP		17 02 13.3	
	comp=Z,4.9nm,1.0s,baz=117,slow=8.8,SNR=3.6						
SONM				PcP	PcP	17 03 58.0	+0.1
	comp=Z,2.9nm,1.1s,baz=112,slow=2.2,SNR=4.2						
SONM				ScP	ScP	17 06 57.7	-0.3
	comp=Z,1.1nm,0.7s,baz=102,slow=2.5,SNR=6.3						
CD2	**Chengdu**	**28.59**	**276**	⇓*i* P	**P**	**17 01 00.0**	**-0.9**
CD2				AP		17 02 14.0	
CD2				XP	sP	17 03 02.0	-3.7
CD2				PCP	PcP	17 03 59.3	-0.1
CD2				S	**S**	**17 05 18.0**	**-0.1**
CD2				XS	sS	17 07 31.0	-6.9
CD2				SCS	ScS	17 10 52.3	-1.9
CD2				AMB	AMB		
	comp=Z,80nm,1.1s,mb5.0						
CD2				AMB	AMB		
	comp=Z,220nm,5.8s						
MA2	**Magadan**	**28.76**	**14**	*e*P	**P**	**17 01 01.7**	**-0.2**
	comp=Z,97nm,0.7s,mb5.2						
MA2	**Magadan**	**28.76**	**14***c*	*i*P	**P**	**17 01 02.1**	**+0.2**
MA2				pmax	pmax		
	comp=N,80nm,0.7s						
MA2				pmax	pmax		
	comp=Z,200nm,0.7s,mb5.6						
BOD	**Bodaibo**	**30.12**	**335**	*e*P	**P**	**17 01 12.3**	**-1.6**
BOD				*e*	pP	17 02 28.7	-1.0
BOD				pmax	pmax		
	comp=Z,9.0nm,1.6s,mb3.9						
YAK	**Yakutsk**	**30.20**	**353**	*e*P	**P**	**17 01 13.7**	**-0.8**
	comp=Z,44nm,0.8s,mb4.8						
YAK	**Yakutsk**	**30.20**	**353***c*	*i*P	**P**	**17 01 13.8**	**-0.7**
YAK				*e**PP	pP	17 02 30.0	-0.4
YAK				*e*S	**S**	**17 05 40.2**	**-2.1**
YAK				*e**SS	sS	17 08 05.7	+3.1
YAK				*i*		17 10 56.8	
YAK				pmax	pmax		
	comp=Z,59nm,1.0s,mb4.9						
YAK				pmax	pmax		
	comp=N,32nm,1.3s						
YAK				pmax	pmax		
	comp=E,11nm,1.7s						
YAK				smax			
	comp=Z,107nm,4.3s						
YAK				smax			
	comp=N,142nm,3.2s						
YAK				smax			
	comp=E,52nm,2.1s						
ZAK	**Zakamensk**	**30.99**	**316**	*e*P	**P**	**17 01 21.7**	**+0.2**
ZAK				*e*	pP	17 02 43.0	+5.4
ZAK				*e*		17 05 55.7	
ZAK				pmax	pmax		
	comp=Z,7.0nm,1.2s,mb3.9						
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb3.6						
KMI	**Kunming**	**31.09**	**266**	P	**P**	**17 01 22.3**	**-0.4**
GTA	**Gaotai**	**31.10**	**294**	⇓*i*P	**P**	**17 01 22.3**	**-0.3**
GTA				AP	pP	17 02 39.0	+0.2
GTA				XP	sP	17 03 26.5	-1.5
GTA				PCP	PcP	17 04 06.0	+0.2
GTA				S	**S**	**17 05 56.3**	**-0.5**
GTA				SCP	ScP	17 07 08.0	+0.1
GTA				PCS	PcS	17 07 49.3	-1.2
GTA				XS	sS	17 08 14.0	-3.3
GTA				SCS	ScS	17 11 05.0	-1.0
GTA				AMB	AMB		
	comp=Z,37nm,1.0s,mb4.7						
GTA				AMB	AMB		
	comp=Z,151nm,6.1s						
TLY	**Talaya**	**31.30**	**318**	*e*P	**P**	**17 01 25.6**	**+1.4**
TLY				*e*	pP	17 02 45.0	+4.5
TLY				pmax	pmax		
	comp=Z,11nm,1.2s,mb4.1						
SEY	**Seymchan**	**32.15**	**13**	⇑*i*P	**P**	**17 01 31.2**	**-0.2**
MYLDM	**Lahad Datu**	**32.19**	**217**	⇓P	**P**	**17 01 32.9**	**+0.5**
SDKM	**Sandakan**	**32.49**	**220**	⇑P	**P**	**17 01 33.6**	**-1.3**
KKM	**Kota Kinabalu**	**32.70**	**222**	P	**P**	**17 01 35.4**	**-1.3**
KKM	**Kota Kinabalu**	**32.70**	**222**	⇑P	**P**	**17 01 36.6**	**-0.1**
MOY	**Mondy**	**32.81**	**317**	*e*P	**P**	**17 01 37.9**	**+0.7**
TSM	**Tawau**	**33.27**	**217**	⇑P	**P**	**17 01 40.4**	**-1.1**
UBT	**Ubonrachathani**	**33.92**	**248**	⇑P	**P**	**17 01 47.5**	**+0.

comp=Z,7.4nm,0.8s,baz=88,slow=2.8,SNR=17
ZAL Zalesovo 42.87 316 P **P 17 02 59.6 -0.3**
ZAL 17 04 40.6
KULM Kulim 43.52 240 ⇑P **P 17 03 05.3 -0.3**
MYKOM Kota Tinggi 43.73 233 ⇑P **P 17 03 07.0 -0.2**
IPM Ipoh 43.80 239 ⇓P **P 17 03 06.5 -1.3**
NVS Novosibirsk 43.91 317 *i* P **P 17 03 07.8 -0.2**
NVS *i* *PP pP 17 04 44.2 +15
NVS *i* S **S 17 09 05.7 -1.4**
NVS *i* SS SS 17 12 15.8 -18
NVS pmax pmax
comp=Z,26nm,1.5s,mb4.3
NVS pmax pmax
comp=E,27nm,1.6s
NVS smax
comp=E,11nm,1.1s
KGM Kluang 43.92 234 ⇑P **P 17 03 08.9 +0.1**
MK31 Makanchi Array 44.01 306 *eP* P **17 03 09.0 0.0**
MK31 Makanchi Array 44.01 306 *i* P **P 17 03 08.6 -0.4**
MK31 pmax pmax
comp=Z,15nm,0.6s,mb4.5
MKAR Makanchi Array 44.01 306 P **P 17 03 09.1 +0.1**
MKAR 17 04 45.1
MKAR S **S 17 09 09.1 +0.3**
MKAR Makanchi Array 44.01 306 P **P 17 03 09.1 +0.2**
comp=Z,20nm,0.8s,mb4.5,baz=90,slow=9.8,SNR=180
MKAR PcP PcP 17 04 45.1 -0.7
comp=Z,1.5nm,0.4s,baz=81,slow=4.9,SNR=6.9
MKAR ScP ScP 17 07 55.7 -0.8
comp=Z,1.7nm,0.9s,baz=79,slow=6.4,SNR=5.1
MKAR S **S 17 09 09.1 +0.3**
comp=Z,0.7nm,0.8s,baz=85,slow=15,SNR=5.4
BATI Kupang 44.20 200 P **P 17 03 08.8 -2.1**
comp=Z,12nm,0.4s,mb4.6,baz=297,slow=2.8,SNR=5.6
FRIM Kepong 44.23 237 ⇓P **P 17 03 10.5 -0.6**
JIRN Jiri 44.23 278 *eP* **P 17 03 11.3 +0.3**
comp=Z,145nm,0.4s,mb5.7
GUN Gumba 44.41 278 *eP* **P 17 03 13.0 +0.6**
comp=Z,184nm,0.7s,mb5.5
PKIN Phulchoki 44.92 278 *eP* **P 17 03 16.1 -0.3**
comp=Z,67nm,0.9s,mb5.0
KKN Kakani 44.95 278 *eP* **P 17 03 16.7 +0.1**
comp=Z,155nm,0.9s,mb5.3
DMN Daman 45.16 278 *eP* **P 17 03 18.2 0.0**
comp=Z,103nm,1.0s,mb5.1
GKN Gorkha 45.42 279 *eP* **P 17 03 20.2 -0.1**
comp=Z,215nm,1.1s,mb5.4
BOK Bokaro 45.85 273 *eP* **P 17 03 23.3 -0.3**
BOK AMb AMB 17 03 26.2
comp=Z,40nm,1.7s,mb4.5
DANN Dangsing 46.05 280 *eP* **P 17 03 25.7 +0.7**
KOLN Koldanda 46.37 279 *eP* **P 17 03 27.6 +0.1**
comp=Z,249nm,1.3s,mb5.4
KURK Kurchatov 46.41 311 *eP* **P 17 03 26.9 -0.5**
comp=Z,40nm,1.0s,mb4.7
KURK Kurchatov 46.41 311 *eP* **P 17 03 27.0 -0.5**
KURK pmax pmax
comp=Z,40nm,1.0s,mb4.7
TNA Tin City 46.64 28 *eP* **P 17 03 29.7 +0.7**
comp=Z,19nm,1.0s,mb4.4
TKM2 Tokmak 2 49.09 301 *eP* **P 17 03 48.5 +0.6**
comp=Z,35nm,1.4s,mb4.5
TKM2 Tokmak 2 49.09 301 *eP* **P 17 03 48.5 +0.6**
TKM2 pmax pmax
comp=Z,35nm,1.4s,mb4.5
TKM2 Tokmak 2 49.09 301 P **P 17 03 48.8 +0.9**
SNR=16
KZA Kyzart 49.48 300 P **P 17 03 52.5 +1.8**
SNR=14
KBK Karagaybulak 49.60 301 P **P 17 03 52.5 +0.8**
SNR=24
BLSP Bilaspur 49.68 273 *eP* **P 17 03 51.8 -0.8**
BLSP AMb AMB 17 03 53.2
comp=Z,65nm,1.2s,mb4.8
CHMS Chumysh 49.69 301 P **P 17 03 52.6 +0.2**
SNR=7.5
FRU Bishkek 49.82 301 *eP* **P 17 03 53.0 -0.3**
FRU pmax pmax
comp=Z,60nm,1.4s,mb4.7
USP Ospenovka 49.83 302 P **P 17 03 53.6 +0.2**
SNR=6.8
AAK Ala-Archa 49.94 301 *eP* **P 17 03 53.2 -0.9**
comp=Z,7.7nm,0.8s,mb4.1
AAK Ala-Archa 49.94 301 P **P 17 03 53.4 -0.8**
AAK 17 05 05.5
AAK pmax pmax
comp=Z,11nm,0.8s,mb4.2
AAK pmax pmax
comp=Z,4.0nm,0.7s,mb3.9
AAK Ala-Archa 49.94 301 P **P 17 03 53.4 -0.7**
comp=Z,11nm,0.8s,mb4.2,baz=115,slow=4.1,SNR=22
AAK PcP PcP 17 05 05.5 -1.7
comp=Z,3.9nm,0.7s,baz=177,slow=3.9,SNR=4.9
AAK Ala-Archa 49.94 301 P **P 17 03 54.6 +0.4**
SNR=11
UCH Uchtor 50.00 300 *eP* **P 17 03 55.7 +1.1**
comp=Z,31nm,1.3s,mb4.5
UCH *e*PcP PcP 17 05 08.1 +0.7
UCH Uchtor 50.00 300 P **P 17 03 56.0 +1.4**
SNR=20
DDI Dehra Dun 50.15 284 *eP* **P 17 03 55.0 -0.9**
EKS2 Erkin-Say 50.45 301 *eP* **P 17 03 58.0 0.0**
comp=Z,6.6nm,0.9s,mb4.0
EKS2 *e*PcP PcP 17 05 08.6 -0.5
EKS2 Erkin-Say 50.45 301 P **P 17 03 58.2 +0.3**
SNR=6.5
VIS Vishakhapatnam 50.58 267 *eP* **P 17 03 58.9 -0.4**
VIS AMb AMB 17 04 02.2
comp=Z,46nm,1.3s,mb4.5
AML Almayashu 50.61 300 *eP* **P 17 03 59.9 +0.8**
comp=Z,55nm,1.0s,mb4.7
AML *e*PcP PcP 17 05 09.9 +0.3
AML *e* pP 17 05 26.5 +3.0
AML Almayashu 50.61 300 P **P 17 04 00.5 +1.4**
SNR=37
SMLA Simla 50.62 286 *eP* **P 17 03 59.0 -0.4**
SMLA AMb AMB 17 04 00.6
comp=Z,64nm,0.9s,mb4.8
VOSK Vostochnaya 51.09 314 *i* P **P 17 04 01.5 -1.0**
VOSK pmax pmax
comp=Z,9.0nm,0.6s,mb4.2
TTA Tatalina 51.24 33 *eP* **P 17 04 03.3 -0.1**
FITZ Fitzroy Crossi 51.31 194 *eP* **P 17 04 02.9 -1.6**
comp=Z,5.0nm,0.5s,mb4.0
SVW2 Sparrevohn 51.35 35 *eP* **P 17 04 04.2 0.0**
NDI New Delhi 51.37 283 *eP* **P 17 04 04.5 -0.5**
NDI AMb AMB 17 04 06.4
comp=Z,88nm,1.4s,mb4.8
BVAR Borovoye Array 51.43 315 P **P 17 04 04.7 -0.3**
comp=Z,8.7nm,0.6s,mb4.2,baz=98,slow=8.4,SNR=63
BVAR PcP PcP 17 05 11.9 -0.6
comp=Z,11nm,0.9s,baz=98,slow=3.3,SNR=12
BRVK Borovoye 51.49 315 *eP* **P 17 04 04.6 -0.7**
comp=Z,14nm,0.9s,mb4.2
BRVK *e*PcP PcP 17 05 12.1 -0.6
BRVK Borovoye 51.49 315 *eP* **P 17 04 04.6 -0.8**
BRVK *e* 17 05 12.1
BRVK pmax pmax
comp=Z,14nm,0.9s,mb4.2
WRAB Tennant Creek 51.97 184 *eP* **P 17 04 07.0 -2.2**
comp=Z,3.3nm,0.3s,mb4.0
WRAB Tennant Creek 51.97 184 *eP* **P 17 04 07.0 -2.2**
WRAB pmax pmax
comp=Z,3.0nm,0.3s,mb4.0
WB2 Warramunga Arr 51.98 184 *eP* **P 17 04 07.0 -2.3**
WRA Warramunga Arr 51.98 184 P **P 17 04 07.1 -2.2**
comp=Z,4.5nm,0.4s,mb4.1,baz=358,slow=7.5,SNR=171
WRA PcP PcP 17 05 14.3 -0.6
comp=Z,2.6nm,0.6s,baz=358,slow=4.1,SNR=8.4
WRA pP pP 17 05 34.2 -0.1
comp=Z,1.4nm,0.7s,baz=5.5,slow=7.4,SNR=2.4
WRA PP PP 17 06 07.7 -5.2
comp=Z,5.2nm,0.8s,baz=7.8,slow=8.1,SNR=6.8
ZRNK Zerenda 52.27 315 *i* P **P 17 04 10.4 -0.6**
ZRNK pmax pmax
comp=Z,10.0nm,0.6s,mb4.2
IMA2 Indian Mountai 52.48 29 *eP* **P 17 04 12.4 0.0**
NGP Nagpur 52.70 273 *eP* **P 17 04 14.1 -0.5**
NGP AMb AMB 17 04 14.8
comp=Z,45nm,1.0s,mb4.7
KK31 Karatay Array 52.73 302 *i* P **P 17 04 14.3 -0.2**
KK31 pmax pmax
comp=Z,7.0nm,0.4s,mb4.2
CTA Charters Tower 52.73 169 *eP* **P 17 04 13.6 -1.2**
comp=Z,3.7nm,0.8s,mb3.7
CTA Charters Tower 52.73 169 *eP* **P 17 04 13.6 -1.2**
CTA pmax pmax
comp=Z,4.0nm,0.8s
KDAK Kodiak Island 52.90 39 P **P 17 04 15.0 -0.5**
KDAK Kodiak Island 52.90 39 P **P 17 04 15.0 -0.5**
comp=Z,48nm,0.8s,mb4.8,baz=297,slow=5.6,SNR=19
BHPL Bhopal 53.21 276 *eP* **P 17 04 17.0 -1.3**
BHPL AMb AMB 17 04 18.4
comp=Z,36nm,0.5s,mb4.9
SLKM Skilak Lake 53.98 36 P **P 17 04 22.7 -0.5**
MCK McKinley 54.45 32 *eP* **P 17 04 26.4 -0.1**
comp=Z,38nm,1.1s,mb4.5
MCK McKinley 54.45 32 *eP* **P 17 04 26.4 -0.1**
MCK pmax pmax
comp=Z,38nm,1.1s,mb4.5
AKL Akola 54.61 274 *eP* **P 17 04 28.1 -0.2**
AKL AMb AMB 17 04 30.3
comp=Z,58nm,1.8s,mb4.5
HYB Hyderabad 54.76 269 *eP* **P 17 04 29.0 -0.4**
HYB Hyderabad 54.76 269 *i* P **P 17 04 29.0 -0.4**
COLA College 54.89 30 *eP* **P 17 04 30.4 +0.8**
comp=Z,25nm,0.8s,mb4.5
COLA College 54.89 30 *eP* **P 17 04 30.4 +0.8**
COLA pmax pmax
comp=Z,25nm,0.8s,mb4.5
ASAR Alice Springs 55.70 184 P **P 17 04 34.2 -1.5**
comp=Z,3.5nm,0.6s,mb3.9,baz=16,slow=11,SNR=79
LATR Latur 55.99 271 *eP* **P 17 04 37.8 -0.2**
LATR AMb AMB 17 04 39.5
comp=Z,49nm,1.1s,mb4.8
KBL Kabul 56.07 292 *eP* **P 17 04 38.2 -0.2**
comp=Z,34nm,0.9s,mb4.7
SVE Sverdlovsk 56.59 320 *eP* **P 17 04 42.0 +0.4**
SVE pmax pmax
comp=Z,16nm,0.9s,mb4.3
EGAK Eagle 57.75 30 *eP* **P 17 04 48.8 -0.7**
comp=Z,3.4nm,0.5s,mb3.9
ARU Arti 57.79 320 *eP* **P 17 04 49.3 -0.5**
comp=Z,21nm,1.0s,mb4.4
ARU Arti 57.79 320 ⇓*iP* **P 17 04 49.4 -0.5**
ARU pmax pmax
comp=Z,26nm,1.1s,mb4.5
POO Poona 58.24 273 *ex* x 17 04 52.0
POO *eP* 17 04 53.0
POO AMb AMB 17 04 53.9
DAWY Dawson 58.62 31 *eP* **P 17 04 55.3 -0.1**
KOD Kodaikanal 59.19 262 *eP* **P 17 04 59.5 -0.6**
KOD AMb AMB 17 05 01.8
comp=Z,49nm,0.8s,mb4.9
INK Inuvik 60.14 25 *eP* **P 17 05 05.2 -0.4**
comp=Z,467nm,0.6s
INK Inuvik 60.14 25 P **P 17 05 05.5 -0.1**
INK pmax pmax
comp=Z,11nm,0.4s
INK Inuvik 60.14 25 P **P 17 05 05.5 -0.1**
comp=Z,11nm,0.4s,mb4.6,baz=292,slow=6.0,SNR=84
FORT Forrest 63.30 189 *eP* **P 17 05 25.6 -1.2**
comp=Z,13nm,0.7s,mb4.6
STKA Stephens Creek 63.91 176 *eP* **P 17 05 29.6 -1.1**
comp=Z,3.6nm,0.8s,mb4.0
STKA Stephens Creek 63.91 176 P **P 17 05 29.7 -1.0**
comp=Z,3.6nm,0.7s,mb4.0,baz=322,slow=7.7,SNR=9.5
DLBC Dease Lake 64.45 36 P **P 17 05 35.1 +1.2**
baz=300,slow=5.6
KEV Kevo 66.72 339 *ep* **P 17 05 47.6 -0.4**
comp=Z,1.9nm,0.6s,mb3.9
KEV Kevo 66.72 339 *eP* **P 17 05 47.6 -0.4**
KEV pmax pmax
comp=Z,2.0nm,0.6s,mb3.9
ARCES ARCESS Array B 67.28 339 P **P 17 05 51.6 +0.1**
comp=Z,2.5nm,0.5s,mb4.1,baz=66,slow=8.8,SNR=30
RES Resolute Bay 68.03 13 *eP* **P 17 05 55.8 -0.3**
comp=Z,284nm,0.7s
RES Resolute Bay 68.03 13 *eP* **P 17 05 55.8 -0.3**
RES pmax pmax
comp=Z,285nm,0.7s
JOF Joensuu 68.59 332 *ep* **P 17 05 58.7 -1.0**
comp=Z,5.0nm,0.3s,mb4.6
YKA Yellowknife Ar 69.60 28 P **P 17 06 05.4 -0.4**
YKA pP pP 17 07 37.8 +0.8
YKA Yellowknife Ar 69.60 28 P **P 17 06 05.4 -0.4**
comp=Z,8.0nm,0.8s,mb4.3,baz=295,slow=5.9,SNR=93
YKA pP pP 17 07 37.8 +0.8
comp=Z,0.5nm,0.8s,baz=298,slow=6.3,SNR=2.8
OBN Obninsk 69.91 323 ⇑*eP* **P 17 06 07.8 0.0**
OBN *e*PP pP 17 07 39.5 +0.4
OBN S S 17 14 42.0 -0.7
OBN pmax pmax
comp=Z,34nm,1.1s,mb4.8
OBN MLR MLR
comp=Z,100nm,14.0s
VRSR Storozhevoye 70.30 319 *d iP* **P 17 06 09.7 -0.5**
VRSR pmax pmax
comp=Z,8.0nm,1.0s,mb4.2
VRSR pmax pmax
comp=N,4.0nm,0.7s
VRSR pmax pmax
comp=E,6.0nm,0.7s
FINES FINESS Array B 71.46 332 P **P 17 06 16.5 -0.4**
comp=E,5.1nm,0.4s,mb4.4,baz=76,slow=5.3,SNR=110
KIV Kislovodsk 71.49 311 *eP* **P 17 06 17.9 +0.5**
comp=E,52nm,1.1s,mb5.0
KIV Kislovodsk 71.49 311 κ *iP* **P 17 06 17.8 +0.4**
KIV 17 06 34.0
KIV S S 17 15 31.0 +30
KIV pmax pmax
comp=Z,50nm,1.0s,mb5.0
NLWA Neilton Lookou 72.43 45 ⇑P **P 17 06 23.9 +1.1**
baz=72
VSU Vasula 72.85 329 *eP* **P 17 06 24.9 -0.1**
A07A Ashnola River, 73.65 42 ⇓P **P 17 06 30.0 +0.2**
baz=74
F04A Amboy 74.02 46 ⇓P **P 17 06 32.8 +0.8**
baz=74
B07A Winthrop 74.10 43 ⇓P **P 17 06 32.7 +0.3**
baz=74
E05A Randle 74.10 45 ⇑P **P 17 06 32.3 -0.1**
baz=74
D06A Cle Elum 74.32 44 ⇑P **P 17 06 34.3 +0.6**
baz=74
ANN Anapa 74.40 313 *eP* **P 17 06 32.8 -1.4**
ANN pmax pmax
comp=Z,57nm,1.7s,mb4.9
I03A Eugene 74.46 48 ⇓P **P 17 06 34.5 -0.1**
baz=74
E06A Yakima 74.57 45 ⇓P **P 17 06 35.7 +0.6**
baz=74
J02A Umpqua 74.58 48 ⇓P **P 17 06 36.1 +0.9**
baz=74
A09A Danville 74.70 42 ⇓P **P 17 06 36.5 +0.7**
baz=75
H04A Detroit Lake 74.78 47 ⇓P **P 17 06 36.9 +0.5**
baz=75
K02A Glendale 74.93 49 ⇑P **P 17 06 37.8 +0.5**
baz=75
I04A Tendick Farm, 75.09 48 ⇑P **P 17 06 38.8 +0.6**
baz=75
L02A Cave Junction 75.16 49 ⇑P **P 17 06 39.4 +0.8**
baz=75
EDM Edmonton 75.17 36 *eP* **P 17 06 38.4 0.0**
B09A Rice 75.24 42 ⇓P **P 17 06 39.3 +0.4**
baz=75
HUMO Hull Mountain 75.35 49 ⇓P **P 17 06 40.6 +1.0**
baz=75
G06A Carlson Farm, 75.45 46 ⇓P **P 17 06 40.4 +0.2**
baz=75
C09A Chrisman Ranch 75.50 42 ⇓P **P 17 06 40.3 0.0**
baz=75
D08A Wollman Farm, 75.52 43 ⇓P **P 17 06 40.3 -0.2**
baz=75
F07A Phinny Hill Vi 75.53 45 ⇑P **P 17 06 41.2 +0.6**
baz=75
D09A Jones Farm, Ri 75.87 43 ⇑P **P 17 06 42.7 +0.2**
baz=76
H06A Lindquist Farm 75.89 46 ⇑P **P 17 06 42.8 +0.2**
baz=76
A11A Hall Mountain, 75.95 41 ⇑P **P 17 06 43.8 +0.9**
baz=76
YBH Yreka Blue Hor 75.95 49 ⇑P **P 17 06 43.8 +0.8**
baz=76
AKASG Malin Array Be 75.98 321 P **P 17 06 42.4 -0.6**
AKASG Malin Array Be 75.98 321 P **P 17 06 42.4 -0.6**
comp=Z,3.4nm,0.3s,mb4.4,baz=52,slow=5.8,SNR=65
AKBB Malin Array Si 75.99 321 *eP* **P 17 06 42.3 -0.7**
G07A Ruggs Ranch, H 76.02 45 ⇓P **P 17 06 44.0 +0.7**
baz=76
N02C Big Bar 76.03 51 ⇑P **P 17 06 44.1 +0.6**
baz=76
M02C Callahan 76.03 50 ⇓P **P 17 06 44.4 +0.9**
baz=76
J05A Fort Rock 76.09 48 P **P 17 06 44.9 +1.1**
baz=76,SNR=5.9
B11A Sandpoint 76.23 41 ⇓P **P 17 06 45.0 +0.5**
baz=76
E09A Wood Farm, Sta 76.26 43 ⇑P **P 17 06 44.9 +0.2**
baz=76
F08A Pendleton 76.27 44 ⇑P **P 17 06 45.3 +0.6**
baz=76
I06A Prineville 76.38 47 ⇓P **P 17 06 46.0 +0.6**
baz=76,SNR=5.5
G08A Pilot Rock 76.43 45 ⇓P **P 17 06 46.3 +0.7**
baz=76
H07A Lands Inn, Kim 76.43 46 ⇑P **P 17 06 45.8 +0.2**
baz=76
M04C Macdoel 76.48 49 P **P 17 06 46.9 +0.9**
baz=76,SNR=8.7
M03C McCloud 76.56 50 ⇑P **P 17 06 47.0 +0.6**
baz=76
K05A Summer Lake 76.59 48 ⇑P **P 17 06 47.7 +1.1**
baz=76,SNR=6.4
O02C Red Bluff 76.69 51 ⇑P **P 17 06 47.3 +0.2**
baz=77
I07A Izee 76.74 46 ⇑P **P 17 06 48.1 +0.7**
baz=77
J06A Christmas Vall 76.78 47 ⇑P **P 17 06 48.4 +0.8**
baz=77,SNR=7.6
E10A Myers Farm, Un 76.87 43 ⇓P **P 17 06 48.5 +0.4**
baz=77
L05A Lakeview 76.99 48 ⇑P **P 17 06 49.5 +0.7**
baz=77
D11A Klaveano Farm, 77.01 42 ⇑P **P 17 06 48.6 -0.2**
baz=77
GASB Alder Springs 77.01 51 ⇑P **P 17 06 50.1 +1.1**
baz=77
H08A Prairie City 77.01 45 ⇓P **P 17 06 49.5 +0.7**
baz=77
A13A Flathead Natio 77.03 40 ⇑P **P 17 06 49.3 +0.5**
baz=77
MALT Malatya 77.03 307 *eP* **P 17 06 49.8 +0.7**
comp=Z,11nm,0.9s,mb4.5
MALT Malatya 77.03 307 *eP* **P 17 06 49.8 +0.7**
MALT pmax pmax
comp=Z,11nm,0.9s,mb4.5
SUW Suwalki 77.06 326 *eP* **P 17 06 48.0 -0.9**
F10A Beach Ranch, E 77.08 44 ⇑P **P 17 06 49.6 +0.4**
baz=77
G09A Cove 77.14 44 ⇓P **P 17 06 49.9 +0.4**
baz=77
WALA Waterton Lakes 77.23 40 *eP* **P 17 06 50.0 0.0**
comp=Z,10nm,1.1s,mb4.4
J07A Hines 77.24 47 P **P 17 06 51.3 +1.2**
baz=77,SNR=9.4
NB2 NORSAR Subarra 77.25 336 P **P 17 06 48.9 -0.9**
comp=Z,7.5nm,0.9s,mb4.3,baz=44,slow=5.6
NOA NORSAR Array B 77.25 336 P **P 17 06 49.2 -0.6**
comp=Z,4.6nm,0.8s,mb4.2,baz=45,slow=5.5,SNR=18
B13A Whitefish 77.32 40 ⇑P **P 17 06 50.9 +0.5**
baz=77
MOD Modoc 77.40 48 ⇓P **P 17 06 51.7 +0.7**
baz=77
I08A Drewsey 77.40 46 ⇑P **P 17 06 51.7 +0.7**
baz=77
E11A Bogner Ranch, 77.47 43 ⇑P **P 17 06 51.1 -0.2**
baz=77
G10A Bishop Farm, J 77.52 44 ⇓P **P 17 06 51.9 +0.3**
baz=77,SNR=5.4
D12A Red Ives Fores 77.57 42 ⇓P **P 17 06 52.0 +0.2**
baz=77
MNRC McLaughlin Nat 77.59 52 ⇑P **P 17 06 52.8 +0.6**
baz=78
K07A Rock Creek Ran 77.64 47 P **P 17 06 53.2 +0.9**
baz=78,SNR=8.7
BMO Blue Mountains 77.65 45 *eP* **P 17 06 52.6 +0.3**
comp=Z,2.3nm,0.6s,mb4.0
C13A Hot Springs 77.65 41 P **P 17 06 53.0 +0.7**
baz=78,SNR=5.2
O04C Chester 77.73 50 ⇓P **P 17 06 53.4 +0.5**
baz=78
F11A Grangeville 77.76 43 ⇓P **P 17 06 53.3 +0.4**
baz=78
J08A Circle Bar Ran 77.76 46 ⇑P **P 17 06 53.7 +0.8**
baz=78,SNR=12
ELFS Eagle Lake Fie 77.81 50 ⇓P **P 17 06 53.6 +0.3**
baz=78
ORV Oroville 77.86 51 ⇑P **P 17 06 52.8 -0.8**
baz=78
L07A Adell 77.94 48 P **P 17 06 55.0 +1.1**
baz=78,SNR=20
G11A Walters Elk Ra 77.96 44 P **P 17 06 54.0 0.0**
baz=78,SNR=12
D13A Huson 78.05 42 ⇓P **P 17 06 54.4 -0.1**
baz=78
C14A Swan Lake 78.06 41 ⇑P **P 17 06 54.8 +0.3**
baz=78
K08A Mann Creek Ran 78.09 47 ⇓P **P 17 06 55.7 +0.9**
baz=78
H10A Noah's Angus R 78.13 45 ⇑P **P 17 06 54.8 -0.1**
baz=78,SNR=5.6
WVOR Wild Horse Val 78.16 47 *eP* **P 17 06 55.5 +0.3**
comp=Z,4.2nm,0.9s,mb4.1
WVOR Wild Horse Val 78.16 47 *eP* **P 17 06 55.5 +0.4**
WVOR pmax pmax
comp=Z,4.0nm,0.9s,mb4.0
J09A Fry Pan Ranch, 78.20 46 ⇓P **P 17 06 56.0 +0.6**
baz=78,SNR=8.3
N06A Buffalo Meadow 78.31 49 ⇓P **P 17 06 56.3 +0.3**
baz=78
F12A Elk City 78.35 43 ⇑P **P 17 06 56.5 +0.4**
baz=78,SNR=10
M07A Soldier Meadow 78.39 48 ⇑P **P 17 06 57.2 +0.8**
baz=78,SNR=6.3
BEKR Beckwourth 78.44 50 ⇑P **P 17 06 56.6 -0.1**
baz=78,SNR=8.2
L08A Fields 78.47 47 P **P 17 06 57.7 +0.9**
baz=78,SNR=8.8
K09A Rome 78.58 47 ⇑P **P 17 06 57.8 +0.4**
baz=78,SNR=5.0
P05C Yuba Gap, Truc 78.58 51 ⇑P **P 17 06 57.5 0.0**
baz=78
D14A Greenough 78.59 41 ⇑P **P 17 06 57.5 +0.2**
baz=78
O06A Flanigan 78.63 50 P **P 17 06 58.2 +0.4**
baz=78,SNR=6.2
M08A Happy Creek Ra 78.86 48 ⇑P **P 17 06 59.6 +0.6**
baz=79
F13A Darby 78.86 43 ⇑P **P 17 06 58.4 -0.5**
baz=79
L09A Wilkinson Ranc 78.99 47 ⇓P **P 17 07 00.7 +1.1**
baz=79
K10A MacKenzie Ranc 79.06 46 ⇓P **P 17 07 00.7 +0.7**
baz=79,SNR=5.6
D15A Lincoln 79.16 41 ⇑P **P 17 07 00.5 +0.1**
baz=79
LVV L'vov 79.21 323 *eP* **P 17 07 00.3 -0.3**
R05C Kirkwood Meado 79.25 51 ⇑P **P 17 07 01.4 +0.3**
baz=79
H12A Diamond D Ranc 79.27 44 ⇑P **P 17 07 01.3 +0.3**
baz=79,SNR=6.8
MFID Camas Ranch 79.33 45 ⇓P **P 17 07 01.8 +0.4**
baz=79
PACP Pacheco Peak 79.35 53 ⇑P **P 17 07 01.8 +0.2**
baz=79
N08A GE Springer Mi 79.38 48 P **P 17 07 02.3 +0.6**
baz=79,SNR=11
E15A Deer Lodge 79.45 41 ⇓P **P 17 07 02.4 +0.4**
baz=79
HAST Hastings Reser 79.50 54 ⇓P **P 17 07 02.7 +0.2**
baz=79
FFC Flin Flon 79.52 30 *eP* **P 17 07 01.2 -0.9**
comp=Z,3.3nm,0.5s,mb4.2
FFC Flin Flon 79.52 30 *eP* **P 17 07 01.2 -1.0**
FFC pmax pmax
comp=Z,3.0nm,0.5s,mb4.2
K11A Parker Ranch, 79.57 46 ⇓P **P 17 07 03.2 +0.5**
baz=79
H13A Challis 79.61 44 ⇑P **P 17 07 03.4 +0.6**
baz=80
L10A Juniper Basin 79.70 47 ⇓P **P 17 07 03.9 +0.5**
baz=80
HRY Holter Researc 79.74 41 *eP* **P 17 07 03.6 +0.2**
J12A Stokes Ranch, 79.87 45 ⇑P **P 17 07 05.0 +0.7**
baz=80
F15A Butte 79.88 42 ⇑P **P 17 07 04.7 +0.5**
baz=80,SNR=12
KWP Kalwaria 80.00 323 *eP* **P 17 07 05.2 +0.4**

I13A	Wildhorse Cree	80.07	44	⇓P		P	17 07 06.2 +0.9
	baz=80,SNR=5.3						
EGMT	Eagleton	80.07	39	⇑P		P	17 07 05.6 +0.4
	baz=80						
HLID	Hailey	80.10	44	⇑P		P	17 07 06.1 +0.7
	baz=80						
DLMT	Dillon	80.10	42	*e*P		P	17 07 05.6 +0.1
	comp=Z,11nm,1.0s,mb4.4						
R07C	Lee Vining	80.27	51	⇓P		P	17 07 07.3 +0.8
	baz=80						
G15A	Dillon	80.28	42	⇑P		P	17 07 07.0 +0.6
	baz=80,SNR=5.5						
O09A	Fish Creek Ran	80.32	49	⇓P		P	17 07 07.6 +0.9
	baz=80						
J13A	Cove Ranch, Pi	80.33	45	⇑P		P	17 07 07.6 +0.9
	baz=80						
BOZ	Bozeman (W)	80.48	42	*e*P		P	17 07 07.9 +0.5
	comp=Z,2.9nm,0.7s,mb4.0						
BOZ	Bozeman (W)	80.48	42	*e*P		P	17 07 07.9 +0.4
BOZ				pmax		pmax	
	comp=Z,3.0nm,0.7s,mb4.0						
BOZ	Bozeman (W)	80.48	42	⇓P		P	17 07 08.2 +0.7
	baz=80						
L12A	House Creek Ra	80.55	46	⇓P		P	17 07 09.2 +1.3
	baz=80						
NVAR	Mina Array Bea	80.57	50	P		P	17 07 08.2 +0.2
	comp=Z,2.6nm,0.8s,mb4.0,baz=303,slow=3.9,SNR=16						
NVAR				pP		pP	17 08 42.4 -0.1
	comp=Z,1.3nm,0.8s,baz=288,slow=7.1,SNR=4.0						
KOLS	Kolonicke sedl	80.66	323	*e*P		P	17 07 08.2 -0.1
STHS	Stebnicka Huta	80.87	324	*e*P		P	17 07 10.2 +0.8
	comp=Z,5.3nm,1.0s,mb4.2						
STHS	Stebnicka Huta	80.87	324	*e*P		P	17 07 10.2 +0.8
STHS				pmax		pmax	
	comp=Z,5.0nm,1.0s,mb4.2						
M12A	Wells	81.03	46	P		P	17 07 11.4 +1.0
	baz=81,SNR=5.2						
OJC	Ojcow	81.07	325	*e*P		P	17 07 10.2 -0.2
P10A	Eureka	81.09	49	⇓P		P	17 07 11.1 +0.4
	baz=81						
CRVS	Cervenica-Dubn	81.09	323	*e*P		P	17 07 09.9 -0.7
CRVS	Cervenica-Dubn	81.09	323	*e*P		P	17 07 09.8 -0.8
S08C	White Mtn Res	81.17	51	⇑P		P	17 07 11.5 +0.3
	baz=81						
N12A	Clover Valley,	81.28	47	⇑P		P	17 07 12.7 +1.0
	baz=81						
NIE	Niedzica	81.34	324	*e*P		P	17 07 12.6 +0.8
R09A	Tonopah	81.48	50	P		P	17 07 13.1 +0.3
	baz=81,SNR=8.0						
M13A	Montello	81.52	46	⇓P		P	17 07 13.7 +0.7
	baz=81						
Q10A	Clear Creek Ra	81.58	49	⇓P		P	17 07 13.6 +0.3
	baz=81						
O12A	Currie	81.80	47	⇓P		P	17 07 15.0 +0.6
	baz=82						
KECS	Kecovo	81.86	323	*e*P		P	17 07 14.9 +0.4
	comp=Z,2.7nm,0.8s,mb4.0						
KECS	Kecovo	81.86	323	*e*P		P	17 07 14.9 +0.4
KECS				pmax		pmax	
	comp=Z,3.0nm,0.8s,mb4.1						
M14A	Sheep Mountain	81.94	46	⇑P		P	17 07 16.2 +1.1
	baz=82						
S10A	Tonopah Range,	81.97	50	P		P	17 07 15.8 +0.5
	baz=82,SNR=8.4						
GRAC	Grapevine Rang	81.98	51	⇓P		P	17 07 15.5 +0.1
	baz=82						
Q11A	Duckwater	82.05	49	⇑P		P	17 07 16.2 +0.5
	baz=82						
OKC	Ostrava-Krasne	82.13	325	*e*P		P	17 07 15.8 -0.1
P12A	McGill	82.16	48	⇓P		P	17 07 16.9 +0.6
	baz=82						
KSP	Ksiaz	82.33	327	*e*P		P	17 07 17.0 +0.1
KSP	Ksiaz	82.33	327	*e*P		P	17 07 16.7 -0.2
R11A	Troy Canyon, C	82.37	49	P		P	17 07 17.7 +0.3
	baz=82,SNR=9.5						
MPMC	Manual Prospec	82.43	52	⇑P		P	17 07 17.8 0.0
	baz=82						
Q12A	Willow Creek R	82.46	48	⇑P		P	17 07 18.7 +0.9
	baz=82						
MORC	Moravsky Berou	82.46	325	*e*P		P	17 07 16.8 -0.7
	comp=Z,20nm,1.5s,mb4.6						
MORC	Moravsky Berou	82.46	325	*e*P		P	17 07 16.8 -0.8
MORC				pmax		pmax	
	comp=Z,20nm,1.5s,mb4.6						
BGU	Big Grassy Mou	82.47	46	*e*P		P	17 07 18.6 +0.8
PSZ	Piszkesteto	82.52	323	*e*P		P	17 07 17.5 -0.4
	comp=Z,13nm,1.1s,mb4.6						
PSZ	Piszkesteto	82.52	323	*e*P		P	17 07 17.5 -0.5
PSZ				pmax		pmax	
	comp=Z,13nm,1.1s,mb4.6						
FURC	Furnace Creek,	82.62	51	⇑P		P	17 07 19.4 +0.7
	baz=82						
LRMC	Laurel Mountai	82.62	53	⇑P		P	17 07 19.3 +0.5
	baz=82						
DPC	Dobruska-Polom	82.65	326	*e*P		P	17 07 18.6 +0.1
S11A	Rachel	82.67	50	⇓P		P	17 07 19.4 +0.5
	baz=82						
VYHS	Vyhne	82.68	324	*e*P		P	17 07 18.8 +0.1
	comp=Z,7.2nm,1.1s,mb4.3						
VYHS	Vyhne	82.68	324	*e*P		P	17 07 18.8 +0.1
VYHS				pmax		pmax	
	comp=Z,7.0nm,1.1s,mb4.3						
UPC	Upice	82.69	327	*e*P		P	17 07 18.5 -0.2
P13A	Bates Ranch, G	82.73	48	⇑P		P	17 07 19.4 +0.3
	baz=83						
TPNV	Topopah Spring	82.75	51	*e*P		P	17 07 19.2 -0.1
	comp=Z,6.5nm,0.9s,mb4.4						
TPNV	Topopah Spring	82.75	51	*e*P		P	17 07 19.3 0.0
TPNV				pmax		pmax	
	comp=Z,6.0nm,0.9s,mb4.3						
TPNV	Topopah Spring	82.75	51	⇓P		P	17 07 19.8 +0.5
	baz=83						
EDW2	Edwards Air Fo	82.76	53	⇓P		P	17 07 19.6 +0.2
	baz=83						
N15A	Stansbury Isla	82.80	46	⇓P		P	17 07 20.5 +1.0
	baz=83						
HWUT	Hardware Ranch	82.95	45	*e*P		P	17 07 20.8 +0.6
	comp=Z,7.3nm,1.2s,mb4.3						
R12A	Pony Springs,	83.01	49	⇑P		P	17 07 21.3 +0.6
	baz=83						
DUG	Dugway	83.04	47	⇓P		P	17 07 21.7 +1.0
	baz=83						
T11A	Corn Creek, Al	83.25	50	⇓P		P	17 07 22.1 +0.2
	baz=83						
PVCC	Panska Ves	83.34	327	*e*P		P	17 07 21.9 -0.1
PVCC				AMS		AMS	17 57 50.0
	comp=Z,200nm,17.4s						
CLL	Collm	83.50	329	⇓*i*P		P	17 07 22.0 -0.8
	comp=Z,18nm,1.1s,mb4.7						
CLL				*e*			17 09 08.0
CLL	Collm	83.50	329	⇓*i*P		P	17 07 22.0 -0.8
CLL				pmax		pmax	
	comp=Z,18nm,1.1s,mb4.7						
CLL	Collm	83.50	329	⇓*i*P		P	17 07 22.0 -0.8
	comp=Z,18nm,1.1s,mb4.7						
CLL				*ex*		x	17 09 08.0
MODS	Modra-Piesok	83.53	325	*e*P		P	17 07 23.0 0.0
PRU	Pruhonice	83.73	327	*e*P		P	17 07 23.3 -0.7
PRU				AMS		AMS	17 58 10.0
	comp=Z,100nm,17.3s						
ZST	Bratislava	83.74	324	*e*P		P	17 07 24.7 +0.6
DAU	Daniels Canyon	83.86	46	*e*P		P	17 07 25.8 +0.9
V11A	Goodsprings	83.92	51	⇑P		P	17 07 25.4 +0.2
	baz=84						
S13A	Holt Ranch, En	83.93	49	⇓P		P	17 07 25.9 +0.6
	baz=84,SNR=6.8						
V12A	Nelson	84.37	51	⇑P		P	17 07 27.7 +0.2
	baz=84						
GMRC	Granite Mounta	84.39	52	⇑P		P	17 07 27.8 +0.3
	baz=84						
NKC	Novy Kostel	84.51	328	*e*P		P	17 07 27.7 -0.2
PFO	Pinyon Flat Ob	84.52	54	⇓P		P	17 07 28.3 0.0
	baz=84						
U13A	Pakoon Wash	84.55	50	⇓P		P	17 07 28.8 +0.5
	baz=84						
BELC	Belle Mtn.	84.61	53	⇑P		P	17 07 28.5 -0.2
	baz=84						
KHC	Kasperske Hory	84.78	327	*e*P		P	17 07 29.0 -0.2
KHC				AMS		AMS	17 58 20.0
	comp=Z,200nm,18.5s						
V13A	Grand Canyon W	84.87	51	⇑P		P	17 07 30.0 +0.1
	baz=85						
GERES	GERESS Array B	84.92	326	P		P	17 07 29.0 -0.9
	comp=Z,1.1nm,0.6s,mb3.8,baz=55,slow=5.1,SNR=8.3						
MONP	Monument Peak	84.96	54	⇓P		P	17 07 30.4 -0.1
	baz=85						
IRM	Iron Mountain	85.09	53	⇑P		P	17 07 30.9 -0.1
	baz=85						
BC3	Big Chuckw Mtn	85.18	53	P		P	17 07 31.6 +0.1
	baz=85						
ULM	Lac du Bonnet	85.32	31	P		P	17 07 31.0 -0.8
	comp=Z,1.0nm,0.4s,mb3.9,baz=273,slow=3.4,SNR=3.6						
W13A	Hualapai Mount	85.38	51	⇓P		P	17 07 32.4 0.0
	baz=85						
GRA1	Grafenberg Arr	85.45	328	*e*P		P	17 07 32.2 -0.3
	comp=Z,9.0nm,1.4s,mb4.3						
GRF	Grafenberg Arr	85.45	328	*e*P		P	17 07 32.2 -0.3
GRF				pmax		pmax	
	comp=Z,9.0nm,1.4s,mb4.3						
GRF	Grafenberg Arr	85.45	328	*e*P		P	17 07 32.2 -0.3
	comp=Z,9.0nm,1.4s,mb4.3						
V14A	Boquillas Ranc	85.57	50	⇑P		P	17 07 34.2 +0.9
	baz=85						
PDMCI	Parker Dam,Lak	85.68	52	⇑P		P	17 07 34.5 +0.5
	baz=86						
X13A	Yucca	85.72	52	⇓P		P	17 07 34.5 +0.4
	baz=86						
GIVF	Givet	87.86	332	*e*P		P	17 07 43.3 -0.6
BAIF	Baives	88.14	332	*e*P		P	17 07 42.4 -2.8
	comp=Z,31nm,1.3s,mb4.6						
CDF	Champ du Feu	88.14	329	*e*P		P	17 07 43.4 -1.9
	comp=Z,9.1nm,1.0s,mb4.2						
ECSD	EROS,Sioux Fal	89.74	36	*e*P		P	17 07 51.4 -1.5
	comp=Z,6.6nm,0.7s,mb4.6						
218A	Dragoon	89.82	52	⇓P		P	17 07 54.1 +0.7
	baz=90						
318A	Bisbee	90.19	52	⇑P		P	17 07 55.9 +0.7
	baz=90						
219A	White Tail Can	90.33	51	⇑P		P	17 07 56.2 +0.4
	baz=90						
LOR	Lormes	90.48	330	*e*P		P	17 07 54.0 -2.2
LOR				*e*MLR		MLR	
	comp=Z,172nm,20.8s						
LPL	La Plagne	90.59	328	*e*P		P	17 07 55.0 -1.7
	comp=Z,18nm,1.2s,mb4.5						
LPG	La Plagne	90.59	328	*e*P		P	17 07 55.2 -1.6
	comp=Z,10nm,1.0s,mb4.3						
SCHQ	Schefferville	90.80	14	P		P	17 07 56.9 -0.6
	comp=Z,1.0nm,0.7s,mb3.8,baz=275,slow=11,SNR=3.2						
SMF	Signal de Mont	90.98	330	*e*P		P	17 07 56.5 -2.0
	comp=Z,32nm,1.2s,mb4.7						
AVF	Avril sur Loir	91.07	330	*e*P		P	17 07 56.9 -2.0
	comp=Z,20nm,1.1s,mb4.6						
MBDF	Montbardon	91.17	327	*e*P		P	17 07 56.8 -2.7
TCF	Toulx Ste Croi	91.94	331	*e*P		P	17 08 01.1 -1.9
	comp=Z,32nm,1.3s,mb4.8						
VIVF	Saint-Julien-l	92.02	328	*e*P		P	17 08 01.1 -2.3
FRF	La Foret Royal	92.12	327	*e*P		P	17 08 00.1 -3.8
SMRF	Simiane la Rot	92.30	327	*e*P		P	17 08 01.8 -2.9
MFF	Saint Martin d	92.64	332	*e*P		P	17 08 04.5 -1.7
	comp=Z,46nm,1.3s,mb5.0						
TXAR	Lajitas Array	95.72	50	P		P	17 08 20.5 0.0
	comp=Z,1.3nm,0.7s,mb4.2,baz=297,slow=3.0,SNR=10						
TXAR				pP		pP	17 09 54.8 -2.7
	comp=Z,1.1nm,0.9s,baz=291,slow=3.2,SNR=4.2						
SJPF	Ste Jean	95.95	331	*e*P		P	17 08 18.9 -2.4
	comp=Z,46nm,1.1s,mb5.2						
BOSA	Boshof	122.23	254	PKP		PKPdf	17 13 46.1 -0.8
	comp=Z,2.5nm,0.9s,baz=28,slow=3.2,SNR=5.7						
DBIC	Dimbokro	127.15	310	PKP		PKPdf	17 13 56.1 -0.7
	comp=Z,0.8nm,0.3s,baz=78,slow=1.8,SNR=4.5						
LPAZ	La Paz	151.96	62	*e*PKPbc		PKPbc	17 14 47.8 +0.2
LPAZ	La Paz	151.96	62	PKIKP		PKPbc	17 14 47.7 +0.1
LPAZ				pmax		pmax	
	comp=Z,2.0nm,0.6s						
LPAZ	La Paz	151.96	62	PKPbc		PKPbc	17 14 47.7 +0.1
	comp=Z,1.6nm,0.6s,baz=312,slow=5.4,SNR=11						
PLCA	Paso Flores	156.10	119	PKP2		PKPab	17 15 15.4 -0.5
PLCA				pmax		pmax	
	comp=Z,1.0nm,0.7s						
PLCA	Paso Flores	156.10	119	PKPab		PKPab	17 15 15.3 -0.6
	comp=Z,1.1nm,0.7s,baz=236,slow=3.6,SNR=3.5						

IDC ***30*** *17:17:36.6±0.9, 4666N×156.17E, h0km, mb3.6/7, mb1 3.8/9, mb1mx3.6/22, mbtmp3.6/9, ML3.2/2, Error ellipse: s-maj=27.5km s-min=21.0km az=148.0*
MOS ***30*** *17:17:38.6±1.2, 4680N×156.06E, h25km, mb4.6/2, Error ellipse: s-maj=20.3km s-min=12.8km az=80.0*
NEIC ***30*** *17:17:38.1±0.7, 4672N×156.18E, h10km, mb4.3/2, Error ellipse: s-maj=17.7km s-min=11.0km az=132.0*
ISCJB ***30*** *17:17:41.8±0.9, 47.13N±008×156.1E±02, h33km, mb3.7/9, Error ellipse: s-maj=17.7km s-min=9.5km az=24.6*
ISC 30 17:17:42.8±0.8, 4702N±007×1561E±02, h35km, n20, σ1$ 36/22, mb3.7/9, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	3.67	1	*e*P		Pn	17 18 36.6	-0.4
SKR				*e*S		Sn	17 19 17.5	-1.5
SKR				pmax		pmax		
	comp=Z,60nm,0.5s							
SKR				smax				
	comp=N,80nm,0.4s							
SKR				smax				
	comp=E,100nm,0.4s							
SKR				smax				
	comp=Z,80nm,0.4s							
PET	Petropavlovsk	6.24	15	*e*Pn		Pn	17 19 11.9	-0.3
	comp=Z,5.6nm,0.4s							
PET	Petropavlovsk	6.24	15	*e*P		Pn	17 19 12.4	+0.1
PET				*e*S		Sn	17 20 19.9	-2.4
PET				smax				
	comp=E,25nm,0.6s							
PET				smax				
	comp=N,37nm,0.4s							
ASAJ	Asahikawa	9.87	258	Pn		Pn	17 20 00.1	-2.0
	comp=N,0.2nm,0.3s,baz=274,slow=31,SNR=5.4							
MJAR	Matsushiro Arr	16.89	238	Pn		Pn	17 21 32.5	-3.9
	comp=N,0.1nm,0.3s,baz=65,slow=9.5,SNR=3.0							
SONM	Songino Array	33.14	290	P		P	17 24 16.8	+1.4
	comp=N,0.4nm,0.6s,mb3.5,baz=48,slow=8.1,SNR=3.0							
INK	Inuvik	40.34	33	*e*P		P	17 25 17.6	+1.2
MK31	Makanchi Array	48.60	298	*e*P		P	17 26 23.6	+1.0
MKAR	Makanchi Array	48.60	298	P		P	17 26 24.3	+1.7
MKAR	Makanchi Array	48.60	298	P		P	17 26 24.3	+1.7
	comp=N,0.5nm,0.7s,mb3.7,baz=66,slow=7.8,SNR=8.1							
KURK	Kurchatov	48.88	305	*e*P		P	17 26 25.6	+0.9
	comp=N,2.3nm,0.6s,mb4.4							
KURK	Kurchatov	48.88	305	*e*P		P	17 26 25.6	+0.9
KURK				pmax		pmax		
	comp=Z,2.0nm,0.6s,mb4.3							
YKA	Yellowknife Ar	49.49	38	P		P	17 26 29.9	+0.7
	comp=Z,0.2nm,0.4s,mb3.5,baz=291,slow=7.3,SNR=4.6							
BRVK	Borovoye	52.27	310	*e*P		P	17 26 51.8	+1.5
	comp=Z,1.8nm,0.5s,mb4.3							
BRVK	Borovoye	52.27	310	*e*P		P	17 26 51.8	+1.6
BRVK				pmax		pmax		
	comp=Z,2.0nm,0.5s,mb4.3							
WRA	Warramunga Arr	69.46	202	P		P	17 28 44.0	-3.3
	comp=Z,0.5nm,0.7s,mb3.6,baz=23,slow=7.0,SNR=8.6							
AKASG	Malin Array Be	72.42	328	P		P	17 29 05.1	0.0
	comp=Z,0.2nm,0.3s,mb3.5,baz=34,slow=6.8,SNR=2.8							
ASAR	Alice Springs	73.14	201	P		P	17 29 07.7	-1.8
	comp=Z,0.2nm,0.5s,mb3.3,baz=17,slow=5.2,SNR=4.1							
TXAR	Lajitas Array	75.59	63	P		P	17 29 24.4	+0.5
TXAR	Lajitas Array	75.59	63	P		P	17 29 24.4	+0.5
	comp=Z,0.7nm,0.5s,mb3.8,baz=305,slow=3.9,SNR=12							

ISCJB ***30*** *17:20:15.3±0.8, 4229N±004×1886E±004, h7km±7km, Error ellipse: s-maj=6.5km s-min=4.3km az=25.2*
PDG ***30*** *17:20:16.1±0.1, 4231N×1888E, h4km, MD1.7/1, ML2.1/8, Error ellipse: s-maj=0.3km s-min=0.4km az=0.0*
NEIC ***30*** *17:20:16.1, 4231N×1888E, h4km, ML2.6(ZAG), ML2.1(PDG), After PDG.*
ISC 30 17:20:16.0±0.8, 4229N±004×1886E±004, h3km±10km, n10, σ0$ 97/20, 5C-4D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
BUM	Brajici-Budva	0.04	64	⇑*i*Pg		Pg	17 20 16.7	-0.2
BUM				*e*Sg		Sg	17 20 17.4	-0.1
HCY	Herceg Novi	0.31	302	⇓*i*Pg		Pg	17 20 21.5	-0.5
HCY				*i* Sg		Sg	17 20 26.8	+0.8
TTG	Podgorica	0.33	64	⇓*i*Pg		Pg	17 20 21.6	-0.8
TTG				*i* Sg		Sg	17 20 26.6	-0.2
ULC	Ulcinj	0.43	137	⇓*i*Pg		Pg	17 20 24.5	+0.1
ULC				*e*Sg		Sg	17 20 31.5	+1.5
NKY	Niksic	0.54	11	⇑*i*Pg		Pg	17 20 25.5	-0.8
NKY				*e*Sg		Sg	17 20 33.5	+0.2
BRY	Bratogost	0.66	340	⇑*i*Pg		Pg	17 20 28.2	-0.4
BRY				*e*Sg		Sg	17 20 38.0	+0.9
PVY	Plav	0.88	69	⇑*i*Pg		Pg	17 20 31.7	-1.3
PVY				*e*Sg		Sg	17 20 45.6	+1.2
UPM	Unac-Piva	0.92	3	⇑*i*Pg		Pg	17 20 32.4	-1.2
UPM				*e*Sg		Sg	17 20 46.5	+1.0
IVA	Berane	0.97	52	⇓*i*Pg		Pg	17 20 33.7	-0.9
IVA				*e*Sg		Sg	17 20 48.1	+1.0
STON	Ston	1.03	305	*e*Pg		Pg	17 20 33.8	-2.1
STON				Sg		Sg	17 20 50.9	+1.6

ISCJB ***30*** *17:41:50.3±0.9, 1532S±008×17783W±006, h367km±10km, mb4.5/32, Error ellipse: s-maj=12.0km s-min=9.9km az=4.7*
SZGRF ***30*** *17:41:50.2, 1577S×17764W, h368km, Fiji Islands region*
GCMT ***30*** *17:41:52.7±1.4, 1530S×17751W, h417km±4km, MW5.2/29, Moment Tensor Solution. s29,c41; Duration: 1s0 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.12±.05; $M_{\theta\theta}$-0.46±.08; $M_{\phi\phi}$0.58±.06; $M_{r\theta}$0.61±.06; $M_{\theta\phi}$0.29±.07; $M_{\phi r}$0.14±.06; Best double couple: $M_0$0.86300×10^{17} NP1:ϕ_s336.00000°, δ47.00000°, λ-169.00000°. NP2: ϕ_s238.00000°, δ82.00000°, λ-44.00000°. Principal axes: T 0.7840, Plg23.0000°, Azm295.0000°; N 0.1580, Plg46.0000°, Azm50.0000°; P -0.9420, Plg36.0000°, Azm187.0000°; nsta1 refers to body waves, cutoff=40s.*
NEIC ***30*** *17:41:52.7±0.2, 1520S×17774W, mb4.8/15 Error ellipse: s-maj=8.2km s-min=6.4km az=143.0*
BJI ***30*** *17:41:52.6, 1520S×17770W, h386km, mB4.7, mb4.7*
IDC ***30*** *17:41:53.4±0.7, 15.19S×17781W, h390km±7km, mb4.1/16, mb1 4.1/17, mb1mx4.1/19, mbtmp4.1/17, Error ellipse: s-maj=11.6km s-min=9.7km az=168.0*
ISC 30 17:41:51.3±0.9, 1530S±007×17779W±007, h365km±10km, h384km±4.9km: pP-P, n165, σ1$09/52, mb4.5/32, 9C-20D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
AFI	Afiamalu	5.98	77	*e*Pn		Pn	17 43 21.7	-0.9
FUNA	Funafuti	7.35	336	*e*Pn		Pn	17 43 38.8	+0.5
	290nm,0.6s							
RAR	Rarotonga	18.09	112	P		P	17 45 38.6	0.0
	3.5nm,0.3s,baz=297,slow=2.7,SNR=8.5							
HNR	Honiara	22.51	282	*e*P		P	17 46 21.4	+0.1
	118nm,0.8s,mb5.2							
HNR	Honiara	22.51	282	P		P	17 46 21.5	+0.2
	134nm,0.8s,mb5.2,baz=198,slow=0.6,SNR=12							
URZ	Urewera	23.31	190	P		P	17 46 25.3	-2.9
	61nm,0.8s,mb4.9,baz=29,slow=5.6,SNR=18							
SNZO	South Karori	26.72	193	*e*P		P	17 46 56.7	-2.0
	32nm,0.7s,mb4.7							
RPZ	Rata Peaks	29.88	196	P		P	17 47 25.6	-0.9
	13nm,0.5s,mb4.4,baz=89,slow=1.5,SNR=14							
EIDS	Eidsvold	30.79	246	*e*P		P	17 47 34.0	-0.7
	5.7nm,0.8s,mb3.9							
ARMA	Armidale	31.81	236	*e*P		P	17 47 44.7	+1.2
CTA	Charters Tower	34.54	257	*e*P		P	17 48 07.8	+0.8
	11nm,0.4s,mb4.4							
CTA				*e*			17 48 11.3	
CTA				*e*PCP		PcP	17 50 32.3	-0.2
CTA	Charters Tower	34.54	257	P		P	17 48 07.8	+0.8
	18nm,0.5s,mb4.6,baz=87,slow=9.9,SNR=72							
CTA				PcP		PcP	17 50 32.7	+0.1
	4.9nm,0.5s,baz=262,slow=0.9,SNR=5.5							
CTAO	Charters Tower	34.54	257	*e*P		P	17 48 07.8	+0.8
	17nm,0.6s,mb4.5							
CNB	Canberra Magne	35.52	230	*e*P		P	17 48 15.7	+0.6
	21nm,0.5s,mb4.6							
STKA	Stephens Creek	40.45	239	*e*P		P	17 48 56.5	+0.6
	10nm,0.9s,mb4.0							
STKA				*e*PCP		PcP	17 50 50.4	-0.3
STKA	Stephens Creek	40.45	239	P		P	17 48 56.6	+0.7
	6.6nm,0.5s,mb4.1,baz=87,slow=9.3,SNR=27							
STKA				PcP		PcP	17 50 50.7	0.0
	4.1nm,0.6s,baz=104,slow=8.2,SNR=3.7							
WB2	Warramunga Arr	45.73	257	*e*P		P	17 49 37.5	-0.4
WB2				*e*S		S	17 55 45.8	-7.5
WRAB	Tennant Creek	45.73	257	*e*P		P	17 49 37.5	-0.4
	6.6nm,0.4s,mb4.1							
WRA	Warramunga Arr	45.74	257	P		P	17 49 37.6	-0.4
	4.9nm,0.3s,mb4.1,baz=94,slow=6.7,SNR=284							
WRA				PcP		PcP	17 51 08.9	0.0
	4.2nm,0.6s,baz=87,slow=4.0,SNR=8.9							
WRA				S		S	17 55 51.3	-2.2
	2.3nm,0.7s,baz=92,slow=14,SNR=14							
ASAR	Alice Springs	46.12	252	P		P	17 49 41.2	+0.4
	71nm,0.3s,mb5.2,baz=85,slow=8.5,SNR=5233							
ASAR				PcP		PcP	17 51 10.1	-0.1
	5.1nm,0.5s,baz=95,slow=4.6,SNR=6.7							
ASAR				S		S	17 55 55.9	-2.8
	8.7nm,1.0s,baz=85,slow=15,SNR=26							
KAKA	Kakadu	48.28	266	*e*P		P	17 49 57.9	+0.4
	32nm,0.6s,mb4.7							
FORT	Forrest	51.69	243	⇓*i*P		P	17 50 22.4	-0.2
	192nm,0.6s,mb5.6							
FITZ	Fitzroy Crossi	54.08	259	*e*P		P	17 50 40.4	+0.3
	4.2nm,0.3s,mb4.2							
FITZ				*e*			17 50 46.0	
MBWA	Marble Bar	59.32	254	*e*P		P	17 51 15.9	-0.6
KLBR	Kellerberrin	60.54	242	*e*P		P	17 51 23.8	-0.8
	51nm,0.7s,mb5.1							
KLBR				*e*			17 51 28.2	
MUN	Mundaring	61.85	242	*e*P		P	17 51 33.9	+0

YKA				PKKP	PKKPbc	18 11 32.3	-5.5
	comp=Z,0.3nm,0.5s,baz=43,slow=2.0,SNR=8.0						
SYO	**Syowa Base**	**91.81 193**	⇑*eP*	**P**		**17 54 15.6**	**-2.6**
SYO	**Syowa Base**	**91.81 193**	⇓*e*PcP	PcP		17 54 17.0	-1.9
SONM	**Songino Array**	**91.98 319**	P	**P**		**17 54 19.1**	**-0.2**
	comp=Z,0.3nm,0.5s,mb3.5,baz=154,slow=4.1,SNR=3.3						
SONM				pP	pP	17 55 49.1	+4.5
	comp=Z,1.0nm,0.9s,baz=74,slow=4.3,SNR=5.9						
PLCA	**Paso Flores**	**92.69 133**	P	**P**		**17 54 23.6**	**+0.8**
	comp=Z,0.8nm,0.5s,mb4.0,baz=180,slow=4.0,SNR=2.0						
SNAA	**Sanae**	**93.17 178**	*e*	**P**		**17 54 23.8**	**-0.6**
SNAA			*e*			17 54 27.1	
SNAA			*e*			17 54 30.1	
SNAA	**Sanae**	**93.17 178**	P	**P**		**17 54 23.9**	**-0.5**
	comp=Z,2.0nm,0.8s,mb4.2,baz=201,slow=2.8,SNR=18						
VNA2	**Neumayer--Watz**	**93.73 177**	*e*	**P**		**17 54 27.4**	**+0.4**
	baz=197,slow=3.4						
VNA2			*e*			17 54 30.8	
VNA2			*e*			17 54 34.5	
VNA1	**Neumayer--Stat**	**93.96 177**	*e*	**P**		**17 54 29.8**	**+1.8**
VNA1			*e*			17 54 32.9	
VNA1			*e*			17 54 36.9	
ZALV	**Zalesovo Beam**	**106.55 322**	PKPdf	PKiKP		17 59 31.3	-1.9
ZALV	**Zalesovo Beam**	**106.55 322**	PKiKP	PKiKP		17 59 31.3	-1.9
	comp=Z,0.8nm,0.5s,baz=48,slow=2.1,SNR=4.6						
MKAR	**Makanchi Array**	**107.75 315**	PKiKP	PKiKP		17 59 33.5	-2.2
	comp=Z,0.6nm,0.6s,baz=82,slow=0.4,SNR=10.0						
MKAR				PKKPbc	PKKPbc	18 10 49.6	-2.1
	comp=Z,0.6nm,0.8s,baz=276,slow=2.5,SNR=7.1						
ARCES	**ARCESS Array B**	**123.86 350**	PKP	PKPdf		18 00 04.2	-1.6
	comp=Z,2.4nm,0.4s,baz=20,slow=0.3,SNR=35						
FINES	**FINESS Array B**	**130.85 345**	PKP	PKPdf		18 00 17.2	-2.1
	comp=Z,0.7nm,0.6s,baz=144,slow=3.5,SNR=4.5						
BOSA	**Boshof**	**130.98 207**	PKP	PKPdf		18 00 19.5	-1.1
BOSA			PP	PP		18 02 45.4	+4.4
BOSA	**Boshof**	**130.98 207**	PKP	PKPdf		18 00 19.5	-1.1
	comp=Z,4.8nm,0.9s,baz=135,slow=4.1,SNR=5.6						
BOSA			PP	PP		18 02 45.4	+4.4
	comp=Z,4.1nm,0.8s,baz=164,slow=6.9,SNR=4.9						
NB2	**NORSAR Subarra**	**133.87 354**	PKPdf	PKPdf		18 00 24.4	-0.6
	comp=Z,1.0nm,0.8s,baz=12,slow=1.9						
NOA	**NORSAR Array B**	**133.87 354**	PKP	PKPdf		18 00 23.4	-1.6
	comp=Z,1.0nm,0.7s,baz=13,slow=4.1,SNR=4.9						
AKASG	**Malin Array Be**	**138.51 334**	PKP	PKPdf		18 00 26.3	-7.6
AKASG			PKP	PKPdf		18 00 30.3	-3.7
AKASG	**Malin Array Be**	**138.51 334**	PKhKP			18 00 26.3	
	comp=Z,0.4nm,0.4s,baz=41,slow=4.0,SNR=6.9						
AKASG			PKP	PKPdf		18 00 30.3	-3.7
	comp=Z,0.9nm,0.6s,baz=31,slow=1.4,SNR=6.9						
KMBO	**Kilima Mbogo**	**141.70 248**	PKhKP			18 00 36.5	
	comp=Z,1.2nm,0.7s,baz=214,slow=24,SNR=7.7						
TSUM	**Tsumeb**	**142.52 204**	PKP	PKPdf		18 00 39.0	-3.1
TSUM	**Tsumeb**	**142.52 204**	PKP	PKPdf		18 00 39.0	-3.1
	comp=Z,4.1nm,0.8s,baz=169,slow=4.0,SNR=10						
STHS	**Stebnicka Huta**	**142.60 339**	*e*PKP	PKPdf		18 00 40.7	-0.6
KOLS	**Kolonicke sedl**	**142.65 338**	*e*PKP	PKPdf		18 00 40.9	-0.5
DPC	**Dobruska-Polom**	**143.22 345**	*e*PKP	PKPdf		18 00 39.0	-3.4
BRG	**Berggiesshubel**	**143.28 348**	*e*PKPbc	PKPdf		18 00 39.2	-3.3
TIRR	**Tirgusor**	**143.43 328**	⇓P	PKPdf		18 00 40.6	-2.4
TIRR	**Tirgusor**	**143.43 328**	⇓*i*P	PKPdf		18 00 40.6	-2.4
KECS	**Kecovo**	**143.66 339**	*i* PKP	PKPdf		18 00 40.6	-2.6
KECS			*e*			18 00 47.3	
KECS			*e*			18 00 55.2	
KECS	**Kecovo**	**143.66 339**	*i* PKP	PKPdf		18 00 40.5	-2.7
KECS			*e*			18 00 47.3	
KECS			*e*			18 00 55.2	
MLR	**Muntele Rosu**	**143.88 331**	⇓P	PKPdf		18 00 42.2	-1.5
MLR	**Muntele Rosu**	**143.88 331**	PKP	PKPdf		18 00 40.9	-2.9
	comp=Z,2.4nm,0.7s,baz=282,slow=4.3,SNR=7.2						
MLR	**Muntele Rosu**	**143.88 331**	⇓*i*P	PKPdf		18 00 42.2	-1.5
MOX	**Moxa**	**143.94 350**	*e*PKPbc	PKPdf		18 00 41.9	-1.7
PRU	**Pruhonice**	**143.98 346**	*e*PKP	PKPdf		18 00 41.1	-2.6
TANN	**Tannenbergstha**	**144.01 349**	*e*PKPbc	PKPdf		18 00 40.8	-3.0
UBBA	**Unterbreizbach**	**144.02 352**	*e*PKPbc	PKPdf		18 00 41.0	-2.8
VRAC	**Vranov**	**144.10 344**	⇓P	PKPdf		18 00 41.9	-2.0
VRAC	**Vranov**	**144.10 344**	⇓*i*P	PKPdf		18 00 41.9	-2.1
NKC	**Novy Kostel**	**144.18 349**	*e*PKP	PKPdf		18 00 41.7	-2.4
VYHS	**Vyhne**	**144.18 341**	*i* PKP	PKPdf		18 00 42.2	-1.9
KOLL	**Kolacno**	**144.24 342**	*e*PKP	PKPdf		18 00 42.3	-1.9
DRGR		**144.25 336**	⇑P	PKPdf		18 00 42.0	-2.3
DRGR		**144.25 336**	⇑*i*P	PKPdf		18 00 42.0	-2.3
VOIR		**144.33 332**	⇓P	PKPdf		18 00 43.8	-0.7
VOIR		**144.33 332**	⇓*i*P	PKPdf		18 00 43.8	-0.7
PSZ	**Piszkesteto**	**144.34 339**	*e*PKP	PKPdf		18 00 42.3	-2.1
PSZ	**Piszkesteto**	**144.34 339**	⇑*i*P	PKPdf		18 00 42.9	-1.5
TREC	**Trest**	**144.40 345**	*e*PKP	PKPdf		18 00 42.3	-2.2
MANZ	**Manzenberg**	**144.48 349**	*e*PKPbc	PKPdf		18 00 42.2	-2.4
MEM	**Membach**	**144.65 356**	PKPdf	PKPdf		18 00 42.8	-2.1
ROTZ	**Rotzenmuhle**	**144.68 349**	*e*PKPbc	PKPdf		18 00 43.2	-1.7
MODS	**Modra-Piesok**	**144.76 343**	*e*PKP	PKPdf		18 00 44.4	-0.7
BCLA	**Clavier**	**144.88 357**	PKPdf	PKPdf		18 00 44.3	-1.0
GRA1	**Grafenberg Arr**	**144.92 350**	*e*PKPbc	PKPdf		18 00 44.4	-1.0
GRF	**Grafenberg Arr**	**144.92 350**	*e*PKPbc	PKPdf		18 00 44.4	-1.0
GRFO	**Grafenberg**	**144.93 350**	*e*PKP	PKPdf		18 00 44.1	-1.2
ZST	**Bratislava**	**144.97 343**	*e*PKP	PKPdf		18 00 44.8	-0.7
KHC	**Kasperske Hory**	**145.00 347**	*e*PKP	PKPdf		18 00 44.8	-0.7
WET	**Wettzell**	**145.14 348**	*e*PKPbc	PKPbc		18 00 44.7	-1.5
GIVF	**Givet**	**145.23 357**	*e*PKP1	PKPbc		18 00 44.8	-1.6
DOU	**Dourbes**	**145.24 357**	PKP	PKPdf		18 00 45.0	-0.9
GEC2	**GERESS Array S**	**145.25 347**	*e*PKPbc	PKPbc		18 00 45.1	-1.4
GERES	**GERESS Array B**	**145.25 347**	PKPbc	PKPbc		18 00 45.2	-1.3
	comp=Z,3.3nm,0.6s,baz=17,slow=3.1,SNR=22						
BAIF	**Baives**	**145.30 358**	*e*PKP1	PKPbc		18 00 45.1	-1.5
	comp=Z,15nm,0.5s						
GZR	**Gura Zlata**	**145.36 334**	⇓P	PKPdf		18 00 46.1	-0.2
GZR	**Gura Zlata**	**145.36 334**	⇓*i*P	PKPdf		18 00 46.1	-0.2
CONA	**Conrad Observa**	**145.56 344**	⇓*i*PKPab	PKPab		18 00 46.6	-1.8
	comp=Z,11nm,1.0s						
WLF	**Walferdange**	**145.58 355**	PKPdf	PKPdf		18 00 46.6	+0.2
WLF	**Walferdange**	**145.58 355**	*e*PKPbc	PKPbc		18 00 46.6	-0.9
BZS	**Buzias**	**145.65 336**	⇓P	PKPdf		18 00 46.0	-0.8
BZS	**Buzias**	**145.65 336**	⇓*i*P	PKPdf		18 00 46.0	-0.8
MOA	**Molln**	**146.05 345**	⇓*i*P	PKPdf		18 00 47.8	+0.4
	comp=Z,6.3nm,0.6s						
STU	**Stuttgart**	**146.13 352**	*e*PKPbc	PKPbc		18 00 47.7	-1.4
PKSM	**Moragy**	**146.25 339**	⇑P	PKPdf		18 00 48.2	+0.5
PKSM	**Moragy**	**146.25 339**	⇑*i*P	PKPdf		18 00 48.2	+0.5
FUR	**Furstenfeldbru**	**146.39 349**	*e*PKPbc	PKPbc		18 00 49.0	-0.8
FLN	**La Foliniere**	**146.56 3**	*e*PKP1	PKPbc		18 00 48.3	-2.0
	comp=Z,28nm,0.6s						
BFO	**Black Forest**	**146.68 353**	*e*PKPbc	PKPbc		18 00 49.1	-1.6
CDF	**Champ du Feu**	**146.72 354**	*e*PKP1	PKPbc		18 00 49.3	-1.5
	comp=Z,15nm,0.7s						
LDF	**La Druitiere**	**146.75 3**	*e*PKP1	PKPbc		18 00 48.7	-2.1
	comp=Z,9.3nm,0.5s						
ROSF	**Rostrenen**	**146.75 7**	*e*PKP1	PKPbc		18 00 48.7	-2.2
	comp=Z,9.9nm,0.5s						
MEZF	**Maizieres J'vi**	**146.81 357**	*e*PKP1	PKPbc		18 00 49.5	-1.5
SGMF	**Saint Gilles**	**146.91 6**	*e*PKP1	PKPbc		18 00 49.3	-2.0
	comp=Z,43nm,0.8s						
GRR	**Gorron**	**146.91 4**	*e*PKP1	PKPbc		18 00 49.5	-1.8
	comp=Z,21nm,0.5s						
WATA	**Walderalm**	**147.13 348**	⇓*i*P	PKPdf		18 00 50.5	+1.3
	comp=Z,6.7nm,1.2s						
QUIF	**Quistinic**	**147.18 7**	*e*PKP1	PKPbc		18 00 49.9	-2.1
	comp=Z,56nm,1.1s						
WTTA	**Wattenberg**	**147.18 348**	⇑*i*P	PKPdf		18 00 50.9	+1.6
	comp=Z,11nm,0.5s						
MOTA	**Moosalm**	**147.21 349**	⇑*i*P	PKPdf		18 00 50.9	+1.6
	comp=Z,7.8nm,1.0s						
HAU	**Haudompre**	**147.21 355**	*e*PKP1	PKPbc		18 00 50.5	-1.6
	comp=Z,12nm,0.6s						
SQTA	**Sankt Quirin**	**147.31 349**	⇑*i*P	PKPdf		18 00 51.2	+1.7
	comp=Z,7.3nm,1.1s						
MYKA	**Terra Mystica**	**147.34 345**	⇓*i*PKPbc	PKPbc		18 00 50.4	-2.1
	comp=Z,11nm,0.8s						
HINF	**Hinteralfeld**	**147.35 354**	*e*PKP1	PKPbc		18 00 50.6	-1.9
	comp=Z,3.3nm,0.6s						
DAVA	**Damuels**	**147.48 350**	⇓*i*P	PKPdf		18 00 51.6	+1.9
	comp=Z,12nm,1.2s						
ABTA	**Abfaltersbach**	**147.49 347**	⇓*i*PKPbc	PKPbc		18 00 51.2	-1.7
	comp=Z,14nm,1.2s						
LOR	**Lormes**	**148.10 358**	*e*PKP1	PKPbc		18 00 52.9	-1.6
	comp=Z,10nm,0.5s						
SSF	**Saint Saulge**	**148.32 358**	*e*PKP1	PKPbc		18 00 53.5	-1.5
	comp=Z,14nm,0.9s						
AVF	**Avril sur Loir**	**148.59 358**	*e*PKP1	PKPbc		18 00 53.8	-1.9
	comp=Z,8.2nm,0.7s						
CABF	**La Chapelle**	**148.62 355**	*e*PKP1	PKPbc		18 00 54.8	-1.0
SMF	**Signal de Mont**	**148.72 358**	*e*PKP1	PKPbc		18 00 54.1	-2.0
	comp=Z,2.7nm,0.5s						
MFF	**Saint Martin d**	**148.73 3**	*e*PKP1	PKPbc		18 00 54.2	-1.9
	comp=Z,6.0nm,0.6s						
BGF	**Bois d'Agland**	**148.84 359**	*e*PKP1	PKPbc		18 00 54.8	-1.5
	comp=Z,12nm,0.6s						
TCF	**Toulx Ste Croi**	**149.11 0**	*e*PKP1	PKPbc		18 00 55.2	-1.8
	comp=Z,10nm,0.9s						
LPL	**La Plagne**	**149.64 354**	*e*PKP1	PKPbc		18 00 57.8	-0.5
	comp=Z,15nm,1.0s						
LPG	**La Plagne**	**149.66 354**	*e*PKP1	PKPbc		18 00 58.0	-0.4
	comp=Z,19nm,1.0s						
RJF	**Les Rejaudoux**	**150.09 1**	*e*PKP1	PKPbc		18 00 57.7	-1.7
	comp=Z,9.3nm,0.8s						
BNI	**Bardonecchia**	**150.10 354**	*e*PKPbc	PKPbc		18 00 59.1	-0.4
ORIF	**Oris-en-Rattie**	**150.32 355**	*e*PKP1	PKPbc		18 00 58.8	-1.2
	comp=Z,14nm,0.9s						
MBDF	**Montbardon**	**150.42 353**	*e*PKP1	PKPbc		18 00 59.1	-1.1
	comp=Z,21nm,0.7s						
LFF	**La Frestale**	**150.43 2**	*e*PKP1	PKPbc		18 00 58.7	-1.5
	comp=Z,9.7nm,0.6s						
VIVF	**Saint-Julien-l**	**150.47 356**	*e*PKP1	PKPbc		18 00 59.1	-1.2
	comp=Z,6.4nm,0.7s						
CAF	**Calviac**	**150.47 0**	*e*PKP1	PKPbc		18 00 58.9	-1.4
	comp=Z,11nm,0.8s						
SBF	**Sospel**	**151.19 352**	*e*PKP1	PKPbc		18 01 00.1	-1.9
	comp=Z,20nm,0.6s						
SMRF	**Simiane la Rot**	**151.28 355**	*e*PKP1	PKPbc		18 01 01.3	-0.9
	comp=Z,15nm,0.7s						
LASF	**Ste Croix**	**151.29 358**	*e*PKP1	PKPbc		18 01 01.1	-1.1
	comp=Z,12nm,0.8s						
FRF	**La Foret Royal**	**151.58 353**	*e*PKP1	PKPbc		18 01 01.1	-1.8
	comp=Z,23nm,1.1s						
LMR	**La Mourre**	**151.82 353**	*e*PKP1	PKPbc		18 01 01.7	-1.8
	comp=Z,9.4nm,0.8s						
MTLF	**Montolieu**	**152.06 360**	*e*PKP1	PKPbc		18 01 02.5	-1.5
	comp=Z,2.3nm,0.4s						
SJPF	**Ste Jean**	**152.13 5**	*e*PKP1	PKPbc		18 01 02.9	-1.3
PGF	**Pioggiola**	**152.23 349**	*e*PKP1	PKPbc		18 01 02.5	-1.9
	comp=Z,33nm,1.0s						
EPF	**Esparros**	**152.32 3**	*e*PKP1	PKPbc		18 01 02.8	-1.8
	comp=Z,2.8nm,0.6s						
ETSF	**Etsaut**	**152.40 4**	*e*PKP1	PKPbc		18 01 03.5	-1.3
EVO	**Evora**	**155.17 19**	*e*PKIKP	PKPdf		18 00 57.7	-3.9
	comp=Z,24nm,1.1s						

*ISCJB **30** 17:47:08.4±0.9, 1097N±005×6164W±004, h64km±10km,*
Error ellipse: s-maj=8.6km s-min=6.0km az=165.5
*FUNV **30** 17:47:08.0, 1105N×6155W, h30km, MW2.8*
*TRN **30** 17:47:10.8, 1100N×6154W, h34km, MD2.4*

ISC 30 17:47:09.1±0.9, 1098N±005×6163W±004, h58km±11km, n12, ₙ0₉85/23, Trinidad

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TCE	**Chacachacare**	**0.30**	**203**	*e*P	**Pn**	**17 47 19.3**	**+0.2**
TCE				*e*S	**Sn**	**17 47 26.3**	**0.0**
TRN	**Trinidad (W)**	**0.40**	**146**	*e*P	**Pn**	**17 47 19.6**	**-0.4**
TRN				*e*S	**Sn**	**17 47 26.6**	**-1.1**
GUIV	**Guiria**	**0.67**	**240**	*e*P	**Pn**	**17 47 22.5**	**-0.3**
GUIV				*e*S	**Sn**	**17 47 33.6**	**+0.8**
TPP	**Pointe-a-Pierr**	**0.68**	**165**	*e*P	**Pn**	**17 47 24.6**	**+1.6**
TPP				*e*S	**Sn**	**17 47 33.7**	**+0.5**
TBH	**Brigand Hill**	**0.74**	**131**	*e*P	**Pn**	**17 47 24.4**	**+0.6**
TBH				*e*S	**Sn**	**17 47 34.2**	**-0.3**
TPR	**Prospect**	**0.86**	**76**	*e*P	**Pn**	**17 47 24.8**	**-0.6**
TPR				*e*S	**Sn**	**17 47 36.3**	**-1.0**
GRW	**Mount Saint Ca**	**1.17**	**359**	*e*P	**Pn**	**17 47 30.2**	**+0.8**
GRW				*e*S	**Sn**	**17 47 46.0**	**+1.5**
GRW				*e*S	**Sn**	**17 47 46.9**	**+2.5**
ITEV	**Isla Los Testi**	**1.52**	**284**	*e*P	**Pn**	**17 47 33.1**	**-0.9**
ITEV				*e*S	**Sn**	**17 47 52.8**	**+0.1**
GUNV	**Guanoco**	**1.52**	**238**	*e*P	**Pn**	**17 47 34.4**	**+0.4**
GUNV				*e*S	**Sn**	**17 47 53.8**	**+0.9**
CRUV	**Carupano**	**1.60**	**259**	*e*P	**Pn**	**17 47 35.3**	**+0.2**
CRUV				*e*S	**Sn**	**17 47 54.1**	**-0.7**
IBAV	**Isla La Blanqu**	**3.00**	**286**	*e*S	**Sn**	**17 48 27.3**	**-1.8**
CUPV	**Cœpira**	**4.19**	**258**	*e*P	**Pn**	**17 48 09.9**	**-0.5**

*MOS **30** 18:30:55.2±1.0, 5609N×11125E, h8km, mb4.2/1, Error*
ellipse: s-maj=22.7km s-min=13.7km az=60.4

BYKL 30 18:30:56.2±0.3, 5605N×11127E, h12km±3km, 13C-3D, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMO	**Kumora**	**0.17**	**193**	⇓*i*Pg	Pg	18 31 00.0	0.0
KMO				*e*Sg	Sg	18 31 02.9	+0.3
KMO				Pmax			
	567nm,0.2s						
KMO				Smax			
	4μm,0.5s						
YOA	**Uoyan**	**0.27**	**72**	⇑*i*PG	Pg	18 31 01.4	-0.3
YOA				*e*		18 31 04.8	
YOA				pmax	pmax		
	comp=Z,752nm,0.2s						
YOA				smax			
	comp=N,4μm,0.2s						
YOA	**Uoyan**	**0.27**	**72**	⇑*i*Pg	Pg	18 31 01.4	-0.3
YOA				*e*Sg	Sg	18 31 05.8	+0.4
YOA				Pmax			
	comp=N,704nm,0.4s						
YOA				Smax			
	comp=N,4μm,0.2s						
NIZ	**Nizh Angarsk**	**1.01**	**255**	*e*PG	Pg	18 31 15.0	-0.7
NIZ				*e*		18 31 29.5	
NIZ				pmax	pmax		
	comp=Z,52nm,0.2s						
NIZ				smax			
	comp=N,369nm,0.8s						
NIZ	**Nizh Angarsk**	**1.01**	**255**	⇑*i*Pg	Pg	18 31 15.1	-0.6
NIZ				*e*Sg	Sg	18 31 29.5	+0.7
NIZ				*e*Sb	Sb	18 31 33.7	+4.9
NIZ				Pmax			
	comp=N,40nm,0.2s						
NIZ				max			
	comp=N,369nm,0.5s						
YLYR	**Ulyunkhan**	**1.18**	**183**	*e*PG	Pg	18 31 17.4	-1.4
YLYR				*e*		18 31 33.4	
YLYR				pmax	pmax		
	comp=Z,143nm,0.3s						
YLYR				smax			
	comp=E,504nm,0.4s						
YLYR	**Ulyunkhan**	**1.18**	**183**	⇑*i*Pg	Pg	18 31 17.4	-1.4
YLYR				*e*Sg	Sg	18 31 33.3	-0.8
YLYR				Pmax			
	comp=E,142nm,0.4s						
YLYR				Smax			
	comp=E,503nm,0.5s						
SVKR	**Severomuysk**	**1.28**	**86**	⇑*i*Pg	Pg	18 31 20.4	-0.5
SVKR				*e*Sg	Sg	18 31 37.2	-0.3
SVKR				Pmax			
	comp=E,200nm,0.2s						
SVKR				Smax			
	comp=E,2μm,0.2s						
UKT	**Uakit**	**1.45**	**112**	*e*PG	Pg	18 31 21.8	-2.1
UKT				*e*		18 31 40.6	
UKT				pmax	pmax		
	comp=Z,92nm,0.3s						
UKT				smax			
	comp=N,370nm,0.2s						
UKT	**Uakit**	**1.45**	**112**	⇓*i*Pg	Pg	18 31 21.8	-2.1
	comp=N,29nm,0.5s						
UKT				⇑*i*Pg	Pg	18 31 21.8	-2.1
	comp=N,25nm,0.5s						
UKT				⇑*i*Pg	Pg	18 31 21.8	-2.1
	comp=N,26nm,0.5s						
UKT				*e*Pb	Pb	18 31 22.6	-0.4
UKT				*e*Sg	Sg	18 31 40.5	-2.2
UKT				max			
	comp=N,91nm,0.6s						
UKT				Smax			
	comp=N,365nm,0.2s						
BOD	**Bodaibo**	**2.32**	**39**	⇑*i*Pn	Pn	18 31 34.6	+0.4
BOD				⇑*i*Pg	Pg	18 31 37.5	-3.2
BOD				*e*Sn	Sn	18 32 03.4	+0.8
BOD				*e*Sg	Sg	18 32 07.7	-3.0
BOD				Pmax			
	comp=N,26nm,0.2s						
BOD				Smax			
	comp=N,110nm,0.5s						
SYVR	**Suvo**	**2.51**	**198**	*e*Pn	Pn	18 31 38.9	+2.2
SYVR				*e*		18 31 40.1	
SYVR				*e*		18 32 14.5	
SYVR				pmax	pmax		
	comp=Z,30nm,0.6s						
SYVR				smax			
	comp=E,171nm,1.2s						
SYVR	**Suvo**	**2.51**	**198**	*e*Pn	Pn	18 31 36.2	-0.5
SYVR				⇑*i*Pg	Pg	18 31 40.0	-4.2
SYVR				*e*PgPg		18 31 44.5	
SYVR				*e*Sg	Sg	18 32 14.4	-2.3
SYVR				max			
	comp=E,29nm,0.8s						
SYVR				Smax			
	comp=E,128nm,1.0s						
NLYR	**Nelyaty**	**2.51**	**78**	*e*Pn	Pn	18 31 37.5	+0.7
NLYR				⇑*i*Pg	Pg	18 31 41.2	-3.1
NLYR				*e*Sg	Sg	18 32 14.4	-2.4
NLYR				Pmax			
	comp=E,28nm,0.5s						
NLYR				Smax			
	comp=E,109nm,1.0s						
MXMB	**Maximikha**	**3.15**	**209**	*e*Pn	Pn	18 31 47.3	+1.7
MXMB				*e*Pg	Pg	18 31 52.0	-4.6
MXMB				*e*Sg	Sg	18 32 35.1	-2.3
MXMB				Pmax			
	comp=E,35nm,0.1s						
MXMB				Smax			
	comp=E,262nm,0.7s						
OGRR	**Ongureny**	**3.21**	**223**	*e*Pn	Pn	18 31 47.5	+1.1
OGRR				⇑*i*Pg	Pg	18 31 52.8	-4.9
OGRR				*e*		18 31 56.0	
OGRR				*e*		18 32 26.6	
OGRR				*e*Sg	Sg	18 32 35.9	-3.4
OGRR				max			
	comp=E,11nm,0.3s						
OGRR				Smax			
	comp=E,63nm,0.4s						
CRS	**Chara**	**3.97**	**75**	*e*PN	Pn	18 31 59.1	+2.2
CRS				*e*		18 32 09.8	
CRS				*e*		18 32 58.4	
CRS				pmax	pmax		
	comp=Z,18nm,1.0s						
CRS				smax			
	comp=E,77nm,1.5s						
CRS	**Chara**	**3.97**	**75**	*e*Pn	Pn	18 31 59.4	+2.5
CRS				*e*Pg	Pg	18 32 07.3	-5.0
CRS				*e*Sg	Sg	18 32 58.5	-5.2
CRS				Pmax			
	comp=E,18nm,1.4s						
CRS				Smax			
	comp=E,87nm,1.6s						
ZRHB	**Zarechye**	**4.25**	**216**	*e*Pg	Pg	18 32 13.3	-4.3
ZRHB				*e*Sg	Sg	18 33 08.4	-4.2
ZRHB				Pmax			
	comp=E,12nm,1.1s						
ZRHB				Smax			
	comp=E,98nm,1.3s						
TRG	**Tyrgan**	**4.37**	**223**	*e*Pn	Pn	18 32 03.2	+0.8
TRG				*e*Sn	Sn	18 32 53.2	0.0
TRG				*e*Sg	Sg	18 33 11.2	-5.3
TRG				max			
	comp=E,3.0nm,0.4s						
TRG				Smax			
	comp=E,32nm,0.5s						
TRTB	**Turuntaevo**	**4.38**	**211**	*e*Pn	Pn	18 32 03.4	+0.9
TRTB				*e*Pg	Pg	18 32 15.1	-5.0
TRTB				*e*Sn	Sn	18 32 52.9	-0.5
TRTB				*e*Sg	Sg	18 33 12.8	-4.1
TRTB				Pmax			
	comp=E,5.0nm,0.6s						
TRTB				Smax			
	comp=E,36nm,1.5s						
UUDB	**Ulan-Yde**	**4.70**	**208**	*e*Sg	Sg	18 33 22.3	-4.7
UUDB				Smax			
	comp=E,42nm,1.1s						
KHNR	**Khani**	**4.91**	**76**	*e*Pg	Pg	18 32 23.8	-6.3
KHNR				*e*Sg	Sg	18 33 28.0	-5.5
TUP	**Tupik**	**5.23**	**105**	*e*Pn	Pn	18 32 13.3	-0.8
TUP				*e*Pg	Pg	18 32 29.5	-6.8
TUP				*e*Sn	Sn	18 33 09.7	-4.5
TUP				*e*Sg	Sg	18 33 36.6	-7.3
TUP				Pmax			
	comp=E,4.0nm,0.2s						
TUP				Smax			
	comp=E,53nm,1.0s						
IRK	**Irkutsk**	**5.61**	**230**	*e*Sg	Sg	18 33 50.7	-5.4
IRK				Smax			
	comp=E,120nm,0.5s						
TLY	**Talaya**	**6.28**	**229**	*e*PN	Pn	18 32 32.1	+3.5
TLY				*e*		18 32 50.9	
TLY				*e*S	Sn	18 33 40.8	+0.6
TLY				*e*		18 34 09.5	
TLY				pmax	pmax		
	comp=Z

0.3nm,0.6s,baz=96,slow=9.0,SNR=4.6
BVAR Borovoye Array 61.48 319 P P 18 47 05.5 +0.3
0.8nm,0.6s,baz=98,slow=6.0,SNR=3.6
YKA Yellowknife Ar 75.04 28 P P 18 48 30.1 +0.1
0.3nm,0.6s,baz=288,slow=6.8,SNR=3.7

IDC 30 18:39:19.8±2.2, 719S×10630E, h0km, mb3.9/3, mb1 4.2/4, mb1mx3.7/18, mbtmp4.1/4, ML4.6/1, Error ellipse: s-maj=97.6km s-min=24.3km az=49.0, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Kupang**	**17.43 101**		P	Pn	18 43 24.6	0.0
	2.1nm,0.3s,baz=291,slow=7.8,SNR=5.7						
WRA	**Warramunga Arr**	**30.00 118**		P	P	18 45 30.1	-0.3
	0.8nm,0.5s,baz=289,slow=11,SNR=35						
ASAR	**Alice Springs**	**31.15 125**		P	P	18 45 40.6	+0.1
	0.8nm,0.7s,baz=298,slow=8.6,SNR=14						
STKA	**Stephens Creek**	**41.03 132**		P	P	18 47 05.5	+0.4
	1.7nm,0.6s,baz=309,slow=11,SNR=8.2						
MKAR	**Makanchi Array**	**57.83 341**		P	P	18 49 13.1	0.0
	0.1nm,0.5s,baz=152,slow=6.5,SNR=2.9						

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*NIED **30** 18:41:00, 46.70N×15350E, h17km, Mw3.9 Best double couple: M0=7.30000×10^14 NP1:φs=66.00000°, δ84.00000°, λ106.00000°. NP2:φs=177.00000°, δ17.00000°, λ22.00000°.*
*NEIC **30** 18:41:53.1±0.7, 4650N×15349E, h10km, Error ellipse: s-maj=21.0km s-min=13.8km az=129.0*
*ISCJB **30** 18:41:55.0±1.8, 465N±0.1×1534E±02, h35km±15km, mb3.8/8, Error ellipse: s-maj=24.4km s-min=10.6km az=140.5*
*MOS **30** 18:41:55.8±1.1, 4651N×15332E, h44km, mb4.2/1, Error ellipse: s-maj=23.1km s-min=14.7km az=59.4*
*IDC **30** 18:41:59.6±4.7, 4644N×15342E, h61km±42km, mb3.5/9, mb1 3.7/11, mb1mx3.5/22, mbtmp3.5/11, ML3.5/2, MS3.6/1, Ms1 3.6/1, ms1mx2.7/24, Error ellipse: s-maj=27.6km s-min=19.1km az=106.0*
ISC 30 18:41:57.6±1.6, 465N±01×1534E±02, h40km±14km, n20, σ0§89/21, mb3.8/8, 1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**4.08 254**		⇓iPN	**Pn**	**18 42 54.5**	**-2.9**
KUR				*e*S	**Sn**	**18 43 43.4**	**-0.5**
KUR				pmax	pmax		
	comp=N,140nm,0.5s						
KUR				pmax	pmax		
	comp=Z,300nm,0.5s						
KUR				smax			
	comp=N,140nm,0.5s						
KUR				smax			
	comp=E,90nm,0.5s						
SKR	**Severo-Kuril's**	**4.57 22**		*e*PN	**Pn**	**18 43 03.9**	**-0.2**
ASAJ	**Asahikawa**	**8.00 257**		PN	**Pn**	**18 43 52.8**	**+1.7**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ	**Asahikawa**	**8.00 257**		P	**Pn**	**18 43 52.8**	**+1.6**
	comp=Z,0.9nm,0.3s,baz=62,slow=30,SNR=10						
MJAR	**Matsushiro Arr**	**15.09 234**		P	**Pn**	**18 45 28.2**	**+0.4**
	comp=Z,0.2nm,0.3s,baz=29,slow=13,SNR=4.2						
MJAR				LR	LR	18 50 19.3	
	comp=Z,256nm,20.3s,baz=170,slow=33						
KSRS	**Korea Array**	**20.93 254**		P	**P**	**18 46 38.0**	**+1.4**
	comp=Z,1.0nm,0.8s,baz=63,slow=9.2,SNR=3.3						
MK31	**Makanchi Array**	**47.26 298**		*e*P	**P**	**18 50 25.8**	**-0.7**
MKAR	**Makanchi Array**	**47.26 298**		P	**P**	**18 50 25.9**	**-0.6**
MKAR	**Makanchi Array**	**47.26 298**		P	**P**	**18 50 25.9**	**-0.6**
	comp=Z,0.5nm,0.7s,mb3.6,baz=70,slow=8.0,SNR=7.5						
YKA	**Yellowknife Ar**	**51.01 37**		P	**P**	**18 50 55.2**	**+0.3**
YKA	**Yellowknife Ar**	**51.01 37**		P	**P**	**18 50 55.2**	**+0.3**
	comp=Z,1.0nm,0.8s,mb3.8,baz=298,slow=7.5,SNR=9.2						
FINES	**FINESS Array B**	**64.38 335**		P	**P**	**18 52 28.9**	**+0.1**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
FINES	**FINESS Array B**	**64.38 335**		P	**P**	**18 52 28.9**	**0.0**
	comp=Z,1.0nm,0.7s,mb4.0,baz=36,slow=7.4,SNR=8.8						
WRA	**Warramunga Arr**	**68.33 199**		P	**P**	**18 52 53.4**	**-1.1**
	comp=Z,1.0nm,0.9s,mb3.9,baz=17,slow=6.7,SNR=6.9						
NB2	**NORSAR Subarra**	**68.56 341**		P	**P**	**18 52 56.3**	**+0.8**
	comp=Z,0.7nm,0.6s,mb3.8,baz=27,slow=6.2						
NOA	**NORSAR Array B**	**68.56 341**		P	**P**	**18 52 55.7**	**+0.2**
	comp=Z,0.9nm,0.7s,mb3.8,baz=27,slow=6.3,SNR=5.1						
AKASG	**Malin Array Be**	**71.90 326**		P	**P**	**18 53 16.2**	**+0.1**
	comp=Z,0.2nm,0.3s,mb3.5,baz=35,slow=6.0,SNR=6.3						
ASAR	**Alice Springs**	**72.02 199**		P	**P**	**18 53 17.2**	**+0.2**
	comp=Z,0.9nm,0.7s,mb3.8,baz=13,slow=5.6,SNR=12						
TXAR	**Lajitas Array**	**77.44 61**		P	**P**	**18 53 48.5**	**-0.1**
TXAR	**Lajitas Array**	**77.44 61**		P	**P**	**18 53 48.5**	**-0.1**
	comp=Z,1.0nm,0.7s,mb3.8,baz=309,slow=5.4,SNR=8.7						

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*IDC **30** 18:49:09.8±2.0, 3571N×14024E, h58km±16km, mb3.7/9, mb1 3.8/13, mb1mx3.7/23, mbtmp3.8/13, MS3.0/1, Ms1 3.0/1, ms1mx2.4/27, Error ellipse: s-maj=32.0km s-min=10.4km az=77.0*
*MOS **30** 18:49:09.1±1.1, 3576N×140.17E, h72km, mb4.6/8, Error ellipse: s-maj=18.3km s-min=9.5km az=114.3*
*BJI **30** 18:49:09.7, 3586N×140.14E, h75km, mB4.7, mb4.4, Ms4.1, Msz4.0*
*ISCJB **30** 18:49:09.4±0.5, 3575N±003×14025E±006, h78km±2km, mb4.2/23, Error ellipse: s-maj=8.4km s-min=5.6km az=170.0*
*NEIC **30** 18:49:11.6±0.9, 3576N×140.13E, h74km±7km, mb4.6/3, Error ellipse: s-maj=11.8km s-min=8.2km az=92.0*
*JMA **30** 18:49:11.0±0.1, 3581N×140.13E, h68km±2km, M3.3 Broadband fault plane solution: P waves. NP1: φs=149.00000°, δ20.00000°, λ54.00000°. NP2:φs=7.00000°, δ74.00000°, λ102.00000°. Principal axes: T Plg59.0000°, Azm293.0000°; N Plg11.0000°, Azm183.0000°; P Plg28.0000°, Azm87.0000°;*
JMA Felt I J1.
ISC 30 18:49:10.7±0.4, 3576N±003×14023E±006, h71km±3km, h78km±1.0km: pP-P, n50, σ1§00/63, mb4.2/23, 2C-3D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCN	**Nagara**	**0.34 184**		⇑P	**Pn**	**18 49 23.4**	**+1.1**
JCN				S	**Sn**	**18 49 32.4**	**+1.6**
TOK	**Tokyo**	**0.39 259**		P	**Pn**	**18 49 22.9**	**+0.2**
TOK				S	**Sn**	**18 49 31.8**	**+0.3**
JYT	**Yasato**	**0.47 356**		⇑P	**Pn**	**18 49 23.0**	**-0.3**
JYT				S	**Sn**	**18 49 32.1**	**-0.5**
JYO	**Yokosk**	**0.71 221**		⇓P	**Pn**	**18 49 26.3**	**+0.5**
JYO				S	**Sn**	**18 49 37.2**	**+0.3**
JHU	**Hanno**	**0.78 277**		⇓P	**Pn**	**18 49 26.3**	**-0.3**
JHU				S	**Sn**	**18 49 37.2**	**-1.1**
MJAR	**Matsushiro Arr**	**1.81 296**		P	**Pn**	**18 49 39.4**	**-0.4**
	50nm,0.3s,baz=100,slow=14,SNR=829						
MAJO	**Matsushiro**	**1.81 296**		*e*Pn	**Pn**	**18 49 39.8**	**-0.1**
MAT	**Matsushiro**	**1.81 296**		P	**Pn**	**18 49 39.6**	**-0.3**
MAT				S	**Sn**	**18 50 02.3**	**+0.3**
JHJ	**Hachijo jima 2**	**2.66 188**		P	**Pn**	**18 49 50.0**	**-1.3**
	24nm,0.3s,baz=219,slow=18,SNR=43						
JHJ				S	**Sn**	**18 50 20.2**	**-2.3**
	58nm,0.3s,baz=262,slow=22,SNR=7.4						
ERM	**Erimo**	**6.65 19**		*e*Pn	**Pn**	**18 50 47.0**	**+1.3**
	15nm,0.5s						
ERM				*e*Sn	**Sn**	**18 51 58.0**	**-1.9**
ERM	**Erimo**	**6.65 19**		*e*P	**Pn**	**18 50 47.0**	**+1.3**
ERM				*e*		18 51 58.0	
ERM				pmax	pmax		
	comp=Z,15nm,0.5s						
JNU	**Nakatsue**	**8.16 254**		P	**Pn**	**18 51 07.0**	**+0.5**
	comp=Z,0.3nm,0.3s,baz=343,slow=11,SNR=3.1						
ASAJ	**Asahikawa**	**8.54 12**		P	**Pn**	**18 51 11.2**	**-0.3**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ	**Asahikawa**	**8.54 12**		P	**Pn**	**18 51 11.2**	**-0.3**
	comp=Z,0.5nm,0.3s,baz=205,slow=3.1,SNR=8.4						
CBIJ	**Chichi jima**	**8.80 169**		P	**Pn**	**18 51 13.0**	**-2.2**
	comp=Z,2.6nm,0.3s,baz=158,slow=19,SNR=5.3						
CBIJ				S	**Sn**	**18 52 43.5**	**-9.3**
	comp=Z,1.1nm,0.3s,baz=274,slow=19,SNR=2.4						
KSRS	**Korea Array**	**10.04 283**		P	**Pn**	**18 51 35.1**	**+3.1**
	comp=Z,0.4nm,0.3s,baz=96,slow=14,SNR=8.6						
KSRS				LR	LR	18 55 03.8	
	comp=Z,89nm,21.3s,baz=181,slow=35						
MDJ	**Mudanjiang**	**12.01 321**		P	**Pn**	**18 51 58.8**	**0.0**
MDJ				S	**Sn**	**18 54 11.0**	**+0.2**
MDJ				SCP	ScP	19 01 06.5	+1.1
MDJ				PCS	PcS	19 01 14.0	+1.2
MDJ				SCS	ScS	19 04 42.3	+1.2
MDJ				AMB	AMB		
	comp=Z,5.0nm,1.2s						
MDJ				AMB	AMB		
	comp=Z,61nm,3.5s						
HHC	**Hu-ho-hao-te**	**23.01 291**		*e*P	**P**	**18 54 08.3**	**-1.2**
HHC				AP		18 54 25.3	
HHC				XP	sP	18 54 30.5	-3.0
HHC				PP		18 54 40.3	
HHC				PCP	PcP	18 57 59.0	+2.3
HHC				S	**S**	**18 58 09.0**	**-5.4**
HHC				XS	sS	18 58 36.3	-5.7
HHC				SS		18 58 56.3	
HHC				SCP	ScP	19 01 28.0	-0.2
HHC				PCS	PcS	19 01 40.0	+4.3
HHC				SCS	ScS	19 05 12.5	-1.6
HHC				AMB	AMB		
	comp=Z,16nm,0.3s,mb4.8						
HHC				AMB	AMB		
	comp=Z,107nm,5.1s						
HHC				LR	LR		
	comp=E,116nm,13.3s						
HHC				LR	LR		
	comp=N,121nm,9.0s						
HHC				LR	LR		
	comp=Z,120nm,4.7s						
YAK	**Yakutsk**	**27.12 349**		*e*P	**P**	**18 54 48.2**	**+1.6**
YAK				pmax	pmax		
	comp=Z,14nm,1.4s,mb4.3						
YAK				pmax	pmax		
	comp=N,7.0nm,1.3s						
ULN	**Ulaanbaatar**	**27.31 307**		*e*P	**P**	**18 54 45.4**	**-3.1**
SONM	**Songino Array**	**27.73 306**		P	**P**	**18 54 51.6**	**-0.7**
	comp=N,0.4nm,0.5s,mb3.2,baz=106,slow=9.1,SNR=5.2						
BOD	**Bodaibo**	**28.12 330**		*e*P	**P**	**18 54 54.6**	**-1.0**
BOD				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb3.9						
LZH	**Lanzhou**	**29.36 281**		*e*P	**P**	**18 55 07.5**	**+0.6**
LZH				AP	pP	18 55 25.0	+1.2
LZH				XP	sP	18 55 34.0	+1.8
LZH				AMB	AMB		
	comp=Z,13nm,1.0s,mb4.5						
LZH				AMB	AMB		
	comp=Z,55nm,4.2s						
CD2	**Chengdu**	**30.74 272**		*e*P	**P**	**18 55 19.8**	**+0.7**
CD2				AP	pP	18 55 37.5	+1.4
CD2				XP	sP	18 55 46.5	+2.1
CD2				PP	PP	18 56 22.5	-7.1
CD2				S	**S**	**19 00 15.0**	**-2.0**
CD2				XS	sS	19 00 45.8	-0.3
CD2				SS	SS	19 02 01.0	-30
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.6						
CD2				AMB	AMB		
	comp=Z,20nm,4.8s						
CD2				LR	LR		
	comp=N,150nm,12.4s						
CD2				LR	LR		
	comp=E,160nm,12.0s						
CD2				LR	LR		
	comp=Z,160nm,9.8s						
KMI	**Kunming**	**33.84 262**		P	**P**	**18 55 46.8**	**+0.5**
KMI				AMB	AMB		
	comp=Z,3.0nm,0.8s,mb4.2						
WMQ	**Urumqi**	**40.58 298**		*e*P	**P**	**18 56 43.8**	**+0.7**
WMQ				AMB	AMB		
	comp=Z,7.0nm,0.6s,mb4.7						
WMQ				AMB	AMB		
	comp=Z,122nm,6.0s						
ZAA0	**Zalesovo Array**	**42.08 313**		*e*P	**P**	**18 56 54.9**	**-0.3**
ZALV	**Zalesovo Beam**	**42.08 313**		P	**P**	**18 56 56.1**	**+0.8**
	comp=Z,1.9nm,0.7s,mb4.0,baz=92,slow=7.4,SNR=9.8						
ZALV				PcP	PcP	18 58 49.8	+1.1
	comp=Z,0.8nm,0.5s,baz=101,slow=2.6,SNR=4.0						
ZAL	**Zalesovo**	**42.09 313**		P	**P**	**18 56 56.1**	**+0.7**
ZAL						18 58 49.8	
MK31	**Makanchi Array**	**44.00 303**		*e*P	**P**	**18 57 11.1**	**+0.2**
MKAR	**Makanchi Array**	**44.00 303**		P	**P**	**18 57 11.3**	**+0.5**
	comp=Z,2.0nm,0.9s,mb3.9,baz=87,slow=10.0,SNR=21						
MKAR				PcP	PcP	18 58 56.7	+1.4
	comp=Z,0.6nm,0.9s,baz=72,slow=4.7,SNR=4.0						
KURK	**Kurchatov**	**45.98 309**		*e*P	**P**	**18 57 26.3**	**-0.2**
	comp=Z,7.7nm,0.8s,mb4.5						
KURK	**Kurchatov**	**45.98 309**		*e*P	**P**	**18 57 26.3**	**-0.2**
KURK				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.5						
AAK	**Ala-Archa**	**50.26 299**		*e*P	**P**	**18 57 57.4**	**-2.2**
AAK				pmax	pmax		
	comp=Z,3.0nm,1.4s,mb4.0						
AML	**Almayashu**	**50.97 299**		*e*P	**P**	**18 58 05.9**	**+0.9**
	comp=Z,10nm,1.1s,mb4.8						
WRAB	**Tennant Creek**	**55.67 187**		*e*P	**P**	**18 58 39.9**	**+0.4**
	comp=Z,1.5nm,0.6s,mb4.2						
WRAB	**Tennant Creek**	**55.67 187**		*e*P	**P**	**18 58 39.9**	**+0.4**
WRAB				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.3						
WB2	**Warramunga Arr**	**55.68 187**		*e*P	**P**	**18 58 40.0**	**+0.4**
WRA	**Warramunga Arr**	**55.68 187**		P	**P**	**18 58 39.7**	**+0.1**
	comp=Z,1.8nm,0.6s,mb4.3,baz=1.2,slow=7.6,SNR=43						
ARU	**Arti**	**56.68 319**		*d*iP	**P**	**18 58 45.3**	**-1.1**
ARU				*e*S	**S**	**19 06 32.1**	**-1.1**
ARU				*e*SS	SS	19 10 17.1	-4.2
ARU				pmax	pmax		
	comp=Z,8.0nm,1.7s,mb4.5						
ASAR	**Alice Springs**	**59.41 187**		P	**P**	**18 59 06.7**	**+1.0**
	comp=Z,0.5nm,0.6s,mb3.7,baz=15,slow=14,SNR=13						
ARCES	**ARCESS Array B**	**64.85 339**		P	**P**	**18 59 42.7**	**+1.1**
	comp=Z,1.9nm,0.8s,mb4.0,baz=46,slow=5.4,SNR=3.8						
JOF	**Joensuu**	**66.63 332**		*e*p	**P**	**18 59 52.1**	**-1.1**
	comp=Z,1.9nm,0.5s,mb4.2						
FINES	**FINESS Array B**	**69.49 332**		*i* P	**P**	**19 00 11.6**	**+0.5**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.8s						
FINES	**FINESS Array B**	**69.49 332**		P	**P**	**19 00 12.1**	**+1.0**
	comp=Z,2.4nm,0.8s,mb4.1,baz=128,slow=5.8,SNR=8.6						
SOC	**Sochi**	**73.03 312**		*e*P	**P**	**19 00 32.9**	**+0.1**
SOC				*e*PP	pP	19 00 53.6	+1.7
SOC				*e*S	S	19 09 58.4	+4.1
SOC				*e*		19 10 40.0	
SOC				pmax	pmax		
	comp=Z,47nm,1.2s,mb5.2						
AKASG	**Malin Array Be**	**74.72 322**		*i* P	**P**	**19 00 43.0**	**+0.5**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
AKASG	**Malin Array Be**	**74.72 322**		P	**P**	**19 00 43.1**	**+0.6**
	comp=Z,1.1nm,0.4s,mb4.0,baz=48,slow=6.0,SNR=16						
NB2	**NORSAR Subarra**	**74.98 337**		P	**P**	**19 00 44.8**	**+0.9**
	comp=Z,0.1nm,0.6s,baz=47,slow=6.5						
NOA	**NORSAR Array B**	**74.98 337**		P	**P**	**19 00 45.4**	**+1.5**
	comp=Z,0.9nm,0.6s,mb3.6,baz=41,slow=5.9,SNR=4.8						

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*IDC **30** 19:30:34.8±0.6, 2639N×13806E, h0km, mb4.0/12, mb1 4.2/13, mb1mx4.1/20, mbtmp4.0/13, ML4.1/1, MS3.1/4, Ms1 3.1/4, ms1mx2.8/29, Error ellipse: s-maj=24.4km s-min=16.3km az=68.0*
*ISCJB **30** 19:30:37.2±0.4, 2640N±008×13826E±006, h33km, mb4.2/18, Error ellipse: s-maj=11.3km s-min=7.7km az=2.5*
*NEIC **30** 19:30:40.3±0.5, 2633N×13794E, h35km, mb4.2/5, Error ellipse: s-maj=19.8km s-min=9.0km az=72.0*
ISC 30 19:30:39.5±0.4, 2641N±008×13827E±006, h35km, n36, σ0§96/32, mb4.2/18, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**3.57 78**		Pn	**Pn**	**19 31 32.4**	**-0.1**
	21nm,0.3s,baz=271,slow=17,SNR=29						
CBIJ				Sn	**Sn**	**19 32 12.6**	**-0.8**
	28nm,0.3s,baz=110,slow=23,SNR=14						
JHJ	**Hachijo jima 2**	**6.82 11**		LR	LR	19 34 33.9	
	comp=Z,189nm,20.1s,baz=88,slow=35						
MJAR	**Matsushiro Arr**	**10.11 360**		LR	LR	19 36 11.3	
	comp=Z,94nm,21.4s,baz=225,slow=33						
KSRS	**Korea Array**	**14.08 324**		Pn	**Pn**	**19 34 06.1**	**+10**
	0.2nm,0.3s,baz=146,slow=12,SNR=7.8						
ASAJ	**Asahikawa**	**18.02 10**		LR	LR	19 41 46.9	
	comp=Z,62nm,21.7s,baz=322,slow=37						
SONM	**Songino Array**	**32.86 319**		P	**P**	**19 37 10.1**	**+0.2**
SONM				PcP	PcP	19 39 54.3	+0.3
SONM				LR	LR	19 50 30.3	
SONM	**Songino Array**	**32.86 319**		P	**P**	**19 37 10.1**	**+0.2**
	0.7nm,0.6s,mb3.8,baz=132,slow=9.2,SNR=8.3						
SONM				PcP	PcP	19 39 54.3	+0.3
	0.2nm,0.4s,baz=90,slow=1.5,SNR=3.5						
SONM				LR	LR	19 50 30.3	
	comp=Z,47nm,20.6s,baz=258,slow=36						
FITZ	**Fitzroy Crossi**	**45.91 197**		*e*P	**P**	**19 38 58.3**	**-0.5**
	6.0nm,1.3s,mb4.4						
JIRN	**Jiri**	**46.12 284**		*e*P	**P**	**19 39 01.1**	**+0.6**
	12nm,0.8s,mb4.9						
WB2	**Warramunga Arr**	**46.23 185**		*e*P	**P**	**19 39 00.8**	**-0.5**
WB2	**Warramunga Arr**	**46.23 185**		*e*P	**P**	**19 39 00.8**	**-0.5**
WRA	**Warramunga Arr**	**46.23 185**		P	**P**	**19 39 01.1**	**-0.3**
	5.4nm,0.9s,mb4.5,baz=1.0,slow=7.9,SNR=33						
GUN	**Gumba**	**46.34 284**		*e*P	**P**	**19 39 01.1**	**-1.2**
	6.4nm,0.5s,mb4.8						
KKN	**Kakani**	**46.88 284**		*e*P	**P**	**19 39 06.2**	**-0.4**
DMN	**Daman**	**47.07 284**		*e*P	**P**	**19 39 09.3**	**+1.3**
GKN	**Gorkha**	**47.40 285**		*e*P	**P**	**19 39 10.2**	**-0.4**
ZALV	**Zalesovo Beam**	**47.74 320**		P	**P**	**19 39 12.8**	**0.0**
ZALV				PcP	PcP	19 40 41.6	0.0
ZALV	**Zalesovo Beam**	**47.74 320**		P	**P**	**19 39 12.8**	**0.0**
	0.7nm,0.8s,mb3.8,baz=101,slow=7.5,SNR=3.6						
ZALV				PcP	PcP	19 40 41.6	0.0
	0.5nm,0.4s,baz=108,slow=4.8,SNR=4.1						
DANN	**Dangsing**	**48.09 285**		*e*P	**P**	**19 39 15.0**	**-1.0**
MKAR	**Makanchi Array**	**48.23 310**		P	**P**	**19 39 16.7**	**0.0**
	0.3nm,0.3s,mb3.8,baz=92,slow=8.4,SNR=7.7						
KOLN	**Koldanda**	**48.35 285**		*e*P	**P**	**19 39 21.7**	**+3.8**
ASAR	**Alice Springs**	**49.95 185**		P	**P**	**19 39 31.1**	**+1.0**
	0.6nm,0.7s,mb3.8,baz=10,slow=14,SNR=9.0						
KURK	**Kurchatov**	**50.98 315**		*e*P	**P**	**19 39 36.2**	**-1.5**
	0.9nm,0.6s,mb3.9						
AAK	**Ala-Archa**	**53.77 305**		P	**P**	**19 39 57.1**	**-1.4**
AAK	**Ala-Archa**	**53.77 305**		P	**P**	**19 39 57.1**	**-1.4**
	0.7nm,0.3s,mb4.0,baz=45,slow=16,SNR=3.8						
UCH	**Uchtor**	**53.79 304**		*e*P	**P**	**19 40 00.3**	**+1.7**
	3.5nm,1.3s,mb4.1						
BVAR	**Borovoye Array**	**56.19 318**		P	**P**	**19 40 15.8**	**+0.1**
	5.6nm,0.6s,mb4.8,baz=93,slow=8.6,SNR=26						
BRVK	**Borovoye**	**56.25 318**		*e*P	**P**	**19 40 16.3**	**+0.1**
	3.5nm,0.6s,mb4.6						
BRVK				*e*	pP	19 40 24.7	-2.1
STKA	**Stephens Creek**	**58.04 177**		*e*P	**P**	**19 40 29.3**	**+0.3**
	1.8nm,0.9s,mb4.1						
STKA	**Stephens Creek**	**58.04 177**		P	**P**	**19 40 29.3**	**+0.4**
	1.6nm,0.7s,mb4.2,baz=310,slow=17,SNR=4.2						
ARCES	**ARCESS Array B**	**73.02 340**		P	**P**	**19 42 05.9**	**+0.6**
	1.5nm,0.6s,mb4.1,baz=76,slow=10,SNR=4.5						
YKA	**Yellowknife Ar**	**74.39 27**		P	**P**	**19 42 15.1**	**+1.7**
	0.9nm,0.6s,mb3.9,baz=295,slow=5.7,SNR=13						
FINES	**FINESS Array B**	**76.99 333**		P	**P**	**19 42 27.2**	**-1.1**
	1.3nm,0.6s,mb4.0,baz=46,slow=7.3,SNR=3.5						
NVAR	**Mina Array Bea**	**83.67 50**		P	**P**	**19 43 07.8**	**+3.0**
	1.3nm,0.7s,mb4.2,baz=291,slow=5.2,SNR=8.6						
PLCA	**Paso Flores**	**152.21 128**		PKPbc	PKPbc	19 50 33.6	+2.2
	1.2nm,0.7s,baz=259,slow=6.1,SNR=5.4						
CPUP	**Villa Florida**	**166.02 93**		PKP	PKPdf	19 50 39.8	-1.4
	0.8nm,0.3s,baz=265,slow=3.5,SNR=2.9						

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*ISCJB **30** 19:31:20.4±0.5, 4658N±008×15558E±008, h10km, mb4.2/33, Error ellipse: s-maj=13.1km s-min=6.6km az=155.5*
*BJI **30** 19:31:20.1, 4701N×15577E, h13km, mB4.5, mb4.3, Ms4.1, Msz4.0*
*IDC **30** 19:31:20.5±0.7, 4651N×15564E, h0km, mb4.0/18, mb1 4.2/20, mb1mx4.1/25, mbtmp4.0/20, ML3.5/2, MS3.1/1, Ms1 3.1/1, ms1mx2.4/30, Error ellipse: s-maj=19.7km s-min=14.6km az=158.0*
*NEIC **30** 19:31:22.0±0.6, 4660N×15562E, h10km, mb4.4/3, Error ellipse: s-maj=14.9km s-min=9.1km az=148.0*
*MOS **30** 19:31:23.5±1.6, 4668N×15542E, h33km, mb4.4/8, Error ellipse: s-maj=12.0km s-min=8.5km az=92.7*
ISC 30 19:31:22.5±2.3, 4666N±008×15555E±008, h9km±14km, n63, σ1§08/67, mb4.2/33, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**4.04 5**		*e*PN	**Pn**	**19 32 20.0**	**-4.4**
SKR				pmax	pmax		
	comp=Z,40nm,0.5s						
KUR	**Kuril'sk**	**5.54 258**		*e*PN	**Pn**	**19 32 40.5**	**-4.6**
KUR				pmax	pmax		
	comp=Z,90nm,0.7s						
PET	**Petropavlovsk**	**6.68 16**		*e*Pn	**Pn**	**19 32 58.3**	**-2.2**
PET	**Petropavlovsk**	**6.68 16**		*e*Pn	**Pn**	**19 32 58.4**	**-2.2**
YSS	**Yuzh-Sakhalins**	**8.78 277**		P	**Pn**	**19 33 31.3**	**+1.8**
ASAJ	**Asahikawa**	**9.46 259**		PN	**Pn**	**19 33 39.0**	**+0.2**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ	**Asahikawa**	**9.46 259**		Pn	**Pn**	**19 33 39.0**	**+0.2**
	comp=Z,0.7nm,0.3s,baz=102,slow=14,SNR=5.3						
ERM	**Erimo**	**10.02 247**		*e*P	**Pn**	**19 33 46.4**	**0.0**
MJAR	**Matsushiro Arr**	**16.41 238**		Pn	**Pn**	**19 35 11.2**	**-1.6**
MJAR	**Matsushiro Arr**	**16.41 238**		Pn	**Pn**	**19 35 11.2**	**-1.6**
	comp=Z,0.1nm,0.3s,baz=41,slow=10,SNR=8.2						
MDJ	**Mudanjiang**	**18.24 273**		P	**Pn**	**19 35 35.3**	**-0.3**
MDJ				AP	pP	19 35 38.5	0.0
MDJ				S	**Sn**	**19 38 59.0**	**-0.2**
MDJ				XS	sS	19 39 09.5	+0.8
MDJ				SCP	ScP	19 43 43.5	+0.4
MDJ				AMB	AMB		
	comp=Z,7.0nm,1.7s						
MDJ				AMB	AMB		
	comp=Z,92nm,4.5s						
YAK	**Yakutsk**	**21.32 326**		*e*P	**P**	**19 36 07.1**	**-2.2**
YAK				*e*S	**S**	**19 39 58.4**	**-7.4**

CD2 LR LR
comp=Z,100nm,8.8s
ZALV Zalesovo Beam 44.02 307 P **P** **19 39 29.2 -0.7**
comp=Z,1.1nm,0.4s,mb3.9,baz=61,slow=6.4,SNR=6.5
ZALV LR LR 20 00 28.8
comp=Z,23nm,18.2s,baz=74,slow=40
ZAL Zalesovo 44.03 307 P **P** **19 39 29.2 -0.8**
MK31 Makanchi Array 48.47 298 *eP* **P** **19 40 05.2 +0.2**
MKAR Makanchi Array 48.47 298 P **P** **19 40 05.3 +0.4**
comp=Z,0.7nm,0.4s,mb4.0,baz=62,slow=7.6,SNR=9.4
KURK Kurchatov 48.80 305 *eP* **P** **19 40 06.7 -0.8**
comp=Z,3.0nm,0.7s,mb4.4
KURK Kurchatov 48.80 305 *eP* **P** **19 40 06.6 -0.9**
YKA Yellowknife Ar 49.99 37 P **P** **19 40 15.3 -1.1**
YKA PcP PcP 19 41 35.9 -0.3
YKA Yellowknife Ar 49.99 37 P **P** **19 40 15.3 -1.1**
comp=Z,0.4nm,0.6s,mb3.6,baz=294,slow=7.2,SNR=6.4
YKA PcP PcP 19 41 35.9 -0.3
comp=Z,0.3nm,0.5s,baz=302,slow=3.5,SNR=4.6
BVAR Borovoye Array 52.20 310 P **P** **19 40 34.7 +1.6**
comp=Z,2.3nm,0.4s,mb4.5,baz=57,slow=8.1,SNR=15
AAK Ala-Archa 55.37 298 *eP* **P** **19 40 55.6 -0.9**
AAK pmax pmax
comp=Z,5.0nm,2.1s,mb4.2
AAK Ala-Archa 55.37 298 P **P** **19 40 56.6 +0.1**
comp=Z,1.3nm,0.5s,mb4.3,baz=124,slow=3.6,SNR=2.4
ARU Arti 56.20 318 *eP* **P** **19 41 01.1 -1.2**
comp=Z,5.3nm,0.6s,mb4.8
ARU Arti 56.20 318 *i* P **P** **19 41 01.3 -0.9**
ARU pmax pmax
comp=Z,4.0nm,0.6s,mb4.6
KEV Kevo 57.98 341 *ep* **P** **19 41 14.2 -0.4**
ARCES ARCESS Array B 58.48 342 P **P** **19 41 20.3 +2.2**
comp=Z,8.8nm,1.1s,mb4.7,baz=22,slow=7.7,SNR=5.0
NVAR Mina Array Bea 60.98 64 P **P** **19 41 36.6 +0.7**
comp=Z,1.7nm,0.7s,mb4.3,baz=293,slow=7.9,SNR=14
JOF Joensuu 62.15 335 *ep* **P** **19 41 42.3 -1.0**
BW06 Boulder Array 63.43 55 *eP* **P** **19 41 52.6 +0.4**
FINES FINESS Array B 64.82 336 P **P** **19 42 00.3 -0.7**
comp=Z,1.1nm,0.3s,mb4.3,baz=37,slow=8.2,SNR=22
ULM Lac du Bonnet 65.48 42 P **P** **19 42 04.7 -0.8**
comp=Z,1.1nm,0.6s,mb4.1,baz=287,slow=8.4,SNR=4.6
OBN Obninsk 66.32 327 P **P** **19 42 13.0 +2.2**
OBN pmax pmax
comp=Z,4.0nm,0.9s,mb4.5
NB2 NORSAR Subarra 68.84 342 P **P** **19 42 29.4 +2.8**
comp=Z,0.9nm,0.5s,mb4.0,baz=25,slow=6.5
NOA NORSAR Array B 68.84 342 P **P** **19 42 29.2 +2.6**
comp=Z,1.1nm,0.5s,mb4.0,baz=25,slow=6.4,SNR=7.2
WRAB Tennant Creek 69.00 201 *eP* **P** **19 42 23.4 -4.6**
WRA Warramunga Arr 69.01 201 P **P** **19 42 26.3 -1.8**
WRA Warramunga Arr 69.01 201 *eP* **P** **19 42 26.8 -1.3**
WRA Warramunga Arr 69.01 201 P **P** **19 42 26.3 -1.8**
comp=Z,1.0nm,0.8s,mb3.8,baz=21,slow=7.0,SNR=5.9
AKASG Malin Array Be 72.54 328 P **P** **19 42 50.2 +0.9**
comp=Z,0.6nm,0.3s,mb4.0,baz=38,slow=6.1,SNR=6.5
ASAR Alice Springs 72.69 201 P **P** **19 42 49.5 -0.9**
comp=Z,1.0nm,0.7s,mb3.8,baz=18,slow=5.6,SNR=13
TXAR Lajitas Array 76.06 62 P **P** **19 43 10.3 +0.1**
comp=Z,3.4nm,0.5s,mb4.5,baz=302,slow=4.4,SNR=47
CLL Collm 77.22 337 *eP* **P** **19 43 16.0 -0.4**
GERES GERESS Array B 79.25 335 P **P** **19 43 27.4 -0.3**
GERES pmax pmax
comp=Z,1.0nm,0.5s
GERES GERESS Array B 79.25 335 P **P** **19 43 27.4 -0.3**
comp=Z,0.5nm,0.5s,mb3.7,baz=51,slow=7.0,SNR=4.3
CDF Champ du Feu 81.36 339 *eP* **P** **19 43 38.9 -0.1**
comp=Z,3.1nm,0.6s,mb4.1
LPL La Plagne 84.19 339 *eP* **P** **19 43 54.9 +1.1**
comp=Z,4.0nm,0.5s,mb4.5
LPG La Plagne 84.20 339 *eP* **P** **19 43 55.1 +1.2**
comp=Z,6.5nm,0.7s,mb4.6
MBDF Montbardon 84.92 338 *eP* **P** **19 43 58.6 +1.1**
comp=Z,3.4nm,0.5s,mb4.4
ORIF Oris-en-Rattie 84.96 339 *eP* **P** **19 43 58.8 +1.1**
comp=Z,6.0nm,0.8s,mb4.5
LMR La Mourre 86.28 338 *eP* **P** **19 44 04.9 +0.6**
comp=Z,11nm,1.0s,mb4.7

*IDC **30** 19:44:13.2±1.0, 2189N×14329E, h0km, mb3.6/7, mb1 3.8/7, mb1mx3.7/19, mbtmp3.6/7, MS3.4/1, Ms1 3.4/1, ms1mx2.4/26, Error ellipse: s-maj=36.5km s-min=22.1km az=84.0*
*ISCJB **30** 19:44:16.6±0.9, 219N±0.1×1432E±02, h33km, mb3.5/7, Error ellipse: s-maj=32.5km s-min=19.1km az=173.6*
*NEIC **30** 19:44:18.5±0.7, 2188N×14324E, h35km, Error ellipse: s-maj=24.8km s-min=14.6km az=84.0*
ISC 30 19:44:18.6±0.9, 219N±01×1432E±02, h35km, n8, σ0=36/8, mb3.5/7, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**39.23**	**320**	P	**P**	**19 51 43.7**	**+0.2**
0.5nm,0.7s,mb3.4,baz=124,slow=6.8,SNR=3.5							
WRA	**Warramunga Arr**	**42.46**	**192**	P	**P**	**19 52 10.6**	**+0.2**
0.5nm,0.9s,mb3.1,baz=18,slow=9.0,SNR=6.1							
ASAR	**Alice Springs**	**46.16**	**192**	P	**P**	**19 52 39.7**	**-0.2**
0.2nm,0.4s,mb3.4,baz=10.0,slow=10,SNR=6.4							
ZALV	**Zalesovo Beam**	**54.10**	**322**	P	**P**	**19 53 39.1**	**-0.7**
0.4nm,0.5s,mb3.6,baz=101,slow=8.0,SNR=3.9							
MKAR	**Makanchi Array**	**54.61**	**313**	P	**P**	**19 53 44.0**	**+0.4**
0.2nm,0.2s,mb3.7,baz=94,slow=8.7,SNR=3.3							
YKA	**Yellowknife Ar**	**76.28**	**28**	P	**P**	**19 56 03.8**	**+0.4**
0.3nm,0.5s,mb3.5,baz=299,slow=5.6,SNR=6.9							
NVAR	**Mina Array Bea**	**83.00**	**52**	P	**P**	**19 56 40.2**	**-0.3**
NVAR	**Mina Array Bea**	**83.00**	**52**	P	**P**	**19 56 40.2**	**-0.2**
0.3nm,0.7s,mb3.5,baz=261,slow=6.0,SNR=3.8							

IDC 30 19:44:39.8±6.4, 2277N×14732E, h0km, mb3.7/6, mb1 3.8/6, mb1mx3.7/18, mbtmp3.7/6, Error ellipse: s-maj=229.8km s-min=20.9km az=76.0, North Pacific Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSRS	**Korea Array**	**22.20**	**316**	P	P	19 49 39.2	+1.5
2.3nm,0.8s,baz=144,slow=7.1,SNR=6.7							
SONM	**Songino Array**	**41.05**	**318**	P	P	19 52 24.6	-0.3
1.1nm,0.6s,baz=131,slow=7.5,SNR=8.2							
WRA	**Warramunga Arr**	**44.30**	**198**	P	P	19 52 51.3	-0.2
0.8nm,0.8s,baz=13,slow=8.8,SNR=8.7							
ASAR	**Alice Springs**	**47.96**	**197**	P	P	19 53 20.6	+0.3
0.6nm,0.6s,baz=18,slow=10,SNR=13							
ZALV	**Zalesovo Beam**	**55.79**	**321**	P	P	19 54 19.5	+1.0
1.1nm,0.6s,baz=105,slow=6.8,SNR=6.1							
MKAR	**Makanchi Array**	**56.82**	**312**	P	P	19 54 24.4	-1.5
0.3nm,0.2s,baz=91,slow=9.2,SNR=6.9							

*NEIC **30** 19:46:07.4±1.0, 1274N×14637E, h35km, mb4.0/1, Error ellipse: s-maj=29.8km s-min=12.6km az=76.0*
*ISCJB **30** 19:46:13.1±4.4, 126N±02×1454E±08, h76km±18km, mb4.0/5, Error ellipse: s-maj=138.4km s-min=20.1km az=173.6*
*IDC **30** 19:46:15.6±4.8, 1313N×14574E, h70km±44km, mb3.8/4, mb1 3.8/4, mb1mx3.5/18, mbtmp3.8/4, MS3.0/1, Ms1 3.0/1, ms1mx2.5/30, Error ellipse: s-maj=280.4km s-min=55.1km az=35.0*
ISC 30 19:46:13.5±4.9, 127N±02×1455E±07, h66km±27km, n10, σ0=82/11, mb4.0/5, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.12**	**325**	*e*Pn	**Pn**	**19 46 34.2**	**+0.9**
GUMO				*e*Sn	**Sn**	**19 46 47.1**	**-1.0**
GUMO	**Guam**	**1.12**	**325**	P	**Pn**	**19 46 34.2**	**+0.9**
633nm,0.3s,baz=137,slow=11,SNR=578							
GUMO				S	**Sn**	**19 46 47.5**	**-0.6**
1μm,0.3s,baz=328,slow=21,SNR=75							
JNU	**Nakatsue**	**24.37**	**329**	LR	LR	19 59 36.6	
comp=Z,36nm,20.9s,baz=110,slow=33							
WRAB	**Tennant Creek**	**34.22**	**199**	*eP*	**P**	**19 52 52.6**	**-0.5**
WB2	**Warramunga Arr**	**34.23**	**199**	P	**P**	**19 52 53.3**	**+0.2**
SONM	**Songino Array**	**47.85**	**325**	P	**P**	**19 54 45.4**	**+0.7**
0.5nm,0.4s,mb3.7,baz=129,slow=8.0,SNR=4.8							
MKAR	**Makanchi Array**	**62.60**	**316**	P	**P**	**19 56 31.9**	**+1.0**
0.6nm,0.4s,mb3.9,baz=90,slow=8.4,SNR=8.5							
ZALV	**Zalesovo Beam**	**62.74**	**325**	P	**P**	**19 56 31.2**	**-0.4**
0.7nm,0.6s,mb3.8,baz=111,slow=6.7,SNR=3.5							
BRVK	**Borovoye**	**71.11**	**322**	*eP*	**P**	**19 57 25.3**	**+0.5**
1.0nm,0.6s,mb3.8							
FINES	**FINESS Array B**	**92.26**	**335**	P	**P**	**19 59 14.5**	**-1.6**
6.7nm,1.2s,mb4.7,baz=49,slow=5.8,SNR=4.7							

*ISCJB **30** 19:55:18.5±0.6, 2866S±005×702W±03, h98km±13km, Error ellipse: s-maj=37.6km s-min=6.0km az=7.1*
*GUC **30** 19:55:18.7±0.5, 2867S×70.11W, h88km±8km, ML4.7*
*NEIC **30** 19:55:18.7, 2867S×70.11W, h88km, MG4.7(GUC), After GUC.*
NEIC Felt [III] at Alto del Carmen, Freirina, Huasco and Vallenar; [II] at Copiapo and Tierra Amarilla.
ISC 30 19:55:19.8±0.6, 2865S±004×702W±02, h93km±12km, n16, σ0=46/27, 2C-4D, Central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VACH	**Vallenar**	**0.46**	**279**	*eP*	**Pn**	**19 55 34.4**	**-0.1**
VACH				*i* S	**Sn**	**19 55 45.8**	**+0.3**
VACH	**Vallenar**	**0.46**	**279**	*eP*	**Pn**	**19 55 34.4**	**-0.1**
VACH				*i* S	**Sn**	**19 55 45.8**	**+0.3**
VACH				AML	AML	19 55 46.6	
comp=N,106μm,0.1s							
LCO	**Las Campanas**	**0.54**	**228**	*e*Pn	**Pn**	**19 55 35.1**	**0.0**
LCO				*e*Sn	**Sn**	**19 55 47.6**	**+1.0**
CPCH	**Copiapo**	**1.29**	**356**	⇓*i*P	**Pn**	**19 55 42.4**	**-0.7**
CPCH				*i* S	**Sn**	**19 56 00.3**	**-0.4**
LSCH	**La Serena**	**1.53**	**215**	⇑*i*P	**Pn**	**19 55 45.8**	**-0.3**
LSCH				*i* S	**Sn**	**19 56 06.0**	**0.0**
TLL	**Tololo Astrono**	**1.59**	**198**	*eP*	**Pn**	**19 55 46.7**	**-0.1**
TLL				*i* S	**Sn**	**19 56 08.0**	**+0.7**
OVCH	**Ovalle**	**2.12**	**203**	*eP*	**Pn**	**19 55 53.2**	**-0.5**
OVCH				*i* S	**Sn**	**19 56 19.1**	**-0.5**
OVCH	**Ovalle**	**2.12**	**203**	*eP*	**Pn**	**19 55 53.2**	**-0.5**
OVCH				⇓*i*P		19 55 53.4	
OVCH				*i* S	**Sn**	**19 56 19.1**	**-0.5**
OVCH				AML	AML	19 56 20.2	
comp=N,2μm,0.2s							
CMCH	**Combarbala**	**2.60**	**195**	⇓*i*P	**Pn**	**19 55 59.4**	**-0.7**
CMCH				*i* S	**Sn**	**19 56 30.6**	**-0.3**
CMCH	**Combarbala**	**2.60**	**195**	⇓*i*P	**Pn**	**19 55 59.4**	**-0.7**
CMCH				*i* S	**Sn**	**19 56 30.6**	**-0.3**
CMCH				AML	AML	19 56 31.4	
comp=N,3μm,0.5s							
JACH	**Jahuel**	**4.03**	**184**	*eP*	**Pn**	**19 56 19.0**	**-0.3**
LMEL	**Las Melosas**	**5.18**	**180**	⇑*i*P	**Pn**	**19 56 35.4**	**+0.5**
LMEL				*i* S	**Sn**	**19 57 33.1**	**-0.3**
LPAZ	**La Paz**	**12.46**	**9**	P	**Pn**	**19 58 14.3**	**+0.5**
comp=N,1.4nm,0.6s							
VNA3	**Neumayer Olymp**	**53.77**	**160**	*e*	**P**	**20 04 32.5**	**+0.3**
VNA3				*e*		20 05 14.6	
VNA2	**Neumayer--Watz**	**54.39**	**159**	*e*	**P**	**20 04 37.0**	**+0.4**
baz=287,slow=9.0							
VNA2				*e*		20 05 15.8	
SNAA	**Sanae**	**55.99**	**159**	*e*	**P**	**20 04 48.4**	**+0.2**
SNAA				*e*		20 05 37.2	

*IDC **30** 20:07:16.5±3.3, 2125S×16996E, h0km, mb4.2/5, mb1 4.4/5, mb1mx4.1/13, mbtmp4.2/5, MS3.3/3, Ms1 3.3/3, ms1mx2.9/26, Error ellipse: s-maj=84.3km s-min=31.2km az=130.0*
*ISCJB **30** 20:07:27.1±4.0, 209S±02×1694E±02, h73km±28km, mb4.2/6, Error ellipse: s-maj=39.4km s-min=33.2km az=146.7*
ISC 30 20:07:28.1±4.0, 210S±02×1695E±02, h67km±28km, n14, σ0=64/12, mb4.2/6, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.01**	**249**	*eP*	**Pn**	**20 08 13.6**	**+0.2**
DZM				*eS*	**Sn**	**20 08 47.7**	**-0.5**
HNR	**Honiara**	**14.72**	**320**	LR	LR	20 15 34.5	
comp=Z,59nm,19.0s,baz=0.4,slow=33							
ARMA	**Armidale**	**18.58**	**236**	*eP*	**Pn**	**20 11 49.8**	**+9.1**
CTA	**Charters Tower**	**21.76**	**268**	P	**P**	**20 12 15.8**	**+1.5**
1.7nm,0.3s,mb3.8,baz=87,slow=12,SNR=3.9							
STKA	**Stephens Creek**	**27.13**	**241**	*eP*	**P**	**20 13 05.7**	**+0.8**
5.2nm,1.6s,mb3.8							
STKA	**Stephens Creek**	**27.13**	**241**	P	**P**	**20 13 04.5**	**-0.4**
2.4nm,0.6s,mb3.9,baz=69,slow=9.5,SNR=7.2							
STKA				LR	LR	20 22 15.6	
comp=Z,99nm,19.2s,baz=205,slow=33							
WB2	**Warramunga Arr**	**32.88**	**266**	*eP*	**P**	**20 13 55.3**	**-0.6**
WRA	**Warramunga Arr**	**32.89**	**266**	P	**P**	**20 13 55.4**	**-0.6**
1.8nm,0.5s,mb4.2,baz=101,slow=7.7,SNR=47							
ASAR	**Alice Springs**	**32.95**	**259**	P	**P**	**20 13 56.5**	**+0.1**
5.4nm,0.6s,mb4.5,baz=87,slow=9.2,SNR=84							
FITZ	**Fitzroy Crossi**	**41.31**	**266**	*eP*	**P**	**20 15 07.8**	**+0.4**
7.9nm,0.6s,mb4.7							
JHJ	**Hachijo jima 2**	**60.84**	**332**	LR	LR	20 43 38.8	
comp=Z,20nm,18.0s,baz=47,slow=36							
MJAR	**Matsushiro Arr**	**64.42**	**332**	P	**P**	**20 17 56.7**	**-0.5**
2.7nm,0.7s,mb4.2,baz=169,slow=7.4,SNR=13							
VNA2	**Neumayer--Watz**	**88.28**	**181**	*e*	**P**	**20 20 11.6**	**-0.1**
baz=186,slow=4.5							
VNA2				*e*		20 20 19.8	
GERES	**GERESS Array B**	**146.15**	**331**	PKPbc	PKPbc	20 27 00.3	-0.2
0.4nm,0.6s,baz=54,slow=6.8,SNR=4.7							

CASC 30 20:11:49.6±2.5, 885N×8349W, h8km±13km, MD3.7, 1C-5D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BAR1		**0.43**	**24**	⇑*i*P	Pg	20 11 58.6	+0.6
BAR1				*e*S	Sg	20 12 06.4	+2.8
BUS	**Buena Vista**	**0.75**	**339**	⇓*e*P	Pg	20 12 04.2	+0.1
BUS				*e*S	Sg	20 12 16.1	+2.1
QCR	**Quepos**	**0.88**	**311**	⇓*e*P	Pg	20 12 05.6	-1.0
QCR				*e*S	Sg	20 12 18.2	+0.1
URSC	**Urasca**	**1.02**	**344**	*e*P	Pg	20 12 08.0	-1.3
URSC				*e*S	Sg	20 12 22.2	-0.4
LCR2	**La Lucha 2**	**1.03**	**330**	⇓*e*P	Pg	20 12 08.3	-1.1
LCR2				*e*S	Sg	20 12 23.4	+0.7
LAJ	**Bijagual**	**1.19**	**328**	*e*P	Pb	20 12 12.8	+0.4
PRS1	**Puriscal**	**1.39**	**324**	⇓*e*P	Pn	20 12 13.4	-2.0
PRS1				*e*S	Sb	20 12 32.5	-1.4
CGA2	**Cerro Gallo 2**	**1.51**	**320**	*e*P	Pn	20 12 16.3	-0.7
CGA2				*e*S	Sn	20 12 36.3	-0.6
JCR	**Jicaral**	**1.89**	**302**	*e*P	Pn	20 12 22.6	+0.3
CUI		**2.46**	**317**	⇓*e*P	Pn	20 12 30.3	+0.2
LIM1	**Limonal**	**2.54**	**317**	*i* P	Pn	20 12 32.4	+1.2
LIM1				*e*S	Sn	20 13 03.0	+0.8
PTP	**Ponta Puerca**	**19.70**	**60**	*e*P		20 12 04.7	
PTP				*e*S		20 12 18.1	

*NEIC **30** 20:27:01.8±0.4, 694S×15592E, h10km, mb4.7/16, Error ellipse: s-maj=11.5km s-min=8.5km az=107.0*
*BJI **30** 20:27:05.2, 658S×15521E, h10km, mb4.6*
*MOS **30** 20:27:07.6±0.8, 703S×15594E, h65km, mb5.0/17, Error ellipse: s-maj=13.5km s-min=11.1km az=118.2*
*ISCJB **30** 20:27:08.9±2.2, 707S±008×15598E±008, h80km±22km, mb4.6/38, Error ellipse: s-maj=15.9km s-min=10.0km az=42.1*
*IDC **30** 20:27:08.9±0.8, 703S×15594E, h62km±7km, mb4.4/13, mb1 4.4/14, mb1mx4.4/16, mbtmp4.4/14, MS3.7/12, Ms1 3.7/12, ms1mx3.5/23, Error ellipse: s-maj=14.7km s-min=12.1km az=53.0*
ISC 30 20:27:11.4±1.9, 710S±008×15601E±009, h90km±20km, n110, σ0=79/94, mb4.6/38, 3C, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.54**	**121**	*eP*	**Pn**	**20 28 14.9**	**-2.8**
HNR	**Honiara**	**4.54**	**121**	P	**Pn**	**20 28 16.8**	**-1.0**
HNR				S	**Sn**	**20 29 09.7**	**+0.3**
HNR				pmax	pmax		
comp=Z,11nm,0.3s							
HNR				smax			
comp=N,37nm,0.3s							
HNR				MLR	MLR		
comp=Z,439nm,21.8s							
HNR	**Honiara**	**4.54**	**121**	P	**Pn**	**20 28 16.8**	**-1.0**
comp=Z,11nm,0.3s,baz=264,slow=4.2,SNR=9.1							
HNR				S	**Sn**	**20 29 09.7**	**+0.3**
comp=Z,37nm,0.3s,baz=92,slow=22,SNR=6.6							
HNR				LR	LR	20 29 59.7	
comp=Z,439nm,21.8s,baz=359,slow=37							
CTA	**Charters Tower**	**16.01**	**215**	*eP*	**Pn**	**20 30 54.1**	**+2.7**
comp=Z,9.5nm,1.2s							
CTA	**Charters Tower**	**16.01**	**215**	*eP*	**Pn**	**20 30 54.1**	**+2.7**
CTA				pmax	pmax		
comp=Z,10.0nm,1.2s							
CTA	**Charters Tower**	**16.01**	**215**	P	**Pn**	**20 30 54.4**	**+3.0**
comp=Z,0.4nm,0.3s,baz=39,slow=12,SNR=16							
CTA				LR	LR	20 35 58.5	
comp=Z,344nm,21.2s,baz=52,slow=33							
CTAO	**Charters Tower**	**16.01**	**215**	*eP*	**Pn**	**20 30 53.2**	**+1.8**
comp=Z,6.6nm,0.8s							
CTAO	**Charters Tower**	**16.01**	**215**	*eP*	**Pn**	**20 30 53.2**	**+1.8**
CTAO				pmax	pmax		
comp=Z,7.0nm,0.8s							
GUMO	**Guam**	**23.34**	**332**	LR	LR	20 39 03.8	
comp=Z,97nm,21.7s,baz=125,slow=31							
ARMA	**Armidale**	**23.56**	**189**	*eP*	**P**	**20 32 14.8**	**+1.0**
KAKA	**Kakadu**	**23.87**	**255**	*eP*	**P**	**20 32 16.1**	**-0.7**
comp=Z,26nm,0.4s,mb4.9							
WRAB	**Tennant Creek**	**24.58**	**237**	*eP*	**P**	**20 32 23.3**	**+0.1**
comp=Z,23nm,0.6s,mb4.8							
WRAB	**Tennant Creek**	**24.58**	**237**	*eP*	**P**	**20 32 23.3**	**+0.1**
WRAB				pmax	pmax		
comp=Z,23nm,0.6s,mb4.8							
WB2	**Warramunga Arr**	**24.58**	**237**	⇑*i*P	**P**	**20 32 23.2**	**-0.1**
WRA	**Warramunga Arr**	**24.59**	**237**	P	**P**	**20 32 23.4**	**0.0**
WRA				*PP		20 32 39.5	
WRA						20 35 59.5	
WRA				pmax	pmax		
comp=Z,29nm,0.7s							
WRA				pmax	pmax		
comp=Z,5.0nm,0.5s							
WRA				pmax	pmax		
comp=Z,3.0nm,0.9s							
WRA				MLR	MLR		
comp=Z,170nm,20.9s							
WRA	**Warramunga Arr**	**24.59**	**237**	P	**P**	**20 32 23.4**	**0.0**
comp=Z,29nm,0.7s,mb4.8,baz=62,slow=9.7,SNR=258							
WRA				pP		20 32 39.5	
comp=Z,5.3nm,0.5s,baz=62,slow=9.2,SNR=5.1							
WRA				PcP	PcP	20 35 59.5	+0.3
comp=Z,3.0nm,0.9s,baz=59,slow=2.0,SNR=9.7							
WRA				LR	LR	20 41 23.4	
comp=Z,170nm,20.9s,baz=140,slow=35							
ASAR	**Alice Springs**	**26.87**	**230**	P	**P**	**20 32 43.2**	**-0.7**
ASAR						20 36 05.0	
ASAR				pmax	pmax		
comp=Z,3.0nm,0.5s							
ASAR				pmax	pmax		
comp=Z,1.0nm,0.7s							
ASAR	**Alice Springs**	**26.87**	**230**	P	**P**	**20 32 43.2**	**-0.7**
comp=Z,2.6nm,0.5s,mb4.1,baz=59,slow=9.9,SNR=100							
ASAR				PcP	PcP	20 36 05.0	+0.6
comp=Z,1.3nm,0.7s,baz=65,slow=2.4,SNR=5.9							
STKA	**Stephens Creek**	**28.08**	**207**	*eP*	**P**	**20 32 54.2**	**-0.5**
comp=Z,7.5nm,1.6s,mb4.0							
STKA	**Stephens Creek**	**28.08**	**207**	P	**P**	**20 32 55.9**	**+1.2**
comp=Z,3.3nm,0.7s,mb4.0,baz=31,slow=16,SNR=8.2							
STKA				PcP	PcP	20 36 07.7	+0.6
comp=Z,1.3nm,0.6s,baz=125,slow=20,SNR=3.2							
STKA				LR	LR	20 43 50.8	
comp=Z,177nm,19.6s,baz=206,slow=36							
FITZ	**Fitzroy Crossi**	**31.54**	**247**	⇑*i*P	**P**	**20 33 24.5**	**-0.9**
comp=Z,20nm,0.6s,mb5.0							
FITZ	**Fitzroy Crossi**	**31.54**	**247**	P	**P**	**20 33 24.9**	**-0.4**
comp=Z,11nm,0.6s,mb4.8,baz=89,slow=8.2,SNR=53							
FITZ				LR	LR	20 45 33.8	
comp=Z,126nm,22.0s,baz=250,slow=35							
BATI	**Kupang**	**32.12**	**262**	LR	LR	20 46 43.3	
comp=Z,294nm,19.0s,baz=263,slow=37							
FORT	**Forrest**	**35.21**	**224**	*eP*	**P**	**20 33 56.8**	**-0.4**
comp=Z,15nm,0.5s,mb5.1							
KLBR	**Kellerberrin**	**43.19**	**231**	*eP*	**P**	**20 35 02.5**	**-1.2**
comp=Z,25nm,0.5s,mb5.2							
NWAO	**Narrogin (SRO)**	**44.18**	**229**	P	**P**	**20 35 11.4**	**-0.2**
NWAO				pmax	pmax		
comp=Z,13nm,0.7s							
NWAO	**Narrogin (SRO)**	**44.18**	**229**	P	**P**	**20 35 11.4**	**-0.2**
comp=Z,13nm,0.7s,mb4.8,baz=98,slow=1.8,SNR=6.7							
MUN	**Mundaring**	**44.55**	**231**	*eP*	**P**	**20 35 14.4**	**-0.1**
MJAR	**Matsushiro Arr**	**46.51**	**340**	P	**P**	**20 35 29.2**	**-0.6**
MJAR				pmax	pmax		
comp=Z,3.0nm,0.9s							
MJAR	**Matsushiro Arr**	**46.51**	**340**	P	**P**	**20 35 29.2**	**-0.6**
comp=Z,2.6nm,0.9s,mb4.0,baz=170,slow=8.0,SNR=9.8							
KSRS	**Korea Array**	**51.50**	**331**	P	**P**	**20 36 08.5**	**+0.6**
KSRS				pmax	pmax		
comp=Z,4.0nm,0.7s,mb4.6							
KSRS				MLR	MLR		
comp=Z,33nm,18.4s							
KSRS	**Korea Array**	**51.50**	**331**	P	**P**	**20 36 08.5**	**+0.6**
comp=Z,4.3nm,0.7s,mb4.6,baz=146,slow=7.6,SNR=17							
KSRS				LR	LR	20 57 31.9	
comp=Z,33nm,18.4s,baz=120,slow=36							
KLR	**Kul'dur**	**59.97**	**342**	*eP*	**P**	**20 37 14.1**	**+5.8**
XAN	**Xi'an**	**60.48**	**316**	P	**P**	**20 37 11.5**	**-0.6**
XAN				AMB	AMB		
comp=Z,6.0nm,0.8s,mb4.7							
HIA	**Hailar**	**64.44**	**335**	*eP*	**P**	**20 37 39.6**	**+1.5**
HIA	**Hailar**	**64.44**	**335**	*eP*	**P**	**20 37 39.1**	**+1.0**
GTA	**Gaotai**	**69.50**	**317**	*eP*	**P**	**20 38 11.5**	**+1.0**
GTA				AMB	AMB		
comp=Z,4.0nm,1.2s,mb4.1							
ULN	**Ulaanbaatar**	**69.63**	**327**	*c iP*	**P**	**20 38 12.3**	**+1.2**
SONM	**Songino Array**	**69.96**	**327**	P	**P**	**20 38 14.3**	**+1.2**
SONM				pmax	pmax		
comp=Z,13nm,0.8s							
SONM				MLR	MLR		
comp=Z,57nm,20.2s							
SONM	**Songino Array**	**69.96**	**327**	P	**P**	**20 38 14.3**	**+1.2**
comp=Z,13nm,0.8s,mb4.8,baz=136,slow=6.8,SNR=84							
SONM				LR	LR	21 04 39.9	
comp=Z,57nm,20.2s,baz=332,slow=32							
VNDA	**Vanda**	**70.46**	**179**	*eP*	**P**	**20 38 16.6**	**+0.9**
VNDA	**Vanda**	**70.46**	**179**	P	**P**	**20 38 16.9**	**+1.2**
VNDA				pmax	pmax		
comp=Z,2.0nm,0.9s							
VNDA	**Vanda**	**70.46**	**179**	P	**P**	**20 38 16.9**	**+1.2**
comp=

MKAR Makanchi Array 84.14 318 P **P** **20 39 33.1 +0.5**
MKAR *PP pP 20 39 48.7 -7.6
MKAR pmax pmax
comp=Z,11nm,0.7s
MKAR pmax pmax
comp=Z,3.0nm,0.8s
MKAR Makanchi Array 84.14 318 P **P** **20 39 33.1 +0.5**
comp=Z,11nm,0.7s,mb4.8,baz=100,slow=5.9,SNR=118
MKAR pP pP 20 39 48.6 -7.7
comp=Z,2.7nm,0.8s,baz=89,slow=9.7,SNR=3.9
SMLA Simla 84.17 302 *e*P **P** **20 39 32.5 -0.6**
SMLA AMb AMB 20 39 33.6
comp=Z,29nm,0.0s
KAD Karad 84.34 288 *e*P **P** **20 39 33.7 -0.6**
MAW Mawson 84.69 203 *e*P **P** **20 39 35.2 +0.2**
MAW Mawson 84.69 203 P **P** **20 39 35.5 +0.5**
MAW pmax pmax
comp=Z,10.0nm,0.7s
MAW Mawson 84.69 203 P **P** **20 39 35.5 +0.4**
comp=Z,9.6nm,0.7s,mb4.8,baz=103,slow=7.9,SNR=7.1
ZAA0 Zalesovo Array 84.82 326 *e*P **P** **20 39 35.0 -0.8**
ZALV Zalesovo Beam 84.82 326 P **P** **20 39 35.2 -0.7**
ZALV Zalesovo Beam 84.82 326 P **P** **20 39 35.2 -0.7**
comp=Z,4.8nm,0.5s,mb4.7,baz=114,slow=5.7,SNR=24
ZAL Zalesovo 84.83 326 P **P** **20 39 35.2 -0.7**
ZAL pmax pmax
comp=Z,5.0nm,0.5s
NVS Novosibirsk 85.99 326 *e*P **P** **20 39 40.6 -1.1**
BBB Bella Bella 87.00 37 LR LR 21 11 32.3
comp=Z,76nm,20.4s,baz=273,slow=31
KURK Kurchatov 87.53 322 *e*P **P** **20 39 48.1 -1.1**
comp=Z,1.3nm,0.6s,mb4.1
KURK Kurchatov 87.53 322 *e*P **P** **20 39 48.1 -1.2**
KURK pmax pmax
comp=Z,1.0nm,0.6s,mb4.0
TKM2 Tokmak 2 87.81 314 *e*P **P** **20 39 51.2 +0.4**
comp=Z,4.4nm,0.8s,mb4.5
TKM2 Tokmak 2 87.81 314 *e*P **P** **20 39 51.2 +0.4**
TKM2 pmax pmax
comp=Z,4.0nm,0.8s,mb4.5
UCH Uchtor 88.46 313 *e*P **P** **20 39 53.0 -0.8**
comp=Z,3.3nm,1.0s,mb4.3
AAK Ala-Archa 88.55 313 *e*P **P** **20 39 53.6 -0.7**
comp=Z,4.0nm,0.8s,mb4.5
AAK Ala-Archa 88.55 313 *e*P **P** **20 39 53.6 -0.7**
AAK pmax pmax
comp=Z,4.0nm,0.8s,mb4.5
AML Almayashu 89.04 312 *e*P **P** **20 39 57.1 +0.5**
INK Inuvik 89.46 21 LR LR 21 15 45.5
comp=Z,38nm,20.3s,baz=140,slow=33
KBL Kabul 91.48 304 *e*P **P** **20 40 07.0 -1.1**
comp=Z,4.9nm,0.8s,mb4.7
KBL Kabul 91.48 304 *e*P **P** **20 40 07.1 -1.1**
KBL pmax pmax
comp=Z,5.0nm,0.8s,mb4.7
BRVK Borovoye 93.05 323 *e*P **P** **20 40 14.0 -0.9**
comp=Z,3.9nm,0.9s,mb4.7
BRVK Borovoye 93.05 323 *e*P **P** **20 40 14.0 -0.9**
BRVK pmax pmax
comp=Z,4.0nm,0.9s,mb4.8
YKA Yellowknife Ar 95.95 28 P **P** **20 40 27.7 -0.4**
YKA pP pP 20 40 46.6 -5.4
YKA LR LR 21 19 25.2
YKA Yellowknife Ar 95.95 28 P **P** **20 40 27.7 -0.3**
YKA *PP pP 20 40 46.6 -5.5
YKA MLR MLR
comp=Z,26nm,18.9s
YKA Yellowknife Ar 95.95 28 P **P** **20 40 27.7 -0.3**
comp=Z,0.1nm,0.7s,mb3.4,baz=258,slow=4.3,SNR=3.9
YKA pP pP 20 40 46.6 -5.4
comp=Z,0.4nm,0.8s,baz=267,slow=4.6,SNR=4.3
YKA LR LR 21 19 25.2
comp=Z,26nm,18.9s,baz=275,slow=33
AKASG Malin Array Be 118.20 325 PKP PKPdf 20 45 47.7 -0.4
AKASG Malin Array Be 118.20 325 PKIKP PKPdf 20 45 47.7 -0.4
AKASG pmax pmax
comp=Z,1.0nm,0.5s
AKASG Malin Array Be 118.20 325 PKP PKPdf 20 45 47.7 -0.4
comp=Z,1.1nm,0.5s,baz=60,slow=1.9,SNR=9.9
BOSA Boshof 120.74 231 PKIKP PKPdf 20 45 54.1 +0.3
BOSA pmax pmax
comp=Z,3.0nm,1.0s
BOSA Boshof 120.74 231 PKP PKPdf 20 45 54.1 +0.3
comp=Z,2.5nm,1.0s,baz=70,slow=2.7,SNR=4.4
BRG Berggiesshubel 126.22 331 *e*PKIKP PKPdf 20 46 04.2 +0.7
BRG pmax pmax
comp=Z,3.0nm,0.9s
BRG Berggiesshubel 126.22 331 *e*(P) PKPdf 20 46 04.2 +0.7
comp=Z,2.8nm,0.9s
CLL Collm 126.37 332 *i* PKPdf PKPdf 20 46 03.5 -0.3
GERES GERESS Array B 127.65 329 PKIKP PKPdf 20 46 07.0 +0.7
GERES pmax pmax
comp=Z,1.0nm,0.7s
GERES GERESS Array B 127.65 329 PKP PKPdf 20 46 07.0 +0.7
comp=Z,1.3nm,0.7s,baz=80,slow=1.5,SNR=12
BDFB Brasilia 147.19 134 PKP2 PKPbc 20 46 45.6 +0.3
BDFB pmax pmax
comp=Z,9.0nm,0.7s
BDFB Brasilia 147.19 134 PKPbc PKPbc 20 46 45.6 +0.3
comp=Z,8.5nm,0.7s,baz=194,slow=9.4,SNR=23
DBIC Dimbokro 161.00 270 PKP2 PKPab 20 47 45.9 +0.2
DBIC pmax pmax
comp=Z,4.0nm,0.7s
DBIC Dimbokro 161.00 270 PKPab PKPab 20 47 45.9 +0.3
comp=Z,3.9nm,0.7s,baz=102,slow=6.1,SNR=7.0

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*KNET **30** 20:40:36.6±0.4, 42.13N×75.97E, h13km±3km, ml2.7, Error ellipse: s-maj=3.0km s-min=2.3km az=131.0*
*NNC **30** 20:40:36.5±0.7, 42.11N×75.97E, h0km, mb3.5, mpv3.4, Error ellipse: s-maj=4.0km s-min=2.3km az=13.0*
*ISCJB **30** 20:40:37.1±1.0, 42.09N±0.06×76.02E±0.04, h10km, Error ellipse: s-maj=8.9km s-min=3.8km az=161.4*
ISC 30 20:40:37.5±0.9, 42.11N±0.05×76.00E±0.04, h10km, n20, σ19.09/25, 11C-20D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ULHL	**Ulahol**	**0.22**	**53**	⇑P		**Pg**	**20 40 41.2 -0.9**
ULHL	540nm,0.1s,SNR=333			⇓S		**Sg**	**20 40 45.4 +0.2**
KZA	557nm,0.1s **Kyzart**	**0.56**	**267**	⇓P		**Pg**	**20 40 47.6 -0.9**
KZA	42nm,0.2s,SNR=67			⇓S		**Sg**	**20 40 56.3 +0.4**
TKM2	220nm,0.2s **Tokmak 2**	**0.86**	**340**	⇑P		**Pg**	**20 40 52.9 -1.2**
TKM2	25nm,0.3s			⇓S		**Sg**	**20 41 05.3 -0.1**
TKM2	156nm,0.4s **Tokmak 2**	**0.86**	**340**	⇓P		**Pg**	**20 40 52.9 -1.3**
TKM2	66nm,0.2s,SNR=78			⇑S		**Sg**	**20 41 05.4 0.0**
KBK	253nm,0.1s **Karagaybulak**	**0.95**	**305**	⇓P		**Pg**	**20 40 54.8 -1.1**
KBK	46nm,0.2s,SNR=102			⇓S		**Sg**	**20 41 08.5 +0.2**
UCH	173nm,0.3s **Uchtor**	**1.11**	**276**	⇓P		**Pb**	**20 40 57.4 -1.5**
UCH	20nm,0.3s,SNR=43			⇓S		**Sg**	**20 41 13.3 -0.1**
AAK	44nm,0.2s **Ala-Archa**	**1.23**	**295**	⇓P		**Pn**	**20 40 59.4 -1.4**
AAK	60nm,0.3s,SNR=59			⇑S		**Sb**	**20 41 16.2 -0.7**
CHMS	78nm,0.2s **Chumysh**	**1.28**	**314**	⇓P		**Pn**	**20 41 00.3 -1.1**
CHMS	21nm,0.2s,SNR=23			⇓S		**Sb**	**20 41 18.4 +0.2**
KNDC	109nm,0.3s **Almaty**	**1.31**	**32**	⇑P		**Pn**	**20 41 01.5 -0.4**
KNDC	32nm,0.3s			⇑S		**Sb**	**20 41 19.6 +0.5**
USP	380nm,0.4s **Ospenovka**	**1.60**	**317**	⇓P		**Pn**	**20 41 06.1 +0.3**
USP	36nm,0.2s,SNR=77			⇓S		**Sn**	**20 41 28.2 +1.7**
AML	26nm,0.2s **Almayashu**	**1.72**	**271**	⇓P		**Pn**	**20 41 08.6 +1.1**
AML	28nm,0.2s,SNR=39			⇓S		**Sn**	**20 41 32.0 +2.5**
EKS2	235nm,0.5s **Erkin-Say**	**1.74**	**289**	P		**Pn**	**20 41 09.2 +1.4**
KK31	20nm,0.2s,SNR=57 **Karatay Array**	**4.17**	**286**	⇓Pg		**Pg**	**20 41 52.7 -4.7**
KK31	1.7nm,0.4s,baz=103,slow=16,SNR=57			⇑Lg			20 42 48.4
MK31	6.2nm,0.5s **Makanchi Array**	**6.49**	**42**	Pn		**Pn**	**20 42 15.6 +2.5**
MK31	0.5nm,0.4s,baz=220,slow=13,SNR=9.3			⇑Lg			20 44 02.7
KURBB	6.1nm,1.1s **Kurchatov Arra**	**8.69**	**11**	⇓Lg			20 45 12.7
KURK	2.9nm,0.7s **Kurchatov**	**8.79**	**11**	⇓Lg			20 45 14.7
VOSK	12nm,1.2s **Vostochnaya**	**11.14**	**344**	⇓Lg			20 46 27.6
BVA0	6.9nm,1.2s **Borovoye Array**	**11.55**	**343**	⇑Lg			20 46 43.2
ZRNK	0.8nm,1.2s **Zerenda**	**11.82**	**339**	⇑Lg			20 46 51.9
CHKZ	6.4nm,1.2s **Chkalovo**	**12.12**	**345**	⇑Lg			20 47 00.9
	8.4nm,1.6s						

IDC 30 21:19:43.1±5.3, 423S×9395E, h0km, mb3.6/5, mb1 3.7/5, mb1mx3.5/20, mbtmp3.6/5, Error ellipse: s-maj=196.3km s-min=23.9km az=55.0, South Indian Ocean

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**42.31**	**115**	P		21 27 37.1	-1.9
	0.7nm,0.9s,baz=302,slow=9.4,SNR=6.3						
ASAR	**Alice Springs**	**43.09**	**120**	P		21 27 47.1	+1.8
	0.6nm,0.8s,baz=291,slow=7.5,SNR=5.7						
MKAR	**Makanchi Array**	**51.84**	**350**	P		21 28 53.6	+0.6
	0.4nm,0.4s,baz=151,slow=8.7,SNR=6.8						
SONM	**Songino Array**	**52.98**	**10**	P		21 29 02.4	+1.0
	0.4nm,0.4s,baz=193,slow=8.9,SNR=5.4						
ZALV	**Zalesovo Beam**	**58.47**	**354**	P		21 29 39.1	-1.6
	0.6nm,0.4s,baz=176,slow=8.6,SNR=4.2						

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*IDC **30** 21:31:20.7±1.1, 882S×15773E, h0km, mb4.0/6, mb1 4.1/8, mb1mx4.0/15, mbtmp4.0/8, ML3.8/1, MS3.4/5, Ms1 3.4/5, ms1mx3.1/22, Error ellipse: s-maj=32.5km s-min=23.4km az=147.0*
*NEIC **30** 21:31:22.6±0.6, 880S×15775E, h10km, mb4.6/2, Error ellipse: s-maj=18.6km s-min=11.8km az=151.0*
*ISCJB **30** 21:31:25.2±0.7, 88S±0.1×15755E±006, h33km, mb3.9/8, MS3.3/4, Error ellipse: s-maj=16.4km s-min=9.1km az=176.8*
ISC 30 21:31:27.0±0.7, 88S±01×15757E±007, h35km, n16, σ0956/14, mb3.9/8, MS3.3/4, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**2.44**	**106**	Pn		**21 31 59.2**	**-5.2**
	123nm,0.3s,baz=269,slow=3.5,SNR=17						
HNR				Sn		**21 32 33.0**	**-0.1**
	670nm,0.3s,baz=274,slow=21,SNR=44						
CTA	**Charters Tower**	**15.69**	**223**	Pn		**21 35 05.1**	**-0.4**
	0.2nm,0.3s,baz=28,slow=11,SNR=1.9						
CTA				LR	LR	21 40 07.8	
	comp=Z,118nm,19.0s,baz=47,slow=33						
WRAB	**Tennant Creek**	**25.04**	**241**	*e*P		**P**	**21 36 48.4 +0.2**
	7.6nm,0.8s,mb4.3						
WB2	**Warramunga Arr**	**25.04**	**241**	*e*P		**P**	**21 36 48.5 +0.4**
WRA	**Warramunga Arr**	**25.05**	**241**	P		**P**	**21 36 48.3 0.0**
	5.2nm,0.7s,mb4.2,baz=67,slow=9.4,SNR=70						
WRA				LR	LR	21 46 08.8	
	comp=Z,122nm,18.3s,MS3.5,baz=60,slow=35						
GUMO	**Guam**	**25.55**	**330**	LR	LR	21 45 26.4	
	comp=Z,69nm,19.2s,MS3.2,baz=97,slow=33						
ASAR	**Alice Springs**	**27.05**	**234**	P		**P**	**21 37 06.2 -0.1**
	2.6nm,1.1s,mb3.7,baz=64,slow=9.0,SNR=5.9						
STKA	**Stephens Creek**	**27.36**	**211**	*e*P		**P**	**21 37 13.5 +4.5**
	2.6nm,0.7s,mb3.9						
STKA	**Stephens Creek**	**27.36**	**211**	*e*P		**P**	**21 37 10.9 +1.9**
STKA				*e*P			21 37 13.5
STKA	**Stephens Creek**	**27.36**	**211**	P		**P**	**21 37 07.8 -1.2**
	2.3nm,1.1s,mb3.6,baz=41,slow=16,SNR=1.8						
JHJ	**Hachijo jima 2**	**44.97**	**339**	LR	LR	21 57 10.6	
	comp=Z,34nm,18.3s,MS3.3,baz=7.7,slow=34						
JNU	**Nakatsue**	**48.80**	**330**	LR	LR	21 58 17.3	
	comp=Z,22nm,18.6s,MS3.2,baz=276,slow=33						
SONM	**Songino Array**	**72.21**	**327**	P		**P**	**21 42 48.5 +0.1**
	0.5nm,0.7s,mb3.6,baz=90,slow=1.4,SNR=3.4						
MCK	**McKinley**	**82.77**	**21**	*e*P		**P**	**21 43 47.8 +0.7**
	5.9nm,1.0s,mb4.6						
MKAR	**Makanchi Array**	**86.42**	**318**	P		**P**	**21 44 05.0 -0.9**
	0.1nm,0.3s,mb3.6,baz=106,slow=6.8,SNR=2.4						
YKA	**Yellowknife Ar**	**96.71**	**28**	P		**P**	**21 44 53.2 -0.3**
	0.1nm,0.4s,mb3.6,baz=265,slow=4.8,SNR=5.6						

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*IDC **30** 21:46:08.3±2.7, 48.20N×154.87E, h0km, mb3.6/7, mb1 3.7/8, mb1mx3.6/21, mbtmp3.6/8, ML3.6/1, Error ellipse: s-maj=69.5km s-min=25.8km az=140.0*
*NEIC **30** 21:46:09.2±1.2, 48.08N×154.84E, h10km, mb4.5/1, Error ellipse: s-maj=29.5km s-min=12.9km az=134.0*
*MOS **30** 21:46:10.8±1.6, 48.24N×154.39E, h27km, mb4.4/2, Error ellipse: s-maj=23.6km s-min=14.3km az=75.3*
*ISCJB **30** 21:46:11.2±3.6, 48.2N±02×154.8E±03, h32km±28km, mb3.7/8, Error ellipse: s-maj=42.2km s-min=10.2km az=36.9*
ISC 30 21:46:11.9±4.0, 48.2N±02×154.8E±03, h22km±32km, n18, σ0994/19, mb3.7/8, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**2.63**	**19**	*e*PN		**Pn**	**21 46 51.7 -1.3**
SKR				*e*S		**Sn**	**21 47 23.5 -0.6**
SKR				pmax	pmax		
	comp=N,50nm,0.5s						
SKR				pmax	pmax		
	comp=Z,80nm,0.5s						
SKR				smax			
	comp=N,120nm,0.5s						
SKR				smax			
	comp=E,190nm,0.5s						
SKR				smax			
	comp=Z,50nm,0.5s						
PET	**Petropavlovsk**	**5.42**	**26**	*e*PN		**Pn**	**21 47 33.6 +2.3**
PET				pmax	pmax		
	comp=Z,9.0nm,0.6s						
PET				MLR	MLR		
	comp=Z,100nm,17.0s						
YSS	**Yuzh-Sakhalins**	**8.22**	**266**	*e*PN		**Pn**	**21 48 04.2 -5.6**
ASAJ	**Asahikawa**	**9.39**	**249**	PN		**Pn**	**21 48 30.8 +5.1**
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ASAJ	**Asahikawa**	**9.39**	**249**	Pn		**Pn**	**21 48 30.8 +5.0**
	comp=Z,1.5nm,0.3s,baz=69,slow=17,SNR=12						
MJAR	**Matsushiro Arr**	**16.86**	**232**	Pn		**Pn**	**21 50 04.8 -1.6**
	comp=Z,0.2nm,0.3s,baz=28,slow=14,SNR=3.4						
KSRS	**Korea Array**	**22.32**	**251**	P		**P**	**21 51 09.2 +1.4**
	comp=Z,1.5nm,0.5s,mb3.7,baz=46,slow=11,SNR=23						
MK31	**Makanchi Array**	**47.28**	**297**	*e*P		**P**	**21 54 43.1 -0.2**
MKAR	**Makanchi Array**	**47.28**	**297**	P		**P**	**21 54 43.3 0.0**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
MKAR	**Makanchi Array**	**47.28**	**297**	P		**P**	**21 54 43.4 +0.1**
	comp=Z,0.9nm,0.6s,mb3.9,baz=68,slow=8.0,SNR=11						
KURK	**Kurchatov**	**47.50**	**303**	*e*P		**P**	**21 54 44.7 -0.2**
	comp=Z,2.6nm,0.6s,mb4.4						
KURK	**Kurchatov**	**47.50**	**303**	*e*P		**P**	**21 54 44.7 -0.3**
KURK				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.5						
YKA	**Yellowknife Ar**	**49.08**	**38**	P		**P**	**21 54 56.5 -0.4**
	comp=Z,0.1nm,0.5s,mb3.1,baz=298,slow=9.1,SNR=4.1						
FINES	**FINESS Array B**	**63.20**	**335**	P		**P**	**21 56 38.2 +0.5**
FINES	**FINESS Array B**	**63.20**	**335**	P		**P**	**21 56 38.2 +0.5**
	comp=Z,0.8nm,0.8s,mb3.9,baz=41,slow=8.3,SNR=8.4						
NOA	**NORSAR Array B**	**67.21**	**342**	P		**P**	**21 57 04.0 +0.3**
	comp=Z,0.2nm,0.3s,mb3.6,baz=28,slow=6.6,SNR=2.6						
AKASG	**Malin Array Be**	**70.95**	**327**	P		**P**	**21 57 26.8 -0.4**
	comp=Z,0.3nm,0.4s,mb3.5,baz=35,slow=5.2,SNR=4.2						
GERES	**GERESS Array B**	**77.63**	**335**	P		**P**	**21 58 06.6 +0.5**
	comp=Z,0.5nm,0.5s,mb3.7,baz=28,slow=6.0,SNR=6.3						

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*ISCJB **30** 21:57:25.3±1.1, 38.55N±0.07×72.38E±0.10, h96km±12km, mb3.3/3, Error ellipse: s-maj=14.2km s-min=10.2km az=36.7*
*NEIC **30** 21:57:26.1±1.0, 38.53N×72.39E, h93km±11km, Error ellipse: s-maj=18.3km s-min=10.5km az=122.0*
*IDC **30** 21:57:27.8±6.8, 38.63N×72.46E, h100km±47km, mb3.2/3, mb1 3.3/8, mb1mx3.2/24, mbtmp3.3/8, Error ellipse: s-maj=55.2km s-min=29.7km az=7.0*
*NNC **30** 21:57:30.0±9.0, 39.03N×72.46E, h0km, mb3.8, mpv3.3, Error ellipse: s-maj=73.7km s-min=43.3km az=7.0*
ISC 30 21:57:26.6±1.0, 38.54N±007×72.4E±01, h95km±11km, n20, σ0994/23, mb3.3/3, 2C-3D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**3.72**	**15**	*e*P		**Pn**	**21 58 22.3 +0.4**
UCH	**Uchtor**	**4.03**	**23**	*e*P		**Pn**	**21 58 26.4 +0.4**
EKS2	**Erkin-Say**	**4.25**	**14**	*e*P		**Pn**	**21 58 30.1 +1.0**
AAK	**Ala-Archa**	**4.39**	**21**	*e*P		**Pn**	**21 58 29.9 -1.1**
AAK	**Ala-Archa**	**4.39**	**21**	P		**Pn**	**21 58 30.9 -0.1**
	1.2nm,0.3s,baz=175,slow=7.7,SNR=14						
AAK				S		**Sn**	**21 59 20.9 0.0**
	2.2nm,0.3s,baz=60,slow=21,SNR=28						
KK31	**Karatay Array**	**4.77**	**343**	⇑P		**Pn**	**21 58 36.1 0.0**
	1.4nm,0.3s,baz=146,slow=11,SNR=98						
KK31				⇓S		**Sn**	**21 59 29.5 -0.7**
	6.4nm,0.3s,baz=169,slow=24						
KBL	**Kabul**	**4.81**	**215**	*e*P		**Pn**	**21 58 35.9 -0.8**
TKM2	**Tokmak 2**	**5.01**	**28**	⇓P		**Pn**	**21 58 41.2 +1.9**
	4.4nm,0.6s						
TKM2				⇑S		**Sn**	**21 59 35.8 -0.2**
	7.0nm,1.0s						
MK31	**Makanchi Array**	**11.01**	**38**	P		**Pn**	**22 00 00.6 -0.2**
	1.4nm,0.7s,baz=222,slow=14,SNR=6.6						
MKAR	**Makanchi Array**	**11.01**	**38**	P		**Pn**	**22 00 00.9 +0.1**
	0.2nm,0.3s,baz=224,slow=15,SNR=14						
BVAR	**Borovoye Array**	**14.55**	**355**	P		**Pn**	**22 00 46.0 -1.6**
	0.1nm,0.3s,baz=179,slow=11,SNR=3.1						
BRVK	**Borovoye**	**14.59**	**355**	P		**Pn**	**22 00 46.4 -1.7**
ZRNK	**Zerenda**	**14.60**	**352**	⇓P		**Pn**	**22 00 52.1 +3.9**
	1.6nm,0.6s						
AKTK	**Aktyubinsk**	**15.66**	**324**	P		**Pn**	**22 01 02.8 +1.1**
AKTO	**Aktyubinsk**	**15.66**	**324**	P		**Pn**	**22 01 02.8 +1.1**
	0.5nm,0.3s,baz=126,slow=9.6,SNR=12						
ZALV	**Zalesovo Beam**	**17.61**	**25**	P		**Pn**	**22 01 24.1 -1.5**
	0.5nm,0.3s,baz=217,slow=12,SNR=12						
SONM	**Songino Array**	**26.30**	**58**	P		**P**	**22 02 53.3 +0.2**
	0.3nm,0.7s,mb2.8,baz=256,slow=7.4,SNR=3.1						
FINES	**FINESS Array B**	**36.44**	**324**	P		**P**	**22 04 22.3 +0.5**
FINES	**FINESS Array B**	**36.44**	**324**	P		**P**	**22 04 22.3 +0.6**
	1.4nm,0.8s,mb3.9,baz=111,slow=11,SNR=4.0						
YKA	**Yellowknife Ar**	**79.15**	**3**	P		**P**	**22 09 20.6 +0.3**
	0.2nm,0.5s,mb3.2,baz=348,slow=5.4,SNR=5.5						

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*ISCJB **30** 21:57:32.0±0.2, 38.72N±001×119.62W±001, h10km, Error ellipse: s-maj=1.7km s-min=1.6km az=43.9*
*NEIC **30** 21:57:31.7, 38.72N×119.62W, h12km, ML3.5(NCEDC), ML3.4(REN), After REN.*
ISC 30 21:57:32.2±0.2, 38.72N±001×119.64W±001, h10km, n84, σ1910/132, 58C-60D, California-Nevada border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
R06C	**Coleville**	**0.24**	**143**	⇑P		**Pg**	**21 57 36.4 -0.7**
	baz=0.2,SNR=917						
R06C				⇑S		**Sg**	**21 57 40.4 -0.1**
	baz=0.2						
R05C	**Kirkwood Meado**	**0.34**	**268**	⇑P		**Pg**	**21 57 38.5 -0.4**
	baz=0.4,SNR=817						
WCN	**Washoe City**	**0.59**	**351**	⇑P		**Pg**	**21 57 42.7 -0.9**
	baz=0.6						
WCN				⇑S		**Sg**	**21 57 51.4 0.0**
	baz=0.6						
Q07A	**Schurz**	**0.69**	**71**	⇑P		**Pg**	**21 57 44.4 -1.0**
	baz=0.7,SNR=53						
Q07A				⇓S		**Sg**	**21 57 53.9 -0.5**
	baz=0.7						
R07C	**Lee Vining**	**0.78**	**143**	⇑P		**Pg**	**21 57 46.6 -0.7**
	baz=0.8,SNR=128						
R07C				⇑S		**Sg**	**21 57 57.2 -0.2**
	baz=0.8						
LAVA	**Lava Cap Winer**	**0.86**	**273**	⇑P		**Pg**	**21 57 48.0 -0.8**
	baz=0.9,SNR=67						
LAVA				⇑S		**Sg**	**21 57 59.7 -0.3**
	baz=0.9						
CMB	**Columbia Colle**	**0.90**	**221**	*e*P		**Pg**	**21 57 48.2 -1.3**
CMB				*e*S		**Sg**	**21 57 59.9 -1.3**
CMB	**Columbia Colle**	**0.90**	**221**	⇓P		**Pg**	**21 57 48.3 -1.2**
	baz=0.9,SNR=321						
CMB				⇓S		**Sg**	**21 58 00.4 -0.8**
	baz=0.9						
P05C	**Yuba Gap, Truc**	**0.95**	**308**	⇓P		**Pg**	**21 57 49.5 -1.0**
	baz=1.0,SNR=41						
P05C				⇓S		**Sg**	**21 58 01.9 -1.1**
	baz=1.0						
P06A	**Stead Airport,**	**0.98**	**348**	⇑P		**Pg**	**21 57 50.3 -0.7**
	baz=1.0,SNR=11						
P06A				⇑S		**Sg**	**21 58 03.9 +0.1**
	baz=1.0						
P07A	**Fallon**	**1.01**	**35**	⇑P		**Pg**	**21 57 50.7 -0.9**
	baz=1.0,SNR=7.1						
P07A				⇑S		**Sg**	**21 58 04.7 0.0**
	baz=1.0						
PAHR	**Pah Rah Range**	**1.01**	**11**	*e*P		**Pg**	**21 57 50.5 -1.1**
PAHR				*e*S		**Sg**	**21 58 04.2 -0.5**
R04C	**Big Horse Ranc**	**1.12**	**246**	⇑P		**Pb**	**21 57 52.7 -0.9**
	baz=1.1,SNR=106						
R04C				⇑S		**Sb**	**21 58 07.9 -0.3**
	baz=1.1						
MLAC	**Mammoth Lakes**	**1.26**	**150**	⇑P		**Pn**	**21 57 54.9 -0.9**
	baz=1.3						
R08A	**Mina**	**1.26**	**107**	⇑P		**Pn**	**21 57 54.4 -1.4**
	baz=1.2,SNR=96						
R08A				⇑S		**Sb**	**21 58 12.1 0.0**
	baz=1.2						
BEKR	**Beckwourth**	**1.28**	**334**	⇑P		**Pn**	**21 57 55.3 -0.7**
	baz=1.3,SNR=243						
BEKR				⇑S		**Sb**	**21 58 12.6 -0.1**
	baz=1.3						
Q08A	**Gabbs**	**1.34**	**83**	⇑P		**Pn**	**21 57 56.0 -1.0**
	baz=1.3,SNR=33						
Q08A				⇑S		**Sb**	**21 58 14.1 -0.5**
	baz=1.3						
Q04C	**Lincoln**	**1.36**	**276**	⇑P		**Pn**	**21 57 57.1 -0.2**
	baz=1.4,SNR=89						
Q04C				⇑S		**Sb**	**21 58 15.7 +0.4**
	baz=1.4						
KCC	**Kaiser Creek**	**1.42**	**170**	P		**Pn**	**21 57 57.8 -0.2**
	baz=1.4,SNR=62						
KCC				⇓S		**Sn**	**21 58 16.1 -0.5**
	baz=1.4						
O06A	**Flanigan**	**1.45**	**354**	⇓P		**Pn**	**21 57 57.8 -0.7**
	baz=1.5,SNR=7.0						
S05C	**Merced**	**1.47**	**202**	⇓P		**Pn**	**21 57 58.7 -0.1**
	baz=1.5,SNR=62						
S05C				⇓S		**Sn**	**21 58 18.7 +0.6**
	baz=1.5						
OHCM	**Honcut**	**1.56**	**294**	*e*P		**Pn**	**21 57 59.8 -0.3**
O05C	**Quincy**	**1.59**	**322**	⇑P		**Pn**	**21 58 00.7 +0.4**
	baz=1.6,SNR=19						
O05C				⇑S		**Sn**	**21 58 22.0 +1.0**
	baz=1.6						
MTUM	**Tungsten Hills**	**1.60**	**148**	*e*P		**Pn**	**21 58 00.7 +0.2**
ORV	**Oroville**	**1.67**	**301**	⇑P		**Pn**	**21 58 01.6 +0.1**
	baz=1.7,SNR=15						
ORV				⇓S		**Sn**	**21 58 23.5 +0.5**
	baz=1.7						
S08C	**White Mtn Res**	**1.68**	**136**	⇓P		**Pn**	**21 58 01.6 0.0**
	baz=1.7,SNR=79						
S08C				⇑S		**Sn**	**21 58 24.5 +1.4**
	baz=1.7						
T06C	**Milleton Lake**	**1.71**	**182**	⇓Pb		**Pb**	**21 58 02.7 -0.9**

baz=1.9,SNR=26
Q09A ⇓Sn **Sn** **21 58 30.3 +1.1**
baz=1.9
O04C Chester 1.95 325 ⇓Pb **Pb** **21 58 07.4 -0.5**
baz=2.0,SNR=20
O04C ⇑Sb **Sb** **21 58 33.7 +1.5**
baz=2.0
T05C Eagle Field, D 2.00 205 ⇑Sb **Sb** **21 58 35.6 +2.1**
baz=2.0
WENL Wente Brothers 2.00 237 ⇓Pn **Pn** **21 58 05.5 -0.4**
baz=2.0,SNR=10
WENL ⇑Pb **Pb** **21 58 07.9 -0.6**
baz=2.0
TIN Tinemaha 2.00 146 ⇑Sb **Sb** **21 58 35.5 +1.9**
baz=2.0
N06A Buffalo Meadow 2.03 356 ⇓Pn **Pn** **21 58 05.7 -0.8**
baz=2.0,SNR=55
R09A Tonopah 2.07 103 ⇑Pn **Pn** **21 58 06.0 -1.0**
baz=2.1,SNR=34
R09A ⇓Sb **Sb** **21 58 36.8 +1.2**
baz=2.1
ELFS Eagle Lake Fie 2.08 336 ⇑Pn **Pn** **21 58 06.6 -0.5**
baz=2.1,SNR=9.0
HELL Mitchell Peak 2.09 166 ⇓Pb **Pb** **21 58 09.9 -0.3**
baz=2.1,SNR=138
P09A Austin 2.12 66 ⇓Pn **Pn** **21 58 06.3 -1.2**
baz=2.1,SNR=9.1
P09A ⇑Sb **Sb** **21 58 37.8 +0.9**
baz=2.1
N07B Gerlach 2.12 14 ⇓Pn **Pn** **21 58 06.9 -0.8**
baz=2.1,SNR=41
N07B ⇓Sb **Sb** **21 58 38.8 +1.7**
baz=2.1
S09A Goldfield 2.15 117 ⇑Pn **Pn** **21 58 07.2 -0.8**
baz=2.1
S09A ⇑Pb **Pb** **21 58 10.1 -1.0**
baz=2.1,SNR=17
S09A ⇓Sb **Sb** **21 58 38.9 +1.2**
baz=2.1
PACP Pacheco Peak 2.15 218 ⇑Sb **Sb** **21 58 38.9 +1.0**
baz=2.2
MNRC McLaughlin Nat 2.20 275 ⇓Pb **Pb** **21 58 10.3 -1.7**
baz=2.2,SNR=84
O03C Acorn Hollow, 2.25 305 ⇑Sb **Sb** **21 58 42.7 +1.9**
baz=2.3
NSHM Saint Helena R 2.33 266 *eP* **Pn** **21 58 11.6 +1.0**
N08A GE Springer Mi 2.37 29 ⇓Pn **Pn** **21 58 09.7 -1.3**
baz=2.4,SNR=26
N08A ⇓Sb **Sb** **21 58 45.2 +1.2**
baz=2.4
O09A Fish Creek Ran 2.39 52 ⇑Sb **Sb** **21 58 46.2 +1.5**
baz=2.4
GRAC Grapevine Rang 2.48 133 ⇓Sb **Sb** **21 58 51.0 +3.6**
baz=2.5
U04C Hernandez Rese 2.52 201 ⇑Pn **Pn** **21 58 14.4 +1.2**
baz=2.5,SNR=71
U04C ⇓Sb **Sb** **21 58 50.0 +1.5**
baz=2.5
S10A Tonopah Range, 2.52 107 ⇓Pn **Pn** **21 58 12.3 -0.9**
baz=2.5,SNR=11
S10A ⇑Pb **Pb** **21 58 16.3 -1.2**
baz=2.5
HATC Hat Creek Radi 2.52 327 ⇓Sb **Sb** **21 58 51.8 +3.2**
baz=2.5
Q10A Clear Creek Ra 2.53 87 ⇑Pn **Pn** **21 58 12.6 -0.7**
baz=2.5,SNR=12
M06C Likely Place G 2.57 346 ⇓Pb **Pb** **21 58 18.1 -0.2**
baz=2.6
P10A Eureka 2.63 69 ⇓Pn **Pn** **21 58 13.7 -0.9**
baz=2.6
P10A ⇑Pb **Pb** **21 58 18.2 -1.1**
baz=2.6
P10A ⇓Sb **Sb** **21 58 54.0 +2.3**
baz=2.6
R10A Warm Springs 2.65 98 ⇓Pb **Pb** **21 58 18.2 -1.6**
baz=2.6
R10A ⇓Sb **Sb** **21 58 54.7 +2.3**
baz=2.6
N09A Rock Creek Ran 2.68 37 ⇑Pn **Pn** **21 58 14.5 -0.9**
baz=2.7
N09A ⇓Sb **Sb** **21 58 55.0 +1.8**
baz=2.7
M07A Soldier Meadow 2.69 8 ⇑Pb **Pb** **21 58 19.7 -0.8**
baz=2.7
M07A ⇑Sb **Sb** **21 58 56.3 +2.8**
baz=2.7
HOPS Hopland 2.69 277 ⇓Pn **Pn** **21 58 16.6 +1.1**
baz=2.7,SNR=8.6
HAST Hastings Reser 2.78 214 ⇓Pn **Pn** **21 58 17.6 +1.0**
baz=2.8,SNR=14
HAST ⇓Sn **Sn** **21 58 51.4 +1.2**
baz=2.8
V05C Boulder Hill, 2.85 184 ⇓Sb **Sb** **21 59 00.0 +1.9**
baz=2.9
M05C Lookout 2.88 337 ⇓Pb **Pb** **21 58 23.7 +0.1**
baz=2.9
M05C ⇓Sb **Sb** **21 59 01.6 +2.7**
baz=2.9
O10A Cortez Mining, 2.89 56 ⇓Sb **Sb** **21 59 02.0 +2.7**
baz=2.9
M08A Happy Creek Ra 2.89 19 ⇓Sb **Sb** **21 59 01.7 +2.4**
baz=2.9
VES Vestal, Richgr 2.91 171 ⇑Pb **Pb** **21 58 23.1 -1.0**
baz=2.9
WDC Whiskeytown Da 2.91 311 *eP* **Pn** **21 58 15.4 -3.1**
WDC *eS* **Sn** **21 58 58.3 +4.7**
Q11A Duckwater 3.12 86 ⇓Pn **Pn** **21 58 20.7 -0.7**
baz=3.1,SNR=66
KIPM Iron Peak 3.17 291 *eP* **Pn** **21 58 26.2 +4.1**
ISA Isabella 3.19 163 ⇓Sb **Sb** **21 59 09.8 +2.0**
baz=3.2
R11A Troy Canyon, C 3.20 95 ⇑Pn **Pn** **21 58 20.9 -1.6**
baz=3.2,SNR=8.1
R11A ⇑Pb **Pb** **21 58 28.3 -0.8**
baz=3.2
TPNV Topopah Spring 3.21 122 *eP* **Pn** **21 58 22.8 +0.1**
MOD Modoc 3.22 351 *ePn* **Pn** **21 58 24.9 +2.1**
V04C Ramage Ranch, 3.23 198 ⇓Sb **Sb** **21 59 12.1 +3.1**
baz=3.2
L05A Lakeview 3.45 345 ⇓Pb **Pb** **21 58 33.8 +0.5**
baz=3.5
M10A I.L. Ranch, Tu 3.67 39 ⇓Pn **Pn** **21 58 28.4 -0.6**
baz=3.7
M10A ⇓Pg **Pg** **21 58 40.9 -1.7**
baz=3.7
P12A McGill 3.76 77 ⇓Sn **Sn** **21 59 14.9 +0.4**
baz=3.7
Q12A Willow Creek R 3.77 84 ⇓Pn **Pn** **21 58 29.9 -0.4**
baz=3.7
Q12A ⇑Sn **Sn** **21 59 15.1 +0.4**
baz=3.7
K07A Rock Creek Ran 3.98 4 ⇑Pg **Pg** **21 58 44.3 -4.1**
baz=4.0
O12A Currie 4.09 66 ⇓Pn **Pn** **21 58 33.9 -0.8**
baz=4.1,SNR=25
N12A Clover Valley, 4.14 58 ⇓Pn **Pn** **21 58 34.8 -0.6**
baz=4.1,SNR=16
N12A ⇓Sb **Sb** **21 59 39.6 +4.5**
baz=4.1
P13A Bates Ranch, G 4.44 79 ⇓Pn **Pn** **21 58 39.3 -0.2**
baz=4.4,SNR=7.7
K10A MacKenzie Ranc 4.57 27 ⇓Sn **Sn** **21 59 35.5 +1.1**
baz=4.6
HUMO Hull Mountain 4.63 328 *eP* **Pn** **21 58 45.0 +2.8**

NEIC ***30*** *22:01:50.9±1.5, 781S×12803E, h58km±17km, mb4.3/4, Error ellipse: s-maj=21.5km s-min=8.7km az=224.0*
ISCJB ***30*** *22:01:51.2±2.0, 795S±007×12799E±008, h83km±20km, mb4.2/7, Error ellipse: s-maj=16.3km s-min=7.2km az=137.1*
IDC ***30*** *22:01:51.8±5.5, 790S×12803E, h65km±61km, mb3.5/2, mb1 3.7/6, mb1mx3.5/15, mbtmp3.5/6, ML3.7/4, MS3.3/1, Ms1 3.3/1, ms1mx2.8/16, Error ellipse: s-maj=43.6km s-min=20.0km az=31.0*
ISC 30 22:01:51.5±1.6, 789S±008×12806E±007, h65km±17km, n20, σ0§92/24, mb4.2/7, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Kupang**	**4.91**	**242**	P	**Pn**	**22 03 02.1**	**-0.7**
	6.6nm,0.3s,baz=146,slow=4.4,SNR=9.6						
BATI				S	**Sn**	**22 03 59.3**	**+0.9**
	2.9nm,0.3s,baz=246,slow=23,SNR=3.9						
FITZ	**Fitzroy Crossi**	**10.42**	**193**	P	**Pn**	**22 04 17.9**	**-0.3**
	0.3nm,0.3s,baz=33,slow=17,SNR=8.3						
FITZ				S	**Sn**	**22 06 12.9**	**-0.5**
	0.4nm,0.3s,baz=110,slow=23,SNR=4.8						
WRAB	**Tennant Creek**	**13.44**	**154**	*e*Pn	**Pn**	**22 05 00.2**	**+1.0**
	4.3nm,0.8s						
WRAB				*e*Sn	**Sn**	**22 07 23.3**	**-3.7**
WRA	**Warramunga Arr**	**13.44**	**154**	P	**Pn**	**22 04 59.4**	**0.0**
	0.3nm,0.3s,baz=327,slow=14,SNR=24						
WRA				S	**Sn**	**22 07 26.7**	**-0.3**
	0.6nm,0.3s,baz=336,slow=22,SNR=7.4						
WB2	**Warramunga Arr**	**13.45**	**154**	*e*Pn	**Pn**	**22 05 00.2**	**+0.8**
WB2				*e*Sn	**Sn**	**22 07 25.8**	**-1.4**
ASAR	**Alice Springs**	**16.66**	**161**	P	**Pn**	**22 05 42.8**	**+2.0**
	0.2nm,0.3s,baz=334,slow=10,SNR=18						
ASAR				S	**S**	**22 08 46.6**	**-6.3**
	0.3nm,0.3s,baz=324,slow=19,SNR=4.9						
KKM	**Kota Kinabalu**	**18.20**	**319**	Pn	**Pn**	**22 05 59.3**	**-0.4**
KSM	**Kuching**	**20.00**	**297**	P	**P**	**22 06 17.6**	**-1.3**
CTA	**Charters Tower**	**21.39**	**126**	LR	LR	22 14 27.5	
	comp=Z,80nm,20.4s,baz=232,slow=35						
STKA	**Stephens Creek**	**26.99**	**154**	P	**P**	**22 07 27.9**	**+0.7**
HNR	**Honiara**	**31.56**	**95**	P	**P**	**22 08 08.2**	**+0.2**
LSA	**Lhasa**	**51.54**	**318**	*e*P	**P**	**22 10 50.7**	**-0.2**
	6.0nm,1.8s,mb4.3						
SONM	**Songino Array**	**58.70**	**343**	P	**P**	**22 11 42.8**	**+0.6**
	0.8nm,0.6s,mb3.9,baz=164,slow=6.7,SNR=8.9						
MKAR	**Makanchi Array**	**67.93**	**328**	P	**P**	**22 12 43.6**	**+0.3**
	0.6nm,0.5s,mb3.6,baz=126,slow=7.7,SNR=9.4						
UCH	**Uchtor**	**69.76**	**320**	*e*P	**P**	**22 12 55.3**	**+0.5**
	0.5nm,0.4s,mb3.7						
KURK	**Kurchatov**	**72.28**	**330**	P	**P**	**22 13 09.9**	**+0.1**
BRVK	**Borovoye**	**77.87**	**329**	*e*P	**P**	**22 13 40.5**	**-1.5**
	1.4nm,0.6s,mb3.9						
KIV	**Kislovodsk**	**92.09**	**314**	*e*P	**P**	**22 14 55.0**	**+1.4**
	4.5nm,0.9s,mb4.7						
PMR	**Palmer**	**93.47**	**28**	P	**P**	**22 14 58.4**	**-1.2**
	8.9nm,0.8s,mb5.2						
STOK	**Stokkvaagen**	**107.10**	**338**	*i* P	Pdif	22 16 02.9	+1.9

BJI ***30*** *22:31:17.7, 1258N×14279E, h124km, mB5.1, mb5.3*
ISCJB ***30*** *22:31:17.6±0.6, 1259N±003×14265E±004, h116km±6km, mb5.1/99, Error ellipse: s-maj=6.3km s-min=5.1km az=13.5*
NEIC ***30*** *22:31:18.9±1.0, 1260N×14264E, h113km±9km, mb5.0/29, Error ellipse: s-maj=6.9km s-min=5.0km az=82.0*
IDC ***30*** *22:31:18.2±1.2, 1262N×14263E, h105km±11km, mb4.6/22, mb1 4.6/23, mb1mx4.6/26, mbtmp4.6/23, MS3.8/17, Ms1 3.8/17, ms1mx3.7/27, Error ellipse: s-maj=12.9km s-min=8.4km az=87.0*
MOS ***30*** *22:31:18.4±1.1, 1261N×14264E, h125km, mb5.0/26, Error ellipse: s-maj=12.0km s-min=6.4km az=109.4*
GCMT ***30*** *22:31:19.0±0.2, 1253N×14262E, h106km±2km, MW5.1/84, Moment Tensor Solution. s62,c85; s84,c148; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.37±.15; $M_{\theta\theta}$-0.19±.13; $M_{\phi\phi}$0.56±.16; $M_{r\theta}$-1.20±.08; $M_{\theta\phi}$-0.74±.13; $M_{\phi r}$-5.27±.09; Best double couple: $M_0$5.47600×10^{16} NP1:ϕ_s113.00000°, δ9.00000°, λ-170.00000°. NP2: ϕ_s12.00000°, δ88.00000°, λ-81.00000°. Principal axes: T 5.4000, Plg43.0000°, Azm94.0000°; N 0.1520, Plg9.0000°, Azm192.0000°; P -5.5520, Plg46.0000°, Azm291.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 30 22:31:19.6±0.6, 1260N±003×14270E±004, h120km±6km, h115km±3.4km:pP-P,n239,σ0§97/251, mb5.1/99, 14C-21D, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**2.34**	**65**	*e*Pn	**Pn**	**22 31 56.8**	**-0.5**
GUMO				*e*Sn	**Sn**	**22 32 25.9**	**-0.4**
GUMO	**Guam**	**2.34**	**65**	P	**Pn**	**22 31 56.9**	**-0.4**
	126nm,0.3s,baz=210,slow=5.2,SNR=28						
GUMO				S	**Sn**	**22 32 25.1**	**-1.2**
	972nm,0.3s,baz=27,slow=22,SNR=31						
CBIJ	**Chichi jima**	**14.44**	**358**	P	**Pn**	**22 34 40.6**	**+2.3**
	8.3nm,0.3s,baz=162,slow=14,SNR=5.4						
CBIJ				LR	LR	22 39 34.4	
	comp=Z,145nm,21.3s,baz=123,slow=34						
JOW	**Kunigami**	**19.59**	**318**	P	**P**	**22 35 40.3**	**+1.9**
	14nm,0.3s,baz=151,slow=11,SNR=24						
JOW				LR	LR	22 42 15.9	
	comp=Z,172nm,18.5s,baz=152,slow=34						
JHJ	**Hachijo jima 2**	**20.60**	**353**	P	**P**	**22 35 49.5**	**+0.3**
	96nm,0.8s,baz=180,slow=12,SNR=4.1						
JHJ				LR	LR	22 44 11.5	
	comp=Z,146nm,18.0s,baz=154,slow=38						
NACB	**Ninganchiao**	**23.06**	**303**	*e*P	**P**	**22 36 13.9**	**-0.9**
JNU	**Nakatsue**	**23.11**	**334**	P	**P**	**22 36 15.3**	**+0.2**
	130nm,0.7s,mb5.4,baz=113,slow=7.7,SNR=64						
JNU				LR	LR	22 43 38.8	
	comp=Z,96nm,20.9s,baz=287,slow=32						
YHNB	**Yeheng**	**23.46**	**304**	*e*P	**P**	**22 36 18.1**	**-0.4**
TATO	**Taipei**	**23.51**	**305**	*e*P	**P**	**22 36 17.1**	**-1.8**
	144nm,1.0s,mb5.3						
MJAR	**Matsushiro Arr**	**24.18**	**351**	P	**P**	**22 36 23.4**	**-1.5**
	13nm,0.8s,mb4.3,baz=156,slow=10,SNR=29						
MJAR				ScP	ScP	22 43 30.6	+0.4
	1.8nm,0.8s,baz=189,slow=4.1,SNR=4.7						
MJAR				LR	LR	22 45 19.3	
	comp=Z,133nm,19.5s,baz=170,slow=35						
MAJO	**Matsushiro**	**24.18**	**351**	*e*P	**P**	**22 36 23.5**	**-1.4**
MAT	**Matsushiro**	**24.18**	**351**	P	**P**	**22 36 22.8**	**-2.1**
MAT				S	**S**	**22 40 28.0**	**-6.5**
MYLDM	**Lahad Datu**	**25.00**	**255**	⇑P	**P**	**22 36 33.8**	**+1.3**
QZH	**Quanzhou**	**25.86**	**302**	⇑*i*P	**P**	**22 36 39.5**	**-0.8**
QZH				AMB	AMB		
	comp=Z,140nm,1.2s,mb5.3						
TSM	**Tawau**	**25.88**	**254**	⇑P	**P**	**22 36 41.1**	**+0.6**
SDKM	**Sandakan**	**26.09**	**257**	⇓P	**P**	**22 36 43.3**	**+0.8**
COEN	**Coen**	**26.38**	**179**	*e*P	**P**	**22 36 42.4**	**-2.5**
	comp=Z,14nm,1.1s,mb4.3						
KKM	**Kota Kinabalu**	**26.91**	**258**	⇓P	**P**	**22 36 49.5**	**-0.4**
SSE	**Sheshan**	**27.07**	**316**	P	**P**	**22 36 50.8**	**-0.2**
SSE				S	**S**	**22 41 19.5**	**-0.7**
SSE				AMB	AMB		
	comp=Z,36nm,1.1s,mb4.8						
SSE				AMB	AMB		
	comp=Z,95nm,4.2s						
SSE				LR	LR		
	comp=N,44nm,15.9s						
SSE				LR	LR		
	comp=E,210nm,15.9s						
SSE				LR	LR		
	comp=Z,283nm,18.1s						
KAKA	**Kakadu**	**27.12**	**202**	*e*P	**P**	**22 36 51.1**	**-0.5**
	comp=Z,9.2nm,0.8s,mb4.4						
KSRS	**Korea Array**	**28.06**	**334**	P	**P**	**22 36 59.2**	**-0.6**
	comp=Z,18nm,1.1s,mb4.5,baz=150,slow=9.7,SNR=31						
KSRS				PcP	PcP	22 40 12.3	+0.8
	comp=Z,0.3nm,0.4s,baz=141,slow=1.2,SNR=4.2						
NJ2	**Nanjing**	**29.23**	**315**	*e*P	**P**	**22 37 13.3**	**+3.1**
NJ2				AMB	AMB		
	comp=Z,40nm,1.0s,mb5.0						
BATI	**Kupang**	**29.50**	**221**	P	**P**	**22 37 11.1**	**-1.7**
	comp=Z,52nm,0.8s,mb5.2,baz=48,slow=0.9,SNR=13						
GZH	**Guangzhou**	**29.77**	**295**	P	**P**	**22 37 14.8**	**-0.3**
GZH				S	**S**	**22 41 56.5**	**-6.4**
GZH				LR	LR		
	comp=N,158nm,19.4s						
GZH				LR	LR		
	comp=E,322nm,20.3s						
GZH				LR	LR		
	comp=Z,510nm,17.3s						
BTM	**Bintulu**	**30.75**	**255**	⇓P	**P**	**22 37 24.0**	**+0.2**
WHN	**Wuhan**	**31.70**	**309**	⇓P	**P**	**22 37 32.5**	**+0.5**
WHN				AMB	AMB		
	comp=Z,322nm,0.9s,mb6.0						
WHN				LR	LR		
	comp=Z,1μm,21.1s						
SBUM	**Sibu**	**31.81**	**254**	⇑P	**P**	**22 37 33.6**	**+0.4**
DL2	**Dalian**	**32.19**	**328**	P	**P**	**22 37 36.8**	**+0.6**
DL2				AMB	AMB		
	comp=Z,40nm,1.1s,mb5.1						
QIZ	**Qiongzhong**	**32.21**	**286**	P	**P**	**22 37 35.5**	**-1.2**
QIZ				PP	PP	22 38 47.5	-4.2
QIZ				S	**S**	**22 42 41.3**	**+0.1**
QIZ				AMB	AMB		
	comp=Z,54nm,1.2s,mb5.2						
QIZ				AMB	AMB		
	comp=Z,107nm,3.8s						
QIZ				LR	LR		
	comp=E,268nm,25.1s						
QIZ				LR	LR		
	comp=Z,451nm,30.3s						
QIZ	**Qiongzhong**	**32.21**	**286**	*e*P	**P**	**22 37 36.8**	**+0.1**
	comp=Z,53nm,1.0s,mb5.2						
CTA	**Charters Tower**	**32.66**	**174**	*e*P	**P**	**22 37 38.6**	**-1.9**
	comp=Z,18nm,0.9s,mb4.9						
CTA	**Charters Tower**	**32.66**	**174**	*e*P	**P**	**22 37 38.6**	**-1.9**
CTA				pmax	pmax		
	comp=Z,18nm,0.9s						
CTA	**Charters Tower**	**32.66**	**174**	P	**P**	**22 37 39.4**	**-1.1**
	comp=Z,23nm,0.9s,mb5.0,baz=348,slow=9.6,SNR=25						
CTA				LR	LR	22 48 42.2	
	comp=Z,139nm,21.5s,baz=15,slow=32						
CTAO	**Charters Tower**	**32.66**	**174**	*e*P	**P**	**22 37 39.6**	**-0.9**
	comp=Z,33nm,1.0s,mb5.1						
CTAO	**Charters Tower**	**32.66**	**174**	*e*P	**P**	**22 37 39.6**	**-0.9**
CTAO				pmax	pmax		
	comp=Z,33nm,1.0s,mb5.1						
WRAB	**Tennant Creek**	**33.35**	**194**	P	**P**	**22 37 47.0**	**+0.5**
	comp=Z,99nm,0.8s,mb5.7,SNR=18						
WRAB	**Tennant Creek**	**33.35**	**194**	*e*P	**P**	**22 37 46.3**	**-0.1**
	comp=Z,12nm,0.9s,mb4.7						
WRAB	**Tennant Creek**	**33.35**	**194**	*e*P	**P**	**22 37 46.3**	**-0.2**
WRAB				pmax	pmax		
	comp=Z,13nm,0.9s,mb4.8						
WB2	**Warramunga Arr**	**33.36**	**194**	⇓*i*P	**P**	**22 37 47.0**	**+0.5**
WRA	**Warramunga Arr**	**33.36**	**194**	P	**P**	**22 37 47.1**	**+0.5**
WRA				S	**S**	**22 42 58.4**	**-0.4**
WRA	**Warramunga Arr**	**33.36**	**194**	P	**P**	**22 37 47.1**	**+0.5**
	comp=Z,4.8nm,0.3s,mb4.7,baz=14,slow=9.4,SNR=82						
WRA				S	**S**	**22 42 58.4**	**-0.4**
	comp=Z,1.6nm,1.0s,baz=12,slow=16,SNR=5.6						
WRA				ScP	ScP	22 44 01.0	+1.7
	comp=Z,6.5nm,0.9s,baz=10,slow=3.6,SNR=20						
SNY	**Shenyang**	**33.56**	**334**	⇑P	**P**	**22 37 48.3**	**+0.2**
SNY				AP	pP	22 38 14.5	+0.1
SNY				S	**S**	**22 43 01.5**	**+0.1**
SNY				AMB	AMB		
	comp=Z,18nm,0.8s,mb5.0						
SNY				AMB	AMB		
	comp=Z,279nm,4.9s						
MDJ	**Mudanjiang**	**33.83**	**343**	P	**P**	**22 37 50.5**	**+0.1**
MDJ				AP	pP	22 38 15.0	-1.7
MDJ				XP	sP	22 38 28.0	-2.5
MDJ				PP	PP	22 39 09.0	-0.3
MDJ				S	**S**	**22 43 06.5**	**+1.0**
MDJ				XS	sS	22 43 49.5	-2.0
MDJ				SCP	ScP	22 44 01.3	+0.7
MDJ				PCS	PcS	22 44 13.8	+1.2
MDJ				AMB	AMB		
	comp=Z,9.0nm,1.6s,mb4.3						
MDJ				AMB	AMB		
	comp=Z,67nm,4.2s						
MDJ				LR	LR		
	comp=N,95nm,36.3s						
MDJ				LR	LR		
	comp=E,210nm,35.1s						
MDJ				LR	LR		
	comp=Z,174nm,27.2s						
MDJ	**Mudanjiang**	**33.83**	**343**	P	**P**	**22 37 50.1**	**-0.3**
	comp=Z,4.3nm,0.4s,mb4.6						
KSM	**Kuching**	**33.94**	**254**	*e*P	**P**	**22 37 50.6**	**-1.2**
KSM	**Kuching**	**33.94**	**254**	⇓P	**P**	**22 37 50.7**	**-1.0**
FITZ	**Fitzroy Crossi**	**34.84**	**209**	⇓*i*P	**P**	**22 37 58.9**	**-0.4**
	comp=Z,13nm,0.8s,mb4.8						
FITZ	**Fitzroy Crossi**	**34.84**	**209**	P	**P**	**22 37 59.0**	**-0.4**
	comp=Z,9.1nm,0.9s,mb4.6,baz=34,slow=12,SNR=14						
FITZ				PcP	PcP	22 40 30.9	+0.9
	comp=Z,5.7nm,0.8s,baz=190,slow=2.5,SNR=4.6						
BJT	**Baijiatuau**	**35.95**	**324**	*e*P	**P**	**22 38 09.1**	**+0.4**
	comp=Z,144nm,1.1s,mb5.8						
BJT	**Baijiatuau**	**35.95**	**324**	*e*P	**P**	**22 38 09.1**	**+0.5**
BJT				pmax	pmax		
	comp=Z,144nm,1.1s						
HABR	**Khabarovsk**	**36.33**	**351**	P	**P**	**22 38 11.0**	**-0.8**
HABR				*e*		22 39 38.1	
HABR				*e*		22 40 29.5	
HABR				*e*S	**S**	**22 43 37.7**	**-6.1**
GYA	**Guiyang**	**36.51**	**298**	⇑*i*P	**P**	**22 38 13.0**	**-0.6**
GYA				PP	PP	22 39 40.3	+1.2
GYA				PCP	PcP	22 40 37.3	+2.3
GYA				S	**S**	**22 43 48.0**	**+0.8**
GYA				PCS	PcS	22 44 23.8	+0.7
GYA				SS	SS	22 46 18.0	-13
GYA				AMB	AMB		
	comp=Z,20nm,0.9s,mb5.0						
GYA				AMB	AMB		
	comp=Z,120nm,5.2s						
GYA				LR	LR		
	comp=N,580nm,21.9s						
GYA				LR	LR		
	comp=E,540nm,20.8s						
GYA				LR	LR		
	comp=Z,480nm,21.4s						
TIY	**Taiyuan**	**36.80**	**318**	*i* P	**P**	**22 38 16.3**	**+0.3**
TIY				S	**S**	**22 43 45.8**	**-5.5**
TIY				AMB	AMB		
	comp=Z,294nm,4.5s						
TIY				LR	LR		
	comp=N,237nm,7.9s						
TIY				LR	LR		
	comp=E,223nm,5.2s						
TIY				LR	LR		
	comp=Z,162nm,5.5s						
ASAR	**Alice Springs**	**37.05**	**193**	P	**P**	**22 38 19.7**	**+1.6**
ASAR						22 40 37.4	
ASAR				S	**S**	**22 43 53.5**	**-1.7**
ASAR	**Alice Springs**	**37.05**	**193**	P	**P**	**22 38 19.6**	**+1.5**
	comp=Z,1.6nm,0.3s,mb4.4,baz=21,slow=12,SNR=33						
ASAR				PcP	PcP	22 40 37.4	+0.9
	comp=Z,2.3nm,1.0s,baz=351,slow=4.0,SNR=4.1						
ASAR				S	**S**	**22 43 53.5**	**-1.7**
	comp=Z,3.2nm,0.9s,baz=20,slow=22,SNR=11						
ASAR				ScP	ScP	22 44 14.6	+1.9
	comp=Z,3.2nm,0.9s,baz=15,slow=3.8,SNR=11						
XAN	**Xi'an**	**37.38**	**311**	P	**P**	**22 38 20.8**	**-0.1**
XAN				PPP		22 39 22.0	
XAN				S	**S**	**22 43 58.0**	**-2.3**
XAN				AMB	AMB		
	comp=Z,50nm,0.8s,mb5.5						
XAN				AMB	AMB		
	comp=Z,172nm,4.7s						
XAN				LR	LR		
	comp=E,219nm,20.0s						
XAN				LR	LR		
	comp=Z,181nm,16.4s						
KLR	**Kul'dur**	**37.63**	**348**	*e*P	**P**	**22 38 19.5**	**-3.3**
KLR				*e*S	**S**	**22 43 55.0**	**-8.6**
KLR				*e*		22 47 15.0	
KLR				pmax	pmax		
	comp=E,30nm,1.2s						
KLR				pmax	pmax		
	comp=Z,47nm,1.2s,mb5.2						
EIDS	**Eidsvold**	**38.61**	**168**	*e*P	**P**	**22 38 31.4**	**+0.2**
	comp=Z,22nm,1.1s,mb4.9						
HHC	**Hu-ho-hao-te**	**39.19**	**322**	*e*P	**P**	**22 38 36.5**	**+0.6**
HHC				AP	pP	22 38 59.3	-3.5
HHC				PP	PP	22 40 14.0	+5.8
HHC				PCP	PcP	22 40 45.8	+2.9
HHC				SCP	ScP	22 44 23.3	+2.8
HHC				PCS	PcS	22 44 34.5	+1.8
HHC				SS	SS	22 47 17.0	-8.0
HHC				SCS	ScS	22 48 34.0	+1.7
HHC				AMB	AMB		
	comp=Z,40nm,1.1s,mb5.2						
HHC				AMB	AMB		
	comp=Z,168nm,4.3s						
HHC				LR	LR		
	comp=Z,157nm,13.7s						
HHC				LR	LR		
	comp=E,121nm,15.1s						
HHC				LR	LR		
	comp=N,80nm,6.3s						
KMI	**Kunming**	**39.66**	**294**	⇓P	**P**	**22 38 41.8**	**+1.7**
KMI				PP	PP	22 40 17.8	+4.2
KMI				PPP		22 40 43.5	
KMI				PCP	PcP	22 40 47.0	+2.2
KMI				PCS	PcS	22 44 35.8	+0.7
KMI				SS	SS	22 47 27.8	-7.1
KMI				SSS		22 48 04.3	
KMI				SCS	ScS	22 48 37.0	+1.3
KMI				AMB	AMB		
	comp=Z,71nm,1.1s,mb5.4						
KMI				LR	LR		
	comp=N,208nm,15.5s						
KMI				LR	LR		
	comp=E,141nm,16.2s						

KMI LR LR
comp=Z,379nm,28.3s
KTGM Kuala Trenggan 39.70 263 ⇑P P 22 38 41.3 +0.7
MYKOM Kota Tinggi 39.94 258 ⇓P P 22 38 42.3 -0.3
BTO Baotou 39.99 320 *e*P **P 22 38 42.3 -0.3**
BTO AMB AMB
comp=Z,27nm,0.9s,mb5.1
CD2 Chengdu 40.23 303 ⇓*i*P **P 22 38 44.5 -0.3**
CD2 PP PP 22 40 22.0 +2.3
CD2 S **S 22 44 42.8 -0.4**
CD2 SS SS 22 47 38.0 -8.2
CD2 SCS ScS 22 48 39.0 0.0
CD2 AMB AMB
comp=Z,40nm,0.6s,mb5.4
CD2 AMB AMB
comp=Z,320nm,5.5s
CD2 LR LR
comp=N,260nm,14.4s
CD2 LR LR
comp=Z,280nm,13.2s
KGM Kluang 40.38 258 ⇑P P 22 38 46.3 +0.1
HIA Hailar 41.19 337 P **P 22 38 51.9 -0.4**
comp=Z,4.7nm,0.6s,mb4.5
HIA Hailar 41.19 337 P **P 22 38 51.9 -0.4**
HIA pmax pmax
comp=Z,5.0nm,0.6s
FRIM Kepong 41.67 261 ⇑P P 22 38 56.7 -0.1
IPM Ipoh 41.94 263 ⇑P P 22 38 58.9 -0.1
LZH Lanzhou 42.02 311 *e*P **P 22 39 00.3 +1.0**
LZH PP PP 22 40 41.0 +2.1
LZH *e*S **S 22 45 12.0 +2.5**
LZH SS SS 22 48 13.5 -7.8
LZH AMB AMB
comp=Z,150nm,1.2s,mb5.6
LZH AMB AMB
comp=Z,450nm,4.0s
KULM Kulim 42.12 264 *e*P **P 22 39 00.8 +0.3**
KULM Kulim 42.12 264 ⇑P P 22 39 01.3 +0.9
PET Petropavlovsk 42.30 14 *e*P **P 22 39 01.7 +0.4**
PET *e*S **S 22 45 15.7 +2.7**
PET pmax pmax
comp=Z,14nm,0.7s,mb4.8
PET pmax pmax
comp=Z,100nm,11.9s
PET MLR MLR
comp=Z,100nm,17.0s
CM31 Chiang Mai Arr 42.48 284 *e*P **P 22 39 04.2 +0.9**
CHTO Chiang Mai 42.49 284 *e*P **P 22 39 03.2 -0.1**
CHTO Chiang Mai 42.49 284 P **P 22 39 04.4 +1.1**
SNR=5.4
CHTO Chiang Mai 42.49 284 P **P 22 39 04.4 +1.1**
SNR=5.4
ARMA Armidale 43.62 169 *e*P **P 22 39 12.7 +0.5**
STKA Stephens Creek 44.23 181 *e*P **P 22 39 16.9 -0.1**
comp=Z,8.5nm,0.9s,mb4.5
STKA Stephens Creek 44.23 181 *e*P **P 22 39 16.9 -0.1**
STKA *e* pP 22 39 43.6 -0.8
STKA Stephens Creek 44.23 181 P **P 22 39 17.0 0.0**
comp=Z,9.3nm,0.8s,mb4.6,baz=345,slow=8.9,SNR=15
FORT Forrest 45.36 198 *e*P **P 22 39 27.1 +1.1**
comp=Z,39nm,0.8s,mb5.2
ULN Ulaanbaatar 46.02 327 *e*P **P 22 39 31.9 +0.8**
comp=Z,23nm,0.9s,mb4.9
ULN Ulaanbaatar 46.02 327 *e*P **P 22 39 31.9 +0.9**
ULN pmax pmax
comp=Z,23nm,0.9s,mb4.9
ULN Ulaanbaatar 46.02 327 P **P 22 39 32.3 +1.3**
SNR=16
ULN Ulaanbaatar 46.02 327 P **P 22 39 32.3 +1.3**
SNR=16
GTA Gaotai 46.27 313 ⇓*i*P **P 22 39 33.8 +0.6**
GTA AP pP 22 39 58.0 -2.8
GTA PCP PcP 22 41 07.5 +0.8
GTA PP PP 22 41 24.8 +0.9
GTA PPP 22 42 09.5
GTA SCP ScP 22 44 50.0 +0.8
GTA S **S 22 46 09.3 -1.8**
GTA SS SS 22 49 29.5 -8.5
GTA AMB AMB
comp=Z,51nm,1.1s,mb5.2
GTA AMB AMB
comp=Z,239nm,8.0s
GTA LR LR
comp=N,141nm,19.0s
GTA LR LR
comp=E,126nm,16.0s
GTA LR LR
comp=Z,247nm,16.3s
SONM Songino Array 46.35 327 P **P 22 39 34.4 +0.8**
SONM 22 41 07.0
SONM Songino Array 46.35 327 P **P 22 39 34.4 +0.8**
comp=Z,8.0nm,0.6s,mb4.6,baz=146,slow=7.4,SNR=78
SONM PcP PcP 22 41 07.0 +0.2
comp=Z,3.6nm,0.8s,baz=146,slow=6.5,SNR=3.9
SONM ScP ScP 22 44 48.8 -0.5
comp=Z,0.8nm,0.6s,baz=135,slow=5.5,SNR=3.7
SONM LR LR 22 57 18.0
comp=Z,158nm,20.2s,baz=114,slow=34
MA2 Magadan 47.28 6 *e*P **P 22 39 40.8 +0.2**
comp=Z,16nm,0.7s,mb4.9
MA2 Magadan 47.28 6 *e*P **P 22 39 40.8 +0.2**
MA2 *e* 22 41 10.3
MA2 *e*S **S 22 46 25.4 +0.7**
MA2 *e* 22 49 22.0
MA2 pmax pmax
comp=Z,30nm,0.8s,mb5.1
SHL Shillong 49.45 293 *i*P **P 22 39 58.5 +0.6**
ZAK Zakamensk 49.51 328 *e* pP 22 40 21.7 -4.2
ZAK pmax pmax
comp=Z,3.0nm,1.2s,mb4.1
TLY Talaya 50.09 329 P **P 22 40 03.7 +1.4**
comp=Z,101nm,1.1s,mb5.7,SNR=11
TLY Talaya 50.09 329 *e*P **P 22 40 2.3 0.0**
TLY Talaya 50.09 329 ⇓*i*P **P 22 40 02.8 +0.5**
TLY Talaya 50.09 329 P **P 22 40 03.1 +0.8**
SNR=10
TLY Talaya 50.09 329 P **P 22 40 03.1 +0.8**
SNR=10
BOD Bodaibo 50.11 340 ⇑*i*P **P 22 40 01.8 -0.5**
BOD pmax pmax
comp=Z,16nm,0.9s,mb5.0
IRK Irkutsk 50.12 330 *e*P **P 22 40 02.0 -0.5**
IRK pmax pmax
comp=Z,41nm,1.2s,mb5.2
YAK Yakutsk 50.24 352 *e*P **P 22 40 02.9 -0.3**
YAK Yakutsk 50.24 352 *d i*P **P 22 40 02.8 -0.5**
YAK *e* 22 41 20.7
YAK *e* 22 42 02.5
YAK *e*PPP 22 42 55.9
YAK *i*S **S 22 47 04.4 -1.8**
YAK *e* 22 49 41.8
YAK pmax pmax
comp=Z,89nm,1.0s,mb5.7
YAK pmax pmax
comp=N,32nm,1.1s
YAK pmax pmax
comp=E,11nm,1.3s
YAK pmax pmax
comp=Z,58nm,3.3s
YAK smax
comp=N,123nm,1.9s
YAK smax
comp=Z,40nm,1.7s
YAK smax
comp=E,168nm,1.6s
LSA Lhasa 50.58 298 *e*P **P 22 40 07.5 +1.1**
comp=E,39nm,0.8s,mb5.5
LSA Lhasa 50.58 298 *e*P **P 22 40 07.5 +1.2**
LSA pmax pmax
comp=Z,39nm,0.8s,mb5.5
SEY Seymchan 50.74 6 *e*P **P 22 40 05.6 -1.3**
MOY Mondy 51.43 328 *e*P **P 22 40 13.0 +0.7**
MOY pmax pmax
comp=Z,38nm,1.8s,mb5.1
JIRN Jiri 54.70 295 *e*P **P 22 40 37.3 +0.6**
comp=Z,58nm,0.4s,mb5.9
BOK Bokaro 54.80 290 *e*P **P 22 40 37.6 +0.1**
BOK AMb AMB 22 40 39.2
comp=Z,65nm,0.7s,mb5.8
GUN Gumba 54.99 295 *e*P **P 22 40 39.4 +0.6**
comp=Z,145nm,0.6s,mb6.2
PKI Pulchoki 55.38 295 *e*P **P 22 40 41.6 -0.1**
PKIN Phulchoki 55.39 295 *e*P **P 22 40 41.4 -0.3**
KKN Kakani 55.51 295 *e*P **P 22 40 42.5 -0.1**
comp=Z,83nm,0.9s,mb5.8
DMN Daman 55.65 295 *e*P **P 22 40 43.7 +0.1**
comp=Z,113nm,0.9s,mb5.9
GKN Gorkha 56.09 295 *e*P **P 22 40 46.6 -0.1**
WMQ Urumqi 56.30 315 ⇓*i*P **P 22 40 48.8 +0.9**
WMQ PCP PcP 22 41 45.0 +1.0
WMQ PP PP 22 42 57.0 +2.5
WMQ S **S 22 48 30.0 +1.1**
WMQ AMB AMB
comp=Z,58nm,1.0s,mb5.6
WMQ AMB AMB
comp=Z,150nm,4.2s
WMQ LR LR
comp=N,342nm,15.0s
WMQ LR LR
comp=E,210nm,13.9s
WMQ LR LR
comp=Z,265nm,24.8s
DANN Dangsing 56.88 296 *e*P **P 22 40 52.6 +0.3**
comp=Z,128nm,0.6s,mb6.1
KOLN Koldanda 56.99 295 *e*P **P 22 40 53.2 +0.1**
comp=Z,85nm,0.7s,mb5.9
BILL Bilibino 57.50 10 *e*P **P 22 40 55.9 -0.1**
comp=Z,9.4nm,0.7s,mb4.9
BILL Bilibino 57.50 10 ⇓*e*P **P 22 40 55.5 -0.4**
BILL *e* pP 22 41 25.0 +0.4
BILL pmax pmax
comp=Z,10.0nm,0.8s,mb4.9
BLSP Bilaspur 58.26 288 *e*P **P 22 41 01.8 -0.3**
BLSP AMb AMB 22 41 03.2
comp=Z,34nm,0.9s,mb5.4
TIXI Tiksi 59.62 355 *e*P **P 22 41 09.4 -1.2**
comp=Z,8.8nm,1.0s,mb4.7
TIXI Tiksi 59.62 355 *i*P **P 22 41 09.1 -1.5**
TIXI pmax pmax
comp=Z,9.0nm,1.1s,mb4.7
MK31 Makanchi Array 60.74 317 *e*P **P 22 41 19.2 +0.5**
MKAR Makanchi Array 60.74 317 P **P 22 41 19.2 +0.5**
MKAR LR LR 23 07 07.1
MKAR Makanchi Array 60.74 317 P **P 22 41 19.2 +0.5**
comp=Z,21nm,0.8s,mb5.2,baz=93,slow=8.9,SNR=175
MKAR LR LR 23 07 07.1
comp=Z,53nm,19.6s,baz=106,slow=35
NGP Nagpur 61.17 287 *e*P **P 22 41 21.3 -0.7**
NGP AMb AMB 22 41 23.6
comp=Z,29nm,1.4s,mb5.1
PALK Pallekele 61.18 271 *e*P **P 22 41 22.1 -0.2**
comp=Z,23nm,1.0s,mb5.2
ZAA0 Zalesovo Array 61.21 325 *e*P **P 22 41 21.4 -0.3**
ZAA0 *e* 22 42 02.4
ZALV Zalesovo Beam 61.21 325 P **P 22 41 21.3 -0.4**
ZALV PcP PcP 22 42 02.2 -1.0
ZALV LR LR 23 08 21.2
ZALV Zalesovo Beam 61.21 325 P **P 22 41 21.3 -0.4**
comp=Z,22nm,0.6s,mb5.3,baz=106,slow=7.0,SNR=100
ZALV PcP PcP 22 42 02.2 -1.0
comp=Z,7.2nm,0.6s,baz=126,slow=4.7,SNR=7.6
ZALV LR LR 23 08 21.2
comp=Z,60nm,18.2s,baz=104,slow=36
ZAL Zalesovo 61.22 325 P **P 22 41 21.3 -0.4**
ZAL 22 42 02.2
RPZ Rata Peaks 61.72 157 P **P 22 41 25.4 +0.2**
comp=Z,15nm,0.9s,mb5.0,baz=357,slow=6.9,SNR=5.0
RPZ LR LR 23 02 26.6
comp=Z,215nm,21.2s,baz=238,slow=30
HYB Hyderabad 61.90 283 *e*P **P 22 41 27.0 0.0**
comp=Z,40nm,1.0s,mb5.4
HYB *e* 22 41 50.0
HYB Hyderabad 61.90 283 *e*P **P 22 41 27.0 0.0**
HYB pmax pmax
comp=Z,40nm,1.0s,mb5.4
HYB Hyderabad 61.90 283 ⇓*i*P **P 22 41 27.0 0.0**
comp=Z,40nm,1.0s,mb5.4
HYB *e*pP pP 22 41 55.0 -1.0
DDI Dehra Dun 61.94 298 *e*P **P 22 41 27.5 +0.4**
NVS Novosibirsk 62.38 326 ⇓*i*P **P 22 41 29.2 -0.3**
NVS *e*S **S 22 49 44.6 -2.0**
NVS *e**SS sS 22 51 07.6 +31
NVS pmax pmax
comp=Z,67nm,1.2s,mb5.5
NVS pmax pmax
comp=N,20nm,1.3s
NVS pmax pmax
comp=E,55nm,1.3s
NVS smax
comp=E,28nm,2.9s
BHPL Bhopal 62.57 290 *e*P **P 22 41 30.6 -0.7**
BHPL AMb AMB 22 41 31.8
comp=Z,31nm,0.8s,mb5.3
NDI New Delhi 62.65 296 *e*P **P 22 41 30.9 -0.9**
NDI AMb AMB 22 41 31.4
comp=Z,32nm,0.9s,mb5.2
SMLA Simla 62.73 299 *e*P **P 22 41 32.2 -0.1**
SMLA AMb AMB 22 41 33.9
comp=Z,107nm,1.1s,mb5.7
AKL Akola 63.09 287 *e*P **P 22 41 34.9 +0.1**
AKL AMb AMB 22 41 36.6
comp=Z,32nm,2.0s,mb4.9
LATR Latur 63.70 284 *e*P **P 22 41 38.7 -0.2**
LATR AMb AMB 22 41 39.4
comp=Z,53nm,0.6s,mb5.5
KOD Kodaikanal 63.84 275 *e*P **P 22 41 39.7 -0.2**
KOD AMb AMB 22 41 40.9
comp=Z,36nm,0.8s,mb5.2
KURK Kurchatov 63.99 320 P **P 22 41 40.4 +0.2**
comp=Z,704nm,1.0s,SNR=80
KURK Kurchatov 63.99 320 *e*P **P 22 41 39.9 -0.3**
KURK Kurchatov 63.99 320 ⇓*i*P **P 22 41 40.2 0.0**
THN Thein Dam 63.99 300 *ex* **P 22 41 38.6 -2.0**
KSH Kashi 64.17 308 *e*P **P 22 41 43.3 +1.7**
KSH *e*PCP PcP 22 42 17.5 +1.9
KSH *e*PP PP 22 44 07.3 +3.2
KSH *e*PPP 22 45 40.5
KSH *e*SCP 22 46 09.0
KSH PCS 22 46 19.3
KSH S **S 22 50 12.5 +3.0**
KSH SCS ScS 22 51 25.0 +0.5
KSH SS SS 22 54 23.3 +2.5
KSH AMB AMB
comp=Z,141nm,0.8s,mb5.8
KSH AMB AMB
comp=Z,345nm,4.9s
KSH LR LR
comp=N,477nm,5.4s
KSH LR LR
comp=E,502nm,5.4s
KSH LR LR
comp=Z,443nm,5.7s
ULHL Ulahol 64.23 311 P **P 22 41 42.7 +0.7**
SNR=10
TKM2 Tokmak 2 64.78 312 *e*P **P 22 41 45.7 +0.2**
comp=Z,19nm,1.2s,mb4.8
TKM2 Tokmak 2 64.78 312 *e*P **P 22 41 45.7 +0.2**
TKM2 pmax pmax
comp=Z,19nm,1.2s,mb4.8
TKM2 Tokmak 2 64.78 312 P **P 22 41 46.2 +0.6**
SNR=14
KZA Kyzart 64.95 311 P **P 22 41 47.9 +1.3**
SNR=48
KBK Karagaybulak 65.23 311 P **P 22 41 49.0 +0.6**
SNR=21
CHMS Chumysh 65.41 312 P **P 22 41 49.7 +0.1**
SNR=14
UCH Uchtor 65.51 311 *e*P **P 22 41 51.3 +1.0**
comp=Z,37nm,1.1s,mb5.1
UCH *e* pP 22 42 18.2 -1.4
UCH Uchtor 65.51 311 P **P 22 41 51.8 +1.5**
SNR=39
AAK Ala-Archa 65.56 311 P **P 22 41 49.6 -1.0**
comp=Z,54nm,1.0s,mb5.3,SNR=8.5
AAK Ala-Archa 65.56 311 *e*P **P 22 41 49.7 -0.8**
AAK Ala-Archa 65.56 311 ⇓*i*P **P 22 41 49.8 -0.8**
AAK pmax pmax
comp=Z,17nm,1.5s,mb4.7
AAK Ala-Archa 65.56 311 P **P 22 41 50.3 -0.3**
SNR=5.9
AAK Ala-Archa 65.56 311 P **P 22 41 50.3 -0.3**
SNR=5.9
AAK Ala-Archa 65.56 311 P **P 22 41 49.9 -0.7**
comp=Z,4.4nm,0.5s,mb4.5,baz=111,slow=6.3,SNR=18
AAK Ala-Archa 65.56 311 P **P 22 41 50.8 +0.2**
SNR=8.4
USP Ospenovka 65.62 312 P **P 22 41 51.0 +0.1**
SNR=15
RAR Rarotonga 65.73 120 LR LR 23 04 12.4
comp=Z,142nm,22.0s,baz=304,slow=30
KAD Karad 66.07 283 *e*P **P 22 41 53.0 -1.2**
KAD AMb AMB 22 41 56.2
comp=Z,53nm,1.7s,mb5.1
EKS2 Erkin-Say 66.09 311 *e*P **P 22 41 54.1 +0.2**
comp=Z,16nm,1.1s,mb4.8
EKS2 *e* pP 22 42 26.2 +2.9
EKS2 Erkin-Say 66.09 311 P **P 22 41 54.3 +0.4**
SNR=15
AML Almayashu 66.11 311 P **P 22 41 55.3 +1.2**
SNR=30
BRVK Borovoye 69.46 322 P **P 22 42 15.8 +0.9**
comp=Z,475nm,0.8s,SNR=40
BRVK Borovoye 69.46 322 *e*P **P 22 42 14.7 -0.2**
KBL Kabul 69.57 302 *e*P **P 22 42 15.6 -0.4**
EGAK Eagle 72.79 26 *e*P **P 22 42 36.5 +1.8**
PPT Papeete 73.27 113 LR LR 23 12 23.8
comp=Z,192nm,19.2s,baz=284,slow=34
DAWY Dawson 73.47 27 *e*P **P 22 42 39.8 +1.0**
SVE Sverdlovsk 75.22 326 *e*P **P 22 42 49.1 +0.1**
SVE pmax pmax
comp=Z,35nm,0.7s,mb5.2
INK Inuvik 76.09 22 *e*P **P 22 42 53.6 -0.2**
ARU Arti 76.37 325 P **P 22 42 55.2 -0.4**
comp=Z,283nm,0.8s,mb6.0,SNR=11
ARU Arti 76.37 325 *e*P **P 22 42 54.5 -1.1**
comp=Z,35nm,0.8s,mb5.1
ARU Arti 76.37 325 *e*P **P 22 42 54.7 -0.9**
ARU pmax pmax
comp=Z,38nm,0.8s,mb5.2
ABKT Ailbek 78.14 306 P **P 22 43 06.8 +1.0**
comp=Z,207nm,0.9s,mb5.9,SNR=14
BIDO Bidbid 80.17 292 P **P 22 43 17.3 +0.1**
SNR=8.3
BIDO Bidbid 80.17 292 P **P 22 43 17.3 +0.1**
SNR=8.3
HOQ Hoqain 80.89 292 P **P 22 43 21.3 +0.3**
SNR=15
HOQ Hoqain 80.89 292 P **P 22 43 21.3 +0.3**
SNR=15
NLWA Neilton Lookou 83.15 43 *e*P **P 22 43 34.9 +2.5**
GNW Green Mountain 83.81 43 *e*P **P 22 43 37.0 +1.2**
YKA Yellowknife Ar 84.71 27 P **P 22 43 39.9 -0.1**
comp=Z,3.0nm,0.8s,mb4.3,baz=290,slow=5.2,SNR=29
YKA LR LR 23 21 02.0
comp=Z,23nm,19.8s,baz=35,slow=35
TMCR Tamitsa 85.04 335 *e*P **P 22 43 35.9 -5.7**
TMCR pmax pmax
comp=Z,12nm,0.5s,mb5.1
YBH Yreka Blue Hor 85.12 48 *e*P **P 22 43 43.6 +1.1**
ABTO Aybut 85.75 287 P **P 22 43 46.1 +0.1**
SNR=7.5
ABTO Aybut 85.75 287 P **P 22 43 46.1 +0.1**
SNR=7.5
RES Resolute Bay 86.00 13 *e*P **P 22 43 46.6 +0.5**
KEV Kevo 86.80 342 *e*pkp **P 22 43 48.5 -1.7**
ARCES ARCESS Array B 87.37 342 P **P 22 43 52.1 -0.8**
comp=Z,8.1nm,0.8s,mb4.7,baz=66,slow=7.6,SNR=36
ARCES LR LR 23 26 32.4
comp=Z,49nm,18.3s,baz=342,slow=38
NEW Newport 87.37 41 *e*P **P 22 43 54.0 +0.6**
WVOR Wild Horse Val 87.90 47 *e*P **P 22 43 56.6 +0.6**
comp=Z,3.6nm,0.8s,mb4.5
WVOR Wild Horse Val 87.90 47 P **P 22 43 56.6 +0.6**
WVOR pmax pmax
comp=Z,4.0nm,0.8s,mb4.5
UMR Umm Al-Rimmam 88.14 300 *e*P **P 22 43 51.5 -5.9**
UMR AMb AMB 22 44 01.2
comp=Z,86nm,1.2s,mb5.6
QRN Al-Qurain 88.15 299 *e*P **P 22 43 50.9 -6.6**
QRN AMb AMB 22 44 02.3
comp=Z,315nm,1.7s,mb6.1
BMO Blue Mountains 88.18 44 *e*P **P 22 43 57.7 +0.4**
comp=Z,14nm,1.1s,mb4.9
JOF Joensuu 88.30 335 *e*pkp **P 22 43 54.8 -2.6**
MIB Mutribah 88.40 300 *e*P **P 22 43 53.9 -4.7**
MIB AMb AMB 22 44 00.3
comp=Z,61nm,0.9s,mb5.6
KIV Kislovodsk 88.43 315 *e*P **P 22 43 57.2 -1.3**
KIV Kislovodsk 88.43 315 P **P 22 43 56.0 -2.5**
KIV 22 47 24.0
KIV pmax pmax
comp=Z,7.0nm,0.9s,mb4.7
VRSR Storozhevoye 88.56 322 *e*P **P 22 43 56.7 -2.2**
VRSR pmax pmax
comp=Z,7.0nm,0.8s,mb4.7
VRSR pmax pmax
comp=N,2.0nm,0.7s
VRSR pmax pmax
comp=E,5.0nm,0.8s
VORD Divnogorie 88.58 322 *e*P **P 22 43 56.7 -2.3**
VORD pmax pmax
comp=Z,30nm,0.8s,mb5.4
VORD pmax pmax
comp=N,10.0nm,0.6s
VORD pmax pmax
comp=E,8.0nm,0.6s
NAY Al-Naaiem 88.61 300 *e*P **P 22 43 56.3 -3.3**
NAY AMb AMB 22 44 00.8
comp=Z,32nm,0.8s,mb5.4
OBN Obninsk 88.77 326 *e*P **P 22 43 58.5 -1.3**
comp=Z,23nm,0.9s,mb5.2
OBN Obninsk 88.77 326 *ke*P **P 22 43 58.1 -1.7**
OBN *e* 22 44 35.5
OBN pmax pmax
comp=Z,34nm,1.2s,mb5.2
NVAR Mina Array Bea 89.19 51 P **P 22 44 03.0 +0.8**
comp=Z,2.4nm,0.7s,mb4.3,baz=273,slow=7.2,SNR=17
DAG Danmarks Havn 90.13 356 ⇑*e*P **P 22 44 04.4 -1.4**
DAG pmax pmax
comp=Z,3.0nm,0.8s,mb4.5
DAG Danmarks Havn 90.13 356 ⇑*i*P **P 22 44 04.4 -1.4**
comp=Z,3.0nm,0.8s,mb4.5
VNDA Vanda 90.62 176 P **P 22 44 08.4 +0.6**
comp=Z,1.3nm,0.8s,mb4.1,baz=26,slow=2.8,SNR=3.9
LRM Limekiln Ridge 91.15 43 *e*P **P 22 44 10.7 -0.5**
FINES FINESS Array B 91.16 335 P **P 22 44 09.2 -1.6**
FINES LR LR 23 25 00.2
FINES FINESS Array B 91.16 335 *i*P **P 22 44 09.1 -1.7**
FINES pmax pmax
comp=Z,11nm,0.6s
FINES FINESS Array B 91.16 335 P **P 22 44 09.2 -1.6**
comp=Z,11nm,0.6s,mb5.2,baz=70,slow=5.0,SNR=63
FINES LR LR 23 25 00.3
comp=Z,58nm,18.2s,baz=65,slow=35
TPNV Topopah Spring 91.16 52 *e*P **P 22 44 12.6 +1.2**
comp=Z,3.1nm,0.8s,mb4.5
TPNV Topopah Spring 91.16 52 *e*P **P 22 44 12.6 +1.2**
TPNV pmax pmax
comp=Z,3.0nm,0.8s,mb4.5
FLWY Flagg Ranch 92.92 44 *e*P **P 22 44 20.1 +0.8**
comp=Z,12nm,1.1s,mb5.2
MOOW Moose Ponds 93.00 44 *e*P **P 22 44 21.1 +1.4**
AKASG Malin Array Be 94.59 324 P **P 22 44 26.4 -0.5**
AKASG LR LR 23 30 13.3
AKASG Malin Array Be 94.59 324 *i*P **P 22 44 26.7 -0.2**
AKASG Malin Array Be 94.59 324 P **P 22 44 26.4 -0.4**
comp=Z,0.2nm,0.2s,mb4.1,baz=53,slow=4.7,SNR=6.6
AKASG LR LR 23 30 13.3
comp=Z,85nm,19.8s,baz=55,slow=37
NB2 NORSAR Subarra 97.21 338 P **P 22 44 36.2 -2.3**
comp=Z,2.4nm,0.7s,mb4.7,baz=48,slow=4.6
NOA NORSAR Array B 97.21 338 P **P 22 44 37.0 -1.6**
comp=Z,1.7nm,0.8s,mb4.5,baz=47,slow=5.5,SNR=7.8
NOA LR LR 23 32 49.6
comp=Z,47nm,18.9s,baz=205,slow=38
CLL Collm 102.87 330 *e*Pdif Pdif 22 45 03.0 -0.9
GERES GERESS Array B 104.07 328 Pdiff Pdif 22 45 08.8 -0.4
comp=Z,0.6nm,0.6s,baz=32,slow=5.8,SNR=6.9
VNA2 Neumayer--Watz 118.87 191 *e*PKPdf PKPdf 22 49 54.1 +0.8
baz=199,slow=1.8
VNA2 *e* 22 49 57.3
BOSA Boshof 119.92 244 PKP PKPdf 22 49 57.2 +0.6
BOSA Boshof 119.92 244 PKP PKPdf 22 49 57.2 +0.6
comp=Z,2.6nm,0.8s,baz=107,slow=7.7,SNR=3.8
PLCA Paso Flores 139.58 140 PKP PKPdf 22 50 34.3 +0.9
comp=Z,2.1nm,0.8s,baz=320,slow=0.8,SNR=5.6
DBIC Dimbokro 142.50 299 PKhKP 22 50 35.2
comp=Z,2.3nm,0.6s,baz=42,slow=6.0,SNR=4.5
LPAZ La Paz 149.94 101 PKP PKPdf 22 50 54.6 +2.7
LPAZ PKPbc PKPbc 22 50 59.2 +2.3
LPAZ La Paz 149.94 101 PKP PKPdf 22 50 54.6 +2.7
comp=Z,12nm,0.9s,baz=75,slow=5.2,SNR=5.7
LPAZ PKPbc PKPbc 22 50 59.2 +2.3
comp=Z,11nm,0.8s,baz=299,slow=3.2,SNR=5.8
CPUP Villa Florida 156.74 129 PKPab PKPab 22 51 33.1 +1.8
comp=Z,7.1nm,0.9s,baz=218,slow=5.3,SNR=12
BDFB Brasilia 169.18 108 PKP PKPdf 22 51 14.5 +0.9

comp=Z,1.3nm,0.8s,baz=190,slow=26,SNR=3.9

IDC 30 22:34:20.0±2.8,628S×14752E,h0km,mb4.1/4,mb1 4.3/5, mb1mx4.0/14,mbtmp4.2/5,ML4.2/1,Error ellipse: s-maj=100.3km s-min=26.5km az=112.0,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.67**	**222**	P	Pn	22 38 41.2	+1.2
	0.7nm,0.3s,baz=46,slow=11,SNR=6.7						
ASAR	**Alice Springs**	**21.69**	**216**	P	P	22 39 12.0	-0.6
	2.7nm,0.4s,baz=50,slow=8.9,SNR=14						
FITZ	**Fitzroy Crossi**	**24.37**	**239**	*e*P	P	22 39 39.2	-0.8
	6.3nm,0.3s						
FITZ	**Fitzroy Crossi**	**24.37**	**239**	P	P	22 39 39.7	-0.3
	3.0nm,0.3s,baz=63,slow=9.3,SNR=16						
MKAR	**Makanchi Array**	**78.04**	**320**	P	P	22 46 21.2	+0.7
	0.4nm,0.3s,baz=95,slow=9.1,SNR=5.0						
ZALV	**Zalesovo Beam**	**79.53**	**328**	P	P	22 46 28.2	-0.4
	1.7nm,0.4s,baz=120,slow=6.3,SNR=7.1						
GERES	**GERESS Array B**	**122.43**	**326**	PKP	PKPdf	22 53 17.3	-0.1
	0.3nm,0.6s,baz=107,slow=1.4,SNR=3.7						
DBIC	**Dimbokro**	**152.55**	**272**	PKPbc	PKPbc	22 54 19.8	+0.2
	2.1nm,0.8s,baz=16,slow=7.4,SNR=3.7						

*NEIC **30** 22:44:27.4,1981N×6538W,h34km,MD3.5(RSPR),After RSPR.*

RSPR 30 22:44:27.4,1981N×6538W,h34km±28km,MD3.5/12, MD3.5/12,8C-4D,Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABV	**Anegada**	**1.46**	**137**	*e*S	Sn	22 45 07.3	-1.9
STVI	**Saint Thomas**	**1.50**	**164⇑**	*e*P	Pn	22 44 50.7	-1.2
STVI				*e*S	Sn	22 45 10.5	+0.2
TBVI	**Tortola**	**1.56**	**152⇓**	*e*P	Pn	22 44 50.9	-1.7
TBVI				*e*S	Sn	22 45 10.9	-0.8
MTP	**Monte Pirata**	**1.71**	**185**	Pn	Pn	22 44 47.1	-7.6
HUMP	**Col San Antoni**	**1.72**	**195⇓**	*e*P	Pn	22 44 53.6	-1.2
HUMP				*e*S	Sn	22 45 14.1	-1.5
CPD	**Cerro la Pandu**	**1.83**	**196⇑**	*e*P	Pn	22 44 53.2	-3.2
CPD				*e*S	Sn	22 45 16.7	-1.8
SJG	**San Juan**	**1.84**	**203⇑**	*e*P	Pn	22 44 55.3	-1.2
SJG				*e*S	Sn	22 45 17.1	-1.4
SJG	**San Juan**	**1.84**	**203⇑**	*e*P	Pn	22 44 55.2	-1.3
SJG				*e*S	Sn	22 45 17.9	-0.7
AOPR	**Arecibo Observ**	**1.95**	**222⇓**	*e*P	Pn	22 44 56.6	-1.4
AOPR				*e*S	Sn	22 45 19.4	-1.9
LRS	**Lares**	**2.05**	**223**	*e*S	Sn	22 45 21.9	-1.9
CELP	**Cerrillos**	**2.06**	**214⇑**	*e*P	Pn	22 44 58.8	-0.8
AGPR	**Aguadilla, PR**	**2.11**	**231⇑**	*e*P	Pn	22 45 00.0	-0.2
AGPR				*e*S	Sn	22 45 24.6	-0.7
CDVI	**St. Croix**	**2.13**	**164**	*e*S	Sn	22 45 26.8	+1.1
ICM	**Isla Caja Muer**	**2.19**	**210⇑**	*e*P	Pn	22 45 00.8	-0.5
ICM				*e*S	Sn	22 45 26.0	-1.2
LSP	**Las Mesas**	**2.29**	**225⇑**	*e*P	Pn	22 45 01.7	-1.0
LSP				*e*S	Sn	22 45 28.7	-1.0
GBPR	**Guanica, Bosqu**	**2.31**	**218**	*e*S	Sn	22 45 30.0	-0.3
CRPR	**Cabo Rojo, PR**	**2.43**	**223⇓**	*e*P	Pn	22 45 03.5	-1.1
CRPR				*e*S	Sn	22 45 31.6	-1.5

IDC 30 22:46:02.6±1.3,833S×15703E,h0km,mb3.8/4,mb1 4.0/5, mb1mx3.8/14,mbtmp3.9/5,ML4.5/1,Error ellipse: s-maj=39.1km s-min=27.7km az=162.0,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**3.08**	**111**	Pn	Pn	22 46 52.1	-0.5
	57nm,0.3s,baz=282,slow=3.0,SNR=18						
HNR				Sn	Sn	22 47 35.2	+5.0
	42nm,0.3s,baz=89,slow=9.2,SNR=10						
WRA	**Warramunga Arr**	**24.81**	**240**	P	P	22 51 25.6	-1.0
	2.5nm,0.8s,baz=65,slow=9.7,SNR=15						
ASAR	**Alice Springs**	**26.89**	**233**	P	P	22 51 46.8	+1.4
	0.8nm,1.1s,baz=70,slow=8.0,SNR=5.1						
MKAR	**Makanchi Array**	**85.73**	**318**	P	P	22 58 43.8	+0.1
	1.0nm,0.6s,baz=103,slow=5.4,SNR=14						
YKA	**Yellowknife Ar**	**96.56**	**28**	P	P	22 59 34.2	+0.2
	0.2nm,0.6s,baz=266,slow=5.0,SNR=3.5						

IDC 30 23:05:28.4±6.4,2014S×16863E,h0km,mb3.6/2, mb1 3.9/2,mb1mx3.6/12,mbtmp3.6/2,MS3.1/2,Ms1 3.1/2, ms1mx2.9/14,Error ellipse: s-maj=254.7km s-min=56.9km az=148.0,Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**13.55**	**321**	LR	LR	23 13 07.9	
	comp=Z,67nm,21.8s,baz=180,slow=34						
CTA	**Charters Tower**	**21.01**	**266**	LR	LR	23 15 54.4	
	comp=Z,85nm,20.1s,baz=233,slow=30						
WRA	**Warramunga Arr**	**32.18**	**264**	P	P	23 11 58.2	0.0
	1.1nm,1.1s,baz=92,slow=8.3,SNR=6.6						
ASAR	**Alice Springs**	**32.36**	**257**	P	P	23 11 59.9	+0.1
	0.5nm,0.6s,baz=86,slow=9.2,SNR=12						
GERES	**GERESS Array B**	**145.00**	**331**	PKPbc	PKPbc	23 25 07.0	+0.2
	0.2nm,0.4s,baz=48,slow=1.5,SNR=4.1						

*NEIC **30** 23:13:25.4,1695N×9983W,h27km,MD4.0(MEX),After MEX.*

MEX 30 23:13:25.7±0.8,1698N×9982W,h22km±14km,MD4.0, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	**Acapulco**	**0.14**	**220**	*i* P	Pb	23 13 29.2	-1.1
ACX				*i* S	Sb	23 13 32.3	-1.1
CAIG	**El Cayaco**	**0.43**	**280**	*i* P	Pb	23 13 33.1	-1.5
CAIG				*i* S	Sb	23 13 39.1	-1.7
PLIG	**Platanillo**	**1.44**	**12**	*e*P	Pn	23 13 48.4	-2.1
PLIG				*i* S	Sn	23 14 05.2	-3.6
YAIG	**Yautepec**	**2.01**	**21**	*e*P	Pn	23 13 55.1	-3.2
YAIG				*i* S	Sn	23 14 18.9	-3.9
UTMO	**Huajuapan**	**2.11**	**66**	*i* P	Pn	23 13 57.6	-2.1
UTMO				*i* S	Sn	23 14 21.4	-3.8
MZVM		**2.27**	**14**	*e*P	Pn	23 13 59.6	-2.3
MZVM				*i* S	Sn	23 14 25.0	-4.3
PPM	**Popocatepetl**	**2.37**	**28**	*e*P	Pn	23 14 02.2	-1.1
PPM				*i* S	Sn	23 14 30.9	-0.9
PTVM	**Pico Tres Padr**	**2.69**	**14**	*i* S	Sn	23 14 42.7	+3.1
PTVM	**Pico Tres Padr**	**2.69**	**14**	*e*P	Pn	23 14 05.1	-2.6
PTVM				*i* S	Sn	23 14 36.7	-2.9
TPIG	**Tehuac#an**	**2.75**	**58**	*i* S	Sn	23 14 37.0	-4.1
IIO	**Organos**	**2.80**	**22**	*e*P	Pn	23 14 06.6	-2.6
IIO				*i* S	Sn	23 14 40.5	-2.0
IIO	**Organos**	**2.80**	**22**	*e*P	Pn	23 14 06.6	-2.6
IIO				*i* S	Sn	23 14 41.1	-1.3
VHO	**Vista Hermosa**	**2.96**	**88**	*i* P	Pn	23 14 43.1	+32
VHO				*i* S	Sn	23 14 54.1	+7.9
VHO	**Vista Hermosa**	**2.96**	**88**	*i* P	Pn	23 14 09.1	-2.3
VHO				*i* S	Sn	23 14 44.8	-1.4

IDC 30 23:35:06.5±1.9,185N×12466E,h0km,mb3.5/3,mb1 3.7/3, mb1mx3.4/17,mbtmp3.5/3,Error ellipse: s-maj=192.9km s-min=24.9km az=64.0,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.65**	**157**	P	P	23 40 19.1	-0.8
	1.3nm,0.5s,baz=335,slow=11,SNR=18						
ASAR	**Alice Springs**	**26.91**	**161**	P	P	23 40 50.5	+1.0
	0.5nm,0.3s,baz=348,slow=12,SNR=9.1						
MKAR	**Makanchi Array**	**57.95**	**327**	P	P	23 45 00.5	-0.2
	0.1nm,0.4s,baz=123,slow=7.3,SNR=6.2						

ISC Computed Locations for April 2007

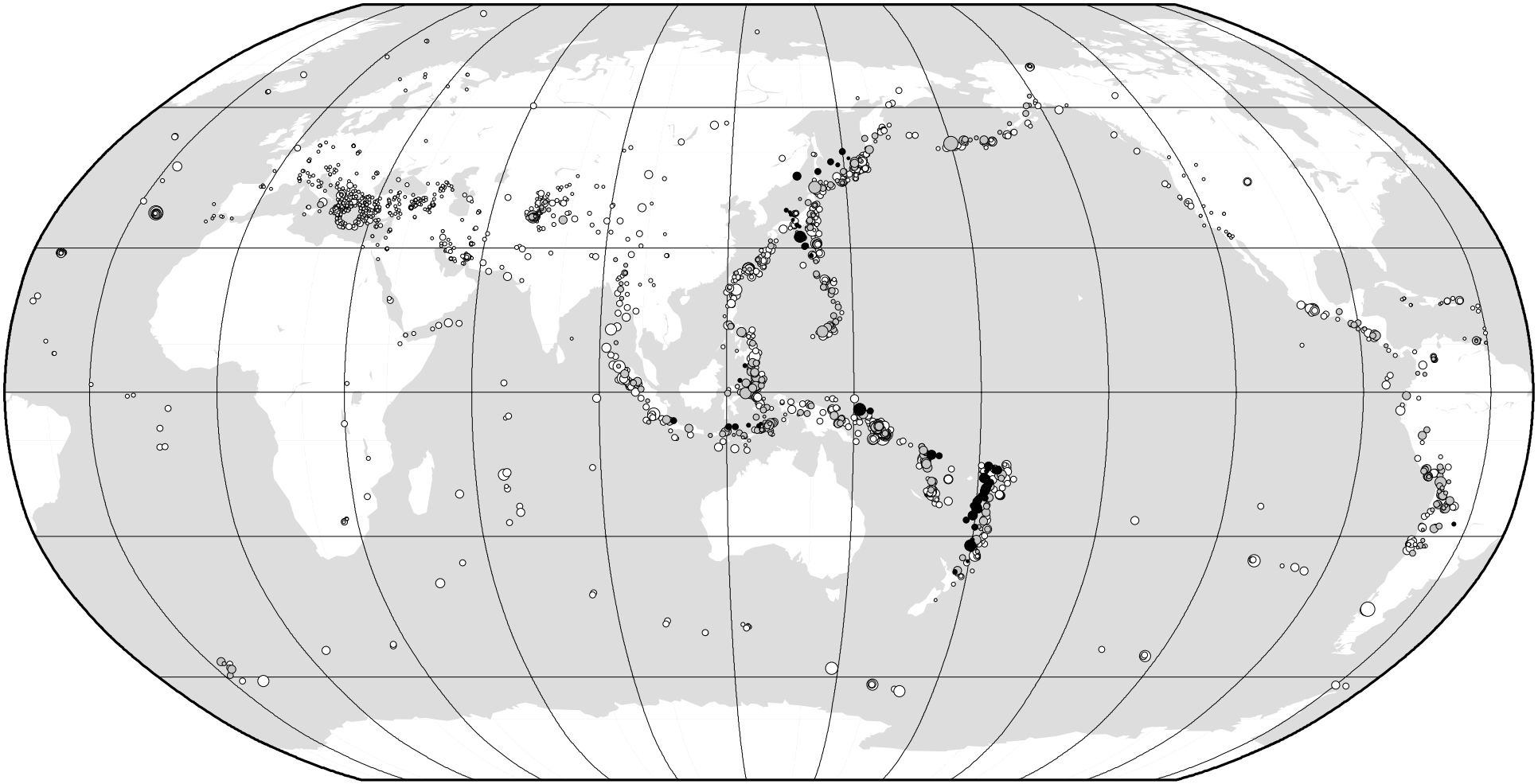

Depth (km)	0-70	70-300	>300
M=8	○	●	●
M=6.5	○	●	●
M=4	○	●	●

Robinson Projection, centred on 0˚N,130˚E

2991 Events